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All data, including phase data, are available on CD-ROM/DVD-ROM and from the internet - http://www.isc.ac.uk

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°.70S×179°.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°.76S×179°.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,22°.3S±0°.2×179°.6W±0°.3,h613km±42km,
n22,σ1°.15/21,mb4.4/9,1C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HBZ	**Hicks Bay**	**15.41**	**186**	*e*P	**P**	**18 48 53.1**	**-1.7**
URZ	**Urewera**	**16.21**	**189**	P	**P**	**18 49 01.5**	**-0.9**
MRZ	**Mangatainoka R**	**18.81**	**192**	*e*P	**P**	**18 49 26.7**	**0.0**
DIW	**D'Urville Isla**	**19.30**	**195**	*e*P	**P**	**18 49 27.3**	**-3.9**
CAW	**Cannon Point**	**19.34**	**192**	*e*P	**P**	**18 49 31.7**	**+0.1**
OTW	**Orongorongo Tu**	**19.52**	**192**	*e*P	**P**	**18 49 33.0**	**-0.2**
MOW	**Moikau**	**19.61**	**192**	*e*P	**P**	**18 49 35.5**	**+1.5**
THZ	**Tophouse**	**20.46**	**196**	*e*P	**P**	**18 49 42.0**	**+0.2**
KHZ	**Kahutara**	**20.93**	**194**	P	**P**	**18 49 46.2**	**+0.2**
ARMA	**Armidale**	**27.03**	**246**	*e*P	**P**	**18 50 42.4**	**+2.3**
	4.9nm,0.5s,mb4.4						
CTA	**Charters Tower**	**31.93**	**267**	⇑*i*P	**P**	**18 51 22.3**	**+0.4**
	13nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**35.75**	**246**	*e*P	**P**	**18 51 55.3**	**+1.8**
	3.1nm,0.4s,mb4.2						
ASAR	**Alice Springs**	**42.74**	**259**	P	**P**	**18 52 50.1**	**+0.3**
	9.8nm,0.5s,mb4.6,baz=92,slow=8.2,SNR=47						
ASAR				S	**S**	**18 58 31.3**	**-0.1**
	1.0nm,0.8s,baz=95,slow=15,SNR=5.7						
ASPA	**Alice Springs**	**42.74**	**259**	*e*P	**P**	**18 52 50.1**	**+0.2**
WRA	**Warramunga Arr**	**42.96**	**264**	P	**P**	**18 52 51.0**	**-0.7**
	1.8nm,0.3s,mb4.0,baz=96,slow=7.8,SNR=93						
WRA				S	**S**	**18 58 33.0**	**-1.5**
	0.3nm,0.9s,baz=99,slow=14,SNR=3.0						
KAKA	**Kakadu**	**46.64**	**273**	*e*P	**P**	**18 53 18.2**	**-1.8**
	14nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.39**	**264**	*e*P	**P**	**18 53 54.3**	**-0.7**
	12nm,0.3s,mb4.8						
MBWA	**Marble Bar**	**56.08**	**259**	*e*P	**P**	**18 54 27.1**	**-0.7**
	11nm,0.6s,mb4.2						
CMAR	**Chiang Mai Arr**	**89.35**	**290**	P	**P**	**18 57 38.1**	**+1.0**
	1.3nm,0.8s,mb3.8,baz=135,slow=3.1,SNR=8.1						
ARCES	**ARCESS Array B**	**130.36**	**349**	PKP	PKP	19 03 43.7	-0.5
	0.7nm,0.6s,baz=282,slow=4.2,SNR=3.5						
FINES	**FINESS Array B**	**137.02**	**342**	PKP	PKP	19 03 57.3	+0.5
	3.7nm,1.1s,baz=158,slow=3.2,SNR=3.4						
MLR	**Muntele Rosu**	**148.85**	**324**	PKPbc	PKP	19 04 22.7	+5.2
	0.2nm,0.7s,baz=1.2,slow=23,SNR=2.3						

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*ISCJB **01** 00:13:23.8±0.7, 23°.01S±0°.08×67°.75W±0°.05, h156km±7km, mb3.3/2, Error ellipse: s-maj=13.9km s-min=7.0km az=20.5.*
*IDC **01** 00:13:23.2±1.6, 23°.02S×67°.55W, h139km±14km, mb3.4/2, mb1 3.5/4, mb1mx3.3/17, mbtmp3.8/4, Error ellipse: s-maj=28.4km s-min=20.7km az=137.0*
*SJA **01** 00:13:23.0±0.6, 22°.94S×67°.70W, h159km±7km, MD2.9*
ISC 01 00:13:24.1±1.0, 22°.87S±0°.08×67°.66W±0°.05, h144km±10km, n13, σ1§87/20, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.19**	**283**	P	**Pn**	**00 13 51.3**	**+0.8**
	7.4nm,0.3s,baz=107,slow=7.7,SNR=116						
LVC				S	**Sn**	**00 14 10.9**	**+0.3**
	19nm,0.3s,baz=194,slow=23,SNR=75						
PB15	**IPOC Station P**	**1.71**	**258**	*e*P	**Pn**	**00 13 55.9**	**+0.2**
PB06	**IPOC Station P**	**1.78**	**275**	*e*P	**Pn**	**00 13 57.0**	**+0.5**
PB06				*e*S	**Sn**	**00 14 21.6**	**+0.4**
HJA	**Humahuaca**	**2.10**	**100**	*e*P	**Pn**	**00 14 01.9**	**+1.5**
HJA				*e*S	**Sn**	**00 14 30.6**	**+2.4**
PB03	**IPOC Station P**	**2.11**	**293**	*e*P	**Pn**	**00 14 00.6**	**+0.3**
PB03				*e*S	**Sn**	**00 14 28.5**	**+0.3**
PB07	**IPOC Station P**	**2.36**	**298**	*e*P	**Pn**	**00 14 04.0**	**+0.5**
PB07				*e*S	**Sn**	**00 14 34.0**	**+0.3**
PB04	**IPOC Station P**	**2.37**	**283**	*e*P	**Pn**	**00 14 03.7**	**+0.2**
PB02	**IPOC Station P**	**2.59**	**306**	*e*P	**Pn**	**00 14 06.8**	**+0.6**
AZAP	**Zapla**	**2.73**	**120**	*e*P	**Pn**	**00 14 08.3**	**+0.2**
LPAZ	**La Paz**	**6.57**	**356**	P	**Pn**	**00 15 01.6**	**+2.6**
	0.6nm,0.3s,baz=153,slow=7.3,SNR=14						
LPAZ				S	**Sn**	**00 16 16.5**	**+3.4**
	baz=72,slow=20,SNR=2.3						
SIV	**San Ignacio**	**9.24**	**43**	P	**Pn**	**00 15 32.3**	**-2.0**
	1.6nm,0.3s,baz=234,slow=9.9,SNR=24						
SIV				S	**Sn**	**00 17 12.0**	**-4.8**
	0.2nm,0.3s,baz=168,slow=20,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	**P**	**00 24 59.4**	**-0.6**
	0.9nm,0.6s,baz=251,slow=5.7,SNR=14						
NVAR	**Mina Array Bea**	**77.29**	**321**	P	**P**	**00 25 03.6**	**+0.7**
	0.2nm,0.4s,baz=133,slow=5.5,SNR=2.6						

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*IDC **01** 00:43:36.4±1.5, 36°.32N×141°.51E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/36, mbtmp3.3/4, ML2.5/1, MS2.7/2, Ms1 2.7/2, ms1mx2.4/20, Error ellipse: s-maj=33.9km s-min=31.8km az=102.0*
*ISCJB **01** 00:43:41.3±1.1, 35°.76N±0°.05×141°.1E±0°.1, h31km, mb3.3/3, Error ellipse: s-maj=12.8km s-min=7.1km az=162.9*
*JMA **01** 00:43:42.2±0.2, 35°.73N×140°.98E, h34km±1km, M3.1*
JMA Felt I J1.
ISC 01 00:43:38.4±1.4, 35°.75N±0°.06×141°.33E±0°.09, h31km, n21, σ1§02/17, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.38**	**264**	P	**Pn**	**00 43 47.9**	**+0.1**
CHOJ				S	**Sb**	**00 43 52.0**	**-1.0**
JIHU	**Itakohorinouch**	**0.69**	**289**	P	**Pn**	**00 43 52.3**	**+0.3**
JSMT	**Sammumatsuo**	**0.72**	**262**	P	**Pb**	**00 43 52.1**	**-0.5**
JHYU	**Hitachinakayam**	**0.84**	**315**	P	**Pb**	**00 43 55.5**	**+0.9**
JHYU				*e*S	**Sn**	**00 44 05.0**	**-0.5**
JCN	**Nagara**	**0.97**	**251**	P	**Pb**	**00 43 56.6**	**-0.2**
JYT	**Yasato**	**1.04**	**298**	P	**Pn**	**00 43 56.7**	**-0.1**
JHO	**Hitachi**	**1.06**	**325**	P	**Pb**	**00 43 58.8**	**+0.6**
BSO4	**Boso 4**	**1.11**	**227**	P	**Pb**	**00 43 59.8**	**+0.9**
BSO3	**Boso 3**	**1.16**	**216**	P	**Pn**	**00 43 59.0**	**+0.8**
MJAR	**Matsushiro Arr**	**2.65**	**288**	Pn	**Pn**	**00 44 20.0**	**+1.0**
	0.9nm,0.3s,baz=94,slow=12,SNR=23						
MJAR				Sn	**Sn**	**00 44 50.8**	**+0.7**
	0.5nm,0.3s,baz=268,slow=27,SNR=4.8						
MJAR				LR	LR	00 45 23.9	
	comp=Z,114nm,18.2s,baz=100,slow=41						
MAT	**Matsushiro**	**2.65**	**288**	P	**Pn**	**00 44 20.1**	**+1.1**
MAT				S	**Sn**	**00 44 48.8**	**-1.3**
KSRS	**Korea Array**	**10.91**	**283**	LR	LR	00 50 23.0	
	comp=Z,44nm,20.5s,baz=92,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.57**	**119**	T	T	01 18 28.1	
	baz=311,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**27.58**	**119**	T	T	01 18 28.7	
	baz=311,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**27.59**	**119**	T	T	01 18 29.5	
	baz=311,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	01 19 21.8	
	baz=312,slow=75,SNR=33						
H11S3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	01 19 19.9	
	baz=312,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	01 19 21.7	
	baz=312,slow=75,SNR=23						
MKAR	**Makanchi Array**	**44.75**	**303**	P	**P**	**00 51 50.3**	**+1.4**
	0.4nm,0.6s,baz=82,slow=8.8,SNR=4.4						
ILAR	**Eielson Array**	**50.62**	**32**	P	**P**	**00 52 32.1**	**-2.0**
	0.1nm,0.5s,baz=269,slow=6.6,SNR=4.2						
WRA	**Warramunga Arr**	**55.78**	**188**	P	P	00 53 19.3	+6.8
	0.5nm,0.8s,baz=1.1,slow=7.4,SNR=3.0						

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*IDC **01** 00:47:54.4±0.6, 17°.62S×167°.67E, h0km, mb4.4/17, mb1 4.5/19, mb1mx4.4/26, mbtmp4.5/19, ML5.1/3, MS4.0/20, Ms1 4.0/20, ms1mx3.9/28, Error ellipse: s-maj=20.5km s-min=14.4km az=80.0*
*NEIC **01** 00:47:54.2±3.0, 17°.65S×167°.73E, h4km±18km, mb4.6/22, Error ellipse: s-maj=9.0km s-min=5.5km az=49.0*
*ISCJB **01** 00:47:56.5±0.4, 17°.80S±0°.04×167°.62E±0°.07, h23km, mb4.6/37, MS4.2/25, Error ellipse: s-maj=9.8km s-min=5.8km az=162.1*
*GCMT **01** 00:47:59.2±0.3, 17°.63S±0°.03×167°.65E±0°.02, h18km±1km, MW5.0/73, Moment Tensor Solution. s36,c41; s73,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.34±.18; $M_{\theta\theta}$-0.42±.11; $M_{\phi\phi}$-2.92±.12; $M_{r\theta}$0.42±.30; $M_{\theta\phi}$0.31±.08; $M_{\phi r}$-2.27±.27; Best double couple: $M_0$3.90400×10^{16} NP1:ϕ_s171.00000°, δ63.00000°, λ88.00000°. NP2: ϕ_s355.00000°, δ27.00000°, λ93.00000°. Principal axes: T 4.0970, Plg72.0000°, Azm78.0000°; N -0.3870, Plg1.0000°, Azm172.0000°; P -3.7110, Plg18.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **01** 00:48:00.2±0.0, 17°.33S×168°.24E, h48km, mb4.9/22, mB5.0/13, Ms4.8/5, Ms7 4.7/4*
ISC 01 00:47:58.0±0.4, 17°.78S±0°.05×167°.61E±0°.07, h23km, n121, σ1§57/113, mb4.6/36, MS4.1/26, 4C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.71**	**174**	*e*Pn	**Pn**	**00 48 52.4**	**-1.5**
DZM	**Mont Dzumac**	**4.41**	**194**	*e*Pn	**Pn**	**00 49 04.1**	**+0.4**
	47nm,0.3s						
DZM				*e*Sn	**Sn**	**00 49 51.7**	**-2.7**
	84nm,0.2s						
DZM				*e*LR	LR	00 50 04.4	
	comp=Z,1μm,23.6s						
DZM	**Mont Dzumac**	**4.41**	**194**	Pn	**Pn**	**00 49 04.1**	**+0.4**
	13nm,0.3s,baz=18,slow=8.0,SNR=28						
DZM				Sn	**Sn**	**00 49 53.8**	**-0.6**
	29nm,0.3s,baz=301,slow=20,SNR=11						
DZM				LR	LR	00 49 55.7	
	comp=Z,687nm,19.6s,baz=318,slow=26						
OUENC	**Ouen Island, N**	**4.67**	**189**	*e*Pn	**Pn**	**00 49 08.6**	**+1.4**
PINNC	**Pines Island,**	**4.82**	**182**	*e*Pn	**Pn**	**00 49 10.6**	**+1.5**
HNR	**Honiara**	**11.14**	**317**	*e*P	Pn	00 50 30.0	-6.0
HNR	**Honiara**	**11.14**	**317**	Pn	**Pn**	**00 50 33.4**	**-2.6**
	12nm,0.3s,baz=246,slow=10.0,SNR=2.3						
HNR				LR	LR	00 54 30.1	
	comp=Z,1μm,19.0s,baz=144,slow=36						
EIDS	**Eidsvold**	**17.12**	**241**	*e*Pn	**P**	**00 51 57.2**	**-0.2**
	8.3nm,0.9s						
RAO	**Raoul Island**	**17.49**	**133**	*e*Pn	**Pn**	**00 51 58.9**	**-1.6**
	281nm,0.6s						
RAO	**Raoul Island**	**17.49**	**133**	P	**Pn**	**00 51 59.2**	**-1.3**
	36nm,0.3s,baz=90,slow=20,SNR=2.5						
ARMA	**Armidale**	**19.24**	**226**	*e*P	**Pn**	**00 52 22.0**	**+0.1**
	14nm,1.0s						
CTA	**Charters Tower**	**20.33**	**260**	P	**P**	**00 52 32.5**	**-0.3**
	5.4nm,0.8s,baz=0.0,slow=3.0,SNR=3.0						
CTAO	**Charters Tower**	**20.33**	**260**	*e*P	**P**	**00 52 32.5**	**-0.3**
	15nm,0.8s						
PMG	**Port Moresby**	**21.53**	**290**	*e*P	**P**	**00 52 46.9**	**+1.2**
	26nm,1.1s						
PMG	**Port Moresby**	**21.53**	**290**	P	**P**	**00 52 45.3**	**-0.4**
	3.1nm,0.3s,baz=214,slow=11,SNR=2.2						
PMG				LR	LR	01 00 02.9	
	comp=Z,791nm,18.4s,baz=100,slow=34						
URZ	**Urewera**	**22.04**	**160**	P	**P**	**00 52 51.9**	**+0.9**
	15nm,0.8s,baz=214,slow=0.6,SNR=3.9						
URZ				LR	LR	01 00 33.1	
	comp=Z,511nm,18.6s,baz=348,slow=34						
BKZ	**Black Stump Fm**	**22.67**	**162**	*e*P	**P**	**00 52 57.3**	**-0.5**
	21nm,1.0s						
COEN	**Coen**	**23.80**	**276**	*e*P	**P**	**00 53 10.6**	**+1.3**
	20nm,1.1s						
BFZ	**Birch Farm**	**24.01**	**164**	*e*P	**P**	**00 53 11.2**	**+0.1**
	20nm,0.9s						
THZ	**Tophouse**	**24.34**	**170**	*e*P	**P**	**00 53 14.1**	**0.0**
	16nm,1.2s						
KHZ	**Kahutara**	**25.08**	**170**	*e*P	**P**	**00 53 20.5**	**-0.2**
	27nm,1.1s						
RPZ	**Rata Peaks**	**26.02**	**174**	P	**P**	**00 53 30.2**	**+0.8**
	7.3nm,0.9s,baz=11,slow=18,SNR=2.6						
RPZ				LR	LR	01 03 43.0	
	comp=Z,502nm,18.4s,baz=12,slow=36						
STKA	**Stephens Creek**	**27.38**	**234**	P	**P**	**00 53 43.1**	**+1.4**
	17nm,0.9s,baz=55,slow=7.4,SNR=7.1						
STKA				LR	LR	01 04 14.2	
	comp=Z,350nm,18.7s,baz=47,slow=36						
WRAB	**Tennant Creek**	**31.52**	**261**	*e*P	**P**	**00 54 18.1**	**-0.5**
	3.2nm,0.7s						
WRA	**Warramunga Arr**	**31.53**	**261**	*e*P	**P**	**00 54 17.5**	**-1.2**
	3.9nm,0.9s						
WRA				PcP	**PcP**	**00 57 11.1**	**-0.3**
WRA	**Warramunga Arr**	**31.53**	**261**	P	**P**	**00 54 18.6**	**-0.1**
	6.9nm,1.0s,baz=90,slow=9.3,SNR=13						
WRA				PcP	**PcP**	**00 57 11.1**	**-0.3**
	2.1nm,0.9s,baz=98,slow=2.6,SNR=3.7						
WRA				LR	LR	01 06 40.7	
	comp=Z,394nm,18.9s,baz=90,slow=36						
AS31	**Alice Springs**	**32.01**	**254**	*e*P	**P**	**00 54 22.9**	**0.0**
	4.6nm,0.6s						
ASAR	**Alice Springs**	**32.01**	**254**	*e*P	**P**	**00 54 22.4**	**-0.6**
ASAR				PcP	**PcP**	**00 57 12.2**	**-0.5**
ASAR	**Alice Springs**	**32.01**	**254**	P	**P**	**00 54 23.0**	**0.0**
	12nm,0.8s,baz=79,slow=7.5,SNR=30						
ASAR				PcP	**PcP**	**00 57 12.2**	**-0.5**
	0.9nm,0.8s,baz=91,slow=2.8,SNR=2.5						
ASAR				LR	LR	01 07 21.7	
	comp=Z,715nm,18.0s,baz=89,slow=36						
BBOO	**Buckleboo**	**32.06**	**236**	*e*P	**P**	**00 54 23.9**	**+0.7**
	34nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.87**	**263**	*e*P	**P**	**00 55 30.0**	**-0.2**
	22nm,0.9s						
TBI	**Tubuai**	**40.47**	**105**	*e*LQ	LQ	01 05 16.0	
	661nm,27.0s						
TBI				*e*LR	LR	01 06 56.3	
	comp=Z,403nm,30.8s						
PPT2	**Papeete2**	**40.73**	**97**	*e*S	**S**	**01 01 52.8**	**+5.9**
	174nm,24.2s						
PPT2				*e*LR	LR	01 07 09.0	
	comp=Z,527nm,24.8s						
PPT	**Papeete**	**40.73**	**96**	LR	LR	01 08 36.4	
	comp=Z,233nm,19.0s,baz=262,slow=30						
MBWA	**Marble Bar**	**45.14**	**258**	*e*P	**P**	**00 56 13.2**	**+0.1**
TAOE	**Nuku Hiva Isla**	**51.47**	**87**	*e*S	**S**	**01 04 24.5**	**+3.1**
	236nm,26.1s						
TAOE				*e*LR	LR	01 12 04.6	
	comp=Z,534nm,25.4s						
KSM	**Kuching**	**59.55**	**283**	*e*P	**P**	**00 58 00.6**	**+0.4**
	15nm,1.0s						
VNDA	**Vanda**	**59.84**	**181**	P	**P**	**00 58 01.6**	**+0.4**
	1.2nm,0.8s,baz=347,slow=3.6,SNR=3.7						
VNDA				LR	LR	01 22 21.7	
	comp=Z,60nm,18.5s,baz=20,slow=34						
MJAR	**Matsushiro Arr**	**60.75**	**333**	P	**P**	**00 58 05.9**	**-2.1**
	3.0nm,0.8s,baz=168,slow=8.2,SNR=4.7						
ASAJ	**Asahikawa**	**65.70**	**340**	LR	LR	01 24 31.6	
	comp=Z,89nm,20.3s,baz=169,slow=34						
NJ2	**Nanjing**	**68.09**	**317**	*e*P	**P**	**00 58 56.2**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USRK	**Ussuriysk Ar.**	**69.74**	**333**	P	**P**	**00 59 04.6**	**-1.5**
	1.1nm,0.7s,baz=145,slow=3.5,SNR=2.4						
PETK	**Petropavlovsk-**	**71.11**	**354**	P	**P**	**00 59 14.1**	**-0.2**
	4.0nm,1.1s,baz=114,slow=8.6,SNR=3.0						
PETK				LR	LR	01 27 27.5	
	comp=Z,77nm,19.7s,baz=159,slow=33						
SKNT	**Sakolnakorn**	**71.52**	**295**	P	**P**	**00 59 21.7**	**+4.2**
QSPA	**South Pole Qui**	**72.27**	**180**	*e*P	**P**	**00 59 20.6**	**-0.8**
CN2	**Changchun**	**72.41**	**329**	*e*P	**P**	**00 59 25.7**	**+3.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NONG	**Nongkai**	**72.71**	**296**	P	P	00 59 31.1	+6.5
CHAI	**Chaiyaphum**	**72.79**	**293**	P	P	00 59 30.9	+5.7
SRDT	**SRDT**	**74.70**	**291**	P	P	00 59 42.8	+6.4
UTTA	**Uttaradit**	**74.80**	**295**	P	P	00 59 43.0	+6.1
UTHA	**Uthaitani**	**74.89**	**292**	P	P	00 59 44.4	+7.0
NANT	**Nan**	**75.12**	**296**	P	P	00 59 44.4	+5.6
UMPA	**Umpang Tak**	**75.66**	**292**	P	P	00 59 48.5	+6.6
LAMP	**Lampang**	**75.92**	**295**	P	P	00 59 49.7	+6.3
XAN	**Xi'an**	**75.99**	**313**	P	**P**	**00 59 47.6**	**+4.1**
XAN				pP	PcP	00 59 58.0	+2.2
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMI	**Kunming**	**76.19**	**302**	P	P	00 59 51.0	+5.9
KMI				pmax	pmax		
	comp=Z,22nm,1.0s						
CMAR	**Chiang Mai Arr**	**76.49**	**295**	*e*P	**P**	**00 59 46.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**76.49**	**295**	P	**P**	**00 59 47.8**	**+1.2**
	7.4nm,0.9s,baz=127,slow=4.1,SNR=9.4						
CMMT	**Chiang Mai**	**76.63**	**295**	P	P	00 59 52.4	+5.0
CHTO	**Chiang Mai**	**76.64**	**295**	*e*P	**P**	**00 59 47.8**	**+0.3**
	3.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**78.11**	**320**	*e*P	**P**	**00 59 57.0**	**+1.6**
HHC				pmax	pmax		
	comp=Z,56nm,1.2s						
HHC				pmax	pmax		
	comp=Z,230nm,7.0s						
CD2	**Chengdu**	**78.12**	**308**	*e*P	**P**	**00 59 55.4**	**-0.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
MA2	**Magadan**	**78.29**	**351**	LR	LR	01 29 57.7	
	comp=Z,95nm,20.5s,baz=153,slow=32						
MAW	**Mawson**	**79.20**	**202**	*e*P	**P**	**01 00 01.1**	**+0.3**
	2.2nm,1.0s						
MAW	**Mawson**	**79.20**	**202**	P	**P**	**01 00 03.8**	**+3.0**
	7.2nm,0.9s,baz=112,slow=1.8,SNR=6.8						
MAW				LR	LR	01 30 49.9	
	comp=Z,78nm,19.5s,baz=109,slow=32						
LZH	**Lanzhou**	**80.60**	**313**	*e*P	**P**	**01 00 10.9**	**+1.7**
LZH				pP	pwP	01 00 25.1	+3.5
LZH				sP	sP	01 00 30.1	+13
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,61nm,4.3s						
LZH				LR	LR		
	comp=N,230nm,16.7s						
LZH				LR	LR		
	comp=Z,360nm,19.3s						
ULN	**Ulaanbaatar**	**84.77**	**324**	*e*P	**P**	**01 00 30.8**	**+0.2**
	3.9nm,0.9s						
GTA	**Gaotai**	**85.00**	**314**	*e*P	**P**	**01 00 36.1**	**+4.2**
GTA				pP	pwP	01 00 51.8	+7.4
GTA				S	S	**01 11 01.2**	**+1.3**
GTA				sS	ScS	01 11 23.2	+13
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,62nm,6.8s						
GTA				LR	LR		
	comp=N,75nm,16.2s						
GTA				LR	LR		
	comp=E,93nm,18.4s						
GTA				LR	LR		
	comp=Z,120nm,19.0s						
SONM	**Songino Array**	**85.13**	**324**	*e*P	**P**	**01 00 32.6**	**+0.3**
	5.0nm,1.2s						
SONM	**Songino Array**	**85.13**	**324**	P	**P**	**01 00 32.7**	**+0.4**
	1.2nm,0.7s,baz=148,slow=6.0,SNR=11						
BILL	**Bilibino**	**85.57**	**359**	*e*P	**P**	**01 00 32.1**	**-1.8**
	4.7nm,0.9s						
SYO	**Syowa Base**	**85.89**	**197⇑**	*e*PcP	**PcP**	**01 00 37.8**	**-0.6**
NVAR	**Mina Array Bea**	**89.01**	**49**	LR	LR	01 34 34.9	
	comp=Z,58nm,18.3s,baz=243,slow=32						
BBB	**Bella Bella**	**89.11**	**34**	LR	LR	01 33 23.3	
	comp=Z,72nm,19.7s,baz=234,slow=31						
ILAR	**Eielson Array**	**89.31**	**18**	P	**P**	**01 00 48.6**	**-3.4**
	0.4nm,0.6s,baz=245,slow=5.1,SNR=5.7						
ILAR				LR	LR	01 34 35.5	
	comp=Z,64nm,20.0s,baz=237,slow=31						
SNAA	**Sanae**	**90.54**	**183**	P	**P**	**01 00 56.7**	**-1.3**
SNAA	**Sanae**	**90.54**	**183**	*e*P	**P**	**01 00 57.1**	**-0.8**
	5.1nm,0.9s						
VNA3	**Neumayer Olymp**	**91.19**	**181**	P	**P**	**01 01 00.3**	**-0.6**
VNA2	**Neumayer--Watz**	**91.46**	**182**	P	**P**	**01 01 01.8**	**-0.3**
	baz=208,slow=23						
VNA1	**Neumayer--Stat**	**91.76**	**181**	P	**P**	**01 01 00.7**	**-2.7**
WMQ	**Urumqi**	**95.08**	**314**	*e*P	**P**	**01 01 21.1**	**+1.8**
WMQ				pP	pwP	01 01 36.8	+4.9
WMQ				LR	LR		
	comp=N,260nm,30.1s						
WMQ				LR	LR		
	comp=Z,460nm,29.5s						
PDAR	**Pinedale Array**	**96.76**	**47**	LR	LR	01 37 49.0	
	comp=Z,38nm,20.4s,baz=267,slow=31						
TXAR	**Lajitas Array**	**97.43**	**62**	LR	LR	01 39 42.6	
	comp=Z,73nm,18.0s,baz=0.0,slow=32						
MKAR	**Makanchi Array**	**99.61**	**316**	P	**Pdif**	**01 01 40.4**	**+0.8**
	0.3nm,0.7s,baz=94,slow=5.9,SNR=4.7						
MKAR				LR	LR	01 45 30.1	
	comp=Z,30nm,21.9s,baz=76,slow=35						
ZALV	**Zalesovo Beam**	**100.02**	**323**	P	**Pdif**	**01 01 41.2**	**0.0**
	0.4nm,0.4s,baz=122,slow=5.4,SNR=2.4						
YKA	**Yellowknife Ar**	**100.09**	**27**	P	**Pdif**	**01 01 41.5**	**+0.2**
	0.1nm,0.3s,baz=249,slow=5.2,SNR=3.0						
KSH	**Kashi**	**102.32**	**308**	P	**Pdif**	**01 01 55.4**	**+3.4**
KSH				PP	**PKiKP**	**01 06 13.2**	**-0.6**
KSH				S	**Sdif**	**01 13 32.7**	**-1.9**
KSH				sS	sS	01 13 54.9	+10
KSH				SS	**SS**	**01 20 44.7**	**+3.5**
KSH				LR	LR		
	comp=N,410nm,11.6s						
KSH				LR	LR		
	comp=E,200nm,12.0s						
NRIK	**Noril'sk**	**103.02**	**339**	P	**Pdif**	**01 01 52.7**	**-1.5**
	0.7nm,0.2s,baz=48,slow=2.4,SNR=4.0						
ARCES	**ARCESS Array B**	**123.26**	**345**	PKP	**PKPdf**	**01 06 50.9**	**-1.5**
	1.9nm,0.5s,baz=75,slow=1.3,SNR=27						
SCO	**Scoresbysund**	**126.98**	**4**	*e*PKPdf	**PKPdf**	**01 06 58.2**	**-1.2**
KMBO	**Kilima Mbogo**	**127.66**	**254**	PKP	**PKiKP**	**01 07 03.7**	**+0.4**
	0.6nm,0.3s,baz=180,slow=2.0,SNR=2.4						
FINES	**FINESS Array B**	**128.65**	**337**	PKP	**PKPdf**	**01 07 02.0**	**-0.9**
	1.5nm,0.8s,baz=96,slow=3.8,SNR=8.5						
AKASG	**Malin Array Be**	**133.41**	**324**	PKP	**PKPdf**	**01 07 10.6**	**-1.6**
	0.2nm,0.3s,baz=64,slow=2.0,SNR=3.5						
NB2	**NORSAR Subarra**	**133.63**	**344**	PKPdf	**PKPdf**	**01 07 11.8**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**133.63**	**344**	PKP	**PKPdf**	**01 07 11.4**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=35,slow=1.9,SNR=3.0						
BRTR	**Keskin Array B**	**134.70**	**309**	*e*PKPdf	**PKPdf**	**01 07 14.7**	**-0.5**
BRTR	**Keskin Array B**	**134.70**	**309**	PKP	**PKPdf**	**01 07 14.6**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=72,slow=1.8,SNR=5.3						
CLL	**Collm**	**140.94**	**335**	*e*PKPdf	**PKPdf**	**01 07 24.0**	**-2.1**
CLL				*e*		01 07 33.0	
CLL				Lm	MLR	02 12 00.0	
	comp=Z,100nm,19.0s						
CONA	**Conrad Observa**	**142.09**	**329**	*e*P	**PKPdf**	**01 07 28.9**	**+0.5**
	comp=Z,1.9nm,0.7s						
GERES	**GERESS Array B**	**142.47**	**332**	PKP	**PKPdf**	**01 07 29.2**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=50,slow=1.5,SNR=7.6						
ARSA	**Arzberg**	**142.72**	**328**	*e*PKPdf	**PKPdf**	**01 07 28.3**	**-1.2**
	comp=Z,2.0nm,1.1s						
MOA	**Molln**	**142.93**	**330**	*e*PKPdf	**PKPdf**	**01 07 26.4**	**-3.4**
	comp=Z,5.2nm,1.4s						
FNA	**Florina**	**143.03**	**315**	*e*PKPdf	**PKPdf**	**01 07 29.2**	**-1.1**
KBA	**Koelnbreinsper**	**143.91**	**330**	*i* PKPdf	PKPab	01 07 28.9	-0.1
MYKA	**Terra Mystica**	**144.09**	**329**	*e*PKPdf	**PKPab**	**01 07 29.2**	**-0.3**
	comp=Z,1.3nm,0.4s						
MEM	**Membach**	**144.09**	**340**	⇑PKP	**PKiKP**	**01 07 34.0**	**-1.3**
ABTA	**Abfaltersbach**	**144.55**	**330⇓**	*e*PKPdf	**PKPab**	**01 07 30.2**	**-1.0**
	comp=Z,9.8nm,0.7s,SNR=6.8						
WTTA	**Wattenberg**	**144.58**	**331**	*e*PKPdf	**PKPab**	**01 07 30.5**	**-1.0**
	comp=Z,8.5nm,1.2s						
MOTA	**Moosalm**	**144.76**	**332**	*e*P	**PKPab**	**01 07 31.8**	**-0.2**
	comp=Z,9.3nm,1.0s,SNR=10						
RETA	**Reutte**	**144.80**	**332**	*e*pPKPbc	**PKPab**	**01 07 31.4**	**-0.7**
	comp=Z,17nm,1.3s						
SQTA	**Sankt Quirin**	**144.80**	**332**	*e*pPKPbc	**PKPab**	**01 07 31.4**	**-0.8**
	comp=Z,18nm,1.1s,SNR=9.5						
WLF	**Walferdange**	**144.85**	**339**	⇑PKP	**PKPab**	**01 07 32.1**	**0.0**
DOU	**Dourbes**	**144.99**	**341**	⇑PKP	**PKPab**	**01 07 32.5**	**0.0**
FETA	**Feichten**	**145.17**	**332**	*e*P	**PKPbc**	**01 07 33.2**	**-0.4**
	comp=Z,21nm,1.1s,SNR=12						
DAVA	**Damuels**	**145.34**	**333**	*e*pPKPab	**PKPbc**	**01 07 33.3**	**-0.7**
	comp=Z,27nm,1.1s,SNR=7.9						
FUORN	**Ofen

CMIG *i* S Sn 01 21 26.8 -3.1

*IDC **01** 01:24:53.0±0.6, 11°.29N×141°.14E, h0km, mb4.3/17, mb1 4.5/17, mb1mx4.3/34, mbtmp4.3/17, MS3.4/12, Ms1 3.4/12, ms1mx3.2/31, Error ellipse: s-maj=23.8km s-min=13.2km az=79.0*

*ISCJB **01** 01:24:56.6±0.3, 11°.19N±0°.05×140°.91E±0°.07, h34km, mb4.4/46, MS3.3/11, Error ellipse: s-maj=9.5km s-min=7.3km az=3.3*

*NEIC **01** 01:24:59.2±2.3, 11°.21N×140°.95E, h42km±8km, mb4.5/34, Error ellipse: s-maj=18.6km s-min=15.8km az=84.0*

ISC 01 01:24:58.3±0.5, 11°.19N±0°.08×140°.98E±0°.10, h34km, n74, σ0=99/67, mb4.5/45, MS3.4/11, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.49**	**58**	*e*Pn	**Pn**	**01 26 04.2**	**+0.3**
JAY	**Jayapura**	**13.62**	**181**	LR	LR	01 32 31.4	
	comp=Z,179nm,19.5s,baz=358,slow=33						
PMG	**Port Moresby**	**21.36**	**163**	P	**P**	**01 29 42.6**	**-0.3**
	5.6nm,0.3s,baz=129,slow=22,SNR=5.7						
JHJ	**Hachijo jima 2**	**21.85**	**357**	LR	LR	01 36 25.0	
	comp=Z,179nm,21.3s,baz=85,slow=32						
JNU	**Nakatsue**	**23.72**	**339**	LR	LR	01 37 44.5	
	comp=Z,119nm,20.1s,baz=161,slow=33						
MJAR	**Matsushiro Arr**	**25.36**	**355**	P	**P**	**01 30 20.4**	**-1.9**
	0.9nm,0.5s,baz=191,slow=9.9,SNR=3.3						
MJAR				LR	LR	01 39 05.0	
	comp=Z,22nm,18.1s,baz=135,slow=34						
MAJO	**Matsushiro**	**25.37**	**355**	*e*P	**P**	**01 30 20.4**	**-1.9**
MTN	**Manton Dam**	**25.80**	**203**	*e*P	**P**	**01 30 24.9**	**-1.5**
	17nm,1.2s						
HNR	**Honiara**	**27.85**	**137**	LR	LR	01 41 59.8	
	comp=Z,51nm,18.0s,baz=22,slow=37						
KSRS	**Korea Array**	**28.66**	**338**	LR	LR	01 40 59.5	
	comp=Z,86nm,20.7s,baz=151,slow=34						
KS15	**Wonju Array Si**	**28.67**	**338**	*e*P	**P**	**01 30 51.4**	**-0.6**
	32nm,1.1s						
KSAR	**Wonju Array Be**	**28.67**	**338**	*e*P	**P**	**01 30 52.5**	**+0.5**
SBUM	**Sibu**	**29.82**	**255**	*e*P	**P**	**01 31 00.7**	**-1.8**
	3.6nm,1.4s						
WR1	**Warramunga Arr**	**31.62**	**192**	*e*P	**P**	**01 31 18.4**	**+0.2**
WRA	**Warramunga Arr**	**31.62**	**192**	P	**P**	**01 31 18.4**	**+0.2**
	2.3nm,0.8s,baz=9.5,slow=9.7,SNR=12						
WRA				LR	LR	01 43 47.4	
	comp=Z,97nm,20.6s,baz=215,slow=36						
USRK	**Ussuriysk Ar.**	**33.79**	**348**	P	**P**	**01 31 37.6**	**+0.6**
	0.9nm,0.5s,baz=132,slow=8.0,SNR=3.0						
USRK				LR	LR	01 43 58.8	
	comp=Z,61nm,19.0s,baz=167,slow=34						
AS31	**Alice Springs**	**35.32**	**191**	*e*P	**P**	**01 31 51.2**	**+0.7**
	1.6nm,1.2s						
ASAR	**Alice Springs**	**35.33**	**191**	P	**P**	**01 31 51.2**	**+0.7**
	1.0nm,0.6s,baz=19,slow=12,SNR=13						
CM31	**Chiang Mai Arr**	**41.20**	**285**	*e*P	**P**	**01 32 42.2**	**+2.1**
	3.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.20**	**285**	P	**P**	**01 32 42.2**	**+2.1**
	6.5nm,0.3s,baz=87,slow=6.9,SNR=9.6						
CMAR				LR	LR	01 50 58.5	
	comp=Z,16nm,18.6s,baz=115,slow=38						
DZM	**Mont Dzumac**	**41.43**	**143**	*e*P	**P**	**01 32 43.1**	**+1.0**
	17nm,1.1s						
DZM	**Mont Dzumac**	**41.43**	**143**	P	**P**	**01 32 43.1**	**+1.0**
	8.1nm,0.7s,baz=349,slow=10,SNR=5.1						
STKA	**Stephens Creek**	**42.83**	**179**	*e*P	**P**	**01 32 52.5**	**-0.6**
	1.3nm,1.0s						
STKA	**Stephens Creek**	**42.83**	**179**	P	**P**	**01 32 52.5**	**-0.6**
	3.2nm,0.8s,baz=1.0,slow=8.0,SNR=5.3						
SONA0	**Songino Array**	**46.62**	**328**	*e*P	**P**	**01 33 23.3**	**-0.1**
SONM	**Songino Array**	**46.62**	**328**	*e*P	**P**	**01 33 23.9**	**+0.5**
SONM	**Songino Array**	**46.62**	**328**	P	**P**	**01 33 23.3**	**-0.1**
	1.0nm,0.5s,baz=134,slow=8.5,SNR=7.1						
MK31	**Makanchi Array**	**60.63**	**318**	*e*P	**P**	**01 35 06.7**	**+0.8**
	2.2nm,1.3s						
MK32	**Makanchi Array**	**60.63**	**318**	*e*P	**P**	**01 35 06.4**	**+0.4**
MKAR	**Makanchi Array**	**60.63**	**318**	*e*P	**P**	**01 35 06.2**	**+0.3**
MKAR	**Makanchi Array**	**60.63**	**318**	P	**P**	**01 35 06.4**	**+0.4**
	0.7nm,0.5s,baz=92,slow=9.8,SNR=9.4						
MAKZ	**Makanchi**	**60.84**	**318**	*e*P	**P**	**01 35 08.0**	**+0.6**
	2.2nm,0.9s						
ZALV	**Zalesovo Beam**	**61.41**	**326**	P	**P**	**01 35 10.9**	**-0.2**
	1.2nm,0.5s,baz=101,slow=8.2,SNR=5.6						
ZAA1	**Zalesovo Array**	**61.41**	**326**	*e*P	**P**	**01 35 10.9**	**-0.2**
KURK	**Kurchatov**	**64.01**	**321**	*e*P	**P**	**01 35 28.4**	**0.0**
	6.3nm,0.8s						
NIL	**Nilore**	**65.38**	**302**	*e*P	**P**	**01 35 38.7**	**+0.9**
	6.0nm,1.0s						
GAR	**Garm**	**68.03**	**308**	*e*P	**P**	**01 35 55.6**	**+0.9**
	4.3nm,0.7s						
BRVK	**Borovoye**	**69.54**	**323**	*e*P	**P**	**01 36 03.7**	**+0.1**
	5.6nm,1.0s						
CAST	**Castle Rocks**	**69.81**	**26**	*e*P	**P**	**01 36 04.8**	**-0.3**
	4.3nm,0.7s						
MLY	**Manley**	**70.81**	**25**	*e*P	**P**	**01 36 11.5**	**+0.2**
	4.0nm,0.6s						
WRH	**Wood River Hil**	**71.78**	**26**	*e*P	**P**	**01 36 16.2**	**-0.8**
	6.3nm,1.3s						
TOLK	**Toolik Lake Re**	**72.21**	**21**	*e*P	**P**	**01 36 20.4**	**+0.8**
	5.0nm,0.8s						
HDA	**Harding Lake**	**72.25**	**26**	*e*P	**P**	**01 36 18.6**	**-1.4**
	2.5nm,0.7s						
ILAR	**Eielson Array**	**72.35**	**25**	*e*P	**P**	**01 36 18.6**	**-1.9**
ILAR	**Eielson Array**	**72.35**	**25**	P	**P**	**01 36 18.9**	**-1.6**
	2.8nm,0.7s,baz=246,slow=6.0,SNR=35						
ILAR				LR	LR	02 05 10.8	
	comp=Z,26nm,21.0s,baz=246,slow=34						
ILB	**Eielson Array**	**72.35**	**25**	*e*P	**P**	**01 36 18.9**	**-1.6**
	3.3nm,0.6s						
DOT	**Dot Lake**	**73.37**	**27**	*e*P	**P**	**01 36 26.3**	**-0.3**
	4.5nm,0.8s						
MENT	**Mentasta**	**73.42**	**27**	*e*P	**P**	**01 36 27.1**	**+0.2**
	4.1nm,1.0s						
DAWY	**Dawson**	**75.47**	**27**	*e*P	**P**	**01 36 39.5**	**+0.6**
	3.6nm,0.9s						
ABKAR	**Akbulak array**	**75.77**	**318**	*e*P	**P**	**01 36 40.7**	**0.0**
	1.0nm,0.5s						
GEYT	**Alibeck**	**77.62**	**307**	P	**P**	**01 36 51.3**	**-0.2**
	1.3nm,0.8s,baz=109,slow=3.6,SNR=4.6						
INK	**Inuvik**	**78.02**	**22**	*e*P	**P**	**01 36 52.8**	**-0.3**
	3.7nm,0.9s						
YKW3	**Yellowknife Ar**	**86.69**	**27**	*e*P	**P**	**01 37 38.7**	**+0.3**
	4.7nm,0.9s						
YKA	**Yellowknife Ar**	**86.71**	**27**	*e*P	**P**	**01 37 37.7**	**-0.8**
YKA	**Yellowknife Ar**	**86.71**	**27**	P	**P**	**01 37 38.4**	**-0.1**
	9.0nm,1.1s,baz=291,slow=5.3,SNR=32						
YKB5	**Yellowknife Ar**	**86.71**	**27**	*e*P	**P**	**01 37 38.4**	**-0.1**
B08A	**Colville Reser**	**88.08**	**41**	*e*P	**P**	**01 37 46.2**	**+0.6**
	3.7nm,0.6s						
PINE	**Pine Mountain**	**88.11**	**46**	*e*P	**P**	**01 37 47.4**	**+1.4**
	8.7nm,0.7s						
ARA0	**ARCESS Array S**	**88.16**	**341**	*e*P	**P**	**01 37 44.5**	**-0.9**
ARCES	**ARCESS Array B**	**88.16**	**341**	P	**P**	**01 37 44.5**	**-0.9**
	2.7nm,0.6s,baz=71,slow=7.8,SNR=16						
VNDA	**Vanda**	**89.36**	**176**	LR	LR	02 18 19.2	
	comp=Z,19nm,18.0s,baz=317,slow=36						
BEKR	**Beckworth**	**89.47**	**50**	*e*P	**P**	**01 37 54.0**	**+1.6**
	8.7nm,1.0s						
J08A	**Circle Bar Ran**	**89.95**	**46**	*e*P	**P**	**01 37 55.8**	**+1.2**
	3.8nm,1.0s						
WVOR	**Wild Horse Val**	**90.08**	**47**	*e*P	**P**	**01 37 56.3**	**+1.2**
	3.4nm,0.8s						
NVAR	**Mina Array Bea**	**91.38**	**51**	*e*P	**P**	**01 38 02.5**	**+1.1**
NVAR	**Mina Array Bea**	**91.38**	**51**	P	**P**	**01 38 00.8**	**-0.6**
	2.0nm,0.7s,baz=266,slow=5.6,SNR=9.0						
NV01	**Mina Array Sit**	**91.38**	**51**	*e*P	**P**	**01 38 00.8**	**-0.6**
FIA0	**FINESS Array S**	**91.69**	**334**	*e*P	**P**	**01 38 00.4**	**-1.6**
FINES	**FINESS Array B**	**91.69**	**334**	P	**P**	**01 38 00.4**	**-1.6**
	3.3nm,0.6s,baz=78,slow=5.1,SNR=23						
AKASG	**Malin Array Be**	**94.73**	**324**	LR	LR	02 23 48.9	
	comp=Z,23nm,19.1s,baz=85,slow=37						
PD31	**Pinedale Array**	**96.33**	**44**	*e*P	**P**	**01 38 23.7**	**-0.4**
	0.9nm,1.2s						
PDAR	**Pinedale Array**	**96.33**	**44**	P	**P**	**01 38 23.7**	**-0.4**
	0.2nm,0.4s,baz=351,slow=1.2,SNR=2.7						
SMCO	**Snowmass**	**99.50**	**47**	*e*P	**Pdif**	**01 38 37.0**	**-1.6**
	13nm,0.8s						
SDCO	**Great Sand Dun**	**101.12**	**48**	*e*Pdif	**Pdif**	**01 38 45.3**	**-0.5**

TEH 01 01:31:58.1, 27°.11N×54°.03E, h10km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.81**	**287**	*e*Pg	Pg	01 32 13.9	+0.2
LMD1				*e*Sg	Sb	01 32 25.4	+0.2
JHRM	**Jahrom**	**1.45**	**344**	*e*Pg	Pg	01 32 26.4	+0.4
GHIR	**Ghir-Karzin**	**1.50**	**322**	*e*Pn	Pb	01 32 25.8	-0.3
BNDS	**Bandar-Abbas**	**1.93**	**81**	*e*Pg	Pn	01 32 24.5	-6.6
GENO	**Geno**	**1.93**	**81**	*e*Pn	Pn	01 32 32.3	+1.1
UMQ	**Umm Al-Quwin**	**2.15**	**137**	*e*Pn	Pb	01 32 37.5	+0.4
SHME	**Shamm**	**2.16**	**119**	*e*Pn	Pb	01 32 35.9	-1.5
ISRV	**Sarvestan**	**2.41**	**341**	*e*Pn	Pn	01 32 39.7	+1.8
ISRV				IAMB	IAmb	01 33 25.5	
	comp=Z,3μm,0.6s						
NIAN	**Nian**	**2.54**	**79**	*e*Pn	Pn	01 32 40.9	+1.6
NIAN				IAMB	IAmb	01 33 36.3	
	comp=Z,0.0nm,0.4s						
NAZ	**Nazwa, Dubai**	**2.57**	**145**	*e*Pn	Pb	01 32 42.2	-2.1
MSFE	**Esma-Masafi**	**2.58**	**132**	*e*Pn	Pb	01 32 42.5	-2.1
MDH	**Madha**	**2.72**	**131**	*e*Pn	Pb	01 32 43.9	+2.0
ASUD	**Al Ashush, Dub**	**2.73**	**154**	*e*Pn	Pb	01 32 45.6	-1.5
IPAR	**Pars**	**2.86**	**343**	*e*Pn	Pn	01 32 45.4	+1.3
IPAR				IAMB	IAmb	01 33 41.8	
	comp=Z,792nm,0.7s						
HATD	**Hatta, Dubai**	**2.96**	**140**	*e*Pn	Pn	01 32 47.5	+2.4
ASHO	**Ashiyiah**	**3.03**	**142**	*e*Pn	Pn	01 32 48.1	+2.0
KHNJ	**Kahnooj**	**3.37**	**75**	*e*Pn	Pn	01 32 51.2	+0.4
ALNE	**Al Ain**	**3.41**	**153**	*e*Pn	Pn	01 32 53.7	+2.3
NGRK	**Negar Kerman**	**3.47**	**43**	*e*Pn	Pn	01 32 54.2	+1.7
NGRK				IAMB	IAmb	01 33 43.2	
	comp=Z,0.0nm,0.3s						
TVBK	**TV Kerman**	**3.74**	**39**	*e*Pn	Pn	01 32 58.8	+2.6
TVBK				IAMB	IAmb	01 33 02.3	
	comp=Z,0.0nm,0.3s						
KHGB	**Koh Gabri**	**3.90**	**33**	*e*Pn	Pn	01 33 01.1	+2.8
KHGB				IAMB	IAmb	01 34 16.1	
	comp=Z,0.0nm,1.2s						
CHMN	**Cheshme madani**	**4.13**	**48**	IAMB	IAmb	01 33 11.3	
	comp=Z,0.0nm,0.2s						
CHMN				*e*Pn	Pn	01 33 05.1	+3.5
IMEH	**Mehriz**	**4.30**	**7**	*e*Pn	Pn	01 33 06.1	+2.3
IMEH				IAMB	IAmb	01 34 02.7	
	comp=Z,401nm,0.3s						
HOQ	**Hoqain**	**4.60**	**139**	*e*Pn	Pn	01 33 10.5	+2.8
IBAF	**Bafgh**	**4.66**	**16**	*e*Pn	Pn	01 33 10.2	+1.4
IBAF				IAMB	IAmb	01 33 46.5	
	comp=Z,200nm,0.3s						
ISAD	**Sadrabad**	**4.80**	**356**	*e*Pn	Pn	01 33 13.0	+2.3
ISAD				IAMB	IAmb	01 33 22.7	
	comp=Z,343nm,0.2s						
IRAM	**Ramesheh**	**4.90**	**343**	*e*Pn	Pn	01 33 14.1	+2.0
IRAM				IAMB	IAmb	01 34 25.9	
	comp=Z,178nm,0.3s						
YZKH	**Yazd**	**5.29**	**5**	*e*Pn	Pn	01 33 16.3	-1.0
IZEF	**Zefreh**	**5.96**	**346**	*e*Pn	Pn	01 33 26.8	+0.2
IPIR	**Pirpir**	**6.19**	**335**	*e*Pn	Pn	01 33 30.5	+0.6
IKLH	**Kolahrood**	**6.54**	**342**	*e*Pn	Pn	01 33 36.1	+1.4

*ISCJB **01** 01:43:39.8±0.7, 50°.14N±0°.05×19°.09E±0°.04, h0km, Error ellipse: s-maj=6.6km s-min=3.2km az=7.3*

*PRU **01** 01:43:41.2±0.0, 50°.13N×19°.14E, h0km*

ISC 01 01:43:40.8±1.1, 50°.12N±0°.05×19°.16E±0°.03, h0km, n11, σ0=69/18, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.42**	**76**	*e*Pg	**Pg**	**01 43 49.0**	**0.0**
OJC				*e*Sg	**Sg**	**01 43 54.6**	**+0.1**
OKC	**Ostrava-Krasne**	**0.71**	**247**	*e*PG	**Pg**	**01 43 55.0**	**+0.6**
OKC				*e*SG	**Sg**	**01 44 04.5**	**+0.9**
	comp=Z,6.5nm,0.4s						
LANS	**Liptovska Anna**	**0.99**	**168**	*e*PG	**Pg**	**01 43 59.9**	**+0.1**
LANS				*e*SG	**Sg**	**01 44 13.5**	**+0.9**
NIE	**Niedzica**	**1.02**	**133**	*e*Pg	**Pg**	**01 44 00.6**	**+0.2**
NIE				*e*Sg	**Sb**	**01 44 15.4**	**+0.1**
MORC	**Moravsky Berou**	**1.10**	**252**	*e*PG	**Pg**	**01 44 01.7**	**-0.1**
MORC				*e*SG	**Sg**	**01 44 15.2**	**-0.8**
KRLC	**Kraliky**	**1.53**	**269**	*e*SG	**Sg**	**01 44 29.3**	**-0.6**
VYHS	**Vyhne**	**1.64**	**187**	*e*PN	**Pn**	**01 44 10.0**	**-0.9**
VYHS				*e*SN	**Sn**	**01 44 31.8**	**-0.9**
VRAC	**Vranov**	**1.85**	**245**	*e*PN	**Pn**	**01 44 14.8**	**+1.0**
VRAC				*e*SG	**Sn**	**01 44 38.3**	**+0.4**
UPC	**Upice**	**2.05**	**282**	*e*SG	**Sg**	**01 44 46.6**	**-0.1**
PRU	**Pruhonice**	**2.98**	**269**	*e*SG	**Sg**	**01 45 16.4**	**0.0**
KHC	**Kasperske Hory**	**3.76**	**257**	*e*SG	**Sg**	**01 45 40.4**	**-1.1**

*IDC **01** 01:43:56.2±1.2, 24°.76N×124°.98E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/38, mbtmp3.6/7, Error ellipse: s-maj=58.9km s-min=25.0km az=61.0*

*ISCJB **01** 01:43:58.9±0.4, 24°.79N±0°.08×125°.04E±0°.04, h28km±3km, mb3.5/7, Error ellipse: s-maj=13.9km s-min=4.8km az=159.6*

*JMA **01** 01:43:59.8±0.1, 24°.73N×125°.04E, h20km±2km, M3.5*

JMA Felt I J1.

ISC 01 01:43:59.1±1.0, 24°.73N±0°.07×125°.03E±0°.04, h18km±3km, n15, σ0=51/23, mb3.6/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRB	**Irabujima**	**0.16**	**53**	P	**Pg**	**01 44 04.1**	**+0.6**
JIRB				S	**Sg**	**01 44 06.7**	**+0.2**
JMJ2	**Miyako jima3**	**0.27**	**88**	P	**Pb**	**01 44 05.6**	**+0.2**
JMJ2				S	**Sb**	**01 44 10.0**	**+0.4**
JIKM	**Ikemajima**	**0.28**	**46**	P	**Pb**	**01 44 05.9**	**+0.4**
JIKM				S	**Sb**	**01 44 10.2**	**+0.4**
JTJ	**Tarama**	**0.31**	**253**	P	**Pb**	**01 44 06.7**	**+0.6**
JTJ				S	**Sb**	**01 44 11.8**	**+0.9**
JOGS	**Gusukube**	**0.34**	**85**	P	**Pb**	**01 44 06.9**	**+0.2**
JOGS				S	**Sb**	**01 44 11.9**	**0.0**
JISG	**Ishigakijimahi**	**0.67**	**258**	P	**Pg**	**01 44 12.4**	**+0.1**
JISG				S	**Sg**	**01 44 21.4**	**+0.2**
JIJ	**Ishigaki jima**	**0.89**	**246**	P	**Pb**	**01 44 15.7**	**-0.2**
JIJ				S	**Sg**	**01 44 28.5**	**+0.4**
JKRS	**Kuro-shima**	**1.05**	**242**	P	**Pb**	**01 44 18.9**	**+0.1**
JKRS				S	**Sg**	**01 44 33.6**	**+0.3**
MKAR	**Makanchi Array**	**40.43**	**314**	P	**P**	**01 51 35.9**	**-0.5**
	0.7nm,0.6s,baz=96,slow=10,SNR=8.2						
KURBB	**Kurchatov Arra**	**43.99**	**318**	P	**P**	**01 52 04.5**	**-0.8**
	0.4nm,0.5s,baz=107,slow=7.7,SNR=5.9						
WRA	**Warramunga Arr**	**45.32**	**168**	P	**P**	**01 52 16.2**	**0.0**
	0.5nm,0.9s,baz=350,slow=8.9,SNR=2.8						
BVAR	**Borovoye Array**	**49.50**	**320**	P	**P**	**01 52 48.1**	**-0.3**
	0.2nm,0.3s,baz=104,slow=9.0,SNR=3.5						
FINES	**FINESS Array B**	**72.73**	**330**	P	**P**	**01 55 24.8**	**-1.1**
	2.0nm,0.9s,baz=57,slow=7.0,SNR=3.7						
BRTR	**Keskin Array B**	**75.65**	**307**	P	**P**	**01 55 43.7**	**+0.2**
	0.5nm,0.8s,baz=115,slow=5.6,SNR=4.6						
YKA	**Yellowknife Ar**	**81.08**	**24**	P	**P**	**01 56 13.4**	**+0.5**
	0.2nm,0.5s,baz=300,slow=5.9,SNR=4.0						

*IDC **01** 01:44:08.5±0.5, 44°.86N×36°.49E, h0km, mb3.6/8, mb1 3.7/16, mb1mx3.6/38, mbtmp3.6/16, ML3.5/9, MS2.8/3, Ms1 2.7/3, ms1mx2.2/41, Error ellipse: s-maj=9.5km s-min=6.8km az=19.0*

*MOS **01** 01:44:09.2±0.9, 44°.93N×36°.60E, h17km, mb4.0/3, Error ellipse: s-maj=9.2km s-min=5.0km az=16.0*

*SIGU **01** 01:44:10.6±0.2, 44°.64N×36°.60E, h11km±4km, mb3.3/6*

*DDA **01** 01:44:15.1, 44°.26N×36°.55E, h8km±4km, MW3.9*

ISC 01 01:44:10.4±1.1, 44°.69N±0°.03×36°.59E±0°.02, h18km±7km, n244, σ0=13/279, mb3.5/10, 53C-29D, Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.61**	**79**	⇑*i*P	**Pg**	**01 44 21.9**	**-0.7**
ANN				*i*		01 44 29.6	
ANN	**Anapa**	**0.61**	**79**	⇑*i*Pg	**Pg**	**01 44 21.9**	**-0.7**
	baz=65						
ANN				Pgm		01 44 22.4	
	baz=65						
ANN				*i* Sg	**Sg**	**01 44 29.6**	**-1.1**
	baz=65						
ANN				Sgm		01 44 30.3	
	baz=65						
ANN	**Anapa**	**0.61**	**79**	*e*Pg	**Pg**	**01 44 22.1**	**-0.4**
ANN				*e*Sg	**Sg**	**01 44 29.6**	**-1.1**
KERU	**Kerch**	**0.63**	**352**	⇑*i*P	**Pb**	**01 44 24.6**	**+1.7**
KERU	**Kerch**	**0.63**	**352**	⇑*i*Pg	**Pb**	**01 44 24.8**	**+1.9**
	baz=352						
KERU				*e*Sg	**Sn**	**01 44 35.5**	**+1.4**
	baz=352						
KERU	**Kerch**	**0.63**	**352**	*i* Pg	**Pb**	**01 44 24.8**	**+1.9**
FEO	**Feodosiya**	**0.92**	**292**	*i* P	**Pn**	**01 44 29.7**	**+1.3**
FEO				*e*		01 44 43.5	
FEO	**Feodosiya**	**0.92**	**292**	*i* Pg	**Pn**	**01 44 29.7**	**+1.3**
	baz=294						
FEO				Pgm		01 44 30.2	
	baz=294						
FEO				*e*Sg	**Sn**	**01 44 43.5**	**+2.4**
	baz=294						
FEO				Sgm		01 44 43.6	
	baz=294						
FEO				Sgm		01 44 43.6	
	baz=294						
FEO	**Feodosiya**	**0.92**	**292**	*i* Pg	**Pn**	**01 44 29.7**	**+1.3**
FEO				*e*Sg	**Sn**	**01 44 43.5**	**+2.4**
SUDU	**Sudak**	**1.15**	**281**	⇑*i*P	**Pb**	**01 44 32.3**	**+0.5**
SUDU				*e*		01 44 48.4	
SUDU	**Sudak**	**1.15**	**281**	⇑*i*Pg	**Pb**	**01 44 32.3**	**+0.5**
	baz=283						
SUDU				Pgm		01 44 32.5	
	baz=283						
SUDU				*e*Sg	**Sg**	**01 44 48.4**	**+0.7**
	baz=283						
SUDU				Sgm		01 44 49.2	
	baz=283						
SUDU				Sgm		01 44 49.2	
	baz=283						
SUDU	**Sudak**	**1.15**	**281**	*i* Pg	**Pb**	**01 44 32.3**	**+0.5**
SUDU				*e*Sg	**Sg**	**01 44 48.4**	**+0.7**
ALU	**Alushta**	**1.56**	**271**	*e*P	**Pn**	**01 44 38.2**	**+1.0**
ALU				*e*		01 44 58.3	
ALU	**Alushta**	**1.56**	**271**	⇑*e*Pn	**Pn**	**01 44 38.2**	**+1.0**
	baz=272						
ALU				Pnm		01 44 39.6	
	baz=272						
ALU				*e*Sn	**Sn**	**01 44 58.3**	**+1.3**
	baz=272						
ALU				Snm		01 44 59.7	
	baz=272						
ALU				Snm		01 45 01.5	
	baz=272						
ALU	**Alushta**	**1.56**	**271**	*e*Pg	**Pn**	**01 44 38.2**	**+1.0**
ALU				*e*Sg	**Sn**	**01 44 58.3**	**+1.3**
YAL	**Yalta**	**1.75**	**264**	⇑*i*P	**Pn**	**01 44 40.9**	**+1.0**
YAL				*e*		01 45 03.0	
YAL	**Yalta**	**1.75**	**264**	⇑*i*Pn	**Pn**	**01 44 40.9**	**+1.0**
	baz=266						
YAL				Pnm		01 44 41.6	
	baz=266						
YAL				*e*Sn	**Sn**	**01 45 03.0**	**+1.3**
	baz=266						
YAL				Snm		01 45 04.2	
	baz=266						
YAL				Snm		01 45 04.6	
	baz=266						
YAL	**Yalta**	**1.75**	**264**	*i* Pg	**Pn**	**01 44 40.9**	**+1.0**
YAL				*e*Sg	**Sn**	**01 45 03.0**	**+1.3**
KGUR	**Krasnodar**	**1.77**	**78**	*e*Pg	**Pb**	**01 44 42.4**	**+0.1**
KGUR				*e*Sg	**Sn**	**01 45 04.4**	**+2.3**
SIM	**Simferopol'**	**1.78**	**279**	*ce*P	**Pn**	**01 44 42.0**	**+1.7**
SIM				S	**Sn**	**01 45 04.2**	**+1.7**
SIM				pmax	pmax		
	comp=Z,27nm,0.6s						
SIM				smax	smax		
	comp=E,116nm,0.8s						
SIM				smax	smax		
	comp=N,80nm,0.9s						
SIM	**Simferopol'**	**1.78**	**279**	⇑*i*Pn	**Pn**	**01 44 41.1**	**+0.8**
	baz=281						
SIM				Pnm		01 44 41.4	
	baz=281						
SIM				*e*Sn	**Sn**	**01 45 03.6**	**+1.1**
	baz=281						
SIM				Snm		01 45 03.7	
	baz=281						
SIM				Snm		01 45 05.0	
	baz=281						
SIM	**Simferopol'**	**1.78**	**279**	*e*Pg	**Pn**	**01 44 41.1**	**+0.8**
SIM				*e*Sg	**Sn**	**01 45 03.6**	**+1.1**
SEV	**Sevastopol'**	**2.09**	**267**	⇑*i*P	**Pn**	**01 44 45.4**	**+0.9**
SEV				*e*		01 45 10.8	
SEV	**Sevastopol'**	**2.09**	**267**	⇑*i*Pn	**Pn**	**01 44 45.4**	**+0.9**
	baz=268						
SEV				Pnm		01 44 45.8	
	baz=268						
SEV				*e*Sn	**Sn**	**01 45 10.8**	**+0.7**
	baz=268						
SEV				Snm		01 45 12.2	
	baz=268						
SEV				Snm		01 45 13.6	
	baz=268						
SEV	**Sevastopol'**	**2.09**	**267**	*e*Pg	**Pn**	**01 44 45.4**	**+0.9**
SEV				*e*Sg	**Sn**	**01 45 10.8**	**+0.7**
LZRR	**Lazarevskoye**	**2.14**	**110**	*i* Pg	**Pn**	**01 44 45.3**	**0.0**
LZRR				*e*Sg	**Sn**	**01 45 11.5**	**+0.2**
SOC	**Sochi**	**2.51**	**115**	*e*P	**Pg**	**01 45 01.6**	**+3.1**
SOC	**Sochi**	**2.51**	**115**	*e*Pn	**Pb**	**01 44 53.1**	**-1.8**
SOC				*e*Sn	**Sn**	**01 45 21.2**	**+0.8**
SNOP	**Sinop**	**2.85**	**201**	*i* P	**Pn**	**01 44 57.7**	**+2.7**
SINO	**SINOP_Merkez**	**2.85**

comp=N,1.3nm,0.3s,baz=129,slow=8.1,SNR=6.2
KBZ LR LR 01 47 47.2
comp=N,40nm,19.1s,baz=314,slow=46
NEY Neytrino 4.66 106 *i* P **Pn 01 45 21.7 +1.7**
NEY Neytrino 4.66 106 *e*Pn **Pn 01 45 16.6 -3.3**
NEY *e*Sn **Sn 01 46 10.4 -3.3**
PYA1 Pyatigorsk 4.71 95 P **Pn 01 45 21.0 +0.4**
CHAY Cayeli-Rize 4.71 138 *e*P **Pn 01 45 22.1 +1.6**
CORM Corum 4.73 199 *e*P **Pn 01 45 24.4 +3.4**
SVSK Karacayir 4.78 176 *e*P **Pn 01 45 25.3 +3.8**
BATM Batumi 4.84 128 *e*P **Pn 01 45 22.6 +0.2**
CUZAR Zara_SIVAS 4.87 169 *i* P **Pn 01 45 26.8 +3.8**
BCA Borcka 4.91 130 *e*P **Pn 01 45 23.6 +0.3**
BCA Borcka 4.91 130 ⇑*i*P **Pn 01 45 24.1 +0.8**
BCA Borcka 4.91 130 S **Sn 01 46 19.8 +0.1**
KELT Kelkit 4.95 156 *i* P **Pn 01 45 27.0 +2.9**
BAYT Aydıntepe-Bayb 5.03 147 *e*P **Pn 01 45 27.5 +2.4**
DELI KIRIKKALE 5.08 204 *i* P **Pn 01 45 29.9 +4.1**
BCAM Yenicaga 5.10 222 *i* P **Pn 01 45 29.8 +3.7**
YOZ Yozgat 5.13 191 *e*P **Pn 01 45 29.7 +3.2**
CMDR Camlidere-ANKA 5.17 217 ⇓*i*P **Pn 01 45 30.8 +3.7**
BAYB BAYBURT 5.19 147 *i* P **Pn 01 45 30.2 +2.8**
DBAD Bademkaya 5.25 133 ⇑*i*P **Pn 01 45 29.4 +1.4**
CUSAR Sarkisla-SIVAS 5.27 183 *i* P **Pn 01 45 32.6 +4.2**
YIGI Dzce 5.30 227 *i* P **Pn 01 45 31.8 +3.1**
CDAG Cicekdag 5.32 199 ⇓*i*P **Pn 01 45 32.9 +3.8**
DAGI Agillar 5.32 131 *i* P **Pn 01 45 30.5 +1.4**
DDEM Demirkent 5.37 133 *i* P **Pn 01 45 31.6 +1.9**
KRIK Erzurum-spir 5.40 142 *i* P **Pn 01 45 33.0 +2.7**
CUKAN kangal_SIVAS 5.41 173 *i* P **Pn 01 45 34.1 +3.8**
BRTR Keskin Array B 5.42 205 *i* P **Pn 01 45 33.9 +3.4**
BRTR pmax pmax
comp=Z,5.0nm,0.3s
BRTR Keskin Array B 5.42 205 Pn **Pn 01 45 33.9 +3.4**
comp=Z,2.1nm,0.3s,baz=21,slow=12,SNR=99
BRTR Sn **Sn 01 46 37.0 +4.5**
comp=Z,1.5nm,0.3s,baz=47,slow=24,SNR=17
SIRC Yozgat 5.45 192 ⇓*i*P **Pn 01 45 34.9 +4.0**
KIBS BOLU 5.51 221 *i* P **Pn 01 45 35.6 +3.8**
REFA Refahiye_ERZN 5.53 162 *i* P **Pn 01 45 28.9 -3.1**
TLCR 5.54 278 ⇓*i*P **Pn 01 45 32.7 +0.7**
TLCR 5.54 278 ⇓P **Pn 01 45 32.7 +0.7**
LOD Lodumlu 5.57 212 *e*P **Pn 01 45 35.7 +3.2**
ANTO Ankara 5.58 212 *e*P **Pn 01 45 35.9 +3.4**
KEMA Kemaliye 5.60 165 ⇓*i*P **Pn 01 45 37.0 +4.2**
SAHE Sakarya_HENDEK 5.70 230 *i* P **Pn 01 45 37.3 +3.1**
EFOR EFORIE 5.73 267 ⇓*i*P **Pn 01 45 35.3 +0.7**
MDUB Mudurnu 5.79 225 *e*P **Pn 01 45 38.6 +3.0**
MANR Mangalia 5.81 264 ⇑*i*P **Pn 01 45 37.0 +1.3**
MANR Mangalia 5.81 264 S **Sn 01 46 39.9 -2.0**
TIRR Tirgusor 5.84 271 ⇓*i*P **Pn 01 45 37.0 +0.9**
TIRR Tirgusor 5.84 271 S **Sn 01 46 39.7 -3.0**
TIRR Tirgusor 5.84 271 ⇓P **Pn 01 45 37.0 +0.9**
BNN Bunyan 5.86 186 *e*P **Pn 01 45 40.1 +3.6**
MFTR Murfatlar 5.87 268 ⇓*i*P **Pn 01 45 37.4 +0.9**
MILM Milestii Mici 5.88 295 ⇓*i*P **Pn 01 45 35.1 -1.5**
KIRS Kirehir-Merke 5.89 201 *i* P **Pn 01 45 40.9 +4.0**
KAND Kocaeli-Kandir 5.91 235 *i* P **Pn 01 45 39.5 +2.5**
SENK Senkaya-Erzuru 5.92 132 *e*P **Pn 01 45 39.4 +2.0**
AVNS Nevsehir-Avano 6.02 193 ⇓*i*P **Pn 01 45 42.6 +4.0**
CFR Carcaliu 6.02 278 ⇓*i*P **Pn 01 45 39.0 +0.5**
CFR Carcaliu 6.02 278 S **Sn 01 46 43.8 -3.2**
CFR Carcaliu 6.02 278 ⇓P **Pn 01 45 39.0 +0.5**
SAUV Serdivan-Sakar 6.07 232 *e*P **Pn 01 45 41.4 +2.2**
TLB Topalu 6.10 272 ⇓*i*P **Pn 01 45 41.5 +1.9**
TLB Topalu 6.10 272 ⇓P **Pn 01 45 41.5 +1.9**
YAYX Yaylak 6.11 201 *e*P **Pn 01 45 43.5 +3.6**
LEOM Leova 6.12 290 ⇓*i*P **Pn 01 45 40.0 +0.1**
LEOM Leova 6.12 290 S **Sn 01 46 47.6 -1.9**
LEOM Leova 6.12 290 ⇓P **Pn 01 45 40.0 +0.1**
AUMIH MIHALICIK 6.12 220 *e*P **Pn 01 45 42.8 +2.7**
PSN Preselentsi 6.13 264 *e*P **Pn 01 45 41.0 +1.0**
PSN Preselentsi 6.13 264 *i* P **Pn 01 45 41.4 +1.4**
KKUL Konya-Kulu 6.15 208 *i* P **Pn 01 45 44.8 +4.3**
SERE Sereflikochisa 6.16 203 *e*P **Pn 01 45 43.9 +3.2**
HARR Harsova 6.17 273 ⇓*i*P **Pn 01 45 41.6 +1.0**
HARR Harsova 6.17 273 ⇓P **Pn 01 45 41.6 +1.0**
GULT Gulveren 6.18 229 *e*P **Pn 01 45 43.2 +2.4**
GEYV SAKARYA_Geyve 6.26 230 *i* P **Pn 01 45 45.1 +3.3**
ICOR Ion Corvin 6.32 268 ⇓*i*P **Pn 01 45 44.6 +1.9**
TUDR 6.37 281 ⇑*i*P **Pn 01 45 45.2 +1.8**
TUDR 6.37 281 S **Sn 01 46 53.3 -2.4**
HRT Hereke 6.39 235 *e*P **Pn 01 45 45.6 +1.9**
SRCK Saricakaya, Es 6.41 226 *e*P **Pn 01 45 46.8 +2.9**
SVRH Sivrihisar-ESK 6.45 217 *e*P **Pn 01 45 47.9 +3.3**
BIR Birlad 6.50 287 ⇑*i*P **Pn 01 45 45.6 +0.5**
BIR Birlad 6.50 287 ⇑P **Pn 01 45 45.6 +0.5**
KLYT Kilyos 6.51 241 *e*P **Pn 01 45 47.2 +1.9**
KLYT Kilyos 6.51 241 ⇑*i*P **Pn 01 45 46.8 +1.5**
KLYT Kilyos 6.51 241 S **Sn 01 46 58.8 -0.3**
ADVT Abdulvahap 6.61 232 *e*P **Pn 01 45 49.8 +3.2**
ISK Istanbul-Kandi 6.61 239 *e*P **Pn 01 45 48.9 +2.3**
KAVV Kandilli-Istan 6.61 239 *e*P **Pn 01 45 48.9 +2.3**
BORA Eskisehir 6.61 226 *e*P **Pn 01 45 49.5 +2.7**
PETR Petresti 6.69 282 ⇑*i*P **Pn 01 45 49.2 +1.4**
BUY Buyukada 6.70 238 *e*P **Pn 01 45 50.3 +2.4**
BGKT Bogazkoy 6.72 241 *e*P **Pn 01 45 50.3 +2.1**
YLV Yalova 6.73 235 *e*P **Pn 01 45 50.8 +2.5**
YLV Yalova 6.73 235 ⇑*i*P **Pn 01 45 51.3 +3.0**
YLV Yalova 6.73 235 S **Sn 01 47 03.9 -0.6**
YLV Yalova 6.73 235 ⇑P **Pn 01 45 51.3 +3.0**
PRD Provadia 6.80 261 *i* P **Pn 01 45 48.8 -0.4**
ODBI Odobesti 6.82 282 ⇑*i*P **Pn 01 45 50.8 +1.3**
CTKS Kestanelik-??a 6.86 243 *e*P **Pn 01 45 51.9 +1.9**
ARMT Armutlu 7.03 237 *e*P **Pn 01 45 54.3 +1.9**
SLVT Silivri 7.05 244 *e*P **Pn 01 45 55.0 +2.3**
VRI Vrincioaia 7.06 283 *e*P **Pn 01 45 51.7 -1.1**
VRI Vrincioaia 7.06 283 ⇑*i*P **Pn 01 45 53.2 +0.4**
VRI Vrincioaia 7.06 283 S **Sn 01 47 11.6 -1.0**
VRI Vrincioaia 7.06 283 ⇑P **Pn 01 45 53.2 +0.4**
PLOR Plostina 7.11 283 ⇑*i*P **Pn 01 45 54.4 +0.8**
PLOR Plostina 7.11 283 ⇑P **Pn 01 45 54.4 +0.8**
MDNY Mudanya-Bursa 7.14 236 *e*P **Pn 01 45 56.3 +2.4**
ISR Istrita 7.15 277 ⇑*i*P **Pn 01 45 54.5 +0.4**
ISR Istrita 7.15 277 ⇑P **Pn 01 45 54.5 +0.4**
TESR Tescani 7.21 288 ⇓*i*P **Pn 01 45 54.8 -0.1**
TESR Tescani 7.21 288 S **Sn 01 47 15.0 -1.2**
PHSR Pinarhisar 7.30 248 *e*P **Pn 01 45 57.6 +1.5**
PHSR Pinarhisar 7.30 248 ⇑*i*P **Pn 01 45 58.7 +2.6**
CRLT Corlu 7.41 244 *e*P **Pn 01 45 59.5 +1.9**
TVSB Tavsanli 7.45 228 *e*P **Pn 01 46 00.8 +2.5**
KIRK Kırklareli 7.51 251 *i* P **Pn 01 46 00.2 +1.1**
KCTX Karacabey (Bur 7.52 237 *e*P **Pn 01 46 01.3 +2.1**
MLR Muntele Rosu 7.58 280 ⇑*i*P **Pn 01 46 01.4 +1.3**
MLR Muntele Rosu 7.58 280 ⇑P **Pn 01 46 01.4 +1.3**
MLR Muntele Rosu 7.58 280 Pn **Pn 01 46 00.6 +0.5**
comp=Z,0.8nm,0.3s,baz=17,slow=18,SNR=25
MLR Sn **Sn 01 47 23.9 -1.6**
comp=Z,2.7nm,0.3s,baz=143,slow=16,SNR=13
JMB Yambol 7.60 257 *e*P **Pn 01 46 01.2 +1.0**
SGRR Singureni 7.61 270 ⇑*i*P **Pn 01 46 01.3 +0.9**
BIZ Bicaz 7.66 291 ⇑*i*P **Pn 01 46 00.9 -0.2**
EDRB Edirne 7.72 252 *e*P **Pn 01 46 03.0 +1.0**
EDC Edincik 7.77 239 *e*P **Pn 01 46 03.6 +1.1**
MRMT Marmara Adasi 7.78 242 *e*P **Pn 01 46 03.9 +1.1**
AKASG Malin Array Be 7.80 323 *i* P **Pn 01 46 01.1 -1.9**
AKASG pmax pmax
comp=Z,1.0nm,0.2s
AKASG Malin Array Be 7.80 323 Pn **Pn 01 46 01.1 -1.9**
comp=Z,2.6nm,0.3s,baz=79,slow=20,SNR=9.3
AKASG Sn Sn 01 47 22.4 -8.4
comp=Z,6.1nm,0.3s,baz=135,slow=24,SNR=10
KIEV Kiev 7.80 323 *i* P **Pn 01 46 03.5 +0.5**
DOPR Dopca 8.00 283 ⇓*i*P **Pn 01 46 05.6 -0.1**
KRBG Karabiga-Canak 8.09 241 *e*P **Pn 01 46 08.5 +1.6**
BALB Balikesir 8.20 235 *e*P **Pn 01 46 10.9 +2.4**
VOIR 8.21 279 ⇑*i*P **Pn 01 46 09.3 +0.7**
VOIR 8.21 279 S **Sn 01 47 40.5 -0.4**
VOIR 8.21 279 ⇑P **Pn 01 46 09.3 +0.7**
BURAR Bucovina Array 8.42 294 ⇑*i*P **Pn 01 46 11.0 -0.6**
BURAR Bucovina Array 8.42 294 ⇑P **Pn 01 46 11.0 -0.6**
ERIK Erikli-Kesan 8.44 245 *e*P **Pn 01 46 12.1 +0.4**
ARR Arges 8.50 279 ⇑*i*P **Pn 01 46 13.2 +0.6**
GELI Tayfur-Gelibol 8.61 244 *e*P **Pn 01 46 15.6 +1.5**
ALN Alexandroupoli 8.63 248 *e*P **Pn 01 46 15.4 +1.1**
KDZ Kurdzhali 8.71 254 *e*P **Pn 01 46 17.7 +2.2**
RDO Rodhopi 8.85 250 *e*P **Pn 01 46 17.6 +0.3**
VTS Vitosha 9.90 263 ⇑*i*P **Pn 01 46 33.2 +1.3**
VTS Vitosha 9.90 263 ⇑P **Pn 01 46 33.2 +1.3**
KNT Kendrikon 10.64 255 *e*P **Pn 01 46 42.2 +0.3**

KOLS Kolonicke sedl 10.69 298 *e*P **Pn 01 46 41.7 -0.9**
KOLS Kolonicke sedl 10.69 298 *e*PN **Pn 01 46 41.7 -0.9**
GERES GERESS Array B 16.21 293 Pn **Pn 01 47 56.3 -0.8**
comp=Z,0.1nm,0.3s,baz=95,slow=11,SNR=3.3
KLMR Klimovskoe 16.29 5 *e*P **Pn 01 47 57.8 -0.2**
KLMR pmax pmax
comp=Z,7.0nm,0.9s
KBA Koelnbreinsper 16.35 287 *e*P **Pn 01 48 01.7 +2.6**
comp=Z,1.9nm,0.7s
GEYT Alibeck 17.50 105 Pn **P 01 48 16.0 +1.4**
comp=Z,0.3nm,0.3s,baz=303,slow=17,SNR=3.3
WTTA Wattenberg 17.52 287 P **Pn 01 48 15.2 +1.5**
comp=Z,0.8nm,0.4s
SQTA Sankt Quirin 17.81 287 *e*Pn **Pn 01 48 18.0 +0.7**
comp=Z,0.7nm,0.4s
MOTA Moosalm 17.88 288 *e*Pn **Pn 01 48 18.8 +0.6**
comp=Z,1.1nm,0.6s
FINES FINESS Array B 17.89 343 *i* P Pn 01 48 12.0 -6.1
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 17.89 343 Pn Pn 01 48 11.1 -7.1
comp=Z,0.1nm,0.3s,baz=156,slow=12,SNR=9.3
DAVA Damuels 18.71 287 pP **P 01 48 28.4 +0.5**
comp=Z,1.5nm,0.4s
DAVOX Davos/Dischmat 18.73 286 P **P 01 48 27.6 -0.7**
comp=Z,1.3nm,0.3s,baz=87,slow=7.0,SNR=12
BFO Black Forest 19.74 291 *i* P **Pn 01 48 41.3 +0.7**
HFS Hagfors 20.67 327 P **P 01 48 47.4 -1.7**
comp=Z,0.8nm,0.4s,baz=135,slow=12,SNR=14
HFS LR LR 01 57 26.3
comp=Z,34nm,20.4s,baz=28,slow=39
NB2 NORSAR Subarra 22.20 326 P **P 01 49 02.7 -2.8**
comp=Z,0.8nm,0.6s,baz=131,slow=11
NOA NORSAR Array B 22.20 326 P **P 01 49 03.1 -2.3**
comp=Z,1.4nm,0.7s,baz=133,slow=9.9,SNR=4.3
BRVK Borovoye 23.51 57 *i* P **P 01 49 22.1 +2.9**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 23.57 57 P **P 01 49 22.4 +2.6**
comp=Z,0.4nm,0.5s,baz=237,slow=10,SNR=4.6
ARCES ARCESS Array B 25.54 351 P **P 01 49 35.6 -2.1**
comp=Z,1.4nm,0.8s,baz=162,slow=8.9,SNR=3.6
AAK Ala-Archa 27.34 81 LR LR 02 01 53.5
comp=Z,31nm,18.8s,baz=154,slow=39
KURBB Kurchatov Arra 28.57 63 P **P 01 50 05.3 +0.2**
comp=Z,0.6nm,0.2s,baz=276,slow=8.5,SNR=2.9
KURK Kurchatov 28.62 63 P **P 01 50 05.3 -0.3**
ESDC Sonseca Array 30.24 275 P **P 01 50 18.9 -1.2**
comp=Z,0.2nm,0.5s,baz=61,slow=8.4,SNR=3.2
MKAR Makanchi Array 31.62 70 P **P 01 50 31.2 -1.0**
comp=Z,0.9nm,0.4s,baz=275,slow=9.0,SNR=15
ZALV Zalesovo Beam 32.20 56 *i* P P 01 50 43.5 +6.3
ZALV pmax pmax
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 43.25 234 P **P 01 52 10.3 -0.6**
comp=Z,0.3nm,0.6s,baz=27,slow=9.8,SNR=5.8
YKA Yellowknife Ar 70.70 346 P **P 01 55 23.4 -1.3**
comp=Z,0.2nm,0.5s,baz=20,slow=6.1,SNR=7.1

*GUC **01** 02:07:31.9±0.6, 31°.75S×70°.33W, h110km±12km, ML2.9*
*ISCJB **01** 02:07:32.6±0.9, 31°.76S±0°.03×70°.00W±0°.06,*
h106km±10km, Error ellipse: s-maj=8.3km s-min=4.6km
az=22.0
*SJA **01** 02:07:32.7±0.5, 31°.74S×69°.95W, h96km±3km, ML2.9,*
MW3.4
ISC 01 02:07:33.6±1.7, 31°.76S±0°.04×70°.03W±0°.06, h94km±17km,
n17, σ0°72/29, 2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.62**	**94**		*e*P		**Pn**	**02 07 50.0**	**-0.2**
RTLS					*e*S		**Sn**	**02 08 02.8**	**+0.3**
RTLS					IAML			02 08 04.4	
comp=Z,347nm,0.1s									
AUSP	**Uspallata**	**0.72**	**131**		*e*P		**Pn**	**02 07 51.1**	**+0.1**
AUSP					*e*S		**Sn**	**02 08 04.6**	**+0.6**
RTCV	**Cerro Valdivia**	**1.27**	**95**		*e*P		**Pn**	**02 07 56.1**	**-0.7**
RTCV					*e*S		**Sn**	**02 08 13.8**	**-0.5**
ASAL	**Salagasta**	**1.31**	**130**		*e*P		**Pn**	**02 07 57.1**	**-0.2**
ASAL					*e*S		**Sn**	**02 08 15.1**	**-0.1**
RTLL	**Cerro Villicun**	**1.39**	**73**		*e*P		**Pn**	**02 07 57.3**	**-1.0**
RTLL					*e*S		**Sn**	**02 08 16.2**	**-0.7**
ARCO	**CERRO ARCO**	**1.43**	**140**		*e*P		**Pn**	**02 07 59.1**	**+0.3**
ARCO					*e*S		**Sn**	**02 08 18.0**	**+0.1**
ARCO					IAML			02 08 21.2	
comp=Z,170nm,0.4s									
ACCO	**Cerro Coronel**	**1.43**	**36**		*e*P		**Pn**	**02 07 58.8**	**-0.2**
ACCO					*e*S		**Sn**	**02 08 18.9**	**+0.7**
ROCH	**El Roble**	**1.47**	**214**	⇓	*e*P		**Pn**	**02 07 58.4**	**-1.1**
ROCH					*i*S		**Sn**	**02 08 18.4**	**-0.6**
ROCH					IAML			02 08 20.4	
comp=N,330nm,0.3s									
PEL	**Peldehue**	**1.49**	**202**		*e*P		**Pn**	**02 07 58.5**	**-1.0**
PEL					*i*S		**Sn**	**02 08 18.9**	**-0.2**
PEL					IAML			02 08 20.1	
comp=E,101nm,0.3s									
FCH	**Farellones**	**1.58**	**188**	⇓	*e*P		**Pn**	**02 08 00.9**	**-0.1**
FCH					*i*S		**Sn**	**02 08 23.4**	**+1.8**
FCH					IAML			02 08 26.3	
comp=E,174nm,0.3s									
AROD	**Rodeo**	**1.65**	**17**		*e*P		**Pn**	**02 08 02.4**	**+0.5**
CLCH	**Cerro Calan**	**1.69**	**195**		*e*P		**Pn**	**02 08 01.8**	**-0.3**
CLCH					*i*S		**Sn**	**02 08 24.0**	**+0.3**
CLCH					IAML			02 08 26.8	
comp=N,114nm,0.4s									
GO04	**Tololo Observa**	**1.71**	**337**		*i*S		**Sn**	**02 08 24.5**	**+0.1**
ACDV	**Cuesta del Vie**	**1.76**	**26**		*e*P		**Pn**	**02 08 03.1**	**+0.1**
ACDV					IAML			02 08 03.2	
comp=Z,69nm,0.3s									
ACDV					*e*S		**Sn**	**02 08 25.9**	**+0.4**
ANTU	**Antumapu**	**1.88**	**196**		IAML			02 08 30.2	
comp=N,152nm,0.4s									
LMEL	**Las Melosas**	**2.09**	**184**		*e*P		**Pn**	**02 08 07.2**	**-0.2**
LMEL					*i*S		**Sn**	**02 08 34.8**	**+1.7**
LMEL					IAML			02 08 38.4	
comp=N,141nm,0.1s									
AGUA	**GUANDACOL**	**2.62**	**31**		*e*P		**Pn**	**02 08 14.2**	**-0.1**

*SOME **01** 02:17:53.9, 43°.18N×78°.52E, h5km*
*ISCJB **01** 02:17:54.2±0.5, 43°.17N±0°.03×78°.48E±0°.05, h8km±3km,*
Error ellipse: s-maj=7.2km s-min=4.2km az=34.4
*NNC **01** 02:17:54.1±0.4, 43°.13N×78°.56E, h0km, mpv2.7, Error*
ellipse: s-maj=4.0km s-min=2.3km az=155.0
*KRNET **01** 02:17:55.2±0.1, 43°.13N×78°.52E, h30km, mb1.7*
ISC 01 02:17:54.0±0.9, 43°.16N±0°.03×78°.51E±0°.04, h8km±6km,
n13, σ0°58/26, 10C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.06**	**283**		P		**Pg**	**02 17 55.7**	**-0.2**
15nm,0.1s									
ZHN					S		**Sg**	**02 17 56.8**	**-0.5**
249nm,0.1s									
SATY	**Saty**	**0.12**	**218**		P		**Pg**	**02 17 56.8**	**0.0**
71nm,0.1s									
SATY					S		**Sg**	**02 17 58.9**	**+0.2**
105nm,0.1s									
SATY	**Saty**	**0.12**	**218**		*e*P		**Pg**	**02 17 56.8**	**0.0**
71nm,0.1s									
SATY					*e*S		**Sg**	**02 17 58.9**	**+0.2**
105nm,0.1s									
PRZ	**Przheval'sk**	**0.68**	**187**	⇓	*i*P		**Pb**	**02 18 08.5**	**+0.3**
baz=87									
PRZ				⇓	*i*S		**Sb**	**02 18 17.2**	**-0.6**
baz=87									
PDGK	**Podgornoye**	**0.74**	**76**		P		**Pg**	**02 18 07.6**	**-0.6**
0.4nm,0.2s									
PDGK					S		**Sg**	**02 18 17.5**	**-0.3**
1.0nm,0.2s									
PDGK	**Podgornoye**	**0.74**	**76**	⇑	*i*P		**Pb**	**02 18 09.3**	**+0.1**
baz=74									
PDGK				⇑	*i*S		**Sb**	**02 18 20.0**	**+0.5**
baz=74									
MNBS	**Baschi**	**0.93**	**355**		P		**Pg**	**02 18 11.2**	**-0.6**
0.9nm,0.1s									
MNBS					S		**Sg**	**02 18 23.4**	**-0.5**
5.6nm,0.1s									
MNBS	**Baschi**	**0.93**	**355**		*e*P		**Pg**	**02 18 11.2**	**-0.6**
0.9nm,0.1s									
MNBS					*e*S		**Sg**	**02 18 23.4**	**-0.5**
5.6nm,0.1s									
KDJ	**Kajisay**	**1.42**	**224**	⇑	*i*P		**Pn**	**02 18 20.0**	**-0.3**
baz=25									
KDJ				⇑	*i*S		**Sg**	**02 18 39.3**	**-0.3**
baz=25									
DJR	**Jarkent**	**1.50**	**38**		P		**Pn**	**02 18 22.1**	**+0.8**
1.0nm,0.2s									
DJR					S		**Sb**	**02 18 42.4**	**+1.0**
0.9nm,0.2s									
TARG	**Taragay, Kyrgy**	**1.52**	**200**	⇑	*e*P		**Pn**	**02 18 22.2**	**+0.3**
baz=1.0									
TARG				⇑	*i*S		**Sb**	**02 18 41.5**	**-0.8**
baz=1.0									
ULHL	**Ulahol**	**1.90**	**242**	⇑	*i*P		**Pn**	**02 18 27.9**	**+0.9**
baz=43									
ULHL				⇑	*i*S		**Sn**	**02 18 51.1**	**-0.2**
baz=43									
TKM2	**Tokmak 2**	**2.15**	**265**	⇑	*i*P		**Pn**	**02 18 31.5**	**+1.1**
baz=65									
TKM2				⇑	*i*S		**Sn**	**02 18 57.0**	**-0.4**
baz=65									

*NORS **01** 02:23:25.6±0.0, 42°.84N×45°.55E, h10km, MPVA3.2*
*DRS **01** 02:23:27.3±0.0, 42°.75N×45°.42E, h13km*
ISC 01 02:23:25.9±1.5, 42°.94N±0°.04×45°.59E±0°.02, h1km±13km,
n17, σ1°04/33, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.30**	**31**		*e*Pg		**Pn**	**02 23 35.4**	**-2.1**
GROC					*e*Sg		**Sb**	**02 23 41.6**	**+2.0**
DVE	**Vedeno**	**0.40**	**88**		*e*Pg		**Pb**	**02 23 35.8**	**0.0**
DVE					*e*Sg		**Sb**	**02 23 41.9**	**-0.5**
KMGR	**Komgaron**	**0.54**	**282**		*e*Pg		**Pn**	**02 23 39.2**	**-1.6**
KMGR					*e*Sg		**Sb**	**02 23 47.2**	**+0.7**
BTLR	**Botlikh**	**0.55**	**121**		*e*Pg		**Pb**	**02 23 38.3**	**0.0**
BTLR					*e*Sg		**Sb**	**02 23 45.7**	**-1.0**
XNZR	**Khunzakh**	**0.92**	**116**		*e*Pg		**Pn**	**02 23 45.2**	**-0.9**
XNZR					*e*Sg		**Sb**	**02 23 57.4**	**-0.1**
GUDG	**Gudauri**	**0.95**	**240**		P		**Pn**	**02 23 46.1**	**-0.5**
GUDG					S		**Sb**	**02 23 57.9**	**-0.5**
TRKR	**Terskaya**	**1.00**	**322**		*e*Pg		**Pn**	**02 23 48.9**	**+1.8**
TRKR					*e*Sg		**Sn**	**02 24 03.3**	**+1.4**
STDR	**Stavd-Durt**	**1.19**	**291**		*e*Pg		**Pn**	**02 23 50.4**	**+0.7**
STDR					*e*Sg		**Sn**	**02 24 07.0**	**+0.4**
LGD	**Lagodekhi**	**1.21**	**156**		P		**Pn**	**02 23 50.6**	**+0.6**
LGD					S		**Sn**	**02 24 05.9**	**-1.2**
ZEI	**Tsey**	**1.25**	**263**		*e*Pg		**Pn**	**02 23 50.9**	**+0.2**
ZEI					*e*Sg		**Sn**	**02 24 07.8**	**-0.5**
LSNR	**Lesken**	**1.33**	**285**		*e*Pg		**Pb**	**02 23 52.4**	**+0.7**
LSNR					*e*Sg		**Sn**	**02 24 10.8**	**+0.6**
KMKR	**Kumukh**	**1.38**	**125**		*e*Pg		**Pb**	**02 23 54.0**	**+1.3**
KMKR					*e*Sg		**Sn**	**02 24 12.0**	**+0.4**
BTNK	**Botanikuri**	**1.39**	**205**		P		**Pb**	**02 23 53.9**	**+1.2**
DIGR	**Digorskoe uzhe**	**1.47**	**269**		*e*Pg		**Pg**	**02 23 54.3**	**+0.2**
DIGR					*e*Sg		**Sn**	**02 24 14.1**	**+0.3**
NEY	**Neytrino**	**2.12**	**279**		*e*Pg		**Pb**	**02 24 03.8**	**-1.4**
NEY					*e*Sg		**Sb**	**02 24 31.6**	**-0.5**
AKT	**Akhty**	**2.16**	**132**		*e*Pg		**Pg**	**02 24 07.5**	**+0.2**
AKT					*e*Sg		**Sg**	**02 24 35.1**	**-0.2**
SHA1	**Shidzhatmaz**	**2.28**	**291**		*e*Pn		**Pb**	**02 24 06.4**	**-1.6**
SHA1					*e*Sn		**Sb**	**02 24 36.2**	**-0.6**

IDC 01 02:43:13.5±3.7, 31°.74S×178°.86W, h0km, mb3.6/2,
mb1 3.9/2, mb1mx3.6/27, mbtmp3.6/2, Error ellipse:
s-maj=197.1km s-min=49.8km az=164.0, Kermadec
Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.32**	**269**		P		P	02 51 09.2	-0.2
0.7nm,0.6s,baz=111,slow=7.6,SNR=8.6									
WRA	**Warramunga Arr**	**43.44**	**274**		P		P	02 51 18.4	0.0
0.4nm,0.3s,baz=113,slow=7.8,SNR=3.8									
FINES	**FINESS Array B**	**146.14**	**339**		PKPbc		PKPbc	03 02 54.9	0.0
3.3nm,1.0s,baz=70,slow=4.6,SNR=7.3									
BRTR	**Keskin Array B**	**152.56**	**296**		PKPbc		PKPbc	03 03 11.1	-1.0
0.2nm,0.5s,baz=158,slow=4.2,SNR=3.3									

IDC 01 02:43:33.3±3.5, 31°.95S×178°.76W, h0km, mb4.0/2,
mb1 4.3/2, mb1mx3.8/28, mbtmp4.0/2, Error ellipse:
s-maj=188.5km s-min=41.4km az=163.0, Kermadec
Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.40**	**269**		P		P	02 51 29.4	-0.4
1.8nm,0.6s,baz=108,slow=7.3,SNR=16									
WRA	**Warramunga Arr**	**43.53**	**274**		P		P	02 51 39.3	+0.4
1.8nm,0.8s,baz=113,slow=7.9,SNR=4.1									
FINES	**FINESS Array B**	**146.36**	**339**		PKPbc		PKPbc	03 03 15.6	+0.3
1.5nm,0.6s,baz=55,slow=4.2,SNR=7.3									
NOA	**NORSAR Array B**	**150.18**	**350**		PKPbc		PKPbc	03 03 25.1	-0.3
0.1nm,0.5s,baz=17,slow=3.1,SNR=3.0									
BRTR	**Keskin Array B**	**152.72**	**296**		PKPbc		PKPbc	03 03 30.6	-1.6
0.5nm,0.5s,baz=168,slow=4.7,SNR=4.7									

*SAR **01** 02:43:35.9±0.3, 43°.36N×17°.53E, h3km±2km, ML2.5/1*
*PDG **01** 02:43:37.3±0.3, 43°.22N×17°.55E, h3km±1km, ML2.6/14,*
*Error ellipse: s-

ULC				*i* Sn	**Sg**	02 44 36.3	+0.7
TEKS	**Tekeris**	1.95	50	*e*Sn	**Sn**	02 44 32.7	-0.1
PVY	**Plav**	1.98	110⇑	*i*Pn	**Pg**	02 44 11.8	-1.0
PVY				*e*Sn	**Sg**	02 44 39.0	+0.5
DIVS	**Divibare**	2.01	66	*e*Pn	**Pn**	02 44 09.8	+0.8
DIVS				*e*Sn	**Sn**	02 44 34.4	+0.1
NVLJ	**Novalja**	2.24	305	*e*Pn	**Pb**	02 44 14.8	-0.5
NVLJ				Sn	**Sb**	02 44 43.9	+0.7
FRGS	**Fruska Gora**	2.52	42	*e*Pn	**Pn**	02 44 17.4	+1.6
FRGS				*e*Sn	**Sn**	02 44 47.0	+0.4
TIR	**Tirane**	2.66	137⇑	*i*P	**Pb**	02 44 22.8	+0.2
OZLJ	**Ozalj**	2.70	329	*i* Pn	**Pb**	02 44 21.9	-1.3
MATE	**Matera**	2.71	192⇑	*i*P	**Pg**	02 44 24.0	-2.7
CRES	**Cresnjev**	2.89	331	*e*Pn	**Pb**	02 44 23.2	-3.2
CRES				*e*Sn	**Sn**	02 44 57.8	+2.0
RIY	**Rijeka**	2.93	315	*e*Pn	**Pb**	02 44 23.8	-3.3
RIY				*e*Sn	**Sb**	02 44 59.1	-3.8
MORH	**Mrgy, Hungar**	3.03	16	*e*Pn	**Pn**	02 44 23.8	+0.9
MORH				*e*Sn	**Sn**	02 44 59.9	+0.7
CEY	**Cerknica**	3.25	319	*e*Pn	**Pn**	02 44 28.1	+2.2
CEY				*e*Sn	**Sn**	02 45 06.3	+1.7
MDVR	**Moldovita**	3.42	63⇓	*i*P	**Pb**	02 44 32.3	-3.2
BZS	**Buzias**	3.78	51⇑	*i*P	**Pn**	02 44 37.1	+4.0
ARSA	**Arzberg**	4.17	342	*e*Pn	**Pn**	02 44 40.2	+1.7
	2.6nm,0.3s						
CONA	**Conrad Observa**	4.75	347	*e*Pn	**Pb**	02 44 54.2	-4.0
	0.6nm,0.3s						
CONA				*e*Sn	**Sn**	02 45 42.2	+0.4
	1.8nm,0.6s						
MOA	**Molln**	5.06	335	*e*Pn	Pn	02 44 55.4	+4.7
	1.0nm,0.3s						
MOA				*e*Sn	**Sn**	02 45 52.7	+3.5
	1.6nm,0.4s						
VYHS	**Vyhne**	5.28	10	*e*PN	**Pn**	02 44 56.2	+2.4
VYHS				*e*SN	**Sn**	02 45 52.7	-2.0
WTTA	**Wattenberg**	5.69	316	Pn	Pn	02 45 05.6	+6.0
	0.8nm,0.3s						
WATA	**Walderalm**	5.77	316	*e*Pn	Pn	02 45 06.4	+5.8
	1.3nm,0.3s						
MOTA	**Moosalm**	6.02	314	*e*Pn	**Pn**	02 45 07.7	+3.6
	0.8nm,0.5s						

YARS 01 02:59:09.8±0.2, 67°.590N±0°.009×142°.62E±0°.03, h12km, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	1.15	168	*e*P	Pb	02 59 30.3	-1.3
MOMR				Pmax		02 59 30.3	
	comp=Z,6.0nm,0.2s						
MOMR				*e*S	Sb	02 59 45.8	-0.7
MOMR				Smax		02 59 45.8	
	comp=N,49nm,0.3s						
YBGR	**Belaya Gora**	1.64	53	*e*P	Pn	02 59 38.7	+0.3
YBGR				Pmax		02 59 38.7	
	comp=Z,13nm,0.2s						
DEPR	**Deputatskiy**	2.07	332	*e*P	Pn	02 59 44.8	+0.5
DEPR				*e*P	Pb	02 59 47.1	-0.1
DEPR				Pmax		02 59 47.1	
	comp=Z,2.0nm,0.2s						
DEPR				*e*S	Sb	03 00 13.8	+0.9
DEPR				Smax		03 00 13.8	
	comp=N,15nm,0.3s						
BTGS	**Batagay**	3.05	275	*e*S	Sb	03 00 44.3	+3.2
BTGS				Smax		03 00 44.3	
	comp=E,8.0nm,0.2s						

*IDC **01** 03:22:14.7±1.2, 8°.79N×83°.05W, h0km, mb3.9/6, mb1 4.2/9, mb1mx3.8/30, mbtmp4.0/9, ML3.8/3, MS3.3/7, Ms1 3.2/7, ms1mx2.9/36, Error ellipse: s-maj=40.2km s-min=15.7km az=39.0*

*UCR **01** 03:22:18.0±2.8, 8°.68N×83°.20W, h12km±6km, MD4.3, mb4.5(NEIC)*

*NEIC **01** 03:22:20.3±1.1, 8°.71N×83°.21W, h38km±8km, mb4.5/12, MW4.3(UCR), Error ellipse: s-maj=14.9km s-min=9.2km az=199.0*

NEIC Felt at Golfito, Palmar Norte and Puerto Jimenez.

ISC 01 03:22:17.2±1.1, 8.73N±0°.04×83°.21W±0°.03, h17km±7km, n71, σ1°39/79, mb4.5/16, MS3.3/5, 2C-6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	0.21	205⇑	*e*P	**Pg**	03 22 21.9	-0.4
PTJ1				*e*S	**Sb**	03 22 26.1	-0.2
EDSV	**San Vito**	0.26	69⇓	*e*P	**Pb**	03 22 25.0	+1.5
EDBA	**Buenos Aires**	0.43	352⇓	*e*P	**Pb**	03 22 27.8	+1.3
BRU2	**Volcan**	0.52	83⇓	*e*P	**Pb**	03 22 28.6	+0.6
BRU2				*e*S	**Sn**	03 22 37.0	-1.6
DRK0	**Durika**	0.53	357⇓	*i*P	**Pb**	03 22 29.1	+0.9
DRK0				*e*S	**Sn**	03 22 38.2	-0.7
TBS2		0.55	83⇓	*e*P	**Pn**	03 22 29.9	-0.7
TBS2				*e*S	**Sn**	03 22 38.8	-0.7
EDLM	**Las Mercedes**	0.66	326	*e*P	**Pb**	03 22 30.8	+0.4
DVD	**David**	0.81	111	*i* P	**Pg**	03 22 32.2	-0.9
DVD				*e*S	**Sb**	03 22 42.9	-0.7
EDDO	**Dominical**	0.83	309	*e*P	**Pb**	03 22 33.0	-0.2
LCR2	**La Lucha 2**	1.27	322	*e*P	**Pn**	03 22 39.9	-0.6
HDC	**Heredia**	1.54	325	*e*Pn	**Pb**	03 22 45.4	-0.1
HDC	**Heredia**	1.54	325⇑	*e*P	**Pn**	03 22 45.2	+1.1
HDC				*e*S	**Sg**	03 23 07.4	+0.2
CASO	**Castillo**	2.26	319	*i* P	**Pb**	03 22 57.7	0.0
ARE1	**Arenal 1**	2.27	319	*e*P	**Pn**	03 22 55.5	+1.4
CEDE	**Laguna Cedeo**	2.28	320	*i* P	**Pn**	03 22 56.4	+2.1
JTS	**Las Juntas de**	2.31	312	*e*Pn	**Pn**	03 22 54.7	+0.1
JTS				*e*Sn	**Sn**	03 23 23.0	+0.3
JTS	**Las Juntas de**	2.31	312	Pn	**Pn**	03 22 55.3	+0.6
	37nm,0.3s,baz=156,slow=22,SNR=114						
JTS				Sn	**Sn**	03 23 24.9	+2.2
	52nm,0.3s,baz=18,slow=20,SNR=6.0						
JTS				Lg	Lg	03 23 30.7	
	60nm,0.3s,baz=34,slow=19,SNR=11						
JTS	**Las Juntas de**	2.31	312	*e*P	**Pn**	03 22 56.2	+1.6
AMAS	**Alto Masis**	2.56	317	*i* P	**Pb**	03 23 02.0	-0.9
ACAL	**Aguas Claras**	2.61	317	*i* P	**Pb**	03 23 01.8	-1.9
ACAL				*i* S	**Sb**	03 23 34.1	-1.4
PTEN	**Parque Tenorio**	2.64	319	*i* P	**Pn**	03 23 01.5	+2.4
COLC	**Colonia**	2.75	315	*i* P	**Pb**	03 23 04.7	-1.3
LIM1	**Limonal**	2.81	314	*i* P	**Pb**	03 23 06.5	-0.4
PNME	**Penonome**	2.86	95	*e*S	**Sb**	03 23 40.4	-2.3
BUEV	**Buena Vista**	2.98	314	*i* P	**Pb**	03 23 08.9	-1.1
BUAI	**Buenos Aires**	2.99	316	*i* P	**Pn**	03 23 06.5	+2.6
AZU	**Azuero**	3.06	108	*e*P	**Pn**	03 23 06.3	+1.5
AZU				*e*S	**Sn**	03 23 41.4	+0.4
BCIP	**Isla Barro Col**	3.36	82	*e*Pn	**Pn**	03 23 10.6	+1.6
BCIP				*e*Sn	**Sn**	03 23 48.4	-0.2
BCIP	**Isla Barro Col**	3.36	82⇓	*e*P	**Pn**	03 23 10.2	+1.1
ESPN	**Las Esperanzas**	3.61	343	*e*Pn	**Pn**	03 23 13.8	+1.4
ESPN				*e*Sn	**Sn**	03 23 55.8	+1.2
ESPN	**Las Esperanzas**	3.61	343	*e*P	**Pn**	03 23 13.0	+0.6
ACON	**Acoyapa**	3.75	329	*e*Pn	**Pn**	03 23 16.7	+2.3
ACON				*e*Sn	**Sn**	03 23 55.7	-2.5
ACON	**Acoyapa**	3.75	329	*e*P	**Pn**	03 23 16.5	+2.1
CSGN	**Cosiguina Volc**	6.00	315	*e*Pn	**Pn**	03 23 48.6	+3.2
CSGN				*e*Sn	**Sn**	03 24 54.1	+0.2
TGUH	**Tegucigalpa,Un**	6.62	323	*e*Pn	**Pn**	03 23 52.8	-1.1
APG	**El Apazote**	9.45	312	Pn	**Pn**	03 24 35.5	+2.6
	0.6nm,0.3s,baz=133,slow=6.6,SNR=7.3						
MTDJ	**Mount Denham**	10.93	30	*e*Pn	**Pn**	03 24 54.8	+1.6
CCIG	**Comitan**	11.50	312	*e*Pn	**Pn**	03 25 03.4	+2.5
CMIG	**Matias Romero**	14.08	307	Pn	**Pn**	03 25 37.5	+1.4
	0.3nm,0.3s,baz=53,slow=3.9,SNR=3.7						
ATAH	**Atahualpa**	16.48	163	LR	LR	03 31 41.2	
	comp=Z,140nm,19.7s,baz=333,slow=34						
SJG	**San Juan**	19.02	59	LR	LR	03 33 18.5	
	comp=Z,52nm,20.4s,baz=236,slow=35						
Z50A	**Ashland**	24.53	355	*e*P	**P**	03 27 38.0	+1.9
	26nm,1.7s						
HODGE	**Hodges**	25.40	2	*e*P	**P**	03 27 46.1	+2.3
	9.9nm,0.8s						
Z41A	**Richland Creek**	25.97	341	*e*P	**P**	03 27 47.9	-1.1
	10nm,0.7s						
WLAR	**White Oak Lake**	26.46	341	*e*P	**P**	03 27 50.1	-3.4
	14nm,1.1s						
TKL	**Tuckaleechee C**	26.81	359	LR	LR	03 38 23.9	
	comp=Z,77nm,18.3s,baz=295,slow=36						
CNNC	**Cliffs of the**	26.83	10	*e*P	**P**	03 27 56.3	-0.6
	128nm,1.9s						
WHAR	**Wooly Hollow**	27.71	344	*e*P	**P**	03 28 05.3	+0.5
	6.9nm,0.9s						
CCM	**Cathedral Cave**	30.08	347	*e*P	**P**	03 28 26.2	+0.4
	6.8nm,0.8s						
ECSD	**EROS Data Cent**	36.78	344	*e*P	**P**	03 29 24.0	-0.1
	3.9nm,1.0s						
ULM	**Lac du Bonnet**	42.71	348	P	**P**	03 30 11.2	-2.1
	2.2nm,0.8s,baz=148,slow=10,SNR=3.4						
ULM				LR	LR	03 49 48.2	
	comp=Z,26nm,18.4s,baz=292,slow=39						
NV01	**Mina Array Sit**	43.23	319	*e*P	**P**	03 30 19.3	+1.3
NVAR	**Mina Array Bea**	43.23	319	P	**P**	03 30 19.3	+1.3
	0.9nm,0.6s,baz=114,slow=7.2,SNR=3.6						
NEW	**Newport**	48.67	330	LR	LR	03 53 58.1	
	comp=Z,26nm,18.5s,baz=238,slow=39						
PLCA	**Paso Flores**	50.58	168	*e*P	**P**	03 31 15.2	0.0
	33nm,1.9s						
PLCA	**Paso Flores**	50.58	168	P	**P**	03 31 15.2	0.0
	1.5nm,0.9s,baz=15,slow=8.1,SNR=3.2						
YKA	**Yellowknife Ar**	58.31	343	P	**P**	03 32 10.7	-0.2
	1.1nm,0.8s,baz=139,slow=7.0,SNR=20						
YKB5	**Yellowknife Ar**	58.31	343	*e*P	**P**	03 32 10.7	-0.2
BCAR	**Beaver Creek A**	68.35	335	*e*P	**P**	03 33 18.5	+0.9
SUMG	**Summit**	69.19	13	*e*P	**P**	03 33 22.8	-0.3
	7.5nm,1.0s						
BORG	**Borgarnes**	70.36	24	LR	LR	04 02 03.0	
	comp=Z,14nm,18.5s,baz=241,slow=34						
HDA	**Harding Lake**	70.99	336	*e*P	**P**	03 33 34.7	+0.9
	19nm,1.7s						
ILAR	**Eielson Array**	71.09	336	*e*P	**P**	03 33 33.7	-0.6
ILAR	**Eielson Array**	71.09	336	P	**P**	03 33 35.0	+0.6
	1.0nm,0.8s,baz=121,slow=4.6,SNR=14						
ILB	**Eielson Array**	71.09	336	*e*P	**P**	03 33 35.0	+0.6
	5.8nm,1.4s						
ESDC	**Sonseca Array**	76.22	51	P	**P**	03 34 05.4	+0.3
	1.5nm,0.8s,baz=277,slow=6.5,SNR=7.6						
GERES	**GERESS Array B**	88.02	41	LR	LR	04 10 22.4	
	comp=Z,18nm,20.3s,baz=289,slow=33						
AS31	**Alice Springs**	141.53	243	*e*PKPdf	**PKPdf**	03 41 48.0	-0.5
ASAR	**Alice Springs**	141.53	243	PKP	**PKPdf**	03 41 48.0	-0.5
	0.4nm,0.8s,baz=98,slow=3.2,SNR=4.5						
CM31	**Chiang Mai Arr**	152.90	356	*e*PKPbc	**PKPbc**	03 42 13.7	-0.9
CMAR	**Chiang Mai Arr**	152.90	356	PKPbc	**PKPbc**	03 42 13.7	-0.9
	0.8nm,0.3s,baz=302,slow=1.8,SNR=4.1						

*JMA **01** 03:31:17.1, 22°.87N×120°.59E, h6km±1km, M3.9*

*TAP **01** 03:31:18.0, 22°.85N×120°.66E, h17km, ML3.8, B*

*ISCJB **01** 03:31:19.0±0.2, 22°.82N±0°.01×120°.63E±0°.02, h23km±2km, Error ellipse: s-maj=2.5km s-min=2.0km az=165.2*

ISC 01 03:31:18.4±0.8, 22°.86N±0°.01×120°.63E±0°.02, h17km±6km, n110, σ1°03/165, 11C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	0.11	179⇑	*i*P	**Pb**	03 31 22.1	0.0
	baz=191						
SSD				*i* S	**Sg**	03 31 24.5	0.0
	baz=191						
SLGT	**Liugui**	0.14	6⇑	*i*P	**Pb**	03 31 22.6	0.0
	baz=2.0						
SLGT				S	**Sg**	03 31 25.9	+0.8
	baz=2.0						
SGLT	**Jiouru**	0.18	225⇑	*i*P	**Pb**	03 31 24.1	+0.8
	baz=229						
SGLT				S	**Sg**	03 31 28.5	+2.4
	baz=229						
TWM1	**Shoushan**	0.20	261	⇑P	**Pb**	03 31 24.5	+0.9
	baz=262						
SGST	**Jiashian**	0.23	349⇓	*i*P	**Pb**	03 31 24.6	+0.4
	baz=349						
SGST				*i* S	**Sg**	03 31 29.2	+1.8
	baz=349						
MASBT	**Mashibuluo**	0.24	180	⇓P	**Pb**	03 31 23.9	-0.5
	baz=182						
MASBT				S	**Sg**	03 31 27.5	-0.2
	baz=182						
SNJT	**Kaohsiung City**	0.29	250	P	**Pn**	03 31 26.9	-1.0
	baz=252						
SNJT				S	**Sb**	03 31 34.4	+4.7
	baz=252						
STYT	**Tauyuan**	0.33	21⇑	*i*P	**Pb**	03 31 25.7	-0.2
	baz=21						
STYT				*i* S	**Sb**	03 31 31.7	+0.9
	baz=21						
CHN3	**Shinhua**	0.33	312	P	**Pn**	03 31 27.2	-1.2
	baz=317						
CHN3				*e*S	**Sb**	03 31 33.8	+2.9
	baz=317						
CHN1	**Nanshi**	0.34	344⇓	*i*P	**Pb**	03 31 26.6	+0.5
	baz=340						
SSPT	**Xinbi**	0.38	189	⇓P	**Pb**	03 31 26.5	-0.1
	baz=187						
SSPT				S	**Sb**	03 31 32.2	+0.1
	baz=187						
SNST	**Tainan City**	0.38	341	*e*P	**Pb**	03 31 27.1	+0.3
	baz=337						
WTP	**Ta-pu**	0.39	358⇓	*i*P	**Pb**	03 31 27.2	+0.3
	baz=354						
WTP				S	**Sb**	03 31 34.3	+1.6
	baz=354						
ECL	**Taimali**	0.39	131⇓	*i*P	**Pb**	03 31 26.3	-0.6
	baz=137						
ECL				S	**Sg**	03 31 31.4	-0.6
	baz=137						
TWG	**Pinlang**	0.41	95⇓	*i*P	**Pb**	03 31 26.9	-0.3
	baz=99						
TWG				S	**Sb**	03 31 33.0	-0.2
	baz=99						
KAU	**Kaohsiung**	0.41	226	*e*P	**Pn**	03 31 29.2	-0.3
	baz=228						
TAI1	**Yung-k'ang**	0.41	296	*e*P	**Pn**	03 31 28.9	-0.7
	baz=296						
TWGBT	**Beinan**	0.42	95	⇓P	**Pb**	03 31 27.0	-0.4
	baz=99						
TWGBT				S	**Sb**	03 31 33.2	-0.1
	baz=99						
TWK	**Hsinying**	0.43	342⇓	*i*P	**Pb**	03 31 27.8	+0.2
	baz=340						
TWK				S	**Sb**	03 31 36.5	+2.6
	baz=340						
TPUB	**Ta-pu**	0.44	360	⇓P	**Pb**	03 31 27.8	0.0
	baz=356						
SCZT	**Fangliau**	0.48	181⇓	*i*P	**Pb**	03 31 27.9	-0.5
	baz=179						
SCZT				S	**Sg**	03 31 34.2	-0.4
	baz=179						
ELDTW	**Lidau**	0.49	47⇑	*i*P	**Pb**	03 31 28.3	-0.3
	baz=45						
ELDTW				S	**Sb**	03 31 36.0	+0.5
	baz=45						
TTN	**Taitung**	0.49	102	P	**Pb**	03 31 28.9	+0.4
	baz=106						
TTN				S	**Sb**	03 31 36.9	+1.6
	baz=106						
CHN4	**Tsaushan**	0.49	356⇓	*i*P	**Pb**	03 31 28.8	+0.1
	baz=352						
CHN4				S	**Sb**	03 31 37.2	+1.6
	baz=352						
EAST	**Anshuo**	0.51	157⇓	*i*P	**Pb**	03 31 28.6	-0.3
	baz=157						
EAST				S	**Sb**	03 31 35.6	-0.5
	baz=157						
SCLT	**Jiali**	0.51	308	P	**Pn**	03 31 30.1	-0.9
	baz=307						
SCLT				S	**Sn**	03 31 39.9	+0.6
	baz=307						
TAW	**Tawu**	0.55	154⇓	*i*P	**Pb**	03 31 29.4	-0.3
	baz=154						
TAW				*i* S	**Sb**	03 31 36.9	-0.3
	baz=154						
WLCH	**Liuqiu**	0.55	205	*e*P	**Pn**	03 31 32.4	+0.9
	baz=208						
TWP	**Hsiaoliuchiu**	0.56	206	*e*P	**Pn**	03 31 32.7	+1.1
	baz=208						
CHN8	**Yiju**	0.62	322	P	**Pn**	03 31 31.6	-0.8
	baz=321						
CHN8				S	**Sn**	03 31 42.5	+0.4
	baz=321						
CHY	**Chiayi**	0.67	343	P	**Pn**	03 31 31.9	-1.2
	baz=342						
CHY				*e*S	**Sn**	03 31 43.0	-0.2
	baz=342						
CHN2	**Minshiung**	0.69	348	P	**Pn**	03 31 32.6	-0.8
	baz=345						
CHN2				S	**Sn**	03 31 44.2	+0.5
	baz=345						
FULB	**Fuli**	0.70	61⇑	*i*P	**Pb**	03 31 32.5	+0.3
	baz=50						
FULB				S	**Sb**	03 31 42.6	+1.1
	baz=50						
CHKT	**Chengkung**	0.72	70	*e*P	**Pb**	03 31 32.4	-0.1
	baz=83						
CHN5	**Tsauling**	0.74	3	P	**Pb**	03 31 33.0	+0.1
	baz=1.0						
CHN5				S	**Sn**	03 31 45.4	+0.3
	baz=1.0						
TWF1	**Yuli**	0.79	51⇑	*i*P	**Pb**	03 31 33.4	-0.3
	baz=50						
TWF1				S	**Sb**	03 31 43.7	-0.4
	baz=50						
YULB	**Yu-li**	0.81	49	⇑P	**Pb**	03 31 33.6	-0.5
	baz=55						
YULB				S	**Sg**	03 31 44.2	-0.9
	baz=55						
WGK	**Gukeng**	0.83	356	P	**Pn**	03 31 34.8	-0.5
	baz=354						
WGK				S	**Sn**	03 31 47.6	+0.4
	baz=354						
WDLH	**Douliu**	0.83	354	P	**Pn**	03 31 34.7	-0.6
	baz=352						
WDLH				*e*S	**Sn**	03 31 48.2	+0.9
	baz=352						
HEN	**Hengchun**	0.85	173	*e*P	**Pn**	03 31 35.2	-0.4
	baz=165						
HEN				*e*S	**Sn**	03 31 48.0	+0.3
	baz=165						
WHYT	**Xinyi Township**	0.86	14	P	**Pb**	03 31 34.7	-0.3
	baz=3.0						
WHYT				S	**Sn**	03 31 47.6	-0.4
	baz=3.0						
WSF	**Szhu**	0.86	334	P	**Pn**	03 31 35.0	-0.8
	baz=333						
WSF				S	**Sn**	03 31 48.5	+0.4
	baz=333						
TWK1	**Hengchun**	0.92	170	*e*P	**Pn**	03 31 36.5	-0.1
	baz=172						
TWK1				*e*S	**Sn**	03 31 49.5	+0.1
	baz=172						
TWKBT	**Hengchun**	0.93	170	P	**Pn**	03 31 36.4	-0.2
	baz=172						
TWKBT				S	**Sn**	03 31 49.3	-0.3
	baz=172						
WJS	**Zhushan**	0.97	5	*e*P	**Pn**	03 31 37.0	-0.2
	baz=348						
HGSD	**Ruisui**	0.97	49	⇑P	**Pn**	03 31 36.9	-0.3
	baz=47						
HGSD				*e*S	**Sn**	03 31 50.5	-0.1
	baz=47						
SSLB	**Suanglung**	0.97	18	⇓P	**Pn**	03 31 36.8	-0.6
	baz=20						
SSLB				S	**Sn**	03 31 50.8	0.0
	baz=20						
WDGT	**Dungji**	0.98	294	*e*P	**Pg**	03 31 36.2	-1.3
	baz=294						
WDGT				*e*S	**Sb**	03 31 49.3	-0.3
	baz=294						
VWDT	**VWDT**	1.01	28	*e*P	**Pn**	03 31 37.5	-0.3
	baz=18						
VWDT				S	**Sn**	03 31 52.5	+0.9
	baz=18						
WNT	**Mingjian**	1.02	3	P	**Pn**	03 31 37.6	-0.3
	baz=347						
WNT				S	**Sn**	03 31 52.7	+0.8
	baz=347						
SMLT	**Sun Moon Lake**	1.05	14⇑	*i*P	**Pn**	03 31 39.1	+0.6
	baz=12						
SMLT				S	**Sn**	03 31 53.9	+1.0
	baz=12						
RLNB	**Erlin**	1.06	346	*e*P	**Pg**	03 31 37.9	-1.1
	baz=332						
TYC	**Yuchr**	1.06	11	*e*P	**Pn**	03 31 39.0	+0.5
	baz=10.0						
TYC				*e*S	**Sn**	03 31 54.0	+1.0
	baz=10.0						
EGFH	**Guangfu**	1.09	42	*e*P	**Pg**	03 31 38.5	-1.1
	baz=40						
VCHM	**Qimei**	1.16	288	P	**Pb**	03 31 39.0	-1.1
	baz=288						
VCHM				*e*S	**Sb**	03 31 54.1	-0.7
	baz=288						
PHUB	**P'eng-hu**	1.17	304	*e*P	**Pb**	03 31 38.8	-1.4
	baz=316						
PHUB				*e*S	**Sb**	03 31 54.1	-1.1
	baz=316						
LAY	**Lan-yu**	1.18	134	*e*P	**Pb**	03 31 39.4	-0.9
	baz=134						
OWD	**Renai**	1.20	24	*e*P	**Pg**	03 31 41.4	-0.3
	baz=32						
ESL	**Shilin**	1.21	38	*e*P	**Pb**	03 31 40.4	-0.5
	baz=36						
ESL				*e*S	**Sn**	03 31 57.1	+0.6
	baz=36						
PNG	**Penghu**	1.22	306	*e*P	**Pn**	03 31 39.7	-1.0
	baz=306						
TCU	**Taichung**	1.29	2	*e*P	**Pb**	03 31 41.8	-0.4
	baz=349						
CHGB	**Renai**	1.30	22	*e*P	**Pg**	03 31 42.7	-0.9
	baz=9.0						
CHGB				S	**Sg**	03 32 00.2	-0.3
	baz=9.0						
WHF	**Hehuan Shan**	1.41	24	*e*P	**Pg**	03 31 44.8	-0.8
	baz=23						
WHF				*e*S	**Sg**	03 32 04.2	0.0
	baz=23						
WHP	**Taichung City**	1.45	11	*e*P	**Pb**	03 31 44.4	-0.5
	baz=353						
TDCB	**Techi**	1.47	19	*e*P	**Pb**	03 31 44.7	-0.7
	baz=5.0						
TWT	**Tachien**	1.48	20	*e*P	**Pg**	03 31 46.0	-0.9
	baz=5.0						
WDJ	**Dajia District**	1.49	0	*e*P	**Pb**	03 31 44.9	-0.7
	baz=350						
TWQ1	**Liyutan**	1.49	5	*e*P	**Pb**	03 31 45.2	-0.5
	baz=2.0						
TWD	**Chiawan**	1.51	36	*e*P	**Pb**	03 31 45.2	-0.7
	baz=48						
ETLH	**Xiulin Townshi**	1.56	30	*e*P	**Pg**	03 31 47.1	-1.3
	baz=20

PTMZ	Houxiangcun	2.58	328	eP	Pn	03 31 59.0	-0.4
	baz=342						
KNMB	Chin-men Tao	2.61	308	eP	Pn	03 31 59.3	-0.4
	baz=310						
YOJ	Yonaguni jima	2.71	53	P	Pn	03 32 03.1	+2.0
YOJ				eS	Sn	03 32 36.1	+2.6
PTTC	Pingtan	2.75	344	eP	Pn	03 32 01.0	-0.7
	baz=344						
HATJ	Hateruma jima	3.15	67	P	Pn	03 32 08.1	+0.9
HATJ				eS	Sn	03 32 45.7	+1.2
AXDP	Jialang	3.17	310	eP	Pn	03 32 06.9	-0.7
	baz=312						
ZZJH	Jiuhuzhen	3.19	301	eP	Pn	03 32 07.7	-0.1
	baz=303						
IRIF	Iriomote-Funau	3.20	62	P	Pn	03 32 09.0	+1.1
IRIF				eS	Sn	03 32 48.4	+2.7
MATB	Ma-tsu	3.34	349	eP	Pn	03 32 09.6	-0.3
	baz=338						
JKRS	Kuro-shima	3.39	65	P	Pn	03 32 12.1	+1.5
MHZQ	Yeshan	3.54	336	eP	Pn	03 32 12.1	-0.6
	baz=338						
JIJ	Ishigaki jima	3.55	64	P	Pn	03 32 13.7	+0.9
JIJ				eS	Sn	03 32 55.7	+1.3
LYJJ	Jianjiangzhen	3.76	348	eP	Pn	03 32 15.7	0.0
	baz=349						
JISG	Ishigakijimahi	3.79	62	P	Pn	03 32 16.3	+0.3
JISG				S	Sn	03 32 59.8	-0.4
XPSS	Dashiqiu	4.08	354	eP	Pn	03 32 19.9	0.0
	baz=353						
JTJ	Tarama	4.13	64	P	Pn	03 32 22.7	+2.0
JTJ				eS	Sn	03 33 10.1	+1.4
JIRB	Irabujima	4.60	64	P	Pn	03 32 28.9	+1.7

SVSA 01 03:40:59.1±1.0, 37°.47N×25°.13W, h0km±8km, MD2.5, ML1.5, Error ellipse: s-maj=5.9km s-min=4.4km az=78.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	Pico Bartolome	0.31	354	eP	Pg	03 41 04.6	-0.5
BART				eS	Sg	03 41 09.7	+0.6
BART				A	A	03 41 10.6	
	69nm,0.1s						
BART	Pico Bartolome	0.31	354	eP	Pg	03 41 04.6	-0.5
BART				eS	Sb	03 41 12.7	-0.6
BART				A	A	03 41 15.9	
	79nm,0.2s						
CMLA	Cha da Macela	0.43	313	eP	Pg	03 41 07.1	-0.3
CMLA				eS	Sg	03 41 12.9	-0.1
CMLA				A	A	03 41 13.2	
	8.0nm,0.1s						
CMLA	Cha da Macela	0.43	313	eP	Pn	03 41 11.3	-1.3
CMLA				eS	Sb	03 41 16.3	-0.4
CMLA				A	A	03 41 18.7	
	61nm,0.2s						
PCALD	Caldeiras da R	0.43	319	eS	Sb	03 41 16.5	-0.3
PCALD				A	A	03 41 19.4	
	74nm,0.2s						
GRON	Grota Negra	0.44	313	eP	Pg	03 41 06.1	-1.4
GRON				eS	Sg	03 41 11.3	-1.9
GRON				A	A	03 41 11.7	
	30nm,0.2s						
GRON	Grota Negra	0.44	313	eP	Pb	03 41 09.7	-0.1
GRON				eS	Sg	03 41 14.3	+1.1
GRON				A	A	03 41 16.9	
	160nm,0.2s						
PSMN	Pico do Norte,	0.47	174	eS	Sg	03 41 14.1	0.0
PSMN				A	A	03 41 14.9	
	17nm,0.2s						
PSMN	Pico do Norte,	0.47	174	eP	Pn	03 41 11.8	-1.2
PSMN				eS	Sb	03 41 18.5	+0.9
PSMN				A	A	03 41 20.4	
	22nm,0.2s						
PSMA	Santa Maria	0.47	180	eP	Pg	03 41 07.9	-0.2
PSMA				eS	Sg	03 41 14.3	+0.1
PSMA				A	A	03 41 15.2	
	17nm,0.1s						
PSMA	Santa Maria	0.47	180	eP	Pn	03 41 11.7	-1.4
PSMA				eS	Sb	03 41 18.7	+0.9
PSMA				A	A	03 41 19.9	
	118nm,0.1s						
PDA	Ponta Delgada	0.51	303	eS	Sg	03 41 15.4	0.0
PDA				A	A	03 41 15.8	
	20nm,0.2s						
PDA	Ponta Delgada	0.51	303	eP	Pb	03 41 12.2	+1.3
PDA				eS	Sb	03 41 18.6	-0.2
PDA				A	A	03 41 19.9	
	27nm,0.2s						
PSET	Sete Cidades	0.59	307	eS	Sg	03 41 17.1	-0.9
PSET	Sete Cidades	0.59	307	eS	Sb	03 41 20.9	-0.3
PSET				A	A	03 41 26.1	
	40nm,0.2s						

IDC 01 03:50:41.8±15.0, 17°.50S×174°.61W, h496km±217km, mb3.1/3, mb1 3.4/3, mb1mx2.9/25, mbtmp3.9/3, Error ellipse: s-maj=393.4km s-min=49.1km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.27	259	P	P	03 58 37.9	+0.4
	1.0nm,0.3s,baz=89,slow=7.2,SNR=1.9						
ASAR	Alice Springs	48.39	254	P	P	03 58 37.9	-0.5
	1.3nm,0.7s,baz=86,slow=8.7,SNR=13						
PDAR	Pinedale Array	84.59	42	P	P	04 02 22.7	0.0
	0.3nm,0.6s,baz=211,slow=4.7,SNR=3.7						
BRTR	Keskin Array B	146.99	318	PKPbc	PKPbc	04 09 28.2	-0.7
	1.0nm,0.8s,baz=128,slow=2.0,SNR=8.9						

*ISCJB **01** 03:55:53.1±0.2, 51°.48N±0°.01×16°.11E±0°.02, h0km, mb3.3/2, Error ellipse: s-maj=2.0km s-min=1.8km az=29.7*
*IPEC **01** 03:55:55.3±0.3, 51°.51N×16°.19E, h0km±1km, ML2.7/5, Error ellipse: s-maj=2.1km s-min=1.3km az=32.0*
*PRU **01** 03:55:56.8±0.0, 51°.45N×16°.11E, h0km*
*BGR **01** 03:55:56.5±0.5, 51°.46N×16°.11E, h1km, ML3.2/12, Error ellipse: s-maj=4.4km s-min=2.2km az=23.0*
*LDG **01** 03:55:56.8±0.2, 51°.38N×16°.05E, h1km, Ml3.6/6, Error ellipse: s-maj=6.3km s-min=3.6km az=4.0, Suspected Mining induced.*
*IDC **01** 03:55:56.3±0.6, 51°.47N×15°.97E, h0km, mb3.4/2, mb1 3.4/11, mb1mx3.3/43, mbtmp3.3/11, ML3.1/9, Error ellipse: s-maj=10.5km s-min=6.7km az=100.0*
*UPP **01** 03:55:57.5±3.1, 51°.58N×15°.58E, h0km, ML1.6, Suspected explosion*

ISC 01 03:55:54.1±0.6, 51°.54N±0°.03×16°.08E±0°.02, h0km, n86, σ2°01/167, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	169	iPg	Pg	03 56 08.5	+0.8
KSP				eSg	Sg	03 56 16.9	-0.1
KSP	Ksiaz	0.71	169	ePg	Pg	03 56 08.6	+0.8
KSP				eSg	Sg	03 56 16.7	-0.3
UPC	Upice	1.04	182	ePG	Pg	03 56 14.7	+0.8
UPC				eSG	Sg	03 56 27.4	0.0
	comp=Z,324nm,0.5s						
DPC	Dobruska-Polom	1.20	173	ePg	Pg	03 56 17.4	+0.2
DPC				eSg	Sg	03 56 32.0	-0.7
DPC	Dobruska-Polom	1.20	173	ePG	Pg	03 56 17.3	+0.2
DPC				eSG	Sg	03 56 31.8	-0.9
	comp=Z,84nm,0.5s						
PVCC	Panska Ves	1.39	224	ePG	Pn	03 56 21.7	+0.9
PVCC				eSG	Sg	03 56 40.4	+1.6
	comp=Z,239nm,0.4s						
BRG	Berggiesshubel	1.50	244	PN	Pn	03 56 22.9	+0.6
BRG				PG	Pg	03 56 24.5	+1.7
BRG				SG	Sn	03 56 44.2	+1.7
	104nm,0.6s						
BRG	Berggiesshubel	1.50	244	ePn	Pn	03 56 22.9	+0.6
BRG				ePg	Pg	03 56 24.4	+1.5
BRG				eSg	Sn	03 56 44.3	+1.7
KRLC	Kraliky	1.54	163	ePG	Pn	03 56 23.3	+0.5
KRLC				eSG	Sg	03 56 41.1	-2.2
	comp=Z,54nm,1.0s						
ANAC	Anensky vrch	1.69	150	ePn	Pn	03 56 24.9	+0.1
	baz=333						
ANAC				eSg	Sn	03 56 46.2	-0.9
	38nm,0.2s,baz=333						
LIPC	Lipinka	1.81	160	ePn	Pn	03 56 27.2	+0.7
	baz=342						
LIPC				eSg	Sn	03 56 50.4	+0.3
	72nm,0.2s,baz=342						
FBE	Freiberg	1.82	251	ePn	Pn	03 56 27.7	+1.0
FBE				ePg	Pg	03 56 30.2	+1.2
FBE				eSg	Sg	03 56 53.8	+1.2
GOPC	GO Pecny, Ondr	1.83	207	ePG	Pb	03 56 28.8	+0.4
GOPC				eSG	Sb	03 56 52.6	+0.8
	comp=Z,30nm,0.4s						
PRU	Pruhonice	1.84	213	ePN	Pn	03 56 27.9	+1.0
PRU				ePG	Pb	03 56 29.0	+0.5
PRU				eSG	Sb	03 56 53.0	+0.9
	comp=Z,89nm,1.1s						
CLL	Collm	1.94	264	ePn	Pn	03 56 29.0	+0.7
CLL				iPg	Pg	03 56 33.0	+1.7
CLL				i		03 56 36.1	
CLL				e		03 56 47.0	
CLL				e		03 56 56.0	
CLL				iSg	Sg	03 56 57.8	+1.4
	comp=Z,36nm,0.4s						
CLL	Collm	1.94	264	ePn	Pn	03 56 29.3	+1.0
CLL				eSg	Sg	03 56 58.0	+1.6
MORC	Moravsky Berou	2.00	152	ePN	Pn	03 56 29.4	+0.3
MORC				eSG	Sn	03 56 56.1	+1.2
MORC	Moravsky Berou	2.00	152	ePn	Pn	03 56 29.3	+0.2
	baz=334						
MORC				eSg	Sn	03 56 56.0	+1.2
	comp=Z,42nm,0.4s,baz=334						
MORC	Moravsky Berou	2.00	152	ePn	Pn	03 56 29.4	+0.3
MORC				eSg	Sb	03 56 57.3	+0.6
OKC	Ostrava-Krasne	2.15	142	ePn	Pn	03 56 30.9	-0.3
OKC				eSg	Sg	03 57 02.7	-0.5
OKC	Ostrava-Krasne	2.15	142	ePG	Pb	03 56 35.0	+1.1
OKC				eSG	Sb	03 57 01.5	+0.3
	comp=Z,79nm,0.6s						
CHZP	Chorzow	2.23	123	ePg	Pg	03 56 37.9	+1.1
CHZP				eSg	Sg	03 57 05.8	+0.2
VRAC	Vranov	2.26	171	ePN	Pn	03 56 33.7	+1.0
VRAC				eSG	Sb	03 57 04.7	+0.4
VRAC	Vranov	2.26	171	ePn	Pn	03 56 33.7	+1.0
	baz=354						
VRAC				eSg	Sb	03 57 04.6	+0.3
	comp=Z,38nm,0.4s,baz=354						
VRAC	Vranov	2.26	171	Pn	Pn	03 56 33.8	+1.1
	comp=Z,3.2nm,0.3s,baz=354,slow=17,SNR=8.6						
VRAC				Lg	Lg	03 57 04.5	
	comp=Z,7.8nm,0.3s,baz=103,slow=22,SNR=8.8						
TREC	Trest	2.28	190	ePN	Pn	03 56 34.2	+1.2
TREC				ePG	Pb	03 56 37.5	+1.4
TREC				eSG	Sb	03 57 06.3	+1.4
	comp=Z,66nm,0.7s						
KRUC	Moravsky	2.49	175	ePN	Pn	03 56 36.6	+0.7
KRUC				ePG	Pb	03 56 40.2	+0.5
KRUC				eSG	Sb	03 57 12.2	+1.3
KRUC	Moravsky	2.49	175	ePn	Pn	03 56 36.6	+0.7
	baz=357						
KRUC	Moravsky	2.49	175	ePg	Pb	03 56 40.1	+0.4
	baz=357						
KRUC				eSg	Sb	03 57 12.2	+1.3
	comp=Z,39nm,0.5s,baz=357						
TANN	Tannenbergstha	2.55	245	ePn	Pn	03 56 38.3	+1.5
TANN				ePg	Pg	03 56 44.1	+1.2
TANN				eSg	Sg	03 57 16.2	+0.2
NKC	Novy Kostel	2.65	242	ePG	Pg	03 56 45.4	+0.6
NKC				eSG	Sg	03 57 22.5	+3.4
	comp=Z,76nm,0.3s						
OJC	Ojcow	2.70	118	ePn	Pn	03 56 38.0	-0.8
OJC				ePg	Pg	03 56 47.3	+1.5
OJC				eSg	Sg	03 57 21.6	+0.8
JAVC	Velka Javorina	2.87	159	ePN	Pn	03 56 42.4	+1.2
KHC	Kasperske Hory	2.90	215	ePN	Pn	03 56 42.7	+1.2
KHC				ePG	Pb	03 56 48.5	+1.9
KHC				eSN	Sn	03 57 17.5	+0.5
KHC				eSG	Sg	03 57 26.6	-0.5
	comp=Z,32nm,0.6s						
MOX	Moxa	2.96	254	ePn	Pn	03 56 43.6	+1.4
MOX				ePg	Pg	03 56 51.8	+1.1
MOX				eSg	Sg	03 57 31.0	+2.0
GEC2	GERESS Array S	3.10	210	ePn	Pn	03 56 45.4	+1.0
GEC2				eSg	Sg	03 57 33.1	-0.6
GERES	GERESS Array B	3.10	210	Pn	Pn	03 56 45.6	+1.2
	comp=Z,1.7nm,0.3s,baz=30,slow=12,SNR=44						
GERES				Lg	Lg	03 57 31.8	
	comp=Z,6.7nm,0.3s,baz=34,slow=30,SNR=7.9						
SMOL	Smolenice	3.15	163	ePG	Pg	03 56 54.8	+0.3
SMOL				eSG	Sg	03 57 34.9	-0.4
WET	Wettzell	3.16	222	ePn	Pn	03 56 46.0	+0.9
WET				eSg	Sg	03 57 34.8	-0.7
LANS	Liptovska Anna	3.23	137	ePN	Pn	03 56 47.0	+0.9
LANS				ePG	Pg	03 56 54.9	-1.1
LANS				eSG	Sg	03 57 39.7	+1.9
MODS	Modra-Piesok	3.27	166	ePG	Pg	03 56 55.6	-1.0
MODS				eSG	Sg	03 57 39.3	+0.4
ZST	Bratislava	3.42	168	ePG	Pb	03 56 57.4	+2.0
ZST				eSG	Sg	03 57 41.8	-1.9
NIE	Niedzica	3.43	127	ePg	Pg	03 56 59.6	-0.3
NIE				eSg	Sg	03 57 43.7	-0.6
VYHS	Vyhne	3.53	149	ePN	Pn	03 56 50.2	0.0
VYHS				ePG	Pg	03 57 01.3	-0.4
GRF	Grafenberg Arr	3.61	241	ePn	Pn	03 56 53.0	+1.8
GRF				eSg	Sg	03 57 50.9	+1.0
CONA	Conrad Observa	3.62	182	ePn	Pn	03 56 52.8	+1.3
	comp=Z,2.7nm,0.4s						
CONA				Pg	Pg	03 57 02.7	-0.7
	comp=Z,8.5nm,0.4s						
CONA				Sg	Sg	03 57 50.5	+0.2
	comp=Z,27nm,0.4s						
BSD	Bornholm Skovb	3.65	349	iP	Pn	03 56 52.6	+0.9
BSD				iS	Sn	03 57 36.2	+0.9
MOA	Molln	3.88	198	iPn	Pn	03 56 56.0	+1.1
	comp=Z,2.4nm,0.3s						
MOA				Pg	Pg	03 57 08.8	+0.4
	comp=Z,5.6nm,0.3s						
MOA				Sg	Sg	03 57 58.1	-0.5
	comp=Z,23nm,0.6s						
STHS	Stebnicka Huta	3.92	121	ePN	Pn	03 56 56.5	+0.9
STHS				ePG	Pg	03 57 09.1	-0.1
STHS				eSG	Sg	03 58 04.0	+3.9
ARSA	Arzberg	4.31	185	ePn	Pn	03 57 03.9	+3.0
	comp=Z,1.7nm,0.3s,SNR=8.0						
ARSA				Sg	Sg	03 58 13.6	+1.1
	comp=Z,34nm,0.9s						
LUNU	Lund	4.39	340	P	Pn	03 57 02.7	+0.8
LUNU				S	Sn	03 57 54.2	+0.6
KOLS	Kolonicke sedl	4.75	121	ePN	Pn	03 57 07.8	+0.6
KOLS				ePG	Pg	03 57 26.7	+1.6
DEL	Delary	5.11	346	P	Pn	03 57 12.6	+0.9
DEL				S	Sn	03 58 08.3	-3.0
WATA	Walderalm	5.13	217	ePn	Pn	03 57 14.6	+2.3
	comp=Z,3.7nm,0.5s						
OBKA	Obir	5.14	192	Pg	Pg	03 57 32.6	+0.1
	comp=Z,2.6nm,0.4s						
OBKA				Sg	Sg	03 58 39.6	+0.6
	comp=Z,5.8nm,0.5s						
MYKA	Terra Mystica	5.17	199	Pg	Pg	03 57 35.2	+2.0
	comp=Z,1.8nm,0.4s						
MYKA				Sg	Sg	03 58 44.3	+4.2
	comp=Z,7.4nm,0.7s						
WTTA	Wattenberg	5.17	216	ePn	Pn	03 57 14.9	+2.1
	comp=Z,0.7nm,0.4s						
WTTA				Sn	Sn	03 58 12.8	-0.5
	comp=Z,3.0nm,0.4s						
WTTA				Sg	Sg	03 58 43.1	+3.0
	comp=Z,13nm,0.6s						
MOTA	Moosalm	5.31	220	ePn	Pn	03 57 15.9	+1.2
	comp=Z,1.7nm,0.4s						
RETA	Reutte	5.34	223	ePn	Pn	03 57 15.9	+0.9
	comp=Z,1.3nm,0.3s						
RETA				Sn	Sn	03 58 16.4	-0.7
	comp=Z,2.4nm,0.4s						
RETA				Sg	Sg	03 58 46.6	+1.2
	comp=Z,7.5nm,0.6s						
ABTA	Abfaltersbach	5.34	207	Pn	Pn	03 57 17.1	+2.0
	comp=Z,1.1nm,0.4s						
ABTA				Sg	Sg	03 58 43.9	-1.6
	comp=Z,9.8nm,0.7s						
SQTA	Sankt Quirin	5.37	218	ePn	Pn	03 57 17.9	+2.4
	comp=Z,2.0nm,0.3s						
FETA	Feichten	5.72	220	Pn	Pn	03 57 21.7	+1.3
	comp=Z,0.6nm,0.3s						
FETA				S	Sg	03 58 52.8	-5.0
	comp=Z,4.0nm,0.6s						
BYXU	Byxelkrok	5.79	5	P	Pn	03 57 22.9	+1.9
FABU	Falkenberg	5.81	342	P	Pn	03 57 22.4	+0.9
DAVA	Damuels	5.87	226	ePn	Pn	03 57 23.4	+0.9
	comp=Z,0.7nm,0.2s						
ASPU	Aespoe	5.90	3	P	Pn	03 57 24.6	+2.0
DAVOX	Davos/Dischmat	6.26	223	Pn	Pn	03 57 28.2	+0.3
	comp=Z,0.4nm,0.3s,baz=248,slow=19,SNR=3.5						
DAVOX				Lg	Lg	03 59 11.4	
	comp=Z,0.3nm,0.3s,baz=217,slow=20,SNR=3.9						
CDF	Champ du Feu	6.49	245	ePn	Pn	03 57 32.1	+1.3
CDF	Champ du Feu	6.49	245	ePg	Pg	03 57 56.2	-2.1
CDF				eSg	Sg	03 59 16.8	-5.5
	comp=Z,28nm,1.1s						
HINF	Hinteralfeld	7.05	242	ePn	Pn	03 57 36.4	-2.1
HINF	Hinteralfeld	7.05	242	ePg	Pg	03 58 05.5	-3.6
HINF				eSg	Sg	03 59 35.2	-5.2
	comp=Z,13nm,0.9s						
HAU	Haudompre	7.23	244	ePn	Pn	03 57 39.7	-1.2
HAU	Haudompre	7.23	244	ePg	Pg	03 58 08.3	-4.2
HAU				eSn	Sn	03 58 57.2	-6.5
HAU				eSg	Sg	03 59 41.6	-4.4
	comp=Z,7.5nm,0.6s						
PAGF	Fort de Pagny	7.31	250	ePn	Pn	03 57 41.2	-0.8
PAGF	Fort de Pagny	7.31	250	ePg	Pg	03 58 09.8	-4.2
PAGF				eSg	Sg	03 59 42.8	-5.8
	comp=Z,241nm,2.2s						
MEZF	Maizieres J'vi	7.73	251	ePg	Pg	03 58 18.8	-3.2
MEZF				eSg	Sg	03 59 56.9	-5.2
	comp=Z,8.5nm,0.8s						
SFTF	Sexfontaines	7.88	249	ePn	Pn	03 57 50.2	+0.4
SFTF	Sexfontaines	7.88	249	ePg	Pg	03 58 20.8	-4.1
SFTF				eSn	Sn	03 59 12.5	-7.1
SFTF				eSg	Sg	03 59 59.5	-7.4
	comp=Z,6.6nm,0.6s						
AKASG	Malin Array Be	8.31	91	Pn	Pn	03 57 56.2	+0.5
	comp=Z,0.7nm,0.3s,baz=278,slow=12,SNR=7.6						
AKASG				Sn	Sn	03 59 24.8	-5.5
	comp=Z,0.8nm,0.3s,baz=264,slow=25,SNR=3.2						
AKASG				Lg	Lg	04 00 22.4	
	comp=Z,0.1nm,0.3s,baz=274,slow=29,SNR=3.0						
HFS	Hagfors	8.71	352	Pn	Pn	03 58 01.9	+0.7
	comp=Z,0.2nm,0.3s,baz=167,slow=14,SNR=7.1						
HFS				Sn	Sn	03 59 36.2	-3.9
	comp=Z,0.2nm,0.3s,baz=176,slow=25,SNR=3.0						
NOA	NORSAR Array B	9.89	346	Pn	Pn	03 58 17.8	+0.3
	comp=Z,0.0nm,0.3s,baz=161,slow=12,SNR=4.6						
FINES	FINESS Array B	11.34	25	Pn	Pn	03 58 36.8	-0.3
	comp=Z,0.3nm,0.3s,baz=206,slow=12,SNR=12						
FINES				Sn	Sn	04 00 39.0	-5.4
	comp=Z,0.2nm,0.3s,baz=199,slow=21,SNR=4.4						
EKA	Eskdalemuir Ar	12.07	296	Pn	Pn	03 58 48.2	+1.0
	baz=105,slow=13,SNR=3.5						
ARCES	ARCESS Array B	18.59	10	Pn	P	04 00 10.9	-1.6
	comp=Z,0.4nm,0.3s,baz=194,slow=11,SNR=12						
TORD	Torodi Ar. Bea	40.02	202	P	P	04 03 31.9	+1.2
	comp=Z,0.5nm,1.1s,baz=3.2,slow=7.7,SNR=2.8						
YKA	Yellowknife Ar	59.82	336	P	P	04 06 03.1	+2.6
	comp=Z,0.4nm,0.7s,baz=30,slow=6.7,SNR=6.6						

*ISK **01** 04:32:29.9, 37°.30N×37°.10E, h7km, ML1.9/6*
*ISCJB **01** 04:32:30.7±0.6, 37°.29N±0°.05×37°.09E±0°.05, h9km±6km, Error ellipse: s-maj=9.6km s-min=4.9km az=32.0*
*DDA **01** 04:32:30.5, 37°.33N×37°.09E, h9km±1km, ML2.6*

ISC 01 04:32:30.9±1.1, 37°.29N±0°.04×37°.10E±0°.03, h9km±10km, n16, σ0°50/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.14	143	PG	Pg	04 32 33.7	-0.4
GAZ				SG	Sg	04 32 36.4	+0.1
HCB	Kahramanmara	0.17	291	IAML_P			
	comp=Z,7μm,0.2s						
HCB				iP	Pg	04 32 34.4	-0.1
AYKD	Aykdinkavak	0.27	299	iP	Pg	04 32 36.9	+0.5
AYKD				iS	Sg	04 32 40.7	+0.7
KMRS	Kahramanmaras	0.27	324	PG	Pg	04 32 35.7	-0.7
KMRS				SG	Sg	04 32 39.7	-0.4
KAMA	Osmaniye	0.36	254	IAML_P			
	comp=Z,4μm,0.1s						
KAMA				iP	Pg	04 32 38.4	+0.2
GZT	Gaziantep	0.37	79	IAML_P			
	comp=Z,3μm,0.2s						
GZT				iP	Pg	04 32 38.4	+0.1
ANDN	Andirin	0.67	296	IAML_P			
	comp=Z,589nm,0.2s						
ANDN				iP	Pg	04 32 43.3	-0.6
ATAB	Bozova	0.97	79	iP	Pg	04 32 49.4	-0.1
KOZT	Kozan	1.03	281	PG	Pg	04 32 50.5	-0.3
KOZT				SG	Sg	04 33 04.5	+0.2
SAIM	ADANA	1.06	311	IAML_P			
	comp=Z,471nm,0.2s						
SAIM				iP	Pg	04 32 51.4	0.0
TAHT	Tahtakopru-Hat	1.17	219	PN	Pg	04 32 52.9	-0.5
AKCD	Akcadag	1.20	33	IAML_P			
	comp=Z,726nm,0.1s						
AKCD				iP	Pn	04 32 54.7	+0.7
YURE	YUREGIR	1.26	249	PN	Pg	04 32 54.8	-0.4
SURC	SANLIURFA_SURC	1.27	108	iP	Pn	04 32 55.7	+0.7
DARE	Darende-Malaty	1.32	13	PN	Pn	04 32 55.3	-0.4
URFA	Urfa	1.38	83	PN	Pn	04 32 56.0	-0.5

IDC 01 04:42:21.4±1.6, 12°.27S×74°.61W, h0km, mb3.2/2, mb1 3.5/5, mb1mx3.3/30, mbtmp3.2/5, ML3.0/3, Error ellipse: s-maj=46.0km s-min=19.7km az=28.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.20	277	Pn	Pn	04 42 59.7	+0.5
	13nm,0.3s,baz=97,slow=13,SNR=19						
NNA				Sn	Sn	04 43 27.0	-0.3
	14nm,0.3s,baz=183,slow=14,SNR=9.1						
ATAH	Atahualpa	6.32	324	Pn	Pn	04 43 58.1	+1.8
	0.7nm,0.3s,baz=172,slow=6.7,SNR=6.6						
ATAH				Sn	Sn	04 45 18.2	+8.7
	0.3nm,0.3s,baz=285,slow=19,SNR=1.7						
LPAZ	La Paz	7.44	123	Pn	Pn	04 44 11.8	-0.1
	0.0nm,0.3s,baz=301,slow=5.9,SNR=1.7						
LPAZ				Lg	Lg	04 46 19.7	
	0.0nm,0.3s,baz=108,slow=9.6,SNR=1.6						
TXAR	Lajitas Array	49.98	326	P	P	04 51 17.8	+0.2
	0.2nm,0.8s,baz=142,slow=6.3,SNR=2.6						
YKA	Yellowknife Ar	80.76	342	P	P	04 54 35.3	-1.0
	0.1nm,0.5s,baz=140,slow=5.8,SNR=3.8						

*ISCJB **01** 05:23:29.7±0.5, 18°.85S±0°.06×169°.38E±0°.10, h246km, mb3.5/11, Error ellipse: s-maj=13.5km s-min=7.2km az=160.6*
*IDC **01** 05:23:31.6±2.6, 19°.02S×169°.44E, h258km±24km, mb3.4/11, mb1 3.7/13, mb1mx3.5/42, mbtmp4.1/13, Error ellipse: s-maj=27.8km s-min=19.8km az=147.0*

ISC 01 05:23:30.7±0.6, 18°.87S±0°.09×169°.4E±0°.1, h246km, n46, σ1°02/46, mb3.6/11, Vanuatu Islands

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

CAW	**Cannon Point**	**22.69 169**	P	**P**	**05 28 10.6**	**-0.6**
MTW	**Mount Morrison**	**22.82 168**	P	**P**	**05 28 11.6**	**-0.8**
BHW	**Baring Head**	**22.95 169**	P	**P**	**05 28 13.1**	**-0.4**
MSWZ	**Moikau Station**	**23.02 169**	P	**P**	**05 28 13.4**	**-0.8**
PAWZ	**Paruwai Farm**	**23.02 168**	P	**P**	**05 28 13.6**	**-0.7**
PLWZ	**Palliser**	**23.17 169**	P	**P**	**05 28 14.1**	**-1.6**
WRA	**Warramunga Arr**	**33.06 262**	P	**P**	**05 29 42.9**	**-0.7**
	0.3nm,0.5s,baz=95,slow=8.5,SNR=3.8					
ASAR	**Alice Springs**	**33.38 255**	P	**P**	**05 29 46.1**	**-0.2**
	1.5nm,0.6s,baz=82,slow=9.0,SNR=17					
FITZ	**Fitzroy Crossi**	**41.44 264**	P	**P**	**05 30 53.6**	**-0.2**
	1.1nm,0.7s,baz=53,slow=10,SNR=3.0					
QSPA	**South Pole Qui**	**71.18 180**	P	**P**	**05 34 22.0**	**-0.7**
	1.4nm,1.0s,baz=118,slow=1.5,SNR=2.9					
PETK	**Petropavlovsk-**	**72.39 353**	P	**P**	**05 34 31.3**	**+1.6**
	4.0nm,0.8s,baz=135,slow=9.1,SNR=4.5					
SONM	**Songino Array**	**87.02 323**	P	**P**	**05 35 49.1**	**+0.7**
	0.5nm,0.7s,baz=106,slow=4.7,SNR=3.4					
NVAR	**Mina Array Bea**	**88.43 48**	P	**P**	**05 35 54.8**	**-0.6**
	0.3nm,0.5s,baz=221,slow=7.8,SNR=3.1					
ILAR	**Eielson Array**	**89.83 17**	P	**P**	**05 35 60.0**	**-1.1**
	0.6nm,0.8s,baz=241,slow=5.1,SNR=8.5					
INK	**Inuvik**	**96.14 18**	P	**P**	**05 36 29.9**	**-0.1**
	0.9nm,1.0s,baz=222,slow=8.0,SNR=3.0					
PDAR	**Pinedale Array**	**96.24 47**	P	**P**	**05 36 30.2**	**-1.1**
	0.2nm,0.5s,baz=286,slow=6.5,SNR=3.2					
TXAR	**Lajitas Array**	**96.44 61**	P	**P**	**05 36 33.1**	**+0.7**
	0.1nm,0.4s,baz=206,slow=6.0,SNR=2.8					
YKA	**Yellowknife Ar**	**100.26 27**	P	**Pdif**	**05 36 49.1**	**+0.6**
	0.4nm,0.7s,baz=252,slow=4.3,SNR=5.5					
ARCES	**ARCESS Array B**	**124.75 345**	PKP	**PKPdf**	**05 41 59.6**	**-0.8**
	1.9nm,1.0s,baz=55,slow=1.4,SNR=8.6					
GERES	**GERESS Array B**	**144.24 332**	PKP	**PKPdf**	**05 42 36.2**	**-1.1**
	0.4nm,0.5s,baz=46,slow=4.4,SNR=5.0					

*ISCJB **01** 05:27:16.0±0.7, 36°.68N±0°.04×36°.62E±0°.04, h0km±8km, Error ellipse: s-maj=7.7km s-min=3.7km az=144.3*
*ISK **01** 05:27:15.4, 36°.66N×36°.67E, h9km, ML2.3/10*
*DDA **01** 05:27:16.3, 36°.72N×36°.62E, h7km±4km, ML2.7*
ISC 01 05:27:16.0±1.2, 36°.69N±0°.04×36°.66E±0°.03, h6km±11km, n23, σ0s58/31, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.35**	**75**	*i* P	**Pb**	**05 27 24.0**	**-0.6**
TAHT	**Tahtakopru-Hat**	**0.49**	**231**	PG	**Pg**	**05 27 25.1**	**-0.3**
TAHT				SG	**Sg**	**05 27 32.5**	**+0.7**
KAMA	**Osmaniye**	**0.50**	**1**	IAML_P			
	comp=Z,2μm,0.2s						
KAMA				*i* P	**Pg**	**05 27 26.1**	**+0.4**
KAMA				*i* S	**Sg**	**05 27 33.0**	**+0.7**
GAZ	**Gaziantep**	**0.66**	**42**	PG	**Pg**	**05 27 28.8**	**+0.1**
GAZ				SG	**Sb**	**05 27 38.8**	**-0.6**
HCB	**Kahramanmara**	**0.69**	**17**	IAML_P			
	comp=Z,450nm,0.1s						
HCB				*i* P	**Pb**	**05 27 30.0**	**-0.5**
HCB				*i* S	**Sb**	**05 27 39.0**	**-1.2**
AYKD	**Aykdinkavak**	**0.74**	**9**	IAML_P			
	comp=Z,2μm,0.1s						
AYKD				*i* P	**Pb**	**05 27 30.7**	**-0.6**
CEYT	**Ceyhan**	**0.80**	**294**	PG	**Pb**	**05 27 31.6**	**-0.6**
CEYT				SG	**Sb**	**05 27 43.5**	**+0.2**
YURE	**YUREGIR**	**0.83**	**280**	PG	**Pg**	**05 27 31.8**	**-0.2**
YURE	**YUREGIR**	**0.83**	**280**	*i* P	**Pb**	**05 27 33.0**	**+0.1**
KMRS	**Kahramanmaras**	**0.84**	**13**	PG	**Pg**	**05 27 32.3**	**+0.1**
KMRS				SG	**Sb**	**05 27 44.9**	**+0.2**
ANDN	**Andirin**	**0.93**	**345**	IAML_P			
	comp=Z,876nm,0.2s						
ANDN				*i* P	**Pn**	**05 27 34.7**	**-1.0**
GZT	**Gaziantep**	**0.99**	**47**	IAML_P			
	comp=Z,1μm,0.1s						
GZT				*i* P	**Pn**	**05 27 36.8**	**+0.3**
GZT				*i* S	**Sn**	**05 27 52.2**	**+1.3**
KRTD	**Karatas-Adana**	**1.00**	**265**	PG	**Pb**	**05 27 35.3**	**-0.4**
KOZT	**Kozan**	**1.03**	**320**	PG	**Pg**	**05 27 35.5**	**-0.4**
KRTS	**Karatas**	**1.04**	**264**	PG	**Pb**	**05 27 35.8**	**-0.5**
AKO	**Adana**	**1.24**	**309**	IAML_P			
	comp=Z,294nm,0.1s						
AKO				*i* P	**Pg**	**05 27 40.0**	**+0.2**
SAIM	**ADANA**	**1.37**	**341**	IAML_P			
	comp=Z,994nm,0.2s						
SAIM				*i* P	**Pg**	**05 27 42.5**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.58**	**82**	*i* P	**Pg**	**05 27 46.4**	**0.0**
SURC				*i* S	**Sg**	**05 28 07.0**	**+0.1**
GULE	**Gulek**	**1.62**	**292**	IAML_P			
	comp=Z,271nm,0.2s						
GULE				*i* P	**Pg**	**05 27 46.4**	**-0.7**
KIZK	**Mersin**	**2.03**	**265**	PN	**Pn**	**05 27 50.8**	**+0.1**
KEBE	**Keben-Mersin**	**2.38**	**265**	PN	**Pn**	**05 27 56.0**	**+0.4**
IKL	**Isikli**	**2.44**	**260**	PN	**Pn**	**05 27 56.5**	**+0.2**
AKKU	**Akkuyu-Mersin**	**2.56**	**259**	PN	**Pn**	**05 27 58.3**	**+0.3**

IDC 01 05:32:31.9±8.1, 6°.59S×130°.35E, h143km±79km, mb3.7/3, mb1 4.0/7, mb1mx3.5/43, mbtmp4.4/7, Error ellipse: s-maj=68.0km s-min=19.6km az=47.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.53**	**241**	P	Pn	05 34 20.0	+1.0
	2.9nm,0.3s,baz=84,slow=9.2,SNR=2.3						
BATI				S	Sn	05 35 44.5	+1.4
	12nm,0.3s,baz=84,slow=9.2,SNR=4.6						
FITZ	**Fitzroy Crossi**	**12.32**	**201**	P	Pn	05 35 22.1	-0.5
	3.3nm,0.3s,baz=28,slow=14,SNR=37						
FITZ				S	Sn	05 37 33.2	-5.6
	2.5nm,0.3s,baz=59,slow=13,SNR=9.8						
WRA	**Warramunga Arr**	**13.83**	**164**	P	Pn	05 35 40.2	-1.7
	1.8nm,0.3s,baz=343,slow=13,SNR=33						
WRA				S	Sn	05 38 05.6	-9.4
	2.4nm,0.3s,baz=337,slow=22,SNR=8.7						
ASAR	**Alice Springs**	**17.32**	**169**	P	Pn	05 36 25.9	+0.9
	1.8nm,0.3s,baz=348,slow=12,SNR=58						
ASAR				S	S	05 39 32.1	-5.4
	0.5nm,0.3s,baz=348,slow=29,SNR=5.4						
STKA	**Stephens Creek**	**27.26**	**159**	P	P	05 38 02.4	-0.3
	1.3nm,0.5s,baz=331,slow=10,SNR=4.1						
CMAR	**Chiang Mai Arr**	**39.74**	**309**	P	P	05 39 49.4	-1.3
	0.8nm,0.4s,baz=140,slow=7.2,SNR=3.7						
MKAR	**Makanchi Array**	**68.08**	**327**	P	P	05 43 16.6	+0.5
	1.1nm,0.5s,baz=118,slow=8.1,SNR=15						

*ISCJB **01** 05:37:56.3±0.7, 14°.98N±0°.02×123°.34E±0°.02, h19km±4km, mb5.2/155, MS4.6/64, Error ellipse: s-maj=3.7km s-min=2.9km az=168.5*
*BJI **01** 05:37:56.7±0.0, 14°.76N×123°.43E, h35km, mb4.8/74, mB5.1/56, Ms4.8/75, Ms7 4.6/68*
*MOS **01** 05:37:57.9±1.0, 14°.93N×123°.36E, h32km, mb5.3/38, MS4.7/15, Error ellipse: s-maj=8.2km s-min=4.6km az=104.0*
*MAN **01** 05:37:58.9, 15°.10N×123°.28E, h45km, mb5.8, ML4.8, MS5.2*
*IDC **01** 05:37:58.8±0.4, 14°.87N×123°.30E, h26km±2km, mb4.5/32, mb1 4.6/34, mb1mx4.5/49, mbtmp4.7/34, ML4.5/2, MS4.4/28, Ms1 4.4/28, ms1mx4.3/40, Error ellipse: s-maj=10.5km s-min=8.4km az=106.0*
*NEIC **01** 05:37:59.0±2.1, 14°.92N×123°.33E, h28km±3km, mb5.3/134, Error ellipse: s-maj=12.3km s-min=8.9km az=106.0*
NEIC Felt [III PIVS] at Guinayangan and Manlayo Calimpac and [II PIVS] at Jose Panganiban and Naga City.
*GCMT **01** 05:38:01.0±0.2, 15°.10N±0°.01×123°.25E±0°.01, h25km, MW5.3/86, Moment Tensor Solution. s57,c76; s86,c120; Duration: 0 Moment tensor: Scale 10^17^Nm; Mrr0.32±.02; Mθθ-0.25±.01; Mφφ-0.06±.01; Mrθ-0.43±.02; Mθφ0.28±.01; Mφr0.84±.02; Best double couple: M0 1.02900×10^17^ NP1:φs97.00000°, δ16.00000°, λ37.00000°. Principal axes: T 1.0160, Plg53.0000°, Azm256.0000°; N 0.0270, Plg13.0000°, Azm149.0000°; P -1.0420, Plg34.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **01** 05:38:02.8±0.4, 15°N±3°×12°3E±°, h50km±3km, M4.9/46, mB5.5/25, mb5.1/46, Mw(mB)4.9/25*
*KLM **01** 05:38:07.0, 14°.46N×123°.42E, h94km, mb5.3*
ISC 01 05:37:59.3±0.3, 14°.93N±0°.02×123°.34E±0°.03, h30km±1km, h30km:pP-P, n536, σ1s84/641, mb5.1/168, MS4.6/65,

39C-40D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.34**	**221**	⇑*e*P	**Pn**	**05 38 22.4**	**+0.3**
GQP				*e*S	**Sb**	**05 38 41.8**	**+1.1**
POLP	**Polilio Island**	**1.37**	**262**	*e*P	**Pn**	**05 38 21.2**	**-1.3**
POLP				*e*S	**Sn**	**05 38 39.2**	**-0.5**
PVCP	**Virac**	**1.54**	**149**	*e*P	**Pn**	**05 38 26.1**	**+1.2**
AUQP	**San Andres**	**1.73**	**202**	*e*P	**Pb**	**05 38 30.5**	**+0.1**
AUQP				*e*S	**Sb**	**05 38 52.1**	**+0.4**
BALP	**Baler**	**1.89**	**295**	*e*P	**Pn**	**05 38 26.6**	**-2.9**
BALP				*e*S	**Sn**	**05 38 49.3**	**-3.0**
BOAC	**Boac**	**2.06**	**225**	*e*P	**Pn**	**05 38 33.2**	**+1.2**
BOAC				*e*S	**Sb**	**05 39 00.8**	**-0.6**
PALP	**Palanan**	**2.29**	**337**	*e*P	**Pn**	**05 38 33.0**	**-2.1**
PALP				*e*S	**Sn**	**05 38 58.2**	**-4.2**
TGY	**Tagaytay City**	**2.47**	**251**	Pn	**Pn**	**05 38 37.2**	**-0.5**
	832nm,0.3s,baz=38,slow=2.3,SNR=66						
TGY				Lg	Lg	05 39 15.4	
	1μm,0.3s,baz=196,slow=23,SNR=8.9						
TGY	**Tagaytay City**	**2.47**	**251**	*e*P	**Pn**	**05 38 39.0**	**+1.3**
TGY				*i* S	**Sn**	**05 39 06.3**	**-0.6**
CAUP	**Cauayan**	**2.48**	**324**	*e*P	**Pn**	**05 38 36.1**	**-1.6**
CAUP				*e*S	**Sn**	**05 39 05.1**	**-1.8**
CNP	**Catarman**	**2.73**	**152**	*e*P	**Pn**	**05 38 43.8**	**+2.6**
SMPP	**San Manuel, Pa**	**2.84**	**296**	*e*P	**Pn**	**05 38 41.0**	**-1.7**
SMPP				*e*S	**Sn**	**05 39 10.7**	**-5.2**
OTRP	**Odiongan**	**2.86**	**207**	*e*P	**Pn**	**05 38 44.1**	**+1.2**
CVP	**Callao Caves**	**3.12**	**332**	⇓*i*P	**Pn**	**05 38 44.8**	**-1.7**
CVP				*i* S	**Sn**	**05 39 21.0**	**-1.8**
LUBP	**Lubang**	**3.23**	**249**	*e*P	**Pn**	**05 38 49.0**	**+1.0**
SJMP	**San Jose**	**3.27**	**222**	*e*P	**Pn**	**05 38 50.8**	**+2.2**
RCP	**Roxas**	**3.40**	**190**	⇓*e*P	**Pn**	**05 38 52.8**	**+2.3**
SCZP	**Santa Cruz**	**3.42**	**285**	*e*P	**Pn**	**05 38 49.2**	**-1.4**
SGCP	**Mt. Cagua**	**3.52**	**339**	*e*P	**Pn**	**05 38 50.5**	**-1.5**
SGCP				*e*S	**Sn**	**05 39 27.8**	**-4.9**
APYP	**Conner**	**3.54**	**326**	*e*P	**Pn**	**05 38 51.1**	**-1.2**
APYP				*e*S	**Sn**	**05 39 29.9**	**-3.3**
BOLP	**Bolinao**	**3.60**	**294**	*e*P	**Pn**	**05 38 52.0**	**-1.2**
ABRA	**Dolores**	**3.70**	**317**	*e*P	**Pn**	**05 38 55.0**	**+0.5**
ABRA				*e*S	**Sn**	**05 39 34.3**	**-2.8**
PLP	**Palo**	**4.07**	**157**	⇓*e*P	**Pn**	**05 39 02.0**	**+2.4**
PLP				*e*S	**Sb**	**05 39 59.3**	**+0.2**
BUSP	**Coron**	**4.22**	**227**	*e*P	**Pn**	**05 39 02.2**	**+0.5**
LLP	**Lapu-Lapu**	**4.63**	**172**	*e*P	**Pn**	**05 39 10.7**	**+3.4**
LLP				*e*S	**Sb**	**05 40 15.9**	**+0.8**
MSLP	**Maasin**	**4.99**	**163**	*e*P	**Pb**	**05 39 26.2**	**+0.1**
DAV	**Davao City (W)**	**8.12**	**164**	*e*Pn	**Pn**	**05 39 56.3**	**+1.1**
TWG	**Pintang**	**8.13**	**345**	*e*Pn	**Pn**	**05 39 54.4**	**-1.1**
YULB	**Yu-li**	**8.63**	**347**	*e*Pn	**Pn**	**05 40 00.7**	**-1.7**
TPUB	**Ta-pu**	**8.71**	**343**	*e*Pn	**Pn**	**05 40 03.0**	**-0.3**
SSLB	**Suanglung**	**9.09**	**346**	*e*Pn	**Pn**	**05 40 09.0**	**+0.4**
NACB	**Ninganchiao**	**9.34**	**350**	*e*Pn	**Pn**	**05 40 10.3**	**-1.6**
NACB				*e*Sn	Sn	05 41 46.9	-9.1
YOJ	**Yonaguni jima**	**9.48**	**358**	*e*Pn	**Pn**	**05 40 13.7**	**-0.3**
YOJ				*e*Sn	**Sn**	**05 41 54.2**	**-5.4**
YOJ	**Yonaguni jima**	**9.48**	**358**	*e*P	**Pn**	**05 40 13.7**	**-0.3**
YOJ				*e*		05 41 54.2	
YHNB	**Yeheng**	**9.86**	**349**	*e*Pn	**Pn**	**05 40 18.9**	**-0.3**
KKM	**Kota Kinabalu**	**11.27**	**219**	*e*Pn	**Pn**	**05 40 38.9**	**+0.3**
JOW	**Kunigami**	**12.70**	**20**	Pn	**Pn**	**05 40 55.1**	**-2.9**
	0.7nm,0.3s,baz=181,slow=13,SNR=5.3						
QIZ	**Qiongzhong**	**13.54**	**289**	P	**Pn**	**05 41 09.1**	**-0.4**
QIZ				S	**Sn**	**05 43 38.8**	**-0.3**
QIZ				pmax	pmax		
	comp=Z,4.0nm,0.1s						
QIZ				pmax	pmax		
	comp=Z,350nm,5.7s						
QIZ				LR	LR		
	comp=N,2μm,15.7s						
QIZ				LR	LR		
	comp=E,3μm,18.2s						
QIZ				LR	LR		
	comp=Z,3μm,17.3s						
MRSI	**Marisa**	**14.43**	**186**	P	**Pn**	**05 41 21.5**	**-0.2**
TNTI	**Ternate**	**14.62**	**164**	*e*Pn	**Pn**	**05 41 25.6**	**+1.3**
TNTI	**Ternate**	**14.62**	**164**	P	**P**	**05 41 34.0**	**+3.7**
	49nm,1.1s						
DLV	**T Lat**	**14.75**	**260**	*e*Pn	**Pn**	**05 41 27.3**	**+1.1**
APSI	**Ampana**	**15.83**	**186**	P	**Pn**	**05 41 39.9**	**-0.3**
LUWI	**Luwuk**	**15.88**	**182**	*e*Pn	**Pn**	**05 41 41.4**	**+0.6**
	407nm,1.2s						
LUWI	**Luwuk**	**15.88**	**182**	P	**P**	**05 41 44.2**	**-0.1**
SBUM	**Sibu**	**16.56**	**223**	*e*Pn	**P**	**05 41 51.1**	**-0.8**
	147nm,1.1s						
SBUM	**Sibu**	**16.56**	**223**	P	**P**	**05 41 52.0**	**+0.1**
SANI	**Sanana**	**17.07**	**171**	P	**P**	**05 42 01.6**	**+4.1**
	55nm,0.9s,828nm						
NJ2	**Nanjing**	**17.53**	**347**	*e*P	**P**	**05 42 02.2**	**-0.2**
NJ2				pP	**pP**	**05 42 10.2**	**+0.3**
NJ2				S	**S**	**05 45 21.3**	**-1.8**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,260nm,4.0s						
NJ2				LR	LR		
	comp=N,670nm,16.3s						
NJ2				LR	LR		
	comp=E,1μm,15.2s						
NJ2				LR	LR		
	comp=Z,1μm,16.3s						
WHN	**Wuhan**	**17.60**	**334**	⇓P	**P**	**05 42 04.1**	**+0.9**
WHN				S	**S**	**05 45 25.2**	**+0.6**
WHN				LR	LR		
	comp=N,3μm,13.7s						
WHN				LR	LR		
	comp=E,2μm,14.1s						
WHN				LR	LR		
	comp=Z,3μm,15.8s						
TTSI	**Tana Toraja**	**18.20**	**191**	P	**P**	**05 42 07.6**	**-2.4**
KSM	**Kuching**	**18.56**	**225**	*e*P	**P**	**05 42 14.3**	**+0.3**
	96nm,1.1s						
KSM	**Kuching**	**18.56**	**225**	P	**Pn**	**05 42 15.0**	**+0.7**
SKNT	**Sakolnakorn**	**18.73**	**279**	P	**Pn**	**05 42 17.5**	**+1.1**
	40nm,1.3s,2μm						
KDI	**Kendari**	**18.78**	**182**	P	**Pn**	**05 42 21.1**	**+4.1**
SPSI	**Sidrap Palu**	**19.11**	**191**	P	**P**	**05 42 20.8**	**+0.9**
GYA	**Guiyang**	**19.34**	**309**	⇑*i*P	**Pn**	**05 42 23.6**	**-0.2**
GYA				sP	sP	05 42 36.1	+2.4
GYA				PP	**PnPn**	**05 42 42.3**	**+5.1**
GYA				S	**Sn**	**05 45 56.2**	**-3.8**
GYA				SS	**SnSn**	**05 46 27.3**	**+13**
GYA				pmax	pmax		
	comp=Z,40nm,1.4s						
GYA				pmax	pmax		
	comp=Z,400nm,8.3s						
GYA				LR	LR		
	comp=N,2μm,16.2s						
GYA				LR	LR		
	comp=E,2μm,15.2s						
GYA				LR	LR		
	comp=Z,3μm,14.9s						
JNU	**Nakatsue**	**19.36**	**19**	*e*P	**Pn**	**05 42 23.5**	**-0.4**
	244nm,1.4s						
JNU	**Nakatsue**	**19.36**	**19**	P	**Pn**	**05 42 23.3**	**-0.5**
	0.4nm,0.3s,baz=180,slow=6.7,SNR=12						
JNU				LR	LR	05 50 17.6	
	comp=Z,890nm,19.0s,baz=181,slow=38						
BNSI	**Bone**	**19.48**	**190**	P	**P**	**05 42 23.2**	**-0.7**
SLVN	**Son La**	**19.53**	**292**	*e*P	**Pn**	**05 42 25.1**	**-1.0**
	50nm,1.1s						
NONG	**Nongkai**	**19.61**	**282**	P	**Pn**	**05 42 26.6**	**-0.4**
	2.3nm,1.6s,32nm						
FAKI	**Fak Fak**	**19.81**	**153**	*e*P	**P**	**05 42 28.7**	**+1.0**
	80nm,1.1s						
ENH	**Enshi**	**19.89**	**322**	*e*P	**P**	**05 42 28.5**	**+0.1**
	44nm,1.0s						
KAPI	**Kappang**	**20.14**	**190**	*e*P	**P**	**05 42 31.1**	**-0.1**
	89nm,1.2s						
KAPI	**Kappang**	**20.14**	**190**	*e*P	**P**	**05 42 31.1**	**-0.1**
KAPI				pmax	pmax		
	comp=Z,89nm,1.2s						
KAPI	**Kappang**	**20.14**	**190**	P	**P**	**05 42 31.2**	**0.0**
	SNR=9.3						
BKSI	**Bulukumba**	**20.38**	**189**	P	**P**	**05 42 33.6**	**-0.2**
CHAI	**Chaiyaphum**	**20.61**	**275**	P	**P**	**05 42 36.6**	**+0.2**
	comp=Z,203μm,1.0s						
TJN	**Taejon**	**21.66**	**9**	⇑*e*P	**P**	**05 42 46.4**	**-1.0**
KMI	**Kunming**	**21.82**	**301**	P	**P**	**05 42 50.6**	**+1.0**
KMI				pP	pP	05 42 58.2	+1.0
KMI				sP	sP	05 43 02.7	+1.9
KMI				PP	**PnPn**	**05 43 17.6**	**+6.3**
KMI				S	**S**	**05 46 51.8**	**+2.2**
KMI				sS	sS	05 47 05.7	+3.9
KMI				pmax	pmax		
	comp=Z,26nm,1.3s						
KMI				pmax	pmax		
	comp=Z,490nm,5.7s						
KMI				LR	LR		
	comp=Z,870nm,19.9s						
KMI				LR	LR		
	comp=Z,2μm,17.0s						
KMI				LR	LR		
	comp=Z,3μm,17.8s						
TIA	**Tai'an**	**21.91**	**346**	P	**P**	**05 42 50.0**	**-0.1**
TIA				S	**S**	**05 46 54.6**	**+3.9**
TIA				pmax	pmax		
	comp=Z,16nm,1.2s						
TIA				LR	LR		
	comp=Z,620nm,15.6s						
TIA				LR	LR		
	comp=Z,470nm,16.8s						
TIA				LR	LR		
	comp=Z,960nm,16.9s						
NANT	**Nan**	**22.00**	**283**	P	**P**	**05 42 49.9**	**-1.5**
	comp=Z,290μm,0.8s						
UTTA	**Uttaradit**	**22.05**	**280**	P	**P**	**05 42 51.3**	**-0.5**
	comp=Z,83μm,1.0s,comp=Z,764μm						
KSAR	**Wonju Array Be**	**22.78**	**9**	*e*P	**P**	**05 42 58.8**	**-0.6**
KSAR	**Wonju Array Be**	**22.78**	**9**	*e*P	**P**	**05 42 58.8**	**-0.6**
KSRS	**Korea Array**	**22.80**	**9**	P	**P**	**05 42 58.3**	**-1.3**
	comp=Z,4.7nm,0.9s,baz=192,slow=12,SNR=13						
KSRS				pP	**pP**	**05 43 08.7**	**+1.5**
	comp=Z,26nm,1.0s,baz=190,slow=12,SNR=23						
KSRS				LR	LR	05 51 28.6	
	comp=Z,1μm,20.6s,baz=196,slow=35						
LAMP	**Lampang**	**22.98**	**282**	P	**P**	**05 43 01.6**	**-0.1**
	comp=Z,180μm,1.1s						
XAN	**Xi'an**	**23.06**	**328**	P	**P**	**05 43 01.6**	**-0.9**
XAN				pP	sP	05 43 17.2	+3.4
XAN				S	**S**	**05 47 08.1**	**-3.5**
XAN				pmax	pmax		
	comp=Z,16nm,1.1s						
XAN				pmax	pmax		
	comp=Z,160nm,3.9s						
XAN				LR	LR		
	comp=Z,470nm,15.2s						
XAN				LR	LR		
	comp=Z,880nm,15.7s						
XAN				LR	LR		
	comp=Z,690nm,14.7s						
UTHA	**Uthaitani**	**23.07**	**275**	P	**P**	**05 43 03.3**	**+0.7**
	comp=Z,80μm,1.5s,comp=Z,989μm						
PHET	**Kaeng Krachan**	**23.10**	**268**	P	**P**	**05 43 02.6**	**-0.4**
	comp=Z,93μm,0.9s,comp=Z,809μm						
TPRI	**Tanjung Pinang**	**23.23**	**235**	P	**P**	**05 43 05.1**	**+0.9**
	comp=Z,153nm,1.4s						
MYKOM	**Kota Tinggi**	**23.26**	**238**	P	**P**	**05 43 04.0**	**-0.5**
MMRI	**Maumere**	**23.44**	**183**	P	**P**	**05 43 05.9**	**-0.4**
SRDT	**SRDT**	**23.44**	**272**	P	**P**	**05 43 06.0**	**-0.4**
	comp=Z,37nm,1.5s,comp=Z,3μm						
TPI	**Tanjungpandan**	**23.46**	**223**	P	**P**	**05 43 03.0**	**-3.5**
JHJ	**Hachijo jima 2**	**23.46**	**37**	LR	LR	05 50 35.2	
	comp=Z,3μm,19.9s,baz=251,slow=32						
SKLT	**Songkhla**	**23.58**	**253**	P	**P**	**05 43 08.0**	**+0.3**
	comp=Z,22nm,1.3s,comp=Z,391nm						
UMPA	**Umpang Tak**	**23.62**	**276**	P	**P**	**05 43 08.2**	**+0.1**
	comp=Z,233μm,1.2s						
CM31	**Chiang Mai Arr**	**23.63**	**282**	P	**P**	**05 43 07.8**	**-0.4**
	SNR=119						
CMAR	**Chiang Mai Arr**	**23.63**	**282**	P	**P**	**05 43 07.5**	**-0.7**
	comp=Z,199nm,1.2s,baz=94,slow=7.8,SNR=301						
CMAR				pP	**pP**	**05 43 16.4**	**+0.2**
	comp=Z,133nm,1.1s,baz=90,slow=7.6,SNR=13						
CMAR				LR	LR	05 53 02.3	
	comp=Z,2μm,18.5s,baz=92,slow=38						
CMMT	**Chiang Mai**	**23.66**	**283**	P	**P**	**05 43 07.3**	**-1.1**
	comp=Z,46nm,1.3s,comp=Z,745nm						
CHTO	**Chiang Mai**	**23.66**	**283**	*e*P	**P**	**05 43 07.2**	**-1.3**
	comp=Z,185nm,1.4s						
CHTO	**Chiang Mai**	**23.66**	**283**	*e*P	**P**	**05 43 07.2**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,185nm,1.4s						
CHTO	**Chiang Mai**	**23.66**	**283**	P	**P**	**05 43 07.1**	**-1.3**
	SNR=55						
CHTO				P	**P**	**05 43 07.1**	**-1.3**
	SNR=55						
DL2	**Dalian**	**23.93**	**357**	P	**P**	**05 43 12.2**	**+1.5**
DL2				S	**S**	**05 47 29.9**	**+4.5**
DL2				pmax	pmax		
	comp=Z,61nm,1.4s						
DL2				pmax	pmax		
	comp=Z,500nm,3.6s						
DL2				LR	LR		
	comp=Z,1μm,18.9s						
DL2				LR	LR		
	comp=Z,820nm,17.9s						
DL2				LR	LR		
	comp=Z,1μm,19.6s						
CD2	**Chengdu**	**23.98**	**315**	⇑*i*P	**P**	**05 43 11.5**	**0.0**
CD2				pP	sP	05 43 22.9	-0.2
CD2				PP	**PnPn**	**05 43 44.8**	**+4.1**
CD2				S	**S**	**05 47 33.2**	**+6.6**
CD2				sS	Sn	05 47 43.1	-8.2
CD2				SS	**SnSn**	**05 48 14.0**	**+5.9**
CD2				pmax	pmax		
	comp=Z,280nm,1.0s						
CD2				pmax	pmax		
	comp=Z,740nm,6.1s						
CD2				LR	LR		
	comp=Z,5μm,20.8s						
CD2				LR	LR		
	comp=Z,5μm,21.4s						
CD2				LR	LR		
	comp=Z,3μm,17.8s						
PPBI	**Pangkal Pinang**	**24.06**	**226**	P	**P**	**05 43 08.5**	**-3.7**
**SA

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BJI                                  pmax   pmax
     comp=Z,8.0nm,0.9s
BJI                                  LR     LR
     comp=Z,160nm,15.5s
BJI                                  LR     LR
     comp=Z,330nm,24.9s
BKNI Bangkinang      26.39 239  eP        P      05 43 33.7 +0.2
     comp=Z,168nm,1.0s
BKNI Bangkinang      26.39 239  P         P      05 43 30.6 -2.8
SNY  Shenyang        26.80   0 ⇑P        P      05 43 36.9 +0.1
SNY                                  S         S      05 48 10.6 -0.5
SNY                                  pmax   pmax
     comp=Z,9.0nm,0.5s
SNY                                  pmax   pmax
     comp=Z,320nm,4.0s
SNY                                  LR     LR
     comp=Z,1μm,17.5s
SNY                                  LR     LR
     comp=Z,890nm,16.9s
SNY                                  LR     LR
     comp=Z,2μm,16.5s
PSI  Prapat          26.93 246  eP        P      05 43 37.7 -0.8
     comp=Z,149nm,1.3s
LZH  Lanzhou         27.34 324  eP        P      05 43 43.4 +1.4
LZH                                  pP        sP     05 43 55.4 +1.7
LZH                                  sP        pwP    05 43 59.9 +10
LZH                                  S         S      05 48 18.8 -1.4
LZH                                  sS        sS     05 48 35.7 +2.4
LZH                                  SS        SnSn   05 49 37.2 +6.8
LZH                                  pmax   pmax
     comp=Z,20nm,1.2s
LZH                                  pmax   pmax
     comp=Z,170nm,4.3s
LZH                                  LR     LR
     comp=Z,940nm,11.9s
LZH                                  LR     LR
     comp=Z,2μm,14.6s
LZH                                  LR     LR
     comp=Z,1μm,16.3s
MNSI Mandailing Nat  27.36 241  P         P      05 43 43.1 +1.0
     comp=Z,61nm,0.9s
KCSI Kotacane, Aceh  27.63 248  P         P      05 43 43.6 -1.0
HHC  Hu-ho-hao-te    27.78 341  eP        P      05 43 48.6 +2.8
HHC                                  sP        sP     05 44 01.8 +4.3
HHC                                  PP        PnPn   05 44 37.5 +5.0
HHC                                  S         S      05 48 25.7 -1.2
HHC                                  SS        SnSn   05 49 46.9 +6.0
HHC                                  pmax   pmax
     comp=Z,110nm,0.8s
HHC                                  pmax   pmax
     comp=Z,560nm,4.0s
HHC                                  LR     LR
     comp=Z,1μm,11.6s
HHC                                  LR     LR
     comp=Z,1μm,11.0s
HHC                                  LR     LR
     comp=Z,1μm,10.9s
BTO  Baotou          28.09 338  eP        P      05 43 54.6 +6.0
MTN  Manton Dam      28.66 164  eP        P      05 43 53.6  0.0
     comp=Z,75nm,1.5s
GSI  Gunungsitoli    28.82 244  eP        P      05 43 51.4 -3.8
     comp=Z,55nm,0.9s
GSI  Gunungsitoli    28.82 244  P         P      05 43 50.5 -4.7
CN2  Changchun       28.83   3  eP        P      05 43 54.3 -0.6
CN2                                  eS        S      05 48 46.5 +3.5
CN2                                  pmax   pmax
     comp=Z,10.0nm,1.0s
CN2                                  pmax   pmax
     comp=Z,200nm,6.0s
CN2                                  LR     LR
     comp=Z,1μm,20.0s
CN2                                  LR     LR
     comp=Z,800nm,20.0s
CN2                                  LR     LR
     comp=Z,1μm,17.0s
SISI Saibi           28.93 238  P         P      05 43 48.6 -7.6
VLA  Vladivostok     29.03  13⇑eP        P      05 43 57.4 +0.7
VLA                                  pmax   pmax
     comp=Z,65nm,1.8s
MDJ  Mudanjiang      30.06   9  P         P      05 44 06.6 +0.8
MDJ                                  pmax   pmax
     comp=Z,34nm,1.0s
MDJ                                  pmax   pmax
     comp=Z,130nm,4.9s
USRK Ussuriysk Ar.   30.09  12  eP        P      05 44 06.0 -0.1
USRK Ussuriysk Ar.   30.09  12  P         P      05 44 07.4 +1.4
     comp=Z,18nm,0.8s,baz=211,slow=8.8,SNR=19
USRK                                 pP        pP     05 44 15.9 +1.6
     comp=Z,29nm,0.8s,baz=210,slow=8.6,SNR=17
USRK                                 LR        LR     05 55 52.9
     comp=Z,738nm,19.9s,baz=186,slow=36
SHL  Shillong        31.28 295⇑ i P       P      05 44 16.5 -0.6
GTA  Gaotai          31.95 324 ⇓P        P      05 44 23.5 +0.8
GTA                                  pP        pwP    05 44 33.1 +2.1
GTA                                  sP        sP     05 44 37.2 +2.8
GTA                                  PcP       PcP    05 47 13.7 +1.1
GTA                                  S         S      05 49 33.6 +1.3
GTA                                  sS        sS     05 49 48.3 +2.8
GTA                                  ScP       ScP    05 50 55.7 +1.5
GTA                                  pmax   pmax
     comp=Z,7.0nm,1.5s
GTA                                  pmax   pmax
     comp=Z,140nm,7.5s
GTA                                  LR     LR
     comp=Z,490nm,16.5s
GTA                                  LR     LR
     comp=Z,530nm,15.9s
GTA                                  LR     LR
     comp=Z,920nm,16.8s
FITZ Fitzroy Crossi  32.90 176  eP        P      05 44 29.7 -1.3
     comp=Z,25nm,1.2s
LSA  Lhasa           33.07 302  P         P      05 44 33.5 +0.4
LSA                                  pmax   pmax
     comp=Z,110nm,0.9s
LSA  Lhasa           33.07 302  eP        P      05 44 33.2 +0.1
     comp=Z,68nm,0.8s
LSA  Lhasa           33.07 302  i P       P      05 44 34.0 +0.9
     SNR=20
YUK  Yuzh-Kuril'sk   34.77  29  P         P      05 44 46.4 -0.7
YUK                                  eS        S      05 50 14.5 -1.2
KLR  Kul'dur         34.89  10  P         P      05 44 48.7 +0.7
     comp=Z,3.6nm,0.7s,baz=206,slow=9.4,SNR=9.8
KLR                                  pP        pP     05 44 57.2 +0.8
     comp=Z,6.1nm,0.7s,baz=200,slow=8.0,SNR=10
KLR                                  LR        LR     05 58 32.2
     comp=Z,531nm,21.0s,baz=192,slow=35
ULN  Ulaanbaatar     35.50 341  eP        P      05 44 54.5 +0.9
     comp=Z,52nm,1.1s
ULN  Ulaanbaatar     35.50 341 d i P      P      05 44 54.8 +1.3
ULN                                  pmax   pmax
     comp=Z,63nm,1.3s
ULN  Ulaanbaatar     35.50 341  P         P      05 44 54.9 +1.3
     SNR=33
ULN                                  P         P      05 44 54.9 +1.3
     SNR=33
SONA0 Songino Array  35.69 340  epP       pP     05 45 05.1 +1.7
SONA0                                ePcP      PcP    05 47 23.4 +0.4
SONM Songino Array   35.69 340  eP        P      05 44 55.7 +0.5
SONM Songino Array   35.69 340  P         P      05 44 55.9 +0.8
     comp=Z,26nm,0.9s,baz=160,slow=9.2,SNR=68
SONM                                 pP        pP     05 45 05.1 +1.7
     comp=Z,15nm,0.8s,baz=160,slow=11,SNR=11
SONM                                 PcP       PcP    05 47 23.4 +0.4
     comp=Z,1.4nm,0.7s,baz=197,slow=3.0,SNR=2.8
SONM                                 LR        LR     06 00 57.5
     comp=Z,367nm,18.9s,baz=150,slow=39
YSS  Yuzh-Sakhalins  35.80  23  eP        P      05 44 55.2 -0.7
YSS                                  e         05 45 05.1
YSS                                  eS        S      05 50 30.5 -0.9
YSS                                  pmax   pmax
     comp=Z,20nm,1.3s
YSS                                  MLR    MLR
     comp=Z,700nm,15.0s
MBWA Marble Bar      36.04 186  eP        P      05 44 57.6 -0.6
     comp=Z,117nm,1.9s
RAMN Ramite          36.21 295  eP        P      05 44 59.7 -0.3
     comp=Z,137nm,0.7s
WRAB Tennant Creek   36.30 162 ⇓i P       P      05 44 59.0 -1.5
WRAB                                 pmax   pmax
     comp=Z,6.0nm,0.9s
WR1  Warramunga Arr  36.30 162  ePcP      PcP    05 47 25.5 +0.4
WRA  Warramunga Arr  36.30 162  PcP       PcP    05 47 25.5 +0.4
     comp=Z,0.8nm,0.3s,baz=356,slow=9.6,SNR=3.2
WRA                                  pPcP      05 47 34.2
     comp=Z,1.5nm,0.3s,baz=347,slow=3.8,SNR=4.6
JIRN Jiri            36.71 296  eP        P      05 45 04.1 -0.4
     comp=Z,160nm,0.9s
GRNR Gornyy          37.28  14  eP        P      05 45 09.0 +0.5
GRNR                                 pmax   pmax
     comp=Z,21nm,1.0s
PKI  Pulchoki        37.37 296  eP        P      05 45 08.7 -1.3
     comp=Z,219nm,1.5s
PKIN Phulchoki       37.38 296  eP        P      05 45 08.7 -1.4
     comp=Z,66nm,1.0s
KKN  Kakani          37.53 296  eP        P      05 45 10.2 -1.0
     comp=Z,89nm,1.0s
DMN  Daman           37.64 296  eP        P      05 45 11.5 -0.8
     comp=Z,138nm,1.2s
GKN  Gorkha          38.13 296  eP        P      05 45 15.4 -0.8
     comp=Z,101nm,0.9s
ZEA  Zeya            38.84   4  eP        P      05 45 21.0 -0.6
ZEA                                  eS        S      05 51 24.0 +6.5
ZEA                                  pmax   pmax
     comp=N,37nm,1.4s
ZEA                                  pmax   pmax
     comp=Z,51nm,1.4s
ZEA                                  pmax   pmax
     comp=Z,200nm,2.0s
ZEA                                  pmax   pmax
     comp=N,200nm,3.0s
ZEA                                  smax   smax
     comp=N,400nm,8.0s
ZEA                                  MLR    MLR
     comp=Z,1μm,17.0s
ZEA                                  MLR    MLR
     comp=N,800nm,18.0s
ZAK  Zakamensk       38.92 340  eP        P      05 45 22.5  0.0
ZAK                                  pmax   pmax
     comp=Z,18nm,0.9s
DANN Dangsing        38.96 297  eP        P      05 45 22.2 -1.2
     comp=Z,142nm,0.8s
KOLN Koldanda        38.98 296  eP        P      05 45 22.5 -1.0
     comp=Z,66nm,0.9s
TYV  Tymovskoe       39.08  19  eP        P      05 45 25.1 +1.4
TYV                                  pmax   pmax
     comp=Z,8.0nm,1.0s
PYUN Piuthan         39.58 296  eP        P      05 45 27.7 -0.7
     comp=Z,126nm,1.0s
AS31 Alice Springs   39.73 165  ePcP      PcP    05 47 35.4 -0.3
ASAR Alice Springs   39.73 165  P         P      05 45 28.6 -0.9
     comp=Z,2.4nm,0.5s,baz=339,slow=7.1,SNR=19
ASAR                                 PcP       PcP    05 47 35.4 -0.3
     comp=Z,4.0nm,0.8s,baz=339,slow=2.3,SNR=4.7
ASAR                                 pPcP      05 47 43.4
     comp=Z,7.3nm,0.8s,baz=348,slow=3.4,SNR=7.6
ASAR                                 LR        LR     06 04 18.5
     comp=Z,236nm,19.1s,baz=349,slow=40
TLY  Talaya          39.91 341  eP        P      05 45 32.1 +1.5
     comp=Z,30nm,0.7s
TLY  Talaya          39.91 341 deP        P      05 45 31.9 +1.3
TLY  Talaya          39.91 341  P         P      05 45 32.9 +2.3
     SNR=23
TLY                                  P         P      05 45 32.9 +2.3
     SNR=23
IRK  Irkutsk         40.21 342  eP        P      05 45 32.5 -0.6
IRK                                  pmax   pmax
     comp=Z,58nm,1.7s
NKL  Nikolayevsk     40.52  16  eP        P      05 45 35.8 +0.2
NKL                                  pmax   pmax
     comp=Z,86nm,1.3s
MOY  Mondy           40.79 339  eP        P      05 45 38.7 +0.7
MOY                                  pmax   pmax
     comp=Z,42nm,1.3s
H11S3 WAKE ISLAND Hy 41.59  79  T         T      06 29 50.8
     baz=271,slow=75,SNR=458
H11S1 WAKE ISLAND Hy 41.60  79  T         T      06 29 52.8
     baz=271,slow=75,SNR=340
H11S2 WAKE ISLAND Hy 41.61  79  T         T      06 29 54.0
     baz=271,slow=75,SNR=473
H11N1 WAKE ISLAND Hy 41.76  77  T         T      06 30 10.6
     baz=266,slow=74,SNR=80
H11N2 WAKE ISLAND Hy 41.77  77  T         T      06 30 06.3
     baz=266,slow=74,SNR=44
H11N3 WAKE ISLAND Hy 41.78  77  T         T      06 30 11.4
     baz=266,slow=74,SNR=83
WMQ  Urumqi          41.82 321  eP        P      05 45 47.8 +1.3
WMQ                                  pP        sP     05 45 59.2 +0.9
WMQ                                  sP        pwP    05 46 04.1 +9.2
WMQ                                  S         S      05 52 03.3 +0.9
WMQ                                  sS        sS     05 52 18.5 +2.5
WMQ                                  pmax   pmax
     comp=Z,58nm,1.3s
WMQ                                  pmax   pmax
     comp=Z,250nm,3.6s
WMQ                                  LR     LR
     comp=Z,9μm,27.9s
WMQ                                  LR     LR
     comp=Z,3μm,27.9s
WMQ                                  LR     LR
     comp=Z,2μm,24.7s
PALK Pallekele       42.47 264  eP        P      05 45 51.5 -0.7
     comp=Z,19nm,1.0s
PALK Pallekele       42.47 264  P         P      05 45 52.1 -0.1
PALK Pallekele       42.47 264  P         P      05 45 51.5 -0.7
     comp=Z,11nm,0.9s,baz=115,slow=6.6,SNR=5.8
HYB  Hyderabad       43.02 280  i P       P      05 45 56.0 -0.6
HYB                                  e         05 46 04.0
HYB                                  eS        S      05 52 28.0 +7.3
BOD  Bodaibo         43.38 353  eP        P      05 45 58.9  0.0
BOD                                  pmax   pmax
     comp=Z,47nm,1.6s
MORW Morawa          44.31 189  eP        P      05 46 05.1 -1.6
     comp=Z,24nm,0.9s
SKR  Severo-Kuril's  44.39  29  eP        P      05 46 08.8 +1.7
SKR                                  ePPP      PPP    05 48 25.2
SKR                                  eS        S      05 52 33.2 -6.5
SKR                                  eSSS      SSS    05 56 05.9
SKR                                  MLR    MLR
     comp=Z,900nm,19.0s
SKR                                  MLR    MLR
     comp=Z,700nm,20.0s
DGZ  Jazzator, Alta  45.32 328 c i P      P      05 46 15.2 +0.4
DGZ                                  pmax   pmax
     comp=Z,7.0nm,0.7s
FORT Forrest         45.67 174  eP        P      05 46 15.3 -2.2
     comp=Z,102nm,1.0s
MK32 Makanchi Array  46.61 322  epP       pP     05 46 33.5 +0.1
MKAR Makanchi Array  46.61 322  eP        P      05 46 24.1 -0.7
MKAR Makanchi Array  46.61 322  P         P      05 46 25.0 +0.1
     comp=Z,13nm,0.9s,baz=113,slow=9.3,SNR=86
MKAR                                 pP        pP     05 46 33.5 +0.1
     comp=Z,16nm,0.8s,baz=120,slow=8.5,SNR=15
MKAR                                 LR        LR     06 05 18.9
     comp=Z,316nm,21.8s,baz=133,slow=35
PETK Petropavlovsk-  46.73  28  eP        P      05 46 26.2 +0.6
PETK Petropavlovsk-  46.73  28  P         P      05 46 25.8 +0.2
     comp=Z,3.0nm,0.8s,baz=211,slow=2.6,SNR=4.2
PETK                                 pP        pP     05 46 35.1 +1.0
     comp=Z,15nm,0.9s,baz=210,slow=5.0,SNR=11
PETK                                 PcP       PcP    05 47 59.8 +1.1
     comp=Z,4.2nm,0.9s,baz=253,slow=4.4,SNR=2.2
PETK                                 pPcP      05 48 08.0
     comp=Z,9.4nm,0.9s,baz=248,slow=1.4,SNR=4.1
PETK                                 LR        LR     06 04 44.6
     comp=Z,428nm,21.2s,baz=228,slow=34
PEA1 Petropavlovsk-  46.73  28  epP       pP     05 46 35.1 +1.0
PEA1                                 ePcP      PcP    05 47 59.8 +1.1
MAKZ Makanchi        46.81 321  eP        P      05 46 26.6 +0.2
     comp=Z,28nm,1.1s
PET  Petropavlovsk   47.11  28  eP        P      05 46 29.1 +0.6
PET                                  e         05 48 20.6
PET                                  eS        S      05 53 17.6 -1.2
PET                                  pmax   pmax
     comp=Z,100nm,8.9s
PET                                  MLR    MLR
     comp=Z,500nm,15.0s
PET                                  MLR    MLR
     comp=Z,600nm,17.0s
YAK  Yakutsk         47.25   4  eP        P      05 46 28.8 -0.7
YAK                                  e*PP      pP     05 46 35.9 -2.1
YAK                                  e         05 48 00.3
YAK                                  e         05 48 19.8
YAK                                  eS        S      05 53 16.9 -3.7
YAK                                  e*SS      sS     05 53 36.7 +2.4
YAK                                  e         05 56 25.3
YAK                                  pmax   pmax
     comp=Z,137nm,0.9s
YAK                                  pmax   pmax
     comp=N,109nm,1.3s
YAK                                  pmax   pmax
     comp=E,18nm,1.3s
YAK                                  pmax   pmax
     comp=Z,165nm,1.6s
YAK                                  pmax   pmax
     comp=E,110nm,1.4s
YAK                                  pmax   pmax
     comp=N,156nm,1.8s
YAK                                  smax   smax
     comp=N,350nm,2.3s
YAK                                  smax   smax
     comp=E,190nm,2.8s
YAK                                  MLR    MLR
     comp=Z,4μm,17.0s
YAK                                  MLR    MLR
     comp=N,3μm,16.0s
YAK                                  MLR    MLR
     comp=E,924nm,16.0s
TARG Taragay, Kyrgy  47.42 313  eP        P      05 46 32.4 +0.6
     comp=E,17nm,1.0s
NWAO Narrogin (SRO)  47.95 187  eP        P      05 46 34.2 -1.1
     comp=E,229nm,1.8s
NWAO                                 epP       pP     05 46 42.9 -1.2
NWAO Narrogin (SRO)  47.95 187  P         P      05 46 33.6 -1.6
     comp=E,10nm,0.4s,baz=19,slow=7.0,SNR=17
NWAO                                 pP        pP     05 46 42.9 -1.2
     comp=E,25nm,0.9s,baz=18,slow=9.0,SNR=4.9
KDJ  Kajisay         48.00 314  eP        P      05 46 35.6 -0.3
     comp=E,19nm,0.9s
KSH  Kashi           48.03 310  P         P      05 46 38.6 +2.5
KSH                                  pP        sP     05 46 48.2 +0.2
KSH                                  PP        PP     05 48 31.4 +3.0
KSH                                  S         S      05 53 32.9 +0.2
KSH                                  SS        SS     05 56 54.2 -7.6
KSH                                  pmax   pmax
     comp=E,70nm,1.2s
KSH                                  pmax   pmax
     comp=E,190nm,2.7s
KSH                                  LR     LR
     comp=E,550nm,9.4s
KSH                                  LR     LR
     comp=E,430nm,10.3s
KSH                                  LR     LR
     comp=E,1μm,14.1s
EIDS Eidsvold        48.33 146  eP        P      05 46 38.9 +0.6
     comp=E,75nm,1.8s
ULHL Ulahol          48.69 314  P         P      05 46 42.1 +0.8
     SNR=9.9
NIL  Nilore          48.81 302  eP        P      05 46 41.6 -0.5
     comp=E,35nm,0.8s
MA2  Magadan         48.92  18⇑i P       P      05 46 42.7 +0.2
MA2                                  pmax   pmax
     comp=Z,23nm,1.8s
MA2  Magadan         48.92  18  P         P      05 46 42.6 +0.1
     comp=Z,2.9nm,0.6s,baz=184,slow=6.8,SNR=5.6
MA2                                  pP        pP     05 46 51.3 +0.3
     comp=Z,6.0nm,0.7s,baz=197,slow=6.1,SNR=4.5
MA2                                  LR        LR     06 08 57.7
     comp=Z,444nm,19.7s,baz=216,slow=38
BOOM Boomskoye usch  48.98 314  eP        P      05 46 41.8 -1.7
     comp=Z,20nm,1.3s
ZALV Zalesovo Beam   49.19 331  eP        P      05 46 43.9 -0.7
ZALV Zalesovo Beam   49.19 331  P         P      05 46 44.2 -0.4
     comp=Z,7.6nm,0.7s,baz=120,slow=7.3,SNR=35
ZALV                                 LR        LR     06 08 52.2
     comp=Z,277nm,19.4s,baz=78,slow=38
KZA  Kyzart          49.34 313  P         P      05 46 47.3 +0.8
     SNR=25
TKM2 Tokmak 2        49.37 314  P         P      05 46 47.3 +0.8
     SNR=12
STKA Stephens Creek  49.73 160  P         P      05 46 48.4 -0.6
     comp=Z,9.3nm,0.8s,baz=343,slow=8.1,SNR=13
STKA                                 LR        LR     06 10 06.6
     comp=Z,207nm,19.1s,baz=342,slow=39
KBK  Karagaybulak    49.73 314  P         P      05 46 50.4 +1.2
     SNR=10
UCH  Uchtor          49.90 313  P         P      05 46 51.7 +0.9
     SNR=37
CHMS Chumysh         49.98 314  P         P      05 46 51.5 +0.6
     SNR=5.4
AAK  Ala-Archa       50.04 314  P         P      05 46 52.5 +0.9
     SNR=5.2
AAK  Ala-Archa       50.04 314  eP        P      05 46 52.4 +0.9
     comp=Z,16nm,1.2s
AAK  Ala-Archa       50.04 314  P         P      05 46 52.7 +1.2
AAK  Ala-Archa       50.04 314 ⇓eP        P      05 46 50.1 -1.4
AAK  Ala-Archa       50.04 314  P         P      05 46 52.1 +0.5
     SNR=7.5
AAK                                  P         P      05 46 52.1 +0.5
     SNR=7.5
USP  Ospenovka       50.24 314  P         P      05 46 53.0 +0.1
     SNR=11
AML  Almayashu       50.45 313  P         P      05 46 56.0 +1.1
     SNR=22
NVS  Novosibirsk     50.47 331 ⇓i P       P      05 46 54.1 -0.2
NVS                                  i S       S      05 54 08.3 +2.3
NVS                                  pmax   pmax
     comp=Z,25nm,1.1s
NVS                                  pmax   pmax
     comp=N,12nm,1.0s
NVS                                  pmax   pmax
     comp=E,7.0nm,0.6s
NVS                                  smax   smax
     comp=N,2.0nm,0.5s
EKS2 Erkin-Say       50.55 313  P         P      05 46 56.4 +1.0
     SNR=13
KURK Kurchatov       50.63 325  eP        P      05 46 55.7  0.0
     comp=N,60nm,0.9s
KURK Kurchatov       50.63 325 c i P      P      05 46 55.6  0.0
KURK                                 pmax   pmax
     comp=Z,74nm,1.3s
KURK Kurchatov       50.63 325  P         P      05 46 55.7  0.0
     SNR=36
KURK                                 P         P      05 46 55.7  0.0
     SNR=36
KURBB Kurchatov Arra 50.64 325  P         P      05 46 55.6 -0.1
     comp=Z,25nm,0.8s,baz=121,slow=8.1,SNR=160
KURBB                                pP        pP     05 47 04.4 +0.2
     comp=Z,33nm,0.8s,baz=121,slow=7.7,SNR=23
SEY  Seymchan        52.10  16⇓eP        P      05 47 06.2 -0.2
SEY  Seymchan        52.10  16  P         P      05 47 07.1 +0.7
     comp=Z,7.3nm,0.8s,baz=229,slow=4.5,SNR=28
GAR  Garm            52.16 308  eP        P      05 47 07.2 -0.2
     comp=Z,111nm,1.2s
KBL  Kabul           52.40 302  eP        P      05 47 09.6 +0.2
     comp=Z,34nm,0.9s
ARMA Armidale        52.68 149  eP        P      05 47 09.7 -1.5
     comp=Z,39nm,1.2s
KKAR Karatay Array   52.98 313  eP        P      05 47 13.1 -0.3
DZM  Mont Dzumac     56.01 130  eLR       LR     06 04 06.5
     comp=Z,386nm,23.7s
BRVK Borovoye        56.30 325  eP        P      05 47 37.3 +0.1
     comp=Z,39nm,0.9s
BRVK Borovoye        56.30 325 c i P      P      05 47 37.0 -0.2
BRVK                                 pmax   pmax
     comp=Z,28nm,1.1s
BRVK Borovoye        56.30 325  P         P      05 47 37.1 -0.1
     SNR=15
BRVK                                 P         P      05 47 37.1 -0.1
     SNR=15
TIXI Tiksi           56.79   2  eP        P      05 47 40.0 -0.3
     comp=Z,60nm,1.0s
TIXI                                 epP       pP     05 47 47.9 -1.2
TIXI Tiksi           56.79   2 deP        P      05 47 39.3 -1.1
TIXI                                 pmax   pmax
     comp=Z,26nm,1.4s
TIXI Tiksi           56.79   2  P         P      05 47 40.1 -0.3
     comp=Z,7.0nm,0.8s,baz=156,slow=4.8,SNR=23
TIXI                                 pP        pP     05 47 47.9 -1.2
     comp=Z,33nm,0.8s,baz=179,slow=6.8,SNR=33
NRIK Noril'sk        58.82 346  P         P      05 47 54.6  0.0
     comp=Z,26nm,1.2s,baz=128,slow=6.3,SNR=22
NRIK                                 LR        LR     06 14 47.9
     comp=Z,295nm,19.7s,baz=142,slow=38
BILL Bilibino        59.77  17  eP        P      05 48 01.6 +0.4
     comp=Z,32nm,0.9s
BILL Bilibino        59.77  17 deP        P      05 48 10.2 +9.0
BILL                                 e         05 50 23.5
BILL                                 eS        S      05 56 13.2 +3.0
BILL                                 pmax   pmax
     comp=Z,82nm,2.5s
BILL                                 MLR    MLR
     comp=Z,528nm,19.0s
GEYT Alibeck         61.51 305  eP        P      05 48 14.7 +1.0
GEYT Alibeck         61.51 305  P         P      05 48 14.4 +0.7
     comp=Z,32nm,1.0s,baz=140,slow=3.3,SNR=20
GEYT                                 LR        LR     06 17 41.3
     comp=Z,816nm,19.9s,baz=85,slow=39
ABKAR Akbulak array  61.51 318  eP        P      05 48 12.8 -0.7
MHTO MHTO            62.12 286  P         P      05 48 15.7 -2.3
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MHTO P P 05 48 15.7 -2.3
HATD Hatta, Dubai 63.44 291 *i* P P 05 48 26.9 +0.1
SNR=6.3
HATD Hatta, Dubai 63.44 291 P P 05 48 26.1 -0.7
SNR=6.2
HATD P P 05 48 26.1 -0.7
SNR=6.2
ASHO Ashiyiah 63.52 290 *i* P P 05 48 27.2 -0.2
SNR=7.6
ASHO Ashiyiah 63.52 290 P P 05 48 26.4 -1.0
SNR=6.0
ARU Arti 63.79 326 *eP* P 05 48 28.1 -0.4
comp=Z,15nm,0.7s
ARU Arti 63.79 326 *d i* P P 05 48 28.2 -0.3
ARU 05 49 00.2
ARU S S 05 57 04.5 +3.1
ARU SS SS 06 01 05.1 -4.4
ARU pmax pmax
comp=Z,18nm,0.8s
ASUD Al Ashush, Dub 64.19 290 P P 05 48 32.0 +0.3
MAK Makhachkala 69.67 311 *eP* P 05 49 02.7 -3.5
MAK *e*S S 05 58 10.0 -3.0
MAK pmax pmax
comp=Z,92nm,0.9s
GROC Groznyy 70.91 311 *eP* P 05 49 14.2 +0.3
GROC *e**PP sP 05 49 30.1 +4.0
GROC *e* 05 49 32.9
GROC *e*S S 05 58 23.2 -4.3
GROC pmax pmax
comp=Z,19nm,0.4s
PRGR Permogore 71.14 330 *eP* P 05 49 08.2 -6.7
PRGR pmax pmax
comp=Z,13nm,0.8s
GNI Garni 71.89 308 *eP* P 05 49 20.7 +0.7
comp=Z,29nm,1.0s
GNI Garni 71.89 308 *i* P P 05 49 21.7 +1.6
SNR=5.8
GNI Garni 71.89 308 *c i* P P 05 49 20.6 +0.5
GNI pmax pmax
comp=Z,123nm,1.4s
GNI Garni 71.89 308 P P 05 49 20.4 +0.3
SNR=9.1
GNI P P 05 49 20.4 +0.3
SNR=9.1
ZEI Tsey 72.32 311 *eP* P 05 49 20.3 -2.4
ZEI pmax pmax
comp=Z,30nm,0.9s
NCK Nalchik 72.49 311⇓ *eP* P 05 49 23.3 -0.1
NCK pmax pmax
comp=Z,21nm,0.5s
AKH Akhalkalaki 72.73 309 *eP* P 05 49 25.5 +0.4
comp=Z,37nm,1.0s
SVW2 Sparrevohn 72.74 30 *eP* P 05 49 24.2 -0.3
KBZ Khabaz 72.98 312 P P 05 49 26.4 +0.2
comp=Z,22nm,1.1s,baz=81,slow=4.3,SNR=38
KBZ pP pP 05 49 34.5 -0.8
comp=Z,18nm,0.9s,baz=68,slow=6.9,SNR=12
KBZ LR LR 06 23 32.0
comp=Z,201nm,21.5s,baz=77,slow=37
KIV Kislovodsk 73.11 312 *eP* P 05 49 27.8 +0.5
comp=Z,53nm,1.0s
KIV Kislovodsk 73.11 312 *i* P P 05 49 28.2 +1.0
SNR=11
KIV Kislovodsk 73.11 312 *eP* P 05 49 27.1 -0.1
KIV pmax pmax
comp=Z,140nm,1.0s
KIV MLR MLR
comp=Z,742nm,18.0s
KIV Kislovodsk 73.11 312 P P 05 49 27.3 +0.1
SNR=19
KIV P P 05 49 27.3 +0.1
SNR=19
NEY Neytrino 73.15 311⇓ *eP* P 05 49 28.2 +0.7
NEY pmax pmax
comp=Z,3.0nm,0.9s
BKZ Black Stump Fm 73.17 139 *ep*P pP 05 49 35.2 -1.2
VRH Novokhopyorsk 73.28 319 *eP* P 05 49 27.2 -0.7
VRH pmax pmax
comp=Z,40nm,0.7s
MRIV Mauritius Mete 73.56 243 *eP* P 05 49 30.1 0.0
IMAR Indian Mountai 73.59 25 *eP* P 05 49 29.9 +0.5
KLMR Klimovskoe 74.09 330 *eP* P 05 49 29.7 -2.7
KLMR pmax pmax
comp=Z,27nm,1.1s
RSO Redoubt South 74.14 31 *eP* P 05 49 31.9 -1.1
KDAK Kodiak Island 74.35 34 *eP* P 05 49 33.4 -0.6
comp=Z,75nm,1.4s
KDAK Kodiak Island 74.35 34 *i* P P 05 49 34.7 +0.7
KDAK Kodiak Island 74.35 34 P P 05 49 34.6 +0.5
comp=Z,3.0nm,0.4s,baz=281,slow=10,SNR=7.8
TMCR Tamitsa 74.64 333 *eP* P 05 49 34.7 -0.9
TMCR pmax pmax
comp=Z,19nm,0.7s
VORD Divnogorie 74.83 319 *eP* P 05 49 36.3 -0.6
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 74.88 320 *eP* P 05 49 36.0 -1.3
VSR pmax pmax
comp=Z,30nm,0.9s
LPSR Galich'ya Gora 74.91 321 *eP* P 05 49 36.6 -0.8
LPSR pmax pmax
comp=Z,40nm,0.9s
SUA Susitna One 75.07 30 *eP* P 05 49 38.6 +0.3
comp=Z,29nm,1.1s
TOLK Toolik Lake Re 75.15 22 *eP* P 05 49 39.0 +0.4
comp=Z,22nm,1.0s
TRF Thorofare Moun 75.15 28 *eP* P 05 49 39.2 +0.4
comp=Z,59nm,1.3s
SOC Sochi 75.29 312 *eP* P 05 49 37.9 -1.9
SOC *e**SP pP 05 49 46.9 -1.9
SOC *e* 05 52 27.1
SOC *e*PPP PPP 05 54 19.1
SOC *e*S S 05 59 16.0 -1.3
SOC *e*SSS SSS 06 07 25.8
SOC pmax pmax
comp=Z,25nm,0.9s
SOC MLR MLR
comp=Z,199nm,13.0s
MOS Moscow 75.40 324 *eP* P 05 49 38.5 -1.6
MOS *e* 05 49 51.8
MOS pmax pmax
comp=Z,43nm,0.8s
BWN Browne 75.47 27 *eP* P 05 49 40.1 -0.3
comp=Z,68nm,1.3s
OBN Obninsk 76.06 324 *d i* P P 05 49 43.5 -0.4
OBN *e* 05 49 59.3
OBN *e* 05 52 29.9
OBN *e*S S 05 59 16.9 -8.5
OBN pmax pmax
comp=Z,31nm,1.7s
OBN MLR MLR
comp=Z,314nm,18.0s
SML Sawmill 76.18 29 *eP* P 05 49 43.9 -0.7
comp=Z,120nm,1.7s
APA Apatity 76.30 337⇑ *i P* P 05 49 33.3 -12
APA *i* 05 49 55.5
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,400nm,15.0s
DHY Denali Highway 76.50 28 *eP* P 05 49 45.4 -1.1
comp=Z,15nm,1.0s
ILAR Eielson Array 76.52 26 *eP* P 05 49 45.2 -1.2
ILAR Eielson Array 76.52 26 P P 05 49 46.7 +0.3
comp=Z,0.5nm,0.8s,baz=286,slow=5.3,SNR=5.7
ILAR pP pP 05 49 54.1 -1.3
comp=Z,1.9nm,0.8s,baz=249,slow=5.7,SNR=13
ILAR LR LR 06 21 06.4
comp=Z,114nm,21.7s,baz=284,slow=34
HDA Harding Lake 76.54 27 P P 05 49 45.6 -0.9
baz=276
ANN Anapa 76.77 313 *eP* P 05 49 45.9 -2.2
ANN *e**PP pP 05 49 51.6 -5.6
ANN *e* 05 49 57.0
ANN *e* 05 52 37.8
ANN *e*S S 05 59 31.7 -1.8
ANN pmax pmax
comp=Z,63nm,1.3s
ANN MLR MLR
comp=E,214nm,20.0s
ANN MLR MLR
comp=N,325nm,20.0s
ANN MLR MLR
comp=Z,240nm,20.0s
BMAR Burnt Mountain 77.13 23 *eP* P 05 49 49.8 0.0

KLU Klutina 77.36 29 *eP* P 05 49 51.3 0.0
comp=Z,32nm,1.4s
PUL Pulkovo 78.75 329⇓ *eP* P 05 49 59.3 +0.4
PUL pmax pmax
comp=Z,61nm,0.4s
ARCES ARCESS Array B 78.85 339 *eP* P 05 49 59.3 0.0
ARCES ARCESS Array B 78.85 339 P P 05 49 59.8 +0.5
comp=Z,6.9nm,0.7s,baz=71,slow=6.7,SNR=18
ARCES pP pP 05 50 08.0 -0.3
comp=Z,8.6nm,0.7s,baz=84,slow=4.2,SNR=7.1
BCAR Beaver Creek A 79.01 28 *eP* P 05 50 01.0 +0.6
SIM Simferopol' 79.07 314 *eP* P 05 50 01.2 +0.2
SIM *e*S S 05 59 58.8 +0.4
SIM pmax pmax
comp=Z,19nm,0.7s
CTGM Chitina Glacie 79.64 30 *eP* P 05 50 03.0 -1.0
comp=Z,53nm,1.2s
EPYK Eagle Plains 80.38 24 P P 05 50 08.2 +0.5
baz=285
BRTR Keskin Array B 80.39 309 *eP* P 05 50 06.7 -1.7
BRTR Keskin Array B 80.39 309 *i* P P 05 50 07.9 -0.6
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 80.39 309 P P 05 50 07.6 -0.9
comp=Z,1.6nm,0.8s,baz=134,slow=3.2,SNR=9.3
FINES FINESS Array B 80.45 331 *eP* P 05 50 08.2 +0.1
FINES FINESS Array B 80.45 331 *i* P P 05 50 08.1 0.0
FINES pmax pmax
comp=Z,15nm,0.9s
FINES FINESS Array B 80.45 331 P P 05 50 07.7 -0.4
comp=Z,15nm,0.9s,baz=52,slow=5.7,SNR=34
FINES pP pP 05 50 15.2 -1.8
comp=Z,12nm,0.9s,baz=73,slow=5.5,SNR=4.9
FINES LR LR 06 28 33.2
comp=Z,219nm,21.3s,baz=69,slow=38
VSU Vasula 80.83 328⇓ *eP* P 05 50 10.3 +0.1
VSU pmax pmax
comp=Z,117nm,0.9s
VSU Vasula 80.83 328 *eP* P 05 50 09.7 -0.4
VSU IAmb IAmb 05 50 10.6
comp=Z,87nm,0.8s
INK Inuvik 81.02 22 *ep*P pP 05 50 18.4 -1.6
comp=Z,22nm,1.2s
INK Inuvik 81.02 22 P P 05 50 10.7 -0.3
comp=Z,2.0nm,1.0s,baz=253,slow=8.0,SNR=6.4
INK pP pP 05 50 18.4 -1.6
comp=Z,9.3nm,1.0s,baz=281,slow=7.8,SNR=20
MICGM Minsk 81.12 324⇓ *eP* P 05 50 11.0 -0.8
MICGM PM 05 50 12.0
comp=Z,0.3nm,1.0s
MNK Minsk 81.12 324⇓ *eP* P 05 50 11.0 -0.8
MNK pmax pmax
comp=Z,290nm,1.0s
AKASG Malin Array Be 81.17 320 P P 05 50 11.4 -0.8
comp=Z,3.2nm,0.7s,baz=63,slow=5.6,SNR=19
AKASG pP pP 05 50 19.1 -2.2
comp=Z,8.2nm,0.9s,baz=64,slow=5.6,SNR=3.2
AKBB Malin Array Si 81.17 320 *ep*P pP 05 50 19.1 -2.2
KIEV Kiev 81.18 320 *eP* P 05 50 11.4 -0.9
comp=Z,23nm,1.3s
KIEV Kiev 81.18 320 *i* P P 05 50 11.5 -0.7
SNR=9.3
KIEV P P 05 50 11.7 -0.5
KIEV Kiev 81.18 320⇓ *i P* P 05 50 11.3 -0.9
KIEV pmax pmax
comp=Z,18nm,1.2s
EIL Elat 81.39 298 LR LR 06 31 56.5
comp=Z,213nm,19.4s,baz=72,slow=40
IZAR Zarasai 81.74 325 *eP* P 05 50 14.8 -0.2
IZAR IAmb IAmb 05 50 16.6
comp=Z,9.0nm,0.9s
IIGN Ignalina 81.85 325 *eP* P 05 50 15.3 -0.3
IIGN IAmb IAmb 05 50 17.2
comp=Z,9.2nm,1.1s
ABPO Ambohimpanom 82.16 248 *eP* P 05 50 18.8 +0.7
comp=Z,34nm,1.4s
PABE Paberze 83.05 326 *eP* P 05 50 18.0 -3.9
PABE IAmb IAmb 05 50 21.1
comp=Z,62nm,0.9s
TIRR Tirgusor 83.15 314 *ep*P pP 05 50 32.2 +0.4
comp=Z,6.1nm,1.2s
TIRR Tirgusor 83.15 314⇑ *i P* P 05 50 22.8 +0.1
TIRR Tirgusor 83.15 314⇑ P P 05 50 22.8 +0.1
CFR Carcaliu 83.17 315⇑ *i P* P 05 50 23.0 +0.3
CFR Carcaliu 83.17 315⇑ P P 05 50 23.0 +0.3
TLB Topalu 83.38 314⇓ *i P* P 05 50 24.1 +0.3
TLB Topalu 83.38 314⇓ P P 05 50 24.1 +0.3
TESR Tescani 83.84 316⇓ *i P* P 05 50 26.4 +0.2
SUW Suwalki 83.91 324 *eP* P 05 50 25.8 -0.6
SUW *ep*P sP 05 50 39.0 +0.2
SUW Suwalki 83.91 324 *eP* P 05 50 25.8 -0.6
SUW *e**PP sP 05 50 39.0 +0.2
VRI Vrincioaia 83.95 316⇓ *i P* P 05 50 27.5 +0.7
VRI Vrincioaia 83.95 316⇓ P P 05 50 27.5 +0.7
PLOR Plostina 84.01 316⇑ *i P* P 05 50 27.9 +0.8
PLOR Plostina 84.01 316⇑ P P 05 50 27.9 +0.8
BIZ Bicaz 84.09 317⇑ *i P* P 05 50 28.2 +0.7
BURAR Bucovina Array 84.48 318 *eP* P 05 50 29.4 -0.2
BURAR Bucovina Array 84.48 318⇓ *i P* P 05 50 30.2 +0.6
BURAR Bucovina Array 84.48 318⇓ P P 05 50 30.2 +0.6
MLR Muntele Rosu 84.58 316⇑ *i P* P 05 50 30.6 +0.4
MLR Muntele Rosu 84.58 316⇑ P P 05 50 30.6 +0.4
SULR 84.59 315⇓ *i P* P 05 50 30.3 +0.3
LVV L'vov 84.62 320 *eP* P 05 50 30.1 0.0
LVV *e* 05 50 43.3
VOIR 85.20 316⇑ *i P* P 05 50 33.3 +0.1
VOIR 85.20 316⇑ P P 05 50 33.3 +0.1
KWP Kalwaria Pacla 85.50 320 *eP* P 05 50 34.6 +0.1
KWP *ep*P sP 05 50 45.5 -1.4
KWP Kalwaria Pacla 85.50 320 *eP* P 05 50 34.6 +0.1
KWP *e**PP sP 05 50 45.5 -1.4
ARR Arges 85.50 316⇑ *i P* P 05 50 35.1 +0.4
DAG Danmarks Havn 85.77 352⇑ *i P* P 05 50 34.7 -0.6
DAG *i* 05 50 43.4
DAG Danmarks Havn 85.77 352⇑ *i P* P 05 50 34.7 -0.6
DAG *i* 05 50 43.4
CJR Cluj-Napoca 85.80 317⇓ *i P* P 05 50 37.1 +1.0
CJR Cluj-Napoca 85.80 317⇓ P P 05 50 37.1 +1.0
DLBC Dease Lake 85.85 30 *eP* P 05 50 36.6 +0.4
comp=Z,24nm,1.1s
BEL Belsk 85.96 323 *eP* P 05 50 37.0 +0.3
BEL Belsk 85.96 323 *eP* P 05 50 37.0 +0.3
KOLS Kolonicke sedl 85.98 320 *eP* P 05 50 37.8 +0.9
KOLS pmax pmax
comp=Z,108nm,3.1s
KOLS Kolonicke sedl 85.98 320 *eP* P 05 50 37.8 +0.9
TRPA Tarpa 86.06 319⇑ *i P* P 05 50 38.2 +0.9
TRPA Tarpa 86.06 319 *eP* P 05 50 43.0 +5.7
LOT Lotru 86.06 316⇓ *i P* P 05 50 37.7 +0.2
UZH Uzhgorod 86.06 319⇓ *i P* P 05 50 37.6 +0.3
UZH *e* 05 50 44.3
UZH *i* 05 50 51.2
DRGR 86.36 317⇓ *i P* P 05 50 39.2 +0.3
DRGR 86.36 317 ⇓P P 05 50 39.2 +0.3
KMBO Kilima Mbogo 86.51 268 *eP* P 05 50 38.5 -2.0
KMBO *ep*P P 05 50 41.5 +1.1
KMBO Kilima Mbogo 86.51 268 P P 05 50 41.7 +1.2
KMBO Kilima Mbogo 86.51 268 P P 05 50 41.0 +0.5
SNR=9.6
KMBO P P 05 50 41.0 +0.5
SNR=9.6
KMBO Kilima Mbogo 86.51 268 P P 05 50 41.6 +1.1
comp=Z,5.6nm,0.8s,baz=99,slow=3.3,SNR=9.0
KMBO LR LR 06 27 26.6
comp=Z,414nm,19.3s,baz=95,slow=34
NIE Niedzica 87.05 320 *eP* P 05 50 42.9 +0.7
NIE *ep*P sP 05 50 56.2 +1.6
NIE Niedzica 87.05 320 *eP* P 05 50 42.9 +0.7
NIE *e**PP sP 05 50 56.2 +1.6
OJC Ojcow 87.09 321 *eP* P 05 50 42.0 -0.4
OJC Ojcow 87.09 321 *eP* P 05 50 41.9 -0.4
SIRR Siria 87.21 317⇓ *i P* P 05 50 43.3 +0.3
MMB Musomiste 87.24 312 *eP* P 05 50 41.3 -2.0
VTS Vitosha 87.28 313⇑ *i P* P 05 50 43.1 -0.5
VTS Vitosha 87.28 313⇑ P P 05 50 43.1 -0.5
VTS Vitosha 87.28 313 *eP* P 05 50 43.3 -0.3
NB2 NORSAR Subarra 87.34 333 P P 05 50 42.2 -1.1
comp=Z,15nm,1.0s,baz=65,slow=4.6
NB2 NORSAR Subarra 87.34 333 P P 05 50 42.2 -1.1
baz=65,slow=4.6
NOA NORSAR Array B 87.34 333 P P 05 50 42.3 -1.1
comp=Z,8.7nm,0.9s,baz=64,slow=4.8,SNR=23
NOA LR LR 06 32 50.4
comp=Z,350nm,21.4s,baz=60,slow=38

RES Resolute Bay 87.41 9 *ep*P pP 05 50 51.4 -1.1
comp=Z,20nm,1.0s
RES Resolute Bay 87.41 9 P P 05 50 44.0 +0.6
comp=Z,3.0nm,0.9s,baz=316,slow=8.0,SNR=7.3
RES pP pP 05 50 51.4 -1.1
comp=Z,15nm,1.0s,baz=328,slow=5.5,SNR=22
NC204 NORSAR Array S 87.43 333 *eP* P 05 50 42.5 -1.3
comp=Z,170nm,1.6s
SANT Santorini 87.47 307⇑ *i P* P 05 50 43.5 -1.0
KKB Krupnik 87.61 313 *eP* P 05 50 44.2 -0.9
MDVR Moldovita 87.65 316⇑ *i P* P 05 50 45.1 -0.1
PSZ Piszkesteto 87.81 319⇓ *i P* P 05 50 46.1 +0.2
PSZ Piszkesteto 87.81 319 ⇓P P 05 50 46.1 +0.2
PSZ Piszkesteto 87.81 319 *eP* P 05 50 44.0 -1.9
VYHS Vyhne 88.27 320 *eP* P 05 50 48.8 +0.7
VYHS pmax pmax
comp=Z,26nm,2.6s
VYHS Vyhne 88.27 320 *eP* P 05 50 48.8 +0.7
MORC Moravsky Berou 88.61 321⇑ *i P* P 05 50 50.1 +0.5
MORC Moravsky Berou 88.61 321 ⇑P P 05 50 50.1 +0.5
MORC Moravsky Berou 88.61 321 *eP* P 05 50 49.3 -0.3
MORC *e* 05 51 01.8
JAVC Velka Javorina 88.86 321 *eP* P 05 50 52.2 +1.3
KSP Ksiaz 88.95 323 *eP* P 05 50 50.8 -0.3
KSP Ksiaz 88.95 323 *eP* P 05 50 50.8 -0.3
DPC Dobruska-Polom 89.12 322 *eP* P 05 50 52.7 +0.7
DPC *e* 05 51 04.8
DPC MLR MLR
comp=Z,300nm,16.2s
DPC Dobruska-Polom 89.12 322 *eP* P 05 50 52.7 +0.7
DPC *es*P sP 05 51 04.8 +0.3
DPC AMS AMS 06 35 00.0
comp=Z,300nm,16.2s
FNA Florina 89.17 312 *eP* P 05 50 50.6 -1.9
comp=Z,32nm,2.0s
MORH Mrgy, Hungar 89.20 318 *eP* P 05 50 50.1 -2.3
UPC Upice 89.24 322 *eP* P 05 50 53.2 +0.6
UPC *e* 05 51 04.9
UPC *e*S S 06 01 43.4 +3.3
UPC MLR MLR
comp=Z,400nm,18.2s
UPC Upice 89.24 322 *eP* P 05 50 53.2 +0.6
UPC *es*P sP 05 51 04.9 -0.1
UPC *e*S S 06 01 43.4 +3.3
UPC AMS AMS 06 34 20.0
comp=Z,400nm,18.2s
VRAC Vranov 89.35 321⇑ *i P* P 05 50 53.4 +0.3
VRAC Vranov 89.35 321 ⇑P P 05 50 53.4 +0.3
VRAC Vranov 89.35 321 *eP* P 05 50 52.6 -0.5
VRAC *e* 05 51 06.4
TREC Trest 90.03 321 *eP* P 05 50 56.7 +0.4
TREC *e* 05 51 09.9
TREC MLR MLR
comp=Z,300nm,17.9s
TREC Trest 90.03 321 *eP* P 05 50 56.7 +0.4
TREC *es*P sP 05 51 09.9 +1.1
TREC AMS AMS 06 35 50.0
comp=Z,300nm,17.9s
PVCC Panska Ves 90.08 323 AMS AMS 06 35 00.0
comp=Z,300nm,15.6s
TTG Podgorica 90.12 314 *eP* P 05 50 55.3 -1.5
comp=Z,9.8nm,1.1s
GOPC GO Pecny, Ondr 90.20 322 *eS* S 06 01 49.6 +0.5
GOPC AMS AMS 06 37 40.0
comp=Z,300nm,20.9s
BRG Berggiesshubel 90.31 323 *eP* P 05 50 57.0 -0.5
comp=Z,12nm,1.6s
BRG *e* 05 51 11.1
comp=Z,7.5nm,1.3s
BRG Berggiesshubel 90.31 323 *eP* P 05 50 57.0 -0.5
BRG *e* 05 51 11.1
BRG pmax pmax
comp=Z,12nm,1.6s
BRG pmax pmax
comp=Z,8.0nm,1.3s
PRU Pruhonice 90.32 322 AMS AMS 06 35 00.0
comp=Z,300nm,15.8s
CONA Conrad Observa 90.33 320 *eP*cP P 05 50 58.9 +1.0
comp=Z,5.2nm,1.3s
YKA Yellowknife Ar 90.65 23 *eP* P 05 50 59.0 +0.1
YKA Yellowknife Ar 90.65 23 P P 05 50 58.5 -0.4
comp=Z,0.4nm,0.6s,baz=298,slow=4.4,SNR=11
YKA pP pP 05 51 08.0 0.0
comp=Z,2.8nm,0.8s,baz=308,slow=4.4,SNR=19
YKA PKKPbc PKKPbc 06 08 30.8 +3.6
comp=Z,0.2nm,0.6s,baz=128,slow=3.4,SNR=4.6
YKA LR LR 06 33 39.1
comp=Z,6.4nm,21.1s,baz=300,slow=37
CLL Collm 90.66 324 *eP* P 05 50 58.0 -1.1
CLL *e*S S 06 01 49.0 -4.2
CLL pmax pmax
comp=Z,8.0nm,1.5s
CLL MLR MLR
comp=Z,300nm,19.9s
CLL Collm 90.66 324 *eP* P 05 50 58.0 -1.1
comp=Z,8.0nm,1.5s
CLL *e*PP PP 05 54 40.0 +5.9
CLL *e*S S 06 01 49.0 -4.2
CLL *e*PS PnS 06 03 06.0 +2.1
CLL *e* 06 04 30.0
CLL *e*SS SS 06 07 54.0 -0.3
CLL *e*SSS SSS 06 11 36.0
CLL *e* 06 13 24.0
CLL *e*SSSS 06 14 30.0
CLL LmV 06 35 00.0
comp=Z,300nm,19.9s
ARSA Arzberg 90.81 320 *eP*cP P 05 51 00.5 +0.6
comp=Z,0.8nm,0.5s
KHC Kasperske Hory 91.24 322 *eP* P 05 51 02.1 +0.1
KHC *e* 05 51 13.2
KHC *e*S S 06 01 57.8 -0.8
KHC MLR MLR
comp=Z,300nm,17.5s
KHC Kasperske Hory 91.24 322 *eP* P 05 51 02.1 +0.1
KHC *ep*P sP 05 51 13.2 -1.2
KHC *e*S S 06 01 57.8 -0.8
KHC AMS AMS 06 36 20.0
comp=Z,300nm,17.5s
GERES GERESS Array B 91.28 322 *eP* P 05 51 02.1 -0.1
GERES GERESS Array B 91.28 322 P P 05 51 01.6 -0.7
comp=Z,0.8nm,0.7s,baz=68,slow=7.4,SNR=9.2
GERES LR LR 06 33 04.3
comp=Z,139nm,21.1s,baz=78,slow=36
SOKA Soboth 91.34 319 *eP*cP P 05 51 02.4 -0.2
comp=Z,6.6nm,1.1s
MOA Molln 91.35 320 *eP*cP P 05 51 03.4 +0.9
comp=Z,9.3nm,1.2s
NKC Novy Kostel 91.44 323 AMS AMS 06 35 50.0
comp=Z,500nm,22.1s
SCO Scoresbysund 91.48 349 *i* P P 05 51 03.5 +1.0
SCO *i* 05 51 10.8
SCO Scoresbysund 91.48 349 *i* P P 05 51 03.5 +1.0
SCO *i* 05 51 10.8
PPT Papeete 91.71 108 LR LR 06 24 55.4
comp=Z,218nm,20.8s,baz=311,slow=31
OBKA Obir 91.71 319 *eP* P 05 51 02.7 -1.6
comp=Z,2.0nm,0.6s
PPT2 Papeete2 91.72 108 *eS* S 06 02 04.2 +0.2
comp=Z,421nm,27.5s
PPT2 Papeete2 91.72 108 *e*LR LR 06 20 34.7
comp=Z,398nm,22.0s
SUMG Summit 91.86 355 *i* P P 05 51 05.5 +0.7
SUMG *i* 05 51 14.5
SUMG pmax pmax
comp=Z,40nm,1.0s
SUMG Summit 91.86 355 *i* P P 05 51 05.5 +0.7
comp=Z,40nm,1.0s
SUMG *i* 05 51 14.5
KBA Koelnbreinsper 92.24 320 *eP*cP P 05 51 05.8 -0.9
comp=Z,3.6nm,0.8s
MATE Matera 92.55 313⇑ *i P* P 05 51 07.7 -0.4
MSAG Monte S. Angel 92.70 314 S S 06 02 10.0 -2.2
ABTA Abfaltersbach 92.89 320 *eP*cP P 05 51 08.7 -1.0
comp=Z,3.6nm,1.0s
TIP Timpagrande 93.06 312⇓ *i P* P 05 51 10.7 +0.1
MAW Mawson 93.09 200 LR LR 06 29 17.3
comp=Z,111nm,21.7s,baz=48,slow=33
WTTA Wattenberg 93.21 321 *eP*cP P 05 51 10.4 -0.9
comp=Z,5.3nm,0.8s
WATA Walderalm 93.22 321 *eP*cP P 05 51 11.0 -0.3
comp=Z,2.9nm,0.8s
TBI Tubuai 93.29 113 *eS* S 06 02 16.8 -0.9
comp=Z,402nm,28.5s
TBI Tubuai 93.29 113 *e*LR LR 06 21 19.2
comp=Z,478nm,30.0s,baz=293

LLLB	Lilloоet	93.48	35	eP	P	05 51 13.2	+1.0
	comp=Z,24nm,1.1s						
SQTA	Sankt Quirin	93.49	321	ePcP	P	05 51 12.3	-0.2
	comp=Z,5.0nm,0.9s						
MOTA	Moosalm	93.50	321	ePcP	P	05 51 12.3	-0.3
	comp=Z,4.1nm,1.0s						
FETA	Feichten	93.87	321	ePcP	P	05 51 14.4	+0.1
	comp=Z,5.8nm,1.0s						
D03D	Eldon	94.22	39	P	P	05 51 17.1	+1.4
	baz=297						
B06A	Marblemount	94.71	37	eP	P	05 51 18.5	+0.6
	comp=Z,15nm,0.9s						
VNDA	Vanda	94.90	172	eP	P	05 51 17.6	-0.4
VNDA				epP	P	05 51 18.4	+0.4
VNDA	Vanda	94.90	172	P	P	05 51 18.2	+0.2
	comp=Z,1.9nm,0.9s,baz=305,slow=5.4,SNR=5.2						
VNDA				pP	pP	05 51 26.1	-1.1
	comp=Z,4.6nm,1.0s,baz=305,slow=7.0,SNR=9.0						
VNDA				LR	LR	06 35 45.3	
	comp=Z,100nm,20.1s,baz=336,slow=37						
B08A	Colville Reser	96.03	37	eP	P	05 51 23.3	-0.7
	comp=Z,14nm,1.0s						
G06A	Carlson Farm,	96.80	40	eP	P	05 51 29.0	+1.4
	comp=Z,22nm,1.3s						
PINE	Pine Mountain	97.31	41	eP	P	05 51 29.2	-0.9
	comp=Z,31nm,1.4s						
NEW	Newport	97.35	36	eP	Pdif	05 51 29.9	-0.1
	comp=Z,5.0nm,0.9s						
TAOE	Nuku Hiva Isla	98.48	97	eLR	LR	06 23 35.3	
	comp=Z,314nm,22.1s						
BMO	Blue Mountains	99.03	39	eP	Pdif	05 51 37.2	-0.5
	comp=Z,5.3nm,1.1s						
J08A	Circle Bar Ran	99.08	41	eP	Pdif	05 51 38.5	+0.6
SYO	Syowa Base	101.59	201	⇑ePdiff	Pdif	05 51 47.0	-1.2
NVAR	Mina Array Bea	101.66	45	P	Pdif	05 51 50.5	+0.9
	comp=Z,0.1nm,0.2s,baz=303,slow=5.3,SNR=2.1						
NVAR				pP	pPdif	05 51 58.2	-0.6
	comp=Z,1.4nm,0.8s,baz=225,slow=0.4,SNR=4.3						
PDAR	Pinedale Array	104.84	37	PKKP		06 07 54.0	
	comp=Z,0.1nm,0.3s,baz=70,slow=7.8,SNR=2.0						
TORD	Torodi Ar. Bea	115.86	293	ePKPdf	PKPdf	05 56 39.1	-1.0
TORD	Torodi Ar. Bea	115.86	293	PKP	PKPdf	05 56 38.7	-1.4
	comp=Z,1.2nm,0.9s,baz=7.4,slow=3.4,SNR=6.4						
TORD				pPKP	pPKiKP	05 56 48.6	-0.9
	comp=Z,1.5nm,0.9s,baz=21,slow=2.2,SNR=6.8						
TORD				PP	PP	05 57 33.8	-10
	comp=Z,3.0nm,1.0s,baz=79,slow=7.7,SNR=8.6						
TORD				PKKPab	PKKPab	06 07 26.3	+9.2
	comp=Z,2.5nm,0.9s,baz=265,slow=4.2,SNR=9.8						
TXAR	Lajitas Array	116.79	46	PKP	PKiKP	05 56 42.3	+0.6
	comp=Z,0.8nm,0.8s,baz=213,slow=0.4,SNR=9.4						
TXAR				pPKP	pPKPdf	05 56 50.3	-0.8
	comp=Z,2.2nm,0.9s,baz=236,slow=1.1,SNR=13						
TXAR				PKKPab	PKKPab	06 07 11.6	-2.0
	comp=Z,0.5nm,0.8s,baz=126,slow=6.4,SNR=5.1						
U40A	Yellville	118.59	33	P	PKiKP	05 56 45.1	+0.2
	baz=320						
JCT	Junction City	118.66	42	ePKPdf	PKiKP	05 56 45.6	+0.4
JCT	Junction City	118.66	42	P	PKiKP	05 56 45.8	+0.6
	baz=311						
U41A	Viola	119.09	32	P	PKiKP	05 56 45.9	+0.1
	baz=320						
O50A	Cable	119.73	24	P	PKiKP	05 56 48.0	+1.0
	baz=330						
M54A	Oil Creek Stat	119.95	20	P	PKiKP	05 56 47.5	+0.1
	baz=334						
T48A	Bowling Green	121.14	28	P	PKiKP	05 56 50.5	+0.6
	baz=326						
WVT	Waverly	121.28	29	ePKPdf	PKiKP	05 56 50.4	+0.3
WVT	Waverly	121.28	29	P	PKPdf	05 56 49.8	-0.2
	baz=324						
SSPA	Standing Stone	121.31	19	P	PKiKP	05 56 50.2	+0.1
	baz=336						
U50A	Jamestown	122.41	27	P	PKiKP	05 56 52.3	-0.1
	baz=327						
W53A	Cullowhee	124.18	26	P	PKiKP	05 56 56.5	+0.5
	baz=329						
249A	Camden	124.97	32	P	PKiKP	05 56 57.6	+0.1
	baz=323						
251A	Midway	125.73	30	P	PKiKP	05 56 59.0	0.0
	baz=325						
SJG	San Juan	145.86	16	PKPbc	PKPab	05 57 37.8	+0.8
	comp=Z,7.5nm,0.8s,baz=333,slow=9.0,SNR=3.1						
BCIP	Isla Barro Col	146.81	45	eP	PKiKP	05 57 46.8	+4.5
BCIP	Isla Barro Col	146.81	45	eP	PKiKP	05 57 46.8	+4.5
SJCC	San Jacinto, C	149.25	38	eP	PKPab	05 57 52.7	+2.0
SJCC	San Jacinto, C	149.25	38	eP	PKPab	05 57 52.7	+2.0
CODC	Agustn Codazz	150.21	35	eP	PKPab	05 57 55.8	+1.3
CODC	Agustn Codazz	150.21	35	eP	PKPab	05 57 55.8	+1.3
SMLC	San Martn de	150.77	37	eP	PKiKP	05 57 50.4	-0.1
SMLC	San Martn de	150.77	37	eP	PKiKP	05 57 50.4	-0.1
DBBC	Dabeiba	150.82	43	eP	PKPab	05 57 54.9	-2.2
DBBC	Dabeiba	150.82	43	eP	PKPab	05 57 54.9	-2.2
PLCA	Paso Flores	151.59	157	PKPbc	PKPbc	05 57 51.1	0.0
	comp=Z,2.0nm,0.9s,baz=223,slow=11,SNR=3.2						
PLCA				PKPab	sPKPdf	05 57 58.8	+1.1
	comp=Z,4.9nm,0.8s,baz=215,slow=4.9,SNR=8.6						
OCAC	Ocana	151.66	37	eP	PKiKP	05 57 53.1	+0.6
OCAC	Ocana	151.66	37	eP	PKiKP	05 57 53.1	+0.6
HELC	Santa Helena	151.88	43	eP	PKPab	05 57 57.9	-4.0
HELC	Santa Helena	151.88	43	eP	PKPab	05 57 57.9	-4.0
PTBC	PUERTO BERRIO	152.31	41	eP	PKPbc	05 57 53.4	0.0
PTBC	PUERTO BERRIO	152.31	41	eP	PKPbc	05 57 53.4	0.0
SDV	Santo Domingo	152.58	31	PKPbc	PKiKP	05 57 54.9	+0.5
	comp=Z,18nm,0.5s,baz=15,slow=1.7,SNR=3.3						
GIRC	Giron, Santand	152.67	38	eP	PKPab	05 58 02.8	-2.0
GIRC	Giron, Santand	152.67	38	eP	PKPab	05 58 02.8	-2.0
NORC	Norcasia	152.78	43	eP	PKPab	05 58 02.1	-3.2
NORC	Norcasia	152.78	43	eP	PKPab	05 58 02.1	-3.2
POPC	Popayan, Colom	153.65	50	eP	PKPab	05 58 04.2	-5.0
POPC	Popayan, Colom	153.65	50	eP	PKPab	05 58 04.2	-5.0
RUSC	La Rusia	153.67	39	eP	PKiKP	05 57 57.2	+0.1
RUSC	La Rusia	153.67	39	eP	PKiKP	05 57 57.2	+0.1
ROSC	El Rosal	153.69	43	PKPbc	PKiKP	05 57 58.6	+1.5
	comp=Z,7.0nm,1.0s,baz=116,slow=4.8,SNR=5.3						
CMBC	Cumbal	153.78	55	eP	PKiKP	05 58 00.3	+3.0
CMBC	Cumbal	153.78	55	eP	PKiKP	05 58 00.3	+3.0
GCUF	Volcan Galeras	153.98	54	eP	PKPab	05 58 04.6	-6.4
GCUF	Volcan Galeras	153.98	54	eP	PKPab	05 58 04.6	-6.4
LVC	Limon Verde	166.12	125	PKPab	PKPab	05 59 04.0	+0.7
	comp=Z,1.9nm,0.6s,baz=229,slow=11,SNR=1.9						
CPUP	Villa Florida	168.64	177	PKPab	PKPab	05 59 13.9	+0.2
	comp=Z,0.6nm,0.4s,baz=243,slow=4.5,SNR=2.3						
LPAZ	La Paz	168.86	98	ePKPdf	PKPdf	05 58 05.7	+0.5
LPAZ	La Paz	168.86	98	PKP	PKPdf	05 58 05.6	+0.4
	comp=Z,2.6nm,1.1s,baz=316,slow=3.5,SNR=5.3						
BDFB	Brasilia	171.63	264	PKP	PKPdf	05 58 05.5	-0.6
	comp=Z,1.4nm,0.7s,baz=80,slow=6.1,SNR=2.6						
SIV	San Ignacio	175.61	104	PKP	PKPdf	05 58 07.8	+0.3
	comp=Z,4.1nm,1.1s,baz=87,slow=0.9,SNR=7.9						
SIV				pPKP	pPKPdf	05 58 15.5	-1.4
	comp=Z,6.2nm,1.0s,baz=162,slow=1.9,SNR=12						

MAN 01 06:18:25.6, 9°.91N×122°.94E, h32km, mb3.7, ML2.4, MS1.9, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.64	153	⇓iP	Pn	06 18 38.9	+0.5
SNPH				i S	Sn	06 18 48.1	+0.5
GUIM	Jordan	0.79	334	eP	Pn	06 18 40.4	-0.1
GUIM				eS	Sb	06 18 51.5	+0.3
RCP	Roxas	1.65	353	⇑eP	Pb	06 18 56.4	+1.1

*DDA **01** 06:47:56.7, 37°.31N×37°.10E, h8km±1km, ML4.2*
*ISK **01** 06:47:56.3, 37°.31N×37°.11E, h10km, ML3.5/22*
*ISCJB **01** 06:47:57.3±0.4, 37°.28N±0°.02×37°.09E±0°.02, h8km±3km, mb3.0/2, Error ellipse: s-maj=3.5km s-min=2.5km az=5.4*
*IDC **01** 06:47:58.8±1.3, 37°.31N×36°.87E, h0km, mb3.1/3, mb1 3.3/6, mb1mx3.2/39, mbtmp3.1/6, ML3.0/3, Error ellipse: s-maj=23.6km s-min=12.8km az=76.0*
*GII **01** 06:48:10.0±0.0, 37°.30N×37°.10E, h6km, MD3.6/1*
ISC 01 06:47:57.4±1.0, 37°.31N±0°.02×37°.12E±0°.02, h5km±8km, n58, σ1°32/86, 7C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.16	152	PG	Pg	06 47 59.9	-0.8
GAZ				SG	Sg	06 48 03.1	+0.3
HCB	Kahramanmara	0.17	280	IAML_P			
	comp=Z,337μm,0.2s						
HCB				⇑iP	Pg	06 48 00.8	0.0
HCB				i S	Sg	06 48 03.9	+0.9
KMRS	Kahramanmaras	0.26	318	PG	Pg	06 48 02.3	-0.2
KMRS				SG	Sg	06 48 06.3	+0.4
AYKD	Aykdinkavak	0.27	292	IAML_P			
	comp=Z,182μm,0.1s						
AYKD				⇑iP	Pg	06 48 02.8	+0.2
AYKD				i S	Sg	06 48 07.0	+0.8
GZT	Gaziantep	0.36	83	IAML_P			
	comp=Z,115μm,0.2s						
GZT				⇑iP	Pg	06 48 04.2	-0.2
GZT				i S	Sg	06 48 09.8	+0.6
KAMA	Osmaniye	0.38	251	⇑iP	Pg	06 48 04.9	+0.1
KAMA				i S	Sg	06 48 09.9	+0.1
KUZU	Kuzuini	0.54	183	⇓iP	Pg	06 48 08.1	+0.3
KUZU				i S	Sg	06 48 15.5	+0.6
ANDN	Andirin	0.67	294	⇑iP	Pb	06 48 10.7	-1.0
ANDN				i S	Sg	06 48 19.6	+0.6
ATAB	Bozova	0.95	80	i P	Pg	06 48 15.6	-0.1
ATAB				i S	Sn	06 48 29.9	-1.6
ELBS	KAHRAMANMARAS	1.01	1	i P	Pb	06 48 17.3	-0.2
ELBS				i S	Sn	06 48 34.2	+1.2
KOZT	Kozan	1.04	280	PG	Pg	06 48 16.6	-0.8
KOZT				SG	Sg	06 48 30.6	-0.3
SAIM	ADANA	1.05	309	IAML_P			
	comp=Z,20μm,0.2s						
SAIM				⇓iP	Pb	06 48 17.9	-0.4
SAIM				i S	Sb	06 48 31.9	-0.4
CEYT	Ceyhan	1.13	255	PN	Pb	06 48 18.9	-0.6
CEYT				SN	Sn	06 48 35.4	-0.5
AKCD	Akcadag	1.17	33	IAML_P			
	comp=Z,33μm,0.3s						
AKCD				⇑iP	Pb	06 48 19.5	-0.8
AKCD				i S	Sn	06 48 37.6	+0.5
TAHT	Tahtakopru-Hat	1.20	219	PN	Pb	06 48 19.2	-1.4
SURC	SANLIURFA_SURC	1.27	109	IAML_P			
	comp=Z,4μm,0.1s						
SURC				i P	Pb	06 48 21.6	-0.3
SURC				i S	Sb	06 48 38.2	-0.4
YURE	YUREGIR	1.28	248	PN	Pb	06 48 21.6	-0.5
YURE	YUREGIR	1.28	248	⇑iP	Pb	06 48 21.6	-0.5
YURE				i S	Sn	06 48 43.4	+3.8
DARE	Darende-Malaty	1.29	13	PN	Pn	06 48 21.3	-0.9
AKO	Adana	1.34	277	i P	Pn	06 48 22.2	-0.6
AKO				i S	Sb	06 48 39.0	-1.5
URFA	Urfa	1.36	84	PN	Pn	06 48 21.9	-1.3
CUGUR	Gurin_SVAS	1.41	5	i P	Pg	06 48 24.9	+0.4
CUGUR				i S	Sg	06 48 46.2	+3.3
SANL	SANLIURFA_Merk	1.50	95	i P	Pn	06 48 23.3	-1.7
SANL				i S	Sn	06 48 42.9	-2.2
KRTD	Karatas-Adana	1.54	243	PN	Pn	06 48 24.7	-0.8
KRTS	Karatas	1.58	243	PN	Pn	06 48 25.6	-0.5
YAHY	KAYSERI_Yahyal	1.59	300	i P	Pb	06 48 26.6	-0.9
YAHY				i S	Sb	06 48 47.7	-0.2
KARA	Karaisali	1.65	269	PN	Pn	06 48 25.3	-1.7
HEKM	Malatya_Hekimh	1.70	23	i P	Pg	06 48 29.9	-0.1
HEKM				i S	Sg	06 48 53.8	+1.7
BNN	Bunyan	1.83	327	PN	Pn	06 48 29.7	0.0
GULE	Gulek	1.86	270	i P	Pn	06 48 30.4	+0.2
GULE				i S	Sn	06 48 52.2	-2.0
DED	Mersin	1.88	260	i P	Pn	06 48 29.9	-0.4
ELZG	Elazig	1.89	51	i P	Pn	06 48 30.4	-0.1
ELZG				i S	Sb	06 48 55.5	-1.1
CUALT	Altinyayla-SIV	1.98	352	i P	Pb	06 48 33.1	-0.9
MERS	Mersin	2.12	259	PN	Pn	06 48 32.8	-0.8
NIG	Nigde	2.14	293	PN	Pn	06 48 33.3	-0.8
DYBB	Diyarbakir	2.48	74	PN	Pn	06 48 38.5	-0.1
KIZK	Mersin	2.52	252	PN	Pn	06 48 38.1	-1.0
SVSK	Karacayir	2.60	358	PN	Pn	06 48 40.6	+0.5
MAZI	Mazidag	2.66	86	PN	Pn	06 48 39.6	-1.4
YOZ	Yozgat	2.72	329	PN	Pn	06 48 41.5	-0.4
KEBE	Keben-Mersin	2.86	253	PN	Pn	06 48 43.4	-0.4
IKL	Isikli	2.96	250	PN	Pn	06 48 43.9	-1.1
EREN	Erenkoy	2.97	234	PN	Pn	06 48 43.9	-1.3
SULT	Sultanhani-AKS	2.99	288	PN	Pn	06 48 44.9	-0.6
ERZN	Erzincan	3.06	41	PN	Pn	06 48 46.5	0.0
AKKU	Akkuyu-Mersin	3.09	249	PN	Pn	06 48 45.7	-1.1
BRTR	Keskin Array B	3.64	313	Pn	Pn	06 48 55.1	+0.6
	comp=Z,0.7nm,0.3s,baz=133,slow=17,SNR=11						
BRTR				Pg	Pg	06 49 05.4	-1.7
	comp=Z,1.4nm,0.3s,baz=134,slow=19,SNR=29						
NATI	Neve Ativ	4.20	196	Pn	Pg	06 49 15.1	-2.8
NATI				Sn	Sb	06 50 03.9	+1.2
GEM	Giv'at Ha'Em	4.26	197	Pn	Pb	06 49 15.4	+2.5
GEM				Sn	Sb	06 50 04.9	+0.3
KSDI	Kefar Szold	4.28	197	Pn	Pg	06 49 16.2	-3.3
KSDI				Sn	Sb	06 50 05.5	+0.3
KSHT	Keshet	4.45	194	Pn	Pb	06 49 18.6	+2.5
MMA0B	Mount Meron ar	4.51	199	Pn	Pb	06 49 18.2	+1.0
MMAI	Mount Meron Ar	4.51	199	Pn	Pn	06 49 09.7	+3.2
	comp=Z,1.0nm,0.3s,baz=18,slow=15,SNR=2.9						
MMAI				Pg	Pb	06 49 19.5	+2.3
	comp=Z,4.7nm,0.3s,baz=8.4,slow=15,SNR=6.1						
MMAI				Sn	Sn	06 50 01.4	+2.0
	comp=Z,3.5nm,0.3s,baz=11,slow=16,SNR=2.3						
MMAI				Lg	Lg	06 50 18.5	
	comp=Z,4.3nm,0.3s,baz=18,slow=30,SNR=3.1						
ASF	Jabal al Asfar	5.13	182	Pn	Pn	06 49 17.0	+1.9
	comp=Z,0.6nm,0.3s,baz=345,slow=20,SNR=6.5						
ASF				Pg	Pg	06 49 33.4	-2.3
	comp=Z,2.4nm,0.3s,baz=328,slow=19,SNR=12						
ASF				Lg	Lg	06 50 36.4	
	comp=Z,1.5nm,0.3s,baz=147,slow=20,SNR=3.6						
HMDT	Nahal Hemdat	5.21	195	Pn	Pb	06 49 28.4	-0.7
GERES	GERESS Array B	20.53	312	P	Pn	06 52 37.2	-1.6
	comp=Z,0.5nm,0.7s,baz=110,slow=12,SNR=5.5						
MKAR	Makanchi Array	34.44	60	P	P	06 54 50.0	+4.2
	comp=Z,0.1nm,0.4s,baz=263,slow=7.1,SNR=2.6						
YKA	Yellowknife Ar	77.96	347	P	P	06 59 57.1	+0.9
	comp=Z,0.1nm,0.5s,baz=37,slow=6.2,SNR=3.4						

*GUC **01** 06:49:29.4±0.6, 31°.95S×71°.52W, h38km±4km, ML2.8*
*SJA **01** 06:49:29.3±0.6, 32°.17S×71°.86W, h75km±14km, ML2.9, MW3.5*
ISC 01 06:49:27.8±2.3, 31°.93S±0°.03×71°.6W±0°.1, h6km±13km, n22, σ0°80/32, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	1.16	154	eP	Pg	06 49 50.3	+0.2
ROCH				i S	Sb	06 50 06.2	+0.5
ROCH				IAML		06 50 09.6	
	comp=N,298nm,0.4s						
ROC1	El Roble	1.16	155	eP	Pg	06 49 50.4	+0.2
ROC1				eS	Sb	06 50 05.7	-0.2
PEL	Peldehue	1.45	148	eP	Pn	06 49 54.7	+0.2
PEL				eS	Sb	06 50 13.2	-0.6
PEL	Peldehue	1.45	148	eP	Pn	06 49 54.5	0.0
PEL				i S	Sb	06 50 12.9	-0.9
PEL				IAML		06 50 15.9	
	comp=E,218nm,0.2s						
CLCH	Cerro Calan	1.72	149	eP	Pn	06 49 58.7	+0.3
CLCH				eS	Sn	06 50 20.4	-0.4
CLCH				IAML		06 50 32.2	
	comp=E,235nm,0.6s						
FCH	Farellones	1.79	142	eP	Pn	06 50 00.0	+0.5
FCH				i S	Sb	06 50 23.1	-0.8
FCH				IAML		06 50 24.5	
	comp=E,145nm,0.3s						
FSR	Penalolen	1.80	150	eP	Pn	06 49 59.5	+0.1
FSR				eS	Sn	06 50 22.6	+0.1
ANTU	Antumapu	1.83	154	eP	Pn	06 49 59.8	-0.1
ANTU				i S	Sn	06 50 23.3	-0.2
ANTU				IAML		06 50 34.6	
	comp=E,154nm,0.3s						
GO04	Tololo Observa	1.88	22	eP	Pn	06 50 01.8	+1.1
GO04	Tololo Observa	1.88	22	⇓eP	Pn	06 50 01.8	+1.1
GO04				eS	Sb	06 50 27.3	+0.7
AUSP	Uspallata	1.91	100	eP	Pg	06 50 05.8	+1.3
RTLS	Leoncito	1.97	87	eP	Pg	06 50 06.7	+1.0
RTLS				IAML		06 50 38.8	
	comp=Z,66nm,0.5s						
LMEL	Las Melosas	2.25	149	⇑eP	Pn	06 50 06.6	+0.8
LMEL				eS	Sn	06 50 34.3	+0.3
LMEL				IAML		06 50 36.4	
	comp=N,164nm,0.2s						
ARCO	CERRO ARCO	2.44	113	eP	Pg	06 50 14.3	-0.3
ARCO				IAML		06 51 01.8	
	comp=Z,56nm,0.8s						
ASAL	Salagasta	2.44	107	eP	Pg	06 50 14.2	-0.5
ACCO	Cerro Coronel	2.56	59	eP	Pg	06 50 15.7	-1.1
RTCV	Cerro Valdivia	2.61	89	eP	Pb	06 50 15.6	+0.6
AAGR	Agrelo	2.62	117	eP	Pb	06 50 15.9	+0.7
RTLL	Cerro Villicun	2.74	78	eP	Pb	06 50 16.6	-0.6
ACDV	Cuesta del Vie	2.76	51	eP	Pb	06 50 17.6	0.0
ACDV				IAML		06 51 10.6	
	comp=Z,26nm,0.6s						
AMOG	MOGNA	2.84	71	eP	Pb	06 50 18.2	-0.8
AGUA	GUANDACOL	3.62	49	eP	Pb	06 50 30.0	-2.3

*DDA **01** 06:50:51.6, 37°.30N×37°.11E, h13km±1km, ML4.4*
*ISK **01** 06:50:51.8, 37°.30N×37°.12E, h8km, ML4.0/23*
*ISCJB **01** 06:50:52.9±0.3, 37°.31N±0°.02×37°.08E±0°.02, h8km±2km, mb3.6/14, MS4.5/1, Error ellipse: s-maj=2.8km s-min=2.4km az=176.9*
*IDC **01** 06:50:53.2±0.8, 37°.36N×37°.04E, h0km, mb3.7/12, mb1 3.7/18, mb1mx3.6/48, mbtmp3.7/18, ML3.5/5, MS2.9/2, Ms1 2.9/2, ms1mx2.6/45, Error ellipse: s-maj=13.0km s-min=11.4km az=45.0*
*NSSC **01** 06:50:53.0±0.9, 34°.33N×41°.08E, h17km±999km, MD2.3, ML3.6*
*GII **01** 06:50:55.5±0.0, 37°.31N×37°.11E, h2km, mb4.4/1, MD4.4/1*
ISC 01 06:50:53.6±0.7, 37°.29N±0°.02×37°.10E±0°.02, h8km±4km, n106, σ1°57/139, mb3.7/15, 9C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.15	143	PG	Pg	06 50 55.6	-1.2
GAZ				SG	Sg	06 50 58.1	-0.9
HCB	Kahramanmara	0.16	289	IAML_P			
	comp=Z,495μm,0.2s						
HCB				⇑iP	Pg	06 50 56.5	-0.6
HCB				i S	Sg	06 50 58.9	-0.5
AYKD	Aykdinkavak	0.26	298	IAML_P			
	comp=Z,181μm,0.1s						
AYKD				⇑iP	Pg	06 50 58.4	-0.6
AYKD				i S	Sg	06 51 02.6	+0.1
KMRS	Kahramanmaras	0.27	324	PG	Pg	06 50 57.7	-1.3
KMRS				SG	Sg	06 51 01.9	-0.7
KAMA	Osmaniye	0.36	253	⇑iP	Pg	06 50 59.4	-1.3
KAMA				i S	Sg	06 51 05.6	+0.1
GZT	Gaziantep	0.38	80	IAML_P			
	comp=Z,233μm,0.2s						
GZT				⇑iP	Pg	06 50 59.9	-1.1
GZT				i S	Sg	06 51 06.6	+0.6
KUZU	Kuzuini	0.52	182	⇓iP	Pg	06 51 03.7	+0.1
KUZU				i S	Sg	06 51 11.0	+0.6
ANDN	Andirin	0.67	296	IAML_P			
	comp=Z,52μm,0.2s						
ANDN				⇑iP	Pg	06 51 05.5	-1.0
ANDN				i S	Sg	06 51 14.8	-0.5
ATAB	Bozova	0.97	79	⇑iP	Pg	06 51 11.9	-0.4
ATAB				i S	Sb	06 51 25.4	-0.3
KOZT	Kozan	1.03	281	PG	Pg	06 51 12.3	-1.2
KOZT				SG	Sg	06 51 26.5	-0.4
ELBS	KAHRAMANMARAS	1.03	1	⇓iP	Pg	06 51 13.0	-0.5
ELBS				i S	Sn	06 51 29.2	-0.1
SAIM	ADANA	1.06	311	IAML_P			
	comp=Z,41μm,0.3s						
SAIM				⇓iP	Pg	06 51 12.5	-1.5
SAIM				i S	Sg	06 51 26.0	-1.7
CEYT	Ceyhan	1.12	256	PN	Pg	06 51 14.2	-0.9
CEYT				SN	Sb	06 51 30.0	+0.1
TAHT	Tahtakopru-Hat	1.17	219	PN	Pb	06 51 14.8	-1.3
AKCD	Akcadag	1.20	33	⇓iP	Pg	06 51 15.8	-0.8
AKCD				i S	Sb	06 51 32.3	0.0
YURE	YUREGIR	1.26	249	PN	Pn	06 51 17.2	-0.4
YURE	YUREGIR	1.26	249	⇓iP	Pn	06 51 17.2	-0.4
YURE				i S	Sn	06 51 37.6	+2.8
SURC	SANLIURFA_SURC	1.28	108	IAML_P			
	comp=Z,18μm,0.2s						
SURC				i P	Pn	06 51 16.3	-1.6
SURC				i S	Sb	06 51 33.7	-0.9
DARE	Darende-Malaty	1.31	13	PN	Pn	06 51 17.5	-0.9
AKO	Adana	1.33	278	⇑iP	Pn	06 51 17.2	-1.4
AKO				i S	Sg	06 51 37.1	+0.7
URFA	Urfa	1.38	83	PN	Pn	06 51 17.1	-2.2
CUGUR	Gurin_SVAS	1.44	5	⇓iP	Pn	06 51 19.3	-0.8
CUGUR				i S	Sg	06 51 42.9	+3.0
SANL	SANLIURFA_Merk	1.51	94	⇑iP	Pn	06 51 19.7	-1.4
SANL				i S	Sb	06 51 40.8	-0.5
KRTD	Karatas-Adana	1.52	243	PN	Pn	06 51 20.2	-0.9
KRTS	Karatas	1.56	243	PN	Pn	06 51 20.9	-0.7
YAHY	KAYSERI_Yahyal	1.59	301	⇓iP	Pn	06 51 22.5	+0.2
YAHY				i S	Sn	06 51 42.6	-0.6
KARA	Karaisali	1.63	270	PN	Pn	06 51 21.7	-1.0
HEKM	Malatya_Hekimh	1.73	23	i P	Pn	06 51 24.1	-0.1
HEKM				i S	Sg	06 51 49.4	+0.3
BNN	Bunyan	1.85	328	PN	Pn	06 51 24.6	-1.2
GULE	Gulek	1.85	270	i P	Pn

PPCY	Paphos	4.54 239	P	Pn	06 52 02.1	-0.5
MMLI	Mount Malkishu	5.03 196	Pn	Pn	06 52 15.1	+5.6
ASF	Jabal al Asfar	5.11 182	Pn	Pn	06 52 12.8	+2.3
	comp=N,0.5nm,0.3s,baz=337,slow=12,SNR=1.9					
ASF			Pg	Pg	06 52 28.5	-3.0
	comp=N,6.7nm,0.3s,baz=324,slow=18,SNR=8.2					
ASF			Lg	Lg	06 53 34.0	
	comp=N,4.0nm,0.3s,baz=335,slow=23,SNR=3.1					
DSI	Dead Sea	5.88 194	Pn	Pn	06 52 25.2	+4.1
MZDA	Masada	6.14 194	Pn	Pn	06 52 29.2	+4.6
YTIR	Yattir	6.14 196	Pn	Pn	06 52 29.0	+4.3
GNI	Garni	6.62 62	Pn	Pn	06 52 35.8	+4.4
	comp=N,1.3nm,0.3s,baz=252,slow=20,SNR=2.0					
KBZ	Khabaz	7.80 33	LR	LR	06 55 51.1	
	comp=N,116nm,20.5s,baz=231,slow=38					
EIL	Elat	7.81 194	Lg	Lg	06 55 00.1	
	comp=N,0.6nm,0.3s,baz=72,slow=20,SNR=2.9					
EIL			LR	LR	06 55 32.5	
	comp=N,73nm,20.5s,baz=260,slow=36					
IDI	Anoyia	10.06 262	Pn	Pn	06 53 18.1	-0.3
	comp=N,2.0nm,0.3s,baz=87,slow=16,SNR=4.5					
AKASG	Malin Array Be	14.54 340	Pn	Pn	06 54 18.4	-1.2
	comp=N,0.4nm,0.3s,baz=155,slow=11,SNR=2.0					
MYKA	Terra Mystica	19.72 306	P	Pn	06 55 25.9	+0.8
	comp=N,1.5nm,0.4s					
DPC	Dobruska-Polom	19.79 318	*e*P	Pn	06 55 25.2	-0.6
DPC			*e*pP	sP	06 55 31.2	+3.3
UPC	Upice	20.05 318	*e*P	P	06 55 27.6	+0.6
KBA	Koelnbreinsper	20.07 307	*e*P	Pn	06 55 29.7	+0.4
	comp=N,4.1nm,1.1s					
GERES	GERESS Array B	20.54 312	P	P	06 55 32.8	+0.2
	comp=N,3.0nm,0.8s,baz=113,slow=10,SNR=22					
PRU	Pruhonice	20.58 315	*e*P	P	06 55 33.3	+0.5
KHC	Kasperske Hory	20.74 312	*e*P	P	06 55 34.8	+0.2
KHC			*e*pP	sP	06 55 37.8	-0.3
WTTA	Wattenberg	21.23 306	*e*Pn	P	06 55 41.5	+1.4
	comp=N,0.7nm,0.4s					
SQTA	Sankt Quirin	21.49 306	*e*P	P	06 55 44.4	+1.6
	comp=N,3.5nm,0.8s					
FETA	Feichten	21.74 305	*e*pP	P	06 55 47.5	+1.9
	comp=N,3.5nm,0.8s					
CLL	Collm	22.09 317	*e*P	P	06 55 50.0	+1.0
CLL			*i*		06 55 55.8	
DAVOX	Davos/Dischmat	22.24 304	P	P	06 55 50.5	-0.4
	comp=N,2.1nm,0.6s,baz=166,slow=17,SNR=2.1					
KEST	Kesra	22.33 274	P	P	06 55 52.6	+0.7
	comp=N,5.2nm,0.8s,baz=39,slow=13,SNR=2.5					
DAVA	Damuels	22.38 305	P	P	06 55 50.8	-1.5
	comp=N,2.9nm,0.7s					
FINES	FINESS Array B	25.15 348	P	P	06 56 18.1	-0.8
	comp=N,1.6nm,0.7s,baz=145,slow=7.0,SNR=3.7					
HFS	Hagfors	27.30 334	P	P	06 56 37.6	-0.8
	comp=N,0.9nm,0.6s,baz=98,slow=10,SNR=3.0					
KURBB	Kurchatov Arra	32.23 52	P	P	06 57 23.1	+0.9
	comp=N,0.6nm,0.8s,baz=264,slow=8.8,SNR=5.6					
MKAR	Makanchi Array	34.46 59	P	P	06 57 42.4	+0.6
	comp=N,0.5nm,0.5s,baz=272,slow=7.8,SNR=4.9					
ZALV	Zalesovo Beam	36.51 47	P	P	06 57 59.3	+0.1
	comp=N,0.3nm,0.3s,baz=263,slow=2.3,SNR=2.2					
TORD	Torodi Ar. Bea	39.68 242	P	P	06 58 27.6	+1.2
	comp=N,1.3nm,1.0s,baz=56,slow=11,SNR=5.3					
SONM	Songino Array	50.52 55	P	P	06 59 54.3	+1.8
	comp=N,0.6nm,0.3s,baz=284,slow=5.8,SNR=3.5					
OPO	Ambohidratompo	56.37 168	LR	LR	07 24 35.7	
	comp=N,350nm,19.5s,baz=23,slow=36					
YKA	Yellowknife Ar	77.98 347	P	P	07 02 51.2	-0.8
	comp=N,0.1nm,0.5s,baz=13,slow=5.9,SNR=3.6					
ILAR	Eielson Array	78.22 2	P	P	07 02 53.1	-0.3
	comp=N,0.3nm,0.9s,baz=348,slow=3.9,SNR=2.9					

*IDC **01** 06:51:51.8±2.0, 33°.27S×179°.40W, h0km, mb4.5/3, mb1 4.7/4, mb1mx4.1/33, mbtmp4.6/4, ML4.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/24, Error ellipse: s-maj=49.4km s-min=38.4km az=83.0*

*WEL **01** 06:51:53.8±0.6, 34°.5S±5°.×17°.9W±1°.0, h12km, ML5.0/43*

*ISCJB **01** 06:52:01.9±0.8, 33°.99S±0°.07×179°.42W±0°.09, h55km, mb4.8/12, Error ellipse: s-maj=11.6km s-min=9.1km az=22.7*

*NEIC **01** 06:52:15.8±2.8, 34°.42S×179°.41E, h135km±15km, mb4.7/9, Error ellipse: s-maj=45.5km s-min=24.4km az=153.0*

ISC 01 06:52:02.7±0.7, 33°.90S±0°.05×179°.59W±0°.06, h55km, n124, σ2°39/113, mb4.9/11, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.04 205		P	Pn	06 53 03.5	+1.6
WMGZ	Waiomatatini S	4.24 202		P	Pn	06 53 06.5	+1.8
WMGZ				S	Sn	06 54 01.5	+8.7
HAZ	Te Kaha	4.40 208		P	Pn	06 53 09.1	+2.1
PKGZ	Pakihiroa	4.41 205		P	Pn	06 53 08.8	+1.7
PKGZ				S	Sn	06 54 04.9	+7.7
PUZ	Puketiti	4.52 202		P	Pn	06 53 09.8	+1.3
PUZ				S	Sn	06 54 10.8	+11
RUGZ	Raukumara Rang	4.62 208		P	Pn	06 53 11.7	+1.6
RUGZ				S	Sn	06 54 11.2	+8.6
GRZ	Great Barrier	4.69 239		P	Pn	06 53 12.6	+1.7
TWGZ	Tauwhareparae	4.70 204		P	Pn	06 53 12.5	+1.4
TWGZ				S	Sn	06 54 14.6	+10
KUZ	Kuaotunu	4.77 232		P	Pn	06 53 15.0	+2.9
GLKZ	Green Lake	4.84 18		P	Pn	06 53 03.1	-10
GLKZ				S	Sn	06 53 50.4	-17
WHRZ	Whale Island	4.84 214		P	Pn	06 53 16.7	+3.8
CNGZ	Carnagh Statio	4.91 201		P	Pn	06 53 15.4	+1.4
TKGZ	Te Karaka	4.98 204		P	Pn	06 53 15.4	+0.5
MWZ	Matawai	5.00 207		P	Pn	06 53 16.3	+1.0
OPRZ	Ohinepanea	5.03 217		P	Pn	06 53 18.0	+2.5
MARZ	Manawahe	5.08 216		P	Pn	06 53 19.3	+3.0
URZ	Urewera	5.11 211		*e*Pn	Pn	06 53 18.0	+1.4
URZ	Urewera	5.11 211		Pn	Pn	06 53 17.3	+0.7
	18nm,0.3s,baz=74,slow=7.4,SNR=85						
URZ				Sn	Sn	06 54 18.9	+4.6
	1.6nm,0.3s,baz=292,slow=23,SNR=3.9						
URZ	Urewera	5.11 211		P	Pn	06 53 17.9	+1.3
EDRZ	Edgecumbe	5.15 214		P	Pn	06 53 20.5	+3.2
RAGZ	Rawiri	5.19 207		P	Pn	06 53 18.6	+0.7
WIAZ	Waiheke Island	5.19 235		P	Pn	06 53 20.8	+3.0
RIGZ	Rimuhau	5.25 203		P	Pn	06 53 19.2	+0.5
ABAZ	Army Bay	5.30 238		P	Pn	06 53 22.5	+3.2
KARZ	Kaharoa	5.32 218		P	Pn	06 53 22.8	+3.1
OMRZ	Omania	5.33 217		P	Pn	06 53 23.3	+3.7
MKAZ	Moumakai	5.35 232		P	Pn	06 53 23.3	+3.4
TARZ	Mount Tarawera	5.36 215		P	Pn	06 53 23.4	+3.2
WCZ	Waipu Caves	5.38 246		P	Pn	06 53 21.7	+1.2
PRGZ	Paritu Road	5.41 201		P	Pn	06 53 20.7	-0.1
ETAZ	East Tamaki Re	5.42 234		P	Pn	06 53 25.9	+5.0
MUGZ	Murupara	5.44 212		P	Pn	06 53 22.0	+0.9
RRRZ	Republican Roa	5.44 214		P	Pn	06 53 23.7	+2.5
HLRZ	Highlands Stat	5.45 216		P	Pn	06 53 24.1	+2.8
RTZ	Ruatahuna	5.46 210		P	Pn	06 53 21.9	+0.3
SNGZ	Shannon Statio	5.47 206		P	Pn	06 53 22.1	+0.5
UTU	Utuhina	5.47 217		P	Pn	06 53 27.4	+5.8
TOZ	Tahuroa Road	5.53 225		P	Pn	06 53 26.8	+4.5
KNZ	Kokohu	5.57 203		P	Pn	06 53 22.3	-0.6
HRRZ	Handcock Road	5.59 216		P	Pn	06 53 26.2	+3.0
MHGZ	Mahia Peninsul	5.62 200		P	Pn	06 53 23.5	-0.1
PRRZ	Plateau Road	5.62 214		P	Pn	06 53 25.8	+2.1
GRRZ	Galatos Road	5.64 217		P	Pn	06 53 27.2	+3.2
WTAZ	Waiatarua	5.65 236		P	Pn	06 53 30.6	+6.5
RAHZ	Arahi	5.68 207		P	Pn	06 53 25.0	+0.5
ALRZ	Allen Road	5.70 214		P	Pn	06 53 25.8	+1.1
MTHZ	Maungataniwha	5.72 209		P	Pn	06 53 25.4	+0.3
WPRZ	Whakapapatarin	5.75 215		P	Pn	06 53 27.9	+2.5
WHHZ	Waihua	5.77 205		P	Pn	06 53 27.0	+1.3
OUZ	Omahuta	5.78 255		*e*Pn	Pn	06 53 25.7	-0.1
OUZ				*e*Sn	Sn	06 54 28.2	-2.5
OUZ	Omahuta	5.78 255		P	Pn	06 53 25.2	-0.6
MRHZ	Matea Rd	5.89 212		P	Pn	06 53 27.2	-0.1
KUTZ	Kaahu Road	5.89 218		P	Pn	06 53 30.8	+3.4
TLZ	Tolley Road	5.93 220		P	Pn	06 53 30.2	+2.4
NMHZ	Naumai	5.95 208		P	Pn	06 53 27.8	-0.4
WHTZ	Whakaora	5.96 216		P	Pn	06 53 31.5	+3.1
ARHZ	Aropaoanui	6.02 206		P	Pn	06 53 30.3	+1.2
WATZ	Wairara	6.11 217		P	Pn	06 53 32.5	+2.1
BKZ	Black Stump Fm	6.13 210		*e*Pn	Pn	06 53 31.5	+0.8
BKZ	Black Stump Fm	6.13 210		P	Pn	06 53 31.0	+0.3
RITZ	Rihia Road	6.26 215		P	Pn	06 53 34.0	+1.6
MCHZ	McNeill Hill	6.29 207		P	Pn	06 53 32.9	+0.1
KATZ	Kakaramea	6.33 216		P	Pn	06 53 36.3	+2.7
CKHZ	Cape Kidnapper	6.34 204		P	Pn	06 53 32.1	-1.4
KWHZ	Kaweka Forest	6.38 209		P	Pn	06 53 34.7	+0.6
HIZ	Hauiti	6.43 223		*e*Pn	Pn	06 53 37.9	+3.1
KRVZ	Karewarewa	6.45 215		P	Pn	06 53 36.8	+1.6
WTVZ	West Tongariro	6.50 215		P	Pn	06 53 37.2	+1.4
KAHZ	Kahuranaki	6.53 205		P	Pn	06 53 35.3	-0.9
NGZ	Ngauruhoe	6.54 215		P	Pn	06 53 37.9	+1.6
BHHZ	Black Hill Sta	6.58 211		P	Pn	06 53 36.3	-0.6
KRHZ	Kereru	6.59 208		P	Pn	06 53 35.8	-1.2
PXZ	Pawanui	6.75 204		P	Pn	06 53 37.7	-1.4
MTVZ	Mangateitei	6.76 215		P	Pn	06 53 40.2	+0.8
VRZ	Vera Road	6.92 220		P	Pn	06 53 43.8	+2.3
WPHZ	Waipukurau	6.93 206		P	Pn	06 53 41.2	-0.4
PRHZ	Porangahau	7.04 204		P	Pn	06 53 40.9	-2.1
DVHZ	Dannevirke	7.23 207		P	Pn	06 53 44.0	-1.7
ANWZ	Angora Road	7.26 204		P	Pn	06 53 46.2	+0.1
WAZ	Wanganui	7.29 215		P	Pn	06 53 46.8	+0.3
PKE	Pukeiti	7.39 223		P	Pn	06 53 51.7	+3.8
POWZ	Post Office Ro	7.47 208		P	Pn	06 53 47.9	-1.0
PRWZ	Pori Road	7.53 207		P	Pn	06 53 48.5	-1.3
BFZ	Birch Farm	7.54 205		P	Pn	06 53 46.8	-3.2
TIWZ	Tintock	7.75 206		P	Pn	06 53 51.3	-1.6
MRZ	Mangatainoka R	7.77 208		P	Pn	06 53 51.0	-2.1
HOWZ	Holdsworth Sta	8.00 208		P	Pn	06 53 53.5	-2.7
TMWZ	Te Maipa	8.04 205		P	Pn	06 53 54.4	-2.4
OGWZ	Otaki Gorge	8.07 210		P	Pn	06 53 54.7	-2.5
KIW	Kapiti Island	8.21 211		P	Pn	06 53 56.7	-2.4
TRWZ	Traveller	8.37 205		P	Pn	06 53 59.0	-2.3
PAWZ	Paruwai Farm	8.45 206		P	Pn	06 53 59.1	-3.3
MSWZ	Moikau Station	8.55 207		P	Pn	06 54 00.4	-3.3
DUWZ	D'Urville Isla	8.61 215		P	Pn	06 54 03.8	-0.8
SNZO	South Karori	8.67 210		*e*Pn	Pn	06 54 02.3	-3.1
SNZO				*e*Sn	Sn	06 55 41.7	0.0
PLWZ	Palliser	8.68 207		P	Pn	06 54 02.5	-3.0
BHW	Baring Head	8.69 209		P	Pn	06 54 01.9	-3.7
CMWZ	Cape Campbell	9.24 210		P	Pn	06 54 11.0	-2.3
BSWZ	Blackbirch Sta	9.36 212		P	Pn	06 54 12.8	-2.0
THZ	Tophouse	9.84 215		*e*Pn	Pn	06 54 18.7	-2.8
THZ				*e*Sn	Sn	06 56 04.2	-6.2
KHZ	Kahutara	10.07 210		*e*Pn	Pn	06 54 21.0	-3.6
KHZ				*e*Sn	Sn	06 56 10.0	-6.1
OKCZ	Okains Bay	11.36 208		P	Pn	06 54 38.4	-3.8
OXZ	Oxford	11.46 212		*e*Pn	Pn	06 54 36.9	-6.6
OXZ				*e*Sn	Sn	06 56 40.1	-10
RPZ	Rata Peaks	12.21 214		Pn	Pn	06 54 47.8	-6.0
	1.8nm,0.3s,baz=38,slow=3.2,SNR=9.2						
RPZ				Sn	Sn	06 57 04.1	-4.2
	0.8nm,0.3s,baz=331,slow=22,SNR=5.3						
RPZ				LR	LR	06 58 53.4	
	comp=Z,57nm,20.6s,baz=54,slow=33						
AS31	Alice Springs	41.72 272		*e*P	P	06 59 44.1	-2.3
	1.3nm,0.8s						
ASAR	Alice Springs	41.72 272		P	P	06 59 43.9	-2.5
	1.3nm,0.4s,baz=105,slow=7.1,SNR=18						
ASAR				PcP	PcP	07 01 38.6	-3.6
	1.5nm,1.0s,baz=120,slow=3.8,SNR=4.2						
WB2	Warramunga Arr	43.02 277		*e*P	P	06 59 56.0	-1.0
	12nm,0.4s						
WRA	Warramunga Arr	43.03 277		P	P	06 59 54.2	-2.9
	6.7nm,0.4s,baz=116,slow=7.8,SNR=120						
WRA				PcP	PcP	07 01 43.2	-3.3
	0.4nm,0.3s,baz=121,slow=4.0,SNR=5.9						
QSPA	South Pole Qui	56.22 180		*e*P	P	07 01 39.7	+2.8
	13nm,0.9s						
QSPA	South Pole Qui	56.22 180		P	P	07 01 40.8	+3.8
	11nm,0.9s,baz=50,slow=1.4,SNR=34						
MAW	Mawson	68.57 201		P	P	07 03 00.3	+1.2
	7.1nm,1.1s,baz=138,slow=5.7,SNR=3.7						
SYO	Syowa Base	73.41 194		*e*P	P	07 03 27.0	-1.5
SNAA	Sanae	74.70 179		P	P	07 03 37.6	+1.6
SNAA	Sanae	74.70 179		*e*P	P	07 03 36.8	+0.7
	5.2nm,1.0s						
VNA3	Neumayer Olymp	74.91 177		P	P	07 03 38.5	+1.3
VNA2	Neumayer--Watz	75.32 177		P	P	07 03 41.5	+1.9
	baz=207,slow=13						
VNA1	Neumayer--Stat	75.56 177		P	P	07 03 42.8	+1.9
DLV	T Lat	82.05 290		*e*P	P	07 04 18.2	+0.6
	52nm,1.1s						
USA0B	Ussuriysk Arra	89.35 327		*e*P	P	07 04 57.3	+4.5
	6.4nm,1.0s						
GDXM	Geysers	89.46 41		*e*P	P	07 05 01.8	+8.2
	25nm,0.8s						
BEKR	Beckworth	91.54 41		*e*P	P	07 05 12.1	+8.7
	4.7nm,0.6s						
RSO	Redoubt South	96.57 13		*e*P	P	07 05 33.5	+7.5
PV17	East Wray Mesa	97.20 48		*e*P	Pdif	07 05 36.1	+6.6
	14nm,0.6s						
FINES	FINESS Array B	147.90 337		PKPbc	PKPdf	07 11 36.7	-1.0
	3.4nm,0.8s,baz=42,slow=2.3,SNR=4.3						

*ISCJB **01** 06:53:13.9±1.7, 37°.33N±0°.09×37°.2E±0°.1, h10km±8km, Error ellipse: s-maj=20.6km s-min=5.8km az=138.4*

*ISK **01** 06:53:13.4, 37°.33N×37°.16E, h11km, ML2.4/5*

*DDA **01** 06:53:14.4, 37°.33N×37°.10E, h6km±1km, ML3.3*

ISC 01 06:53:14.3±1.1, 37°.31N±0°.05×37°.14E±0°.05, h11km±8km, n10, σ0°26/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.15 156		PG	Pg	06 53 17.4	-0.3
GAZ				SG	Sg	06 53 20.1	0.0
HCB	Kahramanmara	0.19 282		IAML_P			
	comp=Z,27μm,0.1s						
HCB				*i* P	Pg	06 53 18.4	0.0
KMRS	Kahramanmaras	0.27 317		PG	Pg	06 53 19.7	-0.2
KMRS				SG	Sg	06 53 23.7	0.0
AYKD	Aykdinkavak	0.28 293		IAML_P			
	comp=Z,30μm,0.1s						
AYKD				*i* P	Pg	06 53 20.0	-0.1
AYKD				*i* S	Sg	06 53 24.2	+0.3
GZT	Gaziantep	0.34 82		IAML_P			
	comp=Z,9μm,0.1s						
GZT				*i* P	Pb	06 53 22.6	+0.1
KAMA	Osmaniye	0.39 252		IAML_P			
	comp=Z,16μm,0.1s						
KAMA				*i* P	Pg	06 53 21.6	-0.5
KUZU	Kuzuini	0.53 185		*i* P	Pb	06 53 26.1	+0.4
KOZT	Kozan	1.06 280		PG	Pb	06 53 34.5	-0.1
KOZT				SG	Sn	06 53 49.7	-0.2
CEYT	Ceyhan	1.15 256		PN	Pn	06 53 36.5	+0.2
TAHT	Tahtakopru-Hat	1.20 220		PN	Pn	06 53 37.1	0.0

*NDI **01** 06:57:11.5±1.5, 33°.23N×75°.70E, h20km±9km, mb5.6, ML5.6, mb5.6(NEIC)*

*NEIC **01** 06:57:12.0±0.0, 33°.11N×75°.47E, h23km, Moment Tensor Solution. s94 Moment tensor: Scale 10^{17}Nm; M_{rr}3.28; $M_{\theta\theta}$-2.22; $M_{\phi\phi}$-1.06; $M_{r\theta}$2.25; $M_{\theta\phi}$1.43; $M_{\phi r}$-2.07; Best double couple: $M_0$4.50000×10^{17} NP1:ϕ_s130.00000°, δ67.00000°, λ94.00000°. NP2:ϕ_s299.00000°, δ24.00000°, λ80.00000°. Principal axes: T 4.5200, Plg67.0000°, Azm48.0000°; N -0.1300, Plg4.0000°, Azm308.0000°; P -4.3800, Plg21.0000°, Azm216.0000°;*

*IDC **01** 06:57:12.8±1.6, 33°.08N×75°.73E, h12km±9km, mb5.0/42, mb1 5.1/48, mb1mx5.1/53, mbtmp5.1/48, ML4.8/6, MS5.2/33, Ms1 5.2/33, ms1mx5.1/41 Error ellipse: s-maj=8.0km s-min=6.9km az=160.0*

*BJI **01** 06:57:12.8±0.0, 33°.21N×76°.05E, h7km, mb5.3/79, mB5.6/63, ML5.6/1, Ms5.6/89, Ms7 5.4/84*

*ISCJB **01** 06:57:12.3±0.4, 33°.11N±0°.01×75°.80E±0°.01, h17km±3km, mb5.5/218, MS5.5/572, Error ellipse: s-maj=2.3km s-min=1.8km az=36.4*

*MOS **01** 06:57:13.0±1.1, 33°.15N×75°.81E, h21km, mb5.8/53, MS5.2/65, Error ellipse: s-maj=4.4km s-min=2.7km az=110.5*

*NEIC **01** 06:57:13.5±2.2, 33°.06N×75°.86E, h15km, mb5.6/227, MS5.6/524, MW5.4, MW5.7, Error ellipse: s-maj=13.7km s-min=12.3km az=199.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^{17}Nm; M_{rr}1.11; $M_{\theta\theta}$-0.69; $M_{\phi\phi}$-0.42; $M_{r\theta}$1.04; $M_{\theta\phi}$0.18; $M_{\phi r}$-0.77; Best double couple: $M_0$1.60000×10^{17} NP1:ϕ_s125.00000°, δ72.00000°, λ93.00000°. NP2:ϕ_s296.00000°, δ18.00000°, λ82.00000°. Principal axes: T 1.7700, Plg63.0000°, Azm39.0000°; N -0.3400, Plg3.0000°, Azm304.0000°; P -1.4300, Plg27.0000°, Azm213.0000°;*

NEIC Felt [IV] at Amritsar, Chandigarh, Gurgaon and Ludhiana and [III] at Delhi, India. Also felt at Chamba, Dehradun, Dera Gopipur, Dharmsala, Jalandhar, Jammu, Kapurthala, Kanna, Mohali, Nakodar, New Delhi, Noida, Palampur, Phagwara, Rahon, Samrala and Sundarnagar. Felt [IV] at Islamabad and [III] at Lahore, Pakistan. Also felt at Haripur, Muzaffarabad and Risalpur. Broadband depth 15 km.

*GCMT **01** 06:57:17.5±0.1, 33°.02N±0°.01×75°.60E±0°.01, h20km, MW5.6/122, Moment Tensor Solution. s101, c183; s122, c297; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}2.23±.03; $M_{\theta\theta}$-1.08±.03; $M_{\phi\phi}$-1.14±.03; $M_{r\theta}$2.17±.07; $M_{\theta\phi}$1.23±.02; $M_{\phi r}$-1.21±.06; Best double couple: $M_0$3.37700×10^{17} NP1:ϕ_s124.00000°, δ69.00000°, λ81.00000°. NP2:ϕ_s328.00000°, δ23.00000°, λ113.00000°. Principal axes: T 3.3760, Plg65.0000°, Azm18.0000°; N 0.0120, Plg9.0000°, Azm127.0000°; P -3.3780, Plg23.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NNC **01** 06:57:22.8±2.0, 34°.00N×75°.23E, h6km±13km, mb5.6, mpv5.7 Error ellipse: s-maj=16.8km s-min=9.9km az=145.0*

ISC 01 06:57:15.2±0.4, 33°.11N±0°.02×75°.72E±0°.02, h27km±2km, h29km: pP-P, n1348, σ2°05/1097, mb5.5/233, MS5.5/584, 135C-40D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	0.67 180		*e*P	Pb	06 57 26.5	-1.8
THN				*e*x	x	06 58 14.0	
DHRM	DHARAMSHALA	0.98 150		*e*P	Pn	06 57 32.6	-0.8
DHRM				*e*S	Sb	06 57 46.2	-0.2
BHK	Bhakra	1.78 161		*e*x	Pn	06 57 47.0	+2.8
BHK				*e*S	Sn	06 58 07.2	+1.2
CHCP	Chirah Chowk	2.13 286		P	Pb	06 57 53.0	-0.1
NIL	Nilore	2.14 285		*e*Pn	Pb	06 57 52.9	-0.3
NIL				*e*Sn	Sb	06 58 17.9	-1.4
NIL	Nilore	2.14 285		*e*P	Pb	06 57 52.9	-0.3
NIL				*e*		06 58 17.9	
SMLA	Simla	2.32 148		*e*P	Pb	06 57 54.3	-2.1
SMLA				*e*S	Sb	06 58 23.3	-1.3
SMLA				IAML		06 58 31.4	
	comp=N,95μm,0.7s						
SMLA				IAML		06 58 32.5	
	comp=E,103μm,0.9s						
SARP	Sargodha	2.83 246		P	Pn	06 57 59.4	+0.7
CEP	Cherat	3.27 284		P	Pn	06 58 07.4	+2.7
CEP				S	Sb	06 58 48.0	-3.9
THW	Thamme Wali	3.36 266		P	Pn	06 58 07.8	+1.9
DDI	Dehra Dun	3.41 144		*e*P	Pn	06 58 06.5	-0.2
DDI				*e*S	Sn	06 58 43.7	-2.6
DDI				IAML		06 59 08.5	
	comp=N,37μm,0.2s						
DDI				IAML		06 59 09.1	
	comp=E,50μm,0.3s						
JOSI	Joshimath	4.14 127		*e*P	Pn	06 58 18.9	+2.1
JOSI				*e*S	Sn	06 59 04.7	+0.3
JOSI				IAML		06 59 29.0	
	comp=N,36μm,0.7s						
NDI	New Delhi	4.59 163		*e*P	Pn	06 58 21.0	-1.8
NDI				*e*x	Sg	06 59 40.0	
SONA	Sohna	4.98 166		*e*P	Pn	06 58 27.0	-1.2
SONA				*e*S	Sn	06 59 21.5	-3.3
KUDL	Kundal	4.99 172		*e*P	Pn	06 58 26.5	-1.8
KUDL				*e*S	Sn	06 59 21.4	-3.7
KHET	Khetri	5.02 179		*e*P	Pn	06 58 29.4	+0.7
KHET				*e*S	Sn	06 59 24.2	-1.6
PTH	Pithoragarh	5.23 131		*e*P	Pn	06 58 30.2	-1.6
PTH				*e*x	Sn	06 59 34.5	+3.2
LGTI	Lohaghat	5.32 132		*e*x	x	06 58 23.2	
LGTI				*e*x	Sn	06 59 31.8	-1.3
KBL	Kabul	5.74 286		*e*Pn	Pn	06 58 40.2	+1.4
KBL				*e*Sn	Sn	06 59 40.8	-3.1
KBL	Kabul	5.74 286		*e*P	Pn	06 58 40.2	+1.4
KBL				*e*		06 59 40.8	
KSH	Kashi	6.40 2		P	Pn	06 58 47.3	-0.5
KSH				Pn	Pn	06 58 47.4	-0.4
KSH				sP	Pb	06 58 52.4	-14
KSH				S	Sn	06 59 57.5	-2.5
GAR	Garm	7.33 325		*e*Pn	Pn	06 59 01.7	+1.2
GAR	Garm	7.33 325		*e*P	Pn	06 59 01.7	+1.2
BTK	Batken	7.98 332		*e*Pn	Pn	06 59 10.8	+1.4
BTK	Batken	7.98 332		*e*P	Pn	06 59 10.8	+1.4
JHNI	Jhansi	8.00 161		*e*x	Pn	06 59 11.0	+1.3
JHNI				*e*x	Sn	07 00 39.0	-0.3
PYUN	Piuthan	8.01 127		*e*Pn	Pn	06 59 10.2	+0.3
NRN	Naryn	8.31 1		*e*Pn	Pn	06 59 16.7	+2.5
NRN	Naryn	8.31 1		*e*P	Pn	06 59 16.7	+2.5
DANN	Dangsing	8.38 122		*e*Pn	Pn	06 59 15.4	+0.2
ARSB	Arslanbob	8.49 346		*e*Pn	Pn	06 59 17.0	+0.6
KOLN	Koldanda	8.63 126		*e*Pn	Pn	06 59 19.6	+1.1
KOLN				*e*Sg	Sn	07 00 54.5	-0.6
	comp=N,1μm,0.6s						
TARG	Taragay, Kyrgy	8.77 10		*e*Pn	Pn	06 59 23.4	+2.9
KZA	Kyzart

```
      comp=Z,263nm,0.8s
IUG                         eLR     LR      07 03 22.8
      comp=Z,6µm,11.4s
MDOK  Medeo      10.10  6 ⇑Pn      Pn      06 59 37.2 -1.3
MDOK                      ⇑Lg      Lg      07 02 16.3
MDOK  Medeo      10.10  6 i P      Pn      06 59 40.0 +1.6
MDOK                        pmax   pmax
      comp=Z,970nm,1.6s
MDOK                        MLR    MLR
      comp=Z,24µm,11.0s
MDOK  Medeo      10.10  6 i P      Pn      06 59 40.0 +1.6
      comp=Z,970nm,1.6s
MDOK                        eLR     LR      07 03 38.1
      comp=Z,24µm,10.9s
AAA   Alma-Ata   10.13  5 eP      Pn      06 59 41.4 +2.5
AAA                         eS      Sn      07 01 37.9 +6.3
AAA                         pmax   pmax
      comp=Z,1µm,4.8s
AAA                         smax   smax
      comp=E,28µm,10.0s
AAA                         MLR    MLR
      comp=Z,33µm,10.0s
AAA   Alma-Ata   10.13  5 eP      Pn      06 59 40.1 +1.2
      comp=Z,43nm,0.8s
AAA                         eLR     LR      07 03 40.1
      comp=Z,21µm,11.9s
KNDC  Almaty     10.14  5 ⇑Pn      Pn      06 59 37.8 -1.3
KNDC                      ⇑Lg      Lg      07 02 16.3
SATY  Saty       10.16 11c iP      Pn      06 59 41.3 +2.0
SATY                        eS      Sn      07 01 33.4 +1.0
SATY                        pmax   pmax
      comp=Z,352nm,1.2s
SATY                        smax   smax
      comp=N,800nm,2.3s
SATY                        MLR    MLR
      comp=Z,10µm,4.0s
SATY  Saty       10.16 11⇑ iP      Pn      06 59 41.3 +2.0
      comp=Z,352nm,1.2s
SATY                        eS      Sn      07 01 33.4 +1.0
      comp=Z,800nm,2.3s
SATY                        eLR     LR      07 02 54.0
      comp=Z,10µm,4.0s
USP   Ospenovka  10.19 355  P       Pn      06 59 41.0 +1.4
      SNR=87
ZHN   Zhinishke  10.27 11c iP      Pn      06 59 42.7 +1.9
ZHN                         eS      Sn      07 01 37.5 +2.4
ZHN                         pmax   pmax
      comp=Z,156nm,1.3s
ZHN                         smax   smax
      comp=N,111nm,2.1s
ZHN                         MLR    MLR
      comp=Z,3µm,4.0s
ZHN   Zhinishke  10.27 11⇑ iP      Pn      06 59 42.7 +1.9
      comp=Z,156nm,1.2s
ZHN                         eS      Sn      07 01 37.5 +2.4
      comp=Z,111nm,2.1s
ZHN                         eLR     LR      07 02 57.5
      comp=Z,3µm,4.4s
UZB   Uzynbulak  10.36 14c iP      Pn      06 59 43.9 +1.9
UZB                         eS      Sn      07 01 38.8 +1.6
UZB                         pmax   pmax
      comp=Z,292nm,1.9s
UZB                         smax   smax
      comp=N,435nm,2.5s
UZB                         MLR    MLR
      comp=Z,15µm,14.0s
UZB   Uzynbulak  10.36 14⇑ iP      Pn      06 59 44.0 +1.9
      comp=Z,292nm,1.9s
UZB                         eS      Sn      07 01 38.8 +1.6
      comp=Z,435nm,2.5s
UZB                         eLR     LR      07 03 45.5
      comp=Z,15µm,14.4s
DZA   Taraz      10.36 342 eP      Pn      06 59 41.1 -0.9
DZA                         pmax   pmax
      comp=Z,50nm,0.9s
DZA                         MLR    MLR
      comp=Z,9µm,12.0s
DZA   Taraz      10.36 342 eP      Pn      06 59 41.2 -0.9
      comp=Z,50nm,0.9s
DZA                         eLR     LR      07 03 25.2
      comp=Z,9µm,11.9s
CHM   Chimkent   10.39 334 eP      Pn      06 59 42.8 +0.4
CHM                         eS      Sn      07 01 36.0 -1.9
CHM                         pmax   pmax
      comp=Z,71nm,0.7s
CHM                         smax   smax
      comp=N,857nm,1.7s
CHM                         MLR    MLR
      comp=Z,2µm,10.0s
CHM   Chimkent   10.39 334 eP      Pn      06 59 42.9 +0.4
      comp=Z,71nm,0.7s
CHM                         eS      Sn      07 01 36.1 -1.9
      comp=Z,857nm,1.7s
CHM                         eLR     LR      07 03 36.1
      comp=Z,2µm,10.4s
SHLS  Shalkode   10.46 15c iP      Pn      06 59 46.5 +3.2
SHLS                        pmax   pmax
      comp=Z,789nm,2.2s
SHLS                        MLR    MLR
      comp=Z,13µm,12.0s
SHLS  Shalkode   10.46 15⇑ iP      Pn      06 59 46.6 +3.2
      comp=Z,789nm,2.2s
SHLS                        eLR     LR      07 04 00.4
      comp=Z,13µm,11.9s
JIRN  Jiri       10.54 118 ePn     Pn      06 59 43.5 -1.3
JIRN                        eSg     Sn      07 01 35.7 -6.5
      comp=Z,630nm,0.3s
JBP   Jabalpur   10.59 158 eP      Pn      06 59 43.4 -1.8
JBP                         eS      Sn      07 01 33.8 -9.1
KPKS  Kokpek     10.60 12c iP      Pn      06 59 46.9 +1.6
KPKS                        eS      Sn      07 01 45.4 +2.3
KPKS                        pmax   pmax
      comp=Z,372nm,1.2s
KPKS                        MLR    MLR
      comp=Z,18µm,13.0s
KPKS  Kokpek     10.60 12⇑ iP      Pn      06 59 47.0 +1.6
      comp=Z,372nm,1.2s
KPKS                        eS      Sn      07 01 45.5 +2.3
KPKS                        eLR     LR      07 03 54.4
      comp=Z,18µm,13.4s
PDGK  Podgornoye 10.63  15 ⇑Pn      Pn      06 59 46.2 +0.5
      comp=Z,142nm,0.4s
PDGK                        ⇑Sn     Sn      07 01 37.0 -6.8
      comp=Z,719nm,1.4s
PDGK                        ⇑Lg      Lg      07 02 33.8
      comp=Z,2µm,1.5s
PDGK  Podgornoye 10.63  15 P       Pn      06 59 47.0 +1.3
CHKK  Chushkaly  10.78  5 eP      Pn      06 59 48.3 +0.7
CHKK                        pmax   pmax
      comp=Z,485nm,1.0s
CHKK  Chushkaly  10.78  5 eP      Pn      06 59 48.4 +0.7
      comp=Z,484nm,1.0s
KUU   Kurty      10.78  2 eP      Pn      06 59 47.9 +0.2
KUU                         pmax   pmax
      comp=Z,165nm,2.5s
KUU                         MLR    MLR
      comp=Z,20µm,11.0s
KUU   Kurty      10.78  2 eP      Pn      06 59 47.1 -0.6
      comp=Z,165nm,2.5s
KUU                         eLR     LR      07 03 53.0
      comp=Z,20µm,10.9s
KK31  Karatay Array 10.79 339 ePn  Pn      06 59 47.4 -0.4
KK31                        eSn     Sn      07 01 40.5 -7.2
KK31  Karatay Array 10.79 339 Pn   Pn      06 59 45.0 -2.8
      comp=Z,58nm,0.4s,baz=160,slow=11,SNR=1244
KK31                        ⇓Sn     Sn      07 01 36.4 -11
      comp=Z,1µm,0.9s,baz=158,slow=25,SNR=12
KK31  Karatay Array 10.79 339 eP   Pn      06 59 47.4 -0.4
KK31                        e               07 01 40.5
KKAR  Karatay Array 10.79 339 ePn  Pn      06 59 47.0 -0.8
KKAR                        ePn     Pn      06 59 47.7 -0.1
KKAR                        eSn     Sn      07 01 40.3 -7.3
KKAR                        eSn     Sn      07 01 41.0 -6.6
KKAR  Karatay Array 10.79 339 eP   Pn      06 59 47.0 -0.8
KKAR                        e               07 01 41.0
BHJ   Bhuj       11.18 210 eP      Pn      06 59 50.9 -2.3
RAMN  Ramite     11.24 120 ePn     Pn      06 59 52.7 -1.6
RAMN                        eSg     Sn      07 01 53.2 -6.0
      comp=Z,728nm,0.4s
BTLS  Baital     11.99 354 eP      Pn      07 00 04.1 -0.1
BTLS                        pmax   pmax
      comp=Z,32nm,1.5s
BTLS                        MLR    MLR
      comp=Z,8µm,12.0s
BTLS  Baital     11.99 354 eP      Pn      07 00 04.1 -0.1
      comp=Z,32nm,1.5s
BTLS                        eLR     LR      07 04 27.6
      comp=Z,8µm,11.9s
TDK   Taldyqorghan 12.06  9 eP      Pn      07 00 05.2  0.0
TDK                         pmax   pmax
      comp=Z,85nm,1.1s
TDK                         MLR    MLR
      comp=Z,24µm,17.0s
TDK   Taldyqorghan 12.06  9 eP      Pn      07 00 05.2  0.0
      comp=Z,85nm,1.1s
TDK                         eLR     LR      07 04 43.0
      comp=Z,24µm,16.8s
NGP   Nagpur     12.27 165 ⇓iP      Pn      07 00 05.6 -2.6
NGP                         ex      x       07 02 10.2
NGP                         IAML           07 03 43.4
      comp=E,633nm,0.6s
NGP                         IAML           07 03 44.5
      comp=N,697nm,0.6s
GTK   Tadong     12.54 114 eP      Pn      07 00 08.8 -3.1
GTK                         ex      x       07 02 15.7
BOK   Bokaro     12.88 133 eP      Pn      07 00 13.9 -2.6
LSA   Lhasa      13.61 100 P       Pn      07 00 25.0 -1.8
LSA                         S       Sn      07 03 02.5 +5.1
LSA                         pmax   pmax
      comp=N,18nm,1.1s
LSA                         LR     LR
      comp=N,2µm,14.0s
LSA                         LR     LR
      comp=N,5µm,11.4s
LSA                         LR     LR
      comp=N,16µm,13.3s
LSA   Lhasa      13.61 100 ePn     Pn      07 00 25.0 -1.8
LSA   Lhasa      13.61 100 P       Pn      07 00 25.6 -1.3
LSA   Lhasa      13.61 100 eP      Pn      07 00 25.0 -1.8
WMQ   Urumqi     14.21  38 P       Pn      07 00 33.9 -0.7
WMQ                         sP      P       07 00 43.5 +1.8
WMQ                         PP     PnPn    07 00 48.6 +6.0
WMQ                         S       Sn      07 03 07.3 -4.1
WMQ                         sS      S       07 03 19.3  -12
WMQ                         pmax   pmax
      comp=N,97nm,1.5s
WMQ                         pmax   pmax
      comp=N,3µm,3.7s
WMQ                         LR     LR
      comp=N,82µm,12.1s
WMQ                         LR     LR
      comp=N,98µm,16.1s
WMQ                         LR     LR
      comp=N,124µm,19.3s
DHUB  DHUBRI     14.28 116 eP      Pn      07 00 31.2 -4.3
DHUB                        ex      x       07 02 54.5
MAKZ  Makanchi   14.49  17 ePn     Pn      07 00 37.2 -1.2
MAKZ  Makanchi   14.49  17 eP      Pn      07 00 37.2 -1.2
MKAR  Makanchi Array 14.56 18 ePn  Pn      07 00 37.3 -2.0
MKAR  Makanchi Array 14.56 18 Pn   Pn      07 00 37.8 -1.6
      comp=N,5.1nm,0.3s,baz=201,slow=13,SNR=155
MKAR                        Sn      Sn      07 03 13.8 -6.0
      comp=N,5.4nm,0.3s,baz=200,slow=21,SNR=4.9
MKAR                        Lg      Lg      07 05 00.3
      comp=N,0.8nm,0.3s,baz=188,slow=29,SNR=1.9
POO   Poona      14.61 187 eP      Pn      07 00 36.7 -3.5
GEYT  Alibeck    15.12 294 ePn     Pn      07 00 44.1 -2.8
GEYT  Alibeck    15.12 294 Pn      Pn      07 00 44.7 -2.2
      comp=N,1.9nm,0.3s,baz=98,slow=11,SNR=11
GEYT                        Sn      Sn      07 03 28.3 -5.2
      comp=N,1.2nm,0.3s,baz=108,slow=4.7,SNR=2.2
GEYT                        LR     LR      07 07 47.7
      comp=N,4µm,18.4s,baz=120,slow=42
GYA0B ALIBECK ARRAY 15.12 294 ePn  Pn      07 00 45.0 -1.9
GYA0B ALIBECK ARRAY 15.12 294 ⇑Pn  Pn      07 00 45.4 -1.5
GYA0B                       ⇓Sn     Sn      07 03 30.3 -3.2
OTUK  Ortayu     15.34 351 ⇑Pn     Pn      07 00 47.4 -2.3
      comp=N,156nm,1.0s
OTUK                        ⇑Lg      Lg      07 04 59.6
      comp=N,1µm,2.1s
OTUK  Ortayu     15.34 351 P       Pn      07 00 47.0 -2.7
GUWA  GUWAHATI   15.49 112 eP      Pn      07 00 47.9 -3.9
GUWA                        eS      Sn      07 03 26.7  -16
HYB   Hyderabad  15.83 170 i P     Pn      07 00 50.5 -5.8
      comp=N,238nm,0.8s
HYB                         e               07 03 36.0
HYB                         eS      Sn      07 03 54.0 +3.1
HYB                         LR     LR
      comp=N,17nm,14.0s
HYB   Hyderabad  15.83 170 eP      Pn      07 00 53.3 -2.9
ZSN   Zaisan     15.92  23 eP      Pn      07 00 55.0 -2.2
ZSN                         eS      Sn      07 03 49.4 -3.4
ZSN                         pmax   pmax
      comp=Z,123nm,2.8s
ZSN                         smax   smax
      comp=E,39nm,1.9s
ZSN                         MLR    MLR
      comp=Z,2µm,11.0s
ZSN   Zaisan     15.92  23 eP      Pn      07 00 55.1 -2.2
      comp=Z,123nm,2.8s
ZSN                         eS      Sn      07 03 49.4 -3.4
      comp=Z,38nm,1.9s
ZSN                         eLR     LR      07 07 18.5
      comp=Z,2µm,11.4s
SHL   Shillong   15.96 114 ePn     Pn      07 00 54.9 -3.1
      comp=Z,442nm,1.0s
SHL   Shillong   15.96 114 eP      Pn      07 00 54.9 -3.1
SHL                         pmax   pmax
      comp=Z,442nm,1.0s
SHL   Shillong   15.96 114 eP      Pn      07 00 54.0 -4.0
SHL                         eS      Sn      07 03 37.9  -16
AGT   Agartala   16.44 120 eP      Pn      07 01 00.4 -3.5
VIS   Vishakhapatnam 16.78 154 i P Pn      07 01 05.6 -2.7
VIS                         i x     x       07 04 06.1
BELO  BELONIA    16.97 121 eP      Pn      07 01 07.6 -3.1
BELO                        IAmb   IAmb    07 01 20.9
      comp=Z,566nm,1.2s
JORH  JORHAT     17.26 107 eP      Pn      07 01 11.8 -2.5
BRDH  Bariadhala 17.47 122 P       Pn      07 01 17.0 +0.1
      comp=Z,16nm,0.3s,baz=34,slow=5.9,SNR=4.1
BRDH                        LR     LR      07 09 53.0
      comp=Z,3µm,19.3s,baz=316,slow=44
SEM   Semipalatinsk 17.61  10 eP      Pn      07 01 16.0 -2.7
SEM                         pmax   pmax
      comp=Z,102nm,1.3s
SEM                         MLR    MLR
      comp=Z,9µm,11.0s
SEM   Semipalatinsk 17.61  10 eP      Pn      07 01 16.1 -2.7
      comp=Z,102nm,1.3s
SEM                         eLR     LR      07 08 11.6
      comp=Z,9µm,11.2s
KOHI  KOHIMA     17.61 110 eP      P       07 01 20.4 +0.7
KOHI                        IAmb   IAmb    07 01 29.1
      comp=Z,323nm,0.9s
GOA   Goa        17.62 186 ex      Pn      07 01 14.7 -4.1
GOA                         eP      P       07 01 16.7 -2.9
KURBB Kurchatov Arra 17.63  6 ⇑Pn  Pn      07 01 15.5 -3.2
      comp=Z,440nm,1.4s
KURBB                       ⇑Sn     Sn      07 04 26.4 -7.7
      comp=Z,290nm,1.2s
KURBB                       ⇑Lg      Lg      07 06 16.5
      comp=Z,736nm,2.0s
KURBB Kurchatov Arra 17.63  6 P    Pn      07 01 16.7 -2.0
      comp=Z,1.7nm,0.3s,baz=194,slow=11,SNR=238
KURBB                       S       Sn      07 04 33.0 -1.0
      baz=182,slow=32,SNR=2.7
KURBB                       Lg      Lg      07 06 31.9
      comp=Z,0.1nm,0.3s,baz=201,slow=29,SNR=3.8
MOKO  MOKOCHONG  17.66 108 ex      Pn      07 01 15.7 -3.7
MOKO                        IAmb   IAmb    07 01 29.1
      comp=Z,688nm,0.9s
KURK  Kurchatov  17.73  6 ePn     Pn      07 01 17.8 -2.1
      comp=Z,296nm,1.0s
KURK  Kurchatov  17.73  6 P       Pn      07 01 16.7 -3.2
KURK                        S       Sn      07 04 33.1 -3.4
KURK  Kurchatov  17.73  6 P       Pn      07 01 17.6 -2.3
      SNR=236
IMP   Imphal     17.93 113 eP      Pn      07 01 21.8 -1.0
IMP                         IAmb   IAmb    07 01 33.2
      comp=Z,308nm,0.9s
WSAR  Wadi Sarin 17.97 241 P       Pn      07 01 21.6 -1.5
      SNR=44
WSAR  Wadi Sarin 17.97 241 P       Pn      07 01 21.2 -1.9
      comp=Z,2.8nm,0.3s,baz=97,slow=13,SNR=25
WSAR                        S       Sn      07 04 42.2 -0.6
      comp=Z,3.0nm,0.3s,baz=3.5,slow=19,SNR=4.4
WSAR                        LR     LR      07 10 38.7
      comp=Z,11µm,19.1s,baz=83,slow=45
JLN   Jalan Bani Buh 18.09 237 P   Pn      07 01 23.4 -1.2
      SNR=50
WBK   Wadi Bani Khal 18.11 239 P   Pn      07 01 24.8  0.0
      SNR=40
BIDO  Bidbid     18.18 243 P       Pn      07 01 24.4 -1.2
      SNR=16
SHME  Shamm      18.41 253 i P     Pn      07 01 28.8 +0.3
      SNR=24
SMDO  Samad      18.50 242 P       Pn      07 01 30.5 +0.8
      SNR=21
MSFE  Esma-Masafi 18.72 251 i P    Pn      07 01 33.2 +0.9
      SNR=28
DGZ   Jazzator, Alta 18.72 24c iP  P       07 01 31.7  0.0
DGZ                         pmax   pmax
      comp=Z,173nm,1.7s
DGZ                         MLR    MLR
      comp=Z,3µm,12.0s
JMDO  Jabal Madar 18.88 240 P      Pn      07 01 36.1 +1.9
      SNR=37
HATD  Hatta, Dubai 19.00 249 i P   Pn      07 01 36.2 +0.5
      SNR=18
HATD  Hatta, Dubai 19.00 249 P     P       07 01 33.7 -1.1
      SNR=25
HATD                        P      P       07 01 33.7 -1.1
      SNR=25
SOHO  SOHO       19.05 247 P       P       07 01 35.6 +0.4
      SNR=29
SOHO                        P      P       07 01 35.6 +0.4
      SNR=29
ASHO  Ashiyiah   19.13 249 i P     Pn      07 01 39.7 +2.4
      SNR=53
ASHO  Ashiyiah   19.13 249 P       Pn      07 01 38.5 +1.2
      SNR=47
NAZ   Nazwa, Dubai 19.29 250 i P   Pn      07 01 40.9 +1.8
      SNR=17
NAZ   Nazwa, Dubai 19.29 250 P     Pn      07 01 40.1 +0.9
      SNR=16
BSY   Bisya      19.32 242 P       Pn      07 01 40.9 +1.4
      SNR=30
FAQ   Al Faqa, Dubai 19.47 250 i P Pn      07 01 42.8 +1.5
      SNR=19
FAQ   Al Faqa, Dubai 19.47 250 P   Pn      07 01 42.1 +0.9
      SNR=24
FAQ                         P      Pn      07 01 42.1 +0.9
      SNR=24
ARQ   Araqi      19.49 245 P       Pn      07 01 43.5 +1.9
      SNR=15
ALNE  Al Ain     19.69 248 i P     Pn      07 01 45.2 +1.3
      SNR=31
ASUD  Al Ashush, Dub 19.73 250 i P Pn      07 01 46.1 +1.7
      SNR=13
ASUD  Al Ashush, Dub 19.73 250 P   Pn      07 01 45.6 +1.2
      SNR=7.4
MHTO  MHTO       19.86 237 P       Pn      07 01 46.5 +0.6
      SNR=70
MHTO                        P      Pn      07 01 46.5 +0.6
      SNR=70
AB31  Akbulak array 19.97 329 Pn   P       07 01 45.5 +0.4
      comp=Z,94nm,0.8s,baz=132,slow=11,SNR=1009
AB31                        Sn     S       07 05 20.6 -7.7
      comp=Z,28nm,0.6s,baz=131,slow=25,SNR=10
AB31                        ⇑Lg      Lg      07 07 24.6
      comp=Z,11nm,0.5s,baz=152,slow=22,SNR=4.1
ABKAR Akbulak array 19.97 329 eP   P       07 01 45.4 +0.2
ABKAR                       eP     Pn      07 01 45.6 -1.4
SIMRM Sittwe     20.02 126 eP      P       07 01 46.8 +0.9
      comp=Z,250nm,1.8s
AJN   Ajban      20.04 250 i P     Pn      07 01 48.5 +0.5
      SNR=7.5
AJN   Ajban      20.04 250 P       Pn      07 01 48.4 +0.4
      SNR=7.6
BVAR  Borovoye Array 20.28 351 P   P       07 01 48.4 -0.1
      comp=Z,159nm,0.4s,baz=162,slow=11,SNR=816
BRVK  Borovoye   20.32 351 eP      P       07 01 49.5 +0.5
      comp=Z,536nm,1.0s
BRVK                        LR     LR
      comp=Z,21µm,22.0s
BRVK  Borovoye   20.32 351 ⇑Pn     P       07 01 49.4 +0.4
      comp=Z,578nm,1.1s
BRVK                        ⇓Sn     S       07 05 28.8 -6.5
      comp=Z,150nm,1.5s
BRVK                        ⇑Lg      Lg      07 07 38.5
      comp=Z,618nm,2.5s
BRVK  Borovoye   20.32 351c iP     P       07 01 49.5 +0.5
BRVK                        pmax   pmax
      comp=Z,557nm,1.0s
BRVK                        MLR    MLR
      comp=Z,15µm,19.0s
BRVK  Borovoye   20.32 351 P       P       07 01 49.6 +0.6
      SNR=320
BRVK                        P      P       07 01 49.6 +0.6
      SNR=320
MDRS  Chennai    20.37 167 eP      Pn      07 01 54.7 +2.8
GTA   Gaotai     20.39  65 ⇑P      P       07 01 50.5 +0.5
GTA                         pP     Pn      07 01 54.0 +1.8
GTA                         sP     pP      07 01 56.6  -1.5
GTA                         S       Sn      07 05 39.6 -1.6
GTA                         pmax   pmax
      comp=Z,83nm,1.3s
GTA                         pmax   pmax
      comp=Z,2µm,8.1s
GTA                         LR     LR
      comp=Z,7µm,13.3s
GTA                         LR     LR
      comp=Z,11µm,13.0s
GTA                         LR     LR
      comp=Z,16µm,14.0s
DQM   DQM        20.86 236 P       Pn      07 01 57.1 -0.6
      SNR=45
DQM                         P      Pn      07 01 57.1 -0.6
      SNR=45
AKTO  Aktyubinsk 21.68 328 ⇓Pn     P       07 02 04.5 +0.8
      comp=Z,468nm,0.8s
AKTO                        ⇓Sn     S       07 06 00.9 -1.3
      comp=Z,165nm,1.4s
AKTO                        ⇓Lg      Lg      07 08 20.3
      comp=Z,193nm,2.0s
AKTO  Aktyubinsk 21.68 328 P       P       07 02 04.0 +0.4
      comp=Z,148nm,0.6s,baz=132,slow=9.5,SNR=218
AKTO                        S       S       07 05 55.6 -6.5
      comp=Z,16nm,0.7s,baz=135,slow=20,SNR=2.7
AKTO                        Lg      Lg      07 08 48.9
      comp=Z,12nm,1.1s,baz=102,slow=18,SNR=1.4
AKTO                        LR     LR      07 10 13.2
      comp=Z,3µm,18.6s,baz=136,slow=36
ZAA0  Zalesovo Array 21.82  15 eP   P       07 02 03.8 -1.3
      comp=Z,110nm,0.7s
ZAA0  Zalesovo Array 21.82  15 ⇑Pn  P       07 02 03.9 -1.2
      comp=Z,38nm,1.4s
ZAA0                        ⇓Sn     S       07 06 09.3 +4.6
      comp=Z,16nm,1.4s
ZAA0                        ⇓Lg      Lg      07 08 29.5
      comp=Z,54nm,2.2s
ZALV  Zalesovo Beam 21.82  15 eP   P       07 02 03.3 -1.7
ZALV  Zalesovo Beam 21.82  15 P    P       07 02 03.9 -1.1
      comp=Z,27nm,0.4s,baz=206,slow=9.9,SNR=110
ZALV                        S       S       07 06 04.7 -0.1
      comp=Z,15nm,0.9s,baz=213,slow=10,SNR=2.3
ZALV                        Lg      Lg      07 08 50.5
      comp=Z,9.9nm,1.1s,baz=208,slow=18,SNR=3.3
ZALV                        ScP    ScP     07 09 42.5 +3.0
      comp=Z,5.4nm,0.9s,baz=180,slow=4.3,SNR=2.1
ZALV                        LR     LR      07 11 24.5
      comp=Z,19µm,18.2s,baz=198,slow=39
MZR   Muzera     22.02 248 i P     P       07 02 09.9 +2.3
      SNR=14
MZR   Muzera     22.02 248 P       P       07 02 12.3 +4.8
      SNR=15
NVS   Novosibirsk 22.36  11⇑ iP     P       07 02 10.7 -0.2
NVS                         eS      S       07 06 14.4 -0.6
NVS                         pmax   pmax
      comp=N,105nm,0.5s
NVS                         pmax   pmax
      comp=E,12nm,0.5s
NVS                         pmax   pmax
      comp=Z,101nm,0.5s
NVS                         smax   smax
      comp=N,231nm,1.6s
NVS                         smax   smax
      comp=E,47nm,0.7s
LKRN  Lenkeran, Azer 22.49 292 P   P       07 02 14.1 +1.7
LZH   Lanzhou    23.31  75 ⇑P      P       07 02 20.9 -0.2
LZH                         pP     pP      07 02 24.8 -4.6
LZH                         sP     sP      07 02 27.6 -5.5
LZH                         S       S       07 06 31.3 -0.8
LZH                         sS     pS      07 06 37.8 -3.9
LZH                         pmax   pmax
      comp=E,86nm,1.5s
LZH                         pmax   pmax
      comp=E,3µm,5.3s
LZH                         LR     LR
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comp=E,5μm,15.7s
LZH LR LR
comp=E,10μm,15.2s
LZH LR LR
comp=E,13μm,14.6s
CD2 Chengdu 23.85 88⇑ *i*P P 07 02 26.0 -0.3
CD2 sP pP 07 02 31.4 -3.4
CD2 S **S 07 06 39.0 -1.7**
CD2 sS pS 07 06 44.8 -5.7
CD2 SS **SnSn 07 07 20.0 -0.6**
CD2 pmax pmax
comp=E,430nm,1.4s
CD2 pmax pmax
comp=E,3μm,11.4s
CD2 LR LR
comp=E,29μm,21.1s
CD2 LR LR
comp=E,15μm,13.7s
CD2 LR LR
comp=E,20μm,15.2s
SEKA Sheki 24.05 298 P **P 07 02 29.6 +1.5**
MNGR Mingechevir, A 24.06 297 P **P 07 02 31.2 +3.1**
DMTO DMTO 24.16 236 P **P 07 02 34.0 +4.8**
SNR=9.4
DMTO P **P 07 02 34.0 +4.8**
SNR=9.4
DMTO P **P 07 02 34.0 +4.8**
SNR=9.4
MAK Makhachkala 24.21 302 *e*P **P 07 02 30.9 +1.5**
MAK *e* 07 03 01.1
MAK *e*S **S 07 06 52.6 +6.6**
MAK *e*SS **SnSn 07 07 35.7 +6.7**
MAK pmax pmax
comp=Z,38nm,0.4s
MAK MLR MLR
comp=Z,3μm,16.0s
TRD Trivandrum 24.50 177 *ex* **P 07 02 34.0 +1.7**
TRD IAmb IAmb 07 02 35.0
comp=Z,82nm,0.3s
ZKTA Zakatala 24.55 299 P **P 07 02 34.1 +1.4**
GANJ Ganja 24.61 296 P **P 07 02 34.8 +1.6**
RBK Rabkut 24.82 236 P **P 07 02 39.0 +3.8**
SNR=5.7
MNCI Minicoy 24.83 186 *e*P **P 07 02 34.2 -1.0**
comp=Z,330nm,1.1s
MNCI LR LR
comp=Z,15μm,19.0s
WHFO Wadi Hawf 24.85 238 P **P 07 02 38.0 +2.5**
SNR=11
KMI Kunming 24.86 102 P **P 07 02 35.4 -0.4**
KMI pP pP 07 02 42.2 -2.3
KMI sP sP 07 02 46.7 -1.2
KMI PP **PnPn 07 03 14.3 +5.5**
KMI S **S 07 06 54.7 -2.6**
KMI SS **SnSn 07 07 51.1 +5.4**
KMI pmax pmax
comp=Z,150nm,1.4s
KMI pmax pmax
comp=Z,780nm,3.1s
KMI LR LR
comp=Z,7μm,19.0s
KMI LR LR
comp=Z,2μm,20.1s
KMI LR LR
comp=Z,6μm,18.2s
KMI Kunming 24.86 102 *e*P **P 07 02 35.6 -0.2**
comp=Z,147nm,0.7s
KMI LR LR
comp=Z,6μm,22.0s
KMI Kunming 24.86 102 *e*P **P 07 02 35.6 -0.2**
KMI pmax pmax
comp=Z,147nm,0.7s
KMI MLR MLR
comp=Z,6μm,22.0s
NAX Nakhchivan 25.08 293 P **P 07 02 40.2 +2.7**
CHTO Chiang Mai 25.19 119 *e*P **P 07 02 38.2 -0.4**
comp=Z,886nm,1.9s
CHTO Chiang Mai 25.19 119 *e*P **P 07 02 38.2 -0.4**
CHTO pmax pmax
comp=Z,886nm,1.9s
CHTO Chiang Mai 25.19 119 P **P 07 02 38.2 -0.4**
SNR=148
CHTO P **P 07 02 38.2 -0.4**
SNR=148
CMMT Chiang Mai 25.20 119 P **P 07 02 38.3 -0.3**
comp=Z,78nm,1.6s,comp=Z,2μm
DGPR DIGLIPUR 25.30 138 *ex* **P 07 02 40.0 +0.5**
CM31 Chiang Mai Arr 25.41 119 *e*P **P 07 02 40.5 0.0**
comp=Z,921nm,1.6s
CMAR Chiang Mai Arr 25.41 119 *e*P **P 07 02 40.5 0.0**
CMAR Chiang Mai Arr 25.41 119 *e*P **P 07 02 40.6 0.0**
GROC Groznyy 25.48 302 *e*P **P 07 02 42.6 +1.6**
GROC *e* 07 03 18.8
GROC *e*S **S 07 07 11.3 +4.8**
GROC pmax pmax
comp=Z,361nm,1.2s
ABTO Aybut 25.56 238 P **P 07 02 45.0 +3.0**
SNR=19
GNI Garni 25.75 295 *e*P **P 07 02 46.6 +2.9**
comp=Z,530nm,1.1s
GNI Garni 25.75 295 *i* P **P 07 02 46.9 +3.2**
SNR=35
GNI Garni 25.75 295 *ce*P **P 07 02 46.7 +3.0**
GNI pmax pmax
comp=Z,891nm,1.5s
GNI MLR MLR
comp=Z,3μm,16.0s
GNI Garni 25.75 295 P **P 07 02 47.3 +3.7**
SNR=138
GNI Garni 25.75 295 P **P 07 02 45.9 +2.3**
comp=Z,68nm,0.9s,baz=149,slow=2.4,SNR=74
GNI S **S 07 07 16.3 +5.2**
comp=Z,10nm,0.9s,baz=131,slow=20,SNR=1.5
LAMP Lampang 25.88 118 P **P 07 02 44.7 -0.1**
comp=Z,137μm,0.7s
TBLG Delisi 25.96 298 *e*P **P 07 02 47.2 +1.9**
comp=Z,318nm,1.4s
TBLG Delisi 25.96 298 *e*P **P 07 02 47.3 +1.9**
TBLG pmax pmax
comp=Z,319nm,1.4s
MOY Mondy 26.10 37 *e*P **P 07 02 47.7 +1.0**
MOY pmax pmax
comp=Z,228nm,2.3s
PALK Pallekele 26.12 169 *e*P **P 07 02 48.5 +1.5**
comp=Z,129nm,0.9s
PALK LR LR
comp=Z,24μm,20.0s
PALK Pallekele 26.12 169 *i* P **P 07 02 49.4 +2.4**
SNR=24
PALK Pallekele 26.12 169 P **P 07 02 47.8 +0.8**
comp=Z,44nm,0.8s,baz=296,slow=6.7,SNR=25
PALK PcP **PcP 07 06 14.3 +0.1**
comp=Z,20nm,0.8s,baz=296,slow=4.5,SNR=2.7
PALK S **S 07 07 18.2 +1.2**
comp=Z,16nm,0.8s,baz=294,slow=4.1,SNR=2.4
PALK Lg Lg 07 10 52.6
comp=Z,63nm,0.8s,baz=296,slow=17,SNR=3.2
PALK LR LR 07 13 22.9
comp=Z,17μm,19.6s,baz=292,slow=37
ARU Arti 26.16 338 *e*P **P 07 02 47.5 +0.5**
comp=Z,137nm,0.9s
ARU LR LR
comp=Z,18μm,20.0s
ARU Arti 26.16 338 *c i*P **P 07 02 48.1 +1.1**
ARU 07 03 26.6
ARU PPP PPP 07 03 34.3
ARU *e*S **S 07 07 22.4 +5.4**
ARU SS **SnSn 07 08 18.4 +1.7**
ARU SSS SSS 07 08 41.4
ARU pmax pmax
comp=Z,110nm,1.1s
ARU MLR MLR
comp=Z,9μm,12.0s
PBA Port Blair 26.45 140 *e*P P 07 02 51.1 +1.2
comp=Z,347nm,1.1s
PBA LR LR
comp=Z,12μm,19.0s
PBA Port Blair 26.45 140 *ex* P 07 02 51.5 +1.6
NANT Nan 26.51 116 P **P 07 02 49.5 -1.0**
comp=Z,138μm,0.9s
ZAK Zakamensk 26.62 41 *e*P **P 07 02 51.7 +0.3**
ZAK pmax pmax
comp=Z,45nm,1.4s
ZEI Tsey 26.75 300 *e*P **P 07 02 51.5 -1.3**
ZEI pmax pmax
comp=Z,102nm,1.1s

UMPA Umpang Tak 26.84 123 P **P 07 02 55.2 +1.7**
comp=Z,250μm,0.8s
AKH Akhalkalaki 26.84 297 *e*P **P 07 02 56.3 +2.8**
comp=Z,256nm,1.1s
AKH Akhalkalaki 26.84 297 *e*P **P 07 02 56.3 +2.8**
AKH pmax pmax
comp=Z,257nm,1.1s
UTTA Uttaradit 27.05 118 P **P 07 02 55.8 +0.4**
comp=Z,140μm,0.9s
KARS Kars 27.06 296 *e*P **P 07 02 56.9 +1.4**
comp=Z,608nm,1.1s
KARS Kars 27.06 296 *e*P **P 07 02 56.9 +1.4**
KARS pmax pmax
comp=Z,608nm,1.1s
NCK Nalchik 27.11 302 *e*P **P 07 02 57.3 +1.5**
NCK pmax pmax
comp=Z,92nm,1.2s
NCK MLR MLR
comp=Z,3μm,15.0s
SONA0 Songino Array 27.37 48 *e*PcP **PcP 07 06 16.5 -0.2**
SONM Songino Array 27.37 48 *e*P **P 07 02 58.9 +0.7**
SONM Songino Array 27.37 48 P **P 07 02 59.5 +1.4**
comp=Z,20nm,0.6s,baz=246,slow=9.3,SNR=157
SONM PcP **PcP 07 06 16.5 -0.2**
comp=Z,5.8nm,1.1s,baz=246,slow=9.3,SNR=3.0
SONM S **S 07 07 39.8 +3.3**
comp=Z,2.5nm,0.8s,baz=242,slow=9.2,SNR=2.2
SONM ScP **ScP 07 09 56.1 +0.8**
comp=Z,4.2nm,1.1s,baz=238,slow=4.9,SNR=3.7
SONM Lg Lg 07 11 56.6
comp=Z,1.4nm,0.8s,baz=262,slow=20,SNR=2.2
SONM LR LR 07 14 58.3
comp=Z,13μm,18.8s,baz=298,slow=39
SIRT Sirnak 27.43 289 *e*P **P 07 03 01.4 +2.6**
comp=Z,386nm,0.9s
TLY Talaya 27.48 39 *e*P **P 07 03 00.6 +1.6**
comp=Z,37nm,1.2s
TLY LR LR
comp=Z,16μm,19.0s
TLY Talaya 27.48 39 *c i*P **P 07 03 00.6 +1.6**
TLY Talaya 27.48 39 P **P 07 03 01.1 +2.1**
SNR=22
SLVN Son La 27.58 108 *e*P **P 07 03 00.1 -0.1**
comp=Z,333nm,1.7s
GYA Guiyang 27.59 96⇑ *i*P **P 07 02 59.8 -0.6**
GYA PcP **PcP 07 06 20.0 +2.4**
GYA S **S 07 07 35.9 -4.5**
GYA SS **SnSn 07 08 54.5 +2.1**
GYA ScP **ScP 07 09 59.2 +2.8**
GYA ScS **ScS 07 13 49.8 +1.3**
GYA pmax pmax
comp=Z,40nm,1.2s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,2μm,14.9s
GYA LR LR
comp=Z,3μm,15.5s
GYA LR LR
comp=Z,4μm,17.1s
XAN Xi'an 27.61 79 P **P 07 02 59.2 -1.2**
XAN pP pP 07 03 06.1 -2.9
XAN sP sP 07 03 09.9 -2.7
XAN PP **PnPn 07 03 45.2 -0.9**
XAN S **S 07 07 41.5 +1.1**
XAN SS **SnSn 07 08 55.2 +2.7**
XAN pmax pmax
comp=Z,37nm,1.4s
XAN pmax pmax
comp=Z,580nm,8.0s
XAN LR LR
comp=Z,2μm,17.3s
XAN LR LR
comp=Z,8μm,17.5s
XAN LR LR
comp=Z,5μm,18.4s
XAN Xi'an 27.61 79 *e*P **P 07 02 59.4 -1.0**
comp=Z,164nm,1.5s
XAN LR LR
comp=Z,9μm,19.0s
XAN Xi'an 27.61 79 *e*P **P 07 02 59.4 -1.0**
XAN pmax pmax
comp=Z,164nm,1.5s
XAN MLR MLR
comp=Z,9μm,19.0s
KBZ Khabaz 27.65 302 P **P 07 03 01.0 +0.5**
comp=Z,10nm,0.9s,baz=77,slow=12,SNR=25
KBZ S **S 07 07 40.4 -0.3**
comp=Z,4.9nm,0.8s,baz=95,slow=12,SNR=1.7
UTHA Uthaitani 27.69 123 P **P 07 03 02.0 +0.9**
comp=Z,157μm,1.3s
NEY Neytrino 27.69 301 *ce*P **P 07 03 03.5 +2.4**
ULN Ulaanbaatar 27.79 49 *e*P **P 07 03 03.0 +1.0**
comp=Z,94nm,1.5s
ULN LR LR
comp=Z,12μm,18.0s
ULN Ulaanbaatar 27.79 49 *c i*P **P 07 03 02.9 +1.0**
ULN pmax pmax
comp=Z,73nm,1.7s
ULN MLR MLR
comp=Z,10μm,17.0s
ULN Ulaanbaatar 27.79 49 P **P 07 03 03.3 +1.4**
SNR=28
ULN P **P 07 03 03.3 +1.4**
SNR=28
KVAR Kislovodsk Arr 27.84 303 P **P 07 03 02.1 -0.3**
comp=Z,2.0nm,0.3s,baz=349,slow=5.2,SNR=17
KVAR S **S 07 07 46.6 +2.6**
comp=Z,16nm,0.9s,baz=12,slow=18,SNR=2.0
KVAR Lg Lg 07 11 43.7
comp=Z,4.4nm,0.7s,baz=15,slow=16,SNR=2.3
KIV Kislovodsk 27.85 303 *e*P **P 07 03 03.1 +0.7**
comp=Z,72nm,1.1s
KIV Kislovodsk 27.85 303 *i* P **P 07 03 03.8 +1.3**
SNR=7.6
KIV Kislovodsk 27.85 303 *e*P **P 07 03 03.0 +0.6**
KIV *e* 07 07 47.6
KIV pmax pmax
comp=Z,77nm,1.1s
KIV MLR MLR
comp=Z,4μm,15.0s
KIV Kislovodsk 27.85 303 P **P 07 03 03.5 +1.1**
SNR=18
KIV P **P 07 03 03.5 +1.1**
SNR=18
IRK Irkutsk 28.11 39 *e*P **P 07 03 05.1 +0.5**
IRK *e* 07 09 10.6
IRK pmax pmax
comp=Z,130nm,1.9s
SRDT SRDT 28.30 126 P **P 07 03 06.8 +0.2**
comp=Z,83nm,1.5s
BTO Baotou 28.32 65 *e*P **P 07 03 05.1 -1.6**
BTO S **S 07 07 43.2 -8.3**
NONG Nongkai 28.80 115 P **P 07 03 10.6 -0.4**
comp=Z,1.1nm,1.2s
CHAI Chaiyaphum 29.28 119 P **P 07 03 15.9 +0.6**
comp=Z,222μm,1.3s
HHC Hu-ho-hao-te 29.50 64 *e*P **P 07 03 16.9 -0.3**
HHC sP sP 07 03 29.1 -0.4
HHC PP **PnPn 07 04 09.8 -2.1**
HHC S **S 07 08 15.8 +5.6**
HHC pmax pmax
comp=Z,110nm,0.8s
HHC pmax pmax
comp=Z,860nm,4.5s
HHC LR LR
comp=Z,4μm,13.8s
HHC LR LR
comp=Z,5μm,13.8s
HHC LR LR
comp=Z,4μm,12.6s
PHET Kaeng Krachan 29.68 127 P **P 07 03 20.3 +1.5**
comp=Z,72μm,0.8s,comp=Z,652μm
SOC Sochi 29.90 301 *e*P **P 07 03 20.0 -0.6**
SOC *e* 07 04 12.2
SOC *e*S **S 07 08 15.0 -1.2**
SOC pmax pmax
comp=Z,26nm,1.3s
SOC MLR MLR
comp=Z,2μm,11.0s
SKNT Sakolnakorn 30.09 115 P **P 07 03 22.1 -0.4**
comp=Z,72nm,1.3s,comp=Z,3μm
TIY Taiyuan 30.15 71 *e*P **P 07 03 27.5 +4.6**
TIY sP **sP 07 03 37.1 +1.9**
TIY S **S 07 08 27.3 +7.0**
TIY pmax pmax

comp=Z,390nm,7.8s
TIY LR LR
comp=Z,2μm,13.0s
TIY LR LR
comp=Z,6μm,14.0s
TIY LR LR
comp=Z,12μm,17.0s
PANO Nakornpanom 30.47 114 P **P 07 03 25.7 -0.1**
comp=Z,2.1nm,1.6s
VRH Novokhopyorsk 30.65 316 *e*P **P 07 03 26.8 -0.2**
VRH pmax pmax
comp=Z,70nm,1.2s
VRH MLR MLR
comp=Z,4μm,15.0s
KIRV Kirov 31.00 333 P **P 07 03 31.4 +1.4**
comp=Z,84nm,0.7s,baz=130,slow=11,SNR=54
KIRV LR LR 07 15 30.1
comp=Z,1μm,21.2s,baz=99,slow=35
VORD Divnogorie 31.99 315 *e*P **P 07 03 38.7 -0.1**
VORD pmax pmax
comp=Z,50nm,1.4s
VORD MLR MLR
comp=Z,3μm,13.0s
VSR Storozhevoye 32.15 315 *e*P **P 07 03 39.3 -1.0**
VSR pmax pmax
comp=Z,80nm,1.2s
VSR MLR MLR
comp=Z,3μm,12.0s
VORR Voronezh 32.28 316 *e*P **P 07 03 42.0 +0.6**
VORR pmax pmax
comp=Z,300nm,1.2s
ASF Jabal al Asfar 32.58 279 S **S 07 08 58.8 +0.3**
comp=Z,3.5nm,0.8s,baz=126,slow=19,SNR=2.0
ASF LR LR 07 17 16.6
comp=Z,988nm,19.2s,baz=38,slow=37
PKDT Phuket 32.68 135 P **P 07 03 46.3 +1.1**
comp=Z,51nm,1.2s
LPSR Galich'ya Gora 32.78 318 *e*P **P 07 03 46.0 +0.2**
LPSR pmax pmax
comp=Z,150nm,1.7s
LPSR MLR MLR
comp=Z,5μm,14.0s
WHN Wuhan 32.80 84 ⇑P **P 07 03 46.2 0.0**
WHN S **S 07 09 01.0 -0.6**
WHN pmax pmax
comp=Z,530nm,1.6s
WHN LR LR
comp=Z,14μm,18.4s
WHN LR LR
comp=Z,8μm,15.9s
WHN LR LR
comp=Z,12μm,19.4s
KRAB Krabi 32.94 134 P **P 07 03 48.0 +0.5**
comp=Z,259μm,1.0s
BJT Baijiatuau 32.99 66 *e*P **P 07 03 47.0 -0.8**
comp=Z,15nm,0.6s
BJT LR LR
comp=Z,5μm,18.0s
BJT Baijiatuau 32.99 66 *e*P **P 07 03 47.0 -0.8**
BJT pmax pmax
comp=Z,15nm,0.6s
BJT MLR MLR
comp=Z,5μm,18.0s
BJI Beijing 33.00 66 P **P 07 03 48.8 +0.9**
BJI S **S 07 09 05.0 +0.4**
BJI pmax pmax
comp=Z,9.0nm,1.2s
BJI pmax pmax
comp=Z,220nm,11.2s
BJI LR LR
comp=Z,1μm,17.3s
BJI LR LR
comp=Z,2μm,16.0s
BJI LR LR
comp=Z,2μm,19.3s
DIKM Dikmen 33.02 297⇑ *i*P **P 07 03 50.2 +2.2**
CIT Chita 33.17 44 *e*P **P 07 03 49.8 +0.5**
CIT *e* 07 03 55.5
CIT *e* 07 05 12.3
QIZ Qiongzhong 33.54 106 P **P 07 03 53.4 +0.6**
QIZ PP **PP 07 05 08.7 -0.2**
QIZ S **S 07 09 16.4 +3.1**
QIZ pmax pmax
comp=Z,230nm,4.3s
QIZ LR LR
comp=Z,2μm,14.5s
QIZ LR LR
comp=Z,1μm,17.5s
QIZ LR LR
comp=Z,2μm,13.7s
QIZ Qiongzhong 33.54 106 PFAKE 07 04 00.0 +7.2
QIZ LR LR
comp=Z,500nm,18.0s
TRTT Trang 33.54 133 P **P 07 03 52.8 0.0**
comp=Z,74nm,1.4s
MMAI Mount Meron Ar 33.65 281 ScP **ScP 07 10 16.2 +0.1**
comp=Z,0.5nm,0.3s,baz=50,slow=14,SNR=4.9
GHAJ Ghor Haditha 33.88 278 P P 07 04 02.0 +6.4
comp=Z,58nm,1.6s
DAMY Dhamar 33.89 245 PFAKE 07 04 10.0 +14
DAMY LR LR
comp=Z,11μm,21.0s
JDRJ Daraweish 33.94 277 P P 07 04 07.1 +11
BZK Bozkurt 33.96 297⇑ *i*P **P 07 03 57.8 +1.6**
TIA Tai'an 34.02 73 P **P 07 03 57.1 +0.3**
TIA S **S 07 09 24.4 +4.0**
TIA pmax pmax
comp=Z,22nm,1.4s
TIA LR LR
comp=Z,4μm,14.2s
TIA LR LR
comp=Z,5μm,16.3s
TIA LR LR
comp=Z,8μm,14.0s
SIM Simferopol' 34.06 303 *c i*P **P 07 03 57.5 +0.4**
SIM *e*S **S 07 09 23.3 +2.3**
SIM *e*SSS SSS 07 11 55.7
SIM pmax pmax
comp=Z,31nm,1.4s
LHMI Lhok Sumawe 34.07 140 *e*P **P 07 03 56.8 -0.6**
comp=Z,114nm,1.0s
LHMI LR LR
comp=Z,4μm,20.0s
LHMI Lhok Sumawe 34.07 140 P **P 07 03 57.3 0.0**
BR131 Keskin Array S 34.26 293 P **P 07 04 00.9 +1.9**
SNR=110
BRTR Keskin Array B 34.26 293 *e*P **P 07 04 00.4 +1.4**
BRTR Keskin Array B 34.26 293 *i* P **P 07 04 00.4 +1.4**
BRTR pmax pmax
comp=Z,29nm,1.0s
BRTR Keskin Array B 34.26 293 P **P 07 03 59.9 +0.8**
comp=Z,28nm,1.0s,baz=108,slow=7.0,SNR=100
PRGR Permogore 34.47 335⇑ *i*P **P 07 04 01.1 +0.7**
PRGR pmax pmax
comp=Z,307nm,1.6s
MLSI Meulaboh, Aceh 34.59 142 P P 07 04 06.8 +5.0
SKLT Songkhla 34.63 133 P **P 07 04 04.2 +2.0**
comp=Z,21nm,1.4s,comp=Z,310nm
MOS Moscow 34.73 322 *e*P **P 07 04 01.1 -1.5**
MOS *e*S **S 07 09 27.9 -3.0**
MOS pmax pmax
comp=Z,265nm,1.5s
MOS pmax pmax
comp=Z,400nm,1.6s
MOS smax smax
comp=N,900nm,3.4s
MOS MLR MLR
comp=E,3μm,12.0s
MOS MLR MLR
comp=Z,4μm,12.0s
EIL Elat 34.82 276 P **P 07 04 08.5 +4.7**
comp=Z,33nm,1.2s
EIL Elat 34.82 276 P **P 07 04 05.1 +1.3**
comp=Z,2.9nm,0.5s,baz=23,slow=16,SNR=4.3
EIL S **S 07 09 36.4 +3.4**
comp=Z,4.5nm,0.8s,baz=72,slow=16,SNR=2.0
EIL LR LR 07 20 38.3
comp=Z,7μm,19.1s,baz=82,slow=40
ANTO Ankara 34.91 294 *e*P **P 07 04 06.1 +1.5**
comp=Z,108nm,1.3s
ANTO Ankara 34.91 294⇑ *i*P **P 07 04 05.7 +1.2**
ANTO Ankara 34.91 294 ⇑P **P 07 04 05.7 +1.2**
ANTO *e* 07 04 12.5
ANTO Ankara 34.91 294 P **P 07 04 07.2 +2.6**
SNR=21
CSS Mathiatis 34.99 285 P **P 07 04 09.7 +4.5**

OBN Obninsk 35.03 321 *e*P **P 07 04 05.8 +0.5**
comp=Z,428nm,1.6s
OBN Obninsk 35.03 321*c i*P **P 07 04 05.5 +0.3**
OBN *e* 07 05 25.1
OBN *e*PPP PPP 07 05 39.6
OBN *i* S **S 07 09 32.7 -2.8**
OBN pmax pmax
comp=Z,319nm,1.7s
OBN MLR MLR
comp=Z,1μm,15.0s
OBN Obninsk 35.03 321 P **P 07 04 05.9 +0.7**
comp=Z,8.7nm,0.4s,baz=96,slow=6.9,SNR=31
MAMC Mammari 35.05 285 P **P 07 04 07.6 +1.9**
MCO Taipa Grande 35.09 98 P **P 07 04 06.0 -0.2**
SZAC Souni 35.39 285 P **P 07 04 10.5 +1.8**
HKPS Hong Kong Po S 35.51 98 PFAKE 07 04 20.0 +10
HKPS LR LR
comp=Z,4μm,21.0s
ALFC Alefka 35.55 286 P **P 07 04 11.5 +1.4**
BOD Bodaibo 35.73 35 *e*P **P 07 04 11.7 +0.5**
BOD pmax pmax
comp=Z,53nm,1.4s
PPCY Paphos 35.80 285 P **P 07 04 12.8 +0.6**
KCSI Kotacane, Aceh 35.94 140 P **P 07 04 14.2 +0.7**
comp=Z,39nm,1.0s
KULM Kulim 36.13 135 PFAKE 07 04 30.0 +15
KULM LR LR
comp=Z,2μm,20.0s
KULM Kulim 36.13 135 P **P 07 04 15.0 -0.1**
SNSI Sinabang, Aceh 36.13 143 P P 07 04 23.8 +8.7
NJ2 Nanjing 36.17 80⇑*i*P **P 07 04 15.8 +0.4**
NJ2 S **S 07 09 52.9 -0.8**
NJ2 SS **SnSn 07 12 11.9 -8.6**
NJ2 pmax pmax
comp=Z,76nm,1.5s
NJ2 pmax pmax
comp=Z,400nm,3.5s
NJ2 LR LR
comp=Z,4μm,15.7s
NJ2 LR LR
comp=Z,4μm,15.7s
NJ2 LR LR
comp=Z,5μm,16.8s
HIA Hailar 36.28 50 PFAKE 07 04 30.0 +14
HIA LR LR
comp=Z,5μm,20.0s
KLMR Klimovskoe 36.33 331⇑*i*P **P 07 04 16.5 +0.1**
KLMR *e* 07 05 41.4
KLMR pmax pmax
comp=Z,176nm,1.4s
DLV T Lat 36.63 117 PFAKE 07 04 30.0 +10
DLV LR LR
comp=Z,2μm,21.0s
NRIK Noril'sk 36.89 7 P **P 07 04 22.1 +1.0**
comp=Z,80nm,1.1s,baz=193,slow=5.8,SNR=129
NRIK S **S 07 10 05.0 +1.3**
comp=Z,2.6nm,0.4s,baz=135,slow=5.9,SNR=4.7
NRIK LR LR 07 21 20.5
comp=Z,8μm,18.2s,baz=196,slow=39
ATD Arta Tunnel 36.98 242 P **P 07 04 23.3 +0.8**
comp=Z,9.3nm,0.7s,baz=91,slow=9.3,SNR=3.6
ATD S **S 07 10 11.9 +5.6**
comp=Z,4.6nm,0.4s,baz=90,slow=20,SNR=2.7
ATD LR LR 07 20 07.3
comp=Z,2μm,20.3s,baz=49,slow=37
IPM Ipoh 36.99 135 PFAKE 07 04 30.0 +7.5
IPM LR LR
comp=Z,2μm,20.0s
IPM Ipoh 36.99 135 P **P 07 04 22.0 -0.5**
PSI Prapat 37.16 139 PFAKE 07 04 40.0 +16
PSI LR LR
comp=Z,3μm,21.0s
PSI Prapat 37.16 139 S **S 07 10 02.8 -6.4**
comp=Z,16μm,0.4s,baz=267,slow=0.0,SNR=3.3
DL2 Dalian 37.28 68 P **P 07 04 25.2 +0.5**
DL2 PP **PP 07 05 49.1 -0.8**
DL2 S **S 07 10 16.4 +6.0**
DL2 pmax pmax
comp=Z,51nm,1.1s
DL2 pmax pmax
comp=Z,740nm,7.6s
DL2 LR LR
comp=Z,3μm,13.7s
DL2 LR LR
comp=Z,5μm,14.1s
DL2 LR LR
comp=Z,6μm,15.6s
YLV Yalova 37.48 295⇓*i*P **P 07 04 27.9 +1.3**
YLV Yalova 37.48 295 ⇓P **P 07 04 27.9 +1.3**
GSI Gunungsitoli 37.71 143 PFAKE 07 04 40.0 +11
GSI LR LR
comp=Z,4μm,19.0s
GSI Gunungsitoli 37.71 143 P **P 07 04 25.4 -3.2**
KSL Kastellorizon 37.81 288 P **P 07 04 29.7 +0.4**
KIS Kishinev 37.92 306⇑*i*P **P 07 04 29.0 -1.1**
comp=Z,18μm,1.2s
KIS Kishinev 37.92 306 *i* PP PP 07 06 02.0 +5.2
comp=Z,900nm,8.0s
KIS *e*SS SS 07 12 28.0 -39
KIS Kishinev 37.92 306 *i* PsP 07 13 36.0
KIS *e*LQ LQ 07 15 54.0
KIS LRM MLR 07 21 40.0
comp=Z,900nm,20.0s
KIS Kishinev 37.92 306⇑*i*P **P 07 04 29.0 -1.1**
KIS *i* 07 04 33.0
KIS *i* 07 06 02.0
KIS *e* 07 06 52.0
KIS *e*S **S 07 10 20.0 0.0**
KIS *i* 07 13 36.0
KIS pmax pmax
comp=Z,180nm,1.2s
KIS pmax pmax
comp=Z,900nm,8.0s
KIS MLR MLR
comp=Z,900nm,20.0s
TIRR Tirgusor 38.10 301⇑*i*P **P 07 04 32.8 +1.2**
TIRR Tirgusor 38.10 301 ⇑P **P 07 04 32.8 +1.2**
AKASG Malin Array Be 38.10 312 P **P 07 04 31.1 -0.4**
comp=Z,10.0nm,0.4s,baz=86,slow=7.0,SNR=117
AKASG LR LR 07 22 47.9
comp=Z,1μm,18.2s,baz=100,slow=40
KIEV Kiev 38.11 312 *e*P **P 07 04 31.1 -0.5**
comp=Z,198nm,1.7s
KIEV LR LR
comp=Z,2μm,21.0s
KIEV Kiev 38.11 312 *i* P **P 07 04 31.3 -0.2**
SNR=34
KIEV Kiev 38.11 312*c i*P **P 07 04 31.2 -0.4**
KIEV pmax pmax
comp=Z,112nm,1.6s
KIEV MLR MLR
comp=Z,2μm,17.0s
QZH Quanzhou 38.15 91⇓*i*P **P 07 04 34.4 +2.2**
QZH PP **PnPn 07 06 05.6 +4.3**
QZH S **S 07 10 26.9 +3.0**
QZH LR LR
comp=Z,4μm,14.2s
QZH LR LR
comp=Z,2μm,15.2s
QZH LR LR
comp=Z,5μm,22.3s
KNMB Chin-men Tao 38.16 92 PFAKE 07 04 40.0 +7.7
KNMB LR LR
comp=Z,6μm,20.0s
CTYL Yalikoy Yolu 38.25 297⇑*i*P **P 07 04 34.3 +1.4**
CFR Carcaliu 38.31 303⇓*i*P **P 07 04 34.4 +1.1**
CFR Carcaliu 38.31 303 ⇓P **P 07 04 34.4 +1.1**
SSE Sheshan 38.34 80 P **P 07 04 34.4 +0.6**
SSE S **S 07 10 25.1 -1.5**
SSE pmax pmax
comp=Z,73nm,1.2s
SSE pmax pmax
comp=Z,430nm,6.4s
SSE LR LR
comp=Z,2μm,17.3s
SSE LR LR
comp=Z,2μm,16.5s
SSE Sheshan 38.34 80 PFAKE 07 04 40.0 +6.2
SSE LR LR
comp=Z,5μm,19.0s
TLB Topalu 38.36 302⇑*i*P **P 07 04 34.9 +1.1**
TLB Topalu 38.36 302 ⇑P **P 07 04 34.9 +1.1**
HARR Harsova 38.44 302⇓*i*P **P 07 04 36.0 +1.5**
HARR Harsova 38.44 302 ⇓P **P 07 04 36.0 +1.5**
ICOR Ion Corvin 38.53 301⇑*i*P **P 07 04 37.1 +1.9**

SNY Shenyang 38.55 63 ⇑P **P 07 04 35.3 -0.1**
SNY S **S 07 10 31.4 +1.9**
SNY pmax pmax
comp=Z,32nm,1.5s
SNY pmax pmax
comp=Z,850nm,8.1s
SNY LR LR
comp=Z,8μm,17.4s
SNY LR LR
comp=Z,2μm,14.3s
SNY LR LR
comp=Z,5μm,14.1s
TMCR Tamitsa 38.77 335 *e*P **P 07 04 36.1 -0.8**
TMCR pmax pmax
comp=Z,31nm,0.6s
PRD Provadia 38.84 299 *e*P **P 07 04 39.1 +1.3**
PRD Provadia 38.84 299 *e*P **P 07 04 39.1 +1.3**
MNSI Mandailing Nat 39.19 140 P **P 07 04 40.7 -0.3**
VRI Vrincioaia 39.31 304⇑*i*P **P 07 04 43.4 +1.6**
VRI Vrincioaia 39.31 304 ⇑P **P 07 04 43.4 +1.6**
PLOR Plostina 39.37 304⇓*i*P **P 07 04 44.3 +2.0**
PLOR Plostina 39.37 304 ⇓P **P 07 04 44.3 +2.0**
TESR Tescani 39.39 305⇑*i*P **P 07 04 43.8 +1.4**
JMB Yambol 39.47 298 *e*P **P 07 04 45.0 +1.9**
JMB Yambol 39.47 298 *e*P **P 07 04 45.0 +1.9**
MICGM Minsk 39.63 317⇑*e*P **P 07 04 44.0 -0.3**
MICGM PM 07 04 45.0
comp=Z,0.8nm,1.2s
MICGM *e*PP **PP 07 06 14.0 -1.4**
MICGM *e*S **S 07 10 48.0 +2.5**
MICGM *e*SS **SS 07 13 36.0 -5.0**
MICGM *e*SSS SSS 07 14 24.0
MICGM *e*LQ LQ 07 17 20.0
MICGM LQM 07 19 38.0
comp=E,2.5nm,10.0s
MICGM LQM 07 19 43.0
comp=N,5.3nm,8.0s
MICGM *e*LR LR 07 20 38.0
MICGM LRM MLR 07 23 50.0
comp=Z,6.5nm,16.0s
MICGM LRM MLR 07 23 50.0
comp=E,2.5nm,14.0s
MNK Minsk 39.63 317⇑*e*P **P 07 04 44.0 -0.3**
MNK *e* 07 06 14.0
MNK *e*S **S 07 10 48.0 +2.5**
MNK *e* 07 13 36.0
MNK pmax pmax
comp=Z,780nm,1.2s
MNK MLR MLR
comp=Z,6μm,16.0s
MNK MLR MLR
comp=E,3μm,14.0s
BIZ Bicaz 39.78 305⇑*i*P **P 07 04 47.3 +1.7**
CN2 Changchun 39.84 60 *e*P **P 07 04 45.7 -0.5**
CN2 PP **PnPn 07 06 20.3 -0.9**
CN2 *e*S **S 07 10 48.4 -0.6**
CN2 *e*SS **SS 07 13 39.0 -6.5**
CN2 pmax pmax
comp=E,30nm,1.3s
CN2 pmax pmax
comp=E,300nm,3.0s
CN2 LR LR
comp=E,5μm,15.0s
CN2 LR LR
comp=E,3μm,15.0s
CN2 LR LR
comp=E,5μm,14.0s
MLR Muntele Rosu 39.86 303⇑*i*P **P 07 04 48.7 +2.2**
MLR Muntele Rosu 39.86 303 ⇑P **P 07 04 48.7 +2.2**
EZN Ezine 39.87 294 P **P 07 04 47.6 +1.1**
EZN Ezine 39.87 294⇓*i*P **P 07 04 47.7 +1.2**
EZN Ezine 39.87 294 ⇓P **P 07 04 47.7 +1.2**
SZH Strazhica 39.91 300 *e*P **P 07 04 47.2 +0.4**
SZH Strazhica 39.91 300 *e*P **P 07 04 47.2 +0.4**
ALN Alexandroupoli 39.98 296 P **P 07 04 48.2 +0.8**
DOPR Dopca 40.25 304⇓*i*P **P 07 04 51.1 +1.5**
RDO Rodhopi 40.34 296 P **P 07 04 51.3 +0.9**
NACGM Naroch 40.34 318 *e*P **P 07 04 46.0 -4.2**
NACGM *e*P pP 07 04 50.0 -9.1
NACGM *e*PP **PnPn 07 06 26.0 -0.9**
NACGM *e*PPP PPP 07 07 02.0
NACGM *e*S **S 07 10 52.0 -4.2**
NACGM *e*SS **SS 07 13 46.0 -9.1**
NACGM *e*SSS SSS 07 14 28.0
NACGM *e*LQ LQ 07 17 18.0
NACGM *e*LR LR 07 21 18.0
NACGM LRM MLR 07 24 24.0
comp=E,4.3nm,16.0s
NACGM LRM MLR 07 24 27.0
comp=Z,7.4nm,16.0s
NACGM LRM MLR 07 24 38.0
comp=N,5.0nm,16.0s
BKNI Bangkinang 40.38 139 PFAKE 07 05 00.0 +9.1
BKNI LR LR
comp=Z,2μm,19.0s
BKNI Bangkinang 40.38 139 P **P 07 04 52.5 +1.6**
comp=Z,189nm,1.3s,comp=Z,2μm
BURAR Bucovina Array 40.41 306 *e*P **P 07 04 51.1 +0.1**
BURAR Bucovina Array 40.41 306⇑*i*P **P 07 04 52.2 +1.2**
BURAR Bucovina Array 40.41 306 ⇑P **P 07 04 52.2 +1.2**
DGAR Diego Garcia 40.41 185 PFAKE 07 05 00.0 +8.9
DGAR LR LR
comp=Z,7μm,21.0s
MTUR Matau 40.48 303⇓*i*P **P 07 04 53.3 +1.7**
MTUR Matau 40.48 303 ⇓P **P 07 04 53.3 +1.7**
VOIR 40.49 303⇑*i*P **P 07 04 53.1 +1.5**
VOIR 40.49 303 ⇑P **P 07 04 53.1 +1.5**
TPUB Ta-pu 40.51 92 PFAKE 07 05 00.0 +8.0
TPUB LR LR
comp=Z,5μm,21.0s
TATO Taipei 40.57 89 PFAKE 07 05 00.0 +7.6
TATO LR LR
comp=Z,6μm,20.0s
SSLB Suanglung 40.58 91 PFAKE 07 05 00.0 +7.4
SSLB LR LR
comp=Z,4μm,20.0s
YHNB Yeheng 40.59 90 *e*P **P 07 04 53.2 +0.5**
comp=Z,122nm,1.2s
YHNB LR LR
comp=Z,7μm,19.0s
IIGN Ignalina 40.75 318 *e*P **P 07 04 54.5 +0.9**
IIGN IAmb IAmb 07 04 57.5
comp=Z,21nm,0.8s
ARR Arges 40.78 303⇑*i*P **P 07 04 55.4 +1.4**
IZAR Zarasai 40.82 319 *e*P **P 07 04 54.9 +0.7**
IZAR IAmb IAmb 07 04 56.7
comp=Z,72nm,1.4s
MYKOM Kota Tinggi 40.83 134 PFAKE 07 05 10.0 +15
MYKOM LR LR
comp=Z,3μm,19.0s
NACB Ninganchiao 40.97 90 PFAKE 07 05 10.0 +14
NACB LR LR
comp=Z,8μm,20.0s
ARCR ARCALIA 40.98 306⇑*i*P **P 07 04 56.9 +1.3**
YULB Yu-li 41.03 92 *e*P **P 07 04 54.8 -1.5**
comp=Z,195nm,1.5s
YULB LR LR
comp=Z,5μm,20.0s
TWG Pinlang 41.07 93 PFAKE 07 05 10.0 +13
TWG LR LR
comp=Z,23μm,20.0s
VSU Vasula 41.24 323*c i*P **P 07 04 57.5 0.0**
VSU pmax pmax
comp=Z,169nm,0.8s
VSU MLR MLR
comp=Z,5μm,15.0s
VSU Vasula 41.24 323 *e*P **P 07 04 57.7 +0.2**
VSU IAmb IAmb 07 04 58.4
comp=Z,216nm,1.0s
LAST Lasithi 41.28 287 P **P 07 04 59.3 +1.0**
LVV L'vov 41.31 310 *e*P **P 07 04 58.4 +0.2**
LVV *e*PPP PPP 07 06 50.9
LVV *e*S **S 07 11 09.4 -1.3**
LVV MLR MLR
comp=N,400nm,16.0s
LVV MLR MLR
comp=E,1μm,16.0s
LVV MLR MLR
comp=Z,1μm,16.0s
LOT Lotru 41.39 303⇓*i*P **P 07 05 00.6 +1.5**
CJR Cluj-Napoca 41.49 305⇓*i*P **P 07 05 02.2 +2.3**
CJR Cluj-Napoca 41.49 305 ⇓P **P 07 05 02.2 +2.3**
MPEP Malo Peshtene 41.50 300 P **P 07 05 00.0 +0.1**
BMR Baia Mare 41.57 306⇑*i*P **P 07 05 01.7 +1.3**

BMR Baia Mare 41.57 306 ⇑P **P 07 05 01.7 +1.3**
ZEA Zeya 41.63 44 *e*P **P 07 05 02.6 +1.8**
ZEA *e* 07 06 45.0
ZEA *e*PPP PPP 07 07 12.0
ZEA *e*S **S 07 11 19.0 +3.7**
ZEA *e*SSS SSS 07 15 03.0
ZEA pmax pmax
comp=N,56nm,1.4s
ZEA pmax pmax
comp=E,56nm,1.4s
ZEA pmax pmax
comp=Z,110nm,1.4s
ZEA pmax pmax
comp=Z,1μm,8.0s
ZEA pmax pmax
comp=E,500nm,6.0s
ZEA pmax pmax
comp=Z,700nm,10.0s
ZEA smax smax
comp=E,1μm,14.0s
ZEA smax smax
comp=N,400nm,12.0s
ZEA MLR MLR
comp=E,13μm,14.0s
ZEA MLR MLR
comp=Z,19μm,14.0s
ZEA MLR MLR
comp=N,4μm,11.0s
MMB Musomiste 41.65 297 *e*P **P 07 05 02.2 +1.0**
MMB Musomiste 41.65 297 *e*P **P 07 05 02.2 +1.0**
IDI Anoyia 41.73 288 P **P 07 05 02.1 +0.2**
comp=N,7.7nm,0.7s,baz=82,slow=15,SNR=7.0
IDI S **S 07 11 12.3 -5.1**
comp=N,13nm,1.1s,baz=66,slow=12,SNR=2.0
PAIG Paliouri 41.88 295 P **P 07 05 03.8 +0.7**
TPRI Tanjung Pinang 41.92 134 P **P 07 05 02.1 -1.5**
VTS Vitosha 41.92 299 *e*P **P 07 05 04.5 +0.9**
VTS Vitosha 41.92 299 P **P 07 05 04.5 +0.9**
VTS Vitosha 41.92 299⇑*i*P **P 07 05 04.8 +1.2**
VTS Vitosha 41.92 299 ⇑P **P 07 05 04.8 +1.2**
VTS Vitosha 41.92 299 *e*P **P 07 05 04.9 +1.3**
VTS Vitosha 41.92 299 *e*P **P 07 05 04.9 +1.3**
PLG Polygyros 42.00 295 P **P 07 05 05.0 +0.9**
PABE Paberze 42.04 318 *e*P **P 07 05 01.5 -2.7**
PABE IAmb IAmb 07 05 03.0
comp=Z,319nm,1.6s
YOJ Yonaguni jima 42.04 89 PFAKE 07 05 20.0 +15
YOJ LR LR
comp=Z,3μm,18.0s
LVZ Lovozero 42.04 338 *e*P **P 07 05 04.6 +0.5**
comp=Z,214nm,1.8s
LVZ LR LR
comp=Z,14μm,19.0s
LVZ Lovozero 42.04 338*c i*P **P 07 05 04.5 +0.5**
LVZ pmax pmax
comp=Z,113nm,1.7s
GZR Gura Zlata 42.09 303⇑*i*P **P 07 05 06.6 +1.8**
GZR Gura Zlata 42.09 303 ⇑P **P 07 05 06.6 +1.8**
DRGR 42.10 305⇑*i*P **P 07 05 06.0 +1.1**
DRGR 42.10 305 ⇑P **P 07 05 06.0 +1.1**
KKB Krupnik 42.11 298 *e*P **P 07 05 06.4 +1.5**
KKB Krupnik 42.11 298 *e*P **P 07 05 06.4 +1.5**
MRKA Markates 42.13 293 P **P 07 05 05.6 +0.5**
SKIA Skiathos 42.15 294 P **P 07 05 06.0 +0.7**
TJN Taejon 42.15 71⇓*e*P **P 07 05 04.1 -1.2**
KWP Kalwaria Pacla 42.15 309 *e*P **P 07 05 06.4 +1.2**
KWP Kalwaria Pacla 42.15 309 *e*P **P 07 05 06.4 +1.2**
MSEY Mahe Island 42.19 211 PFAKE 07 05 20.0 +14
MSEY LR LR
comp=Z,4μm,18.0s
MSEY Mahe Island 42.19 211 P **P 07 05 09.9 +4.1**
MSEY Mahe Island 42.19 211*c e*P **P 07 05 10.5 +4.7**
TRPA Tarpa 42.22 307⇑*i*P **P 07 05 07.0 +1.3**
TRPA Tarpa 42.22 307 *e*P **P 07 05 06.0 +0.3**
APA Apatity 42.25 337⇓*i*P **P 07 05 05.5 -0.2**
APA *i* S **S 07 11 25.0 +0.8**
APA *i* SS **SS 07 14 25.0 -7.7**
APA *i* 07 15 05.0
APA pmax pmax
comp=Z,11nm,1.2s
APA MLR MLR
comp=Z,11μm,14.0s
SUW Suwalki 42.26 316 *e*P **P 07 05 05.6 -0.3**
SUW Suwalki 42.26 316 *e*P **P 07 05 05.6 -0.3**
KNT Kendrikon 42.32 297 P **P 07 05 06.9 +0.2**
XOR Xorichti 42.33 294 P **P 07 05 07.2 +0.4**
KSAR Wonju Array Be 42.36 69 *e*P **P 07 05 05.9 -1.1**
KSRS Korea Array 42.39 69 P **P 07 05 06.5 -0.8**
comp=Z,15nm,0.9s,baz=272,slow=7.5,SNR=48
KSRS PcP **PcP 07 06 57.4 -2.7**
comp=Z,5.3nm,0.8s,baz=269,slow=7.8,SNR=2.7
KSRS ScP **ScP 07 10 49.3 +0.3**
comp=Z,1.2nm,0.6s,baz=292,slow=3.8,SNR=4.2
KSRS LR LR 07 24 37.1
comp=Z,4μm,19.4s,baz=284,slow=39
UZH Uzhgorod 42.39 308⇓*i*P **P 07 05 08.0 +0.9**
UZH *i* 07 05 17.7
UZH *i* 07 07 18.3
UZH *i* S **S 07 11 26.3 -0.5**
UZH *i* 07 14 26.3
KOLS Kolonicke sedl 42.41 308 *e*P **P 07 05 08.1 +0.7**
KOLS pmax pmax
comp=Z,20nm,1.3s
KOLS Kolonicke sedl 42.41 308 *e*P **P 07 05 08.0 +0.7**
PPSI Pulau Pagai 42.43 142 P P 07 05 23.6 +16
FIA0 FINESS Array S 42.45 327 *e*PcP **PcP 07 06 59.3 -0.6**
FINES FINESS Array B 42.45 327 P **P 07 05 07.9 +0.6**
comp=Z,18nm,0.6s,baz=118,slow=9.8,SNR=85
FINES PcP **PcP 07 06 59.3 -0.6**
comp=Z,16nm,0.7s,baz=101,slow=7.2,SNR=2.6
FINES LR LR 07 24 00.5
comp=Z,4μm,19.6s,baz=105,slow=38
GVD Gavdhos 42.47 287 *e*P **P 07 05 08.2 +0.3**
GVD Gavdhos 42.47 287 P **P 07 05 08.2 +0.3**
VAY Valandovo 42.55 297 *i* P **P 07 05 07.4 -1.1**
LTVH Ltavrtes, Hu 42.65 306 *e*P **P 07 05 11.1 +1.9**
LIT Litokhoron 42.76 295 P **P 07 05 10.5 +0.2**
MDJ Mudanjiang 42.78 58 P **P 07 05 11.1 +0.8**
MDJ pP pP 07 05 19.6 0.0
MDJ sP sP 07 05 23.5 +0.7
MDJ S **S 07 11 25.3 -7.3**
MDJ sS pS 07 11 41.1 -2.1
MDJ SS SS 07 14 31.9 -12
MDJ pmax pmax
comp=Z,140nm,1.5s
MDJ pmax pmax
comp=Z,920nm,7.7s
MDJ LR LR
comp=Z,890nm,17.7s
MDJ LR LR
comp=Z,620nm,13.3s
MDJ LR LR
comp=Z,2μm,22.1s
STIP Stip 42.79 298 *i* P **P 07 05 09.2 -1.3**
SIRR Siria 42.84 304⇑*i*P **P 07 05 12.5 +1.7**
MDVR Moldovita 42.87 302⇑*i*P **P 07 05 12.5 +1.4**
BZS Buzias 42.89 303⇑*i*P **P 07 05 12.4 +1.2**
BZS Buzias 42.89 303 ⇑P **P 07 05 12.4 +1.2**
VLI Veliai 42.99 290 P **P 07 05 10.7 -1.4**
AGG Agios Georgios 43.05 294 P **P 07 05 12.1 -0.5**
STHS Stebnicka Huta 43.10 309 *e*P **P 07 05 14.0 +1.1**
STHS Stebnicka Huta 43.10 309 *e*P **P 07 05 14.0 +1.1**
THL Klokotos Trika 43.20 294 P **P 07 05 13.3 -0.5**
PBUR Paburg 43.26 319 *e*P **P 07 05 14.6 +0.6**
PBUR IAmb IAmb 07 05 17.6
comp=Z,178nm,1.2s
SKO Skopje 43.31 298 *i* P **P 07 05 15.4 +0.7**
TRIZ Trizonia 43.36 293 P **P 07 05 14.3 -0.7**
ANX Ano Chora 43.43 293 P **P 07 05 17.5 +1.7**
LAKA Lakka 43.45 293 P **P 07 05 14.7 -1.2**
EVR Evrytania 43.47 294 P **P 07 05 15.9 -0.2**
BEL Belsk 43.49 312 *e*P **P 07 05 16.9 +1.0**
BEL Belsk 43.49 312 *e*P **P 07 05 16.9 +1.0**
KRUS Krusevo 43.53 297 *i* P **P 07 05 16.8 +0.2**
KECS Kecovo 43.59 308 *e*P **P 07 05 18.0 +1.2**
KECS pmax pmax
comp=Z,30nm,1.0s
KECS Kecovo 43.59 308 *e*P **P 07 05 18.0 +1.2**
KPRO Kipourio 43.64 295 P **P 07 05 17.1 -0.3**
NIE Niedzica 43.72 309 *e*P **P 07 05 19.3 +1.4**
NIE Niedzica 43.72 309 *e*P **P 07 05 19.3 +1.4**
PVO Paravola 43.73 293 P **P 07 05 18.8 +0.7**
NEST Nestorio 43.81 296 P **P 07 05 18.9 +0.1**

PYL	PYLOS	43.89 291	P	P	07 05 17.8	-1.6
PSZ	Piszkesteto	44.00 307	⇑iP	P	07 05 21.2	+1.0
PSZ	Piszkesteto	44.00 307	⇑P	P	07 05 21.2	+1.0
PSZ	Piszkesteto	44.00 307	eP	P	07 05 21.0	+0.8
OJC	Ojcow	44.05 310	eP	P	07 05 20.8	+0.3
OJC	Ojcow	44.05 310	eP	P	07 05 20.8	+0.3
KLNR	Kaliningrad	44.06 316	⇓eP	P	07 05 21.2	+0.8
KLNR			pmax	pmax		
	comp=Z,271nm,1.6s					
KLNR			MLR	MLR		
	comp=Z,2μm,18.0s					
MSHR	Mys Shultsa	44.09 61	c iP	P	07 05 22.1	+1.2
KLR	Kul'dur	44.11 51	P	P	07 05 21.9	+0.8
	comp=Z,16nm,0.6s,baz=280,slow=8.4,SNR=46					
KLR			S	S	07 11 50.4	-1.6
	comp=Z,0.7nm,0.2s,baz=282,slow=19,SNR=2.7					
DIVS	Divibare	44.15 301	⇑iP	P	07 05 21.8	+0.3
FRGS	Fruska Gora	44.19 303	⇑iP	P	07 05 22.3	+0.6
LKD2	Lefkada island	44.37 294	P	P	07 05 22.4	-0.9
KFL	Anninata	44.40 293	P	P	07 05 22.3	-1.1
IGT	Igoumenitsa	44.49 295	P	P	07 05 23.0	-1.2
USA0B	Ussuriysk Arra	44.53 59	PFAKE		07 05 40.0	+16
USA0B			LR	LR		
	comp=Z,4μm,19.0s					
USRK	Ussuriysk Ar.	44.53 59	eP	P	07 05 23.3	-1.1
USRK	Ussuriysk Ar.	44.53 59	P	P	07 05 24.9	+0.5
	comp=Z,4.9nm,0.5s,baz=265,slow=8.5,SNR=23					
USRK			LR	LR	07 25 28.8	
	comp=Z,4μm,18.1s,baz=272,slow=38					
VLA	Vladivostok	44.56 60	c iP	P	07 05 25.3	+0.6
VLA			pmax	pmax		
	comp=Z,172nm,1.7s					
VLA			MLR	MLR		
	comp=Z,3μm,15.0s					
YAK	Yakutsk	44.58 33	c iP	P	07 05 24.7	+0.2
YAK			e*PP	pP	07 05 34.3	+0.8
YAK			e		07 07 07.3	
YAK			e		07 07 15.8	
YAK			ePPP	PPP	07 07 44.8	
YAK			eS	S	07 11 58.4	0.0
YAK			e*SS	sS	07 12 15.0	+2.0
YAK			eSS	SS	07 15 15.8	-2.6
YAK			eSSS	SSS	07 16 02.5	
YAK			pmax	pmax		
	comp=Z,636nm,1.0s					
YAK			pmax	pmax		
	comp=N,115nm,1.0s					
YAK			pmax	pmax		
	comp=E,356nm,1.1s					
YAK			pmax	pmax		
	comp=Z,859nm,2.1s					
YAK			pmax	pmax		
	comp=E,575nm,2.5s					
YAK			pmax	pmax		
	comp=N,326nm,2.1s					
YAK			smax	smax		
	comp=N,490nm,2.0s					
YAK			smax	smax		
	comp=E,252nm,1.9s					
BBLS	Lazići	44.59 301	eP	P	07 05 25.7	+0.7
VYHS	Vyhne	44.69 308	eP	P	07 05 26.2	+0.5
VYHS			pmax	pmax		
	comp=Z,31nm,1.6s					
VYHS	Vyhne	44.69 308	eP	P	07 05 26.2	+0.5
PDG	Podgorica	44.87 299	⇓iP	P	07 05 27.5	+0.4
PDG	Podgorica	44.87 299	eP	P	07 05 27.2	+0.1
HAPS	Han Pijesak,BI	44.90 301	eP	P	07 05 27.8	+0.3
MORH	Mrgy, Hungar	44.93 304	⇑iP	P	07 05 27.6	0.0
MORH	Mrgy, Hungar	44.93 304	eP	P	07 05 28.0	+0.5
DRME	Dracevica, Mon	44.95 299	⇑iP	P	07 05 27.4	-0.4
UPM	Unac-Piva	45.03 300	eP	P	07 05 29.7	+1.1
SRO	Srobarova	45.06 307	eP	P	07 05 30.3	+1.7
SRO	Srobarova	45.06 307	eP	P	07 05 30.3	+1.7
OKC	Ostrava-Krasne	45.12 310	eP	P	07 05 30.0	+1.0
OKC			e		07 07 19.6	
OKC			eS	S	07 12 05.8	-0.7
OKC			MLR	MLR		
	comp=Z,1μm,11.5s					
OKC	Ostrava-Krasne	45.12 310	eP	P	07 05 30.0	+1.0
OKC			ex	x	07 05 51.2	
OKC			ePP	PP	07 07 19.6	+5.1
OKC			eS	S	07 12 05.8	-0.7
OKC			AMS	AMS	07 25 40.0	
	comp=Z,1μm,11.5s					
CSKK	Cskako	45.12 306	eP	P	07 05 24.1	-5.0
TGY	Tagaytay City	45.15 104	P	P	07 05 29.6	-0.1
	comp=Z,126nm,0.3s,baz=307,slow=6.9,SNR=3.2					
KSM	Kuching	45.20 127	PFAKE		07 05 40.0	+10
KSM			LR	LR		
	comp=Z,900nm,21.0s					
KSM	Kuching	45.20 127	P	P	07 05 31.0	+1.0
MNAI	Manna	45.32 140	PFAKE		07 05 40.0	+9.0
MNAI			LR	LR		
	comp=Z,2μm,22.0s					
BRY	Bratogost	45.33 300	eP	P	07 05 31.1	+0.1
PPBI	Pangkal Pinang	45.34 135	P	P	07 05 27.8	-3.3
KEV	Kevo	45.38 338	eP	P	07 05 31.8	+1.0
	comp=Z,124nm,1.6s					
KEV			LR	LR		
	comp=Z,6μm,18.0s					
TIH	Tihany	45.40 305	eP	P	07 05 31.0	-0.2
JAVC	Velka Javorina	45.45 308	eP	P	07 05 33.1	+1.4
TREB	Trebinje	45.49 300	eP	P	07 05 31.4	-0.7
MORC	Moravsky Berou	45.51 309	⇑iP	P	07 05 32.9	+0.7
MORC	Moravsky Berou	45.51 309	⇑P	P	07 05 32.9	+0.7
MORC	Moravsky Berou	45.51 309	eP	P	07 05 32.9	+0.7
GKP	Gorka Klasztor	45.72 314	eP	P	07 05 34.1	+0.4
GKP	Gorka Klasztor	45.72 314	eP	P	07 05 34.1	+0.4
JNU	Nakatsue	45.73 74	PFAKE		07 05 50.0	+16
JNU			LR	LR		
	comp=Z,3μm,19.0s					
JNU	Nakatsue	45.73 74	P	P	07 05 34.0	-0.1
	comp=Z,48nm,0.9s,baz=245,slow=3.3,SNR=15					
MODS	Modra-Piesok	45.73 307	eP	P	07 05 33.9	0.0
MODS			pmax	pmax		
	comp=Z,28nm,1.3s					
MODS	Modra-Piesok	45.73 307	eP	P	07 05 33.9	0.0
ARCES	ARCESS Array B	45.75 338	eP	P	07 05 35.0	+1.2
ARCES	ARCESS Array B	45.75 338	eP	P	07 05 35.0	+1.2
ARCES	ARCESS Array B	45.75 338	P	P	07 05 34.9	+1.1
	comp=Z,15nm,0.5s,baz=110,slow=8.4,SNR=164					
ARCES			LR	LR	07 26 03.0	
	comp=Z,11μm,19.6s,baz=115,slow=38					
ARE0	ARCESS Array S	45.75 338	PFAKE		07 05 50.0	+16
ARE0			LR	LR		
	comp=Z,600nm,19.0s					
ARE0	ARCESS Array S	45.75 338	eP	P	07 05 35.5	+1.7
SBUM	Sibu	45.80 124	eP	P	07 05 34.5	-0.3
	comp=Z,21nm,0.8s					
SBUM			LR	LR		
	comp=Z,700nm,20.0s					
SBUM	Sibu	45.80 124	P	P	07 05 36.0	+1.2
ZST	Bratislava	45.86 307	eP	P	07 05 35.2	+0.3
ZST	Bratislava	45.86 307	eP	P	07 05 35.2	+0.3
STON	Ston	45.95 300	eP	P	07 05 32.8	-2.9
KRLC	Kraliky	45.99 310	eP	P	07 05 36.8	+0.8
KRLC			e		07 05 47.5	
KRLC	Kraliky	45.99 310	eP	P	07 05 36.8	+0.8
KRLC			epP	sP	07 05 47.5	-0.8
BLY	Banja Luka	46.09 302	⇑iP	P	07 05 38.0	+1.3
BLY	Banja Luka	46.09 302	eP	P	07 05 37.0	+0.3
VRAC	Vranov	46.14 309	⇓iP	P	07 05 38.3	+1.2
VRAC	Vranov	46.14 309	⇓P	P	07 05 38.3	+1.2
VRAC	Vranov	46.14 309	eP	P	07 05 37.9	+0.8
VRAC	Vranov	46.14 309	P	P	07 05 38.0	+0.8
	comp=Z,6.3nm,0.4s,baz=90,slow=7.9,SNR=25					
BEHE	Becsehely	46.20 305	eP	P	07 05 38.0	+0.4
KKM	Kota Kinabalu	46.24 117	P	P	07 05 40.0	+1.6
SOP	Sopron	46.26 307	eP	P	07 05 38.1	0.0
KTK1	Kautokeino	46.27 337	eP	P	07 05 38.1	+0.3
DPC	Dobruska-Polom	46.28 310	eP	P	07 05 39.3	+1.0
DPC			e		07 05 49.8	
DPC			e		07 07 27.9	
DPC			eS	S	07 12 22.5	-0.9
DPC			MLR	MLR		
	comp=Z,2μm,13.3s					
DPC	Dobruska-Polom	46.28 310	eP	P	07 05 39.3	+1.0
DPC			epP	sP	07 05 49.8	-0.8
DPC			ePP	PP	07 07 27.9	+0.9
DPC			eS	S	07 12 22.5	-0.9
DPC			AMS	AMS	07 28 40.0	
	comp=Z,2μm,13.3s					
KRUC	Moravsky	46.28 308	eP	P	07 05 39.1	+0.9
KSP	Ksiaz	46.29 311	eP	P	07 05 39.1	+0.9
KSP	Ksiaz	46.29 311	eP	P	07 05 39.1	+0.9
UPC	Upice	46.47 310	eP	P	07 05 40.6	+0.9
UPC			e		07 05 50.9	
UPC			e		07 07 31.4	
UPC			eS	S	07 12 27.0	+0.9
UPC			MLR	MLR		
	comp=Z,2μm,17.4s					
UPC	Upice	46.47 310	eP	P	07 05 40.6	+0.9
UPC			epP	sP	07 05 50.9	-1.2
UPC			ePP	PP	07 07 31.4	+2.4
UPC			eS	S	07 12 27.0	+0.9
UPC			AMS	AMS	07 28 40.0	
	comp=Z,2μm,17.4s					
CONA	Conrad Observa	46.71 307	eP	P	07 05 42.1	+0.5
	comp=Z,77nm,1.2s,SNR=35					
TPI	Tanjungpandan	46.72 133	P	P	07 05 38.5	-3.5
HAMF	Hammerfest	46.79 339	eP	P	07 05 43.0	+1.2
TREC	Trest	46.87 309	eP	P	07 05 43.7	+0.9
TREC			eS	S	07 12 35.7	+4.0
TREC			MLR	MLR		
	comp=Z,1μm,14.1s					
TREC	Trest	46.87 309	eP	P	07 05 43.7	+0.9
TREC			eS	S	07 12 35.7	+4.0
TREC			AMS	AMS	07 30 10.0	
	comp=Z,1μm,14.1s					
ARSA	Arzberg	46.99 306	eP	P	07 05 44.6	+0.8
	comp=Z,22nm,1.4s,SNR=13					
MATE	Matera	47.04 297	⇑iP	P	07 05 44.4	+0.2
GRNR	Gornyy	47.10 49	⇑iP	P	07 05 46.2	+1.6
GRNR			e		07 05 58.5	
GRNR			pmax	pmax		
	comp=E,40nm,1.0s					
GRNR			pmax	pmax		
	comp=Z,63nm,1.0s					
BSD	Bornholm Skovb	47.15 317	i P	P	07 05 44.1	-0.7
BSD			MLR	MLR		
	comp=Z,2μm,14.0s					
BSD	Bornholm Skovb	47.15 317	i P	P	07 05 44.1	-0.7
CRES	Cresnjev	47.18 304	⇑iP	P	07 05 45.9	+0.6
TIP	Timpagrande	47.28 295	P	P	07 05 46.1	-0.2
TIP	Timpagrande	47.28 295	⇑iP	P	07 05 46.4	+0.1
GOPC	GO Pecny, Ondr	47.28 310	eP	P	07 05 46.3	+0.2
GOPC			e		07 07 37.3	
GOPC			eS	S	07 12 39.1	+1.4
GOPC	GO Pecny, Ondr	47.28 310	eP	P	07 05 46.3	+0.2
GOPC			ex	x	07 06 06.6	
GOPC			ePP	PP	07 07 37.3	+0.1
GOPC			eS	S	07 12 39.1	+1.4
BOJS	Bojanci	47.36 304	i P	P	07 05 47.2	+0.6
BOJS			eS	S	07 12 39.0	+0.3
SOKA	Soboth	47.38 305	eP	P	07 05 47.9	+1.0
	comp=Z,26nm,1.0s,SNR=20					
PVCC	Panska Ves	47.39 311	eP	P	07 05 47.8	+0.9
PVCC			eS	S	07 12 38.4	-0.8
PVCC			MLR	MLR		
	comp=Z,2μm,16.2s					
PVCC	Panska Ves	47.39 311	eP	P	07 05 47.8	+0.9
PVCC			esP	sP	07 06 04.8	+5.5
PVCC			eS	S	07 12 38.4	-0.8
PVCC			AMS	AMS	07 29 20.0	
	comp=Z,2μm,16.2s					
PRU	Pruhonice	47.44 310	eP	P	07 05 48.0	+0.7
PRU			e		07 07 37.5	
PRU			eS	S	07 12 40.3	+0.5
PRU			MLR	MLR		
	comp=Z,2μm,10.6s					
PRU	Pruhonice	47.44 310	eP	P	07 05 48.0	+0.7
PRU			esP	sP	07 06 04.2	+4.6
PRU			ePP	PP	07 07 37.5	-1.1
PRU			eS	S	07 12 40.3	+0.5
PRU			AMS	AMS	07 28 40.0	
	comp=Z,2μm,10.6s					
TIXI	Tiksi	47.54 20	eP	P	07 05 48.0	+0.3
	comp=Z,102nm,1.4s					
TIXI			LR	LR		
	comp=Z,7μm,19.0s					
TIXI	Tiksi	47.54 20	c iP	P	07 05 47.7	0.0
TIXI			pmax	pmax		
	comp=Z,109nm,1.7s					
TIXI			MLR	MLR		
	comp=Z,7μm,22.0s					
TIXI	Tiksi	47.54 20	S	S	07 12 45.8	+5.2
	comp=Z,0.7nm,0.2s,baz=252,slow=19,SNR=1.7					
OBKA	Obir	47.73 305	eP	P	07 05 50.6	+0.9
	comp=Z,30nm,1.3s,SNR=20					
BRG	Berggiesshubel	47.77 311	i P	P	07 05 50.7	+0.8
	comp=Z,38nm,1.1s					
BRG			i sP	sP	07 06 05.9	+3.7
	comp=Z,26nm,0.9s					
BRG			PP	PP	07 07 40.0	-1.5
	comp=Z,46nm,1.7s					
BRG			S	S	07 12 45.0	+0.4
BRG			SS	SS	07 16 08.0	-4.8
BRG	Berggiesshubel	47.77 311	i P	P	07 05 50.7	+0.8
BRG			S	S	07 12 45.0	+0.4
BRG			SS	SS	07 16 08.0	-4.8
BRG			pmax	pmax		
	comp=Z,38nm,1.2s					
BRG			pmax	pmax		
	comp=N,26nm,0.9s					
BRG			pmax	pmax		
	comp=Z,46nm,1.7s					
BRG			MLR	MLR		
	comp=N,1μm,12.9s					
BRG			MLR	MLR		
	comp=E,1μm,16.6s					
BRG			MLR	MLR		
	comp=Z,1μm,11.1s					
MOA	Molln	47.78 307	eP	P	07 05 50.4	+0.4
	comp=Z,55nm,1.3s,SNR=27					
LJU	Ljubljana	47.80 305	i P	P	07 05 51.0	+0.9
LJU			ePP	PP	07 07 44.1	+2.2
LJU			i S	S	07 12 45.6	+0.6
LJU			i SS	ScS	07 15 40.6	-1.0
LJU	Ljubljana	47.80 305	⇑iP	P	07 05 50.5	+0.4
RUE	Ruedersdorf	47.81 313	eP	P	07 05 50.1	0.0
RUE			lAmb	lAmb	07 05 52.6	
	comp=Z,23nm,0.5s					
CEY	Cerknica	47.90 304	⇑iP	P	07 05 51.3	+0.3
TRO	Tromso	47.92 337	eP	P	07 05 51.8	+1.1
GERES	GERESS Array B	48.07 308	eP	P	07 05 52.0	-0.2
GERES	GERESS Array B	48.07 308	P	P	07 05 52.3	0.0
	comp=Z,4.6nm,0.7s,baz=86,slow=5.9,SNR=32					
GERES			S	S	07 12 48.6	-0.3
	comp=Z,0.6nm,0.8s,baz=70,slow=8.5,SNR=2.1					
HFS	Hagfors	48.11 324	P	P	07 05 52.6	+0.2
	comp=Z,51nm,0.6s,baz=108,slow=9.5,SNR=278					
HFS			PcP	PcP	07 07 17.4	-2.1
	comp=Z,18nm,0.7s,baz=119,slow=8.4,SNR=1.7					
KHC	Kasperske Hory	48.12 309	eP	P	07 05 53.0	+0.4
KHC			e		07 05 57.3	
KHC			e		07 07 49.0	
KHC			eS	S	07 12 49.9	+0.2
KHC			MLR	MLR		
	comp=Z,2μm,13.1s					
KHC	Kasperske Hory	48.12 309	eP	P	07 05 53.0	+0.4
KHC			ex	x	07 05 57.3	
KHC			epP	sP	07 06 09.1	+4.1
KHC			ePP	PP	07 07 49.0	+4.2
KHC			ex	x	07 08 00.0	
KHC			eS	S	07 12 49.9	+0.2
KHC			AMS	AMS	07 29 50.0	
	comp=Z,2μm,13.1s					
CADS	Cadrg	48.32 305	i P	P	07 05 54.4	+0.2
MYKA	Terra Mystica	48.34 305	eP	P	07 05 55.3	+0.9
	comp=Z,23nm,1.4s,SNR=9.9					
CLL	Collm	48.34 312	i P	P	07 05 53.7	-0.5
CLL			eS	S	07 12 54.0	+1.4
CLL			e		07 15 44.0	
CLL			pmax	pmax		
	comp=Z,59nm,1.6s					
CLL			MLR	MLR		
	comp=Z,2μm,20.1s					
CLL	Collm	48.34 312	i P	P	07 05 53.7	-0.5
	comp=Z,59nm,1.6s					
CLL			ePP	PP	07 07 51.0	+4.3
CLL			eS	S	07 12 54.0	+1.4
CLL			eScS	ScS	07 15 44.0	-1.0
CLL			eSS	SS	07 16 28.0	+6.0
CLL			e		07 18 18.0	
CLL			Lm	MLR	07 29 00.0	
	comp=Z,2μm,20.1s					
KBA	Koelnbreinsper	48.48 306	eP	P	07 05 55.9	+0.3
	comp=Z,5.8nm,0.5s,SNR=7.2					
COP	Copenhagen	48.57 318	i P	P	07 05 58.4	+2.5
COP			i		07 07 43.2	
COP			MLR	MLR		
	comp=Z,2μm,12.0s					
COP	Copenhagen	48.57 318	i P	P	07 05 58.4	+2.5
COP			i		07 07 43.2	
MOR8	Moi Rana	48.66 332	eP	P	07 05 56.4	-0.1
CGJI	Cibinong	48.69 139	P	P	07 05 51.6	-5.7
STEI	Steigen	48.73 334	eP	P	07 05 58.1	+1.1
NKC	Novy Kostel	48.77 310	eP	P	07 05 58.1	+0.5
NKC			e		07 07 55.1	
NKC			eS	S	07 13 01.3	+2.6
NKC			MLR	MLR		
	comp=Z,3μm,13.2s					
NKC	Novy Kostel	48.77 310	eP	P	07 05 58.1	+0.5
NKC			esP	sP	07 06 14.6	+4.7
NKC			ePP	PP	07 07 55.1	+4.5
NKC			eS	S	07 13 01.3	+2.6
NKC			AMS	AMS	07 30 00.0	
	comp=Z,3μm,13.2s					
ABTA	Abfaltersbach	49.09 306	eP	P	07 06 00.3	+0.1
	comp=Z,6.7nm,1.0s,SNR=7.4					
AQU	L'Aquila	49.16 300	eP	P	07 06 02.1	+1.4
	comp=Z,96nm,1.4s					
AQU	L'Aquila	49.16 300	eP	P	07 06 01.0	+0.3
NC602	NORSAR Array S	49.23 324	eP	P	07 06 00.7	-0.2
KONS	Konsvik	49.24 332	eP	P	07 06 01.6	+0.8
NC303	NORSAR Array S	49.34 325	eP	P	07 06 02.2	+0.4
	comp=Z,185nm,1.2s					
COCO	West Island	49.34 152	PFAKE		07 06 10.0	+7.8
COCO			LR	LR		
	comp=Z,3μm,20.0s					
NB2	NORSAR Subarra	49.41 325	P	P	07 06 02.1	-0.2
	comp=Z,83nm,1.1s,baz=96,slow=7.9					
NB2	NORSAR Subarra	49.41 325	P	P	07 06 02.1	-0.2
	comp=Z,74nm,1.1s,baz=97,slow=7.9					
NB2	NORSAR Subarra	49.41 325	P	P	07 06 02.1	-0.2
	baz=96,slow=7.9					
NOA	NORSAR Array B	49.41 325	P	P	07 06 02.1	-0.2
	comp=Z,17nm,0.7s,baz=101,slow=7.2,SNR=134					
NOA			LR	LR	07 28 49.6	
	comp=Z,2μm,20.6s,baz=85,slow=38					
NSS	Namsos	49.41 329	eP	P	07 06 02.8	+0.6
VAE	Valguarnera	49.46 293	S	S	07 13 14.8	+5.9
	comp=Z,3.9nm,0.5s,baz=99,slow=19,SNR=2.5					
BJO	Bjornoya	49.61 343	eP	P	07 06 05.4	+1.8
GRFO	Grafenberg	49.61 310	eP	P	07 06 05.7	+1.8
	comp=Z,116nm,1.6s					
NKL	Nikolayevsk	49.61 46	i P	P	07 06 04.2	+0.3
NKL			e		07 13 22.0	
NKL			pmax	pmax		
	comp=E,77nm,1.2s					
NKL			pmax	pmax		
	comp=Z,180nm,1.2s					
NKL			pmax	pmax		
	comp=Z,1μm,8.0s					
NKL			MLR	MLR		
	comp=N,4μm,16.0s					
NKL			MLR	MLR		
	comp=E,17μm,16.0s					
NKL			MLR	MLR		
	comp=Z,20μm,16.0s					
WTTA	Wattenberg	49.62 306	eP	P	07 06 04.4	0.0
	comp=Z,2.0nm,1.1s					
WATA	Walderalm	49.65 307	eP	P	07 06 05.1	+0.6
	comp=Z,28nm,1.2s,SNR=8.8					
KMBO	Kilima Mbogo	49.73 235	eP	P	07 06 07.5	+2.0
	comp=Z,54nm,0.9s					
KMBO			LR	LR		
	comp=Z,4μm,20.0s					
KMBO	Kilima Mbogo	49.73 235	i P	P	07 06 07.8	+2.2
	SNR=29					
KMBO	Kilima Mbogo	49.73 235	P	P	07 06 08.1	+2.6
	SNR=16					
KMBO			P	P	07 06 08.1	+2.6
	SNR=16					
KMBO	Kilima Mbogo	49.73 235	P	P	07 06 06.1	+0.5
	comp=Z,41nm,0.8s,baz=39,slow=11,SNR=49					
KMBO			S	S	07 13 16.2	+2.9
	comp=Z,1.2nm,0.4s,baz=37,slow=20,SNR=4.2					
KMBO			LR	LR	07 27 49.5	
	comp=Z,5μm,19.7s,baz=58,slow=37					
SQTA	Sankt Quirin	49.91 306	eP	P	07 06 05.5	-0.9
	comp=Z,20nm,0.9s,SNR=11					
MOTA	Moosalm	49.97 307	eP	P	07 06 06.6	-0.3
	comp=Z,13nm,1.0s,SNR=11					
INU	Inuyama	50.01 69	PFAKE		07 06 20.0	+13
INU			LR	LR		
	comp=Z,3μm,18.0s					
MTKI	Muara Teweh, K	50.08 125	P	P	07 06 08.0	+0.1
NAI	Nairobi	50.14 235	PFAKE		07 06 20.0	+11
NAI			LR	LR		
	comp=Z,4μm,20.0s					
KONO	Kongsberg	50.15 323	eP	P	07 06 08.4	+0.5
	comp=Z,36nm,0.9s					
KONO	Kongsberg	50.15 323	⇓eP	P	07 06 08.3	+0.5
KONO			MLR	MLR		
	comp=Z,2μm,17.0s					
KONO	Kongsberg	50.15 323	eP	P	07 06 07.5	-0.4
RETA	Reutte	50.18 307	eP	P	07 06 07.2	-1.3
	comp=Z,8.8nm,0.9s,SNR=7.4					
FETA	Feichten	50.27 306	eP	P	07 06 09.1	-0.1
	comp=Z,16nm,1.1s,SNR=12					
MUD	Monsted U'grnd	50.39 319	eP	P	07 06 11.3	+1.6
MUD	Monsted U'grnd	50.39 319	i P	P	07 06 11.3	+1.6
DOMB	Dombas	50.49 326	eP	P	07 06 10.7	+0.2
MJB9	Matsu-Tunnel	50.61 68	PFAKE		07 06 20.0	+8.2
MJB9			LR	LR		
	comp=Z,2μm,19.0s					
MAJO	Matsushiro	50.61 68	eP	P	07 06 11.2	-0.7
	comp=Z,68nm,0.7s					
MAJO			ePcP	PcP	07 07 28.1	-1.1
MAJO			LR	LR		
	comp=Z,2μm,19.0s					
MAJO	Matsushiro	50.61 68	c iP	P	07 06 11.1	-0.7
MAJO			pmax	pmax		
	comp=Z,76nm,0.7s					
MAJO			MLR	MLR		
	comp=Z,2μm,15.0s					
MAT	Matsushiro	50.61 68	P	P	07 06 11.1	-0.7
MAT			S	S	07 13 24.6	-0.2
MJAR	Matsushiro Arr	50.62 68	eP	P	07 06 11.7	-0.1
MJAR	Matsushiro Arr	50.62 68	P	P	07 06 11.5	-0.3
	comp=Z,42nm,0.7s,baz=283,slow=9.7,SNR=54					
MJAR			PcP	PcP	07 07 28.1	-1.1
	comp=Z,10nm,0.9s,baz=280,slow=4.9,SNR=2.2					
MJAR			LR	LR	07 29 08.4	
	comp=Z,2μm,20.8s,baz=290,slow=38					
CISI	Cisompet, Garu	50.66 137	PFAKE		07 06 20.0	+7.7
CISI			LR	LR		
	comp=Z,2μm,20.0s					
DAVA	Damuels	50.80 307	eP	P	07 06 12.6	-0.6
	comp=Z,39nm,1.0s,SNR=18					
DAVOX	Davos/Dischmat	50.88 306	P	P	07 06 13.0	-0.8
	comp=Z,4.8nm,0.4s,baz=80,slow=5.0,SNR=8.9					
TYV	Tymovskoe	51.03 49	eP	P	07 06 16.1	+1.4
TYV			e		07 13 36.1	
TYV			pmax	pmax		
	comp=Z,300nm,1.9s					
TYV			pmax	pmax		
	comp=Z,63nm,1.9s					
TYV			MLR	MLR		
	comp=E,8μm,16.0s					
TUE	Stuetta	51.29 306	eP	P	07 06 17.4	+0.4
	comp=E,17nm,0.9s					
SNART	Snartemo	51.39 321	eP	P	07 06 18.1	+0.9
ODD1	Odda	51.65 323	eP	P	07 06 20.0	+0.7
YSS	Yuzh-Sakhalins	51.66 54	eP	P	07 06 20.2	+0.8
	comp=E,260nm,1.3s					
YSS			LR	LR		
	comp=Z,2μm,18.0s					
YSS	Yuzh-Sakhalins	51.66 54	⇑eP	P	07 06 19.1	-0.3
YSS			e*SP	pP	07 06 22.6	-5.9
YSS			e		07 06 29.7	
YSS			e		07 08 24.0	
YSS			eS	S	07 13 39.0	+0.1
YSS			pmax	pmax		
	comp=Z,100nm,1.3s					
YSS			MLR	MLR		
	comp=Z,4μm,13.0s					
YSS			MLR	MLR		
	comp=N,3μm,14.0s					
YSS			MLR	MLR		
	comp=E,3μm,13.0s					

BFO	**Black Forest**	**51.67 308**	*e*P	**P**	**07 06 18.5 -1.0**
	comp=E,12nm,1.0s				
BFO	**Black Forest**	**51.67 308**	*i* P	**P**	**07 06 20.3 +0.7**
SPA0	**Spitsbergen Ar**	**51.67 347**	*e*P	**P**	**07 06 20.5 +1.3**
SPA0	**Spitsbergen Ar**	**51.67 347**	*e*P	**P**	**07 06 20.7 +1.5**
BLS5	**Blasjo**	**51.75 322**	*e*P	**P**	**07 06 20.9 +0.9**
SMRI	**Semarang**	**51.80 134**	PFAKE		07 06 30.0 +9.2
SMRI			LR	LR	
	comp=Z,3μm,22.0s				
XMIS	**Christmas Isla**	**51.89 141**	PFAKE		07 06 30.0 +8.5
XMIS			LR	LR	
	comp=Z,1μm,21.0s				
BER	**Bergen**	**52.28 324**	*e*P	**P**	**07 06 24.7 +0.8**
UGM	**Wanagama**	**52.53 135**	PFAKE		07 06 40.0 +14
UGM			LR	LR	
	comp=Z,3μm,21.0s				
KBS	**Kingsbay**	**52.77 347**	*e*P	**P**	**07 06 28.7 +1.5**
	comp=Z,59nm,1.3s				
KBS			LR	LR	
	comp=Z,8μm,22.0s				
KBS	**Kingsbay**	**52.77 347⇓**	*e*P	**P**	**07 06 28.7 +1.5**
KBS			pmax	pmax	
	comp=Z,96nm,1.0s				
KBS	**Kingsbay**	**52.77 347**	*e*P	**P**	**07 06 28.5 +1.3**
MEM	**Membach**	**52.81 311**	⇑P	**P**	**07 06 28.4 +0.4**
WLF	**Walferdange**	**52.87 310**	⇑P	**P**	**07 06 29.6 +1.2**
DAV	**Davao City (W)**	**52.88 108⇑**	*i* P	**P**	**07 06 28.1 -0.8**
ERM	**Erimo**	**52.95 60**	*e*P	**P**	**07 06 28.9 -0.2**
	comp=Z,55nm,0.6s				
ERM			LR	LR	
	comp=Z,4μm,21.0s				
ERM	**Erimo**	**52.95 60⇑**	*e*P	**P**	**07 06 30.5 +1.4**
ERM			pmax	pmax	
	comp=Z,166nm,1.7s				
ERM			MLR	MLR	
	comp=Z,4μm,18.0s				
BCLA	**Clavier**	**53.29 311**	⇓P	**P**	**07 06 32.3 +0.8**
BMOL	**Mol**	**53.30 312**	P	**P**	**07 06 32.2 +0.7**
PWJI	**Pagerwojo**	**53.39 133**	P	**P**	**07 06 36.2 +3.6**
	comp=Z,56nm,1.0s				
BGES	**Gesves**	**53.43 311**	P	**P**	**07 06 33.4 +0.8**
BMRD	**Maredsous**	**53.65 311**	P	**P**	**07 06 34.8 +0.7**
DOU	**Dourbes**	**53.79 311**	⇑P	**P**	**07 06 35.9 +0.7**
KEST	**Kesra**	**53.86 293**	P	**P**	**07 06 34.8 -1.2**
	comp=Z,9.5nm,0.8s,baz=37,slow=5.1,SNR=9.4				
KEST			LR	LR	07 35 45.0
	comp=Z,420nm,18.0s,baz=4.0,slow=43				
SNF	**Seneffe**	**53.92 311**	⇑P	**P**	**07 06 36.5 +0.5**
BRQR	**Ronquire**	**53.94 312**	P	**P**	**07 06 36.5 +0.3**
MBAR	**Mbarara**	**53.99 241**	*e*P	**P**	**07 06 38.0 +0.8**
	comp=Z,64nm,1.0s				
MBAR			LR	LR	
	comp=Z,2μm,19.0s				
MBAR	**Mbarara**	**53.99 241**	P	**P**	**07 06 38.3 +1.0**
	comp=Z,36nm,0.9s,baz=51,slow=8.6,SNR=34				
MBAR			S	**S**	**07 14 09.4 -2.3**
	comp=Z,2.1nm,0.2s,baz=337,slow=13,SNR=2.3				
MRSI	**Marisa**	**54.18 117**	P	**P**	**07 06 37.7 -0.8**
YUK	**Yuzh-Kuril'sk**	**54.39 57**	*e*P	P	07 06 31.6 -8.0
YUK			*e*		07 07 42.7
YUK			*e*		07 08 39.5
YUK			*e*SS	**SS**	**07 18 00.0 +1.7**
YUK			pmax	pmax	
	comp=Z,415nm,1.0s				
YUK			pmax	pmax	
	comp=N,339nm,1.1s				
YUK			pmax	pmax	
	comp=E,457nm,1.1s				
YUK			pmax	pmax	
	comp=Z,505nm,1.2s				
YUK			MLR	MLR	
	comp=Z,2μm,19.0s				
YUK			MLR	MLR	
	comp=N,560nm,15.0s				
YUK			MLR	MLR	
	comp=E,1μm,15.0s				
MA2	**Magadan**	**54.68 37**	*e*P	**P**	**07 06 42.4 +0.9**
	comp=E,147nm,1.4s				
MA2			LR	LR	
	comp=Z,8μm,21.0s				
MA2	**Magadan**	**54.68 37***c*	*i* P	**P**	**07 06 42.4 +0.9**
MA2			pmax	pmax	
	comp=Z,109nm,1.3s				
MA2			MLR	MLR	
	comp=Z,10μm,17.0s				
APSI	**Ampana**	**54.89 119**	P	**P**	**07 06 44.1 +0.5**
TTSI	**Tana Toraja**	**55.02 122**	P	**P**	**07 06 44.3 -0.2**
CMAH	**Djebel Manchou**	**55.07 294**	P	**P**	**07 06 45.6 +0.8**
SEY	**Seymchan**	**55.11 33⇑**	*e*P	**P**	**07 06 45.8 +1.3**
ABSA	**Djebel Ababsia**	**55.14 294**	P	**P**	**07 06 47.0 +1.7**
JAGI	**Jajag, Banyuwa**	**55.19 132**	*e*P	**P**	**07 06 43.6 -2.1**
	comp=Z,83nm,0.9s				
KUR	**Kuril'sk**	**55.49 55**	*e*P	**P**	**07 06 48.2 +0.6**
KUR			*e**PP	**pP**	**07 06 51.6 -5.1**
KUR			*e*		07 08 54.5
KUR			MLR	MLR	
	comp=Z,2μm,14.0s				
KUR			MLR	MLR	
	comp=E,2μm,15.0s				
SRBI	**Singaraja**	**55.57 130**	P	**P**	**07 06 46.7 -1.7**
LUWI	**Luwuk**	**55.81 118**	PFAKE		07 07 00.0 +10
LUWI			LR	LR	
	comp=Z,400nm,22.0s				
DFRA	**Djebel Bou Aff**	**56.28 295**	P	**P**	**07 06 53.5 0.0**
KAPI	**Kappang**	**56.36 124**	*e*P	**P**	**07 06 50.7 -3.4**
	comp=Z,35nm,1.0s				
KAPI			LR	LR	
	comp=Z,600nm,19.0s				
EDMD	**Edmundbyers**	**56.84 318**	*e*P	**P**	**07 06 57.2 +0.1**
EDMD			IAmb	IAmb	07 06 58.2
	comp=Z,120nm,1.4s				
EDMD			IAMs_20	IAMs_20	07 33 57.2
	comp=Z,3μm,14.2s				
MLA1	**Latheron**	**56.94 322**	*e*P	**P**	**07 06 56.4 -1.2**
MCD	**Coleburn Disti**	**57.01 321**	*e*P	**P**	**07 06 58.6 +0.4**
ESK	**Eskdalemuir**	**57.44 318**	*e*P	**P**	**07 07 01.8 +0.6**
	comp=Z,126nm,1.6s				
MDO	**Dochfour**	**57.63 321**	*e*P	**P**	**07 07 02.5 -0.1**
INVG	**Invergeldie, C**	**57.67 320**	*e*P	**P**	**07 07 02.7 -0.1**
INVG			IAmb	IAmb	07 07 02.9
	comp=Z,28nm,0.9s				
HLM1	**Long Mynd**	**57.88 315**	*e*P	**P**	**07 07 03.0 -1.4**
HLM1			IAmb	IAmb	07 07 04.4
	comp=Z,52nm,1.4s				
HLM1			IAMs_20	IAMs_20	07 35 04.0
	comp=Z,3μm,15.8s				
FOEL	**Foel Wylfa**	**57.98 315**	*e*P	**P**	**07 07 05.5 +0.3**
FOEL			IAmb	IAmb	07 07 08.1
	comp=Z,62nm,1.2s				
FOEL			IAMs_20	IAMs_20	07 35 00.1
	comp=Z,3μm,14.4s				
MONM	**Monmouth**	**58.00 314**	*e*P	**P**	**07 07 05.4 +0.2**
MONM			IAmb	IAmb	07 07 06.8
	comp=Z,67nm,1.3s				
MONM			IAMs_20	IAMs_20	07 37 12.6
	comp=Z,3μm,14.6s				
PGBU	**Glenifferbraes**	**58.04 319**	*e*P	**P**	**07 07 06.6 +1.1**
PGBU			IAMs_20	IAMs_20	07 36 33.4
	comp=Z,4μm,14.4s				
MCH1	**Michaelchurch**	**58.08 314**	*e*P	**P**	**07 07 05.6 -0.2**
MCH1			IAmb	IAmb	07 07 07.7
	comp=Z,65nm,1.1s				
MCH1			IAMs_20	IAMs_20	07 37 14.3
	comp=Z,2μm,14.5s				
KAC	**Achnashellach**	**58.11 321**	*e*P	**P**	**07 07 06.3 +0.3**
TNTI	**Ternate**	**58.13 113**	P	**P**	**07 07 07.2 +0.5**
	comp=Z,130nm,1.3s,comp=Z,2μm				
LLW	**Llanuwychllyn**	**58.27 316**	*e*P	**P**	**07 07 07.1 0.0**
KPL	**Plockton**	**58.33 321**	*e*P	**P**	**07 07 07.1 -0.3**
KPL			IAmb	IAmb	07 07 10.6
	comp=Z,108nm,1.4s				
LAWE	**Loch Awe, Argy**	**58.44 320**	*e*P	**P**	**07 07 08.8 +0.5**
IOMK	**Kirk Michael**	**58.45 317**	*e*P	**P**	**07 07 08.7 +0.4**
IOMK			IAmb	IAmb	07 07 11.4
	comp=Z,81nm,0.9s				
IOMK			IAMs_20	IAMs_20	07 36 45.2
	comp=Z,5μm,19.8s				
ABPO	**Ambohimpanom**	**58.55 212**	*e*P	**P**	**07 07 09.0 -0.6**
	comp=Z,52nm,1.4s				
ABPO			LR	LR	
	comp=Z,2μm,19.0s				
ABPO	**Ambohimpanom**	**58.55 212**	*i* P	**P**	**07 07 10.5 +0.9**
WLF1	**Llynfaes**	**58.59 316**	*e*P	**P**	**07 07 09.9 +0.6**
WLF1			IAmb	IAmb	07 07 11.8
	comp=Z,52nm,0.9s				
YRC	**Rhoscolyn**	**58.70 316**	*e*P	**P**	**07 07 10.1 0.0**
SANI	**Sanana**	**58.88 116**	P	**P**	**07 07 10.4 -1.5**
DAG	**Danmarks Havn**	**59.05 344⇑**	*i* P	**P**	**07 07 13.0 +0.8**
DAG			MLR	MLR	
	comp=Z,2μm,16.0s				
DAG	**Danmarks Havn**	**59.05 344⇑**	*i* P	**P**	**07 07 13.0 +0.8**
RSBS	**Rosebush, Pemb**	**59.13 315**	*e*P	**P**	**07 07 13.1 -0.1**
RSBS			IAMs_20	IAMs_20	07 37 56.5
	comp=Z,1μm,15.1s				
SKR	**Severo-Kuril's**	**59.44 47**	*e*P	**P**	**07 07 12.5 -2.7**
SKR			*e*		07 09 27.3
SKR			*e*PPP	PPP	07 10 54.3
SKR			*e*S	S	07 15 13.1 -9.4
SKR			*e*		07 17 02.4
SKR			pmax	pmax	
	comp=Z,400nm,17.2s				
SKR			pmax	pmax	
	comp=Z,600nm,14.6s				
SKR			MLR	MLR	
	comp=Z,5μm,15.0s				
SKR			MLR	MLR	
	comp=Z,5μm,16.0s				
PEA0B	**Petropavlovsk-**	**59.71 44**	PFAKE		07 07 30.0 +13
PEA0B			LR	LR	
	comp=Z,5μm,21.0s				
PETK	**Petropavlovsk-**	**59.71 44**	P	**P**	**07 07 16.9 -0.3**
	comp=Z,11nm,0.6s,baz=281,slow=3.6,SNR=28				
PETK			LR	LR	07 35 31.7
	comp=Z,5μm,18.1s,baz=290,slow=38				
PETK			PKPPKP	**P'P'df**	**07 36 44.0 -6.6**
	comp=Z,2.6nm,0.9s,baz=153,slow=9.7,SNR=3.0				
PETK			PKP2bc		07 36 56.2
	comp=Z,4.6nm,1.1s,baz=236,slow=11,SNR=3.9				
DSB	**Dublin**	**59.74 316**	*e*P	P	07 07 28.2 +11
IDGL	**Inch Island, C**	**59.89 319**	*e*P	**P**	**07 07 21.0 +2.7**
BILL	**Bilibino**	**59.96 26**	*e*P	**P**	**07 07 19.6 +1.0**
	comp=Z,70nm,1.4s				
BILL			LR	LR	
	comp=Z,4μm,18.0s				
BILL	**Bilibino**	**59.96 26***c*	*i* P	**P**	**07 07 19.8 +1.2**
BILL			*e*		07 08 05.9
BILL			*e*		07 09 33.5
BILL			*e*S	**S**	**07 15 25.8 -3.0**
BILL			pmax	pmax	
	comp=Z,52nm,1.3s				
BILL			MLR	MLR	
	comp=Z,6μm,16.0s				
PET	**Petropavlovsk**	**60.29 44**	PFAKE		07 07 30.0 +8.9
PET			LR	LR	
	comp=Z,4μm,21.0s				
PET	**Petropavlovsk**	**60.29 44**	*e*P	**P**	**07 07 19.2 -1.9**
PET			*e*		07 09 33.4
PET			*e*S	**S**	**07 15 27.0 -6.5**
PET			pmax	pmax	
	comp=Z,400nm,10.3s				
PET			pmax	pmax	
	comp=Z,500nm,12.1s				
PET			pmax	pmax	
	comp=Z,300nm,16.4s				
PET			MLR	MLR	
	comp=Z,4μm,19.0s				
PET			MLR	MLR	
	comp=Z,3μm,15.0s				
MMRI	**Maumere**	**60.66 125**	PFAKE		07 07 40.0 +16
MMRI			LR	LR	
	comp=Z,1μm,20.0s				
IGLA	**Glengowla, Co**	**61.42 317**	*e*P	**P**	**07 07 25.0 -3.7**
SCO	**Scoresbysund**	**61.68 338**	*i* P	**P**	**07 07 32.4 +2.1**
SCO			MLR	MLR	
	comp=Z,5μm,17.0s				
SCO	**Scoresbysund**	**61.68 338**	*i* P	**P**	**07 07 32.4 +2.1**
TAM	**Tamanrasset**	**61.85 280**	PFAKE		07 07 50.0 +18
TAM			LR	LR	
	comp=Z,5μm,18.0s				
SESP	**Santiago Espad**	**62.04 299**	P	**P**	**07 07 34.7 +1.2**
ESDC	**Sonseca Array**	**62.51 301**	P	**P**	**07 07 36.5 0.0**
	comp=Z,19nm,0.8s,baz=62,slow=7.0,SNR=59				
ESDC			S	**S**	**07 15 57.0 -5.2**
	comp=Z,0.1nm,0.3s,baz=33,slow=40,SNR=2.9				
ESLA	**Sonseca Array**	**62.51 301**	*e*P	**P**	**07 07 37.2 +0.8**
	comp=Z,69nm,1.1s				
PAB	**San Pablo**	**62.83 301**	*e*P	**P**	**07 07 39.5 +0.9**
	comp=Z,195nm,1.6s				
SOEI	**Soe**	**62.86 124**	PFAKE		07 07 50.0 +11
SOEI			LR	LR	
	comp=Z,2μm,21.0s				
SOEI	**Soe**	**62.86 124**	P	**P**	**07 07 38.2 -0.9**
JBK	**JBK**	**63.50 295**	P	**P**	**07 07 45.0 +1.7**
TDRA	**Tendrara**	**63.60 294**	P	**P**	**07 07 46.0 +2.0**
PBRG	**Braganca**	**63.68 304**	*e*P	P	07 07 57.4 +13
	comp=Z,70nm,1.7s				
MVO	**Moncorvo**	**64.12 304**	*e*P	**P**	**07 07 47.5 +0.4**
	comp=Z,106nm,1.7s				
MVO			*e*S	**S**	**07 16 25.7 +3.3**
MVO	**Moncorvo**	**64.12 304**	*e*LR	LR	07 35 24.7
	comp=Z,436nm,20.0s				
HORN	**Hornachuelos**	**64.13 300**	P	**P**	**07 07 47.9 +0.7**
PGAV	**Gavieira, Arco**	**64.68 305**	*e*P	**P**	**07 07 52.1 +1.3**
	comp=Z,98nm,2.0s				
PGAV			*e*S	**S**	**07 16 26.2 -3.1**
PGAV	**Gavieira, Arco**	**64.68 305**	*e*LR	LR	07 34 11.3
	comp=Z,425nm,20.0s				
MTE	**Manteigas**	**64.78 303**	*e*P	**P**	**07 07 52.3 +0.9**
	comp=Z,144nm,1.4s				
MTE			*e*S	**S**	**07 16 34.3 +3.8**
MTE	**Manteigas**	**64.78 303**	*e*LR	LR	07 35 54.0
	comp=Z,596nm,18.0s				
PVIS	**Viseu**	**64.90 303**	*e*P	**P**	**07 07 53.3 +1.1**
	comp=Z,101nm,1.5s				
PCBR	**Castelo Branco**	**64.95 302**	*e*P	**P**	**07 07 54.3 +1.9**
	comp=Z,50nm,1.5s				
PMRV	**Marv??o**	**65.05 302**	*e*P	**P**	**07 07 54.1 +1.0**
	comp=Z,112nm,1.6s				
PMRV			*e*S	**S**	**07 16 36.6 +2.8**
PMRV	**Marv??o**	**65.05 302**	*e*LR	LR	07 37 38.9
	comp=Z,399nm,22.0s				
SMIR	**Smir Dam**	**65.08 298**	P	**P**	**07 07 54.0 +0.6**
PESTR	**Estremoz**	**65.41 302**	*e*P	**P**	**07 07 56.1 +0.6**
	comp=Z,95nm,1.5s				
PESTR	**Estremoz**	**65.41 302**	P	**P**	**07 07 56.5 +1.0**
SUMG	**Summit**	**65.49 342**	PFAKE		07 08 10.0 +14
SUMG			LR	LR	
	comp=Z,2μm,18.0s				
SUMG	**Summit**	**65.49 342⇑**	*i* P	**P**	**07 07 57.5 +1.6**
SUMG			MLR	MLR	
	comp=Z,5μm,16.0s				
SUMG	**Summit**	**65.49 342⇑**	*i* P	**P**	**07 07 57.5 +1.6**
LCRM	**LCR**	**65.50 295**	P	**P**	**07 07 58.0 +1.6**
MDT	**Midelt**	**65.67 294**	S	**S**	**07 16 37.7 -4.1**
	comp=Z,0.4nm,0.3s,baz=19,slow=3.7,SNR=1.9				
MDT	**Midelt**	**65.67 294**	P	**P**	**07 07 57.7 +0.3**
PTOM	**Tomar**	**65.70 303**	*e*P	**P**	**07 07 58.8 +1.5**
	comp=Z,161nm,1.3s				
PMTG	**Montargil**	**65.79 302**	*e*P	**P**	**07 08 00.0 +2.1**
	comp=Z,84nm,1.6s				
EVO	**Evora**	**65.85 301**	*e*P	**P**	**07 07 59.5 +1.2**
	comp=Z,130nm,1.4s				
PBEJ	**Beja**	**65.95 301**	*e*P	**P**	**07 08 01.1 +2.1**
	comp=Z,71nm,1.3s				
PVAQ	**Vaqueiros**	**66.10 300**	*e*S	**S**	**07 16 40.5 -6.1**
LSZ	**Lusaka**	**66.14 231**	*e*P	**P**	**07 08 01.3 +0.8**
	comp=Z,43nm,1.2s				
LSZ			LR	LR	
	comp=Z,2μm,21.0s				
PCVE	**Castro Verde**	**66.24 300**	*e*P	**P**	**07 08 02.0 +1.2**
	comp=Z,89nm,1.6s				
MESJ	**Messejana**	**66.28 301**	*e*P	**P**	**07 08 02.1 +1.0**
MESJ			AMb	AMB	07 08 04.8
	comp=Z,80nm,1.5s				
MESJ			*e*S	**S**	**07 16 52.9 +4.0**
MESJ	**Messejana**	**66.28 301**	*e*P	**P**	**07 08 02.1 +1.0**
MESJ			*e*S	**S**	**07 16 52.8 +4.0**
PNCL	**Nicolau / Gran**	**66.39 301**	*e*P	**P**	**07 08 03.0 +1.2**
	comp=Z,83nm,1.7s				
GIRL	**Giralia**	**66.51 141**	PFAKE		07 08 10.0 +7.5
GIRL			LR	LR	
	comp=Z,2μm,21.0s				
PMAFR	**Mafra**	**66.59 302**	*e*P	P	07 08 08.7 +5.7
LIS	**Lisbon**	**66.59 302**	*e*P	**P**	**07 08 04.1 +1.0**
LIS			AMb	AMB	07 08 07.2
	comp=Z,223nm,2.1s				
LIS	**Lisbon**	**66.59 302**	*e*P	**P**	**07 08 04.0 +1.0**
PTEO	**Sao Teotonio**	**66.77 301**	*e*P	**P**	**07 08 07.7 +3.5**
	comp=Z,116nm,1.4s				
MORF	**Marmelete**	**66.81 300**	*e*P	**P**	**07 08 05.4 +0.8**
MORF			AMb	AMB	07 08 13.4
	comp=Z,76nm,1.3s				
MORF			*e*S	**S**	**07 16 59.0 +3.5**
MORF	**Marmelete**	**66.81 300**	*e*P	**P**	**07 08 05.4 +0.8**
MORF			*e*S	**S**	**07 16 58.9 +3.5**
OUZM	**OUZ**	**68.14 293**	P	**P**	**07 08 14.1 +0.9**
KULLO	**Kullorsuaq**	**68.23 348⇑**	*i* P	**P**	**07 08 13.9 +1.1**
KULLO			pmax	pmax	
	comp=Z,69nm,1.1s				
KULLO			MLR	MLR	
	comp=Z,4μm,19.0s				
KULLO	**Kullorsuaq**	**68.23 348⇑**	*i* P	**P**	**07 08 13.9 +1.1**
	comp=Z,69nm,1.1s				
MBWA	**Marble Bar**	**68.38 136**	*e*P	**P**	**07 08 14.4 -0.1**
	comp=Z,93nm,1.5s				
MBWA			LR	LR	
	comp=Z,900nm,20.0s				
TULEG	**Thule**	**68.39 352**	PFAKE		07 08 30.0 +16
TULEG			LR	LR	
	comp=Z,3μm,20.0s				
PSAC1	**Pilbara Seismi**	**68.72 136**	PFAKE		07 08 30.0 +13
PSAC1			LR	LR	
	comp=Z,2μm,20.0s				
PSAB1	**Pilbara Seismi**	**68.75 136**	PFAKE		07 08 30.0 +13
PSAB1			LR	LR	
	comp=Z,2μm,19.0s				
PSAD3	**Pilbara Seismi**	**68.79 136**	PFAKE		07 08 30.0 +13
PSAD3			LR	LR	
	comp=Z,2μm,21.0s				
PSAB3	**Pilbara Seismi**	**68.79 136**	PFAKE		07 08 30.0 +13
PSAB3			LR	LR	
	comp=Z,2μm,20.0s				
PSAC3	**Pilbara Seismi**	**68.80 136**	PFAKE		07 08 30.0 +13
PSAC3			LR	LR	
	comp=Z,2μm,20.0s				
PSAD2	**Pilbara Seismi**	**68.88 136**	PFAKE		07 08 30.0 +12
PSAD2			LR	LR	
	comp=Z,2μm,20.0s				
TOC2	**Torodi Ar. Sit**	**69.62 273**	PFAKE		07 08 40.0 +18
TOC2			LR	LR	
	comp=Z,3μm,18.0s				
TOC1	**Torodi Ar. Sit**	**69.62 273**	PFAKE		07 08 40.0 +18
TOC1			LR	LR	
	comp=Z,4μm,18.0s				
TOC3	**Torodi Ar. Sit**	**69.63 273**	PFAKE		07 08 40.0 +18
TOC3			LR	LR	
	comp=Z,3μm,19.0s				
TOB2	**Torodi Ar. Sit**	**69.63 273**	PFAKE		07 08 40.0 +18
TOB2			LR	LR	
	comp=Z,3μm,19.0s				
TOA2	**Torodi Ar. Sit**	**69.64 273**	PFAKE		07 08 40.0 +17
TOA2			LR	LR	
	comp=Z,3μm,19.0s				
TOB3	**Torodi Ar. Sit**	**69.64 273**	PFAKE		07 08 40.0 +17
TOB3			LR	LR	
	comp=Z,3μm,18.0s				
TOA0	**Torodi Ar. Sit**	**69.64 273**	PFAKE		07 08 40.0 +17
TOA0			LR	LR	
	comp=Z,3μm,18.0s				
TOA0	**Torodi Ar. Sit**	**69.64 273**	P	**P**	**07 08 22.7 +0.2**
	SNR=12				
TOA1	**Torodi Ar. Sit**	**69.64 273**	PFAKE		07 08 40.0 +17
TOA1			LR	LR	
	comp=Z,3μm,18.0s				
TORD	**Torodi Ar. Bea**	**69.64 273**	*e*P	**P**	**07 08 19.9 -2.6**
TORD	**Torodi Ar. Bea**	**69.64 273**	P	**P**	**07 08 20.8 -1.8**
	comp=Z,24nm,0.9s,baz=38,slow=7.8,SNR=82				
TORD			S	S	07 17 20.5 -9.0
	comp=Z,1.4nm,1.1s,baz=84,slow=5.9,SNR=2.2				
TORD			LR	LR	07 42 47.5
	comp=Z,3μm,18.1s,baz=5.0,slow=39				
TOA3	**Torodi Ar. Sit**	**69.65 273**	PFAKE		07 08 40.0 +17
TOA3			LR	LR	
	comp=Z,3μm,18.0s				
TOC7	**Torodi Ar. Sit**	**69.65 273**	PFAKE		07 08 40.0 +17
TOC7			LR	LR	
	comp=Z,3μm,18.0s				
TOB5	**Torodi Ar. Sit**	**69.65 273**	PFAKE		07 08 40.0 +17
TOB5			LR	LR	
	comp=Z,3μm,18.0s				
TOC4	**Torodi Ar. Sit**	**69.65 273**	PFAKE		07 08 40.0 +17
TOC4			LR	LR	
	comp=Z,3μm,18.0s				
TOB4	**Torodi Ar. Sit**	**69.66 273**	PFAKE		07 08 40.0 +17
TOB4			LR	LR	
	comp=Z,3μm,18.0s				
TOC5	**Torodi Ar. Sit**	**69.67 273**	PFAKE		07 08 40.0 +17
TOC5			LR	LR	
	comp=Z,4μm,18.0s				
MATP	**Matopo**	**69.75 227**	*i* P	**P**	**07 08 22.9 -0.2**
MATP	**Matopo**	**69.75 227**	*i* P	**P**	**07 08 22.9 -0.2**
MTN	**Manton Dam**	**69.84 121**	*e*P	**P**	**07 08 22.1 -1.5**
	comp=Z,16nm,0.8s				
RDOG	**Red Dog Mine**	**70.15 20**	PFAKE		07 08 40.0 +15
RDOG			LR	LR	
	comp=Z,3μm,22.0s				
GENI	**Genyem**	**70.29 107**	P	**P**	**07 08 24.1 -2.4**
ILULI	**Ilulissat**	**70.84 342⇑**	*i* P	**P**	**07 08 30.1 +1.1**
ILULI			pmax	pmax	
	comp=Z,83nm,1.1s				
ILULI			MLR	MLR	
	comp=Z,3μm,18.0s				
ILULI	**Ilulissat**	**70.84 342⇑**	*i* P	**P**	**07 08 30.1 +1.1**
	comp=Z,83nm,1.1s				
ANM	**Nome**	**71.63 23**	*e*P	**P**	**07 08 34.7 +0.8**
	comp=Z,201nm,1.6s				
ANM			LR	LR	
	comp=Z,6μm,18.0s				
SFJD	**Kangerlussuaq**	**72.28 341**	*e*P	**P**	**07 08 38.4 +0.7**
	comp=Z,90nm,1.4s				
SFJD	**Kangerlussuaq**	**72.28 341⇑**	*i* P	**P**	**07 08 38.3 +0.7**
SFJD			pmax	pmax	
	comp=Z,65nm,1.2s				
SFJD			MLR	MLR	
	comp=Z,2μm,22.0s				
SFJD	**Kangerlussuaq**	**72.28 341⇑**	*i* P	**P**	**07 08 38.3 +0.7**
	comp=Z,65nm,1.2s				
RES	**Resolute Bay**	**72.30 357**	PFAKE		07 08 50.0 +12
RES			LR	LR	
	comp=Z,4μm,18.0s				
MORW	**Morawa**	**72.69 144**	PFAKE		07 08 50.0 +9.4
MORW			LR	LR	
	comp=Z,2μm,19.0s				
TOLK	**Toolik Lake Re**	**73.17 16**	PFAKE		07 09 00.0 +17
TOLK			LR	LR	
	comp=Z,3μm,18.0s				
TOLK	**Toolik Lake Re**	**73.17 16**	P	**P**	**07 08 43.7 +0.7**
	baz=321				
IMAR	**Indian Mountai**	**74.17 19**	*e*P	**P**	**07 08 48.7 -0.2**
BMAR	**Burnt Mountain**	**75.26 15**	*e*P	**P**	**07 08 56.6 +1.3**
IVI	**Ivigtut**	**75.58 335**	*e*P	**P**	**07 08 55.5 -1.5**
IVI			LR	LR	
	comp=Z,4μm,18.0s				
MLY	**Manley**	**75.71 19**	PFAKE		07 09 10.0 +12
MLY			LR	LR	
	comp=Z,900nm,22.0s				
FYU	**Fort Yukon**	**75.83 16**	PFAKE		07 09 10.0 +12
FYU			LR	LR	
	comp=Z,2μm,20.0s				
TSUM	**Tsumeb**	**76.06 236**	*e*P	**P**	**07 09 01.6 +1.0**
	comp=Z,44nm,0.9s				
TSUM			LR	LR	
	comp=Z,3μm,20.0s				
BPAW	**Bear Paw Mtn.**	**76.37 19**	PFAKE		07 09 10.0 +8.4
BPAW			LR	LR	
	comp=Z,3μm,18.0s				
MDM	**Murphy Dome**	**76.42 18**	PFAKE		07 09 10.0 +8.1
MDM			LR	LR	
	comp=Z,2μm,18.0s				
NWAO	**Narrogin (SRO)**	**76.44 145**	*e*P	**P**	**07 09 02.0 -0.3**
	comp=Z,298nm,1.7s				
NWAO			LR	LR	
	comp=Z,1μm,22.0s				
POKR	**Poker Plat Res**	**76.50 17**	P	**P**	**07 09 03.2 +1.0**
	baz=324				
INK	**Inuvik**	**76.56 11**	PFAKE		07 09 10.0 +7.5
INK			LR	LR	
	comp=Z,2μm,22.0s				
TCOL	**CIGO, UAF Yank**	**76.59 18**	P	**P**	**07 09 03.3 +0.6**
	baz=323				
COLA	**College**	**76.59 18**	*e*P	**P**	**07 09 03.5 +0.7**
	comp=Z,66nm,0.9s				
COLA			LR	LR	

comp=Z,113nm,1.4s
PRP Porcupine Dome 76.63 16 PFAKE 07 09 20.0 +17
PRP LR LR
comp=Z,2μm,21.0s
BWN Browne 76.73 19 PFAKE 07 09 20.0 +16
BWN LR LR
comp=Z,1μm,18.0s
CCB Clear Creek Bu 76.78 18 PFAKE 07 09 20.0 +16
CCB LR LR
comp=Z,2μm,20.0s
WRH Wood River Hil 76.85 18 PFAKE 07 09 20.0 +16
WRH LR LR
comp=Z,2μm,18.0s
WRA Warramunga Arr 76.89 124 P **P 07 09 04.5 -0.7**
comp=Z,25nm,0.7s,baz=323,slow=5.3,SNR=104
WRA LR LR 07 46 46.6
comp=Z,535nm,21.5s,baz=345,slow=39
WRAB Tennant Creek 76.89 124 *e*P **P 07 09 05.0 -0.1**
comp=Z,196nm,1.4s
WRAB LR LR
comp=Z,800nm,22.0s
WRAB Tennant Creek 76.89 124 *c i*P **P 07 09 04.9 -0.2**
WRAB pmax pmax
comp=Z,86nm,1.0s
WRAB MLR MLR
comp=Z,652nm,20.0s
WB2 Warramunga Arr 76.89 124 PFAKE 07 09 20.0 +15
WB2 LR LR
comp=Z,900nm,22.0s
ILAR Eielson Array 76.91 17 *e*P **P 07 09 03.8 -0.8**
ILAR Eielson Array 76.91 17 P **P 07 09 04.4 -0.2**
comp=Z,13nm,1.0s,baz=314,slow=4.1,SNR=94
ILAR PKP2bc 07 36 08.0
comp=Z,0.5nm,0.9s,baz=162,slow=1.4,SNR=4.6
ILAR PKPPKP **P'P'df 07 36 15.7 -5.8**
comp=Z,2.5nm,1.4s,baz=224,slow=2.5,SNR=3.4
ILAR LR LR 07 47 52.5
comp=Z,4μm,19.0s,baz=328,slow=40
WR5 Warramunga Arr 76.96 124 PFAKE 07 09 20.0 +15
WR5 LR LR
comp=Z,700nm,20.0s
TRF Thorofare Moun 77.08 19 PFAKE 07 09 20.0 +14
TRF LR LR
comp=Z,2μm,21.0s
HDA Harding Lake 77.19 18 PFAKE 07 09 20.0 +14
HDA LR LR
comp=Z,3μm,19.0s
HDA Harding Lake 77.19 18 P **P 07 09 05.5 -0.7**
baz=324
RND Reindeer 77.50 19 PFAKE 07 09 20.0 +12
RND LR LR
comp=Z,2μm,20.0s
EPYK Eagle Plains 77.76 13 P **P 07 09 09.6 +0.2**
baz=332
BOSA Boshof 77.83 224 *i*P **P 07 09 10.8 +0.5**
BOSA Boshof 77.83 224 *i*P **P 07 09 10.8 +0.5**
BOSA Boshof 77.83 224 P **P 07 09 09.9 -0.5**
comp=Z,14nm,0.5s,baz=34,slow=3.7,SNR=40
BOSA LR LR 07 42 26.5
comp=Z,2μm,20.2s,baz=37,slow=35
DHY Denali Highway 78.17 19 PFAKE 07 09 20.0 +8.1
DHY LR LR
comp=Z,1μm,18.0s
EGAK Eagle 78.26 15 PFAKE 07 09 20.0 +7.9
EGAK LR LR
comp=Z,2μm,21.0s
RIDG Independent Ri 78.27 17 PFAKE 07 09 20.0 +7.7
RIDG LR LR
comp=Z,3μm,19.0s
DBIC Dimbokro 78.51 270 P **P 07 09 13.8 -0.6**
comp=Z,16nm,0.7s,baz=45,slow=7.8,SNR=15
DBIC LR LR 07 47 49.7
comp=Z,2μm,18.0s,baz=38,slow=39
KIC Kosan Boka 78.58 270 *e*PKP2 **P 07 09 14.7 0.0**
comp=Z,113nm,1.0s
TIC Toumodi 78.66 271 *e*PKP2 **P 07 09 14.6 -0.6**
RSO Redoubt South 78.67 22 *e*P **P 07 09 14.5 -0.3**
LIC Lamto 78.89 270 *e*PKP2 **P 07 09 15.8 -0.7**
comp=Z,112nm,0.9s
SML Sawmill 78.93 20 PFAKE 07 09 30.0 +14
SML LR LR
comp=Z,2μm,19.0s
RC01 Rabbit Creek A 79.10 21 PFAKE 07 09 30.0 +13
RC01 LR LR
comp=Z,2μm,19.0s
ASAR Alice Springs 79.12 127 P **P 07 09 17.1 -0.4**
comp=Z,17nm,0.7s,baz=318,slow=5.8,SNR=104
ASAR LR LR 07 49 36.7
comp=Z,799nm,18.5s,baz=307,slow=40
KNK Knik Glacier 79.22 20 PFAKE 07 09 30.0 +13
KNK LR LR
comp=Z,2μm,20.0s
DAWY Dawson 79.26 15 PFAKE 07 09 30.0 +12
DAWY LR LR
comp=Z,2μm,20.0s
BCAR Beaver Creek A 79.59 16 *e*P **P 07 09 20.2 +0.7**
HOM Homer 79.65 22 PFAKE 07 09 30.0 +10
HOM LR LR
comp=Z,2μm,20.0s
BRLK Bradley Lake 79.80 22 PFAKE 07 09 30.0 +9.3
BRLK LR LR
comp=Z,3μm,18.0s
KLU Klutina 79.86 19 PFAKE 07 09 30.0 +8.9
KLU LR LR
comp=Z,2μm,22.0s
PMG Port Moresby 79.90 108 *e*P **P 07 09 21.9 +0.1**
comp=Z,102nm,1.4s
PMG Port Moresby 79.90 108 || *e*P **P 07 09 22.6 +0.7**
PMG pmax pmax
comp=Z,408nm,1.7s
PMG MLR MLR
comp=Z,940nm,19.0s
FORT Forrest 80.53 136 PFAKE 07 09 40.0 +15
FORT LR LR
comp=Z,1μm,20.0s
KDAK Kodiak Island 80.80 24 *e*P **P 07 09 27.1 +1.1**
comp=Z,551nm,1.9s
KDAK LR LR
comp=Z,4μm,21.0s
KDAK Kodiak Island 80.80 24 *e*P **P 07 09 27.1 +1.1**
KDAK pmax pmax
comp=Z,551nm,1.9s
KDAK MLR MLR
comp=Z,4μm,21.0s
BALM Baldy 81.19 18 PFAKE 07 09 40.0 +12
BALM LR LR
comp=Z,2μm,20.0s
HMT Hamilton 81.28 19 PFAKE 07 09 40.0 +11
HMT LR LR
comp=Z,2μm,19.0s
TGL Tana Glacier 81.30 18 PFAKE 07 09 40.0 +11
TGL LR LR
comp=Z,2μm,18.0s
CTGM Chitina Glacie 81.50 17 PFAKE 07 09 40.0 +10
CTGM LR LR
comp=Z,3μm,18.0s
BCPM Bancas Point 82.80 17 *e*P **P 07 09 38.6 +2.0**
comp=Z,185nm,0.9s
BCPM LR LR
comp=Z,2μm,18.0s
SUR Sutherland 83.19 224 *e*P **P 07 09 39.5 +0.4**
comp=Z,42nm,1.1s
SUR LR LR
comp=Z,3μm,22.0s
WHY Whitehorse 83.26 15 PFAKE 07 09 50.0 +11
WHY LR LR
comp=Z,2μm,18.0s
YKA Yellowknife Ar 84.37 5 P **P 07 09 44.5 -0.1**
comp=Z,14nm,0.5s,baz=345,slow=5.3,SNR=139
YKA PKKPbc **PKKPbc 07 27 57.1 +0.3**
comp=Z,0.3nm,0.6s,baz=156,slow=2.6,SNR=4.8
YKA PKPPKP P'P'df 07 35 59.6 -8.0
comp=Z,0.3nm,0.9s,baz=174,slow=1.9,SNR=3.8
YKA LR LR 07 50 10.3
comp=Z,178nm,20.1s,baz=348,slow=38
JIS Juneau Island 85.53 15 *e*P **P 07 09 50.4 0.0**
comp=Z,53nm,1.2s
JIS LR LR
comp=Z,3μm,19.0s
CTAO Charters Tower 85.57 117 *e*P **P 07 09 50.8 -0.4**
comp=Z,153nm,1.3s
CTAO LR LR
comp=Z,1μm,20.0s
CTAO Charters Tower 85.57 117 *e*P **P 07 09 50.8 -0.4**
CTAO pmax pmax
comp=Z,153nm,1.3s
CTAO MLR MLR
comp=Z,1μm,20.0s
DLBC Dease Lake 86.29 13 PFAKE 07 10 10.0 +16
DLBC LR LR
comp=Z,3μm,18.0s
SCHQ Schefferville 86.68 339 PFAKE 07 10 10.0 +14
SCHQ LR LR
comp=Z,3μm,22.0s
SCHQ Schefferville 86.68 339 P **P 07 09 56.3 +0.1**
comp=Z,6.3nm,0.7s,baz=46,slow=6.2,SNR=14
SCHQ LR LR 07 48 33.9
comp=Z,3μm,21.8s,baz=35,slow=36
WRAK Wrangell Islan 87.69 15 PFAKE 07 10 10.0 +9.0
WRAK LR LR
comp=Z,1μm,18.0s
DRLN Deer Lake 88.05 331 *e*P **P 07 10 02.6 -0.3**
comp=Z,13nm,0.8s
DRLN LR LR
comp=Z,1μm,21.0s
FCC Fort Churchill 88.08 355 PFAKE 07 10 10.0 +7.1
FCC LR LR
comp=Z,3μm,18.0s
STKA Stephens Creek 89.64 129 PFAKE 07 10 20.0 +9.5
STKA LR LR
comp=Z,300nm,20.0s
STKA Stephens Creek 89.64 129 P **P 07 10 10.1 -0.4**
comp=Z,13nm,0.7s,baz=323,slow=4.7,SNR=21
STKA LR LR 07 58 18.7
comp=Z,442nm,18.1s,baz=287,slow=41
EIDS Eidsvold 92.28 119 PFAKE 07 10 30.0 +7.1
EIDS LR LR
comp=Z,800nm,20.0s
FFC Flin Flon 92.50 359 *e*P **P 07 10 23.9 +0.3**
comp=Z,43nm,1.3s
FFC LR LR
comp=Z,4μm,19.0s
FFC Flin Flon 92.50 359 *i*P **P 07 10 23.9 +0.3**
BBB Bella Bella 92.54 14 PFAKE 07 10 40.0 +16
BBB LR LR
comp=Z,1μm,18.0s
GBN Guysborough 92.77 331 PFAKE 07 10 40.0 +15
GBN LR LR
comp=Z,1μm,18.0s
BATG Bathurst New B 92.92 335 PFAKE 07 10 40.0 +14
BATG LR LR
comp=Z,1μm,18.0s
CHGQ Chibougamau 93.19 341 P **P 07 10 27.4 +0.6**
baz=25
LMN Caledonia Moun 93.67 334 PFAKE 07 10 40.0 +11
LMN LR LR
comp=Z,1μm,19.0s
PQI Presque Isle 94.12 336 *e*P **P 07 10 31.6 +0.4**
comp=Z,24nm,1.2s
PQI LR LR
comp=Z,1μm,19.0s
MATQ Matagami 94.17 343 P **P 07 10 31.5 +0.2**
baz=22
HAL Halifax 94.23 332 *e*P **P 07 10 31.4 -0.3**
comp=Z,42nm,1.2s
HAL Halifax 94.23 332 *e*P **P 07 10 31.4 -0.3**
HAL pmax pmax
comp=Z,42nm,1.2s
ASCN Ascension 94.34 263 PFAKE 07 10 40.0 +7.3
ASCN LR LR
comp=Z,183μm,20.0s
GGN Saint George 95.05 334 PFAKE 07 10 50.0 +15
GGN LR LR
comp=Z,2μm,19.0s
LLLB Lillooet 95.21 11 *e*P **P 07 10 36.2 0.0**
comp=Z,22nm,1.3s
LLLB LR LR
comp=Z,2μm,18.0s
ARMA Armidale 95.58 123 PFAKE 07 10 50.0 +12
ARMA LR LR
comp=Z,1μm,22.0s
EMMW East Machias 95.62 335 PFAKE 07 10 50.0 +12
EMMW LR LR
comp=Z,2μm,18.0s
VLDQ Val d'Or 95.65 342 *e*P **P 07 10 37.9 -0.2**
comp=Z,20nm,0.8s
VLDQ LR LR
comp=Z,2μm,19.0s
PKME Peaks-Kenny Pk 95.78 336 *e*P **P 07 10 37.7 -1.1**
comp=Z,22nm,0.8s
PKME LR LR
comp=Z,2μm,19.0s
D54A Lac Fusel, La 96.33 341 P **P 07 10 42.1 +0.8**
baz=23
WVL Waterville 96.52 336 PFAKE 07 10 50.0 +7.8
WVL LR LR
comp=Z,2μm,19.0s
CAN Canberra 96.63 128 PFAKE 07 10 50.0 +7.3
CAN LR LR
comp=Z,2μm,20.0s
ULM Lac du Bonnet 96.68 355 PFAKE 07 10 50.0 +7.2
ULM LR LR
comp=Z,3μm,21.0s
ULM Lac du Bonnet 96.68 355 P **P 07 10 42.4 -0.4**
comp=Z,4.9nm,1.1s,baz=0.4,slow=4.5,SNR=7.3
ULM LR LR 07 57 32.7
comp=Z,3μm,20.6s,baz=11,slow=37
MOQ Mont Orford 96.72 338 *e*P **P 07 10 43.4 +0.3**
B06A Marblemount 97.30 11 PFAKE 07 11 00.0 +14
B06A LR LR
comp=Z,3μm,18.0s
B05A Bryant 97.44 12 P Pdif 07 10 47.0 +0.7
baz=345
LBNH Lisbon 97.57 337 PFAKE 07 11 00.0 +13
LBNH LR LR
comp=Z,2μm,22.0s
E51A G1948 Merrick 97.63 343 P Pdif 07 10 47.3 +0.1
baz=21
VT1 Waterbury 97.75 338 PFAKE 07 11 00.0 +12
VT1 LR LR
comp=Z,2μm,19.0s
B08A Colville Reser 97.79 10 PFAKE 07 11 00.0 +12
B08A LR LR
comp=Z,2μm,18.0s
NLWA Neilton Lookou 97.95 13 PFAKE 07 11 00.0 +11
NLWA LR LR
comp=Z,2μm,21.0s
LONY Lake Ozonia 98.06 339 PFAKE 07 11 00.0 +11
LONY LR LR
comp=Z,1μm,21.0s
LONY Lake Ozonia 98.06 339 P Pdif 07 10 49.9 +0.7
baz=25
HNH Hanover 98.16 337 PFAKE 07 11 00.0 +10
HNH LR LR
comp=Z,2μm,18.0s
FFD Franklin Falls 98.16 337 PFAKE 07 11 00.0 +10
FFD LR LR
comp=Z,2μm,19.0s
NEW Newport 98.18 9 PFAKE 07 11 00.0 +10
NEW LR LR
comp=Z,2μm,18.0s
NEW Newport 98.18 9 P Pdif 07 10 49.9 +0.1
baz=349
C40A Isle Royale Na 98.21 350 PFAKE 07 11 00.0 +10
C40A LR LR
comp=Z,2μm,22.0s
F52A Sundridge 98.28 343 P Pdif 07 10 51.1 +1.0
baz=21
F51A Arnstein 98.30 343 P Pdif 07 10 51.0 +0.8
baz=20
PLVO Plevna 98.39 341 PFAKE 07 11 00.0 +9.4
PLVO LR LR
comp=Z,3μm,19.0s
C09A Chrisman Ranch 98.49 9 PFAKE 07 11 00.0 +8.9
C09A LR LR
comp=Z,2μm,18.0s
D05A Enumclaw 98.50 12 PFAKE 07 11 00.0 +8.9
D05A LR LR
comp=Z,2μm,21.0s
EYMN Ely 98.50 351 PFAKE 07 11 00.0 +8.9
EYMN LR LR
comp=Z,2μm,21.0s
AGMN Agassiz Nation 98.61 354 PFAKE 07 11 00.0 +8.4
AGMN LR LR
comp=Z,2μm,21.0s
AGMN Agassiz Nation 98.61 354 P Pdif 07 10 51.8 +0.2
baz=7.0
LTY Liberty 98.66 11 PFAKE 07 11 00.0 +8.1
LTY LR LR
comp=Z,1μm,22.0s
DGMT Dagmar 98.79 360 PFAKE 07 11 00.0 +7.6
DGMT LR LR
comp=Z,2μm,22.0s
DGMT Dagmar 98.79 360 P Pdif 07 10 53.3 +0.9
baz=360
E46A Sault Ste Mari 98.86 346 PFAKE 07 11 00.0 +7.3
E46A LR LR
comp=Z,2μm,20.0s
E44A Grand Marais A 98.93 347 PFAKE 07 11 00.0 +7.0
E44A LR LR
comp=Z,2μm,18.0s
LON Longmire 98.95 12 PFAKE 07 11 00.0 +6.8
LON LR LR
comp=Z,1μm,21.0s
D41A Chassel 98.95 349 PFAKE 07 11 00.0 +6.9
D41A LR LR
comp=Z,2μm,18.0s
HRV Adam Dziewonsk 98.99 336 PFAKE 07 11 10.0 +17
HRV LR LR
comp=Z,1μm,20.0s
BCX Boston College 99.01 336 PFAKE 07 11 10.0 +17
BCX LR LR
comp=Z,1μm,18.0s
WES Weston 99.01 336 PFAKE 07 11 10.0 +17
WES LR LR
comp=Z,1μm,18.0s
EGMT Eagleton 99.09 4 PFAKE 07 11 10.0 +16
EGMT LR LR
comp=Z,800nm,20.0s
D08A Wollman Farm, 99.12 10 PFAKE 07 11 10.0 +16
D08A LR LR
comp=Z,2μm,18.0s
SADO Sadowa 99.19 342 PFAKE 07 11 10.0 +16
SADO LR LR
comp=Z,2μm,20.0s
MDND Maddock 99.30 357 PFAKE 07 11 10.0 +15
MDND LR LR
comp=Z,2μm,19.0s
E43A Lone Tree Farm 99.36 348 PFAKE 07 11 10.0 +15
E43A LR LR
comp=Z,2μm,20.0s
QUA2 Belchertown 99.46 337 PFAKE 07 11 10.0 +15
QUA2 LR LR
comp=Z,2μm,19.0s
E07A Sunnyside 99.47 11 PFAKE 07 11 10.0 +15
E07A LR LR
comp=Z,2μm,19.0s
TRY Troy 99.48 338 PFAKE 07 11 10.0 +14
TRY LR LR
comp=Z,2μm,20.0s
BRYW Bryant College 99.50 336 PFAKE 07 11 10.0 +14
BRYW LR LR
comp=Z,1μm,18.0s
E08A Dider Farm, El 99.65 10 PFAKE 07 11 10.0 +14
E08A LR LR
comp=Z,2μm,19.0s
HAWA Hanford 99.68 11 PFAKE 07 11 10.0 +14
HAWA LR LR
comp=Z,2μm,19.0s
E09A Wood Farm, Sta 99.77 10 PFAKE 07 11 10.0 +13
E09A LR LR
comp=Z,1μm,18.0s
E38A The Farm, Brul 99.83 351 PFAKE 07 11 10.0 +13
E38A LR LR
comp=Z,1μm,22.0s
MSO Missoula 99.96 7 PFAKE 07 11 10.0 +12
MSO LR LR
comp=Z,2μm,19.0s
COWI Conover 99.98 349 PFAKE 07 11 10.0 +12
COWI LR LR
comp=Z,2μm,22.0s
TAU Tasmania Unive 100.03 135 PFAKE 07 11 10.0 +12
TAU LR LR
comp=Z,1μm,18.0s
F07A Phinny Hill Vi 100.10 11 PFAKE 07 11 10.0 +12
F07A LR LR
comp=Z,2μm,18.0s
J55A Hilton 100.23 341 PFAKE 07 11 10.0 +11
J55A LR LR
comp=Z,3μm,20.0s
H48A Harrisville 100.25 345 PFAKE 07 11 10.0 +11
H48A LR LR
comp=Z,2μm,18.0s
KSCT Kent School, K 100.33 337 PFAKE 07 11 10.0 +11
KSCT LR LR
comp=Z,2μm,19.0s
F41A Three Lakes 100.33 349 PFAKE 07 11 10.0 +11
F41A LR LR
comp=Z,2μm,19.0s
G45A Suttons Bay 100.40 347 PFAKE 07 11 10.0 +10
G45A LR LR
comp=Z,2μm,21.0s
GLMI Grayling 100.40 346 PFAKE 07 11 10.0 +10
GLMI LR LR
comp=Z,2μm,20.0s
F10A Beach Ranch, E 100.42 9 PFAKE 07 11 10.0 +10
F10A LR LR
comp=Z,1μm,18.0s
J54A Appleton 100.45 341 PFAKE 07 11 10.0 +10
J54A LR LR
comp=Z,3μm,20.0s
MEDO Medina 100.50 341 PFAKE 07 11 10.0 +10
MEDO LR LR
comp=Z,3μm,20.0s
LAO LASA Array 100.55 1 PFAKE 07 11 10.0 +10
LAO LR LR
comp=Z,2μm,18.0s
G43A Wallace 100.56 348 PFAKE 07 11 10.0 +10
G43A LR LR
comp=Z,2μm,20.0s
G06A Carlson Farm, 100.62 12 PFAKE 07 11 10.0 +9.3
G06A LR LR
comp=Z,1μm,20.0s
BINY Binghamton 100.68 339 PFAKE 07 11 10.0 +9.1
BINY LR LR
comp=Z,1μm,22.0s
G42A Mountain 100.70 349 PFAKE 07 11 10.0 +9.1
G42A LR LR
comp=Z,2μm,18.0s
MMNY Mt. Morris Dam 100.75 341 PFAKE 07 11 10.0 +8.8
MMNY LR LR
comp=Z,3μm,21.0s
G08A Pilot Rock 100.84 10 PFAKE 07 11 10.0 +8.3
G08A LR LR
comp=Z,2μm,22.0s
I49A Point Hope 100.86 344 PFAKE 07 11 10.0 +8.3
I49A LR LR
comp=Z,2μm,19.0s
MAW Mawson 100.87 185 PFAKE 07 11 10.0 +9.2
MAW LR LR
comp=Z,400nm,20.0s
H04A Detroit Lake 100.88 13 PFAKE 07 11 10.0 +8.2
H04A LR LR
comp=Z,900nm,19.0s
G40A Rib Lake 100.95 350 PFAKE 07 11 10.0 +7.9
G40A LR LR
comp=Z,2μm,18.0s
PAL Palisades 101.11 337 PFAKE 07 11 10.0 +7.2
PAL LR LR
comp=Z,1μm,19.0s
I47A Gladwin 101.15 346 PFAKE 07 11 10.0 +7.0
I47A LR LR
comp=Z,2μm,20.0s
KSPA Keystone Colle 101.20 339 PFAKE 07 11 10.0 +6.8
KSPA LR LR
comp=Z,1μm,20.0s
ODNJ Ogdensburg 101.27 338 PFAKE 07 11 20.0 +16
ODNJ LR LR
comp=Z,2μm,21.0s
H43A Windswept, Lux 101.34 348 PFAKE 07 11 20.0 +16
H43A LR LR
comp=Z,2μm,21.0s
SPMN Marine on St. 101.34 352 PFAKE 07 11 20.0 +16
SPMN LR LR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 101.38 5 PFAKE 07 11 20.0 +16
BOZ LR LR
comp=Z,2μm,19.0s
H42A Shiocton 101.43 349 PFAKE 07 11 20.0 +16
H42A LR LR
comp=Z,2μm,19.0s
I45A Fountain 101.48 347 PFAKE 07 11 20.0 +16
I45A LR LR
comp=Z,2μm,21.0s
H41A Junction City 101.51 349 PFAKE 07 11 20.0 +15
H41A LR LR
comp=Z,2μm,20.0s

BMO	Blue Mountains	101.51	9	PFAKE			07 11 20.0	+15
BMO	comp=Z,1μm,20.0s			LR	LR			
DLMT	Dillon	101.54	6	PFAKE			07 11 20.0	+15
DLMT	comp=Z,1μm,20.0s			LR	LR			
BRNJ	Basking Ridge	101.62	337	PFAKE			07 11 20.0	+15
BRNJ	comp=Z,2μm,19.0s			LR	LR			
J48A	Bridge Port	101.68	345	PFAKE			07 11 20.0	+15
J48A	comp=Z,2μm,18.0s			LR	LR			
N59A	State Game Lan	101.79	338	PFAKE			07 11 20.0	+14
N59A	comp=Z,2μm,20.0s			LR	LR			
ERPA	Erie	101.89	342	PFAKE			07 11 20.0	+14
ERPA	comp=Z,2μm,18.0s			LR	LR			
I07A	Izee	101.93	11	PFAKE			07 11 20.0	+13
I07A	comp=Z,2μm,20.0s			LR	LR			
LUPA	Lehigh Univers	101.95	338	PFAKE			07 11 20.0	+13
LUPA	comp=Z,200nm,21.0s			LR	LR			
J47A	Sunmer	101.96	346	PFAKE			07 11 20.0	+13
J47A	comp=Z,2μm,20.0s			LR	LR			
PINE	Pine Mountain	101.97	12	PFAKE			07 11 20.0	+13
PINE	comp=Z,2μm,20.0s			LR	LR			
RLMT	Red Lodge	102.01	4	PFAKE			07 11 20.0	+13
RLMT	comp=Z,2μm,18.0s			LR	LR			
I41A	Arkdale	102.08	349	PFAKE			07 11 20.0	+13
I41A	comp=Z,2μm,19.0s			LR	LR			
J45A	Montague	102.09	347	PFAKE			07 11 20.0	+13
J45A	comp=Z,2μm,21.0s			LR	LR			
I42A	Draeger Farm,	102.10	349	PFAKE			07 11 20.0	+13
I42A	comp=Z,2μm,18.0s			LR	LR			
DZM	Mont Dzumac	102.29	108	eSP	SP		07 24 24.6	+0.4
DZM	comp=Z,200nm,24.2s Mont Dzumac	102.29	108	eLR	LR		07 44 39.4	
ALLY	comp=Z,1μm,25.2s Alegheny Colle	102.36	342	PFAKE			07 11 20.0	+12
ALLY	comp=Z,2μm,18.0s			LR	LR			
M54A	Oil Creek Stat	102.37	341	PFAKE			07 11 20.0	+12
M54A	comp=Z,3μm,19.0s			LR	LR			
LKWY	Lake	102.50	4	PFAKE			07 11 20.0	+11
LKWY	comp=Z,2μm,20.0s			LR	LR			
I39A	Houston	102.53	351	PFAKE			07 11 20.0	+11
I39A	comp=Z,1μm,19.0s			LR	LR			
PSUB	Penn St. - Bra	102.59	338	PFAKE			07 11 20.0	+11
PSUB	comp=Z,2μm,19.0s			LR	LR			
AAM	Ann Arbor	102.61	344	PFAKE			07 11 20.0	+11
AAM	comp=Z,2μm,19.0s			LR	LR			
CASY	Casey	102.61	166	PFAKE			07 11 20.0	+11
CASY	comp=Z,2μm,20.0s			LR	LR			
H17A	Grant Village	102.65	5	PFAKE			07 11 20.0	+10
H17A	comp=Z,2μm,18.0s			LR	LR			
SSPA	Standing Stone	102.68	340	PFAKE			07 11 20.0	+10
SSPA	comp=Z,2μm,22.0s			LR	LR			
PAGS	Pennsylvania G	102.71	339	PFAKE			07 11 20.0	+10
PAGS	comp=Z,1μm,19.0s			LR	LR			
HUMO	Hull Mountain	102.73	14	PFAKE			07 11 20.0	+10
HUMO	comp=Z,1μm,20.0s			LR	LR			
M52A	Chesterland	102.78	343	PFAKE			07 11 20.0	+10
M52A	comp=Z,2μm,20.0s			LR	LR			
J08A	Circle Bar Ran	102.80	11	PFAKE			07 11 20.0	+10
J08A	comp=Z,1μm,20.0s			LR	LR			
N55A	Marion Center	102.86	341	PFAKE			07 11 20.0	+9.3
N55A	comp=Z,2μm,20.0s			LR	LR			
FLWY	Flagg Ranch	102.96	5	PFAKE			07 11 20.0	+8.7
FLWY	comp=Z,2μm,18.0s			LR	LR			
N54A	Moraine State	102.97	341	PFAKE			07 11 20.0	+8.9
N54A	comp=Z,3μm,18.0s			LR	LR			
K05A	Summer Lake	103.01	12	PFAKE			07 11 20.0	+8.5
K05A	comp=Z,2μm,19.0s			LR	LR			
IMW	Indian Meadow	103.12	5	PFAKE			07 11 20.0	+7.9
IMW	comp=Z,1μm,19.0s			LR	LR			
HLID	Hailey	103.14	8	PFAKE			07 11 20.0	+7.9
HLID	comp=Z,2μm,20.0s			LR	LR			
RSSD	Black Hills	103.14	360	PFAKE			07 11 20.0	+7.9
RSSD	comp=Z,3μm,19.0s			LR	LR			
K43A	Burlington	103.15	348	PFAKE			07 11 20.0	+8.1
K43A	comp=Z,2μm,21.0s			LR	LR			
ECSD	EROS Data Cent	103.21	354	PFAKE			07 11 20.0	+7.9
ECSD	comp=Z,2μm,18.0s			LR	LR			
O56A	Blue Knob Stat	103.22	340	PFAKE			07 11 20.0	+7.7
O56A	comp=Z,2μm,22.0s			LR	LR			
JFWS	Jewell Farm	103.26	349	PFAKE			07 11 20.0	+7.6
JFWS	comp=Z,1μm,21.0s			LR	LR			
MOOW	Moose Ponds	103.29	5	PFAKE			07 11 20.0	+7.2
MOOW	comp=Z,2μm,19.0s			LR	LR			
M50A	Fremont	103.32	344	PFAKE			07 11 20.0	+7.4
M50A	comp=Z,2μm,20.0s			LR	LR			
N53A	Lisbon	103.34	342	PFAKE			07 11 20.0	+7.2
N53A	comp=Z,2μm,18.0s			LR	LR			
LOHW	Long Hollow	103.43	5	PFAKE			07 11 20.0	+6.6
LOHW	comp=Z,2μm,18.0s			LR	LR			
L46A	Eue Claire	103.44	346	PFAKE			07 11 20.0	+6.8
L46A	comp=Z,2μm,20.0s			LR	LR			
SDMD	Soldier's Deli	103.50	338	PFAKE			07 11 30.0	+17
SDMD	comp=Z,800nm,19.0s			LR	LR			
TPAW	Teton Pass	103.53	5	PFAKE			07 11 30.0	+16
TPAW	comp=Z,1μm,20.0s			LR	LR			
SNOW	Snow King Moun	103.57	5	PFAKE			07 11 30.0	+16
SNOW	comp=Z,2μm,19.0s			LR	LR			
N51A	Ashland	103.62	343	PFAKE			07 11 30.0	+16
N51A	comp=Z,1μm,19.0s			LR	LR			
M48A	Edgerton	103.62	345	PFAKE			07 11 30.0	+16
M48A	comp=Z,1μm,19.0s			LR	LR			
YBH	Yreka Blue Hor	103.62	14	PFAKE			07 11 30.0	+16
YBH	comp=Z,2μm,21.0s			LR	LR			
REDW	Red Top Meadow	103.66	5	PFAKE			07 11 30.0	+16
REDW	comp=Z,2μm,19.0s			LR	LR			
WVOR	Wild Horse Val	103.68	11	PFAKE			07 11 30.0	+16
WVOR	comp=Z,1μm,21.0s			LR	LR			
MOD	Modoc Plateau	103.92	12	PFAKE			07 11 30.0	+14
MOD	comp=Z,2μm,19.0s			LR	LR			
M46A	Old House Fiel	104.03	346	PFAKE			07 11 30.0	+14
M46A	comp=Z,2μm,21.0s			LR	LR			
N49A	Columbus Grove	104.04	344	PFAKE			07 11 30.0	+14
N49A	comp=Z,2μm,18.0s			LR	LR			
L42A	Oliver, Polo	104.06	349	PFAKE			07 11 30.0	+14
L42A	comp=Z,2μm,22.0s			LR	LR			
MCWV	Mont Chateau	104.14	341	PFAKE			07 11 30.0	+14
MCWV	comp=Z,1μm,21.0s			LR	LR			
AHID	Auburn Hatcher	104.24	5	PFAKE			07 11 30.0	+13
AHID	comp=Z,1μm,20.0s			LR	LR			
L40A	Anamosa	104.24	350	PFAKE			07 11 30.0	+13
L40A	comp=Z,2μm,21.0s			LR	LR			
O52A	Adamsville	104.24	342	PFAKE			07 11 30.0	+13
O52A	comp=Z,2μm,20.0s			LR	LR			
BW06	Boulder Array	104.34	4	PFAKE			07 11 30.0	+13
BW06	comp=Z,2μm,18.0s			LR	LR			
PDAR	Pinedale Array	104.34	4	PKiKP	PKiKP		07 15 34.5	+0.7
PDAR	comp=Z,0.5nm,0.5s,baz=67,slow=3.3,SNR=4.4			PKKP	PKKPdf		07 27 09.1	-3.0
	comp=Z,0.5nm,0.7s,baz=160,slow=4.7,SNR=6.1							
M44A	Midewin, Midew	104.38	347	PFAKE			07 11 30.0	+13
M44A	comp=Z,2μm,22.0s			LR	LR			
ACSO	Alum Creek Sta	104.42	343	PFAKE			07 11 30.0	+12
ACSO	comp=Z,1μm,20.0s			LR	LR			
K22A	Casper	104.58	2	PFAKE			07 11 30.0	+12
K22A	comp=Z,2μm,18.0s			LR	LR			
SCIA	State Center	104.66	351	PFAKE			07 11 30.0	+11
SCIA	comp=Z,2μm,19.0s			LR	LR			
P53A	Whipple	104.72	342	PFAKE			07 11 30.0	+11
P53A	comp=Z,2μm,19.0s			LR	LR			
CBN	Corbin Frederi	104.77	338	PFAKE			07 11 30.0	+11
CBN	comp=Z,1μm,20.0s			LR	LR			
O49A	Covington	104.77	344	PFAKE			07 11 30.0	+11
O49A	comp=Z,2μm,20.0s			LR	LR			
Q54A	Coxs Mills	105.04	341	PFAKE			07 15 50.0	+15
Q54A	comp=Z,3μm,20.0s			LR	LR			
R58B	Mineral	105.14	339	PFAKE			07 15 50.0	+15
R58B	comp=Z,2μm,19.0s			LR	LR			
P51A	Williamsport	105.15	343	PFAKE			07 15 50.0	+15
P51A	comp=Z,1μm,19.0s			LR	LR			
SFIN	Lafayette	105.17	346	PFAKE			07 15 50.0	+15
SFIN	comp=Z,3μm,21.0s			LR	LR			
HDIL	Hopedale	105.41	348	PFAKE			07 15 50.0	+14
HDIL	comp=Z,2μm,22.0s			LR	LR			
R55A	Marlinton	105.50	340	PFAKE			07 15 50.0	+14
R55A	comp=Z,2μm,22.0s			LR	LR			
N41A	Harden Midland	105.51	349	PFAKE			07 15 50.0	+14
N41A	comp=Z,2μm,22.0s			LR	LR			
S58A	Poland Farm, P	105.52	339	PFAKE			07 15 50.0	+14
S58A	comp=Z,2μm,19.0s			LR	LR			
RWWY	Rawlins	105.52	2	PFAKE			07 15 50.0	+14
RWWY	comp=Z,1μm,21.0s			LR	LR			
T60A	Surry	105.54	337	PFAKE			07 15 50.0	+14
T60A	comp=Z,1μm,20.0s			LR	LR			
BGNE	Belgrade	105.64	355	PFAKE			07 15 50.0	+14
BGNE	comp=Z,1μm,22.0s			LR	LR			
Q51A	Peebles	105.65	343	PFAKE			07 15 50.0	+14
Q51A	comp=Z,1μm,20.0s			LR	LR			
S57A	Dark Hollow, R	105.65	339	PFAKE			07 15 50.0	+14
S57A	comp=Z,1μm,20.0s			LR	LR			
ELK	Elko	105.82	9	PFAKE			07 15 50.0	+13
ELK	comp=Z,2μm,19.0s			LR	LR			
BMN	Battle Mountai	105.86	10	PFAKE			07 15 50.0	+13
BMN	comp=Z,2μm,18.0s			LR	LR			
BEKR	Beckworth	105.88	13	PFAKE			07 15 50.0	+13
BEKR	comp=Z,2μm,21.0s			LR	LR			
PHWY	Pilot Hill	105.95	1	PFAKE			07 15 50.0	+13
PHWY	comp=Z,2μm,20.0s			LR	LR			
T59A	Double "B" Far	105.95	338	PFAKE			07 15 50.0	+13
T59A	comp=Z,1μm,18.0s			LR	LR			
R53A	Hurricane	105.95	342	PFAKE			07 15 50.0	+13
R53A	comp=Z,2μm,20.0s			LR	LR			
ORV	Oroville	105.96	14	PFAKE			07 15 50.0	+13
ORV	comp=Z,1μm,21.0s			LR	LR			
P45A	Graceland, Par	106.12	347	PFAKE			07 15 50.0	+13
P45A	comp=Z,3μm,20.0s			LR	LR			
PAHR	Pah Rah Range	106.21	12	PFAKE			07 15 50.0	+13
PAHR	comp=Z,1μm,20.0s			LR	LR			
BLO	Bloomington	106.22	346	PFAKE			07 15 50.0	+13
BLO	comp=Z,2μm,20.0s			LR	LR			
OGNE	Ogallala	106.29	358	PFAKE			07 15 50.0	+13
OGNE	comp=Z,3μm,20.0s			LR	LR			
N23A	Red Feather La	106.35	1	PFAKE			07 15 50.0	+12
N23A	comp=Z,2μm,21.0s			LR	LR			
T57A	Hurt	106.45	339	PFAKE			07 15 50.0	+12
T57A	comp=Z,2μm,20.0s			LR	LR			
VCNR	Virginia City	106.56	12	PFAKE			07 15 50.0	+12
VCNR	comp=Z,2μm,22.0s			LR	LR			
BLA	Blacksburg	106.59	340	PFAKE			07 15 50.0	+12
BLA	comp=Z,2μm,22.0s			LR	LR			
U59A	Littleton	106.60	338	PFAKE			07 15 50.0	+12
U59A	comp=Z,1μm,19.0s			LR	LR			
DUG	Dugway, Tooele	106.64	7	PFAKE			07 15 50.0	+12
DUG	comp=Z,1μm,18.0s			LR	LR			
AFDM	Forest Hills D	106.65	14	PFAKE			07 15 50.0	+12
AFDM	comp=Z,900nm,20.0s			LR	LR			
RUBR	Rubicon Trail	106.71	13	PFAKE			07 15 50.0	+12
RUBR	comp=Z,1μm,19.0s			LR	LR			
PNTR	Pine Nut	106.78	12	PFAKE			07 15 50.0	+12
PNTR	comp=Z,2μm,22.0s			LR	LR			
YERR	Yerington	106.94	12	PFAKE			07 15 50.0	+11
YERR	comp=Z,2μm,19.0s			LR	LR			
OLIL	Olney	106.96	347	PFAKE			07 15 50.0	+12
OLIL	comp=Z,3μm,22.0s			LR	LR			
V60A	Jim Taylor Roa	106.97	337	PFAKE			07 15 50.0	+11
V60A	comp=Z,1μm,18.0s			LR	LR			
S51A	Beattyville	107.02	343	PFAKE			07 15 50.0	+11
S51A	comp=Z,2μm,20.0s			LR	LR			
KVN	Kaiserville	107.07	11	PFAKE			07 15 50.0	+11
KVN	comp=Z,2μm,22.0s			LR	LR			
WCI	Wyandotte Cave	107.08	345	PFAKE			07 15 50.0	+11
WCI	comp=Z,2μm,19.0s			LR	LR			
WAKR	Walker	107.37	12	PFAKE			07 15 50.0	+10
WAKR	comp=Z,2μm,22.0s			LR	LR			
T52A	Hallie	107.38	342	PFAKE			07 15 50.0	+11
T52A	comp=Z,3μm,20.0s			LR	LR			
RYN	Ryan	107.41	12	PFAKE			07 15 50.0	+10
RYN	comp=Z,2μm,20.0s			LR	LR			
SLM	Saint Louis	107.44	349	PFAKE			07 15 50.0	+11
SLM	comp=Z,2μm,21.0s			LR	LR			
ISCO	Idaho Springs	107.45	1	PFAKE			07 15 50.0	+10
ISCO	comp=Z,2μm,20.0s			LR	LR			
USIN	University of	107.62	346	PFAKE			07 15 50.0	+10
USIN	comp=Z,2μm,22.0s			LR	LR			
U54A	Nelsons Funny	107.62	341	PFAKE			07 15 50.0	+10
U54A	comp=Z,2μm,22.0s			LR	LR			
CMB	Columbia Colle	107.65	13	PFAKE			07 15 50.0	+10
CMB	comp=Z,1μm,20.0s			LR	LR			
CNNC	Cliffs of the	107.65	338	PFAKE			07 15 50.0	+10
CNNC	comp=Z,1μm,21.0s			LR	LR			
KSU1	Kansas State U	107.81	354	PFAKE			07 15 50.0	+10
KSU1	comp=Z,2μm,19.0s			LR	LR			
V56A	Mocksville	107.92	340	PFAKE			07 15 50.0	+10
V56A	comp=Z,2μm,20.0s			LR	LR			
T49A	Edmonton	107.99	344	PFAKE			07 15 50.0	+10
T49A	comp=Z,2μm,20.0s			LR	LR			
SMCO	Snowmass	108.04	2	PFAKE			07 15 50.0	+9.0
SMCO	comp=Z,2μm,21.0s			LR	LR			
TZTN	Tazewell	108.05	343	PFAKE			07 15 50.0	+9.4
TZTN	comp=Z,2μm,20.0s			LR	LR			
FVM	French Village	108.11	349	PFAKE			07 15 50.0	+9.3
FVM	comp=Z,2μm,21.0s			LR	LR			
R11A	Troy Canyon, C	108.13	9	PFAKE			07 15 50.0	+9.1
R11A	comp=Z,2μm,18.0s			LR	LR			
SIUC	Southern Illin	108.16	347	PFAKE			07 15 50.0	+9.3
SIUC	comp=Z,3μm,21.0s			LR	LR			
CCM	Cathedral Cave	108.17	349	PFAKE			07 15 50.0	+9.2
CCM	comp=Z,2μm,22.0s			LR	LR			
KSCO	Kaye Shedlock'	108.23	359	PFAKE			07 15 50.0	+9.0
KSCO	comp=Z,4μm,20.0s			LR	LR			
MDPB	Devils Postpil	108.28	12	PFAKE			07 15 50.0	+8.6
MDPB	comp=Z,1μm,20.0s			LR	LR			
Q24A	Divide	108.29	1	PFAKE			07 15 50.0	+8.6
Q24A	comp=Z,2μm,20.0s			LR	LR			
OMMB	Old Mammoth Mi	108.32	12	PFAKE			07 15 50.0	+8.5
OMMB	comp=Z,1μm,21.0s			LR	LR			
CBKS	Cedar Bluff	108.32	356	PFAKE			07 15 50.0	+8.9
CBKS	comp=Z,1μm,21.0s			LR	LR			
W57A	Gilead	108.38	339	PFAKE			07 15 50.0	+8.8
W57A	comp=Z,2μm,21.0s			LR	LR			
T47A	Sharon Grove	108.45	346	PFAKE			07 15 50.0	+8.7
T47A	comp=Z,2μm,20.0s			LR	LR			
SBLHI	Steaming Bluff	108.60	51	PFAKE			07 15 50.0	+7.8
SBLHI	comp=Z,1μm,19.0s			LR	LR			
V53A	Saluda	108.69	342	PFAKE			07 15 50.0	+8.1
V53A	comp=Z,2μm,20.0s			LR	LR			
STCH	Steam Cracks	108.72	51	PFAKE			07 15 50.0	+7.7
STCH	comp=Z,1μm,18.0s			LR	LR			
T45A	Paducah	108.72	347	PFAKE			07 15 50.0	+8.2
T45A	comp=Z,2μm,21.0s			LR	LR			
V52A	Sevierville	108.73	342	PFAKE			07 15 50.0	+8.1
V52A	comp=Z,2μm,19.0s			LR	LR			
X58A	Rowland	108.74	338	PFAKE			07 15 50.0	+8.1
X58A	comp=Z,1μm,20.0s			LR	LR			
Y60A	Bolivia	108.89	337	PFAKE			07 15 50.0	+7.8
Y60A	comp=Z,1μm,19.0s			LR	LR			
V51A	Loudon	108.95	343	PFAKE			07 15 50.0	+7.7
V51A	comp=Z,2μm,20.0s			LR	LR			
BIRD	Birdtown, Kers	108.99	339	PFAKE			07 15 50.0	+7.6
BIRD	comp=Z,2μm,18.0s			LR	LR			
CLTN	Cedars of Leba	109.14	345	PFAKE			07 15 50.0	+7.4
CLTN	comp=Z,800nm,19.0s			LR	LR			
PARMO	Parma	109.28	348	PFAKE			07 15 50.0	+7.1
PARMO	comp=Z,3μm,21.0s			LR	LR			
PBMO	Poplar Bluff	109.28	348	PFAKE			07 15 50.0	+7.1
PBMO	comp=Z,3μm,21.0s			LR	LR			
CPCT	Cooper Cave	109.33	343	PFAKE			07 15 50.0	+7.0
CPCT	comp=Z,2μm,20.0s			LR	LR			
TPNV	Topopah Spring	109.42	10	PFAKE			07 16 00.0	+17
TPNV	comp=Z,2μm,18.0s			LR	LR			
WVT	Waverly	109.42	346	PFAKE			07 15 50.0	+6.8
WVT	comp=Z,2μm,20.0s			LR	LR			
Y58A	Scranton	109.44	338	PFAKE			07 16 00.0	+17
Y58A	comp=Z,1μm,20.0s			LR	LR			
S22A	4UR Ranch, Cre	109.47	2	PFAKE			07 16 00.0	+16
S22A	comp=Z,3μm,21.0s			LR	LR			
SDCO	Great Sand Dun	109.50	1	PFAKE			07 16 00.0	+16
SDCO	comp=Z,2μm,21.0s			LR	LR			
PVMO	Portageville	109.51	348	PFAKE			07 16 00.0	+17
PVMO	comp=Z,3μm,22.0s			LR	LR			
W52A	Murphy	109.52	342	PFAKE			07 16 00.0	+17
W52A	comp=Z,2μm,20.0s			LR	LR			
Y57A	Sumter	109.56	339	PFAKE			07 16 00.0	+17
Y57A	comp=Z,2μm,18.0s			LR	LR			
JSC	Jenkinsville	109.56	340	PFAKE			07 16 00.0	+17
JSC	comp=Z,2μm,20.0s			LR	LR			
GLAT	Glass	109.57	347	PFAKE			07 16 00.0	+17
GLAT	comp=Z,2μm,22.0s			LR	LR			
V48A	Smith Brothers	109.59	345	PFAKE			07 16 00.0	+17
V48A	comp=Z,2μm,18.0s			LR	LR			
W50A	Signal Mountai	109.76	344	PFAKE			07 16 00.0	+16
W50A	comp=Z,1μm,21.0s			LR	LR			
SWET	Sewanee	109.89	344	PFAKE			07 16 00.0	+16
SWET	comp=Z,2μm,20.0s			LR	LR			
HALT	Halls	109.93	347	PFAKE			07 16 00.0	+16
HALT	comp=Z,2μm,22.0s			LR	LR			
MVCO	Mesa Verde	109.93	4	PFAKE			07 16 00.0	+16
MVCO	comp=Z,1μm,20.0s			LR	LR			
GNAR	Gosnell	110.00	348	PFAKE			07 16 00.0	+16
GNAR	comp=Z,3μm,21.0s			LR	LR			
SHPR	Sheep Range	110.00	9	PFAKE			07 16 00.0	+16
SHPR	comp=Z,1μm,20.0s			LR	LR			
T25A	Trinidad	110.12	0	PFAKE			07 16 00.0	+15
T25A	comp=Z,2μm,19.0s			LR	LR			
X51A	Calhoun	110.26	343	PFAKE			07 16 00.0	+15

X51A LR LR
comp=Z,2μm,20.0s
HHAR Hobbs 110.30 351 PFAKE 07 16 00.0 +15
HHAR LR LR
comp=Z,2μm,19.0s
ISA Isabella, Lake 110.31 12 PFAKE 07 16 00.0 +15
ISA LR LR
comp=Z,1μm,20.0s
NHSC New Hope 110.34 339 PFAKE 07 16 00.0 +15
NHSC LR LR
comp=Z,1μm,19.0s
U15A North Rim 110.42 7 PFAKE 07 16 00.0 +15
U15A LR LR
comp=Z,2μm,19.0s
Z56A Williston 110.49 340 PFAKE 07 16 00.0 +15
Z56A LR LR
comp=Z,2μm,21.0s
HBAR Harrisburg 110.52 348 PFAKE 07 16 00.0 +15
HBAR LR LR
comp=Z,3μm,20.0s
PLAL Pickwick Lake 110.58 346 PFAKE 07 16 00.0 +15
PLAL LR LR
comp=Z,2μm,20.0s
Y52A Lilburn 110.72 342 PFAKE 07 16 00.0 +14
Y52A LR LR
comp=Z,2μm,20.0s
X48A Hartselle 110.88 345 PFAKE 07 16 00.0 +14
X48A LR LR
comp=Z,2μm,19.0s
TUL1 Leonard 110.88 353 PFAKE 07 16 00.0 +14
TUL1 LR LR
comp=Z,2μm,19.0s
GSC Goldstone, Bar 110.94 11 PFAKE 07 16 00.0 +14
GSC LR LR
comp=Z,2μm,18.0s
GOGA Godfrey 111.00 341 PFAKE 07 16 00.0 +14
GOGA LR LR
comp=Z,2μm,21.0s
WHAR Wooly Hollow 111.04 350 PFAKE 07 16 00.0 +14
WHAR LR LR
comp=Z,2μm,21.0s
OK024 West corner E0 111.19 354 PFAKE 07 16 00.0 +13
OK024 LR LR
comp=Z,2μm,21.0s
OK023 East Waterloo 111.20 354 PFAKE 07 16 00.0 +13
OK023 LR LR
comp=Z,2μm,21.0s
RCBR Riachuelo 111.26 277 PFAKE 07 16 00.0 +13
RCBR LR LR
comp=Z,13μm,20.0s
OXF Oxford 111.30 347 PFAKE 07 16 00.0 +13
OXF LR LR
comp=Z,2μm,20.0s
Y49A Blount Mountai 111.30 344 PFAKE 07 16 00.0 +13
Y49A LR LR
comp=Z,2μm,19.0s
W39A Magazine 111.35 351 PFAKE 07 16 00.0 +13
W39A LR LR
comp=Z,2μm,20.0s
WUAZ Wupatki 111.41 6 PFAKE 07 16 00.0 +13
WUAZ LR LR
comp=Z,1μm,20.0s
LDFC Landfair 111.42 10 PFAKE 07 16 00.0 +13
LDFC LR LR
comp=Z,2μm,20.0s
UALR University of 111.55 349 PFAKE 07 16 00.0 +13
UALR LR LR
comp=Z,2μm,20.0s
W13A Hualapai Mount 111.56 8 PFAKE 07 16 00.0 +12
W13A LR LR
comp=Z,1μm,19.0s
X43A Marvell 111.56 348 PFAKE 07 16 00.0 +13
X43A LR LR
comp=Z,3μm,22.0s
257A Skidaway Islan 111.65 339 PFAKE 07 16 00.0 +13
257A LR LR
comp=Z,1μm,19.0s
154A Montrose 111.65 341 PFAKE 07 16 00.0 +13
154A LR LR
comp=Z,2μm,20.0s
Z50A Ashland 111.77 343 PFAKE 07 16 00.0 +12
Z50A LR LR
comp=Z,2μm,19.0s
X40A Basin Creek Fa 111.91 350 PFAKE 07 16 00.0 +12
X40A LR LR
comp=Z,2μm,22.0s
W18A Petrified Fore 111.94 5 PFAKE 07 16 00.0 +12
W18A LR LR
comp=Z,2μm,18.0s
MIAR Mount Ida 111.96 350 PFAKE 07 16 00.0 +12
MIAR LR LR
comp=Z,2μm,19.0s
152A Waverly Hall 112.03 342 PFAKE 07 16 00.0 +12
152A LR LR
comp=Z,3μm,21.0s
255A Hazlehurst 112.12 340 PFAKE 07 16 00.0 +12
255A LR LR
comp=Z,2μm,20.0s
X37A Clayton 112.14 352 PFAKE 07 16 00.0 +12
X37A LR LR
comp=Z,1μm,20.0s
LRAL Lakeview Retre 112.23 344 PFAKE 07 16 00.0 +11
LRAL LR LR
comp=Z,2μm,18.0s
ANMO Albuquerque 112.27 2 PFAKE 07 16 00.0 +11
ANMO LR LR
comp=Z,2μm,21.0s
CCAR Cane Creek 112.30 349 PFAKE 07 16 00.0 +11
CCAR LR LR
comp=Z,3μm,20.0s
WMOK Wichita Mounta 112.31 355 PFAKE 07 16 00.0 +11
WMOK LR LR
comp=Z,2μm,22.0s
253A Americus 112.45 342 PFAKE 07 16 00.0 +11
253A LR LR
comp=Z,2μm,22.0s
X16A Lo Mia Camp, P 112.50 6 PFAKE 07 16 00.0 +11
X16A LR LR
comp=Z,2μm,19.0s
X18A Snowflake 112.51 5 PFAKE 07 16 00.0 +11
X18A LR LR
comp=Z,2μm,19.0s
PFO Pinyon Flats O 112.65 11 PFAKE 07 16 00.0 +10
PFO LR LR
comp=Z,2μm,20.0s
WLAR White Oak Lake 112.73 350 PFAKE 07 16 00.0 +11
WLAR LR LR
comp=Z,2μm,21.0s
Y12C Blythe 112.80 9 PFAKE 07 16 00.0 +10
Y12C LR LR
comp=Z,2μm,19.0s
Y14A Wickenburg 112.81 8 PFAKE 07 16 00.0 +10
Y14A LR LR
comp=Z,1μm,18.0s
147A Livingston 112.85 345 PFAKE 07 16 00.0 +10
147A LR LR
comp=Z,2μm,20.0s
TIGA Tifton 112.89 341 PFAKE 07 16 00.0 +10
TIGA LR LR
comp=Z,2μm,20.0s
250A Grady 113.07 343 PFAKE 07 16 00.0 +10
250A LR LR
comp=Z,1μm,19.0s
Z41A Richland Creek 113.11 350 PFAKE 07 16 00.0 +10
Z41A LR LR
comp=Z,2μm,19.0s
456A Hilliard 113.11 339 PFAKE 07 16 00.0 +10
456A LR LR
comp=Z,2μm,19.0s
Y22D IRIS PASSCAL I 113.13 2 PFAKE 07 16 00.0 +10
Y22D LR LR
comp=Z,2μm,21.0s
352A Blakely 113.21 342 PFAKE 07 16 00.0 +10
352A LR LR
comp=Z,3μm,22.0s
MSTX Muleshoe 113.26 359 PFAKE 07 16 00.0 +9.3
MSTX LR LR
comp=Z,3μm,20.0s
GLA Glamis 113.45 10 PFAKE 07 16 00.0 +9.0
GLA LR LR
comp=Z,1μm,18.0s
453A Whigham 113.64 341 PFAKE 07 16 00.0 +8.7
453A LR LR
comp=Z,2μm,20.0s
VBMS Vicksburg 113.74 347 PFAKE 07 16 00.0 +8.6
VBMS LR LR
comp=Z,2μm,21.0s
113A Mohawk Valley, 113.87 9 PFAKE 07 16 00.0 +8.3
113A LR LR
comp=Z,800nm,19.0s
555A McAlpin 113.96 340 PFAKE 07 16 00.0 +8.1
555A LR LR
comp=Z,2μm,20.0s
658A Bunnell 114.10 338 PFAKE 07 16 00.0 +7.8
658A LR LR
comp=Z,1μm,20.0s
451A Vernon 114.24 343 PFAKE 07 16 00.0 +7.6
451A LR LR
comp=Z,3μm,20.0s
ABTX Abilene, Hawle 114.47 356 PFAKE 07 16 00.0 +7.1
ABTX LR LR
comp=Z,2μm,21.0s
656A Willston 114.54 339 PFAKE 07 16 00.0 +7.0
656A LR LR
comp=Z,2μm,20.0s
NATX Nacogdoches 114.85 351 PFAKE 07 16 10.0 +16
NATX LR LR
comp=Z,2μm,20.0s
WHTX Lake Whitney, 114.93 354 PFAKE 07 16 10.0 +16
WHTX LR LR
comp=Z,2μm,19.0s
DWPF Disney Wildern 115.37 338 PFAKE 07 16 10.0 +15
DWPF LR LR
comp=Z,1μm,19.0s
EPT El Paso 115.44 2 PFAKE 07 16 10.0 +15
EPT LR LR
comp=Z,2μm,21.0s
MNTX Cornudas Mount 115.53 1 *e*PKPdf **PKPdf 07 15 56.1 +1.1**
MNTX LR LR
comp=Z,2μm,19.0s
MNTX Cornudas Mount 115.53 1 P **PKPdf 07 15 55.9 +0.9**
baz=359
060A Indiantown 116.01 336 PFAKE 07 16 10.0 +14
060A LR LR
comp=Z,1μm,19.0s
957A Wimauma 116.03 338 PFAKE 07 16 10.0 +14
957A LR LR
comp=Z,1μm,20.0s
OXZ Oxford 116.04 126 PFAKE 07 16 10.0 +15
OXZ LR LR
comp=Z,800nm,21.0s
THZ Tophouse 116.06 124 PFAKE 07 16 10.0 +14
THZ LR LR
comp=Z,900nm,19.0s
435B Jarrell 116.14 354 PFAKE 07 16 10.0 +14
435B LR LR
comp=Z,2μm,19.0s
059A Moore Haven 116.34 337 PFAKE 07 16 10.0 +13
059A LR LR
comp=Z,1μm,21.0s
STVI Saint Thomas 116.52 318 PFAKE 07 16 10.0 +13
STVI LR LR
comp=Z,600nm,20.0s
MQZ McQueen's Vall 116.60 126 PFAKE 07 16 10.0 +14
MQZ LR LR
comp=Z,900nm,21.0s
JCT Junction City 116.62 356 PFAKE 07 16 10.0 +13
JCT LR LR
comp=Z,1μm,20.0s
CUPR Culebra, Puert 116.74 318 PFAKE 07 16 10.0 +12
CUPR LR LR
comp=Z,400nm,20.0s
HKT Hockley 116.78 352 PFAKE 07 16 10.0 +13
HKT LR LR
comp=Z,2μm,20.0s
061Z Ochoppi 117.28 336 PFAKE 07 16 10.0 +12
061Z LR LR
comp=Z,1μm,21.0s
SNAA Sanae 117.58 200 PFAKE 07 16 10.0 +12
SNAA LR LR
comp=Z,1μm,20.0s
OBIP Obispado Ponce 117.69 319 PFAKE 07 16 10.0 +11
OBIP LR LR
comp=Z,500nm,22.0s
HSIG 117.89 7 PFAKE 07 16 10.0 +10
HSIG LR LR
comp=Z,2μm,19.0s
TXAR Lajitas Array 117.90 359 *e*PKPdf **PKiKP 07 15 59.9 +0.2**
TXAR Lajitas Array 117.90 359 PKP **PKiKP 07 16 00.2 +0.5**
comp=Z,1.2nm,1.0s,baz=318,slow=1.7,SNR=7.4
TXAR PKKPbc **PKKPbc 07 26 18.2 -1.5**
comp=Z,0.2nm,0.9s,baz=11,slow=1.8,SNR=2.6
TXAR PKKPab **PKKPab 07 26 25.9 -0.2**
comp=Z,1.9nm,1.1s,baz=158,slow=5.2,SNR=7.8
BFZ Birch Farm 118.01 122 PFAKE 07 16 10.0 +11
BFZ LR LR
comp=Z,1μm,22.0s
MXZ Matakaoa Point 118.38 118 PFAKE 07 16 10.0 +10
MXZ LR LR
comp=Z,900nm,21.0s
833A Chaparral WMA, 118.73 355 PFAKE 07 16 10.0 +8.8
833A LR LR
comp=Z,2μm,20.0s
SDDR Presa de Saban 119.37 324 PFAKE 07 16 10.0 +7.3
SDDR LR LR
comp=Z,600nm,20.0s
HPIG 120.28 1 PFAKE 07 16 20.0 +15
HPIG LR LR
comp=Z,2μm,20.0s
VNDA Vanda 121.22 165 PKP **PKiKP 07 16 04.5 0.0**
comp=Z,1.8nm,0.9s,baz=321,slow=3.1,SNR=5.3
VNDA PP **PP 07 17 40.4 +4.8**
comp=Z,2.1nm,1.0s,baz=342,slow=3.5,SNR=3.1
QSPA South Pole Qui 122.90 180 *e*PKPdf **PKPdf 07 16 07.8 -0.1**
QSPA LR LR
comp=Z,2μm,21.0s
MTDJ Mount Denham 122.92 329 PFAKE 07 16 20.0 +10
MTDJ LR LR
comp=Z,800nm,20.0s
JANB Januaria 123.11 273 *e*P **PKiKP 07 16 10.2 +0.1**
SLBS Sierra La Lagu 123.27 6 PFAKE 07 16 20.0 +10
SLBS LR LR
comp=Z,2μm,21.0s
MYIG Mrida 124.47 343 PFAKE 07 16 20.0 +7.4
MYIG LR LR
comp=Z,1μm,20.0s
LVIG Laguna Verde 126.93 351 PFAKE 07 16 30.0 +12
LVIG LR LR
comp=Z,600nm,19.0s
PTGA Pitinga 127.40 298 *e*P **PKPdf 07 16 18.0 -0.1**
RCLB Rio Claro- Sao 129.20 267 *e*P **PKiKP 07 16 23.4 +1.4**
BB19B Bebedouro 129.45 269 *e*P **PKiKP 07 16 22.5 0.0**
CCIG Comitan 129.54 345 PFAKE 07 16 30.0 +6.9
CCIG LR LR
comp=Z,2μm,18.0s
SPB Sao Paulo 129.60 265 *e*P **PKiKP 07 16 23.0 +0.3**
PET01 Itanhaem-SP 129.75 265 *e*P **PKiKP 07 16 23.9 +0.9**
CLDB Colider 130.42 285 *e*P **PKiKP 07 16 25.3 +0.7**
ESTN Estel 130.97 337 PFAKE 07 16 40.0 +14
ESTN LR LR
comp=Z,300nm,18.0s
ESPN Las Esperanzas 131.08 334 PFAKE 07 16 40.0 +14
ESPN LR LR
comp=Z,800nm,20.0s
CSGN Cosiguina Volc 131.47 338 PFAKE 07 16 40.0 +13
CSGN LR LR
comp=Z,300nm,19.0s
ROSC El Rosal 132.77 317 PKP **PKPdf 07 16 27.7 -1.1**
comp=Z,5.7nm,0.7s,baz=96,slow=5.0,SNR=4.8
TRCB Terra Rica 133.63 269 *e*P **PKPdf 07 16 29.6 -0.1**
PTGB Pitanga 133.93 266 *e*P **PKPdf 07 16 29.3 -0.9**
PPT2 Papeete2 136.59 81 *e*PP PP 07 19 19.8 +2.3
comp=Z,297nm,25.0s
PPT2 Papeete2 136.59 81 *e*LR LR 08 00 35.0
comp=Z,618nm,22.0s
SIV San Ignacio 137.50 283 PKP **PKPdf 07 16 37.8 +0.7**
comp=Z,2.9nm,0.9s,baz=346,slow=4.2,SNR=4.1
OTAV Otavalo 138.87 319 *e*P **PKPdf 07 16 41.1 +0.9**
CPUP Villa Florida 138.94 267 *e*PKPdf **PKiKP 07 16 41.5 -0.1**
CPUP Villa Florida 138.94 267 PKP **PKiKP 07 16 40.9 -0.7**
comp=Z,7.8nm,1.0s,baz=47,slow=5.4,SNR=5.5
TAOE Nuku Hiva Isla 139.05 62 *e*LR LR 08 01 44.6
comp=Z,625nm,22.4s
TBI Tubuai 139.28 88 *e*PP PP 07 19 30.8 -3.4
comp=Z,171nm,25.2s
TBI Tubuai 139.28 88 *e*LR LR 08 01 45.5
comp=Z,572nm,27.8s
PMSA Palmer Station 139.98 205 *e*P **PKPdf 07 16 40.8 +0.8**
LPAZ La Paz 143.36 288 PKhKP PKPpre 07 16 42.6
comp=Z,0.9nm,0.7s,baz=353,slow=8.1,SNR=2.2
LPAZ PKP **PKPdf 07 16 49.0 +0.6**
comp=Z,2.5nm,0.9s,baz=25,slow=2.6,SNR=5.1
ATAH Atahualpa 144.73 311 PKP **PKPdf 07 16 50.3 -0.3**
comp=Z,5.2nm,0.7s,baz=37,slow=2.6,SNR=9.5
TRQA Tornquist 145.47 250 *e*PKPdf **PKPdf 07 16 50.6 -0.1**
TRQA Tornquist 145.47 250 *e*PKiKP **PKPdf 07 16 50.6 -0.1**
LVC Limon Verde 147.17 279 PKPbc **PKPbc 07 16 56.5 -0.1**
comp=Z,21nm,0.8s,baz=69,slow=2.1,SNR=19
LVC Limon Verde 147.17 279 *e*P **PKPdf 07 16 54.7 +0.2**
NNA Nana 147.25 304 *e*PKPbc **PKPab 07 16 58.7 +0.2**
NNA Nana 147.25 304 PKP **PKPdf 07 16 54.4 0.0**
comp=Z,22nm,1.1s,baz=107,slow=5.1,SNR=2.4
NNA PKPbc **PKiKP 07 16 59.6 +0.5**
comp=Z,14nm,0.8s,baz=338,slow=6.1,SNR=3.9
GO02 Mina Guanaco 148.79 276 *e*PKPdf **PKPdf 07 16 58.5 +1.5**
CFA Coronel Fontan 149.61 263 PKP **PKPdf 07 16 59.1 +1.4**
comp=Z,14nm,0.7s,baz=50,slow=2.7,SNR=16
CFA PKPbc **PKiKP 07 17 03.3 -0.1**
comp=Z,20nm,0.7s,baz=58,slow=2.7,SNR=28
GO03 Copiap 150.20 272 *e*PKPdf **PKPdf 07 17 01.0 +2.2**
LCO Las Campanas 151.02 269 *e*PKPdf **PKPdf 07 17 01.7 +1.3**
LCO Las Campanas 151.02 269 *e*PKiKP **PKPdf 07 17 01.7 +1.3**
LCO Las Campanas 151.02 269 *e*P **PKPdf 07 17 01.1 +0.8**
GO04 Tololo Observa 151.41 267 *e*PKPdf **PKPdf 07 17 02.6 +1.7**
PEL Peldehue 151.93 261 *e*PKPbc **PKiKP 07 17 08.1 -0.1**
PEL Peldehue 151.93 261 *e*PKiKP **PKiKP 07 17 08.1 -0.1**
PLCA Paso Flores 152.11 244 PKP **PKPdf 07 16 59.4 -2.0**
comp=Z,3.0nm,1.0s,baz=98,slow=2.4,SNR=4.1
PLCA PKPbc **PKiKP 07 17 08.7 +0.4**
comp=Z,19nm,0.7s,baz=101,slow=2.7,SNR=32
GO06 Curarrehue 152.90 247 *e*PKPbc **PKiKP 07 17 10.4 +0.3**

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*VAO **01** 07:00:17.7±0.4, 32°.24S×69°.26W, h10km, mb4.6*
*ISCJB **01** 07:00:23.9±0.2, 32°.38S±0°.02×69°.42W±0°.03, h122km±1km, mb4.8/50, Error ellipse: s-maj=4.2km s-min=3.2km az=33.8*
*SJA **01** 07:00:23.5±0.8, 32°.44S×69°.45W, h122km±4km, ML4.6, MW4.9*
*GUC **01** 07:00:24.2±0.7, 32°.39S×69°.71W, h131km±5km, ML4.9*
*IDC **01** 07:00:25.7±0.5, 32°.39S×69°.29W, h124km±4km, mb4.4/20, mb1 4.5/22, mb1mx4.3/38, mbtmp4.8/22, Error ellipse: s-maj=11.9km s-min=8.7km az=103.0*
*NEIC **01** 07:00:25.4±0.3, 32°.45S×69°.37W, h122km±2km, mb4.9/38, MD4.9(SJA), Error ellipse: s-maj=10.3km s-min=5.8km az=90.0*
NEIC Felt [III] at Mendoza. Also felt at Lampa and Santiago, Chile.
*BJI **01** 07:00:25.2±0.0, 32°.50S×69°.30W, h115km*
ISC 01 07:00:24.8±0.4, 32°.41S±0°.04×69°.41W±0°.04, h117km±3km, h117km:pP-P, n706, σ1.9 06/724, mb4.8/50, 2C-9D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.18**	**6**	*e*P		**Pn**	**07 00 41.5**	**+0.2**
AUSP				⇓*e*S		**Sn**	**07 00 55.1**	**+1.3**
ASAL	**Salagasta**	**0.52**	**111**	*e*P		**Pn**	**07 00 42.8**	**+0.2**
ASAL				*e*S		**Sn**	**07 00 56.9**	**+0.8**
ARCO	**CERRO ARCO**	**0.59**	**137**	*e*P		**Pn**	**07 00 43.3**	**+0.1**
ARCO				IAML			07 00 59.7	
comp=Z,13μm,0.6s								
RTLS	**Leoncito**	**0.61**	**9**	*e*P		**Pn**	**07 00 43.8**	**+0.3**
RTLS				IAML			07 00 44.1	
comp=Z,11μm,0.3s								
UTNM	**Universidad Te**	**0.68**	**136**	*e*P		**Pn**	**07 00 44.0**	**+0.2**
UTNM				IAML			07 00 44.9	
comp=Z,2μm,0.5s								
AAGR	**Agrelo**	**0.84**	**144**	*e*P		**Pn**	**07 00 45.3**	**+0.2**
RTCV	**Cerro Valdivia**	**0.92**	**54**	*e*P		**Pn**	**07 00 46.0**	**+0.2**
ZON	**Zonda**	**1.06**	**36**	*e*P		**Pn**	**07 00 47.5**	**+0.3**
ZON				IAML			07 00 48.8	
comp=Z,4μm,0.4s								
SJA	**San Juan**	**1.14**	**40**	*e*P		**Pn**	**07 00 48.5**	**+0.5**
SJA				IAML			07 00 48.9	
comp=Z,4μm,0.3s								
SJA				AMPG			07 00 49.5	
comp=Z,88μm,0.6s								
SJA				AMSN			07 01 06.7	
comp=Z,61μm,1.4s								
SJA				AMSG			07 01 12.3	
comp=Z,55μm,0.4s								
FCH	**Farellones**	**1.18**	**219**	⇓*e*P		**Pn**	**07 00 48.9**	**+0.2**
FCH				*i* S		**Sn**	**07 01 07.5**	**+0.6**
FCH				IAML			07 01 10.4	
comp=E,13μm,0.2s								
CFA	**Coronel Fontan**	**1.28**	**52**	*e*P		**Pn**	**07 00 49.6**	**+0.1**
CFA	**Coronel Fontan**	**1.28**	**52**	P		**Pn**	**07 00 49.8**	**+0.3**
baz=243,slow=11								
CFA				S		**Sn**	**07 01 08.5**	**+0.3**
baz=190,slow=12								
PEL	**Peldehue**	**1.30**	**235**	*e*Pn		**Pn**	**07 00 49.4**	**-0.4**
PEL				*e*Sn		**Sn**	**07 01 08.2**	**-0.5**
PEL	**Peldehue**	**1.30**	**235**	*e*P		**Pn**	**07 00 49.2**	**-0.5**
PEL	**Peldehue**	**1.30**	**235**	⇓*e*P		**Pn**	**07 00 49.1**	**-0.6**
PEL				*i* S		**Sn**	**07 01 07.5**	**-1.2**
PEL				IAML			07 01 09.8	
comp=E,31μm,0.3s								
RTLL	**Cerro Villicun**	**1.34**	**37**	*e*P		**Pn**	**07 00 50.6**	**+0.4**
RTLL				IAML			07 00 50.9	
comp=Z,12μm,0.4s								
CLCH	**Cerro Calan**	**1.37**	**223**	⇓*e*P		**Pn**	**07 00 50.3**	**-0.2**
CLCH				*i* S		**Sn**	**07 01 09.7**	**-0.5**
CLCH				IAML			07 01 13.0	
comp=E,43μm,0.6s								
YECH	**El Yeso**	**1.38**	**204**	*e*P		**Pn**	**07 00 51.8**	**+0.9**
FSR	**Penalolen**	**1.42**	**221**	⇑*e*P		**Pn**	**07 00 51.4**	**+0.2**
FSR				*e*S		**Sn**	**07 01 11.6**	**+0.4**
ROCH	**El Roble**	**1.46**	**247**	⇓*e*P		**Pn**	**07 00 51.0**	**-0.8**
ROCH				*i* S		**Sn**	**07 01 11.1**	**-1.2**
ROCH				IAML			07 01 14.3	
comp=N,63μm,0.3s								
ROC1	**El Roble**	**1.47**	**247**	*e*Pn		**Pn**	**07 00 51.0**	**-0.9**
ROC1				*e*Sn		**Sn**	**07 01 11.4**	**-1.1**
ROC1	**El Roble**	**1.47**	**247**	*e*P		**Pn**	**07 00 51.0**	**-0.9**
ANTU	**Antumapu**	**1.55**	**221**	⇓*i*P		**Pn**	**07 00 53.3**	**+0.7**
ANTU				*i* S		**Sn**	**07 01 14.7**	**+0.8**
ANTU				IAML			07 01 16.9	
comp=N,17μm,0.1s								
LMEL	**Las Melosas**	**1.58**	**205**	⇓*e*P		**Pn**	**07 00 53.2**	**0.0**
LMEL				*e*S		**Sn**	**07 01 15.6**	**+0.9**
LMEL				IAML			07 01 24.8	
comp=N,8μm,0.2s								
AMOG	**MOGNA**	**1.66**	**28**	*e*P		**Pn**	**07 00 54.7**	**+0.7**
ACCO	**Cerro Coronel**	**1.84**	**9**	*e*P		**Pn**	**07 00 57.3**	**+0.9**
ACAN	**Cantantal**	**1.89**	**87**	*e*P		**Pn**	**07 00 57.0**	**+0.3**
AROD	**Rodeo**	**2.23**	**359**	*e*P		**Pn**	**07 01 02.9**	**+1.5**
ACDV	**Cuesta del Vie**	**2.24**	**6**	*e*P		**Pn**	**07 01 02.4**	**+1.1**
ACDV				IAML			07 01 32.4	
comp=Z,3μm,0.7s								
GO04	**Tololo Observa**	**2.52**	**332**	*e*Pn		**Pn**	**07 01 04.9**	**-0.2**
GO04				*e*Sn		**Sn**	**07 01 36.1**	**+0.3**
GO04	**Tololo Observa**	**2.52**	**332**	*e*P		**Pn**	**07 01 04.8**	**-0.2**
GO04	**Tololo Observa**	**2.52**	**332**	⇑*i*P		**Pn**	**07 01 04.8**	**-0.2**
GO04				*e*S		**Sn**	**07 01 34.7**	**-1.1**
CHPI	**Pichilemu**	**2.94**	**227**	*e*P		**Pn**	**07 01 08.4**	**-1.7**
AGUA	**GUANDACOL**	**3.02**	**15**	*e*P		**Pn**	**07 01 12.1**	**+0.8**
MRA	**San Martin**	**3.12**	**91**	*e*P		**Pn**	**07 01 12.3**	**-0.4**
MRA				IAML			07 01 52.4	
comp=Z,2μm,0.5s								
GO05	**Huala**	**3.34**	**218**	*e*Pn		**Pn**	**07 01 12.7**	**-2.7**
GO05				*e*Sn		**Sn**	**07 01 52.0**	**-2.6**
GO05	**Huala**	**3.34**	**218**	⇓*e*P		**Pn**	**07 01 12.6**	**-2.9**
GO05				*i* S		**Sn**	**07 01 51.5**	**-3.2**
GO05				IAML			07 02 04.3	
comp=N,2μm,0.7s								
LCO	**Las Campanas**	**3.56**	**341**	*e*Pn		**Pn**	**07 01 18.3**	**-0.3**
LCO				*e*Sn		**Sn**	**07 01 58.5**	**-1.8**
VCA	**Vinchina**	**3.80**	**16**	*e*P		**Pn**	**07 01 22.2**	**+0.4**
VCA				IAML			07 02 10.6	
comp=Z,2μm,0.3s								
TCA	**Tanti**	**4.23**	**77**	*e*P		**Pn**	**07 01 26.6**	**-0.9**
TCA				IAML			07 02 31.0	
comp=Z,1μm,0.4s								
GO03	**Copiap**	**4.85**	**351**	*e*Pn		**Pn**	**07 01 34.9**	**-0.8**
GO03				*e*Sn		**Sn**	**07 02 26.8**	**-4.1**
CYA	**Choya**	**5.03**	**39**	*e*P		**Pn**	**07 01 36.0**	**-2.1**
FSA	**Cafayete**	**6.95**	**26**	*e*P		**Pn**	**07 02 03.2**	**-1.0**
GO02	**Mina Guanaco**	**7.22**	**359**	*e*Pn		**Pn**	**07 02 06.2**	**-1.8**
GO06	**Curarrehue**	**7.36**	**193**	*e*Pn		**Pn**	**07 02 06.2**	**-3.3**
TRQA	**Tornquist**	**8.29**	**135**	*e*Pn		**Pn**	**07 02 20.6**	**-1.5**

TRQA Tornquist 8.29 135 eP Pn 07 02 19.6 -2.5
PLCA Paso Flores 8.36 186 ePn Pn 07 02 21.9 -1.2
PLCA Paso Flores 8.36 186 P Pn 07 02 20.2 -2.9
comp=Z,2.6nm,0.3s,baz=12,slow=13,SNR=85
PLCA Paso Flores 8.36 186 eP Pn 07 02 21.3 -1.8
PB10 IPOC Station P 8.92 353 ePn Pn 07 02 30.2 -0.5
LVC Limon Verde 9.77 3 ePn Pn 07 02 40.4 -2.1
LVC Limon Verde 9.77 3 P Pn 07 02 39.5 -3.0
comp=Z,3.6nm,0.3s,baz=168,slow=7,3,SNR=32
LVC S Sn 07 04 22.5 -8.1
comp=Z,5.4nm,0.3s,baz=270,slow=20,SNR=3.3
LVC Limon Verde 9.77 3 eP Pn 07 02 36.5 -6.0
PB04 IPOC Station P 10.05 356 ePn Pn 07 02 43.2 -3.0
PB04 eSn Sn 07 04 36.1 -1.2
GO07 Milladeo Hill, 11.21 196 ePn Pn 07 02 54.9 -6.5
CPUP Villa Florida 12.15 63 ePn Pn 07 03 10.0 -4.0
CPUP Villa Florida 12.15 63 P Pn 07 03 09.5 -4.5
comp=Z,0.7nm,0.3s,baz=226,slow=11,SNR=17
CPUP Villa Florida 12.15 63 eP Pn 07 03 07.5 -6.5
OGAUY Aigu 12.44 103 eP Pn 07 03 13.3 -4.5
PB11 IPOC Station P 12.60 359 ePn Pn 07 03 19.3 -0.7
GO01 Chusmiza 12.69 1 ePn Pn 07 03 22.3 +0.8
MNMC Minye Minye 13.22 359 ePn Pn 07 03 28.9 +0.6
ITAB Concordia 15.85 76 eP Pn 07 03 59.2 -2.1
LPAZ La Paz 16.09 4 ePn P 07 04 05.7 -0.4
comp=Z,32nm,0.7s
LPAZ La Paz 16.09 4 P P 07 04 06.5 +0.5
comp=Z,2.1nm,0.3s,baz=172,slow=7.4,SNR=142
CNLB Canela 16.23 84 eP Pn 07 04 03.4 -2.7
PTGB Pitanga 17.04 68 eP P 07 04 14.9 -1.1
AQDB Aquidauana 17.07 49 eP P 07 04 15.5 -0.7
TRCB Terra Rica 17.66 61 eP P 07 04 22.4 -0.4
TER01 Tubaro-SC 17.90 83 eP P 07 04 25.6 +0.3
SIV San Ignacio 18.01 27 P P 07 04 26.9 +0.2
comp=Z,1.2nm,0.3s,baz=224,slow=14,SNR=63
FRTB Fartura 19.71 68 eP P 07 04 45.3 +0.2
SALV Santo Antonio 20.62 40 eP P 07 04 55.3 +0.4
PET01 Itanhaem-SP 21.07 73 eP P 07 05 00.3 +0.7
ITRB Iturama 21.24 58 eP P 07 05 02.5 +0.9
SPB Sao Paulo 21.27 71 eP P 07 04 59.9 -1.9
comp=Z,23nm,1.0s
SPB Sao Paulo 21.27 71 eP P 07 05 02.1 +0.3
NNA Nana 21.44 340 eP P 07 05 04.8 +1.1
comp=Z,19nm,0.8s
NNA Nana 21.44 340 P P 07 05 04.4 +0.7
comp=Z,15nm,0.7s,baz=189,slow=12,SNR=7.9
BB19B Bebedouro 21.76 64 eP P 07 05 05.8 -1.4
RCLB Rio Claro- Sao 21.79 68 eP P 07 05 07.6 +0.2
USHA Ushuaia 22.43 179 P P 07 05 13.7 +0.1
comp=Z,32nm,0.9s,baz=167,slow=2.9,SNR=28
ESAR Angra dos Reis 23.95 73 eP P 07 05 30.0 +1.7
CLDB Colider 24.84 33 eP P 07 05 37.0 +0.7
VAS01 Vassouras-RJ 25.12 73 eP P 07 05 40.5 +1.6
BDFB Brasilia 25.62 54 eP P 07 05 43.1 -0.4
BDFB Brasilia 25.62 54 P P 07 05 43.0 -0.5
comp=Z,5.6nm,0.8s,baz=207,slow=7.1,SNR=8.4
DUB01 Friburgo-RJ 26.08 74 eP P 07 05 49.7 +2.1
MCI6 Montes Claros 27.82 62 eP P 07 06 05.4 +2.1
MCI8 Montes Claros 27.89 62 eP P 07 06 05.4 +1.5
PMSA Palmer Station 32.56 176 eP P 07 06 49.9 +5.5
PTGA Pitinga 32.74 18 eP P 07 06 46.1 -0.4
comp=Z,14nm,0.8s
PTGA Pitinga 32.74 18 P P 07 06 45.7 -0.8
comp=Z,17nm,0.8s,baz=195,slow=10,SNR=28
PTLC Puerto Leguiza 32.80 350 eP P 07 06 45.7 -1.3
PTLC Puerto Leguiza 32.80 350 eP P 07 06 45.7 -1.3
OTAV Otavalo 33.57 343 eP P 07 06 54.1 -0.1
comp=Z,3.6nm,0.7s
OTAV Otavalo 33.57 343 eP P 07 06 56.5 +2.2
OTAV Otavalo 33.57 343 eP P 07 06 56.5 +2.2
OTAV Otavalo 33.57 343 eP P 07 06 56.3 +2.1
CMBC Cumbal 34.11 345 eP P 07 07 01.9 +3.0
CMBC Cumbal 34.11 345 eP P 07 07 01.9 +3.0
GCUF Volcan Galeras 34.28 346 eP P 07 07 03.8 +3.4
GCUF Volcan Galeras 34.28 346 eP P 07 07 03.8 +3.4
FLOC Florencia 34.32 349 eP P 07 07 02.0 +1.8
FLOC Florencia 34.32 349 eP P 07 07 02.0 +1.8
CRUC La Cruz 34.53 347 eP P 07 07 05.9 +3.4
CRUC La Cruz 34.53 347 eP P 07 07 05.9 +3.4
BBAC Balboa, Cauca 35.03 346 eP P 07 07 08.5 +1.9
BBAC Balboa, Cauca 35.03 346 eP P 07 07 08.5 +1.9
POPC Popayan, Colom 35.43 347 eP P 07 07 12.4 +2.3
POPC Popayan, Colom 35.43 347 eP P 07 07 12.4 +2.3
PRAC Prado 36.30 351 eP P 07 07 19.0 +1.8
PRAC Prado 36.30 351 eP P 07 07 19.0 +1.8
YOTC Yotoco, Valle 36.78 348 eP P 07 07 22.2 +0.8
YOTC Yotoco, Valle 36.78 348 eP P 07 07 22.2 +0.8
ROSC El Rosal 37.33 352 eP P 07 07 27.4 +1.0
comp=Z,5.0nm,0.6s
ROSC El Rosal 37.33 352 P P 07 07 26.5 +0.2
comp=Z,6.1nm,0.5s,baz=165,slow=2.4,SNR=7.0
NORC Norcasia 38.11 351 eP P 07 07 33.3 +0.8
NORC Norcasia 38.11 351 eP P 07 07 33.3 +0.8
RUSC La Rusia 38.24 354 eP P 07 07 35.3 +1.1
RUSC La Rusia 38.24 354 eP P 07 07 35.3 +1.1
HELC Santa Helena 38.82 350 eP P 07 07 39.8 +1.0
HELC Santa Helena 38.82 350 eP P 07 07 39.8 +1.0
NBMO Morrinhos-CE 39.95 50 eP P 07 07 51.7 +3.8
OCAC Ocana 40.59 354 eP P 07 07 52.2 -1.0
OCAC Ocana 40.59 354 eP P 07 07 52.2 -1.0
RCBR Riachuelo 40.93 57 eP P 07 07 59.6 +3.6
SDV Santo Domingo 41.08 358 eP P 07 08 00.5 +3.2
SJCC San Jacinto, C 42.42 352 eP P 07 08 09.0 +0.9
SJCC San Jacinto, C 42.42 352 eP P 07 08 09.0 +0.9
BCIP Isla Barro Col 42.52 345 eP P 07 08 10.0 +1.2
comp=Z,17nm,0.6s
ESPN Las Esperanzas 46.58 340 eP P 07 08 42.5 +1.5
VNA3 Neumayer Olymp 50.02 159 P P 07 09 07.4 +0.6
OBIP Obispado Ponce 50.23 3 eP P 07 09 08.2 -0.8
comp=Z,57nm,1.0s
VNA1 Neumayer--Stat 50.29 158 P P 07 09 13.0 +4.2
SJG San Juan 50.33 4 P P 07 09 06.7 -3.0
comp=Z,20nm,0.7s,baz=163,slow=4.5,SNR=6.9
VNA2 Neumayer--Watz 50.64 158 P P 07 09 11.9 +0.4
baz=249,slow=16
APG El Apazote 51.27 334 P P 07 09 17.9 +0.8
comp=Z,8.1nm,0.7s,baz=90,slow=1.0,SNR=7.7
SNAA Sanae 52.24 158 P P 07 09 23.8 +0.4
SNAA Sanae 52.24 158 eP P 07 09 24.0 +0.5
comp=Z,8.1nm,0.9s
SNAA Sanae 52.24 158 P P 07 09 23.7 +0.2
comp=Z,6.8nm,0.8s,baz=290,slow=10,SNR=16
QSPA South Pole Qui 57.83 180 eP P 07 10 04.0 +0.2
comp=Z,24nm,1.0s
QSPA South Pole Qui 57.83 180 P P 07 10 04.2 +0.4
comp=Z,17nm,0.9s,baz=332,slow=1.8,SNR=6.9
QSPA pP pP 07 10 33.0 +0.2
comp=Z,9.4nm,0.9s,baz=146,slow=0.5,SNR=3.7
859A Kempfer Cattle 61.12 348 P P 07 10 27.0 +0.5
baz=169
757A Oxford 62.18 347 P P 07 10 34.0 +0.3
baz=168
657A Interlachen 62.77 348 P P 07 10 37.7 +0.1
baz=168
557A Orange Park 63.17 348 P P 07 10 40.5 +0.3
baz=168
555A McAlpin 63.50 347 P P 07 10 42.1 -0.3
baz=167
454A Quitman 64.21 346 P P 07 10 47.1 +0.1
baz=167
453A Whigham 64.48 346 P P 07 10 49.0 +0.2
baz=166
356A Blackshear 64.52 348 P P 07 10 49.0 -0.1
baz=168
TIGA Tifton 64.90 347 P P 07 10 51.4 -0.1
baz=167
353A Camilla 64.94 346 P P 07 10 51.5 -0.2
baz=166
257A Skidaway Islan 64.97 349 P P 07 10 51.5 -0.5
baz=169
256A Glennville 65.12 348 P P 07 10 53.0 +0.1
baz=168
351A Pinckard 65.16 345 P P 07 10 53.3 +0.1
baz=165
255A Hazlehurst 65.17 348 P P 07 10 53.0 -0.2
baz=168
352A Blakely 65.21 345 P P 07 10 53.3 -0.2
baz=166
254A Abbeville 65.34 347 P P 07 10 54.0 -0.3
baz=167
BRAL Brewton 65.40 343 P P 07 10 55.0 +0.2
baz=164
350A Dozier 65.47 344 P P 07 10 55.3 +0.1
baz=164

158A Hollywood 65.59 350 P P 07 10 56.7 +0.8
baz=170
349A Repton 65.61 343 P P 07 10 56.5 +0.4
baz=164
253A Americus 65.61 346 P P 07 10 55.9 -0.2
baz=166
157A Early Branch 65.65 349 P P 07 10 56.4 0.0
baz=169
252A Lumpkin 65.67 346 P P 07 10 56.4 -0.1
baz=166
156A Sylvania 65.71 349 P P 07 10 57.3 +0.6
baz=169
155A Kite 65.84 348 P P 07 10 57.6 +0.1
baz=168
251A Midway 65.91 345 P P 07 10 57.6 -0.4
baz=165,SNR=7.2
154A Montrose 65.95 347 P P 07 10 58.3 0.0
baz=167
250A Grady 65.99 344 P P 07 10 58.3 -0.2
baz=164
VNDA Vanda 66.08 191 eP P 07 11 00.1 +1.4
comp=Z,5.3nm,1.0s
VNDA Vanda 66.08 191 P P 07 11 00.0 +1.4
comp=Z,3.0nm,0.8s,baz=125,slow=5.9,SNR=13
Z58A St. Stephen 66.12 350 P P 07 10 59.6 +0.3
baz=170
153A Fort Valley 66.12 347 P P 07 10 59.2 -0.1
baz=167
249A Camden 66.19 344 P P 07 10 59.9 +0.1
baz=164
Z57A Bowman 66.21 350 P P 07 11 00.1 +0.2
baz=170
151A Opelika 66.31 345 P P 07 11 00.2 -0.4
baz=165
152A Waverly Hall 66.32 346 P P 07 11 00.4 -0.2
baz=166
Z56A Williston 66.34 349 P P 07 11 01.0 +0.3
baz=169
Z54A Sparta 66.51 348 P P 07 11 01.6 -0.2
baz=168
SYO Syowa Base 66.53 158 eP P 07 10 58.4 -3.2
150A Eclectic 66.54 345 P P 07 11 01.8 -0.2
baz=165,SNR=5.4
Z53A Monticello 66.69 347 P P 07 11 02.7 -0.3
baz=167
149A Jones 66.70 344 P P 07 11 02.7 -0.3
baz=164
Z52A Williamson 66.76 346 P P 07 11 03.4 0.0
baz=166,SNR=7.1
833A Chaparral WMA, 66.78 331 P P 07 11 04.9 +1.2
baz=153,SNR=10.0
GOGA Godfrey 66.79 347 P P 07 11 03.4 -0.2
baz=167,SNR=6.7
Y57A Sumter 66.87 350 P P 07 11 04.3 +0.2
baz=170
148A Greensboro 66.94 343 P P 07 11 04.5 -0.1
baz=163
Y55A Saluda 67.02 349 P P 07 11 05.1 +0.1
baz=169
Z51A Franklin 67.04 346 P P 07 11 05.0 -0.2
baz=166
Y54A Tignall 67.09 348 P P 07 11 05.5 0.0
baz=168
X60A Albert Glenn T 67.11 352 P P 07 11 05.8 +0.2
baz=172
147A Livingston 67.13 343 P P 07 11 05.8 0.0
baz=163
Z50A Ashland 67.14 345 P P 07 11 05.7 -0.2
baz=165,SNR=8.9
LRAL Lakeview Retre 67.17 344 P P 07 11 05.8 -0.2
baz=164
X59A McDuffie Farm, 67.18 352 P P 07 11 06.2 +0.2
baz=172
Z49A Columbiana 67.22 344 P P 07 11 06.1 -0.2
baz=164,SNR=5.5
Y53A Monroe 67.25 347 P P 07 11 06.3 -0.2
baz=167,SNR=6.9
X58A Rowland 67.26 351 eP P 07 11 06.0 -0.5
comp=Z,33nm,0.7s
X58A Rowland 67.26 351 P P 07 11 06.8 +0.3
baz=171,SNR=6.0
X57A Johnson Farm, 67.27 350 P P 07 11 07.0 +0.4
baz=170
VBMS Vicksburg 67.30 341 eP P 07 11 07.1 +0.3
comp=Z,53nm,1.0s
VBMS Vicksburg 67.30 341 P P 07 11 07.7 +0.9
baz=161
Y52A Lilburn 67.35 347 eP P 07 11 06.1 -1.1
comp=Z,20nm,0.8s
Y52A Lilburn 67.35 347 P P 07 11 07.2 0.0
baz=167,SNR=7.5
X56A White Oak 67.44 350 P P 07 11 07.8 +0.2
baz=169
X55A Gracelyn & Ava 67.51 349 P P 07 11 08.2 +0.1
baz=169
W60A Pink Hill 67.56 353 P P 07 11 08.6 +0.2
baz=172
Y51A Rockmart 67.58 346 P P 07 11 08.4 -0.2
baz=166,SNR=8.6
W61A Ground Anchor 67.60 353 P P 07 11 08.9 +0.2
baz=173
W58A Raeford 67.70 351 P P 07 11 09.6 +0.3
baz=171,SNR=5.3
X54A Belton 67.71 348 P P 07 11 09.5 +0.2
baz=168
Y50A Piedmont 67.71 345 P P 07 11 09.5 0.0
baz=165,SNR=7.3
X53A Estanollee 67.83 348 P P 07 11 10.2 +0.1
baz=167,SNR=6.4
Y49A Blount Mountai 67.83 345 P P 07 11 10.5 +0.3
baz=165
W57A Gilead 67.93 351 P P 07 11 10.9 +0.2
baz=170
W56A Indian Trail 68.00 350 P P 07 11 11.4 +0.2
baz=170
X52A Dahlonega 68.03 347 P P 07 11 11.5 0.0
baz=167,SNR=11
Y48A Jasper 68.05 344 P P 07 11 11.3 -0.3
baz=164,SNR=5.7
KMSC Kings Mountain 68.12 349 eP P 07 11 11.4 -0.5
comp=Z,15nm,0.8s
KMSC Kings Mountain 68.12 349 P P 07 11 11.9 -0.1
baz=169,SNR=5.2
NATX Nacogdoches 68.14 337 eP P 07 11 12.8 +0.7
comp=Z,30nm,0.8s
NATX Nacogdoches 68.14 337 P P 07 11 13.3 +1.1
baz=157,SNR=5.3
X51A Calhoun 68.18 346 P P 07 11 12.7 +0.4
baz=166,SNR=13
W54A Cherokee Point 68.20 349 P P 07 11 12.9 +0.4
baz=168,SNR=5.3
V60A Jim Taylor Roa 68.21 353 P P 07 11 13.6 +1.1
baz=173
X50B Fort Payne 68.24 346 P P 07 11 12.8 0.0
baz=165,SNR=7.5
435B Jarrell 68.28 334 eP P 07 11 13.4 +0.4
comp=Z,20nm,1.1s
V59A Millesex 68.32 352 P P 07 11 13.9 +0.8
baz=172
X49A Woodville 68.44 345 P P 07 11 14.0 +1.1
baz=165
W53A Cullowhee 68.45 348 P P 07 11 14.4 +0.3
baz=168,SNR=7.9
V58A Windy Hill, Pi 68.45 352 P P 07 11 14.2 +0.2
baz=171
X48A Hartselle 68.54 344 eP P 07 11 14.9 +0.3
comp=Z,23nm,0.8s
X48A Hartselle 68.54 344 P P 07 11 14.9 +0.3
baz=164,SNR=11
V57A Coltrane Farms 68.63 351 P P 07 11 15.1 0.0
baz=171
V56A Mocksville 68.65 350 P P 07 11 15.8 +0.5
baz=170,SNR=6.2
U61A Possum Corner 68.70 354 P P 07 11 16.3 +0.8
baz=174
W51A Cleveland 68.74 347 P P 07 11 16.1 +0.3
baz=166,SNR=7.9
X47A Russelville 68.79 344 P P 07 11 16.1 0.0
baz=163,SNR=9.6
V55A Taylorsville 68.80 350 P P 07 11 16.7 +0.5
baz=169,SNR=7.7
V54A Nebo 68.84 349 P P 07 11 16.7 +0.3
baz=169,SNR=10.0
U59A Littleton 68.85 353 P P 07 11 17.3 +0.9
baz=172
JCT Junction City 68.85 332 P P 07 11 17.4 +0.7
baz=153,SNR=18
V53A Saluda 68.88 348 P P 07 11 16.8 +0.1

baz=168,SNR=7.6
W50A Signal Mountai 68.89 346 P P 07 11 17.1 +0.3
baz=166,SNR=11
U60A Pendleton 68.90 353 P P 07 11 17.6 +0.8
baz=173
Z41A Richland Creek 68.94 339 P P 07 11 18.0 +1.0
baz=159
U58A Oxford 68.97 352 P P 07 11 17.9 +0.7
baz=172
W49A Belvidere 69.01 345 P P 07 11 17.7 +0.2
baz=165,SNR=7.1
U57A Blanch 69.11 351 P P 07 11 18.4 +0.4
baz=171
U56A King 69.16 351 P P 07 11 19.0 +0.6
baz=170,SNR=5.6
OXF Oxford 69.17 342 P P 07 11 18.5 +0.1
baz=162,SNR=11
W48A Pulaski 69.17 345 P P 07 11 18.8 +0.3
baz=164,SNR=8.8
V52A Sevierville 69.18 348 P P 07 11 18.4 -0.2
baz=167,SNR=8.1
V51A Loudon 69.28 347 P P 07 11 19.1 -0.1
baz=167,SNR=6.6
V50A Pikevile 69.30 346 P P 07 11 19.5 +0.2
baz=166,SNR=20
WHTX Lake Whitney, 69.32 335 P P 07 11 19.9 +0.5
baz=155,SNR=8.5
U55A TA2, Sparta 69.41 350 P P 07 11 20.1 +0.1
baz=170
W47A Westpoint 69.43 344 P P 07 11 20.1 0.0
baz=164,SNR=7.0
T59A Double "B" Far 69.44 353 P P 07 11 20.8 +0.8
baz=173,SNR=5.3
LTX Lajitas 69.48 328 epP pP 07 11 52.1 +1.7
TXAR Lajitas Array 69.48 328 P P 07 11 21.3 +0.7
comp=Z,3.3nm,0.6s,baz=154,slow=8.2,SNR=60
TXAR pP pP 07 11 52.1 +1.7
comp=Z,1.3nm,0.7s,baz=154,slow=7.8,SNR=3.8
U53A Fall Branch 69.51 349 P P 07 11 20.4 -0.2
baz=168,SNR=5.5
T58A Grand View Acr 69.52 352 P P 07 11 21.3 +0.7
baz=172,SNR=8.3
U54A Nelsons Funny 69.55 349 P P 07 11 21.0 +0.1
baz=169,SNR=9.8
V49A McMinnville 69.56 346 P P 07 11 20.7 -0.1
baz=165,SNR=24
X43A Marvell 69.56 341 eP P 07 11 21.6 +0.7
comp=Z,43nm,1.0s
X43A Marvell 69.56 341 P P 07 11 21.6 +0.7
baz=161
T57A Hurt 69.66 352 P P 07 11 21.8 +0.4
baz=171
U52A Thorn Hill 69.68 348 P P 07 11 21.3 -0.3
baz=168
V48A Smith Brothers 69.73 345 P P 07 11 22.0 +0.1
baz=164,SNR=24
U51A La Follette 69.78 347 P P 07 11 22.0 -0.3
baz=167,SNR=8.4
T56A Rocky Mt 69.78 351 P P 07 11 22.9 +0.7
baz=170,SNR=6.6
TZTN Tazewell 69.86 348 P P 07 11 22.6 -0.1
baz=167
V47A Nunnelly 69.97 344 P P 07 11 23.3 -0.1
baz=164,SNR=22
U50A Jamestown 69.97 347 P P 07 11 23.2 -0.2
baz=166,SNR=6.0
T55A Pulaski 69.97 350 P P 07 11 23.9 +0.5
baz=170
BLA Blacksburg 70.02 351 P P 07 11 24.1 +0.5
baz=170
T54A Tazewell 70.04 350 P P 07 11 23.9 0.0
baz=169,SNR=6.5
V46A Holladay 70.08 344 P P 07 11 23.8 -0.3
baz=163,SNR=22
T53A Wise 70.11 349 P P 07 11 24.0 -0.3
baz=168
S58A Poland Farm, P 70.12 353 P P 07 11 25.0 +0.8
baz=172
S59A Mechanicsville 70.19 353 P P 07 11 25.7 +1.0
baz=173,SNR=6.1
U49A Red Boiling Sp 70.25 346 P P 07 11 24.9 -0.1
baz=165,SNR=6.7
T52A Hallie 70.31 349 P P 07 11 25.2 -0.2
baz=168
WVT Waverly 70.33 344 eP P 07 11 25.7 +0.2
comp=Z,93nm,0.7s
WVT Waverly 70.33 344 P P 07 11 25.6 +0.2
baz=164
T51A Gray 70.34 348 P P 07 11 25.5 -0.1
baz=167,SNR=15
S56A Natural Bridge 70.36 351 P P 07 11 26.4 +0.6
baz=171,SNR=7.6
MIAR Mount Ida 70.37 339 P P 07 11 26.1 +0.3
baz=158,SNR=8.1
S57A Dark Hollow, R 70.37 352 P P 07 11 26.3 +0.5
baz=171
U48A Cassie Pea, Po 70.41 345 P P 07 11 25.9 -0.2
baz=165,SNR=6.8
R58B Mineral 70.45 353 P P 07 11 27.3 +1.0
baz=172
U47A Clarksville 70.50 345 P P 07 11 26.4 -0.1
baz=164,SNR=20
T50A Nancy 70.56 347 P P 07 11 26.5 -0.4
baz=166,SNR=5.3
W41B Gary Mavity, V 70.56 340 P P 07 11 27.1 +0.1
baz=160,SNR=6.9
S55A Lewisburg 70.58 351 P P 07 11 27.7 +0.6
baz=170,SNR=13
R59A King George, V 70.61 354 P P 07 11 28.1 +0.9
baz=173
ABTX Abilene, Hawle 70.70 333 P P 07 11 28.3 +0.4
baz=153,SNR=7.3
T49A Edmonton 70.77 346 P P 07 11 28.0 -0.2
baz=166,SNR=13
R58A Rapidan 70.80 353 P P 07 11 29.2 +0.9
baz=172
GLAT Glass 70.81 343 eP P 07 11 29.1 +0.7
comp=Z,99nm,1.2s
R57A Stanardsville 70.85 352 P P 07 11 29.8 +1.1
baz=172,SNR=7.4
S52A Salyersville 70.88 349 P P 07 11 28.9 0.0
baz=168
S51A Beattyville 70.93 348 P P 07 11 29.1 0.0
baz=167,SNR=8.4
T48A Bowling Green 70.95 346 P P 07 11 29.0 -0.3
baz=165,SNR=8.9
T47A Sharon Grove 70.99 345 P P 07 11 29.2 -0.3
baz=164,SNR=12
R55A Marlinton 71.03 351 P P 07 11 30.8 +0.9
baz=170,SNR=8.8
W39A Magazine 71.03 339 P P 07 11 30.7 +0.9
baz=158,SNR=21
R54A Victor 71.05 350 P P 07 11 30.1 +0.2
baz=170,SNR=7.9
S50A Richmond 71.11 347 P P 07 11 30.1 -0.2
baz=167,SNR=9.1
U44A Portageville 71.13 343 P P 07 11 30.8 +0.5
baz=162
T46A Princeton 71.22 344 P P 07 11 30.6 -0.2
baz=164,SNR=13
R53A Hurricane 71.34 350 P P 07 11 31.3 -0.3
baz=169
T45A Paducah 71.37 344 P P 07 11 31.4 -0.4
baz=163
S49A Springfield 71.38 347 P P 07 11 31.4 -0.5
baz=166
S48A Wiedeman Farm, 71.41 346 P P 07 11 31.2 -0.8
baz=165,SNR=7.1
R52A Catlettsburg 71.45 349 P P 07 11 31.8 -0.5
baz=168
S47A Hartford 71.52 345 P P 07 11 31.9 -0.8
baz=164,SNR=8.1
U41A Viola 71.56 341 P P 07 11 33.1 +0.1
baz=160,SNR=9.5
Q57A Strasburg 71.57 353 P P 07 11 34.2 +1.2
baz=172,SNR=6.4
R51A Hillsboro 71.57 348 P P 07 11 33.0 0.0
baz=167,SNR=8.3
R50A Paris 71.69 348 P P 07 11 33.5 -0.2
baz=167,SNR=7.5
Q55A Buckhannon 71.73 351 P P 07 11 34.8 +0.8
baz=170
S46A Don Dixon Farm 71.79 345 P P 07 11 33.9 -0.4
baz=164,SNR=7.3
Q53A Leroy 71.79 350 P P 07 11 34.5 +0.2
baz=169
Q54A Coxs Mills 71.82 351 P P 07 11 34.3 -0.1
baz=170,SNR=5.3

U40A	Yellville baz=159,SNR=24	71.84	340	P	P	07 11 34.9 +0.2
R49A	Shelbyville baz=166,SNR=7.6	71.85	347	P	P	07 11 34.3 -0.4
P59A	Jarrettsville baz=174,SNR=9.4	71.95	354	P	P	07 11 36.4 +1.2
S45A	Carrier Mills baz=163	71.98	344	P	P	07 11 35.0 -0.4
Q52A	Bidwell baz=169	72.00	349	P	P	07 11 35.5 0.0
WCI	Wyandotte Cave comp=Z,20nm,0.9s	72.01	346	eP	P	07 11 35.2 -0.4
WCI	Wyandotte Cave baz=165	72.01	346	P	P	07 11 35.1 -0.5
R48A	Northridge Ran baz=165,SNR=11	72.09	346	P	P	07 11 35.9 -0.2
R47A	Wooly Knot Far baz=165	72.12	346	P	P	07 11 35.3 -1.0
S44A	Carbondale baz=162,SNR=9.4	72.16	344	P	P	07 11 36.3 -0.2
Q50A	Georgetown baz=167	72.17	348	P	P	07 11 36.2 -0.4
P55A	Reedsville baz=171	72.20	352	P	P	07 11 37.4 +0.6
Q51A	Peebles baz=168	72.24	349	P	P	07 11 37.1 +0.1
MNTX	Cornudas Mount baz=149,SNR=22	72.26	328	P	P	07 11 37.0 -0.3
WMOK	Wichita Mounta baz=154	72.27	335	P	P	07 11 37.2 -0.1
TUL1	Leonard baz=157,SNR=8.1	72.32	338	P	P	07 11 37.4 -0.1
MCWV	Mont Chateau baz=171	72.35	352	P	P	07 11 38.2 +0.5
P54A	Burton baz=170,SNR=7.1	72.38	351	P	P	07 11 38.1 +0.3
P53A	Whipple baz=169	72.39	350	P	P	07 11 37.9 +0.1
Q49A	Aurora baz=166,SNR=13	72.49	347	P	P	07 11 38.2 -0.3
R45A	Skylar, Fairfi baz=163	72.50	345	P	P	07 11 38.0 -0.5
O60A	Telford baz=175	72.57	355	P	P	07 11 40.0 +1.1
Q48A	North Vernon baz=166,SNR=12	72.58	347	P	P	07 11 38.6 -0.4
O59A	Robesonia baz=174	72.62	355	P	P	07 11 40.4 +1.1
P51A	Williamsport baz=168,SNR=6.2	72.64	349	P	P	07 11 38.9 -0.4
P52A	Corning baz=169,SNR=5.7	72.64	350	P	P	07 11 39.1 -0.3
PPT	Papeete comp=Z,56nm,0.8s,baz=197,slow=2.1,SNR=5.7	72.67	260	P	P	07 11 41.6 +1.5
S41A	Jillco Farms, baz=160,SNR=32	72.69	342	P	P	07 11 39.9 +0.2
FVM	French Village	72.72	343	epP	pP	07 12 11.2 +1.3
Q47A	Bedord North L baz=165	72.72	346	P	P	07 11 39.3 -0.5
O56A	Blue Knob Stat baz=172	72.81	353	P	P	07 11 41.1 +0.7
O55A	Ligonier baz=171	72.83	352	P	P	07 11 40.9 +0.4
P50A	Jamestown baz=167,SNR=6.8	72.88	348	P	P	07 11 40.6 -0.2
O54A	Avella baz=170	72.94	351	P	P	07 11 41.0 -0.1
P49A	Miami Univ. Ec baz=166	72.97	348	P	P	07 11 40.9 -0.4
CCM	Cathedral Cave comp=Z,36nm,1.0s	72.99	342	eP	P	07 11 41.6 +0.1
CCM	Cathedral Cave baz=161	72.99	342	P	P	07 11 41.8 +0.3
P48A	Milroy baz=166,SNR=13	73.03	347	P	P	07 11 41.0 -0.7
Q45A	Warren Harvey, baz=164,SNR=9.3	73.05	345	P	P	07 11 41.1 -0.6
O52A	Adamsville baz=169,SNR=6.2	73.07	350	P	P	07 11 41.7 -0.2
SSPA	Standing Stone baz=172	73.10	353	P	P	07 11 42.6 +0.6
MSTX	Muleshoe	73.11	331	epP	pP	07 12 14.3 +1.9
MSTX	Muleshoe baz=151,SNR=13	73.11	331	P	P	07 11 42.8 +0.4
O53A	New Philadelph baz=170	73.11	351	P	P	07 11 42.1 0.0
N59A	State Game Lan baz=174,SNR=6.6	73.19	355	P	P	07 11 43.9 +1.3
O51A	Pataskala baz=168,SNR=8.3	73.22	349	P	P	07 11 42.4 -0.3
P47A	Martinsville baz=165,SNR=6.3	73.22	346	P	P	07 11 42.2 -0.5
R41A	Rosebud baz=161,SNR=21	73.26	342	P	P	07 11 43.2 +0.2
ACSO	Alum Creek Sta baz=168,SNR=14	73.36	349	P	P	07 11 43.5 -0.1
N55A	Marion Center	73.36	352	epP	pP	07 12 15.4 +1.9
N55A	Marion Center baz=172,SNR=9.5	73.36	352	P	P	07 11 44.3 +0.7
O50A	Cable baz=168,SNR=6.4	73.38	349	P	P	07 11 43.5 -0.2
AMTX	Amarillo baz=152	73.48	333	P	P	07 11 45.0 +0.4
P46A	Rosedale baz=164,SNR=8.2	73.54	346	P	P	07 11 44.0 -0.6
O49A	Covington baz=167,SNR=8.4	73.54	348	P	P	07 11 44.5 -0.2
P45A	Graceland, Par baz=164,SNR=9.1	73.56	345	P	P	07 11 44.0 -0.8
N53A	Lisbon baz=170	73.61	351	P	P	07 11 46.1 +1.1
Q42A	Golden Eagle baz=162,SNR=9.9	73.62	343	P	P	07 11 45.2 +0.1
N54A	Moraine State baz=171,SNR=7.9	73.65	352	P	P	07 11 45.7 +0.4
N52A	McGinn's Farm, baz=169	73.73	350	P	P	07 11 45.5 -0.3
O48A	Farmland baz=166,SNR=9.5	73.75	348	P	P	07 11 45.4 -0.5
N50A	Nevada baz=168,SNR=9.5	73.91	349	P	P	07 11 46.7 -0.1
O47A	Sheridan baz=165,SNR=12	73.93	347	P	P	07 11 46.3 -0.6
N51A	Ashland baz=169,SNR=6.1	73.94	350	P	P	07 11 46.7 -0.2
M55A	Ridgway baz=172,SNR=9.2	74.01	353	P	P	07 11 47.9 +0.5
121A	Cookes Peak, D baz=147,SNR=14	74.05	327	P	P	07 11 49.6 +1.6
MAW	Mawson comp=Z,2.5nm,1.0s	74.06	163	eP	P	07 11 48.5 +1.1
MAW	Mawson comp=Z,9.4nm,1.0s,baz=255,slow=4.9,SNR=4.9	74.06	163	P	P	07 11 47.7 +0.2
P43A	Skaggs, Pawnee baz=162,SNR=11	74.07	344	P	P	07 11 47.5 -0.3
M54A	Oil Creek Stat baz=171,SNR=6.4	74.15	352	P	P	07 11 48.4 +0.2
M53A	Wt Miller and baz=170	74.21	351	P	P	07 11 48.6 +0.1
N49A	Columbus Grove baz=167,SNR=11	74.23	348	P	P	07 11 48.4 -0.2
SFIN	Lafayette baz=165	74.25	346	P	P	07 11 48.0 -0.8
O45A	Potomac baz=164	74.25	346	P	P	07 11 48.0 -0.7
M51A	Elyria baz=169	74.31	350	P	P	07 11 49.1 0.0
N48A	Decatur baz=166,SNR=7.0	74.31	348	P	P	07 11 48.6 -0.6
O44A	Mansfield baz=163,SNR=8.3	74.32	345	P	P	07 11 48.5 -0.7
M52A	Chesterland baz=170	74.40	351	P	P	07 11 49.7 +0.1
N47A	Urbana baz=166,SNR=9.4	74.46	347	P	P	07 11 49.2 -0.7
BINY	Binghamton baz=174	74.48	355	P	P	07 11 50.9 +0.7
M50A	Fremont baz=168	74.51	349	P	P	07 11 50.2 0.0
HRV	Adam Dziewonsk baz=178	74.57	358	P	P	07 11 51.7 +1.1
O43A	Sugar Creek Fa baz=163	74.64	344	P	P	07 11 50.7 -0.3
L53A	Girard baz=170	74.67	352	P	P	07 11 51.3 +0.2
N46A	Monticello baz=165,SNR=5.7	74.67	346	P	P	07 11 50.6 -0.6
L55A	Hinsdale baz=172,SNR=8.8	74.69	353	P	P	07 11 51.8 +0.6
O42A	Bath baz=162	74.73	344	P	P	07 11 51.4 -0.1
M49A	Liberty Center baz=167,SNR=5.4	74.73	349	P	P	07 11 51.2 -0.3
N45A	Kentland baz=164	74.78	346	P	P	07 11 51.2 -0.7
PLIO	Pelee Island, baz=168	74.79	350	P	P	07 11 51.7 -0.1
ERPA	Erie baz=171	74.79	352	P	P	07 11 52.1 +0.2
L54A	Sinclairville baz=171,SNR=12	74.83	352	P	P	07 11 52.6 +0.5
O41A	Passleys Farm, baz=161,SNR=12	74.85	343	P	P	07 11 52.0 -0.2
N44A	Piper City baz=164	74.86	345	P	P	07 11 51.7 -0.6
M48A	Edgerton baz=167	74.87	348	P	P	07 11 51.9 -0.4
TRY	Troy comp=Z,30nm,1.1s	74.87	357	eP	P	07 11 52.4 +0.1
HDIL	Hopedale baz=163,SNR=6.7	74.89	344	P	P	07 11 52.2 -0.2
BNM	Barren Site	74.89	329	eP	P	07 11 53.3 +0.4
M47A	Cromwell baz=166	74.91	347	P	P	07 11 52.0 -0.5
M46A	Old House Fiel baz=165	75.09	347	P	P	07 11 53.0 -0.5
L50A	Kingsville baz=168	75.10	350	P	P	07 11 53.3 -0.4
K55A	Perry baz=172	75.19	353	P	P	07 11 54.6 +0.5
N43A	Stutzman Famil baz=163,SNR=9.2	75.23	345	P	P	07 11 54.5 +0.1
L49A	Milan baz=168	75.32	349	P	P	07 11 54.8 -0.1
N41A	Harden Midland baz=161	75.40	343	P	P	07 11 55.1 -0.2
M44A	Midewin, Midew	75.41	346	epP	pP	07 12 26.4 +0.7
M44A	Midewin, Midew baz=164	75.41	346	P	P	07 11 55.1 -0.4
L47A	Sherwood baz=166,SNR=9.3	75.43	348	P	P	07 11 54.9 -0.6
ANMO	Albuquerque comp=Z,9.2nm,0.8s	75.49	329	eP	P	07 11 57.7 +1.4
ANMO	Albuquerque baz=148	75.49	329	P	P	07 11 57.6 +1.4
TASM	ASL Pad, Albuq baz=148,SNR=21	75.49	329	P	P	07 11 57.5 +1.2
TASM	ASL Pad, Albuq baz=148,SNR=19	75.49	329	P	P	07 11 57.5 +1.2
KSU1	Kansas State U baz=156	75.50	338	P	P	07 11 56.0 0.0
K52A	Tillsonburg baz=170	75.54	351	P	P	07 11 56.2 +0.1
FFD	Franklin Falls comp=Z,19nm,0.8s	75.54	358	eP	P	07 11 57.0 +0.9
K51A	Iona Station baz=170	75.58	351	P	P	07 11 56.1 -0.3
M43A	Waltham Townsh baz=163	75.66	345	P	P	07 11 56.6 -0.2
MEDO	Medina baz=172	75.66	353	P	P	07 11 57.2 +0.4
L46A	Eue Claire baz=165	75.67	347	P	P	07 11 56.2 -0.6
J55A	Hilton baz=173	75.70	354	P	P	07 11 57.3 +0.3
TYNO	Tyneside baz=171	75.74	352	P	P	07 11 57.6 +0.3
N40A	Mertquake, Sal baz=161,SNR=9.5	75.75	343	P	P	07 11 57.1 -0.3
STCO	Saint Catharin baz=172	75.78	353	P	P	07 11 57.9 +0.5
J54A	Appleton baz=172	75.78	353	P	P	07 11 57.9 +0.4
K49A	Clarkson baz=168	75.93	349	P	P	07 11 57.7 -0.6
M41A	Milan baz=162,SNR=8.8	75.96	344	P	P	07 11 58.1 -0.5
J52A	Paris baz=170	75.96	352	P	P	07 11 58.6 +0.1
214A	Organ Pipe Nat baz=143,SNR=5.9	76.02	323	P	P	07 12 00.7 +1.5
K48A	Perry baz=167	76.05	349	P	P	07 11 58.6 -0.5
K47A	Vermontville baz=166,SNR=5.1	76.07	348	P	P	07 11 58.5 -0.7
L44A	Lake County Fo baz=164	76.14	346	P	P	07 11 59.1 -0.4
K46A	Dorr baz=166	76.22	348	P	P	07 11 59.2 -0.8
M40A	Post Highland baz=161,SNR=6.4	76.22	343	P	P	07 11 59.6 -0.4
CBKS	Cedar Bluff baz=154	76.26	336	P	P	07 12 01.1 +0.7
ACTO	Acton baz=171	76.27	352	P	P	07 12 00.5 +0.2
PECO	Prince Edward baz=173,SNR=9.4	76.29	354	P	P	07 12 00.8 +0.5
LBNH	Lisbon baz=178,SNR=7.0	76.31	358	P	P	07 12 01.7 +1.2
L43A	Garden Prairie baz=163,SNR=6.7	76.32	345	P	P	07 12 00.5 -0.1
L42A	Oliver, Polo baz=162	76.36	345	P	P	07 12 00.6 -0.2
WLVO	Wesleyville baz=172	76.41	353	P	P	07 12 01.2 +0.2
I53A	Kortright Cn E baz=171	76.43	352	P	P	07 12 01.5 +0.4
J49A	Marlette baz=168	76.44	350	P	P	07 12 00.6 -0.6
M39A	Webster baz=160,SNR=5.2	76.46	343	P	P	07 12 00.8 -0.6
J48A	Bridge Port baz=168,SNR=8.1	76.48	349	P	P	07 12 01.1 -0.4
PKRO	Pickering baz=172,SNR=9.1	76.51	353	P	P	07 12 01.9 +0.3
T25A	Trinidad	76.52	332	epP	pP	07 12 35.3 +2.5
T25A	Trinidad baz=150,SNR=24	76.52	332	P	P	07 12 03.6 +1.5
I51A	Listowel baz=170,SNR=7.9	76.58	351	P	P	07 12 02.2 +0.1
J47A	Sunmer baz=167	76.59	348	P	P	07 12 01.6 -0.5
L41A	Preston baz=162,SNR=8.1	76.61	344	P	P	07 12 02.0 -0.3
I55A	Frankford baz=173,SNR=8.6	76.63	354	P	P	07 12 02.6 +0.4
K43A	Bungton baz=164	76.74	346	P	P	07 12 02.7 -0.2
I52A	Shelburne baz=171	76.74	352	P	P	07 12 03.1 +0.1
L40A	Anamosa	76.77	343	epP	pP	07 12 34.4 +1.0
L40A	Anamosa baz=161,SNR=26	76.77	343	P	P	07 12 03.1 -0.1
LONY	Lake Ozonia baz=176	76.80	356	P	P	07 12 03.8 +0.6
J46A	Howard City baz=166	76.84	348	P	P	07 12 02.8 -0.7
H56A	Elgin baz=174,SNR=7.6	76.89	355	P	P	07 12 04.3 +0.7
BWLO	Walkerton baz=170	76.91	351	P	P	07 12 04.0 +0.2
H55A	Tweed baz=173,SNR=6.0	76.92	354	P	P	07 12 04.4 +0.6
DELO	Deloro Mine baz=173	76.92	354	P	P	07 12 04.2 +0.3
I49A	Point Hope baz=168	76.96	350	P	P	07 12 03.8 -0.3
L39A	Vinton baz=161,SNR=6.9	77.02	343	P	P	07 12 04.1 -0.4
K42A	Prairie Point, baz=163,SNR=6.0	77.02	345	P	P	07 12 04.4 -0.1
K41A	Shullsburg baz=162,SNR=6.9	77.07	344	P	P	07 12 04.7 -0.1
W18A	Petrified Fore baz=146,SNR=9.6	77.10	327	P	P	07 12 06.5 +1.1
H52A	Wyevale baz=171,SNR=6.5	77.27	352	P	P	07 12 06.0 +0.1
I47A	Gladwin baz=167	77.30	349	P	P	07 12 05.6 -0.4
PKME	Peaks-Kenny Pk comp=Z,22nm,0.8s	77.30	0	eP	P	07 12 07.4 +1.4
PKME	Peaks-Kenny Pk baz=180,SNR=6.7	77.30	0	P	P	07 12 07.1 +1.1
I48A	Sherman Twp baz=168	77.33	350	P	P	07 12 05.9 -0.3
JFWS	Jewell Farm	77.35	344	P	P	07 12 06.4 0.0
K40A	Colesburg baz=161,SNR=7.2	77.36	344	P	P	07 12 05.9 -0.4
I46A	Reed City baz=166	77.38	348	P	P	07 12 05.8 -0.7
BMRO	Meriville Lake baz=170	77.39	351	P	P	07 12 06.6 +0.2
PLVO	Plevna baz=173	77.39	354	P	P	07 12 07.1 +0.5
J43A	Natural Harves baz=164,SNR=5.3	77.40	346	P	P	07 12 06.6 -0.1
BANO	Bancroft baz=173	77.45	354	P	P	07 12 07.1 +0.3
SDCO	Great Sand Dun baz=149,SNR=13	77.48	331	P	P	07 12 08.7 +1.1
J42A	Columbus baz=163,SNR=6.4	77.49	345	P	P	07 12 07.1 0.0
K39A	Oelwein baz=161,SNR=6.0	77.54	343	P	P	07 12 06.9 -0.6
G55A	Calabogie baz=174	77.58	355	P	P	07 12 07.9 +0.4
G53A	Haliburton baz=172,SNR=6.2	77.61	353	P	P	07 12 08.2 +0.4
ORIO	Orleans, Innes baz=175	77.69	356	P	P	07 12 08.7 +0.6
Y14A	Wickenburg	77.70	324	epP	pP	07 12 41.7 +2.6
J41A	Loganville baz=162,SNR=5.7	77.73	345	P	P	07 12 08.3 -0.1
H47A	Mio baz=167	77.82	349	P	P	07 12 08.5 -0.4
ALFO	Alfred baz=175	77.83	356	P	P	07 12 09.4 +0.5
I43A	Langenfeld Bro baz=164	77.83	346	P	P	07 12 08.9 -0.1
H46A	Fife Lake baz=166	77.92	349	P	P	07 12 08.9 -0.6
J40A	Soldiers Grove baz=162,SNR=13	77.92	344	P	P	07 12 09.2 -0.3
I42A	Draeger Farm, baz=163	77.99	346	P	P	07 12 09.7 -0.2
LMN	Caledonia Moun comp=Z,8.9nm,0.7s	78.00	3	eP	P	07 12 11.2 +1.3
BUKO	Buck Lake baz=171	78.01	353	P	P	07 12 10.3 +0.4
KLBO	Killbear Provi baz=171	78.02	352	P	P	07 12 10.2 +0.2
S22A	4UR Ranch, Cre baz=148,SNR=10	78.03	331	P	P	07 12 11.7 +1.1
PEMO	Pembroke baz=173,SNR=7.8	78.04	354	P	P	07 12 10.5 +0.4
TOBO	Tobermory, Bru baz=170	78.05	351	P	P	07 12 10.0 -0.1
BGNE	Belgrade baz=156	78.08	338	P	P	07 12 10.8 +0.4
J39A	Decoah baz=161,SNR=13	78.09	344	P	P	07 12 10.0 -0.4
F55A	Otter Lake baz=174	78.13	355	P	P	07 12 11.0 +0.5
WUAZ	Wupatki baz=145	78.19	326	P	P	07 12 13.0 +1.6
IKP	In-Ko-Pah, Jac baz=141	78.28	321	P	P	07 12 13.5 +1.6
MVCO	Mesa Verde baz=147,SNR=6.4	78.29	329	P	P	07 12 13.1 +1.1
Y12C	Blythe baz=142,SNR=5.2	78.32	323	P	P	07 12 13.5 +1.6
F52A	Sundridge baz=171,SNR=5.3	78.35	353	P	P	07 12 12.0 +0.2
I41A	Arkdale baz=162	78.36	345	P	P	07 12 11.8 -0.1
I40A	Norwalk baz=162	78.36	345	P	P	07 12 11.6 -0.3
ALGO	Algonquin Park baz=172	78.39	354	P	P	07 12 12.3 +0.3
Q24A	Divide baz=150	78.39	332	P	P	07 12 14.0 +1.4
H42A	Shiocton baz=164	78.51	346	P	P	07 12 12.7 0.0
I39A	Houston baz=161,SNR=11	78.54	344	P	P	07 12 12.6 -0.3
F51A	Arnstein baz=171	78.55	353	P	P	07 12 12.9 0.0
MONP2	Monument Peak baz=141	78.64	321	P	P	07 12 15.1 +1.1
PQI	Presque Isle comp=Z,10nm,0.8s	78.72	1	eP	P	07 12 15.7 +1.9
BC3	Big Chuckawall baz=142,SNR=14	78.72	322	P	P	07 12 15.6 +1.3
E52A	Mattawa baz=172	78.77	353	P	P	07 12 14.1 0.0
E53A	Dumoine, Ponti baz=173	78.77	354	P	P	07 12 14.4 +0.3
F48A	Evansville baz=169	78.78	351	P	P	07 12 14.2 0.0
E54A	Lac Daplat, Po baz=173	78.79	355	P	P	07 12 14.4 +0.3
BOSA	Boshof comp=Z,2.7nm,0.6s,baz=229,slow=9.1,SNR=2.3	78.84	117	P	P	07 12 14.5 -0.8
H41A	Junction City baz=163	78.84	345	P	P	07 12 14.4 -0.2
IRM	Iron Mountain baz=142,SNR=8.2	78.96	323	P	P	07 12 16.9 +1.5
H40A	Chili baz=162	79.01	345	P	P	07 12 15.2 -0.3
E51A	G1948 Merrick baz=171,SNR=8.0	79.10	353	P	P	07 12 16.1 +0.2
E50A	Wahnapitae baz=170	79.13	352	P	P	07 12 16.0 0.0
G42A	Mountain baz=164	79.19	346	P	P	07 12 16.6 +0.2
PFO	Pinyon Flats O comp=Z,19nm,1.1s	79.21	322	eP	P	07 12 18.8 +1.8
PFO	Pinyon Flats O baz=141	79.21	322	P	P	07 12 18.6 +1.6
PV13	Radium Mtn., P	79.22	329	epP	pP	07 12 50.6 +3.1
PV02	Paradox Valley comp=Z,12nm,1.0s	79.22	329	eP	P	07 12 17.7 +0.7
BELC	Belle Mtn. Jos baz=141,SNR=5.8	79.28	322	P	P	07 12 18.9 +1.5
ISCO	Idaho Springs baz=150,SNR=13	79.29	332	P	P	07 12 18.7 +1.2
G41A	Antigo baz=163	79.31	346	P	P	07 12 17.1 -0.1
E48A	Lockeyer baz=169	79.36	351	P	P	07 12 17.4 0.0
U15A	North Rim comp=Z,8.7nm,0.8s	79.36	326	eP	P	07 12 18.8 +0.8
D52A	ZEK Kipawa Sen baz=172,SNR=11	79.43	354	P	P	07 12 18.1 +0.5
D54A	Lac Fusel, La baz=174,SNR=6.1	79.46	355	P	P	07 12 17.6 -0.2
LATQ	La Tuque baz=177	79.48	358	P	P	07 12 18.4 +0.5
E47A	Iron Bridge baz=168	79.49	350	P	P	07 12 17.9 -0.1
H38A	Maiden Rock baz=160	79.49	344	P	P	07 12 17.7 -0.4
F43A	Flat Rock, Esc baz=165	79.52	347	P	P	07 12 18.1 0.0
E46A	Sault Ste Mari baz=167,SNR=6.5	79.56	350	P	P	07 12 18.3 -0.1
MURC	Murrieta baz=141,SNR=5.7	79.59	321	P	P	07 12 20.5 +1.5
F42A	Maple Grove Fa baz=164	79.63	347	P	P	07 12 18.9 +0.1
D51A	Lot 18 Range I baz=171	79.64	353	P	P	07 12 18.8 0.0
LDFC	Landfair comp=Z,12nm,0.8s	79.66	323	eP	P	07 12 20.1 +0.7
E45A	Wooded Hills, baz=166	79.68	349	P	P	07 12 19.4 +0.4
GMRC	Granite Mounta baz=142,SNR=11	79.71	323	P	P	07 12 21.4 +1.7
ECSD	EROS Data Cent baz=157,SNR=23	79.75	340	P	P	07 12 19.7 +0.2
F41A	Three Lakes baz=163	79.80	346	P	P	07 12 20.0 +0.3
G39A	Holcombe baz=162	79.81	345	P	P	07 12 19.6 -0.2
G38A	Ridgeland baz=161	79.86	344	P	P	07 12 19.5 -0.5
D48A	Paudash Townsh baz=169,SNR=5.2	80.00	351	P	P	07 12 20.7 -0.1
E43A	Lone Tree Farm baz=165	80.01	348	P	P	07 12 21.0 +0.2
D46A	Sault St. Mari baz=168	80.03	350	P	P	07 12 20.8 -0.1
D49A	Beulah Townshi	80.04	352	P	P	07 12 21.0 +0.1

baz=170,SNR=8.4
D47A Chapleau 80.05 351 P P 07 12 20.8 -0.2
baz=168
CIS Catalina Islan 80.10 320 P P 07 12 23.1 +1.4
baz=140
SPMN Marine on St. 80.14 343 P P 07 12 21.0 -0.6
baz=160
F40A Park Falls 80.19 345 P P 07 12 22.0 +0.2
baz=162
E42A Champion 80.23 347 P P 07 12 22.3 +0.3
baz=164
BFSC Mount Baldy Ra 80.33 321 P P 07 12 24.3 +1.2
baz=140,SNR=9.4
F39A Loretta 80.35 345 P P 07 12 22.7 0.0
baz=162
TUQ Turquoise Moun 80.36 323 P P 07 12 24.4 +1.3
baz=142,SNR=8.2
N23A Red Feather La 80.36 333 P P 07 12 24.4 +1.1
baz=149,SNR=9.5
F37A Hinrichs Farm, 80.56 344 P P 07 12 23.7 -0.1
baz=160
F38A Pierce - Schro 80.61 344 P P 07 12 24.3 +0.2
baz=161,SNR=5.8
O20A White River Ci 80.63 331 P P 07 12 25.5 +0.9
baz=148,SNR=5.8
E40A Wakefield 80.64 346 P P 07 12 24.5 +0.3
baz=163
GSC Goldstone, Bar 80.70 322 P P 07 12 26.2 +1.2
baz=141,SNR=6.8
E39A Mellen 80.71 345 P P 07 12 24.9 +0.2
baz=162
LBTB Lobatse 80.95 114 *eP* **P 07 12 26.7 0.0**
comp=Z,7.7nm,0.6s
LBTB Lobatse 80.95 114 P P 07 12 26.7 0.0
comp=Z,5.4nm,0.4s,baz=247,slow=6.3,SNR=8.1
D41A Chassel 80.96 347 P P 07 12 26.6 +0.7
baz=164,SNR=6.7
EDW2 Edwards Air Fo 81.00 321 P P 07 12 27.5 +1.0
baz=140,SNR=7.9
SUSD Miller 81.08 339 P P 07 12 26.8 +0.1
baz=155
E38A The Farm, Brul 81.15 345 P P 07 12 26.9 0.0
baz=161
SCZ2 Santa Cruz Isl 81.21 320 P P 07 12 29.2 +1.6
baz=139
LRMC Laurel Mtn Rad 81.30 322 P P 07 12 29.3 +1.2
baz=140,SNR=9.4
LSQQ Lebel-sur-Quev 81.38 355 P P 07 12 28.4 +0.4
baz=174
RWWY Rawlins 81.53 332 *e*pP pP 07 13 00.8 +0.5
TORD Torodi Ar. Bea 81.59 69 P P 07 12 30.3 +0.3
comp=Z,3.6nm,0.7s,baz=283,slow=5.4,SNR=4.8
TORD pP **pP 07 13 00.3 -0.1**
comp=Z,7.0nm,1.0s,baz=218,slow=4.3,SNR=5.1
TOA1 Torodi Ar. Sit 81.59 69 *eP* **P 07 12 30.3 +0.3**
TOA1 *e*pP **pP 07 13 00.3 -0.1**
FURC Furnace Creek, 81.64 323 P P 07 12 31.3 +1.6
baz=141
MPMC Manual Prospec 81.64 322 P P 07 12 31.1 +1.0
baz=141,SNR=6.9
ISA Isabella, Lake 81.85 322 P P 07 12 32.5 +1.5
baz=140
PKM Mcpherson Peak 81.98 320 P P 07 12 33.5 +1.7
baz=139,SNR=7.3
CHGQ Chibougamau 82.07 357 P P 07 12 31.6 -0.1
baz=176,SNR=6.1
K22A Casper 82.09 333 *e*pP pP 07 13 05.2 +2.1
K22A Casper 82.09 333 P P 07 12 33.2 +1.0
baz=149,SNR=8.6
MATQ Matagami 82.13 355 P P 07 12 31.9 0.0
baz=173
CWC Cottonwood Cre 82.24 322 P P 07 12 34.4 +1.3
baz=140
VES Vestal, Richgr 82.31 321 P P 07 12 34.5 +1.3
baz=140,SNR=7.6
SMMC Simmler 82.40 320 P P 07 12 35.7 +2.0
baz=139
EYMN Ely 82.41 345 P P 07 12 33.3 -0.1
baz=161
RSSD Black Hills 82.45 336 *eP* **P 07 12 34.8 +0.7**
comp=Z,20nm,0.9s
RSSD Black Hills 82.45 336 P P 07 12 34.9 +0.7
baz=151
R11A Troy Canyon, C 82.47 325 P P 07 12 35.7 +1.4
baz=142,SNR=17
DUG Dugway, Toodel 82.65 328 P P 07 12 36.1 +0.9
baz=144,SNR=9.6
BW06 Boulder Array 83.38 331 P P 07 12 39.0 +0.1
baz=147,SNR=8.2
PDAR Pinedale Array 83.38 331 P P 07 12 39.1 +0.2
comp=Z,4.6nm,0.7s,baz=137,slow=6.3,SNR=32
MLAC Mammoth, Mammo 83.54 323 P P 07 12 41.5 +1.6
baz=140
AGMN Agassiz Nation 83.76 343 P P 07 12 40.6 +0.2
baz=158
NV01 Mina Array Sit 83.88 323 *e*pP pP 07 13 13.1 +0.6
NVAR Mina Array Bea 83.88 323 P P 07 12 42.6 +1.1
comp=Z,10nm,0.8s,baz=156,slow=6.2,SNR=35
NVAR pP **pP 07 13 13.1 +0.6**
comp=Z,3.2nm,0.9s,baz=152,slow=6.7,SNR=2.9
MDND Maddock 84.36 340 P P 07 12 44.1 +0.6
baz=155
WAKR Walker 84.51 323 *eP* **P 07 12 45.2 +0.5**
comp=Z,16nm,1.0s
YERR Yerington 84.77 323 *e*pP pP 07 13 19.7 +2.7
RLMT Red Lodge 85.23 333 P P 07 12 48.9 +0.7
baz=147,SNR=11
LAO LASA Array 85.45 336 P P 07 12 49.5 +0.4
baz=150,SNR=6.8
ULM Lac du Bonnet 85.57 343 P P 07 12 49.1 -0.3
comp=Z,11nm,0.8s,baz=175,slow=4.8,SNR=10
HLID Hailey 86.07 329 P P 07 12 53.5 +1.1
baz=143,SNR=19
RPZ Rata Peaks 86.28 219 P P 07 12 53.5 +0.1
comp=Z,17nm,0.9s,baz=133,slow=1.9,SNR=6.3
DGMT Dagmar 86.31 338 *e*pP pP 07 13 26.2 +1.9
DGMT Dagmar 86.31 338 P P 07 12 54.1 +0.8
baz=151,SNR=13
BOZ Bozeman (W) 86.56 332 P P 07 12 55.1 +0.4
baz=145,SNR=8.0
SCHQ Schefferville 86.91 1 P P 07 12 54.5 -1.5
comp=Z,3.8nm,0.6s,baz=189,slow=4.9,SNR=5.3
O03E Paynes Creek 87.06 323 P P 07 12 57.1 -0.1
baz=138
EGMT Eagleton 87.85 334 P P 07 13 00.7 0.0
baz=147,SNR=8.2
PLID Pearl Lake 87.97 329 *eP* **P 07 13 02.7 +1.2**
comp=Z,21nm,0.8s
M04C Macdoel 88.18 324 P P 07 13 03.1 +0.6
baz=138
MSO Missoula 88.49 331 P P 07 13 05.0 +1.2
baz=144
L04D Klamath Falls 88.74 324 P P 07 13 06.5 +1.4
baz=138
J05D Fort Rock, OR 89.00 325 P P 07 13 07.5 +1.2
baz=138,SNR=7.4
J04D Umpqua Nationa 89.40 324 P P 07 13 09.2 +0.9
baz=138
I05D Terrebonne, OR 89.84 326 P P 07 13 11.4 +1.3
baz=138,SNR=5.6
I04A Tendick Farm, 89.95 325 P P 07 13 10.8 +0.2
baz=138
YKA Yellowknife Ar 101.28 340 P Pdif 07 14 00.8 -0.8
comp=Z,0.6nm,0.7s,baz=143,slow=5.2,SNR=3.6
YKB5 Yellowknife Ar 101.28 340 *e*Pdif **Pdif 07 14 00.8 -0.8**
TOLK Toolik Lake Re 116.31 336 P PKiKP 07 18 53.8 +0.3
baz=112
BR101 Keskin Array S 119.13 59 *e*PKPdf **PKPdf 07 18 57.4 -2.6**
BRTR Keskin Array B 119.13 59 PKP PKPdf 07 18 57.4 -2.6
comp=Z,1.3nm,0.8s,baz=194,slow=3.7,SNR=5.4
AKASG Malin Array Be 119.50 46 PKP PKPdf 07 18 57.4 -2.7
comp=Z,1.2nm,0.6s,baz=258,slow=2.5,SNR=8.5
ASAR Alice Springs 119.96 205 PKP PKPdf 07 19 00.1 -1.9
comp=Z,1.6nm,0.8s,baz=142,slow=2.1,SNR=7.0
WR1 Warramunga Arr 123.20 207 *e*PKPdf **PKPdf 07 19 07.0 -1.3**
WRA Warramunga Arr 123.20 207 PKP PKPdf 07 19 07.0 -1.3
comp=Z,4.5nm,0.7s,baz=169,slow=1.7,SNR=14
KBZ Khabaz 126.88 57 PKP PKiKP 07 19 15.0 0.0
comp=Z,2.0nm,0.8s,baz=237,slow=7.2,SNR=4.3
ABKAR Akbulak array 138.97 51 *e*PKPdf **PKPdf 07 19 37.5 +0.4**
SEY Seymchan 139.71 332 PKP PKPdf 07 19 37.9 0.0
comp=Z,6.0nm,0.7s,baz=110,slow=2.9,SNR=23
PEA1 Petropavlovsk- 140.59 316 *e*PKPdf **PKPdf 07 19 38.5 -1.4**
PEA1 *e*pPKPdf **pPKPdf 07 20 12.6 -0.3**
PETK Petropavlovsk- 140.59 316 PKP PKPdf 07 19 38.5 -1.4
comp=Z,3.6nm,0.7s,baz=102,slow=5.7,SNR=5.9
PETK pPKP **pPKPdf 07 20 12.6 -0.3**
comp=Z,5.5nm,1.0s,baz=102,slow=6.1,SNR=3.3

BRVK Borovoye 144.55 42 *e*PKPdf **PKPdf 07 19 47.1 +0.3**
BVAR Borovoye Array 144.62 42 PKP PKPdf 07 19 47.0 0.0
comp=Z,4.3nm,0.6s,baz=297,slow=3.1,SNR=30
GAR Garm 146.84 67 *e*PKPdf **PKPbc 07 19 53.6 +0.1**
KK31 Karatay Array 146.84 60 *e*PKPdf **PKPdf 07 19 51.9 +0.7**
KKAR Karatay Array 146.84 60 *e*PKPdf **PKPdf 07 19 51.2 +0.1**
KSM Kuching 149.23 179 *e*PKPbc **PKPbc 07 19 58.3 -2.0**
EKS2 Erkin-Say 149.28 60 P PKiKP 07 20 00.9 +0.1
SNR=5.7
USP Ospenovka 149.72 59 P PKiKP 07 20 01.3 -0.4
SNR=10.0
AAK Ala-Archa 149.81 60 P PKiKP 07 20 02.4 +0.4
SNR=9.8
AAK Ala-Archa 149.81 60 *e*PKPdf **PKPdf 07 19 58.6 +2.4**
UCH Uchtor 149.87 61 P PKiKP 07 20 03.0 +0.5
SNR=8.7
SBUM Sibu 150.16 183 *e*PKPdf **PKPdf 07 19 59.1 +1.6**
KURK Kurchatov 150.22 43 *e*PKPbc **PKiKP 07 20 02.4 0.0**
KZA Kyzart 150.44 61 P PKPbc 07 20 03.1 +0.2
SNR=6.4
TKM2 Tokmak 2 150.57 59 P PKiKP 07 20 03.8 +0.1
SNR=10
IPM Ipoh 150.81 160 *e*PKPbc **PKPbc 07 20 04.0 -0.1**
NRN Naryn 151.07 62 *e*PKPbc **PKPbc 07 20 04.3 0.0**
ULHL Ulahol 151.14 60 P PKiKP 07 20 05.6 +0.8
SNR=5.5
KSH Kashi 151.22 66 PKPbc **PKiKP 07 20 05.3 +0.3**
KSH pPKP pPKPdf 07 20 31.8 +0.8
KSH PP PP 07 23 53.2 +8.8
KSH SKS **SKSdf 07 27 00.6 +5.2**
ZAA1 Zalesovo Array 151.70 33 *e*pPKPdf pPKPdf 07 20 37.6 +6.6
ZAA0 Zalesovo Array 151.70 33 *e*PKPbc **PKiKP 07 20 05.4 +0.1**
ZALV Zalesovo Beam 151.70 33 PKP PKPdf 07 19 58.0 -0.6
comp=Z,1.4nm,0.7s,baz=301,slow=3.9,SNR=27
ZALV PKPbc **PKiKP 07 20 05.2 -0.1**
comp=Z,25nm,0.6s,baz=299,slow=3.2,SNR=78
ZALV pPKPbc **pPKPbc 07 20 37.6 +0.4**
comp=Z,13nm,0.8s,baz=285,slow=3.3,SNR=5.6
MKAR Makanchi Array 154.06 48 PKP PKPdf 07 20 01.2 -1.0
comp=Z,0.7nm,0.7s,baz=294,slow=3.6,SNR=5.2
MKAR PKPbc **PKiKP 07 20 10.7 +0.2**
comp=Z,2.4nm,0.7s,baz=313,slow=1.8,SNR=13
MKAR PKPab **PKPab 07 20 23.6 -0.9**
comp=Z,3.0nm,0.7s,baz=306,slow=4.0,SNR=11
MJAR Matsushiro Arr 156.89 288 PKPab **PKPab 07 20 36.3 -0.7**
comp=Z,3.9nm,0.7s,baz=150,slow=1.9,SNR=6.5
MAJO Matsushiro 156.90 288 *e*PKPab **PKPab 07 20 36.3 -0.7**
WMQ Urumqi 158.76 51 *e*PKP **PKPdf 07 20 08.5 0.0**
CMAR Chiang Mai Arr 162.60 140 PKP PKPdf 07 20 14.0 +0.7
comp=Z,0.9nm,0.5s,baz=241,slow=2.4,SNR=9.7
CMAR pPKP **pPKPdf 07 20 46.5 +0.6**
comp=Z,0.6nm,0.3s,baz=261,slow=2.8,SNR=2.7
CMAR PKPab **PKPab 07 21 01.5 -0.5**
comp=Z,0.7nm,0.7s,baz=229,slow=6.8,SNR=3.1
SONA0 Songino Array 164.26 10 *e*PKPdf **PKPdf 07 20 15.2 +1.0**
SONA0 *e*PKPab **PKPab 07 21 08.4 -0.3**
SONM Songino Array 164.26 10 PKP PKPdf 07 20 15.2 +1.0
comp=Z,0.2nm,0.3s,baz=359,slow=5.8,SNR=2.4
SONM PKPab **PKPab 07 21 08.4 -0.3**
comp=Z,1.7nm,0.7s,baz=333,slow=5.6,SNR=4.9
GTA Gaotai 168.82 48 *e*PKP **PKPdf 07 20 19.1 +1.1**
GTA pPKP pPKPdf 07 20 46.2 -4.4
GTA PKPab **PKPab 07 21 30.0 +0.8**
HHC Hu-ho-hao-te 171.54 355 *e*PKP **PKPdf 07 20 20.7 +1.3**
NJ2 Nanjing 172.99 269 *e*PKP **PKPdf 07 20 20.2 0.0**
LZH Lanzhou 173.32 55 *e*PKP **PKPdf 07 20 20.9 +0.5**
LZH pPKP pPKPdf 07 20 47.1 -6.0
LZH sPKP 07 20 59.8
LZH LR LR
comp=Z,150nm,18.5s
LZH LR LR
comp=Z,170nm,18.3s
LZH LR LR
comp=Z,230nm,20.2s
CD2 Chengdu 173.99 103 PKP **PKPdf 07 20 19.3 -1.4**

ROM 01 07:02:42.7±0.2, 42°.972N±0°.004×12°.989E±0°.005, h10km, ML0.5/4, Error ellipse: s-maj=0.4km s-min=0.1km az=61.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.05**	**102**	P	Pg	07 02 45.1	+0.3
FEMA				S	Sg	07 02 46.8	+0.4
CESI	**CESI - Serrava**	**0.07**	**298**	P	Pg	07 02 45.3	+0.3
CESI				S	Sg	07 02 47.0	+0.3
CESI				AML	AML		
	comp=E,12μm,0.2s						
CESI				AML	AML		
	comp=N,17μm,0.1s						
CESI				AML	AML		
	comp=E,12μm,0.2s						
CESI				AML	AML		
	comp=N,17μm,0.1s						
CESI				AML	AML		
	comp=E,12μm,0.2s						
CESI				AML	AML		
	comp=N,17μm,0.1s						
CESI	**CESI - Serrava**	**0.07**	**298**	P	Pg	07 02 45.3	+0.3
FDMO	**Fiordimonte**	**0.10**	**48**	P	Pg	07 02 45.7	+0.4
FDMO	**Fiordimonte**	**0.10**	**48**	P	Pg	07 02 45.8	+0.5
FDMO				S	Sg	07 02 47.7	+0.5
FDMO				AML	AML		
	comp=E,26μm,0.2s						
FDMO				AML	AML		
	comp=N,32μm,0.1s						
FDMO				AML	AML		
	comp=E,26μm,0.2s						
FDMO				AML	AML		
	comp=N,32μm,0.1s						
FDMO				AML	AML		
	comp=N,32μm,0.1s						
FDMO				AML	AML		
	comp=E,26μm,0.2s						
NRCA	**Norcia**	**0.17**	**146**	P	Pg	07 02 46.9	+0.5
NRCA				S	Sg	07 02 49.8	+0.9
NRCA				AML	AML		
	comp=E,28μm,0.1s						
NRCA				AML	AML		
	comp=N,39μm,0.1s						
NRCA				AML	AML		
	comp=E,28μm,0.1s						
NRCA				AML	AML		
	comp=N,38μm,0.1s						
NRCA				AML	AML		
	comp=N,38μm,0.1s						
NRCA				AML	AML		
	comp=E,28μm,0.1s						
NRCA	**Norcia**	**0.17**	**146**	P	Pg	07 02 46.9	+0.6
CSP1	**Cessapalombo**	**0.20**	**53**	P	Pg	07 02 47.5	+0.6
CSP1				S	Sg	07 02 51.0	+1.1
CSP1	**Cessapalombo**	**0.20**	**53**	P	Pg	07 02 47.5	+0.6
ARRO	**Arrone**	**0.42**	**203**	P	Pg	07 02 43.3	-7.7
ARRO	**Arrone**	**0.42**	**203**	AML	AML		
	comp=E,41μm,0.2s						
ARRO				AML	AML		
	comp=N,50μm,0.1s						
ARRO				AML	AML		
	comp=E,41μm,0.2s						
ARRO				AML	AML		
	comp=N,50μm,0.1s						
MMUR	**Monte Murano**	**0.47**	**1**	P	Pg	07 02 48.1	-3.8
CERA	**Filignano**	**1.57**	**151**	S	Sn	07 03 31.0	0.0
ZCCA	**Zocca**	**2.01**	**314**	S	Sn	07 03 33.0	-8.8
SACR	**S. Croce Del S**	**2.02**	**140**	P	Pn	07 03 14.5	-2.4
SACR	**S. Croce Del S**	**2.02**	**140**	AML	AML		
	comp=E,176μm,0.1s						
SACR				AML	AML		
	comp=E,176μm,0.1s						
SACR				AML	AML		
	comp=N,138μm,0.1s						
SACR				AML	AML		
	comp=N,138μm,0.1s						
MIGL	**Miglionico**	**3.50**	**131**	P	Pb	07 03 41.6	-3.0
T0701	**Viggianello (P**	**3.80**	**141**	P	Pn	07 03 35.2	-6.0
IFIL	**Filicudi I Eol**	**4.56**	**164**	S	Sn	07 04 35.0	-10
PTMD	**Pantelleria Cu**	**6.22**	**187**	P	Pn	07 04 21.8	+7.3

*IDC **01** 07:05:34.4±0.7, 33°.04N×75°.68E, h0km, mb4.0/19, mb1 4.2/22, mb1mx4.0/65, mbtmp4.0/22, ML3.7/3, Error ellipse: s-maj=19.0km s-min=15.7km az=53.0*
*ISCJB **01** 07:05:36.2±0.3, 33°.17N±0°.03×75°.73E±0°.05, h16km, mb4.0/19, Error ellipse: s-maj=6.8km s-min=3.3km az=160.6*
*NEIC **01** 07:05:36.3±2.9, 33°.06N×75°.72E, h10km±3km, mb4.2/3, Error ellipse: s-maj=22.8km s-min=10.5km az=161.0*
*NDI **01** 07:05:39.4±1.2, 33°.05N×75°.67E, h9km±3km, ML4.3*
ISC 01 07:05:37.0±0.5, 33°.14N±0°.04×75°.68E±0°.06, h16km, n55, σ1§99/62, mb4.0/18, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**0.71**	**178**	*e*P	**Pn**	**07 05 51.5**	**-0.8**
THN				*e*S	**Sg**	**07 05 59.5**	**-0.7**
DHRM	**DHARAMSHALA**	**1.03**	**150**	*e*P	**Pn**	**07 05 57.9**	**+0.9**
DHRM				*e*S	**Sn**	**07 06 12.2**	**+1.0**
DHRM				IAML		07 06 17.7	
	comp=N,8μm,0.3s						
DHRM				IAML		07 06 19.2	
	comp=E,12μm,0.4s						
BHK	**Bhakra**	**1.83**	**160**	*e*P	**Pb**	**07 06 09.8**	**-0.3**
BHK				*e*S	**Sb**	**07 06 33.2**	**+0.4**
NIL	**Nilore**	**2.10**	**285**	*e*Pn	**Pn**	**07 06 13.1**	**+1.6**
SMLA	**Simla**	**2.37**	**148**	*e*P	**Pb**	**07 06 18.7**	**-0.5**
SMLA				*e*S	**Sb**	**07 06 46.0**	**-2.2**
SMLA				IAML		07 06 51.0	
	comp=N,10μm,0.4s						
SMLA				IAML		07 06 51.1	
	comp=E,10μm,0.5s						
DDI	**Dehra Dun**	**3.46**	**144**	*e*S	**Sn**	**07 07 11.8**	**+0.8**
DDI				IAML		07 07 25.8	
	comp=E,1μm,0.4s						
DDI				IAML		07 07 25.8	
	comp=N,1μm,0.4s						
JOSI	**Joshimath**	**4.18**	**127**	*e*S	**Sn**	**07 07 28.7**	**-0.3**
AYAN	**Aya Nagar**	**4.81**	**165**	*e*S	**Sn**	**07 07 42.6**	**-1.5**
SONA	**Sohna**	**5.02**	**166**	*e*S	**Sn**	**07 07 47.8**	**-1.6**
KUDL	**Kundal**	**5.03**	**172**	*e*S	**Sn**	**07 07 48.4**	**-1.1**
KUDL				IAML		07 08 17.7	
	comp=E,129nm,3.1s						
KHET	**Khetri**	**5.05**	**179**	*e*S	**Sn**	**07 07 48.8**	**-1.4**
KHET				IAML		07 08 22.1	
	comp=E,163nm,2.7s						
KBL	**Kabul**	**5.70**	**286**	*e*Pn	**Pn**	**07 07 04.0**	**+2.8**
GAR	**Garm**	**7.28**	**325**	*e*Pn	**Pn**	**07 07 24.3**	**+1.5**
GAR				*e*Sg	**Sb**	**07 09 03.3**	**-6.4**
CHGR	**Chuyangaron**	**7.63**	**318**	*e*Pn	**Pn**	**07 07 29.4**	**+1.8**
BTK	**Batken**	**7.93**	**332**	*e*Pn	**Pn**	**07 07 35.1**	**+3.4**
NRN	**Naryn**	**8.28**	**2**	*e*Pn	**Pn**	**07 07 39.1**	**+2.4**
NRN				*e*Sn	**Sn**	**07 09 13.6**	**+3.6**
ARSB	**Arslanbob**	**8.45**	**346**	*e*Pn	**Pn**	**07 07 39.9**	**+1.1**
TARG	**Taragay, Kyrgy**	**8.73**	**11**	*e*Pn	Pn	07 07 48.8	+5.8
KDJ	**Kajisay**	**9.05**	**7**	*e*Pn	**Pn**	**07 07 49.1**	**+1.9**
AAK	**Ala-Archa**	**9.53**	**355**	*e*Pn	**Pn**	**07 07 57.7**	**+4.1**
AAK				*e*Sn	**Sn**	**07 09 36.8**	**-3.6**
AAK	**Ala-Archa**	**9.53**	**355**	Pn	**Pn**	**07 07 56.5**	**+2.9**
	comp=E,0.8nm,0.3s,baz=175,slow=11,SNR=3.2						
AAK				Sn	**Sn**	**07 09 38.5**	**-1.9**
	baz=234,slow=18,SNR=1.6						
MK32	**Makanchi Array**	**14.54**	**18**	*e*Pn	**Pn**	**07 09 03.5**	**+1.5**
MK32				*e*Sn	**Sn**	**07 11 37.4**	**-5.3**
MKAR	**Makanchi Array**	**14.54**	**18**	Pn	**Pn**	**07 09 03.5**	**+1.5**
	comp=E,0.5nm,0.3s,baz=204,slow=13,SNR=7.3						
MKAR				Sn	**Sn**	**07 11 37.4**	**-5.3**
	comp=E,0.1nm,0.3s,baz=205,slow=27,SNR=1.8						
KURBB	**Kurchatov Arra**	**17.59**	**6**	P	**Pn**	**07 09 40.8**	**-0.6**
	comp=E,0.1nm,0.3s,baz=192,slow=11,SNR=3.9						
BVAR	**Borovoye Array**	**20.23**	**351**	P	Pn	07 10 13.7	+0.5
	comp=E,9.5nm,0.6s,baz=160,slow=8.6,SNR=19						
AKTO	**Aktyubinsk**	**21.63**	**328**	P	**P**	**07 10 26.4**	**0.0**
	comp=E,4.2nm,0.8s,baz=141,slow=14,SNR=3.3						
ZALV	**Zalesovo Beam**	**21.79**	**15**	P	**P**	**07 10 28.0**	**0.0**
	comp=E,3.1nm,0.5s,baz=207,slow=11,SNR=6.0						
ZAA1	**Zalesovo Array**	**21.80**	**15**	*e*P	**P**	**07 10 28.0**	**0.0**
CMAR	**Chiang Mai Arr**	**25.46**	**119**	P	**P**	**07 11 05.2**	**+0.8**
	comp=E,2.0nm,0.7s,baz=313,slow=9.7,SNR=3.0						
SONA0	**Songino Array**	**27.36**	**48**	*e*P	**P**	**07 11 22.2**	**+0.7**
SONM	**Songino Array**	**27.36**	**48**	P	**P**	**07 11 22.2**	**+0.7**
	comp=E,1.8nm,0.8s,baz=252,slow=8.9,SNR=2.7						
BR101	**Keskin Array S**	**34.22**	**293**	*e*P	**P**	**07 12 23.9**	**+1.9**
BRTR	**Keskin Array B**	**34.22**	**293**	P	**P**	**07 12 23.9**	**+1.9**
	comp=E,0.5nm,0.8s,baz=114,slow=9.8,SNR=2.5						
AKASG	**Malin Array Be**	**38.05**	**312**	P	**P**	**07 12 54.6**	**+0.1**
	comp=E,1.0nm,0.6s,baz=78,slow=6.9,SNR=2.5						
FIA0	**FINESS Array S**	**42.40**	**327**	*e*P	**P**	**07 13 31.2**	**+0.9**
FINES	**FINESS Array B**	**42.40**	**327**	P	**P**	**07 13 31.3**	**+0.9**
	comp=E,1.7nm,0.8s,baz=99,slow=17,SNR=2.9						
ARA0	**ARCESS Array S**	**45.70**	**338**	*e*P	**P**	**07 13 57.5**	**+0.7**
ARCES	**ARCESS Array B**	**45.70**	**338**	P	**P**	**07 13 57.5**	**+0.7**
	comp=E,2.4nm,0.8s,baz=112,slow=9.4,SNR=10.0						
NB2	**NORSAR Subarra**	**49.36**	**325**	P	**P**	**07 14 26.7**	**+1.3**
	comp=Z,3.4nm,0.9s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**49.36**	**325**	P	**P**	**07 14 25.5**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=108,slow=6.5,SNR=4.4						
MAJO	**Matsushiro**	**50.63**	**68**	*e*P	**P**	**07 14 35.2**	**-0.1**
MJAR	**Matsushiro Arr**	**50.63**	**68**	P	**P**	**07 14 35.2**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=281,slow=11,SNR=4.8						
SEY	**Seymchan**	**55.10**	**33**	P	**P**	**07 15 08.3**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=253,slow=10						
TOA1	**Torodi Ar. Sit**	**69.61**	**273**	*e*P	**P**	**07 16 44.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**69.61**	**273**	P	**P**	**07 16 44.6**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=37,slow=6.6,SNR=4.7						
INK	**Inuvik**	**76.53**	**11**	P	**P**	**07 17 25.7**	**-0.2**
	comp=Z,2.9nm,1.0s,baz=344,slow=6.7,SNR=4.3						
ILAR	**Eielson Array**	**76.89**	**17**	P	**P**	**07 17 27.9**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=301,slow=4.7,SNR=7.1						
ILB	**Eielson Array**	**76.89**	**17**	*e*P	**P**	**07 17 27.9**	**-0.1**
	comp=Z,1.2nm,0.8s						
WR1	**Warramunga Arr**	**76.93**	**124**	*e*P	**P**	**07 17 28.6**	**-0.2**
WRA	**Warramunga Arr**	**76.93**	**124**	P	**P**	**07 17 28.6**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=324,slow=5.4,SNR=5.1						
BOSA	**Boshof**	**77.84**	**224**	P	**P**	**07 17 33.4**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=48,slow=3.7,SNR=6.1						
ASAR	**Alice Springs**	**79.17**	**127**	P	**P**	**07 17 41.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=317,slow=5.4,SNR=4.7						
YKA	**Yellowknife Ar**	**84.34**	**5**	P	**P**	**07 18 09.3**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=344,slow=5.5,SNR=8.0						
YKB5	**Yellowknife Ar**	**84.34**	**5**	*e*P	**P**	**07 18 09.3**	**+1.4**
AGMN	**Agassiz Nation**	**98.57**	**354**	*e*P	Pdif	07 19 15.3	+0.3
	comp=Z,13nm,0.9s						

*BEO **01** 07:10:16.7±1.1, 40°.19N×27°.48E, h0km, ML2.9/5*
*SOF **01** 07:10:24.4, 40°.16N×25°.88E, h14km*
*ISK **01** 07:10:25.7, 40°.32N×25°.71E, h3km, ML2.9/16*
*ATH **01** 07:10:26.9, 40°.32N×25°.72E, h13km±5km, ML2.4/3, Error ellipse: s-maj=5.7km s-min=1.0km az=306.0*
*ISCJB **01** 07:10:26.5±0.3, 40°.32N±0°.02×25°.69E±0°.02, h6km±3km, Error ellipse: s-maj=3.0km s-min=2.5km az=42.9*
*THE **01** 07:10:27.0, 40°.32N×25°.70E, h10km±1km, ML2.5/11, Error ellipse: s-maj=1.2km s-min=0.5km az=39.0*
*DDA **01** 07:10:29.3, 40°.26N×25°.94E, h7km±3km, ML3.3*
ISC 01 07:10:26.3±0.8, 40°.30N±0°.02×25°.67E±0°.02, h15km±6km, n71, σ1§24/101, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.20**	**328**	P	**Pg**	**07 10 31.5**	**+0.4**
SMTH				S	**Sg**	**07 10 34.6**	**+0.3**
SMTH	**Samothraki Isl**	**0.20**	**328**	P	**Pg**	**07 10 31.5**	**+0.4**
SMTH				S	**Sg**	**07 10 34.7**	**+0.3**
SMTH				AML	AML	07 10 34.7	
	comp=E,4531μm,0.1s						
SMTH				AML	AML	07 10 35.3	
	comp=N,7558μm,0.1s						
GOKC	**Gokceada-Canak**	**0.21**	**117**	PG	**Pg**	**07 10 30.9**	**-0.3**
GOKC				SG	**Sg**	**07 10 34.3**	**-0.1**
BOZC	**Bozcaada**	**0.54**	**147**	PG	**Pb**	**07 10 37.5**	**0.0**
BOZC				SG	**Sb**	**07 10 45.1**	**+0.1**
BOZC	**Bozcaada**	**0.54**	**147**	IAML_P			
	comp=Z,13μm,0.1s						
BOZC				*i* P	**Pb**	**07 10 38.1**	**+0.6**
BOZC				*i* S	**Sb**	**07 10 45.1**	**+0.1**
LIA	**Limnos Island**	**0.55**	**223**	P	**Pn**	**07 10 38.4**	**-1.2**
LIA				S	**Sb**	**07 10 46.0**	**+0.8**
LIA	**Limnos Island**	**0.55**	**223**	P	**Pn**	**07 10 38.4**	**-1.2**
LIA				S	**Sn**	**07 10 46.6**	**-1.8**
LIA				AML	AML	07

ALN	**Alexandroupoli**	**0.66**	**25**	PG	**Pb**	**07 10 38.7**	**-0.9**
ALN	**Alexandroupoli**	**0.66**	**25**	P	**Pb**	**07 10 38.8**	**-0.9**
ALN				S	**Sb**	**07 10 47.7**	**-1.0**
ALN	**Alexandroupoli**	**0.66**	**25**	P	**Pb**	**07 10 38.9**	**-0.8**
ALN				S	**Sb**	**07 10 47.6**	**-1.0**
ALN				AML	AML	07 10 48.1	
	comp=N,513μm,0.5s						
ALN				AML	AML	07 10 51.9	
	comp=E,419μm,0.2s						
EZN	**Ezine**	**0.69**	**133**	PG	**Pb**	**07 10 39.6**	**-0.4**
EZN	**Ezine**	**0.69**	**133**	P	**Pg**	**07 10 39.9**	**+0.1**
EZN				S	**Sg**	**07 10 50.0**	**+1.1**
ERIK	**Erikli-Kesan**	**0.74**	**60**	PG	**Pb**	**07 10 39.8**	**-1.1**
THAS	**Thassos island**	**0.79**	**293**	P	**Pg**	**07 10 42.2**	**+0.5**
THAS				S	**Sn**	**07 10 54.4**	**0.0**
THAS	**Thassos island**	**0.79**	**293**	P	**Pg**	**07 10 42.0**	**+0.3**
THAS				S	**Sn**	**07 10 54.6**	**+0.2**
LPK	**Lapseki**	**0.84**	**84**	PG	**Pb**	**07 10 42.1**	**-0.4**
RDO	**Rodhopi**	**0.85**	**353**	PG	**Pb**	**07 10 42.4**	**-0.5**
RDO	**Rodhopi**	**0.85**	**353**	P	**Pb**	**07 10 42.7**	**-0.2**
RDO				S	**Sg**	**07 10 55.0**	**+0.8**
RDO	**Rodhopi**	**0.85**	**353**	P	**Pb**	**07 10 42.7**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.87**	**129**	*i* P	**Pg**	**07 10 43.5**	**+0.2**
GPNR	**Gulpinar-Canak**	**0.91**	**157**	PG	**Pn**	**07 10 44.2**	**-0.4**
KESN	**Edirne-Kesan**	**0.93**	**55**	IAML_P			
	comp=Z,1μm,0.1s						
KESN				*i* P	**Pb**	**07 10 44.1**	**-0.3**
KESN				*i* S	**Sb**	**07 10 57.1**	**+0.4**
SIGR	**SIGRI**	**1.09**	**172**	PN	**Pg**	**07 10 47.6**	**+0.1**
SIGR	**SIGRI**	**1.09**	**172**	P	**Pg**	**07 10 47.5**	**+0.1**
SIGR				S	**Sg**	**07 11 03.4**	**+1.7**
SIGR	**SIGRI**	**1.09**	**172**	P	**Pg**	**07 10 47.5**	**+0.1**
SIGR				S	**Sg**	**07 11 03.4**	**+1.7**
KAVA	**Kavala**	**1.12**	**309**	P	**Pg**	**07 10 48.3**	**+0.3**
KAVA				S	**Sg**	**07 11 03.5**	**+0.8**
KAVA	**Kavala**	**1.12**	**309**	P	**Pg**	**07 10 48.3**	**+0.3**
PRK	**Paraskevi**	**1.15**	**156**	P	**Pg**	**07 10 49.5**	**+1.0**
PRK				S	**Sg**	**07 11 05.7**	**+2.3**
PRK	**Paraskevi**	**1.15**	**156**	P	**Pg**	**07 10 49.7**	**+1.2**
RKY	**Sarkoy-Tekirda**	**1.21**	**71**	PN	**Pn**	**07 10 48.5**	**-0.3**
KRBG	**Karabiga-Canak**	**1.25**	**85**	PN	**Pb**	**07 10 49.4**	**-0.1**
AYVA	**Ayvalik**	**1.26**	**141**	IAML_P			
	comp=Z,1μm,0.2s						
AYVA				*i* P	**Pg**	**07 10 51.7**	**+1.1**
OUR	**Ouranopolis**	**1.29**	**272**	PN	**Pb**	**07 10 50.3**	**0.0**
OUR	**Ouranopolis**	**1.29**	**272**	P	**Pb**	**07 10 50.4**	**0.0**
OUR				S	**Sg**	**07 11 08.5**	**+0.4**
OUR	**Ouranopolis**	**1.29**	**272**	P	**Pb**	**07 10 50.4**	**0.0**
KDZ	**Kurdzhali**	**1.36**	**352**	PN	**Pb**	**07 10 51.9**	**+0.3**
KDZ	**Kurdzhali**	**1.36**	**352**	*i* P	**Pg**	**07 10 55.1**	**+2.5**
KNL	**Balıkesir**	**1.42**	**90**	IAML_P			
	comp=Z,4μm,0.2s						
KNL				*i* P	**Pb**	**07 10 52.8**	**+0.3**
KNL				*i* S	**Sg**	**07 11 11.8**	**-0.3**
MRMT	**Marmara Adasi**	**1.50**	**78**	PN	**Pn**	**07 10 53.2**	**+0.4**
GONE	**Gonen-Balikesi**	**1.56**	**99**	PN	**Pb**	**07 10 54.9**	**0.0**
RZN	**Rozhen**	**1.57**	**333**	*i* P	**Pb**	**07 10 54.6**	**-0.5**
PAIG	**Paliouri**	**1.57**	**257**	P	**Pn**	**07 10 54.0**	**+0.3**
TKR	**Tekirdag**	**1.58**	**63**	PN	**Pb**	**07 10 54.8**	**-0.4**
BALY	**Balya**	**1.60**	**110**	IAML_P			
	comp=Z,908nm,0.2s						
BALY				*i* P	**Pb**	**07 10 55.4**	**-0.1**
BALY				*i* S	**Sg**	**07 11 17.8**	**+0.1**
EDC	**Edincik**	**1.68**	**88**	PN	**Pb**	**07 10 56.2**	**-0.7**
PLG	**Polygyros**	**1.70**	**273**	P	**Pb**	**07 10 56.2**	**-1.2**
ZEDA	**zmir-Bergama**	**1.72**	**140**	*i* P	**Pb**	**07 10 57.3**	**-0.2**
ZEDA				*i* S	**Sg**	**07 11 20.5**	**-1.0**
NVR	**Nevrokopi**	**1.73**	**308**	P	**Pn**	**07 10 55.8**	**-0.1**
EDRB	**Edirne**	**1.75**	**27**	PN	**Pb**	**07 10 57.5**	**-0.6**
DIM	**Dimitrovgrad**	**1.75**	**357**	*i* P	**Pn**	**07 10 57.1**	**+0.9**
SRS	**Serrai**	**1.78**	**298**	P	**Pn**	**07 10 56.4**	**-0.2**
AOS	**Alonnisos**	**1.78**	**231**	P	**Pb**	**07 10 57.4**	**-1.3**
AOS				S	**Sb**	**07 11 21.5**	**+0.7**
AOS	**Alonnisos**	**1.78**	**231**	P	**Pg**	**07 11 00.3**	**-0.2**
BALB	**Balikesir**	**1.82**	**110**	PN	**Pb**	**07 10 58.1**	**-1.2**
CHOS	**Chios island**	**1.93**	**171**	P	**Pn**	**07 10 59.6**	**+0.9**
CHOS				S	**Sb**	**07 11 24.1**	**-1.1**
PLD	**Plovdiv**	**1.95**	**338**	PN	**Pb**	**07 11 00.3**	**-1.2**
PLD	**Plovdiv**	**1.95**	**338**	*e*Pn	**Pg**	**07 11 03.2**	**-0.5**
PLD				*e*Sn	Sg	07 11 38.3	+9.3
PLD	**Plovdiv**	**1.95**	**338**	*i* P	**Pb**	**07 11 02.5**	**+1.0**
MMB	**Musomiste**	**1.96**	**312**	*i* P	**Pb**	**07 11 01.4**	**-0.3**
KCTX	**Karacabey (Bur**	**2.05**	**90**	PN	**Pn**	**07 11 01.7**	**+1.4**
URLA	**Izmir**	**2.06**	**159**	*i* P	**Pb**	**07 11 02.0**	**-1.5**
SLVT	**Silivri**	**2.14**	**63**	PN	**Pn**	**07 11 02.9**	**+1.4**
CTYL	**Yalikoy Yolu**	**2.31**	**58**	PN	**Pn**	**07 11 05.4**	**+1.6**
KKB	**Krupnik**	**2.51**	**310**	*i* P	**Pn**	**07 11 07.2**	**+0.6**
VTS	**Vitosha**	**2.96**	**322**	*e*Pn	**Pb**	**07 11 19.5**	**+0.7**
VTS				*e*Sn	**Sg**	**07 12 05.3**	**+4.0**
BOSS	**Bosilegrad**	**3.25**	**314**	*e*Pn	**Pb**	**07 11 24.5**	**+0.7**
BOSS				*e*Sn	**Sg**	**07 12 15.6**	**+4.7**
ZAPS	**Zavoj**	**3.74**	**324**	*e*Pn	**Pb**	**07 11 29.0**	**-3.1**
ZAPS				*e*Sn	**Sg**	**07 12 22.9**	**-3.6**
BARS	**Barje**	**3.83**	**312**	*e*Pn	**Pb**	**07 11 31.3**	**-2.4**
BARS				*e*Sn	**Sg**	**07 12 29.5**	**0.0**
BOVS	**Bovan**	**4.46**	**320**	*e*Pn	**Pb**	**07 11 39.8**	**-4.5**

*IDC **01** 07:13:20.5±3.6, 21°.70N×143°.00E, h288km±34km, mb3.5/19, mb1 3.7/20, mb1mx3.5/44, mbtmp4.2/20, Error ellipse: s-maj=17.0km s-min=12.0km az=90.0*
*ISCJB **01** 07:13:21.1±0.7, 21°.7N±0°.1×143°.0E±0°.2, h311km, mb3.8/18, Error ellipse: s-maj=19.5km s-min=14.3km az=178.1*

ISC 01 07:13:22.5±0.7, 21°.7N±0°.1×143°.0E±0°.2, h311km, n23, σ0s87/25, mb3.8/18, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.36**	**345**	P	**P**	**07 16 41.6**	**-1.3**
	0.1nm,0.3s,baz=168,slow=10,SNR=3.2						
KSRS	**Korea Array**	**20.42**	**324**	P	**P**	**07 17 37.0**	**+0.2**
	3.7nm,0.6s,baz=145,slow=8.8,SNR=16						
KLR	**Kul'dur**	**28.89**	**345**	P	**P**	**07 18 51.7**	**-1.4**
	7.0nm,0.6s,baz=160,slow=7.7,SNR=24						
SONM	**Songino Array**	**39.23**	**321**	P	**P**	**07 20 21.9**	**+0.3**
	0.5nm,0.3s,baz=136,slow=9.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**41.42**	**274**	P	**P**	**07 20 41.1**	**+1.5**
	1.0nm,0.5s,baz=79,slow=6.7,SNR=7.2						
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**07 20 45.6**	**-0.7**
	1.9nm,0.3s,baz=13,slow=8.8,SNR=7.0						
ASAR	**Alice Springs**	**45.97**	**192**	P	**P**	**07 21 14.4**	**-1.1**
	0.5nm,0.5s,baz=16,slow=12,SNR=11						
ZALV	**Zalesovo Beam**	**54.11**	**322**	P	**P**	**07 22 16.4**	**+0.7**
	1.0nm,0.3s,baz=106,slow=11,SNR=3.5						
ZALV				PcP	**PcP**	**07 23 15.4**	**-0.8**
	1.6nm,0.4s,baz=126,slow=3.8,SNR=3.6						
MKAR	**Makanchi Array**	**54.58**	**313**	P	**P**	**07 22 19.8**	**+0.4**
	0.8nm,0.5s,baz=89,slow=9.3,SNR=7.4						
MKAR				PcP	**PcP**	**07 23 18.4**	**+0.2**
	0.6nm,0.5s,baz=82,slow=4.2,SNR=4.3						
ILAR	**Eielson Array**	**62.10**	**27**	P	**P**	**07 23 10.6**	**0.0**
	1.6nm,0.6s,baz=259,slow=5.2,SNR=22						
INK	**Inuvik**	**67.62**	**24**	P	**P**	**07 23 46.8**	**+0.9**
	1.3nm,0.6s,baz=297,slow=5.9,SNR=11						
AKTO	**Aktyubinsk**	**70.46**	**317**	P	**P**	**07 24 03.0**	**-0.6**
	1.1nm,0.4s,baz=90,slow=2.0,SNR=3.2						
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	**07 24 39.2**	**+0.8**
	2.1nm,0.5s,baz=291,slow=5.9,SNR=37						
ARCES	**ARCESS Array B**	**78.86**	**341**	P	**P**	**07 24 52.1**	**+0.9**
	3.6nm,0.6s,baz=75,slow=8.6,SNR=25						
KBZ	**Khabaz**	**82.25**	**314**	P	**P**	**07 25 10.8**	**+1.2**
	3.2nm,0.8s,baz=79,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**83.11**	**334**	P	**P**	**07 25 13.3**	**-0.2**
	2.8nm,0.4s,baz=61,slow=4.5,SNR=34						
NVAR	**Mina Array Bea**	**83.25**	**51**	P	**P**	**07 25 15.7**	**+0.6**
	2.4nm,0.7s,baz=273,slow=5.0,SNR=9.4						
AKASG	**Malin Array Be**	**87.41**	**324**	P	**P**	**07 25 33.6**	**-1.3**
	0.2nm,0.3s,baz=52,slow=5.7,SNR=3.5						
NOA	**NORSAR Array B**	**88.88**	**339**	P	**P**	**07 25 41.3**	**-0.4**
	0.3nm,0.6s,baz=44,slow=4.9,SNR=3.1						
BRTR	**Keskin Array B**	**90.22**	**313**	P	**P**	**07 25 47.5**	**-1.0**
	0.4nm,0.6s,baz=90,slow=2.9,SNR=3.3						
PLCA	**Paso Flores**	**145.88**	**131**	PKPbc	**PKPab**	**07 32 26.9**	**0.0**
	1.7nm,0.9s,baz=302,slow=3.5,SNR=7.2						
MDP	**Montagnes des**	**149.25**	**32**	PKPbc	**PKPbc**	**07 32 35.8**	**+0.3**
	2.5nm,0.5s,baz=297,slow=5.4,SNR=6.5						
LPAZ	**La Paz**	**150.09**	**85**	PKPbc	**PKiKP**	**07 32 39.5**	**+0.6**
	2.3nm,0.5s,baz=286,slow=1.1,SNR=16						

*ISCJB **01** 07:20:05.0±1.2, 56°.41N±0°.05×11°.7E±0°.1, h10km, Error ellipse: s-maj=13.1km s-min=5.2km az=152.9*
*UPP **01** 07:20:04.3±0.4, 56°.41N×11°.67E, h0km, ML2.5, Suspected explosion*

ISC 01 07:20:05.2±1.5, 56°.41N±0°.05×11°.74E±0°.09, h10km, n11, σ0s98/15, Denmark

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FABU	**Falkenberg**	**0.80**	**42**	P	**Pg**	**07 20 19.9**	**-0.6**
COP	**Copenhagen**	**0.83**	**152**	*i* P	**Pg**	**07 20 20.9**	**-0.2**
ONAU	**Onsala**	**0.99**	**6**	P	**Pg**	**07 20 22.9**	**-1.4**
ONAU				S	**Sg**	**07 20 37.1**	**0.0**
DEL	**Delary**	**1.19**	**86**	P	**Pn**	**07 20 26.9**	**-0.9**
DEL				S	**Sb**	**07 20 43.3**	**+0.2**
LUNU	**Lund**	**1.24**	**129**	P	**Pn**	**07 20 27.8**	**-0.8**
LUNU				S	**Sn**	**07 20 46.3**	**+1.1**
BORU	**Boraas**	**1.35**	**24**	P	**Pn**	**07 20 29.5**	**-0.6**
GNOU	**Gnosjoe**	**1.41**	**51**	P	**Pn**	**07 20 30.9**	**-0.1**
TJOU	**Tjoern**	**1.62**	**358**	P	**Pn**	**07 20 33.8**	**0.0**
TJOU				S	**Sb**	**07 20 55.8**	**+0.1**
VXJU	**Vaexsjoe**	**1.84**	**73**	P	**Pn**	**07 20 37.8**	**+1.0**
FKPU	**Falk**	**2.06**	**31**	P	**Pn**	**07 20 41.5**	**+1.8**
VANU	**Vaenersborg**	**2.09**	**5**	P	**Pn**	**07 20 41.7**	**+1.4**

NDI 01 07:42:55.8±1.1, 33°.09N×75°.54E, h8km±4km, ML3.3, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**1.06**	**142**	*e*P	Pg	07 43 16.1	-0.1
DHRM				*e*S	Sb	07 43 31.3	+0.6
DHRM				IAML		07 43 35.6	
	comp=N,1μm,0.2s						
DHRM				IAML		07 43 35.7	
	comp=E,2μm,0.2s						
BHK	**Bhakra**	**1.83**	**156**	*ex*	Pn	07 43 26.0	-1.6
BHK				*e*S	Sn	07 43 51.2	+0.1
SMLA	**Simla**	**2.40**	**144**	*e*P	Pn	07 43 36.4	+1.0
SMLA				*e*S	Sn	07 44 04.5	-0.5
SMLA				IAML		07 44 05.5	
	comp=N,191nm,0.2s						
SMLA				IAML		07 44 09.4	
	comp=E,370nm,0.2s						
DDI	**Dehra Dun**	**3.50**	**141**	*e*S	Sn	07 44 30.4	-1.9
DDI				IAML		07 44 34.0	
	comp=E,172nm,0.1s						
DDI				IAML		07 44 34.1	
	comp=N,243nm,0.1s						
JOSI	**Joshimath**	**4.26**	**125**	*e*S	Sn	07 44 49.4	-1.9
JOSI				IAML		07 44 53.9	
	comp=E,44nm,0.7s						
KUDL	**Kundal**	**5.00**	**170**	*e*P	Pn	07 44 06.9	-4.3
KUDL				*e*S	Sn	07 45 02.4	-6.8
KUDL				IAML		07 45 19.3	
	comp=E,7.5nm,0.9s						
SONA	**Sohna**	**5.01**	**164**	*e*S	Sn	07 45 06.5	-2.9

*IDC **01** 07:44:47.6±2.4, 33°.16N×75°.72E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/43, mbtmp3.5/8, ML3.0/2, MS3.7/2, Ms1 3.7/2, ms1mx3.2/39, Error ellipse: s-maj=52.2km s-min=25.8km az=54.0*
*NDI **01** 07:44:54.3±0.8, 33°.21N×75°.89E, h4km±3km, ML3.4*

ISC 01 07:44:50.8±0.9, 33°.23N±0°.06×75°.5E±0°.1, h28km, n17, σ2s26/19, mb3.5/5, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**1.18**	**145**	*e*P	**Pb**	**07 45 13.7**	**+1.0**
DHRM				*e*S	**Sb**	**07 45 28.5**	**+0.8**
DHRM				IAML		07 45 30.5	
	comp=E,2μm,0.3s						
DHRM				IAML		07 45 30.6	
	comp=N,1μm,0.2s						
BHK	**Bhakra**	**1.96**	**157**	*e*P	**Pb**	**07 45 27.8**	**+1.9**
SMLA	**Simla**	**2.52**	**146**	*e*P	**Pb**	**07 45 33.6**	**-1.7**
SMLA				*e*S	**Sn**	**07 46 03.1**	**+3.5**
SMLA				IAML		07 46 05.9	
	comp=E,638nm,0.5s						
SMLA				IAML		07 46 06.0	
	comp=N,516nm,0.4s						
DDI	**Dehra Dun**	**3.62**	**142**	*e*S	**Sn**	**07 46 28.7**	**+1.9**
JOSI	**Joshimath**	**4.35**	**127**	*e*S	**Sn**	**07 46 44.3**	**-0.9**
JOSI				IAML		07 47 10.9	
	comp=E,146nm,0.8s						
JOSI				IAML		07 47 11.4	
	comp=N,86nm,0.3s						
KUDL	**Kundal**	**5.13**	**170**	*e*S	**Sn**	**07 47 07.1**	**+2.9**
KUDL				IAML		07 47 29.9	
	comp=N,25nm,0.4s						
KUDL				IAML		07 47 32.7	
	comp=E,38nm,0.5s						
SONA	**Sohna**	**5.14**	**164**	*e*P	**Pn**	**07 46 03.5**	**-2.4**
SONA				*e*S	**Sn**	**07 46 59.0**	**-5.3**
SONA				IAML		07 47 30.3	
	comp=E,35nm,0.7s						
SONA				IAML		07 47 31.1	
	comp=N,36nm,0.8s						
AAK	**Ala-Archa**	**9.43**	**355**	Pn	**Pn**	**07 47 03.5**	**-1.4**
	comp=N,0.3nm,0.3s,baz=180,slow=19,SNR=3.4						
AAK				Sn	**Sn**	**07 48 49.4**	**-0.7**
	comp=N,0.2nm,0.3s,baz=130,slow=17,SNR=2.3						
AAK				LR	LR	07 50 47.4	
	comp=N,388nm,18.6s,baz=278,slow=38						
MKAR	**Makanchi Array**	**14.50**	**19**	Pn	**Pn**	**07 48 14.0**	**-0.1**
	comp=N,0.1nm,0.3s,baz=196,slow=15,SNR=3.2						
KURBB	**Kurchatov Arra**	**17.53**	**6**	P	**Pn**	**07 48 52.3**	**-0.7**
	comp=N,0.0nm,0.3s,baz=193,slow=11,SNR=4.4						
BVAR	**Borovoye Array**	**20.13**	**351**	P	Pn	07 49 25.2	+0.8
	comp=N,1.8nm,0.4s,baz=165,slow=10,SNR=12						
AKTO	**Aktyubinsk**	**21.49**	**328**	P	**P**	**07 49 40.2**	**+3.1**
	comp=N,1.2nm,0.5s,baz=137,slow=7.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**21.75**	**15**	P	**P**	**07 49 39.7**	**-0.2**
	comp=N,0.7nm,0.4s,baz=217,slow=11,SNR=3.6						
CMAR	**Chiang Mai Arr**	**25.63**	**119**	P	**P**	**07 50 17.4**	**-0.7**
	comp=N,0.6nm,0.3s,baz=316,slow=10.0,SNR=4.1						
SONM	**Songino Array**	**27.42**	**49**	P	**P**	**07 50 35.1**	**+1.0**
	comp=N,0.3nm,0.7s,baz=254,slow=8.5,SNR=2.5						
TGY	**Tagaytay City**	**45.35**	**104**	LR	LR	08 12 46.6	
	comp=N,104nm,18.5s,baz=248,slow=37						
YKA	**Yellowknife Ar**	**84.27**	**5**	P	**P**	**07 57 19.6**	**+0.1**
	comp=N,0.1nm,0.4s,baz=342,slow=5.6,SNR=4.5						

*DDA **01** 07:47:22.4, 37°.32N×37°.10E, h6km±1km, ML3.5*
*ISK **01** 07:47:22.1, 37°.31N×37°.13E, h8km, ML2.6/6*
*ISCJB **01** 07:47:23.2±0.6, 37°.26N±0°.04×37°.07E±0°.05, h2km±7km, Error ellipse: s-maj=7.7km s-min=4.6km az=143.5*

ISC 01 07:47:22.7±1.0, 37°.29N±0°.04×37°.12E±0°.03, h8km±8km, n15, σ0s79/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.14**	**148**	PG	**Pg**	**07 47 25.7**	**0.0**
GAZ				SG	**Sg**	**07 47 28.8**	**+1.1**
HCB	**Kahramanmara**	**0.18**	**288**	*i* P	**Pg**	**07 47 26.3**	**-0.1**
KMRS	**Kahramanmaras**	**0.28**	**321**	PG	**Pg**	**07 47 27.8**	**-0.5**
KMRS				SG	**Sg**	**07 47 32.1**	**+0.1**
AYKD	**Aykdinkavak**	**0.28**	**297**	IAML_P			
	comp=Z,35μm,0.1s						
AYKD				*i* P	**Pb**	**07 47 28.7**	**-1.3**
AYKD				*i* S	**Sg**	**07 47 32.0**	**0.0**
GZT	**Gaziantep**	**0.36**	**79**	IAML_P			
	comp=Z,15μm,0.1s						
GZT				*i* P	**Pb**	**07 47 30.3**	**-1.2**
KAMA	**Osmaniye**	**0.38**	**254**	*i* P	**Pg**	**07 47 30.3**	**+0.2**
KUZU	**Kuzuini**	**0.52**	**184**	IAML_P			
	comp=Z,16μm,0.2s						
KUZU				*i* P	**Pb**	**07 47 33.5**	**-0.6**
KUZU				*i* S	**Sb**	**07 47 42.1**	**+0.4**
ANDN	**Andirin**	**0.68**	**295**	*i* P	**Pb**	**07 47 36.1**	**-0.8**
ELBS	**KAHRAMANMARAS**	**1.03**	**1**	*i* P	**Pn**	**07 47 44.8**	**+1.1**
ELBS				*i* S	**Sn**	**07 47 59.7**	**+1.2**
KOZT	**Kozan**	**1.05**	**281**	PG	**Pb**	**07 47 42.9**	**-0.2**
SAIM	**ADANA**	**1.07**	**310**	IAML_P			
	comp=Z,3μm,0.2s						
SAIM				*i* P	**Pb**	**07 47 43.0**	**-0.6**
SAIM				*i* S	**Sn**	**07 48 00.3**	**+0.9**
CEYT	**Ceyhan**	**1.13**	**256**	PN	**Pn**	**07 47 44.5**	**-0.4**
TAHT	**Tahtakopru-Hat**	**1.18**	**220**	PN	**Pg**	**07 47 44.8**	**-0.6**
YURE	**YUREGIR**	**1.28**	**249**	PN	**Pg**	**07 47 47.1**	**-0.1**
URFA	**Urfa**	**1.36**	**83**	PN	**Pn**	**07 47 47.7**	**-0.5**

MEX 01 07:54:44.2±0.4, 16°.89N×100°.35W, h15km±1km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.18**	**27**	*i* P	Pg	07 54 47.8	-0.7
CAIG				*e*S	Sg	07 54 51.1	-0.3
MEIG	**Mezcala**	**1.25**	**34**	*e*P	Pn	07 55 03.4	-3.9
MEIG				*e*S	Sb	07 55 18.3	-5.2
ZIIG	**Zihuatanejo**	**1.28**	**304**	*e*P	Pn	07 55 04.8	-2.8
ZIIG				*i* S	Sb	07 55 19.2	-5.2
ARIG	**Puente Sto Nin**	**1.39**	**0**	*e*P	Pn	07 55 05.3	-3.8
ARIG				*e*S	Sn	07 55 22.3	-4.9
PLIG	**Platanillo**	**1.70**	**28**	*e*P	Pn	07 55 10.1	-3.4
PLIG				*i* S	Sn	07 55 30.3	-4.8
PNIG	**Pinotepa**	**2.19**	**103**	*i* P	Pn	07 55 17.4	-2.7
PNIG				*i* S	Sn	07 55 42.8	-4.2

*ISCJB **01** 07:54:48.6±0.3, 63°.80N±0°.02×148°.48W±0°.05, h105km±3km, mb3.4/3, Error ellipse: s-maj=3.8km s-min=3.3km az=24.4*
*IDC **01** 07:54:49.0±1.6, 63°.74N×148°.55W, h83km±18km, mb3.2/3, mb1 3.6/6, mb1mx3.2/44, mbtmp3.6/6, Error ellipse: s-maj=24.8km s-min=18.7km az=130.0*
*NEIC **01** 07:54:49.9±0.0, 63°.77N×148°.48W, h96km, ML3.2(AEIC), After AEIC.*

ISC 01 07:54:49.5±0.8, 63°.78N±0°.03×148°.50W±0°.03, h103km±6km, n81, σ1s18/99, mb3.5/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCK	**McKinley**	**0.20**	**257**	*e*Pn	**Pn**	**07 55 03.9**	**-0.2**
MCK				*e*Sn	**Sn**	**07 55 14.7**	**-0.3**
RND	**Reindeer**	**0.40**	**203**	*e*Pn	**Pn**	**07 55 04.8**	**-0.3**
RND				*e*Sn	**Sn**	**07 55 15.9**	**-0.8**
BWN	**Browne**	**0.58**	**313**	*e*Pn	**Pn**	**07 55 06.0**	**-0.2**
BWN				*e*Pn	Pn	07 55 06.0	-0.2
WRH	**Wood River Hil**	**0.72**	**14**	*e*Pn	**Pn**	**07 55 07.2**	**-0.1**
WRH				*e*Sn	**Sn**	**07 55 20.1**	**-0.7**
TRF	**Thorofare Moun**	**0.86**	**248**	*e*Pn	**Pn**	**07 55 08.9**	**+0.1**
TRF				*e*Sn	**Sn**	**07 55 23.3**	**-0.1**
DHY	**Denali Highway**	**0.87**	**144**	*e*Pn	**Pn**	**07 55 09.0**	**+0.1**
DHY				*e*Sn	**Sn**	**07 55 22.7**	**-0.8**
CCB	**Clear Creek Bu**	**0.93**	**19**	*e*Pn	**Pn**	**07 55 09.1**	**-0.1**
CCB				*e*Sn	**Sn**	**07 55 23.1**	**-1.1**
HDA	**Harding Lake**	**0.93**	**46**	*e*Pn	**Pn**	**07 55 09.3**	**0.0**
PS08	**TAPS Pump Stn8**	**1.06**	**43**	*e*Pn	**Pn**	**07 55 10.6**	**-0.2**
COLA	**College**	**1.14**	**14**	*e*Pn	**Pn**	**07 55 11.6**	**+0.1**
COLA				*e*Sn	**Sn**	**07 55 27.4**	**-0.8**
BPAW	**Bear Paw Mtn.**	**1.14**	**288**	*e*Pn	**Pn**	**07 55 11.5**	**-0.2**
BPAW				*e*Sn	**Sn**	**07 55 27.7**	**-0.7**
MDM	**Murphy Dome**	**1.19**	**6**	*e*Pn	**Pn**	**07 55 12.3**	**+0.1**
MDM				*e*Sn	**Sn**	**07 55 28.7**	**-0.8**
ILAR	**Eielson Array**	**1.22**	**35**	*e*Pn	**Pn**	**07 55 11.7**	**-0.8**
ILAR				*e*Sn	**Sn**	**07 55 28.7**	**-1.3**
ILAR	**Eielson Array**	**1.22**	**35**	P	**Pn**	**07 55 12.2**	**-0.4**
	29nm,0.3s,baz=217,slow=11,SNR=2063						
ILAR				S	**Sn**	**07 55 28.2**	**-1.8**
	43nm,0.3s,baz=216,slow=21,SNR=39						
ILB	**Eielson Array**	**1.22**	**35**	*e*Pn	**Pn**	**07 55 12.2**	**-0.4**
PS09	**TAPS Pump Stn9**	**1.22**	**82**	*e*Pn	**Pn**	**07 55 12.6**	**0.0**
PS10	**TAPS Pump St10**	**1.27**	**105**	*e*Pn	**Pn**	**07 55 13.7**	**+0.5**
MLY	**Manley**	**1.59**	**323**	*e*Pn	**Pn**	**07 55 17.0**	**0.0**
PAX	**Paxson**	**1.59**	**119**	*e*Pn	**Pn**	**07 55 17.0**	**-0.1**
PAX				*e*Sn	**Sn**	**07 55 37.9**	**0.0**
RIDG	**Independent Ri**	**1.63**	**90**	*e*Pn	**Pn**	**07 55 17.4**	**-0.1**
RIDG				*e*Sn	**Sn**	**07 55 37.3**	**-1.5**
CAST	**Castle Rocks**	**1.64**	**259**	*e*Pn	**Pn**	**07 55 17.2**	**-0.4**
CHUM	**Lake Minchumin**	**1.69**	**275**	*e*Pn	**Pn**	**07 55 18.2**	**0.0**
PPLA	**Purkeypile**	**1.88**	**244**	*e*Pn	**Pn**

σ2°00/54, mb3.8/14, 8C-3D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**1.01**	**153**	*eP*	**Pn**	**08 00 09.6**	**+1.0**
DHRM				*eS*	**Sn**	**08 00 25.7**	**+2.8**
DHRM				IAML		08 00 29.0	
	comp=E,5μm,0.2s						
DHRM				IAML		08 00 29.2	
	comp=N,9μm,0.2s						
SMLA	**Simla**	**2.34**	**149**	*eP*	**Pb**	**08 00 29.7**	**-0.8**
SMLA				*eS*	**Sn**	**08 00 57.8**	**+2.2**
SMLA				IAML		08 01 04.0	
	comp=E,2μm,0.0s						
SMLA				IAML		08 01 05.5	
DDI	**Dehra Dun**	**3.43**	**145**	*eS*	**Sn**	**08 01 24.1**	**+1.5**
JOSI	**Joshimath**	**4.14**	**128**	*eP*	**Pn**	**08 00 54.4**	**+2.7**
JOSI				*eS*	**Sn**	**08 01 41.4**	**+1.2**
JOSI				IAML		08 02 02.5	
	comp=E,227nm,0.6s						
JOSI				IAML		08 02 03.1	
	comp=N,938nm,0.9s						
NDI	**New Delhi**	**4.63**	**164**	*eS*	**Sn**	**08 01 52.0**	**0.0**
SONA	**Sohna**	**5.02**	**167**	*ex*	**Sn**	**08 02 04.6**	**+3.0**
SONA				IAML		08 02 23.1	
	comp=E,118nm,0.8s						
SONA				IAML		08 02 23.9	
	comp=N,39nm,0.4s						
KUDL	**Kundal**	**5.03**	**173**	*eP*	**Pn**	**08 01 01.4**	**-2.3**
KUDL				*eS*	**Sn**	**08 01 57.0**	**-4.9**
KUDL				IAML		08 02 33.3	
	comp=N,89nm,0.3s						
KUDL				IAML		08 02 34.1	
	comp=E,108nm,0.5s						
KHET	**Khetri**	**5.06**	**180**	*eP*	**Pn**	**08 01 05.3**	**+1.1**
KHET				*eS*	**Sn**	**08 02 01.7**	**-1.0**
KHET				IAML		08 02 26.5	
	comp=N,77nm,0.3s						
KHET				IAML		08 02 27.3	
	comp=E,101nm,0.2s						
PYUN	**Piuthan**	**8.01**	**127**	*eP*	**Pn**	**08 01 46.1**	**+1.3**
	comp=E,15nm,0.2s						
DANN	**Dangsing**	**8.38**	**123**	*eP*	**Pn**	**08 01 51.0**	**+1.0**
	comp=E,13nm,0.2s						
KOLN	**Koldanda**	**8.63**	**126**	*eP*	**Pn**	**08 01 54.1**	**+0.7**
	comp=E,6.2nm,0.2s						
GKN	**Gorkha**	**9.21**	**122**	*eP*	**Pn**	**08 02 01.4**	**+0.1**
	comp=E,12nm,0.2s						
AAK	**Ala-Archa**	**9.52**	**354**	⇓Pn	**Pn**	**08 02 08.1**	**+2.5**
	comp=E,2.7nm,0.9s						
AAK				⇓Sn	**Sn**	**08 03 52.3**	**-0.4**
	comp=E,13nm,1.1s						
AAK	**Ala-Archa**	**9.52**	**354**	Pn	**Pn**	**08 02 07.9**	**+2.3**
	comp=E,0.2nm,0.3s,baz=195,slow=20,SNR=2.6						
AAK				Sn	**Sn**	**08 03 49.3**	**-3.4**
	comp=E,0.3nm,0.3s,baz=225,slow=4.3,SNR=2.7						
TKM2	**Tokmak 2**	**9.75**	**359**	⇑Pn	**Pn**	**08 02 12.2**	**+3.5**
	comp=E,2.4nm,0.5s						
TKM2				⇑Sn	**Sn**	**08 03 58.4**	**-0.1**
	comp=E,8.6nm,1.1s						
DMN	**Daman**	**9.78**	**122**	*eP*	**Pn**	**08 02 08.9**	**-0.2**
	comp=E,9.1nm,0.3s						
PKIN	**Phulchoki**	**10.00**	**121**	*eP*	**Pn**	**08 02 11.8**	**-0.5**
	comp=E,15nm,0.4s						
PKI	**Pulchoki**	**10.01**	**121**	*eP*	**Pn**	**08 02 11.6**	**-0.9**
	comp=E,9.2nm,0.2s						
JIRN	**Jiri**	**10.53**	**119**	*eP*	**Pn**	**08 02 18.1**	**-1.5**
	comp=E,27nm,0.3s						
PDGK	**Podgornoye**	**10.57**	**15**	⇑Pn	**Pn**	**08 02 23.4**	**+3.5**
	comp=E,4.2nm,0.4s						
PDGK				⇑Sn	**Sn**	**08 04 19.1**	**+0.7**
	comp=E,8.9nm,0.8s						
KK31	**Karatay Array**	**10.76**	**339**	⇓Pn	**Pn**	**08 02 23.7**	**+1.4**
	comp=E,0.4nm,0.2s,baz=150,slow=12,SNR=18						
KK31				⇑Sn	**Sn**	**08 04 21.0**	**-1.8**
	comp=E,8.9nm,0.8s,baz=162,slow=25,SNR=5.2						
RAMN	**Ramite**	**11.23**	**121**	*eP*	**Pn**	**08 02 26.8**	**-2.3**
	comp=E,12nm,0.3s						
MKAR	**Makanchi Array**	**14.51**	**18**	Pn	**Pn**	**08 03 13.2**	**-0.4**
	comp=E,0.5nm,0.3s,baz=198,slow=12,SNR=16						
MKAR				Sn	**Sn**	**08 05 47.4**	**-7.0**
	comp=E,0.2nm,0.3s,baz=198,slow=22,SNR=6.7						
KURBB	**Kurchatov Arra**	**17.58**	**6**	P	**Pn**	**08 03 51.9**	**-1.3**
	comp=E,0.1nm,0.3s,baz=193,slow=11,SNR=12						
AB31	**Akbulak array**	**19.95**	**328**	⇑Pn	**P**	**08 04 21.2**	**+0.9**
	comp=E,1.3nm,0.6s,baz=132,slow=12,SNR=24						
BVAR	**Borovoye Array**	**20.24**	**351**	P	**P**	**08 04 25.1**	**+1.7**
	comp=E,6.6nm,0.5s,baz=161,slow=9.7,SNR=48						
BRVK	**Borovoye**	**20.28**	**350**	⇑Pn	**P**	**08 04 25.3**	**+1.4**
	comp=E,8.7nm,0.7s						
AKTO	**Aktyubinsk**	**21.66**	**328**	⇑Pn	**P**	**08 04 39.7**	**+0.9**
	comp=E,5.0nm,0.6s						
AKTO	**Aktyubinsk**	**21.66**	**328**	P	**P**	**08 04 40.1**	**+1.3**
	comp=E,5.5nm,0.5s,baz=122,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**21.77**	**15**	P	**P**	**08 04 40.3**	**+0.5**
	comp=E,1.0nm,0.4s,baz=217,slow=12,SNR=6.5						
CMAR	**Chiang Mai Arr**	**25.41**	**119**	P	**P**	**08 05 14.6**	**-1.4**
	comp=E,0.6nm,0.3s,baz=313,slow=8.1,SNR=3.2						
SONM	**Songino Array**	**27.31**	**48**	P	**P**	**08 05 32.4**	**-0.8**
	comp=E,0.3nm,0.3s,baz=245,slow=11,SNR=3.2						
BRTR	**Keskin Array B**	**34.28**	**293**	P	**P**	**08 06 36.5**	**+1.8**
	comp=E,0.5nm,0.6s,baz=120,slow=7.2,SNR=5.2						
AKASG	**Malin Array Be**	**38.09**	**312**	P	**P**	**08 07 06.2**	**-0.8**
	comp=E,0.5nm,0.5s,baz=79,slow=6.9,SNR=3.3						
FINES	**FINESS Array B**	**42.43**	**327**	P	**P**	**08 07 43.1**	**+0.3**
	comp=E,1.3nm,0.7s,baz=133,slow=8.4,SNR=4.1						
ARCES	**ARCESS Array B**	**45.72**	**338**	P	**P**	**08 08 10.0**	**+0.9**
	comp=E,1.1nm,0.5s,baz=116,slow=8.2,SNR=7.0						
NB2	**NORSAR Subarra**	**49.39**	**325**	P	**P**	**08 08 37.4**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**49.39**	**325**	P	**P**	**08 08 37.7**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=102,slow=7.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**69.68**	**273**	P	**P**	**08 10 56.4**	**-2.0**
	comp=Z,1.1nm,0.8s,baz=39,slow=5.6,SNR=6.6						
ILAR	**Eielson Array**	**76.86**	**17**	P	**P**	**08 11 39.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.4,SNR=5.0						
WRA	**Warramunga Arr**	**76.88**	**124**	P	**P**	**08 11 40.4**	**-0.4**
	comp=Z,4.5nm,0.3s,baz=337,slow=6.2,SNR=22						
ASAR	**Alice Springs**	**79.12**	**128**	P	**P**	**08 11 52.4**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=328,slow=4.6,SNR=4.2						
YKA	**Yellowknife Ar**	**84.32**	**5**	P	**P**	**08 12 20.4**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=345,slow=5.1,SNR=15						

KRSC 01 08:06:00.8±10.0, 52°.81N×161°.58E, h60km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.99**	**288**	*eP*	Pn	08 06 19.2	+0.6
SPN				*eS*	Sn	08 06 32.6	+0.8
NLC	**Nalytchevo**	**1.40**	**286**	*eP*	Pn	08 06 25.4	+1.4
NLC				*eS*	Sn	08 06 42.7	+1.2
SDLR	**Sedlovina**	**1.69**	**287**	*eP*	Pn	08 06 30.6	+2.4
UGLR	**Uglovaya**	**1.71**	**285**	*eP*	Pn	08 06 31.1	+2.7
DALK	**Dalny**	**1.73**	**278**	*eP*	Pn	08 06 30.3	+1.9
DALK				*eS*	Sn	08 06 51.1	+1.7
SMAR	**Somma**	**1.74**	**286**	*eP*	Pn	08 06 31.0	+2.2
MKZ	**Mys Kozlova**	**1.75**	**3**	*eP*	Pn	08 06 30.8	+2.0
MKZ				*eS*	Sn	08 06 51.3	+1.3
AVH	**Avacha**	**1.78**	**286**	*eP*	Pn	08 06 31.9	+2.7
AVH				*eS*	Sn	08 06 53.9	+3.1
KRER	**Koryakskii**	**1.78**	**287**	*eP*	Pn	08 06 32.0	+2.6
PET	**Petropavlovsk**	**1.79**	**278**	*i P*	Pn	08 06 31.5	+2.2
KOK	**Koryaka**	**1.84**	**286**	*eP*	Pn	08 06 32.5	+2.4
KRX	**Arik**	**1.85**	**288**	*eP*	Pn	08 06 32.2	+1.9
RUS	**Russkaya**	**1.91**	**260**	*eP*	Pn	08 06 33.3	+2.4
RUS				*eS*	Sn	08 06 56.4	+2.6
KRMR	**Karymshinskiy**	**2.10**	**272**	*eP*	Pn	08 06 35.8	+2.3
KRMR				*eS*	Sn	08 07 00.7	+2.3
MTVR	**Mutnovka**	**2.10**	**262**	*eP*	Pn	08 06 36.1	+2.5
MTVR				*eS*	Sn	08 07 00.9	+2.2
ASAK	**Asacha**	**2.29**	**261**	*eP*	Pn	08 06 39.3	+3.1
KDTR	**Khodutka, Kamc**	**2.37**	**246**	*eP*	Pn	08 06 39.6	+2.4
KDTR				*eS*	Sn	08 07 06.5	+1.3
KZV	**Kizimen**	**2.43**	**342**	*eP*	Pn	08 06 41.2	+3.0
KZV				*eS*	Sn	08 07 10.0	+3.2
TUMD	**Tumrok D**	**2.50**	**344**	*eP*	Pn	08 06 41.7	+2.7
TUMD				*eS*	Sn	08 07 10.5	+2.3
APC	**Apacha**	**2.68**	**274**	*eP*	Pn	08 06 44.8	+3.3
PAU	**Pauzhetka**	**3.23**	**247**	*eP*	Pn	08 06 53.9	+4.9
LGNR	**Loginova**	**3.32**	**351**	*eP*	Pn	08 06 54.5	+4.1
KBTR	**Krutoberegovo**	**3.48**	**11**	*eP*	Pn	08 06 55.7	+3.4
BKI	**Bering**	**3.53**	**45**	*eP*	Pn	08 06 56.5	+3.5
BKI				*eS*	Sn	08 07 34.7	+1.3
ESO	**Esso**	**3.55**	**333**	*eP*	Pn	08 06 56.9	+3.6
KLY	**Klyuchi**	**3.55**	**352**	*eP*	Pn	08 06 56.5	+3.2
SKR	**Severo-Kuril's**	**4.01**	**240**	*eS*	Sn	08 07 46.4	+1.2

IDC 01 08:09:59.8±3.0, 15°.99S×173°.00W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/47, mbtmp4.1/4, Error ellipse: s-maj=68.4km s-min=45.6km az=94.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.83**	**200**	P	P	08 15 14.5	-0.1
	14nm,1.2s,baz=349,slow=5.2,SNR=2.0						
STKA	**Stephens Creek**	**44.08**	**241**	P	P	08 18 09.7	-0.2
	1.6nm,0.7s,baz=61,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**50.08**	**257**	P	P	08 18 56.7	-0.3
	0.5nm,0.4s,baz=92,slow=6.8,SNR=22						
ASAR	**Alice Springs**	**50.29**	**252**	P	P	08 18 58.6	+0.1
	1.7nm,0.7s,baz=89,slow=7.8,SNR=18						
BRTR	**Keskin Array B**	**146.85**	**321**	PKPbc	PKPbc	08 29 43.9	-0.7
	0.9nm,0.7s,baz=48,slow=2.1,SNR=5.2						

*IDC **01** 08:14:34.7±0.7, 11°.71N×125°.36E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.7/46, mbtmp3.9/11, Error ellipse: s-maj=65.0km s-min=15.7km az=68.0*
*ISCJB **01** 08:14:40.6±0.8, 11°.76N±0°.05×125°.57E±0°.08, h54km±6km, mb3.9/12, Error ellipse: s-maj=12.8km s-min=7.9km az=177.9*
*MAN **01** 08:14:42.5, 11°.75N×125°.40E, h26km, mb4.4, ML3.3, MS3.1*

ISC 01 08:14:40.6±0.7, 11°.79N±0°.04×125°.64E±0°.07, h39km±1km, n29, σ2°.25/33, mb3.9/12, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.27**	**227**	*eP*	**Pn**	**08 14 49.6**	**+0.8**
BESP				*eS*	**Sn**	**08 14 55.0**	**-0.5**
PLP	**Palo**	**0.90**	**226**	⇓*eP*	**Pn**	**08 14 56.1**	**-0.6**
PLP				*eS*	**Sn**	**08 15 06.0**	**-2.5**
CNP	**Catarman**	**1.20**	**307**	*eP*	**Pn**	**08 15 01.3**	**+0.5**
CNP				*eS*	**Sn**	**08 15 15.4**	**-0.4**
OCLP	**Ormoc**	**1.25**	**234**	*eP*	**Pn**	**08 15 01.8**	**+0.2**
OCLP				*eS*	**Sn**	**08 15 15.9**	**-1.3**
MSLP	**Maasin**	**1.82**	**205**	*eP*	**Pn**	**08 15 11.9**	**+2.5**
MSLP				*eS*	**Sn**	**08 15 36.7**	**+5.6**
LLP	**Lapu-Lapu**	**2.20**	**228**	⇑*eP*	**Pn**	**08 15 15.0**	**+0.3**
LLP				*eS*	**Sn**	**08 15 40.5**	**-0.2**
PVCP	**Virac**	**2.31**	**321**	*eP*	**Pn**	**08 15 17.1**	**+1.0**
PVCP				*eS*	**Sn**	**08 15 50.8**	**+7.5**
RCP	**Roxas**	**2.85**	**266**	⇑*eP*	**Pn**	**08 15 24.0**	**+0.5**
CGP	**Cagayan de Oro**	**3.44**	**196**	*eP*	**Sn**	**08 16 15.5**	**+4.2**
OTRP	**Odiongan**	**3.59**	**279**	*eP*	**Pn**	**08 15 34.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**26.59**	**288**	P	**P**	**08 20 18.6**	**+3.1**
	0.5nm,0.3s,baz=93,slow=7.6,SNR=2.7						
WRA	**Warramunga Arr**	**32.67**	**165**	P	**P**	**08 21 07.5**	**-1.9**
	0.3nm,1.0s,baz=350,slow=8.5,SNR=3.0						
WRA				PcP	**PcP**	**08 23 54.7**	**-0.1**
	0.3nm,0.5s,baz=340,slow=3.0,SNR=8.2						
ASAR	**Alice Springs**	**36.15**	**167**	P	**P**	**08 21 39.6**	**+0.1**
	0.2nm,0.2s,baz=342,slow=6.6,SNR=6.2						
ASAR				PcP	**PcP**	**08 24 04.8**	**0.0**
	0.4nm,0.4s,baz=342,slow=2.8,SNR=6.1						
SONM	**Songino Array**	**39.39**	**340**	P	**P**	**08 22 06.0**	**-0.6**
	0.5nm,0.4s,baz=152,slow=12,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**40.11**	**75**	T	T	09 05 24.0	
	baz=287,slow=74,SNR=8.3						
H11S1	**WAKE ISLAND Hy**	**40.12**	**75**	T	T	09 05 21.7	
	baz=287,slow=74,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**40.13**	**75**	T	T	09 05 20.0	
	baz=287						
H11N1	**WAKE ISLAND Hy**	**40.39**	**73**	T	T	09 05 42.1	
	baz=265,slow=74,SNR=29						
H11N2	**WAKE ISLAND Hy**	**40.40**	**73**	T	T	09 05 42.5	
	baz=265,slow=74,SNR=15						
H11N3	**WAKE ISLAND Hy**	**40.41**	**73**	T	T	09 05 44.0	
	baz=265,slow=74,SNR=25						
STKA	**Stephens Creek**	**46.03**	**161**	P	**P**	**08 23 01.2**	**+0.7**
	1.4nm,0.6s,baz=9.1,slow=13,SNR=4.5						
MKAR	**Makanchi Array**	**50.45**	**322**	P	**P**	**08 23 34.5**	**0.0**
	2.7nm,0.8s,baz=119,slow=8.2,SNR=19						
MKAR				PcP	**PcP**	**08 24 52.6**	**+0.2**
	0.3nm,0.5s,baz=104,slow=3.6,SNR=2.2						
ZALV	**Zalesovo Beam**	**53.01**	**331**	P	**P**	**08 23 52.1**	**-1.3**
	0.9nm,0.5s,baz=109,slow=6.5,SNR=5.0						
ARCES	**ARCESS Array B**	**82.56**	**340**	P	**P**	**08 26 59.5**	**+0.3**
	3.0nm,0.8s,baz=74,slow=6.4,SNR=13						
BRTR	**Keskin Array B**	**84.10**	**309**	P	**P**	**08 27 06.4**	**-1.6**
	0.7nm,0.8s,baz=82,slow=4.7,SNR=3.8						
FINES	**FINESS Array B**	**84.27**	**332**	P	**P**	**08 27 08.3**	**+0.2**
	1.9nm,0.6s,baz=60,slow=5.5,SNR=9.5						
AKASG	**Malin Array Be**	**85.00**	**321**	P	**P**	**08 27 10.0**	**-2.0**
	0.9nm,0.5s,baz=64,slow=4.9,SNR=4.8						
YKA	**Yellowknife Ar**	**92.62**	**24**	P	**P**	**08 27 49.1**	**+1.1**
	0.1nm,0.6s,baz=289,slow=3.8,SNR=3.0						
TXAR	**Lajitas Array**	**117.29**	**48**	PKP	**PKPdf**	**08 33 22.4**	**-0.3**
	0.1nm,0.6s,baz=344,slow=1.3,SNR=3.5						

*ISCJB **01** 08:17:00.9±0.5, 35°.59N±0°.03×140°.02E±0°.04, h80km±4km, mb3.8/5, Error ellipse: s-maj=6.7km s-min=4.5km az=143.2*
*JMA **01** 08:17:01.8±0.2, 35°.66N×140°.02E, h71km±2km, M3.3 Broadband fault plane solution: P waves. NP1: φs=354.00000°, δ70.00000°, λ81.00000°. NP2: φs=198.00000°, δ22.00000°, λ112.00000°. Principal axes: T Plg64.0000°, Azm250.0000°; N Plg8.0000°, Azm357.0000°; P Plg24.0000°, Azm91.0000°;*
JMA Felt I J1.
*IDC **01** 08:17:02.7±3.8, 35°.47N×139°.84E, h73km±24km, mb3.5/5, mb1 3.6/6, mb1mx3.2/45, mbtmp3.8/6, MS3.7/2, Ms1 3.7/2, ms1mx2.9/40 Error ellipse: s-maj=70.0km s-min=7.4km az=66.0*

ISC 01 08:17:02.1±0.9, 35°.60N±0°.04×140°.01E±0°.04, h77km±6km, n29, σ0°.85/37, mb3.9/5, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.23**	**292**	P	**Pn**	**08 17 13.8**	**+0.3**
TOK				*eS*	**Sn**	**08 17 22.3**	**+0.4**
JCN	**Nagara**	**0.24**	**140**	⇑P	**Pn**	**08 17 13.7**	**0.0**
JCN				*eS*	**Sn**	**08 17 22.5**	**+0.4**
JSMT	**Sammumatsuo**	**0.36**	**83**	P	**Pn**	**08 17 13.9**	**-0.4**
JSMT				*eS*	**Sn**	**08 17 22.7**	**-0.7**
JOD2	**Odawara 2**	**0.83**	**246**	⇓P	**Pn**	**08 17 18.5**	**-0.4**
JOD2				S	**Sn**	**08 17 30.5**	**-1.0**
BSO3	**Boso 3**	**0.90**	**153**	⇑P	**Pn**	**08 17 19.1**	**-0.3**
BSO3				*eS*	**Sn**	**08 17 32.9**	**+0.5**
JAG	**Ashikaga**	**0.94**	**331**	⇓P	**Pn**	**08 17 19.4**	**-0.8**
JAG				S	**Sn**	**08 17 31.8**	**-1.9**
JRY	**Ryogami san**	**0.99**	**295**	⇓P	**Pn**	**08 17 20.9**	**0.0**
JRY				*eS*	**Sn**	**08 17 34.7**	**-0.2**
JIM2	**Oshima 3**	**1.00**	**209**	P	**Pn**	**08 17 20.3**	**-0.7**
JIM2				S	**Sn**	**08 17 34.1**	**-1.0**
JFNN	**Fujinakano**	**1.16**	**250**	P	**Pn**	**08 17 22.9**	**0.0**
JFNN				S	**Sn**	**08 17 38.5**	**0.0**
JYN	**Shimob**	**1.20**	**265**	⇓P	**Pn**	**08 17 23.4**	**-0.1**
JYN				*eS*	**Sn**	**08 17 39.3**	**-0.3**
BSO1	**Boso 1**	**1.23**	**140**	P	**Pn**	**08 17 22.8**	**-0.5**
BSO1				*eS*	**Sn**	**08 17 39.2**	**-0.1**
JIZS	**Izushimoda**	**1.28**	**227**	⇓P	**Pn**	**08 17 24.4**	**-0.1**
JIZS				*eS*	**Sn**	**08 17 40.7**	**-0.6**
JKT	**Katashina**	**1.32**	**332**	P	**Pn**	**08 17 24.2**	**-0.8**
JKT				*eS*	**Sn**	**08 17 40.6**	**-1.6**
MJAR	**Matsushiro Arr**	**1.74**	**303**	P	**Pn**	**08 17 30.1**	**-0.3**
	4.1nm,0.3s,baz=159,slow=13,SNR=83						
MJAR				S	**Sn**	**08 17 50.5**	**-1.4**
	1.8nm,0.3s,baz=207,slow=13,SNR=6.8						
MAT	**Matsushiro**	**1.74**	**303**	P	**Pn**	**08 17 30.8**	**+0.4**
MAT				*eS*	**Sn**	**08 17 52.1**	**+0.2**
JHJ	**Hachijo jima 2**	**2.48**	**184**	P	**Pn**	**08 17 40.0**	**-0.4**
	18nm,0.3s,baz=342,slow=20,SNR=12						
JHJ				S	**Sn**	**08 18 07.4**	**-2.4**
	32nm,0.3s,baz=66,slow=19,SNR=4.6						
KSRS	**Korea Array**	**9.90**	**284**	LR	LR	08 22 55.2	
	comp=Z,112nm,19.5s,baz=6.0,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.45**	**117**	T	T	08 52 22.8	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.46**	**117**	T	T	08 52 23.3	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.47**	**117**	T	T	08 52 23.3	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**29.10**	**119**	T	T	08 53 06.2	
	baz=311,slow=75,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**29.10**	**119**	T	T	08 53 06.2	
	baz=311,slow=75,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**29.11**	**119**	T	T	08 53 04.7	
	baz=311,slow=75,SNR=7.3						
ZALV	**Zalesovo Beam**	**42.06**	**314**	P	**P**	**08 24 47.5**	**+1.5**
	0.8nm,0.4s,baz=80,slow=8.9,SNR=3.0						
MKAR	**Makanchi Array**	**43.94**	**303**	P	**P**	**08 25 02.1**	**+0.8**
	0.9nm,0.6s,baz=88,slow=8.9,SNR=5.5						
WRA	**Warramunga Arr**	**55.50**	**186**	P	**P**	**08 26 28.8**	**-0.4**
	0.9nm,0.5s,baz=0.6,slow=7.7,SNR=7.0						
ASAR	**Alice Springs**	**59.23**	**187**	P	**P**	**08 26 55.0**	**-0.5**
	0.2nm,0.5s,baz=6.3,slow=9.3,SNR=2.1						
FINES	**FINESS Array B**	**69.55**	**332**	P	**P**	**08 28 02.9**	**+0.6**
	1.5nm,0.7s,baz=77,slow=6.3,SNR=3.5						
KVAR	**Kislovodsk Arr**	**70.98**	**311**	LR	LR	09 00 58.9	
	comp=Z,227nm,20.3s,baz=158,slow=37						

IDC 01 08:19:59.9±2.0, 3°.56S×151°.94E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/42, mbtmp3.7/5, ML1.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/34, Error ellipse: s-maj=86.4km s-min=24.7km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.50**	**219**	Pn	Pn	08 21 52.8	+2.1
	0.4nm,0.3s,baz=45,slow=7.1,SNR=2.0						
HNR	**Honiara**	**9.86**	**127**	LR	LR	08 26 05.1	
	comp=Z,170nm,18.4s,baz=332,slow=37						
WRA	**Warramunga Arr**	**23.66**	**225**	P	P	08 25 12.9	-0.5
	2.4nm,0.8s,baz=48,slow=9.7,SNR=16						
ASAR	**Alice Springs**	**26.52**	**219**	P	P	08 25 39.2	-0.3
	0.7nm,0.7s,baz=54,slow=9.3,SNR=6.4						
MKAR	**Makanchi Array**	**78.83**	**319**	P	P	08 32 05.6	+0.6
	0.5nm,0.8s,baz=121,slow=6.1,SNR=4.0						
ILAR	**Eielson Array**	**81.34**	**22**	P	P	08 32 17.7	-0.4
	0.4nm,0.7s,baz=242,slow=5.8,SNR=4.9						

*DMN **01** 08:31:51.6±14.0, 35°.92N×85°.67E, h10km, Mb5.3/7, Error ellipse: s-maj=367.7km s-min=16.8km az=6.0*
*IDC **01** 08:32:53.2±2.5, 34°.55N×92°.21E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.2/33, mbtmp3.4/4, ML2.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/40, Error ellipse: s-maj=207.8km s-min=38.0km az=61.0*

ISC 01 08:32:41.0±3.0, 32°.7N±0°.3×85°.3E±0°.2, h35km, n12, σ0°.65/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**4.51**	**197**	*eP*	**Pn**	**08 33 47.4**	**+0.3**
	28nm,0.4s						
PYUN	**Piuthan**	**4.98**	**204**	*eP*	**Pn**	**08 33 53.0**	**-0.5**
	23nm,0.4s						
JIRN	**Jiri**	**5.06**	**171**	*eP*	**Pn**	**08 33 54.7**	**-0.1**
	14nm,0.4s						
PKIN	**Phulchoki**	**5.09**	**179**	*eP*	**Pn**	**08 33 55.8**	**+0.8**
	8.6nm,0.4s						
PKI	**Pulchoki**	**5.09**	**179**	*eP*	**Pn**	**08 33 55.9**	**+0.8**
	4.9nm,0.2s						
KOLN	**Koldanda**	**5.11**	**197**	*eP*	**Pn**	**08 33 55.1**	**-0.1**
	13nm,0.5s						
RAMN	**Ramite**	**5.82**	**168**	*eP*	**Pn**	**08 34 04.7**	**-0.4**
	11nm,0.4s						
MKAR	**Makanchi Array**	**14.28**	**352**	Pn	P	08 36 15.5	+8.2
	0.1nm,0.3s,baz=148,slow=11,SNR=2.0						
CMAR	**Chiang Mai Arr**	**18.74**	**136**	P	**P**	**08 36 55.9**	**-1.0**
	baz=328,slow=12,SNR=5.0						
ZALV	**Zalesovo Beam**	**21.26**	**359**	LR	LR	08 46 26.6	
	comp=Z,42nm,18.5s,baz=60,slow=40						
WRA	**Warramunga Arr**	**70.26**	**131**	P	**P**	**08 43 51.1**	**+0.3**
	0.3nm,0.6s,baz=327,slow=6.6,SNR=6.0						
ASAR	**Alice Springs**	**72.74**	**134**	P	**P**	**08 44 06.2**	**+0.5**
	0.3nm,0.7s,baz=336,slow=6.5,SNR=3.2						

*IDC **01** 08:42:40.7±0.7, 33°.03N×75°.64E, h0km, mb3.7/15, mb1 3.8/18, mb1mx3.7

comp=N,2.9nm,0.8s
AKTO Aktyubinsk 21.72 329 ⇑Pn P 08 47 35.2 +1.6
comp=N,4.3nm,0.8s
AKTO Aktyubinsk 21.72 329 P P 08 47 34.5 +0.9
comp=N,1.1nm,0.5s,baz=126,slow=14,SNR=4.8
ZALV Zalesovo Beam 21.99 15 P P 08 47 35.2 -1.2
comp=N,0.5nm,0.3s,baz=212,slow=9.3,SNR=2.5
CMAR Chiang Mai Arr 25.48 119 P P 08 48 11.0 +0.2
comp=N,0.5nm,0.3s,baz=299,slow=9.2,SNR=3.6
BRTR Keskin Array B 34.18 294 P P 08 49 29.6 +1.6
comp=N,0.4nm,0.6s,baz=93,slow=8.7,SNR=3.4
AKASG Malin Array Be 38.08 312 P P 08 50 00.2 -0.8
comp=N,0.3nm,0.4s,baz=72,slow=4.9,SNR=3.5
FINES FINESS Array B 42.48 327 P P 08 50 35.5 -1.8
comp=N,4.4nm,1.0s,baz=194,slow=7.1,SNR=3.4
ARCES ARCESS Array B 45.82 338 P P 08 51 05.0 +1.0
comp=N,4.5nm,1.2s,baz=22,slow=6.8,SNR=4.5
HFS Hagfors 48.13 324 P P 08 51 22.9 +0.7
comp=N,0.7nm,0.4s,baz=99,slow=8.9,SNR=7.8
NOA NORSAR Array B 49.43 325 P P 08 51 32.3 +0.1
comp=N,0.3nm,0.5s,baz=93,slow=7.4,SNR=3.2
TORD Torodi Ar. Bea 69.50 273 P P 08 53 50.6 -0.8
comp=N,0.9nm,0.5s,baz=46,slow=6.4,SNR=12
WRA Warramunga Arr 76.94 124 P P 08 54 34.8 -0.3
comp=N,0.5nm,0.4s,baz=326,slow=5.8,SNR=20
BOSA Boshof 77.63 224 P P 08 54 40.2 +1.2
comp=N,0.6nm,0.3s,baz=241,slow=3.7,SNR=3.7
ASAR Alice Springs 79.16 127 P P 08 54 47.4 -0.1
comp=N,0.4nm,0.7s,baz=315,slow=5.3,SNR=4.4
YKA Yellowknife Ar 84.52 5 P P 08 55 14.4 -0.7
comp=N,0.1nm,0.5s,baz=349,slow=5.2,SNR=4.0

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*DDA **01** 08:50:03.6, 39°.55N×38°.01E, h7km±3km, ML3.1*
*ISK **01** 08:50:03.3, 39°.54N×37°.99E, h9km, ML2.2/8*
*ISCJB **01** 08:50:04.1±0.5, 39°.56N±0°.03×37°.99E±0°.04, h4km±6km, Error ellipse: s-maj=5.2km s-min=3.9km az=41.0*
ISC 01 08:50:03.1±1.5, 39°.55N±0°.03×38°.00E±0°.03, h2km±13km, n16, σ0°.77/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUZAR	**Zara_SIVAS**	**0.39**	**332**	*i* P	**Pb**	**08 50 12.6**	**-0.2**
CUZAR				*i* S	**Sb**	**08 50 19.6**	**+0.3**
ILIC	**ilic-Erzincan**	**0.45**	**102**	PG	**Pg**	**08 50 12.3**	**+0.6**
ILIC				SG	**Sb**	**08 50 19.9**	**-1.0**
KEMA	**Kemaliye**	**0.47**	**126**	IAML_P			
	comp=Z,6μm,0.1s						
KEMA				*i* P	**Pb**	**08 50 13.7**	**-0.5**
KEMA				*i* S	**Sb**	**08 50 20.3**	**-1.3**
CUKAN	**kangal_SIVAS**	**0.47**	**241**	*i* P	**Pb**	**08 50 13.7**	**-0.6**
CUKAN				*i* S	**Sb**	**08 50 20.3**	**-1.5**
HEKM	**Malatya_Hekimh**	**0.67**	**183**	IAML_P			
	comp=Z,5μm,0.1s						
HEKM				*i* P	**Pb**	**08 50 17.3**	**-0.2**
HEKM				*i* S	**Sb**	**08 50 27.3**	**0.0**
SUSE	**Susehri**	**0.68**	**13**	IAML_P			
	comp=Z,826nm,0.1s						
SUSE				*i* P	**Pb**	**08 50 17.8**	**0.0**
SVSK	**Karacayir**	**0.86**	**296**	PG	**Pb**	**08 50 20.5**	**-0.2**
SVSK				SG	**Sb**	**08 50 32.9**	**+0.2**
RSDY	**Resadiye-TOKAT**	**1.00**	**329**	PG	**Pg**	**08 50 22.5**	**+0.3**
RSDY				SG	**Sb**	**08 50 37.1**	**+0.4**
DARE	**Darende-Malaty**	**1.05**	**203**	PG	**Pg**	**08 50 23.6**	**+0.3**
KELT	**Kelkit**	**1.14**	**58**	IAML_P			
	comp=Z,279nm,0.1s						
KELT				*i* P	**Pb**	**08 50 25.6**	**0.0**
KELT				*i* S	**Sn**	**08 50 41.7**	**-0.8**
AKCD	**Akcadag**	**1.25**	**183**	IAML_P			
	comp=Z,3μm,0.1s						
AKCD				*i* P	**Pg**	**08 50 27.2**	**+0.2**
AKCD				*i* S	**Sn**	**08 50 47.3**	**+2.1**
ELZG	**Elazig**	**1.29**	**144**	IAML_P			
	comp=Z,4μm,0.2s						
ELZG				*i* P	**Pn**	**08 50 28.5**	**+0.1**
ELZG				*i* S	**Sn**	**08 50 47.3**	**+0.9**
ERZN	**Erzincan**	**1.33**	**88**	PN	**Pg**	**08 50 28.6**	**0.0**
TOKT	**Tokat**	**1.36**	**305**	PN	**Pn**	**08 50 28.5**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.54**	**139**	PN	**Pn**	**08 50 32.1**	**+0.3**
BNN	**Bunyan**	**1.81**	**248**	PN	**Pn**	**08 50 35.3**	**-0.2**

MAN 01 09:18:45.7, 7°.48N×126°.54E, h52km, mb4.4, ML3.3, MS3.1, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.60**	**208**	*eP*	Pn	09 18 59.4	+1.0
MATI				*eS*	Sn	09 19 10.6	+3.2
DMPH	**Davao City--Mi**	**1.10**	**249**	⇑*eP*	Pn	09 19 02.9	-2.0
DMPH				*eS*	Sn	09 19 21.4	+2.4
BUKP	**Musuan**	**1.52**	**285**	*eP*	Pn	09 19 10.7	+0.1
BUKP				*eS*	Sn	09 19 31.2	+1.9
DDMP	**Don Marcelino,**	**1.59**	**211**	*eP*	Pn	09 19 12.6	+1.0
DDMP				*eS*	Sn	09 19 33.7	+2.6
BUTP	**Butuan**	**1.74**	**328**	*eP*	Pn	09 19 15.1	+1.5
CGP	**Cagayan de Oro**	**2.07**	**298**	⇓*eP*	Pn	09 19 19.2	+1.2
CGP				*eS*	Sn	09 19 43.2	+0.5

ATH 01 09:19:16.4, 37°.41N×22°.26E, h20km±3km, ML1.3/3, Error ellipse: s-maj=3.2km s-min=1.0km az=148.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLX	**Vlachokerasia**	**0.10**	**112**	P	Pg	09 19 20.6	+0.1
VLX				S	Sg	09 19 22.7	-0.5
VLX				AML	AML	09 19 25.0	
	comp=N,367μm,0.3s						
VLX				AML	AML	09 19 26.8	
	comp=E,409μm,0.4s						
ITM	**Ithomi**	**0.35**	**230**	P	Pg	09 19 23.8	-0.1
ITM				S	Sg	09 19 29.0	-0.1
ITM				AML	AML	09 19 30.0	
	comp=E,139μm,0.3s						
ITM				AML	AML	09 19 30.1	
	comp=N,92μm,0.1s						
AMT	**Artemida-Makis**	**0.46**	**286**	P	Pg	09 19 25.6	-0.2
AMT				S	Sb	09 19 33.0	+0.7
AMT				AML	AML	09 19 34.4	
	comp=N,116μm,0.4s						
AMT				AML	AML	09 19 34.5	
	comp=E,64μm,0.2s						
MES3	**Kyparissia**	**0.50**	**251**	P	Pb	09 19 26.4	-0.1
MES3				S	Sb	09 19 33.6	+0.2
GUR	**Goura**	**0.53**	**7**	P	Pb	09 19 26.9	-0.2
GUR				S	Sg	09 19 35.0	+0.5
KLV	**Kalavryta, Ach**	**0.64**	**352**	P	Pb	09 19 28.2	-0.7
KLV				S	Sg	09 19 38.6	+0.8
DYR	**Agios Nikonas**	**0.65**	**175**	P	Pb	09 19 29.1	0.0
DYR				S	Sg	09 19 38.1	+0.1
PYL	**PYLOS**	**0.66**	**219**	P	Pb	09 19 29.1	-0.1
DRO	**Drossia**	**0.70**	**321**	P	Pg	09 19 30.4	+0.2
MES2	**Methoni**	**0.73**	**217**	P	Pb	09 19 30.6	+0.1
DID	**Didima**	**0.78**	**83**	P	Pn	09 19 32.4	0.0
VLI	**Veliai**	**0.88**	**142**	P	Pn	09 19 34.0	+0.3

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*NEIC **01** 09:19:45.9±1.7, 33°.00N×75°.76E, h10km±2km, mb4.6/63, Error ellipse: s-maj=13.3km s-min=2.3km az=162.0*
NEIC Felt at Chamba, Hoshiarpur and Ludhiana, India. Also felt at Abbottabad, Pakistan.
*ISCJB **01** 09:19:46.2±0.8, 33°.08N±0°.02×75°.78E±0°.03, h20km±6km, mb4.6/96, MS3.7/9, Error ellipse: s-maj=3.8km s-min=2.7km az=155.6*
*MOS **01** 09:19:46.5±0.9, 33°.09N×75°.77E, h20km, mb4.7/27, Error ellipse: s-maj=6.8km s-min=3.9km az=96.8*
*NNC **01** 09:19:46.3±1.6, 33°.18N×75°.66E, h0km, mb4.6, Error ellipse: s-maj=21.9km s-min=14.5km az=110.0*
*NDI **01** 09:19:47.8±1.6, 33°.06N×75°.48E, h8km±5km, ML4.2*
*BJI **01** 09:19:49.1±0.0, 33°.28N×76°.21E, h10km, mb4.6/38, mB4.5/24, ML4.6/3, Ms4.0/20, Ms7 3.7/20*
*IDC **01** 09:19:53.1±2.9, 33°.13N×75°.75E, h63km±27km, mb4.1/29, mb1 4.3/31, mb1mx4.2/45, mbtmp4.4/31, ML3.9/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/43, Error ellipse: s-maj=11.2km s-min=9.5km az=52.0*
ISC 01 09:19:46.9±0.9, 33°.03N±0°.03×75°.68E±0°.03, h16km±5km, n298, σ1°.85/332, mb4.6/96, MS3.6/10, 28C-16D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.93**	**146**	*eP*	**Pn**	**09 20 08.7**	**+3.1**
DHRM				*eS*	**Sn**	**09 20 23.3**	**+4.5**
DHRM				IAML		09 20 28.3	
	comp=N,11μm,0.3s						
DHRM				IAML		09 20 28.3	
	comp=E,8μm,0.3s						
BHK	**Bhakra**	**1.72**	**158**	*eP*	**Pg**	**09 20 19.8**	**-0.2**
BHK				*eS*	**Sg**	**09 20 44.4**	**+2.0**
CHCP	**Chirah Chowk**	**2.12**	**288**	P	**Pb**	**09 20 26.3**	**+1.4**
CHCP	**Chirah Chowk**	**2.12**	**288**	P	**Pb**	**09 20 26.5**	**+1.6**
CHCP				S	**Sg**	**09 20 55.0**	**0.0**
NIL	**Nilore**	**2.12**	**288**	*ePn*	**Pb**	**09 20 26.3**	**+1.3**
NIL				*eSn*	**Sn**	**09 20 49.5**	**+1.7**
NIL	**Nilore**	**2.12**	**288**	*eP*	**Pb**	**09 20 26.3**	**+1.3**
NIL				*e*		09 20 49.6	
SMLA	**Simla**	**2.27**	**146**	*eP*	**Pb**	**09 20 27.9**	**+0.3**
SMLA				*eS*	**Sb**	**09 20 56.8**	**+1.4**
SMLA				IAML		09 21 02.6	
	comp=N,4μm,0.3s						
SARP	**Sargodha**	**2.77**	**247**	P	**Pb**	**09 20 34.6**	**-1.4**
CEP	**Cherat**	**3.25**	**285**	P	**Pn**	**09 20 40.4**	**+3.1**
THW	**Thamme Wali**	**3.32**	**267**	P	**Pn**	**09 20 41.2**	**+3.0**
DDI	**Dehra Dun**	**3.37**	**142**	*eP*	**Pb**	**09 20 43.1**	**-3.2**
JOSI	**Joshimath**	**4.12**	**126**	*eP*	**Pn**	**09 20 52.9**	**+3.5**
JOSI				*eS*	**Sn**	**09 21 42.0**	**+4.6**
JOSI				IAML		09 22 05.7	
	comp=E,1μm,0.4s						
NDI	**New Delhi**	**4.53**	**163**	*eP*	**Pn**	**09 20 58.0**	**+3.2**
NDI				*eS*	**Sn**	**09 21 48.0**	**+0.9**
SONA	**Sohna**	**4.91**	**165**	*eS*	**Sn**	**09 21 58.2**	**+1.6**
KUDL	**Kundal**	**4.92**	**172**	*eP*	**Pn**	**09 20 59.8**	**-0.3**
KUDL				*eS*	**Sn**	**09 21 53.9**	**-2.7**
KUDL				IAML		09 22 30.2	
	comp=N,210nm,0.3s						
KUDL				IAML		09 22 30.8	
	comp=E,340nm,0.9s						
KHET	**Khetri**	**4.94**	**179**	*eP*	**Pn**	**09 21 03.2**	**+2.8**
KHET				*eS*	**Sn**	**09 21 58.1**	**+0.9**
KBL	**Kabul**	**5.73**	**287**	*ePn*	**Pn**	**09 21 14.3**	**+2.9**
KBL				*eSn*	**Sn**	**09 22 18.5**	**+1.6**
KBL	**Kabul**	**5.73**	**287**	*eP*	**Pn**	**09 21 14.3**	**+2.9**
KBL				*e*		09 22 18.5	
KSH	**Kashi**	**6.48**	**2**	Pn	**Pn**	**09 21 21.5**	**-0.3**
KSH				Sn	**Sn**	**09 22 27.7**	**-7.8**
GAR	**Garm**	**7.38**	**325**	*ePn*	**Pn**	**09 21 35.0**	**+1.0**
GAR				*eSn*	**Sn**	**09 22 56.2**	**-1.2**
GAR	**Garm**	**7.38**	**325**	*eP*	**Pn**	**09 21 35.0**	**+1.0**
GAR				*e*		09 22 56.2	
CHGR	**Chuyangaron**	**7.72**	**319**	*ePg*	**Pb**	**09 21 56.3**	**-4.1**
PYUN	**Piuthan**	**7.99**	**126**	*eP*	**Pn**	**09 21 43.8**	**+1.3**
BTK	**Batken**	**8.03**	**332**	*ePn*	**Pn**	**09 21 45.0**	**+2.0**
BTK	**Batken**	**8.03**	**332**	*eP*	**Pn**	**09 21 45.0**	**+2.0**
DANN	**Dangsing**	**8.37**	**122**	*eP*	**Pn**	**09 21 48.3**	**+0.4**
	comp=E,48nm,0.3s						
NRN	**Naryn**	**8.40**	**2**	*ePn*	**Pn**	**09 21 50.9**	**+2.7**
NRN				*eSn*	**Sn**	**09 23 21.4**	**-1.4**
NRN	**Naryn**	**8.40**	**2**	*eP*	**Pn**	**09 21 50.9**	**+2.7**
NRN				*e*		09 23 21.4	
ARSB	**Arslanbob**	**8.56**	**346**	*ePn*	**Pn**	**09 21 50.7**	**+0.5**
KOLN	**Koldanda**	**8.62**	**125**	*eP*	**Pn**	**09 21 52.5**	**+1.4**
	comp=E,29nm,0.3s						
TARG	**Taragay, Kyrgy**	**8.85**	**10**	*ePn*	**Pn**	**09 21 58.5**	**+3.9**
KZA	**Kyzart**	**9.04**	**358**	P	**Pn**	**09 21 58.9**	**+1.7**
	SNR=23						
KDJ	**Kajisay**	**9.17**	**7**	*ePn*	**Pn**	**09 22 00.6**	**+2.0**
KDJ	**Kajisay**	**9.17**	**7**	*eP*	**Pn**	**09 22 00.6**	**+2.0**
GKN	**Gorkha**	**9.21**	**121**	*eP*	**Pn**	**09 21 59.6**	**+0.4**
	comp=E,69nm,0.3s						
AML	**Almayashu**	**9.22**	**351**	P	**Pn**	**09 22 01.3**	**+1.7**
	SNR=29						
UCH	**Uchtor**	**9.23**	**355**	P	**Pn**	**09 22 01.6**	**+1.8**
	SNR=84						
BOOM	**Boomskoye usch**	**9.45**	**1**	*ePn*	**Pn**	**09 22 03.5**	**+1.0**
BOOM	**Boomskoye usch**	**9.45**	**1**	*eP*	**Pn**	**09 22 03.5**	**+1.0**
AAK	**Ala-Archa**	**9.64**	**355**	P	**Pn**	**09 22 07.0**	**+1.9**
	SNR=15						
AAK	**Ala-Archa**	**9.64**	**355**	*ePn*	**Pn**	**09 22 07.5**	**+2.4**
AAK	**Ala-Archa**	**9.64**	**355**	⇓Pn	**Pn**	**09 22 05.5**	**+0.4**
	comp=E,11nm,0.6s						
AAK				⇓Sn	**Sn**	**09 23 51.7**	**-1.4**
	comp=E,60nm,1.0s						
AAK	**Ala-Archa**	**9.64**	**355**	⇑*eP*	**Pn**	**09 22 07.1**	**+1.9**
AAK				pmax	pmax		
	comp=Z,12nm,1.0s						
AAK	**Ala-Archa**	**9.64**	**355**	P	**Pn**	**09 22 07.1**	**+1.9**
	SNR=8.6						
AAK	**Ala-Archa**	**9.64**	**355**	P	**Pn**	**09 22 07.2**	**+2.0**
	comp=Z,2.1nm,0.3s,baz=165,slow=7.5,SNR=24						
AAK				S	**Sn**	**09 23 50.1**	**-3.1**
	comp=Z,1.1nm,0.3s,baz=140,slow=21,SNR=2.6						
AAK				LR	LR	09 26 12.5	
	comp=Z,255nm,20.7s,baz=166,slow=40						
PRZ	**Przheval'sk**	**9.69**	**12**	*ePn*	**Pn**	**09 22 08.4**	**+2.8**
PRZ	**Przheval'sk**	**9.69**	**12**	*eP*	**Pn**	**09 22 08.5**	**+2.8**
EKS2	**Erkin-Say**	**9.74**	**352**	P	**Pn**	**09 22 10.3**	**+3.9**
	SNR=15						
DMN	**Daman**	**9.77**	**121**	*eP*	**Pn**	**09 22 07.1**	**+0.1**
	comp=Z,93nm,0.6s						
KKN	**Kakani**	**9.79**	**120**	*eP*	**Pn**	**09 22 07.3**	**0.0**
	comp=Z,92nm,0.5s						
TKM2	**Tokmak 2**	**9.88**	**360**	P	**Pn**	**09 22 10.2**	**+1.8**
	SNR=24						
TKM2	**Tokmak 2**	**9.88**	**360**	Pn	**Pn**	**09 22 08.2**	**-0.2**
TKM2				⇑Sn	**Sn**	**09 23 59.3**	**+0.2**
	comp=Z,27nm,0.7s						
PKIN	**Phulchoki**	**10.00**	**120**	*eP*	**Pn**	**09 22 09.9**	**-0.3**
	comp=Z,78nm,0.4s						
PKI	**Pulchoki**	**10.01**	**120**	*eP*	**Pn**	**09 22 09.9**	**-0.5**
	comp=Z,76nm,0.3s						
IUG	**Iuzhnay**	**10.14**	**335**	*eP*	**Pn**	**09 22 10.6**	**-1.3**
IUG				MLR	MLR		
	comp=Z,69nm,11.0s						
IUG	**Iuzhnay**	**10.14**	**335**	*eP*	**Pn**	**09 22 10.6**	**-1.3**
IUG				*eLR*	LR	09 25 56.9	
	comp=Z,70nm,11.1s						
MDOK	**Medeo**	**10.18**	**6**	⇑Pn	**Pn**	**09 22 12.6**	**+0.1**
MDOK				⇑Sn	**Sn**	**09 24 06.8**	**+0.4**
MDOK	**Medeo**	**10.18**	**6**	*eP*	**Pn**	**09 22 13.8**	**+1.4**
MDOK				pmax	pmax		
	comp=Z,32nm,0.7s						
MDOK				MLR	MLR		
	comp=Z,222nm,10.0s						
MDOK	**Medeo**	**10.18**	**6**	*eP*	**Pn**	**09 22 13.9**	**+1.4**
	comp=Z,32nm,0.7s						
MDOK				*eLR*	LR	09 26 12.8	
	comp=Z,222nm,10.3s						
AAA	**Alma-Ata**	**10.21**	**5**	*eLR*	LR	09 26 13.6	
	comp=Z,154nm,10.2s						
JBG	**Jabagly**	**10.22**	**338**	*eP*	**Pn**	**09 22 14.5**	**+1.5**
JBG				*i* S	**Sn**	**09 24 03.0**	**-4.4**
JBG				MLR	MLR		
	comp=Z,82nm,11.0s						
SATY	**Saty**	**10.25**	**11**	*eP*	**Pn**	**09 22 14.6**	**+1.3**
SATY				pmax	pmax		
	comp=Z,20nm,0.9s						
SATY				MLR	MLR		
	comp=Z,72nm,9.0s						
SATY	**Saty**	**10.25**	**11**	*eP*	**Pn**	**09 22 14.7**	**+1.3**
	comp=Z,20nm,0.9s						
SATY				*eLR*	LR	09 25 27.1	
	comp=Z,72nm,8.7s						
USP	**Ospenovka**	**10.27**	**355**	P	**Pn**	**09 22 14.7**	**+1.1**
	SNR=7.8						
UZB	**Uzynbulak**	**10.44**	**14**	*eP*	**Pn**	**09 22 17.4**	**+1.4**
UZB				*eS*	**Sn**	**09 24 12.2**	**-0.6**
UZB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
UZB				smax	smax		
	comp=N,31nm,1.8s						
UZB				MLR	MLR		
	comp=Z,109nm,14.0s						
UZB	**Uzynbulak**	**10.44**	**14**	*eP*	**Pn**	**09 22 17.5**	**+1.4**
	comp=Z,4.3nm,0.8s						
UZB				*eS*	**Sn**	**09 24 12.2**	**-0.6**
	comp=Z,31nm,1.8s						
UZB				*eLR*	LR	09 26 23.1	
	comp=Z,109nm,13.5s						
JBP	**Jabalpur**	**10.53**	**158**	*eP*	**Pn**	**09 22 18.3**	**+1.1**
JBP				*eS*	**Sn**	**09 24 10.5**	**-4.2**
JIRN	**Jiri**	**10.54**	**118**	*eP*	**Pn**	**09 22 17.4**	**-0.2**
	comp=Z,135nm,0.3s						
SHLS	**Shalkode**	**10.54**	**15**	*eP*	**Pn**	**09 22 19.9**	**+2.5**
SHLS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SHLS				MLR	MLR		
	comp=Z,138nm,12.0s						
SHLS	**Shalkode**	**10.54**	**15**	*eP*	**Pn**	**09 22 20.0**	**+2.5**
	comp=Z,7.6nm,0.6s						
SHLS				*eLR*	LR	09 26 40.6	
	comp=Z,138nm,11.9s						
KPKS	**Kokpek**	**10.69**	**12**	*eP*	**Pn**	**09 22 20.7**	**+1.4**
KPKS				pmax	pmax		
	comp=Z,17nm,0.7s						
KPKS				MLR	MLR		
	comp=Z,87nm,10.0s						
KPKS	**Kokpek**	**10.69**	**12**	*eP*	**Pn**	**09 22 20.8**	**+1.4**
	comp=Z,17nm,0.7s						
KPKS				*eLR*	LR	09 26 29.9	
	comp=Z,87nm,10.3s						
PDGK	**Podgornoye**	**10.71**	**15**	⇓Pn	**Pn**	**09 22 20.8**	**+1.0**
	comp=Z,28nm,0.5s						
PDGK				⇓Sn	**Sn**	**09 24 20.3**	**+0.9**
	comp=Z,20nm,0.6s						
KK31	**Karatay Array**	**10.85**	**339**	*ePn*	**Pn**	**09 22 21.4**	**-0.1**
KK31	**Karatay Array**	**10.85**	**339**	Pn	**Pn**	**09 22 21.2**	**-0.3**
	comp=Z,21nm,0.8s,baz=159,slow=12,SNR=87						
KK31				Sn	**Sn**	**09 24 21.0**	**-1.6**
	comp=Z,12nm,0.3s,baz=161,slow=24,SNR=11						
KK31	**Karatay Array**	**10.85**	**339**	*eP*	**Pn**	**09 22 21.4**	**-0.1**
KKAR	**Karatay Array**	**10.85**	**339**	*ePn*	**Pn**	**09 22 21.4**	**-0.1**
KKAR				*ePn*	Pn	09 22 21.5	0.0
KKAR	**Karatay Array**	**10.85**	**339**	*eP*	**Pn**	**09 22 21.4**	**-0.1**
KUU	**Kurty**	**10.86**	**3**	*eLR*	LR	09 26 35.0	
	comp=Z,199nm,10.7s						
RAMN	**Ramite**	**11.23**	**120**	*eP*	**Pn**	**09 22 26.4**	**-0.7**
	comp=Z,63nm,0.4s						
BTLS	**Baital**	**12.07**	**354**	*eLR*	LR	09 26 58.9	
	comp=Z,132nm,13.5s						
NGP	**Nagpur**	**12.20**	**165**	*ex*	**Pn**	**09 22 40.0**	**-0.1**
NGP				*eS*	**Sn**	**09 24 49.7**	**-6.1**
LSA	**Lhasa**	**13.63**	**100**	*ePn*	**Pn**	**09 22 56.7**	**-3.3**
LSA	**Lhasa**	**13.63**	**100**	*eP*	**Pn**	**09 22 56.7**	**-3.3**
WMQ	**Urumqi**	**14.30**	**38**	*eP*	**Pn**	**09 23 08.8**	**+0.1**
WMQ				pP	P	09 23 14.0	-1.8
WMQ				sP		09 23 18.0	
WMQ				PP	**PnPn**	**09 23 23.1**	**+6.5**
WMQ				S	**Sn**	**09 25 42.3**	**-4.6**
WMQ				pmax	pmax		
	comp=Z,37nm,0.7s						
WMQ				LR	LR		
	comp=Z,2μm,20.5s						
MAKZ	**Makanchi**	**14.58**	**17**	*ePn*	**Pn**	**09 23 11.3**	**-1.2**
MAKZ	**Makanchi**	**14.58**	**17**	*eP*	**Pn**	**09 23 11.3**	**-1.2**
MK31	**Makanchi Array**	**14.65**	**18**	*ePn*	**Pn**	**09 23 11.8**	**-1.6**
MK31	**Makanchi Array**	**14.65**	**18**	*eP*	**Pn**	**09 23 11.8**	**-1.6**
MK32	**Makanchi Array**	**14.65**	**18**	*ePn*	**Pn**	**09 23 11.8**	**-1.6**
MKAR	**Makanchi Array**	**14.65**	**18**	*ePn*	**Pn**	**09 23 11.4**	**-2.0**
MKAR	**Makanchi Array**	**14.65**	**18**	P	**Pn**	**09 23 11.8**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=196,slow=12,SNR=39						
MKAR				S	**Sn**	**09 25 49.2**	**-6.2**
	comp=Z,1.4nm,0.3s,baz=195,slow=23,SNR=11						
GEYT	**Alibeck**	**15.12**	**294**	P	**Pn**	**09 23 15.9**	**-3.9**
	comp=Z,0.4nm,0.3s,baz=99,slow=8.9,SNR=4.2						
GEYT				S	**Sn**	**09 26 04.3**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=174,slow=15,SNR=3.6						
GEYT				LR	LR	09 30 30.5	
	comp=Z,76nm,18.6s,baz=60,slow=42						
HYB	**Hyderabad**	**15.76**	**170**	*i* P	**Pn**	**09 23 25.5**	**-2.7**
HYB				*e*		09 23 38.0	
HYB				*e*		09 26 10.5	
HYB				*eS*	**Sn**	**09 26 16.5**	**-6.1**
SHL	**Shillong**	**15.96**	**114**	*ePn*	**Pn**	**09 23 31.0**	**0.0**
	comp=Z,23nm,0.9s						
SHL	**Shillong**	**15.96**	**114**	*eP*	**Pn**	**09 23 31.0**	**0.0**
SHL				pmax	pmax		
	comp=Z,23nm,0.9s						
ZSN	**Zaisan**	**16.01**	**23**	*eP*	**Pn**	**09 23 31.3**	**0.0**
ZSN				*eS*	**Sn**	**09 26 24.5**	**-3.9**
ZSN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZSN				smax	smax		
	comp=N,2.0nm,1.1s						
ZSN				MLR	MLR		
	comp=Z,96nm,13.0s						
ZSN	**Zaisan**	**16.01**	**23**	*eP*	**Pn**	**09 23 31.3**	**0.0**
	comp=Z,1.9nm,0.8s						
ZSN				*eS*	**Sn**	**09 26 24.6**	**-3.9**
	comp=Z,2.2nm,1.1s						
ZSN				*eLR*	LR	09 29 31.0	
	comp=Z,96nm,13.1s						
KURBB	**Kurchatov Arra**	**17.71**	**6**	⇑P	**Pn**	**09 23 52.3**	**-0.4**
	comp=Z,24nm,1.2s						
KURBB	**Kurchatov Arra**	**17.71**	**6**	P	**Pn**	**09 23 50.1**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=193,slow=11,SNR=34						
KURBB				S	**Sn**	**09 27 11.3**	**+1.7**
	baz=193,slow=20,SNR=9.5						
KURK	**Kurchatov**	**17.81**	**6**	*ePn*	**Pn**	**09 23 51.5**	**-2.4**
	comp=Z,14nm,0.8s						
KURK	**Kurchatov**	**17.81**	**6**	*deP*	**Pn**	**09 23 52.1**	**-1.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KURK	**Kurchatov**	**17.81**	**6**	P	**Pn**	**09 23 52.5**	**-1.4**
	SNR=9.7						
WSAR	**Wadi Sarin**	**17.90**	**241**	P	**P**	**09 23 57.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=116,slow=13,SNR=3.3						
WSAR				LR	LR	09 32 54.0	
	comp=Z,95nm,18.3s,baz=82,slow=43						
DGZ	**Jazzator, Alta**	**18.81**	**24**	*deP*	**Pn**	**09 24 06.2**	**-0.2**
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.5s						
AB31	**Akbulak array**	**20.02**	**329**	⇑P	**P**	**09 24 19.0**	**+0.2**
	comp=

LZH			pP	pP	09 25 00.1	-0.2
LZH			sP	sP	09 25 02.9	+0.2
LZH			PP	PnPn	09 25 23.3	+2.3
LZH			pmax	pmax		
	comp=E,14nm,1.1s					
LZH			pmax	pmax		
	comp=E,87nm,4.8s					
LZH			LR	LR		
	comp=E,120nm,13.0s					
LZH			LR	LR		
	comp=E,180nm,11.4s					
LZH			LR	LR		
	comp=E,200nm,14.2s					
CD2	**Chengdu**	**23.89 87**	*e*P	**P**	**09 24 58.8**	**-1.1**
CD2			pmax	pmax		
	comp=E,40nm,0.4s					
KMI	**Kunming**	**24.88 101**	P	**P**	**09 25 10.4**	**+1.2**
KMI			pmax	pmax		
	comp=E,24nm,0.9s					
CHTO	**Chiang Mai**	**25.19 118**	*e*P	**P**	**09 25 12.3**	**+0.5**
	comp=E,34nm,1.6s					
CHTO	**Chiang Mai**	**25.19 118**	*e*P	**P**	**09 25 12.3**	**+0.5**
CHTO			pmax	pmax		
	comp=Z,34nm,1.6s					
CMMT	**Chiang Mai**	**25.19 118**	P	**P**	**09 25 13.5**	**+1.7**
	comp=Z,7.8nm,1.1s					
CM31	**Chiang Mai Arr**	**25.41 119**	*e*P	**P**	**09 25 13.1**	**-0.7**
	comp=Z,23nm,1.1s					
CMAR	**Chiang Mai Arr**	**25.41 119**	*e*P	**P**	**09 25 14.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**25.41 119**	P	**P**	**09 25 14.9**	**+1.1**
	comp=Z,5.9nm,0.8s,baz=308,slow=9.8,SNR=38					
GNI	**Garni**	**25.75 295**	*e*P	**P**	**09 25 13.9**	**-3.0**
	comp=Z,35nm,1.2s					
GNI	**Garni**	**25.75 295⇑**	*e*P	**P**	**09 25 20.3**	**+3.4**
GNI			pmax	pmax		
	comp=Z,131nm,1.0s					
GNI	**Garni**	**25.75 295**	P	**P**	**09 25 20.8**	**+3.9**
	SNR=9.3					
GNI	**Garni**	**25.75 295**	P	**P**	**09 25 20.5**	**+3.6**
	comp=Z,12nm,0.5s,baz=268,slow=2.2,SNR=8.6					
PALK	**Pallekele**	**26.05 169**	*e*P	**P**	**09 25 19.2**	**-0.4**
	comp=Z,23nm,1.5s					
PALK	**Pallekele**	**26.05 169**	*e*P	**P**	**09 25 19.2**	**-0.4**
PALK			pmax	pmax		
	comp=Z,23nm,1.5s					
PALK	**Pallekele**	**26.05 169**	P	**P**	**09 25 21.7**	**+2.1**
	comp=Z,4.8nm,0.8s,baz=293,slow=5.9,SNR=3.3					
ARU	**Arti**	**26.23 338**	*e*P	**P**	**09 25 20.6**	**-0.2**
	comp=Z,13nm,0.8s					
ARU	**Arti**	**26.23 338**	*c i*P	**P**	**09 25 21.8**	**+1.0**
ARU					09 25 59.6	
ARU			S	**S**	**09 29 56.3**	**+4.1**
ARU			pmax	pmax		
	comp=Z,15nm,0.8s					
ZAK	**Zakamensk**	**26.71 41**	*e*P	**P**	**09 25 25.5**	**+0.1**
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.5s					
ZEI	**Tsey**	**26.76 301**	*e*P	**P**	**09 25 27.6**	**+1.5**
ZEI			pmax	pmax		
	comp=Z,3.0nm,0.5s					
UMPA	**Umpang Tak**	**26.82 123**	P	**P**	**09 25 30.3**	**+3.7**
	comp=Z,23µm,0.9s					
AKH	**Akhalkalaki**	**26.84 297**	*e*P	**P**	**09 25 28.0**	**+1.2**
	comp=Z,12nm,1.0s					
AKH	**Akhalkalaki**	**26.84 297**	*e*P	**P**	**09 25 28.0**	**+1.2**
AKH			pmax	pmax		
	comp=Z,12nm,1.0s					
UTTA	**Uttaradit**	**27.05 118**	P	**P**	**09 25 32.5**	**+3.9**
	comp=Z,11µm,0.7s					
SIRT	**Sirnak**	**27.42 289**	*e*P	**P**	**09 25 32.2**	**+0.3**
	comp=Z,25nm,0.4s					
SONA0	**Songino Array**	**27.45 48**	*e*P	**P**	**09 25 33.5**	**+1.4**
SONM	**Songino Array**	**27.45 48**	*e*P	**P**	**09 25 32.9**	**+0.7**
SONM	**Songino Array**	**27.45 48**	P	**P**	**09 25 33.5**	**+1.4**
	comp=Z,3.4nm,0.6s,baz=245,slow=9.5,SNR=29					
TLY	**Talaya**	**27.57 39**	*e*P	**P**	**09 25 33.5**	**+0.4**
	comp=Z,2.7nm,1.1s					
TLY	**Talaya**	**27.57 39⇑**	*i*P	**P**	**09 25 34.5**	**+1.4**
SLVN	**Son La**	**27.59 108**	*e*P	**P**	**09 25 34.0**	**+0.4**
	comp=Z,5.2nm,1.0s					
GYA	**Guiyang**	**27.62 96**	*e*P	**P**	**09 25 36.0**	**+2.1**
GYA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
KBZ	**Khabaz**	**27.66 302**	P	**P**	**09 25 35.0**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=147,slow=9.0,SNR=5.2					
XAN	**Xi'an**	**27.67 79**	P	**P**	**09 25 34.6**	**+0.5**
XAN			pP	pP	09 25 40.4	+0.7
XAN			pmax	pmax		
	comp=Z,5.0nm,0.7s					
XAN			LR	LR		
	comp=Z,190nm,17.3s					
KIV	**Kislovodsk**	**27.86 303**	*e*P	**P**	**09 25 36.2**	**+0.4**
KIV			pmax	pmax		
	comp=Z,9.0nm,0.8s					
KIV			MLR	MLR		
	comp=Z,80nm,15.0s					
ULN	**Ulaanbaatar**	**27.87 49**	*e*P	**P**	**09 25 35.0**	**-0.9**
	comp=Z,3.0nm,0.9s					
ULN	**Ulaanbaatar**	**27.87 49⇑**	*e*P	**P**	**09 25 37.7**	**+1.7**
ULN			pmax	pmax		
	comp=Z,3.0nm,0.8s					
CHAI	**Chaiyaphum**	**29.27 119**	P	**P**	**09 25 50.8**	**+2.3**
	comp=Z,15µm,0.8s					
HHC	**Hu-ho-hao-te**	**29.57 64**	*e*P	**P**	**09 25 51.8**	**+0.7**
HHC			pmax	pmax		
	comp=Z,68nm,0.9s					
HHC			pmax	pmax		
	comp=Z,260nm,4.6s					
LHMI	**Lhok Sumawe**	**34.03 140**	*e*P	**P**	**09 26 28.1**	**-2.2**
	comp=Z,37nm,0.8s					
ILGA	**Ilgaz**	**34.17 296**	*e*P	**P**	**09 26 32.8**	**+1.1**
	comp=Z,6.5nm,0.9s					
BR101	**Keskin Array S**	**34.26 293**	*e*P	**P**	**09 26 34.2**	**+1.9**
BR131	**Keskin Array S**	**34.26 293**	*e*P	**P**	**09 26 33.6**	**+1.3**
	comp=Z,6.0nm,0.8s					
BR131	**Keskin Array S**	**34.26 293**	*e*P	**P**	**09 26 33.6**	**+1.3**
BR131			pmax	pmax		
	comp=Z,6.0nm,0.8s					
BRTR	**Keskin Array B**	**34.26 293**	*e*P	**P**	**09 26 33.6**	**+1.3**
BRTR	**Keskin Array B**	**34.26 293**	P	**P**	**09 26 34.2**	**+1.9**
	comp=Z,6.3nm,1.0s,baz=99,slow=8.0,SNR=29					
PRGR	**Permogore**	**34.53 335**	P	**P**	**09 26 30.3**	**-3.8**
PRGR			pmax	pmax		
	comp=Z,14nm,0.6s					
ANTO	**Ankara**	**34.91 294**	*e*P	**P**	**09 26 39.9**	**+2.1**
	comp=Z,7.3nm,0.5s					
OBN	**Obninsk**	**35.06 321⇓**	*e*P	**P**	**09 26 39.5**	**+0.7**
OBN			*e*		09 27 58.9	
OBN			*e*S	**S**	**09 32 15.7**	**+5.3**
OBN			pmax	pmax		
	comp=Z,7.0nm,0.6s					
OBN			MLR	MLR		
	comp=Z,41nm,14.0s					
BOD	**Bodaibo**	**35.81 35**	*e*P	**P**	**09 26 45.6**	**+0.3**
BOD			pmax	pmax		
	comp=Z,4.0nm,2.4s					
NJ2	**Nanjing**	**36.23 79**	*e*P	**P**	**09 26 49.0**	**-0.1**
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.5s					
KLMR	**Klimovskoe**	**36.39 331**	*e*P	**P**	**09 26 49.6**	**-0.5**
KLMR			pmax	pmax		
	comp=Z,8.0nm,1.1s					
NRIK	**Noril'sk**	**36.98 7**	P	**P**	**09 26 55.9**	**+0.8**
	comp=Z,2.5nm,0.4s,baz=186,slow=7.5,SNR=9.3					
AKASG	**Malin Array Be**	**38.12 312**	*e*P	**P**	**09 27 04.2**	**-0.8**
AKASG	**Malin Array Be**	**38.12 312**	*c e*P	**P**	**09 27 04.8**	**-0.2**
AKASG			pmax	pmax		
	comp=Z,5.0nm,0.6s					
AKASG	**Malin Array Be**	**38.12 312**	P	**P**	**09 27 04.8**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=80,slow=7.0,SNR=25					
AKBB	**Malin Array Si**	**38.12 312**	*e*P	**P**	**09 27 04.0**	**-0.9**
	comp=Z,6.0nm,0.6s					
KIEV	**Kiev**	**38.13 312**	*e*P	**P**	**09 27 03.9**	**-1.2**
	comp=Z,5.5nm,0.6s					
KIEV	**Kiev**	**38.13 312**	*c e*P	**P**	**09 27 04.7**	**-0.4**
KIEV			pmax	pmax		
	comp=Z,4.0nm,0.6s					
VRI	**Vrincioaia**	**39.33 304⇑**	*i*P	**P**	**09 27 16.7**	**+1.5**
VRI	**Vrincioaia**	**39.33 304** ⇑	P	**P**	**09 27 16.7**	**+1.5**
PLOR	**Plostina**	**39.38 304⇑**	*i*P	**P**	**09 27 17.5**	**+1.8**
PLOR	**Plostina**	**39.38 304** ⇑	P	**P**	**09 27 17.5**	**+1.8**
MLR	**Muntele Rosu**	**39.87 303**	*e*P	**P**	**09 27 21.3**	**+1.4**
	comp=Z,11nm,0.8s					
MLR	**Muntele Rosu**	**39.87 303⇓**	*i*P	**P**	**09 27 22.2**	**+2.3**
MLR	**Muntele Rosu**	**39.87 303** ⇓	P	**P**	**09 27 22.2**	**+2.3**
BURAR	**Bucovina Array**	**40.42 306**	*e*P	**P**	**09 27 24.8**	**+0.4**
BURAR	**Bucovina Array**	**40.42 306⇓**	*i*P	**P**	**09 27 25.1**	**+0.7**
BURAR	**Bucovina Array**	**40.42 306** ⇓	P	**P**	**09 27 25.1**	**+0.7**
BUR08	**Bucovina Ar. S**	**40.44 306**	*e*P	**P**	**09 27 24.5**	**-0.1**
	comp=Z,2.2nm,0.6s					
VSU	**Vasula**	**41.28 323⇓**	*e*P	**P**	**09 27 31.5**	**+0.3**
VSU			pmax	pmax		
	comp=Z,30nm,0.7s					
KWP	**Kalwaria Pacla**	**42.18 309**	*e*P	**P**	**09 27 39.5**	**+0.8**
	comp=Z,75nm,0.7s					
KS15	**Wonju Array Si**	**42.43 69**	*e*P	**P**	**09 27 38.7**	**-2.2**
	comp=Z,11nm,1.1s					
KSRS	**Korea Array**	**42.45 69**	P	**P**	**09 27 40.0**	**-1.1**
KSRS	**Korea Array**	**42.45 69**	P	**P**	**09 27 40.0**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=277,slow=8.5,SNR=6.3					
FIA0	**FINESS Array S**	**42.49 327**	*e*P	**P**	**09 27 41.6**	**+0.5**
FINES	**FINESS Array B**	**42.49 327**	P	**P**	**09 27 41.6**	**+0.6**
	comp=Z,4.3nm,0.7s,baz=112,slow=10.0,SNR=14					
FINES			LR	LR	09 44 47.1	
	comp=Z,67nm,19.0s,baz=246,slow=35					
KLR	**Kul'dur**	**44.19 51⇑**	*i*P	**P**	**09 27 55.7**	**+0.7**
KLR			pmax	pmax		
	comp=Z,4.0nm,0.8s					
USRK	**Ussuriysk Ar.**	**44.60 58**	P	**P**	**09 27 58.8**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=258,slow=8.7,SNR=4.1					
VYHS	**Vyhne**	**44.71 308**	*e*P	**P**	**09 28 02.8**	**+3.7**
VYHS	**Vyhne**	**44.71 308**	*e*P	**P**	**09 28 02.8**	**+3.7**
KSM	**Kuching**	**45.18 127**	*e*P	**P**	**09 28 01.5**	**-1.7**
	comp=Z,7.9nm,0.7s					
MORC	**Moravsky Berou**	**45.53 310**	*e*P	**P**	**09 28 05.8**	**+0.1**
	comp=Z,5.0nm,0.9s					
MORC	**Moravsky Berou**	**45.53 310⇑**	*i*P	**P**	**09 28 06.6**	**+0.9**
MORC	**Moravsky Berou**	**45.53 310** ⇑	P	**P**	**09 28 06.6**	**+0.9**
JOW	**Kunigami**	**45.61 83**	*e*P	**P**	**09 28 05.9**	**-0.7**
	comp=Z,26nm,0.9s					
JOW	**Kunigami**	**45.61 83**	LR	LR	09 47 48.2	
	comp=Z,2µm,20.8s,baz=38,slow=37					
ARA0	**ARCESS Array S**	**45.81 338**	*e*P	**P**	**09 28 08.5**	**+1.0**
ARCES	**ARCESS Array B**	**45.81 338**	P	**P**	**09 28 08.5**	**+1.0**
	comp=Z,4.7nm,0.6s,baz=110,slow=8.3,SNR=36					
DPC	**Dobruska-Polom**	**46.30 310**	*e*P	**P**	**09 28 12.7**	**+0.9**
DPC			*e*		09 28 17.5	
DPC	**Dobruska-Polom**	**46.30 310**	*e*P	**P**	**09 28 12.7**	**+0.9**
DPC			*ep*P	**pP**	**09 28 17.5**	**0.0**
UPC	**Upice**	**46.50 311**	*e*P	**P**	**09 28 14.5**	**+1.3**
UPC			*e*		09 28 23.0	
UPC	**Upice**	**46.50 311**	*e*P	**P**	**09 28 14.5**	**+1.3**
UPC			*ex*	x	09 28 23.0	
TIP	**Timpagrande**	**47.28 295**	*e*P	**P**	**09 28 19.9**	**+0.3**
	comp=Z,12nm,1.3s					
TIXI	**Tiksi**	**47.63 20**	*e*P	**P**	**09 28 21.8**	**+0.1**
	comp=Z,7.2nm,1.4s					
TIXI	**Tiksi**	**47.63 20⇑**	*e*P	**P**	**09 28 21.4**	**-0.3**
TIXI			pmax	pmax		
	comp=Z,4.0nm,1.3s					
BRG	**Berggiesshubel**	**47.80 311**	*e*P	**P**	**09 28 24.1**	**+0.7**
	comp=Z,5.2nm,0.8s					
BRG	**Berggiesshubel**	**47.80 311**	*e*P	**P**	**09 28 24.1**	**+0.7**
BRG			pmax	pmax		
	comp=Z,5.0nm,0.8s					
GEC2	**GERESS Array S**	**48.09 308**	*e*P	**P**	**09 28 25.8**	**0.0**
	comp=Z,3.6nm,1.3s					
GERES	**GERESS Array B**	**48.09 308**	P	**P**	**09 28 26.6**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=70,slow=7.7,SNR=5.9					
CLL	**Collm**	**48.37 312**	*i*P	**P**	**09 28 27.8**	**0.0**
CLL	**Collm**	**48.37 312**	*i*P	**P**	**09 28 27.8**	**0.0**
NB2	**NORSAR Subarra**	**49.45 325**	P	**P**	**09 28 35.8**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=95,slow=7.9					
NB200	**NORSAR Array S**	**49.45 325**	*e*P	**P**	**09 28 35.9**	**0.0**
NOA	**NORSAR Array B**	**49.45 325**	P	**P**	**09 28 35.9**	**0.0**
	comp=Z,2.3nm,0.6s,baz=102,slow=7.2,SNR=28					
NOA			LR	LR	09 51 29.1	
	comp=Z,31nm,18.5s,baz=260,slow=38					
MAJO	**Matsushiro**	**50.68 67**	*e*P	**P**	**09 28 45.1**	**-0.5**
	comp=Z,13nm,0.7s					
MAJO	**Matsushiro**	**50.68 67⇓**	*e*P	**P**	**09 28 45.3**	**-0.3**
MAJO			pmax	pmax		
	comp=Z,13nm,0.7s					
MAT	**Matsushiro**	**50.68 67**	P	**P**	**09 28 44.8**	**-0.8**
MJAR	**Matsushiro Arr**	**50.68 67**	*e*P	**P**	**09 28 45.3**	**-0.4**
MJAR	**Matsushiro Arr**	**50.68 67**	P	**P**	**09 28 45.7**	**+0.1**
	comp=Z,6.9nm,0.7s,baz=283,slow=10.0,SNR=16					
YSS	**Yuzh-Sakhalins**	**51.73 53**	*e*P	P	09 28 40.6	-13
YSS			MLR	MLR		
	comp=Z,100nm,14.0s					
SENIN	**Lac Senin/Sane**	**52.72 306**	*e*P	**P**	**09 29 01.0**	**0.0**
	comp=Z,5.8nm,0.6s					
KEST	**Kesra**	**53.86 293**	*e*P	**P**	**09 29 10.3**	**+0.9**
	comp=Z,23nm,1.5s					
KEST	**Kesra**	**53.86 293**	P	**P**	**09 29 10.7**	**+1.3**
	comp=Z,3.0nm,0.6s,baz=242,slow=13,SNR=3.4					
MA2	**Magadan**	**54.77 37⇓**	*e*P	**P**	**09 29 16.6**	**+1.1**
MA2			pmax	pmax		
	comp=Z,5.0nm,1.0s					
SEY	**Seymchan**	**55.20 33⇑**	*e*P	**P**	**09 29 19.6**	**+1.1**
DAG	**Danmarks Havn**	**59.12 344**	*i*P	**P**	**09 29 46.7**	**+0.6**
DAG	**Danmarks Havn**	**59.12 344**	*i*P	**P**	**09 29 46.7**	**+0.6**
PEA1	**Petropavlovsk-**	**59.80 44**	*e*P	**P**	**09 29 51.1**	**0.0**
PETK	**Petropavlovsk-**	**59.80 44**	P	**P**	**09 29 51.1**	**0.0**
	comp=Z,2.2nm,0.7s,baz=235,slow=5.2,SNR=4.1					
BILL	**Bilibino**	**60.05 26⇓**	*e*P	**P**	**09 29 54.0**	**+1.4**
BILL			*e*		09 30 39.7	
BILL			*e*		09 32 04.5	
BILL			pmax	pmax		
	comp=Z,3.0nm,1.1s					
ESDC	**Sonseca Array**	**62.52 301**	*e*P	**P**	**09 30 09.3**	**-0.5**
ESDC			*e*P	**P**	**09 30 10.5**	**+0.7**
ESDC	**Sonseca Array**	**62.52 301**	P	**P**	**09 30 10.5**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=62,slow=7.6,SNR=20					
SUMG	**Summit**	**65.56 342**	*e*P	**P**	**09 30 30.3**	**+0.6**
	comp=Z,6.5nm,1.0s					
SUMG	**Summit**	**65.56 342**	*i*P	**P**	**09 30 30.9**	**+1.2**
SUMG			pmax	pmax		
	comp=Z,12nm,0.8s					
SUMG	**Summit**	**65.56 342**	*i*P	**P**	**09 30 30.9**	**+1.2**
	comp=Z,12nm,0.8s					
TOA0	**Torodi Ar. Sit**	**69.61 273**	*e*P	**P**	**09 30 54.8**	**-0.9**
	comp=Z,7.0nm,0.8s					
TOA1	**Torodi Ar. Sit**	**69.61 273**	*e*P	**P**	**09 30 53.3**	**-2.4**
TORD	**Torodi Ar. Bea**	**69.61 273**	*e*P	**P**	**09 30 53.8**	**-1.9**
TORD	**Torodi Ar. Bea**	**69.61 273**	P	**P**	**09 30 53.3**	**-2.4**
	comp=Z,5.9nm,0.8s,baz=42,slow=5.5,SNR=32					
FITZ	**Fitzroy Crossi**	**69.72 129**	P	**P**	**09 30 56.2**	**0.0**
	comp=Z,1.9nm,0.8s,baz=298,slow=5.8,SNR=4.2					
TOLK	**Toolik Lake Re**	**73.26 16**	*e*P	**P**	**09 31 17.0**	**0.0**
	comp=Z,8.2nm,0.6s					
IMAR	**Indian Mountai**	**74.26 19**	*e*P	**P**	**09 31 22.8**	**0.0**
NRS	**Narsarsuaq**	**74.69 335**	*e*P	**P**	**09 31 24.0**	**-1.3**
	comp=Z,24nm,1.0s					
BMAR	**Burnt Mountain**	**75.35 15**	*e*P	**P**	**09 31 30.1**	**+1.0**
MLY	**Manley**	**75.80 18**	*e*P	**P**	**09 31 31.4**	**-0.3**
	comp=Z,4.7nm,0.9s					
BPAW	**Bear Paw Mtn.**	**76.46 19**	*e*P	**P**	**09 31 35.6**	**+0.1**
	comp=Z,3.9nm,1.0s					
MDM	**Murphy Dome**	**76.51 18**	*e*P	**P**	**09 31 35.9**	**+0.1**
	comp=Z,4.6nm,0.9s					
INK	**Inuvik**	**76.65 11**	*e*P	**P**	**09 31 36.7**	**+0.3**
	comp=Z,8.8nm,1.0s					
COLA	**College**	**76.68 18**	*e*P	**P**	**09 31 37.1**	**+0.4**
	comp=Z,7.8nm,0.8s					
COLA	**College**	**76.68 18⇑**	*e*P	**P**	**09 31 37.1**	**+0.4**
COLA			pmax	pmax		
	comp=Z,8.0nm,0.9s					
CAST	**Castle Rocks**	**76.68 20**	*e*P	**P**	**09 31 37.7**	**+0.9**
	comp=Z,10nm,0.8s					
WR1	**Warramunga Arr**	**76.87 124**	*e*P	**P**	**09 31 38.6**	**+0.2**
WRA	**Warramunga Arr**	**76.87 124**	*e*P	**P**	**09 31 38.2**	**-0.2**
WRA	**Warramunga Arr**	**76.87 124**	*e*P	**P**	**09 31 38.3**	**-0.2**
WRA	**Warramunga Arr**	**76.87 124**	P	**P**	**09 31 38.6**	**+0.2**
	comp=Z,7.0nm,0.9s,baz=326,slow=5.7,SNR=43					
WRAB	**Tennant Creek**	**76.87 124**	*e*P	**P**	**09 31 38.0**	**-0.4**
	comp=Z,2.0nm,1.3s					
WRAB	**Tennant Creek**	**76.87 124**	*c e*P	**P**	**09 31 38.5**	**+0.1**
WB2	**Warramunga Arr**	**76.88 124**	*e*P	**P**	**09 31 38.6**	**+0.1**
	comp=Z,17nm,1.4s					
ILAR	**Eielson Array**	**77.00 17**	*e*P	**P**	**09 31 38.7**	**+0.1**
ILAR	**Eielson Array**	**77.00 17**	P	**P**	**09 31 38.4**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=313,slow=5.4,SNR=23					
ILB	**Eielson Array**	**77.00 17**	*e*P	**P**	**09 31 38.0**	**-0.5**
	comp=Z,3.8nm,1.0s					
BOSA	**Boshof**	**77.75 224**	P	**P**	**09 31 43.6**	**+0.3**
	comp=Z,3.6nm,0.6s,baz=37,slow=4.0,SNR=14					
DBIC	**Dimbokro**	**78.47 270**	*e*P	**P**	**09 31 47.2**	**-0.3**
	comp=Z,42nm,1.5s					
DBIC	**Dimbokro**	**78.47 270**	P	**P**	**09 31 47.5**	**0.0**
	comp=Z,6.3nm,0.8s,baz=15,slow=8.6,SNR=5.1					
PAX	**Paxson**	**78.84 18**	*e*P	**P**	**09 31 49.1**	**+0.1**
	comp=Z,15nm,1.6s					
PAX	**Paxson**	**78.84 18**	*e*P	**P**	**09 31 49.1**	**+0.1**
PAX			pmax	pmax		
	comp=Z,15nm,1.6s					
AS31	**Alice Springs**	**79.10 127**	*e*P	**P**	**09 31 50.9**	**+0.1**
	comp=Z,1.9nm,0.9s					
ASAR	**Alice Springs**	**79.10 127**	*e*P	**P**	**09 31 50.8**	**0.0**
ASAR	**Alice Springs**	**79.10 127**	P	**P**	**09 31 51.0**	**+0.2**
ASAR	**Alice Springs**	**79.10 127**	P	**P**	**09 31 51.0**	**+0.2**
	comp=Z,5.0nm,0.8s,baz=316,slow=5.7,SNR=45					
DAWY	**Dawson**	**79.35 15**	*e*P	**P**	**09 31 51.4**	**-0.2**
	comp=Z,8.7nm,1.4s					
HARP	**HAARP**	**79.39 18**	*e*P	**P**	**09 31 52.8**	**+0.9**
	comp=Z,18nm,0.8s					
BCAR	**Beaver Creek A**	**79.67 16**	*e*P	**P**	**09 31 53.5**	**0.0**
SEW	**Seward**	**80.06 21**	*e*P	**P**	**09 31 54.3**	**-1.1**
KDAK	**Kodiak Island**	**80.89 24**	*c e*P	**P**	**09 32 00.8**	**+0.9**
YKA	**Yellowknife Ar**	**84.45 5**	P	**P**	**09 32 18.4**	**0.0**
	comp=Z,3.4nm,0.7s,baz=345,slow=5.1,SNR=71					
YKB5	**Yellowknife Ar**	**84.45 5**	*e*P	**P**	**09 32 18.4**	**0.0**
CTA	**Charters Tower**	**85.56 117**	P	**P**	**09 32 25.2**	**+0.6**
	comp=Z,9.8nm,0.7s,baz=334,slow=4.3,SNR=9.7					
STKA	**Stephens Creek**	**89.62 129**	*e*P	**P**	**09 32 43.5**	**-0.4**
	comp=Z,3.3nm,1.6s					
STKA	**Stephens Creek**	**89.62 129**	*e*P	**P**	**09 32 43.5**	**-0.4**
STKA			pmax	pmax		
	comp=Z,3.0nm,1.6s					
STKA	**Stephens Creek**	**89.62 129**	P	**P**	**09 32 44.0**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=327,slow=7.7,SNR=9.1					
FFC	**Flin Flon**	**92.58 359**	*e*P	**P**	**09 32 57.2**	**-0.2**
	comp=Z,3.4nm,0.9s					
FFC	**Flin Flon**	**92.58 359**	*c e*P	**P**	**09 32 58.4**	**+1.0**
B06A	**Marblemount**	**97.39 11**	*e*S	**S**	**09 44 44.8**	**+1.8**
VNA2	**Neumayer--Watz**	**118.62 202**	PKPdf	**PKPdf**	**09 38 33.1**	**+0.1**
	baz=23,slow=3.0					
VNA3	**Neumayer Olymp**	**119.42 202**	PKPdf	**PKPdf**	**09 38 34.3**	**-0.3**

ROM 01 09:20:30.1±0.1, 38°.177N±0°.007×15°.87E±0°.01, h10km, ML1.4/1, Error ellipse: s-maj=0.8km s-min=0.7km az=261.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CEL	**Celeste**	**0.08**	**11**	P	Pg		09 20 33.2	+0.6
CEL				S	Sg		09 20 34.7	+0.3
CEL	**Celeste**	**0.08**	**11**	S	Sg		09 20 34.7	+0.3
MSCL	**Scilla**	**0.09**	**310**	P	Pg		09 20 33.3	+0.7
MSCL				S	Sg		09 20 34.6	+0.2
MSCL				AML	AML			
	comp=E,342µm,0.1s							
MSCL				AML	AML			
	comp=N,320µm,0.1s							
MSCL				AML	AML			
	comp=E,342µm,0.1s							
MSCL				AML	AML			
	comp=N,320µm,0.1s							
MSCL				AML	AML			
	comp=N,320µm,0.1s							
MSCL				AML	AML			
	comp=E,342µm,0.1s							
MSCL	**Scilla**	**0.09**	**310**	P	Pg		09 20 33.4	+0.8
MSCL	**Scilla**	**0.09**	**310**	S	Sg		09 20 34.6	+0.2
SOI	**Samo**	**0.18**	**126**	P	Pg		09 20 34.8	+0.9
SOI				S	Sg		09 20 37.3	+0.8
SOI	**Samo**	**0.18**	**126**	P	Pg		09 20 34.9	+0.9
MTTG	**Motta San Giov**	**0.23**	**219**	P	Pg		09 20 35.6	+0.8
MTTG				S	Sg		09 20 39.3	+1.3
MTTG	**Motta San Giov**	**0.23**	**219**	P	Pg		09 20 36.4	+1.6
MPAZ	**Palizzi**	**0.25**	**155**	P	Pg		09 20 36.3	+1.1
MPAZ				S	Sg		09 20 40.0	+1.4
MPAZ	**Palizzi**	**0.25**	**155**	P	Pg		09 20 36.3	+1.1
MPAZ	**Palizzi**	**0.25**	**155**	S	Sg		09 20 40.1	+1.5
MSRU	**Castanea**	**0.30**	**287**	P	Pg		09 20 36.4	+0.2

*DDA **01** 09:37:58.7, 37°.30N×37°.09E, h3km±1km, ML2.9*
*ISK **01** 09:37:58.4, 37°.30N×37°.10E, h8km, ML1.9/9*
*ISCJB **01** 09:37:59.3±0.5, 37°.26N±0°.04×37°.07E±0°.04, h7km±5km, Error ellipse: s-maj=6.4km s-min=4.5km az=32.5*

ISC 01 09:37:59.1±1.0, 37°.29N±0°.04×37°.08E±0°.03, h8km±8km, n18, c0°79/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HCB	**Kahramanmara**	**0.15**	**293**	IAML_P				
	comp=Z,11µm,0.1s							
HCB				*i* P		**Pg**	**09 38 02.7**	**+0.5**
GAZ	**Gaziantep**	**0.15**	**137**	PG		**Pg**	**09 38 02.1**	**-0.2**
GAZ				SG		**Sg**	**09 38 04.8**	**+0.3**
AYKD	**Aykdinkavak**	**0.25**	**301**	IAML_P				
	comp=Z,12µm,0.1s							
AYKD				*i* P		**Pb**	**09 38 04.9**	**-1.1**
AYKD				*i* S

ISCJB ***01*** *09:51:26.9±0.2, 17°.66S±0°.02×167°.77E±0°.03, h16km, mb5.2/115, MS4.9/54, Error ellipse: s-maj=4.7km s-min=3.3km az=9.8*
BJI ***01*** *09:51:27.2±0.0, 17°.60S×167°.80E, h3km, mb4.9/48, mB5.5/47, Ms5.2/44, Ms7 4.9/45*
MOS ***01*** *09:51:28.7±1.3, 17°.60S×167°.71E, h25km, mb5.3/36, MS5.0/9, Error ellipse: s-maj=9.8km s-min=7.7km az=120.3*
NEIC ***01*** *09:51:29.7±1.7, 17°.65S×167°.82E, h27km±12km, mb5.1/69, Error ellipse: s-maj=5.7km s-min=4.8km az=57.0*
NEIC Felt at Port-Vila.
GCMT ***01*** *09:51:32.7±0.1, 17°.66S±0°.01×167°.61E±0°.01, h16km, MW5.5/113, Moment Tensor Solution. s106,c182; s113,c190; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.10±.02; $M_{\theta\theta}$0.03±.01; $M_{\phi\phi}$-1.13±.02; $M_{r\theta}$0.66±.05; $M_{\theta\phi}$0.27±.01; $M_{\phi r}$-1.67±.08; Best double couple: $M_0$2.12900×10^{17} NP1:ϕ_s160.00000°, δ74.00000°, λ85.00000°. NP2:ϕ_s356.00000°, δ17.00000°, λ106.00000°. Principal axes: T 2.0950, Plg61.0000°, Azm63.0000°; N 0.0620, Plg4.0000°, Azm161.0000°; P -2.1620, Plg29.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 09:51:27.6±0.6, 17°.67S±0°.04×167°.91E±0°.05, h10km±3km, h10km:pP-P, n415, σ1s75/441, mb5.1/112, MS4.9/55, 7C-17D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**3.80**	**178**	*e*Pn	**Pn**	**09 52 26.2**	**0.0**
MARNC				*e*Sn	**Sn**	**09 53 06.2**	**-4.7**
DZM	**Mont Dzumac**	**4.59**	**197**	*e*Pn	**Pn**	**09 52 35.4**	**-1.9**
DZM	100nm,0.3s						
	188nm,0.3s			*e*Sn	**Sn**	**09 53 22.0**	**-8.8**
DZM	**Mont Dzumac**	**4.59**	**197**	*e*Pn	**Pn**	**09 52 36.0**	**-1.2**
DZM				*e*Sn	**Sn**	**09 53 27.5**	**-3.3**
DZM	**Mont Dzumac**	**4.59**	**197**	Pn	**Pn**	**09 52 36.0**	**-1.2**
	28nm,0.3s,baz=183,slow=1.3,SNR=100						
DZM				Sn	**Sn**	**09 53 26.1**	**-4.7**
	30nm,0.3s,baz=313,slow=23,SNR=8.4						
DZM				LR	LR	09 54 14.5	
	comp=Z,4μm,20.8s,baz=56,slow=37						
ONTNC	**Ouen Toro**	**4.82**	**196**	*e*Pn	**Pn**	**09 52 39.8**	**-0.4**
ONTNC				*e*Sn	**Sn**	**09 53 35.0**	**-1.1**
OUENC	**Ouen Island, N**	**4.83**	**192**	*e*Pn	**Pn**	**09 52 40.2**	**-0.3**
OUENC				*e*Sn	**Sn**	**09 53 34.3**	**-2.3**
PINNC	**Pines Island,**	**4.94**	**185**	*e*Pn	**Pn**	**09 52 42.8**	**+0.9**
PINNC				*e*Sn	**Sn**	**09 53 36.7**	**-2.5**
HNR	**Honiara**	**11.26**	**316**	*e*P	**Pn**	**09 54 07.0**	**-1.7**
HNR				*e*S	**Sn**	**09 56 09.0**	**-5.7**
HNR	**Honiara**	**11.26**	**316**	*e*Pn	**Pn**	**09 54 07.3**	**-1.3**
HNR	**Honiara**	**11.26**	**316**	*e*P	**Pn**	**09 54 07.4**	**-1.3**
HNR	**Honiara**	**11.26**	**316**	Pn	**Pn**	**09 54 08.3**	**-0.3**
	16nm,0.3s,baz=6.6,slow=4.2,SNR=16						
HNR				Sn	**Sn**	**09 56 08.0**	**-6.8**
	14nm,0.3s,baz=192,slow=14,SNR=3.0						
HNR				LR	LR	09 58 01.5	
	comp=Z,7μm,18.7s,baz=144,slow=35						
FUNA	**Funafuti**	**14.26**	**52**	*e*Pn	**Pn**	**09 54 50.1**	**+0.5**
LHI	**Lord Howe Isla**	**15.96**	**209**	*e*Pn	**Pn**	**09 55 11.7**	**-0.5**
	101nm,1.3s						
EIDS	**Eidsvold**	**17.42**	**241**	*e*Pn	**Pn**	**09 55 31.3**	**+0.5**
	125nm,1.4s						
EIDS	**Eidsvold**	**17.42**	**241**	P	**P**	**09 55 31.9**	**-0.2**
	baz=18,SNR=9.4						
EIDS				S	**S**	**09 58 58.8**	**+5.4**
	baz=18						
OUZ	**Omahuta**	**18.20**	**165**	*e*Pn	**P**	**09 55 42.3**	**+1.6**
	150nm,1.5s						
ARMA	**Armidale**	**19.52**	**226**	*e*P	**Pn**	**09 55 56.4**	**-0.2**
	64nm,1.3s						
ARMA	**Armidale**	**19.52**	**226**	P	**Pn**	**09 55 57.8**	**+1.2**
	baz=20,SNR=11						
ARMA				S	S	09 59 46.6	+11
	baz=20						
RMQ	**Roma**	**19.78**	**240**	P	**Pn**	**09 55 59.7**	**+0.1**
	baz=20,SNR=28						
RABL	**Rabaul**	**20.42**	**309**	*e*P	Pn	09 56 07.2	-0.1
	267nm,1.1s						
CTA	**Charters Tower**	**20.63**	**260**	P	**P**	**09 56 07.6**	**+0.2**
	35nm,1.0s,baz=82,slow=13,SNR=14						
CTA				LR	LR	10 03 30.1	
	comp=Z,5μm,18.2s,baz=72,slow=35						
CTAO	**Charters Tower**	**20.63**	**260**	*e*P	**P**	**09 56 06.0**	**-1.4**
	205nm,1.5s						
CTAO	**Charters Tower**	**20.63**	**260**	*e*P	**P**	**09 56 06.0**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,205nm,1.5s						
MGCD	**Mangrove Creek**	**21.62**	**221**	P	**P**	**09 56 21.5**	**+3.5**
	baz=22,SNR=5.5						
HIZ	**Hauiti**	**21.64**	**165**	*e*P	**P**	**09 56 17.6**	**-0.5**
	comp=Z,272nm,1.2s						
PMG	**Port Moresby**	**21.76**	**289**	*e*P	**P**	**09 56 16.1**	**-3.5**
	comp=Z,84nm,1.1s						
PMG	**Port Moresby**	**21.76**	**289**	*d i*P	**P**	**09 56 19.1**	**-0.5**
PMG				pmax	pmax		
	comp=Z,425nm,2.5s						
MXZ	**Matakaoa Point**	**21.83**	**157**	*e*P	**P**	**09 56 21.8**	**+1.7**
	comp=Z,59nm,0.8s						
URZ	**Urewera**	**22.05**	**160**	*e*P	**P**	**09 56 22.9**	**+0.5**
	comp=Z,140nm,1.1s						
URZ	**Urewera**	**22.05**	**160**	P	**P**	**09 56 24.6**	**+2.2**
	comp=Z,26nm,0.8s,baz=59,slow=2.8,SNR=12						
BKZ	**Black Stump Fm**	**22.69**	**162**	*e*P	**P**	**09 56 30.2**	**+0.7**
	comp=Z,43nm,1.0s						
BFZ	**Birch Farm**	**24.04**	**164**	*e*P	**P**	**09 56 44.3**	**+1.4**
	comp=Z,67nm,1.0s						
YNG	**Young**	**24.05**	**223**	P	**P**	**09 56 43.9**	**+0.8**
	baz=24,SNR=12						
COEN	**Coen**	**24.07**	**275**	*e*P	**P**	**09 56 42.1**	**-1.3**
	comp=Z,86nm,1.3s						
COEN	**Coen**	**24.07**	**275**	P	**P**	**09 56 44.6**	**+1.2**
	baz=24,SNR=5.6						
CNB	**Canberra Magne**	**24.10**	**220**	P	**P**	**09 56 44.7**	**+1.1**
	baz=24,SNR=11						
SNZO	**South Karori**	**24.28**	**167**	*e*P	**P**	**09 56 46.0**	**+1.0**
	comp=Z,38nm,0.8s						
CAN	**Canberra**	**24.33**	**220**	*e*P	**P**	**09 56 45.2**	**-0.5**
	comp=Z,76nm,1.2s						
CAN	**Canberra**	**24.33**	**220**	*e*P	**P**	**09 56 45.2**	**-0.5**
CAN				pmax	pmax		
	comp=Z,76nm,1.2s						
THZ	**Tophouse**	**24.40**	**171**	*e*P	**P**	**09 56 47.5**	**+1.3**
	comp=Z,32nm,0.8s						
CMSA	**Cobar Meteorol**	**24.40**	**231**	P	**P**	**09 56 46.3**	**0.0**
	baz=24,SNR=25						
KHZ	**Kahutara**	**25.14**	**170**	*e*P	**P**	**09 56 53.1**	**+0.3**
	comp=Z,54nm,1.0s						
LTZ	**Lake Taylor**	**25.31**	**172**	*e*P	**P**	**09 56 54.9**	**+0.5**
	comp=Z,43nm,1.0s						
MANU	**Manus Island**	**25.45**	**305**	*e*P	**P**	**09 56 54.8**	**-1.1**
	comp=Z,167nm,1.6s						
OXZ	**Oxford**	**25.82**	**173**	*e*P	**P**	**09 56 57.8**	**-1.2**
	comp=Z,37nm,0.9s						
FOZ	**Fox Glacier**	**25.84**	**177**	*e*P	**P**	**09 56 57.2**	**-1.9**
	comp=Z,52nm,1.1s						
RPZ	**Rata Peaks**	**26.11**	**175**	P	**P**	**09 57 03.4**	**+1.8**
	comp=Z,23nm,1.0s,baz=357,slow=6.8,SNR=4.1						
RPZ				LR	LR	10 07 07.0	
	comp=Z,4μm,18.9s,baz=352,slow=36						
QIS	**Mount Isa**	**26.88**	**259**	P	**P**	**09 57 09.9**	**+1.0**
	baz=27,SNR=9.3						
STKA	**Stephens Creek**	**27.67**	**234**	*e*P	**P**	**09 57 15.6**	**-0.3**
	comp=Z,20nm,1.3s						
STKA				*e*PcP	**PcP**	**10 00 33.9**	**+0.9**
STKA	**Stephens Creek**	**27.67**	**234**	P	**P**	**09 57 15.8**	**-0.1**
	baz=28,SNR=26						
STKA	**Stephens Creek**	**27.67**	**234**	*e*P	**P**	**09 57 15.6**	**-0.3**
STKA				*e*		10 00 33.9	
STKA				pmax	pmax		
	comp=Z,20nm,1.3s						
STKA	**Stephens Creek**	**27.67**	**234**	P	**P**	**09 57 15.5**	**-0.3**
	comp=Z,32nm,0.9s,baz=65,slow=9.1,SNR=41						
STKA				PcP	**PcP**	**10 00 33.9**	**+0.9**
	comp=Z,11nm,1.1s,baz=90,slow=3.0,SNR=2.3						
STKA				LR	LR	10 07 54.6	
	comp=Z,3μm,18.5s,baz=64,slow=36						
HTT	**Hallett**	**30.36**	**233**	P	**P**	**09 57 39.8**	**0.0**
	baz=30,SNR=4.7						
JAY	**Jayapura**	**30.65**	**296**	LR	LR	10 08 36.1	
	comp=Z,1μm,20.0s,baz=104,slow=34						
GENI	**Genyem**	**31.07**	**296**	P	**P**	**09 57 45.3**	**-0.9**
WB2	**Warramunga Arr**	**31.82**	**261**	*e*P	**P**	**09 57 49.5**	**-3.3**
	comp=Z,34nm,1.1s						
WRAB	**Tennant Creek**	**31.82**	**261**	*e*P	**P**	**09 57 50.6**	**-2.1**
	comp=Z,31nm,1.1s						
WRAB	**Tennant Creek**	**31.82**	**261⇓**	*e*P	**P**	**09 57 49.8**	**-3.0**
WRAB				pmax	pmax		
	comp=Z,35nm,1.3s						
WR1	**Warramunga Arr**	**31.83**	**261**	*e*P	**P**	**09 57 51.2**	**-1.7**
WR1				*e*PcP	**PcP**	**10 00 43.8**	**-0.1**
WRA	**Warramunga Arr**	**31.83**	**261**	*e*P	**P**	**09 57 50.0**	**-2.8**
WRA	**Warramunga Arr**	**31.83**	**261**	P	**P**	**09 57 51.2**	**-1.7**
	comp=Z,18nm,1.0s,baz=90,slow=8.6,SNR=30						
WRA				PcP	**PcP**	**10 00 43.8**	**-0.1**
	comp=Z,4.5nm,1.0s,baz=91,slow=2.6,SNR=4.2						
WRA				LR	LR	10 09 40.3	
	comp=Z,3μm,20.1s,baz=90,slow=34						
AS31	**Alice Springs**	**32.32**	**254**	*e*PcP	**PcP**	**10 00 46.1**	**+0.8**
AS31				*e*ScP	**ScP**	**10 04 31.0**	**+1.8**
ASAR	**Alice Springs**	**32.32**	**254**	P	**P**	**09 57 55.6**	**-1.6**
	comp=Z,30nm,0.9s,baz=79,slow=7.7,SNR=98						
ASAR				PcP	**PcP**	**10 00 46.1**	**+0.8**
	comp=Z,3.7nm,1.0s,baz=92,slow=3.1,SNR=3.4						
ASAR				ScP	**ScP**	**10 04 31.0**	**+1.8**
	comp=Z,1.1nm,1.0s,baz=108,slow=5.3,SNR=3.8						
ASAR				LR	LR	10 10 13.7	
	comp=Z,5μm,20.2s,baz=90,slow=35						
BBOO	**Buckleboo**	**32.36**	**236**	*e*P	**P**	**09 57 57.0**	**-0.5**
	comp=Z,68nm,1.2s						
BBOO	**Buckleboo**	**32.36**	**236**	P	**P**	**09 57 57.1**	**-0.3**
	baz=32,SNR=9.2						
KDU	**Kakadu**	**34.52**	**273**	P	**P**	**09 58 14.8**	**-1.6**
	baz=34,SNR=3.7						
MTN	**Manton Dam**	**35.76**	**272**	*e*P	**P**	**09 58 25.1**	**-2.0**
	comp=Z,29nm,1.2s						
MTN	**Manton Dam**	**35.76**	**272**	P	**P**	**09 58 25.5**	**-1.6**
	baz=36,SNR=4.5						
KNRA	**Kununurra**	**37.51**	**267**	P	**P**	**09 58 40.2**	**-1.8**
	baz=38,SNR=13						
WRKA	**Warakurna**	**37.51**	**252**	P	**P**	**09 58 40.7**	**-1.3**
	baz=38,SNR=24						
FITZ	**Fitzroy Crossi**	**40.16**	**263**	*e*P	**P**	**09 59 03.2**	**-1.0**
	comp=Z,97nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.16**	**263**	P	**P**	**09 59 03.1**	**-1.2**
	baz=40,SNR=29						
FITZ	**Fitzroy Crossi**	**40.16**	**263**	P	**P**	**09 59 03.0**	**-1.3**
	comp=Z,57nm,1.0s,baz=104,slow=7.7,SNR=25						
FITZ				LR	LR	10 15 08.8	
	comp=Z,3μm,19.9s,baz=98,slow=36						
TBI	**Tubuai**	**40.22**	**105**	*e*S	S	10 05 29.0	+17
	comp=Z,801nm,25.8s						
TBI				*e*LQ	LQ	10 08 49.8	
	comp=Z,4μm,26.8s						
TBI				*e*LR	LR	10 10 33.0	
	comp=Z,2μm,26.0s,baz=271						
PPT2	**Papeete2**	**40.46**	**97**	*e*S	S	10 05 33.0	+17
	comp=Z,675nm,20.3s						
PPT2				*e*LQ	LQ	10 08 57.3	
	comp=Z,3μm,26.5s						
PPT2				*e*LR	LR	10 10 41.6	
	comp=Z,3μm,25.5s,baz=248						
PPT	**Papeete**	**40.46**	**97**	LR	LR	10 11 60.0	
	comp=Z,989nm,20.7s,baz=265,slow=30						
SOEI	**Soe**	**43.04**	**275**	*e*P	**P**	**09 59 26.8**	**-1.3**
	comp=Z,127nm,1.3s						
SOEI	**Soe**	**43.04**	**275**	P	**P**	**09 59 27.1**	**-0.9**
BATI	**Baumata**	**43.49**	**274**	*e*P	**P**	**09 59 31.5**	**-0.1**
BATI				*e*P	**P**	**09 59 31.5**	**-0.1**
BATI	**Baumata**	**43.49**	**274**	P	**P**	**09 59 31.5**	**-0.1**
	comp=Z,60nm,0.7s,baz=250,slow=7.7,SNR=7.3						
BATI				LR	LR	10 17 20.3	
	comp=Z,2μm,20.4s,baz=130,slow=36						
SANI	**Sanana**	**43.97**	**286**	P	**P**	**09 59 33.6**	**-1.8**
PSA00	**Pilbara Seismi**	**45.30**	**257**	*e*P	**P**	**09 59 45.2**	**-0.8**
	comp=Z,63nm,1.3s						
MBWA	**Marble Bar**	**45.44**	**257**	*e*P	**P**	**09 59 45.9**	**-1.1**
	comp=Z,69nm,1.2s						
MEEK	**Meekatharra**	**46.28**	**250**	P	**P**	**09 59 53.2**	**-0.6**
	baz=46,SNR=7.8						
NWAO	**Narrogin (SRO)**	**47.83**	**241**	LR	LR	10 19 51.2	
	comp=Z,2μm,20.7s,baz=98,slow=36						
BKSI	**Bulukumba**	**48.26**	**279**	P	**P**	**10 00 08.0**	**-1.3**
APSI	**Ampana**	**48.40**	**285**	P	**P**	**10 00 08.9**	**-1.4**
DAV	**Davao City (W)**	**48.49**	**297**	LR	LR	10 21 31.0	
	comp=Z,532nm,18.1s,baz=132,slow=37						
BNSI	**Bone**	**48.58**	**280**	P	**P**	**10 00 09.4**	**-2.3**
MORW	**Morawa**	**48.61**	**247**	*e*P	**P**	**10 00 11.4**	**-0.4**
	comp=Z,25nm,1.1s						
KAPI	**Kappang**	**48.71**	**279**	*e*P	**P**	**10 00 10.7**	**-2.0**
	comp=Z,72nm,1.2s						
KAPI	**Kappang**	**48.71**	**279**	*e*P	**P**	**10 00 10.7**	**-2.0**
KAPI				pmax	pmax		
	comp=Z,73nm,1.2s						
SPSI	**Sidrap Palu**	**49.04**	**280**	P	**P**	**10 00 13.4**	**-1.9**
TTSI	**Tana Toraja**	**49.31**	**281**	P	**P**	**10 00 15.7**	**-1.6**
PLAI	**Plampang**	**49.45**	**273**	P	**P**	**10 00 16.1**	**-2.3**
TAOE	**Nuku Hiva Isla**	**51.18**	**87**	*e*S	S	10 08 05.9	+16
	comp=Z,2μm,29.2s						
TAOE				*e*LR	LR	10 15 40.3	
	comp=Z,3μm,25.4s,baz=256						
SBUM	**Sibu**	**58.39**	**284**	*e*P	**P**	**10 01 21.9**	**-1.8**
	comp=Z,9.4nm,1.4s						
SBUM	**Sibu**	**58.39**	**284**	P	**P**	**10 01 25.0**	**+1.2**
LEM	**Lembang**	**59.68**	**272**	*e*P	**P**	**10 01 32.5**	**-0.4**
LEM				*e*P	**P**	**10 01 32.5**	**-0.4**
LEM	**Lembang**	**59.68**	**272**	P	**P**	**10 01 32.5**	**-0.4**
	comp=Z,36nm,0.6s,baz=99,slow=6.4,SNR=6.1						
KSM	**Kuching**	**59.80**	**282**	*e*P	**P**	**10 01 32.4**	**-1.2**
	comp=Z,24nm,0.9s						
KSM	**Kuching**	**59.80**	**282**	P	**P**	**10 01 33.0**	**-0.6**
VNDA	**Vanda**	**59.96**	**182**	P	**P**	**10 01 34.1**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=5.6,slow=6.4,SNR=12						
VNDA				LR	LR	10 25 02.1	
	comp=Z,339nm,18.0s,baz=14,slow=34						
SBA	**Scott Base**	**60.22**	**180**	*e*P	**P**	**10 01 36.0**	**+0.6**
	comp=Z,63nm,1.4s						
SBA	**Scott Base**	**60.22**	**180**	*e*P	**P**	**10 01 36.0**	**+0.6**
SBA				pmax	pmax		
	comp=Z,63nm,1.4s						
MJAR	**Matsushiro Arr**	**60.78**	**333**	*e*P	**P**	**10 01 38.5**	**-1.3**
MJAR	**Matsushiro Arr**	**60.78**	**333**	*e*P	**P**	**10 01 38.5**	**-1.3**
MJAR	**Matsushiro Arr**	**60.78**	**333**	P	**P**	**10 01 38.2**	**-1.6**
	comp=Z,10nm,0.9s,baz=170,slow=7.6,SNR=16						
MJAR				LR	LR	10 29 10.0	
	comp=Z,216nm,18.7s,baz=195,slow=37						
MAJO	**Matsushiro**	**60.78**	**333**	*e*P	**P**	**10 01 38.2**	**-1.6**
MAJO	**Matsushiro**	**60.78**	**333⇓**	*e*P	**P**	**10 01 39.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,13nm,0.9s						
MAT	**Matsushiro**	**60.78**	**333**	P	**P**	**10 01 38.3**	**-1.5**
MAT				S	**S**	**10 09 58.8**	**+1.6**
CASY	**Casey**	**61.07**	**203**	*e*P	**P**	**10 01 40.9**	**-0.5**
	comp=Z,36nm,1.4s						
JNU	**Nakatsue**	**61.66**	**325**	LR	LR	10 24 36.5	
	comp=Z,319nm,21.1s,baz=124,slow=32						
YUK	**Yuzh-Kuril'sk**	**64.63**	**343**	*e*P	**P**	**10 02 03.6**	**-1.7**
YUK				*e*		10 02 34.9	
YUK				*e*S	**S**	**10 10 43.1**	**-2.0**
YUK				pmax	pmax		
	comp=N,183nm,1.0s						
YUK				pmax	pmax		
	comp=E,247nm,1.0s						
YUK				pmax	pmax		
	comp=Z,303nm,1.0s						
YUK				pmax	pmax		
	comp=Z,391nm,1.6s						
YUK				MLR	MLR		
	comp=Z,894nm,22.0s						
KUR	**Kuril'sk**	**65.20**	**345**	*e*P	**P**	**10 02 10.1**	**+1.1**
KUR				*e*S	**S**	**10 10 56.6**	**+4.5**
KUR				MLR	MLR		
	comp=E,363nm,15.0s						
KUR				MLR	MLR		
	comp=Z,670nm,15.0s						
ASAJ	**Asahikawa**	**65.70**	**340**	P	**P**	**10 02 12.9**	**+0.7**
	comp=Z,16nm,0.8s,baz=212,slow=7.9,SNR=7.0						
MYKOM	**Kota Tinggi**	**65.95**	**280**	P	**P**	**10 02 17.0**	**+2.5**
KSRS	**Korea Array**	**66.50**	**326**	P	**P**	**10 02 17.7**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=138,slow=5.9,SNR=4.8						
KS15	**Wonju Array Si**	**66.51**	**326**	*e*P	**P**	**10 02 17.2**	**-0.4**
	comp=Z,26nm,1.5s						
KSAR	**Wonju Array Be**	**66.51**	**326**	*e*P	**P**	**10 02 16.9**	**-0.7**
KSAR	**Wonju Array Be**	**66.51**	**326**	*e*P	**P**	**10 02 16.9**	**-0.7**
QIZ	**Qiongzhong**	**67.70**	**300**	P	**P**	**10 02 26.4**	**+0.8**
QIZ				S	**S**	**10 11 26.1**	**+2.5**
QIZ				LR	LR		
	comp=Z,190nm,14.4s						
QIZ				LR	LR		
	comp=Z,290nm,13.6s						
QIZ				LR	LR		
	comp=Z,270nm,25.2s						
YSS	**Yuzh-Sakhalins**	**68.19**	**342**	*e*P	**P**	**10 02 27.4**	**-0.7**
	comp=Z,49nm,1.0s						
YSS	**Yuzh-Sakhalins**	**68.19**	**342**	*e*P	**P**	**10 02 28.9**	**+0.8**
YSS				*e**SP	**pwP**	**10 02 35.0**	**+1.1**
YSS				*e*		10 05 05.9	
YSS				*e*S	**S**	**10 11 30.1**	**+1.8**
YSS				pmax	pmax		
	comp=Z,40nm,1.4s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS				MLR	MLR		
	comp=Z,900nm,16.0s						
NJ2	**Nanjing**	**68.20**	**316**	*e*P	**P**	**10 02 28.8**	**+0.3**
NJ2				pP	**pwP**	**10 02 33.4**	**-0.8**
NJ2				S	**S**	**10 11 31.4**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,250nm,4.8s						
NJ2				LR	LR		
	comp=Z,530nm,18.4s						
NJ2				LR	LR		
	comp=Z,570nm,19.0s						
NJ2				LR	LR		
	comp=Z,880nm,21.7s						
SKR	**Severo-Kuril's**	**68.84**	**352**	*e*P	**P**	**10 02 31.2**	**-0.8**
SKR				*e*S	**S**	**10 11 40.3**	**+4.5**
SKR				*e*SS	**SS**	**10 16 00.9**	**-0.5**
SKR				MLR	MLR		
	comp=Z,800nm,16.0s						
SKR				MLR	MLR		
	comp=Z,600nm,17.0s						
VLA	**Vladivostok**	**68.95**	**333⇑**	*e*P	**P**	**10 02 34.9**	**+2.0**
VLA				pmax	pmax		
	comp=Z,39nm,1.4s						
IPM	**Ipoh**	**69.52**	**282**	*e*P	**P**	**10 02 36.3**	**-0.9**
	comp=Z,17nm,0.9s						
IPM	**Ipoh**	**69.52**	**282**	P	**P**	**10 02 38.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**69.77**	**333**	*e*P	**P**	**10 02 37.4**	**-0.6**
USRK	**Ussuriysk Ar.**	**69.77**	**333**	P	**P**	**10 02 39.0**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=150,slow=7.9,SNR=6.7						
USRK				PcP	**PcP**	**10 03 02.8**	**+2.2**
	comp=Z,4.9nm,0.8s,baz=169,slow=3.6,SNR=4.8						
USRK				LR	LR	10 33 23.4	
	comp=Z,167nm,19.0s,baz=137,slow=36						
PET	**Petropavlovsk**	**70.85**	**354**	*e*P	**P**	**10 02 43.8**	**-0.5**
PET				*e*S	**S**	**10 11 55.9**	**-3.4**
PET				*e*PS		10 12 26.3	
PET				*e*SS	**SS**	**10 16 27.4**	**-5.0**
PET				pmax	pmax		
	comp=Z,24nm,1.4s						
PET				pmax	pmax		
	comp=Z,100nm,12.6s						
DL2	**Dalian**	**71.00**	**323**	P	P	10 02 50.5	+4.9
DL2				S	**S**	**10 12 06.7**	**+5.0**
DL2				SS	**SS**	**10 16 35.1**	**-0.2**
DL2				pmax	pmax		
	comp=Z,42nm,1.0s						
DL2				LR	LR		
	comp=Z,370nm,20.1s						
DL2				LR	LR		
	comp=Z,520nm,16.2s						
DL2				LR	LR		
	comp=Z,560nm,16.7s						
PETK	**Petropavlovsk-**	**71.03**	**354**	*e*P	**P**	**10 02 45.6**	**+0.2**
PETK	**Petropavlovsk-**	**71.03**	**354**	P	**P**	**10 02 45.5**	**0.0**
	comp=Z,10nm,0.9s,baz=133,slow=6.5,SNR=11						
PETK				LR	LR	10 30 39.3	
	comp=Z,642nm,19.6s,baz=160,slow=33						
PEA1	**Petropavlovsk-**	**71.03**	**354**	*e*P	**P**	**10 02 45.5**	**0.0**
MDJ	**Mudanjiang**	**71.15**	**332**	P	**P**	**10 02 48.5**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,14nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,190nm,4.6s						
MDJ	**Mudanjiang**	**71.15**	**332**	*e*P	**P**	**10 02 45.0**	**-1.4**
	comp=Z,20nm,1.0s						
GSI	**Gunungsitoli**	**71.70**	**277**	*e*P	**P**	**10 02 49.4**	**-1.0**
	comp=Z,52nm,1.1s						
SKNT	**Sakolnakorn**	**71.73**	**295**	P	P	10 02 55.3	+4.8
	comp=Z,62nm,1.1s						
TIA	**Tai'an**	**71.93**	**319**	P	**P**	**10 02 55.5**	**+4.2**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TRTT	**Trang**	**71.96**	**285**	P	P	10 02 57.2	+5.3
	comp=Z,24nm,1.5s						
QSPA	**South Pole Qui**	**72.38**	**180**	*e*P	**P**	**10 02 54.3**	**+0.6**
	comp=Z,78nm,1.0s						
CN2	**Changchun**	**72.47**	**329**	*e*P	**P**	**10 02 54.0**	**-0.3**
CN2				*e*S	**S**	**10 12 21.9**	**+3.5**
CN2				SS	**SS**	**10 16 59.1**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,17.0s						
NONG	**Nongkai**	**72.91**	**296**	P	P	10 03 02.8	+5.3
	comp=Z,0.8nm,1.4s						
CHAI	**Chaiyaphum**	**73.01**	**293**	P	P	10 03 03.0	+4.9
	comp=Z,26μm,1.0s						
GRNR	**Gornyy**	**73.54**	**340**	*e*P	**P**	**10 03 01.2**	**+0.6**
GRNR				pmax	pmax		
	comp=Z,16

KMI	**Kunming**	**76.37 302**	P	P		10 03 23.2 +5.4
KMI			S	**S**		**10 13 04.4 +0.9**
KMI			SS	**SS**		**10 17 58.8 +0.6**
KMI			pmax	pmax		
	comp=Z,32nm,1.4s					
KMI			pmax	pmax		
	comp=Z,94nm,4.6s					
KMI			LR	LR		
	comp=Z,280nm,19.9s					
KMI			LR	LR		
	comp=Z,350nm,20.4s					
KMI			LR	LR		
	comp=Z,390nm,26.4s					
CM31	**Chiang Mai Arr**	**76.71 294**	*e*P	**P**		**10 03 20.3 +0.8**
	comp=Z,60nm,1.3s					
CMAR	**Chiang Mai Arr**	**76.71 294**	*e*P	**P**		**10 03 20.0 +0.5**
CMAR	**Chiang Mai Arr**	**76.71 294**	P	**P**		**10 03 20.7 +1.2**
	comp=Z,14nm,0.9s,baz=125,slow=4.4,SNR=26					
CMMT	**Chiang Mai**	**76.84 295**	P	**P**		**10 03 23.3 +3.0**
	comp=Z,17nm,1.5s,comp=Z,334nm					
CHTO	**Chiang Mai**	**76.85 295**	*e*P	**P**		**10 03 20.3 0.0**
	comp=Z,43nm,1.3s					
CHTO	**Chiang Mai**	**76.85 295**	*e*P	**P**		**10 03 20.3 0.0**
CHTO			pmax	pmax		
	comp=Z,43nm,1.3s					
HHC	**Hu-ho-hao-te**	**78.21 320**	*e*P	**P**		**10 03 29.2 +1.6**
HHC			S	**S**		**10 13 18.6 -4.0**
HHC			SS	**SS**		**10 18 28.3 +3.1**
HHC			pmax	pmax		
	comp=Z,11nm,0.8s					
HHC			pmax	pmax		
	comp=Z,170nm,6.1s					
HHC			LR	LR		
	comp=Z,440nm,17.0s					
HHC			LR	LR		
	comp=Z,560nm,16.4s					
HHC			LR	LR		
	comp=Z,640nm,17.1s					
MA2	**Magadan**	**78.22 351**	*e*P	**P**		**10 03 26.0 -1.1**
	comp=Z,10nm,0.9s					
MA2	**Magadan**	**78.22 351** ‖	*i*P	**P**		**10 03 26.2 -0.9**
MA2			pmax	pmax		
	comp=Z,12nm,1.0s					
CD2	**Chengdu**	**78.28 308**	P	**P**		**10 03 28.6 +0.5**
CD2			S	**S**		**10 13 20.8 -2.8**
CD2			pmax	pmax		
	comp=Z,40nm,1.1s					
CD2			pmax	pmax		
	comp=Z,350nm,8.0s					
CD2			LR	LR		
	comp=Z,1μm,16.9s					
CD2			LR	LR		
	comp=Z,1μm,19.0s					
CD2			LR	LR		
	comp=Z,1μm,22.6s					
ZEA	**Zeya**	**79.22 337**	*e*P	P		10 03 40.8 +8.1
ZEA			*e*			10 06 32.0
ZEA			*e*S	**S**		**10 13 36.0 +3.4**
ZEA			pmax	pmax		
	comp=N,29nm,1.2s					
ZEA			pmax	pmax		
	comp=Z,37nm,1.4s					
ZEA			pmax	pmax		
	comp=Z,300nm,5.0s					
ZEA			pmax	pmax		
	comp=Z,400nm,11.0s					
ZEA			smax	smax		
	comp=E,500nm,13.0s					
ZEA			MLR	MLR		
	comp=N,400nm,14.0s					
ZEA			MLR	MLR		
	comp=Z,500nm,14.0s					
MAW	**Mawson**	**79.41 202**	P	P		10 03 38.8 +5.1
	baz=79,SNR=6.4					
MAW	**Mawson**	**79.41 202**	P	**P**		**10 03 38.0 +4.4**
	comp=Z,18nm,1.0s,baz=104,slow=6.6,SNR=9.6					
MAW			LR	LR		10 35 34.7
	comp=Z,477nm,18.5s,baz=95,slow=33					
LZH	**Lanzhou**	**80.74 312** ‖	P	**P**		**10 03 42.8 +1.2**
LZH			pP	sP		10 03 45.7 +0.9
LZH			sP	PcP		10 03 48.4 +0.1
LZH			PP	**PP**		**10 06 46.0 +0.1**
LZH			pmax	pmax		
	comp=Z,12nm,1.2s					
LZH			pmax	pmax		
	comp=Z,160nm,6.0s					
LZH			LR	LR		
	comp=Z,400nm,19.0s					
LZH			LR	LR		
	comp=Z,320nm,16.3s					
LZH			LR	LR		
	comp=Z,500nm,18.9s					
SEY	**Seymchan**	**81.25 353** ‖	*e*P	**P**		**10 03 43.2 -0.2**
RSO	**Redoubt South**	**84.06 18**	*e*P	**P**		**10 04 00.7 +2.3**
YAK	**Yakutsk**	**85.00 343**	*e*P	**P**		**10 04 02.1 -0.7**
YAK			*e*			10 04 07.2
YAK			*e**PP	**pwP**		**10 04 12.5 +3.8**
YAK			*e*S	S		10 14 21.8 -10
YAK			pmax	pmax		
	comp=Z,270nm,0.9s					
YAK			pmax	pmax		
	comp=N,66nm,1.3s					
YAK			pmax	pmax		
	comp=E,18nm,1.2s					
YAK			pmax	pmax		
	comp=Z,526nm,4.3s					
YAK			pmax	pmax		
	comp=N,176nm,4.6s					
YAK			pmax	pmax		
	comp=E,356nm,5.0s					
YAK			smax	smax		
	comp=N,407nm,3.9s					
YAK			smax	smax		
	comp=E,267nm,4.5s					
YAK			MLR	MLR		
	comp=Z,3μm,17.0s					
YAK			MLR	MLR		
	comp=N,2μm,17.0s					
YAK			MLR	MLR		
	comp=E,1μm,18.0s					
GTA	**Gaotai**	**85.13 314**	*e*P	**P**		**10 04 06.2 +2.0**
GTA			pP	pwP		10 04 10.5 +0.4
GTA			sP	PcP		10 04 13.4 +6.0
GTA			SKS	**S**		**10 14 27.9 -6.4**
GTA			S	**SKKSac**		**10 14 37.0 +1.4**
GTA			sS	ScS		10 14 44.0 -0.8
GTA			pmax	pmax		
	comp=E,7.0nm,1.2s					
GTA			pmax	pmax		
	comp=E,160nm,7.5s					
GTA			LR	LR		
	comp=E,310nm,18.7s					
GTA			LR	LR		
	comp=E,330nm,19.4s					
GTA			LR	LR		
	comp=E,500nm,18.7s					
SONA0	**Songino Array**	**85.21 324**	*e*P	**P**		**10 04 04.5 0.0**
SONM	**Songino Array**	**85.21 324**	*e*P	**P**		**10 04 04.2 -0.2**
SONM	**Songino Array**	**85.21 324**	P	**P**		**10 04 04.5 0.0**
	comp=E,14nm,1.0s,baz=142,slow=3.3,SNR=44					
SONM			LR	LR		10 39 20.8
	comp=E,252nm,20.7s,baz=118,slow=34					
BILL	**Bilibino**	**85.47 359**	*e*P	**P**		**10 04 04.0 -1.1**
	comp=E,20nm,0.9s					
BILL	**Bilibino**	**85.47 359** *c*	*i*P	**P**		**10 04 04.4 -0.7**
BILL			*e*			10 04 10.8
BILL			*e*			10 07 27.8
BILL			*e*SS	SS		10 20 10.7 -1.2
BILL			pmax	pmax		
	comp=Z,23nm,1.0s					
SHL	**Shillong**	**85.50 298**	*e*P	**P**		**10 04 10.0 +3.6**
SYO	**Syowa Base**	**86.08 196** ‖	*e*P	**P**		**10 04 07.0 -1.3**
SYO	**Syowa Base**	**86.08 196** ‖	*i*PcP	**PcP**		**10 04 11.8 +0.8**
CAST	**Castle Rocks**	**86.61 17**	*e*P	**P**		**10 04 09.7 -1.1**
	comp=Z,7.1nm,0.9s					
DECC	**Green Verdugo**	**87.03 53**	P	**P**		**10 04 14.7 +1.1**
	baz=246					
AFDM	**Forest Hills D**	**87.03 48**	*e*P	**P**		**10 04 13.4 -0.2**
	comp=Z,18nm,1.2s					
CMB	**Columbia Colle**	**87.06 49**	*e*P	**P**		**10 04 13.5 -0.2**
	comp=Z,9.7nm,1.1s					
CMB	**Columbia Colle**	**87.06 49**	*e*P	**P**		**10 04 13.5 -0.2**
CMB			pmax	pmax		
	comp=Z,10.0nm,1.1s					
BOD	**Bodaibo**	**87.37 334**	*e*P	**P**		**10 04 13.8 -0.8**
BOD			pmax	pmax		
	comp=Z,36nm,1.6s					
ISA	**Isabella, Lake**	**87.48 51**	*e*P	**P**		**10 04 16.1 +0.3**
	comp=Z,5.5nm,1.1s					
ISA	**Isabella, Lake**	**87.48 51**	*e*P	**P**		**10 04 16.1 +0.3**
ISA			pmax	pmax		
	comp=Z,6.0nm,1.1s					
ISA	**Isabella, Lake**	**87.48 51**	P	**P**		**10 04 17.0 +1.2**
	baz=246					
RND	**Reindeer**	**87.52 18**	*e*P	**P**		**10 04 14.6 -0.8**
	comp=Z,9.7nm,1.2s					
RND	**Reindeer**	**87.52 18**	*e*P	**P**		**10 04 14.6 -0.8**
RND			pmax	pmax		
	comp=Z,10.0nm,1.2s					
EDW2	**Edwards Air Ro**	**87.53 52**	P	**P**		**10 04 16.8 +0.7**
	baz=247					
BFSC	**Mount Baldy Ra**	**87.53 53**	P	**P**		**10 04 16.7 +0.5**
	baz=247					
MURC	**Murrieta**	**87.64 54**	P	**P**		**10 04 17.2 +0.6**
	baz=247					
MONP2	**Monument Peak**	**87.97 55**	P	**P**		**10 04 18.8 +0.4**
	baz=248					
IMAR	**Indian Mountai**	**88.23 15**	*e*P	**P**		**10 04 18.5 -0.1**
ZAK	**Zakamensk**	**88.29 325**	*e*P	**P**		**10 04 20.0 +0.6**
ZAK			pmax	pmax		
	comp=Z,12nm,2.5s					
MPMC	**Manual Prospec**	**88.38 51**	P	**P**		**10 04 20.6 +0.3**
	baz=247					
WRH	**Wood River Hil**	**88.55 18**	*e*P	**P**		**10 04 19.1 -1.0**
	comp=Z,6.9nm,1.2s					
NV01	**Mina Array Sit**	**88.72 49**	*e*P	**P**		**10 04 21.9 +0.1**
NVAR	**Mina Array Bea**	**88.72 49**	*e*P	**P**		**10 04 22.2 +0.4**
NVAR	**Mina Array Bea**	**88.72 49**	P	**P**		**10 04 21.9 +0.1**
	comp=Z,2.5nm,0.9s,baz=234,slow=8.8,SNR=9.2					
NVAR			LR	LR		10 38 00.1
	comp=Z,475nm,19.3s,baz=253,slow=31					
J05D	**Fort Rock, OR**	**88.72 44**	P	**P**		**10 04 21.9 +0.2**
	baz=244					
TLY	**Talaya**	**88.75 326**	*de*P	**P**		**10 04 22.2 +0.8**
CCB	**Clear Creek Bu**	**88.76 18**	*e*P	**P**		**10 04 20.2 -0.9**
	comp=Z,3.0nm,0.8s					
NV11	**Mina Array Sit**	**88.83 49**	*e*P	**P**		**10 04 22.2 -0.1**
	comp=Z,0.4nm,1.0s					
HDA	**Harding Lake**	**88.83 18**	*e*P	**P**		**10 04 20.7 -0.8**
	comp=Z,5.8nm,0.9s					
HDA	**Harding Lake**	**88.83 18**	P	**P**		**10 04 20.2 -1.3**
	baz=223					
GRAC	**Grapevine Rang**	**88.83 51**	P	**P**		**10 04 21.9 -0.3**
	baz=247					
MDM	**Murphy Dome**	**88.87 17**	*e*P	**P**		**10 04 20.1 -1.6**
	comp=Z,4.8nm,0.9s					
TCOL	**CIGO, UAF Yank**	**88.91 17**	P	**P**		**10 04 20.4 -1.4**
	baz=222					
COLA	**College**	**88.92 17**	*e*P	**P**		**10 04 20.2 -1.6**
	comp=Z,5.7nm,0.8s					
COLA	**College**	**88.92 17** ‖	*e*P	**P**		**10 04 19.9 -1.9**
COLA			pmax	pmax		
	comp=Z,5.0nm,0.9s					
KVN	**Kaiserville**	**89.11 48**	*e*P	**P**		**10 04 22.4 -1.2**
	comp=Z,6.5nm,1.2s					
KVN	**Kaiserville**	**89.11 48**	*e*P	**P**		**10 04 22.4 -1.2**
KVN			pmax	pmax		
	comp=Z,7.0nm,1.2s					
ILAR	**Eielson Array**	**89.12 18**	P	**P**		**10 04 20.7 -2.1**
	comp=Z,1.8nm,0.8s,baz=229,slow=5.5,SNR=14					
ILAR			LR	LR		10 39 01.4
	comp=Z,394nm,20.8s,baz=244,slow=32					
ILB	**Eielson Array**	**89.12 18**	*e*P	**P**		**10 04 20.8 -2.1**
	comp=Z,4.6nm,0.9s					
GMRC	**Granite Mounta**	**89.27 53**	P	**P**		**10 04 25.2 +0.8**
	baz=248					
TUQ	**Turquoise Moun**	**89.31 52**	P	**P**		**10 04 25.4 +0.8**
	baz=248					
SCRK	**Sand Creek**	**89.42 19**	*e*P	**P**		**10 04 24.1 -0.3**
	comp=Z,5.6nm,1.2s					
WVOR	**Wild Horse Val**	**90.10 45**	*e*P	**P**		**10 04 27.9 -0.2**
	comp=Z,8.2nm,1.2s					
WVOR	**Wild Horse Val**	**90.10 45**	*e*P	**P**		**10 04 27.9 -0.2**
WVOR			pmax	pmax		
	comp=Z,8.0nm,1.2s					
I07A	**Izee**	**90.20 43**	*e*P	**P**		**10 04 28.2 -0.3**
	comp=Z,21nm,1.5s					
PDMCI	**Parker Dam,Lak**	**90.25 54**	P	**P**		**10 04 30.0 +1.1**
	baz=249					
B05A	**Bryant**	**90.37 39**	P	**P**		**10 04 30.3 +1.2**
	baz=244					
J08A	**Cirle Bar Ran**	**90.58 44**	*e*P	**P**		**10 04 29.6 -0.8**
	comp=Z,8.5nm,1.0s					
SNAA	**Sanae**	**90.67 183**	P	**P**		**10 04 30.0 -0.2**
SNAA	**Sanae**	**90.67 183**	*e*P	**P**		**10 04 29.4 -0.8**
	comp=Z,72nm,1.6s					
SNAA	**Sanae**	**90.67 183** ‖	*e*P	**P**		**10 04 29.8 -0.4**
G08A	**Pilot Rock**	**91.05 43**	*e*P	**P**		**10 04 32.0 -0.5**
	comp=Z,8.4nm,1.0s					
VNA3	**Neumayer Olymp**	**91.31 181**	P	**P**		**10 04 32.8 -0.3**
VNA2	**Neumayer--Watz**	**91.58 182**	P	**P**		**10 04 34.2 -0.2**
	baz=154,slow=5.0					
VNA1	**Neumayer--Stat**	**91.88 181**	P	**P**		**10 04 39.9 +4.1**
TUC	**Tucson**	**92.20 57**	P	**P**		**10 04 39.0 +1.0**
	baz=251					
X16A	**Lo Mia Camp, P**	**92.39 55**	*e*P	**P**		**10 04 39.2 +0.2**
	comp=Z,4.1nm,1.0s					
U15A	**North Rim**	**92.42 53**	*e*P	**P**		**10 04 38.7 -0.5**
	comp=Z,3.7nm,1.0s					
TIXI	**Tiksi**	**92.95 348**	*e*P	**P**		**10 04 39.1 -1.4**
	comp=Z,8.3nm,0.9s					
TIXI			*e*P	**P**		**10 04 39.8 -0.7**
TIXI	**Tiksi**	**92.95 348**	P	**P**		**10 04 39.8 -0.7**
	comp=Z,8.2nm,0.9s,baz=47,slow=1.1,SNR=19					
WMQ	**Urumqi**	**95.21 314**	*e*P	**P**		**10 04 53.7 +2.1**
WMQ			pP	pwP		10 04 57.0 -0.5
WMQ			PP	**PP**		**10 08 44.7 +2.9**
WMQ			pmax	pmax		
	comp=Z,290nm,3.9s					
WMQ			LR	LR		
	comp=Z,3μm,34.5s					
WMQ			LR	LR		
	comp=Z,2μm,33.1s					
WMQ			LR	LR		
	comp=Z,2μm,21.5s					
PD31	**Pinedale Array**	**96.48 47**	*e*P	**P**		**10 04 57.8 +0.2**
	comp=Z,2.6nm,1.4s					
PDAR	**Pinedale Array**	**96.48 47**	P	**P**		**10 04 58.3 +0.7**
	comp=Z,0.1nm,0.5s,baz=248,slow=7.8,SNR=3.5					
PDAR			LR	LR		10 41 44.9
	comp=Z,219nm,20.6s,baz=260,slow=31					
LTX	**Lajitas**	**97.13 62**	*e*P	Pdif		10 05 01.1 +0.3
LTX	**Lajitas**	**97.13 62**	*e*P	Pdif		10 05 01.1 +0.3
TXAR	**Lajitas Array**	**97.13 62**	P	Pdif		10 05 01.1 +0.3
	comp=Z,0.7nm,1.0s,baz=213,slow=5.7,SNR=4.9					
TXAR			LR	LR		10 43 27.0
	comp=Z,444nm,18.1s,baz=0.0,slow=32					
DGZ	**Jazzator, Alta**	**97.29 320** ‖	*e*P	Pdif		10 05 01.8 +0.7
DGZ			pmax	pmax		
	comp=Z,2.0nm,0.9s					
MK32	**Makanchi Array**	**99.73 316**	*e*Pdif	**Pdif**		**10 05 11.8 0.0**
MK32			*e*PP	**PP**		**10 09 16.4 -0.1**
MK32			*e*PKKPbc	**PKKPbc**		**10 21 31.6 -2.7**
MKAR	**Makanchi Array**	**99.73 316**	*i*P	**Pdif**		**10 05 14.5 +2.6**
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
MKAR	**Makanchi Array**	**99.73 316**	P	**Pdif**		**10 05 11.8 0.0**
	comp=Z,1.5nm,0.9s,baz=99,slow=5.5,SNR=11					
MKAR			PP	**PP**		**10 09 16.4 -0.1**
	comp=Z,0.8nm,0.9s,baz=111,slow=9.2,SNR=5.0					
MKAR			PKKPbc	**PKKPbc**		**10 21 31.6 -2.7**
	comp=Z,1.0nm,0.8s,baz=276,slow=3.5,SNR=7.0					
MKAR			LR	LR		10 48 50.5
	comp=Z,205nm,22.0s,baz=94,slow=35					
YKA	**Yellowknife Ar**	**99.86 27**	P	**Pdif**		**10 05 10.6 -1.3**
	comp=Z,1.0nm,0.9s,baz=254,slow=4.5,SNR=13					
YKA			PKiKP	**PKiKP**		**10 09 39.6 -0.6**
	comp=Z,0.5nm,0.8s,baz=257,slow=1.5,SNR=4.2					
YKA			LR	LR		10 46 50.5
	comp=Z,25nm,18.9s,baz=256,slow=33					
YKB5	**Yellowknife Ar**	**99.86 27**	*e*Pdif	**Pdif**		**10 05 10.7 -1.3**
YKB5			*e*PKiKP	**PKiKP**		**10 09 39.6 -0.6**
ZAA0	**Zalesovo Array**	**100.10 323**	*e*Pdif	**Pdif**		**10 05 12.2 -1.1**
ZALV	**Zalesovo Beam**	**100.10 323**	*i*P	**Pdif**		**10 05 14.0 +0.7**
ZALV			pmax	pmax		
	comp=Z,2.0nm,0.8s					
ZALV	**Zalesovo Beam**	**100.10 323**	P	**Pdif**		**10 05 13.0 -0.3**
	comp=Z,2.3nm,0.8s,baz=103,slow=4.7,SNR=7.9					
ZAA1	**Zalesovo Array**	**100.11 323**	*e*Pdif	**Pdif**		**10 05 13.0 -0.3**
NVS	**Novosibirsk**	**101.23 324**	*e*P	**Pdif**		**10 05 21.5 +3.2**
KSH	**Kashi**	**102.47 308**	P	**Pdif**		**10 05 27.2 +2.8**
KSH			pP	sPdif		10 05 30.8 +3.2
KSH			PP	**PKiKP**		**10 09 42.0 -3.9**
KSH			S	**Sdif**		**10 17 06.8 -2.3**
KSH			pmax	pmax		
	comp=Z,120nm,3.6s					
KSH			LR	LR		
	comp=Z,330nm,6.6s					
KSH			LR	LR		
	comp=Z,280nm,7.1s					
KSH			LR	LR		
	comp=Z,430nm,8.5s					
NRIK	**Noril'sk**	**103.02 339**	Pdiff	**Pdif**		**10 05 26.0 +0.1**
	comp=Z,6.0nm,0.8s,baz=108,slow=4.0,SNR=8.7					
KURK	**Kurchatov**	**103.02 319**	P	**Pdif**		**10 05 27.9 +1.6**
KURK						10 09 40.7
KURBB	**Kurchatov Arra**	**103.06 319**	Pdiff	**Pdif**		**10 05 27.9 +1.4**
	comp=Z,0.3nm,0.3s,baz=100,slow=5.2,SNR=3.2					
KURBB			PP	**PP**		**10 09 40.7 -0.7**
	comp=Z,0.9nm,0.2s,baz=87,slow=5.8,SNR=4.1					
ARU	**Arti**	**115.23 325**	*i* PKIKP	**PKiKP**		**10 10 08.5 -0.5**
ARU						10 11 11.8
ARU						10 17 20.7
ARU			SS	SS		10 27 07.3 +0.4
CPUP	**Villa Florida**	**118.00 134**	*e*PKPdf	**PKPdf**		**10 10 14.6 -0.8**
CPUP	**Villa Florida**	**118.00 134**	PKP	**PKPdf**		**10 10 15.3 -0.1**
	comp=Z,1.9nm,0.8s,baz=159,slow=15,SNR=4.9					
DAG	**Danmarks Havn**	**120.77 2**	*i* PKIKP	**PKPdf**		**10 10 17.4 -1.8**
DAG			pmax	pmax		
	comp=Z,3.0nm,0.8s					
DAG	**Danmarks Havn**	**120.77 2**	*i* P	**PKPdf**		**10 10 17.4 -1.8**
	comp=Z,4.4nm,0.8s					
BOSA	**Boshof**	**121.51 219**	PKP	**PKPdf**		**10 10 22.1 -0.1**
	comp=Z,1.5nm,0.8s,baz=103,slow=7.6,SNR=2.0					
SUMG	**Summit**	**123.02 9**	*e*PKPdf	**PKPdf**		**10 10 21.8 -2.3**
SUMG	**Summit**	**123.02 9**	*i* PKIKP	**PKPdf**		**10 10 23.5 -0.6**
SUMG			pmax	pmax		
	comp=Z,27nm,1.0s					
SUMG	**Summit**	**123.02 9**	*i* P	**PKPdf**		**10 10 23.5 -0.6**
	comp=Z,27nm,1.0s					
ARA0	**ARCESS Array S**	**123.23 345**	*e*PKPdf	**PKPdf**		**10 10 23.9 -0.2**
ARCES	**ARCESS Array B**	**123.23 345**	*e*PKPdf	**PKPdf**		**10 10 23.3 -0.8**
ARCES	**ARCESS Array B**	**123.23 345**	PKP	**PKPdf**		**10 10 23.9 -0.2**
	comp=Z,8.8nm,0.8s,baz=18,slow=1.5,SNR=19					
KLMR	**Klimovskoe**	**123.56 333**	*e*PKIKP	**PKPdf**		**10 10 23.2 -1.7**
KLMR			pmax	pmax		
	comp=Z,27nm,1.4s					
URKR	**Urkarakh**	**123.99 309** ‖	*e*PKIKP	**PKiKP**		**10 10 31.4 +4.6**
SCHQ	**Schefferville**	**124.36 35**	*e*PKPdf	**PKPdf**		**10 10 25.2 -1.5**
SCHQ	**Schefferville**	**124.36 35**	PKP	**PKPdf**		**10 10 26.0 -0.7**
	comp=Z,3.6nm,0.8s,baz=25,slow=3.1,SNR=7.1					
SFJD	**Kangerlussuaq**	**124.78 17**	*e*PKIKP	**PKPdf**		**10 10 25.2 -1.9**
SFJD			pmax	pmax		
	comp=Z,16nm,1.1s					
SFJD	**Kangerlussuaq**	**124.78 17**	*i* P	**PKPdf**		**10 10 25.2 -1.9**
	comp=Z,16nm,1.1s					
PKME	**Peaks-Kenny Pk**	**125.33 47**	*e*PKPdf	**PKPdf**		**10 10 27.6 -1.2**
PQI	**Presque Isle**	**125.91 45**	*e*PKPdf	**PKPdf**		**10 10 28.9 -1.0**
ZEI	**Tsey**	**126.63 310**	*i* PKIKP	**PKPdf**		**10 10 31.2 -0.5**
ZEI			pmax	pmax		
	comp=Z,7.0nm,1.3s					
SCO	**Scoresbysund**	**126.85 4**	*e*PKPdf	**PKPdf**		**10 10 30.8 -0.2**
SCO	**Scoresbysund**	**126.85 4**	*i* PKIKP	**PKPdf**		**10 10 31.0 0.0**
SCO			pmax	pmax		
	comp=Z,17nm,1.2s					
SCO	**Scoresbysund**	**126.85 4**	*i* P	**PKPdf**		**10 10 31.0 0.0**
	comp=Z,17nm,1.2s					
BATG	**Bathurst New B**	**127.07 44**	*e*PKPdf	**PKPdf**		**10 10 30.9 -1.2**
KIV	**Kislovodsk**	**127.28 312**	*i* PKIKP	**PKPdf**		**10 10 32.4 -0.3**
KIV			pmax	pmax		
	comp=Z,20nm,1.1s					
KIV			MLR	MLR		
	comp=Z,457nm,23.0s					
NEY	**Neytrino**	**127.40 311** ‖	*i*PKIKP	**PKiKP**		**10 10 33.9 +0.3**
OBN	**Obninsk**	**127.49 327** ‖	*i*PKIKP	**PKiKP**		**10 10 33.6 +0.5**
OBN			*e*			10 12 33.9
OBN			pmax	pmax		
	comp=Z,85nm,3.7s					
KMBO	**Kilima Mbogo**	**127.96 254**	*e*PKPdf	**PKPdf**		**10 10 33.6 -1.6**
KMBO	**Kilima Mbogo**	**127.96 254**	PKP	**PKiKP**		**10 10 36.3 +0.6**
	comp=Z,1.7nm,0.3s,baz=192,slow=11,SNR=4.3					
LMN	**Caledonia Moun**	**128.27 45**	*e*PKPdf	**PKPdf**		**10 10 33.1 -1.4**
FIA0	**FINESS Array S**	**128.66 338**	*e*PKPdf	**PKPdf**		**10 10 34.7 0.0**
FIA0	**FINESS Array S**	**128.66 338**	*e*PKIKP	**PKPdf**		**10 10 34.7 0.0**
FINES	**FINESS Array B**	**128.66 338**	*e*PKPdf	**PKPdf**		**10 10 34.8 +0.1**
FINES	**FINESS Array B**	**128.66 338**	*e*PKIKP	**PKPdf**		**10 10 34.8 +0.1**
FINES	**FINESS Array B**	**128.66 338**	PKP	**PKPdf**		**10 10 34.7 0.0**
	comp=Z,5.6nm,0.9s,baz=46,slow=5.5,SNR=10					
GBN	**Guysborough**	**130.62 45**	*e*PKPdf	**PKPdf**		**10 10 36.2 -2.7**
BDFB	**Brasilia**	**131.54 131**	PKP	**PKPdf**		**10 10 42.2 +0.6**
	comp=Z,17nm,0.4s,baz=232,slow=3.3,SNR=4.8					
AKASG	**Malin Array Be**	**133.48 325**	*e*PKPdf	**PKPdf**		**10 10 42.5 -1.6**
AKASG	**Malin Array Be**	**133.48 325**	PKP	**PKPdf**		**10 10 43.8 -0.3**
	comp=Z,0.4nm,0.3s,baz=58,slow=2.6,SNR=7.6					
AKASG			SKPbc	**SKPbc**		**10 14 13.8 +1.1**
	comp=Z,0.5nm,0.3s,baz=45,slow=4.1,SNR=5.0					
AKBB	**Malin Array Si**	**133.48 325**	*e*PKPdf	**PKPdf**		**10 10 42.6 -1.4**
AKBB			*e*SKPbc	**SKPbc**		**10 14 13.8 +1.1**
AKBB	**Malin Array Si**	**133.48 325**	*e*PKIKP	**PKPdf**		**10 10 42.7 -1.4**
KIEV	**Kiev**	**133.49 325** ‖	*i*PKIKP	**PKPdf**		**10 10 43.5 -0.6**
NB2	**NORSAR Subarra**	**133.60 345**	PKPdf	**PKPdf**		**10 10 44.0 -0.1**
	comp=Z,3.2nm,0.8s,baz=31,slow=1.9					
NB200	**NORSAR Array S**	**133.60 345**	*e*PKPdf	**PKPdf**		**10 10 43.8 -0.3**
NOA	**NORSAR Array B**	**133.60 345**	PKP	**PKPdf**		**10 10 43.8 -0.3**
	comp=Z,3.4nm,0.8s,baz=32,slow=1.9,SNR=14					
BR101	**Keskin Array S**	**134.85 309**	*e*PKPdf	**PKPdf**		**10 10 46.4 -0.8**
BRTR	**Keskin Array B**	**134.85 309**	*e*PKPdf	**PKPdf**		**10 10 47.1 -0.2**
BRTR	**Keskin Array B**	**134.85 309**	*e*PKIKP	**PKPdf**		**10 10 47.1 -0.2**
BRTR	**Keskin Array B**	**134.85 309**	PKhKP	**PKPdf**		**10 10 46.4 -0.9**
	comp=Z,0.9nm,0.8s,baz=74,slow=5.3,SNR=4.4					
KIS	**Kishinev**	**135.48 320**	*e*PP	**SKPbc**		**10 14 20.0 +0.6**
KIS			LRM	MLR		11 13 00.0
	comp=Z,300nm,20.0s					
MORC	**Moravsky Berou**	**140.07 330**	*e*PKPdf	**PKPdf**		**10 10 55.4 -1.1**
MORC	**Moravsky Berou**	**140.07 330**	*e*PKIKP	**PKPdf**		**10 10 55.4 -1.1**
MORC	**Moravsky Berou**	**140.07 330**	*e*PKP	**PKPdf**		**10 10 55.4 -1.1**
DPC	**Dobruska-Polom**	**140.25 332**	*e*PKIKP	**PKiKP**		**10 10 59.6 +0.3**
DPC			MLR	MLR		
	comp=Z,400nm,23.0s					
DPC	**Dobruska-Polom**	**140.25 332**	*e*PKP	**PKiKP**		**10 10 59.6 +0.3**
DPC			AMS	AMS		11 18 50.0
	comp=Z,400nm,23.0s

KHC	Kasperske Hory	142.36 332	ePKPpre	PKPdf	10 10 56.9	-3.7
KHC	Kasperske Hory	142.36 332	ePKIKP	PKPdf	10 10 56.9	-3.7
KHC	Kasperske Hory	142.36 332	ePKP	PKPdf	10 10 56.6	-4.0
KHC			ex	x	10 11 03.0	
KHC			AMS	AMS	11 18 20.0	
	comp=Z,500nm,15.2s					
IDGL	Inch Island, C	142.50 356	ePKP	PKPdf	10 11 02.1	+1.6
GEC2	GERESS Array S	142.51 332	ePKPpre	PKPdf	10 10 57.1	-3.9
GEC2	GERESS Array S	142.51 332	ePKIKP	PKPdf	10 10 57.1	-3.9
GERES	GERESS Array B	142.51 332	PKhKP	PKPdf	10 10 57.6	-3.3
	comp=Z,1.9nm,0.8s,baz=46,slow=3.9,SNR=11					
ARSA	Arzberg	142.78 329	ePKPdf	PKPdf	10 10 58.4	-2.9
	comp=Z,3.1nm,0.8s					
MOA	Molln	142.97 330	ePKPdf	PKPdf	10 10 58.8	-2.9
	comp=Z,15nm,1.1s					
SOKA	Soboth	143.42 328	ePKPdf	PKPbc	10 11 00.2	+0.5
	comp=Z,6.2nm,1.0s					
BLY	Banja Luka	143.53 324	ePKPdf	PKPbc	10 10 59.8	-0.2
TTG	Podgorica	143.66 319	ePKIKP	PKPab	10 10 59.6	-0.1
OBKA	Obir	143.77 328	ePKPdf	PKPbc	10 11 00.5	-0.2
	comp=Z,7.7nm,1.0s					
KBA	Koelnbreinsper	143.96 330	ePKPdf	PKPbc	10 11 01.3	-0.1
	comp=Z,8.3nm,0.8s,SNR=14					
MEM	Membach	144.08 340	⇓PKP	PKPbc	10 11 01.7	+0.2
LJU	Ljubljana	144.10 328	*i* PKPdf	PKPab	10 11 01.4	+0.1
MYKA	Terra Mystica	144.14 329	ePKPdf	PKPab	10 11 01.6	+0.2
	comp=Z,9.1nm,0.9s					
DSB	Dublin	144.21 354	ePKP	PKPab	10 11 01.5	+0.1
IGLA	Glengowla, Co	144.25 357	ePKP	PKPbc	10 11 02.0	+0.1
ITM	Ithomi	144.35 310	ePKPdf	PKPab	10 11 02.5	0.0
STON	Ston	144.36 321	P	PKPab	10 11 01.5	-0.8
CADS	Cadrg	144.37 329	*i* PKPdf	PKPab	10 11 01.4	-0.9
UDBI	Udbina	144.46 325	P	PKPab	10 11 02.6	-0.1
BCLA	Clavier	144.47 341	⇓PKP	PKPbc	10 11 02.8	+0.1
STU	Stuttgart	144.48 336	ePKPdf	PKPbc	10 11 02.7	0.0
STU	Stuttgart	144.48 336	ePKIKP	PKPbc	10 11 02.7	-0.1
WATA	Walderalm	144.59 332	ePKPdf	PKPdf	10 11 04.5	-0.2
	comp=Z,4.6nm,0.6s					
ABTA	Abfaltersbach	144.59 330	ePKPdf	PKPab	10 11 02.8	-0.4
	comp=Z,26nm,1.1s,SNR=15					
WTTA	Wattenberg	144.62 332	ePKPdf	PKPbc	10 11 04.0	+0.5
	comp=Z,23nm,1.3s					
TRI	Trieste	144.72 328	ePKPdf	PKPab	10 11 03.1	-0.4
TRI	Trieste	144.72 328	ePKIKP	PKPab	10 11 03.1	-0.4
MOTA	Moosalm	144.79 332	ePKPdf	PKPab	10 11 04.0	0.0
	comp=Z,20nm,0.9s,SNR=18					
RETA	Reutte	144.84 333	ePKPdf	PKPbc	10 11 04.1	0.0
	comp=Z,23nm,1.2s,SNR=12					
SQTA	Sankt Quirin	144.84 332	ePKPdf	PKPbc	10 11 04.2	+0.1
	comp=Z,28nm,1.1s,SNR=11					
WLF	Walferdange	144.85 339	ePKPdf	PKPdf	10 11 04.9	0.0
WLF	Walferdange	144.85 339	ePKIKP	PKPdf	10 11 04.9	0.0
WLF	Walferdange	144.85 339	⇓PKP	PKPdf	10 11 04.7	-0.2
DOU	Dourbes	144.97 341	⇑PKP	PKPbc	10 11 04.5	+0.2
BFO	Black Forest	145.17 336	ePKPbc	PKPab	10 11 05.3	+0.2
BFO	Black Forest	145.17 336	ePKIKP	PKPab	10 11 05.3	+0.2
FETA	Feichten	145.21 332	ePKPdf	PKPdf	10 11 05.7	-0.1
	comp=Z,32nm,0.8s,SNR=20					
DAVA	Damuels	145.37 333	ePKPdf	PKPdf	10 11 06.3	+0.2
	comp=Z,43nm,0.9s,SNR=22					
ECH	Echery	145.71 337	ePKPdf	PKPdf	10 11 05.8	-0.6
ECH	Echery	145.71 337	ePKP2	PKPdf	10 11 05.8	-0.6
FUORN	Ofenpass-Fuorn	145.72 332	ePKPdf	PKPdf	10 11 05.8	-1.0
VAL	Valentia	145.77 358	ePKP	PKPbc	10 11 06.7	0.0
TUE	Stuetta	146.24 333	ePKPdf	PKPdf	10 11 06.8	-0.8
TIP	Timpagrande	147.02 316	ePKPbc	PKPbc	10 11 10.9	-0.2
SENIN	Lac Senin/Sane	147.18 335	ePKPdf	PKPdf	10 11 07.9	-1.4
SENIN			ePKPbc	pPKPdf	10 11 11.7	+0.1
CLF	Chambon-Foret	147.52 342	ePKPdf	PKPdf	10 11 09.0	-0.4
CLF			ePKPbc	sPKPdf	10 11 12.8	+0.2
BNI	Bardonecchia	148.50 334	ePKPbc	PKiKP	10 11 15.8	-0.7
BNI	Bardonecchia	148.50 334	ePKP2	PKiKP	10 11 15.8	-0.7
SSB	Saint Sauveur	149.16 337	ePKPbc	PKiKP	10 11 17.3	-0.4
SSB	Saint Sauveur	149.16 337	ePKP2	PKiKP	10 11 17.3	-0.4
PBRG	Braganca	155.51 350	ePKPab	PKPab	10 11 47.7	+0.3
POLO	Lamas de Olo	156.08 352	ePKPab	PKPab	10 11 50.5	+0.6
PVRL	Vila Real	156.17 352	ePKPab	PKPab	10 11 50.6	+0.4
MVO	Moncorvo	156.18 350	ePKPab	PKPab	10 11 51.2	+0.9
PVIS	Viseu	156.74 352	ePKPab	PKPab	10 11 53.2	+0.5
ESDC	Sonseca Array	156.96 344	PKPab	PKPab	10 11 52.3	-1.4
	comp=Z,3.3nm,0.8s,baz=19,slow=3.6,SNR=10					
MTE	Manteigas	157.00 351	ePKPab	PKPab	10 11 55.0	+1.1
PCAS	Casmilo, Conde	157.47 353	ePKPab	PKPab	10 11 55.4	-0.4
PCBR	Castelo Branco	157.54 351	ePKPab	PKPab	10 11 56.9	+0.8
PTOM	Tomar	157.89 352	ePKPab	PKPab	10 11 58.4	+0.8
PESTR	Estremoz	158.51 350	ePKPab	PKPab	10 12 00.3	-0.1
PMAFR	Mafra	158.65 354	ePKPab	PKPab	10 12 01.5	+0.6
PBEJ	Beja	159.38 350	ePKPab	PKPab	10 12 06.1	+2.0
PNCL	Nicolau / Gran	159.39 352	ePKPab	PKPab	10 12 05.1	+1.0
PCVE	Castro Verde	159.79 351	ePKPab	PKPab	10 12 07.2	+1.3
MORF	Marmelete	160.20 352	ePKPab	PKPab	10 12 08.9	+1.1
MORF	Marmelete	160.20 352	ePPP	PP	10 15 50.4	+1.7
PFVI	Vila Bisbo	160.39 352	ePKPab	PKPab	10 12 06.4	-2.1
TOA0	Torodi Ar. Sit	165.97 253	ePKPdf	PKPdf	10 11 32.2	-1.6
TORD	Torodi Ar. Bea	165.97 253	PKP	PKPdf	10 11 32.4	-1.4
	comp=Z,2.3nm,0.9s,baz=351,slow=4.0,SNR=10					
TORD			PKPab	PKPab	10 12 33.7	-0.2
	comp=Z,3.0nm,1.0s,baz=56,slow=3.7,SNR=4.7					
TOA1	Torodi Ar. Sit	165.97 253	ePKPdf	PKPdf	10 11 32.4	-1.4
TOA1			ePKPab	PKPab	10 12 33.7	-0.2

*ISCJB **01** 10:07:29.5±0.6, 4°.49S±0°.05×134°.74E±0°.07, h22km, Error ellipse: s-maj=10.2km s-min=6.9km az=176.3*
*IDC **01** 10:07:29.4±1.3, 4°.31S×134°.78E, h0km, mb3.8/2, mb1 4.2/7, mb1mx3.8/37, mbtmp4.2/7, ML4.2/5, Error ellipse: s-maj=32.6km s-min=21.4km az=66.0*
*NEIC **01** 10:07:32.8±2.0, 4°.45S×134°.80E, h31km±12km, mb4.0/6, Error ellipse: s-maj=22.8km s-min=10.1km az=88.0*

ISC 01 10:07:30.3±0.8, 4°.51S±0°.06×134°.75E±0°.09, h22km, n21, σ3°.07/26, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.95	302	ePn	Pn	10 08 16.2	+0.3
SIJI	Sorong	5.02	316	Pn	Pn	10 08 44.5	+0.1
	6.8nm,0.3s,baz=171,slow=16,SNR=20						
SIJI				Sn	Sn	10 09 38.5	-3.3
	6.5nm,0.3s,baz=307,slow=23,SNR=6.4						
JAY	Jayapura	6.27	72	Pn	Pn	10 09 01.8	+0.2
	1.2nm,0.3s,baz=210,slow=13,SNR=6.5						
MTN	Manton Dam	9.01	203	ePn	Pn	10 09 42.4	+3.1
MTN				eSn	Sn	10 11 22.2	+2.0
SOEI	Soe	11.63	243	ePn	Pn	10 10 17.3	+2.2
BATI	Baumata	12.36	242	Pn	Pn	10 10 28.0	+2.9
	3.6nm,0.3s,baz=167,slow=7.1,SNR=3.5						
WRAB	Tennant Creek	15.33	181	ePn	P	10 11 09.9	-0.2
	7.7nm,0.6s						
WB2	Warramunga Arr	15.34	181	ePn	P	10 11 09.1	-1.1
	8.2nm,0.8s						
WRA	Warramunga Arr	15.34	181	ePn	Pn	10 11 06.9	+1.2
WRA	Warramunga Arr	15.34	181	Pn	Pn	10 11 03.7	-1.9
	0.4nm,0.3s,baz=1.2,slow=13,SNR=19						
WRA				Sn	Sn	10 13 49.1	-6.0
	0.7nm,0.3s,baz=9.7,slow=23,SNR=5.2						
FITZ	Fitzroy Crossi	16.18	213	ePn	P	10 11 20.1	+0.6
FITZ	Fitzroy Crossi	16.18	213	Pn	Pn	10 11 17.0	+0.6
	1.5nm,0.3s,baz=27,slow=9.3,SNR=83						
FITZ				Sn	Sn	10 14 08.7	-6.6
	1.5nm,0.3s,baz=190,slow=12,SNR=9.4						
AS31	Alice Springs	19.06	182	eP	Pn	10 11 53.9	+1.7
	3.6nm,0.4s						
ASAR	Alice Springs	19.06	182	eP	Pn	10 11 53.3	+1.1
ASAR	Alice Springs	19.06	182	P	Pn	10 11 55.5	+3.3
	1.0nm,0.3s,baz=6.0,slow=11,SNR=47						
ASAR				S	Sn	10 15 20.0	-5.2
	0.2nm,0.3s,baz=3.8,slow=30,SNR=4.5						
CTA	Charters Tower	19.11	145	P	Pn	10 11 55.5	+2.7
	0.9nm,0.3s,baz=319,slow=11,SNR=9.8						
STKA	Stephens Creek	27.97	168	eP	P	10 13 18.9	-0.5
	2.8nm,1.5s						
STKA	Stephens Creek	27.97	168	P	P	10 13 24.2	+4.7
	3.1nm,1.0s,baz=346,slow=7.8,SNR=2.9						
SONA0	Songino Array	57.77	338	eP	P	10 17 21.1	+1.2
SONM	Songino Array	57.77	338	P	P	10 17 21.1	+1.2
	0.3nm,0.5s,baz=160,slow=4.6,SNR=2.8						
RIDG	Independent Ri	89.78	26	eP	P	10 20 22.7	-4.2
	16nm,1.7s						

*IDC **01** 10:11:01.6±2.0, 17°.77S×167°.78E, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.9/35, mbtmp4.0/6, ML3.2/1, Error ellipse: s-maj=45.5km s-min=33.8km az=73.0*
*ISCJB **01** 10:11:05.5±1.7, 17°.91S±0°.09×167°.7E±0°.3, h32km, mb4.0/5, Error ellipse: s-maj=38.2km s-min=13.2km az=1.0*

ISC 01 10:11:06.8±1.9, 17°.9S±0°.1×167°.7E±0°.3, h32km, n6, σ0°.92/7, mb4.1/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.33	196	Pn	Pn	10 12 09.7	-0.8
	1.3nm,0.3s,baz=121,slow=19,SNR=16						
DZM				Sn	Sn	10 13 00.5	+0.6
	5.4nm,0.3s,baz=103,slow=23,SNR=10						
STKA	Stephens Creek	27.41	235	P	P	10 16 48.6	-1.0
	2.1nm,0.9s,baz=38,slow=12,SNR=2.9						
WRA	Warramunga Arr	31.63	261	P	P	10 17 28.0	+0.8
	1.6nm,0.8s,baz=80,slow=8.4,SNR=1.9						
ASAR	Alice Springs	32.10	254	P	P	10 17 31.8	+0.4
	2.5nm,0.9s,baz=80,slow=8.1,SNR=5.1						
QSPA	South Pole Qui	72.15	180	P	P	10 22 28.9	+0.7
	1.8nm,0.8s,baz=354,slow=7.3,SNR=9.4						
SONM	Songino Array	85.30	324	P	P	10 23 40.3	-0.3
	1.3nm,1.0s,baz=129,slow=5.9,SNR=5.2						

*ISCJB **01** 10:14:31.2±0.5, 14°.96S±0°.05×173°.37W±0°.09, h10km, mb4.2/18, MS3.9/1, Error ellipse: s-maj=13.2km s-min=7.6km az=8.8*
*IDC **01** 10:14:31.4±0.7, 15°.13S×173°.32W, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.2/37, mbtmp4.3/13, MS4.0/1, Ms1 4.0/1, ms1mx3.2/22, Error ellipse: s-maj=28.9km s-min=16.8km az=123.0*
*NEIC **01** 10:15:10.8±0.8, 16°.34S×174°.48W, h273km±9km, mb4.1/12, Error ellipse: s-maj=32.2km s-min=4.6km az=127.0*

ISC 01 10:14:32.4±0.5, 15°.04S±0°.09×173°.3W±0°.1, h10km, n77, σ1°.23/64, mb4.4/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUNA	Funafuti	9.79	311	eP	Pn	10 16 55.7	+2.2
KNTN	Kanton	12.29	7	eP	Pn	10 17 26.4	-1.2
RAR	Rarotonga	14.24	118	Pn	Pn	10 17 48.0	-6.2
	2.5nm,0.3s,baz=293,slow=11,SNR=6.1						
RAR				Sn	Sn	10 20 13.6	-19
	0.7nm,0.3s,baz=329,slow=20,SNR=1.9						
OUENC	Ouen Island, N	20.18	246	eP	Pn	10 19 08.9	-0.3
	38nm,1.0s						
DZM	Mont Dzumac	20.43	247	eP	Pn	10 19 11.1	-1.2
	36nm,1.3s						
DZM	Mont Dzumac	20.43	247	P	Pn	10 19 11.7	-0.6
	6.5nm,1.0s,baz=275,slow=18,SNR=2.1						
OUZ	Omahuta	23.29	208	P	P	10 19 41.1	+0.7
WCZ	Waipu Caves	23.57	206	P	P	10 19 42.8	-0.4
MXZ	Matakaoa Point	23.64	197	P	P	10 19 45.0	+1.1
KUZ	Kuaotunu	23.73	202	P	P	10 19 44.8	0.0
WMGZ	Waiomatatini S	23.85	196	P	P	10 19 48.2	+2.2
HAZ	Te Kaha	23.97	198	P	P	10 19 48.4	+1.3
WIAZ	Waiheke Island	24.00	203	P	P	10 19 47.9	+0.6
PKGZ	Pakihiroa	24.01	197	P	P	10 19 49.7	+2.2
MBAZ	Motutapu North	24.07	204	P	P	10 19 49.6	+1.7
PUZ	Puketiti	24.13	196	P	P	10 19 49.0	+0.4
RUGZ	Raukumara Rang	24.20	198	P	P	10 19 49.9	+0.6
ETAZ	East Tamaki Re	24.21	204	P	P	10 19 50.4	+1.0
MKAZ	Moumakai	24.26	203	P	P	10 19 49.9	+0.1
TWGZ	Tauwhareparae	24.30	197	P	P	10 19 51.9	+1.7
MWZ	Matawai	24.58	198	P	P	10 19 53.7	+1.0
TKGZ	Te Karaka	24.59	197	P	P	10 19 52.7	0.0
URZ	Urewera	24.64	198	eP	P	10 19 51.8	-1.4
	20nm,0.7s						
URZ	Urewera	24.64	198	P	P	10 19 51.7	-1.5
	16nm,0.6s,baz=46,slow=2.4,SNR=14						
URZ				LR	LR	10 28 02.1	
	comp=Z,346nm,19.2s,baz=17,slow=33						
URZ	Urewera	24.64	198	P	P	10 19 51.7	-1.5
TOZ	Tahuroa Road	24.69	202	P	P	10 19 55.1	+1.4
RAGZ	Rawiri	24.76	198	P	P	10 19 55.2	+0.8
RIGZ	Rimuhau	24.86	197	P	P	10 19 56.2	+0.9
RAHZ	Arahi	25.25	198	P	P	10 19 59.0	+0.2
NMHZ	Naumai	25.50	198	P	P	10 20 01.1	+0.1
BKZ	Black Stump Fm	25.66	199	P	P	10 20 02.9	+0.4
BHHZ	Black Hill Sta	26.09	199	P	P	10 20 04.5	-1.9
PXZ	Pawanui	26.35	197	P	P	10 20 10.9	+2.2
TSZ	Takapari Road	26.64	199	P	P	10 20 10.4	-0.9
BFZ	Birch Farm	27.13	198	P	P	10 20 15.1	-0.6
MRZ	Mangatainoka R	27.31	199	P	P	10 20 15.6	-1.7
OGWZ	Otaki Gorge	27.58	199	P	P	10 20 21.6	+1.9
CAW	Cannon Point	27.88	199	P	P	10 20 24.8	+2.4
TCW	Tory Channel	28.22	200	P	P	10 20 26.0	+0.5
TUWZ	Tuamarina	28.53	200	P	P	10 20 29.1	+0.9
NNZ	Nelson	28.54	201	P	P	10 20 28.1	-0.2
KHZ	Kahutara	29.55	200	P	P	10 20 37.5	+0.3
RPZ	Rata Peaks	31.55	202	P	P	10 20 53.6	-1.4
	5.6nm,0.6s,baz=327,slow=4.6,SNR=4.8						
H11S2	WAKE ISLAND Hy	38.71	329	T	T	11 03 36.8	
	baz=145,slow=75,SNR=16						
H11S3	WAKE ISLAND Hy	38.72	329	T	T	11 03 37.9	
	baz=145,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	38.73	329	T	T	11 03 38.0	
	baz=145,slow=75,SNR=11						
STKA	Stephens Creek	44.31	240	eP	P	10 22 41.2	-1.6
	2.2nm,1.3s						
STKA	Stephens Creek	44.31	240	P	P	10 22 42.2	-0.6
	3.5nm,0.7s,baz=52,slow=12,SNR=3.6						
WR1	Warramunga Arr	50.03	256	eP	P	10 23 27.9	+0.3
WRA	Warramunga Arr	50.03	256	P	P	10 23 27.9	+0.3
	1.9nm,0.4s,baz=91,slow=8.0,SNR=3.0						
AS31	Alice Springs	50.32	252	eP	P	10 23 28.6	-1.3
	2.9nm,0.6s						
ASAR	Alice Springs	50.32	252	P	P	10 23 28.5	-1.4
	3.5nm,0.4s,baz=89,slow=7.6,SNR=9.5						
VNDA	Vanda	63.74	186	eP	P	10 25 05.3	+1.3
VNDA	Vanda	63.74	186	P	P	10 25 05.1	+1.1
	2.9nm,0.8s,baz=6.5,slow=7.2,SNR=15						
QSPA	South Pole Qui	75.00	180	eP	P	10 26 14.3	+0.3
	12nm,0.9s						
QSPA	South Pole Qui	75.00	180	P	P	10 26 14.7	+0.7
	12nm,1.0s,baz=55,slow=1.4,SNR=22						
J08A	Circle Bar Ran	76.72	38	eP	P	10 26 42.0	+18
	4.0nm,1.0s						
G08A	Pilot Rock	77.58	36	eP	P	10 26 46.6	+18
	3.7nm,1.0s						
HLID	Hailey	79.28	39	eP	P	10 26 45.4	+7.0
	2.3nm,1.0s						
LENM	Lemitar	79.77	50	eS	S	10 36 44.5	0.0
MNTX	Cornudas Mount	79.93	53	eP	P	10 26 49.5	+7.5
	2.0nm,1.0s						
TXAR	Lajitas Array	80.33	56	P	P	10 26 45.6	+1.3
	0.2nm,0.8s,baz=235,slow=6.3,SNR=2.7						
PD31	Pinedale Array	81.93	42	eP	P	10 27 09.6	+17
	2.1nm,1.1s						
PDAR	Pinedale Array	81.93	42	P	P	10 26 53.6	+0.9
	0.2nm,0.5s,baz=250,slow=1.8,SNR=2.8						
ILAR	Eielson Array	82.07	11	P	P	10 26 53.3	+0.6
	0.3nm,0.6s,baz=226,slow=6.2,SNR=9.0						
APG	El Apazote	87.12	74	P	P	10 27 19.1	-0.5
	5.3nm,0.7s,baz=210,slow=8.1,SNR=3.1						
MAW	Mawson	88.17	199	eP	P	10 27 22.8	-0.5
	2.7nm,1.4s						
MAW	Mawson	88.17	199	P	P	10 27 22.4	-0.9
	6.6nm,1.1s,baz=106,slow=6.5,SNR=3.5						
YKA	Yellowknife Ar	89.73	23	P	P	10 27 30.9	+0.3
	0.2nm,0.8s,baz=242,slow=4.8,SNR=3.2						
KHC	Kasperske Hory	145.54	352	ePKPpre	PKPpre	10 34 12.0	
GERES	GERESS Array B	145.80	352	PKPbc	PKPab	10 34 12.9	+0.5
	1.2nm,0.8s,baz=46,slow=3.9,SNR=9.5						
BRTR	Keskin Array B	145.94	321	PKPbc	PKiKP	10 34 14.1	-2.2
	2.9nm,0.8s,baz=96,slow=2.5,SNR=16						
MOTA	Moosalm	147.58	354	ePKPdf	PKiKP	10 34 18.0	-1.4
	1.2nm,0.6s						
WTTA	Wattenberg	147.61	354	PKPdf	PKiKP	10 34 18.1	-1.4
	1.9nm,0.5s						
DAVA	Damuels	147.74	356	PKPdf	PKiKP	10 34 18.9	-0.9
	4.1nm,0.9s						
FETA	Feichten	147.94	355	ePKPdf	PKPab	10 34 19.8	-1.0
	3.0nm,0.9s						
ABTA	Abfaltersbach	148.02	352	ePKPdf	PKiKP	10 34 18.7	-1.6
	3.1nm,0.8s						

*ISCJB **01** 10:15:47.0±0.3, 6°.45S±0°.03×130°.26E±0°.04, h146km, mb4.0/9, Error ellipse: s-maj=6.0km s-min=4.1km az=166.6*
*IDC **01** 10:15:47.1±2.0, 6°.27S×130°.36E, h108km±19km, mb3.6/5, mb1 3.8/7, mb1mx3.5/32, mbtmp4.1/7, Error ellipse: s-maj=32.1km s-min=13.8km az=88.0*
*DJA **01** 10:15:47.9±0.4, 6°.5S±3°.×13°.0E±°, h163km±8km, M4.6/6, mB5.0/4, mb4.5/5, MLv4.7/6, Mw(mB)4.3/4*
*NEIC **01** 10:15:47.8±2.2, 6°.41S×130°.30E, h157km±19km, mb4.4/9, Error ellipse: s-maj=24.2km s-min=6.5km az=72.0*

ISC 01 10:15:48.3±0.5, 6°.43S±0°.04×130°.27E±0°.05, h146km, n45, σ2°.52/56, mb3.9/9, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.85	147	ePn	Pn	10 16 21.7	+0.3
SAUI				eSn	Sn	10 16 47.7	+0.8
SAUI	Saumlaki	1.85	147	P	Pn	10 16 24.5	+3.0
BNDI	Bandanaira	1.93	349	P	Pn	10 16 22.9	+0.6
BNDI				S	Sn	10 16 47.9	-0.6
FAKI	Fak Fak	4.00	30	ePn	Pn	10 16 48.3	-0.3
FAKI				eSn	Sn	10 17 31.6	-3.8
FAKI	Fak Fak	4.00	30	P	Pn	10 16 47.8	-0.7
FAKI				S	Sn	10 17 31.5	-3.8
SIJI	Sorong	5.61	10	P	Pn	10 17 07.5	-2.3
	16nm,0.3s,baz=270,slow=23,SNR=80						
SIJI				S	Sn	10 18 06.5	-7.0
	38nm,0.3s,baz=252,slow=23,SNR=11						
SANI	Sanana	6.09	315	P	Pn	10 17 16.3	+0.1
	36nm,0.8s,580nm0.1nm						
MTN	Manton Dam	6.43	172	ePn	Pn	10 17 22.0	+1.2
MTN				eSn	Sn	10 18 32.5	-0.7
SOEI	Soe	6.80	241	ePn	Pn	10 17 26.9	+1.1
SOEI				eSn	Sn	10 18 41.8	-0.4
SOEI	Soe	6.80	241	P	Pn	10 17 25.6	-0.2
	190nm,0.7s,2μm						
BATI	Baumata	7.54	240	P	Pn	10 17 35.5	-0.1
	93nm,0.6s						
BATI	Baumata	7.54	240	P	Pn	10 17 36.2	+0.7
	31nm,0.3s,baz=103,slow=3.5,SNR=20						
BATI				S	Sn	10 18 57.1	-2.7
	21nm,0.3s,baz=195,slow=13,SNR=5.1						
TNTI	Ternate	7.72	338	ePn	Pn	10 17 37.5	-0.4
MRSI	Marisa	10.78	309	P	Pn	10 18 18.6	-0.1
FITZ	Fitzroy Crossi	12.45	201	ePn	Pn	10 18 39.0	-1.5
FITZ	Fitzroy Crossi	12.45	201	P	Pn	10 18 39.7	-0.9
	2.6nm,0.3s,baz=20,slow=9.7,SNR=42						
FITZ				S	Sn	10 20 47.9	-10
	4.1nm,0.3s,baz=86,slow=21,SNR=6.4						
WRAB	Tennant Creek	14.00	164	ePn	Pn	10 18 58.1	-2.3
WRA	Warramunga Arr	14.00	164	ePn	Pn	10 19 00.7	+0.2
WRA	Warramunga Arr	14.00	164	P	Pn	10 18 59.9	-0.6
	6.2nm,0.3s,baz=345,slow=13,SNR=47						
WRA				S	Sn	10 21 27.9	-7.8
	4.3nm,0.3s,baz=342,slow=23,SNR=7.5						
WB2	Warramunga Arr	14.01	164	ePn	Pn	10 19 00.4	-0.2
COEN	Coen	14.73	122	ePn	Pn	10 19 07.3	-2.3
JAGI	Jajag, Banyuwa	16.11	262	ePn	P	10 19 26.1	-1.0
	139nm,1.5s						
PMG	Port Moresby	16.99	101	eP	P	10 19 36.2	-0.7
	27nm,1.5s						
AS31	Alice Springs	17.49	169	eP	Pn	10 19 42.5	-0.9
	6.1nm,0.5s						
ASAR	Alice Springs	17.49	169	eP	P	10 19 41.6	-0.8
ASAR	Alice Springs	17.49	169	P	Pn	10 19 46.0	+2.6
	2.8nm,0.3s,baz=346,slow=11,SNR=38						
ASAR				S	S	10 22 51.6	-5.5
	1.0nm,0.3s,baz=357,slow=28,SNR=6.8						
PSA00	Pilbara Seismi	18.12	213	eP	P	10 19 48.1	-1.2
	15nm,0.6s						
KSM	Kuching	21.42	291	eP	P	10 20 23.9	-1.0
	6.9nm,1.1s						
CISI	Cisompet, Garu	22.32	266	eP	P	10 20 33.4	-0.8
	32nm,0.8s						
GIRL	Giralia	22.34	222	eP	P	10 20 31.7	-2.6
	107nm,1.2s						
STKA	Stephens Creek	27.44	159	P	P	10 21 24.7	+4.1
	3.2nm,1.1s,baz=349,slow=8.8,SNR=2.9						
PSI	Prapat	32.61	285	eP	P	10 22 05.0	-1.5
	4.7nm,1.0s						
CD2	Chengdu	44.97	327	eP	P	10 23 49.1	0.0
LZH	Lanzhou	49.03	331	eP	P	10 24 23.1	+2.5
LZH				pP	pwP	10 24 56.6	-1.1
LZH	

PB10				*e*S	**Sn**	**10 20 35.5**	**+0.1**
PB10	**IPOC Station P**	**1.52**	**240⇑**	*e*P	**Pn**	**10 20 15.5**	**-0.1**
PB10				*i* S	**Sn**	**10 20 35.1**	**-0.3**
PB10				IAML		10 20 38.1	
	comp=E,716nm,0.3s						
PB02	**IPOC Station P**	**1.60**	**333**	*e*P	**Pn**	**10 20 17.1**	**+0.4**
PB02				*e*S	**Sn**	**10 20 38.3**	**+1.0**
PB02	**IPOC Station P**	**1.60**	**333⇑**	*i*P	**Pn**	**10 20 17.1**	**+0.4**
PB02				*i* S	**Sn**	**10 20 37.5**	**+0.2**
PB02				IAML		10 20 39.0	
	comp=E,4μm,0.3s						
PB01	**IPOC Station P**	**1.73**	**349⇑**	*i*P	**Pn**	**10 20 18.9**	**+0.4**
PB01				*i* S	**Sn**	**10 20 41.0**	**+0.5**
PB01				IAML		10 20 42.6	
	comp=E,1μm,0.2s						
PB14	**IPOC Station P**	**2.20**	**212⇑**	*e*P	**Pn**	**10 20 25.4**	**+0.6**
PB14				IAML		10 21 00.1	
	comp=E,828nm,0.2s						
GO02	**Mina Guanaco**	**2.44**	**190⇑**	*i*P	**Pn**	**10 20 28.5**	**+0.7**
GO02				IAML		10 21 01.9	
	comp=N,672nm,0.2s						
LPAZ	**La Paz**	**6.50**	**8**	P	**Pn**	**10 21 24.6**	**+1.5**
	comp=N,0.4nm,0.3s,baz=203,slow=7.4,SNR=5.5						
CFA	**Coronel Fontan**	**8.85**	**175**	P	**Pn**	**10 21 52.7**	**-1.9**
	comp=N,0.9nm,0.3s,baz=9.3,slow=17,SNR=19						
SIV	**San Ignacio**	**10.15**	**50**	P	**Pn**	**10 22 09.6**	**-2.7**
	comp=N,0.4nm,0.3s,baz=262,slow=8.7,SNR=17						
CPUP	**Villa Florida**	**11.31**	**111**	P	**Pn**	**10 22 29.8**	**+1.8**
	comp=N,0.1nm,0.3s,baz=292,slow=11,SNR=4.7						
NNA	**Nana**	**12.99**	**324**	LR	LR	10 27 06.6	
	comp=N,319nm,22.0s,baz=80,slow=33						
ULM	**Lac du Bonnet**	**76.45**	**343**	P	**P**	**10 31 28.8**	**+0.2**
	comp=N,0.7nm,0.5s,baz=180,slow=4.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**77.97**	**70**	P	**P**	**10 31 36.7**	**-1.3**
	comp=N,0.8nm,0.5s,baz=248,slow=5.6,SNR=11						
TORD				pP	**pP**	**10 32 01.5**	**-1.6**
	comp=N,0.3nm,0.4s,baz=261,slow=5.6,SNR=2.4						
YKA	**Yellowknife Ar**	**92.30**	**341**	P	**P**	**10 32 48.4**	**-0.3**
	comp=N,0.2nm,0.6s,baz=136,slow=5.0,SNR=7.6						
YKA				pP	**pP**	**10 33 13.6**	**-0.4**
	comp=N,0.2nm,0.7s,baz=133,slow=5.5,SNR=3.4						
ASAR	**Alice Springs**	**128.71**	**207**	PKP	**PKPdf**	**10 38 47.2**	**+0.6**
	comp=N,0.3nm,0.7s,baz=127,slow=2.4,SNR=3.5						
WRA	**Warramunga Arr**	**131.78**	**210**	PKP	**PKPdf**	**10 38 53.4**	**+0.9**
	comp=N,0.3nm,0.5s,baz=154,slow=1.7,SNR=9.7						
MKAR	**Makanchi Array**	**146.76**	**37**	PKPbc	**PKPbc**	**10 39 21.2**	**+0.6**
	comp=N,0.4nm,0.6s,baz=326,slow=3.5,SNR=4.2						
MKAR				pPKPbc	**pPKPdf**	**10 39 45.3**	**-0.4**
	comp=N,1.0nm,0.8s,baz=300,slow=2.4,SNR=7.7						

*ISCJB **01** 10:27:32.5±0.6, 32°.02N±0°.04×36°.05E±0°.09, h10km, Error ellipse: s-maj=11.6km s-min=5.0km az=13.5*
*JSO **01** 10:27:33.0±0.3, 32°.N±3°.×3°.6E± °, h6km, M1.9/9, Mjma2.2/9, ML0.5/5, MLv2.5/9*
*NSSC **01** 10:27:35.7±2.1, 34°.63N×36°.46E, h26km±13km, MD1.1, ML1.8*

ISC 01 10:27:32.5±1.0, 32°.01N±0°.04×36°.09E±0°.06, h10km, n11, σ1§98/12, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSUJ	**Al Zarqa**	**0.13**	**43**	P	**Pg**	**10 27 36.7**	**+1.1**
WALJ	**Wala**	**0.51**	**208**	P	**Pg**	**10 27 42.5**	**+0.1**
ASF	**Jabal al Asfar**	**0.70**	**76**	P	**Pg**	**10 27 47.1**	**+0.9**
SWQJ	**Swaqa**	**0.77**	**182**	P	**Pg**	**10 27 45.8**	**-1.5**
SHMJ	**Saham**	**0.77**	**339**	P	**Pg**	**10 27 48.4**	**+1.1**
GHAJ	**Ghor Haditha**	**0.83**	**212**	P	**Pb**	**10 27 48.5**	**-0.6**
LISJ	**El Lisan**	**0.93**	**214**	P	**Pb**	**10 27 50.3**	**-0.3**
JDRJ	**Daraweish**	**1.33**	**196**	P	**Pg**	**10 28 01.6**	**+3.6**
TOTH	**TOTAH**	**1.38**	**12**	*e*P	**Pn**	**10 27 59.3**	**+1.4**
TOTH				*e*S	**Sn**	**10 28 13.5**	**-2.7**
TOTH				AML	AML	10 28 20.2	
	comp=E,37nm,0.5s						
TOTH				AML	AML	10 28 22.2	
	comp=N,22nm,0.6s						
BRBR	**Barbar**	**1.40**	**355**	*e*P	**Pn**	**10 27 58.9**	**+0.5**
BRBR				*e*S	**Sn**	**10 28 14.4**	**-2.7**
BRBR				AML	AML	10 28 22.4	
	comp=N,25nm,0.6s						
BRBR				AML	AML	10 28 24.9	
	comp=E,14nm,0.4s						
QASN	**Qassioun**	**1.53**	**6**	*e*P	Pn	10 27 54.5	-5.4
QASN				*e*S	Sn	10 28 10.7	-9.3

IDC 01 10:29:54.6±1.9, 0°.46N×127°.13E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, Error ellipse: s-maj=150.9km s-min=24.9km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.47**	**161**	P	P	10 34 44.9	0.0
	1.2nm,0.5s,baz=340,slow=12,SNR=31						
ASAR	**Alice Springs**	**24.86**	**165**	P	P	10 35 19.1	0.0
	0.2nm,0.4s,baz=352,slow=14,SNR=11						
MKAR	**Makanchi Array**	**60.47**	**326**	P	P	10 40 06.3	-0.1
	0.3nm,0.4s,baz=126,slow=8.8,SNR=4.5						

MEX 01 10:42:05.7±0.7, 16°.30N×98°.00W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**308**	*i* P	Pg	10 42 08.2	-0.7
PNIG				*i* S	Sg	10 42 11.1	+0.1
TLIG	**Tlapa**	**1.37**	**337**	*e*P	Pn	10 42 28.0	-3.6
TLIG				*i* S	Sb	10 42 45.7	-4.1

IDC 01 10:52:07.8±53.0, 14°.99S×171°.48W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.7/43, mbtmp4.3/3, Error ellipse: s-maj=1049.0km s-min=187.5km az=79.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.85**	**240**	P	P	11 00 32.1	+0.1
	2.5nm,0.7s,baz=90,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**51.74**	**256**	P	P	11 01 17.2	-0.3
	0.7nm,0.5s,baz=94,slow=7.0,SNR=28						
ASAR	**Alice Springs**	**52.00**	**252**	P	P	11 01 19.4	-0.1
	4.8nm,0.4s,baz=89,slow=8.1,SNR=137						

*ISCJB **01** 10:59:44.2±1.2, 38°.29N±0°.04×142°.30E±0°.07, h28km±6km, mb3.7/5, Error ellipse: s-maj=9.6km s-min=6.7km az=19.4*
*IDC **01** 10:59:46.5±5.2, 38°.23N×142°.54E, h39km±45km, mb3.5/5, mb1 3.7/7, mb1mx3.3/59, mbtmp3.7/7, ML2.2/2, Error ellipse: s-maj=35.4km s-min=21.3km az=94.0*
*JMA **01** 10:59:46.0±0.1, 38°.31N×142°.19E, h36km±2km, M3.9*
JMA Felt I J1.

ISC 01 10:59:44.9±2.4, 38°.32N±0°.05×142°.27E±0°.09, h24km±15km, n25, σ1§46/29, mb3.8/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.63**	**269**	P	**Pb**	**10 59 57.4**	**+0.1**
JIKH				S	**Sb**	**11 00 05.1**	**-0.7**
JIO	**Ouri**	**0.74**	**281**	P	**Pn**	**10 59 59.1**	**-0.7**
JIO				S	**Sb**	**11 00 08.3**	**-0.4**
JKMT	**Kesennumamotoy**	**0.79**	**308**	P	**Pn**	**11 00 00.3**	**-0.3**
JKMT				S	**Sn**	**11 00 10.2**	**-1.5**
OFUJ	**Ofunato**	**0.89**	**328**	P	**Pn**	**11 00 01.7**	**-0.3**
OFUJ				S	**Sn**	**11 00 13.0**	**-1.2**
JMK	**Ichinoseki**	**1.04**	**308**	P	**Pn**	**11 00 03.8**	**-0.2**
JMK				S	**Sn**	**11 00 16.7**	**-1.0**
JMM	**Marumori**	**1.25**	**249**	P	**Pn**	**11 00 06.0**	**-0.9**
JMM				S	**Sn**	**11 00 20.1**	**-2.9**
JOU	**Okura**	**1.26**	**273**	P	**Pn**	**11 00 07.2**	**+0.1**
JOU				*e*S	**Sn**	**11 00 22.2**	**-1.2**
JOM	**Ohasama**	**1.38**	**327**	P	**Pn**	**11 00 09.2**	**+0.5**
JOM				S	**Sn**	**11 00 26.3**	**0.0**
JFK	**Kawauchi**	**1.46**	**230**	P	**Pn**	**11 00 08.5**	**-1.3**
JYK	**Kaneyama**	**1.61**	**292**	P	**Pn**	**11 00 12.3**	**+0.4**
JRG	**Rokugo**	**1.67**	**311**	P	**Pn**	**11 00 13.5**	**+0.8**
JFT	**Otama**	**1.73**	**243**	P	**Pn**	**11 00 13.5**	**0.0**
JFT				S	**Sn**	**11 00 34.1**	**-0.7**
MJAR	**Matsushiro Arr**	**3.69**	**242**	Pn	**Pn**	**11 00 42.9**	**+2.5**
	0.2nm,0.3s,baz=67,slow=12,SNR=10						
MJAR				Sn	**Sn**	**11 01 26.4**	**+3.2**
	0.2nm,0.3s,baz=77,slow=25,SNR=4.4						
USRK	**Ussuriysk Ar.**	**9.71**	**310**	Pn	**Pn**	**11 02 06.5**	**+3.3**
	0.2nm,0.3s,baz=140,slow=43,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**28.26**	**124**	T	T	11 35 52.1	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.27**	**124**	T	T	11 35 56.1	
	baz=316,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.28**	**124**	T	T	11 35 57.5	
	baz=316,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.02**	**126**	T	T	11 36 49.7	
	baz=318,slow=76,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**29.03**	**126**	T	T	11 36 49.3	
	baz=318,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.04**	**126**	T	T	11 36 49.7	
	baz=318,slow=76,SNR=5.6						
MKAR	**Makanchi Array**	**44.02**	**301**	P	**P**	**11 07 52.3**	**+1.7**
	0.5nm,0.6s,baz=91,slow=8.6,SNR=4.7						
KURBB	**Kurchatov Arra**	**45.76**	**307**	P	**P**	**11 08 05.2**	**+0.9**
	0.8nm,0.5s,baz=83,slow=8.4,SNR=6.8						
ILAR	**Eielson Array**	**48.05**	**33**	P	**P**	**11 08 21.1**	**-0.8**
	0.7nm,0.4s,baz=284,slow=7.6,SNR=7.3						
WRA	**Warramunga Arr**	**58.43**	**189**	P	**P**	**11 09 38.0**	**-0.7**
	0.4nm,0.5s,baz=7.2,slow=7.5,SNR=8.3						
ASAR	**Alice Springs**	**62.16**	**189**	P	**P**	**11 10 03.3**	**-0.9**
	0.2nm,0.6s,baz=249,slow=37,SNR=3.3						

*ISCJB **01** 11:02:21.7±0.7, 40°.49N±0°.04×52°.10E±0°.05, h49km, Error ellipse: s-maj=7.4km s-min=4.4km az=39.6*
*AZER **01** 11:02:21.9±0.1, 40°.33N×52°.07E, h45km±1km, ml3.7/16, Error ellipse: s-maj=7.2km s-min=1.5km az=246.0*
*TEH **01** 11:02:22.5, 40°.50N×52°.01E, h50km, ML3.8*

ISC 01 11:02:21.7±1.1, 40°.52N±0°.05×52°.13E±0°.06, h49km, n42, σ1§77/59, 22C-13D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIZA	**Siyzn**	**2.52**	**284**	*e*Pn	**Pn**	**11 03 03.3**	**+3.2**
SIZA	**Siyzn**	**2.52**	**284**	⇑Pn	**Pn**	**11 03 03.4**	**+3.2**
SIZA				⇑Sn	**Sn**	**11 03 32.9**	**+3.3**
PQL	**Pirkuli**	**2.71**	**277**	*e*Pn	**Pn**	**11 03 02.9**	**+0.1**
PQL	**Pirkuli**	**2.71**	**277**	⇑Pn	**Pn**	**11 03 03.0**	**+0.1**
PQL				⇑Sn	**Sn**	**11 03 36.0**	**+1.6**
QUBA	**Quba, Azerbaij**	**2.88**	**288**	⇓Pn	**Pn**	**11 03 07.3**	**+2.2**
QUBA				⇓Sn	**Sn**	**11 03 41.4**	**+2.8**
QUB	**Quba**	**2.98**	**288**	*e*Pn	**Pn**	**11 03 07.3**	**+0.7**
QSAR	**Qusar**	**3.09**	**290**	*e*Pn	**Pn**	**11 03 10.2**	**+2.2**
QSAR	**Qusar**	**3.09**	**290**	⇑Pn	**Pn**	**11 03 10.2**	**+2.2**
	SNR=4.7						
QSAR				⇑Sn	**Sn**	**11 03 45.2**	**+1.5**
XNQ	**Khinaliq**	**3.10**	**284**	*e*Pn	**Pn**	**11 03 10.0**	**+1.8**
XNQ	**Khinaliq**	**3.10**	**284**	⇑Pn	**Pn**	**11 03 10.1**	**+1.8**
	SNR=10						
XNQ				⇓Sn	**Sn**	**11 03 45.1**	**+0.9**
GLBA	**Ciilabad**	**3.15**	**247**	*e*Pn	**Pn**	**11 03 10.0**	**+1.4**
GLBA	**Ciilabad**	**3.15**	**247**	⇑Pn	**Pn**	**11 03 10.0**	**+1.4**
	SNR=6.4						
GLBA				⇓Sn	**Sn**	**11 03 44.8**	**-0.2**
LKRN	**Lenkeran, Azer**	**3.15**	**236**	*e*Pn	**Pn**	**11 03 09.9**	**+1.1**
LKRN	**Lenkeran, Azer**	**3.15**	**236**	⇑Pn	**Pn**	**11 03 09.9**	**+1.1**
LKRN				⇑Sn	**Sn**	**11 03 44.7**	**-0.5**
ASTR	**Astara**	**3.24**	**234**	*e*Pn	**Pn**	**11 03 10.4**	**+0.5**
ASTR	**Astara**	**3.24**	**234**	⇑Pn	**Pn**	**11 03 10.4**	**+0.5**
	SNR=7.3						
ASTR				⇓Sn	**Sn**	**11 03 46.0**	**-1.2**
QBL	**Gabala**	**3.29**	**279**	*e*Pn	**Pn**	**11 03 12.0**	**+1.3**
QBL	**Gabala**	**3.29**	**279**	⇓Pn	**Pn**	**11 03 12.0**	**+1.3**
QBL				⇑Sn	**Sn**	**11 03 50.0**	**+1.3**
ZRD	**Zardab**	**3.40**	**267**	*e*Pn	**Pn**	**11 03 13.7**	**+1.5**
ZRD	**Zardab**	**3.40**	**267**	⇓Pn	**Pn**	**11 03 13.6**	**+1.4**
ZRD				⇑Sn	**Sn**	**11 03 52.7**	**+1.4**
LRK	**Lerik**	**3.48**	**239**	*e*Pn	**Pn**	**11 03 13.7**	**+0.3**
LRK	**Lerik**	**3.48**	**239**	⇑Pn	**Pn**	**11 03 13.8**	**+0.3**
	SNR=3.6						
LRK				⇑Sn	**Sn**	**11 03 51.7**	**-1.6**
SEKA	**Sheki**	**3.81**	**282**	*e*Pn	**Pn**	**11 03 19.5**	**+1.7**
SEKA	**Sheki**	**3.81**	**282**	⇓Pn	**Pn**	**11 03 19.5**	**+1.7**
	SNR=8.1						
SEKA				⇑Sn	**Sn**	**11 04 02.7**	**+1.4**
QALM	**Alamut, Qazvin**	**4.24**	**196**	*e*Pn	**Pn**	**11 03 24.6**	**+0.6**
QALM				IAMB	IAmb	11 04 16.4	
	comp=Z,0.0nm,0.4s						
ZKTA	**Zakatala**	**4.31**	**287**	⇑Pn	**Pn**	**11 03 26.1**	**+1.4**
ZKTA				⇓Sn	**Sn**	**11 04 14.5**	**+0.8**
GANJ	**Ganja**	**4.43**	**274**	*e*Pn	**Pn**	**11 03 26.2**	**0.0**
GANJ	**Ganja**	**4.43**	**274**	⇓Pn	**Pn**	**11 03 26.3**	**0.0**
	SNR=3.4						
GANJ				⇑Sn	**Sn**	**11 04 13.6**	**-3.0**
IHRS	**Heris**	**4.51**	**243**	*e*Pn	**Pn**	**11 03 29.1**	**+1.5**
IHRS				IAMB	IAmb	11 04 21.0	
	comp=Z,805nm,0.3s						
DDFL	**Dedoflistskaro**	**4.65**	**284**	P	**Sn**	**11 04 18.1**	**-3.9**
DDFL				S	**Sn**	**11 04 23.7**	**+1.7**
ISHM	**Shahmirzad**	**4.79**	**169**	*e*Pn	**Pn**	**11 03 33.4**	**+1.9**
ISHM				IAMB	IAmb	11 04 26.6	
	comp=Z,1μm,0.2s						
GDB	**GEDABAY**	**4.86**	**274**	*e*Pn	**Pn**	**11 03 32.0**	**-0.3**
GDB	**GEDABAY**	**4.86**	**274**	⇑Pn	**Pn**	**11 03 32.1**	**-0.3**
	SNR=4.3						
GDB				⇑Sn	**Sn**	**11 04 24.4**	**-2.9**
IFIR	**Firoozkooh**	**4.89**	**174**	*e*Pn	**Pn**	**11 03 35.0**	**+2.1**
IDMV	**Damavand**	**4.93**	**181**	*e*Pn	Pn	11 03 36.8	+3.3
QZX	**Qazax, Azerbai**	**5.16**	**278**	*e*Pn	**Pn**	**11 03 36.7**	**+0.3**
QZX	**Qazax, Azerbai**	**5.16**	**278**	⇓Pn	**Pn**	**11 03 36.7**	**+0.3**
	SNR=6.5						
QZX				⇓Sn	**Sn**	**11 04 32.9**	**-1.7**
QABG	**Abgarm-Qazvin**	**5.20**	**204**	*e*Pn	**Pn**	**11 03 39.0**	**+1.9**
QABG				IAMB	IAmb	11 04 39.4	
	comp=Z,0.0nm,0.5s						
IANJ	**Anjilo**	**5.23**	**164**	*e*Pn	**Pn**	**11 03 40.3**	**+2.7**
IMRD	**Marand**	**5.28**	**252**	*e*Pn	**Pn**	**11 03 39.8**	**+1.6**
IMRD				IAMB	IAmb	11 03 40.9	
	comp=Z,712nm,0.2s						
AB31	**Akbulak array**	**10.34**	**30**	⇑Pn	**Pn**	**11 04 45.7**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=203,slow=13,SNR=8.2						
AB31				Sn	Sn	11 06 33.8	-7.9
	comp=Z,1.8nm,0.5s,baz=206,slow=26,SNR=14						
AKTO	**Aktyubinsk**	**10.74**	**21**	⇑Pn	**Pn**	**11 04 53.0**	**+0.2**
	comp=Z,1.0nm,0.5s						
AKTO				⇓Sn	**Sn**	**11 06 48.0**	**-3.5**
	comp=Z,7.3nm,0.9s						

*MDD **01** 11:06:18.6±1.6, 37°.37N×16°.03W, h30km, mb4.7/8, Error ellipse: s-maj=17.7km s-min=12.5km az=120.0, PRXIMO*
*IGIL **01** 11:06:19.1, 37°.35N×15°.97W, h10km, ML2.9*
*INMG **01** 11:06:22.6±1.0, 37°.35N×16°.00W, h10km, ML3.1, Error ellipse: s-maj=7.6km s-min=3.2km az=118.0*
*CNRM **01** 11:06:32.5, 37°.29N×14°.65W, h337km*

ISC 01 11:06:15.8±2.1, 37°.32N±0°.07×15°.8W±0°.1, h10km, n63, σ2§68/92, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**4.28**	**186**	*e*Sn	**Sn**	**11 08 06.2**	**-4.7**
PMPS				A	A	11 08 08.7	
	29nm,0.7s						
PMPS	**Porto Santo**	**4.28**	**186**	S	**Sn**	**11 08 06.2**	**-4.7**
	14nm,0.7s						
PMAR	**Madeira**	**4.68**	**192**	*e*Sn	**Sn**	**11 08 16.0**	**-5.1**
PMAR				A	A	11 08 23.2	
	40nm,0.3s						
PMAR	**Madeira**	**4.68**	**192**	S	**Sn**	**11 08 16.0**	**-5.1**
	20nm,0.3s						
PMAFR	**Mafra**	**5.37**	**70**	*e*Pn	**Pn**	**11 07 39.6**	**+3.6**
PMAFR				*e*Sn	**Sn**	**11 08 36.3**	**-1.7**
PMAFR				A	A	11 08 41.7	
	26nm,0.4s						
PMAFR	**Mafra**	**5.37**	**70**	P	**Pn**	**11 07 39.6**	**+3.6**
	10nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**11 08 35.7**	**-2.3**
	4.2nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.55**	**90**	*e*Pn	**Pn**	**11 07 41.7**	**+3.3**
PFVI				*e*Sn	**Sn**	**11 08 40.6**	**-1.7**
PFVI				A	A	11 08 44.8	
	7.3nm,0.2s						
PFVI	**Vila Bisbo**	**5.55**	**90**	P	**Pn**	**11 07 40.8**	**+2.3**
	4.0nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**11 08 41.1**	**-1.2**
	4.0nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.62**	**86**	*e*Pn	**Pn**	**11 07 42.5**	**+3.1**
PTEO				*e*Sn	**Sn**	**11 08 41.4**	**-2.5**
PTEO				A	A	11 08 46.9	
	12nm,0.3s						
PTEO	**Sao Teotonio**	**5.62**	**86**	P	**Pn**	**11 07 42.5**	**+3.1**
PTEO				S	**Sn**	**11 08 41.4**	**-2.5**
	5.8nm,0.3s						
MORF	**Marmelete**	**5.68**	**88**	*e*P	**Pn**	**11 07 43.5**	**+3.2**
MORF				*e*S	**Sn**	**11 08 45.0**	**-0.6**
MORF				AML	AML	11 08 45.7	
	comp=N,12nm,0.1s						
MORF	**Marmelete**	**5.68**	**88**	*e*Pn	**Pn**	**11 07 43.8**	**+3.5**
MORF				*e*Sn	**Sn**	**11 08 45.2**	**-0.4**
MORF				A	A	11 08 48.6	
	comp=N,10.0nm,0.2s						
MORF	**Marmelete**	**5.68**	**88**	P	**Pn**	**11 07 43.5**	**+3.2**
MORF				S	**Sn**	**11 08 45.0**	**-0.6**
	comp=N,12nm,0.1s						
PNCL	**Nicolau / Gran**	**5.80**	**80**	*e*Pn	**Pn**	**11 07 44.9**	**+3.0**
PNCL				*e*Sn	**Sn**	**11 08 45.1**	**-3.4**
PNCL				A	A	11 08 49.9	
	comp=N,13nm,0.3s						
PNCL	**Nicolau / Gran**	**5.80**	**80**	P	**Pn**	**11 07 44.9**	**+3.0**
PNCL				S	**Sn**	**11 08 45.1**	**-3.4**
	comp=N,13nm,0.3s						
MESJ	**Messejana**	**6.02**	**83**	*e*P	**Pn**	**11 07 48.1**	**+3.1**
MESJ				*e*S	**Sn**	**11 08 52.9**	**-1.1**
MESJ				AML	AML	11 08 55.5	
	comp=N,16nm,0.2s						
MESJ	**Messejana**	**6.02**	**83**	P	**Pn**	**11 07 48.1**	**+3.1**
MESJ				S	**Sn**	**11 08 52.9**	**-1.1**
	comp=N,16nm,0.2s						
PCVE	**Castro Verde**	**6.16**	**85**	*e*Pn	**Pn**	**11 07 50.3**	**+3.4**
PCVE				*e*Sn	**Sn**	**11 08 55.3**	**-2.1**
PCVE				A	A	11 08 59.2	
	comp=N,6.1nm,0.3s						
PCVE	**Castro Verde**	**6.16**	**85**	P	**Pn**	**11 07 50.3**	**+3.4**
PCVE				S	**Sn**	**11 08 55.3**	**-2.1**
	comp=N,6.1nm,0.3s						
PMTG	**Montargil**	**6.20**	**71**	*e*Pn	**Pn**	**11 07 50.6**	**+3.2**
PMTG				*e*Sn	**Sn**	**11 08 55.6**	**-2.7**
PMTG				A	A	11 08 57.9	
	comp=N,5.1nm,0.2s						
PMTG	**Montargil**	**6.20**	**71**	P	**Pn**	**11 07 50.6**	**+3.2**
PMTG				S	**Sn**	**11 08 55.6**	**-2.7**
	comp=N,5.1nm,0.2s						
PTOM	**Tomar**	**6.22**	**66**	*e*Pn	**Pn**	**11 07 50.8**	**+3.2**
PTOM				*e*Sn	**Sn**	**11 08 56.1**	**-2.7**
PTOM	**Tomar**	**6.22**	**66**	P	**Pn**	**11 07 50.8**	**+3.2**
PTOM				S	**Sn**	**11 08 56.1**	**-2.7**
PBEJ	**Beja**	**6.31**	**81**	*e*Sn	**Sn**	**11 08 59.4**	**-1.7**
PBEJ				A	A	11 09 04.3	
	comp=N,6.8nm,0.3s						
PBEJ	**Beja**	**6.31**	**81**	S	**Sn**	**11 08 59.4**	**-1.7**
	comp=N,3.4nm,0.3s						
PCAS	**Casmilo, Conde**	**6.31**	**62**	*e*Pn	**Pn**	**11 07 51.5**	**+2.5**
PCAS				*e*Sn	**Sn**	**11 08 57.0**	**-4.1**
PCAS				A	A	11 08 57.8	
	comp=N,4.4nm,0.8s						
PCAS	**Casmilo, Conde**	**6.31**	**62**	P	**Pn**	**11 07 51.5**	**+2.5**
PCAS				S	**Sn**	**11 08 57.0**	**-4.1**
	comp=N,4.4nm,0.8s						
PVAQ	**Vaqueiros**	**6.42**	**87**	*e*Sn	**Sn**	**11 09 02.7**	**-1.0**
PVAQ	**Vaqueiros**	**6.42**	**87**	S	**Sn**	**11 09 02.7**	**-1.0**
EGRO	**El Granado**	**6.60**	**86**	P	**Pn**	**11 07 55.3**	**+2.4**
	comp=N,0.8nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**11 09 06.2**	**-2.1**
	comp=N,4.0nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**6.64**	**74**	*e*Pn	**Pn**	**11 07 55.7**	**+2.3**
PESTR				*e*Sn	**Sn**	**11 09 06.0**	**-3.2**
PESTR				A	A	11 09 08.6	
	comp=N,5.1nm,0.6s						
PMRV	**Marv??o**	**6.92**	**70**	*e*Pn	**Pn**	**11 07 59.7**	**+2.5**
PMRV	**Marv??o**	**6.92**	**70**	P	**Pn**	**11 07 59.7**	**+2.5**
PCBR	**Castelo Branco**	**6.97**	**66**	*e*Pn	**Pn**	**11 08 00.6**	**+2.6**
PCBR	**Castelo Branco**	**6.97**	**66**	P	**Pn**	**11 08 00.6**	**+2.6**
EBAD	**Badajoz**	**7.06**	**76**	P	**Pn**	**11 08 01.4**	**+2.2**
	comp=N,0.8nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.25**	**84**	P	**Pn**	**11 08 03.8**	**+2.0**
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIN				P	**Pn**	**11 08 03.8**	**+2.0**
	SNR=7.9						
EMIN				S	**Sn**	**11 09 21.2**	**-2.9**
	comp=N,2.0nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**7.28**	**46**	P	**Pn**	**11 08 02.7**	**+0.5**
	comp=N,3.0nm,0.2s,SNR=7.9						
POLO	**Lamas de Olo**	**7.39**	**54**	*e*Pn	**Pn**	**11 08 05.7**	**+1.8**
POLO	**Lamas de Olo**	**7.39**	**54**	P	**Pn**	**11 08 05.7**	**+1.8**
PVRL	**Vila Real**	**7.39**	**55**	*e*Pn	**Pn**	**11 08 05.

GUD	**Guadarrama**	**1.36**	**83**	Pn	**Pb**	**11 09 11.5**	**+0.2**
	0.9nm,0.1s,SNR=7.9						
GUD				⇑Pg	**Pg**	**11 09 13.0**	**+0.6**
	18nm,0.2s,SNR=18						
GUD				Sn	**Sb**	**11 09 28.7**	**+0.3**
	8.4nm,0.1s,SNR=7.9						
GUD				Lg	Lg	11 09 30.7	
	54nm,0.1s,SNR=5.0						
PBRG	**Braganca**	**1.46 335**		*e*Pn	**Pb**	**11 09 12.5**	**-0.3**
PBRG	**Braganca**	**1.46 335**		*e*Pg	**Pg**	**11 09 14.5**	**+0.3**
PBRG				*e*Sn	**Sb**	**11 09 31.6**	**+0.5**
PBRG				*e*Sg	**Sg**	**11 09 33.0**	**-0.3**
PBRG				A	A	11 09 34.0	
	149nm,0.2s						
PBRG	**Braganca**	**1.46 335**		Pn	**Pb**	**11 09 12.5**	**-0.3**
PBRG				Pg	**Pg**	**11 09 14.5**	**+0.3**
PBRG				Sn	**Sb**	**11 09 31.6**	**+0.5**
PBRG				Lg	Lg	11 09 33.0	
	75nm,0.2s						
PVIS	**Viseu**	**1.52 280**		⇑*e*Pn	**Pn**	**11 09 12.7**	**+0.2**
PVIS				*e*Sg	**Sg**	**11 09 35.7**	**+0.7**
PVIS				A	A	11 09 37.4	
	201nm,0.3s						
PVIS	**Viseu**	**1.52 280**		Pn	**Pn**	**11 09 12.7**	**+0.2**
PVIS				Lg	Lg	11 09 35.7	
	100nm,0.3s						
PAB	**San Pablo**	**1.53 127**		⇑Pn	**Pb**	**11 09 14.1**	**+0.1**
	2.7nm,0.2s,SNR=18						
PAB				⇑Pg	**Pg**	**11 09 15.9**	**+0.3**
	59nm,0.2s,SNR=18						
PAB				Sn	**Sb**	**11 09 33.3**	**+0.1**
	6.9nm,0.1s,SNR=7.9						
PAB				Lg	Lg	11 09 35.3	
	60nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**1.54 227**		*e*Pn	**Pb**	**11 09 13.8**	**-0.4**
PMRV				*e*Sg	**Sg**	**11 09 35.2**	**-0.6**
PMRV				A	A	11 09 43.9	
	122nm,0.6s						
PMRV	**Marv??o**	**1.54 227**		Pn	**Pb**	**11 09 13.8**	**-0.4**
PMRV				Lg	Lg	11 09 35.2	
	122nm,0.6s						
PVRL	**Vila Real**	**1.57 301**		⇑*e*Pn	**Pn**	**11 09 13.8**	**+0.5**
PVRL				*e*Sg	**Sg**	**11 09 36.3**	**-0.5**
PVRL				A	A	11 09 37.3	
	131nm,0.1s						
PVRL	**Vila Real**	**1.57 301**		Pn	**Pn**	**11 09 13.8**	**+0.5**
PVRL				Lg	Lg	11 09 36.3	
	66nm,0.1s						
ECAL	**Calabor**	**1.58 338**		Pn	**Pb**	**11 09 14.7**	**-0.3**
	1.2nm,0.2s,SNR=7.9						
ECAL				Pg	**Pg**	**11 09 17.5**	**+0.9**
	3.7nm,0.1s,SNR=16						
ECAL				Lg	Lg	11 09 36.2	
	127nm,0.1s,SNR=35						
POLO	**Lamas de Olo**	**1.67 303**		⇑*e*Pn	**Pn**	**11 09 15.3**	**+0.6**
POLO	**Lamas de Olo**	**1.67 303**		*e*Pg	**Pg**	**11 09 18.3**	**0.0**
POLO				*e*Sg	**Sg**	**11 09 39.3**	**-0.8**
POLO				A	A	11 09 44.9	
	26nm,0.7s						
POLO	**Lamas de Olo**	**1.67 303**		Pn	**Pn**	**11 09 15.3**	**+0.6**
POLO				Pg	**Pg**	**11 09 18.3**	**0.0**
POLO				Lg	Lg	11 09 39.3	
	26nm,0.7s						
ESDC	**Sonseca Array**	**1.71 117**		⇑Pn	**Pb**	**11 09 16.4**	**-0.7**
	0.8nm,0.1s,baz=301,slow=17,SNR=18						
ESDC				⇑Pg	**Pg**	**11 09 18.8**	**-0.2**
	30nm,0.2s,baz=298,slow=17,SNR=18						
ESDC				Lg	Lg	11 09 40.6	
	21nm,0.2s,baz=300,slow=28,SNR=26						
EBAD	**Badajoz**	**1.92 206**		Pn	**Pn**	**11 09 17.3**	**-0.6**
	4.5nm,0.1s,SNR=6.7						
EBAD				Pg	**Pg**	**11 09 22.3**	**-0.6**
	4.9nm,0.3s,SNR=13						
EBAD				Lg	Lg	11 09 46.1	
	40nm,0.1s,SNR=11						
COI	**Coimbra**	**1.92 263**		*e*Sg	**Sg**	**11 09 48.1**	**+0.3**
COI	**Coimbra**	**1.92 263**		Lg	Lg	11 09 48.1	
PCAB	**Cabril**	**2.01 308**		*e*Pn	**Pn**	**11 09 20.1**	**+0.9**
PCAB				*e*Sg	**Sg**	**11 09 50.6**	**-0.1**
PCAB				A	A	11 09 53.6	
	94nm,0.4s						
PCAB	**Cabril**	**2.01 308**		Pn	**Pn**	**11 09 20.1**	**+0.9**
PCAB				Lg	Lg	11 09 50.6	
	47nm,0.4s						
PCAS	**Casmilo, Conde**	**2.01 259**		*e*Pn	**Pn**	**11 09 20.0**	**+0.7**
PCAS				*e*Sg	**Sg**	**11 09 50.5**	**-0.4**
PCAS				A	A	11 09 57.8	
	99nm,1.0s						
PCAS	**Casmilo, Conde**	**2.01 259**		Pn	**Pn**	**11 09 20.0**	**+0.7**
PCAS				Lg	Lg	11 09 50.5	
	99nm,1.0s						
PESTR	**Estremoz**	**2.06 219**		*e*Pn	**Pn**	**11 09 20.7**	**+0.8**
PESTR	**Estremoz**	**2.06 219**		*e*Pg	**Pg**	**11 09 25.1**	**-0.5**
PESTR				*e*Sg	**Sg**	**11 09 51.0**	**-1.4**
PESTR				A	A	11 09 55.5	
	100nm,0.4s						
PESTR	**Estremoz**	**2.06 219**		P	**Pg**	**11 09 25.6**	**-0.1**
PESTR				S	**Sg**	**11 09 52.6**	**+0.2**
UCM	**Universidad Co**	**2.06**	**94**	*e*Pn	**Pg**	**11 09 25.4**	**-0.2**
UCM	**Universidad Co**	**2.06**	**94**	*i* Pg	**Pg**	**11 09 28.1**	**+2.5**
UCM				*e*S	**Sg**	**11 09 51.2**	**-1.1**
PTOM	**Tomar**	**2.09 246**		*e*Sg	**Sg**	**11 09 52.6**	**-0.8**
PTOM				A	A	11 09 57.9	
	108nm,0.5s						
PTOM	**Tomar**	**2.09 246**		Lg	Lg	11 09 52.6	
	54nm,0.5s						
ELOB	**Lobios**	**2.12 311**		Pn	**Pn**	**11 09 21.6**	**+0.7**
	5.3nm,0.1s,SNR=17						
ELOB				Pg	**Pg**	**11 09 28.4**	**+1.5**
	5.3nm,0.2s,SNR=20						
ELOB				Sn	**Sn**	**11 09 47.9**	**+1.0**
	8.0nm,0.2s,SNR=7.9						
ELOB				Lg	Lg	11 09 54.5	
	37nm,0.1s,SNR=5.0						
PTO	**Porto**	**2.13 289**		*e*Pn	**Pn**	**11 09 21.7**	**+0.8**
PTO				*e*Sg	**Sg**	**11 09 54.6**	**-0.1**
PTO	**Porto**	**2.13 289**		Pn	**Pn**	**11 09 21.7**	**+0.8**
PTO				Lg	Lg	11 09 54.6	
PMTG	**Montargil**	**2.26 232**		*e*Pn	**Pn**	**11 09 23.6**	**+0.9**
PMTG	**Montargil**	**2.26 232**		*e*Pg	**Pg**	**11 09 28.5**	**-1.0**
PMTG				*e*Sg	**Sg**	**11 09 58.0**	**-0.9**
PMTG				A	A	11 10 02.4	
	70nm,0.6s						
PMTG	**Montargil**	**2.26 232**		Pn	**Pn**	**11 09 23.6**	**+0.9**
PMTG				Pg	**Pg**	**11 09 28.5**	**-1.0**
PMTG				Lg	Lg	11 09 58.0	
	70nm,0.6s						
PGAV	**Gavieira, Arco**	**2.31 311**		*e*Pn	**Pn**	**11 09 24.2**	**+0.8**
PGAV				*e*Sn	**Sn**	**11 09 50.8**	**-0.6**
PGAV				*e*Sg	**Sg**	**11 09 58.9**	**-1.4**
PGAV				A	A	11 10 04.2	
	94nm,0.4s						
PGAV	**Gavieira, Arco**	**2.31 311**		Pn	**Pn**	**11 09 24.2**	**+0.8**
PGAV				Sn	**Sn**	**11 09 50.8**	**-0.6**
PGAV				Lg	Lg	11 09 58.9	
	94nm,0.4s						
ECAB	**El Cabril**	**2.43 170**		⇑Pn	**Pn**	**11 09 26.5**	**+1.4**
	1.4nm,0.1s,SNR=18						
ECAB				Pg	**Pg**	**11 09 33.7**	**+0.9**
	1.6nm,0.2s,SNR=16						
ECAB				Sn	**Sn**	**11 09 55.2**	**+0.7**
	3.8nm,0.1s,SNR=6.0						
ECAB				Lg	Lg	11 10 02.0	
	56nm,0.2s,SNR=5.0						
PBAR	**Barrancos**	**2.46 201**		*e*Pg	**Pg**	**11 09 32.1**	**-1.1**
PBAR				*e*Sg	**Sg**	**11 10 03.2**	**-1.9**
PBAR				A	A	11 10 09.0	
	38nm,0.5s						
PBAR	**Barrancos**	**2.46 201**		Pg	**Pg**	**11 09 32.1**	**-1.1**
PBAR				Lg	Lg	11 10 03.2	
	38nm,0.5s						
EADA	**Adamuz**	**2.54 155**		Pn	**Pn**	**11 09 27.7**	**+1.2**
	0.1nm,0.0s,SNR=7.9						
EADA				Pg	**Pg**	**11 09 34.0**	**-0.7**
	2.5nm,0.2s,SNR=13						
EADA				Lg	Lg	11 10 04.6	
	38nm,0.1s,SNR=12						
EZAM	**Zamans**	**2.67 310**		Pn	**Pn**	**11 09 29.1**	**+0.8**
	0.8nm,0.2s,SNR=7.9						
EZAM				Sn	**Sn**	**11 09 59.7**	**-0.6**
	5.5nm,0.3s,SNR=7.9						
EZAM				Lg	Lg	11 10 11.4	
	13nm,0.2s,SNR=4.0						
HORN	**Hornachuelos**	**2.68 169**		P	**Pb**	**11 09 33.9**	**+0.3**
HORN				S	**Sb**	**11 10 04.2**	**-2.0**
EMIN	**Mina Concepcio**	**2.77 192**		Pn	**Pn**	**11 09 30.9**	**+1.2**
	2.1nm,0.3s,SNR=7.3						
EMIN				Pg	**Pg**	**11 09 38.4**	**-0.8**
	2.0nm,0.1s,SNR=5.9						
EMIN				Sn	**Sn**	**11 10 03.4**	**+0.7**
	7.4nm,0.3s,SNR=7.9						
EMIN				Lg	Lg	11 10 14.5	
	20nm,0.2s,SNR=12						
EAGO	**Agolada(Pontev**	**2.83 326**		Pn	**Pn**	**11 09 31.3**	**+0.8**
	1.5nm,0.1s,SNR=7.9						
EAGO				Pg	**Pg**	**11 09 39.8**	**-0.6**
	1.9nm,0.2s,SNR=7.9						
EAGO				Sn	**Sn**	**11 10 02.7**	**-1.5**
	9.4nm,0.1s,SNR=7.9						
EAGO				Lg	Lg	11 10 15.3	
	28nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**2.87**	**11**	Pn	**Pn**	**11 09 33.1**	**+2.0**
	0.2nm,0.2s,SNR=8.3						
EARI				Pg	**Pg**	**11 09 42.0**	**+0.8**
	4.8nm,0.3s,SNR=8.3						
EARI				Sn	**Sn**	**11 10 03.5**	**-1.7**
	6.2nm,0.3s,SNR=7.9						
EARI				Lg	Lg	11 10 19.4	
	5.1nm,0.2s,SNR=5.3						
PBEJ	**Beja**	**2.88 212**		*e*Sg	**Sg**	**11 10 15.9**	**-2.6**
PBEJ	**Beja**	**2.88 212**		Lg	Lg	11 10 15.9	
ETOR	**Torete**	**2.97**	**82**	Pn	**Pn**	**11 09 34.5**	**+2.0**
	0.2nm,0.1s,SNR=5.6						
ETOR				Pg	**Pg**	**11 09 42.5**	**-0.5**
	3.3nm,0.4s,SNR=12						
ETOR				Lg	Lg	11 10 20.5	
	64nm,0.3s,SNR=10						
EPON	**Pontenova**	**2.99 343**		Pn	**Pn**	**11 09 33.9**	**+1.2**
	1.2nm,0.1s,SNR=5.8						
EPON				Pg	**Pg**	**11 09 43.6**	**+0.3**
	3.7nm,0.2s,SNR=7.9						
EPON				Lg	Lg	11 10 18.9	
	35nm,0.2s,SNR=18						
PMAFR	**Mafra**	**3.00 241**		*e*Sn	**Sn**	**11 10 09.0**	**+0.6**
PMAFR				*e*Sg	**Sg**	**11 10 20.8**	**-1.7**
PMAFR				A	A	11 10 27.3	
	39nm,0.2s						
PMAFR	**Mafra**	**3.00 241**		Pn	**Pn**	**11 09 33.7**	**+0.9**
	3.9nm,0.3s,SNR=7.9						
PMAFR				Pg	**Pg**	**11 09 46.0**	**+2.4**
	5.6nm,0.4s,SNR=7.9						
PMAFR				Sn	**Sn**	**11 10 07.5**	**-0.9**
	62nm,0.3s,SNR=7.9						
PMAFR				Lg	Lg	11 10 22.5	
	51nm,0.2s,SNR=5.9						
PNCL	**Nicolau / Gran**	**3.11 221**		*e*Pn	**Pn**	**11 09 35.5**	**+1.2**
PNCL				*e*Sn	**Sn**	**11 10 10.9**	**-0.1**
PNCL				*e*Sg	**Sg**	**11 10 24.7**	**-1.2**
PNCL				A	A	11 10 31.1	
	18nm,0.3s						
PNCL	**Nicolau / Gran**	**3.11 221**		Pn	**Pn**	**11 09 35.5**	**+1.2**
PNCL				Sn	**Sn**	**11 10 10.9**	**-0.1**
PNCL				Lg	Lg	11 10 24.7	
	18nm,0.3s						
EGRO	**El Granado**	**3.18 203**		Pn	**Pn**	**11 09 37.0**	**+1.7**
	1.6nm,0.1s,SNR=7.9						
EGRO				Pg	**Pg**	**11 09 46.3**	**-0.8**
	1.5nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**11 10 13.2**	**+0.4**
	12nm,0.4s,SNR=7.9						
EGRO				Lg	Lg	11 10 28.1	
	17nm,0.4s,SNR=4.9						
MESJ	**Messejana**	**3.18 215**		*e*P	**Pn**	**11 09 36.5**	**+1.2**
MESJ				*e*S	**Sn**	**11 10 11.5**	**-1.4**
MESJ				AML	AML	11 10 13.6	
	comp=N,7.6nm,0.2s						
MESJ	**Messejana**	**3.18 215**		Pn	**Pn**	**11 09 36.5**	**+1.2**
MESJ				Sn	**Sn**	**11 10 11.5**	**-1.4**
	comp=N,7.6nm,0.2s						
PCVE	**Castro Verde**	**3.28 211**		*e*Pn	**Pn**	**11 09 37.8**	**+1.1**
PCVE				*e*Sn	**Sn**	**11 10 15.2**	**-0.2**
PCVE				*e*Sg	**Sg**	**11 10 31.9**	**+0.3**
PCVE				A	A	11 10 40.6	
	comp=N,25nm,0.5s						
PCVE	**Castro Verde**	**3.28 211**		Pn	**Pn**	**11 09 37.8**	**+1.1**
PCVE				Sn	**Sn**	**11 10 15.2**	**-0.2**
PCVE				Lg	Lg	11 10 31.9	
	comp=N,25nm,0.5s						
ELAN	**Lanestosa**	**3.32**	**33**	Pn	**Pn**	**11 09 39.3**	**+2.0**
	comp=N,0.5nm,0.1s,SNR=10						
ELAN				Pg	**Pg**	**11 09 49.6**	**-0.1**
	comp=N,3.3nm,0.2s,SNR=11						
ELAN				Lg	Lg	11 10 33.0	
	comp=N,2.8nm,0.3s,SNR=5.7						
EMAZ	**Mazaricos**	**3.36 318**		Pn	**Pn**	**11 09 38.9**	**+1.1**
	comp=N,4.7nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**11 10 16.3**	**-1.0**
	comp=N,4.4nm,0.1s,SNR=7.9						
EMAZ				Lg	Lg	11 10 33.2	
	comp=N,15nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.37 205**		*e*Sn	**Sn**	**11 10 17.3**	**-0.3**
PVAQ	**Vaqueiros**	**3.37 205**		Sn	**Sn**	**11 10 17.3**	**-0.3**
EQES	**Quesada**	**3.48 139**		Pg	**Pb**	**11 09 48.4**	**+1.1**
	comp=N,2.2nm,0.3s,SNR=7.9						
EQES				Lg	Lg	11 10 36.7	
	comp=N,10.0nm,0.2s,SNR=5.3						
SESP	**Santiago Espad**	**3.53 131**		Pn	**Pn**	**11 09 41.3**	**+1.0**
	comp=N,0.3nm,0.2s,SNR=7.9						
SESP				Pg	**Pg**	**11 09 52.6**	**-1.1**
	comp=N,1.4nm,0.2s,SNR=7.9						
SESP				Lg	Lg	11 10 37.6	
	comp=N,34nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.53 131**		P	**Pb**	**11 09 50.7**	**+2.5**
ESPR	**Espera**	**3.61 179**		Pn	**Pn**	**11 09 41.8**	**+0.6**
	comp=N,1.4nm,0.3s,SNR=5.0						
ESPR				Sn	**Sn**	**11 10 24.7**	**+1.4**
	comp=N,3.9nm,0.2s,SNR=7.9						
ESPR				Lg	Lg	11 10 43.2	
	comp=N,16nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.65 218**		*e*Sn	**Sn**	**11 10 24.6**	**+0.2**
PTEO				*e*Sg	**Sg**	**11 10 41.0**	**-2.3**
PTEO				A	A	11 10 47.8	
	comp=N,32nm,0.7s						
PTEO	**Sao Teotonio**	**3.65 218**		Sn	**Sn**	**11 10 24.6**	**+0.2**
PTEO				Lg	Lg	11 10 41.0	
	comp=N,16nm,0.7s						
EGOR	**Sierra Gorda,**	**3.65 157**		Pn	**Pn**	**11 09 44.8**	**+2.8**
	comp=N,1.3nm,0.4s,SNR=7.9						
EGOR				Pg	**Pb**	**11 09 52.6**	**+2.3**
	comp=N,1.7nm,0.2s,SNR=7.9						
EGOR				Sn	**Sn**	**11 10 26.2**	**+1.5**
	comp=N,1.3nm,0.2s,SNR=7.9						
EGOR				Lg	Lg	11 10 45.5	
	comp=N,6.2nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.80 148**		Lg	Lg	11 10 49.1	
	comp=N,5.7nm,0.2s,SNR=5.8						
MORF	**Marmelete**	**3.81 215**		*e*P	**Pn**	**11 09 45.0**	**+0.9**
MORF				*e*S	**Sn**	**11 10 27.0**	**-1.6**
MORF				AML	AML	11 10 28.9	
	comp=N,25nm,0.3s						
MORF	**Marmelete**	**3.81 215**		*e*Pn	**Pn**	**11 09 45.0**	**+0.9**
MORF				*e*Sn	**Sn**	**11 10 28.2**	**-0.4**
MORF				A	A	11 10 52.1	
	comp=N,15nm,0.4s						
MORF	**Marmelete**	**3.81 215**		Pn	**Pn**	**11 09 45.0**	**+0.9**
MORF				Sn	**Sn**	**11 10 28.2**	**-0.4**
	comp=N,15nm,0.4s						
ETOB	**Tobarra**	**3.85 117**		Pn	**Pn**	**11 09 45.6**	**+1.0**
	comp=N,1.4nm,0.1s,SNR=14						
ETOB				Sn	**Sn**	**11 10 28.5**	**-0.9**
	comp=N,2.1nm,0.1s,SNR=7.9						
ETOB				Lg	Lg	11 10 48.0	
	comp=N,7.5nm,0.2s,SNR=9.4						
ECHE	**Chera**	**3.91 102**		Pn	**Pn**	**11 09 47.0**	**+1.6**
	comp=N,0.4nm,0.2s,SNR=7.9						
ECHE				Pg	**Pg**	**11 09 59.8**	**-1.2**
	comp=N,3.1nm,0.2s,SNR=7.9						
ECHE				Sn	**Sn**	**11 10 30.0**	**-0.9**
	comp=N,0.7nm,0.2s,SNR=7.9						
ECHE				Lg	Lg	11 10 54.2	
	comp=N,6.4nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**3.98**	**53**	Sn	**Sn**	**11 10 32.7**	**0.0**
	comp=N,4.6nm,0.1s,SNR=7.9						
EARA				Lg	Lg	11 10 53.3	
	comp=N,7.2nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**4.01 167**		Pn	**Pn**	**11 09 50.0**	**+3.2**
	comp=N,1.7nm,0.3s,SNR=11						
EMIJ				Pg	**Pb**	**11 09 58.1**	**+1.8**
	comp=N,1.8nm,0.2s,SNR=6.0						
EMIJ				Lg	Lg	11 10 55.8	
	comp=N,11nm,0.4s,SNR=5.0						
IUNC	**Unciti**	**4.03**	**54**	Pn	**Pn**	**11 09 48.2**	**+1.2**
	comp=N,1.2nm,0.1s,SNR=7.9						
IUNC				Sn	**Sn**	**11 10 33.6**	**-0.1**
	comp=N,3.5nm,0.2s,SNR=7.9						
IUNC				Lg	Lg	11 10 56.8	
	comp=N,13nm,0.4s,SNR=7.9						
ELGU	**Los Guajares,**	**4.03 153**		Pn	**Pn**	**11 09 50.3**	**+3.2**
	comp=N,2.9nm,0.3s,SNR=7.9						
ELGU				Lg	Lg	11 10 55.2	
	comp=N,0.5nm,0.9s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.04 215**		*e*Sn	**Sn**	**11 10 32.7**	**-1.2**
PFVI				A	A	11 10 58.9	
	comp=N,24nm,0.7s						
PFVI	**Vila Bisbo**	**4.04 215**		Lg	Lg	11 10 56.9	
	comp=N,11nm,0.7s,SNR=7.9						
EJIF	**Jimena Fronter**	**4.04 175**		Pn	**Pn**	**11 09 50.2**	**+3.1**
	comp=N,1.3nm,0.1s,SNR=7.9						
EJIF				Lg	Lg	11 10 58.9	
	comp=N,6.9nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.17**	**90**	Pn	**Pn**	**11 09 51.8**	**+2.8**
	comp=N,0.4nm,0.3s,SNR=8.3						
EMOS				Sn	**Sn**	**11 10 38.5**	**+1.1**
	comp=N,2.7nm,0.1s,SNR=7.9						
EMOS				Lg	Lg	11 11 01.7	
	comp=N,17nm,0.6s,SNR=5.0						
EALK	**Alkurruntz**	**4.29**	**49**	Pn	**Pn**	**11 09 52.0**	**+1.4**
	comp=N,1.8nm,0.2s,SNR=7.3						
EALK				Pg	**Pg**	**11 10 08.5**	**+0.3**
	comp=N,12nm,0.7s,SNR=7.9						
EALK				Sn	**Sn**	**11 10 38.7**	**-1.6**
	comp=N,12nm,0.5s,SNR=7.9						
EALK				Lg	Lg	11 11 01.6	
	comp=N,24nm,0.6s,SNR=5.0						
EBER	**Berja**	**4.29 145**		Pn	**Pb**	**11 09 58.9**	**-2.4**
	comp=N,1.0nm,0.2s,SNR=7.9						
EBER				Lg	Lg	11 11 05.5	
	comp=N,36nm,0.7s,SNR=7.9						
ESAC	**San Caprasio**	**4.31**	**71**	Pn	**Pn**	**11 09 53.0**	**+2.1**
	comp=N,1.8nm,0.2s,SNR=8.4						
ESAC				Sn	**Sn**	**11 10 40.6**	**-0.2**
	comp=N,25nm,0.4s,SNR=7.9						
ESAC				Lg	Lg	11 11 06.0	
	comp=N,62nm,0.3s,SNR=5.4						
SJPF	**Ste Jean**	**4.39**	**52**	*e*Pn	**Pn**	**11 09 53.3**	**+1.3**
SJPF				*e*Sn	**Sn**	**11 10 42.5**	**-0.2**
SJPF				*e*Sg	**Sg**	**11 11 06.0**	**-1.1**
	comp=N,5.8nm,0.2s						
SJPF	**Ste Jean**	**4.39**	**52**	Pn	**Pn**	**11 09 53.3**	**+1.3**
SJPF				Sn	**Sn**	**11 10 42.5**	**-0.2**
SJPF				Lg	Lg	11 11 06.0	
	comp=N,2.9nm,0.2s						
EMUR	**La Murta**	**4.50 124**		Pn	**Pn**	**11 09 54.6**	**+1.1**
	comp=N,0.8nm,0.2s,SNR=5.9						
EMUR				Lg	Lg	11 11 08.8	
	comp=N,14nm,0.5s,SNR=5.0						
AFON	**Font Roja**	**4.54 112**		Lg	Lg	11 11 13.0	
	comp=N,8.9nm,0.7s,SNR=7.9						
ENIJ	**Nijar**	**4.55 139**		Lg	Lg	11 11 14.0	
	comp=N,21nm,0.5s,SNR=7.9						
ETSF	**Etsaut**	**4.69**	**57**	*e*Pn	**Pn**	**11 09 57.7**	**+1.5**
ETSF	**Etsaut**	**4.69**	**57**	*e*Pg	**Pg**	**11 10 15.2**	**-0.7**
ETSF				*e*Sn	**Sn**	**11 10 49.0**	**-1.2**
ETSF				*e*Sg	**Sg**	**11 11 15.6**	**-1.1**
	comp=N,3.9nm,0.2s						
ETSF	**Etsaut**	**4.69**	**57**	Pn	**Pn**	**11 09 57.7**	**+1.5**
ETSF				Pg	**Pg**	**11 10 15.2**	**-0.7**
ETSF				Sn	**Sn**	**11 10 49.0**	**-1.2**
ETSF				Lg	Lg	11 11 15.6	
	comp=N,1.9nm,0.2s						
ATE	**Arette**	**4.70**	**55**	Pn	**Pn**	**11 09 57.9**	**+1.8**
	comp=N,1.3nm,0.1s,SNR=7.9						
ATE				Sn	**Sn**	**11 10 49.8**	**-0.5**
	comp=N,2.2nm,0.1s,SNR=7.9						
ATE				Lg	Lg	11 11 15.6	
	comp=N,5.8nm,0.6s,SNR=7.9						
ERTA	**Horta de San J**	**4.78**	**82**	Pn	**Pn**	**11 10 00.1**	**+2.7**
	comp=N,0.2nm,0.1s,SNR=7.9						
ERTA				Sn	**Sn**	**11 10 51.3**	**-1.1**
	comp=N,1.8nm,0.4s,SNR=7.9						
ERTA				Lg	Lg	11 11 20.6	
	comp=N,38nm,0.9s,SNR=7.9						
EPF	**Esparros**	**5.34**	**59**	*e*Pn	**Pn**	**11 10 06.9**	**+1.9**
EPF				*e*Sn	**Sn**	**11 11 04.8**	**-1.3**
EPF				*e*Sg	**Sg**	**11 11 35.4**	**-2.0**
	comp=N,4.8nm,0.3s						
EPF	**Esparros**	**5.34**	**59**	Pn	**Pn**	**11 10 06.9**	**+1.9**
EPF				Sn	**Sn**	**11 11 04.8**	**-1.3**
EPF				Lg	Lg	11 11 35.4	
	comp=N,2.4nm,0.3s						
EPOB	**Poblet**	**5.38**	**78**	Pn	**Pn**	**11 10 07.0**	**+1.3**
	comp=N,0.5nm,0.1s,SNR=11						
EPOB				Sn	**Sn**	**11 11 04.5**	**-2.7**
	comp=N,1.4nm,0.3s,SNR=7.9						
EPOB				Lg	Lg	11 11 38.8	
	comp=N,2.2nm,0.2s,SNR=7.9						
CSOR	**Sort**	**5.64**	**68**	Pn	**Pn**	**11 10 11.1**	**+2.0**
	comp=N,1.6nm,0.4s,SNR=7.9						
CSOR				Sn	**Sn**	**11 11 11.8**	**-1.7**
	comp=N,1.6nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**5.79 102**		Sn	**Sn**	**11 11 15.1**	**-2.1**
	SNR=7.9						
CLLI	**Llivia**	**6.26**	**69**	Pn	**Pn**	**11 10 19.8**	**+2.0**
	comp=N,0.3nm,0.2s,SNR=7.9						
CLLI				Sn	**Sn**	**11 11 27.0**	**-2.0**
	comp=N,0.5nm,0.2s,SNR=4.0						
CFON	**Fontmartina**	**6.45**	**76**

H11S3	WAKE ISLAND Hy	28.50	120	T		T		11 50 56.2
	baz=312,slow=75,SNR=142							
H11S2	WAKE ISLAND Hy	28.51	120	T		T		11 50 59.4
	baz=312,slow=75,SNR=156							
ZALV	Zalesovo Beam	42.51	313	P		P		11 23 16.0 -0.5
	0.4nm,0.5s,baz=104,slow=6.1,SNR=2.8							
MKAR	Makanchi Array	44.50	303	P		P		11 23 33.0 +0.3
	0.3nm,0.6s,baz=85,slow=8.8,SNR=4.3							
ILAR	Eielson Array	50.72	32	P		P		11 24 20.3 -0.4
	0.4nm,0.7s,baz=269,slow=6.1,SNR=5.4							
WRA	Warramunga Arr	55.79	188	P		P		11 24 58.1 -0.3
	0.8nm,0.8s,baz=5.3,slow=7.6,SNR=9.4							
YKA	Yellowknife Ar	65.05	30	P		P		11 26 01.6 +0.5
	0.2nm,0.8s,baz=296,slow=6.6,SNR=4.6							

IDC 01 11:17:32.8±26.0, 27°77'S×177°75'W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/29, mbtmp3.8/4, Error ellipse: s-maj=492.0km s-min=157.8km az=97.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.36	253	P	P	11 24 29.3	-0.9
	0.9nm,0.4s,baz=80,slow=6.1,SNR=2.9						
ASAR	Alice Springs	43.53	264	P	P	11 25 38.0	-0.5
	0.5nm,0.4s,baz=102,slow=7.6,SNR=6.7						
WRA	Warramunga Arr	44.28	269	P	P	11 25 45.0	+0.5
	0.4nm,0.3s,baz=108,slow=7.8,SNR=22						
FITZ	Fitzroy Crossi	52.63	268	P	P	11 26 49.0	0.0
	0.4nm,0.3s,baz=112,slow=5.4,SNR=6.8						

MEX 01 11:19:59.3±0.4, 17°96N×101°58W, h43km±12km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.37	163	eP	Pn	11 20 06.9	-1.7
ZIIG				i S	Sn	11 20 13.2	-1.7
ARIG	Puente Sto Nin	1.21	74	eP	Pn	11 20 18.5	-1.3
ARIG				eS	Sn	11 20 32.3	-2.7
CAIG	El Cayaco	1.54	126	i P	Pn	11 20 22.6	-1.8
CAIG				i S	Sn	11 20 41.0	-2.2
MMIG	Aquila	1.71	281	i P	Pn	11 20 24.3	-2.4
MMIG				i S	Sn	11 20 45.8	-1.6
MEIG	Mezcala	1.86	91	i P	Pn	11 20 27.2	-1.6
MEIG				i S	Sn	11 20 49.1	-2.0
PLIG	Platanillo	2.02	77	i P	Pn	11 20 29.5	-1.4
PLIG				i S	Sn	11 20 53.0	-2.0

SJA 01 11:26:29.2±0.7, 33°85S×68°48W, h23km±3km, ML3.5, MW3.5
GUC 01 11:26:36.6±0.7, 33°67S×68°70W, h13km±10km, ML2.9
ISC 01 11:26:31.3±2.0, 33°70S±0°06×68°46W±0°07, h6km±12km, n15, σ1°93/22, 3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	Agrelo	0.69	333	eP	Pb	11 26 45.5	-0.2
ARCO	CERRO ARCO	0.94	335	eP	Pn	11 26 50.1	-1.1
ARCO				eS	Sn	11 27 05.5	+0.4
ARCO				IAML		11 27 09.0	
	comp=Z,1μm,0.3s						
LMEL	Las Melosas	1.46	264	eP	Pg	11 26 59.4	+0.1
LMEL				i S	Sn	11 27 16.8	-1.1
LMEL				IAML		11 27 20.4	
	comp=N,338nm,0.2s						
FCH	Farellones	1.58	283	⇓i P	Pg	11 27 01.9	+0.4
FCH				i S	Sb	11 27 20.7	-0.6
FCH				IAML		11 27 26.1	
	comp=N,101nm,0.6s						
AUSP	Uspallata	1.67	332	eP	Pg	11 27 02.3	-1.0
AUSP				eS	Sg	11 27 25.4	+0.6
CLCH	Cerro Calan	1.76	279	⇓i P	Pg	11 27 05.0	-0.1
CLCH				i S	Sg	11 27 29.4	+1.4
CLCH				IAML		11 27 33.6	
	comp=N,173nm,0.6s						
ACAN	Cantantal	1.77	37	eP	Pn	11 27 02.7	+0.2
RTCV	Cerro Valdivia	1.83	358	eP	Pn	11 27 03.5	+0.1
RTCV				eS	Sg	11 27 29.7	-0.5
PEL	Peldehue	1.94	286	i P	Pg	11 27 07.4	-1.2
PEL				i S	Sg	11 27 35.2	+1.4
PEL				IAML		11 27 37.8	
	comp=N,70nm,0.7s						
ROCH	El Roble	2.26	288	eP	Pg	11 27 13.0	-1.6
ROCH				IAML		11 27 46.2	
	comp=N,80nm,0.3s						
RTLL	Cerro Villicun	2.36	360	eP	Pn	11 27 11.1	+0.5
RTLL	Cerro Villicun	2.36	360	IAML		11 27 47.4	
	comp=N,428nm,0.5s						
ACCO	Cerro Coronel	3.15	350	eP	Pn	11 27 23.1	+1.5
GO05	Huala	3.16	245	⇓i P	Pb	11 27 28.6	+0.8
GO05				i S	Sg	11 28 11.3	-1.4
GO05				IAML		11 28 13.8	
	comp=E,102nm,0.3s						
GO04	Tololo Observa	4.04	330	eP	Pb	11 27 44.1	+1.1

MEX 01 11:30:21.8±0.3, 13°52N×91°96W, h51km±45km, MD4.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.42	348	eP	Pn	11 30 43.6	-1.6
THIG				eS	Sn	11 31 01.0	-1.7
PCIG		2.50	331	eP	Pn	11 30 58.6	-1.4
PCIG				i S	Sn	11 31 27.3	-1.9
CCIG	Comitan	2.75	356	i P	Pn	11 31 02.1	-1.6
CCIG				i S	Sn	11 31 34.3	-1.5
CMIG	Matias Romero	4.54	322	eP	Pn	11 31 27.3	-0.7
CMIG				i S	Sn	11 32 18.3	-1.2

MAN 01 12:00:17.0, 17°68N×120°04E, h1km, mb4.5, ML3.4, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.65	93	eP	Pg	12 00 29.3	-0.1
ABRA				eS	Sg	12 00 38.2	+0.4
APYP	Conner	1.17	81	eP	Pg	12 00 35.8	-3.5
APYP				eS	Sg	12 00 48.8	-5.7
SMPP	San Manuel, Pa	1.64	158	eP	Pn	12 00 46.9	-0.1
SMPP				eS	Sg	12 01 09.6	-0.1
CAUP	Cauayan	1.86	113	eP	Pb	12 00 50.9	-0.9
CAUP				eS	Sg	12 01 16.9	+0.1
PALP	Palanan	2.36	105	eP	Pb	12 00 59.7	-0.7
PALP				eS	Sn	12 01 25.5	-1.1
BALP	Baler	2.43	142	eP	Pn	12 00 58.9	+1.0

IDC 01 12:25:19.3±1.3, 33°06N×75°60E, h0km, mb3.7/10, mb1 3.9/13, mb1mx3.6/53, mbtmp3.7/13, ML3.3/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/32, Error ellipse: s-maj=37.1km s-min=18.2km az=56.0
ISCJB 01 12:25:20.9±0.5, 33°22N±0°04×75°66E±0°09, h16km, mb3.6/9, Error ellipse: s-maj=10.6km s-min=5.4km az=8.4
ISC 01 12:25:21.6±0.7, 33°14N±0°06×75°7E±0°1, h16km, n16, σ2°01/18, mb3.6/9, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	0.70	177	eP	Pn	12 25 36.5	-0.4
THN				eS	Sn	12 25 45.5	-1.9
JMU	Jammu	0.78	238	eP	Pg	12 25 25.0	-12
JMU				eS	Sn	12 25 46.5	-2.7
AAK	Ala-Archa	9.53	355	Pn	Pn	12 27 40.4	+2.1
	0.4nm,0.3s,baz=150,slow=7.3,SNR=4.0						
AAK				Sn	Sn	12 29 23.3	-1.8
	0.1nm,0.3s,baz=29,slow=19,SNR=3.2						
AAK				LR	LR	12 31 50.2	
	comp=Z,43nm,19.4s,baz=156,slow=41						
MKAR	Makanchi Array	14.54	18	Pn	Pn	12 28 46.6	-0.2
	0.1nm,0.3s,baz=188,slow=13,SNR=5.4						
MKAR				Sn	Sn	12 31 21.6	-6.0
	0.1nm,0.3s,baz=197,slow=23,SNR=2.8						
KURBB	Kurchatov Arra	17.60	6	P	Pn	12 29 26.1	0.0
	0.1nm,0.3s,baz=193,slow=11,SNR=46						
BVAR	Borovoye Array	20.24	351	P	Pn	12 29 57.4	-0.6
	5.6nm,0.5s,baz=162,slow=11,SNR=46						
AKTO	Aktyubinsk	21.64	328	P	P	12 30 11.5	+0.5
	4.8nm,0.6s,baz=122,slow=13,SNR=6.7						
ZALV	Zalesovo Beam	21.80	15	P	P	12 30 13.0	+0.2
	1.1nm,0.4s,baz=209,slow=11,SNR=6.9						
CMAR	Chiang Mai Arr	25.46	119	P	P	12 30 50.0	+1.0
	0.3nm,0.3s,baz=309,slow=11,SNR=5.7						
SONM	Songino Array	27.37	48	P	P	12 31 07.9	+1.7
	0.5nm,0.6s,baz=251,slow=9.0,SNR=3.5						
ARCES	ARCESS Array B	45.71	338	P	P	12 33 42.1	+0.6
	2.8nm,1.0s,baz=96,slow=7.4,SNR=6.6						
NB2	NORSAR Subarra	49.36	325	P	P	12 34 10.5	+0.5
	comp=Z,0.3nm,0.5s,baz=100,slow=7.9						
NOA	NORSAR Array B	49.36	325	P	P	12 34 10.3	+0.3
	comp=Z,0.3nm,0.5s,baz=100,slow=7.7,SNR=3.3						
ILAR	Eielson Array	76.90	17	P	P	12 37 13.4	+0.7
	comp=Z,0.5nm,1.0s,baz=306,slow=6.7,SNR=3.5						
WRA	Warramunga Arr	76.94	124	P	P	12 37 13.3	-0.2
	comp=Z,0.7nm,1.1s,baz=322,slow=5.6,SNR=3.8						
YKA	Yellowknife Ar	84.34	5	P	P	12 37 53.1	+0.5
	comp=Z,0.5nm,0.7s,baz=345,slow=5.1,SNR=12						

ISK 01 12:28:06.5, 37°31N×37°11E, h8km, ML1.7/6
ISCJB 01 12:28:07.3±0.7, 37°28N±0°05×37°09E±0°05, h7km±6km, Error ellipse: s-maj=9.4km s-min=5.2km az=37.1
DDA 01 12:28:07.0, 37°34N×37°11E, h5km±1km, ML2.6
ISC 01 12:28:07.0±1.0, 37°30N±0°04×37°10E±0°03, h11km±8km, n12, σ0°46/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.15	146	PG	Pg	12 28 10.3	-0.2
GAZ				SG	Sg	12 28 13.2	+0.2
HCB	Kahramanmara	0.16	286	IAML_P			
	comp=Z,10μm,0.2s						
HCB				i P	Pg	12 28 10.9	+0.2
KMRS	Kahramanmaras	0.26	322	PG	Pg	12 28 12.2	-0.3
KMRS				SG	Sg	12 28 16.1	0.0
AYKD	Aykdinkavak	0.26	296	IAML_P			
	comp=Z,5μm,0.1s						
AYKD				i P	Pb	12 28 13.3	-0.6
AYKD				i S	Sg	12 28 16.7	+0.6
KAMA	Osmaniye	0.37	252	IAML_P			
	comp=Z,2μm,0.1s						
KAMA				i P	Pg	12 28 14.1	-0.3
GZT	Gaziantep	0.37	81	IAML_P			
	comp=Z,1μm,0.1s						
GZT				i P	Pg	12 28 14.2	-0.3
ANDN	Andirin	0.67	295	i P	Pn	12 28 22.7	+0.1
ANDN				i S	Sb	12 28 29.9	-0.2
KOZT	Kozan	1.03	281	PG	Pg	12 28 26.7	-0.2
TAHT	Tahtakopru-Hat	1.18	219	PN	Pg	12 28 29.6	-0.1
AKCD	Akcadag	1.19	33	IAML_P			
	comp=Z,902nm,0.2s						
AKCD				i P	Pn	12 28 30.7	+0.9
AKCD				i S	Sn	12 28 46.7	+0.6
DARE	Darende-Malaty	1.31	13	PN	Pg	12 28 31.5	-0.6
URFA	Urfa	1.38	84	PN	Pn	12 28 32.3	0.0

ISK 01 12:31:16.4, 37°31N×37°11E, h5km, ML2.0/7
DDA 01 12:31:16.6, 37°33N×37°11E, h7km±2km, ML2.9
ISCJB 01 12:31:17.3±0.6, 37°27N±0°04×37°08E±0°04, h5km±6km, Error ellipse: s-maj=7.1km s-min=4.7km az=34.4
ISC 01 12:31:16.9±1.0, 37°30N±0°03×37°11E±0°03, h9km±8km, n15, σ0°73/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.15	148	PG	Pg	12 31 20.1	-0.1
GAZ				SG	Sg	12 31 22.9	+0.4
HCB	Kahramanmara	0.17	285	IAML_P			
	comp=Z,18μm,0.2s						
HCB				i P	Pg	12 31 20.4	-0.1
KMRS	Kahramanmaras	0.27	320	PG	Pg	12 31 22.1	-0.2
KMRS				SG	Sg	12 31 25.7	-0.2
AYKD	Aykdinkavak	0.27	295	IAML_P			
	comp=Z,9μm,0.1s						
AYKD				i P	Pb	12 31 22.9	-1.1
AYKD				i S	Sg	12 31 26.5	+0.6
GZT	Gaziantep	0.36	81	IAML_P			
	comp=Z,2μm,0.1s						
GZT				i P	Pb	12 31 24.7	-0.9
KAMA	Osmaniye	0.37	252	IAML_P			
	comp=Z,5μm,0.1s						
KAMA				i P	Pb	12 31 24.8	-0.9
KAMA				i S	Sg	12 31 30.0	+0.8
KUZU	Kuzuini	0.53	183	IAML_P			
	comp=Z,4μm,0.1s						
KUZU				i P	Pb	12 31 28.0	-0.4
ANDN	Andirin	0.67	295	IAML_P			
	comp=Z,1μm,0.1s						
ANDN				i P	Pb	12 31 30.5	-0.4
ANDN				i S	Sb	12 31 39.4	-1.0
ELBS	KAHRAMANMARAS	1.02	1	i P	Pn	12 31 38.5	+1.0
ELBS				i S	Sn	12 31 53.7	+1.6
KOZT	Kozan	1.04	280	PG	Pb	12 31 36.9	-0.2
KOZT				SG	Sn	12 31 51.5	-0.9
CEYT	Ceyhan	1.13	255	PN	Pb	12 31 38.5	-0.1
TAHT	Tahtakopru-Hat	1.19	219	PN	Pg	12 31 39.5	-0.2
YURE	YUREGİR	1.27	249	PN	Pg	12 31 41.3	-0.1
DARE	Darende-Malaty	1.30	13	PN	Pg	12 31 41.6	-0.3
URFA	Urfa	1.37	84	PN	Pg	12 31 42.9	-0.3

ISK 01 12:32:23.5, 37°33N×37°12E, h7km, ML2.2/7
DDA 01 12:32:23.9, 37°33N×37°10E, h7km±2km, ML3.0
ISCJB 01 12:32:24.4±0.6, 37°31N±0°03×37°10E±0°04, h8km±6km, Error ellipse: s-maj=6.7km s-min=4.4km az=41.2
ISC 01 12:32:24.1±0.9, 37°31N±0°03×37°10E±0°03, h10km±7km, n17, σ0°63/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.16	147	PG	Pg	12 32 27.3	-0.3
GAZ				SG	Sg	12 32 30.3	+0.3
HCB	Kahramanmara	0.16	284	IAML_P			
	comp=Z,27μm,0.2s						
HCB				i P	Pg	12 32 27.8	+0.2
KMRS	Kahramanmaras	0.26	321	PG	Pg	12 32 28.9	-0.4
KMRS				SG	Sg	12 32 32.9	+0.1
AYKD	Aykdinkavak	0.26	295	IAML_P			
	comp=Z,12μm,0.1s						
AYKD				i P	Pb	12 32 30.0	-0.9
AYKD				i S	Sg	12 32 33.7	+0.8
KAMA	Osmaniye	0.37	251	IAML_P			
	comp=Z,8μm,0.1s						
KAMA				i P	Pg	12 32 31.2	-0.1
KAMA				i S	Sg	12 32 37.2	+1.0
GZT	Gaziantep	0.37	82	IAML_P			
	comp=Z,3μm,0.1s						
GZT				i P	Pg	12 32 31.2	-0.3
KUZU	Kuzuini	0.53	182	IAML_P			
	comp=Z,3μm,0.1s						
KUZU				i P	Pb	12 32 35.4	-0.2
KUZU				i S	Sb	12 32 43.5	+0.1
ANDN	Andirin	0.66	295	IAML_P			
	comp=Z,2μm,0.1s						
ANDN				i P	Pb	12 32 37.1	-0.7
ANDN				i S	Sb	12 32 46.8	-0.3
ATAB	Bozova	0.96	80	i P	Pn	12 32 43.9	+0.1
ELBS	KAHRAMANMARAS	1.02	1	i P	Pn	12 32 45.2	+0.6
ELBS				i S	Sn	12 33 00.9	+1.9
KOZT	Kozan	1.03	280	PG	Pb	12 32 43.8	-0.3
KOZT				SG	Sn	12 32 58.8	-0.4
CEYT	Ceyhan	1.12	255	PN	Pn	12 32 45.8	-0.1
AKCD	Akcadag	1.18	33	IAML_P			
	comp=Z,3μm,0.2s						
AKCD				i P	Pn	12 32 46.8	-0.1
TAHT	Tahtakopru-Hat	1.18	219	PN	Pg	12 32 46.2	-0.6
YURE	YUREGİR	1.27	248	PN	Pg	12 32 48.5	0.0
DARE	Darende-Malaty	1.30	13	PN	Pg	12 32 48.5	-0.5
URFA	Urfa	1.38	84	PN	Pn	12 32 49.4	-0.1

ISCJB 01 12:42:19.4±0.4, 35°21S±0°07×107°3W±0°1, h10km, mb4.4/25, MS4.2/19, Error ellipse: s-maj=12.7km s-min=9.7km az=164.0
IDC 01 12:42:21.6±0.9, 34°85S×107°17W, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.0/25, mbtmp4.1/9, MS4.1/17, Ms1 4.1/17, ms1mx4.0/25, Error ellipse: s-maj=26.8km s-min=25.4km az=96.0
NEIC 01 12:42:21.2±1.1, 35°24S×107°18W, h10km±2km, mb4.4/22, Error ellipse: s-maj=22.2km s-min=16.7km az=99.0
GCMT 01 12:42:25.2±0.2, 35°06S±0°01×107°32W±0°01, h18km±1km, MW5.1/100, Moment Tensor Solution. s62,c92; s100,c160; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.13±.15; Mθθ-1.29±.13; Mφφ2.42±.13; Mrθ0.15±.28; Mrφ-5.25±.12; Mθφ-1.98±.30; Best double couple: M0 5.89400×10^16 NP1:φ=9.00000°, δ=89.00000°, λ=-20.00000°. NP2:φ=99.00000°, δ=70.00000°, λ=-179.00000°. Principal axes: T 6.5180, Plg13.0000°, Azm56.0000°; N -1.2480, Plg70.0000°, Azm185.0000°; P -5.2700, Plg15.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 01 12:42:21.3±0.5, 35°14S±0°09×107°3W±0°1, h10km, n66, σ1°30/48, mb4.4/25, MS4.1/19, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	8.19	347	ePn	Pn	12 44 21.3	+1.2
RPN	Rapa Nui	8.19	347	LR	LR	12 46 39.3	
	comp=Z,2μm,19.0s,baz=156,slow=33						
GO04	Tololo Observa	30.98	91	eP	P	12 48 37.6	-1.4
	21nm,1.0s						
LVC	Limon Verde	35.61	80	P	P	12 49 20.2	+0.5
	1.7nm,0.3s,baz=243,slow=12,SNR=2.2						
TBI	Tubuai	38.39	276	eLQ	LQ	12 58 33.3	
	2μm,32.0s						
TBI				eLR	LR	13 00 06.2	
	comp=Z,377nm,26.2s						
LPAZ	La Paz	39.62	72	eP	P	12 49 50.7	-3.2
LPAZ				esP	P	12 49 51.4	-2.5
LPAZ	La Paz	39.62	72	P	P	12 49 54.6	+0.7
	2.8nm,0.9s,baz=272,slow=4.5,SNR=6.6						
LPAZ				LR	LR	13 02 27.3	
	comp=Z,268nm,20.7s,baz=236,slow=31						
PPT2	Papeete2	41.40	284	eS	S	12 56 21.0	-2.1
	298nm,26.5s						
PPT2				eLQ	LQ	12 59 37.0	
	2μm,29.2s						
PPT2				eLR	LR	13 01 27.7	
	comp=Z,267nm,25.0s,baz=118						
PPT	Papeete	41.41	284	LR	LR	13 02 21.9	
	comp=Z,147nm,20.4s,baz=120,slow=29						
CPUP	Villa Florida	43.43	93	eP	P	12 50 23.6	-0.7
	9.8nm,1.6s						
CPUP	Villa Florida	43.43	93	LR	LR	13 05 29.0	
	comp=Z,221nm,18.9s,baz=252,slow=32						
SIV	San Ignacio	45.37	77	P	P	12 50 40.6	+0.6
	0.9nm,0.7s,baz=275,slow=6.6,SNR=6.9						
ROSC	El Rosal	50.41	45	eP	P	12 51 19.5	+0.1
	14nm,1.2s						
ROSC	El Rosal	50.41	45	P	P	12 51 19.4	-0.1
	3.9nm,0.3s,baz=307,slow=20,SNR=2.5						
ROSC				LR	LR	13 08 36.3	
	comp=Z,374nm,21.5s,baz=232,slow=31						
QSPA	South Pole Qui	55.06	180	P	P	12 51 57.1	+4.1
	3.8nm,1.0s,baz=118,slow=6.2,SNR=6.1						
BDFB	Brasilia	56.13	86	LR	LR	13 14 21.2	
	comp=Z,187nm,18.0s,baz=223,slow=34						
VNDA	Vanda	56.18	195	eP	P	12 51 59.8	-1.0
VNDA	Vanda	56.18	195	LR	LR	13 11 23.6	
	comp=Z,227nm,18.7s,baz=95,slow=31						
VNA3	Neumayer Olymp	59.52	158	P	P	12 52 23.6	-0.7
VNA2	Neumayer--Watz	60.33	158	P	P	12 52 29.6	-0.2
	baz=253,slow=6.6						
RPZ	Rata Peaks	61.28	235	LR	LR	13 12 26.4	
	comp=Z,307nm,18.7s,baz=56,slow=29						
SNAA	Sanae	61.38	160	P	P	12 52 36.9	-0.1
SNAA	Sanae	61.38	160	eP	P	12 52 36.5	-0.5
	5.7nm,0.9s						
LTX	Lajitas	64.22	3	eP	P	12 52 56.1	-0.3
TXAR	Lajitas Array	64.22	3	P	P	12 52 56.1	-0.3
	0.2nm,0.7s,baz=184,slow=8.1,SNR=2.7						
TXAR				LR	LR	13 15 58.2	
	comp=Z,77nm,18.7s,baz=0.0,slow=32						
LENM	Lemitar	68.95	0	eP	P	12 53 24.7	-1.9
ANMO	Albuquerque	69.73	1	eP	P	12 53 30.7	-0.8
	3.7nm,1.5s						
ANMO	Albuquerque	69.73	1	LR	LR	13 19 55.9	
	comp=Z,64nm,18.9s,baz=96,slow=32						
X40A	Basin Creek Fa	70.57	13	eP	P	12 53 36.7	+0.4
Y57A	Sumter	73.25	23	eP	P	12 53 54.5	+2.0
	361nm,0.3s						
TKL	Tuckaleechee C	73.77	20	eP	P	12 53 56.0	+0.5
	24nm,1.6s						
TKL	Tuckaleechee C	73.77	20	LR	LR	13 23 31.8	
	comp=Z,75nm,18.5s,baz=196,slow=34						
NV01	Mina Array Sit	73.92	351	eP	P	12 53 57.4	+0.8
NVAR	Mina Array Bea	73.92	351	eP	P	12 53 57.6	+1.1
NVAR	Mina Array Bea	73.92	351	P	P	12 53 57.4	+0.8
	1.6nm,0.8s,baz=175,slow=8.4,SNR=7.9						
DZM	Mont Dzumac	74.74	254	eLR	LR	13 17 01.0	
	comp=Z,450nm,30.4s						
ELK	Elko	75.87	354	LR	LR	13 21 49.5	
	comp=Z,88nm,18.1s,baz=184,slow=31						
MAW	Mawson	77.30	176	eP	P	12 54 15.4	0.0
	2.4nm,1.4s						
MAW	Mawson	77.30	176	LR	LR	13 26 22.3	
	comp=Z,104nm,19.7s,baz=192,slow=34						
BW06	Boulder Array	77.56	358	eP	P	12 54 17.8	+0.4
	6.7nm,1.2s						
PD31	Pinedale Array	77.56	358	eP	P	12 54 18.3	+0.9
	6.1nm,1.2s						
PDAR	Pinedale Array	77.56	358	P	P	12 54 18.3	+0.9
	0.8nm,0.7s,baz=151,slow=6.4,SNR=5.1						
TPAW	Teton Pass	78.33	357	eP	P	12 54 21.9	+0.2
	7.2nm,1.4s						
O52A	Adamsville	78.47	20	eP	P	12 54 22.6	+0.4
	8.0nm,0.9s						
HLID	Hailey	78.60	355	eP	P	12 54 23.8	+0.7
	5.3nm,1.0s						
IMW	Indian Meadow	78.74	357	eP	P	12 54 24.3	+0.3
	6.0nm,1.3s						
I07A	Izee	79.64	351	eP	P	12 54 29.6	+1.0
	5.2nm,0.9s						
ULM	Lac du Bonnet	85.62	7	P	P	12 54 59.4	0.0
	0.5nm,0.4s,baz=192,slow=5.2,SNR=2.0						
STKA	Stephens Creek	87.16	233	eP	P	12 55 07.5	-0.2
	3.2nm,1.6s						
STKA	Stephens Creek	87.16	233	LR	LR	13 27 10.4	
	comp=Z,207nm,19.5s,baz=193,slow=31						
SCHQ	Schefferville	96.11	22	eP	P	12 55 49.0	+0.4
	13nm,1.6s						
SCHQ	Schefferville	96.11	22	LR	LR	13 32 56.8	
	comp=Z,126nm,22.0s,baz=262,slow=32						
YKA	Yellowknife Ar	97.48	357	LR	LR	13 34 41.5	
	comp=Z,7.9nm,18.1s,baz=179,slow=32						
AS31	Alice Springs	97.68	234	eP	P	12 55 56.4	-0.3
	1.2nm,1.3s						
ASAR	Alice Springs	97.68	234	LR	LR	13 36 05.5	
	comp=Z,189nm,18.1s,baz=118,slow=33						
H01W1	Cape Leeuwin H	100.31	214	T	T	14 48 36.5	
	baz=145,slow=76,SNR=4.5						
H01W2	Cape Leeuwin H	100.31	214	T	T	14 48 40.5	
	baz=145,slow=76,SNR=4.8						
H01W3	Cape Leeuwin H	100.32	214	T	T	14 48 43.7	
	baz=145,slow=76,SNR=5.4						
AKASG	Malin Array Be	145.10	50	PKP	PKPdf	13 01 58.6	+0.2
	1.4nm,0.7s,baz=278,slow=3.7,SNR=10						
AKBB	Malin Array Si	145.10	50	ePKPbc	PKPdf	13 01 58.4	0.0
BR101	Keskin Array S	148.79	70	ePKPbc	PKiKP	13 02 10.5	+0.1
BRTR	Keskin Array B

POLP *e*S Sn 12 49 00.8 +0.6

MEX 01 12:53:39.7±0.6, **14°.96N×93°.30W, h49**km±105km, **MD3.5, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.74**	**6**	*e*P	Pn	12 53 51.8	-2.2
PCIG				*e*S	Sn	12 54 02.6	-1.8

*ISCJB **01** 12:54:43.8±0.7, 19°.9S±0°.1×177°.9W±0°.1, h550km, mb3.3/7, Error ellipse: s-maj=16.3km s-min=11.3km az=39.8*
*IDC **01** 12:54:45.0±2.4, 19°.52S×178°.00W, h546km±28km, mb3.3/9, mb1 3.6/10, mb1mx3.3/22, mbtmp4.2/10, Error ellipse: s-maj=25.4km s-min=11.8km az=153.0*
ISC 01 12:54:44.7±0.8, **19°.8S**±0°.1×**177°.9W**±0°.1, **h550**km, **n12, σ1º50/15, mb3.4/7, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.82**	**259**	P	**P**	**12 57 52.3**	**-0.2**
	1.4nm,0.3s,baz=121,slow=15,SNR=13						
URZ	**Urewera**	**18.89**	**192**	P	**P**	**12 58 30.1**	**-0.3**
	0.8nm,0.3s,baz=276,slow=2.2,SNR=6.9						
URZ				S	**S**	**13 01 30.0**	**-4.0**
	0.1nm,0.3s,baz=233,slow=20,SNR=2.6						
STKA	**Stephens Creek**	**38.20**	**243**	P	**P**	**13 01 18.5**	**+0.7**
	4.2nm,0.7s,baz=93,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**44.79**	**256**	P	**P**	**13 02 10.3**	**+0.2**
	20nm,0.7s,baz=91,slow=8.0,SNR=286						
ASAR				S	**S**	**13 08 08.4**	**+0.7**
	0.3nm,0.9s,baz=89,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**44.82**	**261**	P	**P**	**13 02 10.0**	**-0.2**
	7.5nm,0.3s,baz=96,slow=7.6,SNR=258						
WRA				S	**S**	**13 08 08.2**	**+0.2**
	0.4nm,0.8s,baz=84,slow=14,SNR=2.6						
VNDA	**Vanda**	**58.60**	**185**	P	**P**	**13 03 50.9**	**+2.4**
	0.9nm,1.1s,baz=13,slow=7.8,SNR=4.4						
PETK	**Petropavlovsk-**	**75.64**	**345**	P	**P**	**13 05 32.6**	**-0.7**
	2.1nm,0.7s,baz=122,slow=7.9,SNR=5.7						
NVAR	**Mina Array Bea**	**80.45**	**43**	P	**P**	**13 06 00.1**	**+0.3**
	0.3nm,0.5s,baz=231,slow=6.5,SNR=3.4						
TXAR	**Lajitas Array**	**86.59**	**57**	P	**P**	**13 06 31.1**	**+0.8**
	0.1nm,0.5s,baz=236,slow=5.9,SNR=4.3						
ILAR	**Eielson Array**	**87.62**	**13**	P	**P**	**13 06 32.6**	**-1.5**
	0.5nm,0.7s,baz=227,slow=5.6,SNR=7.9						
PDAR	**Pinedale Array**	**88.38**	**43**	P	**P**	**13 06 38.6**	**0.0**
	0.3nm,0.5s,baz=197,slow=5.0,SNR=3.9						
GERES	**GERESS Array B**	**149.57**	**345**	PKPbc	**PKPbc**	**13 13 32.0**	**-0.4**
	0.3nm,0.5s,baz=90,slow=0.5,SNR=3.1						

*ISK **01** 13:01:08.7, 37°.33N×37°.13E, h9km, ML2.1/8*
*ISCJB **01** 13:01:09.4±0.6, 37°.31N±0°.04×37°.13E±0°.05, h10km±5km, Error ellipse: s-maj=7.8km s-min=5.5km az=42.8*
*DDA **01** 13:01:09.3, 37°.32N×37°.11E, h7km±1km, ML3.0*
ISC 01 13:01:09.3±0.9, **37°.31N**±0°.04×**37°.13E**±0°.03, **h13**km±7km, **n16, σ0º57/20, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**155**	PG	**Pg**	**13 01 12.7**	**-0.4**
GAZ				SG	**Sg**	**13 01 15.8**	**0.0**
HCB	**Kahramanmara**	**0.18**	**280**	IAML_P			
	comp=Z,14μm,0.1s						
HCB				*i* P	**Pg**	**13 01 13.9**	**+0.4**
KMRS	**Kahramanmaras**	**0.27**	**316**	PG	**Pg**	**13 01 14.7**	**-0.2**
KMRS				SG	**Sg**	**13 01 18.3**	**-0.4**
AYKD	**Aykdinkavak**	**0.28**	**291**	IAML_P			
	comp=Z,13μm,0.1s						
AYKD				*i* P	**Pg**	**13 01 15.1**	**0.0**
AYKD				*i* S	**Sb**	**13 01 19.9**	**-0.9**
GZT	**Gaziantep**	**0.35**	**83**	IAML_P			
	comp=Z,3μm,0.1s						
GZT				*i* P	**Pb**	**13 01 17.3**	**-0.1**
KAMA	**Osmaniye**	**0.39**	**251**	IAML_P			
	comp=Z,6μm,0.1s						
KAMA				*i* P	**Pg**	**13 01 17.3**	**+0.1**
KAMA				*i* S	**Sg**	**13 01 23.0**	**+0.5**
KUZU	**Kuzuini**	**0.54**	**185**	*i* P	**Pb**	**13 01 20.8**	**+0.2**
ANDN	**Andirin**	**0.68**	**293**	IAML_P			
	comp=Z,2μm,0.1s						
ANDN				*i* P	**Pb**	**13 01 22.9**	**-0.1**
ELBS	**KAHRAMANMARAS**	**1.01**	**0**	*i* P	**Pn**	**13 01 30.7**	**+1.4**
KOZT	**Kozan**	**1.05**	**280**	PG	**Pg**	**13 01 28.9**	**-0.7**
CEYT	**Ceyhan**	**1.15**	**255**	PN	**Pn**	**13 01 31.1**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.21**	**219**	PN	**Pn**	**13 01 32.4**	**+0.6**
DARE	**Darende-Malaty**	**1.29**	**12**	PN	**Pn**	**13 01 33.3**	**+0.3**
YURE	**YUREGIR**	**1.29**	**248**	PN	**Pg**	**13 01 33.7**	**-0.5**
URFA	**Urfa**	**1.35**	**84**	PN	**Pn**	**13 01 34.4**	**+0.5**
SVRC	**Sivrice-ELAZID**	**2.02**	**58**	PN	**Pn**	**13 01 43.5**	**+0.3**

*BJI **01** 13:12:25.9±0.0, 27°.12N×96°.78E, h7km, ML3.4/5*
*ISCJB **01** 13:12:28.6±0.6, 27°.22N±0°.08×96°.87E±0°.07, h28km, mb3.7/14, MS3.3/3, Error ellipse: s-maj=10.9km s-min=8.6km az=4.6*
*IDC **01** 13:12:33.5±3.5, 27°.27N×97°.16E, h53km±32km, mb3.5/14, mb1 3.6/15, mb1mx3.5/65, mbtmp3.7/15, ML3.7/1, MS3.2/4, Ms1 3.3/4, ms1mx2.8/38, Error ellipse: s-maj=33.3km s-min=13.6km az=60.0*
ISC 01 13:12:30.8±0.7, **27°.3N**±0°.1×**97°.0E**±0°.1, **h28**km, **n29, σ1º49/28, mb3.7/14, MS3.1/3, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.01**	**168**	P	**Pn**	**13 14 40.4**	**+1.3**
	0.2nm,0.3s,baz=339,slow=13,SNR=11						
CMAR				Lg	Lg	13 17 11.9	
	0.1nm,0.3s,baz=224,slow=31,SNR=3.3						
CMAR				LR	LR	13 18 28.3	
	comp=Z,71nm,18.3s,baz=315,slow=40						
RAMN	**Ramite**	**9.23**	**270**	*e*P	**Pn**	**13 14 42.9**	**+0.5**
	49nm,0.6s						
JIRN	**Jiri**	**9.56**	**274**	*e*P	**Pn**	**13 14 48.0**	**+0.9**
	42nm,0.3s						
PKI	**Pulchoki**	**10.26**	**274**	*e*P	**Pn**	**13 14 56.0**	**-0.5**
	24nm,0.5s						
PKIN	**Phulchoki**	**10.27**	**274**	*e*P	**Pn**	**13 14 56.2**	**-0.4**
	17nm,0.5s						
KKN	**Kakani**	**10.37**	**275**	*e*P	**Pn**	**13 14 57.8**	**-0.2**
	26nm,0.4s						
DMN	**Daman**	**10.53**	**274**	*e*P	**Pn**	**13 15 00.0**	**-0.1**
	21nm,0.7s						
GKN	**Gorkha**	**10.94**	**276**	*e*P	**Pn**	**13 15 05.4**	**-0.3**
	22nm,0.3s						
DANN	**Dangsing**	**11.72**	**278**	*e*P	**Pn**	**13 15 14.2**	**-2.3**
	14nm,0.3s						
KOLN	**Koldanda**	**11.86**	**275**	*e*P	**Pn**	**13 15 15.4**	**-2.9**
	17nm,0.6s						
PYUN	**Piuthan**	**12.40**	**277**	*e*P	**Pn**	**13 15 21.4**	**-4.3**
	14nm,0.5s						
WMQ	**Urumqi**	**18.08**	**338**	*e*P	**Pn**	**13 16 38.5**	**-1.5**
WMQ				pP	P	13 16 43.1	+2.9
SONM	**Songino Array**	**21.77**	**17**	P	**P**	**13 17 20.8**	**+0.5**
	0.9nm,0.5s,baz=197,slow=12,SNR=4.7						
SONM				LR	LR	13 26 31.4	
	comp=Z,76nm,18.9s,baz=194,slow=38						
MKAR	**Makanchi Array**	**22.61**	**333**	P	**P**	**13 17 30.2**	**+0.9**
	1.2nm,0.5s,baz=130,slow=13,SNR=15						
AAK	**Ala-Archa**	**23.81**	**316**	P	**P**	**13 17 43.9**	**+2.3**
	0.8nm,0.4s,baz=114,slow=10.0,SNR=2.8						
KURBB	**Kurchatov Arra**	**27.17**	**334**	P	**P**	**13 18 13.1**	**+1.4**
	3.0nm,0.8s,baz=148,slow=11,SNR=28						
KURBB				PcP	**PcP**	**13 21 31.0**	**-0.6**
	0.3nm,0.5s,baz=151,slow=2.3,SNR=3.7						
KSRS	**Korea Array**	**27.93**	**61**	LR	LR	13 30 18.4	
	comp=Z,23nm,18.5s,baz=205,slow=38						
ZALV	**Zalesovo Beam**	**28.07**	**345**	P	**P**	**13 18 20.9**	**+1.2**
	0.7nm,0.6s,baz=162,slow=6.5,SNR=3.7						
BRTR	**Keskin Array B**	**53.22**	**301**	P	**P**	**13 21 47.9**	**+0.9**
	0.4nm,0.8s,baz=110,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**57.28**	**327**	P	**P**	**13 22 16.2**	**+0.5**
	2.1nm,0.8s,baz=101,slow=9.9,SNR=4.7						
WRA	**Warramunga Arr**	**59.32**	**138**	P	**P**	**13 22 28.9**	**-1.6**
	0.8nm,0.4s,baz=329,slow=7.5,SNR=33						
ASAR	**Alice Springs**	**61.99**	**141**	P	**P**	**13 22 47.1**	**-1.6**
	0.4nm,0.3s,baz=325,slow=6.3,SNR=15						
HFS	**Hagfors**	**63.41**	**326**	P	**P**	**13 22 58.4**	**+0.7**
	1.3nm,0.7s,baz=111,slow=8.1,SNR=5.4						
NOA	**NORSAR Array B**	**64.47**	**327**	P	**P**	**13 23 05.3**	**+0.7**
	0.5nm,0.6s,baz=79,slow=6.5,SNR=2.3						
GERES	**GERESS Array B**	**65.68**	**314**	LR	LR	13 56 32.6	
	comp=Z,66nm,19.2s,baz=264,slow=40						
ILAR	**Eielson Array**	**75.85**	**23**	P	**P**	**13 24 13.6**	**-0.7**
	0.2nm,0.6s,baz=297,slow=4.2,SNR=3.7						
YKA	**Yellowknife Ar**	**87.00**	**14**	P	**P**	**13 25 13.2**	**-0.1**
	0.1nm,0.5s,baz=333,slow=4.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**88.64**	**284**	P	**P**	**13 25 22.2**	**+0.2**
	0.4nm,0.7s,baz=52,slow=3.5,SNR=3.1						
TXAR	**Lajitas Array**	**120.30**	**21**	PKP	**PKPdf**	**13 31 19.6**	**-0.4**
	0.1nm,0.5s,baz=104,slow=3.8,SNR=3.0						

*ISK **01** 13:19:14.8, 37°.37N×37°.16E, h9km, ML1.8/4*
*ISCJB **01** 13:19:15.1±1.6, 37°.36N±0°.07×37°.16E±0°.08, h12km±9km, Error ellipse: s-maj=14.4km s-min=6.3km az=135.2*
*DDA **01** 13:19:16.3, 37°.32N×37°.10E, h7km±2km, ML2.6*
ISC 01 13:19:15.7±1.2, **37°.35N**±0°.05×**37°.13E**±0°.04, **h13**km±8km, **n10, σ0º48/15, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCB	**Kahramanmara**	**0.18**	**267**	IAML_P			
	comp=Z,5μm,0.1s						
HCB				*i* P	**Pg**	**13 19 20.7**	**+0.9**
GAZ	**Gaziantep**	**0.19**	**161**	PG	**Pg**	**13 19 19.6**	**-0.4**
GAZ				SG	**Sg**	**13 19 22.7**	**-0.3**
KMRS	**Kahramanmaras**	**0.24**	**309**	PG	**Pg**	**13 19 20.3**	**-0.5**
KMRS				SG	**Sg**	**13 19 24.1**	**-0.2**
AYKD	**Aykdinkavak**	**0.27**	**283**	IAML_P			
	comp=Z,4μm,0.1s						
AYKD				*i* P	**Pb**	**13 19 22.3**	**-0.1**
AYKD				*i* S	**Sb**	**13 19 26.7**	**-0.2**
GZT	**Gaziantep**	**0.34**	**90**	IAML_P			
	comp=Z,1μm,0.1s						
GZT				*i* P	**Pb**	**13 19 24.1**	**+0.3**
KAMA	**Osmaniye**	**0.41**	**246**	IAML_P			
	comp=Z,2μm,0.1s						
KAMA				*i* P	**Pb**	**13 19 24.5**	**-0.3**
KAMA				*i* S	**Sg**	**13 19 29.2**	**-0.1**
KUZU	**Kuzuini**	**0.58**	**185**	IAML_P			
	comp=Z,2μm,0.2s						
KUZU				*i* P	**Pb**	**13 19 28.4**	**+0.6**
ANDN	**Andirin**	**0.67**	**290**	IAML_P			
	comp=Z,598nm,0.1s						
ANDN				*i* P	**Pb**	**13 19 29.7**	**+0.5**
KOZT	**Kozan**	**1.05**	**277**	PG	**Pg**	**13 19 35.7**	**-0.2**
KOZT				SG	**Sn**	**13 19 50.9**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.24**	**218**	PN	**Pg**	**13 19 39.1**	**-0.4**

*NSSC **01** 13:21:13.4±0.8, 33°.93N×35°.65E, h5km±30km, MD1.2, ML1.3*
*ISCJB **01** 13:21:15.7±1.7, 33°.87N±0°.05×35°.7E±0°.1, h21km±15km, Error ellipse: s-maj=15.9km s-min=8.5km az=178.8*
*GRAL **01** 13:21:17.1±0.3, 33°.86N×35°.82E, h2km±15km, MD2.8*
ISC 01 13:21:16.0±1.2, **33°.88N**±0°.05×**35°.78E**±0°.07, **h15**km±12km, **n7, σ0º79/13, 1D, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.11**	**284**	*e*P	**Pg**	**13 21 19.7**	**+0.1**
BHL				*e*S	**Sg**	**13 21 21.7**	**-0.1**
DQRL	**Deir Qamar**	**0.25**	**226**	*e*P	**Pg**	**13 21 21.8**	**+0.3**
DQRL				*e*S	**Sg**	**13 21 25.3**	**+0.1**
RCY	**Rachaya**	**0.38**	**173**	*e*P	**Pg**	**13 21 23.6**	**-0.3**
RCY				*e*S	**Sg**	**13 21 28.4**	**-0.8**
HWQ	**Hawqa**	**0.42**	**19**	*e*P	**Pb**	**13 21 24.8**	**-0.5**
BRBR	**Barbar**	**0.49**	**163**	*e*P	**Pg**	**13 21 24.9**	**-0.9**
BRBR				*e*S	**Sg**	**13 21 32.6**	**+0.2**
BRBR				AML	AML	13 21 35.1	
	comp=E,26nm,0.3s						
BRBR				AML	AML	13 21 36.3	
	comp=N,29nm,0.5s						
QASN	**Qassioun**	**0.54**	**130**	*e*P	**Pg**	**13 21 26.0**	**-0.6**
TOTH	**TOTAH**	**0.75**	**134**	*e*P	**Pg**	**13 21 30.7**	**+0.1**
TOTH				⇓*e*S	**Sb**	**13 21 41.7**	**+1.0**
TOTH				*e*S	**Sg**	**13 21 42.0**	**+1.6**
TOTH				AML	AML	13 21 51.8	
	comp=E,7.7nm,0.6s						
TOTH				AML	AML	13 21 53.0	
	comp=N,6.1nm,0.5s						

*ISCJB **01** 13:44:37.1±0.6, 3°.41S±0°.08×138°.48E±0°.06, h71km, mb3.6/3, Error ellipse: s-maj=12.8km s-min=7.3km az=150.8*
*IDC **01** 13:44:38.3±1.5, 3°.40S×138°.55E, h68km±18km, mb3.5/4, mb1 3.8/8, mb1mx3.5/27, mbtmp3.9/8, Error ellipse: s-maj=14.0km s-min=12.3km az=153.0*
ISC 01 13:44:37.7±0.8, **3°.56S**±0°.08×**138°.51E**±0°.07, **h71**km, **n8, σ3º05/12, mb3.9/3, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.43**	**65**	P	**Pn**	**13 45 14.8**	**-0.4**
	31nm,0.3s,baz=244,slow=7.6,SNR=121						
JAY				S	**Sn**	**13 45 42.5**	**-1.5**
	62nm,0.3s,baz=90,slow=22,SNR=12						
SIJI	**Sorong**	**7.72**	**290**	P	**Pn**	**13 46 28.8**	**+1.3**
	1.4nm,0.3s,baz=77,slow=13,SNR=5.1						
SIJI				S	**Sn**	**13 47 50.8**	**-2.5**
	baz=308,slow=19						
WRA	**Warramunga Arr**	**16.78**	**194**	P	**Pn**	**13 48 31.4**	**+3.1**
	1.0nm,0.3s,baz=17,slow=12,SNR=44						
WRA				S	**Sn**	**13 51 29.4**	**-4.8**
	0.3nm,0.3s,baz=9.2,slow=22,SNR=5.5						
FITZ	**Fitzroy Crossi**	**19.17**	**220**	P	**Pn**	**13 48 59.2**	**+2.0**
	0.1nm,0.3s,baz=41,slow=11,SNR=2.6						
FITZ				S	**S**	**13 52 25.1**	**-4.4**
	0.5nm,0.3s,baz=193,slow=15,SNR=8.6						
ASAR	**Alice Springs**	**20.48**	**192**	P	Pn	13 49 14.2	+1.5
	3.3nm,0.5s,baz=19,slow=11,SNR=52						
ASAR				S	**S**	**13 52 59.2**	**+3.9**
	2.6nm,0.7s,baz=16,slow=26,SNR=7.2						
CMAR	**Chiang Mai Arr**	**44.69**	**301**	P	**P**	**13 52 44.7**	**+0.7**
	1.1nm,0.6s,baz=126,slow=6.2,SNR=8.0						
MKAR	**Makanchi Array**	**70.34**	**323**	P	**P**	**13 55 44.6**	**+0.7**
	1.0nm,0.7s,baz=111,slow=8.3,SNR=12						
ILAR	**Eielson Array**	**86.69**	**24**	P	**P**	**13 57 12.7**	**-0.7**
	0.2nm,0.5s,baz=265,slow=3.9,SNR=4.7						

*ISK **01** 14:11:57.6, 37°.34N×37°.15E, h7km, ML2.5/10*
*ISCJB **01** 14:11:58.7±0.5, 37°.29N±0°.03×37°.10E±0°.03, h4km±5km, Error ellipse: s-maj=5.1km s-min=3.4km az=11.5*
*DDA **01** 14:11:58.1, 37°.33N×37°.12E, h8km±1km, ML3.5*
ISC 01 14:11:58.5±0.9, **37°.32N**±0°.03×**37°.12E**±0°.02, **h9**km±7km, **n25, σ0º65/37, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.16**	**154**	PG	**Pg**	**14 12 01.6**	**-0.4**
GAZ				SG	**Sg**	**14 12 04.8**	**+0.4**
HCB	**Kahramanmara**	**0.17**	**278**	IAML_P			
	comp=Z,65μm,0.2s						
HCB				*i* P	**Pg**	**14 12 02.5**	**+0.3**
HCB				*i* S	**Sg**	**14 12 04.8**	**+0.2**
KMRS	**Kahramanmaras**	**0.26**	**317**	PG	**Pg**	**14 12 03.3**	**-0.4**
KMRS				SG	**Sg**	**14 12 07.7**	**+0.6**
AYKD	**Aykdinkavak**	**0.27**	**291**	IAML_P			
	comp=Z,25μm,0.1s						
AYKD				*i* P	**Pb**	**14 12 04.7**	**-0.8**
AYKD				*i* S	**Sg**	**14 12 08.5**	**+1.0**
GZT	**Gaziantep**	**0.35**	**84**	*i* P	**Pg**	**14 12 05.6**	**+0.1**
GZT				*i* S	**Sg**	**14 12 10.9**	**+0.7**
KAMA	**Osmaniye**	**0.39**	**250**	IAML_P			
	comp=Z,17μm,0.1s						
KAMA				*i* P	**Pg**	**14 12 05.8**	**-0.3**
KAMA				*i* S	**Sg**	**14 12 11.1**	**-0.1**
KUZU	**Kuzuini**	**0.55**	**184**	IAML_P			
	comp=Z,9μm,0.1s						
KUZU				*i* P	**Pb**	**14 12 10.2**	**-0.1**
ANDN	**Andirin**	**0.67**	**293**	IAML_P			
	comp=Z,5μm,0.1s						
ANDN				*i* P	**Pg**	**14 12 11.2**	**-0.3**
ANDN				*i* S	**Sg**	**14 12 20.4**	**+0.1**
ATAB	**Bozova**	**0.95**	**80**	IAML_P			
	comp=Z,13μm,0.1s						
ATAB				*i* P	**Pn**	**14 12 17.3**	**-0.7**
ATAB				*i* S	**Sn**	**14 12 30.7**	**-1.0**
ELBS	**KAHRAMANMARAS**	**1.00**	**1**	*i* P	**Pn**	**14 12 19.3**	**+0.5**
ELBS				*i* S	**Sn**	**14 12 34.5**	**+1.3**
KOZT	**Kozan**	**1.04**	**279**	PG	**Pg**	**14 12 18.4**	**-0.1**
KOZT				SG	**Sn**	**14 12 33.4**	**-0.6**
SAIM	**ADANA**	**1.05**	**309**	IAML_P			
	comp=Z,4μm,0.2s						
SAIM				*i* P	**Pn**	**14 12 19.2**	**-0.4**
CEYT	**Ceyhan**	**1.14**	**255**	PN	**Pn**	**14 12 20.4**	**-0.2**
AKCD	**Akcadag**	**1.16**	**33**	IAML_P			
	comp=Z,5μm,0.2s						
AKCD				*i* P	**Pg**	**14 12 20.3**	**-0.6**
AKCD				*i* S	**Sn**	**14 12 38.7**	**+1.5**
TAHT	**Tahtakopru-Hat**	**1.20**	**219**	PN	**Pb**	**14 12 21.0**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.27**	**110**	IAML_P			
	comp=Z,847nm,0.1s						
SURC				*i* P	**Pg**	**14 12 23.2**	**+0.3**
SURC				*i* S	**Sn**	**14 12 41.0**	**+1.3**
DARE	**Darende-Malaty**	**1.28**	**13**	PN	**Pn**	**14 12 22.1**	**-0.6**
YURE	**YUREGIR**	**1.29**	**248**	PN	**Pg**	**14 12 23.1**	**-0.1**
YURE	**YUREGIR**	**1.29**	**248**	*i* P	**Pg**	**14 12 24.1**	**+1.0**
AKO	**Adana**	**1.34**	**277**	*i* P	**Pg**	**14 12 24.6**	**+0.4**
URFA	**Urfa**	**1.36**	**84**	PN	**Pn**	**14 12 23.2**	**-0.5**
KRTD	**Karatas-Adana**	**1.55**	**243**	PN	**Pb**	**14 12 27.0**	**-0.2**
KRTS	**Karatas**	**1.58**	**243**	PN	**Pb**	**14 12 27.3**	**-0.6**
BNN	**Bunyan**	**1.83**	**327**	PN	**Pn**	**14 12 30.1**	**-0.1**
SVRC	**Sivrice-ELAZID**	**2.03**	**58**	PN	**Pn**	**14 12 32.5**	**-0.5**

*DDA **01** 14:19:10.4, 37°.32N×37°.11E, h8km±1km, ML3.6*
*ISK **01** 14:19:10.1, 37°.32N×37°.11E, h4km, ML3.0/9*
*ISCJB **01** 14:19:11.3±0.4, 37°.29N±0°.03×37°.09E±0°.03, h5km±4km, Error ellipse: s-maj=4.5km s-min=3.5km az=24.0*
ISC 01 14:19:11.2±0.9, **37°.29N**±0°.03×**37°.12E**±0°.02, **h9**km±7km, **n24, σ0º71/36, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.14**	**147**	PG	**Pg**	**14 19 14.1**	**-0.2**
GAZ				SG	**Sg**	**14 19 17.3**	**+0.8**
HCB	**Kahramanmara**	**0.17**	**288**	*i* P	**Pg**	**14 19 14.5**	**-0.4**
KMRS	**Kahramanmaras**	**0.28**	**321**	PG	**Pg**	**14 19 15.8**	**-0.9**
KMRS				SG	**Sg**	**14 19 20.1**	**-0.3**
AYKD	**Aykdinkavak**	**0.28**	**297**	*i* P	**Pg**	**14 19 16.3**	**-0.4**
AYKD				*i* S	**Sg**	**14 19 20.4**	**-0.1**
GZT	**Gaziantep**	**0.36**	**80**	IAML_P			
	comp=Z,28μm,0.3s						
GZT				*i* P	**Pg**	**14 19 18.4**	**0.0**
GZT				*i* S	**Sb**	**14 19 23.8**	**-2.0**
KAMA	**Osmaniye**	**0.37**	**254**	IAML_P			
	comp=Z,32μm,0.2s						
KAMA				*i* P	**Pg**	**14 19 18.7**	**+0.2**
KAMA				*i* S	**Sg**	**14 19 24.1**	**+0.6**
KUZU	**Kuzuini**	**0.52**	**184**	*i* P	**Pb**	**14 19 22.7**	**+0.2**
KUZU				*i* S	**Sb**	**14 19 29.9**	**-0.1**
ANDN	**Andirin**	**0.68**	**295**	IAML_P			
	comp=Z,13μm,0.2s						
ANDN				*i* P	**Pg**	**14 19 24.1**	**-0.2**
ATAB	**Bozova**	**0.96**	**79**	*i* P	**Pg**	**14 19 29.1**	**-0.4**
ATAB				*i* S	**Sb**	**14 19 43.1**	**+0.4**
ELBS	**KAHRAMANMARAS**	**1.03**	**1**	*i* P	**Pn**	**14 19 32.0**	**+0.1**
ELBS				*i* S	**Sn**	**14 19 47.5**	**+0.9**
KOZT	**Kozan**	**1.04**	**281**	PG	**Pg**	**14 19 30.4**	**-0.8**
KOZT				SG	**Sg**	**14 19 45.3**	**+0.5**
SAIM	**ADANA**	**1.07**	**310**	*i* P	**Pg**	**14 19 30.8**	**-0.9**
CEYT	**Ceyhan**	**1.13**	**256**	PN	**Pb**	**14 19 33.1**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.18**	**220**	PN	**Pb**	**14 19 33.5**	**-0.2**
AKCD	**Akcadag**	**1.19**	**32**	*i* P	**Pg**	**14 19 33.2**	**-0.8**
AKCD				*i* S	**Sn**	**14 19 50.3**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.27**	**108**	IAML_P			
	comp=Z,2μm,0.2s						
SURC				*i* P	**Pg**	**14 19 35.0**	**-0.4**
SURC				*i* S	**Sn**	**14 19 52.7**	**+0.5**
YURE	**YUREGIR**	**1.27**	**249**	PN	**Pn**	**14 19 34.9**	**-0.3**
DARE	**Darende-Malaty**	**1.31**	**13**	PN	**Pn**	**14 19 35.6**	**-0.2**
URFA	**Urfa**	**1.37**	**83**	PN	**Pg**	**14 19 36.7**	**-0.7**
CUGUR	**Gurin_SVAS**	**1.44**	**5**	*i* P	**Pg**	**14 19 40.0**	**+1.2**
CUGUR				*i* S	**Sg**	**14 19 59.1**	**+1.7**
KRTD	**Karatas-Adana**	**1.53**	**243**	PN	**Pb**	**14 19 39.4**	**-0.3**
BNN	**Bunyan**	**1.85**	**328**	PN	**Pn**	**14 19 43.6**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.05**	**57**	PN	**Pn**	**14 19 45.5**	**-0.4**
MERS	**Mersin**	**2.12**	**259**	PN	**Pn**	**14 19 47.2**	**+0.4**

IDC 01 14:32:46.6±22.0, **14°.98S×172°.40W, h0**km, **mb4.3**/4, **mb1 4.4**/4, **mb1mx3.8**/35, **mbtmp4.3**/4, **Error ellipse: s-maj=444.9km s-min=58.8km az=58.0, Samoa Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**31.93**	**203**	P	P	14 39 14.2	+0.1
	14nm,1.0s,baz=355,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**45.08**	**240**	P	P	14 41 04.5	-0.2
	1.0nm,0.4s,baz=72,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**50.88**	**256**	P	P	14 41 49.7	-0.1
	0.4nm,0.4s,baz=94,slow=6.8,SNR=18						
ASAR	**Alice Springs**	**51.16**	**252**	P	P	14 41 51.7	-0.2
	3.2nm,0.4s,baz=88,slow=8.1,SNR=90						

*IDC **01** 14:41:20.9±1.1, 50°.16N×157°.34E, h0km, mb3.6/11, mb1 3.8/14, mb1mx3.6/35, mbtmp3.6/14, ML3.6/3, MS3.2/6, Ms1 3.2/6, ms1mx2.7/51, Error ellipse: s-maj=26.7km s-min=

DALK				*e*S		Sn	14 42 47.7	-0.4
DALK	**Dalny**	**3.06**	**11**	PN		**Pn**	14 42 11.8	-1.0
DALK				S		Sn	14 42 47.7	-0.4
PETK	**Petropavlovsk-**	**3.08**	**359**	Pn		**Pn**	14 42 13.4	+0.3
	comp=Z,5.4nm,0.3s,baz=145,slow=16,SNR=45							
PETK				Sn		Sn	14 42 51.4	+2.7
	comp=Z,4.2nm,0.3s,baz=167,slow=13,SNR=5.2							
PETK				LR		LR	14 43 33.6	
	comp=Z,77nm,20.0s,baz=135,slow=45							
UGLR	**Uglovaya**	**3.24**	**11**	*e*P		**Pn**	14 42 15.4	-0.1
UGLR	**Uglovaya**	**3.24**	**11**	PN		**Pn**	14 42 15.4	-0.1
NLC	**Nalytchevo**	**3.28**	**17**	*e*P		**Pn**	14 42 15.5	-0.4
NLC				*e*S		Sn	14 42 53.2	-0.5
NLC	**Nalytchevo**	**3.28**	**17**	PN		**Pn**	14 42 15.5	-0.4
NLC				S		Sn	14 42 53.2	-0.5
AVH	**Avacha**	**3.29**	**10**	*e*P		**Pn**	14 42 16.1	0.0
AVH	**Avacha**	**3.29**	**10**	PN		**Pn**	14 42 16.1	0.0
SMAR	**Somma**	**3.29**	**11**	*e*P		**Pn**	14 42 16.6	+0.3
SMAR	**Somma**	**3.29**	**11**	PN		**Pn**	14 42 16.6	+0.3
KOK	**Koryaka**	**3.30**	**9**	*e*P		**Pn**	14 42 16.6	+0.3
KOK	**Koryaka**	**3.30**	**9**	PN		**Pn**	14 42 16.6	+0.3
SDLR	**Sedlovina**	**3.31**	**11**	*e*P		**Pn**	14 42 15.7	-0.8
SDLR	**Sedlovina**	**3.31**	**11**	PN		**Pn**	14 42 15.7	-0.8
KRER	**Koryakskii**	**3.32**	**10**	*e*P		**Pn**	14 42 16.8	+0.1
KRER	**Koryakskii**	**3.32**	**10**	PN		**Pn**	14 42 16.8	+0.1
SPN	**Mys Shipunski**	**3.37**	**24**	*e*P		**Pn**	14 42 16.3	-0.8
SPN				*e*S		Sn	14 42 55.2	-0.5
SPN	**Mys Shipunski**	**3.37**	**24**	PN		**Pn**	14 42 16.3	-0.8
SPN				S		Sn	14 42 55.2	-0.5
KRX	**Arik**	**3.37**	**9**	*e*P		**Pn**	14 42 17.7	+0.4
KRX	**Arik**	**3.37**	**9**	PN		**Pn**	14 42 17.7	+0.4
MKZ	**Mys Kozlova**	**5.13**	**27**	*e*P		**Pn**	14 42 39.9	-1.3
MKZ	**Mys Kozlova**	**5.13**	**27**	PN		**Pn**	14 42 39.9	-1.3
KZV	**Kizimen**	**5.31**	**16**	*e*P		**Pn**	14 42 44.6	+0.8
KZV	**Kizimen**	**5.31**	**16**	PN		**Pn**	14 42 44.6	+0.8
TUMD	**Tumrok D**	**5.41**	**16**	*e*P		**Pn**	14 42 45.4	+0.3
TUMR	**Tumrok**	**5.45**	**14**	PN		**Pn**	14 42 45.4	-0.3
ESO	**Esso**	**5.92**	**5**	*e*P		**Pn**	14 42 52.0	-0.1
ESO	**Esso**	**5.92**	**5**	PN		**Pn**	14 42 52.0	-0.1
BDR	**Baidarnaya**	**6.85**	**16**	*e*P		**Pn**	14 43 05.8	+0.9
BDR	**Baidarnaya**	**6.85**	**16**	PN		**Pn**	14 43 05.8	+0.9
KBTR	**Krutoberegovo**	**6.88**	**24**	*e*P		**Pn**	14 43 04.4	-0.8
KBTR	**Krutoberegovo**	**6.88**	**24**	PN		**Pn**	14 43 04.4	-0.8
BKI	**Bering**	**7.18**	**41**	*e*P		**Pn**	14 43 07.2	-2.0
BKI	**Bering**	**7.18**	**41**	PN		**Pn**	14 43 07.2	-2.0
MA2	**Magadan**	**10.37**	**340**	Pn		**Pn**	14 43 52.3	-0.6
	comp=Z,0.2nm,0.3s,baz=150,slow=16,SNR=3.4							
MA2				LR		LR	14 48 28.5	
	comp=Z,52nm,18.4s,baz=120,slow=42							
ASAJ	**Asahikawa**	**11.93**	**246**	Pn		Pn	14 44 08.5	-5.7
	comp=Z,0.2nm,0.3s,baz=18,slow=6.4,SNR=2.4							
SEY	**Seymchan**	**13.26**	**349**	Pn		**Pn**	14 44 35.0	+2.7
	comp=Z,0.1nm,0.3s,baz=156,slow=19,SNR=2.0							
KLR	**Kul'dur**	**16.87**	**277**	*e*P		**Pn**	14 45 18.5	-0.6
KLR				pmax		pmax		
	comp=Z,6.0nm,1.8s							
MJAR	**Matsushiro Arr**	**19.55**	**234**	P		**P**	14 45 48.0	-2.0
MJAR	**Matsushiro Arr**	**19.55**	**234**	P		**P**	14 45 48.0	-2.0
	comp=Z,0.0nm,0.3s,baz=24,slow=11,SNR=2.6							
YAK	**Yakutsk**	**19.58**	**318**	*e*P		**P**	14 45 48.3	-1.7
YAK				pmax		pmax		
	comp=Z,56nm,0.9s							
YAK				pmax		pmax		
	comp=E,28nm,1.1s							
YAK				pmax		pmax		
	comp=N,13nm,1.0s							
KSRS	**Korea Array**	**24.80**	**251**	P		**P**	14 46 42.3	-1.2
	comp=N,1.0nm,0.9s,baz=51,slow=9.6,SNR=3.1							
TIXI	**Tiksi**	**25.34**	**339**	*e*P		**P**	14 46 48.4	+0.2
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.4s							
TIXI	**Tiksi**	**25.34**	**339**	P		**P**	14 46 46.4	-1.8
	comp=Z,0.4nm,0.4s,baz=149,slow=9.0,SNR=3.8							
H11N2	**WAKE ISLAND Hy 31.10**	**163**		T		T	15 21 32.5	
	baz=348,slow=76,SNR=15							
H11N3	**WAKE ISLAND Hy 31.11**	**163**		T		T	15 21 35.0	
	baz=348,slow=76,SNR=6.1							
H11N1	**WAKE ISLAND Hy 31.11**	**163**		T		T	15 21 33.8	
	baz=348,slow=76,SNR=3.2							
H11S1	**WAKE ISLAND Hy 32.26**	**164**		T		T	15 22 58.0	
	baz=349,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy 32.27**	**164**		T		T	15 22 40.6	
	baz=349,slow=76,SNR=25							
H11S2	**WAKE ISLAND Hy 32.27**	**164**		T		T	15 22 57.5	
	baz=349,slow=76,SNR=16							
YKA	**Yellowknife Ar**	**46.41**	**40**	P		**P**	14 49 49.4	+2.0
	comp=Z,0.2nm,0.6s,baz=298,slow=7.5,SNR=3.7							
KURK	**Kurchatov**	**48.16**	**303**	*e*P		**P**	14 50 00.9	-0.3
KURK				pmax		pmax		
	comp=Z,2.0nm,1.2s							
MKAR	**Makanchi Array**	**48.22**	**297**	*e*P		**P**	14 50 01.0	-0.8
MKAR	**Makanchi Array**	**48.22**	**297**	P		**P**	14 50 00.6	-1.2
	comp=Z,0.3nm,0.4s,baz=57,slow=6.4,SNR=7.8							
ARU	**Arti**	**54.69**	**318**	*c i*P		**P**	14 50 48.3	-1.6
ARU							14 51 46.7	
ARU				S		**S**	14 58 21.2	-4.3
ARU				pmax		pmax		
	comp=Z,16nm,2.5s							
FINES	**FINESS Array B**	**62.34**	**336**	P		**P**	14 51 42.6	-0.4
	comp=Z,2.6nm,1.0s,baz=25,slow=6.3,SNR=4.1							
NOA	**NORSAR Array B**	**66.06**	**343**	P		**P**	14 52 07.9	+0.5
	comp=Z,0.5nm,0.8s,baz=21,slow=5.3,SNR=2.8							
NOA				LR		LR	15 25 49.5	
	comp=Z,16nm,19.1s,baz=0.0,slow=40							
AKASG	**Malin Array Be**	**70.47**	**328**	P		**P**	14 52 35.3	+0.1
	comp=Z,0.5nm,0.3s,baz=31,slow=6.1,SNR=3.9							
TXAR	**Lajitas Array**	**73.20**	**64**	P		**P**	14 52 54.6	+2.6
	comp=Z,0.1nm,0.5s,baz=304,slow=4.9,SNR=3.6							
ASAR	**Alice Springs**	**76.38**	**202**	P		**P**	14 53 12.0	+1.9
ASAR	**Alice Springs**	**76.38**	**202**	P		**P**	14 53 12.0	+1.9
	comp=Z,0.2nm,0.8s,baz=18,slow=5.3,SNR=2.7							
GERES	**GERESS Array B**	**76.77**	**337**	P		**P**	14 53 13.3	+1.1
	comp=Z,0.5nm,0.4s,baz=32,slow=7.8,SNR=5.6							
BRTR	**Keskin Array B**	**78.03**	**319**	P		**P**	14 53 20.4	+0.9
	comp=Z,0.8nm,0.6s,baz=78,slow=2.9,SNR=5.2							
WSAR	**Wadi Sarin**	**78.15**	**292**	LR		LR	15 30 49.4	
	comp=Z,20nm,18.3s,baz=268,slow=38							
ASF	**Jabal al Asfar**	**82.86**	**313**	LR		LR	15 35 04.8	
	comp=Z,47nm,19.0s,baz=351,slow=39							
NWAO	**Narrogin (SRO)**	**90.09**	**213**	LR		LR	15 34 37.3	
	comp=Z,28nm,18.5s,baz=242,slow=36							

*DDA **01** 15:02:41.7, 37.°30N×37.°13E, h2km±2km, ML3.2*
*ISK **01** 15:02:42.1, 37.°36N×37.°16E, h8km, ML2.4/9*
*ISCJB **01** 15:02:43.1±0.5, 37.°34N±0.°03×37.°11E±0.°02, h5km±4km, Error ellipse: s-maj=4.6km s-min=3.2km az=7.5*
ISC 01 15:02:42.7±0.9,**37.°33N**±0.°03×**37.°13E**±0.°02,**h9**km±7km, **n26**,σ0°**72**/42,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.17**	**157**	PG	**Pg**	**15 02 46.5**	**+0.1**
GAZ				SG	**Sg**	**15 02 49.7**	**+0.8**
HCB	**Kahramanmara**	**0.17**	**275**	IAML_P			
	comp=Z,26μm,0.1s						
HCB				*i* P	**Pg**	**15 02 46.1**	**-0.4**
KMRS	**Kahramanmaras**	**0.25**	**314**	PG	**Pg**	**15 02 47.5**	**-0.3**
AYKD	**Aykdinkavak**	**0.27**	**288**	IAML_P			
	comp=Z,16μm,0.1s						
AYKD				*i* P	**Pg**	**15 02 48.1**	**0.0**
AYKD				*i* S	**Sg**	**15 02 52.2**	**+0.4**
GZT	**Gaziantep**	**0.35**	**86**	IAML_P			
	comp=Z,5μm,0.2s						
GZT				*i* P	**Pg**	**15 02 49.3**	**-0.4**
GZT				*i* S	**Sb**	**15 02 55.6**	**-1.3**
KAMA	**Osmaniye**	**0.39**	**249**	IAML_P			
	comp=Z,14μm,0.1s						
KAMA				*i* P	**Pg**	**15 02 49.6**	**-0.9**
KAMA				*i* S	**Sg**	**15 02 56.0**	**+0.4**
KUZU	**Kuzuini**	**0.56**	**184**	IAML_P			
	comp=Z,8μm,0.1s						
KUZU				*i* P	**Pg**	**15 02 53.6**	**+0.1**
KUZU				*i* S	**Sb**	**15 03 02.9**	**+0.2**
ANDN	**Andirin**	**0.67**	**292**	IAML_P			
	comp=Z,1μm,0.1s						
ANDN				*i* P	**Pg**	**15 02 55.6**	**-0.1**
ANDN				*i* S	**Sg**	**15 03 04.5**	**0.0**
ATAB	**Bozova**	**0.94**	**81**	IAML_P			
	comp=Z,11μm,0.2s						
ATAB				*i* P	**Pg**	**15 03 00.8**	**0.0**
ATAB				*i* S	**Sn**	**15 03 14.6**	**-1.1**
ELBS	**KAHRAMANMARAS**	**0.99**	**0**	*i* P	**Pn**	**15 03 03.1**	**+0.2**
ELBS				*i* S	**Sn**	**15 03 16.6**	**-0.5**
KOZT	**Kozan**	**1.05**	**279**	PG	**Pg**	**15 03 02.8**	**0.0**
KOZT				SG	**Sn**	**15 03 18.4**	**+0.2**
SAIM	**ADANA**	**1.05**	**308**	IAML_P			
	comp=Z,3μm,0.2s						
SAIM				*i* P	**Pn**	**15 03 03.6**	**-0.1**
SAIM				*i* S	**Sg**	**15 03 15.8**	**-0.8**
CEYT	**Ceyhan**	**1.15**	**254**	PN	**Pg**	**15 03 04.7**	**0.0**
CEYT				SN	**Sn**	**15 03 21.8**	**+1.1**
AKCD	**Akcadag**	**1.15**	**33**	IAML_P			
	comp=Z,5μm,0.2s						
AKCD				*i* P	**Pn**	**15 03 05.0**	**-0.1**
AKCD				*i* S	**Sn**	**15 03 22.0**	**+1.0**
TAHT	**Tahtakopru-Hat**	**1.22**	**219**	PN	**Pn**	**15 03 05.8**	**0.0**
DARE	**Darende-Malaty**	**1.27**	**13**	PN	**Pn**	**15 03 06.4**	**-0.3**
SURC	**SANLIURFA_SURC**	**1.27**	**110**	IAML_P			
	comp=Z,614nm,0.2s						
SURC				*i* P	**Pb**	**15 03 06.8**	**0.0**
SURC				*i* S	**Sn**	**15 03 24.0**	**+0.1**
YURE	**YUREGIR**	**1.30**	**248**	PN	**Pg**	**15 03 07.4**	**-0.2**
YURE	**YUREGIR**	**1.30**	**248**	*i* P	**Pg**	**15 03 08.9**	**+1.3**
YURE				*i* S	**Sn**	**15 03 25.2**	**+0.7**
AKO	**Adana**	**1.34**	**276**	IAML_P			
	comp=Z,322nm,0.1s						
AKO				*i* P	**Pg**	**15 03 08.8**	**+0.3**
URFA	**Urfa**	**1.35**	**85**	PN	**Pn**	**15 03 07.5**	**-0.4**
SANL	**SANLIURFA_Merk**	**1.50**	**96**	IAML_P			
	comp=Z,1μm,0.1s						
SANL				*i* P	**Pn**	**15 03 09.9**	**+0.2**
SANL				*i* S	**Sg**	**15 03 30.8**	**0.0**
KRTS	**Karatas**	**1.59**	**242**	PN	**Pb**	**15 03 11.8**	**-0.5**
YAHY	**KAYSERI_Yahyal**	**1.59**	**299**	IAML_P			
	comp=Z,539nm,0.2s						
YAHY				*i* P	**Pb**	**15 03 11.9**	**-0.5**
HEKM	**Malatya_Hekimh**	**1.68**	**23**	IAML_P			
	comp=Z,669nm,0.2s						
HEKM				*i* P	**Pg**	**15 03 15.5**	**+0.5**
HEKM				*i* S	**Sg**	**15 03 39.5**	**+2.8**
SVRC	**Sivrice-ELAZID**	**2.02**	**58**	PN	**Pn**	**15 03 16.7**	**-0.4**

*ISCJB **01** 15:21:51.4±0.4, 7.°51S±0.°05×125.°20E±0.°05, h450km, mb3.6/8, Error ellipse: s-maj=6.9km s-min=6.5km az=173.7*
*DJA **01** 15:21:52.5±0.4, 8.°S±4.°×12.°5E±.°, h435km±5km, MA4.2/6, mb4.2/3, mB5.0/2, MLv4.3/6, Mw(mB)4.3/2*
*IDC **01** 15:21:53.2±1.2, 7.°48S×125.°38E, h444km±15km, mb3.2/8, mb1 3.2/14, mb1mx3.1/45, mbtmp4.1/14, Error ellipse: s-maj=19.4km s-min=9.5km az=62.0*
ISC 01 15:21:52.2±0.6,**7.°50S**±0.°06×**125.°25E**±0.°07,**h450**km,**n23**, σ2°**14**/32,**mb3.5**/8,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.45**	**203**	P	**P**	**15 22 55.5**	**-0.1**
SOEI				S	**S**	**15 23 44.3**	**-2.7**
BATI	**Baumata**	**3.12**	**210**	P	**P**	**15 23 00.9**	**+0.7**
BATI				S	**S**	**15 23 52.5**	**-2.9**
BATI	**Baumata**	**3.12**	**210**	P	**P**	**15 23 01.4**	**+1.2**
	29nm,0.3s,baz=172,slow=0.7,SNR=29						
BATI				S	**S**	**15 23 51.6**	**-3.8**
	47nm,0.3s,baz=113,slow=0.4,SNR=10						
MMRI	**Maumere**	**3.19**	**249**	P	**P**	**15 22 58.9**	**-1.9**
MMRI				S	**S**	**15 23 53.6**	**-2.8**
BBSI	**Bau Bau**	**3.33**	**307**	P	**P**	**15 23 02.3**	**+0.4**
WSI	**Waingapu**	**5.36**	**246**	P	**P**	**15 23 19.2**	**-0.9**
WSI				S	**S**	**15 24 27.2**	**-4.5**
BKSI	**Bulukumba**	**5.54**	**293**	P	**P**	**15 23 20.2**	**-1.8**
PLAI	**Plampang**	**7.52**	**259**	P	**P**	**15 23 40.5**	**-2.1**
FAKI	**Fak Fak**	**8.32**	**57**	P	**P**	**15 23 49.7**	**-1.5**
SIJI	**Sorong**	**8.90**	**43**	P	**P**	**15 23 57.5**	**-0.1**
	2.5nm,0.3s,baz=322,slow=9.3,SNR=15						
SIJI				S	**S**	**15 25 35.1**	**-5.4**
	0.4nm,0.3s,baz=0.0,slow=20,SNR=3.1						
FITZ	**Fitzroy Crossi**	**10.54**	**178**	P	**P**	**15 24 16.6**	**+1.3**
	2.1nm,0.3s,baz=17,slow=9.9,SNR=76						
FITZ				S	**S**	**15 26 12.4**	**-0.7**
	0.2nm,0.3s,baz=297,slow=16,SNR=3.4						
WRA	**Warramunga Arr**	**15.19**	**145**	P	**P**	**15 25 05.6**	**+0.2**
	0.5nm,0.3s,baz=324,slow=11,SNR=53						
WRA				S	**S**	**15 27 42.8**	**-2.3**
	0.2nm,0.3s,baz=323,slow=20,SNR=9.2						
JAY	**Jayapura**	**16.16**	**73**	P	**P**	**15 25 15.4**	**-0.5**
	0.5nm,0.3s,baz=167,slow=14,SNR=3.9						
CISI	**Cisompet, Garu**	**17.29**	**269**	P	**P**	**15 25 28.8**	**+1.0**
ASAR	**Alice Springs**	**18.09**	**154**	P	**P**	**15 25 36.9**	**+0.9**
	0.7nm,0.3s,baz=343,slow=14,SNR=65						
ASAR				S	**S**	**15 28 41.0**	**+1.5**
	0.1nm,0.3s,baz=341,slow=21,SNR=9.9						
PMG	**Port Moresby**	**21.75**	**97**	P	**P**	**15 26 09.9**	**+0.2**
	4.4nm,0.6s,baz=276,slow=10,SNR=4.4						
STKA	**Stephens Creek**	**28.64**	**150**	P	**P**	**15 27 12.3**	**+1.5**
	0.6nm,0.3s,baz=322,slow=6.8,SNR=7.2						
CMAR	**Chiang Mai Arr**	**36.59**	**315**	P	**P**	**15 28 21.4**	**+2.5**
	0.6nm,0.5s,baz=138,slow=6.7,SNR=7.4						
KSRS	**Korea Array**	**44.79**	**3**	P	**P**	**15 29 25.5**	**+1.1**
	0.8nm,0.4s,baz=181,slow=9.5,SNR=5.0						
MKAR	**Makanchi Array**	**66.15**	**329**	P	**P**	**15 31 55.7**	**+1.8**
	1.8nm,0.5s,baz=125,slow=8.0,SNR=22						
ZALV	**Zalesovo Beam**	**70.03**	**336**	P	**P**	**15 32 18.1**	**+0.7**
	0.7nm,0.4s,baz=135,slow=4.3,SNR=4.7						
KURBB	**Kurchatov Arra**	**70.55**	**331**	P	**P**	**15 32 22.1**	**+1.6**
	0.5nm,0.6s,baz=141,slow=4.5,SNR=5.9						
BVAR	**Borovoye Array**	**76.03**	**329**	P	**P**	**15 32 53.7**	**+1.7**
	0.7nm,0.5s,baz=124,slow=8.6,SNR=6.0						

*DDA **01** 15:43:41.5, 40.°09N×31.°82E, h7km±7km, ML2.8*
*ISK **01** 15:43:41.1, 40.°13N×31.°71E, h5km, ML2.6/15*
ISC 01 15:43:41.5±1.3,**40.°11N**±0.°03×**31.°75E**±0.°03,**h2**km±12km, **n24**,σ0°**93**/31,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUMIH	**MIHALICIK**	**0.32**	**221**	PG	**Pg**	**15 43 48.2**	**+0.6**
AUMIH				SG	**Sb**	**15 43 54.1**	**-1.5**
AUMIH	**MIHALICIK**	**0.32**	**221**	*i* P	**Pg**	**15 43 48.4**	**+0.8**
AUMIH				*i* S	**Sb**	**15 43 54.2**	**-1.3**
KIBS	**BOLU**	**0.32**	**14**	IAML_P			
	comp=Z,7μm,0.4s						
KIBS				*i* P	**Pg**	**15 43 47.9**	**+0.1**
MDUB	**Mudurnu**	**0.56**	**311**	PG	**Pg**	**15 43 52.3**	**0.0**
MDUB				SG	**Sg**	**15 44 00.7**	**+1.2**
CMDR	**Camlidere-ANKA**	**0.68**	**55**	IAML_P			
	comp=Z,6μm,0.3s						
CMDR				*i* P	**Pg**	**15 43 54.2**	**-0.2**
CMDR				*i* S	**Sb**	**15 44 05.2**	**-0.7**
SVRH	**Sivrihisar-ESK**	**0.68**	**195**	PG	**Pb**	**15 43 55.6**	**-0.6**
SVRH				SG	**Sb**	**15 44 06.3**	**+0.2**
AUSIV	**SIVRIHISAR**	**0.69**	**194**	PG	**Pb**	**15 43 55.9**	**-0.4**
BCAM	**Yenicaga**	**0.75**	**19**	*i* P	**Pg**	**15 43 55.3**	**-0.6**
LOD	**Lodumlu**	**0.81**	**105**	PG	**Pb**	**15 43 58.2**	**-0.1**
ANTO	**Ankara**	**0.83**	**106**	PG	**Pn**	**15 43 59.1**	**-1.3**
SRCK	**Saricakaya, Es**	**0.87**	**266**	PG	**Pg**	**15 43 57.6**	**-0.5**
CIFT	**Cifteler, Eski**	**0.92**	**216**	PG	**Pb**	**15 44 00.1**	**0.0**
GULT	**Gulveren**	**1.00**	**289**	PG	**Pg**	**15 44 00.5**	**-0.2**
SAHE	**Sakarya_HENDEK**	**1.01**	**318**	IAML_P			
	comp=Z,555nm,0.3s						
SAHE				*i* P	**Pb**	**15 44 01.3**	**-0.5**
SAHE				*i* S	**Sn**	**15 44 18.9**	**+1.3**
BORA	**Eskisehir**	**1.02**	**258**	PG	**Pb**	**15 44 01.6**	**-0.4**
KBUK	**KARABUK-Merkez**	**1.31**	**30**	*i* P	**Pg**	**15 44 07.8**	**+1.2**
KBUK				*i* S	**Sn**	**15 44 27.3**	**+2.3**
AUBOZ	**BOZOYUK**	**1.33**	**262**	PN	**Pg**	**15 44 07.3**	**+0.2**
ELDT	**Eldivan**	**1.34**	**73**	IAML_P			
	comp=Z,698nm,0.3s						
ELDT				*i* P	**Pg**	**15 44 07.5**	**+0.4**
CAVI	**Cavuskoy**	**1.47**	**274**	PN	**Pb**	**15 44 08.9**	**-0.6**
HRT	**Hereke**	**1.74**	**295**	PN	**Pb**	**15 44 13.1**	**-1.2**
TVSB	**Tavsanli**	**1.88**	**250**	PN	**Pb**	**15 44 15.6**	**-1.1**
KURC	**Kurucasile-Bar**	**1.89**	**23**	PN	**Pb**	**15 44 15.8**	**-1.0**
YAYX	**Yaylak**	**1.97**	**126**	PN	**Pb**	**15 44 17.6**	**-0.6**
ARMT	**Armutlu**	**2.26**	**283**	PN	**Pn**	**15 44 20.5**	**+0.6**

IDC 01 16:03:38.7±23.0,**15.°69S×173.°83W**,**h0**km,**mb4.0**/4, **mb1 4.1**/4,**mb1mx3.7**/29,**mbtmp4.0**/4,**MS3.4**/2,**Ms1 3.4**/2, **ms1mx2.8**/30,**Error ellipse: s-maj=459.7km s-min=51.4km az=58.0**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.71**	**248**	LR	LR	16 14 45.0	
	comp=Z,107nm,18.5s,baz=69,slow=34						
URZ	**Urewera**	**23.86**	**198**	P	P	16 08 53.7	-0.1
	7.8nm,0.5s,baz=329,slow=4.7,SNR=12						
HNR	**Honiara**	**26.32**	**281**	LR	LR	16 17 54.1	
	comp=Z,69nm,19.7s,baz=61,slow=32						
STKA	**Stephens Creek**	**43.53**	**240**	P	P	16 11 44.5	+0.1
	1.5nm,0.8s,baz=76,slow=9.6,SNR=4.4						
WRA	**Warramunga Arr**	**49.37**	**257**	P	P	16 12 30.3	-0.3
	0.3nm,0.4s,baz=93,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**49.63**	**252**	P	P	16 12 32.4	-0.1
	1.4nm,0.5s,baz=87,slow=7.9,SNR=78						

MEX 01 16:23:17.6±0.8,**18.°23N×99.°82W**,**h44**km±6km,**MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.34**	**62**	*e*P	Pn	16 23 25.1	-1.6
PLIG				*i* S	Sn	16 23 30.8	-2.3
MEIG	**Mezcala**	**0.36**	**148**	*e*P	Pn	16 23 25.2	-1.7
MEIG				*i* S	Sn	16 23 31.8	-1.7
ARIG	**Puente Sto Nin**	**0.51**	**275**	*e*P	Pn	16 23 26.9	-1.8
ARIG				*i* S	Sn	16 23 35.1	-1.4
CAIG	**El Cayaco**	**1.25**	**200**	*e*P	Pn	16 23 36.1	-2.6
CAIG				*i* S	Sn	16 23 52.3	-2.1
TLIG	**Tlapa**	**1.36**	**119**	*e*P	Pn	16 23 39.0	-1.3
TLIG				*i* S	Sn	16 23 55.5	-1.8
ZIIG	**Zihuatanejo**	**1.69**	**249**	*i* P	Pn	16 23 43.2	-1.4
ZIIG				*i* S	Sn	16 24 02.4	-2.7

*ISCJB **01** 16:31:28.7±0.2, 28.°35N±0.°02×51.°67E±0.°02, h10km, mb4.5/71, MS3.5/18, Error ellipse: s-maj=3.3km s-min=2.1km az=137.8*
*IDC **01** 16:31:28.6±0.6, 28.°32N×51.°76E, h0km, mb4.3/26, mb1 4.4/34, mb1mx4.3/50, mbtmp4.2/34, ML3.9/7, MS3.5/21, Ms1 3.5/21, ms1mx3.3/54, Error ellipse: s-maj=14.3km s-min=11.7km az=18.0*
*NEIC **01** 16:31:30.0±0.3, 28.°34N×51.°76E, h10km, mb4.4/35, ML4.5(THR), MN4.5(TEH), Error ellipse: s-maj=7.4km s-min=4.4km az=192.0*
*BJI **01** 16:31:30.8±0.0, 28.°30N×51.°70E, h27km, mb4.7/27, mB4.7/18, Ms4.2/10, Ms7 3.9/7*
*THR **01** 16:31:30.5, 28.°41N×51.°61E, h18km, ML4.5*
*TEH **01** 16:31:30.6, 28.°41N×51.°65E, h19km, ML4.5*
*OMAN **01** 16:31:36.0±0.3, 28.°23N×51.°89E, h20km, Error ellipse: s-maj=12.6km s-min=4.1km az=41.0*
*DSN **01** 16:31:36.8±1.4, 28.°17N×52.°00E, h15km, ML4.4/9, Error ellipse: s-maj=27.4km s-min=7.8km az=18.0*
*GII **01** 16:32:53.8±0.1, 28.°31N×51.°73E, h27km*
ISC 01 16:31:30.0±0.4,**28.°37N**±0.°04×**51.°65E**±0.°04,**h10**km,**n220**, σ1°**82**/233,**mb4.4**/72,**MS3.5**/18,**11C-6D**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.18**	**94**	*e*Pg	**Pb**	**16 31 53.2**	**+0.7**
GHIR	**Ghir-Karzin**	**1.18**	**94**	*e*Pg	**Pb**	**16 31 53.2**	**+0.7**
GHIR				*e*Sg	**Sn**	**16 32 09.9**	**+1.1**
IKAZ	**Kazeroun**	**1.41**	**7**	*e*Pn	**Pb**	**16 31 56.5**	**-0.2**
IKAZ				*e*Sg	**Sg**	**16 32 17.7**	**+2.1**
IKAZ				IAMB	IAmb	16 32 25.6	
	comp=Z,34μm,0.5s						
SHI	**Shiraz**	**1.47**	**30**	*e*Pn	**Pn**	**16 31 56.6**	**-0.2**
SHI				*e*Sg	**Sg**	**16 32 18.3**	**+0.8**
SHI				IAMB	IAmb	16 32 23.3	
	comp=Z,59μm,1.2s						
ISRV	**Sarvestan**	**1.63**	**51**	*e*Pn	**Pb**	**16 32 00.9**	**+0.5**
ISRV				*e*Sg	**Sg**	**16 32 22.7**	**+0.2**
ISRV				IAMB	IAmb	16 32 29.8	
	comp=Z,340nm,0.8s						
JHRM	**Jahrom**	**1.70**	**85**	*e*Pn	**Pb**	**16 32 01.5**	**+0.1**
JHRM				IAMB	IAmb	16 32 29.0	
	comp=E,0.0nm,0.4s		

TKDS	Koohdasht(Taba	7.02	41	ePn		Pn	16 33 13.7 +0.6
IHSB	Hasanabad	7.05	357	ePn		Pn	16 33 13.8 +0.3
IRAZ	Razeghan	7.17	349	ePn		Pn	16 33 15.8 +0.7
IDMV	Damavand	7.19	2	ePn		Pn	16 33 15.7 +0.2
HSRG	Sareghieh	7.43	338	ePn		Pn	16 33 20.3 +1.5
BSY	Bisya	7.51	137	P		Pn	16 33 21.1 +1.4
	SNR=13						
BSY				S		Sn	16 34 41.2 -3.8
IKOO	Kooshah	7.52	56	ePn		Pn	16 33 22.6 +2.5
QABG	Abgarm-Qazvin	7.53	347	ePn		Pn	16 33 21.3 +1.3
ISHM	Shahmirzad	7.54	10	ePn		Pn	16 33 20.7 +0.4
ILIN	Lien	7.66	330	ePn		Pn	16 33 22.6 +0.8
IDHR	Dehrash	7.75	326	ePn		Pn	16 33 23.4 +0.4
SMDO	Samad	7.82	131	P		Pn	16 33 25.5 +1.5
	SNR=6.6						
SMDO				S		Sn	16 34 53.4 +0.7
QALM	Alamut, Qazvin	8.08	354	ePn		Pn	16 33 28.8 +1.1
WSAR	Wadi Sarin	8.10	128	P		Pn	16 33 28.0 +0.2
WSAR				S		Sn	16 34 56.9 -2.5
WSAR	Wadi Sarin	8.10	128	Pn		Pn	16 33 27.8 0.0
	comp=Z,9.7nm,0.3s,baz=314,slow=12,SNR=54						
WSAR				Sn		Sn	16 34 56.6 -2.8
	comp=Z,3.2nm,0.3s,baz=307,slow=20,SNR=4.0						
WSAR				LR		LR	16 37 12.4
	comp=Z,313nm,20.6s,baz=321,slow=43						
MHTO	MHTO	9.32	141	P		Pn	16 33 45.4 +0.8
MHTO				S		Sn	16 35 25.5 -4.0
ISFR	Sfrayin	10.17	30	ePn		Pn	16 33 57.8 +1.4
GEYT	Alibeck	10.96	28	ePn		Pn	16 34 08.5 +1.6
GEYT	Alibeck	10.96	28	Pn		Pn	16 34 08.7 +1.8
	comp=Z,0.8nm,0.3s,baz=309,slow=4.7,SNR=4.6						
GEYT				LR		LR	16 38 50.2
	comp=Z,288nm,20.8s,baz=215,slow=40						
GYA0B	ALIBECK ARRAY	10.96	28	ePn		Pn	16 34 07.3 +0.3
SIRT	Sirnak	11.94	322	ePn		Pn	16 34 18.7 -1.8
GNI	Garni	13.06	336	Pn		Pn	16 34 39.8 +4.0
	comp=Z,0.7nm,0.3s,baz=28,slow=10.0,SNR=2.6						
GNI				LR		LR	16 41 01.6
	comp=Z,98nm,20.4s,baz=83,slow=44						
ASF	Jabal al Asfar	13.30	290	Pn		Pn	16 34 40.5 +1.4
	comp=Z,0.4nm,0.3s,baz=54,slow=8.7,SNR=3.1						
ASF				Sn		Sn	16 37 01.9 -5.3
	comp=Z,0.5nm,0.3s,baz=90,slow=20,SNR=3.2						
KARS	Kars	14.11	332	ePn		Pn	16 34 53.1 +2.9
GHAJ	Ghor Haditha	14.27	286	Pn		Pn	16 36 15.1 +83
ZFRI	Zfri	14.52	283	Pn		Pn	16 36 18.2 +83
HRFI	Mount Harif	14.61	281	Pn		Pn	16 36 20.1 +83
PRNI	Paran	14.65	282	Pn		Pn	16 36 20.6 +83
EIL	Elat	14.67	279	Pn		Pn	16 36 20.4 +83
EIL	Elat	14.67	279	Pn		P	16 35 01.6 -2.4
	comp=Z,0.3nm,0.3s,baz=22,slow=5.4,SNR=2.5						
MBRI	Mt Berech	14.71	280	Pn		Pn	16 36 20.3 +82
MMAI	Mount Meron Ar	14.73	292	Pn		Pn	16 34 59.0 +0.5
	comp=Z,1.0nm,0.3s,baz=118,slow=16,SNR=4.7						
MMAI				LR		LR	16 41 47.5
	comp=Z,217nm,18.8s,baz=95,slow=42						
KRMI	Paran Flat	14.88	281	Pn		Pn	16 36 23.7 +83
KBL	Kabul	16.06	63	ePn		Pn	16 35 13.8 -2.4
	comp=Z,18nm,1.3s						
KBZ	Khabaz	16.87	338	Pn		P	16 35 27.9 -0.3
	comp=Z,0.2nm,0.3s,baz=156,slow=9.3,SNR=19						
KVAR	Kislovodsk Arr	17.14	338	P		P	16 35 31.0 -0.3
	baz=270,slow=20,SNR=12						
KIV	Kislovodsk	17.14	338	ePn		P	16 35 31.4 +0.1
	comp=Z,18nm,1.0s						
ATD	Arta Tunnel	18.67	208	LR		LR	16 44 03.6
	comp=Z,241nm,20.4s,baz=360,slow=40						
BR131	Keskin Array S	18.70	312	eP		Pn	16 35 49.1 +0.1
	comp=Z,6.9nm,0.9s						
BR131	Keskin Array S	18.70	312	P		Pn	16 35 50.8 +1.7
	SNR=9.2						
BRTR	Keskin Array B	18.70	312	eP		P	16 35 49.0 +0.3
BRTR				ScP		ScP	16 43 51.6 -0.8
BRTR	Keskin Array B	18.70	312	P		Pn	16 35 49.6 +0.6
	comp=Z,0.6nm,0.3s,baz=133,slow=12,SNR=31						
BRTR				ScP		ScP	16 43 51.6 -0.8
	comp=Z,0.1nm,0.3s,baz=151,slow=5.0,SNR=4.2						
BRTR				LR		LR	16 44 13.3
	comp=Z,104nm,18.9s,baz=116,slow=41						
GAR	Garm	18.77	51	eP		P	16 35 48.6 -0.8
	comp=Z,19nm,0.7s						
SNOP	Sinop	19.09	320	eP		Pn	16 35 53.8 +0.2
	comp=Z,18nm,1.1s						
NIL	Nilore	19.23	69	eP		P	16 35 53.0 -1.5
	comp=Z,16nm,0.8s						
ANTO	Ankara	19.33	311	eP		Pn	16 35 56.8 +0.1
	comp=Z,16nm,1.1s						
ILGA	Ilgaz	19.38	315	eP		Pn	16 35 57.7 +0.4
	comp=Z,8.9nm,0.8s						
BTK	Batken	19.63	49	eP		P	16 35 57.9 -0.9
	comp=Z,15nm,0.9s						
KK31	Karatay Array	21.15	41	eP		P	16 36 14.7 -0.6
	comp=Z,24nm,0.8s						
KKAR	Karatay Array	21.15	41	eP		P	16 36 14.7 -0.6
ARSB	Arslanbob	21.69	48	eP		P	16 36 20.5 -0.7
	comp=Z,21nm,0.8s						
ABKAR	Akbulak array	21.81	15	eP		P	16 36 21.8 -0.4
	comp=Z,13nm,0.9s						
AKTO	Aktyubinsk	22.56	11	P		P	16 36 31.1 +0.8
	comp=Z,6.8nm,0.7s,baz=206,slow=12,SNR=17						
AKTO				LR		LR	16 47 38.2
	comp=Z,81nm,18.5s,baz=186,slow=43						
KSH	Kashi	22.96	55	P		P	16 36 32.8 -2.0
KSH				sP		sP	16 36 43.1 +4.1
KSH				S		S	16 40 33.2 -12
KSH				SS		SnSn	16 41 13.6 -3.1
KSH				pmax		pmax	
	comp=Z,28nm,0.6s						
KSH				LR		LR	
	comp=Z,170nm,5.4s						
KSH				LR		LR	
	comp=Z,190nm,5.2s						
KSH				LR		LR	
	comp=Z,410nm,5.2s						
AAK	Ala-Archa	23.32	46	eP		P	16 36 40.0 +1.6
	comp=Z,13nm,0.9s						
AAK	Ala-Archa	23.32	46	P		P	16 36 42.0 +3.5
	SNR=9.1						
AAK	Ala-Archa	23.32	46	P		P	16 36 40.7 +2.3
	comp=Z,7.8nm,0.8s,baz=223,slow=8.4,SNR=28						
AAK				LR		LR	16 47 16.3
	comp=Z,221nm,18.8s,baz=236,slow=41						
IDI	Anoyia	23.72	294	P		P	16 36 43.5 +1.2
	comp=Z,6.6nm,0.6s,baz=96,slow=12,SNR=5.4						
IDI				LR		LR	16 48 09.6
	comp=Z,27nm,21.2s,baz=104,slow=42						
NRN	Naryn	23.75	50	eP		P	16 36 42.4 -0.5
	comp=Z,18nm,1.3s						
TIRR	Tirgusor	24.52	317	eP		P	16 36 51.0 +1.4
	comp=Z,3.3nm,0.7s						
TIRR	Tirgusor	24.52	317	⇑iP		P	16 36 54.5 +4.9
TLCR		24.70	319	⇑iP		P	16 36 56.8 +5.6
TLB	Topalu	24.82	317	⇓iP		P	16 36 57.9 +5.6
KDJ	Kajisay	24.85	50	eP		P	16 36 52.6 -0.2
	comp=Z,8.8nm,0.9s						
CFR	Carcaliu	25.09	318	⇑iP		P	16 36 57.8 +3.1
PRZ	Przheval'sk	25.82	50	eP		P	16 37 02.6 +1.0
	comp=Z,17nm,0.9s						
VRI	Vrincioaia	26.29	318	⇓iP		P	16 37 09.4 +3.7
PLOR	Plostina	26.33	318	⇑iP		P	16 37 10.5 +4.5
MLR	Muntele Rosu	26.56	317	⇑iP		P	16 37 12.1 +3.9
MLR	Muntele Rosu	26.56	317	P		P	16 37 10.9 +2.7
	comp=Z,1.1nm,0.5s,baz=205,slow=16,SNR=3.2						
MLR				LR		LR	16 50 22.1
	comp=Z,182nm,20.8s,baz=118,slow=42						
TESR	Tescani	26.70	319	⇑iP		P	16 37 11.1 +1.8
VOIR		27.07	316	⇓iP		P	16 37 17.7 +4.9
DOPR	Dopca	27.14	317	⇑iP		P	16 37 18.1 +4.8
BIZ	Bicaz	27.24	320	⇑iP		P	16 37 16.2 +2.0
ARR	Arges	27.29	316	⇓iP		P	16 37 20.5 +5.7
PYUN	Piuthan	27.57	83	eP		P	16 37 18.1 +0.5
	comp=Z,19nm,0.8s						
AKASG	Malin Array Be	28.02	329	eP		P	16 37 20.3 -0.8
	comp=Z,1.2nm,0.6s						
AKASG	Malin Array Be	28.02	329	P		P	16 37 21.3 +0.2
	comp=Z,0.6nm,0.3s,baz=115,slow=7.0,SNR=3.5						
AKBB	Malin Array Si	28.02	329	eP		P	16 37 20.3 -0.8
	comp=Z,6.5nm,1.0s						
KIEV	Kiev	28.02	329	eP		P	16 37 20.1 -1.0
	comp=Z,7.7nm,1.1s						
BURAR	Bucovina Array	28.12	320	eP		P	16 37 21.6 -0.6
	comp=Z,21nm,0.8s						
BURAR	Bucovina Array	28.12	320	⇓iP		P	16 37 24.0 +1.8
BUR08	Bucovina Ar. S	28.15	320	eP		P	16 37 21.9 -0.5
	comp=Z,14nm,1.5s						
DANN	Dangsing	28.21	82	eP		P	16 37 24.0 +0.6
	comp=Z,36nm,0.8s						
BVAR	Borovoye Array	28.26	24	P		P	16 37 23.7 +0.4
	comp=Z,4.9nm,0.7s,baz=224,slow=8.2,SNR=16						
ARU	Arti	28.47	8	eP		P	16 37 25.7 +0.7
MDVR	Moldovita	28.88	313	⇑iP		P	16 37 30.9 +2.0
DRGR		29.16	317	⇑iP		P	16 37 34.8 +3.4
DMN	Daman	29.50	83	eP		P	16 37 35.4 +0.6
	comp=Z,8.0nm,0.7s						
KKN	Kakani	29.62	83	eP		P	16 37 36.4 +0.5
	comp=Z,20nm,0.9s						
PKIN	Phulchoki	29.76	83	eP		P	16 37 36.9 -0.2
	comp=Z,3.6nm,0.5s						
PKI	Pulchoki	29.77	83	eP		P	16 37 36.9 -0.4
	comp=Z,8.7nm,0.8s						
MKAR	Makanchi Array	30.18	44	P		P	16 37 40.3 -0.1
	comp=Z,1.7nm,0.7s,baz=233,slow=8.9,SNR=15						
MKAR				PcP		PcP	16 40 41.6 +0.2
	comp=Z,0.3nm,0.6s,baz=238,slow=3.4,SNR=3.3						
MKAR				LR		LR	16 51 05.4
	comp=Z,108nm,21.7s,baz=238,slow=39						
KURK	Kurchatov	30.21	35	eP		P	16 37 40.4 -0.2
	comp=Z,4.5nm,0.9s						
KOLS	Kolonicke sedl	30.49	320	eP		P	16 37 45.8 +2.7
TIP	Timpagrande	30.77	300	⇓iP		P	16 37 44.1 -1.7
LANS	Liptovska Anna	32.20	319	eP		P	16 38 01.4 +3.2
VYHS	Vyhne	32.27	318	eP		P	16 38 03.0 +4.3
OJC	Ojcow	32.53	321	eP		P	16 38 01.4 +0.4
	comp=Z,5.8nm,0.8s						
WMQ	Urumqi	32.66	52	eP		P	16 38 03.3 +1.0
WMQ				pP		sP	16 38 10.9 +4.2
WMQ				sP		pP	16 38 15.8 +10
WMQ				pmax		pmax	
	comp=Z,31nm,0.7s						
WMQ				pmax		pmax	
	comp=Z,260nm,5.3s						
WMQ				LR		LR	
	comp=Z,720nm,24.7s						
WMQ				LR		LR	
	comp=Z,490nm,24.7s						
LSA	Lhasa	34.45	78	P		P	16 38 18.5 0.0
	comp=Z,4.7nm,0.5s						
MOA	Molln	34.82	314	iP		P	16 38 22.3 +1.3
	comp=Z,0.7nm,0.4s						
KBA	Koelnbreinsper	35.15	313	iP		P	16 38 24.8 +0.8
	comp=Z,3.2nm,0.6s						
ZAA0	Zalesovo Array	35.18	34	eP		P	16 38 22.2 -1.8
	comp=Z,5.2nm,0.8s						
ZALV	Zalesovo Beam	35.18	34	eP		P	16 38 22.8 -1.2
ZALV	Zalesovo Beam	35.18	34	P		P	16 38 23.7 -0.3
	comp=Z,5.1nm,0.7s,baz=244,slow=9.1,SNR=20						
ZALV				LR		LR	16 54 51.6
	comp=Z,129nm,18.1s,baz=250,slow=40						
GERES	GERESS Array B	35.52	316	P		P	16 38 27.7 +0.5
	comp=Z,0.2nm,0.4s,baz=67,slow=7.6,SNR=3.0						
GERES				PcP		PcP	16 40 56.5 +0.2
	comp=Z,0.4nm,0.5s,baz=145,slow=3.6,SNR=3.8						
GERES				LR		LR	16 55 27.0
	comp=Z,45nm,20.6s,baz=109,slow=40						
ABTA	Abfaltersbach	35.59	312	iP		pP	16 38 31.4 +0.5
	comp=Z,4.3nm,1.0s						
KHC	Kasperske Hory	35.70	316	eP		P	16 38 28.1 -0.5
WATA	Walderalm	36.38	312	iP		P	16 38 34.0 -0.6
	comp=Z,0.8nm,0.2s						
KEST	Kesra	36.38	293	LR		LR	16 56 33.2
	comp=Z,59nm,18.6s,baz=278,slow=41						
SQTA	Sankt Quirin	36.58	312	iP		P	16 38 36.1 -0.2
	comp=Z,1.7nm,0.4s						
MOTA	Moosalm	36.69	312	iP		P	16 38 35.2 -2.0
	comp=Z,0.7nm,0.3s						
FETA	Feichten	36.84	312	iP		P	16 38 40.0 +1.5
	comp=Z,2.2nm,0.5s						
CLL	Collm	36.88	319	eP		P	16 38 41.0 +2.5
FIA1	FINESS Array S	37.20	340	eP		P	16 38 41.0 -0.2
	comp=Z,13nm,0.8s						
FINES	FINESS Array B	37.20	340	eP		P	16 38 41.1 0.0
FINES	FINESS Array B	37.20	340	P		P	16 38 41.5 +0.3
	comp=Z,7.6nm,0.6s,baz=140,slow=9.5,SNR=38						
FINES				LR		LR	16 57 01.9
	comp=Z,90nm,18.2s,baz=162,slow=41						
DAVOX	Davos/Dischmat	37.34	311	LR		LR	16 56 40.8
	comp=Z,61nm,19.5s,baz=81,slow=40						
DAVA	Damuels	37.47	312	iP		P	16 38 43.7 -0.1
	comp=Z,4.1nm,0.5s						
LVZ	Lovozero	40.85	350	eP		P	16 39 13.0 +1.3
GTA	Gaotai	41.04	62	⇑P		P	16 39 14.4 +0.7
GTA				pP		sP	16 39 22.2 +4.0
GTA				sP		pP	16 39 25.4 +8.5
GTA				pmax		pmax	
	comp=Z,11nm,0.9s						
GTA				pmax		pmax	
	comp=Z,58nm,6.5s						
GTA				LR		LR	
	comp=Z,85nm,14.9s						
GTA				LR		LR	
	comp=Z,100nm,15.9s						
NC405	NORSAR Array S	42.16	332	eP		P	16 39 22.3 -0.2
	comp=Z,116nm,1.8s						
NB2	NORSAR Subarra	42.32	332	P		P	16 39 23.6 -0.3
	comp=Z,2.0nm,0.6s,baz=120,slow=8.6						
NOA	NORSAR Array B	42.32	332	P		P	16 39 23.8 -0.1
	comp=Z,3.0nm,0.7s,baz=121,slow=8.2,SNR=12						
NOA				LR		LR	16 59 28.6
	comp=Z,43nm,19.9s,baz=130,slow=40						
ARCES	ARCESS Array B	43.89	347	P		P	16 39 37.0 +0.6
ARCES	ARCESS Array B	43.89	347	P		P	16 39 37.0 +0.6
	comp=Z,0.8nm,0.6s,baz=155,slow=6.9,SNR=16						
CHTO	Chiang Mai	44.13	92	eP		P	16 39 36.4 -2.6
	comp=Z,5.5nm,1.0s						
CMMT	Chiang Mai	44.14	92	P		P	16 39 40.3 +1.2
	comp=Z,2.9nm,1.1s						
CMAR	Chiang Mai Arr	44.27	92	P		P	16 39 39.5 -0.6
	comp=Z,1.5nm,0.8s,baz=290,slow=8.1,SNR=9.1						
CMAR				LR		LR	17 02 49.8
	comp=Z,44nm,18.7s,baz=346,slow=43						
LZH	Lanzhou	44.37	66	eP		P	16 39 41.4 +0.5
LZH				pP		sP	16 39 50.2 +4.8
LZH				sP		pP	16 39 53.5 +9.4
LZH				PP		PcP	16 41 31.0 +6.2
LZH				pmax		pmax	
	comp=Z,18nm,1.3s						
LZH				pmax		pmax	
	comp=Z,94nm,4.3s						
CD2	Chengdu	45.02	74	eP		P	16 39 43.0 -3.0
CD2				pmax		pmax	
	comp=Z,30nm,0.5s						
UMPA	Umpang Tak	45.07	95	P		P	16 39 48.5 +2.0
	comp=Z,25μm,0.8s						
KMI	Kunming	45.46	82	P		P	16 39 49.4 -0.4
KMI				pP		sP	16 39 55.8 +1.6
KMI				sP		pP	16 39 59.1 +6.1
KMI				pmax		pmax	
	comp=Z,20nm,0.5s						
KMI				pmax		pmax	
	comp=Z,52nm,3.1s						
KMI				LR		LR	
	comp=Z,100nm,15.1s						
KMI				LR		LR	
	comp=Z,130nm,13.7s						
NRIK	Noril'sk	45.95	17	P		P	16 39 53.6 +0.8
	comp=Z,2.5nm,0.5s,baz=223,slow=4.1,SNR=4.9						
NRIK				LR		LR	17 02 15.5
	comp=Z,44nm,19.6s,baz=214,slow=40						
UTTA	Uttaradit	45.95	92	P		P	16 39 54.4 +1.0
	comp=Z,12μm,1.0s						
SONM	Songino Array	46.21	50	eP		P	16 39 54.1 -1.2
	comp=Z,2.6nm,1.5s						
SONM	Songino Array	46.21	50	P		P	16 39 55.4 +0.1
	comp=Z,0.6nm,0.4s,baz=268,slow=9.5,SNR=5.3						
SONM				LR		LR	17 02 03.4
	comp=Z,53nm,18.4s,baz=255,slow=40						
NONG	Nongkai	48.11	91	P		P	16 40 10.1 -0.3
	comp=Z,0.3nm,0.8s,comp=Z,121nm						
TORD	Torodi Ar. Bea	48.77	263	eP		P	16 40 15.7 +0.3
	comp=Z,2.3nm,0.9s						
TORD	Torodi Ar. Bea	48.77	263	P		P	16 40 15.9 +0.5
	comp=Z,3.1nm,0.8s,baz=73,slow=8.6,SNR=14						
SKNT	Sakolnakorn	49.27	92	P		P	16 40 22.2 +3.0
	comp=Z,8.5nm,0.8s						
HHC	Hu-ho-hao-te	49.97	59	eP		P	16 40 23.7 -0.8
HHC				pmax		pmax	
	comp=Z,26nm,1.0s						
HHC				pmax		pmax	
	comp=Z,170nm,5.8s						
GSI	Gunungsitoli	51.42	113	eP		P	16 40 35.6 0.0
	comp=Z,12nm,0.6s						
DBIC	Dimbokro	57.48	259	P		P	16 41 20.7 +1.0
	comp=Z,5.8nm,0.6s,baz=37,slow=8.2,SNR=6.9						
KIC	Kosan Boka	57.53	259	eP		P	16 41 20.8 +0.7
	comp=Z,190nm,2.2s						
TIC	Toumodi	57.64	259	eP		P	16 41 20.4 -0.4
LIC	Lamto	57.85	259	eP		P	16 41 23.1 +0.8
	comp=Z,41nm,0.9s						
TIXI	Tiksi	59.33	21	eP		P	16 41 29.9 -1.8
	comp=Z,1.4nm,0.8s						
YHNB	Yeheng	61.70	76	eP		P	16 41 46.7 -2.1
	comp=Z,46nm,0.6s						
BOSA	Boshof	62.04	206	P		P	16 41 51.7 +0.8
	comp=Z,1.7nm,0.7s,baz=18,slow=11,SNR=4.4						
KSAR	Wonju Array Be	63.06	60	P		P	16 41 56.8 -0.8
KSRS	Korea Array	63.08	60	P		P	16 41 56.8 -0.9
	comp=Z,2.0nm,0.6s,baz=280,slow=6.6,SNR=13						
SEY	Seymchan	69.80	29	P		P	16 42 40.7 +0.4
	comp=Z,3.0nm,0.8s,baz=286,slow=7.0,SNR=14						
MA2	Magadan	70.38	32	P		P	16 42 43.8 -0.1
	comp=Z,1.1nm,0.3s,baz=328,slow=5.2,SNR=5.6						
BILL	Bilibino	72.55	21	eP		P	16 42 56.5 -0.4
	comp=Z,6.6nm,1.1s						
JHJ	Hachijo jima 2	73.67	61	LR		LR	17 17 50.9
	comp=Z,57nm,21.8s,baz=119,slow=38						
SIJI	Sorong	81.27	96	P		P	16 43 46.5 -0.5
	comp=Z,2.2nm,0.6s,baz=4.4,slow=2.1,SNR=4.0						
SCHQ	Schefferville	81.82	329	P		P	16 43 50.0 +0.9
	comp=Z,5.4nm,0.6s,baz=42,slow=6.4,SNR=4.8						
FITZ	Fitzroy Crossi	85.11	113	eP		P	16 44 05.9 -0.7
	comp=Z,6.6nm,1.0s						
ILAR	Eielson Array	86.04	8	P		P	16 44 10.2 -0.4
	comp=Z,0.5nm,0.7s,baz=320,slow=4.8,SNR=5.0						
YKA	Yellowknife Ar	88.78	354	eP		P	16 44 23.3 -0.4
YKA	Yellowknife Ar	88.78	354	P		P	16 44 24.2 +0.5
	comp=Z,1.2nm,0.8s,baz=6.8,slow=4.7,SNR=20						
WRA	Warramunga Arr	93.14	111	P		P	16 44 44.0 -0.7
	comp=Z,0.8nm,0.5s,baz=315,slow=3.9,SNR=14						
ASAR	Alice Springs	94.57	114	P		P	16 44 50.6 -0.7
	comp=Z,2.5nm,0.6s,baz=304,slow=4.6,SNR=46						

*ISCJB **01** 16:35:40.6±1.5, 24°.94N±0°.07×122°.79E±0°.04, h10km±10km, Error ellipse: s-maj=12.6km s-min=5.4km az=7.2*
*TAP **01** 16:35:41.4, 24°.86N×122°.70E, h7km, ML3.0, C*
*JMA **01** 16:35:42.0±0.2, 24°.85N×122°.75E, h31km±3km, M2.2*
ISC 01 16:35:41.8±1.3, 24°.87N±0°.07×122°.76E±0°.03, h27km±14km, n31, σ0°74/36, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.45	158	P	Pb	16 35 51.1	-0.2
JYNG				eS	Sb	16 35 57.6	-0.1
YOJ	Yonaguni jima	0.47	150	P	Pb	16 35 51.7	+0.2
	baz=145						
YOJ				eS	Sb	16 35 58.5	+0.4
	baz=145						
YOJ	Yonaguni jima	0.47	150	P	Pb	16 35 51.5	-0.1
YOJ				eS	Sb	16 35 58.1	-0.1
EOS1	EOS1	0.66	241	P	Pb	16 35 54.1	-0.6
	baz=227						
EOS1				S	Sb	16 36 03.7	+0.3
	baz=227						
TIPB	Shuangxi	0.85	277	eP	Pb	16 35 57.2	-0.8
	baz=277						
TIPB				S	Sb	16 36 09.1	+0.1
	baz=277						
TWC	Suao	0.87	253	eP	Pb	16 35 58.0	-0.2
	baz=240						
TWE	Neicheng	1.00	262	eP	Pn	16 35 59.8	-0.2
	baz=261						
NANB	Nanao	1.02	245	eP	Pn	16 36 00.2	0.0
	baz=244						
ENA	Nanau	1.02	245	eP	Pn	16 36 00.2	-0.2
	baz=244						
IRIF	Iriomote-Funau	1.03	121	P	Pn	16 36 00.1	-0.4
YM07	YM07	1.07	287	eP	Pb	16 36 01.4	-0.4
	baz=287						
ENTT	Nioudou	1.11	258	eP	Pb	16 36 02.2	0.0
	baz=258						
NWLT	Wulai	1.14	266	eP	Pn	16 36 02.0	0.0
	baz=266						
NDT	Datong Townshi	1.16	257	eP	Pb	16 36 03.1	-0.1
	baz=257						
HATJ	Hateruma jima	1.25	130	P	Pb	16 36 04.6	-0.1
NACB	Ninganchiao	1.27	237	eP	Pb	16 36 04.6	-0.3
	baz=236						
YHNB	Yeheng	1.27	261	eP	Pn	16 36 04.2	+0.4
	baz=278						
NSK	Sanguang	1.29	262	eP	Pb	16 36 05.5	+0.1
	baz=278						
JKRS	Kuro-shima	1.30	119	P	Pn	16 36 04.2	0.0
NNS	Nan Shan	1.33	251	P	Pb	16 36 06.2	0.0
	baz=251						
ETLH	Xiulin Townshi	1.34	241	eP	Pb	16 36 06.0	-0.3
	baz=240						
JIJ	Ishigaki jima	1.36	112	P	Pn	16 36 05.1	+0.2
JISG	Ishigakijimahi	1.44	101	P	Pn	16 36 06.5	+0.4
WHF	Hehuan Shan	1.54	242	P	Pb	16 36 10.1	+0.2
	baz=254						
CHGB	Renai	1.65	241	P	Pb	16 36 12.1	+0.4
	baz=223						
OWD	Renai	1.71	238	eP	Pn	16 36 11.2	+1.4
	baz=220						
WHP	Taichung City	1.75	251	eP	Pb	16 36 13.4	+0.1
	baz=250						
SMLT	Sun Moon Lake	1.96	240	eP	Pb	16 36 16.2	-0.6
	baz=223						
WHYT	Xinyi Township	2.09	236	eP	Pn	16 36 17.1	+2.0
	baz=222						
CHN5	Tsauling	2.28	237	eP	Pb	16 36 21.0	-1.4
	baz=219						
SLGT	Liugui	2.69

baz=284
NWLT Wulai 1.20 262 eP Pg 16 41 44.2 +0.1
baz=263
NDT Datong Townshi 1.23 254 eP Pg 16 41 44.9 +0.2
baz=254
JKRS Kuro-shima 1.30 123 P Pg 16 41 45.6 -0.4
YHNB Yeheng 1.34 258 eP Pg 16 41 46.0 -0.7
baz=273
JIJ Ishigaki jima 1.35 116 P Pb 16 41 47.2 +0.4
NSK Sanguang 1.35 258 eP Pn 16 41 46.3 -0.4
baz=273
NACB Ninganchiao 1.35 235 P Pn 16 41 46.6 -0.1
baz=235
NNS Nan Shan 1.41 249 eP Pn 16 41 47.5 0.0
baz=249
TWD Chiawan 1.41 232 eP Pn 16 41 47.2 -0.2
baz=231
ETLH Xiulin Townshi 1.42 239 eP Pn 16 41 47.8 +0.1
baz=239
WHF Hehuan Shan 1.62 241 eP Pn 16 41 51.2 +0.5
baz=240
NSTT Nanjuang 1.68 259 eP Pb 16 41 52.3 -0.2
baz=259
ESL Shilin 1.69 228 eP Pn 16 41 51.7 +0.4
baz=227
CHGB Renai 1.74 240 eP Pb 16 41 53.4 -0.3
baz=223
OWD Renai 1.79 237 eP Pn 16 41 53.1 +0.3
baz=220
WHP Taichung City 1.83 249 eP Pn 16 41 54.4 +1.1
baz=233
HGSD Ruisui 1.93 221 eP Pn 16 41 55.0 +0.4
baz=210
VWDT VWDT 1.94 232 eP Pn 16 41 55.4 +0.8
baz=217
EHY Hungye 1.98 224 eP Pn 16 41 54.7 -0.6
baz=222
SMLT Sun Moon Lake 2.04 239 eP Pb 16 41 58.1 -0.7
baz=222
SSLB Suanglung 2.06 236 eP Pb 16 41 58.8 -0.1
baz=219
TYC Yuchr 2.07 240 eP Pb 16 41 59.8 +0.7
baz=223
YULB Yu-li 2.08 222 eP Pn 16 41 56.1 -0.6
baz=221
TWF1 Yuli 2.11 221 eP Pn 16 41 56.5 -0.6
baz=237
FULB Fuli 2.23 219 eP Pn 16 41 59.7 +0.9
baz=206
CHN5 Tsauling 2.37 236 eP Pn 16 42 01.9 +1.2
baz=219
CHN4 Tsaushan 2.58 232 eP Pn 16 42 05.7 +2.2
baz=217
TPUB Ta-pu 2.59 231 eP Pn 16 42 04.3 +0.7
baz=216
WTP Ta-pu 2.63 230 eP Pn 16 42 05.8 +1.5
baz=228
TWK Hsinying 2.71 232 eP Pn 16 42 06.5 +1.1
baz=230
SLGT Liugui 2.78 226 eP Pn 16 42 07.4 +1.1
baz=224
SCLT Jiali 2.98 234 eP Pn 16 42 07.7 -1.3
baz=232
MASBT Mashibuluo 3.07 221 eP Pn 16 42 10.5 +0.2
baz=211
XPSS Dashiqiu 3.07 310 eP Pn 16 42 10.4 +0.1
baz=310
EAST Anshuo 3.13 216 eP Pn 16 42 12.9 +1.8
baz=214
PHUB P'eng-hu 3.29 245 eP Pn 16 42 13.2 0.0
baz=242

IDC 01 16:48:25.8±3.8, 11°.01S×117°.78E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.4/22, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=258.7km s-min=28.0km az=47.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.25	121	P	Pn	16 52 39.5	-1.2
	0.1nm,0.3s,baz=292,slow=15,SNR=8.3						
ASAR	Alice Springs	19.85	131	P	Pn	16 52 59.3	-0.8
	0.1nm,0.3s,baz=308,slow=12,SNR=20						
MKAR	Makanchi Array	65.71	334	P	P	16 59 12.2	0.0
	0.6nm,0.6s,baz=143,slow=8.3,SNR=6.5						

*IDC **01** 17:03:58.1±0.4, 17°.10N×120°.00E, h0km, mb4.1/23, mb1 4.3/24, mb1mx4.2/46, mbtmp4.1/24, ML3.9/1, MS3.5/10, Ms1 3.6/10, ms1mx3.3/29, Error ellipse: s-maj=20.8km s-min=9.3km az=73.0*
*MAN **01** 17:04:03.0, 17°.19N×119°.98E, h9km, mb4.9, ML3.8, MS3.8*
*ISCJB **01** 17:04:05.2±0.4, 17°.17N±0°.03×120°.03E±0°.05, h66km±4km, mb4.1/30, Error ellipse: s-maj=7.9km s-min=4.7km az=10.7*
*NEIC **01** 17:04:07.3±1.8, 17°.19N×120°.05E, h68km±6km, mb4.4/16, Error ellipse: s-maj=19.5km s-min=12.8km az=79.0*
NEIC Felt [III PIVS] at Santa Catalina; [II PIVS] at Bantay, Santa and Vigan; [I PIVS] at Burgos, Narvacan and Santa Maria.

ISC 01 17:04:06.9±0.8, 17°.12N±0°.04×120°.02E±0°.05, h64km±8km, n87, σ1°.46/91, mb4.2/30, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.75	188	eP	Pn	17 04 18.5	-3.5
BOLP				eS	Sn	17 04 32.2	-0.8
ABRA	Dolores	0.84	51	eP	Pn	17 04 19.1	-4.0
ABRA				eS	Sn	17 04 31.6	-3.5
SMPP	San Manuel, Pa	1.16	147	eP	Pn	17 04 24.3	-2.9
SMPP				eS	Sn	17 04 43.1	+0.9
SCZP	Santa Cruz	1.34	185	eP	Pn	17 04 27.5	-2.2
SCZP				eS	Sn	17 04 48.3	+1.6
APYP	Conner	1.38	58	eP	Pn	17 04 27.2	-2.8
APYP				eS	Sn	17 04 45.4	-2.0
CAUP	Cauayan	1.73	96	eP	Pn	17 04 36.7	+1.8
BALP	Baler	2.03	132	eP	Pn	17 04 39.3	+0.5
SGCP	Mt. Cagua	2.23	60	eP	Pn	17 04 40.7	-0.8
SGCP				eS	Sn	17 05 09.9	+1.9
PALP	Palanan	2.30	91	eP	Pn	17 04 43.3	+0.8
POLP	Polilio Island	3.01	142	eP	Pn	17 04 54.1	+1.8
TGY	Tagaytay City	3.13	164	Pg	Pn	17 04 55.4	+1.4
	124nm,0.3s,baz=281,slow=1.7,SNR=24						
TGY				Lg	Lg	17 05 39.0	
	240nm,0.3s,baz=312,slow=12,SNR=4.6						
TGY				LR	LR	17 06 34.7	
	comp=Z,818nm,20.1s,baz=347,slow=50						
LUBP	Lubang	3.38	176	eP	Pn	17 04 58.4	+1.2
GQP	Guinayangan	3.96	144	eP	Pn	17 05 06.4	+1.2
GQP				eS	Sn	17 05 55.0	+4.5
BOAC	Boac	4.04	154	eP	Pn	17 05 09.4	+3.0
SJMP	San Jose	4.75	167	eP	Pn	17 05 18.3	+2.2
BUSP	Coron	5.09	178	eP	Pn	17 05 21.8	+1.0
PVCP	Virac	5.31	131	eP	Pn	17 05 24.1	+0.4
ENPP	El Nido	5.91	186	eP	Pn	17 05 30.6	-1.4
SSLB	Suanglung	6.69	7	ePn	Pn	17 05 42.1	-0.4
DAV	Davao City (W)	11.37	151	LR	LR	17 11 60.0	
	comp=Z,183nm,19.7s,baz=33,slow=42						
WHN	Wuhan	14.33	340	P	P	17 07 34.6	+2.8
WHN				S	Sn	17 10 07.6	+3.6
SLVN	Son La	15.79	288	ePn	Pn	17 07 43.2	-2.2
	4.9nm,0.9s						
KMI	Kunming	17.97	299	P	Pn	17 08 20.7	+8.0
KMI				S	S	17 11 40.0	+5.0
JNU	Nakatsue	18.70	30	eP	P	17 08 19.3	-0.9
	19nm,0.8s						
JNU	Nakatsue	18.70	30	P	P	17 08 19.5	-0.7
	0.3nm,0.3s,baz=166,slow=3.5,SNR=7.2						
XAN	Xi'an	19.57	331	P	Pn	17 08 35.2	+3.6
XAN				pP	pP	17 08 43.1	+0.6
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR	Chiang Mai Arr	20.12	277	eP	P	17 08 35.9	+0.1
CMAR	Chiang Mai Arr	20.12	277	P	P	17 08 35.3	-0.5
	2.4nm,0.8s,baz=94,slow=8.6,SNR=21						
CMAR				PcP	PcP	17 12 49.8	+0.9
	0.7nm,0.6s,baz=106,slow=0.8,SNR=6.1						
CMAR				LR	LR	17 15 59.8	
	comp=Z,106nm,21.1s,baz=27,slow=36						
SIJI	Sorong	21.04	147	P	P	17 08 45.1	-0.5
	6.5nm,0.6s,baz=163,slow=4.1,SNR=5.8						
KS15	Wonju Array Si	21.39	17	eP	P	17 08 48.6	-0.7
	69nm,1.9s						
KSRS	Korea Array	21.42	17	P	P	17 08 48.5	-1.0
	5.5nm,0.7s,baz=202,slow=11,SNR=25						
MAJO	Matsushiro	25.16	36	eP	P	17 09 26.1	-0.2
MJAR	Matsushiro Arr	25.16	36	P	P	17 09 26.1	-0.2
	1.8nm,0.6s,baz=212,slow=8.4,SNR=8.5						
LEM	Lembang	26.77	208	LR	LR	17 20 35.3	
	comp=Z,52nm,18.8s,baz=342,slow=37						
BATI	Baumata	27.39	172	LR	LR	17 22 25.8	
	comp=Z,70nm,21.1s,baz=92,slow=40						
JAY	Jayapura	28.24	132	LR	LR	17 19 26.8	
	comp=Z,62nm,19.8s,baz=346,slow=33						
GTA	Gaotai	28.33	326	eP	P	17 10 06.4	+12
GTA				pP	pP	17 10 11.6	+2.0
GTA				sP	pwP	17 10 14.9	+1.7
SONA0	Songino Array	32.61	343	eP	P	17 10 33.2	+0.6
SONM	Songino Array	32.61	343	P	P	17 10 33.2	+0.6
	1.0nm,0.6s,baz=160,slow=10,SNR=7.5						
FITZ	Fitzroy Crossi	35.44	171	P	P	17 10 55.4	-1.7
	1.0nm,0.5s,baz=9.9,slow=7.2,SNR=5.3						
WR1	Warramunga Arr	39.43	159	eP	P	17 11 29.0	-2.0
WR1				ePcP	PcP	17 13 38.3	+0.3
WRA	Warramunga Arr	39.43	159	P	P	17 11 29.0	-2.0
	2.3nm,0.6s,baz=329,slow=11,SNR=24						
WRA				PcP	PcP	17 13 38.3	+0.3
	1.0nm,0.9s,baz=338,slow=3.4,SNR=5.7						
WB2	Warramunga Arr	39.43	158	eP	P	17 11 29.3	-1.7
	45nm,2.0s						
AS31	Alice Springs	42.75	161	eP	P	17 11 57.2	-1.0
	1.3nm,0.6s						
ASAR	Alice Springs	42.75	161	P	P	17 11 56.9	-1.3
	2.9nm,0.6s,baz=337,slow=6.8,SNR=50						
MK31	Makanchi Array	42.93	322	eP	P	17 11 57.8	-1.6
	3.7nm,1.0s						
MK32	Makanchi Array	42.93	322	eP	P	17 12 00.1	+0.6
MK32				ePcP	PcP	17 13 49.5	+0.4
MK32				e		17 31 11.2	
MKAR	Makanchi Array	42.93	322	P	P	17 12 00.1	+0.6
	0.9nm,0.7s,baz=118,slow=10.0,SNR=8.2						
MKAR				PcP	PcP	17 13 49.5	+0.4
	1.4nm,0.7s,baz=92,slow=4.1,SNR=7.9						
MKAR				LR	LR	17 31 11.2	
	comp=Z,87nm,18.5s,baz=65,slow=38						
KSH	Kashi	44.19	309	P	P	17 12 14.3	+4.5
NRN	Naryn	44.77	312	eP	P	17 12 15.7	+1.1
	3.7nm,0.8s						
CTA	Charters Tower	45.07	144	P	P	17 12 15.3	-1.4
	3.8nm,0.6s,baz=311,slow=9.5,SNR=4.6						
ZALV	Zalesovo Beam	45.74	332	P	P	17 12 21.5	-0.2
	1.3nm,0.7s,baz=122,slow=7.2,SNR=5.1						
ZALV				PcP	PcP	17 13 58.1	-0.5
	0.7nm,0.5s,baz=109,slow=5.2,SNR=2.8						
ZAA1	Zalesovo Array	45.74	332	eP	P	17 12 21.5	-0.2
ZAA1				ePcP	PcP	17 13 58.1	-0.5
PETK	Petropavlovsk-	46.39	31	P	P	17 12 26.3	-0.6
	3.0nm,1.0s,baz=273,slow=3.0,SNR=4.5						
PEA1	Petropavlovsk-	46.39	31	eP	P	17 12 26.3	-0.6
KURK	Kurchatov	47.01	325	eP	P	17 12 32.0	+0.3
	3.9nm,0.8s						
GAR	Garm	48.30	307	eP	P	17 12 42.8	+0.7
	13nm,1.1s						
KKAR	Karatay Array	49.16	313	eP	P	17 12 48.9	+0.4
NWAO	Narrogin (SRO)	49.84	183	P	P	17 12 53.6	0.0
	11nm,1.1s,baz=355,slow=6.4,SNR=4.2						
STKA	Stephens Creek	52.93	157	eP	P	17 13 16.7	-0.1
	4.4nm,1.5s						
STKA	Stephens Creek	52.93	157	P	P	17 13 15.9	-0.9
	4.1nm,0.8s,baz=312,slow=7.7,SNR=6.8						
TIXI	Tiksi	54.77	3	eP	P	17 13 28.5	-1.1
	2.8nm,0.9s						
NRIK	Noril'sk	55.95	347	P	P	17 13 37.7	-0.5
	4.5nm,0.8s,baz=133,slow=7.9,SNR=4.5						
GEYT	Aliibeck	57.64	304	LR	LR	17 42 03.5	
	comp=Z,78nm,18.2s,baz=200,slow=40						
ABKAR	Akbulak array	57.75	318	eP	P	17 13 51.5	+0.2
KBZ	Khabaz	69.14	311	P	P	17 15 06.2	-0.4
	1.9nm,0.8s,baz=194,slow=2.9,SNR=5.6						
ARA0	ARCESS Array S	75.67	339	eP	P	17 15 44.3	-0.7
ARCES	ARCESS Array B	75.67	339	P	P	17 15 44.3	-0.7
	2.4nm,0.8s,baz=46,slow=7.2,SNR=5.1						
ILAR	Eielson Array	75.98	26	P	P	17 15 46.7	-0.1
	0.7nm,1.0s,baz=301,slow=5.1,SNR=5.1						
FIA0	FINESS Array S	77.00	331	eP	P	17 15 52.4	-0.2
FIA0				e		17 51 39.3	
FINES	FINESS Array B	77.00	331	P	P	17 15 52.4	-0.2
	2.0nm,0.6s,baz=44,slow=5.6,SNR=12						
FINES				LR	LR	17 51 39.3	
	comp=Z,54nm,18.7s,baz=64,slow=37						
AKASG	Malin Array Be	77.45	319	eP	P	17 15 54.7	-0.6
AKASG	Malin Array Be	77.45	319	P	P	17 15 54.5	-0.9
	0.4nm,0.5s,baz=65,slow=5.3,SNR=6.7						
BURAR	Bucovina Array	80.72	317	eP	P	17 16 13.8	+0.3
NB2	NORSAR Subarra	83.94	332	P	P	17 16 28.7	-1.2
	comp=Z,3.9nm,0.7s,baz=66,slow=4.6						
NB200	NORSAR Array S	83.94	332	eP	P	17 16 28.9	-1.0
NOA	NORSAR Array B	83.94	332	P	P	17 16 28.9	-1.0
	comp=Z,1.9nm,0.6s,baz=65,slow=4.8,SNR=12						
NOA				LR	LR	17 56 31.0	
	comp=Z,54nm,18.0s,baz=245,slow=38						
VYHS	Vyhne	84.54	319	eP	P	17 16 33.5	+0.3
CLL	Collm	87.01	323	eP	P	17 16 45.0	-0.3
GEC2	GERESS Array S	87.58	321	eP	P	17 16 47.7	-0.5
	comp=Z,5.8nm,1.4s						
GERES	GERESS Array B	87.58	321	P	P	17 16 47.7	-0.5
	comp=Z,0.2nm,0.3s,baz=90,slow=4.9,SNR=3.3						
YKA	Yellowknife Ar	89.88	22	P	P	17 16 58.8	+0.2
	comp=Z,0.8nm,0.7s,baz=311,slow=4.5,SNR=24						
YKB5	Yellowknife Ar	89.88	22	eP	P	17 16 58.8	+0.1
LTX	Lajitas	117.46	43	ePKPdf	PKiKP	17 22 47.0	+0.8
TXAR	Lajitas Array	117.46	43	PKP	PKiKP	17 22 47.0	+0.8
	comp=Z,0.5nm,0.6s,baz=192,slow=1.9,SNR=7.5						
SDV	Santo Domingo	152.09	23	ePKPbc	PKiKP	17 23 55.9	-0.8
LPAZ	La Paz	172.14	85	PKP	PKPdf	17 24 10.7	+0.6
	comp=Z,0.3nm,0.3s,baz=327,slow=3.4,SNR=3.9						

*SJA **01** 17:13:08.3±0.8, 23°.60S×67°.83W, h165km±6km, ML2.8, MW3.2*
*ISCJB **01** 17:13:09.2±0.9, 23°.58S±0°.05×67°.89W±0°.06, h164km±13km, Error ellipse: s-maj=8.9km s-min=8.0km az=135.7*
*GUC **01** 17:13:10.2±0.5, 23°.47S×68°.05W, h169km±4km, ML3.7*

ISC 01 17:13:08.9±2.1, 23°.58S±0°.06×67°.88W±0°.05, h167km±20km, n25, σ0°.67/34, 6C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.36	315	eP	Pn	17 13 39.4	+0.5
LVC				eS	Sn	17 14 01.9	-0.1
LVC				IAML		17 14 02.2	
	comp=Z,101nm,0.2s						
LVC	Limon Verde	1.36	315	eP	Pn	17 13 39.3	+0.3
LVC				eS	Sn	17 14 01.3	-0.7
PB15	IPOC Station P	1.51	284	eP	Pn	17 13 40.8	+0.6
PB15				eS	Sn	17 14 04.1	-0.2
PB15	IPOC Station P	1.51	284	eP	Pn	17 13 40.7	+0.5
PB15				eS	Sn	17 14 04.2	0.0
PB06	IPOC Station P	1.79	299	eP	Pn	17 13 43.5	+0.5
PB06	IPOC Station P	1.79	299	eP	Pn	17 13 43.5	+0.5
PB06				eS	Sn	17 14 08.5	-0.8
PB06				IAML		17 14 11.3	
	comp=N,758nm,0.1s						
PB09	IPOC Station P	2.18	324	eP	Pn	17 13 48.4	+1.0
PB09	IPOC Station P	2.18	324	eP	Pn	17 13 48.1	+0.7
PB09				eS	Sn	17 14 16.6	-0.6
GO02	Mina Guanaco	2.22	225	eP	Pn	17 13 48.4	+0.5
GO02				eS	Sn	17 14 18.6	+0.4
GO02				IAML		17 14 20.4	
	comp=E,595nm,0.5s						
PB05	IPOC Station P	2.26	288	eP	Pn	17 13 48.5	+0.2
PB05	IPOC Station P	2.26	288	eP	Pn	17 13 48.5	+0.2
PB05				eS	Sn	17 14 17.9	-0.8
PB05				IAML		17 14 20.6	
	comp=N,245nm,0.2s						
HJA	Humahuaca	2.29	81	eP	Pn	17 13 48.9	0.0
HJA				IAML		17 13 50.2	
	comp=Z,34nm,0.4s						
PB03	IPOC Station P	2.31	311	eP	Pn	17 13 49.2	+0.3
PB03	IPOC Station P	2.31	311	eP	Pn	17 13 49.1	+0.2
PB03				eS	Sn	17 14 18.5	-1.3
PB03				IAML		17 14 20.7	
	comp=E,365nm,0.2s						
PB04	IPOC Station P	2.44	300	eP	Pn	17 13 50.8	+0.3
PB04	IPOC Station P	2.44	300	eP	Pn	17 13 50.7	+0.3
SLA	San Lorenzo	2.44	118	eP	Pn	17 13 51.6	+1.1
PB10	IPOC Station P	2.46	271	eP	Pn	17 13 51.1	+0.7
PB14	IPOC Station P	2.53	245	eP	Pn	17 13 52.2	+0.5
YJA	Yavi	2.59	58	eP	Pn	17 13 52.9	+0.4
PB07	IPOC Station P	2.62	314	eP	Pn	17 13 52.9	+0.3
AZAP	Zapla	2.65	104	eP	Pn	17 13 52.5	-0.4
AZAP				IAML		17 13 53.0	
	comp=Z,21nm,0.2s						
PB02	IPOC Station P	2.93	320	eP	Pn	17 13 56.1	-0.1
GO03	Copiap	4.53	208	eP	Pn	17 14 15.1	-1.4
PB16	IPOC Station P	5.44	343	eP	Pn	17 14 30.3	+1.3

WEL 01 17:14:26.2±1.1, 35°.S±7°.×177°.8E±°., h5km, ML3.9/27, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.10	181	P	Pn	17 14 58.6	-3.5
HAZ	Te Kaha	2.34	191	P	Pn	17 15 03.3	-2.1
HAZ				S	Sn	17 15 35.2	+0.6
WMGZ	Waiomatatini S	2.36	179	P	Pn	17 15 04.7	-0.9
WMGZ				S	Sb	17 15 39.7	+1.0
PKGZ	Pakihiroa	2.44	185	P	Pn	17 15 05.0	-1.8
GRZ	Great Barrier	2.49	251	P	Pn	17 15 06.6	-0.8
GRZ				S	Sn	17 15 37.8	-0.4
KUZ	Kuaotunu	2.50	238	P	Pn	17 15 07.1	-0.4
KUZ				S	Sn	17 15 39.6	+1.1
RUGZ	Raukumara Rang	2.57	192	P	Pn	17 15 07.6	-1.0
PUZ	Puketiti	2.61	182	P	Pn	17 15 08.9	-0.2
PUZ				S	Sb	17 15 44.3	-1.7
TWGZ	Tauwhareparae	2.73	186	P	Pn	17 15 11.8	+0.9
OPRZ	Ohinepanea	2.79	211	P	Pn	17 15 12.0	+0.4
WIAZ	Waiheke Island	2.94	242	P	Pn	17 15 13.7	+0.1
MWZ	Matawai	2.95	193	P	Pn	17 15 13.0	-0.8
URZ	Urewera	2.98	199	P	Pn	17 15 13.8	-0.3
URZ				S	Sn	17 15 49.2	-0.9
TKGZ	Te Karaka	3.01	188	P	Pn	17 15 15.4	+0.8
CNGZ	Carnagh Statio	3.03	182	P	Pn	17 15 15.1	+0.3
MKAZ	Moumakai	3.07	237	P	Pn	17 15 15.8	+0.4
KARZ	Kaharoa	3.08	213	P	Pn	17 15 16.6	+1.0
OMRZ	Omania	3.09	211	P	Pn	17 15 17.4	+1.6
MBAZ	Motutapu North	3.10	244	P	Pn	17 15 15.9	+0.1
RAGZ	Rawiri	3.13	194	P	Pn	17 15 16.3	0.0
ETAZ	East Tamaki Re	3.16	241	P	Pn	17 15 17.2	+0.6
HLRZ	Highlands Stat	3.23	209	P	Pb	17 15 22.2	-1.9
TOZ	Tahuroa Road	3.24	225	P	Pn	17 15 19.0	+1.3
KBAZ	Karaka Road Bo	3.25	239	P	Pn	17 15 18.9	+1.0
MUGZ	Murupara	3.28	203	P	Pn	17 15 18.6	+0.3
RIGZ	Rimuhau	3.28	188	P	Pn	17 15 18.8	+0.5
WCZ	Waipu Caves	3.31	260	P	Pn	17 15 18.7	0.0
WTAZ	Waiatarua	3.41	243	P	Pn	17 15 21.2	+1.2
SNGZ	Shannon Statio	3.42	194	P	Pn	17 15 21.0	+0.7
PRRZ	Plateau Road	3.42	207	P	Pn	17 15 23.5	+3.2
ALRZ	Allen Road	3.50	207	P	Pn	17 15 23.5	+2.2
KNZ	Kokohu	3.60	189	P	Pn	17 15 22.0	-0.7
RAHZ	Arahi	3.60	196	P	Pn	17 15 20.6	-2.2
MTHZ	Maungataniwha	3.60	199	P	Pn	17 15 23.3	+0.5
TLZ	Tolley Road	3.66	218	P	Pn	17 15 24.7	+1.2
MHGZ	Mahia Peninsul	3.71	186	P	Pn	17 15 23.6	-0.6
MRHZ	Matea Rd	3.71	204	P	Pn	17 15 24.9	+0.6
WHHZ	Waihua	3.73	194	P	Pn	17 15 23.1	-1.3
WHTZ	Whakaora	3.74	210	P	Pb	17 15 29.9	-2.9
NMHZ	Naumai	3.84	198	P	Pn	17 15 26.8	+0.7
WATZ	Wairara	3.87	212	P	Pb	17 15 30.8	-4.2
HATZ	Hinemaiaia	3.88	207	P	Pn	17 15 30.0	+3.4
OUZ	Omahuta	3.91	272	P	Pn	17 15 25.6	-1.3
RATZ	Rangitukua	3.99	211	P	Pn	17 15 32.4	+4.3
BKZ	Black Stump Fm	3.99	201	P	Pn	17 15 28.5	+0.3
RITZ	Rihia Road	4.05	209	P	Pn	17 15 32.2	+3.3
KATZ	Kakaramea	4.11	210	P	Pn	17 15 34.0	+4.1
MCHZ	McNeill Hill	4.20	198	P	Pn	17 15 31.4	+0.5
KRVZ	Karewarewa	4.23	210	P	Pn	17 15 34.9	+3.4
KWHZ	Kaweka Forest	4.25	201	P	Pn	17 15 32.5	+0.7
WTVZ	West Tongariro	4.27	210	P	Pn	17 15 35.6	+3.6
TWVZ	Taurewa	4.30	212	P	Pn	17 15 36.4	+4.0
CKHZ	Cape Kidnapper	4.32	193	P	Pn	17 15 32.0	-0.5
NGZ	Ngauruhoe	4.32	210	P	Pn	17 15 35.5	+2.8
BHHZ	Black Hill Sta	4.42	204	P	Pn	17 15 34.8	+0.7
KRHZ	Kereru	4.47	200	P	Pn	17 15 34.4	-0.3
KAHZ	Kahuranaki	4.49	195	P	Pn	17 15 34.2	-0.7
PRHZ	Porangahau	5.00	195	P	Pn	17 15 40.4	-1.5
LREZ	Lake Rotokare	5.09	217	P	Pn	17 15 46.9	+3.7
DVHZ	Dannevirke	5.14	199	P	Pn	17 15 41.9	-2.0
PRWZ	Pori Road	5.43	200	P	Pn	17 15 46.2	-1.6
TIWZ	Tintock	5.66	199	P	Pn	17 15 49.7	-1.4
HOWZ	Holdsworth Sta	5.88	202	P	Pn	17 15 51.0	-3.0

*DDA **01** 17:21:57.7, 42°.02N×42°.40E, h7km±5km, ML2.5*

ISC 01 17:21:53.6±1.8, 42°.08N±0°.10×42°.9E±0°.1, h15km±14km, n7, σ0°.64/13, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKB	Tkibuli	0.28	17	P	Pn	17 22 02.7	-0.5
TKB				S	Sn	17 22 08.5	-0.7
SRKG	Sareki	0.43	55	P	Pn	17 22 05.0	-0.2
ONI	Oni	0.66	39	P	Pn	17 22 08.9	+0.5
ONI				S	Sn	17 22 19.3	+0.7
DBOC	Borcka	1.17	232	IAML_P			
	comp=Z,188nm,0.1s						
DBOC				i P	Pg	17 22 16.6	+0.4
DBOC				i S	Sb	17 22 31.4	+1.0
DAGI	Agillar	1.24	216	IAML_P			
	comp=Z,159nm,0.1s						
DAGI				i P	Pg	17 22 17.3	-0.2
DAGI				i S	Sb	17 22 31.6	-0.9
DBAD	Bademkaya	1.39	220	IAML_P			
	comp=Z,634nm,0.1s						
DBAD				i P	Pg	17 22 19.9	-0.3
DBAD				i S	Sn	17 22 36.6	+0.1
DDEM	Demirkent	1.46	216	IAML_P			
	comp=Z,853nm,0.2s						
DDEM				i P	Pb	17 22 20.5	+0.1
DDEM				i S	Sb	17 22 38.7	-0.2

*ISCJB **01** 17:51:35.0±0.7, 52°.1N±0°.1×177°.9E±0°.1, h112km, mb3.6/12, Error ellipse: s-maj=21.1km s-min=8.7km az=179.8*
*IDC **01** 17:51:36.1±4.7, 51°.99N×177°.87E, h108km±42km, mb3.3/12, mb1 3.6/14, mb1mx3.3/53, mbtmp3.8/14, Error ellipse: s-maj=25.5km s-min=14.6km az=171.0*

ISC 01 17:51:36.5±0.9, 52°.0N±0°.2×177°.86E±0°.08, h112km, n14, σ0°.76/15, mb3.6/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	12.31	283	P	Pn	17 54 28.5	+0.7
	0.2nm,0.3s,baz=89,slow=15,SNR=4.1						
PET

ellipse: s-maj=92.6km s-min=66.1km az=8.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.22**	**243**	P	Pn	17 53 37.2	+0.2
	1.3nm,0.3s,baz=52,slow=13,SNR=7.8						
PMG				S	Sn	17 55 08.8	+0.5
	0.8nm,0.3s,baz=312,slow=16,SNR=3.5						
WRA	**Warramunga Arr**	**24.24**	**232**	P	P	17 56 51.0	+1.0
	0.4nm,0.3s,baz=57,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**26.74**	**226**	P	P	17 57 12.8	+0.1
	0.5nm,0.5s,baz=55,slow=9.3,SNR=18						
STKA	**Stephens Creek**	**28.73**	**203**	P	P	17 57 29.1	-1.3
	1.5nm,0.8s,baz=0.8,slow=10,SNR=2.9						
FITZ	**Fitzroy Crossi**	**30.82**	**244**	P	P	17 57 48.5	-0.5
	3.3nm,1.2s,baz=72,slow=6.4,SNR=3.3						

TAP 01 17:54:01.8, 24°.33N×121°.45E, h10km±1km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.12**	**166**	*e*P	Pg	17 54 04.9	+0.1
	baz=165						
ETLH				*e*S	Sg	17 54 06.8	-0.1
	baz=165						
NNS	**Nan Shan**	**0.13**	**329**	P	Pg	17 54 04.9	-0.1
	baz=331						
NNS				S	Sg	17 54 07.0	-0.3
	baz=331						
NACB	**Ninganchiao**	**0.20**	**139**	*e*P	Pg	17 54 06.3	+0.3
	baz=138						
NACB				*e*S	Sg	17 54 09.2	+0.3
	baz=138						
WHF	**Hehuan Shan**	**0.25**	**223**	P	Pg	17 54 06.8	-0.2
	baz=221						
TDCB	**Techi**	**0.28**	**255**	*e*S	Sg	17 54 11.2	-0.1
	baz=254						
TWD	**Chiawan**	**0.28**	**151**	*e*P	Pg	17 54 07.8	+0.4
	baz=149						
TWD				*e*S	Sg	17 54 11.7	+0.5
	baz=149						
NDT	**Datong Townshi**	**0.28**	**12**	*e*P	Pg	17 54 07.9	+0.3
	baz=11						
ENA	**Nanau**	**0.28**	**69**	*e*P	Pg	17 54 07.6	0.0
	baz=69						
ENA				*e*S	Sg	17 54 11.5	+0.1
	baz=69						
NANB	**Nanao**	**0.29**	**70**	*e*P	Pg	17 54 07.7	0.0
	baz=69						
NANB				*e*S	Sg	17 54 11.4	-0.3
	baz=69						
ENTT	**Nioudou**	**0.33**	**19**	*e*P	Pg	17 54 08.4	-0.1
	baz=20						
ENTT				*e*S	Sg	17 54 13.4	+0.5
	baz=20						
YHNB	**Yeheng**	**0.35**	**349**	*e*P	Pg	17 54 09.2	+0.4
	baz=348						
YHNB				*e*S	Sg	17 54 13.6	+0.1
	baz=348						
CHGB	**Renai**	**0.36**	**224**	*e*P	Pg	17 54 08.9	-0.2
	baz=223						
TWE	**Neicheng**	**0.44**	**27**	*e*P	Pg	17 54 11.0	+0.5
	baz=28						
OWD	**Renai**	**0.45**	**214**	*e*P	Pg	17 54 10.1	-0.5
	baz=214						
ESL	**Shilin**	**0.51**	**182**	*e*P	Pg	17 54 11.6	-0.2
	baz=180						
VWDT	**VWDT**	**0.64**	**206**	*e*P	Pg	17 54 13.8	-0.3
	baz=206						
VWDT				*e*S	Sg	17 54 23.0	+0.6
	baz=206						

MAN 01 17:56:08.7, 16°.76N×120°.13E, h28km, mb4.6, ML3.4, MS3.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.43**	**209**	*e*P	Pn	17 56 19.1	+0.1
BOLP				*e*S	Sn	17 56 28.3	+2.5
SMPP	**San Manuel, Pa**	**0.80**	**139**	*e*P	Pb	17 56 23.5	-0.5
SMPP				*e*S	Sn	17 56 35.2	+0.1
SCZP	**Santa Cruz**	**1.00**	**192**	*e*P	Pn	17 56 26.0	-0.8
SCZP				*e*S	Sb	17 56 40.1	0.0
ABRA	**Dolores**	**1.05**	**32**	*e*P	Pn	17 56 27.1	-0.3
ABRA				*e*S	Sb	17 56 41.5	0.0
APYP	**Conner**	**1.53**	**44**	*e*P	Pn	17 56 33.5	-0.7
APYP				*e*S	Sn	17 56 53.6	+0.6
CAUP	**Cauayan**	**1.63**	**83**	*e*P	Pb	17 56 37.2	-0.9
CAUP				*e*S	Sb	17 57 00.4	+2.1
BALP	**Baler**	**1.72**	**126**	*e*P	Pn	17 56 37.7	+1.0
PALP	**Palanan**	**2.22**	**82**	*e*P	Pn	17 56 44.1	+0.5
PALP				*e*S	Sb	17 57 13.6	-1.5
LUBP	**Lubang**	**3.01**	**178**	*e*P	Pn	17 56 57.4	+2.9
SJMP	**San Jose**	**4.38**	**167**	*e*P	Pn	17 57 14.2	+0.9

*IDC **01** 18:20:23.8±11.0, 41°.23N×76°.13E, h547km±128km, mb2.4/1, mb1 2.4/4, mb1mx2.1/52, mbtmp3.3/4, Error ellipse: s-maj=186.2km s-min=147.5km az=18.0*
*KRNET **01** 18:20:28.6±0.1, 41°.15N×78°.68E, mb1.9*
ISC 01 18:20:25.7±3.1, 41°.1N±0°.1×78°.83E±0°.08, h2km±14km, n9, σ1°08/13, 10C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.99**	**309**	⇑*i*P	**Pg**	**18 20 44.9**	**+0.2**
	baz=11						
TARG				⇑*i*S	**Sg**	**18 20 57.5**	**0.0**
	baz=11						
KDJ	**Kajisay**	**1.60**	**310**	⇑*i*P	**Pb**	**18 20 55.7**	**-0.4**
	baz=12						
KDJ				⇑*i*S	**Sn**	**18 21 15.8**	**-0.8**
	baz=12						
NRN	**Naryn**	**2.16**	**280**	⇑*i*P	**Pb**	**18 21 05.0**	**-0.6**
	baz=79						
NRN				⇑*i*S	**Sb**	**18 21 31.6**	**-1.4**
	baz=79						
ULHL	**Ulahol**	**2.25**	**301**	⇑*i*P	**Pn**	**18 21 05.1**	**+1.0**
	baz=2.0						
ULHL				⇑*i*S	**Sn**	**18 21 32.6**	**+0.1**
	baz=2.0						
PDGK	**Podgornoye**	**2.27**	**12**	⇑*i*P	**Pb**	**18 21 08.0**	**+0.5**
	baz=15						
PDGK				⇑*e*S	**Sb**	**18 21 35.8**	**-0.3**
	baz=15						
BOOM	**Boomskoye usch**	**2.56**	**304**	⇓*i*P	**Pn**	**18 21 10.1**	**+1.7**
	baz=4.0						
BOOM				⇓*i*S	**Sn**	**18 21 40.4**	**+0.1**
	baz=4.0						
MKAR	**Makanchi Array**	**6.21**	**23**	P	**Pb**	**18 22 12.7**	**-1.8**
	0.1nm,0.3s,baz=210,slow=11,SNR=4.6						
KURBB	**Kurchatov Arra**	**9.52**	**359**	P	Pn	18 22 36.6	-7.1
	0.1nm,0.3s,baz=210,slow=9.1,SNR=7.8						
ZALV	**Zalesovo Beam**	**13.46**	**15**	P	Pn	18 23 22.4	-15
	0.1nm,0.3s,baz=198,slow=9.1,SNR=6.0						

*IDC **01** 18:21:22.6±1.7, 43°.42N×105°.26W, h0km, mb1 3.6/5, mb1mx3.3/57, mbtmp3.3/5, ML2.9/4, Error ellipse: s-maj=38.5km s-min=8.8km az=151.0*
*ISCJB **01** 18:21:23.3±0.7, 43°.67N±0°.07×105°.43W±0°.08, h0km, Error ellipse: s-maj=10.5km s-min=8.8km az=173.7*
*NEIC **01** 18:21:24.6±0.7, 43°.68N×105°.34W, h0km, ML3.2, Error ellipse: s-maj=11.4km s-min=8.2km az=157.0, Suspected Mining explosion.*
NEIC 69 km [43 miles] S of Gillette.
ISC 01 18:21:24.0±1.1, 43°.68N±0°.07×105°.30W±0°.08, h0km, n13, σ1°23/12, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**64**	*e*P	**Pb**	**18 21 44.4**	**-0.2**
PDAR	**Pinedale Array**	**3.24**	**255**	Pn	**Pn**	**18 22 17.9**	**+1.5**
	4.2nm,0.3s,baz=78,slow=17,SNR=31						
PDAR				Lg	Lg	18 23 02.6	
	65nm,0.3s,baz=76,slow=34,SNR=10						
OGNE	**Ogallala**	**3.65**	**137**	*e*P	**Pn**	**18 22 23.4**	**+1.6**
ISCO	**Idaho Springs**	**3.89**	**184**	*e*P	**Pn**	**18 22 25.9**	**+0.7**
AHID	**Auburn Hatcher**	**4.34**	**260**	P	**Pn**	**18 22 29.7**	**-1.6**
BOZ	**Bozeman (W)**	**4.91**	**295**	*e*Pn	**Pn**	**18 22 39.5**	**+0.4**
HWUT	**Hardware Ranch**	**5.07**	**248**	P	**Pn**	**18 22 40.7**	**-0.6**
	6.7nm,0.5s						
EGMT	**Eagleton**	**5.34**	**326**	*e*P	**Pn**	**18 22 45.6**	**+0.6**
	15nm,0.5s						
ELK	**Elko**	**7.94**	**252**	Pn	**Pn**	**18 23 21.4**	**+0.5**
	0.2nm,0.3s,baz=142,slow=4.9,SNR=2.9						
ELK				Lg	Lg	18 25 25.1	
	0.1nm,0.3s,baz=226,slow=22,SNR=2.1						
I10CA	**LAC DU BONNET**	**9.09**	**41**	*i*		19 13 30.0	
	baz=220,slow=329,SNR=2.4						
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	**Pn**	**18 23 36.6**	**-1.2**
	1.1nm,0.3s,baz=231,slow=11,SNR=11						
ULM				Lg	Lg	18 26 09.1	
	0.2nm,0.3s,baz=107,slow=11,SNR=2.4						
NVAR	**Mina Array Bea**	**11.13**	**246**	Pn	**Pn**	**18 24 03.5**	**-1.0**
	0.1nm,0.3s,baz=53,slow=17,SNR=1.8						
YKA	**Yellowknife Ar**	**19.62**	**347**	P	**Pn**	**18 25 56.3**	**+1.4**
	0.1nm,0.3s,baz=158,slow=8.9,SNR=7.6						

*IDC **01** 18:22:37.4±1.4, 51°.90N×170°.54W, h0km, mb3.8/15, mb1 3.9/17, mb1mx3.7/72, mbtmp3.8/17, ML3.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/46, Error ellipse: s-maj=40.6km s-min=15.6km az=180.0*
*ISCJB **01** 18:22:39.6±0.6, 51°.76N±0°.09×170°.47W±0°.07, h31km, mb3.8/15, MS3.1/1, Error ellipse: s-maj=13.3km s-min=4.4km az=161.0*
*NEIC **01** 18:22:39.8±0.0, 51°.84N×170°.44W, h13km, ML3.1(AEIC), After AEIC.*
ISC 01 18:22:42.1±0.9, 51°.9N±0°.1×170°.48W±0°.06, h31km, n39, σ0°77/44, mb3.9/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.46**	**42**	*e*Pn	**Pn**	**18 23 05.5**	**-0.8**
NIKH				S	**Sb**	**18 23 25.9**	**-0.8**
OKSP	**Okmok Steeple**	**1.90**	**44**	P	**Pn**	**18 23 12.1**	**-0.3**
OKER	**Okmok East Rim**	**2.14**	**43**	*e*Pn	**Pn**	**18 23 15.5**	**-0.2**
ATKA	**Atka Island**	**2.31**	**279**	*e*Pn	**Pn**	**18 23 17.8**	**-0.1**
ATKA				S	**Sn**	**18 23 47.3**	**+2.0**
KOKL	**Mount Kliuchef**	**2.33**	**282**	*e*Pn	**Pn**	**18 23 18.4**	**+0.1**
MREP	**Makushin Rep't**	**2.96**	**48**	P	**Pn**	**18 23 27.8**	**+0.9**
MSW	**Makushin Switc**	**3.01**	**47**	*e*Pn	**Pn**	**18 23 28.4**	**+0.8**
MSW				*e*Sn	**Sn**	**18 24 05.2**	**+2.6**
MTBL	**Makushin Table**	**3.09**	**47**	P	**Pn**	**18 23 28.6**	**-0.2**
UNV	**Unalaska Valle**	**3.10**	**50**	*e*Pn	**Pn**	**18 23 28.5**	**-0.3**
UNV				S	**Sn**	**18 24 06.3**	**+1.7**
KDAK	**Kodiak Island**	**11.86**	**53**	Pn	**Pn**	**18 25 27.8**	**-1.0**
	0.3nm,0.3s,baz=264,slow=10,SNR=2.3						
ILAR	**Eielson Array**	**17.72**	**34**	P	**Pn**	**18 26 45.2**	**-0.9**
	0.1nm,0.3s,baz=231,slow=9.8,SNR=4.8						
ILB	**Eielson Array**	**17.72**	**34**	*e*Pn	**Pn**	**18 26 45.3**	**-0.9**
PEA1	**Petropavlovsk-**	**19.32**	**286**	*e*P	**P**	**18 27 04.3**	**-0.2**
PETK	**Petropavlovsk-**	**19.33**	**286**	P	**P**	**18 27 04.3**	**-0.2**
	0.3nm,0.3s,baz=83,slow=13,SNR=9.5						
BMAR	**Burnt Mountain**	**20.07**	**29**	*e*P	**P**	**18 27 12.7**	**+0.1**
SEY	**Seymchan**	**22.49**	**314**	P	**P**	**18 27 38.2**	**-0.3**
	1.0nm,0.6s,baz=92,slow=13,SNR=9.3						
MA2	**Magadan**	**22.84**	**305**	P	**P**	**18 27 42.5**	**+0.3**
	2.9nm,0.7s,baz=88,slow=10,SNR=5.8						
INK	**Inuvik**	**24.11**	**33**	P	**P**	**18 27 54.4**	**-0.2**
	2.1nm,0.6s,baz=246,slow=6.9,SNR=12						
INK				LR	LR	18 38 37.9	
	comp=Z,73nm,20.5s,baz=270,slow=40						
YKA	**Yellowknife Ar**	**31.06**	**48**	*e*P	**P**	**18 28 57.3**	**+0.5**
YKA	**Yellowknife Ar**	**31.06**	**48**	P	**P**	**18 28 57.4**	**+0.6**
	0.4nm,0.6s,baz=273,slow=7.9,SNR=13						
YKB5	**Yellowknife Ar**	**31.06**	**48**	*e*P	**P**	**18 28 57.4**	**+0.6**
PDAR	**Pinedale Array**	**41.17**	**78**	P	**P**	**18 30 24.6**	**+0.9**
	0.2nm,0.5s,baz=284,slow=6.0,SNR=3.9						
S22A	**4UR Ranch, Cre**	**45.86**	**82**	*e*P	**P**	**18 31 01.9**	**+0.4**
FRB	**Frobisher Bay**	**49.75**	**35**	P	**P**	**18 31 30.9**	**0.0**
	2.9nm,0.5s,baz=317,slow=15,SNR=4.3						
TLY	**Talaya**	**50.06**	**306**	*e*P	**P**	**18 31 33.6**	**+0.1**
SONA0	**Songino Array**	**50.95**	**301**	*e*P	**P**	**18 31 40.4**	**0.0**
SONM	**Songino Array**	**50.95**	**301**	P	**P**	**18 31 40.4**	**0.0**
	0.4nm,0.4s,baz=38,slow=9.9,SNR=3.8						
LTX	**Lajitas**	**53.45**	**88**	*e*P	**P**	**18 31 59.1**	**-0.1**
TXAR	**Lajitas Array**	**53.45**	**88**	P	**P**	**18 31 59.1**	**-0.1**
	0.5nm,0.7s,baz=300,slow=5.7,SNR=4.0						
ZAA1	**Zalesovo Array**	**57.30**	**317**	*e*PcP	**PcP**	**18 33 19.5**	**-0.8**
ZALV	**Zalesovo Beam**	**57.30**	**317**	PcP	**PcP**	**18 33 19.5**	**-0.8**
	0.6nm,0.6s,baz=35,slow=5.3,SNR=4.2						
KURBB	**Kurchatov Arra**	**62.37**	**318**	P	**P**	**18 33 00.9**	**-0.3**
	1.5nm,0.9s,baz=43,slow=7.2,SNR=11						
KURBB				PcP	**PcP**	**18 33 40.6**	**0.0**
	0.1nm,0.6s,baz=40,slow=2.7,SNR=4.3						
MK32	**Makanchi Array**	**63.62**	**313**	*e*P	**P**	**18 33 09.0**	**-0.7**
MKAR	**Makanchi Array**	**63.62**	**313**	P	**P**	**18 33 09.0**	**-0.7**
	0.7nm,0.7s,baz=54,slow=6.6,SNR=6.7						
BVAR	**Borovoye Array**	**63.68**	**324**	P	**P**	**18 33 10.2**	**+0.2**
	1.1nm,0.5s,baz=56,slow=6.1,SNR=6.5						
AKTO	**Aktyubinsk**	**70.06**	**329**	P	**P**	**18 33 50.5**	**-0.1**
	2.8nm,0.5s,baz=40,slow=6.7,SNR=9.7						
AAK	**Ala-Archa**	**70.34**	**315**	P	**P**	**18 33 52.6**	**0.0**
	1.7nm,0.7s,baz=100,slow=4.7,SNR=9.4						
CMAR	**Chiang Mai Arr**	**76.05**	**282**	P	**P**	**18 34 26.4**	**-0.1**
	0.8nm,0.7s,baz=24,slow=6.5,SNR=6.8						
AKASG	**Malin Array Be**	**76.41**	**347**	P	**P**	**18 34 27.4**	**-0.6**
	0.1nm,0.3s,baz=15,slow=5.4,SNR=4.4						

DDA 01 18:26:00.7, 37°.32N×37°.11E, h6km±2km, ML2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCB	**Kahramanmara**	**0.16**	**278**	*i*P	Pg	18 26 05.2	+1.2
HCB				*i*S	Sg	18 26 07.7	+1.4
AYKD	**Aykdinkavak**	**0.26**	**291**	IAML_P			
	comp=Z,1μm,0.1s						
AYKD				*i*P	Pb	18 26 07.9	+0.1
AYKD				*i*S	Sg	18 26 10.8	+1.5
GZT	**Gaziantep**	**0.36**	**84**	IAML_P			
	comp=Z,330nm,0.1s						
GZT				*i*P	Pg	18 26 08.3	+0.5
GZT				*i*S	Sg	18 26 13.8	+1.2
KAMA	**Osmaniye**	**0.38**	**249**	IAML_P			
	comp=Z,725nm,0.1s						
KAMA				*i*P	Pg	18 26 08.2	+0.1
KAMA				*i*S	Sb	18 26 14.8	-1.2
KUZU	**Kuzuini**	**0.55**	**183**	IAML_P			
	comp=Z,680nm,0.1s						
KUZU				*i*P	Pn	18 26 14.9	-0.2
ANDN	**Andirin**	**0.66**	**293**	IAML_P			
	comp=Z,147nm,0.1s						
ANDN				*i*P	Pb	18 26 14.5	-0.2

*TIF **01** 18:26:42.9, 42°.36N×41°.14E, h14km±5km*
*DDA **01** 18:26:43.9, 42°.25N×41°.09E, h7km±2km, ML2.9*
ISC 01 18:26:42.1±1.6, 42°.33N±0°.04×41°.00E±0°.05, h7km±12km, n12, σ0°73/22, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.90**	**144**	P	**Pn**	**18 27 01.2**	**0.0**
BATM				S	**Sn**	**18 27 14.3**	**-0.1**
DOMR	**Dombai**	**1.06**	**26**	*e*Pg	Pg	18 26 54.9	-7.7
DOMR				*e*Sg	Sg	18 27 07.4	-9.0
DBOC	**Borcka**	**1.11**	**153**	IAML_P			
	comp=Z,2μm,0.1s						
DBOC				*i*P	**Pn**	**18 27 04.2**	**+0.1**
DBOC				*i*S	**Sn**	**18 27 19.6**	**0.0**
DBAD	**Bademkaya**	**1.41**	**158**	IAML_P			
	comp=Z,763nm,0.1s						
DBAD				*i*P	**Pg**	**18 27 09.5**	**+0.2**
DBAD				*i*S	**Sg**	**18 27 28.0**	**+0.4**
DAGI	**Agillar**	**1.43**	**151**	IAML_P			
	comp=Z,196nm,0.1s						
DAGI				*i*P	**Pb**	**18 27 09.0**	**-0.2**
DAGI				*i*S	**Sg**	**18 27 28.3**	**+0.2**
TKB	**Tkibuli**	**1.48**	**89**	P	**Pn**	**18 27 09.0**	**-0.3**
TKB				S	**Sg**	**18 27 28.3**	**-1.4**
EPOS	**Posof**	**1.54**	**122**	*i*P	**Pg**	**18 27 11.8**	**+0.2**
EPOS				*i*S	**Sg**	**18 27 31.9**	**+0.4**
SOC	**Sochi**	**1.56**	**324**	*e*Pg	**Pn**	**18 27 09.3**	**-1.0**
SOC				*e*Sg	**Sn**	**18 27 31.4**	**+0.6**
NEY	**Neytrino**	**1.57**	**54**	*e*Pg	**Pn**	**18 27 09.9**	**-0.7**
NEY				*e*Sg	**Sn**	**18 27 30.8**	**-0.4**
ONI	**Oni**	**1.84**	**81**	P	**Pn**	**18 27 14.6**	**+0.4**
ONI				S	**Sb**	**18 27 38.6**	**-0.7**
SHA1	**Shidzhatmaz**	**1.86**	**40**	*i*Pg	**Pn**	**18 27 15.5**	**+0.8**
SHA1				*e*Sg	**Sn**	**18 27 38.7**	**+0.2**
KIV0	**Kislovodsk Arr**	**2.04**	**37**	*i*Pg	**Pn**	**18 27 18.6**	**+1.6**
KIV0				*e*Sg	**Sn**	**18 27 43.9**	**+1.0**

*NORS **01** 18:27:18.5±0.0, 42°.49N×40°.96E, h2km, MPVA3.6*
*TIF **01** 18:27:18.8, 42°.38N×40°.98E, h28km±4km*
ISC 01 18:27:18.7±2.0, 42°.45N±0°.06×41°.06E±0°.05, h4km±16km, n20, σ1°32/33, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.94**	**26**	*e*Pg	Pg	18 27 30.9	-5.8
DOMR				*i*Sg	**Sg**	**18 27 43.8**	**-5.1**
TKB	**Tkibuli**	**1.44**	**93**	P	**Pn**	**18 27 45.3**	**-0.2**
TKB				S	**Sg**	**18 28 05.3**	**+0.4**
NEY	**Neytrino**	**1.46**	**56**	*i*Pg	**Pb**	**18 27 46.3**	**-0.2**
NEY				*e*Sg	**Sg**	**18 28 06.8**	**+1.1**
SOC	**Sochi**	**1.50**	**320**	*e*Pg	**Pb**	**18 27 46.8**	**-0.3**
SOC				*e*Sg	**Sg**	**18 28 07.7**	**+0.8**
EPOS	**Posof**	**1.56**	**127**	*i*P	**Pn**	**18 27 47.4**	**0.0**
EPOS				*i*S	**Sn**	**18 28 07.8**	**-0.4**
SRKG	**Sareki**	**1.71**	**93**	P	**Sb**	**18 28 12.7**	**+0.3**
SRKG	**Sareki**	**1.71**	**93**	P	**Sb**	**18 28 12.4**	**0.0**
SHA1	**Shidzhatmaz**	**1.74**	**42**	*e*Pg	**Pb**	**18 27 51.7**	**+0.3**
SHA1				*e*Sg	**Sg**	**18 28 15.4**	**+0.7**
ONI	**Oni**	**1.78**	**85**	P	**Pb**	**18 27 51.1**	**-0.8**
ONI				S	**Sb**	**18 28 15.3**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.92**	**76**	*e*Pg	**Pb**	**18 27 54.2**	**-0.1**
DIGR				*e*Sg	**Sb**	**18 28 19.5**	**+0.9**
KIV0	**Kislovodsk Arr**	**1.93**	**38**	*i*Pg	**Pb**	**18 27 54.8**	**+0.4**
KIV0				*i*Sg	**Sg**	**18 28 20.1**	**-0.4**
ZEI	**Tsey**	**2.13**	**80**	*e*Pg	**Pb**	**18 27 57.7**	**-0.2**
ZEI				*e*Sg	**Sb**	**18 28 25.7**	**+1.0**
PYA1	**Pyatigorsk**	**2.20**	**42**	*i*Pg	**Pb**	**18 27 58.5**	**-0.4**
PYA1				*e*Sg	**Sb**	**18 28 27.8**	**+1.2**
KBTC	**Kuba-Taba**	**2.20**	**51**	*e*Pg	**Pg**	**18 28 01.3**	**+0.5**
KBTC				*e*Sg	**Sg**	**18 28 30.0**	**+0.7**
LSNR	**Lesken**	**2.20**	**67**	*e*Pg	**Pb**	**18 27 59.0**	**0.0**
LSNR				*e*Sg	**Sg**	**18 28 29.2**	**-0.1**
ARNR	**Ardon**	**2.48**	**72**	*e*Pn	**Pb**	**18 28 03.7**	**-0.2**
ARNR				*e*Sn	**Sb**	**18 28 36.7**	**+1.8**
GUDG	**Gudauri**	**2.53**	**88**	P	**Sb**	**18 28 34.0**	**-2.3**
GUDG	**Gudauri**	**2.53**	**88**	P	**Sb**	**18 28 34.0**	**-2.3**
TBLG	**Delisi**	**2.83**	**103**	P	**Sb**	**18 28 45.5**	**+0.7**
TBLG	**Delisi**	**2.83**	**103**	P	**Sb**	**18 28 45.5**	**+0.7**

*IDC **01** 18:31:02.0±0.4, 28°.22N×51°.80E, h0km, mb4.9/37, mb1 4.9/47, mb1mx4.9/57, mbtmp4.9/47, ML4.3/9, MS4.2/30, Ms1 4.2/30, ms1mx4.1/43, Error ellipse: s-maj=11.0km s-min=9.5km az=179.0*
*GCMT **01** 18:31:02.9±0.2, 28°.07N±0°.02×51°.78E±0°.02, h12km, MW5.0/72, Moment Tensor Solution. s29,c33; s72,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.44±.09; $M_{\theta\theta}$-2.36±.08; $M_{\phi\phi}$-0.07±.09; $M_{r\theta}$0.51±.28; $M_{\theta\phi}$1.67±.07; $M_{\phi r}$1.83±.32; Best double couple: $M_0$3.47100×10^{16} NP1:ϕ_s327.00000°, δ58.00000°, λ130.00000°. NP2: ϕ_s90.00000°, δ49.00000°, λ45.00000°. Principal axes: T 3.6680, Plg57.0000°, Azm293.0000°; N -0.3900, Plg33.0000°, Azm123.0000°; P -3.2740, Plg5.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **01** 18:31:02.0±0.0, 28°.30N×51°.70E, h6km, mb5.1/66, mB5.2/42, Ms4.8/57, Ms7 4.6/52*
*MOS **01** 18:31:02.2±1.1, 28°.17N×51°.75E, h11km, mb5.3/91, MS4.2/29, Error ellipse: s-maj=4.3km s-min=2.7km az=108.7*
*ISCJB **01** 18:31:03.2±0.4, 28°.23N±0°.01×51°.74E±0°.01, h15km±2km, mb5.2/274, MS4.3/70, Error ellipse: s-maj=2.6km s-min=1.5km az=24.6*
*THR **01** 18:31:04.3, 28°.27N×51°.70E, h17km, ML5.2*
*TEH **01** 18:31:04.6, 28°.32N×51°.71E, h20km, ML5.1*
*NEIC **01** 18:31:05.9±1.1, 28°.23N×51°.74E, h24km±7km, mb5.1/165, ML5.2(THR), MN5.0(TEH), Error ellipse: s-maj=3.5km s-min=2.5km az=188.0*
NEIC Felt at Dashti and Kongan.
*GII **01** 18:31:05.8±0.0, 28°.29N×51°.75E, h27km*
*DSN **01** 18:31:07.6±0.6, 28°.31N×52°.06E, h15km, mb5.3/4, ML5.2/10, Error ellipse: s-maj=11.6km s-min=4.1km az=54.0*
*OMAN **01** 18:31:09.1±0.2, 28°.03N×51°.72E, h41km±2km, ml5.4/10, ms4.8/5, Error ellipse: s-maj=3.2km s-min=2.3km az=234.0*
ISC 01 18:31:05.9±0.4, 28°.21N±0°.03×51°.74E±0°.03, h22km±3km, h23km:pP-P, n1124, σ1°43/1259, mb5.2/291, MS4.3/74, 99C-43D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.10**	**86**	*e*AML	AML	18 31 45.3	
	comp=N,2μm,0.5s						
GHIR				*e*Pg	**Pn**	**18 31 25.5**	**-0.6**
GHIR				*e*Sg	**Sn**	**18 31 41.2**	**+0.4**
GHIR				*e*AML	AML	18 31 47.7	
	comp=E,9μm,0.6s						
SHI	**Shiraz**	**1.58**	**25**	*e*Pn	**Pn**	**18 31 32.0**	**-0.7**
SHI				IAMB	IAmb	18 31 58.6	
	comp=N,92μm,1.2s						
JHRM	**Jahrom**	**1.65**	**79**	*e*Pn	**Pn**	**18 31 34.3**	**+0.7**
JHRM				*e*Sg	**Sb**	**18 31 59.4**	**+3.4**
JHRM				IAMB	IAmb	18 32 01.4	
	comp=Z,0.0nm,0.4s						
IRAM	**Rameseh**	**3.62**	**9**	*e*Pn	**Pn**	**18 32 00.5**	**-0.4**
IRAM				IAMB	IAmb	18 33 17.4	
	comp=Z,20μm,0.9s						
ZNGN	**Zangian**	**3.96**	**349**	*e*Pn	**Pn**	**18 32 05.1**	**-0.6**
GENO	**Geno**	**4.01**	**101**	*e*Pn	**Pn**	**18 32 05.8**	**-0.4**
IMEH	**Mehriz**	**4.03**	**38**	IAMB	IAmb	18 32 13.6	

MSFE S Sn 18 33 12.2 -1.4
MSFE Esma-Masafi 4.87 125 *e*Pn Pn 18 32 18.7 +0.8
FAQ Al Faqa, Dubai 4.88 134 *i* P Pn 18 32 19.1 +1.0
SNR=41
FAQ Al Faqa, Dubai 4.88 134 P Pn 18 32 19.5 +1.5
SNR=16
FAQ S Sn 18 33 14.4 +0.4
FAQ Al Faqa, Dubai 4.88 134 *e*Pn Pn 18 32 19.4 +1.4
IKLH Kolahrood 5.09 358 *e*Pn Pn 18 32 21.7 +0.6
IKLH IAMB IAmb 18 33 52.3
comp=Z,6µm,0.8s
HATD Hatta, Dubai 5.18 130 *i* P Pn 18 32 22.7 +0.5
SNR=20
HATD Hatta, Dubai 5.18 130 P Pn 18 32 23.2 +1.1
SNR=20
HATD S Sn 18 33 21.4 +0.1
HATD Hatta, Dubai 5.18 130 *e*Pn Pn 18 32 23.0 +0.8
ASHO Ashiyiah 5.23 131 *i* P Pn 18 32 23.3 +0.5
SNR=124
ASHO Ashiyiah 5.23 131 P Pn 18 32 23.9 +1.1
SNR=26
ASHO S Sn 18 33 22.1 -0.4
ASHO Ashiyiah 5.23 131 *e*Pn Pn 18 32 23.5 +0.7
ANAR Anarak 5.25 19 *e*Pn Pn 18 32 22.1 -1.0
CHMN Cheshme madani 5.34 71 *e*Pn Pn 18 32 25.1 +0.5
ALNE Al Ain 5.49 138 *i* P Pn 18 32 27.2 +0.9
SNR=48
ALNE Al Ain 5.49 138 *e*Pn Pn 18 32 27.3 +0.9
KHMZ Khomeyn 5.71 345 *e*Pn Pn 18 32 30.2 +0.6
KHMZ Khomeyn 5.71 345 *e*Pn Pn 18 32 30.2 +0.6
KRSH Karshahi 5.75 3 *e*Pn Pn 18 32 29.4 -0.6
SOHO SOHO 5.92 132 P Pn 18 32 32.8 +0.5
SNR=70
SOHO S Sn 18 33 39.4 -0.1
IKMR Kamar-syah 6.02 332 *e*Pn Pn 18 32 32.3 -1.3
ISFB Sefidab 6.13 4 *e*Pn Pn 18 32 34.0 -1.3
IKFM Kafar-mosalman 6.26 329 *e*Pn Pn 18 32 37.3 +0.4
IDOB Doab 6.34 332 *e*Pn Pn 18 32 39.1 +0.9
TPRV Parvadeh(Tabas 6.42 40 *e*Pn Pn 18 32 38.9 -0.3
ARQ Araqi 6.49 137 P Pn 18 32 40.6 +0.4
SNR=27
ARQ S Sn 18 33 52.4 -1.2
IVRN Varamin 6.76 360 *e*Pn Pn 18 32 42.7 -1.2
HOQ Hoqain 6.81 131 P Pn 18 32 45.3 +0.7
SNR=13
HOQ S Sn 18 33 58.9 -2.6
HAGD Aghdareh 6.95 342 *e*Pn Pn 18 32 46.4 -0.2
IKOM Komasi 6.96 330 *e*Pn Pn 18 32 47.0 +0.4
IBZA Bozab 7.06 333 *e*Pn Pn 18 32 46.4 -1.8
TNSJ Nastanj 7.09 35 *e*Pn Pn 18 32 48.1 -0.3
TKDS Koohdasht(Taba 7.09 39 *e*Pn Pn 18 32 47.8 -0.7
IHSB Hasanabad 7.21 357 *e*Pn Pn 18 32 48.9 -1.2
KCHF Cheshme Sefid, 7.26 328 *e*Pn Pn 18 32 51.0 +0.2
IRAZ Razeghan 7.33 348 *e*Pn Pn 18 32 51.1 -0.7
IDMV Damavand 7.34 2 *e*Pn Pn 18 32 50.9 -1.2
BSY Bisya 7.35 137 P Pn 18 32 52.7 +0.7
SNR=36
BSY S Sn 18 34 11.2 -3.5
BIDO Bidbid 7.41 128 P Pn 18 32 52.9 +0.1
SNR=20
BIDO S Sn 18 34 12.0 -4.2
IANJ Anjilo 7.46 14 *e*Pn Pn 18 32 53.1 -0.6
IMHD Mahdasht 7.50 353 *e*Pn Pn 18 32 52.7 -1.4
IKOO Kooshah 7.55 54 *e*Pn Pn 18 32 54.6 -0.3
IVIS Veis 7.55 328 *e*Pn Pn 18 32 54.2 -0.6
ITEG Tejag 7.63 51 *e*Pn Pn 18 32 55.6 -0.4
SMDO Samad 7.67 131 P Pn 18 32 56.7 +0.3
SNR=28
SMDO S Sn 18 34 22.4 -0.2
ISHM Shahmirzad 7.68 9 *e*Pn Pn 18 32 56.3 -0.4
QABG Abgarm-Qazvin 7.69 347 *e*Pn Pn 18 32 55.7 -1.1
ILIN Lien 7.83 330 *e*Pn Pn 18 32 58.0 -0.7
IDHR Dehrash 7.92 326 *e*Pn Pn 18 32 58.3 -1.6
WSAR Wadi Sarin 7.95 127 P Pn 18 33 00.5 +0.4
SNR=14
WSAR S Sn 18 34 26.0 -3.4
WSAR Wadi Sarin 7.95 127 Pn Pn 18 32 59.5 -0.6
comp=Z,9.6nm,0.3s,baz=326,slow=6.7,SNR=83
WSAR Sn Sn 18 34 24.6 -4.7
comp=Z,36nm,0.3s,baz=43,slow=9.5,SNR=7.8
WSAR LR LR 18 36 43.8
comp=Z,2µm,19.9s,baz=327,slow=43
IPRN Peran 8.02 3 *e*Pn Pn 18 33 01.7 +0.5
IKIA Kiasar 8.14 11 *e*Pn Pn 18 33 02.4 -0.5
JMDO Jabal Madar 8.19 134 P Pn 18 33 02.9 -0.5
SNR=13
JMDO S Sn 18 34 31.2 -4.1
QALM Alamut, Qazvin 8.25 354 *e*Pn Pn 18 33 03.2 -1.2
IGZV Ghazvin 8.25 351 *e*Pn Pn 18 33 02.6 -1.8
WBK Wadi Bani Khal 8.59 129 P Pn 18 33 10.6 +1.5
SNR=13
WBK S Sn 18 34 42.5 -2.9
MHTO MHTO 9.16 140 P Pn 18 33 16.9 +0.2
SNR=20
MHTO S Sn 18 34 53.8 -5.3
JLN Jalan Bani Buh 9.20 129 P Pn 18 33 16.4 -1.0
JLN S Sn 18 34 55.8 -4.5
IMND Minoodasht 9.53 18 *e*Pn Pn 18 33 20.7 -1.1
DQM DQM 9.80 146 P Pn 18 33 24.6 -1.0
SNR=9.7
MAHB Mahabad 9.93 331 *e*Pn Pn 18 33 26.1 -1.3
ISFR Sfrayin 10.27 29 *e*Pn Pn 18 33 32.0 -0.2
IKRD Kardeh 10.27 32 *e*Pn Pn 18 33 39.4 +7.2
JRKH Jarkhoshk 10.59 41 *e*Pn Pn 18 33 36.7 +0.3
IAZR Azarshahr 10.60 334 *e*Pn Pn 18 33 36.4 -0.3
IMYA Miami 10.75 39 *e*Pn Pn 18 33 38.8 +0.1
LKRN Lenkeran, Azer 10.75 347 P Pn 18 33 40.7 +2.2
DMTO DMTO 10.86 164 P Pn 18 33 39.7 -0.4
SNR=83
GEYT Alibeck 11.06 27 *e*Pn Pn 18 33 42.7 -0.1
GEYT Alibeck 11.06 27 Pn Pn 18 33 42.2 -0.6
comp=Z,1.6nm,0.3s,baz=204,slow=14,SNR=23
GYA0B ALIBECK ARRAY 11.06 27 *e*Pn Pn 18 33 42.9 +0.1
NAX Nakhchivan 12.10 336 P Pn 18 33 59.0 +2.0
SIRT Sirnak 12.11 322 *e*Pn Pn 18 33 53.6 -3.6
AKDM Akdamar-Van 12.46 326 *e*P Pn 18 33 59.8 -2.2
VANB Van 12.47 328 *e*P Pn 18 34 00.3 -1.9
CLDR Caldiran 12.69 331 *e*P Pn 18 34 04.3 -0.9
MNGR Mingechevir, A 13.10 344 P Pn 18 34 12.5 +1.9
GURO Guroymak-BITLI 13.11 324 *e*P Pn 18 34 09.6 -1.2
GANJ Ganja 13.18 342 P Pn 18 34 13.6 +1.9
GNI Garni 13.23 336 *e*Pn Pn 18 34 12.8 +0.2
GNI Garni 13.23 336 *i* P Pn 18 34 14.7 +2.1
SNR=10
GNI Garni 13.23 336 *d i*P Pn 18 34 14.1 +1.5
GNI pmax pmax
comp=Z,402nm,1.7s
GNI Garni 13.23 336 P Pn 18 34 13.2 +0.7
SNR=14
GNI Garni 13.23 336 Pn Pn 18 34 12.6 0.0
comp=Z,0.3nm,0.3s,baz=113,slow=1.3,SNR=8.6
GNI LR LR 18 39 31.8
comp=Z,680nm,19.7s,baz=334,slow=38
SVAN Silvan-Diyarba 13.26 321 *e*P Pn 18 34 08.6 -4.2
TASB TASBURUN-IGDIR 13.28 334 *e*P Pn 18 34 15.1 +2.0
ASF Jabal al Asfar 13.43 291 P Pn 18 34 13.3 -1.9
comp=Z,29nm,1.0s
ASF Jabal al Asfar 13.43 291 Pn Pn 18 34 14.0 -1.2
comp=Z,2.4nm,0.3s,baz=55,slow=3.0,SNR=20
AGRB Hanur-Agry 13.45 330 *e*P Pn 18 34 18.7 +3.1
SEKA Sheki 13.49 345 P Pn 18 34 17.7 +1.7
VRTB Varto-Mus 13.86 325 *e*P Pn 18 34 23.1 +2.0
SWQJ Swaqa 13.95 286 P Pn 18 34 21.7 -0.7
comp=Z,190nm,1.0s
HSUJ Al Zarqa 14.00 290 P P 18 34 32.7 +2.0
ZKTA Zakatala 14.03 344 P Pn 18 34 26.0 +2.7
BNGB Bingl 14.14 322 *e*P Pn 18 34 23.4 -1.6
WALJ Wala 14.21 287 P Pn 18 34 25.3 -0.6
comp=Z,118nm,0.7s
URFA Urfa 14.22 314 *e*P P 18 34 34.6 +1.4
JDRJ Daraweish 14.22 284 P Pn 18 34 27.2 +1.0
comp=Z,169nm,0.9s
KARJ 14.28 286 P Pn 18 34 29.0 +2.2
comp=Z,182nm,0.8s
KOPR Koprukoy-ERZUR 14.31 328 *e*P P 18 34 31.2 -3.1
GHAJ Ghor Haditha 14.38 286 P Pn 18 34 25.4 -2.7
comp=Z,92nm,1.2s
SHMJ Saham 14.49 292 P Pn 18 34 27.3 -2.4
comp=Z,400nm,0.9s
SVRC Sivrice-ELAZID 14.51 318 *e*P Pn 18 34 30.4 +0.4
SENK Senkaya-Erzuru 14.54 330 *e*P Pn 18 34 31.6 +1.1
YEDI Yedisu-Bingol 14.54 323 *e*P Pn 18 34 32.8 +2.3
HMDT Nahal Hemdat 14.58 290 Pn Pn 18 34 29.8 -1.1

ZFRI Zfri 14.63 283 Pn Pn 18 34 31.5 0.0
TBLG Delisi 14.65 339 *e*Pn Pn 18 34 32.7 +0.9
TBLG Delisi 14.65 339 *e*P Pn 18 34 32.7 +0.9
NATI Neve Ativ 14.65 294 Pn Pn 18 34 31.4 -0.4
SHBL Chebaa 14.67 294 *e*P Pn 18 34 31.7 -0.5
KSDI Kefar Szold 14.69 294 Pn Pn 18 34 32.2 -0.2
GEM Giv'at Ha'Em 14.69 294 Pn Pn 18 34 31.5 -0.9
MMLI Mount Malkishu 14.71 291 Pn Pn 18 34 32.6 0.0
HRFI Mount Harif 14.71 281 Pn Pn 18 34 29.9 -2.8
PRNI Paran 14.76 282 Pn Pn 18 34 33.1 -0.2
YTIR Yattir 14.77 286 Pn Pn 18 34 32.9 -0.7
EIL Elat 14.77 280 Pn Pn 18 34 33.0 -0.5
EIL Elat 14.77 280 Pn Pn 18 34 33.2 -0.3
comp=Z,0.4nm,0.3s,baz=12,slow=3.2,SNR=7.6
AKH Akhalkalaki 14.79 335 *e*Pn Pn 18 34 34.7 +0.8
AKH Akhalkalaki 14.79 335 *e*P Pn 18 34 34.7 +0.8
MBRI Mt Berech 14.81 280 Pn Pn 18 34 33.9 -0.2
MMA0B Mount Meron ar 14.85 293 Pn Pn 18 34 34.2 -0.5
MMAI Mount Meron Ar 14.85 293 Pn Pn 18 34 32.5 -2.1
comp=Z,2.3nm,0.3s,baz=107,slow=14,SNR=14
BHL Bhannes 14.90 296 *e*P Pn 18 34 34.1 -1.2
DQRL Deir Qamar 14.91 296 *e*P Pn 18 34 35.8 +0.4
BLGI Bet Lehem HaGe 14.96 292 Pn Pn 18 34 35.7 -0.3
KRMI Paran Flat 14.99 281 Pn Pn 18 34 35.8 -0.6
RMNI Mount Ramon 14.99 283 Pn Pn 18 34 35.9 -0.6
HNTI Hanita 15.06 293 Pn Pn 18 34 36.5 -0.8
OFRI `Ofer 15.10 291 Pn Pn 18 34 36.9 -1.1
MAK Makhachkala 15.11 348 *e*P Pn 18 34 35.7 -2.2
MAK *e*S Sn 18 37 23.2 -1.3
MAK pmax pmax
comp=Z,241nm,1.5s
MAK MLR MLR
comp=Z,1µm,15.0s
GAZ Gaziantep 15.13 310 *e*P Pn 18 34 36.2 -2.1
DAMY Dhamar 15.19 208 *e*Pn Pn 18 34 37.0 -2.5
comp=Z,73nm,0.8s
KZIT Kziot 15.33 284 Pn Pn 18 34 40.5 -0.4
TAHT Tahtakopru-Hat 15.45 306 *e*P Pn 18 34 43.9 +1.4
KMRS Kahramanmaras 15.52 310 *e*P P 18 34 48.9 +1.3
BCA Borcka 15.58 331 *e*P Pn 18 34 45.2 +1.1
GROC Groznyy 15.71 344 *e*P Pn 18 34 46.1 +0.4
GROC *e*S Sn 18 37 40.0 +0.9
GROC pmax pmax
comp=Z,102nm,1.1s
DARE Darende-Malaty 15.74 315 *e*P Pn 18 34 45.4 -0.9
ZEI Tsey 15.87 338 *e*P Pn 18 34 45.7 -2.3
ZEI pmax pmax
comp=Z,179nm,1.0s
YURE YUREGIR 16.05 306 *e*P Pn 18 34 50.3 0.0
CEYT Ceyhan 16.06 307 *e*P Pn 18 34 49.7 -0.6
KBL Kabul 16.06 63 *e*Pn Pn 18 34 51.5 +0.9
comp=Z,89nm,1.3s
KBL Kabul 16.06 63 *e*P Pn 18 34 51.5 +0.9
KBL pmax pmax
comp=Z,89nm,1.3s
KTUT Trabzon 16.09 325 *e*P Pn 18 34 50.5 -0.1
KRTS Karatas 16.12 305 *e*P Pn 18 34 51.8 +0.7
KOZT Kozan 16.23 309 *e*P Pn 18 34 51.8 -0.8
EREN Erenkoy 16.60 300 *e*P Pn 18 34 56.8 -0.4
NCK Nalchik 16.60 339 *e*P P 18 34 58.6 -0.9
NCK pmax pmax
comp=Z,61nm,0.8s
KARA Karaisali 16.67 307 *e*P Pn 18 34 57.2 -0.9
NEY Neytrino 16.68 336 *d i*P P 18 35 00.0 -0.5
SVSK Karacayir 16.87 318 *e*P Pn 18 35 00.2 -0.3
MERS Mersin 16.87 305 *e*P Pn 18 35 01.2 +0.5
BNN Bunyan 16.95 313 *e*P Pn 18 35 02.5 +0.8
KIZK Mersin 16.98 303 *e*P Pn 18 35 00.7 -1.3
RSDY Resadiye-TOKAT 16.98 319 *e*P P 18 35 03.6 -0.2
KBZ Khabaz 17.04 338 P Pn 18 35 03.4 +0.7
comp=Z,0.7nm,0.3s,baz=139,slow=8.6,SNR=52
CSS Mathiatis 17.05 298 P Pn 18 35 01.9 -1.1
MAMC Mammari 17.21 298 P Pn 18 35 04.1 -0.8
IKL Isikli 17.23 302 *e*P Pn 18 35 03.2 -1.9
KEBE Keben-Mersin 17.29 303 *e*P Pn 18 35 04.6 -1.3
AKKU Akkuyu-Mersin 17.30 302 *e*P Pn 18 35 04.3 -1.7
KVAR Kislovodsk Arr 17.31 338 P Pn 18 35 06.5 +0.3
baz=270,slow=20,SNR=36
KIV Kislovodsk 17.31 338 *e*P Pn 18 35 06.7 +0.5
comp=Z,206nm,1.2s
KIV Kislovodsk 17.31 338 *i* P P 18 35 08.1 +0.6
SNR=37
KIV Kislovodsk 17.31 338 *e*P Pn 18 35 06.4 +0.2
KIV *e* 18 38 19.4
KIV pmax pmax
comp=Z,492nm,1.1s
KIV MLR MLR
comp=Z,845nm,14.0s
KIV Kislovodsk 17.31 338 P P 18 35 08.2 +0.7
SNR=89
SZAC Souni 17.34 297 P Pn 18 35 05.0 -1.6
TOKT Tokat 17.39 318 *e*P Pn 18 35 07.6 +0.4
LEF Lefka 17.45 298 *e*P Pn 18 35 07.0 -0.8
BERE Bereket-Mersin 17.61 302 *e*P Pn 18 35 08.7 -1.3
ALFC Alefka 17.68 298 P Pn 18 35 09.3 -1.5
PPCY Paphos 17.80 297 P Pn 18 35 06.8 -5.4
THW Thamme Wali 17.83 70 P Pn 18 35 10.5 -2.1
CHGR Chuyangaron 17.86 50 *e*Pn Pn 18 35 03.3 -10
comp=Z,174nm,1.0s
SOC Sochi 18.14 331 *e*P Pn 18 35 15.3 -1.0
SOC *e* 18 38 36.7
SOC pmax pmax
comp=Z,100nm,0.6s
SOC MLR MLR
comp=Z,560nm,12.0s
KVT Kavak 18.17 319 *e*P Pn 18 35 16.7 0.0
SULT Sultanhani-AKS 18.18 308 *e*P Pn 18 35 16.8 -0.2
YAYX Yaylak 18.34 310 *e*P Pn 18 35 19.5 +0.6
CORM Corum 18.47 315 *e*P P 18 35 20.3 -0.1
SARP Sargodha 18.49 73 P Pn 18 35 20.6 -0.1
SERE Sereflikochisa 18.51 310 *e*P Pn 18 35 23.2 +2.2
ATD Arta Tunnel 18.57 208 *e*P Pn 18 35 22.2 +0.4
comp=Z,52nm,1.1s
ATD Arta Tunnel 18.57 208 P Pn 18 35 22.0 +0.2
comp=Z,0.5nm,0.3s,baz=360,slow=13,SNR=3.3
CHBY Cihanbeyli 18.80 308 *e*P Pn 18 35 25.6 +1.1
GAR Garm 18.81 50 *e*P P 18 35 22.8 -1.3
comp=Z,111nm,0.9s
GAR Garm 18.81 50 *e*P P 18 35 22.8 -1.3
GAR pmax pmax
comp=Z,111nm,0.9s
BR101 Keskin Array S 18.86 312 *e*P P 18 35 24.8 +0.2
BR101 *e*PcP PcP 18 39 50.8 0.0
BR101 *e*ScP ScP 18 43 24.9 -0.2
BR101 *e* 18 44 19.3
BR131 Keskin Array S 18.86 312 *e*P P 18 35 24.2 -0.5
comp=Z,96nm,0.8s
BR131 Keskin Array S 18.86 312 P Pn 18 35 25.3 +0.1
SNR=138
BRTR Keskin Array B 18.86 312 *e*P P 18 35 23.7 -0.9
BRTR PcP PcP 18 39 50.8 0.0
BRTR ScP ScP 18 43 24.9 -0.3
BRTR Keskin Array B 18.86 312 *i* P P 18 35 24.2 -0.5
BRTR pmax pmax
comp=Z,95nm,0.9s
BRTR Keskin Array B 18.86 312 P P 18 35 24.8 +0.2
comp=Z,2.1nm,0.3s,baz=131,slow=13,SNR=90
BRTR PcP PcP 18 39 50.8 0.0
comp=Z,0.1nm,0.3s,baz=135,slow=4.0,SNR=3.8
BRTR ScP ScP 18 43 24.9 -0.3
comp=Z,0.1nm,0.3s,baz=147,slow=4.6,SNR=5.8
BRTR LR LR 18 44 19.3
comp=Z,780nm,18.3s,baz=115,slow=42
KONT Konya--Tatoy 18.89 306 *e*P Pn 18 35 25.9 +0.4
KULU Kulu 18.94 310 *e*P Pn 18 35 26.8 +0.6
DIKM Dikmen 18.99 319 *e*P P 18 35 26.2 +0.3
DIKM Dikmen 18.99 319 ⇑*i*P Pn 18 35 26.8 +0.2
LADK Ladik-KONYA 18.99 307 *e*P Pn 18 35 26.8 -0.1
NIL Nilore 19.22 68 *e*P P 18 35 27.9 -0.6
comp=Z,101nm,0.9s
NIL Nilore 19.22 68 *e*P P 18 35 28.0 -0.6
NIL pmax pmax
comp=Z,101nm,0.9s
CHCP Chirah Chowk 19.23 68 P P 18 35 28.2 -0.5
SNOP Sinop 19.25 320 *e*P P 18 35 28.9 +0.1
SNOP Sinop 19.25 320 *e*P P 18 35 28.7 -0.1
comp=Z,148nm,1.0s
CANT Cankiri 19.35 314 *e*P Pn 18 35 30.8 -0.3
TAS Tashkent 19.42 43 P Pn 18 35 33.5 +1.6
BR231 Keskin MP Arra 19.49 311 *e*P P 18 35 31.6 +0.1
comp=Z,91nm,0.6s
ANTO Ankara 19.49 312 *e*P P 18 35 31.7 +0.2
comp=Z,88nm,0.8s

ANTO Ankara 19.49 312 ⇑*i*P P 18 35 31.9 +0.4
ANTO Ankara 19.49 312 ⇑P P 18 35 31.9 +0.4
ANTO Ankara 19.49 312 P Pn 18 35 33.0 +0.2
SNR=30
LOD Lodumlu 19.52 312 *e*P Pn 18 35 33.1 0.0
ILGA Ilgaz 19.55 316 *e*P P 18 35 32.7 +0.5
comp=Z,114nm,0.8s
BTK Batken 19.68 48 *e*P P 18 35 33.6 +0.1
comp=Z,90nm,1.2s
BTK Batken 19.68 48 *e*P P 18 35 33.6 +0.1
BTK pmax pmax
comp=Z,90nm,1.2s
BZK Bozkurt 19.91 318 *e*P Pn 18 35 37.9 +0.2
BZK Bozkurt 19.91 318 ⇑*i*P P 18 35 36.1 +0.1
KORT Korkueli 20.00 301 *e*P Pn 18 35 39.7 +0.7
ANN Anapa 20.10 329 *e*P P 18 35 37.5 -0.5
ANN *e**PP Pn 18 35 40.5 +0.6
ANN *e* 18 35 53.6
ANN *e*S Sn 18 39 24.2 -1.2
ANN *e*SS SnSn 18 39 44.9 +4.8
ANN pmax pmax
comp=Z,147nm,1.1s
ANN MLR MLR
comp=E,264nm,14.0s
ANN MLR MLR
comp=N,514nm,14.0s
ANN MLR MLR
comp=Z,476nm,14.0s
SVRH Sivrihisar-ESK 20.14 309 *e*P P 18 35 39.5 +0.9
ISP Isparta 20.17 304 *e*P P 18 35 38.0 -0.9
comp=Z,56nm,0.8s
ISP Isparta 20.17 304 P P 18 35 38.9 0.0
ISP Isparta 20.17 304 *e*P P 18 35 38.0 -0.9
ISP pmax pmax
comp=Z,56nm,0.8s
CHM Chimkent 20.21 41 *e*P P 18 35 38.3 -0.9
CHM pmax pmax
comp=Z,26nm,0.8s
CHM MLR MLR
comp=Z,249nm,13.0s
CHM Chimkent 20.21 41 *e*P P 18 35 38.3 -0.9
comp=Z,26nm,0.8s
CHM *e*LR LR 18 44 26.6
comp=Z,249nm,12.8s
ELL Elmali 20.25 300 *e*P Pn 18 35 40.9 -1.0
AKAS Kas 20.33 299 *e*P P 18 35 39.2 -1.5
IUG Iuzhnay 20.36 42 *e*P P 18 35 39.7 -1.2
IUG *e*S Sn 18 39 31.2 -0.6
IUG pmax pmax
comp=Z,48nm,1.1s
IUG smax smax
comp=E,217nm,5.3s
IUG MLR MLR
comp=Z,637nm,14.0s
IUG Iuzhnay 20.36 42 *e*P P 18 35 39.8 -1.2
comp=Z,48nm,1.1s
IUG *e*S Sn 18 39 31.3 -0.5
comp=Z,217nm,5.3s
IUG *e*LR LR 18 44 39.8
comp=Z,637nm,13.9s
CIFT Cifteler, Eski 20.42 308 *e*P P 18 35 42.5 +0.9
SHUT Suhut-Afyon 20.43 306 *e*P Pn 18 35 43.1 -0.9
DESE Dese 20.45 216 *e*P P 18 35 42.6 +0.3
DESE *e*S Sn 18 39 35.1 +0.5
DESE Dese 20.45 216 *e*P P 18 35 42.6 +0.3
DESE *e*S Sn 18 39 35.1 +0.5
KURC Kurucasile-Bar 20.60 316 *e*P P 18 35 44.3 +0.9
JBG Jabagly 20.83 42 *e*P P 18 35 44.9 -1.2
JBG *e*S S 18 39 36.8 -0.7
JBG pmax pmax
comp=Z,77nm,1.3s
JBG smax smax
comp=N,95nm,3.6s
JBG MLR MLR
comp=Z,481nm,12.0s
MDUB Mudurnu 20.85 311 *e*P P 18 35 47.0 +0.7
MDUB Mudurnu 20.85 311 *e*P P 18 35 46.6 +0.3
comp=Z,827nm,0.9s
FETY Fethiye 20.85 299 *e*P P 18 35 46.1 -0.1
FETY Fethiye 20.85 299 P P 18 35 45.8 -0.4
SRCK Saricakaya, Es 21.03 310 *e*P P 18 35 49.6 +1.5
KK31 Karatay Array 21.22 41 *e*P P 18 35 48.9 -1.3
comp=Z,88nm,1.0s
KK31 Karatay Array 21.22 41 *e*P P 18 35 48.9 -1.3
KK31 pmax pmax
comp=Z,88nm,1.0s
KKAR Karatay Array 21.22 41 *e*P P 18 35 48.4 -1.8
KKAR Karatay Array 21.22 41 *e*P P 18 35 48.4 -1.8
DALY Dalyan (Mula) 21.23 300 *e*P P 18 35 50.4 +0.1
GULT Gulveren 21.29 310 *e*P P 18 35 51.5 +0.5
TURN Turunc 21.29 300 *e*P P 18 35 54.3 +3.4
SAUV Serdivan-Sakar 21.56 311 *e*P P 18 35 54.2 +0.4
DZA Taraz 21.57 42 *e*P P 18 35 52.4 -1.5
DZA pmax pmax
comp=Z,40nm,1.0s
DZA Taraz 21.57 42 *e*P P 18 35 52.4 -1.5
comp=Z,40nm,1.0s
TVSB Tavsanli 21.58 307 *e*P P 18 35 54.6 +0.5
BHK Bhakra 21.64 75 *e*P P 18 35 55.8 +1.1
CAVI Cavuskoy 21.64 309 *e*P P 18 35 55.2 +0.5
ARSB Arslanbob 21.74 47 *e*P P 18 35 55.0 -0.9
comp=Z,215nm,1.3s
KULA Kula-Manisa 21.79 304 *e*P P 18 35 56.6 +0.2
KULA Kula-Manisa 21.79 304 P P 18 35 56.1 -0.3
ADVT Abdulvahap 21.81 310 *e*P P 18 35 57.3 +0.8
SIM Simferopol' 21.81 325 *ce*P P 18 35 55.9 -0.6
SIM S S 18 39 58.1 +1.5
SIM pmax pmax
comp=Z,128nm,1.0s
SIM MLR MLR
comp=Z,440nm,17.0s
MANT Manisa 21.85 304 *e*P P 18 35 56.7 -0.6
comp=Z,336nm,0.9s
ABKAR Akbulak array 21.94 14 *e*P P 18 35 56.6 -1.2
DAT Datca 22.04 299 *e*P P 18 35 59.8 +0.7
HRT Hereke 22.04 311 *e*P P 18 35 59.2 +0.2
KARP Karpathos 22.08 296 *e*P P 18 36 00.8 +1.4
comp=Z,159nm,0.9s
YLV Yalova 22.12 310 *e*P P 18 36 00.2 +0.3
AYDB Zeytinkoy-Aydi 22.16 302 *e*P P 18 36 02.8 +2.4
GEMT Gemlik 22.19 309 *e*P P 18 36 00.5 0.0
BODT Bodrum 22.34 299 *e*P P 18 36 02.0 -0.2
BODT Bodrum 22.34 299 P P 18 36 01.7 -0.5
MDNY Mudanya-Bursa 22.37 309 *e*P P 18 36 03.1 +0.6
ARMT Armutlu 22.47 309 *e*P P 18 36 03.4 -0.2
GCAM G?zelcaml? 22.58 301 *e*P P 18 36 03.8 -0.9
AML Almayashu 22.61 46 P P 18 36 05.2 -0.3
SNR=57
KCTX Karacabey (Bur 22.69 308 *e*P P 18 36 06.3 +0.4
AKTO Aktyubinsk 22.70 10 P P 18 36 05.6 -0.3
comp=Z,14nm,0.8s,baz=205,slow=12,SNR=14
BALB Balikesir 22.77 306 *e*P P 18 36 07.1 +0.3
BALB Balikesir 22.77 306 *e*P P 18 36 06.7 0.0
comp=Z,232nm,1.0s
BGKT Bogazkoy 22.81 311 *e*P P 18 36 09.4 +2.3
FURI Furi 22.82 215 *e*P P 18 36 09.1 +1.3
comp=Z,27nm,0.8s
EKS2 Erkin-Say 22.93 45 P P 18 36 10.4 +1.8
SNR=53
BLCB Balcova 22.94 303 *e*P P 18 36 09.4 +0.9
KSH Kashi 22.99 54 P P 18 36 05.3 -4.0
KSH pP pP 18 36 10.0 -5.6
KSH PP PnPn 18 36 34.3 +0.1
KSH S S 18 40 07.9 -11
KSH SS SnSn 18 40 49.0 -2.2
KSH pmax pmax
comp=Z,140nm,0.9s
KSH LR LR
comp=Z,920nm,7.1s
KSH LR LR
comp=Z,730nm,7.5s
KSH LR LR
comp=Z,820nm,8.3s
CTKS Kestanelik-??a 23.01 310 *e*P P 18 36 09.2 0.0
UCH Uchtor 23.18 47 P P 18 36 12.9 +1.4
SNR=65
URLA Izmir 23.26 302 *e*P P 18 36 13.0 +1.1
NPS Neapolis 23.26 294 P P 18 36 08.2 -3.7
LAST Lasithi 23.35 294 P P 18 36 12.9 0.0
MRMT Marmara Adasi 23.36 308 *e*P P 18 36 13.8 +1.0
AAK Ala-Archa 23.37 46 P P 18 36 16.7 +3.7
SNR=25
AAK Ala-Archa 23.37 46 *e*P P 18 36 12.6 -0.5
comp=Z,188nm,1.8s

AAK PcP **PcP** 18 39 59.2 -0.3
AAK Ala-Archa 23.37 46 *i* P **P** 18 36 13.7 +0.6
SNR=54
AAK Ala-Archa 23.37 46 *d i* P **P** 18 36 14.6 +1.5
AAK pmax pmax
comp=Z,67nm,2.5s
AAK Ala-Archa 23.37 46 P **P** 18 36 16.8 +3.7
SNR=43
AAK Ala-Archa 23.37 46 P **P** 18 36 13.7 +0.6
comp=Z,7.4nm,0.7s,baz=225,slow=10.0,SNR=32
AAK PcP **PcP** 18 39 59.2 -0.3
comp=Z,3.8nm,0.6s,baz=208,slow=4.4,SNR=4.4
KRBG Karabiga-Canak 23.48 308 *e*P **P** 18 36 13.7 -0.2
FRU1 Bishkek 23.55 46 *e*P **P** 18 36 14.3 -0.3
comp=Z,47nm,1.0s
FRU1 Bishkek 23.55 46 *e*P **P** 18 36 14.4 -0.3
FRU1 pmax pmax
comp=Z,47nm,1.0s
KZA Kyzart 23.59 48 P **P** 18 36 17.3 +1.9
SNR=89
SANT Santorini 23.61 297 *e*P **P** 18 36 14.8 -0.5
comp=Z,300nm,1.2s
SANT Santorini 23.61 297⇑*i*P **P** 18 36 16.8 +1.5
KBK Karagaybulak 23.67 46 P **P** 18 36 18.3 +2.2
SNR=31
CHOS Chios island 23.67 302 P **P** 18 36 17.2 +1.2
USP Ospenovka 23.70 45 P **P** 18 36 16.5 +0.3
SNR=61
APE Apeiranthos 23.71 299⇑*i*P **P** 18 36 18.2 +1.9
APE Apeiranthos 23.71 299⇑P **P** 18 36 18.2 +1.9
CHMS Chumysh 23.72 45 P **P** 18 36 19.3 +3.0
SNR=20
PRK Paraskevi 23.79 304 P **P** 18 36 18.9 +1.9
NRN Naryn 23.79 50 *e*P **P** 18 36 17.3 -0.1
comp=Z,235nm,1.8s
NRN Naryn 23.79 50 *e*P **P** 18 36 17.3 -0.1
NRN pmax pmax
comp=Z,235nm,1.8s
PHSR Pinarhisar 23.85 310⇓*i*P **P** 18 36 17.5 0.0
IDI Anoyia 23.85 294 P **P** 18 36 17.4 -0.3
IDI Anoyia 23.85 294 P **P** 18 36 18.4 +0.7
comp=Z,97nm,0.9s,baz=89,slow=9.1,SNR=28
SIVA Sivas 23.87 293 P **P** 18 36 18.6 +0.8
EZN Ezine 23.95 306 *e*P **P** 18 36 18.9 +0.4
EZN Ezine 23.95 306 P **P** 18 36 19.1 +0.6
EZN Ezine 23.95 306⇑*i*P **P** 18 36 18.5 0.0
EZN Ezine 23.95 306⇑P **P** 18 36 18.5 0.0
GELI Tayfur-Gelibol 24.06 307 *e*P **P** 18 36 19.9 +0.4
ERIK Erikli-Kesan 24.14 308 *e*P **P** 18 36 19.7 -0.5
BOZC Bozcaada 24.16 305 *e*P **P** 18 36 20.5 +0.1
VRH Novokhopyorsk 24.17 344 *e*P **P** 18 36 19.7 -0.7
VRH *e*S **S** 18 40 36.0 -1.2
VRH pmax pmax
comp=Z,360nm,1.0s
VRH smax smax
comp=N,1μm,2.5s
TKM2 Tokmak 2 24.22 46 P **P** 18 36 21.4 +0.2
SNR=40
ULHL Ulahol 24.32 48 P **P** 18 36 23.4 +1.3
SNR=33
EFOR EFORIE 24.35 317⇑*i*P **P** 18 36 23.8 +1.7
PSN Preselentsi 24.41 315 P **P** 18 36 22.3 -0.4
ENEZ Enez 24.42 307 *e*P **P** 18 36 22.5 -0.3
VAM Vamos 24.43 294 P **P** 18 36 23.5 +0.6
GVD Gavdhos 24.43 293 P **P** 18 36 22.9 -0.1
EDRB Edirne 24.47 310 P **P** 18 36 23.1 -0.1
MFTR Murfatlar 24.53 317⇑*i*P **P** 18 36 23.7 -0.1
ALN Alexandroupoli 24.55 308 *e*P **P** 18 36 24.3 +0.3
comp=N,36nm,0.8s
ALN Alexandroupoli 24.55 308 P **P** 18 36 24.3 +0.3
ALN Alexandroupoli 24.55 308 *e*P **P** 18 36 24.3 +0.3
ALN pmax pmax
comp=Z,36nm,0.8s
VORD Divnogorie 24.59 341 *e*P **P** 18 36 23.0 -1.3
VORD *e*S **S** 18 40 41.2 -2.8
VORD pmax pmax
comp=Z,110nm,0.9s
VORD smax smax
comp=E,6μm,5.2s
IMMV Iera Moni Meta 24.61 294 P **P** 18 36 25.1 +0.5
PRD Provadia 24.66 314 P **P** 18 36 26.9 +1.9
TIRR Tirgusor 24.69 317 *e*P **P** 18 36 25.0 -0.2
comp=E,17nm,0.7s
TIRR Tirgusor 24.69 317⇑*i*P **P** 18 36 25.5 +0.3
TIRR Tirgusor 24.69 317⇑P **P** 18 36 25.5 +0.3
SMTH Samothraki Isl 24.75 306 P **P** 18 36 25.7 -0.2
LIA Limnos Island 24.80 305 P **P** 18 36 27.1 +0.8
VSR Storozhevoye 24.86 341 *e*P **P** 18 36 25.0 -1.6
VSR *e*S **S** 18 40 48.1 -0.1
VSR pmax pmax
comp=Z,140nm,1.0s
VSR smax smax
comp=N,420nm,1.4s
TLCR 24.86 319⇑*i*P **P** 18 36 27.5 +0.8
TLCR 24.86 319⇑P **P** 18 36 27.5 +0.8
KDJ Kajisay 24.89 49 *e*P **P** 18 36 28.2 +0.9
comp=N,70nm,0.9s
KDJ Kajisay 24.89 49 *e*P **P** 18 36 28.2 +0.9
KDJ pmax pmax
comp=Z,70nm,0.9s
TLB Topalu 24.98 317⇑*i*P **P** 18 36 28.4 +0.6
TLB Topalu 24.98 317⇑P **P** 18 36 28.4 +0.6
RDO Rodhopi 25.00 308 P **P** 18 36 28.3 +0.2
HARR Harsova 25.10 317⇑*i*P **P** 18 36 29.4 +0.5
HARR Harsova 25.10 317⇑P **P** 18 36 29.4 +0.5
TARG Taragay, Kyrgy 25.14 51 *e*P **P** 18 36 30.1 +0.3
comp=Z,41nm,0.8s
TNSS Tian-Shan 25.14 47 *e*P **P** 18 36 31.0 +1.2
TNSS pmax pmax
comp=Z,55nm,0.6s
TNSS Tian-Shan 25.14 47 *e*P **P** 18 36 31.1 +1.2
comp=Z,55nm,0.6s
KUU Kurty 25.17 45 *e*P **P** 18 36 30.2 +0.6
KUU *e*S **S** 18 40 54.5 +1.0
KUU pmax pmax
comp=Z,44nm,1.0s
KUU smax smax
comp=E,393nm,4.7s
KUU MLR MLR
comp=Z,1μm,11.0s
KUU Kurty 25.17 45 *e*P **P** 18 36 30.3 +0.6
comp=Z,44nm,1.0s
KUU *e*S **S** 18 40 54.5 +1.0
comp=Z,393nm,4.7s
KUU *e*LR LR 18 47 56.6
comp=Z,1μm,11.4s
AAA Alma-Ata 25.20 47 *e*P **P** 18 36 34.2 +4.2
AAA *e*S **S** 18 40 57.7 +3.6
AAA pmax pmax
comp=Z,1μm,15.7s
AAA smax smax
comp=E,700nm,13.6s
AAA MLR MLR
comp=Z,1μm,14.0s
AAA Alma-Ata 25.20 47 *i* P **P** 18 36 32.2 +2.2
comp=Z,23nm,0.9s
AAA *e*LR LR 18 47 43.5
comp=Z,891nm,14.4s
ANKY Antikythira Is 25.22 295 P **P** 18 36 31.5 +1.4
PTL Penteli 25.24 300 P **P** 18 36 31.9 +1.6
VLY Voula,Athens 25.24 300 P **P** 18 36 30.4 +0.1
VORR Voronezh 25.25 342 *e*P **P** 18 36 31.0 +0.8
VORR *e*S **S** 18 40 53.0 -1.5
VORR pmax pmax
comp=Z,500nm,1.2s
CFR Carcaliu 25.25 318⇓*i*P **P** 18 36 30.3 0.0
CFR Carcaliu 25.25 318⇓P **P** 18 36 30.3 0.0
MDOK Medeo 25.27 47 *e*P **P** 18 36 30.3 -0.3
MDOK *e*S **S** 18 41 01.1 +5.8
MDOK pmax pmax
comp=Z,393nm,1.1s
MDOK smax smax
comp=E,438nm,4.2s
MDOK MLR MLR
comp=Z,1μm,15.0s
MDOK Medeo 25.27 47 *e*P **P** 18 36 30.4 -0.3
comp=Z,393nm,1.1s
MDOK *e*S **S** 18 41 01.1 +5.8
comp=Z,438nm,4.2s
MDOK *e*LR LR 18 47 44.3
comp=Z,1μm,15.0s
ATHU Athens Univers 25.28 300 P **P** 18 36 32.0 +1.4
KDZ Kurdzhali 25.29 309 P **P** 18 36 35.5 +4.8
DIM Dimitrovgrad 25.37 310 P **P** 18 36 33.0 +1.6
KYTH Kithira 25.49 296 P **P** 18 36 32.5 -0.1

KTHR Kythira 25.53 296 P **P** 18 36 33.9 +1.0
AOS Alonnisos 25.53 303 P **P** 18 36 34.0 +1.1
CHKK Chushkaly 25.56 46 *e*P **P** 18 36 33.4 +0.3
CHKK pmax pmax
comp=Z,658nm,0.9s
CHKK Chushkaly 25.56 46 *e*P **P** 18 36 33.5 +0.3
comp=Z,658nm,0.9s
DID Didima 25.59 299 P **P** 18 36 32.6 -0.9
MRKA Markates 25.62 301 P **P** 18 36 34.5 +0.8
KRND KRANIDI 25.63 298 P **P** 18 36 33.5 -0.3
SZH Strazhica 25.64 313 P **P** 18 36 31.7 -2.1
VLI Veliai 25.66 297 P **P** 18 36 33.1 -1.0
LEHL Lehliu 25.66 316⇑*i*P **P** 18 36 34.4 +0.4
KAVA Kavala 25.67 307 P **P** 18 36 34.6 +0.5
VILL Villia 25.69 300 P **P** 18 36 34.0 -0.4
TUDR 25.76 319⇑*i*P **P** 18 36 35.2 +0.4
RZN Rozhen 25.78 309 P **P** 18 36 36.3 +0.9
PRZ Przheval'sk 25.86 50 *e*P **P** 18 36 36.8 +0.8
comp=Z,131nm,1.1s
PRZ Przheval'sk 25.86 50 *e*P **P** 18 36 36.8 +0.8
PRZ pmax pmax
comp=Z,131nm,1.1s
PAIG Paliouri 25.91 304 P **P** 18 36 37.0 +0.7
LEOM Leova 25.94 321⇑*i*P **P** 18 36 36.8 +0.3
LEOM Leova 25.94 321⇑P **P** 18 36 36.8 +0.3
KIS Kishinev 25.94 322 *e*P **P** 18 36 36.0 -0.5
KIS *e*S **S** 18 41 03.0 -2.6
KIS LRM MLR 18 51 02.0
comp=Z,300nm,16.0s
KIS Kishinev 25.94 322 *e*P **P** 18 36 36.0 -0.5
KIS *e*S **S** 18 41 03.0 -2.6
KIS *e* 18 42 12.0
SMIA Simia 25.95 302 P **P** 18 36 37.3 +0.6
PLD Plovdiv 25.96 309 P **P** 18 36 37.1 +0.4
ATAL Atalanti 26.04 301 P **P** 18 36 37.5 -0.1
GRER 26.05 318⇑*i*P **P** 18 36 39.1 +1.6
NEO Neokhori 26.06 303 P **P** 18 36 38.3 +0.6
PETR Petresti 26.09 319⇑*i*P **P** 18 36 39.2 +1.4
XOR Xorichti 26.10 303 P **P** 18 36 38.4 +0.3
SATY Saty 26.11 48 *e*P **P** 18 36 38.8 +0.6
SATY pmax pmax
comp=Z,40nm,1.2s
SATY MLR MLR
comp=Z,546nm,19.0s
SATY Saty 26.11 48 *e*P **P** 18 36 38.9 +0.6
comp=Z,40nm,1.2s
SATY *e*LR LR 18 48 25.4
comp=Z,546nm,18.8s
SULR 26.12 316⇑*i*P **P** 18 36 39.2 +1.1
LPSR Galich'ya Gora 26.16 342 *e*P **P** 18 36 39.5 +1.1
LPSR *e*S **S** 18 41 06.9 -1.9
LPSR pmax pmax
comp=Z,400nm,1.0s
LPSR smax smax
comp=N,330nm,3.5s
BIR Birlad 26.16 320⇓*i*P **P** 18 36 39.5 +1.0
BIR Birlad 26.16 320⇓P **P** 18 36 39.5 +1.0
ISR Istrita 26.17 317⇑*i*P **P** 18 36 39.9 +1.2
ISR Istrita 26.17 317⇑P **P** 18 36 39.9 +1.2
ZHN Zhinishke 26.18 48 *e*P **P** 18 36 38.2 -0.6
ZHN pmax pmax
comp=Z,22nm,1.0s
ZHN MLR MLR
comp=Z,184nm,13.0s
ZHN Zhinishke 26.18 48 *e*P **P** 18 36 38.3 -0.6
comp=Z,22nm,1.0s
ZHN *e*LR LR 18 48 29.8
comp=Z,184nm,13.2s
ODBI Odobesti 26.21 319⇑*i*P **P** 18 36 39.2 +0.2
PLG Polygyros 26.22 305 P **P** 18 36 40.2 +1.1
VLX Vlachokerasia 26.23 298 P **P** 18 36 38.9 -0.5
NVR Nevrokopi 26.25 307 P **P** 18 36 40.2 +0.7
AXAR Agios Charalam 26.34 301 P **P** 18 36 43.0 +2.8
DSF Desfina 26.35 300 P **P** 18 36 39.6 -0.8
TRIP Tripoli 26.35 298 P **P** 18 36 40.0 -0.4
SRS Serrai 26.36 307 P **P** 18 36 41.2 +0.8
GUR Goura 26.38 299 P **P** 18 36 40.7 0.0
SECR 26.41 316⇓*i*P **P** 18 36 41.2 +0.4
SOH Sokhos 26.43 306 P **P** 18 36 42.1 +1.0
MMB Musomiste 26.43 308 P **P** 18 36 43.2 +2.1
VRI Vrincioaia 26.46 318⇑*i*P **P** 18 36 41.3 +0.1
VRI Vrincioaia 26.46 318⇑P **P** 18 36 41.3 +0.1
KPKS Kokpek 26.47 48 *e*P **P** 18 36 41.4 0.0
KPKS pmax pmax
comp=Z,143nm,2.3s
KPKS MLR MLR
comp=Z,561nm,13.0s
KPKS Kokpek 26.47 48 *e*P **P** 18 36 41.5 0.0
comp=Z,143nm,2.3s
KPKS *e*LR LR 18 48 45.6
comp=Z,561nm,13.1s
PLOR Plostina 26.50 318⇓*i*P **P** 18 36 42.0 +0.4
PLOR Plostina 26.50 318⇓P **P** 18 36 42.0 +0.4
PGB Panagyurishte 26.50 310 P **P** 18 36 43.0 +1.3
HORT Hortiatis 26.54 305 P **P** 18 36 42.6 +0.5
ITM Ithomi 26.55 297 *e*P **P** 18 36 41.6 -0.5
comp=Z,45nm,0.8s
ITM Ithomi 26.55 297 P **P** 18 36 41.6 -0.5
KLV Kalavryta, Ach 26.55 299 P **P** 18 36 41.9 -0.3
UZB Uzynbulak 26.55 49 *e*P **P** 18 36 42.4 +0.1
UZB *e*S **S** 18 41 22.7 +7.1
UZB pmax pmax
comp=Z,67nm,1.6s
UZB smax smax
comp=E,80nm,13.2s
UZB MLR MLR
comp=Z,130nm,11.0s
UZB Uzynbulak 26.55 49 *e*P **P** 18 36 42.5 +0.1
comp=Z,67nm,1.6s
UZB *e*S **S** 18 41 22.7 +7.1
comp=Z,80nm,13.2s
UZB *e*LR LR 18 48 31.6
comp=Z,130nm,10.7s
PYL PYLOS 26.64 297 P **P** 18 36 41.9 -1.1
AGG Agios Georgios 26.65 301 *e*P **P** 18 36 42.8 -0.2
comp=Z,49nm,1.0s
AGG Agios Georgios 26.65 301 P **P** 18 36 42.5 -0.6
AGG Agios Georgios 26.65 301 *e*P **P** 18 36 42.8 -0.2
AGG pmax pmax
comp=Z,49nm,1.0s
TRIZ Trizonia 26.68 300 P **P** 18 36 42.7 -0.6
SERG Sergoula 26.71 300 P **P** 18 36 42.9 -0.7
MLR Muntele Rosu 26.72 317 *e*P **P** 18 36 44.7 +0.9
comp=Z,54nm,0.9s
MLR Muntele Rosu 26.72 317⇓*i*P **P** 18 36 45.2 +1.4
MLR Muntele Rosu 26.72 317⇓P **P** 18 36 45.2 +1.4
MLR Muntele Rosu 26.72 317 P **P** 18 36 44.7 +0.9
comp=Z,30nm,0.6s,baz=350,slow=4.2,SNR=28
LAKA Lakka 26.73 300 P **P** 18 36 43.3 -0.5
IAS Iasi 26.74 322⇑*i*P **P** 18 36 44.5 +0.7
IAS Iasi 26.74 322⇑P **P** 18 36 44.5 +0.7
AMT Artemida-Makis 26.79 298 P **P** 18 36 48.1 +3.8
EFP Efpalio 26.82 300 P **P** 18 36 44.1 -0.5
LIT Litokhoron 26.83 304 *e*P **P** 18 36 44.4 -0.3
comp=Z,28nm,0.9s
LIT Litokhoron 26.83 304 P **P** 18 36 44.6 -0.1
LIT Litokhoron 26.83 304 *e*P **P** 18 36 44.4 -0.3
LIT pmax pmax
comp=Z,28nm,0.9s
HUMR Humele 26.84 314⇑*i*P **P** 18 36 44.3 -0.3
SHLS Shalkode 26.85 49 *e*P **P** 18 36 47.5 +2.6
SHLS pmax pmax
comp=Z,55nm,1.5s
SHLS MLR MLR
comp=Z,171nm,10.0s
SHLS Shalkode 26.85 49 *e*P **P** 18 36 47.5 +2.6
comp=Z,55nm,1.5s
SHLS *e*LR LR 18 50 05.2
comp=Z,171nm,9.9s
ANX Ano Chora 26.85 300 P **P** 18 36 44.5 -0.5
TESR Tescani 26.86 320⇑*i*P **P** 18 36 45.1 +0.2
KNT Kendrikon 26.87 306 P **P** 18 36 45.3 +0.3
DRO Drossia 26.87 299 P **P** 18 36 45.7 +0.6
HYB Hyderabad 26.89 108 *i* P **P** 18 36 46.0 +0.6
HYB *e*S **S** 18 41 22.0 +0.9
VLAD Vladila 26.96 313⇑*i*P **P** 18 36 45.4 -0.3
BRZS Berezniki 26.97 31 *e*P **P** 18 36 45.8 0.0
BRZS *e*S **S** 18 41 17.3 -4.4
BRZS MLR MLR
comp=Z,375nm,11.0s
BRZS Berezniki 26.97 31 *e*P **P** 18 36 45.8 0.0
BRZS *e*S **S** 18 41 17.4 -4.4
BRZS *e*LR LR 18 48 29.8
comp=Z,375nm,11.4s
KKB Krupnik 26.98 308 P **P** 18 36 45.8 -0.2
GOLR 27.00 315⇓*i*P **P** 18 36 45.9 -0.2
TDK Taldyqorghan 27.01 45 *e*P **P** 18 36 44.7 -1.5
TDK pmax pmax
comp=Z,19nm,1.0s
TDK MLR MLR
comp=Z,2μm,12.0s
TDK Taldyqorghan 27.01 45 *e*P **P** 18 36 44.8 -1.5
comp=Z,19nm,1.0s
TDK *e*LR LR 18 49 01.3
comp=Z,2μm,12.4s
EVR Evrytania 27.02 301 P **P** 18 36 45.8 -0.6
MPEP Malo Peshtene 27.11 311 P **P** 18 36 47.8 +0.6
MTUR Matau 27.12 316⇓*i*P **P** 18 36 48.8 +1.5
MTUR Matau 27.12 316⇓P **P** 18 36 48.9 +1.6
VAY Valandovo 27.15 306 P **P** 18 36 47.7 +0.2
VAY Valandovo 27.15 306 *i* P **P** 18 36 47.9 +0.4
PVO Paravola 27.16 300 P **P** 18 36 47.8 +0.2
VTS Vitosha 27.16 309 *e*P **P** 18 36 47.4 -0.4
comp=Z,35nm,1.0s
VTS Vitosha 27.16 309 P **P** 18 36 48.0 +0.2
VTS Vitosha 27.16 309⇑*i*P **P** 18 36 48.2 +0.4
VTS Vitosha 27.16 309⇑P **P** 18 36 48.2 +0.4
VTS Vitosha 27.16 309 P **P** 18 36 47.8 0.0
VOIR 27.24 316⇓*i*P **P** 18 36 49.3 +1.0
VOIR 27.24 316⇓P **P** 18 36 49.3 +1.0
DOPR Dopca 27.30 318⇓*i*P **P** 18 36 49.3 +0.4
BIZ Bicaz 27.41 320⇑*i*P **P** 18 36 50.3 +0.5
ARR Arges 27.46 316⇓*i*P **P** 18 36 51.1 +0.8
PYUN Piuthan 27.52 83 *e*P **P** 18 36 52.5 +1.3
comp=Z,197nm,1.3s
STIP Stip 27.55 307 *i* P **P** 18 36 50.2 -0.9
PRAR RASCA 27.58 321⇓*i*P **P** 18 36 52.3 +1.0
FNA Florina 27.84 305 *e*P **P** 18 36 53.8 +0.1
comp=Z,28nm,0.8s
FNA Florina 27.84 305 P **P** 18 36 53.9 +0.1
FNA Florina 27.84 305 *e*P **P** 18 36 53.8 +0.1
FNA pmax pmax
comp=Z,28nm,0.8s
LKD2 Lefkada island 27.86 300 P **P** 18 36 53.2 -0.7
BIA Bitola 27.95 305 *i* P **P** 18 36 55.6 +0.9
MDB Medias 27.99 317⇑*i*P **P** 18 36 56.3 +1.3
MDB Medias 27.99 317⇑P **P** 18 36 56.3 +1.3
LOT Lotru 28.03 315⇓*i*P **P** 18 36 55.5 0.0
PUNG Punghina 28.03 313⇑*i*P **P** 18 36 56.4 +1.0
KOLN Koldanda 28.10 83 *e*P **P** 18 36 57.3 +0.9
comp=Z,59nm,1.2s
KRUS Krusevo 28.11 306 *i* P **P** 18 36 57.4 +1.2
DANN Dangsing 28.16 82 *e*P **P** 18 36 57.8 +0.8
comp=Z,144nm,0.8s
SKO Skopje 28.17 307 *i* P **P** 18 36 57.0 +0.4
AKASG Malin Array Be 28.19 329 *e*P **P** 18 36 54.9 -1.8
AKASG Malin Array Be 28.19 329 P **P** 18 36 55.5 -1.1
comp=Z,15nm,0.7s,baz=134,slow=8.2,SNR=45
AKBB Malin Array Si 28.19 329 *e*P **P** 18 36 55.5 -1.2
comp=Z,61nm,1.1s
AKBB Malin Array Si 28.19 329 *e*P **P** 18 36 55.5 -1.2
AKBB pmax pmax
comp=Z,61nm,1.1s
KIEV Kiev 28.19 329 *e*P **P** 18 36 55.5 -1.2
comp=Z,65nm,1.2s
KIEV Kiev 28.19 329⇓*i*P **P** 18 36 56.1 -0.6
KIEV Kiev 28.19 329⇑*e*P **P** 18 36 55.6 -1.1
KIEV pmax pmax
comp=Z,29nm,0.9s
IGT Igoumenitsa 28.28 302 P **P** 18 36 56.1 -1.5
BURAR Bucovina Array 28.29 320 *e*P **P** 18 36 57.6 -0.1
BURAR Bucovina Array 28.29 320⇑*i*P **P** 18 36 58.4 +0.7
BURAR Bucovina Array 28.29 320⇑P **P** 18 36 58.4 +0.7
BUR08 Bucovina Ar. S 28.31 320 *e*P **P** 18 36 57.8 -0.2
comp=Z,16nm,0.8s
OHR Ohrid 28.36 305 *i* P **P** 18 36 58.1 -0.2
BRVK Borovoye 28.36 24 *e*P **P** 18 36 59.3 +1.1
comp=Z,16nm,0.9s
BRVK Borovoye 28.36 24⇑*e*P **P** 18 36 59.3 +1.1
BRVK pmax pmax
comp=Z,17nm,0.9s
BRVK Borovoye 28.36 24 P **P** 18 37 00.8 +2.6
SNR=9.7
BVAR Borovoye Array 28.37 24 P **P** 18 36 58.1 -0.2
comp=Z,13nm,0.8s,baz=216,slow=7.3,SNR=39
BVAR PcP **PcP** 18 40 09.7 -0.7
comp=Z,10.0nm,0.9s,baz=207,slow=1.7,SNR=7.1
ARU Arti 28.62 8 *e*P **P** 18 37 00.5 +0.1
comp=Z,41nm,1.5s
ARU Arti 28.62 8 *d i* P **P** 18 37 02.6 +2.2
ARU 18 37 48.5
ARU PPP PPP 18 38 00.4
ARU 18 40 10.6
ARU S **S** 18 41 53.9 +6.4
ARU SS **SnSn** 18 43 12.0 +4.0
ARU pmax pmax
comp=Z,30nm,1.6s
ARU MLR MLR
comp=Z,621nm,16.0s
GZR Gura Zlata 28.62 315⇓*i*P **P** 18 37 00.3 -0.4
GZR Gura Zlata 28.62 315⇓P **P** 18 37 00.3 -0.4
HERR Herculane 28.63 313⇑*i*P **P** 18 37 02.0 +1.4
KEK Kerkira 28.72 302 P **P** 18 37 00.5 -1.1
CJR Cluj-Napoca 28.75 318⇑*i*P **P** 18 37 02.4 +0.6
CJR Cluj-Napoca 28.75 318⇑P **P** 18 37 02.4 +0.6
GKN Gorkha 28.97 83 *e*P **P** 18 37 04.6 +0.5
comp=Z,41nm,0.8s
MDVR Moldovita 29.04 313⇑*i*P **P** 18 37 04.7 +0.3
OBN Obninsk 29.04 342 *e*P **P** 18 37 03.8 -0.3
comp=Z,86nm,1.1s
OBN Obninsk 29.04 342⇓*i*P **P** 18 37 03.8 -0.3
OBN Obninsk 29.04 342⇓*e*P **P** 18 37 04.8 +0.7
OBN *e* 18 38 00.4
OBN pmax pmax
comp=Z,123nm,1.7s
OBN MLR MLR
comp=Z,394nm,21.0s
OBN Obninsk 29.04 342 P **P** 18 37 03.8 -0.3
comp=Z,8.5nm,0.7s,baz=9.9,slow=2.3,SNR=15
OBN LR LR 18 50 31.8
comp=Z,104nm,21.9s,baz=169,slow=40
BMR Baia Mare 29.30 319⇑*i*P **P** 18 37 07.4 +0.8
BMR Baia Mare 29.30 319⇑P **P** 18 37 07.5 +0.8
DRGR 29.32 317⇑*i*P **P** 18 37 07.5 +0.6
DRGR 29.32 317⇑P **P** 18 37 07.5 +0.6
MOS Moscow 29.32 344 *e*P **P** 18 37 03.7 -2.9
MOS *e*S **S** 18 41 55.8 -2.7
MOS pmax pmax
comp=Z,91nm,1.2s
BZS Buzias 29.45 314⇑*i*P **P** 18 37 08.7 +0.7
BZS Buzias 29.45 314⇑P **P** 18 37 08.7 +0.7
KKN Kakani 29.57 83 *e*P **P** 18 37 10.1 +0.6
comp=Z,50nm,0.9s
PKIN Phulchoki 29.70 83 *e*P **P** 18 37 11.2 +0.5
comp=Z,40nm,1.0s
PKI Pulchoki 29.71 83 *e*P **P** 18 37 11.3 +0.4
comp=Z,46nm,0.9s
SIRR Siria 29.71 315⇑*i*P **P** 18 37 11.4 +1.1
DRME Dracevica, Mon 29.83 306⇑*i*P **P** 18 37 10.5 -0.9
PDG Podgorica 29.85 307⇑*i*P **P** 18 37 10.4 -1.2
PDG Podgorica 29.85 307 *e*P **P** 18 37 10.3 -1.3
TTG Podgorica 29.85 307 *e*P **P** 18 37 10.3 -1.3
comp=Z,20nm,1.2s
TTG Podgorica 29.85 307 *e*P **P** 18 37 10.3 -1.3
TTG pmax pmax
comp=Z,20nm,1.2s
DIVS Divibare 29.91 311 *e*P **P** 18 37 11.7 -0.4
MAKZ Makanchi 30.06 44 *e*P **P** 18 37 13.3 -0.1
comp=Z,30nm,0.9s
MAKZ Makanchi 30.06 44 *e*P **P** 18 37 13.3 -0.1
MAKZ pmax pmax
comp=Z,30nm,0.9s
TRPA Tarpa 30.09 319⇑*i*P **P** 18 37 14.0 +0.4
TRPA Tarpa 30.09 319 *e*P **P** 18 37 13.1 -0.5
LVV L'vov 30.19 323 *e*P **P** 18 37 17.4 +3.0
LVV *e* 18 38 14.9
LVV *e*S **S** 18 42 10.5 -1.9
BBLS Lazići 30.22 310 *e*P **P** 18 37 12.5 -2.6
MK31 Makanchi Array 30.25 44 *e*P **P** 18 37 14.9 -0.1
comp=Z,19nm,0.8s
MK31 Makanchi Array 30.25 44 *e*P **P** 18 37 14.9 -0.1
MK31 pmax pmax
comp=Z,19nm,0.8s
MK32 Makanchi Array 30.25 44 *e*P **P** 18 37 15.1 0.0
MK32 *e*PcP **PcP** 18 40 14.6 -0.8
MKAR Makanchi Array 30.25 44 *e*P **P** 18 37 14.4 -0.6
MKAR PcP **PcP** 18 40 14.6 -0.8

MKAR ScP **ScP** **18 43 55.0 -1.4**
MKAR Makanchi Array 30.25 44 *e*P **P** **18 37 14.4 -0.6**
MKAR 18 40 14.6
MKAR 18 43 55.1
MKAR Makanchi Array 30.25 44 P **P** **18 37 15.1 0.0**
comp=Z,19nm,0.8s,baz=231,slow=7.7,SNR=61
MKAR PcP **PcP** **18 40 14.6 -0.8**
comp=Z,5.3nm,0.8s,baz=254,slow=3.7,SNR=5.7
MKAR ScP **ScP** **18 43 55.0 -1.4**
comp=Z,2.0nm,0.9s,baz=229,slow=1.1,SNR=4.7
MKAR LR LR 18 51 22.3
comp=Z,1μm,18.4s,baz=231,slow=40
KURK Kurchatov 30.30 35 *e*P **P** **18 37 15.4 0.0**
comp=Z,20nm,1.0s
KURK Kurchatov 30.30 35*d i*P **P** **18 37 16.1 +0.7**
KURK pmax pmax
comp=Z,35nm,1.7s
KURK Kurchatov 30.30 35 P **P** **18 37 17.2 +1.8**
SNR=11
UPM Unac-Piva 30.34 308 *e*P **P** **18 37 14.9 -1.2**
JIRN Jiri 30.38 83 *e*P **P** **18 37 17.4 +0.5**
comp=Z,49nm,0.8s
HCY Herceg Novi 30.40 307 *e*P **P** **18 37 16.9 +0.5**
KIRV Kirov 30.40 358 LR LR 18 52 16.9
comp=Z,618nm,19.2s,baz=254,slow=42
FRGS Fruska Gora 30.43 312 *e*P **P** **18 37 15.3 -1.3**
UZH Uzhgorod 30.49 320 *e*P **P** **18 37 16.3 -0.8**
UZH *i* 18 37 18.8
UZH *e* 18 37 23.1
BRY Bratogost 30.50 308 *e*P **P** **18 37 16.6 -0.9**
HAPS Han Pijesak,BI 30.60 310 *e*P **P** **18 37 17.2 -1.1**
KOLS Kolonicke sedl 30.66 320 *e*P **P** **18 37 19.6 +1.0**
KOLS pmax pmax
comp=Z,50nm,1.1s
KOLS Kolonicke sedl 30.66 320 *e*P **P** **18 37 19.6 +1.0**
KWP Kalwaria Pacla 30.79 322 *e*P **P** **18 37 20.1 +0.3**
KWP Kalwaria Pacla 30.79 322 *e*P **P** **18 37 19.8 0.0**
comp=Z,481nm,0.7s
KWP Kalwaria Pacla 30.79 322 *e*P **P** **18 37 20.1 +0.3**
RAMN Ramite 30.86 84 *e*P **P** **18 37 21.0 0.0**
comp=Z,30nm,0.8s
TIP Timpagrande 30.91 300 *e*P **P** **18 37 21.6 +0.5**
comp=Z,48nm,1.1s
TIP Timpagrande 30.91 300⇓*i*P **P** **18 37 21.7 +0.6**
STON Ston 31.08 307 P **P** **18 37 21.0 -1.4**
STON Ston 31.08 307⇑*i*P **P** **18 37 20.9 -1.4**
MATE Matera 31.24 303⇑*i*P **P** **18 37 23.9 +0.1**
KECS Kecovo 31.45 319 *e*P **P** **18 37 26.4 +0.8**
KECS pmax pmax
comp=Z,118nm,0.8s
KECS Kecovo 31.45 319 *e*P **P** **18 37 26.4 +0.8**
MICGM Minsk 31.48 333 *e* **P** **18 37 23.0 -2.8**
MNK Minsk 31.48 333 *e*P **P** **18 37 23.0 -2.8**
PSZ Piszkesteto 31.54 317 *e*P **P** **18 37 27.2 +0.7**
comp=Z,12nm,1.0s
PSZ Piszkesteto 31.54 317⇑*i*P **P** **18 37 26.6 +0.1**
PSZ Piszkesteto 31.54 317⇑P **P** **18 37 26.7 +0.2**
PSZ Piszkesteto 31.54 317 *e*P **P** **18 37 29.1 +2.6**
MORH Mrgy, Hungar 31.59 314⇑*i*P **P** **18 37 26.5 -0.3**
MORH Mrgy, Hungar 31.59 314 *e*P **P** **18 37 26.1 -0.8**
MGRS Mrkonjic Grad 31.98 310 *e*P **P** **18 37 30.0 -0.3**
NIE Niedzica 32.02 320 *e*P **P** **18 37 31.1 +0.5**
NIE Niedzica 32.02 320 *e*P **P** **18 37 31.1 +0.5**
BLY Banja Luka 32.02 310 *e*P **P** **18 37 30.2 -0.4**
comp=Z,35nm,1.2s
BLY Banja Luka 32.02 310⇓*i*P **P** **18 37 31.0 +0.4**
BLY Banja Luka 32.02 310⇑*i*P **P** **18 37 30.4 -0.2**
ZSN Zaisan 32.11 44 *e*P **P** **18 37 31.4 -0.1**
ZSN pmax pmax
comp=Z,20nm,3.0s
ZSN MLR MLR
comp=Z,202nm,11.0s
ZSN Zaisan 32.11 44 *e*P **P** **18 37 31.4 -0.1**
comp=Z,20nm,3.0s
ZSN *e*LR LR 18 52 16.9
comp=Z,202nm,10.6s
CSKK Cskako 32.29 315 *e*P **P** **18 37 33.1 +0.1**
KMBO Kilima Mbogo 32.32 208 *e*P **P** **18 37 34.6 +0.8**
comp=Z,7.1nm,1.2s
KMBO Kilima Mbogo 32.32 208 *e*P **P** **18 37 34.6 +0.8**
KMBO pmax pmax
comp=Z,7.0nm,1.2s
KMBO Kilima Mbogo 32.32 208 P **P** **18 37 34.6 +0.8**
comp=Z,2.5nm,0.7s,baz=28,slow=12,SNR=2.7
KMBO LR LR 18 51 38.1
comp=Z,2μm,18.8s,baz=92,slow=38
TIH Tihany 32.34 314 *e*P **P** **18 37 34.1 +0.7**
LANS Liptovska Anna 32.36 319 *e*P **P** **18 37 34.5 +0.8**
LANS Liptovska Anna 32.36 319 *e*P **P** **18 37 34.5 +0.8**
VYHS Vyhne 32.43 318 *e*P **P** **18 37 34.2 0.0**
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 32.43 318 *e*P **P** **18 37 34.2 0.0**
SRO Srobarova 32.45 316 *e*P **P** **18 37 35.6 +1.2**
SRO Srobarova 32.45 316 *e*P **P** **18 37 35.6 +1.2**
VAE Valguarnera 32.52 296 LR LR 18 52 43.6
comp=Z,73nm,20.4s,baz=180,slow=40
WMQ Urumqi 32.69 52 *e*P **P** **18 37 39.2 +2.5**
WMQ pP pP 18 37 43.3 -0.2
WMQ S **S** **18 42 50.4 -1.4**
WMQ SS **SnSn** **18 44 49.0 +1.4**
WMQ pmax pmax
comp=Z,120nm,1.3s
WMQ pmax pmax
comp=Z,440nm,3.6s
WMQ LR LR
comp=Z,2μm,23.3s
WMQ LR LR
comp=Z,2μm,21.7s
WMQ LR LR
comp=Z,4μm,23.3s
WMQ Urumqi 32.69 52 *e*P **P** **18 37 37.3 +0.6**
comp=Z,68nm,1.2s
OJC Ojcow 32.70 321 *e*P **P** **18 37 36.5 -0.1**
OJC Ojcow 32.70 321 *e*P **P** **18 37 36.0 -0.6**
comp=Z,89nm,1.0s
OJC Ojcow 32.70 321 *e*P **P** **18 37 36.5 -0.1**
IIGN Ignalina 32.76 333 *e*P **P** **18 37 36.0 -1.0**
IIGN IAmb IAmb 18 37 40.5
comp=Z,57nm,0.8s
BEHE Becsehely 32.88 313 *e*P **P** **18 37 37.1 -1.1**
UDBI Udbina 32.91 309 P **P** **18 37 40.5 +1.9**
IZAR Zarasai 33.04 333 *e*P **P** **18 37 38.3 -1.1**
IZAR IAmb IAmb 18 37 42.9
comp=Z,59nm,0.8s
SUW Suwalki 33.16 329 *e*P **P** **18 37 39.5 -1.0**
SUW Suwalki 33.16 329 *e*P **P** **18 37 39.2 -1.3**
comp=Z,99nm,1.1s
SUW Suwalki 33.16 329 *e*P **P** **18 37 39.5 -1.0**
KOGS Kog 33.22 313 *e*P **P** **18 37 41.4 +0.3**
SMOL Smolenice 33.28 317 *e*P **P** **18 37 41.5 -0.2**
SMOL Smolenice 33.28 317 *e*P **P** **18 37 41.5 -0.2**
JAVC Velka Javorina 33.28 318 *e*P **P** **18 37 42.1 +0.3**
MODS Modra-Piesok 33.31 317 *e*P **P** **18 37 40.8 -1.2**
MODS pmax pmax
comp=Z,23nm,1.2s
MODS Modra-Piesok 33.31 317 *e*P **P** **18 37 40.8 -1.2**
ZST Bratislava 33.35 316 *e*P **P** **18 37 41.3 -0.9**
ZST Bratislava 33.35 316 *e*P **P** **18 37 41.3 -0.9**
OKC Ostrava-Krasne 33.45 319 *e*P **P** **18 37 42.7 -0.4**
OKC *e* 18 37 52.5
OKC MLR MLR
comp=Z,400nm,18.6s
OKC Ostrava-Krasne 33.45 319 *e*P **P** **18 37 42.7 -0.4**
OKC *ep*P **sP** **18 37 52.5 -0.2**
OKC AMS AMS 18 56 30.0
comp=Z,400nm,18.6s
OZLJ Ozalj 33.45 311 P **P** **18 37 41.8 -1.4**
CLTB Caltabellotta 33.47 296 *e*P **P** **18 37 43.6 0.0**
comp=Z,48nm,1.2s
SOP Sopron 33.48 315 *e*P **P** **18 37 44.0 +0.7**
CRES Cresnjev 33.52 311⇑*i*P **P** **18 37 43.9 +0.1**
NVLJ Novalja 33.53 309 P **P** **18 37 43.5 -0.4**
BOJS Bojanci 33.56 311 *i*P **P** **18 37 44.3 +0.3**
KLMR Klimovskoe 33.66 349⇑*i*P **P** **18 37 43.9 -0.9**
KLMR *e*S **S** **18 43 03.0 -3.2**
KLMR pmax pmax
comp=Z,80nm,0.9s
PRGR Permogore 33.67 355 *e*P **P** **18 37 43.8 -1.0**
PRGR 18 40 24.7
PRGR pmax pmax
comp=Z,46nm,1.1s
MORC Moravsky Berou 33.77 319 *e*P **P** **18 37 45.1 -0.8**
comp=Z,34nm,1.1s
MORC Moravsky Berou 33.77 319⇓*i*P **P** **18 37 45.5 -0.4**
MORC Moravsky Berou 33.77 319 ⇓P **P** **18 37 45.5 -0.4**
MORC *e* 18 37 49.1
MORC Moravsky Berou 33.77 319 *e*P **P** **18 37 45.2 -0.8**
PABE Paberze 33.80 332 *e*P **P** **18 37 42.0 -4.0**
PABE IAmb IAmb 18 37 45.6
comp=Z,111nm,1.0s
ARSA Arzberg 33.97 314 *i*P **P** **18 37 48.0 +0.3**
comp=Z,7.5nm,0.8s,SNR=5.2
ARSA *i*PcP **PcP** **18 40 27.7 +2.2**
comp=Z,3.0nm,0.7s
CONA Conrad Observa 34.01 315 *i*P **P** **18 37 48.1 0.0**
comp=Z,10nm,1.0s,SNR=11
CONA *i*PcP **PcP** **18 40 28.1 +2.4**
comp=Z,1.7nm,0.7s
RIY Rijeka 34.02 310 *e*P **P** **18 37 48.2 +0.1**
AQU L'Aquila 34.02 305 *e*P **P** **18 37 48.8 +0.5**
comp=Z,38nm,1.0s
AQU L'Aquila 34.02 305 *e*P **P** **18 37 48.8 +0.5**
AQU pmax pmax
comp=Z,38nm,1.0s
AQU L'Aquila 34.02 305 *e*P **P** **18 37 49.1 +0.8**
SOKA Soboth 34.08 313 *i*P **P** **18 37 49.2 +0.4**
comp=Z,14nm,1.1s,SNR=9.5
SOKA *i*PcP **PcP** **18 40 26.6 +0.6**
comp=Z,8.8nm,1.1s
SOKA *i*ScP **ScP** **18 44 10.0 +0.4**
comp=Z,3.4nm,0.9s
VRAC Vranov 34.12 318⇓*i*P **P** **18 37 49.1 +0.2**
VRAC Vranov 34.12 318 ⇓P **P** **18 37 49.1 +0.2**
VRAC *e* 18 37 52.5
VRAC Vranov 34.12 318 *e*P **P** **18 37 49.6 +0.7**
VRAC Vranov 34.12 318 LR LR 18 55 25.7
comp=Z,303nm,18.2s,baz=99,slow=43
KRUC Moravsky 34.13 317 *e*P **P** **18 37 49.1 0.0**
CEY Cerknica 34.18 311⇑*i*P **P** **18 37 49.2 -0.3**
LJU Ljubljana 34.21 311 *e*P **P** **18 37 50.3 +0.6**
LJU Ljubljana 34.21 311⇑*i*P **P** **18 37 50.1 +0.3**
KRLC Kraliky 34.34 319 *e*P **P** **18 37 50.4 -0.5**
KRLC Kraliky 34.34 319 *e*P **P** **18 37 50.4 -0.5**
OBKA Obir 34.34 312 *i*P **P** **18 37 51.3 +0.3**
comp=Z,39nm,1.2s,SNR=19
PALK Pallekele 34.40 122 *e*P **P** **18 37 52.0 +0.3**
comp=Z,37nm,1.1s
PALK Pallekele 34.40 122 *e*P **P** **18 37 52.0 +0.3**
PALK pmax pmax
comp=Z,37nm,1.1s
LSA Lhasa 34.41 78 P **P** **18 37 53.3 +1.1**
LSA pmax pmax
comp=Z,23nm,1.1s
LSA Lhasa 34.41 78 *e*P **P** **18 37 52.4 +0.2**
comp=Z,21nm,0.8s
LSA Lhasa 34.41 78 P **P** **18 37 51.8 -0.4**
LSA Lhasa 34.41 78 *e*P **P** **18 37 52.4 +0.2**
LSA pmax pmax
comp=Z,21nm,0.8s
DGZ Jazzator, Alta 34.61 42*d i*P **P** **18 37 54.6 +1.2**
DGZ pmax pmax
comp=Z,12nm,0.8s
TRI Trieste 34.61 311 *e*P **P** **18 37 52.5 -0.8**
comp=Z,22nm,1.0s
TRI Trieste 34.61 311 *e*P **P** **18 37 52.5 -0.8**
TRI pmax pmax
comp=Z,23nm,1.0s
DPC Dobruska-Polom 34.73 319 *e*P **P** **18 37 53.8 -0.4**
DPC MLR MLR
comp=Z,400nm,15.6s
DPC Dobruska-Polom 34.73 319 *e*P **P** **18 37 53.8 -0.4**
DPC *es*P **sP** **18 38 06.1 +2.2**
DPC AMS AMS 18 54 10.0
comp=Z,400nm,15.6s
TREC Trest 34.77 317 *e*P **P** **18 37 54.5 -0.1**
TREC *e* 18 37 56.6
TREC MLR MLR
comp=Z,400nm,14.2s
TREC Trest 34.77 317 *e*P **P** **18 37 54.5 -0.1**
TREC *ex* x 18 37 56.6
TREC AMS AMS 18 55 40.0
comp=Z,400nm,14.2s
PUL Pulkovo 34.78 341⇑*e*P **P** **18 37 55.9 +1.5**
PUL pmax pmax
comp=Z,179nm,1.0s
VSU Vasula 34.87 337*c i*P **P** **18 37 54.3 -0.9**
VSU pmax pmax
comp=Z,128nm,1.4s
VSU Vasula 34.87 337 *e*P **P** **18 37 54.5 -0.7**
VSU IAmb IAmb 18 37 57.3
comp=Z,144nm,0.8s
KSP Ksiaz 34.96 320 *e*P **P** **18 37 56.1 -0.1**
KSP Ksiaz 34.96 320 *e*P **P** **18 37 56.1 -0.1**
MYKA Terra Mystica 34.97 312 *i*P **P** **18 37 57.1 +0.6**
comp=Z,17nm,1.1s,SNR=13
UPC Upice 34.98 319 *e*P **P** **18 37 55.8 -0.5**
UPC MLR MLR
comp=Z,400nm,17.6s
UPC Upice 34.98 319 *e*P **P** **18 37 55.8 -0.5**
UPC *es*P **sP** **18 38 07.5 +1.5**
UPC AMS AMS 18 58 20.0
comp=Z,400nm,17.6s
MOA Molln 34.98 314 *i*P **P** **18 37 56.6 +0.2**
comp=Z,21nm,0.8s,SNR=18
MOA *i*PcP **PcP** **18 40 30.8 +2.4**
comp=Z,2.6nm,0.7s
PBUR Paburg 35.01 331 *e*P **P** **18 37 55.8 -0.7**
PBUR IAmb IAmb 18 37 59.5
comp=Z,47nm,0.9s
MBAR Mbarara 35.02 219 *e*P **P** **18 37 58.2 +1.0**
comp=Z,7.7nm,0.8s
MBAR Mbarara 35.02 219 LR LR 18 53 58.5
comp=Z,269nm,22.0s,baz=40,slow=39
NVS Novosibirsk 35.02 32⇑*i*P **P** **18 37 59.2 +2.5**
NVS *i* 18 40 30.8
NVS *i*S **S** **18 43 28.3 +0.9**
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=Z,9.0nm,0.7s
NVS smax smax
comp=N,12nm,1.3s
ZAA0 Zalesovo Array 35.27 34 *e*P **P** **18 37 58.0 -0.8**
comp=N,27nm,1.1s
ZALV Zalesovo Beam 35.27 34 P **P** **18 37 58.0 -0.8**
comp=N,7.2nm,0.5s,baz=241,slow=9.6,SNR=35
ZALV PcP **PcP** **18 40 29.2 +0.1**
comp=N,1.8nm,0.5s,baz=234,slow=3.9,SNR=3.0
ZALV ScP **ScP** **18 44 11.8 -1.7**
comp=N,1.9nm,0.7s,baz=261,slow=5.9,SNR=4.7
ZALV LR LR 18 55 51.3
comp=N,134nm,19.6s,baz=251,slow=42
ZAA1 Zalesovo Array 35.27 34 *e*P **P** **18 37 58.0 -0.8**
ZAA1 *e*PcP **PcP** **18 40 29.2 +0.1**
KBA Koelnbreinsper 35.31 313 *i*P **P** **18 37 59.7 +0.3**
comp=N,17nm,0.7s,SNR=23
GOPC GO Pecny, Ondr 35.44 318 *e*P **P** **18 37 59.8 -0.6**
GOPC MLR MLR
comp=Z,400nm,18.4s
GOPC GO Pecny, Ondr 35.44 318 *e*P **P** **18 37 59.8 -0.6**
GOPC AMS AMS 18 55 50.0
comp=Z,400nm,18.4s
PRU Pruhonice 35.61 318 *e*P **P** **18 38 01.9 +0.1**
PRU *e* 18 38 05.5
PRU MLR MLR
comp=Z,400nm,17.7s
PRU Pruhonice 35.61 318 *e*P **P** **18 38 01.9 +0.1**
PRU *ex* x 18 38 05.5
PRU AMS AMS 18 55 50.0
comp=Z,400nm,17.7s
GKP Gorka Klasztor 35.62 324 *e*P **P** **18 38 02.7 +0.9**
GKP Gorka Klasztor 35.62 324 *e*P **P** **18 38 02.7 +0.9**
GEC2 GERESS Array S 35.68 316 *e*P **P** **18 38 01.5 -1.1**
comp=Z,9.8nm,0.9s
GEC2 *e*PcP **PcP** **18 40 30.1 -0.5**
GEC2 GERESS Array S 35.68 316 *e*P **P** **18 38 01.5 -1.1**
GEC2 *e* 18 40 30.1
GEC2 pmax pmax
comp=Z,10.0nm,0.9s
GERES GERESS Array B 35.68 316 *e*P **P** **18 38 00.5 -2.1**
GERES PcP **PcP** **18 40 30.1 -0.5**
GERES ScP **ScP** **18 44 15.3 0.0**
GERES GERESS Array B 35.68 316 P **P** **18 38 01.8 -0.7**
comp=Z,5.8nm,0.8s,baz=108,slow=7.4,SNR=23
GERES PcP **PcP** **18 40 30.0 -0.5**
comp=Z,4.9nm,0.9s,baz=116,slow=3.1,SNR=7.9
GERES ScP **ScP** **18 44 15.3 0.0**
comp=Z,0.3nm,0.6s,baz=132,slow=1.5,SNR=2.9
GERES LR LR 18 55 06.2
comp=Z,246nm,20.0s,baz=114,slow=40
ABTA Abfaltersbach 35.75 312 *i*P **P** **18 38 03.1 0.0**
comp=Z,31nm,1.0s,SNR=22
ABTA *i*PcP **PcP** **18 40 31.7 +0.9**
comp=Z,2.6nm,0.6s
SHL Shillong 35.79 85 *e*P **P** **18 38 03.7 -0.1**
comp=Z,14nm,0.8s
PVCC Panska Ves 35.82 319 *e*P **P** **18 38 03.0 -0.6**
PVCC MLR MLR
comp=Z,300nm,15.4s
PVCC Panska Ves 35.82 319 *e*P **P** **18 38 03.0 -0.6**
PVCC AMS AMS 18 54 50.0
comp=Z,300nm,15.4s
KHC Kasperske Hory 35.86 316 *e*P **P** **18 38 02.9 -1.1**
comp=Z,11nm,1.1s
KHC Kasperske Hory 35.86 316 *e*P **P** **18 38 03.2 -0.8**
KHC MLR MLR
comp=Z,300nm,10.6s
KHC Kasperske Hory 35.86 316 *e*P **P** **18 38 03.2 -0.8**
KHC *ex* x 18 38 15.6
KHC AMS AMS 18 57 00.0
comp=Z,300nm,10.6s
BRG Berggiesshubel 36.32 319 *e*P **P** **18 38 07.0 -0.8**
comp=Z,20nm,1.1s
BRG Berggiesshubel 36.32 319 *e*P **P** **18 38 07.0 -0.8**
BRG pmax pmax
comp=Z,20nm,1.1s
BRG MLR MLR
comp=N,308nm,21.8s
BRG MLR MLR
comp=E,198nm,12.1s
BRG MLR MLR
comp=Z,368nm,16.1s
WTTA Wattenberg 36.48 312 *i*P **P** **18 38 08.8 -0.6**
comp=Z,49nm,0.7s
WTTA *i*PcP **PcP** **18 40 33.2 +0.1**
comp=Z,12nm,0.9s
WTTA *i*S **S** **18 43 50.1 -0.2**
comp=Z,15nm,1.4s
KEST Kesra 36.51 293 *e*P **P** **18 38 11.6 +1.7**
comp=Z,25nm,0.8s
KEST Kesra 36.51 293 P **P** **18 38 11.0 +1.2**
comp=Z,27nm,0.8s,baz=97,slow=2.6,SNR=9.8
KEST LR LR 18 55 33.9
comp=Z,279nm,19.6s,baz=174,slow=40
WATA Walderalm 36.54 313 *i*P **P** **18 38 09.1 -0.8**
comp=Z,42nm,0.8s,SNR=39
WATA *i*PcP **PcP** **18 40 35.2 +2.0**
comp=Z,5.7nm,0.6s
WATA *i*S **S** **18 43 56.3 +5.2**
comp=Z,12nm,1.1s
SQTA Sankt Quirin 36.74 312 *i*P **P** **18 38 11.1 -0.5**
comp=Z,39nm,0.6s,SNR=29
SQTA *i*PcP **PcP** **18 40 34.3 +0.5**
comp=Z,16nm,1.0s
SQTA *i*S **S** **18 43 54.0 -0.3**
comp=Z,7.0nm,1.0s
MOTA Moosalm 36.85 312 *i*P **P** **18 38 11.5 -1.1**
comp=Z,53nm,0.8s,SNR=58
MOTA *i*PcP **PcP** **18 40 34.4 +0.3**
comp=Z,16nm,1.0s
MOTA *i*S **S** **18 43 58.7 +2.8**
comp=Z,8.7nm,1.3s
NKC Novy Kostel 36.95 317 *e*P **P** **18 38 13.3 0.0**
NKC Novy Kostel 36.95 317 *e*P **P** **18 38 13.3 0.0**
NKC *ex* x 18 38 24.5
FETA Feichten 37.00 312 *i*P **P** **18 38 13.6 -0.3**
comp=Z,78nm,1.0s,SNR=45
FETA *i*PcP **PcP** **18 40 35.0 +0.4**
comp=Z,11nm,0.9s
FETA *i*S **S** **18 44 03.0 +4.8**
comp=Z,12nm,1.5s
TMCR Tamitsa 37.02 350 *e*P **P** **18 38 13.3 -0.3**
TMCR pmax pmax
comp=Z,44nm,0.6s
CLL Collm 37.04 319 *e*P **P** **18 38 13.1 -0.9**
comp=Z,35nm,1.0s
CLL Collm 37.04 319 *e*P **P** **18 38 13.1 -0.9**
CLL pmax pmax
comp=Z,35nm,1.0s
CLL Collm 37.04 319 *i*P **P** **18 38 13.0 -1.0**
comp=Z,38nm,1.0s
CLL *e* 18 38 29.0
CLL *e*(S) S 18 43 42.0 -16
CLL LmV 18 57 00.0
comp=Z,400nm,18.1s
CLL LmH 18 58 00.0
comp=N,300nm,20.7s
CLL LmH 18 58 00.0
comp=E,200nm,18.2s
RUE Ruedersdorf 37.09 321 *e*P **P** **18 38 13.2 -1.1**
RUE IAmb IAmb 18 38 17.7
comp=Z,47nm,0.7s
RETA Reutte 37.11 313 *i*P **P** **18 38 13.7 -1.0**
comp=Z,23nm,0.8s,SNR=12
RETA *i*PcP **PcP** **18 40 35.7 +0.9**
comp=Z,11nm,0.9s
RETA *i*S **S** **18 43 59.2 -0.6**
comp=Z,7.0nm,1.1s
FUORN Ofenpass-Fuorn 37.20 311 *e*P **P** **18 38 15.3 -0.5**
comp=Z,27nm,1.1s
FIA0 FINESS Array S 37.38 340 *e*P **P** **18 38 16.0 -0.7**
FIA0 FINESS Array S 37.38 340 *e*P **P** **18 38 16.0 -0.7**
FIA1 FINESS Array S 37.38 340 *e*P **P** **18 38 16.1 -0.6**
comp=Z,116nm,1.0s
FINES FINESS Array B 37.38 340 *e*P **P** **18 38 15.6 -1.1**
FINES FINESS Array B 37.38 340 P **P** **18 38 16.0 -0.7**
comp=Z,93nm,0.9s,baz=141,slow=10.0,SNR=59
FINES LR LR 18 54 54.9
comp=Z,397nm,18.7s,baz=136,slow=38
GRA1 Grafenberg Arr 37.50 316 *e*P **P** **18 38 17.4 -0.6**
comp=Z,34nm,1.0s
GRF Grafenberg Arr 37.50 316 *e*P **P** **18 38 17.4 -0.6**
GRF pmax pmax
comp=Z,34nm,1.0s
GRFO Grafenberg 37.50 316 *e*P **P** **18 38 17.4 -0.6**
comp=Z,30nm,1.0s
GRFO Grafenberg 37.50 316 *e*P **P** **18 38 17.4 -0.6**
GRFO pmax pmax
comp=Z,30nm,1.0s
DAVA Damuels 37.63 312 *i*P **P** **18 38 18.5 -0.8**
comp=Z,149nm,1.0s,SNR=68
DAVA *i*PcP **PcP** **18 40 38.9 +2.3**
comp=Z,15nm,0.9s
DAVA *i*S **S** **18 44 04.6 -3.2**
comp=Z,8.8nm,1.6s
BSD Bornholm Skovb 37.74 326 *i*P **P** **18 38 18.4 -1.4**
BSD pmax pmax
comp=Z,36nm,0.7s
BSD Bornholm Skovb 37.74 326 *i*P **P** **18 38 18.4 -1.4**
comp=Z,36nm,0.7s
TUE Stuetta 37.78 310 *e*P **P** **18 38 19.5 -1.1**
comp=Z,18nm,0.8s
ABSA Djebel Ababsia 38.02 294 P **P** **18 38 26.7 +4.1**
CMAH Djebel Manchou 38.07 294 P **P** **18 38 25.9 +2.9**
RGN Rugen 38.27 324 *e*P **P** **18 38 24.5 +0.2**
comp=Z,165nm,1.0s
CAEH 'Ain El Ouahch 38.52 295 P **P** **18 38 29.6 +2.9**
CKFL Kef-Lekhel 38.63 294 P **P** **18 38 29.8 +2.0**
CASM Ain Smara 38.82 294 P P 18 38 34.5 +5.2
CTEI Djebel Teioual 38.89 293 P **P** **18 38 33.1 +3.1**
BFO Black Forest 38.91 313 *e*P **P** **18 38 29.7 -0.2**
comp=Z,12nm,1.0s
BFO Black Forest 38.91 313 *i*P **P** **18 38 31.6 +1.7**
SENIN Lac Senin/Sane 39.14 310 *e*P **P** **18 38 30.6 -1.4**
comp=Z,24nm,0.8s
DFRA Djebel Bou Aff 39.31 294 P **P** **18 38 36.2 +2.7**
BNI Bardonecchia 39.32 308 *e*P **P** **18 38 31.9 -1.5**
comp=Z,54nm,1.0s
BNI Bardonecchia 39.32 308 *e*P **P** **18 38 31.9 -1.5**
BNI pmax pmax
comp=Z,54nm,1.0s
CKHR Kef el Ahmar 39.62 293 P **P** **18 38 38.2 +2.1**
ECH Echery 39.64 313 *e*P **P** **18 38 35.0 -1.0**
comp=Z,38nm,1.0s
ECH Echery 39.64 313 *e*P **P** **18 38 35.0 -1.0**
ECH pmax pmax
comp=Z,38nm,1.0s
WLF Walferdange 40.64 315 *e*P **P** **18 38 43.4 -0.8**
comp=Z,107nm,0.9s
WLF Walferdange 40.64 315 *e*P **P** **18 38 43.4 -0.8**
WLF pmax pmax
comp=Z,107nm,0.9s
WLF Walferdange 40.64 315 ⇑P **P** **18 38 43.6 -0.6**
SSB Saint Sauveur 40.85 308 *e*P **P** **18 38 45.0 -1.0**
comp=Z,13nm,1.0s

SSB Saint Sauveur 40.85 308 *e*P **P 18 38 45.0 -1.0**
SSB pmax pmax
comp=Z,13nm,1.0s
APA Apatity 40.91 349⇑*i*P **P 18 38 44.7 -1.4**
APA *i* S **S 18 44 55.0 -1.2**
APA pmax pmax
comp=Z,17nm,0.9s
APA MLR MLR
comp=Z,1μm,24.0s
HFS Hagfors 40.97 332 LR LR 18 58 48.7
comp=Z,249nm,18.3s,baz=120,slow=41
MEM Membach 40.98 316 ⇑P **P 18 38 48.0 +1.1**
LVZ Lovozero 41.01 350 *e*P **P 18 38 45.9 -1.2**
comp=Z,25nm,1.0s
LVZ Lovozero 41.01 350⇑*e*P **P 18 38 46.3 -0.7**
LVZ pmax pmax
comp=Z,90nm,2.6s
GTA Gaotai 41.05 61 ⇑P **P 18 38 48.3 +0.5**
GTA pP pP 18 38 54.1 -0.7
GTA sP sP 18 38 56.9 -0.6
GTA S **S 18 44 59.0 -0.3**
GTA sS pS 18 45 07.1 -0.2
GTA SS **SS 18 47 57.6 -4.1**
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA pmax pmax
comp=Z,220nm,7.0s
GTA LR LR
comp=Z,490nm,18.7s
GTA LR LR
comp=Z,400nm,17.1s
GTA LR LR
comp=Z,510nm,18.4s
MUD Monsted U'grnd 41.23 325 *i* P **P 18 38 49.5 +0.6**
MUD pmax pmax
comp=Z,84nm,0.7s
MUD Monsted U'grnd 41.23 325 *i* P **P 18 38 49.5 +0.6**
comp=Z,84nm,0.7s
BCLA Clavier 41.36 315 ⇑P **P 18 38 53.0 +2.9**
BGES Gesves 41.49 315 P **P 18 38 51.3 +0.2**
PBA Port Blair 41.68 105 *e*P P 18 38 53.6 +0.5
comp=Z,79nm,1.1s
DOU Dourbes 41.72 315 ⇑P **P 18 38 53.0 0.0**
TAM Tamanrasset 41.87 273 *e*P **P 18 38 55.6 +0.9**
comp=Z,17nm,0.9s
SNF Seneffe 42.02 315 ⇑P **P 18 38 55.6 +0.2**
UCC Uccle 42.04 316 *e*P **P 18 38 55.2 -0.4**
comp=Z,37nm,0.9s
UCC Uccle 42.04 316 *e*P **P 18 38 55.2 -0.4**
UCC pmax pmax
comp=Z,37nm,0.9s
BRQR Ronquire 42.08 315 P **P 18 38 56.5 +0.6**
OSL Oslo 42.13 330 *e*P **P 18 38 56.1 -0.1**
BSKQ Steenkerk 42.17 316 P **P 18 38 57.1 +0.4**
BBOU Bougnies 42.20 315 P **P 18 38 56.9 -0.1**
NC602 NORSAR Array S 42.20 332 *e*P **P 18 38 56.0 -0.8**
comp=Z,81nm,1.3s
NC602 NORSAR Array S 42.20 332 *e*P **P 18 38 56.3 -0.5**
NC405 NORSAR Array S 42.33 332 *e*P **P 18 38 56.7 -1.2**
comp=Z,113nm,0.7s
NB201 NORSAR Array S 42.47 332 *e*P **P 18 38 57.6 -1.4**
comp=Z,141nm,1.1s
KONO Kongsberg 42.48 330 *e*P **P 18 38 59.9 +0.8**
comp=Z,53nm,0.8s
KONO Kongsberg 42.48 330⇓*e*P **P 18 38 59.4 +0.3**
KONO pmax pmax
comp=Z,82nm,1.3s
KONO Kongsberg 42.48 330 *e*P **P 18 38 58.5 -0.6**
NB2 NORSAR Subarra 42.49 332 P **P 18 38 58.0 -1.3**
comp=Z,37nm,1.0s,baz=123,slow=8.6
NB2 NORSAR Subarra 42.49 332 P **P 18 38 58.0 -1.3**
baz=123,slow=8.6
NB200 NORSAR Array S 42.49 332 *e*P **P 18 38 58.0 -1.3**
NOA NORSAR Array B 42.49 332 P **P 18 38 58.0 -1.3**
NOA NORSAR Array B 42.49 332 P **P 18 38 58.0 -1.3**
comp=Z,34nm,0.8s,baz=121,slow=8.2,SNR=63
NOA PP **PP 18 40 33.7 -4.1**
comp=Z,13nm,1.1s,baz=135,slow=10.0,SNR=3.8
NOA LR LR 18 59 45.1
comp=Z,182nm,18.1s,baz=125,slow=40
NAO01 NORSAR Array S 42.53 332 *e*P **P 18 38 58.8 -0.7**
comp=Z,107nm,1.0s
NC303 NORSAR Array S 42.53 332 *e*P **P 18 38 58.4 -1.1**
comp=Z,47nm,0.9s
NBO00 NORSAR Array S 42.67 332 *e*P **P 18 38 60.0 -0.7**
comp=Z,128nm,1.4s
NC204 NORSAR Array S 42.81 332 *e*P **P 18 39 00.8 -1.0**
comp=Z,39nm,0.7s
CLF Chambon-Foret 42.82 311 *e*P **P 18 39 01.6 -0.4**
comp=Z,44nm,1.2s
MOY Mondy 43.39 43 *e*P **P 18 39 07.3 +0.5**
MOY pmax pmax
comp=Z,35nm,2.1s
SKAR Skarslia 43.55 331 *e*P **P 18 39 07.9 +0.1**
BLS5 Blasjo 43.81 328 *e*P **P 18 39 09.8 0.0**
DOMB Dombas 43.90 333 *e*P **P 18 39 10.3 -0.3**
ODD1 Odda 43.94 329 *e*P **P 18 39 10.9 0.0**
KEV Kevo 43.95 348 *e*P **P 18 39 12.7 +1.9**
comp=Z,64nm,1.2s
ARA0 ARCESS Array S 44.05 347 *e*P **P 18 39 11.2 -0.5**
ARA0 *e*PP **PP 18 40 53.6 -0.7**
ARCES ARCESS Array B 44.05 347 P **P 18 39 11.2 -0.5**
comp=Z,8.8nm,0.8s,baz=151,slow=7.7,SNR=40
ARCES PP **PP 18 40 53.6 -0.7**
comp=Z,8.1nm,0.9s,baz=140,slow=10,SNR=4.8
ARE0 ARCESS Array S 44.05 347 *e*P **P 18 39 10.9 -0.8**
CHTO Chiang Mai 44.05 92 *e*P **P 18 39 13.5 +1.1**
comp=Z,30nm,1.5s
CHTO Chiang Mai 44.05 92 P **P 18 39 14.4 +2.0**
SNR=7.1
CMMT Chiang Mai 44.06 92 P **P 18 39 14.2 +1.8**
comp=Z,5.6nm,0.9s,comp=Z,187nm
KTK1 Kautokeino 44.10 346 *e*P **P 18 39 11.6 -0.5**
NSS Namsos 44.16 337 *e*P **P 18 39 12.1 -0.5**
CM31 Chiang Mai Arr 44.18 92 *e*P **P 18 39 13.2 -0.2**
comp=Z,8.2nm,0.8s
CMAR Chiang Mai Arr 44.18 92 P **P 18 39 13.2 -0.2**
comp=Z,2.9nm,0.7s,baz=292,slow=8.1,SNR=16
CMAR PcP **PcP 18 40 58.0 -0.2**
comp=Z,11nm,0.7s,baz=289,slow=5.1,SNR=14
CMAR LR LR 19 02 06.9
comp=Z,205nm,19.0s,baz=282,slow=42
MOR8 Moi Rana 44.36 339 *e*P **P 18 39 13.5 -0.7**
LZH Lanzhou 44.37 66 ⇑P **P 18 39 14.8 -0.1**
LZH pP pP 18 39 19.6 -2.3
LZH sP sP 18 39 22.6 -2.1
LZH pmax pmax
comp=Z,52nm,1.5s
LZH pmax pmax
comp=Z,86nm,4.3s
LZH LR LR
comp=Z,580nm,19.5s
LZH LR LR
comp=Z,280nm,15.7s
LZH LR LR
comp=Z,500nm,18.4s
ZAK Zakamensk 44.55 46 *e*P **P 18 39 16.8 +0.8**
ZAK *e* 18 40 58.5
ZAK pmax pmax
comp=Z,12nm,1.1s
ZAK pmax pmax
comp=Z,5.0nm,1.4s
BER Bergen 44.73 329 *e*P **P 18 39 17.0 -0.2**
LAMP Lampang 44.77 92 P **P 18 39 22.3 +4.2**
comp=Z,20μm,0.9s
MOL Molde 44.77 333 *e*P **P 18 39 17.1 -0.4**
ASK Askoy 44.83 329 *e*P **P 18 39 17.8 -0.2**
UMPA Umpang Tak 44.98 95 P **P 18 39 23.0 +3.2**
comp=Z,62μm,1.0s,comp=Z,517μm
KONS Konsvik 44.98 339 *e*P **P 18 39 18.9 -0.2**
CD2 Chengdu 44.99 73 P **P 18 39 18.5 -1.3**
CD2 PP **PP 18 41 06.5 +1.4**
CD2 S **S 18 45 56.1 -1.2**
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,220nm,6.7s
CD2 LR LR
comp=Z,1μm,21.6s
CD2 LR LR
comp=Z,960nm,14.9s
CD2 LR LR
comp=Z,1μm,14.5s
TLY Talaya 45.01 44 *e*P **P 18 39 20.2 +0.6**
comp=Z,9.6nm,0.9s
TLY Talaya 45.01 44 *d*P **P 18 39 21.6 +2.0**

STEI Steigen 45.29 342 *e*P **P 18 39 20.7 -0.8**
HAMF Hammerfest 45.33 347 *e*P **P 18 39 21.5 -0.2**
KMI Kunming 45.41 82 P **P 18 39 24.2 +0.8**
KMI pP pP 18 39 26.9 -3.5
KMI sP sP 18 39 28.9 -4.3
KMI S **S 18 46 06.0 +2.2**
KMI sS pS 18 46 13.2 +1.1
KMI SS **ScS 18 49 19.8 +0.5**
KMI pmax pmax
comp=Z,29nm,1.1s
KMI pmax pmax
comp=Z,150nm,3.3s
KMI LR LR
comp=Z,250nm,19.6s
KMI LR LR
comp=Z,250nm,17.0s
KMI LR LR
comp=Z,230nm,14.0s
TRO Tromso 45.55 345 *e*P **P 18 39 23.3 -0.3**
WOL Wolverton 45.59 315 *e*P **P 18 39 24.0 -0.1**
UTHA Uthaitani 45.75 96 P **P 18 39 28.3 +2.4**
comp=Z,26μm,0.9s,comp=Z,270μm
UTTA Uttaradit 45.87 92 P **P 18 39 28.0 +1.2**
comp=Z,31μm,0.9s,comp=Z,202μm
CWF Charnwood Fore 45.90 317 *e*P **P 18 39 25.8 -0.8**
CWF IAmb IAmb 18 39 29.4
comp=Z,39nm,0.8s
LOF Lofoten 45.90 341 *e*P **P 18 39 26.5 +0.1**
JVM Valle D.L. Mar 45.92 312 *e*P **P 18 39 26.3 -0.5**
SRDT SRDT 45.98 97 P **P 18 39 30.1 +2.4**
comp=Z,14nm,1.9s,comp=Z,1μm
NRIK Noril'sk 46.08 17 P **P 18 39 28.0 +0.2**
comp=Z,20nm,0.9s,baz=218,slow=4.9,SNR=16
NRIK LR LR 19 02 26.5
comp=Z,575nm,18.2s,baz=226,slow=41
SONA0 Songino Array 46.25 50 *e*P **P 18 39 29.5 -0.1**
SONA0 *e*PcP **PcP 18 41 04.8 -0.1**
SONM Songino Array 46.25 50 *e*P **P 18 39 29.2 -0.4**
SONM PcP **PcP 18 41 04.8 -0.1**
SONM Songino Array 46.25 50 P **P 18 39 29.5 -0.1**
comp=Z,13nm,0.9s,baz=262,slow=8.9,SNR=59
SONM PcP **PcP 18 41 04.8 -0.1**
comp=Z,2.3nm,0.8s,baz=249,slow=4.1,SNR=3.7
SONM LR LR 19 01 13.4
comp=Z,504nm,18.8s,baz=254,slow=39
LBWR Ladybower, Pea 46.27 318 *e*P **P 18 39 29.4 -0.1**
LBWR IAmb IAmb 18 39 33.5
comp=Z,56nm,0.8s
HPK Haverah Park 46.32 319 *e*P **P 18 39 29.9 0.0**
MONM Monmouth 46.65 316 *e*P **P 18 39 31.7 -0.8**
MONM IAmb IAmb 18 39 34.3
comp=Z,63nm,1.0s
MCH1 Michaelchurch 46.79 316 *e*P **P 18 39 32.8 -0.8**
MCH1 IAmb IAmb 18 39 37.5
comp=Z,91nm,0.9s
HLM1 Long Mynd 46.80 317 *e*P **P 18 39 31.9 -1.8**
HLM1 IAmb IAmb 18 39 35.2
comp=Z,60nm,1.0s
ESDC Sonseca Array 46.93 299 *e*P **P 18 39 33.9 -1.1**
ESDC *e*PcP **PcP 18 41 07.3 -0.1**
ESDC Sonseca Array 46.93 299 P **P 18 39 34.8 -0.2**
comp=Z,6.7nm,0.9s,baz=78,slow=7.4,SNR=23
ESDC PcP **PcP 18 41 07.3 -0.1**
comp=Z,3.4nm,0.9s,baz=66,slow=3.0,SNR=7.1
ESLA Sonseca Array 46.93 299 *e*P **P 18 39 34.6 -0.4**
comp=Z,13nm,1.1s
PHET Kaeng Krachan 47.05 99 P **P 18 39 39.1 +3.0**
comp=Z,25μm,0.8s
FOEL Foel Wylfa 47.05 317 *e*P **P 18 39 35.3 -0.4**
FOEL IAmb IAmb 18 39 38.7
comp=Z,54nm,0.9s
ABPO Ambohimpanom 47.16 186 *e*P **P 18 39 38.9 +1.9**
comp=Z,16nm,0.7s
PAB San Pablo 47.24 299 *e*P **P 18 39 37.2 -0.2**
comp=Z,29nm,1.3s
PAB San Pablo 47.24 299 *e*P **P 18 39 37.2 -0.2**
PAB pmax pmax
comp=Z,29nm,1.3s
ESY Stoneypath 47.29 321 *e*P **P 18 39 37.0 -0.5**
KESW Keswick, Cumbr 47.30 320 *e*P **P 18 39 37.3 -0.2**
KESW IAmb IAmb 18 39 40.8
comp=Z,107nm,0.9s
LLW Llanuwychllyn 47.33 317 *e*P **P 18 39 37.3 -0.4**
BBO1 Bothel 47.41 320 *e*P **P 18 39 38.4 0.0**
ESK Eskdalemuir 47.49 321 *e*P **P 18 39 39.1 +0.1**
comp=Z,36nm,1.0s
ESK Eskdalemuir 47.49 321 *i* P **P 18 39 41.3 +2.2**
EBL Broad Law 47.50 321 *e*P **P 18 39 38.6 -0.5**
SLVN Son La 47.56 86 *e*P **P 18 39 40.6 +0.5**
comp=Z,55nm,2.0s
YLL Llanberis 47.67 318 *e*P **P 18 39 40.1 -0.3**
WLF1 Llynfaes 47.83 318 *e*P **P 18 39 41.1 -0.5**
WLF1 IAmb IAmb 18 39 44.4
comp=Z,60nm,0.9s
CHAI Chaiyaphum 47.85 94 P **P 18 39 44.7 +2.4**
comp=Z,16μm,0.9s,comp=Z,225μm
RSBS Rosebush, Pemb 47.86 316 *e*P **P 18 39 41.4 -0.5**
RSBS IAmb IAmb 18 39 44.6
comp=Z,28nm,1.1s
WPS Cemaes, Angles 47.91 318 *e*P **P 18 39 41.9 -0.3**
WPS IAmb IAmb 18 39 45.1
comp=Z,76nm,1.0s
YRC Rhoscolyn 47.93 318 *e*P **P 18 39 42.1 -0.3**
MCD Coleburn Disti 48.01 324 *e*P **P 18 39 44.8 +1.8**
NONG Nongkai 48.04 91 P **P 18 39 43.8 0.0**
comp=Z,0.7nm,0.9s,comp=Z,151nm
INVG Invergeldie, C 48.18 322 *e*P **P 18 39 43.5 -0.9**
INVG IAmb IAmb 18 39 48.3
comp=Z,73nm,0.9s
KHON Khomkaen 48.41 93 P **P 18 39 49.8 +3.1**
GYA Guiyang 48.47 79⇑*i*P **P 18 39 47.9 +0.7**
GYA S **S 18 46 44.5 -2.7**
GYA SS **SS 18 50 11.9 -5.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=Z,470nm,22.7s
GYA LR LR
comp=Z,210nm,21.5s
XAN Xi'an 48.76 68 P **P 18 39 49.7 +0.5**
XAN pP sP 18 40 00.8 +1.7
XAN PcP **PcP 18 41 15.1 +1.1**
XAN S **S 18 46 45.2 -5.8**
XAN pmax pmax
comp=Z,16nm,1.2s
XAN LR LR
comp=Z,430nm,19.5s
XAN LR LR
comp=Z,340nm,16.3s
XAN LR LR
comp=Z,320nm,14.5s
XAN Xi'an 48.76 68 *e*P **P 18 39 48.7 -0.5**
comp=Z,24nm,1.0s
XAN Xi'an 48.76 68 *e*P **P 18 39 48.7 -0.5**
XAN pmax pmax
comp=Z,24nm,1.0s
TOA0 Torodi Ar. Sit 48.82 263 *e*P **P 18 39 49.6 -0.3**
comp=Z,44nm,0.8s
TOA0 Torodi Ar. Sit 48.82 263 P **P 18 39 50.0 +0.1**
SNR=8.9
TOA1 Torodi Ar. Sit 48.82 263 *e*P **P 18 39 49.5 -0.4**
TOA1 *e*ScP **ScP 18 45 10.2 +2.0**
TORD Torodi Ar. Bea 48.82 263 *e*P **P 18 39 47.9 -2.0**
TORD ScP **ScP 18 45 10.2 +2.0**
TORD Torodi Ar. Bea 48.82 263 P **P 18 39 49.5 -0.4**
comp=Z,25nm,0.8s,baz=73,slow=6.8,SNR=64
TORD ScP **ScP 18 45 10.2 +2.0**
comp=Z,0.7nm,1.0s,baz=37,slow=3.6,SNR=2.5
TORD LR LR 19 00 05.3
comp=Z,287nm,18.0s,baz=15,slow=36
BTO Baotou 48.84 59 *e*P **P 18 39 49.2 -0.6**
GMM Mts of Mourne 48.88 319 *e*P **P 18 39 51.4 +1.7**
LSZ Lusaka 48.88 211 *e*P **P 18 39 51.3 +1.0**
comp=Z,16nm,1.1s
LSZ Lusaka 48.88 211 *e*P **P 18 39 51.3 +1.0**
LSZ pmax pmax
comp=Z,16nm,1.1s
KRAB Krabi 48.90 105 P **P 18 39 51.7 +1.3**
comp=Z,39μm,1.1s
DSB Dublin 49.00 317 *e*P **P 18 39 49.0 -1.7**
DSB *e*PP **pP 18 39 52.3 -5.4**
DSB Dublin 49.00 317 *e*P **P 18 39 50.4 -0.3**
comp=Z,42nm,1.0s

MVO Moncorvo 49.17 301 *e*P **P 18 39 52.7 +0.4**
comp=Z,42nm,1.2s
SKNT Sakolnakorn 49.19 91 P **P 18 39 53.4 +0.8**
comp=Z,25nm,0.8s
KPL Plockton 49.23 323 *e*P **P 18 39 53.5 +1.1**
PMRV Marv??o 49.59 299 *e*P **P 18 39 57.6 +2.1**
comp=Z,26nm,1.9s
PCBR Castelo Branco 49.62 300 *e*P **P 18 39 56.5 +0.9**
comp=Z,32nm,1.0s
PVRL Vila Real 49.67 302 *e*P **P 18 39 56.8 +0.7**
PANO Nakornpanom 49.68 91 P **P 18 39 57.7 +1.3**
comp=Z,0.4nm,0.9s
POLO Lamas de Olo 49.73 302 *e*P **P 18 39 57.2 +0.6**
comp=Z,22nm,1.3s
PESTR Estremoz 49.81 298 *e*P **P 18 39 56.7 -0.4**
comp=Z,29nm,1.0s
PESTR Estremoz 49.81 298 *e*P **P 18 39 56.6 -0.6**
comp=Z,13nm,1.0s
PVIS Viseu 49.85 301 *e*P **P 18 39 58.0 +0.5**
comp=Z,47nm,1.4s
IDGL Inch Island, C 49.89 320 *e*P **P 18 39 55.3 -2.1**
IDGL *e*PP **pP 18 39 58.1 -6.4**
HHC Hu-ho-hao-te 49.99 59 *e*P **P 18 40 00.7 +2.1**
HHC S **S 18 47 09.0 +0.8**
HHC pmax pmax
comp=Z,89nm,1.0s
HHC pmax pmax
comp=Z,330nm,6.9s
HHC LR LR
comp=Z,1μm,17.2s
HHC LR LR
comp=Z,1μm,16.9s
HHC LR LR
comp=Z,1μm,17.6s
PGAV Gavieira, Arco 50.04 303 *e*P **P 18 40 01.5 +2.6**
PBEJ Beja 50.12 297 *e*P **P 18 40 00.7 +1.2**
comp=Z,26nm,1.5s
PMTG Montargil 50.28 299 *e*P **P 18 40 04.7 +4.0**
PCVE Castro Verde 50.31 297 *e*P **P 18 40 02.6 +1.7**
PTOM Tomar 50.36 300 *e*P **P 18 40 02.0 +0.7**
comp=Z,54nm,1.4s
PCAS Casmilo, Conde 50.38 300 *e*P **P 18 40 04.3 +2.9**
MESJ Messejana 50.42 297 *e*P **P 18 40 01.5 -0.3**
MESJ AMb AMB 18 40 02.8
comp=Z,38nm,2.1s
PNCL Nicolau / Gran 50.63 298 *e*P **P 18 40 04.0 +0.7**
comp=Z,30nm,1.1s
IGLA Glengowla, Co 50.81 317 *e*P **P 18 40 02.4 -2.0**
PTEO Sao Teotonio 50.86 297 *e*P **P 18 40 07.7 +2.6**
PFVI Vila Bisbo 51.00 296 *e*P **P 18 40 06.3 +0.1**
comp=Z,82nm,1.2s
PFVI Vila Bisbo 51.00 296 *e*P **P 18 40 05.7 -0.5**
comp=Z,184nm,1.8s
TIY Taiyuan 51.02 63 *e*P **P 18 40 08.2 +1.8**
TIY S **S 18 47 23.5 +1.0**
TIY pmax pmax
comp=Z,22nm,0.5s
TIY LR LR
comp=Z,300nm,12.7s
TIY LR LR
comp=Z,130nm,4.4s
TIY LR LR
comp=Z,440nm,22.2s
PMAFR **Mafra 51.11 299** *e*P **P 18 40 10.0 +3.0**
VAL Valentia 51.25 316 *e*P **P 18 40 06.1 -1.6**
GSI Gunungsitoli 51.30 113 *e*P **P 18 40 08.5 -0.1**
comp=Z,24nm,0.9s
PSI Prapat 51.55 111 *e*P **P 18 40 09.6 -1.1**
comp=Z,13nm,0.7s
PSI Prapat 51.55 111 *e*P **P 18 40 09.6 -1.1**
PSI pmax pmax
comp=Z,13nm,0.7s
KULM Kulim 51.64 107 *e*P **P 18 40 11.4 +0.2**
comp=Z,14nm,0.9s
BOD Bodaibo 51.90 37 *e*P **P 18 40 11.8 -0.7**
BOD pmax pmax
comp=Z,53nm,1.2s
IPM Ipoh 52.38 107 *e*P **P 18 40 14.4 -2.3**
comp=Z,39nm,1.3s
SPA0 Spitsbergen Ar 52.51 351 *e*P **P 18 40 16.6 -0.2**
comp=Z,82nm,1.4s
SPA0 Spitsbergen Ar 52.51 351 *e*P **P 18 40 16.9 0.0**
BJT Baijiatuau 53.58 59 *e*P **P 18 40 25.1 -0.1**
comp=Z,14nm,0.8s
BJT Baijiatuau 53.58 59 *e*P **P 18 40 25.1 -0.1**
BJT pmax pmax
comp=Z,14nm,0.8s
QIZ Qiongzhong 53.59 86 P **P 18 40 24.3 -1.3**
QIZ S **S 18 47 58.6 +0.6**
QIZ LR LR
comp=Z,230nm,16.9s
QIZ LR LR
comp=Z,170nm,7.0s
QIZ LR LR
comp=Z,150nm,9.3s
KBS Kingsbay 53.66 351⇑*e*P **P 18 40 27.0 +1.7**
KBS pmax pmax
comp=Z,130nm,1.1s
KBS Kingsbay 53.66 351 *e*P **P 18 40 25.3 0.0**
WHN Wuhan 53.98 71 P **P 18 40 30.2 +1.9**
WHN pmax pmax
comp=Z,60nm,1.1s
WHN LR LR
comp=Z,590nm,9.8s
WHN LR LR
comp=Z,620nm,12.7s
WHN LR LR
comp=Z,860nm,15.2s
TIA Tai'an 54.98 64 P **P 18 40 36.8 +1.3**
TIA pmax pmax
comp=Z,29nm,1.1s
MYKOM **Kota Tinggi 56.20 108** *e*P **P 18 40 42.4 -2.1**
comp=Z,12nm,1.0s
NJ2 Nanjing 57.33 68 *e*P **P 18 40 51.3 -1.1**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 LR LR
comp=Z,620nm,19.5s
NJ2 LR LR
comp=Z,410nm,18.4s
NJ2 LR LR
comp=Z,600nm,20.1s
DBIC Dimbokro 57.53 259 *e*P **P 18 40 54.1 +0.1**
comp=Z,48nm,0.8s
DBIC Dimbokro 57.53 259 *e*P **P 18 40 54.1 +0.1**
DBIC pmax pmax
comp=Z,49nm,0.8s
DBIC Dimbokro 57.53 259 P **P 18 40 54.0 +0.1**
comp=Z,44nm,0.8s,baz=43,slow=7.6,SNR=25
DBIC LR LR 19 06 34.8
comp=Z,285nm,20.9s,baz=38,slow=37
TSUM Tsumeb 57.56 219 *e*P **P 18 40 54.7 +0.5**
comp=Z,9.6nm,1.0s
KIC Kosan Boka 57.58 259 *e*PKP1 **P 18 40 54.4 0.0**
comp=Z,82nm,1.0s
TIC Toumodi 57.68 259 *e*PKP1 **P 18 40 55.0 -0.1**
LIC Lamto 57.89 259 *e*PKP1 **P 18 40 55.3 -1.3**
comp=Z,116nm,0.8s
DL2 Dalian 57.93 60 P **P 18 40 58.1 +1.6**
DL2 S **S 18 49 01.6 +6.2**
DL2 pmax pmax
comp=Z,37nm,0.9s
DL2 pmax pmax
comp=Z,230nm,4.6s
DL2 LR LR
comp=Z,280nm,18.5s
DL2 LR LR
comp=Z,370nm,20.1s
DL2 LR LR
comp=Z,490nm,22.6s
SCO Scoresbysund 58.25 338 *e*P **P 18 40 58.8 +0.6**
comp=Z,28nm,1.4s
SCO Scoresbysund 58.25 338⇑*i*P **P 18 40 59.1 +0.9**
SCO pmax pmax
comp=Z,22nm,1.3s
SCO Scoresbysund 58.25 338⇑*i*P **P 18 40 59.1 +0.9**
comp=Z,22nm,1.3s
DAG Danmarks Havn 58.27 345⇑*i*P **P 18 40 57.7 -0.6**
DAG pmax pmax
comp=Z,36nm,1.3s
DAG Danmarks Havn 58.27 345⇑*i*P **P 18 40 57.7 -0.6**
comp=Z,18nm,1.3s
LBTB Lobatse 58.60 208 *e*P **P 18 41 02.3 +1.0**
comp=Z,12nm,0.8s
LBTB Lobatse 58.60 208 *e*P **P 18 41 02.3 +1.0**
LBTB pmax pmax

comp=Z,12nm,0.8s
ZEA Zeya 59.37 42 *e*P **P 18 41 05.8 -0.5**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=E,500nm,15.0s
ZEA MLR MLR
comp=Z,700nm,15.0s
ZEA MLR MLR
comp=N,200nm,13.0s
TIXI Tiksi 59.45 21 *e*P **P 18 41 06.2 -0.3**
comp=N,10nm,1.0s
TIXI Tiksi 59.45 21*d i*P **P 18 41 07.2 +0.7**
TIXI pmax pmax
comp=Z,14nm,1.7s
CN2 Changchun 59.76 54 *e*P **P 18 41 10.3 +1.2**
CN2 *e*S **S 18 49 24.0 +5.0**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,400nm,12.0s
YAK Yakutsk 59.89 32 *e*P **P 18 41 09.8 +0.1**
YAK *e**PP **sP 18 41 18.4 -1.1**
YAK *e* 18 41 56.1
YAK *e* 18 43 25.3
YAK *e*S **S 18 49 16.9 -3.1**
YAK *e**SS **sS 18 49 34.6 +2.6**
YAK *e* 18 50 58.4
YAK *e*SS **SS 18 53 18.5 +2.5**
YAK pmax pmax
comp=Z,84nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,48nm,1.3s
YAK pmax pmax
comp=Z,385nm,3.8s
YAK pmax pmax
comp=N,253nm,3.3s
YAK pmax pmax
comp=E,201nm,3.4s
YAK smax smax
comp=N,309nm,3.7s
YAK smax smax
comp=E,206nm,2.3s
YAK MLR MLR
comp=Z,2μm,12.0s
YAK MLR MLR
comp=E,2μm,11.0s
YAK MLR MLR
comp=N,644nm,11.0s
YHNB Yeheng 61.67 76 *e*P **P 18 41 22.9 +0.4**
comp=N,51nm,0.9s
BOSA Boshof 61.94 206 *e*P **P 18 41 24.2 +0.1**
comp=N,10nm,0.9s
BOSA Boshof 61.94 206 P **P 18 41 24.3 +0.1**
comp=N,7.3nm,0.8s,baz=25,slow=5.6,SNR=9.4
BOSA LR LR 19 09 14.4
comp=N,295nm,18.9s,baz=26,slow=37
KLR Kul'dur 62.90 46*d i*P **P 18 41 30.5 +0.2**
KLR pmax pmax
comp=Z,17nm,1.1s
KLR Kul'dur 62.90 46 P **P 18 41 28.6 -1.7**
comp=Z,8.5nm,0.9s,baz=306,slow=5.7,SNR=20
TJN Taejon 62.97 61⇑*e*P **P 18 41 30.9 0.0**
SBUM Sibu 62.97 103 *e*P **P 18 41 31.3 0.0**
comp=Z,23nm,2.0s
KS15 Wonju Array Si 63.07 60 *e*P **P 18 41 30.4 -1.2**
comp=Z,16nm,0.7s
KSAR Wonju Array Be 63.07 60 *e*P **P 18 41 30.4 -1.2**
KSAR Wonju Array Be 63.07 60 *e*P **P 18 41 30.4 -1.2**
KSRS Korea Array 63.10 60 P **P 18 41 30.6 -1.2**
comp=Z,15nm,0.7s,baz=276,slow=6.8,SNR=30
KSRS LR LR 19 12 18.2
comp=Z,268nm,20.2s,baz=287,slow=39
SUMG Summit 63.41 340 *e*P **P 18 41 34.1 +0.3**
comp=Z,31nm,0.9s
SUMG Summit 63.41 340⇑*i*P **P 18 41 34.2 +0.4**
SUMG pmax pmax
comp=Z,89nm,1.0s
SUMG Summit 63.41 340⇑*i*P **P 18 41 34.2 +0.4**
comp=Z,89nm,1.0s
MSHR Mys Shultsa 64.10 54*ce*P **P 18 41 38.7 +0.4**
USA0B Ussuriysk Arra 64.26 52 *e*P **P 18 41 39.9 +0.5**
comp=Z,14nm,1.1s
USRK Ussuriysk Ar. 64.26 52 *e*P **P 18 41 37.4 -1.9**
USRK Ussuriysk Ar. 64.26 52 P **P 18 41 37.9 -1.5**
comp=Z,7.2nm,0.7s,baz=269,slow=6.5,SNR=11
USRK LR LR 19 13 13.9
comp=Z,400nm,18.3s,baz=275,slow=39
ANGG Ammassalik, Gr 64.41 333 *e*P **P 18 41 40.1 +0.2**
comp=Z,29nm,1.0s
VLA Vladivostok 64.48 53*ce*P **P 18 41 41.0 +0.2**
VLA pmax pmax
comp=Z,39nm,1.0s
JNU Nakatsue 66.72 64 P **P 18 41 55.5 0.0**
comp=Z,12nm,0.8s,baz=92,slow=6.5,SNR=5.5
NKL Nikolayevsk 67.34 41 *e*P **P 18 41 59.0 0.0**
NKL pmax pmax
comp=Z,33nm,0.9s
KULLO Kullorsuaq 67.89 344 *i*P **P 18 42 03.3 +1.2**
KULLO pmax pmax
comp=Z,38nm,1.0s
KULLO Kullorsuaq 67.89 344 *i*P **P 18 42 03.3 +1.2**
comp=Z,38nm,1.0s
SFJD Kangerlussuaq 69.01 336 *i*P **P 18 42 09.5 +0.3**
SFJD Kangerlussuaq 69.01 336 *i*P **P 18 42 09.5 +0.3**
TYV Tymovskoe 69.22 43 *e*P **P 18 42 11.8 +1.0**
TYV *e* 18 51 19.9
TYV pmax pmax
comp=Z,16nm,0.9s
TYV MLR MLR
comp=Z,700nm,19.0s
SEY Seymchan 69.90 29⇓*e*P **P 18 42 15.4 +0.6**
MA2 Magadan 70.47 32 *e*P **P 18 42 17.6 -0.7**
comp=Z,20nm,1.0s
MA2 Magadan 70.47 32⇓*e*P **P 18 42 17.9 -0.5**
MA2 pmax pmax
comp=Z,17nm,0.8s
YSS Yuzh-Sakhalins 70.62 47⇑*e*P **P 18 42 18.0 -1.5**
YSS *e* 18 42 44.1
YSS pmax pmax
comp=Z,40nm,1.0s
YSS pmax pmax
comp=N,30nm,1.4s
YSS pmax pmax
comp=E,20nm,0.9s
YSS MLR MLR
comp=Z,1μm,19.0s
YSS MLR MLR
comp=N,400nm,15.0s
YSS MLR MLR
comp=E,900nm,18.0s
INU Inuyama 70.72 60 *e*P **P 18 42 19.4 -0.9**
comp=E,40nm,1.1s
MAJO Matsushiro 71.18 58 *e*P **P 18 42 21.8 -1.4**
MAJO Matsushiro 71.18 58⇑*e*P **P 18 42 22.9 -0.3**
MAJO pmax pmax
comp=Z,41nm,2.2s
MJAR Matsushiro Arr 71.18 58 P **P 18 42 21.8 -1.4**
comp=Z,3.2nm,0.7s,baz=277,slow=9.1,SNR=10
MJAR LR LR 19 16 38.3
comp=Z,200nm,21.3s,baz=315,slow=38
BILL Bilibino 72.67 21 *e*P **P 18 42 31.5 0.0**
comp=Z,24nm,1.0s
BILL Bilibino 72.67 21⇑*i*P **P 18 42 31.7 +0.2**
BILL *e* 18 42 49.7
BILL *e* 18 45 19.4
BILL *e*S **SKiKP 18 52 01.9 -2.3**
BILL pmax pmax
comp=Z,47nm,1.7s
BILL MLR MLR
comp=Z,235nm,15.0s
PEA1 Petropavlovsk- 76.76 37 *e*P **P 18 42 53.7 -1.8**
PETK Petropavlovsk- 76.77 37 *e*P **P 18 42 55.4 -0.1**
PETK Petropavlovsk- 76.77 37 *e*P **P 18 42 55.4 -0.1**
PETK Petropavlovsk- 76.77 37 P **P 18 42 53.7 -1.8**
comp=Z,10nm,0.9s,baz=273,slow=2.1,SNR=10
PETK LR LR 19 20 05.5
comp=Z,341nm,19.5s,baz=297,slow=38

PET Petropavlovsk 77.31 36 *e*P **P 18 42 54.2 -4.3**
PET *e*S **S 18 52 42.2 -5.0**
PET smax smax
comp=N,45nm,0.6s
PET smax smax
comp=E,13nm,0.4s
PET MLR MLR
comp=Z,300nm,18.0s
PET MLR MLR
comp=Z,400nm,17.0s
DRLN Deer Lake 80.52 321 *e*P **P 18 43 16.0 -0.3**
comp=Z,30nm,1.0s
SCHQ Schefferville 81.99 329 *e*P **P 18 43 23.6 -0.4**
comp=Z,38nm,0.8s
SCHQ Schefferville 81.99 329 P **P 18 43 23.1 -0.8**
comp=Z,38nm,0.8s,baz=48,slow=6.1,SNR=22
SCHQ LR LR 19 21 49.6
comp=Z,74nm,18.1s,baz=108,slow=37
TOLK Toolik Lake Re 82.16 8 *e*P **P 18 43 24.8 +0.1**
comp=Z,21nm,1.0s
TOLK Toolik Lake Re 82.16 8 P **P 18 43 24.9 +0.2**
baz=341
COLD Coldfoot 83.42 8 *e*P **P 18 43 31.2 0.0**
comp=Z,9.8nm,1.2s
INK Inuvik 83.69 2 *e*P **P 18 43 30.7 -1.8**
comp=Z,15nm,1.3s
INK Inuvik 83.69 2 *e*P **P 18 43 30.7 -1.8**
INK pmax pmax
comp=Z,15nm,1.3s
BMAR Burnt Mountain 83.86 6 *e*P **P 18 43 33.6 +0.1**
IMAR Indian Mountai 84.08 10 *e*P **P 18 43 33.9 -0.7**
GBN Guysborough 84.93 319 *e*P **P 18 43 39.5 +0.3**
comp=Z,55nm,1.0s
FITZ Fitzroy Crossi 84.98 113 *e*P **P 18 43 39.6 -0.3**
FITZ Fitzroy Crossi 84.98 113 P **P 18 43 39.3 -0.6**
comp=Z,7.3nm,0.9s,baz=341,slow=10,SNR=9.6
MLY Manley 85.43 9 *e*P **P 18 43 41.0 -0.4**
comp=Z,17nm,1.0s
EPYK Eagle Plains 85.50 3 *e*P **P 18 43 43.1 +1.4**
comp=Z,24nm,1.3s
PRP Porcupine Dome 85.62 7 *e*P **P 18 43 42.3 -0.2**
comp=Z,14nm,1.1s
MDM Murphy Dome 85.84 8 *e*P **P 18 43 43.4 0.0**
comp=Z,34nm,1.0s
COLA College 85.97 8*de*P **P 18 43 45.0 +1.0**
COLA pmax pmax
comp=Z,15nm,1.2s
ILAR Eielson Array 86.19 8 *e*P **P 18 43 43.9 -1.2**
ILAR PKKPbc **PKKPbc 19 01 43.8 -0.9**
ILAR Eielson Array 86.19 8 P **P 18 43 44.2 -1.0**
comp=Z,4.3nm,0.9s,baz=327,slow=4.1,SNR=25
ILAR PKKPbc **PKKPbc 19 01 43.8 -0.9**
comp=Z,0.3nm,0.7s,baz=173,slow=2.7,SNR=6.1
ILAR LR LR 19 28 57.2
comp=Z,86nm,19.7s,baz=334,slow=40
ILB Eielson Array 86.19 8 *e*P **P 18 43 44.0 -1.2**
comp=Z,6.9nm,1.0s
ILB *e*PKKPbc **PKKPbc 19 01 43.8 -0.9**
CCB Clear Creek Bu 86.19 8 *e*P **P 18 43 43.8 -1.3**
comp=Z,6.1nm,1.1s
BPAW Bear Paw Mtn. 86.27 10 *e*P **P 18 43 45.5 -0.1**
comp=Z,49nm,1.0s
WRH Wood River Hil 86.32 8 *e*P **P 18 43 45.5 -0.4**
comp=Z,14nm,1.4s
LMN Caledonia Moun 86.52 321 *e*P **P 18 43 47.4 +0.2**
comp=Z,16nm,0.9s
HDA Harding Lake 86.53 8 *e*P **P 18 43 47.0 +0.1**
comp=Z,6.1nm,0.9s
HDA Harding Lake 86.53 8 P **P 18 43 46.2 -0.7**
baz=344
HAL Halifax 86.57 320 *e*P **P 18 43 47.6 +0.2**
comp=Z,32nm,0.9s
HAL Halifax 86.57 320 *e*P **P 18 43 47.6 +0.2**
HAL pmax pmax
comp=Z,32nm,0.9s
CAST Castle Rocks 86.74 10 *e*P **P 18 43 47.7 -0.2**
comp=Z,26nm,0.9s
EGAK Eagle 86.77 5 *e*P **P 18 43 47.9 -0.1**
comp=Z,23nm,1.0s
MCK McKinley 86.92 9 *e*P **P 18 43 48.1 -0.7**
comp=Z,33nm,1.0s
MCK McKinley 86.92 9 *e*P **P 18 43 48.1 -0.7**
MCK pmax pmax
comp=Z,33nm,1.0s
RND Reindeer 87.24 9 *e*P **P 18 43 51.4 +1.0**
comp=Z,16nm,1.1s
RND Reindeer 87.24 9 *e*P **P 18 43 51.4 +1.0**
RND pmax pmax
comp=Z,16nm,1.1s
SCRK Sand Creek 87.28 7 *e*P **P 18 43 50.5 -0.2**
comp=Z,30nm,1.1s
DOT Dot Lake 87.60 7 *e*P **P 18 43 52.1 0.0**
comp=Z,15nm,1.1s
DAWY Dawson 87.61 5 *e*P **P 18 43 51.8 -0.4**
comp=Z,21nm,1.1s
PQI Presque Isle 87.74 323 *e*P **P 18 43 53.2 +0.1**
comp=Z,7.6nm,0.8s
DHY Denali Highway 87.76 9 *e*P **P 18 43 54.4 +1.3**
comp=Z,12nm,1.0s
GGN Saint George 88.10 322 *e*P **P 18 43 55.8 +1.0**
comp=Z,10nm,0.9s
BCAR Beaver Creek A 88.40 6 *e*P **P 18 43 56.2 +0.2**
CHGQ Chibougamau 88.71 329 P **P 18 43 57.0 -0.6**
baz=45
FCC Fort Churchill 88.80 343 *e*P **P 18 43 57.5 -0.3**
comp=Z,12nm,1.0s
FCC Fort Churchill 88.80 343 *e*P **P 18 43 57.5 -0.3**
FCC pmax pmax
comp=Z,11nm,1.0s
YKW3 Yellowknife Ar 88.88 354 *e*P **P 18 43 57.9 -0.2**
comp=Z,21nm,1.1s
YKA Yellowknife Ar 88.95 354 *e*P **P 18 43 58.0 -0.4**
YKA PKKPbc **PKKPbc 19 01 36.9 -1.1**
YKA Yellowknife Ar 88.95 354 P **P 18 43 58.4 0.0**
comp=Z,12nm,0.9s,baz=8.8,slow=5.0,SNR=66
YKA PKKPbc **PKKPbc 19 01 36.9 -1.1**
comp=Z,0.2nm,0.7s,baz=187,slow=2.4,SNR=4.3
YKB5 Yellowknife Ar 88.95 354 *e*P **P 18 43 58.4 0.0**
JAY Jayapura 90.26 93 P **P 18 44 06.2 +0.7**
comp=Z,6.8nm,0.9s,baz=313,slow=6.5,SNR=4.1
MATQ Matagami 90.29 330 P **P 18 44 06.6 +1.6**
baz=43
E54A Lac Daplat, Po 92.51 327 P **P 18 44 16.3 +0.9**
baz=43
LONY Lake Ozonia 92.53 325 *e*P **P 18 44 16.5 +1.0**
comp=Z,6.6nm,0.9s
LONY Lake Ozonia 92.53 325 P **P 18 44 16.5 +1.0**
baz=45
D52A ZEK Kipawa Sen 92.69 328 P **P 18 44 15.8 -0.3**
baz=42
E53A Dumoine, Ponti 92.78 328 P **P 18 44 15.6 -1.0**
baz=43
WR1 Warramunga Arr 93.01 111 *e*P **P 18 44 16.9 -1.1**
WR1 *e*PKKPdf **PKKPbc 19 01 27.5 +0.3**
WRA Warramunga Arr 93.01 111 *e*P **P 18 44 16.8 -1.3**
WRA Warramunga Arr 93.01 111 P **P 18 44 16.9 -1.1**
comp=Z,3.1nm,1.0s,baz=315,slow=4.0,SNR=12
WRA PKKPbc **PKKPbc 19 01 27.5 +0.3**
comp=Z,1.2nm,0.8s,baz=112,slow=2.7,SNR=10
WRAB Tennant Creek 93.02 111⇑*e*P **P 18 44 18.3 +0.2**
WRAB pmax pmax
comp=Z,10.0nm,1.7s
WB2 Warramunga Arr 93.02 111 *e*P **P 18 44 18.2 +0.1**
comp=Z,37nm,1.8s
PEMO Pembroke 93.09 327 P **P 18 44 17.3 -0.7**
baz=43
ALGO Algonquin Park 93.27 328 P **P 18 44 18.2 -0.7**
baz=43
E52A Mattawa 93.31 328 P **P 18 44 18.9 -0.2**
baz=42
PLVO Plevna 93.47 326 P **P 18 44 19.7 -0.1**
baz=43
E51A G1948 Merrick 93.51 329 P **P 18 44 20.1 +0.1**
baz=42
H55A Tweed 93.88 326 P **P 18 44 22.7 +1.0**
baz=43
F52A Sundridge 93.99 328 P **P 18 44 22.0 -0.1**
baz=42
D48A Paudash Townsh 94.07 330 P **P 18 44 22.4 -0.2**
baz=40
G53A Haliburton 94.16 327 P **P 18 44 22.6 -0.4**
baz=42
F51A Arnstein 94.16 328 P **P 18 44 23.7 +0.8**
baz=41
E50A Wahnapitae 94.16 329 P **P 18 44 22.5 -0.5**
baz=41
BUKO Buck Lake 94.28 328 P **P 18 44 24.3 +0.8**
baz=42
FFC Flin Flon 94.35 345 *e*P **P 18 44 22.9 -0.7**
comp=Z,21nm,1.4s
FFC Flin Flon 94.35 345 *e*P **P 18 44 23.0 -0.7**
FFC pmax pmax
comp=Z,21nm,1.4s
AS31 Alice Springs 94.44 114 *e*P **P 18 44 23.6 -1.1**
comp=Z,1.0nm,0.7s
AS31 *e*PKKPdf **PKKPbc 19 01 23.1 -0.5**
ASAR Alice Springs 94.44 114 P **P 18 44 23.6 -1.0**
comp=Z,4.3nm,0.9s,baz=304,slow=4.4,SNR=26
ASAR PKKPbc **PKKPdf 19 01 23.1 -0.5**
comp=Z,0.6nm,0.8s,baz=111,slow=3.5,SNR=6.8
ASAR LR LR 19 26 58.8
comp=Z,34nm,21.5s,baz=304,slow=36
E48A Lockeyer 94.76 330 P **P 18 44 26.8 +1.1**
baz=40
E46A Sault Ste Mari 95.78 331 P **P 18 44 29.7 -0.6**
baz=38
MAW Mawson 95.89 176 *e*P **P 18 44 27.8 -2.2**
comp=Z,6.9nm,1.7s
MAW Mawson 95.89 176 *e*P **P 18 44 27.8 -2.2**
MAW pmax pmax
comp=Z,7.0nm,1.7s
MAW Mawson 95.89 176 P **P 18 44 27.8 -2.2**
comp=Z,2.7nm,0.8s,baz=309,slow=6.5,SNR=2.6
MAW LR LR 19 21 20.1
comp=Z,68nm,20.7s,baz=7.0,slow=32
BASO Ashfield 96.42 328 P **P 18 44 34.2 +0.9**
baz=40
J52A Paris 96.45 327 P **P 18 44 34.2 +0.8**
baz=41
ULM Lac du Bonnet 96.77 340 *e*P **P 18 44 35.2 +0.5**
comp=Z,10nm,1.4s
ULM Lac du Bonnet 96.77 340 *e*P **P 18 44 35.2 +0.5**
ULM pmax pmax
comp=Z,10.0nm,1.4s
ULM Lac du Bonnet 96.77 340 P **P 18 44 33.5 -1.2**
comp=Z,2.2nm,0.7s,baz=27,slow=3.9,SNR=5.1
SSPA Standing Stone 97.08 324 P Pdif 18 44 37.6 +1.1
baz=43
R58B Mineral 99.01 322 P **Pdif 18 44 45.9 +0.8**
baz=43
QSPA South Pole Qui 118.06 180 *e*PKPdf **PKPdf 18 49 50.2 0.0**
VNDA Vanda 121.67 166 PKP **PKiKP 18 49 57.0 0.0**
comp=Z,0.8nm,0.8s,baz=300,slow=6.0,SNR=3.5
LPAZ La Paz 123.58 269 *e*PKPdf **PKPdf 18 50 01.6 -1.5**
LPAZ PKKPab **PKKPab 18 59 54.5 +3.7**
LPAZ La Paz 123.58 269 PKP **PKPdf 18 50 02.5 -0.6**
comp=Z,1.7nm,0.9s,baz=334,slow=2.8,SNR=6.9
LPAZ PKKPab **PKKPab 18 59 54.5 +3.7**
comp=Z,1.3nm,0.7s,baz=92,slow=2.6,SNR=6.4
LCO Las Campanas 129.91 255 *e*PKPdf **PKPdf 18 50 14.6 +0.2**
LCO Las Campanas 129.91 255 *e*PKIKP **PKPdf 18 50 14.6 +0.2**

IDC 01 18:43:23.7±2.5, 28°.26N×51°.79E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.3/53, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=55.9km s-min=30.7km az=155.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**18.86**	**312**	P	Pn	18 47 47.2	+1.2
	0.1nm,0.3s,baz=131,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**30.18**	**44**	P	P	18 49 35.9	+0.3
	0.3nm,0.6s,baz=232,slow=7.4,SNR=2.4						
FINES	**FINESS Array B**	**37.35**	**340**	P	P	18 50 37.1	-0.4
	0.8nm,0.7s,baz=139,slow=9.6,SNR=3.9						
HFS	**Hagfors**	**40.95**	**332**	P	P	18 51 07.0	-0.8
	1.3nm,0.7s,baz=126,slow=7.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**48.88**	**263**	P	P	18 52 11.4	-0.1
	0.4nm,0.6s,baz=75,slow=6.1,SNR=2.9						

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*IDC **01** 18:48:15.3±0.7, 45°.86N×154°.34E, h0km, mb3.8/18, mb1 4.0/23, mb1mx3.9/51, mbtmp3.9/23, ML3.3/5, MS3.2/6, Ms1 3.2/6, ms1mx2.9/42, Error ellipse: s-maj=18.0km s-min=13.8km az=149.0*

*ISCJB **01** 18:48:16.6±0.4, 45°.95N±0°.05×154°.28E±0°.07, h19km, mb4.0/29, MS3.4/5, Error ellipse: s-maj=8.6km s-min=4.4km az=44.2*

*NEIC **01** 18:48:17.5±2.2, 45°.87N×154°.31E, h13km±13km, mb4.4/12, Error ellipse: s-maj=7.6km s-min=4.3km az=141.0*

*MOS **01** 18:48:19.1±1.0, 45°.96N×154°.20E, h35km, mb4.3/9, Error ellipse: s-maj=10.2km s-min=8.1km az=95.1*

*SKHL **01** 18:48:22.5±0.6, 46°.49N×153°.60E, h36km±4km, mb4.4/3*

ISC 01 18:48:19.4±0.7, 46°.09N±0°.08×154°.26E±0°.08, h19km, n107, σ1§74/93, mb4.0/29, MS3.4/5, 4C-5D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.56**	**261**	*d i*P	Pn	18 49 26.0	-1.4
KUR				*e*S	Sn	18 50 15.2	-4.6
KUR				pmax	pmax		
	comp=N,61nm,0.6s						
KUR				pmax	pmax		
	comp=Z,104nm,0.6s						
KUR				pmax	pmax		
	comp=E,23nm,0.4s						
KUR				smax	smax		
	comp=N,99nm,0.6s						
KUR				smax	smax		
	comp=E,71nm,0.4s						
KUR	**Kuril'sk**	**4.56**	**261**	*i*P	Pn	18 49 25.5	-1.9
KUR				AMB	AMB	18 49 28.2	
	comp=E,40nm,0.6s						
KUR				*e*S	Sn	18 50 12.3	-7.5
KUR				A	A	18 50 18.6	
	comp=E,170nm,0.6s						
KUR				A	A	18 50 18.6	
	comp=E,160nm,0.6s						
SKR	**Severo-Kuril's**	**4.76**	**14**	*e*P	**Pn**	**18 49 30.0**	**-0.1**
SKR				*e*S	**Sn**	**18 50 21.9**	**-2.8**
SKR				pmax	pmax		
	comp=Z,72nm,0.6s						
SKR				smax	smax		
	comp=N,100nm,0.7s						
SKR				smax	smax		
	comp=E,152nm,0.7s						
SKR				MLR	MLR		
	comp=Z,400nm,15.0s						
SKR	**Severo-Kuril's**	**4.76**	**14**	*e*P	**Pn**	**18 49 29.6**	**-0.5**
SKR				AMB	AMB	18 49 32.9	
	comp=Z,70nm,1.0s						
SKR				*e*S	**Sn**	**18 50 20.4**	**-4.3**
SKR				A	A	18 50 27.7	
	comp=Z,130nm,0.5s						
SKR				A	A	18 50 27.7	
	comp=Z,160nm,0.5s						
PAU	**Pauzhetka**	**5.64**	**16**	*e*P	**Pn**	**18 49 42.2**	**0.0**
PAU				*e*S	**Sn**	**18 50 42.5**	**-3.9**
YUK	**Yuzh-Kuril'sk**	**6.29**	**254**	*e*S	Sn	18 50 56.0	-6.4
GRPR	**Tuman**	**6.37**	**254**	P	Pn	18 49 50.8	-1.4
GRPR				*e*S	Sn	18 50 59.0	-5.3
GRPR	**Tuman**	**6.37**	**254**	*e*P	Pn	18 49 50.0	-2.2
GRPR				*e*S	Sn	18 50 59.0	-5.3
PETK	**Petropavlovsk-**	**7.37**	**16**	Pn	**Pn**	**18 50 06.9**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=186,slow=13,SNR=7.4						
PETK				Sn	**Sn**	**18 51 33.2**	**+4.1**
	comp=Z,0.2nm,0.3s,baz=193,slow=25,SNR=3.1						
PETK				LR	LR	18 53 15.9	
	comp=Z,92nm,21.0s,baz=188,slow=40						
PEA1	**Petropavlovsk-**	**7.38**	**16**	*e*Pn	**Pn**	**18 50 06.9**	**+0.9**
PEA1				*e*Sn	**Sn**	**18 51 33.2**	**+4.0**
PET	**Petropavlovsk**	**7.51**	**21**	*e*P	**Pn**	**18 50 08.4**	**+0.6**
PET				*e*S	**Sn**	**18 51 27.3**	**-5.0**
PET				A	A	18 51 30.7	
	comp=Z,30nm,0.6s						
PET				A	A	18 51 30.7	
	comp=Z,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.98**	**280**	⇓*e*P	Pn	18 50 07.7	-6.6
YSS				pmax	pmax		
	comp=Z,101nm,2.5s						
YSS	**Yuzh-Sakhalins**	**7.98**	**280**	*e*P	Pn	18 50 09.6	-4.7
YSS				AMB	AMB	18 50 10.6	
	comp=Z,20nm,1.0s						
JKA	**Kamikawa-asahi**	**8.48**	**261**	*e*P	**Pn**	**18 50 21.3**	**+0.1**
ASAJ	**Asahikawa**	**8.48**	**261**	Pn	**Pn**	**18 50 21.3**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=133,slow=11,SNR=7.7						
ASAJ				LR	LR	18 53 59.0	
	comp=Z,50nm,18.2s,baz=148,slow=40						
ERM	**Erimo**	**8.97**	**247**	*e*Pn	Pn	18 50 25.6	-2.2
ERM	**Erimo**	**8.97**	**247**	⇑*e*P	**Pn**	**18 50 27.6**	**-0.3**

TYV	Tymovskoe	9.06 306	eP	Pn	18 50 24.7	-4.4
MA2	Magadan	13.67 352	Pn	Pn	18 51 34.4	+2.3
	comp=Z,0.5nm,0.3s,baz=172,slow=14,SNR=3.6					
MJA0	Matsu Arr-Jizo	15.32 237	eP	Pn	18 51 59.0	+4.3
MJAR	Matsushiro Arr	15.35 237	Pn	Pn	18 51 58.2	+3.2
	comp=Z,0.0nm,0.3s,baz=41,slow=8.0,SNR=11					
MJAR			Sn	Sn	18 54 37.4	-7.0
	comp=Z,0.0nm,0.3s,baz=38,slow=20,SNR=3.2					
MAJO	Matsushiro	15.35 237	eSn	Sn	18 54 37.4	-7.0
MJB9	Matsu-Tunnel	15.35 237	ePn	Pn	18 51 52.5	-2.4
	comp=Z,48nm,1.6s					
KLR	Kul'dur	15.48 290	Pn	Pn	18 51 56.6	+0.1
	comp=Z,0.1nm,0.3s,baz=70,slow=16,SNR=3.4					
USA0B	Ussuriysk Arra	15.82 271	ePn	Pn	18 51 59.6	-1.4
	comp=Z,7.8nm,0.8s					
USRK	Ussuriysk Ar.	15.82 271	Pn	Pn	18 51 59.6	-1.4
	comp=Z,0.3nm,0.3s,baz=78,slow=12,SNR=7.7					
SEY	Seymchan	16.91 357	eP	Pn	18 52 18.0	+3.2
SEY	Seymchan	16.91 357	P	Pn	18 52 18.0	+3.2
	comp=Z,0.1nm,0.3s,baz=195,slow=13,SNR=4.7					
KSRS	Korea Array	21.38 256	eP	P	18 53 07.7	+2.1
KSRS			pmax	pmax		
	comp=Z,1.0nm,0.6s					
KSRS	Korea Array	21.38 256	P	P	18 53 05.7	0.0
	comp=Z,1.0nm,0.7s,baz=52,slow=11,SNR=5.2					
KSRS	Korea Array	21.38 256	eP	P	18 53 07.6	+2.0
KSAR	Wonju Array Be	21.41 256	P	P	18 53 05.7	-0.3
KSAR	Wonju Array Be	21.41 256	P	P	18 53 05.7	-0.3
BILL	Bilibino	22.87 12	eP	P	18 53 23.1	+1.8
	comp=Z,5.5nm,1.1s					
BILL	Bilibino	22.87 12⇑	eP	P	18 53 25.4	+4.0
BILL			e		18 53 49.2	
BILL			pmax	pmax		
	comp=Z,8.0nm,1.5s					
BILL			MLR	MLR		
	comp=Z,66nm,15.0s					
BOD	Bodaibo	27.02 310	eP	P	18 53 56.3	-3.7
BOD			pmax	pmax		
	comp=Z,4.0nm,1.2s					
H11N2	WAKE ISLAND Hy	28.27 154	T	T	19 23 34.4	
	baz=342,slow=76,SNR=7.5					
H11N1	WAKE ISLAND Hy	28.29 154	T	T	19 23 35.3	
	baz=342,slow=76,SNR=7.2					
H11N3	WAKE ISLAND Hy	28.29 154	T	T	19 23 35.8	
	baz=342,slow=76,SNR=7.1					
TIK	Tiksi	28.32 343	eP	P	18 54 10.2	-1.2
TIXI	Tiksi	28.33 343⇑	eP	P	18 54 10.2	-1.3
TIXI			pmax	pmax		
	comp=Z,5.0nm,2.0s					
H11S1	WAKE ISLAND Hy	29.37 155	T	T	19 24 57.4	
	baz=342,slow=76,SNR=8.8					
H11S3	WAKE ISLAND Hy	29.38 155	T	T	19 24 58.1	
	baz=342,slow=76,SNR=11					
H11S2	WAKE ISLAND Hy	29.39 155	T	T	19 24 58.9	
	baz=342,slow=76,SNR=12					
SONA0	Songino Array	32.30 291	eP	P	18 54 46.8	-0.3
SONM	Songino Array	32.30 291	P	P	18 54 46.8	-0.3
	comp=Z,0.2nm,0.4s,baz=83,slow=9.2,SNR=1.8					
ILAR	Eielson Array	36.58 38	P	P	18 55 23.6	-0.1
	comp=Z,0.3nm,0.7s,baz=241,slow=7.4,SNR=4.6					
ILB	Eielson Array	36.58 38	eP	P	18 55 23.3	-0.4
	comp=Z,16nm,1.9s					
GTA	Gaotai	39.86 280	eP	P	18 55 51.8	0.0
GTA			pP	sP	18 56 02.1	+4.7
GTA			sP	pwP	18 56 05.8	+0.2
ZAA1	Zalesovo Array	43.64 307	eP	P	18 56 21.5	-0.9
ZALV	Zalesovo Beam	43.64 307	P	P	18 56 21.5	-0.9
	comp=Z,0.8nm,0.5s,baz=58,slow=8.1,SNR=6.0					
ZALV			LR	LR	19 16 38.8	
	comp=Z,42nm,19.6s,baz=68,slow=39					
MK31	Makanchi Array	47.95 298	eP	P	18 56 56.1	-0.5
	comp=Z,1.2nm,0.7s					
MK31	Makanchi Array	47.95 298	eP	P	18 56 56.1	-0.5
MK31			pmax	pmax		
	comp=Z,1.0nm,0.7s					
MK32	Makanchi Array	47.95 298	eP	P	18 56 56.2	-0.3
MKAR	Makanchi Array	47.95 298	eP	P	18 56 56.6	0.0
MKAR	Makanchi Array	47.95 298	P	P	18 56 56.2	-0.3
	comp=Z,1.4nm,0.7s,baz=71,slow=7.7,SNR=15					
MKAR			LR	LR	19 18 04.5	
	comp=Z,59nm,18.3s,baz=64,slow=37					
MKAR	Makanchi Array	47.95 298	eP	P	18 56 56.9	+0.3
KURK	Kurchatov	48.39 305	eP	P	18 56 59.2	-0.6
	comp=Z,4.3nm,0.8s					
KURK	Kurchatov	48.39 305⇓	eP	P	18 56 59.4	-0.4
KURK			pmax	pmax		
	comp=Z,3.0nm,0.7s					
KURK	Kurchatov	48.39 305	eP	P	18 56 59.4	-0.4
YKA	Yellowknife Ar	50.98 37	P	P	18 57 19.8	+0.5
	comp=Z,0.8nm,0.7s,baz=296,slow=7.2,SNR=4.5					
YKB5	Yellowknife Ar	50.98 37	eP	P	18 57 19.8	+0.5
BVAR	Borovoye Array	51.89 310	P	P	18 57 26.6	+0.2
	comp=Z,0.5nm,0.4s,baz=40,slow=10.0,SNR=6.0					
BRVK	Borovoye	51.93 310	eP	P	18 57 28.8	+2.1
	comp=Z,2.1nm,0.6s					
BRVK	Borovoye	51.93 310⇓	eP	P	18 57 24.8	-1.8
BRVK			pmax	pmax		
	comp=Z,3.0nm,1.3s					
BRVK	Borovoye	51.93 310	eP	P	18 57 24.8	-1.8
CMAR	Chiang Mai Arr	52.99 258	eP	P	18 57 34.9	-0.1
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
CMAR	Chiang Mai Arr	52.99 258	P	P	18 57 33.5	-1.5
	comp=Z,0.7nm,0.7s,baz=40,slow=7.0,SNR=7.3					
AAK	Ala-Archa	54.84 297⇓	eP	P	18 57 48.7	+0.3
AAK			pmax	pmax		
	comp=Z,8.0nm,3.3s					
AAK	Ala-Archa	54.84 297	eP	P	18 57 48.7	+0.3
KSH	Kashi	55.64 293	P	P	18 58 00.3	+6.1
ARU	Arti	56.03 318	eP	P	18 57 56.7	+0.2
	comp=Z,3.9nm,0.6s					
ARU	Arti	56.03 318	c iP	P	18 57 57.4	+0.9
ARU			*PP	sP	18 58 05.8	+3.9
ARU					18 58 50.9	
ARU			S	S	19 05 42.7	-1.0
ARU			SS	SS	19 09 25.6	-3.6
ARU			pmax	pmax		
	comp=Z,4.0nm,0.8s					
ARU	Arti	56.03 318	eP	P	18 57 57.5	+0.9
ABKAR	Akbulak array	59.46 311	eP	P	18 58 20.8	+0.1
GAR	Garm	59.52 296	eP	P	18 58 21.6	+0.1
	comp=Z,6.1nm,0.7s					
GAR	Garm	59.52 296	eP	P	18 58 21.6	+0.1
GAR			pmax	pmax		
	comp=Z,6.0nm,0.7s					
NV01	Mina Array Sit	62.04 63	eP	P	18 58 37.8	-0.9
NVAR	Mina Array Bea	62.04 63	P	P	18 58 37.8	-0.9
	comp=Z,0.1nm,0.3s,baz=289,slow=6.6,SNR=3.6					
PDAR	Pinedale Array	64.50 54	P	P	18 58 54.2	-0.8
	comp=Z,0.8nm,0.8s,baz=270,slow=1.5,SNR=6.2					
FIA0	FINESS Array S	64.97 335	eP	P	18 58 58.0	+0.5
FIA0	FINESS Array S	64.97 335	eP	P	18 58 58.0	+0.5
FINES	FINESS Array B	64.97 335	P	P	18 58 58.0	+0.5
	comp=Z,2.4nm,0.9s,baz=33,slow=7.7,SNR=9.7					
WR1	Warramunga Arr	68.15 200	eP	P	18 59 15.6	-2.7
WRA	Warramunga Arr	68.15 200	P	P	18 59 15.6	-2.7
	comp=Z,2.1nm,0.8s,baz=18,slow=6.8,SNR=12					
NOA	NORSAR Array B	69.11 342	LR	LR	19 33 01.4	
	comp=Z,12nm,20.5s,baz=355,slow=39					
HFS	Hagfors	69.35 340	P	P	18 59 27.1	+1.8
	comp=Z,1.4nm,0.7s,baz=31,slow=4.0,SNR=8.6					
AS31	Alice Springs	71.84 200	eP	P	18 59 39.6	-1.2
	comp=Z,0.9nm,0.9s					
ASAR	Alice Springs	71.84 200	eP	P	18 59 39.6	-1.2
ASAR	Alice Springs	71.84 200	eP	P	18 59 39.6	-1.2
ASAR	Alice Springs	71.84 200	P	P	18 59 39.2	-1.6
	comp=Z,1.3nm,0.8s,baz=16,slow=5.7,SNR=14					
KBZ	Khabaz	71.89 315	P	P	18 59 40.7	-0.3
	comp=Z,2.6nm,0.9s,baz=40,slow=3.9,SNR=8.3					
AKASG	Malin Array Be	72.53 327	P	P	18 59 44.1	-0.7
	comp=Z,0.5nm,0.5s,baz=39,slow=7.1,SNR=5.2					
BUR08	Bucovina Ar. S	76.56 327	eP	P	19 00 08.8	+0.4
	comp=Z,25nm,2.0s					
BURAR	Bucovina Array	76.58 327	eP	P	19 00 08.7	+0.3
BURAR	Bucovina Array	76.58 327	eP	P	19 00 08.7	+0.3
LTX	Lajitas	77.12 61	eP	P	19 00 11.0	-0.8
LTX	Lajitas	77.12 61	eP	P	19 00 11.0	-0.8
TX31	Lajitas Ar. Si	77.12 61	eP	P	19 00 11.4	-0.4
	comp=Z,10nm,1.8s					
TXAR	Lajitas Array	77.12 61	eP	P	19 00 11.5	-0.3
TXAR	Lajitas Array	77.12 61	eP	P	19 00 11.5	-0.3
TXAR	Lajitas Array	77.12 61	P	P	19 00 11.0	-0.8
	comp=Z,1.4nm,0.7s,baz=298,slow=3.9,SNR=20					
CLL	Collm	77.39 336	i P	P	19 00 13.3	+0.5
CLL	Collm	77.39 336	i P	P	19 00 13.3	+0.5
BR101	Keskin Array S	79.41 318	eP	P	19 00 25.1	+0.7
BRTR	Keskin Array B	79.41 318	P	P	19 00 25.1	+0.7
	comp=Z,0.7nm,0.8s,baz=56,slow=5.2,SNR=4.7					
CMIG	Matias Romero	91.56 63	LR	LR	19 40 16.7	
	comp=Z,16nm,18.4s,baz=9.5,slow=34					

KRSC 01 18:48:31.3±10.0, 52.84N×162.76E, h61km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.68	280	eP	Pn	18 49 00.6	+2.3
SPN				eS	Sn	18 49 20.1	+1.3
MKZ	Mys Kozlova	1.82	341	eP	Pn	18 49 03.3	+3.0
MKZ				eS	Sn	18 49 24.9	+2.6
NLC	Nalytchevo	2.09	280	eP	Pn	18 49 06.6	+2.7
NLC				eS	Sn	18 49 30.3	+1.5
SDLR	Sedlovina	2.38	282	eP	Pn	18 49 11.2	+3.2
UGLR	Uglovaya	2.41	280	eP	Pn	18 49 12.0	+3.6
SMAR	Somma	2.43	282	eP	Pn	18 49 12.1	+3.4
DALK	Dalny	2.43	276	eP	Pn	18 49 11.3	+2.7
DALK				eS	Sn	18 49 39.5	+2.3
KRER	Koryakskii	2.46	282	eP	Pn	18 49 12.8	+3.6
AVH	Avacha	2.47	281	eP	Pn	18 49 12.9	+3.8
PET	Petropavlovsk	2.49	276	i P	Pn	18 49 12.6	+3.2
KOK	Koryaka	2.53	282	eP	Pn	18 49 13.6	+3.6
KRX	Arik	2.53	283	eP	Pn	18 49 13.3	+3.2
RUS	Russkaya	2.62	263	eP	Pn	18 49 13.9	+2.7
RUS				eS	Sn	18 49 43.3	+1.5
KZV	Kizimen	2.70	328	eP	Pn	18 49 16.2	+3.8
KZV				eS	Sn	18 49 47.3	+3.3
TUMD	Tumrok D	2.74	330	eP	Pn	18 49 15.6	+2.7
TUMD				eS	Sn	18 49 46.3	+1.4
KRMR	Karymshinskiy	2.81	272	eP	Pn	18 49 16.9	+3.2
KRMR				eS	Sn	18 49 48.6	+2.2
MTVR	Mutnovka	2.81	264	eP	Pn	18 49 16.6	+2.7
MTVR				eS	Sn	18 49 48.3	+1.6
ASAK	Asacha	3.00	263	eP	Pn	18 49 19.8	+3.4
BKI	Bering	3.03	37	eP	Pn	18 49 18.4	+1.7
BKI				eS	Sn	18 49 51.5	-0.2
KDTR	Khodutka, Kamc	3.06	252	eP	Pn	18 49 19.1	+2.0
KDTR				eS	Sn	18 49 52.7	+0.3
KBTR	Krutoberegovo	3.37	1	eP	Pn	18 49 24.0	+2.6
APC	Apacha	3.40	274	eP	Pn	18 49 25.9	+4.1
APC				eS	Sn	18 50 06.2	+5.4
ESO	Esso	3.90	324	eP	Pn	18 49 33.1	+4.5
ESO				eS	Sn	18 50 17.4	+4.4
SRKR	Sorokina	3.93	347	eP	Pn	18 49 33.6	+4.5

*NNC **01** 19:03:53.6±5.3, 39.33N×73.18E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=38.5km s-min=22.5km az=174.0*
*SOME **01** 19:03:54.1, 39.23N×73.23E, h15km*

ISC 01 19:03:58.4±4.4, 38.6N±0.3×73.3E±0.1, h35km, n13, σ0.75/15, 2C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.51	5	P	Pn	19 04 51.2	+0.3
	SNR=15						
UCH	Uchtor	3.72	14	P	Pn	19 04 54.1	+0.4
	SNR=29						
KZA	Kyzart	3.76	23	P	Pn	19 04 54.2	-0.1
	SNR=6.1						
EKS2	Erkin-Say	4.05	5	P	Pn	19 04 58.5	+0.6
	SNR=34						
AAK	Ala-Archa	4.11	13	P	Pn	19 04 59.3	+0.4
	SNR=7.4						
AAK	Ala-Archa	4.11	13	⇑Pg	Pn	19 04 56.9	-2.0
	1.9nm,0.5s						
AAK				⇓Lg	Lg	19 05 42.8	
	9.3nm,0.8s						
MRKS	Merke	4.11	360	Pg	Pn	19 04 58.8	0.0
	17nm,0.3s						
MRKS				Lg	Lg	19 05 44.6	
	11nm,0.2s						
MRKS	Merke	4.11	360	eP	Pn	19 04 59.1	+0.3
	17nm,0.3s						
MRKS				eS	Sn	19 05 45.8	+0.1
	11nm,0.2s						
IUG	Iuzhnay	4.30	326	Pg	Pn	19 05 01.5	+0.1
	7.6nm,0.2s						
IUG				Lg	Lg	19 05 49.2	
	30nm,0.3s						
IUG	Iuzhnay	4.30	326	eP	Pn	19 05 01.5	+0.1
	7.6nm,0.2s						
IUG				eS	Sn	19 05 50.1	-0.3
	30nm,0.3s						
TKM2	Tokmak 2	4.64	22	⇓Pg	Pn	19 05 07.3	+1.1
	3.3nm,1.1s						
TKM2				⇑Lg	Lg	19 05 59.4	
	2.3nm,0.6s						
KK31	Karatay Array	4.94	336	Pg	Pn	19 05 10.1	+0.1
	0.6nm,0.2s,baz=119,slow=6.4,SNR=21						
KK31				Lg	Lg	19 06 07.4	
	5.6nm,0.7s,baz=158,slow=25,SNR=14						
DGS	Degeres	4.98	22	Pg	Pn	19 05 10.0	-0.8
	1.3nm,0.4s						
DGS				Lg	Lg	19 06 03.4	
	2.5nm,0.4s						

*IDC **01** 19:24:00.4±0.7, 22.70S×68.19W, h105km±10km, mb3.8/5, mb1 3.7/9, mb1mx3.5/45, mbtmp4.0/9, Error ellipse: s-maj=22.9km s-min=21.8km az=106.0*
*ISCJB **01** 19:24:01.0±0.4, 22.65S±0.04×68.44W±0.05, h131km±5km, mb3.8/4, Error ellipse: s-maj=8.2km s-min=6.2km az=166.1*
*SJA **01** 19:24:01.7±0.8, 22.67S×68.41W, h113km±5km, ML3.0, MW3.5*
*NEIC **01** 19:24:02.0±0.0, 22.58S×68.55W, h130km, mb4.1/1, ML3.8(GUC), After GUC.*
*GUC **01** 19:24:02.3±0.5, 22.58S×68.55W, h130km±4km, ML3.8*

ISC 01 19:24:00.1±0.7, 22.69S±0.05×68.21W±0.06, h110km±7km, n55, σ1.45/65, mb4.0/4, 8C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.66	277	eP	Pn	19 24 20.0	+1.5
LVC				eS	Sn	19 24 32.7	+0.4
LVC				IAML		19 24 35.2	
	comp=Z,1μm,0.3s						
LVC	Limon Verde	0.66	277	P	Pn	19 24 19.8	+1.3
	comp=Z,392nm,0.3s,baz=94,slow=5.9,SNR=4304						
LVC				S	Sn	19 24 32.8	+0.4
	comp=Z,710nm,0.3s,baz=282,slow=19,SNR=80						
LVC				LR	LR	19 24 48.1	
	comp=Z,188nm,21.1s,baz=176,slow=71						
PB06	IPOC Station P	1.26	269	eP	Pn	19 24 25.1	+0.8
PB06	IPOC Station P	1.26	269⇑	eP	Pn	19 24 25.2	+0.8
PB06				eS	Sn	19 24 43.2	+0.5
PB06				IAML		19 24 45.1	
	comp=E,3μm,0.1s						
PB15	IPOC Station P	1.28	246	eP	Pn	19 24 26.2	+1.6
PB15				eS	Sn	19 24 43.2	+0.2
PB15	IPOC Station P	1.28	246⇑	eP	Pn	19 24 26.2	+1.6
PB15				eS	Sn	19 24 45.1	+2.0
PB09	IPOC Station P	1.31	313	eP	Pn	19 24 26.3	+1.4
PB09	IPOC Station P	1.31	313⇑	eP	Pn	19 24 26.2	+1.3
PB09				eS	Sn	19 24 44.1	+0.5
PB09				IAML		19 24 45.4	
	comp=E,984nm,0.5s						
PB03	IPOC Station P	1.57	294	eP	Pn	19 24 28.3	+0.4
PB03	IPOC Station P	1.57	294⇑	eP	Pn	19 24 28.3	+0.4
PB03				eS	Sn	19 24 47.8	-1.2
PB03				IAML		19 24 49.1	
	comp=E,2μm,0.3s						
PB07	IPOC Station P	1.83	301	eP	Pn	19 24 31.9	+0.8
PB07	IPOC Station P	1.83	301⇑	eP	Pn	19 24 31.6	+0.4
PB07				eS	Sn	19 24 53.3	-1.5
PB07				IAML		19 24 55.3	
	comp=E,1μm,0.5s						
PB04	IPOC Station P	1.83	281	ePn	Pn	19 24 31.2	0.0
PB04	IPOC Station P	1.83	281	eP	Pn	19 24 31.4	+0.2
PB04	IPOC Station P	1.83	281⇑	eP	Pn	19 24 31.2	0.0
PB04				eS	Sn	19 24 53.6	-1.2
PB04				IAML		19 24 55.6	
	comp=N,1μm,0.3s						
PB05	IPOC Station P	1.85	265	eP	Pn	19 24 31.9	+0.5
PB05	IPOC Station P	1.85	265⇑	eP	Pn	19 24 31.6	+0.2
PB05				eS	Sn	19 24 54.4	-0.7
PB01	IPOC Station P	2.03	324	ePn	Pn	19 24 34.0	+0.5
PB01	IPOC Station P	2.03	324⇓	eP	Pn	19 24 34.3	+0.7
PB01				eS	Sn	19 24 58.6	-0.4
PB02	IPOC Station P	2.08	311	eP	Pn	19 24 35.0	+0.7
PB02	IPOC Station P	2.08	311⇑	eP	Pn	19 24 34.5	+0.3
PB02				eS	Sn	19 24 58.5	-1.8
PB02				IAML		19 25 02.5	
	comp=E,1μm,0.3s						
PB10	IPOC Station P	2.31	249	ePn	Pn	19 24 37.3	+0.1
PB10	IPOC Station P	2.31	249	eP	Pn	19 24 37.4	+0.3
PB10	IPOC Station P	2.31	249	IAML		19 25 12.9	
	comp=E,287nm,0.3s						
YJA	Yavi	2.54	79	eP	Pn	19 24 46.5	+6.0
YJA				IAML		19 24 49.1	
	comp=Z,22nm,0.6s						
HJA	Humahuaca	2.63	102	eP	Pn	19 24 47.7	+6.1
PB08	IPOC Station P	2.69	341	eP	Pn	19 24 44.6	+2.2
GO02	Mina Guanaco	2.77	207	ePn	Pn	19 24 45.1	+1.7
PB14	IPOC Station P	2.79	226	eP	Pn	19 24 44.7	+1.0
GO01	Chusmiza	3.15	343	ePn	Pn	19 24 50.0	+1.4
PB11	IPOC Station P	3.21	335	ePn	Pn	19 24 48.5	-0.6
PB11	IPOC Station P	3.21	335	eP	Pn	19 24 49.2	+0.1
AZAP	Zapla	3.26	119	eP	Pn	19 24 55.3	+5.5
AZAP				IAML		19 24 56.8	
	comp=Z,23nm,0.3s						
PSGCX	Pisagua	3.56	329	eP	Pn	19 24 52.7	-1.1
MNMC	Minye Minye	3.77	340	ePn	Pn	19 24 56.5	-0.2
MNMCX	Minye Minye	3.77	340	eP	Pn	19 24 58.2	+1.5
PB12	IPOC Station P	4.52	334	eP	Pn	19 25 07.3	+0.7
GO03	Copiap	5.22	200	ePn	Pn	19 25 15.4	-0.5
LPAZ	La Paz	6.37	1	ePn	Pn	19 25 30.9	-1.2
LPAZ	La Paz	6.37	1	P	Pn	19 25 34.4	+2.2
	comp=Z,0.8nm,0.3s,baz=205,slow=6.5,SNR=13						
LCO	Las Campanas	6.68	199	ePn	Pn	19 25 34.0	-2.0
CFA	Coronel Fontan	8.88	180	P	Pn	19 26 04.0	-1.6
	comp=Z,0.6nm,0.3s,baz=348,slow=13,SNR=9.7						
CFA				S	Sn	19 27 38.8	-5.1
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=1.8						
SIV	San Ignacio	9.47	47	P	Pn	19 26 12.8	-0.8
	comp=Z,6.4nm,0.3s,baz=244,slow=8.7,SNR=96						
SIV				S	Sn	19 27 52.8	-5.6
	comp=Z,0.4nm,0.3s,baz=165,slow=20,SNR=3.3						
CPUP	Villa Florida	10.54	112	P	Pn	19 26 30.1	+2.0
	comp=Z,0.1nm,0.3s,baz=281,slow=6.7,SNR=4.7						
BDFB	Brasilia	20.31	73	eP	P	19 28 25.9	-1.8
	comp=Z,17nm,1.9s						
BDFB	Brasilia	20.31	73	P	P	19 28 27.3	-0.3
	comp=Z,1.5nm,0.4s,baz=253,slow=14,SNR=3.5						
PTGA	Pitinga	23.25	21	P	P	19 28 57.9	-0.2
	comp=Z,2.1nm,0.3s,baz=181,slow=6.2,SNR=4.5						
DBIC	Dimbokro	68.45	73	P	P	19 34 51.8	+0.9
	comp=Z,1.4nm,0.4s,baz=218,slow=6.7,SNR=4.8						
TOA1	Torodi Ar. Sit	77.14	70	eP	P	19 35 42.9	+0.7
TORD	Torodi Ar. Bea	77.14	70	eP	P	19 35 42.5	+0.3
TORD	Torodi Ar. Bea	77.14	70	P	P	19 35 42.9	+0.7
	comp=Z,1.2nm,0.4s,baz=249,slow=5.7,SNR=28						
YKA	Yellowknife Ar	92.52	340	P	P	19 36 58.9	+0.4
	comp=Z,0.2nm,0.5s,baz=129,slow=4.8,SNR=5.7						
YKB5	Yellowknife Ar	92.52	340	eP	P	19 36 58.9	+0.4
WR1	Warramunga Arr	132.25	209	ePKPdf	PKiKP	19 43 03.7	+0.5
WRA	Warramunga Arr	132.25	209	PKP	PKiKP	19 43 03.7	+0.5
	comp=Z,0.4nm,0.8s,baz=150,slow=1.7,SNR=4.2						

IDC 01 19:25:45.7±2.5, 18.86S×176.15W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/46, mbtmp3.8/3, Error ellipse: s-maj=60.4km s-min=45.5km az=103.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.20	196	P	P	19 30 21.9	-0.2
	3.9nm,0.3s,baz=270,slow=3.9,SNR=9.8						
URZ				S	S	19 33 51.3	-18
	6.7nm,0.9s,baz=3.9,slow=22,SNR=2.1						
WRA	Warramunga Arr	46.58	260	P	P	19 34 15.6	-0.2
	0.3nm,0.3s,baz=95,slow=7.1,SNR=32						
ASAR	Alice Springs	46.61	255	P	P	19 34 16.1	0.0
	0.4nm,0.5s,baz=94,slow=7.6,SNR=6.8						
GERES	GERESS Array B	149.05	347	PKPbc	PKPbc	19 45 35.5	-0.5
	0.7nm,0.8s,baz=5.4,slow=3.2,SNR=3.8						

MEX 01 19:32:03.2±0.9, 16.49N×95.38W, h19km±40km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.77	38	eP	Pb	19 32 14.9	-3.1
CMIG				eS	Sb	19 32 25.5	-2.6
HUIG	Huatulco	1.00	225	i P	Pb	19 32 18.3	-3.7
HUIG				i S	Sb	19 32 31.4	-3.4
PCIG		2.22	110	eP	Pn	19 32 35.5	-3.5
PCIG				eS	Sn	19 33 02.9	-3.0
TPIG	Tehuac#an	2.70	316	i P	Pn	19 32 42.8	-3.0
TPIG				i S	Sn	19 33 14.9	-3.2

MEX 01 19:32:20.0±0.7, 16.52N×98.40W, h5km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.29	117	i P	Pg	19 32 25.0	-0.6
PNIG				i S	Sg	19 32 29.8	+0.4
TLIG	Tlapa	1.05	351	eP	Pg	19 32 37.1	-3.0
TLIG				eS	Sg	19 32 51.3	-2.5
CAIG	El Cayaco	1.87	287	i P	Pn	19 32 50.0	-2.7
CAIG				eS	Sn	19 33 11.9	-4.8

*ATH **01** 19:36:47.0, 36.52N×23.01E, h25km, ML3.9/27, Error ellipse: s-maj=0.9km s-min=0.6km az=237.0*
*ISCJB **01** 19:36:47.8±0.3, 36.49N±0.02×22.96E±0.02, h26km±2km, mb3.8/14, MS3.1/3, Error ellipse: s-maj=3.2km s-min=2.2km az=135.6*
*THE **01** 19:36:48.0, 36.52N×22.99E, h8km, ML4.0/11, Error

ANKY S **Sg** **19 37 10.3 -0.6**
ANKY AML AML 19 37 13.6
comp=E,24095µm,0.6s
ANKY AML AML 19 37 15.6
comp=N,24749µm,0.7s
KRND KRANIDI 0.87 8 P **Pg** **19 37 04.5 -0.2**
KRND S **Sb** **19 37 16.9 +1.2**
comp=N,8µm,0.3s
KRND KRANIDI 0.87 8 P **Pg** **19 37 04.6 -0.2**
KRND S **Sg** **19 37 16.1 -0.1**
YDRA Hydra 0.91 25 P **Pg** **19 37 05.3 -0.2**
VLX Vlachokerasia 0.98 330 P **Pg** **19 37 06.2 -0.6**
VLX S **Sb** **19 37 20.2 +1.3**
comp=N,7µm,0.5s
VLX Vlachokerasia 0.98 330 P **Pg** **19 37 06.3 -0.6**
VLX S **Sg** **19 37 19.1 -0.6**
VLX AML AML 19 37 28.5
comp=N,10161µm,0.6s
VLX AML AML 19 37 29.4
comp=E,15951µm,0.5s
DID Didima 1.00 11 P **Pg** **19 37 06.4 -0.9**
DID S **Sb** **19 37 21.2 +1.7**
comp=E,4µm,0.4s
DID Didima 1.00 11 P **Pg** **19 37 06.6 -0.7**
DID S **Sb** **19 37 21.0 +1.5**
DID AML AML 19 37 27.5
comp=N,7994µm,0.5s
DID AML AML 19 37 28.7
comp=E,9543µm,0.3s
PYL PYLOS 1.07 291 *e*Pg **Pg** **19 37 07.1 -1.5**
PYL PYLOS 1.07 291 P **Pg** **19 37 07.5 -1.1**
PYL S **Sb** **19 37 23.4 +1.9**
PYL PYLOS 1.07 291 P **Pg** **19 37 07.0 -1.5**
MES2 Methoni 1.07 287 P **Pg** **19 37 07.2 -1.4**
MES2 S **Sb** **19 37 22.9 +1.2**
MES2 AML AML 19 37 29.5
comp=N,17342µm,0.9s
MES2 AML AML 19 37 31.0
comp=E,13700µm,0.6s
ITM Ithomi 1.08 308 *e*Pg **Pg** **19 37 07.4 -1.3**
ITM Ithomi 1.08 308 P **Pg** **19 37 07.6 -1.1**
ITM S **Sb** **19 37 23.4 +1.7**
comp=E,4µm,0.4s
ITM Ithomi 1.08 308 P **Pg** **19 37 07.6 -1.1**
ITM S **Sb** **19 37 23.7 +2.0**
ITM AML AML 19 37 26.6
comp=E,9346µm,0.6s
ITM AML AML 19 37 28.1
comp=N,7225µm,0.3s
EPID Epidavros 1.09 5 P **Pg** **19 37 08.5 -0.5**
MHLO Agia Marina, M 1.15 81 P **Pg** **19 37 09.0 -1.0**
MHLO Agia Marina, M 1.15 81 P **Pg** **19 37 09.1 -0.9**
MHLO S **Sg** **19 37 23.8 -1.3**
MHLO AML AML 19 37 25.4
comp=E,42698µm,0.4s
MHLO AML AML 19 37 25.8
comp=N,39424µm,0.6s
TRIP Tripoli 1.16 330 P **Pg** **19 37 09.2 -1.0**
TRIP S **Sn** **19 37 26.2 +1.6**
comp=N,4µm,0.5s
TRIP Tripoli 1.16 330 P **Pg** **19 37 09.3 -0.9**
TRIP S **Sg** **19 37 24.7 -0.7**
TRIP AML AML 19 37 27.4
comp=N,6666µm,0.7s
TRIP AML AML 19 37 36.4
comp=E,7971µm,0.6s
MHLA Plaka, Milos I 1.17 79 P **Pg** **19 37 09.7 -0.8**
MHLA S **Sg** **19 37 24.5 -1.3**
MHLA AML AML 19 37 32.1
comp=N,8418µm,0.4s
MHLA AML AML 19 37 33.5
comp=E,11634µm,0.6s
KERA Keramoti 1.24 158 P **Pn** **19 37 10.8 +0.5**
KERA AML AML 19 37 36.3
comp=E,14031µm,0.6s
KERA AML AML 19 37 37.0
comp=N,9489µm,0.4s
MES3 Kyparissia 1.28 305 P **Pn** **19 37 11.2 +0.3**
CHAN Chania 1.32 139 P **Pn** **19 37 11.0 -0.3**
IMMV Iera Moni Meta 1.33 143 P **Pn** **19 37 11.2 -0.4**
IMMV Iera Moni Meta 1.33 143 P **Pn** **19 37 11.2 -0.4**
IMMV AML AML 19 37 37.7
comp=N,9637µm,0.6s
IMMV AML AML 19 37 40.6
comp=E,10907µm,0.4s
SERI Serifos 1.36 62 P **Pn** **19 37 11.8 -0.1**
SERI Serifos 1.36 62 P **Pn** **19 37 11.8 -0.1**
SERI AML AML 19 37 37.1
comp=E,3581µm,0.4s
SERI AML AML 19 37 37.3
comp=N,4878µm,0.4s
AMT Artemida-Makis 1.44 315 P **Pn** **19 37 13.8 +0.7**
AMT Artemida-Makis 1.44 315 P **Pn** **19 37 14.0 +0.9**
AMT AML AML 19 37 43.5
comp=E,11387µm,0.8s
AMT AML AML 19 37 44.7
comp=N,9427µm,0.6s
LOUT Loutraki 1.46 359 P **Pn** **19 37 14.0 +0.6**
LOUT Loutraki 1.46 359 P **Pn** **19 37 14.3 +0.9**
VLY Voula,Athens 1.47 26 *e*Sn **Sn** **19 37 32.3 -0.1**
VLY Voula,Athens 1.47 26 P **Pn** **19 37 13.7 +0.2**
VLY Voula,Athens 1.47 26 P **Pn** **19 37 13.4 -0.1**
VLY S **Sn** **19 37 33.3 +0.9**
VAM Vamos 1.48 138 P **Pn** **19 37 13.5 -0.2**
VAM Vamos 1.48 138 P **Pn** **19 37 13.5 -0.2**
VAM Vamos 1.48 138 P **Pn** **19 37 13.5 -0.2**
VAM S **Sn** **19 37 33.5 +0.9**
VAM AML AML 19 37 43.6
comp=E,7472µm,0.5s
VAM AML AML 19 37 44.7
comp=N,10326µm,0.6s
GUR Goura 1.50 340 P **Pn** **19 37 14.9 +0.9**
GUR Goura 1.50 340 P **Pn** **19 37 14.6 +0.6**
GUR S **Sn** **19 37 34.6 +1.4**
GUR AML AML 19 37 39.0
comp=E,13293µm,0.4s
GUR AML AML 19 37 41.6
comp=N,16895µm,0.4s
ATH Athens Observa 1.56 22 P **Pn** **19 37 15.8 +1.1**
ATH Athens Observa 1.56 22 P **Pn** **19 37 15.5 +0.8**
ATH S **Sn** **19 37 35.4 +1.0**
ATH AML AML 19 37 44.2
comp=E,3492µm,0.3s
ATH AML AML 19 37 46.0
comp=N,3235µm,0.4s
ATHU Athens Univers 1.57 23 P **Pn** **19 37 15.4 +0.5**
ATHU Athens Univers 1.57 23 P **Pn** **19 37 15.2 +0.3**
VILL Villia 1.66 9 P **Pn** **19 37 16.3 +0.2**
KLV Kalavryta, Ach 1.66 336 P **Pn** **19 37 17.3 +1.2**
KLV Kalavryta, Ach 1.66 336 P **Pn** **19 37 17.3 +1.2**
KLV S **Sn** **19 37 39.1 +2.0**
KLV AML AML 19 37 43.1
comp=E,2733µm,0.5s
KLV AML AML 19 37 51.7
comp=N,3272µm,0.7s
PTL Penteli 1.67 24 P **Pn** **19 37 16.5 +0.2**
PTL Penteli 1.67 24 P **Pn** **19 37 16.7 +0.4**
PTL S **Sn** **19 37 37.4 +0.1**
PTL AML AML 19 37 47.1
comp=E,2390µm,0.4s
PTL AML AML 19 37 49.8
comp=N,2206µm,0.6s
VIL2 Platees 1.70 7 P **Pn** **19 37 16.4 -0.3**
VIL2 S **Sn** **19 37 38.3 +0.4**
VIL2 AML AML 19 37 50.3
comp=N,3259µm,0.6s
VIL2 AML AML 19 37 51.0
comp=E,5790µm,0.7s
DION Dionisos Attik 1.72 26 P **Pn** **19 37 17.4 +0.4**
DION Dionisos Attik 1.72 26 P **Pn** **19 37 17.5 +0.5**
DION S **Sn** **19 37 38.7 +0.1**
DION AML AML 19 37 49.0
comp=N,1807µm,0.5s
DION AML AML 19 37 53.6
comp=E,2931µm,0.7s
PROD Prodromos 1.73 358 P **Pn** **19 37 17.9 +0.8**
PROD AML AML 19 37 44.7
comp=E,4098µm,0.3s
PROD AML AML 19 37 49.7
comp=N,3343µm,0.4s
DRO Drossia 1.75 325 P **Pn** **19 37 19.0 +1.6**
DRO AML AML 19 37 59.6
comp=N,7566µm,0.5s
DRO AML AML 19 38 00.2
comp=E,6846µm,0.5s
ALIK Aliki, Aigiali 1.87 338 P **Pn** **19 37 20.1 +1.2**
LAKA Lakka 1.89 335 P **Pn** **19 37 20.4 +1.1**
LAKA Lakka 1.89 335 P **Pn** **19 37 20.4 +1.1**
LAKA AML AML 19 37 54.2
comp=N,3407µm,0.6s
LAKA AML AML 19 37 57.4
comp=E,1838µm,0.9s
SAP3 Santorini-Thir 1.90 92 P **Pn** **19 37 19.9 +0.5**
DSF Desfina 1.92 349 P **Pn** **19 37 20.7 +1.0**
DSF Desfina 1.92 349 P **Pn** **19 37 20.7 +1.0**
DSF S **Sn** **19 37 45.3 +1.8**
DSF AML AML 19 37 52.8
comp=N,2169µm,0.6s
DSF AML AML 19 37 56.0
comp=E,2852µm,0.5s
CMBO Columbo, Santo 1.95 91 P **Pn** **19 37 20.8 +0.8**
THR6 Thira Island, 1.95 94 P **Pn** **19 37 20.6 +0.6**
RLS Riolos of Patr 1.96 322 P **Pn** **19 37 22.0 +1.9**
IDI Anoyia 1.97 128 P **Pn** **19 37 21.1 +0.6**
comp=E,19nm,0.3s,baz=321,slow=10,SNR=80
IDI S **Sn** **19 37 44.8 -0.1**
comp=E,89nm,0.3s,baz=20,slow=19,SNR=11
TRIZ Trizonia 1.98 339 P **Pn** **19 37 21.5 +1.1**
TRIZ Trizonia 1.98 339 P **Pn** **19 37 22.1 +1.7**
SANT Santorini 2.00 94 *e*Pn **Pn** **19 37 21.1 +0.3**
SANT Santorini 2.00 94 P **Pn** **19 37 21.0 +0.3**
SERG Sergoula 2.03 339 P **Pn** **19 37 22.0 +0.8**
SERG Sergoula 2.03 339 P **Pn** **19 37 22.7 +1.5**
EREA Eretria 2.04 21 P **Pn** **19 37 21.9 +0.7**
EREA Eretria 2.04 21 P **Pn** **19 37 22.0 +0.7**
EREA S **Sn** **19 37 46.8 +0.6**
APE Apeiranthos 2.11 74 P **Pn** **19 37 22.3 0.0**
APE Apeiranthos 2.11 74 ⇑ *i*P **Pn** **19 37 22.6 +0.3**
APE S **Sn** **19 37 50.6 +2.5**
APE Apeiranthos 2.11 74 P **Pn** **19 37 22.3 0.0**
SIVA Sivas 2.11 135 P **Pn** **19 37 23.5 +1.2**
SIVA Sivas 2.11 135 P **Pn** **19 37 23.4 +1.2**
LKR Lokris 2.12 0 P **Pn** **19 37 23.3 +0.9**
LKR Lokris 2.12 0 P **Pn** **19 37 23.3 +0.9**
ATAL Atalanti 2.17 1 P **Pn** **19 37 23.7 +0.7**
ATAL Atalanti 2.17 1 P **Pn** **19 37 23.5 +0.4**
MRKA Markates 2.23 12 P **Pn** **19 37 24.4 +0.5**
MRKA Markates 2.23 12 P **Pn** **19 37 24.6 +0.6**
ANX Ano Chora 2.23 338 P **Pn** **19 37 25.2 +1.1**
ANX Ano Chora 2.23 338 P **Pn** **19 37 25.3 +1.2**
ANAF Anafi Island 2.25 93 P **Pn** **19 37 24.9 +0.7**
AMGA Amorgos Island 2.35 82 P **Pn** **19 37 26.1 +0.5**
AMGA Amorgos Island 2.35 82 P **Pn** **19 37 26.1 +0.5**
SMIA Simia 2.36 4 P **Pn** **19 37 26.6 +0.9**
SMIA Simia 2.36 4 P **Pn** **19 37 25.7 0.0**
PVO Paravola 2.39 331 P **Pn** **19 37 28.3 +2.1**
LAST Lasithi 2.44 123 P **Pn** **19 37 26.6 -0.2**
LAST Lasithi 2.44 123 P **Pn** **19 37 26.7 -0.2**
NPS Neapolis 2.47 120 P **Pn** **19 37 27.2 -0.1**
NPS Neapolis 2.47 120 P **Pn** **19 37 27.0 -0.2**
VLS Valsamata 2.53 311 P **Pn** **19 37 30.2 +2.2**
AGG Agios Georgios 2.55 348 *e*Pn **Pn** **19 37 29.6 +1.3**
AGG Agios Georgios 2.55 348 P **Pn** **19 37 29.6 +1.3**
AGG Agios Georgios 2.55 348 P **Pn** **19 37 29.9 +1.6**
EVR Evrytania 2.57 339 P **Pn** **19 37 29.9 +1.3**
EVR Evrytania 2.57 339 P **Pn** **19 37 29.9 +1.3**
SKY Skiros Island 2.66 27 P **Pn** **19 37 30.1 +0.3**
SKIA Skiathos 2.66 8 P **Pn** **19 37 30.6 +0.7**
SKIA Skiathos 2.66 8 P **Pn** **19 37 30.6 +0.7**
AOS Alonnisos 2.73 15 P **Pn** **19 37 31.0 +0.1**
AOS Alonnisos 2.73 15 P **Pn** **19 37 30.9 +0.1**
NEO Neokhori 2.78 4 P **Pn** **19 37 32.5 +0.9**
NEO Neokhori 2.78 4 P **Pn** **19 37 32.3 +0.7**
STIA Sitia Lasithi 2.84 117 P **Pn** **19 37 33.5 +1.2**
XOR Xorichti 2.84 3 P **Pn** **19 37 33.1 +0.7**
XOR Xorichti 2.84 3 P **Pn** **19 37 33.4 +1.0**
FYTO Fytoko, Volos 2.88 359 P **Pn** **19 37 34.0 +1.2**
CHOS Chios island 3.07 52 P **Pn** **19 37 35.6 +0.2**
CHOS Chios island 3.07 52 P **Pn** **19 37 35.7 +0.2**
THL Klokotos Trika 3.13 346 P **Pn** **19 37 37.6 +1.3**
THL Klokotos Trika 3.13 346 P **Pn** **19 37 37.7 +1.4**
SMG Samos 3.29 68 P **Pn** **19 37 38.4 -0.1**
PAIG Paliouri 3.44 9 P **Pn** **19 37 40.8 +0.2**
KARP Karpathos 3.52 105 *e*Pn **Pn** **19 37 42.4 +0.7**
LIT Litokhoron 3.59 354 *e*Pn **Pn** **19 37 42.2 -0.4**
IGT Igoumenitsa 3.66 326 *e*Pn **Pn** **19 37 45.7 +2.1**
IGT *e*Sn **Sn** **19 38 25.1 -1.3**
LIA Limnos Island 3.79 26 P **Pn** **19 37 45.4 +0.1**
PLG Polygyros 3.86 5 P **Pn** **19 37 46.8 +0.4**
OUR Ouranopolis 3.88 11 P **Pn** **19 37 47.0 +0.4**
EZN Ezine 4.21 38 ⇑ *i*P **Pn** **19 37 52.9 +1.7**
EZN Ezine 4.21 38 S **Sn** **19 38 45.7 +5.8**
FNA Florina 4.44 344 *e*Pn **Pn** **19 37 56.8 +2.5**
FNA *e*Sn **Sn** **19 38 44.9 -0.7**
FNA Florina 4.44 344 *e*Pn **Pn** **19 37 59.4 +0.3**
SRS Serrai 4.61 6 *e*Pn **Pn** **19 37 59.4 +2.7**
SRS *e*Sn **Sn** **19 38 52.3 +2.5**
BIA Bitola 4.67 344 *e*Pn Pn 19 38 04.4 +6.8
VAY Valandovo 4.80 356 *e*Pn **Pn** **19 38 01.3 +2.1**
OHR Ohrid 4.89 340 *e*Pn Pn 19 38 06.3 +5.8
ALN Alexandroupoli 4.98 28 *e*Pn **Pn** **19 38 01.7 0.0**
KRUS Krusevo 5.03 345 *e*Pn **Pn** **19 38 05.1 +2.7**
MMB Musomiste 5.09 6 P **Pn** **19 38 06.5 +3.2**
RZN Rozhen 5.33 14 P **Pn** **19 38 08.0 +1.3**
KKB Krupnik 5.34 1 P **Pn** **19 38 08.9 +2.3**
KDZ Kurdzhali 5.46 19 P **Pn** **19 38 12.2 +3.9**
TIP Timpagrande 5.60 300 *e*Pn **Pn** **19 38 10.8 +0.5**
TIP Timpagrande 5.60 300 ⇑ *i*P **Pn** **19 38 10.9 +0.6**
TIP Timpagrande 5.60 300 S **Sn** **19 39 16.0 +1.8**
CEL Celeste 5.91 289 *e*Pn **Pn** **19 38 15.0 +0.4**
BOSS Bosilegrad 5.98 356 *e*Pn **Pn** **19 38 17.3 +1.9**
TAR1 Taranto 6.00 313 ⇓ *i*Pn **Pn** **19 38 16.4 +0.7**
VTS Vitosha 6.09 2 *e*Pn **Pn** **19 38 19.4 +2.3**
VTS Vitosha 6.09 2 *e*Pn **Pn** **19 38 17.6 +0.5**
VTS Vitosha 6.09 2 ⇑ *i*P **Pn** **19 38 19.7 +2.6**
VTS Vitosha 6.09 2 S **Sn** **19 39 27.2 +0.8**
VTS Vitosha 6.09 2 P **Pn** **19 38 19.7 +2.6**
MASS Massafra 6.15 314 ⇓ *i*Pn **Pn** **19 38 18.4 +0.6**
MASS Sn Sn 19 39 18.1 -10
FASA Fasano 6.15 316 ⇑ *i*Pn Pg 19 38 57.3 +12
BARS Barje 6.35 352 *e*Pn **Pn** **19 38 22.2 +1.7**
DRME Dracevica, Mon 6.38 334 *e*Pn **Pn** **19 38 22.1 +1.2**
MATE Matera 6.42 312 ⇑ *i*P **Pn** **19 38 22.5 +1.1**
MATE Matera 6.42 312 S **Sn** **19 39 33.6 -0.6**
PDG Podgorica 6.57 335 *e*Pn **Pn** **19 38 25.5 +2.0**
PDG *e*Sn **Sn** **19 39 35.3 -2.6**
PDG Podgorica 6.57 335 ⇑ *i*P **Pn** **19 38 25.7 +2.2**
PDG Podgorica 6.57 335 S **Sn** **19 39 39.3 +1.4**
PDG Podgorica 6.57 335 *e*Pn **Pn** **19 38 25.3 +1.8**
TTG Podgorica 6.57 335 *e*Pn **Pn** **19 38 24.4 +0.9**
ZAPS Zavoj 6.75 358 *e*Pn **Pn** **19 38 28.9 +2.9**
SELS Selova 6.84 348 *e*Pn **Pn** **19 38 29.2 +1.9**
MPEP Malo Peshtene 6.85 5 P **Pn** **19 38 31.7 +4.3**
HCY Herceg Novi 6.86 331 *e*Pn **Pn** **19 38 27.3 -0.2**
VAE Valguarnera 6.93 280 P **Pn** **19 38 31.4 +2.9**
comp=E,1.6nm,0.3s,baz=90,slow=20,SNR=3.7
VAE S **Sn** **19 39 48.5 +1.5**
comp=E,3.0nm,0.3s,baz=261,slow=19,SNR=4.1
TREB Trebinje 7.15 331 *e*Pn **Pn** **19 38 31.8 +0.3**
TREB *e*Sn **Sn** **19 39 48.8 -3.4**
TREB Trebinje 7.15 331 *e*Pn **Pn** **19 38 31.7 +0.3**
BOVS Bovan 7.17 352 *e*Pn **Pn** **19 38 34.5 +2.7**
BRY Bratogost 7.23 333 *e*Pn **Pn** **19 38 32.5 -0.3**
IVAS Ivanjica 7.37 344 *e*Pn **Pn** **19 38 35.4 +0.8**
UPM Unac-Piva 7.37 336 *e*Pn **Pn** **19 38 38.0 +3.3**
STON Ston 7.54 329 *e*Pn **Pn** **19 38 36.0 -0.8**
STON *e*Sn **Sn** **19 39 58.2 -3.5**
STON Ston 7.54 329 *i*Pn **Pn** **19 38 36.5 -0.2**
STON Sn **Sn** **19 39 56.4 -5.4**
STON Ston 7.54 329 *e*Pn **Pn** **19 38 35.9 -0.8**
GRUS Gruza 7.56 347 *e*Pn **Pn** **19 38 38.5 +1.4**
DIVS Divibare 7.90 344 *e*Pn **Pn** **19 38 43.8 +1.9**
DIVS *e*Sn **Sn** **19 40 09.2 -1.8**
DIVS Divibare 7.90 344 *e*Pn **Pn** **19 38 43.1 +1.2**
HAPS Han Pijesak,BI 8.16 339 *e*Pn **Pn** **19 38 44.2 -1.3**
LEF Lefka 8.16 97 ⇓ *i*P **Pn** **19 38 44.3 -1.1**
LEF Lefka 8.16 97 S **Sn** **19 40 11.1 -6.1**
MDVR Moldovita 8.31 354 ⇓ *i*P **Pn** **19 38 49.8 +2.4**
GZR Gura Zlata 8.86 359 ⇓ *i*P **Pn** **19 38 57.1 +2.0**
ARR Arges 8.92 7 ⇓ *i*P **Pn** **19 38 56.6 +0.7**
TLB Topalu 8.92 24 ⇑ *i*P **Pn** **19 38 58.9 +3.1**
TIRR Tirgusor 8.93 26 ⇓ *i*P **Pn** **19 38 58.9 +3.0**
BR131 Keskin Array S 8.98 66 *e*Pn **Pn** **19 38 56.9 +0.1**
BRTR Keskin Array B 8.98 66 *e*Pn **Pn** **19 38 57.3 +0.6**
BRTR Keskin Array B 8.98 66 P **Pn** **19 38 58.6 +1.9**
comp=E,0.1nm,0.3s,baz=246,slow=13,SNR=4.5
HARR Harsova 8.98 23 ⇓ *i*P **Pn** **19 38 58.3 +1.7**
VOIR 9.04 9 ⇑ *i*P **Pn** **19 39 00.2 +2.7**
MLR Muntele Rosu 9.23 13 *e*Pn **Pn** **19 39 01.7 +1.5**
MLR Muntele Rosu 9.23 13 ⇓ *i*P **Pn** **19 39 02.2 +2.0**
MLR Muntele Rosu 9.23 13 P **Pn** **19 39 02.8 +2.6**
comp=E,0.2nm,0.3s,baz=156,slow=18,SNR=3.9
BLY Banja Luka 9.32 334 ⇑ *i*P **Pn** **19 39 03.7 +2.4**
BLY Banja Luka 9.32 334 *e*Pn **Pn** **19 39 01.3 0.0**
CFR Carcaliu 9.48 23 ⇓ *i*P **Pn** **19 39 06.2 +2.8**
UDBI Udbina 9.70 328 *e*Pn **Pn** **19 39 07.2 +0.7**
UDBI Sn **Sn** **19 40 49.2 -5.9**
PLOR Plostina 9.72 15 ⇑ *i*P **Pn** **19 39 10.1 +3.4**
VRI Vrincioaia 9.75 16 ⇑ *i*P **Pn** **19 39 10.0 +2.9**
MMAI Mount Meron Ar 10.79 105 P **Pn** **19 39 18.6 -2.9**
comp=E,1.9nm,0.3s,baz=302,slow=13,SNR=9.0
MMAI S Sn 19 41 14.4 -7.5
comp=E,2.0nm,0.3s,baz=286,slow=31,SNR=4.7
CRES Cresnjev 10.88 331 *e*Pn **Pn** **19 39 22.7 0.0**
BURAR Bucovina Array 11.21 8 ⇓ *i*P **Pn** **19 39 29.9 +2.7**
CEY Cerknica 11.24 328 *e*Pn **Pn** **19 39 26.4 -1.1**
SOKA Soboth 11.76 332 *i*Pn **Pn** **19 39 34.9 +0.2**
comp=E,0.8nm,0.3s
OBKA Obir 11.80 330 *i*Pn **Pn** **19 39 37.6 +2.2**
comp=E,1.5nm,0.3s
ARSA Arzberg 12.07 335 *i*Pn **Pn** **19 39 40.5 +1.6**
comp=E,0.6nm,0.3s
EIL Elat 12.13 121 P Pn 19 39 35.9 -3.9
comp=E,0.6nm,0.3s,baz=315,slow=8.6,SNR=4.7
EIL S Sn 19 41 45.7 -8.9
comp=E,0.7nm,0.3s,baz=191,slow=5.2,SNR=4.5
ASF Jabal al Asfar 12.28 107 P Pn 19 39 38.1 -3.8
comp=E,0.3nm,0.3s,baz=339,slow=2.3,SNR=4.3
ASF S **Sn** **19 41 56.4 -2.0**
comp=E,0.3nm,0.3s,baz=153,slow=2.3,SNR=2.4
MOA Molln 13.02 333 *i*Pn **Pn** **19 39 53.5 +1.6**
comp=E,0.7nm,0.3s
VRAC Vranov 13.60 342 LR LR 19 47 15.6
comp=E,54nm,18.8s,baz=175,slow=46
WATA Walderalm 13.73 325 *i*Pn **Pn** **19 40 02.6 +1.0**
comp=E,1.6nm,0.4s
MOTA Moosalm 13.95 324 *i*Pn **Pn** **19 40 05.9 +1.1**
comp=E,1.6nm,0.5s
MOTA *i*Sn **Sn** **19 42 41.0 +1.8**
comp=E,2.2nm,0.9s
GERES GERESS Array B 14.07 334 *e*Pn **Pn** **19 40 06.2 0.0**
GERES GERESS Array B 14.07 334 P **Pn** **19 40 07.0 +0.8**
comp=E,0.2nm,0.3s,baz=158,slow=13,SNR=6.4
GERES LR LR 19 46 54.9
comp=E,43nm,18.4s,baz=102,slow=43
DAVOX Davos/Dischmat 14.16 320 LR LR 19 47 22.4
comp=E,60nm,18.7s,baz=74,slow=44
KHC Kasperske Hory 14.35 334 *e*Pn **Pn** **19 40 13.2 +3.1**
KHC Kasperske Hory 14.35 334 *e*P **P** **19 40 18.7 +1.6**
KHC *e*pP Pn 19 40 22.7 +13
DPC Dobruska-Polom 14.63 343 *e*P P 19 40 28.6 +8.4
DPC *e*x x 19 40 35.8
PRU Pruhonice 14.78 338 *e*P P 19 40 27.2 +5.4
PRU *e*x x 19 40 37.6
KIEV Kiev 14.85 16 ⇑ *i*P **Pn** **19 40 19.8 +2.9**
AKASG Malin Array Be 14.86 16 P **Pn** **19 40 18.9 +1.9**
comp=E,0.6nm,0.3s,baz=209,slow=11,SNR=4.8
PVCC Panska Ves 15.26 339 *e*P **P** **19 40 33.5 +6.5**
PVCC *e*x x 19 40 43.7
BRG Berggiesshubel 15.75 338 *e*P **P** **19 40 38.1 +5.7**
comp=E,4.6nm,0.8s
CLL Collm 16.41 337 *e*Pn **Pn** **19 40 38.4 +1.3**
comp=E,8.3nm,1.0s
CLL Collm 16.41 337 *i*pP **P** **19 40 42.2 +2.4**
CLL *i*PP **sP** **19 40 46.1 -1.0**
comp=Z,9.0nm,1.0s
KBZ Khabaz 16.82 59 P **Pn** **19 40 44.8 +2.5**
comp=Z,0.2nm,0.3s,baz=253,slow=9.0,SNR=8.9
ESDC Sonseca Array 21.41 287 P **P** **19 41 34.5 -0.3**
comp=Z,0.4nm,0.4s,baz=86,slow=10,SNR=7.3
HFS Hagfors 24.37 349 P **P** **19 42 03.6 -1.1**
comp=Z,2.0nm,0.4s,baz=155,slow=11,SNR=16
HFS LR LR 19 52 14.4
comp=Z,40nm,18.3s,baz=102,slow=38
FINES FINESS Array B 25.02 4 P **P** **19 42 09.4 -1.1**
comp=Z,2.1nm,0.9s,baz=161,slow=12,SNR=6.8
NB2 NORSAR Subarra 25.65 347 P **P** **19 42 16.4 +0.1**
comp=Z,0.3nm,0.5s,baz=156,slow=9.3
NOA NORSAR Array B 25.65 347 P **P** **19 42 16.7 +0.3**
comp=Z,0.8nm,0.7s,baz=153,slow=9.3,SNR=7.7
NOA LR LR 19 54 32.4
comp=Z,23nm,18.0s,baz=320,slow=41
EKA Eskdalemuir Ar 25.91 325 P **P** **19 42 19.2 +0.5**
comp=Z,5.2nm,0.7s,baz=125,slow=9.4,SNR=19
TORD Torodi Ar. Bea 30.11 225 P **P** **19 42 56.5 -0.2**
comp=Z,0.5nm,0.6s,baz=36,slow=9.2,SNR=8.7
ARCES ARCESS Array B 33.10 2 P **P** **19 43 22.6 +0.3**
comp=Z,2.6nm,0.9s,baz=188,slow=7.4,SNR=3.9
KK31 Karatay Array 36.69 65 *e*P **P** **19 43 52.9 -0.7**
comp=Z,7.2nm,1.9s
KKAR Karatay Array 36.69 65 *e*P **P** **19 43 52.6 -1.1**
GAR Garm 37.17 71 *e*P **P** **19 43 57.6 -0.4**
comp=Z,6.1nm,0.8s
MKAR Makanchi Array 44.51 57 P **P** **19 44 57.1 -1.1**
comp=Z,0.8nm,0.3s,baz=267,slow=8.0,SNR=13
ZALV Zalesovo Beam 45.35 47 P **P** **19 45 03.1 -1.6**
comp=Z,0.8nm,0.5s,baz=273,slow=10,SNR=4.9
SCHQ Schefferville 61.00 319 LR LR 20 12 37.1
comp=Z,34nm,18.1s,baz=56,slow=35
BOSA Boshof 64.83 178 P **P** **19 47 23.8 -2.0**
comp=Z,2.4nm,0.8s,baz=5.9,slow=7.3,SNR=2.7
CMAR Chiang Mai Arr 68.16 83 P **P** **19 47 45.4 -1.9**
comp=Z,0.2nm,0.6s,baz=300,slow=7.3,SNR=3.0
YKA Yellowknife Ar 75.60 341 P **P** **19 48 31.0 -0.2**
comp=Z,0.2nm,0.4s,baz=55,slow=8.5,SNR=4.2

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*ISCJB **01** 19:41:56.5±0.5, 30°.24S±0°.04×136°.92E±0°.06, h10km,*
Error ellipse: s-maj=8.3km s-min=4.8km az=155.4
*AUST **01** 19:41:57.7±0.4, 30°.36S×136°.93E, h0km, Error ellipse:*
s-maj=5.6km s-min=3.9km az=72.0
*IDC **01** 19:42:00.5±3.3, 30°.04S×137°.25E, h0km, mb1 4.1/4,*
mb1mx3.7/25, mbtmp3.9/4, ML4.0/4, Error ellipse:
s-maj=47.7km s-min=15.8km az=45.0
ISC 01 19:41:58.2±0.9, 30°.27S±0°.06×136°.93E±0°.06, h10km, n14,
σ1§84/21, South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
BBOO	**Buckleboo**	**2.63**	**196**	P		**Pn**	**19 42 39.6**	**-1.3**
	baz=2.6							
BBOO				S		**Sn**	**19 43 13.8**	**+0.9**
	baz=2.6							
HTT	**Hallett**	**3.57**	**152**	P		**Pn**	**19 42 54.1**	**+0.2**
	baz=3.5,SNR=3.9							
STKA	**Stephens Creek**	**4.31**	**113**	P		**Pn**	**19 43 05.3**	**+1.4**
	baz=4.3							
STKA				S		**Sn**	**19 43 54.6**	**+0.3**
	baz=4.3							
STKA	**Stephens Creek**	**4.31**	**113**	Pn		**Pn**	**19 43 05.3**	**+1.4**
	2.9nm,0.3s,baz=302,slow=13,SNR=68							
STKA				Sn		**Sn**	**19 43 54.9**	**+0.7**
	8.7nm,0.3s,baz=318,slow=18,SNR=6.3							
STKA				Lg		Lg	19 44 12.2	
	6.8nm,0.3s,baz=31,slow=24,SNR=8.4							
ASAR	**Alice Springs**	**7.11**	**337**	Pn		**Pn**	**19 43 44.4**	**+1.9**
	1.3nm,0.3s,baz=153,slow=14,SNR=87							
ASAR				Sn		**Sn**	**19 45 04.2**	**+0.7**
	2.0nm,0.3s,baz=161,slow=22,SNR=14							
ASAR				Lg		Lg	19 45 45.5	
	0.6nm,0.3s,baz=154,slow=24,SNR=4.3							
ASPA	**Alice Springs**	**7.11**	**337**	P		**Pn**	**19 43 45.6**	**+3.2**
	baz=7.2							
CMSA	**Cobar Meteorol**	**7.63**	**102**	P		**Pn**	**19 43 50.4**	**+0.8**
	baz=7.6							
CMSA				S		**Sn**	**19 45 13.9**	**-2.2**
	baz=7.6							
ARPS	**Mount Arapiles**	**7.66**	**149**	P		**Pn**	**19 43 49.7**	**-0.2**
	baz=7.6							
WRKA	**Warakurna**	**9.26**	**302**	P		**Pn**	**19 44 12.5**	**+0.6**
	baz=9.3,SNR=5.0							
QIS	**Mount Isa**	**9.97**	**15**	P		**Pn**	**19 44 24.0**	**+2.4**
	baz=10,SNR=5.0							
WC3	**Warramunga Arr**	**10.53**	**347**	P		**Pn**	**19 44 30.7**	**+1.4**
	baz=11							
WRA	**Warramunga Arr**	**10.55**	**347**	Pn		**Pn**	**19 44 30.6**	**+1.0**
	1.6nm,0.3s,baz=159,slow=14,SNR=89							
WRA				Sn		**Sn**	**19 46 27.1**	**-0.9**
	0.8nm,0.3s,baz=165,slow=25,SNR=6.6							
CTA	**Charters Tower**	**13.19**	**42**	Pn		**Pn**	**19 45 06.1**	**+0.4**

1.1nm,0.3s,baz=214,slow=14,SNR=12
CTA Sn **Sn** **19 47 28.1 -4.4**
0.3nm,0.3s,baz=238,slow=15,SNR=2.7
FITZ Fitzroy Crossi 15.89 317 Pn **Pn** **19 45 39.8 -2.3**
0.2nm,0.3s,baz=145,slow=10,SNR=3.9
FITZ Sn Sn 19 48 28.3 -10
0.1nm,0.3s,baz=297,slow=16,SNR=3.2

MAN 01 19:45:40.9, 5°82N×126°16E, h95km, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.53**	**302**	*eP*	Pn	19 45 58.6	+2.3
DDMP				*eS*	Sn	19 46 10.4	+2.4
MATI	**Mati**	**1.12**	**5**	*eP*	Pn	19 46 02.5	+0.1
MATI				*eS*	Sn	19 46 19.7	+1.2
DMPH	**Davao City--Mi**	**1.42**	**333**	⇑*eP*	Pn	19 46 05.5	-0.4
DMPH				*eS*	Sn	19 46 25.1	+0.4
SKMP	**Bagumbayan, Su**	**1.75**	**293**	*eP*	Pn	19 46 11.2	+1.1
BUKP	**Musuan**	**2.32**	**332**	*eP*	Pn	19 46 17.8	+0.3
BUKP				*eS*	Sn	19 46 46.4	+0.8
BUTP	**Butuan**	**3.18**	**350**	*eP*	Pn	19 46 24.1	-4.7

*ISCJB **01** 19:48:39.5±0.7, 32°.19N±0°.05×115°.18W±0°.05, h12km, Error ellipse: s-maj=7.2km s-min=5.9km az=18.0*
*ECX **01** 19:48:41.5±0.5, 32°.19N×115°.24W, h6km, MD2.8, ML3.1*
*NEIC **01** 19:48:41.5±0.0, 32°.20N×115°.24W, h6km, MD3.1(ECX), ML3.0(PAS), After ECX.*
*PAS **01** 19:48:41.0±0.0, 32°.21N×115°.22W, h10km*
ISC 01 19:48:39.2±1.1, 32°.14N±0°.06×115°.20W±0°.04, h12km, n16, σ0.99/19, 5C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.29**	**341**	⇑*eP*	**Pg**	**19 48 46.1**	**+0.9**
CPBX				*eS*	**Sg**	**19 48 49.4**	**+0.3**
CPBX				*e*		19 48 51.2	
CPBX				IAML		19 48 51.2	
	comp=N,11μm,0.3s						
SGL	**Mount Signal**	**0.67**	**318**	⇑*iP*	**Pg**	**19 48 52.4**	**0.0**
YUH	**Yuha Desert**	**0.79**	**309**	⇑*iP*	**Pg**	**19 48 54.3**	**-0.3**
RMX	**La Rumorosa**	**0.88**	**302**	⇑*eP*	**Pg**	**19 48 54.9**	**-1.3**
RMX				*eS*	**Sg**	**19 49 05.2**	**-2.5**
RMX				IAML		19 49 05.6	
	comp=N,965nm,0.2s						
RMX				⇓*e*		19 49 05.6	
RMX				IAML		19 49 06.3	
	comp=E,562nm,0.2s						
RMX				*e*		19 49 06.3	
IKP	**In-Ko-Pah, Jac**	**0.92**	**303**	⇑*iP*	**Pg**	**19 48 56.8**	**-0.3**
IKP				*eS*	**Sg**	**19 49 08.3**	**-0.8**
GLA	**Glamis**	**0.96**	**19**	*e*Pg	**Pg**	**19 48 56.6**	**-1.2**
CRR	**Carrizo Plain**	**0.99**	**319**	*eP*	**Pg**	**19 48 57.7**	**-0.6**
SPIG	**San Pedro Mart**	**1.12**	**192**	*eP*	**Pb**	**19 49 01.6**	**+0.8**
CBX	**Cerro Bola**	**1.25**	**278**	*eP*	**Pn**	**19 49 02.5**	**-0.2**
CBX				IAML		19 49 19.9	
	comp=N,548nm,0.6s						
ECNX	**Esteban Cantu**	**1.29**	**248**	*eP*	**Pn**	**19 49 03.4**	**+0.3**
BAR	**Barrett**	**1.36**	**294**	*e*Pn	**Pn**	**19 49 04.4**	**+0.3**
113A	**Mohawk Valley,**	**1.36**	**62**	*e*Pn	**Pn**	**19 49 03.9**	**-0.2**
EML	**El Monte Cty P**	**1.58**	**299**	*eS*	**Sn**	**19 49 27.7**	**+0.2**
CPE	**Camp Elliot**	**1.78**	**295**	*e*Pn	**Pn**	**19 49 10.7**	**+1.0**
PFO	**Pinyon Flats O**	**1.81**	**324**	*e*Pn	**Pn**	**19 49 11.9**	**+1.6**
X16A	**Lo Mia Camp, P**	**3.88**	**53**	*e*Pn	**Pn**	**19 49 38.9**	**+0.1**

IDC 01 20:00:56.1±2.3, 3°.50N×123°.25E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/41, mbtmp3.3/3, Error ellipse: s-maj=340.1km s-min=27.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.71**	**155**	P	P	20 06 28.4	+0.1
	0.2nm,0.3s,baz=335,slow=10.0,SNR=8.1						
ASAR	**Alice Springs**	**28.93**	**159**	P	P	20 06 57.1	-0.1
	0.2nm,0.9s,baz=334,slow=8.6,SNR=4.3						
MKAR	**Makanchi Array**	**55.81**	**327**	P	P	20 10 35.1	-0.1
	0.2nm,0.3s,baz=120,slow=8.6,SNR=4.5						

*IDC **01** 20:02:26.5±0.7, 10°.67S×114°.09E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.2/41, mbtmp4.3/14, ML4.6/2, MS3.2/5, Ms1 3.2/5, ms1mx2.8/31, Error ellipse: s-maj=26.7km s-min=13.5km az=58.0*
*ISCJB **01** 20:02:29.1±0.3, 10°.82S±0°.04×113°.97E±0°.03, h33km, mb4.4/30, Error ellipse: s-maj=5.7km s-min=3.9km az=38.7*
*DJA **01** 20:02:31.2±0.4, 11°.S±3°.×11°.4E±°., h65km±10km, M4.7/10, mb4.9/7, mB5.1/4, MLv4.6/10, Mw(mB)4.5/4*
*NEIC **01** 20:02:31.6±2.1, 10°.67S×114°.16E, h33km±15km, mb4.4/15, Error ellipse: s-maj=11.7km s-min=4.7km az=225.0*
*BJI **01** 20:02:31.0±0.0, 10°.80S×114°.00E, h45km, mb4.4/15, mB4.9/7, Ms4.7/1*
ISC 01 20:02:30.4±0.4, 10°.96S±0°.06×114°.01E±0°.05, h35km, n98, σ2.41/112, mb4.4/30, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.48**	**3**	*e*Pn	**Pn**	**20 03 06.6**	**-1.7**
JAGI	**Jajag, Banyuwa**	**2.48**	**3**	P	**Pn**	**20 03 06.5**	**-1.8**
JAGI				S	**Sn**	**20 03 34.1**	**-3.2**
DNP	**Denpasar**	**2.56**	**28**	P	**Pn**	**20 03 08.5**	**-0.9**
GMJI	**Gumukmas**	**2.73**	**348**	P	**Pn**	**20 03 09.3**	**-2.4**
GMJI				S	**Sn**	**20 03 39.5**	**-3.9**
SRBI	**Singaraja**	**3.09**	**23**	S	**Sn**	**20 03 50.9**	**-1.6**
PWJI	**Pagerwojo**	**3.64**	**323**	P	**Pn**	**20 03 21.9**	**-2.3**
PWJI				S	**Sn**	**20 04 00.5**	**-5.5**
KMMI	**Kalianget**	**3.88**	**359**	P	**Pn**	**20 03 27.6**	**0.0**
PCJI	**Pacitan**	**3.91**	**314**	P	**Pn**	**20 03 26.7**	**-1.4**
PLAI	**Plampang**	**4.28**	**61**	P	**Pn**	**20 03 32.7**	**-0.4**
PLAI				S	**Sn**	**20 04 18.9**	**-2.9**
GRJI	**Gresik**	**4.29**	**339**	P	**Pn**	**20 03 32.5**	**-0.8**
GRJI				S	**Sn**	**20 04 19.4**	**-2.7**
WOJI	**Wonogiri, Jawa**	**4.34**	**315**	P	**Pn**	**20 03 32.8**	**-1.2**
WOJI				S	**Sn**	**20 04 17.5**	**-5.9**
NGJI	**Ngawi**	**4.36**	**325**	P	**Pn**	**20 03 35.1**	**+0.9**
NGJI				S	**Sn**	**20 04 22.8**	**-1.1**
UGM	**Wanagama**	**4.58**	**311**	*e*Pn	**Pn**	**20 03 36.1**	**-1.1**
UGM	**Wanagama**	**4.58**	**311**	P	**Pn**	**20 03 35.3**	**-1.9**
UGM				S	**Sn**	**20 04 24.8**	**-4.5**
WSI	**Waingapu**	**6.32**	**79**	S	**Sn**	**20 05 10.4**	**-1.8**
CISI	**Cisompet, Garu**	**6.98**	**298**	*e*Pn	**Pn**	**20 04 08.2**	**-2.1**
CISI	**Cisompet, Garu**	**6.98**	**298**	P	**Pn**	**20 04 08.0**	**-2.3**
	104nm,0.6s,2μm1.0nm						
CISI				S	**Sn**	**20 05 22.9**	**-5.7**
	104nm,0.6s,2μm1.0nm						
LEM	**Lembang**	**7.53**	**303**	Pn	**Pn**	**20 04 16.9**	**-1.0**
	2.0nm,0.3s,baz=107,slow=19,SNR=2.5						
LEM				Sn	**Sn**	**20 05 39.4**	**-2.8**
	2.6nm,0.3s,baz=156,slow=20,SNR=2.4						
LEM				LR	LR	20 07 59.3	
	comp=Z,175nm,19.4s,baz=178,slow=45						
BKSI	**Bulukumba**	**8.25**	**48**	P	**Pn**	**20 04 27.9**	**+0.3**
	25nm,0.6s,365nm						
MMRI	**Maumere**	**8.44**	**75**	*e*Pn	**Pn**	**20 04 27.9**	**-2.3**
MMRI	**Maumere**	**8.44**	**75**	P	**Pn**	**20 04 31.4**	**+1.2**
	72nm,0.7s,2μm						
CGJI	**Cibinong**	**9.28**	**297**	P	**Pn**	**20 04 40.1**	**-1.7**
	80nm,0.5s,2μm						
BATI	**Baumata**	**9.53**	**86**	Pn	**Pn**	**20 04 45.6**	**+0.5**
	25nm,0.3s,baz=319,slow=2.3,SNR=31						
BATI				Sn	**Sn**	**20 06 25.5**	**-5.6**
	5.8nm,0.3s,baz=342,slow=20,SNR=4.2						
MTKI	**Muara Teweh, K**	**9.99**	**5**	P	**Pn**	**20 04 53.4**	**+1.8**
SOEI	**Soe**	**10.17**	**84**	*e*Pn	**Pn**	**20 04 52.7**	**-1.4**
SOEI	**Soe**	**10.17**	**84**	P	**Pn**	**20 04 55.0**	**+0.9**
	42nm,0.7s						
MBWA	**Marble Bar**	**11.54**	**152**	*e*Pn	**Pn**	**20 05 10.2**	**-2.5**
PSA00	**Pilbara Seismi**	**11.95**	**153**	*e*Pn	**Pn**	**20 05 17.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**13.31**	**124**	*e*Pn	**Pn**	**20 05 34.5**	**-2.4**
FITZ				Sn	Sn	20 07 52.1	-12
FITZ	**Fitzroy Crossi**	**13.31**	**124**	Pn	**Pn**	**20 05 35.0**	**-1.9**
	0.4nm,0.3s,baz=306,slow=8.6,SNR=14						
FITZ				Sn	Sn	20 07 52.1	-12
	0.9nm,0.3s,baz=183,slow=19,SNR=4.6						
FITZ				LR	LR	20 10 53.9	
	comp=Z,77nm,19.8s,baz=306,slow=38						
SGSI	**Sangihe**	**18.52**	**39**	P	Pn	20 06 59.2	+15
IPM	**Ipoh**	**20.05**	**319**	*eP*	**P**	**20 07 00.7**	**-0.1**
	14nm,0.8s						
DAV	**Davao City (W)**	**21.30**	**33**	LR	LR	20 15 55.5	
	comp=Z,31nm,22.0s,baz=153,slow=38						
WR1	**Warramunga Arr**	**21.52**	**117**	*eP*	**P**	**20 07 18.2**	**+1.6**
WRA	**Warramunga Arr**	**21.52**	**117**	*eP*	**P**	**20 07 17.7**	**+1.1**
WRA				S	**S**	**20 11 05.6**	**-7.9**
WRA	**Warramunga Arr**	**21.52**	**117**	P	**P**	**20 07 18.2**	**+1.6**
	7.6nm,0.6s,baz=291,slow=11,SNR=47						
WRA				S	**S**	**20 11 05.6**	**-7.9**
	0.4nm,0.6s,baz=296,slow=21,SNR=4.2						
WRAB	**Tennant Creek**	**21.52**	**117**	*eP*	**P**	**20 07 19.0**	**+2.3**
	9.2nm,0.6s						
WB2	**Warramunga Arr**	**21.53**	**117**	*eP*	**P**	**20 07 18.9**	**+2.2**
	8.7nm,0.6s						
NWAO	**Narrogin (SRO)**	**22.07**	**173**	S	**S**	**20 11 17.2**	**-6.6**
	8.7nm,0.9s,baz=252,slow=20,SNR=2.8						
AS31	**Alice Springs**	**22.78**	**126**	*eP*	**P**	**20 07 32.4**	**+2.3**
	2.3nm,0.6s						
ASAR	**Alice Springs**	**22.78**	**126**	*eP*	**P**	**20 07 32.6**	**+2.5**
ASAR				PcP	**PcP**	**20 11 23.1**	**+2.0**
ASAR				S	**S**	**20 11 38.3**	**+1.4**
ASAR	**Alice Springs**	**22.78**	**126**	P	**P**	**20 07 32.0**	**+1.9**
	7.2nm,0.7s,baz=301,slow=8.6,SNR=110						
ASAR				PcP	**PcP**	**20 11 23.1**	**+2.0**
	1.0nm,0.8s,baz=327,slow=1.5,SNR=5.5						
ASAR				S	**S**	**20 11 38.3**	**+1.4**
	1.0nm,0.7s,baz=302,slow=23,SNR=5.1						
ASAR				LR	LR	20 17 01.0	
	comp=Z,50nm,19.5s,baz=324,slow=38						
SKNT	**Sakolnakorn**	**29.47**	**340**	P	**P**	**20 08 33.0**	**+1.7**
	13nm,1.4s,0.0nm						
NONG	**Nongkai**	**30.77**	**339**	P	**P**	**20 08 44.6**	**+1.9**
UTTA	**Uttaradit**	**31.46**	**335**	P	**P**	**20 08 51.3**	**+2.5**
	23μm,0.8s,66nm						
CM31	**Chiang Mai Arr**	**32.79**	**333**	*eP*	**P**	**20 09 02.5**	**+1.9**
	8.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.79**	**333**	*eP*	**P**	**20 09 01.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**32.79**	**333**	P	**P**	**20 09 00.6**	**0.0**
	6.4nm,0.8s,baz=169,slow=6.8,SNR=35						
STKA	**Stephens Creek**	**32.89**	**133**	*eP*	**P**	**20 09 03.5**	**+2.2**
	2.6nm,0.6s						
STKA	**Stephens Creek**	**32.89**	**133**	P	**P**	**20 09 03.8**	**+2.4**
	6.9nm,0.7s,baz=319,slow=6.4,SNR=16						
STKA				LR	LR	20 23 34.2	
	comp=Z,79nm,18.4s,baz=260,slow=38						
CMMT	**Chiang Mai**	**33.10**	**333**	P	**P**	**20 09 06.4**	**+3.1**
	2.9nm,1.1s,0.0nm						
CMMT	**Chiang Mai**	**33.10**	**333**	P	**P**	**20 09 06.4**	**+3.1**
CHTO	**Chiang Mai**	**33.10**	**333**	*eP*	**P**	**20 09 05.1**	**+1.9**
	11nm,1.4s						
KMI	**Kunming**	**37.51**	**343**	P	**P**	**20 09 43.4**	**+2.1**
KMI				pP	pwP	20 09 56.7	+0.4
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
H08S2	**Diego Garcia H**	**41.08**	**271**	T	T	20 53 50.2	
	baz=99,slow=75						
H08S3	**Diego Garcia H**	**41.09**	**271**	T	T	20 53 45.4	
	baz=99						
H08S1	**Diego Carcia H**	**41.09**	**271**	T	T	20 54 19.8	
	baz=99,slow=75						
LSA	**Lhasa**	**46.03**	**332**	*eP*	**P**	**20 10 51.1**	**-0.2**
	6.0nm,1.3s						
JIRN	**Jiri**	**46.91**	**325**	*eP*	**P**	**20 10 58.1**	**0.0**
	27nm,0.6s						
PKI	**Pulchoki**	**47.28**	**325**	*eP*	**P**	**20 11 01.0**	**0.0**
	5.8nm,0.8s						
PKIN	**Phulchoki**	**47.29**	**325**	*eP*	**P**	**20 11 00.4**	**-0.6**
	7.9nm,0.9s						
DMN	**Daman**	**47.48**	**324**	*eP*	**P**	**20 11 02.0**	**-0.5**
	14nm,0.7s						
KKN	**Kakani**	**47.52**	**325**	*eP*	**P**	**20 11 02.5**	**-0.2**
	6.8nm,0.7s						
GKN	**Gorkha**	**48.05**	**324**	*eP*	**P**	**20 11 06.7**	**0.0**
	12nm,0.3s						
KOLN	**Koldanda**	**48.48**	**323**	*eP*	**P**	**20 11 10.1**	**0.0**
	11nm,0.5s						
DANN	**Dangsing**	**48.81**	**324**	*eP*	**P**	**20 11 12.2**	**-0.6**
	13nm,0.6s						
PYUN	**Piuthan**	**49.08**	**323**	*eP*	**P**	**20 11 15.1**	**+0.4**
	9.7nm,0.7s						
KSAR	**Wonju Array Be**	**49.88**	**14**	P	**P**	**20 11 20.1**	**-0.2**
KSRS	**Korea Array**	**49.90**	**14**	P	**P**	**20 11 20.1**	**-0.4**
	1.2nm,0.7s,baz=200,slow=6.8,SNR=5.4						
GTA	**Gaotai**	**51.82**	**346**	*eP*	**P**	**20 11 39.0**	**+3.8**
GTA				pP	pP	20 11 43.5	-0.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MAJO	**Matsushiro**	**52.46**	**25**	*eP*	**P**	**20 11 37.7**	**-2.1**
MJAR	**Matsushiro Arr**	**52.46**	**25**	P	**P**	**20 11 37.7**	**-2.1**
	1.1nm,0.6s,baz=199,slow=9.5,SNR=3.6						
USRK	**Ussuriysk Ar.**	**57.28**	**15**	P	**P**	**20 12 13.1**	**-1.3**
	3.9nm,0.7s,baz=188,slow=7.4,SNR=7.3						
SONA0	**Songino Array**	**58.92**	**354**	*eP*	**P**	**20 12 25.6**	**-0.5**
SONM	**Songino Array**	**58.92**	**354**	P	**P**	**20 12 25.6**	**-0.5**
	1.5nm,0.6s,baz=174,slow=8.3,SNR=10						
KSH	**Kashi**	**61.41**	**327**	P	**P**	**20 12 48.0**	**+4.7**
KDJ	**Kajisay**	**62.71**	**330**	*eP*	**P**	**20 12 53.0**	**+0.9**
	3.3nm,0.8s						
MK31	**Makanchi Array**	**64.11**	**336**	*eP*	**P**	**20 13 01.0**	**-0.1**
	1.6nm,0.6s						
MK32	**Makanchi Array**	**64.11**	**336**	*eP*	**P**	**20 13 01.1**	**0.0**
MKAR	**Makanchi Array**	**64.11**	**336**	*eP*	**P**	**20 13 00.6**	**-0.5**
MKAR	**Makanchi Array**	**64.11**	**336**	P	**P**	**20 13 01.1**	**0.0**
	2.7nm,0.5s,baz=144,slow=7.5,SNR=25						
ARSB	**Arslanbob**	**64.29**	**327**	*eP*	**P**	**20 13 03.0**	**+0.5**
	13nm,1.4s						
AAK	**Ala-Archa**	**64.43**	**329**	*eP*	**P**	**20 13 04.5**	**+1.0**
	2.1nm,0.7s						
KK31	**Karatay Array**	**66.85**	**327**	*eP*	**P**	**20 13 18.8**	**0.0**
	7.7nm,1.8s						
KKAR	**Karatay Array**	**66.85**	**327**	*eP*	**P**	**20 13 18.6**	**-0.3**
KURK	**Kurchatov**	**68.70**	**337**	*eP*	**P**	**20 13 30.5**	**+0.2**
	3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**69.24**	**342**	*eP*	**P**	**20 13 33.0**	**-0.6**
ZALV	**Zalesovo Beam**	**69.24**	**342**	P	**P**	**20 13 33.0**	**-0.6**
	2.4nm,0.6s,baz=148,slow=4.0,SNR=13						
ZAA1	**Zalesovo Array**	**69.25**	**342**	*eP*	**P**	**20 13 33.0**	**-0.6**
VNDA	**Vanda**	**70.87**	**170**	P	**P**	**20 13 45.8**	**+2.4**
	1.2nm,0.8s,baz=316,slow=6.6,SNR=7.0						
ABKAR	**Akbulak array**	**76.41**	**327**	*eP*	**P**	**20 14 16.7**	**+0.5**
TIXI	**Tiksi**	**83.02**	**5**	*eP*	**P**	**20 14 51.1**	**-0.5**
	2.5nm,0.9s						
BR101	**Keskin Array S**	**89.63**	**311**	*eP*	**P**	**20 15 26.2**	**+1.2**
BRTR	**Keskin Array B**	**89.63**	**311**	P	**P**	**20 15 26.2**	**+1.2**
	0.5nm,0.9s,baz=90,slow=4.3,SNR=2.9						
YKA	**Yellowknife Ar**	**117.95**	**23**	PKP	**PKiKP**	**20 21 14.2**	**+1.2**
	0.5nm,0.5s,baz=312,slow=1.7,SNR=5.6						
YKB5	**Yellowknife Ar**	**117.95**	**23**	*e*PKPdf	**PKiKP**	**20 21 14.2**	**+1.2**
LPAZ	**La Paz**	**152.85**	**176**	*e*PKPbc	**PKPbc**	**20 22 27.5**	**+1.9**
LPAZ				*e*PKPab	**PKPab**	**20 22 39.3**	**+3.0**
LPAZ	**La Paz**	**152.85**	**176**	PKPbc	**PKPbc**	**20 22 27.9**	**+2.3**
	1.1nm,0.8s,baz=237,slow=0.9,SNR=6.1						
LPAZ				PKPab	**PKPab**	**20 22 39.4**	**+3.0**
	2.7nm,0.5s,baz=169,slow=3.5,SNR=15						

*THE **01** 20:08:33.3, 39°.27N×23°.79E, h12km, ML2.3/11, Error ellipse: s-maj=0.7km s-min=0.4km az=248.0*
ATH 01 20:08:32.8, 39°.26N×23°.80E, h19km±1km, ML2.4/13, Error ellipse: s-maj=1.8km s-min=0.7km az=138.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.11**	**146**	P	Pg	20 08 36.7	+0.1
AOS				S	Sg	20 08 38.5	-0.7
AOS	**Alonnisos**	**0.11**	**146**	P	Pg	20 08 36.7	+0.1
AOS				S	Sg	20 08 38.8	-0.5
AOS				AML	AML	20 08 39.0	
	comp=E,5305μm,0.1s						
AOS				AML	AML	20 08 39.1	
	comp=N,8352μm,0.1s						
ALNA	**Alonissos**	**0.12**	**156**	P	Pg	20 08 37.0	+0.2
ALNA				S	Sg	20 08 39.2	-0.3
ALNA				AML	AML	20 08 39.5	
	comp=N,9366μm,0.2s						
ALNA				AML	AML	20 08 39.7	
	comp=E,6060μm,0.2s						
SKIA	**Skiathos**	**0.28**	**250**	P	Pg	20 08 39.0	0.0
SKIA				S	Sg	20 08 43.0	-0.2
SKIA	**Skiathos**	**0.28**	**250**	P	Pb	20 08 39.1	0.0
SKIA				S	Sb	20 08 43.3	0.0
SKIA				AML	AML	20 08 43.9	
	comp=E,4066μm,0.3s						
SKIA				AML	AML	20 08 44.3	
	comp=N,5996μm,0.5s						
NEO	**Neokhori**	**0.45**	**276**	P	Pg	20 08 42.0	0.0
NEO				S	Sg	20 08 48.3	+0.1
NEO	**Neokhori**	**0.45**	**276**	P	Pg	20 08 41.9	-0.1
NEO				S	Sg	20 08 48.3	+0.1
NEO				AML	AML	20 08 50.6	
	comp=N,1375μm,0.3s						
NEO				AML	AML	20 08 51.0	
	comp=E,750μm,0.2s						
XOR	**Xorichti**	**0.48**	**283**	P	Pg	20 08 42.4	-0.2
XOR				S	Sg	20 08 49.2	0.0
XOR	**Xorichti**	**0.48**	**283**	P	Pg	20 08 42.6	0.0
XOR				S	Sb	20 08 49.4	-0.2
XOR				AML	AML	20 08 50.5	
	comp=N,1137μm,0.2s						
XOR				AML	AML	20 08 50.8	
	comp=E,680μm,0.2s						
MRKA	**Markates**	**0.58**	**197**	P	Pg	20 08 44.6	+0.2
MRKA				S	Sg	20 08 52.9	+0.8
MRKA	**Markates**	**0.58**	**197**	P	Pg	20 08 44.7	+0.4
MRKA				S	Sg	20 08 52.6	+0.5
MRKA				AML	AML	20 08 55.4	
	comp=E,962μm,0.3s						
MRKA				AML	AML	20 08 55.7	
	comp=N,847μm,0.3s						
SMIA	**Simia**	**0.60**	**230**	P	Pg	20 08 45.1	+0.4
SMIA				S	Sg	20 08 53.6	+0.9
SMIA	**Simia**	**0.60**	**230**	P	Pg	20 08 45.1	+0.4
SMIA				S	Sg	20 08 53.4	+0.7
SMIA				AML	AML	20 08 55.4	
	comp=E,1229μm,0.4s						
SMIA				AML	AML	20 08 59.5	
	comp=N,2128μm,0.4s						
PAIG	**Paliouri**	**0.67**	**352**	P	Pg	20 08 46.4	+0.4
PAIG				S	Sg	20 08 55.6	+0.6
PAIG	**Paliouri**	**0.67**	**352**	P	Pg	20 08 46.6	+0.6
PAIG				S	Sg	20 08 56.1	+1.1
PAIG				AML	AML	20 08 58.3	
	comp=E,344μm,0.5s						
PAIG				AML	AML	20 08 58.8	
	comp=N,240μm,0.4s						
FYTO	**Fytoko, Volos**	**0.68**	**283**	P	Pg	20 08 46.3	0.0
FYTO				S	Sg	20 08 55.8	+0.4
FYTO	**Fytoko, Volos**	**0.68**	**283**	P	Pg	20 08 46.3	+0.1
FYTO				S	Sb	20 08 54.9	-0.2
FYTO				AML	AML	20 08 56.5	
	comp=E,408μm,0.2s						
FYTO				AML	AML	20 08 56.8	
	comp=N,507μm,0.3s						
SKY	**Skiros Island**	**0.70**	**123**	P	Pb	20 08 45.8	-0.6
SKY				S	Sg	20 08 56.2	+0.4
SKY				AML	AML	20 08 59.1	
	comp=E,1472μm,0.2s						
SKY				AML	AML	20 09 01.0	
	comp=N,1256μm,0.2s						
ATAL	**Atalanti**	**0.83**	**227**	P	Pg	20 08 49.1	+0.1
ATAL				S	Sg	20 09 00.6	+0.5
ATAL	**Atalanti**	**0.83**	**227**	P	Pg	20 08 48.9	-0.2
ATAL				S	Sg	20 09 00.2	+0.2
ATAL				AML	AML	20 09 02.3	
	comp=E,294μm,0.4s						
ATAL				AML	AML	20 09 03.6	
	comp=N,178μm,0.7s						
EREA	**Eretria**	**0.85**	**173**	P	Pn	20 08 49.6	-0.2
EREA				S	Sn	20 09 01.7	0.0
EREA	**Eretria**	**0.85**	**173**	P	Pn	20 08 49.8	0.0
LKR	**Lokris**	**0.87**	**226**	P	Pg	20 08 49.8	0.0
LKR	**Lokris**	**0.87**	**226**	P	Pg	20 08 49.8	0.0
LKR				S	Sg	20 09 01.5	+0.2
LKR				AML	AML	20 09 03.5	
	comp=N,379μm,0.2s						
LKR				AML	AML	20 09 04.5	
	comp=E,523μm,0.2s						
OUR	**Ouranopolis**	**1.08**	**7**	P	Pn	20 08 53.1	+0.2
OUR	**Ouranopolis**	**1.08**	**7**	P	Pn	20 08 53.1	+0.2
VIL2	**Platees**	**1.13**	**202**	P	Pg	20 08 54.7	0.0
VIL2				S	Sg	20 09 11.0	+1.5
VIL2				AML	AML	20 09 15.1	
	comp=E,324μm,0.5s						
VIL2				AML	AML	20 09 16.2	
	comp=N,153μm,0.6s						
PLG	**Polygyros**	**1.14**	**346**	P	Pn	20 08 53.8	-0.1
PLG	**Polygyros**	**1.14**	**346**	P	Pn	20 08 53.8	0.0
VILL	**Villia**	**1.16**	**199**	P	Pb	20 08 54.6	+0.3
AGG	**Agios Georgios**	**1.17**	**259**	P	Pb	20 08 54.5	+0.1
AGG	**Agios Georgios**	**1.17**	**259**	P	Pb	20 08 54.8	+0.4
DION	**Dionisos Attik**	**1.19**	**175**	P	Pb	20 08 55.2	+0.5
DION	**Dionisos Attik**	**1.19**	**175**	P	Pg	20 08 55.3	-0.5
PTL	**Penteli**	**1.21**	**178**	P	Pb	20 08 55.4	+0.2
PTL	**Penteli**	**1.21**	**178**	P	Pb	20 08 55.4	+0.3
PROD	**Prodromos**	**1.22**	**215**	P	Pg	20 08 56.1	-0.4
LIA	**Limnos Island**	**1.24**	**59**	P	Pn	20 08 55.3	+0.1
LIA				S	Sg	20 09 13.6	+0.5
ATHU	**Athens Univers**	**1.29**	**181**	P	Pb	20 08 56.7	+0.1
DSF	**Desfina**	**1.31**	**230**	P	Pb	20 08 56.5	-0.3
DSF				S	Sg	20 09 14.5	-0

CELI	**Celico**	**0.62**	**38**	P	Pn	20 10 18.3 +0.5
CELI				S	Sn	20 10 27.2 +0.6
CELI	**Celico**	**0.62**	**38**	P	Pn	20 10 18.3 +0.5
CELI	**Celico**	**0.62**	**38**	P	Pn	20 10 18.4 +0.6
CELI	**Celico**	**0.62**	**38**	S	Sn	20 10 27.3 +0.7
MSCL	**Scilla**	**0.70**	**194**	P	Pn	20 10 18.9 +0.2
MSCL				S	Sn	20 10 29.1 +0.8
MSCL	**Scilla**	**0.70**	**194**	P	Pn	20 10 19.0 +0.3
MSRU	**Castanea**	**0.76**	**211**	P	Pn	20 10 19.7 +0.3
MSRU				S	Sn	20 10 30.3 +0.7
T0702	**Acquaformosa (**	**0.81**	**4**	P	Pn	20 10 20.7 +0.5
T0702	**Acquaformosa (**	**0.81**	**4**	P	Pn	20 10 20.7 +0.6
MPAZ	**Palizzi**	**0.96**	**180**	P	Pn	20 10 23.0 +0.8
MPAZ				S	Sn	20 10 35.7 +1.1
MPAZ	**Palizzi**	**0.96**	**180**	P	Pn	20 10 23.0 +0.8
MPAZ	**Palizzi**	**0.96**	**180**	P	Pn	20 10 23.2 +1.0

*IDC **01** 20:11:36.9±2.0, 1″.01N×125″.51E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/32, mbtmp3.7/3, MS2.6/2, Ms1 2.6/2, ms1mx2.3/32, Error ellipse: s-maj=195.6km s-min=24.7km az=64.0*

*ISCJB **01** 20:11:40.7±0.8, 1″.38N±0″.07×126″.50E±0″.05, h44km, mb3.6/3, MS2.5/1, Error ellipse: s-maj=10.5km s-min=7.1km az=22.2*

*DJA **01** 20:11:41.4±1.1, 1″.N±4″×12″.7E±″, h38km±28km, M3.7/3, MLv3.7/3*

ISC 01 20:11:41.7±1.1, 1″.38N±0″.07×126″.54E±0″.06, h44km, n10, σ1§07/11, mb3.7/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.03**	**126**	P	**Pn**	**20 11 59.4**	**-0.3**
TNTI				S	**Sn**	**20 12 13.8**	**+0.8**
SGSI	**Sangihe**	**2.50**	**336**	P	**Pn**	**20 12 19.8**	**-0.1**
SGSI				S	Sn	20 12 33.7	-16
KMSI	**Cibinong**	**2.68**	**253**	P	**Pn**	**20 12 21.7**	**-0.7**
KMSI				S	**Sn**	**20 12 53.5**	**-0.1**
SANI	**Sanana**	**3.45**	**189**	P	**Pn**	**20 12 33.3**	**+0.3**
SANI				S	**Sn**	**20 13 10.8**	**-1.9**
APSI	**Ampana**	**5.39**	**245**	P	**Pn**	**20 13 01.2**	**+1.5**
JAY	**Jayapura**	**14.69**	**105**	LR	LR	20 21 14.8	
	comp=Z,28nm,18.3s,baz=252,slow=37						
WRA	**Warramunga Arr**	**22.53**	**161**	P	**P**	**20 16 37.8**	**-0.3**
	1.6nm,0.4s,baz=336,slow=11,SNR=24						
ASAR	**Alice Springs**	**25.91**	**164**	P	**P**	**20 17 11.2**	**+1.3**
	0.4nm,0.3s,baz=347,slow=7.6,SNR=9.8						
KSRS	**Korea Array**	**35.92**	**2**	LR	LR	20 33 45.2	
	comp=Z,7.7nm,20.2s,baz=225,slow=37						
MKAR	**Makanchi Array**	**59.37**	**326**	P	**P**	**20 21 39.2**	**-0.4**
	0.3nm,0.5s,baz=117,slow=8.4,SNR=7.0						

*NNC **01** 20:15:25.8±0.6, 42″.31N×71″.41E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=7.9km s-min=3.1km az=1.0*

*SOME **01** 20:15:26.2, 42″.22N×71″.40E, h15km*

*KRNET **01** 20:15:26.0±0.1, 42″.23N×71″.41E, h15km, mb2.4*

ISC 01 20:15:24.3±1.2, 42″.21N±0″.03×71″.39E±0″.03, h7km±11km, n32, σ1§49/56, 23C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.59**	**134**	⇑*i*P	**Pb**	**20 15 37.9**	**+0.9**
	baz=36						
ARK				⇑*i*S	**Sn**	**20 15 47.3**	**-1.8**
	baz=36						
IUG	**Iuzhnay**	**1.01**	**267**	P	**Pn**	**20 15 45.5**	**+0.5**
	3.4nm,0.2s						
IUG				S	**Sn**	**20 15 59.4**	**-0.2**
	20nm,0.3s						
IUG	**Iuzhnay**	**1.01**	**267**	*e*P	**Pn**	**20 15 45.5**	**+0.5**
	baz=66						
IUG				*e*S	**Sn**	**20 15 59.4**	**-0.2**
	baz=66						
IUG	**Iuzhnay**	**1.01**	**267**	*e*P	**Pn**	**20 15 45.5**	**+0.5**
	3.4nm,0.2s						
IUG				*e*S	**Sn**	**20 15 59.4**	**-0.2**
	20nm,0.3s						
KK31	**Karatay Array**	**1.10**	**324**	⇑P	**Pn**	**20 15 46.1**	**-0.1**
	1.8nm,0.2s,baz=293,slow=3.4,SNR=103						
KK31				S	**Sg**	**20 15 59.1**	**-0.6**
	37nm,0.3s,baz=141,slow=30,SNR=39						
MRKS	**Merke**	**1.46**	**68**	P	**Pg**	**20 15 52.6**	**+0.4**
	3.9nm,0.1s						
MRKS				S	**Sg**	**20 16 11.9**	**+0.8**
	5.5nm,0.1s						
MRKS	**Merke**	**1.46**	**68**	*e*P	**Pg**	**20 15 52.6**	**+0.4**
	baz=69						
MRKS				*e*S	**Sg**	**20 16 11.9**	**+0.8**
	baz=69						
MRKS	**Merke**	**1.46**	**68**	*e*P	**Pg**	**20 15 52.6**	**+0.4**
	3.9nm,0.1s						
MRKS				*e*S	**Sg**	**20 16 11.9**	**+0.8**
	5.5nm,0.1s						
ARSB	**Arslanbob**	**1.48**	**126**	⇓*i*P	**Pg**	**20 15 53.4**	**+0.7**
	baz=27						
ARSB				⇓*i*S	**Sg**	**20 16 13.4**	**+1.5**
	baz=27						
AML	**Almayashu**	**1.71**	**92**	⇑*i*P	**Pg**	**20 15 57.8**	**+0.7**
	baz=93						
AML				⇑*i*S	**Sg**	**20 16 20.5**	**+1.2**
	baz=93						
EKS2	**Erkin-Say**	**1.82**	**75**	⇑*i*P	**Pg**	**20 15 59.7**	**+0.5**
	baz=75						
EKS2				⇑*i*S	**Sg**	**20 16 23.8**	**+1.0**
	baz=75						
BTK	**Batken**	**2.20**	**192**	⇑*i*P	**Pg**	**20 16 05.7**	**-0.6**
	baz=92						
BTK				⇑*i*S	**Sg**	**20 16 34.2**	**-0.6**
	baz=92						
ARLS	**Aral**	**2.21**	**98**	⇓*i*P	**Pb**	**20 16 05.5**	**+0.9**
	baz=98						
ARLS				⇓*i*S	**Sg**	**20 16 33.9**	**-1.4**
	baz=98						
UCH	**Uchtor**	**2.32**	**89**	⇑*e*P	**Pb**	**20 16 07.1**	**+0.5**
	baz=89						
UCH				⇑*i*S	**Sb**	**20 16 37.0**	**+1.4**
	baz=89						
AAK	**Ala-Archa**	**2.33**	**78**	⇑Pg	**Pg**	**20 16 08.5**	**-0.5**
	1.0nm,0.3s						
AAK				⇓Lg	Lg	20 16 39.4	
	4.1nm,0.8s						
AAK	**Ala-Archa**	**2.33**	**78**	⇑*i*P	**Pb**	**20 16 07.3**	**+0.6**
	baz=79						
AAK				⇑*i*S	**Sg**	**20 16 37.4**	**-1.9**
	baz=79						
USP	**Ospenovka**	**2.52**	**64**	⇓*e*P	**Pb**	**20 16 09.4**	**-0.4**
	baz=65						
USP				⇓*i*S	**Sb**	**20 16 41.4**	**+0.4**
	baz=65						
CHMS	**Chumysh**	**2.60**	**71**	⇑*i*P	**Pb**	**20 16 10.9**	**-0.3**
	baz=72						
CHMS				⇑*i*S	**Sb**	**20 16 43.2**	**-0.2**
	baz=72						
KBK	**Karagaybulak**	**2.67**	**79**	⇑*i*P	**Pb**	**20 16 12.0**	**-0.4**
	baz=80						
KBK				⇑*i*S	**Sb**	**20 16 45.4**	**0.0**
	baz=80						
SGDS	**Sogindy**	**2.68**	**61**	Pg	**Pb**	**20 16 12.2**	**-0.4**
	3.3nm,0.2s						
SGDS				Lg	Lg	20 16 46.7	
	5.4nm,0.2s						
DRK	**Karamyk**	**2.75**	**173**	⇓*i*P	**Pb**	**20 16 13.6**	**-0.3**
	baz=74						
DRK				⇓*e*S	**Sb**	**20 16 47.8**	**0.0**
	baz=74						
KZA	**Kyzart**	**2.87**	**91**	⇑*i*P	**Pb**	**20 16 15.1**	**-0.9**
	baz=92						
KZA				⇑*i*S	**Sb**	**20 16 50.4**	**-1.1**
	baz=92						
TKM2	**Tokmak 2**	**3.18**	**76**	⇑Pg	**Pg**	**20 16 25.1**	**-0.2**
	1.0nm,0.5s						
TKM2				⇑Lg	Lg	20 17 05.5	
	1.9nm,0.4s						
DGS	**Degeres**	**3.39**	**71**	Pg	**Pb**	**20 16 26.5**	**+1.8**
	1.2nm,0.3s						
DGS				Lg	Lg	20 17 10.1	
	4.0nm,0.4s						
DGS	**Degeres**	**3.39**	**71**	*e*P	**Pb**	**20 16 26.5**	**+1.8**
	1.2nm,0.3s						
DGS				*e*S	**Sg**	**20 17 10.1**	**-2.9**
	4.0nm,0.4s						
KST	**Kastek**	**3.47**	**75**	Pg	**Pb**	**20 16 27.4**	**+1.2**
	1.9nm,0.4s						
KST				Lg	Lg	20 17 11.6	
	4.2nm,0.5s						
KST	**Kastek**	**3.47**	**75**	*e*P	**Pb**	**20 16 27.4**	**+1.2**
	1.9nm,0.4s						
KST				*e*S	**Sb**	**20 17 11.6**	**+3.1**
	4.2nm,0.5s						
KUU	**Kurty**	**3.99**	**63**	Pg	**Pb**	**20 16 36.8**	**+1.9**
	0.7nm,0.2s						
KUU				Lg	Lg	20 17 27.8	
	2.5nm,0.4s						
KUU	**Kurty**	**3.99**	**63**	*e*P	**Pb**	**20 16 36.8**	**+1.9**
	0.7nm,0.2s						
KUU				*e*S	**Sg**	**20 17 27.8**	**-4.7**
	2.5nm,0.4s						
KTBS	**Karatobe**	**4.16**	**67**	Pg	**Pb**	**20 16 40.3**	**+2.5**
	0.9nm,0.2s						
KTBS				Lg	Lg	20 17 33.9	
	3.2nm,0.3s						
KTBS	**Karatobe**	**4.16**	**67**	*e*P	**Pb**	**20 16 40.3**	**+2.5**
	0.9nm,0.2s						
KTBS				*e*S	**Sg**	**20 17 33.9**	**-4.0**
	3.2nm,0.3s						
MDOK	**Medeo**	**4.28**	**75**	⇑Pg	**Pg**	**20 16 44.2**	**-2.0**
MDOK				Lg	Lg	20 17 38.4	

*ISCJB **01** 20:20:28.7±0.4, 7″.63S±0″.05×127″.78E±0″.04, h162km, mb3.7/7, Error ellipse: s-maj=6.7km s-min=4.5km az=158.6*

*DJA **01** 20:20:29.4±1.0, 8″.S±3″×12″.8E±″, h30km±9km, M4.7/8, mB5.7/2, mb4.4/8, MLv4.9/7, Mw(mB)5.2/2*

*IDC **01** 20:20:31.7±2.9, 7″.61S×127″.59E, h168km±24km, mb3.5/7, mb1 3.7/9, mb1mx3.5/26, mbtmp4.1/9, Error ellipse: s-maj=29.2km s-min=12.9km az=69.0*

ISC 01 20:20:30.2±0.6, 7″.62S±0″.07×127″.75E±0″.05, h162km, n27, σ1§22/35, mb3.6/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.54**	**96**	P	**Pn**	**20 21 25.0**	**+0.2**
SAUI				S	**Sn**	**20 22 06.8**	**-0.5**
SOEI	**Soe**	**4.04**	**238**	P	**Pn**	**20 21 31.7**	**+0.2**
SOEI				S	**Sn**	**20 22 19.3**	**+0.1**
BATI	**Baumata**	**4.79**	**237**	P	**Pn**	**20 21 40.9**	**-0.1**
BATI				S	**Sn**	**20 22 35.9**	**-0.5**
BATI	**Baumata**	**4.79**	**237**	P	**Pn**	**20 21 41.4**	**+0.4**
	52nm,0.3s,baz=97,slow=2.7,SNR=77						
BATI				S	**Sn**	**20 22 35.6**	**-0.8**
	65nm,0.3s,baz=18,slow=20,SNR=14						
MMRI	**Maumere**	**5.55**	**259**	P	**Pn**	**20 21 51.0**	**-0.1**
	68nm,1.0s,0.3nm						
MMRI				S	**Sn**	**20 22 54.8**	**+0.4**
	68nm,1.0s,0.3nm						
BBSI	**Bau Bau**	**5.56**	**292**	P	**Pn**	**20 21 51.4**	**+0.1**
FAKI	**Fak Fak**	**6.47**	**44**	P	**Pn**	**20 22 02.2**	**-1.1**
	18nm,1.5s,0.2nm						
FAKI				S	**Sn**	**20 23 14.4**	**-2.0**
	18nm,1.5s,0.2nm						
BSSI	**Bau Bau, Buton**	**7.36**	**281**	P	**Pn**	**20 22 14.8**	**-0.2**
WSI	**Waingapu**	**7.64**	**254**	P	**Pn**	**20 22 17.9**	**-1.0**
	211nm,0.6s,1.8nm						
LUWI	**Luwuk**	**8.20**	**323**	P	**Pn**	**20 22 26.0**	**-0.3**
BNSI	**Bone**	**8.24**	**292**	P	**Pn**	**20 22 27.4**	**+0.6**
TNTI	**Ternate**	**8.34**	**357**	P	**Pn**	**20 22 28.1**	**0.0**
PLAI	**Plampang**	**9.94**	**262**	P	**Pn**	**20 22 48.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**10.62**	**191**	P	**Pn**	**20 22 55.6**	**-2.5**
	0.9nm,0.3s,baz=29,slow=11,SNR=28						
FITZ				S	Sn	20 24 44.9	-11
	1.5nm,0.3s,baz=329,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**13.82**	**153**	P	**Pn**	**20 23 35.7**	**-3.7**
	2.6nm,0.3s,baz=337,slow=9.5,SNR=83						
WRA				S	Sn	20 25 59.9	-13
	2.8nm,0.3s,baz=333,slow=22,SNR=12						
ASAR	**Alice Springs**	**17.02**	**160**	P	**Pn**	**20 24 19.9**	**+1.2**
	3.3nm,0.3s,baz=337,slow=11,SNR=259						
ASAR				S	S	20 27 16.1	-11
	0.4nm,0.3s,baz=345,slow=26,SNR=5.4						
ASAR				ScP	**ScP**	**20 32 14.2**	**-0.3**
	0.1nm,0.3s,baz=341,slow=2.0,SNR=3.8						
PMG	**Port Moresby**	**19.28**	**97**	P	**Pn**	**20 24 48.2**	**+2.8**
	0.5nm,0.3s,baz=281,slow=12,SNR=5.4						
NWAO	**Narrogin (SRO)**	**27.01**	**200**	P	**P**	**20 25 57.7**	**+0.6**
	7.3nm,0.9s,baz=23,slow=7.7,SNR=3.2						
STKA	**Stephens Creek**	**27.37**	**154**	P	**P**	**20 26 00.8**	**+0.5**
	1.5nm,0.4s,baz=326,slow=8.4,SNR=9.5						
CMAR	**Chiang Mai Arr**	**38.46**	**313**	P	**P**	**20 27 36.9**	**+0.3**
	0.4nm,0.7s,baz=137,slow=6.8,SNR=6.2						
SONM	**Songino Array**	**58.35**	**343**	P	**P**	**20 30 09.6**	**+1.2**
	0.4nm,0.5s,baz=162,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**67.54**	**328**	P	**P**	**20 31 09.1**	**+0.1**
	0.6nm,0.5s,baz=118,slow=7.9,SNR=12						
ZALV	**Zalesovo Beam**	**71.17**	**335**	P	**P**	**20 31 30.0**	**-1.1**
	0.5nm,0.3s,baz=143,slow=5.2,SNR=4.4						
VNDA	**Vanda**	**72.12**	**173**	P	**P**	**20 31 37.4**	**+1.0**
	0.6nm,0.7s,baz=303,slow=7.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**126.73**	**281**	PKP	**PKPdf**	**20 39 14.5**	**-0.9**
	0.3nm,0.6s,baz=117,slow=2.7,SNR=3.6						
CPUP	**Villa Florida**	**145.90**	**172**	PKPbc	**PKPab**	**20 39 51.9**	**0.0**
	1.1nm,0.5s,baz=204,slow=3.9,SNR=4.9						
LPAZ	**La Paz**	**151.52**	**147**	PKPbc	**PKiKP**	**20 40 07.9**	**+0.7**
	0.7nm,0.4s,baz=281,slow=5.2,SNR=6.0						
LPAZ				PKPab	**PKPab**	**20 40 17.8**	**+2.1**
	3.9nm,0.6s,baz=208,slow=4.8,SNR=20						

*ISCJB **01** 20:37:44.7±1.1, 5″.85S±0″.06×150″.83E±0″.08, h67km±10km, mb4.1/16, Error ellipse: s-maj=14.1km s-min=8.2km az=24.5*

*NEIC **01** 20:37:45.9±0.9, 5″.85S×150″.87E, h64km±9km, mb4.4/9, Error ellipse: s-maj=10.8km s-min=7.2km az=109.0*

*IDC **01** 20:37:45.2±1.2, 5″.88S×150″.92E, h54km±8km, mb3.9/10, mb1 4.2/11, mb1mx3.8/37, mbtmp4.3/11, MS3.0/7, Ms1 3.0/7, ms1mx2.9/25, Error ellipse: s-maj=18.8km s-min=13.7km az=103.0*

ISC 01 20:37:45.0±0.8, 5″.82S±0″.07×150″.89E±0″.08, h56km±6km, h56km:pP-P, n36, σ0§90/53, mb4.3/16, MS3.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.06**	**38**	*e*Pn	**Pn**	**20 38 19.0**	**+1.8**
PMG	**Port Moresby**	**5.14**	**226**	*e*Pn	**Pn**	**20 39 00.6**	**+1.3**
PMG				*e*Sn	**Sn**	**20 39 57.8**	**+0.4**
PMG	**Port Moresby**	**5.14**	**226**	P	**Pn**	**20 39 01.1**	**+1.7**
	28nm,0.3s,baz=47,slow=6.2,SNR=78						
PMG				S	**Sn**	**20 39 57.8**	**+0.4**
	38nm,0.3s,baz=99,slow=18,SNR=20						
MANU	**Manus Island**	**5.15**	**317**	*e*Pn	**Pn**	**20 38 59.6**	**+0.1**
HNR	**Honiara**	**9.66**	**112**	LR	LR	20 43 31.2	
	comp=Z,104nm,19.2s,baz=262,slow=36						
JAY	**Jayapura**	**10.68**	**288**	LR	LR	20 44 39.6	
	comp=Z,71nm,18.8s,baz=116,slow=39						
EIDS	**Eidsvold**	**19.44**	**179**	*e*P	**Pn**	**20 42 08.4**	**-0.2**
	9.4nm,0.9s						
MTN	**Manton Dam**	**20.70**	**249**	*e*P	**P**	**20 42 20.1**	**-0.7**
	16nm,0.6s						
WRAB	**Tennant Creek**	**21.34**	**227**	*e*P	**P**	**20 42 27.3**	**-0.3**
	23nm,0.8s						
WB2	**Warramunga Arr**	**21.35**	**227**	*e*P	**P**	**20 42 27.6**	**-0.1**
	21nm,0.8s						
WR1	**Warramunga Arr**	**21.35**	**227**	*e*P	**P**	**20 42 27.6**	**-0.2**
WR1				*e*pP	**pP**	**20 42 40.0**	**-0.4**
WR1				*e*ScP	**ScP**	**20 50 02.0**	**-0.7**
WRA	**Warramunga Arr**	**21.36**	**227**	*e*P	**P**	**20 42 25.9**	**-1.9**
WRA				pP	**pP**	**20 42 40.0**	**-0.5**
WRA				PcP	**PcP**	**20 46 30.7**	**+0.4**
WRA				ScP	**ScP**	**20 50 02.0**	**-0.7**
WRA	**Warramunga Arr**	**21.36**	**227**	P	**P**	**20 42 27.6**	**-0.2**
	7.2nm,0.5s,baz=50,slow=10,SNR=68						
WRA				pP	**pP**	**20 42 40.0**	**-0.5**
	6.7nm,0.4s,baz=51,slow=10.0,SNR=10.0						
WRA				PcP	**PcP**	**20 46 30.7**	**+0.4**
	1.0nm,0.8s,baz=43,slow=1.9,SNR=4.1						
WRA				ScP	**ScP**	**20 50 02.0**	**-0.7**
	1.1nm,0.7s,baz=53,slow=2.7,SNR=9.9						
DZM	**Mont Dzumac**	**22.07**	**139**	P	**P**	**20 42 35.2**	**-0.3**
	9.2nm,0.7s,baz=297,slow=7.4,SNR=7.7						
AS31	**Alice Springs**	**24.13**	**221**	*e*P	**P**	**20 42 56.0**	**+0.2**
	3.0nm,0.8s						
ASAR	**Alice Springs**	**24.13**	**221**	*e*P	**P**	**20 42 55.6**	**-0.2**
ASAR				pP	**pP**	**20 43 09.3**	**-0.4**
ASAR				PcP	**PcP**	**20 46 36.2**	**+0.2**
ASAR				ScP	**ScP**	**20 50 09.9**	**0.0**
ASAR	**Alice Springs**	**24.13**	**221**	P	**P**	**20 42 56.2**	**+0.3**
	6.8nm,0.6s,baz=60,slow=8.3,SNR=62						
ASAR				pP	**pP**	**20 43 09.3**	**-0.4**
	1.5nm,0.4s,baz=50,slow=9.4,SNR=4.1						
ASAR				PcP	**PcP**	**20 46 36.2**	**+0.2**
	0.9nm,0.6s,baz=77,slow=1.6,SNR=5.2						
ASAR				ScP	**ScP**	**20 50 09.9**	**0.0**
	1.2nm,0.8s,baz=37,slow=2.8,SNR=8.1						
STKA	**Stephens Creek**	**27.34**	**197**	*e*P	**P**	**20 43 24.1**	**-0.7**
	1.2nm,0.8s						
STKA	**Stephens Creek**	**27.34**	**197**	P	**P**	**20 43 24.2**	**-0.6**
	4.1nm,0.7s,baz=30,slow=14,SNR=9.6						
FITZ	**Fitzroy Crossi**	**27.50**	**241**	*e*P	**P**	**20 43 26.7**	**+0.3**
	7.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.50**	**241**	P	**P**	**20 43 25.9**	**-0.5**
	3.0nm,0.3s,baz=50,slow=7.0,SNR=41						
FORT	**Forrest**	**32.81**	**218**	*e*P	**P**	**20 44 12.8**	**-0.3**
	24nm,0.9s						
JNU	**Nakatsue**	**43.14**	**335**	P	**P**	**20 45 41.3**	**+1.1**
	10nm,0.8s,baz=199,slow=3.5,SNR=4.8						
MJAR	**Matsushiro Arr**	**43.79**	**345**	LR	LR	21 01 10.0	
	comp=Z,33nm,20.0s,baz=100,slow=32						
KSRS	**Korea Array**	**48.09**	**335**	P	**P**	**20 46 20.0**	**+0.9**
	0.9nm,0.6s,baz=162,slow=10,SNR=4.0						
KSRS				LR	LR	21 05 29.0	
	comp=Z,17nm,19.6s,baz=113,slow=34						
KSAR	**Wonju Array Be**	**48.10**	**335**	P	**P**	**20 46 20.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**56.61**	**296**	P	**P**	**20 47 24.9**	**+2.2**
	0.4nm,0.5s,baz=113,slow=5.4,SNR=4.0						
CMAR				LR	LR	21 08 58.8	
	comp=Z,6.7nm,21.9s,baz=235,slow=33						
PETK	**Petropavlovsk-**	**58.99**	**5**	LR	LR	21 10 04.5	
	comp=Z,10nm,19.6s,baz=158,slow=33						
SONA0	**Songino Array**	**66.19**	**329**	*e*P	**P**	**20 48 27.3**	**+0.2**
SONM	**Songino Array**	**66.19**	**329**	P	**P**	**20 48 27.3**	**+0.2**
	0.3nm,0.4s,baz=137,slow=4.6,SNR=3.1						
SONM				LR	LR	21 17 04.1	
	comp=Z,13nm,21.5s,baz=50,slow=36						
VNDA	**Vanda**	**71.89**	**178**	P	**P**	**20 49 02.4**	**+0.7**
	1.6nm,0.6s,baz=334,slow=7.4,SNR=15						
ILAR	**Eielson Array**	**83.82**	**22**	P	**P**	**20 50 05.8**	**-2.3**
	0.4nm,0.8s,baz=249,slow=5.0,SNR=5.1						
QSPA	**South Pole Qui**	**84.14**	**180**	*e*P	**P**	**20 50 10.1**	**+0.1**
	30nm,1.9s						
TORD	**Torodi Ar. Bea**	**148.79**	**286**	PKP	**PKPdf**	**20 57 23.3**	**-0.1**
	1.5nm,0.5s,baz=66,slow=2.7,SNR=24						
TORD				PKPbc	**PKPbc**	**20 57 25.7**	**-1.6**
	1.5nm,0.5s,baz=71,slow=3.0,SNR=24						
TORD				pPKP	**pPKPdf**	**20 57 39.2**	**-1.3**
	0.7nm,0.5s,baz=55,slow=2.9,SNR=4.6						
TOA1	**Torodi Ar. Sit**	**148.79**	**286**	*e*PKPdf	**PKPdf**	**20 57 23.3**	**-0.1**
TOA1				*e*PKPbc	**PKPbc**	**20 57 25.7**	**-1.6**
TOA1				*e*pPKPdf	**pPKPdf**	**20 57 39.2**	**-1.3**
BDFB	**Brasilia**	**151.62**	**139**	PKPbc	**PKPbc**	**20 57 33.9**	**-0.4**
	1.6nm,0.4s,baz=144,slow=7.6,SNR=4.2						
BDFB				PKPab	**PKPab**	**20 57 43.2**	**+0.3**
	2.0nm,0.6s,baz=203,slow=3.3,SNR=4.1						

*NIED **01** 20:43:00, 36″.50N×140″.60E, h68km, Mw3.6 Best double couple: M0:3.16000×10^14 NP1:φs229.00000°, δ20.00000°, λ119.00000°. NP2:φs19.00000°, δ72.00000°, λ80.00000°.*

*ISCJB **01** 20:43:38.1±0.4, 36″.47N±0″.03×140″.62E±0″.05, h63km±3km, mb3.6/8, Error ellipse: s-maj=6.7km s-min=4.7km az=7.4*

*IDC **01** 20:43:39.0±2.1, 36″.46N×140″.56E, h56km±20km, mb3.4/8, mb1 3.6/10, mb1mx3.4/45, mbtmp3.8/10, ML3.4/2, MS2.4/1, Ms1 2.4/1, ms1mx2.1/28, Error ellipse: s-maj=18.5km s-min=10.2km az=58.0*

*JMA **01** 20:43:39.2±0.1, 36″.46N×140″.56E, h56km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs18.00000°, δ80.00000°, λ81.00000°. NP2:φs241.00000°, δ14.00000°, λ132.00000°. Principal axes: T Plg54.0000°, Azm277.0000°; N Plg9.0000°, Azm20.0000°; P Plg34.0000°, Azm116.0000°;*

JMA Felt II J1.

ISC 01 20:43:39.4±0.8, 36″.48N±0″.03×140″.61E±0″.05, h57km±6km, n31, σ1§05/39, mb3.6/8, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.14**	**347**	⇓P	**Pn**	**20 43 48.0**	**-0.3**
JHO				S	**Sn**	**20 43 54.0**	**-0.6**
JHYU	**Hitachinakayam**	**0.14**	**186**	P	**Pn**	**20 43 47.9**	**-0.3**
JHYU				S	**Sn**	**20 43 54.1**	**-0.5**
JYT	**Yasato**	**0.42**	**233**	⇓P	**Pn**	**20 43 49.7**	**-0.6**
JYT				S	**Sn**	**20 43 56.9**	**-1.2**
JIHU	**Itakohorinouch**	**0.52**	**187**	P	**Pn**	**20 43 51.1**	**-0.2**
JIHU				S	**Sn**	**20 44 00.1**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.64**	**14**	⇑P	**Pn**	**20 43 52.4**	**-0.4**
ONAJ				S	**Sn**	**20 44 02.0**	**-0.6**
JSMT	**Sammumatsuo**	**0.84**	**189**	P	**Pn**	**20 43 55.1**	**-0.2**
JSMT				S	**Sn**	**20 44 06.9**	**0.0**
JFK	**Kawauchi**	**0.91**	**14**	⇑P	**Pn**	**20 43 55.7**	**-0.5**
JFK				S	**Sn**	**20 44 07.6**	**-1.0**
JAG	**Ashikaga**	**0.93**	**267**	⇓P	**Pn**	**20 43 56.0**	**-0.4**
JAG				S	**Sn**	**20 44 07.7**	**-1.3**
JFT	**Otama**	**1.06**	**348**	⇓P	**Pn**	**20 43 58.2**	**+0.1**
JFT				S	**Sn**	**20 44 12.0**	**0.0**
JKT	**Katashina**	**1.13**	**285**	⇓P	**Pn**	**20 43 58.9**	**-0.2**
JKT				S	**Sn**	**20 44 13.4**	**-0.4**
JFY	**Yanaizu**	**1.17**	**322**	⇓P	**Pn**	**20 43 59.8**	**+0.1**
JFY				S	**Sn**	**20 44 15.2**	**+0.4**
MJAR	**Matsushiro Arr**	**1.93**

JAK				*e*S	**Sn**	20 54 24.5	+0.8
JTKR	**Abashiri--Toko**	**3.71**	**282**	P	**Pn**	20 53 56.0	+0.3
JAR	**Ashorobuto**	**3.78**	**271**	P	**Pn**	20 53 57.3	+0.7
JAR				*e*S	**Sn**	20 54 39.7	-0.1
JCH	**Churui**	**4.16**	**262**	P	**Pn**	20 54 03.0	+1.2
JCH				*e*S	**Sn**	20 54 49.4	+0.3
ASAJ	**Asahikawa**	**4.67**	**282**	Pn	**Pn**	20 54 10.2	+1.4
	0.4nm,0.3s,baz=128,slow=12,SNR=5.6						
JNBK	**Urakawa-nobuka**	**4.67**	**259**	P	**Pn**	20 54 10.3	+1.4
JNBK				*e*S	**Sn**	20 55 01.5	-0.4
JBT2	**Biratori 2**	**4.85**	**266**	P	**Pn**	20 54 12.5	+1.1
JNB	**Noboribetsu**	**5.87**	**264**	P	**Pn**	20 54 27.1	+1.8
JNB				*e*S	**Sn**	20 55 30.8	-0.5
JANG	**Nango**	**6.28**	**245**	P	**Pn**	20 54 32.4	+1.4
JANG				*e*S	**Sn**	20 55 39.3	-2.2
JTH	**Tanohata**	**6.29**	**240**	*e*S	**Sn**	20 55 38.8	-3.0
OFUJ	**Ofunato**	**6.93**	**235**	P	**Pn**	20 54 41.8	+1.9
OFUJ				*e*S	**Sn**	20 55 56.4	-1.1
JRG	**Rokugo**	**7.38**	**241**	*e*S	**Sn**	20 56 08.1	-0.4
JIO	**Ouri**	**7.53**	**232**	P	**Pn**	20 54 50.4	+2.2
JIO				*e*S	**Sn**	20 56 10.2	-2.1
SONM	**Songino Array**	**29.84**	**294**	P	**P**	20 59 04.7	0.0
	0.5nm,0.5s,baz=78,slow=9.2,SNR=4.2						
MKAR	**Makanchi Array**	**45.94**	**299**	P	**P**	21 01 20.1	0.0
	0.9nm,0.8s,baz=73,slow=8.9,SNR=9.2						
YKA	**Yellowknife Ar**	**55.43**	**34**	P	P	21 02 42.3	+11
	0.1nm,0.4s,baz=304,slow=6.1,SNR=2.5						
FINES	**FINESS Array B**	**65.84**	**334**	P	**P**	21 03 41.2	-1.0
	0.9nm,0.7s,baz=54,slow=7.1,SNR=4.8						

*ISCJB **01** 20:53:39.6±0.6,2.°95N±0.°06×127.°99E±0.°05,h100km, mb3.6/10,Error ellipse: s-maj=8.4km s-min=7.1km az=157.5*

*IDC **01** 20:53:39.9±7.2,3.°00N×128.°16E,h92km±65km,mb3.5/10, mb1 3.6/10,mb1mx3.4/36,mbtmp3.8/10,Error ellipse: s-maj=49.2km s-min=14.2km az=66.0*

*DJA **01** 20:53:44.0±1.0,3.°N±4.°×12.°8E±.°,h13km±9km,M3.9/4, mB4.6/1,mb4.6/4,MLv3.5/1,Mw(mB)3.8/1*

ISC 01 20:53:41.7±0.7,2.°96N±0.°07×127.°91E±0.°07,h100km,n22, σ1°98/27,mb3.7/10,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.24**	**194**	P	Pn	20 54 21.8	+4.4
TNTI				S	**Sn**	**20 54 50.3**	**+5.7**
SGSI	**Sangihe**	**2.49**	**287**	P	**Pn**	20 54 22.0	+1.4
SGSI				S	**Sn**	**20 54 50.8**	**+0.3**
KMSI	**Cibinong**	**4.58**	**239**	P	**Pn**	**20 54 50.5**	**+1.7**
KMSI				S	**Sn**	**20 55 42.1**	**+1.1**
SANI	**Sanana**	**5.33**	**201**	P	**Pn**	**20 54 58.3**	**-0.6**
SANI				S	**Sn**	**20 55 54.1**	**-5.0**
MRSI	**Marisa**	**6.46**	**248**	P	**Pn**	**20 55 15.0**	**+0.8**
MRSI				S	**Sn**	**20 56 25.7**	**-0.7**
LUWI	**Luwuk**	**6.49**	**232**	P	**Pn**	**20 55 15.7**	**+1.0**
LUWI				S	**Sn**	**20 56 27.8**	**+0.4**
FAKI	**Fak Fak**	**7.27**	**143**	P	Pn	20 55 29.7	+4.4
APSI	**Ampana**	**7.34**	**239**	P	**Pn**	**20 55 27.2**	**+0.9**
KDI	**Kendari**	**8.67**	**218**	P	**Pn**	**20 55 45.0**	**+0.7**
	33nm,1.0s						
SPSI	**Sidrap Palu**	**10.65**	**230**	P	**Pn**	**20 56 11.5**	**+0.2**
	16nm,0.7s						
GENI	**Genyem**	**13.44**	**114**	P	**P**	**20 56 57.8**	**+3.7**
FITZ	**Fitzroy Crossi**	**21.04**	**186**	P	**P**	**20 58 16.9**	**-0.7**
	0.6nm,0.4s,baz=10,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**23.62**	**165**	P	**P**	**20 58 42.2**	**-1.6**
	3.6nm,0.8s,baz=345,slow=8.9,SNR=30						
ASAR	**Alice Springs**	**27.10**	**168**	P	**P**	**20 59 14.0**	**-1.3**
	0.4nm,0.6s,baz=353,slow=9.9,SNR=5.5						
ASAR				PcP	**PcP**	**21 02 33.6**	**-0.3**
	0.7nm,0.5s,baz=350,slow=2.3,SNR=11						
CMAR	**Chiang Mai Arr**	**32.28**	**301**	P	**P**	**21 00 01.8**	**+0.7**
	0.8nm,0.9s,baz=126,slow=7.4,SNR=5.6						
STKA	**Stephens Creek**	**37.00**	**160**	P	**P**	**21 00 41.0**	**-0.7**
	3.4nm,0.6s,baz=332,slow=11,SNR=16						
SONM	**Songino Array**	**48.41**	**341**	P	**P**	**21 02 13.9**	**+0.1**
	0.4nm,0.5s,baz=159,slow=8.6,SNR=3.9						
MKAR	**Makanchi Array**	**58.86**	**325**	P	**P**	**21 03 30.3**	**+0.3**
	0.9nm,0.5s,baz=116,slow=8.0,SNR=15						
ZALV	**Zalesovo Beam**	**61.83**	**330**	P	**P**	**21 03 49.2**	**-0.7**
	0.5nm,0.5s,baz=142,slow=6.8,SNR=2.5						
VNDA	**Vanda**	**82.52**	**173**	P	**P**	**21 05 52.6**	**-0.2**
	0.8nm,0.6s,baz=320,slow=7.6,SNR=5.1						
ILAR	**Eielson Array**	**85.29**	**25**	P	**P**	**21 06 05.1**	**-2.0**
	0.2nm,0.6s,baz=260,slow=5.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**124.28**	**288**	PKP	**PKPdf**	**21 12 28.1**	**-1.7**
	0.3nm,0.9s,baz=94,slow=2.4,SNR=3.4						

*ISCJB **01** 21:03:21.7±0.9,40.°29N±0.°03×124.°45W±0.°07,h12km±5km, mb2.7/1,MS3.0/2,Error ellipse: s-maj=9.0km s-min=4.7km az=179.2*

*ANF **01** 21:03:22.4±1.5,40.°40N×124.°33W,ML3.7/9,Error ellipse: s-maj=16.1km s-min=5.1km az=39.0*

*NCEDC **01** 21:03:23.3,40.°30N×124.°38W,h9km,MW3.9(BRK)*

*NEIC **01** 21:03:23.3±0.0,40.°30N×124.°38W,h9km,MW3.9(BRK), After NCEDC.*

NEIC Felt [IV] at Petrolia. Also felt at Arcata, Eureka, Garberville and Redway.

*IDC **01** 21:03:32.9±3.4,40.°66N×123.°04W,h0km,mb2.8/1, mb1 3.3/3,mb1mx3.2/36,mbtmp2.9/3,ML2.5/1,MS3.0/5, Ms1 3.0/5,ms1mx2.7/11,Error ellipse: s-maj=45.5km s-min=11.0km az=66.0*

ISC 01 21:03:21.9±1.8,40.°35N±0.°04×124.°38W±0.°08,h1km±11km, n57,σ1°97/54,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRM	**Mail Ridge**	**0.53**	**104**	*e*Pg	**Pb**	**21 03 34.5**	**+0.6**
JCC	**Jacoby Creek,**	**0.54**	**29**	*e*Pg	**Pn**	**21 03 35.2**	**-1.5**
JCC				*e*Sg	**Sb**	**21 03 41.1**	**-1.3**
KHMM	**Horse Mountain**	**0.72**	**43**	*e*Pg	**Pn**	**21 03 38.5**	**-0.9**
KHMM				*e*Sg	**Sb**	**21 03 46.0**	**-1.7**
KCPM	**Cahto Peak**	**0.90**	**137**	*e*Pg	**Pg**	**21 03 39.6**	**+0.5**
O02D	**Mt. Diablo Mer**	**1.23**	**97**	P	**Pb**	**21 03 45.6**	**-0.3**
	baz=276,SNR=175						
O02D				S	**Sn**	**21 04 02.3**	**-1.2**
	baz=276						
KRMB	**Red Mountain**	**1.23**	**17**	*e*Pn	**Pg**	**21 03 45.6**	**+0.2**
KRMB				*e*Sn	**Sg**	**21 03 58.9**	**-2.5**
N02D	**Trinity Center**	**1.42**	**63**	P	**Pn**	**21 03 48.2**	**-0.7**
	baz=243,SNR=76						
N02D				S	**Sg**	**21 04 08.0**	**+0.6**
	baz=243						
WDC	**Whiskeytown Da**	**1.42**	**80**	*e*Pn	**Pn**	**21 03 48.3**	**-0.6**
M02C	**Callahan**	**1.56**	**47**	P	**Pn**	**21 03 50.3**	**-0.5**
	baz=227,SNR=117						
M02C				S	**Sg**	**21 04 11.0**	**-0.9**
	baz=227						
HOPS	**Hopland Field**	**1.69**	**143**	*e*Pn	**Pn**	**21 03 50.3**	**-2.2**
YBH	**Yreka Blue Hor**	**1.87**	**42**	*e*Pn	**Pn**	**21 03 55.3**	**+0.2**
YBH	**Yreka Blue Hor**	**1.87**	**42**	Pg	**Pn**	**21 03 54.9**	**-0.3**
	1.7nm,0.3s,baz=276,slow=7.6,SNR=25						
L02E	**Cave Junction**	**1.90**	**18**	P	**Pn**	**21 03 54.9**	**-0.6**
	baz=198						
GDXM	**Geysers**	**1.96**	**141**	*e*Pn	**Pn**	**21 03 55.2**	**-1.2**
O03E	**Paynes Creek**	**1.97**	**91**	P	**Pn**	**21 03 55.7**	**-0.8**
	baz=271,SNR=30						
O03E				S	**Sn**	**21 04 21.2**	**-0.6**
	baz=271						
ORV	**Oroville**	**2.35**	**109**	*e*Pn	**Pn**	**21 04 00.9**	**-0.7**
M04C	**Macdoel**	**2.39**	**52**	P	**Pn**	**21 04 02.6**	**+0.2**
	baz=233,SNR=21						
K02D	**Willamette Mer**	**2.41**	**13**	P	**Pn**	**21 04 02.4**	**-0.1**
	baz=193						
L04D	**Klamath Falls**	**2.44**	**39**	P	**Pn**	**21 04 04.2**	**+1.2**
	baz=220,SNR=41						
L04D				S	**Sn**	**21 04 33.0**	**-0.5**
	baz=220						
MCCM	**Marconi Confer**	**2.49**	**152**	*e*Pn	**Pn**	**21 04 01.1**	**-2.4**
HUMO	**Hull Mountain**	**2.50**	**25**	*e*Pn	**Pn**	**21 04 04.0**	**+0.3**
HUMO				*e*Sn	**Sn**	**21 04 28.2**	**-6.6**
AFDM	**Forest Hills D**	**2.98**	**117**	*e*Pn	**Pn**	**21 04 09.3**	**-1.0**
BEKR	**Beckworth**	**3.12**	**98**	*e*Pn	**Pn**	**21 04 12.6**	**+0.2**
MOD	**Modoc Plateau**	**3.45**	**62**	*e*Pn	**Pn**	**21 04 18.8**	**+1.9**
K05A	**Summer Lake**	**3.53**	**47**	*e*Pn	**Pn**	**21 04 18.9**	**+0.8**
J05D	**Fort Rock, OR**	**3.76**	**38**	P	**Pn**	**21 04 21.9**	**+0.7**
	baz=219,SNR=13						
VCNR	**Virginia City**	**3.79**	**105**	*e*Pn	**Pn**	**21 04 21.9**	**+0.3**
CMB	**Columbia Colle**	**3.86**	**125**	*e*Pn	**Pn**	**21 04 21.1**	**-1.4**
PAHR	**Pah Rah Range**	**3.88**	**98**	*e*Pn	**Pn**	**21 04 22.1**	**-0.7**
PNTR	**Pine Nut**	**3.89**	**107**	*e*Pn	**Pn**	**21 04 23.6**	**+0.5**
YERR	**Yerington**	**4.19**	**107**	*e*Pn	**Pn**	**21 04 26.8**	**-0.3**
WAKR	**Walker**	**4.24**	**114**	*e*Pn	**Pn**	**21 04 27.5**	**-0.3**
SAO	**San Andreas Ge**	**4.25**	**146**	*e*Pn	**Pn**	**21 04 26.3**	**-1.4**
PINE	**Pine Mountain**	**4.29**	**35**	*e*Pn	**Pn**	**21 04 29.1**	**+0.6**
H04A	**Detroit Lake**	**4.63**	**20**	*e*Pn	**Pn**	**21 04 34.6**	**+1.6**
OMMB	**Old Mammoth Mi**	**5.00**	**121**	*e*Pn	**Pn**	**21 04 37.6**	**-0.7**
NVAR	**Mina Array Bea**	**5.08**	**110**	Pn	**Pn**	**21 04 40.5**	**+1.2**
	0.3nm,0.3s,baz=294,slow=16,SNR=4.3						
NVAR				Lg	Lg	21 05 47.2	
	baz=276,slow=27,SNR=2.0						
I07A	**Izee**	**5.20**	**42**	*e*Pn	**Pn**	**21 04 42.1**	**+1.2**
ISA	**Isabella, Lake**	**6.60**	**133**	*e*Pn	**Pn**	**21 05 01.6**	**+1.5**
BMO	**Blue Mountains**	**6.89**	**47**	*e*Pn	**Pn**	**21 05 07.5**	**+3.4**
ELK	**Elko**	**6.97**	**84**	LR	LR	21 07 19.6	
	comp=Z,30nm,20.5s,baz=266,slow=38						
E08A	**Dider Farm, El**	**7.26**	**30**	*e*Pn	**Pn**	**21 05 07.8**	**-1.3**
E09A	**Wood Farm, Sta**	**7.65**	**34**	*e*Pn	**Pn**	**21 05 10.3**	**-4.1**
PFO	**Pinyon Flats O**	**9.23**	**134**	*e*Pn	**Pn**	**21 05 32.7**	**-3.5**
PFO	**Pinyon Flats O**	**9.23**	**134**	LR	LR	21 09 42.2	
	comp=Z,135nm,19.4s,baz=315,slow=42						
ANMO	**Albuquerque**	**15.18**	**105**	LR	LR	21 12 56.9	
	comp=Z,76nm,20.3s,baz=282,slow=40						
TXAR	**Lajitas Array**	**20.19**	**117**	P	Pn	21 08 00.8	+0.9
	baz=312,slow=9.5,SNR=2.5						
ULM	**Lac du Bonnet**	**22.23**	**54**	LR	LR	21 17 47.7	
	comp=Z,54nm,19.1s,baz=204,slow=40						
YKA	**Yellowknife Ar**	**22.95**	**12**	P	**P**	**21 08 32.5**	**+5.2**
	0.1nm,0.3s,baz=199,slow=11,SNR=3.5						
YKB5	**Yellowknife Ar**	**22.95**	**12**	*e*P	**P**	**21 08 32.5**	**+5.2**
INK	**Inuvik**	**28.45**	**353**	LR	LR	21 22 16.0	
	comp=Z,41nm,20.5s,baz=56,slow=40						
H11N3	**WAKE ISLAND Hy**	**61.47**	**272**	T	T	22 21 04.9	
	baz=54,slow=74						
H11N2	**WAKE ISLAND Hy**	**61.47**	**272**	T	T	22 20 37.7	
	baz=54						
H11N1	**WAKE ISLAND Hy**	**61.48**	**272**	T	T	22 20 50.1	
	baz=54,slow=74						
H11S1	**WAKE ISLAND Hy**	**62.34**	**271**	T	T	22 22 01.5	
	baz=54,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**62.34**	**271**	T	T	22 21 48.1	
	baz=54,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**62.35**	**271**	T	T	22 22 03.6	
	baz=54,slow=75,SNR=7.2						

*SAR **01** 21:10:13.5±0.3,43.°34N×17.°47E,h7km±2km,ML2.6/1*

*BEO **01** 21:10:13.1±0.5,43.°34N×17.°36E,h5km±5km,ML2.6/5*

*PDG **01** 21:10:14.7±0.2,43.°26N×17.°54E,h4km,ML2.7/14,Error ellipse: s-maj=0.8km s-min=0.7km az=90.0*

ISC 01 21:10:13.7±1.1,43.°33N±0.°02×17.°48E±0.°02,h5km±9km, n71,σ1°26/118,17C-8D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.48**	**161**	*e*Pg	**Pg**	**21 10 22.6**	**-0.4**
STON				*e*Sg	**Sb**	**21 10 30.8**	**-1.4**
STON	**Ston**	**0.48**	**161**	*i* Pg	**Pg**	**21 10 22.6**	**-0.4**
STON				Sg	**Sb**	**21 10 30.7**	**-1.4**
STON	**Ston**	**0.48**	**161**	⇓*i*Pg	**Pg**	**21 10 22.5**	**-0.4**
STON				*e*Sg	**Sg**	**21 10 30.3**	**+1.0**
TREB	**Trebinje**	**0.88**	**134**	*e*Pg	**Pg**	**21 10 29.2**	**-1.4**
TREB				*e*Sg	**Sb**	**21 10 43.4**	**-0.2**
TREB	**Trebinje**	**0.88**	**134**	⇑*i*Pg	**Pg**	**21 10 29.3**	**-1.4**
TREB				*e*Sg	**Sg**	**21 10 42.6**	**+0.5**
BRY	**Bratogost**	**0.88**	**119**	⇑*i*Pg	**Pg**	**21 10 29.5**	**-1.2**
BRY				*e*Sg	**Sg**	**21 10 42.5**	**+0.4**
BRY	**Bratogost**	**0.88**	**119**	⇑*i*Pg	**Pg**	**21 10 29.1**	**-1.6**
BRY				*e*Sg	**Sg**	**21 10 42.2**	**+0.1**
UPM	**Unac-Piva**	**1.05**	**96**	⇑*i*Pg	**Pg**	**21 10 33.1**	**-0.7**
UPM				*i* Sg	**Sb**	**21 10 48.8**	**+0.2**
UPM	**Unac-Piva**	**1.05**	**96**	⇓*i*Pg	**Pg**	**21 10 32.7**	**-1.1**
UPM				*e*Sg	**Sg**	**21 10 47.6**	**+0.2**
MGRS	**Mrkonjic Grad**	**1.13**	**345**	⇑*i*Pg	**Pg**	**21 10 33.0**	**-2.3**
MGRS				*e*Sg	**Sg**	**21 10 48.0**	**-1.3**
HCY	**Herceg Novi**	**1.15**	**139**	⇓*i*Pg	**Pg**	**21 10 34.0**	**-1.8**
HCY				*e*Sg	**Sb**	**21 10 51.4**	**0.0**
HCY	**Herceg Novi**	**1.15**	**139**	*e*Pg	**Pg**	**21 10 34.0**	**-1.8**
HCY				*e*Sg	**Sg**	**21 10 50.3**	**-0.4**
NKME	**Niksic**	**1.22**	**117**	⇑*i*Pg	**Pg**	**21 10 35.7**	**-1.3**
NKME				*e*Sg	**Sn**	**21 10 53.9**	**-0.5**
NKY	**Niksic**	**1.22**	**114**	⇑*i*Pg	**Pg**	**21 10 36.1**	**-1.0**
NKY				*i* Sg	**Sn**	**21 10 54.2**	**-0.4**
HAPS	**Han Pijesak,BI**	**1.31**	**54**	*e*Pg	**Pn**	**21 10 37.1**	**-1.7**
HAPS				*e*Sg	**Sn**	**21 10 57.1**	**+0.4**
HAPS	**Han Pijesak,BI**	**1.31**	**54**	*e*Pg	**Pn**	**21 10 37.1**	**-1.7**
HAPS				*e*Sg	**Sg**	**21 10 55.1**	**-0.6**
CEME	**Cevo**	**1.31**	**126**	⇑*i*Pg	**Pn**	**21 10 37.2**	**-1.6**
CEME				*e*Sg	**Sn**	**21 10 56.9**	**+0.1**
PLE	**Pljevlja**	**1.39**	**89**	⇑*i*Pg	**Pn**	**21 10 39.3**	**-0.7**
PLE				*i* Sg	**Sn**	**21 11 00.3**	**+1.5**
BLY	**Banja Luka**	**1.44**	**351**	*e*Pg	**Pn**	**21 10 39.5**	**-1.0**
BLY				*e*Sg	**Sg**	**21 10 59.5**	**0.0**
BLY	**Banja Luka**	**1.44**	**351**	⇑*i*P	**Pn**	**21 10 39.5**	**-1.0**
BLY	**Banja Luka**	**1.44**	**351**	S	**Sg**	**21 11 01.1**	**+1.2**
BLY	**Banja Luka**	**1.44**	**351**	⇑*i*Pg	**Pn**	**21 10 39.4**	**-1.0**
BLY				*e*Sg	**Sb**	**21 10 58.9**	**-0.7**
BUM	**Brajici-Budva**	**1.46**	**134**	⇓*i*Pg	**Pn**	**21 10 39.9**	**-1.0**
BUM				*e*Sg	**Sg**	**21 11 02.2**	**+1.6**
DOB	**Doboj**	**1.47**	**17**	*e*Pg	**Pn**	**21 10 40.2**	**-0.8**
BBLS	**Lazići**	**1.50**	**68**	*e*Pg	**Pg**	**21 10 42.3**	**-0.1**
BBLS				*e*Sg	**Sg**	**21 11 03.3**	**+1.5**
BBLS	**Lazići**	**1.50**	**68**	*e*Pn	**Pn**	**21 10 40.8**	**-0.6**
BBLS				*e*Sg	**Sb**	**21 11 01.3**	**-0.1**
KOME	**Kolasin**	**1.56**	**107**	⇑*i*Pg	**Pb**	**21 10 42.9**	**-0.3**
KOME				*e*Sg	**Sg**	**21 11 06.3**	**+2.3**
PDG	**Podgorica**	**1.58**	**124**	*e*Pg	**Pb**	**21 10 43.1**	**-0.4**
PDG				*e*Sg	**Sg**	**21 11 06.2**	**+1.7**
PDG	**Podgorica**	**1.58**	**124**	⇑*i*P	**Pb**	**21 10 42.9**	**-0.6**
PDG	**Podgorica**	**1.58**	**124**	S	**Sg**	**21 11 07.0**	**+2.5**
PDG	**Podgorica**	**1.58**	**124**	*e*Pn	**Pn**	**21 10 42.2**	**-0.2**
PDG				*e*Sn	**Sn**	**21 11 03.4**	**+0.1**
TTG	**Podgorica**	**1.58**	**124**	⇑*i*Pg	**Pn**	**21 10 42.7**	**+0.3**
TTG				*i* Sg	**Sg**	**21 11 06.1**	**+1.6**
DRME	**Dracevica, Mon**	**1.69**	**132**	⇓*i*Pn	**Pn**	**21 10 44.4**	**+0.4**
DRME				*e*Sn	**Sg**	**21 11 10.0**	**+1.9**
DRME	**Dracevica, Mon**	**1.69**	**132**	*e*Pn	**Pn**	**21 10 43.8**	**-0.2**
DRME				*e*Sn	**Sn**	**21 11 06.0**	**-0.1**
UDBI	**Udbina**	**1.73**	**315**	*e*Pn	**Pg**	**21 10 46.2**	**-0.5**
UDBI				Sn	**Sg**	**21 11 10.3**	**+1.2**
SJES	**Sjenica**	**1.82**	**91**	*e*Pg	**Pb**	**21 10 47.2**	**-0.4**
SJES				*e*Sg	**Sg**	**21 11 14.6**	**+2.4**
IVA	**Berane**	**1.82**	**104**	⇓*i*Pn	**Pb**	**21 10 47.3**	**-0.3**
IVA				*e*Sn	**Sg**	**21 11 12.6**	**+0.3**
ULC	**Ulcinj**	**1.88**	**136**	⇓*i*Pn	**Pn**	**21 10 47.4**	**+0.8**
ULC				*i* Sn	**Sg**	**21 11 14.6**	**+0.4**
TEKS	**Tekeris**	**1.92**	**50**	*e*Sn	**Sn**	**21 11 10.7**	**-0.9**
IVAS	**Ivanjica**	**1.96**	**82**	*e*Pg	**Pb**	**21 10 49.7**	**-0.3**
IVAS				*e*Sg	**Sg**	**21 11 17.8**	**+1.1**
PVY	**Plav**	**1.96**	**111**	⇓*i*Pn	**Pb**	**21 10 49.3**	**-0.7**
PVY				*e*Sn	**Sg**	**21 11 16.1**	**-0.6**
DIVS	**Divibare**	**1.98**	**66**	*e*Pg	**Pb**	**21 10 49.6**	**-0.6**
DIVS				*e*Sg	**Sg**	**21 11 18.0**	**+0.8**
DIVS	**Divibare**	**1.98**	**66**	*e*Pn	**Pn**	**21 10 47.5**	**-0.5**
DIVS				*e*Sn	**Sn**	**21 11 12.2**	**-1.0**
NVLJ	**Novalja**	**2.25**	**304**	*e*Pn	**Pn**	**21 10 52.2**	**+0.5**
TRUS	**Trudelj**	**2.30**	**66**	*e*Pg	**Pn**	**21 10 53.8**	**+1.5**
GRUS	**Gruza**	**2.41**	**75**	*e*Pg	**Pb**	**21 10 56.7**	**-1.0**
FRGS	**Fruska Gora**	**2.48**	**42**	*e*Pg	**Pb**	**21 10 58.8**	**0.0**
FRGS	**Fruska Gora**	**2.48**	**42**	*e*Pn	**Pn**	**21 10 54.3**	**-0.5**
FRGS				*e*Sn	**Sn**	**21 11 24.8**	**-0.7**
SELS	**Selova**	**2.66**	**91**	*e*Pg	**Pb**	**21 11 03.0**	**+1.2**
OZLJ	**Ozalj**	**2.70**	**328**	*e*Pn	**Pn**	**21 10 58.4**	**+0.6**
MATE	**Matera**	**2.74**	**192**	⇑*i*P	Pn	21 10 49.0	-9.3
MATE	**Matera**	**2.74**	**192**	S	**Sn**	**21 11 31.1**	**-0.7**
CRES	**Cresnjev**	**2.89**	**331**	*e*Pn	**Pn**	**21 11 00.1**	**-0.3**
CRES				*e*Sn	**Sn**	**21 11 34.4**	**-1.1**
RIY	**Rijeka**	**2.94**	**314**	*e*Sn	**Sn**	**21 11 35.9**	**-0.8**
MORH	**Mrgy, Hungar**	**3.00**	**16**	*e*Pn	**Pn**	**21 11 01.4**	**-0.6**
MORH				*e*Sn	**Sn**	**21 11 37.2**	**-1.1**
MORH	**Mrgy, Hungar**	**3.00**	**16**	*e*Pn	**Pn**	**21 11 01.0**	**-1.0**
MORH				*e*Pg	**Pb**	**21 11 09.1**	**+1.4**
MORH				Sn	**Sb**	**21 11 46.1**	**+1.4**
BARS	**Barje**	**3.22**	**98**	*e*Pn	**Pn**	**21 11 05.8**	**+0.9**
CEY	**Cerknica**	**3.25**	**319**	*e*Pn	**Pn**	**21 11 04.8**	**-0.7**
CEY				*e*Sn	**Sn**	**21 11 43.5**	**-1.1**
MDVR	**Moldovita**	**3.38**	**63**	⇑*i*P	**Pn**	**21 11 09.9**	**+2.7**
MDVR	**Moldovita**	**3.38**	**63**	S	**Sb**	**21 11 56.8**	**+1.3**
BZS	**Buzias**	**3.74**	**51**	⇑*i*P	**Pn**	**21 11 15.2**	**+3.1**
BZS	**Buzias**	**3.74**	**51**	S	**Sn**	**21 11 55.6**	**-1.0**
ZAPS	**Zavoj**	**3.76**	**89**	*e*Pn	**Pn**	**21 11 12.8**	**+0.3**
SOKA	**Soboth**	**3.77**	**333**	*e*Pn	**Pn**	**21 11 13.4**	**+0.7**
	1.3nm,0.2s,SNR=7.0						
SOKA				*i* Sn	**Sn**	**21 11 58.0**	**+0.5**
	1.8nm,0.4s						
ARSA	**Arzberg**	**4.16**	**341**	*e*Pn	**Pn**	**21 11 18.1**	**+0.2**
	2.4nm,0.3s,SNR=5.1						
ARSA				*i* Sn	**Sn**	**21 12 06.7**	**-0.2**
	2.4nm,0.7s						
CONA	**Conrad Observa**	**4.74**	**347**	*e*Pn	**Pn**	**21 11 28.4**	**+2.5**
	0.4nm,0.3s						
CONA				*i* Sn	**Sn**	**21 12 19.8**	**-1.5**
	2.2nm,0.6s						
MOA	**Molln**	**5.05**	**335**	*e*Pn	**Pn**	**21 11 32.4**	**+2.2**
	1.4nm,0.3s,SNR=6.5						
MOA				*e*Sn	**Sn**	**21 12 30.4**	**+1.4**
	1.8nm,0.5s						
VYHS	**Vyhne**	**5.25**	**10**	*e*PN	**Pn**	**21 11 34.1**	**+1.2**
VYHS				*e*SN	**Sn**	**21 12 30.1**	**-3.7**
WTTA	**Wattenberg**	**5.70**	**316**	*e*Pn	**Pn**	**21 11 42.9**	**+3.7**
	2.3nm,0.4s						
WATA	**Walderalm**	**5.78**	**316**	*e*Pn	**Pn**	**21 11 42.2**	**+1.9**
	0.9nm,0.2s						
MOTA	**Moosalm**	**6.03**	**314**	*e*Pn	**Pn**	**21 11 46.0**	**+2.3**
	0.5nm,0.3s						

*ISCJB **01** 21:14:41.0±0.7,7.°00S±0.°08×126.°0E±0.°1,h488km, mb3.6/6,Error ellipse: s-maj=17.1km s-min=10.0km az=165.2*

*IDC **01** 21:14:42.8±1.6,7.°02S×125.°97E,h498km±19km,mb3.1/6, mb1 3.4/10,mb1mx3.1/30,mbtmp4.1/10,Error ellipse: s-maj=40.6km s-min=12.7km az=54.0*

ISC 01 21:14:42.4±0.9,7.°1S±0.°1×126.°1E±0.°1,h488km,n11, σ1°63/15,mb3.5/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.92**	**217**	P	**P**	**21 16 00.5**	**+1.1**
	20nm,0.3s,baz=86,slow=2.1,SNR=24						
BATI				S	**S**	**21 16 59.6**	**-2.5**
	8.1nm,0.3s,baz=36,slow=14,SNR=5.3						
FITZ	**Fitzroy Crossi**	**10.99**	**182**	P	**P**	**21 17 10.4**	**+0.3**
	2.2nm,0.3s,baz=16,slow=9.7,SNR=76						
FITZ				S	**S**	**21 19 09.3**	**-2.6**
	0.3nm,0.3s,baz=354,slow=19,SNR=9.7						
WRA	**Warramunga Arr**	**15.13**	**149**	P	**P**	**21 17 53.9**	**-0.3**
	2.2nm,0.3s,baz=337,slow=9.7,SNR=63						
ASAR	**Alice Springs**	**18.16**	**156**	P	**P**	**21 18 25.6**	**+0.7**
	1.8nm,0.3s,baz=348,slow=14,SNR=76						
ASAR				S	**S**	**21 21 27.5**	**+0.9**
	baz=336,slow=18,SNR=4.4						

CESX	**Cesi**	**0.30 275**	P	Pg	21 27 58.2	+0.4
CESX			S	Sg	21 28 02.5	+0.5
FIAM	**Fiamignano**	**0.33 163**	P	Pg	21 27 58.6	+0.2
FIAM			S	Sb	21 28 03.8	-1.0
FIAM	**Fiamignano**	**0.33 163**	P	Pg	21 27 58.7	+0.3
FIAM	**Fiamignano**	**0.33 163**	S	Sb	21 28 03.8	-1.0
MOMA	**Monte Martano**	**0.38 305**	P	Pg	21 27 59.4	+0.2
MOMA			S	Sb	21 28 05.6	-0.5
CESI	**CESI - Serrava**	**0.42 352**	P	Pg	21 28 00.2	+0.2
CESI			S	Sg	21 28 06.5	+0.8
FDMO	**Fiordimonte**	**0.46 9**	P	Pg	21 28 00.7	0.0
FDMO			S	Sb	21 28 07.7	-0.6
CERT	**Cerreto**	**0.64 180**	P	Pg	21 28 03.1	-0.9

KRSC 01 21:53:58.2±10.0, 49°.17N×156°.46E, h51km±10km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.53**	**352**	*e*P	Pn	21 54 24.1	+1.0
SKR				*e*S	Sn	21 54 43.1	+1.3
ALID	**Alaid**	**1.80**	**341**	*e*P	Pn	21 54 29.1	+2.2
PAU	**Pauzhetka**	**2.31**	**5**	*e*P	Pn	21 54 36.8	+3.0
PAU				*e*S	Sn	21 55 05.4	+4.5
KDTR	**Khodutka, Kamc**	**2.84**	**21**	*e*P	Pn	21 54 44.6	+3.7
KDTR				*e*S	Sn	21 55 18.2	+4.4
RUS	**Russkaya**	**3.52**	**21**	*e*P	Pn	21 54 54.8	+4.5
KRMR	**Karymshinskiy**	**3.81**	**15**	*e*P	Pn	21 54 58.2	+3.9
KRMR				*e*S	Sn	21 55 41.3	+3.5
DALK	**Dalny**	**4.13**	**20**	*e*P	Pn	21 55 03.3	+4.7
DALK				*e*S	Sn	21 55 50.0	+4.5
UGLR	**Uglovaya**	**4.31**	**19**	*e*P	Pn	21 55 04.6	+3.4
AVH	**Avacha**	**4.34**	**18**	*e*P	Pn	21 55 05.6	+3.9
KOK	**Koryaka**	**4.35**	**17**	*e*P	Pn	21 55 05.8	+4.0
SMAR	**Somma**	**4.35**	**19**	*e*P	Pn	21 55 06.9	+4.9
KRER	**Koryakskii**	**4.38**	**18**	*e*P	Pn	21 55 04.8	+2.5
SDLR	**Sedlovina**	**4.38**	**19**	*e*P	Pn	21 55 06.0	+3.7
SPN	**Mys Shipunski**	**4.53**	**28**	P	Pn	21 55 07.3	+3.2
KBTR	**Krutoberegovo**	**8.03**	**26**	*e*P	Pn	21 55 55.5	+3.4

MEX 01 21:54:23.5±0.4, 16°.03N×95°.02W, h48km±14km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.07**	**7**	*e*P	Pn	21 54 40.2	-1.9
CMIG				*i* S	Sn	21 54 54.0	-1.9
HUIG	**Huatulco**	**1.07**	**256**	*i* P	Pn	21 54 40.8	-1.4
HUIG				*e*S	Sn	21 54 53.9	-2.2
PCIG		**1.77**	**100**	*e*P	Pn	21 54 49.7	-1.9
PCIG				*e*S	Sn	21 55 10.9	-2.0
CCIG	**Comitan**	**2.79**	**84**	*i* P	Pn	21 55 04.8	-0.9
CCIG				*i* S	Sn	21 55 36.8	-1.5
PNIG	**Pinotepa**	**3.00**	**277**	*i* P	Pn	21 55 07.4	-1.2
PNIG				*i* S	Sn	21 55 41.3	-2.2

*SOME **01** 21:57:35.9, 41°.20N×79°.13E, h25km*
*KRNET **01** 21:57:37.1±0.1, 41°.42N×79°.18E, h16km, mb2.8*
*NNC **01** 21:57:37.5±1.0, 41°.36N×79°.09E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=7.0km s-min=4.8km az=162.0*

ISC 01 21:57:41.0±1.5, 41°.53N±0°.06×79°.12E±0°.04, h10km, n62, σ1§42/96, 24C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.00**	**282**	⇑*i*P	**Pg**	**21 57 57.7**	**-2.6**
TARG	baz=87			⇑*i*S	**Sg**	**21 58 13.2**	**-0.2**
PRZ	**Przheval'sk**	**1.09**	**331**	⇑*e*P	**Pb**	**21 58 00.1**	**-2.0**
PRZ	baz=32			⇑*e*S	**Sb**	**21 58 17.0**	**+0.6**
KDJ	**Kajisay**	**1.57**	**293**	⇑*i*P	**Pn**	**21 58 08.1**	**-0.9**
KDJ	baz=96			⇑*i*S	**Sb**	**21 58 30.7**	**+0.6**
SATY	**Saty**	**1.61**	**341**	P	**Pb**	**21 58 10.1**	**-0.9**
SATY	14nm,0.2s			S	**Sg**	**21 58 34.2**	**+1.3**
SATY	**Saty**	**1.61**	**341**	*e*P	**Pb**	**21 58 09.9**	**-1.0**
SATY	14nm,0.2s			*e*S	**Sg**	**21 58 34.2**	**+1.3**
UZB	**Uzynbulak**	**1.61**	**357**	P	**Pn**	**21 58 09.7**	**0.0**
UZB	2.5nm,0.4s			S	**Sg**	**21 58 34.4**	**+1.5**
UZB	**Uzynbulak**	**1.61**	**357**	*e*P	**Pn**	**21 58 09.7**	**0.0**
UZB	2.5nm,0.4s			*e*S	**Sg**	**21 58 33.8**	**+0.9**
SHLS	**Shalkode**	**1.64**	**9**	Pg	**Pg**	**21 58 11.7**	**-0.8**
SHLS	24nm,0.4s			Lg	Lg	21 58 37.9	
SHLS	**Shalkode**	**1.64**	**9**	*e*P	**Pg**	**21 58 11.8**	**-0.8**
SHLS	24nm,0.4s			*e*S	**Sg**	**21 58 37.9**	**+4.1**
ZHN	**Zhinishke**	**1.71**	**343**	Pg	**Pn**	**21 58 10.9**	**0.0**
ZHN	4.3nm,0.1s			Lg	Lg	21 58 36.6	
ZHN	**Zhinishke**	**1.71**	**343**	*e*P	**Pn**	**21 58 10.9**	**0.0**
ZHN	4.3nm,0.1s			*e*S	**Sg**	**21 58 36.5**	**+0.5**
PDGK	**Podgornoye**	**1.82**	**9**	Pg	**Pb**	**21 58 13.1**	**-1.3**
PDGK	4.3nm,0.4s			Lg	Lg	21 58 40.0	
PDGK	**Podgornoye**	**1.82**	**9**	⇓Pn	**Pb**	**21 58 13.0**	**-1.3**
PDGK	5.1nm,0.5s			⇓Sn	**Sg**	**21 58 40.4**	**+1.1**
PDGK	**Podgornoye**	**1.82**	**9**	⇓*i*P	**Pb**	**21 58 13.0**	**-1.4**
PDGK	baz=7.0			⇓*i*S	**Sg**	**21 58 39.3**	**-0.1**
KPKS	**Kokpek**	**1.96**	**351**	*e*P	**Pb**	**21 58 16.8**	**0.0**
KPKS	37nm,0.3s			*e*S	**Sg**	**21 58 46.2**	**+2.3**
KURS	**Kuram**	**2.08**	**341**	Pg	**Pb**	**21 58 17.9**	**-0.9**
KURS	12nm,0.6s			Lg	Lg	21 58 48.2	
KURS	**Kuram**	**2.08**	**341**	*e*P	**Pb**	**21 58 17.9**	**-0.9**
KURS	12nm,0.7s			*e*S	**Sg**	**21 58 48.2**	**+0.5**
KTMS	**Ketmen**	**2.12**	**25**	Pg	**Pb**	**21 58 18.1**	**-1.4**
KTMS	3.8nm,0.1s			Lg	Lg	21 58 49.0	
KTMS	**Ketmen**	**2.12**	**25**	*e*P	**Pb**	**21 58 18.4**	**-1.2**
KTMS	3.8nm,0.1s			*e*S	**Sg**	**21 58 49.0**	**-0.1**
TNSS	**Tian-Shan**	**2.20**	**314**	Pg	**Pb**	**21 58 19.8**	**-1.3**
TNSS	5.0nm,0.2s			Lg	Lg	21 58 51.8	
TNSS	**Tian-Shan**	**2.20**	**314**	*e*P	**Pb**	**21 58 19.8**	**-1.3**
TNSS	5.0nm,0.2s			*e*S	**Sg**	**21 58 51.8**	**0.0**
MDOK	**Medeo**	**2.24**	**317**	⇓Pg	**Pb**	**21 58 21.6**	**0.0**
MDOK				⇑Lg	Lg	21 58 52.6	
MDOK	**Medeo**	**2.24**	**317**	Pg	**Pb**	**21 58 20.1**	**-1.5**
MDOK	3.0nm,0.5s			Lg	Lg	21 58 52.0	
MDOK	**Medeo**	**2.24**	**317**	*e*P	**Pb**	**21 58 20.1**	**-1.5**
MDOK	3.0nm,0.5s			*e*S	**Sg**	**21 58 52.0**	**-0.9**
KOTS	**Kotyrbulak**	**2.26**	**320**	Pg	**Pb**	**21 58 21.2**	**-0.8**
KOTS	5.3nm,0.3s			Lg	Lg	21 58 53.6	
KOTS	**Kotyrbulak**	**2.26**	**320**	*e*P	**Pb**	**21 58 21.2**	**-0.8**
KOTS	5.3nm,0.3s			*e*S	**Sg**	**21 58 53.6**	**+1.0**
ULHL	**Ulahol**	**2.26**	**289**	⇑*i*P	**Pn**	**21 58 19.3**	**+0.7**
ULHL	baz=92			⇑*i*S	**Sb**	**21 58 49.6**	**-0.6**
KNDC	**Almaty**	**2.32**	**317**	⇑Pg	**Pb**	**21 58 23.3**	**+0.3**
KNDC				⇑Lg	Lg	21 58 56.1	
NRN	**Naryn**	**2.35**	**269**	⇓*e*P	**Pn**	**21 58 20.1**	**+0.2**
NRN	baz=71			⇓*i*S	**Sb**	**21 58 51.2**	**-1.4**
BOOM	**Boomskoye usch**	**2.56**	**293**	⇑*i*P	**Pn**	**21 58 23.4**	**+0.8**
BOOM	baz=95			⇑*i*S	**Sb**	**21 58 57.4**	**-1.1**
MTBS	**Maitube**	**2.56**	**310**	Pg	**Pb**	**21 58 25.6**	**-1.4**
MTBS	5.3nm,0.3s			Lg	Lg	21 59 01.4	
MTBS	**Maitube**	**2.56**	**310**	*e*P	**Pb**	**21 58 25.6**	**-1.4**
MTBS	5.3nm,0.3s			*e*S	**Sg**	**21 59 01.4**	**-1.7**
MNBS	**Baschi**	**2.60**	**349**	Pg	**Pb**	**21 58 26.9**	**-0.9**
MNBS	7.8nm,0.3s			Lg	Lg	21 59 04.2	
MNBS	**Baschi**	**2.60**	**349**	*e*P	**Pb**	**21 58 27.3**	**-0.4**
MNBS	7.8nm,0.3s			*e*S	**Sg**	**21 59 04.2**	**-0.2**
KST	**Kastek**	**2.79**	**304**	Pg	**Pb**	**21 58 28.4**	**-2.5**
KST	6.4nm,0.4s			Lg	Lg	21 59 06.1	
KST	**Kastek**	**2.79**	**304**	*e*P	**Pb**	**21 58 28.4**	**-2.5**
KST	6.4nm,0.4s			*e*S	**Sb**	**21 59 06.1**	**+1.0**
CHKK	**Chushkaly**	**2.80**	**327**	Pg	**Pb**	**21 58 30.3**	**-0.8**
CHKK	2.4nm,0.3s			Lg	Lg	21 59 09.3	
CHKK	**Chushkaly**	**2.80**	**327**	*e*P	**Pb**	**21 58 30.3**	**-0.8**
CHKK	2.4nm,0.3s			*e*S	**Sg**	**21 59 09.3**	**-1.6**
KTBS	**Karatobe**	**2.83**	**321**	Pg	**Pb**	**21 58 31.3**	**-0.2**
KTBS	1.7nm,0.3s			Lg	Lg	21 59 10.7	
KTBS	**Karatobe**	**2.83**	**321**	*e*P	**Pb**	**21 58 31.3**	**-0.2**
KTBS	1.7nm,0.3s			*e*S	**Sg**	**21 59 10.7**	**-1.0**
DJR	**Jarkent**	**2.84**	**10**	Pg	**Pb**	**21 58 30.6**	**-1.2**
DJR	4.6nm,0.3s			Lg	Lg	21 59 09.8	
DJR	**Jarkent**	**2.84**	**10**	*e*P	**Pb**	**21 58 30.6**	**-1.2**
DJR	4.6nm,0.3s			*e*S	**Sg**	**21 59 09.8**	**-2.5**
ARXS	**Arharly**	**2.84**	**341**	Pg	**Pb**	**21 58 31.1**	**-0.7**
ARXS	2.2nm,0.3s			Lg	Lg	21 59 10.7	
ARXS	**Arharly**	**2.84**	**341**	*e*P	**Pb**	**21 58 31.1**	**-0.7**
ARXS	2.2nm,0.3s			*e*S	**Sg**	**21 59 10.7**	**-1.6**
KZA	**Kyzart**	**2.94**	**282**	⇑*i*P	**Pn**	**21 58 28.8**	**+0.6**
KZA	baz=84			⇑*e*S	**Sn**	**21 59 05.8**	**+2.0**
TKM2	**Tokmak 2**	**2.96**	**299**	⇑Pg	**Pb**	**21 58 33.7**	**-0.2**
TKM2	2.3nm,0.4s			⇓Lg	Lg	21 59 14.0	
TKM2	**Tokmak 2**	**2.96**	**299**	⇑*i*P	**Pn**	**21 58 29.0**	**+0.8**
TKM2	baz=1.0			⇑*i*S	**Sn**	**21 59 07.0**	**+3.1**
KUU	**Kurty**	**3.12**	**320**	Pg	**Pb**	**21 58 35.7**	**-0.9**
KUU	1.4nm,0.3s			Lg	Lg	21 59 18.6	
KUU	**Kurty**	**3.12**	**320**	*e*P	**Pb**	**21 58 35.7**	**-0.9**
KUU	1.4nm,0.3s			*e*S	**Sg**	**21 59 18.6**	**-2.6**
KBK	**Karagaybulak**	**3.30**	**291**	⇓*i*P	**Pn**	**21 58 33.6**	**+0.7**
KBK	baz=93			⇓*i*S	**Sn**	**21 59 14.7**	**+2.4**
TDK	**Taldyqorghan**	**3.51**	**352**	Pg	**Pb**	**21 58 42.8**	**-0.3**
TDK	16nm,0.3s			Lg	Lg	21 59 31.2	
TDK	**Taldyqorghan**	**3.51**	**352**	*e*P	**Pb**	**21 58 42.8**	**-0.3**
TDK	16nm,0.3s			*e*S	**Sg**	**21 59 31.2**	**-2.4**
UCH	**Uchtor**	**3.51**	**283**	⇑*i*P	**Pn**	**21 58 36.3**	**+0.3**
UCH	baz=85			⇑*i*S	**Sn**	**21 59 19.9**	**+2.1**
AAK	**Ala-Archa**	**3.62**	**289**	⇑Lg	Lg	21 59 32.8	
AAK	**Ala-Archa**	**3.62**	**289**	⇓*i*P	**Pn**	**21 58 38.1**	**+0.9**
AAK	baz=91			⇓*i*S	**Sn**	**21 59 22.2**	**+2.2**
KAPS	**Kapalarasan**	**3.75**	**3**	Pg	**Pb**	**21 58 47.2**	**-0.2**
KAPS	1.5nm,0.3s			Lg	Lg	21 59 38.4	
KAPS	**Kapalarasan**	**3.75**	**3**	*e*P	**Pb**	**21 58 47.2**	**-0.2**
KAPS	1.5nm,0.3s			*e*S	**Sg**	**21 59 38.4**	**-3.1**
AML	**Almayashu**	**4.10**	**280**	⇓*e*P	**Pn**	**21 58 44.5**	**+0.5**
AML	baz=82			⇓*i*S	**Sn**	**21 59 33.8**	**+1.6**
EKS2	**Erkin-Say**	**4.13**	**288**	⇑*i*P	**Pn**	**21 58 44.9**	**+0.7**
EKS2	baz=89			⇑*i*S	**Sn**	**21 59 34.8**	**+2.1**
KK31	**Karatay Array**	**6.57**	**287**	⇑Pg	**Pb**	**21 59 39.2**	**+3.9**
KK31	4.0nm,0.5s,baz=96,slow=23,SNR=4.1			Lg	Lg	22 01 07.7	
OTUK	**Ortayu**	**8.26**	**327**	⇓Lg	Lg	22 02 04.4	
KURBB	4.5nm,0.9s **Kurchatov Arra**	**9.10**	**358**	⇓Lg	Lg	22 02 32.8	
KURBB	4.9nm,0.8s						

MAN 01 22:04:48.0, 10°.04N×125°.16E, h17km, mb4.3, ML3.1, MS2.9, 3C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.31**	**287**	*e*P	Pb	22 04 55.1	+0.1
MSLP				*e*S	Sn	22 05 02.0	-1.9
SCPH	**Surigao**	**0.42**	**129**	⇑*i*P	Pn	22 05 03.9	+4.7
SCPH				*i* S	Sn	22 05 11.2	+4.7
PLP	**Palo**	**1.13**	**351**	⇑*e*P	Pn	22 05 08.3	-0.8
PLP				*e*S	Sn	22 05 24.1	0.0
OCLP	**Ormoc**	**1.14**	**332**	*e*P	Pg	22 05 10.2	+0.2
OCLP				*e*S	Sg	22 05 27.0	+2.0
BUTP	**Butuan**	**1.16**	**157**	*e*P	Pg	22 05 13.4	+2.9
LLP	**Lapu-Lapu**	**1.20**	**283**	⇓*e*P	Pn	22 05 09.5	-0.6
LLP				*e*S	Sb	22 05 25.8	+0.1
BESP	**Borongan**	**1.57**	**10**	*e*P	Pn	22 05 14.2	-1.0
CGP	**Cagayan de Oro**	**1.64**	**196**	⇓*e*P	Pn	22 05 15.5	-0.6
CGP				*e*S	Sb	22 05 37.6	-0.7
BUKP	**Musuan**	**2.15**	**183**	*e*P	Pn	22 05 23.6	+0.4
RCP	**Roxas**	**2.81**	**303**	⇑*e*P	Pn	22 05 34.4	+2.2

*IDC **01** 22:05:38.7±1.9, 52°.89N×169°.67W, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.4/44, mbtmp3.6/5, ML3.2/2, Error ellipse: s-maj=60.9km s-min=27.7km az=138.0*
*ISCJB **01** 22:05:40.4±0.6, 52°.9N±0°.1×169°.70W±0°.07, h10km, Error ellipse: s-maj=17.0km s-min=4.8km az=164.9*
*NEIC **01** 22:05:41.0±0.0, 52°.70N×169°.49W, h11km, ML3.5(AEIC), After AEIC.*

ISC 01 22:05:40.9±0.8, 53°.0N±0°.1×169°.62W±0°.06, h10km, n25, σ1§67/25, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.46**	**95**	P	**Pb**	**22 05 51.0**	**-0.2**
NIKH				S	**Sb**	**22 05 58.5**	**+0.5**
OKSP	**Okmok Steeple**	**0.83**	**73**	P	**Pb**	**22 05 57.8**	**+0.3**
OKSP				S	**Sb**	**22 06 10.0**	**+1.2**
OKAK	**Okmok**	**0.94**	**53**	P	**Pg**	**22 05 59.7**	**+0.6**
OKWE	**Okmok W'ng Wal**	**0.95**	**60**	P	**Pn**	**22 06 01.1**	**+0.9**
MCIR	**Makushin Cirqu**	**1.88**	**59**	P	**Pb**	**22 06 15.3**	**0.0**
MREP	**Makushin Rep't**	**1.90**	**64**	P	**Pn**	**22 06 13.6**	**+0.3**
MSW	**Makushin Switc**	**1.92**	**61**	P	**Pn**	**22 06 14.7**	**+1.1**
MSW				S	**Sn**	**22 06 39.3**	**+1.4**
MTBL	**Makushin Table**	**2.00**	**60**	P	**Pn**	**22 06 16.0**	**+1.2**
UNV	**Unalaska Valle**	**2.04**	**65**	P	**Pn**	**22 06 15.3**	**0.0**
UNV				S	**Sb**	**22 06 44.5**	**+1.0**
AKRB	**Akutan Reef Bi**	**2.39**	**61**	P	**Pn**	**22 06 21.7**	**+1.6**
ZRO	**Akutan Zero**	**2.42**	**62**	P	**Pn**	**22 06 22.6**	**+2.0**
AKV	**Akutan Volcano**	**2.45**	**61**	P	**Pn**	**22 06 23.0**	**+2.1**
AHB	**Akutan Harbor**	**2.52**	**63**	P	**Pn**	**22 06 23.7**	**+1.8**
ADK	**Adak**	**4.47**	**258**	*e*Pn	**Pn**	**22 06 49.5**	**+0.8**
ADK				*e*S	**Sn**	**22 07 42.8**	**+2.2**
KDAK	**Kodiak Island**	**10.79**	**57**	Pn	**Pn**	**22 08 16.2**	**+1.0**
KDAK	0.4nm,0.3s,baz=210,slow=7.9,SNR=9.3 baz=217,slow=20,SNR=1.9			Sn	**Sn**	**22 10 10.6**	**-5.3**
ILAR	**Eielson Array**	**16.51**	**36**	Pn	**Pn**	**22 09 31.0**	**-1.3**
H11N2	0.0nm,0.3s,baz=234,slow=12,SNR=3.1 **WAKE ISLAND Hy 37.87**		**218**	T	T	22 53 10.0	
H11N3	baz=24,slow=76,SNR=17 **WAKE ISLAND Hy 37.88**		**218**	T	T	22 52 57.4	
H11N1	baz=24,slow=76,SNR=26 **WAKE ISLAND Hy 37.89**		**218**	T	T	22 53 03.9	
H11S1	baz=24,slow=76,SNR=21 **WAKE ISLAND Hy 39.06**		**217**	T	T	22 54 35.4	
H11S2	baz=23,slow=76,SNR=277 **WAKE ISLAND Hy 39.08**		**217**	T	T	22 54 40.2	
H11S3	baz=23,slow=76,SNR=229 **WAKE ISLAND Hy 39.08**		**217**	T	T	22 54 36.7	
PDAR	baz=23,slow=76,SNR=209 **Pinedale Array**		**40.43 80**	P	**P**	**22 13 19.9**	**+0.5**
TXAR	0.2nm,0.6s,baz=282,slow=5.3,SNR=3.0 **Lajitas Array**		**52.89 89**	P	**P**	**22 14 56.2**	**-0.7**
ASAR	0.4nm,0.6s,baz=294,slow=4.8,SNR=3.6 **Alice Springs**		**90.69 230**	P	**P**	**22 18 42.2**	**-1.4**
	0.4nm,0.6s,baz=37,slow=5.1,SNR=4.2						

*ISCJB **01** 22:18:29.4±0.2, 27°.56N±0°.02×60°.73E±0°.03, h10km, mb4.1/44, MS3.2/8, Error ellipse: s-maj=4.0km s-min=2.5km az=39.2*
*MOS **01** 22:18:29.4±1.4, 27°.63N×60°.74E, h10km, mb4.4/9, Error ellipse: s-maj=8.2km s-min=5.3km az=89.8*
*IDC **01** 22:18:29.4±0.7, 27°.65N×60°.58E, h0km, mb4.1/27, mb1 4.2/29, mb1mx4.1/50, mbtmp4.1/29, ML3.6/2, MS3.1/10, Ms1 3.2/10, ms1mx2.9/46, Error ellipse: s-maj=16.0km s-min=12.9km az=159.0*
*TEH **01** 22:18:33.7, 27°.58N×60°.73E, h76km, ML4.3*
*OMAN **01** 22:18:34.2±0.2, 27°.41N×60°.73E, h40km±4km, mb4.8/2, ml4.3/9, Error ellipse: s-maj=3.8km s-min=3.0km az=342.0*
*THR **01** 22:18:34.3, 27°.60N×60°.69E, h44km, ML3.9*
*NEIC **01** 22:18:34.3±0.0, 27°.60N×60°.69E, h44km, mb4.0/24, ML3.9(THR), MN4.2(TEH), After THR.*
*BJI **01** 22:18:35.0±0.0, 27°.80N×60°.70E, h50km, mb4.6/15, mB4.6/9, Ms4.0/4, Ms7 3.8/3*
*DSN **01** 22:18:37.6±2.0, 27°.17N×60°.56E, h30km, ML4.2/7, Error ellipse: s-maj=44.5km s-min=12.5km az=171.0*

ISC 01 22:18:31.0±0.4, 27°.58N±0°.03×60°.59E±0°.04, h10km, n200, σ1§96/216, mb4.2/44, MS3.3/9, 4C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZD1	**Zahaedan-tmp**	**1.92**	**7**	IAMB	IAmb	22 19 10.7	
SZD1	comp=Z,0.0nm,0.2s			*e*P	**Pb**	**22 19 05.9**	**-0.3**
CHBR	**Chabahar**	**1.98**	**183**	*e*Pn	**Pb**	**22 19 06.0**	**-1.0**
CHBR				*e*Sn	**Sg**	**22 19 36.0**	**+1.5**
CHBR	**Chabahar**	**1.98**	**183**	*e*AML	AML	22 19 51.2	
CHBR	comp=E,871nm,0.8s			*e*P	**Pb**	**22 19 06.4**	**-0.6**
CHBR				*e*Sg	**Sg**	**22 19 36.6**	**+2.1**
ZHSF	**Zahedan**	**2.03**	**4**	*e*Pn	**Pb**	**22 19 07.0**	**-1.2**
ZHSF				*e*Sn	**Sg**	**22 19 36.0**	**-0.4**
ZHSF	**Zahedan**	**2.03**	**4**	*e*P	**Pb**	**22 19 07.5**	**-0.7**
ZHSF	**Zahedan**	**2.03**	**4**	*e*Pn	**Pb**	**22 19 07.5**	**-0.7**
ZHSF				*e*Sg	**Sg**	**22 19 36.7**	**+0.3**
KHSK	**Kohestak**	**3.26**	**256**	*e*P	**Pn**	**22 19 25.8**	**+3.7**
KHSK	comp=Z,0.0nm,1.1s			IAMB	IAmb	22 20 44.5	
CHMN	**Cheshme madani**	**3.52**	**311**	*e*Pn	**Pb**	**22 19 30.3**	**-3.3**
CHMN	**Cheshme madani**	**3.52**	**311**	*e*P	**Pn**	**22 19 28.0**	**+1.9**
CHMN	comp=E,0.0nm,1.0s			IAMB	IAmb	22 20 35.2	
GENO	**Geno**	**3.93**	**268**	*e*Pn	**Pn**	**22 19 35.2**	**+3.6**
GENO	**Geno**	**3.93**	**268**	*e*P	**Pn**	**22 19 35.0**	**+3.4**
GENO	comp=Z,0.0nm,1.4s			IAMB	IAmb	22 20 53.2	
NGRK	**Negar Kerman**	**3.97**	**302**	*e*Pn	**Pn**	**22 19 35.6**	**+3.3**
NGRK	**Negar Kerman**	**3.97**	**302**	*e*P	**Pn**	**22 19 36.0**	**+3.7**
NGRK	comp=Z,0.0nm,1.2s			IAMB	IAmb	22 20 55.8	
TVBK	**TV Kerman**	**4.13**	**306**	*e*P	**Pn**	**22 19 37.7**	**+3.2**
TVBK	comp=N,0.0nm,0.4s			IAMB	IAmb	22 21 05.5	
SHME	**Shamm**	**4.26**	**250**	*i* P	**Pn**	**22 19 37.8**	**+1.9**
SHME	SNR=22			S	**Sn**	**22 20 26.6**	**+0.8**
SHME	**Shamm**	**4.26**	**250**	*e*P	**Pn**	**22 19 38.2**	**+2.2**
MSFE	**Esma-Masafi**	**4.55**	**242**	*i* P	**Pn**	**22 19 40.6**	**+0.6**
MSFE	SNR=25			S	**Sn**	**22 20 31.6**	**-1.3**
MSFE	**Esma-Masafi**	**4.55**	**242**	*e*P	**Pn**	**22 19 40.5**	**+0.6**
KHGB	**Koh Gabri**	**4.56**	**309**	*e*P	**Pn**	**22 19 43.3**	**+3.0**
KHGB	comp=Z,0.0nm,0.9s			IAMB	IAmb	22 21 11.3	
BIDO	**Bidbid**	**4.61**	**209**	*e*P	**Pn**	**22 19 41.1**	**+0.3**
WSAR	**Wadi Sarin**	**4.67**	**203**	P	**Pn**	**22 19 42.1**	**+0.6**
WSAR				S	**Sn**	**22 20 33.0**	**-2.9**
WSAR	**Wadi Sarin**	**4.67**	**203**	Pn	**Pn**	**22 19 41.8**	**+0.2**
WSAR	comp=Z,3.4nm,0.3s,baz=40,slow=10,SNR=60 comp=Z,16nm,0.3s,baz=82,slow=23,SNR=13			Sn	**Sn**	**22 20 32.5**	**-3.3**
HATD	**Hatta, Dubai**	**4.85**	**237**	P	**Pn**	**22 19 44.4**	**+0.2**
HATD	**Hatta, Dubai**	**4.85**	**237**	P	**Pn**	**22 19 44.6**	**+0.4**
HATD				S	**Sn**	**22 20 37.2**	**-3.3**
HATD	**Hatta, Dubai**	**4.85**	**237**	*e*P	**Pn**	**22 19 44.5**	**+0.4**
HOQ	**Hoqain**	**4.96**	**217**	P	**Pn**	**22 19 45.1**	**-0.5**
HOQ				S	**Sn**	**22 20 40.1**	**-2.9**
HOQ	**Hoqain**	**4.96**	**217**	*e*P	**Pn**	**22 19 45.3**	**-0.3**
ASHO	**Ashiyiah**	**4.99**	**236**	*i* P	**Pn**	**22 19 46.7**	**+0.7**
ASHO	SNR=30 **Ashiyiah**	**4.99**	**236**	P	**Pn**	**22 19 46.8**	**+0.7**
ASHO	SNR=30			S	**Sn**	**22 20 42.6**	**-1.3**
ASHO	**Ashiyiah**	**4.99**	**236**	*e*P	**Pn**	**22 19 46.4**	**+0.4**
SOHO	**SOHO**	**5.01**	**228**	P	**Pn**	**22 19 46.1**	**-0.2**
SOHO				S	**Sn**	**22 20 42.1**	**-2.2**
IKOO	**Kooshah**	**5.03**	**344**	*e*Pn	**Pn**	**22 19 48.9**	**+2.2**
IKOO	**Kooshah**	**5.03**	**344**	*e*P	**Pn**	**22 19 48.4**	**+1.7**
IKOO	comp=Z,1μm,0.8s			IAMB	IAmb	22 21 31.2	
SMDO	**Samad**	**5.05**	**208**	P	**Pn**	**22 19 47.9**	**+1.0**
SMDO	SNR=8.3			S	**Sn**	**22 20 43.3**	**-2.2**
NAZ	**Nazwa, Dubai**	**5.12**	**241**	*e*P	**Pn**	**22 19 51.0**	**+3.2**
WBK	**Wadi Bani Khal**	**5.16**	**197**	P	**Pn**	**22 19 49.3**	**+1.0**
WBK				S	**Sn**	**22 20 45.8**	**-2.1**
FAQ	**Al Faqa, Dubai**	**5.30**	**239**	*i* P	**Pn**	**22 19 52.9**	**+2.6**
FAQ	SNR=9.8 **Al Faqa, Dubai**	**5.30**	**239**	P	**Pn**	**22 19 53.4**	**+3.1**
FAQ	SNR=9.9			S	**Sn**	**22 20 53.6**	**+2.1**
FAQ	SNR=9.7 **Al Faqa, Dubai**	**5.30**	**239**	*e*P	**Pn**	**22 19 53.2**	**+2.9**

ITEG Tejag 5.54 344 *e*Pn **Pn 22 19 55.9 +2.2**
ITEG Tejag 5.54 344 *e*P **Pn 22 19 56.2 +2.5**
ITEG IAMB IAmb 22 21 44.6
comp=N,2μm,0.7s
ASUD Al Ashush, Dub 5.57 239 *i* P **Pn 22 19 57.1 +3.1**
SNR=71
ASUD Al Ashush, Dub 5.57 239 P **Pn 22 19 57.4 +3.5**
SNR=71
ASUD S **Sn 22 21 00.7 +2.6**
SNR=5.8
ASUD Al Ashush, Dub 5.57 239 *e*P **Pn 22 19 57.0 +3.1**
ALNE Al Ain 5.60 232 *i* P **Pn 22 19 56.5 +2.2**
SNR=15
ALNE Al Ain 5.60 232 *e*P **Pn 22 19 56.8 +2.5**
ARQ Araqi 5.60 222 P **Pn 22 19 58.4 +4.0**
ARQ S **Sn 22 21 01.9 +3.1**
SNR=6.9
AJN Ajban 5.87 240 *e*P **Pn 22 20 00.5 +2.5**
JHRM Jahrom 6.27 280 *e*P **Pn 22 20 06.8 +3.1**
TPRV Parvadeh(Tabas 6.40 329 *e*P **Pn 22 20 07.6 +2.2**
IMEH Mehriz 6.45 308 *e*P **Pn 22 20 10.2 +3.9**
IMEH IAMB IAmb 22 22 09.1
comp=Z,456nm,0.7s
TKDS Koohdasht(Taba 6.72 334 *e*P **Pn 22 20 12.2 +2.4**
TABS Tabas 6.75 335 *e*Pn **Pn 22 20 12.0 +1.7**
TABS Tabas 6.75 335 *e*P **Pn 22 20 12.8 +2.5**
TABS Tabas 6.75 335 *e*Pn **Pn 22 20 12.8 +2.5**
GHIR Ghir-Karzin 6.77 278 *e*Pn **Pn 22 20 13.0 +2.5**
GHIR Ghir-Karzin 6.77 278 *e*P **Pn 22 20 13.9 +3.4**
GHIR Ghir-Karzin 6.77 278 *e*Pn **Pn 22 20 13.9 +3.4**
YZKH Yazd 7.08 314 *e*P **Pn 22 20 18.0 +3.3**
YZKH Yazd 7.08 314 *e*Pn **Pn 22 20 18.0 +3.3**
IKAZ Kazeroun 8.00 288 *e*P **Pn 22 20 29.9 +2.3**
JRKH Jarkhoshk 8.31 359 *e*P **Pn 22 20 34.8 +3.1**
KBL Kabul 10.03 44 *e*Pn Pn 22 20 49.4 -6.0
KBL Kabul 10.03 44 *e*P Pn 22 20 49.4 -6.0
GEYT Alibeck 10.53 349 LR LR 22 25 01.1
comp=Z,51nm,21.2s,baz=110,slow=37
GYA0B ALIBECK ARRAY 10.53 349 *e*Pn **Pn 22 21 01.8 -0.2**
NIL Nilore 12.46 58 *e*Pn **Pn 22 21 28.7 +0.2**
NIL Nilore 12.46 58 *e*P **Pn 22 21 28.7 +0.2**
NIL Nilore 12.46 58 *e*Pn **Pn 22 21 28.7 +0.2**
CHGR Chuyangaron 13.17 31 *e*Pn **Pn 22 21 38.1 -0.1**
GAR Garm 13.98 33 *e*Pn **Pn 22 21 49.1 -0.2**
GAR Garm 13.98 33 *e*P **Pn 22 21 49.1 -0.2**
LKRN Lenkeran, Azer 14.86 321 P **Pn 22 22 03.7 +2.6**
BTK Batken 15.06 32 *e*Pn **Pn 22 22 05.1 +1.2**
BTK Batken 15.06 32 *e*P **Pn 22 22 05.1 +1.2**
NAX Nakhchivan 17.09 316 P **P 22 22 33.6 +1.8**
MNGR Mingechevir, A 17.24 323 P **P 22 22 34.5 +1.2**
KK31 Karatay Array 17.46 25 *e*Pn **Pn 22 22 30.6 -3.9**
comp=Z,3.0nm,1.1s
KK31 Karatay Array 17.46 25 *e*P **Pn 22 22 30.6 -3.9**
KK31 pmax pmax
comp=Z,3.0nm,1.1s
KKAR Karatay Array 17.46 25 *e*Pn **Pn 22 22 30.9 -3.6**
KKAR *e*Pn **P 22 22 31.6 -4.2**
KKAR Karatay Array 17.46 25 *e*P **Pn 22 22 31.0 -3.6**
KSH Kashi 17.47 43 P **Pn 22 22 31.6 -3.2**
KSH pmax pmax
comp=Z,140nm,3.5s
KSH LR LR
comp=Z,370nm,8.7s
KSH LR LR
comp=Z,220nm,10.3s
KSH LR LR
comp=Z,170nm,6.5s
SEKA Sheki 17.50 324 P **P 22 22 36.8 +0.5**
GANJ Ganja 17.57 322 P **P 22 22 38.7 +1.7**
AML Almayashu 18.03 33 P **Pn 22 22 41.9 -0.2**
SNR=24
ZKTA Zakatala 18.11 324 P **P 22 22 44.9 +2.0**
GNI Garni 18.15 318 *e*P **P 22 22 47.7 +4.1**
comp=Z,7.0nm,0.8s
GNI Garni 18.15 318 P **P 22 22 45.4 +1.9**
SNR=7.0
GNI Garni 18.15 318 P **P 22 22 46.9 +3.4**
comp=Z,0.3nm,0.3s,baz=30,slow=1.8,SNR=12
GNI LR LR 22 29 53.3
comp=Z,34nm,20.1s,baz=106,slow=38
EKS2 Erkin-Say 18.48 32 P **Pn 22 22 47.1 -0.1**
SNR=16
UCH Uchtor 18.51 34 P **P 22 22 47.1 -0.7**
SNR=7.4
NRN Naryn 18.73 38 *e*P **P 22 22 47.2 -2.9**
comp=Z,1.9nm,0.9s
NRN Naryn 18.73 38 *e*P **P 22 22 47.2 -2.9**
NRN pmax pmax
comp=Z,2.0nm,0.9s
KZA Kyzart 18.78 36 P **Pn 22 22 52.6 +1.4**
SNR=22
AAK Ala-Archa 18.80 33 *e*P **P 22 22 49.6 -1.2**
comp=Z,5.4nm,0.8s
AAK Ala-Archa 18.80 33 *c e*P **Pn 22 22 50.8 -0.5**
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 18.80 33 P **Pn 22 22 50.8 -0.5**
SNR=13
AAK Ala-Archa 18.80 33 P **P 22 22 50.3 -0.5**
comp=Z,0.2nm,0.3s,baz=196,slow=8.8,SNR=21
AAK LR LR 22 30 29.3
comp=Z,78nm,18.7s,baz=224,slow=38
FRU1 Bishkek 19.00 33 *e*P **P 22 22 51.1 -1.8**
comp=Z,7.7nm,1.0s
FRU1 Bishkek 19.00 33 *e*P **P 22 22 51.1 -1.8**
FRU1 pmax pmax
comp=Z,8.0nm,1.0s
ULHL Ulahol 19.42 37 P **Pn 22 22 58.0 -0.7**
SNR=13
TKM2 Tokmak 2 19.56 35 P **P 22 22 58.9 -0.2**
SNR=16
AKH Akhalkalaki 19.68 319 *e*P **Pn 22 23 01.8 0.0**
comp=Z,5.0nm,1.0s
AKH Akhalkalaki 19.68 319 *e*P **Pn 22 23 01.8 0.0**
AKH pmax pmax
comp=Z,5.0nm,1.0s
PYUN Piuthan 19.81 83 *e*P **Pn 22 23 06.9 +3.4**
comp=Z,30nm,1.2s
KDJ Kajisay 19.85 39 *e*P **P 22 23 01.8 -0.5**
comp=Z,16nm,0.9s
KDJ Kajisay 19.85 39 *e*P **P 22 23 01.8 -0.5**
KDJ pmax pmax
comp=Z,16nm,0.9s
ZEI Tsey 20.35 323 *e*P Pn 22 23 09.5 -0.3
ZEI pmax pmax
comp=Z,11nm,0.8s
DANN Dangsing 20.48 82 *e*P Pn 22 23 11.1 -0.3
comp=Z,50nm,0.9s
PRZ Przheval'sk 20.77 40 *e*P **P 22 23 11.7 -0.5**
comp=Z,5.4nm,1.0s
PRZ Przheval'sk 20.77 40 *e*P **P 22 23 11.7 -0.5**
PRZ pmax pmax
comp=Z,5.0nm,1.0s
ASF Jabal al Asfar 21.04 288 P **P 22 23 16.2 +1.1**
comp=Z,3.0nm,0.7s,baz=69,slow=6.2,SNR=8.1
GKN Gorkha 21.27 83 *e*P **P 22 23 21.0 +3.2**
comp=Z,13nm,0.9s
KBZ Khabaz 21.53 323 P **P 22 23 21.1 +1.0**
comp=Z,2.6nm,0.9s,baz=136,slow=8.2,SNR=8.8
ABKAR Akbulak array 21.65 359 *e*P **P 22 23 21.5 0.0**
ABKAR *e*P **P 22 23 21.8 +0.4**
DMN Daman 21.72 84 *e*P **P 22 23 27.5 +4.8**
comp=Z,36nm,1.4s
KVAR Kislovodsk Arr 21.79 323 P **P 22 23 25.6 +2.5**
comp=Z,1.0nm,0.4s,baz=87,slow=9.1,SNR=4.8
KIV Kislovodsk 21.79 323 *e*P **P 22 23 24.9 +1.7**
comp=Z,5.7nm,0.8s
KIV Kislovodsk 21.79 323 *e*P **P 22 23 24.9 +1.7**
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV Kislovodsk 21.79 323 P **P 22 23 25.1 +1.9**
SNR=5.8
KKN Kakani 21.86 84 *e*P **P 22 23 27.5 +3.4**
comp=Z,30nm,1.2s
PKI Pulchoki 21.99 84 *e*P **P 22 23 29.5 +3.8**
comp=Z,6.7nm,0.6s
MMAI Mount Meron Ar 22.39 290 P **P 22 23 32.1 +2.4**
comp=Z,0.9nm,0.5s,baz=99,slow=11,SNR=4.4
MMAI LR LR 22 34 06.0
comp=Z,59nm,18.9s,baz=235,slow=42
EIL Elat 22.59 281 P **P 22 23 33.0 +1.2**
comp=Z,5.7nm,0.8s,baz=70,slow=9.0,SNR=6.4
JIRN Jiri 22.67 84 *e*P **P 22 23 35.4 +2.4**
comp=Z,14nm,0.6s
AKTO Aktyubinsk 22.91 356 P **P 22 23 34.1 -0.8**
comp=Z,1.2nm,0.4s,baz=183,slow=11,SNR=7.1
RAMN Ramite 23.12 86 *e*P **P 22 23 42.2 +4.7**
comp=Z,16nm,1.0s
BR101 Keskin Array S 25.40 305 *e*P **P 22 23 59.0 +0.2**
BR131 Keskin Array S 25.40 305 *e*P **P 22 23 57.6 -1.2**
comp=Z,2.1nm,0.8s
BRTR Keskin Array B 25.40 305 *e*P **P 22 23 56.2 -2.5**
BRTR Keskin Array B 25.40 305 P **P 22 23 59.0 +0.2**
BRTR Keskin Array B 25.40 305 P **P 22 23 59.0 +0.2**
comp=Z,1.6nm,0.8s,baz=116,slow=11,SNR=14
MAKZ Makanchi 25.52 36 *e*P **P 22 23 59.1 -0.6**
comp=Z,4.6nm,1.0s
MK32 Makanchi Array 25.68 36 *e*P **P 22 24 00.3 -0.8**
MKAR Makanchi Array 25.68 36 *e*P **P 22 23 60.0 -1.1**
MKAR Makanchi Array 25.68 36 P **P 22 24 00.3 -0.8**
comp=Z,2.0nm,0.7s,baz=222,slow=6.5,SNR=22
MKAR LR LR 22 35 27.5
comp=Z,56nm,18.9s,baz=221,slow=40
BVAR Borovoye Array 26.45 13 P **P 22 24 07.8 -0.1**
comp=Z,5.7nm,0.7s,baz=195,slow=11,SNR=36
BRVK Borovoye 26.45 13 *e*P **P 22 24 06.1 -1.9**
comp=Z,6.5nm,1.0s
BRVK Borovoye 26.45 13 *c e*P **P 22 24 08.2 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
KURBB Kurchatov Arra 26.76 26 P **P 22 24 10.3 -0.4**
comp=Z,6.0nm,0.8s,baz=222,slow=8.6,SNR=52
KURK Kurchatov 26.87 26 *e*P **P 22 24 10.6 -1.1**
comp=Z,5.6nm,0.8s
KURK Kurchatov 26.87 26 *c e*P **P 22 24 11.7 0.0**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 26.87 26 P **P 22 24 11.7 0.0**
SNR=10
WMQ Urumqi 27.16 46 *e*P **P 22 24 16.2 +1.6**
WMQ pP sP 22 24 28.9 +10
WMQ LR LR
comp=Z,210nm,24.7s
WMQ LR LR
comp=Z,180nm,16.9s
ZAA0 Zalesovo Array 31.80 27 *e*P **P 22 24 54.6 -0.9**
comp=Z,4.1nm,0.7s
ZALV Zalesovo Beam 31.80 27 *e*P **P 22 24 53.6 -1.8**
ZALV Zalesovo Beam 31.80 27 *e*P **P 22 24 54.6 -0.9**
ZALV Zalesovo Beam 31.80 27 P **P 22 24 54.4 -1.1**
comp=Z,3.1nm,0.4s,baz=234,slow=11,SNR=17
ZALV LR LR 22 40 38.4
comp=Z,27nm,19.1s,baz=259,slow=42
ZAA1 Zalesovo Array 31.80 27 *e*P **P 22 24 54.4 -1.1**
NVS Novosibirsk 31.84 25 *i* P **P 22 24 55.5 -0.3**
AKASG Malin Array Be 33.14 323 P **P 22 25 06.2 -1.1**
comp=Z,2.8nm,0.6s,baz=124,slow=8.4,SNR=13
KIEV Kiev 33.14 323 *e*P **P 22 25 06.5 -0.8**
comp=Z,6.4nm,0.6s
GTA Gaotai 34.52 60 *e*P **P 22 25 21.1 +1.5**
GTA pP sP 22 25 32.8 +8.4
GTA sP pP 22 25 37.1 +14
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA pmax pmax
comp=Z,42nm,6.7s
GTA LR LR
comp=Z,90nm,18.4s
GTA LR LR
comp=Z,88nm,15.9s
KLMR Klimovskoe 36.20 343 *e*P **P 22 25 31.4 -2.1**
KLMR pmax pmax
comp=Z,10.0nm,1.4s
CMAR Chiang Mai Arr 36.32 96 LR LR 22 44 14.8
comp=Z,31nm,20.5s,baz=233,slow=42
KOLS Kolonicke sedl 36.35 316 *e*P **P 22 25 35.3 +0.2**
KOLS Kolonicke sedl 36.35 316 *e*P **P 22 25 35.3 +0.2**
LZH Lanzhou 37.46 66 *e*P **P 22 25 46.2 +1.3**
LZH pP sP 22 25 58.7 +9.0
LZH sP pP 22 26 05.2 +17
LZH PP **PnPn 22 27 12.8 +1.8**
LZH pmax pmax
comp=Z,13nm,1.3s
LZH pmax pmax
comp=Z,97nm,4.9s
CD2 Chengdu 37.64 74 *e*P **P 22 25 43.6 -2.7**
VYHS Vyhne 38.34 314 *e*P **P 22 25 51.0 -1.0**
VYHS Vyhne 38.34 314 *e*P **P 22 25 51.0 -1.0**
SONA0 Songino Array 40.78 48 *e*P **P 22 26 13.4 +0.9**
SONM Songino Array 40.78 48 P **P 22 26 13.4 +0.9**
comp=Z,2.1nm,0.8s,baz=257,slow=9.7,SNR=16
SONM LR LR 22 43 36.5
comp=Z,36nm,18.1s,baz=195,slow=37
FIA0 FINESS Array S 40.95 335 *e*P **P 22 26 12.6 -0.9**
FIA1 FINESS Array S 40.95 335 *e*P **P 22 26 12.6 -0.9**
comp=Z,6.7nm,1.0s
FINES FINESS Array B 40.95 335 P **P 22 26 12.6 -0.9**
comp=Z,1.9nm,0.6s,baz=134,slow=8.2,SNR=15
FINES LR LR 22 43 55.1
comp=Z,40nm,20.1s,baz=342,slow=37
XAN Xi'an 41.70 69 P **P 22 26 20.4 +0.3**
XAN pP sP 22 26 28.8 +3.9
XAN pmax pmax
comp=Z,5.0nm,1.1s
GEC2 GERESS Array S 41.72 314 *e*P **P 22 26 18.3 -1.9**
comp=Z,3.4nm,1.0s
GERES GERESS Array B 41.72 314 P **P 22 26 18.3 -1.9**
comp=Z,1.0nm,0.7s,baz=108,slow=7.2,SNR=11
CLL Collm 42.76 317 *e*P **P 22 26 28.0 -0.4**
BSD Bornholm Skovb 42.84 323 *i* P **P 22 26 26.9 -2.1**
BSD pmax pmax
comp=Z,5.0nm,0.8s
BSD Bornholm Skovb 42.84 323 *i* P **P 22 26 26.9 -2.1**
comp=Z,5.3nm,0.8s
HHC Hu-ho-hao-te 43.61 59 *e*P **P 22 26 33.0 -2.6**
HHC pmax pmax
comp=Z,13nm,1.0s
NRIK Noril'sk 44.66 13 P **P 22 26 43.2 -0.3**
comp=Z,3.7nm,0.9s,baz=212,slow=6.6,SNR=6.2
NRIK LR LR 22 46 58.4
comp=Z,31nm,18.4s,baz=194,slow=38
ARA0 ARCESS Array S 46.64 344 *e*P **P 22 26 58.0 -1.2**
ARCES ARCESS Array B 46.64 344 P **P 22 26 58.0 -1.2**
comp=Z,2.3nm,0.8s,baz=138,slow=9.2,SNR=10
NB2 NORSAR Subarra 46.88 330 P **P 22 26 59.8 -1.4**
comp=Z,0.9nm,0.6s,baz=113,slow=7.9
NOA NORSAR Array B 46.88 330 P **P 22 27 00.0 -1.2**
comp=Z,1.4nm,0.7s,baz=118,slow=7.4,SNR=5.0
BOD Bodaibo 47.77 35 *e*P **P 22 27 08.0 -0.1**
BOD pmax pmax
comp=Z,6.0nm,1.1s
HIA Hailar 49.75 47 *e*P **P 22 27 23.3 -0.2**
ESDC Sonseca Array 54.05 301 P **P 22 27 54.3 -1.4**
comp=Z,0.4nm,0.6s,baz=68,slow=6.9,SNR=4.7
KS15 Wonju Array Si 56.53 62 *e*P **P 22 28 13.4 -0.2**
comp=Z,4.3nm,0.8s
KS15 *e*P **P 22 28 13.4 -0.2**
KSRS Korea Array 56.56 62 P **P 22 28 13.4 -0.4**
comp=Z,2.9nm,0.7s,baz=276,slow=7.2,SNR=14
TOA1 Torodi Ar. Sit 56.58 268 *e*P **P 22 28 13.4 -0.9**
TORD Torodi Ar. Bea 56.58 268 P **P 22 28 13.4 -0.9**
comp=Z,1.4nm,0.5s,baz=57,slow=6.9,SNR=16
TIXI Tiksi 57.26 20 *e*P **P 22 28 17.2 -1.0**
TIXI *e*P **P 22 28 17.5 -0.7**
TIXI Tiksi 57.26 20 *c e*P **P 22 28 17.8 -0.4**
TIXI pmax pmax
comp=Z,1.0nm,0.6s
TIXI Tiksi 57.26 20 P **P 22 28 17.2 -1.0**
comp=Z,1.5nm,0.5s,baz=296,slow=4.2,SNR=9.9
BOSA Boshof 65.34 214 P **P 22 29 14.5 +0.9**
comp=Z,1.1nm,0.6s,baz=0.0,slow=2.0,SNR=3.4
SEY Seymchan 66.62 30 P **P 22 29 21.4 +0.1**
comp=Z,1.9nm,0.8s,baz=280,slow=7.2,SNR=7.4
INK Inuvik 83.83 5 *e*P **P 22 31 00.2 -0.1**
comp=Z,2.3nm,1.1s
INK Inuvik 83.83 5 P **P 22 31 00.2 -0.1**
comp=Z,1.3nm,0.9s,baz=346,slow=11,SNR=4.1
IL1 Eielson Array 85.50 11 *e*P **P 22 31 08.2 -0.7**
ILAR Eielson Array 85.50 11 P **P 22 31 08.2 -0.7**
comp=Z,0.6nm,0.9s,baz=317,slow=4.0,SNR=4.2
WRA Warramunga Arr 85.55 115 P **P 22 31 09.6 -0.1**
comp=Z,0.5nm,0.4s,baz=318,slow=4.0,SNR=3.6
WR1 Warramunga Arr 85.55 115 *e*P **P 22 31 09.6 -0.1**
ASAR Alice Springs 87.14 118 P **P 22 31 17.5 -0.1**
comp=Z,0.5nm,0.6s,baz=290,slow=3.9,SNR=4.1
YKA Yellowknife Ar 90.16 358 P **P 22 31 30.9 -0.3**
comp=Z,1.5nm,1.0s,baz=359,slow=4.7,SNR=13
YKB5 Yellowknife Ar 90.16 358 *e*P **P 22 31 30.9 -0.3**
VNDA Vanda 119.15 166 PKP **PKiKP 22 37 20.4 +1.1**
comp=Z,0.3nm,0.5s,baz=214,slow=3.6,SNR=5.3

IDC 01 22:20:48.4±3.4, **10°.17S**×**118°.70E**, **h0**km, **mb3.1**/1, **mb1 3.3**/2, **mb1mx3.1**/40, **mbtmp3.1**/2, **ML5.3**/1, **Error ellipse: s-maj=262.5km s-min=27.8km az=49.0, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.94**	**125**	P	Pn	22 24 59.2	-0.3
12nm,0.3s,baz=297,slow=13,SNR=6.4							
WRA				S	Sn	22 28 06.7	-14
3.7nm,0.3s,baz=284,slow=25,SNR=4.1							
ASAR	**Alice Springs**	**19.76**	**135**	P	P	22 25 20.6	+0.4
0.1nm,0.3s,baz=310,slow=12,SNR=8.6							
MKAR	**Makanchi Array**	**65.36**	**333**	P	P	22 31 32.5	0.0
0.1nm,0.4s,baz=137,slow=8.3,SNR=2.9							

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*ISCJB **01** 22:31:02.5±1.4, 13°.3N±0°.2×144°.7E±0°.3, h129km, mb3.4/6, Error ellipse: s-maj=40.0km s-min=22.9km az=7.0*
*IDC **01** 22:31:12.9±10.0, 13°.30N×144°.64E, h214km±104km, mb3.1/6, mb1 3.3/6, mb1mx2.9/49, mbtmp3.6/6, Error ellipse: s-maj=31.9km s-min=19.5km az=96.0*
ISC 01 22:31:04.4±1.4, **13°.3N**±0°.2×**144°.7E**±0°.3, **h129**km, **n6**, **σ0973/6**, **mb3.5/6**, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**23.83**	**347**	P	**P**	**22 36 06.6**	**+1.0**
1.1nm,0.6s,baz=170,slow=7.8,SNR=3.2							
WRA	**Warramunga Arr**	**34.59**	**197**	P	**P**	**22 37 41.3**	**+0.2**
0.2nm,0.3s,baz=23,slow=9.2,SNR=2.0							
CMAR	**Chiang Mai Arr**	**44.18**	**283**	P	**P**	**22 39 00.9**	**0.0**
0.9nm,0.7s,baz=80,slow=6.0,SNR=5.8							
MKAR	**Makanchi Array**	**61.54**	**316**	P	**P**	**22 41 07.4**	**-0.5**
0.3nm,0.5s,baz=110,slow=7.1,SNR=3.9							
KURBB	**Kurchatov Arra**	**64.69**	**320**	P	**P**	**22 41 28.1**	**-0.5**
0.5nm,0.3s,baz=105,slow=7.3,SNR=4.7							
ILAR	**Eielson Array**	**68.88**	**25**	P	**P**	**22 41 54.6**	**-0.3**
0.2nm,0.4s,baz=248,slow=6.0,SNR=3.9							

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*NIED **01** 22:36:00, 37°.40N×141°.50E, h38km, Mw3.9 Best double couple: M0:6.89000×10^14 NP1:φ0=119.00000°, δ14.00000°, λ-21.00000°. NP2:φ0=230.00000°, δ85.00000°, λ-103.00000°.*
*IDC **01** 22:36:22.3±0.8, 37°.36N×141°.25E, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.9/40, mbtmp3.9/18, ML3.9/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/39, Error ellipse: s-maj=17.9km s-min=12.9km az=132.0*
*ISCJB **01** 22:36:24.0±0.8, 37°.41N±0°.03×141°.51E±0°.05, h25km±5km, mb3.9/20, Error ellipse: s-maj=7.1km s-min=4.3km az=22.2*
*NEIC **01** 22:36:25.8±1.8, 37°.43N×141°.33E, h22km±6km, mb4.2/8, Error ellipse: s-maj=17.4km s-min=11.6km az=130.0*
NEIC Recorded [2 JMA] in Fukushima.
*JMA **01** 22:36:26.0±0.1, 37°.40N×141°.37E, h33km±1km, M3.9*
JMA Felt II J1.
ISC 01 22:36:23.8±1.6, **37°.41N**±0°.04×**141°.48E**±0°.06, **h10**km±9km, **n59**, **σ1905/63**, **mb3.9/20**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**265**	P	**Pb**	**22 36 34.9**	**+0.5**
JFK				S	**Sb**	**22 36 40.8**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.62**	**241**	P	**Pb**	**22 36 36.9**	**+0.1**
ONAJ				S	**Sg**	**22 36 44.4**	**+0.3**
JMM	**Marumori**	**0.71**	**310**	P	**Pb**	**22 36 38.5**	**+0.3**
JMM				S	**Sb**	**22 36 47.1**	**-1.0**
JFFD	**Fukushimafurud**	**0.80**	**247**	P	**Pb**	**22 36 39.6**	**-0.2**
JFFD				S	**Sg**	**22 36 49.0**	**-0.6**
JFT	**Otama**	**0.92**	**277**	P	**Pn**	**22 36 42.0**	**-0.7**
JFT				S	**Sg**	**22 36 53.1**	**-0.2**
JIO	**Ouri**	**1.05**	**354**	P	**Pn**	**22 36 44.0**	**-0.5**
JIO				*e*S	**Sb**	**22 36 57.0**	**-0.8**
JHO	**Hitachi**	**1.08**	**223**	P	**Pb**	**22 36 43.1**	**-1.5**
JOU	**Okura**	**1.15**	**326**	P	**Pg**	**22 36 46.0**	**+0.1**
JOU				*e*S	**Sg**	**22 37 00.6**	**-0.3**
JYS	**Shiratake**	**1.38**	**306**	P	**Pb**	**22 36 49.4**	**-0.3**
JYS				S	**Sb**	**22 37 06.8**	**-0.6**
JFY	**Yanaizu**	**1.41**	**270**	P	**Pb**	**22 36 49.5**	**-0.8**
JFY				*e*S	**Sn**	**22 37 07.1**	**-1.2**
MJAR	**Matsushiro Arr**	**2.76**	**253**	*e*Pn	**Pn**	**22 37 08.2**	**+0.1**
MJAR	**Matsushiro Arr**	**2.76**	**253**	Pg	**Pn**	**22 37 08.6**	**+0.5**
1.1nm,0.3s,baz=82,slow=16,SNR=42							
MJAR				Lg	Lg	22 37 42.7	
1.1nm,0.3s,baz=85,slow=18,SNR=5.3							
MAJO	**Matsushiro**	**2.76**	**253**	*e*Pn	**Pn**	**22 37 09.5**	**+1.3**
MAJO				*e*Lg	Lg	22 37 42.7	
MAT	**Matsushiro**	**2.76**	**253**	P	**Pn**	**22 37 09.1**	**+1.0**
MAT				S	**Sn**	**22 37 43.4**	**+1.9**
MJB9	**Matsu-Tunnel**	**2.76**	**253**	*e*Pn	**Pn**	**22 37 09.9**	**+1.8**
INU	**Inuyama**	**4.15**	**242**	*e*Pn	**Pn**	**22 37 28.9**	**+1.8**
JHJ2	**Mitsune**	**4.50**	**198**	*e*Pn	**Pn**	**22 37 33.5**	**+1.5**
JHJ	**Hachijo jima 2**	**4.50**	**198**	Pn	**Pn**	**22 37 32.2**	**+0.2**
9.5nm,0.3s,baz=66,slow=20,SNR=5.6							
JHJ				Sn	**Sn**	**22 38 21.6**	**-2.9**
36nm,0.3s,baz=72,slow=23,SNR=4.7							
ERM	**Erimo**	**4.78**	**15**	*e*Pn	**Pn**	**22 37 36.5**	**+0.7**
ASAJ	**Asahikawa**	**6.75**	**7**	Pn	**Pn**	**22 38 03.3**	**+0.4**
2.7nm,0.3s,baz=212,slow=8.9,SNR=13							
ASAJ				Sn	**Sn**	**22 39 19.1**	**-0.7**
0.8nm,0.3s,baz=198,slow=19,SNR=2.2							
USRK	**Ussuriysk Ar.**	**9.88**	**316**	Pn	**Pn**	**22 38 46.4**	**+0.6**
0.2nm,0.3s,baz=142,slow=14,SNR=2.9							
KSRS	**Korea Array**	**10.78**	**274**	LR	LR	22 42 51.0	
comp=Z,45nm,18.2s,baz=129,slow=37							
KLR	**Kul'dur**	**13.76**	**332**	LR	LR	22 44 46.2	
comp=Z,36nm,18.2s,baz=106,slow=37							
PETK	**Petropavlovsk-**	**19.34**	**31**	*e*P	**P**	**22 40 49.3**	**+0.2**
MA2	**Magadan**	**22.97**	**12**	P	**P**	**22 41 27.9**	**-0.3**
2.1nm,0.3s,baz=199,slow=8.4,SNR=5.5							
SEY	**Seymchan**	**26.41**	**11**	P	**P**	**22 42 02.0**	**+1.8**
4.3nm,0.3s,baz=204,slow=16,SNR=20							
SONA0	**Songino Array**	**27.62**	**303**	*e*P	**P**	**22 42 10.1**	**-1.3**
SONM	**Songino Array**	**27.62**	**303**	P	**P**	**22 42 10.1**	**-1.3**
1.1nm,0.7s,baz=98,slow=8.2,SNR=5.6							
H11N2	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	23 12 33.3	
baz=315,slow=75,SNR=40							
H11N1	**WAKE ISLAND Hy**	**28.31**	**122**	T	T	23 12 32.0	
baz=315,slow=75,SNR=77							
H11N3	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	23 12 34.7	
baz=315,slow=75,SNR=59							
H11S1	**WAKE ISLAND Hy**	**29.02**	**124**	T	T	23 13 27.6	
baz=316,slow=76,SNR=59							
H11S3	**WAKE ISLAND Hy**	**29.02**	**124**	T	T	23 13 27.8	
baz=316,slow=76,SNR=54							
H11S2	**WAKE ISLAND Hy**	**29.04**	**124**	T	T	23 13 23.7	
baz=316,slow=76,SNR=58							
CM31	**Chiang Mai Arr**	**41.64**	**255**	*e*P	**P**	**22 44 14.8**	**+2.4**
2.7nm,0.4s							
ZAA1	**Zalesovo Array**	**41.70**	**312**	*e*P	**P**	**22 44 11.6**	**-0.9**
ZALV	**Zalesovo Beam**	**41.70**	**312**	*e*P	**P**	**22 44 11.7**	**-0.8**
ZALV	**Zalesovo Beam**	**41.70**	**312**	P	**P**	**22 44 11.6**	**-0.9**
2.1nm,0.7s,baz=74,slow=6.1,SNR=9.9							
MK32	**Makanchi Array**	**43.96**	**302**	*e*P	**P**	**22 44 30.5**	**-0.5**
MKAR	**Makanchi Array**	**43.96**	**302**	P	**P**	**22 44 30.5**	**-0.5**
1.5nm,0.6s,baz=89,slow=10,SNR=17							
KURK	**Kurchatov**	**45.74**	**308**	*e*P	**P**	**22 44 44.3**	**-0.7**
6.2nm,1.1s							
ILAR	**Eielson Array**	**49.15**	**33**	P	**P**	**22 45 12.2**	**+0.9**
0.4nm,0.7s,baz=271,slow=6.4,SNR=5.5							
ILB	**Eielson Array**	**49.15**	**33**	*e*P	**P**	**22 45 12.2**	**+0.9**
WR1	**Warramunga Arr**	**57.44**	**188**	*e*P	**P**	**22 46 12.0**	**-0.8**
WRA	**Warramunga Arr**	**57.44**	**188**	P	**P**	**22 46 12.0**	**-0.8**
0.6nm,0.5s,baz=4.8,slow=7.5,SNR=2.4							
ABKAR	**Akbulak array**	**57.74**	**310**	*e*P	**P**	**22 46 13.6**	**-1.0**
1.1nm,0.8s							
AS31	**Alice Springs**	**61.17**	**188**	*e*P	**P**	**22 46 38.0**	**-0.6**
0.8nm,0.9s							
ASAR	**Alice Springs**	**61.17**	**188**	P	**P**	**22 46 38.0**	**-0.6**
0.3nm,0.6s,baz=7.0,slow=8.4,SNR=3.6							
YKA	**Yellowknife Ar**	**63.45**	**30**	P	**P**	**22 46 55.0**	**+1.5**
0.3nm,0.7s,baz=303,slow=6.1,SNR=3.3							
YKB5	**Yellowknife Ar**	**63.45**	**30**	*e*P	**P**	**22 46 55.0**	**+1.5**
FIA0	**FINESS Array S**	**68.50**	**332**	*e*P	**P**	**22 47 25.1**	**-0.8**
FINES	**FINESS Array B**	**68.50**	**332**	P	**P**	**22 47 25.1**	**-0.8**
0.9nm,0.5s,baz=40,slow=8.6,SNR=11							
KBZ	**Khabaz**	**70.70**	**311**	P	**P**	**22 47 40.0**	**+0.2**
0.8nm,0.7s,baz=84,slow=9.2,SNR=3.5							
NOA	**NORSAR Array B

AKASG	**Malin Array Be**	74.03	322	P		**P**	**22 47 58.4**	**-1.2**
	0.4nm,0.4s,baz=47,slow=6.2,SNR=8.1							
AKBB	**Malin Array Si**	**74.03**	**322**	***eP***		**P**	**22 47 58.4**	**-1.2**
	2.1nm,1.0s							
GERES	**GERESS Array B**	**82.42**	**328**	P		**P**	**22 48 46.5**	**+0.3**
	0.2nm,0.5s,baz=47,slow=4.6,SNR=2.6							
LTX	**Lajitas**	**89.85**	**52**	***eP***		**P**	**22 49 24.1**	**+0.9**
TXAR	**Lajitas Array**	**89.85**	**52**	P		**P**	**22 49 24.1**	**+0.9**
	0.1nm,0.4s,baz=349,slow=1.9,SNR=3.7							

KRSC 01 22:36:55.3±10.0, 49°.73N×157°.88E, h47km±10km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.48**	**311**	***eP***		Pn	22 37 20.6	+1.2
SKR				*eS*		Sn	22 37 38.5	+1.0
PAU	**Pauzhetka**	**1.86**	**339**	***eP***		Pn	22 37 27.4	+2.7
PAU				*eS*		Sn	22 37 50.0	+3.0
ALID	**Alaid**	**1.88**	**308**	***eP***		Pn	22 37 27.2	+2.2
KDTR	**Khodutka, Kamc**	**2.08**	**3**	***eP***		Pn	22 37 29.2	+1.5
KDTR				*eS*		Sn	22 37 54.2	+1.8
ASAK	**Asacha**	**2.65**	**0**	***eP***		Pn	22 37 37.7	+2.1
RUS	**Russkaya**	**2.73**	**8**	***eP***		Pn	22 37 39.9	+3.3
RUS				*eS*		Sn	22 38 12.5	+4.1
MTVR	**Mutnovka**	**2.76**	**4**	***eP***		Pn	22 37 41.2	+4.1
MTVR				*eS*		Sn	22 38 14.3	+5.0
KRMR	**Karymshinskiy**	**3.10**	**3**	***eP***		Pn	22 37 44.8	+3.1
KRMR				*eS*		Sn	22 38 20.2	+2.7
APC	**Apacha**	**3.23**	**352**	***eP***		Pn	22 37 48.6	+5.2
DALK	**Dalny**	**3.35**	**9**	***eP***		Pn	22 37 49.9	+4.9
AVH	**Avacha**	**3.58**	**8**	***eP***		Pn	22 37 51.7	+3.4
SDLR	**Sedlovina**	**3.61**	**10**	***eP***		Pn	22 37 50.6	+1.9
KRER	**Koryakskii**	**3.62**	**8**	***eP***		Pn	22 37 53.7	+4.8
KRX	**Arik**	**3.66**	**7**	***eP***		Pn	22 37 52.1	+2.6
KBTR	**Krutoberegovo**	**7.14**	**23**	***eP***		Pn	22 38 40.6	+3.6

*ISK **01** 22:41:22.8, 37°.32N×37°.09E, h7km, ML1.9/7*
*ISCJB **01** 22:41:23.4±0.6, 37°.29N±0°.03×37°.10E±0°.03, h1km±5km, Error ellipse: s-maj=5.1km s-min=3.4km az=18.9*
*DDA **01** 22:41:23.0, 37°.31N×37°.09E, h2km±3km, ML2.8*
ISC 01 22:41:23.5±0.9, 37°.30N±0°.03×37°.11E±0°.02, h9km±7km, n21, σ0s62/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**146**	PG		**Pg**	**22 41 26.6**	**-0.3**
GAZ				SG		**Sg**	**22 41 30.1**	**+0.9**
HCB	**Kahramanmara**	**0.16**	**286**	IAML_P			
	comp=Z,5μm,0.1s						
HCB				*i* P		**Pg**	**22 41 27.3**	**+0.3**
HCB				*i* S		**Sg**	**22 41 29.0**	**-0.5**
KMRS	**Kahramanmaras**	**0.26**	**322**	PG		**Pg**	**22 41 28.3**	**-0.5**
KMRS				SG		**Sg**	**22 41 31.9**	**-0.5**
AYKD	**Aykdinkavak**	**0.26**	**296**	IAML_P			
	comp=Z,7μm,0.1s						
AYKD				*i* P		**Pg**	**22 41 29.9**	**+1.1**
AYKD				*i* S		**Sg**	**22 41 32.3**	**-0.1**
KAMA	**Osmaniye**	**0.37**	**252**	IAML_P			
	comp=Z,6μm,0.1s						
KAMA				*i* P		**Pb**	**22 41 31.4**	**-0.8**
KAMA				*i* S		**Sg**	**22 41 36.1**	**+0.4**
GZT	**Gaziantep**	**0.37**	**81**	IAML_P			
	comp=Z,3μm,0.3s						
GZT				*i* P		**Pg**	**22 41 30.6**	**-0.2**
GZT				*i* S		**Sg**	**22 41 35.1**	**-0.6**
KUZU	**Kuzuini**	**0.53**	**183**	IAML_P			
	comp=Z,5μm,0.1s						
KUZU				*i* P		**Pb**	**22 41 34.5**	**-0.4**
KUZU				*i* S		**Sn**	**22 41 46.4**	**+0.2**
ANDN	**Andirin**	**0.67**	**295**	IAML_P			
	comp=Z,814nm,0.1s						
ANDN				*i* P		**Pb**	**22 41 36.3**	**-1.0**
ATAB	**Bozova**	**0.96**	**79**	IAML_P			
	comp=Z,6μm,0.2s						
ATAB				*i* P		**Pn**	**22 41 42.8**	**-0.4**
ATAB				*i* S		**Sb**	**22 41 56.3**	**+1.1**
ELBS	**KAHRAMANMARAS**	**1.02**	**1**	*i* P		**Pn**	**22 41 44.6**	**+0.5**
ELBS				*i* S		**Sn**	**22 41 59.0**	**+0.4**
KOZT	**Kozan**	**1.03**	**280**	PG		**Pb**	**22 41 42.8**	**-0.7**
KOZT				SG		**Sb**	**22 41 57.5**	**+0.3**
SAIM	**ADANA**	**1.06**	**310**	IAML_P			
	comp=Z,817nm,0.2s						
SAIM				*i* P		**Pn**	**22 41 44.0**	**-0.6**
SAIM				*i* S		**Sb**	**22 41 57.7**	**-0.2**
TAHT	**Tahtakopru-Hat**	**1.18**	**219**	PN		**Pb**	**22 41 45.9**	**-0.1**
TAHT				SN		**Sn**	**22 42 02.9**	**+0.6**
AKCD	**Akcadag**	**1.19**	**33**	IAML_P			
	comp=Z,702nm,0.1s						
AKCD				*i* P		**Pb**	**22 41 46.0**	**-0.2**
AKCD				*i* S		**Sn**	**22 42 02.4**	**-0.3**
SURC	**SANLIURFA_SURC**	**1.28**	**109**	IAML_P			
	comp=Z,364nm,0.1s						
SURC				*i* P		**Pg**	**22 41 47.5**	**-0.5**
SURC				*i* S		**Sb**	**22 42 04.6**	**+0.4**
DARE	**Darende-Malaty**	**1.30**	**13**	PN		**Pb**	**22 41 47.8**	**-0.4**
URFA	**Urfa**	**1.37**	**84**	PN		**Pn**	**22 41 49.1**	**+0.2**
CUGUR	**Gurin_SVAS**	**1.43**	**5**	*i* P		**Pg**	**22 41 51.8**	**+0.8**
YAHY	**KAYSERI_Yahyal**	**1.59**	**300**	IAML_P			
	comp=Z,81nm,0.2s						
YAHY				*i* P		**Pg**	**22 41 53.2**	**-0.9**
YAHY				*i* S		**Sg**	**22 42 15.9**	**+1.1**
HEKM	**Malatya_Hekimh**	**1.71**	**23**	IAML_P			
	comp=Z,221nm,0.3s						
HEKM				*i* P		**Pg**	**22 41 56.3**	**-0.1**
BNN	**Bunyan**	**1.84**	**328**	PN		**Pn**	**22 41 55.9**	**+0.5**

*THR **01** 22:53:37.5, 28°.20N×51°.67E, h17km, ML3.6*
*IDC **01** 22:53:37.2±1.2, 28°.21N×51°.59E, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.7/35, mbtmp3.8/14, ML3.3/3, MS4.0/1, Ms1 4.0/1, ms1mx2.4/39, Error ellipse: s-maj=28.1km s-min=16.6km az=162.0*
*ISCJB **01** 22:53:38.9±0.4, 28°.18N±0°.03×51°.65E±0°.04, h24km, mb3.7/12, MS4.0/1, Error ellipse: s-maj=6.0km s-min=3.6km az=144.3*
*TEH **01** 22:53:39.3, 28°.33N×51°.74E, h13km, ML3.7*
*OMAN **01** 22:53:44.6±0.8, 28°.28N×52°.02E, h24km, ml3.6/7, Error ellipse: s-maj=8.0km s-min=1.0km az=310.0*
ISC 01 22:53:40.7±0.6, 28°.25N±0°.05×51°.72E±0°.05, h24km, n43, σ1s31/50, mb3.7/12, 2C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.12**	**88**	*e*AML	AML	22 54 19.6	
	1μm,0.4s						
GHIR				*e*Pg	**Pn**	**22 53 59.3**	**-1.7**
GHIR				*e*Sg	**Sb**	**22 54 15.2**	**-0.5**
IKAZ	**Kazeroun**	**1.53**	**4**	IAMB	IAmb	22 54 34.7	
	comp=Z,15μm,0.7s						
IKAZ				*e*Pg	**Pn**	**22 54 06.5**	**-0.3**
SHI	**Shiraz**	**1.55**	**27**	IAMB	IAmb	22 54 11.0	
	comp=Z,6μm,0.7s						
SHI				*e*Pg	**Pn**	**22 54 07.7**	**+0.7**
SHI				*e*Sg	**Sb**	**22 54 27.9**	**-0.3**
JHRM	**Jahrom**	**1.66**	**81**	IAMB	IAmb	22 54 36.0	
	comp=Z,0.0nm,0.4s						
JHRM				*e*Pn	**Pb**	**22 54 09.7**	**-0.9**
ISRV	**Sarvestan**	**1.66**	**47**	IAMB	IAmb	22 54 41.9	
	comp=Z,8μm,0.6s						
ISRV				*e*Pg	**Pb**	**22 54 09.8**	**-1.1**
IRAM	**Ramesheh**	**3.59**	**9**	*e*Pn	**Pn**	**22 54 35.1**	**0.0**
IMEH	**Mehriz**	**4.01**	**38**	*e*Pn	**Pn**	**22 54 42.5**	**+1.6**
ISAD	**Sadrabad**	**4.03**	**25**	*e*Pn	**Pn**	**22 54 42.0**	**+0.8**
SHME	**Shamm**	**4.51**	**118**	*e*Pn	**Pn**	**22 54 48.7**	**+1.1**
NGRK	**Negar Kerman**	**4.61**	**71**	*e*Pn	**Pn**	**22 54 49.2**	**0.0**
IZEF	**Zefreh**	**4.66**	**6**	*e*Pn	**Pn**	**22 54 50.6**	**+0.8**
NAZ	**Nazwa, Dubai**	**4.80**	**132**	P	**Pn**	**22 54 52.9**	**+1.4**
	SNR=12						
NAZ				S	**Sn**	**22 55 47.2**	**+0.8**
YZKH	**Yazd**	**4.81**	**30**	*e*Pn	**Pn**	**22 54 52.6**	**+0.8**
YZKH	**Yazd**	**4.81**	**30**	*e*Pn	**Pn**	**22 54 52.6**	**+0.8**
ASUD	**Al Ashush, Dub**	**4.85**	**137**	P	**Pn**	**22 54 53.7**	**+1.5**
	SNR=9.4						
ASUD				S	**Sn**	**22 55 48.6**	**+1.0**
MSFE	**Esma-Masafi**	**4.90**	**125**	*e*Pn	**Pn**	**22 54 52.6**	**-0.4**
FAQ	**Al Faqa, Dubai**	**4.92**	**134**	P	**Pn**	**22 54 55.1**	**+1.8**
FAQ				S	**Sn**	**22 55 48.0**	**-1.5**
HATD	**Hatta, Dubai**	**5.22**	**130**	P	**Pn**	**22 54 59.8**	**+2.4**
HATD				S	**Sn**	**22 55 55.6**	**-1.3**
ASHO	**Ashiyiah**	**5.27**	**131**	P	**Pn**	**22 54 58.7**	**+0.7**
	SNR=5.4						
ASHO				S	**Sn**	**22 55 56.6**	**-1.4**
ASHO	**Ashiyiah**	**5.27**	**131**	*e*Pn	**Pn**	**22 55 00.6**	**+2.6**
ALNE	**Al Ain**	**5.53**	**138**	*e*Pn	**Pn**	**22 55 04.6**	**+3.0**
KRSH	**Karshahi**	**5.71**	**3**	*e*Pn	**Pn**	**22 55 03.9**	**-0.3**
TPRV	**Parvadeh(Tabas**	**6.40**	**41**	*e*Pn	**Pn**	**22 55 15.1**	**+1.5**
TKDS	**Koohdasht(Taba**	**7.08**	**40**	*e*Pn	**Pn**	**22 55 23.4**	**+0.5**
WSAR	**Wadi Sarin**	**7.98**	**127**	Pn	**Pn**	**22 55 35.0**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=317,slow=11,SNR=12						
WSAR				Sn	**Sn**	**22 57 01.4**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=270,slow=20,SNR=3.4						
GEYT	**Alibeck**	**11.04**	**27**	Pn	**Pn**	**22 56 18.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=197,slow=15,SNR=4.0						
ASF	**Jabal al Asfar**	**13.40**	**291**	Pn	**Pn**	**22 56 48.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=72,slow=9.6,SNR=3.7						
AAK	**Ala-Archa**	**23.36**	**46**	P	**P**	**22 58 49.5**	**+2.0**
	comp=Z,0.7nm,0.5s,baz=218,slow=12,SNR=4.3						
IDI	**Anoyia**	**23.82**	**294**	P	**P**	**22 58 52.7**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=109,slow=9.7,SNR=3.5						
VRI	**Vrincioaia**	**26.42**	**318**	↑*i*P	**P**	**22 59 15.8**	**+0.3**
PLOR	**Plostina**	**26.45**	**318**	↓*i*P	**P**	**22 59 16.0**	**+0.2**
TESR	**Tescani**	**26.82**	**320**	↑*i*P	**P**	**22 59 19.6**	**+0.5**
BVAR	**Borovoye Array**	**28.34**	**24**	P	**P**	**22 59 33.2**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=221,slow=7.7,SNR=4.5						
MKAR	**Makanchi Array**	**30.23**	**44**	P	**P**	**22 59 49.8**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=228,slow=9.4,SNR=7.8						
ZALV	**Zalesovo Beam**	**35.25**	**34**	P	**P**	**23 00 35.3**	**+2.1**
	comp=Z,0.5nm,0.4s,baz=247,slow=9.1,SNR=4.3						
FINES	**FINESS Array B**	**37.33**	**340**	P	**P**	**23 00 50.5**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=149,slow=11,SNR=8.0						
NOA	**NORSAR Array B**	**42.45**	**332**	P	**P**	**23 01 32.5**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=122,slow=8.3,SNR=2.8						
ARCES	**ARCESS Array B**	**44.01**	**347**	P	**P**	**23 01 45.8**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=150,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**46.24**	**50**	P	**P**	**23 02 05.2**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=270,slow=4.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**48.81**	**263**	P	**P**	**23 02 23.2**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=82,slow=8.6,SNR=4.9						
JMIC	**Jan Mayen**	**53.95**	**339**	LR	LR	23 25 37.6	
	comp=Z,133nm,18.2s,baz=50,slow=36						
DBIC	**Dimbokro**	**57.52**	**259**	P	**P**	**23 03 27.9**	**-0.6**
	comp=Z,5.4nm,1.0s,baz=67,slow=13,SNR=3.3						
YKA	**Yellowknife Ar**	**88.91**	**354**	P	**P**	**23 06 33.0**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=9.5,slow=5.1,SNR=5.4						

*IDC **01** 22:55:13.0±2.2, 28°.06N×51°.74E, h0km, mb3.7/10, mb1 3.8/13, mb1mx3.6/36, mbtmp3.7/13, ML3.3/2, Error ellipse: s-maj=50.4km s-min=19.1km az=166.0*
*ISCJB **01** 22:55:15.9±0.8, 28°.16N±0°.08×51°.58E±0°.05, h24km, mb3.6/10, Error ellipse: s-maj=11.5km s-min=6.4km az=175.4*
*THR **01** 22:55:17.3, 28°.34N×51°.71E, h18km, ML3.6*
*TEH **01** 22:55:17.4, 28°.35N×51°.72E, h16km, ML3.7*
ISC 01 22:55:17.2±0.8, 28°.19N±0°.07×51°.69E±0°.06, h24km, n25, σ1s36/27, mb3.8/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.15**	**85**	*e*AML	AML	22 55 56.6	
	2μm,0.4s						
GHIR				*e*Pg	**Pn**	**22 55 38.4**	**+0.5**
GHIR				*e*Sg	**Sn**	**22 55 53.8**	**+0.8**
GHIR				*e*AML	AML	22 55 58.9	
	1μm,0.4s						
IKAZ	**Kazeroun**	**1.59**	**5**	*e*Pg	**Pb**	**22 55 44.6**	**-1.5**
IKAZ				IAMB	IAmb	22 56 17.5	
	comp=Z,12μm,0.7s						
SHI	**Shiraz**	**1.62**	**26**	*e*Pg	**Pb**	**22 55 45.0**	**-1.5**
SHI				IAMB	IAmb	22 55 48.5	
	comp=Z,5μm,0.6s						
SHI				*e*Sg	**Sb**	**22 56 05.4**	**-1.2**
JHRM	**Jahrom**	**1.70**	**79**	*e*Pn	**Pb**	**22 55 47.9**	**+0.1**
JHRM				IAMB	IAmb	22 56 13.0	
	comp=Z,0.0nm,0.4s						
ISRV	**Sarvestan**	**1.73**	**46**	*e*Pn	**Pb**	**22 55 47.2**	**-1.2**
ISRV				IAMB	IAmb	22 56 18.8	
	comp=Z,8μm,0.6s						
IRAM	**Ramesheh**	**3.66**	**9**	*e*Pn	**Pn**	**22 56 12.1**	**-0.4**
IMEH	**Mehriz**	**4.08**	**38**	*e*Pn	**Pn**	**22 56 19.8**	**+1.5**
NGRK	**Negar Kerman**	**4.65**	**71**	*e*Pn	**Pn**	**22 56 27.2**	**+0.9**
IZEF	**Zefreh**	**4.72**	**7**	*e*Pn	**Pn**	**22 56 27.7**	**+0.5**
YZKH	**Yazd**	**4.88**	**30**	*e*Pn	**Pn**	**22 56 30.5**	**+1.2**
YZKH	**Yazd**	**4.88**	**30**	*e*Pn	**Pn**	**22 56 30.5**	**+1.2**
WSAR	**Wadi Sarin**	**7.97**	**127**	Sn	**Sn**	**22 58 37.2**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=342,slow=20,SNR=3.4						
ASF	**Jabal al Asfar**	**13.39**	**291**	Pn	**Pn**	**22 58 25.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=90,slow=7.1,SNR=3.5						
MMAI	**Mount Meron Ar**	**14.82**	**293**	Pn	**Pn**	**22 58 47.4**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=101,slow=12,SNR=3.4						
BRTR	**Keskin Array B**	**18.84**	**312**	P	**Pn**	**22 59 36.9**	**+0.7**
	baz=139,slow=13,SNR=1.0						
AAK	**Ala-Archa**	**23.43**	**46**	P	**P**	**23 00 25.9**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=335,slow=3.7,SNR=4.3						
IDI	**Anoyia**	**23.82**	**294**	P	**P**	**23 00 30.4**	**+2.0**
	comp=Z,3.7nm,0.7s,baz=117,slow=6.8,SNR=4.1						
BVAR	**Borovoye Array**	**28.41**	**24**	P	**P**	**23 01 10.9**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=192,slow=5.5,SNR=4.6						
MKAR	**Makanchi Array**	**30.30**	**44**	P	**P**	**23 01 26.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=233,slow=12,SNR=3.9						
ZALV	**Zalesovo Beam**	**35.32**	**34**	P	**P**	**23 02 09.4**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=245,slow=8.0,SNR=2.5						
FINES	**FINESS Array B**	**37.38**	**340**	P	**P**	**23 02 27.4**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=128,slow=9.0,SNR=4.0						
NOA	**NORSAR Array B**	**42.50**	**332**	P	**P**	**23 03 09.6**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=122,slow=8.4,SNR=2.5						
ARCES	**ARCESS Array B**	**44.07**	**347**	P	**P**	**23 03 23.0**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=152,slow=6.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**48.77**	**263**	P	**P**	**23 03 59.4**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=85,slow=8.8,SNR=5.4						
YKA	**Yellowknife Ar**	**88.97**	**354**	P	**P**	**23 08 10.2**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=11,slow=5.5,SNR=4.6						

*DDA **01** 22:57:02.8, 40°.64N×36°.80E, h13km±1km, ML3.6*
*ISCJB **01** 22:57:03.3±0.5, 40°.66N±0°.02×36°.84E±0°.02, h3km±4km, Error ellipse: s-maj=3.6km s-min=2.6km az=27.5*
*ISK **01** 22:57:03.4, 40°.61N×36°.81E, h5km, ML3.4/28*
ISC 01 22:57:04.2±0.8, 40°.63N±0°.02×36°.81E±0°.02, h9km±6km, n87, σ1s11/103, 5C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBA	**Erbaa**	**0.07**	**318**	*i* P	**Pg**	**22 57 06.1**	**-0.3**
ERBA				*i* S	**Sg**	**22 57 07.5**	**-0.3**
ERBA				IAML_P			
TOKT	**Tokat**	**0.37**	**213**	PG	**Pg**	**22 57 10.7**	**-0.9**
TOKT				SG	**Sg**	**22 57 16.4**	**-0.1**
TOKA	**Tokat**	**0.40**	**220**	IAML_P			
	comp=Z,60μm,0.2s						
TOKA				*i* P	**Pg**	**22 57 11.5**	**-0.6**
RSDY	**Resadiye-TOKAT**	**0.46**	**121**	PG	**Pg**	**22 57 12.5**	**-0.7**
RSDY				SG	**Sg**	**22 57 19.0**	**-0.2**
SVSK	**Karacayir**	**0.73**	**169**	PG	**Pg**	**22 57 16.8**	**-1.5**
SVSK				SG	**Sg**	**22 57 27.7**	**-0.1**
KVT	**Kavak**	**0.73**	**308**	PG	**Pg**	**22 57 17.7**	**-0.7**
KVT				SG	**Sg**	**22 57 28.3**	**+0.3**
SCER	**sogukcermik**	**0.81**	**162**	IAML_P			
	comp=Z,24μm,0.2s						
SCER				*i* P	**Pg**	**22 57 18.3**	**-1.5**
SCER				*i* S	**Sg**	**22 57 30.1**	**-0.3**
ORDU	**Ordu-Boztepe**	**0.87**	**65**	IAML_P			
	comp=Z,6μm,0.2s						
ORDU				*i* P	**Pg**	**22 57 20.8**	**-0.2**
ORDU				*i* S	**Sg**	**22 57 33.1**	**+0.8**
HAVZ	**Havza**	**0.94**	**298**	IAML_P			
	comp=Z,20μm,0.4s						
HAVZ				*i* P	**Pb**	**22 57 21.3**	**-1.4**
HAVZ				*i* S	**Sb**	**22 57 35.6**	**+0.3**
CUZAR	**Zara_SIVAS**	**1.04**	**135**	*i* P	**Pb**	**22 57 23.8**	**-0.8**
CUZAR				*i* S	**Sb**	**22 57 38.3**	**-0.1**
SUSE	**Susehri**	**1.14**	**111**	IAML_P			
	comp=Z,45μm,0.2s						
SUSE				*i* P	**Pb**	**22 57 25.6**	**-0.7**
SUSE				*i* S	**Sb**	**22 57 40.0**	**-1.3**
CUSAR	**Sarkisla-SIVAS**	**1.29**	**200**	*i* P	**Pn**	**22 57 27.9**	**-0.7**
CUSAR				*i* S	**Sb**	**22 57 46.1**	**+0.7**
CUALT	**Altinyayla-SIV**	**1.36**	**182**	*i* P	**Pn**	**22 57 29.7**	**+0.1**
CUALT				*i* S	**Sb**	**22 57 49.1**	**+1.6**
CUKAN	**kangal_SIVAS**	**1.41**	**159**	*i* P	**Pn**	**22 57 29.7**	**-0.6**
COAL	**Corum-Alaca**	**1.44**	**255**	*i* P	**Pn**	**22 57 29.9**	**-0.7**
COAL				*i* S	**Sg**	**22 57 52.4**	**+1.7**
YOZ	**Yozgat**	**1.51**	**230**	PN	**Pn**	**22 57 31.4**	**-0.3**
DIKM	**Dikmen**	**1.55**	**311**	PN	**Pn**	**22 57 32.8**	**+0.7**
DIKM	**Dikmen**	**1.55**	**311**	↓*i*P	**Pn**	**22 57 32.9**	**+0.8**
DIKM	**Dikmen**	**1.55**	**311**	S	**Sb**	**22 57 52.6**	**-0.3**
CORM	**Corum**	**1.73**	**255**	PN	**Pn**	**22 57 35.0**	**+0.4**
ILIC	**ilic-Erzincan**	**1.79**	**131**	PN	**Pn**	**22 57 36.1**	**+0.6**
SIRC	**Yozgat**	**1.82**	**225**	IAML_P			
	comp=Z,2μm,0.3s						
SIRC				*i* P	**Pn**	**22 57 36.3**	**+0.4**
SIRC				*i* S	**Sb**	**22 58 01.7**	**+0.9**
SNOP	**Sinop**	**1.84**	**319**	PN	**Pn**	**22 57 36.7**	**+0.7**
KAGI	**orum-Kargı**	**1.84**	**287**	IAML_P			
	comp=Z,2μm,0.2s						
KAGI				*i* P	**Pn**	**22 57 37.0**	**+0.9**
SINO	**SINOP_Merkez**	**1.84**	**319**	IAML_P			
	comp=Z,6μm,0.2s						
SINO				*i* P	**Pn**	**22 57 36.7**	**+0.7**
SINO				*i* S	**Sb**	**22 58 02.5**	**+1.3**
KEMA	**Kemaliye**	**1.88**	**136**	IAML_P			
	comp=Z,3μm,0.3s						
KEMA				*i* P	**Pn**	**22 57 37.1**	**+0.5**
KEMA				*i* S	**Sg**	**22 58 05.5**	**+0.9**
KELT	**Kelkit**	**1.93**	**104**	IAML_P			
	comp=Z,5μm,0.3s						
KELT				*i* P	**Pn**	**22 57 37.9**	**+0.5**
BNN	**Bunyan**	**1.93**	**203**	PN	**Pn**	**22 57 37.6**	**+0.2**
CUGUR	**Gurin_SVAS**	**1.94**	**169**	*i* P	**Pn**	**22 57 38.4**	**+0.8**
GUNE	**Kayseri**	**1.96**	**208**	IAML_P			
	comp=Z,5μm,0.3s						
GUNE				*i* P	**Pn**	**22 57 39.7**	**+2.0**
HEKM	**Malatya_Hekimh**	**1.96**	**153**	IAML_P			
	comp=Z,4μm,0.3s						
HEKM				*i* P	**Pn**	**22 57 39.1**	**+1.2**
DARE	**Darende-Malaty**	**2.12**	**166**	PN	**Pn**	**22 57 40.5**	**+0.5**
CDAG	**Cicekdag**	**2.13**	**242**	IAML_P			
	comp=Z,4μm,0.5s						
CDAG				*i* P	**Pn**	**22 57 40.5**	**+0.5**
MACK	**Trabzon**	**2.27**	**81**	IAML_P			
	comp=Z,12μm,0.2s						
MACK				*i* P	**Pn**	**22 57 43.6**	**+1.6**
KTUT	**Trabzon**	**2.27**	**80**	PN	**Pn**	**22 57 43.2**	**+1.3**
KTUT	**Trabzon**	**2.27**	**80**	↑*i*P	**Pn**	**22 57 44.0**	**+2.1**
KTUT	**Trabzon**	**2.27**	**80**	S	**Sn**	**22 58 11.3**	**+1.3**
DELI	**KIRIKKALE**	**2.30**	**255**	IAML_P			
	comp=Z,2μm,0.3s						
DELI				*i* P	**Pn**	**22 57 42.8**	**+0.3**
ELBS	**KAHRAMANMARAS**	**2.32**	**174**	IAML_P			
	comp=Z,210nm,0.2s						
ELBS				*i* P	**Pn**	**22 57 43.7**	**+1.0**
KAST	**KASTAMONU**	**2.34**	**292**	IAML_P			
	comp=Z,2μm,0.2s						
KAST				*i* P	**Pb**	**22 57 46.5**	**-0.1**
AVNS	**Nevsehir-Avano**	**2.37**	**220**	IAML_P			
	comp=Z,748nm,0.2s						
AVNS				*i* P	**Pn**	**22 57 44.4**	**+0.9**
ILGA	**Ilgaz**	**2.39**	**281**	IAML_P			
	comp=Z,700nm,0.2s						
ILGA				*i* P	**Pn**	**22 57 45.6**	**+1.9**
EUZM	**Uzumlu**	**2.40**	**112**	IAML_P			
	comp=Z,2μm,0.3s						
EUZM				*i* P	**Pb**	**22 57 48.3**	**+0.7**
CANT	**Cankiri**	**2.43**	**270**	PN	**Pn**	**22 57 45.0**	**+0.8**
ERZN	**Erzincan**	**2.46**	**114**	PN	**Pn**	**22 57 45.6**	**+0.9**
AKCD	**Akcadag**	**2.49**	**159**	IAML_P			
	comp=Z,810nm,0.4s						
AKCD				*i* P	**Pn**	**22 57 46.0**	**+1.0**
BZK	**Bozkurt**	**2.50**	**303**	PN	**Pn**	**22 57 46.4**	**+1.4**
BZK	**Bozkurt**	**2.50**	**303**	↓*i*P	**Pn**	**22 57 47.2**	**+2.2**
BZK	**Bozkurt**	**2.50**	**303**	S	**Sn**	**22 58 16.8**	**+1.2**
BAYT	**Aydıntepe-Bayb**	**2.55**	**94**	PN	**Pn**	**22 57 46.9**	**+1.0**
ELDT	**

0.4nm,0.7s,baz=343,slow=2.8,SNR=2.0
NVAR Mina Array Bea 151.96 8 PKPbc **PKiKP 23 27 18.2 +0.4**
0.3nm,0.5s,baz=29,slow=2.1,SNR=1.9

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*NIED **01** 23:13:00, 34°.70N×142°.10E, h11km, Mw5.5 Best double couple: M0=1.74000×10^17 NP1:φs=233.00000°, δ50.00000°, λ141.00000°. NP2:φs=350.00000°, δ61.00000°, λ47.00000°.*
*BJI **01** 23:13:02.8±0.0, 34°.85N×141°.53E, h5km, mb5.3/58, mB5.5/65, Ms5.9/92, Ms7 5.8/84*
*JMA **01** 23:13:03.1±0.3, 34°.74N×142°.14E, h54km±4km, M5.7*
*ISCJB **01** 23:13:03.5±0.6, 34°.76N±0°.02×141°.71E±0°.02, h8km±3km, mb5.2/364, MS5.3/657, Error ellipse: s-maj=3.2km s-min=2.2km az=166.1*
*IDC **01** 23:13:03.8±0.4, 34°.84N×141°.68E, h0km, mb4.8/41, mb1 4.9/44, mb1mx4.9/56, mbtmp4.8/44, ML3.6/3, MS5.1/32, Ms1 5.2/32, ms1mx5.0/40, Error ellipse: s-maj=11.3km s-min=9.0km az=102.0*
*NEIC **01** 23:13:05.0±1.5, 34°.76N×141°.65E, h9km±2km, mb5.3/289, MS5.3/624, MW5.4, Error ellipse: s-maj=11.5km s-min=9.1km az=106.0, Moment Tensor Solution. s25 Moment tensor: Scale 10^17 Nm; Mrr 0.94; Mθθ -0.36; Mφφ -0.58; Mrθ 0.70; Mθφ -0.74; Mφr 1.05; Best double couple: M0=1.70000×10^17 NP1:φs=230.00000°, δ21.00000°, λ105.00000°. NP2:φs=35.00000°, δ70.00000°, λ85.00000°. Principal axes: T 1.5300, Plg65.0000°, Azm296.0000°; N 0.2700, Plg5.0000°, Azm36.0000°; P -1.8000, Plg25.0000°, Azm129.0000°;*
*GCMT **01** 23:13:08.0±0.1, 34°.72N±0°.01×142°.19E±0°.01, h17km, MW5.4/118, Moment Tensor Solution. s86,c151; s118,c228; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr 0.91±.02; Mθθ -0.15±.01; Mφφ -0.76±.02; Mrθ 0.38±.04; Mθφ -0.32±.01; Mφr 1.05±.05; Best double couple: M0=1.43500×10^17 NP1:φs=20.00000°, δ70.00000°, λ88.00000°. NP2:φs=205.00000°, δ20.00000°, λ95.00000°. Principal axes: T 1.4450, Plg64.0000°, Azm288.0000°; N -0.0190, Plg2.0000°, Azm21.0000°; P -1.4260, Plg25.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **01** 23:13:09.8±0.9, 35°.36N×141°.66E, h30km, mb5.6/55, MS5.4/42 Error ellipse: s-maj=8.2km s-min=3.8km az=116.9*

ISC 01 23:13:05.2±0.5, 34°.83N±0°.03×141°.72E±0°.03, h13km±2km, h13km:pP-P, n1313, σ1s80/1097, mb5.3/384, MS5.3/663, 111C-42D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.64**	**254**	P	**Pn**	**23 13 20.5**	**+1.0**
BSO3	**Boso 3**	**0.99**	**268**	⇑P	**Pn**	**23 13 26.4**	**+1.7**
CHOJ	**Chosi**	**1.12**	**321**	⇑P	**Pn**	**23 13 26.9**	**+0.3**
CHOJ				eS	**Sn**	**23 13 45.2**	**+3.4**
BSO4	**Boso 4**	**1.15**	**278**	P	**Pg**	**23 13 28.5**	**+1.3**
KTR	**Katsuura**	**1.19**	**286**	P	**Pg**	**23 13 29.1**	**+0.9**
KTR				eS	**Sn**	**23 13 48.0**	**+4.3**
JKUC	**kamogawauchiur**	**1.29**	**285**	P	**Pg**	**23 13 30.5**	**+0.5**
JKUC				eS	**Sg**	**23 13 50.5**	**+3.7**
JSMT	**Sammumatsuo**	**1.32**	**308**	P	**Pg**	**23 13 30.9**	**+0.4**
JIM2	**Oshima 3**	**1.89**	**267**	P	**Pn**	**23 13 37.8**	**+0.6**
JMKN	**Mikurajimanish**	**2.00**	**243**	P	**Pn**	**23 13 39.3**	**+0.6**
JMKN				eS	**Sn**	**23 14 04.0**	**+0.5**
JOD2	**Odawara 2**	**2.20**	**282**	⇑P	**Pn**	**23 13 42.4**	**+0.9**
JOD2				eS	**Sb**	**23 14 11.3**	**-0.8**
JHJ2	**Mitsune**	**2.33**	**223**	ePn	**Pn**	**23 13 44.1**	**+0.8**
JHJ2				eSn	**Sn**	**23 14 04.1**	**-7.8**
JHJ2	**Mitsune**	**2.33**	**223**	P	**Pn**	**23 13 43.8**	**+0.5**
JIZS	**Izushimoda**	**2.34**	**268**	P	**Pn**	**23 13 44.3**	**+0.9**
JHJ	**Hachijo jima 2**	**2.35**	**224**	Pn	**Pn**	**23 13 43.5**	**0.0**
	163nm,0.3s,baz=59,slow=19,SNR=23						
JHJ				Sn	**Sn**	**23 14 12.1**	**-0.1**
	364nm,0.3s,baz=53,slow=20,SNR=19						
ONAJ	**Iwakimizuishiy**	**2.38**	**342**	⇑P	**Pn**	**23 13 42.8**	**-1.3**
JAG	**Ashikaga**	**2.43**	**311**	⇑P	**Pn**	**23 13 46.1**	**+1.4**
JAG				eS	**Sb**	**23 14 16.6**	**-2.2**
JFFD	**Fukushimafurud**	**2.44**	**338**	P	**Pn**	**23 13 44.3**	**-0.5**
JFNN	**Fujinakano**	**2.52**	**279**	P	**Pn**	**23 13 47.0**	**+1.2**
JRY	**Ryogami san**	**2.58**	**298**	⇑P	**Pn**	**23 13 48.7**	**+1.9**
JYN	**Shimob**	**2.68**	**285**	⇑P	**Pn**	**23 13 49.6**	**+1.4**
JYN				eS	**Sb**	**23 14 24.8**	**-1.3**
JFT	**Otama**	**2.90**	**338**	⇑P	**Pn**	**23 13 51.4**	**+0.2**
MJAR	**Matsushiro Arr**	**3.33**	**302**	ePn	**Pn**	**23 13 58.2**	**+1.2**
MJAR				eSn	Sn	23 14 25.3	-11
MJAR	**Matsushiro Arr**	**3.33**	**302**	eP	**Pn**	**23 13 58.2**	**+1.2**
MJAR				e		23 14 25.3	
MJAR	**Matsushiro Arr**	**3.33**	**302**	Pn	**Pn**	**23 13 57.9**	**+0.9**
	6.2nm,0.3s,baz=110,slow=12,SNR=180						
MJAR				Sn	**Sn**	**23 14 39.0**	**+2.5**
	4.8nm,0.3s,baz=89,slow=28,SNR=5.3						
MAJO	**Matsushiro**	**3.33**	**302**	ePn	**Pn**	**23 13 59.3**	**+2.3**
MAJO				eSn	**Sn**	**23 14 39.0**	**+2.5**
MAJO	**Matsushiro**	**3.33**	**302**	c iP	**Pn**	**23 13 59.3**	**+2.3**
MAT	**Matsushiro**	**3.33**	**302**	P	**Pn**	**23 13 59.0**	**+2.0**
MAT				S	**Sn**	**23 14 40.3**	**+3.8**
MJB9	**Matsu-Tunnel**	**3.33**	**302**	ePn	**Pn**	**23 13 59.3**	**+2.2**
INU	**Inuyama**	**3.89**	**279**	ePn	**Pn**	**23 14 06.9**	**+2.2**
ERM	**Erimo**	**7.26**	**9**	ePn	**Pn**	**23 14 48.3**	**-2.7**
ERM				eSn	Sn	23 16 02.5	-11
ERM	**Erimo**	**7.26**	**9**	⇓eP	**Pn**	**23 14 48.5**	**-2.5**
JNU	**Nakatsue**	**9.16**	**262**	ePn	**Pn**	**23 15 20.5**	**+3.3**
JNU	**Nakatsue**	**9.16**	**262**	Pn	**Pn**	**23 15 20.1**	**+2.9**
	2.5nm,0.3s,baz=61,slow=8.3,SNR=41						
JNU				LR	LR	23 19 07.6	
	comp=Z,6μm,18.5s,baz=80,slow=40						
ASAJ	**Asahikawa**	**9.29**	**4**	Pn	**Pn**	**23 15 16.7**	**-2.2**
	7.2nm,0.3s,baz=199,slow=14,SNR=13						
ASAJ				Sn	**Sn**	**23 16 55.3**	**-8.0**
	4.8nm,0.3s,baz=313,slow=19,SNR=6.5						
ASAJ				LR	LR	23 19 49.1	
	comp=Z,27μm,18.9s,baz=190,slow=44						
GLVR	**Golovnino**	**9.37**	**17**	P	Pn	23 15 13.2	-6.7
GLVR				eS	Sn	23 16 54.2	-11
GLVR				pmax	pmax		
	comp=Z,242nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**9.73**	**18**	P	Pn	23 15 18.6	-6.2
YUK				eS	Sn	23 17 03.6	-10
YUK				MLR	MLR		
	comp=Z,8μm,15.0s						
YUK				MLR	MLR		
	comp=N,2μm,16.0s						
YUK				MLR	MLR		
	comp=E,6μm,14.0s						
TEY	**Ternei**	**10.92**	**340**	⇑eP	**Pn**	**23 15 40.1**	**-1.0**
TEY				pmax	pmax		
	comp=Z,40nm,1.2s						
TEY				pmax	pmax		
	comp=N,40nm,1.1s						
TEY				MLR	MLR		
	comp=N,2μm,14.0s						
TEY				MLR	MLR		
	comp=E,2μm,14.0s						
TEY				MLR	MLR		
	comp=Z,2μm,14.0s						
VLA	**Vladivostok**	**11.26**	**320**	c iP	**Pn**	**23 15 47.3**	**+1.5**
VLA				pmax	pmax		
	comp=Z,313nm,2.0s						
MSHR	**Mys Shultsa**	**11.30**	**316**	c iP	**Pn**	**23 15 47.7**	**+1.3**
KUR	**Kuril'sk**	**11.40**	**23**	P	Pn	23 15 41.3	-6.4
KUR				eS	Sn	23 17 44.0	-11
KUR				pmax	pmax		
	comp=Z,54nm,0.7s						
KUR				MLR	MLR		
	comp=E,9μm,12.0s						
KUR				MLR	MLR		
	comp=Z,9μm,12.0s						
KUR				MLR	MLR		
	comp=N,10μm,11.0s						
KSRS	**Korea Array**	**11.46**	**287**	Pn	**Pn**	**23 15 52.0**	**+3.5**
	comp=N,0.5nm,0.3s,baz=95,slow=13,SNR=26						
KSRS				LR	LR	23 20 41.6	
	comp=N,7μm,18.0s,baz=105,slow=40						
KS15	**Wonju Array Si**	**11.48**	**287**	ePn	**Pn**	**23 15 49.8**	**+0.8**
KS15				ePn	Pn	23 15 52.0	+3.1
KSAR	**Wonju Array Be**	**11.48**	**287**	ePn	**Pn**	**23 15 51.1**	**+2.2**
TJN	**Taejon**	**11.79**	**282**	c iP	**Pn**	**23 15 56.6**	**+3.5**
USA0B	**Ussuriysk Arra**	**11.99**	**324**	ePn	**Pn**	**23 15 56.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**11.99**	**324**	ePn	**Pn**	**23 15 56.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**11.99**	**324**	Pn	**Pn**	**23 15 56.2**	**+0.4**
	comp=N,0.8nm,0.3s,baz=139,slow=12,SNR=31						
USRK				LR	LR	23 20 13.6	
	comp=N,10μm,19.6s,baz=129,slow=36						
YSS	**Yuzh-Sakhalins**	**12.13**	**3**	ePn	**Pn**	**23 15 55.2**	**-2.6**
YSS				eSn	**Sn**	**23 18 07.3**	**-5.6**
YSS	**Yuzh-Sakhalins**	**12.13**	**3**	⇓eP	**Pn**	**23 15 54.4**	**-3.3**
YSS				eS	**Sn**	**23 18 06.4**	**-6.4**
YSS				pmax	pmax		
	comp=N,90nm,1.0s						
YSS				pmax	pmax		
	comp=E,50nm,1.0s						
YSS				pmax	pmax		
	comp=Z,100nm,1.0s						
YSS				pmax	pmax		
	comp=Z,600nm,4.3s						
YSS				smax	smax		
	comp=N,220nm,1.5s						
YSS				smax	smax		
	comp=E,250nm,1.5s						
YSS				smax	smax		
	comp=N,2μm,4.4s						
YSS				smax	smax		
	comp=E,2μm,2.3s						
YSS				MLR	MLR		
	comp=Z,22μm,14.0s						
YSS				MLR	MLR		
	comp=N,32μm,15.0s						
YSS				MLR	MLR		
	comp=E,23μm,16.0s						
MDJ	**Mudanjiang**	**13.50**	**320**	P	**Pn**	**23 16 17.9**	**+1.5**
MDJ				pP	P	23 16 20.2	-5.4
MDJ				sP		23 16 21.4	
MDJ				pmax	pmax		
	comp=E,3μm,10.2s						
MDJ				LR	LR		
	comp=E,21μm,12.1s						
MDJ				LR	LR		
	comp=E,28μm,13.1s						
MDJ				LR	LR		
	comp=E,30μm,13.5s						
MDJ	**Mudanjiang**	**13.50**	**320**	ePn	**Pn**	**23 16 16.3**	**0.0**
UGL	**Uglegorsk**	**14.24**	**1**	eP	**P**	**23 16 35.4**	**+1.6**
UGL				pmax	pmax		
	comp=Z,89nm,0.9s						
UGL				MLR	MLR		
	comp=Z,21μm,13.0s						
UGL				MLR	MLR		
	comp=N,23μm,15.0s						
UGL				MLR	MLR		
	comp=E,31μm,15.0s						
CN2	**Changchun**	**15.43**	**310**	eP	**Pn**	**23 16 40.6**	**-2.0**
CN2				eS	**Sn**	**23 19 38.2**	**+4.9**
CN2				pmax	pmax		
	comp=E,2μm,6.0s						
CN2				LR	LR		
	comp=E,22μm,14.0s						
CN2				LR	LR		
	comp=E,15μm,14.0s						
CN2				LR	LR		
	comp=E,10μm,16.0s						
SNY	**Shenyang**	**15.84**	**302**	⇑P	**Pn**	**23 16 47.8**	**-0.1**
SNY				pmax	pmax		
	comp=E,47nm,1.6s						
SNY				pmax	pmax		
	comp=E,5μm,11.6s						
SNY				LR	LR		
	comp=E,39μm,13.9s						
SNY				LR	LR		
	comp=E,14μm,15.7s						
SNY				LR	LR		
	comp=E,24μm,15.3s						
TYV	**Tymovskoe**	**16.04**	**2**	eP	**Pn**	**23 16 48.8**	**-1.5**
TYV				eS	**Sn**	**23 19 47.4**	**-0.5**
TYV				pmax	pmax		
	comp=Z,300nm,2.1s						
TYV				pmax	pmax		
	comp=Z,58nm,1.1s						
TYV				smax	smax		
	comp=N,17nm,1.5s						
TYV				MLR	MLR		
	comp=N,25μm,15.0s						
TYV				MLR	MLR		
	comp=Z,18μm,17.0s						
KLR	**Kul'dur**	**16.16**	**336**	Pn	**Pn**	**23 16 49.2**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=137,slow=13,SNR=10						
KLR				LR	LR	23 22 55.2	
	comp=Z,3μm,20.4s,baz=152,slow=37						
GRNR	**Gornyy**	**16.39**	**348**	eP	**Pn**	**23 16 49.8**	**-5.1**
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
DL2	**Dalian**	**16.58**	**290**	⇑iP	**Pn**	**23 16 58.2**	**+0.8**
DL2				S	**S**	**23 20 07.4**	**-5.5**
DL2				pmax	pmax		
	comp=Z,71nm,1.5s						
DL2				pmax	pmax		
	comp=Z,4μm,10.2s						
DL2				LR	LR		
	comp=Z,28μm,13.3s						
DL2				LR	LR		
	comp=Z,35μm,15.4s						
DL2				LR	LR		
	comp=Z,41μm,16.0s						
SSE	**Sheshan**	**17.62**	**264**	P	**Pn**	**23 17 10.8**	**+0.3**
SSE				S	**Sn**	**23 20 24.4**	**-2.3**
SSE				pmax	pmax		
	comp=Z,1μm,11.4s						
SSE				LR	LR		
	comp=Z,5μm,16.8s						
SSE				LR	LR		
	comp=Z,640nm,15.5s						
SSE	**Sheshan**	**17.62**	**264**	ePn	**Pn**	**23 17 10.1**	**-0.5**
	comp=Z,30nm,0.6s						
NKL	**Nikolayevsk**	**18.33**	**358**	eP	**Pn**	**23 17 14.0**	**-5.0**
NKL				eS	**Sn**	**23 20 38.0**	**-5.4**
NKL				pmax	pmax		
	comp=N,88nm,1.8s						
NKL				pmax	pmax		
	comp=Z,150nm,1.8s						
NKL				pmax	pmax		
	comp=N,2μm,14.0s						
NKL				pmax	pmax		
	comp=Z,2μm,9.0s						
NKL				smax	smax		
	comp=N,2μm,12.0s						
NKL				smax	smax		
	comp=E,2μm,12.0s						
NKL				MLR	MLR		
	comp=N,12μm,14.0s						
NKL				MLR	MLR		
	comp=E,27μm,14.0s						
NKL				MLR	MLR		
	comp=Z,14μm,14.0s						
SARN	**Sarigan**	**18.42**	**168**	ePn	**P**	**23 17 19.7**	**-0.7**
	comp=Z,277nm,1.6s						
ANA2	**Anatahan**	**18.76**	**168**	eP	**P**	**23 17 23.3**	**-0.8**
	comp=Z,83nm,0.8s						
SKR	**Severo-Kuril's**	**18.99**	**29**	eP	**Pn**	**23 17 27.0**	**0.0**
SKR				eS	**Sn**	**23 20 57.9**	**-1.5**
SKR				pmax	pmax		
	comp=Z,700nm,10.7s						
SKR				pmax	pmax		
	comp=Z,2μm,11.5s						
SKR				MLR	MLR		
	comp=Z,5μm,15.0s						
SKR				MLR	MLR		
	comp=Z,5μm,15.0s						
NJ2	**Nanjing**	**19.28**	**268**	⇓P	**P**	**23 17 29.2**	**-0.5**
NJ2				S	**Sn**	**23 21 01.6**	**-5.1**
NJ2				pmax	pmax		
	comp=Z,950nm,7.6s						
NJ2				LR	LR		
	comp=Z,26μm,15.7s						
NJ2				LR	LR		
	comp=Z,16μm,16.3s						
NJ2				LR	LR		
	comp=Z,17μm,13.6s						
TIA	**Tai'an**	**20.06**	**281**	P	**P**	**23 17 37.1**	**-1.1**
TIA				pmax	pmax		
	comp=Z,2μm,11.5s						
TIA				LR	LR		
	comp=Z,23μm,13.0s						
TIA				LR	LR		
	comp=Z,21μm,13.8s						
TIA				LR	LR		
	comp=Z,26μm,14.5s						
YHNB	**Yeheng**	**20.33**	**246**	PFAKE		23 17 50.0	+6.7
YHNB				LR	LR		
	comp=Z,4μm,18.0s						
NACB	**Ninganchiao**	**20.45**	**244**	eP	**P**	**23 17 39.6**	**-2.9**
	comp=Z,48nm,1.2s						
NACB				LR	LR		
	comp=Z,4μm,20.0s						
BJI	**Beijing**	**20.91**	**292**	P	**P**	**23 17 45.1**	**-2.2**
BJI				S	**S**	**23 21 35.5**	**-4.6**
BJI				LR	LR		
	comp=Z,7μm,17.9s						
BJI				LR	LR		
	comp=Z,6μm,15.3s						
BJI				LR	LR		
	comp=Z,3μm,17.1s						
BJT	**Baijiatuau**	**20.91**	**292**	eP	**P**	**23 17 45.5**	**-1.9**
	comp=Z,227nm,1.9s						
BJT				eS	**S**	**23 21 32.8**	**-7.5**
BJT				LR	LR		
	comp=Z,6μm,19.0s						
YULB	**Yu-li**	**21.13**	**243**	eP	**P**	**23 17 48.0**	**-2.0**
	comp=Z,94nm,1.7s						
YULB				LR	LR		
	comp=Z,4μm,19.0s						
SSLB	**Suanglung**	**21.15**	**244**	PFAKE		23 18 00.0	+10
SSLB				LR	LR		
	comp=Z,3μm,19.0s						
GUMO	**Guam**	**21.34**	**172**	eP	**P**	**23 17 53.2**	**+1.0**
	comp=Z,2μm,1.7s						
ZEA	**Zeya**	**21.47**	**336**	c eP	**P**	**23 17 51.0**	**-2.3**
ZEA				e		23 18 31.0	
ZEA				eS	**S**	**23 21 54.0**	**+2.9**
ZEA				pmax	pmax		
	comp=N,200nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,320nm,1.2s						
ZEA				pmax	pmax		
	comp=E,1μm,10.0s						
ZEA				pmax	pmax		
	comp=Z,2μm,10.0s						
ZEA				pmax	pmax		
	comp=N,2μm,9.0s						
ZEA				pmax	pmax		
	comp=N,1μm,9.0s						
ZEA				pmax	pmax		
	comp=Z,2μm,9.0s						
ZEA				MLR	MLR		
	comp=Z,27μm,15.0s						
ZEA				MLR	MLR		
	comp=E,13μm,18.0s						
ZEA				MLR	MLR		
	comp=N,17μm,13.0s						
PEA0B	**Petropavlovsk-**	**21.50**	**27**	eP	**P**	**23 17 53.9**	**+0.3**
	comp=N,159nm,1.4s						
PEA0B				LR	LR		
	comp=Z,2μm,18.0s						
PETK	**Petropavlovsk-**	**21.50**	**27**	eP	**P**	**23 17 55.1**	**+1.5**
PETK	**Petropavlovsk-**	**21.50**	**27**	P	**P**	**23 17 54.5**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=198,slow=9.1,SNR=2.9						
PETK				LR	LR	23 29 18.5	
	comp=Z,3μm,18.1s,baz=206,slow=45						
PEA1	**Petropavlovsk-**	**21.50**	**27**	eP	**P**	**23 17 54.5**	**+0.8**
TWG	**Pinlang**	**21.64**	**242**	eP	**P**	**23 17 52.2**	**-3.2**
	comp=Z,407nm,1.7s						
HIA	**Hailar**	**21.67**	**318**	eP	**P**	**23 17 53.6**	**-1.9**
	comp=Z,233nm,1.5s						
HIA				LR	LR		
	comp=Z,3μm,21.0s						
TPUB	**Ta-pu**	**21.68**	**244**	PFAKE		23 18 10.0	+14
TPUB				LR	LR		
	comp=Z,4μm,19.0s						
PET	**Petropavlovsk**	**21.80**	**28**	eP	**P**	**23 17 59.7**	**+2.9**
	comp=Z,174nm,1.6s						
PET				LR	LR		
	comp=Z,5μm,18.0s						
PET	**Petropavlovsk**	**21.80**	**28**	eP	**P**	**23 18 00.3**	**+3.5**
PET				eS	**S**	**23 21 55.2**	**-2.2**
PET				pmax	pmax		
	comp=Z,1μm,10.5s						
PET				pmax	pmax		
	comp=Z,2μm,9.3s						
PET				pmax	pmax		
	comp=Z,69nm,1.6s						
QZH	**Quanzhou**	**22.30**	**250**	⇑iP	**P**	**23 17 59.3**	**-3.1**
QZH				S	**S**	**23 22 02.8**	**-4.7**
QZH				LR	LR		
	comp=Z,6μm,16.1s						
QZH				LR	LR		
	comp=Z,8μm,16.5s						
QZH				LR	LR		
	comp=Z,9μm,12.2s						
KNMB	**Chin-men Tao**	**22.71**	**249**	eP	**P**	**23 18 04.0**	**-2.7**
	comp=Z,243nm,1.8s						
KNMB				LR	LR		
	comp=Z,3μm,18.0s						
WHN	**Wuhan**	**23.40**	**267**	P	**P**	**23 18 08.9**	**-4.9**
WHN				S	**S**	**23 22 21.5**	**-5.2**
WHN				LR	LR		
	comp=Z,24μm,12.9s						
WHN				LR	LR		
	comp=Z,44μm,11.7s						
WHN				LR	LR		
	comp=Z,41μm,14.2s						
TIY	**Taiyuan**	**23.74**	**286**	eP	**P**	**23 18 18.6**	**+1.3**
TIY				PP	**PnPn**	**23 18 51.0**	**+6.2**
TIY				S	**S**	**23 22 30.8**	**-1.5**
TIY				SS	**SnSn**	**23 23 16.4**	**+6.2**
TIY				pmax	pmax		
	comp=Z,26nm,0.5s						
TIY				pmax	pmax		
	comp=Z,2μm,11.9s						
TIY				LR	LR		
	comp=Z,27μm,15.2s						
TIY				LR	LR		
	comp=Z,10μm,16.6s						
TIY				LR	LR		
	comp=Z,30μm,14.6s						
HHC	**Hu-ho-hao-te**	**24.49**	**293**	eP	**P**	**23 18 21.6**	**-2.6**
HHC				pP	pP	23 18 25.8	-0.8
HHC				PP	**PnPn**	**23 18 56.5**	**+1.6**
HHC				S	**S**	**23 22 35.8**	**-8.5**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				LR	LR		
	comp=Z,10μm,12.0s						
HHC				LR	LR		
	comp=Z,13μm,11.6s						
HHC				LR	LR		
	comp=Z,12μm,12.6s						
MA2	**Magadan**	**25.46**	**11**	eP	**P**	**23 18 33.2**	**+0.5**
	comp=Z,58nm,1.0s						
MA2	**Magadan**	**25.46**	**11**	c iP	**P**	**23 18 33.0**	**+0.3**
MA2				pmax	pmax		
	comp=Z,43nm,0.8s						
MA2	**Magadan**	**25.46**	**11**	P	**P**	**23 18 33.2**	**+0.5**
	comp=Z,49nm,0.9s,baz=189,slow=8.9,SNR=17						
BTO	**Baotou**	**25.64**	**292**	eP	**P**	**23 18 33.5**	**-1.2**
CIT	**Chita**	**26.47**	**319**	eP	**P**	**23 18 43.8**	**+1.8**
CIT				e		23 18 58.8	
CIT				pmax	pmax		
	comp=Z,115nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**26.86**	**118**	T	T	23 46 48.7	
	baz=309,slow=75,SNR=9.7						
H11N1	**WAKE ISLAND Hy**	**26.87**	**118**	T	T	23 46 44.1	
	baz=309,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**26.88**	**118**	T	T	23 46 46.2	
	baz=309,slow=75,SNR=16						
WAKE	**Wake Island**	**26.97**	**119**	PFAKE		23 19 00.0	+13
WAKE				LR	LR		
	comp=Z,6μm,20.0s						
XAN	**Xi'an**	**27.00**	**278**	P	**P**	**23 18 46.0**	**-1.0**
XAN				pP	pwP	23 18 55.8	+0.2
XAN				S	**S**	**23 23 21.7**	**-2.5**
XAN				pmax	pmax		
	comp=Z,24nm,1.2s						
XAN				pmax	pmax		
	comp=Z,890nm,10.8s						
XAN				LR	LR		
	comp=Z,10μm,15.7s						
XAN				LR	LR		
	comp=Z,16μm,15.1s						
XAN				LR	LR		
	comp=Z,13μm,15.3s						
XAN	**Xi'an**	**27.00**	**278**	eP	**P**	**23 18 46.6**	**-0.3**
	comp=Z,112nm,1.6s						
XAN				LR	LR		
	comp=Z,9μm,19.0s						
HKPS	**Hong Kong Po S**	**27.17**	**250**	PFAKE		23 19 00.0	+12
HKPS				LR	LR		

comp=Z,4μm,18.0s
GZH Guangzhou 27.35 252 P **P** **23 18 44.4 -5.7**
GZH S S 23 23 15.4 -14
ENH Enshi 27.48 270 PFAKE 23 19 00.0 +8.7
ENH LR LR
comp=Z,6μm,18.0s
H11S3 WAKE ISLAND Hy 27.50 120 T T 23 47 34.4
baz=312,slow=75,SNR=8.9
H11S1 WAKE ISLAND Hy 27.51 120 T T 23 47 46.4
baz=312,slow=75,SNR=9.7
H11S2 WAKE ISLAND Hy 27.52 120 T T 23 47 34.1
baz=312,slow=75,SNR=11
TGY Tagaytay City 27.89 227 LR LR 23 29 18.1
comp=Z,2μm,18.7s,baz=34,slow=35
YAK Yakutsk 28.27 348*c i*P **P** **23 18 58.0 +0.1**
YAK *e**PP **pwP** **23 19 04.8 -2.4**
YAK *e* 23 19 48.0
YAK *e*PPP PPP 23 19 56.1
YAK *e* 23 22 09.7
YAK *e*S **S** **23 23 42.6 -0.9**
YAK *e**SS sS 23 24 00.3 +13
YAK *e*SSS SSS 23 25 16.8
YAK pmax pmax
comp=Z,294nm,1.1s
YAK pmax pmax
comp=N,252nm,1.4s
YAK pmax pmax
comp=E,86nm,1.3s
YAK pmax pmax
comp=Z,955nm,2.3s
YAK pmax pmax
comp=N,1μm,2.2s
YAK pmax pmax
comp=E,455nm,2.2s
YAK smax smax
comp=N,2μm,3.7s
YAK smax smax
comp=E,1μm,3.3s
YAK MLR MLR
comp=Z,53μm,15.0s
YAK MLR MLR
comp=N,33μm,14.0s
YAK MLR MLR
comp=E,32μm,16.0s
ULN Ulaanbaatar 28.84 307 PFAKE 23 19 20.0 +17
ULN LR LR
comp=Z,6μm,18.0s
SEY Seymchan 28.90 10 P **P** **23 19 03.8 +0.2**
comp=Z,11nm,0.8s,baz=196,slow=6.9,SNR=32
SEY LR LR 23 31 07.6
comp=Z,2μm,19.6s,baz=208,slow=38
SMY Shemya 29.09 42 *e*P **P** **23 19 05.1 -0.3**
comp=Z,256nm,1.3s
SONA0 Songino Array 29.26 307 *e*P **P** **23 19 08.9 +1.8**
SONA0 *e*PcP **PcP** **23 22 15.4 +1.6**
SONA0 *e*ScP **ScP** **23 25 55.3 0.0**
SONM Songino Array 29.26 307 *e*P **P** **23 19 08.5 +1.4**
SONM Songino Array 29.26 307 P **P** **23 19 08.9 +1.8**
comp=Z,64nm,1.2s,baz=111,slow=7.4,SNR=148
SONM PcP **PcP** **23 22 15.4 +1.6**
comp=Z,2.8nm,1.0s,baz=132,slow=2.1,SNR=3.5
SONM ScP **ScP** **23 25 55.3 0.0**
comp=Z,3.5nm,1.2s,baz=139,slow=2.9,SNR=4.3
SONM LR LR 23 31 55.1
comp=Z,4μm,18.2s,baz=104,slow=39
BOD Bodaibo 29.53 330 *e*P **P** **23 19 09.3 +0.1**
BOD pmax pmax
comp=Z,218nm,1.5s
LZH Lanzhou 30.75 283 ⇑P **P** **23 19 20.4 -0.1**
LZH pP pwP 23 19 27.0 -2.1
LZH sP sP 23 19 29.5 +5.9
LZH S **S** **23 24 20.2 -3.2**
LZH sS sS 23 24 27.6 +0.2
LZH pmax pmax
comp=Z,42nm,1.5s
LZH pmax pmax
comp=Z,510nm,5.4s
LZH LR LR
comp=Z,19μm,16.8s
LZH LR LR
comp=Z,16μm,15.2s
LZH LR LR
comp=Z,19μm,14.1s
GYA Guiyang 31.17 264⇑*i*P **P** **23 19 22.3 -1.9**
GYA PcP **PcP** **23 22 21.0 +1.9**
GYA ScP **ScP** **23 26 03.6 +1.8**
GYA ScS **ScS** **23 29 58.6 -0.7**
GYA pmax pmax
comp=Z,30nm,1.2s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,6μm,14.3s
GYA LR LR
comp=Z,9μm,16.2s
GYA LR LR
comp=Z,14μm,15.2s
DAV Davao City (W) 31.38 212 PFAKE 23 19 40.0 +14
DAV LR LR
comp=Z,5μm,22.0s
PATS Pohnpei 31.78 147 PFAKE 23 19 40.0 +11
PATS LR LR
comp=Z,4μm,19.0s
IRK Irkutsk 31.79 315 *e*P **P** **23 19 30.8 +1.5**
IRK *e* 23 20 42.0
IRK pmax pmax
comp=Z,162nm,3.7s
ZAK Zakamensk 31.86 311 *e*P **P** **23 19 30.2 +0.2**
ZAK pmax pmax
comp=Z,49nm,1.4s
TLY Talaya 31.99 314 *e*P **P** **23 19 32.5 +1.5**
comp=Z,58nm,1.2s
TLY LR LR
comp=Z,6μm,18.0s
TLY Talaya 31.99 314*c i*P **P** **23 19 32.7 +1.7**
TLY Talaya 31.99 314 P **P** **23 19 32.6 +1.5**
SNR=40
CD2 Chengdu 32.00 274⇑*i*P **P** **23 19 29.6 -1.7**
CD2 sP pwP 23 19 38.7 -1.3
CD2 S **S** **23 24 42.5 -0.2**
CD2 sS sS 23 24 47.2 +0.5
CD2 pmax pmax
comp=Z,80nm,1.1s
CD2 pmax pmax
comp=Z,2μm,11.6s
CD2 LR LR
comp=Z,46μm,15.7s
CD2 LR LR
comp=Z,52μm,15.3s
QIZ Qiongzhong 32.31 249 P **P** **23 19 34.6 +0.4**
QIZ S **S** **23 24 48.7 +1.0**
QIZ LR LR
comp=Z,6μm,15.5s
QIZ LR LR
comp=Z,3μm,17.3s
QIZ LR LR
comp=Z,5μm,13.3s
QIZ Qiongzhong 32.31 249 PFAKE 23 19 50.0 +16
QIZ LR LR
comp=Z,3μm,19.0s
GTA Gaotai 33.50 290 ⇑P **P** **23 19 45.2 +0.6**
GTA pP pwP 23 19 52.8 -0.4
GTA sP sP 23 19 55.6 +7.9
GTA PP **PP** **23 20 56.8 -3.5**
GTA S **S** **23 25 05.9 -0.3**
GTA sS sS 23 25 12.7 +2.5
GTA pmax pmax
comp=Z,54nm,1.6s
GTA pmax pmax
comp=Z,1μm,9.0s
GTA LR LR
comp=Z,10μm,14.6s
GTA LR LR
comp=Z,13μm,16.2s
GTA LR LR
comp=Z,18μm,16.5s
MOY Mondy 33.58 313 *e*P **P** **23 19 45.7 +0.7**
MOY pmax pmax
comp=Z,136nm,3.1s
ADK Adak 34.16 47 PFAKE 23 20 00.0 +10
ADK LR LR
comp=Z,4μm,18.0s
KMI Kunming 34.94 265 P **P** **23 19 55.8 -1.5**
KMI pP sP 23 20 02.0 +1.7
KMI sP pwP 23 20 03.9 -2.2
KMI PP **PP** **23 21 16.4 0.0**
KMI S **S** **23 25 26.8 -2.0**
KMI SS **SnSn** **23 27 40.7 -2.9**
KMI pmax pmax
comp=Z,19nm,2.0s
KMI pmax pmax
comp=Z,400nm,7.7s
KMI LR LR
comp=Z,3μm,14.3s
KMI LR LR
comp=Z,14μm,15.4s
KMI LR LR
comp=Z,9μm,15.2s
KMI Kunming 34.94 265 *e*P **P** **23 19 55.7 -1.5**
comp=Z,19nm,0.5s
KMI LR LR
comp=Z,3μm,19.0s
KWAJ Kwajalein Atol 35.13 131 PFAKE 23 20 10.0 +11
KWAJ LR LR
comp=Z,7μm,19.0s
MIDW Midway 35.31 89 PFAKE 23 20 10.0 +10
MIDW LR LR
comp=Z,5μm,19.0s
ATKA Atka Island 35.73 47 *e*P **P** **23 20 04.5 +1.1**
comp=Z,278nm,1.6s
SLVN Son La 35.75 258 *e*P **P** **23 20 03.8 -0.3**
comp=Z,13nm,1.0s
SLVN LR LR
comp=Z,4μm,18.0s
BILL Bilibino 36.07 15 *e*P **P** **23 20 05.8 -0.4**
comp=Z,22nm,1.1s
BILL LR LR
comp=Z,4μm,18.0s
BILL Bilibino 36.07 15*c i*P **P** **23 20 06.2 0.0**
BILL *e* 23 21 21.5
BILL *e*S **S** **23 25 40.8 -4.0**
BILL *e*SS **SS** **23 28 22.2 +0.3**
BILL pmax pmax
comp=Z,26nm,1.7s
BILL MLR MLR
comp=Z,5μm,15.0s
TNTI Ternate 36.44 205 *e*P **P** **23 20 09.7 -0.2**
comp=Z,91nm,1.2s
TNTI LR LR
comp=Z,3μm,18.0s
TNTI Ternate 36.44 205 P **P** **23 20 12.1 +2.2**
MANU Manus Island 37.06 171 *e*P **P** **23 20 14.1 -1.1**
comp=Z,529nm,0.1s
KKM Kota Kinabalu 37.08 225 PFAKE 23 20 30.0 +15
KKM LR LR
comp=Z,4μm,20.0s
JAY Jayapura 37.16 182 P **P** **23 20 17.5 +1.4**
comp=Z,9.0nm,0.8s,baz=324,slow=3.7,SNR=8.5
JAY LR LR 23 33 38.0
comp=Z,2μm,18.6s,baz=358,slow=33
PANO Nakornpanom 37.45 252 P **P** **23 20 20.1 +1.6**
comp=Z,0.3nm,1.1s
TIXI Tiksi 37.50 353 *e*P **P** **23 20 18.1 -0.1**
TIXI *e*P **pP** **23 20 18.3 -2.2**
TIXI LR LR
comp=Z,5μm,18.0s
TIXI Tiksi 37.50 353*c i*P **P** **23 20 18.2 -0.1**
TIXI pmax pmax
comp=Z,31nm,2.5s
TIXI MLR MLR
comp=Z,5μm,16.0s
TIXI Tiksi 37.50 353 P **P** **23 20 18.1 -0.1**
comp=Z,6.5nm,0.9s,baz=143,slow=9.1,SNR=18
DLV T Lat 37.79 241 *e*P **P** **23 20 20.1 -1.5**
comp=Z,110nm,1.9s
SKNT Sakonnakorn 38.04 252 P **P** **23 20 24.2 +0.6**
comp=Z,54nm,1.4s,comp=Z,1μm
NONG Nongkai 38.09 254 P **P** **23 20 24.4 +0.5**
comp=Z,1.3nm,1.2s
FAKI Fak Fak 38.59 195 *e*P **P** **23 20 26.1 -2.0**
comp=Z,60nm,1.3s
FAKI LR LR
comp=Z,4μm,20.0s
MRSI Marisa 38.85 213 P **P** **23 20 29.0 -1.3**
KHON Khomkaen 39.32 252 P **P** **23 20 36.3 +2.1**
LUWI Luwuk 39.86 210 PFAKE 23 20 50.0 +11
LUWI LR LR
comp=Z,2μm,18.0s
APSI Ampana 40.22 212 P **P** **23 20 39.3 -2.4**
CHAI Chaiyaphum 40.22 252 P **P** **23 20 41.9 +0.1**
comp=Z,67μm,1.2s,comp=Z,652μm
UTTA Uttaradit 40.32 256 P **P** **23 20 42.7 +0.1**
comp=Z,75μm,1.0s,comp=Z,540μm
LAMP Lampang 40.64 258 P **P** **23 20 45.9 +0.7**
comp=Z,71μm,1.0s,comp=Z,585μm
CMMT Chiang Mai 41.04 258 P **P** **23 20 48.5 -0.1**
comp=Z,20nm,1.1s,comp=Z,418nm
CHTO Chiang Mai 41.04 258 *e*P **P** **23 20 48.4 -0.2**
comp=Z,46nm,1.1s
CHTO LR LR
comp=Z,3μm,18.0s
CHTO Chiang Mai 41.04 258 P **P** **23 20 47.9 -0.6**
SNR=15
CM31 Chiang Mai Arr 41.23 258 *e*P **P** **23 20 49.8 -0.3**
comp=Z,36nm,1.3s
CMAR Chiang Mai Arr 41.23 258 *e*P **P** **23 20 49.6 -0.5**
CMAR Chiang Mai Arr 41.23 258 P **P** **23 20 49.3 -0.8**
comp=Z,11nm,0.9s,baz=48,slow=7.2,SNR=48
CMAR LR LR 23 38 58.0
comp=Z,2μm,18.6s,baz=30,slow=38
DGZ Jazzator, Alta 41.91 308*c i*P **P** **23 20 57.2 +1.7**
DGZ pmax pmax
comp=Z,59nm,1.0s
DGZ MLR MLR
comp=Z,4μm,15.0s
WMQ Urumqi 42.09 299 P **P** **23 20 58.2 +1.2**
WMQ pP pwP 23 21 05.6 0.0
WMQ ScP **ScP** **23 26 43.4 +1.6**
WMQ S **S** **23 27 16.3 +0.2**
WMQ sS sS 23 27 24.7 +4.5
WMQ pmax pmax
comp=Z,260nm,1.5s
WMQ LR LR
comp=Z,32μm,18.1s
WMQ LR LR
comp=Z,12μm,18.1s
WMQ LR LR
comp=Z,16μm,20.3s
WMQ Urumqi 42.09 299 *e*P **P** **23 20 56.7 -0.3**
comp=Z,228nm,1.4s
WMQ LR LR
comp=Z,31μm,19.0s
SBUM Sibu 42.31 227 *e*P **P** **23 20 58.5 -0.5**
comp=Z,23nm,1.1s
SBUM LR LR
comp=Z,1μm,19.0s
SBUM Sibu 42.31 227 P **P** **23 20 58.0 -0.9**
UTHA Uthaitani 42.42 254 P **P** **23 21 00.8 +1.0**
comp=Z,34μm,1.3s,comp=Z,450μm
UMPA Umpang Tak 42.52 255 P **P** **23 21 02.7 +2.0**
comp=Z,58μm,1.1s
LSA Lhasa 42.70 278 P **P** **23 21 03.1 +0.5**
LSA Lhasa 42.70 278 *e*P **P** **23 21 03.1 +0.5**
comp=Z,42nm,1.6s
LSA LR LR
comp=Z,4μm,18.0s
LSA Lhasa 42.70 278 *i* P **P** **23 21 03.5 +0.9**
SNR=7.6
ANM Nome 43.36 30 PFAKE 23 21 20.0 +13
ANM LR LR
comp=Z,2μm,20.0s
SRDT SRDT 43.37 253 P **P** **23 21 08.0 +0.5**
comp=Z,26nm,1.5s,comp=Z,2μm
MTKI Muara Teweh, K 43.55 221 P **P** **23 21 10.8 +1.8**
ZAA0 Zalesovo Array 43.60 314 *e*P **P** **23 21 09.0 0.0**
comp=Z,18nm,0.8s
ZAA0 *e*ScP **ScP** **23 26 47.6 0.0**
ZAA0 LR LR
comp=Z,2μm,20.0s
ZAA1 Zalesovo Array 43.60 314 *e*P **P** **23 21 08.8 -0.1**
ZAA1 *e*PP **PcP** **23 22 55.8 -0.5**
ZAA1 *e*ScP **ScP** **23 26 48.8 +1.2**
ZALV Zalesovo Beam 43.60 314 *e*P **P** **23 21 09.4 +0.4**
ZALV Zalesovo Beam 43.60 314 *i* P **P** **23 21 09.5 +0.6**
ZALV pmax pmax
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 43.60 314 P **P** **23 21 08.8 -0.1**
comp=Z,12nm,0.8s,baz=94,slow=6.4,SNR=44
ZALV PcP **PcP** **23 22 55.8 -0.5**
comp=Z,6.5nm,0.8s,baz=80,slow=3.2,SNR=3.7
ZALV ScP **ScP** **23 26 48.8 +1.2**
comp=Z,0.9nm,0.6s,baz=90,slow=4.3,SNR=2.8
ZALV LR LR 23 38 51.5
comp=Z,2μm,18.6s,baz=92,slow=36
SHL Shillong 43.67 272 PFAKE 23 21 20.0 +10
SHL LR LR
comp=Z,7μm,18.0s
SHL Shillong 43.67 272 *e*P **P** **23 21 11.0 +0.8**
SHL *e*S **S** **23 27 41.0 +1.0**
SHL IAMs_20 IAMs_20 23 42 37.3
comp=Z,5μm,13.2s
ZSN Zaisan 43.71 305*c i*P **P** **23 21 11.1 +1.2**
ZSN *e*S **S** **23 27 42.6 +2.9**
ZSN pmax pmax
comp=Z,94nm,3.4s
ZSN smax smax
comp=E,62nm,5.0s
ZSN MLR MLR
comp=Z,830nm,14.0s
ZSN Zaisan 43.71 305⇑*i*P **P** **23 21 11.2 +1.2**
comp=Z,94nm,3.4s
ZSN *e*S **S** **23 27 42.7 +2.9**
comp=Z,62nm,5.0s
ZSN *e*LR LR 23 42 46.1
comp=Z,830nm,13.6s
SPSI Sidrap Palu 43.77 213 P **P** **23 21 11.2 +0.5**
BNSI Bone 44.01 212 P **P** **23 21 13.4 +0.8**
TARA Tarawa 44.21 132 PFAKE 23 21 30.0 +16
TARA LR LR
comp=Z,7μm,19.0s
KSM Kuching 44.25 228 *e*P **P** **23 21 15.0 +0.4**
comp=Z,62nm,1.0s
KSM LR LR
comp=Z,1μm,21.0s
KSM Kuching 44.25 228 P **P** **23 21 16.0 +1.4**
PMG Port Moresby 44.30 172⇓*e*P **P** **23 21 17.0 +2.1**
PMG pmax pmax
comp=Z,198nm,1.5s
PMG MLR MLR
comp=Z,7μm,17.0s
PMG Port Moresby 44.30 172 P **P** **23 21 15.9 +1.0**
comp=Z,4.9nm,0.4s,baz=354,slow=9.3,SNR=5.3
NVS Novosibirsk 44.56 315⇓*i*P **P** **23 21 17.8 +1.2**
NVS *e*S **S** **23 27 53.6 +1.8**
NVS *e* 23 31 13.4
NVS pmax pmax
comp=Z,48nm,1.1s
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=E,39nm,1.2s
NVS smax smax
comp=N,8.0nm,1.2s
KAPI Kappang 44.71 212 *e*P **P** **23 21 17.7 -0.6**
comp=N,182nm,1.7s
KAPI Kappang 44.71 212 P **P** **23 21 18.0 -0.2**
SNR=8.5
KAPI P **P** **23 21 18.0 -0.2**
SNR=8.5
SIMRM Sittwe 45.30 264 PFAKE 23 21 30.0 +7.0
SIMRM LR LR
comp=Z,700nm,20.0s
RDOG Red Dog Mine 45.36 26 *e*P **P** **23 21 24.6 +1.8**
RDOG LR LR
comp=Z,3μm,18.0s
NRIK Noril'sk 45.37 336 P **P** **23 21 23.0 +0.1**
comp=Z,18nm,1.1s,baz=114,slow=8.2,SNR=31
NRIK LR LR 23 43 34.4
comp=Z,4μm,18.1s,baz=108,slow=40
MK31 Makanchi Array 45.52 304 *e*P **P** **23 21 25.4 +0.9**
comp=Z,24nm,1.0s
MK32 Makanchi Array 45.52 304 *e*P **P** **23 21 25.2 +0.8**
MKAR Makanchi Array 45.52 304 *e*P **P** **23 21 24.5 0.0**
MKAR *e*PcP **PcP** **23 23 02.3 -0.8**
MKAR Makanchi Array 45.52 304 P **P** **23 21 25.2 +0.8**
comp=Z,11nm,0.8s,baz=89,slow=9.5,SNR=75
MKAR LR LR 23 39 38.2
comp=Z,3μm,19.2s,baz=84,slow=35
MAKZ Makanchi 45.73 304 *e*P **P** **23 21 26.7 +0.5**
comp=Z,34nm,1.1s
MAKZ LR LR
comp=Z,4μm,19.0s
SEM Semipalatinsk 46.50 309 *e*P **P** **23 21 32.5 +0.2**
SEM pmax pmax
comp=Z,19nm,1.4s
SEM MLR MLR
comp=Z,3μm,15.0s
SEM Semipalatinsk 46.50 309 *e*P **P** **23 21 32.5 +0.2**
comp=Z,19nm,1.4s
SEM *e*LR LR 23 41 51.3
comp=Z,3μm,14.8s
SKLT Songkhla 46.72 244 P **P** **23 21 36.7 +2.5**
comp=Z,11nm,1.3s,comp=Z,480nm
TRTT Trang 46.97 245 P **P** **23 21 36.8 +0.7**
comp=Z,22nm,1.3s
MMRI Maumere 47.00 207 *e*P **P** **23 21 35.7 -0.6**
comp=Z,96nm,0.9s
MMRI Maumere 47.00 207 P **P** **23 21 36.3 0.0**
KRAB Krabi 47.09 246 P **P** **23 21 37.9 +0.8**
comp=Z,127μm,1.2s
SVW2 Sparrevohn 47.13 36 *e*P **P** **23 21 37.9 +1.0**
comp=Z,35nm,1.2s
HNR Honiara 47.29 155 PFAKE 23 21 50.0 +11
HNR LR LR
comp=Z,3μm,18.0s
SOEI Soe 47.33 204 *e*P **P** **23 21 39.0 0.0**
comp=Z,200nm,1.2s
SOEI *e*S **S** **23 28 36.6 +4.1**
SOEI Soe 47.33 204 P **P** **23 21 39.5 +0.5**
RAMN Ramite 47.45 276 *e*P **P** **23 21 40.3 +0.2**
comp=Z,75nm,0.8s
JIRN Jiri 47.50 277 *e*P **P** **23 21 41.3 +0.6**
comp=Z,104nm,0.7s
KURK Kurchatov 47.50 310 *e*P **P** **23 21 40.2 +0.3**
comp=Z,55nm,0.8s
KURK LR LR
comp=Z,6μm,18.0s
KURK Kurchatov 47.50 310*c i*P **P** **23 21 40.0 +0.1**
KURK pmax pmax
comp=Z,70nm,1.3s
KURK MLR MLR
comp=Z,6μm,16.0s
KURK Kurchatov 47.50 310 P **P** **23 21 40.4 +0.5**
SNR=37
KURBB Kurchatov Arra 47.57 310 P **P** **23 21 39.9 -0.6**
comp=Z,53nm,1.1s,baz=86,slow=7.6,SNR=132
PKDT Phuket 47.95 246 P **P** **23 21 45.1 +1.3**
comp=Z,56nm,1.8s
BATI Baumata 47.95 204 *e*P **P** **23 21 43.2 -0.5**
BATI *e*P **P** **23 21 43.2 -0.5**
BATI Baumata 47.95 204 P **P** **23 21 43.2 -0.5**
comp=Z,91nm,1.0s,baz=68,slow=1.2,SNR=7.7
KULM Kulim 47.96 242 *e*P **P** **23 21 43.3 -0.5**
comp=Z,65nm,1.6s
KULM LR LR
comp=Z,1μm,18.0s
KULM Kulim 47.96 242 P **P** **23 21 44.0 +0.1**
SHLS Shalkode 48.11 300*c i*P **P** **23 21 43.0 -1.8**
SHLS *e*S **S** **23 28 44.2 +0.9**
SHLS pmax pmax
comp=Z,150nm,2.7s
SHLS smax smax
comp=N,72nm,3.0s
SHLS MLR MLR
comp=Z,2μm,14.0s
SHLS Shalkode 48.11 300⇑*i*P **P** **23 21 43.1 -1.8**
comp=Z,150nm,2.7s
SHLS *e*S **S** **23 28 44.2 +0.9**
comp=Z,72nm,3.0s
SHLS *e*LR LR 23 43 45.3
comp=Z,2μm,14.3s
PKI Pulchoki 48.17 278 *e*P **P** **23 21 45.6 -0.2**
comp=Z,182nm,1.6s
PKIN Phulchoki 48.18 278 *e*P **P** **23 21 45.8 0.0**
comp=Z,30nm,0.8s
MYKOM Kota Tinggi 48.19 235 *e*P **P** **23 21 45.4 -0.2**
comp=Z,17nm,1.0s
MYKOM LR LR
comp=Z,1μm,20.0s
MYKOM Kota Tinggi 48.19 235 P **P** **23 21 46.0 +0.4**
KKN Kakani 48.19 278 *e*P **P** **23 21 46.2 +0.3**
comp=Z,45nm,0.8s
IPM Ipoh 48.24 241 *e*P **P** **23 21 45.4 -0.7**
comp=Z,98nm,1.7s
IPM *e*PcP **PcP** **23 23 10.5 -2.7**
IPM LR LR
comp=Z,2μm,19.0s
IPM Ipoh 48.24 241 P **P** **23 21 46.0 -0.1**
DMN Daman 48.41 278 *e*P **P** **23 21 47.9 +0.3**

comp=Z,137nm,1.5s
UZB Uzynbulak 48.42 300*c* *i*P P 23 21 47.8 +0.5
UZB pmax pmax
comp=Z,121nm,3.3s
UZB MLR MLR
comp=Z,2μm,15.0s
UZB Uzynbulak 48.42 300⇑ *i*P P 23 21 47.9 +0.5
comp=Z,121nm,3.2s
UZB *e*LR LR 23 44 08.1
comp=Z,2μm,15.3s
IMAR Indian Mountai 48.43 30 *e*P P 23 21 47.9 +1.0
MTN Manton Dam 48.47 194 *e*P P 23 21 46.6 -1.0
comp=Z,200nm,1.8s
TDK Taldyqorghan 48.48 302 *i* P P 23 21 48.5 +0.9
TDK *e*S S 23 28 47.9 -0.5
TDK pmax pmax
comp=Z,485nm,4.1s
TDK smax smax
comp=E,373nm,8.3s
TDK MLR MLR
comp=Z,4μm,16.0s
TDK Taldyqorghan 48.48 302 *i* P P 23 21 48.6 +0.9
comp=Z,484nm,4.1s
TDK *e*S S 23 28 48.0 -0.5
comp=Z,373nm,8.3s
TDK *e*LR LR 23 44 36.3
comp=Z,4μm,16.1s
RSO Redoubt South 48.49 37 *e*P P 23 21 46.3 -1.3
COEN Coen 48.54 178 *e*P P 23 21 48.9 +0.7
comp=Z,54nm,1.1s
COEN LR LR
comp=Z,2μm,18.0s
KDAK Kodiak Island 48.59 41 *e*P P 23 21 48.6 +0.4
comp=Z,148nm,1.5s
KDAK LR LR
comp=Z,3μm,19.0s
KDAK Kodiak Island 48.59 41 *i* P P 23 21 49.0 +0.8
KDAK Kodiak Island 48.59 41 P P 23 21 48.6 +0.4
comp=Z,18nm,0.9s,baz=1.8,slow=0.6,SNR=5.9
KPKS Kokpek 48.60 300*c* *i*P P 23 21 49.3 +0.7
KPKS *e*S S 23 28 50.6 +0.4
KPKS pmax pmax
comp=Z,190nm,3.3s
KPKS smax smax
comp=E,62nm,4.0s
KPKS MLR MLR
comp=Z,2μm,15.0s
KPKS Kokpek 48.60 300⇑ *i*P P 23 21 49.3 +0.7
comp=Z,190nm,3.3s
KPKS *e*S S 23 28 50.6 +0.4
comp=Z,62nm,4.0s
KPKS *e*LR LR 23 44 26.0
comp=Z,2μm,14.8s
GKN Gorkha 48.63 279 *e*P P 23 21 49.6 +0.4
comp=Z,581nm,1.7s
PPLA Purkeypile 48.84 34 *e*P P 23 21 51.3 +1.0
comp=Z,60nm,1.4s
SATY Saty 48.88 300*c* *i*P P 23 21 51.6 +0.7
SATY *e*S S 23 28 53.2 -1.1
SATY pmax pmax
comp=Z,163nm,2.7s
SATY smax smax
comp=E,64nm,3.7s
SATY MLR MLR
comp=Z,2μm,14.0s
SATY Saty 48.88 300⇑ *i*P P 23 21 51.6 +0.7
comp=Z,163nm,2.7s
SATY *e*S S 23 28 53.2 -1.1
comp=Z,64nm,3.7s
SATY *e*LR LR 23 44 22.3
comp=Z,2μm,14.2s
CAST Castle Rocks 48.91 33 *e*P P 23 21 52.7 +2.1
comp=Z,18nm,1.1s
CAST LR LR
comp=Z,2μm,18.0s
DGPR DIGLIPUR 48.95 256 *e*P P 23 21 50.5 -1.0
PLAI Plampang 48.98 212 P P 23 21 50.7 -0.9
PRZ Przheval'sk 49.02 299 *e*P P 23 21 53.4 +1.5
comp=Z,87nm,1.1s
PRZ LR LR
comp=Z,5μm,18.0s
TPI Tanjungpandan 49.19 228 P P 23 21 53.0 -0.3
comp=Z,61nm,1.1s,comp=Z,632nm
DANN Dangsing 49.21 279 *e*P P 23 21 54.5 +0.7
comp=Z,256nm,1.0s
BOK Bokaro 49.36 273 *e*P P 23 21 54.5 -0.1
BOK IAmb IAmb 23 21 56.8
comp=Z,20nm,0.9s
BOK IAMs_20 IAMs_20 23 46 40.4
comp=Z,5μm,16.3s
BPAW Bear Paw Mtn. 49.44 32 *e*P P 23 21 56.8 +2.1
comp=Z,11nm,1.0s
BPAW LR LR
comp=Z,3μm,18.0s
SUA Susitna One 49.48 36 *e*P P 23 21 56.2 +1.1
comp=Z,19nm,0.9s
KOLN Koldanda 49.57 279 *e*P P 23 21 57.0 +0.6
comp=Z,202nm,1.6s
MLY Manley 49.59 31 *e*P P 23 21 56.4 +0.6
comp=Z,20nm,1.0s
MLY LR LR
comp=Z,2μm,20.0s
TARG Taragay, Kyrgy 49.62 298 *e*P P 23 21 58.3 +1.4
comp=Z,51nm,1.0s
TARG LR LR
comp=Z,5μm,20.0s
PPBI Pangkal Pinang 49.67 230 P P 23 21 58.8 +1.9
comp=Z,25nm,1.9s
MDOK Medeo 49.83 300 *i* P P 23 21 59.2 +1.1
MDOK *e*S S 23 29 06.7 -0.9
MDOK pmax pmax
comp=Z,386nm,1.3s
MDOK smax smax
comp=E,948nm,18.4s
MDOK MLR MLR
comp=Z,3μm,19.0s
MDOK Medeo 49.83 300 *i* P P 23 21 59.2 +1.1
comp=Z,386nm,1.3s
MDOK *e*S S 23 29 06.7 -0.9
comp=Z,948nm,18.4s
MDOK *e*LR LR 23 41 26.1
comp=Z,3μm,19.2s
AAA Alma-Ata 49.91 300 *e*P P 23 22 00.6 +2.0
AAA *e*S S 23 29 11.7 +3.1
AAA pmax pmax
comp=Z,600nm,4.7s
AAA smax smax
comp=E,1μm,11.1s
AAA Alma-Ata 49.91 300 *i* P P 23 21 58.4 -0.3
comp=E,43nm,1.6s
AAA *e*LR LR 23 44 20.8
comp=E,3μm,17.8s
TNSS Tian-Shan 49.93 300 *e*P P 23 22 00.4 +1.2
TNSS pmax pmax
comp=Z,46nm,0.8s
TNSS Tian-Shan 49.93 300 *e*P P 23 22 00.4 +1.2
comp=Z,46nm,0.8s
PYUN Piuthan 49.94 279 *e*P P 23 21 59.9 +0.7
comp=Z,449nm,1.3s
COLD Coldfoot 49.96 28 PFAKE 23 22 10.0 +11
COLD LR LR
comp=Z,2μm,18.0s
RC01 Rabbit Creek A 49.97 36 PFAKE 23 22 10.0 +11
RC01 LR LR
comp=Z,2μm,19.0s
PBA Port Blair 49.98 255 *e*P P 23 21 58.9 -0.4
KDJ Kajisay 49.98 299 *e*P P 23 22 00.7 +1.4
comp=Z,29nm,1.1s
KDJ LR LR
comp=Z,5μm,18.0s
BWN Browne 50.11 32 PFAKE 23 22 10.0 +10
BWN LR LR
comp=Z,2μm,18.0s
SEW Seward 50.14 37 PFAKE 23 22 10.0 +10
SEW LR LR
comp=Z,2μm,19.0s
KUU Kurty 50.16 301 *e*P P 23 21 59.9 -0.6
KUU *e*S S 23 29 12.8 +0.8
KUU pmax pmax
comp=Z,344nm,2.7s
KUU smax smax
comp=E,294nm,4.1s
KUU MLR MLR
comp=Z,4μm,14.0s
KUU Kurty 50.16 301 *e*P P 23 21 59.1 -1.4
comp=Z,344nm,2.7s
KUU *e*S S 23 29 12.8 +0.8
comp=Z,294nm,4.1s
KUU *e*LR LR 23 46 17.7
comp=Z,4μm,13.8s
PMR Palmer 50.25 36 *e*P P 23 22 01.5 +0.6
comp=Z,32nm,1.2s
PMR LR LR
comp=Z,2μm,22.0s
TOLK Toolik Lake Re 50.32 26 *e*P P 23 22 02.3 +1.0
comp=Z,23nm,1.0s
TOLK LR LR
comp=Z,2μm,19.0s
TOLK Toolik Lake Re 50.32 26 P P 23 22 03.3 +1.9
baz=265
MCK McKinley 50.33 33 *e*P P 23 22 02.7 +1.2
comp=Z,71nm,1.8s
MCK LR LR
comp=Z,2μm,18.0s
GHO Glory Hole Cre 50.35 35 *e*P P 23 22 02.1 +0.4
comp=Z,42nm,1.0s
GHO LR LR
comp=Z,1μm,21.0s
RND Reindeer 50.37 33 *e*P P 23 22 02.6 +0.8
comp=Z,20nm,1.0s
RND LR LR
comp=Z,2μm,19.0s
KNK Knik Glacier 50.58 36 *e*P P 23 22 06.8 +3.4
comp=Z,25nm,0.9s
KNK LR LR
comp=Z,1μm,18.0s
ULHL Ulahol 50.62 299 P P 23 22 05.3 +1.0
SNR=16
SML Sawmill 50.63 35 *e*P P 23 22 06.0 +2.2
comp=Z,125nm,1.8s
SML LR LR
comp=Z,2μm,20.0s
MDM Murphy Dome 50.66 31 *e*P P 23 22 05.2 +1.3
comp=Z,38nm,1.0s
MDM LR LR
comp=Z,2μm,18.0s
WRH Wood River Hil 50.71 32 *e*P P 23 22 05.7 +1.4
comp=Z,17nm,0.9s
WRH LR LR
comp=Z,2μm,18.0s
LHMI Lhok Sumawe 50.72 245 *e*P P 23 22 06.2 +1.2
comp=Z,121nm,1.2s
COLA College 50.81 31 PFAKE 23 22 20.0 +15
COLA LR LR
comp=Z,2μm,18.0s
COLA College 50.81 31⇓ *e*P P 23 22 07.4 +2.4
COLA pmax pmax
comp=Z,44nm,2.4s
CCB Clear Creek Bu 50.83 32 *e*P P 23 22 07.0 +1.8
comp=Z,14nm,1.1s
CCB LR LR
comp=Z,2μm,19.0s
PSI Prapat 50.91 241 *e*P P 23 22 05.3 -1.2
comp=Z,26nm,1.1s
PSI LR LR
comp=Z,2μm,18.0s
TKM2 Tokmak 2 50.92 300 P P 23 22 08.1 +1.7
SNR=70
POKR Poker Plat Res 50.99 31 P P 23 22 07.5 +1.1
baz=270
NRN Naryn 51.01 298 *e*P P 23 22 07.9 +0.6
comp=Z,24nm,1.2s
NRN LR LR
comp=Z,3μm,20.0s
DHY Denali Highway 51.04 34 PFAKE 23 22 20.0 +13
DHY LR LR
comp=Z,2μm,18.0s
SMRI Semarang 51.06 221 *e*P P 23 22 06.5 -1.0
comp=Z,144nm,1.1s
SMRI Semarang 51.06 221 P P 23 22 09.7 +2.2
SCM Sheep Creek Mo 51.10 35 *e*P P 23 22 09.7 +2.3
comp=Z,48nm,1.1s
SCM LR LR
comp=Z,2μm,18.0s
BKNI Bangkinang 51.17 237 PFAKE 23 22 20.0 +12
BKNI LR LR
comp=Z,2μm,18.0s
BKNI Bangkinang 51.17 237 P P 23 22 11.8 +3.5
HDA Harding Lake 51.20 32 *e*P P 23 22 08.7 +0.6
comp=Z,17nm,0.9s
HDA LR LR
comp=Z,2μm,18.0s
HDA Harding Lake 51.20 32 P P 23 22 08.6 +0.6
baz=271
IL1 Eielson Array 51.23 31 *e*P P 23 22 08.1 -0.1
ILAR Eielson Array 51.23 31 *e*P P 23 22 08.0 -0.2
ILAR Eielson Array 51.23 31 P P 23 22 08.1 -0.1
comp=Z,15nm,0.9s,baz=262,slow=5.1,SNR=42
ILAR LR LR 23 44 15.0
comp=Z,763nm,21.3s,baz=280,slow=36
ILB Eielson Array 51.23 31 *e*P P 23 22 08.7 +0.5
comp=Z,23nm,1.0s
BRZS Berezniki 51.38 309*c* *i*P P 23 22 09.7 +0.2
BRZS *e*S S 23 29 32.2 +3.6
BRZS pmax pmax
comp=Z,73nm,1.2s
BRZS smax smax
comp=N,75nm,5.7s
BRZS MLR MLR
comp=Z,3μm,16.0s
BRZS Berezniki 51.38 309⇑ *i*P P 23 22 09.8 +0.2
comp=Z,73nm,1.2s
BRZS *e*S S 23 29 32.2 +3.6
comp=Z,75nm,5.7s
BRZS *e*LR LR 23 44 49.9
comp=Z,3μm,15.8s
KZA Kyzart 51.38 299 P P 23 22 12.0 +1.9
SNR=30
KBK Karagaybulak 51.45 300 P P 23 22 12.6 +2.2
SNR=7.9
CHMS Chumysh 51.50 300 P P 23 22 11.8 +1.2
SNR=18
KSH Kashi 51.56 296 P P 23 22 16.0 +4.8
KSH pP pwP 23 22 19.8 -0.8
KSH S S 23 29 37.9 +6.3
KSH ScS ScS 23 32 02.8 +1.3
KSH pmax pmax
comp=Z,55nm,0.9s
KSH pmax pmax
comp=Z,1μm,5.4s
KSH LR LR
comp=Z,6μm,13.3s
KSH LR LR
comp=Z,4μm,13.0s
KSH LR LR
comp=Z,5μm,12.2s
USP Ospenovka 51.61 301 P P 23 22 12.4 +1.0
SNR=32
FRU1 Bishkek 51.63 300 *e*P P 23 22 12.8 +1.1
comp=Z,84nm,1.1s
FRU1 LR LR
comp=Z,5μm,20.0s
UGM Wanagama 51.74 221 *e*P P 23 22 11.3 -1.3
comp=Z,411nm,1.1s
UGM LR LR
comp=Z,2μm,20.0s
UGM Wanagama 51.74 221 P P 23 22 12.1 -0.5
AAK Ala-Archa 51.78 300 P P 23 22 14.2 +1.4
SNR=18
AAK Ala-Archa 51.78 300 *e*P P 23 22 14.0 +1.2
comp=Z,39nm,1.2s
AAK *e*PcP PcP 23 23 24.2 -1.7
AAK LR LR
comp=Z,4μm,19.0s
AAK Ala-Archa 51.78 300 *i* P P 23 22 13.6 +0.8
SNR=34
AAK Ala-Archa 51.78 300*c* *i*P P 23 22 13.5 +0.7
AAK pmax pmax
comp=Z,41nm,1.3s
AAK MLR MLR
comp=Z,5μm,16.0s
AAK Ala-Archa 51.78 300 P P 23 22 13.9 +1.1
SNR=19
AAK P P 23 22 13.9 +1.1
SNR=19
YOGI Yogyakarta 51.78 221 P P 23 22 13.8 +0.9
KLU Klutina 51.79 36 PFAKE 23 22 30.0 +17
KLU LR LR
comp=Z,1μm,18.0s
PRP Porcupine Dome 51.79 30 *e*P P 23 22 14.3 +1.7
comp=Z,9.1nm,0.9s
PRP LR LR
comp=Z,2μm,18.0s
UCH Uchtor 51.87 299 P P 23 22 15.6 +1.7
SNR=32
DIV Divide 51.89 36 *e*P P 23 22 14.2 +0.9
comp=Z,45nm,1.1s
DIV LR LR
comp=Z,2μm,18.0s
FYU Fort Yukon 51.90 29 *e*P P 23 22 14.5 +1.4
comp=Z,154nm,1.8s
FYU LR LR
comp=Z,1μm,18.0s
PAX Paxson 51.91 34 *e*P P 23 22 15.8 +2.3
PAX LR LR
comp=Z,2μm,19.0s
EYAK Cordova Ski Ar 51.95 37 PFAKE 23 22 30.0 +16
EYAK LR LR
comp=Z,3μm,18.0s
BMAR Burnt Mountain 52.15 28 *e*P P 23 22 17.2 +2.1
RIDG Independent Ri 52.15 33 *e*P P 23 22 16.8 +1.7
comp=Z,30nm,1.4s
RIDG LR LR
comp=Z,2μm,18.0s
BVAR Borovoye Array 52.25 314 P P 23 22 16.6 +0.6
comp=Z,32nm,1.0s,baz=84,slow=7.6,SNR=135
BVAR PcP PcP 23 23 28.2 +0.9
comp=Z,6.5nm,0.8s,baz=73,slow=4.8,SNR=3.8
EKS2 Erkin-Say 52.28 300 P P 23 22 18.4 +1.9
SNR=5.7
BRVK Borovoye 52.31 314 *e*P P 23 22 17.0 +0.6
comp=Z,51nm,1.0s
BRVK LR LR
comp=Z,3μm,20.0s
BRVK Borovoye 52.31 314*c* *i*P P 23 22 17.0 +0.6
BRVK pmax pmax
comp=Z,64nm,1.2s
BRVK MLR MLR
comp=Z,4μm,16.0s
BRVK Borovoye 52.31 314 P P 23 22 17.1 +0.7
SNR=31
AML Almayashu 52.48 300 P P 23 22 20.1 +1.8
SNR=122
DOT Dot Lake 52.51 33 *e*P P 23 22 18.5 +0.7
comp=Z,14nm,1.0s
DOT LR LR
comp=Z,2μm,18.0s
SCRK Sand Creek 52.52 32 *e*P P 23 22 19.0 +1.0
comp=Z,24nm,1.0s
SCRK LR LR
comp=Z,1μm,20.0s
CBJI Citeko 52.59 226 P P 23 22 21.0 +2.2
HMT Hamilton 52.70 37 PFAKE 23 22 30.0 +11
HMT LR LR
comp=Z,2μm,18.0s
MENT Mentasta 52.71 34 PFAKE 23 22 30.0 +11
MENT LR LR
comp=Z,2μm,20.0s
GSI Gunungsitoli 52.91 241 *e*P P 23 22 20.6 -0.7
comp=Z,349nm,1.3s
GSI LR LR
comp=Z,2μm,20.0s
CISI Cisompet, Garu 52.94 224 *e*P P 23 22 18.9 -2.6
comp=Z,65nm,1.1s
CISI LR LR
comp=Z,1μm,19.0s
CISI Cisompet, Garu 52.94 224 P P 23 22 19.5 -2.1
DDI Dehra Dun 53.04 284 *e*P P 23 22 22.5 +0.2
TGL Tana Glacier 53.36 36 PFAKE 23 22 40.0 +16
TGL LR LR
comp=Z,1μm,21.0s
SMLA Simla 53.44 285 *e*P P 23 22 25.4 +0.3
SMLA IAmb IAmb 23 22 26.3
comp=Z,53nm,0.9s
BALM Baldy 53.56 36 PFAKE 23 22 40.0 +14
BALM LR LR
comp=Z,2μm,20.0s
BCAR Beaver Creek A 53.58 33 *e*P P 23 22 26.7 +1.0
EGAK Eagle 53.68 31 *e*P P 23 22 28.3 +1.9
comp=Z,9.9nm,0.9s
EGAK LR LR
comp=Z,2μm,18.0s
DHRM DHARAMSHALA 53.71 287 *e*P P 23 22 27.3 0.0
DHRM IAMs_20 IAMs_20 23 49 10.3
comp=Z,3μm,13.4s
CTGM Chitina Glacie 54.06 36 PFAKE 23 22 40.0 +11
CTGM LR LR
comp=Z,2μm,18.0s
KK31 Karatay Array 54.46 302 *e*P P 23 22 33.3 +0.9
comp=Z,153nm,1.1s
KK31 *e*PcP PcP 23 23 30.8 -5.1
KKAR Karatay Array 54.46 302 *e*P P 23 22 32.5 +0.1
KKAR *e*P pP 23 22 33.3 -1.4
JBP Jabalpur 54.48 275 *e*P P 23 22 33.3 +0.5
JBP AMB AMB 23 22 34.4
comp=Z,103nm,1.5s
JBP *e*x x 23 30 11.8
DAWY Dawson 54.52 32 *e*P P 23 22 34.5 +1.9
comp=Z,13nm,1.1s
DAWY LR LR
comp=Z,2μm,19.0s
JBG Jabagly 54.64 301*c* *i*P P 23 22 34.9 +1.0
JBG *e*S S 23 30 16.1 +2.5
JBG pmax pmax
comp=Z,132nm,2.5s
JBG smax smax
comp=N,82nm,4.0s
JBG MLR MLR
comp=Z,2μm,15.0s
WB9 Warramunga Arr 54.77 188 PFAKE 23 22 50.0 +15
WB9 LR LR
comp=Z,3μm,20.0s
FITZ Fitzroy Crossi 54.81 199 *e*P P 23 22 36.1 +1.0
FITZ Fitzroy Crossi 54.81 199 P P 23 22 35.2 +0.2
comp=Z,20nm,1.0s,baz=30,slow=9.1,SNR=16
WC1 Warramunga Arr 54.91 188 PFAKE 23 22 50.0 +14
WC1 LR LR
comp=Z,900nm,19.0s
WRAB Tennant Creek 54.91 188 *e*P P 23 22 35.9 +0.1
comp=Z,55nm,1.0s
WRAB LR LR
comp=Z,1μm,20.0s
WRAB Tennant Creek 54.91 188⇓ *e*P P 23 22 35.9 +0.1
WRAB pmax pmax
comp=Z,126nm,2.5s
WRAB MLR MLR
comp=Z,920nm,18.0s
WB2 Warramunga Arr 54.92 188 *e*P P 23 22 35.7 -0.1
comp=Z,58nm,1.0s
WB2 LR LR
comp=Z,1μm,21.0s
WR5 Warramunga Arr 54.92 188 PFAKE 23 22 50.0 +14
WR5 LR LR
comp=Z,1μm,18.0s
WR1 Warramunga Arr 54.92 188 *e*P P 23 22 35.3 -0.6
WR4 Warramunga Arr 54.92 188 PFAKE 23 22 50.0 +14
WR4 LR LR
comp=Z,1μm,18.0s
WRA Warramunga Arr 54.92 188 *e*P P 23 22 35.0 -0.8
WRA Warramunga Arr 54.92 188 *i* P P 23 22 35.5 -0.4
WRA pmax pmax
comp=Z,13nm,0.8s
WRA Warramunga Arr 54.92 188 P P 23 22 35.3 -0.6
comp=Z,13nm,0.8s,baz=6.1,slow=7.6,SNR=29
WRA LR LR 23 45 44.1
comp=Z,944nm,20.9s,baz=10.0,slow=36
WR2 Warramunga Arr 54.92 188 PFAKE 23 22 50.0 +14
WR2 LR LR
comp=Z,1μm,19.0s
WC4 Warramunga Arr 54.94 188 PFAKE 23 22 50.0 +14
WC4 LR LR
comp=Z,1μm,21.0s
IUG Iuzhnay 55.09 301*c* *i*P P 23 22 38.2 +1.1
IUG *e*S S 23 30 20.6 +1.1
IUG pmax pmax
comp=Z,118nm,1.2s
IUG smax smax
comp=E,134nm,3.5s
IUG MLR MLR
comp=Z,1μm,15.0s
IUG Iuzhnay 55.09 301⇑ *i*P P 23 22 38.2 +1.1
comp=Z,118nm,1.2s
IUG *e*S S 23 30 20.7 +1.1
comp=Z,134nm,3.5s
IUG *e*LR LR 23 46 22.1
comp=Z,1μm,15.0s
BTK Batken 55.17 298 *e*P P 23 22 38.6 +0.9
comp=Z,112nm,1.9s
BTK LR LR
comp=Z,5μm,19.0s

EPYK Eagle Plains 55.32 29 PFAKE 23 22 50.0 +12
EPYK LR LR
comp=Z,1μm,18.0s
NIL Nilore 55.56 290 *e*P **P 23 22 41.9 +1.3**
comp=Z,76nm,1.3s
NIL LR LR
comp=Z,2μm,18.0s
GAR Garm 55.89 297 *e*P **P 23 22 43.8 +0.9**
comp=Z,91nm,1.3s
GAR LR LR
comp=Z,9μm,19.0s
NGP Nagpur 56.19 274 *e*P **P 23 22 45.0 -0.1**
NGP IAmb IAmb 23 22 47.6
comp=Z,71nm,1.2s
INK Inuvik 56.23 26 *e*P **P 23 22 45.6 +0.9**
comp=Z,16nm,1.2s
INK LR LR
comp=Z,2μm,18.0s
INK Inuvik 56.23 26 P **P 23 22 44.0 -0.7**
comp=Z,5.7nm,0.9s,baz=313,slow=5.7,SNR=14
BHPL Bhopal 56.54 277 *e*P **P 23 22 47.3 -0.4**
HPAH Hawaii Prepara 56.65 88 PFAKE 23 23 00.0 +11
HPAH LR LR
comp=Z,3μm,19.0s
KHLU Kahalu`u 56.70 88 PFAKE 23 23 00.0 +11
KHLU LR LR
comp=Z,4μm,19.0s
HUH Hualalai 56.70 88 PFAKE 23 23 00.0 +11
HUH LR LR
comp=Z,4μm,18.0s
CHGR Chuyangaron 56.85 297 PFAKE 23 23 00.0 +10
CHGR LR LR
comp=Z,9μm,20.0s
POHA Pohakuloa 56.92 88 PFAKE 23 23 00.0 +9.4
POHA LR LR
comp=Z,3μm,18.0s
MLOA Mauna Loa Obse 56.99 88 PFAKE 23 23 00.0 +8.6
MLOA LR LR
comp=Z,4μm,19.0s
MWH Moku'aweowe 57.00 88 PFAKE 23 23 00.0 +8.5
MWH LR LR
comp=Z,4μm,18.0s
KHU Kahuku 57.10 88 PFAKE 23 23 00.0 +8.1
KHU LR LR
comp=Z,4μm,19.0s
MLH Mauna Loa 57.17 88 PFAKE 23 23 10.0 +18
MLH LR LR
comp=Z,4μm,19.0s
AIN Ainahou 57.17 88 PFAKE 23 23 10.0 +18
AIN LR LR
comp=Z,4μm,20.0s
WHY Whitehorse 57.22 36 *e*P **P 23 22 53.4 +1.4**
comp=Z,16nm,0.9s
WHY LR LR
comp=Z,1μm,21.0s
UWE Uwekahuna 57.28 88 PFAKE 23 23 10.0 +17
UWE LR LR
comp=Z,4μm,19.0s
WRMHI West Rim 57.28 88 PFAKE 23 23 10.0 +17
WRMHI LR LR
comp=Z,2μm,18.0s
OBL Observatory Le 57.29 88 PFAKE 23 23 10.0 +17
OBL LR LR
comp=Z,5μm,19.0s
UWB Uwekahuna B 57.29 88 PFAKE 23 23 10.0 +17
UWB LR LR
comp=Z,4μm,20.0s
NPH North Pit 57.29 88 PFAKE 23 23 10.0 +17
NPH LR LR
comp=Z,4μm,21.0s
SDHHI Sand Hill 57.29 88 PFAKE 23 23 10.0 +17
SDHHI LR LR
comp=Z,4μm,20.0s
RIM Rim 57.31 88 PFAKE 23 23 10.0 +17
RIM LR LR
comp=Z,4μm,18.0s
HLP Hilina Pali 57.33 88 PFAKE 23 23 10.0 +17
HLP LR LR
comp=Z,5μm,18.0s
PUH Pauahi 57.37 88 PFAKE 23 23 10.0 +16
PUH LR LR
comp=Z,4μm,19.0s
STCH Steam Cracks 57.44 88 PFAKE 23 23 10.0 +16
STCH LR LR
comp=Z,5μm,20.0s
KNTN Kanton 57.48 121 PFAKE 23 23 10.0 +16
KNTN LR LR
comp=Z,4μm,20.0s
BESE Bessie Mountai 57.75 38 PFAKE 23 23 10.0 +14
BESE LR LR
comp=Z,1μm,20.0s
JIS Juneau Island 58.06 38 PFAKE 23 23 10.0 +12
JIS LR LR
comp=Z,1μm,20.0s
ARU Arti 58.18 320 *e*P **P 23 22 58.4 -0.3**
comp=Z,106nm,1.1s
ARU LR LR
comp=Z,2μm,21.0s
ARU Arti 58.18 320 *c i*P **P 23 22 59.1 +0.4**
ARU 23 25 04.6
ARU *e*S **S 23 31 02.7 +2.9**
ARU 23 32 48.3
ARU pmax pmax
comp=Z,113nm,1.1s
HYB Hyderabad 58.42 270 *i* P **P 23 23 01.5 +0.5**
HYB *e*S **S 23 31 06.0 +2.0**
HYB Hyderabad 58.42 270 *e*P **P 23 23 00.4 -0.5**
HYB IAmb IAmb 23 23 03.2
comp=Z,32nm,0.8s
KBL Kabul 58.46 292 *e*P **P 23 23 01.6 +0.4**
comp=Z,43nm,1.3s
KBL *e*PP **PP 23 25 09.1 -1.4**
KBL LR LR
comp=Z,2μm,18.0s
AS31 Alice Springs 58.65 188 *e*P **P 23 23 01.9 -0.4**
comp=Z,3.0nm,0.6s
ASAR Alice Springs 58.65 188 *e*P **P 23 23 02.0 -0.3**
ASAR Alice Springs 58.65 188 P **P 23 23 01.8 -0.5**
comp=Z,2.4nm,0.9s,baz=3.0,slow=4.9,SNR=16
ASAR LR LR 23 48 00.4
comp=Z,662nm,21.5s,baz=8.5,slow=36
ASAR PKP2bc 23 52 53.9
comp=Z,0.7nm,0.8s,baz=160,slow=1.5,SNR=5.6
MDRS Chennai 59.30 265 *e*P **P 23 23 06.4 -0.6**
MDRS IAmb IAmb 23 23 10.2
comp=Z,1μm,3.6s
MBWA Marble Bar 59.48 204 *e*P **P 23 23 08.5 +0.5**
comp=Z,31nm,0.9s
CRAG Craig 59.54 41 PFAKE 23 23 20.0 +12
CRAG LR LR
comp=Z,1μm,18.0s
ABKAR Akbulak array 59.56 311 *e*P **P 23 23 08.5 +0.1**
ABKAR *e*P **pP 23 23 08.8 -1.8**
WRAK Wrangell Islan 59.66 40 PFAKE 23 23 20.0 +11
WRAK LR LR
comp=Z,2μm,18.0s
PSAD1 Pilbara Seismi 59.72 204 PFAKE 23 23 20.0 +10
PSAD1 LR LR
comp=Z,1μm,19.0s
PSA00 Pilbara Seismi 59.82 204 *e*P **P 23 23 09.3 -1.1**
comp=Z,41nm,1.1s
PSAA1 Pilbara Seismi 59.83 204 PFAKE 23 23 20.0 +10
PSAA1 LR LR
comp=Z,1μm,21.0s
PSAC3 Pilbara Seismi 59.87 204 PFAKE 23 23 20.0 +9.2
PSAC3 LR LR
comp=Z,1μm,20.0s
DLBC Dease Lake 60.21 37 *e*P **P 23 23 14.6 +1.8**
comp=Z,32nm,1.3s
DLBC Dease Lake 60.21 37 P **P 23 23 15.5 +2.7**
comp=Z,10nm,0.9s,baz=264,slow=5.7,SNR=8.7
EIDS Eidsvold 60.53 170 *e*P **P 23 23 16.2 +1.0**
comp=Z,134nm,2.0s
DZM Mont Dzumac 61.27 154 *e*P **P 23 23 22.0 +1.6**
comp=Z,69nm,1.4s
DZM *e*S **S 23 31 38.8 -1.6**
comp=Z,997nm,24.8s
DZM *e*LR LR 23 41 15.9
comp=Z,2μm,20.9s
DZM Mont Dzumac 61.27 154 *e*P **P 23 23 21.8 +1.4**
comp=Z,156nm,2.0s
DZM LR LR
comp=Z,3μm,20.0s
DZM Mont Dzumac 61.27 154 P **P 23 23 21.8 +1.4**
comp=Z,13nm,1.0s,baz=57,slow=7.2,SNR=4.6
POO Poona 61.73 274 *e*P **P 23 23 24.3 +0.6**

KIRV Kirov 62.16 324 P **P 23 23 26.4 +0.6**
comp=Z,34nm,0.8s,baz=80,slow=4.6,SNR=29
PALK Pallekele 62.16 259 *e*P **P 23 23 26.8 +0.1**
comp=Z,56nm,1.3s
PALK LR LR
comp=Z,2μm,20.0s
PALK Pallekele 62.16 259 P **P 23 23 28.7 +2.0**
PALK Pallekele 62.16 259 P **P 23 23 28.2 +1.5**
comp=Z,20nm,1.1s,baz=117,slow=1.5,SNR=6.4
SPITS Spitsbergen Ar 62.73 349 P **P 23 23 32.3 +2.8**
comp=Z,7.2nm,0.9s,baz=61,slow=12,SNR=4.6
PRGR Permogore 62.75 328⇑ *i*P **P 23 23 30.7 +0.9**
PRGR 23 25 45.2
PRGR pmax pmax
comp=Z,46nm,1.0s
BHJ Bhuj 62.86 280 *e*P **P 23 23 30.8 -0.3**
BHJ IAMs_20 IAMs_20 23 55 12.2
comp=Z,3μm,17.7s
KBS Kingsbay 62.86 350 *e*P **P 23 23 31.9 +1.6**
comp=Z,31nm,1.1s
KBS LR LR
comp=Z,2μm,19.0s
KBS Kingsbay 62.86 350 *ce*P **P 23 23 31.4 +1.1**
KBS pmax pmax
comp=Z,92nm,1.3s
COCO West Island 63.22 231 *i* P **P 23 23 36.0 +2.5**
GOA Goa 63.30 271 *e*P **P 23 23 33.2 -0.9**
GOA IAMs_20 IAMs_20 23 56 17.2
comp=Z,2μm,15.4s
HSPB Hornsund (broa 63.65 348 *e*P P 23 23 26.4 -9.1
LVZ Lovozero 64.22 336 PFAKE 23 23 50.0 +11
LVZ LR LR
comp=Z,3μm,19.0s
TRD Trivandrum 64.50 262 *e*P **P 23 23 39.9 -2.2**
RES Resolute Bay 64.67 14 *e*P **P 23 23 42.4 +0.2**
comp=Z,18nm,0.9s
RES LR LR
comp=Z,1μm,18.0s
RES Resolute Bay 64.67 14 P **P 23 23 42.5 +0.2**
comp=Z,10nm,0.8s,baz=314,slow=6.9,SNR=33
APA Apatity 64.79 336⇑ *i*P **P 23 23 41.4 -1.8**
APA *i* 23 23 58.0
APA *i* S **S 23 32 19.0 -4.3**
APA *i* 23 33 34.0
APA *i* SS SS 23 36 23.0 -11
APA *i* SSS SSS 23 39 22.0
APA pmax pmax
comp=Z,10.0nm,1.2s
APA MLR MLR
comp=Z,5μm,15.0s
TMCR Tamitsa 64.80 332 *e*P **P 23 23 43.4 +0.2**
TMCR pmax pmax
comp=Z,79nm,1.4s
GEYT Alibeck 65.13 300 P **P 23 23 46.0 0.0**
comp=Z,3μm,1.0s,baz=77,slow=1.9,SNR=4.9
GEYT LR LR 23 53 47.9
comp=Z,3μm,18.6s,baz=60,slow=38
GYA0B ALIBECK ARRAY 65.13 300 *e*P **P 23 23 47.0 +1.1**
comp=Z,35nm,1.0s
GYA0B LR LR
comp=Z,3μm,18.0s
YKW3 Yellowknife Ar 65.55 30 *e*P **P 23 23 49.0 +0.9**
comp=Z,20nm,1.5s
YKW3 LR LR
comp=Z,1μm,18.0s
KEV Kevo 65.58 340 PFAKE 23 24 00.0 +12
KEV LR LR
comp=Z,5μm,18.0s
YKA Yellowknife Ar 65.59 30 *e*P **P 23 23 47.5 -0.9**
YKA Yellowknife Ar 65.59 30 P **P 23 23 48.3 -0.1**
comp=Z,3.7nm,0.9s,baz=296,slow=6.3,SNR=18
YKA LR LR 23 56 24.0
comp=Z,52nm,18.6s,baz=287,slow=40
YKB5 Yellowknife Ar 65.59 30 *e*P **P 23 23 48.3 -0.1**
KLMR Klimovskoe 65.75 328 *e*P **P 23 23 47.4 -2.1**
KLMR *e* 23 26 13.0
KLMR pmax pmax
comp=Z,59nm,1.5s
ARA0 ARCESS Array S 66.14 340 *e*P **P 23 23 52.7 +0.8**
ARCES ARCESS Array B 66.14 340 P **P 23 23 52.7 +0.8**
comp=Z,5.1nm,0.8s,baz=57,slow=6.9,SNR=7.2
ARCES LR LR 23 55 50.5
comp=Z,2μm,20.5s,baz=50,slow=39
ARE0 ARCESS Array S 66.14 340 PFAKE 23 24 00.0 +8.1
ARE0 LR LR
comp=Z,100nm,19.0s
STKA Stephens Creek 66.36 180 *e*P **P 23 23 53.4 -0.2**
comp=Z,5.3nm,1.4s
STKA LR LR
comp=Z,200nm,20.0s
STKA Stephens Creek 66.36 180 P **P 23 23 55.8 +2.2**
comp=Z,4.1nm,0.9s,baz=331,slow=8.6,SNR=5.7
STKA LR LR 23 55 02.4
comp=Z,974nm,18.1s,baz=354,slow=38
TULEG Thule 67.25 7 *e*P **P 23 23 58.3 -0.5**
comp=Z,33nm,1.2s
TULEG LR LR
comp=Z,3μm,18.0s
BBOO Buckleboo 67.50 185 PFAKE 23 24 10.0 +9.1
BBOO LR LR
comp=Z,1μm,20.0s
DAG Danmarks Havn 67.98 355⇑ *i*P **P 23 24 03.8 +0.3**
DAG pmax pmax
comp=Z,24nm,1.0s
DAG Danmarks Havn 67.98 355⇑ *i*P **P 23 24 03.8 +0.3**
comp=Z,24nm,1.0s
NLWA Neilton Lookou 68.02 47 PFAKE 23 24 20.0 +16
NLWA LR LR
comp=Z,500nm,20.0s
D03D Eldon 68.42 47 P **P 23 24 08.6 +1.9**
baz=298
E03A Lebam 68.61 48 PFAKE 23 24 20.0 +12
E03A LR LR
comp=Z,1μm,18.0s
B05A Bryant 68.67 45 P **P 23 24 09.2 +1.1**
baz=299
B06A Marblemount 68.90 45 PFAKE 23 24 20.0 +10
B06A LR LR
comp=Z,600nm,20.0s
F03A Seaside 68.90 48 PFAKE 23 24 20.0 +10
F03A LR LR
comp=Z,1μm,18.0s
MOS Moscow 69.17 324 *e*P **P 23 24 09.4 -1.8**
MOS *e* 23 24 22.1
MOS *e* 23 24 38.4
MOS *e* 23 26 43.2
MOS *e*PPP PPP 23 28 24.9
MOS *e*S **S 23 33 13.9 -2.5**
MOS *e*PS 23 33 50.3
MOS *e* 23 34 06.8
MOS *e*SS **SS 23 37 37.1 -4.8**
MOS pmax pmax
comp=Z,147nm,1.7s
MOS MLR MLR
comp=E,5μm,15.0s
MOS MLR MLR
comp=Z,5μm,15.0s
VRH Novokhopyorsk 69.38 319 *e*P **P 23 24 12.1 -0.5**
VRH pmax pmax
comp=Z,30nm,1.0s
VRH MLR MLR
comp=Z,4μm,15.0s
COR Corvallis 69.71 49 PFAKE 23 24 30.0 +15
COR LR LR
comp=Z,2μm,18.0s
LTY Liberty 70.00 46 *e*P **P 23 24 17.5 +0.9**
comp=Z,39nm,1.6s
LTY LR LR
comp=Z,800nm,18.0s
OBN Obninsk 70.01 324 *e*P **P 23 24 16.5 +0.1**
comp=Z,114nm,1.4s
OBN LR LR
comp=Z,2μm,20.0s
OBN Obninsk 70.01 324 *c i*P **P 23 24 16.4 +0.1**
OBN *e* 23 24 38.3
OBN *e* 23 26 52.0
OBN *e*S **SKiKP 23 34 05.5 +3.1**
OBN pmax pmax
comp=Z,91nm,1.4s
OBN MLR MLR
comp=Z,6μm,16.0s
MAK Makhachkala 70.02 309 *e*P **P 23 24 14.1 -2.5**
MAK *e*S **S 23 33 23.3 -3.6**
MAK *e*SS **SS 23 37 53.2 -2.4**
MAK pmax pmax
comp=Z,84nm,1.3s

MAK MLR MLR
comp=Z,4μm,16.0s
CAN Canberra 70.12 174 PFAKE 23 24 30.0 +13
CAN LR LR
comp=Z,1μm,18.0s
LPSR Galich'ya Gora 70.15 321 *e*P **P 23 24 17.5 +0.2**
LPSR pmax pmax
comp=Z,40nm,1.0s
LPSR MLR MLR
comp=Z,9μm,15.0s
B08A Colville Reser 70.22 44 *e*P **P 23 24 18.7 +0.8**
comp=Z,19nm,1.1s
B08A LR LR
comp=Z,1μm,18.0s
H04A Detroit Lake 70.36 49 *e*P **P 23 24 19.4 +0.6**
comp=Z,24nm,1.1s
H04A LR LR
comp=Z,1μm,18.0s
VSR Storozhevoye 70.75 319 *e*P **P 23 24 20.8 -0.2**
VSR pmax pmax
comp=Z,40nm,1.2s
VSR MLR MLR
comp=Z,6μm,14.0s
KRMB Red Mountain 70.83 52 PFAKE 23 24 30.0 +8.2
KRMB LR LR
comp=Z,1μm,18.0s
FIA1 FINESS Array S 70.87 333 *e*P **P 23 24 22.3 +0.8**
comp=Z,77nm,1.4s
FIA0 FINESS Array S 70.88 333 *e*P **P 23 24 22.4 +0.9**
FINES FINESS Array B 70.88 333 *e*P **P 23 24 22.0 +0.4**
FINES *e*PP **PP 23 26 56.3 -1.8**
FINES FINESS Array B 70.88 333 P **P 23 24 22.4 +0.9**
comp=Z,14nm,0.9s,baz=73,slow=6.6,SNR=29
FINES LR LR 23 58 51.6
comp=Z,4μm,18.2s,baz=43,slow=39
HUMO Hull Mountain 70.90 51 PFAKE 23 24 30.0 +7.8
HUMO LR LR
comp=Z,900nm,20.0s
GROC Groznyy 70.98 310 *e*P **P 23 24 21.0 -1.6**
GROC *e* 23 24 40.1
GROC *e* 23 26 58.5
GROC pmax pmax
comp=Z,37nm,1.5s
G06A Carlson Farm, 71.03 48 *e*P **P 23 24 23.1 +0.1**
comp=Z,103nm,2.0s
G06A LR LR
comp=Z,800nm,20.0s
HAWA Hanford 71.11 46 PFAKE 23 24 40.0 +17
HAWA LR LR
comp=Z,800nm,18.0s
C09A Chrisman Ranch 71.12 45 *e*P **P 23 24 24.4 +1.1**
comp=Z,64nm,1.9s
D08A Wollman Farm, 71.13 45 *e*P **P 23 24 24.2 +0.8**
comp=Z,62nm,1.9s
KHMM Horse Mountain 71.27 53 PFAKE 23 24 40.0 +15
KHMM LR LR
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 71.50 52 *e*P **P 23 24 28.7 +2.8**
comp=Z,21nm,1.3s
YBH LR LR
comp=Z,1μm,19.0s
YBH Yreka Blue Hor 71.50 52 P **P 23 24 28.4 +2.5**
comp=Z,5.2nm,1.0s,baz=233,slow=1.7,SNR=5.9
L04D Klamath Falls 71.52 51 P **P 23 24 27.6 +1.6**
baz=300
NEW Newport 71.54 44 *e*P **P 23 24 26.5 +0.6**
comp=Z,12nm,1.0s
NEW LR LR
comp=Z,1μm,20.0s
NEW Newport 71.54 44 P **P 23 24 26.4 +0.4**
baz=302
PINE Pine Mountain 71.58 49 *e*P **P 23 24 28.7 +2.2**
comp=Z,26nm,1.1s
PINE LR LR
comp=Z,1μm,20.0s
KMRM Mail Ridge 71.61 54 PFAKE 23 24 40.0 +13
KMRM LR LR
comp=Z,3μm,18.0s
J05D Fort Rock, OR 71.65 50 P **P 23 24 28.1 +1.3**
baz=301
E09A Wood Farm, Sta 71.86 46 *e*P **P 23 24 28.6 +0.8**
comp=Z,17nm,1.1s
E09A LR LR
comp=Z,800nm,19.0s
BIDO Bidbid 71.94 286 P **P 23 24 29.7 +1.0**
SNR=7.9
BIDO P **P 23 24 29.7 +1.0**
SNR=7.9
KCPM Cahto Peak 71.96 54 PFAKE 23 24 40.0 +11
KCPM LR LR
comp=Z,3μm,20.0s
G08A Pilot Rock 72.02 47 *e*P **P 23 24 29.8 +0.9**
comp=Z,21nm,1.7s
G08A LR LR
comp=Z,800nm,19.0s
M04C Macdoel 72.04 51 P **P 23 24 30.3 +1.2**
baz=301
K05A Summer Lake 72.15 50 *e*P **P 23 24 31.6 +1.7**
comp=Z,37nm,1.2s
WDC Whiskeytown Da 72.19 53 *e*P **P 23 24 30.8 +0.8**
comp=Z,15nm,1.1s
WDC LR LR
comp=Z,900nm,19.0s
NCK Nalchik 72.22 311⇓ *i*P **P 23 24 31.1 +1.0**
NCK pmax pmax
comp=Z,36nm,1.6s
NCK MLR MLR
comp=Z,5μm,17.0s
SHME Shamm 72.22 290 *i* P **P 23 24 32.4 +2.0**
SNR=9.6
I07A Izee 72.32 48 *e*P **P 23 24 32.2 +1.4**
comp=Z,10.0nm,1.3s
I07A LR LR
comp=Z,1μm,20.0s
ZEI Tsey 72.39 310 *e*P **P 23 24 27.9 -3.4**
ZEI pmax pmax
comp=Z,19nm,1.4s
TBLG Delisi 72.41 309 *e*P **P 23 24 32.0 +0.7**
comp=Z,29nm,1.1s
TBLG *e*PP **PP 23 27 15.2 +3.5**
VSU Vasula 72.47 330 *e*P **P 23 24 31.1 -0.2**
VSU IAmb IAmb 23 24 32.8
comp=Z,136nm,1.1s
KBZ Khabaz 72.53 311 P **P 23 24 32.7 +0.9**
comp=Z,14nm,1.0s,baz=59,slow=4.8,SNR=35
KBZ LR LR 23 56 59.4
comp=Z,3μm,19.2s,baz=90,slow=36
KIV Kislovodsk 72.54 312 *e*P **P 23 24 32.9 +0.8**
comp=Z,126nm,1.6s
KIV LR LR
comp=Z,3μm,18.0s
KIV Kislovodsk 72.54 312 *i* P **P 23 24 33.3 +1.2**
SNR=14
KIV Kislovodsk 72.54 312 *e*P **P 23 24 32.9 +0.8**
KIV *e* 23 27 14.4
KIV *e* 23 33 58.1
KIV pmax pmax
comp=Z,98nm,1.1s
KIV Kislovodsk 72.54 312 P **P 23 24 33.1 +1.0**
SNR=22
KIV P **P 23 24 33.1 +1.0**
SNR=22
HOPS Hopland Field 72.65 54 PFAKE 23 24 50.0 +17
HOPS LR LR
comp=Z,4μm,18.0s
F10A Beach Ranch, E 72.69 46 *e*P **P 23 24 34.8 +1.9**
comp=Z,21nm,1.5s
F10A LR LR
comp=Z,800nm,20.0s
HATD Hatta, Dubai 72.85 289 *i* P **P 23 24 35.3 +1.2**
SNR=5.9
SUMG Summit 72.88 0 *e*P **P 23 24 35.2 +1.2**
comp=Z,31nm,1.1s
SUMG LR LR
comp=Z,2μm,18.0s
SUMG Summit 72.88 0 *i* P **P 23 24 35.2 +1.2**
SUMG pmax pmax
comp=Z,92nm,1.3s
SUMG Summit 72.88 0 *i* P **P 23 24 35.2 +1.2**
comp=Z,92nm,1.3s
SOHO SOHO 72.89 288 P **P 23 24 34.7 +0.4**
SNR=5.8
SOHO P **P 23 24 34.7 +0.4**
SNR=5.8
NEY Neytrino 72.89 311 *d i*P **P 23 24 36.2 +1.9**
NEY MLR MLR
comp=Z,1μm,16.0s

WALA	Waterton Lakes	72.90	42	eP	P	23 24 35.1	+0.9
	comp=Z,45nm,1.8s						
WALA				LR	LR		
	comp=Z,1μm,18.0s						
GDXM	Geysers	72.94	54	PFAKE		23 24 50.0	+16
GDXM				LR	LR		
	comp=Z,5μm,19.0s						
MOD	Modoc Plateau	72.96	51	eP	P	23 24 35.0	+0.3
	comp=Z,20nm,1.4s						
MOD				LR	LR		
	comp=Z,700nm,19.0s						
ASHO	Ashiyiah	72.98	288	P	P	23 24 36.0	+1.1
NAZ	Nazwa, Dubai	73.13	289	i P	P	23 24 37.3	+1.5
	SNR=6.2						
NAZ	Nazwa, Dubai	73.13	289	P	P	23 24 36.2	+0.5
	SNR=5.1						
NAZ				P	P	23 24 36.2	+0.5
	SNR=5.1						
MCCM	Marconi Confer	73.22	55	PFAKE		23 24 50.0	+14
MCCM				LR	LR		
	comp=Z,2μm,20.0s						
GNI	Garni	73.23	307	eP	P	23 24 37.8	+1.5
	comp=Z,132nm,1.8s						
GNI				LR	LR		
	comp=Z,1μm,19.0s						
GNI	Garni	73.23	307	i P	P	23 24 37.8	+1.5
	SNR=16						
GNI	Garni	73.23	307	c iP	P	23 24 37.7	+1.5
GNI				pmax	pmax		
	comp=Z,166nm,1.5s						
GNI				MLR	MLR		
	comp=Z,8μm,17.0s						
GNI	Garni	73.23	307	P	P	23 24 38.1	+1.8
	SNR=14						
GNI				P	P	23 24 38.1	+1.8
	SNR=14						
BMO	Blue Mountains	73.25	47	eP	P	23 24 37.3	+1.1
	comp=Z,19nm,1.4s						
BMO				LR	LR		
	comp=Z,1μm,19.0s						
FAQ	Al Faqa, Dubai	73.31	289	i P	P	23 24 37.7	+0.9
	SNR=10						
FAQ	Al Faqa, Dubai	73.31	289	P	P	23 24 37.2	+0.4
	SNR=5.9						
FAQ				P	P	23 24 37.2	+0.4
	SNR=5.9						
J08A	Circle Bar Ran	73.33	49	eP	P	23 24 38.2	+1.4
	comp=Z,29nm,1.4s						
J08A				LR	LR		
	comp=Z,1μm,19.0s						
AKH	Akhalkalaki	73.37	309	eP	P	23 24 38.5	+1.4
	comp=Z,45nm,1.5s						
AKH				LR	LR		
	comp=Z,3μm,20.0s						
AKH	Akhalkalaki	73.37	309⇑	i P	P	23 24 39.3	+2.2
MHTO	MHTO	73.37	284	P	P	23 24 37.8	+0.6
	SNR=11						
MHTO				P	P	23 24 37.8	+0.6
	SNR=11						
ORV	Oroville	73.41	53	PFAKE		23 24 50.0	+13
ORV				LR	LR		
	comp=Z,2μm,18.0s						
ALNE	Al Ain	73.54	288	i P	P	23 24 39.3	+1.1
	SNR=6.5						
ASUD	Al Ashush, Dub	73.57	289	i P	P	23 24 39.7	+1.3
	SNR=8.7						
WVOR	Wild Horse Val	73.73	49	eP	P	23 24 40.4	+1.3
	comp=Z,16nm,1.2s						
WVOR				LR	LR		
	comp=Z,700nm,20.0s						
PLID	Pearl Lake	73.90	46	eP	P	23 24 41.1	+0.9
	comp=Z,39nm,1.9s						
PLID				LR	LR		
	comp=Z,1μm,21.0s						
BEKR	Beckworth	73.99	52	eP	P	23 24 40.7	-0.1
	comp=Z,15nm,0.9s						
KARS	Kars	74.05	309	eP	P	23 24 43.5	+2.4
AFDM	Forest Hills D	74.08	54	eP	P	23 24 41.6	+0.5
	comp=Z,19nm,1.4s						
AFDM				LR	LR		
	comp=Z,2μm,19.0s						
MSO	Missoula	74.13	44	eP	P	23 24 42.0	+0.6
	comp=Z,14nm,1.4s						
MSO				LR	LR		
	comp=Z,900nm,18.0s						
MSO	Missoula	74.13	44	P	P	23 24 41.7	+0.3
	baz=304						
DQM	DQM	74.27	283	P	P	23 24 43.0	+0.6
DQM				P	P	23 24 43.0	+0.6
SCO	Scoresbysund	74.32	354	eP	P	23 24 43.2	+1.3
	comp=Z,86nm,1.9s						
SCO				LR	LR		
	comp=Z,1μm,18.0s						
SCO	Scoresbysund	74.32	354⇑	i P	P	23 24 43.4	+1.5
SCO				pmax	pmax		
	comp=Z,40nm,1.4s						
SCO	Scoresbysund	74.32	354⇑	i P	P	23 24 43.4	+1.5
	comp=Z,40nm,1.4s						
IZAR	Zarasai	74.40	328	eP	P	23 24 43.0	+0.4
IZAR				IAmb	IAmb	23 24 45.5	
	comp=Z,20nm,1.2s						
BATM	Batumi	74.41	310⇓	i P	P	23 24 44.3	+1.3
MICGM	Minsk	74.45	326	eP	P	23 24 44.0	+1.0
MICGM				LRM	MLR	00 02 42.0	
	comp=E,5.0nm,16.0s						
MICGM				LRM	MLR	00 02 46.0	
	comp=Z,7.4nm,16.0s						
MICGM				eLQ	LQ	23 53 18.0	
MICGM				eLR	LR	23 57 12.0	
MNK	Minsk	74.45	326	eP	P	23 24 44.0	+1.0
BCA	Borcka	74.54	310⇑	i P	P	23 24 45.0	+1.2
SOC	Sochi	74.55	312	c iP	P	23 24 43.7	-0.1
SOC				e		23 27 27.5	
SOC				eS	S	23 34 17.6	-1.3
SOC				eSS	SS	23 39 00.2	-4.7
SOC				eSSS	SSS	23 42 19.2	
SOC				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,3μm,19.0s						
RUBR	Rubicon Trail	74.56	53	PFAKE		23 25 00.0	+16
RUBR				LR	LR		
	comp=Z,2μm,19.0s						
IIGN	Ignalina	74.66	328	eP	P	23 24 44.9	+0.7
IIGN				IAmb	IAmb	23 24 47.0	
	comp=Z,16nm,1.1s						
NACGM	Naroch	74.70	327	eP	P	23 24 44.0	-0.4
NACGM				ePP	PP	23 27 28.0	-2.8
NACGM				ePPP	PPP	23 29 20.0	
NACGM				eS	S	23 34 25.0	+4.9
NACGM				eScS	SKSac	23 34 46.0	-6.4
NACGM				eSS	SS	23 39 16.0	+10
NACGM				eSSS	SSS	23 42 56.0	
NACGM				eLQ	LQ	23 53 30.0	
NACGM				eLR	LR	23 56 46.0	
NACGM				LRM	MLR	00 02 44.0	
	comp=Z,8.1nm,14.0s						
PAHR	Pah Rah Range	74.71	52	eP	P	23 24 46.5	+1.5
	comp=Z,22nm,1.4s						
PAHR				LR	LR		
	comp=Z,1μm,19.0s						
VCNR	Virginia City	74.76	53	PFAKE		23 25 00.0	+15
VCNR				LR	LR		
	comp=Z,1μm,18.0s						
SLIT	Slitere, Latvi	74.82	331	eP	P	23 24 43.4	-1.6
SLIT				IAmb	IAmb	23 24 46.0	
	comp=Z,353nm,1.3s						
PNTR	Pine Nut	74.90	53	eP	P	23 24 47.4	+1.2
	comp=Z,30nm,1.4s						
PNTR				LR	LR		
	comp=Z,2μm,18.0s						
CMB	Columbia Colle	74.95	54	eP	P	23 24 47.1	+0.8
	comp=Z,18nm,1.0s						
CMB				LR	LR		
	comp=Z,2μm,19.0s						
YERR	Yerington	75.19	53	eP	P	23 24 49.6	+1.7
	comp=Z,28nm,1.2s						
YERR				LR	LR		
	comp=Z,2μm,19.0s						
ANN	Anapa	75.24	314	eP	P	23 24 45.0	-2.7
ANN				e		23 24 58.6	
ANN				ePPP	PPP	23 29 24.0	
ANN				eS	S	23 34 21.5	-4.9
ANN				pmax	pmax		
	comp=Z,45nm,1.4s						
WAKR	Walker	75.33	53	eP	P	23 24 49.7	+1.0
	comp=Z,13nm,1.1s						
WAKR				LR	LR		
	comp=Z,3μm,19.0s						
HRY	Holter Researc	75.39	43	eP	P	23 24 49.8	+1.1
FFC	Flin Flon	75.42	33	eP	P	23 24 48.6	0.0
	comp=Z,25nm,1.3s						
FFC				LR	LR		
	comp=Z,1μm,19.0s						
FFC	Flin Flon	75.42	33	i P	P	23 24 49.7	+1.1
PABE	Paberze	75.54	329	eP	P	23 24 45.4	-3.8
PABE				IAmb	IAmb	23 24 48.4	
	comp=Z,83nm,1.1s						
LRM	Limekiln Ridge	75.55	44	eP	P	23 24 50.8	+0.9
HLID	Hailey	75.69	47	eP	P	23 24 52.0	+1.4
	comp=Z,14nm,1.4s						
HLID				LR	LR		
	comp=Z,800nm,18.0s						
HLID	Hailey	75.69	47	P	P	23 24 52.0	+1.4
	baz=305						
BMN	Battle Mountai	75.71	51	eP	P	23 24 51.4	+0.7
	comp=Z,22nm,1.3s						
BMN				LR	LR		
	comp=Z,1μm,18.0s						
DLMT	Dillon	75.73	44	eP	P	23 24 51.1	+0.4
	comp=Z,34nm,1.4s						
EGMT	Eagleton	75.76	41	eP	P	23 24 51.3	+0.5
	comp=Z,32nm,1.3s						
EGMT				LR	LR		
	comp=Z,1μm,20.0s						
EGMT	Eagleton	75.76	41	P	P	23 24 50.8	0.0
	baz=306						
ILULI	Ilulissat	75.83	5	PFAKE		23 25 00.0	+9.4
ILULI				LR	LR		
	comp=Z,2μm,18.0s						
FCC	Fort Churchill	75.86	26	eP	P	23 24 51.1	+0.1
	comp=Z,27nm,1.1s						
FCC				LR	LR		
	comp=Z,1μm,18.0s						
RYN	Ryan	75.86	53	eP	P	23 24 52.4	+0.8
	comp=Z,11nm,1.0s						
RYN				LR	LR		
	comp=Z,2μm,18.0s						
MCMT	McKenzie Canyo	75.89	45	eP	P	23 24 51.6	-0.2
KVN	Kaiserville	75.90	52	eP	P	23 24 52.4	+0.5
	comp=Z,21nm,1.1s						
KVN				LR	LR		
	comp=Z,1μm,18.0s						
MDPB	Devils Postpil	76.04	54	eP	P	23 24 53.3	+0.5
	comp=Z,53nm,1.4s						
MDPB				LR	LR		
	comp=Z,2μm,19.0s						
PBUR	Paburg	76.05	330	eP	P	23 24 51.0	-1.1
PBUR				IAmb	IAmb	23 24 54.5	
	comp=Z,82nm,1.2s						
NC405	NORSAR Array S	76.09	337	eP	P	23 24 52.1	-0.2
	comp=Z,151nm,1.6s						
OMMB	Old Mammoth Mi	76.10	54	eP	P	23 24 53.2	0.0
	comp=Z,32nm,1.6s						
OMMB				LR	LR		
	comp=Z,2μm,18.0s						
NV01	Mina Array Sit	76.11	53	eP	P	23 24 54.1	+1.0
NVAR	Mina Array Bea	76.11	53	eP	P	23 24 53.7	+0.6
NVAR	Mina Array Bea	76.11	53	P	P	23 24 54.1	+1.0
	comp=Z,8.3nm,0.8s,baz=285,slow=5.5,SNR=26						
NVAR				LR	LR	23 57 54.3	
	comp=Z,1μm,18.1s,baz=296,slow=35						
NC303	NORSAR Array S	76.12	338	eP	P	23 24 52.0	-0.5
	comp=Z,155nm,1.6s						
BOZ	Bozeman (W)	76.15	44	eP	P	23 24 54.6	+1.4
	comp=Z,15nm,1.2s						
BOZ				LR	LR		
	comp=Z,1μm,20.0s						
BOZ	Bozeman (W)	76.15	44	P	P	23 24 54.2	+1.0
	baz=306						
AKASG	Malin Array Be	76.19	323	eP	P	23 24 53.1	+0.1
AKASG	Malin Array Be	76.19	323	i P	P	23 24 53.2	+0.2
AKASG				pmax	pmax		
	comp=Z,16nm,1.0s						
AKASG	Malin Array Be	76.19	323	P	P	23 24 52.7	-0.4
	comp=Z,16nm,1.0s,baz=45,slow=6.2,SNR=69						
AKASG				LR	LR	23 59 54.7	
	comp=Z,2μm,20.8s,baz=50,slow=37						
AKBB	Malin Array Si	76.19	323	eP	P	23 24 53.2	+0.2
	comp=Z,34nm,1.0s						
AKBB				LR	LR		
	comp=Z,4μm,18.0s						
KIEV	Kiev	76.20	323	eP	P	23 24 53.4	+0.3
	comp=Z,33nm,1.0s						
KIEV				LR	LR		
	comp=Z,4μm,18.0s						
KIEV	Kiev	76.20	323	i P	P	23 24 53.6	+0.5
	SNR=15						
KIEV	Kiev	76.20	323	c iP	P	23 24 53.2	+0.1
KIEV				pmax	pmax		
	comp=Z,42nm,1.2s						
KIEV				MLR	MLR		
	comp=Z,4μm,16.0s						
NV11	Mina Array Sit	76.21	53	eP	P	23 24 55.0	+1.4
	comp=Z,3.3nm,1.8s						
NV11				LR	LR		
	comp=Z,200nm,19.0s						
NC204	NORSAR Array S	76.27	338	eP	P	23 24 52.3	-1.1
	comp=Z,98nm,1.4s						
NB201	NORSAR Array S	76.28	338	eP	P	23 24 53.7	+0.3
	comp=Z,136nm,1.3s						
PAGB	Antelope Grade	76.29	56	eP	P	23 24 54.7	+0.8
	comp=Z,31nm,1.2s						
NB2	NORSAR Subarra	76.31	338	P	P	23 24 54.3	+0.7
	comp=Z,6.2nm,0.8s,baz=40,slow=5.9						
NOA	NORSAR Array B	76.31	338	P	P	23 24 54.0	+0.4
	comp=Z,18nm,0.9s,baz=39,slow=5.7,SNR=30						
NOA				LR	LR	00 02 25.0	
	comp=Z,3μm,18.4s,baz=45,slow=39						
NBO00	NORSAR Array S	76.45	338	eP	P	23 24 55.0	+0.6
	comp=Z,54nm,1.0s						
NAO01	NORSAR Array S	76.56	338	eP	P	23 24 54.9	-0.1
	comp=Z,348nm,1.8s						
QLMT	Earthquake Lak	76.71	44	eP	P	23 24 56.8	+0.4
ELK	Elko	76.78	49	eP	P	23 24 57.7	+0.7
	comp=Z,19nm,1.4s						
ELK				LR	LR		
	comp=Z,900nm,18.0s						
SUW	Suwalki	76.88	328	eP	P	23 24 57.6	+0.7
SUW	Suwalki	76.88	328	eP	P	23 24 57.3	+0.4
	comp=Z,80nm,1.2s						
SUW				LR	LR		
	comp=Z,2μm,20.0s						
SUW	Suwalki	76.88	328	eP	P	23 24 57.6	+0.7
PKM	Mcpherson Peak	77.05	57	P	P	23 24 59.3	+0.8
	baz=304						
SIM	Simferopol'	77.07	316	deP	P	23 24 58.3	+0.1
SIM				eS	S	23 34 44.9	-1.7
SIM				pmax	pmax		
	comp=Z,13nm,0.8s						
GCMT	Greycliff	77.14	43	eP	P	23 24 59.3	+0.5
CWC	Cottonwood Cre	77.36	54	P	P	23 25 00.5	+0.4
	baz=304						
H17A	Grant Village	77.46	44	eP	P	23 25 02.4	+1.7
	comp=Z,22nm,1.0s						
H17A				LR	LR		
	comp=Z,1μm,20.0s						
H17A	Grant Village	77.46	44	P	P	23 25 03.6	+2.9
	baz=307						
LKWY	Lake	77.46	44	PFAKE		23 25 10.0	+9.3
LKWY				LR	LR		
	comp=Z,2μm,18.0s						
ISA	Isabella, Lake	77.53	55	eP	P	23 25 02.4	+1.4
	comp=Z,7.6nm,1.2s						
ISA				LR	LR		
	comp=Z,2μm,19.0s						
ISA	Isabella, Lake	77.53	55	P	P	23 25 00.7	-0.3
	baz=304						
IMW	Indian Meadow	77.55	45	eP	P	23 25 03.5	+2.3
	comp=Z,20nm,1.1s						
IMW				LR	LR		
	comp=Z,600nm,18.0s						
FLWY	Flagg Ranch	77.58	45	eP	P	23 25 02.7	+1.4
	comp=Z,63nm,1.7s						
FLWY				ePP	PP	23 27 59.6	+3.9
FXWY	Fox Creek	77.65	45	eP	P	23 25 02.4	+0.6
	comp=Z,17nm,1.4s						
MOOW	Moose Ponds	77.75	45	eP	P	23 25 03.9	+1.7
	comp=Z,27nm,1.6s						
RLMT	Red Lodge	77.77	43	eP	P	23 25 04.0	+1.7
	comp=Z,17nm,1.4s						
RLMT				LR	LR		
	comp=Z,900nm,19.0s						
RLMT	Red Lodge	77.77	43	P	P	23 25 03.3	+0.9
	baz=307						
DAC	Darwin (Calif)	77.78	54	eP	P	23 25 03.7	+1.1
	comp=Z,13nm,1.4s						
DAC				LR	LR		
	comp=Z,2μm,20.0s						
TPAW	Teton Pass	77.78	45	eP	P	23 25 03.8	+1.3
	comp=Z,21nm,1.4s						
TPAW				LR	LR		
	comp=Z,900nm,18.0s						
KONO	Kongsberg	77.90	337	PFAKE		23 25 10.0	+7.5
KONO				LR	LR		
	comp=Z,4μm,18.0s						
LOHW	Long Hollow	77.91	45	eP	P	23 25 03.6	+0.4
	comp=Z,15nm,1.3s						
LOHW				LR	LR		
	comp=Z,600nm,20.0s						
REDW	Red Top Meadow	77.92	45	eP	P	23 25 04.8	+1.6
	comp=Z,23nm,1.4s						
R11A	Troy Canyon, C	77.92	52	eP	P	23 25 04.3	+1.0
	comp=Z,40nm,1.8s						
R11A				LR	LR		
	comp=Z,1μm,18.0s						
R11A	Troy Canyon, C	77.92	52	P	P	23 25 04.3	+1.0
	baz=305						
OSI	Osito Audit: C	77.94	56	PFAKE		23 25 20.0	+17
OSI				LR	LR		
	comp=Z,3μm,19.0s						
MPMC	Manual Prospec	77.97	54	P	P	23 25 04.6	+1.0
	baz=304						
SFJD	Kangerlussuaq	78.05	5	PFAKE		23 25 20.0	+17
SFJD				LR	LR		
	comp=Z,2μm,18.0s						
AHID	Auburn Hatcher	78.13	46	PFAKE		23 25 20.0	+16
AHID				LR	LR		
	comp=Z,800nm,18.0s						
FURC	Furnace Creek,	78.16	54	P	P	23 25 04.8	+0.4
	baz=305						
SNOP	Sinop	78.17	313	eP	P	23 25 04.2	-0.1
	comp=Z,37nm,1.4s						
SNOP				LR	LR		
	comp=Z,2μm,19.0s						
TPNV	Topopah Spring	78.29	53	PFAKE		23 25 20.0	+15
TPNV				LR	LR		
	comp=Z,2μm,19.0s						
EDW2	Edwards Air Fo	78.29	56	P	P	23 25 06.7	+1.4
	baz=304						
DIKM	Dikmen	78.36	313⇑	i P	P	23 25 06.7	+1.3
DGMT	Dagmar	78.41	38	PFAKE		23 25 20.0	+14
DGMT				LR	LR		
	comp=Z,1μm,18.0s						
LAO	LASA Array	78.48	41	eP	P	23 25 06.8	+0.8
	comp=Z,24nm,1.2s						
LAO				LR	LR		
	comp=Z,800nm,20.0s						
LAO	LASA Array	78.48	41	P	P	23 25 07.0	+1.0
	baz=309						
HWUT	Hardware Ranch	78.54	47	eP	P	23 25 07.6	+0.9
	comp=Z,80nm,1.9s						
HWUT				LR	LR		
	comp=Z,700nm,19.0s						
PASC	Pasadena Art C	78.56	56	PFAKE		23 25 20.0	+13
PASC				LR	LR		
	comp=Z,4μm,19.0s						
DUG	Dugway, Tooele	78.61	49	eP	P	23 25 08.5	+1.5
	comp=Z,32nm,1.4s						
DUG				LR	LR		
	comp=Z,900nm,18.0s						
DUG	Dugway, Tooele	78.61	49	P	P	23 25 08.6	+1.5
	baz=306						
MWC	Mount Wilson	78.62	56	PFAKE		23 25 20.0	+13
MWC				LR	LR		
	comp=Z,4μm,19.0s						
KIS	Kishinev	78.73	320	eP	P	23 25 07.0	-0.3
KIS				eS	S	23 35 00.0	-4.4
KIS	Kishinev	78.73	320	eP	P	23 25 07.0	-0.3
KIS				e		23 25 22.0	
KIS				eS	S	23 35 00.0	-4.4
KIS				ePS	PnS	23 36 00.0	+14
KIS				MLR	MLR		
	comp=Z,8μm,15.0s						
KIS				MLR	MLR		
	comp=N,4μm,15.0s						
GSC	Goldstone, Bar	78.86	55	eP	P	23 25 09.9	+1.5
	comp=N,41nm,1.9s						
GSC	Goldstone, Bar	78.86	55	P	P	23 25 09.6	+1.2
	baz=305						
BFSC	Mount Baldy Ra	78.88	56	P	P	23 25 08.9	+0.3
	baz=305						
BW06	Boulder Array	79.03	45	eP	P	23 25 09.4	0.0
	comp=N,15nm,1.4s						
BW06				LR	LR		
	comp=Z,1μm,18.0s						
BW06	Boulder Array	79.03	45	P	P	23 25 09.9	+0.5
	baz=308						
PD31	Pinedale Array	79.03	45	eP	P	23 25 09.9	+0.5
	comp=Z,12nm,1.3s						
PDAR	Pinedale Array	79.03	45	eP	P	23 25 08.9	-0.5
PDAR	Pinedale Array	79.03	45	P	P	23 25 10.4	+1.0
	comp=Z,2.2nm,0.8s,baz=277,slow=2.1,SNR=12						
HIZ	Hauiti	79.18	154	PFAKE		23 25 20.0	+10
HIZ				LR	LR		
	comp=Z,1μm,18.0s						
SHPR	Sheep Range	79.26	53	eP	P	23 25 10.7	0.0
	comp=Z,60nm,2.0s						
IAS	Iasi	79.26	321⇑	i P	P	23 25 11.7	+1.5
IAS	Iasi	79.26	321	⇑P	P	23 25 11.7	+1.5
LVV	L'vov	79.30	324	eP	P	23 25 11.2	+0.8
LVV				e		23 25 25.6	
BEL	Belsk	79.42	327	eP	P	23 25 12.9	+1.9
BEL	Belsk	79.42	327	eP	P	23 25 12.9	+1.9
HEC	Hector,Ludlow	79.44	55	P	P	23 25 12.7	+1.1
	baz=305						
BSD	Bornholm Skovb	79.50	332⇑	i P	P	23 25 11.5	+0.2
BSD				pmax	pmax		
	comp=Z,50nm,1.1s						
BSD	Bornholm Skovb	79.50	332⇑	i P	P	23 25 11.5	+0.2
	comp=Z,50nm,1.1s						
ILGA	Ilgaz	79.64	313	eP	P	23 25 12.8	+0.1
	comp=Z,25nm,1.0s						
ILGA				LR	LR		
	comp=Z,1μm,20.0s						
URZ	Urewera	79.79	152	PFAKE		23 25 20.0	+7.1
URZ				LR	LR		
	comp=Z,1μm,19.0s						
ANGG	Ammassalik, Gr	79.87	360	PFAKE		23 25 30.0	+17
ANGG				LR	LR		
	comp=Z,2μm,19.0s						
GMRC	Granite Mounta	79.92	55	P	P	23 25 14.5	+0.3
	baz=306						
GKP	Gorka Klasztor	79.93	330	eP	P	23 25 14.8	+1.2
GKP	Gorka Klasztor	79.93	330	eP	P	23 25 14.9	+1.2
PFO	Pinyon Flats O	80.06	56	eP	P	23 25 15.7	+0.7
	comp=Z,20nm,1.4s						
PFO				LR	LR		
	comp=Z,4μm,19.0s						
PFO	Pinyon Flats O	80.06	56	P	P	23 25 16.1	+1.1
	baz=305						
PFO	Pinyon Flats O	80.06	56	P	P	23 25 15.0	0.0
	comp=Z,2.2nm,0.3s,baz=323,slow=7.0,SNR=5.3						
KWP	Kalwaria Pacla	80.06	325	eP	P	23 25 15.8	+1.2
KWP	Kalwaria Pacla	80.06	325	eP	P	23 25 15.7	+1.2
	comp=Z,825nm,1.2s						
KWP				ePP	PP	23 28 19.2	+3.3
KWP				LR	LR		
	comp=Z,28μm,19.0s						
KWP	Kalwaria Pacla	80.06	325	eP	P	23 25 15.8	+1.2
TPFO	Pinon Flats	80.06	56	P	P	23 25 15.8	+0.8
	baz=305						
LDFC	Landfair	80.12	54	PFAKE		23 25 30.0	+15
LDFC				LR	LR		
	comp=Z,2μm,18.0s						
BELC	Belle Mtn. Jos	80.15	55	P	P	23 25 16.0	+0.5
	baz=305						
BUR08	Bucovina Ar. S	80.18	322	eP	P	23 25 16.1	+0.8
	comp=Z,19nm,1.3s						
TESR	Tescani	80.18	321⇓	i P	P	23 25 16.4	+1.1
BIZ	Bicaz	80.19	321⇓	i P	P	23 25 16.9	+1.6
BURAR	Bucovina Array	80.19	322	eP	P	23 25 15.4	0.0
BURAR	Bucovina Array	80.19	322⇓	i P	P	23 25 16.8	+1.4
BURAR	Bucovina Array	80.19	322	P	P	23 25 18.0	+2.6
CFR	Carcaliu	80.26	319⇑	i P	P	23 25 16.6	+0.9
CFR	Carcaliu	80.26	319	⇑P	P	23 25 16.6	+0.9
BKZ	Black Stump Fm	80.35	153	PFAKE		23 25 30.0	+14
BKZ				LR	LR		
	comp=Z,2μm,21.0s						

BAR Barrett 80.45 57 PFAKE 23 25 30.0 +13
BAR LR LR
comp=Z,3μm,19.0s
BR101 Keskin Array S 80.50 312 *e*P **P 23 25 18.4 +1.1**
BR131 Keskin Array S 80.50 312 *e*P **P 23 25 18.4 +1.1**
comp=Z,18nm,1.1s
BR131 *e*PP **PP 23 28 19.1 -0.9**
BR131 Keskin Array S 80.50 312 P **P 23 25 17.9 +0.6**
SNR=13
BRTR Keskin Array B 80.50 312 *e*P **P 23 25 17.3 0.0**
BRTR Keskin Array B 80.50 312 P **P 23 25 18.4 +1.1**
comp=Z,8.9nm,1.0s,baz=103,slow=3.9,SNR=46
BRTR LR LR 00 03 52.7
comp=Z,1μm,20.1s,baz=28,slow=38
RGN Rugen 80.53 332 *e*P **P 23 25 17.7 +0.8**
comp=Z,48nm,1.0s
RGN LR LR
comp=Z,2μm,19.0s
VRI Vrincioaia 80.56 320⇑*i*P **P 23 25 19.4 +2.0**
VRI Vrincioaia 80.56 320⇑P **P 23 25 19.4 +2.0**
TIRR Tirgusor 80.57 318 *e*P **P 23 25 18.3 +0.9**
comp=Z,6.7nm,1.1s
TIRR Tirgusor 80.57 318⇓*i*P **P 23 25 18.4 +1.0**
TIRR Tirgusor 80.57 318⇓P **P 23 25 18.4 +1.0**
PLOR Plostina 80.61 320⇑*i*P **P 23 25 18.7 +1.0**
PLOR Plostina 80.61 320⇑P **P 23 25 18.7 +1.0**
TLB Topalu 80.69 318⇓*i*P **P 23 25 19.1 +1.1**
TLB Topalu 80.69 318⇓P **P 23 25 19.1 +1.1**
BC3 Big Chuckawall 80.72 55 P **P 23 25 19.2 +0.7**
baz=306
KOLS Kolonicke sedl 80.75 324 *e*P **P 23 25 19.4 +1.1**
KOLS pmax pmax
comp=Z,12nm,1.2s
KOLS Kolonicke sedl 80.75 324 *e*P **P 23 25 19.4 +1.1**
K22A Casper 80.86 44 *e*P **P 23 25 20.7 +1.5**
comp=Z,53nm,1.7s
K22A LR LR
comp=Z,700nm,18.0s
W13A Hualapai Mount 80.92 54 PFAKE 23 25 30.0 +10
W13A LR LR
comp=Z,900nm,18.0s
ANTO Ankara 80.92 313 *e*P **P 23 25 19.8 +0.3**
comp=Z,21nm,1.0s
ANTO Ankara 80.92 313⇑*i*P **P 23 25 20.8 +1.3**
ANTO Ankara 80.92 313 P **P 23 25 22.0 +2.5**
ANTO Ankara 80.92 313 P **P 23 25 20.5 +1.0**
SNR=5.8
UZH Uzhgorod 80.95 324⇓*i*P **P 23 25 20.6 +1.3**
UZH *e* 23 25 28.5
UZH *i* 23 28 31.5
UZH *i* S **S 23 35 28.3 +0.5**
UZH *e* 23 36 13.9
ARCR ARCALIA 80.98 322⇓*i*P **P 23 25 21.7 +2.1**
OJC Ojcow 81.00 326 *e*P **P 23 25 20.3 +0.7**
OJC Ojcow 81.00 326 *e*P **P 23 25 20.2 +0.7**
comp=Z,86nm,1.5s
OJC Ojcow 81.00 326 *e*P **P 23 25 20.3 +0.7**
BMR Baia Mare 81.01 323⇓*i*P **P 23 25 21.4 +1.7**
BMR Baia Mare 81.01 323⇓P **P 23 25 21.4 +1.7**
RWWY Rawlins 81.07 45 PFAKE 23 25 30.0 +10
RWWY LR LR
comp=Z,700nm,20.0s
MDND Maddock 81.12 37 PFAKE 23 25 30.0 +10
MDND LR LR
comp=Z,900nm,20.0s
ICOR Ion Corvin 81.13 318⇑*i*P **P 23 25 21.7 +1.4**
TRPA Tarpa 81.17 324⇑*i*P **P 23 25 21.9 +1.4**
TRPA Tarpa 81.17 324⇑*e*P **P 23 25 21.1 +0.6**
U15A North Rim 81.17 52 *e*P **P 23 25 22.6 +1.4**
comp=Z,39nm,1.3s
U15A LR LR
comp=Z,2μm,19.0s
DOPR Dopca 81.20 321⇑*i*P **P 23 25 22.5 +1.7**
ULM Lac du Bonnet 81.20 33 *e*P **P 23 25 21.4 +0.8**
comp=Z,20nm,1.4s
ULM LR LR
comp=Z,1μm,19.0s
ULM Lac du Bonnet 81.20 33 P **P 23 25 21.2 +0.6**
comp=Z,2.7nm,0.8s,baz=319,slow=6.9,SNR=6.5
MLR Muntele Rosu 81.22 320 *e*P **P 23 25 21.6 +0.5**
comp=Z,26nm,1.4s
MLR LR LR
comp=Z,3μm,18.0s
MLR Muntele Rosu 81.22 320⇑*i*P **P 23 25 22.6 +1.6**
MLR Muntele Rosu 81.22 320⇑P **P 23 25 22.6 +1.6**
Y12C Blythe 81.29 55 *e*P **P 23 25 21.5 0.0**
comp=Z,30nm,1.4s
Y12C LR LR
comp=Z,2μm,18.0s
RSSD Black Hills 81.30 42 PFAKE 23 25 30.0 +8.4
RSSD LR LR
comp=Z,800nm,20.0s
NIE Niedzica 81.34 326 *e*P **P 23 25 22.7 +1.2**
NIE Niedzica 81.34 326 *e*P **P 23 25 22.7 +1.2**
O20A White River Ci 81.43 47 *e*P **P 23 25 22.9 +0.6**
comp=Z,14nm,0.9s
O20A White River Ci 81.43 47 P **P 23 25 23.5 +1.2**
baz=309
GLA Glamis 81.49 56 PFAKE 23 25 30.0 +7.4
GLA LR LR
comp=Z,3μm,18.0s
MDUB Mudurnu 81.51 314 *e*P **P 23 25 21.6 -1.0**
comp=Z,92nm,1.0s
MDUB LR LR
comp=Z,5μm,18.0s
CJR Cluj-Napoca 81.61 322⇑*i*P **P 23 25 24.5 +1.5**
CJR Cluj-Napoca 81.61 322⇑P **P 23 25 24.5 +1.5**
VOIR 81.73 321⇓*i*P **P 23 25 25.3 +1.6**
VOIR 81.73 321⇓P **P 23 25 25.3 +1.6**
PV09 Paradox Valley 81.91 48 *e*P **P 23 25 24.0 -1.0**
KECS Kecovo 81.91 325 *e*P **P 23 25 25.8 +1.4**
KECS pmax pmax
comp=Z,29nm,1.0s
KECS Kecovo 81.91 325 *e*P **P 23 25 25.8 +1.4**
LANS Liptovska Anna 81.91 326 *e*P **P 23 25 26.8 +2.3**
LANS Liptovska Anna 81.91 326 *e*P **P 23 25 26.8 +2.3**
PRD Provadia 81.94 318 P **P 23 25 26.5 +1.8**
PV21 Cone Mtn., Par 81.97 48 *e*P **P 23 25 26.9 +1.6**
comp=Z,86nm,1.4s
PV21 LR LR
comp=Z,1μm,19.0s
ARR Arges 81.99 321⇓*i*P **P 23 25 27.0 +2.0**
LTVH Ltavrtes, Hu 82.00 323⇑*e*P **P 23 25 26.0 +1.1**
DRGR 82.01 323⇓*i*P **P 23 25 26.3 +1.2**
DRGR 82.01 323⇓P **P 23 25 26.3 +1.2**
PV23 Carpenter Ridg 82.01 48 *e*P **P 23 25 26.7 +1.1**
comp=Z,49nm,1.0s
OKC Ostrava-Krasne 82.02 327 *e*P **P 23 25 25.8 +0.8**
OKC *e* 23 25 39.5
OKC *e* 23 28 35.2
OKC *e*S **S 23 35 37.8 -1.1**
OKC MLR MLR
comp=Z,800nm,22.4s
OKC Ostrava-Krasne 82.02 327 *e*P **P 23 25 25.8 +0.8**
OKC *e*x x 23 25 39.5
OKC *e*x x 23 25 52.4
OKC *e*PP **PP 23 28 35.2 +3.1**
OKC *e*S **S 23 35 37.8 -1.1**
OKC *e*SS SS 23 41 20.3 +24
OKC AMS AMS 00 06 30.0
comp=Z,4μm,14.9s
PV10 Paradox Valley 82.04 49 *e*P **P 23 25 27.1 +1.5**
comp=Z,101nm,1.0s
PV14 Lion Creek, Pa 82.05 49 *e*P **P 23 25 26.9 +1.2**
comp=Z,57nm,1.0s
PV14 LR LR
comp=Z,1μm,19.0s
KSP Ksiaz 82.10 329 *e*P **P 23 25 25.9 +0.5**
KSP Ksiaz 82.10 329 *e*P **P 23 25 25.9 +0.5**
PV20 West Nyswonger 82.11 49 *e*P **P 23 25 26.6 +0.7**
comp=Z,51nm,1.1s
PV04 Paradox Valley 82.11 48 *e*P **P 23 25 26.8 +0.9**
comp=Z,217nm,1.8s
PV19 Morning Glory 82.12 49 *e*P **P 23 25 27.2 +1.2**
comp=Z,60nm,1.0s
PV16 Nyswonger Mesa 82.16 49 *e*P **P 23 25 27.7 +1.5**
comp=Z,91nm,1.4s
PV16 LR LR
comp=Z,300nm,18.0s
PV05 Paradox Valley 82.19 49 *e*P **P 23 25 27.5 +1.1**
comp=Z,71nm,1.1s
Y14A Wickenburg 82.19 54 *e*P **P 23 25 27.4 +1.1**
comp=Z,44nm,1.8s
PV12 Saucer Basin, 82.22 48 *e*P **P 23 25 28.2 +1.6**
comp=Z,136nm,1.4s

PV03 Paradox Valley 82.23 49 *e*P **P 23 25 27.9 +1.3**
comp=Z,156nm,1.7s
PV07 Paradox Valley 82.24 48 *e*P **P 23 25 27.5 +0.8**
comp=Z,38nm,1.3s
PV07 LR LR
comp=Z,1μm,22.0s
N23A Red Feather La 82.31 45 *e*P **P 23 25 29.1 +2.0**
comp=Z,44nm,1.4s
N23A LR LR
comp=Z,900nm,19.0s
N23A Red Feather La 82.31 45 P **P 23 25 28.9 +1.9**
baz=310
PV13 Radium Mtn., P 82.31 49 *e*P **P 23 25 28.4 +1.3**
comp=Z,72nm,1.3s
WUAZ Wupatki 82.32 52 *e*P **P 23 25 28.4 +1.4**
comp=Z,18nm,1.0s
WUAZ LR LR
comp=Z,2μm,19.0s
WUAZ Wupatki 82.32 52 P **P 23 25 28.1 +1.0**
baz=308
PHWY Pilot Hill 82.33 44 *e*P **P 23 25 27.1 -0.1**
comp=Z,30nm,1.8s
PHWY LR LR
comp=Z,700nm,18.0s
PV02 Paradox Valley 82.33 49 *e*P **P 23 25 28.4 +1.2**
comp=Z,120nm,1.7s
MORC Moravsky Berou 82.33 327 *e*P **P 23 25 27.0 +0.3**
comp=Z,25nm,1.3s
MORC *e*PP **PP 23 28 34.0 -0.7**
MORC LR LR
comp=Z,2μm,21.0s
MORC Moravsky Berou 82.33 327⇑*i*P **P 23 25 27.8 +1.1**
MORC Moravsky Berou 82.33 327 P **P 23 25 29.3 +2.6**
MORC Moravsky Berou 82.33 327 *e*P **P 23 25 27.4 +0.7**
HUMR Humele 82.38 320⇓*i*P **P 23 25 28.0 +1.1**
113A Mohawk Valley, 82.38 55 PFAKE 23 25 40.0 +13
113A LR LR
comp=Z,3μm,20.0s
LOT Lotru 82.39 321⇓*i*P **P 23 25 28.5 +1.3**
DPC Dobruska-Polom 82.45 328 *e*P **P 23 25 28.6 +1.3**
DPC *e* 23 25 42.2
DPC *e* 23 28 36.6
DPC *e*S **S 23 35 42.5 -0.9**
DPC MLR MLR
comp=Z,600nm,14.4s
DPC Dobruska-Polom 82.45 328 *e*P **P 23 25 28.6 +1.3**
DPC *e*x x 23 25 42.2
DPC *e*PP **PP 23 28 36.6 +0.9**
DPC *e*S **S 23 35 42.5 -0.9**
DPC *e*SS **SS 23 41 10.8 +7.7**
DPC AMS AMS 00 09 40.0
comp=Z,4μm,14.1s
KRLC Kraliky 82.45 328 *e*P **P 23 25 28.3 +1.0**
KRLC *e* 23 25 41.5
KRLC Kraliky 82.45 328 *e*P **P 23 25 28.3 +1.0**
KRLC *e*x x 23 25 41.5
UPC Upice 82.47 328 *e*P **P 23 25 28.2 +0.9**
UPC *e* 23 25 41.4
UPC *e* 23 28 37.1
UPC *e*S **S 23 35 44.3 +0.8**
UPC *e*SS **SS 23 41 07.5 +4.2**
UPC MLR MLR
comp=Z,600nm,15.3s
UPC Upice 82.47 328 *e*P **P 23 25 28.2 +0.9**
UPC *e*x x 23 25 41.4
UPC *e*PP **PP 23 28 37.1 +1.4**
UPC *e*S **S 23 35 44.3 +0.8**
UPC *e*SS **SS 23 41 07.5 +4.2**
UPC AMS AMS 00 07 30.0
comp=Z,4μm,15.5s
PV01 Paradox Valley 82.48 48 *e*P **P 23 25 29.3 +1.3**
comp=Z,38nm,1.1s
DEV Deva 82.53 322⇓*i*P **P 23 25 29.3 +1.6**
DEV Deva 82.53 322⇓P **P 23 25 29.3 +1.6**
OXZ Oxford 82.56 158 PFAKE 23 25 40.0 +12
OXZ LR LR
comp=Z,900nm,22.0s
PSZ Piszkesteto 82.59 325 *e*P **P 23 25 29.3 +1.2**
comp=Z,42nm,1.2s
PSZ *e*PP **PP 23 28 36.6 -0.3**
PSZ LR LR
comp=Z,4μm,18.0s
PSZ Piszkesteto 82.59 325⇓*i*P **P 23 25 29.6 +1.5**
PSZ Piszkesteto 82.59 325⇓P **P 23 25 29.6 +1.5**
PSZ Piszkesteto 82.59 325⇑*e*P **P 23 25 29.0 +0.9**
AGMN Agassiz Nation 82.60 35 *e*P **P 23 25 28.5 +0.4**
comp=Z,14nm,1.3s
AGMN LR LR
comp=Z,1μm,18.0s
VYHS Vyhne 82.67 326 *e*P **P 23 25 29.3 +0.8**
VYHS pmax pmax
comp=Z,21nm,1.5s
VYHS Vyhne 82.67 326 *e*P **P 23 25 29.3 +0.8**
SZH Strazhica 82.71 318 P **P 23 25 29.1 +0.4**
SMCO Snowmass 82.80 47 *e*P **P 23 25 30.5 +0.7**
comp=Z,53nm,1.6s
JMB Yambol 82.88 318 P **P 23 25 30.3 +0.7**
SIRR Siria 82.89 323⇓*i*P **P 23 25 31.3 +1.7**
GZR Gura Zlata 82.94 322⇓*i*P **P 23 25 31.0 +1.1**
GZR Gura Zlata 82.94 322⇓P **P 23 25 31.0 +1.1**
X16A Lo Mia Camp, P 82.94 53 *e*P **P 23 25 31.4 +1.0**
comp=Z,44nm,1.6s
X16A LR LR
comp=Z,1μm,20.0s
ASF Jabal al Asfar 82.94 304 P **P 23 25 31.0 +0.8**
comp=Z,9.3nm,1.1s,baz=1.5,slow=1.2,SNR=23
JAVC Velka Javorina 82.95 327 *e*P **P 23 25 31.5 +1.6**
PVCC Panska Ves 83.07 329 *e*P **P 23 25 31.4 +1.0**
PVCC *e* 23 25 38.8
PVCC *e* 23 28 41.5
PVCC MLR MLR
comp=Z,800nm,22.0s
PVCC Panska Ves 83.07 329 *e*P **P 23 25 31.4 +1.0**
PVCC *e*x x 23 25 38.8
PVCC *e*PP **PP 23 28 41.5 +0.9**
PVCC AMS AMS 00 06 20.0
comp=Z,4μm,14.3s
BRG Berggiesshubel 83.07 330 *e*P **P 23 25 30.9 +0.5**
comp=Z,40nm,1.5s
BRG *e* 23 25 44.9
comp=Z,14nm,1.3s
BRG PP **PP 23 28 42.0 +1.4**
BRG S **S 23 35 51.0 +1.4**
BRG SS **SS 23 41 15.0 +2.9**
BRG Berggiesshubel 83.07 330 *e*P **P 23 25 30.9 +0.5**
BRG *e* 23 25 44.9
BRG 23 28 42.0
BRG S **S 23 35 51.0 +1.4**
BRG SS **SS 23 41 15.0 +2.9**
BRG pmax pmax
comp=Z,40nm,1.5s
BRG pmax pmax
comp=Z,15nm,1.3s
BRG MLR MLR
comp=N,4μm,14.2s
BRG MLR MLR
comp=E,4μm,15.1s
BRG MLR MLR
comp=Z,6μm,14.8s
PMOR Pomariorio Ree 83.08 114 *e*T T 00 56 38.0
comp=Z,1.2nm,0.2s
MQZ McQueen's Vall 83.10 158 PFAKE 23 25 40.0 +10
MQZ LR LR
comp=Z,1μm,19.0s
VRAC Vranov 83.10 327⇓*i*P **P 23 25 32.2 +1.5**
VRAC Vranov 83.10 327⇓P **P 23 25 32.2 +1.5**
VRAC Vranov 83.10 327 *e*P **P 23 25 31.6 +0.9**
MVCO Mesa Verde 83.10 49 *e*P **P 23 25 31.2 +0.1**
comp=Z,139nm,1.9s
MVCO LR LR
comp=Z,1μm,18.0s
MVCO Mesa Verde 83.10 49 P **P 23 25 32.2 +1.0**
baz=309
CLL Collm 83.13 330 *e*P **P 23 25 31.2 +0.5**
comp=Z,23nm,1.0s
CLL *e*PP **PP 23 28 39.0 -2.0**
CLL LR LR
comp=Z,3μm,18.0s
CLL Collm 83.13 330⇑*i*P **P 23 25 30.7 0.0**
CLL *e* 23 25 44.0
CLL *e*S **S 23 35 50.0 -0.1**
CLL pmax pmax
comp=Z,40nm,1.3s
CLL MLR MLR
comp=Z,3μm,18.6s

CLL Collm 83.13 330⇑*i*P **P 23 25 30.7 0.0**
comp=Z,40nm,1.3s
CLL Lmax 00 14 00.0
CLL *e* 23 25 44.0
CLL *e* 23 26 02.0
CLL *e*PP **PP 23 28 39.0 -2.0**
CLL *e*PPP PPP 23 30 42.0
CLL *e*S **S 23 35 50.0 -0.1**
CLL *e*SS **SS 23 41 12.0 -0.9**
CLL *e*SSS SSS 23 44 54.0
CLL *e* 23 49 12.0
CLL LmV 00 02 00.0
comp=Z,3μm,18.6s
ISCO Idaho Springs 83.21 46 *e*P **P 23 25 32.6 +0.9**
comp=Z,74nm,1.9s
ISCO LR LR
comp=Z,1μm,18.0s
ISCO Idaho Springs 83.21 46 P **P 23 25 32.7 +0.9**
baz=310
SRE Strehaia 83.22 321⇑*i*P **P 23 25 32.7 +1.4**
SRE Strehaia 83.22 321⇑P **P 23 25 32.7 +1.4**
BZS Buzias 83.37 322⇓*i*P **P 23 25 33.0 +0.9**
BZS Buzias 83.37 322⇓P **P 23 25 33.0 +0.9**
KRUC Moravsky 83.37 327 *e*P **P 23 25 32.8 +0.8**
SHMJ Saham 83.38 305 P **P 23 25 32.9 +0.5**
SRO2 Moca 83.41 325 *e*P **P 23 25 33.2 +1.0**
SRO2 Moca 83.41 325 *e*P **P 23 25 33.2 +1.0**
PPT Papeete 83.43 117 LR LR 00 05 05.1
comp=Z,795nm,18.1s,baz=309,slow=37
GOPC GO Pecny, Ondr 83.44 329 *e*P **P 23 25 33.3 +0.9**
GOPC *e* 23 28 45.2
GOPC *e*S **S 23 35 50.4 -3.0**
GOPC MLR MLR
comp=Z,500nm,13.9s
GOPC GO Pecny, Ondr 83.44 329 *e*P **P 23 25 33.3 +0.9**
GOPC *e*x x 23 26 01.0
GOPC *e*PP **PP 23 28 45.2 +1.5**
GOPC *e*S **S 23 35 50.4 -3.0**
GOPC AMS AMS 00 11 00.0
comp=Z,6μm,14.3s
PPT2 Papeete2 83.44 117 *e*S **S 23 35 50.5 -3.8**
comp=Z,910nm,28.0s
PPT2 Papeete2 83.44 117 *e*LR LR 23 51 26.8
comp=Z,2μm,30.2s,baz=321
HERR Herculane 83.47 321⇑*i*P **P 23 25 33.8 +1.2**
MODS Modra-Piesok 83.48 326 *e*P **P 23 25 33.1 +0.5**
MODS pmax pmax
comp=Z,53nm,1.5s
MODS Modra-Piesok 83.48 326 *e*P **P 23 25 33.1 +0.5**
PRU Pruhonice 83.49 329 *e*P **P 23 25 33.3 +0.7**
PRU *e* 23 25 46.6
PRU *e* 23 28 45.1
PRU *e*S **S 23 35 54.1 +0.3**
PRU MLR MLR
comp=Z,600nm,20.1s
PRU Pruhonice 83.49 329 *e*P **P 23 25 33.3 +0.7**
PRU *e*x x 23 25 46.6
PRU *e*PP **PP 23 28 45.1 +1.0**
PRU *e*S **S 23 35 54.1 +0.3**
PRU *e*SS **SS 23 41 26.2 +7.9**
PRU AMS AMS 00 11 10.0
comp=Z,6μm,13.3s
214A Organ Pipe Nat 83.51 56 P **P 23 25 34.4 +1.2**
baz=307
ISP Isparta 83.59 312 PFAKE 23 25 50.0 +16
ISP LR LR
comp=Z,1μm,19.0s
TREC Trest 83.60 328 *e*P **P 23 25 33.8 +0.6**
TREC *e* 23 25 48.7
TREC *e* 23 28 47.1
TREC *e*S **S 23 35 56.3 +1.3**
TREC MLR MLR
comp=Z,500nm,17.4s
TREC Trest 83.60 328 *e*P **P 23 25 33.8 +0.6**
TREC *e*x x 23 25 48.7
TREC *e*x x 23 25 59.1
TREC *e*PP **PP 23 28 47.1 +2.1**
TREC *e*S **S 23 35 56.3 +1.3**
TREC *e*SS **SS 23 41 26.6 +6.5**
TREC AMS AMS 23 59 10.0
comp=Z,500nm,17.4s
W18A Petrified Fore 83.62 51 PFAKE 23 25 50.0 +16
W18A LR LR
comp=Z,1μm,18.0s
PUNG Punghina 83.62 321⇑*i*P **P 23 25 33.9 +0.5**
ZST Bratislava 83.69 326 *e*P **P 23 25 34.5 +0.8**
ZST Bratislava 83.69 326 *e*P **P 23 25 34.5 +0.8**
DIM Dimitrovgrad 83.74 318 P **P 23 25 35.2 +1.2**
CSKK Cskako 83.76 325 *e*P **P 23 25 34.1 0.0**
BANR Banloc 83.77 322⇑*i*P **P 23 25 35.4 +1.3**
S22A 4UR Ranch, Cre 83.79 48 *e*P **P 23 25 36.6 +1.8**
comp=Z,139nm,1.8s
S22A 4UR Ranch, Cre 83.79 48 P **P 23 25 36.3 +1.5**
baz=310
MPEP Malo Peshtene 83.83 320 P **P 23 25 35.4 +0.9**
X18A Snowflake 83.84 52 *e*P **P 23 25 36.2 +1.2**
comp=Z,25nm,1.4s
X18A LR LR
comp=Z,2μm,18.0s
MDVR Moldovita 83.90 322⇑*i*P **P 23 25 35.7 +0.8**
IVI Ivigtut 83.96 5 PFAKE 23 25 50.0 +15
IVI LR LR
comp=Z,2μm,21.0s
BALB Balikesir 84.00 315 *e*P **P 23 25 35.6 +0.2**
comp=Z,141nm,1.2s
BALB LR LR
comp=Z,4μm,18.0s
Q24A Divide 84.02 46 PFAKE 23 25 50.0 +14
Q24A LR LR
comp=Z,600nm,20.0s
KDZ Kurdzhali 84.07 318 P P 23 25 49.1 +13
PGB Panagyurishte 84.15 319 P **P 23 25 37.0 +0.8**
PLD Plovdiv 84.16 318 P **P 23 25 36.5 +0.3**
NRS Narsarsuaq 84.17 3 PFAKE 23 25 50.0 +14
NRS LR LR
comp=Z,2μm,21.0s
NKC Novy Kostel 84.18 330 *e*P **P 23 25 37.0 +0.8**
NKC *e* 23 25 51.6
NKC *e*S **S 23 36 01.0 +0.2**
NKC Novy Kostel 84.18 330 *e*P **P 23 25 37.0 +0.8**
NKC *e*x x 23 25 51.6
NKC *e*S **S 23 36 01.0 +0.2**
NKC AMS AMS 00 07 40.0
comp=Z,6μm,14.2s
ALN Alexandroupoli 84.22 317 *e*P **P 23 25 36.4 -0.1**
comp=Z,26nm,1.7s
ALN LR LR
comp=Z,1μm,18.0s
TIH Tihany 84.27 325⇑*e*P **P 23 25 37.0 +0.4**
SOP Sopron 84.31 326⇑*e*P **P 23 25 38.0 +1.1**
MANT Manisa 84.34 314 PFAKE 23 25 50.0 +12
MANT LR LR
comp=Z,4μm,18.0s
GHAJ Ghor Haditha 84.37 304 P **P 23 25 38.3 +0.9**
comp=Z,52nm,1.4s
GHAJ Ghor Haditha 84.37 304 P **P 23 25 38.3 +0.9**
MORH Mrgy, Hungar 84.41 324⇑*i*P **P 23 25 37.5 +0.1**
MORH Mrgy, Hungar 84.41 324⇑*e*P **P 23 25 38.0 +0.7**
RZN Rozhen 84.43 318 P **P 23 25 39.1 +1.3**
CONA Conrad Observa 84.45 327 *i* pP **pP 23 25 38.9 -1.2**
comp=Z,37nm,1.2s,SNR=25
CONA *i* PP **PP 23 28 46.5 -5.6**
comp=Z,11nm,1.5s
OGNE Ogallala 84.51 43 PFAKE 23 25 50.0 +12
OGNE LR LR
comp=Z,1μm,19.0s
KHC Kasperske Hory 84.55 329 *e*P **P 23 25 37.6 -0.5**
comp=Z,12nm,1.1s
KHC LR LR
comp=Z,800nm,19.0s
KHC Kasperske Hory 84.55 329 *e*P **P 23 25 37.9 -0.2**
KHC *e* 23 25 53.3
KHC *e* 23 28 54.2
KHC *e*S **S 23 36 03.4 -1.2**
KHC Kasperske Hory 84.55 329 *e*P **P 23 25 37.9 -0.2**
KHC *e*x x 23 25 53.3
KHC *e*x x 23 26 06.7
KHC *e*PP **PP 23 28 54.2 +1.4**
KHC *e*S **S 23 36 03.4 -1.2**
KHC *e*SS **SS 23 41 42.1 +8.0**
KHC AMS AMS 00 11 00.0
comp=Z,5μm,13.9s
FRGS Fruska Gora 84.59 323⇑*i*P **P 23 25 38.9 +0.5**

SDCO Great Sand Dun 84.60 47 PFAKE 23 25 50.0 +11
SDCO LR LR
comp=Z,1μm,18.0s
VTS Vitosha 84.60 319 *e*P **P 23 25 39.6 +0.9**
comp=Z,36nm,1.1s
VTS LR LR
comp=Z,2μm,19.0s
VTS Vitosha 84.60 319⇑ *i*P **P 23 25 39.9 +1.2**
VTS Vitosha 84.60 319⇑ P **P 23 25 39.9 +1.2**
VTS Vitosha 84.60 319 P **P 23 25 39.8 +1.1**
TUC Tucson 84.66 54 *e*P **P 23 25 40.0 +0.9**
comp=Z,22nm,1.4s
TUC LR LR
comp=Z,3μm,18.0s
TUC Tucson 84.66 54 P **P 23 25 40.0 +0.9**
baz=308
GEC2 GERESS Array S 84.71 328 *e*P **P 23 25 39.7 +0.7**
comp=Z,16nm,1.0s
GEC2 LR LR
comp=Z,3μm,22.0s
GERES GERESS Array B 84.71 328 *e*P **P 23 25 38.6 -0.4**
GERES GERESS Array B 84.71 328 P **P 23 25 39.8 +0.7**
comp=Z,7.6nm,0.9s,baz=38,slow=5.0,SNR=50
GERES LR LR 00 06 14.7
comp=Z,3μm,18.1s,baz=36,slow=38
EYMN Ely 84.85 33 PFAKE 23 25 50.0 +10
EYMN LR LR
comp=Z,1μm,20.0s
MMB Musomiste 85.04 318 P **P 23 25 39.8 -0.9**
GRA1 Grafenberg Arr 85.10 330 *e*P **P 23 25 41.4 +0.6**
comp=Z,77nm,1.2s
GRA1 LR LR
comp=Z,2μm,19.0s
GRFO Grafenberg 85.10 330 *e*P **P 23 25 41.4 +0.5**
comp=Z,70nm,1.2s
GRFO LR LR
comp=Z,2μm,18.0s
ARSA Arzberg 85.11 327 *i* pP **P 23 25 41.7 +0.8**
comp=Z,25nm,1.7s,SNR=8.4
BEHE Becsehely 85.11 325⇑ *i*P **P 23 25 41.1 +0.2**
BEHE Becsehely 85.11 325⇑ *e*P **P 23 25 41.0 +0.2**
KKB Krupnik 85.20 319 P **P 23 25 41.6 +0.1**
MOA Molln 85.22 328 *i* P **P 23 25 41.7 +0.2**
comp=Z,20nm,1.2s,SNR=9.6
DIVS Divibare 85.26 322⇑ *i*P **P 23 25 41.9 +0.1**
ESK Eskdalemuir 85.31 341 *i* P **P 23 25 43.7 +2.0**
KSCO Kaye Shedlock' 85.47 45 PFAKE 23 26 00.0 +17
KSCO LR LR
comp=Z,1μm,20.0s
ECSD EROS Data Cent 85.49 38 *e*P **P 23 25 43.6 +0.7**
comp=Z,17nm,1.3s
ECSD LR LR
comp=Z,700nm,20.0s
ECSD EROS Data Cent 85.49 38 P **P 23 25 43.4 +0.5**
baz=316
T25A Trinidad 85.65 47 *e*P **P 23 25 45.4 +1.3**
comp=Z,124nm,1.9s
T25A LR LR
comp=Z,800nm,20.0s
T25A Trinidad 85.65 47 P **P 23 25 45.4 +1.3**
baz=311
GROS Grobnik 85.70 326 *i* P **P 23 25 44.0 0.0**
BBLS Lazići 85.72 322⇑ *i*P **P 23 25 44.9 +0.8**
LAZ Ladron 85.73 51 *e*P **P 23 25 44.2 -0.3**
PERS Pernice 85.75 326 *e*P **P 23 25 44.4 +0.2**
PERS *e*S **S 23 36 09.4 -7.2**
SOKA Soboth 85.76 326 *i* PcP **P 23 25 44.7 +0.5**
comp=Z,35nm,1.3s,SNR=27
SOKA *i* PP **PP 23 29 06.1 +3.3**
comp=Z,10nm,1.4s
TASM ASL Pad, Albuq 85.81 50 P **P 23 25 46.1 +1.3**
baz=310
TASM ASL Pad, Albuq 85.81 50 P **P 23 25 46.2 +1.3**
baz=310
ANMO Albuquerque 85.81 50 *e*P **P 23 25 46.1 +1.2**
comp=Z,21nm,1.3s
ANMO LR LR
comp=Z,2μm,19.0s
ANMO Albuquerque 85.81 50*c* *i*P **P 23 25 45.9 +1.0**
ANMO pmax pmax
comp=Z,22nm,1.7s
ANMO MLR MLR
comp=Z,1μm,18.0s
ANMO Albuquerque 85.81 50 P **P 23 25 46.3 +1.4**
baz=310
E38A The Farm, Brul 85.83 34 *e*P **P 23 25 44.3 -0.2**
comp=Z,12nm,0.8s
E38A LR LR
comp=Z,1μm,19.0s
VAY Valandovo 85.86 319 *i* P **P 23 25 45.0 +0.2**
C40A Isle Royale Na 85.90 32 PFAKE 23 26 00.0 +15
C40A LR LR
comp=Z,1μm,19.0s
ZAG Zagreb 85.95 325 *e*P **P 23 25 45.2 +0.1**
SKO Skopje 86.01 320 *i* P **P 23 25 46.7 +1.2**
Y22D IRIS PASSCAL I 86.08 51 PFAKE 23 26 00.0 +14
Y22D LR LR
comp=Z,2μm,20.0s
OBKA Obir 86.10 327 *i* PcP **P 23 25 46.3 +0.3**
comp=Z,5.2nm,1.0s
OBKA *i* PP **PP 23 29 00.4 -5.2**
comp=Z,7.7nm,1.2s
F38A Pierce - Schro 86.17 34 P **P 23 25 45.8 -0.4**
baz=318
BLY Banja Luka 86.18 324 *e*P **P 23 25 46.5 +0.3**
comp=Z,17nm,1.1s
BLY LR LR
comp=Z,2μm,19.0s
BLY Banja Luka 86.18 324⇑ *i*P **P 23 25 46.4 +0.1**
BLY Banja Luka 86.18 324⇑ *i*P **P 23 25 46.3 0.0**
CRES Cresnjev 86.20 326⇑ *i*P **P 23 25 46.3 -0.1**
KBA Koelnbreinsper 86.21 328 *i* PcP **P 23 25 47.0 +0.4**
comp=Z,9.4nm,1.5s,SNR=5.0
KBA *i* PP **PP 23 29 09.3 +2.8**
comp=Z,17nm,1.5s
BNM Barren Site 86.22 51 *e*P **P 23 25 47.1 +0.1**
319A Douglas 86.24 54 PFAKE 23 26 00.0 +13
319A LR LR
comp=Z,3μm,18.0s
SPMN Marine on St. 86.28 35 PFAKE 23 26 00.0 +13
SPMN LR LR
comp=Z,1μm,18.0s
HGN Heimansgroeve 86.28 334 *e*P **P 23 25 46.8 +0.1**
HGN Heimansgroeve 86.28 334 *e*S **S 23 36 15.1 -6.5**
BGNE Belgrade 86.33 41 PFAKE 23 26 00.0 +13
BGNE LR LR
comp=Z,1μm,18.0s
MYKA Terra Mystica 86.42 327 *i* P **P 23 25 47.5 -0.1**
comp=Z,13nm,1.9s,SNR=8.3
UPM Unac-Piva 86.45 322 *e*P **P 23 25 47.7 -0.2**
LJU Ljubljana 86.47 326 *i* P **P 23 25 47.7 +0.1**
LJU *e*PP **PP 23 29 11.3 +2.9**
LJU Ljubljana 86.47 326⇑ *i*P **P 23 25 47.3 -0.4**
MGRS Mrkonjic Grad 86.47 324 *e*P **P 23 25 48.0 +0.2**
BOJS Bojanci 86.54 325 *i* P **P 23 25 47.8 -0.2**
KRUS Krusevo 86.54 319 *i* P **P 23 25 48.4 +0.2**
HSIG 86.57 57 *e*P **P 23 25 48.4 -0.1**
comp=Z,27nm,1.5s
HSIG LR LR
comp=Z,2μm,18.0s
STU Stuttgart 86.64 331 *e*P **P 23 25 49.0 +0.6**
comp=Z,42nm,1.1s
STU LR LR
comp=Z,2μm,19.0s
E40A Wakefield 86.70 33 P **P 23 25 49.7 +0.9**
baz=320
SRIG Santa Rosalia 86.71 59 PFAKE 23 26 00.0 +11
SRIG LR LR
comp=Z,2μm,19.0s
CEY Cerknica 86.74 326⇑ *i*P **P 23 25 48.7 -0.4**
LIT Litokhoron 86.75 318 *e*P **P 23 25 48.2 -1.0**
comp=Z,7.4nm,1.0s
LIT *e*PP **PP 23 29 06.7 -4.2**
LIT LR LR
comp=Z,2μm,18.0s
WATA Walderalm 86.78 329 *i* P P 23 25 44.5 -4.9
comp=Z,2.0nm,0.4s
D41A Chassel 86.81 32 PFAKE 23 26 00.0 +11
D41A LR LR
comp=Z,900nm,20.0s
WTTA Wattenberg 86.81 329 *i* PcP **P 23 25 50.3 +0.8**
comp=Z,11nm,1.3s
UCC Uccle 86.82 334 PFAKE 23 26 00.0 +11
UCC LR LR
comp=Z,3μm,18.0s
PDG Podgorica 86.83 321⇑ *i*P **P 23 25 49.6 +0.1**

PDG Podgorica 86.83 321⇑ *i*P **P 23 25 49.3 -0.2**
TTG Podgorica 86.83 321 *e*P **P 23 25 49.6 +0.1**
comp=Z,31nm,1.2s
TTG LR LR
comp=Z,3μm,20.0s
ABTA Abfaltersbach 86.83 328 *i* P **P 23 25 49.5 0.0**
comp=Z,14nm,1.2s,SNR=6.5
BRY Bratogost 86.85 322 *e*P **P 23 25 48.8 -1.0**
FNA Florina 86.88 319 PFAKE 23 26 00.0 +10
FNA LR LR
comp=Z,3μm,19.0s
MOTA Moosalm 86.98 329 *i* PcP **P 23 25 51.3 +0.9**
comp=Z,12nm,1.4s
RETA Reutte 87.01 329 *i* PcP **P 23 25 51.4 +1.0**
comp=Z,22nm,1.1s,SNR=8.3
RIY Rijeka 87.03 326 *e*P **P 23 25 50.0 -0.4**
SQTA Sankt Quirin 87.03 329 *i* PcP **PcP 23 25 51.8 -0.9**
comp=Z,4.7nm,1.1s
DRME Dracevica, Mon 87.04 321⇑ *i*P **P 23 25 50.5 0.0**
TRI Trieste 87.07 326 *e*P **P 23 25 50.0 -0.6**
comp=Z,14nm,1.2s
TRI LR LR
comp=Z,3μm,18.0s
E41A Kenton 87.10 32 P **P 23 25 51.2 +0.4**
baz=320
WLF Walferdange 87.10 333 *e*P **P 23 25 51.8 +1.1**
comp=Z,236nm,1.4s
WLF LR LR
comp=Z,8μm,22.0s
KARP Karpathos 87.12 312 PFAKE 23 26 00.0 +8.9
KARP LR LR
comp=Z,1μm,18.0s
TBI Tubuai 87.19 121 *e*S **S 23 36 25.8 -5.1**
comp=Z,458nm,27.5s
TBI Tubuai 87.19 121 *e*LR LR 23 53 15.0
comp=Z,2μm,20.2s,baz=308
HCY Herceg Novi 87.20 322 *e*P **P 23 25 51.6 +0.3**
TIR Tirane 87.28 320 PFAKE 23 26 00.0 +8.3
TIR LR LR
comp=Z,4μm,19.0s
STON Ston 87.30 322 *e*P **P 23 25 50.9 -0.8**
COWI Conover 87.30 33 PFAKE 23 26 00.0 +8.2
COWI LR LR
comp=Z,800nm,18.0s
BFO Black Forest 87.34 331 *e*P **P 23 25 52.4 +0.4**
comp=Z,23nm,1.1s
BFO LR LR
comp=Z,2μm,18.0s
BFO Black Forest 87.34 331 *i* P **P 23 25 52.6 +0.7**
SCHQ Schefferville 87.38 16 *e*P **P 23 25 52.3 +0.3**
comp=Z,21nm,1.1s
SCHQ LR LR
comp=Z,1μm,18.0s
SCHQ Schefferville 87.38 16 P **P 23 25 52.6 +0.6**
comp=Z,12nm,1.0s,baz=353,slow=5.3,SNR=7.0
SCHQ LR LR 00 08 41.3
comp=Z,902nm,19.8s,baz=354,slow=38
FETA Feichten 87.39 329 *i* PcP **P 23 25 52.7 +0.3**
comp=Z,9.6nm,1.3s
FETA *i* PP **PP 23 29 16.9 +1.0**
comp=Z,5.7nm,1.1s
G40A Rib Lake 87.46 34 *e*P **P 23 25 53.4 +0.9**
comp=Z,19nm,1.1s
G40A LR LR
comp=Z,900nm,18.0s
DAVA Damuels 87.54 329 *i* PcP **P 23 25 53.8 +0.8**
comp=Z,20nm,1.5s,SNR=6.6
AGG Agios Georgios 87.59 317 PFAKE 23 26 00.0 +6.7
AGG LR LR
comp=Z,2μm,18.0s
SANT Santorini 87.59 314 PFAKE 23 26 00.0 +6.6
SANT LR LR
comp=Z,1μm,18.0s
F41A Three Lakes 87.59 33 *e*P **P 23 25 54.0 +0.8**
comp=Z,27nm,1.3s
F41A LR LR
comp=Z,800nm,19.0s
F41A Three Lakes 87.59 33 P **P 23 25 53.6 +0.4**
baz=320
DAMY Dhamar 87.67 286 PFAKE 23 26 10.0 +16
DAMY LR LR
comp=Z,1μm,18.0s
H40A Chili 87.86 34 P **P 23 25 55.6 +1.1**
baz=320
ECH Echery 87.90 332 *e*P **P 23 25 55.0 +0.4**
comp=Z,11nm,1.0s
ECH LR LR
comp=Z,2μm,18.0s
FUORN Ofenpass-Fuorn 87.90 329 *e*P **P 23 25 55.1 +0.2**
comp=Z,25nm,1.3s
FUORN LR LR
comp=Z,2μm,19.0s
I39A Houston 87.91 35 PFAKE 23 26 10.0 +15
I39A LR LR
comp=Z,1μm,19.0s
DSB Dublin 88.00 341 PFAKE 23 26 10.0 +15
DSB LR LR
comp=Z,2μm,18.0s
E43A Lone Tree Farm 88.02 31 PFAKE 23 26 10.0 +15
E43A LR LR
comp=Z,1μm,19.0s
H41A Junction City 88.21 34 PFAKE 23 26 10.0 +14
H41A LR LR
comp=Z,800nm,19.0s
G42A Mountain 88.28 33 PFAKE 23 26 10.0 +14
G42A LR LR
comp=Z,700nm,20.0s
E44A Grand Marais A 88.28 31 PFAKE 23 26 10.0 +14
E44A LR LR
comp=Z,900nm,20.0s
TUE Stuetta 88.41 329 *e*P **P 23 25 57.5 +0.3**
comp=Z,46nm,1.8s
TUE LR LR
comp=Z,2μm,18.0s
I41A Arkdale 88.53 34 PFAKE 23 26 10.0 +12
I41A LR LR
comp=Z,1μm,19.0s
MNTX Cornudas Mount 88.60 52 *e*P **P 23 25 59.8 +1.6**
comp=Z,12nm,1.5s
MNTX LR LR
comp=Z,800nm,19.0s
G43A Wallace 88.60 32 PFAKE 23 26 10.0 +12
G43A LR LR
comp=Z,1μm,19.0s
G43A Wallace 88.60 32 P **P 23 25 59.5 +1.6**
baz=321
MSTX Muleshoe 88.75 49 PFAKE 23 26 10.0 +11
MSTX LR LR
comp=Z,1μm,21.0s
KSU1 Kansas State U 88.79 41 PFAKE 23 26 10.0 +11
KSU1 LR LR
comp=Z,900nm,20.0s
AMTX Amarillo 88.80 47 PFAKE 23 26 10.0 +11
AMTX LR LR
comp=Z,1μm,18.0s
H42A Shiocton 88.80 33 PFAKE 23 26 10.0 +11
H42A LR LR
comp=Z,700nm,20.0s
MATQ Matagami 88.83 24 P **P 23 25 59.1 +0.1**
baz=329
D46A Sault St. Mari 88.84 29 P **P 23 25 59.9 +0.9**
baz=324
D47A Chapleau 89.08 29 P **P 23 26 00.5 +0.3**
baz=325
ITM Ithomi 89.10 316 *e*P **P 23 25 59.7 -0.8**
comp=Z,19nm,1.3s
ITM LR LR
comp=Z,1μm,19.0s
I42A Draeger Farm, 89.11 34 PFAKE 23 26 10.0 +10
I42A LR LR
comp=Z,800nm,20.0s
E46A Sault Ste Mari 89.16 30 *e*P **P 23 26 00.5 -0.1**
comp=Z,86nm,1.6s
E46A LR LR
comp=Z,900nm,20.0s
H43A Windswept, Lux 89.18 33 PFAKE 23 26 10.0 +9.3
H43A LR LR
comp=Z,800nm,18.0s
JFWS Jewell Farm 89.23 35 PFAKE 23 26 10.0 +9.0
JFWS LR LR
comp=Z,900nm,19.0s
SENIN Lac Senin/Sane 89.34 330 PFAKE 23 26 10.0 +8.3
SENIN LR LR
comp=Z,2μm,19.0s
L40A Anamosa 89.41 36 *e*P **P 23 26 02.9 +1.1**
comp=Z,23nm,1.1s
L40A LR LR

comp=Z,1μm,18.0s
MATE Matera 89.44 321⇓ *i*P **P 23 26 01.8 -0.1**
D48A Paudash Townsh 89.49 28 P **P 23 26 02.8 +0.6**
baz=326
MSEY Mahe Island 89.56 264 PFAKE 23 26 10.0 +7.0
MSEY LR LR
comp=Z,800nm,19.0s
G45A Suttons Bay 89.65 31 PFAKE 23 26 10.0 +7.1
G45A LR LR
comp=Z,1μm,19.0s
CHGQ Chibougamau 89.77 22 P **P 23 26 03.2 -0.1**
baz=331
VLC Villacollemand 89.78 327 PFAKE 23 26 20.0 +16
VLC LR LR
comp=Z,3μm,22.0s
AQU L'Aquila 89.79 324 *e*P **P 23 26 04.0 +0.3**
comp=Z,22nm,1.0s
AQU *e*PP **PP 23 29 35.1 -0.1**
AQU LR LR
comp=Z,2μm,19.0s
AQU L'Aquila 89.79 324⇑ *i*P **P 23 26 03.9 +0.3**
CLF Chambon-Foret 89.89 334 PFAKE 23 26 20.0 +16
CLF LR LR
comp=Z,3μm,21.0s
N40A Mertquake, Sal 90.11 37 P **P 23 26 05.5 +0.4**
baz=319
I45A Fountain 90.20 32 PFAKE 23 26 20.0 +15
I45A LR LR
comp=Z,900nm,18.0s
L42A Oliver, Polo 90.20 36 PFAKE 23 26 20.0 +14
L42A LR LR
comp=Z,900nm,18.0s
GLMI Grayling 90.27 31 PFAKE 23 26 20.0 +14
GLMI LR LR
comp=Z,700nm,19.0s
K43A Burlington 90.29 34 PFAKE 23 26 20.0 +14
K43A LR LR
comp=Z,1μm,19.0s
VLDQ Val d'Or 90.31 25 *e*P **P 23 26 05.3 -0.5**
comp=Z,36nm,1.5s
VLDQ LR LR
comp=Z,2μm,18.0s
TIP Timpagrande 90.49 320 *e*P **P 23 26 07.6 +0.6**
comp=Z,28nm,1.7s
TIP LR LR
comp=Z,2μm,19.0s
TIP Timpagrande 90.49 320⇓ *i*P **P 23 26 07.2 +0.2**
J45A Montague 90.61 33 PFAKE 23 26 20.0 +13
J45A LR LR
comp=Z,900nm,18.0s
N41A Harden Midland 90.61 37 PFAKE 23 26 20.0 +13
N41A LR LR
comp=Z,1μm,18.0s
WMOK Wichita Mounta 90.63 46 PFAKE 23 26 20.0 +12
WMOK LR LR
comp=Z,1μm,19.0s
ATD Arta Tunnel 90.65 284 PFAKE 23 26 20.0 +12
ATD LR LR
comp=Z,600nm,18.0s
BNI Bardonecchia 90.66 330 PFAKE 23 26 20.0 +12
BNI LR LR
comp=Z,3μm,19.0s
H48A Harrisville 90.91 30 PFAKE 23 26 20.0 +11
H48A LR LR
comp=Z,1μm,18.0s
I47A Gladwin 90.96 31 PFAKE 23 26 20.0 +11
I47A LR LR
comp=Z,1μm,18.0s
F51A Arnstein 91.26 28 P **P 23 26 10.4 +0.1**
baz=327
TX31 Lajitas Ar. Si 91.26 53 *e*P **P 23 26 11.6 +0.8**
comp=Z,26nm,1.6s
LTX Lajitas 91.26 53 *e*P **P 23 26 11.5 +0.7**
TXAR Lajitas Array 91.26 53 *e*P **P 23 26 10.3 -0.5**
TXAR Lajitas Array 91.26 53 P **P 23 26 11.5 +0.7**
comp=Z,2.5nm,0.7s,baz=292,slow=2.4,SNR=26
TXAR LR LR 00 06 09.8
comp=Z,2μm,18.6s,baz=0.0,slow=35
SSB Saint Sauveur 91.33 331 PFAKE 23 26 20.0 +9.2
SSB LR LR
comp=Z,2μm,19.0s
M44A Midewin, Midew 91.45 35 PFAKE 23 26 20.0 +8.7
M44A LR LR
comp=Z,1μm,19.0s
J47A Sunmer 91.45 32 PFAKE 23 26 20.0 +8.7
J47A LR LR
comp=Z,900nm,18.0s
HDIL Hopedale 91.49 36 PFAKE 23 26 20.0 +8.5
HDIL LR LR
comp=Z,1μm,19.0s
HPIG 91.50 56 PFAKE 23 26 20.0 +7.9
HPIG LR LR
comp=Z,2μm,19.0s
TUL1 Leonard 91.53 43 PFAKE 23 26 20.0 +8.2
TUL1 LR LR
comp=Z,900nm,18.0s
ABTX Abilene, Hawle 91.58 48 *e*P **P 23 26 12.3 +0.2**
comp=Z,60nm,1.9s
ABTX LR LR
comp=Z,1μm,19.0s
CEL Celeste 91.63 320 PFAKE 23 26 20.0 +7.7
CEL LR LR
comp=Z,2μm,18.0s
I49A Point Hope 91.74 30 PFAKE 23 26 20.0 +7.4
I49A LR LR
comp=Z,1μm,18.0s
L46A Eue Claire 91.77 34 PFAKE 23 26 20.0 +7.2
L46A LR LR
comp=Z,900nm,19.0s
J48A Bridge Port 91.85 31 PFAKE 23 26 30.0 +17
J48A LR LR
comp=Z,1μm,19.0s
R41A Rosebud 92.16 39 P **P 23 26 14.9 +0.2**
baz=319
M46A Old House Fiel 92.22 34 PFAKE 23 26 30.0 +15
M46A LR LR
comp=Z,1μm,20.0s
HHAR Hobbs 92.29 42 *e*P **P 23 26 14.6 -0.7**
comp=Z,17nm,1.2s
CCM Cathedral Cave 92.41 39 *e*P **P 23 26 16.0 +0.2**
comp=Z,22nm,1.2s
CCM LR LR
comp=Z,800nm,20.0s
CCM Cathedral Cave 92.41 39 P **P 23 26 16.0 +0.2**
baz=319
SLM Saint Louis 92.49 38 PFAKE 23 26 30.0 +14
SLM LR LR
comp=Z,1μm,18.0s
S41A Jillco Farms, 92.50 40 P **P 23 26 16.1 -0.2**
baz=319
SADO Sadowa 92.53 28 PFAKE 23 26 30.0 +14
SADO LR LR
comp=Z,1μm,18.0s
SFIN Lafayette 92.69 35 PFAKE 23 26 30.0 +13
SFIN LR LR
comp=Z,800nm,19.0s
AAM Ann Arbor 92.72 32 PFAKE 23 26 30.0 +13
AAM LR LR
comp=Z,1μm,18.0s
X37A Clayton 92.72 44 PFAKE 23 26 30.0 +13
X37A LR LR
comp=Z,900nm,19.0s
U40A Yellville 92.83 41 P **P 23 26 17.9 +0.1**
baz=318
FVM French Village 92.89 39 PFAKE 23 26 30.0 +12
FVM LR LR
comp=Z,1μm,18.0s
M48A Edgerton 92.91 33 PFAKE 23 26 30.0 +12
M48A LR LR
comp=Z,900nm,18.0s
JCT Junction City 92.96 49 PFAKE 23 26 30.0 +11
JCT LR LR
comp=Z,1μm,19.0s
P45A Graceland, Par 93.04 36 PFAKE 23 26 30.0 +11
P45A LR LR
comp=Z,700nm,20.0s
PLVO Plevna 93.07 26 PFAKE 23 26 30.0 +11
PLVO LR LR
comp=Z,2μm,19.0s
W39A Magazine 93.17 43 PFAKE 23 26 30.0 +11
W39A LR LR
comp=Z,1μm,19.0s
U41A Viola 93.34 41 P **P 23 26 21.4 +1.3**
baz=319
WHTX Lake Whitney, 93.35 47 PFAKE 23 26 30.0 +10
WHTX LR LR

	comp=Z,2μm,19.0s						
OLIL	**Olney**	**93.48**	**37**	PFAKE			23 26 30.0 +9.2
OLIL				LR	LR		
	comp=Z,1μm,18.0s						
CLTB	**Caltabellotta**	**93.53**	**321**	PFAKE			23 26 30.0 +8.9
CLTB				LR	LR		
	comp=Z,3μm,18.0s						
N49A	**Columbus Grove**	**93.60**	**33**	PFAKE			23 26 30.0 +8.8
N49A				LR	LR		
	comp=Z,800nm,18.0s						
SIUC	**Southern Illin**	**93.71**	**38**	PFAKE			23 26 30.0 +8.2
SIUC				LR	LR		
	comp=Z,1μm,18.0s						
M50A	**Fremont**	**93.71**	**32**	PFAKE			23 26 30.0 +8.2
M50A				LR	LR		
	comp=Z,900nm,20.0s						
MIAR	**Mount Ida**	**93.76**	**43**	*e*P	**P**		**23 26 23.1 +1.0**
	comp=Z,20nm,1.2s						
MIAR				LR	LR		
	comp=Z,900nm,20.0s						
MIAR	**Mount Ida**	**93.76**	**43**	P	**P**		**23 26 23.3 +1.2**
	baz=318						
PBMO	**Poplar Bluff**	**93.80**	**39**	*e*P	**P**		**23 26 22.7 +0.4**
	comp=Z,36nm,1.4s						
PBMO				LR	LR		
	comp=Z,900nm,19.0s						
WHAR	**Wooly Hollow**	**93.92**	**42**	*e*P	**P**		**23 26 23.8 +1.0**
	comp=Z,40nm,1.5s						
WHAR				LR	LR		
	comp=Z,800nm,19.0s						
J54A	**Appleton**	**93.98**	**28**	PFAKE			23 26 30.0 +7.1
J54A				LR	LR		
	comp=Z,700nm,20.0s						
W41B	**Gary Mavity, V**	**94.03**	**42**	PFAKE			23 26 40.0 +17
W41B				LR	LR		
	comp=Z,800nm,20.0s						
435B	**Jarrell**	**94.12**	**48**	PFAKE			23 26 40.0 +16
435B				LR	LR		
	comp=Z,1μm,19.0s						
O49A	**Covington**	**94.12**	**34**	PFAKE			23 26 40.0 +16
O49A				LR	LR		
	comp=Z,900nm,20.0s						
MEDO	**Medina**	**94.15**	**28**	PFAKE			23 26 40.0 +16
MEDO				LR	LR		
	comp=Z,1μm,20.0s						
WDD	**Wied Dalam**	**94.16**	**320**	PFAKE			23 26 40.0 +16
WDD				LR	LR		
	comp=Z,1μm,19.0s						
X40A	**Basin Creek Fa**	**94.22**	**42**	*e*P	**P**		**23 26 24.9 +0.7**
	comp=Z,40nm,1.9s						
X40A				LR	LR		
	comp=Z,800nm,19.0s						
PARMO	**Parma**	**94.24**	**39**	PFAKE			23 26 40.0 +16
PARMO				LR	LR		
	comp=Z,800nm,19.0s						
UALR	**University of**	**94.28**	**42**	PFAKE			23 26 40.0 +16
UALR				LR	LR		
	comp=Z,900nm,18.0s						
J55A	**Hilton**	**94.31**	**28**	PFAKE			23 26 40.0 +16
J55A				LR	LR		
	comp=Z,1μm,19.0s						
LONY	**Lake Ozonia**	**94.32**	**25**	PFAKE			23 26 40.0 +15
LONY				LR	LR		
	comp=Z,900nm,18.0s						
M52A	**Chesterland**	**94.33**	**31**	PFAKE			23 26 40.0 +15
M52A				LR	LR		
	comp=Z,1μm,18.0s						
N51A	**Ashland**	**94.40**	**32**	PFAKE			23 26 40.0 +15
N51A				LR	LR		
	comp=Z,1μm,19.0s						
ERPA	**Erie**	**94.42**	**30**	PFAKE			23 26 40.0 +15
ERPA				LR	LR		
	comp=Z,2μm,19.0s						
PVMO	**Portageville**	**94.46**	**39**	PFAKE			23 26 40.0 +15
PVMO				LR	LR		
	comp=Z,900nm,20.0s						
FRNY	**Flat Rock**	**94.48**	**24**	PFAKE			23 26 40.0 +15
FRNY				LR	LR		
	comp=Z,1μm,18.0s						
T45A	**Paducah**	**94.54**	**38**	PFAKE			23 26 40.0 +14
T45A				LR	LR		
	comp=Z,1μm,18.0s						
BATG	**Bathurst New B**	**94.54**	**19**	PFAKE			23 26 40.0 +15
BATG				LR	LR		
	comp=Z,1μm,18.0s						
DRLN	**Deer Lake**	**94.55**	**12**	PFAKE			23 26 40.0 +15
DRLN				LR	LR		
	comp=Z,2μm,19.0s						
PQI	**Presque Isle**	**94.56**	**20**	PFAKE			23 26 40.0 +14
PQI				LR	LR		
	comp=Z,2μm,18.0s						
HBAR	**Harrisburg**	**94.61**	**40**	PFAKE			23 26 40.0 +14
HBAR				LR	LR		
	comp=Z,2μm,18.0s						
GNAR	**Gosnell**	**94.63**	**40**	PFAKE			23 26 40.0 +14
GNAR				LR	LR		
	comp=Z,1μm,19.0s						
WLAR	**White Oak Lake**	**94.65**	**43**	PFAKE			23 26 40.0 +14
WLAR				LR	LR		
	comp=Z,1μm,20.0s						
ACSO	**Alum Creek Sta**	**94.69**	**33**	PFAKE			23 26 40.0 +14
ACSO				LR	LR		
	comp=Z,1μm,20.0s						
833A	**Chaparral WMA,**	**94.70**	**51**	PFAKE			23 26 40.0 +13
833A				LR	LR		
	comp=Z,2μm,18.0s						
MMNY	**Mt. Morris Dam**	**94.73**	**28**	PFAKE			23 26 40.0 +14
MMNY				LR	LR		
	comp=Z,900nm,18.0s						
ALLY	**Alegheny Colle**	**94.74**	**30**	PFAKE			23 26 40.0 +13
ALLY				LR	LR		
	comp=Z,2μm,18.0s						
WCI	**Wyandotte Cave**	**94.76**	**36**	PFAKE			23 26 40.0 +13
WCI				LR	LR		
	comp=Z,1μm,18.0s						
GLAT	**Glass**	**94.78**	**39**	PFAKE			23 26 40.0 +13
GLAT				LR	LR		
	comp=Z,1μm,20.0s						
NCB	**Newcomb**	**95.02**	**25**	PFAKE			23 26 40.0 +12
NCB				LR	LR		
	comp=Z,1μm,18.0s						
HALT	**Halls**	**95.03**	**39**	PFAKE			23 26 40.0 +12
HALT				LR	LR		
	comp=Z,900nm,20.0s						
M54A	**Oil Creek Stat**	**95.06**	**30**	PFAKE			23 26 40.0 +12
M54A				LR	LR		
	comp=Z,2μm,19.0s						
Z41A	**Richland Creek**	**95.14**	**43**	PFAKE			23 26 40.0 +12
Z41A				LR	LR		
	comp=Z,1μm,18.0s						
N53A	**Lisbon**	**95.15**	**31**	PFAKE			23 26 40.0 +12
N53A				LR	LR		
	comp=Z,1μm,20.0s						
NATX	**Nacogdoches**	**95.17**	**45**	PFAKE			23 26 40.0 +11
NATX				LR	LR		
	comp=Z,1μm,19.0s						
ETX07	**County Road 47**	**95.18**	**45**	PFAKE			23 26 40.0 +11
ETX07				LR	LR		
	comp=Z,500nm,18.0s						
VT1	**Waterbury**	**95.20**	**24**	PFAKE			23 26 40.0 +11
VT1				LR	LR		
	comp=Z,1μm,18.0s						
P51A	**Williamsport**	**95.27**	**33**	PFAKE			23 26 40.0 +11
P51A				LR	LR		
	comp=Z,800nm,19.0s						
X43A	**Marvell**	**95.27**	**41**	PFAKE			23 26 40.0 +11
X43A				LR	LR		
	comp=Z,1μm,19.0s						
O52A	**Adamsville**	**95.29**	**32**	PFAKE			23 26 40.0 +11
O52A				LR	LR		
	comp=Z,1μm,20.0s						
MET	**Memphis--Engin**	**95.32**	**40**	PFAKE			23 26 40.0 +11
MET				LR	LR		
	comp=Z,800nm,20.0s						
T47A	**Sharon Grove**	**95.34**	**37**	PFAKE			23 26 40.0 +11
T47A				LR	LR		
	comp=Z,700nm,18.0s						
N54A	**Moraine State**	**95.38**	**30**	PFAKE			23 26 40.0 +11
N54A				LR	LR		
	comp=Z,2μm,18.0s						
PKME	**Peaks-Kenny Pk**	**95.47**	**21**	PFAKE			23 26 40.0 +10
PKME				LR	LR		
	comp=Z,2μm,18.0s						
Q51A	**Peebles**	**95.51**	**34**	PFAKE			23 26 40.0 +10
Q51A				LR	LR		
	comp=Z,1μm,19.0s						
FURI	**Furi**	**95.51**	**285**	PFAKE			23 26 40.0 +9.1
FURI				LR	LR		
	comp=Z,900nm,19.0s						
LBNH	**Lisbon**	**95.56**	**24**	PFAKE			23 26 40.0 +10
LBNH				LR	LR		
	comp=Z,1μm,19.0s						
WVT	**Waverly**	**95.64**	**38**	PFAKE			23 26 40.0 +9.3
WVT				LR	LR		
	comp=Z,1μm,18.0s						
ACCN	**Adirondack Com**	**95.72**	**25**	PFAKE			23 26 40.0 +9.1
ACCN				LR	LR		
	comp=Z,1μm,18.0s						
HKT	**Hockley**	**95.77**	**47**	PFAKE			23 26 40.0 +8.7
HKT				LR	LR		
	comp=Z,2μm,18.0s						
BINY	**Binghamton**	**95.92**	**27**	PFAKE			23 26 40.0 +8.1
BINY				LR	LR		
	comp=Z,600nm,18.0s						
HNH	**Hanover**	**95.92**	**24**	PFAKE			23 26 40.0 +8.2
HNH				LR	LR		
	comp=Z,900nm,18.0s						
N55A	**Marion Center**	**95.94**	**30**	PFAKE			23 26 40.0 +8.0
N55A				LR	LR		
	comp=Z,1μm,20.0s						
WVL	**Waterville**	**95.99**	**22**	PFAKE			23 26 40.0 +7.9
WVL				LR	LR		
	comp=Z,1μm,18.0s						
P53A	**Whipple**	**96.00**	**32**	PFAKE			23 26 40.0 +7.7
P53A				LR	LR		
	comp=Z,2μm,19.0s						
T49A	**Edmonton**	**96.02**	**36**	PFAKE			23 26 40.0 +7.6
T49A				LR	LR		
	comp=Z,700nm,19.0s						
OXF	**Oxford**	**96.06**	**40**	PFAKE			23 26 40.0 +7.4
OXF				LR	LR		
	comp=Z,800nm,18.0s						
LMN	**Caledonia Moun**	**96.19**	**18**	PFAKE			23 26 40.0 +7.0
LMN				LR	LR		
	comp=Z,1μm,20.0s						
KVTX	**Kingsville**	**96.19**	**50**	PFAKE			23 26 50.0 +17
KVTX				LR	LR		
	comp=Z,2μm,21.0s						
TRY	**Troy**	**96.30**	**25**	PFAKE			23 26 50.0 +16
TRY				LR	LR		
	comp=Z,1μm,18.0s						
GGN	**Saint George**	**96.31**	**20**	PFAKE			23 26 50.0 +16
GGN				LR	LR		
	comp=Z,900nm,19.0s						
FFD	**Franklin Falls**	**96.33**	**24**	PFAKE			23 26 50.0 +16
FFD				LR	LR		
	comp=Z,1μm,19.0s						
PLAL	**Pickwick Lake**	**96.40**	**39**	PFAKE			23 26 50.0 +16
PLAL				LR	LR		
	comp=Z,1μm,18.0s						
V48A	**Smith Brothers**	**96.45**	**38**	PFAKE			23 26 50.0 +16
V48A				LR	LR		
	comp=Z,800nm,19.0s						
SSPA	**Standing Stone**	**96.51**	**29**	PFAKE			23 26 50.0 +15
SSPA				LR	LR		
	comp=Z,1μm,19.0s						
EMMW	**East Machias**	**96.51**	**20**	PFAKE			23 26 50.0 +16
EMMW				LR	LR		
	comp=Z,2μm,18.0s						
S51A	**Beattyville**	**96.51**	**35**	PFAKE			23 26 50.0 +15
S51A				LR	LR		
	comp=Z,900nm,18.0s						
MCWV	**Mont Chateau**	**96.53**	**31**	PFAKE			23 26 50.0 +15
MCWV				LR	LR		
	comp=Z,800nm,18.0s						
O56A	**Blue Knob Stat**	**96.55**	**30**	PFAKE			23 26 50.0 +15
O56A				LR	LR		
	comp=Z,1μm,21.0s						
KSPA	**Keystone Colle**	**96.55**	**27**	PFAKE			23 26 50.0 +15
KSPA				LR	LR		
	comp=Z,2μm,18.0s						
Q54A	**Coxs Mills**	**96.66**	**32**	PFAKE			23 26 50.0 +15
Q54A				LR	LR		
	comp=Z,1μm,19.0s						
R53A	**Hurricane**	**96.70**	**33**	PFAKE			23 26 50.0 +14
R53A				LR	LR		
	comp=Z,1μm,19.0s						
KEST	**Kesra**	**96.92**	**323**	PFAKE			23 26 50.0 +13
KEST				LR	LR		
	comp=Z,2μm,18.0s						
KEST	**Kesra**	**96.92**	**323**	LR	LR		00 13 47.4
	comp=Z,1μm,19.3s,baz=335,slow=38						
LNIG	**Linares**	**97.01**	**53**	PFAKE			23 26 50.0 +13
LNIG				LR	LR		
	comp=Z,1μm,20.0s						
N59A	**State Game Lan**	**97.10**	**28**	PFAKE			23 26 50.0 +13
N59A				LR	LR		
	comp=Z,2μm,19.0s						
QUA2	**Belchertown**	**97.16**	**25**	PFAKE			23 26 50.0 +12
QUA2				LR	LR		
	comp=Z,1μm,19.0s						
VBMS	**Vicksburg**	**97.20**	**42**	PFAKE			23 26 50.0 +12
VBMS				LR	LR		
	comp=Z,1μm,19.0s						
HRV	**Adam Dziewonsk**	**97.22**	**24**	PFAKE			23 26 50.0 +12
HRV				LR	LR		
	comp=Z,1μm,19.0s						
T52A	**Hallie**	**97.23**	**35**	PFAKE			23 26 50.0 +12
T52A				LR	LR		
	comp=Z,1μm,19.0s						
KSCT	**Kent School, K**	**97.25**	**26**	PFAKE			23 26 50.0 +12
KSCT				LR	LR		
	comp=Z,2μm,18.0s						
SWET	**Sewanee**	**97.31**	**38**	PFAKE			23 26 50.0 +12
SWET				LR	LR		
	comp=Z,900nm,19.0s						
PAGS	**Pennsylvania G**	**97.33**	**29**	PFAKE			23 26 50.0 +12
PAGS				LR	LR		
	comp=Z,1μm,18.0s						
X48A	**Hartselle**	**97.35**	**39**	PFAKE			23 26 50.0 +11
X48A				LR	LR		
	comp=Z,900nm,20.0s						
ODNJ	**Ogdensburg**	**97.40**	**27**	PFAKE			23 26 50.0 +11
ODNJ				LR	LR		
	comp=Z,1μm,19.0s						
WES	**Weston**	**97.41**	**24**	PFAKE			23 26 50.0 +11
WES				LR	LR		
	comp=Z,2μm,19.0s						
TZTN	**Tazewell**	**97.42**	**35**	PFAKE			23 26 50.0 +11
TZTN				LR	LR		
	comp=Z,2μm,18.0s						
LUPA	**Lehigh Univers**	**97.53**	**28**	PFAKE			23 26 50.0 +11
LUPA				LR	LR		
	comp=Z,100nm,18.0s						
R55A	**Marlinton**	**97.56**	**32**	PFAKE			23 26 50.0 +10
R55A				LR	LR		
	comp=Z,1μm,18.0s						
HAL	**Halifax**	**97.63**	**18**	PFAKE			23 26 50.0 +10
HAL				LR	LR		
	comp=Z,2μm,19.0s						
V51A	**Loudon**	**97.63**	**36**	PFAKE			23 26 50.0 +10
V51A				LR	LR		
	comp=Z,1μm,19.0s						
W50A	**Signal Mountai**	**97.64**	**37**	PFAKE			23 26 50.0 +10
W50A				LR	LR		
	comp=Z,900nm,18.0s						
PAL	**Palisades**	**97.72**	**26**	PFAKE			23 26 50.0 +10
PAL				LR	LR		
	comp=Z,1μm,18.0s						
BRYW	**Bryant College**	**97.75**	**24**	PFAKE			23 26 50.0 +10
BRYW				LR	LR		
	comp=Z,1μm,19.0s						
BRNJ	**Basking Ridge**	**97.76**	**27**	PFAKE			23 26 50.0 +10
BRNJ				LR	LR		
	comp=Z,1μm,19.0s						
YLE	**Yale**	**97.80**	**26**	PFAKE			23 26 50.0 +10
YLE				LR	LR		
	comp=Z,2μm,21.0s						
CPCT	**Cooper Cave**	**97.83**	**37**	PFAKE			23 26 50.0 +9.3
CPCT				LR	LR		
	comp=Z,1μm,18.0s						
V52A	**Sevierville**	**97.96**	**36**	PFAKE			23 26 50.0 +8.7
V52A				LR	LR		
	comp=Z,1μm,19.0s						
SDMD	**Soldier's Deli**	**97.98**	**29**	PFAKE			23 26 50.0 +8.8
SDMD				LR	LR		
	comp=Z,500nm,19.0s						
147A	**Livingston**	**98.08**	**41**	PFAKE			23 26 50.0 +8.2
147A				LR	LR		
	comp=Z,900nm,18.0s						
PSUB	**Penn St. - Bra**	**98.08**	**28**	PFAKE			23 26 50.0 +8.3
PSUB				LR	LR		
	comp=Z,2μm,18.0s						
Y49A	**Blount Mountai**	**98.14**	**39**	PFAKE			23 26 50.0 +7.9
Y49A				LR	LR		
	comp=Z,1μm,18.0s						
U54A	**Nelsons Funny**	**98.25**	**34**	PFAKE			23 26 50.0 +7.4
U54A				LR	LR		
	comp=Z,1μm,19.0s						
BLA	**Blacksburg**	**98.31**	**33**	PFAKE			23 26 50.0 +7.1
BLA				LR	LR		
	comp=Z,1μm,18.0s						
X51A	**Calhoun**	**98.37**	**37**	PFAKE			23 26 50.0 +6.9
X51A				LR	LR		
	comp=Z,1μm,18.0s						
W52A	**Murphy**	**98.40**	**36**	PFAKE			23 27 00.0 +17
W52A				LR	LR		
	comp=Z,1μm,20.0s						
LRAL	**Lakeview Retre**	**98.48**	**40**	PFAKE			23 27 00.0 +16
LRAL				LR	LR		
	comp=Z,900nm,19.0s						
V53A	**Saluda**	**98.48**	**35**	PFAKE			23 27 00.0 +16
V53A				LR	LR		
	comp=Z,900nm,20.0s						
S57A	**Dark Hollow, R**	**98.50**	**31**	PFAKE			23 27 00.0 +16
S57A				LR	LR		
	comp=Z,2μm,22.0s						
R58B	**Mineral**	**98.78**	**31**	PFAKE			23 27 00.0 +15
R58B				LR	LR		
	comp=Z,1μm,18.0s						
CBN	**Corbin Frederi**	**98.79**	**30**	PFAKE			23 27 00.0 +15
CBN				LR	LR		
	comp=Z,1μm,19.0s						
Z50A	**Ashland**	**98.86**	**39**	PFAKE			23 27 00.0 +15
Z50A				LR	LR		
	comp=Z,1μm,18.0s						
BG3	**Lake Jocassee**	**98.97**	**36**	PFAKE			23 27 00.0 +14
BG3				LR	LR		
	comp=Z,900nm,19.0s						
T57A	**Hurt**	**99.00**	**32**	PFAKE			23 27 00.0 +14
T57A				LR	LR		
	comp=Z,1μm,19.0s						
S58A	**Poland Farm, P**	**99.01**	**31**	PFAKE			23 27 00.0 +14
S58A				LR	LR		
	comp=Z,1μm,19.0s						
Y52A	**Lilburn**	**99.32**	**37**	PFAKE			23 27 00.0 +13
Y52A				LR	LR		
	comp=Z,1μm,19.0s						
ESDC	**Sonseca Array**	**99.37**	**334**	LR	LR		00 15 06.3
	comp=Z,1μm,20.5s,baz=10.0,slow=38						
ESLA	**Sonseca Array**	**99.37**	**334**	PFAKE			23 27 00.0 +12
ESLA				LR	LR		
	comp=Z,2μm,20.0s						
V56A	**Mocksville**	**99.44**	**34**	PFAKE			23 27 00.0 +12
V56A				LR	LR		
	comp=Z,1μm,18.0s						
KMSC	**Kings Mountain**	**99.60**	**35**	PFAKE			23 27 00.0 +11
KMSC				LR	LR		
	comp=Z,2μm,18.0s						
PAB	**San Pablo**	**99.62**	**334**	PFAKE			23 27 00.0 +11
PAB				LR	LR		
	comp=Z,2μm,20.0s						
250A	**Grady**	**99.69**	**40**	PFAKE			23 27 00.0 +11
250A				LR	LR		
	comp=Z,900nm,20.0s						
T59A	**Double "B" Far**	**99.76**	**31**	PFAKE			23 27 00.0 +11
T59A				LR	LR		
	comp=Z,1μm,19.0s						
152A	**Waverly Hall**	**99.94**	**38**	PFAKE			23 27 00.0 +10
152A				LR	LR		
	comp=Z,1μm,20.0s						
MTE	**Manteigas**	**99.95**	**337**	PFAKE			23 27 00.0 +10
MTE				LR	LR		
	comp=Z,2μm,18.0s						
T60A	**Surry**	**99.96**	**30**	PFAKE			23 27 00.0 +10
T60A				LR	LR		
	comp=Z,1μm,18.0s						
GOGA	**Godfrey**	**99.98**	**37**	PFAKE			23 27 00.0 +10
GOGA				LR	LR		
	comp=Z,800nm,19.0s						
CART	**Cartagena**	**100.06**	**331**	PFAKE			23 27 00.0 +9.5
CART				LR	LR		
	comp=Z,2μm,18.0s						
U59A	**Littleton**	**100.18**	**31**	PFAKE			23 27 00.0 +8.9
U59A				LR	LR		
	comp=Z,1μm,19.0s						
W57A	**Gilead**	**100.21**	**34**	PFAKE			23 27 00.0 +8.7
W57A				LR	LR		
	comp=Z,1μm,19.0s						
JSC	**Jenkinsville**	**100.34**	**35**	PFAKE			23 27 00.0 +8.1
JSC				LR	LR		
	comp=Z,1μm,19.0s						
COI	**Coimbra**	**100.41**	**337**	PFAKE			23 27 00.0 +8.0
COI				LR	LR		
	comp=Z,2μm,18.0s						
BIRD	**Birdtown, Kers**	**100.42**	**34**	PFAKE			23 27 00.0 +7.8
BIRD				LR	LR		
	comp=Z,2μm,19.0s						
253A	**Americus**	**100.73**	**38**	PFAKE			23 27 10.0 +16
253A				LR	LR		
	comp=Z,1μm,19.0s						
154A	**Montrose**	**100.80**	**37**	PFAKE			23 27 10.0 +16
154A				LR	LR		
	comp=Z,800nm,20.0s						
V60A	**Jim Taylor Roa**	**100.91**	**31**	PFAKE			23 27 10.0 +16
V60A				LR	LR		
	comp=Z,1μm,18.0s						
Y57A	**Sumter**	**100.97**	**35**	PFAKE			23 27 10.0 +15
Y57A				LR	LR		
	comp=Z,2μm,18.0s						
X58A	**Rowland**	**101.01**	**34**	PFAKE			23 27 10.0 +15
X58A				LR	LR		
	comp=Z,1μm,18.0s						
Z56A	**Williston**	**101.07**	**36**	PFAKE			23 27 10.0 +15
Z56A				LR	LR		
	comp=Z,2μm,18.0s						
CNNC	**Cliffs of the**	**101.08**	**32**	PFAKE			23 27 10.0 +15
CNNC				LR	LR		
	comp=Z,900nm,20.0s						
PESTR	**Estremoz**	**101.35**	**336**	PFAKE			23 27 10.0 +14
PESTR				LR	LR		
	comp=Z,1μm,18.0s						
Y58A	**Scranton**	**101.40**	**34**	PFAKE			23 27 10.0 +13
Y58A				LR	LR		
	comp=Z,1μm,19.0s						
TIGA	**Tifton**	**101.50**	**38**	PFAKE			23 27 10.0 +13
TIGA				LR	LR		
	comp=Z,2μm,19.0s						
255A	**Hazlehurst**	**101.67**	**37**	PFAKE			23 27 10.0 +12
255A				LR	LR		
	comp=Z,1μm,20.0s						
Y60A	**Bolivia**	**101.97**	**33**	PFAKE			23 27 10.0 +11
Y60A				LR	LR		
	comp=Z,1μm,19.0s						
257A	**Skidaway Islan**	**102.34**	**36**	PFAKE			23 27 10.0 +9.2
257A				LR	LR		
	comp=Z,2μm,18.0s						
KMBO	**Kilima Mbogo**	**102.51**	**277**	PFAKE			23 27 10.0 +7.9
KMBO				LR	LR		
	comp=Z,700nm,18.0s						
LVIG	**Laguna Verde**	**102.61**	**55**	PFAKE			23 27 10.0 +7.8
LVIG				LR	LR		
	comp=Z,1μm,20.0s						
SFS	**San Fernando**	**103.03**	**334**	PFAKE			23 27 20.0 +16
SFS				LR	LR		
	comp=Z,1μm,20.0s						
PFVI	**Vila Bisbo**	**103.33**	**336**	PFAKE			23 27 20.0 +15
PFVI				LR	LR		
	comp=Z,2μm,18.0s						
957A	**Wimauma**	**105.22**	**40**	PFAKE			23 31 40.0 +12
957A				LR	LR		
	comp=Z,1μm,19.0s						
DWPF	**Disney Wildern**	**105.28**	**39**	PFAKE			23 31 40.0 +12
DWPF				LR	LR		
	comp=Z,1μm,18.0s						
RTC	**Rabat Centre**	**105.48**	**333**	PFAKE			23 31 40.0 +12
RTC				LR	LR		
	comp=Z,4μm,20.0s						
060A	**Indiantown**	**106.71**	**39**	PFAKE			23 31 40.0 +9.3
060A				LR	LR		
	comp=Z,1μm,18.0s						
061Z	**Ochoppi**	**107.37**	**40**	PFAKE			23 31 40.0 +8.1
061Z				LR	LR		
	comp=Z,1μm,19.0s						
MBAR	**Mbarara**	**107.48**	**282**	PFAKE			23 31 40.0 +7.4
MBAR				LR	LR		

comp=Z,300nm,21.0s
TAM Tamanrasset 109.20 317 PFAKE 23 31 50.0 +14
TAM LR LR
comp=Z,1μm,19.0s
MTDJ Mount Denham 115.38 42 PFAKE 23 32 00.0 +13
MTDJ LR LR
comp=Z,1μm,19.0s
GRTK Grand Turk 115.86 34 PFAKE 23 32 00.0 +12
GRTK LR LR
comp=Z,1μm,19.0s
ESPN Las Esperanzas 116.05 52 PFAKE 23 32 00.0 +11
ESPN LR LR
comp=Z,600nm,21.0s
LSZ Lusaka 117.76 270 PFAKE 23 32 00.0 +8.0
LSZ LR LR
comp=Z,800nm,19.0s
SDDR Presa de Saban 117.97 36 PFAKE 23 32 00.0 +7.7
SDDR LR LR
comp=Z,1μm,18.0s
TOC1 Torodi Ar. Sit 119.02 314 PFAKE 23 32 10.0 +16
TOC1 LR LR
comp=Z,1μm,18.0s
TOC2 Torodi Ar. Sit 119.03 314 PFAKE 23 32 10.0 +16
TOC2 LR LR
comp=Z,1μm,18.0s
TOB2 Torodi Ar. Sit 119.04 314 PFAKE 23 32 10.0 +16
TOB2 LR LR
comp=Z,1μm,18.0s
TOC3 Torodi Ar. Sit 119.04 314 PFAKE 23 32 10.0 +16
TOC3 LR LR
comp=Z,1μm,18.0s
TOA1 Torodi Ar. Sit 119.05 314 *e*PKPdf **PKPdf 23 31 53.8 -0.6**
TOA1 *e*PP **PP 23 33 18.0 +4.9**
TOA1 LR LR
comp=Z,900nm,18.0s
TOC7 Torodi Ar. Sit 119.05 314 PFAKE 23 32 10.0 +16
TOC7 LR LR
comp=Z,1μm,18.0s
TOA0 Torodi Ar. Sit 119.05 314 PFAKE 23 32 10.0 +16
TOA0 LR LR
comp=Z,900nm,19.0s
TORD Torodi Ar. Bea 119.05 314 *e*PKPdf **PKPdf 23 31 53.9 -0.5**
TORD Torodi Ar. Bea 119.05 314 PKP **PKPdf 23 31 53.8 -0.6**
comp=Z,1.4nm,0.9s,baz=358,slow=2.1,SNR=5.9
TORD PP **PP 23 33 18.0 +4.9**
comp=Z,0.7nm,1.1s,baz=12,slow=7.4,SNR=3.7
TOB3 Torodi Ar. Sit 119.05 314 PFAKE 23 32 10.0 +16
TOB3 LR LR
comp=Z,1μm,19.0s
TOB5 Torodi Ar. Sit 119.05 314 PFAKE 23 32 10.0 +16
TOB5 LR LR
comp=Z,1μm,18.0s
TOA3 Torodi Ar. Sit 119.05 314 PFAKE 23 32 10.0 +16
TOA3 LR LR
comp=Z,900nm,19.0s
TOB4 Torodi Ar. Sit 119.06 314 PFAKE 23 32 10.0 +16
TOB4 LR LR
comp=Z,1μm,18.0s
TOC4 Torodi Ar. Sit 119.07 314 PFAKE 23 32 10.0 +15
TOC4 LR LR
comp=Z,1μm,18.0s
TOC5 Torodi Ar. Sit 119.08 314 PFAKE 23 32 10.0 +15
TOC5 LR LR
comp=Z,1μm,18.0s
AGP Aguadilla 120.37 32 PFAKE 23 32 10.0 +13
AGP LR LR
comp=Z,1μm,21.0s
AOPR Arecibo Observ 120.59 32 PFAKE 23 32 10.0 +13
AOPR LR LR
comp=Z,2μm,22.0s
CBYP Canovanas 121.04 31 PFAKE 23 32 10.0 +12
CBYP LR LR
comp=Z,700nm,20.0s
STVI Saint Thomas 121.35 30 PFAKE 23 32 10.0 +11
STVI LR LR
comp=Z,900nm,19.0s
SMRT St. Maarten 122.37 28 PFAKE 23 32 10.0 +9.1
SMRT LR LR
comp=Z,600nm,19.0s
QSPA South Pole Qui 124.58 180 *e*PKPdf **PKPdf 23 32 03.0 -0.5**
FDF Fort de France 126.13 28 PFAKE 23 32 20.0 +12
FDF LR LR
comp=Z,700nm,20.0s
SDV Santo Domingo 126.83 41 *e*PKPdf **PKPdf 23 32 09.9 +0.3**
OTAV Otavalo 128.77 56 PFAKE 23 32 30.0 +16
OTAV LR LR
comp=Z,700nm,18.0s
SNAA Sanae 138.72 196 PFAKE 23 32 40.0 +7.8
SNAA LR LR
comp=Z,700nm,20.0s
ASCN Ascension 145.37 315 PFAKE 23 33 00.0 +13
ASCN LR LR
comp=Z,127μm,21.0s
LPAZ La Paz 147.53 63 *e*PKPbc **PKPbc 23 32 50.3 -0.1**
LPAZ La Paz 147.53 63 PKPbc **PKPbc 23 32 50.8 +0.4**
comp=Z,12nm,0.9s,baz=8.4,slow=7.3,SNR=22
MNMC Minye Minye 148.18 69 *e*PKPbc **PKPbc 23 32 52.5 +0.8**
PB11 IPOC Station P 148.49 70 *e*PKPbc **PKiKP 23 32 53.6 -0.4**
GO01 Chusmiza 148.80 69 *e*PKPbc **PKiKP 23 32 54.8 -0.2**
PB01 IPOC Station P 149.34 72 PFAKE 23 33 00.0 +0.9
PB01 LR LR
comp=Z,500nm,18.0s
GO03 Copiap 151.82 84 *e*PKPbc **PKPbc 23 33 00.2 +0.1**
LCO Las Campanas 151.96 87 *e*PKPbc **PKPbc 23 33 00.6 0.0**
LCO Las Campanas 151.96 87 *e*PKIKP **PKPbc 23 33 00.6 0.0**
GO04 Tololo Observa 152.25 90 *e*PKPbc **PKPbc 23 33 00.7 -0.6**
GO06 Curarrehue 153.24 110 PFAKE 23 33 10.0 -4.9
GO06 LR LR
comp=Z,2μm,18.0s
CPUP Villa Florida 161.56 68 *e*PKPdf **PKPdf 23 33 06.3 +0.1**
CPUP *e*PKPab **PKPab 23 33 52.0 +1.1**
CPUP Villa Florida 161.56 68 PKP **PKPdf 23 33 09.3 +3.1**
comp=Z,1.2nm,0.9s,baz=286,slow=3.6,SNR=3.0
CPUP PKPab **pPKPab 23 33 52.1 -1.3**
comp=Z,2.4nm,1.0s,baz=283,slow=5.5,SNR=3.7

*ISCJB **01** 23:13:52.0±0.3, 40.°88N±0.°02×29.°29E±0.°02, h4km±3km, Error ellipse: s-maj=3.6km s-min=2.4km az=27.7*
*DDA **01** 23:13:51.4, 40.°89N×29.°29E, h7km±2km, ML2.8*
*ISK **01** 23:13:51.6, 40.°86N×29.°29E, h7km, ML2.4/26*
ISC 01 23:13:52.0±0.8, 40.°88N±0.°02×29.°29E±0.°02, h12km±6km, n61, σ0°64/74, 5C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUY	**Buyukada**	**0.13**	**257**	PG	**Pg**	**23 13 55.1**	**-0.2**
BUY				SG	**Sg**	**23 13 57.1**	**-0.6**
BUY	**Buyukada**	**0.13**	**257**	*i* P	**Pg**	**23 13 55.4**	**+0.1**
BUY				*i* S	**Sg**	**23 13 58.0**	**+0.3**
BUY				IAML_P			
comp=Z,16μm,0.1s							
KAVV	**Kandilli-Istan**	**0.25**	**316**	PG	**Pb**	**23 13 57.8**	**-0.7**
KAVV				SG	**Sg**	**23 14 01.5**	**+0.7**
ISK	**Istanbul-Kandi**	**0.25**	**316**	PG	**Pb**	**23 13 57.6**	**-0.9**
ISK				SG	**Sg**	**23 14 01.5**	**+0.6**
HRT	**Hereke**	**0.29**	**102**	PG	**Pg**	**23 13 57.9**	**-0.1**
HRT				SG	**Sg**	**23 14 02.1**	**0.0**
YLV	**Yalova**	**0.32**	**169**	PG	**Pg**	**23 13 58.3**	**-0.3**
YLV	**Yalova**	**0.32**	**169**	⇑*i* P	**Pg**	**23 13 58.2**	**-0.3**
YLV	**Yalova**	**0.32**	**169**	S	**Sg**	**23 14 02.2**	**-0.7**
KLYT	**Kilyos**	**0.42**	**333**	PG	**Pb**	**23 14 00.9**	**-0.4**
KLYT	**Kilyos**	**0.42**	**333**	⇑*i* P	**Pb**	**23 14 00.8**	**-0.5**
KLYT	**Kilyos**	**0.42**	**333**	S	**Sb**	**23 14 07.1**	**-0.4**
GEMT	**Gemlik**	**0.45**	**190**	PG	**Pg**	**23 14 00.3**	**-0.6**
ARMT	**Armutlu**	**0.45**	**226**	PG	**Pg**	**23 14 00.7**	**-0.2**
BGKT	**Bogazkoy**	**0.49**	**308**	PG	**Pb**	**23 14 02.0**	**-0.6**
ADVT	**Abdulvahap**	**0.56**	**143**	PG	**Pg**	**23 14 02.7**	**-0.3**
MDNY	**Mudanya-Bursa**	**0.60**	**211**	PG	**Pg**	**23 14 03.5**	**-0.1**
CTKS	**Kestanelik-??a**	**0.69**	**301**	PG	**Pb**	**23 14 05.8**	**-0.1**
ELBA	**Catalca**	**0.70**	**292**	*i* P	**Pb**	**23 14 06.1**	**-0.1**
ELBA				IAML_P			
comp=Z,5μm,0.1s							
KAND	**Kocaeli-Kandir**	**0.71**	**72**	*i* P	**Pb**	**23 14 06.2**	**-0.2**
KAND				*i* S	**Sg**	**23 14 15.3**	**0.0**
KAND				IAML_P			
comp=Z,421nm,0.1s							
ULDT	**Uludag**	**0.75**	**189**	*i* P	**Pb**	**23 14 06.9**	**-0.1**
ULDT				IAML_P			
comp=Z,764nm,0.2s							
SPNC	**Sapanca-Adapaz**	**0.80**	**104**	PG	**Pb**	**23 14 07.7**	**0.0**
CAVI	**Cavuskoy**	**0.80**	**148**	PG	**Pg**	**23 14 07.1**	**-0.3**
SAUV	**Serdivan-Sakar**	**0.80**	**100**	PG	**Pg**	**23 14 07.2**	**-0.2**
GEYV	**SAKARYA_Geyve**	**0.86**	**117**	*i* P	**Pb**	**23 14 08.9**	**0.0**
GEYV				*i* S	**Sb**	**23 14 20.3**	**0.0**
GEYV				IAML_P			
comp=Z,2μm,0.2s							
SLVT	**Silivri**	**0.89**	**293**	PG	**Pb**	**23 14 09.1**	**-0.2**
KCTX	**Karacabey (Bur**	**0.94**	**229**	PG	**Pb**	**23 14 09.8**	**-0.4**
CTYL	**Yalikoy Yolu**	**0.96**	**308**	PG	**Pg**	**23 14 10.3**	**-0.2**
CTYL	**Yalikoy Yolu**	**0.96**	**308**	⇑*i* P	**Pb**	**23 14 10.5**	**0.0**
CTYL				S	**Sb**	**23 14 24.3**	**+1.1**
GULT	**Gulveren**	**1.03**	**115**	PG	**Pb**	**23 14 11.6**	**-0.2**
AUBOZ	**BOZOYUK**	**1.12**	**149**	*i* P	**Pn**	**23 14 13.4**	**-0.2**
AUBOZ				*i* S	**Sn**	**23 14 29.9**	**+1.0**
SAHE	**Sakarya_HENDEK**	**1.19**	**91**	*i* P	**Pn**	**23 14 14.4**	**+0.1**
SAHE				*i* S	**Sn**	**23 14 31.1**	**+0.7**
SAHE				IAML_P			
comp=Z,372nm,0.1s							
CRLT	**Corlu**	**1.20**	**282**	PN	**Pn**	**23 14 15.2**	**+0.6**
EDC	**Edincik**	**1.21**	**244**	PN	**Pg**	**23 14 14.1**	**-1.2**
MRMT	**Marmara Adasi**	**1.32**	**258**	PN	**Pn**	**23 14 16.1**	**-0.1**
SRCK	**Saricakaya, Es**	**1.32**	**129**	PN	**Pg**	**23 14 16.9**	**-0.4**
BTAS	**Taskesti**	**1.34**	**103**	*i* P	**Pg**	**23 14 17.2**	**-0.5**
BTAS				*i* S	**Sn**	**23 14 36.2**	**+2.1**
BTAS				IAML_P			
comp=Z,260nm,0.2s							
BORA	**Eskisehir**	**1.34**	**138**	*i* P	**Pg**	**23 14 17.5**	**-0.2**
BORA				IAML_P			
comp=Z,3μm,0.1s							
DURS	**Dursunbey**	**1.42**	**206**	*i* P	**Pg**	**23 14 19.2**	**-0.1**
DURS				*i* S	**Sg**	**23 14 37.0**	**-0.8**
DURS				IAML_P			
comp=Z,373nm,0.1s							
TVSB	**Tavsanli**	**1.44**	**175**	PN	**Pb**	**23 14 18.6**	**-0.1**
PHSR	**Pinarhisar**	**1.53**	**300**	S	**Sg**	**23 14 40.8**	**-0.4**
KRBG	**Karabiga-Canak**	**1.59**	**253**	PN	**Pn**	**23 14 20.6**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.62**	**264**	PN	**Pb**	**23 14 21.2**	**-0.5**
YIGI	**Dzce**	**1.64**	**86**	*i* P	**Pg**	**23 14 22.8**	**-0.6**
YIGI				*i* S	**Sg**	**23 14 43.7**	**-1.0**
YIGI				IAML_P			
comp=Z,385nm,0.3s							
BALB	**Balikesir**	**1.64**	**221**	PN	**Pb**	**23 14 21.5**	**-0.7**
GDZ	**Gediz**	**1.80**	**175**	*i* P	**Pg**	**23 14 26.1**	**-0.3**
GDZ				IAML_P			
comp=Z,398nm,0.2s							
KIRK	**Kırklareli**	**1.88**	**299**	*i* P	**Pg**	**23 14 27.8**	**-0.2**
KIRK				IAML_P			
comp=Z,158nm,0.1s							
STEP	**BALIKESIR_Sava**	**1.93**	**219**	*i* P	**Pg**	**23 14 27.8**	**-1.1**
STEP				IAML_P			
comp=Z,46nm,0.1s							
AUMIH	**MIHALICIK**	**1.96**	**120**	*i* P	**Pn**	**23 14 26.1**	**+1.0**
KIBS	**BOLU**	**2.00**	**102**	*i* P	**Pb**	**23 14 27.3**	**-1.0**
KIBS				IAML_P			
comp=Z,135nm,0.2s							
CIFT	**Cifteler, Eski**	**2.04**	**138**	PN	**Pn**	**23 14 26.2**	**+0.1**
BCAM	**Yenicaga**	**2.11**	**91**	*i* P	**Pb**	**23 14 30.2**	**+0.1**
BCAM				IAML_P			
comp=Z,175nm,0.2s							
ERIK	**Erikli-Kesan**	**2.12**	**265**	PN	**Pn**	**23 14 27.7**	**+0.5**
EDRB	**Edirne**	**2.15**	**298**	PN	**Pn**	**23 14 29.2**	**+1.6**
USAK	**Uak-Merkez**	**2.17**	**186**	*i* P	**Pg**	**23 14 33.2**	**-0.5**
USAK				IAML_P			
comp=Z,257nm,0.2s							
GELI	**Tayfur-Gelibol**	**2.20**	**258**	PN	**Pn**	**23 14 29.7**	**+1.5**
TIRR	**Tirgusor**	**3.63**	**350**	⇑*i* P	**Pn**	**23 14 46.6**	**-1.4**
TIRR	**Tirgusor**	**3.63**	**350**	S	**Sn**	**23 15 30.9**	**+0.2**
TLB	**Topalu**	**3.81**	**346**	⇑*i* P	**Pn**	**23 14 50.8**	**+0.3**
TLB	**Topalu**	**3.81**	**346**	S	**Sn**	**23 15 35.4**	**+0.2**
CFR	**Carcaliu**	**4.38**	**349**	⇓*i* P	**Pn**	**23 14 57.9**	**-0.3**
CFR	**Carcaliu**	**4.38**	**349**	S	**Sn**	**23 15 48.8**	**-0.3**

*NEIC **02** 00:30:07.4±0.4, 32.°96N×75.°69E, h10km, mb4.2/10, Error ellipse: s-maj=7.7km s-min=6.2km az=219.0*
*ISCJB **02** 00:30:08.5±1.2, 33.°13N±0.°03×75.°78E±0.°04, h28km±9km, mb4.0/29, Error ellipse: s-maj=6.1km s-min=3.7km az=147.5*
*NDI **02** 00:30:09.2±1.2, 33.°16N×75.°56E, h6km±4km, ML3.9*
*IDC **02** 00:30:10.2±0.6, 33.°03N×75.°67E, h29km±3km, mb3.8/21, mb1 3.9/24, mb1mx3.7/57, mbtmp3.9/24, ML3.3/3, Error ellipse: s-maj=13.8km s-min=10.0km az=32.0*
*BJI **02** 00:30:11.0±0.0, 33.°30N×75.°80E, h15km, mb4.2/4, ML4.0/3, Ms7 3.8/1*
*NNC **02** 00:30:46.2±4.0, 35.°97N×75.°37E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=44.3km s-min=37.0km az=96.0*
ISC 02 00:30:10.1±0.4, 33.°05N±0.°04×75.°64E±0.°04, h27km±3km, h27km:pP-P, n92, σ1s71/127, mb4.1/29, 4C-5D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.97**	**145**	*e*P	**Pb**	**00 30 29.4**	**+1.0**
DHRM				*e*S	**Sn**	**00 30 46.3**	**+5.1**
DHRM				IAML		00 30 48.5	
comp=N,5μm,0.3s							
DHRM				IAML		00 30 48.6	
comp=E,6μm,0.2s							
BHK	**Bhakra**	**1.75**	**158**	*ex*	**Pb**	**00 30 41.4**	**-0.2**
BHK				*ex*	**Sn**	**00 31 05.4**	**+5.1**
CHCP	**Chirah Chowk**	**2.08**	**288**	P	**Pb**	**00 30 48.2**	**+1.0**
NIL	**Nilore**	**2.09**	**287**	*e*Pn	**Pb**	**00 30 47.0**	**-0.3**
NIL				*e*Sn	**Sn**	**00 31 10.6**	**+2.1**
SMLA	**Simla**	**2.31**	**146**	*e*P	**Pb**	**00 30 50.6**	**-0.5**
SMLA				*e*S	**Sb**	**00 31 20.0**	**+0.9**
SMLA				IAML		00 31 24.2	
comp=N,1μm,0.2s							
CEP	**Cherat**	**3.22**	**285**	P	**Pn**	**00 31 02.3**	**+3.3**
KKR	**Kurukshetra**	**3.24**	**162**	*e*S	**Sb**	**00 31 40.7**	**-5.2**
THW	**Thamme Wali**	**3.29**	**267**	P	**Pn**	**00 31 03.6**	**+3.7**
DDI	**Dehra Dun**	**3.41**	**142**	*e*S	**Sb**	**00 31 45.5**	**-5.4**
JOSI	**Joshimath**	**4.16**	**126**	*e*P	**Pn**	**00 31 14.7**	**+2.7**
JOSI				*e*S	**Sn**	**00 32 02.7**	**+2.9**
JOSI				IAML		00 32 31.8	
comp=N,3μm,1.0s							
JOSI				IAML		00 32 35.9	
comp=E,676nm,0.7s							
SONA	**Sohna**	**4.94**	**165**	*e*P	**Pn**	**00 31 25.8**	**+3.2**
SONA				*e*S	**Sn**	**00 32 20.8**	**+2.0**
SONA				IAML		00 33 04.8	
comp=E,143nm,0.2s							
SONA				IAML		00 33 05.3	
comp=N,79nm,0.2s							
KUDL	**Kundal**	**4.94**	**171**	*e*P	**Pn**	**00 31 20.7**	**-1.9**
KUDL				*e*S	**Sn**	**00 32 16.1**	**-2.7**
KUDL				IAML		00 33 06.5	
comp=N,88nm,0.8s							
KUDL				IAML		00 33 10.9	
comp=E,136nm,0.3s							
KBL	**Kabul**	**5.69**	**287**	*e*Pn	**Pn**	**00 31 34.6**	**+1.6**
KBL				*e*Sn	**Sn**	**00 32 35.8**	**-1.8**
KSH	**Kashi**	**6.46**	**2**	Pn	**Pn**	**00 31 41.6**	**-1.9**
KSH				Sn	Sn	00 32 37.0	-19
KSH				smax	smax		
comp=E,110nm,0.5s							
KSH				smax	smax		
comp=E,110nm,1.1s							
GAR	**Garm**	**7.34**	**326**	*e*Pn	**Pn**	**00 31 56.6**	**+1.1**
BTK	**Batken**	**8.00**	**332**	*e*Pn	**Pn**	**00 32 06.3**	**+1.7**
PYUN	**Piuthan**	**8.03**	**126**	*e*P	**Pn**	**00 32 04.9**	**-0.2**
comp=E,16nm,0.2s							
NRN	**Naryn**	**8.37**	**2**	*e*Pn	**Pn**	**00 32 11.9**	**+1.9**
DANN	**Dangsing**	**8.41**	**122**	*e*P	**Pn**	**00 32 11.4**	**+0.9**
comp=E,9.8nm,0.2s							
KOLN	**Koldanda**	**8.65**	**125**	*e*P	**Pn**	**00 32 13.5**	**-0.2**
comp=E,9.0nm,0.3s							
TARG	**Taragay, Kyrgy**	**8.83**	**11**	*e*Pn	**Pn**	**00 32 19.8**	**+3.5**
KDJ	**Kajisay**	**9.15**	**7**	*e*Pn	**Pn**	**00 32 22.6**	**+2.2**
GKN	**Gorkha**	**9.24**	**121**	*e*P	**Pn**	**00 32 21.2**	**-0.6**
comp=E,29nm,0.2s							
BOOM	**Boomskoye usch**	**9.43**	**1**	*e*Pn	**Pn**	**00 32 25.9**	**+1.7**
AAK	**Ala-Archa**	**9.62**	**355**	⇓Pn	**Pn**	**00 32 27.5**	**+0.7**
comp=E,6.0nm,0.8s							
AAK				⇓Lg	Lg	00 34 17.0	
comp=E,20nm,1.1s							
AAK	**Ala-Archa**	**9.62**	**355**	Pn	**Pn**	**00 32 27.4**	**+0.6**
comp=E,0.3nm,0.3s,baz=156,slow=8.6,SNR=12							
AAK				Sn	**Sn**	**00 34 13.6**	**-0.4**
comp=E,1.0nm,0.3s,baz=76,slow=20,SNR=2.3							
PRZ	**Przheval'sk**	**9.67**	**12**	*e*Pn	**Pn**	**00 32 29.9**	**+2.4**
FRU1	**Bishkek**	**9.78**	**356**	*e*Pn	**Pn**	**00 32 31.9**	**+2.9**
DMN	**Daman**	**9.81**	**121**	*e*P	**Pn**	**00 32 28.8**	**-0.8**
comp=E,10nm,0.3s							
KKN	**Kakani**	**9.83**	**120**	*e*P	**Pn**	**00 32 29.5**	**-0.4**
comp=E,32nm,0.6s							
TKM2	**Tokmak 2**	**9.86**	**360**	⇑Pn	**Pn**	**00 32 30.6**	**+0.4**
comp=E,4.3nm,0.8s							
TKM2				⇓Lg	Lg	00 34 27.4	
comp=E,22nm,1.4s							
PKIN	**Phulchoki**	**10.04**	**120**	*e*P	**Pn**	**00 32 32.2**	**-0.6**
comp=E,19nm,0.4s							
PKI	**Pulchoki**	**10.05**	**120**	*e*P	**Pn**	**00 32 32.0**	**-1.0**
comp=E,21nm,0.4s							
MDOK	**Medeo**	**10.16**	**6**	⇑Pn	**Pn**	**00 32 35.1**	**+0.9**
comp=E,4.5nm,0.7s							
MDOK				Lg	Lg	00 34 39.3	
comp=E,17nm,0.9s							
JIRN	**Jiri**	**10.57**	**118**	*e*P	**Pn**	**00 32 39.5**	**-0.7**
comp=E,36nm,0.4s							
PDGK	**Podgornoye**	**10.70**	**15**	⇑Pn	**Pn**	**00 32 41.7**	**+0.1**
comp=E,12nm,0.5s							
PDGK				⇑Lg	Lg	00 34 57.5	
comp=E,20nm,0.9s							
KK31	**Karatay Array**	**10.82**	**340**	*e*Pn	**Pn**	**00 32 42.5**	**-0.6**
KK31	**Karatay Array**	**10.82**	**340**	⇓Pn	**Pn**	**00 32 42.6**	**-0.6**
comp=E,6.6nm,0.7s,baz=160,slow=10,SNR=49							
KK31				⇓Lg	Lg	00 35 01.7	
comp=E,23nm,1.0s,baz=165,slow=25,SNR=3.7							
KKAR	**Karatay Array**	**10.82**	**340**	*e*Pn	**Pn**	**00 32 42.5**	**-0.6**
RAMN	**Ramite**	**11.27**	**120**	*e*P	**Pn**	**00 32 47.5**	**-2.2**
comp=E,16nm,0.4s							
LSA	**Lhasa**	**13.66**	**100**	*e*Pn	**Pn**	**00 33 20.6**	**-1.9**
MAKZ	**Makanchi**	**14.57**	**18**	*e*Pn	**Pn**	**00 33 32.5**	**-1.9**
MKAR	**Makanchi Array**	**14.63**	**18**	Pn	**Pn**	**00 33 33.4**	**-1.9**
comp=E,0.2nm,0.3s,baz=197,slow=12,SNR=9.8							
MKAR				Sn	**Sn**	**00 36 12.4**	**-4.2**
comp=E,0.2nm,0.3s,baz=196,slow=26,SNR=3.9							
GEYT	**Alibeck**	**15.08**	**294**	Pn	**Pn**	**00 33 39.3**	**-2.0**
comp=E,0.1nm,0.3s,baz=103,slow=30,SNR=2.8							
GYA0B	**ALIBECK ARRAY**	**15.08**	**294**	*e*Pn	**Pn**	**00 33 41.2**	**-0.1**
comp=E,2.2nm,0.6s							
HYB	**Hyderabad**	**15.79**	**170**	*i* P	**P**	**00 33 58.0**	**+3.7**
HYB				*e*S	**Sn**	**00 36 42.0**	**-2.8**
KURBB	**Kurchatov Arra**	**17.69**	**6**	Pn	**Pn**	**00 34 11.3**	**-3.0**
comp=E,0.1nm,0.3s,baz=192,slow=11,SNR=19							
KURBB				Sn	**Sn**	**00 37 30.2**	**-0.3**
baz=194,slow=18,SNR=2.6							
KURK	**Kurchatov**	**17.79**	**6**	*e*Pn	**Pn**	**00 34 14.0**	**-1.5**
comp=E,7.0nm,0.8s							
ABKAR	**Akbulak array**	**19.98**	**329**	*e*P	**P**	**00 34 40.2**	**-0.1**
BVAR	**Borovoye Array**	**20.32**	**351**	P	**P**	**00 34 44.4**	**+0.5**
comp=E,9.9nm,0.7s,baz=158,slow=9.6,SNR=58							
BVAR				pP	**pP**	**00 34 52.9**	**+1.1**
comp=E,10nm,0.6s,baz=165,slow=11,SNR=20							
BRVK	**Borovoye**	**20.37**	**351**	*e*P	**P**	**00 34 44.9**	**+0.5**
comp=E,17nm,0.8s							
AKTO	**Aktyubinsk**	**21.69**	**328**	P	**P**	**00 34 59.2**	**+0.5**
comp=E,7.8nm,0.6s,baz=124,slow=12,SNR=17							
AKTO				S	**S**	**00 38 58.2**	**+0.8**
comp=E,1.0nm,0.6s,baz=28,slow=16,SNR=1.8							
ZAA0	**Zalesovo Array**	**21.89**	**15**	*e*P	**P**	**00 35 00.1**	**-0.7**
comp=E,4.8nm,1.1s							
ZALV	**Zalesovo Beam**	**21.89**	**15**	P	**P**	**00 34 59.8**	**-1.0**
comp=E,2.0nm,0.5s,baz=218,slow=8.5,SNR=9.0							
ZALV				pP	**pP**	**00 35 09.1**	**+0.4**
comp=E,2.7nm,0.5s,baz=201,slow=12,SNR=6.9							
ZAA1	**Zalesovo Array**	**21.89**	**15**	*e*P	**P**	**00 34 59.8**	**-1.0**
ZAA1				*e*pP	**pP**	**00 35 09.1**	**+0.4**
MNCI	**Minicoy**	**24.76**	**186**	*e*P	**P**	**00 35 29.2**	**-0.4**
comp=E,40nm,1.1s							
CHTO	**Chiang Mai**	**25.22**	**118**	*e*P	**P**	**00 35 34.4**	**+0.6**
comp=E,3.7nm,0.7s							
CM31	**Chiang Mai Arr**	**25.45**	**119**	*e*P	**P**	**00 35 35.8**	**-0.1**
comp=E,14nm,1.1s							
CMAR	**Chiang Mai Arr**	**25.45**	**119**	P	**P**	**00 35 35.7**	**-0.1**
comp=E,3.2nm,1.1s,baz=304,slow=9.8,SNR=10							
GNI	**Garni**	**25.71**	**295**	*e*P	**P**	**00 35 40.4**	**+2.1**
GNI	**Garni**	**25.71**	**295**	P	**P**	**00 35 38.3**	**0.0**
comp=E,1.8nm,0.8s,baz=217,slow=5.1,SNR=1.7							
ARU	**Arti**	**26.19**	**338**	*e*P	**P**	**00 35 43.0**	**+0.8**
comp=E,5.2nm,0.8s							
SONA0	**Songino Array**	**27.45**	**48**	*e*P	**P**	**00 35 54.2**	**+0.4**
SONA0				*e*pP	**pP**	**00 36 02.0**	**-0.3**
SONM	**Songino Array**	**27.45**	**48**	P	**P**	**00 35 54.2**	**+0.4**
comp=E,1.2nm,0.7s,baz=241,slow=8.6,SNR=10.0							
SONM				pP	**pP**	**00 36 02.0**	**-0.3**
comp=E,1.4nm,0.7s,baz=244,slow=8.6,SNR=8.3							
BR101	**Keskin Array S**	**34.22**	**293**	*e*P	**P**	**00 36 53.6**	**-0.1**
BR101				*e*pP	**pP**	**00 37 01.0**	**-1.1**
BRTR	**Keskin Array B**	**34.22**	**293**	P	**P**	**00 36 53.6**	**-0.1**
comp=E,1.0nm,0.9s,baz=121,slow=8.8,SNR=7.1							
BRTR				pP	**pP**	**00 37 01.0**	**-1.1**
comp=E,1.4nm,0.7s,baz=91,slow=8.7,SNR=9.9							
NRIK	**Noril'sk**	**36.95**	**7**	P	**P**	**00 37 16.4**	**-0.2**
comp=E,1.1nm,0.4s,baz=177,slow=6.9,SNR=4.5							
NRIK				pP	**pP**	**00 37 26.2**	**+0.9**
comp=E,1.3nm,0.4s,baz=210,slow=8.3,SNR=3.1							
AKASG	**Malin Array Be**	**38.09**	**312**	P	**P**	**00 37 25.8**	**-0.5**
comp=E,0.3nm,0.4s,baz=80,slow=6.3,SNR=5.9							
AKASG				pP	**pP**	**00 37 35.4**	**+0.5**
comp=E,1.9nm,0.7s,baz=82,slow=6.3,SNR=5.2							
KARP	**Karpathos**	**39.81**	**288**	*e*P	**P**	**00 37 38.6**	**-2.4**
comp=E,25nm,1.1s							
MLR	**Muntele Rosu**	**39.83**	**303**	P	**P**	**00 37 41.9**	**+0.7**
comp=E,1.8nm,0.8s,baz=25,slow=2.3,SNR=9.1							
FIA0	**FINESS Array S**	**42.46**	**327**	*e*P	**P**	**00 38 02.7**	**+0.3**
FINES	**FINESS Array B**	**42.46**	**327**	P	**P**	**00 38 02.7**	**+0.3**
comp=E,2.5nm,0.8s,baz=202,slow=3.5,SNR=4.7							
KLR	**Kul'dur**	**44.20**	**51**	P	**P**	**00 38 16.6**	**-0.1**
comp=E,0.8nm,0.6s,baz=243,slow=11,SNR=3.0							
ARA0	**ARCESS Array S**	**45.78**	**338**	*e*P	**P**	**00 38 29.8**	**+0.9**
ARA0				*e*pP	**pP**	**00 38 39.0**	**+1.4**
ARCES	**ARCESS Array B**	**45.78**	**338**	P	**P**	**00 38 29.8**	**+0.9**
comp=E,1.8nm,0.8s,baz=110,slow=9.2,SNR=6.0							
AR

ellipse: s-maj=21.6km s-min=15.1km az=19.0
NEIC ***02*** *00:30:41.2±2.2,33°.12N×75°.83E,h16km±6km,mb4.3/5, Error ellipse: s-maj=24.6km s-min=6.5km az=178.0*
ISC 02 00:30:41.7±0.9,33°.22N±0°.08×75.81E±0°.07,h17km±4km, h17km:pP-P,n42,σ1§42/50,mb4.1/20,**Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**2.18**	**282**	*e*Pn	**Pn**	**00 31 16.8**	**-0.4**
NIL				*e*Sn	**Sn**	**00 31 43.4**	**-0.5**
BTK	**Batken**	**7.92**	**331**	*e*Pn	**Pn**	**00 32 38.5**	**+2.4**
AAK	**Ala-Archa**	**9.46**	**354**	Pn	**Pn**	**00 32 58.6**	**+1.3**
	0.6nm,0.3s,baz=175,slow=18,SNR=3.6						
AAK				Sn	**Sn**	**00 34 41.1**	**-2.2**
	0.8nm,0.3s,baz=354,slow=23,SNR=1.7						
KKAR	**Karatay Array**	**10.71**	**339**	*e*Pn	**Pn**	**00 33 12.8**	**-1.5**
MK32	**Makanchi Array**	**14.43**	**18**	*e*Pn	**Pn**	**00 34 07.6**	**+2.4**
MK32				*e*Sn	**Sn**	**00 36 41.2**	**-3.6**
MKAR	**Makanchi Array**	**14.43**	**18**	Pn	**Pn**	**00 34 07.6**	**+2.4**
	0.6nm,0.3s,baz=200,slow=13,SNR=8.3						
MKAR				Sn	**Sn**	**00 36 41.2**	**-3.6**
	0.3nm,0.3s,baz=188,slow=17,SNR=2.7						
GEYT	**Alibeck**	**15.14**	**293**	Pn	**Pn**	**00 34 15.8**	**+0.9**
	0.2nm,0.3s,baz=76,slow=12,SNR=6.3						
KURBB	**Kurchatov Arra**	**17.51**	**6**	P	**Pn**	**00 34 46.6**	**+1.8**
	0.2nm,0.3s,baz=197,slow=9.8,SNR=8.5						
ABKAR	**Akbulak array**	**19.91**	**328**	*e*P	**P**	**00 35 13.3**	**+1.0**
BVAR	**Borovoye Array**	**20.18**	**350**	P	**P**	**00 35 17.1**	**+1.8**
	14nm,0.5s,baz=166,slow=10.0,SNR=22						
AKTO	**Aktyubinsk**	**21.62**	**328**	P	**P**	**00 35 32.0**	**+1.1**
	7.8nm,0.4s,baz=130,slow=11,SNR=8.4						
AKTO				pP	**pP**	**00 35 36.4**	**-0.1**
	7.8nm,0.4s,baz=130,slow=13,SNR=4.3						
ZALV	**Zalesovo Beam**	**21.69**	**15**	*e*P	**P**	**00 35 32.2**	**+0.7**
ZALV	**Zalesovo Beam**	**21.69**	**15**	P	**P**	**00 35 32.0**	**+0.4**
	2.9nm,0.4s,baz=202,slow=9.3,SNR=7.2						
ZAA1	**Zalesovo Array**	**21.70**	**15**	*e*P	**P**	**00 35 31.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**25.41**	**120**	P	**P**	**00 36 06.9**	**-1.6**
	1.7nm,0.3s,baz=309,slow=11,SNR=4.2						
ARU	**Arti**	**26.09**	**338**	*e*P	**P**	**00 36 16.0**	**+1.7**
	7.2nm,0.9s						
SONA0	**Songino Array**	**27.24**	**49**	*e*P	**P**	**00 36 26.7**	**+1.8**
SONM	**Songino Array**	**27.24**	**49**	*e*P	**P**	**00 36 24.4**	**-0.5**
SONM	**Songino Array**	**27.24**	**49**	P	**P**	**00 36 26.7**	**+1.8**
	1.3nm,0.6s,baz=242,slow=9.8,SNR=6.1						
KBZ	**Khabaz**	**27.66**	**302**	pP	pP	00 36 32.3	-2.1
	1.2nm,0.8s,baz=116,slow=7.4,SNR=3.2						
BR101	**Keskin Array S**	**34.28**	**293**	*e*P	**P**	**00 37 28.5**	**+1.3**
BR101				*e*pP	**pP**	**00 37 33.0**	**+0.1**
BRTR	**Keskin Array B**	**34.28**	**293**	P	**P**	**00 37 28.5**	**+1.3**
	0.8nm,0.7s,baz=110,slow=9.3,SNR=2.9						
BRTR				pP	**pP**	**00 37 33.0**	**+0.1**
	0.9nm,0.9s,baz=171,slow=18,SNR=2.9						
AKASG	**Malin Array Be**	**38.08**	**311**	P	**P**	**00 37 58.8**	**-0.5**
	1.0nm,0.6s,baz=81,slow=6.8,SNR=5.0						
AKBB	**Malin Array Si**	**38.08**	**311**	*e*P	**P**	**00 37 58.8**	**-0.5**
	1.4nm,0.8s						
MLR	**Muntele Rosu**	**39.86**	**303**	*e*P	**P**	**00 38 14.1**	**-0.4**
	5.5nm,1.1s						
MLR	**Muntele Rosu**	**39.86**	**303**	P	**P**	**00 38 14.0**	**-0.4**
	3.2nm,0.9s,baz=86,slow=22,SNR=3.9						
FIA0	**FINESS Array S**	**42.39**	**327**	*e*P	**P**	**00 38 35.1**	**+0.3**
FINES	**FINESS Array B**	**42.39**	**327**	P	**P**	**00 38 35.1**	**+0.3**
	1.5nm,0.7s,baz=118,slow=12,SNR=5.0						
ARA0	**ARCESS Array S**	**45.67**	**338**	*e*P	**P**	**00 39 02.7**	**+1.5**
ARCES	**ARCESS Array B**	**45.67**	**338**	P	**P**	**00 39 02.7**	**+1.5**
	1.1nm,0.4s,baz=108,slow=9.0,SNR=9.5						
NOA	**NORSAR Array B**	**49.35**	**325**	P	**P**	**00 39 30.0**	**+0.1**
	1.8nm,0.8s,baz=102,slow=7.2,SNR=7.1						
MAJO	**Matsushiro**	**50.50**	**68**	*e*P	**P**	**00 39 39.5**	**+0.5**
MJAR	**Matsushiro Arr**	**50.51**	**68**	P	**P**	**00 39 39.5**	**+0.4**
	2.2nm,0.6s,baz=283,slow=10.0,SNR=4.8						
ESDC	**Sonseca Array**	**62.51**	**301**	P	**P**	**00 41 04.0**	**-0.5**
	0.7nm,0.7s,baz=62,slow=7.1,SNR=4.8						
TOA1	**Torodi Ar. Sit**	**69.71**	**273**	*e*P	**P**	**00 41 49.3**	**-1.7**
TORD	**Torodi Ar. Bea**	**69.71**	**273**	P	**P**	**00 41 49.3**	**-1.7**
	1.0nm,0.7s,baz=32,slow=7.2,SNR=4.3						
INK	**Inuvik**	**76.44**	**11**	*e*P	**P**	**00 42 30.5**	**+0.6**
	3.3nm,1.0s						
INK	**Inuvik**	**76.44**	**11**	P	**P**	**00 42 30.5**	**+0.6**
	1.8nm,0.8s,baz=346,slow=8.5,SNR=5.2						
ILAR	**Eielson Array**	**76.78**	**17**	P	**P**	**00 42 32.1**	**+0.2**
	0.5nm,0.5s,baz=311,slow=5.3,SNR=5.6						
ASAR	**Alice Springs**	**79.13**	**128**	P	**P**	**00 42 44.9**	**-0.8**
	1.3nm,0.7s,baz=319,slow=5.7,SNR=5.3						
YKA	**Yellowknife Ar**	**84.25**	**5**	P	**P**	**00 43 12.3**	**+0.2**
	1.0nm,0.4s,baz=344,slow=5.3,SNR=8.5						
YKA				pP	**pP**	**00 43 17.6**	**-0.7**
	0.9nm,0.6s,baz=347,slow=5.2,SNR=4.1						
YKB5	**Yellowknife Ar**	**84.25**	**5**	*e*P	**P**	**00 43 12.3**	**+0.2**
YKB5				*e*pP	**pP**	**00 43 17.6**	**-0.7**

BJI ***02*** *00:35:38.3±0.0,28°.21N×51°.35E,h10km,mb4.6/30, mB4.9/6,Ms4.5/5,Ms7 4.4/5*
MOS ***02*** *00:35:40.7±1.4,28°.07N×51°.81E,h13km,mb5.0/23,Error ellipse: s-maj=7.9km s-min=3.3km az=111.9*
IDC ***02*** *00:35:40.7±0.6,28°.24N×51°.81E,h0km,mb4.3/32, mb1 4.3/40,mb1mx4.3/55,mbtmp4.3/40,ML3.9/8,MS3.9/16, Ms1 3.9/16,ms1mx3.6/48,Error ellipse: s-maj=14.2km s-min=10.9km az=174.0*
THR ***02*** *00:35:42.2,28°.20N×51°.67E,h17km,ML4.8*
NEIC ***02*** *00:35:42.2±0.0,28°.20N×51°.67E,h17km,mb4.5/82, ML4.8(THR),MN4.8(TEH),After THR.*
TEH ***02*** *00:35:42.9,28°.25N×51°.76E,h16km,ML4.7*
GCMT ***02*** *00:35:43.2±0.4,28°.07N±0°.03×51°.73E±0°.05,h22km±1km, MW4.9/53,Moment Tensor Solution. s22,c26; s53,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.73±.26; $M_{\theta\theta}$-1.80±.16; $M_{\phi\phi}$-0.93±.16; $M_{r\theta}$0.65±.21; $M_{\theta\phi}$1.21±.10; $M_{\phi r}$0.69±.30; Best double couple: $M_0$2.83500×10^{16} NP1:ϕ_s109.00000°,δ49.00000°,λ67.00000°. NP2: ϕ_s321.00000°,δ46.00000°,λ114.00000°. Principal axes: T 3.0160, Plg73.0000°, Azm309.0000°; N -0.3620, Plg17.0000°, Azm124.0000°; P -2.6540, Plg1.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISCJB ***02*** *00:35:43.4±0.6,28°.20N±0°.02×51°.78E±0°.02,h27km±4km, mb4.5/114,MS4.1/19 Error ellipse: s-maj=3.4km s-min=1.9km az=33.9*
DSN ***02*** *00:35:44.5±0.5,28°.57N×52°.24E,h10km,mb5.0/3,ML4.7/9, Error ellipse: s-maj=22.1km s-min=4.9km az=45.0*
GII ***02*** *00:35:44.9±0.0,28°.26N×51°.74E,h10km*
OMAN ***02*** *00:35:48.9±0.1,27°.90N×52°.01E,h10km,mb5.0/1, ml4.8/11,Error ellipse: s-maj=4.0km s-min=2.6km az=28.0*
ISC 02 00:35:43.1±0.8,28°.17N±0°.04×51.75E±0°.03,h18km±4km, n533,σ1§98/578,mb4.6/127,**MS4.0**/19,**50C-19D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.09**	**84**	*e*Pn	**Pb**	**00 36 03.0**	**-0.6**
GHIR				*e*Sn	**Sn**	**00 36 19.0**	**+0.5**
GHIR	**Ghir-Karzin**	**1.09**	**84**	*e*Pg	**Pn**	**00 36 03.9**	**+0.2**
GHIR	**Ghir-Karzin**	**1.09**	**84**	*e*Pg	**Pn**	**00 36 03.9**	**+0.2**
GHIR				*e*Sg	**Sn**	**00 36 19.8**	**+1.3**
IKAZ	**Kazeroun**	**1.60**	**3**	*e*Pn	**Pn**	**00 36 11.5**	**+0.6**
IKAZ				IAMB	IAmb	00 36 40.7	
	comp=Z,3μm,0.5s						
SHI	**Shiraz**	**1.61**	**24**	*e*Pn	**Pn**	**00 36 11.0**	**+0.2**
SHI				IAMB	IAmb	00 36 51.8	
	comp=Z,95μm,1.9s						
JHRM	**Jahrom**	**1.64**	**78**	*e*Pn	**Pb**	**00 36 12.9**	**-0.1**
JHRM				IAMB	IAmb	00 36 39.3	
	comp=Z,0.0nm,0.5s						
ISRV	**Sarvestan**	**1.70**	**44**	*e*Pn	**Pb**	**00 36 13.4**	**-0.6**
ISRV				IAMB	IAmb	00 36 50.3	
	comp=Z,49μm,0.6s						
IRAM	**Ramesheh**	**3.66**	**8**	*e*Pn	**Pn**	**00 36 38.8**	**-0.4**
IRAM				IAMB	IAmb	00 37 49.4	
	comp=Z,16μm,1.4s						
GENO	**Geno**	**3.99**	**100**	*e*Pn	**Pn**	**00 36 46.0**	**+2.4**
GENO	**Geno**	**3.99**	**100**	*e*Pn	**Pn**	**00 36 44.4**	**+0.8**
IMEH	**Mehriz**	**4.06**	**37**	*e*Pn	**Pn**	**00 36 46.2**	**+1.6**
IMEH				IAMB	IAmb	00 36 53.0	
	comp=Z,12μm,0.4s						
ISAD	**Sadrabad**	**4.09**	**24**	*e*Pn	**Pn**	**00 36 46.6**	**+1.6**
ISAD				IAMB	IAmb	00 38 12.8	
	comp=Z,7μm,1.5s						
IGAR	**Gharneh**	**4.22**	**3**	*e*Pn	**Pn**	**00 36 47.9**	**+1.0**
IGAR				IAMB	IAmb	00 38 15.3	
	comp=Z,4μm,1.1s						
UMQ	**Umm Al-Quwin**	**4.38**	**126**	P	**Pn**	**00 36 52.9**	**+4.1**
UMQ				S	**Sn**	**00 37 43.7**	**+4.4**
SHME	**Shamm**	**4.45**	**117**	*i* P	**Pn**	**00 36 51.0**	**+1.2**
	SNR=66						
SHME				S	**Sn**	**00 37 40.0**	**-1.1**
SHME	**Shamm**	**4.45**	**117**	*e*Pn	**Pn**	**00 36 51.3**	**+1.5**
IPIR	**Pirpir**	**4.56**	**351**	*e*Pn	**Pn**	**00 36 51.3**	**-0.2**
IPIR				IAMB	IAmb	00 38 21.5	
	comp=Z,7μm,1.2s						
NGRK	**Negar Kerman**	**4.60**	**70**	*e*Pn	**Pn**	**00 36 53.4**	**+1.2**
AJN	**Ajban**	**4.62**	**140**	*i* P	**Pn**	**00 36 55.1**	**+3.0**
	SNR=22						
AJN	**Ajban**	**4.62**	**140**	P	**Pn**	**00 36 55.1**	**+3.0**
	SNR=22						
AJN				S	**Sn**	**00 37 48.3**	**+3.0**
AJN	**Ajban**	**4.62**	**140**	*e*Pn	**Pn**	**00 36 54.7**	**+2.6**
ICHK	**Chekchek**	**4.66**	**29**	*e*Pn	**Pn**	**00 36 53.9**	**+1.0**
ICHK				IAMB	IAmb	00 37 51.1	
	comp=Z,2μm,0.6s						
KHGB	**Koh Gabri**	**4.67**	**61**	*e*Pn	**Pn**	**00 36 54.5**	**+1.4**
NAZ	**Nazwa, Dubai**	**4.72**	**131**	*i* P	**Pn**	**00 36 56.3**	**+2.8**
	SNR=45						
NAZ	**Nazwa, Dubai**	**4.72**	**131**	P	**Pn**	**00 36 56.4**	**+2.9**
	SNR=38						
NAZ				S	**Sn**	**00 37 49.4**	**+1.5**
NAZ	**Nazwa, Dubai**	**4.72**	**131**	*e*Pn	**Pn**	**00 36 56.3**	**+2.8**
IZEF	**Zefreh**	**4.73**	**6**	*e*Pn	**Pn**	**00 36 54.9**	**+1.0**
IZEF				IAMB	IAmb	00 37 23.4	
	comp=Z,3μm,1.0s						
TVBK	**TV Kerman**	**4.74**	**66**	*e*Pn	**Pn**	**00 36 56.2**	**+2.1**
ASUD	**Al Ashush, Dub**	**4.77**	**137**	*i* P	**Pn**	**00 36 57.1**	**+2.9**
	SNR=109						
ASUD	**Al Ashush, Dub**	**4.77**	**137**	P	**Pn**	**00 36 57.3**	**+3.1**
	SNR=109						
ASUD				S	**Sn**	**00 37 51.8**	**+2.7**
ASUD	**Al Ashush, Dub**	**4.77**	**137**	*e*Pn	**Pn**	**00 36 57.1**	**+2.9**
MSFE	**Esma-Masafi**	**4.83**	**124**	*i* P	**Pn**	**00 36 56.8**	**+1.7**
	SNR=45						
MSFE	**Esma-Masafi**	**4.83**	**124**	*e*Pn	**Pn**	**00 36 56.7**	**+1.6**
FAQ	**Al Faqa, Dubai**	**4.85**	**134**	*i* P	**Pn**	**00 36 58.3**	**+3.1**
	SNR=7.8						
FAQ	**Al Faqa, Dubai**	**4.85**	**134**	P	**Pn**	**00 36 57.9**	**+2.7**
	SNR=9.9						
FAQ				S	**Sn**	**00 37 52.0**	**+1.0**
FAQ	**Al Faqa, Dubai**	**4.85**	**134**	*e*Pn	**Pn**	**00 36 57.5**	**+2.3**
YZKH	**Yazd**	**4.87**	**30**	*e*Pn	**Pn**	**00 36 57.1**	**+1.5**
YZKH	**Yazd**	**4.87**	**30**	*e*Pn	**Pn**	**00 36 57.1**	**+1.5**
KHSK	**Kohestak**	**4.92**	**105**	*e*Pn	**Pn**	**00 36 57.6**	**+1.4**
IKLH	**Kolahrood**	**5.13**	**358**	*e*Pn	**Pn**	**00 36 59.7**	**+0.3**
IKLH				IAMB	IAmb	00 38 40.5	
	comp=Z,6μm,1.4s						
HATD	**Hatta, Dubai**	**5.15**	**129**	*i* P	**Pn**	**00 37 01.5**	**+2.1**
	SNR=32						
HATD	**Hatta, Dubai**	**5.15**	**129**	P	**Pn**	**00 37 01.7**	**+2.3**
	SNR=13						
HATD				S	**Sn**	**00 37 59.2**	**+0.8**
HATD	**Hatta, Dubai**	**5.15**	**129**	*e*Pn	**Pn**	**00 37 01.5**	**+2.1**
ASHO	**Ashiyiah**	**5.19**	**131**	*i* P	**Pn**	**00 37 02.1**	**+2.1**
	SNR=98						
ASHO	**Ashiyiah**	**5.19**	**131**	P	**Pn**	**00 37 02.5**	**+2.5**
	SNR=97						
ASHO				S	**Sn**	**00 38 00.2**	**+0.7**
ASHO	**Ashiyiah**	**5.19**	**131**	*e*Pn	**Pn**	**00 37 01.4**	**+1.4**
ANAR	**Anarak**	**5.28**	**18**	*e*Pn	**Pn**	**00 37 01.4**	**+0.1**
CHMN	**Cheshme madani**	**5.34**	**70**	*e*Pn	**Pn**	**00 37 04.0**	**+1.7**
ALNE	**Al Ain**	**5.45**	**138**	*i* P	**Pn**	**00 37 06.1**	**+2.5**
	SNR=15						
ALNE	**Al Ain**	**5.45**	**138**	*e*Pn	**Pn**	**00 37 05.8**	**+2.2**
KHMZ	**Khomeyn**	**5.76**	**345**	*e*Pn	**Pn**	**00 37 08.0**	**+0.1**
KHMZ	**Khomeyn**	**5.76**	**345**	*e*Pn	**Pn**	**00 37 08.9**	**+1.0**
KHMZ	**Khomeyn**	**5.76**	**345**	*e*Pn	**Pn**	**00 37 08.9**	**+1.0**
KRSH	**Karshahi**	**5.79**	**3**	*e*Pn	**Pn**	**00 37 08.3**	**0.0**
SOHO	**SOHO**	**5.88**	**132**	P	**Pn**	**00 37 11.1**	**+1.6**
	SNR=21						
SOHO				S	**Sn**	**00 38 17.6**	**+1.1**
IKMR	**Kamar-syah**	**6.07**	**332**	*e*Pn	**Pn**	**00 37 13.0**	**+1.1**
ISFB	**Sefidab**	**6.17**	**4**	*e*Pn	**Pn**	**00 37 13.5**	**0.0**
IKFM	**Kafar-mosalman**	**6.30**	**329**	*e*Pn	**Pn**	**00 37 16.5**	**+1.3**
IDOB	**Doab**	**6.38**	**332**	*e*Pn	**Pn**	**00 37 16.5**	**0.0**
TPRV	**Parvadeh(Tabas**	**6.44**	**40**	*e*Pn	**Pn**	**00 37 17.7**	**+0.5**
HOQ	**Hoqain**	**6.78**	**131**	P	**Pn**	**00 37 23.9**	**+2.0**
	SNR=12						
HOQ				S	**Sn**	**00 38 37.1**	**-1.5**
HOQ	**Hoqain**	**6.78**	**131**	*e*Pn	**Pn**	**00 37 23.8**	**+2.0**
IVRN	**Varamin**	**6.80**	**360**	*e*Pn	**Pn**	**00 37 21.2**	**-0.9**
IKOM	**Komasi**	**7.00**	**330**	*e*Pn	**Pn**	**00 37 26.0**	**+1.1**
IBZA	**Bozab**	**7.10**	**333**	*e*Pn	**Pn**	**00 37 26.7**	**+0.2**
TNSJ	**Nastanj**	**7.12**	**35**	*e*Pn	**Pn**	**00 37 26.3**	**-0.2**
TKDS	**Koohdasht(Taba**	**7.12**	**39**	*e*Pn	**Pn**	**00 37 27.1**	**+0.6**
IHSB	**Hasanabad**	**7.25**	**357**	*e*Pn	**Pn**	**00 37 28.4**	**0.0**
KCHF	**Cheshme Sefid,**	**7.30**	**328**	*e*Pn	**Pn**	**00 37 29.3**	**+0.2**
BSY	**Bisya**	**7.31**	**136**	P	**Pn**	**00 37 31.3**	**+2.1**
	SNR=13						
BSY				S	**Sn**	**00 38 49.7**	**-2.0**
IRAZ	**Razeghan**	**7.37**	**348**	*e*Pn	**Pn**	**00 37 30.3**	**+0.2**
BIDO	**Bidbid**	**7.38**	**127**	P	**Pn**	**00 37 32.0**	**+2.0**
	SNR=19						
BIDO				S	**Sn**	**00 38 52.4**	**-0.9**
BIDO	**Bidbid**	**7.38**	**127**	*e*Pn	**Pn**	**00 37 30.7**	**+0.7**
IDMV	**Damavand**	**7.38**	**2**	*e*Pn	**Pn**	**00 37 30.2**	**-0.2**
IKOO	**Kooshah**	**7.56**	**54**	*e*Pn	**Pn**	**00 37 34.7**	**+1.9**
IGHG	**Ghaleghazi**	**7.57**	**325**	*e*Pn	**Pn**	**00 37 34.0**	**+1.1**
IVIS	**Veis**	**7.59**	**328**	*e*Pn	**Pn**	**00 37 33.8**	**+0.8**
SMDO	**Samad**	**7.63**	**130**	P	**Pn**	**00 37 36.2**	**+2.6**
	SNR=8.4						
SMDO				S	**Sn**	**00 38 58.9**	**-0.8**
HSRG	**Sareghieh**	**7.64**	**338**	*e*Pn	**Pn**	**00 37 34.8**	**+0.9**
ITEG	**Tejag**	**7.65**	**50**	*e*Pn	**Pn**	**00 37 34.6**	**+0.7**
ISHM	**Shahmirzad**	**7.72**	**9**	*e*Pn	**Pn**	**00 37 35.8**	**+0.8**
QABG	**Abgarm-Qazvin**	**7.74**	**347**	*e*Pn	**Pn**	**00 37 34.6**	**-0.5**
ILIN	**Lien**	**7.87**	**330**	*e*Pn	**Pn**	**00 37 37.5**	**+0.6**
WSAR	**Wadi Sarin**	**7.91**	**127**	P	**Pn**	**00 37 38.3**	**+0.9**
	SNR=7.5						
WSAR				S	**Sn**	**00 39 03.9**	**-2.6**
WSAR	**Wadi Sarin**	**7.91**	**127**	Pn	**Pn**	**00 37 38.2**	**+0.9**
	comp=Z,8.4nm,0.3s,baz=315,slow=6.1,SNR=59						
WSAR				Sn	**Sn**	**00 39 02.3**	**-4.2**
	comp=Z,10nm,0.3s,baz=60,slow=8.7,SNR=10						
WSAR				LR	LR	00 41 21.8	
	comp=Z,639nm,19.1s,baz=314,slow=43						
IDHR	**Dehrash**	**7.96**	**326**	*e*Pn	**Pn**	**00 37 38.0**	**-0.1**
IPRN	**Peran**	**8.06**	**3**	*e*Pn	**Pn**	**00 37 41.7**	**+2.2**
JMDO	**Jabal Madar**	**8.15**	**134**	P	**Pn**	**00 37 42.3**	**+1.7**
JMDO				S	**Sn**	**00 39 09.4**	**-2.9**
IKIA	**Kiasar**	**8.18**	**11**	*e*Pn	**Pn**	**00 37 41.6**	**+0.5**
QALM	**Alamut, Qazvin**	**8.29**	**354**	*e*Pn	**Pn**	**00 37 42.5**	**-0.2**
IGZV	**Ghazvin**	**8.29**	**351**	*e*Pn	**Pn**	**00 37 41.7**	**-1.0**
WBK	**Wadi Bani Khal**	**8.56**	**129**	P	**Pn**	**00 37 47.9**	**+1.6**
WBK				S	**Sn**	**00 39 19.4**	**-3.0**
MHTO	**MHTO**	**9.12**	**140**	P	**Pn**	**00 37 55.3**	**+1.4**
	SNR=8.1						
MHTO				S	**Sn**	**00 39 32.9**	**-3.3**
JLN	**Jalan Bani Buh**	**9.17**	**129**	P	**Pn**	**00 37 56.8**	**+2.2**
JLN				S	**Sn**	**00 39 35.0**	**-2.4**
DQM	**DQM**	**9.76**	**146**	P	**Pn**	**00 38 03.2**	**+0.5**
	SNR=7.3						
MAHB	**Mahabad**	**9.97**	**331**	*e*Pn	**Pn**	**00 38 05.4**	**-0.3**
LKRN	**Lenkeran, Azer**	**10.80**	**347**	P	**Pn**	**00 38 20.9**	**+4.1**
DMTO	**DMTO**	**10.81**	**164**	P	**Pn**	**00 38 19.5**	**+2.3**
	SNR=62						
DMTO				S	**Sn**	**00 40 13.4**	**-4.5**
GEYT	**Alibeck**	**11.09**	**27**	Pn	**Pn**	**00 38 20.2**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=222,slow=13,SNR=11						
GEYT				Lg	Lg	00 41 28.3	
	comp=Z,0.1nm,0.3s,baz=194,slow=5.3,SNR=2.4						
GYA0B	**ALIBECK ARRAY**	**11.09**	**27**	*e*Pn	**Pn**	**00 38 21.2**	**+0.3**
NAX	**Nakhchivan**	**12.14**	**336**	P	**Pn**	**00 38 39.0**	**+3.7**
SIRT	**Sirnak**	**12.15**	**322**	*e*Pn	**Pn**	**00 38 32.1**	**-3.3**
SIRT				*e*Sn	**Sn**	**00 40 45.9**	**-4.7**
AKDM	**Akdamar-Van**	**12.50**	**326**	*e*P	**Pn**	**00 38 39.4**	**-0.9**
VANB	**Van**	**12.52**	**328**	*e*P	**Pn**	**00 38 39.1**	**-1.4**
CLDR	**Caldiran**	**12.73**	**331**	*e*P	**Pn**	**00 38 44.2**	**+0.7**
MNGR	**Mingechevir, A**	**13.14**	**344**	P	**Pn**	**00 38 53.0**	**+4.1**
GANJ	**Ganja**	**13.22**	**342**	P	**Pn**	**00 38 54.2**	**+4.2**
GNI	**Garni**	**13.27**	**336**	*e*Pn	**Pn**	**00 38 46.9**	**-3.9**
GNI	**Garni**	**13.27**	**336**‖	*e*P	**Pn**	**00 38 51.6**	**+0.7**
GNI	**Garni**	**13.27**	**336**	P	**P**	**00 38 57.3**	**-3.2**
	SNR=8.3						
GNI	**Garni**	**13.27**	**336**	Pn	**Pn**	**00 38 52.6**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=169,slow=5.9,SNR=5.9						
GNI				Lg	Lg	00 42 53.2	
	comp=Z,0.1nm,0.3s,baz=344,slow=23,SNR=1.3						
GNI				LR	LR	00 43 34.5	
	comp=Z,176nm,20.4s,baz=148,slow=36						
MLAZ	**Malazgirt-MUS**	**13.35**	**327**	*e*P	**P**	**00 39 05.4**	**+4.0**
ASF	**Jabal al Asfar**	**13.45**	**291**	P	**Pn**	**00 38 52.4**	**-0.9**
	comp=Z,14nm,1.1s						
ASF	**Jabal al Asfar**	**13.45**	**291**	Pn	**Pn**	**00 38 51.6**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=81,slow=14,SNR=6.6						
ASF				Sn	**Sn**	**00 41 18.4**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=64,slow=7.2,SNR=1.4						
ASF				Lg	Lg	00 43 01.9	
	baz=89,slow=24,SNR=1.8						
SEKA	**Sheki**	**13.53**	**345**	P	**Pn**	**00 38 58.1**	**+3.9**
WALJ	**Wala**	**14.24**	**288**	P	**Pn**	**00 39 04.2**	**+0.3**
	comp=Z,36nm,0.9s						
JDRJ	**Daraweish**	**14.25**	**284**	P	**P**	**00 39 10.1**	**-1.3**
KARS	**Kars**	**14.33**	**332**	*e*P	**Pn**	**00 39 07.5**	**+2.3**
KARS	**Kars**	**14.33**	**332**	*e*Pn	**Pn**	**00 39 05.1**	**-0.2**
KARS	**Kars**	**14.33**	**332**	*e*P	**Pn**	**00 39 05.1**	**-0.2**
KSHT	**Keshet**	**14.54**	**293**	Pn	**Pn**	**00 39 09.7**	**+1.6**
SENK	**Senkaya-Erzuru**	**14.58**	**330**	*e*P	**Pn**	**00 39 09.5**	**+0.7**
ZFRI	**Zfri**	**14.65**	**283**	Pn	**Pn**	**00 39 11.2**	**+1.7**
NATI	**Neve Ativ**	**14.68**	**294**	Pn	**Pn**	**00 39 12.7**	**+2.8**
TBLG	**Delisi**	**14.69**	**339**	*e*Pn	**Pn**	**00 39 11.7**	**+1.6**
TBLG	**Delisi**	**14.69**	**339**	*e*P	**Pn**	**00 39 11.7**	**+1.6**
KSDI	**Kefar Szold**	**14.72**	**294**	Pn	**Pn**	**00 39 13.3**	**+2.8**
GEM	**Giv'at Ha'Em**	**14.72**	**294**	Pn	**Pn**	**00 39 13.4**	**+2.9**
HRFI	**Mount Harif**	**14.73**	**281**	Pn	**Pn**	**00 39 12.5**	**+1.8**
PRNI	**Paran**	**14.78**	**282**	Pn	**Pn**	**00 39 12.5**	**+1.1**
EIL	**Elat**	**14.79**	**280**	Pn	**P**	**00 39 14.7**	**-2.6**
EIL	**Elat**	**14.79**	**280**	Pn	**Pn**	**00 39 12.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=49,slow=19,SNR=4.0						
EIL				Lg	Lg	00 43 45.5	
	comp=Z,0.2nm,0.3s,baz=272,slow=20,SNR=1.6						
MBRI	**Mt Berech**	**14.83**	**280**	Pn	**Pn**	**00 39 14.3**	**+2.2**
AKH	**Akhalkalaki**	**14.84**	**335**	*e*Pn	**Pn**	**00 39 12.8**	**+0.6**
AKH	**Akhalkalaki**	**14.84**	**335**	*e*P	**Pn**	**00 39 12.8**	**+0.6**
MMAI	**Mount Meron Ar**	**14.88**	**293**	Pn	**Pn**	**00 39 13.4**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=110,slow=12,SNR=9.8						
MMAI				Sn	**Sn**	**00 41 57.1**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=122,slow=35,SNR=3.7						
MMAI				L

comp=Z,47nm,1.2s
ANN MLR MLR
comp=Z,343nm,16.0s
SVRH Sivrihisar-ESK 20.18 309 *e*P Pn 00 40 18.5 -0.2
ISP Isparta 20.20 304 *e*P **P 00 40 16.5 -0.6**
comp=Z,11nm,0.7s
CIFT Cifteler, Eski 20.45 308 *e*P Pn 00 40 22.3 +0.3
SHUT Suhut-Afyon 20.47 306 *e*P Pn 00 40 25.9 +3.7
FETY Fethiye 20.88 300 *e*P Pn 00 40 27.9 +1.0
MDUB Mudurnu 20.89 311 *e*P Pn 00 40 26.3 -0.7
SRCK Saricakaya, Es 21.07 310 *e*P **P 00 40 28.4 +2.1**
KKAR Karatay Array 21.25 41 *e*P **P 00 40 27.9 -0.4**
KKAR *e*P **P 00 40 28.0 -0.3**
TURN Turunc 21.32 300 *e*P **P 00 40 33.1 +4.0**
GULT Gulveren 21.32 311 *e*P **P 00 40 30.5 +1.3**
SPNC Sapanca-Adapaz 21.58 311 *e*P **P 00 40 34.1 +2.2**
SAUV Serdivan-Sakar 21.60 311 *e*P **P 00 40 33.7 +1.7**
CAVI Cavuskoy 21.67 309 *e*P **P 00 40 34.2 +1.3**
KULA Kula-Manisa 21.82 304 *e*P **P 00 40 35.7 +1.2**
SIM Simferopol' 21.85 325 *d i*P **P 00 40 35.8 +1.1**
SIM pmax pmax
comp=Z,100nm,1.6s
MANT Manisa 21.89 304 *e*P **P 00 40 33.6 -1.8**
ABKAR Akbulak array 21.97 14 *e*P **P 00 40 35.9 -0.1**
AYDB Zeytinkoy-Aydi 22.19 302 *e*P **P 00 40 43.9 +5.3**
BUY Buyukada 22.46 310 P **P 00 40 46.3 +5.0**
ARMT Armutlu 22.50 309 *e*P **P 00 40 46.1 +4.3**
GCAM G?zelcaml? 22.61 301 *e*P **P 00 40 48.7 +5.8**
AML Almayashu 22.62 46 P **P 00 40 45.5 +2.0**
SNR=19
AKTO Aktyubinsk 22.74 10 P **P 00 40 44.8 +0.7**
comp=Z,12nm,1.0s,baz=203,slow=14,SNR=12
AKTO S **S 00 44 49.1 -2.9**
comp=Z,0.3nm,0.5s,baz=313,slow=23,SNR=0.9
FURI Furi 22.79 215 *e*P **P 00 40 42.7 -2.6**
comp=Z,7.2nm,0.4s
BALB Balikesir 22.81 306 *e*P **P 00 40 48.2 +3.2**
BALB Balikesir 22.81 306 *e*P **P 00 40 41.8 -3.2**
comp=Z,30nm,1.0s
EKS2 Erkin-Say 22.95 45 P **P 00 40 49.1 +2.5**
SNR=8.6
KSH Kashi 23.01 54 P **P 00 40 45.4 -1.8**
KSH sP pP 00 40 52.7 +0.4
KSH PP **PnPn 00 41 14.4 +2.3**
KSH S **S 00 44 46.8 -10**
KSH ScS **ScS 00 51 58.7 -1.0**
KSH pmax pmax
comp=Z,12nm,0.7s
KSH pmax pmax
comp=Z,270nm,5.7s
KSH LR LR
comp=Z,500nm,10.4s
KSH LR LR
comp=Z,440nm,8.8s
KSH LR LR
comp=Z,760nm,13.5s
UCH Uchtor 23.20 47 P **P 00 40 48.1 -1.4**
SNR=20
MRMT Marmara Adasi 23.39 308 *e*P **P 00 40 53.6 +2.6**
AAK Ala-Archa 23.39 46 *e*P **P 00 40 52.6 +1.4**
comp=Z,2.6nm,0.8s
AAK Ala-Archa 23.39 46⇓ *e*P **P 00 40 52.8 +1.7**
AAK pmax pmax
comp=Z,22nm,2.5s
AAK Ala-Archa 23.39 46 P **P 00 40 56.2 +5.1**
SNR=12
AAK Ala-Archa 23.39 46 P **P 00 40 51.5 +0.4**
comp=Z,1.8nm,0.5s,baz=250,slow=6.3,SNR=6.8
AAK S **S 00 45 04.5 +1.0**
comp=Z,0.7nm,0.3s,baz=162,slow=18,SNR=1.6
AAK LR LR 00 51 47.5
comp=Z,470nm,19.6s,baz=236,slow=42
KZA Kyzart 23.60 48 P **P 00 40 55.9 +2.4**
SNR=30
USP Ospenovka 23.73 45 P **P 00 40 55.2 +1.0**
SNR=8.6
IDI Anoyia 23.88 294 P **P 00 40 57.2 +1.4**
comp=Z,17nm,0.9s,baz=89,slow=9.9,SNR=15
GELI Tayfur-Gelibol 24.09 307 *e*P **P 00 41 00.0 +2.3**
ERIK Erikli-Kesan 24.17 308 *e*P **P 00 41 00.7 +2.3**
VRH Novokhopyorsk 24.22 345 *e*P **P 00 40 58.6 -0.1**
VRH *e*S **S 00 45 14.3 -1.8**
VRH pmax pmax
comp=Z,170nm,1.3s
VRH smax smax
comp=N,230nm,1.5s
TKM2 Tokmak 2 24.24 46 P **P 00 41 00.5 +1.3**
SNR=6.4
ULHL Ulahol 24.34 48 P **P 00 41 02.2 +2.1**
SNR=8.5
ALN Alexandroupoli 24.59 308 *e*P **P 00 41 01.9 -0.3**
comp=N,7.2nm,0.9s
VORD Divnogorie 24.64 341 *e*P **P 00 41 01.7 -0.8**
VORD *e*S **S 00 45 23.8 +0.8**
VORD pmax pmax
comp=Z,40nm,1.1s
VORD smax smax
comp=N,50nm,0.9s
TIRR Tirgusor 24.73 317⇑ *i*P **P 00 41 05.4 +2.0**
TIRR Tirgusor 24.73 317⇑ P **P 00 41 05.4 +2.0**
VSR Storozhevoye 24.90 341 *e*P **P 00 41 03.6 -1.3**
VSR *e*S **S 00 45 28.5 +1.3**
VSR pmax pmax
comp=Z,80nm,1.5s
VSR smax smax
comp=N,190nm,1.6s
TLCR 24.90 319⇓ *i*P **P 00 41 07.1 +2.1**
TLCR 24.90 319⇓ P **P 00 41 07.1 +2.1**
TLB Topalu 25.02 317⇑ *i*P **P 00 41 08.3 +2.3**
TLB Topalu 25.02 317⇑ P **P 00 41 08.3 +2.3**
RDO Rodhopi 25.04 308 P **P 00 41 08.4 +2.1**
HARR Harsova 25.14 317⇑ *i*P **P 00 41 09.3 +2.1**
HARR Harsova 25.14 317⇑ P **P 00 41 09.3 +2.1**
ANKY Antikythira Is 25.25 295 P **P 00 41 09.8 +1.6**
VLY Voula,Athens 25.27 300 P **P 00 41 10.7 +2.3**
CFR Carcaliu 25.29 318⇓ *i*P **P 00 41 10.2 +1.7**
CFR Carcaliu 25.29 318⇓ P **P 00 41 10.2 +1.7**
VORR Voronezh 25.29 342 *e*P **P 00 41 10.0 +1.6**
VORR pmax pmax
comp=Z,250nm,1.2s
EREA Eretria 25.31 301 P **P 00 41 12.4 +3.6**
AOS Alonnisos 25.56 303 P **P 00 41 14.6 +3.6**
DID Didima 25.62 299 P **P 00 41 11.6 -0.1**
KRND KRANIDI 25.66 298 P **P 00 41 14.2 +2.2**
VLI Veliai 25.69 297 P **P 00 41 13.6 +1.3**
PAIG Paliouri 25.94 304 P **P 00 41 16.9 +2.5**
KIS Kishinev 25.98 322 *e*P **P 00 41 15.0 +0.2**
KIS Kishinev 25.98 322 *e*P **P 00 41 15.0 +0.2**
KIS *i* 00 41 18.0
NEO Neokhori 26.09 303 P **P 00 41 16.8 +0.9**
XOR Xorichti 26.13 303 P **P 00 41 17.2 +1.0**
LPSR Galich'ya Gora 26.20 342 *e*P **P 00 41 16.8 +0.1**
LPSR *e*S **S 00 45 48.5 +0.7**
LPSR pmax pmax
comp=Z,110nm,1.1s
LPSR smax smax
comp=E,160nm,3.2s
PLG Polygyros 26.25 305 P **P 00 41 19.7 +2.4**
VLX Vlachokerasia 26.26 298 P **P 00 41 22.1 +4.6**
BISRR Bisoca 26.33 318⇑ *i*P **P 00 41 19.7 +1.6**
AXAR Agios Charalam 26.37 301 P **P 00 41 21.4 +3.0**
SRS Serrai 26.39 307 P **P 00 41 19.6 +1.0**
GUR Goura 26.41 299 P **P 00 41 18.5 -0.4**
SOH Sokhos 26.46 306 P **P 00 41 20.9 +1.6**
VRI Vrincioaia 26.50 319⇑ *i*P **P 00 41 21.5 +2.0**
VRI Vrincioaia 26.50 319⇑ P **P 00 41 21.5 +2.0**
PLOR Plostina 26.53 318⇑ *i*P **P 00 41 21.9 +2.1**
PLOR Plostina 26.53 318⇑ P **P 00 41 21.9 +2.1**
ITM Ithomi 26.58 297 *e*P **P 00 41 20.0 -0.3**
comp=E,8.1nm,0.7s
ITM *e*PcP **PcP 00 44 39.3 -5.2**
KLV Kalavryta, Ach 26.58 299 P **P 00 41 19.4 -1.0**
AGG Agios Georgios 26.68 302 *e*P **P 00 41 20.6 -0.6**
comp=E,6.4nm,1.2s
AGG Agios Georgios 26.68 302 P **P 00 41 24.2 +3.0**
MLR Muntele Rosu 26.76 317⇑ *i*P **P 00 41 24.2 +2.2**
MLR Muntele Rosu 26.76 317⇑ P **P 00 41 24.2 +2.2**
MLR Muntele Rosu 26.76 317 P **P 00 41 23.4 +1.4**
comp=E,4.2nm,0.7s,baz=7.6,slow=4.3,SNR=9.5
AMT Artemida-Makis 26.82 298 P **P 00 41 27.9 +5.5**
LIT Litokhoron 26.86 304 *e*P **P 00 41 23.3 +0.4**
comp=E,9.3nm,1.1s
TESR Tescani 26.90 320⇑ *i*P **P 00 41 24.5 +1.4**
DRO Drossia 26.90 299 P **P 00 41 23.6 +0.4**

VLAD Vladila 27.00 313⇑ *i*P **P 00 41 26.8 +2.9**
VAY Valandovo 27.19 307 *i*P **P 00 41 25.7 0.0**
VTS Vitosha 27.19 310 *e*P **P 00 41 25.6 -0.3**
comp=E,7.3nm,1.1s
VTS Vitosha 27.19 310⇑ *i*P **P 00 41 29.5 +3.6**
VTS Vitosha 27.19 310⇑ P **P 00 41 29.5 +3.6**
VOIR 27.27 316⇑ *i*P **P 00 41 29.5 +3.0**
VOIR 27.27 316⇑ P **P 00 41 29.5 +3.0**
DOPR Dopca 27.34 318⇑ *i*P **P 00 41 28.2 +1.1**
BIZ Bicaz 27.45 320⇑ *i*P **P 00 41 29.3 +1.3**
ARR Arges 27.49 316⇑ *i*P **P 00 41 30.6 +2.1**
FNA Florina 27.88 305 *e*P **P 00 41 31.9 -0.1**
comp=E,12nm,1.1s
LOT Lotru 28.07 315⇑ *i*P **P 00 41 33.8 +0.1**
KRUS Krusevo 28.14 306 *i*P **P 00 41 36.8 +2.4**
SKO Skopje 28.20 307 *i*P **P 00 41 37.0 +2.2**
AKASG Malin Array Be 28.23 329 *e*P **P 00 41 34.6 -0.3**
AKASG Malin Array Be 28.23 329 P **P 00 41 33.9 -1.0**
comp=E,1.7nm,0.6s,baz=135,slow=8.6,SNR=12
AKASG S S 00 46 33.3 +13
comp=E,0.2nm,0.3s,baz=137,slow=20,SNR=6.5
KIEV Kiev 28.23 329 *e*P **P 00 41 34.0 -1.0**
comp=E,9.1nm,1.1s
KIEV Kiev 28.23 329 *i*P **P 00 41 34.8 -0.1**
SNR=7.8
KIEV Kiev 28.23 329⇓ *e*P **P 00 41 35.0 +0.1**
KIEV pmax pmax
comp=Z,14nm,1.2s
BURAR Bucovina Array 28.33 320 *e*P **P 00 41 36.5 +0.5**
BURAR Bucovina Array 28.33 320⇑ *i*P **P 00 41 37.7 +1.7**
BURAR Bucovina Array 28.33 320⇑ P **P 00 41 37.7 +1.7**
BUR08 Bucovina Ar. S 28.35 320 *e*P **P 00 41 37.7 +1.5**
comp=Z,3.8nm,1.0s
OHR Ohrid 28.39 305 *i*P **P 00 41 38.6 +2.1**
BRVK Borovoye 28.39 24 *e*P **P 00 41 35.5 -0.9**
comp=Z,4.7nm,1.0s
BRVK Borovoye 28.39 24⇓ *e*P **P 00 41 39.7 +3.4**
BRVK pmax pmax
comp=Z,9.0nm,1.5s
BVAR Borovoye Array 28.40 24 P **P 00 41 35.1 -1.3**
comp=Z,0.8nm,0.4s,baz=208,slow=10.0,SNR=7.1
BVAR PcP **PcP 00 44 48.6 +0.1**
comp=Z,0.9nm,0.4s,baz=197,slow=1.8,SNR=4.8
ARU Arti 28.65 8 *e*P **P 00 41 38.5 -0.1**
comp=Z,1.4nm,0.9s
ARU Arti 28.65 8 *c i*P **P 00 41 41.7 +3.1**
ARU 00 42 27.6
ARU S **S 00 46 31.2 +4.8**
ARU pmax pmax
comp=Z,14nm,1.7s
GZR Gura Zlata 28.66 315⇓ *i*P **P 00 41 41.4 +2.5**
GZR Gura Zlata 28.66 315⇓ P **P 00 41 41.4 +2.5**
MDVR Moldovita 29.07 313⇑ *i*P **P 00 41 44.5 +1.9**
OBN Obninsk 29.08 342 *e*P **P 00 41 41.2 -1.1**
comp=Z,16nm,0.8s
OBN Obninsk 29.08 342⇑ *i*P **P 00 41 42.4 0.0**
OBN Obninsk 29.08 342⇑ P **P 00 41 42.1 -0.3**
OBN *e* 00 41 45.9
OBN *i* 00 41 52.4
OBN pmax pmax
comp=Z,42nm,1.7s
OBN MLR MLR
comp=Z,177nm,15.0s
OBN Obninsk 29.08 342 P **P 00 41 42.4 0.0**
comp=Z,1.8nm,0.5s,baz=154,slow=11,SNR=5.1
OBN LR LR 00 54 03.6
comp=Z,45nm,18.5s,baz=172,slow=38
TIR Tirane 29.13 305 *e*P **P 00 41 43.5 +0.5**
comp=Z,7.8nm,0.8s
DRGR 29.36 317⇓ *i*P **P 00 41 46.3 +1.2**
DRGR 29.36 317⇓ P **P 00 41 46.3 +1.2**
MOS Moscow 29.36 344 *e*P **P 00 41 48.1 +3.2**
MOS *e* 00 42 45.3
MOS *e* 00 46 42.0
MOS pmax pmax
comp=Z,42nm,1.3s
BZS Buzias 29.49 314⇑ *i*P **P 00 41 48.6 +2.4**
BZS Buzias 29.49 314⇑ P **P 00 41 48.6 +2.4**
SIRR Siria 29.75 316⇑ *i*P **P 00 41 50.7 +2.2**
PDG Podgorica 29.89 307⇑ *i*P **P 00 41 52.8 +3.1**
TTG Podgorica 29.89 307 *e*P **P 00 41 49.3 -0.5**
comp=Z,7.1nm,1.1s
MAKZ Makanchi 30.08 44 *e*P **P 00 41 52.2 +0.8**
comp=Z,7.3nm,1.1s
TRPA Tarpa 30.13 319⇑ *i*P **P 00 41 53.2 +1.4**
TRPA Tarpa 30.13 319 *e*P **P 00 41 53.0 +1.3**
KURBB Kurchatov Arra 30.22 35 P **P 00 41 52.7 +0.1**
comp=Z,1.0nm,0.5s,baz=236,slow=9.2,SNR=11
KURBB ScP **ScP 00 48 37.4 +2.7**
comp=Z,0.3nm,0.4s,baz=227,slow=4.5,SNR=4.1
MKAR Makanchi Array 30.27 44 *e*P **P 00 41 53.4 +0.3**
MKAR Makanchi Array 30.27 44 P **P 00 41 53.5 +0.5**
comp=Z,2.2nm,0.6s,baz=231,slow=9.0,SNR=17
MKAR PcP **PcP 00 44 53.2 -0.2**
comp=Z,0.3nm,0.5s,baz=251,slow=4.4,SNR=2.9
MKAR LR LR 00 56 01.6
comp=Z,414nm,19.3s,baz=236,slow=40
KURK Kurchatov 30.32 35 *e*P **P 00 41 51.9 -1.6**
comp=Z,2.2nm,0.9s
KURK Kurchatov 30.32 35⇑ *e*P **P 00 41 56.5 +3.0**
KURK pmax pmax
comp=Z,10.0nm,1.3s
KIRV Kirov 30.44 358 P **P 00 41 54.0 -0.4**
KIRV Kirov 30.44 358 P **P 00 41 54.0 -0.4**
comp=E,18nm,0.5s,baz=173,slow=3.3,SNR=12
UZH Uzhgorod 30.53 320⇑ *i*P **P 00 41 50.8 -4.5**
KOLS Kolonicke sedl 30.70 321 *e*P **P 00 41 58.5 +1.7**
KOLS pmax pmax
comp=Z,27nm,1.3s
KOLS Kolonicke sedl 30.70 321 *e*P **P 00 41 58.5 +1.7**
KWP Kalwaria Pacla 30.83 322 *e*P **P 00 41 59.2 +1.2**
KWP Kalwaria Pacla 30.83 322 *e*P **P 00 41 59.2 +1.2**
TIP Timpagrande 30.95 300⇑ *i*P **P 00 42 03.4 +4.2**
KECS Kecovo 31.49 319 *e*P **P 00 42 07.1 +3.2**
KECS pmax pmax
comp=Z,47nm,1.1s
KECS Kecovo 31.49 319 *e*P **P 00 42 07.1 +3.2**
PSZ Piszkesteto 31.58 317 *e*P **P 00 42 03.3 -1.4**
comp=Z,1.4nm,0.8s
MORH Mrgy, Hungar 31.63 314 *e*P **P 00 42 05.1 0.0**
BLY Banja Luka 32.05 310 *e*P **P 00 42 07.3 -1.5**
comp=Z,9.8nm,1.1s
BLY Banja Luka 32.05 310⇓ *i*P **P 00 42 12.0 +3.2**
NIE Niedzica 32.06 320 *e*P **P 00 42 09.4 +0.6**
NIE Niedzica 32.06 320 *e*P **P 00 42 09.4 +0.6**
KMBO Kilima Mbogo 32.29 208 LR LR 00 54 53.3
comp=Z,252nm,20.5s,baz=357,slow=36
CSKK Cskako 32.33 315 *e*P **P 00 42 12.0 +0.8**
LANS Liptovska Anna 32.40 319 *e*P **P 00 42 13.2 +1.3**
LANS Liptovska Anna 32.40 319 *e*P **P 00 42 13.2 +1.3**
VYHS Vyhne 32.47 318 *e*P **P 00 42 14.3 +1.8**
VYHS pmax pmax
comp=Z,19nm,2.6s
VYHS Vyhne 32.47 318 *e*P **P 00 42 14.3 +1.8**
WMQ Urumqi 32.71 52 *e*P **P 00 42 18.0 +3.3**
WMQ pP sP 00 42 21.3 -1.1
WMQ sP pP 00 42 24.2 +4.0
WMQ pmax pmax
comp=Z,29nm,1.1s
WMQ LR LR
comp=Z,3μm,19.1s
WMQ LR LR
comp=Z,900nm,28.1s
WMQ LR LR
comp=Z,760nm,20.5s
OJC Ojcow 32.74 321 *e*P **P 00 42 15.5 +0.7**
OJC Ojcow 32.74 321 *e*P **P 00 42 12.6 -2.1**
comp=Z,35nm,1.1s
OJC Ojcow 32.74 321 *e*P **P 00 42 15.5 +0.7**
IIGN Ignalina 32.80 333 *e*P **P 00 42 15.6 +0.4**
IIGN IAmb IAmb 00 42 21.1
comp=Z,13nm,0.9s
IZAR Zarasai 33.08 334 *e*P **P 00 42 17.9 +0.2**
IZAR IAmb IAmb 00 42 22.4
comp=Z,31nm,1.3s
SUW Suwalki 33.20 329 *e*P **P 00 42 22.2 +3.5**
SUW Suwalki 33.20 329 *e*P **P 00 42 19.3 +0.6**
comp=Z,26nm,1.1s
SUW Suwalki 33.20 329 *e*P **P 00 42 22.2 +3.5**
JAVC Velka Javorina 33.32 318 *e*P **P 00 42 22.1 +2.1**
MODS Modra-Piesok 33.35 317 *e*P **P 00 42 21.0 +0.8**
MODS pmax pmax
comp=Z,32nm,1.7s
MODS Modra-Piesok 33.35 317 *e*P **P 00 42 21.0 +0.8**

OKC Ostrava-Krasne 33.49 319 *e*P **P 00 42 24.0 +2.7**
OKC Ostrava-Krasne 33.49 319 *e*P **P 00 42 24.0 +2.7**
SOP Sopron 33.52 315 *e*P **P 00 42 23.0 +1.5**
BOJS Bojanci 33.59 311 *i*P **P 00 42 23.3 +1.0**
KLMR Klimovskoe 33.70 349⇑ *i*P **P 00 42 22.6 -0.4**
KLMR *e*S **S 00 47 40.0 -5.2**
KLMR pmax pmax
comp=Z,35nm,1.4s
PRGR Permogore 33.71 355 P **P 00 42 21.8 -1.3**
PRGR 00 43 33.9
PRGR pmax pmax
comp=Z,8.0nm,0.7s
MORC Moravsky Berou 33.81 319⇓ *i*P **P 00 42 26.5 +2.3**
MORC Moravsky Berou 33.81 319⇓ P **P 00 42 26.5 +2.3**
MORC *e* 00 42 28.8
MORC Moravsky Berou 33.81 319 *e*P **P 00 42 24.3 +0.1**
PABE Paberze 33.84 332 *e*P **P 00 42 21.0 -3.3**
PABE IAmb IAmb 00 42 25.1
comp=Z,49nm,1.2s
VISS Visnje 33.96 311 *i*P **P 00 42 29.8 +4.3**
ARSA Arzberg 34.01 314 *i*pP **P 00 42 29.6 +3.7**
comp=Z,7.1nm,1.1s
CONA Conrad Observa 34.04 315 *i*pP **P 00 42 27.4 +1.1**
comp=Z,8.1nm,1.4s
SOKA Soboth 34.12 313 *i*pP **P 00 42 29.5 +2.5**
comp=Z,6.4nm,1.2s
VRAC Vranov 34.16 318⇓ *i*P **P 00 42 29.0 +1.8**
VRAC Vranov 34.16 318⇓ P **P 00 42 29.0 +1.8**
VRAC *e* 00 42 34.6
VRAC Vranov 34.16 318 *e*P **P 00 42 28.1 +0.9**
VRAC Vranov 34.16 318 P **P 00 42 27.6 +0.5**
comp=Z,3.5nm,0.7s,baz=103,slow=7.3,SNR=6.6
KRUC Moravsky 34.17 317 *e*P **P 00 42 27.5 +0.2**
OBKA Obir 34.38 312 *i*pP **P 00 42 31.3 +2.1**
comp=Z,11nm,1.6s
LSA Lhasa 34.40 78 *e*P **P 00 42 27.4 -2.7**
comp=Z,4.7nm,0.6s
JAVS Javornik 34.51 311 *i*P **P 00 42 31.0 +0.7**
DGZ Jazzator, Alta 34.63 42 *d i*P **P 00 42 32.5 +1.1**
DGZ pmax pmax
comp=Z,1.0nm,0.5s
TRI Trieste 34.65 311 *e*P **P 00 42 29.4 -2.0**
comp=Z,3.0nm,0.9s
DPC Dobruska-Polom 34.77 319 *e*P **P 00 42 32.9 +0.4**
DPC Dobruska-Polom 34.77 319 *e*P **P 00 42 32.9 +0.4**
TREC Trest 34.81 317 *e*P **P 00 42 33.2 +0.4**
TREC Trest 34.81 317 *e*P **P 00 42 33.2 +0.4**
PUL Pulkovo 34.82 341⇑ *e*P **P 00 42 35.5 +2.8**
PUL pmax pmax
comp=Z,38nm,0.5s
VSU Vasula 34.91 337⇑ *e*P **P 00 42 33.2 -0.3**
VSU pmax pmax
comp=Z,82nm,1.4s
VSU Vasula 34.91 337 *e*P **P 00 42 33.1 -0.4**
VSU IAmb IAmb 00 42 38.0
comp=Z,81nm,1.0s
KSP Ksiaz 35.00 320 *e*P **P 00 42 35.6 +1.2**
KSP Ksiaz 35.00 320 *e*P **P 00 42 35.6 +1.2**
MYKA Terra Mystica 35.01 312 *i*pP **P 00 42 36.4 +1.7**
comp=Z,13nm,1.4s
UPC Upice 35.01 319 *e*P **P 00 42 35.6 +1.1**
UPC Upice 35.01 319 *e*P **P 00 42 35.6 +1.1**
MOA Molln 35.02 314 *i*pP **P 00 42 37.7 +3.0**
comp=Z,14nm,1.1s
ZALV Zalesovo Beam 35.30 34 *e*P **P 00 42 36.3 -0.6**
ZALV Zalesovo Beam 35.30 34 P **P 00 42 36.8 -0.2**
comp=Z,2.6nm,0.5s,baz=242,slow=10,SNR=12
ZALV ScP **ScP 00 48 54.1 +2.0**
comp=Z,0.7nm,0.7s,baz=266,slow=4.3,SNR=3.4
ZALV LR LR 00 58 09.2
comp=Z,252nm,20.1s,baz=250,slow=38
KBA Koelnbreinsper 35.35 313 *i*pP **P 00 42 38.4 +0.7**
comp=Z,12nm,1.1s
GOPC GO Pecny, Ondr 35.48 318 *e*P **P 00 42 41.9 +3.3**
GOPC GO Pecny, Ondr 35.48 318 *e*P **P 00 42 41.9 +3.3**
PRU Pruhonice 35.65 318 *e*P **P 00 42 41.1 +1.1**
PRU Pruhonice 35.65 318 *e*P **P 00 42 41.1 +1.1**
GERES GERESS Array B 35.72 316 *e*P **P 00 42 40.8 0.0**
GERES *e*PcP **PcP 00 45 06.8 -1.9**
GERES GERESS Array B 35.72 316 P **P 00 42 40.1 -0.7**
comp=Z,0.4nm,0.5s,baz=92,slow=6.9,SNR=5.1
GERES PcP **PcP 00 45 08.4 -0.2**
comp=Z,0.4nm,0.6s,baz=104,slow=4.1,SNR=3.3
GERES LR LR 01 01 24.0
comp=Z,174nm,18.3s,baz=115,slow=43
ABTA Abfaltersbach 35.79 312 *i*pP **P 00 42 41.9 +0.6**
comp=Z,11nm,1.1s
KHC Kasperske Hory 35.90 316 *e*P **P 00 42 42.6 +0.3**
KHC *e* 00 42 45.4
KHC Kasperske Hory 35.90 316 *e*P **P 00 42 42.6 +0.3**
KHC *e*pP **pP 00 42 45.4 -2.4**
BRG Berggiesshubel 36.36 319 *e*P **P 00 42 48.7 +2.6**
comp=Z,4.4nm,1.1s
BRG Berggiesshubel 36.36 319 *e*P **P 00 42 48.7 +2.6**
BRG pmax pmax
comp=Z,4.0nm,1.1s
WTTA Wattenberg 36.51 312 *i*P **P 00 42 47.9 +0.3**
comp=Z,18nm,0.8s
KEST Kesra 36.54 293 P **P 00 42 49.2 +1.3**
comp=Z,1.8nm,0.5s,baz=27,slow=3.4,SNR=9.1
WATA Walderalm 36.57 313 *i*P **P 00 42 48.0 -0.2**
comp=Z,31nm,1.2s,SNR=8.1
SQTA Sankt Quirin 36.78 312 *i*P **P 00 42 49.9 0.0**
comp=Z,21nm,1.4s
MOTA Moosalm 36.88 312 *i*P **P 00 42 50.3 -0.5**
comp=Z,13nm,0.9s,SNR=7.4
NKC Novy Kostel 36.99 317 *e*P **P 00 42 51.9 +0.4**
NKC Novy Kostel 36.99 317 *e*P **P 00 42 51.9 +0.4**
FETA Feichten 37.04 312 *i*P **P 00 42 52.4 +0.2**
comp=Z,30nm,1.2s,SNR=9.8
CLL Collm 37.08 319 *e*P **P 00 42 51.0 -1.2**
comp=Z,10nm,1.0s
CLL Collm 37.08 319 *e*P **P 00 42 53.0 +0.8**
CLL *i* 00 42 55.9
CLL Collm 37.08 319 *e*P **P 00 42 53.0 +0.8**
CLL *i* 00 42 55.9
comp=Z,14nm,1.2s
RUE Ruedersdorf 37.13 321 *e*P **P 00 42 51.9 -0.7**
RUE IAmb IAmb 00 42 57.1
comp=Z,15nm,0.6s
RETA Reutte 37.15 313 *i*pP **P 00 42 53.6 +0.6**
comp=Z,13nm,1.2s
FUORN Ofenpass-Fuorn 37.24 311 *e*P **P 00 42 53.9 0.0**
comp=Z,4.6nm,1.1s
FIA1 FINESS Array S 37.42 340 *e*P **P 00 42 54.0 -0.9**
comp=Z,18nm,0.8s
FINES FINESS Array B 37.42 340 P **P 00 42 54.8 -0.1**
comp=Z,11nm,0.6s,baz=145,slow=9.5,SNR=31
FINES LR LR 01 00 23.0
comp=Z,82nm,21.9s,baz=132,slow=40
DAVOX Davos/Dischmat 37.54 311 P **P 00 42 56.5 +0.1**
comp=Z,3.2nm,0.7s,baz=138,slow=4.0,SNR=7.1
GRA1 Grafenberg Arr 37.54 316 *e*P **P 00 42 56.3 +0.1**
comp=Z,7.4nm,1.0s
GRFO Grafenberg 37.54 316 *e*P **P 00 42 55.9 -0.3**
comp=Z,5.4nm,0.9s
DAVA Damuels 37.67 312 *i*P **P 00 42 57.3 -0.1**
comp=Z,33nm,0.8s,SNR=21
BSD Bornholm Skovb 37.78 326 *i*P **P 00 42 56.9 -1.2**
BSD Bornholm Skovb 37.78 326 *i*P **P 00 42 56.9 -1.2**
TUE Stuetta 37.82 311 *e*P **P 00 42 57.9 -0.9**
comp=Z,5.8nm,1.0s
STU Stuttgart 38.52 314 *e*P **P 00 43 03.9 -0.5**
comp=Z,3.6nm,0.8s
SENIN Lac Senin/Sane 39.17 310 *e*P **P 00 43 07.7 -2.5**
comp=Z,5.8nm,0.9s
COP Copenhagen 39.30 325 *e*P **P 00 43 13.1 +2.3**
COP Copenhagen 39.30 325 *i*P **P 00 43 13.1 +2.3**
ECH Echery 39.68 313 *e*P **P 00 43 13.6 -0.6**
comp=Z,11nm,1.1s
APA Apatity 40.95 349⇑ *i*P **P 00 43 23.3 -1.0**
APA *i* PPP PPP 00 44 58.0
APA *e*S **S 00 49 34.0 -1.2**
APA pmax pmax
comp=Z,5.0nm,1.4s
APA MLR MLR
comp=Z,400nm,23.0s
GTA Gaotai 41.05 61 *e*P **P 00 43 26.9 +1.1**
GTA pP pP 00 43 31.6 +0.2
GTA sP sP 00 43 34.1 +0.5
GTA pmax pmax
comp=Z,6.0nm,1.0s
MUD Monsted U'grnd 41.27 325 *i*P **P 00 43 31.9 +4.7**
MUD pmax pmax
comp=Z,54nm,1.2s

MUD	Monsted U'grnd	41.27	325	*i* P		P	00 43 31.9 +4.7
	comp=Z,54nm,1.2s						
TAM	Tamanrasset	41.88	273	*e*P		P	00 43 31.9 -0.9
	comp=Z,3.7nm,1.0s						
NC405	NORSAR Array S	42.37	332	*e*P		P	00 43 35.6 -0.5
	comp=Z,24nm,0.9s						
NB2	NORSAR Subarra	42.54	332	P		P	00 43 36.6 -0.9
	comp=Z,12nm,1.0s,baz=124,slow=8.6						
NB2	NORSAR Subarra	42.54	332	P		P	00 43 36.2 -1.3
NOA	NORSAR Array B	42.54	332	P		P	00 43 36.8 -0.7
	comp=Z,3.3nm,0.6s,baz=122,slow=8.3,SNR=14						
NOA				LR		LR	01 03 09.1
	comp=Z,82nm,20.8s,baz=130,slow=39						
ARA0	ARCESS Array S	44.10	347	*e*P		P	00 43 49.6 -0.3
ARCES	ARCESS Array B	44.10	347	P		P	00 43 49.7 -0.3
	comp=Z,1.2nm,0.5s,baz=159,slow=8.6,SNR=21						
CM31	Chiang Mai Arr	44.17	92	*e*P		P	00 43 50.7 -0.5
	comp=Z,3.0nm,0.5s						
CMAR	Chiang Mai Arr	44.17	92	P		P	00 43 50.7 -0.5
	comp=Z,0.8nm,0.5s,baz=291,slow=7.7,SNR=3.4						
CMAR				PcP		PcP	00 45 36.0 0.0
	comp=Z,1.4nm,0.3s,baz=288,slow=4.4,SNR=3.7						
LZH	Lanzhou	44.37	66	*e*P		P	00 43 54.0 +1.2
LZH				pP		pP	00 43 57.4 -1.1
LZH				sP		sP	00 44 01.7 +1.0
LZH				PP		PP	00 45 34.4 -1.9
LZH				pmax		pmax	
	comp=Z,17nm,1.6s						
LZH				pmax		pmax	
	comp=Z,72nm,4.9s						
LZH				LR		LR	
	comp=Z,230nm,16.7s						
LZH				LR		LR	
	comp=Z,240nm,16.2s						
LZH				LR		LR	
	comp=Z,360nm,17.3s						
ZAK	Zakamensk	44.57	46	*e*P		P	00 43 55.1 +1.0
ZAK				pmax		pmax	
	comp=Z,4.0nm,1.5s						
CD2	Chengdu	44.99	73	*e*P		P	00 43 56.6 -1.1
TLY	Talaya	45.03	44⇑	*e*P		P	00 44 01.6 +3.9
TLY				pmax		pmax	
	comp=Z,16nm,1.3s						
KMI	Kunming	45.41	82	P		P	00 44 05.6 +4.3
KMI				pmax		pmax	
	comp=Z,6.0nm,1.3s						
NRIK	Noril'sk	46.11	17	P		P	00 44 04.3 -1.6
	comp=Z,1.2nm,0.5s,baz=225,slow=10.0,SNR=4.0						
NRIK				LR		LR	01 06 57.9
	comp=Z,132nm,18.7s,baz=232,slow=41						
SONA0	Songino Array	46.27	50	*e*P		P	00 44 07.7 +0.1
SONM	Songino Array	46.27	50	*e*P		P	00 44 08.0 +0.4
SONM	Songino Array	46.27	50	P		P	00 44 07.7 +0.1
	comp=Z,1.2nm,0.5s,baz=261,slow=8.8,SNR=15						
ESDC	Sonseca Array	46.96	299	*e*P		P	00 44 11.9 -1.2
ESDC				*e*P		P	00 44 13.6 +0.5
ESDC	Sonseca Array	46.96	299	P		P	00 44 13.6 +0.5
	comp=Z,1.3nm,0.8s,baz=65,slow=7.7,SNR=9.5						
TOA0	Torodi Ar. Sit	48.83	263	*e*P		P	00 44 27.4 -0.5
	comp=Z,9.8nm,0.8s						
TORD	Torodi Ar. Bea	48.83	263	P		P	00 44 28.5 +0.7
	comp=Z,4.3nm,0.9s,baz=77,slow=7.9,SNR=20						
TORD				PcP		PcP	00 45 52.4 0.0
	comp=Z,1.6nm,0.9s,baz=60,slow=6.8,SNR=1.9						
DSB	Dublin	49.04	317	*e*P		P	00 44 29.1 +0.2
IDGL	Inch Island, C	49.93	320	*e*P		P	00 44 38.7 +3.1
HHC	Hu-ho-hao-te	50.00	59	*e*P		P	00 44 37.4 +0.8
IGLA	Glengowla, Co	50.85	317	*e*P		P	00 44 42.9 +0.3
BOD	Bodaibo	51.92	37	*e*P		P	00 44 50.0 -0.6
BOD				pmax		pmax	
	comp=Z,15nm,1.4s						
NJ2	Nanjing	57.33	68	*e*P		P	00 45 30.8 +0.5
NJ2				pmax		pmax	
	comp=Z,14nm,0.5s						
DBIC	Dimbokro	57.53	259	*e*P		P	00 45 31.8 -0.1
	comp=Z,12nm,0.8s						
DBIC	Dimbokro	57.53	259	P		P	00 45 32.4 +0.5
	comp=Z,11nm,0.9s,baz=9.8,slow=8.4,SNR=9.4						
KIC	Kosan Boka	57.58	259	*e*P		P	00 45 33.0 +0.7
	comp=Z,46nm,1.2s						
TIC	Toumodi	57.69	259	*e*P		P	00 45 30.1 -2.9
LIC	Lamto	57.90	259	*e*P		P	00 45 30.8 -3.7
	comp=Z,87nm,1.6s						
SCO	Scoresbysund	58.29	338	*e*P		P	00 45 35.6 -0.7
	comp=Z,1.4nm,1.0s						
SCO	Scoresbysund	58.29	338	*i* P		P	00 45 39.0 +2.6
SCO				pmax		pmax	
	comp=Z,14nm,1.4s						
SCO	Scoresbysund	58.29	338	*i* P		P	00 45 39.0 +2.6
	comp=Z,14nm,1.4s						
DAG	Danmarks Havn	58.32	345	*i* P		P	00 45 34.6 -1.9
DAG	Danmarks Havn	58.32	345	*i* P		P	00 45 34.6 -1.9
TIXI	Tiksi	59.48	21	*e*P		P	00 45 44.5 -0.1
	comp=Z,1.2nm,0.7s						
TIXI	Tiksi	59.48	21⇑	*e*P		P	00 45 46.8 +2.2
TIXI				pmax		pmax	
	comp=Z,6.0nm,1.7s						
CN2	Changchun	59.77	54	*e*P		P	00 45 50.0 +2.9
CN2				pmax		pmax	
	comp=Z,10.0nm,0.7s						
BOSA	Boshof	61.91	206	P		P	00 46 03.1 +1.3
	comp=Z,1.9nm,0.8s,baz=48,slow=7.3,SNR=4.8						
KLR	Kul'dur	62.92	46⇑	*e*P		P	00 46 10.6 +2.2
KLR				pmax		pmax	
	comp=Z,7.0nm,1.3s						
KLR	Kul'dur	62.92	46	LR		LR	01 16 26.6
	comp=Z,331nm,18.5s,baz=313,slow=39						
KS15	Wonju Array Si	63.08	60	*e*P		P	00 46 09.2 -0.4
KS15				*e*P		P	00 46 09.2 -0.4
KSRS	Korea Array	63.10	60	P		P	00 46 09.2 -0.6
	comp=Z,7.5nm,0.3s,baz=282,slow=6.3,SNR=5.8						
SUMG	Summit	63.45	340	*e*P		P	00 46 09.5 -2.5
SUMG	Summit	63.45	340	*i* P		P	00 46 12.8 +0.8
SUMG				pmax		pmax	
	comp=Z,32nm,1.1s						
SUMG	Summit	63.45	340	*i* P		P	00 46 12.8 +0.8
	comp=Z,32nm,1.1s						
USRK	Ussuriysk Ar.	64.28	52	LR		LR	01 15 15.3
	comp=Z,2μm,21.8s,baz=11,slow=37						
SEY	Seymchan	69.93	29⇑	*e*P		P	00 46 53.5 +0.5
MJAR	Matsushiro Arr	71.19	58	LR		LR	01 19 36.7
	comp=Z,52nm,18.1s,baz=335,slow=37						
BILL	Bilibino	72.70	21⇑	*i* P		P	00 47 10.3 +0.7
BILL				pmax		pmax	
	comp=Z,9.0nm,1.3s						
BILL				MLR		MLR	
	comp=Z,123nm,14.0s						
PETK	Petropavlovsk-	76.79	37	LR		LR	01 24 26.1
	comp=Z,113nm,19.1s,baz=290,slow=38						
FRB	Frobisher Bay	77.14	337	P		P	00 47 35.4 +0.1
	comp=Z,5.1nm,0.6s,baz=45,slow=5.9,SNR=18						
SCHQ	Schefferville	82.03	329	P		P	00 48 02.4 +0.3
	comp=Z,7.1nm,0.5s,baz=41,slow=6.6,SNR=5.9						
INK	Inuvik	83.73	2	*e*P		P	00 48 09.8 -0.9
	comp=Z,1.9nm,1.1s						
INK	Inuvik	83.73	2	P		P	00 48 10.3 -0.3
	comp=Z,0.5nm,0.5s,baz=358,slow=7.9,SNR=5.6						
IMAR	Indian Mountai	84.12	10	*e*P		P	00 48 13.0 +0.3
MDM	Murphy Dome	85.88	8	*e*P		P	00 48 21.5 -0.1
	comp=Z,4.1nm,1.0s						
ILAR	Eielson Array	86.22	8	P		P	00 48 22.9 -0.4
	comp=Z,0.3nm,0.6s,baz=341,slow=4.3,SNR=3.7						
BPAW	Bear Paw Mtn.	86.31	10	*e*P		P	00 48 22.3 -1.4
	comp=Z,6.6nm,1.1s						
CAST	Castle Rocks	86.78	10	*e*P		P	00 48 25.8 -0.3
	comp=Z,3.2nm,1.2s						
SCRK	Sand Creek	87.32	7	*e*P		P	00 48 28.0 -0.9
	comp=Z,7.0nm,1.2s						
YKW3	Yellowknife Ar	88.92	354	*e*P		P	00 48 36.4 +0.1
	comp=Z,3.1nm,1.1s						
YKA	Yellowknife Ar	88.99	354	P		P	00 48 37.0 +0.5
	comp=Z,1.2nm,0.6s,baz=11,slow=5.6,SNR=16						
ASAR	Alice Springs	94.41	114	P		P	00 49 01.6 -0.8
	comp=Z,0.5nm,0.7s,baz=298,slow=4.4,SNR=4.4						
TXAR	Lajitas Array	118.17	336	PP		PP	00 55 46.3 +2.6
	comp=Z,0.4nm,1.0s,baz=46,slow=2.6,SNR=3.4						

*DDA **02** 00:35:52.6,37°.29N×37°.10E, h4km±2km, ML2.7*
*ISK **02** 00:35:52.4,37°.29N×37°.10E, h5km, ML1.8/7*
*ISCJB **02** 00:35:53.2±0.6,37°.25N±0°.03×37°.09E±0°.03, h4km±5km, Error ellipse: s-maj=5.6km s-min=3.7km az=33.6*
ISC 02 00:35:52.9±0.9,37°.27N±0°.03×37°.09E±0°.02, h8km±7km, n19,σ0°50/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.14	137	PG	Pg	00 35 55.7	-0.3
GAZ				SG	Sg	00 35 58.8	+0.8
HCB	Kahramanmara	0.17	296	IAML_P			
	comp=Z,3μm,0.1s						
HCB				*i* P	Pg	00 35 56.1	-0.3
HCB				*i* S	Sg	00 35 58.6	-0.2
AYKD	Aykdinkavak	0.27	302	IAML_P			
	comp=Z,8μm,0.1s						
AYKD				*i* P	Pg	00 35 58.6	+0.2
AYKD				*i* S	Sg	00 36 02.8	+0.8
KMRS	Kahramanmaras	0.28	327	PG	Pg	00 35 58.1	-0.4
KMRS				SG	Sg	00 36 02.2	-0.1
KAMA	Osmaniye	0.35	256	IAML_P			
	comp=Z,3μm,0.1s						
KAMA				*i* P	Pg	00 36 00.3	+0.4
GZT	Gaziantep	0.38	77	IAML_P			
	comp=Z,3μm,0.1s						
GZT				*i* P	Pg	00 36 00.8	+0.3
KUZU	Kuzuini	0.50	182	*i* P	Pb	00 36 03.6	-0.3
ANDN	Andirin	0.67	298	IAML_P			
	comp=Z,678nm,0.2s						
ANDN				*i* P	Pb	00 36 06.3	-0.6
ATAB	Bozova	0.98	78	*i* P	Pn	00 36 12.5	-0.5
ATAB				*i* S	Sb	00 36 25.3	+0.1
KOZT	Kozan	1.03	282	PG	Pb	00 36 13.0	0.0
KOZT				SG	Sn	00 36 28.3	0.0
ELBS	KAHRAMANMARAS	1.05	2	*i* P	Pn	00 36 14.5	+0.4
ELBS				*i* S	Sn	00 36 30.0	+1.0
SAIM	ADANA	1.07	312	IAML_P			
	comp=Z,373nm,0.1s						
SAIM				*i* P	Pn	00 36 14.1	-0.2
SAIM				*i* S	Sn	00 36 29.0	-0.3
TAHT	Tahtakopru-Hat	1.15	219	PN	Pn	00 36 15.5	+0.1
TAHT				SN	Sn	00 36 31.7	+0.4
AKCD	Akcadag	1.22	32	IAML_P			
	comp=Z,816nm,0.2s						
AKCD				*i* P	Pn	00 36 17.0	+0.7
AKCD				*i* S	Sn	00 36 33.1	0.0
SURC	SANLIURFA_SURC	1.28	107	IAML_P			
	comp=Z,194nm,0.1s						
SURC				*i* P	Pn	00 36 17.3	+0.2
SURC				*i* S	Sg	00 36 33.2	-0.8
DARE	Darende-Malaty	1.33	13	PN	Pb	00 36 18.6	+0.3
URFA	Urfa	1.39	82	PN	Pg	00 36 19.1	-0.4
SANL	SANLIURFA_Merk	1.52	93	IAML_P			
	comp=Z,528nm,0.1s						
SANL				*i* P	Pb	00 36 21.1	-0.2
BNN	Bunyan	1.86	328	PN	Pb	00 36 26.3	-1.0

TRN 02 00:38:00.8,15°.39N×61°.07W, h149km, MD3.5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	Wesley	0.29	307	*e*P	Pn	00 38 21.9	+0.7
DWS				*e*S	Sn	00 38 37.7	+0.9
BBL	Barber's Block	0.41	289	*e*P	Pn	00 38 23.1	+1.4
BBL				*e*S	Sn	00 38 38.8	+1.2
MDPO	Dominica; Chan	0.41	296	*e*P	Pn	00 38 22.7	+1.1
MDPO				*e*S	Sn	00 38 38.8	+1.3
MDPV	Dominica, Penn	0.41	305	*e*P	Pn	00 38 22.7	+1.0
MDPV				*e*S	Sn	00 38 38.0	+0.4
BAMF	Morne Balai	0.58	187	*e*P	Pn	00 38 23.8	+1.2
CXM	Morne La Croix	0.59	189	*e*P	Pn	00 38 23.9	+1.1
MAGL	Barre de l'ile	0.59	340	*e*P	Pn	00 38 23.8	+1.2
GBMF	Grand Be	0.60	189	*e*P	Pn	00 38 24.0	+1.2
PML	Morne Lenard	0.62	190	*e*P	Pn	00 38 24.0	+1.2
ILAM	Ilet Lapin Mar	0.65	163	*e*P	Pn	00 38 24.2	+1.3
FDF	Fort de France	0.66	187	*e*P	Pn	00 38 24.1	+1.0
FDF				*e*S	Sn	00 38 40.9	+0.9
TDBA	Terre de Bas,	0.71	310	*e*P	Pn	00 38 24.2	+0.9
TBG	Guadaloupe-3	0.72	310	*e*P	Pn	00 38 24.5	+1.2
TBG				*e*S	Sn	00 38 41.9	+1.4
ZAM	Aeronautique	0.82	177	*e*P	Pn	00 38 25.1	+0.9
LPMF	Morne Lapointe	0.82	173	*e*P	Pn	00 38 24.8	+0.6
CBE	Ff, Capester	0.85	323	*e*P	Pn	00 38 25.2	+0.9
MVM	Montagne Vaucl	0.85	168	*e*P	Pn	00 38 25.3	+0.9
TRMF	Trois Ilets	0.85	179	*e*P	Pn	00 38 25.5	+1.1
BIM	Bigot	0.87	180	*e*P	Pn	00 38 25.7	+1.1
DEG	La Desirade	0.91	1	*e*P	Pn	00 38 25.8	+0.8
MPOM	Morne Pois Mar	0.97	168	*e*P	Pn	00 38 26.4	+1.1
ABD	La Joyeuse, An	1.15	340	*e*P	Pn	00 38 27.9	+1.1
SLBI	Saint Lucia, B	1.37	176	*e*P	Pn	00 38 29.8	+0.8
SLBI				*e*S	Sn	00 38 50.9	+0.3
SLW	Petit Monier	1.37	175	*e*P	Pn	00 38 30.5	+1.4
SLW				*e*S	Sn	00 38 51.5	+0.8
SLPA	Patience	1.54	174	*e*P	Pn	00 38 31.2	+0.4
SLPA				*e*S	Sn	00 38 54.6	+0.8
SLB	Belfond	1.56	179	*e*P	Pn	00 38 31.8	+0.7
SLB				*e*S	Sn	00 38 55.7	+1.5
MLYT	Lee's Yard	1.70	321	*e*P	Pn	00 38 34.1	+1.5
MLYT				*e*S	Sn	00 38 58.5	+1.6
BPA	Boggy Peak	1.81	335	*e*P	Pn	00 38 35.2	+1.4
BPA				*e*S	Sn	00 38 59.5	+0.5
ANWB	Willy Bob	2.36	343	*e*P	Pn	00 38 40.9	+0.6
ANWB				*e*S	Sn	00 39 11.2	+0.5

*PGC **02** 00:38:15.7±0.3,49°.03N×129°.67W, h10km, MLSn2.8/29, Mw3.4/29, 246km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **02** 00:38:20.9±3.5,49°.45N×129°.06W, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.4/45, mbtmp3.5/5, ML3.3/4, MS3.7/1, Ms1 3.7/1, ms1mx2.8/46, Error ellipse: s-maj=50.7km s-min=13.6km az=68.0*
ISC 02 00:38:13.1±2.0,49°.07N±0°.07×129°.7W±0°.1, h0km±22km, n57,σ1°98/65, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	NEPTUNE Canada	1.18	161	P	Pg	00 38 35.0	-0.7
KEMF				S	Sg	00 38 48.9	-2.1
BPBC	Brooks Peninsu	1.65	48	Pn	Pn	00 38 43.0	-0.4
NC27	ODP1027	1.82	135	Pn	Pn	00 38 44.4	-0.9
EDB	Eliza Dome	1.85	63	Pn	Pn	00 38 45.6	-0.5
EDB				Sn	Sn	00 39 07.3	-2.8
HOLB	Holberg	1.87	32	Pn	Pn	00 38 46.0	-0.3
NC89	ODP889	1.91	101	Pn	Pn	00 38 46.9	+0.2
PACB	Port Alice, BC	1.97	45	Pn	Pn	00 38 47.7	+0.1
PACB				Sn	Sn	00 39 10.0	-3.1
NTKA	Nootka	2.07	74	Pn	Pn	00 38 48.8	-0.2
NTKA				Sn	Sn	00 39 12.5	-2.9
ETB	Estevan Point	2.08	80	Pn	Pn	00 38 49.5	+0.4
MAYB	Maynard	2.10	50	Pn	Pn	00 38 49.5	-0.2
PHC	Port Hardy	2.19	41	Pn	Pn	00 38 50.7	0.0
PHC				Sn	Sn	00 39 16.2	-2.3
WOSB	Woss	2.30	60	Pn	Pn	00 38 53.0	+0.7
TLCB	Telegraph Cove	2.36	50	Pn	Pn	00 38 53.4	+0.4
TLCB				Sn	Sn	00 39 20.2	-2.5
TOFB	Tofino	2.48	87	Pn	Pn	00 38 54.7	+0.1
TOFB				Sn	Sn	00 39 22.8	-2.8
GDR	Gold River	2.48	72	Pn	Pn	00 38 54.8	+0.1
NCRB	Newcastle Ridg	2.70	59	Pn	Pn	00 38 59.0	+1.2
NCRB				Sn	Sn	00 39 29.5	-1.8
B012	Ucluelet	2.73	91	Pn	Pn	00 38 58.2	+0.2
B012				Sn	Sn	00 39 28.1	-3.6
BTB	Buttle Lake	2.75	80	Pn	Pn	00 38 59.0	+0.4
BTB				Sn	Sn	00 39 30.0	-2.6
CBB	Campbell River	2.97	69	Pn	Pn	00 39 02.2	+0.8
CBB				Sn	Sn	00 39 36.4	-1.3
B928	Bamfield	3.00	93	Pn	Pn	00 39 02.0	+0.3
B928				Sn	Sn	00 39 35.6	-2.8
BBB	Bella Bella	3.28	17	Pn	Pn	00 39 05.9	+0.3
	1.5nm,0.3s,baz=201,slow=7.1,SNR=36						
BBB				Sn	Sn	00 39 40.6	-4.7
	3.0nm,0.3s,baz=293,slow=22,SNR=6.9						
BBB	Bella Bella	3.28	17	Pn	Pn	00 39 06.3	+0.7
BBB				Sn	Sn	00 39 43.2	-2.1
MGB	Mount Grey	3.28	89	Pn	Pn	00 39 06.1	+0.3
MGB				Sn	Sn	00 39 42.1	-3.4
TXB	Texada	3.48	78	Pn	Pn	00 39 09.7	+1.2
PFB	Port Renfrew	3.50	96	Pn	Pn	00 39 09.3	+0.6
PFB				Sn	Sn	00 39 47.8	-2.9
YOUB	Youbou, Lake C	3.57	91	Pn	Pn	00 39 10.4	+0.7
B926	Mesachie Lake	3.66	92	Pn	Pn	00 39 11.9	+1.0
NLLB	Nanaimo Lost L	3.74	85	Pn	Pn	00 39 13.8	+1.8
SHB	Sechelt	3.83	80	Pn	Pn	00 39 14.4	+1.1
OBC	Olympics--Boni	3.86	103	Pn	Pn	00 39 15.3	+1.6
LZB	Mount Lazard	3.89	94	Pn	Pn	00 39 15.2	+1.1
B009	North Saanich	4.13	93	Pn	Pn	00 39 18.8	+1.4
B010	North Saanich	4.13	93	Pn	Pn	00 39 18.7	+1.4
PGC	Sidney	4.13	93	Pn	Pn	00 39 18.7	+1.3
B011	North Saanich	4.13	93	Pn	Pn	00 39 18.8	+1.4
VGZ	Gonzales	4.25	96	Pn	Pn	00 39 19.9	+0.9
SNB	Saturna Island	4.30	91	Pn	Pn	00 39 21.3	+1.6
MCW	Mount Constitu	4.53	92	Pn	Pn	00 39 24.9	+1.9
VDB	Vedder Mountai	4.98	88	Pn	Pn	00 39 30.8	+1.7
MBW	Mount Baker	5.13	90	Pn	Pn	00 39 33.1	+1.8
UBRB	Upper Baezaeko	5.21	41	Pn	Pn	00 39 33.1	+0.8
LLLB	Lillooet	5.28	70	Pn	Pn	00 39 35.2	+2.1
LON	Longmire	5.77	111	Pn	Pn	00 39 41.8	+1.8
FSB	Fort Saint Jam	6.35	29	Pn	Pn	00 39 50.5	+2.6
PNT	Pentiction	6.60	84	Pn	Pn	00 39 52.6	+1.3
NEW	Newport	8.35	91	Pn	Pn	00 40 17.9	+2.6
	0.6nm,0.3s,baz=286,slow=13,SNR=6.3						
PDAR	Pinedale Array	15.33	107	Pn	Pn	00 41 56.1	+5.3
	0.0nm,0.3s,baz=306,slow=7.7,SNR=4.2						
YKA	Yellowknife Ar	15.84	26	Pn	Pn	00 41 55.0	-2.1
	0.0nm,0.3s,baz=214,slow=13,SNR=3.6						
ULM	Lac du Bonnet	21.81	74	P	P	00 43 10.8	+4.2
	7.8nm,0.8s,baz=279,slow=11,SNR=18						
ANMO	Albuquerque	22.17	121	LR	LR	00 53 28.0	
	comp=Z,188nm,18.8s,baz=39,slow=41						
TXAR	Lajitas Array	27.96	125	P	P	00 44 13.0	+7.8
	0.3nm,0.9s,baz=338,slow=6.8,SNR=2.7						
H11N2	WAKE ISLAND Hy	58.00	263	T	T	01 50 55.3	
	baz=43,slow=75,SNR=5.7						
H11N3	WAKE ISLAND Hy	58.00	263	T	T	01 50 55.8	
	baz=43,slow=75,SNR=7.4						
H11N1	WAKE ISLAND Hy	58.01	263	T	T	01 50 56.7	
	baz=43,slow=75,SNR=5.8						
H11S1	WAKE ISLAND Hy	59.01	263	T	T	01 52 23.4	
	baz=46						
H11S2	WAKE ISLAND Hy	59.02	263	T	T	01 52 24.1	
	baz=46						
H11S3	WAKE ISLAND Hy	59.02	263	T	T	01 52 22.8	
	baz=46						

*DDA **02** 00:51:44.6,39°.07N×25°.92E, h35km±1km, ML3.8*
*ISCJB **02** 00:51:45.5±0.3,39°.08N±0°.01×25°.88E±0°.02, h11km±2km, Error ellipse: s-maj=2.4km s-min=2.1km az=7.0*
*ATH **02** 00:51:45.8,39°.14N×25°.96E, h20km±3km, ML3.6/7, Error ellipse: s-maj=3.9km s-min=1.5km az=62.0*
*ISK **02** 00:51:45.2,39°.09N×25°.83E, h4km, ML3.7/41*
*THE **02** 00:51:46.1,39°.09N×25°.95E, h12km, ML3.4/8, Error ellipse: s-maj=0.6km s-min=0.3km az=74.0*
ISC 02 00:51:45.3±0.9,39°.04N±0°.02×25°.95E±0°.02, h12km±6km, n178,σ1°28/207, 16C-14D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.19	338	PG	Pg	00 51 49.2	-0.3
SIGR	SIGRI	0.19	338	P	Pg	00 51 49.6	+0.1
SIGR				S	Sg	00 51 51.7	-0.7
SIGR	SIGRI	0.19	338	P	Pg	00 51 49.6	+0.1
SIGR				S	Sg	00 51 52.1	-0.3
SIGR				AML	AML	00 51 52.2	
	comp=E,46771μm,0.3s						
SIGR				AML	AML	00 51 52.6	
	comp=N,61410μm,0.3s						
PRK	Paraskevi	0.33	50	P	Pg	00 51 52.6	+0.6
PRK				S	Sg	00 51 56.5	+0.1
PRK	Paraskevi	0.33	50	P	Pg	00 51 52.6	+0.6
PRK				S	Sg	00 51 56.4	-0.1
PRK				AML	AML	00 51 56.9	
	comp=N,30598μm,0.4s						
PRK				AML	AML	00 51 59.4	
	comp=E,23974μm,0.8s						
GPNR	Gulpinar-Canak	0.44	19	PG	Pg	00 51 53.6	-0.5
PSRA	Psara	0.58	211	P	Pn	00 51 59.2	-0.1
PSRA				S	Sn	00 52 08.4	-0.2
PSRA				AML	AML	00 52 11.5	
	comp=N,36396μm,0.3s						
PSRA				AML	AML	00 52 11.7	
	comp=E,35090μm,0.3s						
AYVA	Ayvalik	0.64	65	IAML_P			
	comp=Z,16μm,0.2s						
AYVA				*i* P	Pg	00 51 57.5	-0.2
AYVA				*i* S	Sb	00 52 06.8	-0.4
KRBN	Karaburun	0.65	133	PG	Pn	00 51 59.4	-0.9
CHOS	Chios island	0.65	172	PG	Pn	00 51 59.5	-0.9
CHOS				SG	Sn	00 52 10.5	-0.1
CHOS	Chios island	0.65	172	P	Pn	00 51 59.5	-0.9
CHOS				S	Sn	00 52 10.0	-0.7
CHOS	Chios island	0.65	172	P	Pn	00 51 59.5	-0.9
CHOS				S	Sn	00 52 10.6	-0.1
CHOS				AML	AML	00 52 12.7	
	comp=E,21770μm,0.3s						
CHOS				AML	AML	00 52 13.7	
	comp=N,10193μm,0.3s						
FOCM	Foa	0.69	118	PG	Pn	00 52 01.2	+0.3
CESE	eme	0.76	158	PG	Pn	00 52 01.0	-0.8
BOZC	Bozcaada	0.81	6	PG	Pg	00 52 00.0	-0.9
BOZC				SG	Sg	00 52 11.8	+0.2
BOZC	Bozcaada	0.81	6	IAML_P			
	comp=Z,101μm,0.3s						
BOZC				*i* P	Pg	00 52 00.1	-0.9
BOZC				*i* S	Sg	00 52 11.0	-0.6
EZN	Ezine	0.84	20	PG	Pg	00 52 00.6	-1.0
EZN				SG	Sg	00 52 13.8	+1.2
EZN	Ezine	0.84	20	P	Pg	00 52

GCAM	G?zelcaml?	1.68	142	*i* P		Pn	00 52 14.3 -0.1
GCAM				*i* S		Sg	00 52 41.4 +2.2
GONE	Gonen-Balikesi	1.68	53	PN		Pb	00 52 16.9 +0.7
ERIK	Erikli-Kesan	1.69	15	PN		Pb	00 52 16.2 -0.1
EREA	Eretria	1.69	249	P		Pn	00 52 15.0 +0.3
ENEZ	Enez	1.71	5	PN		Pn	00 52 15.8 +1.0
KRBG	Karabiga-Canak	1.71	37	PN		Pb	00 52 16.8 +0.2
KNL	Balıkesir	1.73	44	IAML_P			
	comp=Z,9μm,0.3s						
KNL				*i* P		Pb	00 52 17.6 +0.5
KNL				*i* S		Sb	00 52 39.6 +0.8
THAS	Thassos island	1.83	329	P		Pn	00 52 15.7 -0.8
DION	Dionisos Attik	1.85	239	P		Pn	00 52 16.9 +0.1
ALN	Alexandroupoli	1.86	2	PN		Pn	00 52 18.0 +1.1
ALN	Alexandroupoli	1.86	2	P		Pn	00 52 16.3 -0.6
MRKA	Markates	1.87	261	P		Pn	00 52 17.2 +0.1
AYDB	Zeytinkoy-Aydi	1.87	125	PN		Pb	00 52 19.8 +0.3
KESN	Edirne-Kesan	1.87	17	*i* P		Pn	00 52 17.9 +0.5
KESN				*i* S		Sn	00 52 41.2 -0.1
RKY	Sarkoy-Tekirda	1.90	30	PN		Pb	00 52 19.6 -0.4
SART	Tekirdag	1.90	30	IAML_P			
	comp=Z,42μm,0.2s						
SART				*i* P		Pn	00 52 19.1 +1.4
PTL	Penteli	1.91	240	P		Pn	00 52 17.8 +0.2
PAIG	Paliouri	1.97	298	P		Pn	00 52 18.3 -0.1
PAIG				S		Sn	00 52 43.3 +0.3
EDC	Edincik	1.98	48	PN		Pn	00 52 19.6 +1.1
APE	Apeiranthos	1.99	190	P		Pn	00 52 18.6 -0.2
APE	Apeiranthos	1.99	190	⇓*i*P		Pn	00 52 16.9 -1.9
APE	Apeiranthos	1.99	190	S		Sn	00 52 42.5 -1.2
OUR	Ouranopolis	1.99	311	PN		Pn	00 52 19.0 +0.2
OUR	Ouranopolis	1.99	311	P		Pn	00 52 18.7 -0.1
MRMT	Marmara Adasi	2.02	39	PN		Pb	00 52 21.6 -0.3
DURS	Dursunbey	2.04	73	IAML_P			
	comp=Z,2μm,0.3s						
DURS				*i* P		Pn	00 52 19.9 +0.4
AYDN	Tasoluk	2.05	132	IAML_P			
	comp=Z,753nm,0.1s						
AYDN				*i* P		Pn	00 52 20.2 +0.7
VLY	Voula,Athens	2.06	236	P		Pn	00 52 20.0 +0.3
RDO	Rodhopi	2.13	352	PN		Pn	00 52 21.8 +1.1
RDO	Rodhopi	2.13	352	P		Pn	00 52 20.3 -0.4
SMIA	Simia	2.14	267	P		Pn	00 52 21.2 +0.4
XOR	Xorichti	2.17	280	P		Pn	00 52 21.0 -0.2
KULA	Kula-Manisa	2.19	103	PN		Pb	00 52 24.7 -0.1
KULA	Kula-Manisa	2.19	103	P		Pn	00 52 22.0 +0.5
KCTX	Karacabey (Bur	2.23	56	PN		Pb	00 52 24.7 -0.8
BODT	Bodrum	2.25	151	P		Pn	00 52 22.7 +0.4
KAVA	Kavala	2.25	331	P		Pn	00 52 21.9 -0.3
BDRM	Kayabasi	2.30	149	IAML_P			
	comp=Z,1μm,0.1s						
BDRM				*i* P		Pn	00 52 23.7 +0.8
TKR	Tekirdag	2.30	32	PN		Pb	00 52 25.5 -1.2
ATAL	Atalanti	2.31	262	P		Pn	00 52 23.4 +0.3
USAK	Uak-Merkez	2.42	97	IAML_P			
	comp=Z,584nm,0.2s						
USAK				*i* P		Pn	00 52 26.2 +1.5
CRLT	Corlu	2.50	33	PN		Pn	00 52 28.1 +2.3
SHAP	Saphane-Kutahy	2.55	89	PN		Pb	00 52 29.8 -1.3
DID	Didima	2.62	235	P		Pn	00 52 27.5 0.0
MDNY	Mudanya-Bursa	2.63	59	PN		Pb	00 52 31.1 -1.2
THT2	Imerovigli	2.63	189	P		Pn	00 52 27.7 +0.1
DAT	Datca	2.64	150	IAML_P			
	comp=Z,523nm,0.2s						
DAT				*i* P		Pn	00 52 28.6 +0.8
KDZ	Kurdzhali	2.64	351	PN		Pn	00 52 28.7 +1.0
SOH	Sokhos	2.67	313	P		Pn	00 52 28.5 +0.3
HORT	Hortiatis	2.69	306	PN		Pn	00 52 28.5 +0.1
ULDT	Uludag	2.70	65	*i* P		Pn	00 52 29.0 +0.3
THR6	Thira Island,	2.71	189	P		Pn	00 52 29.1 +0.5
ARMT	Armutlu	2.72	55	PN		Pn	00 52 31.3 +2.6
DSF	Desfina	2.75	258	P		Pn	00 52 29.3 +0.1
GDZ	Gediz	2.75	88	*i* P		Pn	00 52 30.1 +0.7
SRS	Serrai	2.75	320	P		Pn	00 52 29.2 -0.1
TVSB	Tavsanli	2.76	80	PN		Pb	00 52 33.4 -1.2
SLVT	Silivri	2.79	38	PN		Pn	00 52 31.9 +2.1
NVR	Nevrokopi	2.81	326	P		Pn	00 52 30.0 0.0
TAVA	DENIZLI_Tavas	2.81	123	IAML_P			
	comp=Z,434nm,0.2s						
TAVA				*i* P		Pn	00 52 31.6 +1.4
ELBA	Catalca	2.84	41	IAML_P			
	comp=Z,3μm,0.1s						
ELBA				*i* P		Pn	00 52 31.9 +1.5
KHAL	Karahalli	2.85	102	*i* P		Pn	00 52 32.3 +1.6
PHSR	Pinarhisar	2.86	24	⇓*i*P		Pn	00 52 30.2 -0.5
PHSR	Pinarhisar	2.86	24	S		Sn	00 53 06.8 +1.8
EDFB	Edirne	2.87	12	PN		Pn	00 52 33.2 +2.3
EDRB	Edirne	2.87	12	P		Pn	00 52 30.0 -0.9
KIRK	Kırklareli	2.88	17	IAML_P			
	comp=Z,458nm,0.1s						
KIRK				*i* P		Pn	00 52 31.0 0.0
CTKS	Kestanelik-??a	2.95	41	PN		Pn	00 52 34.6 +2.7
TURN	Turunc	3.01	135	IAML_P			
	comp=Z,399nm,0.2s						
TURN				*i* P		Pn	00 52 32.8 0.0
CTYL	Yalikoy Yolu	3.02	36	⇑*i*P		Pn	00 52 31.7 -1.2
CTYL	Yalikoy Yolu	3.02	36	S		Sn	00 53 09.2 +0.2
GUR	Goura	3.03	250	P		Pn	00 52 33.9 +0.7
BUY	Buyukada	3.04	52	PN		Pn	00 52 35.6 +2.5
BUY	Buyukada	3.04	52	IAML_P			
	comp=Z,495nm,0.2s						
BUY				*i* P		Pn	00 52 32.5 -0.6
BGKT	Bogazkoy	3.05	44	PN		Pn	00 52 36.4 +3.1
YLV	Yalova	3.05	59	PN		Pb	00 52 36.9 -2.6
YLV	Yalova	3.05	59	⇑*i*P		Pn	00 52 30.5 -2.9
YLV	Yalova	3.05	59	S		Sn	00 53 06.9 -2.9
THL	Klokotos Trika	3.10	281	P		Pn	00 52 34.7 +0.8
TRIZ	Trizonia	3.10	259	P		Pn	00 52 34.8 +0.8
KAVV	Kandilli-Istan	3.13	49	PN		Pn	00 52 37.4 +3.0
ISK	Istanbul-Kandi	3.13	49	PN		Pn	00 52 37.2 +2.8
KLV	Kalavryta, Ach	3.14	253	P		Pn	00 52 35.2 +0.6
KNT	Kendrikon	3.16	313	P		Pn	00 52 34.7 -0.1
ANX	Ano Chora	3.17	263	P		Pn	00 52 35.8 +0.7
LAKA	Lakka	3.21	257	P		Pn	00 52 36.8 +1.3
PLD	Plovdiv	3.21	343	PN		Pn	00 52 36.8 +1.3
ADVT	Abdulvahap	3.24	63	PN		Pn	00 52 39.4 +3.5
KLYT	Kilyos	3.25	46	PN		Pn	00 52 39.0 +3.0
KLYT	Kilyos	3.25	46	⇓*i*P		Pn	00 52 34.1 -1.9
KLYT	Kilyos	3.25	46	S		Sn	00 53 13.2 -1.3
AUBOZ	BOZOYUK	3.28	73	*i* P		Pb	00 52 41.2 -2.2
VLI	Veliai	3.32	227	P		Pn	00 52 37.3 +0.3
KZIL	AFYON_Kizioren	3.38	102	IAML_P			
	comp=Z,270nm,0.2s						
KZIL				*i* P		Pn	00 52 39.5 +1.6
VAY	Valandovo	3.45	312	*e*Pn		Pn	00 52 39.9 +1.1
FETY	Fethiye	3.45	133	*i* P		Pn	00 52 41.4 +2.5
BRDR	BURDUR-Merkez	3.50	111	IAML_P			
	comp=Z,312nm,0.2s						
BRDR				*i* P		Pn	00 52 40.1 +0.6
BORA	Eskisehir	3.59	75	*i* P		Pn	00 52 41.4 +0.6
KTHR	Kythira	3.62	221	P		Pn	00 52 41.8 +0.6
GEYV	SAKARYA_Geyve	3.65	65	*i* P		Pn	00 52 42.6 +1.0
KAND	Kocaeli-Kandir	3.85	56	IAML_P			
	comp=Z,96nm,0.2s						
KAND				*i* P		Pn	00 52 45.4 +1.1
BOLV	Bolvadin	3.92	93	IAML_P			
	comp=Z,252nm,0.3s						
BOLV				*i* P		Pn	00 52 47.3 +1.9
BAGO	Egridir - ISPA	3.94	104	*i* P		Pn	00 52 47.4 +1.8
KORT	Korkueli	4.03	119	IAML_P			
	comp=Z,229nm,0.3s						
KORT				*i* P		Pn	00 52 50.7 +3.8
AKAS	Kas	4.03	133	*i* P		Pn	00 52 50.2 +3.3
BIA	Bitola	4.06	301	*e*Pn		Pn	00 52 49.3 +2.0
VTS	Vitosha	4.13	331	⇓*i*P		Pn	00 52 49.7 +1.4
VTS	Vitosha	4.13	331	S		Sn	00 53 34.2 -2.3
SAHE	Sakarya_HENDEK	4.18	63	IAML_P			
	comp=Z,43nm,0.1s						
SAHE				*i* P		Pn	00 52 49.2 +0.3
KRUS	Krusevo	4.29	304	*i* Pn		Pn	00 52 51.9 +1.5
AKUM	Antalya-Kumluc	4.42	126	*i* P		Pn	00 52 51.5 -0.6
DOGA	KONYA_Doganhis	4.58	100	*i* P		Pn	00 52 57.4 +2.9
YIGI	Dzce	4.64	64	*i* P		Pn	00 52 56.5 +1.3
KIBS	BOLU	4.76	71	*i* P		Pn	00 52 58.5 +1.6
VLAD	Vladila	5.09	347	⇑*i*P		Pn	00 53 03.3 +2.0
TIRR	Tirgusor	5.72	18	⇑*i*P		Pn	00 53 09.1 -0.9
TLB	Topalu	5.76	15	⇓*i*P		Pn	00 53 10.7 +0.2
PDG	Podgorica	6.11	306	⇑*i*P		Pn	00 53 18.4 +3.1
CFR	Carcaliu	6.35	14	⇑*i*P		Pn	00 53 18.6 0.0
ARR	Arges	6.40	352	⇑*i*P		Pn	00 53 20.9 +1.5
HERR	Herculane	6.40	337	⇓*i*P		Pn	00 53 21.8 +2.4
VOIR		6.43	354	⇑*i*P		Pn	00 53 20.2 +0.4
MLR	Muntele Rosu	6.45	360	⇓*i*P		Pn	00 53 21.1 +1.0
BISRR	Bisoca	6.53	5	⇓*i*P		Pn	00 53 22.1 +0.9
MDVR	Moldovita	6.55	333	⇓*i*P		Pn	00 53 22.1 +0.7
LOT	Lotru	6.61	347	⇑*i*P		Pn	00 53 22.2 -0.1
GZR	Gura Zlata	6.77	341	⇓*i*P		Pn	00 53 24.4 -0.1
PLOR	Plostina	6.83	4	⇑*i*P		Pn	00 53 26.2 +0.9
VRI	Vrincioaia	6.85	5	⇑*i*P		Pn	00 53 26.6 +1.1
DOPR	Dopca	6.94	357	⇓*i*P		Pn	00 53 28.0 +1.3
BZS	Buzias	7.32	335	⇑*i*P		Pn	00 53 34.2 +2.3
TESR	Tescani	7.49	4	⇑*i*P		Pn	00 53 35.5 +1.2
SIRR	Siria	7.88	338	⇓*i*P		Pn	00 53 42.1 +2.4
BIZ	Bicaz	7.90	1	⇑*i*P		Pn	00 53 41.0 +1.1
DRGR		8.11	344	⇓*i*P		Pn	00 53 44.9 +2.1
PRAR	RASCA	8.32	1	⇑*i*P		Pn	00 53 46.8 +1.8
BURAR	Bucovina Array	8.59	357	⇓*i*P		Pn	00 53 51.3 +1.8

*ISCJB **02** 00:55:13.1±0.7, 37°.36N±0°.03×141°.51E±0°.06, h43km±6km, mb3.7/20, MS3.5/2, Error ellipse: s-maj=8.4km s-min=4.2km az=11.3*
*NEIC **02** 00:55:14.1±1.5, 37°.43N×141°.73E, h52km±16km, mb4.1/1, Error ellipse: s-maj=23.2km s-min=11.9km az=116.0*
NEIC Recorded [3 JMA] in Fukushima.
*JMA **02** 00:55:14.0±0.1, 37°.40N×141°.46E, h41km±1km, M4.2*
JMA Felt III J1.
*IDC **02** 00:55:15.8±2.4, 37°.29N×141°.46E, h53km±23km, mb3.4/18, mb1 3.6/23, mb1mx3.6/40, mbtmp3.7/23, ML3.4/3, MS3.4/5, Ms1 3.4/5, ms1mx3.1/30, Error ellipse: s-maj=19.9km s-min=13.6km az=78.0*
ISC 02 00:55:14.0±0.6, 37°.37N±0°.04×141°.48E±0°.06, h38km±1km, n57, σ1§44/72, mb3.8/20, 6C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.48	270	⇑P	Pn	00 55 24.2	-0.2
JFK				S	Sn	00 55 31.2	-0.5
ONAJ	Iwakimizuishiy	0.60	244	⇑P	Pn	00 55 26.1	-0.2
ONAJ				S	Sn	00 55 34.4	-0.4
JMM	Marumori	0.74	313	⇓P	Pn	00 55 27.3	-0.6
JMM				S	Sn	00 55 36.8	-1.1
JFFD	Fukushimafurud	0.78	250	⇑P	Pn	00 55 28.6	+0.1
JFFD				S	Sn	00 55 38.7	-0.3
JFT	Otama	0.92	280	⇑P	Pn	00 55 31.0	+0.6
JFT				S	Sn	00 55 42.9	+0.4
JHO	Hitachi	1.05	224	⇑P	Pn	00 55 31.9	-0.2
JHO				S	Sn	00 55 44.7	-0.8
JIO	Ouri	1.09	355	⇓P	Pn	00 55 32.0	-0.7
JIO				S	Sn	00 55 44.4	-2.2
JOU	Okura	1.19	327	P	Pn	00 55 34.1	0.0
JOU				S	Sn	00 55 49.1	+0.1
JYS	Shirataka	1.41	308	P	Pn	00 55 37.7	+0.6
JYS				S	Sn	00 55 55.0	+0.6
JFY	Yanaizu	1.41	272	⇑P	Pn	00 55 37.9	+0.7
JFY				S	Sn	00 55 56.1	+1.5
JMK	Ichinoseki	1.60	353	P	Pn	00 55 39.7	0.0
JMK				S	Sn	00 55 57.9	-1.1
MJAR	Matsushiro Arr	2.75	254	*e*Pn	Pn	00 56 01.0	+5.5
MJAR	Matsushiro Arr	2.75	254	P	Pn	00 55 56.9	+1.4
	3.6nm,0.3s,baz=60,slow=13,SNR=56						
MJAR				S	Sn	00 56 23.9	-3.5
	6.1nm,0.3s,baz=97,slow=16,SNR=12						
MAJO	Matsushiro	2.75	254	*e*Pn	Pn	00 55 57.6	+2.1
MAJO				*e*Sn	Sn	00 56 25.4	-2.0
MAT	Matsushiro	2.75	254	P	Pn	00 55 57.4	+1.9
MAT				S	Sn	00 56 24.7	-2.7
MJB9	Matsu-Tunnel	2.75	254	*e*Pn	Pn	00 55 57.8	+2.3
MJB9				*e*Sn	Sn	00 56 25.2	-2.3
INU	Inuyama	4.12	242	*e*Pn	Pn	00 56 16.8	+2.3
JHJ2	Mitsune	4.46	198	*e*Pn	Pn	00 56 20.8	+1.8
JHJ2				*e*Sn	Sn	00 57 10.0	+0.4
JHJ	Hachijo jima 2	4.46	199	P	Pn	00 56 20.5	+1.5
	51nm,0.3s,baz=311,slow=22,SNR=9.9						
JHJ				S	Sn	00 57 09.5	-0.1
	59nm,0.3s,baz=275,slow=22,SNR=5.8						
ERM	Erimo	4.82	15	*e*Pn	Pn	00 56 22.6	-1.3
ERM				*e*S	Sn	00 57 08.9	-10
JNU	Nakatsue	9.65	247	*e*Pn	Pn	00 57 33.9	+3.7
JNU	Nakatsue	9.65	247	P	Pn	00 57 32.4	+2.1
	0.4nm,0.3s,baz=58,slow=15,SNR=2.5						
USRK	Ussuriysk Ar.	9.91	316	P	Pn	00 57 36.2	+2.3
	0.1nm,0.3s,baz=129,slow=13,SNR=2.4						
USRK				LR	LR	01 01 35.1	
	comp=Z,160nm,18.4s,baz=333,slow=38						
KSRS	Korea Array	10.79	275	P	Pn	00 57 47.8	+2.0
	0.3nm,0.3s,baz=92,slow=14,SNR=5.9						
KSRS				LR	LR	01 02 12.3	
	comp=Z,174nm,19.3s,baz=99,slow=38						
MDJ	Mudanjiang	11.53	313	*e*Pn	Pn	00 57 57.1	+1.2
PETK	Petropavlovsk-	19.38	31	LR	LR	01 07 27.2	
	comp=Z,82nm,19.3s,baz=290,slow=38						
KNMB	Chin-men Tao	23.55	243	*e*P	P	01 00 15.6	-5.3
SEY	Seymchan	26.45	11	P	P	01 00 47.9	+0.8
	0.3nm,0.3s,baz=200,slow=17,SNR=2.0						
SONM	Songino Array	27.64	303	*e*P	P	01 00 57.5	-0.7
SONM	Songino Array	27.64	303	P	P	01 00 58.0	-0.2
	0.9nm,0.5s,baz=104,slow=8.4,SNR=9.2						
H11N2	WAKE ISLAND Hy 28.27	121	T		T	01 30 54.7	
	baz=313,slow=75,SNR=2467						
H11N1	WAKE ISLAND Hy 28.28	121	T		T	01 30 56.5	
	baz=313,slow=75,SNR=1794						
H11N3	WAKE ISLAND Hy 28.29	121	T		T	01 30 57.4	
	baz=313,slow=75,SNR=2065						
H11S1	WAKE ISLAND Hy 29.00	123	T		T	01 31 44.1	
	baz=314,slow=76,SNR=1870						
H11S3	WAKE ISLAND Hy 29.00	124	T		T	01 31 46.4	
	baz=314,slow=76,SNR=1396						
H11S2	WAKE ISLAND Hy 29.01	123	T		T	01 31 47.5	
	baz=314,slow=76,SNR=1308						
CMAR	Chiang Mai Arr	41.63	255	LR	LR	01 19 40.8	
	comp=Z,23nm,20.4s,baz=50,slow=35						
ZALV	Zalesovo Beam	41.73	312	P	P	01 02 59.7	+0.6
	1.1nm,0.4s,baz=90,slow=7.4,SNR=7.8						
MKAR	Makanchi Array	43.99	302	P	P	01 03 17.9	+0.3
	1.7nm,0.6s,baz=88,slow=10,SNR=19						
MKAR				pP	pP	01 03 28.3	-0.1
	1.3nm,0.8s,baz=89,slow=9.8,SNR=6.4						
BRDH	Bariadhala	45.07	266	LR	LR	01 23 08.8	
	comp=Z,130nm,18.6s,baz=120,slow=37						
ILAR	Eielson Array	49.19	33	P	P	01 03 58.5	+0.5
	0.2nm,0.6s,baz=275,slow=6.5,SNR=3.7						
INK	Inuvik	54.07	27	P	P	01 04 35.3	+1.0
	0.3nm,0.6s,baz=273,slow=6.5,SNR=1.5						
WRA	Warramunga Arr	57.40	188	P	P	01 04 58.5	-0.2
	0.5nm,0.5s,baz=5.6,slow=7.5,SNR=5.0						
WRA				pP	pP	01 05 08.0	-1.9
	1.3nm,0.5s,baz=1.7,slow=7.7,SNR=5.6						
ABKAR	Akbulak array	57.77	310	*e*P	P	01 05 00.9	-0.2
	1.0nm,0.6s						
ASAR	Alice Springs	61.12	188	P	P	01 05 24.0	-0.4
	0.4nm,0.7s,baz=3.8,slow=5.6,SNR=3.2						
ASAR				pP	pP	01 05 34.5	-1.2
	0.5nm,0.5s,baz=17,slow=12,SNR=3.9						
YKA	Yellowknife Ar	63.49	30	P	P	01 05 39.7	-0.1
	0.2nm,0.7s,baz=304,slow=6.6,SNR=3.0						
YKA				pP	pP	01 05 51.2	+0.1
	0.4nm,0.7s,baz=293,slow=6.0,SNR=3.8						
ARCES	ARCESS Array B	63.70	339	P	P	01 05 41.6	+0.4
	1.9nm,0.8s,baz=51,slow=8.7,SNR=2.6						
FINES	FINESS Array B	68.55	332	P	P	01 06 13.5	+1.2
	0.7nm,0.6s,baz=20,slow=12,SNR=3.9						
FINES				pP	pP	01 06 23.7	0.0
	0.5nm,0.6s,baz=45,slow=8.4,SNR=1.3						
KBZ	Khabaz	70.72	311	P	P	01 06 27.0	+0.9
	0.4nm,0.3s,baz=55,slow=19,SNR=2.0						
NOA	NORSAR Array B	73.90	337	P	P	01 06 45.0	+0.2
	0.4nm,0.8s,baz=48,slow=5.4,SNR=2.4						
AKASG	Malin Array Be	74.07	322	P	P	01 06 46.4	+0.6
	0.3nm,0.3s,baz=48,slow=6.3,SNR=3.8						
AKASG				pP	pP	01 06 56.9	-0.5
	1.5nm,0.6s,baz=46,slow=6.0,SNR=6.3						
NVAR	Mina Array Bea	74.75	53	P	P	01 06 50.8	+0.4
	0.1nm,0.3s,baz=280,slow=6.2,SNR=2.7						
PDAR	Pinedale Array	77.40	46	P	P	01 07 06.2	+0.8
	8.2nm,0.4s,baz=320,slow=3.6,SNR=1.9						
BRTR	Keskin Array B	78.67	312	P	P	01 07 12.0	-0.4
	0.2nm,0.7s,baz=71,slow=6.0,SNR=2.8						
GERES	GERESS Array B	82.46	328	P	P	01 07 33.1	+0.7
	0.1nm,0.4s,baz=39,slow=6.3,SNR=2.4						
GERES				pP	pP	01 07 43.9	-0.2
	0.4nm,0.5s,baz=38,slow=6.8,SNR=3.4						
TXAR	Lajitas Array	89.88	52	P	P	01 08 09.4	0.0
	0.3nm,0.5s,baz=294,slow=2.4,SNR=6.1						
TXAR				pP	pP	01 08 22.2	+1.1
	0.2nm,0.6s,baz=281,slow=2.6,SNR=3.4						
LPAZ	La Paz	146.48	59	PKPbc	PKPbc	01 14 51.6	-0.8
	1.0nm,0.7s,baz=342,slow=3.2,SNR=4.1						

*IDC **02** 00:55:36.9±0.7, 36°.47N×141°.32E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.1/34, mbtmp4.0/17, ML2.1/1, Error ellipse: s-maj=21.5km s-min=18.2km az=71.0*
*ISCJB **02** 00:55:40.0±0.6, 36°.40N±0°.09×141°.22E±0°.06, h32km, mb4.0/22, Error ellipse: s-maj=13.0km s-min=6.8km az=174.6*
*JMA **02** 00:55:40.0±0.2, 36°.65N×141°.12E, h34km±3km, M4.2*
*BJI **02** 00:55:48.0±0.0, 37°.60N×140°.60E, h17km, mb4.4/3*
ISC 02 00:55:43.0±0.7, 36°.60N±0°.08×141°.16E±0°.07, h32km, n59, σ2§35/50, mb4.2/25, 9C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.48	272	*e*S	Sb	00 55 56.6	-3.5
JHYU	Hitachinakayam	0.53	241	*e*S	Sb	00 55 58.8	-2.7
ONAJ	Iwakimizuishiy	0.58	330	*e*S	Sb	00 55 58.2	-4.8
MJAR	Matsushiro Arr	2.38	270	Sn	Sn	00 56 48.3	+0.5
	4.7nm,0.3s,baz=74,slow=16,SNR=3.0						
USRK	Ussuriysk Ar.	10.32	320	Pn	Pn	00 58 09.9	+1.2
	0.2nm,0.3s,baz=139,slow=15,SNR=2.2						
KSRS	Korea Array	10.62	279	Pn	Pn	00 58 20.2	+7.4
	0.2nm,0.3s,baz=89,slow=14,SNR=7.2						
KLR	Kul'dur	14.37	334	Pn	P	00 59 08.8	-1.7
	0.2nm,0.3s,baz=132,slow=12,SNR=2.5						
WHN	Wuhan	23.10	263	*e*P	P	01 00 51.4	+5.3
MA2	Magadan	23.82	12	P	P	01 00 55.3	+2.5
	3.0nm,0.3s,baz=206,slow=8.4,SNR=5.7						
SEY	Seymchan	27.26	11	P	P	01 01 27.2	+3.3
	1.9nm,0.8s,baz=196,slow=11,SNR=4.6						
SONM	Songino Array	27.86	305	P	P	01 01 31.8	+2.1
	3.9nm,0.9s,baz=103,slow=9.5,SNR=12						
ZALV	Zalesovo Beam	42.06	313	P	P	01 03 29.8	-1.6
	1.4nm,0.4s,baz=94,slow=8.0,SNR=4.0						
ZALV				PcP	PcP	01 05 24.9	-0.9
	0.3nm,0.4s,baz=113,slow=3.3,SNR=2.4						
NRIK	Noril'sk	43.58	336	P	P	01 03 46.5	+3.0
	1.7nm,0.4s,baz=80,slow=2.7,SNR=3.9						
MKAR	Makanchi Array	44.18	302	P	P	01 03 47.3	-1.5
	1.0nm,0.8s,baz=88,slow=9.8,SNR=4.6						
ILAR	Eielson Array	49.97	32	P	P	01 04 32.9	-0.7
	0.6nm,0.8s,baz=277,slow=6.8,SNR=5.2						
KSH	Kashi	50.40	294	P	P	01 04 43.6	+6.2
INK	Inuvik	54.87	27	P	P	01 05 08.3	-1.5
	0.7nm,0.7s,baz=314,slow=4.4,SNR=2.0						
WRA	Warramunga Arr	56.60	188	P	P	01 05 20.6	-2.1
	3.7nm,0.8s,baz=6.0,slow=7.5,SNR=13						
ASAR	Alice Springs	60.33	188	P	P	01 05 46.7	-2.0
	1.6nm,0.8s,baz=10,slow=7.5,SNR=11						
GEYT	Alibeck	63.87	299	P	P	01 06 12.3	-0.2
	0.6nm,0.5s,baz=242,slow=25,SNR=1.8						
YKA	Yellowknife Ar	64.28	30	P	P	01 06 15.1	+0.4
	0.4nm,0.6s,baz=296,slow=6.8,SNR=2.1						
ARCES	ARCESS Array B	64.33	339	P	P	01 06 14.5	-0.4
	2.4nm,0.9s,baz=63,slow=6.2,SNR=1.2						
FINES	FINESS Array B	69.11	332	P	P	01 06 44.0	-1.5
	2.7nm,0.9s,baz=82,slow=4.0,SNR=3.6						
KBZ	Khabaz	71.03	311	P	P	01 06 59.2	+1.6
	4.5nm,0.9s,baz=8.6,slow=4.0,SNR=9.7						
NB2	NORSAR Subarra	74.51	337	P	P	01 07 16.8	-1.2
	comp=Z,6.8nm,1.2s,baz=39,slow=6.2						
NOA	NORSAR Array B	74.51	337	P	P	01 07 16.8	-1.

1.3nm,0.6s,baz=207,slow=7.6,SNR=3.5
KLR Kul'dur 25.41 13 P **P 01 19 49.6 +0.3**
0.8nm,0.4s,baz=234,slow=6.9,SNR=5.1
SONM Songino Array 26.54 335 P **P 01 20 00.2 +0.4**
0.7nm,0.7s,baz=142,slow=7.3,SNR=5.6
MKAR Makanchi Array 39.10 315 P **P 01 21 48.8 0.0**
0.2nm,0.3s,baz=100,slow=8.2,SNR=3.2
MKAR PcP **PcP 01 23 56.2 -0.7**
0.3nm,0.6s,baz=116,slow=3.4,SNR=3.1
ZALV Zalesovo Beam 40.69 326 P **P 01 22 01.0 -0.8**
0.7nm,0.4s,baz=112,slow=9.4,SNR=3.9
KURBB Kurchatov Arra 42.76 319 P **P 01 22 18.4 -0.3**
0.5nm,0.7s,baz=152,slow=2.2,SNR=6.1
WRA Warramunga Arr 45.76 165 P **P 01 22 43.3 +0.3**
4.8nm,0.3s,baz=347,slow=8.6,SNR=2.8
ASAR Alice Springs 49.26 167 P **P 01 23 11.1 +1.0**
1.2nm,0.3s,baz=352,slow=7.5,SNR=25
ILAR Eielson Array 67.98 28 P **P 01 25 19.7 +0.1**
0.2nm,0.5s,baz=286,slow=8.0,SNR=3.6
ARCES ARCESS Array B 69.64 338 P **P 01 25 29.8 0.0**
2.8nm,0.9s,baz=64,slow=6.1,SNR=2.5
FINES FINESS Array B 71.80 330 P **P 01 25 42.8 -0.1**
0.6nm,0.4s,baz=78,slow=6.6,SNR=14
NOA NORSAR Array B 78.50 333 P **P 01 26 20.8 -0.8**
0.5nm,0.6s,baz=58,slow=5.4,SNR=2.9
YKA Yellowknife A: 81.83 23 P **P 01 26 39.6 +0.3**
0.5nm,0.6s,baz=313,slow=4.8,SNR=7.2
GERES GERESS Array B 83.45 321 P **P 01 26 47.6 -0.6**
0.2nm,0.3s,baz=76,slow=4.1,SNR=3.3

IDC 02 01:14:33.3±6.6, 35°.83N×81°.06E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.1/32, mbtmp3.4/4, ML2.0/2, Error ellipse: s-maj=168.0km s-min=32.3km az=114.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.00**	**4**	Pn	Pn	01 17 13.0	+1.1
	0.5nm,0.3s,baz=185,slow=14,SNR=9.0						
MKAR				Sn	Sn	01 19 13.2	-2.4
	0.5nm,0.3s,baz=188,slow=24,SNR=6.8						
KURBB	**Kurchatov Arra**	**14.90**	**354**	Pn	Pn	01 18 03.6	-1.6
	0.0nm,0.3s,baz=177,slow=11,SNR=8.0						
ZALV	**Zalesovo Beam**	**18.31**	**7**	P	Pn	01 18 47.2	-1.4
	0.1nm,0.3s,baz=193,slow=12,SNR=2.2						
TORD	**Torodi Ar. Bea**	**73.87**	**275**	P	P	01 26 10.4	0.0
	0.2nm,0.5s,baz=36,slow=5.4,SNR=1.6						

IDC 02 01:17:27.2±9.9, 15°.32N×96°.52W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/23, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=189.3km s-min=125.7km az=15.0
ISCJB 02 01:17:36.8±1.1, 16°.05N±0°.08×97°.60W±0°.05, h31km±9km, mb3.5/2, Error ellipse: s-maj=14.0km s-min=5.9km az=19.8
MEX 02 01:17:39.3±0.5, 16°.04N×97°.61W, h16km±5km, MD4.1
ISC 02 01:17:37.0±1.7, 16°.06N±0°.09×97°.58W±0°.05, h15km±10km, n10, σ1°76/17, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.62**	**302**	*eP*	**Pg**	**01 17 49.1**	**-0.1**
PNIG				*eS*	**Sg**	**01 17 57.1**	**-0.5**
HUIG	**Huatulco**	**1.44**	**101**	*eP*	**Pn**	**01 18 01.9**	**-0.7**
HUIG				*i S*	**Sn**	**01 18 18.7**	**-2.6**
TLIG	**Tlapa**	**1.77**	**328**	*eP*	**Pn**	**01 18 06.9**	**-0.4**
TLIG				*i S*	**Sn**	**01 18 26.8**	**-2.8**
TPIG	**Tehuac#an**	**2.36**	**5**	*eP*	**Pn**	**01 18 14.7**	**-0.7**
TPIG				*i S*	**Sn**	**01 18 42.6**	**-1.6**
MEIG	**Mezcala**	**2.70**	**314**	*eP*	**Pn**	**01 18 19.2**	**-0.8**
MEIG				*i S*	**Sn**	**01 18 51.1**	**-1.3**
CAIG	**El Cayaco**	**2.76**	**291**	*eP*	**Pn**	**01 18 19.9**	**-0.8**
CAIG				*eS*	**Sn**	**01 18 51.6**	**-2.3**
CMIG	**Matias Romero**	**2.78**	**68**	*eP*	**Pn**	**01 18 20.3**	**-0.7**
CMIG				*i S*	**Sn**	**01 18 53.6**	**-0.8**
TXAR	**Lajitas Array**	**14.35**	**338**	Pn	**P**	**01 21 08.6**	**+1.7**
	0.1nm,0.3s,baz=158,slow=13,SNR=5.2						
NVAR	**Mina Array Bea**	**28.79**	**325**	P	**P**	**01 23 37.6**	**+2.9**
	0.8nm,0.7s,baz=158,slow=7.4,SNR=4.5						
YKA	**Yellowknife Ar**	**47.91**	**349**	P	**P**	**01 26 13.9**	**-0.5**
	0.2nm,0.5s,baz=159,slow=7.3,SNR=3.8						

SJA 02 01:20:47.7±0.6, 21°.21S×68°.78W, h132km±11km, ML2.8, MW2.9
ISCJB 02 01:20:48.7±0.5, 21°.21S±0°.03×68°.83W±0°.07, h129km±6km, mb3.4/2, Error ellipse: s-maj=10.4km s-min=4.6km az=178.5
GUC 02 01:20:49.2±0.6, 21°.20S×68°.77W, h123km±3km, ML3.6
IDC 02 01:20:59.9±8.3, 20°.40S×68°.38W, h193km±57km, mb3.3/2, mb1 3.4/3, mb1mx3.1/20, mbtmp3.7/3, Error ellipse: s-maj=90.2km s-min=52.7km az=27.0
ISC 02 01:20:49.0±0.9, 21°.19S±0°.03×68°.79W±0°.06, h124km±7km, n31, σ0°81/50, 11C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.67**	**283**	⇑*iP*	**Pn**	**01 21 08.1**	**-0.5**
PB01				*i S*	**Sn**	**01 21 22.6**	**-0.8**
PB01				IAML		01 21 24.5	
	comp=N,2μm,0.2s						
PB09	**IPOC Station P**	**0.73**	**215**	*eP*	**Pn**	**01 21 09.3**	**+0.1**
PB09	**IPOC Station P**	**0.73**	**215**	⇑*iP*	**Pn**	**01 21 09.1**	**-0.1**
PB09				*i S*	**Sn**	**01 21 24.5**	**0.0**
PB09				IAML		01 21 26.7	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**1.04**	**263**	*eP*	**Pn**	**01 21 12.1**	**+0.2**
PB02				*eS*	**Sn**	**01 21 29.5**	**+0.3**
PB02	**IPOC Station P**	**1.04**	**263**	⇑*iP*	**Pn**	**01 21 12.0**	**+0.2**
PB02				*eS*	**Sn**	**01 21 28.9**	**-0.2**
PB08	**IPOC Station P**	**1.10**	**342**	*eP*	**Pn**	**01 21 13.1**	**+0.3**
PB08	**IPOC Station P**	**1.10**	**342**	⇓*iP*	**Pn**	**01 21 13.0**	**+0.2**
PB08				*i S*	**Sn**	**01 21 31.1**	**+0.3**
PB07	**IPOC Station P**	**1.15**	**242**	*eP*	**Pn**	**01 21 13.2**	**+0.1**
PB07	**IPOC Station P**	**1.15**	**242**	⇑*iP*	**Pn**	**01 21 13.1**	**+0.1**
PB07				*i S*	**Sn**	**01 21 31.5**	**+0.2**
PB07				IAML		01 21 33.6	
	comp=E,2μm,0.8s						
PB03	**IPOC Station P**	**1.24**	**226**	*eP*	**Pn**	**01 21 14.0**	**+0.1**
PB03				*eS*	**Sn**	**01 21 32.9**	**0.0**
PB03	**IPOC Station P**	**1.24**	**226**	⇑*iP*	**Pn**	**01 21 14.0**	**+0.1**
PB03				*i S*	**Sn**	**01 21 32.7**	**-0.2**
PB03				IAML		01 21 33.5	
	comp=E,2μm,0.4s						
LVC	**Limon Verde**	**1.42**	**184**	*eP*	**Pn**	**01 21 16.1**	**0.0**
LVC				*eS*	**Sn**	**01 21 36.3**	**-0.5**
LVC				IAML		01 21 37.2	
	comp=Z,165nm,0.1s						
LVC	**Limon Verde**	**1.42**	**184**	⇓*iP*	**Pn**	**01 21 16.2**	**0.0**
LVC				*i S*	**Sn**	**01 21 36.6**	**-0.1**
GO01	**Chusmiza**	**1.56**	**346**	⇑*iP*	**Pn**	**01 21 18.4**	**+0.5**
PB11	**IPOC Station P**	**1.64**	**330**	*eP*	**Pn**	**01 21 18.8**	**+0.3**
PB11	**IPOC Station P**	**1.64**	**330**	⇑*iP*	**Pn**	**01 21 18.6**	**+0.1**
PB11				*i S*	**Sn**	**01 21 41.2**	**+0.3**
PB06	**IPOC Station P**	**1.67**	**206**	*eP*	**Pn**	**01 21 19.0**	**+0.1**
PB06	**IPOC Station P**	**1.67**	**206**	⇑*iP*	**Pn**	**01 21 18.9**	**+0.1**
PB06				*i S*	**Sn**	**01 21 41.7**	**+0.1**
PB06				IAML		01 21 42.6	
	comp=E,1μm,0.4s						
PB04	**IPOC Station P**	**1.70**	**228**	*eP*	**Pn**	**01 21 19.2**	**0.0**
PB04				*eS*	**Sn**	**01 21 43.4**	**+1.2**
PB04	**IPOC Station P**	**1.70**	**228**	⇑*iP*	**Pn**	**01 21 19.2**	**0.0**
PB04				*i S*	**Sn**	**01 21 42.2**	**0.0**
PB04				IAML		01 21 49.7	
	comp=N,671nm,0.2s						
PSGC	**Pisagua**	**2.02**	**322**	*eP*	**Pn**	**01 21 22.9**	**-0.2**
PSGC				*i S*	**Sn**	**01 21 49.2**	**+0.2**
PB15	**IPOC Station P**	**2.10**	**197**	⇑*iP*	**Pn**	**01 21 24.1**	**-0.1**
PB15				*i S*	**Sn**	**01 21 51.9**	**+0.8**
PB05	**IPOC Station P**	**2.11**	**218**	*eP*	**Pn**	**01 21 24.2**	**+0.1**
PB05				*eS*	**Sn**	**01 21 49.2**	**-1.9**
PB05	**IPOC Station P**	**2.11**	**218**	⇑*iP*	**Pn**	**01 21 23.9**	**-0.2**
PB05				IAML		01 21 56.2	
	comp=E,253nm,0.5s						
MNMC	**Minye Minye**	**2.18**	**340**	*eP*	**Pn**	**01 21 25.6**	**+0.4**
MNMC				*eS*	**Sn**	**01 21 53.5**	**+0.5**
YJA	**Yavi**	**3.20**	**108**	*eP*	**Pn**	**01 21 38.7**	**+0.2**
YJA				IAML		01 21 42.1	
	comp=Z,21nm,0.7s						
HJA	**Humahuaca**	**3.72**	**123**	*eP*	**Pn**	**01 21 46.0**	**+0.7**
HJA				IAML		01 21 48.1	
	comp=Z,13nm,0.4s						
LPAZ	**La Paz**	**4.92**	**7**	P	**Pn**	**01 22 03.4**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=186,slow=5.9,SNR=32						
LPAZ				S	**Sn**	**01 22 53.6**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=237,slow=9.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**77.15**	**70**	P	**P**	**01 32 29.2**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=250,slow=4.9,SNR=7.9						
YKA	**Yellowknife Ar**	**90.93**	**341**	P	**P**	**01 33 38.3**	**0.0**
	comp=Z,0.2nm,0.5s,baz=136,slow=4.4,SNR=3.6						
MKAR	**Makanchi Array**	**145.32**	**36**	PKP	**PKPab**	**01 40 12.9**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=327,slow=2.9,SNR=8.2						

MEX 02 01:25:43.9±0.8, 17°.19N×94°.53W, h155km±8km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.35**	**253**	*eP*	Pn	01 26 03.9	-1.4
CMIG				*eS*	Sn	01 26 19.0	-2.4
PCIG		**1.94**	**139**	*eP*	Pn	01 26 18.0	-0.7
PCIG				*eS*	Sn	01 26 43.3	-2.1
HUIG	**Huatulco**	**2.07**	**227**	*eP*	Pn	01 26 17.9	-2.2
HUIG				*i S*	Sn	01 26 46.9	-1.2
CCIG	**Comitan**	**2.47**	**111**	*eP*	Pn	01 26 23.4	-1.6
CCIG				*i S*	Sn	01 26 55.1	-1.7
TPIG	**Tehuac#an**	**2.96**	**295**	*i P*	Pn	01 26 30.6	-0.6
TPIG				*i S*	Sn	01 27 06.0	-1.7
PNIG	**Pinotepa**	**3.53**	**258**	*eP*	Pn	01 26 36.3	-2.0
PNIG				*i S*	Sn	01 27 18.5	-2.0

ISCJB 02 01:34:10.8±0.7, 24°.89N±0°.03×122°.43E±0°.03, h13km±4km, Error ellipse: s-maj=5.1km s-min=3.5km az=31.5
JMA 02 01:34:11.3±0.1, 24°.77N×122°.49E, h53km±3km, M1.8
TAP 02 01:34:11.7, 24°.89N×122°.40E, h12km±1km, ML2.7, D
ISC 02 01:34:10.1±1.1, 24°.85N±0°.03×122°.44E±0°.03, h11km±9km, n32, σ0°35/60, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.41**	**223**	P	**Pb**	**01 34 19.6**	**+0.3**
	baz=216						
EOS1				S	**Sb**	**01 34 26.6**	**+1.0**
	baz=216						
TWB1	**Santiao Chiao**	**0.43**	**291**	*i* P	**Pg**	**01 34 19.1**	**+0.4**
	baz=288						
TWB1				*i* S	**Sg**	**01 34 24.5**	**+0.1**
	baz=288						
EGS		**0.46**	**269**	*eS*	**Sg**	**01 34 25.6**	**+0.4**
	baz=263						
TIPB	**Shuangxi**	**0.57**	**282**	P	**Pb**	**01 34 21.8**	**-0.2**
	baz=279						
TIPB				S	**Sb**	**01 34 29.6**	**-0.5**
	baz=279						
TWC	**Suao**	**0.59**	**246**	*eP*	**Pb**	**01 34 22.0**	**-0.3**
	baz=240						
TWC				*eS*	**Sb**	**01 34 30.1**	**-0.5**
	baz=240						
JYNG	**Yonagunijimaku**	**0.61**	**131**	P	**Pb**	**01 34 23.0**	**+0.2**
JYNG				S	**Sb**	**01 34 31.4**	**0.0**
NWF	**Wu-fen Shan**	**0.63**	**290**	*i* P	**Pb**	**01 34 23.2**	**+0.1**
	baz=288						
NWF				S	**Sg**	**01 34 30.9**	**+0.2**
	baz=288						
WFSB	**Wu-fen Shan**	**0.63**	**290**	*eP*	**Pb**	**01 34 23.2**	**+0.1**
	baz=288						
WFSB				*eS*	**Sg**	**01 34 30.9**	**+0.2**
	baz=288						
YOJ	**Yonaguni jima**	**0.65**	**127**	*eP*	**Pb**	**01 34 23.5**	**+0.1**
	baz=127						
YOJ				*eS*	**Sb**	**01 34 32.5**	**-0.1**
	baz=127						
YOJ	**Yonaguni jima**	**0.65**	**127**	P	**Pb**	**01 34 23.5**	**0.0**
YOJ				*eS*	**Sb**	**01 34 32.7**	**+0.1**
TWE	**Neicheng**	**0.71**	**259**	*eP*	**Pb**	**01 34 24.5**	**0.0**
	baz=255						
NANB	**Nanao**	**0.76**	**236**	P	**Pb**	**01 34 25.4**	**+0.1**
	baz=232						
NANB				S	**Sb**	**01 34 35.1**	**-0.4**
	baz=232						
ENA	**Nanau**	**0.76**	**236**	*eP*	**Pb**	**01 34 25.4**	**+0.1**
	baz=232						
ENA				*eS*	**Sg**	**01 34 35.0**	**+0.2**
	baz=232						
YM07	**YM07**	**0.81**	**294**	P	**Pb**	**01 34 26.5**	**+0.4**
	baz=292						
YM07				*eS*	**Sg**	**01 34 36.1**	**-0.1**
	baz=292						
ENTT	**Nioudou**	**0.82**	**255**	*eP*	**Pb**	**01 34 26.8**	**+0.5**
	baz=251						
ENTT				*eS*	**Sg**	**01 34 36.6**	**0.0**
	baz=251						
YM08	**YM08**	**0.84**	**294**	P	**Pb**	**01 34 26.9**	**+0.3**
	baz=292						
YM08				*eS*	**Sg**	**01 34 36.3**	**-0.9**
	baz=292						
YM01	**YM01**	**0.84**	**291**	*eP*	**Pn**	**01 34 27.2**	**-0.6**
	baz=289						
YM01				*eS*	**Sg**	**01 34 36.9**	**-0.3**
	baz=289						
YM11	**YM11**	**0.84**	**292**	*eP*	**Pb**	**01 34 27.2**	**+0.4**
	baz=290						
YM10	**YM10**	**0.85**	**291**	*eP*	**Pb**	**01 34 27.2**	**+0.4**
	baz=289						
YM10				*eS*	**Sg**	**01 34 37.3**	**-0.3**
	baz=289						
NWLT	**Wulai**	**0.85**	**265**	P	**Pb**	**01 34 27.4**	**+0.5**
	baz=262						
NWLT				S	**Sg**	**01 34 37.3**	**-0.4**
	baz=262						
TWY	**Chenhua**	**0.87**	**299**	*eP*	**Pg**	**01 34 26.8**	**0.0**
	baz=298						
NDT	**Datong Townshi**	**0.88**	**254**	P	**Pn**	**01 34 28.2**	**-0.1**
	baz=250						
NDT				S	**Sb**	**01 34 39.6**	**+0.6**
	baz=250						
YHNB	**Yeheng**	**0.98**	**259**	P	**Pn**	**01 34 29.6**	**-0.2**
	baz=256						
YHNB				S	**Sb**	**01 34 42.2**	**+0.1**
	baz=256						
NACB	**Ninganchiao**	**1.02**	**229**	P	**Pg**	**01 34 29.6**	**-0.1**
	baz=225						
NACB				S	**Sb**	**01 34 43.2**	**0.0**
	baz=225						
NNS	**Nan Shan**	**1.05**	**247**	P	**Pg**	**01 34 30.2**	**-0.1**
	baz=244						
NNS				S	**Sb**	**01 34 44.2**	**+0.1**
	baz=244						
ETLH	**Xiulin Townshi**	**1.08**	**234**	*eP*	**Pb**	**01 34 30.6**	**-0.2**
	baz=230						
ETLH				*eS*	**Sn**	**01 34 46.1**	**-0.1**
	baz=230						
WHF	**Hehuan Shan**	**1.28**	**237**	*eP*	**Pg**	**01 34 34.9**	**+0.1**
	baz=234						
WHF				*eS*	**Sg**	**01 34 51.5**	**+0.1**
	baz=234						
CHGB	**Renai**	**1.40**	**236**	*eP*	**Pg**	**01 34 36.9**	**-0.1**
	baz=233						
CHGB				*eS*	**Sg**	**01 34 55.0**	**-0.1**
	baz=233						
OWD	**Renai**	**1.46**	**232**	P	**Pb**	**01 34 37.3**	**+0.1**
	baz=230						
OWD				S	**Sg**	**01 34 57.1**	**+0.1**
	baz=230						
WHP	**Taichung City**	**1.47**	**247**	*eP*	**Pg**	**01 34 38.0**	**-0.4**
	baz=245						
WHP				*eS*	**Sb**	**01 34 56.5**	**+0.2**
	baz=245						
VWDT	**VWDT**	**1.61**	**227**	*eP*	**Pb**	**01 34 39.2**	**-0.6**
	baz=225						
VWDT				*eS*	**Sn**	**01 34 59.7**	**+0.6**
	baz=225						
SSLB	**Suanglung**	**1.72**	**232**	*eP*	**Pg**	**01 34 43.0**	**-0.1**
	baz=230						
SSLB				*eS*	**Sn**	**01 35 02.4**	**+0.5**
	baz=230						

IDC 02 01:50:29.8±2.3, 6°.53S×129°.21E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/32, mbtmp3.3/3, ML3.5/2, MS3.0/1, Ms1 3.2/1, ms1mx2.6/12, Error ellipse: s-maj=109.1km s-min=34.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.23**	**160**	Pn	Pn	01 53 53.8	+1.0
	0.3nm,0.3s,baz=339,slow=13,SNR=4.6						
WRA				Sn	Sn	01 56 16.8	-15
	0.5nm,0.3s,baz=334,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**17.62**	**166**	P	Pn	01 54 36.1	-0.9
	0.1nm,0.3s,baz=338,slow=10,SNR=2.2						
CMAR	**Chiang Mai Arr**	**38.83**	**310**	LR	LR	02 14 36.5	
	comp=Z,19nm,19.6s,baz=155,slow=37						
MKAR	**Makanchi Array**	**67.41**	**327**	P	P	02 01 27.2	+0.1
	0.2nm,0.4s,baz=113,slow=7.4,SNR=2.8						

ISCJB 02 02:00:04.5±0.3, 63°.34N±0°.03×150°.58W±0°.07, h143km±2km, mb3.6/14, Error ellipse: s-maj=5.1km s-min=4.0km az=29.9
IDC 02 02:00:05.2±1.5, 63°.42N×150°.74W, h129km±12km, mb3.4/14, mb1 3.4/18, mb1mx3.3/53, mbtmp3.7/18, Error ellipse: s-maj=15.9km s-min=14.4km az=69.0
NEIC 02 02:00:06.3±0.0, 63°.30N×150°.54W, h131km, ML3.3(AEIC), After AEIC.
ISC 02 02:00:05.4±0.7, 63°.28N±0°.04×150°.56W±0°.04, h138km±5km, n74, σ1°00/83, mb3.7/14, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAST	**Castle Rocks**	**0.70**	**282**	P	**Pn**	**02 00 26.8**	**+0.1**
CAST				S	**Sn**	**02 00 41.8**	**-1.1**
RND	**Reindeer**	**0.78**	**80**	P	**Pn**	**02 00 27.3**	**0.0**
RND				S	**Sn**	**02 00 43.5**	**-0.5**
PPLA	**Purkeypile**	**0.84**	**243**	P	**Pn**	**02 00 28.3**	**+0.5**
PPLA				S	**Sn**	**02 00 45.3**	**+0.4**
BPAW	**Bear Paw Mtn.**	**0.84**	**347**	P	**Pn**	**02 00 27.6**	**-0.2**
BPAW				S	**Sn**	**02 00 43.5**	**-1.2**
MCK	**McKinley**	**0.86**	**57**	P	**Pn**	**02 00 28.0**	**+0.1**
MCK				S	**Sn**	**02 00 44.6**	**-0.4**
CHUM	**Lake Minchumin**	**0.99**	**308**	P	**Pn**	**02 00 29.2**	**+0.3**
BWN	**Browne**	**1.02**	**28**	P	**Pn**	**02 00 29.8**	**+0.6**
NEA	**Nenana**	**1.46**	**26**	P	**Pn**	**02 00 33.3**	**-0.2**
NEA				S	**Sn**	**02 00 53.5**	**-1.6**
DHY	**Denali Highway**	**1.46**	**97**	P	**Pn**	**02 00 33.9**	**+0.1**
DHY				S	**Sn**	**02 00 55.4**	**0.0**
WRH	**Wood River Hil**	**1.62**	**41**	P	**Pn**	**02 00 35.2**	**-0.2**
GHO	**Glory Hole Cre**	**1.69**	**153**	P	**Pn**	**02 00 36.5**	**+0.2**
MLY	**Manley**	**1.76**	**358**	P	**Pn**	**02 00 37.0**	**0.0**
MLY				S	**Sn**	**02 00 59.4**	**-1.8**
SML	**Sawmill**	**1.80**	**144**	P	**Pn**	**02 00 36.9**	**-0.6**
SML				S	Sn	02 00 44.5	-18
PMR	**Palmer**	**1.82**	**158**	P	**Pn**	**02 00 37.5**	**-0.1**
CCB	**Clear Creek Bu**	**1.83**	**40**	P	**Pn**	**02 00 37.6**	**-0.2**
HDA	**Harding Lake**	**1.96**	**53**	P	**Pn**	**02 00 39.1**	**-0.2**
MDM	**Murphy Dome**	**1.97**	**30**	P	**Pn**	**02 00 39.4**	**-0.1**
COLA	**College**	**1.99**	**35**	P	**Pn**	**02 00 39.5**	**-0.2**
PS08	**TAPS Pump Stn8**	**2.08**	**51**	P	**Pn**	**02 00 41.1**	**+0.3**
KNK	**Knik Glacier**	**2.12**	**151**	P	Pn	02 00 37.0	-4.2
KNK				S	Sn	02 00 44.1	-25
FIB	**Fire Island**	**2.13**	**175**	P	**Pn**	**02 00 42.5**	**+1.2**
CRP	**Crater Peak**	**2.15**	**201**	P	**Pn**	**02 00 42.6**	**+0.7**
PS10	**TAPS Pump St10**	**2.17**	**84**	P	**Pn**	**02 00 42.9**	**+1.1**
BGL	**Barrier Glacie**	**2.20**	**204**	P	**Pn**	**02 00 43.3**	**+1.0**
ILAR	**Eielson Array**	**2.20**	**46**	P	**Pn**	**02 00 42.0**	**-0.2**
	6.7nm,0.3s,baz=226,slow=12,SNR=323						
ILAR				S	**Sn**	**02 01 09.0**	**-1.6**
	7.0nm,0.3s,baz=218,slow=16,SNR=14						
SPWE	**Spurr West**	**2.22**	**206**	P	**Pn**	**02 00 43.6**	**+1.0**
RC01	**Rabbit Creek A**	**2.23**	**170**	P	**Pn**	**02 00 42.6**	**0.0**
PS09	**TAPS Pump Stn9**	**2.24**	**71**	P	**Pn**	**02 00 43.0**	**+0.3**
PAX	**Paxson**	**2.33**	**95**	P	**Pn**	**02 00 44.0**	**+0.1**
TT01	**Tatalina**	**2.51**	**264**	P	**Pn**	**02 00 46.4**	**+0.3**
RIDG	**Independent Ri**	**2.60**	**77**	P	**Pn**	**02 00 47.4**	**+0.1**
PS06	**TAPS Pump Stn6**	**2.61**	**7**	P	**Pn**	**02 00 47.7**	**+0.4**
HARP	**HAARP**	**2.63**	**107**	P	**Pn**	**02 00 47.7**	**+0.2**
SLKM	**Skilak Lake**	**2.79**	**177**	P	**Pn**	**02 00 50.1**	**+0.5**
RDJH	**Redoubt Jeurge**	**2.90**	**202**	P	**Pn**	**02 00 52.1**	**+1.0**
DOT	**Dot Lake**	**2.94**	**80**	P	**Pn**	**02 00 51.1**	**-0.4**
RDWB	**Redoubt West**	**3.00**	**202**	P	**Pn**	**02 00 53.2**	**+0.7**
SCRK	**Sand Creek**	**3.02**	**74**	P	**Pn**	**02 00 52.7**	**+0.1**
IM3	**Indian Mountai**	**3.04**	**335**	P	**Pn**	**02 00 52.8**	**+0.1**
RED	**Redoubt Volcan**	**3.06**	**201**	P	**Pn**	**02 00 54.1**	**+1.0**
MENT	**Mentasta**	**3.13**	**93**	P	**Pn**	**02 00 53.7**	**-0.2**
PRP	**Porcupine Dome**	**3.13**	**42**	P	**Pn**	**02 00 54.2**	**+0.1**
SVW2	**Sparrevohn**	**3.21**	**229**	P	**Pn**	**02 00 55.3**	**+0.3**
SEW	**Seward**	**3.23**	**170**	P	**Pn**	**02 00 55.1**	**-0.1**
ILW	**Iliamna West**	**3.46**	**202**	P	**Pn**	**02 00 58.4**	**+0.1**
BRLK	**Bradley Lake**	**3.53**	**183**	P	**Pn**	**02 00 59.5**	**+0.3**
PS05	**TAPS Pump Stn5**	**3.55**	**359**	P	**Pn**	**02 00 59.4**	**+0.1**
BCA3	**Beaver Creek A**	**3.98**	**89**	P	**Pn**	**02 01 04.8**	**-0.3**
MCARA	**McCarthy VSAT**	**4.00**	**115**	P	**Pn**	**02 01 02.6**	**-2.7**
EGAK	**Eagle**	**4.40**	**66**	P	**Pn**	**02 01 10.2**	**-0.3**
BALM	**Baldy**	**4.46**	**117**	P	Pn	02 01 07.5	-4.0
YUK2	**White River**	**4.74**	**104**	P	**Pn**	**02 01 15.9**	**+0.7**
CTGM	**Chitina Glacie**	**4.91**	**114**	P	**Pn**	**02 01 17.5**	**0.0**
YUK3	**Moose Creek**	**4.92**	**103**	P	**Pn**	**02 01 18.2**	**+0.6**
DAWY	**Dawson**	**5.04**	**76**	P	**Pn**	**02 01 18.9**	**-0.1**
KDAK	**Kodiak Island**	**5.61**	**191**	P	**Pn**	**02 01 26.4**	**-0.2**
KDAK	**Kodiak Island**	**5.61**	**191**	P	**Pn**	**02 01 26.8**	**+0.2**
	2.2nm,0.3s,baz=62,slow=6.1,SNR=86						
KDAK				S	**Sn**	**02 02 24.2**	**-5.7**
	4.4nm,0.3s,baz=113,slow=22,SNR=8.2						
INK	**Inuvik**	**8.61**	**47**	P	**Pn**	**02 02 06.2**	**-0.4**
	0.1nm,0.3s,baz=241,slow=12,SNR=4.5						
INK				S	Sn	02 03 53.1	+11
	0.0nm,0.3s,baz=262,slow=13,SNR=1.7						
YKA	**Yellowknife Ar**	**16.28**	**77**	P	**Pn**	**02 03 45.0**	**-0.7**
YKA	**Yellowknife Ar**	**16.28**	**77**	P	**Pn**	**02 03 45.0**	**-0.7**
	0.2nm,0.3s

1.6nm,0.5s,baz=18,slow=9.5,SNR=7.8
WRA Warramunga Arr 26.80 164 P **P 02 26 27.9 0.0**
13nm,0.3s,baz=346,slow=10,SNR=4.1
ASAR Alice Springs 30.25 167 P **P 02 26 59.0 +0.5**
0.6nm,0.3s,baz=337,slow=7.0,SNR=9.1
BRDH Bariadhala 37.56 300 LR LR 02 44 14.8
comp=Z,110nm,21.9s,baz=133,slow=37
USRK Ussuriysk Ar. 38.45 6 P **P 02 28 08.3 -0.5**
2.3nm,0.4s,baz=187,slow=7.7,SNR=12
STKA Stephens Creek 40.21 160 P **P 02 28 23.8 +0.2**
1.6nm,0.4s,baz=349,slow=11,SNR=4.6
SONM Songino Array 45.20 341 P **P 02 29 04.3 +0.5**
1.3nm,0.8s,baz=155,slow=8.1,SNR=6.5
PETK Petropavlovsk- 53.52 23 P **P 02 30 06.0 -0.6**
2.5nm,0.9s,baz=230,slow=5.9,SNR=3.0
MKAR Makanchi Array 55.69 325 P **P 02 30 23.0 +0.6**
1.6nm,0.7s,baz=126,slow=7.8,SNR=14
ZALV Zalesovo Beam 58.59 333 P **P 02 30 41.9 -0.6**
0.4nm,0.3s,baz=111,slow=7.9,SNR=2.7
ARCES ARCESS Array B 88.36 340 P **P 02 33 35.2 -1.0**
1.9nm,0.8s,baz=69,slow=4.9,SNR=4.6

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*GUC **02** 02:25:06.2±0.3,27.°34S×69.°83W,h104km±9km,ML3.6*
*ISCJB **02** 02:25:07.7±0.7,27.°30S±0.°04×69.°97W±0.°07,h88km,Error ellipse: s-maj=9.5km s-min=5.7km az=10.9*
*SJA **02** 02:25:07.7±0.4,27.°33S×69.°77W,h170km±13km,ML2.8, MW2.6*
ISC 02 02:25:07.9±1.3,27.°27S±0.°05×70.°06W±0.°07,h88km,n8, σ1§17/14,3C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.35**	**206⇑**	*eP*	**Pn**	**02 25 21.8**	**+0.2**
GO03				*eS*	**Sn**	**02 25 33.4**	**+1.8**
GO03				IAML		02 25 34.6	
	comp=E,3μm,0.1s						
LCO	**Las Campanas**	**1.82**	**198⇑**	*eP*	**Pn**	**02 25 37.3**	**-0.7**
LCO				*eS*	**Sn**	**02 26 00.9**	**+0.1**
LCO				IAML		02 26 03.7	
	comp=E,430nm,0.2s						
GO02	**Mina Guanaco**	**2.15**	**11⇑**	*iP*	**Pn**	**02 25 42.2**	**-0.1**
GO02				*eS*	**Sn**	**02 26 08.7**	**+0.3**
GO02				IAML		02 26 10.3	
	comp=N,549nm,0.3s						
AGUA	**GUANDACOL**	**2.60**	**148**	*eP*	**Pn**	**02 25 49.6**	**+1.4**
AGUA				*eS*	**Sn**	**02 26 21.0**	**+2.0**
GO04	**Tololo Observa**	**2.96**	**192**	*eP*	**Pn**	**02 25 52.3**	**-0.8**
GO04				*eS*	**Sn**	**02 26 27.1**	**-0.7**
ACLC	**CERRO LA CRUZ**	**3.48**	**129**	*eP*	**Pn**	**02 26 00.1**	**0.0**
ACLC				*eS*	**Sn**	**02 26 38.5**	**-1.9**
APLL	**PUNTA DE LOS L**	**4.39**	**136**	*eP*	**Pn**	**02 26 11.7**	**-0.7**
AZAP	**Zapla**	**5.43**	**57**	*eP*	**Pn**	**02 26 26.2**	**-0.5**
AZAP				IAML		02 26 27.4	
	comp=Z,4.8nm,0.5s						

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*ISCJB **02** 02:31:40.9±1.6,14.°46S±0.°07×167.°31E±0.°08, h158km±16km,mb4.3/34, Error ellipse: s-maj=13.7km s-min=9.1km az=36.8*
*NEIC **02** 02:31:42.6±1.7,14.°49S×167.°38E,h161km±3km,mb4.3/23, Error ellipse: s-maj=20.1km s-min=13.9km az=112.0*
*IDC **02** 02:31:44.0±2.8,14.°46S×167.°35E,h170km±25km, mb4.0/19,mb1 4.1/20,mb1mx3.9/43,mbtmp4.4/20,Error ellipse: s-maj=19.0km s-min=14.0km az=111.0*
ISC 02 02:31:43.9±1.1,14.°49S±0.°07×167.°4E±0.°1,h174km±10km, n75,σ1§00/86,mb4.2/34,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**6.97**	**175**	*ePn*	**Pn**	**02 33 21.6**	**-2.1**
DZM	**Mont Dzumac**	**7.59**	**187**	*ePn*	**Pn**	**02 33 35.1**	**+3.2**
DZM				*eSn*	**Sn**	**02 34 57.0**	**-0.3**
DZM	**Mont Dzumac**	**7.59**	**187**	P	**Pn**	**02 33 33.7**	**+1.7**
	5.2nm,0.3s,baz=68,slow=9.7,SNR=28						
DZM				S	**Sn**	**02 34 57.0**	**-0.3**
	baz=142,slow=22,SNR=0.7						
PINNC	**Pines Island,**	**8.07**	**180**	*ePn*	**Pn**	**02 33 41.1**	**+2.9**
TARA	**Tarawa**	**16.66**	**20**	*eP*	**P**	**02 35 26.1**	**-0.9**
	243nm,0.4s						
TARA				*eP*	**pP**	**02 35 55.7**	**+0.3**
EIDS	**Eidsvold**	**18.77**	**232**	*eP*	**P**	**02 35 50.6**	**+0.7**
	7.7nm,0.8s						
BFZ	**Birch Farm**	**27.20**	**165**	*eP*	**P**	**02 37 12.0**	**+0.6**
	30nm,1.1s						
STKA	**Stephens Creek**	**29.26**	**229**	P	**P**	**02 37 29.9**	**+0.2**
	1.9nm,0.4s,baz=54,slow=10,SNR=7.2						
STKA				PcP	**PcP**	**02 40 32.2**	**-0.2**
	2.5nm,0.7s,baz=69,slow=2.0,SNR=3.9						
LBZ	**Lake Benmore**	**29.89**	**176**	*eP*	**P**	**02 37 34.3**	**-0.9**
	86nm,1.5s						
WB2	**Warramunga Arr**	**32.01**	**256**	*eP*	**P**	**02 37 53.0**	**-1.2**
	13nm,1.4s						
WR1	**Warramunga Arr**	**32.02**	**256**	*eP*	**P**	**02 37 53.5**	**-0.7**
WR1				*ePcP*	**PcP**	**02 40 40.2**	**+0.3**
WRA	**Warramunga Arr**	**32.02**	**256**	P	**P**	**02 37 53.5**	**-0.7**
	9.8nm,0.3s,baz=86,slow=9.8,SNR=7.4						
WRA				PcP	**PcP**	**02 40 40.2**	**+0.3**
	5.8nm,0.4s,baz=90,slow=3.6,SNR=3.1						
AS31	**Alice Springs**	**32.89**	**249**	*eP*	**P**	**02 38 01.1**	**-0.6**
	1.5nm,0.4s						
AS31				*ePcP*	**PcP**	**02 40 41.2**	**-1.0**
ASAR	**Alice Springs**	**32.89**	**249**	*eP*	**P**	**02 37 59.4**	**-2.4**
ASAR	**Alice Springs**	**32.89**	**249**	P	**P**	**02 38 01.2**	**-0.7**
	1.8nm,0.4s,baz=76,slow=9.5,SNR=28						
ASAR				PcP	**PcP**	**02 40 41.3**	**-1.0**
	0.4nm,0.6s,baz=82,slow=3.2,SNR=2.7						
TAU	**Tasmania Unive**	**33.18**	**207**	*eP*	**P**	**02 38 01.6**	**-2.3**
	30nm,1.1s						
BBOO	**Buckleboo**	**33.84**	**232**	*eP*	**P**	**02 38 09.0**	**-0.9**
	44nm,1.5s						
FORT	**Forrest**	**39.54**	**239**	*eP*	**P**	**02 38 58.0**	**0.0**
	36nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.20**	**259**	*eP*	**P**	**02 39 03.7**	**+0.1**
	7.5nm,1.3s						
FITZ	**Fitzroy Crossi**	**40.20**	**259**	P	**P**	**02 39 03.7**	**+0.1**
	2.1nm,0.7s,baz=64,slow=7.9,SNR=6.7						
BATI	**Baumata**	**42.91**	**271**	P	**P**	**02 39 26.8**	**+1.0**
	24nm,0.5s,baz=249,slow=2.2,SNR=3.7						
PSAD1	**Pilbara Seismi**	**45.66**	**254**	*eP*	**P**	**02 39 45.9**	**-1.6**
	9.3nm,1.3s						
PSAC3	**Pilbara Seismi**	**45.66**	**254**	*eP*	**P**	**02 39 46.8**	**-0.7**
	14nm,1.3s						
MBWA	**Marble Bar**	**45.75**	**255**	*eP*	**P**	**02 39 47.3**	**-0.9**
	8.4nm,1.3s						
MORW	**Morawa**	**49.50**	**244**	*eP*	**P**	**02 40 16.0**	**-1.0**
	5.6nm,0.9s						
HMH	**Humu'ula Sheep**	**49.81**	**48**	*eP*	**P**	**02 40 17.9**	**-1.8**
	152nm,1.4s						
MJAR	**Matsushiro Arr**	**57.77**	**332**	P	**P**	**02 41 15.9**	**-0.9**
	1.1nm,0.5s,baz=173,slow=9.0,SNR=4.3						
MAJO	**Matsushiro**	**57.77**	**332**	*eP*	**P**	**02 41 15.9**	**-0.9**
VNDA	**Vanda**	**63.10**	**181**	P	**P**	**02 41 53.6**	**+1.2**
	0.5nm,0.7s,baz=5.0,slow=7.5,SNR=6.2						
PETK	**Petropavlovsk-**	**67.84**	**354**	P	**P**	**02 42 24.2**	**+1.2**
	8.8nm,0.7s,baz=147,slow=5.3,SNR=9.4						
PEA1	**Petropavlovsk-**	**67.85**	**354**	*eP*	**P**	**02 42 24.2**	**+1.1**
CM31	**Chiang Mai Arr**	**74.99**	**294**	*eP*	**P**	**02 43 06.9**	**+0.3**
	5.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**74.99**	**294**	P	**P**	**02 43 06.9**	**+0.3**
	1.7nm,0.6s,baz=120,slow=5.2,SNR=5.8						
MA2	**Magadan**	**75.04**	**351**	P	**P**	**02 43 06.1**	**+0.1**
	2.3nm,0.3s,baz=184,slow=9.2,SNR=5.4						
SEY	**Seymchan**	**78.07**	**353**	P	**P**	**02 43 23.6**	**+0.7**
	3.2nm,0.7s,baz=170,slow=5.0,SNR=11						
MAW	**Mawson**	**82.16**	**202**	*eP*	**P**	**02 43 45.2**	**+0.3**
	1.9nm,1.4s						
MAW	**Mawson**	**82.16**	**202**	P	**P**	**02 43 45.2**	**+0.3**
	3.2nm,0.9s,baz=94,slow=8.5,SNR=3.7						
SONA0	**Songino Array**	**82.40**	**324**	*eP*	**P**	**02 43 47.5**	**+0.9**
SONM	**Songino Array**	**82.40**	**324**	*eP*	**P**	**02 43 47.6**	**+1.0**
SONM	**Songino Array**	**82.40**	**324**	P	**P**	**02 43 47.5**	**+0.9**
	0.6nm,0.6s,baz=150,slow=6.8,SNR=4.2						
IMAR	**Indian Mountai**	**85.30**	**15**	*eP*	**P**	**02 44 01.7**	**+1.0**
HDA	**Harding Lake**	**85.98**	**18**	*eP*	**P**	**02 44 04.5**	**+0.4**
	4.7nm,0.9s						
ILAR	**Eielson Array**	**86.26**	**18**	*eP*	**P**	**02 44 04.9**	**-0.5**
ILAR	**Eielson Array**	**86.26**	**18**	P	**P**	**02 44 04.7**	**-0.8**
	2.6nm,0.7s,baz=236,slow=5.5,SNR=29						
ILB	**Eielson Array**	**86.26**	**18**	*eP*	**P**	**02 44 05.2**	**-0.3**
	3.0nm,0.8s						
NV01	**Mina Array Sit**	**87.01**	**49**	*eP*	**P**	**02 44 10.3**	**+0.3**
NVAR	**Mina Array Bea**	**87.01**	**49**	P	**P**	**02 44 10.3**	**+0.3**
	0.8nm,0.7s,baz=200,slow=4.6,SNR=5.3						
G08A	**Pilot Rock**	**89.05**	**43**	*eP*	**P**	**02 44 21.0**	**+1.6**
	1.7nm,0.8s						
TIXI	**Tiksi**	**89.77**	**349**	*eP*	**P**	**02 44 21.9**	**-0.1**
	2.6nm,1.0s						
TIXI	**Tiksi**	**89.77**	**349**	P	**P**	**02 44 22.0**	**+0.1**
	0.9nm,0.3s,baz=140,slow=4.1,SNR=5.0						
MK32	**Makanchi Array**	**97.14**	**316**	*eP*	**P**	**02 44 56.3**	**-0.1**
MKAR	**Makanchi Array**	**97.14**	**316**	P	**P**	**02 44 56.3**	**-0.1**
	1.5nm,0.7s,baz=93,slow=6.2,SNR=12						
YKA	**Yellowknife Ar**	**97.27**	**27**	P	**P**	**02 44 56.6**	**+0.1**
	0.2nm,0.6s,baz=255,slow=4.9,SNR=5.2						
YKB5	**Yellowknife Ar**	**97.27**	**27**	*eP*	**P**	**02 44 56.6**	**+0.1**
ZALV	**Zalesovo Beam**	**97.29**	**324**	P	**P**	**02 44 56.4**	**-0.4**
	1.2nm,0.6s,baz=108,slow=4.8,SNR=3.7						
ZAA1	**Zalesovo Array**	**97.29**	**324**	*eP*	**P**	**02 44 56.4**	**-0.5**
ARA0	**ARCESS Array S**	**120.06**	**345**	*e*PKPdf	**PKPdf**	**02 50 13.5**	**+0.2**
ARCES	**ARCESS Array B**	**120.06**	**345**	PKP	**PKPdf**	**02 50 13.5**	**+0.2**
	2.5nm,0.4s,baz=82,slow=2.0,SNR=43						
BOSA	**Boshof**	**123.65**	**220**	PKP	**PKiKP**	**02 50 22.3**	**+0.4**
	1.8nm,0.9s,baz=174,slow=12,SNR=2.5						
FIA0	**FINESS Array S**	**125.56**	**338**	*e*PKPdf	**PKiKP**	**02 50 24.6**	**+0.2**
FINES	**FINESS Array B**	**125.56**	**338**	PKP	**PKiKP**	**02 50 24.6**	**+0.2**
	3.5nm,0.8s,baz=28,slow=3.0,SNR=14						
NB2	**NORSAR Subarra**	**130.44**	**345**	PKPdf	**PKPdf**	**02 50 33.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**130.44**	**345**	PKP	**PKiKP**	**02 50 34.4**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=33,slow=2.0,SNR=4.2						
AKASG	**Malin Array Be**	**130.62**	**326**	SKPbc	**SKPab**	**02 53 42.9**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=47,slow=4.1,SNR=6.0						
BR101	**Keskin Array S**	**132.47**	**311**	*e*PKPdf	**PKPdf**	**02 50 38.3**	**+0.2**
BRTR	**Keskin Array B**	**132.47**	**311**	PKP	**PKPdf**	**02 50 38.3**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=127,slow=3.8,SNR=6.1						
CONA	**Conrad Observa**	**139.19**	**331**	*i* PKiKP	**PKiKP**	**02 50 53.4**	**+0.9**
	comp=Z,1.4nm,0.4s						
GERES	**GERESS Array B**	**139.50**	**333**	PKhKP	PKPpre	02 50 43.9	
	comp=Z,0.1nm,0.3s,baz=132,slow=5.8,SNR=3.9						
GERES				PKP	**PKPdf**	**02 50 51.4**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=66,slow=3.3,SNR=9.7						
ABTA	**Abfaltersbach**	**141.61**	**332**	*i* PKPdf	**PKPdf**	**02 50 55.0**	**+0.4**
	comp=Z,2.6nm,0.6s						
MOTA	**Moosalm**	**141.77**	**334**	*i* PKPdf	**PKPdf**	**02 50 53.1**	**-1.9**
	comp=Z,1.5nm,0.5s						
FETA	**Feichten**	**142.18**	**334**	*i* PKPdf	**PKPdf**	**02 50 53.6**	**-2.1**
	comp=Z,3.9nm,1.1s						
KEST	**Kesra**	**151.12**	**321**	PKPbc	**PKiKP**	**02 51 17.9**	**+0.4**
	comp=Z,10nm,0.6s,baz=119,slow=3.6,SNR=33						
ESDC	**Sonseca Array**	**153.80**	**345**	PKPbc	**PKiKP**	**02 51 23.5**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=5.4,slow=5.5,SNR=4.8						
ESDC				PKPab	**PKPab**	**02 51 35.9**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=11,slow=5.2,SNR=7.0						
TORD	**Torodi Ar. Bea**	**166.07**	**266**	PKP	**PKPdf**	**02 51 28.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=357,slow=0.8,SNR=4.6						
TORD				PKPab	**PKPab**	**02 52 30.3**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=90,slow=4.3,SNR=2.7						
TOA1	**Torodi Ar. Sit**	**166.07**	**266**	*e*PKPdf	**PKPdf**	**02 51 28.9**	**-0.1**
TOA1				*e*PKPab	**PKPab**	**02 52 30.3**	**-0.2**

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*IDC **02** 02:43:50.6±1.0,45.°90N×154.°24E,h0km,mb3.6/7, mb1 3.8/9,mb1mx3.5/55,mbtmp3.6/9,ML2.4/2,Error ellipse: s-maj=28.5km s-min=22.1km az=157.0*
*ISCJB **02** 02:43:51.5±0.8,45.°74N±0.°10×154.°2E±0.°2,h20km, mb3.6/7,Error ellipse: s-maj=18.6km s-min=11.1km az=36.1*
ISC 02 02:43:53.4±1.0,45.°8N±0.°1×154.°2E±0.°1,h20km,n15, σ1§99/10,mb3.7/7,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.67**	**16**	Pn	**Pn**	**02 45 40.6**	**-3.3**
	0.3nm,0.3s,baz=196,slow=14,SNR=5.7						
PETK				Sn	**Sn**	**02 47 14.0**	**+3.9**
	0.1nm,0.3s,baz=209,slow=12,SNR=2.4						
USRK	**Ussuriysk Ar.**	**15.80**	**272**	Pn	**Pn**	**02 47 34.7**	**+0.1**
	0.1nm,0.1s,baz=73,slow=11,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**28.01**	**154**	T	T	03 19 07.6	
	baz=342,slow=76,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**28.03**	**154**	T	T	03 19 06.9	
	baz=342,slow=76,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**28.03**	**154**	T	T	03 19 09.6	
	baz=342,slow=76,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**29.11**	**155**	T	T	03 20 31.3	
	baz=342,slow=76,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**29.12**	**155**	T	T	03 20 36.0	
	baz=342,slow=76,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**29.13**	**155**	T	T	03 20 29.3	
	baz=342,slow=76,SNR=4.3						
MKAR	**Makanchi Array**	**48.07**	**299**	P	**P**	**02 52 31.2**	**-0.1**
	0.3nm,0.7s,baz=65,slow=9.0,SNR=2.9						
KURBB	**Kurchatov Arra**	**48.63**	**305**	P	**P**	**02 52 35.5**	**0.0**
	0.6nm,0.6s,baz=69,slow=8.3,SNR=4.8						
YKA	**Yellowknife Ar**	**51.24**	**37**	P	**P**	**02 52 55.1**	**0.0**
	0.2nm,0.5s,baz=292,slow=7.3,SNR=2.6						
NVAR	**Mina Array Bea**	**62.20**	**63**	P	**P**	**02 54 14.3**	**+0.7**
	0.3nm,0.5s,baz=289,slow=6.6,SNR=2.9						
FINES	**FINESS Array B**	**65.24**	**335**	P	**P**	**02 54 32.9**	**0.0**
	1.5nm,0.9s,baz=50,slow=6.2,SNR=5.6						
WRA	**Warramunga Arr**	**67.86**	**200**	P	**P**	**02 54 51.2**	**+1.1**
	0.6nm,0.7s,baz=18,slow=7.5,SNR=2.9						
TXAR	**Lajitas Array**	**77.29**	**61**	P	**P**	**02 55 46.0**	**-0.5**
	0.3nm,0.7s,baz=291,slow=3.5,SNR=4.9						

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*IDC **02** 02:46:22.7±4.7,23.°85S×178.°44E,h644km±66km,mb3.1/4, mb1 3.3/4,mb1mx2.8/33,mbtmp4.2/4,Error ellipse: s-maj=138.3km s-min=28.2km az=2.0*
ISC 02 02:46:22.5±1.7,23.°8S±0.°3×178.°6E±0.°2,h650km,n7, σ0§55/7,mb3.7/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.26**	**150**	P	**P**	**02 48 08.4**	**+0.1**
	360nm,0.3s,baz=260,slow=23,SNR=5.6						
CTA	**Charters Tower**	**30.14**	**271**	P	**P**	**02 51 43.5**	**+0.4**
	3.3nm,0.3s,baz=108,slow=10.0,SNR=5.2						
ASAR	**Alice Springs**	**40.73**	**261**	P	**P**	**02 53 09.1**	**-0.8**
	0.6nm,0.3s,baz=95,slow=7.1,SNR=12						
WRA	**Warramunga Arr**	**41.08**	**267**	P	**P**	**02 53 12.5**	**-0.2**
	1.8nm,0.3s,baz=102,slow=8.1,SNR=6.1						
FITZ	**Fitzroy Crossi**	**49.51**	**266**	P	**P**	**02 54 16.9**	**+0.5**
	0.9nm,0.5s,baz=96,slow=9.2,SNR=2.4						
AKASG	**Malin Array Be**	**144.18**	**326**	PKP	**PKPab**	**03 04 46.2**	**-0.1**
	0.3nm,0.4s,baz=44,slow=4.0,SNR=5.5						
BRTR	**Keskin Array B**	**146.47**	**307**	PKPbc	**PKPbc**	**03 04 52.9**	**-0.1**
	0.3nm,0.6s,baz=113,slow=3.7,SNR=3.5						

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*IDC **02** 03:00:47.6±2.0,1.°81N×125.°39E,h0km,mb4.0/3, mb1 4.3/3,mb1mx3.6/30,mbtmp4.1/3,Error ellipse: s-maj=184.1km s-min=25.4km az=65.0*
*DJA **02** 03:00:54.5±0.9,2.°N±3.°×12.°6E±.°,h11km±6km,M4.1/7, mb4.3/1,mB4.6/2,MLv4.0/7,Mw(mB)3.8/2*
*ISCJB **02** 03:00:55.3±0.8,1.°82N±0.°06×126.°01E±0.°08,h50km, mb4.0/3,Error ellipse: s-maj=11.1km s-min=7.9km az=179.6*
ISC 02 03:00:56.0±1.0,1.°89N±0.°06×125.°92E±0.°06,h50km,n9, σ2§46/12,mb4.2/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.82**	**128**	P	**Pn**	**03 01 26.5**	**+1.5**
TNTI				S	**Sn**	**03 01 51.0**	**+4.0**
SGSI	**Sangihe**	**1.82**	**348**	P	**Pn**	**03 01 26.4**	**+1.4**
SGSI				S	**Sn**	**03 01 48.9**	**+1.9**
KMSI	**Cibinong**	**2.34**	**236**	P	**Pn**	**03 01 33.2**	**+1.2**
KMSI				S	**Sn**	**03 02 02.6**	**+3.0**
SANI	**Sanana**	**3.92**	**179**	P	**Pn**	**03 01 52.4**	**-1.3**
MRSI	**Marisa**	**4.22**	**251**	P	**Pn**	**03 01 59.4**	**+1.5**
APSI	**Ampana**	**5.10**	**237**	P	**Pn**	**03 02 10.9**	**+1.0**
WRA	**Warramunga Arr**	**23.22**	**160**	P	**P**	**03 05 56.9**	**-2.0**
	3.6nm,0.3s,baz=336,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**26.57**	**163**	P	**P**	**03 06 28.8**	**-0.8**
	3.1nm,0.4s,baz=344,slow=12,SNR=26						
MKAR	**Makanchi Array**	**58.61**	**326**	P	**P**	**03 10 44.9**	**-3.2**
	0.3nm,0.4s,baz=130,slow=6.5,SNR=5.4						

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*NDI **02** 03:14:36.4±1.1,33.°19N×75.°75E,h10km±3km,ML3.1*
*ISCJB **02** 03:14:39.5±0.9,33.°07N±0.°05×76.°04E±0.°09,h10km,Error ellipse: s-maj=10.3km s-min=6.7km az=174.1*
*NNC **02** 03:15:28.5±6.6,36.°55N×73.°37E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=68.6km s-min=54.8km az=132.0*
ISC 02 03:14:36.4±1.3,33.°21N±0.°07×76.°02E±0.°08,h10km,n15, σ2§30/20,1C-4D,Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**0.81**	**198**	*ex*	**Pg**	**03 14 49.0**	**-3.0**
THN				*eS*	**Sb**	**03 15 01.5**	**-2.0**
DHRM	**DHARAMSHALA**	**0.98**	**166**	*eP*	**Pb**	**03 14 56.8**	**+1.2**
DHRM				*eS*	**Sn**	**03 15 11.3**	**+0.9**
DHRM				IAML		03 15 16.6	
	comp=E,1μm,0.2s						
DHRM				IAML		03 15 16.6	
	comp=N,1μm,0.2s						
BHK	**Bhakra**	**1.82**	**169**	*ex*	**Pn**	**03 15 09.0**	**+1.3**
BHK				*eS*	**Sn**	**03 15 32.2**	**+1.4**
SMLA	**Simla**	**2.29**	**155**	*eP*	**Pn**	**03 15 16.2**	**+2.1**
SMLA				IAML		03 15 19.9	
	comp=E,45nm,0.2s						
SMLA				IAML		03 15 20.1	
	comp=N,42nm,0.2s						
SMLA				*eS*	**Sn**	**03 15 44.9**	**+2.5**
DDI	**Dehra Dun**	**3.36**	**148**	*eS*	**Sn**	**03 16 10.9**	**+2.0**
JOSI	**Joshimath**	**4.00**	**130**	*eP*	**Pn**	**03 15 40.2**	**+2.2**
JOSI				*eS*	**Sn**	**03 16 26.2**	**+1.1**
JOSI				IAML		03 16 50.4	
	comp=E,71nm,0.4s						
JOSI				IAML		03 16 52.0	
	comp=N,81nm,0.8s						
SONA	**Sohna**	**5.02**	**169**	*eS*	**Sn**	**03 16 46.9**	**-3.0**
KUDL	**Kundal**	**5.06**	**175**	*eP*	**Pn**	**03 15 55.6**	**+3.4**
KUDL				*eS*	**Sn**	**03 16 51.3**	**+0.5**
KUDL				IAML		03 17 10.2	
	comp=E,19nm,0.2s						
KUDL				IAML		03 17 11.1	
	comp=N,14nm,0.5s						
PYUN	**Piuthan**	**7.87**	**128**	*eP*	**Pn**	**03 16 32.7**	**+1.6**
	comp=N,6.7nm,0.4s						
PYUN				*eS*	**Sn**	**03 17 59.0**	**-1.3**
DANN	**Dangsing**	**8.23**	**124**	*eS*	**Sn**	**03 18 05.7**	**-3.6**
KOLN	**Koldanda**	**8.49**	**128**	*eS*	**Sn**	**03 18 14.3**	**-1.3**
GKN	**Gorkha**	**9.05**	**123**	*eS*	**Sn**	**03 18 26.2**	**-3.2**
AAK	**Ala-Archa**	**9.49**	**353**	Pn	Pn	03 17 00.9	+7.6
	comp=N,0.8nm,0.6s						
AAK				⇓Lg	Lg	03 18 41.9	
	comp=N,1.1nm,0.6s						
TKM2	**Tokmak 2**	**9.71**	**358**	⇓Pn	Pn	03 17 06.5	+10
	comp=N,0.8nm,0.5s						
TKM2				⇓Lg	Lg	03 18 55.8	
	comp=N,0.5nm,0.4s						
KK31	**Karatay Array**	**10.79**	**338**	⇑Pn	**Pn**	**03 17 10.9**	**0.0**
	comp=N,0.6nm,0.6s,baz=155,slow=13,SNR=7.8						
KK31				⇓Lg	Lg	03 19 11.1	
	comp=N,1.7nm,0.8s,baz=163,slow=23,SNR=4.3						

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*ISCJB **02** 03:29:43.9±0.3,6.°46N±0.°02×73.°50W±0.°03,h134km±3km, mb3.3/7,Error ellipse: s-maj=5.2km s-min=3.4km az=18.2*
*IDC **02** 03:29:45.8±2.9,6.°35N×73.°62W,h143km±24km,mb3.2/7, mb1 3.5/7,mb1mx3.3/20,mbtmp3.6/7,Error ellipse: s-maj=56.9km s-min=19.1km az=71.0*
*RSNC **02** 03:29:45.8±1.1,6.°42N×73.°50W,h124km±4km,ML3.7, Mw4.2*
ISC 02 03:29:44.4±0.7,6.°45N±0.°03×73.°49W±0.°04,h130km±5km, n38,σ1§16/62,mb3.2/7,5C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.33**	**65⇑**	*iP*	**Pn**	**03 30 03.4**	**+0.4**
BARC				*eS*	**Sn**	**03 30 16.7**	**-0.2**
RUSC	**La Rusia**	**0.69**	**144⇓**	*iP*	**Pn**	**03 30 05.3**	**0.0**
RUSC				*eS*	**Sn**	**03 30 20.2**	**-0.7**
BRRC	**Barranca, Sant**	**0.69**	**341⇑**	*iP*	**Pn**	**03 30 05.1**	**+0.4**
BRRC				*eS*	**Sn**	**03 30 20.5**	**+0.4**
BRRC				*i*		03 30 31.7	
	comp=Z,857nm,0.4s						
GIRC	**Giron, Santand**	**0.69**	**25⇑**	*iP*	**Pn**	**03 30 05.7**	**+0.8**
GIRC				*eS*	**Sn**	**03 30 21.2**	**+0.8**
PTBC	**PUERTO BERRIO,**	**0.97**	**275**	*eP*	**Pn**	**03 30 06.4**	**-0.6**
PTBC				*eS*	**Sn**	**03 30 22.3**	**-1.8**
PTBC				*i*		03 30 23.7	
	comp=Z,508nm,0.3s						
PAMC	**Pamplona, Colo**	**1.18**	**42**	*eP*	**Pn**	**03

*ISCJB **02** 03:33:31.3±1.5, 44°.4N±0°.2×147°.7E±0°.3, h124km±13km, Error ellipse: s-maj=42.4km s-min=8.9km az=135.3*
*SKHL **02** 03:33:31.9±0.5, 44°.02N×148°.16E, h65km±5km, mb4.0/4*
*JMA **02** 03:33:32.9±0.4, 44°.26N×147°.61E, h127km, M3.5*
ISC 02 03:33:29.3±3.0, 44°.4N±0°.2×147°.8E±0°.2, h140km±20km, n12, σ1°59/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.85**	**4**	*i* P	**Pn**	**03 33 52.3**	**+0.5**
KUR				AMB	AMB	03 33 52.6	
	30nm,0.3s						
KUR				*e*S	**Sn**	**03 34 07.6**	**-1.3**
KUR				A	A	03 34 08.3	
	420nm,0.3s						
KUR				A	A	03 34 08.3	
	120nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.43**	**256**	*e*P	**Pn**	**03 33 58.0**	**+0.7**
YUK				AMB	AMB	03 33 58.0	
	40nm,0.3s						
YUK				*e*S	**Sn**	**03 34 18.0**	**-0.6**
YUK				A	A	03 34 19.2	
	240nm,0.3s						
YUK				A	A	03 34 19.2	
	190nm,0.3s						
GRPR	**Tuman**	**1.50**	**255**	*e*P	**Pn**	**03 33 59.0**	**+0.9**
GRPR				AMB	AMB	03 33 59.0	
	50nm,0.3s						
GRPR				*e*S	**Sn**	**03 34 19.0**	**-1.0**
GRPR				A	A	03 34 20.0	
	260nm,0.4s						
GRPR				A	A	03 34 20.0	
	250nm,0.4s						
GLVR	**Golovnino**	**1.76**	**249**	*e*P	**Pn**	**03 34 02.0**	**+1.1**
GLVR				AMB	AMB	03 34 03.0	
	50nm,0.2s						
GLVR				*e*S	**Sn**	**03 34 25.0**	**-0.1**
GLVR				A	A	03 34 26.0	
	400nm,0.4s						
GLVR				A	A	03 34 26.0	
	180nm,0.4s						
NEM2	**Nemuro 2**	**1.79**	**236**	P	**Pn**	**03 34 02.5**	**+1.1**
NEM2				*e*S	**Sn**	**03 34 25.1**	**-0.8**
JRA	**Rausu**	**1.97**	**258**	P	**Pn**	**03 34 05.0**	**+1.6**
JAK	**Akkeshi**	**2.64**	**239**	P	**Pn**	**03 34 12.8**	**+1.2**
JAK				*e*S	**Sn**	**03 34 43.5**	**-0.7**
JTKR	**Abashiri--Toko**	**2.82**	**263**	P	**Pn**	**03 34 15.2**	**+1.3**
JAR	**Ashorobuto**	**3.10**	**251**	P	**Pn**	**03 34 19.5**	**+1.9**
JCH	**Churui**	**3.67**	**243**	P	**Pn**	**03 34 26.4**	**+1.4**
JCH				*e*S	**Sn**	**03 35 06.9**	**-1.2**
JNBK	**Urakawa-nobuka**	**4.23**	**242**	P	**Pn**	**03 34 32.8**	**+0.5**
JOT	**Ohata**	**5.79**	**241**	*e*S	**Sn**	**03 35 54.3**	**-4.1**

*IDC **02** 03:42:12.3±0.4, 11°.39N×73°.41W, h0km, mb3.8/19, mb1 4.1/23, mb1mx4.0/32, mbtmp3.9/23, ML4.2/4, MS3.4/24, Ms1 3.4/24, ms1mx3.3/32, Error ellipse: s-maj=16.0km s-min=11.7km az=52.0*
*NEIC **02** 03:42:15.4±3.0, 11°.40N×73°.20W, h18km±19km, mb4.3/27, ML4.6(RSNC), Error ellipse: s-maj=8.8km s-min=5.7km az=60.0*
NEIC Felt at Barranquilla, Dibulla, Riohacha and Santa Marta.
*UCR **02** 03:42:16.9±8.1, 11°.40N×73°.20W, h18km, mb4.3(NEIC)*
*RSNC **02** 03:42:20.1±0.8, 11°.31N×73°.39W, h8km±3km, ML4.6, Mw4.5*
ISC 02 03:42:14.8±0.7, 11°.52N±0°.03×73°.22W±0°.03, h16km±4km, h16km:pP-P, n152, σ2°26/196, mb4.2/38, MS3.4/17, 14C-8D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRC	**Santa Marta, M**	**1.05**	**251**	⇓*i*P	**Pb**	**03 42 35.0**	**+0.4**
SMRC				*e*S	**Sb**	**03 42 46.9**	**-1.2**
SMRC				*i*		03 42 47.9	
	comp=Z,18μm,0.3s						
URIC	**Uribia, Colomb**	**1.22**	**81**	⇓*e*P	Pg	03 42 44.3	+6.1
URIC	**Uribia, Colomb**	**1.22**	**81**	⇓*i*P	Pg	03 42 44.3	+6.1
URIC				*e*S	Sg	03 43 04.0	+10
URIC				*i*		03 43 05.6	
	comp=Z,3μm,0.5s						
CCODA	**Codazzi, Cesar**	**1.59**	**188**	⇑*e*P	**Pb**	**03 42 44.0**	**+0.3**
CODC	**Agustn Codazz**	**1.59**	**188**	⇑*i*P	**Pb**	**03 42 44.0**	**+0.2**
CODC				*e*S	**Sn**	**03 43 02.1**	**-0.4**
CODC				*i*		03 43 04.0	
	comp=Z,4μm,0.4s						
ARGC	**Ariguani, Magd**	**1.93**	**212**	⇑*i*P	**Pn**	**03 42 48.2**	**+1.2**
ARGC				*e*S	**Sn**	**03 43 10.8**	**-0.3**
ARGC				*i*		03 43 21.4	
	comp=Z,3μm,0.3s						
SJCC	**San Jacinto, C**	**2.51**	**230**	⇑*i*P	**Pn**	**03 42 55.8**	**+0.7**
SJCC				*e*Pg	**Pb**	**03 42 58.6**	**-1.0**
SJCC				*e*S	**Sn**	**03 43 23.6**	**-1.9**
SJCC				*e*Sg	**Sb**	**03 43 28.4**	**-1.9**
SJCC				*i*		03 43 32.1	
	comp=Z,7μm,0.4s						
SJCC	**San Jacinto, C**	**2.51**	**230**	*e*P	**Pn**	**03 42 55.7**	**+0.7**
SJCC				*e*S	**Sb**	**03 43 28.8**	**-1.5**
DABV	**Dabajuro**	**2.60**	**103**	*e*P	**Pg**	**03 43 03.6**	**-1.1**
SMLC	**San Martn de**	**2.83**	**197**	*e*P	**Pn**	**03 43 00.5**	**+1.2**
SMLC				*e*S	**Sn**	**03 43 32.9**	**-0.2**
SMLC				*i*		03 43 41.0	
	comp=Z,3μm,0.3s						
OCAC	**Ocana**	**3.26**	**182**	*e*P	**Pn**	**03 43 07.5**	**+2.1**
OCAC				*e*S	**Sn**	**03 43 45.1**	**+1.1**
OCAC				*i*		03 43 54.6	
	comp=Z,3μm,0.4s						
SDV	**Santo Domingo**	**3.65**	**136**	*e*Pn	**Pn**	**03 43 12.2**	**+1.4**
SDV				*e*Sn	**Sn**	**03 43 54.3**	**+0.6**
SDV	**Santo Domingo**	**3.65**	**136**	*e*P	**Pb**	**03 43 16.1**	**-3.0**
SDV				*e*S	**Sn**	**03 43 57.6**	**+3.9**
SDV				*i*		03 44 03.5	
	comp=Z,1μm,0.4s						
SDV	**Santo Domingo**	**3.65**	**136**	Pn	**Pb**	**03 43 15.9**	**-3.2**
	comp=Z,43nm,0.3s,baz=316,slow=5.9,SNR=204						
SDV				Sn	**Sn**	**03 43 57.2**	**+3.5**
	comp=Z,194nm,0.3s,baz=307,slow=14,SNR=4.1						
SDV				LR	LR	03 45 21.5	
	comp=Z,535nm,19.6s,baz=276,slow=51						
CAPV	**Capacho**	**3.74**	**166**	⇑*i*P	**Pn**	**03 43 15.5**	**+3.5**
SOCV	**Socops**	**3.97**	**144**	*e*P	**Pb**	**03 43 19.9**	**-4.4**
PAMC	**Pamplona, Colo**	**4.18**	**173**	⇑*e*P	**Pn**	**03 43 21.1**	**+2.7**
PAMC				*e*S	**Sn**	**03 44 08.2**	**+1.0**
PAMC				*i*		03 44 20.0	
	comp=Z,1μm,0.4s						
ZARC	**Zaragoza, Cauc**	**4.31**	**202**	*e*P	**Pn**	**03 43 21.9**	**+2.0**
	comp=Z,2μm,0.5s						
ZARC				*e*S	**Sn**	**03 44 13.4**	**+3.5**
ZARC				*i*		03 44 23.3	
	comp=Z,2μm,0.5s						
UREC	**San Jos de Ur**	**4.38**	**212**	*e*P	**Pn**	**03 43 21.7**	**+0.9**
UREC				*e*S	**Sn**	**03 44 11.4**	**-0.1**
UREC				*i*		03 44 25.8	
	comp=Z,602nm,0.5s						
BRRC	**Barranca, Sant**	**4.41**	**186**	⇑*i*P	**Pn**	**03 43 22.8**	**+1.7**
BRRC				*e*S	**Sn**	**03 44 12.0**	**-0.2**
BRRC				*i*		03 44 23.9	
	comp=Z,576nm,0.4s						
GIRC	**Giron, Santand**	**4.41**	**180**	⇓*e*P	**Pn**	**03 43 24.1**	**+2.8**
GIRC				*i*		03 44 22.7	
	comp=Z,812nm,0.5s						
BARC	**Barichara**	**4.89**	**180**	⇑*e*P	**Pn**	**03 43 30.7**	**+2.7**
PTBC	**PUERTO BERRIO,**	**5.09**	**194**	*e*P	**Pn**	**03 43 32.4**	**+1.9**
PTBC				*e*S	**Sn**	**03 44 28.4**	**-0.8**
PTBC				*i*		03 44 36.7	
	comp=Z,957nm,0.4s						
TAMC	**Tame, Arauca**	**5.24**	**164**	⇑*e*P	**Pn**	**03 43 35.8**	**+3.1**
TAMC				*e*S	**Sn**	**03 44 34.8**	**+2.0**
TAMC				*i*		03 44 47.4	
	comp=Z,528nm,0.4s						
DBBC	**Dabeiba**	**5.36**	**214**	*e*P	**Pn**	**03 43 36.7**	**+2.4**
UPD2	**Meteti**	**5.57**	**238**	*e*P	**Pn**	**03 43 36.7**	**-0.4**
UPD2				*e*S	**Sn**	**03 44 33.4**	**-7.4**
RUSC	**La Rusia**	**5.59**	**179**	⇓*e*P	**Pn**	**03 43 39.8**	**+2.0**
RUSC				*i*		03 45 16.8	
	comp=Z,303nm,0.4s						
HELC	**Santa Helena**	**5.76**	**204**	*e*P	Pn	03 43 44.8	+4.7
HELC				*e*S	**Sn**	**03 44 48.9**	**+2.7**
HELC				*i*		03 45 04.3	
	comp=Z,751nm,0.6s						
NORC	**Norcasia**	**6.13**	**196**	⇑*e*P	**Pn**	**03 43 47.9**	**+3.0**
NORC				*i*		03 45 13.7	
	comp=Z,431nm,0.5s						
PTAC	**Punta Ardita,**	**6.27**	**227**	*e*P	**Pn**	**03 43 48.0**	**+1.2**
SOLC	**Bahia Solano**	**6.69**	**219**	*e*P	**Pn**	**03 43 54.6**	**+2.1**
SOLC				*i*		03 45 00.1	
	comp=Z,48nm,0.5s						
UPA	**Univ. de Panam**	**6.71**	**249**	*e*P	Pn	03 44 01.1	+8.4
UPA				*e*S	Sn	03 44 57.5	-11
ROSC	**El Rosal**	**6.72**	**189**	⇓*e*P	**Pn**	**03 43 55.7**	**+2.4**
ROSC				*e*S	**Sn**	**03 45 12.1**	**+2.3**
ROSC				*i*		03 45 32.3	
	comp=Z,331nm,0.7s						
ROSC	**El Rosal**	**6.72**	**189**	Pn	**Pn**	**03 43 55.7**	**+2.4**
	comp=Z,41nm,0.3s,baz=47,slow=5.1,SNR=52						
ROSC				Sn	**Sn**	**03 45 11.9**	**+2.1**
	comp=Z,3.1nm,0.3s,baz=18,slow=20,SNR=1.6						
ROSC				LR	LR	03 46 50.7	
	comp=Z,297nm,18.2s,baz=38,slow=42						
FLAM	**Flamenco Islan**	**6.74**	**248**	*e*P	Pn	03 44 00.5	+7.4
FLAM				*e*S	Sn	03 44 57.8	-12
FRIJ	**El Hiral**	**6.80**	**251**	*e*P	**Pn**	**03 43 52.5**	**-1.4**
BCIP	**Isla Barro Col**	**6.92**	**251**	*e*Pn	**Pn**	**03 43 54.4**	**-1.2**
BCIP				*e*Sn	Sn	03 45 04.3	-10
BCIP	**Isla Barro Col**	**6.92**	**251**	*e*P	**Pn**	**03 43 54.0**	**-1.6**
BCIP	**Isla Barro Col**	**6.92**	**251**	*e*P	**Pn**	**03 43 54.0**	**-1.6**
BCIP				*e*S	Sn	03 45 02.8	-11
LGNH	**Logne**	**6.98**	**5**	*e*Pn	**Pn**	**03 44 00.1**	**+3.6**
ZANG	**Zanguenga, Cho**	**7.02**	**249**	*e*S	Sn	03 45 05.1	-12
PLMC	**San Jos del P**	**7.23**	**205**	*e*P	**Pn**	**03 44 03.7**	**+3.7**
PLMC				*i*		03 45 54.3	
	comp=Z,160nm,0.8s						
CMJ	**Castle Mountai**	**7.25**	**336**	⇑*i*P	**Pn**	**03 44 03.5**	**+3.3**
PCJ	**Portland Cotta**	**7.27**	**329**	*i* P	**Pn**	**03 44 02.3**	**+1.9**
GWJ	**Greenwich**	**7.35**	**333**	*i* P	**Pn**	**03 44 04.7**	**+3.1**
VILC	**Villavicencio,**	**7.37**	**184**	⇑*e*P	**Pn**	**03 44 05.3**	**+3.3**
VILC				*e*S	**Sn**	**03 45 28.8**	**+3.3**
BANI	**BANI**	**7.37**	**22**	*e*Pn	**Pn**	**03 44 03.3**	**+1.3**
BANI				*e*Sn	**Sn**	**03 45 23.2**	**-2.3**
STH	**Stony Hill**	**7.39**	**332**	*i* P	**Pn**	**03 44 02.1**	**0.0**
STH				*i* S	**Sn**	**03 45 24.1**	**-1.7**
SDD	**Santo Domingo**	**7.60**	**24**	*e*Pn	**Pn**	**03 44 06.8**	**+1.8**
SDD				*e*Sn	**Sn**	**03 45 27.3**	**-3.7**
SDDR	**Presa de Saban**	**7.65**	**14**	*e*Pn	**Pn**	**03 44 06.9**	**+1.2**
SDDR				*e*Sn	**Sn**	**03 45 28.6**	**-3.7**
BNJ	**Bonny Gate**	**7.67**	**332**	⇓*i*P	**Pn**	**03 44 08.7**	**+2.8**
MCJ	**Malvern**	**7.70**	**326**	⇑*i*P	**Pn**	**03 44 07.9**	**+1.5**
MCJ				*i* P	**Pn**	**03 44 08.7**	**+2.3**
BBJ	**Bamboo Saint A**	**7.87**	**331**	⇑*i*P	**Pn**	**03 44 11.3**	**+2.5**
MTDJ	**Mount Denham**	**7.87**	**328**	*e*Pn	**Pn**	**03 44 10.6**	**+1.8**
MTDJ				*e*Sn	**Sn**	**03 45 30.9**	**-6.7**
AZU	**Azuero**	**7.88**	**243**	*e*P	Pn	03 44 16.3	+7.5
AZU				*e*S	Sn	03 45 27.2	-11
PRAC	**Prado**	**7.93**	**192**	*e*P	**Pn**	**03 44 11.5**	**+2.0**
PRAC				*e*S	**Sn**	**03 45 43.4**	**+4.4**
PRAC				*i*		03 46 07.1	
	comp=Z,195nm,0.6s						
YOTC	**Yotoco, Valle**	**8.10**	**203**	*e*P	**Pn**	**03 44 14.5**	**+2.6**
YOTC				*i*		03 46 20.3	
	comp=Z,40nm,0.6s						
PRVC	**Isla de Provid**	**8.17**	**284**	*e*P	**Pn**	**03 44 09.1**	**-3.7**
PRVC				*e*S	Sn	03 45 34.9	-10
PCDR	**Punta Cana, DR**	**8.38**	**33**	*e*Pn	**Pn**	**03 44 18.9**	**+3.2**
PCDR				*e*Sn	**Sn**	**03 45 52.5**	**+2.5**
MALC	**Bahia Malaga**	**8.50**	**209**	*e*P	Pn	03 44 22.7	+5.4
GTBY	**Guantanamo Bay**	**8.56**	**348**	*e*Pn	**Pn**	**03 44 19.4**	**+1.2**
GTBY				*e*Sn	Sn	03 45 43.0	-11
MPR	**Mayaguez**	**8.88**	**41**	*e*Pn	**Pn**	**03 44 23.7**	**+1.2**
GUVC	**San Jose del G**	**8.93**	**176**	*e*P	**Pn**	**03 44 24.1**	**+0.8**
GUVC				*e*P	**Pn**	**03 44 24.7**	**+1.4**
GUVC				*e*S	**Sn**	**03 45 59.0**	**-4.8**
GUVC				*e*S	**Sn**	**03 46 00.1**	**-3.7**
GUVC				*i*		03 46 13.4	
	comp=E,374nm,0.3s						
BETC	**Betania**	**9.05**	**194**	*e*P	**Pn**	**03 44 28.6**	**+3.7**
OBIP	**Obispado Ponce**	**9.11**	**44**	*e*Pn	**Pn**	**03 44 27.5**	**+1.8**
SJG	**San Juan**	**9.47**	**45**	*e*P	**Pn**	**03 44 28.5**	**-2.1**
SJG				*e*S	**Sn**	**03 46 10.1**	**-6.7**
SJG	**San Juan**	**9.47**	**45**	Pn	**Pn**	**03 44 28.6**	**-2.1**
	comp=E,4.3nm,0.3s,baz=175,slow=11,SNR=11						
SJG				Sn	**Sn**	**03 46 11.8**	**-5.0**
	comp=E,29nm,0.3s,baz=193,slow=18,SNR=27						
SJG				LR	LR	03 48 22.9	
	comp=E,189nm,22.0s,baz=238,slow=38						
POPC	**Popayan, Colom**	**9.55**	**201**	*e*P	**Pn**	**03 44 33.2**	**+1.2**
POPC				*i*		03 46 44.7	
	comp=Z,12nm,0.6s						
DRK0	**Durika**	**10.11**	**258**	*e*P	**Pn**	**03 44 37.7**	**-1.9**
DRK0				*e*S	Sn	03 46 18.0	-15
FLOC	**Florencia**	**10.16**	**194**	⇓*e*P	**Pn**	**03 44 41.8**	**+1.6**
FLOC				*e*S	**Sn**	**03 46 38.8**	**+4.9**
FLOC				*i*		03 47 33.4	
	comp=Z,40nm,0.7s						
CUPR	**Culebra, Puert**	**10.22**	**48**	*e*Sn	**Sn**	**03 46 31.1**	**-4.1**
BBAC	**Balboa, Cauca**	**10.24**	**203**	*e*P	**Pn**	**03 44 44.9**	**+3.4**
CRUC	**La Cruz**	**10.55**	**201**	*e*P	**Pn**	**03 44 48.1**	**+2.2**
FSCY	**Frank Sound, G**	**10.91**	**316**	*e*Pn	**Pn**	**03 44 49.8**	**-0.5**
GCUF	**Volcan Galeras**	**11.01**	**202**	*e*P	**Pn**	**03 44 53.8**	**+1.6**
GCUF				*e*P	**Pn**	**03 44 54.4**	**+2.1**
GCUF				*i*		03 45 30.3	
	comp=Z,11nm,0.5s						
JTS	**Las Juntas de**	**11.59**	**265**	*e*Pn	**Pn**	**03 44 55.8**	**-4.0**
JTS	**Las Juntas de**	**11.59**	**265**	Pn	**Pn**	**03 44 56.4**	**-3.3**
	comp=Z,1.4nm,0.3s,baz=347,slow=23,SNR=12						
JTS				Sn	Sn	03 46 57.6	-11
	comp=Z,1.9nm,0.3s,baz=53,slow=20,SNR=5.8						
JTS				LR	LR	03 49 32.0	
	comp=Z,206nm,18.8s,baz=170,slow=39						
SVB	**Belmont**	**11.82**	**80**	*e*Pn	**Pn**	**03 45 02.9**	**0.0**
OTAV	**Otavalo**	**12.35**	**205**	*e*Pn	**Pn**	**03 45 12.8**	**+2.2**
OTAV	**Otavalo**	**12.35**	**205**	*e*P	**Pn**	**03 45 11.3**	**+0.7**
APG	**El Apazote**	**17.14**	**284**	Pn	**Pn**	**03 46 12.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=60,slow=20,SNR=1.9						
APG				LR	LR	03 53 52.1	
	comp=Z,167nm,18.3s,baz=98,slow=41						
PTGA	**Pitinga**	**17.93**	**132**	P	**P**	**03 46 25.5**	**+1.3**
	comp=Z,1.5nm,0.3s,baz=314,slow=20,SNR=14						
PTGA				S	**Sn**	**03 49 35.5**	**-8.0**
	comp=Z,0.6nm,0.3s,baz=336,slow=8.9,SNR=4.1						
PTGA				LR	LR	03 53 35.1	
	comp=Z,119nm,21.2s,baz=313,slow=38						
CCIG	**Comitan**	**18.96**	**287**	*e*P	**Pn**	**03 46 39.5**	**+3.1**
	comp=Z,15nm,1.0s						
ATAH	**Atahualpa**	**19.23**	**196**	P	**P**	**03 46 38.4**	**-0.6**
	comp=Z,3.9nm,0.3s,baz=16,slow=6.6,SNR=30						
ATAH				LR	LR	03 54 42.4	
	comp=Z,193nm,21.2s,baz=11,slow=39						
PAYG	**Puerto Ayora**	**20.84**	**236**	*e*P	Pn	03 47 00.7	+2.1
	comp=Z,13nm,1.0s						
MDP	**Montagnes des**	**21.32**	**106**	P	**P**	**03 47 02.7**	**+1.4**
	comp=Z,6.4nm,0.8s,baz=294,slow=9.9,SNR=5.8						
MDP				LR	LR	03 55 58.5	
	comp=Z,92nm,21.5s,baz=287,slow=38						
CMIG	**Matias Romero**	**21.70**	**287**	P	**P**	**03 47 05.3**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=103,slow=9.3,SNR=2.9						
CMIG				LR	LR	03 55 52.9	
	comp=Z,143nm,18.8s,baz=41,slow=38						
NNA	**Nana**	**23.63**	**189**	*e*P	**P**	**03 47 29.1**	**+3.6**
	comp=Z,12nm,0.6s						
NNA	**Nana**	**23.63**	**189**	P	**P**	**03 47 24.8**	**-0.7**
	comp=Z,4.6nm,0.3s,baz=342,slow=7.0,SNR=5.7						
NNA				LR	LR	03 58 36.8	
	comp=Z,155nm,21.7s,baz=346,slow=42						
LPAZ	**La Paz**	**28.08**	**170**	*e*P	**P**	**03 48 06.3**	**-0.3**
	comp=Z,2.5nm,0.8s						
LPAZ	**La Paz**	**28.08**	**170**	P	**P**	**03 48 05.9**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=304,slow=5.8,SNR=9.5						
LPAZ				LR	LR	04 00 28.8	
	comp=Z,130nm,21.6s,baz=337,slow=39						
SIV	**San Ignacio**	**29.86**	**156**	P	**P**	**03 48 20.5**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=12,slow=9.2,SNR=9.3						
SIV				LR	LR	04 01 10.4	
	comp=Z,188nm,18.7s,baz=300,slow=38						
LTX	**Lajitas**	**33.44**	**307**	*e*P	**P**	**03 48 52.5**	**-0.8**
TXAR	**Lajitas Array**	**33.44**	**307**	P	**P**	**03 48 52.5**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=134,slow=8.9,SNR=5.4						
TXAR				LR	LR	04 04 37.0	
	comp=Z,30nm,18.3s,baz=0.0,slow=40						
BDFB	**Brasilia**	**36.75**	**137**	P	**P**	**03 49 20.4**	**-1.5**
	comp=Z,2.0nm,0.5s,baz=314,slow=8.6,SNR=6.8						
BDFB				LR	LR	04 06 34.6	
	comp=Z,24nm,21.5s,baz=312,slow=40						
CPUP	**Villa Florida**	**40.67**	**158**	P	**P**	**03 49 54.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=27,slow=2.3,SNR=2.6						
CPUP				PcP	**PcP**	**03 51 56.4**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=0.0,slow=1.0,SNR=2.9						
CPUP				LR	LR	04 08 19.1	
	comp=Z,121nm,19.9s,baz=16,slow=39						
PV13	**Radium Mtn., P**	**41.39**	**316**	*e*P	**P**	**03 50 01.8**	**+1.1**
	comp=Z,4.3nm,0.7s						
GO04	**Tololo Observa**	**41.51**	**177**	*e*P	**P**	**03 49 58.6**	**-3.1**
	comp=Z,15nm,1.1s						
PV17	**East Wray Mesa**	**41.54**	**316**	*e*P	**P**	**03 49 58.6**	**-3.3**
	comp=Z,3.7nm,0.6s						
MDND	**Maddock**	**42.44**	**334**	*e*P	**P**	**03 50 09.7**	**+0.8**
	comp=Z,58nm,0.8s						
ULM	**Lac du Bonnet**	**42.88**	**339**	*e*P	**P**	**03 50 12.3**	**-0.1**
	comp=Z,8.7nm,0.8s						
ULM	**Lac du Bonnet**	**42.88**	**339**	P	**P**	**03 50 12.9**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=122,slow=7.1,SNR=2.9						
ULM				LR	LR	04 09 03.9	
	comp=Z,102nm,18.9s,baz=162,slow=38						
SCHQ	**Schefferville**	**43.50**	**5**	LR	LR	04 06 36.9	
	comp=Z,41nm,20.0s,baz=304,slow=34						
PD31	**Pinedale Array**	**44.31**	**321**	*e*P	**P**	**03 50 24.1**	**-0.3**
	comp=Z,0.9nm,1.0s						
PD31				*e*PcP	**PP**	**03 52 07.4**	**-0.3**
PDAR	**Pinedale Array**	**44.31**	**321**	P	**P**	**03 50 24.1**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=117,slow=11,SNR=3.8						
PDAR				PcP	**PP**	**03 52 07.4**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=124,slow=6.6,SNR=5.7						
PDAR				LR	LR	04 11 22.2	
	comp=Z,33nm,18.3s,baz=80,slow=40						
SNOW	**Snow King Moun**	**45.42**	**321**	*e*P	**P**	**03 50 35.9**	**+2.7**
	comp=Z,6.1nm,1.0s						
REDW	**Red Top Meadow**	**45.43**	**321**	*e*P	**P**	**03 50 34.5**	**+1.2**
	comp=Z,12nm,1.1s						
MOOW	**Moose Ponds**	**45.57**	**322**	*e*P	**P**	**03 50 35.7**	**+1.2**
	comp=Z,2.1nm,0.8s						
FXWY	**Fox Creek**	**45.68**	**322**	*e*P	**P**	**03 50 37.1**	**+1.8**
	comp=Z,3.2nm,0.9s						
R11A	**Troy Canyon, C**	**46.22**	**313**	*e*P	**P**	**03 50 41.4**	**+1.9**
	comp=Z,1.2nm,0.9s						
MCMT	**McKenzie Canyo**	**47.43**	**322**	*e*P	**P**	**03 50 51.4**	**+2.5**
HLID	**Hailey**	**47.75**	**320**	*e*P	**P**	**03 50 54.2**	**+2.8**
	comp=Z,1.0nm,0.8s						
NV01	**Mina Array Sit**	**48.22**	**312**	*e*P	**P**	**03 50 54.8**	**-0.4**
NV01				*e*PcP	**PcP**	**03 52 22.0**	**-0.3**
NVAR	**Mina Array Bea**	**48.22**	**312**	P	**P**	**03 50 54.8**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=112,slow=7.7,SNR=5.7						
NVAR				PcP	**PcP**	**03 52 22.0**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=140,slow=4.4,SNR=2.9						
F10A	**Beach Ranch, E**	**50.67**	**321**	*e*P	**P**	**03 51 14.7**	**+1.1**
	comp=Z,3.3nm,0.8s						
G08A	**Pilot Rock**	**51.44**	**320**	*e*P	**P**	**03 51 20.9**	**+1.4**
	comp=Z,2.2nm,0.8s						
B08A	**Colville Reser**	**53.06**	**323**	*e*P	**P**	**03 51 32.5**	**+1.1**
	comp=Z,3.3nm,0.8s						
H04A	**Detroit Lake**	**53.27**	**318**	*e*P	**P**	**03 51 34.3**	**+1.3**
	comp=Z,5.8nm,0.8s						
GO07	**Milladeo Hill,**	**54.37**	**180**	*e*P	**P**	**03 51 40.3**	**-0.5**
	comp=Z,40nm,0.6s						
YKA	**Yellowknife Ar**	**58.86**	**339**	P	**P**	**03 52 12.9**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=128,slow=7.3,SNR=22						
YKA				PcP	**PcP**	**03 53 02.0**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=124,slow=5.7,SNR=8.1						
YKA				LR	LR	04 19 02.0	
	comp=Z,5.4nm,18.6s,baz=145,slow=38						
YKB5	**Yellowknife Ar**	**58.86**	**339**	*e*P	**P**	**03 52 12.9**	**+0.4**
YKB5				*e*PcP	**PcP**	**03 53 02.0**	**+0.1**
GO09	**Cerro Castillo**	**62.53**	**179**	*e*P	**P**	**03 52 36.1**	**-1.5**
	comp=Z,15nm,1.1s						
EFI	**East Falkland**	**64.29**	**170**	*e*P	**P**	**03 52 48.4**	**-0.8**
	comp=Z,9.7nm,0.6s						
PAB	**San Pablo**	**66.49**	**52**	*e*P	**P**	**03 53 02.9**	**-1.1**
	comp=Z,4.9nm,1.0s						
ESDC	**Sonseca Array**	**66.79**	**52**	P	**P**	**03 53 09.4**	**+3.4**
	comp=Z,0.1nm,0.2s,baz=282,slow=5.3,SNR=3.3						
DBIC	**Dimbokro**	**67.55**	**87**	P	**P**	**03 53 12.0**	**+0.9**
	comp=Z,11nm,1.2s,baz=231,slow=6.5,SNR=2.8						
DBIC				LR	LR	04 23 04.2	
	comp=Z,13nm,18.2s,baz=246,slow=36						

PRK					AML	AML	03 56 07.9	
	comp=N,1544μm,0.2s							
PRK					AML	AML	03 56 09.5	
	comp=E,1400μm,0.4s							
GPNR	**Gulpinar-Canak**	**0.38**	**22**	PG	**Pg**		**03 56 04.3**	**-0.1**
GPNR				SG	**Sb**		**03 56 10.3**	**0.0**
AYVA	**Ayvalik**	**0.61**	**70**	*i* P	**Pb**		**03 56 08.9**	**+0.3**
AYVA				*i* S	**Sb**		**03 56 17.1**	**+0.2**
CHOS	**Chios island**	**0.72**	**174**	PG	**Pb**		**03 56 10.6**	**0.0**
CHOS				SG	**Sn**		**03 56 21.9**	**-0.6**
CHOS	**Chios island**	**0.72**	**174**	P	**Pb**		**03 56 10.3**	**-0.3**
CHOS				S	**Sg**		**03 56 20.9**	**+0.7**
CHOS	**Chios island**	**0.72**	**174**	P	**Pb**		**03 56 10.2**	**-0.4**
CHOS				S	**Sg**		**03 56 20.2**	**0.0**
CHOS				AML	AML		03 56 23.4	
	comp=E,1046μm,0.3s							
CHOS				AML	AML		03 56 24.5	
	comp=N,562μm,0.3s							
BOZC	**Bozcaada**	**0.74**	**6**	PG	**Pg**		**03 56 11.2**	**+0.2**
BOZC				SG	**Sg**		**03 56 21.8**	**+0.9**
BOZC	**Bozcaada**	**0.74**	**6**	*i* P	**Pg**		**03 56 11.3**	**+0.2**
BOZC				*i* S	**Sg**		**03 56 21.4**	**+0.5**
EZN	**Ezine**	**0.78**	**22**	PG	**Pg**		**03 56 11.5**	**-0.2**
EZN				SG	**Sn**		**03 56 23.5**	**-0.4**
EZN	**Ezine**	**0.78**	**22**	P	**Pb**		**03 56 11.3**	**-0.2**
EZN				S	**Sn**		**03 56 23.3**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**0.79**	**36**	IAML_P				
	comp=Z,3μm,0.1s							
BAYC				*i* P	**Pg**		**03 56 11.9**	**0.0**
BAYC				*i* S	**Sn**		**03 56 25.1**	**+1.0**
ZEDA	**zmir-Bergama**	**0.89**	**98**	*i* P	**Pn**		**03 56 14.7**	**+0.5**
ZEDA				*i* S	**Sn**		**03 56 26.5**	**-0.1**
URLA	**Izmir**	**0.90**	**146**	PG	**Pn**		**03 56 14.2**	**-0.1**
URLA	**Izmir**	**0.90**	**146**	*i* P	**Pn**		**03 56 14.0**	**-0.3**
URLA				*i* S	**Sn**		**03 56 27.4**	**+0.5**
ZEY	**zmir**	**0.96**	**153**	*i* P	**Pn**		**03 56 14.9**	**-0.3**
ZEY				*i* S	**Sn**		**03 56 28.7**	**+0.2**
LIA	**Limnos Island**	**0.99**	**323**	P	**Pn**		**03 56 15.8**	**+0.2**
LIA				S	**Sn**		**03 56 29.9**	**+0.7**
LIA	**Limnos Island**	**0.99**	**323**	P	**Pn**		**03 56 15.8**	**+0.2**
LIA				S	**Sn**		**03 56 29.3**	**+0.1**
LIA				AML	AML		03 56 30.3	
	comp=E,801μm,0.3s							
LIA				AML	AML		03 56 30.9	
	comp=N,685μm,0.3s							
BLCB	**Balcova**	**1.11**	**130**	PN	**Pg**		**03 56 18.2**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.35**	**17**	PN	**Pg**		**03 56 22.0**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.40**	**78**	*i* P	**Pg**		**03 56 24.2**	**+0.7**
STEP				*i* S	**Sg**		**03 56 41.2**	**-0.5**
SMTH	**Samothraki Isl**	**1.41**	**347**	P	**Pb**		**03 56 22.2**	**-0.1**
SMTH				S	**Sb**		**03 56 40.3**	**+0.4**
SMTH	**Samothraki Isl**	**1.41**	**347**	P	**Pb**		**03 56 22.8**	**+0.5**
LPK	**Lapseki**	**1.41**	**26**	PN	**Pg**		**03 56 23.4**	**-0.3**
BALY	**Balya**	**1.44**	**63**	*i* P	**Pg**		**03 56 24.2**	**-0.1**
BALY				*i* S	**Sg**		**03 56 42.0**	**-1.0**
AKHS	**Akhisar**	**1.47**	**98**	IAML_P				
	comp=Z,270nm,0.1s							
AKHS				*i* P	**Pg**		**03 56 25.9**	**+1.1**
SMG	**Samos**	**1.56**	**153**	P	**Pb**		**03 56 25.3**	**+0.5**
SMG				S	**Sg**		**03 56 46.7**	**0.0**
AOS	**Alonnisos**	**1.61**	**273**	P	**Pn**		**03 56 24.3**	**+0.2**
AOS				S	**Sn**		**03 56 45.1**	**+0.6**
ERIK	**Erikli-Kesan**	**1.62**	**15**	PN	**Pb**		**03 56 26.3**	**+0.3**
GONE	**Gonen-Balikesi**	**1.64**	**54**	PN	**Pg**		**03 56 27.0**	**-1.0**
KRBG	**Karabiga-Canak**	**1.65**	**38**	PN	**Pb**		**03 56 27.0**	**+0.5**
KNL	**Balıkesir**	**1.68**	**46**	*i* P	**Pg**		**03 56 27.7**	**-1.2**
GCAM	**G?zelcaml?**	**1.72**	**144**	PN	**Pb**		**03 56 27.9**	**+0.2**
GCAM	**G?zelcaml?**	**1.72**	**144**	IAML_P				
	comp=Z,185nm,0.1s							
GCAM				*i* P	**Pg**		**03 56 28.9**	**-0.8**
ALN	**Alexandroupoli**	**1.79**	**2**	PN	**Pb**		**03 56 28.5**	**-0.4**
ALN	**Alexandroupoli**	**1.79**	**2**	P	**Pb**		**03 56 29.0**	**+0.1**
ALN				AML	AML		03 56 54.3	
	comp=E,37μm,0.3s							
ALN				AML	AML		03 57 02.5	
	comp=N,29μm,0.7s							
KESN	**Edirne-Kesan**	**1.81**	**18**	*i* P	**Pb**		**03 56 29.6**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.84**	**30**	PN	**Pb**		**03 56 29.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.91**	**127**	PN	**Pb**		**03 56 30.4**	**-0.5**
EDC	**Edincik**	**1.93**	**49**	PN	**Pb**		**03 56 30.6**	**-0.5**
MRMT	**Marmara Adasi**	**1.96**	**40**	PN	**Pb**		**03 56 31.4**	**-0.4**
DURS	**Dursunbey**	**2.02**	**75**	IAML_P				
	comp=Z,130nm,0.2s							
DURS				*i* P	**Pn**		**03 56 30.7**	**+0.9**
DURS				*i* S	**Sg**		**03 57 01.4**	**-0.1**
RDO	**Rodhopi**	**2.07**	**351**	PN	**Pb**		**03 56 32.5**	**-1.0**
KCTX	**Karacabey (Bur**	**2.19**	**57**	PN	**Pb**		**03 56 34.0**	**-1.6**

*IDC **02** 04:07:07.6±1.9, 39°.60N×75°.81E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.2/47, mbtmp3.3/4, ML3.3/2, MS2.9/2, Ms1 2.9/2, ms1mx2.2/31, Error ellipse: s-maj=34.7km s-min=22.4km az=95.0*

*SOME **02** 04:07:09.3, 40°.05N×75°.57E, h0km*

*NNC **02** 04:07:10.2±1.6, 39°.92N×75°.81E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=10.8km s-min=8.2km az=166.0*

*KRNET **02** 04:07:11.7±0.1, 39°.94N×75°.85E, mb3.4*

ISC 02 04:07:08.8±1.4, 39°.90N±0°.07×75°.85E±0°.04, h10km, n62, σ1§42/88, 29C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.54**	**4**	⇓*i*P	**Pg**	**04 07 39.5**	**+1.2**
NRN	baz=3.0			⇓*i*S	**Sg**	**04 08 00.5**	**+2.2**
KZA	**Kyzart**	**2.22**	**348**	P	**Pg**	**04 07 51.6**	**+0.1**
KZA	SNR=50 **Kyzart**	**2.22**	**348**	⇑*i*P	**Pg**	**04 07 51.9**	**+0.4**
KZA	baz=48			⇑*i*S	**Sg**	**04 08 21.4**	**+1.1**
ARLS	**Aral**	**2.27**	**330**	⇑*i*P	**Pg**	**04 07 52.1**	**-0.4**
ARLS	baz=30			⇑*i*S	**Sg**	**04 08 22.2**	**+0.3**
TARG	**Taragay, Kyrgy**	**2.35**	**38**	⇑*i*P	**Pg**	**04 07 54.0**	**0.0**
TARG	baz=39			⇑*i*S	**Sg**	**04 08 24.4**	**-0.1**
ULHL	**Ulahol**	**2.36**	**7**	P	**Pg**	**04 07 53.5**	**-0.6**
ULHL	SNR=18 **Ulahol**	**2.36**	**7**	⇑*i*P	**Pg**	**04 07 54.0**	**-0.1**
ULHL	baz=7.0			⇑*i*S	**Sg**	**04 08 24.4**	**-0.3**
KDJ	**Kajisay**	**2.44**	**24**	⇑*i*P	**Pg**	**04 07 55.1**	**-0.6**
KDJ	baz=24			⇑*i*S	**Sg**	**04 08 26.3**	**-1.1**
UCH	**Uchtor**	**2.53**	**337**	P	**Pg**	**04 07 56.9**	**-0.6**
UCH	SNR=111 **Uchtor**	**2.53**	**337**	⇑*i*P	**Pb**	**04 07 56.2**	**+1.5**
UCH	baz=37			⇑*i*S	**Sg**	**04 08 28.9**	**-1.4**
BOOM	**Boomskoye usch**	**2.59**	**2**	⇑*i*P	**Pb**	**04 07 56.7**	**+1.3**
BOOM	baz=1.0			⇑*i*S	**Sg**	**04 08 29.6**	**-2.4**
AML	**Almayashu**	**2.76**	**325**	P	**Pb**	**04 07 59.9**	**+1.4**
AML	SNR=21 **Almayashu**	**2.76**	**325**	⇑*i*P	**Pb**	**04 07 59.8**	**+1.3**
AML	baz=24			⇑*i*S	**Sb**	**04 08 34.4**	**+1.8**
KBK	**Karagaybulak**	**2.84**	**346**	P	**Pb**	**04 08 00.9**	**+1.3**
KBK	SNR=15 **Karagaybulak**	**2.84**	**346**	⇑*i*P	**Pb**	**04 08 00.8**	**+1.1**
KBK	baz=46			⇑*i*S	**Sb**	**04 08 36.0**	**+1.5**
AAK	**Ala-Archa**	**2.92**	**340**	P	**Pb**	**04 08 01.7**	**+0.6**
AAK	SNR=29 **Ala-Archa**	**2.92**	**340**	Pg	**Pb**	**04 08 01.7**	**+0.6**
AAK	12nm,0.5s			Lg	Lg	04 08 42.9	
AAK	23nm,0.6s **Ala-Archa**	**2.92**	**340**	⇑*i*P	**Pb**	**04 08 01.6**	**+0.5**
AAK	baz=40			⇑*i*S	**Sb**	**04 08 37.9**	**+1.0**
AAK	**Ala-Archa**	**2.92**	**340**	Pn	**Pb**	**04 08 02.0**	**+0.9**
	8.2nm,0.3s,baz=118,slow=7.4,SNR=40						
AAK				Sn	**Sg**	**04 08 41.8**	**-0.8**
	5.6nm,0.3s,baz=131,slow=9.1,SNR=14						
TKM2	**Tokmak 2**	**3.02**	**356**	P	**Pb**	**04 08 04.3**	**+1.4**
	SNR=28						
TKM2	**Tokmak 2**	**3.02**	**356**	⇓Pg	**Pb**	**04 08 03.8**	**+0.9**
	6.6nm,0.5s						
TKM2				⇑Lg	Lg	04 08 45.7	
	20nm,0.6s						
TKM2	**Tokmak 2**	**3.02**	**356**	⇑*i*P	**Pb**	**04 08 03.4**	**+0.5**
	baz=56						
TKM2				⇑*i*S	**Sb**	**04 08 40.5**	**+0.6**
	baz=56						
KST	**Kastek**	**3.14**	**2**	Pg	**Pg**	**04 08 08.1**	**-1.0**
	16nm,0.5s						
KST				Lg	Lg	04 08 50.3	
	28nm,1.0s						
KST	**Kastek**	**3.14**	**2**	*e*P	**Pg**	**04 08 08.1**	**-1.0**
	16nm,0.5s						
KST				⇓*i*S	**Sg**	**04 08 50.3**	**+0.6**
	27nm,0.8s						
EKS2	**Erkin-Say**	**3.17**	**331**	P	**Pb**	**04 08 06.1**	**+0.8**
	SNR=17						
EKS2	**Erkin-Say**	**3.17**	**331**	⇑*i*P	**Pb**	**04 08 05.2**	**-0.1**
	baz=31						
EKS2				⇑*i*S	**Sb**	**04 08 43.9**	**-0.2**
	baz=31						
TNSS	**Tian-Shan**	**3.24**	**14**	Pg	**Pg**	**04 08 10.0**	**-0.9**
	13nm,0.5s						
TNSS				Lg	Lg	04 08 53.9	
	15nm,0.5s						
TNSS	**Tian-Shan**	**3.24**	**14**	*e*P	**Pg**	**04 08 10.0**	**-0.9**
	13nm,0.5s						
TNSS				*e*S	**Sg**	**04 08 53.6**	**+0.7**
	14nm,0.5s						
MTBS	**Maitube**	**3.26**	**8**	Pg	**Pg**	**04 08 10.0**	**-1.2**
	10nm,0.4s						
MTBS				Lg	Lg	04 08 53.9	
	16nm,0.4s						
MTBS	**Maitube**	**3.26**	**8**	*e*P	**Pg**	**04 08 10.0**	**-1.2**
	10nm,0.4s						
MTBS				*e*S	**Sg**	**04 08 53.5**	**+0.1**
	16nm,0.4s						
DGS	**Degeres**	**3.34**	**359**	Pg	**Pg**	**04 08 10.7**	**-2.1**
	15nm,0.5s						
DGS				Lg	Lg	04 08 54.6	
	20nm,0.5s						
DGS	**Degeres**	**3.34**	**359**	*e*P	**Pg**	**04 08 10.7**	**-2.1**
	15nm,0.5s						
DGS				*e*S	**Sg**	**04 08 54.6**	**-1.5**
	20nm,0.5s						
MDOK	**Medeo**	**3.38**	**15**	Pg	**Pb**	**04 08 08.1**	**-0.8**
	5.0nm,0.5s						
MDOK				Lg	Lg	04 08 57.5	
	14nm,0.5s						
MDOK	**Medeo**	**3.38**	**15**	Pg	**Pg**	**04 08 11.6**	**-2.0**
	7.1nm,0.4s						
MDOK				Lg	Lg	04 08 56.3	
	13nm,0.7s						
MDOK	**Medeo**	**3.38**	**15**	*e*P	**Pg**	**04 08 11.6**	**-2.0**
	7.1nm,0.4s						
MDOK				*e*S	**Sg**	**04 08 56.3**	**-1.1**
	13nm,0.7s						
MRKS	**Merke**	**3.46**	**326**	Pg	**Pg**	**04 08 14.2**	**-1.0**
	19nm,0.4s						
MRKS				Lg	Lg	04 09 00.2	
	11nm,0.4s						
MRKS	**Merke**	**3.46**	**326**	*e*P	**Pb**	**04 08 09.3**	**-1.0**
	8.5nm,0.4s						
MRKS				*e*S	**Sb**	**04 08 52.0**	**-0.4**
	11nm,0.5s						
KOTS	**Kotyrbulak**	**3.46**	**15**	Pg	**Pg**	**04 08 13.4**	**-1.8**
	7.5nm,0.4s						
KOTS				Lg	Lg	04 09 00.9	
	27nm,0.4s						
KOTS	**Kotyrbulak**	**3.46**	**15**	*e*P	**Pg**	**04 08 13.3**	**-1.8**
	7.5nm,0.4s						
KOTS				*e*S	**Sg**	**04 08 59.4**	**-0.7**
	27nm,0.4s						
USP	**Ospenovka**	**3.51**	**344**	P	**Pb**	**04 08 10.3**	**-0.9**
	SNR=16						
SATY	**Saty**	**3.69**	**31**	*e*P	**Pg**	**04 08 18.5**	**-1.1**
	5.2nm,0.5s						
SATY				*e*S	**Sg**	**04 09 07.7**	**+0.2**
	16nm,0.7s						
ZHN	**Zhinishke**	**3.80**	**30**	Pg	**Pg**	**04 08 20.5**	**-1.1**
	4.2nm,0.4s						
ZHN				Lg	Lg	04 09 12.4	
	5.9nm,0.3s						
ZHN	**Zhinishke**	**3.80**	**30**	*e*P	**Pg**	**04 08 20.5**	**-1.1**
	4.2nm,0.4s						
ZHN				*e*S	**Sg**	**04 09 11.7**	**+0.9**
	5.9nm,0.3s						
KTBS	**Karatobe**	**3.86**	**9**	Pg	**Pg**	**04 08 20.5**	**-2.3**
	11nm,0.4s						
KTBS				Lg	Lg	04 09 12.7	
	24nm,0.4s						
KTBS	**Karatobe**	**3.86**	**9**	*e*P	**Pg**	**04 08 20.5**	**-2.3**
	11nm,0.4s						
KTBS				*e*S	**Sg**	**04 09 11.3**	**-1.4**
	24nm,0.4s						
KUU	**Kurty**	**4.01**	**5**	Pg	**Pg**	**04 08 23.1**	**-2.5**
	3.8nm,0.4s						
KUU				Lg	Lg	04 09 16.9	
	24nm,0.5s						
KUU	**Kurty**	**4.01**	**5**	⇑*i*P	**Pg**	**04 08 23.1**	**-2.5**
	2.3nm,0.4s						
KUU				*e*S	**Sg**	**04 09 16.0**	**-1.5**
	24nm,0.5s						
CHKK	**Chushkaly**	**4.04**	**12**	Pg	**Pg**	**04 08 24.8**	**-1.5**
	2.8nm,0.4s						
CHKK				Lg	Lg	04 09 18.7	
	14nm,0.5s						
CHKK	**Chushkaly**	**4.04**	**12**	⇑*i*P	**Pg**	**04 08 24.8**	**-1.5**
	2.8nm,0.4s						
CHKK				*e*S	**Sg**	**04 09 18.7**	**+0.1**
	14nm,0.5s						
PDGK	**Podgornoye**	**4.38**	**37**	Pg	**Pg**	**04 08 30.5**	**-2.2**
	1.6nm,0.4s						
PDGK				Lg	Lg	04 09 28.4	
	3.9nm,0.5s						
PDGK	**Podgornoye**	**4.38**	**37**	⇓Pg	**Pg**	**04 08 30.6**	**-2.2**
	2.2nm,0.5s						
PDGK				⇑Lg	Lg	04 09 29.2	
	7.3nm,0.6s						
ARXS	**Arharly**	**4.55**	**18**	Pg	**Pg**	**04 08 33.6**	**-2.5**
	3.6nm,0.5s						
ARXS				Lg	Lg	04 09 32.0	
	7.0nm,0.6s						
ARXS	**Arharly**	**4.55**	**18**	*e*P	**Pg**	**04 08 33.6**	**-2.5**
	3.6nm,0.5s						
ARXS				*e*S	**Sg**	**04 09 33.8**	**-1.3**
	8.3nm,0.6s						
MNBS	**Baschi**	**4.59**	**24**	Pg	**Pg**	**04 08 35.7**	**-1.0**
	2.1nm,0.3s						
MNBS				Lg	Lg	04 09 36.9	
	6.2nm,0.3s						
MNBS	**Baschi**	**4.59**	**24**	*e*P	**Pg**	**04 08 35.7**	**-1.0**
	2.1nm,0.3s						
MNBS				*e*S	**Sg**	**04 09 37.4**	**+1.3**
	6.2nm,0.3s						
KK31	**Karatay Array**	**5.13**	**310**	⇑Pg	**Pg**	**04 08 43.2**	**-3.8**
	0.9nm,0.4s,baz=128,slow=16,SNR=13						
KK31				⇓Lg	Lg	04 09 54.6	
	0.7nm,0.3s,baz=125,slow=28,SNR=3.8						
KAPS	**Kapalarasan**	**5.97**	**25**	*e*P	**Pg**	**04 08 59.9**	**-3.3**
	0.9nm,0.4s						
KAPS				*e*S	**Sg**	**04 10 18.5**	**-1.9**
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**8.33**	**32**	Pn	Pn	04 09 15.0	+5.3
	0.1nm,0.3s,baz=206,slow=15,SNR=4.6						
GNI	**Garni**	**23.77**	**281**	LR	LR	04 22 46.1	
	comp=Z,12nm,20.0s,baz=44,slow=39						
PALK	**Pallekele**	**32.78**	**171**	LR	LR	04 28 40.4	
	comp=Z,41nm,19.3s,baz=117,slow=40						
TORD	**Torodi Ar. Bea**	**69.57**	**270**	P	**P**	**04 18 18.9**	**+0.6**
	0.3nm,0.7s,baz=50,slow=5.9,SNR=3.9						
YKA	**Yellowknife Ar**	**77.61**	**5**	P	**P**	**04 19 05.8**	**+1.0**
	0.2nm,0.4s,baz=346,slow=5.8,SNR=3.9						

IDC 02 04:12:28.3±4.3, 5°.81S×142°.05E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/29, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=130.0km s-min=31.0km az=100.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.93**	**207**	Pn	Pn	04 16 12.1	-1.8
	0.1nm,0.3s,baz=29,slow=12,SNR=4.2						
WRA				Sn	Sn	04 18 58.5	-13
	0.2nm,0.3s,baz=27,slow=24,SNR=4.1						
ASAR	**Alice Springs**	**19.41**	**203**	P	Pn	04 16 57.0	-0.4
	0.2nm,0.3s,baz=33,slow=11,SNR=13						
FITZ	**Fitzroy Crossi**	**20.15**	**231**	P	P	04 17 04.3	+0.1
	1.4nm,0.8s,baz=59,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**74.26**	**322**	P	P	04 24 07.4	0.0
	0.3nm,0.7s,baz=108,slow=7.7,SNR=2.2						

IDC 02 04:17:36.6±7.0, 6°.36S×128°.59E, h263km±88km, mb3.5/1, mb1 3.6/5, mb1mx3.1/32, mbtmp4.2/5, MS3.3/1, Ms1 3.1/1, ms1mx2.4/19, Error ellipse: s-maj=74.8km s-min=63.6km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.19**	**232**	P	Pn	04 19 07.9	+0.4
	24nm,0.3s,baz=87,slow=4.1,SNR=7.6						
BATI				S	S	04 20 19.6	-0.8
	3.0nm,0.3s,baz=135,slow=8.6,SNR=2.0						
FITZ	**Fitzroy Crossi**	**12.02**	**194**	P	Pn	04 20 20.8	+0.5
	0.1nm,0.3s,baz=4.8,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**14.62**	**158**	P	Pn	04 20 53.0	+1.1
	1.0nm,0.3s,baz=342,slow=13,SNR=7.3						
WRA				S	S	04 23 30.0	-3.1
	0.2nm,0.3s,baz=339,slow=21,SNR=4.0						
ASAR	**Alice Springs**	**17.95**	**164**	P	P	04 21 29.4	+1.3
	1.4nm,0.3s,baz=343,slow=11,SNR=38						
PMG	**Port Moresby**	**18.64**	**101**	LR	LR	04 31 34.2	
	comp=Z,58nm,18.3s,baz=224,slow=45						
STKA	**Stephens Creek**	**28.15**	**156**	P	P	04 23 03.4	-1.5
	0.7nm,0.2s,baz=338,slow=11,SNR=2.9						

*ISCJB **02** 04:29:45.6±0.4, 11°.01N±0°.02×61°.25W±0°.05, h77km±4km, mb3.3/5, Error ellipse: s-maj=7.8km s-min=4.0km az=3.2*

*NEIC **02** 04:29:45.1±0.8, 10°.84N×61°.29W, h35km, mb3.5/1, Error ellipse: s-maj=24.0km s-min=8.1km az=78.0*

NEIC Felt at Port of Spain.

*TRN **02** 04:29:47.1, 11°.04N×61°.24W, h30km, MD3.8*

TRN Felt in Trinidad, MMI II, III.

*IDC **02** 04:29:51.6±7.4, 11°.30N×61°.44W, h109km±55km, mb3.1/5, mb1 3.4/5, mb1mx3.1/24, mbtmp3.4/5, Error ellipse: s-maj=58.3km s-min=31.7km az=22.0*

ISC 02 04:29:45.4±0.8, 10°.96N±0°.04×61°.27W±0°.05, h67km±8km, n58, σ1§53/82, mb3.5/5, 1C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.34**	**203**	⇑*i*P	**Pn**	**04 29 56.6**	**+0.1**
TRN				*e*S	**Sn**	**04 30 03.0**	**-1.6**
TBH	**Brigand Hill**	**0.52**	**157**	*e*P	**Pn**	**04 29 59.0**	**+1.0**
TBH				*e*S	**Sn**	**04 30 07.8**	**+0.5**
TPP	**Pointe-a-Pierr**	**0.67**	**196**	*e*P	**Pn**	**04 30 01.9**	**+2.2**
TPP				*e*S	**Sn**	**04 30 12.6**	**+2.4**
TOSP	**Speyside**	**0.79**	**65**	*e*P	**Pn**	**04 30 01.3**	**+0.2**
TOSP				*e*S	**Sn**	**04 30 12.7**	**-0.1**
GRGR	**Grenville**	**1.22**	**342**	*e*Pn	**Pn**	**04 30 06.5**	**-0.1**
GRGR				*e*Sn	**Sn**	**04 30 23.6**	**+1.2**
GRGR	**Grenville**	**1.22**	**342**	*e*P	**Pn**	**04 30 06.6**	**+0.1**
GRGR				*e*S	**Sn**	**04 30 22.2**	**-0.2**
GRHS	**Sauteurs**	**1.30**	**344**	*e*P	**Pn**	**04 30 08.7**	**+1.0**
GRHS				*e*S	**Sn**	**04 30 25.3**	**+1.0**
GRSS	**Sisters**	**1.37**	**346**	*e*P	**Pn**	**04 30 09.6**	**+1.1**
GRSS				*e*S	**Sn**	**04 30 26.5**	**+0.6**
FCV	**Fort Charlotte**	**2.18**	**1**	*e*Pn	**Pn**	**04 30 21.0**	**+1.6**
FCV				*e*S	**Sn**	**04 30 45.5**	**+0.1**
SVB	**Belmont**	**2.29**	**0**	*e*Pn	**Pn**	**04 30 22.3**	**+1.3**
SVB				*e*Sn	**Sn**	**04 30 50.5**	**+2.3**
SVB	**Belmont**	**2.29**	**0**	*e*P	**Pn**	**04 30 22.4**	**+1.4**
SVB				*e*S	**Sn**	**04 30 48.0**	**-0.2**
SVCV	**St. Vincent, C**	**2.30**	**3**	*e*P	**Pn**	**04 30 22.4**	**+1.4**
SVCV				*e*S	**Sn**	**04 30 49.1**	**+0.9**
SVV	**Soufriere Volc**	**2.34**	**1**	*e*P	**Pn**	**04 30 23.1**	**+1.5**
SVV				*e*S	**Sn**	**04 30 49.8**	**+0.4**
SSV	**Crater Summit**	**2.35**	**2**	*e*P	**Pn**	**04 30 23.5**	**+1.7**
SSV				*e*S	**Sn**	**04 30 50.0**	**+0.4**
SFAN	**Fancy Village**	**2.41**	**2**	*e*P	**Pn**	**04 30 24.8**	**+2.3**
SFAN				*e*S	**Sn**	**04 30 50.5**	**-0.4**
BBGH	**Gun Hill**	**2.74**	**37**	*e*P	**Pn**	**04 30 28.1**	**+1.1**
BBGH				*e*S	**Sn**	**04 30 58.4**	**-0.5**
MCLT	**Moule a Chique**	**2.75**	**7**	*e*P	**Pn**	**04 30 27.7**	**+0.6**
MCLT				*e*S	**Sn**	**04 30 59.8**	**+0.6**
BBSP	**Saint Philip**	**2.77**	**40**	*e*P	**Pn**	**04 30 28.8**	**+1.5**
BBSP				*e*S	**Sn**	**04 30 59.1**	**-0.6**
SLDE	**Delcer**	**2.83**	**4**	*e*P	**Pn**	**04 30 30.4**	**+2.1**
SLDE				*e*S	**Sn**	**04 31 00.4**	**-0.8**
SLB	**Belfond**	**2.85**	**4**	*e*P	**Pn**	**04 30 30.5**	**+1.9**
SLB				*e*S	**Sn**	**04 31 00.8**	**-1.1**
SLPA	**Patience**	**2.89**	**7**	*e*P	**Pn**	**04 30 29.8**	**+0.7**
SLPA				*e*S	**Sn**	**04 31 02.5**	**-0.3**
SLBI	**Saint Lucia, B**	**3.05**	**5**	*e*P	**Pn**	**04 30 32.7**	**+1.4**
SLBI				*e*S	**Sn**	**04 31 06.6**	**-0.1**
SLW	**Petit Monier**	**3.06**	**6**	*e*P	**Pn**	**04 30 33.2**	**+1.8**
SLW				*e*S	**Sn**	**04 31 06.3**	**-0.4**
FDF	**Fort de France**	**3.75**	**2**	*e*Pn	**Pn**	**04 30 42.6**	**+1.8**
FDF	**Fort de France**	**3.75**	**2**	*e*P	**Pn**	**04 30 43.5**	**+2.6**
FDF				*e*S	**Sn**	**04 31 23.9**	**+0.1**
DLPL	**La Plaine**	**4.34**	**0**	*e*P	**Pn**	**04 30 50.3**	**+1.3**
DLPL	**La Plaine**	**4.34**	**0**	*e*S	**Sn**	**04 31 37.5**	**-0.8**
BBL	**Barber's Block**	**4.54**	**358**	*e*P	**Pn**	**04 30 53.5**	**+1.9**
BBL	**Barber's Block**	**4.54**	**358**	*e*S	**Sn**	**04 31 41.5**	**-1.6**
DWS	**Wesley**	**4.58**	**359**	*e*P	**Pn**	**04 30 54.7**	**+2.6**
DWS	**Wesley**	**4.58**	**359**	*e*S	**Sn**	**04 31 43.8**	**-0.2**
MDPO	**Dominica; Chan**	**4.59**	**358**	*e*P	**Pn**	**04 30 54.3**	**+2.1**
MDPO	**Dominica; Chan**	**4.59**	**358**	*e*S	**Sn**	**04 31 43.9**	**-0.3**
MDPV	**Dominica, Penn**	**4.64**	**358**	*e*P	**Pn**	**04 30 55.7**	**+2.7**
MDPV	**Dominica, Penn**

MOMA				S	Sg	04 52 25.1	+0.5
MOMA				AML	AML		
	comp=E,148μm,1.3s						
MOMA				AML	AML		
	comp=N,109μm,0.1s						
MOMA				AML	AML		
	comp=N,109μm,0.1s						
MOMA				AML	AML		
	comp=E,148μm,1.3s						
MOMA	**Monte Martano**	**0.11**	**247**	P	Pg	04 52 23.2	+0.6
ASSB	**Assisi San Ben**	**0.20**	**350**	P	Pg	04 52 24.8	+0.7
ASSB				S	Sg	04 52 28.2	+1.2
ASSB				AML	AML		
	comp=E,32μm,1.4s						
ASSB				AML	AML		
	comp=N,36μm,1.1s						
ASSB				AML	AML		
	comp=N,36μm,1.1s						
ASSB				AML	AML		
	comp=E,32μm,1.4s						
ASSB	**Assisi San Ben**	**0.20**	**350**	P	Pg	04 52 25.1	+1.0
CESI	**CESI - Serrava**	**0.21**	**43**	P	Pg	04 52 25.1	+0.7
CESI				S	Sg	04 52 28.8	+1.4
CESI				AML	AML		
	comp=E,47μm,0.5s						
CESI				AML	AML		
	comp=N,160μm,0.2s						
CESI				AML	AML		
	comp=N,160μm,0.2s						
CESI				AML	AML		
	comp=E,47μm,0.5s						
CESI	**CESI - Serrava**	**0.21**	**43**	S	Sg	04 52 28.8	+1.3
CESI	**CESI - Serrava**	**0.21**	**43**	P	Pg	04 52 25.1	+0.7
NRCA	**Norcia**	**0.30**	**92**	P	Pg	04 52 26.5	+0.6
NRCA	**Norcia**	**0.30**	**92**	P	Pg	04 52 26.6	+0.7
NRCA				S	Sb	04 52 31.5	-1.0
NRCA	**Norcia**	**0.30**	**92**	S	Sb	04 52 31.6	-0.9
NRCA	**Norcia**	**0.30**	**92**	S	Sb	04 52 32.0	-0.5
NRCA	**Norcia**	**0.30**	**92**	S	Sb	04 52 32.0	-0.5
FDMO	**Fiordimonte**	**0.34**	**56**	P	Pg	04 52 27.2	+0.5
FDMO				AML	AML		
	comp=E,65μm,0.9s						
FDMO				AML	AML		
	comp=N,44μm,1.0s						
FDMO				AML	AML		
	comp=E,65μm,0.9s						
FDMO				AML	AML		
	comp=N,44μm,1.0s						
FDMO	**Fiordimonte**	**0.34**	**56**	P	Pg	04 52 27.2	+0.6
FDMO	**Fiordimonte**	**0.34**	**56**	P	Pb	04 52 27.5	-0.6
LNSS	**Leonessa**	**0.35**	**135**	P	Pb	04 52 28.1	-0.1
CSP1	**Cessapalombo**	**0.44**	**56**	P	Pg	04 52 29.0	+0.5
VVLD	**Villa Vallelon**	**1.19**	**145**	P	Pg	04 52 43.8	+1.1
VVLD				AML	AML		
	comp=E,43μm,0.1s						
VVLD				AML	AML		
	comp=N,45μm,0.1s						
VVLD				AML	AML		
	comp=N,45μm,0.1s						
VVLD				AML	AML		
	comp=E,43μm,0.1s						

KRNET ***02*** *04:52:25.0±0.1, 42°.19N×73°.63E, h15km, mb4.3*
SOME ***02*** *04:52:25.6, 42°.23N×73°.67E, h5km, MS3.3*
IDC ***02*** *04:52:25.2±0.9, 42°.22N×73°.66E, h0km, mb3.7/11, mb1 4.0/16, mb1mx3.8/47, mbtmp3.8/16, ML3.9/5, MS2.7/4, Ms1 2.7/4, ms1mx2.3/35, Error ellipse: s-maj=14.8km s-min=7.1km az=162.0*
KNET ***02*** *04:52:25.5±0.2, 42°.21N×73°.70E, h0km, ml3.5, Error ellipse: s-maj=1.8km s-min=1.0km az=90.0*
NNC ***02*** *04:52:26.2±0.6, 42°.27N×73°.65E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=5.6km s-min=2.3km az=178.0*
MOS ***02*** *04:52:27.4±1.6, 42°.36N×73°.52E, h21km, mb4.2/6, Error ellipse: s-maj=7.3km s-min=6.0km az=63.3*
NEIC ***02*** *04:52:27.6±0.3, 42°.33N×73°.66E, h10km, mb4.3/5, Error ellipse: s-maj=6.9km s-min=4.5km az=150.0*
ISC 02 04:52:25.9±0.9, 42°.22N±0'.02×73°.63E±0'.01, h4km±6km, n195, σ1°99/290, mb3.9/18, 44C-33D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.10**	**153**	⇑P	**Pg**	**04 52 26.9**	**-1.2**
	44μm,0.2s						
AML				⇑S	**Sg**	**04 52 28.5**	**-1.1**
	92μm,0.2s						
AML	**Almayashu**	**0.10**	**153**	*i* P	**Pg**	**04 52 26.9**	**-1.2**
	baz=42						
AML				*i* S	**Sg**	**04 52 28.5**	**-1.1**
	baz=42						
EKS2	**Erkin-Say**	**0.46**	**13**	P	**Pg**	**04 52 34.5**	**-0.2**
	383nm,0.2s,SNR=914						
EKS2				⇑S	**Sg**	**04 52 41.3**	**+0.7**
	656nm,0.2s						
EKS2	**Erkin-Say**	**0.46**	**13**	*i* P	**Pg**	**04 52 34.5**	**-0.2**
	baz=13						
EKS2				*i* S	**Sg**	**04 52 41.2**	**+0.6**
	baz=13						
MRKS	**Merke**	**0.61**	**330**	P	**Pg**	**04 52 36.9**	**-0.6**
	4μm,0.3s						
MRKS				S	**Sg**	**04 52 45.6**	**+0.2**
	4μm,0.2s						
MRKS	**Merke**	**0.61**	**330**	⇓*i*P	**Pg**	**04 52 36.9**	**-0.6**
	baz=32						
MRKS				⇓*i*S	**Sg**	**04 52 45.6**	**+0.2**
	baz=32						
MRKS	**Merke**	**0.61**	**330**	⇓*i*P	**Pg**	**04 52 36.9**	**-0.6**
	4μm,0.3s						
MRKS				⇓*i*S	**Sg**	**04 52 45.6**	**+0.2**
	4μm,0.3s						
ARLS	**Aral**	**0.63**	**125**	⇓*i*P	**Pg**	**04 52 37.1**	**-0.8**
	baz=21						
ARLS				⇓*i*S	**Sg**	**04 52 45.3**	**-0.7**
	baz=21						
UCH	**Uchtor**	**0.65**	**89**	P	**Pg**	**04 52 37.8**	**-0.7**
	257nm,0.2s,SNR=498						
UCH				⇓S	**Sg**	**04 52 47.0**	**+0.1**
	549nm,0.1s						
UCH	**Uchtor**	**0.65**	**89**	*i* P	**Pg**	**04 52 37.8**	**-0.7**
	baz=87						
UCH				*i* S	**Sg**	**04 52 46.9**	**-0.1**
	baz=87						
AAK	**Ala-Archa**	**0.76**	**56**	⇓P	**Pg**	**04 52 40.1**	**-0.4**
	130nm,0.2s,SNR=144						
AAK				⇑S	**Sg**	**04 52 50.2**	**-0.2**
	2μm,0.3s						
AAK	**Ala-Archa**	**0.76**	**56**	⇓P	**Pg**	**04 52 40.0**	**-0.4**
	62nm,0.5s						
AAK				⇑S	**Sg**	**04 52 50.6**	**+0.2**
	1μm,0.5s						
AAK	**Ala-Archa**	**0.76**	**56**	⇓*i*P	**Pg**	**04 52 40.1**	**-0.4**
	baz=55						
AAK				⇓*i*S	**Sg**	**04 52 50.6**	**+0.2**
	baz=55						
AAK	**Ala-Archa**	**0.76**	**56**	Pg	**Pg**	**04 52 40.1**	**-0.4**
	40nm,0.3s,baz=224,slow=4.3,SNR=204						
AAK				Lg	Lg	04 52 50.5	
	308nm,0.3s,baz=164,slow=18,SNR=181						
FRU1	**Bishkek**	**0.94**	**51**	*e*Pg	**Pg**	**04 52 44.1**	**+0.2**
FRU1				*e*Sg	**Sg**	**04 52 55.6**	**-0.6**
FRU1	**Bishkek**	**0.94**	**51**	*e*PG	**Pg**	**04 52 44.2**	**+0.2**
FRU1				*e*		04 52 55.6	
FRU1	**Bishkek**	**0.94**	**51**	⇑*i*P	**Pg**	**04 52 43.4**	**-0.6**
	baz=50						
FRU1				⇑*i*S	**Sg**	**04 52 56.5**	**+0.3**
	baz=50						
ARSB	**Arslanbob**	**1.02**	**209**	⇓*e*P	**Pg**	**04 52 43.8**	**-1.6**
	baz=9.0						
ARSB				⇓*i*S	**Sg**	**04 52 57.6**	**-1.0**
	baz=9.0						
KBK	**Karagaybulak**	**1.07**	**65**	P	**Pg**	**04 52 45.6**	**-0.7**
	84nm,0.1s,SNR=18						
KBK				⇓S	**Sg**	**04 53 00.5**	**+0.3**
	2μm,0.4s						
KBK	**Karagaybulak**	**1.07**	**65**	⇑*i*P	**Pg**	**04 52 45.6**	**-0.7**
	baz=64						
KBK				⇑*i*S	**Sg**	**04 53 00.3**	**+0.2**
	baz=64						
CHMS	**Chumysh**	**1.14**	**46**	P	**Pg**	**04 52 46.9**	**-0.7**
	130nm,0.2s,SNR=166						
CHMS				⇑S	**Sg**	**04 53 02.3**	**0.0**
	365nm,0.3s						
CHMS	**Chumysh**	**1.14**	**46**	*i* P	**Pg**	**04 52 46.9**	**-0.7**
	baz=46						
CHMS				*i* S	**Sg**	**04 53 02.2**	**-0.1**
	baz=46						
KZA	**Kyzart**	**1.21**	**96**	⇑P	**Pg**	**04 52 47.9**	**-1.2**
	149nm,0.2s,SNR=150						
KZA	**Kyzart**	**1.21**	**96**	*i* P	**Pg**	**04 52 47.9**	**-1.2**
	baz=95						
KZA				*i* S	**Sg**	**04 53 04.0**	**-0.8**
	baz=95						
USP	**Ospenovka**	**1.23**	**31**	P	**Pg**	**04 52 48.5**	**-0.9**
	491nm,0.3s,SNR=225						
USP	**Ospenovka**	**1.23**	**31**	*i* P	**Pg**	**04 52 48.5**	**-0.9**
	baz=31						
USP				*i* S	**Sb**	**04 53 05.4**	**-0.4**
	baz=31						
ARK	**Arkit**	**1.31**	**252**	⇓*i*P	**Pn**	**04 52 49.2**	**-1.9**
	baz=52						
ARK				⇓*i*S	**Sg**	**04 53 06.8**	**-1.3**
	baz=52						
SGDS	**Sogindy**	**1.43**	**30**	P	**Pn**	**04 52 52.2**	**-0.5**
	324nm,0.2s						
SGDS				S	**Sg**	**04 53 11.9**	**-0.1**
	1μm,0.2s						
TKM2	**Tokmak 2**	**1.61**	**64**	⇑P	**Pn**	**04 52 55.0**	**-0.2**
	72nm,0.1s,SNR=198						
TKM2	**Tokmak 2**	**1.61**	**64**	⇑P	**Pn**	**04 52 54.9**	**-0.4**
	68nm,0.3s						
TKM2				⇓S	**Sb**	**04 53 16.9**	**-0.1**
	593nm,0.5s						
TKM2	**Tokmak 2**	**1.61**	**64**	PN	**Pn**	**04 52 54.0**	**-1.2**
TKM2	**Tokmak 2**	**1.61**	**64**	⇑*i*P	**Pn**	**04 52 55.0**	**-0.2**
	baz=63						
TKM2				⇑*i*S	**Sn**	**04 53 16.5**	**-0.1**
	baz=63						
BOOM	**Boomskoye usch**	**1.73**	**80**	*e*Pn	**Pn**	**04 52 57.2**	**+0.4**
BOOM				*e*Sn	**Sn**	**04 53 17.7**	**-1.8**
BOOM	**Boomskoye usch**	**1.73**	**80**	*e*PN	**Pn**	**04 52 57.2**	**+0.4**
BOOM				*e*		04 53 17.7	
BOOM	**Boomskoye usch**	**1.73**	**80**	⇑*i*P	**Pn**	**04 52 57.1**	**+0.2**
	baz=79						
BOOM				⇑*i*S	**Sb**	**04 53 20.3**	**-0.1**
	baz=79						
DGS	**Degeres**	**1.88**	**56**	P	**Pb**	**04 53 00.3**	**-0.4**
	198nm,0.4s						
DGS				S	**Sg**	**04 53 25.6**	**-0.6**
	1μm,0.5s						
DGS	**Degeres**	**1.88**	**56**	*e*P	**Pb**	**04 53 00.3**	**-0.4**
	baz=56						
DGS				*e*S	**Sg**	**04 53 25.6**	**-0.6**
	baz=56						
DGS	**Degeres**	**1.88**	**56**	*e*P	**Pb**	**04 53 00.3**	**-0.4**
	198nm,0.4s						
DGS				*e*S	**Sg**	**04 53 25.6**	**-0.6**
	1μm,0.5s						
KST	**Kastek**	**1.91**	**64**	Pg	**Pb**	**04 53 01.2**	**0.0**
	232nm,0.6s						
KST				Lg	Lg	04 53 27.6	
	1μm,0.6s						
KST	**Kastek**	**1.91**	**64**	⇑*i*P	**Pb**	**04 53 01.2**	**0.0**
	baz=63						
KST				⇑*e*S	**Sg**	**04 53 27.1**	**0.0**
	baz=63						
KST	**Kastek**	**1.91**	**64**	⇑*i*P	**Pb**	**04 53 01.2**	**0.0**
	232nm,0.3s						
KST				*e*S	**Sg**	**04 53 27.1**	**0.0**
	1μm,0.5s						
NRN	**Naryn**	**1.94**	**113**	*e*Pn	**Pn**	**04 52 60.0**	**+0.2**
NRN				*e*Sn	**Sn**	**04 53 24.3**	**-0.4**
NRN	**Naryn**	**1.94**	**113**	*e*PN	**Pn**	**04 53 00.0**	**+0.2**
NRN	**Naryn**	**1.94**	**113**	⇑*i*P	**Pn**	**04 53 00.5**	**+0.7**
	baz=13						
NRN				⇑*i*S	**Sb**	**04 53 25.8**	**-0.6**
	baz=13						
ULHL	**Ulahol**	**1.94**	**88**	P	**Pn**	**04 53 00.5**	**+0.8**
	305nm,0.5s,SNR=331						
ULHL	**Ulahol**	**1.94**	**88**	⇑*i*P	**Pn**	**04 53 00.5**	**+0.8**
	baz=88						
ULHL				⇑*i*S	**Sb**	**04 53 26.5**	**+0.1**
	baz=88						
MTBS	**Maitube**	**2.25**	**65**	Pg	**Pb**	**04 53 07.3**	**+0.2**
	247nm,0.3s						
MTBS				Lg	Lg	04 53 37.7	
	358nm,0.4s						
MTBS	**Maitube**	**2.25**	**65**	*e*P	**Pb**	**04 53 07.3**	**+0.2**
	baz=65						
MTBS				*e*S	**Sg**	**04 53 37.7**	**-0.5**
	baz=65						
MTBS	**Maitube**	**2.25**	**65**	*e*P	**Pb**	**04 53 07.3**	**+0.2**
	247nm,0.3s						
MTBS				*e*S	**Sg**	**04 53 37.7**	**-0.5**
	358nm,0.4s						
KK31	**Karatay Array**	**2.47**	**292**	*e*Pn	**Pn**	**04 53 08.1**	**+1.3**
KK31				*e*Sn	**Sn**	**04 53 37.0**	**-0.3**
KK31	**Karatay Array**	**2.47**	**292**	⇓Pn	**Pn**	**04 53 08.5**	**+1.7**
	90nm,0.5s,baz=114,slow=17,SNR=1121						
KK31				⇓Lg	Lg	04 53 43.5	
	160nm,0.4s,baz=102,slow=29,SNR=15						
KK31	**Karatay Array**	**2.47**	**292**	*e*PN	**Pn**	**04 53 08.1**	**+1.3**
KK31				*e*		04 53 37.1	
KKAR	**Karatay Array**	**2.47**	**292**	*e*Pn	**Pn**	**04 53 07.6**	**+0.8**
KKAR				*e*Sn	**Sn**	**04 53 37.3**	**-0.1**
KKAR	**Karatay Array**	**2.47**	**292**	*e*PN	**Pn**	**04 53 07.6**	**+0.8**
KKAR				*e*		04 53 37.3	
TNSS	**Tian-Shan**	**2.58**	**70**	Pg	**Pb**	**04 53 13.3**	**+0.4**
	369nm,0.4s						
TNSS				Lg	Lg	04 53 47.8	
	691nm,0.6s						
TNSS	**Tian-Shan**	**2.58**	**70**	*e*P	**Pb**	**04 53 13.3**	**+0.4**
	baz=70						
TNSS				*e*S	**Sg**	**04 53 47.8**	**-0.9**
	baz=70						
TNSS	**Tian-Shan**	**2.58**	**70**	*e*P	**Pb**	**04 53 13.3**	**+0.4**
	369nm,0.4s						
TNSS				*e*S	**Sg**	**04 53 47.8**	**-0.9**
	691nm,0.6s						
KUU	**Kurty**	**2.59**	**49**	Pg	**Pb**	**04 53 12.2**	**-0.7**
	57nm,0.2s						
KUU				Lg	Lg	04 53 46.3	
	694nm,0.6s						
KUU	**Kurty**	**2.59**	**49**	*e*P	**Pb**	**04 53 12.2**	**-0.7**
	baz=49						
KUU				*e*S	**Sb**	**04 53 46.3**	**+1.1**
	baz=49						
KUU	**Kurty**	**2.59**	**49**	*e*P	**Pb**	**04 53 12.2**	**-0.7**
	57nm,0.2s						
KUU				*e*S	**Sb**	**04 53 46.3**	**+1.1**
	694nm,0.6s						
AAA	**Alma-Ata**	**2.61**	**67**	Pg	**Pb**	**04 53 14.0**	**+0.8**
	247nm,0.3s						
AAA				Lg	Lg	04 53 48.6	
	850nm,0.5s						
AAA	**Alma-Ata**	**2.61**	**67**	*e*PN	**Pb**	**04 53 14.0**	**+0.8**
AAA				*e*S	**Sg**	**04 53 48.6**	**-1.2**
AAA				pmax	pmax		
	comp=Z,247nm,0.3s						
AAA				smax	smax		
	comp=N,850nm,0.5s						
AAA	**Alma-Ata**	**2.61**	**67**	*e*P	**Pb**	**04 53 14.0**	**+0.8**
	baz=66						
AAA				*e*S	**Sg**	**04 53 48.6**	**-1.2**
	baz=66						
AAA	**Alma-Ata**	**2.61**	**67**	*e*P	**Pb**	**04 53 14.0**	**+0.8**
	comp=N,247nm,0.3s						
AAA				*e*S	**Sg**	**04 53 48.6**	**-1.2**
	comp=N,850nm,0.5s						
KDJ	**Kajisay**	**2.64**	**91**	*e*Pn	**Pb**	**04 53 12.6**	**-1.2**
KDJ				*e*Sn	**Sn**	**04 53 42.2**	**+0.4**
KDJ	**Kajisay**	**2.64**	**91**	*e*PN	**Pb**	**04 53 12.6**	**-1.2**
KDJ				*e*		04 53 42.2	
KDJ	**Kajisay**	**2.64**	**91**	⇑*i*P	**Pn**	**04 53 10.1**	**+0.8**
	baz=90						
KDJ				⇑*i*S	**Sn**	**04 53 43.3**	**+1.5**
	baz=90						
KNDC	**Almaty**	**2.65**	**67**	⇓Pn	**Pb**	**04 53 14.2**	**+0.3**
KNDC				⇑Lg	Lg	04 53 49.9	
IUG	**Iuzhnay**	**2.68**	**270**	Pg	**Pb**	**04 53 15.2**	**+0.8**
	comp=N,492nm,0.6s						
IUG				Lg	Lg	04 53 51.0	
	comp=N,807nm,0.4s						
IUG	**Iuzhnay**	**2.68**	**270**	*e*P	**Pb**	**04 53 15.2**	**+0.8**
	baz=70						
IUG				*e*S	**Sg**	**04 53 51.1**	**-0.8**
	baz=70						
IUG	**Iuzhnay**	**2.68**	**270**	*e*P	**Pb**	**04 53 15.2**	**+0.8**
	comp=N,492nm,0.6s						
IUG				*e*S	**Sg**	**04 53 51.0**	**-0.8**
	comp=N,807nm,0.4s						
MDOK	**Medeo**	**2.69**	**68**	⇓Pn	**Pb**	**04 53 13.0**	**-1.6**
MDOK				⇓Lg	Lg	04 53 50.3	
MDOK	**Medeo**	**2.69**	**68**	Pg	**Pb**	**04 53 14.8**	**+0.2**
	comp=N,134nm,0.4s						
MDOK				Lg	Lg	04 53 50.5	
	comp=N,673nm,0.5s						
MDOK	**Medeo**	**2.69**	**68**	PN	**Pb**	**04 53 13.4**	**-1.2**
MDOK	**Medeo**	**2.69**	**68**	*e*P	**Pb**	**04 53 14.8**	**+0.2**
	baz=68						
MDOK				⇑*i*S	**Sg**	**04 53 50.5**	**-1.7**
	baz=68						
MDOK	**Medeo**	**2.69**	**68**	*e*P	**Pb**	**04 53 14.8**	**+0.2**
	comp=N,134nm,0.4s						
MDOK				⇑*i*S	**Sg**	**04 53 50.5**	**-1.7**
	comp=N,673nm,0.5s						
KTBS	**Karatobe**	**2.69**	**55**	Pg	**Pb**	**04 53 14.1**	**-0.5**
KTBS				Lg	Lg	04 53 49.4	
	comp=N,922nm,0.4s						
KTBS	**Karatobe**	**2.69**	**55**	*e*P	**Pb**	**04 53 14.1**	**-0.5**
KTBS				*e*S	**Sb**	**04 53 49.4**	**+1.5**
	comp=N,922nm,0.4s						
KOTS	**Kotyrbulak**	**2.76**	**67**	Pg	**Pb**	**04 53 16.0**	**+0.3**
	comp=N,180nm,0.3s						
KOTS				Lg	Lg	04 53 52.8	
	comp=N,446nm,0.5s						
KOTS	**Kotyrbulak**	**2.76**	**67**	*e*P	**Pb**	**04 53 16.0**	**+0.3**
	baz=67						
KOTS				*e*S	**Sg**	**04 53 52.8**	**-1.6**
	baz=67						
KOTS	**Kotyrbulak**	**2.76**	**67**	*e*P	**Pb**	**04 53 16.0**	**+0.3**
	comp=N,180nm,0.3s						
KOTS				*e*S	**Sg**	**04 53 52.8**	**-1.6**
	comp=N,446nm,0.5s						
CHKK	**Chushkaly**	**2.95**	**55**	Pg	**Pb**	**04 53 18.7**	**-0.3**
	comp=N,38nm,0.4s						
CHKK				Lg	Lg	04 53 56.9	
	comp=N,536nm,0.3s						
CHKK	**Chushkaly**	**2.95**	**55**	*e*P	**Pb**	**04 53 18.7**	**-0.3**
	baz=55						
CHKK				*e*S	**Sb**	**04 53 56.9**	**+1.5**
	baz=55						
CHKK	**Chushkaly**	**2.95**	**55**	*e*P	**Pb**	**04 53 18.7**	**-0.3**
	comp=N,38nm,0.4s						
CHKK				*e*S	**Sb**	**04 53 56.9**	**+1.5**
	comp=N,536nm,0.3s						
CHM	**Chimkent**	**2.99**	**273**	*e*P	**Pg**	**04 53 22.0**	**-1.2**
	comp=N,207nm,0.2s						
CHM				*e*S	**Sg**	**04 54 02.5**	**+0.5**
	comp=N,1μm,0.7s						
BTK	**Batken**	**3.03**	**225**	*e*Pn	**Pn**	**04 53 15.4**	**+0.8**
BTK				*e*Sn	**Sn**	**04 53 52.6**	**+1.2**
BTK	**Batken**	**3.03**	**225**	*e*PN	**Pn**	**04 53 15.5**	**+0.8**
BTK				*e*		04 53 52.6	
BTK	**Batken**	**3.03**	**225**	⇑*i*P	**Pn**	**04 53 15.4**	**+0.8**
	baz=26						
BTK				⇑*i*S	**Sn**	**04 53 51.8**	**+0.4**
	baz=26						
BTK	**Batken**	**3.03**	**225**	⇑*i*P	**Pn**	**04 53 16.2**	**+1.6**
	baz=26						
BTK				⇑*i*S	**Sn**	**04 53 53.2**	**+1.8**
	baz=26						
TARG	**Taragay, Kyrgy**	**3.15**	**98**	*e*Pn	**Pn**	**04 53 18.9**	**+2.4**
TARG				*e*Sn	**Sn**	**04 53 54.9**	**+0.2**
TAS	**Tashkent**	**3.37**	**256**	⇓*e*P	**Pn**	**04 53 20.5**	**+1.2**
	baz=57						
TAS				⇓*e*S	**Sn**	**04 54 00.3**	**+0.6**
	baz=57						
PRZ	**Przheval'sk**	**3.54**	**84**	*e*Pg	**Pb**	**04 53 27.9**	**-1.3**
PRZ	**Przheval'sk**	**3.54**	**84**	*e*PN	**Pb**	**04 53 27.9**	**-1.3**
KURS	**Kuram**	**3.57**	**68**	Pg	**Pb**	**04 53 30.6**	**+1.1**
	comp=N,50nm,0.7s						
KURS				Lg	Lg	04 54 17.9	
	comp=N,94nm,0.7s						
KURS	**Kuram**	**3.57**	**68**	⇑*i*P	**Pb**	**04 53 30.6**	**+1.1**
	baz=67						
KURS				⇑*i*S	**Sg**	**04 54 17.9**	**-2.6**
	baz=67						
KURS	**Kuram**	**3.57**	**68**	⇑*i*P	**Pb**	**04 53 30.6**	**+1.1**
	comp=N,50nm,0.7s						
KURS				⇑*i*S	**Sg**	**04 54 17.9**	**-2.6**
	comp=N,94nm,0.7s						
SATY	**Saty**	**3.62**	**75**	*e*P	**Pb**	**04 53 32.0**	**+1.5**
	comp=N,74nm,0.7s						
SATY				*e*S	**Sg**	**04 54 19.6**	**-2.5**
	comp=N,285nm,0.6s						
ARXS	**Arharly**	**3.66**	**56**	Pg	**Pb**	**04 53 31.0**	**-0.1**
	comp=N,48nm,0.4s						
ARXS				Lg	Lg	04 54 18.6	
	comp=N,252nm,0.6s						
ARXS	**Arharly**	**3.66**	**56**	*e*P	**Pb**	**04 53 31.0**	**-0.1**
	comp=N,48nm,0.4s						
ARXS				*e*S	**Sb**	**04 54 18.6**	**+2.9**
	comp=N,252nm,0.6s						
ZHN	**Zhinishke**	**3.66**	**73**	Pg	**Pb**	**04 53 31.7**	**+0.5**
	comp=N,47nm,0.3s						
ZHN				Lg	Lg	04 54 19.2	
	comp=N,74nm,0.3s						
ZHN	**Zhinishke**	**3.66**	**73**	*e*P	**Pb**	**04 53 31.7**	**+0.5**
	baz=73						
ZHN				*e*S	**Sb**	**04 54 19.2**	**+3.2**
	baz=73						
ZHN	**Zhinishke**	**3.66**	**73**	*e*P	**Pb**	**04 53 31.7**	**+0.5**
	comp=N,47nm,0.3s						
ZHN				*e*S	**Sb**	**04 54 19.2**	**+3.2**
	comp=N,74nm,0.3s						
KPKS	**Kokpek**	**3.92**	**70**	*e*P	**Pb**	**04 53 35.7**	**+0.2**
	baz=70						
KPKS				*e*S	**Sb**	**04 54 26.3**	**+3.0**
	baz=70						
KPKS	**Kokpek**	**3.92**	**70**	*e*P	**Pb**	**04 53 35.7**	**+0.2**
	comp=N,32nm,0.3s						
KPKS				*e*S	**Sb**	**04 54 26.2**	**+3.0**
	comp=N,283nm,0.8s						
MNBS	**Baschi**	**3.95**	**60**	Pg	**Pb**	**04 53 38.0**	**+1.9**
	comp=N,37nm,0.4s						
MNBS				Lg	Lg	04 54 30.0	
	comp=N,284nm,0.4s						
MNBS	**Baschi**	**3.95**	**60**	*e*P	**Pb**	**04 53 38.0**	**+1.9**
	baz=62						
MNBS				*e*S	**Sg**	**04 54 29.9**	**-2.9**
	baz=62						
MNBS	**Baschi**	**3.95**	**60**	*e*P	**Pb**	**04 53 38.0**	**+1.9**
	comp=N,37nm,0.4s						
MNBS				*e*S	**Sg**	**04 54 30.0**	**-2.9**
	comp=N,284nm,0.4s						
UZB	**Uzynbulak**	**4.08**	**75**	Pg	**Pb**	**04 53 38.9**	**+0.6**
	comp=N,41nm,0.5s						
UZB				Lg	Lg	04 54 32.6	
	comp=N,130nm,0.7s						
UZB	**Uzynbulak**	**4.08**	**75**	*e*P	**Pb**	**04 53 38.9**	**+0.6**
	baz=75						
UZB				*e*S	**Sb**	**04 54 31.4**	**+3.4**
	baz=75						
UZB	**Uzynbulak**	**4.08**	**75**	*e*P	**Pb**	**04 53 38.9**	**+0.6**
	comp=N,41nm,0.5s						
UZB				*e*S	**Sb**	**04 54 31.5**	**+3.4**
	comp=N,130nm,0.7s						
GAR	**Garm**	**4.09**	**219**	*e*Pn	**Pn**	**04 53 31.5**	**+2.3**
GAR				*e*Sn	**Sn**	**04 54 17.7**	**+0.2**
GAR	**Garm**	**4.09**	**219**	*e*PN	**Pn**	**04 53 31.5**	**+2.3**
SHLS	**Shalkode**	**4.40**	**76**	Pg	**Pg**	**04 53 51.3**	**+1.2**
	comp=N,108nm,0.6s						
SHLS				Lg	Lg	04 54 52.9	
	comp=N,171nm,0.6s						
SHLS	**Shalkode**	**4.40**	**76**	*e*P

```
CHGR                                    eSn     Sn     04 54 34.9 -3.4
DJR  Jarkent          4.97  63  Pg            Pg     04 53 57.5 -3.5
     comp=N,39nm,0.5s
DJR                                     Lg      Lg     04 55 02.5
     comp=N,100nm,0.4s
DJR  Jarkent          4.97  63⇑iP            Pg     04 53 57.5 -3.5
     comp=N,34nm,0.8s
DJR                                     eS      Sg     04 55 04.2 -1.1
     comp=N,100nm,0.4s
KTMS Ketmen           5.09  74  Pg            Pb     04 53 57.8 +2.2
     comp=N,15nm,0.2s
KTMS                                    Lg      Lg     04 55 04.4
     comp=N,81nm,0.5s
KTMS Ketmen           5.09  74  eP            Pb     04 53 57.8 +2.2
     baz=73
KTMS                                    eS      Sg     04 55 04.5 -4.8
     baz=73
KTMS Ketmen           5.09  74  eP            Pb     04 53 57.8 +2.2
     comp=N,15nm,0.2s
KTMS                                    eS      Sg     04 55 04.5 -4.8
     comp=N,81nm,0.5s
KAPS Kapalarasan      5.16  52  Pg            Pb     04 53 58.4 +1.9
     comp=N,10nm,0.6s
KAPS                                    Lg      Lg     04 55 03.3
     comp=N,94nm,0.6s
KAPS Kapalarasan      5.16  52  eP            Pb     04 53 58.4 +1.9
     comp=N,6.0nm,0.4s
KAPS                                    eS      Sg     04 55 05.2 -6.2
     comp=N,98nm,0.9s
OTUK Ortayu           6.09 352 ⇑Pn            Pn     04 53 57.6 +1.0
     comp=N,8.2nm,0.5s
OTUK                                    ⇓Lg     Lg     04 55 38.3
     comp=N,145nm,0.6s
OTUK Ortayu           6.09 352  PN            Pn     04 53 55.0 -1.7
MAKZ Makanchi         7.52  50  ePn           Pn     04 54 18.5 +2.3
MAKZ                                    eSn     Sn     04 55 34.5 -7.5
MAKZ Makanchi         7.52  50  eP            Pn     04 54 18.5 +2.3
MAKZ                                    e               04 55 34.5
MK31 Makanchi Array   7.69  51  ePn           Pn     04 54 21.1 +2.5
MK31 Makanchi Array   7.69  51  eP            Pn     04 54 21.1 +2.5
MK32 Makanchi Array   7.69  51  ePn           Pn     04 54 21.0 +2.4
MK32                                    eSn     Sn     04 55 45.7 -0.5
MKAR Makanchi Array   7.69  51  ePn           Pn     04 54 19.5 +0.9
MKAR Makanchi Array   7.69  51  eP            Pn     04 54 19.5 +0.9
MKAR Makanchi Array   7.69  51  Pn            Pn     04 54 21.0 +2.4
     comp=N,1.8nm,0.3s,baz=232,slow=14,SNR=34
MKAR                                    Sn      Sn     04 55 45.7 -0.5
     comp=N,0.2nm,0.3s,baz=237,slow=13,SNR=3.2
MKAR                                    Lg      Lg     04 56 19.4
     comp=N,0.8nm,0.3s,baz=237,slow=24,SNR=5.3
CEP  Cherat           8.49 190  P             Pn     04 54 32.3 +2.6
CEP                                     S       Sn     04 56 04.0 -2.0
CHCP Chirah Chowk     8.55 182  P             Pn     04 54 31.6 +1.2
NIL  Nilore           8.56 182  ePn           Pn     04 54 33.7 +3.1
NIL  Nilore           8.56 182  eP            Pn     04 54 33.7 +3.1
KURBB Kurchatov Arra  9.06  20  ⇑Pn            Pn     04 54 36.7 -0.6
     comp=N,8.4nm,0.7s
KURBB                                   ⇓Lg     Lg     04 57 09.2
     comp=N,106nm,0.8s
KURBB Kurchatov Arra  9.06  20  Pn            Pn     04 54 36.0 -1.3
     comp=N,0.4nm,0.3s,baz=211,slow=13,SNR=17
KURBB                                   Lg      Lg     04 57 09.1
     comp=N,0.5nm,0.3s,baz=206,slow=29,SNR=8.5
KURK Kurchatov        9.17  20  ePn           Pn     04 54 37.7 -1.0
KURK Kurchatov        9.17  20  ⇓Pn           Pn     04 54 39.4 +0.6
     comp=N,2.8nm,0.5s
KURK                                    ⇑Lg     Lg     04 57 16.1
     comp=N,118nm,1.3s
KURK Kurchatov        9.17  20  iP            Pn     04 54 39.9 +1.2
THW  Thamme Wali      9.53 190  P             Pn     04 54 44.5 +0.7
BVAR Borovoye Array  11.03 350  Pn            Pn     04 55 02.7 -1.5
     comp=N,2.0nm,0.3s,baz=164,slow=13,SNR=24
BVAR                                    Sn      Sn     04 57 03.1 -4.8
     comp=N,0.7nm,0.3s,baz=169,slow=24,SNR=4.6
BRVK Borovoye        11.08 349  ePn           Pn     04 55 03.5 -1.4
BRVK Borovoye        11.08 349  ⇓Pn           Pn     04 55 02.8 -2.1
     comp=N,5.3nm,0.5s
BRVK                                    ⇓Lg     Lg     04 58 18.8
     comp=N,19nm,0.9s
BRVK Borovoye        11.08 349c iP            Pn     04 55 04.5 -0.4
AB31 Akbulak array   11.86 311  Pn            Pn     04 55 13.4 -2.2
     comp=N,1.8nm,0.5s,baz=119,slow=14,SNR=133
AB31                                    ⇓Sn     Sn     04 57 28.9 +0.5
     comp=N,3.4nm,0.7s,baz=114,slow=20,SNR=5.1
ABKAR Akbulak array  11.86 311  ePn           Pn     04 55 13.7 -2.0
ABKAR                                   eSn     Sn     04 57 16.0 -12
DGZ  Jazzator, Alta  12.16  47  iP            Pn     04 55 20.3 +0.4
AKTO Aktyubinsk      13.54 313  ⇓Pn           Pn     04 55 36.3 -2.3
     comp=N,8.0nm,0.6s
AKTO                                    ⇑Sn     Sn     04 58 11.8 +2.3
     comp=N,6.0nm,0.9s
AKTO Aktyubinsk      13.54 313  Pn            Pn     04 55 36.3 -2.3
     comp=N,1.1nm,0.3s,baz=125,slow=13,SNR=20
AKTO                                    Sn      Sn     04 58 02.3 -7.1
     comp=N,0.2nm,0.3s,baz=29,slow=18,SNR=3.4
AKTO                                    LR      LR     05 01 25.8
     comp=N,39nm,21.0s,baz=127,slow=40
ZALV Zalesovo Beam   13.89  29  ePn           Pn     04 55 46.9 +3.6
ZALV                                    eSn     Sn     04 58 26.5 +8.6
ZALV Zalesovo Beam   13.89  29  eP            Pn     04 55 46.9 +3.6
ZALV                                    e               04 58 26.5
ZALV Zalesovo Beam   13.89  29  Pn            Pn     04 55 43.3  0.0
     comp=N,1.1nm,0.3s,baz=224,slow=14,SNR=8.3
ZALV                                    Sn      Sn     04 58 12.8 -5.1
     comp=N,0.3nm,0.3s,baz=225,slow=24,SNR=3.3
ZAA1 Zalesovo Array  13.89  29  ePn           Pn     04 55 43.3  0.0
ZAA1                                    eSn     Sn     04 58 12.8 -5.2
NVS  Novosibirsk     14.12  23  eP            Pn     04 55 42.3 -4.2
ARU  Arti            17.23 331d iP            Pn     04 56 23.5 -3.6
ARU                                     S       Sn     04 59 29.3 -10
ARU                                     pmax    pmax
     comp=Z,28nm,3.2s
GNI  Garni           21.80 274  iP            P      04 57 25.3 +6.3
GNI                                     pmax    pmax
     comp=Z,29nm,1.1s
KBZ  Khabaz          22.48 284  P             P      04 57 27.5 +1.5
     comp=Z,0.6nm,0.4s,baz=80,slow=13,SNR=1.8
KBZ                                     LR      LR     05 07 32.7
     comp=Z,19nm,21.2s,baz=100,slow=40
NEY  Neytrino        22.67 283  iP            P      04 57 33.4 +5.2
NEY                                     pmax    pmax
     comp=Z,1.0nm,0.9s
NRIK Noril'sk        28.14  10  LR            LR     05 12 21.5
     comp=Z,5.7nm,18.7s,baz=202,slow=42
BR101 Keskin Array S 30.11 279  eP            P      04 58 38.1 +1.5
BRTR Keskin Array B  30.11 279  P             P      04 58 38.1 +1.5
     comp=Z,0.6nm,0.7s,baz=60,slow=5.8,SNR=3.6
ANTO Ankara          30.69 280  eP            P      04 58 39.9 -1.7
     comp=Z,5.3nm,0.6s
ANTO Ankara          30.69 280  eP            P      04 58 39.9 -1.7
ANTO                                    pmax    pmax
     comp=Z,5.0nm,0.6s
KIEV Kiev            31.35 301  iP            P      04 58 51.0 +3.8
KIEV                                    pmax    pmax
     comp=Z,1.0nm,1.0s
TIRR Tirgusor        32.65 290  eP            P      04 58 59.6 +0.9
     comp=Z,2.1nm,0.8s
TIRR Tirgusor        32.65 290  eP            P      04 58 59.6 +0.9
TIRR                                    pmax    pmax
     comp=Z,2.0nm,0.8s
FIA0 FINESS Array S  34.10 321  eP            P      04 59 11.9 +0.7
FIA0 FINESS Array S  34.10 321  eP            P      04 59 11.9 +0.7
FINES FINESS Array B 34.10 321  P             P      04 59 11.9 +0.7
     comp=Z,1.3nm,0.7s,baz=105,slow=10,SNR=3.4
ARA0 ARCESS Array S  36.77 334  eP            P      04 59 34.9 +0.9
ARCES ARCESS Array B 36.77 334  P             P      04 59 34.9 +0.9
     comp=Z,2.3nm,0.9s,baz=105,slow=9.2,SNR=10
ARE0 ARCESS Array S  36.77 334  eP            P      04 59 30.5 -3.5
     comp=Z,0.5nm,1.2s
NOA  NORSAR Array B  41.22 319  eP            P      05 00 16.9 +5.5
NOA                                     pmax    pmax
     comp=Z,1.0nm,0.7s
NOA  NORSAR Array B  41.22 319  P             P      05 00 11.7 +0.3
     comp=Z,1.1nm,0.8s,baz=93,slow=7.6,SNR=3.0
NOA                                     LR      LR     05 18 06.1
     comp=Z,16nm,19.5s,baz=350,slow=37
GERES GERESS Array B 41.54 300  P             P      05 00 15.9 +1.6
     comp=Z,0.3nm,0.4s,baz=76,slow=10,SNR=3.1
INK  Inuvik          67.93  11  eP            P      05 03 23.9 -1.2
     comp=Z,6.3nm,1.5s
INK  Inuvik          67.93  11  P             P      05 03 23.9 -1.2
     comp=Z,0.7nm,0.5s,baz=356,slow=2.8,SNR=7.5
TOA1 Torodi Ar. Sit  67.93 268  eP            P      05 03 24.5 -1.5
TORD Torodi Ar. Bea  67.94 268  P             P      05 03 24.5 -1.5
     comp=Z,0.2nm,0.5s,baz=54,slow=5.0,SNR=6.9
ILAR Eielson Array   68.72  17  P             P      05 03 29.7 -0.5
     comp=Z,0.4nm,0.9s,baz=333,slow=7.4,SNR=4.9
ILB  Eielson Array   68.72  17  eP            P      05 03 29.7 -0.5
     comp=Z,1.7nm,1.1s
YKA  Yellowknife Ar  75.43   4  P             P      05 04 10.8 +0.5
     comp=Z,0.6nm,0.5s,baz=351,slow=5.8,SNR=11
YKB5 Yellowknife Ar  75.43   4  eP            P      05 04 10.8 +0.5
AS31 Alice Springs   85.96 127  eP            P      05 05 05.9 -1.3
     comp=Z,1.5nm,1.1s
ASAR Alice Springs   85.96 127  P             P      05 05 05.9 -1.3
     comp=Z,0.5nm,0.7s,baz=330,slow=5.4,SNR=4.2
CTAO Charters Tower  91.15 116  eP            P      05 05 32.9 +0.9
     comp=Z,86nm,0.6s
CTAO Charters Tower  91.15 116  eP            P      05 05 32.9 +0.9
```

ROM 02 04:52:31.6±0.2, 43°.018N±0°.006×12°.93E±0°.01, h12km±1km, ML0.9/4, Error ellipse: s-maj=1.0km s-min=0.6km az=258.0, Central Italy

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Code Station Name     Δ°   AZ°   Phase ID      Time      Res
                                Op    ISC     h m s     ISC
CESI CESI - Serrava   0.02 232  P     Pg      04 52 34.2 +0.3
CESI                            S     Sg      04 52 35.7 +0.3
CESI                            AML   AML
     comp=E,47μm,0.5s
CESI                            AML   AML
     comp=N,160μm,0.2s
CESI                            AML   AML
     comp=N,160μm,0.2s
CESI                            AML   AML
     comp=E,47μm,0.5s
FDMO Fiordimonte      0.12  81  P     Pg      04 52 35.2 +0.5
FDMO                            S     Sg      04 52 37.6 +0.6
FDMO                            AML   AML
     comp=E,65μm,0.9s
FDMO                            AML   AML
     comp=N,44μm,1.0s
FDMO                            AML   AML
     comp=E,65μm,0.9s
FDMO                            AML   AML
     comp=N,44μm,1.0s
ASSB Assisi San Ben   0.20 277  AML   AML
     comp=N,36μm,1.1s
ASSB                            AML   AML
     comp=E,32μm,1.4s
ASSB                            AML   AML
     comp=N,36μm,1.1s
ASSB                            AML   AML
     comp=E,32μm,1.4s
CSP1 Cessapalombo     0.22  70  S     Pg      04 52 36.0 -0.3
CSP1 Cessapalombo     0.22  70  P     Pg      04 52 36.1 -0.2
CSP1                            S     Sg      04 52 40.7 +1.2
CSP1 Cessapalombo     0.22  70  S     Sg      04 52 37.0 -2.6
NRCA Norcia           0.23 143  P     Pg      04 52 37.0 +0.5
NRCA                            S     Sg      04 52 40.9 +1.0
SNTG Esanatoglia      0.24   2  S     Pg      04 52 37.0 +0.4
SNTG Esanatoglia      0.24   2  P     Pg      04 52 37.1 +0.5
SNTG                            S     Sg      04 52 41.1 +1.0
MOMA Monte Martano    0.34 231  AML   AML
     comp=N,109μm,0.1s
MOMA                            AML   AML
     comp=E,148μm,1.3s
MOMA                            AML   AML
     comp=N,109μm,0.1s
MOMA                            AML   AML
     comp=E,148μm,1.3s
VVLD Villa Vallelon   1.26 156  AML   AML
     comp=N,45μm,0.1s
VVLD                            AML   AML
     comp=E,43μm,0.1s
VVLD                            AML   AML
     comp=N,45μm,0.1s
VVLD                            AML   AML
     comp=E,43μm,0.1s
```

ISCJB 02 05:10:50.4±2.4, 43°.72N±0°.08×147°.6E±0°.1, h6km±22km, Error ellipse: s-maj=17.4km s-min=7.7km az=137.1
SKHL 02 05:10:51.8±0.4, 43°.55N×147°.69E, h45km±3km, mb4.2/4
JMA 02 05:10:52.0±0.7, 43°.67N×147°.60E, h35km, M3.5
ISC 02 05:10:50.9±2.6, 43°.8N±0°.1×147°.5E±0°.1, h4km±15km, n11, σ0°.79/16, Kuril Islands

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Code Station Name     Δ°   AZ°   Phase ID      Time      Res
                                Op    ISC     h m s     ISC
YUK  Yuzh-Kuril'sk    1.21 282  iP    Pg      05 11 14.3 +0.2
YUK                             AMB   AMB     05 11 16.0
     20nm,0.2s
YUK                             AMB   AMB     05 11 16.0
     60nm,0.2s
YUK                             AMB   AMB     05 11 16.0
     30nm,0.2s
YUK                             iS    Sn      05 11 31.0 -0.4
YUK                             A     A       05 11 34.0
     630nm,0.4s
YUK                             A     A       05 11 34.0
     600nm,0.4s
GRPR Tuman            1.27 280  iP    Pb      05 11 15.0 -0.3
GRPR                            AMB   AMB     05 11 17.0
     110nm,0.3s
GRPR                            AMB   AMB     05 11 17.0
     40nm,0.3s
GRPR                            AMB   AMB     05 11 17.0
     100nm,0.3s
GRPR                            iS    Sn      05 11 32.3 -0.5
GRPR                            A     A       05 11 33.0
     530nm,0.3s
GRPR                            A     A       05 11 33.0
     290nm,0.3s
NEM2 Nemuro 2         1.35 252  P     Pb      05 11 16.0 -0.7
GLVR Golovnino        1.44 269  eP    Pn      05 11 17.0 -0.7
GLVR                            AMB   AMB     05 11 19.0
     110nm,0.3s
GLVR                            eS    Sn      05 11 36.3 -0.7
GLVR                            A     A       05 11 41.0
     780nm,0.4s
GLVR                            A     A       05 11 41.0
     390nm,0.4s
KUR  Kuril'sk         1.47  10  eP    Pb      05 11 18.4 -0.4
KUR                             AMB   AMB     05 11 21.0
     40nm,0.2s
KUR                             eS    Sg      05 11 38.2  0.0
KUR                             A     A       05 11 41.0
     190nm,0.2s
KUR                             A     A       05 11 41.0
     160nm,0.2s
JRA  Rausu            1.73 276  P     Pn      05 11 21.7  0.0
JNK  Nakash           2.03 265  P     Pn      05 11 26.0 +0.2
JAK  Akkeshi          2.19 250  P     Pn      05 11 27.9 -0.2
JTKR Abashiri--Toko   2.61 275  P     Pn      05 11 35.1 +1.4
JAR  Ashorobuto       2.76 261  P     Pn      05 11 37.2 +1.3
JAR                             eS    Sn      05 12 10.8 +1.2
JCH  Churui           3.25 250  P     Pn      05 11 43.0 +0.4
```

SOME 02 05:36:50.2, 40°.22N×77°.63E, h20km
NNC 02 05:36:51.3±0.8, 40°.34N×77°.62E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=5.1km s-min=3.8km az=174.0
KRNET 02 05:36:51.3±0.1, 40°.35N×77°.54E, h14km, mb3.0
ISC 02 05:36:54.5±2.0, 40°.38N±0°.09×77°.52E±0°.04, h10km, n54, σ1°.68/84, 25C-9D, Kyrgyzstan-Xinjiang border region

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Code Station Name     Δ°   AZ°   Phase ID      Time      Res
                                Op    ISC     h m s     ISC
TARG Taragay, Kyrgy   1.37   9  iP    Pn      05 37 17.7 -2.3
     baz=8.0
TARG                            iS    Sn      05 37 37.4 -1.0
     baz=8.0
NRN  Naryn            1.56 313 iP    Pn      05 37 21.5 -1.1
     baz=13
NRN                             iS    Sn      05 37 43.4 +0.3
     baz=13
KDJ  Kajisay          1.77 352 iP    Pn      05 37 25.1 -0.3
     baz=52
KDJ                             iS    Sb      05 37 49.6 +0.1
     baz=52
ULHL Ulahol           2.10 333  P     Pb      05 37 30.8 -2.0
     SNR=27
ULHL Ulahol           2.10 333 iP    Pn      05 37 30.3 +0.4
     baz=33
ULHL                            iS    Sb      05 37 59.1 +0.1
     baz=33
KZA  Kyzart           2.41 315  P     Pb      05 37 36.6 -1.6
     SNR=47
KZA  Kyzart           2.41 315 iP    Pn      05 37 34.8 +0.4
     baz=16
KZA                             iS    Sb      05 38 06.6 -1.6
     baz=16
BOOM Boomskoye usch   2.42 331 iP    Pn      05 37 34.8 +0.5
     baz=31
BOOM                            iS    Sb      05 38 06.6 -1.6
     baz=31
TNSS Tian-Shan        2.69 351  Pg    Pb      05 37 41.9 -1.1
     14nm,0.2s
TNSS                            Lg    Lg      05 38 19.4
     10nm,0.6s
TNSS Tian-Shan        2.69 351  eP    Pb      05 37 41.9 -1.1
     14nm,0.2s
TNSS                            eS    Sg      05 38 19.1 -1.9
     11nm,0.5s
SATY Saty             2.76  14  eP    Pb      05 37 42.9 -1.1
     22nm,1.1s
SATY                            eS    Sg      05 38 20.6 -2.5
     17nm,0.4s
MDOK Medeo            2.80 353  Pg    Pb      05 37 43.5 -1.3
     6.6nm,0.4s
MDOK                            Lg    Lg      05 38 21.7
     5.9nm,0.5s
MDOK Medeo            2.80 353  Pg    Pb      05 37 44.1 -0.7
     15nm,0.5s
MDOK                            Lg    Lg      05 38 22.8
     9.9nm,0.6s
MDOK Medeo            2.80 353  eP    Pb      05 37 44.0 -0.7
     16nm,0.2s
MDOK                            iS    Sg      05 38 22.8 -1.8
     10nm,0.8s
ARLS Aral             2.83 303 iP    Pn      05 37 40.7 +0.7
     baz=3.0
ARLS                            iS    Sn      05 38 16.5 +2.3
     baz=3.0
KOTS Kotyrbulak       2.87 354  Pg    Pb      05 37 44.8 -1.0
     10nm,0.2s
KOTS                            Lg    Lg      05 38 24.5
     11nm,0.3s
KOTS Kotyrbulak       2.87 354  eP    Pb      05 37 44.9 -1.0
     10nm,0.2s
KOTS                            eS    Sb      05 38 24.0 +2.9
     15nm,0.5s
ZHN  Zhinishke        2.87  14  Pg    Pb      05 37 44.6 -1.3
     14nm,0.2s
ZHN                             Lg    Lg      05 38 23.7
     7.4nm,0.4s
ZHN  Zhinishke        2.87  14  eP    Pb      05 37 44.6 -1.3
     14nm,0.2s
ZHN                             eS    Sb      05 38 23.7 +2.6
     7.4nm,0.4s
KST  Kastek           2.91 337  Pg    Pb      05 37 46.0 -0.5
     6.8nm,0.2s
KST                             Lg    Lg      05 38 25.9
     8.6nm,0.2s
KST  Kastek           2.91 337  eP    Pb      05 37 46.0 -0.5
     6.8nm,0.2s
KST                             eS    Sg      05 38 25.9 -1.9
     8.6nm,0.2s
TKM2 Tokmak 2         2.92 331  P     Pb      05 37 46.3 -0.5
     SNR=6.7
TKM2 Tokmak 2         2.92 331 ⇓Pg    Pb      05 37 45.5 -1.3
     1.9nm,0.3s
TKM2                            ⇓Lg    Lg      05 38 26.9
     4.3nm,0.5s
TKM2 Tokmak 2         2.92 331 ⇓iP    Pn      05 37 41.8 +0.6
     baz=31
TKM2                            ⇓iS    Sn      05 38 18.7 +2.2
     baz=31
UCH  Uchtor           2.92 310  P     Pb      05 37 45.9 -1.1
     SNR=8.2
UCH  Uchtor           2.92 310 ⇑iP    Pn      05 37 42.0 +0.5
     baz=11
UCH                             ⇑iS    Sn      05 38 19.0 +2.1
     baz=11
KBK  Karagaybulak     2.98 321  P     Pb      05 37 47.4 -0.4
     SNR=7.2
KBK  Karagaybulak     2.98 321 ⇑iP    Pn      05 37 42.7 +0.6
     baz=21
KBK                             ⇑iS    Sn      05 38 20.1 +2.1
     baz=21
UZB  Uzynbulak        2.98  22  Pg    Pb      05 37 46.2 -1.7
     2.4nm,0.3s
UZB                             Lg    Lg      05 38 26.2
     6.7nm,0.5s
UZB  Uzynbulak        2.98  22  eP    Pb      05 37 46.2 -1.7
     2.4nm,0.3s
UZB                             eS    Sb      05 38 26.2 +1.7
     6.7nm,0.5s
DGS  Degeres          3.14 336  Pg    Pb      05 37 50.4 -0.2
     7.7nm,0.3s
DGS                             Lg    Lg      05 38 33.4
     13nm,0.3s
DGS  Degeres          3.14 336  eP    Pb      05 37 50.4 -0.2
     7.7nm,0.3s
DGS                             eS    Sg      05 38 33.4 -2.1
     13nm,0.3s
KURS Kuram            3.14   9  Pg    Pb      05 37 50.2 -0.3
     5.1nm,0.5s
KURS                            Lg    Lg      05 38 33.2
     4.9nm,0.4s
KURS Kuram            3.14   9  eP    Pb      05 37 50.2 -0.3
     5.1nm,0.5s
KURS                            eS    Sg      05 38 33.2 -2.3
     4.9nm,0.4s
AAK  Ala-Archa        3.20 316 ⇑Pg    Pb      05 37 50.4 -1.2
     3.8nm,0.6s
AAK                             Lg    Lg      05 38 34.7
     16nm,1.1s
AAK  Ala-Archa        3.20 316⇑eP    Pn      05 37 45.6 +0.6
     baz=16
AAK                             ⇑iS    Sn      05 38 25.4 +2.1
     baz=16
KPKS Kokpek           3.20  15  eP    Pb      05 37 50.4 -1.2
     34nm,0.3s
KPKS                            eS    Sb      05 38 33.7 +3.0
     18nm,0.3s
PDGK Podgornoye       3.29  26  Pg    Pb      05 37 50.9 -2.2
     2.7nm,0.5s
PDGK                            Lg    Lg      05 38 35.3
     5.4nm,0.7s
PDGK Podgornoye       3.29  26 ⇑Pg    Pb      05 37 51.0 -2.2
     3.0nm,0.4s
PDGK                            ⇓Lg    Lg      05 38 35.3
     16nm,0.9s
PDGK Podgornoye       3.29  26⇑iP    Pn      05 37 46.6 +0.3
     baz=25
PDGK                            ⇑iS    Sn      05 38 27.5 +1.9
     baz=25
CHMS Chumysh          3.34 323⇑iP    Pn      05 37 47.6 +0.8
     baz=23
CHMS                            ⇑iS    Sn      05 38 28.3 +1.8
     baz=23
KTBS Karatobe         3.39 350  Pg    Pb      05 37 54.3 -0.4
     4.0nm,0.4s
KTBS                            Lg    Lg      05 38 40.3
     13nm,0.5s
KTBS Karatobe         3.39 350  eP    Pb      05 37 54.3 -0.4
     4.0nm,0.4s
KTBS                            eS    Sg      05 38 40.3 -3.0
     13nm,0.5s
CHKK Chushkaly        3.50 354  Pg    Pb      05 37 55.8 -0.7
     6.4nm,0.5s
CHKK                            Lg    Lg      05 38 43.2
     13nm,0.3s
CHKK Chushkaly        3.50 354  eP    Pb      05 37 55.8 -0.7
     6.4nm,0.5s
CHKK                            eS    Sb      05 38 43.2 +4.2
     13nm,0.3s
KUU  Kurty            3.62 346  Pg    Pb      05 37 57.3 -1.3
     2.0nm,0.3s
KUU                             Lg    Lg      05 38 46.5
     5.7nm,0.7s
KUU  Kurty            3.62 346  eP    Pb      05 37 57.3 -1.3
     2.0nm,0.3s
KUU                             eS    Sb      05 38 45.7 +3.2
     11nm,1.1s
USP  Ospenovka        3.66 323  P     Pb      05 37 59.1 -0.2
     SNR=5.9
KTMS Ketmen           3.72  34  Pg    Pb      05 37 59.0 -1.5
KTMS                            Lg    Lg      05 38 48.2
KTMS Ketmen           3.72  34  eP    Pb      05 37 59.0 -1.5
     2.1nm,0.3s
KTMS                            eS    Sb      05 38 48.2 +2.6
     7.0nm,0.4s
MNBS Baschi           3.75  10  eP    Pb      05 38 01.2 +0.3
     3.2nm,0.6s
MNBS                            eS    Sg      05 38 52.4 -2.7
     16nm,0.5s
```

ARXS	**Arharly**	**3.84**	**3**	*eP*		**Pb**	**05 38 03.0**	**+0.6**
	2.9nm,0.4s							
ARXS				*eS*		**Sg**	**05 38 55.3**	**-2.5**
	6.4nm,0.4s							
DJR	**Jarkent**	**4.29**	**22**	Pg		**Pb**	**05 38 09.6**	**-0.5**
	3.5nm,0.7s							
DJR				Lg		Lg	05 39 06.6	
	4.9nm,0.5s							
DJR	**Jarkent**	**4.29**	**22⇑**	*iP*		**Pb**	**05 38 09.6**	**-0.5**
	3.5nm,0.7s							
DJR			⇑	*iS*		**Sb**	**05 39 06.6**	**+4.6**
	4.4nm,0.4s							

SFS ***02*** *05:49:07.0,33.°93N×3.°80W, ML2.8, TAZA (MARRUECOS)*
MDD ***02*** *05:49:07.0±2.2,33.°94N×3.°74W, h0km, mb3.6/8, Error ellipse: s-maj=21.0km s-min=13.7km az=174.0, PRXIMO*
INMG ***02*** *05:49:07.9±1.2,33.°73N×3.°54W, h87km±9km, ML2.4, Error ellipse: s-maj=7.8km s-min=4.7km az=133.0*
CNRM ***02*** *05:49:08.0,33.°89N×3.°72W, h48km, ml3.0*
IGIL ***02*** *05:49:08.5,33.°88N×3.°73W, h14km, ML2.2*

ISC 02 05:49:07.9±2.0,33.°90N±0.°02×3.°66W±0.°03, h31km±19km, n44, σ1°62/78, 1D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBK	**JBK**	**1.00**	**64**	P	**Pn**	**05 49 24.4**	**-1.6**
JBK				S	**Sn**	**05 49 38.1**	**-1.1**
LCRM	**LCR**	**1.02**	**258**	P	**Pn**	**05 49 25.3**	**-0.9**
LCRM				S	**Sn**	**05 49 38.7**	**-0.9**
IFR	**Ifrane**	**1.28**	**253⇓**	*eP*	**Pn**	**05 49 29.6**	**-0.3**
IFR				*eS*	**Sn**	**05 49 46.8**	**+0.7**
MDT	**Midelt**	**1.34**	**217**	P	**Pn**	**05 49 30.2**	**-0.4**
MDT				S	**Sn**	**05 49 47.6**	**+0.1**
TAF	**Taforalt**	**1.37**	**48**	P	**Pn**	**05 49 30.7**	**-0.2**
TAF				S	**Sn**	**05 49 49.3**	**+1.1**
MD31	**MD31**	**1.38**	**222**	P	**Pn**	**05 49 31.0**	**-0.1**
MD31				S	**Sn**	**05 49 48.2**	**-0.2**
GOG	**Mont Gurugu**	**1.43**	**22**	P	**Pn**	**05 49 31.6**	**-0.1**
GOG				S	**Sb**	**05 49 52.0**	**+0.3**
TDRA	**Tendrara**	**1.61**	**122**	P	**Pn**	**05 49 34.6**	**+0.3**
TDRA				S	**Sb**	**05 49 56.2**	**-0.8**
RSA	**Sarsar**	**2.04**	**299**	P	**Pn**	**05 49 41.7**	**+1.6**
RSA				S	**Sn**	**05 50 05.8**	**+1.2**
SMIR	**Smir Dam**	**2.27**	**322**	P	**Pn**	**05 49 43.8**	**+0.6**
SMIR				S	**Sn**	**05 50 07.9**	**-2.3**
GOLM	**Goulmima**	**2.45**	**207**	P	**Pn**	**05 49 44.5**	**-1.3**
GOLM				S	**Sn**	**05 50 13.5**	**-1.3**
ARF	**Arif**	**2.51**	**191**	P	**Pn**	**05 49 45.2**	**-1.4**
ARF				S	**Sn**	**05 50 18.0**	**+1.9**
FIGM	**Figuig**	**2.68**	**131**	P	**Pn**	**05 49 48.4**	**-0.6**
FIGM				S	**Sn**	**05 50 20.5**	**+0.1**
EMIJ	**Mijas**	**2.81**	**341**	P	**Pn**	**05 49 50.2**	**-0.4**
	1.8nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**05 50 23.1**	**-0.4**
	1.3nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**2.96**	**0**	P	**Pn**	**05 49 52.5**	**-0.3**
	0.8nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**05 50 27.3**	**0.0**
	2.2nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.06**	**12**	P	**Pn**	**05 49 54.5**	**+0.3**
	1.1nm,0.3s,SNR=4.0						
EBER				S	**Sn**	**05 50 30.8**	**+1.0**
	1.0nm,0.2s,SNR=7.9						
AVE	**Averroes**	**3.19**	**260**	*eS*	**Pn**	**05 49 56.7**	**+0.8**
EGOR	**Sierra Gorda,**	**3.22**	**354**	P	**Pn**	**05 49 58.2**	**+1.7**
	1.1nm,0.3s,SNR=4.0						
SRHM	**Skhour des Reh**	**3.83**	**249**	P	**Pn**	**05 50 06.2**	**+1.4**
SRHM				S	**Sn**	**05 50 54.0**	**+5.2**
EQES	**Quesada**	**3.92**	**7**	P	**Pn**	**05 50 08.4**	**+2.4**
	0.9nm,0.1s,SNR=7.9						
OUZM	**OUZ**	**3.97**	**222**	P	**Pn**	**05 50 07.6**	**+0.8**
OUZM				S	**Sn**	**05 50 55.7**	**+3.3**
SESP	**Santiago Espad**	**4.30**	**12**	P	**Pn**	**05 50 12.8**	**+1.4**
SESP				S	**Sn**	**05 51 00.6**	**0.0**
EADA	**Adamuz**	**4.32**	**350**	P	**Pn**	**05 50 13.5**	**+2.1**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**05 51 05.1**	**+4.3**
	0.5nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.40**	**342**	P	**Pn**	**05 50 14.1**	**+1.6**
	0.5nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**05 51 03.1**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.57**	**328**	P	**Pn**	**05 50 15.6**	**+0.7**
	0.6nm,0.1s,SNR=10						
EMIN				S	**Sn**	**05 51 06.6**	**-0.3**
	2.6nm,0.6s,SNR=7.9						
EGRO	**El Granado**	**4.78**	**320**	P	**Pn**	**05 50 17.5**	**-0.2**
	1.3nm,0.1s,SNR=5.1						
EGRO				S	**Sn**	**05 51 09.1**	**-2.9**
	1.0nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.81**	**318**	*eS*	**Sn**	**05 51 11.3**	**-1.5**
PVAQ	**Vaqueiros**	**4.81**	**318**	S	**Sn**	**05 51 11.3**	**-1.5**
ETOB	**Tobarra**	**5.03**	**19**	P	**Pn**	**05 50 22.7**	**+1.4**
	2.3nm,0.5s,SNR=4.0						
PCVE	**Castro Verde**	**5.15**	**318**	*eP*	**Pn**	**05 50 22.8**	**0.0**
PCVE				*eS*	**Sn**	**05 51 20.2**	**-1.0**
PCVE				A	A	05 51 23.4	
	1.4nm,0.1s						
PCVE	**Castro Verde**	**5.15**	**318**	P	**Pn**	**05 50 22.8**	**0.0**
PCVE				S	**Sn**	**05 51 20.2**	**-1.0**
	1.4nm,0.1s						
TTIG	**Tnine Tigouga,**	**5.25**	**232**	P	**Pn**	**05 50 25.7**	**+1.3**
TTIG				S	**Sn**	**05 51 21.2**	**-2.8**
MORF	**Marmelete**	**5.30**	**311**	*eP*	**Pn**	**05 50 24.7**	**-0.2**
MORF	**Marmelete**	**5.30**	**311**	P	**Pn**	**05 50 24.7**	**-0.2**
PFVI	**Vila Bisbo**	**5.31**	**309**	*eP*	**Pn**	**05 50 26.3**	**+1.3**
PFVI				*eS*	**Sn**	**05 51 23.6**	**-1.5**
PFVI	**Vila Bisbo**	**5.31**	**309**	P	**Pn**	**05 50 25.5**	**+0.6**
	1.6nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**05 51 22.9**	**-2.2**
	2.6nm,0.5s,SNR=7.9						
MESJ	**Messejana**	**5.40**	**318**	*eP*	**Pn**	**05 50 26.2**	**-0.1**
MESJ				*eS*	**Sn**	**05 51 23.2**	**-4.2**
MESJ				AML	AML	05 51 28.4	
	comp=E,3.4nm,0.1s						
MESJ	**Messejana**	**5.40**	**318**	P	**Pn**	**05 50 26.2**	**-0.1**
MESJ				S	**Sn**	**05 51 23.2**	**-4.2**
	comp=E,3.4nm,0.1s						
PTEO	**Sao Teotonio**	**5.50**	**313**	*eS*	**Sn**	**05 51 28.5**	**-1.2**
PTEO	**Sao Teotonio**	**5.50**	**313**	S	**Sn**	**05 51 28.5**	**-1.2**
EBAD	**Badajoz**	**5.55**	**332**	P	**Pn**	**05 50 29.3**	**+1.0**
	comp=E,1.1nm,0.1s,SNR=6.3						
EBAD				S	**Sn**	**05 51 28.8**	**-2.2**
	comp=E,0.4nm,0.3s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.76**	**318**	*eP*	**Pn**	**05 50 31.2**	**-0.1**
PNCL				*eS*	**Sn**	**05 51 34.7**	**-1.6**
PNCL	**Nicolau / Gran**	**5.76**	**318**	P	**Pn**	**05 50 31.2**	**-0.1**
PNCL				S	**Sn**	**05 51 34.7**	**-1.6**
PESTR	**Estremoz**	**5.88**	**329**	*eP*	**Pn**	**05 50 34.1**	**+1.2**
PESTR				*eS*	**Sn**	**05 51 37.8**	**-1.5**

MEX 02 06:11:52.0±0.4, 15.°53N×93.°83W, h78km±6km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.61**	**74**	*eP*	Pn	06 12 05.0	-1.6
PCIG				*eS*	Sn	06 12 15.8	-1.6
CCIG	**Comitan**	**1.79**	**65**	*iP*	Pn	06 12 19.9	-1.2
CCIG				*iS*	Sn	06 12 41.5	-1.8
CMIG	**Matias Romero**	**1.85**	**327**	*eP*	Pn	06 12 20.7	-1.2
CMIG				*iS*	Sn	06 12 42.4	-2.2
HUIG	**Huatulco**	**2.21**	**276**	*iP*	Pn	06 12 25.6	-1.0
HUIG				*iS*	Sn	06 12 50.6	-2.6
PNIG	**Pinotepa**	**4.22**	**282**	*iP*	Pn	06 12 54.0	-0.1
PNIG				*iS*	Sn	06 13 40.9	-1.3

SAR ***02*** *06:19:10.6±0.2,43.°31N×19.°05E, h0km, ML2.0/13, 9C-9D, Northwestern Balkan Peninsula*
PDG ***02*** *06:19:10.4±0.1,43.°28N×19.°01E, h11km, MD2.5/2, ML2.4/13, Error ellipse: s-maj=0.3km s-min=0.3km az=90.0*

BEO 02 06:19:11.0±0.2, 43.°31N×19.°05E, h0km, ML2.0/13, 9C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.15**	**225⇑**	*iPg*	Pg	06 19 13.0	-0.8
UPM				*iSg*	Sg	06 19 15.6	-0.1
UPM	**Unac-Piva**	**0.15**	**225⇓**	*iPg*	Pg	06 19 13.1	-0.7
UPM				*eSg*	Sg	06 19 15.6	-0.1
PLE	**Pljevlja**	**0.25**	**85⇑**	*iPg*	Pg	06 19 15.7	-0.1
PLE				*eSg*	Sg	06 19 19.8	+0.8
NKY	**Niksic**	**0.50**	**185⇑**	*iPg*	Pg	06 19 19.2	-1.3
NKY				*i Sg*	Sg	06 19 26.7	-0.2
NKME	**Niksic**	**0.55**	**187⇓**	*iPg*	Pg	06 19 20.2	-1.2
NKME				*eSg*	Sg	06 19 28.5	0.0
BRY	**Bratogost**	**0.55**	**223⇑**	*iPg*	Pg	06 19 20.2	-1.3
BRY				*i Sg*	Sg	06 19 28.4	-0.3
BRY	**Bratogost**	**0.55**	**223⇓**	*iPg*	Pg	06 19 20.0	-1.5
BRY				*eSg*	Sg	06 19 28.4	-0.3
KOME	**Kolasin**	**0.57**	**143⇑**	*iPg*	Pg	06 19 21.2	-0.7
KOME				*eSg*	Sg	06 19 30.0	+0.7
BBLS	**Lazići**	**0.61**	**25**	*ePg*	Pg	06 19 22.8	0.0
BBLS				*eSg*	Sg	06 19 30.3	-0.5
BBLS	**Lazići**	**0.61**	**25**	*ePg*	Pg	06 19 21.7	-1.1
BBLS				*eSg*	Sg	06 19 30.5	-0.3
SJES	**Sjenica**	**0.68**	**94**	*ePg*	Pg	06 19 23.3	-0.7
SJES				*eSg*	Sg	06 19 32.3	-0.5
IVA	**Berane**	**0.76**	**125⇑**	*iPg*	Pg	06 19 24.7	-0.8
IVA				*eSg*	Sg	06 19 36.4	+1.1
CEME	**Cevo**	**0.77**	**187⇑**	*iPg*	Pg	06 19 23.9	-1.8
CEME				*eSg*	Sg	06 19 35.8	+0.2
HAPS	**Han Pijesak,BI**	**0.78**	**355**	*ePg*	Pg	06 19 24.6	-1.4
HAPS				*eSg*	Sg	06 19 35.0	-1.1
HAPS	**Han Pijesak,BI**	**0.78**	**355⇑**	*iPg*	Pg	06 19 24.3	-1.7
HAPS				*eSg*	Sg	06 19 35.1	-1.0
TREB	**Trebinje**	**0.78**	**221**	*ePg*	Pg	06 19 24.2	-1.8
TREB				*eSg*	Sg	06 19 36.1	0.0
TREB	**Trebinje**	**0.78**	**221⇑**	*iPg*	Pg	06 19 23.9	-2.1
TREB				*eSg*	Sg	06 19 35.7	-0.4
IVAS	**Ivanjica**	**0.85**	**71**	*ePg*	Pg	06 19 26.1	-1.2
IVAS				*eSg*	Sg	06 19 36.9	-1.4
PDG	**Podgorica**	**0.89**	**170**	*ePg*	Pg	06 19 26.3	-1.8
PDG				*eSg*	Sg	06 19 39.7	+0.1
PDG	**Podgorica**	**0.89**	**170**	*ePg*	Pg	06 19 26.3	-1.8
PDG				*eSg*	Sg	06 19 39.9	+0.3
TTG	**Podgorica**	**0.89**	**170⇑**	*iPg*	Pg	06 19 26.5	-1.6
TTG				*eSg*	Sg	06 19 40.2	+0.6
HCY	**Herceg Novi**	**0.95**	**205⇓**	*iPg*	Pg	06 19 27.5	-1.7
HCY				*i Sg*	Sg	06 19 41.9	+0.4
HCY	**Herceg Novi**	**0.95**	**205**	*ePg*	Pg	06 19 28.3	-0.9
HCY				*eSg*	Sg	06 19 40.9	-0.6
PVY	**Plav**	**0.98**	**137⇓**	*iPg*	Pg	06 19 28.7	-1.0
PVY				*eSg*	Sb	06 19 43.8	-0.6
BUM	**Brajici-Budva**	**1.01**	**186⇓**	*iPg*	Pg	06 19 28.5	-1.9
BUM				*i Sg*	Sb	06 19 44.9	-0.4
DIVS	**Divibare**	**1.05**	**41**	*ePg*	Pg	06 19 30.7	-0.3
DIVS				*eSg*	Sg	06 19 44.0	-0.6
DIVS	**Divibare**	**1.05**	**41**	*ePg*	Pg	06 19 29.9	-1.1
DIVS				*eSg*	Sg	06 19 44.1	-0.5
STON	**Ston**	**1.08**	**247**	*ePg*	Pg	06 19 29.6	-2.1
STON				*eSg*	Sg	06 19 46.0	+0.4
STON	**Ston**	**1.08**	**247**	*ePg*	Pg	06 19 29.6	-2.1
STON				Sg	Sg	06 19 45.8	+0.1
STON	**Ston**	**1.08**	**247**	*ePg*	Pg	06 19 29.8	-1.9
STON				*eSg*	Sg	06 19 44.1	-1.5
DRME	**Dracevica, Mon**	**1.12**	**175⇓**	*iPg*	Pg	06 19 31.4	-1.1
DRME				*eSg*	Sb	06 19 48.2	-0.3
DRME	**Dracevica, Mon**	**1.12**	**175**	*ePg*	Pg	06 19 31.3	-1.2
DRME				*eSg*	Sg	06 19 47.0	-0.1
TEKS	**Tekeris**	**1.29**	**16**	*ePg*	Pg	06 19 34.8	-0.9
TEKS				*eSg*	Sg	06 19 51.8	-0.6
TEKS	**Tekeris**	**1.29**	**16**	*ePg*	Pg	06 19 33.9	-1.8
TEKS				*eSg*	Sg	06 19 51.8	-0.6
GRUS	**Gruza**	**1.34**	**64**	*ePg*	Pg	06 19 35.9	-0.9
GRUS				*eSg*	Sg	06 19 53.7	-0.5
TRUS	**Trudelj**	**1.34**	**47**	*ePg*	Pg	06 19 35.7	-1.1
TRUS				*eSg*	Sg	06 19 53.9	-0.3
ULC	**Ulcinj**	**1.35**	**174⇓**	*iPg*	Pg	06 19 35.0	-1.9
ULC				*eSg*	Sn	06 19 55.9	+0.1
SELS	**Selova**	**1.52**	**93**	*ePg*	Pn	06 19 38.7	-0.7
FRGS	**Fruska Gora**	**1.93**	**16**	*ePg*	Pn	06 19 45.8	+0.7
FRGS				*eSg*	Sg	06 20 12.4	-0.6
FRGS	**Fruska Gora**	**1.93**	**16**	*ePn*	Pn	06 19 43.7	-1.4
FRGS				*eSn*	Sn	06 20 08.7	-1.4
BOVS	**Bovan**	**1.96**	**80**	*ePg*	Pn	06 19 46.4	+0.9
BOVS				*eSg*	Sb	06 20 13.3	+0.7
BLY	**Banja Luka**	**1.97**	**318**	*ePn*	Pn	06 19 44.4	-1.2
BLY				*eSn*	Sn	06 20 09.4	-1.6
BARS	**Barje**	**2.09**	**103**	*ePn*	Pn	06 19 46.1	-1.2
ZAPS	**Zavoj**	**2.62**	**90**	*ePn*	Pn	06 19 55.0	+0.4
MORH	**Mrgy, Hungar**	**2.92**	**354**	*ePn*	Pn	06 19 57.9	-0.8

ROM 02 06:20:18.4±0.1, 39.°941N±0.°005×16.°00E±0.°01, h8km, ML1.2/3, Error ellipse: s-maj=1.1km s-min=0.2km az=241.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0721	**Laino Castello**	**0.02**	**259**	P	Pg	06 20 20.0	+0.2
T0721	**Laino Castello**	**0.02**	**259**	P	Pg	06 20 20.0	+0.2
T0721				S	Sg	06 20 20.9	+0.1
T0721	**Laino Castello**	**0.02**	**259**	P	Pg	06 20 20.0	+0.2
CUC	**Castrocucco**	**0.15**	**290**	P	Pg	06 20 22.3	+0.7
CUC				S	Sg	06 20 24.8	+1.0
CUC				AML	AML		
	comp=E,176μm,0.5s						
CUC				AML	AML		
	comp=N,147μm,0.5s						
CUC				AML	AML		
	comp=E,215μm,0.5s						
CUC				AML	AML		
	comp=N,174μm,0.5s						
CUC				AML	AML		
	comp=N,174μm,0.5s						
CUC				AML	AML		
	comp=N,147μm,0.5s						
CUC				AML	AML		
	comp=E,176μm,0.5s						
CUC				AML	AML		
	comp=E,215μm,0.5s						
CUC	**Castrocucco**	**0.15**	**290**	P	Pg	06 20 22.4	+0.7
CUC	**Castrocucco**	**0.15**	**290**	P	Pg	06 20 22.8	+1.2
CUC	**Castrocucco**	**0.15**	**290**	S	Sg	06 20 24.4	+0.6
T0702	**Acquaformosa (**	**0.23**	**164**	P	Pg	06 20 23.8	+0.8
T0702	**Acquaformosa (**	**0.23**	**164**	P	Pg	06 20 23.9	+0.9
T0702				S	Sg	06 20 27.6	+1.5
T0702				AML	AML		
	comp=E,70μm,1.6s						
T0702				AML	AML		
	comp=N,59μm,0.4s						
T0702				AML	AML		
	comp=E,70μm,1.6s						
T0702				AML	AML		
	comp=N,59μm,0.4s						
T0702	**Acquaformosa (**	**0.23**	**164**	S	Sg	06 20 27.7	+1.6
SIRI	**Monte Sirino -**	**0.26**	**337**	P	Pg	06 20 24.3	+0.6
SIRI	**Monte Sirino -**	**0.26**	**337**	P	Pg	06 20 24.3	+0.6
SIRI				S	Sb	06 20 29.1	-1.1
SIRI				AML	AML		
	comp=E,91μm,0.3s						
SIRI				AML	AML		
	comp=N,99μm,0.2s						
SIRI				AML	AML		
	comp=N,99μm,0.2s						
SIRI				AML	AML		
	comp=E,91μm,0.3s						
SIRI	**Monte Sirino -**	**0.26**	**337**	P	Pg	06 20 24.3	+0.6
SIRI	**Monte Sirino -**	**0.26**	**337**	S	Sb	06 20 29.3	-1.0
MTSN	**Montesano sull**	**0.38**	**329**	P	Pg	06 20 26.5	+0.7
MTSN				S	Sb	06 20 32.8	-0.8
MTSN	**Montesano sull**	**0.38**	**329**	P	Pg	06 20 26.6	+0.7
MTSN	**Montesano sull**	**0.38**	**329**	S	Sb	06 20 34.0	+0.4

IDC 02 06:43:09.1±3.2, 7.°48S×118.°01E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, Error ellipse: s-maj=286.6km s-min=28.4km az=52.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.10**	**130**	P	P	06 47 44.0	-0.7
	1.5nm,0.3s,baz=303,slow=12,SNR=2.1						
ASAR	**Alice Springs**	**22.17**	**138**	P	P	06 48 07.6	+0.6
	0.5nm,0.8s,baz=313,slow=10.0,SNR=4.8						
MKAR	**Makanchi Array**	**62.66**	**333**	P	P	06 53 35.6	0.0
	0.1nm,0.5s,baz=140,slow=6.3,SNR=3.5						

ISCJB ***02*** *06:55:21.1±0.5, 19.°93S±0.°02×69.°24W±0.°07, h106km±4km, mb3.3/2, Error ellipse: s-maj=10.7km s-min=4.0km az=178.1*
GUC ***02*** *06:55:21.6±0.5, 19.°92S×69.°19W, h97km±2km, ML3.8*
SJA ***02*** *06:55:21.1±0.6, 19.°92S×69.°23W, h96km±2km, ML3.1, MW3.6*
IDC ***02*** *06:55:22.4±1.7, 20.°00S×68.°93W, h113km±19km, mb3.2/2, mb1 3.4/6, mb1mx3.1/21, mbtmp3.6/6, Error ellipse: s-maj=37.1km s-min=15.2km az=102.0*

ISC 02 06:55:20.9±0.9, 19.°92S±0.°03×69.°19W±0.°06, h95km±6km, n32, σ1°37/49, 6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.22**	**171**	*eP*	**Pn**	**06 55 35.9**	**+0.8**
PB08				*eS*	**Sn**	**06 55 47.4**	**+1.9**
PB08	**IPOC Station P**	**0.22**	**171⇓**	*iP*	**Pn**	**06 55 35.7**	**+0.6**
PB08				*eS*	**Sn**	**06 55 46.7**	**+1.1**
GO01	**Chusmiza**	**0.25**	**359⇓**	*iP*	**Pn**	**06 55 35.9**	**+0.6**
GO01				*eS*	**Sn**	**06 55 46.9**	**+0.9**
GO01				IAML		06 55 48.8	
	comp=E,8μm,0.1s						
PB11	**IPOC Station P**	**0.47**	**290**	*eP*	**Pn**	**06 55 36.7**	**+0.6**
PB11				*eS*	**Sn**	**06 55 48.5**	**+1.0**
PB11	**IPOC Station P**	**0.47**	**290⇓**	*iP*	**Pn**	**06 55 36.6**	**+0.5**
PB11				*i S*	**Sn**	**06 55 47.5**	**+0.1**
PB11				IAML		06 55 49.2	
	comp=E,6μm,0.3s						
MNMC	**Minye Minye**	**0.88**	**334⇓**	*iP*	**Pn**	**06 55 41.1**	**+1.1**
MNMC				*i S*	**Sn**	**06 55 56.1**	**+2.0**
MNMC				IAML		06 55 57.3	
	comp=E,4μm,0.5s						
MNMCX	**Minye Minye**	**0.88**	**334**	*eP*	**Pn**	**06 55 41.1**	**+1.2**
PSGC	**Pisagua**	**0.94**	**290⇓**	*iP*	**Pn**	**06 55 40.8**	**+0.5**
PSGC				*eS*	**Sn**	**06 55 55.4**	**+0.5**
PSGC				IAML		06 55 56.8	
	comp=N,1μm,0.3s						
PSGCX	**Pisagua**	**0.94**	**290**	*eP*	**Pn**	**06 55 41.0**	**+0.6**
PB01	**IPOC Station P**	**1.15**	**194**	*i P*	**Pn**	**06 55 43.3**	**+0.5**
PB01				*eS*	**Sn**	**06 56 00.1**	**+0.9**
PB01				IAML		06 56 01.9	
	comp=N,4μm,0.2s						
PB02	**IPOC Station P**	**1.54**	**205**	*eP*	**Pn**	**06 55 48.9**	**+1.4**
PB02	**IPOC Station P**	**1.54**	**205**	*eP*	**Pn**	**06 55 48.1**	**+0.6**
PB02				*eS*	**Sn**	**06 56 08.7**	**+1.0**
PB02				IAML		06 56 15.2	
	comp=E,2μm,0.4s						
PB16	**IPOC Station P**	**1.61**	**349**	*eP*	**Pn**	**06 55 50.5**	**+1.6**
PB16	**IPOC Station P**	**1.61**	**349⇓**	*iP*	**Pn**	**06 55 50.2**	**+1.4**
PB16				*eS*	**Sn**	**06 56 12.3**	**+2.3**
PB12	**IPOC Station P**	**1.69**	**320**	*eP*	**Pn**	**06 55 49.7**	**+0.3**
PB12				*eS*	**Sn**	**06 56 11.8**	**+0.8**
PB12				IAML		06 56 20.5	
	comp=N,740nm,0.5s						
PB09	**IPOC Station P**	**1.86**	**181**	*eP*	**Pn**	**06 55 53.5**	**+1.8**
PB09	**IPOC Station P**	**1.86**	**181**	*eP*	**Pn**	**06 55 52.8**	**+1.1**
PB09				*eS*	**Sn**	**06 56 16.9**	**+1.7**
PB07	**IPOC Station P**	**1.91**	**200**	*eP*	**Pn**	**06 55 53.4**	**+1.1**
PB07	**IPOC Station P**	**1.91**	**200**	*eP*	**Pn**	**06 55 52.9**	**+0.6**
PB07				*eS*	**Sn**	**06 56 17.4**	**+1.3**
PB07				IAML		06 56 24.1	
	comp=E,652nm,0.4s						
PB03	**IPOC Station P**	**2.18**	**194**	*eP*	**Pn**	**06 55 57.2**	**+1.4**
PB03	**IPOC Station P**	**2.18**	**194**	*eP*	**Pn**	**06 55 57.0**	**+1.2**
PB03				*eS*	**Sn**	**06 56 21.8**	**-0.6**
PB04	**IPOC Station P**	**2.56**	**200**	*eP*	**Pn**	**06 56 02.4**	**+1.5**
LVC	**Limon Verde**	**2.69**	**174**	*eP*	**Pn**	**06 56 04.5**	**+1.8**
LVC				IAML		06 56 44.4	
	comp=Z,64nm,0.3s						
LVC	**Limon Verde**	**2.69**	**174**	P	**Pn**	**06 56 03.8**	**+1.1**
	comp=Z,4.0nm,0.3s,baz=3.3,slow=10,SNR=40						
LVC				S	**Sn**	**06 56 35.6**	**+0.8**
	comp=Z,14nm,0.3s,baz=80,slow=18,SNR=14						
PB06	**IPOC Station P**	**2.79**	**187**	*eP*	**Pn**	**06 56 04.3**	**+0.4**
PB05	**IPOC Station P**	**3.06**	**198**	*eP*	**Pn**	**06 56 09.1**	**+1.5**
LPAZ	**La Paz**	**3.75**	**16**	P	**Pn**	**06 56 20.2**	**+2.9**
	comp=Z,0.7nm,0.3s,baz=196,slow=5.5,SNR=27						
LPAZ				S	**Sn**	**06 57 00.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=214,slow=11,SNR=3.5						
HJA	**Humahuaca**	**4.80**	**134**	*eP*	**Pn**	**06 56 33.4**	**+2.2**
SIV	**San Ignacio**	**8.66**	**64**	P	**Pn**	**06 57 21.1**	**-2.4**
	comp=Z,1.6nm,0.3s,baz=269,slow=10,SNR=55						
CPUP	**Villa Florida**	**12.64**	**123**	P	**Pn**	**06 58 14.6**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=314,slow=11,SNR=3.2						
TORD	**Torodi Ar. Bea**	**77.08**	**71**	P	**P**	**07 07 03.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=243,slow=6.4,SNR=2.7						
YKA	**Yellowknife Ar**	**89.62**	**341**	P	**P**	**07 08 06.8**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=132,slow=4.8,SNR=6.6						
YKA				pP	**pP**	**07 08 32.2**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=132,slow=4.6,SNR=2.8						

WEL 02 06:59:50.1, 42.°S±2.°×17.°4E±.°, h63km±3km, ML3.5/24, Cook Strait

| Code | Station

HAZ	**Te Kaha**	**4.71 34**	P	Pn	07 00 57.7	-0.9
EAZ	**Earnscleugh**	**5.14 225**	P	Pn	07 01 03.7	-0.8
TUZ	**Tuapeka**	**5.49 218**	P	Pn	07 01 08.8	-0.4
CTZ	**Chatham Island**	**6.86 110**	P	Pn	07 01 28.8	+0.9

*ISCJB **02** 07:27:42.4±0.9, 37°.34N×0°.05×37°.14E±0°.05, h11km±5km, Error ellipse: s-maj=9.9km s-min=5.4km az=30.9*
*DDA **02** 07:27:42.9, 37°.30N×37°.09E, h3km±2km, ML2.6*
*ISK **02** 07:27:42.1, 37°.32N×37°.12E, h10km, ML1.7/5*

ISC 02 07:27:42.9±0.9, 37°.30N±0°.04×37°.10E±0°.03, h10km±7km, n12, σ0s89/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**144**	PG	**Pg**	**07 27 46.1**	**-0.3**
GAZ				SG	**Sg**	**07 27 48.9**	**+0.1**
HCB	**Kahramanmara** comp=Z,6μm,0.1s	**0.16**	**288**	IAML_P			
HCB				*i* P	**Pg**	**07 27 46.7**	**+0.2**
HCB				*i* S	**Sg**	**07 27 49.8**	**+0.9**
AYKD	**Aykdinkavak** comp=Z,4μm,0.1s	**0.26**	**297**	IAML_P			
AYKD				*i* P	**Pb**	**07 27 49.5**	**-0.2**
AYKD				*i* S	**Sb**	**07 27 52.7**	**-1.6**
KMRS	**Kahramanmaras**	**0.26**	**323**	PG	**Pg**	**07 27 47.8**	**-0.5**
KAMA	**Osmaniye** comp=Z,3μm,0.1s	**0.36**	**252**	IAML_P			
KAMA				*i* P	**Pg**	**07 27 50.1**	**0.0**
KAMA				*i* S	**Sb**	**07 27 56.2**	**-1.0**
GZT	**Gaziantep** comp=Z,2μm,0.2s	**0.38**	**81**	IAML_P			
GZT				*i* P	**Pb**	**07 27 50.9**	**-0.8**
KUZU	**Kuzuini** comp=Z,4μm,0.1s	**0.52**	**182**	IAML_P			
KUZU				*i* P	**Pb**	**07 27 54.2**	**0.0**
KUZU				*i* S	**Sn**	**07 28 06.1**	**+0.7**
ANDN	**Andirin** comp=Z,297nm,0.1s	**0.66**	**296**	IAML_P			
ANDN				*i* P	**Pb**	**07 27 56.2**	**-0.5**
ANDN				*i* S	**Sg**	**07 28 04.5**	**-0.1**
KOZT	**Kozan**	**1.03**	**281**	PG	**Pb**	**07 28 02.6**	**-0.3**
KOZT				SG	**Sn**	**07 28 17.4**	**-0.5**
TAHT	**Tahtakopru-Hat**	**1.18**	**219**	PN	**Pb**	**07 28 05.4**	**+0.1**
TAHT				SN	**Sn**	**07 28 22.4**	**+0.9**
AKCD	**Akcadag** comp=Z,625nm,0.3s	**1.19**	**33**	IAML_P			
AKCD				*i* P	**Pn**	**07 28 07.4**	**+1.6**
AKCD				*i* S	**Sn**	**07 28 24.0**	**+1.8**
URFA	**Urfa**	**1.38**	**83**	PN	**Pn**	**07 28 07.7**	**-0.6**

*KRNET **02** 07:35:08.6±0.1, 41°.40N×70°.97E, h12km, mb2.4*
*NNC **02** 07:35:12.7±8.9, 41°.27N×71°.39E, h11km±69km, mb2.9, mpv2.5, Error ellipse: s-maj=58.9km s-min=37.7km az=175.0*

ISC 02 07:35:10.5±1.5, 41°.33N±0°.05×71°.13E±0°.05, h5km±13km, n11, σ1s64/20, 16C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit** baz=63	**0.78**	**53**	⇑*i*P	**Pg**	**07 35 24.7**	**-0.8**
ARK				⇑*i*S	**Sg**	**07 35 37.2**	**+1.5**
BTK	**Batken** baz=85	**1.29**	**191**	⇑*i*P	**Pg**	**07 35 34.2**	**-1.0**
BTK				⇑*i*S	**Sn**	**07 35 53.5**	**+0.5**
ARSB	**Arslanbob** baz=92	**1.40**	**90**	⇑*i*P	**Pb**	**07 35 37.1**	**0.0**
ARSB				⇑*i*S	**Sg**	**07 35 58.3**	**+3.0**
KK31	**Karatay Array** 2.1nm,0.3s,baz=152,slow=14,SNR=52	**1.83**	**346**	⇑Pn	**Pb**	**07 35 44.0**	**-0.5**
KK31				⇓Sn	**Sg**	**07 36 11.3**	**+1.9**
AML	**Almayashu** baz=69	**2.08**	**66**	⇓*i*P	**Pb**	**07 35 48.1**	**-0.9**
AML				⇓*i*S	**Sg**	**07 36 17.7**	**+0.3**
EKS2	**Erkin-Say** baz=58	**2.38**	**55**	⇓*i*P	**Pb**	**07 35 51.8**	**-2.1**
EKS2				⇓*i*S	**Sb**	**07 36 23.9**	**+0.2**
ARLS	**Aral** baz=78	**2.45**	**76**	⇑*i*P	**Pb**	**07 35 53.5**	**-1.7**
ARLS				⇑*i*S	**Sb**	**07 36 27.1**	**+1.3**
UCH	**Uchtor** baz=72	**2.69**	**69**	⇑*i*P	**Pb**	**07 35 57.0**	**-2.3**
UCH				⇑*i*S	**Sb**	**07 36 32.6**	**-0.2**
AAK	**Ala-Archa** 0.8nm,0.5s	**2.83**	**61**	⇑Pn	**Pn**	**07 35 55.3**	**-1.2**
AAK				Lg	Lg	07 36 40.8	
KZA	**Kyzart** 3.0nm,1.1s baz=77	**3.17**	**75**	⇑*i*P	**Pn**	**07 36 03.7**	**+2.2**
KZA				⇑*i*S	**Sb**	**07 36 45.1**	**-1.7**
TKM2	**Tokmak 2** 0.7nm,0.7s baz=77	**3.69**	**63**	⇑Pn	**Pn**	**07 36 09.5**	**+1.2**
TKM2				⇑Lg	Lg	07 37 07.2	

*IDC **02** 07:48:45.1±1.2, 6°.10N×126°.09E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/37, mbtmp3.4/4, Error ellipse: s-maj=76.9km s-min=24.6km az=75.0*
*ISCJB **02** 07:49:05.6±0.8, 5°.7N±0°.1×125°.7E±0°.2, h200km, mb3.1/4, Error ellipse: s-maj=25.5km s-min=11.9km az=156.2*

ISC 02 07:49:06.6±1.0, 5°.7N±0°.1×125°.7E±0°.2, h200km, n7, σ1s78/10, mb3.2/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.42**	**1**	*e*P	**Pn**	**07 49 31.5**	**-2.0**
DDMP				*e*S	**Sn**	**07 49 51.0**	**-3.5**
DMPH	**Davao City--Mi**	**1.41**	**352**	⇑*e*P	**Pn**	**07 49 40.4**	**+0.9**
DMPH				*e*S	**Sn**	**07 50 05.5**	**+0.3**
SKMP	**Bagumbayan, Su**	**1.42**	**306**	*e*P	**Pn**	**07 49 39.7**	**0.0**
SKMP				*e*S	**Sn**	**07 50 03.9**	**-1.4**
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=344,slow=8.5,SNR=2.9	**26.84**	**162**	P	**P**	**07 54 30.0**	**+1.2**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=345,slow=7.1,SNR=6.1	**30.25**	**165**	P	**P**	**07 55 00.3**	**+1.4**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=122,slow=8.3,SNR=4.4	**55.38**	**325**	P	**P**	**07 58 20.1**	**+0.1**
ILAR	**Eielson Array** 0.2nm,0.8s,baz=286,slow=6.5,SNR=4.0	**83.79**	**26**	P	**P**	**08 01 13.5**	**+0.3**

IDC 02 07:49:56.6±7.8, 2°.64N×127°.26E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/35, mbtmp3.9/4, MS3.1/1, Ms1 3.1/1, ms1mx2.2/33, Error ellipse: s-maj=124.2km s-min=93.1km az=143.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.7nm,0.9s,baz=0.0,slow=7.1,SNR=2.4	**20.67**	**184**	P	P	07 54 37.0	-1.3
WRA	**Warramunga Arr** 2.5nm,0.5s,baz=344,slow=11,SNR=17	**23.50**	**163**	P	P	07 55 08.8	+0.5
ASAR	**Alice Springs** 0.5nm,0.6s,baz=352,slow=7.3,SNR=6.2	**26.94**	**166**	P	P	07 55 40.5	+0.6
STKA	**Stephens Creek** 2.4nm,0.6s,baz=344,slow=6.0,SNR=4.8	**36.93**	**159**	P	P	07 57 07.2	-0.3
SONM	**Songino Array** comp=Z,18nm,19.5s,baz=99,slow=38	**48.49**	**341**	LR	LR	08 20 36.5	

MEX 02 07:51:03.4±0.7, 16°.16N×98°.19W, h2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.24**	**15**	*e*P	Pg	07 51 07.0	-1.1
PNIG				*e*S	Sg	07 51 11.4	+0.1
TLIG	**Tlapa**	**1.44**	**346**	*e*P	Pn	07 51 27.1	-3.6
TLIG				*i* S	Sg	07 51 45.3	-4.6
CAIG	**El Cayaco**	**2.18**	**294**	*i* P	Pn	07 51 37.2	-3.5
CAIG				*e*S	Sn	07 52 04.2	-4.1

ISC 02 08:02:01.6±1.8, 51°.42N±0°.09×16°.12E±0°.05, h0km, n14, σ0s66/22, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.58**	**169**	*e*Pg	**Pb**	**08 02 13.9**	**-0.8**
KSP				*e*Sg	**Sb**	**08 02 23.1**	**-0.4**
UPC	**Upice**	**0.91**	**184**	*e*PG	**Pg**	**08 02 19.7**	**+0.7**
UPC				*e*SG	**Sb**	**08 02 33.2**	**+0.3**
DPC	**Dobruska-Polom** comp=Z,55nm,0.3s	**1.07**	**173**	*e*PG	**Pg**	**08 02 22.1**	**0.0**
DPC				*e*SG	**Sb**	**08 02 37.8**	**+0.2**
PVCC	**Panska Ves** comp=Z,13nm,0.3s	**1.32**	**228**	*e*PG	**Pg**	**08 02 26.7**	**-0.2**
PVCC				*e*SG	**Sg**	**08 02 45.1**	**+1.1**
KRLC	**Kraliky** comp=Z,47nm,0.2s	**1.41**	**162**	*e*PG	**Pg**	**08 02 28.5**	**0.0**
KRLC				*e*SG	**Sn**	**08 02 48.1**	**+0.4**
BRG	**Berggiesshubel** comp=Z,3.1nm,0.4s	**1.47**	**249**	PG	**Pn**	**08 02 28.7**	**-0.7**
BRG				SG	**Sg**	**08 02 48.7**	**-0.2**
GOPC	**GO Pecny, Ondr** comp=Z,8.8nm,0.3s	**1.73**	**210**	*e*SG	**Sb**	**08 02 57.4**	**+1.0**
PRU	**Pruhonice** comp=Z,14nm,0.3s	**1.75**	**216**	*e*SG	**Sb**	**08 02 57.7**	**+0.8**
MORC	**Moravsky Berou** comp=Z,8.0nm,0.3s	**1.87**	**150**	*e*PN	**Pn**	**08 02 34.6**	**-0.3**
MORC				*e*SG	**Sn**	**08 02 59.2**	**-0.1**
CLL	**Collm** comp=Z,8.0nm,0.3s	**1.96**	**268**	*e*Pg	**Pn**	**08 02 37.0**	**+1.0**
CLL				*e*Sg	**Sn**	**08 03 01.0**	**-0.3**
OKC	**Ostrava-Krasne** comp=Z,11nm,0.5s	**2.04**	**140**	*e*SG	**Sg**	**08 03 08.1**	**+1.0**
TREC	**Trest**	**2.16**	**191**	*e*SG	**Sg**	**08 03 11.2**	**+0.2**
NKC	**Novy Kostel** comp=Z,14nm,0.3s	**2.61**	**244**	*e*SG	**Sg**	**08 03 25.4**	**0.0**
KHC	**Kasperske Hory** comp=Z,3.2nm,0.3s	**2.81**	**216**	*e*SG	**Sg**	**08 03 30.6**	**-1.1**

IDC 02 08:09:13.2±17.0, 33°.65N×95°.87E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.4/39, mbtmp3.7/3, Error ellipse: s-maj=567.1km s-min=48.7km az=96.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** baz=213,slow=13,SNR=8.1	**16.24**	**26**	Pn	Pn	08 13 02.3	-0.5
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=322,slow=8.8,SNR=3.2	**64.70**	**140**	P	P	08 19 53.2	-0.1
ASAR	**Alice Springs** 0.8nm,0.8s,baz=326,slow=6.9,SNR=6.4	**67.53**	**142**	P	P	08 20 11.7	+0.2

IDC 02 08:21:04.1±4.1, 6°.05S×128°.85E, h326km±39km, mb2.7/1, mb1 3.1/4, mb1mx2.9/29, mbtmp3.7/4, Error ellipse: s-maj=63.6km s-min=13.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 33nm,0.3s,baz=123,slow=3.5,SNR=11	**6.59**	**231**	P	Pn	08 22 39.9	-1.2
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=12,slow=11,SNR=4.4	**12.38**	**194**	P	P	08 23 51.9	+1.0
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=342,slow=12,SNR=18	**14.80**	**159**	P	P	08 24 18.1	+0.3
WRA				S	S	08 26 55.5	-3.0
ASAR	**Alice Springs** 0.1nm,0.3s,baz=346,slow=21,SNR=4.6	**18.18**	**165**	P	P	08 24 55.3	+1.0
ASAR				S	S	08 28 05.5	+0.3
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=130,slow=4.5,SNR=2.5	**66.81**	**327**	P	P	08 31 21.4	0.0

*JMA **02** 08:28:53.7±0.2, 39°.70N×143°.79E, h11km±5km, M3.5*
*ISCJB **02** 08:28:54.5±2.1, 39°.69N±0°.06×143°.85E±0°.09, h21km±23km, mb3.4/2, Error ellipse: s-maj=14.5km s-min=5.5km az=37.6*
*IDC **02** 08:29:00.4±16.0, 40°.01N×142°.82E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/38, mbtmp3.5/3, ML2.2/1, Error ellipse: s-maj=286.5km s-min=49.3km az=100.0*

ISC 02 08:28:56.9±3.3, 39°.78N±0°.06×143°.62E±0°.09, h17km±18km, n20, σ1s05/25, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.36**	**277**	P	**Pn**	**08 29 20.7**	**-0.4**
JTH				*e*S	**Sg**	**08 29 41.4**	**+0.4**
MIYJ	**Miyakonagasawa**	**1.41**	**262**	P	**Pn**	**08 29 21.1**	**-0.6**
MIYJ				*e*S	**Sn**	**08 29 39.9**	**0.0**
JKEN	**Kujiedanarisaw**	**1.53**	**287**	P	**Pn**	**08 29 23.1**	**-0.3**
JKEN				S	**Sb**	**08 29 43.9**	**0.0**
JANG	**Nango**	**1.72**	**291**	P	**Pn**	**08 29 25.6**	**-0.5**
JOM	**Ohasama**	**1.83**	**261**	P	**Pn**	**08 29 27.6**	**+0.1**
JOM				*e*S	**Sb**	**08 29 52.2**	**-0.2**
JMK	**Ichinoseki**	**2.04**	**247**	P	**Pn**	**08 29 30.0**	**-0.4**
JMK				*e*S	**Sb**	**08 29 58.1**	**-0.4**
JOT	**Ohata**	**2.53**	**310**	*e*S	**Sb**	**08 30 11.1**	**-1.6**
JNBK	**Urakawa-nobuka**	**2.58**	**346**	P	**Pn**	**08 29 39.3**	**+1.4**
JNBK				*e*S	**Sb**	**08 30 11.5**	**-2.6**
JYK	**Kaneyama**	**2.67**	**252**	P	**Pn**	**08 29 39.6**	**+0.4**
JCH	**Churui**	**2.84**	**356**	P	**Pn**	**08 29 41.9**	**+0.5**
JCH				*e*S	**Sn**	**08 30 15.6**	**+0.5**
JAK	**Akkeshi**	**3.31**	**14**	*e*S	**Sn**	**08 30 26.7**	**-0.1**
JFT	**Otama**	**3.42**	**230**	P	**Pn**	**08 29 48.3**	**-1.2**
JFR	**Furan**	**3.47**	**347**	*e*S	**Sn**	**08 30 33.0**	**+2.3**
JAR	**Ashorobuto**	**3.51**	**2**	P	**Pn**	**08 29 50.4**	**-0.3**
JAR				*e*S	**Sn**	**08 30 30.7**	**-1.2**
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=39,slow=12,SNR=14	**5.35**	**235**	Pn	**Pn**	**08 30 16.7**	**+0.7**
SONM	**Songino Array** 0.4nm,0.5s,baz=90,slow=8.3,SNR=2.5	**27.83**	**299**	P	**P**	**08 34 46.4**	**+1.1**
H11N2	**WAKE ISLAND Hy** baz=321	**28.27**	**128**	T	T	09 05 25.9	
H11N1	**WAKE ISLAND Hy** baz=321	**28.28**	**128**	T	T	09 05 32.5	
H11N3	**WAKE ISLAND Hy** baz=321	**28.29**	**128**	T	T	09 05 19.7	
MKAR	**Makanchi Array** 0.8nm,1.0s,baz=78,slow=9.3,SNR=3.8	**44.19**	**300**	P	**P**	**08 37 04.6**	**-0.1**

*SJA **02** 09:06:38.2±0.8, 22°.13S×67°.18W, h185km±9km, ML2.8, MW2.7*
*ISCJB **02** 09:06:39.0±1.0, 22°.14S±0°.04×67°.27W±0°.04, h180km±11km, Error ellipse: s-maj=7.3km s-min=5.1km az=27.6*
*GUC **02** 09:06:39.2±0.5, 22°.14S×67°.47W, h214km±5km, ML3.7*

ISC 02 09:06:37.9±2.1, 22°.14S±0°.05×67°.24W±0°.04, h193km±18km, n20, σ0s99/37, 4C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi** comp=Z,44nm,0.5s	**1.60**	**92**	*e*P	**Pn**	**09 07 12.5**	**+0.2**
YJA				IAML		09 07 13.1	
YJA				*e*S	**Sn**	**09 07 37.8**	**-1.2**
LVC	**Limon Verde**	**1.62**	**253**	⇓*i*P	**Pn**	**09 07 13.3**	**+0.9**
LVC				*i* S	**Sn**	**09 07 39.1**	**0.0**
PB09	**IPOC Station P**	**1.89**	**280**	*e*P	**Pn**	**09 07 16.2**	**+1.3**
PB09				*e*S	**Sn**	**09 07 43.8**	**+0.2**
PB09	**IPOC Station P**	**1.89**	**280**	*e*P	**Pn**	**09 07 16.0**	**+1.0**
PB09				*i* S	**Sn**	**09 07 43.6**	**0.0**
HJA	**Humahuaca**	**2.00**	**123**	*e*P	**Pn**	**09 07 17.1**	**+0.9**
HJA				IAML		09 07 17.3	
HJA				*e*S	**Sn**	**09 07 45.2**	**-0.9**
PB06	**IPOC Station P**	**2.23**	**255**	*e*P	**Pn**	**09 07 19.1**	**+0.6**
PB06				*e*S	**Sn**	**09 07 50.2**	**+0.1**
PB06	**IPOC Station P**	**2.23**	**255**	*i* S	**Sn**	**09 07 49.5**	**-0.5**
PB03	**IPOC Station P**	**2.33**	**272**	*e*P	**Pn**	**09 07 20.5**	**+0.9**
PB03	**IPOC Station P**	**2.33**	**272**	*e*P	**Pn**	**09 07 20.2**	**+0.6**
PB03				*i* S	**Sn**	**09 07 51.0**	**-1.1**
PB03				IAML		09 07 52.0	
PB01	**IPOC Station P** comp=N,215nm,0.3s	**2.36**	**297**	*e*P	**Pn**	**09 07 20.1**	**+0.2**
PB01				*i* S	**Sn**	**09 07 51.8**	**-0.7**
PB01				IAML		09 07 53.8	
PB07	**IPOC Station P** comp=E,417nm,0.2s	**2.49**	**279**	*e*P	**Pn**	**09 07 22.1**	**+0.7**
PB07				*i* S	**Sn**	**09 07 53.7**	**-1.5**
PB07				IAML		09 07 54.8	
PB02	**IPOC Station P** comp=N,274nm,0.6s	**2.60**	**288**	*e*P	**Pn**	**09 07 22.9**	**+0.3**
PB02				*i* S	**Sn**	**09 07 55.9**	**-1.5**
PB08	**IPOC Station P**	**2.67**	**318**	*e*P	**Pn**	**09 07 25.2**	**+1.4**
PB08				*i* S	**Sn**	**09 07 59.9**	**+0.5**
PB08				IAML		09 08 04.0	
PB04	**IPOC Station P** comp=E,112nm,0.2s	**2.70**	**265**	*e*P	**Pn**	**09 07 24.0**	**+0.1**
PB04				*i* S	**Sn**	**09 07 57.7**	**-1.9**
PB04				IAML		09 08 02.6	
PB05	**IPOC Station P** comp=N,139nm,0.5s	**2.83**	**255**	*e*P	**Pn**	**09 07 25.6**	**+0.3**
PB05				*i* S	**Sn**	**09 08 00.4**	**-1.9**
AZAP	**Zapla**	**2.88**	**136**	*e*P	**Pn**	**09 07 26.5**	**+0.5**
GO01	**Chusmiza**	**3.06**	**323**	⇑*i*P	**Pn**	**09 07 29.5**	**+1.1**
GO01				*i* S	**Sn**	**09 08 08.0**	**+0.1**
PB11	**IPOC Station P**	**3.27**	**316**	⇑*i*P	**Pn**	**09 07 30.9**	**+0.3**
PB11				*i* S	**Sn**	**09 08 10.0**	**-1.8**
GO02	**Mina Guanaco**	**3.70**	**215**	⇑*i*P	**Pn**	**09 07 36.9**	**+0.9**
GO02				*i* S	**Sn**	**09 08 21.5**	**-0.1**
GO02				IAML		09 08 24.8	
MNMC	**Minye Minye** comp=E,67nm,0.2s	**3.72**	**323**	⇑*i*P	**Pn**	**09 07 37.0**	**+0.8**
MNMC				*i* S	**Sn**	**09 08 20.9**	**-1.0**

*ISCJB **02** 09:37:26.7±0.5, 16°.65S±0°.04×69°.64W±0°.06, h206km±5km, mb3.9/9, Error ellipse: s-maj=9.4km s-min=6.2km az=21.2*
*IDC **02** 09:37:29.0±0.9, 16°.38S×69°.50W, h199km±6km, mb3.7/10, mb1 3.8/14, mb1mx3.6/35, mbtmp4.3/14, Error ellipse: s-maj=17.8km s-min=12.8km az=32.0*
*GUC **02** 09:37:28.5±0.5, 16°.78S×69°.97W, h211km±4km, ML4.1*

ISC 02 09:37:26.9±0.7, 16°.63S±0°.05×69°.73W±0°.06, h192km±6km, n43, σ1s86/60, mb4.2/9, 8C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.57**	**78**	*e*P	**Pn**	**09 38 02.5**	**+1.3**
LPAZ	**La Paz** 8.1nm,0.3s,baz=24,slow=20,SNR=3.7	**1.57**	**78**	P	**Pn**	**09 38 02.4**	**+1.1**
LPAZ				S	**Sn**	**09 38 27.2**	**-0.5**
PB16	**IPOC Station P**	**1.71**	**173**	⇑*i*P	**Pn**	**09 38 04.7**	**+2.2**
PB16				*i* S	**Sn**	**09 38 32.6**	**+2.4**
PB12	**IPOC Station P**	**2.05**	**196**	*e*P	**Pn**	**09 38 05.8**	**+0.3**
PB12				*e*S	**Sn**	**09 38 35.3**	**-0.3**
PB12	**IPOC Station P**	**2.05**	**196**	⇑*i*P	**Pn**	**09 38 05.8**	**+0.3**
PB12				*i* S	**Sn**	**09 38 34.4**	**-1.2**
PB12				IAML		09 38 36.3	
MNMC	**Minye Minye** comp=N,661nm,0.4s	**2.49**	**177**	⇑*i*P	**Pn**	**09 38 11.7**	**+1.3**
MNMC				*i* S	**Sn**	**09 38 44.8**	**+0.2**
MNMC				IAML		09 38 47.2	
MNMCX	**Minye Minye** comp=E,1μm,0.2s	**2.49**	**177**	*e*P	**Pn**	**09 38 11.9**	**+1.5**
MNMCX				*e*S	**Sn**	**09 38 45.7**	**+1.2**
PSGC	**Pisagua**	**2.97**	**187**	⇑*i*P	**Pn**	**09 38 15.8**	**-0.1**
PSGC				*i* S	**Sn**	**09 38 52.5**	**-1.8**
PSGC				IAML		09 38 56.0	
PSGCX	**Pisagua** comp=E,222nm,0.5s	**2.97**	**187**	*e*P	**Pn**	**09 38 16.0**	**+0.1**
GO01	**Chusmiza**	**3.06**	**171**	⇑*e*P	**Pn**	**09 38 19.0**	**+1.7**
GO01				*i* S	**Sn**	**09 38 58.4**	**+1.5**
PB11	**IPOC Station P**	**3.11**	**179**	*e*P	**Pn**	**09 38 18.4**	**+0.8**
PB11	**IPOC Station P**	**3.11**	**179**	⇑*i*P	**Pn**	**09 38 18.3**	**+0.6**
PB11				*i* S	**Sn**	**09 38 56.8**	**-0.6**
PB08	**IPOC Station P**	**3.53**	**171**	*e*S	**Sn**	**09 39 07.2**	**+0.2**
PB08	**IPOC Station P**	**3.53**	**171**	⇑*i*P	**Pn**	**09 38 24.4**	**+1.5**
PB08				*i* S	**Sn**	**09 39 06.9**	**-0.1**
PB01	**IPOC Station P**	**4.39**	**177**	⇑*i*P	**Pn**	**09 38 33.7**	**+0.3**
PB01				*i* S	**Sn**	**09 39 23.8**	**-2.1**
PB02	**IPOC Station P**	**4.67**	**182**	*e*P	**Pn**	**09 38 37.3**	**+0.4**
PB07	**IPOC Station P**	**5.07**	**182**	*e*P	**Pn**	**09 38 42.7**	**+0.5**
PB03	**IPOC Station P**	**5.39**	**180**	*e*P	**Pn**	**09 38 46.3**	**0.0**
PB04	**IPOC Station P**	**5.69**	**184**	*e*P	**Pn**	**09 38 50.0**	**-0.1**
LVC	**Limon Verde** comp=E,16nm,0.3s,baz=32,slow=10,SNR=134	**6.00**	**173**	P	**Pn**	**09 38 55.1**	**+0.7**
LVC				S	**Sn**	**09 39 59.9**	**-3.5**
PB06	**IPOC Station P** comp=E,33nm,0.3s,baz=208,slow=17,SNR=14	**6.04**	**179**	*e*P	**Pn**	**09 38 54.6**	**-0.1**
PB05	**IPOC Station P**	**6.21**	**184**	*e*P	**Pn**	**09 38 56.5**	**-0.3**
HJA	**Humahuaca**	**7.70**	**149**	*e*P	**Pn**	**09 39 17.9**	**+1.2**
NNA	**Nana** comp=E,1.3nm,0.3s,baz=199,slow=7.4,SNR=4.5	**8.29**	**303**	P	**Pn**	**09 39 26.4**	**+2.2**
NNA				S	**Sn**	**09 40 51.1**	**-6.3**
SIV	**San Ignacio** comp=E,1.2nm,0.3s,baz=41,slow=19,SNR=4.2	**8.34**	**87**	P	**Pn**	**09 39 22.5**	**-2.2**
SIV				S	**Sn**	**09 40 54.6**	**-3.8**
CFA	**Coronel Fontan** comp=E,0.9nm,0.3s,baz=352,slow=14,SNR=18	**14.97**	**175**	P	**P**	**09 40 51.8**	**+1.8**
CFA				S	**S**	**09 43 29.2**	**-7.0**
PTGA	**Pitinga** comp=E,0.4nm,0.3s,baz=156,slow=19,SNR=5.4	**18.50**	**32**	P	**P**	**09 41 28.3**	**-0.6**
BDFB	**Brasilia** comp=E,4.1nm,0.3s,baz=203,slow=13,SNR=45	**20.89**	**90**	P	**P**	**09 41 54.6**	**0.0**
SDV	**Santo Domingo** comp=E,1.3nm,0.4s,baz=257,slow=14,SNR=3.6	**25.37**	**358**	P	**P**	**09 42 36.5**	**-0.4**
TXAR	**Lajitas Array** comp=E,3.0nm,0.7s,baz=226,slow=11,SNR=4.2	**56.23**	**324**	P	**P**	**09 46 48.0**	**+0.6**
DBIC	**Dimbokro** comp=E,0.9nm,0.7s,baz=145,slow=9.9,SNR=2.4	**68.19**	**76**	P	**P**	**09 48 06.3**	**-0.8**
PDAR	**Pinedale Array** comp=E,3.8nm,0.6s,baz=235,slow=6.0,SNR=7.8	**69.53**	**330**	P	**P**	**09 48 14.5**	**-0.7**
ULM	**Lac du Bonnet** comp=E,0.4nm,0.5s,baz=129,slow=7.1,SNR=6.4	**70.47**	**343**	P	**P**	**09 48 19.6**	**-0.7**
TORD	**Torodi Ar. Bea** comp=E,2.6nm,0.5s,baz=155,slow=6.8,SNR=11	**76.52**	**72**	P	**P**	**09 48 55.2**	**-1.2**
VNDA	**Vanda** comp=E,4.3nm,0.6s,baz=252,slow=5.2,SNR=27	**81.49**	**190**	P	**P**	**09 49 25.2**	**+2.9**
YKA	**Yellowknife Ar** comp=E,0.4nm,0.6s,baz=131,slow=5.0,SNR=6.2	**86.36**	**341**	P	**P**	**09 49 47.8**	**+0.8**
MAW	**Mawson** comp=E,2.1nm,0.6s,baz=133,slow=5.1,SNR=50	**89.19**	**164**	P	**P**	**09 50 02.8**	**+2.2**
ASAR	**Alice Springs** comp=E,2.6nm,0.8s,baz=270,slow=5.1,SNR=3.0	**133.77**	**211**	PKP	**PKiKP**	**09 56 22.6**	**-0.5**
WRA	**Warramunga Arr** comp=E,0.3nm,0.4s,baz=147,slow=1.9,SNR=13	**136.64**	**214**	PKP	**PKiKP**	**09 56 28.3**	**-0.7**
ZALV	**Zalesovo Beam** comp=E,1.2nm,0.7s,baz=316,slow=4.0,SNR=4.2	**137.83**	**22**	PKP	**PKiKP**	**09 56 29.6**	**-0.7**
MKAR	**Makanchi Array** comp=E,0.3nm,0.6s,baz=336,slow=3.2,SNR=2.8	**142.03**	**32**	PKP	**PKPdf**	**09 56 37.4**	**+1.3**
MKAR				SKPbc	**SKiKP**	**09 59 55.8**	**-1.5**
MJAR	**Matsushiro Arr** comp=E,0.5nm,0.4s,baz=120,slow=0.5,SNR=3.3	**148.29**	**314**	PKPbc	**PKiKP**	**09 56 52.7**	**+0.3**

*ISCJB **02** 09:47:25.4±1.3, 46°.4N±0°.1×151°.2E±0°.2, h125km, mb3.5/6, Error ellipse: s-maj=22.5km s-min=8.1km az=35.7*
*SKHL **02** 09:47:25.0±0.7, 46°.55N×151°.19E, h120km±13km, mb4.0/1, msh5.1/2*
*MOS **02** 09:47:26.9±2.1, 46°.57N×150°.90E, h123km, mb3.6/3, Error ellipse: s-maj=19.9km s-min=12.5km az=59.4*
*IDC **02** 09:47:31.2±3.3, 46°.55N×150°.77E, h119km±28km, mb3.2/3, mb1 3.5/5, mb1mx3.1/44, mbtmp3.7/5, Error ellipse: s-maj=65.4km s-min=22.5km az=156.0*

ISC 02 09:47:26.1±1.3, 46°.33N±0°.10×151°.2E±0°.1, h125km, n32, σ2§26/35, mb3.5/6, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.55**	**246c**	*i* PN	**Pn**	**09 48 07.3**	**+0.7**
KUR				*i* S	**Sn**	**09 48 39.0**	**+1.2**
KUR				pmax	pmax		
	comp=Z,56nm,0.1s						
KUR				pmax	pmax		
	comp=N,96nm,0.3s						
KUR				pmax	pmax		
	comp=E,32nm,0.4s						
KUR				smax	smax		
	comp=N,314nm,0.2s						
KUR				smax	smax		
	comp=E,90nm,0.2s						
KUR	**Kuril'sk**	**2.55**	**246**	*i* P	**Pn**	**09 48 07.0**	**+0.4**
KUR				AMB	AMB	09 48 08.1	
	comp=E,10.0nm,0.4s						
KUR				AMB	AMB	09 48 08.1	
	comp=E,20nm,0.4s						
KUR				*i* S	**Sn**	**09 48 39.0**	**+1.2**
KUR				A	A	09 48 41.4	
	comp=E,40nm,0.2s						
KUR				A	A	09 48 41.4	
	comp=E,100nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.39**	**240**	*e*PN	**Pn**	**09 48 32.4**	**+1.5**
YUK				S	**Sn**	**09 49 22.4**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**4.39**	**240**	*e*P	**Pn**	**09 48 32.4**	**+1.5**
YUK				*e*S	**Sn**	**09 49 22.4**	**+1.2**
YUK				A	A	09 49 24.5	
	comp=E,50nm,0.5s						
YUK				A	A	09 49 24.5	
	comp=E,40nm,0.5s						
NEM2	**Nemuro 2**	**4.86**	**234**	P	**Pn**	**09 48 36.1**	**-1.0**
NEM2				*e*S	**Sn**	**09 49 29.0**	**-3.4**
JNK	**Nakash**	**5.33**	**241**	P	**Pn**	**09 48 44.2**	**+0.7**
SKR	**Severo-Kuril's**	**5.46**	**35**	*e*PN	**Pn**	**09 48 41.3**	**-3.8**
SKR	**Severo-Kuril's**	**5.46**	**35**	*e*P	**Pn**	**09 48 41.3**	**-3.8**
JAK	**Akkeshi**	**5.69**	**236**	P	**Pn**	**09 48 47.2**	**-1.0**
JAK				*e*S	**Sn**	**09 49 48.5**	**-3.8**
YSS	**Yuzh-Sakhalins**	**5.82**	**279**	*e*P	**Pn**	**09 48 50.6**	**+0.6**
JAR	**Ashorobuto**	**6.07**	**243**	P	**Pn**	**09 48 54.5**	**+1.1**
JOB	**Onbets**	**6.25**	**239**	P	**Pn**	**09 48 55.5**	**-0.3**
JKA	**Kamikawa-asahi**	**6.44**	**253**	*e*P	**Pn**	**09 49 01.4**	**+3.0**
ASAJ	**Asahikawa**	**6.44**	**253**	P	**Pn**	**09 49 01.6**	**+3.2**
ASAJ	**Asahikawa**	**6.44**	**253**	P	**Pn**	**09 49 01.4**	**+3.0**
	comp=E,0.8nm,0.3s,baz=74,slow=15,SNR=5.6						
JKK2	**Kamakawa 2**	**6.44**	**251**	P	**Pn**	**09 49 00.9**	**+2.5**
JCH	**Churui**	**6.70**	**239**	P	**Pn**	**09 49 01.5**	**-0.4**
JCH				*e*S	**Sn**	**09 50 13.1**	**-3.7**
ERM	**Erimo**	**7.19**	**236**	*i* PN	**Pn**	**09 49 09.7**	**+1.2**
TYV	**Tymovskoe**	**7.24**	**312**	*e*PN	**Pn**	**09 49 08.7**	**-0.3**
TYV	**Tymovskoe**	**7.24**	**312**	*e*P	**Pn**	**09 49 07.0**	**-2.0**
JNBK	**Urakawa-nobuka**	**7.26**	**239**	P	**Pn**	**09 49 08.8**	**-0.7**
PETK	**Petropavlovsk-**	**8.00**	**30**	P	**Pn**	**09 49 23.4**	**+4.1**
	comp=E,1.9nm,0.3s,baz=205,slow=11,SNR=33						
JANG	**Nango**	**9.21**	**233**	P	Pn	09 49 32.4	-3.3
KLR	**Kul'dur**	**13.37**	**290**	*i* PN	Pn	09 50 18.6	-12
KLR				pmax	pmax		
	comp=Z,1.0nm,1.2s						
TIXI	**Tiksi**	**27.51**	**345**	*i* P	**P**	**09 52 59.7**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.4s						
TIXI	**Tiksi**	**27.51**	**345**	*e*P	**P**	**09 52 59.7**	**-0.5**
DGZ	**Jazzator, Alta**	**41.63**	**299**	*i* P	**P**	**09 55 01.2**	**-0.6**
DGZ				pmax	pmax		
	comp=Z,2.0nm,2.4s						
MKAR	**Makanchi Array**	**45.93**	**297**	P	**P**	**09 55 38.6**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=67,slow=7.3,SNR=5.4						
KURK	**Kurchatov**	**46.47**	**303**	*i* P	**P**	**09 55 37.5**	**-2.7**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**46.47**	**303**	*e*P	**P**	**09 55 37.5**	**-2.7**
YKA	**Yellowknife Ar**	**52.06**	**36**	P	P	09 56 28.3	+5.9
	comp=Z,0.4nm,0.5s,baz=296,slow=7.1,SNR=6.7						
NVAR	**Mina Array Bea**	**63.82**	**61**	P	P	09 57 51.8	+6.7
	comp=Z,0.5nm,0.7s,baz=300,slow=6.1,SNR=2.9						

ROM 02 09:49:01.1±0.1, 43°.450N±0°.004×12°.308E±0°.005, h10km, ML0.8/10, Error ellipse: s-maj=0.4km s-min=0.4km az=23.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.06**	**279**	P	Pg	09 49 03.1	+0.1
CDCA				S	Sg	09 49 04.7	+0.2
CDCA				AML	AML		
	comp=E,134μm,1.6s						
CDCA				AML	AML		
	comp=N,125μm,0.5s						
CDCA				AML	AML		
	comp=E,134μm,1.6s						
CDCA				AML	AML		
	comp=N,125μm,0.5s						
CDCA	**Citt' di Caste**	**0.06**	**279**	P	Pg	09 49 03.3	+0.3
CDCA	**Citt' di Caste**	**0.06**	**279**	P	Pg	09 49 03.4	+0.4
CDCA	**Citt' di Caste**	**0.06**	**279**	S	Sg	09 49 04.6	+0.2
ATPI	**Pietralunga -**	**0.07**	**89**	P	Pg	09 49 03.6	+0.3
ATPI	**Pietralunga -**	**0.07**	**89**	P	Pg	09 49 03.6	+0.3
ATPI				S	Sg	09 49 05.0	+0.1
ATPI				AML	AML		
	comp=E,212μm,0.5s						
ATPI				AML	AML		
	comp=N,132μm,0.2s						
ATPI				AML	AML		
	comp=E,212μm,0.5s						
ATPI				AML	AML		
	comp=N,132μm,0.2s						
ATPI				AML	AML		
	comp=N,132μm,0.2s						
ATPI				AML	AML		
	comp=E,212μm,0.5s						
ATPI	**Pietralunga -**	**0.07**	**89**	S	Sg	09 49 05.0	+0.1
BADI	**Badiali**	**0.08**	**322**	P	Pg	09 49 03.8	+0.4
BADI				S	Sg	09 49 05.4	+0.5
BADI				AML	AML		
	comp=E,212μm,0.3s						
BADI				AML	AML		
	comp=N,144μm,0.6s						
BADI				AML	AML		
	comp=E,212μm,0.3s						
BADI				AML	AML		
	comp=N,144μm,0.6s						
BADI				AML	AML		
	comp=E,212μm,0.3s						
BADI				AML	AML		
	comp=N,144μm,0.6s						
BADI	**Badiali**	**0.08**	**322**	P	Pg	09 49 03.8	+0.5
BADI	**Badiali**	**0.08**	**322**	S	Sg	09 49 05.4	+0.4
ATVO	**AVT- Monte Val**	**0.10**	**133**	P	Pg	09 49 04.2	+0.6
ATVO				S	Sg	09 49 06.1	+0.6
ATVO				AML	AML		
	comp=E,84μm,1.2s						
ATVO				AML	AML		
	comp=N,84μm,0.7s						
ATVO				AML	AML		
	comp=E,84μm,1.2s						
ATVO				AML	AML		
	comp=N,84μm,0.7s						
ATVO				AML	AML		
	comp=N,84μm,0.7s						
ATVO				AML	AML		
	comp=E,84μm,1.2s						
ATVO	**AVT- Monte Val**	**0.10**	**133**	P	Pg	09 49 04.3	+0.7
ATVO	**AVT- Monte Val**	**0.10**	**133**	S	Sg	09 49 06.3	+0.9
ATMI	**Monte Miggiano**	**0.12**	**194**	P	Pg	09 49 04.9	+1.0
ATMI	**Monte Miggiano**	**0.12**	**194**	S	Sg	09 49 07.3	+1.4
ATMI	**Monte Miggiano**	**0.12**	**194**	AML	AML		
	comp=N,94μm,1.0s						
ATMI				AML	AML		
	comp=E,118μm,0.9s						
ATMI				AML	AML		
	comp=N,94μm,1.0s						
ATMI				AML	AML		
	comp=E,118μm,0.9s						
PIEI	**Pieia**	**0.19**	**62**	P	Pg	09 49 05.7	+0.6
PIEI				S	Sg	09 49 09.4	+1.6
PIEI				AML	AML		
	comp=E,42μm,0.3s						
PIEI				AML	AML		
	comp=N,25μm,0.2s						
PIEI				AML	AML		
	comp=E,42μm,0.3s						
PIEI				AML	AML		
	comp=N,25μm,0.2s						
PIEI				AML	AML		
	comp=N,25μm,0.2s						
PIEI				AML	AML		
	comp=E,42μm,0.3s						
PIEI	**Pieia**	**0.19**	**62**	P	Pg	09 49 05.7	+0.7
PIEI	**Pieia**	**0.19**	**62**	S	Sg	09 49 09.4	+1.7
PARC	**Parchiule**	**0.20**	**346**	P	Pg	09 49 06.1	+0.7
PARC				S	Sg	09 49 09.7	+1.4
PARC				AML	AML		
	comp=E,42μm,0.2s						
PARC				AML	AML		
	comp=N,44μm,0.2s						
PARC				AML	AML		
	comp=E,42μm,0.2s						
PARC				AML	AML		
	comp=N,44μm,0.2s						
PARC	**Parchiule**	**0.20**	**346**	P	Pg	09 49 06.1	+0.8
PARC	**Parchiule**	**0.20**	**346**	P	Pg	09 49 06.2	+0.9
PARC	**Parchiule**	**0.20**	**346**	S	Sg	09 49 09.7	+1.4
ATTE	**AVT- Monte Tez**	**0.25**	**172**	P	Pb	09 49 07.3	-0.5
ATTE				S	Sb	09 49 11.0	-1.3
ATTE				AML	AML		
	comp=E,28μm,1.0s						
ATTE				AML	AML		
	comp=N,27μm,0.6s						
ATTE				AML	AML		
	comp=E,28μm,1.0s						
ATTE				AML	AML		
	comp=N,27μm,0.6s						
ATTE				AML	AML		
	comp=N,27μm,0.6s						
ATTE				AML	AML		
	comp=E,28μm,1.0s						
ATTE	**AVT- Monte Tez**	**0.25**	**172**	P	Pb	09 49 07.4	-0.4
ATTE	**AVT- Monte Tez**	**0.25**	**172**	S	Sb	09 49 11.1	-1.2
NARO	**Abbazia di Nar**	**0.26**	**51**	P	Pg	09 49 06.8	+0.5
NARO				S	Sb	09 49 11.1	-1.2
NARO				AML	AML		
	comp=E,16μm,0.2s						
NARO				AML	AML		
	comp=N,18μm,0.8s						
NARO				AML	AML		
	comp=E,16μm,0.2s						
NARO				AML	AML		
	comp=N,18μm,0.8s						
NARO	**Abbazia di Nar**	**0.26**	**51**	P	Pg	09 49 06.8	+0.5
NARO	**Abbazia di Nar**	**0.26**	**51**	P	Pg	09 49 06.8	+0.6
NARO	**Abbazia di Nar**	**0.26**	**51**	S	Sb	09 49 11.2	-1.2
CAFI	**Castiglion Fio**	**0.28**	**244**	P	Pb	09 49 07.5	-0.7
CAFI				S	Sb	09 49 12.2	-0.7
CAFI				AML	AML		
	comp=E,16μm,0.3s						
CAFI				AML	AML		
	comp=N,14μm,0.8s						
CAFI				AML	AML		
	comp=E,16μm,0.3s						
CAFI				AML	AML		
	comp=N,14μm,0.8s						
CAFI				AML	AML		
	comp=E,16μm,0.3s						
CAFI				AML	AML		
	comp=N,14μm,0.8s						
CAFI	**Castiglion Fio**	**0.28**	**244**	P	Pb	09 49 07.5	-0.6
CAFI	**Castiglion Fio**	**0.28**	**244**	S	Sb	09 49 12.2	-0.8

BEO 02 09:50:27.3±1.3, 43°.62N×17°.89E, h0km, ML1.5/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJES	**Sjenica**	**1.56**	**102**	*e*Pg	Pn	09 50 55.5	-0.9
SJES				*e*Sg	Sn	09 51 17.2	-0.2
DIVS	**Divibare**	**1.60**	**72**	*e*Pg	Pn	09 50 55.4	-1.5
DIVS				*e*Sg	Sn	09 51 17.9	-0.3
IVAS	**Ivanjica**	**1.65**	**91**	*e*Pg	Pn	09 50 57.4	-0.1
IVAS				*e*Sg	Sn	09 51 18.6	-0.8
TRUS	**Trudelj**	**1.92**	**71**	*e*Pg	Pn	09 51 01.4	+0.2
TRUS				*e*Sg	Sg	09 51 29.1	+0.2

*ISCJB **02** 09:51:39.8±0.4, 45°.72N±0°.02×26°.59E±0°.03, h143km±3km, Error ellipse: s-maj=3.4km s-min=3.1km az=29.3*
*SOF **02** 09:51:39.5, 45°.67N×26°.49E, h3km*
*SIGU **02** 09:51:40.4±0.3, 46°.N±2°×2°.7E±°, h144km±1km*
*BUC **02** 09:51:41.2±0.8, 45°.71N×26°.61E, h141km±7km, MD4.0/7, Error ellipse: s-maj=7.6km s-min=6.6km az=70.0*
*BEO **02** 09:51:43.5±1.8, 45°.64N×26°.49E, h56km±3km, ML3.0/5*

ISC 02 09:51:36.8±1.1, 45°.74N±0°.03×26°.56E±0°.03, h164km±6km, n130, σ2§49/175, 54C-39D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.13**	**28**	⇓*i*P	**Pn**	**09 52 00.3**	**+1.6**
PLOR				*i* S	**Sn**	**09 52 14.6**	**-1.0**
PLOR	**Plostina**	**0.13**	**28**	⇓*i*P	**Pn**	**09 52 00.3**	**+1.6**
VRI	**Vrincioaia**	**0.18**	**42**	⇑*i*P	**Pn**	**09 52 00.3**	**+1.6**
VRI				*i* S	**Sn**	**09 52 14.9**	**-0.7**
VRI	**Vrincioaia**	**0.18**	**42**	⇑*i*P	**Pn**	**09 52 00.3**	**+1.6**
ODBI	**Odobesti**	**0.35**	**85**	⇑*i*P	**Pn**	**09 52 01.6**	**+2.5**
ODBI				*i* S	**Sn**	**09 52 16.8**	**+0.6**
ODBI	**Odobesti**	**0.35**	**85**	⇑*i*P	**Pn**	**09 52 01.6**	**+2.5**
GRER		**0.46**	**140**	⇑*i*P	**Pn**	**09 52 02.2**	**+2.6**
GRER		**0.46**	**140**	⇑*i*P	**Pn**	**09 52 02.2**	**+2.6**
PETR	**Petresti**	**0.47**	**91**	⇑*i*P	**Pn**	**09 52 00.8**	**+1.3**
PETR				*i* S	**Sn**	**09 52 17.1**	**+0.1**
PETR	**Petresti**	**0.47**	**91**	⇑*i*P	**Pn**	**09 52 00.8**	**+1.3**
MLR	**Muntele Rosu**	**0.50**	**241**	⇑*i*P	**Pn**	**09 52 01.9**	**+2.0**
MLR				*i* S	**Sn**	**09 52 16.5**	**-1.0**
MLR	**Muntele Rosu**	**0.50**	**241**	⇑*i*P	**Pn**	**09 52 01.9**	**+2.0**
ISR	**Istrita**	**0.62**	**181**	⇓*i*P	**Pn**	**09 52 02.6**	**+2.2**
ISR				*i* S	**Sn**	**09 52 17.1**	**-1.4**
ISR	**Istrita**	**0.62**	**181**	⇓*i*P	**Pn**	**09 52 02.6**	**+2.2**
TESR	**Tescani**	**0.78**	**5**	⇑*i*P	**Pn**	**09 52 02.8**	**+1.5**
TESR				*i* S	**Sn**	**09 52 19.1**	**-1.1**
TESR	**Tescani**	**0.78**	**5**	⇑*i*P	**Pn**	**09 52 02.8**	**+1.5**
SECR		**0.78**	**207**	⇑*i*P	**Pn**	**09 52 03.3**	**+2.0**
SECR				*i* S	**Sn**	**09 52 18.6**	**-1.5**
SECR		**0.78**	**207**	⇑*i*P	**Pn**	**09 52 03.3**	**+2.0**
TUDR		**0.79**	**100**	⇑*i*P	**Pn**	**09 52 03.3**	**+2.0**
TUDR				*i* S	**Sn**	**09 52 20.0**	**-0.1**
TUDR		**0.79**	**100**	⇑*i*P	**Pn**	**09 52 03.3**	**+2.0**
DOPR	**Dopca**	**0.85**	**286**	⇑*i*P	**Pn**	**09 52 04.1**	**+2.3**
DOPR				*i* S	**Sn**	**09 52 21.7**	**+0.7**
DOPR	**Dopca**	**0.85**	**286**	⇑*i*P	**Pn**	**09 52 04.1**	**+2.3**
PLAR	**PLOIESTI**	**0.90**	**205**	⇓*i*P	**Pn**	**09 52 04.7**	**+2.6**
PLAR	**PLOIESTI**	**0.90**	**205**	⇓*i*P	**Pn**	**09 52 04.7**	**+2.6**
BIR	**Birlad**	**0.91**	**54**	⇓*i*P	**Pn**	**09 52 04.1**	**+1.9**
BIR				*i* S	**Sn**	**09 52 21.9**	**+0.1**
BIR	**Birlad**	**0.91**	**54**	⇓*i*P	**Pn**	**09 52 04.1**	**+1.9**
SULR		**1.08**	**192**	⇓*i*P	**Pn**	**09 52 06.0**	**+2.5**
SULR				*i* S	**Sn**	**09 52 25.2**	**+1.2**
SULR		**1.08**	**192**	⇓*i*P	**Pn**	**09 52 06.0**	**+2.5**
VOIR		**1.10**	**255**	⇑*i*P	**Pn**	**09 52 06.0**	**+2.2**
VOIR				*i* S	**Sn**	**09 52 24.4**	**-0.2**
VOIR		**1.10**	**255**	⇑*i*P	**Pn**	**09 52 06.0**	**+2.2**
MTUR	**Matau**	**1.17**	**245**	⇑*i*P	**Pn**	**09 52 07.3**	**+2.9**
MTUR	**Matau**	**1.17**	**245**	⇑*i*P	**Pn**	**09 52 07.3**	**+2.9**
GIUM	**Giurgiulesti**	**1.18**	**102**	⇑*i*P	**Pn**	**09 52 06.8**	**+2.4**
GIUM				*i* S	**Sn**	**09 52 25.3**	**-0.3**
GIUM	**Giurgiulesti**	**1.18**	**102**	⇑*i*P	**Pn**	**09 52 06.8**	**+2.4**
CFR	**Carcaliu**	**1.24**	**116**	⇑*i*P	**Pn**	**09 52 06.5**	**+1.6**
CFR				*i* S	**Sn**	**09 52 25.4**	**-1.1**
CFR	**Carcaliu**	**1.24**	**116**	⇑*i*P	**Pn**	**09 52 06.5**	**+1.6**
BIZ	**Bicaz**	**1.25**	**345**	⇑*i*P	**Pn**	**09 52 08.3**	**+3.3**
BIZ				*i* S	**Sn**	**09 52 28.2**	**+1.4**
BIZ	**Bicaz**	**1.25**	**345**	⇑*i*P	**Pn**	**09 52 08.3**	**+3.3**
AMRR	**Amara**	**1.25**	**154**	⇓*i*P	**Pn**	**09 52 07.3**	**+2.3**
AMRR				*i* S	**Sn**	**09 52 27.0**	**+0.3**
AMRR	**Amara**	**1.25**	**154**	⇓*i*P	**Pn**	**09 52 07.3**	**+2.3**
LEHL	**Lehliu**	**1.27**	**172**	⇑*i*P	**Pn**	**09 52 07.6**	**+2.4**
LEHL				*i* S	**Sn**	**09 52 27.5**	**+0.4**
LEHL	**Lehliu**	**1.27**	**172**	⇑*i*P	**Pn**	**09 52 07.6**	**+2.4**
INCR	**INCERC-Sediu C**	**1.32**	**192**	*i* S	**Sn**	**09 52 28.4**	**+0.5**
INCR	**INCERC-Sediu C**	**1.32**	**192**	S	**Sn**	**09 52 28.4**	**+0.5**
LEOM	**Leova**	**1.39**	**57**	⇑*i*P	**Pn**	**09 52 08.6**	**+2.4**
LEOM				*i* S	**Sn**	**09 52 29.1**	**+0.1**
LEOM	**Leova**	**1.39**	**57**	⇑*i*P	**Pn**	**09 52 08.6**	**+2.4**
LEOM	**Leova**	**1.39**	**57**	P	**Pn**	**09 52 08.6**	**+2.4**
ARR	**Arges**	**1.40**	**256**	⇑*i*P	**Pn**	**09 52 09.2**	**+2.7**
ARR	**Arges**	**1.40**	**256**	⇑*i*P	**Pn**	**09 52 09.2**	**+2.7**
HARR	**Harsova**	**1.43**	**137**	⇓*i*P	**Pn**	**09 52 08.7**	**+2.0**
HARR	**Harsova**	**1.43**	**137**	⇓*i*P	**Pn**	**09 52 08.7**	**+2.0**
BUC1	**Bucharest**	**1.44**	**195**	⇓*i*P	**Pn**	**09 52 09.3**	**+2.5**
BUC1				*i* S	**Sn**	**09 52 30.5**	**+0.7**
BUC1	**Bucharest**	**1.44**	**195**	⇓*i*P	**Pn**	**09 52 09.3**	**+2.5**
GOLR		**1.44**	**232**	⇑*i*P	**Pn**	**09 52 09.8**	**+3.0**
GOLR				*i* S	**Sn**	**09 52 31.4**	**+1.5**
GOLR		**1.44**	**232**	⇑*i*P	**Pn**	**09 52 09.8**	**+3.0**
TLB	**Topalu**	**1.56**	**137**	⇓*i*P	**Pn**	**09 52 10.0**	**+2.1**
TLB				*i* S	**Sn**	**09 52 30.7**	**-1.2**
TLB	**Topalu**	**1.56**	**137**	⇓*i*P	**Pn**	**09 52 10.0**	**+2.1**
SGRR	**Singureni**	**1.57**	**196**	⇑*i*P	**Pn**	**09 52 10.6**	**+2.5**
SGRR				*i* S	**Sn**	**09 52 32.2**	**0.0**
SGRR	**Singureni**	**1.57**	**196**	⇑*i*P	**Pn**	**09 52 10.6**	**+2.5**
HUMR	**Humele**	**1.65**	**223**	⇓*i*P	**Pn**	**09 52 11.3**	**+2.4**
HUMR				*i* S	**Sn**	**09 52 34.1**	**+0.5**
HUMR	**Humele**	**1.65**	**223**	⇓*i*P	**Pn**	**09 52 11.3**	**+2.4**
TLCR		**1.68**	**108**	⇑*i*P	**Pn**	**09 52 11.6**	**+2.4**
TLCR				*i* S	**Sn**	**09 52 34.2**	**0.0**
TLCR		**1.68**	**108**	⇑*i*P	**Pn**	**09 52 11.6**	**+2.4**
CVDA	**Cernavoda**	**1.75**	**143**	⇓*i*P	**Pn**	**09 52 12.3**	**+2.3**
CVDA				*i* S	**Sn**	**09 52 35.1**	**-0.5**
CVDA	**Cernavoda**	**1.75**	**143**	⇓*i*P	**Pn**	**09 52 12.3**	**+2.3**
TIRR	**Tirgusor**	**1.83**	**134**	⇓*i*P	**Pn**	**09 52 13.1**	**+2.2**
TIRR				*i* S	**Sn**	**09 52 35.9**	**-1.2**
TIRR	**Tirgusor**	**1.83**	**134**	⇓*i*P	**Pn**	**09 52 13.1**	**+2.2**
ICOR	**Ion Corvin**	**1.84**	**151**	⇑*i*P	**Pn**	**09 52 13.6**	**+2.6**
ICOR				*i* S	**Sn**	**09 52 37.1**	**-0.3**
ICOR	**Ion Corvin**	**1.84**	**151**	⇑*i*P	**Pn**	**09 52 13.6**	**+2.6**
MILM	**Milestii Mici**	**1.96**	**52**	⇑*i*P	**Pn**	**09 52 14.9**	**+2.7**
MILM				*i* S	**Sn**	**09 52 39.3**	**-0.4**
MILM	**Milestii Mici**	**1.96**	**52**	⇑*i*P	**Pn**	**09 52 14.9**	**+2.7**
LOT	**Lotru**	**1.98**	**263**	⇓*i*P	**Pn**	**09 52 16.0**	**+3.4**
LOT	**Lotru**	**1.98**	**263**	⇓*i*P	**Pn**	**09 52 16.0**	**+3.4**
KIS	**Kishinev**	**2.01**	**50**	*e*P	**Pn**	**09 52 15.2**	**+2.2**
KIS				⇓*i*S	**Sn**	**09 52 40.0**	**-0.7**
	1μm,0.5s						
KIS	**Kishinev**	**2.01**	**50**	P	**Pn**	**09 52 15.0**	**+2.2**
KIS				S	**Sn**	**09 52 40.0**	**-0.7**
KIS				m		09 52 40.5	
MFTR	**Murfatlar**	**2.04**	**139**	⇓*i*P	**Pn**	**09 52 15.6**	**+2.4**
MFTR				*i* S	**Sn**	**09 52 40.9**	**-0.4**
MFTR	**Murfatlar**	**2.04**	**139**	⇓*i*P	**Pn**	**09 52 15.6**	**+2.4**
BURAR	**Bucovina Array**	**2.10**	**334**	⇓*i*P	**Pn**	**09 52 18.4**	**+4.5**
BURAR	**Bucovina Array**	**2.10**	**334**	⇓*i*P	**Pn**	**09 52 18.4**	**+4.5**
EFOR	**EFORIE**	**2.21**	**138**	⇓*i*P	**Pn**	**09 52 17.8**	**+2.6**
EFOR				*i* S	**Sn**	**09 52 45.0**	**+0.1**
EFOR	**EFORIE**	**2.21**	**138**	⇓*i*P	**Pn**	**09 52 17.8**	**+2.6**
ZIMR		**2.25**	**203**	⇓*i*P	**Pn**	**09 52 18.3**	**+2.7**
ZIMR				*i* S	**Sn**	**09 52 45.8**	**+0.3**
ZIMR		**2.25**	**203**	⇓*i*P	**Pn**	**09 52 18.3**	**+2.7**
VLAD	**Vladila**	**2.32**	**222**	*i* S	**Sn**	**09 52 46.7**	**-0.3**
VLAD	**Vladila**	**2.32**	**222**	S	**Sn**	**09 52 46.7**	**-0.3**
PSN	**Preselentsi**	**2.36**	**150**	*i* P	**Pn**	**09 52 19.7**	**+2.8**
MANR	**Mangalia**	**2.40**	**142**	⇓*i*P	**Pn**	**09 52 20.1**	**+2.7**
MANR				*i* S	**Sn**	**09 52 48.1**	**-0.7**
MANR	**Mangalia**	**2.40**	**142**	⇓*i*P	**Pn**	**09 52 20.1**	**+2.7**
CRAR	**CRAIOVA**	**2.41**	**235**	*i* S	**Sn**	**09 52 50.0**	**+1.0**
CRAR	**CRAIOVA**	**2.41**	**235**	S	**Sn**	**09 52 50.0**	**+1.0**
SZH	**Strazhica**	**2.51**	**191**	P	**Pn**	**09 52 21.3**	**+2.6**
SRE	**Strehaia**	**2.60**	**247**	⇑*i*P	**Pn**	**09 52 22.9**	**+3.1**
SRE				*i* S	**Sn**	**09 52 54.5**	**+1.4**
SRE	**Strehaia**	**2.60**	**247**	⇑*i*P	**Pn**	**09 52 22.9**	**+3.1**
PRD	**Provadia**	**2.60**	**166**	P	**Pn**	**09 52 23.2**	**+3.4**
PVL	**Pavlikeni**	**2.67**	**200**	P	**Pn**	**09 52 24.9**	**+4.3**
GZR	**Gura Zlata**	**2.68**	**264**	*e*Pn	**Pn**	**09 52 23.9**	**+3.1**
GZR				*e*Sn	**Sn**	**09 52 51.1**	**-3.8**
GZR	**Gura Zlata**	**2.68**	**264**	⇓*i*P	**Pn**	**09 52 24.3**	**+3.5**
GZR	**Gura Zlata**	**2.68**	**264**	⇓*i*P	**Pn**	**09 52 24.3**	**+3.5**
ROIA	**ROIAK**	**2.71**	**167**	P	**Pn**	**09 52 24.3**	**+3.2**
KSV	**Kosov**	**2.78**	**339**	*e*Pn	**Pn**	**09 52 25.4**	**+3.5**
KMPD	**K-Podol'skiy**	**2.83**	**359**	⇑*i*Pn	**Pn**	**09 52 25.3**	**+2.8**
KMPD				*e*Sn	**Sn**	**09 52 58.7**	**+0.6**
DRGR		**2.87**	**293**	*e*Pn	**Pn**	**09 52 25.9**	**+2.8**
DRGR		**2.87**	**293**	⇑*i*P	**Pn**	**09 52 26.2**	**+3.1**
DRGR		**2.87**	**293**	⇑*i*P	**Pn**	**09 52 26.2**	**+3.1**
NDNU	**Novodnistrovsk**	**2.91**	**11**	⇑*i*Pn	**Pn**	**09 52 26.4**	**+2.9**
NDNU				*i* Sn	**Sn**

H09N1				Sn	Sn	10 03 30.3	-14
H09N1				T	T	10 06 28.7	
	SNR=143						
TRIS	**Tristan da Cun**	**3.62**	**146**	*e*Pn	Pn	10 02 55.8	-5.8
H09W1	**TRISTAN DA CUN**	**3.63**	**147**	Pn	Pn	10 02 56.6	-5.2
	SNR=453						
H09W1				Sn	Sn	10 03 32.2	-12
H09W1				T	T	10 06 37.1	
	SNR=228						
H10S2	**ASCENSION HYDR**	**25.00**	**0**	T	T	10 33 36.9	
	baz=180,slow=75,SNR=587						
H10S3	**ASCENSION HYDR**	**25.01**	**0**	T	T	10 33 37.5	
	baz=180,slow=75,SNR=639						
H10S1	**ASCENSION HYDR**	**25.02**	**0**	T	T	10 33 38.3	
	baz=180,slow=75,SNR=679						
H10N1	**ASCENSION HYDR**	**26.11**	**1**	T	T	10 35 00.4	
	baz=186,slow=71,SNR=113						
H10N3	**ASCENSION HYDR**	**26.11**	**1**	T	T	10 35 02.5	
	baz=186,slow=71,SNR=331						
H10N2	**ASCENSION HYDR**	**26.13**	**1**	T	T	10 35 00.4	
	baz=186,slow=71,SNR=87						
BDFB	**Brasilia**	**35.05**	**293**	*e*P	**P**	**10 08 59.2**	**+0.4**
BDFB				*e*P	**pP**	**10 08 59.7**	**-1.4**
BDFB	**Brasilia**	**35.05**	**293**	P	**P**	**10 08 59.2**	**+0.4**
	20nm,1.0s,baz=137,slow=7.4,SNR=17						
BDFB				LR	LR	10 21 24.6	
	comp=Z,650nm,18.1s,baz=105,slow=33						
VNA1	**Neumayer--Stat**	**36.80**	**176**	P	**P**	**10 09 10.9**	**-2.1**
VNA2	**Neumayer--Watz**	**37.12**	**176**	P	**P**	**10 09 15.5**	**-0.3**
	baz=341,slow=9.7						
CPUP	**Villa Florida**	**37.32**	**270**	P	**P**	**10 09 18.5**	**+0.5**
	1.4nm,0.8s,baz=105,slow=7.9,SNR=3.0						
CPUP				LR	LR	10 23 03.8	
	comp=Z,270nm,19.6s,baz=121,slow=34						
VNA3	**Neumayer Olymp**	**37.33**	**177**	P	**P**	**10 09 16.9**	**-0.6**
SNAA	**Sanae**	**38.19**	**174**	P	**P**	**10 09 25.6**	**+0.7**
SNAA	**Sanae**	**38.19**	**174**	*e*P	**P**	**10 09 24.8**	**-0.1**
	6.0nm,1.0s						
SNAA	**Sanae**	**38.19**	**174**	P	**P**	**10 09 23.6**	**-1.3**
	1.6nm,0.9s,baz=308,slow=7.1,SNR=4.0						
DBIC	**Dimbokro**	**41.62**	**15**	*e*P	**P**	**10 09 53.2**	**-0.6**
	13nm,1.1s						
DBIC	**Dimbokro**	**41.62**	**15**	P	**P**	**10 09 53.2**	**-0.6**
	6.8nm,0.9s,baz=135,slow=5.7,SNR=3.6						
DBIC				LR	LR	10 23 04.8	
	comp=Z,142nm,20.1s,baz=162,slow=30						
LSZ	**Lusaka**	**42.97**	**75**	*e*P	**P**	**10 10 03.3**	**-1.8**
	12nm,1.1s						
LSZ	**Lusaka**	**42.97**	**75**	P	**P**	**10 10 06.6**	**+1.4**
	4.5nm,0.9s,baz=229,slow=9.3,SNR=4.5						
SYO	**Syowa Base**	**46.03**	**156⇑**	*e*P	**P**	**10 10 26.0**	**-2.7**
TOA0	**Torodi Ar. Sit**	**49.53**	**21**	*e*P	**P**	**10 10 55.9**	**-0.6**
	22nm,1.0s						
TORD	**Torodi Ar. Bea**	**49.53**	**21**	P	**P**	**10 10 55.0**	**-1.5**
	8.0nm,0.9s,baz=216,slow=5.7,SNR=18						
TORD				LR	LR	10 27 23.7	
	comp=Z,418nm,21.9s,baz=280,slow=31						
TOA1	**Torodi Ar. Sit**	**49.53**	**21**	*e*P	**P**	**10 10 55.0**	**-1.6**
PB01	**IPOC Station P**	**49.64**	**270**	*e*P	**P**	**10 10 58.2**	**+0.7**
	19nm,1.1s						
GO01	**Chusmiza**	**50.03**	**272**	*e*P	**P**	**10 11 01.6**	**+0.6**
	42nm,1.0s						
PB11	**IPOC Station P**	**50.37**	**272**	*e*P	**P**	**10 11 03.2**	**0.0**
	40nm,1.1s						
MNMC	**Minye Minye**	**50.62**	**273**	*e*P	**P**	**10 11 05.4**	**+0.2**
	14nm,0.8s						
LPAZ	**La Paz**	**50.81**	**277**	*e*P	**P**	**10 11 07.0**	**-0.1**
	3.9nm,0.9s						
LPAZ	**La Paz**	**50.81**	**277**	P	**P**	**10 11 06.2**	**-0.8**
	2.7nm,0.8s,baz=150,slow=8.1,SNR=6.9						
LPAZ				LR	LR	10 32 02.7	
	comp=Z,278nm,18.9s,baz=114,slow=35						
MAW	**Mawson**	**54.34**	**153**	*e*P	**P**	**10 11 33.0**	**+1.2**
	3.2nm,1.1s						
MAW	**Mawson**	**54.34**	**153**	P	**P**	**10 11 33.0**	**+1.2**
	6.5nm,1.0s,baz=249,slow=12,SNR=3.6						
MAW				LR	LR	10 29 33.0	
	comp=Z,290nm,21.3s,baz=265,slow=30						
QSPA	**South Pole Qui**	**56.17**	**180**	*e*P	**P**	**10 11 45.3**	**+0.1**
	12nm,0.9s						
QSPA	**South Pole Qui**	**56.17**	**180**	P	**P**	**10 11 44.6**	**-0.5**
	4.0nm,0.6s,baz=199,slow=0.3,SNR=30						
ROSC	**El Rosal**	**68.09**	**292**	LR	LR	10 41 44.8	
	comp=Z,406nm,19.4s,baz=172,slow=35						
SBA	**Scott Base**	**68.32**	**180**	*e*P	**P**	**10 13 07.7**	**+1.4**
	9.3nm,0.8s						
VNDA	**Vanda**	**68.64**	**179**	*e*P	**P**	**10 13 09.7**	**+1.4**
VNDA	**Vanda**	**68.64**	**179**	P	**P**	**10 13 09.8**	**+1.5**
	1.2nm,0.9s,baz=207,slow=4.3,SNR=4.3						
VNDA				LR	LR	10 39 40.4	
	comp=Z,96nm,19.0s,baz=166,slow=33						
KEST	**Kesra**	**73.04**	**20**	P	**P**	**10 13 35.9**	**+0.4**
	3.4nm,0.9s,baz=188,slow=7.4,SNR=3.4						
KEST				LR	LR	10 42 12.0	
	comp=Z,365nm,21.9s,baz=189,slow=33						
ESDC	**Sonseca Array**	**74.07**	**9**	LR	LR	10 43 54.2	
	comp=Z,54nm,18.9s,baz=225,slow=34						
BR101	**Keskin Array S**	**86.02**	**35**	*e*P	**P**	**10 14 46.9**	**+0.7**
BRTR	**Keskin Array B**	**86.02**	**35**	P	**P**	**10 14 46.9**	**+0.7**
	0.5nm,0.6s,baz=197,slow=3.9,SNR=3.3						
BRTR				LR	LR	10 51 05.5	
	comp=Z,18nm,21.6s,baz=208,slow=34						
GERES	**GERESS Array B**	**86.39**	**18**	P	**P**	**10 14 47.9**	**+0.2**
	0.9nm,0.9s,baz=276,slow=2.9,SNR=3.0						
GERES				LR	LR	10 50 17.9	
	comp=Z,107nm,21.8s,baz=230,slow=34						
VYHS	**Vyhne**	**87.53**	**22**	*e*P	**P**	**10 14 52.9**	**-0.3**
CLL	**Collm**	**88.48**	**17**	*e*S	**S**	**10 25 42.0**	**-1.0**
CLL				*e*PS	PS	10 26 52.0	+4.1
CLL				*e*PPS	PPS	10 27 13.0	
CLL				*e*SS	**SS**	**10 31 36.0**	**+1.7**
CLL				*e*		10 39 42.0	
AKASG	**Malin Array Be**	**92.93**	**26**	P	**P**	**10 15 20.3**	**+2.0**
	0.5nm,0.5s,baz=221,slow=3.3,SNR=4.6						
AKASG				LR	LR	10 56 30.2	
	comp=Z,46nm,19.7s,baz=265,slow=35						
KBZ	**Khabaz**	**93.61**	**38**	P	**P**	**10 15 23.9**	**+2.3**
	0.6nm,0.5s,baz=252,slow=6.4,SNR=2.0						
KBZ				LR	LR	10 59 03.9	
	comp=Z,44nm,18.1s,baz=208,slow=36						
H01W2	**Cape Leeuwin H**	**96.39**	**140**	T	T	12 03 43.9	
	baz=220,slow=75,SNR=82						
H01W3	**Cape Leeuwin H**	**96.41**	**140**	T	T	12 03 44.8	
	baz=220,slow=75,SNR=78						
H01W1	**Cape Leeuwin H**	**96.41**	**140**	T	T	12 03 45.0	
	baz=220,slow=75,SNR=77						
NOA	**NORSAR Array B**	**97.14**	**12**	LR	LR	10 58 40.6	
	comp=Z,58nm,18.4s,baz=210,slow=35						
GEYT	**Alibeck**	**98.57**	**50**	LR	LR	10 58 48.7	
	comp=Z,119nm,20.9s,baz=240,slow=34						
SCHQ	**Schefferville**	**99.17**	**332**	LR	LR	10 52 24.4	
	comp=Z,60nm,21.6s,baz=98,slow=30						
TBI	**Tubuai**	**108.43**	**224**	*e*LR	LR	10 52 15.0	
	comp=Z,170nm,26.2s						
PPT2	**Papeete2**	**112.94**	**227**	*e*LR	LR	10 54 18.6	
	comp=Z,275nm,30.2s						
ASAR	**Alice Springs**	**115.33**	**148**	PKP	**PKiKP**	**10 20 47.4**	**-0.5**
	0.1nm,0.4s,baz=174,slow=1.6,SNR=3.2						
WR1	**Warramunga Arr**	**118.78**	**147**	*e*PKPdf	**PKiKP**	**10 20 55.2**	**+0.6**
WRA	**Warramunga Arr**	**118.78**	**147**	PKP	**PKiKP**	**10 20 55.2**	**+0.6**
	0.4nm,1.0s,baz=233,slow=1.9,SNR=2.6						
YKA	**Yellowknife Ar**	**124.02**	**326**	PKP	**PKPdf**	**10 21 01.6**	**-1.6**
	0.4nm,0.6s,baz=91,slow=1.9,SNR=8.4						
YKB5	**Yellowknife Ar**	**124.02**	**326**	*e*PKPdf	**PKPdf**	**10 21 01.6**	**-1.6**
DZM	**Mont Dzumac**	**124.15**	**181**	*e*LR	LR	10 59 41.1	
	comp=Z,164nm,25.4s						
INK	**Inuvik**	**131.75**	**334**	PKP	**PKPdf**	**10 21 17.3**	**-0.4**
	1.0nm,0.9s,baz=97,slow=3.9,SNR=4.2						
ILAR	**Eielson Array**	**137.92**	**332**	PKP	**PKPdf**	**10 21 29.4**	**-0.1**
	0.6nm,0.7s,baz=16,slow=1.3,SNR=8.3						
KSRS	**Korea Array**	**149.72**	**73**	PKPbc	**PKiKP**	**10 21 56.7**	**+0.3**
	0.4nm,0.5s,baz=288,slow=1.5,SNR=3.6						
SEY	**Seymchan**	**150.03**	**12**	PKPbc	**PKPbc**	**10 21 55.4**	**0.0**
	2.9nm,0.8s,baz=175,slow=1.3,SNR=11						

ISCJB ***02*** *10:17:30.7±0.8, 13°.8N±0°.1×90°.93W±0°.08, h106km±14km, Error ellipse: s-maj=24.0km s-min=4.6km az=29.1*
SNET ***02*** *10:17:32.3±1.5, 13°.94N×90°.81W, h97km±15km, ML3.6*
UCR ***02*** *10:17:32.2±1.4, 13°.80N×90°.85W, h94km±13km, MD3.4, ML3.5*
MEX ***02*** *10:17:33.6±0.5, 13°.81N×91°.04W, h120km±16km, MD3.8*
ISC 02 10:17:31.5±1.5, 13°.8N±0°.2×90°.93W±0°.08, h96km±17km, n34, σ0°.77/49, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.61**	**49**	*e*P	**Pn**	**10 17 48.1**	**+0.1**
FUG	**Fuego 3**	**0.68**	**7⇑**	*e*P	**Pn**	**10 17 48.6**	**+0.1**
PCG	**Pacaya**	**0.69**	**27**	*e*P	**Pn**	**10 17 48.9**	**+0.1**
NBG	**Las Nubes**	**0.99**	**35**	*e*P	**Pn**	**10 17 52.0**	**+0.2**
NBG				*e*S	**Sn**	**10 18 07.3**	**+0.3**
RTR	**El Retiro**	**1.26**	**84**	*e*P	**Pn**	**10 17 54.8**	**0.0**
RTR	**El Retiro**	**1.26**	**84**	*e*P	**Pn**	**10 17 54.8**	**0.0**
CEVE	**Cerro Verde**	**1.27**	**87**	*e*P	**Pn**	**10 17 55.0**	**0.0**
CEVE				*e*S	**Sn**	**10 18 13.5**	**+0.8**
CEVE				IAML		10 18 19.1	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**1.27**	**87**	*e*P	**Pn**	**10 17 55.0**	**0.0**
CEVE				*e*S	**Sn**	**10 18 13.5**	**+0.8**
CEVE				IAML		10 18 19.1	
	comp=Z,2μm,0.4s						
SBLS	**San Blas**	**1.27**	**87**	*e*P	**Pn**	**10 17 54.9**	**-0.2**
SBLS	**San Blas**	**1.27**	**87**	*e*P	**Pn**	**10 17 54.9**	**-0.2**
SNJE	**San Jose**	**1.29**	**86**	*e*P	**Pn**	**10 17 54.8**	**-0.4**
SNJE	**San Jose**	**1.29**	**86**	*e*P	**Pn**	**10 17 54.8**	**-0.4**
CEDA	**San Andres**	**1.50**	**89**	*e*P	**Pn**	**10 17 57.1**	**-0.4**
CEDA				*e*S	**Sn**	**10 18 14.8**	**-2.4**
CEDA				IAML		10 18 19.4	
	comp=Z,435nm,0.2s						
CEDA	**San Andres**	**1.50**	**89**	*e*P	**Pn**	**10 17 57.1**	**-0.4**
CEDA				*e*S	**Sn**	**10 18 14.8**	**-2.4**
CEDA				IAML		10 18 19.4	
	comp=Z,435nm,0.2s						
BOQS	**Boqueron**	**1.61**	**91**	*e*P	**Pn**	**10 17 58.9**	**-0.2**
UEES	**San Salvador**	**1.64**	**91**	*e*P	**Pn**	**10 17 59.5**	**+0.1**
UEES				*e*S	**Sn**	**10 18 21.3**	**+0.6**
UEES	**San Salvador**	**1.64**	**91**	*e*P	**Pn**	**10 17 59.5**	**+0.1**
UEES				*e*S	**Sn**	**10 18 21.3**	**+0.6**
SNET	**Serv Nac Est T**	**1.66**	**93**	*e*P	**Pn**	**10 17 59.6**	**0.0**
SNET				*e*S	**Sn**	**10 18 20.8**	**-0.1**
SNET				IAML		10 18 23.5	
	comp=Z,394nm,0.2s						
SNET	**Serv Nac Est T**	**1.66**	**93**	*e*P	**Pn**	**10 17 59.6**	**0.0**
SNET				*e*S	**Sn**	**10 18 20.8**	**-0.1**
SNET				IAML		10 18 23.5	
	comp=Z,394nm,0.2s						
THIG		**1.72**	**311**	*e*P	**Pn**	**10 18 01.3**	**+1.1**
THIG				*i* S	**Sn**	**10 18 22.8**	**+0.7**
LFU	**La Fuente**	**1.77**	**90**	*e*P	**Pn**	**10 18 01.1**	**+0.1**
LFU	**La Fuente**	**1.77**	**90**	*e*P	**Pn**	**10 18 01.1**	**+0.1**
LFRS	**El Faro**	**1.82**	**94**	*e*P	**Pn**	**10 18 02.0**	**+0.3**
PAVA	**Las Pavas**	**1.94**	**91**	*e*P	**Pn**	**10 18 03.2**	**0.0**
PAVA	**Las Pavas**	**1.94**	**91**	*e*P	**Pn**	**10 18 03.2**	**0.0**
TECA	**Tecapa**	**2.38**	**96**	*e*P	**Pn**	**10 18 09.7**	**+0.6**
TECA	**Tecapa**	**2.38**	**96**	*e*P	**Pn**	**10 18 09.7**	**+0.6**
PACA	**Pacayal**	**2.56**	**96**	*e*P	**Pn**	**10 18 11.7**	**+0.4**
PACA	**Pacayal**	**2.56**	**96**	*e*P	**Pn**	**10 18 11.7**	**+0.4**
CCIG	**Comitan**	**2.75**	**335**	*e*P	**Pn**	**10 18 15.0**	**+0.9**
CCIG				*i* S	**Sn**	**10 18 46.9**	**+0.2**
PCIG		**2.93**	**311**	*i* P	**Pn**	**10 18 16.9**	**+0.7**
PCIG				*e*S	**Sn**	**10 18 49.6**	**-1.0**
LCND	**La Caada**	**3.00**	**98**	*e*P	**Pn**	**10 18 17.2**	**+0.1**
LCND				*e*S	**Sn**	**10 18 52.8**	**+0.6**
LCND				IAML		10 18 58.2	
	comp=Z,224nm,0.3s						
LCND	**La Caada**	**3.00**	**98**	*e*P	**Pn**	**10 18 17.2**	**+0.1**
LCND				*e*S	**Sn**	**10 18 52.8**	**+0.6**
LCND				IAML		10 18 58.2	
	comp=Z,224nm,0.3s						
CMIG	**Matias Romero**	**5.04**	**311**	*e*P	**Pn**	**10 18 44.5**	**-0.3**
CMIG				*i* S	**Sn**	**10 19 39.3**	**-2.5**

IDC 02 10:17:40.7±6.3, 21°.91S×170°.30E, h244km±32km, mb3.3/3, mb1 3.5/4, mb1mx3.1/19, mbtmp3.7/4, Error ellipse: s-maj=140.3km s-min=34.7km az=152.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.58**	**267**	P	Pn	10 18 37.8	-1.6
	1.2nm,0.3s,baz=310,slow=11,SNR=24						
DZM				S	S	10 19 27.0	+1.2
	2.4nm,0.3s,baz=119,slow=23,SNR=8.5						
ASAR	**Alice Springs**	**33.55**	**260**	P	P	10 23 58.5	+0.5
	1.6nm,0.6s,baz=86,slow=8.3,SNR=32						
WRA	**Warramunga Arr**	**33.60**	**267**	P	P	10 23 57.5	-0.9
	0.4nm,0.3s,baz=96,slow=8.0,SNR=42						
ILAR	**Eielson Array**	**92.48**	**17**	P	P	10 30 24.2	+0.7
	0.2nm,0.6s,baz=224,slow=4.8,SNR=4.4						

SOF ***02*** *10:45:28.3, 42°.12N×26°.37E, h11km*
ISK ***02*** *10:45:29.1, 42°.23N×26°.28E, h8km, ML3.2/19*
THE ***02*** *10:45:30.8, 42°.16N×26°.32E, h3km±1km, ML3.0/6, Error ellipse: s-maj=1.4km s-min=0.6km az=5.0*
ATH ***02*** *10:45:31.6, 42°.15N×26°.24E, h32km±6km, ML3.0/9, Error ellipse: s-maj=8.4km s-min=2.5km az=42.0*
BEO ***02*** *10:45:31.2±1.3, 41°.99N×26°.35E, h31km, ML2.8/4*
DDA ***02*** *10:46:14.6, 42°.21N×26°.31E, h8km, ML3.2*
ISC 02 10:45:30.4±1.0, 42°.16N±0°.01×26°.32E±0°.02, h9km±9km, n99, σ1§08/122, 21C-3D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.36**	**32**	PG	**Pg**	**10 45 36.5**	**-1.0**
JMB				SG	**Sg**	**10 45 41.6**	**-0.6**
JMB	**Yambol**	**0.36**	**32**	*i* Pg	**Pg**	**10 45 36.7**	**-0.8**
EDRB	**Edirne**	**0.45**	**135**	PG	**Pg**	**10 45 39.4**	**+0.4**
EDRB	**Edirne**	**0.45**	**135**	P	**Pg**	**10 45 39.4**	**+0.4**
EDRB				S	**Sb**	**10 45 45.8**	**-1.4**
DIM	**Dimitrovgrad**	**0.60**	**259**	*i* Pg	**Pg**	**10 45 40.7**	**-1.3**
KIRK	**Kırklareli**	**0.69**	**123**	*i* P	**Pb**	**10 45 44.4**	**-0.2**
KIRK				*i* S	**Sb**	**10 45 53.1**	**-1.1**
PHSR	**Pinarhisar**	**1.04**	**120**	PN	**Pn**	**10 45 50.6**	**-0.6**
PHSR	**Pinarhisar**	**1.04**	**120⇑**	*i* P	**Pn**	**10 45 50.6**	**-0.6**
PHSR	**Pinarhisar**	**1.04**	**120**	S	**Sb**	**10 46 03.8**	**-0.6**
SZH	**Strazhica**	**1.14**	**346**	P	**Pb**	**10 45 50.8**	**-1.5**
RDO	**Rodhopi**	**1.17**	**210**	PN	**Pb**	**10 45 52.7**	**-0.1**
RDO	**Rodhopi**	**1.17**	**210**	P	**Pb**	**10 45 52.8**	**-0.1**
RDO				S	**Sn**	**10 46 09.6**	**+0.5**
RDO	**Rodhopi**	**1.17**	**210**	P	**Pb**	**10 45 52.7**	**-0.1**
RDO				S	**Sg**	**10 46 08.4**	**+0.3**
RDO				AML	AML	10 46 11.2	
	comp=E,4038μm,0.4s						
RDO				AML	AML	10 46 11.3	
	comp=N,2552μm,0.4s						
PLD	**Plovdiv**	**1.21**	**268**	PN	**Pn**	**10 45 51.8**	**-1.6**
ALN	**Alexandroupoli**	**1.28**	**189**	PN	**Pg**	**10 45 54.7**	**-0.2**
ALN	**Alexandroupoli**	**1.28**	**189**	P	**Pb**	**10 45 54.6**	**-0.1**
ALN				S	**Sg**	**10 46 13.2**	**+1.6**
ALN	**Alexandroupoli**	**1.28**	**189**	P	**Pg**	**10 45 54.8**	**-0.2**
ALN				S	**Sg**	**10 46 11.8**	**+0.2**
ALN				AML	AML	10 46 15.7	
	comp=E,842μm,0.7s						
ALN				AML	AML	10 46 17.2	
	comp=N,805μm,0.5s						
PVL	**Pavlikeni**	**1.28**	**326**	P	**Pn**	**10 45 53.4**	**-1.1**
RZN	**Rozhen**	**1.29**	**249**	*i* Pg	**Pn**	**10 45 53.9**	**-0.9**
PRD	**Provadia**	**1.31**	**37**	Pg	**Pn**	**10 45 53.9**	**-0.9**
KESN	**Edirne-Kesan**	**1.36**	**169**	*i* P	**Pn**	**10 45 55.6**	**-0.3**
KESN				*i* S	**Sg**	**10 46 15.9**	**+1.6**
ENEZ	**Enez**	**1.43**	**185**	PN	**Pb**	**10 45 57.0**	**-0.2**
ERIK	**Erikli-Kesan**	**1.50**	**174**	PN	**Pb**	**10 45 57.7**	**-0.6**
SART	**Tekirdag**	**1.61**	**156**	IAML_P			
	comp=Z,4μm,0.2s						
SART				*i* P	**Pb**	**10 46 00.3**	**+0.1**
SART				*i* S	**Sn**	**10 46 19.2**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.61**	**156**	PN	**Pb**	**10 45 59.6**	**-0.7**
CTYL	**Yalikoy Yolu**	**1.62**	**114**	PN	**Pb**	**10 45 59.6**	**-0.9**
CTYL	**Yalikoy Yolu**	**1.62**	**114⇑**	*i* P	**Pg**	**10 46 01.4**	**-0.1**
CTYL	**Yalikoy Yolu**	**1.62**	**114**	S	**Sg**	**10 46 22.0**	**-0.5**
KIYI	**Yalıkoy-Catalc**	**1.62**	**114**	PN	**Pn**	**10 45 59.4**	**+0.2**
ZIMR		**1.65**	**335⇑**	*i* P	**Pb**	**10 46 00.9**	**-0.1**
ZIMR		**1.65**	**335**	S	**Sg**	**10 46 23.6**	**+0.1**
SLVT	**Silivri**	**1.69**	**123**	PN	**Pn**	**10 46 00.5**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.77**	**176**	PN	**Pb**	**10 46 01.8**	**-1.1**
KAVA	**Kavala**	**1.79**	**230**	P	**Pn**	**10 46 01.7**	**+0.3**
KAVA				S	**Sb**	**10 46 25.8**	**-0.1**
KAVA	**Kavala**	**1.79**	**230**	P	**Pn**	**10 46 02.0**	**+0.5**
KAVA				S	**Sn**	**10 46 23.3**	**-1.0**
KAVA				AML	AML	10 46 30.2	
	comp=E,1035μm,0.4s						
KAVA				AML	AML	10 46 32.9	
	comp=N,908μm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**1.79**	**200**	P	**Pn**	**10 46 01.3**	**-0.2**
SMTH				S	**Sb**	**10 46 26.0**	**0.0**
SMTH	**Samothraki Isl**	**1.79**	**200**	P	**Pn**	**10 46 01.6**	**+0.1**
SMTH				S	**Sn**	**10 46 24.1**	**-0.3**
SMTH				AML	AML	10 46 30.4	
	comp=N,638μm,0.6s						
SMTH				AML	AML	10 46 34.2	
	comp=E,582μm,0.5s						
LPK	**Lapseki**	**1.82**	**169**	PN	**Pb**	**10 46 02.6**	**-1.2**
ELBA	**Catalca**	**1.88**	**122**	*i* P	**Pg**	**10 46 07.0**	**+0.6**
ELBA				*i* S	**Sb**	**10 46 28.0**	**-0.4**
CTKS	**Kestanelik-??a**	**1.88**	**119**	PN	**Pn**	**10 46 02.9**	**+0.2**
KVLA	**Kavala**	**1.90**	**231**	P	**Pn**	**10 46 03.1**	**+0.2**
KRBG	**Karabiga-Canak**	**1.91**	**157**	PN	**Pb**	**10 46 04.3**	**-1.1**
THAS	**Thassos island**	**1.97**	**218**	P	**Pn**	**10 46 04.8**	**+0.9**
THAS				S	**Sb**	**10 46 30.9**	**-0.1**
THAS	**Thassos island**	**1.97**	**218**	P	**Pn**	**10 46 04.7**	**+0.9**
THAS				AML	AML	10 46 40.1	
	comp=N,345μm,0.5s						
THAS				AML	AML	10 46 43.3	
	comp=E,422μm,0.4s						
MMB	**Musomiste**	**2.02**	**254**	P	**Pb**	**10 46 07.1**	**-0.2**
PSN	**Preselentsi**	**2.04**	**41**	PN	**Pn**	**10 46 03.5**	**-1.4**
KLYT	**Kilyos**	**2.23**	**113**	PN	**Pn**	**10 46 07.9**	**+0.4**
KLYT	**Kilyos**	**2.23**	**113⇑**	*i* P	**Pb**	**10 46 10.4**	**-0.4**
KLYT	**Kilyos**	**2.23**	**113**	S	**Sn**	**10 46 36.1**	**+1.0**
ICOR	**Ion Corvin**	**2.23**	**28⇑**	*i* P	**Pg**	**10 46 13.5**	**+0.3**
SRS	**Serrai**	**2.30**	**244**	P	**Pn**	**10 46 08.4**	**-0.1**
SRS	**Serrai**	**2.30**	**244**	P	**Pn**	**10 46 08.5**	**+0.1**
SRS				S	**Sn**	**10 46 35.7**	**-1.2**
SRS				AML	AML	10 46 48.6	
	comp=N,443μm,0.6s						
SRS				AML	AML	10 46 50.3	
	comp=E,370μm,0.8s						
ISK	**Istanbul-Kandi**	**2.33**	**117**	PN	**Pn**	**10 46 09.8**	**+1.0**
KAVV	**Kandilli-Istan**	**2.33**	**117**	PN	**Pn**	**10 46 09.2**	**+0.4**
BOZC	**Bozcaada**	**2.33**	**185**	PN	**Pn**	**10 46 09.9**	**+1.0**
VTS	**Vitosha**	**2.33**	**282**	*e*Pn	**Pn**	**10 46 08.9**	**-0.2**
VTS				*e*Sn	**Sn**	**10 46 37.2**	**-0.8**
VTS	**Vitosha**	**2.33**	**282⇑**	*i* P	**Pn**	**10 46 09.2**	**+0.1**
VTS	**Vitosha**	**2.33**	**282**	S	**Sn**	**10 46 37.2**	**-0.8**
VTS	**Vitosha**	**2.33**	**282**	P	**Pn**	**10 46 09.1**	**0.0**
EZN	**Ezine**	**2.33**	**180**	PN	**Pn**	**10 46 09.9**	**+1.0**
EZN	**Ezine**	**2.33**	**180⇑**	*i* P	**Pg**	**10 46 14.4**	**-0.7**
LEHL	**Lehliu**	**2.34**	**9⇑**	*i* P	**Pg**	**10 46 15.9**	**+0.7**
LEHL	**Lehliu**	**2.34**	**9**	S	**Sb**	**10 46 43.2**	**+1.5**
MANR	**Mangalia**	**2.34**	**44⇑**	*i* P	**Pg**	**10 46 15.0**	**-0.3**
MANR	**Mangalia**	**2.34**	**44**	S	**Sg**	**10 46 44.4**	**-1.2**
LIA	**Limnos Island**	**2.42**	**201**	P	**Pn**	**10 46 10.6**	**+0.4**
LIA				S	**Sn**	**10 46 39.2**	**-0.7**
LIA				AML	AML	10 46 53.3	
	comp=E,460μm,0.6s						
LIA				AML	AML	10 46 56.8	
	comp=N,424μm,0.6s						
BAYC	**CANAKKALE_Bayr**	**2.42**	**176**	*i* P	**Pn**	**10 46 11.9**	**+1.7**
KCTX	**Karacabey (Bur**	**2.44**	**140**	PN	**Pn**	**10 46 11.3**	**+0.9**
BUY	**Buyukada**	**2.47**	**121**	*i* P	**Pn**	**10 46 12.2**	**+1.4**
BUY				*i* S	**Sg**	**10 46 50.2**	**+0.4**
ARMT	**Armutlu**	**2.49**	**129**	PN	**Pn**	**10 46 11.9**	**+0.8**
CVDA	**Cernavoda**	**2.50**	**29⇑**	*i* P	**Pg**	**10 46 17.2**	**-1.2**
HUMR	**Humele**	**2.56**	**338⇑**	*i* P	**Pg**	**10 46 20.0**	**+0.6**
HUMR	**Humele**	**2.56**	**338**	S	**Sg**	**10 46 56.9**	**+4.3**
TLB	**Topalu**	**2.73**	**27⇑**	*i* P	**Pb**	**10 46 19.9**	**+0.6**
KNT	**Kendrikon**	**2.75**	**250**	P	**Pn**

mb3.9/15, Error ellipse: s-maj=19.7km s-min=13.2km az=0.8

ISC 02 11:45:58.6±1.0, 23°.5N±0°.1×142°.7E±0°.2, h102km, n26, σ1§15/22, mb3.8/15, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**13.61**	**344**	P	**Pn**	**11 49 04.6**	**-2.7**
	0.1nm,0.3s,baz=160,slow=12,SNR=6.0						
KSRS	**Korea Array**	**18.87**	**321**	P	**P**	**11 50 11.4**	**+0.7**
	0.3nm,0.3s,baz=134,slow=12,SNR=14						
USRK	**Ussuriysk Ar.**	**22.49**	**339**	P	**P**	**11 50 49.5**	**0.0**
	1.5nm,0.7s,baz=147,slow=13,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**22.77**	**95**	T	T	12 14 49.0	
	baz=282,slow=75,SNR=9.3						
H11N2	**WAKE ISLAND Hy**	**22.77**	**95**	T	T	12 14 46.9	
	baz=282,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**22.79**	**95**	T	T	12 14 54.0	
	baz=282,slow=75,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**22.90**	**98**	T	T	12 14 40.1	
	SNR=4.0						
KLR	**Kul'dur**	**27.14**	**344**	P	**P**	**11 51 32.5**	**+0.5**
	1.1nm,0.5s,baz=153,slow=10,SNR=6.8						
SONM	**Songino Array**	**37.72**	**319**	P	**P**	**11 53 04.0**	**-0.4**
	0.4nm,0.6s,baz=130,slow=6.4,SNR=5.6						
CMAR	**Chiang Mai Arr**	**41.07**	**272**	P	**P**	**11 53 32.6**	**+0.1**
	0.6nm,0.4s,baz=67,slow=8.0,SNR=4.9						
WRA	**Warramunga Arr**	**43.91**	**191**	P	**P**	**11 53 54.5**	**-0.8**
	1.2nm,0.4s,baz=9.6,slow=8.5,SNR=11						
ASAR	**Alice Springs**	**47.62**	**191**	P	**P**	**11 54 22.7**	**-1.8**
	0.3nm,0.4s,baz=20,slow=11,SNR=3.8						
PKI	**Pulchoki**	**51.50**	**287**	*eP*	**P**	**11 54 54.0**	**-0.4**
	6.6nm,0.5s						
PKIN	**Phulchoki**	**51.51**	**287**	*eP*	**P**	**11 54 53.8**	**-0.7**
	4.7nm,0.4s						
DANN	**Dangsing**	**52.82**	**289**	*eP*	**P**	**11 55 05.2**	**+1.0**
	53nm,0.7s						
KOLN	**Koldanda**	**53.05**	**288**	*eP*	**P**	**11 55 06.5**	**+0.7**
	14nm,0.7s						
MKAR	**Makanchi Array**	**53.20**	**312**	P	**P**	**11 55 06.1**	**-0.2**
	1.1nm,0.5s,baz=92,slow=9.7,SNR=9.7						
PYUN	**Piuthan**	**53.53**	**288**	*eP*	**P**	**11 55 10.1**	**+0.8**
	27nm,0.9s						
KURBB	**Kurchatov Arra**	**55.96**	**316**	P	**P**	**11 55 25.2**	**-0.9**
	2.9nm,0.2s,baz=88,slow=7.9,SNR=19						
ILAR	**Eielson Array**	**60.68**	**28**	P	**P**	**11 55 58.8**	**0.0**
	0.4nm,0.7s,baz=277,slow=6.2,SNR=5.0						
BVAR	**Borovoye Array**	**61.07**	**319**	P	**P**	**11 56 01.1**	**-0.5**
	1.5nm,0.5s,baz=92,slow=7.9,SNR=6.8						
AKTO	**Aktyubinsk**	**68.99**	**317**	P	**P**	**11 56 53.2**	**+0.3**
	0.9nm,0.6s,baz=67,slow=7.7,SNR=3.7						
YKA	**Yellowknife Ar**	**75.10**	**28**	P	**P**	**11 57 29.5**	**+0.3**
	0.2nm,0.6s,baz=286,slow=6.2,SNR=4.5						
ARCES	**ARCESS Array B**	**77.12**	**341**	P	**P**	**11 57 42.8**	**+2.3**
	2.1nm,0.9s,baz=42,slow=7.4,SNR=6.4						
KBZ	**Khabaz**	**80.85**	**314**	P	**P**	**11 58 03.0**	**+1.7**
	6.9nm,0.8s,baz=91,slow=3.8,SNR=22						
FINES	**FINESS Array B**	**81.42**	**334**	P	**P**	**11 58 04.7**	**+0.8**
	1.0nm,0.6s,baz=74,slow=4.9,SNR=6.1						

JSO 02 11:52:54.4±1.4, 30°N±10°×3°6E±°, h10km, M3.5/10, Mjma3.3/10, ML3.5/5, MLv3.6/10, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSNJ	**Maan**	**0.61**	**314**	P	Pg	11 53 05.2	-1.1
AQBJ	**Aqaba**	**1.00**	**264**	P	Pb	11 53 13.7	-0.1
JDRJ	**Daraweish**	**1.00**	**333**	P	Pn	11 53 16.3	+1.6
SWQJ	**Swaqa**	**1.41**	**355**	P	Pn	11 53 20.6	+0.3
LISJ	**El Lisan**	**1.53**	**337**	P	Pn	11 53 20.7	-1.1
GHAJ	**Ghor Haditha**	**1.56**	**340**	P	Pn	11 53 20.8	-1.4
WALJ	**Wala**	**1.76**	**349**	P	Pn	11 53 24.1	-0.8
ASF	**Jabal al Asfar**	**2.41**	**14**	P	Pn	11 53 32.8	-1.2

NIED ***02*** *12:03:00, 40°.40N×142°.10E, h59km, Mw3.7 Best double couple: M₀3.94000×10¹⁴ NP1:φs178.00000°, δ23.00000°, λ61.00000°. NP2:φs29.00000°, δ70.00000°, λ101.00000°.*
ISCJB ***02*** *12:03:53.3±0.7, 40°.37N±0°.03×142°.10E±0°.09, h59km±5km, mb3.7/7, Error ellipse: s-maj=11.4km s-min=5.6km az=2.3*
JMA ***02*** *12:03:54.4±0.1, 40°.35N×142°.08E, h50km±1km, M3.8*
JMA Felt II J1.
IDC ***02*** *12:03:55.5±2.2, 40°.36N×142°.30E, h77km±19km, mb3.4/7, mb1 3.5/11, mb1mx3.3/31, mbtmp3.7/11, MS2.5/3, Ms1 2.5/3, ms1mx2.3/33, Error ellipse: s-maj=30.6km s-min=14.6km az=100.0*

ISC 02 12:03:54.3±1.1, 40°.36N±0°.04×142°.10E±0°.08, h52km±8km, n22, σ1§35/32, mb3.7/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.34**	**242**	P	**Pn**	**12 04 03.8**	**-0.2**
JKEN				S	**Sn**	**12 04 10.3**	**-0.6**
JANG	**Nango**	**0.45**	**271**	P	**Pn**	**12 04 04.9**	**-0.2**
JANG				S	**Sn**	**12 04 12.2**	**-0.7**
JTH	**Tanohata**	**0.46**	**203**	P	**Pn**	**12 04 05.1**	**-0.1**
JTH				S	**Sn**	**12 04 12.6**	**-0.5**
JKZ	**Kuzumaki**	**0.70**	**238**	P	**Pn**	**12 04 08.3**	**+0.1**
JKZ				S	**Sn**	**12 04 17.9**	**-0.4**
JARK	**Aomorirokkasho**	**0.85**	**319**	P	**Pn**	**12 04 09.7**	**-0.4**
JARK				S	**Sn**	**12 04 20.6**	**-1.1**
JTM	**Tenmabayashi**	**0.90**	**299**	P	**Pn**	**12 04 10.2**	**-0.4**
JTM				S	**Sn**	**12 04 21.7**	**-1.0**
JOM	**Ohasama**	**1.09**	**215**	P	**Pn**	**12 04 13.3**	**+0.1**
JOM				S	**Sn**	**12 04 26.8**	**-0.4**
JAH	**Hinai**	**1.14**	**262**	P	**Pn**	**12 04 14.0**	**+0.1**
JAH				S	**Sn**	**12 04 28.3**	**-0.1**
JOT	**Ohata**	**1.29**	**322**	P	**Pn**	**12 04 15.6**	**-0.4**
JOT				S	**Sn**	**12 04 31.0**	**-1.2**
JRG	**Rokugo**	**1.49**	**230**	P	**Pn**	**12 04 19.1**	**+0.5**
JRG				*eS*	**Sn**	**12 04 37.9**	**+1.0**
ASAJ	**Asahikawa**	**3.77**	**5**	P	**Pn**	**12 04 51.2**	**+1.4**
	5.1nm,0.3s,baz=220,slow=9.3,SNR=46						
ASAJ				S	**Sn**	**12 05 34.6**	**+1.7**
	1.9nm,0.3s,baz=53,slow=20,SNR=4.4						
MJAR	**Matsushiro Arr**	**4.89**	**220**	P	**Pn**	**12 05 07.2**	**+2.0**
	0.1nm,0.3s,baz=28,slow=12,SNR=18						
USRK	**Ussuriysk Ar.**	**8.42**	**300**	P	**Pn**	**12 05 56.7**	**+3.2**
	0.4nm,0.3s,baz=104,slow=14,SNR=9.4						
USRK				LR	LR	12 08 44.9	
	comp=Z,73nm,21.6s,baz=345,slow=34						
KSRS	**Korea Array**	**11.42**	**260**	P	**Pn**	**12 06 39.0**	**+4.4**
	0.2nm,0.3s,baz=66,slow=13,SNR=1.8						
KSRS				LR	LR	12 10 10.9	
	comp=Z,19nm,18.7s,baz=175,slow=32						
JNU	**Nakatsue**	**11.54**	**235**	LR	LR	12 10 27.3	
	comp=Z,17nm,19.5s,baz=147,slow=34						
SONM	**Songino Array**	**26.53**	**298**	P	**P**	**12 09 26.8**	**-0.2**
	0.4nm,0.5s,baz=105,slow=12,SNR=1.7						
ZALV	**Zalesovo Beam**	**40.14**	**310**	P	**P**	**12 11 24.0**	**-0.8**
	1.8nm,0.5s,baz=97,slow=8.4,SNR=5.9						
MKAR	**Makanchi Array**	**42.89**	**299**	P	**P**	**12 11 46.9**	**-0.5**
	0.7nm,0.4s,baz=88,slow=8.2,SNR=3.9						
WRA	**Warramunga Arr**	**60.43**	**188**	P	**P**	**12 13 56.4**	**-1.9**
	0.5nm,0.8s,baz=5.5,slow=7.1,SNR=3.5						
ASAR	**Alice Springs**	**64.16**	**188**	P	**P**	**12 14 22.4**	**-0.9**
	0.2nm,0.8s,baz=3.7,slow=7.6,SNR=4.7						
FINES	**FINESS Array B**	**66.13**	**332**	P	**P**	**12 14 34.8**	**-0.8**
	2.1nm,0.9s,baz=40,slow=9.1,SNR=3.0						
BRTR	**Keskin Array B**	**77.06**	**311**	P	**P**	**12 15 41.4**	**-0.5**
	0.4nm,0.5s,baz=64,slow=6.6,SNR=1.9						

MEX 02 12:06:41.7±0.3, 13°.49N×92°.52W, h30km±13km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.43**	**10**	*i* P	Pn	12 07 03.3	-2.4
THIG				*i* S	Sn	12 07 20.9	-2.7
PCIG		**2.31**	**343**	*eP*	Pn	12 07 15.7	-2.0
PCIG				*i* S	Sn	12 07 42.7	-2.4
CCIG	**Comitan**	**2.80**	**8**	*i* P	Pn	12 07 23.0	-1.8
CCIG				*i* S	Sn	12 07 55.3	-2.3
CMIG	**Matias Romero**	**4.25**	**328**	*i* P	Pn	12 07 43.0	-1.4
CMIG				*i* S	Sn	12 08 31.0	-2.0

RSNC 02 12:08:08.7±0.9, 6°.82N×73°.15W, h147km±4km, ML3.4, Mw3.5, 5C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**188**	⇑*iP*	Pn	12 08 28.6	-0.4
BARC				*eS*	Sn	12 08 43.6	-0.8
BARC				*i*		12 08 46.2	
	comp=Z,504nm,0.2s						
GIRC	**Giron, Santand**	**0.26**	**351**	⇑*eP*	Pn	12 08 28.7	-0.3
GIRC				*eS*	Sn	12 08 43.7	-0.7
GIRC				*i*		12 08 45.2	
	comp=Z,274nm,0.1s						
BRRC	**Barranca, Sant**	**0.63**	**297**	⇑*iP*	Pn	12 08 30.5	+0.1
BRRC				*eS*	Sn	12 08 47.2	+0.3
BRRC				*i*		12 08 48.1	
	comp=N,1μm,0.4s						
PAMC	**Pamplona, Colo**	**0.69**	**41**	⇑*eP*	Pn	12 08 31.4	+0.1
PAMC				*eS*	Sn	12 08 48.5	-0.1
PAMC				*i*		12 08 50.7	
	comp=Z,281nm,0.5s						
RUSC	**La Rusia**	**0.92**	**176**	⇓*iP*	Pn	12 08 32.5	-0.6
RUSC				*eS*	Sn	12 08 50.8	-0.9
RUSC				*i*		12 08 52.5	
	comp=Z,282nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	*eP*	Pn	12 08 35.0	-1.3
PTBC				*eS*	Sn	12 08 56.3	-1.0
PTBC				*i*		12 09 01.5	
	comp=N,459nm,0.5s						
TAMC	**Tame, Arauca**	**1.40**	**106**	⇑*iP*	Pn	12 08 37.0	0.0
TAMC				*eS*	Sn	12 08 57.6	-1.1
TAMC				*i*		12 08 59.4	
	comp=N,256nm,0.4s						
OCAC	**Ocana**	**1.42**	**353**	*eP*	Pn	12 08 36.7	-0.7
OCAC				*eS*	Sn	12 08 58.8	-0.6
OCAC				*i*		12 09 02.9	
	comp=N,736nm,0.2s						
YOPC	**Yopal, Colombi**	**1.62**	**153**	⇓*eP*	Pn	12 08 39.4	-0.2
YOPC				*eS*	Sn	12 09 02.6	-0.5
YOPC				*i*		12 09 06.7	
	comp=E,332nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*eP*	Pn	12 08 41.1	-0.4
ZARC				*eS*	Sn	12 09 06.0	-0.8
NORC	**Norcasia**	**2.11**	**234**	*eP*	Pn	12 08 44.7	-0.4
NORC				*eS*	Sn	12 09 12.5	-0.4
NORC				*i*		12 09 18.1	
	comp=Z,157nm,0.2s						
SMLC	**San Martn de**	**2.17**	**335**	*eP*	Pn	12 08 45.0	-0.7
SMLC				*eS*	Sn	12 09 13.1	-1.1
SMLC				*i*		12 09 15.9	
	comp=N,465nm,0.1s						
ROSC	**El Rosal**	**2.28**	**211**	*eP*	Pn	12 08 48.4	+1.0
ROSC				*eS*	Sn	12 09 20.2	+3.1
ROSC				*i*		12 09 26.7	
	comp=Z,141nm,0.3s						
HELC	**Santa Helena**	**2.44**	**255**	*eP*	Pn	12 08 49.2	-0.1
HELC				*eS*	Sn	12 09 21.7	+1.2
HELC				*i*		12 09 28.7	
	comp=Z,100nm,0.3s						
UREC	**San Jos de Ur**	**2.54**	**292**	*eP*	Pn	12 08 48.4	-1.8
UREC				*eS*	Sn	12 09 20.1	-2.0
UREC				*i*		12 09 29.1	
	comp=N,247nm,0.3s						
RREF	**El Recreo**	**2.90**	**229**	*eP*	Pn	12 08 56.8	+1.5
RREF				*eS*	Sn	12 09 32.2	+1.0
RREF				*i*		12 09 43.0	
	comp=Z,98nm,0.6s						
DBBC	**Dabeiba**	**3.04**	**274**	*eP*	Pn	12 08 56.0	-0.6
CODC	**Agustn Codazz**	**3.11**	**355**	*eP*	Pn	12 08 56.2	-1.2
CODC				*eS*	Sn	12 09 33.8	-1.3
CODC				*i*		12 09 39.7	
	comp=N,70nm,0.5s						
PRAC	**Prado**	**3.53**	**209**	*eP*	Pn	12 09 01.9	-1.0
PRAC				*eS*	Sn	12 09 44.2	-0.7
PRAC				*i*		12 09 49.8	
	comp=N,92nm,0.8s						

IDC ***02*** *12:49:12.5±1.2, 30°.18N×103°.23E, h0km, mb3.3/6, mb1 3.5/7, mb1mx3.3/47, mbtmp3.3/7, MS2.8/1, Ms1 2.8/1, ms1mx2.3/20, Error ellipse: s-maj=41.1km s-min=22.1km az=59.0*
BJI ***02*** *12:49:15.0±0.0, 30°.30N×103°.00E, h21km, ML3.3/13*

ISC 02 12:49:14.5±0.8, 30°.38N±0°.05×103°.07E±0°.07, h10km, n13, σ2§61/17, mb3.3/6, 2D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.79**	**48**	⇓*iPg*	**Pg**	**12 49 30.8**	**+1.0**
CD2				Sg	**Sg**	**12 49 43.0**	**+2.8**
CD2				smax	smax		
	comp=N,2μm,0.7s						
CD2				smax	smax		
	comp=E,2μm,0.7s						
GYA	**Guiyang**	**5.03**	**140**	⇓*iPg*	**Pb**	**12 50 41.6**	**-1.2**
GYA				Sg	**Sb**	**12 51 49.3**	**+5.9**
GYA				smax	smax		
	comp=N,80nm,0.8s						
GYA				smax	smax		
	comp=E,60nm,1.0s						
KMI	**Kunming**	**5.25**	**183**	Pn	**Pn**	**12 50 32.3**	**-1.0**
KMI				Sn	**Sn**	**12 51 33.8**	**-0.2**
KMI				smax	smax		
	comp=N,22nm,0.6s						
KMI				smax	smax		
	comp=E,25nm,0.7s						
XAN	**Xi'an**	**6.16**	**52**	Pg	**Pg**	**12 51 11.2**	**-1.2**
XAN				Sn	**Sn**	**12 51 56.6**	**+0.6**
XAN				Sg	**Sg**	**12 52 27.6**	**-4.5**
SONM	**Songino Array**	**17.61**	**7**	P	**Pn**	**12 53 22.0**	**+1.9**
	baz=206,slow=12,SNR=1.6						
WMQ	**Urumqi**	**18.13**	**322**	*eP*	**Pn**	**12 53 26.6**	**+0.2**
WMQ				pP	pP	12 53 31.6	+1.5
KSRS	**Korea Array**	**21.76**	**64**	P	**P**	**12 54 05.7**	**-0.5**
	1.6nm,0.8s,baz=251,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**22.96**	**321**	P	**P**	**12 54 20.4**	**+1.4**
	0.3nm,0.6s,baz=126,slow=9.8,SNR=4.2						
KURBB	**Kurchatov Arra**	**27.29**	**325**	P	**P**	**12 55 02.3**	**+3.3**
	0.2nm,0.6s,baz=133,slow=9.5,SNR=3.1						
ASAJ	**Asahikawa**	**33.99**	**55**	LR	LR	13 09 03.1	
	comp=Z,14nm,19.6s,baz=3.5,slow=35						
WRA	**Warramunga Arr**	**58.39**	**145**	P	**P**	**12 59 08.2**	**-2.1**
	0.9nm,0.7s,baz=336,slow=7.5,SNR=5.7						
ASAR	**Alice Springs**	**61.35**	**148**	P	**P**	**12 59 28.6**	**-2.1**
	0.2nm,0.6s,baz=329,slow=6.8,SNR=3.4						
YKA	**Yellowknife Ar**	**82.64**	**17**	P	**P**	**13 01 36.6**	**-1.1**
	0.1nm,0.6s,baz=332,slow=5.5,SNR=2.8						

MEX 02 12:52:24.5±0.5, 13°.94N×92°.28W, h41km±59km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.97**	**1**	*i* P	Pn	12 52 39.2	-2.4
THIG				*i* S	Sn	12 52 51.9	-2.3
PCIG		**1.98**	**333**	*eP*	Pn	12 52 53.9	-1.7
PCIG				*i* S	Sn	12 53 17.6	-1.6
CCIG	**Comitan**	**2.34**	**3**	*eP*	Pn	12 52 59.7	-0.9
CCIG				*i* S	Sn	12 53 25.6	-2.6
CMIG	**Matias Romero**	**4.02**	**322**	*eP*	Pn	12 53 21.8	-1.8
CMIG				*i* S	Sn	12 54 07.7	-1.8

NIED ***02*** *13:04:00, 36°.50N×139°.40E, h5km, Mw3.9 Best double couple: M₀8.76000×10¹⁴ NP1:φs16.00000°, δ49.00000°, λ45.00000°. NP2:φs253.00000°, δ58.00000°, λ129.00000°.*
IDC ***02*** *13:04:32.2±0.6, 36°.51N×139°.36E, h0km, mb3.9/14, mb1 4.1/17, mb1mx4.0/36, mbtmp3.9/17, ML2.8/2, MS2.9/5, Ms1 2.9/5, ms1mx2.6/40, Error ellipse: s-maj=15.8km s-min=9.3km az=174.0*
ISCJB ***02*** *13:04:33.2±0.5, 36°.50N±0°.03×139°.31E±0°.03, h13km±3km, mb4.4/38, Error ellipse: s-maj=4.5km s-min=3.7km az=159.5*
JMA ***02*** *13:04:33.8, 36°.52N×139°.36E, h6km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs239.00000°, δ46.00000°, λ108.00000°. NP2: φs33.00000°, δ46.00000°, λ72.00000°. Principal axes: T Plg77.0000°, Azm226.0000°; N Plg13.0000°, Azm46.0000°; P Plg0.0000°, Azm316.0000°;*
JMA Felt IV J1.
NEIC ***02*** *13:04:36.4±1.2, 36°.48N×139°.20E, h22km±8km, mb4.5/25 Error ellipse: s-maj=7.9km s-min=6.2km az=113.0*
NEIC Felt at Kiryu, Mito, Takasaki, Tsukuba and Utsunomiya.

Recorded [4 JMA] in Gumma.

ISC 02 13:04:33.8±0.9, 36°.51N±0°.03×139°.30E±0°.03, h8km±6km, n90, σ1§25/101, mb4.4/38, 2C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.15**	**122**	⇓P	**Pg**	**13 04 36.5**	**-0.5**
JAG				S	**Sg**	**13 04 38.4**	**-0.8**
JKT	**Katashina**	**0.26**	**352**	⇓P	**Pg**	**13 04 39.2**	**+0.1**
JKT				S	**Sg**	**13 04 43.0**	**+0.3**
JGK	**Kuni**	**0.53**	**276**	⇓P	**Pb**	**13 04 45.1**	**-0.3**
JGK				S	**Sb**	**13 04 53.2**	**-0.1**
JRY	**Ryogami san**	**0.58**	**213**	⇑P	**Pg**	**13 04 45.6**	**+0.5**
JRY				S	**Sb**	**13 04 54.2**	**-0.5**
JSB	**Shiboa**	**0.68**	**47**	⇑P	**Pg**	**13 04 46.6**	**-0.4**
JSB				S	**Sg**	**13 04 55.4**	**-0.5**
JHK	**Hiroka**	**0.78**	**343**	⇓P	**Pg**	**13 04 48.6**	**-0.1**
JHK				S	**Sg**	**13 04 58.7**	**-0.1**
MJAR	**Matsushiro Arr**	**0.88**	**273**	*e*Pg	**Pg**	**13 04 49.9**	**-0.8**
MJAR				*e*Sn	**Sg**	**13 05 00.8**	**-1.3**
MJAR	**Matsushiro Arr**	**0.88**	**273**	Pg	**Pg**	**13 04 50.4**	**-0.3**
	56nm,0.3s,baz=100,slow=17,SNR=1600						
MJAR				Lg	Lg	13 05 01.7	
	130nm,0.3s,baz=42,slow=35,SNR=65						
MJAR				LR	LR	13 05 12.7	
	comp=Z,285nm,18.4s,baz=165,slow=45						
MAJO	**Matsushiro**	**0.88**	**273**	*e*Pg	**Pb**	**13 04 51.4**	**+0.1**
MAJO				*e*Sn	**Sb**	**13 05 03.4**	**+0.2**
MAT	**Matsushiro**	**0.88**	**273**	P	**Pg**	**13 04 51.0**	**+0.3**
MAT				S	**Sg**	**13 05 02.7**	**+0.6**
MAT	**Matsushiro**	**0.88**	**273**	P	**Pg**	**13 04 51.0**	**+0.3**
MAT				S	**Sg**	**13 05 02.9**	**+0.8**
MJB9	**Matsu-Tunnel**	**0.88**	**273**	*e*Pg	**Pb**	**13 04 51.4**	**0.0**
MJB9				*e*Sn	**Sb**	**13 05 03.5**	**+0.2**
JFY	**Yanaizu**	**0.96**	**20**	P	**Pg**	**13 04 51.6**	**-0.6**
INU	**Inuyama**	**2.18**	**239**	*e*Pn	**Pb**	**13 05 13.1**	**-0.4**
JHJ	**Hachijo jima 2**	**3.40**	**173**	Pn	**Pn**	**13 05 28.3**	**+1.2**
	73nm,0.3s,baz=146,slow=5.3,SNR=14						
JHJ2	**Mitsune**	**3.41**	**173**	*e*Pn	**Pn**	**13 05 28.2**	**+0.9**
ERM	**Erimo**	**6.26**	**27**	*e*Pn	**Pn**	**13 06 09.7**	**+3.3**
JNU	**Nakatsue**	**7.70**	**246**	Pn	**Pn**	**13 06 27.7**	**+1.5**
	0.1nm,0.3s,baz=277,slow=8.1,SNR=2.5						
JNU				LR	LR	13 09 56.2	
	comp=Z,92nm,21.6s,baz=50,slow=42						
ASAJ	**Asahikawa**	**8.01**	**17**	Pn	**Pn**	**13 06 32.4**	**+2.0**
	0.5nm,0.3s,baz=99,slow=13,SNR=4.7						
KSRS	**Korea Array**	**9.15**	**279**	Pn	**Pn**	**13 06 48.2**	**+2.2**
	0.1nm,0.3s,baz=90,slow=13,SNR=3.1						
KSRS				LR	LR	13 10 17.1	
	comp=Z,60nm,18.3s,baz=172,slow=37						
KS15	**Wonju Array Si**	**9.18**	**279**	*e*Pn	**Pn**	**13 06 48.2**	**+1.8**
USRK	**Ussuriysk Ar.**	**9.49**	**326**	Pn	Pn	13 06 57.1	+6.4
	0.2nm,0.3s,baz=104,slow=12,SNR=6.3						
MDJ	**Mudanjiang**	**10.95**	**321**	P	Pn	13 07 17.8	+7.1
MDJ				pmax	pmax		
	comp=Z,14nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,130nm,6.6s						
MDJ	**Mudanjiang**	**10.95**	**321**	*e*Pn	**Pn**	**13 07 11.4**	**+0.7**
KLR	**Kul'dur**	**13.86**	**339**	Pn	**P**	**13 07 56.4**	**-2.4**
	0.1nm,0.3s,baz=136,slow=18,SNR=2.4						
KLR				LR	LR	13 12 52.1	
	comp=Z,31nm,20.8s,baz=174,slow=36						
BJT	**Baijiatuau**	**18.49**	**288**	*e*P	**P**	**13 08 46.8**	**-3.4**
	10nm,1.1s						
WHN	**Wuhan**	**21.60**	**261**	*e*P	P	13 09 14.3	-10
HHC	**Hu-ho-hao-te**	**22.04**	**290**	*e*P	**P**	**13 09 27.7**	**-1.2**
HHC				pmax	pmax		
	comp=Z,59nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,3.9s						
GUMO	**Guam**	**23.36**	**166**	*e*P	**P**	**13 09 44.1**	**+1.4**
	112nm,1.4s						
MA2	**Magadan**	**24.25**	**14**	*e*P	**P**	**13 09 52.2**	**+1.2**
	3.7nm,0.8s						
MA2	**Magadan**	**24.25**	**14**	P	**P**	**13 09 50.1**	**-1.0**
	4.2nm,0.9s,baz=214,slow=10,SNR=5.3						
MA2				LR	LR	13 21 18.9	
	comp=Z,24nm,18.4s,baz=32,slow=42						
ENH	**Enshi**	**25.59**	**265**	*e*P	**P**	**13 10 00.1**	**-3.4**
	802nm,1.2s						
SONA0	**Songino Array**	**26.69**	**305**	*e*P	**P**	**13 10 11.8**	**-1.5**
SONM	**Songino Array**	**26.69**	**305**	P	**P**	**13 10 11.8**	**-1.5**
	0.3nm,0.4s,baz=88,slow=7.5,SNR=2.7						
CD2	**Chengdu**	**29.97**	**270**	*e*P	**P**	**13 10 41.5**	**-1.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
WMQ	**Urumqi**	**39.56**	**297**	*e*P	**P**	**13 12 07.1**	**+1.7**
WMQ				LR	LR		
	comp=N,640nm,39.1s						
WMQ				LR	LR		
	comp=E,2μm,38.9s						
UNV	**Unalaska Valle**	**40.85**	**47**	*e*P	**P**	**13 12 17.0**	**+1.2**
	98nm,1.5s						
ZAA1	**Zalesovo Array**	**41.02**	**313**	*e*P	**P**	**13 12 17.4**	**+0.2**
ZAA1				*e*PcP	**PcP**	**13 14 15.9**	**-1.1**
ZALV	**Zalesovo Beam**	**41.02**	**313**	*e*P	**P**	**13 12 17.7**	**+0.5**
ZALV	**Zalesovo Beam**	**41.02**	**313**	P	**P**	**13 12 17.4**	**+0.2**
	1.2nm,0.6s,baz=100,slow=5.8,SNR=4.8						
ZALV				PcP	**PcP**	**13 14 15.9**	**-1.1**
	1.7nm,0.6s,baz=97,slow=2.2,SNR=7.1						
MK31	**Makanchi Array**	**42.96**	**302**	*e*P	**P**	**13 12 34.8**	**+1.6**
	0.7nm,1.0s						
MK32	**Makanchi Array**	**42.96**	**302**	*e*P	**P**	**13 12 32.8**	**-0.4**
MK32				*e*PcP	**PcP**	**13 14 22.8**	**-0.9**
MKAR	**Makanchi Array**	**42.96**	**302**	*e*P	**P

AKASG	Malin Array Be	73.66	322	P		P	13 16 07.0	-0.7
	0.5nm,0.4s,baz=50,slow=5.9,SNR=4.2							
NB200	NORSAR Array S	74.00	337	*e*P		P	13 16 08.9	-0.7
NOA	NORSAR Array B	74.00	337	P		P	13 16 08.9	-0.7
	0.5nm,0.6s,baz=38,slow=6.1,SNR=3.3							
KVN	Kaiserville	76.42	51	*e*P		P	13 16 25.2	+1.1
	4.4nm,1.0s							
NV01	Mina Array Sit	76.66	52	*e*P		P	13 16 26.6	+1.0
NVAR	Mina Array Bea	76.66	52	P		P	13 16 26.6	+1.0
	1.5nm,0.7s,baz=293,slow=6.4,SNR=9.7							
BR101	Keskin Array S	77.92	311	*e*P		P	13 16 34.5	+2.0
BRTR	Keskin Array B	77.92	311	*e*P		P	13 16 32.6	+0.2
BRTR	Keskin Array B	77.92	311	P		P	13 16 34.5	+2.0
	1.2nm,1.1s,baz=98,slow=1.7,SNR=4.8							
R11A	Troy Canyon, C	78.42	51	*e*P		P	13 16 36.2	+0.9
	2.2nm,1.1s							
PD31	Pinedale Array	79.24	44	*e*P		P	13 16 40.0	+0.2
	1.4nm,1.3s							
PDAR	Pinedale Array	79.24	44	P		P	13 16 40.0	+0.2
	0.4nm,0.6s,baz=239,slow=0.9,SNR=4.1							
VYHS	Vyhne	80.18	324	*e*P		P	13 16 44.6	+0.1
LPAZ	La Paz	148.42	58	PKPbc		PKPbc	13 24 22.9	+0.7
	1.6nm,0.8s,baz=22,slow=14,SNR=5.1							

DJA 02 13:10:42.3±0.4, 9°S±5°×11°8E±°, h106km±9km, M4.1/11, mb4.3/2, MLv4.0/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.60	248	P	Pn	13 11 00.9	+1.4
WSI	Waingapu	2.21	119	P	Pn	13 11 17.9	+0.1
WSI				S	Sn	13 11 45.8	+0.9
IGBI	Denpasar	3.17	266	P	Pn	13 11 30.5	+0.1
IGBI				S	Sn	13 12 08.3	+0.8
BSSI	Bau Bau, Buton	3.24	41	P	Pn	13 11 31.6	+0.1
BKSI	Bulukumba	3.71	29	P	Pn	13 11 37.8	+0.1
MMRI	Maumere	3.85	91	P	Pn	13 11 40.1	+0.5
JAGI	Jajag, Banyuwa	4.14	271	P	Pn	13 11 42.8	-0.8
GMJI	Gumukmas	4.85	273	P	Pn	13 11 52.7	-0.4
BATI	Baumata	5.49	107	P	Pn	13 12 01.1	-0.7
SOEI	Soe	5.96	102	P	Pn	13 12 08.4	+0.1

*ISCJB **02** 13:16:05.2±0.4, 30°33N±0°.04×103°.14E±0°.06, h10km, mb3.8/12, MS4.0/1, Error ellipse: s-maj=7.2km s-min=5.1km az=170.2*
*IDC **02** 13:16:05.0±1.0, 30°.28N×103°.11E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.5/40, mbtmp3.7/9, ML3.5/1, MS4.0/1, Ms1 4.0/1, ms1mx2.5/40, Error ellipse: s-maj=38.4km s-min=17.3km az=57.0*
*BJI **02** 13:16:09.9±0.0, 30°.24N×102°.94E, h19km, ML3.6/17, Ms3.5/5, Ms7 3.5/3*
*NEIC **02** 13:16:10.1±0.4, 30°.31N×103°.12E, h35km, mb4.0/4, Error ellipse: s-maj=9.7km s-min=7.0km az=67.0*
ISC 02 13:16:07.6±0.6, 30°.35N±0°.05×102°.98E±0°.06, h10km, n29, σ1°§60/34, mb3.8/12, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.88	50	⇓*i*Pg	Pg	13 16 25.7	+1.2
CD2				Sg	Sg	13 16 39.2	+3.3
CD2				smax	smax		
	comp=N,4μm,0.8s						
CD2				smax	smax		
	comp=E,2μm,0.7s						
GYA	Guiyang	5.05	139	*e*Pn	Pn	13 17 23.3	-0.3
GYA				Pg	Pb	13 17 39.1	+2.9
GYA				Sn	Sn	13 18 19.3	-2.8
GYA				smax	smax		
	comp=N,110nm,0.8s						
GYA				smax	smax		
	comp=E,130nm,0.8s						
KMI	Kunming	5.21	182	Pn	Pn	13 17 26.5	+0.8
KMI				Sn	Sn	13 18 26.2	+0.2
KMI				smax	smax		
	comp=N,28nm,1.1s						
KMI				smax	smax		
	comp=E,25nm,0.8s						
KMI				LR	LR		
	comp=N,110nm,4.2s						
KMI				LR	LR		
	comp=E,100nm,4.5s						
KMI	Kunming	5.21	182	*e*Pn	Pn	13 17 26.1	+0.4
ENH	Enshi	5.63	89	*e*Pn	Pn	13 17 29.4	-1.9
XAN	Xi'an	6.24	52	Pn	Pn	13 17 40.9	+1.1
XAN				Pg	Pb	13 18 05.4	+9.0
XAN				Sn	Sn	13 18 50.0	-1.2
XAN				Sg	Sb	13 19 22.5	+11
XAN				smax	smax		
	comp=N,89nm,0.9s						
XAN				smax	smax		
	comp=E,77nm,0.9s						
XAN				LR	LR		
	comp=N,230nm,5.7s						
XAN	Xi'an	6.24	52	*e*Pn	Pn	13 17 39.0	-0.8
CMAR	Chiang Mai Arr	12.39	198	Pn	Pn	13 19 07.9	+3.8
	0.1nm,0.3s,baz=8.7,slow=18,SNR=3.1						
SONA0	Songino Array	17.66	8	*e*Pn	Pn	13 20 13.4	-0.3
SONM	Songino Array	17.66	8	P	Pn	13 20 13.4	-0.3
	0.2nm,0.3s,baz=170,slow=9.8,SNR=2.5						
WMQ	Urumqi	18.11	322	*e*P	Pn	13 20 19.1	-0.2
WMQ				sP	sP	13 20 28.0	+3.7
WMQ				LR	LR		
	comp=N,240nm,5.3s						
WMQ				LR	LR		
	comp=E,330nm,6.1s						
WMQ				LR	LR		
	comp=Z,280nm,13.5s						
KSRS	Korea Array	21.85	64	P	P	13 20 57.9	-2.4
	1.3nm,0.8s,baz=238,slow=9.2,SNR=5.2						
MK31	Makanchi Array	22.94	321	*e*P	P	13 21 11.4	-0.5
	2.3nm,1.3s						
MK32	Makanchi Array	22.94	321	*e*P	P	13 21 12.6	+0.7
MKAR	Makanchi Array	22.94	321	*e*P	P	13 21 13.1	+1.3
MKAR	Makanchi Array	22.94	321	P	P	13 21 12.6	+0.7
	1.2nm,0.5s,baz=120,slow=11,SNR=13						
IPM	Ipoh	25.80	184	*e*P	P	13 21 36.4	-2.5
	22nm,1.8s						
ZALV	Zalesovo Beam	27.00	336	P	P	13 21 49.2	-0.3
	0.4nm,0.3s,baz=112,slow=6.4,SNR=2.1						
ZAA1	Zalesovo Array	27.00	336	*e*P	P	13 21 49.2	-0.3
KURBB	Kurchatov Arra	27.28	325	P	P	13 21 52.1	+0.1
	0.3nm,0.4s,baz=129,slow=9.9,SNR=6.6						
ABKAR	Akbulak array	37.46	313	*e*P	P	13 23 21.3	+0.3
	3.4nm,1.5s						
FIA0	FINESS Array S	57.66	326	*e*P	P	13 25 56.9	-0.8
FINES	FINESS Array B	57.66	326	P	P	13 25 56.9	-0.8
	2.2nm,1.1s,baz=83,slow=4.3,SNR=3.7						
WRA	Warramunga Arr	58.40	145	P	P	13 26 01.7	-1.7
	0.5nm,0.3s,baz=317,slow=12,SNR=42						
WRA				LR	LR	13 52 00.8	
	comp=Z,132nm,20.8s,baz=275,slow=37						
WR1	Warramunga Arr	58.40	145	*e*P	P	13 26 01.7	-1.7
AS31	Alice Springs	61.36	148	*e*P	P	13 26 22.0	-1.8
	2.4nm,1.4s						
ASAR	Alice Springs	61.36	148	P	P	13 26 22.0	-1.8
	0.4nm,0.5s,baz=332,slow=6.5,SNR=6.5						
YKA	Yellowknife Ar	82.69	17	P	P	13 28 30.6	-0.5
	0.4nm,0.5s,baz=331,slow=5.5,SNR=8.3						
YKB5	Yellowknife Ar	82.69	17	*e*P	P	13 28 30.6	-0.5

IDC 02 13:32:13.0±1.8, 7°.64S×130°.55E, h0km, mb4.1/1, mb1 4.1/5, mb1mx3.7/32, mbtmp3.9/5, ML3.7/4, MS2.6/1, Ms1 2.6/1, ms1mx2.1/29, Error ellipse: s-maj=66.1km s-min=24.5km az=86.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.77	6	Pn	Pn	13 33 54.5	+0.8
	1.7nm,0.3s,baz=217,slow=20,SNR=11						
SIJI				Sn	Sn	13 35 07.8	-3.7
	baz=253,slow=19						
FITZ	Fitzroy Crossi	11.44	204	Pn	Pn	13 34 59.0	+1.3
	0.4nm,0.3s,baz=36,slow=13,SNR=9.1						
FITZ				Sn	Sn	13 36 58.5	-7.9
	0.3nm,0.3s,baz=210,slow=20,SNR=2.5						
FITZ				LR	LR	13 40 33.7	
	comp=Z,30nm,18.2s,baz=74,slow=44						
WRA	Warramunga Arr	12.76	164	Pn	Pn	13 35 15.0	-0.9
	0.5nm,0.3s,baz=346,slow=13,SNR=22						
WRA				Sn	Sn	13 37 31.4	-7.5
	0.5nm,0.3s,baz=282,slow=8.4,SNR=5.5						
ASAR	Alice Springs	16.25	169	Pn	Pn	13 36 02.9	+0.1
	0.3nm,0.3s,baz=346,slow=14,SNR=21						
MKAR	Makanchi Array	69.06	327	P	P	13 43 20.5	-0.2
	1.5nm,0.7s,baz=141,slow=7.8,SNR=8.3						

*IDC **02** 13:43:17.8±0.8, 7°.57S×130°.35E, h0km, mb3.9/7, mb1 4.1/8, mb1mx4.0/26, mbtmp4.0/8, ML4.2/1, MS3.2/6, Ms1 3.2/6, ms1mx2.8/29, Error ellipse: s-maj=40.3km s-min=16.1km az=80.0*
*ISCJB **02** 13:43:18.3±0.4, 7°.72S±0°.04×130°.64E±0°.05, h27km, mb4.2/14, MS3.1/3, Error ellipse: s-maj=6.7km s-min=5.7km az=0.0*
*NEIC **02** 13:43:21.5±0.3, 7°.71S×130°.67E, h35km, mb4.5/8, Error ellipse: s-maj=8.4km s-min=5.3km az=72.0*
ISC 02 13:43:20.5±0.5, 7°.71S±0°.05×130°.63E±0°.07, h27km, n39, σ2§20/43, mb4.4/14, MS3.0/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	0.71	112	*e*Pn	Pn	13 43 41.0	+6.2
FAKI	Fak Fak	5.03	19	*e*Pn	Pn	13 44 34.6	+0.4
MTN	Manton Dam	5.12	175	*e*Pn	Pn	13 44 39.3	+3.9
SOEI	Soe	6.61	252	*e*Pn	Pn	13 44 58.2	+2.2
SOEI				*e*Sn	Sn	13 46 13.7	+3.1
SIJI	Sorong	6.83	5	Pn	Pn	13 44 58.2	-0.7
	baz=163,slow=19						
SIJI				Sn	Sn	13 46 10.7	-5.2
	3.1nm,0.3s,baz=293,slow=24,SNR=8.2						
BATI	Baumata	7.32	250	Pn	Pn	13 45 06.6	+1.0
	2.1nm,0.3s,baz=86,slow=18,SNR=4.5						
BATI				Sn	Sn	13 46 27.2	-0.7
	6.8nm,0.3s,baz=233,slow=22,SNR=6.2						
FITZ	Fitzroy Crossi	11.41	205	*e*Pn	Pn	13 46 02.0	+0.3
FITZ	Fitzroy Crossi	11.41	205	Pn	Pn	13 46 01.1	-0.7
	1.2nm,0.3s,baz=27,slow=8.6,SNR=43						
FITZ				Sn	Sn	13 48 02.2	-6.1
	1.8nm,0.3s,baz=216,slow=21,SNR=6.4						
FITZ				LR	LR	13 51 25.1	
	comp=Z,97nm,18.1s,baz=22,slow=43						
WRAB	Tennant Creek	12.67	164	*e*Pn	Pn	13 46 19.3	+0.2
WR1	Warramunga Arr	12.68	164	*e*Pn	Pn	13 46 18.6	-0.5
WR1				*e*Sn	Sn	13 48 35.9	-3.6
WRA	Warramunga Arr	12.68	164	*e*Pn	Pn	13 46 19.1	0.0
WRA	Warramunga Arr	12.68	164	Pn	Pn	13 46 18.6	-0.5
	1.0nm,0.3s,baz=335,slow=13,SNR=83						
WRA				Sn	Sn	13 48 35.9	-3.6
	1.5nm,0.3s,baz=340,slow=21,SNR=8.9						
WB2	Warramunga Arr	12.68	164	*e*Pn	Pn	13 46 19.6	+0.4
COEN	Coen	13.79	118	*e*Pn	Pn	13 46 36.3	+1.9
DAV	Davao City (W)	15.53	341	LR	LR	13 53 31.4	
	comp=Z,65nm,20.3s,baz=158,slow=40						
AS31	Alice Springs	16.17	169	*e*Pn	Pn	13 47 05.0	-1.0
	3.2nm,0.9s						
ASAR	Alice Springs	16.17	169	*e*Pn	Pn	13 47 05.9	-0.1
ASAR	Alice Springs	16.17	169	Pn	Pn	13 47 05.5	-0.5
	0.6nm,0.3s,baz=333,slow=8.1,SNR=57						
ASAR				Sn	Sn	13 49 58.6	-6.1
	0.2nm,0.3s,baz=353,slow=26,SNR=6.4						
ASAR				LR	LR	13 54 17.8	
	comp=Z,139nm,19.4s,baz=341,slow=40						
SBUM	Sibu	20.96	298	*e*P	Pn	13 48 01.6	-2.7
	7.4nm,0.9s						
STKA	Stephens Creek	26.12	158	P	P	13 48 55.3	+2.9
	1.7nm,0.9s,baz=340,slow=14,SNR=2.5						
STKA				LR	LR	14 00 15.0	
	comp=Z,85nm,20.1s,baz=17,slow=39						
EIDS	Eidsvold	26.25	134	*e*P	P	13 48 53.0	-0.5
	23nm,1.4s						
CMAR	Chiang Mai Arr	40.67	310	P	P	13 50 57.1	-1.6
	0.9nm,0.3s,baz=134,slow=6.9,SNR=8.0						
CMAR				LR	LR	14 08 34.5	
	comp=Z,24nm,21.4s,baz=158,slow=38						
MJAR	Matsushiro Arr	44.59	9	P	P	13 51 29.4	-1.1
	3.9nm,0.8s,baz=193,slow=10.0,SNR=12						
MAJO	Matsushiro	44.59	9	*e*P	P	13 51 29.4	-1.1
	51nm,1.9s						
MJB9	Matsu-Tunnel	44.60	9	*e*P	P	13 51 29.5	-0.9
	56nm,1.9s						
KSRS	Korea Array	45.00	357	P	P	13 51 34.6	+1.0
	0.6nm,0.7s,baz=186,slow=9.8,SNR=3.4						
KSRS				LR	LR	14 10 22.5	
	comp=Z,18nm,19.6s,baz=156,slow=36						
SONA0	Songino Array	59.31	341	*e*P	P	13 53 20.2	+0.1
SONM	Songino Array	59.31	341	P	P	13 53 20.2	+0.1
	0.6nm,0.8s,baz=153,slow=7.2,SNR=3.4						
MKAR	Makanchi Array	69.16	327	*e*P	P	13 54 24.0	-0.6
MKAR	Makanchi Array	69.16	327	P	P	13 54 24.5	-0.1
	5.8nm,0.8s,baz=127,slow=8.1,SNR=31						
MAKZ	Makanchi	69.34	327	*e*P	P	13 54 25.4	-0.3
	3.8nm,0.8s						
KDJ	Kajisay	69.52	320	*e*P	P	13 54 28.2	+1.1
	3.2nm,0.6s						
NRN	Naryn	69.91	319	*e*P	P	13 54 29.5	-0.2
	2.2nm,1.0s						
BOOM	Boomskoye usch	70.49	320	*e*P	P	13 54 33.7	+0.7
	2.6nm,0.8s						
VNDA	Vanda	71.67	173	P	P	13 54 41.5	+2.2
	0.7nm,1.0s,baz=287,slow=9.3,SNR=2.4						
TORD	Torodi Ar. Bea	129.56	281	PKP	PKiKP	14 02 30.0	+1.2
	0.1nm,0.3s,baz=107,slow=1.5,SNR=2.7						
TOA1	Torodi Ar. Sit	129.56	281	*e*PKPdf	PKiKP	14 02 30.0	+1.2
CPUP	Villa Florida	145.29	167	PKPbc	PKiKP	14 02 59.7	-0.8
	1.8nm,0.9s,baz=210,slow=7.8,SNR=3.4						
LPAZ	La Paz	149.78	142	PKPbc	PKiKP	14 03 12.2	+1.5
	1.8nm,0.7s,baz=291,slow=2.4,SNR=5.0						

IDC 02 13:51:01.6±1.9, 7°.69S×130°.55E, h0km, mb3.5/1, mb1 3.5/5, mb1mx3.4/26, mbtmp3.4/5, ML3.2/4, Error ellipse: s-maj=70.3km s-min=25.4km az=87.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.82	6	Pn	Pn	13 52 44.2	+1.3
	0.7nm,0.3s,baz=189,slow=19,SNR=4.2						
SIJI				Sn	Sn	13 53 56.1	-5.3
	0.2nm,0.3s,baz=217,slow=20,SNR=3.2						
FITZ	Fitzroy Crossi	11.39	204	Pn	Pn	13 53 46.6	+0.9
	0.2nm,0.3s,baz=18,slow=10,SNR=9.4						
WRA	Warramunga Arr	12.72	164	Pn	Pn	13 54 03.5	-0.4
	0.1nm,0.3s,baz=347,slow=13,SNR=7.2						
WRA				Sn	Sn	13 56 18.8	-7.6
	0.1nm,0.3s,baz=334,slow=22,SNR=4.5						
ASAR	Alice Springs	16.20	169	Pn	Pn	13 54 51.0	+0.1
	0.1nm,0.3s,baz=349,slow=9.4,SNR=3.2						
MKAR	Makanchi Array	69.10	327	P	P	14 02 09.1	-0.5
	0.3nm,0.6s,baz=131,slow=6.5,SNR=3.6						

*ISCJB **02** 14:05:13.2±0.4, 17°.28S±0°.03×69°.45W±0°.04, h170km±3km, mb4.4/23, Error ellipse: s-maj=6.4km s-min=5.6km az=176.8*
*NEIC **02** 14:05:14.0±0.5, 17°.30S×69°.42W, h162km±5km, mb4.6/11, Error ellipse: s-maj=8.8km s-min=6.7km az=94.0*
*IDC **02** 14:05:15.6±1.2, 17°.22S×69°.27W, h173km±10km, mb3.9/12, mb1 4.0/17, mb1mx3.9/28, mbtmp4.4/17, Error ellipse: s-maj=15.3km s-min=13.1km az=70.0*
*GUC **02** 14:05:15.6±0.6, 17°.41S×69°.54W, h156km±5km, ML4.0*
*VAO **02** 14:05:17.8±0.5, 17°.33S×69°.11W, h172km, mb4.6*
ISC 02 14:05:13.6±0.6, 17°.32S±0°.04×69°.44W±0°.05, h163km±6km, n101, σ1§52/116, mb4.4/23, 4C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	IPOC Station P	1.01	183	*e*P	Pn	14 05 42.6	+2.3
PB16				*e*S	Sn	14 06 03.2	+2.2
PB16	IPOC Station P	1.01	183	⇑*i*P	Pn	14 05 41.7	+1.4
PB16				*i* S	Sn	14 06 02.0	+1.0
PB12	IPOC Station P	1.54	213	*e*P	Pn	14 05 44.9	+0.3
PB12				*e*S	Sn	14 06 06.9	-1.7
PB12	IPOC Station P	1.54	213	⇑*e*P	Pn	14 05 45.0	+0.4
PB12				*e*S	Sn	14 06 07.8	-0.8
PB12				IAML		14 06 09.1	
	comp=N,3μm,0.4s						
LPAZ	La Paz	1.62	51	P	Pn	14 05 48.2	+2.1
	comp=N,2μm,0.3s,baz=250,slow=4.1						
LPAZ				S	Sn	14 06 12.3	+1.3
	comp=N,192nm,0.3s,baz=71,slow=11,SNR=14						
LPAZ	La Paz	1.62	51	*e*P	Pn	14 05 48.3	+2.1
MNMCX	Minye Minye	1.81	185	*e*P	Pn	14 05 49.3	+1.6
MNMC	Minye Minye	1.81	185	*e*Pn	Pn	14 05 49.3	+1.6
MNMC	Minye Minye	1.81	185	⇑*e*P	Pn	14 05 48.8	+1.1
MNMC				*i* S	Sn	14 06 14.3	+0.3
MNMC				IAML		14 06 19.0	
	comp=E,2μm,0.3s						
GO01	Chusmiza	2.35	174	*e*Pn	Pn	14 05 56.2	+2.2
GO01	Chusmiza	2.35	174	*e*P	Pn	14 05 56.1	+2.0
GO01				*i* S	Sn	14 06 26.8	+1.5
GO01				IAML		14 06 33.0	
	comp=E,531nm,0.2s						
PB11	IPOC Station P	2.44	185	*e*Pn	Pn	14 05 56.0	+1.2
PB11	IPOC Station P	2.44	185	*e*P	Pn	14 05 56.0	+1.2
PB11				*e*S	Sn	14 06 25.3	-1.4
PB11	IPOC Station P	2.44	185	⇑*e*P	Pn	14 05 55.7	+1.0
PB11				*i* S	Sn	14 06 26.6	-0.1
PB08	IPOC Station P	2.82	174	*e*P	Pn	14 06 01.8	+2.2
PB08				*e*S	Sn	14 06 36.4	+1.0
PB08	IPOC Station P	2.82	174	⇓*e*P	Pn	14 06 01.4	+1.8
PB08				*i* S	Sn	14 06 35.8	+0.5
PB08				IAML		14 06 43.2	
	comp=E,258nm,0.4s						
PB01	IPOC Station P	3.70	181	*e*Pn	Pn	14 06 11.0	+0.5
PB07	IPOC Station P	4.40	185	*e*P	Pn	14 06 20.4	+0.7
PB07				*e*S	Sn	14 07 08.0	-3.1
PB03	IPOC Station P	4.71	184	*e*P	Pn	14 06 24.0	+0.3
PB04	IPOC Station P	5.03	187	*e*Pn	Pn	14 06 27.4	-0.4
LVC	Limon Verde	5.29	175	*e*Pn	Pn	14 06 31.9	+0.6
LVC	Limon Verde	5.29	175	P	Pn	14 06 32.6	+1.3
	comp=E,9.3nm,0.3s,baz=360,slow=7.6,SNR=68						
LVC				S	Sn	14 07 29.4	-2.8
	comp=E,9.7nm,0.3s,baz=281,slow=8.9,SNR=4.2						
PB15	IPOC Station P	5.86	180	*e*P	Pn	14 06 38.9	+0.1
YJA	Yavi	6.08	143	*e*S	Sn	14 07 54.8	+3.6
YJA				IAML		14 08 06.2	
	comp=Z,6.7nm,0.6s						
PB10	IPOC Station P	6.25	189	*e*Pn	Pn	14 06 41.7	-2.0
PB10				*e*Sn	Sn	14 07 50.7	-3.8
HJA	Humahuaca	6.97	148	*e*S	Sn	14 08 13.5	+1.2
GO02	Mina Guanaco	7.80	181	*e*Pn	Pn	14 07 03.9	-0.7
SIV	San Ignacio	8.13	82	P	Pn	14 07 07.4	-1.4
	comp=Z,22nm,0.3s,baz=282,slow=10,SNR=80						
SIV				S	Sn	14 08 34.1	-5.6
	comp=Z,4.4nm,0.3s,baz=354,slow=15,SNR=14						
NNA	Nana	8.91	306	*e*Pn	Pn	14 07 18.7	-0.5
NNA				*e*Sn	Sn	14 08 52.3	-6.0
NNA	Nana	8.91	306	P	Pn	14 07 17.9	-1.2
	comp=Z,11nm,0.3s,baz=145,slow=12,SNR=8.2						
NNA				S	Sn	14 08 51.9	-6.5
	comp=Z,3.8nm,0.3s,baz=31,slow=17,SNR=7.0						
LCO	Las Campanas	11.69	185	*e*P	P	14 08 00.3	-2.2
GO04	Tololo Observa	12.85	185	*e*Pn	Pn	14 08 10.6	-0.1
AQDB	Aquidauana	13.38	106	*e*P	Pn	14 08 17.0	-0.2
CFA	Coronel Fontan	14.26	176	P	Pn	14 08 28.9	+0.6
	comp=Z,1.0nm,0.3s,baz=354,slow=12,SNR=10						
CFA				S	Sn	14 10 57.2	-10
	comp=Z,0.4nm,0.3s,baz=209,slow=18,SNR=4.8						
CPUP	Villa Florida	14.38	131	*e*Pn	P	14 08 30.5	-1.5
CPUP	Villa Florida	14.38	131	P	Pn	14 08 29.1	-0.7
	comp=Z,0.2nm,0.3s,baz=310,slow=11,SNR=8.6						
CPUP	Villa Florida	14.38	131	*e*P	P	14 08 29.8	-2.2
CLDB	Colider	14.70	66	*e*P	P	14 08 34.1	-1.7
TRCB	Terra Rica	16.70	112	*e*P	Pn	14 08 58.5	+0.1
PTGB	Pitanga	17.80	117	*e*P	Pn	14 09 11.2	-0.3
ITRB	Iturama	18.25	100	*e*P	Pn	14 09 15.9	-0.9
ITAB	Concordia	18.80	125	*e*P	Pn	14 09 21.8	-1.2
PTGA	Pitinga	18.94	30	*e*P	P	14 09 21.7	-0.7
	comp=Z,19nm,0.7s						
PTGA	Pitinga	18.94	30	P	P	14 09 21.7	-0.7
	comp=Z,4.8nm,0.3s,baz=204,slow=12,SNR=38						
FRTB	Fartura	19.57	111	*e*P	Pn	14 09 29.6	-2.7
BB19B	Bebedouro	20.10	104	*e*P	P	14 09 34.6	-0.2
BDFB	Brasilia	20.62	88	*e*P	P	14 09 39.9	-0.6
BDFB	Brasilia	20.62	88	P	P	14 09 39.6	-0.9
	comp=Z,36nm,0.5s,baz=250,slow=12,SNR=39						
TIJ01	Guaruva-PR	20.62	116	*e*P	Pn	14 09 41.4	-3.5
CNLB	Canela	20.80	128	*e*P	P	14 09 41.5	-0.8
RCLB	Rio Claro- Sao	21.21	107	*e*P	P	14 09 46.7	-0.1
OGAUY	Aigu	21.47	145	*e*P	P	14 09 49.4	+0.1
SPB	Sao Paulo	21.53	110	*e*P	P	14 09 50.0	-0.1
	comp=Z,15nm,0.4s						
SPB	Sao Paulo	21.53	110	*e*P	P	14 09 50.3	+0.2
TRQA	Tornquist	21.67	164	*e*P	P	14 09 53.2	+1.8
	comp=Z,16nm,1.4s						
PET01	Itanhaem-SP	21.84	112	*e*P	P	14 09 54.8	+1.5
PMNB	Patos De Minas	21.92	97	*e*P	P	14 09 53.7	-0.5
GO06	Curarrehue	22.25	184	*e*P	P	14 09 58.8	+1.4
	comp=Z,80nm,1.8s						
BSCB	Bom Sucesso	23.58	103	*e*P	P	14 10 09.8	0.0
JANB	Januaria	24.24	88	*e*P	P	14 10 15.9	+0.2
MCI8	Montes Claros	24.41	92	*e*P	P	14 10 17.8	+0.4
MCI6	Montes Claros	24.43	93	*e*P	P	14 10 17.9	+0.4
MCI9	Montes Claros	24.44	92	*e*P	P	14 10 17.9	+0.4
SJMB	Sao Joao De Ma	26.90	97	*e*P	P	14 10 40.4	+0.8
MDP	Montagnes des	27.78	38	P	P	14 10 47.1	-0.4
	comp=Z,4.6nm,0.4s,baz=216,slow=9.6,SNR=7.9						
RCBR	Riachuelo	34.72	75	*e*P	P	14 11 49.2	+0.8
	comp=Z,24nm,1.2s						
ICMP	Isla Caja de M	35.10	5	*e*P	P	14 11 50.1	-1.3
	comp=Z,15

mb4.3/15, MS3.8/20, Error ellipse: s-maj=15.4km s-min=8.5km az=22.4

NEIC ***02*** *14:25:30.2±0.5, 23°.20S×170°.26E, h35km, mb4.8/8, Error ellipse: s-maj=13.3km s-min=8.6km az=206.0*

GCMT ***02*** *14:25:31.2±0.3, 23°.20S±0°.02×170°.36E±0°.04, h21km±1km, MW4.9/58, Moment Tensor Solution. s23,c26; s58,c80; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.51±.20; Mθθ2.69±.13; Mφφ-0.17±.12; Mrθ-0.41±.17; Mrφ-0.54±.07; Mθφ-0.16±.25; Best double couple: M0=2.68500×10^16 NP1:φs95.00000°, δ49.00000°, λ-97.00000°. NP2: φs286.00000°, δ41.00000°, λ-82.00000°. Principal axes: T 2.8130, Plg4.0000°, Azm190.0000°; N -0.2530, Plg6.0000°, Azm100.0000°; P -2.5580, Plg83.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 14:25:29.0±0.6, 23°.25S±0°.1×170°.33E±0°.09, h28km, n68, σ0§68/54, mb4.3/15, MS3.8/20, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.70**	**308**	*e*Pn	**Pn**	**14 26 10.3**	**-0.3**
PINNC	**Pines Island,**	**2.71**	**281**	*e*Pn	**Pn**	**14 26 11.1**	**+0.4**
ONTNC	**Ouen Toro**	**3.67**	**283**	*e*Pn	**Pn**	**14 26 24.5**	**+0.5**
DZM	**Mont Dzumac**	**3.75**	**286**	*e*Pn	**Pn**	**14 26 25.0**	**-0.1**
	100nm,0.3s						
DZM				*e*Sn	**Sn**	**14 27 08.0**	**-0.3**
	64nm,0.2s						
DZM	**Mont Dzumac**	**3.75**	**286**	*e*Pn	**Pn**	**14 26 24.9**	**-0.1**
DZM	**Mont Dzumac**	**3.75**	**286**	Pn	**Pn**	**14 26 24.8**	**-0.3**
	11nm,0.3s,baz=133,slow=19,SNR=210						
DZM				Sn	**Sn**	**14 27 08.1**	**-0.2**
	18nm,0.3s,baz=122,slow=16,SNR=6.0						
DZM				LR	LR	14 28 04.4	
	comp=Z,3μm,18.1s,baz=104,slow=42						
URZ	**Urewera**	**16.14**	**160**	LR	LR	14 34 06.5	
	comp=Z,341nm,18.1s,baz=344,slow=33						
HNR	**Honiara**	**16.88**	**322**	LR	LR	14 35 12.9	
	comp=Z,333nm,19.1s,baz=166,slow=35						
RPZ	**Rata Peaks**	**20.51**	**178**	LR	LR	14 36 32.0	
	comp=Z,513nm,19.1s,baz=19,slow=33						
PMG	**Port Moresby**	**26.05**	**298**	LR	LR	14 40 04.6	
	comp=Z,226nm,18.7s,baz=125,slow=34						
STKA	**Stephens Creek**	**26.86**	**245**	*e*P	**P**	**14 31 06.2**	**-1.1**
	3.6nm,1.4s						
STKA	**Stephens Creek**	**26.86**	**245**	P	**P**	**14 31 06.2**	**-1.1**
	2.0nm,1.0s,baz=93,slow=17,SNR=2.8						
STKA				LR	LR	14 41 02.4	
	comp=Z,199nm,19.1s,baz=67,slow=35						
RAR	**Rarotonga**	**27.73**	**92**	LR	LR	14 38 47.1	
	comp=Z,101nm,20.2s,baz=292,slow=29						
AS31	**Alice Springs**	**33.37**	**262**	*e*P	**P**	**14 32 05.5**	**+0.3**
	4.9nm,1.1s						
ASAR	**Alice Springs**	**33.37**	**262**	*e*P	**P**	**14 32 04.6**	**-0.5**
ASAR	**Alice Springs**	**33.37**	**262**	P	**P**	**14 32 05.3**	**+0.2**
	4.7nm,0.9s,baz=84,slow=9.1,SNR=29						
ASAR				LR	LR	14 45 07.2	
	comp=Z,127nm,18.0s,baz=102,slow=35						
WB2	**Warramunga Arr**	**33.56**	**269**	*e*P	**P**	**14 32 06.6**	**-0.2**
	35nm,1.8s						
WRAB	**Tennant Creek**	**33.56**	**269**	*e*P	**P**	**14 32 05.3**	**-1.5**
	14nm,1.5s						
WR1	**Warramunga Arr**	**33.57**	**269**	*e*P	**P**	**14 32 06.2**	**-0.7**
WRA	**Warramunga Arr**	**33.57**	**269**	*e*P	**P**	**14 32 06.4**	**-0.5**
WRA	**Warramunga Arr**	**33.57**	**269**	P	**P**	**14 32 06.2**	**-0.7**
	1.0nm,0.9s,baz=97,slow=8.4,SNR=10						
WRA				LR	LR	14 46 00.3	
	comp=Z,360nm,19.7s,baz=105,slow=37						
TBI	**Tubuai**	**36.86**	**98**	*e*LR	LR	14 42 20.7	
	comp=Z,197nm,28.8s						
PPT2	**Papeete2**	**37.91**	**89**	*e*LR	LR	14 42 56.3	
	comp=Z,153nm,25.0s						
FITZ	**Fitzroy Crossi**	**42.00**	**268**	*e*P	**P**	**14 33 18.1**	**0.0**
	15nm,0.8s						
FITZ	**Fitzroy Crossi**	**42.00**	**268**	P	**P**	**14 33 17.9**	**-0.2**
	6.2nm,0.9s,baz=144,slow=11,SNR=8.9						
MBWA	**Marble Bar**	**46.71**	**262**	*e*P	**P**	**14 33 55.5**	**-0.3**
	12nm,1.0s						
VNDA	**Vanda**	**54.57**	**182**	P	**P**	**14 34 53.0**	**-1.3**
	1.0nm,0.8s,baz=353,slow=7.3,SNR=4.7						
VNDA				LR	LR	14 54 51.4	
	comp=Z,99nm,19.3s,baz=5.0,slow=32						
SBA	**Scott Base**	**54.78**	**181**	*e*P	**P**	**14 34 57.2**	**+1.4**
	31nm,1.6s						
MJAR	**Matsushiro Arr**	**66.67**	**332**	LR	LR	15 01 34.2	
	comp=Z,16nm,22.0s,baz=225,slow=32						
QSPA	**South Pole Qui**	**66.92**	**180**	*e*P	**P**	**14 36 18.7**	**0.0**
	14nm,1.1s						
QSPA	**South Pole Qui**	**66.92**	**180**	P	**P**	**14 36 18.5**	**-0.1**
	4.5nm,0.7s,baz=10,slow=1.9,SNR=26						
JNU	**Nakatsue**	**67.43**	**325**	LR	LR	15 02 49.1	
	comp=Z,29nm,19.2s,baz=155,slow=33						
KSRS	**Korea Array**	**72.30**	**326**	LR	LR	15 07 44.3	
	comp=Z,16nm,18.0s,baz=125,slow=35						
MAW	**Mawson**	**75.21**	**202**	LR	LR	15 05 05.7	
	comp=Z,42nm,21.6s,baz=101,slow=32						
PETK	**Petropavlovsk-**	**76.73**	**352**	LR	LR	15 07 40.4	
	comp=Z,86nm,18.7s,baz=169,slow=33						
KLR	**Kul'dur**	**79.84**	**335**	LR	LR	15 07 42.0	
	comp=Z,55nm,20.4s,baz=146,slow=32						
CMAR	**Chiang Mai Arr**	**81.03**	**294**	P	**P**	**14 37 43.9**	**+2.1**
	1.3nm,0.9s,baz=141,slow=4.1,SNR=5.8						
MA2	**Magadan**	**83.99**	**350**	LR	LR	15 10 09.7	
	comp=Z,62nm,19.6s,baz=142,slow=32						
NV01	**Mina Array Sit**	**90.64**	**48**	*e*P	**P**	**14 38 29.3**	**0.0**
NVAR	**Mina Array Bea**	**90.64**	**48**	P	**P**	**14 38 29.3**	**+0.1**
	0.9nm,0.8s,baz=228,slow=5.8,SNR=5.3						
NVAR				LR	LR	15 10 30.5	
	comp=Z,84nm,21.6s,baz=258,slow=30						
SONA0	**Songino Array**	**90.94**	**323**	*e*P	**P**	**14 38 31.3**	**+1.0**
SONM	**Songino Array**	**90.94**	**323**	P	**P**	**14 38 31.3**	**+1.0**
	0.4nm,0.5s,baz=116,slow=3.4,SNR=4.0						
ILAR	**Eielson Array**	**93.66**	**17**	P	**P**	**14 38 40.8**	**-1.5**
	0.9nm,0.8s,baz=234,slow=4.2,SNR=7.4						
ILAR				LR	LR	15 17 14.9	
	comp=Z,36nm,19.4s,baz=255,slow=33						
TXAR	**Lajitas Array**	**97.74**	**62**	LR	LR	15 17 56.2	
	comp=Z,32nm,18.0s,baz=0.0,slow=32						
PDAR	**Pinedale Array**	**98.52**	**47**	LR	LR	15 15 42.1	
	comp=Z,50nm,21.8s,baz=272,slow=31						
ARA0	**ARCESS Array S**	**129.10**	**345**	*e*PKPdf	**PKPdf**	**14 44 33.8**	**+0.1**
ARCES	**ARCESS Array B**	**129.10**	**345**	PKP	**PKPdf**	**14 44 33.8**	**+0.1**
	1.1nm,0.6s,baz=352,slow=2.5,SNR=7.3						
MORC	**Moravsky Berou**	**145.93**	**328**	*e*LR	**PKPbc**	**14 45 05.9**	**+0.1**
JAVC	**Velka Javorina**	**146.46**	**327**	*e*PKP	**PKPab**	**14 45 09.2**	**+0.8**
VRAC	**Vranov**	**146.70**	**328**	*e*PKP	**PKPbc**	**14 45 07.8**	**-0.3**
VRAC	**Vranov**	**146.70**	**328**	PKPbc	**PKPbc**	**14 45 08.1**	**+0.1**
	1.4nm,0.3s,baz=0.0,slow=2.0,SNR=3.7						
BRG	**Berggiesshubel**	**146.81**	**332**	*e*P	**PKiKP**	**14 45 10.8**	**-0.2**
	2.4nm,1.1s						
CLL	**Collm**	**146.87**	**334**	*e*PKPbc	**PKPbc**	**14 45 09.0**	**+0.5**
CLL				*ep*PKPbc	pPKPab	14 45 18.0	+0.4
KRUC	**Moravsky**	**146.96**	**328**	*e*PKP	**PKPbc**	**14 45 09.4**	**+0.6**
EKA	**Eskdalemuir Ar**	**147.50**	**353**	PKPbc	**PKPbc**	**14 45 09.5**	**-0.6**
	0.6nm,0.4s,baz=14,slow=3.2,SNR=4.2						
CONA	**Conrad Observa**	**147.99**	**327**	*e*PKiKP	**PKPbc**	**14 45 12.5**	**+0.7**
	6.9nm,1.2s						
GERES	**GERESS Array B**	**148.39**	**330**	*e*PKPbc	**PKiKP**	**14 45 13.8**	**-0.6**
GERES	**GERESS Array B**	**148.39**	**330**	PKPbc	**PKPbc**	**14 45 12.9**	**+0.1**
	1.5nm,0.8s,baz=42,slow=2.2,SNR=9.6						
SOKA	**Soboth**	**149.24**	**326**	*i* PKPbc	**PKPbc**	**14 45 15.1**	**0.0**
	6.7nm,1.2s						
OBKA	**Obir**	**149.60**	**326**	*i* PKPbc	**PKPbc**	**14 45 16.0**	**0.0**
	2.4nm,0.6s						
KBA	**Koelnbreinsper**	**149.81**	**328**	*i* PKPbc	**PKPbc**	**14 45 16.1**	**-0.5**
	3.5nm,0.8s						
MYKA	**Terra Mystica**	**149.98**	**327**	*i* PKPbc	**PKPbc**	**14 45 16.2**	**-0.6**
	3.4nm,0.7s						
ABTA	**Abfaltersbach**	**150.45**	**328**	*i* PKPbc	**PKPbc**	**14 45 17.7**	**-0.3**
	8.7nm,1.3s						
WTTA	**Wattenberg**	**150.50**	**330**	*i* PKiKP	**PKPbc**	**14 45 18.3**	**+0.1**
	14nm,1.3s						
MOTA	**Moosalm**	**150.68**	**330**	*i* PKiKP	**PKiKP**	**14 45 19.0**	**-0.3**
	5.2nm,0.7s						
SQTA	**Sankt Quirin**	**150.72**	**330**	*i* PKiKP	**PKPbc**	**14 45 19.0**	**+0.3**
	4.1nm,0.6s						
FETA	**Feichten**	**151.09**	**330**	*i* PKiKP	**PKiKP**	**14 45 19.9**	**-0.3**
	3.7nm,0.8s						
DAVOX	**Davos/Dischmat**	**151.65**	**331**	PKPbc	**PKiKP**	**14 45 21.4**	**+0.1**
	2.6nm,0.6s,baz=56,slow=6.7,SNR=4.7						

IDC 02 14:32:05.4±1.9, 7°.60S×130°.91E, h0km, mb3.8/1, mb1 3.7/5, mb1mx3.5/32, mbtmp3.6/5, ML3.5/4, MS3.0/3, Ms1 3.0/3, ms1mx2.5/28, Error ellipse: s-maj=75.9km s-min=22.6km az=88.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.70**	**3**	Pn	Pn	14 33 45.9	+0.8
	0.9nm,0.3s,baz=49,slow=7.9,SNR=3.9						
SIJI				Sn	Sn	14 35 01.9	-0.3
	0.4nm,0.3s,baz=287,slow=19,SNR=4.2						
FITZ	**Fitzroy Crossi**	**11.63**	**206**	Pn	Pn	14 34 52.0	-0.7
	0.3nm,0.3s,baz=27,slow=11,SNR=17						
FITZ				Sn	Sn	14 36 52.6	-11
	0.2nm,0.3s,baz=192,slow=18,SNR=5.4						
FITZ				LR	LR	14 40 24.3	
	comp=Z,6.4nm,18.8s,baz=300,slow=43						
WRA	**Warramunga Arr**	**12.71**	**165**	Pn	Pn	14 35 08.0	+0.4
	0.3nm,0.3s,baz=352,slow=13,SNR=18						
WRA				Sn	Sn	14 37 25.2	-4.7
	0.3nm,0.3s,baz=333,slow=22,SNR=6.3						
ASAR	**Alice Springs**	**16.23**	**170**	Pn	Pn	14 35 55.0	+0.1
	0.1nm,0.3s,baz=347,slow=8.9,SNR=7.6						
ASAR				Sn	Sn	14 38 48.9	-6.9
	0.1nm,0.3s,baz=208,slow=25,SNR=4.1						
MKAR	**Makanchi Array**	**69.22**	**327**	P	P	14 43 14.1	0.0
	0.6nm,0.6s,baz=126,slow=8.2,SNR=8.1						
NRIK	**Noril'sk**	**82.36**	**346**	LR	LR	15 27 42.1	
	comp=Z,18nm,19.3s,baz=64,slow=40						
BOSA	**Boshof**	**99.94**	**239**	LR	LR	15 24 14.1	
	comp=Z,23nm,20.2s,baz=186,slow=31						

MEX 02 14:34:45.7±0.7, 17°.18N×94°.79W, h146km±6km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.13**	**228**	*i* P	Pn	14 35 03.8	-1.6
CMIG				*e*S	Sn	14 35 18.1	-2.2
PCIG		**2.10**	**134**	*e*P	Pn	14 35 20.7	-1.1
PCIG				*e*S	Sn	14 35 47.9	-1.6
CCIG	**Comitan**	**2.69**	**109**	*i* P	Pn	14 35 27.0	-2.2
CCIG				*i* S	Sn	14 36 01.4	-1.3
PNIG	**Pinotepa**	**3.29**	**257**	*e*P	Pn	14 35 34.6	-2.2
PNIG				*i* S	Sn	14 36 14.4	-1.8

DDA ***02*** *14:39:22.3, 37°.17N×37°.11E, h7km±2km, ML2.6*
ISK ***02*** *14:39:22.5, 37°.15N×37°.14E, h10km, ML2.0/4*
ISCJB ***02*** *14:39:23.2±0.5, 37°.15N±0°.03×37°.13E±0°.04, h9km±4km, Error ellipse: s-maj=5.7km s-min=4.7km az=26.4*

ISC 02 14:39:22.8±0.9, 37°.16N±0°.04×37°.13E±0°.03, h9km±7km, n13, σ0§55/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.06**	**79**	PG	**Pg**	**14 39 24.2**	**-0.7**
GAZ				SG	**Sg**	**14 39 27.2**	**+0.8**
HCB	**Kahramanmara**	**0.26**	**316**	IAML_P			
	comp=Z,7μm,0.1s						
HCB				*i* P	**Pg**	**14 39 27.7**	**-0.3**
HCB				*i* S	**Sg**	**14 39 31.8**	**+0.3**
AYKD	**Aykdinkavak**	**0.36**	**314**	IAML_P			
	comp=Z,2μm,0.2s						
AYKD				*i* P	**Pg**	**14 39 29.9**	**-0.1**
AYKD				*i* S	**Sg**	**14 39 35.4**	**+0.6**
KAMA	**Osmaniye**	**0.37**	**274**	IAML_P			
	comp=Z,2μm,0.2s						
KAMA				*i* P	**Pg**	**14 39 30.1**	**0.0**
KAMA				*i* S	**Sg**	**14 39 35.7**	**+0.6**
KUZU	**Kuzuini**	**0.39**	**187**	*i* P	**Pb**	**14 39 31.6**	**-0.3**
KUZU				*i* S	**Sg**	**14 39 36.4**	**+0.8**
KMRS	**Kahramanmaras**	**0.39**	**332**	PG	**Pg**	**14 39 30.9**	**+0.4**
KMRS				SG	**Sb**	**14 39 37.3**	**-0.8**
GZT	**Gaziantep**	**0.40**	**60**	*i* P	**Pb**	**14 39 31.7**	**-0.5**
GZT				*i* S	**Sg**	**14 39 36.9**	**+1.1**
ANDN	**Andirin**	**0.76**	**304**	*i* P	**Pn**	**14 39 39.8**	**0.0**
KOZT	**Kozan**	**1.09**	**287**	PN	**Pb**	**14 39 43.7**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.09**	**224**	PN	**Pb**	**14 39 43.9**	**0.0**
TAHT				SN	**Sn**	**14 39 59.3**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.22**	**103**	*i* P	**Pn**	**14 39 46.3**	**+0.2**
AKCD	**Akcadag**	**1.29**	**29**	IAML_P			
	comp=Z,468nm,0.1s						
AKCD				*i* P	**Pg**	**14 39 48.0**	**+0.3**
URFA	**Urfa**	**1.38**	**78**	PN	**Pn**	**14 39 48.3**	**0.0**

GEN ***02*** *14:42:58.0, 44°.09N×10°.44E, h2km±1km, Ml0.3*

ROM 02 14:42:57.8±0.1, 44°.086N±0°.003×10°.447E±0°.006, h6km, Md1.2/3, Error ellipse: s-maj=0.5km s-min=0.0km az=244.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARD	**Cardoso**	**0.07**	**157**	P	Pg	14 42 59.7	+0.3
CARD				S	Sg	14 43 00.6	-0.1
CARD	**Cardoso**	**0.07**	**157**	P	Pg	14 42 59.8	+0.3
CARD				S	Sg	14 43 01.1	+0.5
CARD				END			
CARD				END			
CARD	**Cardoso**	**0.07**	**157**	S	Sg	14 42 60.0	-0.7
VLC	**Villacollemand**	**0.09**	**329**	P	Pg	14 43 00.2	+0.4
VLC				S	Sg	14 43 01.8	+0.6
VLC				END			
VLC				END			
VLC	**Villacollemand**	**0.09**	**329**	S	Sg	14 43 01.0	-0.2
SARO	**Sassorosso**	**0.10**	**342**	P	Pg	14 43 00.4	+0.2
SARO				S	Sg	14 43 01.6	-0.2
SARO	**Sassorosso**	**0.10**	**342**	P	Pg	14 43 00.4	+0.2
SARO				S	Sg	14 43 02.1	+0.3
SARO				END			
SARO				END			
SARO	**Sassorosso**	**0.10**	**342**	S	Sg	14 43 01.0	-0.8
BDI	**Bagni Di Lucca**	**0.11**	**102**	P	Pg	14 43 00.6	+0.4
BDI				S	Sg	14 43 02.6	+0.7
MAIM	**Mastiano**	**0.17**	**169**	P	Pg	14 43 01.7	+0.4
MAIM				S	Sg	14 43 04.6	+0.9
MAIM	**Mastiano**	**0.17**	**169**	P	Pg	14 43 01.8	+0.5
MAIM				S	Sg	14 43 04.8	+1.2
POPM	**Popiglio**	**0.23**	**100**	P	Pg	14 43 02.8	+0.5
POPM				S	Sg	14 43 06.5	+1.2
MTCR	**Monte La Croce**	**0.40**	**98**	AML	AML		
	comp=E,40μm,1.6s						
MTCR				AML	AML		
	comp=E,40μm,1.6s						
MTCR				AML	AML		
	comp=N,75μm,1.6s						
MTCR				AML	AML		
	comp=N,75μm,1.6s						
PLMA	**Palmaria, Port**	**0.43**	**265**	S	Sg	14 43 07.0	-4.8
COR1	**Corinaldo**	**1.90**	**103**	AML	AML		
	comp=E,120μm,1.6s						
COR1				AML	AML		
	comp=N,130μm,1.6s						
COR1				AML	AML		
	comp=N,130μm,1.6s						
COR1				AML	AML		
	comp=E,120μm,1.6s						
VCEL	**Villa Celiera**	**3.00**	**123**	AML	AML		
	comp=N,190μm,1.2s						
VCEL				AML	AML		
	comp=E,177μm,0.1s						
VCEL				AML	AML		
	comp=E,177μm,0.1s						
VCEL				AML	AML		
	comp=N,190μm,1.2s						
LPEL	**Lama dei Pelig**	**3.41**	**125**	AML	AML		
	comp=E,291μm,0.1s						
LPEL				AML	AML		
	comp=E,291μm,0.1s						
LPEL				AML	AML		
	comp=N,307μm,0.6s						
LPEL				AML	AML		
	comp=N,307μm,0.6s						

ISCJB ***02*** *14:44:45.6±0.5, 28°.26S±0°.05×67°.55W±0°.06, h130km, mb3.4/2, Error ellipse: s-maj=7.9km s-min=5.3km az=37.4*
SJA ***02*** *14:44:45.3±0.6, 28°.30S×67°.55W, h138km±3km, ML3.7, MW4.1*
IDC ***02*** *14:44:45.6±1.6, 28°.30S×67°.52W, h123km±15km, mb3.4/2, mb1 3.5/5, mb1mx3.3/25, mbtmp3.7/5, Error ellipse: s-maj=31.2km s-min=15.8km az=103.0*

ISC 02 14:44:45.9±0.8, 28°.22S±0°.05×67°.59W±0°.06, h130km, n28, σ0§93/34, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.75**	**227**	*e*P	**Pn**	**14 45 07.4**	**+0.6**
VCA				*e*S	**Sn**	**14 45 24.1**	**+1.4**
VCA				IAML		14 45 27.2	
	comp=Z,5μm,0.5s						
ACLC	**CERRO LA CRUZ**	**1.32**	**155**	*e*P	**Pn**	**14 45 12.7**	**+0.4**
ACLC				*e*S	**Sn**	**14 45 32.4**	**+0.1**
AGUA	**GUANDACOL**	**1.49**	**212**	*e*P	**Pn**	**14 45 14.3**	**+0.3**
AGUA				*e*S	**Sn**	**14 45 35.5**	**+0.1**
CYA	**Choya**	**1.59**	**98**	*e*P	**Pn**	**14 45 15.6**	**+0.6**
CYA				*e*S	**Sn**	**14 45 37.1**	**-0.2**
CYA				IAML		14 45 37.9	
	comp=Z,527nm,0.3s						
APLL	**PUNTA DE LOS L**	**2.35**	**157**	*e*P	**Pn**	**14 45 24.2**	**-0.1**
APLL				IAML		14 45 53.2	
	comp=Z,249nm,0.4s						
ACDV	**Cuesta del Vie**	**2.36**	**214**	*e*P	**Pn**	**14 45 25.0**	**+0.5**
ACDV				IAML		14 45 56.3	
	comp=Z,226nm,0.7s						
AHML	**Horco Molle**	**2.46**	**55**	*e*P	**Pn**	**14 45 26.2**	**+0.5**
FSA	**Cafayete**	**2.54**	**35**	*e*P	**Pn**	**14 45 28.6**	**+1.7**
ACCO	**Cerro Coronel**	**2.69**	**208**	*e*P	**Pn**	**14 45 29.2**	**+0.4**
AMOG	**MOGNA**	**2.82**	**196**	*e*P	**Pn**	**14 45 30.1**	**-0.2**
RTLL	**Cerro Villicun**	**3.19**	**194**	*e*P	**Pn**	**14 45 35.0**	**-0.1**
GO04	**Tololo Observa**	**3.42**	**235**	*e*P	**Pn**	**14 45 37.4**	**-0.7**
CFA	**Coronel Fontan**	**3.42**	**189**	*e*P	**Pn**	**14 45 37.8**	**-0.2**
CFA	**Coronel Fontan**	**3.42**	**189**	P	**Pn**	**14 45 37.8**	**-0.2**
	comp=Z,5.0nm,0.3s,baz=17,slow=12,SNR=191						
CFA				S	**Sn**	**14 46 16.2**	**-2.1**
	comp=Z,33nm,0.3s,baz=292,slow=19,SNR=25						
RTCV	**Cerro Valdivia**	**3.72**	**193**	*e*P	**Pn**	**14 45 42.0**	**0.0**
RTLS	**Leoncito**	**3.86**	**202**	*e*P	**Pn**	**14 45 44.3**	**+0.2**
RTLS				IAML		14 46 31.2	
	comp=Z,61nm,0.3s						
TCA	**Tanti**	**4.05**	**141**	*e*P	**Pn**	**14 45 46.0**	**-0.4**
ACAN	**Cantantal**	**4.05**	**175**	*e*P	**Pn**	**14 45 46.5**	**+0.1**
AUSP	**Uspallata**	**4.28**	**201**	*e*P	**Pn**	**14 45 49.9**	**+0.2**
MRA	**San Martin**	**4.48**	**159**	*e*P	**Pn**	**14 45 51.6**	**-0.6**
MRA				IAML		14 46 43.7	
	comp=Z,86nm,0.6s						
LVC	**Limon Verde**	**5.72**	**348**	P	**Pn**	**14 46 09.1**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=180,slow=9.4,SNR=11						
LVC				S	**Sn**	**14 47 10.4**	**-3.4**
	comp=Z,5.1nm,0.3s,baz=282,slow=18,SNR=8.1						
CPUP	**Villa Florida**	**9.32**	**81**	P	**Pn**	**14 46 56.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=243,slow=6.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**78.59**	**68**	P	**P**	**14 56 33.3**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=284,slow=5.3,SNR=7.5						
PDAR	**Pinedale Array**	**80.51**	**330**	P	**P**	**14 56 44.4**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=131,slow=7.6,SNR=4.1						
ASAR	**Alice Springs**	**124.41**	**204**	PKP	**PKPdf**	**15 03 29.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=134,slow=1.7,SNR=6.8						
WRA	**Warramunga Arr**	**127.63**	**206**	PKP	**PKPdf**	**15 03 36.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=158,slow=1.9,SNR=6.7						
ZALV	**Zalesovo Beam**	**147.32**	**30**	PKPbc	**PKPbc**	**15 04 15.1**	**+1.3**
	comp=Z,1.1nm,0.4s,baz=308,slow=5.3,SNR=5.3						
MKAR	**Makanchi Array**	**150.02**	**44**	PKPbc	**PKiKP**	**15 04 21.8**	**0.0**
	comp=Z,0.8nm,0.7s,baz=318,slow=2.0,SNR=8.0						

ISCJB ***02*** *15:08:05.6±1.6, 22°.52N±0°.06×12°.1W±0°.2, h10km, mb3.8/4, Error ellipse: s-maj=21.4km s-min=7.9km az=171.5*
IDC ***02*** *15:08:08.2±2.5, 22°.78N×12°.02W, h0km, mb3.8/4, mb1 3.9/7, mb1mx3.6/50, mbtmp3.7/7, ML3.8/3, Error ellipse: s-maj=72.9km s-min=27.4km az=89.0*

ISC 02 15:08:08.7±1.6, 22°.56N±0°.08×12°.0W±0°.2, h10km, n15, σ2§31/15, mb4.0/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTIG	**Tnine Tigouga,**	**8.58**	**21**	P	Pn	15 10 04.3	-8.8
TTIG				S	**Sn**	**15 11 50.9**	**+0.9**
OUK	**Oukaimeden**	**9.38**	**22**	P	Pn	15 10 15.9	-8.3
OUK				S	**Sn**	**15 12 13.5**	**+3.5**
OUZM	**OUZ**	**9.55**	**28**	P	Pn	15 10 19.3	-7.2
OUZM				S	**Sn**	**15 12 17.9**	**+3.9**
GOLM	**Goulmima**	**11.07**	**33**	P	**Pn**	**15 10 44.1**	**-3.2**
GOLM				S	Sn	15 13 03.1	+12
MDT	**Midelt**	**12.14**	**31**	Lg	Lg	15 14 23.3	
	0.2nm,0.3s,baz=320,slow=15,SNR=3.8						
MDT	**Midelt**	**12.14**	**31**	P	**Pn**	**15 11 00.3**	**-1.6**
TORD	**Torodi Ar. Bea**	**16.07**	**123**	Pn	**Pn**	**15 11 55.7**	**+0.8**
	0.3nm,0.3s,baz=316,slow=13,SNR=14						
TORD				Sn	**Sn**	**15 14 50.8**	**-2.4**
	0.2nm,0.3s,baz=316,slow=25,SNR=4.7						
DBIC	**Dimbokro**	**17.25**	**155**	P	**Pn**	**15 12 12.2**	**+2.3**
	0.3nm,0.3s,baz=338,slow=15,SNR=3.4						
ESDC	**Sonseca Array**	**18.39**	**20**	P	**Pn**	**15 12 21.7**	**-2.1**
	0.1nm,0.3s,baz=222,slow=11,SNR=3.4						
GERES	**GERESS Array B**	**33.23**	**32**	P	**P**	**15 14 44.4**	**-1.6**
	1.1nm,0.8s,baz=216,slow=8.2,SNR=7.8						
BRTR	**Keskin Array B**	**42.19**	**55**	P	**P**	**15 16 02.5**	**+0.5**
	0.8nm,0.8s,baz=267,slow=8.3,S

comp=Z,26nm,20.5s,baz=208,slow=35
LPAZ La Paz 53.69 307 P **P 15 48 39.1 -0.4**
0.6nm,0.3s,baz=174,slow=8.2,SNR=4.1
TORD Torodi Ar. Bea 77.17 28 P **P 15 51 12.4 +1.8**
1.4nm,0.9s,baz=204,slow=5.6,SNR=5.6
ASAR Alice Springs 94.13 162 P **P 15 52 36.0 +0.4**
0.4nm,0.7s,baz=182,slow=4.8,SNR=5.6
ASAR LR LR 16 33 52.6
comp=Z,35nm,18.8s,baz=90,slow=35
INK Inuvik 149.80 315 PKPbc **PKiKP 15 59 05.9 -0.3**
2.3nm,1.0s,baz=70,slow=4.6,SNR=6.0
SONM Songino Array 150.21 94 PKPbc **PKPbc 15 59 06.7 -0.4**
0.6nm,0.7s,baz=249,slow=2.1,SNR=3.6

KRSC 02 15:44:34.0±10.0, 53.72N×168.20E±0.03, h61km±10km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.98**	**320**	*e*P	Pn	15 45 06.4	+1.3
BKI				*e*S	Sn	15 45 32.8	+4.0
MKZ	**Mys Kozlova**	**3.90**	**285**	*e*P	Pn	15 45 34.4	+3.1
MKZ				*e*S	Sn	15 46 20.5	+4.7
KBTR	**Krutoberegovo**	**3.98**	**311**	*e*P	Pn	15 45 34.7	+2.2
KBTR				*e*S	Sn	15 46 22.1	+4.3
KZV	**Kizimen**	**4.83**	**290**	P	Pn	15 45 47.6	+3.4
SPN	**Mys Shipunski**	**4.93**	**266**	*e*S	Sn	15 46 43.5	+2.3
NLC	**Nalytchevo**	**5.32**	**268**	*e*P	Pn	15 45 54.2	+3.4
NLC				*e*S	Sn	15 46 53.0	+2.3
SDLR	**Sedlovina**	**5.58**	**269**	*e*P	Pn	15 45 58.8	+4.3
UGLR	**Uglovaya**	**5.63**	**269**	*e*P	Pn	15 45 59.7	+4.6
SMAR	**Somma**	**5.63**	**269**	P	Pn	15 45 58.6	+3.3
AVH	**Avacha**	**5.67**	**269**	*e*P	Pn	15 46 00.4	+4.7
DALK	**Dalny**	**5.70**	**267**	*e*P	Pn	15 46 00.7	+4.7
DALK				*e*S	Sn	15 47 03.7	+3.8
KOK	**Koryaka**	**5.72**	**270**	*e*P	Pn	15 46 00.8	+4.4
KRMR	**Karymshinskiy**	**6.11**	**266**	*e*P	Pn	15 46 05.0	+3.4
KRMR				*e*S	Sn	15 47 12.5	+2.5
ASAK	**Asacha**	**6.36**	**262**	*e*P	Pn	15 46 09.6	+4.6
KDTR	**Khodutka, Kamc**	**6.44**	**257**	*e*P	Pn	15 46 09.8	+3.7
KDTR				*e*S	Sn	15 47 20.4	+2.4

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*ISCJB **02** 15:46:43.8±1.7, 33.80N±0.05×35.7E±0.1, h22km±12km, Error ellipse: s-maj=15.8km s-min=7.9km az=175.5*
*GRAL **02** 15:46:44.5±0.3, 33.81N×35.78E, h16km±4km, MD2.7*
*NSSC **02** 15:46:45.1±0.3, 33.19N×35.60E, h22km±8km, ML1.4*
ISC 02 15:46:44.5±1.1, 33.81N±0.04×35.78E±0.09, h13km±13km, n9, σ0s59/14, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.14**	**312**	*e*P	**Pg**	**15 46 48.2**	**0.0**
BHL				*e*S	**Sg**	**15 46 51.0**	**+0.2**
DQRL	**Deir Qamar**	**0.20**	**240**	*e*P	**Pg**	**15 46 49.0**	**-0.1**
QRWL	**Qaraoun**	**0.27**	**198**	*e*P	**Pg**	**15 46 49.9**	**-0.3**
QRWL				*e*S	**Sg**	**15 46 54.0**	**0.0**
RCY	**Rachaya**	**0.31**	**172**	*e*P	**Pg**	**15 46 50.7**	**-0.3**
BRBR	**Barbar**	**0.42**	**160**	*e*P	**Pg**	**15 46 52.9**	**0.0**
BRBR				*e*S	**Sg**	**15 46 58.8**	**+0.2**
BRBR				AML	AML	15 47 02.3
	comp=E,36nm,0.4s					
BRBR				AML	AML	15 47 02.3
	comp=N,28nm,0.4s					
SHBL	**Chebaa**	**0.46**	**184**	*e*P	**Pg**	**15 46 53.0**	**-0.6**
HWQ	**Hawqa**	**0.49**	**16**	*e*P	**Pg**	**15 46 53.6**	**-0.6**
QASN	**Qassioun**	**0.49**	**124**	*e*P	**Pn**	**15 46 58.1**	**+0.6**
QASN				AML	AML	15 47 06.1
	comp=E,75nm,0.5s					
QASN				*e*S	**Sn**	**15 47 06.9**	**+0.9**
QASN				AML	AML	15 47 07.6
	comp=N,28nm,0.4s					
TOTH	**TOTAH**	**0.70**	**129**	*e*P	**Pn**	**15 46 59.1**	**-1.1**
TOTH				*e*S	**Sb**	**15 47 08.3**	**+0.1**
TOTH				AML	AML	15 47 17.4
	comp=N,5.6nm,0.5s					
TOTH				AML	AML	15 47 17.9
	comp=E,7.7nm,0.5s					

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*DDA **02** 16:04:47.7, 39.12N×25.96E, h7km±3km, ML3.0*
*ATH **02** 16:04:47.7, 39.13N×25.90E, h24km±1km, ML2.3/7, Error ellipse: s-maj=1.7km s-min=1.0km az=96.0*
*ISCJB **02** 16:04:48.5±0.4, 39.10N±0.02×25.93E±0.04, h12km±3km, Error ellipse: s-maj=4.9km s-min=3.1km az=2.4*
*ISK **02** 16:04:48.4, 39.10N×25.96E, h6km, ML2.5/15*
*THE **02** 16:04:48.5, 39.08N×25.94E, h11km, ML2.4/5, Error ellipse: s-maj=0.9km s-min=0.4km az=83.0*
ISC 02 16:04:48.5±0.8, 39.11N±0.02×25.94E±0.03, h16km±5km, n39, σ0s62/56, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.12**	**326**	PG	**Pg**	**16 04 52.0**	**-0.1**
SIGR				SG	**Sg**	**16 04 54.5**	**0.0**
SIGR	**SIGRI**	**0.12**	**326**	P	**Pg**	**16 04 52.0**	**-0.1**
SIGR				S	**Sg**	**16 04 54.5**	**0.0**
SIGR	**SIGRI**	**0.12**	**326**	P	**Pg**	**16 04 52.0**	**-0.1**
SIGR				AML	AML	16 04 54.7
	comp=E,3763μm,0.3s					
SIGR				AML	AML	16 04 54.9
	comp=N,4272μm,0.3s					
PRK	**Paraskevi**	**0.29**	**62**	P	**Pb**	**16 04 55.0**	**-0.3**
PRK				S	**Sb**	**16 04 59.1**	**-0.8**
PRK	**Paraskevi**	**0.29**	**62**	P	**Pb**	**16 04 55.0**	**-0.3**
PRK				S	**Sb**	**16 04 59.3**	**-0.6**
PRK				AML	AML	16 04 59.5
	comp=N,1305μm,0.2s					
PRK				AML	AML	16 05 01.1
	comp=E,1249μm,0.4s					
GPNR	**Gulpinar-Canak**	**0.38**	**23**	PG	**Pg**	**16 04 55.9**	**-0.3**
GPNR				SG	**Sb**	**16 05 02.6**	**+0.2**
AYVA	**Ayvalik**	**0.61**	**71**	*i* P	**Pg**	**16 05 00.1**	**-0.5**
AYVA				*i* S	**Sg**	**16 05 08.3**	**-0.4**
PSRA	**Psara**	**0.64**	**208**	P	**Pg**	**16 05 00.9**	**-0.2**
PSRA				S	**Sb**	**16 05 10.3**	**+0.3**
PSRA				AML	AML	16 05 13.9
	comp=E,1655μm,0.1s					
PSRA				AML	AML	16 05 14.0
	comp=N,2462μm,0.3s					
CHOS	**Chios island**	**0.73**	**173**	PG	**Pg**	**16 05 02.4**	**-0.3**
CHOS				SG	**Sb**	**16 05 13.3**	**+0.7**
CHOS	**Chios island**	**0.73**	**173**	P	**Pg**	**16 05 01.8**	**-0.9**
CHOS				S	**Sg**	**16 05 12.0**	**-0.4**
CHOS	**Chios island**	**0.73**	**173**	P	**Pg**	**16 05 01.9**	**-0.8**
CHOS				S	**Sg**	**16 05 12.6**	**+0.2**
CHOS				AML	AML	16 05 14.9
	comp=E,937μm,0.3s					
CHOS				AML	AML	16 05 16.0
	comp=N,529μm,0.3s					
BOZC	**Bozcaada**	**0.73**	**7**	PG	**Pg**	**16 05 02.6**	**-0.3**
BOZC				SG	**Sb**	**16 05 14.4**	**+1.6**
BOZC	**Bozcaada**	**0.73**	**7**	*i* P	**Pg**	**16 05 02.6**	**-0.3**
BOZC				*i* S	**Sg**	**16 05 12.3**	**-0.3**
EZN	**Ezine**	**0.77**	**22**	PG	**Pg**	**16 05 03.1**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.78**	**36**	IAML_P			
	comp=Z,2μm,0.1s						
BAYC				*i* P	**Pg**	**16 05 03.4**	**-0.4**
BAYC				*i* S	**Sb**	**16 05 14.3**	**+0.1**
ZEDA	**zmir-Bergama**	**0.90**	**99**	*i* P	**Pb**	**16 05 05.7**	**+0.1**
URLA	**Izmir**	**0.91**	**146**	PG	**Pg**	**16 05 05.8**	**-0.3**
URLA	**Izmir**	**0.91**	**146**	IAML_P			
	comp=Z,3μm,0.1s						
URLA				*i* P	**Pg**	**16 05 05.8**	**-0.3**
ZEY	**zmir**	**0.97**	**153**	IAML_P			
	comp=Z,2μm,0.2s						
ZEY				*i* P	**Pg**	**16 05 06.1**	**-1.3**
LIA	**Limnos Island**	**0.98**	**323**	P	**Pb**	**16 05 07.4**	**+0.3**
LIA				S	**Sn**	**16 05 21.6**	**+0.4**
LIA	**Limnos Island**	**0.98**	**323**	P	**Pg**	**16 05 05.6**	**-1.9**
LIA				S	**Sg**	**16 05 19.2**	**-1.2**
LIA				AML	AML	16 05 21.9
	comp=E,643μm,0.3s					
LIA				AML	AML	16 05 22.3
	comp=N,560μm,0.3s					
BLCB	**Balcova**	**1.12**	**130**	PN	**Pn**	**16 05 10.5**	**+0.9**
GELI	**Tayfur-Gelibol**	**1.35**	**17**	PN	**Pg**	**16 05 14.3**	**-0.2**
SMTH	**Samothraki Isl**	**1.40**	**347**	P	**Pn**	**16 05 13.7**	**+0.4**
SMTH				S	**Sb**	**16 05 32.5**	**+0.7**
SMTH				AML	AML	16 05 35.6
	comp=E,60μm,0.5s					

SMTH				AML	AML	16 05 36.3	
	comp=N,50μm,0.3s						
LPK	**Lapseki**	**1.41**	**26**	PN	**Pg**	**16 05 15.1**	**-0.5**
SMG	**Samos**	**1.57**	**153**	P	**Pn**	**16 05 16.4**	**+0.7**
BALB	**Balikesir**	**1.59**	**70**	PN	**Pb**	**16 05 17.4**	**-0.1**
AOS	**Alonnisos**	**1.61**	**273**	P	**Pn**	**16 05 16.1**	**-0.1**
ERIK	**Erikli-Kesan**	**1.62**	**16**	PN	**Pb**	**16 05 18.4**	**+0.4**
ENEZ	**Enez**	**1.63**	**6**	PN	**Pb**	**16 05 17.9**	**-0.3**
KRBG	**Karabiga-Canak**	**1.65**	**39**	PN	**Pn**	**16 05 17.9**	**+1.1**
THAS	**Thassos island**	**1.77**	**328**	P	**Pn**	**16 05 18.5**	**+0.1**
THAS				AML	AML	16 05 40.3	
	comp=N,68μm,0.3s						
THAS				AML	AML	16 05 40.9	
	comp=E,28μm,0.3s						
ALN	**Alexandroupoli**	**1.79**	**2**	PN	**Pb**	**16 05 20.9**	**+0.1**
ALN	**Alexandroupoli**	**1.79**	**2**	P	**Pn**	**16 05 18.7**	**+0.1**
ALN				S	**Sn**	**16 05 41.7**	**+0.7**
ALN	**Alexandroupoli**	**1.79**	**2**	P	**Pn**	**16 05 18.8**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.84**	**31**	PN	**Pb**	**16 05 21.9**	**+0.1**
DION	**Dionisos Attik**	**1.88**	**237**	P	**Pn**	**16 05 20.3**	**+0.3**
KAVA	**Kavala**	**2.18**	**330**	P	**Pn**	**16 05 24.4**	**+0.3**
KCTX	**Karacabey (Bur**	**2.19**	**57**	PN	**Pb**	**16 05 26.7**	**-1.1**

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*DDA **02** 16:07:25.8, 37.28N×37.08E, h2km±2km, ML2.6*
*ISK **02** 16:07:25.6, 37.33N×37.13E, h6km, ML2.1/6*
*ISCJB **02** 16:07:26.5±0.5, 37.30N±0.03×37.10E±0.04, h6km±5km, Error ellipse: s-maj=5.4km s-min=4.6km az=29.3*
ISC 02 16:07:26.3±1.0, 37.30N±0.03×37.11E±0.03, h9km±8km, n16, σ0s51/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**146**	PG	**Pg**	**16 07 29.7**	**0.0**
GAZ				SG	**Sg**	**16 07 32.3**	**+0.3**
HCB	**Kahramanmara**	**0.16**	**285**	IAML_P			
	comp=Z,7μm,0.1s						
HCB				*i* P	**Pg**	**16 07 29.2**	**-0.6**
KMRS	**Kahramanmaras**	**0.26**	**321**	PG	**Pg**	**16 07 31.1**	**-0.5**
KMRS				SG	**Sg**	**16 07 35.1**	**-0.1**
AYKD	**Aykdinkavak**	**0.26**	**296**	IAML_P			
	comp=Z,7μm,0.2s						
AYKD				*i* P	**Pg**	**16 07 32.5**	**+0.8**
AYKD				*i* S	**Sg**	**16 07 35.9**	**+0.6**
KAMA	**Osmaniye**	**0.37**	**252**	IAML_P			
	comp=Z,2μm,0.1s						
KAMA				*i* P	**Pg**	**16 07 33.2**	**-0.4**
KAMA				*i* S	**Sg**	**16 07 38.4**	**-0.1**
GZT	**Gaziantep**	**0.37**	**81**	IAML_P			
	comp=Z,3μm,0.1s						
GZT				*i* P	**Pg**	**16 07 34.1**	**+0.4**
KUZU	**Kuzuini**	**0.53**	**183**	*i* P	**Pb**	**16 07 37.3**	**-0.5**
ANDN	**Andirin**	**0.67**	**295**	IAML_P			
	comp=Z,2μm,0.2s						
ANDN				*i* P	**Pg**	**16 07 39.0**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.02**	**1**	*i* P	**Pn**	**16 07 47.8**	**+0.8**
KOZT	**Kozan**	**1.03**	**280**	PG	**Pg**	**16 07 46.3**	**+0.1**
KOZT				SG	**Sn**	**16 08 01.0**	**-0.6**
TAHT	**Tahtakopru-Hat**	**1.18**	**219**	PN	**Pg**	**16 07 49.3**	**+0.3**
TAHT				SN	**Sn**	**16 08 06.1**	**+0.8**
AKCD	**Akcadag**	**1.19**	**33**	*i* P	**Pn**	**16 07 50.0**	**+0.7**
AKCD				*i* S	**Sg**	**16 08 04.5**	**-0.1**
YURE	**YUREGIR**	**1.27**	**249**	PN	**Pg**	**16 07 50.9**	**+0.2**
SURC	**SANLIURFA_SURC**	**1.28**	**109**	*i* P	**Pg**	**16 07 50.6**	**-0.2**
DARE	**Darende-Malaty**	**1.30**	**13**	PN	**Pn**	**16 07 50.3**	**-0.5**
URFA	**Urfa**	**1.38**	**84**	PN	**Pn**	**16 07 51.5**	**-0.3**
URFA				SN	**Sg**	**16 08 10.7**	**+0.1**

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*IDC **02** 16:17:45.6±0.7, 52.46N×163.78W, h0km, mb4.2/27, mb1 4.4/28, mb1mx4.2/51, mbtmp4.2/28, ML3.8/1, MS3.3/14, Ms1 3.3/14, ms1mx2.9/45, Error ellipse: s-maj=21.7km s-min=10.6km az=9.0*
*ISCJB **02** 16:17:45.6±1.1, 52.79N±0.03×163.55W±0.03, h5km±7km, mb4.5/177, MS3.4/15, Error ellipse: s-maj=4.3km s-min=2.6km az=12.9*
*MOS **02** 16:17:46.9±1.1, 52.88N×163.47W, h10km, mb4.6/43, Error ellipse: s-maj=9.6km s-min=6.6km az=83.5*
*NEIC **02** 16:17:48.2±0.0, 52.51N×163.62W, h20km, mb4.5/151, ML3.9(AEIC), After AEIC.*
*AEIC **02** 16:17:48.2, 52.51N×163.62W, h20km, ML3.9, MB4.5(NEIC)*
*BJI **02** 16:17:49.0±0.0, 52.94N×163.47W, h36km, mb4.7/27, mB5.0/18, Ms4.6/6, Ms7 4.3/4*
ISC 02 16:17:49.7±0.9, 52.72N±0.05×163.67W±0.03, h24km±6km, n508, σ1s52/521, mb4.5/177, MS3.4/15, 8C, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.86**	**320**	*e*Pn	**Pn**	**16 18 19.9**	**-0.1**
AKSA				*e*Sn	**Sn**	**16 18 43.9**	**+1.1**
WESP	**Westdahl Peak**	**1.88**	**341**	*e*Pn	**Pn**	**16 18 20.9**	**+0.5**
WESP				*e*Sn	**Sb**	**16 18 46.0**	**-0.4**
AKUT	**Akutan**	**1.89**	**319**	*e*Pn	**Pn**	**16 18 20.6**	**+0.2**
AKUT				*e*Sn	**Sn**	**16 18 36.5**	**-6.9**
ZRO	**Akutan Zero**	**1.94**	**316**	*e*Pn	**Pn**	**16 18 21.2**	**0.0**
UNV	**Unalaska Valle**	**2.04**	**305**	*e*Pn	**Pn**	**16 18 22.1**	**-0.4**
UNV				*e*Sn	**Sn**	**16 18 41.7**	**-5.3**
FALS	**False Pass**	**2.14**	**4**	*e*Pn	**Pn**	**16 18 24.2**	**+0.4**
FALS				*e*Sn	**Sn**	**16 18 44.6**	**-5.0**
MSW	**Makushin Switc**	**2.21**	**304**	*e*Pn	**Pn**	**16 18 24.7**	**-0.2**
MSW				*e*Sn	**Sn**	**16 18 51.4**	**-0.1**
MCIR	**Makushin Cirqu**	**2.29**	**304**	*e*Pn	**Pn**	**16 18 26.2**	**+0.2**
DRIA	**Deer Island**	**2.40**	**20**	*e*Pn	**Pn**	**16 18 26.9**	**-0.5**
DTI	**Dutton Round H**	**2.53**	**18**	*e*Pn	**Pn**	**16 18 28.8**	**-0.3**
DOL	**Dolgoi Island**	**2.65**	**23**	*e*Pn	**Pn**	**16 18 31.3**	**+0.4**
OKER	**Okmok East Rim**	**2.74**	**287**	*e*Pn	**Pn**	**16 18 31.3**	**-0.9**
PS4A	**Pavlof South-4**	**2.84**	**21**	*e*Pn	**Pn**	**16 18 34.3**	**+0.9**
OKAK	**Okmok**	**2.95**	**289**	*e*Pn	**Pn**	**16 18 33.4**	**-1.6**
NIKH	**Nikolski High**	**3.15**	**277**	*e*Pn	**Pn**	**16 18 35.5**	**-2.3**
SDPT	**Sand Point**	**3.24**	**34**	*e*Pn	**Pn**	**16 18 39.3**	**+0.4**
SDPT				*e*Sn	**Sn**	**16 19 14.7**	**-1.9**
VNWF	**Veniaminof 8**	**4.19**	**33**	*e*Pn	**Pn**	**16 18 53.1**	**+1.0**
VNHG	**Veniaminof 1**	**4.38**	**35**	*e*Pn	**Pn**	**16 18 55.9**	**+1.1**
CHGN	**Chignik**	**4.71**	**38**	*e*Pn	**Pn**	**16 18 59.8**	**+0.6**
CHGN				*e*Sn	**Sn**	**16 19 52.2**	**-0.8**
SPIA	**Saint Paul Isl**	**5.85**	**322**	*e*Pn	**Pn**	**16 19 14.5**	**-0.3**
ATKA	**Atka Island**	**6.45**	**270**	*e*Pn	**Pn**	**16 19 22.6**	**-0.4**
ATKA				*e*Sn	**Sn**	**16 20 32.2**	**-3.7**
SII	**Sitkinak Islan**	**6.71**	**51**	*e*Pn	**Pn**	**16 19 26.1**	**-0.6**
SII				*e*Sn	**Sn**	**16 20 37.8**	**-4.6**
OHAK	**Old Harbor**	**7.48**	**49**	*e*Pn	**Pn**	**16 19 36.6**	**-0.6**
GSMY	**Great Sitkin M**	**7.61**	**270**	*e*Pn	**Pn**	**16 19 39.1**	**+0.1**
GSTD	**Great Sitkin T**	**7.66**	**270**	*e*Pn	**Pn**	**16 19 39.6**	**-0.1**
ADK	**Adak**	**8.02**	**269**	*e*Pn	**Pn**	**16 19 44.3**	**-0.3**
ADK				*e*Sn	**Sn**	**16 21 08.2**	**-6.2**
KDAK	**Kodiak Island**	**8.11**	**47**	*e*Pn	**Pn**	**16 19 43.9**	**-1.9**
KDAK				*e*		16 19 44.5	
KDAK	**Kodiak Island**	**8.11**	**47**	*ce*P	**Pn**	**16 19 44.6**	**-1.2**
KDAK	**Kodiak Island**	**8.11**	**47**	Pn	**Pn**	**16 19 44.2**	**-1.5**
	1.3nm,0.3s,baz=189,slow=5.2,SNR=33						
KDAK				Sn	**Sn**	**16 21 11.2**	**-5.3**
	0.7nm,0.3s,baz=338,slow=23,SNR=5.9						
KIWB	**Kanaga Island**	**8.31**	**269**	*e*Pn	**Pn**	**16 19 48.7**	**+0.1**
SVW2	**Sparrevohn**	**9.48**	**25**	*e*Pn	**Pn**	**16 20 05.0**	**+0.4**
HOM	**Homer**	**9.64**	**39**	*e*Pn	**Pn**	**16 20 08.3**	**+1.5**
RSO	**Redoubt South**	**9.81**	**33**	*e*Pn	**Pn**	**16 20 09.4**	**+0.2**
BRLK	**Bradley Lake**	**10.01**	**40**	*e*Pn	**Pn**	**16 20 11.0**	**-0.8**
SEW	**Seward**	**10.79**	**41**	*e*Pn	**Pn**	**16 20 22.6**	**+0.3**
SUA	**Susitna One**	**11.21**	**34**	*e*Pn	**Pn**	**16 20 27.8**	**-0.5**
RC01	**Rabbit Creek A**	**11.30**	**37**	*e*Pn	**Pn**	**16 20 28.8**	**-0.7**
GAMB	**Gambell**	**11.85**	**342**	*e*Pn	**Pn**	**16 20 38.3**	**+1.5**
PPLA	**Purkeypile**	**11.87**	**26**	*e*Pn	**Pn**	**16 20 39.2**	**+1.8**
ANM	**Nome**	**11.91**	**356**	*e*Pn	**Pn**	**16 20 38.9**	**+1.2**
KNK	**Knik Glacier**	**11.98**	**37**	*e*Pn	**Pn**	**16 20 35.8**	**-3.1**
GHO	**Glory Hole Cre**	**12.05**	**35**	*e*Pn	**Pn**	**16 20 37.3**	**-2.5**
SML	**Sawmill**	**12.29**	**36**	*e*Pn	Pn	16 20 38.0	-5.0
SML	**Sawmill**	**12.29**	**36**	*e*P	Pn	16 20 38.0	-5.0
CAST	**Castle Rocks**	**12.33**	**25**	*e*Pn	**Pn**	**16 20 43.9**	**+0.4**
SCM	**Sheep Creek Mo**	**12.67**	**38**	*e*Pn	**Pn**	**16 20 44.2**	**-4.0**
SCM	**Sheep Creek Mo**	**12.67**	**38**	*e*P	**Pn**	**16 20 44.2**	**-4.0**
DIV	**Divide**	**12.86**	**42**	*e*Pn	**Pn**	**16 20 47.8**	**-3.1**
KLU	**Klutina**	**13.00**	**41**	*e*Pn	**Pn**	**16 20 50.5**	**-2.3**
HMT	**Hamilton**	**13.11**	**47**	*e*Pn	**Pn**	**16 20 53.5**	**-0.7**
BPAW	**Bear Paw Mtn.**	**13.17**	**25**	*e*Pn	**Pn**	**16 20 53.1**	**-1.9**
RND	**Reindeer**	**13.23**	**30**	*e*Pn	**Pn**	**16 20 52.6**	**-3.3**
RND	**Reindeer**	**13.23**	**30**	*e*P	**Pn**	**16 20 52.6**	**-3.3**
MCK	**McKinley**	**13.45**	**29**	*e*Pn	**Pn**	**16 20 56.6**	**-2.1**
MCK	**McKinley**	**13.45**	**29**	*e*P	**Pn**	**16 20 56.6**	**-2.1**
DHY	**Denali Highway**	**13.47**	**33**	*e*Pn	**Pn**	**16 20 55.9**	**-3.3**
BWN	**Browne**	**13.63**	**27**	*e*Pn	**Pn**	**16 21 00.5**	**-0.7**
HARP	**HAARP**	**13.83**	**38**	*e*Pn	**Pn**	**16 21 02.7**	**-1.3**
MLY	**Manley**	**13.99**	**23**	*e*Pn	**Pn**	**16 21 05.7**	**-0.5**
PAX	**Paxson**	**14.06**	**36**	*e*Pn	**Pn**	**16 21 04.0**	**-3.1**
PAX	**Paxson**	**14.06**	**36**	*e*P	**Pn**	**16 21 04.1**	**-3.1**
IMAR	**Indian Mountai**	**14.20**	**17**	*e*Pn	**Pn**	**16 21 09.7**	**+0.7**
WRH	**Wood River Hil**	**14.25**	**28**	*e*Pn	**Pn**	**16 21 06.1**	**-3.6**
BALM	**Baldy**	**14.27**	**46**	*e*Pn	**Pn**	**16 21 10.5**	**+0.4**
BALM	**Baldy**	**14.27**	**46**	*e*P	**Pn**	**16 21 10.5**	**+0.4**
CCB	**Clear Creek Bu**	**14.46**	**28**	*e*Pn	**Pn**	**16 21 08.4**	**-4.1**
HDA	**Harding Lake**	**14.54**	**30**	*e*Pn	**Pn**	**16 21 09.1**	**-4.5**
HDA	**Harding Lake**	**14.54**	**30**	P	**Pn**	**16 21 09.4**	**-4.2**
	baz=224						
MDM	**Murphy Dome**	**14.58**	**27**	*e*Pn	**Pn**	**16 21 10.2**	**-4.0**
COLA	**College**	**14.62**	**27**	*i* P	**Pn**	**16 21 10.6**	**-4.1**
MENT	**Mentasta**	**14.68**	**38**	*e*Pn	**Pn**	**16 21 12.9**	**-2.7**
CTGM	**Chitina Glacie**	**14.68**	**47**	*e*Pn	**Pn**	**16 21 15.3**	**-0.5**
RIDG	**Independent Ri**	**14.77**	**34**	*e*Pn	**Pn**	**16 21 13.7**	**-3.0**
ILAR	**Eielson Array**	**14.82**	**29**	*e*Pn	**Pn**	**16 21 13.5**	**-3.9**
ILAR	**Eielson Array**	**14.82**	**29**	*e*P	**Pn**	**16 21 13.5**	**-3.9**
ILAR	**Eielson Array**	**14.82**	**29**	Pn	**Pn**	**16 21 12.8**	**-4.6**
	0.2nm,0.3s,baz=221,slow=13,SNR=14						
ILAR				LR	LR	16 27 12.9	
	comp=Z,93nm,19.7s,baz=274,slow=38						
ILB	**Eielson Array**	**14.82**	**29**	*e*Pn	**Pn**	**16 21 13.1**	**-4.3**
DOT	**Dot Lake**	**14.98**	**35**	*e*Pn	**Pn**	**16 21 14.9**	**-4.7**
	9.3nm,0.7s						
SCRK	**Sand Creek**	**15.21**	**35**	*e*Pn	**Pn**	**16 21 18.8**	**-4.0**
	12nm,0.7s						
RDOG	**Red Dog Mine**	**15.39**	**1**	*e*Pn	**Pn**	**16 21 24.1**	**-0.8**
	10nm,0.8s						
BCAR	**Beaver Creek A**	**15.49**	**39**	*e*Pn	**Pn**	**16 21 24.4**	**-1.9**
PRP	**Porcupine Dome**	**15.76**	**29**	*e*Pn	**Pn**	**16 21 26.4**	**-3.5**
	4.6nm,0.7s						
COLD	**Coldfoot**	**15.97**	**19**	*e*Pn	**Pn**	**16 21 30.9**	**-1.6**
	6.9nm,0.8s						
FYU	**Fort Yukon**	**16.61**	**26**	*e*Pn	**Pn**	**16 21 37.2**	**-3.4**
	30nm,1.8s						
EGAK	**Eagle**	**16.67**	**35**	*e*Pn	**Pn**	**16 21 38.5**	**-2.9**
	30nm,1.4s						
DAWY	**Dawson**	**16.92**	**38**	*e*Pn	**Pn**	**16 21 43.2**	**-1.4**
	11nm,0.6s						
TOLK	**Toolik Lake Re**	**17.32**	**17**	*e*Pn	**Pn**	**16 21 46.4**	**-3.1**
	16nm,0.8s						
TOLK	**Toolik Lake Re**	**17.32**	**17**	P	**P**	**16 21 50.1**	**-0.6**
	baz=210,SNR=19						
JIS	**Juneau Island**	**17.41**	**60**	*e*Pn	**Pn**	**16 21 47.3**	**-3.3**
	14nm,0.9s						
BMAR	**Burnt Mountain**	**17.43**	**25**	*e*Pn	**Pn**	**16 21 46.7**	**-4.1**
WHY	**Whitehorse**	**17.57**	**52**	*e*Pn	**Pn**	**16 21 51.9**	**-0.9**
	7.4nm,0.9s						
CRAG	**Craig**	**18.05**	**69**	*e*Pn	**P**	**16 22 00.8**	**+1.9**
	182nm,1.8s						
EPYK	**Eagle Plains**	**19.10**	**34**	*e*P	**Pn**	**16 22 11.4**	**+0.1**
	34nm,1.4s						
EPYK	**Eagle Plains**	**19.10**	**34**	P	**Pn**	**16 22 11.5**	**+0.1**
	baz=237,SNR=8.8						
DLBC	**Dease Lake**	**19.71**	**60**	*e*P	**Pn**	**16 22 18.6**	**-0.1**
	71nm,1.9s						
DLBC	**Dease Lake**	**19.71**	**60**	P	**Pn**	**16 22 19.9**	**+1.3**
	0.1nm,0.3s,baz=311,slow=7.1,SNR=6.5						
INK	**Inuvik**	**21.19**	**31**	*e*P	**P**	**16 22 33.8**	**+0.8**
INK	**Inuvik**	**21.19**	**31**	*e*P	**P**	**16 22 33.8**	**+0.8**
PEA0B	**Petropavlovsk-**	**23.11**	**286**	*e*P	**P**	**16 22 54.2**	**+0.7**
	91nm,1.4s						
PEA0B	**Petropavlovsk-**	**23.11**	**286**	*e*P	**P**	**16 22 54.2**	**+0.7**
PEA0B				pmax	pmax		
	comp=Z,91nm,1.4s						
PETK	**Petropavlovsk-**	**23.11**	**

NEW	Newport	29.54	80	eP	P	16 23 52.9	+0.8
	comp=Z,19nm,0.7s						
NEW	Newport	29.54	80	eP	P	16 23 52.9	+0.8
NEW				pmax	pmax		
	comp=Z,19nm,0.7s						
NEW	Newport	29.54	80	P	P	16 23 53.0	+0.8
	baz=296,SNR=17						
NEW	Newport	29.54	80	P	P	16 23 53.4	+1.3
	comp=Z,20nm,0.7s,baz=298,slow=7.8,SNR=31						
NEW				LR	LR	16 33 17.1	
	comp=Z,66nm,19.8s,baz=328,slow=31						
M02C	Callahan	29.64	96	P	P	16 23 53.7	+0.6
	baz=306						
E09A	Wood Farm, Sta	29.73	84	eP	P	16 23 54.5	+0.7
	comp=Z,6.5nm,0.9s						
KMRM	Mail Ridge	29.83	99	eP	P	16 23 55.8	+1.0
	comp=Z,111nm,2.0s						
G08A	Pilot Rock	29.85	86	eP	P	16 23 55.3	+0.3
	comp=Z,4.6nm,1.1s						
K05A	Summer Lake	30.05	92	eP	P	16 23 57.9	+1.0
	comp=Z,7.1nm,1.0s						
I07A	Izee	30.15	89	eP	P	16 23 58.2	+0.5
	comp=Z,8.0nm,1.1s						
WDC	Whiskeytown Da	30.32	97	eP	P	16 23 59.8	+0.8
	comp=Z,24nm,1.9s						
WDC	Whiskeytown Da	30.32	97	eP	P	16 23 59.8	+0.8
WDC				pmax	pmax		
	comp=Z,24nm,1.9s						
O02D	Mt. Diablo Mer	30.41	98	P	P	16 24 01.4	+1.5
	baz=308						
F10A	Beach Ranch, E	30.55	84	eP	P	16 24 01.8	+0.6
	comp=Z,2.3nm,0.8s						
MOD	Modoc Plateau	30.88	93	eP	P	16 24 04.7	+0.5
	comp=Z,7.7nm,1.3s						
O03E	Paynes Creek	30.93	97	P	P	16 24 04.9	+0.3
	baz=308						
BMO	Blue Mountains	31.08	86	eP	P	16 24 06.2	+0.4
	comp=Z,5.2nm,1.4s						
BMO	Blue Mountains	31.08	86	eP	P	16 24 06.2	+0.4
BMO				pmax	pmax		
	comp=Z,5.0nm,1.4s						
J08A	Circle Bar Ran	31.17	89	eP	P	16 24 07.6	+0.9
	comp=Z,5.5nm,1.1s						
GDXM	Geysers	31.27	100	eP	P	16 24 07.6	+0.1
	comp=Z,20nm,1.6s						
WVOR	Wild Horse Val	31.59	91	eP	P	16 24 10.5	+0.1
	comp=Z,4.0nm,1.0s						
WVOR	Wild Horse Val	31.59	91	eP	P	16 24 10.5	+0.1
WVOR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PLID	Pearl Lake	31.75	84	eP	P	16 24 12.5	+0.6
	comp=Z,2.5nm,0.8s						
MSO	Missoula	32.11	80	eP	P	16 24 14.9	0.0
	comp=Z,48nm,1.8s						
MSO	Missoula	32.11	80	P	P	16 24 15.1	+0.2
	baz=299,SNR=7.9						
RUBR	Rubicon Trail	32.70	97	eP	P	16 24 19.4	-0.9
	comp=Z,35nm,0.8s						
PAHR	Pah Rah Range	32.76	95	eP	P	16 24 18.9	-1.8
	comp=Z,4.3nm,0.9s						
PNTR	Pine Nut	33.02	97	eP	P	16 24 22.5	-0.5
	comp=Z,6.1nm,0.9s						
YERR	Yerington	33.30	96	eP	P	16 24 25.5	+0.1
	comp=Z,9.0nm,1.1s						
HRY	Holter Researc	33.43	79	eP	P	16 24 27.2	+0.7
WAKR	Walker	33.48	97	eP	P	16 24 27.5	+0.5
	comp=Z,4.0nm,0.9s						
LRM	Limekiln Ridge	33.51	81	eP	P	16 24 23.8	-3.5
HLID	Hailey	33.53	86	eP	P	16 24 27.6	+0.3
	comp=Z,3.6nm,0.8s						
HLID	Hailey	33.53	86	P	P	16 24 28.3	+1.0
	baz=303,SNR=7.9						
MLOA	Mauna Loa Obse	33.72	166	eP	P	16 24 29.9	+0.4
	comp=Z,102nm,1.3s						
MCMT	McKenzie Canyo	33.79	83	eP	P	16 24 30.2	+0.4
SDHHI	Sand Hill	33.90	166	eP	P	16 24 32.1	+1.3
	comp=Z,288nm,1.5s						
KVN	Kaiserville	33.95	95	eP	P	16 24 31.6	+0.5
	comp=Z,4.4nm,1.1s						
KVN	Kaiserville	33.95	95	eP	P	16 24 31.6	+0.5
KVN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
RYN	Ryan	33.96	96	eP	P	16 24 31.8	+0.6
	comp=Z,5.0nm,1.0s						
EGMT	Eagleton	34.03	76	eP	P	16 24 31.9	+0.3
	comp=Z,18nm,1.4s						
EGMT	Eagleton	34.03	76	P	P	16 24 31.9	+0.3
	baz=298						
BOZ	Bozeman (W)	34.12	81	eP	P	16 24 32.8	+0.3
	comp=Z,7.6nm,0.7s						
BOZ	Bozeman (W)	34.12	81	eP	P	16 24 32.8	+0.3
BOZ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BOZ	Bozeman (W)	34.12	81	P	P	16 24 32.5	+0.1
	baz=301,SNR=15						
NVAR	Mina Array Bea	34.22	96	P	P	16 24 34.5	+1.0
	comp=Z,3.3nm,0.8s,baz=295,slow=8.9,SNR=20						
TIXI	Tiksi	34.23	329	eP	P	16 24 33.5	+0.5
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TIXI	Tiksi	34.23	329	P	P	16 24 33.4	+0.4
	comp=Z,0.6nm,0.4s,baz=118,slow=16,SNR=4.6						
MDPB	Devils Postpil	34.26	98	eP	P	16 24 33.6	-0.3
	comp=Z,7.2nm,0.8s						
NV11	Mina Array Sit	34.30	96	eP	P	16 24 34.6	+0.5
	comp=Z,0.6nm,1.5s						
OMMB	Old Mammoth Mi	34.32	98	eP	P	16 24 35.0	+0.5
	comp=Z,3.3nm,0.9s						
RES	Resolute Bay	34.54	26	eP	P	16 24 36.8	+1.2
	comp=Z,15nm,1.8s						
RES	Resolute Bay	34.54	26	eP	P	16 24 36.8	+1.2
RES				pmax	pmax		
	comp=Z,15nm,1.8s						
QLMT	Earthquake Lak	34.64	82	eP	P	16 24 37.0	-0.1
ELK	Elko	34.65	90	eP	P	16 24 37.5	+0.4
	comp=Z,2.8nm,0.9s						
PAGB	Antelope Grade	34.83	102	eP	P	16 24 39.5	+1.0
	comp=Z,10nm,1.2s						
GCMT	Greycliff	35.19	79	eP	P	16 24 42.6	+0.8
H17A	Grant Village	35.39	82	eP	P	16 24 44.7	+1.1
	comp=Z,9.1nm,0.9s						
H17A	Grant Village	35.39	82	P	P	16 24 45.2	+1.6
	baz=303						
LKWY	Lake	35.40	81	eP	P	16 24 44.8	+1.1
	comp=Z,14nm,0.7s						
IMW	Indian Meadow	35.44	83	eP	P	16 24 44.9	+0.8
	comp=Z,6.6nm,0.8s						
VES	Vestal, Richgr	35.45	100	P	P	16 24 44.4	+0.6
	baz=312						
FLWY	Flagg Ranch	35.49	82	eP	P	16 24 45.5	+1.2
	comp=Z,4.9nm,0.8s						
FFC	Flin Flon	35.53	62	eP	P	16 24 44.7	+0.4
	comp=Z,2.3nm,0.8s						
FFC	Flin Flon	35.53	62	ceP	P	16 24 45.5	+1.2
FXWY	Fox Creek	35.53	83	eP	P	16 24 44.5	-0.4
	comp=Z,13nm,1.8s						
MOOW	Moose Ponds	35.64	83	eP	P	16 24 46.6	+0.9
	comp=Z,2.2nm,0.9s						
CWC	Cottonwood Cre	35.65	99	P	P	16 24 45.8	+0.1
	baz=312						
TPAW	Teton Pass	35.66	83	eP	P	16 24 46.4	+0.4
	comp=Z,9.2nm,1.3s						
RLMT	Red Lodge	35.78	80	eP	P	16 24 47.7	+0.7
	comp=Z,16nm,1.0s						
RLMT	Red Lodge	35.78	80	P	P	16 24 47.8	+0.9
	baz=302,SNR=7.4						
REDW	Red Top Meadow	35.79	83	eP	P	16 24 47.8	+0.7
	comp=Z,15nm,1.3s						
LOHW	Long Hollow	35.80	83	eP	P	16 24 47.6	+0.5
	comp=Z,3.4nm,0.9s						
R11A	Troy Canyon, C	35.91	94	eP	P	16 24 48.5	+0.5
	comp=Z,5.1nm,1.0s						
R11A	Troy Canyon, C	35.91	94	P	P	16 24 48.3	+0.2
	baz=309,SNR=10						
ISA	Isabella, Lake	35.93	100	eP	P	16 24 48.0	-0.1
	comp=Z,5.2nm,1.0s						
ISA	Isabella, Lake	35.93	100	eP	P	16 24 48.0	-0.1
ISA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ISA	Isabella, Lake	35.93	100	P	P	16 24 48.0	-0.1
	baz=312						
AHID	Auburn Hatcher	35.98	85	eP	P	16 24 49.0	+0.4
	comp=Z,7.5nm,0.8s						
DAC	Darwin (Calif)	36.05	98	eP	P	16 24 49.3	+0.1
	comp=Z,4.0nm,0.8s						
DAC	Darwin (Calif)	36.05	98	eP	P	16 24 49.3	+0.1
DAC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARVC	Arvin	36.08	101	P	P	16 24 51.5	+2.2
	baz=313,SNR=6.5						
MPMC	Manual Prospec	36.26	99	P	P	16 24 51.9	+0.9
	baz=312						
FURC	Furnace Creek,	36.36	98	P	P	16 24 53.0	+1.4
	baz=311						
DUG	Dugway, Tooele	36.45	89	eP	P	16 24 53.3	+0.7
	comp=Z,6.4nm,1.1s						
DUG	Dugway, Tooele	36.45	89	eP	P	16 24 53.3	+0.7
DUG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
DUG	Dugway, Tooele	36.45	89	P	P	16 24 53.1	+0.5
	baz=307						
BW06	Boulder Array	36.91	83	eP	P	16 24 57.0	+0.5
	comp=Z,11nm,1.1s						
BW06	Boulder Array	36.91	83	P	P	16 24 57.1	+0.5
	baz=305						
PD31	Pinedale Array	36.91	83	eP	P	16 24 56.8	+0.2
	comp=Z,10nm,1.1s						
PDAR	Pinedale Array	36.91	83	eP	P	16 24 56.6	+0.1
PDAR	Pinedale Array	36.91	83	P	P	16 24 56.8	+0.2
	comp=Z,5.9nm,0.8s,baz=309,slow=5.4,SNR=31						
GSC	Goldstone, Bar	37.18	99	eP	P	16 24 58.5	-0.2
	comp=Z,6.3nm,0.9s						
GSC	Goldstone, Bar	37.18	99	eP	P	16 24 58.5	-0.2
GSC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GSC	Goldstone, Bar	37.18	99	P	P	16 24 58.8	+0.1
	baz=312,SNR=7.0						
BFSC	Mount Baldy Ra	37.39	101	P	P	16 25 01.2	+0.6
	baz=314						
CIS	Catalina Islan	37.53	103	P	P	16 25 01.9	+0.2
	baz=315						
HEC	Hector,Ludlow	37.78	99	P	P	16 25 04.2	+0.4
	baz=313						
FCC	Fort Churchill	38.00	52	eP	P	16 25 05.2	0.0
	comp=Z,7.1nm,1.2s						
FCC	Fort Churchill	38.00	52	eP	P	16 25 05.3	0.0
FCC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GMRC	Granite Mounta	38.22	99	P	P	16 25 07.6	0.0
	baz=313						
PFO	Pinyon Flats O	38.54	101	eP	P	16 25 10.1	-0.2
	comp=Z,3.4nm,0.9s						
PFO	Pinyon Flats O	38.54	101	eP	P	16 25 10.1	-0.2
PFO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PFO	Pinyon Flats O	38.54	101	P	P	16 25 10.5	+0.2
	baz=314						
PFO	Pinyon Flats O	38.54	101	P	P	16 25 09.8	-0.5
	comp=Z,2.7nm,0.6s,baz=256,slow=3.2,SNR=3.8						
BELC	Belle Mtn. Jos	38.55	100	P	P	16 25 10.4	0.0
	baz=314						
K22A	Casper	38.81	81	eP	P	16 25 12.5	0.0
	comp=Z,8.5nm,0.8s						
K22A	Casper	38.81	81	P	P	16 25 12.4	0.0
	baz=305						
RWWY	Rawlins	38.96	83	eP	P	16 25 12.7	-1.2
	comp=Z,8.3nm,1.0s						
MONP2	Monument Peak	39.07	101	P	P	16 25 15.2	+0.4
	baz=315						
W13A	Hualapai Mount	39.07	97	eP	P	16 25 14.8	-0.1
	comp=Z,4.3nm,0.8s						
U15A	North Rim	39.15	94	eP	P	16 25 16.2	+0.6
	comp=Z,6.6nm,0.9s						
O20A	White River Ci	39.27	86	eP	P	16 25 16.0	-0.4
	comp=Z,20nm,0.9s						
O20A	White River Ci	39.27	86	P	P	16 25 15.8	-0.6
	baz=308						
IKP	In-Ko-Pah, Jac	39.43	101	P	P	16 25 18.0	+0.3
	baz=315						
RSSD	Black Hills	39.46	78	P	P	16 25 17.9	-0.1
	baz=304						
PDMCI	Parker Dam,Lak	39.46	98	P	P	16 25 18.0	+0.2
	baz=313						
KLR	Kul'dur	39.59	292	i P	P	16 25 19.6	+0.8
KLR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KLR	Kul'dur	39.59	292	P	P	16 25 18.6	-0.2
	comp=Z,0.5nm,0.3s,baz=25,slow=4.9,SNR=4.5						
Y12C	Blythe	39.61	99	eP	P	16 25 18.6	-0.5
	comp=Z,6.4nm,0.8s						
Y12C	Blythe	39.61	99	P	P	16 25 18.5	-0.5
	baz=314						
PV17	East Wray Mesa	39.98	89	eP	P	16 25 21.5	-0.9
	comp=Z,6.9nm,1.0s						
PV16	Nyswonger Mesa	39.99	89	eP	P	16 25 21.8	-0.6
	comp=Z,4.9nm,1.1s						
MDND	Maddock	40.02	70	eP	P	16 25 22.2	-0.1
	comp=Z,25nm,0.8s						
MDND	Maddock	40.02	70	P	P	16 25 22.5	+0.2
	baz=302						
PV11	David Mesa, Pa	40.02	89	eP	P	16 25 22.7	0.0
	comp=Z,9.9nm,1.1s						
PV05	Paradox Valley	40.03	89	eP	P	16 25 23.1	+0.2
	comp=Z,25nm,1.7s						
PV12	Saucer Basin,	40.06	89	eP	P	16 25 22.9	-0.1
	comp=Z,7.2nm,1.0s						
PV03	Paradox Valley	40.07	89	eP	P	16 25 23.0	-0.2
	comp=Z,4.6nm,0.8s						
PV07	Paradox Valley	40.08	88	eP	P	16 25 22.7	-0.5
	comp=Z,5.1nm,0.9s						
PV13	Radium Mtn., P	40.15	89	eP	P	16 25 23.9	+0.1
	comp=Z,9.9nm,0.9s						
PV13				eS	S	16 31 24.2	-4.7
PV02	Paradox Valley	40.17	89	eP	P	16 25 24.2	+0.2
	comp=Z,7.1nm,1.1s						
N23A	Red Feather La	40.20	83	eP	P	16 25 24.8	+0.6
	comp=Z,8.3nm,1.0s						
N23A	Red Feather La	40.20	83	P	P	16 25 24.2	0.0
	baz=307						
PHWY	Pilot Hill	40.24	82	eP	P	16 25 24.9	+0.3
	comp=Z,8.8nm,1.5s						
PV01	Paradox Valley	40.31	89	eP	P	16 25 24.7	-0.5
	comp=Z,7.7nm,0.9s						
WUAZ	Wupatki	40.31	94	eP	P	16 25 24.2	-0.9
	comp=Z,4.5nm,0.8s						
WUAZ	Wupatki	40.31	94	P	P	16 25 24.5	-0.6
	baz=312						
SMCO	Snowmass	40.63	86	eP	P	16 25 27.5	-0.4
	comp=Z,5.7nm,1.3s						
ULM	Lac du Bonnet	40.88	65	eP	P	16 25 28.9	-0.5
	comp=Z,11nm,0.8s						
ULM	Lac du Bonnet	40.88	65	eP	P	16 25 28.9	-0.5
ULM				pmax	pmax		
	comp=Z,11nm,0.8s						
ULM	Lac du Bonnet	40.88	65	P	P	16 25 29.4	0.0
	comp=Z,9.9nm,0.7s,baz=297,slow=8.3,SNR=22						
S22A	4UR Ranch, Cre	41.62	88	eP	P	16 25 37.0	+1.0
	comp=Z,5.3nm,1.2s						
S22A	4UR Ranch, Cre	41.62	88	P	P	16 25 35.9	-0.1
	baz=310						
X18A	Snowflake	41.84	94	eP	P	16 25 37.8	+0.1
	comp=Z,3.3nm,0.9s						
214A	Organ Pipe Nat	41.89	99	P	P	16 25 37.9	-0.1
	baz=315						
AGMN	Agassiz Nation	41.91	68	eP	P	16 25 37.4	-0.5
	comp=Z,7.7nm,0.8s						
AGMN	Agassiz Nation	41.91	68	P	P	16 25 37.3	-0.5
	baz=302						
SDCO	Great Sand Dun	42.43	87	eP	P	16 25 41.8	-0.8
	comp=Z,5.2nm,0.9s						
SDCO	Great Sand Dun	42.43	87	P	P	16 25 42.0	-0.6
	baz=310						
TUC	Tucson	42.86	97	eP	P	16 25 46.1	+0.2
	comp=Z,6.0nm,1.0s						
TUC	Tucson	42.86	97	eP	P	16 25 46.1	+0.2
TUC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TUC	Tucson	42.86	97	P	P	16 25 45.4	-0.5
	baz=314						
MDJ	Mudanjiang	43.35	287	P	P	16 25 49.0	-0.6
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MDJ				pmax	pmax		
	comp=Z,150nm,5.4s						
T25A	Trinidad	43.48	87	eP	P	16 25 51.7	+0.7
	comp=Z,8.2nm,0.9s						
T25A	Trinidad	43.48	87	P	P	16 25 51.5	+0.5
	baz=310,SNR=5.5						
TASM	ASL Pad, Albuq	43.68	91	P	P	16 25 51.1	-1.5
	baz=312						
TASM	ASL Pad, Albuq	43.68	91	P	P	16 25 51.1	-1.5
	baz=312						
ANMO	Albuquerque	43.68	91	eP	P	16 25 50.6	-2.0
	comp=Z,3.6nm,1.0s						
ANMO	Albuquerque	43.68	91	ceP	P	16 25 51.6	-1.1
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ANMO	Albuquerque	43.68	91	P	P	16 25 51.4	-1.3
	baz=312						
ANMO	Albuquerque	43.68	91	P	P	16 25 53.0	+0.3
	comp=Z,1.9nm,0.9s,baz=308,slow=7.6,SNR=4.3						
ECSD	EROS Data Cent	44.06	74	eP	P	16 25 53.5	-1.8
	comp=Z,3.2nm,0.8s						
ECSD	EROS Data Cent	44.06	74	P	P	16 25 54.3	-1.1
	baz=306						
BNM	Barren Site	44.12	91	eP	P	16 25 54.7	-1.5
BOD	Bodaibo	44.44	311	eP	P	16 25 57.5	-0.7
BOD				pmax	pmax		
	comp=Z,5.0nm,1.7s						
121A	Cookes Peak, D	44.52	94	P	P	16 25 57.3	-2.1
	baz=314						
EYMN	Ely	44.54	66	eP	P	16 25 58.7	-0.5
	comp=Z,11nm,1.0s						
EYMN	Ely	44.54	66	P	P	16 25 58.3	-0.9
	baz=304						
E38A	The Farm, Brul	45.27	67	P	P	16 26 03.6	-1.4
	baz=305						
F38A	Pierce - Schro	45.47	68	P	P	16 26 06.3	-0.3
	baz=306						
C40A	Isle Royale Na	45.85	65	eP	P	16 26 08.8	-0.7
	comp=Z,38nm,0.9s						
C40A	Isle Royale Na	45.85	65	P	P	16 26 08.9	-0.6
	baz=305						
F39A	Loretta	46.04	68	P	P	16 26 10.5	-0.6
	baz=306						
CN2	Changchun	46.23	289	eP	P	16 26 15.5	+2.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
G39A	Holcombe	46.27	69	P	P	16 26 11.6	-1.3
	baz=306						
F40A	Park Falls	46.48	67	P	P	16 26 13.5	-1.1
	baz=306						
MNTX	Cornudas Mount	46.56	93	eP	P	16 26 14.5	-0.8
	comp=Z,3.6nm,0.8s						
MNTX	Cornudas Mount	46.56	93	P	P	16 26 14.7	-0.6
	baz=314						
H39A	Augusta	46.57	69	P	P	16 26 14.8	-0.4
	baz=307						
FRB	Frobisher Bay	46.62	38	LR	LR	16 46 08.9	
	comp=Z,60nm,19.1s,baz=208,slow=36						
I39A	Houston	46.93	70	P	P	16 26 16.6	-1.5
	baz=307						
H40A	Chili	47.11	69	P	P	16 26 18.6	-0.9
	baz=307						
J39A	Decorah	47.14	71	P	P	16 26 18.5	-1.3
	baz=308						
F41A	Three Lakes	47.16	67	P	P	16 26 18.8	-1.1
	baz=307						
J40A	Soldiers Grove	47.66	71	P	P	16 26 22.5	-1.3
	baz=308						
NRIK	Noril'sk	47.73	333	P	P	16 26 25.3	+1.3
	comp=Z,2.4nm,0.7s,baz=68,slow=7.2,SNR=6.7						
NRIK				LR	LR	16 47 26.0	
	comp=Z,22nm,20.5s,baz=45,slow=37						
K40A	Colesburg	47.86	71	P	P	16 26 24.3	-1.0
	baz=308						
J41A	Loganville	48.09	70	P	P	16 26 26.0	-1.2
	baz=308						
F43A	Flat Rock, Esc	48.18	66	P	P	16 26 27.6	-0.2
	baz=307						
L40A	Anamosa	48.21	72	P	P	16 26 27.7	-0.3
	baz=309						
I42A	Draeger Farm,	48.40	69	P	P	16 26 28.3	-1.1
	baz=308						
H43A	Windswept, Lux	48.68	68	P	P	16 26 30.3	-1.3
	baz=308						
KSRS	Korea Array	48.79	280	P	P	16 26 33.2	+0.8
	comp=Z,0.9nm,0.8s,baz=44,slow=7.8,SNR=4.3						
DAG	Danmarks Havn	48.88	10	i P	P	16 26 34.1	+1.4
DAG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DAG	Danmarks Havn	48.88	10	i P	P	16 26 34.1	+1.4
	comp=Z,4.9nm,0.7s						
TX31	Lajitas Ar. Si	49.28	94	eP	P	16 26 36.2	-0.2
	comp=Z,11nm,1.1s						
TXAR	Lajitas Array	49.28	94	eP	P	16 26 36.0	-0.5
TXAR	Lajitas Array	49.28	94	eP	P	16 26 36.0	-0.5
TXAR	Lajitas Array	49.28	94	P	P	16 26 36.8	+0.3
	comp=Z,5.0nm,0.8s,baz=227,slow=6.6,SNR=3.5						
SPA0	Spitsbergen Ar	49.36	360	eP	P	16 26 36.3	-0.1
	comp=Z,25nm,1.3s						
SPITS	Spitsbergen Ar	49.36	360	P	P	16 26 37.4	+1.0
	comp=Z,3.4nm,0.7s,baz=52,slow=5.7,SNR=8.0						
SUMG	Summit	49.37	19	eP	P	16 26 37.9	+0.9
	comp=Z,9.2nm,0.7s						
SUMG	Summit	49.37	19	i P	P	16 26 38.3	+1.3
SUMG				pmax	pmax		
	comp=Z,22nm,0.7s						
SUMG	Summit	49.37	19	i P	P	16 26 38.3	+1.3
	comp=Z,22nm,0.7s						
E46A	Sault Ste Mari	49.43	64	P	P	16 26 36.7	-0.6
	baz=308						
G45A	Suttons Bay	49.51	66	P	P	16 26 37.2	-0.8
	baz=308						
E47A	Iron Bridge	49.94	63	P	P	16 26 39.6	-1.6
	baz=308						
D48A	Paudash Townsh	50.28	61	P	P	16 26 42.9	-0.9
	baz=308						
HDIL	Hopedale	50.29	73	P	P	16 26 43.8	-0.1
	baz=310						
D49A	Beulah Townshi	50.46	61	P	P	16 26 43.6	-1.5
	baz=308						
E48A	Lockeyer	50.52	62	P	P	16 26 44.9	-0.7
	baz=309						
R41A	Rosebud	50.55	76	P	P	16 26 44.8	-1.1
	baz=311						
S41A	Jillco Farms,	50.80	77	P	P	16 26 45.1	-2.7
	baz=312						
JCT	Junction City	50.81	90	eP	P	16 26 47.2	-0.8
	comp=Z,11nm,0.8s						
JCT	Junction City	50.81	90	eP	P	16 26 47.2	-0.8
JCT				pmax	pmax		
	comp=Z,11nm,0.8s						
JCT	Junction City	50.81	90	P	P	16 26 47.5	-0.5
	baz=315						
MATQ	Matagami	50.84	57	P	P	16 26 46.7	-1.3
	baz=308						
WHTX	Lake Witney,	51.18	86	P	P	16 26 50.8	0.0
	baz=314						
W39A	Magazine	51.19	81	P	P	16 26 48.8	-2.0
	baz=313						
U41A	Viola	51.53	78	P	P	16 26 51.5	-1.8
	baz=312						
D51A	Lot 18 Range I	51.62	60	P	P	16 26 52.7	-1.2
	baz=309						
TOBO	Tobermory, Bru	51.66	63	P	P	16 26 53.2	-0.9
	baz=310						
MIAR	Mount Ida	51.76	81	P	P	16 26 54.4	-0.7
	baz=313						
E51A	G1948 Merrick	51.91	61	P	P	16 26 54.9	-1.1
	baz=310						
Q45A	Warren Harvey,	52.04	73	P	P	16 26 55.8	-1.3
	baz=312						
F51A	Arnstein	52.08	62	P	P	16 26 56.3	-1.0
	baz=310						
W41B	Gary Mavity, V	52.13	80	P	P	16 26 56.3	-1.4
	baz=313						
S44A	Carbondale	52.20	75	P	P	16 26 55.7	-2.5
	baz=312						
D52A	ZEK Kipawa Sen	52.20	60	P	P	16 26 57.2	-1.0
	baz=310	

baz=310
ALGO Algonquin Park 53.05 61 P **P 16 27 04.0 -0.5**
baz=310
E54A Lac Daplat, Po 53.20 60 P **P 16 27 05.0 -0.5**
baz=310
SADO Sadowa 53.24 62 LR LR 16 50 26.8
comp=Z,32nm,18.4s,baz=176,slow=37
PEMO Pembroke 53.66 60 P **P 16 27 07.9 -1.0**
baz=311
N50A Nevada 53.67 68 P **P 16 27 08.0 -1.1**
baz=312
ULN Ulaanbaatar 53.70 303 *e*P **P 16 27 08.7 -0.7**
comp=Z,4.1nm,0.7s
ULN Ulaanbaatar 53.70 303 *ce*P **P 16 27 10.4 +1.0**
ULN pmax pmax
comp=Z,2.0nm,0.8s
BANO Bancroft 53.73 61 P **P 16 27 08.5 -1.0**
baz=311
SCO Scoresbysund 54.05 15 *e*P **P 16 27 15.7 +4.3**
SCO Scoresbysund 54.05 15 *i*P **P 16 27 15.7 +4.3**
SONA0 Songino Array 54.05 304 *e*PcP **PcP 16 28 15.8 -0.8**
SONM Songino Array 54.05 304 *e*P **P 16 27 11.7 -0.3**
SONM *e*PcP **PcP 16 28 16.6 0.0**
SONM Songino Array 54.05 304 *e*P **P 16 27 11.7 -0.3**
SONM *e* 16 28 16.7
SONM Songino Array 54.05 304 P **P 16 27 13.2 +1.2**
comp=Z,1.2nm,0.9s,baz=62,slow=6.9,SNR=6.7
SONM PcP **PcP 16 28 15.8 -0.8**
comp=Z,1.2nm,0.7s,baz=76,slow=3.2,SNR=5.2
PLVO Plevna 54.17 61 P **P 16 27 11.9 -0.8**
baz=311
G55A Calabogie 54.22 60 P **P 16 27 12.6 -0.5**
baz=311
V47A Nunnelly 54.49 76 P **P 16 27 14.9 -0.2**
baz=313
H56A Elgin 54.90 61 P **P 16 27 17.5 -0.5**
baz=312
PECO Prince Edward 54.95 62 P **P 16 27 17.6 -0.7**
baz=312
LNIG Linares 55.06 94 *e*P **P 16 27 17.4 -2.1**
comp=Z,3.7nm,0.9s
R51A Hillsboro 55.09 71 P **P 16 27 17.9 -1.5**
baz=313
M55A Ridgway 55.65 65 P **P 16 27 22.8 -0.7**
baz=313
HHC Hu-ho-hao-te 55.99 294 *e*P **P 16 27 29.3 +3.3**
HHC pmax pmax
comp=Z,50nm,1.0s
HHC pmax pmax
comp=Z,120nm,6.1s
P55A Reedsville 56.40 67 P **P 16 27 28.3 -0.6**
baz=313
Z50A Ashland 57.23 77 P **P 16 27 32.9 -1.8**
baz=315
ARA0 ARCESS Array S 57.87 356 *e*P **P 16 27 40.0 +1.2**
ARCES ARCESS Array B 57.87 356 P **P 16 27 40.0 +1.2**
comp=Z,2.4nm,0.8s,baz=8.6,slow=6.7,SNR=9.1
NJ2 Nanjing 57.91 282 *e*P **P 16 27 39.7 +0.1**
NJ2 pmax pmax
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 59.44 320 *e*P **P 16 27 49.6 -0.3**
ZALV Zalesovo Beam 59.44 320 *e*P **P 16 27 49.6 -0.3**
ZALV Zalesovo Beam 59.44 320 LR LR 16 54 09.7
comp=Z,28nm,21.7s,baz=74,slow=37
DGZ Jazzator, Alta 61.59 316 *i*P **P 16 28 05.6 +0.7**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
WHN Wuhan 61.66 284 *e*P P 16 28 11.1 +5.7
XAN Xi'an 62.28 290 P **P 16 28 08.0 -1.6**
XAN pP sP 16 28 16.9 -0.6
XAN pmax pmax
comp=Z,3.0nm,1.3s
757A Oxford 62.62 78 P **P 16 28 10.6 -1.2**
baz=317
GTA Gaotai 63.35 301 *e*P **P 16 28 17.6 +0.8**
GTA pP sP 16 28 26.4 +2.1
GTA sP pwP 16 28 30.1 -1.2
GTA pmax pmax
comp=Z,3.0nm,1.0s
LZH Lanzhou 63.63 295 *e*P **P 16 28 18.1 -0.6**
LZH pP pwP 16 28 33.3 +0.1
LZH sP sP 16 28 39.0 +13
LZH PP **PP 16 30 38.8 +0.5**
LZH pmax pmax
comp=Z,17nm,1.4s
LZH pmax pmax
comp=Z,96nm,4.8s
PRGR Permogore 63.63 345 P **P 16 28 18.0 -0.1**
PRGR pmax pmax
comp=Z,7.0nm,0.7s
KURK Kurchatov 64.34 321 *e*P **P 16 28 24.1 +1.2**
comp=Z,8.0nm,1.3s
KURK Kurchatov 64.34 321 *ce*P **P 16 28 25.2 +2.3**
KURK pmax pmax
comp=Z,3.0nm,1.3s
BRVK Borovoye 65.36 328 *i*P **P 16 28 31.1 +1.6**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 65.81 336 P **P 16 28 33.7 +1.4**
FINES FINESS Array B 65.92 355 P **P 16 28 34.0 +1.1**
comp=Z,3.3nm,1.0s,baz=347,slow=7.8,SNR=4.2
WMQ Urumqi 65.98 311 *e*P **P 16 28 36.2 +2.4**
WMQ pP pwP 16 28 47.4 -0.9
WMQ LR LR
comp=Z,810nm,25.5s
WMQ LR LR
comp=Z,440nm,24.1s
MK31 Makanchi Array 66.01 317 *e*P **P 16 28 34.1 +0.2**
comp=Z,1.3nm,0.8s
MK31 Makanchi Array 66.01 317 *e*P **P 16 28 34.1 +0.2**
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 66.01 317 *e*P **P 16 28 33.5 -0.4**
MKAR Makanchi Array 66.01 317 *ce*P P 16 28 38.9 +5.0
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 66.01 317 P **P 16 28 34.3 +0.4**
comp=Z,0.9nm,0.7s,baz=45,slow=6.4,SNR=10
MKAR LR LR 16 58 30.5
comp=Z,14nm,19.4s,baz=355,slow=37
MAKZ Makanchi 66.13 317 *e*P **P 16 28 34.5 -0.1**
comp=Z,6.9nm,1.4s
MAKZ Makanchi 66.13 317 *e*P **P 16 28 34.5 -0.1**
MAKZ pmax pmax
comp=Z,7.0nm,1.4s
CD2 Chengdu 67.52 292 *e*P **P 16 28 41.6 -2.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
PPT Papeete 71.06 166 LR LR 16 51 49.6
comp=Z,62nm,21.2s,baz=178,slow=29
OBN Obninsk 71.23 348 *e*P **P 16 29 08.4 +2.2**
OBN *i* 16 29 14.9
OBN pmax pmax
comp=Z,6.0nm,0.9s
ABKAR Akbulak array 71.87 332 *e*P **P 16 29 11.0 +0.8**
comp=Z,2.7nm,0.8s
ABKAR *e*P **P 16 29 11.0 +0.8**
KDJ Kajisay 71.93 317 *e*P **P 16 29 12.1 +1.2**
comp=Z,3.4nm,1.2s
KDJ Kajisay 71.93 317 *e*P **P 16 29 12.1 +1.2**
KDJ pmax pmax
comp=Z,3.0nm,1.2s
AAK Ala-Archa 72.60 319 *e*P **P 16 29 15.7 +0.8**
comp=Z,3.4nm,0.8s
AAK Ala-Archa 72.60 319 *ce*P **P 16 29 16.9 +2.0**
AAK pmax pmax
comp=Z,1.0nm,0.7s
KK31 Karatay Array 73.75 322 *e*P **P 16 29 22.5 +1.0**
comp=Z,3.8nm,0.8s
KK31 Karatay Array 73.75 322 *e*P **P 16 29 22.5 +1.0**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 73.75 322 *e*P **P 16 29 21.4 0.0**
KKAR *e*P **pP 16 29 22.4 -4.7**
KKAR Karatay Array 73.75 322 *e*P **P 16 29 21.5 0.0**
KKAR *e* 16 29 22.4
KSH Kashi 74.61 316 P **P 16 29 29.8 +3.1**
KSH PcP **pwP 16 29 44.4 +3.1**
KSH sP PcP 16 29 47.6 +6.6
KSH S **S 16 38 59.4 -1.4**
KSH ScS **SKSac 16 39 33.8 +0.4**
KSH pmax pmax
comp=Z,7.0nm,0.4s
KSH pmax pmax
comp=Z,97nm,3.7s
KSH LR LR
comp=Z,130nm,4.7s
KSH LR LR
comp=Z,110nm,5.1s
LSA Lhasa 75.36 300 *e*P **P 16 29 32.9 +1.3**
comp=Z,3.2nm,0.7s
LSA Lhasa 75.36 300 *e*P **P 16 29 32.9 +1.3**
LSA pmax pmax
comp=Z,3.0nm,0.7s
BTK Batken 76.25 320 *e*P **P 16 29 37.3 +1.3**
comp=Z,19nm,1.9s
AKASG Malin Array Be 76.38 352 *e*P **P 16 29 36.0 -0.4**
AKASG Malin Array Be 76.38 352 P **P 16 29 36.8 +0.4**
comp=Z,1.1nm,0.5s,baz=13,slow=5.8,SNR=8.1
AKBB Malin Array Si 76.38 352 *e*P **P 16 29 36.8 +0.4**
comp=Z,4.4nm,1.2s
KIEV Kiev 76.38 352 *e*P **P 16 29 36.7 +0.2**
comp=Z,23nm,2.0s
KIEV Kiev 76.38 352 *e*P **P 16 29 36.7 +0.2**
KIEV pmax pmax
comp=Z,23nm,2.0s
SDDR Presa de Saban 76.55 76 *e*P **P 16 29 37.0 -0.9**
comp=Z,32nm,1.9s
GAR Garm 77.36 320 *e*P **P 16 29 42.8 +0.4**
comp=Z,30nm,1.9s
GAR Garm 77.36 320 *e*P **P 16 29 42.8 +0.4**
GAR pmax pmax
comp=Z,30nm,1.9s
KHC Kasperske Hory 78.49 2 *e*P **P 16 29 50.0 +1.6**
KHC Kasperske Hory 78.49 2 *e*P **P 16 29 50.0 +1.6**
GEC2 GERESS Array S 78.78 2 *e*P **P 16 29 50.8 +0.7**
comp=Z,4.1nm,1.5s
GEC2 GERESS Array S 78.78 2 *e*P **P 16 29 50.8 +0.7**
GEC2 pmax pmax
comp=Z,4.0nm,1.5s
GERES GERESS Array B 78.78 2 *e*P **P 16 29 51.2 +1.1**
GERES GERESS Array B 78.78 2 *e*P **P 16 29 51.2 +1.1**
GERES GERESS Array B 78.78 2 P **P 16 29 51.6 +1.5**
comp=Z,0.6nm,0.7s,baz=0.0,slow=2.0,SNR=4.0
VYHS Vyhne 79.14 358 *e*P **P 16 29 53.7 +1.8**
VYHS Vyhne 79.14 358 *e*P **P 16 29 53.7 +1.8**
JIRN Jiri 79.58 302 *e*P **P 16 29 55.7 +0.6**
comp=Z,34nm,0.8s
PSZ Piszkesteto 79.69 358 *e*P **P 16 29 56.3 +1.3**
comp=Z,20nm,1.9s
BUR08 Bucovina Ar. S 79.72 354 *e*P **P 16 29 56.0 +0.8**
comp=Z,2.2nm,0.8s
BURAR Bucovina Array 79.75 354 *e*P **P 16 29 56.0 +0.7**
CM31 Chiang Mai Arr 79.89 287 *e*P **P 16 29 56.3 -0.1**
comp=Z,6.2nm,1.3s
CMAR Chiang Mai Arr 79.89 287 *e*P **P 16 29 55.9 -0.5**
CMAR Chiang Mai Arr 79.89 287 *e*P **P 16 29 55.9 -0.5**
CMAR Chiang Mai Arr 79.89 287 P **P 16 29 56.4 0.0**
comp=Z,2.1nm,0.8s,baz=21,slow=5.3,SNR=18
KKN Kakani 79.94 303 *e*P **P 16 29 57.4 +0.5**
PKI Pulchoki 80.06 303 *e*P **P 16 29 58.0 +0.4**
comp=Z,20nm,1.1s
PKIN Phulchoki 80.06 303 *e*P **P 16 29 57.8 +0.2**
comp=Z,10.0nm,0.8s
GKN Gorkha 80.10 303 *e*P **P 16 29 58.0 +0.4**
comp=Z,12nm,0.6s
DMN Daman 80.18 303 *e*P **P 16 29 58.5 +0.3**
comp=Z,9.6nm,0.7s
DANN Dangsing 80.26 304 *e*P **P 16 29 59.3 +0.6**
comp=Z,35nm,0.7s
NIL Nilore 80.74 315 *e*P **P 16 30 01.6 +0.7**
comp=Z,8.3nm,1.0s
NIL Nilore 80.74 315 *e*P **P 16 30 01.6 +0.7**
NIL pmax pmax
comp=Z,8.0nm,1.0s
KOLN Koldanda 80.81 304 *e*P **P 16 30 01.9 +0.4**
comp=Z,7.9nm,0.7s
PYUN Piuthan 80.85 305 *e*P **P 16 30 02.1 +0.4**
comp=Z,24nm,0.9s
KIV Kislovodsk 81.06 341 *e*P **P 16 30 04.0 +1.6**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,84nm,19.0s
KBZ Khabaz 81.23 341 P **P 16 30 05.1 +1.9**
comp=Z,3.5nm,0.9s,baz=28,slow=3.9,SNR=9.1
KBZ LR LR 17 09 43.1
comp=Z,19nm,21.4s,baz=8.0,slow=38
GEYT Alibeck 82.69 328 P **P 16 30 12.2 +1.1**
comp=Z,2μm,1.1s,baz=335,slow=6.6,SNR=5.1
GEYT LR LR 17 09 16.4
comp=Z,28nm,18.9s,baz=280,slow=37
TBLG Delisi 82.76 339 *e*P **P 16 30 12.4 +1.0**
comp=Z,9.2nm,0.6s
TBLG Delisi 82.76 339 *e*P **P 16 30 12.4 +1.0**
TBLG pmax pmax
comp=Z,9.0nm,0.6s
TTG Podgorica 85.19 358 *e*P **P 16 30 23.9 +0.2**
comp=Z,4.7nm,0.9s
TTG Podgorica 85.19 358 *e*P **P 16 30 23.9 +0.2**
TTG pmax pmax
comp=Z,5.0nm,0.9s
ESDC Sonseca Array 86.31 16 *e*P **P 16 30 29.3 -0.1**
ESDC Sonseca Array 86.31 16 P **P 16 30 29.1 -0.3**
comp=Z,0.3nm,0.4s,baz=341,slow=3.9,SNR=4.1
ALN Alexandroupoli 86.38 353 *e*P **P 16 30 30.1 +0.5**
comp=Z,15nm,1.9s
ALN Alexandroupoli 86.38 353 *e*P **P 16 30 30.1 +0.5**
ALN pmax pmax
comp=Z,15nm,1.9s
BRTR Keskin Array B 86.71 347 *e*P **P 16 30 32.0 +0.6**
BRTR Keskin Array B 86.71 347 P **P 16 30 32.4 +1.0**
comp=Z,1.4nm,0.9s,baz=72,slow=4.0,SNR=6.2
BRTR LR LR 17 13 32.7
comp=Z,10nm,19.1s,baz=294,slow=38
WRA Warramunga Arr 90.02 236 P **P 16 30 44.4 -2.7**
comp=Z,1.0nm,0.7s,baz=38,slow=5.1,SNR=8.4
AS31 Alice Springs 93.36 234 *e*P **P 16 31 01.1 -1.4**
comp=Z,1.9nm,1.4s
ASAR Alice Springs 93.36 234 *e*P **P 16 31 00.3 -2.2**
ASAR Alice Springs 93.36 234 *e*P **P 16 31 00.3 -2.2**
ASAR Alice Springs 93.36 234 P **P 16 31 00.9 -1.6**
comp=Z,1.4nm,0.7s,baz=31,slow=3.8,SNR=28

ISCJB ***02*** *16:21:47.5±0.6, 6°.85N±0°.03×73°.17W±0°.04, h155km±5km, mb3.3/1, Error ellipse: s-maj=6.2km s-min=4.5km az=178.8*
RSNC ***02*** *16:21:48.9±0.9, 6°.81N×73°.15W, h149km±5km, ML3.4, Mw3.6*
IDC ***02*** *16:21:52.5±3.5, 6°.67N×74°.75W, h173km±135km, mb3.0/1, mb1 3.4/1, mb1mx2.7/28, mbtmp3.5/1, Error ellipse: s-maj=777.8km s-min=33.4km az=88.0*
ISC 02 16:21:47.5±1.0, 6°.85N±0°.03×73°.14W±0°.04, h156km±6km, n26, σ1§08/47, 6C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.24**	**347⇑**	*e*P	**Pn**	**16 22 09.3**	**+0.6**
GIRC				*e*S	**Sn**	**16 22 25.1**	**+0.1**
GIRC				*i*		16 22 26.5	
comp=Z,230nm,0.4s							
BARC	**Barichara**	**0.26**	**190⇑**	*e*P	**Pn**	**16 22 09.1**	**+0.1**
BARC				*e*S	**Sn**	**16 22 23.8**	**-1.6**
BARC				*i*		16 22 26.7	
comp=Z,427nm,0.3s							
BRRC	**Barranca, Sant**	**0.62**	**295⇑**	*i*P	**Pn**	**16 22 11.0**	**+0.8**
BRRC				*e*S	**Sn**	**16 22 27.8**	**+0.3**
PAMC	**Pamplona, Colo**	**0.66**	**42⇑**	*i*P	**Pn**	**16 22 11.9**	**+0.9**
PAMC				*e*S	**Sn**	**16 22 28.7**	**-0.1**
PAMC				*i*		16 22 31.3	
comp=Z,273nm,0.6s							
RUSC	**La Rusia**	**0.95**	**177⇓**	*i*P	**Pn**	**16 22 12.9**	**-0.1**
RUSC				*e*S	**Sn**	**16 22 31.3**	**-1.2**
RUSC				*i*		16 22 33.4	
comp=N,255nm,0.2s							
PTBC	**PUERTO BERRIO,**	**1.34**	**257⇑**	*e*P	**Pn**	**16 22 15.6**	**-0.3**
PTBC				*e*S	**Sn**	**16 22 37.0**	**-0.8**
PTBC				*i*		16 22 42.6	
comp=N,1μm,0.3s							
OCAC	**Ocana**	**1.40**	**353**	*e*P	**Pn**	**16 22 17.1**	**+0.5**
OCAC				*e*S	**Sn**	**16 22 40.0**	**+1.0**
OCAC				*i*		16 22 44.4	
comp=N,902nm,0.2s							
TAMC	**Tame, Arauca**	**1.40**	**107⇓**	*i*P	**Pn**	**16 22 17.2**	**+0.7**
TAMC				*e*S	**Sn**	**16 22 38.7**	**-0.1**
TAMC				*i*		16 22 39.5	
comp=N,432nm,0.4s							
YOPC	**Yopal, Colombi**	**1.65**	**154⇓**	*e*P	**Pn**	**16 22 19.5**	**+0.3**
YOPC				*e*S	**Sn**	**16 22 42.5**	**-1.0**
YOPC				*i*		16 22 46.7	
comp=N,227nm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	*e*P	**Pn**	**16 22 21.7**	**+0.7**
ZARC				*e*S	**Sn**	**16 22 46.8**	**+0.1**
ZARC				*i*		16 22 54.1	
comp=Z,178nm,0.4s							
NORC	**Norcasia**	**2.14**	**234⇑**	*e*P	**Pn**	**16 22 24.8**	**+0.1**
NORC				*e*S	**Sn**	**16 22 52.6**	**-0.7**
NORC				*i*		16 23 02.5	
comp=Z,86nm,0.2s							
SMLC	**San Martn de**	**2.15**	**335**	*e*P	**Pn**	**16 22 25.3**	**+0.5**
SMLC				*e*S	**Sn**	**16 22 53.5**	**0.0**
SMLC				*i*		16 22 56.0	
comp=N,407nm,0.5s							
ROSC	**El Rosal**	**2.31**	**211**	*e*P	**Pn**	**16 22 28.5**	**+1.4**
ROSC				*e*S	**Sn**	**16 22 59.7**	**+2.2**
ROSC				*i*		16 23 06.9	
comp=Z,160nm,0.4s							
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**16 22 28.6**	**+1.6**
comp=Z,24nm,0.3s,baz=316,slow=5.7,SNR=36							
ROSC				S	**Sn**	**16 22 55.6**	**-2.0**
comp=Z,5.7nm,0.3s,baz=109,slow=18,SNR=2.9							
HELC	**Santa Helena**	**2.46**	**255**	*e*P	**Pn**	**16 22 30.2**	**+1.4**
HELC				*e*S	**Sn**	**16 23 00.7**	**+0.1**
HELC				*i*		16 23 06.7	
comp=N,103nm,0.3s							
UREC	**San Jos de Ur**	**2.54**	**291**	*e*P	**Pn**	**16 22 28.9**	**-0.4**
UREC				*e*S	**Sn**	**16 23 00.1**	**-1.6**
UREC				*i*		16 23 13.2	
comp=N,260nm,0.3s							
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**	**16 22 32.5**	**+0.1**
VILC				*e*S	**Sn**	**16 23 08.0**	**+0.9**
RREF	**El Recreo**	**2.92**	**229**	*e*P	**Pn**	**16 22 35.3**	**+0.6**
RREF				*e*S	**Sn**	**16 23 13.8**	**+2.5**
DBBC	**Dabeiba**	**3.05**	**273**	*e*P	**Pn**	**16 22 36.6**	**+0.8**
CODC	**Agustn Codazz**	**3.08**	**354**	*e*P	**Pn**	**16 22 36.4**	**+0.3**
CODC				*e*S	**Sn**	**16 23 13.8**	**-0.1**
ARGC	**Ariguani, Magd**	**3.19**	**340**	*e*P	**Pn**	**16 22 39.4**	**+1.9**
PRAC	**Prado**	**3.56**	**209**	*e*P	**Pn**	**16 22 42.4**	**+0.1**
PRAC				*e*S	**Sn**	**16 23 24.0**	**-1.0**
PRAC				*i*		16 23 29.9	
comp=N,88nm,0.7s							
SJCC	**San Jacinto, C**	**3.64**	**326**	*e*P	**Pn**	**16 22 43.2**	**-0.1**
SJCC				*e*S	**Sn**	**16 23 24.5**	**-2.2**
SJCC				*i*		16 23 27.0	
comp=N,72nm,0.4s							
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**16 31 59.6**	**+0.6**
comp=N,0.3nm,0.6s,baz=132,slow=6.8,SNR=4.5							
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPbc**	**16 41 17.1**	**-1.2**
comp=N,0.2nm,0.5s,baz=117,slow=3.8,SNR=7.4							
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc	**PKPbc**	**16 41 20.1**	**-1.2**
comp=N,0.6nm,1.0s,baz=108,slow=2.7,SNR=7.7							

ISK ***02*** *16:35:51.9, 37°.33N×37°.15E, h7km, ML2.2/8*
ISCJB ***02*** *16:35:52.5±0.6, 37°.30N±0°.04×37°.11E±0°.04, h7km±6km, Error ellipse: s-maj=7.3km s-min=5.0km az=36.7*
DDA ***02*** *16:35:52.2, 37°.30N×37°.09E, h6km±2km, ML2.9*
ISC 02 16:35:52.4±0.9, 37°.30N±0°.03×37°.12E±0°.03, h10km±8km, n18, σ0§61/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**149**	PG	**Pg**	**16 35 55.8**	**0.0**
GAZ				SG	**Sg**	**16 35 58.4**	**+0.3**
HCB	**Kahramanmara**	**0.17**	**285**	IAML_P			
comp=Z,8μm,0.1s							
HCB				*i* P	**Pg**	**16 35 56.6**	**+0.5**
KMRS	**Kahramanmaras**	**0.27**	**320**	PG	**Pg**	**16 35 57.4**	**-0.4**
KMRS				SG	**Sg**	**16 36 01.6**	**+0.1**
AYKD	**Aykdinkavak**	**0.27**	**295**	IAML_P			
comp=Z,16μm,0.1s							
AYKD				*i* P	**Pb**	**16 35 58.7**	**-0.8**
AYKD				*i* S	**Sg**	**16 36 01.9**	**+0.3**
GZT	**Gaziantep**	**0.36**	**81**	IAML_P			
comp=Z,5μm,0.1s							
GZT				*i* P	**Pb**	**16 36 00.6**	**-0.5**
KAMA	**Osmaniye**	**0.38**	**252**	IAML_P			
comp=Z,5μm,0.2s							
KAMA				*i* P	**Pg**	**16 35 59.6**	**-0.2**
KAMA				*i* S	**Sg**	**16 36 04.2**	**-0.6**
KUZU	**Kuzuini**	**0.53**	**184**	*i* P	**Pb**	**16 36 03.4**	**-0.4**
ANDN	**Andirin**	**0.67**	**295**	IAML_P			
comp=Z,2μm,0.2s							
ANDN				*i* P	**Pg**	**16 36 05.5**	**0.0**
ELBS	**KAHRAMANMARAS**	**1.02**	**1**	*i* P	**Pn**	**16 36 14.4**	**+1.4**
KOZT	**Kozan**	**1.04**	**280**	PG	**Pn**	**16 36 13.0**	**-0.2**
CEYT	**Ceyhan**	**1.13**	**256**	PN	**Pn**	**16 36 14.5**	**+0.2**
AKCD	**Akcadag**	**1.18**	**33**	IAML_P			
comp=Z,1μm,0.2s							
AKCD				*i* P	**Pn**	**16 36 16.5**	**+1.2**
TAHT	**Tahtakopru-Hat**	**1.19**	**219**	PN	**Pn**	**16 36 15.9**	**+0.8**
SURC	**SANLIURFA_SURC**	**1.27**	**109**	IAML_P			
comp=Z,735nm,0.2s							
SURC				*i* P	**Pg**	**16 36 16.4**	**-0.3**
YURE	**YUREGIR**	**1.28**	**249**	PN	**Pg**	**16 36 17.3**	**+0.4**
DARE	**Darende-Malaty**	**1.30**	**13**	PN	**Pg**	**16 36 19.6**	**-0.5**
URFA	**Urfa**	**1.37**	**84**	PN	**Pn**	**16 36 17.4**	**-0.3**
URFA				SN	**Sn**	**16 36 36.4**	**+0.5**
SVRC	**Sivrice-ELAZID**	**2.04**	**58**	PN	**Pn**	**16 36 27.1**	**0.0**

MEX 02 16:37:31.4±0.4, 17°.43N×101°.74W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.31**	**57**	*e*P	Pg	16 37 36.9	-0.6
ZIIG				*i* S	Sg	16 37 41.9	+0.3
CAIG	**El Cayaco**	**1.46**	**105**	*e*P	Pn	16 37 54.2	-4.2
CAIG				*i* S	Sb	16 38 12.8	-5.0
ARIG	**Puente Sto Nin**	**1.57**	**57**	*e*P	Pn	16 37 57.1	-2.9
ARIG				*i* S	Sn	16 38 15.5	-5.3
MMIG	**Aquila**	**1.75**	**299**	*i* P	Pn	16 37 58.6	-3.8
MMIG				*i* S	Sn	16 38 20.4	-4.8
PLIG	**Platanillo**	**2.33**	**66**	*i* P	Pn	16 38 08.0	-2.5
PLIG				*i* S	Sn	16 38 35.5	-4.1

IDC ***02*** *16:43:46.2±3.6, 15°.26S×165°.77E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.7/29, mbtmp4.0/5, ML4.4/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/23, Error ellipse: s-maj=73.5km s-min=29.1km az=68.0*
ISCJB ***02*** *16:43:47.9±0.6, 15°.37S±0°.05×165°.85E±0°.08, h36km, mb4.7/17, MS2.9/1, Error ellipse: s-maj=11.5km s-min=5.1km az=152.1*
NEIC ***02*** *16:43:50.9±1.0, 15°.41S×165°.88E, h47km±9km, mb4.8/14, Error ellipse: s-maj=10.9km s-min=7.2km az=46.0*
ISC 02 16:43:49.9±0.7, 15°.36S±0°.07×165°.88E±0°.10, h36km, n30, σ1§24/36, mb4.8/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**6.42**	**162**	*e*Pn	**Pn**	**16 45 20.7**	**-1.3**
MARNC				*e*Sn	**Sn**	**16 46 31.5**	**-2.6**
DZM	**Mont Dzumac**	**6.70**	**176**	*e*Pn	**Pn**	**16 45 27.1**	**+1.1**
DZM				*e*Sn	**Sn**	**16 46 42.2**	**+1.1**
DZM	**Mont Dzumac**	**6.70**	**176**	Pn	**Pn**	**16 45 27.0**	**+1.1**
6.1nm,0.3s,baz=310,slow=18,SNR=153							
DZM				Sn	**Sn**	**16 46 40.8**	**-0.3**
1.4nm,0.3s,baz=311,slow=19,SNR=3.5							
ONTNC	**Ouen Toro**	**6.94**	**176**	*e*Pn	**Pn**	**16 45 30.0**	**+0.9**
ONTNC				*e*Sn	**Sn**	**16 46 50.5**	**+3.8**
PINNC	**Pines Island,**	**7.37**	**169**	*e*Pn	**Pn**	**16 45 35.8**	**+0.8**
PINNC				*e*Sn	**Sn**	**16 46 58.2**	**+0.9**
HNR	**Honiara**	**8.26**	**315**	*e*Pn	**Pn**	**16 45 47.7**	**+0.4**
HNR				*e*Sn	**Sn**	**16 47 20.0**	**+0.6**
HNR	**Honiara**	**8.26**	**315**	Pn	**Pn**	**16 45 46.7**	**-0.6**
4.8nm,0.3s,baz=181,slow=5.5,SNR=4.1							
HNR				Sn	**Sn**	**16 47 18.6**	**-0.8**
2.3nm,0.3s,baz=127,slow=20,SNR=2.0							
HNR				LR	LR	16 48 35.3	
comp=Z,89nm,19.1s,baz=331,slow=36							
CTAO	**Charters Tower**	**19.28**	**253**	*e*P	**Pn**	**16 48 12.0**	**-0.9**
39nm,1.7s							
OUZ	**Omahuta**	**20.96**	**162**	*e*P	**P**	**16 48 29.9**	**+0.1**
84nm,1.9s							
HIZ	**Hauiti**	**24.39**	**163**	*e*P	**P**	**16 49 04.7**	**-0.2**
304nm,1.9s							
MXZ	**Matakaoa Point**	**24.71**	**156**	*e*P	**P**	**16 49 07.4**	**-0.3**
84nm,1.5s							
URZ	**Urewera**	**24.88**	**159**	*e*P	**P**	**16 49 07.7**	**-1.5**
62nm,1.9s							
CAN	**Canberra**	**24.99**	**214**	*e*P	**P**	**16 49 09.5**	**-0.9**

46nm,1.6s
BKZ Black Stump Fm 25.48 161 *e*P **P 16 49 14.3 -0.5**
42nm,1.4s
BFZ Birch Farm 26.80 162 *e*P **P 16 49 24.3 -2.4**
40nm,1.2s
JAY Jayapura 27.90 295 LR LR 17 00 29.8
comp=Z,30nm,18.2s,baz=316,slow=36
WB2 Warramunga Arr 30.36 257 *e*P **P 16 49 59.1 +0.5**
20nm,1.6s
WR1 Warramunga Arr 30.38 257 *e*P **P 16 49 59.4 +0.6**
WRA Warramunga Arr 30.38 257 *e*P **P 16 49 57.4 -1.4**
WRA Warramunga Arr 30.38 257 P **P 16 49 59.4 +0.6**
0.5nm,0.7s,baz=86,slow=9.7,SNR=11
AS31 Alice Springs 31.20 250 *e*P **P 16 50 05.8 -0.2**
0.9nm,0.6s
ASAR Alice Springs 31.20 250 *e*P **P 16 50 06.0 -0.1**
ASAR Alice Springs 31.20 250 P **P 16 50 07.2 +1.1**
1.7nm,0.5s,baz=73,slow=9.5,SNR=55
FORT Forrest 37.83 239 *e*P **P 16 51 03.7 +0.5**
16nm,1.0s
FITZ Fitzroy Crossi 38.59 260 *e*P **P 16 51 09.6 -0.1**
12nm,1.5s
JOHN Johnston Islan 40.07 38 *e*P **P 16 51 23.7 +1.7**
164nm,1.3s
HLK Haleakala 51.68 47 *e*P **P 16 52 54.0 0.0**
108nm,1.1s
COCO West Island 66.89 263 *e*P **P 16 54 37.4 -1.6**
408nm,1.8s
CMAR Chiang Mai Arr 73.99 295 P **P 16 55 23.3 +1.1**
0.4nm,0.6s,baz=120,slow=6.4,SNR=3.6
QSPA South Pole Qui 74.67 180 *e*P **P 16 55 25.4 -0.3**
3.8nm,1.2s

ISCJB ***02*** *16:45:35.3±0.6, 18°.99S±0°.04×64°.13W±0°.04, h10km, mb3.7/2, Error ellipse: s-maj=5.8km s-min=5.0km az=162.3*
IDC ***02*** *16:45:37.5±3.2, 19°.08S×64°.03W, h35km±28km, mb3.5/2, mb1 3.9/6, mb1mx3.6/35, mbtmp3.8/6, ML4.0/4, MS2.9/6, Ms1 2.9/6, ms1mx2.7/25, Error ellipse: s-maj=27.2km s-min=20.5km az=24.0*
SCB ***02*** *16:45:37.2±8.9, 19°.01S×64°.19W, h16km±125km, ML3.8/2, Error ellipse: s-maj=6.4km s-min=5.0km az=1.0*
ISC 02 16:45:35.9±0.8, 19°.02S±0°.04×64°.15W±0°.05, h10km, n21, σ1°56/25, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BS08	**Valle Grande**	**0.52**	**4**	P	**Pg**	**16 45 46.5**	**+0.3**
BS06	**Camiri**	**1.18**	**150**	S	**Sb**	**16 46 14.4**	**+0.6**
BS06				AML	AML	16 46 17.7	
	2μm,0.4s						
BB02	**La Guardia**	**1.36**	**35**	Pg	**Pb**	**16 46 02.8**	**+1.2**
BB02				Sg	**Sg**	**16 46 23.7**	**+3.8**
BB02				AML	AML	16 46 29.7	
	2μm,0.5s						
BB01	**Montecillos**	**1.41**	**312**	P	**Pn**	**16 46 00.0**	**-2.0**
BB01				S	**Sb**	**16 46 19.3**	**-1.5**
BS10	**CO. Tuti**	**2.25**	**314**	P	**Pn**	**16 46 14.8**	**+1.1**
BS10				S	**Sn**	**16 46 43.2**	**+1.5**
MOCB	**Mochara**	**2.62**	**212**	P	**Pn**	**16 46 18.1**	**-0.7**
MOCB				S	**Sn**	**16 46 52.2**	**+1.3**
SIV	**San Ignacio**	**4.21**	**45**	P	**Pn**	**16 46 39.4**	**-0.9**
SIV				S	**Sn**	**16 47 27.7**	**-1.8**
SIV	**San Ignacio**	**4.21**	**45**	Pn	**Pn**	**16 46 39.4**	**-0.9**
	18nm,0.3s,baz=261,slow=9.7,SNR=166						
SIV				Sn	**Sn**	**16 47 29.3**	**-0.2**
	4.9nm,0.3s,baz=251,slow=14,SNR=6.4						
BBOE	**La Paz, Chanca**	**4.26**	**300**	P	**Pn**	**16 46 42.2**	**+0.8**
BBOJ	**La Paz, Jacaqu**	**4.35**	**297**	P	**Pn**	**16 46 44.0**	**+1.4**
LPAZ	**La Paz**	**4.67**	**305**	P	**Pn**	**16 46 47.0**	**-0.1**
LPAZ				S	**Sn**	**16 47 40.4**	**-1.2**
LPAZ	**La Paz**	**4.67**	**305**	Pn	**Pn**	**16 46 47.4**	**+0.3**
	2.8nm,0.3s,baz=117,slow=9.7,SNR=44						
LPAZ				Sn	**Sn**	**16 47 40.9**	**-0.7**
	14nm,0.3s,baz=5.7,slow=10,SNR=9.3						
LPAZ				LR	LR	16 48 26.5	
	comp=Z,70nm,21.1s,baz=127,slow=35						
BBOB	**La Paz, Bander**	**4.75**	**306**	P	**Pn**	**16 46 48.2**	**0.0**
LVC	**Limon Verde**	**5.71**	**230**	Pn	**Pn**	**16 47 01.8**	**+0.7**
	1.2nm,0.3s,baz=47,slow=11,SNR=7.2						
LVC				LR	LR	16 49 40.2	
	comp=Z,104nm,21.7s,baz=2.0,slow=42						
CPUP	**Villa Florida**	**9.62**	**140**	Pn	Pn	16 47 51.3	-3.3
	0.5nm,0.3s,baz=320,slow=12,SNR=6.7						
CPUP				Lg	Lg	16 50 40.0	
	0.3nm,0.3s,baz=233,slow=20,SNR=2.0						
CPUP				LR	LR	16 52 05.2	
	comp=Z,41nm,20.1s,baz=35,slow=41						
BDFB	**Brasilia**	**15.77**	**80**	LR	LR	16 56 36.6	
	comp=Z,99nm,20.9s,baz=100,slow=42						
ATAH	**Atahualpa**	**18.20**	**309**	LR	LR	16 56 41.0	
	comp=Z,43nm,20.5s,baz=168,slow=36						
PTGA	**Pitinga**	**18.63**	**13**	LR	LR	16 57 42.6	
	comp=Z,36nm,19.0s,baz=138,slow=39						
TORD	**Torodi Ar. Bea**	**72.31**	**69**	P	**P**	**16 56 59.2**	**-3.1**
	1.0nm,0.6s,baz=248,slow=4.4,SNR=7.8						
PDAR	**Pinedale Array**	**74.34**	**327**	P	**P**	**16 57 13.0**	**-1.0**
	0.2nm,0.4s,baz=120,slow=8.4,SNR=2.5						
SONM	**Songino Array**	**150.24**	**13**	PKPbc	**PKPdf**	**17 05 24.6**	**+2.2**
	0.5nm,0.5s,baz=339,slow=2.0,SNR=2.7						

CRAAG ***02*** *18:09:14.8, 35°.88N×0°.00E, Ml3.1*
MDD ***02*** *18:09:20.9±1.1, 35°.45N×0°.22E, h20km±20km, mb3.7/9, Error ellipse: s-maj=18.2km s-min=10.0km az=109.0, PRXIMO*
ISC 02 18:09:21.1±1.4, 35°.55N±0°.05×0°.23E±0°.04, h29km±15km, n33, σ2°19/41, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJBR	**Djebel Berber**	**0.10**	**70**	P	Pb	18 09 20.0	-6.5
OJBR	**Djebel Berber**	**0.10**	**70**	P	Pb	18 09 20.0	-6.5
ODJA	**Bouhanifia**	**0.38**	**235**	P	**Pn**	**18 09 32.0**	**+1.3**
ODJA	**Bouhanifia**	**0.38**	**235**	P	**Pn**	**18 09 32.0**	**+1.3**
OJGS	**Djebel Guires**	**0.42**	**96**	P	**Pb**	**18 09 29.1**	**-1.3**
OJGS	**Djebel Guires**	**0.42**	**96**	P	**Pb**	**18 09 29.1**	**-1.3**
OKGL	**Djebel Kef Gue**	**0.59**	**34**	P	**Pb**	**18 09 33.0**	**-0.1**
	253nm,0.2s,SNR=7.9						
OKGL				S	**Sn**	**18 09 43.5**	**+1.3**
	1μm,0.2s,SNR=7.9						
USTO	**Oran**	**0.66**	**286**	P	**Pn**	**18 09 36.0**	**+1.5**
USTO	**Oran**	**0.66**	**286**	P	**Pn**	**18 09 36.0**	**+1.5**
EANR	**'Ain N'Sour**	**0.81**	**60**	P	**Pn**	**18 09 35.0**	**-1.6**
EANR	**'Ain N'Sour**	**0.81**	**60**	P	**Pn**	**18 09 35.0**	**-1.6**
ECHF	**Ech Chlef**	**1.08**	**56**	P	**Pb**	**18 09 45.0**	**+3.7**
ECHA	**Ech Chlef**	**1.10**	**57**	P	**Pb**	**18 09 45.0**	**+3.5**
EBNR	**Beni Rached**	**1.29**	**55**	P	Pb	18 09 50.0	+5.3
ENIJ	**Nijar**	**2.43**	**306**	P	**Pn**	**18 09 57.8**	**-1.0**
	1.7nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**18 10 24.2**	**-3.3**
	14nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**2.58**	**333**	P	**Pn**	**18 10 01.4**	**+0.6**
	3.0nm,0.4s,SNR=5.2						
EMUR				S	**Sn**	**18 10 28.6**	**-2.6**
	5.4nm,0.3s,SNR=5.0						
JBK	**JBK**	**2.60**	**243**	P	**Pn**	**18 10 02.4**	**+1.1**
EALB	**Alboran**	**2.69**	**279**	P	**Pn**	**18 10 02.9**	**+0.6**
	1.2nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**18 10 32.9**	**-0.9**
	5.8nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.86**	**299**	P	**Pn**	**18 10 05.1**	**+0.2**
	1.0nm,0.2s,SNR=16						
EBER				S	**Sn**	**18 10 37.0**	**-1.4**
	6.7nm,0.4s,SNR=7.9						
TDRA	**Tendrara**	**3.12**	**217**	P	**Pn**	**18 10 10.4**	**+1.8**
EBEN2	**Beniarda presa**	**3.14**	**354**	S	**Sn**	**18 10 44.1**	**-1.0**
	3.0nm,0.1s,SNR=7.9						
ELGU	**Los Guajares,**	**3.39**	**294**	P	**Pn**	**18 10 12.3**	**+0.3**
	1.5nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**18 10 48.8**	**-2.5**
	10.0nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**3.39**	**300**	P	**Pn**	**18 10 13.8**	**+1.6**
	7.3nm,0.4s,SNR=18						
SESP	**Santiago Espad**	**3.40**	**320**	P	**Pn**	**18 10 13.8**	**+1.5**
	9.6nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**18 10 48.5**	**-3.1**
	24nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**3.40**	**320**	P	Pn	18 10 03.3	-9.0
ETOB	**Tobarra**	**3.40**	**336**	P	**Pn**	**18 10 13.6**	**+1.3**
	1.8nm,0.3s,SNR=7.0						
ETOB				S	**Sn**	**18 10 48.0**	**-3.6**
	5.2nm,0.3s,SNR=18						
EQES	**Quesada**	**3.48**	**311**	P	**Pn**	**18 10 15.8**	**+2.5**
	1.7nm,0.2s,SNR=12						
EQES				S	**Sn**	**18 10 51.9**	**-1.7**
	14nm,0.6s						
AKLM	**AKL**	**3.52**	**254**	P	**Pn**	**18 10 16.1**	**+2.3**
EIBI	**Ibiza**	**3.58**	**14**	P	**Pn**	**18 10 17.4**	**+2.8**
	1.4nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**18 10 55.1**	**-0.8**
	3.0nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**3.84**	**295**	P	**Pn**	**18 10 20.9**	**+2.6**
	0.4nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.18**	**285**	P	**Pn**	**18 10 22.9**	**0.0**
	0.7nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**18 11 06.7**	**-4.1**
	3.8nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**5.19**	**301**	P	**Pn**	**18 10 38.1**	**+1.4**
	1.0nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**5.40**	**319**	P	**Pn**	**18 10 40.5**	**+0.8**
	1.5nm,0.4s,SNR=7.9						
PAB				S	**Sn**	**18 11 36.3**	**-4.5**
	0.7nm,0.3s,SNR=7.9						

MEX 02 18:13:27.6±0.4, 13°.79N×92°.35W, h15km±84km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.08**	**336**	*i* P	Pn	18 13 59.2	-2.7
PCIG				*i* S	Sn	18 14 22.9	-4.6
CCIG	**Comitan**	**2.48**	**5**	*i* P	Pn	18 14 05.3	-2.4
CCIG				*i* S	Sn	18 14 34.4	-3.4
CMIG	**Matias Romero**	**4.09**	**324**	*i* P	Pn	18 14 27.4	-2.2
CMIG				*i* S	Sn	18 15 13.5	-3.7

NEIC ***02*** *18:36:35.0±0.6, 29°.19S×69°.30W, h80km±10km, mb4.4/1, MD4.9(SJA), Error ellipse: s-maj=16.3km s-min=7.4km az=94.0*
NEIC Felt [III] at Mendoza.
ISCJB ***02*** *18:36:35.6±0.4, 29°.13S±0°.03×69°.61W±0°.06, h117km±4km, mb4.2/8, Error ellipse: s-maj=8.6km s-min=4.3km az=0.2*
IDC ***02*** *18:36:38.0±0.8, 29°.18S×69°.38W, h112km±6km, mb3.7/6, mb1 3.8/11, mb1mx3.6/28, mbtmp4.1/11, MS2.7/1, Ms1 2.8/1, ms1mx2.3/18, Error ellipse: s-maj=25.1km s-min=8.2km az=82.0*
SJA ***02*** *18:36:37.4±0.7, 29°.27S×69°.58W, h104km±3km, ML3.9, MW4.3*
ISC 02 18:36:36.5±0.6, 29°.15S±0°.04×69°.62W±0°.05, h104km±5km, n64, σ1°35/73, mb4.1/8, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.96**	**278**	*e*Pn	**Pn**	**18 36 58.9**	**+1.8**
LCO	**Las Campanas**	**0.96**	**278**	*e*P	**Pn**	**18 36 59.1**	**+2.0**
AROD	**Rodeo**	**1.02**	**173**	*e*P	**Pn**	**18 36 59.0**	**+1.2**
AROD				*e*S	**Sn**	**18 37 14.7**	**+0.9**
AGUA	**GUANDACOL**	**1.04**	**109**	*e*P	**Pn**	**18 36 58.9**	**+1.1**
AGUA				*e*S	**Sn**	**18 37 14.3**	**+0.5**
ACDV	**Cuesta del Vie**	**1.10**	**157**	*e*P	**Pn**	**18 36 59.5**	**+0.9**
ACDV				*e*S	**Sn**	**18 37 15.4**	**+0.3**
VCA	**Vinchina**	**1.30**	**72**	*e*P	**Pn**	**18 37 03.3**	**+2.5**
VCA				*e*S	**Sn**	**18 37 21.7**	**+2.6**
VCA				IAML		18 37 22.9	
	comp=Z,18μm,0.3s						
ACCO	**Cerro Coronel**	**1.51**	**162**	*e*P	**Pn**	**18 37 04.5**	**+1.0**
GO03	**Copiap**	**1.64**	**340**	*e*Pn	**Pn**	**18 37 07.4**	**+2.5**
AMOG	**MOGNA**	**2.03**	**152**	*e*P	**Pn**	**18 37 10.0**	**+0.3**
ACLC	**CERRO LA CRUZ**	**2.34**	**97**	*e*P	**Pn**	**18 37 14.4**	**+0.5**
RTLL	**Cerro Villicun**	**2.39**	**156**	*e*P	**Pn**	**18 37 14.9**	**+0.5**
ZON	**Zonda**	**2.52**	**162**	*e*P	**Pn**	**18 37 16.4**	**+0.3**
RTLS	**Leoncito**	**2.66**	**174**	*e*P	**Pn**	**18 37 19.1**	**+1.0**
RTLS				IAML		18 37 55.3	
	comp=Z,432nm,0.3s						
CFA	**Coronel Fontan**	**2.72**	**154**	*e*P	**Pn**	**18 37 19.1**	**+0.4**
CFA	**Coronel Fontan**	**2.72**	**154**	P	**Pn**	**18 37 18.1**	**-0.6**
	comp=Z,19nm,0.3s,baz=351,slow=13,SNR=96						
CFA				S	**Sn**	**18 37 50.5**	**-0.6**
	comp=Z,63nm,0.3s,baz=242,slow=19,SNR=23						
RTCV	**Cerro Valdivia**	**2.86**	**161**	*e*P	**Pn**	**18 37 21.1**	**+0.6**
APLL	**PUNTA DE LOS L**	**2.96**	**116**	*e*P	**Pn**	**18 37 21.8**	**-0.1**
APLL				IAML		18 37 55.5	
	comp=Z,200nm,0.4s						
AUSP	**Uspallata**	**3.07**	**176**	*e*P	**Pn**	**18 37 24.9**	**+1.3**
CYA	**Choya**	**3.42**	**79**	*e*P	**Pn**	**18 37 28.2**	**+0.2**
ASAL	**Salagasta**	**3.50**	**169**	*e*P	**Pn**	**18 37 30.1**	**+1.0**
ARCO	**CERRO ARCO**	**3.73**	**171**	*e*P	**Pn**	**18 37 32.7**	**+0.5**
ARCO				IAML		18 38 19.1	
	comp=Z,202nm,0.6s						
ACAN	**Cantantal**	**3.75**	**147**	*e*P	**Pn**	**18 37 32.7**	**+0.3**
AAGR	**Agrelo**	**3.98**	**170**	*e*P	**Pn**	**18 37 36.4**	**0.8**
ROC1	**El Roble**	**4.00**	**197**	*e*Pn	**Pn**	**18 37 34.1**	**-1.9**
PEL	**Peldehue**	**4.09**	**193**	*e*Pn	**Pn**	**18 37 36.2**	**-0.8**
FSA	**Cafayete**	**4.42**	**48**	*e*P	**Pn**	**18 37 43.3**	**+1.6**
AHML	**Horco Molle**	**4.46**	**59**	*e*P	**Pn**	**18 37 41.6**	**-0.4**
TCA	**Tanti**	**4.86**	**118**	*e*P	**Pn**	**18 37 45.9**	**-1.6**
PB10	**IPOC Station P**	**5.68**	**351**	*e*Pn	**Pn**	**18 37 57.3**	**-1.2**
GO05	**Huala**	**6.16**	**198**	*e*Pn	**Pn**	**18 38 01.2**	**-3.9**
LVC	**Limon Verde**	**6.54**	**6**	*e*Pn	**Pn**	**18 38 10.3**	**-0.3**
LVC	**Limon Verde**	**6.54**	**6**	*e*P	**Pn**	**18 38 10.3**	**-0.3**
LVC				IAML		18 40 13.9	
	comp=Z,12nm,0.6s						
LVC	**Limon Verde**	**6.54**	**6**	P	**Pn**	**18 38 10.4**	**-0.2**
	comp=Z,7.4nm,0.3s,baz=172,slow=7.0,SNR=51						
LVC				S	**Sn**	**18 39 23.0**	**-1.0**
	comp=Z,2.0nm,0.3s,baz=15,slow=20,SNR=4.1						
PB04	**IPOC Station P**	**6.80**	**359**	*e*Pn	**Pn**	**18 38 11.7**	**-2.3**
PB01	**IPOC Station P**	**8.07**	**1**	*e*Pn	**Pn**	**18 38 29.4**	**-1.8**
PB11	**IPOC Station P**	**9.35**	**360**	*e*Pn	**Pn**	**18 38 45.9**	**-2.6**
GO01	**Chusmiza**	**9.45**	**2**	*e*Pn	**Pn**	**18 38 48.9**	**-1.3**
MNMC	**Minye Minye**	**9.97**	**0**	*e*Pn	**Pn**	**18 38 54.5**	**-2.6**
TRQA	**Tornquist**	**10.92**	**146**	*e*Pn	**Pn**	**18 39 07.2**	**-2.5**
CPUP	**Villa Florida**	**11.24**	**78**	*e*Pn	Pn	18 39 09.5	-4.5
CPUP	**Villa Florida**	**11.24**	**78**	P	Pn	18 39 11.1	-2.9
	comp=Z,0.2nm,0.3s,baz=263,slow=14,SNR=4.9						
CPUP				LR	LR	18 44 03.2	
	comp=Z,43nm,19.5s,baz=26,slow=40						
LPAZ	**La Paz**	**12.87**	**6**	*e*Pn	**Pn**	**18 39 35.8**	**-0.6**
LPAZ	**La Paz**	**12.87**	**6**	P	**Pn**	**18 39 36.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=194,slow=7.7,SNR=13						
SIV	**San Ignacio**	**15.28**	**33**	P	**Pn**	**18 40 05.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=204,slow=8.8,SNR=6.6						
BDFB	**Brasilia**	**24.02**	**61**	P	**P**	**18 41 42.3**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=80,slow=10,SNR=3.1						
PMSA	**Palmer Station**	**35.81**	**176**	*e*P	**P**	**18 43 25.5**	**0.0**
PMSA				*e*pP	**pP**	**18 43 49.8**	**-0.6**
PMSA	**Palmer Station**	**35.81**	**176**	P	**P**	**18 43 24.9**	**-0.7**
	comp=Z,40nm,0.5s,baz=39,slow=13,SNR=17						
VNA3	**Neumayer Olymp**	**53.11**	**160**	P	**P**	**18 45 43.4**	**+0.4**
VNA1	**Neumayer--Stat**	**53.37**	**159**	P	P	18 45 50.9	+6.0
VNA2	**Neumayer--Watz**	**53.72**	**159**	P	**P**	**18 45 47.8**	**+0.3**
SNAA	**Sanae**	**55.33**	**159**	P	**P**	**18 45 58.7**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=291,slow=7.7,SNR=22						
QSPA	**South Pole Qui**	**61.07**	**180**	*e*P	**P**	**18 46 39.5**	**+0.2**
	comp=Z,2.1nm,0.6s						
MAW	**Mawson**	**77.22**	**163**	P	**P**	**18 48 19.0**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=317,slow=4.1,SNR=2.8						
PDAR	**Pinedale Array**	**80.44**	**331**	P	**P**	**18 48 38.0**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=98,slow=7.6,SNR=4.2						
BOSA	**Boshof**	**80.47**	**117**	P	**P**	**18 48 36.6**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=292,slow=2.9,SNR=7.5						
TORD	**Torodi Ar. Bea**	**80.59**	**69**	P	**P**	**18 48 37.4**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=288,slow=6.3,SNR=9.8						
TORD				pP	**pP**	**18 49 07.8**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=276,slow=5.0,SNR=3.7						
ASAR	**Alice Springs**	**122.82**	**206**	PKP	**PKPdf**	**18 55 20.8**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=158,slow=2.7,SNR=3.4						
WRA	**Warramunga Arr**	**126.00**	**208**	PKP	**PKPdf**	**18 55 27.4**	**+0.2**
	comp=Z,1.8nm,1.1s,baz=153,slow=1.8,SNR=14						
AAK	**Ala-Archa**	**148.21**	**55**	*e*PKPbc	**PKPbc**	**18 56 12.0**	**+1.4**
ZALV	**Zalesovo Beam**	**149.01**	**30**	*e*PKPdf	**PKPdf**	**18 56 09.1**	**+1.3**
ZALV				*e*PKPbc	**PKiKP**	**18 56 13.3**	**+0.1**
ZALV	**Zalesovo Beam**	**149.01**	**30**	PKPbc	**PKPbc**	**18 56 12.2**	**+0.2**
	comp=Z,3.4nm,0.5s,baz=304,slow=4.8,SNR=16						
ZALV				pPKPbc	**pPKPbc**	**18 56 41.8**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=291,slow=4.2,SNR=2.9						
NRN	**Naryn**	**149.57**	**57**	*e*PKPbc	**PKiKP**	**18 56 15.8**	**+0.6**
KDJ	**Kajisay**	**150.26**	**55**	*e*PKPbc	**PKiKP**	**18 56 17.0**	**+0.5**
MKAR	**Makanchi Array**	**151.92**	**43**	PKPbc	**PKPbc**	**18 56 20.0**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=357,slow=1.6,SNR=12						
MKAR				PKPab	**PKPab**	**18 56 30.5**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=301,slow=3.1,SNR=4.2						
MKAR				pPKPbc	**sPKPdf**	**18 56 50.4**	**-3.4**
	comp=Z,0.6nm,0.6s,baz=302,slow=2.7,SNR=3.4						

IDC ***02*** *18:48:19.4±1.1, 24°.28N×125°.10E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/40, mbtmp3.7/5, ML2.1/2, MS2.7/5, Ms1 2.7/5, ms1mx2.5/36, Error ellipse: s-maj=35.9km s-min=23.0km az=75.0*
ISCJB ***02*** *18:48:23.4±0.9, 24°.28N±0°.08×125°.22E±0°.06, h43km±10km, mb3.7/4, MS2.7/2, Error ellipse: s-maj=15.0km s-min=6.6km az=149.4*
JMA ***02*** *18:48:23.2±0.2, 24°.26N×125°.21E, h39km, M3.3*
ISC 02 18:48:23.8±1.5, 24°.31N±0°.08×125°.19E±0°.05, h30km±11km, n21, σ0°44/22, mb3.7/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.45**	**17**	P	**Pb**	**18 48 33.6**	**+0.1**
JMJ2				S	**Sn**	**18 48 41.5**	**+0.1**
JOGS	**Gusukube**	**0.49**	**24**	P	**Pb**	**18 48 34.3**	**+0.1**
JOGS				S	**Sn**	**18 48 42.8**	**+0.3**
JIRB	**Irabujima**	**0.52**	**359**	P	**Pb**	**18 48 34.4**	**-0.2**
JIRB				*e*S	**Sn**	**18 48 42.7**	**-0.4**
JTJ	**Tarama**	**0.55**	**307**	P	**Pb**	**18 48 35.1**	**0.0**
JTJ				*e*S	**Sn**	**18 48 44.0**	**+0.2**
JIKM	**Ikemajima**	**0.62**	**5**	P	**Pb**	**18 48 36.0**	**-0.2**
JIKM				*e*S	**Sn**	**18 48 46.4**	**+0.9**
JISG	**Ishigakijimahi**	**0.84**	**290**	P	**Pn**	**18 48 39.1**	**-0.6**
JIJ	**Ishigaki jima**	**0.95**	**274**	P	**Pn**	**18 48 41.1**	**-0.1**
JIJ				*e*S	**Sb**	**18 48 54.1**	**+0.1**
JKRS	**Kuro-shima**	**1.07**	**267**	P	**Pb**	**18 48 43.6**	**-0.2**
HATJ	**Hateruma jima**	**1.28**	**259**	P	**Pn**	**18 48 45.9**	**+0.2**
IRIF	**Iriomote-Funau**	**1.33**	**272**	P	**Pn**	**18 48 46.8**	**+0.5**
JOW	**Kunigami**	**3.76**	**47**	Pn	**Pn**	**18 49 19.4**	**-0.4**
	0.2nm,0.3s,baz=87,slow=21,SNR=6.1						
JNU	**Nakatsue**	**10.10**	**28**	LR	LR	18 54 53.2	
	comp=Z,26nm,20.2s,baz=204,slow=39						
KSRS	**Korea Array**	**13.31**	**10**	LR	LR	18 56 58.0	
	comp=Z,24nm,21.9s,baz=175,slow=39						
MJAR	**Matsushiro Arr**	**16.56**	**40**	Pn	**Pn**	**18 52 14.2**	**+0.3**
	0.0nm,0.3s,baz=233,slow=12,SNR=4.0						
DAV	**Davao City (W)**	**17.14**	**179**	LR	LR	18 59 01.8	
	comp=Z,20nm,21.4s,baz=313,slow=38						
CMAR	**Chiang Mai Arr**	**25.10**	**262**	LR	LR	19 04 51.1	
	comp=Z,15nm,18.6s,baz=100,slow=40						
JAY	**Jayapura**	**30.63**	**148**	LR	LR	19 04 36.9	
	comp=Z,31nm,20.5s,baz=60,slow=32						
MKAR	**Makanchi Array**	**40.83**	**314**	P	**P**	**18 56 02.4**	**-0.3**
	0.9nm,0.4s,baz=102,slow=10.0,SNR=21						
WRA	**Warramunga Arr**	**44.88**	**168**	P	**P**	**18 56 34.9**	**-0.8**
	0.6nm,0.7s,baz=348,slow=8.8,SNR=4.8						
ASAR	**Alice Springs**	**48.43**	**169**	P	**P**	**18 57 04.2**	**+0.7**
	0.5nm,0.8s,baz=355,slow=7.1,SNR=4.0						
FINES	**FINESS Array B**	**73.17**	**330**	P	**P**	**18 59 51.5**	**+0.1**
	1.1nm,0.5s,baz=53,slow=7.4,SNR=6.9						

IDC ***02*** *18:55:34.1±0.7, 35°.75N×0°.03E, h0km, mb3.9/14, mb1 4.1/19, mb1mx3.9/42, mbtmp4.0/19, ML4.4/5, MS3.3/12, Ms1 3.3/12, ms1mx3.0/46, Error ellipse: s-maj=18.0km s-min=15.1km az=112.0*
CRAAG ***02*** *18:55:34.2, 35°.80N×0°.09E, Ml4.7*
NEIC ***02*** *18:55:36.5±2.2, 35°.73N×0°.06W, h17km±14km, mb4.2/14, Error ellipse: s-maj=6.2km s-min=5.4km az=160.0*
MDD ***02*** *18:55:36.9±0.3, 35°.70N×0°.06E, h20km±4km, mb4.6/51, Error ellipse: s-maj=5.6km s-min=2.8km az=159.0, PRXIMO*
INMG ***02*** *18:55:36.0±1.6, 35°.85N×0°.09W, h4km±11km, ML3.5, Error ellipse: s-maj=8.9km s-min=2.7km az=137.0*
LDG ***02*** *18:55:36.2±0.2, 35°.66N×0°.01E, h2km, Ml3.8/9, Error ellipse: s-maj=4.6km s-min=2.5km az=168.0*
CNRM ***02*** *18:55:37.9, 35°.76N×0°.22W, h16km, ml4.4*
IGIL ***02*** *18:55:39.4, 35°.80N×0°.26W, h4km*
ISC 02 18:55:36.2±1.2, 35°.81N±0°.04×0°.04E±0°.02, h14km±8km, n335, σ2°43/451, mb4.1/20, MS3.4/8, 8C-14D, Northern Algeria

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

310nm,0.4s,SNR=7.9
EQUE Quentar 3.13 297 ⇓P Pn 18 56 25.4 +0.3
242nm,0.4s,SNR=18
EQUE S Sn 18 57 01.6 -0.7
82nm,0.4s,SNR=7.9
ELGU Los Guajares, 3.14 291 P Pn 18 56 24.0 -1.3
44nm,0.2s,SNR=7.9
ELGU S Sn 18 56 59.7 -2.9
153nm,0.3s,SNR=7.9
EQES Quesada 3.19 309 P Pn 18 56 27.0 +1.0
61nm,0.3s,SNR=298
EQES S Sn 18 57 03.8 -0.1
225nm,0.3s,SNR=8.3
TDRA Tendrara 3.25 212 P Pn 18 56 27.0 +0.1
PALE Palemas 3.30 261 P Pn 18 56 26.4 -1.0
EIBI Ibiza 3.38 18 P Pn 18 56 27.9 -0.6
36nm,0.2s,SNR=70
EIBI S Sn 18 57 07.0 -1.3
235nm,0.3s
AKLM AKL 3.45 249 P Pn 18 56 29.7 +0.2
EGOR Sierra Gorda, 3.58 292 P Pn 18 56 31.5 +0.1
47nm,0.4s,SNR=7.9
EGOR S Sn 18 57 11.0 -2.6
27nm,0.3s,SNR=7.9
EMAL Malaga-Limoner 3.73 286 *e*Pn **Pn 18 56 31.9 -1.4**
EMAL Malaga-Limoner 3.73 286 *i*Pg **Pn 18 56 33.0 -0.3**
EMAL *e*S **Sn 18 57 09.5 -7.6**
FIGM Figuig 3.82 197 P Pn 18 56 34.2 -0.6
ECHE Chera 3.86 348 P Pn 18 56 35.5 +0.3
16nm,0.3s,SNR=7.9
ECHE S Sn 18 57 17.0 -3.2
89nm,0.4s,SNR=7.9
EMIJ Mijas 3.96 282 P Pn 18 56 34.2 -2.3
12nm,0.2s,SNR=77
EMIJ S Sn 18 57 17.9 -4.9
71nm,0.3s
REAL Reales 4.30 281 P Pn 18 56 40.0 -1.3
REAL S Sn 18 57 29.0 -2.2
REAL Reales 4.30 281 *e*P **Pn 18 56 40.0 -1.3**
REAL *e*S **Sn 18 57 29.0 -2.2**
CEUT Ceuta 4.36 273 P Pn 18 56 39.3 -2.7
SET Setif 4.37 83 P Pb 18 56 49.0 -3.7
SET Setif 4.37 83 P Pb 18 56 49.0 -3.7
EADA Adamuz 4.38 304 P Pn 18 56 41.7 -0.6
9.7nm,0.5s,SNR=7.9
EADA S Sn 18 57 30.6 -2.5
59nm,0.5s,SNR=7.9
CEU Ceuta 4.39 273 P Pn 18 56 40.0 -2.5
CEU S Sn 18 57 27.2 -6.2
CEU Ceuta 4.39 273 *e*P **Pn 18 56 40.0 -2.5**
CEU *e*S **Sn 18 57 27.2 -6.2**
ECEU Ceuta 4.40 273 P Pn 18 56 41.7 -0.9
1.6nm,0.1s,SNR=7.9
ECEU S Sn 18 57 29.1 -4.4
24nm,0.3s,SNR=7.9
SMIR Smir Dam 4.41 270 P Pn 18 56 39.9 -2.8
CKHR Kef el Ahmar 4.45 86 P Pb 18 56 54.4 +0.2
CKHR Kef el Ahmar 4.45 86 P Pb 18 56 54.4 +0.2
EJIF Jimena Fronter 4.50 280 P Pn 18 56 43.6 -0.3
1.1nm,0.2s,SNR=7.9
EJIF S Sn 18 57 32.8 -3.2
46nm,0.7s,SNR=7.9
ETOS Mallorca 4.52 28 P Pn 18 56 43.1 -1.2
2.3nm,0.2s,SNR=30
ETOS S Sn 18 57 34.4 -2.2
52nm,0.3s
LIJA Lijar 4.53 286 P Pn 18 56 45.0 +0.7
LIJA S Sn 18 57 35.0 -1.8
LIJA Lijar 4.53 286 *e*Pn **Pn 18 56 45.0 +0.7**
LIJA Lijar 4.53 286 *i*Pg **Pb 18 56 51.8 -3.7**
LIJA *e*S **Sn 18 57 35.0 -1.8**
LCRM LCR 4.55 244 P Pn 18 56 44.5 -0.3
EMOS Mosqueruela 4.56 355 P Pn 18 56 45.6 +0.7
20nm,0.3s,SNR=7.9
EMOS S Sn 18 57 36.2 -1.6
27nm,0.3s,SNR=7.9
ALJ Aljibe 4.66 281 P Pn 18 56 49.8 +3.7
ALJ Aljibe 4.66 281 *e*P **Pn 18 56 49.8 +3.7**
HORN Hornachuelos 4.71 297 P Pn 18 56 46.0 -0.7
DFRA Djebel Bou Aff 4.78 79 P Pn 18 56 47.0 -0.9
DFRA Djebel Bou Aff 4.78 79 P Pn 18 56 47.0 -0.9
IFR Ifrane 4.83 243 *i*P **Pn 18 56 48.5 -0.1**
IFR *e*S **Sn 18 57 40.4 -4.0**
MDT Midelt 4.87 233 Pn Pn 18 56 48.9 -0.2
5.2nm,0.3s,baz=52,slow=9.7,SNR=110
MDT Midelt 4.87 233 P Pn 18 56 48.6 -0.4
ESPR Espera 4.87 284 P Pn 18 56 49.2 +0.2
1.8nm,0.3s,SNR=7.9
ESPR S Sn 18 57 41.0 -4.2
21nm,0.4s,SNR=7.9
RSA Sarsar 4.88 261 P Pn 18 56 50.9 +1.7
ECAB El Cabril 4.92 299 ⇓P Pn 18 56 48.6 -1.1
23nm,0.4s,SNR=18
ECAB S Sn 18 57 43.2 -3.2
23nm,0.4s,SNR=7.9
MD31 MD31 4.94 235 P Pn 18 56 49.6 -0.4
CNIL Conil 4.96 278 P Pn 18 56 55.5 +5.2
CNIL Conil 4.96 278 *e*P Pn 18 56 55.5 +5.2
ESDC Sonseca Array 4.99 322 *e*Pn **Pn 18 56 50.4 -0.3**
ESDC *e*Lg Lg 18 57 59.9
ESDC *e* 18 58 42.2
ESDC Sonseca Array 4.99 322 P Pn 18 56 51.3 +0.6
25nm,0.2s,baz=142,slow=13,SNR=153
ESDC S **Sn 18 57 45.6 -2.6**
5.9nm,0.1s,SNR=7.9
ESDC Sonseca Array 4.99 322 Pn **Pn 18 56 51.0 +0.2**
30nm,0.3s,baz=140,slow=13,SNR=130
ESDC Sn **Sn 18 57 43.9 -4.3**
7.9nm,0.3s,baz=139,slow=15,SNR=6.9
ESDC Lg Lg 18 57 59.9
23nm,0.3s,baz=139,slow=30,SNR=8.2
ESDC LR LR 18 58 42.2
comp=Z,306nm,22.0s,baz=130,slow=37
ESLA Sonseca Array 4.99 322 *e*Pn **Pn 18 56 51.1 +0.4**
EBR Ebro Roquetas 5.02 4 P Pn 18 56 51.2 +0.2
41nm,0.2s,SNR=7.9
EBR S **Sn 18 57 47.0 -1.7**
233nm,0.3s,SNR=7.9
PAB San Pablo 5.10 318 *e*Pn **Pn 18 56 53.0 +0.8**
PAB San Pablo 5.10 318 P Pn 18 56 52.9 +0.7
26nm,0.3s,SNR=7.9
PAB S **Sn 18 57 47.8 -3.1**
22nm,0.3s,SNR=7.9
ERTA Horta de San J 5.14 3 P Pn 18 56 53.2 +0.4
2.1nm,0.1s,SNR=7.9
ERTA S **Sn 18 57 50.1 -1.9**
24nm,0.3s,SNR=7.9
CTEI Djebel Teioual 5.17 85 P Pn 18 56 56.5 +3.2
CTEI Djebel Teioual 5.17 85 P Pn 18 56 56.5 +3.2
UCM Universidad Co 5.18 331 *e*P **Pn 18 56 54.4 +1.0**
UCM *e*S **Sn 18 57 49.3 -3.6**
CASM Ain Smara 5.25 83 P Pn 18 56 57.3 +3.0
CASM Ain Smara 5.25 83 P Pn 18 56 57.3 +3.0
ETOR Torete 5.26 342 P Pn 18 56 56.5 +2.0
4.1nm,0.2s,SNR=21
ETOR S **Sn 18 57 52.8 -2.2**
9.3nm,0.3s
MAHO Mahon 5.28 38 P Pn 18 56 54.5 0.0
MAHO S **Sn 18 57 50.7 -4.4**
MAHO Mahon 5.28 38 *e*P **Pn 18 56 54.5 0.0**
MAHO *e*S **Sn 18 57 50.7 -4.4**
CKFL Kef-Lekhel 5.44 82 P Pn 18 56 57.3 +0.3
CKFL Kef-Lekhel 5.44 82 P Pn 18 56 57.3 +0.3
CAEH 'Ain El Ouahch 5.59 78 P Pn 18 56 58.2 -0.7
CAEH 'Ain El Ouahch 5.59 78 P Pn 18 56 58.2 -0.7
EPOB Poblet 5.59 8 P Pn 18 56 59.2 +0.2
5.4nm,0.3s,SNR=40
EPOB S **Sn 18 57 57.7 -5.4**
7.3nm,0.3s,SNR=7.9
ARF Arif 5.63 220 P Pn 18 56 59.2 -0.3
EMIN Mina Concepcio 5.73 292 P Pn 18 56 59.4 -1.4
9.0nm,0.3s,SNR=43
EMIN S **Sn 18 58 01.9 -4.4**
8.9nm,0.4s,SNR=7.9
GOLM Goulmima 5.83 227 P Pn 18 57 01.7 -0.7
GUD Guadarrama 5.84 327 P Pn 18 57 03.1 +0.6
0.0nm,0.1s,SNR=30
GUD S **Sn 18 58 05.7 -3.7**
21nm,0.4s,SNR=7.9
ESAC San Caprasio 5.92 356 P Pn 18 57 04.0 +0.6
3.7nm,0.1s,SNR=7.9
ESAC S **Sn 18 58 08.5 -2.5**
88nm,0.4s,SNR=7.9
ZHG ZHG 5.99 249 P Pn 18 57 02.2 -2.3
CMAH Djebel Manchou 6.02 80 P Pn 18 57 03.7 -1.2

CMAH Djebel Manchou 6.02 80 P Pn 18 57 03.7 -1.2
ABSA Djebel Ababsia 6.05 83 P Pn 18 57 04.4 -0.9
CABS Djebel Ababsia 6.05 83 P Pn 18 57 04.4 -0.9
EMIR Miracle 6.21 10 P Pn 18 57 07.7 +0.2
7.5nm,0.4s,SNR=7.9
EMIR S **Sn 18 58 16.4 -1.7**
19nm,0.4s,SNR=7.9
CFON Fontmartina 6.23 17 P Pn 18 57 07.4 -0.4
10nm,0.2s,SNR=51
CFON S **Sn 18 58 13.1 -5.7**
9.1nm,0.2s,SNR=7.9
EGRO El Granado 6.28 288 ⇑P Pn 18 57 07.0 -1.4
8.5nm,0.3s,SNR=18
EGRO S **Sn 18 58 14.8 -5.2**
12nm,0.3s,SNR=7.9
EBAD Badajoz 6.34 300 ⇑P Pn 18 57 08.4 -0.8
28nm,0.3s,SNR=18
EBAD S **Sn 18 58 16.5 -5.0**
35nm,0.2s,SNR=7.9
PVAQ Vaqueiros 6.44 287 *e*Pn **Pn 18 57 09.0 -1.5**
PVAQ *e*Sn **Sn 18 58 19.3 -4.4**
PVAQ Vaqueiros 6.44 287 P Pn 18 57 09.0 -1.5
PVAQ S **Sn 18 58 19.3 -4.4**
CSOR Sort 6.61 7 P Pn 18 57 13.7 +0.7
1.7nm,0.2s,SNR=7.9
CSOR S **Sn 18 58 25.5 -2.7**
21nm,0.4s,SNR=7.9
AVE Averroes 6.64 250 *e*P **Pn 18 57 15.0 +1.7**
PBEJ Beja 6.71 292 *e*Pn **Pn 18 57 14.4 +0.2**
PBEJ *e*Sn **Sn 18 58 26.6 -3.8**
PBEJ A A 18 58 50.0
10.0nm,0.5s
PBEJ Beja 6.71 292 P Pn 18 57 14.4 +0.2
PBEJ S **Sn 18 58 26.6 -3.8**
5.0nm,0.5s
PCVE Castro Verde 6.74 288 *e*Pn **Pn 18 57 13.1 -1.5**
PCVE *e*Sn **Sn 18 58 26.5 -4.6**
PCVE A A 18 58 39.3
9.8nm,0.6s
PCVE Castro Verde 6.74 288 P Pn 18 57 13.1 -1.5
PCVE S **Sn 18 58 26.5 -4.6**
9.8nm,0.6s
PESTR Estremoz 6.80 299 *e*Pn **Pn 18 57 14.6 -0.9**
PESTR *e*Sn **Sn 18 58 30.0 -2.7**
PESTR A A 18 59 15.8
20nm,0.6s
PESTR Estremoz 6.80 299 *e*Pn **Pn 18 57 14.1 -1.4**
PESTR Estremoz 6.80 299 P Pn 18 57 15.4 -0.1
CLLI Llivia 6.83 12 P Pn 18 57 17.4 +1.4
3.6nm,0.4s,SNR=7.9
CLLI S **Sn 18 58 30.9 -2.6**
22nm,0.7s,SNR=7.9
ECHI Chisagues Biel 6.85 1 P Pn 18 57 17.7 +1.4
1.4nm,0.3s,SNR=7.9
ECHI S **Sn 18 58 32.5 -1.5**
4.1nm,0.4s,SNR=7.9
PMRV Marv??o 6.91 304 *e*Pn **Pn 18 57 17.0 -0.1**
PMRV *e*Sn **Sn 18 58 30.7 -4.8**
PMRV A A 18 59 12.2
29nm,0.6s
PMRV Marv??o 6.91 304 P Pn 18 57 17.0 -0.1
PMRV S **Sn 18 58 30.7 -4.8**
29nm,0.6s
MESJ Messejana 6.92 289 *e*P **Pn 18 57 15.8 -1.4**
MESJ Messejana 6.92 289 P Pn 18 57 15.8 -1.4
EVO Evora 6.98 295 *e*Pn **Pn 18 57 17.3 -0.6**
EVO *e*Sn **Sn 18 58 32.4 -4.6**
EVO A A 18 59 04.8
14nm,0.5s
EVO Evora 6.98 295 P Pn 18 57 17.3 -0.6
EVO S **Sn 18 58 32.4 -4.6**
14nm,0.5s
EVO Evora 6.98 295 *i*P **Pn 18 57 17.1 -0.8**
EVO *e*S **Sn 18 58 31.9 -5.2**
EJON La Jonquera 6.99 18 P Pn 18 57 18.9 +0.8
0.6nm,0.1s,SNR=7.9
EJON S **Sn 18 58 32.3 -5.1**
7.5nm,0.3s,SNR=7.9
SJAF Saint Jean de 7.02 17 P Pn 18 57 19.2 +0.7
0.6nm,0.2s,SNR=7.9
SJAF S **Sn 18 58 32.4 -5.7**
6.0nm,0.4s,SNR=7.9
IUNC Unciti 7.04 351 P Pn 18 57 20.7 +1.9
3.4nm,0.2s,SNR=7.9
IUNC S **Sn 18 58 36.9 -1.7**
34nm,0.7s,SNR=7.9
EARA Aranguren 7.07 350 P Pn 18 57 20.6 +1.5
2.3nm,0.2s,SNR=7.9
ETSF Etsaut 7.09 356 *e*Pn **Pn 18 57 21.8 +2.2**
ETSF *e*Sn **Sn 18 58 38.7 -1.3**
19nm,0.5s
ETSF Etsaut 7.09 356 P Pn 18 57 21.8 +2.2
ETSF S **Sn 18 58 38.7 -1.3**
9.4nm,0.5s
MORF Marmelete 7.15 285 *e*P **Pn 18 57 18.8 -1.5**
MORF Marmelete 7.15 285 *e*Pn **Pn 18 57 19.9 -0.5**
MORF *e*Sn **Sn 18 58 38.2 -3.2**
MORF A A 18 58 43.9
11nm,0.5s
MORF Marmelete 7.15 285 P Pn 18 57 19.9 -0.5
MORF S **Sn 18 58 38.2 -3.2**
11nm,0.5s
PCBR Castelo Branco 7.18 306 *e*Pn **Pn 18 57 20.5 -0.2**
PCBR *e*Sn **Sn 18 58 37.3 -4.7**
PCBR A A 18 58 42.5
34nm,0.8s
PCBR Castelo Branco 7.18 306 P Pn 18 57 20.5 -0.2
PCBR S **Sn 18 58 37.3 -4.7**
17nm,0.8s
EPF Esparros 7.21 2 *e*Pn **Pn 18 57 24.0 +2.7**
EPF *e*Sn **Sn 18 58 43.1 +0.1**
12nm,0.5s
EPF Esparros 7.21 2 P Pn 18 57 24.0 +2.7
EPF S **Sn 18 58 43.1 +0.1**
5.9nm,0.5s
PNCL Nicolau / Gran 7.23 291 *e*Pn **Pn 18 57 20.5 -0.9**
PNCL *e*Sn **Sn 18 58 41.7 -1.6**
PNCL Nicolau / Gran 7.23 291 P Pn 18 57 20.5 -0.9
PNCL S **Sn 18 58 41.7 -1.6**
PTEO Sao Teotonio 7.25 286 *e*Pn **Pn 18 57 20.9 -0.8**
PTEO *e*Sn **Sn 18 58 39.5 -4.2**
PTEO A A 18 58 52.8
22nm,0.7s
PTEO Sao Teotonio 7.25 286 P Pn 18 57 20.9 -0.8
PTEO S **Sn 18 58 39.5 -4.2**
11nm,0.7s
PFVI Vila Bisbo 7.26 283 *e*Pn **Pn 18 57 21.8 -0.1**
PFVI *e*Sn **Sn 18 58 41.6 -2.5**
PFVI A A 18 58 44.0
20nm,0.6s
PFVI Vila Bisbo 7.26 283 *e*Pn **Pn 18 57 21.5 -0.4**
PFVI Vila Bisbo 7.26 283 P Pn 18 57 20.5 -1.4
5.8nm,0.3s,SNR=7.9
PFVI S **Sn 18 58 40.8 -3.2**
28nm,0.4s,SNR=7.9
ATE Arette 7.29 356 P Pn 18 57 24.1 +1.9
1.7nm,0.2s,SNR=7.9
ATE S **Sn 18 58 43.5 -1.2**
32nm,0.9s,SNR=7.9
PMTG Montargil 7.33 299 *e*Pn **Pn 18 57 22.1 -0.7**
PMTG *e*Sn **Sn 18 58 40.9 -4.9**
PMTG A A 18 59 25.4
22nm,0.6s
PMTG Montargil 7.33 299 P Pn 18 57 22.1 -0.7
PMTG S **Sn 18 58 40.9 -4.9**
22nm,0.6s
SJPF Ste Jean 7.36 353 *e*Pn **Pn 18 57 25.4 +2.2**
SJPF *e*Sn **Sn 18 58 45.2 -1.2**
SJPF Ste Jean 7.36 353 P Pn 18 57 25.4 +2.2
SJPF S **Sn 18 58 45.2 -1.2**
EALK Alkurruntz 7.50 351 P Pn 18 57 27.2 +2.1
12nm,0.5s,SNR=7.9
EALK S **Sn 18 58 47.3 -2.6**
46nm,0.6s,SNR=7.9
MTE Manteigas 7.53 310 *e*Pn **Pn 18 57 26.4 +0.8**
MTE *e*Sn **Sn 18 58 46.4 -4.3**
MTE A A 18 59 28.5
33nm,0.7s
MTE Manteigas 7.53 310 *e*Pn **Pn 18 57 26.1 +0.5**
MTE Manteigas 7.53 310 P Pn 18 57 26.4 +0.8
MTE S **Sn 18 58 46.4 -4.3**
17nm,0.7s
KEST Kesra 7.57 88 Pn **Pn 18 57 26.6 +0.4**
2.5nm,0.3s,baz=265,slow=3.5,SNR=25
KEST Sn **Sn 18 58 47.7 -4.1**

1.4nm,0.3s,baz=335,slow=4.0,SNR=3.6
MVO Moncorvo 7.70 316 *e*Pn **Pn 18 57 28.4 +0.5**
MVO Moncorvo 7.70 316 P Pn 18 57 28.4 +0.5
7.2nm,0.3s,SNR=28
PTOM Tomar 7.70 302 *e*Pn **Pn 18 57 28.0 +0.2**
PTOM *e*Sn **Sn 18 58 49.9 -4.9**
PTOM A A 18 59 46.9
34nm,0.7s
PTOM Tomar 7.70 302 P Pn 18 57 28.0 +0.2
PTOM S **Sn 18 58 49.9 -4.9**
17nm,0.7s
MTLF Montolieu 7.71 12 *e*Pn **Pn 18 57 30.6 +2.6**
MTLF *e*Sn **Sn 18 58 57.7 +2.7**
9.7nm,0.7s
MTLF Montolieu 7.71 12 P Pn 18 57 30.6 +2.6
MTLF S **Sn 18 58 57.7 +2.7**
4.8nm,0.7s
ELAN Lanestosa 7.88 341 P Pn 18 57 31.8 +1.4
1.7nm,0.2s,SNR=7.9
ELAN S **Sn 18 58 55.2 -4.1**
SNR=7.9
PVIS Viseu 7.93 311 *e*Pn **Pn 18 57 31.1 0.0**
PVIS *e*Sn **Sn 18 58 55.5 -5.1**
PVIS Viseu 7.93 311 P Pn 18 57 31.1 0.0
PVIS S **Sn 18 58 55.5 -5.1**
PCAS Casmilo, Conde 7.96 305 *e*Pn **Pn 18 57 31.4 -0.1**
PCAS *e*Sn **Sn 18 58 56.8 -4.5**
PCAS A A 18 59 47.7
25nm,0.7s
PCAS Casmilo, Conde 7.96 305 P Pn 18 57 31.4 -0.1
PCAS S **Sn 18 58 56.8 -4.5**
25nm,0.7s
COI Coimbra 7.98 306 *e*Pn **Pn 18 57 32.2 +0.5**
COI Coimbra 7.98 306 *e*Pn **Pn 18 57 31.6 -0.2**
COI Coimbra 7.98 306 P Pn 18 57 32.2 +0.5
PBRG Braganca 7.99 321 *e*Pn **Pn 18 57 33.1 +1.3**
PBRG Braganca 7.99 321 P Pn 18 57 33.1 +1.3
PMAFR Mafra 8.05 296 *e*Pn **Pn 18 57 32.8 +0.1**
PMAFR *e*Sn **Sn 18 59 00.1 -3.5**
PMAFR A A 18 59 24.2
23nm,0.7s
PMAFR Mafra 8.05 296 P Pn 18 57 31.3 -1.5
10nm,0.4s,SNR=7.9
PMAFR S **Sn 18 58 58.3 -5.2**
32nm,0.4s,SNR=7.9
ECAL Calabor 8.08 321 P Pn 18 57 33.3 +0.1
17nm,0.3s,SNR=7.9
PVRL Vila Real 8.16 314 *e*Pn **Pn 18 57 34.5 +0.2**
PVRL Vila Real 8.16 314 P Pn 18 57 34.5 +0.2
POLO Lamas de Olo 8.27 315 *e*Pn **Pn 18 57 36.1 +0.3**
POLO *e*Sn **Sn 18 59 03.1 -5.9**
POLO A A 19 00 28.1
3.2nm,0.7s
POLO Lamas de Olo 8.27 315 P Pn 18 57 36.1 +0.3
POLO S **Sn 18 59 03.1 -5.9**
3.2nm,0.7s
EARI Arriondas 8.51 333 P Pn 18 57 39.6 +0.7
5.5nm,0.5s,SNR=7.9
PCAB Cabril 8.62 316 *e*Pn **Pn 18 57 42.2 +1.7**
PCAB Cabril 8.62 316 P Pn 18 57 42.2 +1.7
ELOB Lobios 8.74 316 P Pn 18 57 42.3 +0.1
6.0nm,0.4s,SNR=7.9
ELOB S **Sn 18 59 14.4 -6.2**
15nm,0.6s,SNR=7.9
LASF Ste Croix 8.76 18 *e*Pn **Pn 18 57 45.7 +3.3**
LASF Ste Croix 8.76 18 P Pn 18 57 45.7 +3.3
PGAV Gavieira, Arco 8.93 316 *e*Pn **Pn 18 57 45.4 +0.7**
PGAV *e*Sn **Sn 18 59 20.9 -4.2**
PGAV A A 19 00 19.3
24nm,0.7s
PGAV Gavieira, Arco 8.93 316 P Pn 18 57 45.4 +0.7
PGAV S **Sn 18 59 20.9 -4.2**
24nm,0.7s
LMR La Mourre 9.02 32 *e*Pn **Pn 18 57 46.2 +0.2**
LMR *e*Sn **Sn 18 59 22.2 -5.1**
6.2nm,0.3s
LMR La Mourre 9.02 32 P Pn 18 57 46.2 +0.2
LMR S **Sn 18 59 22.2 -5.1**
3.1nm,0.3s
LFF La Frestale 9.13 3 *e*Pn **Pn 18 57 49.7 +2.2**
LFF *e*Sn **Sn 18 59 27.6 -2.5**
12nm,0.4s
LFF La Frestale 9.13 3 P Pn 18 57 49.7 +2.2
LFF S **Sn 18 59 27.6 -2.5**
6.0nm,0.4s
CAF Calviac 9.24 9 *e*Pn **Pn 18 57 50.2 +1.3**
CAF *e*Sn **Sn 18 59 29.6 -3.0**
CAF Calviac 9.24 9 P Pn 18 57 50.2 +1.3
CAF S **Sn 18 59 29.6 -3.0**
FRF La Foret Royal 9.26 31 *e*Pn **Pn 18 57 50.7 +1.4**
FRF *e*Sn **Sn 18 59 29.5 -3.7**
10nm,0.5s
FRF La Foret Royal 9.26 31 P Pn 18 57 50.7 +1.4
FRF S **Sn 18 59 29.5 -3.7**
5.2nm,0.5s
EPON Pontenova 9.33 326 P Pn 18 57 51.1 +0.9
11nm,0.4s,SNR=7.9
EAGO Agolada(Pontev 9.40 320 P Pn 18 57 51.7 +0.5
2.7nm,0.3s,SNR=7.9
RJF Les Rejaudoux 9.55 6 *e*Pn **Pn 18 57 55.5 +2.3**
RJF *e*Sn **Sn 18 59 37.1 -3.2**
7.5nm,0.6s
RJF Les Rejaudoux 9.55 6 P Pn 18 57 55.5 +2.3
RJF S **Sn 18 59 37.1 -3.2**
3.8nm,0.6s
PGF Pioggiola 9.68 43 *e*Pn **Pn 18 57 56.4 +1.4**
PGF *e*Sn **Sn 18 59 36.0 -7.5**
6.0nm,0.3s
PGF Pioggiola 9.68 43 P Pn 18 57 56.4 +1.4
PGF S **Sn 18 59 36.0 -7.5**
3.0nm,0.3s
SBF Sospel 9.85 33 *e*Pn **Pn 18 57 59.1 +1.8**
SBF *e*Sn **Sn 18 59 42.3 -5.4**
7.8nm,0.5s
SBF Sospel 9.85 33 P Pn 18 57 59.1 +1.8
SBF S **Sn 18 59 42.3 -5.4**
3.9nm,0.5s
SSB Saint Sauveur 10.06 19 *e*Pn **Pn 18 58 03.2 +3.0**
TCF Toulx Ste Croi 10.60 8 *e*Pn **Pn 18 58 08.8 +1.2**
TCF Toulx Ste Croi 10.60 8 P Pn 18 58 08.8 +1.2
MFF Saint Martin d 10.78 359 *e*Pn **Pn 18 58 12.1 +2.0**
MFF Saint Martin d 10.78 359 P Pn 18 58 12.1 +2.0
LPG La Plagne 10.93 26 *e*Pn **Pn 18 58 16.2 +3.8**
LPG La Plagne 10.93 26 P Pn 18 58 16.2 +3.8
LPL La Plagne 10.94 26 *e*Pn **Pn 18 58 16.0 +3.5**
LPL La Plagne 10.94 26 P Pn 18 58 16.0 +3.5
BGF Bois d'Agland 10.94 10 *e*Pn **Pn 18 58 14.1 +1.8**
BGF Bois d'Agland 10.94 10 P Pn 18 58 14.1 +1.8
AVF Avril sur Loir 11.25 12 *e*Pn **Pn 18 58 19.5 +3.1**
AVF Avril sur Loir 11.25 12 P Pn 18 58 19.5 +3.1
SSF Saint Saulge 11.54 12 *e*Pn **Pn 18 58 22.0 +1.6**
SSF Saint Saulge 11.54 12 P Pn 18 58 22.0 +1.6
QUIF Quistinic 12.33 350 *e*Pn **Pn 18 58 33.0 +1.8**
QUIF Quistinic 12.33 350 P Pn 18 58 33.0 +1.8
GRR Gorron 12.59 357 *e*Pn **Pn 18 58 36.6 +1.9**
GRR Gorron 12.59 357 P Pn 18 58 36.6 +1.9
ROSF Rostrenen 12.76 350 *e*Pn **Pn 18 58 38.6 +1.6**
ROSF Rostrenen 12.76 350 P Pn 18 58 38.6 +1.6
LDF La Druitiere 12.78 360 *e*Pn **Pn 18 58 39.1 +1.8**
SFTF Sexfontaines 12.93 15 *e*Pn **Pn 18 58 40.8 +1.4**
SFTF Sexfontaines 12.93 15 P Pn 18 58 40.8 +1.4
FLN La Foliniere 12.95 358 *e*Pn **Pn 18 58 40.9 +1.2**
FLN La Foliniere 12.95 358 P Pn 18 58 40.9 +1.2
HAU Haudompre 13.05 19 *e*Pn **Pn 18 58 42.4 +1.2**
HAU Haudompre 13.05 19 P Pn 18 58 42.4 +1.2
DAVOX Davos/Dischmat 13.21 31 LR LR 19 03 48.7
comp=Z,127nm,20.0s,baz=244,slow=37
FETA Feichten 13.76 32 *i*P **P 18 58 59.8 +0.3**
15nm,1.5s
SQTA Sankt Quirin 14.12 33 *i*P **P 18 59 00.0 -3.5**
13nm,1.3s
RETA Reutte 14.14 31 *i*pP **P 18 59 07.6 +4.0**
4.8nm,1.0s
MOTA Moosalm 14.17 32 P Pn 18 59 00.1 +3.5
8.7nm,0.9s
WTTA Wattenberg 14.35 34 *i*P **P 18 59 07.5 +1.4**
15nm,1.6s
ABTA Abfaltersbach 14.38 37 *i*P **P 18 59 06.9 +0.7**
12nm,1.4s
WLF Walferdange 14.55 16 ⇓P **P 18 59 12.1 +4.1**
DOU Dourbes 14.66 12 ⇑P **P 18 59 07.5 -1.8**
KBA Koelnbreinsper 15.02 37 *i*P **P 18 59 13.9 +0.4**
4.3nm,1.1s
BCLA Clavier 15.09 13 ⇑P **P 18 59 15.6 +1.5**

comp=Z,8.3nm,1.4s
OBKA Obir 15.26 41 *i* Pn **P 18 59 14.1 -2.0**
comp=Z,5.1nm,1.1s
SOKA Soboth 15.63 41 *i* P **P 18 59 20.1 -0.1**
comp=Z,8.9nm,1.2s
MOA Molln 16.00 37 *i* Pn **Pn 18 59 22.2 +1.4**
comp=Z,7.1nm,1.1s
ARSA Arzberg 16.25 41 *i* P **P 18 59 27.9 +0.9**
comp=Z,6.6nm,1.1s
PDG Podgorica 16.30 60 ||*i*P **P 18 59 29.7 +2.2**
TTG Podgorica 16.30 60 *e*Pn **P 18 59 27.4 -0.1**
comp=Z,17nm,1.1s
GEC2 GERESS Array S 16.45 33 *e*Pn **P 18 59 28.7 -0.6**
comp=Z,12nm,1.3s
GERES GERESS Array B 16.45 33 *e*Pn **Pn 18 59 26.6 0.0**
GERES GERESS Array B 16.45 33 Pn **Pn 18 59 26.8 +0.2**
comp=Z,0.2nm,0.3s,baz=215,slow=11,SNR=20
GERES LR LR 19 05 14.7
comp=Z,66nm,20.0s,baz=276,slow=35
KHC Kasperske Hory 16.61 33 *e*Pn **P 18 59 30.0 -0.9**
comp=Z,6.2nm,1.8s
KHC Kasperske Hory 16.61 33 *e*P **Pn 18 59 26.1 -2.4**
KHC *ex* x 18 59 29.5
KHC AMS AMS 19 06 30.0
comp=Z,300nm,15.6s
CONA Conrad Observa 16.86 39 *i* P **P 18 59 35.5 +1.7**
comp=Z,5.0nm,1.1s
CLL Collm 18.07 27 *e*P **P 18 59 50.0 +2.9**
CLL *e*PP **PnPn 19 00 01.0 +3.2**
BRG Berggiesshubel 18.09 29 *e*P **P 18 59 50.7 +3.4**
comp=Z,4.3nm,0.9s
VRAC Vranov 18.13 37 ||*i*P P 19 00 02.0 +14
VRAC Vranov 18.13 37 LR LR 19 06 27.4
comp=Z,59nm,20.6s,baz=320,slow=36
VYHS Vyhne 18.78 42 *e*P **Pn 18 59 58.0 +2.7**
PSZ Piszkesteto 19.04 44 *e*P **Pn 18 59 59.4 +0.8**
comp=Z,8.9nm,0.9s
PSZ Piszkesteto 19.04 44 ⇑*i*P **Pn 19 00 01.1 +2.5**
VTS Vitosha 19.19 62 *e*P **Pn 19 00 01.4 +0.9**
comp=Z,3.2nm,0.9s
VTS Vitosha 19.19 62 ||*i*P **Pn 19 00 01.5 +1.0**
EKA Eskdalemuir Ar 19.65 355 P **P 19 00 04.5 +0.2**
baz=160,slow=10,SNR=8.4
GZR Gura Zlata 19.69 54 ⇑*i*P **Pn 19 00 10.0 +3.7**
DEV Deva 19.95 53 ⇑*i*P **Pn 19 00 11.2 +1.8**
IDI Anoyia 20.22 84 P Pn 19 00 12.1 -0.6
comp=Z,5.6nm,0.8s,baz=307,slow=8.9,SNR=4.1
IDI LR LR 19 10 02.4
comp=Z,27nm,18.7s,baz=266,slow=43
KOLS Kolonicke sedl 20.92 44 *e*P Pn 19 00 21.0 +0.2
VOIR 21.21 55 ||*i*P **P 19 00 24.3 +2.9**
DOPR Dopca 21.60 54 ||*i*P **P 19 00 28.0 +2.4**
MLR Muntele Rosu 21.82 56 *e*P **P 19 00 30.2 +2.1**
comp=Z,27nm,1.4s
MLR Muntele Rosu 21.82 56 ||*i*P **P 19 00 29.8 +1.7**
MLR Muntele Rosu 21.82 56 P **P 19 00 29.4 +1.3**
comp=Z,4.7nm,0.8s,baz=133,slow=21,SNR=11
MLR LR LR 19 09 10.5
comp=Z,134nm,18.8s,baz=288,slow=37
BURAR Bucovina Array 22.09 50 *e*P **P 19 00 32.0 +1.2**
BURAR Bucovina Array 22.09 50 ||*i*P **P 19 00 32.5 +1.6**
BUR08 Bucovina Array. S 22.09 50 *e*P **P 19 00 32.7 +1.9**
comp=Z,13nm,1.3s
PLOR Plostina 22.40 55 ||*i*P **P 19 00 37.3 +3.1**
VRI Vrincioaia 22.46 55 ⇑*i*P **P 19 00 38.3 +3.5**
TOA1 Torodi Ar. Sit 22.61 176 *e*P **P 19 00 34.2 -2.3**
TOA0 Torodi Ar. Sit 22.61 176 *e*P **P 19 00 35.9 -0.7**
comp=Z,18nm,0.9s
TORD Torodi Ar. Bea 22.61 176 P **P 19 00 34.2 -2.4**
comp=Z,12nm,0.9s,baz=350,slow=12,SNR=41
KIEV Kiev 25.72 46 *e*P **P 19 01 05.8 -0.1**
comp=Z,4.1nm,0.8s
KIEV Kiev 25.72 46 ||*i*P **P 19 01 05.7 -0.2**
AKASG Malin Array Be 25.73 46 P **P 19 01 05.0 -1.0**
comp=Z,3.6nm,0.8s,baz=244,slow=10,SNR=6.0
AKBB Malin Array Si 25.73 46 *e*P **P 19 01 06.0 -0.1**
comp=Z,4.1nm,0.7s
HFS Hagfors 25.89 16 P **P 19 01 07.3 0.0**
comp=Z,1.2nm,0.5s,baz=203,slow=11,SNR=9.6
NOA NORSAR Array B 26.24 12 LR LR 19 12 36.1
comp=Z,21nm,18.2s,baz=355,slow=39
BRTR Keskin Array B 26.76 71 LR LR 19 13 55.9
comp=Z,18nm,18.4s,baz=268,slow=41
MMAI Mount Meron Ar 29.21 85 P **P 19 01 39.0 +1.5**
comp=Z,0.4nm,0.4s,baz=286,slow=7.4,SNR=3.9
DBIC Dimbokro 29.35 190 *e*P **P 19 01 38.0 -0.6**
comp=Z,33nm,1.6s
DBIC Dimbokro 29.35 190 P **P 19 01 38.2 -0.4**
comp=Z,1.5nm,0.6s,baz=346,slow=11,SNR=3.2
DBIC LR LR 19 14 03.1
comp=Z,99nm,18.3s,baz=358,slow=38
FIA0 FINESS Array S 30.48 25 *e*P **P 19 01 47.4 -1.0**
FINES FINESS Array B 30.48 25 P **P 19 01 47.4 -1.0**
comp=Z,0.9nm,0.5s,baz=219,slow=6.6,SNR=6.4
ARA0 ARCESS Array S 36.55 15 *e*P **P 19 02 41.9 +0.9**
ARCES ARCESS Array B 36.55 15 P **P 19 02 41.9 +0.9**
comp=Z,0.5nm,0.6s,baz=223,slow=6.6,SNR=4.6
ARU Arti 43.94 43 *e*P **P 19 03 43.5 +1.1**
comp=Z,4.4nm,0.8s
ATD Arta Tunnel 45.56 111 LR LR 19 22 51.9
comp=Z,83nm,20.6s,baz=24,slow=36
ZAA1 Zalesovo Array 59.10 43 *e*P **P 19 05 36.8 +1.0**
ZALV Zalesovo Beam 59.10 43 P **P 19 05 36.8 +0.9**
comp=Z,0.4nm,0.5s,baz=295,slow=7.8,SNR=3.0
MK31 Makanchi Array 60.10 52 *e*P **P 19 05 43.1 +0.2**
comp=Z,4.3nm,1.8s
MK32 Makanchi Array 60.10 52 *e*P **P 19 05 43.0 +0.1**
MKAR Makanchi Array 60.10 52 *e*P **P 19 05 43.1 +0.2**
MKAR Makanchi Array 60.10 52 P **P 19 05 43.0 +0.1**
comp=Z,0.6nm,0.6s,baz=290,slow=4.7,SNR=7.9
WMQ Urumqi 64.79 53 *e*P **P 19 06 18.3 +3.9**
TIXI Tiksi 66.98 16 *e*P **P 19 06 29.0 +1.1**
comp=Z,3.2nm,0.9s
YKA Yellowknife Ar 68.99 333 P **P 19 06 41.0 +0.4**
comp=Z,0.7nm,0.5s,baz=57,slow=6.3,SNR=11
YKB5 Yellowknife Ar 68.99 333 *e*P **P 19 06 41.0 +0.4**
ILAR Eielson Array 76.44 346 P **P 19 07 25.1 +0.2**
comp=Z,0.5nm,0.8s,baz=4.4,slow=5.5,SNR=5.2
IMAR Indian Mountai 76.52 349 *e*P **P 19 07 26.6 +1.3**
PDAR Pinedale Array 78.85 315 P **P 19 07 41.2 +2.1**
comp=Z,1.0nm,0.9s,baz=53,slow=4.6,SNR=4.5
PDAR LR LR 19 38 57.5
comp=Z,39nm,19.4s,baz=86,slow=33
HHC Hu-ho-hao-te 81.18 46 *e*P **P 19 07 51.2 -0.4**
CD2 Chengdu 82.41 57 *e*P **P 19 07 57.6 -0.6**
TXAR Lajitas Array 83.35 301 LR LR 19 44 50.0
comp=Z,56nm,18.1s,baz=0.0,slow=36
WR1 Warramunga Arr 137.02 81 *e*PKPdf **PKPdf 19 14 59.2 +0.2**
WRA Warramunga Arr 137.02 81 PKP **PKPdf 19 14 59.2 +0.2**
comp=Z,0.5nm,0.9s,baz=327,slow=1.8,SNR=4.1
ASAR Alice Springs 138.50 86 PKP **PKPdf 19 15 01.4 -0.3**
comp=Z,0.4nm,0.8s,baz=275,slow=1.6,SNR=4.4
STKA Stephens Creek 147.97 94 PKPbc **PKPbc 19 15 20.8 -0.4**
comp=Z,5.5nm,0.9s,baz=348,slow=3.4,SNR=5.5

MEX 02 18:59:46.4±0.6, 16°.25N×98°.26W, h6km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**42**	*e*P	Pg	18 59 49.7	-0.6
PNIG				*e*S	Sg	18 59 53.1	+0.1

IDC 02 19:03:31.8±2.3, 7°.51S×130°.92E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, ML3.4/2, MS2.7/1, Ms1 2.9/1, ms1mx2.4/24, Error ellipse: s-maj=133.1km s-min=32.3km az=71.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.80**	**165**	Pn	Pn	19 06 35.5	+0.4
0.2nm,0.3s,baz=349,slow=13,SNR=15							
WRA				Sn	Sn	19 08 51.4	-7.0
0.3nm,0.3s,baz=335,slow=22,SNR=6.0							
ASAR	**Alice Springs**	**16.32**	**170**	Pn	Pn	19 07 22.1	-0.4
0.1nm,0.3s,baz=350,slow=10,SNR=5.5							
CMAR	**Chiang Mai Arr**	**40.76**	**310**	LR	LR	19 27 43.2	
comp=Z,11nm,21.9s,baz=192,slow=36							
MKAR	**Makanchi Array**	**69.15**	**327**	P	P	19 14 40.1	0.0
0.5nm,0.6s,baz=133,slow=8.1,SNR=6.8							

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*CRAAG **02** 19:05:57.3, 35°.77N×0°.09E, Ml3.0*
*ISCJB **02** 19:05:58.9±0.7, 35°.89N±0°.04×0°.04W±0°.04, h13km, Error ellipse: s-maj=6.3km s-min=4.2km az=173.9*
*MDD **02** 19:05:59.4±0.7, 35°.70N×0°.10E, h20km±26km, mb3.7/7, Error ellipse: s-maj=32.9km s-min=5.1km az=135.0, PRXIMO*

ISC 02 19:05:57.0±0.9, 35°.75N±0°.05×0°.12E±0°.03, h13km, n25, σ2§02/38, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**0.47**	**207**	P	**Pb**	**19 06 08.6**	**+1.4**
ODJA	**Bouhanifia**	**0.47**	**207**	P	**Pb**	**19 06 08.6**	**+1.4**
OKGL	**Djebel Kef Gue**	**0.51**	**56**	P	**Pn**	**19 06 10.1**	**0.0**
OKGL	**Djebel Kef Gue**	**0.51**	**56**	P	**Pb**	**19 06 09.4**	**+1.5**
172nm,0.1s,SNR=7.9							
OKGL				S	**Sn**	**19 06 18.3**	**-0.4**
1μm,0.3s,SNR=7.9							
EANR	**'Ain N'Sour**	**0.82**	**76**	P	**Sg**	**19 06 26.0**	**+2.3**
EANR	**'Ain N'Sour**	**0.82**	**76**	P	**Sg**	**19 06 26.0**	**+2.3**
ETRT	**Tiaret**	**1.03**	**110**	P	**Sg**	**19 06 28.0**	**-2.3**
ETRT	**Tiaret**	**1.03**	**110**	P	**Sg**	**19 06 28.0**	**-2.3**
ECHF	**Ech Chlef**	**1.07**	**67**	P	**Sg**	**19 06 30.0**	**-1.6**
ECHA	**Ech Chlef**	**1.09**	**68**	P	**Sg**	**19 06 30.0**	**-2.1**
EBNR	**Beni Rached**	**1.27**	**64**	P	**Sg**	**19 06 32.0**	**-5.8**
ENIJ	**Nijar**	**2.24**	**304**	S	**Sn**	**19 06 57.4**	**-3.8**
3.0nm,0.1s,SNR=7.9							
EMUR	**La Murta**	**2.35**	**333**	P	**Pn**	**19 06 35.4**	**0.0**
1.4nm,0.4s,SNR=7.9							
EMUR				S	**Sn**	**19 07 03.0**	**-1.2**
0.9nm,0.2s,SNR=7.9							
EALB	**Alboran**	**2.57**	**275**	P	**Pn**	**19 06 39.9**	**+1.7**
1.5nm,0.2s,SNR=4.0							
EALB				S	**Sn**	**19 07 07.2**	**-2.1**
2.6nm,0.2s,SNR=7.9							
EBER	**Berja**	**2.68**	**296**	P	**Pn**	**19 06 41.2**	**+1.1**
1.7nm,0.1s,SNR=9.0							
EBER				S	**Sn**	**19 07 11.5**	**-1.0**
3.4nm,0.3s,SNR=4.7							
EBEN2	**Beniarda presa**	**2.93**	**355**	S	**Sn**	**19 07 17.2**	**-1.1**
2.6nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**3.18**	**336**	P	**Pn**	**19 06 48.4**	**+1.7**
1.2nm,0.2s,SNR=20							
ETOB				S	**Sn**	**19 07 22.2**	**-2.3**
0.8nm,0.2s,SNR=7.8							
SESP	**Santiago Espad**	**3.18**	**319**	P	**Pn**	**19 06 48.8**	**+1.9**
3.3nm,0.2s,SNR=7.9							
SESP				S	**Sn**	**19 07 23.8**	**-1.0**
1.6nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**3.21**	**298**	P	**Pn**	**19 06 47.5**	**+0.3**
0.8nm,0.1s,SNR=13							
EQUE				S	**Sn**	**19 07 23.3**	**-2.2**
0.3nm,0.1s,SNR=7.2							
ELGU	**Los Guajares,**	**3.22**	**291**	P	**Pn**	**19 06 47.5**	**+0.2**
2.0nm,0.2s,SNR=7.9							
ELGU				S	**Sn**	**19 07 24.5**	**-1.1**
1.7nm,0.2s,SNR=7.9							
EQES	**Quesada**	**3.28**	**310**	P	**Pn**	**19 06 50.2**	**+2.1**
0.7nm,0.3s,SNR=13							
EQES				S	**Sn**	**19 07 26.7**	**-0.4**
3.6nm,0.3s,SNR=8.7							
EIBI	**Ibiza**	**3.41**	**16**	P	**Pn**	**19 06 51.8**	**+1.9**
0.8nm,0.1s,SNR=7.9							
EIBI				S	**Sn**	**19 07 29.6**	**-0.5**
0.4nm,0.1s,SNR=7.9							
EGOR	**Sierra Gorda,**	**3.67**	**293**	P	**Pn**	**19 06 56.7**	**+3.2**
0.2nm,0.2s,SNR=7.9							
EGOR				S	**Sn**	**19 07 36.6**	**-0.1**
0.4nm,0.3s,SNR=7.9							
ECHE	**Chera**	**3.93**	**348**	P	**Pn**	**19 06 58.7**	**+1.7**
0.2nm,0.2s,SNR=7.9							
ECHE				S	**Sn**	**19 07 41.6**	**-1.3**
0.1nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**4.04**	**283**	P	**Pn**	**19 06 57.7**	**-0.8**
0.3nm,0.1s,SNR=7.9							
EMIJ				S	**Sn**	**19 07 43.7**	**-2.0**
1.3nm,0.4s,SNR=7.9							

MEX 02 19:13:00.8±0.4, 15°.54N×93°.81W, h80km±5km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.59**	**74**	*e*P	Pn	19 13 13.9	-1.5
PCIG				*e*S	Sn	19 13 24.6	-1.7
CCIG	**Comitan**	**1.77**	**65**	*e*P	Pn	19 13 28.5	-1.4
CCIG				*i* S	Sn	19 13 50.3	-1.5
CMIG	**Matias Romero**	**1.85**	**326**	*i* P	Pn	19 13 29.9	-0.9
CMIG				*i* S	Sn	19 13 51.4	-2.3

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*IDC **02** 19:18:40.6±1.2, 28°.60N×52°.33E, h0km, mb3.9/7, mb1 3.8/11, mb1mx3.5/46, mbtmp3.8/11, ML3.4/4, Error ellipse: s-maj=27.2km s-min=20.5km az=155.0*
*ISCJB **02** 19:18:42.0±0.4, 28°.54N±0°.03×52°.15E±0°.05, h16km, mb3.8/7, Error ellipse: s-maj=6.3km s-min=3.7km az=151.1*
*THR **02** 19:18:42.8, 28°.58N×52°.20E, h15km, ML3.5*
*TEH **02** 19:18:43.2, 28°.64N×52°.19E, h21km, ML3.8*
*DSN **02** 19:18:44.7±1.2, 28°.83N×52°.61E, h15km, ML3.6/7, Error ellipse: s-maj=24.8km s-min=7.1km az=27.0*
*OMAN **02** 19:18:52.4±99.0, 27°.80N×52°.40E, h6km±999km, ml3.7/4, Error ellipse: s-maj=187.9km s-min=21.1km az=327.0*

ISC 02 19:18:43.3±0.7, 28°.59N±0°.06×52°.24E±0°.06, h16km, n50, σ1§39/53, mb3.9/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.73**	**114**	*e*AML	AML	19 19 11.6	
comp=E,2μm,0.6s							
GHIR				*e*Pg	**Pg**	**19 18 57.2**	**-0.3**
GHIR				*e*AML	AML	19 19 22.8	
comp=N,2μm,0.5s							
SHI	**Shiraz**	**1.08**	**13**	*e*Sg	**Sb**	**19 19 17.2**	**-0.5**
SHI				*e*Pg	**Pb**	**19 19 03.3**	**-0.5**
SHI				IAMB	IAmb	19 19 27.7	
comp=Z,7μm,0.6s							
ISRV	**Sarvestan**	**1.10**	**44**	IAMB	IAmb	19 19 11.6	
comp=Z,11μm,0.3s							
ISRV				*e*Pg	**Pb**	**19 19 03.8**	**-0.5**
JHRM	**Jahrom**	**1.18**	**94**	IAMB	IAmb	19 19 28.7	
comp=Z,0.0nm,0.4s							
JHRM				*e*Pg	**Pg**	**19 19 07.1**	**+0.9**
IKAZ	**Kazeroun**	**1.24**	**344**	IAMB	IAmb	19 19 28.5	
comp=Z,19μm,0.4s							
IKAZ				*e*Pg	**Pn**	**19 19 05.8**	**-0.5**
IRAM	**Ramesheh**	**3.22**	**2**	*e*Pn	**Pn**	**19 19 33.4**	**0.0**
IMEH	**Mehriz**	**3.47**	**36**	*e*Pn	**Pn**	**19 19 39.0**	**+2.0**
ISAD	**Sadrabad**	**3.55**	**20**	*e*Pn	**Pn**	**19 19 39.6**	**+1.6**
JHBN	**Jahan bin**	**3.88**	**340**	*e*Pn	**Pn**	**19 19 44.2**	**+1.6**
ROKH	**ROKH**	**3.89**	**345**	*e*Pn	**Pn**	**19 19 42.7**	**0.0**
NGRK	**Negar Kerman**	**4.07**	**74**	*e*Pn	**Pn**	**19 19 46.4**	**+1.1**
ICHK	**Chekchek**	**4.10**	**27**	*e*Pn	**Pn**	**19 19 47.6**	**+2.0**
KHGB	**Koh Gabri**	**4.11**	**63**	*e*Pn	**Pn**	**19 19 47.5**	**+1.9**
SHME	**Shamm**	**4.30**	**125**	P	**Pn**	**19 19 47.8**	**-0.3**
SHME				S	**Sn**	**19 20 37.7**	**-0.2**
IZEF	**Zefreh**	**4.30**	**1**	*e*Pn	**Pn**	**19 19 49.9**	**+1.6**
YZKH	**Yazd**	**4.30**	**28**	*e*Pn	**Pn**	**19 19 50.4**	**+2.2**
YZKH	**Yazd**	**4.30**	**28**	*e*Pn	**Pn**	**19 19 50.4**	**+2.2**
NAZ	**Nazwa, Dubai**	**4.71**	**139**	*i* P	**Pn**	**19 19 55.5**	**+1.7**
SNR=9.6							
NAZ	**Nazwa, Dubai**	**4.71**	**139**	P	**Pn**	**19 19 55.5**	**+1.7**
SNR=9.6							
MSFE	**Esma-Masafi**	**4.75**	**132**	P	**Pn**	**19 19 55.5**	**+1.1**
IKLH	**Kolahrood**	**4.75**	**353**	*e*Pn	**Pn**	**19 19 56.0**	**+1.4**
CHMN	**Cheshme madani**	**4.81**	**73**	*e*Pn	**Pn**	**19 19 57.2**	**+1.8**
ASUD	**Al Ashush, Dub**	**4.82**	**144**	*i* P	**Pn**	**19 19 57.4**	**+2.2**
SNR=28							
ASUD	**Al Ashush, Dub**	**4.82**	**144**	P	**Pn**	**19 19 57.5**	**+2.2**
SNR=28							
FAQ	**Al Faqa, Dubai**	**4.86**	**141**	P	**Pn**	**19 19 57.0**	**+1.2**
HATD	**Hatta, Dubai**	**5.12**	**136**	P	**Pn**	**19 20 04.0**	**+1.1**
ASHO	**Ashiyiah**	**5.18**	**138**	*i* P	**Pn**	**19 20 01.0**	**+0.8**
SNR=41							
ASHO	**Ashiyiah**	**5.18**	**138**	P	**Pn**	**19 20 01.5**	**+1.3**
SNR=39							
KRSH	**Karshahi**	**5.37**	**359**	*e*Pn	**Pn**	**19 20 03.5**	**+0.6**
ISFB	**Sefidab**	**5.75**	**0**	*e*Pn	**Pn**	**19 20 08.8**	**+0.7**
SOHO	**SOHO**	**5.87**	**138**	P	**Pn**	**19 20 10.4**	**+0.7**
SNR=14							
IKMR	**Kamar-syah**	**5.93**	**327**	*e*Pn	**Pn**	**19 20 10.4**	**0.0**
TKDS	**Koohdasht(Taba**	**6.53**	**39**	*e*Pn	**Pn**	**19 20 20.7**	**+1.8**
TNSJ	**Nastanj**	**6.54**	**34**	*e*Pn	**Pn**	**19 20 20.6**	**+1.6**
IKOM	**Komasi**	**6.88**	**325**	*e*Pn	**Pn**	**19 20 23.6**	**-0.1**
IKOO	**Kooshah**	**6.98**	**55**	*e*Pn	**Pn**	**19 20 26.4**	**+1.2**
WSAR	**Wadi Sarin**	**7.84**	**131**	P	**Pn**	**19 20 38.3**	**+1.6**
SNR=13							
WSAR	**Wadi Sarin**	**7.84**	**131**	Pn	**Pn**	**19 20 35.9**	**-0.9**
comp=Z,1.3nm,0.3s,baz=309,slow=12,SNR=22							
WSAR				Sn	**Sn**	**19 22 01.2**	**-4.0**
comp=Z,0.6nm,0.3s,baz=154,slow=4.0,SNR=3.7							
QALM	**Alamut, Qazvin**	**7.94**	**351**	*e*Pn	**Pn**	**19 20 38.5**	**+0.2**
MHTO	**MHTO**	**9.18**	**144**	P	**Pn**	**19 20 55.8**	**+0.6**
SNR=11							
GEYT	**Alibeck**	**10.54**	**26**	Pn	**Pn**	**19 21 12.8**	**-0.9**
comp=Z,0.1nm,0.3s,baz=215,slow=13,SNR=4.8							
MMAI	**Mount Meron Ar**	**15.12**	**291**	Pn	**Pn**	**19 22 18.3**	**+1.9**
comp=Z,0.4nm,0.3s,baz=112,slow=11,SNR=2.6							
BRTR	**Keskin Array B**	**18.94**	**311**	P	**Pn**	**19 23 04.6**	**+0.1**
comp=Z,0.1nm,0.3s,baz=126,slow=12,SNR=6.4							
MLR	**Muntele Rosu**	**26.75**	**316**	P	**P**	**19 24 23.5**	**+1.1**
comp=Z,0.6nm,0.3s,baz=198,slow=9.2,SNR=3.4							
MKAR	**Makanchi Array**	**29.68**	**44**	P	**P**	**19 24 48.1**	**-0.2**
comp=Z,0.3nm,0.6s,baz=233,slow=8.8,SNR=4.7							
ZALV	**Zalesovo Beam**	**34.72**	**34**	P	**P**	**19 25 31.2**	**-1.1**
comp=Z,0.6nm,0.3s,baz=266,slow=9.8,SNR=4.0							
FINES	**FINESS Array B**	**37.18**	**339**	P	**P**	**19 25 53.0**	**-0.4**
comp=Z,2.4nm,0.9s,baz=125,slow=12,SNR=3.8							
ARCES	**ARCESS Array B**	**43.79**	**347**	P	**P**	**19 26 46.6**	**-1.3**
comp=Z,1.0nm,0.9s,baz=157,slow=9.4,SNR=2.7							
TORD	**Torodi Ar. Bea**	**49.30**	**263**	P	**P**	**19 27 32.1**	**+0.2**
comp=Z,0.9nm,0.5s,baz=59,slow=8.8,SNR=12							
DBIC	**Dimbokro**	**58.03**	**259**	P	**P**	**19 28 35.9**	**0.0**
comp=Z,1.6nm,0.7s,baz=40,slow=7.9,SNR=2.7							

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*ISCJB **02** 19:24:09.7±0.7, 18°.67N±0°.10×145°.7E±0°.2, h200km, mb3.4/12, Error ellipse: s-maj=23.6km s-min=13.7km az=178.9*
*IDC **02** 19:24:12.0±5.9, 18°.66N×145°.71E, h207km±56km, mb3.3/12, mb1 3.5/13, mb1mx3.2/37, mbtmp3.8/13, Error ellipse: s-maj=23.3km s-min=11.5km az=86.0*

ISC 02 19:24:11.2±0.8, 18°.7N±0°.1×145°.7E±0°.2, h200km, n13, σ0§72/14, mb3.5/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**19.00**	**341**	P	**P**	**19 28 17.6**	**-0.2**
0.0nm,0.3s,baz=163,slow=7.0,SNR=3.5							
WRA	**Warramunga Arr**	**39.95**	**197**	P	**P**	**19 31 26.1**	**-0.1**
1.9nm,0.4s,baz=12,slow=8.8,SNR=64							
WRA				PcP	**PcP**	**19 33 27.2**	**-0.4**
0.4nm,0.4s,baz=18,slow=3.6,SNR=4.8							
ASAR	**Alice Springs**	**43.61**	**196**	P	**P**	**19 31 56.0**	**+0.1**
0.6nm,0.4s,baz=11,slow=6.9,SNR=21							
CMAR	**Chiang Mai Arr**	**44.22**	**278**	P	**P**	**19 32 01.8**	**+0.8**
0.2nm,0.6s,baz=88,slow=4.6,SNR=4.2							
STKA	**Stephens Creek**	**50.40**	**185**	P	**P**	**19 32 48.0**	**-0.2**
1.3nm,0.8s,baz=11,slow=10,SNR=3.1							
ZALV	**Zalesovo Beam**	**58.04**	**323**	P	**P**	**19 33 43.7**	**+0.5**
1.5nm,0.7s,baz=102,slow=11,SNR=7.2							
MKAR	**Makanchi Array**	**58.49**	**314**	P	**P**	**19 33 46.6**	**+0.2**
0.3nm,0.7s,baz=83,slow=12,SNR=4.2							
KURBB	**Kurchatov Arra**	**61.35**	**318**	P	**P**	**19 34 05.5**	**-0.2**
0.8nm,0.7s,baz=94,slow=7.3,SNR=10							
ILAR	**Eielson Array**	**63.68**	**26**	P	**P**	**19 34 20.3**	**-0.7**
0.6nm,0.8s,baz=248,slow=4.9,SNR=4.9							
BVAR	**Borovoye Array**	**66.50**	**320**	P	**P**	**19 34 39.4**	**+0.1**
0.7nm,0.6s,baz=99,slow=9.2,SNR=4.3							
YKA	**Yellowknife Ar**	**78.03**	**28**	P	**P**	**19 35 48.2**	**+1.0**
0.5nm,0.7s,baz=291,slow=5.0,SNR=5.4							
NVAR	**Mina Array Bea**	**83.17**	**52**	P	**P**	**19 36 16.1**	**+0.7**
1.1nm,0.7s,baz=257,slow=5.0,SNR=7.2							
FINES	**FINESS Array B**	**86.92**	**335**	P	**P**	**19 36 31.6**	**-1.6**
2.5nm,1.0s,baz=54,slow=4.1,SNR=7.4							

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*ISCJB **02** 19:24:50.0±0.9, 11°.38N±0°.06×86°.19W±0°.08, h68km±17km, Error ellipse: s-maj=14.8km s-min=4.9km az=144.4*
*UCR **02** 19:24:50.5±1.9, 11°.38N×86°.21W, h32km±6km, MD3.9, ML3.2*
*SNET **02** 19:24:53.2±0.3, 12°.32N×85°.76W, h16km±15km, ML3.8*

ISC 02 19:24:51.0±1.6, 11°.39N±0°.06×86°.20W±0°.07, h48km±43km, n21, σ1§16/27, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGAN	**Managua**	**0.75**	**356**	*e*P	**Pn**	**19 25 05.0**	**-0.4**
MGAN				*e*S	**Sn**	**19 25 17.7**	**+1.9**
MGAN				IAML		19 25 18.1	
comp=N,217nm,0.3s							
BUEV	**Buena Vista**	**0.97**	**127**	*i* P	**Pn**	**19 25 07.8**	**-0.7**
NY14	**Universidad de**	**0.98**	**139**	*i* P	**Pn**	**19 25 08.2**	**-0.3**
NY14				*i* S	**Sn**	**19 25 22.5**	**+1.1**
GPS1	**Guardaparques**	**1.03**	**126**	*i* P	**Pn**	**19 25 09.8**	**+0.6**
GPS1				*i* S	**Sn**	**19 25 22.5**	**-0.2**
GPS2	**Hotel Rincn d**	**1.04**	**127**	*i* P	**Pn**	**19 25 09.2**	**-0.2**
ACON	**Acoyapa**	**1.15**	**60**	*e*P	**Pn**	**19 25 10.6**	**-0.2**
ACON				*e*S	**Sn**	**19 25 26.7**	**+1.2**
ACON				IAML		19 25 27.6	
comp=N,54nm,0.3s							
MESS	**Mesas**	**1.18**	**123**	*i* P	**Pn**	**19 25 11.0**	**-0.2**
CNGN	**Cerro Negro**	**1.21**	**336**	*e*P	**Pn**	**19 25 10.2**	**-1.3**
CNGN				*e*S	**Sn**	**19 25 26.5**	**-0.3**
CNGN				IAML		19 25 30.6	
comp=E,294nm,0.4s							
CNGN	**Cerro Negro**	**1.21**	**336**	*e*P	**Pn**	**19 25 10.1**	**-1.5**
CNGN				*e*S	**Sn**	**19 25 23.3**	**-3.6**
COLC	**Colonia**	**1.21**	**127**	*i* P	**Pn**	**19 25 11.6**	**-0.1**
CUI

λ20.00000°. NP2:φs121.00000°,δ71.00000°,λ174.00000°.
Principal axes: T 1.9930, Plg17.0000°, Azm79.0000°; N -0.1730, Plg70.0000°, Azm227.0000°; P -1.8260, Plg10.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
DJA ***02*** *19:40:53.1±0.1,3°N±3°×9°2E±°,h10km,M5.4/60,mB5.8/36, mb5.4/60,MLv6.0/4,Mw(mB)5.3/36,Mwp5.5/2*
KLM ***02*** *19:40:54.0,2°.84N×91°.60E,h10km,mb5.5*
ISC 02 19:40:52.9±0.5,2.75N±0°.04×91°.54E±0°.04,h17km±3km, h18km:pP-P,n667,σ1§41/712,mb5.2/206,MS4.8/76, 50C-35D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**5.93**	**65**	*e*Pn	**Pn**	**19 42 21.8**	**+1.9**
LHMI	**Lhok Sumawe**	**5.93**	**65**	P	**Pn**	**19 42 21.3**	**+1.4**
	2μm,1.2s,27μm9.1nm						
GSI	**Gunungsitoli**	**6.20**	**103**	*e*Pn	**Pn**	**19 42 23.2**	**-0.4**
GSI	**Gunungsitoli**	**6.20**	**103**	P	**Pn**	**19 42 23.6**	**0.0**
	2μm,0.6s,31μm9.6nm						
PSI	**Prapat**	**7.38**	**89**	*e*Pn	**Pn**	**19 42 40.0**	**+0.1**
PSI	**Prapat**	**7.38**	**89**	*e*P	**Pn**	**19 42 40.0**	**+0.1**
PSI	**Prapat**	**7.38**	**89**	Pn	**Pn**	**19 42 39.9**	**0.0**
	3μm,0.3s,baz=273,slow=0.0,SNR=77						
PKDT	**Phuket**	**8.47**	**53**	P	**Pn**	**19 42 56.0**	**+1.1**
	3μm,1.2s,25μm8.1nm						
SISI	**Saibi**	**8.56**	**118**	P	**Pn**	**19 42 55.0**	**-1.1**
PBA	**Port Blair**	**8.93**	**8**	*e*Pn	Pn	19 43 00.8	-0.3
KRAB	**Krabi**	**9.36**	**54**	P	**Pn**	**19 43 07.7**	**+0.7**
PPI	**Padang Panjang**	**9.41**	**110**	P	**Pn**	**19 43 08.4**	**+0.7**
	433nm,0.6s,5μm						
KULM	**Kulim**	**9.43**	**74**	*e*Pn	**Pn**	**19 43 07.8**	**-0.2**
KULM	**Kulim**	**9.43**	**74**	P	**Pn**	**19 43 09.0**	**+1.0**
TRTT	**Trang**	**9.56**	**58**	P	**Pn**	**19 43 10.1**	**+0.4**
	1μm,1.4s,16μm						
IPM	**Ipoh**	**9.62**	**79**	*e*Pn	**Pn**	**19 43 10.1**	**-0.6**
IPM	**Ipoh**	**9.62**	**79**	P	**Pn**	**19 43 11.0**	**+0.4**
PDSI	**Padang**	**9.63**	**112**	P	**Pn**	**19 43 10.5**	**-0.3**
BKNI	**Bangkinang**	**9.80**	**104**	*e*Pn	**Pn**	**19 43 12.4**	**-0.6**
BKNI	**Bangkinang**	**9.80**	**104**	P	**Pn**	**19 43 12.9**	**-0.1**
	569nm,0.6s,6μm						
SKLT	**Songkhla**	**10.05**	**64**	P	**Pn**	**19 43 17.2**	**+0.7**
	346nm,1.4s,5μm						
PPSI	**Pulau Pagai**	**10.08**	**123**	P	**Pn**	**19 43 16.1**	**-0.9**
	1000nm,0.7s,9μm						
PALK	**Pallekele**	**11.69**	**293**	Pn	**Pn**	**19 43 38.1**	**-0.9**
	18nm,0.3s,baz=116,slow=12,SNR=142						
PALK				Sn	Sn	19 45 38.9	-10
	116nm,0.3s,baz=116,slow=2.6,SNR=39						
PALK				LR	LR	19 47 28.9	
	comp=Z,2μm,19.4s,baz=116,slow=34						
MYKOM	**Kota Tinggi**	**12.34**	**94**	*e*Pn	**Pn**	**19 43 46.5**	**-1.3**
MYKOM	**Kota Tinggi**	**12.34**	**94**	P	**Pn**	**19 43 48.0**	**+0.2**
PHET	**Kaeng Krachan**	**12.88**	**38**	P	**Pn**	**19 43 57.0**	**+1.7**
	233μm,1.1s						
TPRI	**Tanjung Pinang**	**13.11**	**98**	P	**Pn**	**19 43 57.3**	**-1.0**
	136nm,1.0s,1μm						
MNAI	**Manna**	**13.42**	**122**	*e*Pn	**Pn**	**19 44 01.7**	**-1.0**
DSRI	**Dabo**	**13.42**	**104**	P	**Pn**	**19 44 02.7**	**0.0**
	234nm,1.2s						
SRDT	**SRDT**	**13.74**	**33**	P	**Pn**	**19 44 08.4**	**+1.4**
	55nm,1.2s,2μm						
UTHA	**Uthaitani**	**14.92**	**31**	P	**Pn**	**19 44 23.6**	**+0.5**
	175μm,1.0s						
UMPA	**Umpang Tak**	**15.19**	**28**	P	**Pn**	**19 44 26.1**	**-0.6**
	334μm,0.7s						
PPBI	**Pangkal Pinang**	**15.39**	**108**	P	**Pn**	**19 44 30.5**	**+1.2**
	110nm,1.5s,2μm						
CHAI	**Chaiyaphum**	**16.63**	**38**	P	**Pn**	**19 44 45.9**	**+0.6**
	315μm,1.3s						
CGJI	**Cibinong**	**16.92**	**123**	P	**Pn**	**19 44 49.0**	**+0.1**
	170nm,1.2s,2μm						
TPI	**Tanjungpandan**	**17.01**	**109**	P	**P**	**19 44 51.3**	**-0.6**
	107nm,1.8s,2μm						
CM31	**Chiang Mai Arr**	**17.21**	**24**	*e*Pn	**Pn**	**19 44 52.7**	**+0.1**
	152nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.21**	**24**	*e*Pn	**Pn**	**19 44 51.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**17.21**	**24**	P	**Pn**	**19 44 52.8**	**+0.2**
	0.5nm,0.3s,baz=217,slow=14,SNR=112						
SIMRM	**Sittwe**	**17.32**	**4**	*e*Pn	**P**	**19 44 54.8**	**-0.5**
	232nm,1.0s						
UTTA	**Uttaradit**	**17.33**	**30**	P	**P**	**19 44 55.0**	**-0.3**
	141μm,1.2s						
KHON	**Khomkaen**	**17.48**	**39**	P	**P**	**19 44 57.0**	**0.0**
	212μm,0.9s						
CHTO	**Chiang Mai**	**17.53**	**24**	*e*Pn	**Pn**	**19 44 56.5**	**-0.1**
	245nm,1.3s						
CHTO	**Chiang Mai**	**17.53**	**24**	*e*P	**Pn**	**19 44 56.5**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,245nm,1.3s						
CHTO	**Chiang Mai**	**17.53**	**24**	P	**P**	**19 44 59.2**	**+1.6**
	SNR=80						
CMMT	**Chiang Mai**	**17.53**	**24**	P	**Pn**	**19 44 56.7**	**+0.1**
	comp=Z,76nm,1.2s,comp=Z,730nm						
LAMP	**Lampang**	**17.56**	**26**	P	**P**	**19 44 57.9**	**-0.1**
	comp=Z,228μm,1.1s						
SKJI	**Sukabumi**	**17.85**	**123**	P	P	19 45 08.9	+7.7
LEM	**Lembang**	**18.66**	**121**	P	**P**	**19 45 09.8**	**-0.5**
	comp=Z,3.2nm,0.3s,baz=318,slow=3.5,SNR=10						
LEM				LR	LR	19 51 50.9	
	comp=Z,2μm,19.3s,baz=286,slow=36						
SKNT	**Sakolnakorn**	**18.69**	**40**	P	**Pn**	**19 45 10.7**	**-0.1**
	comp=Z,273nm,1.6s,comp=Z,4μm						
KSM	**Kuching**	**18.80**	**93**	*e*P	**Pn**	**19 45 12.4**	**+0.2**
	comp=Z,577nm,1.4s						
KSM	**Kuching**	**18.80**	**93**	P	**Pn**	**19 45 14.0**	**+1.8**
NONG	**Nongkai**	**19.00**	**36**	P	**Pn**	**19 45 14.6**	**0.0**
	comp=Z,5.2nm,1.2s						
DLV	**T Lat**	**19.11**	**61**	*e*P	**Pn**	**19 45 15.9**	**-0.3**
	comp=Z,344nm,1.1s						
CISI	**Cisompet, Garu**	**19.20**	**122**	P	**P**	**19 45 16.4**	**+0.3**
PANO	**Nakornpanom**	**19.22**	**41**	P	**P**	**19 45 16.6**	**+0.3**
	comp=Z,4.5nm,1.0s,comp=Z,168nm						
HYB	**Hyderabad**	**19.36**	**320**	⇓*i*P	**Pn**	**19 45 19.5**	**+0.5**
	comp=Z,154nm,0.8s						
HYB				*e*		19 48 36.0	
HYB				*e*S	**Sn**	**19 48 56.0**	**0.0**
BRDH	**Bariadhala**	**19.81**	**0**	P	**P**	**19 45 23.2**	**+0.7**
	comp=Z,47nm,0.3s,baz=136,slow=4.4,SNR=9.5						
SBUM	**Sibu**	**20.66**	**90**	*e*P	**P**	**19 45 33.0**	**+1.0**
	comp=Z,128nm,1.2s						
SBUM	**Sibu**	**20.66**	**90**	P	**P**	**19 45 33.0**	**+1.0**
SMRI	**Semarang**	**21.23**	**117**	*e*P	**P**	**19 45 37.8**	**-0.3**
	comp=Z,166nm,0.9s						
SMRI	**Semarang**	**21.23**	**117**	P	**P**	**19 45 38.9**	**+0.8**
	comp=Z,243nm,1.1s						
H08S2	**Diego Garcia H**	**21.63**	**241**	T	T	20 07 30.3	
	baz=61,slow=75,SNR=311						
H08S3	**Diego Garcia H**	**21.63**	**241**	T	T	20 07 30.7	
	baz=61,slow=75,SNR=260						
H08S1	**Diego Carcia H**	**21.65**	**241**	T	T	20 07 25.6	
	baz=61,slow=75,SNR=248						
NGJI	**Ngawi**	**22.28**	**117**	P	**P**	**19 45 50.4**	**+1.0**
H08N1	**Diego Carcia H**	**22.40**	**246**	P	**P**	**19 45 43.7**	**-6.7**
	baz=59,slow=8.2,SNR=5.9						
H08N1				T	T	20 09 01.7	
	baz=134,slow=74,SNR=2.6						
PCJI	**Pacitan**	**22.40**	**119**	P	**P**	**19 45 54.4**	**+3.7**
	comp=Z,82nm,1.5s						
H08N2	**Diego Garcia H**	**22.40**	**246**	P	**P**	**19 45 45.1**	**-5.3**
	baz=59,slow=8.2,SNR=6.9						
H08N2				T	T	20 09 01.7	
	baz=146,slow=74,SNR=8.1						
H08N3	**Diego Garcia H**	**22.42**	**246**	P	**P**	**19 45 45.5**	**-5.1**
	baz=59,slow=8.2,SNR=4.0						
H08N3				T	T	20 08 59.3	
	SNR=3.0						
SHL	**Shillong**	**22.68**	**1**	*e*P	**P**	**19 45 52.8**	**-1.0**
	comp=Z,156nm,0.5s						
SHL	**Shillong**	**22.68**	**1**	*e*P	**P**	**19 45 52.8**	**-1.0**
SHL				pmax	pmax		
	comp=Z,156nm,0.5s						
JBP	**Jabalpur**	**23.18**	**332**	*e*P	**P**	**19 45 59.6**	**+0.8**
JBP				*e*S	**S**	**19 50 12.1**	**+2.2**
QIZ	**Qiongzhong**	**24.13**	**47**	P	**P**	**19 46 08.8**	**+0.7**
QIZ				S	**S**	**19 50 27.7**	**+2.3**
QIZ				pmax	pmax		
	comp=Z,91nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,700nm,3.4s						
QIZ				LR	LR		
	comp=Z,7μm,14.7s						
QIZ				LR	LR		
	comp=Z,2μm,13.4s						
QIZ				LR	LR		
	comp=Z,3μm,15.2s						
QIZ	**Qiongzhong**	**24.13**	**47**	*e*P	**P**	**19 46 08.6**	**+0.5**
	comp=Z,210nm,1.4s						
RAMN	**Ramite**	**24.52**	**349**	*e*P	**P**	**19 46 13.5**	**+1.6**
	comp=Z,962nm,1.0s						
KMI	**Kunming**	**24.72**	**25**	P	**P**	**19 46 15.7**	**+2.1**
KMI				pP	sP	19 46 21.1	+1.8
KMI				sP	pwP	19 46 23.3	0.0
KMI				PP	pP	19 46 53.1	+35
KMI				S	**S**	**19 50 35.5**	**+0.3**
KMI				SS	SnSn	19 51 37.7	+16
KMI				pmax	pmax		
	comp=Z,150nm,1.1s						
KMI				pmax	pmax		
	comp=Z,410nm,3.6s						
KMI				LR	LR		
	comp=Z,2μm,19.8s						
KMI				LR	LR		
	comp=Z,3μm,18.6s						
KMI				LR	LR		
	comp=Z,1μm,25.5s						
KMI	**Kunming**	**24.72**	**25**	*e*P	**P**	**19 46 15.0**	**+1.4**
	comp=Z,140nm,0.9s						
KMI	**Kunming**	**24.72**	**25**	*e*P	**P**	**19 46 15.0**	**+1.4**
KMI				pmax	pmax		
	comp=Z,140nm,0.9s						
KKM	**Kota Kinabalu**	**24.81**	**82**	*e*P	**P**	**19 46 14.9**	**+0.4**
	comp=Z,133nm,1.1s						
KKM	**Kota Kinabalu**	**24.81**	**82**	P	**P**	**19 46 16.0**	**+1.5**
JIRN	**Jiri**	**25.29**	**349**	*e*P	**P**	**19 46 20.2**	**+1.3**
	comp=Z,927nm,1.0s						
PKI	**Pulchoki**	**25.37**	**347**	*e*P	**P**	**19 46 20.3**	**+0.7**
	comp=Z,370nm,1.2s						
PKIN	**Phulchoki**	**25.38**	**347**	*e*P	**P**	**19 46 20.3**	**+0.7**
	comp=Z,138nm,1.0s						
DMN	**Daman**	**25.47**	**347**	*e*P	**P**	**19 46 21.5**	**+1.0**
	comp=Z,208nm,0.9s						
KKN	**Kakani**	**25.61**	**347**	*e*P	**P**	**19 46 22.5**	**+0.9**
	comp=Z,341nm,1.1s						
BKB	**Balikpapan**	**25.66**	**99**	P	P	19 46 30.1	+8.1
GKN	**Gorkha**	**25.96**	**346**	*e*P	**P**	**19 46 25.7**	**+0.9**
	comp=Z,375nm,1.1s						
KOLN	**Koldanda**	**26.01**	**344**	*e*P	**P**	**19 46 26.7**	**+1.4**
	comp=Z,205nm,0.7s						
SGKI	**Sangatta, Kali**	**26.26**	**97**	P	**P**	**19 46 29.1**	**+1.6**
	comp=Z,197nm,1.2s,comp=Z,2μm						
PYUN	**Piuthan**	**26.50**	**343**	*e*P	**P**	**19 46 30.7**	**+1.0**
	comp=Z,286nm,1.2s						
DANN	**Dangsing**	**26.52**	**344**	*e*P	**P**	**19 46 30.7**	**+0.7**
	comp=Z,241nm,0.9s						
BATP	**Bataraza**	**26.80**	**76**	*e*P	**P**	**19 46 33.2**	**+0.9**
LSA	**Lhasa**	**26.80**	**359**	P	**P**	**19 46 33.9**	**+1.2**
LSA	**Lhasa**	**26.80**	**359**	*e*P	**P**	**19 46 34.3**	**+1.6**
	comp=Z,84nm,0.6s						
LSA	**Lhasa**	**26.80**	**359**	*e*P	**P**	**19 46 34.3**	**+1.6**
LSA				pmax	pmax		
	comp=Z,84nm,0.6s						
GYA	**Guiyang**	**27.68**	**30**	⇑*i*P	**P**	**19 46 41.0**	**+0.7**
GYA				pP	pP	19 46 44.4	+0.1
GYA				PP	PP	19 47 27.2	-16
GYA				PcP	**PcP**	**19 49 59.0**	**+1.7**
GYA				S	**S**	**19 51 21.3**	**-0.6**
GYA				ScP	**ScP**	**19 53 37.2**	**-0.3**
GYA				ScS	**ScS**	**19 57 28.3**	**-1.3**
GYA				pmax	pmax		
	comp=Z,80nm,1.0s						
GYA				pmax	pmax		
	comp=Z,100nm,4.0s						
GYA				LR	LR		
	comp=Z,3μm,16.9s						
GYA				LR	LR		
	comp=Z,3μm,17.7s						
GYA				LR	LR		
	comp=Z,2μm,19.3s						
MCO	**Taipa Grande**	**28.77**	**46**	P	**P**	**19 46 52.0**	**+2.1**
ENPP	**El Nido**	**28.90**	**72**	*e*P	**P**	**19 46 51.4**	**+0.2**
KAPI	**Kappang**	**29.22**	**105**	*e*P	**P**	**19 46 53.6**	**-0.4**
	comp=Z,28nm,0.9s						
KAPI	**Kappang**	**29.22**	**105**	*e*P	**P**	**19 46 53.6**	**-0.4**
KAPI				pmax	pmax		
	comp=Z,28nm,0.9s						
GZH	**Guangzhou**	**29.24**	**44**	P	P	19 46 59.9	+5.9
GZH				S	S	19 51 56.7	+11
GZH				LR	LR		
	comp=Z,6μm,17.0s						
GZH				LR	LR		
	comp=Z,5μm,17.3s						
BNSI	**Bone**	**29.41**	**104**	P	**P**	**19 46 58.4**	**+2.7**
	comp=Z,33nm,1.5s,comp=Z,949nm						
BKSI	**Bulukumba**	**29.66**	**106**	P	**P**	**19 46 58.8**	**+0.9**
	comp=Z,38nm,1.1s,comp=Z,480nm						
BUSP	**Coron**	**29.84**	**71**	*e*P	**P**	**19 46 58.6**	**-0.8**
CD2	**Chengdu**	**30.29**	**21**	⇑*i*P	**P**	**19 47 04.0**	**+0.6**
CD2				pP	sP	19 47 09.7	+0.6
CD2				S	**S**	**19 52 00.7**	**-2.0**
CD2				SS	**ScP**	**19 53 48.7**	**+3.2**
CD2				pmax	pmax		
	comp=Z,90nm,1.0s						
CD2				pmax	pmax		
	comp=Z,550nm,7.3s						
CD2				LR	LR		
	comp=Z,4μm,14.5s						
CD2				LR	LR		
	comp=Z,6μm,16.3s						
CD2				LR	LR		
	comp=Z,3μm,13.7s						
APSI	**Ampana**	**30.32**	**96**	P	**P**	**19 47 06.7**	**+3.0**
	comp=Z,34nm,1.1s,comp=Z,713nm						
CUYO	**Cuyo Island**	**30.33**	**73**	*e*P	**P**	**19 47 04.6**	**+0.7**
LUBP	**Lubang**	**30.39**	**67**	*e*P	**P**	**19 47 04.1**	**-0.2**
MRSI	**Marisa**	**30.47**	**94**	P	**P**	**19 47 05.3**	**+0.2**
	comp=Z,50nm,1.6s,comp=Z,811nm						
SCZP	**Santa Cruz**	**30.79**	**63**	*e*P	**P**	**19 47 06.8**	**-1.0**
SJMP	**San Jose**	**30.83**	**70**	*e*P	**P**	**19 47 09.2**	**+1.0**
LUWI	**Luwuk**	**31.45**	**96**	*e*P	**P**	**19 47 12.9**	**-0.8**
	comp=Z,105nm,1.1s						
LUWI	**Luwuk**	**31.45**	**96**	P	**P**	**19 47 17.2**	**+3.5**
	comp=Z,86nm,1.2s						
OTRP	**Odiongan**	**31.65**	**71**	*e*P	**P**	**19 47 15.1**	**-0.4**
BOAC	**Boac**	**31.78**	**69**	*e*P	**P**	**19 47 13.3**	**-3.3**
GUIM	**Jordan**	**31.79**	**74**	*e*P	**P**	**19 47 18.0**	**+1.3**
BHK	**Bhakra**	**31.88**	**335**	*e*P	**P**	**19 47 19.2**	**+1.9**
BHK				*e*S	PP	19 48 15.4	-14
BBSI	**Bau Bau**	**32.06**	**105**	P	**P**	**19 47 20.1**	**+1.0**
	comp=Z,25nm,1.4s						
PAGZ	**Pagadian**	**32.09**	**80**	*e*P	**P**	**19 47 20.7**	**+1.3**
RCP	**Roxas**	**32.14**	**73**	⇑*e*P	**P**	**19 47 21.4**	**+1.6**
ABRA	**Dolores**	**32.22**	**61**	*e*P	**P**	**19 47 22.5**	**+2.1**
ENH	**Enshi**	**32.22**	**30**	*e*P	**P**	**19 47 20.3**	**0.0**
	comp=Z,29nm,0.9s						
BALP	**Baler**	**32.27**	**65**	*e*P	**P**	**19 47 21.4**	**+0.5**
KMSI	**Cibinong**	**32.50**	**93**	P	**P**	**19 47 25.4**	**+2.5**
	comp=Z,119nm,1.1s,comp=Z,2μm						
AUQP	**San Andres**	**32.52**	**69**	*e*P	**P**	**19 47 22.5**	**-0.6**
MMRI	**Maumere**	**32.63**	**111**	*e*P	**P**	**19 47 19.9**	**-4.2**
	comp=Z,70nm,1.6s						
APYP	**Conner**	**32.77**	**61**	*e*P	**P**	**19 47 26.1**	**+0.9**
LLP	**Lapu-Lapu**	**33.05**	**75**	*e*P	**P**	**19 47 28.8**	**+1.0**
CGP	**Cagayan de Oro**	**33.46**	**79**	⇓*e*P	**P**	**19 47 32.5**	**+1.1**
BUKP	**Musuan**	**33.75**	**80**	*e*P	**P**	**19 47 35.4**	**+1.4**
OCLP	**Ormoc**	**33.82**	**74**	*e*P	**P**	**19 47 34.2**	**-0.3**
MSLP	**Maasin**	**33.88**	**76**	*e*P	**P**	**19 47 34.1**	**-1.0**
SGSI	**Sangihe**	**33.95**	**88**	P	**P**	**19 47 37.9**	**+2.3**
	comp=Z,131nm,1.3s,comp=Z,2μm						
QZH	**Quanzhou**	**34.15**	**47**	⇑*i*P	**P**	**19 47 38.6**	**+1.4**
QZH				S	**S**	**19 53 05.8**	**+2.9**
QZH				pmax	pmax		
	comp=Z,53nm,1.3s						
QZH				pmax	pmax		
	comp=Z,620nm,3.8s						
QZH				LR	LR		
	comp=Z,4μm,17.8s						
QZH				LR	LR		
	comp=Z,3μm,18.0s						
QZH				LR	LR		
	comp=Z,3μm,13.3s						
DAV	**Davao City (W)**	**34.17**	**82**	*e*P	**P**	**19 47 38.1**	**+0.5**
	comp=Z,437nm,1.4s						
DAV	**Davao City (W)**	**34.17**	**82**	P	**P**	**19 47 39.4**	**+1.8**
	SNR=6.5						
CNP	**Catarman**	**34.19**	**72**	*e*P	**P**	**19 47 38.6**	**+0.9**
DDMP	**Don Marcelino,**	**34.22**	**83**	*e*P	**P**	**19 47 38.4**	**+0.4**
BUTP	**Butuan**	**34.44**	**78**	*e*P	**P**	**19 47 40.5**	**+0.6**
BATI	**Baumata**	**34.48**	**112**	P	**P**	**19 47 38.0**	**-2.2**
	comp=Z,14nm,1.1s,comp=Z,342nm						
BESP	**Borongan**	**34.72**	**74**	*e*P	**P**	**19 47 43.0**	**+0.7**
SANI	**Sanana**	**34.77**	**98**	P	**P**	**19 47 41.8**	**-0.9**
	comp=Z,67nm,1.6s,comp=Z,1μm						
TPUB	**Ta-pu**	**34.79**	**52**	*e*P	**P**	**19 47 43.6**	**+0.9**
	comp=Z,72nm,1.1s						
SOEI	**Soe**	**34.89**	**111**	*e*P	**P**	**19 47 40.2**	**-3.6**
	comp=Z,28nm,1.0s						
SOEI	**Soe**	**34.89**	**111**	P	**P**	**19 47 41.9**	**-2.0**
TWG	**Pinlang**	**34.89**	**53**	*e*P	**P**	**19 47 43.5**	**-0.2**
	comp=Z,598nm,1.4s						
WHN	**Wuhan**	**35.07**	**36**	⇑*i*P	**P**	**19 47 46.3**	**+1.2**
WHN				S	**S**	**19 53 18.5**	**+1.6**
WHN				SS	**SnSn**	**19 55 38.1**	**+4.6**
WHN				pmax	pmax		
	comp=Z,170nm,0.9s						
WHN				pmax	pmax		
	comp=Z,500nm,9.9s						
WHN				LR	LR		
	comp=Z,1μm,10.3s						
WHN				LR	LR		
	comp=Z,4μm,14.1s						
WHN				LR	LR		
	comp=Z,5μm,17.0s						
LZH	**Lanzhou**	**35.07**	**17**	⇓P	**P**	**19 47 46.4**	**+1.2**
LZH				pP	sP	19 47 52.3	+1.4
LZH				sP	pwP	19 47 55.4	+0.5
LZH				S	**S**	**19 53 14.1**	**-3.0**
LZH				pmax	pmax		
	comp=Z,40nm,1.3s						
LZH				pmax	pmax		
	comp=Z,230nm,6.0s						
LZH				LR	LR		
	comp=Z,2μm,17.9s						
LZH				LR	LR		
	comp=Z,3μm,17.9s						
LZH				LR	LR		
	comp=Z,2μm,17.9s						
XAN	**Xi'an**	**35.10**	**26**	P	**P**	**19 47 45.1**	**-0.3**
XAN				pP	pwP	19 47 57.1	+2.1
XAN				sP	sP	19 48 02.3	+11
XAN				S	**S**	**19 53 11.6**	**-5.8**
XAN				PcS	**PcS**	**19 54 03.0**	**-0.9**
XAN				pmax	pmax		
	comp=Z,32nm,1.0s						
XAN				pmax	pmax		
	comp=Z,150nm,4.3s						
XAN				LR	LR		
	comp=Z,3μm,14.7s						
XAN				LR	LR		
	comp=Z,2μm,14.5s						
XAN				LR	LR		
	comp=Z,1μm,18.1s						
XAN	**Xi'an**	**35.10**	**26**	*e*P	**P**	**19 47 44.7**	**-0.7**
	comp=Z,84nm,1.1s						
XAN	**Xi'an**	**35.10**	**26**	*e*P	**P**	**19 47 44.7**	**-0.7**
XAN				pmax	pmax		
	comp=Z,84nm,1.1s						
NIL	**Nilore**	**35.17**	**333**	*e*P	**P**	**19 47 46.4**	**+0.4**
	comp=Z,190nm,0.8s						
NIL	**Nilore**	**35.17**	**333**	*e*P	**P**	**19 47 46.4**	**+0.4**
NIL				pmax	pmax		
	comp=Z,190nm,0.8s						
SSLB	**Suanglung**	**35.30**	**51**	*e*P	**P**	**19 47 46.7**	**-0.5**
	comp=Z,145nm,1.5s						
YULB	**Yu-li**	**35.36**	**52**	*e*P	**P**	**19 47 47.8**	**+0.1**
	comp=Z,82nm,1.1s						
TNTI	**Ternate**	**35.86**	**92**	*e*P	**P**	**19 47 50.6**	**-1.6**
	comp=Z,73nm,1.3s						
YHNB	**Yeheng**	**36.09**	**50**	*e*P	**P**	**19 47 54.6**	**+0.5**
	comp=Z,119nm,1.5s						
MBWA	**Marble Bar**	**36.43**	**132**	*e*P	**P**	**19 47 57.0**	**+0.1**
	comp=Z,14nm,0.7s						
PSA00	**Pilbara Seismi**	**36.76**	**132**	*e*P	**P**	**19 47 59.8**	**+0.1**
	comp=Z,18nm,0.9s						
MSEY	**Mahe Island**	**36.78**	**259**	*e*P	**P**	**19 48 01.5**	**+1.4**
	comp=Z,83nm,1.1s						
MSEY	**Mahe Island**	**36.78**	**259**	*ce*P	**P**	**19 48 02.5**	**+2.4**
GTA	**Gaotai**	**37.26**	**11**	⇑P	**P**	**19 48 04.9**	**+1.0**
GTA				pP	sP	19 48 09.4	-0.2
GTA				sP	pwP	19 48 12.0	-1.5
GTA				S	**S**	**19 53 49.9**	**-0.6**
GTA				SS	**SnSn**	**19 56 22.9**	**-3.6**
GTA				pmax	pmax		
	comp=Z,11nm,1.1s						
GTA				pmax	pmax		
	comp=Z,210nm,8.7s						
GTA				LR	LR		
	comp=Z,810nm,18.7s						
GTA				LR	LR		
	comp=Z,880nm,17.5s						
GTA				LR	LR		
	comp=Z,990nm,18.4s						
KBL	**Kabul**	**37.93**	**329**	*e*P	**P**	**19 48 10.5**	**+0.8**
	comp=Z,25nm,0.8s						
KBL	**Kabul**	**37.93**	**329**	*e*P	**P**	**19 48 10.5**	**+0.8**
KBL				pmax	pmax		
	comp=Z,25nm,0.8s						
NJ2	**Nanjing**	**38.85**	**38**	⇑*i*P	**P**	**19 48 18.3**	**+1.1**
NJ2				S	**S**	**19 54 16.2**	**+1.7**
NJ2				SS	**SS**	**19 57 00.4**	**-5.6**
NJ2				pmax	pmax		
	comp=Z,43nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,340nm,6.0s						
NJ2				LR	LR		
	comp=Z,3μm,20.1s						
NJ2				LR	LR		
	comp=Z,2μm,19.8s						
NJ2				LR	LR		
	comp=Z,2μm,16.7s						
MEEK	**Meekatharra**	**39.21**	**140**	P	**P**	**19 48 21.2**	**+0.8**
	baz=39,SNR=11						
KSH	**Kashi**	**39.24**	**341**	P	**P**	**19 48 19.6**	**-0.9**
KSH				pP	pP	19 48 23.9	-0.8
KSH				PP	**PP**	**19 49 55.1**	**+4.4**
KSH				S	**S**	**19 54 17.7**	**-2.7**
KSH				SS	**SS**	**19 57 04.3**	**-10**
KSH				pmax	pmax		
	comp=Z,41nm,0.9s						
KSH				pmax	pmax		
	comp=Z,680nm,4.0

comp=Z,94nm,2.6s
TIA LR LR
comp=Z,850nm,23.5s
TIA LR LR
comp=Z,860nm,22.1s
TIA LR LR
comp=Z,790nm,23.5s
GAR Garm 40.94 334 *e*P **P 19 48 34.3 -0.4**
comp=Z,207nm,1.1s
GAR Garm 40.94 334 *e*P **P 19 48 34.3 -0.4**
GAR pmax pmax
comp=Z,207nm,1.1s
BLDU Ballidu 40.96 146 P **P 19 48 35.7 +0.9**
baz=41,SNR=8.4
NRN Naryn 40.97 342 *e*P **P 19 48 35.0 -0.1**
comp=Z,59nm,1.5s
NRN Naryn 40.97 342 *e*P **P 19 48 35.0 -0.1**
NRN pmax pmax
comp=Z,59nm,1.5s
WMQ Urumqi 41.04 356 *e*P **P 19 48 36.6 +1.3**
WMQ pP sP 19 48 41.2 +0.1
WMQ sP pwP 19 48 45.2 +0.2
WMQ PP **PnPn 19 50 14.2 -0.4**
WMQ S **S 19 54 47.1 0.0**
WMQ pmax pmax
comp=Z,110nm,1.1s
WMQ pmax pmax
comp=Z,510nm,3.6s
WMQ LR LR
comp=Z,6μm,22.7s
WMQ LR LR
comp=Z,7μm,28.5s
WMQ LR LR
comp=Z,4μm,22.7s
WMQ Urumqi 41.04 356 *e*P **P 19 48 36.3 +1.0**
comp=Z,85nm,1.9s
WMQ Urumqi 41.04 356 *e*P **P 19 48 36.3 +1.0**
WMQ pmax pmax
comp=Z,85nm,1.9s
FAKI Fak Fak 41.08 98 *e*P **P 19 48 34.7 -1.4**
comp=Z,65nm,1.2s
KNRA Kununurra 41.12 118 P **P 19 48 35.2 -1.1**
baz=41,SNR=9.1
BTO Baotou 41.22 21 *e*P **P 19 48 35.3 -1.6**
KDJ Kajisay 41.26 344 *e*P **P 19 48 38.3 +0.9**
comp=Z,41nm,0.9s
KDJ Kajisay 41.26 344 *e*P **P 19 48 38.3 +0.9**
KDJ pmax pmax
comp=Z,41nm,0.9s
PRZ Przheval'sk 41.27 345 *e*P **P 19 48 38.7 +1.3**
comp=Z,98nm,1.0s
PRZ Przheval'sk 41.27 345 *e*P **P 19 48 38.7 +1.3**
PRZ pmax pmax
comp=Z,98nm,1.0s
BTK Batken 41.62 336 *e*P **P 19 48 41.4 +1.2**
comp=Z,148nm,1.2s
BTK Batken 41.62 336 *e*P **P 19 48 41.4 +1.2**
BTK pmax pmax
comp=Z,148nm,1.2s
ULHL Ulahol 41.64 343 P **P 19 48 41.5 +1.0**
SNR=30
MUN Mundaring 41.73 148 P **P 19 48 42.6 +1.5**
baz=42,SNR=5.2
KZA Kyzart 41.79 342 P **P 19 48 42.6 +0.6**
SNR=24
BOOM Boomskoye usch 41.95 343 *e*P **P 19 48 43.1 +0.1**
comp=Z,28nm,0.8s
BOOM Boomskoye usch 41.95 343 *e*P **P 19 48 43.1 +0.1**
BOOM pmax pmax
comp=Z,28nm,0.8s
HHC Hu-ho-hao-te 42.01 23 *e*P **P 19 48 44.8 +1.4**
HHC sP pwP 19 48 51.8 -1.3
HHC S **S 19 55 02.5 +0.7**
HHC SS **SS 19 58 05.0 -4.2**
HHC pmax pmax
comp=Z,110nm,1.0s
HHC pmax pmax
comp=Z,510nm,5.0s
HHC LR LR
comp=Z,2μm,14.1s
HHC LR LR
comp=Z,2μm,13.7s
HHC LR LR
comp=Z,1μm,15.6s
UCH Uchtor 42.16 341 P **P 19 48 45.7 +0.7**
SNR=38
MTN Manton Dam 42.25 112 *e*P **P 19 48 43.8 -1.8**
comp=Z,9.8nm,1.0s
MTN Manton Dam 42.25 112 P **P 19 48 44.2 -1.4**
baz=42,SNR=3.2
KLBR Kellerberrin 42.28 146 P **P 19 48 46.3 +0.7**
baz=42,SNR=9.0
AML Almayashu 42.34 340 P **P 19 48 47.4 +1.0**
SNR=82
KBK Karagaybulak 42.41 342 P **P 19 48 47.9 +1.2**
SNR=46
TKM2 Tokmak 2 42.45 343 P **P 19 48 48.2 +1.1**
SNR=37
AAK Ala-Archa 42.53 341 P **P 19 48 48.8 +1.1**
SNR=16
AAK Ala-Archa 42.53 341 *e*P **P 19 48 48.5 +0.8**
comp=Z,33nm,1.2s
AAK Ala-Archa 42.53 341 *de*P **P 19 48 48.2 +0.5**
AAK pmax pmax
comp=Z,35nm,1.3s
AAK Ala-Archa 42.53 341 P **P 19 48 48.5 +0.8**
SNR=16
AAK P **P 19 48 48.5 +0.8**
SNR=16
AAK Ala-Archa 42.53 341 P **P 19 48 48.6 +0.8**
comp=Z,12nm,0.9s,baz=147,slow=6.5,SNR=31
JOW Kunigami 42.55 52 *e*P **P 19 48 48.8 +0.9**
comp=Z,30nm,0.9s
FRU1 Bishkek 42.65 342 *e*P **P 19 48 49.1 +0.6**
comp=Z,29nm,1.1s
FRU1 Bishkek 42.65 342 *e*P **P 19 48 49.1 +0.6**
FRU1 pmax pmax
comp=Z,29nm,1.1s
CHMS Chumysh 42.78 342 P **P 19 48 49.9 +0.3**
SNR=5.9
EKS2 Erkin-Say 42.79 341 P **P 19 48 51.5 +1.7**
SNR=48
PALU Palau 42.99 82 P **P 19 48 51.1 -0.6**
baz=43,SNR=9.0
H01W3 Cape Leeuwin H 43.03 152 T T 20 35 00.8
baz=40,slow=74,SNR=7.0
H01W2 Cape Leeuwin H 43.04 152 T T 20 34 58.7
baz=334,slow=74,SNR=11
H01W1 Cape Leeuwin H 43.05 152 T T 20 34 54.7
SNR=7.6
USP Ospenovka 43.10 342 P **P 19 48 52.6 +0.5**
SNR=33
BJT Baijiatuau 43.29 28 *e*P **P 19 48 53.6 -0.1**
comp=Z,62nm,1.3s
BJT Baijiatuau 43.29 28 *e*P **P 19 48 53.6 -0.1**
BJT pmax pmax
comp=Z,62nm,1.3s
BJI Beijing 43.31 28⇑*i*P **P 19 48 55.6 +1.7**
BJI PP **PcP 19 50 42.1 -0.5**
BJI S **S 19 55 23.2 +2.5**
BJI pmax pmax
comp=Z,20nm,1.0s
BJI LR LR
comp=Z,400nm,17.1s
BJI LR LR
comp=Z,600nm,21.2s
BJI LR LR
comp=Z,390nm,31.4s
KDU Kakadu 43.45 112 P **P 19 48 54.1 -1.2**
baz=44,SNR=4.4
KK31 Karatay Array 44.33 338 *e*P **P 19 49 02.2 +0.1**
comp=Z,46nm,0.8s
KK31 Karatay Array 44.33 338 *e*P **P 19 49 02.2 +0.1**
KK31 pmax pmax
comp=Z,46nm,0.8s
KKAR Karatay Array 44.33 338 *e*P **P 19 49 01.4 -0.7**
KKAR Karatay Array 44.33 338 *e*P **P 19 49 01.4 -0.7**
KMBL Kambalda 44.55 142 P **P 19 49 04.8 +0.9**
baz=45,SNR=8.3
MK32 Makanchi Array 44.60 351 *e*P **P 19 49 03.8 -0.4**
MKAR Makanchi Array 44.60 351 *ce*P **P 19 49 04.5 +0.3**
MKAR pmax pmax
comp=Z,32nm,0.8s
MKAR Makanchi Array 44.60 351 P **P 19 49 03.8 -0.4**
comp=Z,32nm,0.8s,baz=170,slow=9.1,SNR=250
MKAR LR LR 20 08 50.9
comp=Z,906nm,21.7s,baz=169,slow=38

MAKZ Makanchi 44.66 351 *e*P **P 19 49 04.6 -0.1**
comp=Z,31nm,1.0s
MAKZ Makanchi 44.66 351 *e*P **P 19 49 04.6 -0.1**
MAKZ pmax pmax
comp=Z,31nm,1.0s
WRKA Warakurna 45.10 130 P **P 19 49 08.8 +0.3**
baz=45,SNR=5.2
DL2 Dalian 45.24 33 P **P 19 49 11.1 +1.8**
DL2 S **S 19 55 51.0 +2.3**
DL2 pmax pmax
comp=Z,48nm,0.8s
DL2 pmax pmax
comp=Z,110nm,5.5s
DL2 LR LR
comp=Z,770nm,17.7s
DL2 LR LR
comp=Z,1μm,18.2s
DL2 LR LR
comp=Z,1μm,20.9s
GEYT Alibeck 46.49 323 *e*P **P 19 49 19.7 +0.4**
GEYT Alibeck 46.49 323 P **P 19 49 19.5 +0.2**
comp=Z,40nm,0.8s,baz=140,slow=7.7,SNR=42
GEYT LR LR 20 09 17.3
comp=Z,1μm,21.1s,baz=125,slow=37
GYA0B ALIBECK ARRAY 46.49 323 *e*P **P 19 49 20.6 +1.2**
comp=Z,46nm,0.8s
SONA0 Songino Array 46.71 14 *e*P **P 19 49 21.9 +1.0**
SONM Songino Array 46.71 14 *e*P **P 19 49 21.8 +0.9**
SONM Songino Array 46.71 14 *e*P **P 19 49 21.8 +0.9**
SONM Songino Array 46.71 14 P **P 19 49 21.9 +1.0**
comp=Z,34nm,0.8s,baz=195,slow=8.5,SNR=144
SONM LR LR 20 11 32.2
comp=Z,1μm,18.8s,baz=192,slow=39
ULN Ulaanbaatar 46.89 14 *e*P **P 19 49 22.8 +0.3**
comp=Z,69nm,1.8s
ULN Ulaanbaatar 46.89 14 *ce*P **P 19 49 23.1 +0.7**
ULN pmax pmax
comp=Z,16nm,1.0s
ULN Ulaanbaatar 46.89 14 P **P 19 49 23.2 +0.7**
SNR=9.5
ULN P **P 19 49 23.2 +0.7**
SNR=9.5
DGZ Jazzator, Alta 46.91 356 *d*i P **P 19 49 22.7 +0.2**
DGZ pmax pmax
comp=Z,24nm,1.8s
TJN Taejon 47.02 40 *ce*P **P 19 49 22.2 -1.2**
JNU Nakatsue 47.60 46 *e*P **P 19 49 28.7 +0.7**
comp=Z,34nm,1.1s
WR1 Warramunga Arr 47.68 120 *e*P **P 19 49 28.1 -0.6**
WRA Warramunga Arr 47.68 120 P **P 19 49 28.1 -0.6**
comp=Z,14nm,0.7s,baz=298,slow=8.8,SNR=120
WRAB Tennant Creek 47.68 120 *e*P **P 19 49 28.5 -0.3**
comp=Z,19nm,0.8s
WRAB Tennant Creek 47.68 120 *ce*P **P 19 49 28.6 -0.3**
WRAB pmax pmax
comp=Z,33nm,1.7s
WB2 Warramunga Arr 47.69 120 *e*P **P 19 49 28.4 -0.5**
comp=Z,20nm,0.8s
DAMY Dhamar 47.96 287 *e*P **P 19 49 33.2 +1.8**
comp=Z,146nm,1.8s
KS15 Wonju Array Si 47.99 39 *e*P **P 19 49 30.5 -0.4**
comp=Z,30nm,1.1s
KSAR Wonju Array Be 47.99 39 *e*P **P 19 49 30.7 -0.2**
KSAR Wonju Array Be 47.99 39 *e*P **P 19 49 30.7 -0.2**
KSRS Korea Array 48.02 39 P **P 19 49 30.4 -0.7**
comp=Z,14nm,1.0s,baz=224,slow=9.0,SNR=45
KSRS LR LR 20 11 22.8
comp=Z,1μm,18.3s,baz=231,slow=38
FORT Forrest 48.20 137 *e*P **P 19 49 33.1 +0.5**
comp=Z,33nm,0.8s
FORT Forrest 48.20 137 P **P 19 49 33.6 +1.0**
baz=48,SNR=7.6
ZAK Zakamensk 48.49 10 *e*P **P 19 49 35.6 +0.9**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
ABPO Ambohimpanom 48.64 242 *e*P **P 19 49 37.0 +0.5**
comp=Z,78nm,1.1s
ABPO Ambohimpanom 48.64 242 *e*P **P 19 49 37.0 +0.5**
ABPO pmax pmax
comp=Z,78nm,1.1s
ASAR Alice Springs 48.88 125 *e*P **P 19 49 37.3 -0.8**
ASAR Alice Springs 48.88 125 P **P 19 49 37.9 -0.2**
comp=Z,6.3nm,1.1s,baz=297,slow=6.9,SNR=23
ASAR LR LR 20 12 42.1
comp=Z,398nm,18.3s,baz=296,slow=39
AS31 Alice Springs 48.88 125 *e*P **P 19 49 37.9 -0.2**
comp=Z,3.0nm,1.2s
GENI Genyem 48.90 96 P **P 19 49 37.9 -0.4**
comp=Z,53nm,1.6s,comp=Z,1μm
KURBB Kurchatov Arra 48.95 349 P **P 19 49 38.0 -0.1**
comp=Z,18nm,0.8s,baz=173,slow=7.2,SNR=152
KURK Kurchatov 49.02 349 *e*P **P 19 49 38.7 0.0**
comp=Z,66nm,1.3s
KURK Kurchatov 49.02 349 *de*P **P 19 49 38.4 -0.2**
KURK pmax pmax
comp=Z,63nm,1.3s
KURK Kurchatov 49.02 349 P **P 19 49 38.5 -0.1**
SNR=25
KURK P **P 19 49 38.5 -0.1**
SNR=25
ATD Arta Tunnel 49.03 283 *e*P **P 19 49 39.2 -0.2**
comp=Z,64nm,1.1s
MOY Mondy 49.39 8 *e*P **P 19 49 44.1 +2.5**
MOY pmax pmax
comp=Z,31nm,1.8s
JAY Jayapura 49.42 96 LR LR 20 12 34.2
comp=Z,224nm,20.8s,baz=254,slow=38
TLY Talaya 49.80 10 *e*P **P 19 49 46.0 +1.4**
comp=Z,15nm,1.2s
TLY Talaya 49.80 10 *i* P **P 19 49 45.0 +0.3**
IRK Irkutsk 50.45 10 *e*P P 19 49 55.4 +5.8
IRK pmax pmax
comp=Z,56nm,2.0s
CN2 Changchun 50.72 31⇑P **P 19 49 52.3 +0.6**
CN2 *es*P sP 19 49 59.3 +1.8
CN2 *e*S **S 19 57 06.3 0.0**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,800nm,16.0s
ZAA0 Zalesovo Array 51.33 355 *e*P **P 19 49 56.0 -0.1**
comp=Z,26nm,0.8s
ZALV Zalesovo Beam 51.33 355 *e*P **P 19 49 55.6 -0.5**
ZALV Zalesovo Beam 51.33 355 *e*P **P 19 49 55.6 -0.5**
ZALV Zalesovo Beam 51.33 355 P **P 19 49 56.0 -0.1**
comp=Z,16nm,0.4s,baz=180,slow=6.9,SNR=92
ZALV LR LR 20 12 58.8
comp=Z,1μm,21.9s,baz=169,slow=38
ZAA1 Zalesovo Array 51.33 355 *e*P **P 19 49 56.0 -0.1**
HIA Hailar 52.22 23 *e*P **P 19 50 03.7 +0.9**
comp=Z,32nm,0.9s
HIA Hailar 52.22 23 *e*P **P 19 50 03.7 +0.9**
HIA pmax pmax
comp=Z,32nm,0.9s
NVS Novosibirsk 52.37 354⇓*i*P **P 19 50 04.2 +0.4**
NVS *i* 19 50 16.0
NVS *e*S **S 19 57 27.0 -1.6**
NVS pmax pmax
comp=Z,47nm,1.4s
NVS pmax pmax
comp=N,29nm,1.3s
NVS pmax pmax
comp=E,20nm,1.3s
NVS smax smax
comp=E,36nm,2.2s
QIS Mount Isa 52.49 119 P **P 19 50 05.2 -0.2**
baz=53,SNR=4.7
BVAR Borovoye Array 53.08 344 P **P 19 50 08.1 -1.0**
comp=E,6.5nm,0.6s,baz=237,slow=26,SNR=50
INU Inuyama 53.13 47 *e*P **P 19 50 09.6 -0.2**
comp=E,53nm,1.0s
BRVK Borovoye 53.14 344 *e*P **P 19 50 09.2 -0.3**
comp=E,40nm,1.4s
BRVK Borovoye 53.14 344 *ce*P **P 19 50 09.1 -0.4**
BRVK pmax pmax
comp=Z,33nm,1.3s
BRVK Borovoye 53.14 344 P **P 19 50 08.6 -0.9**
SNR=12
BRVK P **P 19 50 08.6 -0.9**
SNR=12
MDJ Mudanjiang 53.48 33 P **P 19 50 13.3 +1.1**

MDJ pP sP 19 50 18.0 0.0
MDJ sP pwP 19 50 19.6 -2.4
MDJ S **S 19 57 47.9 +3.7**
MDJ SS **SS 20 01 26.2 +1.6**
MDJ pmax pmax
comp=Z,47nm,1.4s
MDJ LR LR
comp=Z,1μm,12.8s
MDJ LR LR
comp=Z,1μm,17.5s
MDJ LR LR
comp=Z,880nm,19.3s
MDJ Mudanjiang 53.48 33 *e*P **P 19 50 13.1 +0.9**
comp=Z,95nm,1.5s
ABKAR Akbulak array 53.60 335 *e*P **P 19 50 12.4 -0.6**
COEN Coen 53.81 109 P P 19 50 08.8 -6.3
baz=54,SNR=9.8
VLA Vladivostok 53.85 36 *i* P **P 19 50 15.1 +0.2**
VLA pmax pmax
comp=Z,23nm,1.6s
KMBO Kilima Mbogo 54.41 267 *e*P **P 19 50 19.9 0.0**
comp=Z,29nm,1.2s
KMBO Kilima Mbogo 54.41 267 P **P 19 50 19.6 -0.2**
comp=Z,4.8nm,0.8s,baz=64,slow=9.2,SNR=7.0
KMBO LR LR 20 10 42.0
comp=Z,894nm,19.3s,baz=96,slow=33
MJB9 Matsu-Tunnel 54.53 46 *e*P **P 19 50 19.5 -0.6**
comp=Z,70nm,1.7s
MAJO Matsushiro 54.53 46 *e*P **P 19 50 19.3 -0.8**
comp=Z,72nm,1.7s
MAJO *e*PcP **PcP 19 51 22.6 -0.8**
MAJO Matsushiro 54.53 46 *e*P **P 19 50 19.3 -0.8**
MAJO *e* 19 51 22.6
MAJO pmax pmax
comp=Z,72nm,1.7s
MAT Matsushiro 54.53 46 P **P 19 50 19.8 -0.3**
MAT S **S 19 57 51.4 -7.3**
MJAR Matsushiro Arr 54.53 46 P **P 19 50 20.1 0.0**
comp=Z,14nm,1.0s,baz=232,slow=8.2,SNR=27
MJAR PcP **PcP 19 51 22.6 -0.8**
comp=Z,9.2nm,1.0s,baz=246,slow=5.7,SNR=4.8
MJAR LR LR 20 15 53.6
comp=Z,1μm,18.0s,baz=245,slow=38
USRK Ussuriysk Ar. 54.56 35 P **P 19 50 20.1 0.0**
comp=Z,9.3nm,0.9s,baz=256,slow=7.7,SNR=11
USRK LR LR 20 14 45.4
comp=Z,970nm,19.9s,baz=217,slow=37
BBOO Buckleboo 54.97 134 P **P 19 50 23.3 0.0**
baz=55,SNR=5.7
AKTO Aktyubinsk 55.31 335 LR LR 20 16 31.5
comp=Z,452nm,18.5s,baz=142,slow=39
MAK Makhachkala 55.98 322 *e*P **P 19 50 28.7 -1.6**
MAK *e* 19 52 34.2
MAK *e*S **S 19 58 15.9 -1.9**
MAK *e*SS **SS 20 02 02.1 -1.9**
MAK pmax pmax
comp=Z,43nm,0.7s
MAK MLR MLR
comp=Z,349nm,16.0s
GNI Garni 56.31 318 *e*P **P 19 50 32.6 -0.4**
comp=Z,52nm,1.3s
GNI Garni 56.31 318 *ce*P **P 19 50 33.9 +1.0**
GNI pmax pmax
comp=Z,262nm,1.3s
GNI Garni 56.31 318 P **P 19 50 34.0 +1.0**
SNR=10
GNI P **P 19 50 34.0 +1.0**
SNR=10
PMG Port Moresby 56.71 103 LR LR 20 17 05.6
comp=Z,363nm,19.3s,baz=300,slow=38
DVE Vedeno 56.83 321 *d*i P **P 19 50 36.6 +0.1**
TBLG Delisi 57.08 319 *e*P **P 19 50 38.5 +0.2**
comp=Z,55nm,1.0s
TBLG Delisi 57.08 319 *e*P **P 19 50 38.5 +0.2**
TBLG pmax pmax
comp=Z,55nm,1.0s
GROC Groznyy 57.16 321 *e*P **P 19 50 38.9 +0.1**
GROC *e* 19 51 33.6
GROC *e* 19 52 46.1
GROC *e*S **S 19 58 33.2 -0.3**
GROC pmax pmax
comp=Z,48nm,0.8s
KLR Kul'dur 57.58 30 LR LR 20 17 41.9
comp=Z,657nm,19.2s,baz=226,slow=38
BOD Bodaibo 57.70 14 *e*P **P 19 50 42.1 -0.2**
BOD pmax pmax
comp=Z,42nm,1.0s
AKH Akhalkalaki 57.74 319⇑*i*P **P 19 50 44.1 +0.9**
ZEI Tsey 58.15 320 *e*P **P 19 50 44.6 -1.4**
ZEI pmax pmax
comp=Z,17nm,1.0s
CTAO Charters Tower 58.26 116 *e*P **P 19 50 47.0 +0.1**
comp=Z,118nm,1.8s
CTAO Charters Tower 58.26 116 *e*P **P 19 50 47.0 +0.1**
CTAO pmax pmax
comp=Z,118nm,1.8s
STKA Stephens Creek 58.63 130 *e*P **P 19 50 49.1 -0.2**
comp=Z,2.6nm,0.8s
STKA Stephens Creek 58.63 130 P **P 19 50 50.0 +0.7**
baz=59,SNR=8.8
STKA Stephens Creek 58.63 130 *e*P **P 19 50 49.1 -0.2**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 58.63 130 P **P 19 50 49.6 +0.2**
comp=Z,8.0nm,0.8s,baz=305,slow=7.8,SNR=13
STKA LR LR 20 15 43.8
comp=Z,398nm,20.1s,baz=286,slow=36
ZEA Zeya 58.66 24 *e*P **P 19 50 49.0 -0.1**
ZEA *e*S **S 19 58 53.0 +0.3**
ZEA pmax pmax
comp=N,21nm,0.8s
ZEA pmax pmax
comp=E,16nm,0.8s
ZEA pmax pmax
comp=Z,28nm,0.8s
ZEA smax smax
comp=N,200nm,7.0s
ZEA MLR MLR
comp=Z,800nm,16.0s
ZEA MLR MLR
comp=N,500nm,14.0s
NCK Nalchik 58.69 321 *i* P **P 19 50 49.9 +0.3**
NCK pmax pmax
comp=Z,33nm,1.0s
BCA Borcka 59.01 318⇑*i*P **P 19 50 52.8 +1.0**
BATM Batumi 59.03 318⇑*i*P **P 19 50 52.7 +0.8**
NEY Neytrino 59.13 320 *i* P **P 19 50 53.3 +0.5**
NEY pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 59.25 321 P **P 19 50 54.4 +1.0**
comp=Z,25nm,0.9s,baz=117,slow=5.4,SNR=64
KBZ LR LR 20 19 08.2
comp=Z,241nm,18.0s,baz=119,slow=39
KIV Kislovodsk 59.49 321 *e*P **P 19 50 56.3 +1.1**
comp=Z,56nm,1.1s
KIV Kislovodsk 59.49 321⇑*i*P **P 19 50 56.1 +0.9**
KIV Kislovodsk 59.49 321⇑P **P 19 50 56.1 +0.9**
KIV Kislovodsk 59.49 321 P **P 19 50 55.6 +0.3**
SNR=22
ARU Arti 59.66 339 *e*P **P 19 50 53.5 -2.5**
comp=Z,59nm,1.5s
ARU Arti 59.66 339 *c* *i*P **P 19 50 55.2 -0.8**
ARU 19 53 05.6
ARU S **S 19 59 05.5 -0.1**
ARU pmax pmax
comp=Z,32nm,1.2s
ARU MLR MLR
comp=Z,951nm,18.0s
TOTH TOTAH 59.72 307 *e*P **P 19 50 58.7 +1.8**
QASN Qassioun 59.89 307 *e*P **P 19 50 57.8 -0.4**
GRNR Gornyy 60.90 31 *e*P **P 19 51 04.8 +0.1**
GRNR pmax pmax
comp=Z,16nm,1.0s
ASAJ Asahikawa 60.97 40 LR LR 20 18 48.9
comp=Z,1μm,19.2s,baz=247,slow=37
ARPS Mount Arapiles 61.06 135 P **P 19 51 07.3 +1.3**
baz=61,SNR=5.3
SOC Sochi 61.22 319 *e*P **P 19 51 05.5 -1.4**
SOC *e* 19 53 23.1
SOC *e*S **S 19 59 26.0 -0.1**
SOC *e*SS **SS 20 03 29.5 +3.0**
SOC pmax pmax
comp=Z,37nm,0.7s
SOC MLR MLR
comp=Z,320nm,17.0s
CMSA Cobar Meteorol 61.66 128 P **P 19 51 10.7 +0.6**

baz=62,SNR=12
RMQ Roma 62.38 122 P P 19 51 16.9 +1.8
baz=62,SNR=7.7
LEF Lefka 63.04 308⇓ iP P 19 51 20.2 +0.9
ANN Anapa 63.23 320 eP P 19 51 20.9 +0.6
ANN e*PP **pwP 19 51 29.5 -0.7**
ANN eS **S 19 59 49.8 -1.6**
ANN pmax pmax
comp=Z,28nm,1.4s
ANN MLR MLR
comp=Z,577nm,19.0s
VRH Novokhopyorsk 63.73 328 eP P 19 51 22.4 -1.2
VRH pmax pmax
comp=Z,60nm,1.7s
BR101 Keskin Array S 63.91 313 eP P 19 51 25.4 +0.1
BR131 Keskin Array S 63.91 313 eP P 19 51 25.2 +0.1
comp=Z,6.9nm,0.8s
BR131 Keskin Array S 63.91 313 P P 19 51 25.3 +0.1
SNR=10
BRTR Keskin Array B 63.91 313 P P 19 51 25.4 +0.1
comp=Z,5.1nm,0.7s,baz=131,slow=7.4,SNR=45
BRTR LR LR 20 22 26.5
comp=Z,366nm,18.1s,baz=116,slow=39
EIDS Eidsvold 64.04 120 P P 19 51 25.9 -0.1
baz=64,SNR=4.6
TYV Tymovskoe 64.26 33 eP P 19 51 19.9 -7.1
TYV pmax pmax
comp=Z,18nm,1.4s
TYV pmax pmax
comp=Z,500nm,3.7s
TYV MLR MLR
comp=Z,2μm,22.0s
NKL Nikolayevsk 64.43 30 eP P 19 51 27.0 -1.0
NKL pmax pmax
comp=Z,27nm,1.0s
BZK Bozkurt 64.43 316⇑ iP P 19 51 29.6 +1.3
ANTO Ankara 64.58 313⇓ iP P 19 51 26.0 -3.5
ANTO Ankara 64.58 313 ⇓P P 19 51 26.0 -3.5
VORD Divnogorie 64.93 326 eP P 19 51 30.1 -1.3
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 65.13 327 eP P 19 51 30.6 -2.1
VSR pmax pmax
comp=Z,30nm,1.5s
LSZ Lusaka 65.17 252 eP P 19 51 33.5 -0.3
comp=Z,62nm,1.4s
LSZ Lusaka 65.17 252 eP P 19 51 33.5 -0.3
LSZ pmax pmax
comp=Z,62nm,1.4s
SIM Simferopol' 65.45 319c iP P 19 51 35.7 +0.8
SIM eS **S 20 00 24.5 +5.6**
SIM pmax pmax
comp=Z,33nm,1.3s
SIM MLR MLR
comp=Z,240nm,16.6s
YAK Yakutsk 65.64 19⇑ iP P 19 51 35.5 -0.3
YAK e*PP **pwP 19 51 46.9 +1.2**
YAK e 19 52 04.6
YAK e 19 54 06.2
YAK ePPP PPP 19 55 33.7
YAK eS **S 20 00 18.6 -1.9**
YAK e*SS sS 20 00 37.4 +10
YAK e 20 01 27.1
YAK eSSS SSS 20 07 34.9
YAK pmax pmax
comp=Z,294nm,0.9s
YAK pmax pmax
comp=N,94nm,0.9s
YAK pmax pmax
comp=E,76nm,0.9s
YAK pmax pmax
comp=Z,337nm,2.8s
YAK pmax pmax
comp=N,237nm,2.3s
YAK pmax pmax
comp=E,333nm,2.9s
YAK smax smax
comp=N,224nm,2.0s
YAK smax smax
comp=E,307nm,2.1s
YAK MLR MLR
comp=Z,3μm,17.0s
YAK MLR MLR
comp=N,2μm,17.0s
YAK MLR MLR
comp=E,2μm,16.0s
MDUB Mudurnu 65.93 313 eP P 19 51 38.3 +0.1
comp=E,117nm,0.9s
LPSR Galich'ya Gora 65.94 328 eP P 19 51 36.9 -1.0
LPSR pmax pmax
comp=Z,40nm,1.2s
NRIK Noril'sk 66.53 358 P P 19 51 41.5 +0.1
comp=Z,10nm,0.9s,baz=154,slow=5.6,SNR=8.4
NRIK LR LR 20 22 38.6
comp=Z,774nm,21.1s,baz=189,slow=38
KARP Karpathos 67.68 307 eP P 19 51 50.5 +1.0
comp=Z,108nm,1.0s
PRGR Permogore 68.05 338 eP P 19 51 49.1 -2.0
PRGR pmax pmax
comp=Z,20nm,0.6s
MOS Moscow 68.16 331 eP P 19 51 50.2 -1.7
MOS e 19 52 01.0
MOS e 19 52 13.8
MOS e 19 54 23.2
MOS pmax pmax
comp=Z,30nm,0.6s
MOS MLR MLR
comp=Z,600nm,18.0s
OBN Obninsk 68.38 330⇑ iP P 19 51 53.1 -0.2
OBN i 19 52 03.3
OBN e 19 54 24.6
OBN eS **S 20 00 58.0 +4.2**
OBN pmax pmax
comp=Z,47nm,1.4s
OBN MLR MLR
comp=Z,593nm,18.0s
PHSR Pinarhisar 68.92 314⇑ iP P 19 51 57.5 +0.5
TIRR Tirgusor 69.11 317⇓ iP P 19 51 57.9 -0.2
TIRR Tirgusor 69.11 317 ⇓P P 19 51 57.9 -0.2
TLB Topalu 69.40 317⇑ iP P 19 52 00.3 +0.4
TLB Topalu 69.40 317 ⇑P P 19 52 00.3 +0.4
CFR Carcaliu 69.51 318⇑ iP P 19 52 00.9 +0.3
CFR Carcaliu 69.51 318 ⇑P P 19 51 49.6 -11
LBTB Lobatse 69.55 242 eP P 19 52 01.8 +0.4
comp=Z,77nm,1.0s
LBTB Lobatse 69.55 242 eP P 19 52 01.8 +0.4
LBTB pmax pmax
comp=Z,77nm,1.0s
MILM Milestii Mici 69.61 319⇑ iP P 19 52 01.3 +0.2
KIS Kishinev 69.63 320 eP P 19 52 02.0 +0.7
KIS eS **S 20 01 07.0 -2.0**
LEOM Leova 69.83 319⇑ iP P 19 52 01.6 -1.0
LEOM Leova 69.83 319 ⇑P P 19 52 03.3 +0.7
KLMR Klimovskoe 69.97 336 eP P 19 52 01.2 -1.9
KLMR e 19 54 34.8
KLMR pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 70.61 323 eP P 19 52 06.7 -0.5
AKASG Malin Array Be 70.61 323 eP P 19 52 06.7 -0.5
AKASG Malin Array Be 70.61 323 P P 19 52 06.1 -1.2
comp=Z,0.7nm,0.5s,baz=93,slow=4.5,SNR=20
AKASG LR LR 20 24 57.5
comp=Z,311nm,21.3s,baz=120,slow=38
AKBB Malin Array Si 70.61 323 eP P 19 52 07.0 -0.3
comp=Z,18nm,1.1s
AKBB Malin Array Si 70.61 323 eP P 19 52 07.0 -0.3
AKBB pmax pmax
comp=Z,19nm,1.1s
KIEV Kiev 70.62 323 eP P 19 52 07.0 -0.3
comp=Z,18nm,1.1s
KIEV Kiev 70.62 323⇑ iP P 19 52 05.5 -1.8
KIEV Kiev 70.62 323 ⇓P P 19 52 07.2 -0.1
VRI Vrincioaia 70.66 318⇑ iP P 19 52 08.8 +1.1
VRI Vrincioaia 70.66 318 ⇑P P 19 52 04.9 -2.8
BOSA Boshof 70.70 239 eP P 19 52 08.5 +0.1
comp=Z,63nm,1.0s
BOSA Boshof 70.70 239 P P 19 52 07.8 -0.7
comp=Z,15nm,0.7s,baz=78,slow=5.8,SNR=31
BOSA LR LR 20 21 58.6
comp=Z,299nm,18.1s,baz=76,slow=35
PLOR Plostina 70.71 318⇓ iP P 19 52 08.2 +0.2
PLOR Plostina 70.71 318 ⇓P P 19 52 08.0 0.0
TESR Tescani 70.90 319⇑ iP P 19 52 09.4 +0.3
MLR Muntele Rosu 71.08 317⇓ iP P 19 52 11.5 +1.1
MLR Muntele Rosu 71.08 317 ⇓P P 19 52 11.5 +1.1

BIZ Bicaz 71.38 319⇓ iP P 19 52 12.7 +0.7
PRAR RASCA 71.42 319⇓ iP P 19 52 13.1 +0.8
HUMR Humele 71.49 316⇑ iP P 19 52 13.3 +0.6
DOPR Dopca 71.59 318⇓ iP P 19 52 14.0 +0.7
MTUR Matau 71.61 317⇓ iP P 19 52 14.1 +0.5
MTUR Matau 71.61 317 ⇓P P 19 52 14.1 +0.5
ARR Arges 71.94 317⇑ iP P 19 52 15.7 +0.2
ITM Ithomi 72.14 308 eP P 19 52 16.6 -0.2
comp=Z,35nm,1.1s
BURAR Bucovina Array 72.15 319 eP P 19 52 17.3 +0.5
BURAR Bucovina Array 72.15 319⇓ iP P 19 52 18.1 +1.3
BURAR Bucovina Array 72.15 319 ⇓P P 19 52 18.1 +1.3
BUR08 Bucovina Ar. S 72.17 319 eP P 19 52 18.0 +1.1
comp=Z,30nm,1.1s
VTS Vitosha 72.26 314 eP P 19 52 18.1 +0.5
comp=Z,25nm,1.1s
LIT Litokhoron 72.27 311 eP P 19 52 17.3 -0.3
comp=Z,25nm,1.0s
LIT Litokhoron 72.27 311 eP P 19 52 17.3 -0.3
LIT pmax pmax
comp=Z,25nm,1.0s
TMCR Tamitsa 72.35 338 eP P 19 52 17.2 -0.2
TMCR pmax pmax
comp=Z,22nm,0.6s
MA2 Magadan 72.47 27 eP P 19 52 18.0 -0.3
comp=Z,24nm,1.0s
MA2 Magadan 72.47 27ceP P 19 52 18.4 +0.1
MA2 pmax pmax
comp=Z,45nm,1.7s
MA2 Magadan 72.47 27 LR LR 20 27 36.1
comp=Z,369nm,18.5s,baz=236,slow=39
TIXI Tiksi 72.73 12 eP P 19 52 18.4 -1.1
comp=Z,36nm,0.7s
TIXI Tiksi 72.73 12ceP P 19 52 18.5 -1.1
TIXI pmax pmax
comp=Z,45nm,0.8s
STIP Stip 72.82 313 *i* P **P 19 52 19.6 -1.1**
MAW Mawson 73.04 191 eP P 19 52 21.1 -0.3
comp=Z,6.5nm,1.3s
MAW Mawson 73.04 191 eP P 19 52 21.1 -0.3
MAW pmax pmax
comp=Z,7.0nm,1.3s
MAW Mawson 73.04 191 P **P 19 52 21.1 -0.3**
comp=Z,9.3nm,1.1s,baz=6.2,slow=10,SNR=5.3
MAW LR LR 20 19 24.5
comp=Z,534nm,18.4s,baz=26,slow=32
KRUS Krusevo 73.44 312 *i* P **P 19 52 23.9 -0.7**
LVV L'vov 73.51 321 eP P 19 52 27.0 +2.3
LVV e 19 52 39.3
LVV MLR MLR
comp=E,300nm,20.0s
LVV MLR MLR
comp=N,200nm,18.0s
LVV MLR MLR
comp=Z,300nm,20.0s
DRGR 73.59 318⇓ iP P 19 52 25.2 -0.1
DRGR 73.59 318 ⇓P P 19 52 25.2 -0.1
IDID Didziasalis 73.61 327 eP P 19 52 24.8 -0.2
IDID IAmb IAmb 19 52 44.2
comp=Z,16nm,1.0s
PETK Petropavlovsk- 73.65 35 LR LR 20 26 53.5
comp=Z,368nm,18.9s,baz=243,slow=38
IIGN Ignalina 73.90 327 eP P 19 52 27.2 +0.5
IIGN IAmb IAmb 19 52 45.9
comp=Z,14nm,1.0s
TRPA Tarpa 74.03 319⇑ iP P 19 52 28.4 +0.7
TRPA Tarpa 74.03 319 eP P 19 52 29.0 +1.3
KWP Kalwaria Pacla 74.29 321 eP P 19 52 39.5 +10
UZH Uzhgorod 74.31 320 eP P 19 52 31.0 +1.7
UZH *i* 19 52 39.0
UZH *e* 19 52 42.2
KOLS Kolonicke sedl 74.39 320 eP P 19 52 31.2 +1.3
KOLS *e* 19 52 44.5
KOLS pmax pmax
comp=Z,35nm,1.3s
KOLS Kolonicke sedl 74.39 320 eP P 19 52 31.2 +1.3
KOLS ePCP **PcP 19 52 44.5 0.0**
SEY Seymchan 74.63 24 LR LR 20 28 51.2
comp=Z,715nm,18.2s,baz=239,slow=39
VSU Vasula 74.69 330 eP P 19 52 31.0 -0.3
VSU IAmb IAmb 19 52 31.9
comp=Z,45nm,0.7s
PDG Podgorica 75.10 313⇓ iP P 19 52 34.1 0.0
TTG Podgorica 75.10 313 eP P 19 52 33.8 -0.3
comp=Z,17nm,1.0s
TTG Podgorica 75.10 313 eP P 19 52 33.8 -0.3
TTG pmax pmax
comp=Z,17nm,1.0s
PABE Paberze 75.17 327 eP P 19 52 29.7 -4.4
SUW Suwalki 75.17 325 eP P 19 52 33.7 -0.5
SUW Suwalki 75.17 325 eP P 19 52 34.4 +0.2
comp=Z,127nm,1.2s
SUW Suwalki 75.17 325 eP P 19 52 33.7 -0.5
KECS Kecovo 75.44 319 ePCP **PcP 19 52 50.0 +1.0**
LVZ Lovozero 75.48 341 eP P 19 52 35.3 -0.5
comp=Z,12nm,0.8s
LVZ Lovozero 75.48 341 eP P 19 52 35.3 -0.5
LVZ pmax pmax
comp=Z,12nm,0.8s
PSZ Piszkesteto 75.71 319⇓ iP P 19 52 35.7 -1.9
PSZ Piszkesteto 75.71 319 ⇓P P 19 52 35.6 -2.0
APA Apatity 75.73 340⇑ iP P 19 52 35.9 -1.3
APA pmax pmax
comp=Z,8.0nm,0.8s
APA MLR MLR
comp=Z,2μm,12.0s
NIE Niedzica 75.77 320 eP P 19 52 38.9 +1.1
NIE Niedzica 75.77 320 eP P 19 52 38.9 +1.1
BEL Belsk 76.01 323 eP P 19 52 39.9 +0.9
BEL Belsk 76.01 323 eP P 19 52 39.9 +0.8
FIA1 FINESS Array S 76.05 333 eP P 19 52 39.1 0.0
comp=Z,15nm,0.8s
FIA0 FINESS Array S 76.05 333 eP P 19 52 39.0 0.0
FIA0 FINESS Array S 76.05 333 eP P 19 52 39.1 0.0
FINES FINESS Array B 76.05 333 eP P 19 52 38.4 -0.7
FINES FINESS Array B 76.05 333 eP P 19 52 38.4 -0.7
FINES FINESS Array B 76.05 333 P **P 19 52 39.0 0.0**
comp=Z,12nm,0.7s,baz=104,slow=8.0,SNR=35
FINES LR LR 20 28 24.8
comp=Z,507nm,19.3s,baz=110,slow=38
MORH Mrgy, Hungar 76.21 317 eP P 19 52 40.0 -0.3
OJC Ojcow 76.26 321 eP P 19 52 30.4 -10
OJC Ojcow 76.26 321 eP P 19 52 30.4 -10
PBUR Paburg 76.42 327 eP P 19 52 40.7 -0.6
PBUR IAmb IAmb 19 53 00.2
comp=Z,79nm,1.0s
VYHS Vyhne 76.52 319 eP P 19 52 42.7 +0.6
VYHS *e* 19 52 55.9
VYHS pmax pmax
comp=Z,25nm,1.5s
VYHS Vyhne 76.52 319 eP P 19 52 42.7 +0.6
VYHS ePCP **PcP 19 52 55.9 +2.2**
CSKK Cskako 76.68 318 eP P 19 52 30.1 -13
MATE Matera 76.72 311⇓ iP P 19 52 43.8 +0.5
BLY Banja Luka 76.97 315⇓ iP P 19 52 45.2 +0.5
KLNR Kaliningrad 77.01 326 *i* P **P 19 52 45.2 +0.6**
KLNR pmax pmax
comp=Z,30nm,0.9s
DZM Mont Dzumac 77.09 113 *e*LR LR 20 16 28.0
comp=Z,571nm,27.0s
OKC Ostrava-Krasne 77.22 320 eP P 19 52 46.6 +0.6
OKC *e* 19 52 58.0
OKC Ostrava-Krasne 77.22 320 eP P 19 52 46.6 +0.6
OKC ePCP **PcP 19 52 58.0 +1.3**
JAVC Velka Javorina 77.34 319 eP P 19 52 48.3 +1.5
MODS Modra-Piesok 77.52 319 eP P 19 52 47.7 0.0
MODS *e* 19 53 01.0
MODS pmax pmax
comp=Z,62nm,1.2s
MODS Modra-Piesok 77.52 319 eP P 19 52 47.7 0.0
MODS ePCP **PcP 19 53 01.0 +3.0**
MORC Moravsky Berou 77.59 320 eP P 19 52 48.8 +0.6
ZST Bratislava 77.60 319 eP P 19 52 48.6 +0.5
ZST *e* 19 53 01.6
ZST Bratislava 77.60 319 eP P 19 52 48.5 +0.4
ZST ePCP **PcP 19 53 01.6 +3.3**
VRAC Vranov 78.12 320 eP P 19 52 52.0 +0.9
KRLC Kraliky 78.13 321 eP P 19 52 52.4 +1.3
KRLC Kraliky 78.13 321 eP P 19 52 52.4 +1.3
KRUC Moravsky 78.21 319 eP P 19 52 52.1 +0.6
CONA Conrad Observa 78.38 318 *i* P **P 19 52 53.0 +0.4**
comp=Z,16nm,1.2s
BOJS Bojanci 78.44 316 *i* P **P 19 52 53.0 +0.2**
BOJS *i* 19 53 06.5

DPC Dobruska-Polom 78.47 321 *e*P **P 19 52 54.4 +1.4**
DPC MLR MLR
comp=Z,400nm,15.6s
DPC Dobruska-Polom 78.47 321 *e*P **P 19 52 54.4 +1.4**
DPC AMS AMS 20 34 20.0
comp=Z,400nm,15.6s
ARSA Arzberg 78.50 318 *i* P **P 19 52 54.3 +1.1**
comp=Z,44nm,1.8s,SNR=5.8
KSP Ksiaz 78.57 321 *e*P **P 19 52 54.9 +1.4**
KSP Ksiaz 78.57 321 *e*P **P 19 52 54.9 +1.4**
PERS Pernice 78.69 317 *i* P **P 19 52 55.0 +0.6**
PERS *i* 19 53 06.9
UPC Upice 78.69 321 *e*P **P 19 52 55.4 +1.2**
UPC *e* 19 53 00.8
UPC MLR MLR
comp=Z,400nm,17.1s
UPC Upice 78.69 321 *e*P **P 19 52 55.4 +1.2**
UPC *ex* x 19 53 00.8
UPC AMS AMS 20 34 30.0
comp=Z,400nm,17.1s
SOKA Soboth 78.75 317 *i* P **P 19 52 55.5 +0.8**
comp=Z,30nm,1.3s,SNR=7.2
VISS Visnje 78.77 316 *e*P **P 19 52 54.9 +0.2**
VISS *e* 19 53 07.1
TREC Trest 78.83 320 *e*P **P 19 52 55.6 +0.6**
TREC MLR MLR
comp=Z,500nm,17.7s
TREC Trest 78.83 320 *e*P **P 19 52 55.6 +0.6**
TREC AMS AMS 20 30 30.0
comp=Z,500nm,17.7s
OBKA Obir 79.06 317 *i* P **P 19 52 57.0 +0.6**
comp=Z,19nm,1.2s
ARA0 ARCESS Array S 79.20 341 *e*P **P 19 52 57.0 +0.4**
ARCES ARCESS Array B 79.20 341 *e*P **P 19 52 56.5 0.0**
ARCES ARCESS Array B 79.20 341 *e*P **P 19 52 56.6 0.0**
ARCES ARCESS Array B 79.20 341 P **P 19 52 57.0 +0.4**
comp=Z,6.5nm,0.8s,baz=91,slow=6.1,SNR=32
ARCES LR LR 20 29 49.5
comp=Z,607nm,18.7s,baz=113,slow=37
ARE0 ARCESS Array S 79.20 341 *e*P **P 19 52 56.7 +0.1**
comp=Z,2.0nm,1.4s
GOPC GO Pecny, Ondr 79.38 320 *e*P **P 19 52 59.0 +1.0**
GOPC GO Pecny, Ondr 79.38 320 *e*P **P 19 52 59.0 +1.0**
AQU L'Aquila 79.39 312 *e*P **P 19 52 58.5 +0.3**
comp=Z,45nm,1.4s
AQU L'Aquila 79.39 312 *e*P **P 19 52 58.5 +0.3**
AQU pmax pmax
comp=Z,45nm,1.4s
MOA Molln 79.43 318 *i* P **P 19 52 58.7 +0.4**
comp=Z,23nm,1.6s
PRU Pruhonice 79.54 320 *e*P **P 19 52 59.5 +0.7**
PRU *e* 19 53 07.0
PRU MLR MLR
comp=Z,400nm,16.1s
PRU Pruhonice 79.54 320 *e*P **P 19 52 59.5 +0.7**
PRU ePCP **PcP 19 53 07.0 +0.2**
PRU AMS AMS 20 33 10.0
comp=Z,400nm,16.1s
PVCC Panska Ves 79.61 321 *e*P **P 19 53 00.7 +1.5**
PVCC MLR MLR
comp=Z,400nm,17.0s
PVCC Panska Ves 79.61 321 *e*P **P 19 53 00.7 +1.5**
PVCC AMS AMS 20 34 00.0
comp=Z,400nm,17.0s
MYKA Terra Mystica 79.70 317 *i* P **P 19 53 00.6 +0.7**
comp=Z,34nm,1.3s,SNR=6.3
SYO Syowa Base 79.78 197⇑ *e*P **P 19 53 01.2 +1.5**
SYO Syowa Base 79.78 197⇑ *ep*P pP 19 53 06.2 +2.2
SYO Syowa Base 79.78 197⇓ *es*P sP 19 53 07.6 +2.0
GEC2 GERESS Array S 79.93 319 *e*P **P 19 53 01.7 +0.6**
comp=Z,81nm,1.1s
GEC2 GERESS Array S 79.93 319 *e*P **P 19 53 01.7 +0.6**
GEC2 pmax pmax
comp=Z,81nm,1.1s
GERES GERESS Array B 79.93 319 *e*P **P 19 53 01.5 +0.4**
GERES GERESS Array B 79.93 319 *e*P **P 19 53 01.5 +0.4**
GERES GERESS Array B 79.93 319 P **P 19 53 02.1 +1.0**
comp=Z,13nm,0.7s,baz=97,slow=5.4,SNR=101
GERES LR LR 20 32 38.9
comp=Z,240nm,19.3s,baz=105,slow=39
KBA Koelnbreinsper 79.95 317 *i* P **P 19 53 01.6 +0.2**
comp=Z,25nm,1.4s
BRG Berggiesshubel 80.05 321 *e*P **P 19 53 02.6 +1.1**
comp=Z,9.6nm,1.0s
BRG ePCP **pwP 19 53 11.5 0.0**
comp=Z,55nm,1.5s
BRG Berggiesshubel 80.05 321 S S 20 03 18.0 +13
BRG SS **SS 20 08 20.0 +4.7**
BRG Berggiesshubel 80.05 321 *e*P **P 19 53 02.6 +1.1**
BRG *e* 19 53 11.5
BRG S S 20 03 18.0 +13
BRG SS **SS 20 08 20.0 +4.7**
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,55nm,1.5s
BRG MLR MLR
comp=N,311nm,21.7s
BRG MLR MLR
comp=E,223nm,13.5s
BRG MLR MLR
comp=Z,525nm,17.2s
KHC Kasperske Hory 80.05 319 *e*P **P 19 53 02.4 +0.8**
comp=Z,9.6nm,1.2s
KHC Kasperske Hory 80.05 319 *e*P **P 19 53 02.1 +0.4**
KHC *e* 19 53 13.0
KHC *e*S **S 20 03 02.8 -2.5**
KHC MLR MLR
comp=Z,400nm,17.5s
KHC Kasperske Hory 80.05 319 *e*P **P 19 53 02.1 +0.4**
KHC *ex* x 19 53 13.0
KHC *e*S **S 20 03 02.8 -2.5**
KHC AMS AMS 20 28 50.0
comp=Z,400nm,17.5s
BSD Bornholm Skovb 80.11 325 *i* P **P 19 53 01.5 -0.2**
BSD pmax pmax
comp=Z,59nm,0.9s
BSD Bornholm Skovb 80.11 325 *i* P **P 19 53 01.5 -0.2**
comp=Z,59nm,0.9s
ABTA Abfaltersbach 80.48 317 *i* P **P 19 53 04.3 +0.2**
comp=Z,16nm,1.1s
CLL Collm 80.69 321 *e*P **P 19 53 05.0 0.0**
CLL *e* 19 53 12.0
CLL *e*S **S 20 03 13.0 +1.2**
CLL pmax pmax
comp=Z,32nm,1.2s
CLL MLR MLR
comp=Z,300nm,21.2s
CLL Collm 80.69 321 *e*P **P 19 53 05.0 0.0**
comp=Z,7.0nm,1.1s
CLL *e* 19 53 12.0
CLL *i* 19 53 18.5
comp=Z,32nm,1.2s
CLL *i* 19 53 23.5
comp=Z,43nm,1.5s
CLL *e*PP **PP 19 56 11.0 +2.1**
CLL *e*S **S 20 03 13.0 +1.2**
CLL *e*PS 20 04 01.0
CLL *e* 20 05 24.0
CLL *e*SS **SS 20 08 29.0 +4.1**
CLL *e*SSS SSS 20 12 06.0
CLL *e*(SSSS) 20 14 00.0
CLL LmV 20 31 00.0
comp=Z,300nm,21.2s
NKC Novy Kostel 80.91 320 *e*P **P 19 53 07.7 +1.4**
NKC *e* 19 53 14.8
NKC MLR MLR
comp=Z,400nm,15.8s
NKC Novy Kostel 80.91 320 *e*P **P 19 53 07.7 +1.4**
NKC ePCP **pwP 19 53 14.8 -1.4**
NKC *ex* x 19 53 20.9
NKC AMS AMS 20 37 00.0
comp=Z,400nm,15.8s
WTTA Wattenberg 81.13 317 *i* P **P 19 53 07.8 +0.1**
comp=Z,12nm,0.8s
WATA Walderalm 81.18 317 *i* P **P 19 53 07.8 -0.1**
comp=Z,8.2nm,0.7s,SNR=5.9
SQTA Sankt Quirin 81.42 317 *i* P **P 19 53 09.4 +0.3**
comp=Z,18nm,0.9s,SNR=7.1
MOTA Moosalm 81.50 317 *i* P **P 19 53 09.7 +0.1**
comp=Z,42nm,1.0s,SNR=14
FETA Feichten 81.73 317 *i* P **P 19 53 11.6 +0.8**
comp=Z,28nm,1.1s
RETA Reutte 81.74 317 *i* P **P 19 53 11.3 +0.5**
comp=Z,15nm,0.9s,SNR=6.3

FUORN	Ofenpass-Fuorn	82.01	317	*e*P	P	19 53 13.6	+1.1
	comp=Z,39nm,1.0s						
KEST	Kesra	82.06	306	*e*P	P	19 53 13.7	+1.0
	comp=Z,14nm,0.9s						
KEST	Kesra	82.06	306	P	P	19 53 12.7	0.0
	comp=Z,12nm,0.9s,baz=344,slow=5.6,SNR=9.4						
KEST				LR	LR	20 31 37.7	
	comp=Z,191nm,21.4s,baz=354,slow=37						
DAVA	Damuels	82.32	317	*i* P	P	19 53 14.9	+0.9
	comp=Z,29nm,0.9s,SNR=15						
TUE	Stuetta	82.63	316	*e*P	P	19 53 16.2	+0.6
	comp=Z,55nm,1.4s						
NB2	NORSAR Subarra	82.91	331	P	P	19 53 16.1	-0.5
	comp=Z,9.2nm,1.1s,baz=94,slow=5.1						
NB200	NORSAR Array S	82.91	331	*e*P	P	19 53 16.1	-0.5
NOA	NORSAR Array B	82.91	331	P	P	19 53 16.1	-0.5
	comp=Z,2.5nm,0.8s,baz=95,slow=5.7,SNR=8.0						
NOA				LR	LR	20 33 46.9	
	comp=Z,286nm,19.3s,baz=105,slow=38						
BFO	Black Forest	83.44	318	*e*P	P	19 53 19.6	+0.1
	comp=Z,19nm,1.3s						
BFO	Black Forest	83.44	318	*ce*P	P	19 53 20.6	+1.1
SENIN	Lac Senin/Sane	84.04	316	*e*P	P	19 53 23.3	+0.3
	comp=Z,36nm,0.9s						
BNI	Bardonecchia	84.43	315	*e*P	P	19 53 25.0	+0.2
	comp=Z,20nm,0.9s						
BNI	Bardonecchia	84.43	315	*e*P	P	19 53 25.0	+0.2
BNI				pmax	pmax		
	comp=Z,21nm,0.9s						
MEM	Membach	85.05	320	⇑P	P	19 53 27.1	-0.6
	comp=Z,8.6nm,1.4s						
BCLA	Clavier	85.49	320	⇑P	P	19 53 29.9	+0.1
SSB	Saint Sauveur	85.95	315	*e*P	P	19 53 32.5	+0.2
	comp=Z,26nm,1.1s						
SSB	Saint Sauveur	85.95	315	*e*P	P	19 53 32.5	+0.2
SSB				pmax	pmax		
	comp=Z,26nm,1.1s						
SNF	Seneffe	86.14	320	⇑P	P	19 53 33.5	+0.4
CLF	Chambon-Foret	87.49	318	*e*P	P	19 53 39.1	-0.6
	comp=Z,25nm,1.0s						
VNDA	Vanda	88.47	168	P	P	19 53 43.8	0.0
	comp=Z,1.5nm,0.9s,baz=319,slow=5.4,SNR=6.7						
VNDA				LR	LR	20 29 03.2	
	comp=Z,473nm,18.3s,baz=300,slow=33						
TORD	Torodi Ar. Bea	89.23	283	P	P	19 53 48.4	-0.3
	comp=Z,2.3nm,1.0s,baz=80,slow=5.1,SNR=9.6						
TORD				PP	PP	19 57 20.4	+1.0
	comp=Z,1.5nm,1.0s,baz=111,slow=8.1,SNR=3.6						
TORD				LR	LR	20 33 34.2	
	comp=Z,225nm,18.2s,baz=0.0,slow=36						
TOA1	Torodi Ar. Sit	89.23	283	*e*P	P	19 53 48.4	-0.3
TOA1				*e*PP	PP	19 57 20.4	+1.0
DAG	Danmarks Havn	91.89	348	⇓*i*P	P	19 53 59.5	-0.3
DAG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DAG	Danmarks Havn	91.89	348	⇓*i*P	P	19 53 59.5	-0.3
	comp=Z,5.8nm,0.9s						
ESDC	Sonseca Array	92.50	310	P	P	19 54 03.3	-0.1
	comp=Z,1.6nm,0.8s,baz=62,slow=3.4,SNR=8.3						
QSPA	South Pole Qui	92.69	180	*e*P	P	19 54 04.4	+0.6
	comp=Z,7.6nm,1.0s						
SNAA	Sanae	93.98	198	PKPdf	P	19 54 10.8	+1.2
SCO	Scoresbysund	95.10	342	*i* P	P	19 54 14.8	+0.2
SCO	Scoresbysund	95.10	342	*i* P	P	19 54 14.8	+0.2
VNA2	Neumayer--Watz	95.51	199	PKPdf	P	19 54 17.7	+1.2
VNA1	Neumayer--Stat	95.83	199	PKPdf	P	19 54 18.9	+1.0
DBIC	Dimbokro	96.03	277	P	P	19 54 19.9	-0.2
	comp=Z,2.7nm,0.7s,baz=136,slow=4.3,SNR=3.7						
DBIC				LR	LR	20 33 41.6	
	comp=Z,255nm,21.9s,baz=66,slow=33						
VNA3	Neumayer Olymp	96.20	199	PKPdf	P	19 54 16.2	-3.4
IMAR	Indian Mountai	97.32	22	*e*P	P	19 54 24.8	0.0
TOLK	Toolik Lake Re	97.61	19	P	P	19 54 25.9	-0.2
	baz=298						
COLA	College	100.02	22	*i* P	Pdif	19 54 36.5	-0.4
COLA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	Eielson Array	100.43	22	P	Pdif	19 54 38.5	-0.3
	comp=Z,0.3nm,0.8s,baz=267,slow=4.5,SNR=4.3						
ILAR				PP	PP	19 58 34.6	-10
	comp=Z,0.7nm,0.9s,baz=295,slow=6.2,SNR=4.7						
ILB	Eielson Array	100.43	22	*e*Pdif	Pdif	19 54 38.5	-0.3
ILB				*e*PP	PP	19 58 34.6	-10
YKA	Yellowknife Ar	111.97	13	PKiKP	PKiKP	19 59 26.6	-0.3
	comp=Z,0.6nm,0.9s,baz=339,slow=4.3,SNR=3.8						
YKA				PP	PP	20 00 05.1	-4.5
	comp=Z,0.7nm,0.9s,baz=334,slow=6.4,SNR=4.2						
YKB5	Yellowknife Ar	111.97	13	*e*PKiKP	PKiKP	19 59 26.6	-0.3
YKB5				*e*PP	PP	20 00 05.1	-4.5
PPT2	Papeete2	118.33	108	*e*LR	LR	20 35 28.7	
	comp=Z,135nm,21.2s						
F10A	Beach Ranch, E	125.20	24	*e*PKPdf	PKiKP	19 59 53.2	-0.1
PINE	Pine Mountain	125.26	28	*e*PKPdf	PKiKP	19 59 54.2	+0.6
MSO	Missoula	125.76	21	*e*PKPdf	PKPdf	19 59 53.1	-0.9
MSO	Missoula	125.76	21	P	PKPdf	19 59 53.5	-0.5
	baz=328						
EGMT	Eagleton	126.11	18	*e*PKPdf	PKPdf	19 59 54.5	-0.1
EGMT	Eagleton	126.11	18	P	PKPdf	19 59 53.5	-1.1
	baz=333						
ULM	Lac du Bonnet	126.82	6	PKP	PKPdf	19 59 55.6	-0.1
	comp=Z,1.6nm,0.8s,baz=14,slow=2.4,SNR=3.5						
BOZ	Bozeman (W)	127.64	20	*e*Sdif	Sdif	20 10 00.8	-1.6
BOZ	Bozeman (W)	127.64	20	P	PKPdf	19 59 57.9	+0.2
	baz=330						
HLID	Hailey	128.32	24	P	PKPdf	19 59 59.2	+0.1
	baz=326						
LAO	LASA Array	128.33	16	P	PKiKP	19 59 59.5	0.0
	baz=337						
LOHW	Long Hollow	129.73	21	*e*Pdif	Pdif	19 56 49.9	0.0
REDW	Red Top Meadow	129.86	21	*e*PKPdf	PKiKP	20 00 02.5	-0.4
NV01	Mina Array Sit	130.61	31	*e*PKPdf	PKPdf	20 00 02.6	-1.1
NVAR	Mina Array Bea	130.61	31	*e*PKPdf	PKPdf	20 00 03.1	-0.5
NVAR	Mina Array Bea	130.61	31	PKP	PKPdf	20 00 02.6	-1.1
	comp=Z,1.3nm,0.8s,baz=329,slow=2.0,SNR=7.5						
BW06	Boulder Array	130.84	21	*e*PKPdf	PKiKP	20 00 04.4	-0.4
PD31	Pinedale Array	130.84	21	*e*PKPdf	PKPdf	20 00 02.5	-1.4
PDAR	Pinedale Array	130.84	21	*e*PKPdf	PKPdf	20 00 03.1	-0.9
PDAR	Pinedale Array	130.84	21	PKP	PKPdf	20 00 02.5	-1.4
	comp=Z,1.7nm,1.0s,baz=349,slow=0.3,SNR=9.3						
R11A	Troy Canyon, C	132.03	29	*e*PKPdf	PKPdf	20 00 05.6	-0.7
N53A	Lisbon	136.09	352	*e*PKPdf	PKPdf	20 00 14.0	+0.4
ACSO	Alum Creek Sta	136.93	354	*e*PKPpre	PKPpre	20 00 04.5	
R58B	Mineral	138.32	347	*e*PKPdf	PKPdf	20 00 14.9	-2.8
S58A	Poland Farm, P	138.69	347	*e*PKPpre	PKPpre	20 00 08.4	
T49A	Edmonton	140.25	356	*e*PKPdf	PKPdf	20 00 21.5	+0.1
V51A	Loudon	141.45	355	*e*PKPpre	PKPpre	20 00 14.4	
W57A	Gilead	141.47	349	*e*PKPpre	PKPpre	20 00 15.7	
CPCT	Cooper Cave	141.82	355	*e*PKPpre	PKPpre	20 00 17.6	
CPUP	Villa Florida	142.03	229	*e*PKPdf	PKPdf	20 00 25.0	+0.2
CPUP	Villa Florida	142.03	229	PKP	PKPdf	20 00 24.5	-0.3
	comp=Z,3.3nm,1.0s,baz=145,slow=4.2,SNR=4.4						
PAULI	Pauline	142.11	351	*e*PKPpre	PKPpre	20 00 18.1	
TX31	Lajitas Ar. Si	144.92	23	*e*PKPdf	PKPab	20 00 28.6	-0.5
LTX	Lajitas	144.92	23	*e*PKPdf	PKPab	20 00 28.3	-0.7
LTX	Lajitas	144.92	23	*e*PKIKP	PKPab	20 00 28.3	-0.7
TXAR	Lajitas Array	144.92	23	*e*PKPdf	PKPab	20 00 28.4	-0.6
TXAR	Lajitas Array	144.92	23	PKP	PKPab	20 00 28.3	-0.7
	comp=Z,14nm,1.0s,baz=282,slow=2.3,SNR=41						
ASAL	Salagasta	145.06	210	*e*P	PKPdf	20 00 30.3	+0.2
VBMS	Vicksburg	145.17	3	P	PKPdf	20 00 30.2	+0.1
	baz=356						
NATX	Nacogdoches	145.18	9	*e*PKPbc	PKPbc	20 00 28.7	-0.9
NATX	Nacogdoches	145.18	9	P	PKPbc	20 00 29.4	-0.3
	baz=349						
JCT	Junction City	145.22	17	*e*PKPbc	PKPbc	20 00 28.8	-1.2
JCT	Junction City	145.22	17	*e*PKIKP	PKPbc	20 00 28.8	-1.2
JCT	Junction City	145.22	17	P	PKPbc	20 00 28.8	-1.2
	baz=340						
251A	Midway	145.22	355	P	PKPbc	20 00 29.3	-0.5
	baz=5.3						
252A	Lumpkin	145.26	354	P	PKPbc	20 00 29.9	0.0
	baz=6.5						
249A	Camden	145.44	358	P	PKPab	20 00 30.8	+0.1
	baz=2.3						
APLL	PUNTA DE LOS L	145.55	215	*e*P	PKPab	20 00 31.9	+0.6
CFA	Coronel Fontan	145.55	211	*e*P	PKPab	20 00 32.3	+1.1
355A	Pearson	145.68	351	P	PKPab	20 00 32.1	+0.6
	baz=9.9						
TIGA	Tifton	145.68	353	*e*PKPdf	PKPdf	20 00 30.7	-0.3
TIGA	Tifton	145.68	353	P	PKPab	20 00 31.9	+0.3
	baz=8.6						
352A	Blakely	145.79	355	*e*PKPdf	PKPdf	20 00 29.7	-1.6
352A	Blakely	145.79	355	P	PKPbc	20 00 31.6	-0.1
	baz=6.2						
349A	Repton	146.06	358	P	PKPab	20 00 33.6	+0.6
	baz=2.2						
HPIG		146.13	28	*e*PKPdf	PKPdf	20 00 32.3	0.0
ACLC	CERRO LA CRUZ	146.52	215	*e*P	PKPbc	20 00 33.6	-0.5
CYA	Choya	146.55	218	*e*P	PKPbc	20 00 33.5	-0.7
555A	McAlpin	146.89	351	P	PKPab	20 00 36.0	-0.2
	baz=10.0						
556A	Lake Butler	146.92	350	P	PKPbc	20 00 35.7	+0.6
	baz=11						
AGUA	GUANDACOL	147.34	213	*e*P	PKPbc	20 00 36.7	+0.3
833A	Chaparral WMA,	147.36	18	*e*PKPdf	PKPdf	20 00 33.4	-0.6
833A	Chaparral WMA,	147.36	18	P	PKPbc	20 00 36.9	+0.6
	baz=340						
AHML	Horco Molle	147.41	221	*e*P	PKPdf	20 00 34.5	+0.3
VCA	Vinchina	147.75	215	*e*P	PKPdf	20 00 34.5	-0.4
FSA	Cafayete	148.29	221	*e*P	PKiKP	20 00 40.8	-0.1
LCO	Las Campanas	148.90	211	*e*P	PKPab	20 00 47.5	+2.9
AZAP	Zapla	148.92	225	*e*P	PKPab	20 00 44.0	-0.8
HUMP	Col San Antoni	149.55	314	*e*PKPdf	PKPdf	20 00 38.1	+0.3
LNIG	Linares	150.51	21	*e*PKPbc	PKPbc	20 00 43.2	-1.3
LNIG				*e*PKPab	sPKPbc	20 00 50.3	-0.3
ZAIG	Zacatecas	151.14	28	*e*PKPbc	PKPbc	20 00 46.2	-0.2
PTGA	Pitinga	151.45	274	*e*PKPdf	PKPdf	20 00 41.6	+0.7
LPAZ	La Paz	155.90	235	*e*PKPdf	PKPdf	20 00 45.5	-2.4
LPAZ	La Paz	155.90	235	*e*P	PKPdf	20 00 45.2	-2.7
LPAZ	La Paz	155.90	235	*e*PKIKP	PKPdf	20 00 45.5	-2.4
LPAZ	La Paz	155.90	235	PKP	PKPdf	20 00 46.1	-1.8
	comp=Z,1.3nm,1.0s,baz=239,slow=5.9,SNR=2.8						
SDV	Santo Domingo	158.80	303	*e*PKPab	PKPab	20 01 25.8	-1.0

IDC 02 19:45:57.6±1.1, 50°.19N×115°.12W, h0^{km}, mb3.0/2, mb1 3.5/5, mb1mx3.3/52, mbtmp3.1/5, ML3.2/3, MS3.2/1, Ms1 3.2/1, ms1mx2.2/18, Error ellipse: s-maj=19.1km s-min=8.1km az=112.0, British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEW	Newport		2.33 215	Pn	Pn	19 46 37.6	+0.4
	1.2nm,0.3s,baz=44,slow=15,SNR=8.2						
NEW				Lg	Lg	19 47 10.2	
	2.1nm,0.3s,baz=108,slow=23,SNR=6.7						
I56US	NEWPORT INFRAS		2.33 215	*i*		20 00 59.1	
	baz=37,slow=324,SNR=3.3						
PDAR	Pinedale Array		8.35 151	Pn	Pn	19 48 02.1	+2.0
	0.1nm,0.3s,baz=349,slow=18,SNR=3.9						
ULM	Lac du Bonnet		12.33 82	Lg	Lg	19 52 18.0	
	0.2nm,0.3s,baz=21,slow=14,SNR=3.9						
YKA	Yellowknife Ar		12.34 1	Pn	Pn	19 48 50.0	-4.3
	0.2nm,0.3s,baz=181,slow=13,SNR=9.7						
YKA				Lg	Lg	19 52 21.6	
	0.1nm,0.3s,baz=182,slow=29,SNR=4.0						
INK	Inuvik		20.30 340	P	P	19 50 35.2	+0.6
	1.1nm,0.8s,baz=136,slow=9.6,SNR=5.3						
ILAR	Eielson Array		22.13 323	P	P	19 50 55.3	+0.9
	0.3nm,0.8s,baz=119,slow=8.8,SNR=5.5						
RES	Resolute Bay		26.00 12	LR	LR	20 00 40.2	
	comp=Z,46nm,18.2s,baz=186,slow=34						

*ATH **02** 19:49:16.4, 41°.16N×24°.84E, h26^{km}±1^{km}, ML2.7/15, Error ellipse: s-maj=1.6km s-min=0.8km az=3.0*
*ISK **02** 19:49:16.6, 41°.18N×24°.88E, h5^{km}, ML3.0/14*
*ISCJB **02** 19:49:16.7±0.4, 41°.13N±0°.02×24°.83E±0°.02, h2^{km}±3^{km}, Error ellipse: s-maj=2.7km s-min=2.3km az=17.3*
*THE **02** 19:49:17.1, 41°.20N×24°.86E, h10^{km}, ML2.8/10, Error ellipse: s-maj=0.8km s-min=0.3km az=11.0*
*SOF **02** 19:49:19.9, 41°.31N×24°.70E, h11^{km}, MD2.6*
*BEO **02** 19:49:21.4±0.9, 41°.15N×24°.64E, h1^{km}±4^{km}, ML2.8/6*
*DDA **02** 19:49:35.0, 40°.54N×26°.37E, h7^{km}±6^{km}, ML2.5*
ISC 02 19:49:17.2±1.0, 41°.09N±0°.02×24°.84E±0°.01, h7^{km}±9^{km}, n110, σ1$25/142, 10C-6D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	Kavala		0.26 249	P	Pb	19 49 24.0	-0.2
KAVA				S	Sb	19 49 28.6	-0.3
	2μm,0.1s						
KAVA	Kavala		0.26 249	P	Pb	19 49 24.1	-0.1
KAVA				S	Sb	19 49 28.3	-0.6
KAVA				AML	AML	19 49 29.2	
	comp=E,5101μm,0.1s						
KAVA				AML	AML	19 49 29.4	
	comp=N,6390μm,0.1s						
THAS	Thassos island		0.49 191	P	Pb	19 49 28.7	+0.6
THAS				S	Sb	19 49 36.3	+0.9
	comp=N,842nm,0.2s						
THAS	Thassos island		0.49 191	P	Pb	19 49 28.8	+0.6
THAS				S	Sb	19 49 36.3	+0.9
THAS				AML	AML	19 49 36.8	
	comp=E,1744μm,0.2s						
THAS				AML	AML	19 49 40.1	
	comp=N,1548μm,0.2s						
RDO	Rodhopi		0.53 84	PG	Pg	19 49 26.8	-0.6
RDO				SG	Sg	19 49 33.9	-0.5
RDO	Rodhopi		0.53 84	P	Pg	19 49 27.0	-0.4
RDO				S	Sg	19 49 34.3	-0.1
	comp=N,1μm,0.1s						
RDO	Rodhopi		0.53 84	P	Pg	19 49 27.2	-0.2
RDO				S	Sg	19 49 34.2	-0.1
RDO				AML	AML	19 49 34.8	
	comp=N,2885μm,0.2s						
RDO				AML	AML	19 49 35.9	
	comp=E,2040μm,0.1s						
RZN	Rozhen		0.60 351	*i* P	Pg	19 49 27.5	-1.4
KDZ	Kurdzhali		0.71 38	*i* P	Pb	19 49 32.2	+0.4
NVR	Nevrokopi		0.78 290	P	Pg	19 49 31.4	-0.7
NVR				S	Sg	19 49 42.9	+0.6
	comp=E,922nm,0.2s						
NVR	Nevrokopi		0.78 290	P	Pg	19 49 31.5	-0.7
NVR				S	Sg	19 49 41.4	-0.9
NVR				AML	AML	19 49 46.3	
	comp=E,1817μm,0.2s						
NVR				AML	AML	19 49 46.3	
	comp=N,1829μm,0.3s						
SMTH	Samothraki Isl		0.81 139	P	Pb	19 49 33.6	0.0
SMTH				S	Sn	19 49 46.8	-0.5
	comp=N,245nm,0.2s						
SMTH	Samothraki Isl		0.81 139	P	Pb	19 49 33.9	+0.3
SMTH				S	Sb	19 49 44.7	0.0
SMTH				AML	AML	19 49 48.2	
	comp=N,562μm,0.2s						
SMTH				AML	AML	19 49 49.4	
	comp=E,498μm,0.1s						
ALN	Alexandroupoli		0.93 102	PG	Pb	19 49 34.9	-0.7
ALN				SG	Sg	19 49 48.4	+1.2
ALN	Alexandroupoli		0.93 102	P	Pb	19 49 34.9	-0.7
ALN				S	Sg	19 49 48.4	+1.2
	comp=E,252nm,0.5s						
ALN	Alexandroupoli		0.93 102	P	Pb	19 49 35.2	-0.5
ALN				S	Sb	19 49 47.1	-1.1
ALN				AML	AML	19 49 51.0	
	comp=E,881μm,0.4s						
ALN				AML	AML	19 49 51.3	
	comp=N,776μm,0.5s						
SRS	Serrai		0.94 272	P	Pb	19 49 35.0	-0.8
SRS				S	Sn	19 49 49.0	-1.5
	comp=N,1μm,0.2s						
SRS	Serrai		0.94 272	P	Pb	19 49 35.0	-0.8
SRS				S	Sb	19 49 47.9	-0.6
SRS				AML	AML	19 49 51.9	
	comp=N,2407μm,0.2s						
SRS				AML	AML	19 49 52.4	
	comp=E,2026μm,0.2s						
MMB	Musomiste		0.97 301	*i* P	Pb	19 49 34.3	-2.1
OUR	Ouranopolis		1.00 221	PN	Pn	19 49 37.5	0.0
OUR	Ouranopolis		1.00 221	P	Pn	19 49 37.2	-0.3
OUR	Ouranopolis		1.00 221	P	Pn	19 49 37.3	-0.2
OUR				S	Sn	19 49 51.2	-0.5
OUR				AML	AML	19 49 53.9	
	comp=E,856μm,0.3s						
OUR				AML	AML	19 49 54.1	
	comp=N,926μm,0.2s						
PLD	Plovdiv		1.02 354	*i* P	Pb	19 49 35.7	-1.4
ENEZ	Enez		1.06 109	PG	Pb	19 49 37.4	-0.3
DIM	Dimitrovgrad		1.09 28	*i* P	Pb	19 49 38.3	-0.1
SOH	Sokhos		1.16 257	P	Pb	19 49 39.3	-0.2
SOH				S	Sg	19 49 55.8	+1.5
	comp=N,358nm,0.4s						
SOH	Sokhos		1.16 257	P	Pn	19 49 39.5	-0.3
SOH				S	Sb	19 49 54.4	-0.3
SOH				AML	AML	19 49 58.4	
	comp=N,756μm,0.4s						
SOH				AML	AML	19 49 59.6	
	comp=E,661μm,0.4s						
LIA	Limnos Island		1.22 167	P	Pg	19 49 40.9	+0.4
LIA				S	Sg	19 49 59.1	+2.8
	comp=E,612nm,0.5s						
LIA	Limnos Island		1.22 167	P	Pg	19 49 41.1	+0.6
LIA				S	Sg	19 49 57.8	+1.5
LIA				AML	AML	19 50 00.7	
	comp=E,1371μm,0.6s						
LIA				AML	AML	19 50 01.2	
	comp=N,1090μm,0.4s						
PLG	Polygyros		1.28 236	P	Pb	19 49 41.4	-0.1
PLG				S	Sg	19 50 00.0	+1.8
	comp=N,800nm,0.3s						
PLG	Polygyros		1.28 236	P	Pb	19 49 41.3	-0.2
PLG				S	Sg	19 49 58.8	+0.6
PLG				AML	AML	19 50 02.0	
	comp=E,941μm,0.4s						
PLG				AML	AML	19 50 02.1	
	comp=N,632μm,0.2s						
ERIK	Erikli-Kesan		1.34 108	PN	Pb	19 49 42.4	-0.1
HORT	Hortiatis		1.41 250	PN	Pg	19 49 44.4	+0.3
HORT	Hortiatis		1.41 250	P	Pn	19 49 42.7	-0.6
HORT	Hortiatis		1.41 250	P	Pb	19 49 43.3	-0.5
HORT				AML	AML	19 50 07.5	
	comp=E,300μm,0.2s						
HORT				AML	AML	19 50 07.9	
	comp=N,320μm,0.3s						
KESN	Edirne-Kesan		1.42 100	IAML_P			
	comp=Z,638nm,0.1s						
KESN				*i* P	Pn	19 49 43.2	-0.5
KESN				*i* S	Sn	19 50 01.6	-1.2
GELI	Tayfur-Gelibol		1.42 119	PN	Pb	19 49 43.5	-0.5
PAIG	Paliouri		1.46 218	P	Pn	19 49 43.7	-0.2
PAIG	Paliouri		1.46 218	P	Pb	19 49 43.9	-0.7
PAIG				S	Sb	19 50 03.4	+0.1
PAIG				AML	AML	19 50 14.4	
	comp=E,112μm,0.3s						
PAIG				AML	AML	19 50 18.3	
	comp=N,114μm,0.3s						
KNT	Kendrikon		1.47 273	PN	Pb	19 49 44.5	-0.3
KNT	Kendrikon		1.47 273	P	Pn	19 49 43.9	-0.1
KNT	Kendrikon		1.47 273	P	Pb	19 49 44.1	-0.6
KNT				S	Sn	19 50 01.9	-1.5
KNT				AML	AML	19 50 06.6	
	comp=E,509μm,0.3s						
KNT				AML	AML	19 50 07.3	
	comp=N,521μm,0.3s						
THE	Thessaloniki		1.49 253	P	Pn	19 49 44.3	0.0
THE				AML	AML	19 50 07.8	
	comp=N,260μm,0.3s						
THE				AML	AML	19 50 08.6	
	comp=E,212μm,0.3s						
KKB	Krupnik		1.53 301	*i* P	Pn	19 49 44.7	-0.2
PGB	Panagyurishte		1.54 341	*i* P	Pb	19 49 45.7	-0.4
BOZC	Bozcaada		1.55 143	PN	Pb	19 49 45.9	-0.3
EDRB	Edirne		1.62 62	PN	Pn	19 49 44.9	-1.2
EDRB	Edirne		1.62 62	P	Pn	19 49 44.4	-1.7
LPK	Lapseki		1.63 116	PN	Pb	19 49 46.8	-0.7
EZN	Ezine		1.70 138	S	Sn	19 50 05.3	-3.8
VAY	Valandovo		1.73 278	*i* Pn	Pb	19 49 48.2	-1.0
KIRK	Kırklareli		1.83 67	*i* P	Pn	19 49 48.9	-0.2
BAYC	CANAKKALE_Bayr		1.88 135	IAML_P			
	comp=Z,947nm,0.1s						
BAYC				*i* P	Pb	19 49 51.0	-0.7
VTS	Vitosha		1.94 322	*e*Pg	Pb	19 49 52.9	0.0
VTS				*e*Sg	Sb	19 50 18.3	+0.9
VTS	Vitosha		1.94 322	⇑*i*P	Pb	19 49 52.0	-0.9
VTS	Vitosha		1.94 322	S	Sb	19 50 17.4	0.0
VTS	Vitosha		1.94 322	*i* P	Pb	19 49 53.2	+0.3
KRBG	Karabiga-Canak		1.99 110	PN	Pn	19 49 51.9	+0.7
SIGR	SIGRI		2.03 157	PN	Pb	19 49 52.9	-1.5
SIGR	SIGRI		2.03 157	P	Pn	19 49 52.3	+0.5
AOS	Alonnisos		2.05 201	PN	Pb	19 49 53.3	-1.4
AOS	Alonnisos		2.05 201	P	Pn	19 49 51.9	-0.2
STIP	Stip		2.08 288	*i* Pn	Pn	19 49 50.3	-2.2
PHSR	Pinarhisar		2.09 74	⇑*i*P	Pn	19 49 53.8	+1.2
XOR	Xorichti		2.13 217	P	Pn	19 49 53.3	+0.1
PRK	Paraskevi		2.14 149	P	Pb	19 49 54.7	-1.6
NEO	Neokhori		2.17 215	P	Pn	19 49 53.3	-0.3
CRLT	Corlu		2.19 88	PN	Pn	19 49 54.3	+0.4
SKIA	Skiathos		2.19 209	P	Pn	19 49 53.7	-0.3
KNL	Balıkesir		2.20 111	*i* P	Pg	19 49 59.7	+0.4
FYTO	Fytoko, Volos		2.22 221	P	Pn	19 49 54.3	0.0
BOSS	Bosilegrad		2.25 309	*e*Pn	Pb	19 49 58.3	+0.1
BOSS				*e*Sg	Sg	19 50 28.4	-1.2
EDC	Edincik		2.42 107	PN	Pn	19 49 57.8	+0.7
SMIA	Simia		2.54 210	P	Pn	19 49 58.6	-0.2
SLVT	Silivri		2.55 86	PN	Pn	19 49 59.0	+0.1
MRKA	Markates		2.57 202	P	Pn	19 49 59.2	0.0
ZIMR			2.59 8	⇑*i*P	Pb	19 50 03.4	-0.6
THL	Klokotos Trika		2.64 236	P	Pn	19 49 59.6	-0.5

comp=Z,54nm,19.6s,baz=272,slow=49
LPAZ La Paz 1.57 68 *e*P **Pn 19 50 24.8 +0.6**
PB12 IPOC Station P 1.84 201 *e*P **Pn 19 50 26.9 +0.5**
PB12 *e*S **Sn 19 50 53.6 -0.3**
PB12 IPOC Station P 1.84 201 ⇓ *e*P **Pn 19 50 26.8 +0.5**
PB12 *e*S **Sn 19 50 53.1 -0.8**
PB12 IAML 19 50 54.0
comp=N,847nm,0.4s
MNMC Minye Minye 2.23 179 *e*Pn **Pn 19 50 31.7 +0.8**
MNMC Minye Minye 2.23 179 ⇑ *e*P **Pn 19 50 32.0 +1.1**
MNMC *i*S **Sn 19 51 01.5 -0.5**
MNMC IAML 19 51 04.1
comp=E,1μm,0.4s
MNMCX Minye Minye 2.23 179 *e*P **Pn 19 50 32.2 +1.3**
PSGC Pisagua 2.73 190 ⇓ *e*P **Pn 19 50 36.8 +0.3**
PSGC *e*S **Sn 19 51 10.1 -2.0**
PSGC IAML 19 51 12.1
comp=N,418nm,0.4s
PSGCX Pisagua 2.73 190 *e*P **Pn 19 50 36.9 +0.4**
GO01 Chusmiza 2.80 171 *e*Pn **Pn 19 50 38.6 +0.9**
GO01 *e*Sn **Sn 19 51 13.1 -1.0**
GO01 Chusmiza 2.80 171 ⇓ *e* **Pn 19 50 39.4 +1.8**
GO01 *e*S **Sn 19 51 14.8 +0.7**
GO01 IAML 19 51 17.8
comp=E,643nm,0.2s
PB11 IPOC Station P 2.86 180 *e*Pn **Pn 19 50 38.5 +0.5**
PB11 IPOC Station P 2.86 180 *e*P **Pn 19 50 39.0 +0.9**
PB11 IPOC Station P 2.86 180 ⇑ *e*P **Pn 19 50 39.0 +0.9**
PB11 *e*S **Sn 19 51 13.5 -1.3**
PB11 IAM 19 51 15.6
comp=E,987nm,0.2s
PB08 IPOC Station P 3.27 172 *e*P **Pn 19 50 45.2 +1.9**
PB08 IPOC Station P 3.27 172 ⇑ *i*P **Pn 19 50 44.6 +1.3**
PB08 *i*S **Sn 19 51 23.4 -0.7**
PB08 IAML 19 51 26.5
comp=E,569nm,0.3s
PB01 IPOC Station P 4.14 178 *e*Pn **Pn 19 50 54.0 +0.1**
PB02 IPOC Station P 4.42 183 *e*P **Pn 19 50 58.2 +0.7**
PB07 IPOC Station P 4.82 183 *e*P **Pn 19 51 03.4 +0.6**
PB09 IPOC Station P 4.90 176 *e*P **Pn 19 51 05.1 +1.3**
PB03 IPOC Station P 5.14 181 *e*P **Pn 19 51 07.3 +0.5**
PB04 IPOC Station P 5.44 185 *e*Pn **Pn 19 51 10.4 -0.5**
PB04 IPOC Station P 5.44 185 *e*P **Pn 19 51 11.2 +0.4**
LVC Limon Verde 5.74 173 *e*Pn **Pn 19 51 15.5 +0.7**
LVC Limon Verde 5.74 173 *e*P **Pn 19 51 16.1 +1.2**
LVC IAML 19 52 23.8
comp=Z,106nm,0.4s
LVC Limon Verde 5.74 173 P **Pn 19 51 15.9 +1.0**
comp=Z,17nm,0.3s,baz=40,slow=12,SNR=134
LVC S **Sn 19 52 18.3 -2.6**
comp=Z,26nm,0.3s,baz=132,slow=21,SNR=21
LVC Limon Verde 5.74 173 *e*P **Pn 19 51 15.0 +0.1**
PB06 IPOC Station P 5.79 179 *e*P **Pn 19 51 15.2 -0.2**
PB05 IPOC Station P 5.96 185 *e*P **Pn 19 51 17.2 -0.4**
PB15 IPOC Station P 6.29 179 *e*P **Pn 19 51 22.2 +0.2**
YJA Yavi 6.54 144 *e*P **Pn 19 51 26.8 +1.2**
YJA IAML 19 51 34.8
comp=Z,6.2nm,0.3s
PB10 IPOC Station P 6.65 187 *e*Pn **Pn 19 51 25.7 -0.8**
PB10 IPOC Station P 6.65 187 *e*P **Pn 19 51 25.9 -0.6**
GO02 Mina Guanaco 8.23 180 *e*Pn **Pn 19 51 47.1 -0.6**
SIV San Ignacio 8.27 85 P **Pn 19 51 45.9 -2.1**
comp=Z,13nm,0.3s,baz=272,slow=7.9,SNR=48
AZAP Zapla 8.46 150 *e*P **Pn 19 51 50.1 -0.6**
AZAP IAML 19 51 53.4
comp=Z,19nm,0.2s
NNA Nana 8.51 304 *e*Pn **Pn 19 51 50.5 -0.6**
NNA Nana 8.51 304 P **Pn 19 51 50.7 -0.4**
comp=Z,16nm,0.3s,baz=136,slow=11,SNR=16
NNA S **Sn 19 53 25.1 -1.1**
comp=Z,5.1nm,0.3s,baz=216,slow=19,SNR=4.3
LCO Las Campanas 12.11 184 *e*Pn **Pn 19 52 39.1 +1.1**
LCO Las Campanas 12.11 184 *e*P **Pn 19 52 38.1 +0.1**
AQDB Aquidauana 13.69 107 *e*P **Pn 19 52 58.7 +0.8**
CLDB Colider 14.71 68 *e*P **Pn 19 53 10.5 -0.2**
CFA Coronel Fontan 14.71 175 P **P 19 53 11.8 -0.2**
comp=Z,0.8nm,0.3s,baz=349,slow=12,SNR=6.8
CFA S **Sn 19 55 46.5 -8.1**
comp=Z,1.2nm,0.3s,baz=213,slow=19,SNR=9.4
CPUP Villa Florida 14.80 131 P **Pn 19 53 12.1 +0.3**
comp=Z,0.3nm,0.3s,baz=298,slow=5.4,SNR=3.8
CPUP Villa Florida 14.80 131 *e*P **Pn 19 53 12.0 +0.3**
PTGB Pitanga 18.17 118 *e*P **P 19 53 50.4 +0.1**
ITRB Iturama 18.52 102 *e*P **P 19 53 54.0 -0.1**
PTGA Pitinga 18.67 32 *e*P **P 19 53 56.3 +0.6**
comp=Z,19nm,1.8s
PTGA Pitinga 18.67 32 P **P 19 53 54.2 -1.4**
comp=Z,0.7nm,0.3s,baz=216,slow=13,SNR=8.0
PTGA Pitinga 18.67 32 *e*P **P 19 53 55.4 -0.3**
OTAV Otavalo 19.10 332 *e*P **P 19 54 00.1 -0.7**
ITAB Concordia 19.20 125 *e*P **P 19 54 00.9 -0.3**
FRTB Fartura 19.91 112 *e*P **P 19 54 08.8 -0.2**
BB19B Bebedouro 20.39 105 *e*P **P 19 54 15.0 +0.8**
BDFB Brasilia 20.80 90 *e*P **P 19 54 19.3 +0.7**
comp=Z,7.2nm,1.1s
BDFB Brasilia 20.80 90 P **P 19 54 18.7 +0.1**
comp=Z,4.5nm,0.6s,baz=257,slow=14,SNR=4.8
CNLB Canela 21.22 129 *e*P **P 19 54 22.9 0.0**
SPB Sao Paulo 21.87 111 *e*P **P 19 54 30.4 +0.7**
comp=Z,7.1nm,0.5s
SPB Sao Paulo 21.87 111 *e*P **P 19 54 30.0 +0.4**
OGAUY Aigu 21.93 145 *e*P **P 19 54 30.6 +0.4**
TER01 Tubaro-SC 22.15 125 *e*P **P 19 54 32.9 +0.5**
PMNB Patos De Minas 22.16 98 *e*P **P 19 54 32.7 -0.1**
PLCA Paso Flores 23.78 182 *e*P **P 19 54 51.8 +4.5**
comp=Z,29nm,1.7s
PLCA Paso Flores 23.78 182 P **P 19 54 51.0 +3.8**
comp=Z,5.9nm,0.9s,baz=23,slow=11,SNR=12
PLCA LR LR 20 04 41.4
comp=Z,44nm,20.5s,baz=134,slow=37
BSCB Bom Sucesso 23.87 104 *e*P **P 19 54 48.6 +0.3**
JANB Januaria 24.42 89 *e*P **P 19 54 53.9 +0.5**
MCI6 Montes Claros 24.64 94 *e*P **P 19 54 56.1 +0.8**
MCI9 Montes Claros 24.65 93 *e*P **P 19 54 55.8 +0.4**
CAM01 Campos-RJ 26.84 105 *e*P **P 19 55 14.5 -0.4**
BSFB Barra de Sao F 27.46 98 *e*P **P 19 55 20.2 -0.4**
S22A 4UR Ranch, Cre 64.62 328 *e*P **P 20 00 11.2 +1.5**
comp=Z,12nm,1.5s
PDAR Pinedale Array 69.79 330 P **P 20 00 42.1 0.0**
comp=Z,0.8nm,0.8s,baz=130,slow=8.3,SNR=5.2
ULM Lac du Bonnet 70.73 343 P **P 20 00 47.8 +0.4**
comp=Z,1.5nm,0.4s,baz=138,slow=6.3,SNR=5.3
IMW Indian Meadow 71.31 330 *e*P **P 20 00 52.2 +0.8**
comp=Z,9.9nm,0.6s
FLWY Flagg Ranch 71.33 330 *e*P **P 20 00 49.4 -2.0**
comp=Z,18nm,0.6s
TORD Torodi Ar. Bea 76.52 72 P **P 20 01 22.4 +0.6**
comp=Z,0.4nm,0.5s,baz=251,slow=5.0,SNR=12
YKW3 Yellowknife Ar 86.68 341 *e*P **P 20 02 13.6 -0.4**
comp=Z,62nm,0.6s
SONM Songino Array 148.97 5 PKPbc **PKiKP 20 09 19.7 +0.6**
comp=Z,0.5nm,0.4s,baz=320,slow=1.7,SNR=4.1

PRU 02 19:52:02.7±0.0, 50°.12N×19°.29E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.79**	**249**	*e*PG	Pg	19 52 18.0	+0.2
OKC				*e*SG	Sg	19 52 28.2	+0.2
LANS	**Liptovska Anna**	**0.98**	**173**	*e*PG	Pg	19 52 21.6	+0.2
LANS				*e*SG	Sg	19 52 33.6	-0.5
MORC	**Moravsky Berou**	**1.18**	**254**	*e*PG	Pg	19 52 24.3	-1.0
MORC				*e*SG	Sg	19 52 40.2	-0.4
DPC	**Dobruska-Polom**	**1.92**	**278**	*e*SG	Sb	19 53 03.1	0.0

ATH 02 19:54:33.5, 39°.92N×20°.86E, h14km±5km, ML1.4/4, Error ellipse: s-maj=5.9km s-min=1.0km az=101.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.26**	**182**	P	Pg	19 54 38.7	-0.3
JAN				S	Sb	19 54 44.0	-0.5
JAN	**Janina**	**0.26**	**182**	P	Pg	19 54 38.8	-0.3
JAN				S	Sg	19 54 43.0	+0.1
JAN				AML	AML	19 54 45.2
	comp=N,350μm,0.2s						
JAN				AML	AML	19 54 45.3
	comp=E,408μm,0.2s						
MEV	**Metsovon**	**0.31**	**115**	P	Pg	19 54 40.1	+0.1
MEV	**Metsovon**	**0.31**	**115**	P	Pg	19 54 40.2	+0.2
PENT	**Pentalofos**	**0.35**	**37**	P	Pg	19 54 40.2	-0.4
PENT				S	Sb	19 54 46.4	-0.6
PENT				AML	AML	19 54 47.0
	comp=E,165μm,0.2s						
PENT				AML	AML	19 54 49.6
	comp=N,147μm,0.3s						
PENT	**Pentalofos**	**0.35**	**37**	P	Pg	19 54 40.2	-0.4
PENT				S	Sb	19 54 46.3	-0.7
PENT				AML	AML	19 54 47.0
	comp=E,165μm,0.2s						
PENT				AML	AML	19 54 49.6
	comp=N,147μm,0.3s						
KPRO	**Kipourio**	**0.39**	**85**	P	Pg	19 54 41.0	-0.3
KPRO				S	Sg	19 54 46.9	+0.4
KPRO				AML	AML	19 54 47.9
	comp=E,254μm,0.4s						
KPRO				AML	AML	19 54 49.7
	comp=N,286μm,0.4s						
KPRO	**Kipourio**	**0.39**	**85**	P	Pg	19 54 41.0	-0.3
KPRO				S	Sg	19 54 46.7	+0.1
KPRO				AML	AML	19 54 47.9
	comp=E,254μm,0.4s						
KPRO				AML	AML	19 54 49.7
	comp=N,286μm,0.4s						
NEST	**Nestorio**	**0.52**	**16**	P	Pg	19 54 43.6	-0.1
NEST				S	Sg	19 54 50.7	+0.1
NEST				AML	AML	19 54 56.6
	comp=N,37μm,0.5s						
NEST				AML	AML	19 54 58.1
	comp=E,47μm,0.3s						
NEST	**Nestorio**	**0.52**	**16**	P	Pg	19 54 43.2	-0.5
NEST				S	Sg	19 54 50.8	+0.2
NEST				AML	AML	19 54 53.5
	comp=E,53μm,0.3s						
NEST				AML	AML	19 54 56.6
	comp=N,37μm,0.5s						
IGT	**Igoumenitsa**	**0.56**	**227**	P	Pg	19 54 44.7	+0.1
KEK	**Kerkira**	**0.85**	**256**	P	Pg	19 54 49.6	-0.2
THL	**Klokotos Trika**	**0.95**	**111**	P	Pb	19 54 51.8	0.0
THL				S	Sg	19 55 04.9	+0.5
LKD2	**Lefkada island**	**1.14**	**188**	P	Pg	19 54 55.6	+0.2
AGG	**Agios Georgios**	**1.45**	**128**	P	Pb	19 55 00.3	0.0

IDC ***02*** *20:25:48.9±0.8, 28°.55N×52°.14E, h0km, mb3.8/20, mb1 3.9/26, mb1mx3.8/55, mbtmp3.8/26, ML3.6/6, MS3.0/2, Ms1 3.0/2, ms1mx2.7/56, Error ellipse: s-maj=19.3km s-min=13.3km az=0.0*
ISCJB ***02*** *20:25:49.5±0.3, 28°.56N±0°.03×52°.12E±0°.03, h15km, mb3.9/27, Error ellipse: s-maj=4.9km s-min=2.9km az=44.4*
THR ***02*** *20:25:50.2, 28°.74N×52°.25E, h6km, ML4.0*
TEH ***02*** *20:25:50.8, 28°.62N×52°.17E, h19km, ML4.0*
NEIC ***02*** *20:25:50.2±0.0, 28°.74N×52°.25E, h6km, mb3.9/13, ML4.0(THR), MN4.0(TEH), After THR.*
OMAN ***02*** *20:25:56.4±0.8, 28°.00N×51°.96E, h20km, ml4.0/4, Error ellipse: s-maj=17.3km s-min=11.6km az=342.0*

ISC 02 20:25:50.5±0.5, 28°.52N±0°.05×52°.12E±0°.04, h15km, n109, σ1°61/114, mb3.9/27, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.80**	**106**	*e*Pn	**Pg**	**20 26 05.7**	**-0.3**
GHIR	**Ghir-Karzin**	**0.80**	**106**	*e*Pg	**Pg**	**20 26 05.7**	**-0.3**
GHIR				*e*Sg	**Sg**	**20 26 16.8**	**+0.3**
SHI	**Shiraz**	**1.17**	**17**	*e*Pg	**Pb**	**20 26 10.5**	**-2.1**
SHI				IAMB	IAmb	20 26 29.5
	comp=Z,35μm,0.5s						
ISRV	**Sarvestan**	**1.23**	**45**	*e*Pg	**Pn**	**20 26 11.0**	**-2.4**
ISRV				IAMB	IAmb	20 26 36.7
	comp=Z,34μm,0.5s						
JHRM	**Jahrom**	**1.28**	**90**	*e*Pg	**Pb**	**20 26 15.5**	**+1.1**
JHRM				IAMB	IAmb	20 26 37.5
	comp=E,0.0nm,0.5s						
IKAZ	**Kazeroun**	**1.28**	**349**	*e*Pg	**Pn**	**20 26 14.1**	**-0.1**
IKAZ				IAMB	IAmb	20 26 39.0
	comp=Z,98μm,0.6s						
IRAM	**Ramesheh**	**3.29**	**4**	*e*Pn	**Pn**	**20 26 41.8**	**+0.1**
IRAM				IAMB	IAmb	20 27 37.7
	comp=Z,5μm,0.9s						
IMEH	**Mehriz**	**3.59**	**36**	*e*Pn	**Pn**	**20 26 47.5**	**+1.7**
IMEH				IAMB	IAmb	20 26 50.0
	comp=Z,3μm,0.2s						
ISAD	**Sadrabad**	**3.65**	**21**	*e*Pn	**Pn**	**20 26 48.0**	**+1.3**
ISAD				IAMB	IAmb	20 27 51.7
	comp=Z,2μm,0.6s						
ZNGN	**Zangian**	**3.75**	**343**	*e*Pn	**Pn**	**20 26 48.4**	**+0.3**
JHBN	**Jahan bin**	**3.91**	**342**	*e*Pn	**Pn**	**20 26 50.6**	**+0.3**
ROKH	**ROKH**	**3.93**	**346**	*e*Pn	**Pn**	**20 26 50.9**	**+0.4**
NGRK	**Negar Kerman**	**4.19**	**73**	*e*Pn	**Pn**	**20 26 55.9**	**+1.7**
ICHK	**Chekchek**	**4.21**	**27**	*e*Pn	**Pn**	**20 26 55.5**	**+1.2**
ICHK				IAMB	IAmb	20 27 46.3
	comp=Z,2μm,0.3s						
KHGB	**Koh Gabri**	**4.23**	**63**	*e*Pn	**Pn**	**20 26 55.7**	**+1.1**
IPIR	**Pirpir**	**4.29**	**346**	*e*Pn	**Pn**	**20 26 55.1**	**-0.4**
IPIR				IAMB	IAmb	20 27 48.6
	comp=Z,2μm,0.4s						
TVBK	**TV Kerman**	**4.31**	**69**	*e*Pn	**Pn**	**20 26 57.3**	**+1.4**
IZEF	**Zefreh**	**4.37**	**2**	*e*Pn	**Pn**	**20 26 57.6**	**+1.0**
IZEF				IAMB	IAmb	20 28 26.5
	comp=Z,590nm,0.6s						
NAZ	**Nazwa, Dubai**	**4.73**	**137**	*e*Pn	**Pn**	**20 27 03.7**	**+2.4**
MSFE	**Esma-Masafi**	**4.78**	**130**	*e*Pn	**Pn**	**20 27 03.4**	**+1.3**
IKLH	**Kolahrood**	**4.81**	**355**	*e*Pn	**Pn**	**20 27 03.7**	**+1.1**
IKLH				IAMB	IAmb	20 28 38.1
	comp=Z,980nm,0.7s						
ASUD	**Al Ashush, Dub**	**4.82**	**143**	P	**Pn**	**20 27 05.2**	**+2.7**
	SNR=22						
ASUD	**Al Ashush, Dub**	**4.82**	**143**	*e*Pn	**Pn**	**20 27 05.6**	**+3.0**
ANAR	**Anarak**	**4.86**	**16**	*e*Pn	**Pn**	**20 27 03.9**	**+0.7**
FAQ	**Al Faqa, Dubai**	**4.87**	**140**	*e*Pn	**Pn**	**20 27 04.6**	**+1.3**
CHMN	**Cheshme madani**	**4.92**	**73**	*e*Pn	**Pn**	**20 27 05.3**	**+1.0**
HATD	**Hatta, Dubai**	**5.14**	**135**	*e*Pn	**Pn**	**20 27 09.7**	**+2.8**
ASHO	**Ashiyiah**	**5.20**	**136**	P	**Pn**	**20 27 09.5**	**+1.8**
	SNR=29						
ASHO				S	**Sn**	**20 28 07.7**	**+0.2**
ASHO	**Ashiyiah**	**5.20**	**136**	*e*Pn	**Pn**	**20 27 10.1**	**+2.4**
KRSH	**Karshahi**	**5.44**	**0**	*e*Pn	**Pn**	**20 27 11.5**	**+0.3**
ALNE	**Al Ain**	**5.51**	**143**	*e*Pn	**Pn**	**20 27 14.7**	**+2.7**
KHMZ	**Khomeyn**	**5.53**	**341**	*e*Pn	**Pn**	**20 27 13.1**	**+0.7**
KHMZ	**Khomeyn**	**5.53**	**341**	*e*Pn	**Pn**	**20 27 13.1**	**+0.7**
ISFB	**Sefidab**	**5.82**	**1**	*e*Pn	**Pn**	**20 27 16.3**	**0.0**
SOHO	**SOHO**	**5.89**	**137**	P	**Pn**	**20 27 18.2**	**+1.0**
	SNR=14						
SOHO				S	**Sn**	**20 28 20.1**	**-4.4**
IKMR	**Kamar-syah**	**5.93**	**328**	*e*Pn	**Pn**	**20 27 18.5**	**+0.8**
IDOB	**Doab**	**6.25**	**328**	*e*Pn	**Pn**	**20 27 24.2**	**+1.9**
TKDS	**Koohdasht(Taba**	**6.65**	**39**	*e*Pn	**Pn**	**20 27 28.8**	**+1.0**
TNSJ	**Nastanj**	**6.65**	**34**	*e*Pn	**Pn**	**20 27 28.8**	**+1.0**
IKOM	**Komasi**	**6.88**	**326**	*e*Pn	**Pn**	**20 27 31.7**	**+0.7**
IDMV	**Damavand**	**7.04**	**359**	*e*Pn	**Pn**	**20 27 33.7**	**+0.4**
IKOO	**Kooshah**	**7.10**	**55**	*e*Pn	**Pn**	**20 27 35.7**	**+1.6**
QABG	**Abgarm-Qazvin**	**7.49**	**344**	*e*Pn	**Pn**	**20 27 39.3**	**-0.1**
IVIS	**Veis**	**7.49**	**324**	*e*Pn	**Pn**	**20 27 40.5**	**+1.2**
ILIN	**Lien**	**7.75**	**327**	*e*Pn	**Pn**	**20 27 42.8**	**-0.2**
IDHR	**Dehrash**	**7.87**	**323**	*e*Pn	**Pn**	**20 27 44.5**	**-0.1**
WSAR	**Wadi Sarin**	**7.87**	**130**	**Pn**	**Pn**	**20 27 44.6**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=303,slow=12,SNR=18						
WSAR				Sn	**Sn**	**20 29 09.3**	**-4.0**
	comp=Z,0.8nm,0.3s,baz=139,slow=20,SNR=2.8						
QALM	**Alamut, Qazvin**	**7.99**	**351**	*e*Pn	**Pn**	**20 27 46.3**	**0.0**
ISFR	**Sfrayin**	**9.85**	**29**	*e*Pn	**Pn**	**20 28 13.1**	**+1.4**
GEYT	**Alibeck**	**10.64**	**27**	Pn	**Pn**	**20 28 23.4**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=208,slow=11,SNR=18						
GEYT				LR	LR	20 33 00.1
	comp=Z,77nm,18.0s,baz=10.0,slow=41						
GYA0B	**ALIBECK ARRAY**	**10.64**	**27**	*e*Pn	**Pn**	**20 28 23.0**	**+0.5**
DMTO	**DMTO**	**11.06**	**166**	P	**Pn**	**20 28 27.8**	**-0.3**
DMTO				S	**Sn**	**20 30 24.8**	**-6.8**
GNI	**Garni**	**13.10**	**334**	LR	LR	20 34 57.3
	comp=Z,73nm,19.0s,baz=180,slow=42						
ASF	**Jabal al Asfar**	**13.64**	**289**	Pn	**Pn**	**20 29 04.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=58,slow=13,SNR=2.1						
MMAI	**Mount Meron Ar**	**15.05**	**291**	Pn	**Pn**	**20 29 22.8**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=105,slow=15,SNR=4.2						
MMAI				Sn	**Sn**	**20 32 04.3**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=108,slow=37,SNR=2.6						
KBZ	**Khabaz**	**16.89**	**336**	Pn	**Pn**	**20 29 46.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=180,slow=10,SNR=2.2						
CHGR	**Chuyangaron**	**17.40**	**50**	*e*Pn	**Pn**	**20 29 48.5**	**-4.4**
	comp=Z,8.1nm,1.0s						
GAR	**Garm**	**18.36**	**51**	*e*Pn	**Pn**	**20 30 04.7**	**0.0**
	comp=Z,15nm,0.8s						
BRTR	**Keskin Array B**	**18.91**	**311**	*e*P	**Pn**	**20 30 12.2**	**+0.8**
BRTR	**Keskin Array B**	**18.91**	**311**	P	**Pn**	**20 30 12.3**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=14						
BR101	**Keskin Array S**	**18.91**	**311**	*e*P	**Pn**	**20 30 12.3**	**+1.0**
BR131	**Keskin Array S**	**18.91**	**311**	*e*P	**Pn**	**20 30 12.4**	**+1.0**
	comp=Z,5.2nm,1.1s						
BTK	**Batken**	**19.23**	**48**	*e*P	**P**	**20 30 13.9**	**-0.2**
	comp=Z,4.4nm,0.9s						
KK31	**Karatay Array**	**20.78**	**41**	*e*P	**P**	**20 30 30.3**	**-0.6**
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**20.78**	**41**	*e*P	**P**	**20 30 29.0**	**-1.9**
ABKAR	**Abkulak array**	**21.56**	**14**	*e*P	**P**	**20 30 39.2**	**-0.1**
AKTO	**Aktyubinsk**	**22.34**	**10**	P	**P**	**20 30 47.1**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=212,slow=7.7,SNR=4.3						
AAK	**Ala-Archa**	**22.92**	**46**	*e*P	**P**	**20 30 55.6**	**+1.5**
	comp=Z,3.2nm,0.9s						
AAK	**Ala-Archa**	**22.92**	**46**	P	**P**	**20 30 55.5**	**+1.5**
	comp=Z,0.8nm,0.4s,baz=216,slow=11,SNR=6.1						
NRN	**Naryn**	**23.34**	**50**	*e*P	**P**	**20 30 58.5**	**0.0**
	comp=Z,5.5nm,1.1s						
BOOM	**Boomskoye usch**	**23.78**	**48**	*e*P	**P**	**20 31 04.2**	**+1.5**
IDI	**Anoyia**	**24.04**	**293**	P	**P**	**20 31 06.7**	**+1.6**
	comp=Z,6.1nm,0.9s,baz=106,slow=15,SNR=5.0						
KDJ	**Kajisay**	**24.44**	**50**	*e*P	**P**	**20 31 10.2**	**+1.4**
	comp=Z,4.0nm,0.9s						
MLR	**Muntele Rosu**	**26.73**	**316**	*e*P	**P**	**20 31 32.6**	**+3.1**
	comp=Z,4.9nm,0.9s						
MLR	**Muntele Rosu**	**26.73**	**316**	P	**P**	**20 31 31.5**	**+2.0**
	comp=Z,1.2nm,0.5s,baz=223,slow=5.7,SNR=5.5						
BVAR	**Borovoye Array**	**27.96**	**24**	P	**P**	**20 31 40.8**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=248,slow=37,SNR=3.6						
AKASG	**Malin Array Be**	**28.11**	**328**	P	**P**	**20 31 41.1**	**-0.4**
	comp=Z,0.1nm,0.2s,baz=125,slow=8.9,SNR=4.4						
AKBB	**Malin Array Si**	**28.11**	**328**	*e*P	**P**	**20 31 41.3**	**-0.3**
	comp=Z,23nm,1.8s						
MAKZ	**Makanchi**	**29.61**	**44**	*e*P	**P**	**20 31 54.1**	**-0.9**
	comp=Z,2.1nm,0.9s						
KURBB	**Kurchatov Arra**	**29.75**	**35**	P	**P**	**20 31 56.9**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=234,slow=9.2,SNR=14						
MK31	**Makanchi Array**	**29.80**	**44**	*e*P	**P**	**20 31 57.0**	**+0.3**
	comp=Z,1.2nm,0.9s						
MK32	**Makanchi Array**	**29.80**	**44**	*e*P	**P**	**20 31 57.3**	**+0.6**
MKAR	**Makanchi Array**	**29.80**	**44**	*e*P	**P**	**20 31 56.8**	**+0.1**
MKAR	**Makanchi Array**	**29.80**	**44**	P	**P**	**20 31 57.3**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=233,slow=7.9,SNR=11						
KURK	**Kurchatov**	**29.86**	**35**	*e*P	**P**	**20 31 57.7**	**+0.6**
	comp=Z,1.9nm,0.8s						
LANS	**Liptovska Anna**	**32.36**	**319**	*e*P	**P**	**20 32 21.2**	**+1.9**
VYHS	**Vyhne**	**32.44**	**317**	*e*P	**P**	**20 32 21.9**	**+2.0**
ZAA0	**Zalesovo Array**	**34.83**	**34**	*e*P	**P**	**20 32 40.6**	**0.0**
ZALV	**Zalesovo Beam**	**34.83**	**34**	*e*P	**P**	**20 32 40.1**	**-0.6**
ZALV	**Zalesovo Beam**	**34.83**	**34**	P	**P**	**20 32 40.6**	**0.0**
	comp=Z,2.6nm,0.6s,baz=234,slow=10,SNR=9.7						
ZAA1	**Zalesovo Array**	**34.84**	**34**	*e*P	**P**	**20 32 40.6**	**-0.1**
FIA0	**FINESS Array S**	**37.21**	**340**	*e*P	**P**	**20 33 00.7**	**-0.2**
FINES	**FINESS Array B**	**37.21**	**340**	P	**P**	**20 33 00.7**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=148,slow=7.6,SNR=9.8						
PBA	**Port Blair**	**41.44**	**105**	*e*P	P	20 33 38.2	+1.5
	comp=Z,88nm,0.5s						
NB200	**NORSAR Array S**	**42.39**	**332**	*e*P	**P**	**20 33 43.2**	**-0.9**
NB200				*es*P	**pP**	**20 33 46.9**	**-2.0**
NOA	**NORSAR Array B**	**42.39**	**332**	P	**P**	**20 33 43.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=137,slow=7.8,SNR=2.9						
ARA0	**ARCESS Array S**	**43.84**	**347**	*e*P	**P**	**20 33 55.1**	**-0.6**
ARCES	**ARCESS Array B**	**43.84**	**347**	P	**P**	**20 33 55.1**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=134,slow=6.9,SNR=6.4						
CMAR	**Chiang Mai Arr**	**43.86**	**93**	P	**P**	**20 33 57.7**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=320,slow=40,SNR=3.3						
TORD	**Torodi Ar. Bea**	**49.20**	**263**	P	**P**	**20 34 39.5**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=76,slow=7.9,SNR=15						
TOA1	**Torodi Ar. Sit**	**49.20**	**263**	*e*P	**P**	**20 34 39.5**	**+1.1**
DBIC	**Dimbokro**	**57.91**	**259**	P	**P**	**20 35 43.5**	**+1.1**
	comp=Z,2.9nm,0.9s,baz=68,slow=5.4,SNR=2.2						
KSAR	**Wonju Array Be**	**62.63**	**60**	P	**P**	**20 36 14.2**	**-0.1**
KSRS	**Korea Array**	**62.66**	**60**	P	**P**	**20 36 14.2**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=286,slow=5.9,SNR=3.3						
SEY	**Seymchan**	**69.48**	**29**	P	**P**	**20 37 00.4**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=283,slow=5.7,SNR=5.8						
ILAR	**Eielson Array**	**85.84**	**8**	P	**P**	**20 38 31.6**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=350,slow=2.7,SNR=3.4						
YKA	**Yellowknife Ar**	**88.69**	**354**	P	**P**	**20 38 42.2**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=13,slow=5.7,SNR=3.6						
YKB5	**Yellowknife Ar**	**88.69**	**354**	*e*P	**P**	**20 38 42.2**	**-0.8**
ASAR	**Alice Springs**	**94.26**	**114**	P	**P**	**20 39 08.7**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=300,slow=5.3,SNR=3.2					

PSMN	**Pico do Norte,**	**0.57 194**	*e*P	Pg	20 45 49.5	-1.5
PSMN			*e*S	Sg	20 45 56.6	-1.9
PSMN			A	A	20 46 02.0	
	119nm,0.3s					
PSMA	**Santa Maria**	**0.59 199**	*e*P	Pg	20 45 49.6	-1.8
PSMA			*e*S	Sg	20 45 57.0	-2.1
PSMA			A	A	20 45 58.3	
	228nm,0.1s					
PDA	**Ponta Delgada**	**0.64 288**	*e*P	Pg	20 45 50.4	-2.0
PDA			*e*S	Sg	20 45 58.3	-2.5
PDA			A	A	20 46 00.4	
	278nm,0.1s					
PSET	**Sete Cidades**	**0.71 292**	*e*P	Pg	20 45 51.5	-2.2
PSET			*e*S	Sg	20 45 59.9	-3.1
PSET			A	A	20 46 03.3	
	272nm,0.5s					
ADH	**Angra Heroismo**	**2.15 301**	*e*P	Pn	20 46 11.4	-4.6
ADH			*e*S	Sn	20 46 34.4	-8.3
ADH			A	A	20 46 37.6	
	63nm,0.3s					
ROSA	**Rosais**	**2.88 295**	*e*P	Pn	20 46 22.0	-4.1
ROSA			*e*S	Sn	20 46 53.0	-7.9
ROSA			A	A	20 46 53.9	
	7.1nm,0.2s					
PICO	**Pico**	**2.94 290**	*e*P	Pn	20 46 23.2	-3.8
PICO			*e*S	Sn	20 46 54.3	-8.2
PICO			A	A	20 46 54.8	
	23nm,0.5s					

MEX 02 20:50:04.4±0.5,16°.48N×98°.02W,h30km±4km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.13**	**229**	*i* P	Pb	20 50 08.4	-1.5
PNIG				*i* S	Sb	20 50 12.4	-1.3
TLIG	**Tlapa**	**1.20**	**334**	*e*P	Pn	20 50 23.4	-1.9
TLIG				*i* S	Sn	20 50 37.0	-3.7
PLIG	**Platanillo**	**2.37**	**324**	*i* P	Pn	20 50 40.4	-1.0
PLIG				*i* S	Sn	20 51 06.3	-3.2
YAIG	**Yautepec**	**2.57**	**337**	*i* P	Pn	20 50 42.1	-2.1
YAIG				*i* S	Sn	20 51 12.0	-2.6
ARIG	**Puente Sto Nin**	**2.85**	**309**	*e*P	Pn	20 50 46.8	-1.2
ARIG				*i* S	Sn	20 51 18.4	-2.9

IDC ***02*** *20:52:35.0±4.0,25°.89N×125°.47E,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.4/32,mbtmp3.7/3,Error ellipse: s-maj=245.6km s-min=28.4km az=62.0*
ISCJB ***02*** *20:52:49.4±0.6,25°.56N±0°.09×124°.83E±0°.06, h124km±7km,mb3.7/3,Error ellipse: s-maj=15.8km s-min=5.1km az=153.5*
JMA ***02*** *20:52:50.7±0.1,25°.62N×124°.78E,h109km,M3.2*
ISC 02 20:52:50.1±1.0,25°.6N±0°.1×124°.83E±0°.06,h121km±11km, n18,σ0°69/32,mb3.7/3,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.74**	**149**	P	**Pn**	**20 53 10.3**	**+0.4**
JIKM				*e*S	**Sn**	**20 53 25.0**	**+0.2**
JIRB	**Irabujima**	**0.80**	**157**	P	**Pn**	**20 53 10.4**	**+0.1**
JIRB				*e*S	**Sn**	**20 53 25.6**	**0.0**
JTJ	**Tarama**	**0.93**	**187**	P	**Pn**	**20 53 11.8**	**+0.3**
JTJ				S	**Sn**	**20 53 27.1**	**-0.6**
JMJ2	**Miyako jima3**	**0.94**	**151**	P	**Pn**	**20 53 12.2**	**+0.6**
JMJ2				*e*S	**Sn**	**20 53 28.0**	**+0.2**
JOGS	**Gusukube**	**0.95**	**147**	P	**Pn**	**20 53 12.5**	**+0.7**
JOGS				S	**Sn**	**20 53 28.4**	**+0.2**
JISG	**Ishigakijimahi**	**1.08**	**206**	P	**Pn**	**20 53 13.3**	**+0.3**
JISG				S	**Sn**	**20 53 29.8**	**-0.6**
JIJ	**Ishigaki jima**	**1.35**	**208**	P	**Pn**	**20 53 15.8**	**-0.1**
JIJ				*i* S	**Sn**	**20 53 33.8**	**-1.7**
JKRS	**Kuro-shima**	**1.52**	**210**	P	**Pn**	**20 53 18.0**	**+0.2**
JKRS				S	**Sn**	**20 53 38.3**	**-0.6**
IRIF	**Iriomote-Funau**	**1.58**	**220**	P	**Pn**	**20 53 18.7**	**+0.2**
IRIF				S	**Sn**	**20 53 39.3**	**-0.9**
HATJ	**Hateruma jima**	**1.77**	**212**	P	**Pn**	**20 53 21.2**	**+0.4**
HATJ				S	**Sn**	**20 53 43.5**	**-0.6**
JKE	**Kume jima 2**	**1.91**	**66**	P	**Pn**	**20 53 22.8**	**+0.3**
YOJ	**Yonaguni jima**	**1.98**	**237**	P	**Pn**	**20 53 24.5**	**+1.1**
YOJ				*e*S	**Sn**	**20 53 49.1**	**+0.2**
JYNG	**Yonagunijimaku**	**2.04**	**237**	P	**Pn**	**20 53 25.0**	**+0.9**
JYNG				S	**Sn**	**20 53 50.6**	**+0.5**
JAGN	**Aguni-jima**	**2.39**	**64**	P	**Pn**	**20 53 28.9**	**+0.4**
JAGN				*e*S	**Sn**	**20 53 57.3**	**-0.7**
JJT3	**Tamagusuku3**	**2.72**	**77**	P	**Pn**	**20 53 33.5**	**+0.8**
JJT3				*e*S	**Sn**	**20 54 05.0**	**-0.6**
MKAR	**Makanchi Array**	**39.73**	**313**	P	**P**	**21 00 11.2**	**+0.5**
	0.7nm,0.5s,baz=99,slow=10,SNR=19						
ZALV	**Zalesovo Beam**	**40.97**	**325**	P	**P**	**21 00 19.3**	**-1.4**
	0.6nm,0.4s,baz=107,slow=8.1,SNR=3.6						
WRA	**Warramunga Arr**	**46.17**	**168**	P	**P**	**21 01 03.0**	**+0.3**
	0.8nm,0.9s,baz=349,slow=8.8,SNR=4.7						

IDC ***02*** *21:01:26.9±1.1,29°.85N×102°.78E,h0km,mb3.4/6, mb1 3.7/6,mb1mx3.3/62,mbtmp3.4/6,Error ellipse: s-maj=40.7km s-min=20.3km az=57.0*
ISCJB ***02*** *21:01:27.6±0.7,30°.17N±0°.04×103°.08E±0°.08,h10km, mb3.3/6,Error ellipse: s-maj=10.4km s-min=6.3km az=8.8*
BJI ***02*** *21:01:28.9±0.0,30°.19N×102°.86E,h18km,ML3.4/11*
ISC 02 21:01:29.3±0.8,30°.25N±0°.05×102°.92E±0°.07,h10km,n11, σ2°79/18,mb3.4/6,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.98**	**47**	‖ *i* Pg	**Pg**	**21 01 48.3**	**+0.2**
CD2				Sg	**Sg**	**21 02 03.0**	**+2.1**
CD2				smax	smax		
	comp=N,3μm,0.5s						
CD2				smax	smax		
	comp=E,1μm,0.5s						
GYA	**Guiyang**	**5.01**	**138**	*e*Pn	**Pn**	**21 02 42.3**	**-2.4**
GYA				Pg	**Pb**	**21 03 00.1**	**+2.9**
GYA				Sn	**Sn**	**21 03 39.8**	**-2.9**
GYA				Sg	**Sb**	**21 04 01.8**	**+4.3**
GYA				smax	smax		
	comp=N,70nm,0.8s						
GYA				smax	smax		
	comp=E,60nm,0.7s						
KMI	**Kunming**	**5.11**	**182**	Pn	**Pn**	**21 02 46.4**	**+0.3**
KMI				Sn	**Sn**	**21 03 44.6**	**-0.6**
KMI				smax	smax		
	comp=N,39nm,0.7s						
KMI				smax	smax		
	comp=E,50nm,0.9s						
XAN	**Xi'an**	**6.34**	**52**	Pn	**Pn**	**21 03 04.3**	**+1.5**
XAN				Sn	**Sn**	**21 04 13.4**	**-1.9**
XAN				Sg	**Sg**	**21 04 47.0**	**-5.8**
XAN				smax	smax		
	comp=N,37nm,0.9s						
XAN				smax	smax		
	comp=E,38nm,1.2s						
WMQ	**Urumqi**	**18.16**	**322**	*e*P	**Pn**	**21 05 39.3**	**-2.3**
KSRS	**Korea Array**	**21.93**	**64**	P	**P**	**21 06 23.1**	**+0.2**
	0.7nm,0.7s,baz=240,slow=8.8,SNR=2.6						
MKAR	**Makanchi Array**	**22.99**	**322**	P	**P**	**21 06 34.5**	**+0.4**
	0.7nm,0.8s,baz=124,slow=12,SNR=5.6						
KURBB	**Kurchatov Arra**	**27.33**	**325**	P	**P**	**21 07 15.3**	**+1.1**
	0.2nm,0.8s,baz=132,slow=9.1,SNR=3.5						
WRA	**Warramunga Arr**	**58.34**	**145**	P	**P**	**21 11 22.0**	**-2.8**
	0.7nm,0.6s,baz=326,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**61.30**	**147**	P	**P**	**21 11 42.5**	**-2.6**
	0.4nm,0.7s,baz=340,slow=7.3,SNR=3.7						
YKA	**Yellowknife Ar**	**82.81**	**17**	P	**P**	**21 13 56.6**	**+3.2**
	0.3nm,0.6s,baz=334,slow=5.5,SNR=3.4						

ISCJB ***02*** *21:06:12.5±1.0,28°.50N±0°.07×52°.08E±0°.06,h15km,Error ellipse: s-maj=11.0km s-min=4.8km az=31.5*
THR ***02*** *21:06:13.7,28°.57N×52°.22E,h15km,ML3.2*
TEH ***02*** *21:06:14.3,28°.59N×52°.12E,h20km,ML3.5*
ISC 02 21:06:12.4±1.9,28°.42N±0°.10×52°.05E±0°.08,h15km,n21, σ1°20/24,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.83**	**99**	*e*Pg	**Pn**	**21 06 30.0**	**+0.3**
GHIR	**Ghir-Karzin**	**0.83**	**99**	*e*AML	AML	21 06 46.2	
	comp=N,764nm,0.4s						
GHIR				*e*Pg	**Pb**	**21 06 27.9**	**-0.7**
GHIR				*e*Sg	**Sb**	**21 06 38.0**	**-1.7**
GHIR				*e*AML	AML	21 06 47.8	
	comp=E,1μm,0.3s						
SHI	**Shiraz**	**1.28**	**18**	*e*Pg	**Pb**	**21 06 34.6**	**-1.7**
SHI				*e*Sg	**Sn**	**21 06 51.7**	**-1.3**
SHI				IAMB	IAmb	21 06 54.8	
	comp=Z,5μm,0.4s						
JHRM	**Jahrom**	**1.34**	**86**	*e*Pg	**Pg**	**21 06 38.6**	**+0.3**
JHRM				*e*Sg	**Sg**	**21 06 57.3**	**+1.5**
JHRM				IAMB	IAmb	21 07 02.4	
	comp=Z,0.0nm,0.4s						
IKAZ	**Kazeroun**	**1.37**	**352**	*e*Pg	**Pb**	**21 06 37.6**	**-0.3**
IKAZ				IAMB	IAmb	21 07 00.7	
	comp=Z,13μm,0.3s						
IRAM	**Ramesheh**	**3.39**	**5**	*e*Pn	**Pn**	**21 07 07.0**	**+2.0**
IMEH	**Mehriz**	**3.70**	**36**	*e*Pn	**Pn**	**21 07 10.8**	**+1.5**
ISAD	**Sadrabad**	**3.76**	**22**	*e*Pn	**Pn**	**21 07 11.0**	**+0.9**
ZNGN	**Zangian**	**3.83**	**345**	*e*Pn	**Pn**	**21 07 11.8**	**+0.7**
JHBN	**Jahan bin**	**3.98**	**343**	*e*Pn	**Pn**	**21 07 13.5**	**+0.3**
ROKH	**ROKH**	**4.01**	**348**	*e*Pn	**Pn**	**21 07 13.7**	**+0.2**
ICHK	**Chekchek**	**4.32**	**28**	*e*Pn	**Pn**	**21 07 18.4**	**+0.6**
KHGB	**Koh Gabri**	**4.32**	**62**	*e*Pn	**Pn**	**21 07 18.9**	**+1.1**
IPIR	**Pirpir**	**4.37**	**347**	*e*Pn	**Pn**	**21 07 20.0**	**+1.5**
IZEF	**Zefreh**	**4.47**	**3**	*e*Pn	**Pn**	**21 07 20.7**	**+0.9**
YZKH	**Yazd**	**4.52**	**28**	*e*Pn	**Pn**	**21 07 21.2**	**+0.8**
YZKH	**Yazd**	**4.52**	**28**	*e*Pn	**Pn**	**21 07 21.2**	**+0.8**
IKLH	**Kolahrood**	**4.90**	**355**	*e*Pn	**Pn**	**21 07 26.6**	**+0.8**
CHMN	**Cheshme madani**	**5.01**	**72**	*e*Pn	**Pn**	**21 07 29.3**	**+2.0**
IVIS	**Veis**	**7.54**	**325**	*e*Pn	**Pn**	**21 08 02.7**	**+0.9**
IDHR	**Dehrash**	**7.91**	**324**	*e*Pn	**Pn**	**21 08 07.4**	**+0.4**

IDC ***02*** *21:08:46.9±0.5,11°.28S×117°.18E,h0km,mb4.4/21, mb1 4.5/23,mb1mx4.3/45,mbtmp4.5/23,ML4.9/2,MS3.7/12, Ms1 3.7/12,ms1mx3.5/25,Error ellipse: s-maj=18.8km s-min=11.8km az=71.0*
BJI ***02*** *21:08:46.6±0.0,11°.50S×117°.20E,h10km,mb4.7/31, mB5.0/14,Ms4.7/4,Ms7 4.4/1*
ISCJB ***02*** *21:08:47.9±0.2,11°.56S±0°.03×117°.14E±0°.03,h26km, mb4.8/48,MS3.9/11,Error ellipse: s-maj=4.8km s-min=3.2km az=42.1*
DJA ***02*** *21:08:48.2±0.2,12°S±2°×117°E±°,h10km,M4.8/35, mB5.3/22,mb4.9/35,MLv5.4/18,Mw(mB)4.7/22,Mwp5.5/1*
NEIC ***02*** *21:08:51.5±0.3,11°.48S×117°.18E,h35km,mb4.6/27,Error ellipse: s-maj=8.4km s-min=5.2km az=219.0*
ISC 02 21:08:50.3±0.3,11°.52S±0°.05×117°.30E±0°.05,h26km,n176, σ2°01/175,mb4.8/48,MS3.9/11,2C-1D,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.72**	**10**	P	**Pn**	**21 09 32.6**	**+0.3**
PLAI				Pg	Pb	21 09 43.4	+5.2
WSI	**Waingapu**	**3.48**	**58**	P	**Pn**	**21 09 46.4**	**+3.6**
JAGI	**Jajag, Banyuwa**	**4.33**	**314**	*e*Pn	**Pn**	**21 09 52.4**	**-2.1**
JAGI	**Jajag, Banyuwa**	**4.33**	**314**	P	**Pn**	**21 09 51.9**	**-2.6**
ABJI	**Asem Bagus**	**4.78**	**321**	P	**Pn**	**21 09 59.7**	**-0.9**
GMJI	**Gumukmas**	**4.98**	**310**	P	**Pn**	**21 10 00.6**	**-2.8**
KMMI	**Kalianget**	**5.52**	**323**	P	**Pn**	**21 10 11.3**	**+0.4**
MMRI	**Maumere**	**5.65**	**63**	*e*Pn	**Pn**	**21 10 13.6**	**+1.0**
MMRI	**Maumere**	**5.65**	**60**	P	**Pn**	**21 10 14.8**	**+2.2**
BSSI	**Bau Bau, Buton**	**6.21**	**31**	P	**Pn**	**21 10 22.8**	**+2.5**
	392nm,1.0s,6μm1.6nm						
BATI	**Baumata**	**6.39**	**79**	P	**Pn**	**21 10 23.6**	**+0.8**
BATI	**Baumata**	**6.39**	**79**	Pn	**Pn**	**21 10 24.0**	**+1.2**
	37nm,0.3s,baz=287,slow=3.6,SNR=37						
BATI				Sn	**Sn**	**21 11 34.1**	**-0.9**
	75nm,0.3s,baz=350,slow=18,SNR=10						
PWJI	**Pagerwojo**	**6.43**	**302**	P	**Pn**	**21 10 21.1**	**-2.3**
GRJI	**Gresik**	**6.60**	**314**	P	**Pn**	**21 10 23.6**	**-2.1**
BKSI	**Bulukumba**	**6.76**	**25**	P	**Pn**	**21 10 29.8**	**+1.9**
PCJI	**Pacitan**	**6.87**	**298**	P	**Pn**	**21 10 27.6**	**-1.9**
KAPI	**Kappang**	**6.91**	**21**	*e*Pn	**Pn**	**21 10 32.1**	**+2.2**
SOEI	**Soe**	**7.08**	**76**	*e*Pn	**Pn**	**21 10 33.5**	**+1.1**
SOEI	**Soe**	**7.08**	**76**	P	**Pn**	**21 10 36.0**	**+3.7**
	160nm,0.7s,2μm1.2nm						
NGJI	**Ngawi**	**7.08**	**305**	P	**Pn**	**21 10 33.1**	**+0.8**
WOJI	**Wonogiri, Jawa**	**7.27**	**300**	P	**Pn**	**21 10 33.3**	**-1.6**
UGM	**Wanagama**	**7.58**	**298**	*e*Pn	**Pn**	**21 10 37.4**	**-1.7**
UGM	**Wanagama**	**7.58**	**298**	P	**Pn**	**21 10 36.9**	**-2.2**
BNSI	**Bone**	**7.60**	**22**	P	**Pn**	**21 10 42.7**	**+3.2**
YOGI	**Yogyakarta**	**7.82**	**297**	P	**Pn**	**21 10 41.2**	**-1.3**
SPSI	**Sidrap Palu**	**7.90**	**18**	P	**Pn**	**21 10 45.9**	**+2.4**
SMRI	**Semarang**	**8.09**	**303**	*e*Pn	**Pn**	**21 10 44.2**	**-2.0**
SMRI	**Semarang**	**8.09**	**303**	P	Pn	21 10 54.1	+7.9
TTSI	**Tana Toraja**	**8.78**	**17**	P	**Pn**	**21 10 58.7**	**+3.0**
CISI	**Cisompet, Garu**	**10.14**	**292**	*e*Pn	**Pn**	**21 11 11.4**	**-3.0**
CISI	**Cisompet, Garu**	**10.14**	**292**	P	**Pn**	**21 11 11.4**	**-3.0**
PSA00	**Pilbara Seismi**	**10.29**	**167**	*e*Pn	**Pn**	**21 11 14.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**10.38**	**130**	P	**Pn**	**21 11 17.0**	**-0.6**
	baz=10,SNR=384						
FITZ	**Fitzroy Crossi**	**10.38**	**130**	Pn	**Pn**	**21 11 17.1**	**-0.5**
	10nm,0.3s,baz=322,slow=9.2,SNR=144						
FITZ				Sn	Sn	21 13 01.5	-12
	4.8nm,0.3s,baz=318,slow=9.6,SNR=4.7						
FITZ				LR	LR	21 15 28.3	
	comp=Z,678nm,19.8s,baz=301,slow=38						
LEM	**Lembang**	**10.63**	**295**	Pn	**Pn**	**21 11 19.6**	**-1.6**
	5.9nm,0.3s,baz=89,slow=11,SNR=5.6						
LEM				Sn	Sn	21 12 55.8	-24
	2.8nm,0.3s,baz=319,slow=19,SNR=1.7						
LEM				LR	LR	21 15 58.8	
	comp=Z,477nm,20.0s,baz=122,slow=41						
MTKI	**Muara Teweh, K**	**10.78**	**347**	P	**Pn**	**21 11 24.6**	**+1.6**
PCI	**Palu**	**10.84**	**14**	P	**Pn**	**21 11 25.3**	**+1.3**
	27nm,1.1s,412nm						
GIRL	**Giralia**	**11.44**	**194**	*e*Pn	**Pn**	**21 11 30.6**	**-1.4**
GIRL				*e*Sn	Sn	21 13 29.3	-10
GIRL	**Giralia**	**11.44**	**194**	P	**Pn**	**21 11 30.5**	**-1.5**
	baz=12,SNR=46						
CBJI	**Citeko**	**11.49**	**295**	P	Pn	21 11 27.7	-5.1
KNRA	**Kununurra**	**11.89**	**112**	P	**Pn**	**21 11 38.0**	**-0.2**
	baz=12,SNR=49						
CGJI	**Cibinong**	**12.45**	**292**	P	**Pn**	**21 11 42.4**	**-3.5**
MTN	**Manton Dam**	**13.59**	**97**	*e*Pn	**Pn**	**21 12 01.2**	**-0.3**
MTN				*e*Sn	**Sn**	**21 14 27.0**	**-4.8**
MTN	**Manton Dam**	**13.59**	**97**	P	**Pn**	**21 12 01.8**	**+0.3**
	baz=14,SNR=10						
PPBI	**Pangkal Pinang**	**14.46**	**309**	P	**Pn**	**21 12 11.0**	**-2.3**
	27nm,0.9s,352nm						
KSM	**Kuching**	**14.66**	**331**	*e*Pn	**Pn**	**21 12 14.3**	**-1.8**
KSM	**Kuching**	**14.66**	**331**	P	**Pn**	**21 12 15.0**	**-1.1**
KDU	**Kakadu**	**14.89**	**96**	P	**Pn**	**21 12 19.5**	**+0.3**
	baz=15,SNR=6.9						
MNAI	**Manna**	**15.88**	**295**	*e*Pn	**Pn**	**21 12 28.3**	**-3.8**
	413nm,1.4s						
WRKA	**Warakurna**	**17.01**	**144**	P	**Pn**	**21 12 45.7**	**-0.8**
	baz=17,SNR=176						
FAKI	**Fak Fak**	**17.11**	**61**	*e*Pn	**Pn**	**21 12 46.7**	**-1.1**
	23nm,0.7s						
KKM	**Kota Kinabalu**	**17.48**	**356**	*e*Pn	**Pn**	**21 12 51.6**	**-0.9**
	12nm,0.6s						
KKM	**Kota Kinabalu**	**17.48**	**356**	P	**P**	**21 12 55.0**	**+1.5**
MORW	**Morawa**	**17.50**	**184**	*e*Pn	**Pn**	**21 12 51.1**	**-1.5**
	72nm,1.4s						
MORW				*e*Sn	Sn	21 15 49.9	-17
WRA	**Warramunga Arr**	**18.41**	**119**	*e*P	**P**	**21 13 03.1**	**-0.6**
	10.0nm,0.5s						
WRA				S	Sn	21 16 13.1	-16
WRA	**Warramunga Arr**	**18.41**	**119**	P	**P**	**21 13 03.6**	**-0.1**
	5.1nm,0.3s,baz=287,slow=14,SNR=112						
WRA				S	Sn	21 16 13.1	-16
	0.3nm,0.3s,baz=287,slow=23,SNR=4.3						
WRA				LR	LR	21 20 43.9	
	comp=Z,551nm,19.0s,baz=290,slow=38						
WRAB	**Tennant Creek**	**18.41**	**119**	*e*P	**Pn**	**21 13 04.8**	**+0.9**
	26nm,0.8s						
WRAB				*e*Sn	Sn	21 16 19.1	-10
WB2	**Warramunga Arr**	**18.42**	**119**	*e*P	**P**	**21 13 03.8**	**0.0**
	26nm,0.8s						
MYKOM	**Kota Tinggi**	**18.80**	**314**	*e*P	**P**	**21 13 06.2**	**-1.8**
	75nm,1.6s						
MYKOM	**Kota Tinggi**	**18.80**	**314**	P	**P**	**21 13 07.0**	**-1.0**
BLDU	**Ballidu**	**19.01**	**182**	P	**P**	**21 13 10.5**	**+0.4**
	baz=19,SNR=36						
PPSI	**Pulau Pagai**	**19.22**	**296**	P	**P**	**21 13 08.7**	**-3.9**
PDSI	**Padang**	**19.76**	**301**	P	**P**	**21 13 18.2**	**-0.3**
	33nm,0.6s,720nm						
ASAR	**Alice Springs**	**19.89**	**130**	*e*P	**Pn**	**21 13 23.1**	**+1.5**
ASAR				S	**S**	**21 16 53.4**	**-9.2**
ASAR	**Alice Springs**	**19.89**	**130**	P	**Pn**	**21 13 22.4**	**+0.7**
	22nm,0.9s,baz=298,slow=9.8,SNR=111						
ASAR				S	**S**	**21 16 53.4**	**-9.2**
	11nm,0.8s,baz=297,slow=22,SNR=16						
ASAR				LR	LR	21 21 02.8	
	comp=Z,252nm,20.7s,baz=306,slow=37						
AS31	**Alice Springs**	**19.89**	**130**	*e*P	**Pn**	**21 13 22.7**	**+1.1**
	14nm,0.5s						
KLBR	**Kellerberrin**	**19.98**	**179**	P	**P**	**21 13 20.8**	**+0.1**
	baz=20,SNR=39						
KMBL	**Kambalda**	**20.20**	**169**	P	**P**	**21 13 23.8**	**+0.6**
	baz=20,SNR=13						
MUN	**Mundaring**	**20.39**	**183**	P	Pn	21 13 27.3	0.0
	baz=20,SNR=39						
NWAO	**Narrogin (SRO)**	**21.31**	**180**	P	**P**	**21 13 39.1**	**+4.0**
	22nm,0.5s,baz=3.9,slow=12,SNR=36						
NWAO				S	S	21 17 16.7	-14
	26nm,0.5s,baz=288,slow=19,SNR=5.7						
FORT	**Forrest**	**21.61**	**154**	*e*P	**P**	**21 13 40.9**	**+2.6**
	71nm,0.8s						
FORT	**Forrest**	**21.61**	**154**	P	**P**	**21 13 40.8**	**+2.4**
	baz=22,SNR=13						
IPM	**Ipoh**	**22.69**	**314**	*e*P	**P**	**21 13 50.2**	**+0.1**
	30nm,1.0s						
IPM	**Ipoh**	**22.69**	**314**	P	**P**	**21 13 51.0**	**+0.9**
PSI	**Prapat**	**23.16**	**307**	*e*P	**P**	**21 13 53.1**	**-2.0**
	50nm,1.3s						
QIS	**Mount Isa**	**23.22**	**116**	P	**P**	**21 13 57.1**	**+1.5**
	baz=23,SNR=5.2						
GSI	**Gunungsitoli**	**23.38**	**302**	*e*P	**P**	**21 13 56.1**	**-1.1**
	21nm,1.2s						
KULM	**Kulim**	**23.52**	**314**	*e*P	**P**	**21 13 57.7**	**-0.8**
	14nm,0.9s						
KULM	**Kulim**	**23.52**	**314**	P	**P**	**21 13 58.0**	**-0.5**
COEN	**Coen**	**25.35**	**98**	*e*P	**P**	**21 14 16.4**	**+0.9**
	28nm,1.0s						
COEN	**Coen**	**25.35**	**98**	P	**P**	**21 14 14.4**	**-1.0**
	baz=26,SNR=6.8						
TRTT	**Trang**	**26.01**	**317**	P	**P**	**21 14 26.8**	**+5.4**
	35nm,0.8s						
LHMI	**Lhok Sumawe**	**26.20**	**308**	*e*P	**P**	**21 14 22.6**	**-0.6**
	81nm,0.8s						
LHMI	**Lhok Sumawe**	**26.20**	**308**	P	**P**	**21 14 23.0**	**-0.2**
KRAB	**Krabi**	**26.62**	**317**	P	**P**	**21 14 31.3**	**+4.4**
	111μm,0.6s						
CTA	**Charters Tower**	**29.10**	**111**	P	**P**	**21 14 51.9**	**+2.8**
	2.4nm,0.4s,baz=287,slow=12,SNR=3.8						
HTT	**Hallett**	**29.46**	**141**	P	**P**	**21 14 55.1**	**+2.9**
	baz=30,SNR=4.2						
STKA	**Stephens Creek**	**30.20**	**136**	*e*P	**P**	**21 15 01.4**	**+2.6**
	16nm,1.9s						
STKA	**Stephens Creek**	**30.20**	**136**	P	**P**	**21 15 01.4**	**+2.6**
	baz=30,SNR=8.4						
STKA	**Stephens Creek**	**30.20**	**136**	P	**P**	**21 15 01.4**	**+2.6**
	4.0nm,0.6s,baz=318,slow=11,SNR=13						
STKA				LR	LR	21 28 03.7	
	comp=Z,420nm,19.4s,baz=320,slow=38						
UTTA	**Uttaradit**	**33.45**	**330**	P	**P**	**21 15 30.6**	**+3.3**
	17μm,0.8s						
CM31	**Chiang Mai Arr**	**34.86**	**328**	*e*P	**P**	**21 15 39.6**	**0.0**
	8.7nm,1.1s						
CM31				*e*S	**S**	**21 21 08.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**34.86**	**328**	*e*P	**P**	**21 15 39.4**	**-0.3**
CMAR				PcP	**PcP**	**21 18 13.8**	**+1.3**
CMAR				*e*S	**S**	**21 21 07.6**	**-1.7**
CMAR	**Chiang Mai Arr**	**34.86**	**328**	P	**P**	**21 15 39.3**	**-0.3**
	1.5nm,0.5s,baz=162,slow=6.8,SNR=21						
CMAR				PcP	**PcP**	**21 18 13.8**	**+1.3**
	0.8nm,0.6s,baz=180,slow=2.6,SNR=5.4						
CMAR				LR	LR	21 31 15.8	
	comp=Z,105nm,18.2s,baz=172,slow=39						
CMMT	**Chiang Mai**	**35.16**	**329**	P	P	21 15 47.4	+5.2
	2.4nm,0.7s						
CHTO	**Chiang Mai**	**35.16**	**329**	*e*P	**P**	**21 15 42.2**	**0.0**
	4.5nm,1.0s						
NJ2	**Nanjing**	**43.35**	**2**	*e*P	**P**	**21 16 49.6**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CD2	**Chengdu**	**44.15**	**343**	*e*P	**P**	**21 16 57.5**	**+0.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
HYB	**Hyderabad**	**47.87**	**306**	*i* P	**P**	**21 17 25.0**	**-1.5**
HYB				*e*		21 17 40.5	
LSA	**Lhasa**	**48.11**	**329**	P	**P**	**21 17 28.4**	**-0.2**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LSA	**Lhasa**	**48.11**	**329**	*e*P	**P**	**21 17 28.5**	**-0.2**
	9.4nm,0.7s						
RAMN	**Ramite**	**48.48**	**323**	*e*P	**P**	**21 17 30.6**	**-0.7**
	36nm,0.6s						
LZH	**Lanzhou**	**49.02**	**346**	*e*P	**P**	**21 17 35.5**	**+0.3**
LZH				pP	pP	21 17 40.6	-0.8

comp=N,680nm,31.3s
WMQ LR LR
comp=E,640nm,35.7s
NIL Nilore 61.43 319 *e*P **P 21 19 03.3 -1.3**
7.1nm,0.4s
KLR Kul'dur 61.82 11 P **P 21 19 05.8 -1.0**
0.7nm,0.5s,baz=190,slow=6.1,SNR=5.4
KSH Kashi 63.66 325 P P 21 19 24.9 +5.3
KSH S **S 21 27 58.5 +6.1**
KSH Kashi 63.66 325 SS SS 21 32 07.1 +6.4
PRZ Przheval'sk 64.48 329 *e*P **P 21 19 25.5 +0.5**
6.1nm,0.6s
KBL Kabul 64.74 317 *e*P **P 21 19 25.5 -1.3**
8.2nm,0.6s
KDJ Kajisay 64.85 328 *e*P **P 21 19 27.1 -0.3**
12nm,1.3s
KZA Kyzart 65.83 327 P **P 21 19 33.7 -0.3**
SNR=7.3
MKAR Makanchi Array 65.96 334 P **P 21 19 33.3 -1.0**
5.0nm,0.5s,baz=151,slow=7.1,SNR=113
TKM2 Tokmak 2 66.24 328 P **P 21 19 36.9 +0.6**
SNR=7.8
MAW Mawson 66.31 200 P **P 21 19 38.1 +2.0**
2.9nm,0.9s,baz=83,slow=16,SNR=4.1
KBK Karagaybulak 66.40 327 P **P 21 19 38.4 +1.1**
SNR=6.7
AAK Ala-Archa 66.63 327 P **P 21 19 39.7 +0.9**
SNR=5.4
AAK Ala-Archa 66.63 327 *e*P **P 21 19 39.6 +0.8**
6.9nm,0.9s
AAK Ala-Archa 66.63 327 P **P 21 19 38.0 -0.8**
4.0nm,0.8s,baz=128,slow=6.4,SNR=19
GAR Garm 66.63 322 *e*P **P 21 19 38.0 -0.8**
16nm,0.8s
EKS2 Erkin-Say 67.03 327 P **P 21 19 41.0 -0.3**
SNR=7.1
VNDA Vanda 69.78 171 P **P 21 19 59.6 +1.8**
1.4nm,1.0s,baz=311,slow=7.4,SNR=4.6
KURBB Kurchatov Arra 70.50 335 P **P 21 20 01.2 -1.3**
3.5nm,0.2s,baz=147,slow=5.6,SNR=16
KURK Kurchatov 70.53 335 *e*P **P 21 20 01.8 -0.9**
8.5nm,0.8s
ZALV Zalesovo Beam 70.81 340 P **P 21 20 02.4 -2.0**
12nm,0.6s,baz=148,slow=5.0,SNR=59
PETK Petropavlovsk- 73.04 24 P **P 21 20 18.5 +0.6**
4.8nm,0.5s,baz=218,slow=0.7,SNR=15
SYO Syowa Base 74.91 201⇑*e*P **P 21 20 28.0 -0.5**
SYO Syowa Base 74.91 201⇓*e*pP pP 21 20 40.1 +5.0
SYO Syowa Base 74.91 201⇑*e*sP sP 21 20 44.0 +6.6
ABKAR Akbulak array 78.67 326 *e*P **P 21 20 49.2 -0.8**
KMBO Kilima Mbogo 80.02 271 LR LR 21 51 22.6
comp=Z,50nm,19.5s,baz=96,slow=32
BOSA Boshof 86.34 242 P **P 21 21 31.0 +0.2**
0.8nm,0.5s,baz=133,slow=6.4,SNR=4.3
KBZ Khabaz 86.88 316 P **P 21 21 33.1 +0.3**
1.3nm,0.8s,baz=53,slow=7.4,SNR=4.1
SNAA Sanae 88.13 196 P **P 21 21 40.7 +2.2**
SNAA Sanae 88.13 196 *e*P **P 21 21 37.9 -0.6**
7.2nm,0.8s
SNAA Sanae 88.13 196 P **P 21 21 40.6 +2.1**
4.9nm,0.6s,baz=161,slow=4.1,SNR=64
PPT Papeete 89.51 108 LR LR 22 01 06.8
comp=Z,48nm,19.7s,baz=1.5,slow=35
VNA2 Neumayer--Watz 89.77 196 P **P 21 21 48.5 +2.4**
VNA1 Neumayer--Stat 90.17 196 P **P 21 21 50.3 +2.4**
VNA3 Neumayer Olymp 90.17 195 P **P 21 21 49.9 +1.9**
BRTR Keskin Array B 92.45 310 P **P 21 21 58.6 -0.7**
1.1nm,0.8s,baz=139,slow=5.9,SNR=7.6
BRTR LR LR 22 09 45.7
comp=Z,22nm,18.2s,baz=94,slow=40
FINES FINESS Array B 100.61 331 P **Pdif 21 22 34.6 -0.9**
2.4nm,1.0s,baz=124,slow=12,SNR=3.1
ARCES ARCESS Array B 101.33 339 P **Pdif 21 22 37.7 -0.9**
1.7nm,1.0s,baz=92,slow=7.2,SNR=4.8
YKA Yellowknife Ar 117.16 24 PKP **PKiKP 21 27 33.1 +0.4**
0.4nm,0.6s,baz=314,slow=2.0,SNR=4.3
TORD Torodi Ar. Bea 117.22 279 PKP **PKPdf 21 27 33.9 -0.4**
0.5nm,0.6s,baz=129,slow=2.0,SNR=3.6
NVAR Mina Array Bea 123.90 51 PKP **PKiKP 21 27 48.6 +1.6**
0.7nm,0.7s,baz=229,slow=4.0,SNR=4.5
GCMT Greycliff 127.58 40 *e*PKPdf **PKiKP 21 27 54.3 +0.3**
LVC Limon Verde 145.54 170 *e*PKPdf **PKiKP 21 28 30.4 -1.1**
NCB Newcomb 146.17 15 *e*PKPdf **PKPab 21 28 29.7 +0.6**
WVT Waverly 146.60 39 *e*PKPdf **PKPab 21 28 31.0 0.0**
OXF Oxford 146.61 42 *e*PKPdf **PKPab 21 28 31.2 +0.1**
M54A Oil Creek Stat 146.63 23 *e*PKPdf **PKPab 21 28 30.8 -0.2**
BINY Binghamton 147.31 18 *e*PKPbc **PKPab 21 28 33.2 -0.4**
ODNJ Ogdensburg 148.75 17 *e*PKPbc **PKiKP 21 28 37.5 +0.4**
LPAZ La Paz 151.85 169 *e*PKPbc **PKiKP 21 28 47.0 +2.1**
LPAZ La Paz 151.85 169 PKPbc **PKPbc 21 28 44.2 -0.3**
2.2nm,0.8s,baz=183,slow=0.7,SNR=6.4

ISC 02 21:23:44.8±1.2, 51°39N±0°05×16°13E±0°03, h0km, n25, σ1§41/54, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.56**	**169**	*e*Pg	**Pg**	**21 23 55.6**	**+0.1**
KSP				*e*Sg	**Sg**	**21 24 03.4**	**+0.8**
UPC	**Upice**	**0.88**	**185**	*e*PG	**Pb**	**21 24 02.0**	**-1.1**
UPC				*e*SG	**Sb**	**21 24 14.6**	**-0.8**
comp=Z,102nm,0.4s							
DPC	**Dobruska-Polom**	**1.05**	**173**	*e*PG	**Pg**	**21 24 04.6**	**-0.3**
DPC				*e*SG	**Sb**	**21 24 18.7**	**-1.4**
comp=Z,39nm,0.5s							
PVCC	**Panska Ves**	**1.31**	**229**	*e*PG	**Pn**	**21 24 10.2**	**-0.2**
PVCC				*e*SG	**Sn**	**21 24 29.4**	**+0.9**
comp=Z,139nm,0.3s							
KRLC	**Kraliky**	**1.38**	**162**	*e*PG	**Pg**	**21 24 10.7**	**-0.5**
KRLC				*e*SG	**Sg**	**21 24 28.8**	**-0.3**
BRG	**Berggiesshubel**	**1.47**	**250**	PN	**Pn**	**21 24 11.4**	**-1.2**
BRG				PG	**Pb**	**21 24 13.0**	**0.0**
BRG				SG	**Sn**	**21 24 33.2**	**+0.7**
26nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.70**	**211**	*e*PG	**Pg**	**21 24 16.8**	**-0.7**
GOPC				*e*SG	**Sg**	**21 24 40.0**	**+0.5**
comp=Z,17nm,0.6s							
PRU	**Pruhonice**	**1.73**	**216**	*e*PG	**Pg**	**21 24 17.2**	**-0.7**
PRU				*e*SG	**Sg**	**21 24 40.9**	**+0.7**
comp=Z,24nm,0.5s							
MORC	**Moravsky Berou**	**1.85**	**150**	*e*PN	**Pn**	**21 24 16.1**	**-1.7**
MORC				*e*SG	**Sn**	**21 24 41.8**	**-0.1**
CLL	**Collm**	**1.96**	**269**	*e*Pn	**Pn**	**21 24 18.0**	**-1.3**
CLL				*e*Pg	**Pb**	**21 24 21.0**	**-0.4**
CLL				*e*Sg	**Sg**	**21 24 48.0**	**+0.2**
comp=Z,15nm,0.6s							
OKC	**Ostrava-Krasne**	**2.02**	**140**	*e*PG	**Pn**	**21 24 21.3**	**+1.2**
OKC				*e*SG	**Sn**	**21 24 46.8**	**+0.8**
comp=Z,23nm,0.5s							
VRAC	**Vranov**	**2.10**	**172**	*e*PN	**Pn**	**21 24 20.7**	**-0.6**
VRAC				*e*SG	**Sg**	**21 24 51.7**	**-0.7**
TREC	**Trest**	**2.13**	**191**	*e*SG	**Sg**	**21 24 53.2**	**-0.2**
comp=Z,17nm,0.3s							
KRUC	**Moravsky**	**2.33**	**176**	*e*PG	**Pb**	**21 24 27.7**	**-0.1**
KRUC				*e*SG	**Sg**	**21 24 58.7**	**-1.1**
NKC	**Novy Kostel**	**2.60**	**245**	*e*PN	**Pn**	**21 24 28.0**	**-0.2**
NKC				*e*PG	**Pg**	**21 24 34.3**	**-0.4**
NKC				*e*SG	**Sg**	**21 25 09.3**	**+0.9**
comp=Z,19nm,0.4s							
KHC	**Kasperske Hory**	**2.79**	**217**	*e*PN	**Pn**	**21 24 30.3**	**-0.5**
KHC				*e*PG	**Pg**	**21 24 36.7**	**-1.6**
KHC				*e*SN	**Sn**	**21 25 04.8**	**-0.3**
KHC				*e*SG	**Sg**	**21 25 14.3**	**-0.1**
comp=Z,8.7nm,0.3s							
MODS	**Modra-Piesok**	**3.11**	**166**	*e*PG	**Pg**	**21 24 43.6**	**-0.8**
MODS				*e*SG	**Sg**	**21 25 23.4**	**-1.2**
VYHS	**Vyhne**	**3.38**	**148**	*e*PG	**Pb**	**21 24 47.0**	**+1.3**
VYHS				*e*SG	**Sg**	**21 25 32.5**	**-1.0**
CONA	**Conrad Observa**	**3.47**	**183**	*e*Pn	**Pn**	**21 24 40.6**	**+0.5**
comp=Z,0.3nm,0.2s							
CONA				*i* Pg	**Pg**	**21 24 49.7**	**-1.6**
comp=Z,2.1nm,0.3s							
CONA				*i* Sg	**Sg**	**21 25 37.2**	**+1.0**
comp=Z,8.8nm,0.4s							
MOA	**Molln**	**3.74**	**200**	*e*Pn	**Pn**	**21 24 44.3**	**+0.4**
comp=Z,1.4nm,0.3s							
MOA				Sg	**Sg**	**21 25 47.9**	**+2.9**
comp=Z,4.3nm,0.3s							
ARSA	**Arzberg**	**4.16**	**186**	*i* Sg	**Sg**	**21 26 00.7**	**+2.3**
comp=Z,3.4nm,0.4s							
KOLS	**Kolonicke sedl**	**4.65**	**119**	*e*PN	**Pn**	**21 24 55.2**	**-1.1**
KOLS				*e*PG	**Pg**	**21 25 17.0**	**+3.0**
KOLS				*e*SG	**Sg**	**21 26 13.0**	**-1.2**
KBA	**Koelnbreinsper**	**4.68**	**204**	*e*Pn	**Pn**	**21 24 57.6**	**+0.7**
comp=Z,1.2nm,0.4s							
KBA				Sg	**Sg**	**21 26 17.8**	**+2.6**
comp=Z,2.6nm,0.4s							
MOTA	**Moosalm**	**5.21**	**221**	Sg	**Sg**	**21 26 38.2**	**+6.1**
comp=Z,3.4nm,0.6s							
RETA	**Reutte**	**5.24**	**224**	*i* Pn	**Pn**	**21 25 03.9**	**-0.6**
comp=Z,0.7nm,0.2s							
RETA				Sn	**Sn**	**21 26 06.0**	**+0.4**
comp=Z,1.7nm,0.3s							

*IDC **02** 21:25:35.9±5.5, 17°41S×175°15W, h215km±49km, mb3.8/14, mb1 3.9/15, mb1mx3.8/27, mbtmp4.3/15, Error ellipse: s-maj=20.6km s-min=14.4km az=77.0*
*ISCJB **02** 21:25:39.2±0.4, 17°39S±0°07×175°30W±0°08, h256km, mb4.0/16, Error ellipse: s-maj=11.3km s-min=10.1km az=20.9*
*NEIC **02** 21:25:40.4±1.4, 17°42S×175°24W, h258km±15km, mb4.2/4, Error ellipse: s-maj=15.1km s-min=10.4km az=141.0*
ISC 02 21:25:40.3±0.5, 17°44S±0°10×175°2W±0°1, h256km, n40, σ0§94/44, mb4.0/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.30**	**109**	*e*Pn	**Pn**	**21 27 00.3**	**+0.4**
DZM	**Mont Dzumac**	**17.84**	**252**	*e*P	**P**	**21 29 31.0**	**0.0**
17nm,1.3s							
DZM	**Mont Dzumac**	**17.84**	**252**	P	**P**	**21 29 31.0**	**0.0**
0.5nm,0.3s,baz=97,slow=17,SNR=9.1							
URZ	**Urewera**	**21.80**	**196**	*e*P	**P**	**21 30 13.2**	**+1.4**
60nm,1.5s							
URZ	**Urewera**	**21.80**	**196**	P	**P**	**21 30 10.8**	**-1.0**
16nm,0.4s,baz=279,slow=4.0,SNR=22							
URZ				S	**S**	**21 33 52.6**	**-1.7**
4.3nm,0.7s,baz=156,slow=20,SNR=2.5							
RPZ	**Rata Peaks**	**28.64**	**201**	P	**P**	**21 31 11.4**	**-1.9**
5.0nm,0.5s,baz=320,slow=6.9,SNR=3.9							
STKA	**Stephens Creek**	**41.51**	**241**	*e*P	**P**	**21 33 03.2**	**+0.4**
3.3nm,0.8s							
STKA	**Stephens Creek**	**41.51**	**241**	P	**P**	**21 33 03.1**	**+0.2**
17nm,0.9s,baz=90,slow=9.9,SNR=35							
WR1	**Warramunga Arr**	**47.69**	**259**	*e*P	**P**	**21 33 50.9**	**-0.8**
WR1				*e*PcP	**PcP**	**21 35 16.8**	**0.0**
WRA	**Warramunga Arr**	**47.69**	**259**	P	**P**	**21 33 50.9**	**-0.8**
3.6nm,0.5s,baz=97,slow=7.1,SNR=84							
WRA				PcP	**PcP**	**21 35 16.8**	**0.0**
0.9nm,0.8s,baz=87,slow=3.8,SNR=3.4							
AS31	**Alice Springs**	**47.82**	**254**	*e*P	**P**	**21 33 52.6**	**-0.2**
7.6nm,0.6s							
ASAR	**Alice Springs**	**47.83**	**254**	*e*P	**P**	**21 33 52.2**	**-0.6**
ASAR	**Alice Springs**	**47.83**	**254**	P	**P**	**21 33 52.7**	**0.0**
27nm,0.6s,baz=88,slow=8.5,SNR=340							
ASAR				PcP	**PcP**	**21 35 17.0**	**-0.3**
1.4nm,0.6s,baz=98,slow=4.9,SNR=5.8							
VNDA	**Vanda**	**61.18**	**186**	P	**P**	**21 35 29.0**	**+1.4**
2.1nm,0.9s,baz=354,slow=7.2,SNR=13							
MJAR	**Matsushiro Arr**	**69.39**	**321**	P	**P**	**21 36 20.4**	**-0.2**
0.9nm,0.7s,baz=165,slow=5.4,SNR=3.3							
MAJO	**Matsushiro**	**69.39**	**321**	*e*P	**P**	**21 36 20.4**	**-0.2**
QSPA	**South Pole Qui**	**72.61**	**180**	P	**P**	**21 36 40.2**	**+0.6**
baz=64,slow=1.1							
PETK	**Petropavlovsk-**	**74.05**	**343**	P	**P**	**21 36 48.0**	**+0.1**
5.2nm,0.9s,baz=145,slow=5.3,SNR=3.2							
PEA1	**Petropavlovsk-**	**74.05**	**343**	*e*P	**P**	**21 36 48.0**	**+0.1**
KSM	**Kuching**	**75.63**	**276**	*e*P	**P**	**21 36 58.2**	**+0.3**
12nm,0.9s							
KSRS	**Korea Array**	**76.40**	**317**	P	**P**	**21 37 03.6**	**+2.0**
0.9nm,0.8s,baz=136,slow=7.1,SNR=5.2							
KSAR	**Wonju Array Be**	**76.42**	**317**	P	**P**	**21 37 03.6**	**+1.9**
NV01	**Mina Array Sit**	**77.02**	**42**	*e*P	**P**	**21 37 05.5**	**+0.1**
NVAR	**Mina Array Bea**	**77.02**	**42**	P	**P**	**21 37 05.5**	**+0.1**
0.3nm,0.5s,baz=222,slow=9.0,SNR=4.2							
ILAR	**Eielson Array**	**84.78**	**12**	P	**P**	**21 37 44.6**	**-0.8**
0.3nm,0.5s,baz=222,slow=5.8,SNR=5.2							
PDAR	**Pinedale Array**	**84.95**	**42**	P	**P**	**21 37 46.2**	**-0.9**
0.2nm,0.6s,baz=220,slow=5.4,SNR=2.5							
MAW	**Mawson**	**85.30**	**199**	*e*P	**P**	**21 37 48.4**	**+0.3**
8.4nm,1.8s							
MAW	**Mawson**	**85.30**	**199**	P	**P**	**21 37 48.4**	**+0.3**
3.3nm,0.6s,baz=136,slow=5.2,SNR=7.4							
ENH	**Enshi**	**86.53**	**303**	*e*P	**P**	**21 37 54.5**	**-0.3**
SNAA	**Sanae**	**90.96**	**178**	P	**P**	**21 38 14.9**	**0.0**
VNA3	**Neumayer Olymp**	**90.98**	**175**	P	**P**	**21 38 14.6**	**-0.4**
VNA2	**Neumayer--Watz**	**91.46**	**176**	P	**P**	**21 38 17.5**	**+0.3**
baz=197,slow=2.6							
CMAR	**Chiang Mai Arr**	**91.59**	**289**	P	**P**	**21 38 20.5**	**+1.8**
0.5nm,0.3s,baz=101,slow=2.1,SNR=7.0							
ARA0	**ARCESS Array S**	**126.36**	**351**	*e*PKPdf	**PKPdf**	**21 44 09.8**	**-2.1**
ARCES	**ARCESS Array B**	**126.36**	**351**	PKP	**PKPdf**	**21 44 09.8**	**-2.1**
0.6nm,0.5s,baz=8.7,slow=1.6,SNR=7.5							
CLL	**Collm**	**145.58**	**351**	*i* PKPbc	**PKPbc**	**21 44 48.3**	**-0.2**
comp=Z,5.0nm,0.9s							
BR101	**Keskin Array S**	**146.54**	**318**	*e*PKPdf	**PKPbc**	**21 44 51.9**	**-0.1**
BRTR	**Keskin Array B**	**146.54**	**318**	PKPbc	**PKPbc**	**21 44 51.9**	**-0.1**
comp=Z,2.0nm,0.7s,baz=126,slow=2.5,SNR=12							
GERES	**GERESS Array B**	**147.84**	**349**	PKPbc	**PKPbc**	**21 44 55.0**	**-0.1**
comp=Z,0.7nm,0.6s,baz=40,slow=2.3,SNR=7.8							
FUORN	**Ofenpass-Fuorn**	**150.55**	**352**	*e*PKPbc	**PKPbc**	**21 45 01.7**	**-0.4**

*NIED **02** 21:29:00, 24°40N×121°90E, h5km, Mw3.4 Best double couple: M0=1.43000×10^14 NP1:φ=288.00000°, δ=79.00000°, λ=-8.00000°. NP2:φ=19.00000°, δ=82.00000°, λ=-169.00000°.*
*ISCJB **02** 21:29:54.9±0.3, 24°43N±0°01×122°03E±0°01, h3km±2km, Error ellipse: s-maj=2.2km s-min=1.8km az=143.1*
*JMA **02** 21:29:55.4, 24°40N×121°91E, h36km±3km, M3.5*
*TAP **02** 21:29:55.5, 24°44N×121°96E, h13km, ML3.7, B*
ISC 02 21:29:55.3±0.8, 24°44N±0°02×122°02E±0°02, h16km±5km, n119, σ1§06/174, 19C-15D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.14**	**42**	⇓P	**Pg**	**21 30 00.3**	**+1.0**
baz=49							
EOS1				S	**Sg**	**21 30 04.0**	**+2.1**
baz=49							
TWC	**Suao**	**0.23**	**316**	⇑*i*P	**Pg**	**21 29 59.9**	**-0.7**
baz=338							
TWC				*i* S	**Sg**	**21 30 02.8**	**-1.4**
baz=338							
ENA	**Nanau**	**0.26**	**267**	⇓*i*P	**Pg**	**21 30 00.1**	**-1.0**
baz=271							
ENA				*i* S	**Sg**	**21 30 03.0**	**-1.9**
baz=271							
EGS		**0.41**	**348**	⇑*i*P	**Pb**	**21 30 03.9**	**-0.3**
baz=350							
EGS				*e*S	**Sg**	**21 30 08.4**	**-0.9**
baz=350							
TWE	**Neicheng**	**0.43**	**311**	⇑*i*P	**Pb**	**21 30 03.5**	**-1.0**
baz=321							
TWE				S	**Sg**	**21 30 08.7**	**-1.1**
baz=321							
NTC	**Toucheng**	**0.45**	**337**	P	**Pb**	**21 30 04.5**	**-0.3**
baz=353							
ENTT	**Nioudou**	**0.46**	**295**	⇑*i*P	**Pg**	**21 30 04.1**	**-0.6**
baz=298							
ENTT				S	**Sg**	**21 30 09.5**	**-1.4**
baz=298							
NACB	**Ninganchiao**	**0.47**	**236**	⇓P	**Pg**	**21 30 04.1**	**-0.7**
baz=231							
NACB				S	**Sg**	**21 30 10.2**	**-1.1**
baz=231							
NDT	**Datong Townshi**	**0.49**	**289**	⇑*i*P	**Pg**	**21 30 04.8**	**-0.4**
baz=291							
NDT				S	**Sg**	**21 30 10.2**	**-1.6**
baz=291							
TWD	**Chiawan**	**0.53**	**227**	⇓P	**Pg**	**21 30 05.2**	**-0.7**
baz=228							
TWD				S	**Sg**	**21 30 12.2**	**-0.8**
baz=228							
ETLH	**Xiulin Townshi**	**0.55**	**245**	⇓P	**Pg**	**21 30 05.5**	**-0.8**
baz=242							
ETLH				S	**Sg**	**21 30 13.1**	**-0.4**
baz=242							
TIPB	**Shuangxi**	**0.56**	**341**	⇑*i*P	**Pb**	**21 30 06.3**	**-0.4**
baz=353							
TIPB				S	**Sb**	**21 30 13.7**	**-0.8**
baz=353							
TWB1	**Santiao Chiao**	**0.56**	**357**	*e*P	**Pb**	**21 30 06.6**	**-0.3**
baz=353							
NWLT	**Wulai**	**0.58**	**305**	P	**Pb**	**21 30 06.4**	**-0.7**
baz=300							
NWLT				S	**Sg**	**21 30 13.3**	**-1.3**
baz=300							
NNS	**Nan Shan**	**0.59**	**270**	⇓*i*P	**Pg**	**21 30 06.3**	**-0.8**
baz=269							
NNS				S	**Sg**	**21 30 13.1**	**-2.0**
baz=269							
HWA	**Hwalien**	**0.60**	**220**	*e*P	**Pb**	**21 30 07.0**	**-0.5**
baz=222							
YHNB	**Yeheng**	**0.63**	**291**	⇑P	**Pb**	**21 30 07.5**	**-0.6**
baz=298							
YHNB				*e*S	**Sg**	**21 30 14.4**	**-1.9**
baz=298							
NSK	**Sanguang**	**0.65**	**291**	⇑*i*P	**Pb**	**21 30 07.6**	**-0.7**
baz=298							
NSK				*e*S	**Sg**	**21 30 14.6**	**-2.2**
baz=298							
ENLB	**Shoufeng**	**0.66**	**216**	P	**Pb**	**21 30 09.4**	**+1.0**
baz=221							
NWF	**Wu-fen Shan**	**0.66**	**341**	⇑*i*P	**Pb**	**21 30 08.7**	**+0.2**
baz=345							
NWF				S	**Sb**	**21 30 17.4**	**-0.1**
baz=345							
WFSB	**Wu-fen Shan**	**0.66**	**341**	⇑P	**Pb**	**21 30 08.7**	**+0.2**
baz=340							
WFSB				S	**Sb**	**21 30 17.5**	**0.0**
baz=340							
TWA	**Mucha**	**0.67**	**323**	⇑*i*P	**Pb**	**21 30 08.6**	**0.0**
baz=327							
TWA				S	**Sb**	**21 30 17.2**	**-0.5**
baz=327							
NHDH	**Xindian Distri**	**0.69**	**319**	P	**Pb**	**21 30 09.1**	**+0.1**
baz=311							
NHDH				*e*S	**Sg**	**21 30 17.0**	**-1.0**
baz=311							
WHF	**Hehuan Shan**	**0.75**	**247**	⇓*i*P	**Pg**	**21 30 09.4**	**-0.8**
baz=255							
WHF				S	**Sg**	**21 30 19.2**	**-1.0**
baz=255							
TAP	**Taipei**	**0.76**	**322**	⇑P	**Pb**	**21 30 10.6**	**+0.5**
baz=314							
TAP				*e*S	**Sb**	**21 30 20.7**	**+0.5**
baz=314							
TWT	**Tachien**	**0.80**	**256**	*e*P	**Pg**	**21 30 09.9**	**-1.0**
baz=255							
TWT				*e*S	**Sg**	**21 30 20.6**	**-0.8**
baz=255							
TDCB	**Techi**	**0.81**	**257**	P	**Pg**	**21 30 10.5**	**-0.7**
baz=255							
TDCB				*e*S	**Sg**	**21 30 19.8**	**-2.2**
baz=255							
WLTB	**Daxi**	**0.81**	**300**	⇑P	**Pb**	**21 30 11.8**	**+0.7**
baz=302							
WLTB				S	**Sb**	**21 30 21.8**	**+0.1**
baz=302							
YM01	**YM01**	**0.81**	**330**	⇑P	**Pn**	**21 30 11.7**	**-0.5**
baz=332							
YM01				*e*S	**Sn**	**21 30 23.6**	**-0.3**
baz=332							
YM07	**YM07**	**0.82**	**333**	⇑P	**Pn**	**21 30 11.8**	**-0.4**
baz=336							
YM07				*e*S	**Sn**	**21 30 23.9**	**-0.1**
baz=336							
YM10	**YM10**	**0.82**	**329**	⇑P	**Pb**	**21 30 11.8**	**+0.4**
baz=332							
YM10				*e*S	**Sn**	**21 30 24.0**	**-0.2**
baz=332							
ESL	**Shilin**	**0.83**	**221**	⇓*i*P	**Pg**	**21 30 10.6**	**-0.9**
baz=225							
YM11	**YM11**	**0.83**	**331**	⇑P	**Pn**	**21 30 12.0**	**-0.4**
baz=333							
YM08	**YM08**	**0.84**	**332**	⇑P	**Pb**	**21 30 11.9**	**+0.3**
baz=335							
YM08				*e*S	**Sb**	**21 30 23.6**	**+0.9**
baz=335							
JYNG	**Yonagunijimaku**	**0.84**	**89**	P	**Pn**	**21 30 12.5**	**0.0**
JYNG				S	**Sn**	**21 30 24.0**	**-0.5**
TWS1	**Kuangyinshan**	**0.85**	**320**	⇑*i*P	**Pn**	**21 30 12.8**	**+0.1**
baz=315							
TWS1				*e*S	**Sb**	**21 30 24.3**	**+1.2**
baz=315							
CHGB	**Renai**	**0.86**	**244**	⇓P	**Pg**	**21 30 11.5**	**-0.7**
baz=251							
CHGB				S	**Sg**	**21 30 23.2**	**-0.4**
baz=251							
ANP	**Anpu**	**0.87**	**328**	P	**Pb**	**21 30 12.4**	**+0.3**
baz=340							
ANP				*e*S	**Sn**	**21 30 25.3**	**-0.1**
baz=340							
NTST	**Danshui**	**0.89**	**324**	*e*P	**Pn**	**21 30 13.2**	**+0.1**
baz=326							
NTST				*e*S	**Sn**	**21 30 26.6**	**+0.9**
baz=326							
YOJ	**Yonaguni jima**	**0.90**	**89**	⇓P	**Pn**	**21 30 13.5**	**+0.2**
baz=89							
YOJ				*e*S	**Sn**	**21 30 26.2**	**+0.2**
baz=89							
YOJ	**Yonaguni jima**	**0.90**	**89**	P	**Pn**	**21 30 13.5**	**+0.2**
YOJ				S	**Sn**	**21 30 26.1**	**+0.2**
OWD	**Renai**	**0.91**	**238**	P	**Pg**	**21 30 12.2**	**-0.9**
baz=231							
TWY	**Chenhua**	**0.91**	**335**	*e*P	**Pn**	**21 30 13.7**	**+0.2**
baz=338							
TWY				*e*S	**Sn**	**21 30 26.9**	**+0.6**
baz=338							
NCU	**National Centr**	**0.92**	**305**	*e*P	**Pn**	**21 30 14.1**	**+0.5**
baz=306							
NCU				*e*S	**Sb**	**21 30 26.8**	**+1.8**
baz=306							
NCUH	**Zhongli**	**0.92**	**305**	P	**Pn**	**21 30 13.9**	**+0.3**
baz=306							
NCUH				*e*S	**Sb**	**21 30 26.6**	**+1.6**
baz=306							
EGFH	**Guangfu**	**0.94**	**215**	*e*P	**Pg**	**21 30 12.9**	**-0.8**
baz=220							
NSTT	**Nanjuang**	**0.95**	**282**	⇓P	**Pb**	**21 30 13.8**	**+0.4**
baz=282							
NSTT				*e*S	**Sg**	**21 30 24.3**	**-2.0**
baz=282							
WHP	**Taichung City**	**1.00**	**261**	P	**Pb**	**21 30 14.4**	**+0.1**
baz=260							
WHP				*e*S	**Sg**	**21 30 26.1**	**-1.6**
baz=260							
SBCB	**Hsinchu**	**1.01**	**290**	*e*P	**Pn**	**21 30 15.6**	**+0.8**
baz=285							
SBCB				*e*S	**Sb**	**21 30 28.2**	**+0.8**
baz=285							
HSN	**Hsinchu**	**1.02**	**291**	*e*P	**Pb**	**21 30 14.8**	**+0.2**
baz=287							
HSN				S	**Sb**	**21 30 28.3**	**+0.4**
baz=287							
VWDT	**VWDT**	**1.06**	**230**	⇓P	**Pg**	**21 30 14.9**	**-1.0**
baz=232							
VWDT				*e*S	**Sg**	**21 30 29.1**	**-0.6**
baz=232							
DPDB	**Guoxing**	**1.08**	**248**

baz=239
WCHH Zhanghua 1.39 255 *eP* **Pg 21 30 22.6 +0.6**
baz=255
FULB Fuli 1.41 208 *eP* **Pn 21 30 20.8 +0.4**
baz=224
CHKT Chengkung 1.47 204 *eP* **Pn 21 30 20.7 -0.4**
baz=184
CHN5 Tsauling 1.49 236 *eP* **Pg 21 30 24.1 0.0**
baz=236
WGK Gukeng 1.53 241 *eP* **Pg 21 30 24.7 -0.2**
baz=241
ELDTW Lidau 1.55 217 *eP* **Pn 21 30 23.0 +0.7**
baz=204
WDLH Douliu 1.55 241 *eP* **Pg 21 30 24.8 -0.4**
baz=242
IRIF Iriomote-Funau 1.56 94 P **Pb 21 30 22.9 -0.9**
IRIF S **Sn 21 30 42.7 +0.4**
RLNB Erlin 1.62 250 *eP* **Pg 21 30 26.6 +0.2**
baz=263
HATJ Hateruma jima 1.67 103 P **Pg 21 30 25.3 -2.2**
WTCT Ta-ch'eng 1.69 250 *eP* **Pb 21 30 26.2 +0.1**
baz=252
CHN4 Tsaushan 1.70 231 *eP* **Pg 21 30 27.2 -0.9**
baz=232
TPUB Ta-pu 1.71 229 *eP* **Pb 21 30 26.9 +0.5**
baz=230
STYT Tauyuan 1.72 223 *eP* **Pg 21 30 27.6 -0.9**
baz=223
CHY Chiayi 1.74 238 *eP* **Pg 21 30 27.7 -1.1**
baz=224
WTP Ta-pu 1.76 228 *eP* **Pb 21 30 27.8 +0.6**
baz=229
JKRS Kuro-shima 1.82 96 P **Pb 21 30 27.1 -1.2**
JKRS S **Sb 21 30 50.3 -0.6**
TWK Hsinying 1.83 231 *eP* **Pg 21 30 29.2 -1.3**
baz=232
WSF Szhu 1.83 244 *eP* **Pb 21 30 28.8 +0.3**
baz=246
TWG Pinlang 1.83 209 *eP* **Pn 21 30 26.7 +0.5**
baz=209
TWGBT Beinan 1.83 208 *eP* **Pn 21 30 26.5 +0.3**
baz=209
SNST Tainan City 1.85 229 *eP* **Pb 21 30 29.4 +0.6**
baz=231
CHN1 Nanshi 1.85 228 *eP* **Pg 21 30 30.0 -1.0**
baz=229
SGST Jiashian 1.89 225 *eP* **Pb 21 30 29.8 +0.3**
baz=226
SLGT Liugui 1.92 221 *eP* **Pb 21 30 29.9 0.0**
baz=223
JIJ Ishigaki jima 1.93 92 P **Pn 21 30 27.9 +0.4**
JIJ S **Sn 21 30 51.5 0.0**
ECL Taimali 2.08 208 *eP* **Pn 21 30 29.8 +0.2**
baz=195
JISG Ishigakijimahi 2.09 86 P **Pn 21 30 30.3 +0.6**
JISG S **Sn 21 30 56.5 +1.2**
SSD Sandimen 2.12 217 *eP* **Pb 21 30 33.0 -0.3**
baz=230
MASBT Mashibuluo 2.23 215 *eP* **Pb 21 30 34.2 -0.9**
baz=218
PTTC Pingtan 2.30 298 *eP* **Pn 21 30 32.7 +0.2**
baz=297
EAST Anshuo 2.32 208 *eP* **Pn 21 30 34.2 +1.3**
baz=195
SSPT Xinbi 2.36 215 *eP* **Pb 21 30 36.9 -0.7**
baz=208
PNG Penghu 2.42 249 *eP* **Pn 21 30 35.2 +1.0**
baz=251
PHUB P'eng-hu 2.42 248 *eP* **Pn 21 30 35.6 +1.3**
baz=250
SCZT Fangliau 2.43 212 *eP* **Pb 21 30 37.1 -1.6**
baz=215
LAY Lan-yu 2.43 190 *eP* **Pn 21 30 34.4 -0.1**
baz=188
JTJ Tarama 2.45 85 P **Pn 21 30 35.9 +1.3**
JTJ S **Sn 21 31 05.9 +1.7**
WDGT Dungji 2.46 242 *eP* **Pb 21 30 37.5 -1.7**
baz=252
MATB Ma-tsu 2.54 313 *eP* **Pn 21 30 35.8 0.0**
baz=311
VCHM Qimei 2.67 243 *eP* **Pn 21 30 40.7 +3.0**
baz=246
PTMZ Houxiangcun 2.71 283 *eP* **Pn 21 30 39.3 +1.2**
baz=282
TWKBT Hengchun 2.73 204 *eP* **Pn 21 30 39.9 +1.5**
baz=191
JIRB Irabujima 2.89 82 P **Pn 21 30 42.2 +1.5**
JIRB S **Sn 21 31 16.7 +1.5**
LYJJ Jianjiangzhen 2.93 316 *eP* **Pn 21 30 41.5 +0.3**
baz=315
JIKM Ikemajima 2.97 80 P **Pn 21 30 44.2 +2.4**
XPSS Dashiqiu 2.98 327 *eP* **Pn 21 30 42.0 +0.1**
baz=325
JMJ Miyako jima 2 3.00 82 *eP* **Pn 21 30 43.8 +1.6**
baz=84
JMJ2 Miyako jima3 3.02 84 P **Pn 21 30 44.4 +1.9**
JMJ2 S **Sn 21 31 20.7 +2.3**
JOGS Gusukube 3.10 83 P **Pn 21 30 45.5 +2.0**
JOGS eS **Sn 21 31 22.8 +2.6**
KNM Kinmen 3.27 270 *eP* **Pn 21 30 48.1 +2.2**
baz=269
KNMB Chin-men Tao 3.31 271 *eP* **Pn 21 30 47.3 +0.8**
baz=270

IDC 02 21:39:11.8±2.3, 6°33S×129°25E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=157.9km s-min=31.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.41**	**160**	Pn	Pn	21 42 36.3	-0.9
	0.7nm,0.3s,baz=342,slow=13,SNR=17						
WRA				Sn	Sn	21 45 02.6	-15
	2.0nm,0.3s,baz=343,slow=22,SNR=12						
ASAR	**Alice Springs**	**17.82**	**166**	P	Pn	21 43 21.7	+0.4
	0.3nm,0.3s,baz=347,slow=10,SNR=19						
ASAR				S	Sn	21 46 27.0	-14
	0.2nm,0.3s,baz=340,slow=19,SNR=4.2						
MKAR	**Makanchi Array**	**67.26**	**327**	P	P	21 50 08.2	0.0
	0.2nm,0.4s,baz=121,slow=7.3,SNR=5.5						

*IDC **02** 21:48:58.4±0.7, 7°41S×130°64E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/24, mbtmp4.1/10, ML4.5/1, MS3.4/13, Ms1 3.4/13, ms1mx3.2/40, Error ellipse: s-maj=33.8km s-min=18.1km az=73.0*
*ISCJB **02** 21:48:60.0±0.3, 7°67S±0°04×130°57E±0°05, h27km, mb4.3/20, MS3.4/9, Error ellipse: s-maj=7.3km s-min=5.6km az=171.8*
*NEIC **02** 21:49:02.7±2.8, 7°61S×130°55E, h27km±22km, mb4.4/6, Error ellipse: s-maj=11.6km s-min=10.0km az=61.0*
*BJI **02** 21:49:02.6±0.0, 7°93S×130°22E, h39km, mb4.7/12, mB4.8/6, Ms7 4.3/2*
*DJA **02** 21:49:03.5±1.1, 8°S±3°×13°1E±°, h27km±11km, M4.7/4, mB5.2/1, mb4.7/4, MLv4.6/3, Mw(mB)4.5/1*
ISC 02 21:49:02.4±0.5, 7°65S±0°05×130°53E±0°06, h27km, n62, σ1§92/64, mb4.5/20, MS3.4/9, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.83**	**114**	*e*Pn	**Pb**	21 49 22.2	+3.8
SAUI	**Saumlaki**	**0.83**	**114**	P	**Pb**	21 49 21.7	+3.3
BNDI	**Bandanaira**	**3.17**	**349**	P	**Pn**	21 49 46.6	-3.9
BNDI				S	**Pn**	21 49 46.9	-3.6
FAKI	**Fak Fak**	**5.00**	**20**	*e*Pn	**Pn**	21 50 15.6	-0.2
FAKI	**Fak Fak**	**5.00**	**20**	P	**Pn**	21 50 15.2	-0.5
FAKI				S	**Pn**	21 50 15.3	-0.5
MTN	**Manton Dam**	**5.20**	**173**	*e*Pn	**Pn**	21 50 21.0	+2.5
SOEI	**Soe**	**6.53**	**251**	*e*Pn	**Pn**	21 50 39.5	+2.5
SOEI	**Soe**	**6.53**	**251**	P	**Pn**	21 50 38.0	+1.0
SOEI				S	Pn	21 50 43.1	+6.1
SWI	**Sorong**	**6.78**	**6**	P	**Pn**	21 50 39.2	-1.0
SANI	**Sanana**	**7.17**	**321**	P	**Pn**	21 50 45.2	-0.4
SANI				S	**Pn**	21 50 43.4	-2.2
BATI	**Baumata**	**7.24**	**249**	P	**Pn**	21 50 47.7	+1.1
BATI				S	**Sn**	21 52 09.0	+0.9
BATI	**Baumata**	**7.24**	**249**	Pn	**Pn**	21 50 48.1	+1.4
	8.1nm,0.3s,baz=114,slow=2.7,SNR=9.8						
BATI				Sn	**Sn**	21 52 06.9	-1.2
	4.3nm,0.3s,baz=153,slow=16,SNR=2.2						
MMRI	**Maumere**	**8.27**	**263**	P	**Pn**	21 51 01.6	+0.9
FITZ	**Fitzroy Crossi**	**11.43**	**204**	*e*Pn	**Pn**	21 51 43.6	-0.4
FITZ				Sn	Sn	21 53 42.4	-8.4
FITZ	**Fitzroy Crossi**	**11.43**	**204**	Pn	**Pn**	**21 51 42.8**	**-1.2**
	2.1nm,0.3s,baz=24,slow=9.8,SNR=61						
FITZ				Sn	Sn	21 53 42.4	-8.4
	3.4nm,0.3s,baz=198,slow=20,SNR=7.5						
FITZ				LR	LR	21 57 00.4	
	comp=Z,170nm,19.8s,baz=25,slow=41						
MRSI	**Marisa**	**11.77**	**313**	P	Pn	21 51 53.8	+5.1
PLAI	**Plampang**	**12.68**	**264**	P	**Pn**	**21 52 01.5**	**+0.4**
	34nm,0.5s						
WRAB	**Tennant Creek**	**12.76**	**164**	*e*Pn	**Pn**	**21 52 01.2**	**-1.1**
WRAB				*e*Sn	**Sn**	**21 54 16.9**	**-6.7**
WRA	**Warramunga Arr**	**12.77**	**164**	*e*Pn	**Pn**	**21 52 01.2**	**-1.1**
WRA				Sn	Sn	21 54 14.1	-10
WRA	**Warramunga Arr**	**12.77**	**164**	Pn	**Pn**	**21 52 00.1**	**-2.3**
	1.4nm,0.3s,baz=334,slow=13,SNR=34						
WRA				Sn	Sn	21 54 14.1	-10
	2.4nm,0.3s,baz=356,slow=22,SNR=12						
WRA				LR	LR	21 57 23.7	
	comp=Z,200nm,21.9s,baz=320,slow=39						
WB2	**Warramunga Arr**	**12.77**	**164**	*e*Pn	**Pn**	**21 52 01.3**	**-1.1**
COEN	**Coen**	**13.91**	**118**	*e*Pn	**Pn**	**21 52 18.3**	**+0.3**
COEN				*e*Sn	Sn	21 54 43.3	-8.4
DAV	**Davao City (W)**	**15.43**	**341**	LR	LR	21 59 34.0	
	comp=Z,106nm,21.1s,baz=146,slow=42						
AS31	**Alice Springs**	**16.25**	**169**	*e*Pn	**Pn**	**21 52 47.6**	**-1.5**
	3.9nm,0.6s						
ASAR	**Alice Springs**	**16.25**	**169**	*e*Pn	**Pn**	**21 52 49.9**	**+0.9**
ASAR				Sn	Sn	21 55 38.3	-10
ASAR	**Alice Springs**	**16.25**	**169**	Pn	**Pn**	**21 52 46.9**	**-2.2**
	0.7nm,0.3s,baz=331,slow=8.3,SNR=22						
ASAR				Sn	Sn	21 55 38.3	-10
	0.4nm,0.3s,baz=352,slow=26,SNR=9.4						
ASAR				LR	LR	21 59 51.5	
	comp=Z,228nm,18.4s,baz=339,slow=40						
PMG	**Port Moresby**	**16.54**	**97**	LR	LR	22 00 30.5	
	comp=Z,143nm,19.1s,baz=261,slow=42						
PSA00	**Pilbara Seismi**	**17.26**	**216**	*e*Pn	**P**	**21 53 04.2**	**+1.2**
	31nm,1.4s						
LEM	**Lembang**	**22.74**	**271**	LR	LR	22 03 44.7	
	comp=Z,95nm,18.7s,baz=116,slow=39						
STKA	**Stephens Creek**	**26.22**	**158**	P	**P**	**21 54 35.8**	**+0.5**
	1.4nm,0.7s,baz=329,slow=9.0,SNR=4.1						
STKA				LR	LR	22 06 10.1	
	comp=Z,197nm,18.1s,baz=0.7,slow=39						
NWAO	**Narrogin (SRO)**	**28.02**	**204**	LR	LR	22 06 46.7	
	comp=Z,108nm,19.0s,baz=81,slow=38						
HNR	**Honiara**	**29.14**	**96**	LR	LR	22 06 13.7	
	comp=Z,91nm,20.6s,baz=133,slow=36						
CMAR	**Chiang Mai Arr**	**40.55**	**310**	P	**P**	**21 56 38.7**	**-1.1**
	0.7nm,0.3s,baz=140,slow=4.7,SNR=3.6						
CMAR				LR	LR	22 15 43.4	
	comp=Z,40nm,18.2s,baz=153,slow=40						
MJAR	**Matsushiro Arr**	**44.54**	**9**	P	**P**	**21 57 09.7**	**-2.3**
	3.6nm,0.9s,baz=194,slow=10,SNR=9.6						
MJAR				LR	LR	22 15 34.8	
	comp=Z,22nm,20.2s,baz=170,slow=36						
KSRS	**Korea Array**	**44.93**	**357**	LR	LR	22 15 41.9	
	comp=Z,17nm,19.2s,baz=107,slow=36						
CD2	**Chengdu**	**46.13**	**328**	*e*P	**P**	**21 57 25.6**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**50.22**	**332**	*e*P	**P**	**21 57 59.7**	**+3.3**
LZH				pP	sP	21 58 09.6	+2.6
LZH				sP	pwP	21 58 16.0	+8.8
LZH				PP	**PP**	**21 59 53.0**	**+1.0**
LZH				pmax	pmax		
	comp=Z,14nm,1.4s						
LZH				pmax	pmax		
	comp=Z,64nm,4.3s						
HHC	**Hu-ho-hao-te**	**51.32**	**342**	*e*P	**P**	**21 58 07.3**	**+2.8**
HHC				pmax	pmax		
	comp=Z,23nm,1.1s						
HHC				pmax	pmax		
	comp=Z,63nm,6.1s						
GTA	**Gaotai**	**54.79**	**331**	*e*P	**P**	**21 58 29.2**	**-1.0**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**59.04**	**342**	*e*P	**P**	**21 59 00.2**	**+0.1**
	2.1nm,0.7s						
SONM	**Songino Array**	**59.22**	**341**	P	**P**	**21 59 00.3**	**-1.1**
	0.8nm,0.5s,baz=159,slow=8.6,SNR=3.1						
WMQ	**Urumqi**	**64.22**	**327**	*e*P	**P**	**21 59 36.8**	**+1.7**
WMQ				pP	pwP	21 59 47.0	+0.7
WMQ				LR	LR		
	comp=Z,240nm,36.9s						
KSH	**Kashi**	**68.85**	**317**	P	**P**	**22 00 07.2**	**+2.3**
KSH				pP	pwP	22 00 17.0	+1.5
KSH				PP	**PP**	**22 02 41.8**	**+4.5**
KSH				S	**S**	**22 09 06.4**	**-1.0**
KSH				ScS	**SKSac**	**22 10 02.4**	**-0.5**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KSH				LR	LR		
	comp=Z,100nm,6.5s						
MKAR	**Makanchi Array**	**69.05**	**327**	P	**P**	**22 00 05.8**	**0.0**
	2.1nm,0.4s,baz=111,slow=9.0,SNR=59						
KDJ	**Kajisay**	**69.40**	**320**	*e*P	**P**	**22 00 09.1**	**+0.7**
	4.1nm,0.6s						
NRN	**Naryn**	**69.80**	**319**	*e*P	**P**	**22 00 11.2**	**+0.3**
	5.1nm,1.4s						
AAK	**Ala-Archa**	**71.37**	**320**	*e*P	**P**	**22 00 21.0**	**+0.7**
	2.6nm,0.8s						
VNDA	**Vanda**	**71.75**	**173**	P	**P**	**22 00 22.2**	**+0.4**
	0.8nm,0.7s,baz=311,slow=6.2,SNR=5.7						
ZALV	**Zalesovo Beam**	**72.39**	**334**	*e*P	**P**	**22 00 25.7**	**-0.3**
ZALV	**Zalesovo Beam**	**72.39**	**334**	P	**P**	**22 00 24.8**	**-1.2**
	0.6nm,0.4s,baz=125,slow=4.8,SNR=4.2						
GAR	**Garm**	**72.49**	**315**	*e*P	**P**	**22 00 27.3**	**+0.2**
	6.4nm,0.8s						
KURK	**Kurchatov**	**73.34**	**329**	*e*P	**P**	**22 00 31.3**	**-0.4**
	6.7nm,1.4s						
MAW	**Mawson**	**74.54**	**202**	LR	LR	22 31 03.1	
	comp=Z,36nm,19.7s,baz=208,slow=34						
NRIK	**Noril'sk**	**82.31**	**346**	P	**P**	**22 01 20.9**	**-0.3**
	2.6nm,0.6s,baz=133,slow=7.6,SNR=5.3						
ILAR	**Eielson Array**	**93.70**	**25**	P	**P**	**22 02 13.9**	**-2.5**
	0.4nm,0.9s,baz=270,slow=4.5,SNR=2.7						
ARCES	**ARCESS Array B**	**102.36**	**340**	P	**Pdif**	**22 02 54.6**	**-0.7**
	0.5nm,0.6s,baz=63,slow=6.2,SNR=6.4						
VYHS	**Vyhne**	**110.02**	**319**	*e*PDIF	**Pdif**	**22 03 30.1**	**+0.2**
YHH	**Holmes Hill**	**115.53**	**44**	*e*Pdif	**Pdif**	**22 03 55.8**	**+1.0**
SMCO	**Snowmass**	**119.81**	**49**	*e*Pdif	**Pdif**	**22 04 16.1**	**+2.0**
TORD	**Torodi Ar. Bea**	**129.45**	**281**	PKP	**PKPdf**	**22 08 09.8**	**+0.1**
	0.5nm,0.6s,baz=79,slow=2.7,SNR=5.8						
CPUP	**Villa Florida**	**145.37**	**168**	PKPbc	**PKPab**	**22 08 40.3**	**+1.6**
	3.7nm,0.9s,baz=225,slow=2.6,SNR=8.3						
LPAZ	**La Paz**	**149.89**	**142**	PKPbc	**PKiKP**	**22 08 54.1**	**+1.2**
	2.0nm,0.4s,baz=228,slow=2.4,SNR=13						

*IDC **02** 22:06:34.1±2.1, 27°33N×141°21E, h0km, mb4.0/5, mb1 4.1/6, mb1mx4.1/6, mbtmp3.9/6, ML2.8/1, Error ellipse: s-maj=87.7km s-min=27.1km az=79.0*
*ISCJB **02** 22:06:36.7±1.8, 27°5N±0°1×141°4E±0°6, h33km, mb3.9/6, Error ellipse: s-maj=73.4km s-min=19.0km az=172.7*
ISC 02 22:06:38.6±2.0, 27°4N±0°2×141°4E±0°6, h35km, n7, σ1§62/7, mb4.0/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**9.48**	**344**	Pn	**Pn**	**22 08 53.3**	**+0.6**
	0.1nm,0.3s,baz=164,slow=12,SNR=6.6						
KLR	**Kul'dur**	**23.01**	**344**	P	**P**	**22 11 37.5**	**-2.7**
	1.0nm,0.6s,baz=143,slow=8.3,SNR=4.4						
SONM	**Songino Array**	**34.01**	**316**	P	**P**	**22 13 19.6**	**+0.4**
	0.9nm,0.6s,baz=122,slow=5.2,SNR=3.2						
WRA	**Warramunga Arr**	**47.60**	**189**	P	**P**	**22 15 10.9**	**-0.3**
	1.6nm,0.8s,baz=11,slow=8.8,SNR=5.2						
MKAR	**Makanchi Array**	**49.75**	**309**	P	**P**	**22 15 27.2**	**-0.3**
	0.9nm,0.5s,baz=88,slow=8.9,SNR=11						
ARCES	**ARCESS Array B**	**73.00**	**341**	P	**P**	**22 18 05.6**	**+1.3**
	3.2nm,1.2s,baz=50,slow=9.7,SNR=4.3						
FINES	**FINESS Array B**	**77.35**	**334**	P	**P**	**22 18 30.2**	**+0.8**
	0.7nm,0.4s,baz=82,slow=4.9,SNR=7.9						

*ISCJB **02** 22:24:37.8±0.6, 22°47N±0°09×142°2E±0°2, h260km, mb3.5/12, Error ellipse: s-maj=25.1km s-min=11.9km az=0.3*
*IDC **02** 22:24:38.0±6.0, 22°49N×142°17E, h246km±59km, mb3.4/12, mb1 3.6/13, mb1mx3.6/13, mbtmp4.0/13, Error ellipse: s-maj=26.3km s-min=12.5km az=94.0*
ISC 02 22:24:39.3±0.8, 22°5N±0°1×142°2E±0°2, h260km, n14, σ1§18/14, mb3.6/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.40**	**347**	P	**P**	**22 27 50.0**	**-1.9**
	0.1nm,0.3s,baz=150,slow=8.4,SNR=6.5						
KSRS	**Korea Array**	**19.32**	**324**	P	**P**	**22 28 47.3**	**+2.0**
	0.3nm,0.3s,baz=147,slow=9.2,SNR=4.1						
WRA	**Warramunga Arr**	**42.89**	**191**	P	**P**	**22 32 12.6**	**-0.1**
	4.1nm,0.6s,baz=11,slow=8.4,SNR=9.9						
FITZ	**Fitzroy Crossi**	**43.49**	**203**	P	**P**	**22 32 16.5**	**-0.9**
	2.2nm,0.8s,baz=49,slow=7.7,SNR=7.1						
ASAR	**Alice Springs**	**46.61**	**190**	P	**P**	**22 32 41.1**	**-0.8**
	0.9nm,0.6s,baz=16,slow=12,SNR=21						
MKAR	**Makanchi Array**	**53.47**	**312**	P	**P**	**22 33 34.0**	**+1.0**
	0.5nm,0.5s,baz=90,slow=8.5,SNR=8.7						
STKA	**Stephens Creek**	**54.09**	**181**	P	**P**	**22 33 37.9**	**+0.4**
	1.2nm,0.5s,baz=5.2,slow=11,SNR=3.5						
ILAR	**Eielson Array**	**61.73**	**27**	P	**P**	**22 34 29.5**	**-0.5**
	0.7nm,0.8s,baz=251,slow=5.8,SNR=5.3						
INK	**Inuvik**	**67.19**	**24**	P	**P**	**22 35 05.6**	**+0.4**
	0.6nm,0.6s,baz=300,slow=5.1,SNR=3.4						
YKA	**Yellowknife Ar**	**76.16**	**28**	P	**P**	**22 35 59.0**	**+0.4**
	0.9nm,0.7s,baz=291,slow=5.3,SNR=8.4						
ARCES	**ARCESS Array B**	**77.86**	**341**	P	**P**	**22 36 08.7**	**+0.8**
	1.2nm,0.8s,baz=70,slow=8.8,SNR=8.3						
FINES	**FINESS Array B**	**82.05**	**334**	P	**P**	**22 36 29.8**	**-0.6**
	1.6nm,0.5s,baz=73,slow=4.9,SNR=18						
NVAR	**Mina Array Bea**	**83.35**	**51**	P	**P**	**22 36 39.0**	**+1.2**
	1.2nm,0.7s,baz=290,slow=4.5,SNR=9.3						
BRTR	**Keskin Array B**	**89.12**	**313**	P	**P**	**22 37 04.2**	**-1.5**
	0.3nm,0.6s,baz=57,slow=4.6,SNR=3.8						

*KRSC **02** 22:27:01.1±10.0, 49°64N×157°89E, h42km±10km, ML4.2*
*ISCJB **02** 22:27:04.3±0.8, 49°69N±0°05×157°75E±0°10, h51km, mb3.6/7, Error ellipse: s-maj=9.9km s-min=5.9km az=30.8*
*IDC **02** 22:27:09.4±5.7, 50°05N×157°25E, h52km±40km, mb3.4/7, mb1 3.5/8, mb1mx3.5/8, mbtmp3.6/8, ML2.4/1, MS2.8/3, Ms1 2.8/3, ms1mx2.5/35, Error ellipse: s-maj=65.5km s-min=24.0km az=149.0*
*MOS **02** 22:27:15.2±1.5, 51°09N×155°66E, h45km, mb3.8/1, Error ellipse: s-maj=23.1km s-min=7.2km az=64.3*
ISC 02 22:27:06.9±1.1, 49°75N±0°10×157°64E±0°07, h51km, n50, σ1§35/58, mb3.7/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.35**	**314**	*e*P	**Pn**	**22 27 27.8**	**-1.6**
SKR				*e*S	**Sn**	**22 27 46.0**	**-0.2**
SKR	**Severo-Kuril's**	**1.35**	**314**	*e*PN	**Pn**	**22 27 27.7**	**-1.6**
SKR				pmax	pmax		
	comp=Z,546nm,0.4s						
ALID	**Alaid**	**1.75**	**311**	*e*P	**Pn**	**22 27 33.6**	**-1.3**
ALID	**Alaid**	**1.75**	**311**	PN	**Pn**	**22 27 33.6**	**-1.3**
PAU	**Pauzhetka**	**1.80**	**343**	*e*P	**Pn**	**22 27 34.1**	**-1.4**
PAU				*e*S	**Sn**	**22 27 56.7**	**-0.4**
PAU	**Pauzhetka**	**1.80**	**343**	PN	**Pn**	**22 27 34.1**	**-1.4**
KDTR	**Khodutka, Kamc**	**2.08**	**8**	*e*P	**Pn**	**22 27 37.0**	**-2.3**
KDTR				*e*S	**Sn**	**22 28 03.3**	**-0.7**
KDTR	**Khodutka, Kamc**	**2.08**	**8**	PN	**Pn**	**22 27 37.0**	**-2.3**
KDTR				S	**Sn**	**22 28 03.3**	**-0.7**
RUS	**Russkaya**	**2.74**	**11**	*e*P	**Pn**	**22 27 45.8**	**-2.6**
RUS				*e*S	**Sn**	**22 28 20.0**	**-0.3**
RUS	**Russkaya**	**2.74**	**11**	PN	**Pn**	**22 27 45.8**	**-2.6**
RUS				S	**Sn**	**22 28 20.0**	**-0.3**
MTVR	**Mutnovka**	**2.76**	**7**	*e*P	**Pn**	**22 27 46.9**	**-1.9**
MTVR				*e*S	**Sn**	**22 28 22.4**	**+1.5**
MTVR	**Mutnovka**	**2.76**	**7**	PN	**Pn**	**22 27 46.9**	**-1.9**
KRMR	**Karymshinskiy**	**3.10**	**6**	*e*P	**Pn**	**22 27 53.1**	**-0.2**
KRMR				*e*S	**Sn**	**22 28 30.2**	**+1.2**
KRMR	**Karymshinskiy**	**3.10**	**6**	PN	**Pn**	**22 27 53.1**	**-0.2**
APC	**Apacha**	**3.19**	**355**	*e*P	**Pn**	**22 27 54.8**	**+0.2**
APC	**Apacha**	**3.19**	**355**	PN	**Pn**	**22 27 54.8**	**+0.2**
PET	**Petropavlovsk**	**3.34**	**11**	PN	**Pn**	**22 27 57.1**	**+0.5**
DALK	**Dalny**	**3.36**	**12**	*e*P	**Pn**	**22 27 57.8**	**+1.0**
DALK				*e*S	**Sn**	**22 28 38.0**	**+2.6**
DALK	**Dalny**	**3.36**	**12**	PN	**Pn**	**22 27 57.8**	**+1.0**
PETK	**Petropavlovsk-**	**3.36**	**1**	P	**Pn**	**22 27 55.6**	**-1.3**
	comp=Z,2.3nm,0.3s,baz=187,slow=16,SNR=29						
PETK				S	**Sn**	**22 28 38.2**	**+2.7**
	comp=Z,1.8nm,0.3s,baz=218,slow=18,SNR=3.3						
UGLR	**Uglovaya**	**3.54**	**12**	*e*P	**Pn**	**22 27 59.4**	**-0.1**
UGLR	**Uglovaya**	**3.54**	**12**	PN	**Pn**	**22 27 59.4**	**-0.1**
AVH	**Avacha**	**3.59**	**11**	*e*P	**Pn**	**22 27 59.5**	**-0.5**
AVH	**Avacha**	**3.59**	**11**	PN	**Pn**	**22 27 59.5**	**-0.5**
NLC	**Nalytchevo**	**3.59**	**17**	*e*S	**Sn**	**22 28 41.7**	**+0.7**
SMAR	**Somma**	**3.59**	**11**	*e*P	**Pn**	**22 28 00.4**	**+0.1**
SMAR	**Somma**	**3.59**	**11**	PN	**Pn**	**22 28 00.4**	**+0.1**
KOK	**Koryaka**	**3.60**	**10**	*e*P	**Pn**	**22 27 59.5**	**-0.8**
KOK	**Koryaka**	**3.60**	**10**	PN	**Pn**	**22 27 59.5**	**-0.8**
SDLR	**Sedlovina**	**3.62**	**12**	*e*P	**Pn**	**22 27 58.7**	**-1.8**
SDLR	**Sedlovina**	**3.62**	**12**	PN	**Pn**	**22 27 58.7**	**-1.8**
KRER	**Koryakskii**	**3.62**	**11**	*e*P	**Pn**	**22 28 00.0**	**-0.7**
KRER	**Koryakskii**	**3.62**	**11**	PN	**Pn**	**22 28 00.0**	**-0.7**
SPN	**Mys Shipunski**	**3.67**	**23**	*e*P	**Pn**	**22 27 59.9**	**-1.2**
SPN				*e*S	**Sn**	**22 28 41.9**	**-1.1**
SPN	**Mys Shipunski**	**3.67**	**23**	PN	**Pn**	**22 27 59.9**	**-1.2**
TUMD	**Tumrok D**	**5.71**	**16**	*e*P	**Pn**	**22 28 27.8**	**-1.4**
TUMR	**Tumrok**	**5.75**	**14**	PN	**Pn**	**22 28 27.8**	**-1.9**
KBTR	**Krutoberegovo**	**7.18**	**24**	*e*P	**Pn**	**22 28 47.3**	**-1.9**
KBTR	**Krutoberegovo**	**7.18**	**24**	PN	**Pn**	**22 28 47.3**	**-1.9**
MA2	**Magadan**	**10.61**	**341**	LR	LR	22 34 22.6	
	comp=Z,51nm,19.0s,baz=110,slow=42						
KLR	**Kul'dur**	**16.81**	**278**	LR	LR	22 37 57.2	
	comp=Z,37nm,18.7s,baz=46,slow=39						
USRK	**Ussuriysk Ar.**	**18.32**	**262**	LR	LR	22 38 28.3	
	comp=Z,31nm,18.7s,baz=15,slow=38						
KSRS	**Korea Array**	**24.61**	**251**	P	**P**	**22 32 23.5**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=42,slow=9.7,SNR=4.7						
SONM	**Songino Array**	**33.28**	**287**	P	**P**	**22 33 39.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=54,slow=7.3,SNR=3.2				

TIXI Tiksi 55.76 353 P P 22 37 02.1 -0.9
1.5nm,0.8s,baz=164,slow=7.0,SNR=5.1
ZALV Zalesovo Beam 59.99 323 P P 22 37 32.4 -0.5
0.5nm,0.5s,baz=116,slow=9.8,SNR=2.7
MKAR Makanchi Array 60.35 315 P P 22 37 35.1 -0.4
0.1nm,0.4s,baz=101,slow=7.8,SNR=3.1
NRIK Noril'sk 63.61 340 P P 22 37 57.2 +0.3
2.5nm,0.6s,baz=105,slow=7.5,SNR=5.6
ILAR Eielson Array 64.88 26 P P 22 38 04.7 -0.7
1.1nm,0.7s,baz=255,slow=5.7,SNR=9.6
INK Inuvik 70.69 23 P P 22 38 42.0 +0.3
1.6nm,0.8s,baz=246,slow=7.8,SNR=7.1
YKA Yellowknife Ar 79.17 28 P P 22 39 30.9 +0.1
0.7nm,0.8s,baz=288,slow=5.5,SNR=5.8
NVAR Mina Array Bea 83.56 52 P P 22 39 55.4 +0.6
0.8nm,0.8s,baz=258,slow=5.1,SNR=5.2

IDC 02 22:34:25.7±2.4, 7°.46S×130°.67E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.5/4, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=85.2km s-min=30.2km az=79.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.65**	**204**	Pn	Pn	22 37 13.4	0.0
	0.1nm,0.3s,baz=22,slow=11,SNR=4.6						
FITZ				Sn	Sn	22 39 13.5	-11
	0.2nm,0.3s,baz=75,slow=16,SNR=3.7						
WRA	**Warramunga Arr**	**12.91**	**164**	Pn	Pn	22 37 30.6	+0.1
	0.1nm,0.3s,baz=348,slow=13,SNR=2.9						
WRA				Sn	Sn	22 39 45.7	-9.4
	1.0nm,0.3s,baz=329,slow=24,SNR=4.8						
ASAR	**Alice Springs**	**16.41**	**169**	Pn	Pn	22 38 17.5	-0.1
	0.0nm,0.3s,baz=350,slow=9.7,SNR=3.0						
MKAR	**Makanchi Array**	**68.97**	**327**	P	P	22 45 32.9	0.0
	0.3nm,0.7s,baz=137,slow=6.1,SNR=3.6						

*IDC **02** 22:43:37.5±1.1, 28°.59N×52°.13E, h0km, mb3.7/15, mb1 3.8/19, mb1mx3.8/19, mbtmp3.7/19, ML3.6/4, MS3.0/3, Ms1 3.0/3, ms1mx2.6/37, Error ellipse: s-maj=23.8km s-min=14.9km az=167.0*
*ISCJB **02** 22:43:37.8±0.3, 28°.55N±0°.02×52°.13E±0°.04, h15km, mb3.7/15, Error ellipse: s-maj=5.0km s-min=2.6km az=148.9*
*THR **02** 22:43:38.5, 28°.44N×52°.18E, h29km, ML3.8*
*TEH **02** 22:43:38.7, 28°.61N×52°.15E, h19km, ML3.9*
*OMAN **02** 22:43:42.5±1.0, 28°.73N×52°.60E, h21km, ml4.0/5, Error ellipse: s-maj=52.9km s-min=6.5km az=57.0*
*DSN **02** 22:43:43.8±0.8, 28°.48N×52°.54E, h15km, ML3.7/8, Error ellipse: s-maj=19.1km s-min=6.7km az=36.0*
ISC 02 22:43:39.4±0.6, 28°.57N±0°.04×52°.17E±0°.05, h15km, n77, σ1§29/85, mb3.7/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.78**	**111**	*e*AML	AML	22 44 11.5	
	comp=N,3μm,0.4s						
GHIR				*e*Pg	**Pg**	**22 43 52.9**	**-1.7**
GHIR				*e*Sg	**Sg**	**22 44 03.0**	**-1.8**
GHIR				*e*AML	AML	22 44 11.5	
	comp=E,4μm,0.4s						
SHI	**Shiraz**	**1.11**	**16**	*e*Pg	**Pb**	**22 43 59.2**	**-1.2**
SHI				*e*Sg	**Sg**	**22 44 15.0**	**-0.4**
SHI				IAMB	IAmb	22 44 24.0	
	comp=Z,12μm,0.5s						
ISRV	**Sarvestan**	**1.16**	**46**	*e*Pg	**Pb**	**22 44 00.7**	**-0.6**
IKAZ	**Kazeroun**	**1.24**	**347**	*e*Pg	**Pn**	**22 44 01.8**	**-0.7**
IKAZ				IAMB	IAmb	22 44 25.9	
	comp=Z,35μm,0.4s						
JHRM	**Jahrom**	**1.24**	**93**	*e*Pg	**Pb**	**22 44 02.8**	**+0.2**
JHRM				IAMB	IAmb	22 44 25.2	
	comp=Z,0.0nm,0.4s						
IRAM	**Ramesheh**	**3.23**	**3**	*e*Pn	**Pn**	**22 44 30.0**	**+0.2**
IMEH	**Mehriz**	**3.52**	**36**	*e*Pn	**Pn**	**22 44 35.3**	**+1.5**
ISAD	**Sadrabad**	**3.58**	**21**	*e*Pn	**Pn**	**22 44 36.1**	**+1.4**
ZNGN	**Zangian**	**3.71**	**343**	*e*Pn	**Pn**	**22 44 36.3**	**-0.2**
GENO	**Geno**	**3.73**	**107**	*e*Pn	**Pn**	**22 44 37.7**	**+1.1**
IGAR	**Gharneh**	**3.82**	**358**	*e*Pn	**Pn**	**22 44 38.9**	**+1.0**
JHBN	**Jahan bin**	**3.87**	**341**	*e*Pn	**Pn**	**22 44 38.7**	**0.0**
ROKH	**ROKH**	**3.89**	**346**	*e*Pn	**Pn**	**22 44 38.5**	**-0.3**
NGRK	**Negar Kerman**	**4.13**	**74**	*e*Pn	**Pn**	**22 44 43.2**	**+0.9**
ICHK	**Chekchek**	**4.14**	**27**	*e*Pn	**Pn**	**22 44 44.2**	**+1.9**
KHGB	**Koh Gabri**	**4.17**	**63**	*e*Pn	**Pn**	**22 44 43.5**	**+0.9**
IPIR	**Pirpir**	**4.25**	**345**	*e*Pn	**Pn**	**22 44 43.7**	**-0.1**
TVBK	**TV Kerman**	**4.25**	**70**	*e*Pn	**Pn**	**22 44 46.1**	**+2.1**
IZEF	**Zefreh**	**4.31**	**2**	*e*Pn	**Pn**	**22 44 45.7**	**+1.0**
SHME	**Shamm**	**4.34**	**124**	P	**Pn**	**22 44 45.0**	**+0.1**
SHME	**Shamm**	**4.34**	**124**	*e*Pn	**Pn**	**22 44 45.8**	**+1.0**
YZKH	**Yazd**	**4.34**	**28**	*e*Pn	**Pn**	**22 44 46.6**	**+1.6**
YZKH	**Yazd**	**4.34**	**28**	*e*Pn	**Pn**	**22 44 46.6**	**+1.6**
YZKH				*e*Sn	**Sn**	**22 45 36.3**	**+0.9**
AJN	**Ajban**	**4.72**	**147**	*e*Pn	**Pn**	**22 44 52.2**	**+2.1**
NAZ	**Nazwa, Dubai**	**4.74**	**138**	*i* P	**Pn**	**22 44 51.6**	**+1.3**
	SNR=12						
NAZ	**Nazwa, Dubai**	**4.74**	**138**	P	**Pn**	**22 44 51.9**	**+1.6**
	SNR=10						
NAZ				S	**Sn**	**22 45 46.0**	**+0.9**
NAZ	**Nazwa, Dubai**	**4.74**	**138**	*e*Pn	**Pn**	**22 44 52.0**	**+1.6**
IKLH	**Kolahrood**	**4.76**	**354**	*e*Pn	**Pn**	**22 44 51.0**	**+0.2**
MSFE	**Esma-Masafi**	**4.79**	**131**	*i* P	**Pn**	**22 44 51.4**	**+0.4**
	SNR=8.8						
MSFE				S	**Sn**	**22 45 44.3**	**-1.9**
MSFE	**Esma-Masafi**	**4.79**	**131**	*e*Pn	**Pn**	**22 44 52.0**	**+1.0**
ASUD	**Al Ashush, Dub**	**4.84**	**143**	*i* P	**Pn**	**22 44 52.9**	**+1.2**
	SNR=24						
ASUD	**Al Ashush, Dub**	**4.84**	**143**	P	**Pn**	**22 44 53.5**	**+1.8**
	SNR=23						
ASUD				S	**Sn**	**22 45 49.7**	**+2.2**
ASUD	**Al Ashush, Dub**	**4.84**	**143**	*e*Pn	**Pn**	**22 44 53.2**	**+1.5**
CHMN	**Cheshme madani**	**4.87**	**73**	*e*Pn	**Pn**	**22 44 54.7**	**+2.3**
FAQ	**Al Faqa, Dubai**	**4.89**	**140**	*i* P	**Pn**	**22 44 53.4**	**+1.0**
	SNR=7.9						
FAQ	**Al Faqa, Dubai**	**4.89**	**140**	P	**Pn**	**22 44 53.6**	**+1.2**
	SNR=7.9						
FAQ				S	**Sn**	**22 45 49.2**	**+0.5**
FAQ	**Al Faqa, Dubai**	**4.89**	**140**	*e*Pn	**Pn**	**22 44 53.7**	**+1.3**
HATD	**Hatta, Dubai**	**5.15**	**136**	P	**Pn**	**22 44 56.5**	**+0.6**
HATD	**Hatta, Dubai**	**5.15**	**136**	*e*Pn	**Pn**	**22 44 57.5**	**+1.6**
ASHO	**Ashiyiah**	**5.21**	**137**	*i* P	**Pn**	**22 44 56.7**	**-0.1**
	SNR=34						
ASHO	**Ashiyiah**	**5.21**	**137**	P	**Pn**	**22 44 57.5**	**+0.7**
	SNR=31						
ASHO				S	**Sn**	**22 45 55.9**	**-0.7**
ASHO	**Ashiyiah**	**5.21**	**137**	*e*Pn	**Pn**	**22 44 57.9**	**+1.1**
KRSH	**Karshahi**	**5.38**	**360**	*e*Pn	**Pn**	**22 44 59.3**	**0.0**
ALNE	**Al Ain**	**5.53**	**144**	*i* P	**Pn**	**22 45 01.9**	**+0.8**
	SNR=17						
ALNE	**Al Ain**	**5.53**	**144**	*e*Pn	**Pn**	**22 45 02.6**	**+1.4**
ISFB	**Sefidab**	**5.76**	**1**	*e*Pn	**Pn**	**22 45 04.2**	**-0.3**
SOHO	**SOHO**	**5.90**	**137**	P	**Pn**	**22 45 06.5**	**+0.2**
	SNR=22						
SOHO				S	**Sn**	**22 46 14.4**	**+0.7**
IKMR	**Kamar-syah**	**5.91**	**328**	*e*Pn	**Pn**	**22 45 06.3**	**0.0**
TKDS	**Koohdasht(Taba**	**6.58**	**39**	*e*Pn	**Pn**	**22 45 16.7**	**+1.0**
TNSJ	**Nastanj**	**6.58**	**34**	*e*Pn	**Pn**	**22 45 16.7**	**+1.0**
HAGD	**Aghdareh**	**6.75**	**338**	*e*Pn	**Pn**	**22 45 18.9**	**+0.8**
IKOM	**Komasi**	**6.86**	**326**	*e*Pn	**Pn**	**22 45 19.6**	**0.0**
IKOO	**Kooshah**	**7.04**	**55**	*e*Pn	**Pn**	**22 45 22.8**	**+0.7**
BIDO	**Bidbid**	**7.35**	**132**	*e*Pn	**Pn**	**22 45 25.5**	**-0.7**
IVIS	**Veis**	**7.47**	**324**	*e*Pn	**Pn**	**22 45 28.5**	**+0.6**
IDHR	**Dehrash**	**7.85**	**323**	*e*Pn	**Pn**	**22 45 32.4**	**-0.8**
WSAR	**Wadi Sarin**	**7.88**	**131**	Pn	**Pn**	**22 45 33.0**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=315,slow=12,SNR=16						
WSAR				Sn	**Sn**	**22 46 57.3**	**-5.1**
	comp=Z,0.8nm,0.3s,baz=330,slow=20,SNR=3.2						
GEYT	**Alibeck**	**10.58**	**27**	Pn	**Pn**	**22 46 11.4**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=213,slow=12,SNR=4.2						
GEYT				LR	LR	22 50 04.6	
	comp=Z,25nm,19.5s,baz=350,slow=37						
MMAI	**Mount Meron Ar**	**15.07**	**291**	Pn	**Pn**	**22 47 09.7**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=107,slow=17,SNR=5.2						
BRTR	**Keskin Array B**	**18.91**	**311**	P	**Pn**	**22 48 00.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=133,slow=13,SNR=7.0						
AKTO	**Aktyubinsk**	**22.28**	**10**	P	**P**	**22 48 38.0**	**+2.1**
	comp=Z,0.6nm,0.4s,baz=190,slow=17,SNR=2.8						
AAK	**Ala-Archa**	**22.86**	**46**	P	**P**	**22 48 44.1**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=212,slow=15,SNR=1.6						
IDI	**Anoyia**	**24.05**	**293**	P	**P**	**22 48 55.8**	**+1.7**
	comp=Z,4.2nm,0.7s,baz=151,slow=19,SNR=4.6						
MLR	**Muntele Rosu**	**26.72**	**316**	P	**P**	**22 49 19.9**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=221,slow=19,SNR=3.4						
KURBB	**Kurchatov Arra**	**29.69**	**35**	P	**P**	**22 49 45.2**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=234,slow=9.3,SNR=9.7						
MKAR	**Makanchi Array**	**29.73**	**44**	P	**P**	**22 49 45.6**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=236,slow=9.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**34.77**	**34**	P	**P**	**22 50 28.9**	**0.0**
	comp=Z,1.2nm,0.5s,baz=250,slow=9.8,SNR=6.9						
GERES	**GERESS Array B**	**35.70**	**315**	P	**P**	**22 50 36.5**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=96,slow=10,SNR=2.6						
GERES				LR	LR	23 09 51.3	
	comp=Z,24nm,19.9s,baz=50,slow=44						
FINES	**FINESS Array B**	**37.17**	**340**	P	**P**	**22 50 48.7**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=144,slow=12,SNR=9.3						
NOA	**NORSAR Array B**	**42.36**	**332**	P	**P**	**22 51 31.2**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=125,slow=8.6,SNR=2.6						
ARCES	**ARCESS Array B**	**43.80**	**347**	P	**P**	**22 51 42.5**	**-1.6**
	comp=Z,1.0nm,0.9s,baz=139,slow=7.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**49.24**	**263**	P	**P**	**22 52 27.7**	**0.0**
	comp=Z,0.7nm,0.6s,baz=60,slow=8.2,SNR=10						
BORG	**Borgarnes**	**57.52**	**331**	LR	LR	23 21 06.1	
	comp=Z,51nm,18.0s,baz=126,slow=39						
DBIC	**Dimbokro**	**57.96**	**259**	P	**P**	**22 53 32.4**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=45,slow=2.9,SNR=3.7						
KSRS	**Korea Array**	**62.59**	**60**	P	**P**	**22 54 03.4**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=283,slow=6.1,SNR=2.9						
JNU	**Nakatsue**	**66.22**	**64**	LR	LR	23 25 57.3	
	comp=Z,51nm,20.0s,baz=146,slow=38						
YKA	**Yellowknife Ar**	**88.64**	**354**	P	**P**	**22 56 32.4**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=13,slow=5.0,SNR=3.4						

*BJI **02** 22:52:11.1±0.0, 12°.96N×144°.67E, h110km, mb4.6/23, mB5.0/10*
*ISCJB **02** 22:52:15.7±0.8, 13°.34N±0°.04×144°.40E±0°.07, h127km±7km, mb4.5/47, Error ellipse: s-maj=10.8km s-min=6.6km az=170.5*
*IDC **02** 22:52:15.6±0.8, 13°.45N×144°.42E, h117km±6km, mb3.9/21, mb1 4.1/22, mb1mx4.1/22, mbtmp4.3/22, MS3.0/8, Ms1 3.1/8, ms1mx2.8/35, Error ellipse: s-maj=18.2km s-min=10.5km az=94.0*
*NEIC **02** 22:52:16.6±0.7, 13°.38N×144°.37E, h122km±6km, mb4.8/21, Error ellipse: s-maj=11.1km s-min=6.3km az=92.0*
NEIC Felt [III] at Santa Rita. Also felt at Andersen AFB, Chalan Pago, Hagnatna, Merizo, Tamuning and Yigo.
ISC 02 22:52:15.9±0.6, 13°.34N±0°.06×144°.51E±0°.08, h117km±5km, h117km: pP-P, n82, σ1§53/90, mb4.6/48, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.43**	**54**	*e*Pn	**Pn**	**22 52 32.4**	**-0.7**
ANA2	**Anatahan**	**3.21**	**21**	*e*Pn	**Pn**	**22 53 07.3**	**+2.5**
SARN	**Sarigan**	**3.56**	**20**	*e*Pn	**Pn**	**22 53 13.0**	**+3.4**
PATS	**Pohnpei**	**15.04**	**114**	*e*Pn	**Pn**	**22 55 43.8**	**+1.3**
	438nm,1.9s						
JAY	**Jayapura**	**16.19**	**194**	P	**P**	**22 55 58.6**	**+0.8**
	0.3nm,0.3s,baz=302,slow=2.7,SNR=3.9						
DAV	**Davao City (W)**	**19.63**	**253**	LR	LR	23 03 52.2	
	comp=Z,20nm,21.6s,baz=179,slow=36						
H11S3	**WAKE ISLAND Hy**	**21.93**	**74**	T	T	23 19 50.0	
	baz=259,slow=75,SNR=63						
H11S1	**WAKE ISLAND Hy**	**21.95**	**74**	T	T	23 19 51.7	
	baz=259,slow=75,SNR=32						
H11S2	**WAKE ISLAND Hy**	**21.95**	**74**	T	T	23 19 51.2	
	baz=259,slow=75,SNR=9.1						
H11N1	**WAKE ISLAND Hy**	**22.36**	**71**	T	T	23 20 09.6	
	baz=257,slow=76						
H11N2	**WAKE ISLAND Hy**	**22.37**	**71**	T	T	23 20 08.5	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**22.38**	**71**	T	T	23 20 08.5	
	baz=257,slow=76						
MJAR	**Matsushiro Arr**	**23.79**	**347**	*e*P	**P**	**22 57 17.8**	**-0.1**
	2.4nm,0.8s						
MJAR				pP	**pP**	**22 57 40.0**	**-0.8**
MJAR	**Matsushiro Arr**	**23.79**	**347**	P	**P**	**22 57 16.0**	**-1.9**
	5.9nm,0.8s,baz=168,slow=9.6,SNR=12						
MJAR				pP	**pP**	**22 57 40.0**	**-0.8**
	1.4nm,0.7s,baz=279,slow=23,SNR=2.0						
MJAR				LR	LR	23 05 21.6	
	comp=Z,56nm,19.2s,baz=140,slow=33						
MAJO	**Matsushiro**	**23.79**	**347**	*e*P	**P**	**22 57 18.5**	**+0.6**
	48nm,1.6s						
MJB9	**Matsu-Tunnel**	**23.79**	**347**	*e*P	**P**	**22 57 18.6**	**+0.6**
	49nm,1.6s						
HNR	**Honiara**	**27.32**	**145**	LR	LR	23 07 03.4	
	comp=Z,31nm,21.5s,baz=58,slow=32						
KSRS	**Korea Array**	**28.21**	**331**	P	**P**	**22 57 56.6**	**-1.0**
	1.1nm,0.5s,baz=139,slow=10.0,SNR=5.3						
KSRS				pP	**pP**	**22 58 21.6**	**-0.4**
	2.0nm,0.8s,baz=142,slow=10,SNR=3.6						
KSRS				LR	LR	23 07 41.7	
	comp=Z,22nm,20.5s,baz=140,slow=33						
KSAR	**Wonju Array Be**	**28.22**	**331**	P	**P**	**22 57 56.6**	**-1.1**
KSAR				pP	**pP**	**22 58 21.6**	**-0.5**
NJ2	**Nanjing**	**29.99**	**313**	*e*P	**P**	**22 58 13.8**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
WHN	**Wuhan**	**32.65**	**307**	P	**P**	**22 58 36.9**	**0.0**
MDJ	**Mudanjiang**	**33.68**	**341**	P	**P**	**22 58 46.4**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,120nm,4.9s						
WRAB	**Tennant Creek**	**34.54**	**197**	*e*P	**P**	**22 58 53.4**	**+0.1**
	20nm,0.8s						
WB2	**Warramunga Arr**	**34.55**	**197**	*e*P	**P**	**22 58 53.3**	**-0.1**
	21nm,0.9s						
WRA	**Warramunga Arr**	**34.55**	**197**	*e*P	**P**	**22 58 53.5**	**+0.1**
	10.0nm,1.2s						
WRA				PcP	**PcP**	**23 01 26.3**	**+0.5**
WRA				ScP	**ScP**	**23 04 58.9**	**-1.5**
WRA	**Warramunga Arr**	**34.55**	**197**	P	**P**	**22 58 53.4**	**-0.1**
	16nm,0.8s,baz=19,slow=9.3,SNR=7.3						
WRA				PcP	**PcP**	**23 01 26.3**	**+0.5**
	1.2nm,0.3s,baz=15,slow=3.5,SNR=3.1						
WRA				ScP	**ScP**	**23 04 58.9**	**-1.5**
	1.1nm,0.3s,baz=10.0,slow=3.7,SNR=2.5						
FITZ	**Fitzroy Crossi**	**36.36**	**211**	*e*P	**P**	**22 59 09.3**	**+0.3**
	11nm,1.0s						
KLR	**Kul'dur**	**37.31**	**346**	P	**P**	**22 59 15.9**	**-0.7**
	2.2nm,0.7s,baz=144,slow=8.6,SNR=7.5						
GYA	**Guiyang**	**37.75**	**296**	*e*P	**P**	**22 59 21.5**	**+0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ASAR	**Alice Springs**	**38.21**	**196**	P	**P**	**22 59 24.2**	**-0.3**
	3.4nm,0.5s,baz=21,slow=13,SNR=39						
ASAR				PcP	**PcP**	**23 01 37.4**	**+0.6**
	0.5nm,0.6s,baz=14,slow=3.0,SNR=5.0						
EIDS	**Eidsvold**	**39.00**	**171**	*e*P	**P**	**22 59 31.1**	**0.0**
	12nm,0.8s						
HHC	**Hu-ho-hao-te**	**39.73**	**320**	*e*P	**P**	**22 59 38.3**	**+1.1**
HHC				pmax	pmax		
	comp=Z,78nm,0.9s						
HHC				pmax	pmax		
	comp=Z,350nm,5.3s						
KMI	**Kunming**	**40.98**	**293**	P	**P**	**22 59 45.5**	**-2.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
DZM	**Mont Dzumac**	**41.24**	**148**	*e*P	**P**	**22 59 51.1**	**+1.4**
	39nm,0.7s						
CD2	**Chengdu**	**41.33**	**302**	*e*P	**P**	**22 59 49.9**	**-0.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
OUENC	**Ouen Island, N**	**41.74**	**148**	*e*P	**P**	**22 59 55.5**	**+1.9**
	16nm,0.9s						
PINNC	**Pines Island,**	**42.21**	**148**	*e*P	**P**	**22 59 59.2**	**+1.7**
	31nm,0.8s						
PSA00	**Pilbara Seismi**	**42.30**	**215**	*e*P	**P**	**22 59 58.6**	**+0.3**
	19nm,0.9s						
LZH	**Lanzhou**	**42.91**	**309**	*e*P	**P**	**23 00 03.1**	**-0.2**
LZH				pP	pP	23 00 29.7	+0.8
LZH				sP	sP	23 00 43.2	+1.5
LZH				pmax	pmax		
	comp=Z,12nm,1.4s						
LZH				pmax	pmax		
	comp=Z,110nm,4.3s						
LZH				LR	LR		
	comp=N,490nm,15.7s						
LZH				LR	LR		
	comp=E,440nm,16.2s						
LZH				LR	LR		
	comp=Z,560nm,17.3s						
CMAR	**Chiang Mai Arr**	**44.03**	**283**	P	**P**	**23 00 11.9**	**-0.5**
	1.4nm,0.4s,baz=87,slow=7.0,SNR=3.6						
CMAR				LR	LR	23 15 54.1	
	comp=Z,8.8nm,21.6s,baz=175,slow=32						
STKA	**Stephens Creek**	**45.04**	**184**	*e*P	**P**	**23 00 19.8**	**-0.3**
	3.3nm,0.6s						
STKA	**Stephens Creek**	**45.04**	**184**	P	**P**	**23 00 19.7**	**-0.3**
	16nm,0.5s,baz=1.7,slow=8.0,SNR=58						
BBOO	**Buckleboo**	**46.59**	**190**	*e*P	**P**	**23 00 31.9**	**-0.3**
	35nm,1.3s						
FORT	**Forrest**	**46.63**	**200**	*e*P	**P**	**23 00 32.1**	**-0.4**
	38nm,1.1s						
SONM	**Songino Array**	**46.74**	**325**	P	**P**	**23 00 30.0**	**-3.4**
	0.7nm,0.6s,baz=160,slow=4.6,SNR=3.0						
SONM				pP	**pP**	**23 00 59.2**	**-0.1**
	1.8nm,0.8s,baz=152,slow=8.8,SNR=5.5						
SONM				ScP	**ScP**	**23 05 44.9**	**-3.1**
	1.4nm,0.7s,baz=148,slow=3.4,SNR=7.0						
SONM				LR	LR	23 20 11.0	
	comp=Z,40nm,20.4s,baz=77,slow=36						
GSI	**Gunungsitoli**	**47.95**	**260**	*e*P	**P**	**23 00 43.7**	**+0.5**
	30nm,1.4s						
SEY	**Seymchan**	**49.84**	**5**	P	**P**	**23 00 56.0**	**-0.8**
	1.6nm,0.3s,baz=180,slow=20,SNR=9.3						
MORW	**Morawa**	**50.33**	**213**	*e*P	**P**	**23 01 00.9**	**-0.1**
	78nm,1.8s						
TOO	**Toolangi**	**50.64**	**179**	*e*P	**P**	**23 01 04.8**	**+1.6**
	13nm,0.8s						
WMQ	**Urumqi**	**57.06**	**314**	*e*P	**P**	**23 01 52.0**	**+2.0**
WMQ				LR	LR		
	comp=N,96nm,37.1s						
WMQ				LR	LR		
	comp=E,760nm,35.1s						
WMQ				LR	LR		
	comp=Z,240nm,30.1s						
URZ	**Urewera**	**59.72**	**151**	*e*P	**P**	**23 02 09.0**	**+0.7**
	76nm,2.0s						
BKZ	**Black Stump Fm**	**60.16**	**152**	*e*P	**P**	**23 02 12.2**	**+0.8**
	78nm,1.7s						
MKAR	**Makanchi Array**	**61.43**	**316**	P	**P**	**23 02 19.6**	**-0.3**
	0.6nm,0.5s,baz=87,slow=9.0,SNR=9.4						
MKAR				pP	**pP**	**23 02 46.5**	**-0.8**
	1.5nm,0.6s,baz=88,slow=10.0,SNR=7.0						
MKAR				ScP	**ScP**	**23 06 48.8**	**-3.2**
	0.4nm,0.9s,baz=114,slow=5.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**61.62**	**325**	pP	**pP**	**23 02 46.6**	**-1.7**
	1.5nm,0.6s,baz=93,slow=6.4,SNR=4.0						
ZALV				LR	LR	23 30 14.5	
	comp=Z,20nm,18.6s,baz=68,slow=37						
KSH	**Kashi**	**65.11**	**307**	P	**P**	**23 02 48.9**	**+4.3**
KSH				sP	sP	23 03 30.0	+5.5
KSH				PP	**PP**	**23 05 15.0**	**+5.9**
KSH				S	**S**	**23 11 21.4**	**+3.1**
KSH				ScS	**ScS**	**23 12 30.5**	**+1.5**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KSH				pmax	pmax		
	comp=Z,120nm,2.9s						
KSH				LR	LR		
	comp=N,210nm,5.4s						
KSH				LR	LR		
	comp=E,240nm,7.0s						
KSH				LR	LR		
	comp=Z,330nm,5.7s						
ILAR	**Eielson Array**	**68.95**	**25**	*e*P	**P**	**23 03 07.6**	**-0.5**
ILAR	**Eielson Array**	**68.95**	**25**	P	**P**	**23 03 06.0**	**-2.1**
	0.6nm,0.4s,baz=251,slow=5.7,SNR=14						
INK	**Inuvik**	**74.73**	**22**	P	**P**	**23 03 40.2**	**-2.4**
	1.8nm,1.0s,baz=268,slow=3.5,SNR=5.9						
YKA	**Yellowknife Ar**	**83.25**	**27**	P	**P**	**23 04 28.2**	**-0.9**
	1.2nm,0.7s,baz=288,slow=5.3,SNR=19						
YBH	**Yreka Blue Hor**	**83.30**	**49**	P	**P**	**23 04 30.3**	**+0.2**
	1.3nm,0.7s,baz=153,slow=2.3,SNR=3.7						
PINE	**Pine Mountain**	**84.14**	**47**	*e*P	**P**	**23 04 35.5**	**+1.1**
	5.7nm,0.7s						
NEW	**Newport**	**85.65**	**42**	*e*P	**P**	**23 04 42.1**	**+0.5**
	4.6nm,0.8s						
NEW	**Newport**	**85.65**	**42**	P	**P**	**23 04 41.7**	**0.0**
	3.0nm,0.7s,baz=295,slow=3.5,SNR=6.0						
ARCES	**ARCESS Array B**	**87.22**	**342**	P	**P**	**23 04 49.2**	**+0.3**
	0.8nm,0.7s,baz=60,slow=7.3,SNR=5.2						
NVAR	**Mina Array Bea**	**87.35**	**51**	*e*P	**P**	**23 04 51.0**	**+0.5**
NVAR	**Mina Array Bea**	**87.35**	**51**	P	**P**	**23 04 50.8**	**+0.4**
	1.2nm,0.6s,baz=263,slow=6.2,SNR=5.3						
ELK	**Elko**	**89.01**	**48**	*e*P	**P**	**23 04 59.2**	**+1.0**
	2.2nm,0.7s						
ELK	**Elko**	**89.01**	**48**	P	**P**	**23 04 58.6**	**+0.4**
	2.0nm,0.6s,baz=290,slow=8.2,SNR=7.2						
**VND

H11S1	**WAKE ISLAND Hy**	**38.69**	**218**	T		T		23 41 57.0	
	baz=23,slow=76,SNR=104								
H11S2	**WAKE ISLAND Hy**	**38.70**	**218**	T		T		23 41 57.5	
	baz=23,slow=76,SNR=109								
H11S3	**WAKE ISLAND Hy**	**38.71**	**218**	T		T		23 41 58.2	
	baz=23,slow=76,SNR=76								
TXAR	**Lajitas Array**	**52.59**	**89**	P		**P**		**23 02 27.4**	**-0.1**
	0.3nm,0.3s,baz=281,slow=5.4,SNR=3.5								

IDC 02 22:53:52.1±6.4,**32°.56N**×**137°.91E**,**h559**km±21km,**mb3.0**/3, **mb1 2.8**/6,**mb1mx2.8**/6,**mbtmp3.6**/6,**Error ellipse: s-maj=114.6km s-min=46.4km az=159.0,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.98**	**3**	P		P	22 55 14.2	-0.1
	0.1nm,0.3s,baz=201,slow=4.4,SNR=6.1						
KSRS	**Korea Array**	**9.53**	**304**	P		P	22 56 05.6	+0.3
	0.4nm,0.3s,baz=124,slow=11,SNR=5.8						
KLR	**Kul'dur**	**17.28**	**346**	P		P	22 57 22.6	-0.1
	0.1nm,0.3s,baz=219,slow=4.4,SNR=3.6						
MKAR	**Makanchi Array**	**44.21**	**306**	P		P	23 01 11.9	0.0
	0.6nm,0.6s,baz=90,slow=8.9,SNR=7.8						
ARCES	**ARCESS Array B**	**67.16**	**339**	P		P	23 03 51.0	+0.7
	1.8nm,0.9s,baz=66,slow=4.4,SNR=12.0						
FINES	**FINESS Array B**	**71.41**	**332**	P		P	23 04 14.8	-1.0
	1.5nm,0.9s,baz=72,slow=4.5,SNR=4.3						

ISCJB ***02*** *23:30:06.6*±*0.4,27°.39N*±*0°.07*×*126°.35E*±*0°.07, h227km*±*6km,mb3.1/5,Error ellipse: s-maj=14.0km s-min=6.6km az=143.0*
IDC ***02*** *23:30:07.2*±*2.0,27°.36N*×*126°.25E,h229km*±*13km,mb3.1/5, mb1 3.3/9,mb1mx3.3/9,mbtmp3.6/9,Error ellipse: s-maj=33.5km s-min=27.4km az=65.0*
JMA ***02*** *23:30:07.7*±*0.3,27°.53N*×*126°.20E,h208km,M3.9*
ISC 02 23:30:06.7±0.8,**27°.43N**±**0°.09**×**126°.24E**±**0°.08**,**h221**km±8km, **n31**,σ1$**30**/**42**,**mb3.2**/5,**Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.20**	**156**	P		**Pn**	**23 30 40.9**	**+0.9**
JAGN	**Aguni-jima**	**1.22**	**133**	P		**Pn**	**23 30 41.2**	**+1.1**
JAGN				S		**S**	**23 31 05.7**	**-0.4**
JIH	**Iheya**	**1.58**	**104**	P		**Pn**	**23 30 43.9**	**+0.9**
JIH				S		**S**	**23 31 09.7**	**-1.3**
JNTH	**Nagotoyohara**	**1.83**	**119**	P		**Pn**	**23 30 46.4**	**+1.2**
JNTH				S		**S**	**23 31 13.8**	**-1.2**
JJT3	**Tamagusuku3**	**1.88**	**133**	P		**Pn**	**23 30 47.6**	**+1.9**
JJT3				S		**S**	**23 31 16.3**	**+0.4**
JOW	**Kunigami**	**1.91**	**108**	P		**Pn**	**23 30 46.7**	**+0.8**
JOW				S		**S**	**23 31 14.9**	**-1.4**
JOW	**Kunigami**	**1.91**	**108**	P		**Pn**	**23 30 46.8**	**+0.8**
	2.4nm,0.3s,baz=111,slow=15,SNR=95						
JOW				S		**S**	**23 31 13.9**	**-2.3**
	15nm,0.3s,baz=172,slow=13,SNR=24						
JYRO	**Yoronjima**	**2.01**	**101**	P		**Pn**	**23 30 47.5**	**+0.7**
JYRO				S		**S**	**23 31 15.6**	**-2.3**
JOKE	**Okinoerabujima**	**2.07**	**91**	P		**Pn**	**23 30 47.9**	**+0.4**
JOKE				S		**S**	**23 31 17.1**	**-2.0**
JTK	**Tokunoshima**	**2.43**	**81**	P		**Pn**	**23 30 51.2**	**+0.1**
JIKM	**Ikemajima**	**2.65**	**200**	P		**Pn**	**23 30 54.5**	**+0.9**
JAMN	**Amaminishikomi**	**2.72**	**72**	P		**Pn**	**23 30 54.3**	**0.0**
JIRB	**Irabujima**	**2.76**	**201**	P		**Pn**	**23 30 55.4**	**+0.6**
JOGS	**Gusukube**	**2.76**	**196**	P		**Pn**	**23 30 55.6**	**+0.8**
JMJ2	**Miyako jima3**	**2.80**	**197**	P		**Pn**	**23 30 56.4**	**+1.1**
JTJ	**Tarama**	**3.10**	**207**	P		**Pn**	**23 30 59.2**	**+0.5**
JTAJ	**Takarajima**	**3.12**	**56**	P		**Pn**	**23 30 59.3**	**+0.5**
JISG	**Ishigakijimahi**	**3.32**	**212**	P		**Pn**	**23 31 01.2**	**0.0**
JIJ	**Ishigaki jima**	**3.59**	**212**	P		**Pn**	**23 31 03.9**	**-0.5**
JIJ				S		**S**	**23 31 46.1**	**-3.5**
YOJ	**Yonaguni jima**	**4.15**	**225**	P		**Pn**	**23 31 12.6**	**+1.5**
JMZ	**Minamidaito 2**	**4.73**	**109**	P		**Pn**	**23 31 19.9**	**+1.6**
JMZ				eS		**S**	**23 32 12.5**	**-2.2**
JTN	**Tanegashima 3**	**5.25**	**51**	P		**Pn**	**23 31 24.8**	**+0.1**
JNU	**Nakatsue**	**6.95**	**34**	P		**Pn**	**23 31 48.4**	**+2.0**
	0.4nm,0.3s,baz=222,slow=12,SNR=3.3						
KSRS	**Korea Array**	**10.10**	**8**	P		**Pn**	**23 32 28.1**	**+1.3**
	0.2nm,0.3s,baz=185,slow=12,SNR=15						
MJAR	**Matsushiro Arr**	**13.62**	**45**	P		**Pn**	**23 33 12.5**	**+1.4**
	0.0nm,0.3s,baz=224,slow=10,SNR=5.8						
USRK	**Ussuriysk Ar.**	**17.36**	**14**	P		**P**	**23 33 54.0**	**-0.1**
	0.1nm,0.3s,baz=190,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**39.41**	**311**	P		**P**	**23 37 15.2**	**0.0**
	0.2nm,0.6s,baz=81,slow=8.9,SNR=3.6						
MKAR				ScP		**ScP**	**23 42 45.4**	**-0.8**
	0.4nm,0.6s,baz=90,slow=5.6,SNR=4.6						
ILAR	**Eielson Array**	**64.23**	**28**	P		**P**	**23 40 17.9**	**+0.1**
	0.1nm,0.4s,baz=283,slow=8.0,SNR=3.1						
YKA	**Yellowknife Ar**	**78.18**	**24**	P		**P**	**23 41 40.9**	**-0.4**
	0.5nm,0.5s,baz=299,slow=5.2,SNR=12						
NVAR	**Mina Array Bea**	**90.94**	**45**	P		**P**	**23 42 45.8**	**-0.3**
	0.1nm,0.3s,baz=268,slow=2.4,SNR=2.9						
PDAR	**Pinedale Array**	**93.32**	**38**	P		**P**	**23 42 56.8**	**-0.1**
	0.2nm,0.5s,baz=322,slow=2.8,SNR=3.5						

KRSC 02 23:46:01.7±10.0,**49°.89N**×**157°.76E**,**h60**km±10km,**ML3.5, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.32**	**308**	eP		Pn	23 46 24.9	+1.0
SKR				eS		Sn	23 46 41.5	+1.0
PAU	**Pauzhetka**	**1.69**	**339**	eP		Pn	23 46 31.6	+2.7
PAU				eS		Sn	23 46 53.4	+3.9
ALID	**Alaid**	**1.72**	**306**	eP		Pn	23 46 30.8	+1.3
KDTR	**Khodutka, Kamc**	**1.93**	**6**	eP		Pn	23 46 33.5	+1.4
KDTR				eS		Sn	23 46 56.2	+0.9
RUS	**Russkaya**	**2.59**	**10**	eP		Pn	23 46 44.0	+2.9
RUS				eS		Sn	23 47 14.8	+3.4
MTVR	**Mutnovka**	**2.61**	**6**	eP		Pn	23 46 45.1	+3.6
MTVR				eS		Sn	23 47 16.3	+4.2
KRMR	**Karymshinskiy**	**2.95**	**4**	eP		Pn	23 46 48.2	+2.1
KRMR				eS		Sn	23 47 22.8	+2.5
DALK	**Dalny**	**3.21**	**11**	eP		Pn	23 46 52.2	+2.7
DALK				eS		Sn	23 47 28.5	+2.1
UGLR	**Uglovaya**	**3.39**	**11**	eP		Pn	23 46 56.1	+4.0
AVH	**Avacha**	**3.43**	**10**	P		Pn	23 46 56.9	+4.2
SMAR	**Somma**	**3.44**	**10**	eP		Pn	23 46 57.0	+4.1
SDLR	**Sedlovina**	**3.46**	**11**	eP		Pn	23 46 55.4	+2.2
KRER	**Koryakskii**	**3.47**	**10**	eP		Pn	23 46 58.2	+4.8
KBTR	**Krutoberegovo**	**7.02**	**24**	eP		Pn	23 47 43.9	+2.2

ISCJB ***03*** *00:36:13.0*±*0.5,37°.26N*±*0°.03*×*37°.08E*±*0°.03,h7km*±*4km, Error ellipse: s-maj=5.6km s-min=4.0km az=12.5*
DDA ***03*** *00:36:12.1,37°.30N*×*37°.08E,h8km*±*2km,ML2.8*
ISK ***03*** *00:36:12.6,37°.25N*×*37°.10E,h9km,ML1.9/7*
ISC 03 00:36:12.7±0.9,**37°.27N**±**0°.03**×**37°.08E**±**0°.02**,**h9**km±7km, **n19**,σ0$**50**/**29**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.14**	**134**	PG		**Pg**	**00 36 15.7**	**-0.2**
GAZ				SG		**Sg**	**00 36 18.1**	**0.0**
HCB	**Kahramanmara**	**0.16**	**298**	IAML_P				
	comp=Z,6μm,0.1s							
HCB				*i* P		**Pg**	**00 36 16.6**	**+0.5**
AYKD	**Aykdinkavak**	**0.26**	**303**	IAML_P				
	comp=Z,14μm,0.1s							
AYKD				*i* P		**Pb**	**00 36 19.0**	**-0.7**
AYKD				*i* S		**Sg**	**00 36 22.1**	**+0.5**
KAMA	**Osmaniye**	**0.34**	**256**	IAML_P				
	comp=Z,3μm,0.1s							
KAMA				*i* P		**Pg**	**00 36 19.5**	**-0.1**
KAMA				*i* S		**Sg**	**00 36 24.3**	**+0.3**
GZT	**Gaziantep**	**0.39**	**77**	IAML_P				
	comp=Z,2μm,0.1s							
GZT				*i* P		**Pg**	**00 36 20.6**	**+0.1**
KUZU	**Kuzuini**	**0.50**	**181**	*i* P		**Pb**	**00 36 23.7**	**0.0**
ANDN	**Andirin**	**0.66**	**298**	IAML_P				
	comp=Z,2μm,0.1s							
ANDN				*i* P		**Pg**	**00 36 25.5**	**-0.1**
ANDN				*i* S		**Sg**	**00 36 34.6**	**+0.3**
ATAB	**Bozova**	**0.99**	**78**	*i* P		**Pb**	**00 36 31.8**	**-0.2**
KOZT	**Kozan**	**1.02**	**282**	PG		**Pn**	**00 36 32.9**	**-0.4**
KOZT				SG		**Sn**	**00 36 48.0**	**+0.2**
ELBS	**KAHRAMANMARAS**	**1.05**	**2**	*i* P		**Pn**	**00 36 34.3**	**+0.5**
CEYT	**Ceyhan**	**1.10**	**257**	PN		**Pn**	**00 36 34.4**	**+0.1**
CEYT				SN		**Sn**	**00 36 50.2**	**+0.6**
TAHT	**Tahtakopru-Hat**	**1.15**	**219**	PN		**Pn**	**00 36 34.9**	**-0.1**
TAHT				SN		**Sn**	**00 36 51.3**	**+0.5**
AKCD	**Akcadag**	**1.22**	**33**	IAML_P				
	comp=Z,698nm,0.1s							
AKCD				*i* P		**Pn**	**00 36 35.8**	**-0.3**
SURC	**SANLIURFA_SURC**	**1.28**	**107**	IAML_P				
	comp=Z,342nm,0.1s							
SURC				*i* P		**Pg**	**00 36 36.8**	**-0.5**
DARE	**Darende-Malaty**	**1.34**	**14**	PN		**Pg**	**00 36 38.3**	**-0.1**
DARE				SN		**Sn**	**00 36 56.9**	**+1.2**
URFA	**Urfa**	**1.40**	**82**	PN		**Pb**	**00 36 38.7**	**-0.3**
URFA				SN		**Sg**	**00 36 57.6**	**0.0**
KRTD	**Karatas-Adana**	**1.50**	**244**	PN		**Pb**	**00 36 40.3**	**-0.4**
BNN	**Bunyan**	**1.86**	**329**	PN		**Pb**	**00 36 45.8**	**-1.1**
BNN				SN		**Sb**	**00 37 09.9**	**-0.4**
SVRC	**Sivrice-ELAZID**	**2.08**	**57**	PN		**Pn**	**00 36 48.5**	**+0.5**

KRSC ***03*** *00:38:43.3*±*10.0,53°.94N*×*161°.22E,h43km*±*10km,ML4.4*
MOS ***03*** *00:38:44.6*±*0.8,53°.93N*×*161°.24E,h51km,mb4.0/1,Error ellipse: s-maj=9.2km s-min=4.1km az=79.7*
IDC ***03*** *00:38:49.4*±*2.1,54°.15N*×*160°.71E,h82km*±*18km,mb3.5/18, mb1 3.6/20,mb1mx3.5/46,mbtmp3.8/20,MS3.0/2, Ms1 3.0/2,ms1mx2.4/33,Error ellipse: s-maj=24.8km s-min=14.7km az=129.0*
ISC 03 00:38:40.1±1.2,**53°.98N**±**0°.03**×**161°.23E**±**0°.03**,**h12**km±8km, **n110**,σ1$**33**/**145**,**mb3.7**/18,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.65**	**26**	eP		**Pn**	**00 38 58.3**	**+3.2**
MKZ				*i* S		**Sn**	**00 39 07.6**	**+2.4**
MKZ	**Mys Kozlova**	**0.65**	**26**	PN		**Pn**	**00 38 58.3**	**+3.2**
MKZ				SN		**Sn**	**00 39 07.6**	**+2.4**
SPN	**Mys Shipunski**	**1.14**	**220**	*i* P		**Pg**	**00 39 03.7**	**+1.7**
SPN				*i* S		**Sn**	**00 39 17.0**	**-0.3**
SPN	**Mys Shipunski**	**1.14**	**220**	PN		**Pg**	**00 39 03.7**	**+1.7**
SPN				S		**Sn**	**00 39 17.0**	**-0.3**
KZV	**Kizimen**	**1.26**	**335**	eP		**Pg**	**00 39 06.5**	**+2.1**
KZV	**Kizimen**	**1.26**	**335**	PN		**Pg**	**00 39 06.5**	**+2.1**
TUMD	**Tumrok D**	**1.32**	**339**	*i* P		**Pg**	**00 39 06.9**	**+1.4**
TUMD				eS		**Sg**	**00 39 22.9**	**+0.2**
NLC	**Nalytchevo**	**1.39**	**235**	eP		**Pg**	**00 39 07.3**	**+0.6**
NLC				eS		**Sb**	**00 39 23.7**	**+0.2**
NLC	**Nalytchevo**	**1.39**	**235**	PN		**Pg**	**00 39 07.3**	**+0.6**
NLC				S		**Sb**	**00 39 23.7**	**+0.2**
TUMR	**Tumrok**	**1.45**	**335**	PN		**Pb**	**00 39 06.9**	**-0.3**
TUMR				S		**Sn**	**00 39 22.9**	**-2.4**
SDLR	**Sedlovina**	**1.56**	**244**	eP		**Pg**	**00 39 10.6**	**+0.4**
SDLR				eS		**Sb**	**00 39 29.5**	**+0.7**
SDLR	**Sedlovina**	**1.56**	**244**	PN		**Pg**	**00 39 10.6**	**+0.4**
SDLR				S		**Sb**	**00 39 29.5**	**+0.7**
SMAR	**Somma**	**1.62**	**245**	eP		**Pg**	**00 39 11.5**	**+0.3**
SMAR				eS		**Sb**	**00 39 30.6**	**+0.2**
SMAR	**Somma**	**1.62**	**245**	PN		**Pg**	**00 39 11.5**	**+0.3**
SMAR				S		**Sb**	**00 39 30.6**	**+0.2**
KRER	**Koryakskii**	**1.63**	**246**	eP		**Pg**	**00 39 12.0**	**+0.7**
KRER				eS		**Sg**	**00 39 31.5**	**-0.9**
KRER	**Koryakskii**	**1.63**	**246**	PN		**Pg**	**00 39 12.0**	**+0.7**
KRER				S		**Sg**	**00 39 31.5**	**-0.9**
UGLR	**Uglovaya**	**1.63**	**243**	eP		**Pg**	**00 39 11.7**	**+0.3**
UGLR				eS		**Sb**	**00 39 31.2**	**+0.5**
UGLR	**Uglovaya**	**1.63**	**243**	PN		**Pg**	**00 39 11.7**	**+0.3**
UGLR				S		**Sb**	**00 39 31.2**	**+0.5**
AVH	**Avacha**	**1.65**	**245**	eP		**Pg**	**00 39 12.3**	**+0.5**
AVH				eS		**Sb**	**00 39 31.5**	**+0.3**
AVH	**Avacha**	**1.65**	**245**	PN		**Pg**	**00 39 12.3**	**+0.5**
AVH				S		**Sb**	**00 39 31.5**	**+0.3**
KRX	**Arik**	**1.66**	**249**	eP		**Pg**	**00 39 11.9**	**0.0**
KRX	**Arik**	**1.66**	**249**	PN		**Pg**	**00 39 11.9**	**0.0**
KOK	**Koryaka**	**1.69**	**247**	*i* P		**Pg**	**00 39 12.6**	**0.0**
KOK	**Koryaka**	**1.69**	**247**	PN		**Pg**	**00 39 12.6**	**0.0**
DALK	**Dalny**	**1.76**	**238**	*i* P		**Pg**	**00 39 13.1**	**-0.7**
DALK				eS		**Sb**	**00 39 33.7**	**-0.5**
DALK	**Dalny**	**1.76**	**238**	PN		**Pg**	**00 39 13.1**	**-0.7**
DALK				S		**Sb**	**00 39 33.7**	**-0.5**
PET	**Petropavlovsk**	**1.81**	**239**	*i* P		**Pb**	**00 39 13.3**	**+0.1**
PET	**Petropavlovsk**	**1.81**	**239**	ePN		**Pb**	**00 39 13.8**	**+0.6**
PET				eS		**Sb**	**00 39 34.7**	**-1.1**
PET				pmax		pmax		
	comp=Z,144nm,0.3s							
PET				smax		smax		
	comp=E,829nm,0.6s							
PET				smax		smax		
	comp=N,838nm,0.7s							
BZGR	**Bezymyannyi-Gr**	**1.99**	**351**	eP		**Pg**	**00 39 17.6**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**1.99**	**351**	PN		**Pg**	**00 39 17.6**	**-0.7**
BZMR	**Bezymyannaya**	**2.01**	**348**	eP		**Pg**	**00 39 19.0**	**+0.4**
BZMR	**Bezymyannaya**	**2.01**	**348**	PN		**Pg**	**00 39 19.0**	**+0.4**
BZWR	**Bezymyannyi-We**	**2.04**	**348**	eP		**Pg**	**00 39 18.7**	**-0.5**
BZWR	**Bezymyannyi-We**	**2.04**	**348**	PN		**Pg**	**00 39 18.7**	**-0.5**
KIRR	**Kirishev**	**2.05**	**346**	eP		**Pg**	**00 39 18.6**	**-0.8**
KIRR	**Kirishev**	**2.05**	**346**	PN		**Pg**	**00 39 18.6**	**-0.8**
KPT	**Kopyto**	**2.08**	**344**	eP		**Pg**	**00 39 18.8**	**-1.1**
KPT	**Kopyto**	**2.08**	**344**	PN		**Pg**	**00 39 18.8**	**-1.1**
LGNR	**Loginova**	**2.13**	**352**	eP		**Pg**	**00 39 20.7**	**-0.3**
LGNR	**Loginova**	**2.13**	**352**	PN		**Pg**	**00 39 20.7**	**-0.3**
CIRR	**Tsirk**	**2.16**	**353**	eP		**Pg**	**00 39 20.8**	**-0.8**
CIRR	**Tsirk**	**2.16**	**353**	PN		**Pg**	**00 39 20.8**	**-0.8**
KRMR	**Karymshinskiy**	**2.19**	**240**	eP		**Pb**	**00 39 19.5**	**0.0**
KRMR				eS		**Sb**	**00 39 45.1**	**-1.4**
KRMR	**Karymshinskiy**	**2.19**	**240**	PN		**Pb**	**00 39 19.5**	**0.0**
KRMR				S		**Sb**	**00 39 45.1**	**-1.4**
KOZ	**Kozyrevsk**	**2.23**	**340**	eP		**Pb**	**00 39 20.5**	**+0.2**
KOZ	**Kozyrevsk**	**2.23**	**340**	PN		**Pb**	**00 39 20.5**	**+0.2**
RUS	**Russkaya**	**2.25**	**228**	eP		**Pb**	**00 39 19.2**	**-1.5**
RUS				eS		**Sn**	**00 39 44.8**	**0.0**
RUS	**Russkaya**	**2.25**	**228**	PN		**Pb**	**00 39 19.2**	**-1.5**
RUS				S		**Sn**	**00 39 44.8**	**0.0**
PETK	**Petropavlovsk-**	**2.28**	**249**	P		**Pb**	**00 39 20.8**	**-0.4**
	comp=N,18nm,0.3s,baz=79,slow=19,SNR=118							
PETK				S		**Sb**	**00 39 48.6**	**-0.8**
	comp=N,52nm,0.3s,baz=71,slow=25,SNR=13							
KLY	**Klyuchi**	**2.37**	**352**	eP		**Pb**	**00 39 22.7**	**+0.1**
KLY				eS		**Sb**	**00 39 50.4**	**-1.3**
KLY	**Klyuchi**	**2.37**	**352**	PN		**Pb**	**00 39 22.7**	**+0.1**
KLY				S		**Sb**	**00 39 50.4**	**-1.3**
MTVR	**Mutnovka**	**2.37**	**232**	eP		**Pb**	**00 39 22.0**	**-0.7**
MTVR				eS		**Sn**	**00 39 49.3**	**+1.5**
MTVR	**Mutnovka**	**2.37**	**232**	PN		**Pb**	**00 39 22.0**	**-0.7**
MTVR				S		**Sn**	**00 39 49.3**	**+1.5**
GRL	**Gorelyy**	**2.38**	**234**	eS		**Sb**	**00 39 49.9**	**-2.2**
KBTR	**Krutoberegovo**	**2.41**	**22**	eP		**Pb**	**00 39 23.6**	**+0.2**
KBTR				eS		**Sb**	**00 39 51.9**	**-1.2**
KBTR	**Krutoberegovo**	**2.41**	**22**	PN		**Pb**	**00 39 23.6**	**+0.2**
KBTR				S		**Sb**	**00 39 51.9**	**-1.2**
KBG	**Krutoberegovo**	**2.43**	**20**	eP		**Pg**	**00 39 25.3**	**-1.5**
KBG				eS		**Sb**	**00 39 55.3**	**+1.6**
KBG	**Krutoberegovo**	**2.43**	**20**	PN		**Pg**	**00 39 25.3**	**-1.5**
KBG				S		**Sb**	**00 39 55.3**	**+1.6**
ESO	**Esso**	**2.44**	**324**	eP		**Pb**	**00 39 23.1**	**-0.8**
ESO	**Esso**	**2.44**	**324**	PN		**Pb**	**00 39 23.1**	**-0.8**
SRDR	**Sredinnyy**	**2.50**	**340**	eP		**Pb**	**00 39 23.3**	**-1.7**
SRDR	**Sredinnyy**	**2.50**	**340**	PN		**Pb**	**00 39 23.3**	**-1.7**
ASAK	**Asacha**	**2.56**	**233**	eP		**Pb**	**00 39 25.5**	**-0.5**
ASAK	**Asacha**	**2.56**	**233**	PN		**Pb**	**00 39 25.5**	**-0.5**
BDR	**Baidarnaya**	**2.60**	**360**	eP		**Pb**	**00 39 26.8**	**+0.2**
BDR	**Baidarnaya**	**2.60**	**360**	PN		**Pb**	**00 39 26.8**	**+0.2**
SMKR	**Semkarok**	**2.61**	**3**	eP		**Pb**	**00 39 26.7**	**-0.2**
SMKR				eS		**Sb**	**00 39 57.5**	**-1.5**
SMKR	**Semkarok**	**2.61**	**3**	PN		**Pb**	**00 39 26.7**	**-0.2**
SMKR				S		**Sb**	**00 39 57.5**	**-1.5**
APC	**Apacha**	**2.66**	**248**	eP		**Pb**	**00 39 26.6**	**-0.9**
APC				eS		**Sn**	**00 39 57.1**	**+2.4**
APC	**Apacha**	**2.66**	**248**	PN		**Pb**	**00 39 26.6**	**-0.9**
APC				S		**Sn**	**00 39 57.1**	**+2.4**
SRKR	**Sorokina**	**2.68**	**359**	eP		**Pb**	**00 39 27.3**	**-0.8**
SRKR	**Sorokina**	**2.68**	**359**	PN		**Pb**	**00 39 27.3**	**-0.8**
KDTR	**Khodutka, Kamc**	**2.89**	**223**	eP		**Pb**	**00 39 30.0**	**-1.6**
KDTR				eS		**Sn**	**00 40 02.3**	**+1.7**
KDTR	**Khodutka, Kamc**	**2.89**	**223**	PN		**Pb**	**00 39 30.0**	**-1.6**
KDTR				S		**Sn**	**00 40 02.3**	**+1.7**
BKI	**Bering**	**3.02**	**64**	eP		**Pb**	**00 39 31.7**	**-2.0**
BKI				eS		**Sn**	**00 40 04.9**	**+1.3**
BKI	**Bering**	**3.02**	**64**	PN		**Pb**	**00 39 31.7**	**-2.0**
BKI				S		**Sn**	**00 40 04.9**	**+1.3**
PAU	**Pauzhetka**	**3.68**	**229**	eP		**Pb**	**00 39 41.8**	**-3.2**
PAU				eS		**Sn**	**00 40 23.7**	**+3.7**
PAU	**Pauzhetka**	**3.68**	**229**	PN		**Pb**	**00 39 41.8**	**-3.2**
PAU				S		**Sn**	**00 40 23.7**	**+3.7**
OSSR	**Ossora**	**5.38**	**10**	*e*P		Pb	00 40 06.9	-7.0
OSSR	**Ossora**	**5.38**	**10**	PN		Pb	00 40 06.9	-7.0
MA2	**Magadan**	**8.03**	**319**	PN		**Pn**	**00 40 38.0**	**+1.6**
MA2	**Magadan**	**8.03**	**319**	P		**Pn**	**00 40 38.0**	**+1.6**
	comp=N,0.7nm,0.3s,baz=345,slow=20,SNR=2.4							
MA2				LR		LR	00 43 52.9	
	comp=N,47nm,18.7s,baz=126,slow=39							
TIXI	**Tiksi**	**22.57**	**334**	P		**P**	**00 43 40.3**	**+0.5**
	comp=N,0.5nm,0.3s,baz=154,slow=7.9,SNR=3.4							
MJAR	**Matsushiro Arr**	**23.63**	**232**	P		**P**	**00 43 50.9**	**0.0**
	comp=N,2.4nm,0.7s,baz=18,slow=8.6,SNR=8.9							
INK	**Inuvik**	**32.75**	**39**	P		**P**	**00 45 14.0**	**+1.8**
	comp=N,0.8nm,0.9s,baz=166,slow=22,SNR=6.4							
H11N2	**WAKE ISLAND Hy**	**34.46**	**171**	T		T	01 22 15.6	
	baz=354,slow=76,SNR=269							
H11N3	**WAKE ISLAND Hy**	**34.48**	**171**	T		T	01 22 18.4	
	baz=354,slow=76,SNR=260							
H11N1	**WAKE ISLAND Hy**	**34.48**	**171**	T		T	01 22 17.1	
	baz=354,slow=76,SNR=236							
H11S1	**WAKE ISLAND Hy**	**35.65**	**171**	T		T	01 23 41.7	
	baz=352,slow=76,SNR=7.5							
H11S3	**WAKE ISLAND Hy**	**35.66**	**171**	T		T	01 23 42.1	
	baz=352,slow=76,SNR=10.0							
H11S2	**WAKE ISLAND Hy**	**35.67**	**171**	T		T	01 23 46.6	
	baz=352,slow=76,SNR=6.1							
YKA	**Yellowknife Ar**	**42.05**	**44**	P		**P**	**00 46 32.6**	**+1.6**
	comp=N,0.2nm,0.6s,baz=297,slow=7.3,SNR=3.8							
RES	**Resolute Bay**	**42.25**	**23**	P		**P**	**00 46 34.1**	**+1.7**
	comp=N,1.2nm,0.7s,baz=323,slow=5.7,SNR=5.6							
SPITS	**Spitsbergen Ar**	**46.37**	**351**	P		**P**	**00 47 05.2**	**-0.3**
	comp=N,1.7nm,0.6s,baz=84,slow=8.0,SNR=6.9							
KURK	**Kurchatov**	**47.84**	**302**	P		**P**	**00 47 15.3**	**-2.0**
KURBB	**Kurchatov Arra**	**47.95**	**302**	P		**P**	**00 47 15.3**	**-2.8**
	comp=N,0.4nm,0.6s,baz=59,slow=7.5,SNR=4.3							
MKAR	**Makanchi Array**	**48.38**	**296**	P		**P**	**00 47 18.9**	**-2.7**
	comp=N,0.4nm,0.6s,baz=54,slow=7.8,SNR=6.0							
ARCES	**ARCESS Array B**	**52.66**	**342**	P		**P**	**00 47 52.0**	**-1.5**
	comp=N,1.4nm,0.9s,baz=29,slow=10,SNR=4.2							
ULM	**Lac du Bonnet**	**57.72**	**48**	LR		LR	01 15 42.2	
	comp=N,24nm,18.4s,baz=16,slow=38							
FINES	**FINESS Array B**	**59.58**	**337**	P		**P**	**00 48 41.3**	**-1.7**
	comp=N,0.8nm,0.4s,baz=41,slow=6.9,SNR=10							
NB2	**NORSAR Subarra**	**62.88**	**344**	P		**P**	**00 49 04.6**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=21,slow=6.9							
NOA	**NORSAR Array B**	**62.88**	**344**	P		**P**	**00 49 04.3**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=20,slow=6.2,SNR=5.7							
AKASG	**Malin Array Be**	**68.20**	**329**	P		**P**	**00 49 37.8**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=28,

KURBB Kurchatov Arra 29.68 340 P **P 00 48 07.1 +1.6**
comp=N,3.0nm,0.7s,baz=156,slow=7.9,SNR=28
ZALV Zalesovo Beam 31.23 349 P **P 00 48 20.2 +1.1**
comp=N,2.2nm,0.5s,baz=169,slow=7.1,SNR=9.2
NRIK Noril'sk 46.06 357 P **P 00 50 23.3 +0.5**
comp=N,1.6nm,0.4s,baz=161,slow=6.3,SNR=4.9
TIXI Tiksi 52.10 13 P **P 00 51 07.8 -1.1**
comp=N,3.2nm,0.5s,baz=201,slow=4.7,SNR=14
AKASG Malin Array Be 56.37 316 P **P 00 51 40.8 +0.6**
comp=N,1.1nm,0.5s,baz=83,slow=6.2,SNR=10
WRA Warramunga Arr 58.34 134 P **P 00 51 51.3 -3.2**
comp=N,1.7nm,0.2s,baz=319,slow=7.7,SNR=2.2
FINES FINESS Array B 59.16 329 P **P 00 52 00.4 +0.8**
comp=N,2.3nm,0.9s,baz=98,slow=8.3,SNR=4.1
FINES LR LR 01 21 34.0
comp=N,48nm,18.1s,baz=282,slow=40
ARCES ARCESS Array B 60.75 338 P **P 00 52 11.7 +1.3**
comp=N,1.4nm,0.7s,baz=93,slow=8.5,SNR=7.7
ASAR Alice Springs 60.76 138 P **P 00 52 09.1 -2.1**
comp=N,0.7nm,0.5s,baz=320,slow=6.7,SNR=8.3
SPITS Spitsbergen Ar 64.67 347 P **P 00 52 37.2 +0.8**
comp=N,0.7nm,0.4s,baz=102,slow=11,SNR=8.3
SPITS LR LR 01 26 02.9
comp=N,23nm,19.1s,baz=125,slow=41
NB2 NORSAR Subarra 66.33 328 P **P 00 52 47.6 +0.3**
comp=Z,0.8nm,0.6s,baz=84,slow=6.5
NOA NORSAR Array B 66.33 328 P **P 00 52 47.6 +0.3**
comp=Z,1.2nm,0.6s,baz=86,slow=6.2,SNR=7.5
GERES GERESS Array B 66.50 315 P **P 00 52 50.3 +1.6**
comp=Z,0.9nm,0.5s,baz=69,slow=6.9,SNR=10
KEST Kesra 72.60 302 LR LR 01 30 05.5
comp=Z,19nm,18.1s,baz=298,slow=40
BOSA Boshof 84.07 236 P **P 00 54 30.5 +0.7**
comp=Z,3.1nm,0.9s,baz=75,slow=4.3,SNR=5.3
TORD Torodi Ar. Bea 86.99 283 P **P 00 54 45.8 +1.3**
comp=Z,0.2nm,0.5s,baz=49,slow=2.9,SNR=4.4
CPUP Villa Florida 153.91 258 PKPbc **PKPbc 01 01 56.9 -1.3**
comp=Z,0.8nm,0.7s,baz=77,slow=2.5,SNR=3.8

WEL 03 00:56:01.5, 46°S±5°×16°E±°, h75km±4km, ML3.5/11, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**38**	P	Pn	00 56 14.3	+0.5
DCZ				S	Sn	00 56 23.2	+0.3
WHZ	**Wether Hill Ro**	**0.81**	**99**	P	Pn	00 56 18.7	+0.8
WHZ				S	Sn	00 56 31.1	+1.0
MLZ	**Mavora Lakes**	**1.01**	**66**	P	Pn	00 56 20.7	+0.4
MLZ				S	Sn	00 56 34.4	0.0
MSZ	**Milford Sound**	**1.36**	**36**	P	Pn	00 56 24.8	+0.1
MSZ				S	Sn	00 56 41.2	-1.0
WKZ	**Wanaka**	**1.83**	**59**	P	Pn	00 56 31.3	+0.3
WKZ				S	Sn	00 56 52.2	-1.2
EAZ	**Earnscleugh**	**1.84**	**74**	P	Pn	00 56 31.5	+0.4
TUZ	**Tuapeka**	**1.98**	**96**	P	Pn	00 56 33.3	+0.4
JCZ	**Jackson Bay**	**2.21**	**40**	P	Pn	00 56 35.5	-0.6
HHSZ	**Highcliff Hill**	**2.66**	**94**	P	Pn	00 56 41.9	-0.1
LBZ	**Lake Benmore**	**2.77**	**61**	P	Pn	00 56 42.4	-1.2
ODZ	**Otahua Downs**	**2.80**	**76**	P	Pn	00 56 42.7	-1.3
FOZ	**Fox Glacier**	**3.11**	**45**	P	Pn	00 56 46.8	-1.4
RPZ	**Rata Peaks**	**3.66**	**57**	P	Pn	00 56 53.6	-2.1
LTZ	**Lake Taylor**	**4.94**	**55**	P	Pn	00 57 12.6	-0.5

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*IDC **03** 01:02:54.8±0.6, 17°.48N×147°.18E, h0km, mb4.2/19, mb1 4.4/19, mb1mx4.1/44, mbtmp4.2/19, MS3.3/4, Ms1 3.3/4, ms1mx2.9/39, Error ellipse: s-maj=22.4km s-min=14.7km az=94.0*
*ISCJB **03** 01:02:59.4±0.4, 17°.43N±0°.05×147°.19E±0°.09, h48km, mb4.3/34, MS3.2/4, Error ellipse: s-maj=11.9km s-min=6.6km az=11.6*
*NEIC **03** 01:03:02.7±0.7, 17°.36N×147°.16E, h64km±6km, mb4.5/20, Error ellipse: s-maj=7.8km s-min=4.5km az=90.0*
ISC 03 01:03:01.2±0.6, 17°.42N±0°.09×147°.2E±0°.1, h48km, n65, σ9°80/68, mb4.4/34, MS3.3/4, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.53**	**242**	*e*Pn	**Pn**	**01 03 27.4**	**+1.3**
ANA2	**Anatahan**	**1.78**	**233**	*e*Pn	**Pn**	**01 03 29.9**	**+0.3**
GUMO	**Guam**	**4.42**	**211**	*e*Pn	**Pn**	**01 04 06.3**	**+0.5**
MJAR	**Matsushiro Arr**	**20.64**	**339**	*e*P	Pn	01 07 38.5	-1.0
MJAR	**Matsushiro Arr**	**20.64**	**339**	P	**P**	**01 07 36.5**	**-0.3**
3.7nm,0.6s,baz=169,slow=9.9,SNR=21
MJAR LR LR 01 15 58.2
comp=Z,65nm,19.2s,baz=160,slow=38
MAJO Matsushiro 20.64 339 *e*P **P 01 07 38.1 +1.3**
20nm,1.1s
MJB9 Matsu-Tunnel 20.65 339 *e*P **P 01 07 38.0 +1.1**
JAY Jayapura 20.82 199 P **P 01 07 39.0 +0.2**
15nm,0.8s
KSRS Korea Array 26.19 323 P **P 01 08 30.7 -0.6**
1.4nm,0.6s,baz=143,slow=9.5,SNR=8.8
KSRS LR LR 01 18 53.0
comp=Z,104nm,18.4s,baz=121,slow=37
KS15 Wonju Array Si 26.20 323 *e*P **P 01 08 30.7 -0.8**
19nm,1.4s
KSAR Wonju Array Be 26.20 323 P **P 01 08 30.7 -0.8**
SBUM Sibu 37.42 250 *e*P **P 01 10 09.3 -0.7**
2.4nm,0.5s
WRAB Tennant Creek 39.20 199 *e*P **P 01 10 24.1 -0.9**
7.1nm,0.5s
WB2 Warramunga Arr 39.21 199 *e*P **P 01 10 24.0 -1.0**
12nm,0.7s
WR1 Warramunga Arr 39.21 199 *e*P **P 01 10 24.6 -0.4**
WR1 *e*PcP **PcP 01 12 36.1 +2.5**
WRA Warramunga Arr 39.21 199 P **P 01 10 24.6 -0.4**
9.1nm,0.8s,baz=22,slow=9.1,SNR=4.6
WRA PcP **PcP 01 12 36.1 +2.5**
18nm,0.3s,baz=16,slow=4.6,SNR=16
WRA LR LR 01 28 25.4
comp=Z,30nm,19.2s,baz=165,slow=39
AS31 Alice Springs 42.84 198 *e*P **P 01 10 54.0 -0.9**
2.5nm,1.2s
AS31 *e*PcP **PcP 01 12 46.0 +0.7**
ASAR Alice Springs 42.85 198 P **P 01 10 54.0 -0.9**
1.2nm,0.6s,baz=21,slow=11,SNR=12
ASAR PcP **PcP 01 12 46.0 +0.7**
0.9nm,0.6s,baz=27,slow=2.7,SNR=5.0
SONA0 Songino Array 45.03 322 *e*P **P 01 11 12.1 -0.1**
SONM Songino Array 45.03 322 *e*P **P 01 11 12.4 +0.1**
SONM Songino Array 45.03 322 P **P 01 11 12.1 -0.1**
1.1nm,0.7s,baz=132,slow=8.9,SNR=7.5
CM31 Chiang Mai Arr 45.81 279 *e*P **P 01 11 19.5 +0.8**
7.8nm,0.4s
CMAR Chiang Mai Arr 45.81 279 P **P 01 11 19.5 +0.8**
3.8nm,0.8s,baz=68,slow=6.8,SNR=14
ZAA0 Zalesovo Array 59.89 323 *e*P **P 01 13 01.6 -0.5**
3.1nm,1.0s
ZALV Zalesovo Beam 59.89 323 *e*P **P 01 13 00.9 -1.2**
ZALV Zalesovo Beam 59.89 323 P **P 01 13 01.0 -1.1**
1.8nm,0.6s,baz=95,slow=6.2,SNR=9.8
ZALV LR LR 01 38 40.9
comp=Z,29nm,20.7s,baz=76,slow=36
ZAA1 Zalesovo Array 59.89 323 *e*P **P 01 13 01.0 -1.1**
MK31 Makanchi Array 60.37 314 *e*P **P 01 13 04.8 -0.7**
3.7nm,1.4s
MK32 Makanchi Array 60.37 314 *e*P **P 01 13 05.8 +0.3**
MKAR Makanchi Array 60.37 314 *e*P **P 01 13 05.4 -0.2**
MKAR Makanchi Array 60.37 314 P **P 01 13 05.8 +0.3**
1.0nm,0.4s,baz=87,slow=9.1,SNR=14
MAKZ Makanchi 60.59 314 *e*P **P 01 13 07.1 +0.1**
4.9nm,1.3s
BPAW Bear Paw Mtn. 62.27 26 *e*P **P 01 13 17.8 -0.3**
14nm,1.5s
KURK Kurchatov 63.17 318 *e*P **P 01 13 23.7 -0.5**
10.0nm,1.4s
NRIK Noril'sk 63.29 340 P **P 01 13 24.6 -0.2**
3.7nm,0.6s,baz=103,slow=8.6,SNR=7.4
KDJ Kajisay 63.80 309 *e*P **P 01 13 29.1 +0.2**
4.0nm,0.9s
ILAR Eielson Array 64.17 26 P **P 01 13 29.8 -0.8**
0.4nm,0.5s,baz=255,slow=5.7,SNR=7.0
ILB Eielson Array 64.17 26 *e*P **P 01 13 29.8 -0.8**
24nm,2.0s
BMAR Burnt Mountain 65.72 23 *e*P **P 01 13 41.5 +0.8**
NIL Nilore 67.39 300 *e*P **P 01 13 51.5 -0.5**
BRVK Borovoye 68.43 321 *e*P **P 01 13 58.2 +0.1**
4.1nm,0.7s
KK31 Karatay Array 68.68 310 *e*P **P 01 13 59.3 -0.6**
4.9nm,1.1s
KKAR Karatay Array 68.68 310 *e*P **P 01 13 59.5 -0.4**
INK Inuvik 69.99 23 *e*P **P 01 14 07.3 -0.1**
14nm,1.8s
INK Inuvik 69.99 23 P **P 01 14 07.8 +0.4**
0.9nm,0.7s,baz=241,slow=6.6,SNR=6.7
KBL Kabul 70.75 301 *e*P **P 01 14 12.7 -0.3**
7.5nm,1.1s
ARU Arti 74.93 325 *e*P **P 01 14 36.8 -0.3**
4.6nm,0.6s
ABKAR Akbulak array 75.24 317 *e*P **P 01 14 38.2 -0.8**
2.2nm,0.9s
YKA Yellowknife Ar 78.45 28 *e*P **P 01 14 56.2 -0.6**
YKA Yellowknife Ar 78.45 28 P **P 01 14 57.1 +0.3**
1.2nm,0.5s,baz=283,slow=5.7,SNR=29
YKB5 Yellowknife Ar 78.45 28 *e*P **P 01 14 57.1 +0.3**
NV01 Mina Array Sit 82.80 52 *e*P **P 01 15 21.4 +0.5**
NVAR Mina Array Bea 82.80 52 P **P 01 15 21.4 +0.5**
0.6nm,0.6s,baz=256,slow=7.0,SNR=5.5
ARA0 ARCESS Array S 84.14 342 *e*P **P 01 15 27.3 +0.4**
ARCES ARCESS Array B 84.14 342 P **P 01 15 27.3 +0.4**
4.0nm,0.9s,baz=36,slow=6.3,SNR=18
KBZ Khabaz 88.05 315 P **P 01 15 46.2 -0.4**
1.2nm,0.9s,baz=171,slow=5.2,SNR=4.4
FIA0 FINESS Array S 88.63 336 *e*P **P 01 15 48.2 -0.8**
FINES FINESS Array B 88.63 336 P **P 01 15 48.2 -0.8**
1.9nm,0.5s,baz=72,slow=4.6,SNR=33
NB200 NORSAR Array S 94.26 340 *e*P **P 01 16 15.7 +0.5**
NOA NORSAR Array B 94.26 340 P **P 01 16 15.7 +0.5**
1.1nm,1.1s,baz=42,slow=4.6,SNR=2.7
BR101 Keskin Array S 96.02 315 *e*P **P 01 16 22.8 -1.1**
BRTR Keskin Array B 96.02 315 P **P 01 16 22.8 -1.1**
0.5nm,0.8s,baz=69,slow=4.1,SNR=4.3
TOA1 Torodi Ar. Sit 134.36 309 *e*PKPdf **PKPdf 01 22 14.9 0.0**
TORD Torodi Ar. Bea 134.36 309 PKP **PKPdf 01 22 14.9 0.0**
0.3nm,0.4s,baz=7.4,slow=2.2,SNR=16
LPAZ La Paz 146.20 93 PKPbc **PKiKP 01 22 40.0 -1.3**
1.1nm,0.6s,baz=300,slow=3.1,SNR=4.6

IDC 03 01:07:27.1±2.3, 6°.35S×129°.85E, h0km, mb3.9/1, mb1 4.1/3, mb1mx3.6/29, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=158.4km s-min=30.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.19**	**163**	Pn	Pn	01 10 50.0	+0.4
1.2nm,0.3s,baz=345,slow=13,SNR=2.7
WRA Sn Sn 01 13 13.1 -15
1.4nm,0.3s,baz=337,slow=21,SNR=2.0
ASAR Alice Springs 17.65 168 P Pn 01 11 34.3 -0.3
0.3nm,0.3s,baz=346,slow=10,SNR=11
ASAR S Sn 01 14 35.4 -17
0.7nm,0.3s,baz=341,slow=25,SNR=10.0
MKAR Makanchi Array 67.61 327 P P 01 18 25.8 0.0
0.5nm,0.3s,baz=113,slow=8.3,SNR=10

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*NNC **03** 01:08:38.8±0.5, 43°.28N×71°.77E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=9.3km s-min=2.1km az=177.0*
*KRNET **03** 01:08:40.6±0.1, 43°.31N×71°.87E, h23km, mb2.8*
*SOME **03** 01:08:41.1, 43°.37N×71°.80E, h15km*
ISC 03 01:08:41.4±1.3, 43°.20N±0°.04×71°.76E±0°.05, h9km±15km, n48, σ1°57/80, 23C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.92**	**264**	⇑P	**Pg**	**01 08 57.7**	**-1.3**
1.0nm,0.2s,baz=78,slow=16,SNR=82
KK31 ⇑S **Sg 01 09 09.5 -1.5**
1.5nm,0.2s,baz=77,slow=30,SNR=9.4
MRKS Merke 1.17 112 P **Pb 01 09 02.5 -1.4**
11nm,0.1s
MRKS S **Sb 01 09 17.8 -1.4**
10nm,0.1s
MRKS Merke 1.17 112 *e*P **Pb 01 09 02.5 -1.4**
baz=19
MRKS *e*S **Sb 01 09 17.9 -1.4**
baz=19
MRKS Merke 1.17 112 *e*P **Pb 01 09 02.5 -1.4**
11nm,0.1s
MRKS *e*S **Sb 01 09 17.8 -1.4**
10nm,0.1s
ARK Arkit 1.41 174 ⇑*i*P **Pg 01 09 09.4 +0.9**
baz=77
ARK ⇑*i*S **Sg 01 09 30.7 +3.8**
baz=77
EKS2 Erkin-Say 1.58 109 P **Pn 01 09 09.3 -0.4**
SNR=33
EKS2 Erkin-Say 1.58 109 ⇑*i*P **Pn 01 09 09.4 -0.4**
baz=14
EKS2 ⇑*i*S **Sb 01 09 30.2 -0.8**
baz=14
IUG Iuzhnay 1.65 231 *e*P **Pg 01 09 13.2 +0.1**
baz=30
IUG *e*S **Sg 01 09 36.8 +2.3**
baz=30
IUG Iuzhnay 1.65 231 *e*P **Pg 01 09 13.2 +0.1**
8.7nm,0.3s
IUG *e*S **Sg 01 09 36.8 +2.3**
20nm,0.2s
AML Almayashu 1.79 126 P **Pb 01 09 13.3 -1.3**
SNR=16
AML Almayashu 1.79 126 ⇑*i*P **Pb 01 09 13.6 -1.0**
baz=31
AML ⇑*i*S **Sg 01 09 38.0 -0.9**
baz=31
USP Ospenovka 2.01 87 P **Pn 01 09 15.5 -0.1**
SNR=9.0
USP Ospenovka 2.01 87 ⇑*i*P **Pn 01 09 15.4 -0.1**
baz=90
USP ⇑*i*S **Sb 01 09 40.8 -2.4**
baz=90
AAK Ala-Archa 2.09 105 P **Pb 01 09 17.8 -1.8**
SNR=6.1
AAK Ala-Archa 2.09 105 ⇑Pg **Pb 01 09 17.6 -1.9**
3.1nm,0.5s
AAK ⇓Lg Lg 01 09 45.5
8.0nm,0.5s
AAK Ala-Archa 2.09 105 ⇑*i*P **Pb 01 09 17.7 -1.9**
baz=8.0
AAK ⇑*i*S **Sb 01 09 44.6 -1.1**
baz=8.0
SGDS Sogindy 2.11 82 Pg **Pb 01 09 17.7 -2.3**
9.9nm,0.4s
SGDS Lg Lg 01 09 43.8
9.6nm,0.1s
CHMS Chumysh 2.20 94 ⇓*i*P **Pb 01 09 18.9 -2.6**
baz=97
CHMS ⇓*i*S **Sb 01 09 46.5 -2.4**
baz=97
UCH Uchtor 2.25 115 P **Pb 01 09 21.7 -0.9**
SNR=8.2
UCH Uchtor 2.25 115 ⇑*i*P **Pb 01 09 20.7 -1.9**
baz=18
UCH ⇑*i*S **Sb 01 09 50.2 -0.5**
baz=18
ARLS Aral 2.32 124 ⇑*i*P **Pb 01 09 21.2 -2.4**
baz=27
ARLS ⇑*i*S **Sb 01 09 51.3 -1.1**
baz=27
KBK Karagaybulak 2.41 102 ⇓*i*P **Pb 01 09 22.5 -2.5**
baz=5.0
KBK ⇓*i*S **Sb 01 09 52.6 -2.3**
baz=5.0
BTLS Baital 2.47 41 *e*P **Pn 01 09 22.4 +0.6**
baz=41
BTLS *e*S **Sn 01 09 52.3 +0.2**
baz=41
BTLS Baital 2.47 41 *e*P **Pn 01 09 22.4 +0.6**
0.9nm,0.2s
BTLS *e*S **Sn 01 09 52.4 +0.2**
3.8nm,0.4s
KZA Kyzart 2.81 112 ⇑P **Pn 01 09 28.0 +1.1**
baz=15
KZA ⇑*i*S **Sb 01 10 03.2 -3.5**
baz=15
TKM2 Tokmak 2 2.83 94 P **Sb 01 10 06.1 -0.9**
SNR=8.4
TKM2 Tokmak 2 2.83 94 ⇑Pg **Pb 01 09 30.2 -2.1**
3.9nm,1.4s
TKM2 ⇑Lg Lg 01 10 07.5
3.7nm,0.3s
DGS Degeres 2.94 88 Pg **Pb 01 09 32.1 -1.9**
1.2nm,0.2s
DGS Lg Lg 01 10 08.6
5.7nm,0.3s
DGS Degeres 2.94 88 *e*P **Pb 01 09 32.1 -1.9**
baz=90
DGS *e*S **Sb 01 10 08.6 -1.4**
baz=90
DGS Degeres 2.94 88 *e*P **Pb 01 09 32.1 -1.9**
1.2nm,0.2s
DGS *e*S **Sb 01 10 08.6 -1.4**
5.7nm,0.3s
KST Kastek 3.08 92 Pg **Pb 01 09 34.8 -1.8**
1.9nm,0.3s
KST Lg Lg 01 10 13.1
7.9nm,0.3s
KST Kastek 3.08 92 *e*P **Pb 01 09 34.8 -1.8**
baz=94
KST *e*S **Sb 01 10 13.2 -1.1**
baz=94
KST Kastek 3.08 92 *e*P **Pb 01 09 34.8 -1.8**
1.9nm,0.3s
KST *e*S **Sb 01 10 13.1 -1.1**
7.9nm,0.3s
BOOM Boomskoye usch 3.16 102 ⇑*i*P **Pn 01 09 33.2 +1.7**
baz=4.0
BOOM ⇑*i*S **Sn 01 10 10.9 +1.5**
baz=4.0
KUU Kurty 3.40 77 Pg **Pb 01 09 40.5 -1.4**
1.9nm,0.3s
KUU Lg Lg 01 10 23.0
4.4nm,0.2s
KUU Kurty 3.40 77 *e*P **Pb 01 09 40.5 -1.4**
baz=78
KUU *e*S **Sb 01 10 23.0 -0.3**
baz=78
KUU Kurty 3.40 77 *e*P **Pb 01 09 40.5 -1.4**
1.9nm,0.3s
KUU *e*S **Sb 01 10 23.0 -0.3**
4.4nm,0.2s
KTBS Karatobe 3.62 80 Pg **Pb 01 09 45.4 -0.2**
1.3nm,0.3s
KTBS Lg Lg 01 10 31.4
5.0nm,0.6s
KTBS Karatobe 3.62 80 *e*P **Pb 01 09 45.4 -0.2**
baz=81
KTBS *e*S **Sb 01 10 31.4 +1.7**
baz=81
KTBS Karatobe 3.62 80 *e*P **Pb 01 09 45.4 -0.2**
1.3nm,0.3s
KTBS *e*S **Sb 01 10 31.4 +1.7**
5.0nm,0.6s
TNSS Tian-Shan 3.81 91 Pg **Pb 01 09 48.8 -0.2**
1.7nm,0.3s
TNSS Lg Lg 01 10 37.2
2.7nm,0.3s
TNSS Tian-Shan 3.81 91 *e*P **Pb 01 09 48.8 -0.2**
baz=92
TNSS *e*S **Sb 01 10 37.2 +1.9**
baz=92
TNSS Tian-Shan 3.81 91 *e*P **Pb 01 09 48.8 -0.2**
1.7nm,0.3s
TNSS *e*S **Sb 01 10 37.2 +1.9**
2.7nm,0.3s
CHKK Chushkaly 3.86 79 Pg **Pb 01 09 49.5 -0.2**
1.4nm,0.1s
CHKK Lg Lg 01 10 38.1
4.6nm,0.3s
CHKK Chushkaly 3.86 79 *e*P **Pb 01 09 49.5 -0.2**
baz=80
CHKK *e*S **Sb 01 10 38.1 +1.6**
baz=80
CHKK Chushkaly 3.86 79 *e*P **Pb 01 09 49.5 -0.2**
1.4nm,0.1s
CHKK *e*S **Sb 01 10 38.1 +1.6**
4.6nm,0.3s
ARXS Arharly 4.52 75 Pg **Pb 01 10 01.2 +0.3**
0.8nm,0.3s
ARXS Lg Lg 01 10 58.2
3.9nm,0.6s
ARXS Arharly 4.52 75 *e*P **Pb 01 10 01.2 +0.3**
0.8nm,0.3s
ARXS *e*S **Sb 01 10 58.2 +2.7**
3.9nm,0.6s

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*IDC **03** 01:38:10.9±1.5, 33°.16N×75°.90E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.4/56, mbtmp3.7/9, ML3.0/3, MS2.4/1, Ms1 2.4/1, ms1mx2.0/44, Error ellipse: s-maj=41.7km s-min=21.4km az=69.0*
*ISCJB **03** 01:38:14.4±0.5, 33°.34N±0°.04×75°.9E±0°.1, h28km, mb3.8/5, Error ellipse: s-maj=15.0km s-min=4.0km az=166.4*
*NDI **03** 01:38:14.3±2.1, 33°.28N×75°.88E, h10km±6km, ML3.6*
ISC 03 01:38:15.3±0.7, 33°.22N±0°.04×75°.81E±0°.09, h28km, n18, σ1°83/25, mb3.6/5, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**0.79**	**186**	*e*P	**Pb**	**01 38 29.3**	**-1.2**
THN *e*x **Sb 01 38 37.0 -3.8**
DHRM DHARAMSHALA 1.05 157 *e*P **Pb 01 38 35.6 +0.5**
DHRM *e*S **Sb 01 38 50.9 +2.4**
DHRM IAML 01 38 54.4
comp=N,1μm,0.2s
DHRM IAML 01 38 54.4
comp=E,1μm,0.2s
BHK Bhakra 1.87 164 *e*P **Pb 01 38 47.9 -1.0**
BHK *e*S **Sb 01 39 12.2 +0.4**
SMLA Simla 2.38 151 *e*P **Pn 01 38 54.5 +2.0**
SMLA *e*S **Sb 01 39 23.7 -2.8**
SMLA IAML 01 39 28.9
comp=E,421nm,0.1s
SMLA IAML 01 39 29.0
comp=N,460nm,0.3s
DDI Dehra Dun 3.46 146 *e*S **Sn 01 39 48.2 +0.6**
JOSI Joshimath 4.15 129 *e*P **Pn 01 39 18.7 +1.7**
JOSI *e*S **Sn 01 40 02.4 -2.3**
NDI New Delhi 4.68 165 *e*S **Sn 01 40 17.0 -0.6**
SONA Sohna 5.08 167 *e*x **Sn 01 40 30.4 +3.2**
KUDL Kundal 5.09 173 *e*P **Pn 01 39 30.9 +1.1**
KUDL *e*S **Sn 01 40 27.4 -0.3**
AAK Ala-Archa 9.46 354 Pn **Pn 01 40 29.7 -0.1**
comp=N,0.1nm,0.3s,baz=260,slow=19,SNR=2.4
AAK Sn **Sn 01 42 17.5 +2.3**
comp=N,0.2nm,0.3s,baz=291,slow=17,SNR=2.0
AAK LR LR 01 44 53.7
comp=N,24nm,19.8s,baz=118,slow=42
MKAR Makanchi Array 14.43 18 Pn **Pn 01 41 37.0 -0.6**
comp=N,0.1nm,0.3s,baz=199,slow=15,SNR=4.2
MKAR Sn **Sn 01 44 13.3 -3.3**
comp=N,0.1nm,0.3s,baz=197,slow=19,SNR=2.5
KURBB Kurchatov Arra 17.50 6 P **Pn 01 42 16.6 -0.5**
comp=N,0.1nm,0.3s,baz=191,slow=11,SNR=7.4
BVAR Borovoye Array 20.17 350 P Pn 01 42 49.1 -0.3
comp=N,2.9nm,0.4s,baz=162,slow=10.0,SNR=19
AKTO Aktyubinsk 21.62 328 P **P 01 43 03.8 +0.7**
comp=N,1.9nm,0.5s,baz=116,slow=12,SNR=11
ZALV Zalesovo Beam 21.69 15 P **P 01 43 04.0 +0.3**
comp=N,0.8nm,0.4s,baz=205,slow=11,SNR=4.1
ARCES ARCESS Array B 45.67 338 P **P 01 46 33.9 +0.7**
comp=N,0.6nm,0.7s,baz=97,slow=6.2,SNR=6.0
NOA NORSAR Array B 49.35 325 P **P 01 47 01.5 -0.5**
comp=N,0.3nm,0.6s,baz=96,slow=7.5,SNR=2.5
WRA Warramunga Arr 76.89 125 P **P 01 50 04.7 -0.5**
comp=N,2.9nm,0.3s,baz=325,slow=5.8,SNR=3.6

IDC 03 01:48:22.0±10.0, 24°.43S×179°.66E, h559km±129km, mb2.9/3, mb1 3.2/3, mb1mx2.8/28, mbtmp3.8/3, Error ellipse: s-maj=242.2km s-min=47.8km az=170.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.65**	**261**	P	P	01 55 22.4	0.0
0.2nm,0.3s,baz=102,slow=7.6,SNR=3.5
WRA Warramunga Arr 42.06 267 P P 01 55 25.3 -0.4
0.8nm,0.4s,baz=97,slow=8.2,SNR=3.2
TXAR Lajitas Array 90.97 58 P P 02 00 27.2 0.0
0.6nm,0.7s,baz=210,slow=7.2,SNR=3.6
KURBB Kurchatov Arra 115.41 316 PKiKP PKPdf 02 05 59.3 -1.1
0.1nm,0.4s,baz=86,slow=2.4,SNR=4.9
ARCES ARCESS Array B 132.34 348 PKP PKPdf 02 06 31.1 -1.2
1.0nm,0.7s,baz=48,slow=1.8,SNR=8.4
FINES FINESS Array B 138.85 341 PKhKP PKPpre 02 06 34.8
0.8nm,0.7s,baz=45,slow=3.0,SNR=6.5
FINES PKP PKPdf 02 06 44.6 +0.1
0.7nm,0.4s,baz=72,slow=2.3,SNR=6.0
AKASG Malin Array Be 145.25 327 PKPbc PKPdf 02 06 56.4 +0.2
1.5nm,0.5s,baz=44,slow=4.2,SNR=7.9
BRTR Keskin Array B 147.65 306 PKPbc PKPbc 02 07 04.2 -0.2
0.9nm,0.7s,baz=138,slow=5.1,SNR=7.9

*ISCJB **03** 01:49:15.6±0.6, 22°.30N±0°.03×122°.84E±0°.02, h69km, Error ellipse: s-maj=4.6km s-min=2.8km az=152.7*
*TAP **03** 01:49:15.9, 22°.26N×122°.80E, h69km±1km, ML3.7, D*
*JMA **03** 01:49:17.3±0.3, 22°.45N×123°.01E, h110km, M2.8*
ISC 03 01:49:14.6±1.6, 22°.19N±0°.07×122°.90E±0°.04, h69km, n57, σ1§54/94, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.26**	**263**	*e*P	**Pn**	**01 49 36.1**	**-0.3**
	baz=259						
LAY				*e*S	**Sn**	**01 49 50.7**	**-2.0**
	baz=259						
TTN	**Taitung**	**1.71**	**289**	*e*S	**Sn**	**01 50 02.1**	**-1.3**
	baz=292						
FULB	**Fuli**	**1.79**	**304**	*e*P	**Pn**	**01 49 42.9**	**-0.5**
	baz=299						
FULB				*e*S	**Sn**	**01 50 02.3**	**-3.0**
	baz=299						
TWG	**Pinlang**	**1.80**	**291**	P	**Pn**	**01 49 43.2**	**-0.3**
	baz=293						
TWG				*e*S	**Sn**	**01 50 03.9**	**-1.7**
	baz=293						
ECL	**Taimali**	**1.84**	**283**	*e*S	**Sn**	**01 50 05.2**	**-1.4**
	baz=281						
TAW	**Tawu**	**1.86**	**275**	P	**Pn**	**01 49 44.7**	**+0.3**
	baz=273						
TAW				*e*S	**Sn**	**01 50 05.2**	**-1.8**
	baz=273						
TWF1	**Yuli**	**1.87**	**308**	*i* P	**Pn**	**01 49 44.3**	**-0.3**
	baz=316						
TWF1				S	**Sn**	**01 50 05.8**	**-1.5**
	baz=316						
EAST	**Anshuo**	**1.91**	**276**	*e*P	**Pn**	**01 49 45.6**	**+0.6**
	baz=274						
EAST				S	**Sn**	**01 50 06.9**	**-1.2**
	baz=274						
EHY	**Hungye**	**1.95**	**312**	P	**Pn**	**01 49 45.3**	**-0.3**
	baz=318						
EHY				*e*S	**Sn**	**01 50 07.9**	**-1.4**
	baz=318						
EGFH	**Guangfu**	**2.00**	**318**	*e*P	**Pn**	**01 49 46.0**	**-0.3**
	baz=324						
EGFH				*e*S	**Sn**	**01 50 07.7**	**-2.6**
	baz=324						
ELDTW	**Lidau**	**2.00**	**300**	P	**Pn**	**01 49 46.0**	**-0.4**
	baz=299						
ELDTW				*e*S	**Sn**	**01 50 07.9**	**-2.6**
	baz=299						
HEN	**Hengchun**	**2.01**	**265**	*e*S	**Sn**	**01 50 09.8**	**-0.8**
	baz=262						
HATJ	**Hateruma jima**	**2.03**	**24**	P	**Pn**	**01 49 47.6**	**+0.9**
HATJ				S	**Sn**	**01 50 10.4**	**-0.7**
ESL	**Shilin**	**2.10**	**320**	*e*S	**Sn**	**01 50 09.8**	**-3.0**
	baz=328						
SCZT	**Fangliau**	**2.12**	**275**	P	**Pn**	**01 49 48.5**	**+0.7**
	baz=273						
SCZT				*e*S	**Sn**	**01 50 12.6**	**-0.6**
	baz=273						
STYT	**Tauyuan**	**2.20**	**296**	P	**Pn**	**01 49 50.0**	**+1.0**
	baz=299						
STYT				*e*S	**Sn**	**01 50 13.2**	**-2.1**
	baz=299						
SLGT	**Liugui**	**2.23**	**291**	*e*P	**Pn**	**01 49 50.2**	**+0.8**
	baz=294						
SLGT				*e*S	**Sn**	**01 50 15.8**	**-0.1**
	baz=294						
TWD	**Chiawan**	**2.23**	**328**	*e*P	**Pn**	**01 49 48.9**	**-0.4**
	baz=336						
TWD				*e*S	**Sn**	**01 50 13.1**	**-2.8**
	baz=336						
JYNG	**Yonagunijimaku**	**2.25**	**1**	S	**Sn**	**01 50 16.3**	**0.0**
YOJ	**Yonaguni jima**	**2.26**	**3**	*e*S	**Sn**	**01 50 15.2**	**-1.4**
	baz=5.0						
YOJ	**Yonaguni jima**	**2.26**	**3**	P	**Pn**	**01 49 50.8**	**+1.1**
YOJ				*e*S	**Sn**	**01 50 16.0**	**-0.6**
IRIF	**Iriomote-Funau**	**2.26**	**20**	P	**Pn**	**01 49 50.8**	**+1.0**
IRIF				S	**Sn**	**01 50 16.3**	**-0.4**
JKRS	**Kuro-shima**	**2.28**	**26**	P	**Pn**	**01 49 51.2**	**+1.2**
JKRS				*e*S	**Sn**	**01 50 16.5**	**-0.5**
ALS	**Alishan**	**2.33**	**305**	P	**Pn**	**01 49 52.4**	**+1.4**
	baz=304						
ALS				*e*S	**Sn**	**01 50 18.5**	**-0.3**
	baz=304						
WTP	**Ta-pu**	**2.35**	**297**	P	**Pn**	**01 49 53.2**	**+2.1**
	baz=301						
WTP				*e*S	**Sn**	**01 50 20.2**	**+1.2**
	baz=301						
OWD	**Renai**	**2.36**	**318**	*e*P	**Pn**	**01 49 51.8**	**+0.5**
	baz=318						
OWD				*e*S	**Sn**	**01 50 17.4**	**-1.9**
	baz=318						
ETLH	**Xiulin Townshi**	**2.39**	**327**	P	**Pn**	**01 49 51.6**	**0.0**
	baz=334						
ETLH				S	**Sn**	**01 50 17.9**	**-2.0**
	baz=334						
CHN1	**Nanshi**	**2.40**	**295**	P	**Pn**	**01 49 54.5**	**+2.8**
	baz=296						
CHN1				*e*S	**Sn**	**01 50 22.6**	**+2.5**
	baz=296						
CHN4	**Tsaushan**	**2.42**	**299**	P	**Pn**	**01 49 54.2**	**+2.3**
	baz=303						
CHN4				*e*S	**Sn**	**01 50 22.4**	**+1.9**
	baz=303						
SNST	**Tainan City**	**2.44**	**295**	*e*S	**Sn**	**01 50 23.9**	**+2.8**
	baz=283						
JIJ	**Ishigaki jima**	**2.44**	**28**	P	**Pn**	**01 49 52.7**	**+0.5**
JIJ				S	**Sn**	**01 50 19.4**	**-1.7**
EOS1	**EOS1**	**2.45**	**343**	*e*S	**Sn**	**01 50 20.8**	**-0.3**
	baz=338						
WHF	**Hehuan Shan**	**2.46**	**323**	P	**Pn**	**01 49 53.1**	**+0.3**
	baz=323						
WHF				*e*S	**Sn**	**01 50 19.4**	**-2.6**
	baz=323						
ENA	**Nanau**	**2.46**	**335**	*e*S	**Sn**	**01 50 20.5**	**-1.1**
	baz=329						
TWK	**Hsinying**	**2.47**	**296**	P	**Pn**	**01 49 54.7**	**+2.0**
	baz=295						
TWK				S	**Sn**	**01 50 24.2**	**+2.4**
	baz=295						
SMLT	**Sun Moon Lake**	**2.49**	**313**	*e*P	**Pn**	**01 49 54.5**	**+1.5**
	baz=319						
SMLT				*e*S	**Sn**	**01 50 21.8**	**-0.7**
	baz=319						
TYC	**Yuchr**	**2.54**	**313**	*e*P	**Pn**	**01 49 54.5**	**+1.0**
	baz=320						
TYC				*e*S	**Sn**	**01 50 23.1**	**-0.3**
	baz=320						
WJS	**Zhushan**	**2.57**	**309**	*e*P	**Pn**	**01 49 56.5**	**+2.4**
	baz=309						
DPDB	**Guoxing**	**2.58**	**316**	*e*P	**Pn**	**01 49 55.1**	**+1.0**
	baz=321						
DPDB				*e*S	**Sn**	**01 50 23.4**	**-1.1**
	baz=321						
TWC	**Suao**	**2.59**	**338**	*e*S	**Sn**	**01 50 22.7**	**-1.9**
	baz=340						
WNT	**Mingjian**	**2.64**	**310**	*e*P	**Pn**	**01 49 57.4**	**+2.5**
	baz=310						
WNT				*e*S	**Sn**	**01 50 27.4**	**+1.6**
	baz=310						
JISG	**Ishigakijimahi**	**2.71**	**28**	P	**Pn**	**01 49 56.5**	**+0.6**
JISG				S	**Sn**	**01 50 26.6**	**-1.0**
NDT	**Datong Townshi**	**2.71**	**332**	*e*P	**Pn**	**01 49 56.6**	**+0.7**
	baz=333						
NDT				*e*S	**Sn**	**01 50 25.8**	**-1.9**
	baz=333						
ENTT	**Nioudou**	**2.73**	**334**	*e*S	**Sn**	**01 50 26.3**	**-1.7**
	baz=334						
WHP	**Taichung City**	**2.74**	**319**	*e*P	**Pn**	**01 49 57.1**	**+0.7**
	baz=325						
SLBB	**Yuanshan**	**2.80**	**336**	*e*S	**Sn**	**01 50 29.5**	**-0.3**
	baz=337						
NSK	**Sanguang**	**2.85**	**331**	*e*P	**Pn**	**01 49 59.2**	**+1.4**
	baz=331						
NSK				*e*S	**Sn**	**01 50 29.2**	**-1.8**
	baz=331						
NWLT	**Wulai**	**2.87**	**334**	*e*P	**Pn**	**01 49 59.7**	**+1.6**
	baz=334						
NWLT				*e*S	**Sn**	**01 50 30.2**	**-1.4**
	baz=334						
TWQ1	**Liyutan**	**2.90**	**318**	*e*P	**Pn**	**01 50 00.8**	**+2.3**
	baz=328						
TWQ1				*e*S	**Sn**	**01 50 33.9**	**+1.6**
	baz=328						
TIPB	**Shuangxi**	**2.94**	**341**	*e*P	**Pn**	**01 50 00.5**	**+1.5**
	baz=349						
TIPB				*e*S	**Sn**	**01 50 31.1**	**-2.0**
	baz=349						
JTJ	**Tarama**	**2.95**	**34**	P	**Pn**	**01 50 00.1**	**+1.0**
NSY	**Sanyi**	**2.96**	**319**	*e*P	**Pn**	**01 50 02.1**	**+2.8**
	baz=331						
NSTT	**Nanjuang**	**2.99**	**325**	*e*S	**Sn**	**01 50 33.7**	**-0.6**
	baz=331						
WDGT	**Dungji**	**3.17**	**290**	*e*P	**Pn**	**01 50 02.6**	**+0.4**
	baz=279						
WDGT				*e*S	**Sn**	**01 50 37.1**	**-1.7**
	baz=279						
YM07	**YM07**	**3.19**	**339**	*e*S	**Sn**	**01 50 39.8**	**+0.5**
	baz=339						
YM10	**YM10**	**3.19**	**338**	*e*S	**Sn**	**01 50 38.5**	**-0.9**
	baz=338						
JIRB	**Irabujima**	**3.35**	**38**	P	**Pn**	**01 50 04.8**	**+0.2**

MEX 03 02:01:01.8±0.6, 18°.00N×102°.28W, h16km±293km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.87**	**116**	*i* P	Pb	02 01 15.5	-3.0
ZIIG				*i* S	Sb	02 01 25.6	-4.3
ARIG	**Puente Sto Nin**	**1.86**	**81**	*i* P	Pn	02 01 29.5	-3.6
ARIG				*e*S	Sn	02 01 50.8	-5.5
CAIG	**El Cayaco**	**2.14**	**116**	*i* P	Pn	02 01 34.2	-2.7
CAIG				*i* S	Sn	02 01 59.1	-4.1
MEIG	**Mezcala**	**2.53**	**91**	*i* P	Pn	02 01 40.2	-2.2
MEIG				*i* S	Sn	02 02 08.6	-4.4
PLIG	**Platanillo**	**2.67**	**81**	*i* P	Pn	02 01 40.7	-3.6
PLIG				*e*S	Sn	02 02 13.0	-3.4
TLIG	**Tlapa**	**3.56**	**96**	*i* P	Pn	02 01 54.7	-1.9
TLIG				*e*S	Sn	02 02 35.0	-3.6

*ISCJB **03** 02:02:52.9±0.2, 44°.64N±0°.01×6°.81E±0°.02, h10km±2km, Error ellipse: s-maj=2.8km s-min=2.2km az=153.5*
*ROM **03** 02:02:52.6±0.2, 44°.637N±0°.008×6°.82E±0°.01, h9km±1km, ML2.1/20, Error ellipse: s-maj=1.1km s-min=0.6km az=225.0*
*STR **03** 02:02:53.5±0.6, 45°.N×3°.×±°., h35km, M2.0/4, MLv2.0/4*
*GEN **03** 02:02:53.4, 44°.63N×6°.82E, h5km±2km, Ml2.0*
*LDG **03** 02:02:53.6±0.1, 44°.65N×6°.83E, h2km, Md2.6/4, Ml2.6/9, Error ellipse: s-maj=2.3km s-min=1.6km az=60.0*
ISC 03 02:02:53.3±0.9, 44°.64N±0°.02×6°.83E±0°.02, h8km±6km, n73, σ0§54/99, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.09**	**335**	*e*Pg	**Pg**	**02 02 55.5**	**-0.3**
MBDF				*e*Sg	**Sg**	**02 02 57.3**	**-0.3**
	390nm,0.2s						
PZZ	**Stroppo**	**0.25**	**123**	P	**Pg**	**02 02 58.2**	**-0.1**
PZZ				S	**Sg**	**02 03 01.8**	**+0.1**
PZZ	**Stroppo**	**0.25**	**123**	P	**Pg**	**02 02 58.2**	**-0.1**
PZZ				S	**Sg**	**02 03 02.1**	**+0.3**
PZZ				AML	AML		
	comp=E,1455μm,1.1s						
PZZ				AML	AML		
	comp=N,1210μm,1.1s						
PZZ				AML	AML		
	comp=E,1455μm,1.1s						
PZZ				AML	AML		
	comp=N,1210μm,1.1s						
PZZ				AML	AML		
	comp=E,1455μm,1.1s						
PZZ				AML	AML		
	comp=N,1210μm,1.1s						
PZZ	**Stroppo**	**0.25**	**123**	P	**Pg**	**02 02 58.2**	**-0.1**
PZZ	**Stroppo**	**0.25**	**123**	S	**Sg**	**02 03 02.4**	**+0.7**
RRL	**Rocca Remolon**	**0.28**	**355**	P	**Pg**	**02 02 59.0**	**0.0**
RRL				S	**Sg**	**02 03 03.5**	**+0.7**
RRL	**Rocca Remolon**	**0.28**	**355**	P	**Pg**	**02 02 58.9**	**0.0**
RRL	**Rocca Remolon**	**0.28**	**355**	P	**Pg**	**02 02 59.0**	**0.0**
RRL				S	**Sg**	**02 03 03.5**	**+0.7**
RRL				AML	AML		
	comp=E,229μm,0.3s						
RRL				AML	AML		
	comp=N,374μm,0.2s						
RRL				AML	AML		
	comp=E,229μm,0.3s						
RRL				AML	AML		
	comp=N,374μm,0.2s						
RRL				AML	AML		
	comp=N,374μm,0.2s						
RRL				AML	AML		
	comp=E,229μm,0.3s						
RRL	**Rocca Remolon**	**0.28**	**355**	S	**Sg**	**02 03 03.7**	**+0.9**
DOI	**San Damiano**	**0.33**	**115**	P	**Pg**	**02 02 59.9**	**0.0**
DOI				S	**Sg**	**02 03 04.9**	**+0.6**
DOI				AML	AML		
	comp=E,2290μm,0.2s						
DOI				AML	AML		
	comp=N,1710μm,0.2s						
DOI				AML	AML		
	comp=N,1710μm,0.2s						
DOI				AML	AML		
	comp=E,2290μm,0.2s						
DOI	**San Damiano**	**0.33**	**115**	S	**Sg**	**02 03 04.9**	**+0.6**
BHB	**Bricherasio**	**0.37**	**57**	P	**Pg**	**02 03 00.7**	**+0.1**
BHB				S	**Sg**	**02 03 05.5**	**0.0**
BHB	**Bricherasio**	**0.37**	**57**	P	**Pg**	**02 03 00.7**	**+0.1**
BHB				S	**Sg**	**02 03 06.0**	**+0.5**
BHB				AML	AML		
	comp=E,210μm,0.2s						
BHB				AML	AML		
	comp=N,230μm,0.2s						
BHB				AML	AML		
	comp=E,211μm,0.2s						
BHB				AML	AML		
	comp=N,230μm,0.2s						
BHB				AML	AML		
	comp=E,211μm,0.2s						
BHB				AML	AML		
	comp=N,230μm,0.2s						
BHB	**Bricherasio**	**0.37**	**57**	S	**Sg**	**02 03 06.0**	**+0.5**
BNI	**Bardonecchia**	**0.42**	**346**	P	**Pg**	**02 03 01.5**	**-0.1**
BNI				S	**Sg**	**02 03 08.0**	**+0.8**
BNI				AML	AML		
	comp=E,83μm,1.3s						
BNI				AML	AML		
	comp=N,56μm,1.1s						
BNI				AML	AML		
	comp=E,83μm,1.3s						
BNI				AML	AML		
	comp=N,56μm,1.1s						
BNI				AML	AML		
	comp=N,56μm,1.1s						
BNI				AML	AML		
	comp=E,83μm,1.3s						
BNI	**Bardonecchia**	**0.42**	**346**	P	**Pg**	**02 03 01.7**	**0.0**
BNI	**Bardonecchia**	**0.42**	**346**	S	**Sg**	**02 03 08.0**	**+0.8**
STV	**Sant Anna di V**	**0.54**	**138**	P	**Pg**	**02 03 03.4**	**-0.3**
STV				S	**Sg**	**02 03 10.7**	**0.0**
STV	**Sant Anna di V**	**0.54**	**138**	P	**Pg**	**02 03 03.5**	**-0.2**
STV				S	**Sg**	**02 03 10.9**	**+0.2**
STV				AML	AML		
	comp=E,212μm,1.4s						
STV				AML	AML		
	comp=N,220μm,0.5s						
STV				AML	AML		
	comp=E,212μm,1.4s						
STV				AML	AML		
	comp=N,220μm,0.5s						
STV				AML	AML		
	comp=N,220μm,0.5s						
STV				AML	AML		
	comp=E,212μm,1.4s						
STV	**Sant Anna di V**	**0.54**	**138**	P	**Pg**	**02 03 03.5**	**-0.2**
STV	**Sant Anna di V**	**0.54**	**138**	S	**Sg**	**02 03 10.9**	**+0.2**
RSP	**Reno Superiore**	**0.59**	**32**	P	**Pg**	**02 03 05.0**	**+0.1**
RSP				S	**Sg**	**02 03 13.3**	**+0.6**
RSP	**Reno Superiore**	**0.59**	**32**	P	**Pg**	**02 03 04.9**	**+0.1**
RSP				AML	AML		
	comp=E,97μm,0.1s						
RSP				AML	AML		
	comp=N,85μm,0.1s						
RSP				AML	AML		
	comp=E,97μm,0.1s						
RSP				AML	AML		
	comp=N,86μm,0.1s						
RSP				AML	AML		
	comp=E,97μm,0.1s						
RSP				AML	AML		
	comp=N,86μm,0.1s						
RSP	**Reno Superiore**	**0.59**	**32**	P	**Pg**	**02 03 05.0**	**+0.1**
ENR	**Entracque**	**0.59**	**134**	P	**Pg**	**02 03 04.5**	**-0.4**
ENR				S	**Sg**	**02 03 12.7**	**+0.1**
ENR	**Entracque**	**0.59**	**134**	P	**Pg**	**02 03 04.8**	**0.0**
ENR				S	**Sg**	**02 03 13.1**	**+0.5**
ENR				AML	AML		
	comp=E,403μm,0.2s						
ENR				AML	AML		
	comp=N,399μm,0.4s						
ENR				AML	AML		
	comp=E,402μm,0.2s						
ENR				AML	AML		
	comp=N,399μm,0.4s						
ENR				AML	AML		
	comp=N,399μm,0.4s						
ENR				AML	AML		
	comp=E,402μm,0.2s						
ENR	**Entracque**	**0.59**	**134**	S	**Sg**	**02 03 13.1**	**+0.5**
ORIF	**Oris-en-Rattie**	**0.73**	**293**	*e*Pg	**Pg**	**02 03 06.8**	**-0.5**
ORIF				*e*Sg	**Sg**	**02 03 15.8**	**-1.1**
	comp=E,28nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.73**	**293**	Pg	**Pg**	**02 03 06.8**	**-0.5**
ORIF	**Oris-en-Rattie**	**0.73**	**293**	P	**Pg**	**02 03 06.8**	**-0.5**
ORIF				S	**Sg**	**02 03 16.1**	**-0.7**
ORIF				AML	AML		
	comp=E,65μm,0.5s						
ORIF				AML	AML		
	comp=N,87μm,1.2s						
ORIF				AML	AML		
	comp=N,87μm,1.2s						
ORIF				AML	AML		
	comp=E,65μm,0.5s						
ORIF	**Oris-en-Rattie**	**0.73**	**293**	S	**Sg**	**02 03 16.2**	**-0.7**
GBOS	**Grotte di Boss**	**0.83**	**119**	P	**Pg**	**02 03 08.7**	**-0.5**
GBOS				S	**Sg**	**02 03 19.3**	**-0.7**
GBOS	**Grotte di Boss**	**0.83**	**119**	P	**Pg**	**02 03 08.8**	**-0.5**
GBOS				S	**Sg**	**02 03 20.0**	**0.0**
GBOS				AML	AML		
	comp=E,164μm,0.3s						
GBOS				AML	AML		
	comp=N,153μm,0.3s						
GBOS				AML	AML		
	comp=E,164μm,0.3s						
GBOS				AML	AML		
	comp=N,153μm,0.3s						
GBOS	**Grotte di Boss**	**0.83**	**119**	P	**Pg**	**02 03 08.9**	**-0.4**
GBOS	**Grotte di Boss**	**0.83**	**119**	S	**Sg**	**02 03 20.0**	**0.0**
GBOS	**Grotte di Boss**	**0.83**	**119**	S	**Sb**	**02 03 21.0**	**-0.3**
SAOF	**Saorge**	**0.84**	**141**	P	**Pg**	**02 03 09.4**	**-0.1**
SAOF	**Saorge**	**0.84**	**141**	S	**Sg**	**02 03 21.0**	**+0.6**
SAOF	**Saorge**	**0.84**	**141**	AML	AML		
	comp=E,124μm,1.1s						
SAOF				AML	AML		
	comp=N,144μm,0.4s						
SAOF				AML	AML		
	comp=N,144μm,0.4s						
SAOF				AML	AML		
	comp=E,124μm,1.1s						
SAOF				AML	AML		
	comp=N,144μm,0.4s						
SAOF				AML	AML		
	comp=E,124μm,1.1s						
LSD	**Lago del Serru**	**0.85**	**15**	P	**Pg**	**02 03 09.2**	**-0.4**
LSD				S	**Sg**	**02 03 20.3**	**-0.3**
LSD	**Lago del Serru**	**0.85**	**15**	P	**Pg**	**02 03 09.5**	**-0.1**
LSD	**Lago del Serru**	**0.85**	**15**	AML	AML		
	comp=N,48μm,0.3s						
LSD				AML	AML		
	comp=E,63μm,0.3s						
LSD				AML	AML		
	comp=N,48μm,0.3s						
LSD				AML	AML		
	comp=E,63μm,0.3s						
LPG	**La Plagne**	**0.86**	**356**	*e*Pg	**Pg**	**02 03 09.6**	**-0.2**
LPG				*e*Sg	**Sb**	**02 03 21.7**	**-0.6**
	comp=E,13nm,0.3s						
LPL	**La Plagne**	**0.88**	**356**	*e*Pg	**Pg**	**02 03 09.9**	**-0.3**
LPL				*e*Sg	**Sb**	**02 03 22.7**	**-0.1**
	comp=E,23nm,0.4s						
BLAF	**les Blancs**	**0.89**	**219**	Pg	**Pb**	**02 03 11.0**	**0.0**
BLAF				Sg	**Sb**	**02 03 23.5**	**+0.5**
MONC	**Moncucco Torin**	**0.89**	**61**	P	**Pb**	**02 03 11.5**	**+0.4**
MONC	**Moncucco Torin**	**0.89**	**61**	AML	AML		
	comp=E,123μm,1.0s						
MONC				AML	AML		
	comp=N,196μm,0.4s						
MONC				AML	AML		
	comp=N,196μm,0.4s						
MONC				AML	AML		
	comp=E,123μm,1.0s						
SBF	**Sospel**	**0.89**	**150**	*e*Pg	**Pg**	**02 03 10.5**	**0.0**
SBF				*e*Sg	**Sg**	**02 03 22.7**	**+0.6**
	comp=E,59nm,0.3s						
MGRO	**Montegrosso**	**0.93**	**130**	P	**Pg**	**02 03 10.4**	**-0.7**
MGRO				S	**Sg**	**02 03 23.1**	**-0.1**
MGRO	**Montegrosso**	**0.93**	**130**	P	**Pg**	**02 03 10.4**	**-0.7**
MGRO	**Montegrosso**	**0.93**	**130**	AML	AML		
	comp=N,164μm,0.5s						
MGRO				AML	AML		
	comp=E,118μm,0.7s						
MGRO				AML	AML		
	comp=N,164μm,0.5s						
MGRO				AML	AML		
	comp=E,118μm,0.7s						
REVF	**Revere**	**0.98**	**156**	Pg	**Pg**	**02 03 12.5**	**+0.3**
REVF				Sg	**Sb**	**02 03 26.1**	**+0.4**
NEGI	**Seborga**	**1.01**	**141**	P	**Pg**	**02 03 12.4**	**-0.4**
NEGI	**Seborga**	**1.01**	**141**	AML	AML		
	comp=N,179μm,0.8s						
NEGI				AML	AML		
	comp=E,122μm,0.2s						
NEGI				AML	AML		
	comp=E,122μm,0.2s						
NEGI				AML	AML		
	comp=N,179μm,0.8s						
RORO	**Rocca Rossa**	**1.03**	**120**	P	**Pg**	**02 03 12.3**	**-0.8**
RORO				AML	AML		
	comp=E,127μm,0.9s						
RORO				AML	AML		
	comp=N,117μm,1.0s						
RORO				AML	AML		
	comp=N,117μm,1.0s						
RORO				AML	AML		
	comp=E,127μm,0.9s						
RORO	**Rocca Rossa**	**1.03**	**120**	P	**Pg**	**02 03 12.7**	**-0.5**
IMI	**Imperia**	**1.06**	**133**	P	**Pg**	**02 03 13.2**	**-0.4**
IMI	**Imperia**	**1.06**	**133**	AML	AML		
	comp=E,168μm,0.4s						
IMI				AML	AML		
	comp=N,176μm,0.4s						
IMI				AML	AML		
	comp=E,168μm,0.4s						
IMI				AML	AML		
	comp=N,176μm,0.4s						
FRF	**La Foret Royal**	**1.09**	**187**	*e*Pg	**Pg**	**02 03 13.7**	**-0.5**
FRF				*e*Sg	**Sn**	**02 03 30.1**	**+0.1**
	comp=N,15nm,0.2s						
CIRO	**Champorcher**	**1.09**	**28**	P	**Pg**	**02 03 14.2**	**-0.1**
CIRO	**Champorcher**	**1.09**	**28**	P	**Pb**	**02 03 14.5**	**-0.1**
ROTM	**Rocchetta Tana**	**1.11**	**79**	P	**Pn**	**02 03 14.9**	**-0.1**
ROTM				AML	AML		
	comp=E,220μm,1.2s						
ROTM				AML	AML		
	comp=N,237μm,1.2s						
ROTM				AML	AML		
	comp=N,237μm,1.2s						
ROTM				AML	AML		
	comp=E,220μm,1.2s						
ROTM	**Rocchetta Tana**	**1.11**	**79**	P	**Pn**	**02 03 15.2**	**+0.1**
SMRF	**Simiane la Rot**	**1.12**	**234**	*e*Pg	**Pn**	**02 03 15.2**	**0.0**
SMRF				*e*Sg	**Sn**	**02 03 31.2**	**+0.4**
	comp=E,16nm,0.3s						
QLNO	**Quiliano**	**1.13**	**106**	P	**Pb**	**02 03 14.3**	**-0.9**
QLNO				AML	AML		
	comp=E,73μm,0.4s						
QLNO				AML	AML		
	comp=N,71μm,0.4s						
QLNO				AML	AML		
	comp=N,71μm,0.4s						
QLNO				AML	AML		
	comp=E,73μm,0.4s						
QLNO	**Quiliano**	**1.13**	**106**	P	**Pb**	**02 03 14.4**	**-0.7**
BSTF	**la Bastide-des**	**1.14**	**228**	Pg	**Pn**	**02 03 16.8**	**+1.2**

BSTF				Sg	Sn	02 03 33.7	+2.3
PCP	Piancastagn	1.23	94	P	Pn	02 03 15.8	-1.0
PCP				AML	AML		
comp=E,64μm,0.3s							
PCP				AML	AML		
comp=N,65μm,0.3s							
PCP				AML	AML		
comp=E,64μm,0.3s							
PCP				AML	AML		
comp=N,65μm,0.3s							
PCP	Piancastagn	1.23	94	P	Pn	02 03 15.9	-0.9
LMR	La Mourre	1.33	190	*e*Pg	Pb	02 03 18.5	+0.1
LMR				*e*Sg	Sn	02 03 35.9	0.0
comp=N,13nm,0.2s							
VIVF	Saint-Julien-l	1.55	279	*e*Pg	Pn	02 03 21.5	+0.3
VIVF				*e*Sg	Sg	02 03 43.9	+0.8
comp=N,5.0nm,0.3s							
LASF	Ste Croix	2.20	256	*e*Pn	Pn	02 03 29.8	-0.4
LASF				*e*Sn	Sn	02 03 56.4	-1.2
comp=N,3.2nm,0.2s							
PGF	Pioggiola	2.62	142	*e*Pn	Pn	02 03 36.2	+0.2
PGF				*e*Sn	Sn	02 04 08.5	+0.5
comp=N,3.7nm,0.3s							

*IDC **03** 02:14:05.1±0.7,0.°90N×126.°02E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/40, mbtmp4.0/11, ML3.7/1, MS2.7/2, Ms1 2.8/2, ms1mx2.3/37, Error ellipse: s-maj=42.0km s-min=14.2km az=80.0*

*ISCJB **03** 02:14:09.8±0.4,0.°94N±0.°04×126.°24E±0.°05, h44km, mb4.1/16, MS2.2/1, Error ellipse: s-maj=7.3km s-min=5.6km az=171.2*

*DJA **03** 02:14:09.7±0.3, 1.°N±3.°×12.°6E±.°, h10km, M4.1/7, mb4.1/1, MLv4.1/7*

*NEIC **03** 02:14:10.2±5.3, 0.°91N×126.°09E, h35km±39km, mb4.2/8, Error ellipse: s-maj=19.2km s-min=6.5km az=88.0*

ISC 03 02:14:11.6±0.6, 0.°98N±0.°05×126.°20E±0.°05, h44km, n39, σ1§24/41, mb4.2/16, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.19	100	*e*Pn	Pn	02 14 31.2	-0.6
TNTI	Ternate	1.19	100	P	Pn	02 14 32.0	+0.2
TNTI				S	Sn	02 14 49.5	+2.7
KMSI	Cibinong	2.25	260	P	Pn	02 14 45.8	-0.5
KMSI				S	Sn	02 15 13.6	+0.7
SGSI	Sangihe	2.77	346	P	Pn	02 14 54.7	+1.3
SGSI				S	Sn	02 15 27.5	+1.9
SANI	Sanana	3.02	184	P	Pn	02 14 58.7	+1.8
SANI				S	Sn	02 15 34.8	+2.9
LUWI	Luwuk	3.97	240	P	Pn	02 15 10.2	+0.2
APSI	Ampana	4.92	248	P	Pn	02 15 24.8	+1.8
BATI	Baumata	11.40	193	LR	LR	02 22 04.3	
comp=Z,83nm,20.1s,baz=200,slow=42							
FITZ	Fitzroy Crossi	18.97	182	*e*P	P	02 18 28.6	-0.8
23nm,1.8s							
FITZ	Fitzroy Crossi	18.97	182	P	P	02 18 28.6	-0.8
0.2nm,0.3s,baz=25,slow=4.0,SNR=4.2							
WRAB	Tennant Creek	22.27	159	*e*P	P	02 19 04.5	-0.6
17nm,1.0s							
WR1	Warramunga Arr	22.28	159	*e*P	P	02 19 03.9	-1.3
WRA	Warramunga Arr	22.28	159	*e*P	P	02 19 04.1	-1.1
WRA	Warramunga Arr	22.28	159	P	P	02 19 03.9	-1.3
10nm,0.9s,baz=339,slow=11,SNR=5.5							
WB2	Warramunga Arr	22.28	159	*e*P	P	02 19 03.7	-1.5
11nm,0.9s							
AS31	Alice Springs	25.62	163	*e*P	P	02 19 36.6	-0.5
1.2nm,0.6s							
ASAR	Alice Springs	25.62	163	P	P	02 19 36.6	-0.5
2.3nm,0.5s,baz=344,slow=11,SNR=28							
CMAR	Chiang Mai Arr	31.89	305	LR	LR	02 33 29.1	
comp=Z,6.1nm,21.9s,baz=80,slow=37							
STKA	Stephens Creek	35.79	157	*e*P	P	02 21 05.8	-0.9
2.0nm,1.0s							
STKA	Stephens Creek	35.79	157	P	P	02 21 05.8	-0.9
7.6nm,1.0s,baz=313,slow=8.2,SNR=6.3							
KS15	Wonju Array Si	36.31	2	*e*P	P	02 21 12.6	+1.5
37nm,1.8s							
KSAR	Wonju Array Be	36.31	2	P	P	02 21 12.6	+1.5
KSRS	Korea Array	36.33	2	P	P	02 21 12.6	+1.4
0.5nm,0.5s,baz=187,slow=8.6,SNR=2.9							
MJAR	Matsushiro Arr	37.09	16	P	P	02 21 19.4	+1.6
1.0nm,0.6s,baz=189,slow=10,SNR=3.8							
MAJO	Matsushiro	37.09	16	*e*P	P	02 21 19.4	+1.6
SONA0	Songino Array	49.73	343	*e*P	P	02 22 58.7	-0.9
SONM	Songino Array	49.73	343	P	P	02 22 58.7	-0.9
0.5nm,0.7s,baz=156,slow=8.1,SNR=2.9							
PETK	Petropavlovsk-	58.16	22	P	P	02 24 00.3	-0.6
2.4nm,0.7s,baz=217,slow=7.0,SNR=2.3							
PEA1	Petropavlovsk-	58.16	22	*e*P	P	02 24 00.3	-0.6
MK31	Makanchi Array	59.51	326	*e*P	P	02 24 09.8	-0.6
1.1nm,0.6s							
MK32	Makanchi Array	59.51	326	*e*P	P	02 24 09.6	-0.9
MKAR	Makanchi Array	59.51	326	*e*P	P	02 24 09.3	-1.1
MKAR	Makanchi Array	59.51	326	P	P	02 24 09.6	-0.9
0.8nm,0.4s,baz=120,slow=8.1,SNR=13							
KURK	Kurchatov	63.77	328	*e*P	P	02 24 38.0	-1.0
3.6nm,0.8s							
VNDA	Vanda	80.79	173	P	P	02 26 19.1	-0.9
2.1nm,1.2s,baz=282,slow=6.9,SNR=4.3							
BR101	Keskin Array S	91.35	310	*e*P	P	02 27 13.7	+0.5
BRTR	Keskin Array B	91.35	310	P	P	02 27 13.7	+0.5
0.3nm,0.7s,baz=89,slow=6.5,SNR=2.7							
TORD	Torodi Ar. Bea	123.22	286	PKP	PKPdf	02 33 04.5	-0.1
0.3nm,0.6s,baz=101,slow=1.5,SNR=3.1							
TOA1	Torodi Ar. Sit	123.22	286	*e*PKPdf	PKPdf	02 33 04.5	-0.1

IDC 03 02:14:37.5±8.0, 2.°83S×104.°37W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/37, mbtmp3.6/4, MS3.3/6, Ms1 3.2/6, ms1mx3.0/22, Error ellipse: s-maj=267.6km s-min=170.6km az=62.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	Las Juntas de	23.32	56	LR	LR	02 27 06.2	
comp=Z,112nm,18.9s,baz=354,slow=32							
ATAH	Atahualpa	26.22	100	LR	LR	02 27 26.4	
comp=Z,52nm,18.8s,baz=315,slow=29							
LPIG	La Paz	27.39	348	LR	LR	02 27 01.7	
comp=Z,48nm,19.8s,baz=190,slow=27							
NNA	Nana	28.75	110	LR	LR	02 29 12.8	
comp=Z,49nm,21.0s,baz=260,slow=30							
TXAR	Lajitas Array	31.99	1	LR	LR	02 32 10.3	
comp=Z,24nm,21.5s,baz=0.0,slow=33							
NVAR	Mina Array Bea	43.03	344	P	P	02 22 38.9	-0.3
0.7nm,1.0s,baz=169,slow=9.8,SNR=2.4							
PLCA	Paso Flores	48.51	146	LR	LR	02 37 58.2	
comp=Z,52nm,21.7s,baz=338,slow=29							
YKA	Yellowknife Ar	65.61	355	P	P	02 25 24.2	+1.2
0.7nm,0.7s,baz=163,slow=6.3,SNR=6.5							
INK	Inuvik	73.81	349	P	P	02 26 12.8	-0.6
1.0nm,1.0s,baz=141,slow=4.1,SNR=3.0							
ILAR	Eielson Array	74.27	342	P	P	02 26 15.9	-0.3
0.7nm,0.9s,baz=151,slow=6.4,SNR=3.2							
H11N3	WAKE ISLAND Hy	89.74	290	T	T	04 06 01.6	
baz=96,slow=75,SNR=26							
H11N2	WAKE ISLAND Hy	89.75	290	T	T	04 06 01.8	
baz=96,slow=75,SNR=20							
H11N1	WAKE ISLAND Hy	89.75	290	T	T	04 05 54.4	
baz=96,slow=75,SNR=9.7							
H11S2	WAKE ISLAND Hy	89.86	288	T	T	04 06 04.6	
baz=93,slow=74,SNR=8.6							
H11S1	WAKE ISLAND Hy	89.87	288	T	T	04 06 09.1	
baz=93,slow=74,SNR=7.7							
H11S3	WAKE ISLAND Hy	89.88	288	T	T	04 06 06.8	
baz=93,slow=74,SNR=5.1							

IDC 03 02:25:08.2±2.2, 7.°71S×130.°33E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.4/30, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=83.1km s-min=29.2km az=78.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.29	203	Pn	Pn	02 27 52.5	+1.5
0.2nm,0.3s,baz=28,slow=12,SNR=3.6							
FITZ				Sn	Sn	02 29 52.8	-5.2
0.2nm,0.3s,baz=82,slow=14,SNR=3.7							
WRA	Warramunga Arr	12.77	163	Pn	Pn	02 28 10.6	-0.7
0.1nm,0.3s,baz=343,slow=13,SNR=5.9							
WRA				Sn	Sn	02 30 25.5	-8.8
0.2nm,0.3s,baz=334,slow=21,SNR=4.8							
ASAR	Alice Springs	16.24	168	Pn	Pn	02 28 57.0	-0.9
0.1nm,0.3s,baz=341,slow=9.8,SNR=4.4							
MKAR	Makanchi Array	68.99	327	P	P	02 36 15.6	0.0
0.5nm,0.6s,baz=124,slow=7.8,SNR=5.4							

MEX 03 02:30:05.1±0.6, 16.°64N×99.°56W, h15km±6km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.79	301	*e*P	Pg	02 30 17.5	-2.9
CAIG				*e*S	Sg	02 30 27.7	-3.1
MEIG	Mezcala	1.28	358	*e*P	Pn	02 30 24.4	-4.2
MEIG				*e*S	Sb	02 30 40.0	-5.2
TLIG	Tlapa	1.32	46	*e*P	Pn	02 30 25.2	-4.0
TLIG				*e*S	Sb	02 30 41.5	-5.0
PNIG	Pinotepa	1.40	100	*e*P	Pn	02 30 26.6	-3.5
PNIG				*e*S	Sn	02 30 42.5	-5.8
PLIG	Platanillo	1.74	2	*e*P	Pn	02 30 32.0	-2.9
PLIG				*e*S	Sn	02 30 52.1	-4.9
ARIG	Puente Sto Nin	1.79	335	*e*P	Pn	02 30 32.8	-2.7
ARIG				*i* S	Sn	02 30 52.9	-5.2
ZIIG	Zihuatanejo	2.06	298	*i* P	Pn	02 30 35.9	-3.3
ZIIG				*i* S	Sn	02 31 00.3	-4.3
YAIG	Yautepec	2.26	12	*e*P	Pn	02 30 39.2	-2.9
YAIG				*i* S	Sn	02 31 05.2	-4.5

*DDA **03** 03:11:31.3, 38.°70N×43.°03E, h7km±1km, ML3.3*

*ISK **03** 03:11:31.1, 38.°69N×43.°02E, h4km, ML3.1/3*

*ISCJB **03** 03:11:32.1±1.0, 38.°67N±0.°04×43.°05E±0.°04, h25km±13km, Error ellipse: s-maj=7.1km s-min=4.7km az=161.8*

ISC 03 03:11:31.7±1.1, 38.°69N±0.°04×43.°04E±0.°03, h13km±12km, n11, σ0§37/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADCV	BITLIS_Adilcev	0.27	295	*i* P	Pb	03 11 38.9	+0.3
ADCV				*i* S	Sb	03 11 43.2	+0.1
VANB	Van	0.29	109	PG	Pb	03 11 38.6	-0.3
VANB				SG	Sb	03 11 44.2	+0.5
TVAN	Van	0.33	119	*i* P	Pg	03 11 38.6	0.0
TVAN				*i* S	Sb	03 11 44.8	-0.2
AKDM	Akdamar-Van	0.37	187	PG	Pg	03 11 38.9	-0.3
AKDM				SG	Sg	03 11 44.5	+0.2
GEVA	Gevas	0.38	177	*i* P	Pg	03 11 39.6	+0.1
VMUR	Van-Muradiye	0.51	55	IAML_P			
comp=Z,2μm,0.1s							
VMUR				*i* P	Pg	03 11 41.7	-0.2
VMUR				*i* S	Sg	03 11 49.1	+0.3
TUTA	Tutak	0.73	346	*i* P	Pb	03 11 46.0	-0.4
BLIS	Bitlis-Merkez	0.77	249	*i* P	Pb	03 11 47.1	0.0
BLIS				*i* S	Sb	03 11 57.9	+0.3
GURO	Guroymak-BITLI	0.80	260	PG	Pb	03 11 47.0	-0.6
GURO				SG	Sb	03 11 58.4	+0.1
CLDR	Caldiran	0.82	57	PG	Pb	03 11 47.8	-0.2
CLDR				SG	Sb	03 11 59.8	+0.7
AGRB	Hanur-Agry	0.88	358	PG	Pb	03 11 48.7	-0.3

*IDC **03** 03:25:42.2±1.0, 5.°93N×92.°53E, h0km, mb3.9/11, mb1 4.2/13, mb1mx3.8/57, mbtmp4.0/13, ML4.3/2, MS2.9/2, Ms1 3.0/2, ms1mx2.5/35, Error ellipse: s-maj=32.3km s-min=18.6km az=44.0*

*NEIC **03** 03:25:43.6±0.5, 5.°88N×92.°59E, h10km, mb4.3/5, Error ellipse: s-maj=13.2km s-min=8.2km az=214.0*

*ISCJB **03** 03:25:44.6±0.6, 5.°85N±0.°09×92.°63E±0.°08, h33km, mb4.0/12, MS3.1/1, Error ellipse: s-maj=14.1km s-min=9.2km az=33.0*

ISC 03 03:25:46.4±0.8, 5.°8N±0.°1×92.°52E±0.°08, h35km, n38, σ1§44/33, mb4.1/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	7.05	115	*e*Pn	Pn	03 27 25.6	-1.8
KULM	Kulim	8.11	93	*e*Pn	Pn	03 27 39.2	-2.5
PALK	Pallekele	11.83	278	Pn	Pn	03 28 34.0	+1.1
1.2nm,0.3s,baz=116,slow=14,SNR=6.1							
PALK				Sn	Sn	03 30 40.3	-3.5
1.7nm,0.3s,baz=115,slow=2.7,SNR=5.7							
CM31	Chiang Mai Arr	14.03	26	*e*Pn	Pn	03 29 02.1	-0.7
CMAR	Chiang Mai Arr	14.03	26	Pn	Pn	03 29 02.1	-0.7
0.6nm,0.3s,baz=218,slow=14,SNR=12							
CMAR				LR	LR	03 34 22.3	
comp=Z,31nm,19.0s,baz=226,slow=37							
H08S3	Diego Garcia H	24.05	236	T	T	03 56 01.6	
baz=58,slow=75,SNR=33							
H08S2	Diego Garcia H	24.05	236	T	T	03 55 58.4	
baz=58,slow=75,SNR=39							
H08S1	Diego Carcia H	24.07	236	T	T	03 56 05.4	
baz=58,slow=75,SNR=48							
MK32	Makanchi Array	41.76	349	*e*P	P	03 33 33.4	+1.0
MKAR	Makanchi Array	41.76	349	P	P	03 33 33.4	+1.0
1.1nm,0.6s,baz=178,slow=8.3,SNR=9.0							
KKAR	Karatay Array	41.91	336	*e*P	P	03 33 34.6	+1.0
H01W3	Cape Leeuwin H	45.33	155	T	T	04 21 17.0	
baz=328							
H01W2	Cape Leeuwin H	45.34	155	T	T	04 21 22.6	
baz=328							
H01W1	Cape Leeuwin H	45.35	155	T	T	04 21 15.9	
baz=328							
KURBB	Kurchatov Arra	46.16	348	P	P	03 34 08.8	+1.3
1.1nm,0.8s,baz=170,slow=6.7,SNR=10							
KURBB				PcP	PcP	03 35 42.3	-0.7
0.9nm,0.8s,baz=151,slow=3.0,SNR=4.4							
ZALV	Zalesovo Beam	48.39	354	*e*P	P	03 34 25.5	+0.7
ZALV	Zalesovo Beam	48.39	354	P	P	03 34 24.6	-0.2
1.2nm,0.6s,baz=160,slow=4.7,SNR=5.9							
ZAA1	Zalesovo Array	48.39	354	*e*P	P	03 34 24.6	-0.2
WRA	Warramunga Arr	48.44	123	P	P	03 34 29.0	+3.2
1.0nm,0.9s,baz=302,slow=9.0,SNR=1.8							
WR1	Warramunga Arr	48.44	123	*e*P	P	03 34 29.0	+3.2
ASAR	Alice Springs	49.89	128	P	P	03 34 37.0	+0.1
0.2nm,0.4s,baz=302,slow=7.2,SNR=3.4							
AS31	Alice Springs	49.89	128	*e*P	P	03 34 37.0	+0.1
5.8nm,1.8s							
BVAR	Borovoye Array	50.43	343	P	P	03 34 40.3	-0.1
0.9nm,0.8s,baz=145,slow=5.3,SNR=3.5							
ABKAR	Akbulak array	51.28	333	*e*P	P	03 34 48.2	+1.3
MJAR	Matsushiro Arr	51.72	47	LR	LR	03 58 22.5	
comp=Z,17nm,18.7s,baz=240,slow=38							
BR101	Keskin Array S	62.57	312	*e*P	P	03 36 07.7	+0.4
BR131	Keskin Array S	62.57	312	*e*P	P	03 36 07.6	+0.4
1.9nm,0.9s							
BRTR	Keskin Array B	62.57	312	*e*P	P	03 36 07.4	+0.1
BRTR	Keskin Array B	62.57	312	P	P	03 36 07.7	+0.3
1.2nm,0.8s,baz=127,slow=6.7,SNR=9.8							
MLR	Muntele Rosu	69.52	316	*e*P	P	03 36 53.4	+1.6
2.5nm,0.8s							
MLR	Muntele Rosu	69.52	316	P	P	03 36 53.4	+1.6
1.7nm,0.6s,baz=205,slow=3.7,SNR=4.8							
TIXI	Tiksi	69.55	12	*e*P	P	03 36 50.3	-1.0
5.3nm,1.4s							
TIXI	Tiksi	69.55	12	P	P	03 36 50.1	-1.2
1.3nm,0.4s,baz=318,slow=4.5,SNR=4.6							
PETK	Petropavlovsk-	70.59	35	P	P	03 36 59.1	+1.0
3.5nm,0.9s,baz=194,slow=6.9,SNR=6.8							
PEA1	Petropavlovsk-	70.59	35	*e*P	P	03 36 59.1	+1.0
GEC2	GERESS Array S	78.28	319	*e*P	P	03 37 42.5	-0.5
2.2nm,1.0s							
GERES	GERESS Array B	78.28	319	*e*P	P	03 37 43.2	+0.2
GERES	GERESS Array B	78.28	319	P	P	03 37 43.1	+0.1
1.2nm,0.8s,baz=84,slow=5.5,SNR=8.1							

*ISK **03** 03:25:50.5, 38.°71N×43.°02E, h4km, ML2.5/9*

*ISCJB **03** 03:25:51.5±0.4, 38.°72N±0.°03×43.°04E±0.°03, h14km±5km, Error ellipse: s-maj=5.3km s-min=4.0km az=147.0*

*DDA **03** 03:25:51.2, 38.°70N×43.°06E, h7km±3km, ML2.7*

ISC 03 03:25:50.6±1.3, 38.°70N±0.°03×43.°04E±0.°02, h5km±14km, n18, σ0§86/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADCV	BITLIS_Adilcev	0.27	294	IAML_P			
comp=Z,2μm,0.1s							
ADCV				*i* P	Pb	03 25 58.3	+0.2
ADCV				*i* S	Sb	03 26 03.1	-0.1
VANB	Van	0.29	110	PG	Pb	03 25 58.2	-0.2
VANB				SG	Sb	03 26 03.9	+0.4
TVAN	Van	0.33	120	IAML_P			
comp=Z,5μm,0.1s							
TVAN				*i* P	Pg	03 25 58.2	+1.1
AKDM	Akdamar-Van	0.37	188	PG	Pg	03 25 58.4	+0.6
AKDM				SG	Sb	03 26 04.7	-1.2
GEVA	Gevas	0.38	178	IAML_P			
comp=Z,4μm,0.1s							
GEVA				*i* P	Pb	03 25 59.4	-0.6
VMUR	Van-Muradiye	0.51	54	*i* P	Pg	03 26 01.2	+0.8
VMUR				*i* S	Sb	03 26 09.1	-0.8
MLAZ	Malazgirt-MUS	0.59	319	PG	Pg	03 26 02.4	+0.5
TUTA	Tutak	0.73	346	*i* P	Pg	03 26 05.1	+0.5
BLIS	Bitlis-Merkez	0.78	249	*i* P	Pb	03 26 06.9	+0.2
BLIS				*i* S	Sb	03 26 16.9	-0.8
GURO	Guroymak-BITLI	0.81	260	PG	Pg	03 26 06.5	+0.5
GURO				SG	Sb	03 26 18.1	-0.3
CLDR	Caldiran	0.81	56	PG	Pb	03 26 07.1	-0.3
CLDR				SG	Sb	03 26 19.2	+0.4
CLDR	Caldiran	0.81	56	IAML_P			
comp=Z,1μm,0.1s							
CLDR				*i* P	Pg	03 26 06.5	+0.2
CLDR				*i* S	Sg	03 26 15.1	-1.8
AGRB	Hanur-Agry	0.88	357	PG	Pg	03 26 07.9	+0.4
AGRB				SG	Sb	03 26 20.4	-0.3
SRTM	Siirt_Merkez	1.13	232	IAML_P			
comp=Z,582nm,0.3s							
SRTM				*i* P	Pn	03 26 14.3	+1.1
MUSM	Mu-Merkez	1.20	272	IAML_P			
comp=Z,314nm,0.1s							
MUSM				*i* P	Pg	03 26 14.7	+1.1
SIRT	Sirnak	1.28	202	PN	Pg	03 26 15.9	+0.7
SVAN	Silvan-Diyarba	1.55	250	PN	Pb	03 26 19.6	-0.2
MAZI	Mazidag	2.39	240	PN	Pb	03 26 32.2	-2.0

IDC 03 04:16:07.4±2.2, 7.°30S×129.°83E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.5/53, mbtmp3.6/3, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/21, Error ellipse: s-maj=137.3km s-min=31.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.49	200	Sn	Sn	04 21 11.9	+10
0.4nm,0.3s,baz=338,slow=19,SNR=9.1							
WRA	Warramunga Arr	13.31	161	Pn	Pn	04 19 16.0	-1.8
0.2nm,0.3s,baz=343,slow=14,SNR=5.7							
WRA				Sn	Sn	04 21 43.9	-2.8
0.2nm,0.3s,baz=348,slow=23,SNR=5.2							
ASAR	Alice Springs	16.74	167	Pn	P	04 20 05.2	-0.7
0.3nm,0.3s,baz=348,slow=11,SNR=12							
JNU	Nakatsue	40.20	1	LR	LR	04 40 14.5	
comp=Z,20nm,19.3s,baz=186,slow=36							
MKAR	Makanchi Array	68.38	327	P	P	04 27 10.8	0.0
0.3nm,0.5s,baz=145,slow=5.3,SNR=2.5							

*BJI **03** 04:16:02.8±0.0, 12.°29N×93.°31E, h60km, mb4.6/45, mB4.6/26, Ms4.3/9, Ms7 4.0/5*

*ISCJB **03** 04:16:09.0±0.4, 12.°87N±0.°03×93.°33E±0.°03, h71km±3km, mb4.3/55, Error ellipse: s-maj=5.5km s-min=4.7km az=17.7*

*IDC **03** 04:16:09.1±0.7, 12.°80N×93.°35E, h63km±4km, mb3.9/26, mb1 4.0/28, mb1mx3.9/69, mbtmp4.2/28, MS3.2/11, Ms1 3.2/11, ms1mx3.0/37, Error ellipse: s-maj=15.9km s-min=13.9km az=20.0*

*NDI **03** 04:16:09.0±2.7, 12.°91N×93.°38E, h61km±13km, mb4.6, ML4.6, mb4.5(NEIC)*

*NEIC **03** 04:16:09.7±0.2, 12.°89N×93.°33E, mb4.5/27, Error ellipse: s-maj=4.9km s-min=3.7km az=69.0*

ISC 03 04:16:09.7±0.5, 12.°89N±0.°05×93.°33E±0.°05, h66km±4km, h66km:pP-P, n157, σ1§40/173, mb4.4/57, 15C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.49	306	*e*P	Pn	04 16 21.1	-0.9
DGPR				*e*S	Sn	04 16 30.6	-0.4
DGPR				IAML		04 16 31.9	
comp=N,44μm,0.6s							
DGPR				IAML		04 16 32.8	
comp=E,30μm,0.0s							
PBA	Port Blair	1.35	205	*e*Pn	Pn	04 16 32.2	-0.3
PBA	Port Blair	1.35	205	*e*P	Pn	04 16 32.4	-0.2
PBA				*e*S	Sn	04 16 50.8	+1.0
PBA				IAML		04 16 58.4	
comp=N,6μm,0.4s							
PBA				IAML		04 17 00.0	
comp=E,10μm,0.2s							
SRDT	SRDT	5.81	75	P	Pn	04 17 34.8	+1.5
comp=E,46nm,0.9s,comp=E,0.2nm							
CMBY	CAMPBELL BAY	5.87	174	*e*S	Sn	04 18 33.9	-6.2
PHET	Kaeng Krachan	6.14	89	P	Pn	04 17 39.7	+1.9
comp=E,310μm,0.7s,comp=E,1μm							
UMPA	Umpang Tak	6.29	58	P	Pn	04 17 40.6	+0.8
comp=E,826μm,0.7s,comp=E,2μm							
UTHA	Uthaitani	6.49	65	P	Pn	04 17 44.5	+1.9
comp=E,406μm,0.8s,comp=E,1μm							
CM31	Chiang Mai Arr	7.74	44	*e*Pn	Pn	04 18 00.7	+1.1
CMAR	Chiang Mai Arr	7.74	44	*e*Pn	Pn	04 17 59.8	+0.2
CMAR				S	Sn	04 19 22.2	-3.7
CMAR	Chiang Mai Arr	7.74	44	P	Pn	04 18 00.6	+0.9
comp=E,6.2nm,0.3s,baz=234,slow=15,SNR=81							
CMAR				S	Sn	04 19 22.2	-3.7
baz=243,slow=16,SNR=3.0							
CMAR				LR	LR	04 21 25.0	
comp=E,84nm,19.5s,baz=226,slow=40							
CHTO	Chiang Mai	7.99	42	*e*Pn	Pn	04 18 03.8	+0.6
CHTO				*e*Sn	Sn	04 19 30.1	-2.0
CMMT	Chiang Mai	7.99	42	P	Pn	04 18 03.5	+0.3
comp=E,47nm,0.7s,comp=E,478nmcomp=E,0.2nm							
LAMP	Lampang	8.26	46	P	Pn	04 18 08.2	+1.4
comp=E,178μm,0.7s,comp=E,629nm							
LHMI	Lhok Sumawe	8.40	155	*e*Pn	Pn	04 18 10.1	+1.3
UTTA	Uttaradit	8.47	54	P	Pn	04 18 11.9	+2.1
comp=E,37μm,0.6s,comp=E,427μmcomp=E,137nm							
CHAI	Chaiyaphum	8.90	69	P	Pn	04 18 19.2	+3.6
comp=E,97μm,0.7s,comp=E,877μm							
BRDH	Bariad

LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 16.85 353 *e*Pn **P 04 20 02.5 -0.5**
comp=Z,11nm,0.8s
GKN Gorkha 17.09 333 *e*P **P 04 20 05.9 +0.6**
comp=Z,80nm,0.3s
KOLN Koldanda 17.38 330 *e*P **P 04 20 09.7 +1.2**
comp=Z,55nm,0.4s
DANN Dangsing 17.79 331 *e*P **Pn 04 20 14.4 +1.2**
comp=Z,44nm,0.5s
PYUN Piuthan 17.95 329 *e*P **Pn 04 20 16.4 +1.3**
BHPL Bhopal 18.28 306 *e*P **P 04 20 18.3 0.0**
BHPL IAmb IAmb 04 20 21.6
comp=Z,364nm,4.2s
CD2 Chengdu 20.35 27 P **P 04 20 41.0 +0.1**
CD2 pmax pmax
comp=Z,90nm,0.8s
ENH Enshi 22.86 38 *e*P **P 04 21 06.1 -1.6**
SMLA Simla 23.49 323 *e*P **P 04 21 13.9 +0.2**
SMLA IAmb IAmb 04 21 15.7
comp=Z,9.8nm,0.5s
DHRM DHARAMSHALA 24.81 324 *e*P **P 04 21 26.2 +0.2**
DHRM IAmb IAmb 04 21 27.4
comp=Z,37nm,1.5s
LZH Lanzhou 24.96 20 ⇑P **P 04 21 28.4 +1.1**
LZH pmax pmax
comp=Z,30nm,1.4s
LZH pmax pmax
comp=Z,61nm,4.8s
LZH LR LR
comp=Z,360nm,11.9s
LZH LR LR
comp=Z,240nm,12.5s
LZH LR LR
comp=Z,260nm,13.5s
XAN Xi'an 25.39 31 P **P 04 21 30.2 -0.8**
XAN pmax pmax
comp=Z,12nm,0.9s
XAN Xi'an 25.39 31 *e*P **P 04 21 30.2 -0.8**
comp=Z,25nm,0.8s
WHN Wuhan 26.18 45 *e*P **P 04 21 35.4 -2.8**
GTA Gaotai 27.03 11 *e*P **P 04 21 47.3 +1.4**
GTA pP pwP 04 22 03.9 +0.5
GTA sP sP 04 22 10.0 +1.3
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,49nm,6.2s
GTA LR LR
comp=Z,60nm,14.3s
GTA LR LR
comp=Z,71nm,15.5s
NJ2 Nanjing 30.20 47 *e*P **P 04 22 15.0 +1.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KSH Kashi 30.64 333 P **P 04 22 18.1 +0.2**
KSH PP **PnPn 04 23 20.0 +0.2**
KSH S **S 04 27 11.7 -4.1**
KSH pmax pmax
comp=Z,11nm,0.7s
KSH pmax pmax
comp=Z,110nm,2.9s
KSH LR LR
comp=Z,170nm,6.7s
KSH LR LR
comp=Z,200nm,6.4s
KSH LR LR
comp=Z,190nm,6.5s
WMQ Urumqi 31.20 352 *e*P **P 04 22 25.6 +2.8**
WMQ pmax pmax
comp=Z,46nm,1.1s
WMQ pmax pmax
comp=Z,190nm,4.1s
WMQ LR LR
comp=Z,2μm,39.1s
WMQ LR LR
comp=Z,3μm,39.1s
HHC Hu-ho-hao-te 32.11 27 *e*P **P 04 22 31.3 +0.4**
HHC pmax pmax
comp=Z,58nm,0.9s
HHC pmax pmax
comp=Z,150nm,4.5s
NRN Naryn 32.22 335 *e*P **P 04 22 32.7 +0.7**
comp=Z,2.7nm,0.8s
KDJ Kajisay 32.34 337 *e*P **P 04 22 33.5 +0.5**
comp=Z,6.4nm,0.8s
GAR Garm 33.05 326 *e*P **P 04 22 39.6 +0.6**
comp=Z,24nm,1.1s
KZA Kyzart 33.06 335 P **P 04 22 41.4 +1.9**
SNR=7.8
ARSB Arslanbob 33.45 332 *e*P **P 04 22 43.7 +1.1**
comp=Z,14nm,0.8s
UCH Uchtor 33.49 334 P **P 04 22 44.8 +1.5**
SNR=5.5
BTK Batken 33.55 328 *e*P **P 04 22 44.4 +1.0**
comp=Z,9.3nm,1.0s
TKM2 Tokmak 2 33.63 336 P **P 04 22 45.6 +1.4**
SNR=6.4
BJI Beijing 33.70 32 *e*P **P 04 22 45.5 +0.9**
BJI pmax pmax
comp=Z,4.0nm,0.7s
AML Almayashu 33.77 333 P **P 04 22 47.5 +1.9**
SNR=9.3
AAK Ala-Archa 33.84 335 *e*P **P 04 22 47.3 +1.3**
comp=Z,6.3nm,0.9s
AAK Ala-Archa 33.84 335 P **P 04 22 48.0 +2.0**
comp=Z,4.2nm,0.8s,baz=169,slow=8.3,SNR=7.3
EKS2 Erkin-Say 34.16 334 P **P 04 22 50.7 +2.0**
SNR=10
USP Ospenovka 34.36 335 P **P 04 22 51.8 +1.5**
SNR=6.0
MKAR Makanchi Array 35.05 347 P **P 04 22 57.0 +0.8**
comp=Z,1.7nm,0.7s,baz=153,slow=8.2,SNR=17
MKAR pP **pP 04 23 11.1 -1.1**
comp=Z,2.2nm,0.7s,baz=160,slow=8.5,SNR=8.6
MKAR LR LR 04 41 11.7
comp=Z,47nm,18.5s,baz=162,slow=43
KK31 Karatay Array 35.98 331 *e*P **P 04 23 05.1 +0.8**
comp=Z,4.0nm,1.0s
KKAR Karatay Array 35.98 331 *e*P **P 04 23 04.5 +0.2**
SONM Songino Array 36.51 15 P **P 04 23 09.4 +0.6**
comp=Z,3.9nm,1.1s,baz=198,slow=8.2,SNR=14
SONM pP **pP 04 23 25.1 +0.6**
comp=Z,1.6nm,0.8s,baz=197,slow=9.9,SNR=3.8
SONM PcP **PcP 04 25 31.2 -0.1**
comp=Z,1.2nm,0.7s,baz=198,slow=3.4,SNR=5.8
SONM LR LR 04 40 29.3
comp=Z,33nm,18.0s,baz=142,slow=40
KSAR Wonju Array Be 39.34 45 *e*P **P 04 23 32.9 +0.3**
KSRS Korea Array 39.37 45 P **P 04 23 32.5 -0.4**
comp=Z,5.0nm,0.6s,baz=241,slow=8.6,SNR=22
KSRS LR LR 04 40 59.3
comp=Z,42nm,19.2s,baz=210,slow=38
KURK Kurchatov 39.59 345 *e*P **P 04 23 34.8 +0.3**
GEYT Alibeck 40.04 315 LR LR 04 43 48.7
comp=Z,11nm,18.3s,baz=5.0,slow=41
CN2 Changchun 41.33 36 *e*P **P 04 23 48.0 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
ZAA0 Zalesovo Array 41.51 352 *e*P **P 04 23 50.7 +0.4**
comp=Z,9.9nm,1.0s
ZALV Zalesovo Beam 41.51 352 P **P 04 23 50.7 +0.4**
comp=Z,6.7nm,0.8s,baz=176,slow=9.7,SNR=26
ZALV LR LR 04 41 46.8
comp=Z,13nm,20.5s,baz=252,slow=37
BVAR Borovoye Array 44.02 340 P **P 04 24 11.0 +0.3**
comp=Z,1.6nm,0.5s,baz=132,slow=8.2,SNR=12
BRVK Borovoye 44.09 340 *e*P **P 04 24 11.7 +0.5**
comp=Z,7.0nm,0.8s
USRK Ussuriysk Ar. 45.44 39 P **P 04 24 22.0 -0.1**
comp=Z,1.7nm,0.6s,baz=214,slow=13,SNR=4.4
ABKAR Akbulak array 45.50 330 *e*P **P 04 24 23.0 +0.5**
MJAR Matsushiro Arr 46.54 52 P **P 04 24 31.3 +0.4**
comp=Z,0.5nm,0.3s,baz=240,slow=4.6,SNR=3.3
AKTO Aktyubinsk 47.22 330 P **P 04 24 36.5 +0.6**
comp=Z,2.3nm,0.5s,baz=124,slow=8.9,SNR=9.0
ARU Arti 51.00 336 *e*P **P 04 25 05.0 +0.2**
WRAB Tennant Creek 51.90 128 *e*P **P 04 25 12.2 +0.2**
ASAR Alice Springs 53.79 132 P **P 04 25 24.5 -1.5**
comp=Z,0.7nm,0.5s,baz=306,slow=6.6,SNR=9.3
NRIK Noril'sk 56.53 358 P **P 04 25 45.0 +0.1**
comp=Z,1.9nm,0.5s,baz=159,slow=8.6,SNR=3.2
NRIK LR LR 04 52 41.4
comp=Z,35nm,18.8s,baz=114,slow=39
PMG Port Moresby 57.86 110 *e*P **P 04 25 55.1 0.0**
BR131 Keskin Array S 58.63 309 *e*P **P 04 26 00.8 +0.4**
comp=Z,2.6nm,0.8s
BRTR Keskin Array B 58.63 309 *e*P **P 04 25 59.7 -0.7**
BRTR pP **pP 04 26 16.4 -1.1**
BRTR Keskin Array B 58.63 309 P **P 04 26 00.2 -0.2**
comp=Z,1.8nm,0.8s,baz=118,slow=7.1,SNR=13
BRTR pP **pP 04 26 16.4 -1.1**
comp=Z,1.9nm,0.8s,baz=116,slow=7.3,SNR=5.9
BRTR LR LR 04 53 29.8
comp=Z,9.3nm,18.2s,baz=90,slow=38
TIXI Tiksi 62.51 12 *e*P **P 04 26 25.1 -0.9**
MA2 Magadan 62.75 29 *e*P **P 04 26 27.7 -0.2**
MA2 Magadan 62.75 29 P **P 04 26 27.9 +0.1**
comp=Z,8.6nm,0.6s,baz=218,slow=8.6,SNR=8.0
TIRR Tirgusor 63.21 313 *e*P **P 04 26 31.8 +0.6**
comp=Z,2.5nm,0.8s
TIRR Tirgusor 63.21 313⇑*e*P **P 04 26 31.7 +0.6**
TLB Topalu 63.49 313⇑*e*P **P 04 26 34.6 +1.6**
CFR Carcaliu 63.51 314⇑*e*P **P 04 26 34.0 +0.9**
AKASG Malin Array Be 63.78 320 P **P 04 26 33.8 -1.0**
comp=Z,1.9nm,0.7s,baz=86,slow=5.2,SNR=9.8
AKASG pP **pP 04 26 49.9 -2.3**
comp=Z,0.3nm,0.3s,baz=86,slow=5.1,SNR=2.4
KIEV Kiev 63.79 320 *e*P **P 04 26 34.5 -0.3**
comp=Z,1.5nm,0.5s
KIEV Kiev 63.79 320⇑*e*P **P 04 26 34.8 -0.1**
PETK Petropavlovsk- 64.46 37 LR LR 04 59 09.4
comp=Z,44nm,18.0s,baz=260,slow=40
VRI Vrincioaia 64.59 315⇑*e*P **P 04 26 42.0 +1.7**
PLOR Plostina 64.64 315⇑*e*P **P 04 26 42.3 +1.7**
SANT Santorini 64.71 304⇑*e*P **P 04 26 41.3 +0.1**
TESR Tescani 64.73 315⇑*e*P **P 04 26 42.1 +0.9**
MLR Muntele Rosu 65.09 314 *e*P **P 04 26 44.0 +0.4**
comp=Z,10nm,1.0s
MLR pP **pP 04 27 01.8 +0.8**
MLR Muntele Rosu 65.09 314⇑*e*P **P 04 26 45.2 +1.6**
MLR Muntele Rosu 65.09 314 P **P 04 26 43.7 +0.1**
comp=Z,6.4nm,0.8s,baz=77,slow=2.6,SNR=13
MLR pP **pP 04 27 01.8 +0.8**
comp=Z,5.3nm,0.8s,baz=80,slow=7.3,SNR=5.2
BIZ Bicaz 65.16 316⇑*e*P **P 04 26 45.0 +1.0**
BURAR Bucovina Array 65.85 317 *e*P **P 04 26 48.8 +0.3**
comp=Z,34nm,0.8s
BURAR Bucovina Array 65.85 317⇑*e*P **P 04 26 49.9 +1.4**
BUR08 Bucovina Ar. S 65.87 317 *e*P **P 04 26 48.9 +0.3**
comp=Z,3.6nm,0.9s
ARR Arges 65.99 314⇓*e*P **P 04 26 50.0 +0.6**
VTS Vitosha 66.76 311 *e*P **P 04 26 54.5 0.0**
comp=Z,3.8nm,1.0s
VTS Vitosha 66.76 311⇓*e*P **P 04 26 55.0 +0.5**
DRGR 67.46 315⇑*e*P **P 04 27 00.0 +1.3**
TRPA Tarpa 67.70 317⇑*e*P **P 04 27 01.0 +0.9**
FINES FINESS Array B 67.94 331 *e*P **P 04 27 01.0 -0.4**
FINES FINESS Array B 67.94 331 P **P 04 27 01.4 +0.1**
comp=Z,3.1nm,0.7s,baz=72,slow=6.2,SNR=8.3
KOLS Kolonicke sedl 67.96 318 *e*P **P 04 27 02.8 +1.1**
OJC Ojcow 69.67 319 *e*P **P 04 27 13.0 +0.6**
comp=Z,11nm,1.3s
VYHS Vyhne 70.19 317 *e*P **P 04 27 17.8 +2.2**
ARCES ARCESS Array B 70.31 340 P **P 04 27 16.2 +0.3**
comp=Z,1.7nm,1.0s,baz=86,slow=6.2,SNR=9.0
MORC Moravsky Berou 71.10 318 *e*P **P 04 27 21.5 +0.4**
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 71.10 318⇑*e*P **P 04 27 21.9 +0.8**
BRG Berggiesshubel 73.43 319 *e*P **P 04 27 35.7 +0.7**
comp=Z,5.6nm,0.9s
GEC2 GERESS Array S 73.60 317 *e*P **P 04 27 36.6 +0.4**
comp=Z,4.8nm,0.9s
GERES GERESS Array B 73.60 317 *e*P **P 04 27 36.5 +0.4**
GERES pP **pP 04 27 53.4 -0.3**
GERES GERESS Array B 73.60 317 P **P 04 27 36.9 +0.7**
comp=Z,3.8nm,0.7s,baz=85,slow=5.6,SNR=29
GERES pP **pP 04 27 53.4 -0.3**
comp=Z,3.2nm,0.8s,baz=91,slow=5.6,SNR=6.4
HFS Hagfors 73.76 329 P **P 04 27 36.8 +0.1**
comp=Z,2.3nm,0.8s,baz=126,slow=4.0,SNR=5.2
NOA NORSAR Array B 75.01 330 P **P 04 27 44.0 0.0**
comp=Z,1.4nm,0.9s,baz=90,slow=5.7,SNR=3.2
DAVOX Davos/Dischmat 76.27 315 P **P 04 27 52.0 +0.3**
comp=Z,1.4nm,0.4s,baz=133,slow=12,SNR=5.4
EKA Eskdalemuir Ar 83.17 325 P **P 04 28 28.7 +0.1**
comp=Z,1.2nm,0.7s,baz=67,slow=5.5,SNR=3.7
IMAR Indian Mountai 87.32 22 *e*P **P 04 28 49.3 +0.2**
ESDC Sonseca Array 87.40 310 *e*P **P 04 28 50.5 +0.3**
comp=Z,1.9nm,1.3s
ESDC Sonseca Array 87.40 310 P **P 04 28 49.7 -0.5**
comp=Z,0.7nm,0.8s,baz=76,slow=5.4,SNR=3.6
TOLK Toolik Lake Re 87.50 19 *e*P **P 04 28 50.5 +0.5**
comp=Z,4.7nm,0.8s
TORD Torodi Ar. Bea 88.69 283 *e*P **P 04 28 56.8 +0.2**
comp=Z,1.0nm,0.9s
TORD pP **pP 04 29 15.6 +0.7**
TORD Torodi Ar. Bea 88.69 283 P **P 04 28 55.6 -1.0**
comp=Z,0.2nm,0.7s,baz=57,slow=5.3,SNR=2.5
TORD pP **pP 04 29 15.6 +0.7**
comp=Z,0.7nm,0.8s,baz=78,slow=3.5,SNR=4.8
MLY Manley 88.87 22 *e*P **P 04 28 57.2 +0.6**
comp=Z,2.5nm,0.8s
CAST Castle Rocks 89.11 24 *e*P **P 04 28 58.5 +0.7**
comp=Z,7.7nm,0.7s
MDM Murphy Dome 89.83 22 *e*P **P 04 29 02.1 +1.1**
comp=Z,5.7nm,1.2s
ILAR Eielson Array 90.42 22 P **P 04 29 03.1 -0.7**
comp=Z,1.0nm,0.7s,baz=297,slow=4.4,SNR=14
ILAR pP **pP 04 29 22.3 +0.6**
comp=Z,0.5nm,0.8s,baz=311,slow=4.7,SNR=2.4
INK Inuvik 92.42 16 *e*P **P 04 29 13.1 +0.2**
comp=Z,1.0nm,0.5s
INK Inuvik 92.42 16 P **P 04 29 13.3 +0.5**
comp=Z,1.1nm,0.6s,baz=336,slow=4.5,SNR=10.0
BCAR Beaver Creek A 93.25 22 *e*P **P 04 29 17.9 +1.0**
PDAR Pinedale Array 120.77 19 PKP **PKPdf 04 34 53.6 -1.3**
comp=Z,0.5nm,0.8s,baz=96,slow=1.5,SNR=5.5
NVAR Mina Array Bea 120.99 29 PKP **PKiKP 04 34 56.7 +1.1**
comp=Z,0.6nm,0.6s,baz=302,slow=1.4,SNR=5.9
TXAR Lajitas Array 134.93 21 PKP **PKiKP 04 35 22.9 -0.7**
comp=Z,0.3nm,0.4s,baz=325,slow=1.1,SNR=3.1
PLCA Paso Flores 148.87 204 PKPbc **PKPbc 04 35 50.9 +0.5**
comp=Z,1.0nm,0.6s,baz=76,slow=0.6,SNR=4.8
CMIG Matias Romero 149.12 15 PKPbc **PKPbc 04 35 50.4 -1.1**
comp=Z,3.7nm,0.8s,baz=346,slow=6.6,SNR=5.9

*IDC **03** 04:20:20.1±1.1,32°.37S×178°.83W,h0km,mb4.2/4,*
mb1 4.4/5,mb1mx3.9/48,mbtmp4.2/5,ML3.4/1,MS3.4/1,
Ms1 3.4/1,ms1mx2.7/27,Error ellipse: s-maj=35.5km
s-min=26.8km az=117.0
*WEL **03** 04:20:22.6±2.3,33°.S±14°×17°.8W±2°.0,h33km,ML5.1/15*
ISC 03 04:20:25.4±1.0,32°.68S±0°.08×178°.5W±0°.1,h33km,n42,
σ2°.20/32,mb4.1/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.74**	**206**	P	**Pn**	**04 21 49.3**	**+1.0**
PKGZ	**Pakihiroa**	**5.92**	**208**	P	**Pn**	**04 21 51.5**	**+0.6**
HAZ	**Te Kaha**	**5.93**	**210**	P	**Pn**	**04 21 49.2**	**-1.8**
PUZ	**Puketiti**	**6.02**	**206**	P	**Pn**	**04 21 52.4**	**+0.3**
PUZ				S	**Sn**	**04 23 01.9**	**+2.0**
GRZ	**Great Barrier**	**6.17**	**233**	P	Pn	04 22 00.1	+5.9
KUZ	**Kuaotunu**	**6.29**	**228**	P	**Pn**	**04 21 57.7**	**+1.9**
MWZ	**Matawai**	**6.53**	**209**	P	**Pn**	**04 21 58.8**	**-0.4**
OPRZ	**Ohinepanea**	**6.58**	**217**	P	**Pn**	**04 22 00.7**	**+0.9**
URZ	**Urewera**	**6.64**	**212**	Pn	**Pn**	**04 21 58.5**	**-2.2**
	0.7nm,0.3s,baz=24,slow=18,SNR=5.0						
URZ				Sn	**Sn**	**04 23 17.1**	**+1.9**
	6.4nm,0.3s,baz=138,slow=16,SNR=8.8						
URZ	**Urewera**	**6.64**	**212**	P	**Pn**	**04 22 01.0**	**+0.3**
RAGZ	**Rawiri**	**6.71**	**209**	P	**Pn**	**04 22 04.1**	**+2.3**
RIGZ	**Rimuhau**	**6.76**	**206**	P	**Pn**	**04 22 03.2**	**+0.9**
WCZ	**Waipu Caves**	**6.79**	**239**	P	**Pn**	**04 22 07.0**	**+4.2**
TOZ	**Tahuroa Road**	**7.07**	**223**	P	**Pn**	**04 22 09.3**	**+2.8**
KNZ	**Kokohu**	**7.07**	**205**	P	**Pn**	**04 22 05.6**	**-0.9**
OUZ	**Omahuta**	**7.08**	**247**	P	**Pn**	**04 22 09.5**	**+2.8**
MHGZ	**Mahia Peninsul**	**7.10**	**204**	P	**Pn**	**04 22 05.4**	**-1.6**
MTHZ	**Maungataniwha**	**7.25**	**211**	P	**Pn**	**04 22 10.9**	**+1.8**
NMHZ	**Naumai**	**7.47**	**210**	P	**Pn**	**04 22 12.9**	**+0.7**
BKZ	**Black Stump Fm**	**7.66**	**211**	P	**Pn**	**04 22 13.9**	**-0.8**
PRWZ	**Pori Road**	**9.05**	**208**	P	**Pn**	**04 22 32.2**	**-1.5**
BFZ	**Birch Farm**	**9.05**	**207**	P	Pn	04 22 30.2	-3.6
TIWZ	**Tintock**	**9.27**	**208**	P	Pn	04 22 31.0	-5.8
MRZ	**Mangatainoka R**	**9.30**	**209**	P	Pn	04 22 33.8	-3.4
MRZ				S	**Sn**	**04 24 14.6**	**-6.0**
HOWZ	**Holdsworth Sta**	**9.52**	**209**	P	Pn	04 22 36.2	-4.0
TMWZ	**Te Maipa**	**9.55**	**207**	P	Pn	04 22 34.3	-6.4
TMWZ				S	Sn	04 24 19.1	-7.8
KIW	**Kapiti Island**	**9.75**	**211**	P	Pn	04 22 38.8	-4.4
MTW	**Mount Morrison**	**9.75**	**208**	P	Pn	04 22 36.4	-6.9
PAWZ	**Paruwai Farm**	**9.97**	**208**	P	Pn	04 22 41.5	-4.9
MSWZ	**Moikau Station**	**10.07**	**208**	P	**Pn**	**04 22 46.7**	**-0.9**
PLWZ	**Palliser**	**10.20**	**208**	P	Pn	04 22 46.4	-3.0
RPZ	**Rata Peaks**	**13.75**	**214**	Sn	Sn	04 25 57.5	-12
	0.5nm,0.3s,baz=324,slow=2.5,SNR=3.8						
DZM	**Mont Dzumac**	**17.06**	**304**	LR	LR	04 29 16.2	
	comp=Z,127nm,18.9s,baz=186,slow=32						
ASAR	**Alice Springs**	**42.66**	**270**	P	**P**	**04 28 16.4**	**-2.8**
	2.7nm,0.8s,baz=109,slow=7.7,SNR=9.9						
WRA	**Warramunga Arr**	**43.85**	**275**	P	P	04 28 25.9	-2.9
	2.8nm,0.6s,baz=114,slow=7.6,SNR=2.2						
QSPA	**South Pole Qui**	**57.44**	**180**	P	**P**	**04 30 13.4**	**+2.6**
	4.2nm,0.7s,baz=31,slow=5.9,SNR=6.9						
SNAA	**Sanae**	**75.89**	**179**	PKPdf	**P**	**04 32 10.3**	**+2.1**
VNA3	**Neumayer Olymp**	**76.06**	**176**	PKPdf	**P**	**04 32 10.3**	**+1.1**
VNA2	**Neumayer--Watz**	**76.49**	**177**	PKPdf	**P**	**04 32 12.3**	**+0.8**
	baz=188,slow=3.6						
NVAR	**Mina Array Bea**	**90.16**	**43**	P	**P**	**04 33 23.0**	**+0.4**
	0.5nm,0.8s,baz=212,slow=5.3,SNR=4.4						
FINES	**FINESS Array B**	**147.13**	**338**	PKPbc	**PKPdf**	**04 40 01.5**	**-0.5**
	2.3nm,0.7s,baz=35,slow=3.4,SNR=7.5						
NOA	**NORSAR Array B**	**150.93**	**350**	PKPbc	**PKPdf**	**04 40 11.7**	**+3.4**
	0.8nm,0.7s,baz=14,slow=4.1,SNR=3.5						

*IDC **03** 04:21:46.9±1.0,7°.55S×130°.66E,h0km,mb4.3/13,*
mb1 4.3/16,mb1mx4.1/51,mbtmp4.2/16,ML4.1/3,MS3.5/4,
Ms1 3.5/4,ms1mx3.0/23,Error ellipse: s-maj=38.5km
s-min=21.9km az=87.0
*BJI **03** 04:21:49.8±0.0,7°.94S×130°.90E,h55km,mb4.7/26,*
mB5.1/16,Ms4.6/3,Ms7 4.3/2
*ISCJB **03** 04:21:50.1±0.3,7°.61S±0°.04×130°.67E±0°.06,h33km,*
mb4.5/31,Error ellipse: s-maj=9.3km s-min=5.6km
az=163.2
*NEIC **03** 04:21:53.4±0.7,7°.57S×130°.66E,h45km±7km,mb4.4/18,*
Error ellipse: s-maj=7.8km s-min=6.5km az=69.0
ISC 03 04:21:50.9±0.4,7°.80S±0°.05×130°.71E±0°.08,h35km,n67,
σ1°.70/75,mb4.6/32,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.61**	**108**	*e*Pn	Pn	04 22 10.7	+7.7
MTN	**Manton Dam**	**5.03**	**175**	*e*Pn	Pn	04 23 09.9	+6.0
FAKI	**Fak Fak**	**5.08**	**18**	*e*Pn	**Pn**	**04 23 04.2**	**-0.4**
SOEI	**Soe**	**6.66**	**253**	*e*Pn	**Pn**	**04 23 29.4**	**+3.0**
BATI	**Baumata**	**7.37**	**251**	Pn	Pn	04 23 30.7	-5.3
	4.1nm,0.3s,baz=112,slow=16,SNR=2.2						
BATI				Sn	Sn	04 24 48.1	-10
	4.6nm,0.3s,baz=10,slow=7.0,SNR=5.0						
FITZ	**Fitzroy Crossi**	**11.37**	**205**	*e*Pn	**Pn**	**04 24 33.2**	**+2.3**
FITZ				Sn	**Sn**	**04 26 33.1**	**-3.6**
FITZ	**Fitzroy Crossi**	**11.37**	**205**	Pn	**Pn**	**04 24 32.3**	**+1.5**
	1.3nm,0.3s,baz=16,slow=9.4,SNR=14						
FITZ				Sn	**Sn**	**04 26 33.1**	**-3.6**
	1.4nm,0.3s,baz=117,slow=21,SNR=7.4						
FITZ				LR	LR	04 29 40.7	
	comp=Z,165nm,21.1s,baz=25,slow=41						
WRAB	**Tennant Creek**	**12.57**	**164**	*e*Pn	**Pn**	**04 24 51.4**	**+4.1**
WRA	**Warramunga Arr**	**12.57**	**164**	*e*Pn	**Pn**	**04 24 49.2**	**+1.8**
WRA				Sn	**Sn**	**04 27 04.3**	**-2.0**
WRA	**Warramunga Arr**	**12.57**	**164**	Pn	**Pn**	**04 24 49.9**	**+2.5**
	0.9nm,0.3s,baz=343,slow=13,SNR=20						
WRA				Sn	**Sn**	**04 27 04.3**	**-2.0**
	1.0nm,0.3s,baz=337,slow=22,SNR=10						
WB2	**Warramunga Arr**	**12.58**	**164**	*e*Pn	**Pn**	**04 24 51.9**	**+4.5**
COEN	**Coen**	**13.68**	**118**	*e*Pn	**P**	**04 25 06.5**	**-4.3**
AS31	**Alice Springs**	**16.07**	**169**	*e*Pn	**P**	**04 25 38.8**	**+1.4**
	2.6nm,0.7s						
ASAR	**Alice Springs**	**16.07**	**169**	*e*Pn	**P**	**04 25 38.1**	**+0.8**
ASAR				Sn	**Sn**	**04 28 30.6**	**-1.0**
ASAR	**Alice Springs**	**16.07**	**169**	Pn	**P**	**04 25 37.7**	**+0.3**
	0.5nm,0.3s,baz=349,slow=14,SNR=14						
ASAR				Sn	**Sn**	**04 28 30.6**	**-1.0**
	0.2nm,0.3s,baz=350,slow=25,SNR=8.3						
ASAR				LR	LR	04 32 49.9	
	comp=Z,221nm,18.1s,baz=340,slow=41						
PMG	**Port Moresby**	**16.34**	**97**	*e*P	**P**	**04 25 41.3**	**+1.0**
	5.5nm,0.4s						
KKM	**Kota Kinabalu**	**19.96**	**313**	*e*P	**P**	**04 26 19.4**	**-0.9**
	10nm,0.7s						
SBUM	**Sibu**	**21.07**	**298**	*e*P	**P**	**04 26 32.6**	**+0.3**
	7.5nm,0.8s						
GUMO	**Guam**	**25.48**	**34**	*e*P	**P**	**04 27 14.6**	**-1.3**
STKA	**Stephens Creek**	**26.02**	**159**	LR	LR	04 38 48.4	
	comp=Z,140nm,18.6s,baz=8.7,slow=39						
CMAR	**Chiang Mai Arr**	**40.78**	**310**	P	**P**	**04 29 27.9**	**-1.1**
	1.0nm,0.3s,baz=146,slow=7.8,SNR=5.5						
CMAR				LR	LR	04 47 04.6	
	comp=Z,45nm,21.9s,baz=160,slow=37						
NJ2	**Nanjing**	**41.21**	**345**	*e*P	**P**	**04 29 32.1**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WHN	**Wuhan**	**41.23**	**338**	*e*P	**P**	**04 29 35.2**	**+2.7**
KMI	**Kunming**	**42.58**	**321**	P	**P**	**04 29 44.9**	**+1.0**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MAJO	**Matsushiro**	**44.66**	**9**	*e*P	**P**	**04 29 59.3**	**-1.0**
	11nm,0.8s						
MAT	**Matsushiro**	**44.66**	**9**	P	**P**	**04 29 59.4**	**-0.9**
MJAR	**Matsushiro Arr**	**44.66**	**9**	*e*P	**P**	**04 29 59.3**	**-1.0**
	3.4nm,0.8s						
MJAR	**Matsushiro Arr**	**44.66**	**9**	P	**P**	**04 29 59.5**	**-0.7**
	7.0nm,0.8s,baz=193,slow=10,SNR=23						
MJB9	**Matsu-Tunnel**	**44.66**	**9**	*e*P	**P**	**04 29 59.7**	**-0.6**
	11nm,0.8s						
KSAR	**Wonju Array Be**	**45.08**	**357**	P	**P**	**04 30 02.2**	**-1.3**
KSRS	**Korea Array**	**45.09**	**357**	P	**P**	**04 30 02.2**	**-1.4**
	0.5nm,0.4s,baz=187,slow=9.6,SNR=4.1						
CD2	**Chengdu**	**46.35**	**327**	*e*P	**P**	**04 30 14.0**	**+0.2**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
LZH	**Lanzhou**	**50.44**	**332**	*e*P	**P**	**04 30 47.1**	**+1.7**
LZH				pP	sP	04 31 03.1	+3.7
LZH				sP	pP	04 31 09.3	+14
LZH				PP	**PP**	**04 32 37.5**	**-3.8**
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
LZH				pmax	pmax		
	comp=Z,69nm,4.3s						
LZH				LR	LR		
	comp=N,230nm,16.7s						
LZH				LR	LR		
	comp=E,240nm,16.2s						
LZH				LR	LR		
	comp=Z,360nm,17.3s						
HHC	**Hu-ho-hao-te**	**51.52**	**341**	*e*P	**P**	**04 30 56.3**	**+3.0**
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,180nm,5.9s						
GTA	**Gaotai**	**55.01**	**331**	*e*P	**P**	**04 31 18.4**	**-0.7**
GTA				pP	sP	04 31 32.6	-0.6
GTA				sP	pP	04 31 40.1	+11
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ULN	**Ulaanbaatar**	**59.24**	**342**	*e*P	**P**	**04 31 49.3**	**+0.4**
	3.5nm,0.8s						
SONM	**Songino Array**	**59.42**	**341**	*e*P	**P**	**04 31 50.1**	**+0.1**
	1.1nm,0.8s						
SONM				PcP	**PcP**	**04 32 39.0**	**+1.4**
SONM	**Songino Array**	**59.42**	**341**	P	**P**	**04 31 49.6**	**-0.4**
	1.3nm,0.8s,baz=155,slow=7.9,SNR=7.2						
SONM				PcP	**PcP**	**04 32 39.0**	**+1.4**
	1.0nm,0.8s,baz=142,slow=5.4,SNR=2.6						
WMQ	**Urumqi**	**64.44**	**327**	*e*P	**P**	**04 32 24.6**	**+0.7**
WMQ				PcP	**PcP**	**04 32 58.6**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,250nm,3.7s						
KSH	**Kashi**	**69.08**	**317**	P	**P**	**04 32 55.4**	**+1.8**
KSH				pP	sP	04 33 11.5	+3.6
KSH				S	**S**	**04 41 53.5**	**-3

9.3nm,0.7s,baz=128,slow=7.8,SNR=98
KDJ Kajisay 69.64 320 *e*P **P 04 32 57.8 +0.8**
6.6nm,0.7s
NRN Naryn 70.03 319 *e*P **P 04 33 00.9 +1.3**
3.5nm,0.6s
AAK Ala-Archa 71.60 320 *e*P **P 04 33 09.5 +0.5**
3.7nm,0.7s
AAK Ala-Archa 71.60 320 P **P 04 33 09.7 +0.7**
3.9nm,0.7s,baz=133,slow=6.5,SNR=11
ARSB Arslanbob 71.95 318 *e*P **P 04 33 12.0 +0.8**
10nm,0.7s
ZAA0 Zalesovo Array 72.61 334 *e*P **P 04 33 14.3 -0.2**
5.9nm,1.3s
ZALV Zalesovo Beam 72.61 334 *e*P **P 04 33 14.1 -0.4**
ZALV Zalesovo Beam 72.61 334 P **P 04 33 14.4 -0.1**
1.2nm,0.6s,baz=106,slow=5.3,SNR=5.9
GAR Garm 72.73 315 *e*P **P 04 33 16.4 +0.7**
15nm,1.0s
KURBB Kurchatov Arra 73.56 328 P **P 04 33 20.2 +0.1**
1.4nm,0.7s,baz=126,slow=4.6,SNR=11
KURK Kurchatov 73.56 328 *e*P **P 04 33 20.5 +0.3**
14nm,1.7s
KKAR Karatay Array 74.40 319 *e*P **P 04 33 25.2 -0.2**
BVAR Borovoye Array 79.11 328 P **P 04 33 51.8 +0.1**
2.7nm,0.9s,baz=141,slow=5.7,SNR=13
BRVK Borovoye 79.18 328 *e*P **P 04 33 52.0 -0.1**
2.9nm,0.5s
TIXI Tiksi 79.29 359 *e*P **P 04 33 52.3 +0.1**
1.8nm,0.6s
TIXI Tiksi 79.29 359 P **P 04 33 52.3 +0.1**
1.3nm,0.5s,baz=151,slow=1.2,SNR=5.6
NRIK Noril'sk 82.50 346 P **P 04 34 09.9 +0.4**
6.6nm,1.0s,baz=142,slow=6.2,SNR=6.1
ABKAR Akbulak array 83.57 321 *e*P **P 04 34 15.6 +0.2**
AKTO Aktyubinsk 85.13 322 P **P 04 34 23.6 +0.3**
0.7nm,0.3s,baz=94,slow=4.3,SNR=6.7
ARU Arti 86.75 328 *e*P **P 04 34 31.2 0.0**
ILAR Eielson Array 93.76 25 P **P 04 35 04.1 +0.2**
0.4nm,0.8s,baz=182,slow=23,SNR=3.5
TORD Torodi Ar. Bea 129.66 281 PKP **PKiKP 04 40 60.0 +1.9**
0.8nm,0.8s,baz=110,slow=1.6,SNR=7.1
CPUP Villa Florida 145.19 167 *e*PKPdf **PKiKP 04 41 28.4 -1.1**
CPUP Villa Florida 145.19 167 PKPbc **PKiKP 04 41 29.9 +0.5**
3.8nm,1.0s,baz=224,slow=1.4,SNR=9.3
LPAZ La Paz 149.66 142 PKPbc **PKPab 04 41 43.7 -0.1**
4.3nm,0.9s,baz=195,slow=1.7,SNR=19
OTAV Otavalo 149.97 103 *e*PKPbc **PKiKP 04 41 41.2 +1.0**

*NNC **03** 04:56:12.0±3.3, 53°.27N×90°.72E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=26.1km s-min=19.7km az=89.0, Suspected Mining explosion.*

ASRS 03 04:56:01.8, 53°.80N×91°.05E, M3.1, 6C-7D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.69**	**275**	⇑Pn	Pb	04 57 09.3	+1.5
ZAA0	3.0nm,1.1s			⇓Lg	Lg	04 58 04.2	
KURK	**Kurchatov**	**8.23**	**253**	⇓Pn	Pn	04 58 06.8	+4.6
KURK	4.1nm,1.0s			⇓Sn	Sn	04 59 38.9	+3.1
KURK	14nm,1.1s			⇑Lg	Lg	05 00 21.8	
KURBB	**Kurchatov Arra**	**8.32**	**253**	⇑Pn	Pn	04 58 07.9	+4.3
KURBB	2.6nm,0.5s			⇑Sn	Sn	04 59 40.3	+2.1
KURBB	34nm,1.2s			⇓Lg	Lg	05 00 24.9	
MK31	**Makanchi Array**	**8.97**	**222**	⇓Pn	Pn	04 58 16.4	+3.9
MK31	1.4nm,0.8s,baz=39,slow=13,SNR=9.9			⇑Sn	Sn	04 59 54.3	+0.1
MK31	3.6nm,1.0s			⇓Lg	Lg	05 00 41.8	
MAKZ	**Makanchi**	**9.09**	**223**	⇓Sn	Sn	04 59 56.0	-1.0
MAKZ	4.9nm,1.2s			⇑Lg	Lg	05 00 44.9	
	18nm,1.3s						

MEX 03 05:09:05.5±0.4, 14°.67N×93°.03W, h15km±11km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.78**	**72**	*i* P	Pg	05 09 18.0	-2.7
THIG				*i* S	Sg	05 09 27.3	-3.6
PCIG		**1.04**	**350**	*e*P	Pb	05 09 21.8	-3.4
PCIG				*e*S	Sb	05 09 34.2	-4.5
CCIG	**Comitan**	**1.82**	**28**	*i* P	Pn	05 09 33.1	-3.3
CCIG				*i* S	Sn	05 09 54.5	-4.7
CMIG	**Matias Romero**	**2.99**	**324**	*i* P	Pn	05 09 49.8	-2.6
CMIG				*i* S	Sn	05 10 24.5	-3.5

UCR 03 05:18:21.7±2.4, 9°.70N×84°.26W, h32km±4km, MD3.9, 4C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.25**	**80**	⇑*e*P	Pb	05 18 29.1	+0.1
SJS	**Escuela Geolog**	**0.31**	**40**	*e*Pn	Pn	05 18 31.2	+1.1
HDC	**Heredia**	**0.33**	**25**	*e*P	Pb	05 18 30.2	+0.2
HDC				*e*S	Sn	05 18 37.5	+1.2
EDLM	**Las Mercedes**	**0.78**	**122**	*e*P	Pn	05 18 36.0	-0.5
FORC	**Fortuna**	**0.87**	**332**	*i* P	Pn	05 18 37.5	-0.2
CASO	**Castillo**	**0.87**	**327**	*i* P	Pn	05 18 37.5	-0.2
ARE1	**Arenal 1**	**0.89**	**329**	⇑*e*P	Pn	05 18 37.8	-0.2
CEDE	**Laguna Cedeo**	**0.90**	**331**	*i* P	Pn	05 18 38.0	-0.1
JTS	**Las Juntas de**	**0.90**	**311**	*e*P	Pn	05 18 38.2	0.0
JTS				*e*S	Sb	05 18 51.7	+0.9
EDPN	**Palmar Norte**	**1.08**	**133**	*e*P	Pn	05 18 40.0	-0.6
DRK0	**Durika**	**1.09**	**113**	⇑*e*P	Pn	05 18 39.9	-1.0
DRK0				*e*S	Sn	05 18 55.2	+0.3
EDBA	**Buenos Aires**	**1.10**	**119**	⇑*e*P	Pn	05 18 39.9	-1.1
AMAS	**Alto Masis**	**1.16**	**321**	*i* P	Pn	05 18 42.1	+0.2
ACAL	**Aguas Claras**	**1.21**	**321**	*i* P	Pn	05 18 42.6	+0.2
ACAL				*i* S	Sb	05 19 00.1	+0.7
PTEN	**Parque Tenorio**	**1.24**	**325**	*i* P	Pn	05 18 43.0	+0.2
PTEN				*i* S	Sb	05 19 00.4	0.0
PTJ1	**Puerto Jimnez**	**1.49**	**141**	*e*P	Pn	05 18 44.5	-1.7
PTJ1				*e*S	Sn	05 19 03.4	-1.2
EDSV	**San Vito**	**1.54**	**124**	*e*P	Pn	05 18 46.8	-0.2
BUEV	**Buena Vista**	**1.57**	**314**	*i* P	Pn	05 18 47.3	-0.2
BUAI	**Buenos Aires**	**1.58**	**318**	*i* P	Pn	05 18 47.6	+0.1
BRU2	**Volcan**	**1.79**	**120**	*e*P	Pn	05 18 50.2	-0.3
BRU2				*e*S	Sn	05 19 13.1	+0.9
TBS2		**1.82**	**119**	*e*P	Pn	05 18 50.3	-0.6
TBS2				*e*S	Sn	05 19 13.4	+0.5
DVD	**David**	**2.18**	**125**	*e*P	Pn	05 18 55.3	-0.4
DVD				*e*S	Sb	05 19 24.6	-2.5
CONN	**Concepcion**	**2.29**	**324**	*e*P	Pb	05 19 00.5	-2.0
ACON	**Acoyapa**	**2.43**	**338**	*e*P	Pn	05 18 58.9	-0.2
ACON				*e*S	Sn	05 19 28.2	+0.4
ESPN	**Las Esperanzas**	**2.48**	**359**	*e*P	Pn	05 18 59.4	-0.5
ESPN				*e*S	Sn	05 19 28.2	-0.9
CRUN	**El Crucero**	**3.03**	**319**	*e*P	Pn	05 19 07.3	-0.2
MOMN	**Momotombo**	**3.50**	**320**	*e*P	Pn	05 19 15.2	+1.2
MATN	**Matagalpa**	**3.60**	**333**	*e*P	Pn	05 19 15.4	0.0
CNGN	**Cerro Negro**	**3.67**	**320**	*e*P	Pn	05 19 16.9	+0.6
ESTN	**Estel**	**3.97**	**329**	*e*P	Pn	05 19 20.7	+0.3
RCON	**San Juan de Ri**	**4.20**	**334**	*e*P	Pn	05 19 24.2	+0.6
AZU	**Azuero**	**4.37**	**115**	*e*P	Pn	05 19 27.4	+1.5
BCIP	**Isla Barro Col**	**4.39**	**97**	*e*P	Pn	05 19 26.1	-0.1

*ISCJB **03** 05:33:55.9±0.6, 37°.05N±0°.05×71°.40E±0°.07, h106km, Error ellipse: s-maj=8.4km s-min=6.3km az=32.8*
*NEIC **03** 05:33:56.9±0.6, 37°.05N×71°.35E, h103km±8km, mb4.4/2, Error ellipse: s-maj=11.0km s-min=7.8km az=121.0*
*NNC **03** 05:33:58.1±3.0, 37°.48N×71°.22E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=24.9km s-min=18.6km az=154.0*
*IDC **03** 05:34:13.2±4.2, 40°.08N×69°.80E, h0km, mb3.9/2, mb1 3.7/6, mb1mx3.4/47, mbtmp3.6/6, ML3.1/4, MS4.9/1, Ms1 4.9/1, ms1mx2.4/43, Error ellipse: s-maj=72.0km s-min=19.3km az=169.0*

ISC 03 05:33:56.9±1.1, 37°.06N±0°.09×71°.36E±0°.08, h106km, n40, σ0s99/42, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.11**	**337**	*e*Pn	**Pn**	**05 34 31.6**	**+0.4**
GAR				*e*Sn	**Sn**	**05 34 58.0**	**+0.6**
KBL	**Kabul**	**3.13**	**218**	*e*Pn	**Pn**	**05 34 45.0**	**+0.2**
NIL	**Nilore**	**3.73**	**155**	*e*Pn	**Pn**	**05 34 52.3**	**-0.3**
ARSB	**Arslanbob**	**4.45**	**16**	*e*Pn	**Pn**	**05 35 02.3**	**+0.1**
AML	**Almayashu**	**5.38**	**19**	P	**Pn**	**05 35 16.0**	**+0.8**
SNR=25							
NRN	**Naryn**	**5.67**	**38**	*e*Pn	**Pn**	**05 35 18.2**	**-0.7**
UCH	**Uchtor**	**5.71**	**24**	P	**Pn**	**05 35 20.5**	**+0.9**
SNR=7.6							
KZA	**Kyzart**	**5.85**	**30**	P	**Pn**	**05 35 21.5**	**0.0**
SNR=7.2							
EKS2	**Erkin-Say**	**5.90**	**18**	P	**Pn**	**05 35 23.2**	**+1.3**
SNR=12							
AAK	**Ala-Archa**	**6.08**	**22**	P	**Pn**	**05 35 25.4**	**+1.1**
SNR=7.0							
AAK	**Ala-Archa**	**6.08**	**22**	*e*Pn	**Pn**	**05 35 25.1**	**+0.8**
AAK	**Ala-Archa**	**6.08**	**22**	⇓P	**Pn**	**05 35 25.1**	**+0.8**
3.1nm,0.4s							
AAK				S	**Sn**	**05 36 32.0**	**-0.5**
16nm,0.6s							
AAK	**Ala-Archa**	**6.08**	**22**	Pn	**Pn**	**05 35 25.4**	**+1.1**
2.8nm,0.3s,baz=181,slow=8.0,SNR=9.6							
AAK				Lg	Lg	05 36 33.4	
2.1nm,0.3s,baz=129,slow=23,SNR=21							
KK31	**Karatay Array**	**6.08**	**354**	*e*Pn	**Pn**	**05 35 24.7**	**+0.5**
KK31	**Karatay Array**	**6.08**	**354**	⇑P	**Pn**	**05 35 24.6**	**+0.5**
5.5nm,0.3s,baz=181,slow=13,SNR=82							
KK31				⇑S	**Sn**	**05 36 30.1**	**-2.2**
3.5nm,0.3s,baz=174,slow=22,SNR=6.4							
KKAR	**Karatay Array**	**6.08**	**354**	*e*Pn	**Pn**	**05 35 24.7**	**+0.5**
BOOM	**Boomskoye usch**	**6.47**	**32**	*e*Pn	**Pn**	**05 35 28.9**	**-0.8**
TKM2	**Tokmak 2**	**6.70**	**28**	P	**Pn**	**05 35 33.5**	**+0.6**
SNR=7.0							
TKM2	**Tokmak 2**	**6.70**	**28**	⇑P	**Pn**	**05 35 33.4**	**+0.5**
3.3nm,0.6s							
TKM2				⇓S	**Sn**	**05 36 47.9**	**+0.1**
3.7nm,0.7s							
KDJ	**Kajisay**	**6.77**	**40**	*e*Pn	**Pn**	**05 35 35.5**	**+1.7**
TARG	**Taragay, Kyrgy**	**6.83**	**45**	*e*Pn	**Pn**	**05 35 35.9**	**+1.1**
MK32	**Makanchi Array**	**12.67**	**36**	*e*Pn	**Pn**	**05 36 53.1**	**-0.1**
MKAR	**Makanchi Array**	**12.67**	**36**	*e*Pn	**Pn**	**05 36 52.2**	**-1.0**
MKAR	**Makanchi Array**	**12.67**	**36**	Pn	**Pn**	**05 36 53.1**	**-0.1**
0.1nm,0.3s,baz=232,slow=14,SNR=7.0							
KURBB	**Kurchatov Arra**	**14.51**	**19**	Pn	Pn	05 37 05.6	-11
0.0nm,0.3s,baz=210,slow=13,SNR=3.1							
AB31	**Akbulak array**	**14.74**	**329**	⇓P	**Pn**	**05 37 19.6**	**-0.3**
1.0nm,0.4s,baz=143,slow=11,SNR=44							
ABKAR	**Akbulak array**	**14.74**	**329**	*e*Pn	**Pn**	**05 37 17.6**	**-2.3**
AKTO	**Aktyubinsk**	**16.45**	**329**	⇑P	**P**	**05 37 42.8**	**+0.8**
6.9nm,1.1s							
ZALV	**Zalesovo Beam**	**19.29**	**25**	P	**P**	**05 38 12.8**	**-0.4**
0.5nm,0.3s,baz=220,slow=12,SNR=6.8							
ZAA1	**Zalesovo Array**	**19.30**	**25**	*e*P	**P**	**05 38 12.8**	**-0.4**
KARS	**Kars**	**22.27**	**288**	*e*P	**P**	**05 38 45.0**	**-0.3**
67nm,0.7s							
FIA0	**FINESS Array S**	**37.19**	**326**	*e*P	**P**	**05 40 58.6**	**+1.3**
FINES	**FINESS Array B**	**37.19**	**326**	*e*P	**P**	**05 40 58.8**	**+1.5**
FINES	**FINESS Array B**	**37.19**	**326**	P	**P**	**05 40 58.6**	**+1.3**
1.1nm,0.7s,baz=116,slow=9.6,SNR=3.9							
ARA0	**ARCESS Array S**	**40.74**	**337**	*e*P	**P**	**05 41 28.2**	**+1.3**
ARCES	**ARCESS Array B**	**40.74**	**337**	*e*P	**P**	**05 41 28.3**	**+1.4**
ARCES	**ARCESS Array B**	**40.74**	**337**	P	**P**	**05 41 28.2**	**+1.3**
0.4nm,0.5s,baz=118,slow=9.5,SNR=7.6							
GERES	**GERESS Array B**	**42.84**	**305**	*e*P	**P**	**05 41 43.5**	**-0.9**
TIXI	**Tiksi**	**45.15**	**22**	*e*P	**P**	**05 42 02.7**	**+0.3**
1.4nm,1.1s							
JHJ	**Hachijo jima 2**	**55.03**	**72**	LR	LR	06 09 20.9	
comp=Z,1μm,20.9s,baz=282,slow=38							

*IDC **03** 05:36:44.4±2.2, 38°.45N×70°.05E, h0km, mb3.5/3, mb1 3.7/9, mb1mx3.5/45, mbtmp3.6/9, ML3.4/5, MS3.6/2, Ms1 3.6/2, ms1mx2.5/39, Error ellipse: s-maj=29.9km s-min=17.4km az=171.0*
*NNC **03** 05:36:50.8±4.2, 39°.08N×69°.59E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=30.0km s-min=24.4km az=23.0*

ISC 03 05:36:49.8±1.8, 38°.9N±0°.1×69°.65E±0°.09, h10km, n22, σ1s95/26, mb3.5/3, 8C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.26**	**9**	⇓Pn	**Pn**	**05 37 56.4**	**+1.7**
2.9nm,0.4s,baz=175,slow=12,SNR=14							
KK31				⇑Pg	**Pb**	**05 38 06.5**	**+1.7**
6.1nm,0.5s,baz=191,slow=15,SNR=4.2							
KK31				⇑Sn	**Sn**	**05 38 42.7**	**-1.7**
11nm,0.6s							
KK31				⇓Lg	Lg	05 39 02.9	
78nm,1.1s,baz=192,slow=30,SNR=6.4							
AML	**Almayashu**	**4.47**	**42**	P	**Pn**	**05 37 57.8**	**-0.2**
SNR=9.3							
UCH	**Uchtor**	**4.98**	**46**	P	**Pn**	**05 38 06.3**	**+1.2**
SNR=8.2							
AAK	**Ala-Archa**	**5.24**	**43**	P	**Pn**	**05 38 08.9**	**+0.5**
SNR=11							
AAK	**Ala-Archa**	**5.24**	**43**	⇑Pn	**Pn**	**05 38 08.5**	**+0.1**
7.1nm,0.5s							
AAK				⇑Sn	**Sn**	**05 39 11.8**	**+2.8**
27nm,0.9s							
AAK				⇑Lg	Lg	05 39 34.1	
19nm,0.6s							
AAK	**Ala-Archa**	**5.24**	**43**	Pn	**Pn**	**05 38 08.7**	**+0.3**
3.7nm,0.3s,baz=226,slow=15,SNR=11							
AAK				Sn	**Sn**	**05 39 06.4**	**-2.6**
1.2nm,0.3s,baz=219,slow=13,SNR=1.8							
AAK				Lg	Lg	05 39 35.5	
0.8nm,0.3s,baz=313,slow=18,SNR=3.0							
KZA	**Kyzart**	**5.32**	**52**	P	**Pn**	**05 38 11.3**	**+1.6**
SNR=10							
KBK	**Karagaybulak**	**5.50**	**45**	P	**Pn**	**05 38 14.5**	**+2.5**
SNR=14							
CHMS	**Chumysh**	**5.63**	**42**	P	**Pn**	**05 38 15.0**	**+1.4**
SNR=6.0							
ULHL	**Ulahol**	**6.03**	**54**	P	**Pn**	**05 38 20.8**	**+1.5**
SNR=6.2							
TKM2	**Tokmak 2**	**6.04**	**46**	P	**Pn**	**05 38 20.2**	**+0.9**
SNR=8.2							
TKM2	**Tokmak 2**	**6.04**	**46**	⇑Pn	**Pn**	**05 38 17.8**	**-1.6**
7.3nm,0.4s							
TKM2				⇑Sn	**Sn**	**05 39 30.6**	**+2.0**
27nm,0.9s							
TKM2				⇑Lg	Lg	05 40 00.6	
22nm,0.9s							
MKAR	**Makanchi Array**	**12.17**	**45**	Pn	**Pn**	**05 39 40.7**	**-2.5**
baz=228,slow=17,SNR=2.3							
MKAR				Lg	Lg	05 43 08.9	
0.1nm,0.3s,baz=221,slow=28,SNR=3.0							
KURBB	**Kurchatov Arra**	**13.30**	**25**	Pn	**Pn**	**05 39 54.9**	**-3.7**
0.1nm,0.3s,baz=213,slow=11,SNR=4.2							
KURBB				Lg	Lg	05 43 55.2	
0.0nm,0.3s,baz=215,slow=35,SNR=4.4							
BVAR	**Borovoye Array**	**14.14**	**2**	Pn	**Pn**	**05 40 08.0**	**-2.1**
0.2nm,0.3s,baz=186,slow=14,SNR=10							
AKTO	**Aktyubinsk**	**14.18**	**328**	Pn	**Pn**	**05 40 11.4**	**+0.8**
0.2nm,0.3s,baz=136,slow=16,SNR=4.4							
AKTO				Sn	**Sn**	**05 42 47.2**	**-0.7**
0.2nm,0.3s,baz=180,slow=20,SNR=3.2							
ZALV	**Zalesovo Beam**	**18.27**	**30**	P	**Pn**	**05 40 59.9**	**-3.3**
0.3nm,0.3s,baz=224,slow=12,SNR=4.2							
ARCES	**ARCESS Array B**	**38.53**	**337**	P	**P**	**05 44 12.8**	**+0.8**
0.8nm,0.7s,baz=102,slow=8.7,SNR=3.0							
NOA	**NORSAR Array B**	**41.84**	**322**	P	**P**	**05 44 40.0**	**+0.4**
0.6nm,0.6s,baz=99,slow=8.1,SNR=3.3							
JNU	**Nakatsue**	**49.06**	**77**	LR	LR	06 10 06.0	
comp=Z,289nm,21.0s,baz=269,slow=41							
BATI	**Baumata**	**70.04**	**122**	LR	LR	06 21 24.5	
comp=Z,116nm,19.6s,baz=139,slow=38							
YKA	**Yellowknife Ar**	**78.90**	**2**	P	**P**	**05 48 51.0**	**-1.9**
0.1nm,0.4s,baz=351,slow=5.5,SNR=4.7							

*ISCJB **03** 05:52:49.2±1.1, 28°.02N±0°.08×51°.48E±0°.06, h16km, mb3.5/6, Error ellipse: s-maj=12.3km s-min=7.3km az=14.3*
*IDC **03** 05:52:50.2±2.4, 28°.32N×51°.62E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/43, mbtmp3.5/6, Error ellipse: s-maj=61.7km s-min=27.4km az=152.0*
*TEH **03** 05:52:50.5, 28°.18N×51°.58E, h14km, ML3.4*
*THR **03** 05:52:51.9, 28°.29N×51°.63E, h14km, ML3.3*

ISC 03 05:52:51.7±1.1, 28°.12N±0°.09×51°.59E±0°.07, h16km, n24, σ0s71/26, mb3.6/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.25**	**82**	*e*AML	AML	05 53 38.5	
508nm,0.6s							
GHIR				*e*Pg	**Pn**	**05 53 14.2**	**-0.4**
GHIR				*e*Sg	**Sb**	**05 53 30.5**	**-0.3**
GHIR				*e*AML	AML	05 53 43.6	
574nm,0.6s							
IKAZ	**Kazeroun**	**1.67**	**7**	*e*Pg	**Pn**	**05 53 20.2**	**-0.5**
IKAZ				IAMB	IAmb	05 53 56.4	
comp=Z,6μm,0.5s							
SHI	**Shiraz**	**1.72**	**28**	*e*Pg	**Pn**	**05 53 22.2**	**+1.0**
SHI				*e*Sg	**Sb**	**05 53 45.4**	**+0.8**
SHI				IAMB	IAmb	05 53 54.1	
comp=Z,3μm,0.6s							
JHRM	**Jahrom**	**1.79**	**77**	*e*Pn	**Pn**	**05 53 23.4**	**+1.3**
JHRM				IAMB	IAmb	05 54 00.3	
comp=Z,0.0nm,0.5s							
IPAR	**Pars**	**2.14**	**36**	*e*Pn	**Pn**	**05 53 27.5**	**+0.4**
IPAR				IAMB	IAmb	05 54 04.6	
comp=Z,2μm,0.8s							
IRAM	**Ramesheh**	**3.74**	**10**	*e*Pn	**Pn**	**05 53 49.0**	**-0.1**
ZNGN	**Zangian**	**4.04**	**351**	*e*Pn	**Pn**	**05 53 53.4**	**+0.2**
JHBN	**Jahan bin**	**4.18**	**349**	*e*Pn	**Pn**	**05 53 55.6**	**+0.5**
IMEH	**Mehriz**	**4.19**	**38**	*e*Pn	**Pn**	**05 53 56.7**	**+1.5**
ISAD	**Sadrabad**	**4.20**	**25**	*e*Pn	**Pn**	**05 53 56.1**	**+0.7**
ROKH	**ROKH**	**4.24**	**354**	*e*Pn	**Pn**	**05 53 56.1**	**+0.2**
NGRK	**Negar Kerman**	**4.76**	**70**	*e*Pn	**Pn**	**05 54 03.3**	**+0.2**
IZEF	**Zefreh**	**4.80**	**7**	*e*Pn	**Pn**	**05 54 03.9**	**+0.2**
KHGB	**Koh Gabri**	**4.83**	**61**	*e*Pn	**Pn**	**05 54 03.7**	**-0.3**
IKLH	**Kolahrood**	**5.18**	**360**	*e*Pn	**Pn**	**05 54 08.8**	**-0.1**
KHMZ	**Khomeyn**	**5.78**	**346**	*e*Pn	**Pn**	**05 54 17.4**	**+0.4**
KHMZ	**Khomeyn**	**5.78**	**346**	*e*Pn	**Pn**	**05 54 17.4**	**+0.4**
KRSH	**Karshahi**	**5.85**	**4**	*e*Pn	**Pn**	**05 54 17.7**	**-0.3**
MKAR	**Makanchi Array**	**30.41**	**44**	P	**P**	**05 59 02.4**	**-0.7**
comp=Z,0.2nm,0.5s,baz=240,slow=7.8,SNR=3.6							
ZALV	**Zalesovo Beam**	**35.42**	**34**	P	**P**	**05 59 46.6**	**-0.3**
comp=Z,0.4nm,0.3s,baz=243,slow=6.3,SNR=3.2							
FINES	**FINESS Array B**	**37.42**	**340**	P	**P**	**06 00 03.0**	**-0.8**
comp=Z,0.5nm,0.4s,baz=140,slow=8.8,SNR=8.0							
ARCES	**ARCESS Array B**	**44.12**	**347**	P	**P**	**06 00 58.5**	**-0.5**
comp=Z,0.5nm,0.6s,baz=140,slow=6.3,SNR=6.3							
TORD	**Torodi Ar. Bea**	**48.68**	**263**	P	**P**	**06 01 37.0**	**+1.5**
comp=Z,0.3nm,0.7s,baz=63,slow=6.7,SNR=2.3							
YKA	**Yellowknife Ar**	**89.03**	**354**	P	**P**	**06 05 45.1**	**-0.5**
comp=Z,0.2nm,0.6s,baz=13,slow=4.7,SNR=5.3							

MEX 03 06:03:32.5±0.5, 16°.25N×98°.04W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**330**	*e*P	Pg	06 03 35.3	-0.6
PNIG				*e*S	Sg	06 03 38.0	-0.2
TLIG	**Tlapa**	**1.41**	**339**	*e*P	Pn	06 03 55.4	-3.5
TLIG				*i* S	Sb	06 04 13.7	-3.9
HUIG	**Huatulco**	**1.92**	**104**	*i* P	Pn	06 04 01.6	-4.2
HUIG				*i* S	Sn	06 04 25.7	-4.7

IDC 03 06:03:46.2±2.2, 7°.16S×131°.19E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.3/31, mbtmp3.5/3, ML4.1/3, Error ellipse: s-maj=71.5km s-min=25.3km az=83.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.14**	**206**	Pn	Pn	06 06 40.3	-0.2
0.1nm,0.3s,baz=34,slow=11,SNR=12							
FITZ				Sn	Sn	06 08 57.1	+0.4
0.2nm,0.3s,baz=90,slow=20,SNR=5.8							
WRA	**Warramunga Arr**	**13.06**	**167**	Pn	Pn	06 06 52.0	-1.3
6.6nm,0.3s,baz=353,slow=13,SNR=6.9							
WRA				Sn	Sn	06 09 21.0	+1.6
8.5nm,0.3s,baz=345,slow=22,SNR=6.5							
ASAR	**Alice Springs**	**16.61**	**171**	Pn	P	06 07 42.5	-0.8
0.1nm,0.3s,baz=346,slow=9.5,SNR=3.2							
MKAR	**Makanchi Array**	**69.01**	**326**	P	P	06 14 53.6	0.0
0.6nm,0.7s,baz=117,slow=5.2,SNR=5.5							

*BJI **03** 06:10:06.3±0.0, 52°.64N×157°.69E, h151km, mb5.3/77, mB5.1/52*
*KRSC **03** 06:10:10.7±10.0, 52°.44N×157°.66E, h177km±10km, ML5.8, FELT [II-III] at Petropavlovsk; [II] at lighthouse Krugliy, Ribachiy.*
*ISCJB **03** 06:10:11.4±0.1, 52°.63N±0°.02×157°.21E±0°.02, h173km±1km, mb5.3/14, Error ellipse: s-maj=3.0km s-min=1.8km az=158.6*
*MOS **03** 06:10:11.2±1.0, 52°.56N×157°.29E, h176km, mb5.1/39, Error ellipse: s-maj=6.9km s-min=3.4km az=79.4*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
*NEIC **03** 06:10:11.0±0.0, 52°.39N×157°.50E, h160km, Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.06; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$0.37; $M_{r\theta}$-0.52; $M_{\theta\phi}$-0.15; $M_{\phi r}$-1.07; Best double couple: $M_0$1.20000×10^{17} NP1: ϕ_s27.00000°, δ88.00000°, λ-73.00000°. NP2:ϕ_s123.00000°, δ17.00000°, λ-173.00000°. Principal axes: T 1.2800, Plg40.0000°, Azm100.0000°; N -0.0700, Plg16.0000°, Azm205.0000°; P -1.2200, Plg44.0000°, Azm313.0000°;*
*IDC **03** 06:10:12.5±0.3, 52°.73N×157°.18E, h166km±

PETK S **Sn** **06 10 50.2 -4.0**
126nm,0.3s,baz=202,slow=3.2,SNR=17
PEA1 Petropavlovsk- 0.60 22 *e*Pn **Pn** **06 10 35.8 -0.1**
PEA1 *e*Sn **Sn** **06 10 50.2 -4.1**
RUS Russkaya 0.74 100 *e*P **Pn** **06 10 35.7 -0.9**
RUS *e*S **Sn** **06 10 54.1 -1.4**
RUS Russkaya 0.74 100 PN **Pn** **06 10 35.7 -0.9**
RUS S **Sn** **06 10 54.1 -1.4**
KDTR Khodutka, Kamc 0.89 148 *i* P **Pn** **06 10 36.1 -1.6**
KDTR *e*S **Sn** **06 10 54.6 -2.6**
KDTR Khodutka, Kamc 0.89 148 PN **Pn** **06 10 36.1 -1.6**
KDTR S **Sn** **06 10 54.6 -2.6**
PET Petropavlovsk 0.93 60 *e*Pn **Pn** **06 10 37.9 -0.1**
PET Petropavlovsk 0.93 60 *i* P **Pn** **06 10 37.6 -0.4**
PET Petropavlovsk 0.93 60⇓*i*PN **Pn** **06 10 37.5 -0.4**
PET *e*S **Sn** **06 10 57.3 -0.6**
PET pmax pmax
comp=Z,72μm,1.4s
PET pmax pmax
comp=Z,52μm,0.7s
PET smax smax
comp=E,73μm,2.2s
PET smax smax
comp=N,97μm,1.5s
PET smax smax
comp=E,22μm,0.8s
PET smax smax
comp=N,45μm,1.0s
DALK Dalny 0.99 61 *i* P **Pn** **06 10 38.2 -0.2**
DALK *e*S **Sn** **06 10 57.8 -0.8**
DALK Dalny 0.99 61 PN **Pn** **06 10 38.2 -0.2**
DALK S **Sn** **06 10 57.8 -0.8**
KOK Koryaka 1.08 47 *i* P **Pn** **06 10 39.9 +0.7**
KOK Koryaka 1.08 47 PN **Pn** **06 10 39.9 +0.7**
AVH Avacha 1.11 50 *e*P **Pn** **06 10 40.0 +0.5**
AVH *e*S **Sn** **06 11 01.6 +1.0**
AVH Avacha 1.11 50 PN **Pn** **06 10 40.0 +0.5**
AVH S **Sn** **06 11 01.6 +1.0**
UGLR Uglovaya 1.12 54 *e*P **Pn** **06 10 39.9 +0.3**
UGLR Uglovaya 1.12 54 PN **Pn** **06 10 39.9 +0.3**
KRX Arik 1.13 45 *i* P **Pn** **06 10 40.1 +0.4**
KRX Arik 1.13 45 PN **Pn** **06 10 40.1 +0.4**
SMAR Somma 1.14 51 *e*P **Pn** **06 10 39.9 0.0**
SMAR Somma 1.14 51 PN **Pn** **06 10 39.9 0.0**
KRER Koryakskii 1.14 49 *i* P **Pn** **06 10 40.0 +0.1**
KRER Koryakskii 1.14 49 PN **Pn** **06 10 40.0 +0.1**
PAU Pauzhetka 1.14 196 *i* P **Pn** **06 10 39.9 +0.2**
PAU *e*S **Sn** **06 11 01.4 +0.6**
PAU Pauzhetka 1.14 196 PN **Pn** **06 10 39.9 +0.2**
PAU S **Sn** **06 11 01.4 +0.6**
SDLR Sedlovina 1.19 52 *e*P **Pn** **06 10 40.1 -0.1**
SDLR Sedlovina 1.19 52 PN **Pn** **06 10 40.1 -0.1**
NLC Nalytchevo 1.37 63 *e*P **Pn** **06 10 40.7 -0.9**
NLC *e*S **Sn** **06 11 02.1 -2.4**
NLC Nalytchevo 1.37 63 PN **Pn** **06 10 40.7 -0.9**
NLC S **Sn** **06 11 02.1 -2.4**
SPN Mys Shipunski 1.73 71 *i* P **Pn** **06 10 44.1 -1.1**
SPN *e*S **Sn** **06 11 07.4 -3.5**
SPN Mys Shipunski 1.73 71 PN **Pn** **06 10 44.1 -1.1**
SPN S **Sn** **06 11 07.4 -3.5**
ALID Alaid 2.02 214 *e*P **Pn** **06 10 49.3 +0.6**
ALID *e*S **Sn** **06 11 18.0 +1.1**
ALID Alaid 2.02 214 PN **Pn** **06 10 49.3 +0.6**
ALID S **Sn** **06 11 18.0 +1.1**
SKR Severo-Kuril's 2.03 202 *i* P **Pn** **06 10 48.9 +0.4**
SKR *e*S **Sn** **06 11 16.5 -0.2**
SKR Severo-Kuril's 2.03 202 PN **Pn** **06 10 48.9 +0.4**
SKR S **Sn** **06 11 16.5 -0.2**
KZV Kizimen 3.10 33 *e*P **Pn** **06 11 02.5 +1.0**
KZV Kizimen 3.10 33 PN **Pn** **06 11 02.5 +1.0**
TUMR Tumrok 3.20 30 PN **Pn** **06 11 03.7 +1.1**
TUMR S **Sn** **06 11 41.9 -0.1**
TUMD Tumrok D 3.21 33 *e*P **Pn** **06 11 03.7 +1.0**
TUMD *e*S **Sn** **06 11 41.9 -0.3**
MKZ Mys Kozlova 3.30 51 *e*P **Pn** **06 11 02.8 -1.0**
MKZ *e*S **Sn** **06 11 39.6 -4.5**
MKZ Mys Kozlova 3.30 51 PN **Pn** **06 11 02.8 -1.0**
MKZ S **Sn** **06 11 39.6 -4.5**
ESO Esso 3.47 13 *i* P **Pn** **06 11 07.3 +1.4**
ESO *e*S **Sn** **06 11 49.0 +1.1**
ESO Esso 3.47 13 PN **Pn** **06 11 07.3 +1.4**
ESO S **Sn** **06 11 49.0 +1.1**
KMNR Kamenistaya 3.63 27 *e*P **Pn** **06 11 08.1 0.0**
KMNR Kamenistaya 3.63 27 PN **Pn** **06 11 08.1 0.0**
KOZ Kozyrevsk 3.81 22 *i* P **Pn** **06 11 11.9 +1.6**
KOZ Kozyrevsk 3.81 22 PN **Pn** **06 11 11.9 +1.6**
KPT Kopyto 3.81 25 *i* P **Pn** **06 11 11.8 +1.4**
KPT *e*S **Sn** **06 11 56.0 +0.1**
KPT Kopyto 3.81 25 PN **Pn** **06 11 11.8 +1.4**
KPT S **Sn** **06 11 56.0 +0.1**
KIRR Kirishev 3.83 26 *e*P **Pn** **06 11 12.0 +1.3**
KIRR *e*S **Sn** **06 11 58.5 +2.1**
KIRR Kirishev 3.83 26 PN **Pn** **06 11 12.0 +1.3**
KIRR S **Sn** **06 11 58.5 +2.1**
BZMR Bezymyannaya 3.86 28 *e*P **Pn** **06 11 12.8 +1.8**
BZMR *e*S **Sn** **06 11 59.0 +2.0**
BZMR Bezymyannaya 3.86 28 PN **Pn** **06 11 12.8 +1.8**
BZMR S **Sn** **06 11 59.0 +2.0**
BZWR Bezymyannyi-We 3.88 27 *e*P **Pn** **06 11 13.5 +2.1**
BZWR *e*S **Sn** **06 11 58.8 +1.1**
BZWR Bezymyannyi-We 3.88 27 PN **Pn** **06 11 13.5 +2.1**
BZWR S **Sn** **06 11 58.8 +1.1**
BZGR Bezymyannyi-Gr 3.92 29 *e*P **Pn** **06 11 14.0 +2.2**
BZGR Bezymyannyi-Gr 3.92 29 PN **Pn** **06 11 14.0 +2.2**
SRDR Sredinnyy 4.01 19 *e*P **Pn** **06 11 14.8 +1.9**
SRDR Sredinnyy 4.01 19 PN **Pn** **06 11 14.8 +1.9**
LGNR Loginova 4.04 28 *e*P **Pn** **06 11 15.6 +2.1**
LGNR Loginova 4.04 28 PN **Pn** **06 11 15.6 +2.1**
CIRR Tsirk 4.09 28 *e*P **Pn** **06 11 15.7 +1.8**
CIRR Tsirk 4.09 28 PN **Pn** **06 11 15.7 +1.8**
KLY Klyuchi 4.23 26 *e*P **Pn** **06 11 18.1 +2.5**
KLY *e*S **Sn** **06 12 06.0 +0.6**
KLY Klyuchi 4.23 26 PN **Pn** **06 11 18.1 +2.5**
KLY S **Sn** **06 12 06.0 +0.6**
SRKR Sorokina 4.67 27 *e*P **Pn** **06 11 23.1 +1.7**
SRKR Sorokina 4.67 27 PN **Pn** **06 11 23.1 +1.7**
SMKR Semkarok 4.70 29 *e*P **Pn** **06 11 24.1 +2.3**
SMKR Semkarok 4.70 29 PN **Pn** **06 11 24.1 +2.3**
KBG Krutoberegovo 4.86 38 *e*P **Pn** **06 11 23.2 -0.5**
KBG *e*S **Sn** **06 12 16.5 -3.4**
KBG Krutoberegovo 4.86 38 PN **Pn** **06 11 23.2 -0.5**
KBG S **Sn** **06 12 16.5 -3.4**
KBTR Krutoberegovo 4.86 39 *e*P **Pn** **06 11 23.1 -0.8**
KBTR *e*S **Sn** **06 12 15.5 -4.6**
KBTR Krutoberegovo 4.86 39 PN **Pn** **06 11 23.1 -0.8**
KBTR S **Sn** **06 12 15.5 -4.6**
BKI Bering 5.76 59 *e*P **Pn** **06 11 33.7 -1.9**
BKI *e*S **Sn** **06 12 34.5 -6.7**
BKI Bering 5.76 59 PN **Pn** **06 11 33.7 -1.9**
PALN Palana 6.71 12 *e*P **Pn** **06 11 50.1 +2.0**
PALN Palana 6.71 12 PN **Pn** **06 11 50.1 +2.0**
OSSR Ossora 7.44 23 *e*P **Pn** **06 11 59.0 +1.3**
OSSR Ossora 7.44 23 PN **Pn** **06 11 59.0 +1.3**
MA2 Magadan 7.92 335 *e*Pn **Pn** **06 12 05.5 +1.2**
MA2 Magadan 7.92 335⇑*i*PN **Pn** **06 12 04.2 0.0**
MA2 Magadan 7.92 335 P **Pn** **06 12 03.2 -1.1**
comp=N,2.7nm,0.3s,baz=148,slow=11,SNR=108
OKH Okha 8.73 282 *de*PN **Pn** **06 12 17.5 +2.6**
OKH *i* S **Sn** **06 13 55.9 +3.9**
OKH pmax pmax
comp=Z,300nm,6.1s
OKH smax smax
comp=E,4μm,9.3s
OKH smax smax
comp=N,1μm,7.5s
TYV Tymovskoe 9.27 265 *e*PN **Pn** **06 12 25.8 +3.8**
TYV pmax pmax
comp=Z,900nm,2.9s
TYV pmax pmax
comp=Z,113nm,1.1s
TILK Tilichiki 9.28 28 *e*P **Pn** **06 12 22.8 +0.7**
TILK Tilichiki 9.28 28 PN **Pn** **06 12 22.8 +0.7**
KUR Kuril'sk 9.61 224 *e*PN **Pn** **06 12 25.8 -0.8**
KUR *e*S **Sn** **06 14 09.0 -4.4**
KUR pmax pmax
comp=Z,133nm,0.6s
KUR pmax pmax
comp=E,46nm,0.1s
KUR pmax pmax
comp=N,55nm,0.5s
NKL Nikolayevsk 10.09 280 *e*PN **Pn** **06 12 34.0 +1.2**

NKL *e* 06 14 30.0
NKL pmax pmax
comp=E,1μm,7.0s
NKL pmax pmax
comp=Z,1μm,7.0s
NKL pmax pmax
comp=N,800nm,1.5s
NKL pmax pmax
comp=Z,250nm,1.5s
NKL MLR MLR
comp=E,2μm,13.0s
NKL MLR MLR
comp=Z,1μm,13.0s
SMY Shemya 10.20 82 *e*Pn **Pn** **06 12 34.2 -0.1**
SMY Shemya 10.20 82 *e*PN **Pn** **06 12 34.2 -0.1**
SEY Seymchan 10.72 348 P **Pn** **06 12 39.3 -1.8**
comp=Z,0.6nm,0.3s,baz=151,slow=10,SNR=63
YSS Yuzh-Sakhalins 10.96 245 *e*Pn **Pn** **06 12 47.6 +3.4**
YSS Yuzh-Sakhalins 10.96 245 *de*PN **Pn** **06 12 47.0 +2.8**
YSS *e*S **S** **06 14 49.0 +2.4**
YSS pmax pmax
comp=Z,1μm,3.5s
YSS pmax pmax
comp=N,1μm,4.5s
YSS pmax pmax
comp=E,2μm,4.7s
YSS pmax pmax
comp=N,110nm,1.0s
YSS pmax pmax
comp=E,160nm,1.0s
YSS pmax pmax
comp=Z,130nm,1.0s
YSS MLR MLR
comp=Z,2μm,13.0s
YSS MLR MLR
comp=N,1μm,14.0s
KMSK Kamenskaya 11.01 22 *e*P **Pn** **06 12 45.6 +0.9**
KMSK Kamenskaya 11.01 22 PN **Pn** **06 12 45.6 +0.9**
YUK Yuzh-Kuril'sk 11.44 226 *d* iPN **Pn** **06 12 50.0 -0.4**
YUK *e*S **Sn** **06 14 54.1 -3.0**
YUK pmax pmax
comp=Z,489nm,0.5s
YUK pmax pmax
comp=N,50nm,0.2s
YUK pmax pmax
comp=E,207nm,0.5s
ASAJ Asahikawa 12.92 235 P **Pn** **06 13 09.9 +0.4**
comp=E,8.7nm,0.3s,baz=73,slow=13,SNR=70
ASAJ S **Sn** **06 15 25.1 -7.5**
comp=E,0.3nm,0.3s,baz=61,slow=13,SNR=2.3
GRNR Gornyy 13.09 270 *e*PN **Pn** **06 13 13.0 +1.3**
GRNR pmax pmax
comp=Z,29nm,1.0s
ERM Erimo 14.24 228 *e*Pn **Pn** **06 13 24.8 -1.4**
ERM Erimo 14.24 228 *de*P **Pn** **06 13 25.2 -1.0**
TEY Ternei 15.55 249⇑*e*P **P** **06 13 45.7 +2.7**
TEY pmax pmax
comp=Z,400nm,4.0s
TEY pmax pmax
comp=E,500nm,3.7s
TEY pmax pmax
comp=N,60nm,0.8s
TEY pmax pmax
comp=E,130nm,0.8s
TEY pmax pmax
comp=Z,140nm,0.9s
KIWB Kanaga Island 15.64 82 *e*Pn **Pn** **06 13 41.6 -1.8**
ADK Adak 15.92 82 *e*Pn **Pn** **06 13 44.6 -2.1**
comp=Z,267nm,1.1s
ADK Adak 15.92 82 *e*P **Pn** **06 13 44.6 -2.1**
ADK pmax pmax
comp=Z,267nm,1.1s
ATKA Atka Island 17.35 80 *e*P **P** **06 14 01.9 -0.8**
comp=Z,383nm,1.2s
YAK Yakutsk 17.55 314 *d* iP **P** **06 14 05.2 +0.4**
YAK *e*S **S** **06 17 16.0 -2.4**
YAK pmax pmax
comp=Z,5μm,1.1s
YAK pmax pmax
comp=E,3μm,1.1s
YAK pmax pmax
comp=N,1μm,1.1s
YAK smax smax
comp=N,5μm,2.5s
YAK smax smax
comp=E,4μm,3.0s
ZEA Zeya 18.02 286 *de*P **Pn** **06 14 11.0 -0.8**
ZEA *e*S **S** **06 17 27.0 -0.7**
ZEA pmax pmax
comp=E,200nm,1.4s
ZEA pmax pmax
comp=Z,300nm,1.4s
ZEA pmax pmax
comp=Z,1μm,11.0s
ZEA pmax pmax
comp=E,600nm,9.0s
ZEA smax smax
comp=N,700nm,9.0s
ZEA smax smax
comp=E,1μm,9.0s
ZEA MLR MLR
comp=Z,600nm,14.0s
ZEA MLR MLR
comp=E,600nm,12.0s
USRK Ussuriysk Ar. 18.71 254 P **P** **06 14 17.3 -0.4**
comp=E,6.1nm,0.3s,baz=56,slow=9.3,SNR=47
USRK S **S** **06 17 42.0 +0.2**
comp=E,0.2nm,0.3s,baz=140,slow=38,SNR=2.4
USRK ScP **ScP** **06 21 58.3 +0.9**
comp=E,0.2nm,0.3s,baz=45,slow=3.0,SNR=14
VLA Vladivostok 19.42 251 *de*P **P** **06 14 25.6 +0.3**
GAMB Gambell 19.59 43 *e*P **P** **06 14 27.4 +0.4**
MDJ Mudanjiang 19.90 258 P **P** **06 14 30.7 +0.3**
MDJ sP sP 06 15 13.8 -6.2
MDJ S **S** **06 18 04.2 -0.8**
MDJ ScS **ScS** **06 25 39.5 -3.0**
MDJ pmax pmax
comp=E,41nm,1.1s
MDJ pmax pmax
comp=E,520nm,3.3s
MDJ LR LR
comp=E,2μm,9.7s
MDJ LR LR
comp=E,1μm,12.0s
MDJ LR LR
comp=E,3μm,19.5s
MSHR Mys Shultsa 20.18 251⇑*e*P **P** **06 14 32.6 -0.8**
NIKH Nikolski High 20.37 75 *e*P **P** **06 14 34.9 -0.4**
MAJO Matsushiro 20.92 228 *e*P **P** **06 14 41.7 +0.2**
comp=E,280nm,0.8s
MAJO Matsushiro 20.92 228 *d* iP **P** **06 14 41.9 +0.4**
MAJO pmax pmax
comp=Z,318nm,0.8s
MAT Matsushiro 20.92 228 P **P** **06 14 41.9 +0.4**
MAT S **S** **06 18 26.8 +1.7**
MJAR Matsushiro Arr 20.92 228 *e*P **P** **06 14 41.7 +0.2**
MJAR *e*PcP **PcP** **06 18 43.7 +1.7**
MJAR Matsushiro Arr 20.92 228 P **P** **06 14 42.2 +0.7**
comp=Z,166nm,0.8s,baz=18,slow=10,SNR=271
MJAR PcP **PcP** **06 18 43.1 +1.1**
comp=Z,2.2nm,0.6s,baz=102,slow=1.7,SNR=5.2
MJAR ScP **ScP** **06 22 02.9 +0.2**
comp=Z,5.6nm,0.8s,baz=46,slow=0.7,SNR=12
UNV Unalaska Valle 21.56 72 *e*P **P** **06 14 48.3 +0.2**
comp=Z,770nm,1.4s
AKUT Akutan 21.93 71 *e*P **P** **06 14 52.4 +0.6**
INU Inuyama 22.45 228 *e*P **P** **06 14 57.3 +0.2**
comp=Z,213nm,0.9s
CN2 Changchun 22.83 260 *e*P **P** **06 14 59.1 -1.4**
CN2 *e*pP pP 06 15 30.5 -0.6
CN2 *e*S **S** **06 18 50.0 -6.8**
CN2 *e*SS **SnSn** **06 19 48.6 -0.6**
CN2 pmax pmax
comp=Z,100nm,0.7s
CN2 pmax pmax
comp=Z,550nm,3.0s
CN2 LR LR
comp=Z,340nm,14.0s
CN2 LR LR
comp=Z,540nm,14.0s
TIXI Tiksi 22.89 337 *e*P **P** **06 15 00.2 -0.6**
comp=Z,108nm,1.0s
TIXI *e*PcP **PcP** **06 18 46.3 +1.0**
TIXI Tiksi 22.89 337 *d* iP **P** **06 14 59.7 -1.0**
TIXI pmax pmax
comp=Z,131nm,1.3s

TIXI Tiksi 22.89 337 P **P** **06 15 00.2 -0.6**
comp=Z,56nm,0.7s,baz=124,slow=10,SNR=83
TIXI PcP **PcP** **06 18 46.3 +1.0**
comp=Z,6.9nm,0.6s,baz=88,slow=3.1,SNR=4.2
HIA Hailar 23.74 277 *e*P **P** **06 15 08.8 0.0**
comp=Z,657nm,1.7s
RDOG Red Dog Mine 24.45 36 *e*P **P** **06 15 15.8 +0.8**
comp=Z,130nm,0.8s
BOD Bodaibo 24.94 299⇑*i*P **P** **06 15 18.8 -0.7**
BOD *e* 06 15 53.9
BOD *e* 06 25 54.4
BOD pmax pmax
comp=Z,127nm,1.6s
SNY Shenyang 25.09 258⇓P **P** **06 15 21.0 0.0**
SNY S **S** **06 19 26.1 -6.8**
SNY pmax pmax
comp=Z,920nm,2.5s
SNY pmax pmax
comp=Z,910nm,5.1s
SNY LR LR
comp=Z,1μm,9.6s
SNY LR LR
comp=Z,560nm,10.2s
SNY LR LR
comp=Z,790nm,29.8s
KSRS Korea Array 25.46 245 P **P** **06 15 24.8 +0.4**
comp=Z,9.5nm,0.7s,baz=44,slow=9.0,SNR=33
KSRS pP **pP** **06 15 59.6 +1.0**
comp=Z,12nm,1.1s,baz=40,slow=10.0,SNR=2.0
KSRS PcP **PcP** **06 18 52.9 +1.4**
comp=Z,6.6nm,1.0s,baz=22,slow=2.3,SNR=9.8
KSRS ScP **ScP** **06 22 16.1 +1.4**
comp=Z,4.2nm,0.7s,baz=50,slow=2.8,SNR=11
KS15 Wonju Array Si 25.49 245 *e*P **P** **06 15 25.1 +0.5**
comp=Z,29nm,1.0s
KSAR Wonju Array Be 25.49 245 *e*P **P** **06 15 23.5 -1.2**
KSAR *e*PcP **PcP** **06 18 53.5 +1.9**
CHGN Chignik 25.68 64 *e*P **P** **06 15 26.3 +0.2**
comp=Z,64nm,0.9s
TJN Taejon 26.55 244 *ce*P **P** **06 15 35.7 +1.5**
SVW2 Sparrevohn 26.60 53 *e*P **P** **06 15 34.8 +0.4**
comp=Z,114nm,1.0s
SVW2 *e*PcP **PcP** **06 18 55.7 +1.9**
JNU Nakatsue 27.20 235 *e*P **P** **06 15 41.4 +1.3**
comp=Z,216nm,1.4s
JNU Nakatsue 27.20 235 P **P** **06 15 41.4 +1.3**
comp=Z,58nm,0.8s,baz=34,slow=4.0,SNR=30
IMAR Indian Mountai 27.52 42 *e*P **P** **06 15 42.2 -0.4**
IMAR *e*PcP **PcP** **06 18 58.0 +2.1**
SII Sitkinak Islan 27.93 62 *e*P **P** **06 15 45.2 -1.1**
comp=Z,383nm,0.9s
RSO Redoubt South 28.03 54 *e*P **P** **06 15 47.5 +0.2**
DL2 Dalian 28.09 255 P **P** **06 15 47.3 -0.5**
DL2 pP **pP** **06 16 22.2 -0.2**
DL2 sP **sP** **06 16 40.6 -1.1**
DL2 *e*S **S** **06 20 20.4 +0.3**
DL2 ScP **ScP** **06 22 23.7 +1.1**
DL2 pmax pmax
comp=Z,79nm,0.9s
DL2 pmax pmax
comp=Z,300nm,4.6s
PPLA Purkeypile 28.12 49 *e*P **P** **06 15 48.9 +0.8**
comp=Z,335nm,1.5s
PPLA *e*PcP **PcP** **06 18 58.9 +1.3**
CAST Castle Rocks 28.15 47 *e*P **P** **06 15 48.1 -0.1**
comp=Z,74nm,0.9s
OHAK Old Harbor 28.27 61 *e*P **P** **06 15 48.6 -0.6**
comp=Z,194nm,0.8s
OHAK *e*PcP **PcP** **06 18 59.2 +1.4**
KDAK Kodiak Island 28.53 59 *e*P **P** **06 15 50.4 -1.1**
comp=Z,124nm,0.8s
KDAK *e*PcP **PcP** **06 18 59.9 +1.4**
KDAK Kodiak Island 28.53 59 P **P** **06 15 50.6 -0.9**
comp=Z,146nm,1.0s,baz=358,slow=1.8,SNR=46
KDAK PcP **PcP** **06 18 59.5 +1.1**
comp=Z,7.8nm,0.6s,baz=236,slow=3.6,SNR=3.4
BPAW Bear Paw Mtn. 28.63 46 *e*P **P** **06 15 52.8 +0.3**
comp=Z,107nm,1.0s
MLY Manley 28.73 44 *e*P **P** **06 15 53.6 +0.3**
comp=Z,78nm,1.0s
MLY *e*PcP **PcP** **06 19 00.2 +1.2**
COLD Coldfoot 29.04 40 *e*P **P** **06 15 56.7 +0.7**
comp=Z,31nm,1.2s
BRLK Bradley Lake 29.05 55 *e*P **P** **06 15 55.5 -0.7**
comp=Z,152nm,1.1s
BWN Browne 29.29 46 *e*P **P** **06 15 59.9 +1.6**
comp=Z,551nm,1.2s
TOLK Toolik Lake Re 29.40 37 *e*P **P** **06 15 59.8 +0.6**
comp=Z,56nm,1.0s
TOLK Toolik Lake Re 29.40 37 P **P** **06 15 59.6 +0.4**
baz=264,SNR=65
RC01 Rabbit Creek A 29.42 52 *e*P **P** **06 15 58.7 -0.7**
comp=Z,77nm,1.0s
RC01 *e*PcP **PcP** **06 19 02.2 +1.5**
MCK McKinley 29.55 47 *e*P **P** **06 16 00.9 +0.3**
comp=Z,158nm,1.0s
MCK *e*PcP **PcP** **06 19 02.5 +1.5**
RND Reindeer 29.60 47 *e*P **P** **06 16 00.7 -0.4**
comp=Z,156nm,0.9s
TCOL CIGO, UAF Yank 29.96 44 P **P** **06 16 04.8 +0.7**
baz=272,SNR=64
COLA College 29.96 44 *e*P **P** **06 16 04.3 +0.2**
comp=Z,203nm,1.0s
COLA College 29.96 44 *c* iP **P** **06 16 04.5 +0.4**
COLA *i* *PP **pP** **06 16 38.4 -0.7**
COLA pmax pmax
comp=Z,165nm,1.0s
POKR Poker Plat Res 30.13 44 P **P** **06 16 06.4 +0.7**
baz=272,SNR=39
DHY Denali Highway 30.30 48 *e*P **P** **06 16 07.0 -0.4**
comp=Z,217nm,1.2s
HDA Harding Lake 30.38 45 P **P** **06 16 07.3 -0.5**
baz=274,SNR=68
ILAR Eielson Array 30.38 44 *e*P **P** **06 16 07.2 -0.7**
ILAR *e*PcP **PcP** **06 19 02.6 -0.5**
ILAR Eielson Array 30.38 44 P **P** **06 16 07.6 -0.2**
comp=Z,96nm,0.8s,baz=265,slow=7.9,SNR=726
ILAR pP **pP** **06 16 42.1 -0.8**
comp=Z,12nm,0.9s,baz=261,slow=8.3,SNR=2.4
ILAR PcP **PcP** **06 19 02.9 -0.3**
comp=Z,1.6nm,0.6s,baz=275,slow=3.5,SNR=3.8
ILAR S **S** **06 20 52.9 -2.7**
comp=Z,3.1nm,1.1s,baz=266,slow=7.1,SNR=4.6
ILAR ScP **ScP** **06 22 29.1 -0.4**
comp=Z,3.8nm,0.9s,baz=277,slow=2.8,SNR=7.5
ILAR LR LR 06 28 54.2
comp=Z,202nm,18.8s,baz=238,slow=37
ILB Eielson Array 30.38 44 *e*P **P** **06 16 07.7 -0.2**
comp=Z,136nm,0.8s
SCM Sheep Creek Mo 30.47 50 *e*P **P** **06 16 08.9 +0.2**
comp=Z,258nm,0.8s
BJI Beijing 30.63 262⇑*i*P **P** **06 16 10.5 +0.2**
BJI pP **pP** **06 16 46.2 +1.0**
BJI sP **sP** **06 17 03.9 -0.5**
BJI S **S** **06 20 59.8 -0.2**
BJI pmax pmax
comp=Z,10.0nm,1.6s
BJI LR LR
comp=Z,310nm,8.9s
BJI LR LR
comp=Z,320nm,7.4s
PRP Porcupine Dome 30.91 43 *e*P **P** **06 16 12.7 +0.1**
comp=Z,247nm,0.8s
FYU Fort Yukon 30.98 41 *e*P **P** **06 16 13.6 +0.5**
KLU Klutina 31.19 51 *e*P **P** **06 16 15.1 0.0**
comp=Z,254nm,1.4s
BMAR Burnt Mountain 31.22 39 *e*P **P** **06 16 15.6 +0.3**
HARP HAARP 31.40 49 *e*P **P** **06 16 17.4 +0.5**
comp=Z,162nm,1.0s
EYAK Cordova Ski Ar 31.44 53 *e*P **P** **06 16 17.6 +0.5**
comp=Z,172nm,1.2s
IRK Irkutsk 31.76 291 *e*P **P** **06 16 19.4 -0.7**
IRK pmax pmax
comp=Z,67nm,4.0s
TLY Talaya 32.34 290 *e*P **P** **06 16 25.6 +0.5**
comp=Z,89nm,1.6s
TLY *e*PcP **PcP** **06 19 09.8 +1.1**
TLY Talaya 32.34 290 *d* iP **P** **06 16 25.6 +0.5**
TLY Talaya 32.34 290 P **P** **06 16 25.9 +0.8**
SNR=27
SONM Songino Array 32.38 282 *e*P **P** **06 16 25.9 +0.2**
SONM *e*PcP **PcP** **06 19 09.8 +0.7**
SONM Songino Array 32.38 282 P **P** **06 16 26.0 +0.3**
comp=Z,2.2nm,0.5s,baz=49,slow=5.7,SNR=14
SONM pP **pP** **06 17 01.5 +0.8**
comp=Z,1.6nm,0.7s,baz=43,slow=7.2,SNR=2.0

SONM			PP	PnPn	06 17 38.8	-0.5
	comp=Z,0.8nm,0.5s,baz=30,slow=12,SNR=2.7					
SONM			PcP	PcP	06 19 09.3	+0.3
	comp=Z,10.0nm,0.6s,baz=85,slow=1.8,SNR=14					
SONM			ScP	ScP	06 22 37.5	+0.8
	comp=Z,5.0nm,0.8s,baz=82,slow=2.7,SNR=9.9					
BCAR	**Beaver Creek A**	**32.82 47**	*e*P	**P**	**06 16 30.1**	**+0.8**
HHC	**Hu-ho-hao-te**	**32.95 268**	*e*P	**P**	**06 16 30.3**	**-0.4**
HHC			pP	pP	06 17 03.0	-2.8
HHC			PP	**PP**	**06 17 49.0**	**+0.5**
HHC			S	**S**	**06 21 33.6**	**-2.6**
HHC			sS	sS	06 22 33.3	-5.1
HHC			SS	SS	06 23 40.6	-22
HHC	**Hu-ho-hao-te**	**32.95 268**	*e*P	**P**	**06 16 30.3**	**-0.4**
HHC			pP	pP	06 17 03.0	-2.8
HHC			PP	**PP**	**06 17 49.0**	**+0.5**
HHC			S	**S**	**06 21 33.6**	**-2.6**
HHC			sS	sS	06 22 33.3	-5.1
HHC			pmax	pmax		
	comp=Z,210nm,0.9s					
HHC			pmax	pmax		
	comp=Z,1μm,4.6s					
ZAK	**Zakamensk**	**33.08 288**	*e*P	**P**	**06 16 32.2**	**+0.5**
ZAK			pmax	pmax		
	comp=Z,22nm,1.5s					
H11N2	**WAKE ISLAND Hy**	**33.60 164**	T	T	06 51 11.6	
	baz=350,slow=74,SNR=211					
H11N1	**WAKE ISLAND Hy**	**33.62 164**	T	T	06 51 05.6	
	baz=350,SNR=134					
H11N3	**WAKE ISLAND Hy**	**33.62 164**	T	T	06 51 12.7	
	baz=350,slow=74,SNR=330					
JOW	**Kunigami**	**33.65 232**	*e*P	**P**	**06 16 38.1**	**+1.3**
	comp=Z,37nm,0.7s					
JOW	**Kunigami**	**33.65 232**	P	**P**	**06 16 38.5**	**+1.8**
	comp=Z,7.7nm,0.5s,baz=114,slow=15,SNR=33					
DAWY	**Dawson**	**33.69 45**	*e*P	**P**	**06 16 36.6**	**-0.2**
	comp=Z,41nm,0.9s					
DAWY			*e*PcP	**PcP**	**06 19 13.9**	**+1.6**
MOY	**Mondy**	**33.85 291**	*e*P	**P**	**06 16 39.0**	**+0.6**
MOY			pmax	pmax		
	comp=Z,90nm,1.6s					
BTO	**Baotou**	**34.03 269**	*e*P	**P**	**06 16 39.9**	**-0.2**
TIY	**Taiyuan**	**34.36 263**	*e*P	**P**	**06 16 43.9**	**+1.0**
TIY			pP	**pP**	**06 17 20.1**	**+1.9**
TIY			PP	**PnPn**	**06 18 02.3**	**-1.5**
TIY			S	**S**	**06 21 50.5**	**-7.5**
TIY			pmax	pmax		
	comp=Z,28nm,0.5s					
TIY			pmax	pmax		
	comp=Z,320nm,7.8s					
TIY			LR	LR		
	comp=Z,550nm,7.3s					
TIY			LR	LR		
	comp=Z,280nm,9.8s					
TIY			LR	LR		
	comp=Z,370nm,10.5s					
NJ2	**Nanjing**	**34.49 249**	*e*P	**P**	**06 16 43.7**	**-0.3**
NJ2			pmax	pmax		
	comp=Z,91nm,0.8s					
H11S1	**WAKE ISLAND Hy**	**34.77 164**	T	T	06 52 34.5	
	baz=350,slow=76,SNR=162					
H11S3	**WAKE ISLAND Hy**	**34.78 164**	T	T	06 52 29.1	
	baz=350,slow=76,SNR=229					
H11S2	**WAKE ISLAND Hy**	**34.79 164**	T	T	06 52 35.9	
	baz=350,slow=76,SNR=96					
INK	**Inuvik**	**35.31 37**	*e*P	**P**	**06 16 51.0**	**+0.5**
	comp=Z,76nm,1.0s					
NRIK	**Noril'sk**	**35.37 325**	P	**P**	**06 16 50.9**	**-0.2**
	comp=Z,32nm,1.2s,baz=88,slow=8.3,SNR=45					
NRIK			PcP	**PcP**	**06 19 17.6**	**+0.5**
	comp=Z,8.9nm,0.5s,baz=94,slow=3.1,SNR=7.1					
NRIK			S	**S**	**06 22 09.3**	**-3.3**
	comp=Z,0.8nm,0.4s,baz=3.4,slow=17,SNR=2.6					
NRIK			ScP	**ScP**	**06 22 47.3**	**+0.6**
	comp=Z,5.3nm,0.7s,baz=34,slow=3.6,SNR=4.5					
WHY	**Whitehorse**	**36.59 50**	*e*P	**P**	**06 17 03.1**	**+1.5**
	comp=Z,187nm,0.9s					
SKAG	**Skagway**	**36.77 52**	*e*P	**P**	**06 17 05.0**	**+2.0**
	comp=Z,220nm,1.0s					
BESE	**Bessie Mountai**	**37.31 53**	*e*P	**P**	**06 17 09.3**	**+1.6**
	comp=Z,185nm,1.2s					
WHN	**Wuhan**	**38.20 252**	P	**P**	**06 17 15.4**	**0.0**
WHN			pP	**pP**	**06 17 50.1**	**-1.1**
WHN			S	**S**	**06 22 52.0**	**-4.2**
WHN			sS	**sS**	**06 23 57.0**	**-2.3**
WHN			pmax	pmax		
	comp=Z,82nm,0.8s					
WHN			pmax	pmax		
	comp=Z,360nm,9.1s					
WHN			LR	LR		
	comp=Z,630nm,11.2s					
WHN			LR	LR		
	comp=Z,710nm,11.4s					
WHN			LR	LR		
	comp=Z,560nm,14.2s					
XAN	**Xi'an**	**38.93 261**	P	**P**	**06 17 20.6**	**-0.9**
XAN			pP	pP	06 17 57.6	+0.1
XAN			PP	**PnPn**	**06 18 57.0**	**-1.4**
XAN			SS	SS	06 26 01.4	-4.5
XAN			pmax	pmax		
	comp=Z,11nm,1.5s					
XAN			LR	LR		
	comp=Z,510nm,19.4s					
XAN			LR	LR		
	comp=Z,460nm,24.7s					
XAN			LR	LR		
	comp=Z,230nm,24.9s					
TPUB	**Ta-pu**	**40.40 238**	*e*P	**P**	**06 17 34.3**	**+0.6**
	comp=Z,264nm,1.6s					
TWG	**Pinlang**	**40.56 237**	*e*P	**P**	**06 17 35.2**	**+0.2**
	comp=Z,265nm,0.7s					
LZH	**Lanzhou**	**40.65 268**	⇓P	**P**	**06 17 36.3**	**+0.5**
LZH			pP	pP	06 18 14.0	+2.0
LZH			sP	sP	06 18 28.1	-2.7
LZH			PP	**PP**	**06 19 11.7**	**-1.1**
LZH			pmax	pmax		
	comp=Z,110nm,1.4s					
LZH			pmax	pmax		
	comp=Z,190nm,4.3s					
LZH			LR	LR		
	comp=Z,470nm,15.7s					
LZH			LR	LR		
	comp=Z,350nm,15.2s					
LZH			LR	LR		
	comp=Z,660nm,18.4s					
DIB	**Dawson Inlet,**	**40.79 60**	*e*P	**P**	**06 17 38.3**	**+1.8**
	comp=Z,78nm,0.8s					
GTA	**Gaotai**	**40.98 275**	⇓P	**P**	**06 17 38.8**	**+0.3**
GTA			pP	pP	06 18 15.5	+0.8
GTA			sP	sP	06 18 33.5	-0.1
GTA			PcP	**PcP**	**06 19 36.0**	**+0.8**
GTA			ScP	**ScP**	**06 23 08.7**	**-0.1**
GTA			S	**S**	**06 23 38.9**	**+1.0**
GTA			sS	sS	06 24 40.1	-1.5
GTA			ScS	**ScS**	**06 27 22.4**	**-2.3**
GTA			pmax	pmax		
	comp=Z,45nm,1.3s					
GTA			pmax	pmax		
	comp=Z,360nm,8.7s					
GTA			LR	LR		
	comp=Z,190nm,16.2s					
GTA			LR	LR		
	comp=Z,340nm,14.3s					
GTA			LR	LR		
	comp=Z,490nm,16.8s					
ENH	**Enshi**	**41.26 257**	*e*P	**P**	**06 17 41.0**	**+0.4**
	comp=Z,79nm,0.8s					
ZAA1	**Zalesovo Array**	**41.64 302**	*e*P	**P**	**06 17 41.7**	**-1.7**
ZAA1			*e*pP	**pP**	**06 18 20.2**	**+0.5**
ZAA1			*e*PP	**PP**	**06 19 22.6**	**-0.2**
ZAA1			*e*PcP	**PcP**	**06 19 36.6**	**-0.3**
ZAA1			*e*ScP	**ScP**	**06 23 11.2**	**+0.3**
ZALV	**Zalesovo Beam**	**41.64 302**	P	**P**	**06 17 41.7**	**-1.7**
	comp=Z,1.9nm,0.4s,baz=60,slow=7.0,SNR=13					
ZALV			pP	**pP**	**06 18 20.2**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=50,slow=4.6,SNR=3.3					
ZALV			PP	**PP**	**06 19 22.6**	**-0.3**
	comp=Z,5.9nm,1.0s,baz=33,slow=5.7,SNR=5.5					
ZALV			PcP	**PcP**	**06 19 36.6**	**-0.3**
	comp=Z,37nm,1.0s,baz=59,slow=3.2,SNR=12					
ZALV			ScP	**ScP**	**06 23 11.2**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=42,slow=4.8,SNR=5.7					
NVS	**Novosibirsk**	**42.02 304**	⇑*i*P	**P**	**06 17 46.1**	**-0.4**
NVS			*e*		06 18 23.7	
NVS			*e*		06 19 27.6	
NVS			pmax	pmax		
	comp=Z,72nm,1.4s					
NVS			pmax	pmax		
	comp=E,39nm,1.2s					
DGZ	**Jazzator, Alta**	**42.38 295**	*d i*P	**P**	**06 17 50.0**	**+0.3**
DGZ			pmax	pmax		
	comp=Z,35nm,1.2s					
BBB	**Bella Bella**	**43.60 59**	*e*P	**P**	**06 18 00.8**	**+1.6**
	comp=Z,181nm,1.1s					
CD2	**Chengdu**	**44.23 262**	P	**P**	**06 18 03.5**	**-1.1**
CD2			pP	pP	06 18 39.8	-1.6
CD2			PP	**PP**	**06 19 51.9**	**+0.9**
CD2			S	**S**	**06 24 21.2**	**-4.2**
CD2			sS	sS	06 25 31.8	+2.0
CD2			pmax	pmax		
	comp=Z,110nm,1.3s					
CD2			pmax	pmax		
	comp=Z,560nm,8.2s					
CD2			LR	LR		
	comp=Z,1μm,23.5s					
CD2			LR	LR		
	comp=Z,610nm,15.1s					
CD2			LR	LR		
	comp=Z,750nm,12.6s					
RES	**Resolute Bay**	**44.44 21**	*e*P	**P**	**06 18 06.2**	**+0.6**
	comp=Z,42nm,1.1s					
YKA	**Yellowknife Ar**	**44.68 41**	*e*P	**P**	**06 18 07.1**	**-0.6**
YKA	**Yellowknife Ar**	**44.68 41**	P	**P**	**06 18 08.1**	**+0.4**
	comp=Z,34nm,0.7s,baz=300,slow=7.7,SNR=454					
YKA			pP	**pP**	**06 18 45.2**	**+0.6**
	comp=Z,22nm,1.1s,baz=300,slow=8.3,SNR=2.8					
YKA			ScP	**ScP**	**06 23 22.6**	**-0.6**
	comp=Z,3.5nm,1.0s,baz=299,slow=4.1,SNR=6.3					
YKA			LR	LR	06 39 13.5	
	comp=Z,21nm,18.4s,baz=283,slow=39					
YKB5	**Yellowknife Ar**	**44.68 41**	*e*P	**P**	**06 18 08.1**	**+0.4**
YKB5			*e*pP	**pP**	**06 18 45.2**	**+0.6**
YKB5			*e*ScP	**ScP**	**06 23 22.6**	**-0.6**
KEKH	**Kekaha**	**44.81 116**	*e*P	**P**	**06 18 10.1**	**+0.9**
	comp=Z,262nm,1.0s					
WMQ	**Urumqi**	**45.55 288**	*e*P	**P**	**06 18 15.8**	**+0.9**
WMQ			pP	pP	06 18 54.1	+2.3
WMQ			sP	sP	06 19 10.5	0.0
WMQ			PcP	**PcP**	**06 19 50.7**	**+0.2**
WMQ			PP	**PP**	**06 20 06.8**	**+2.3**
WMQ			pmax	pmax		
	comp=Z,200nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,1μm,3.7s					
WMQ			LR	LR		
	comp=Z,3μm,30.9s					
WMQ			LR	LR		
	comp=Z,2μm,38.9s					
WMQ			LR	LR		
	comp=Z,2μm,38.8s					
WMQ	**Urumqi**	**45.55 288**	*e*P	**P**	**06 18 16.0**	**+1.1**
	comp=Z,281nm,1.6s					
GYA	**Guiyang**	**45.74 255**	P	**P**	**06 18 16.2**	**-0.4**
GYA			pP	pP	06 18 50.9	-2.7
GYA			sP	sP	06 19 07.7	-4.5
GYA			PcP	**PcP**	**06 19 46.5**	**-5.0**
GYA			PP	**PP**	**06 20 06.4**	**-0.5**
GYA			PcS	PcS	06 23 38.2	-8.0
GYA			S	**S**	**06 24 44.0**	**-3.2**
GYA			sS	sS	06 25 48.8	-3.1
GYA			ScS	**ScS**	**06 27 54.2**	**-0.7**
GYA			SS	**SS**	**06 28 06.9**	**-6.6**
GYA			pmax	pmax		
	comp=Z,20nm,0.6s					
GYA			pmax	pmax		
	comp=Z,140nm,5.3s					
GYA			LR	LR		
	comp=Z,230nm,17.1s					
GYA			LR	LR		
	comp=Z,170nm,17.3s					
GYA			LR	LR		
	comp=Z,110nm,17.0s					
OPA	**Opana**	**45.99 115**	*e*P	**P**	**06 18 19.9**	**+1.4**
	comp=Z,430nm,1.2s					
KIP	**Kipapa**	**46.20 115**	*e*P	**P**	**06 18 20.9**	**+0.8**
	comp=Z,238nm,1.0s					
KIP	**Kipapa**	**46.20 115**	⇑*e*P	**P**	**06 18 20.3**	**+0.2**
KIP			pmax	pmax		
	comp=Z,445nm,1.7s					
KURK	**Kurchatov**	**46.57 301**	*e*P	**P**	**06 18 21.3**	**-1.4**
	comp=Z,90nm,1.0s					
KURK	**Kurchatov**	**46.57 301**	*c e*P	**P**	**06 18 21.7**	**-1.0**
KURK			pmax	pmax		
	comp=Z,105nm,1.0s					
KURK	**Kurchatov**	**46.57 301**	P	**P**	**06 18 21.7**	**-1.0**
	SNR=52					
MK31	**Makanchi Array**	**46.86 295**	*e*P	**P**	**06 18 23.9**	**-1.1**
	comp=Z,30nm,0.6s					
MK32	**Makanchi Array**	**46.86 295**	*e*P	**P**	**06 18 23.9**	**-1.1**
MK32			*e*pP	**pP**	**06 19 01.8**	**-0.3**
MK32			*e*PcP	**PcP**	**06 19 53.4**	**-1.6**
MK32			*e*ScP	**ScP**	**06 23 32.5**	**0.0**
MKAR	**Makanchi Array**	**46.86 295**	*e*P	**P**	**06 18 23.3**	**-1.7**
MKAR			*e*PcP	**PcP**	**06 19 55.5**	**+0.5**
MKAR	**Makanchi Array**	**46.86 295**	*i* P	**P**	**06 18 24.2**	**-0.8**
MKAR			pmax	pmax		
	comp=Z,23nm,0.5s					
MKAR	**Makanchi Array**	**46.86 295**	P	**P**	**06 18 23.9**	**-1.1**
	comp=Z,23nm,0.5s,baz=58,slow=7.7,SNR=290					
MKAR			pP	**pP**	**06 19 01.8**	**-0.3**
	comp=Z,38nm,1.1s,baz=52,slow=4.9,SNR=4.6					
MKAR			PcP	**PcP**	**06 19 53.4**	**-1.6**
	comp=Z,4.9nm,0.6s,baz=71,slow=4.0,SNR=3.4					
MKAR			ScP	**ScP**	**06 23 32.5**	**0.0**
	comp=Z,2.5nm,0.8s,baz=60,slow=5.8,SNR=4.5					
MKAR			LR	LR	06 39 22.7	
	comp=Z,244nm,21.3s,baz=28,slow=38					
MAKZ	**Makanchi**	**47.02 295**	*e*P	**P**	**06 18 25.0**	**-1.3**
	comp=Z,92nm,1.4s					
SPA0	**Spitsbergen Ar**	**47.37 350**	*e*P	**P**	**06 18 28.2**	**-0.3**
	comp=Z,111nm,1.4s					
SPA0	**Spitsbergen Ar**	**47.37 350**	*e*P	**P**	**06 18 28.7**	**+0.1**
KHLH	**Kahului Airpor**	**47.50 114**	*e*P	**P**	**06 18 32.1**	**+1.9**
	comp=Z,256nm,1.0s					
A04D	**Lummi Island**	**48.41 61**	P	**P**	**06 18 38.1**	**+1.3**
	baz=307,SNR=7.8					
HSPB	**Hornsund (broa**	**48.48 349**	*e*P	**P**	**06 18 38.0**	**+1.0**
HSPB			*e**PP	**pP**	**06 19 16.3**	**+1.7**
D03D	**Eldon**	**48.91 62**	P	**P**	**06 18 42.2**	**+1.5**
	baz=307,SNR=57					
POHA	**Pohakuloa**	**48.91 114**	*e*P	**P**	**06 18 42.0**	**+0.7**
	comp=Z,566nm,0.9s					
B05A	**Bryant**	**49.00 61**	P	**P**	**06 18 42.6**	**+1.2**
	baz=307,SNR=67					
HMH	**Humu'ula Sheep**	**49.06 114**	*e*P	**P**	**06 18 43.3**	**+0.8**
	comp=Z,381nm,1.0s					
MLOA	**Mauna Loa Obse**	**49.06 114**	*e*P	**P**	**06 18 43.3**	**+0.6**
	comp=Z,278nm,0.9s					
KMI	**Kunming**	**49.07 258**	P	**P**	**06 18 41.9**	**-0.6**
KMI			pP	pP	06 19 17.7	-2.2
KMI			sP	sP	06 19 35.3	-3.1
KMI			pmax	pmax		
	comp=Z,31nm,1.4s					
KMI			pmax	pmax		
	comp=Z,320nm,3.9s					
KMI			LR	LR		
	comp=Z,250nm,15.4s					
KMI			LR	LR		
	comp=Z,160nm,8.2s					
KMI			LR	LR		
	comp=Z,290nm,32.9s					
MWH	**Moku'aweowe**	**49.09 114**	*e*P	**P**	**06 18 43.4**	**+0.4**
	comp=Z,350nm,1.1s					
B06A	**Marblemount**	**49.17 60**	*e*P	**P**	**06 18 43.4**	**+0.7**
	comp=Z,157nm,0.9s					
D04E	**Lakebay**	**49.30 62**	P	**P**	**06 18 45.6**	**+2.0**
	baz=308,SNR=5.6					
UWB	**Uwekahuna B**	**49.32 114**	*e*P	**P**	**06 18 45.4**	**+1.1**
	comp=Z,269nm,1.1s					
RIM	**Rim**	**49.35 114**	*e*P	**P**	**06 18 45.6**	**+1.1**
	comp=Z,356nm,1.0s					
PUH	**Pauahi**	**49.40 114**	*e*P	**P**	**06 18 45.0**	**+0.1**
	comp=Z,305nm,0.9s					
HLP	**Hilina Pali**	**49.41 114**	*e*P	**P**	**06 18 45.2**	**+0.4**
	comp=Z,433nm,1.1s					
BRVK	**Borovoye**	**49.42 307**	*e*P	**P**	**06 18 43.1**	**-1.4**
BRVK			*e*PcP	**PcP**	**06 20 04.3**	**+0.2**
BRVK	**Borovoye**	**49.42 307**	*d i*P	**P**	**06 18 43.1**	**-1.4**
BRVK			pmax	pmax		
	comp=Z,25nm,1.1s					
BRVK	**Borovoye**	**49.42 307**	P	**P**	**06 18 43.3**	**-1.2**
	SNR=15					
F03A	**Seaside**	**49.63 64**	*e*P	**P**	**06 18 47.6**	**+1.4**
QIZ	**Qiongzhong**	**49.68 246**	P	**P**	**06 18 46.7**	**-0.2**
QIZ			S	**S**	**06 25 44.4**	**+1.7**
QIZ			LR	LR		
	comp=Z,200nm,5.4s					
D05A	**Enumclaw**	**49.72 62**	*e*P	**P**	**06 18 48.1**	**+1.3**
	comp=Z,163nm,0.9s					
E04D	**Cinebar**	**49.79 63**	P	**P**	**06 18 48.9**	**+1.5**
	baz=308,SNR=50					
F04D	**Rainier, OR**	**49.84 64**	P	**P**	**06 18 49.0**	**+1.2**
	baz=308					
C06D	**Leavenworth**	**49.85 61**	P	**P**	**06 18 48.8**	**+0.9**
	baz=308,SNR=9.5					
LON	**Longmire**	**50.08 62**	*e*P	**P**	**06 18 50.2**	**+0.5**
	comp=Z,34nm,1.0s					
G03D	**McMinnville, O**	**50.24 65**	P	**P**	**06 18 52.0**	**+1.1**
	baz=309,SNR=9.0					
LTY	**Liberty**	**50.38 61**	*e*P	**P**	**06 18 51.9**	**0.0**
	comp=Z,143nm,1.3s					
B08A	**Colville Reser**	**50.41 59**	*e*P	**P**	**06 18 52.5**	**+0.4**
	comp=Z,178nm,0.9s					
COR	**Corvallis**	**50.62 65**	*e*P	**P**	**06 18 55.5**	**+1.9**
	comp=Z,151nm,0.9s					
I02D	**Swisshome**	**50.62 66**	P	**P**	**06 18 55.3**	**+1.7**
	baz=309,SNR=5.5					
F05D	**White Salmon**	**50.81 63**	P	**P**	**06 18 56.2**	**+1.1**
	baz=309,SNR=11					
DAG	**Danmarks Havn**	**50.91 359**	⇓*i*P	**P**	**06 18 55.1**	**-0.3**
DAG			pmax	pmax		
	comp=Z,62nm,1.1s					
DAG	**Danmarks Havn**	**50.91 359**	⇓*i*P	**P**	**06 18 55.1**	**-0.3**
	comp=Z,49nm,1.1s					
H04D	**Lebanon**	**50.97 65**	P	**P**	**06 18 57.7**	**+1.5**
	baz=310,SNR=17					
KULLO	**Kullorsuaq**	**51.05 11**	⇓*i*P	**P**	**06 18 56.4**	**0.0**
KULLO	**Kullorsuaq**	**51.05 11**	⇓*i*P	**P**	**06 18 56.4**	**0.0**
I03D	**Drain, OR**	**51.15 66**	P	**P**	**06 18 59.4**	**+1.8**
	baz=310,SNR=17					
J01E	**Myrtle Point**	**51.17 67**	P	**P**	**06 18 59.6**	**+1.9**
	baz=310,SNR=14					
G05D	**Wamic, OR**	**51.29 64**	P	**P**	**06 19 00.1**	**+1.3**
	baz=310,SNR=33					
I04A	**Tendick Farm,**	**51.61 66**	P	**P**	**06 19 02.4**	**+1.3**
	baz=310,SNR=26					
K02D	**Willamette Mer**	**51.62 67**	P	**P**	**06 19 02.9**	**+1.7**
	baz=310,SNR=16					
NEW	**Newport**	**51.62 58**	P	**P**	**06 19 01.7**	**+0.6**
	baz=309,SNR=88					
I05D	**Terrebonne, OR**	**51.86 64**	P	**P**	**06 19 04.2**	**+1.3**
	baz=310,SNR=32					
L02E	**Cave Junction**	**52.00 68**	P	**P**	**06 19 06.0**	**+2.1**
	baz=311,SNR=26					
J04D	**Umpqua Nationa**	**52.14 66**	P	**P**	**06 19 07.0**	**+1.8**
	baz=310,SNR=47					
LVZ	**Lovozero**	**52.52 336**	*e*P	**P**	**06 19 06.5**	**-1.0**
	comp=Z,37nm,1.2s					
LVZ	**Lovozero**	**52.52 336**	*c i*P	**P**	**06 19 06.6**	**-0.9**
LVZ			pmax	pmax		
	comp=Z,35nm,1.3s					
TARG	**Taragay, Kyrgy**	**52.53 292**	*e*P	**P**	**06 19 08.2**	**-0.2**
TARG			*e*PcP	**PcP**	**06 20 17.1**	**+0.7**
G08A	**Pilot Rock**	**52.54 62**	*e*P	**P**	**06 19 08.4**	**+0.4**
	comp=Z,66nm,1.1s					
J05D	**Fort Rock, OR**	**52.60 65**	P	**P**	**06 19 10.5**	**+2.0**
	baz=311,SNR=90					
ARU	**Arti**	**52.63 316**	*e*P	**P**	**06 19 07.2**	**-1.2**
	comp=Z,70nm,1.2s					
ARU			*e*PcP	**PcP**	**06 20 16.1**	**+0.1**
ARU	**Arti**	**52.63 316**	*c i*P	**P**	**06 19 07.9**	**-0.5**
ARU			*PP	**pP**	**06 19 46.0**	**-0.3**
ARU					06 20 15.1	
ARU					06 21 06.1	
ARU			S	**S**	**06 26 24.1**	**+1.8**
ARU			SS	**SS**	**06 30 01.2**	**-0.9**
ARU			pmax	pmax		
	comp=Z,76nm,1.3s					
L04D	**Klamath Falls**	**52.69 67**	P	**P**	**06 19 11.1**	**+1.9**
	baz=311,SNR=65					
K04D	**Chiloquin, OR**	**52.74 66**	P	**P**	**06 19 11.3**	**+1.8**
	baz=311,SNR=25					
KHMM	**Horse Mountain**	**52.77 69**	*e*P	**P**	**06 19 11.6**	**+1.8**
	comp=Z,268nm,1.0s					
LSA	**Lhasa**	**52.77 272**	P	**P**	**06 19 11.7**	**+1.4**
YBH	**Yreka Blue Hor**	**52.78 68**	*e*P	**P**	**06 19 11.7**	**+1.9**
	comp=Z,165nm,1.0s					
M02C	**Callahan**	**52.92 68**	P	**P**	**06 19 13.4**	**+2.5**
	baz=311,SNR=58					
TKM2	**Tokmak 2**	**52.99 294**	P	**P**	**06 19 11.1**	**-0.4**
	SNR=26					
F10A	**Beach Ranch, E**	**53.03 60**	*e*P	**P**	**06 19 12.0**	**+0.4**
	comp=Z,83nm,1.0s					
I07A	**Izee**	**53.03 64**	*e*P	**P**	**06 19 12.7**	**+1.1**
	comp=Z,54nm,1.1s					
ULHL	**Ulahol**	**53.07 293**	P	**P**	**06 19 11.7**	**-0.4**
	SNR=26					
BOOM	**Boomskoye usch**	**53.08 294**	*e*P	**P**	**06 19 11.6**	**-0.5**
APA	**Apatity**	**53.08 337**	⇓*i*P	**P**	**06 19 07.7**	**-3.8**
APA			pmax	pmax		
	comp=Z,3.0nm,0.9s					
K05A	**Summer Lake**	**53.15 66**	*e*P	**P**	**06 19 14.4**	**+1.8**
	comp=Z,292nm,1.3s					
M04C	**Macdoel**	**53.24 67**	P	**P**	**06 19 15.2**	**+2.0**
	baz=311,SNR=90					
ARA0	**ARCESS Array S**	**53.25 341**	*e*P	**P**	**06 19 11.5**	**-1.2**
ARA0			*e*PcP	**PcP**	**06 20 18.8**	**+0.6**
ARCES	**ARCESS Array B**	**53.25 341**	*e*P	**P**	**06 19 11.2**	**-1.5**
ARCES			*e*PcP	**PcP**	**06 20 18.9**	**+0.8**
ARCES	**ARCESS Array B**	**53.25 341**	P	**P**	**06 19 11.5**	**-1.2**
	comp=Z,7.5nm,0.9s,baz=43,slow=7.6,SNR=16					
ARCES			PcP	**PcP**	**06 20 18.8**	**+0.6**
	comp=Z,6.3nm,0.5s,baz=39,slow=4.1,SNR=15					
ARE0	**ARCESS Array S**	**53.25 341**	*e*P	**P**	**06 19 11.9**	**-0.9**
N02D	**Trinity Center**	**53.28 68**	P	**P**	**06 19 15.8**	**+2.3**
	baz=312,SNR=81					
USP	**Ospenovka**	**53.37 295**	P	**P**	**06 19 13.9**	**-0.2**
	SNR=25					
CHMS	**Chumysh**	**53.41 295**	P	**P**	**06 19 14.0**	**-0.3**
	SNR=12					
KBK	**Karagaybulak**	**53.52 295**	P	**P**	**06 19 15.1**	**-0.3**
	SNR=13					
KZA	**Kyzart**	**53.74 294**	P	**P**	**06 19 17.0**	**-0.2**
	SNR=20					
O02D	**Mt. Diablo Mer**	**53.77 69**	P	**P**	**06 19 19.2**	**+2.2**
	baz=312,SNR=73					
AAK	**Ala-Archa**	**53.79 295**	P	**P**	**06 19 17.0**	**-0.2**
	SNR=25					
AAK	**Ala-Archa**	**53.79 295**	*e*P	**P**	**06 19 16.1**	**-1.1**
	comp=Z,76nm,1.3s					
AAK	**Ala-Archa**	**53.79 295**	*i* P	**P**	**06 19 17.0**	**-0.2**
	SNR=7.6					
AAK	**Ala-Archa**	**53.79 295**	*d i*P	**P**	**06 19 16.4**	**-0.8**
AAK			pmax	pmax		
	comp=Z,74nm,1.4s					
AAK	**Ala-Archa**	**53.79 295**	P	**P**	**06 19 16.8**	**-0.5**
	SNR=28					
PRGR	**Permogore**	**53.98 327**	*e*P	**P**	**06 19 16.2**	**-1.9**
PRGR			pmax	pmax		
	comp=Z,34nm,0.7s					
MOD	**Modoc Plateau**	**54.02 66**	*e*P	**P**	**06 19 20.5**	**+1.5**
	comp=Z,301nm,0.9s					
UCH	**Uchtor**	**54.05 294**	P	**P**	**06 19 19.2**	**-0.3**
	SNR=9.7					
J08A	**Circle Bar Ran**	**54.07 64**	*e*P	**P**	**06 19 20.3**	**+1.1**
	comp=Z,152nm,1.4s					
KTK1	**Kautokeino**	**54.14 341**	*e*P	**P**	**06 19 19.1**	**0.0**
PANO	**Nakornpanom**	**54.15 250**	P	**P**	**06 19 21.9**	**+2.0**
	comp=

comp=Z,69nm,1.8s
SUMG Summit 54.67 6⇓ *i*P P 06 19 24.1 +0.7
SUMG Summit 54.67 6⇓ *i*P P 06 19 24.1 +0.7
comp=Z,337nm,0.9s
GDXM Geysers 54.68 71 *e*P P 06 19 25.1 +1.5
comp=Z,196nm,1.1s
FCC Fort Churchill 54.93 37 *e*P P 06 19 25.1 +0.2
comp=Z,43nm,0.7s
KSH Kashi 55.04 291 P P 06 19 29.6 +3.3
KSH pP pP 06 20 06.2 +1.7
KSH PP **PP 06 21 36.1 +5.2**
KSH S **S 06 26 56.6 +1.2**
KSH SS **SS 06 30 44.0 +3.0**
KSH pmax pmax
comp=Z,210nm,1.6s
KSH LR LR
comp=Z,270nm,5.8s
KSH LR LR
comp=Z,430nm,7.3s
MCCM Marconi Confer 55.08 71 *e*P P 06 19 27.5 +1.1
comp=Z,161nm,1.0s
SHL Shillong 55.31 268 *e*P P 06 19 27.1 -1.3
comp=Z,61nm,0.9s
SHL Shillong 55.31 268 *e*P P 06 19 28.1 -0.3
SHL IAmb IAmb 06 19 29.4
comp=Z,49nm,0.3s
BEKR Beckworth 55.35 68 *e*P P 06 19 29.7 +1.1
comp=Z,193nm,1.1s
HRY Holter Researc 55.35 57 *e*P P 06 19 28.9 +0.5
ARSB Arslanbob 55.50 295 *e*P P 06 19 29.5 -0.1
comp=Z,57nm,1.4s
EGMT Eagleton 55.52 54 *e*P P 06 19 29.6 +0.1
comp=Z,116nm,1.1s
EGMT Eagleton 55.52 54 P P 06 19 30.2 +0.7
baz=312,SNR=42
AFDM Forest Hills D 55.63 69 *e*P P 06 19 31.5 +1.2
comp=Z,104nm,1.2s
KK31 Karatay Array 55.66 298 *e*P P 06 19 29.1 -1.4
comp=Z,81nm,1.4s
KKAR Karatay Array 55.66 298 *e*P P 06 19 28.8 -1.7
DLMT Dillon 55.87 58 *e*P P 06 19 33.6 +1.5
comp=Z,119nm,1.1s
LAMP Lampang 55.97 255 P P 06 19 35.2 +2.3
comp=Z,39µm,1.0s,comp=Z,472µm
PAHR Pah Rah Range 56.02 68 *e*P P 06 19 34.2 +1.0
comp=Z,244nm,1.3s
UTTA Uttaradit 56.03 254 P P 06 19 35.7 +2.3
comp=Z,34µm,1.0s,comp=Z,315µm
HLID Hailey 56.13 61 P P 06 19 35.5 +1.5
baz=313,SNR=15
CMMT Chiang Mai 56.14 256 P P 06 19 34.9 +0.7
comp=Z,23nm,1.2s,comp=Z,329nm
VCNR Virginia City 56.15 68 *e*P P 06 19 35.7 +1.5
comp=Z,127nm,1.1s
CHTO Chiang Mai 56.15 256 *e*P P 06 19 34.6 +0.4
comp=Z,160nm,1.8s
CHTO Chiang Mai 56.15 256 P P 06 19 34.4 +0.2
SNR=16
BOZ Bozeman (W) 56.21 58 *e*P P 06 19 35.2 +0.7
comp=Z,120nm,1.1s
BOZ Bozeman (W) 56.21 58 P P 06 19 35.8 +1.3
baz=313,SNR=42
DLV T Lat 56.21 242 *e*P P 06 19 36.1 +1.2
comp=Z,124nm,1.4s
PNTR Pine Nut 56.31 68 *e*P P 06 19 36.9 +1.5
comp=Z,171nm,1.0s
CM31 Chiang Mai Arr 56.42 256 *e*P P 06 19 36.4 +0.2
comp=Z,89nm,1.7s
CM31 *e*PcP PcP 06 20 32.5 +1.3
CM31 Chiang Mai Arr 56.42 256 P P 06 19 38.3 +2.1
SNR=9.9
CMAR Chiang Mai Arr 56.42 256 *e*P P 06 19 36.5 +0.3
CMAR Chiang Mai Arr 56.42 256 P P 06 19 36.7 +0.5
comp=Z,11nm,0.8s,baz=23,slow=7.2,SNR=27
CMAR pP **pP** 06 20 15.9 +1.3
comp=Z,1.3nm,0.3s,baz=26,slow=4.3,SNR=1.3
CMAR PcP **PcP** 06 20 31.9 +0.7
comp=Z,4.2nm,0.6s,baz=18,slow=3.5,SNR=5.2
CMAR ScP **ScP** 06 24 14.4 +0.1
comp=Z,2.7nm,0.9s,baz=19,slow=4.9,SNR=4.8
KLMR Klimovskoe 56.55 329 *e*P P 06 19 34.0 -2.4
KLMR *e**PP **pP** 06 20 13.9 -1.0
KLMR pmax pmax
comp=Z,71nm,1.4s
YERR Yerington 56.59 68 *e*P P 06 19 38.9 +1.5
comp=Z,228nm,1.2s
CMB Columbia Colle 56.59 70 *e*P P 06 19 38.2 +1.0
comp=Z,167nm,1.3s
LOF Lofoten 56.64 345 *e*P P 06 19 37.1 +0.1
CHAI Chaiyaphum 56.65 251 P P 06 19 40.1 +2.3
comp=Z,30µm,1.5s,comp=Z,517µm
ILULI Ilulissat 56.76 12 *e*P P 06 19 37.4 -0.4
ILULI pmax pmax
comp=Z,58nm,0.8s
ILULI Ilulissat 56.76 12 *i*P P 06 19 37.4 -0.4
comp=Z,58nm,0.8s
WAKR Walker 56.81 69 *e*P P 06 19 40.5 +1.6
comp=Z,123nm,1.0s
QLMT Earthquake Lak 56.84 58 *e*P P 06 19 40.5 +1.4
ABKAR Akbulak array 56.84 309 *e*P P 06 19 36.9 -1.8
comp=Z,40nm,1.3s
SAO San Andreas Ge 56.86 71 *e*P P 06 19 39.9 +0.9
comp=Z,72nm,1.1s
GCMT Greycliff 57.08 56 *e*P P 06 19 41.9 +1.2
JIRN Jiri 57.26 274 *e*P P 06 19 42.0 -0.4
SCO Scoresbysund 57.26 360 *i*P P 06 19 41.9 +0.6
SCO Scoresbysund 57.26 360 *i*P P 06 19 41.9 +0.6
KKM Kota Kinabalu 57.30 231 *e*P P 06 19 44.6 +2.1
comp=Z,70nm,1.1s
NV01 Mina Array Sit 57.50 68 *e*P P 06 19 45.1 +1.3
NV01 *e*pP **pP** 06 20 23.0 +0.6
NV01 *e*PcP **PcP** 06 20 36.3 +0.9
NV01 *e*ScP **ScP** 06 24 19.3 +0.2
NVAR Mina Array Bea 57.50 68 *e*P P 06 19 44.4 +0.5
NVAR Mina Array Bea 57.50 68 P P 06 19 45.1 +1.3
comp=Z,89nm,0.9s,baz=293,slow=7.1,SNR=399
NVAR pP **pP** 06 20 23.0 +0.6
comp=Z,32nm,1.0s,baz=298,slow=6.9,SNR=4.2
NVAR PcP **PcP** 06 20 36.3 +0.8
comp=Z,23nm,0.8s,baz=290,slow=6.7,SNR=6.7
NVAR ScP **ScP** 06 24 19.3 +0.2
comp=Z,0.5nm,0.8s,baz=251,slow=2.8,SNR=2.4
NVAR LR LR 06 42 18.1
comp=Z,85nm,20.3s,baz=320,slow=33
RAMN Ramite 57.52 273 *e*P P 06 19 43.5 -0.6
comp=Z,47nm,0.4s
H17A Grant Village 57.58 58 P P 06 19 47.4 +3.1
baz=314,SNR=70
ELK Elko 57.61 64 *e*P P 06 19 45.9 +1.4
ELK *e*PcP **PcP** 06 20 38.3 +2.5
MDPB Devils Postpil 57.62 69 *e*P P 06 19 46.2 +1.5
comp=Z,106nm,1.1s
OMMB Old Mammoth Mi 57.67 69 *e*P P 06 19 46.6 +1.5
comp=Z,54nm,1.0s
KKN Kakani 57.72 275 *e*P P 06 19 45.1 -0.3
comp=Z,32nm,0.4s
FLWY Flagg Ranch 57.73 58 *e*P P 06 19 47.5 +2.2
comp=Z,117nm,1.0s
RLMT Red Lodge 57.75 57 P P 06 19 47.3 +1.9
baz=314
MLAC Mammoth, Mammo 57.76 69 P P 06 19 47.6 +2.0
baz=314,SNR=7.3
PKI Pulchoki 57.80 274 *e*P P 06 19 45.5 -0.6
comp=Z,18nm,0.4s
PKIN Phulchoki 57.80 274 *e*P P 06 19 45.5 -0.6
comp=Z,20nm,0.5s
DGMT Dagmar 57.91 51 P P 06 19 47.5 +1.2
baz=315,SNR=13
DMN Daman 57.95 275 *e*P P 06 19 46.9 -0.2
comp=Z,28nm,0.5s
GKN Gorkha 57.95 275 *e*P P 06 19 46.6 -0.4
comp=Z,16nm,0.3s
LAO LASA Array 58.18 54 *e*P P 06 19 49.6 +1.4
comp=Z,179nm,1.0s
LAO LASA Array 58.18 54 P P 06 19 49.8 +1.6
baz=315,SNR=41
UMPA Umpang Tak 58.23 254 P P 06 19 52.3 +3.4
comp=Z,31µm,0.7s
DANN Dangsing 58.24 276 *e*P P 06 19 48.8 -0.3
comp=Z,22nm,0.6s
MOR8 Moi Rana 58.27 343 *e*P P 06 19 47.5 -1.0
PAGB Antelope Grade 58.27 71 *e*P P 06 19 50.2 +1.3
comp=Z,126nm,1.1s
VOG Valley Oaks Go 58.36 70 P P 06 19 50.1 +0.6
baz=315
AHID Auburn Hatcher 58.44 60 *e*P P 06 19 51.8 +1.5
comp=Z,140nm,0.9s

TIN Tinemaha, Big 58.50 69 P P 06 19 52.5 +1.9
baz=315,SNR=20
GAR Garm 58.58 294 *e*P P 06 19 50.3 -0.9
comp=Z,204nm,1.3s
SMMC Simmler 58.71 72 P P 06 19 53.6 +1.5
baz=315,SNR=43
KOLN Koldanda 58.75 276 *e*P P 06 19 51.6 -1.0
comp=Z,18nm,0.6s
VES Vestal, Richgr 58.86 71 P P 06 19 53.7 +0.7
baz=315,SNR=41
PYUN Piuthan 58.88 277 *e*P P 06 19 53.1 -0.4
comp=Z,32nm,0.7s
SFJD Kangerlussuaq 58.91 12 *e*P P 06 19 52.5 -0.3
comp=Z,37nm,1.1s
SFJD Kangerlussuaq 58.91 12 *i*P P 06 19 52.5 -0.3
SFJD Kangerlussuaq 58.91 12 *i*P P 06 19 52.5 -0.3
HWUT Hardware Ranch 59.00 61 *e*P P 06 19 55.4 +1.3
comp=Z,79nm,0.8s
CWC Cottonwood Cre 59.02 69 P P 06 19 55.7 +1.4
baz=315
GRAC Grapevine Rang 59.03 69 P P 06 19 56.2 +2.0
baz=315,SNR=106
R11A Troy Canyon, C 59.09 66 *e*P P 06 19 55.8 +1.0
comp=Z,96nm,1.1s
R11A Troy Canyon, C 59.09 66 P P 06 19 56.0 +1.2
baz=315
PKM Mcpherson Peak 59.12 72 P P 06 19 56.7 +1.7
baz=315,SNR=28
FAKI Fak Fak 59.19 210 *e*P P 06 19 56.5 +1.1
comp=Z,150nm,1.5s
BW06 Boulder Array 59.24 59 *e*P P 06 19 56.5 +0.6
comp=Z,134nm,0.8s
BW06 Boulder Array 59.24 59 P P 06 19 57.3 +1.5
baz=315,SNR=44
PD31 Pinedale Array 59.24 59 *e*P P 06 19 57.2 +1.4
comp=Z,124nm,0.8s
PDAR Pinedale Array 59.24 59 P P 06 19 56.9 +1.0
comp=Z,109nm,0.8s,baz=318,slow=2.9,SNR=74
PDAR pP **pP** 06 20 35.1 +0.5
comp=Z,28nm,1.0s,baz=336,slow=3.3,SNR=3.1
PDAR ScP **ScP** 06 24 26.0 -0.7
comp=Z,2.8nm,1.0s,baz=296,slow=6.7,SNR=6.2
PDAR LR LR 06 46 08.9
comp=Z,80nm,19.1s,baz=348,slow=36
DUG Dugway, Tooele 59.32 63 P P 06 19 58.1 +1.8
baz=315,SNR=30
ISA Isabella, Lake 59.34 70 *e*P P 06 19 56.6 +0.2
comp=Z,66nm,1.0s
ISA Isabella, Lake 59.34 70 P P 06 19 56.9 +0.5
baz=315,SNR=65
DAC Darwin (Calif) 59.41 69 *e*P P 06 19 59.6 +2.6
comp=Z,98nm,1.3s
SBC Santa Barbara 59.49 72 P P 06 19 58.8 +1.5
baz=316,SNR=5.6
ARVC Arvin 59.52 71 P P 06 19 58.1 +0.6
baz=316,SNR=12
SRDT SRDT 59.55 253 P P 06 20 00.4 +2.5
comp=Z,11nm,1.6s
MPMC Manual Prospec 59.63 69 P P 06 19 59.7 +1.2
baz=315,SNR=130
FURC Furnace Creek, 59.69 69 P P 06 20 00.4 +1.8
baz=315,SNR=175
SCZ2 Santa Cruz Isl 59.85 72 P P 06 20 00.7 +0.9
baz=316,SNR=5.6
DHRM DHARAMSHALA 59.91 285 *e*P P 06 19 59.7 -0.8
DHRM IAmb IAmb 06 20 01.9
comp=Z,44nm,0.6s
FIA1 FINESS Array S 59.92 335 *e*P P 06 19 58.5 -1.3
FIA1 *e*pP **PcP** 06 20 44.0 -0.3
FIA0 FINESS Array S 59.92 335 *e*P P 06 19 58.4 -1.4
FIA0 *e*pP **pP** 06 20 38.5 -0.2
FIA0 *e*PcP **PcP** 06 20 43.8 -0.5
FINES FINESS Array B 59.92 335 *e*P P 06 19 58.8 -1.0
FINES *e*pP **PcP** 06 20 44.0 -0.3
FINES FINESS Array B 59.92 335 *i*P P 06 19 59.0 -0.8
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 59.92 335 P P 06 19 58.4 -1.4
comp=Z,3.2nm,0.5s,baz=41,slow=7.5,SNR=29
FINES pP **pP** 06 20 38.5 -0.2
comp=Z,6.3nm,0.6s,baz=27,slow=8.8,SNR=5.1
FINES PcP **PcP** 06 20 43.8 -0.5
comp=Z,6.5nm,0.5s,baz=41,slow=3.3,SNR=11
LRMC Laurel Mtn Rad 59.93 70 P P 06 20 01.5 +1.1
baz=316,SNR=77
OSI Osito Audit: C 59.94 71 *e*P P 06 20 02.3 +1.8
comp=Z,110nm,0.9s
OSI Osito Audit: C 59.94 71 P P 06 20 01.9 +1.4
baz=316
BLG Laguna Peak, P 60.10 72 P P 06 20 02.5 +0.9
baz=316,SNR=6.7
EDW2 Edwards Air Fo 60.17 71 P P 06 20 03.3 +1.3
baz=316,SNR=94
SMLA Simla 60.20 283 *e*P P 06 20 00.9 -1.3
SMLA IAmb IAmb 06 20 02.4
comp=Z,19nm,0.6s
DDI Dehra Dun 60.25 282 *e*P P 06 20 02.2 -0.5
DDI IAmb IAmb 06 20 02.4
comp=Z,49nm,0.3s
PHET Kaeng Krachan 60.40 251 P P 06 20 06.1 +2.4
comp=Z,85µm,0.8s,comp=Z,832µm
ULM Lac du Bonnet 60.40 45 *e*P P 06 20 03.6 +0.4
comp=Z,44nm,1.2s
ULM Lac du Bonnet 60.40 45 P P 06 20 03.5 +0.2
comp=Z,6.8nm,0.3s,baz=321,slow=6.5,SNR=42
ULM LR LR 06 47 25.0
comp=Z,173nm,18.4s,baz=322,slow=37
DECC Green Verdugo 60.42 71 P P 06 20 04.8 +1.0
baz=316,SNR=18
SHOC Shoshone, Teco 60.43 69 P P 06 20 05.2 +1.5
baz=316,SNR=8.7
SNCC San Nicolas Is 60.45 73 *e*P P 06 20 04.6 +0.8
comp=Z,171nm,1.1s
SNCC San Nicolas Is 60.45 73 P P 06 20 04.9 +1.1
baz=316
MDND Maddock 60.50 49 *e*P P 06 20 05.4 +1.3
comp=Z,179nm,1.0s
MDND Maddock 60.50 49 P P 06 20 05.5 +1.4
baz=317,SNR=23
GSC Goldstone, Bar 60.55 70 P P 06 20 06.0 +1.3
baz=316,SNR=77
SHPR Sheep Range 60.63 67 *e*P P 06 20 06.6 +1.3
comp=Z,90nm,1.2s
NIL Nilore 60.70 288 *e*P P 06 20 04.8 -0.8
comp=Z,70nm,0.9s
NIL *e*pP **PcP** 06 20 48.2 +0.2
RRX Edison Barstow 60.75 70 P P 06 20 07.3 +1.4
baz=316,SNR=5.2
BFSC Mount Baldy Ra 60.82 71 P P 06 20 07.8 +1.2
baz=316,SNR=29
FMP Fort Macarthur 60.83 72 P P 06 20 07.5 +1.0
baz=316
K22A Casper 60.90 57 P P 06 20 08.0 +1.1
baz=316,SNR=8.5
TUQ Turquoise Moun 60.96 69 P P 06 20 08.8 +1.3
baz=316,SNR=17
CIS Catalina Islan 60.99 72 P P 06 20 08.5 +1.0
baz=316,SNR=7.1
KNTN Kanton 61.00 144 *e*P P 06 20 08.8 +1.1
comp=Z,146nm,1.3s
RSSD Black Hills 61.09 54 P P 06 20 09.5 +1.2
baz=317
HEC Hector,Ludlow 61.16 70 P P 06 20 10.3 +1.5
baz=316,SNR=66
MOS Moscow 61.17 326 *e*P P 06 20 05.6 -2.8
MOS *e* 06 20 46.7
MOS pmax pmax
comp=Z,32nm,0.6s
SCI2 San Clemente I 61.21 73 P P 06 20 10.0 +0.9
baz=316
BBRC Big Bear Solar 61.23 70 P P 06 20 10.6 +1.2
baz=316,SNR=20
MURC Murrieta 61.55 71 P P 06 20 12.5 +1.1
baz=316,SNR=36
GMRC Granite Mounta 61.58 69 P P 06 20 13.1 +1.4
baz=316,SNR=97
LDFC Landfair 61.68 69 *e*P P 06 20 13.6 +1.3
comp=Z,206nm,0.9s
O20A White River Ci 61.81 60 P P 06 20 14.3 +1.1
baz=317,SNR=16
AGMN Agassiz Nation 61.86 46 P P 06 20 13.5 +0.3
baz=319,SNR=20
BELC Belle Mtn. Jos 61.95 70 P P 06 20 14.9 +0.8
baz=317,SNR=34
PFO Pinyon Flats O 61.97 71 *e*P P 06 20 14.6 +0.4
comp=Z,134nm,1.5s
PFO Pinyon Flats O 61.97 71 P P 06 20 15.1 +0.8
baz=317,SNR=26

OBN Obninsk 62.04 326⇓ *e*P P 06 20 12.8 -1.3
OBN *i* 06 20 52.5
OBN *e* 06 20 58.5
OBN *e*S **S 06 28 22.6 -2.4**
OBN *e*SS **SS 06 32 34.6 +5.1**
OBN *e*SSS SSS 06 35 12.2
OBN pmax pmax
comp=Z,55nm,1.5s
109C Camp Elliot, M 62.12 72 P P 06 20 16.2 +1.1
baz=317,SNR=11
CPE Camp Elliot 62.12 72 *e*P P 06 20 15.9 +0.9
comp=Z,113nm,1.1s
NEE2 Needles Airpor 62.18 68 P P 06 20 16.5 +1.0
baz=317
VSU Vasula 62.29 333 *c i*P P 06 20 14.7 -1.1
VSU pmax pmax
comp=Z,131nm,1.7s
IRM Iron Mountain 62.33 69 P P 06 20 17.9 +1.4
baz=317,SNR=38
SBUM Sibu 62.34 233 *e*P P 06 20 18.3 +1.6
comp=Z,27nm,0.9s
SBUM Sibu 62.34 233 P P 06 20 19.0 +2.3
PHWY Pilot Hill 62.42 57 *e*P P 06 20 18.0 +0.7
comp=Z,34nm,1.5s
N23A Red Feather La 62.47 58 P P 06 20 19.0 +1.4
baz=317,SNR=11
KBL Kabul 62.47 291 *e*P P 06 20 15.4 -2.3
comp=Z,26nm,1.0s
MONP2 Monument Peak 62.51 71 P P 06 20 19.0 +1.0
baz=317,SNR=22
BC3 Big Chuckawall 62.51 70 P P 06 20 18.8 +0.9
baz=317,SNR=22
BAR Barrett 62.52 71 *e*P P 06 20 18.4 +0.7
comp=Z,111nm,1.3s
PV14 Lion Creek, Pa 62.67 62 *e*P P 06 20 19.8 +0.8
comp=Z,107nm,0.9s
PDMCI Parker Dam,Lak 62.79 69 P P 06 20 20.9 +1.4
baz=317,SNR=20
SWSC Sam W. Stewart 62.83 71 P P 06 20 20.7 +0.9
baz=317,SNR=23
IKP In-Ko-Pah, Jac 62.86 71 P P 06 20 21.3 +1.2
baz=317,SNR=30
PV02 Paradox Valley 62.95 62 *e*P P 06 20 21.5 +0.7
comp=Z,143nm,1.3s
Y12C Blythe 62.98 69 *e*P P 06 20 21.7 +1.0
comp=Z,106nm,1.0s
Y12C Blythe 62.98 69 P P 06 20 22.2 +1.4
baz=317,SNR=46
DOMB Dombas 63.01 344 *e*P P 06 20 20.8 +0.3
BORG Borgarnes 63.02 359 *e*P P 06 20 22.4 +1.9
comp=Z,135nm,1.1s
BORG Borgarnes 63.02 359 *i*P P 06 20 23.3 +2.8
AKN Aaknes 63.22 345 *e*P P 06 20 22.1 +0.2
LPSR Galich'ya Gora 63.22 323 *e*P P 06 20 20.1 -1.9
LPSR pmax pmax
comp=Z,40nm,1.3s
VRH Novokhopyorsk 63.28 321 *e*P P 06 20 20.1 -2.3
VRH pmax pmax
comp=Z,40nm,1.2s
GLA Glamis 63.31 70 P P 06 20 24.4 +1.4
baz=317,SNR=33
SUSD Miller 63.32 51 P P 06 20 23.4 +0.5
baz=319,SNR=5.3
NC303 NORSAR Array S 63.36 342 *e*P P 06 20 22.1 -0.7
comp=Z,323nm,1.9s
ISCO Idaho Springs 63.44 59 *e*P P 06 20 25.6 +1.5
comp=Z,103nm,1.0s
ISCO Idaho Springs 63.44 59 P P 06 20 25.8 +1.7
baz=318,SNR=43
WUAZ Wupatki 63.47 66 *e*P P 06 20 25.4 +1.3
comp=Z,200nm,1.3s
WUAZ Wupatki 63.47 66 P P 06 20 26.0 +1.8
baz=317,SNR=22
NB2 NORSAR Subarra 63.56 342 P P 06 20 23.2 -1.0
comp=Z,4.8nm,0.7s,baz=22,slow=6.5
NB2 NORSAR Subarra 63.56 342 P P 06 20 23.2 -1.0
baz=22,slow=6.5
NB200 NORSAR Array S 63.56 342 *e*P P 06 20 23.5 -0.7
NOA NORSAR Array B 63.56 342 P P 06 20 23.5 -0.7
comp=Z,14nm,0.9s,baz=22,slow=6.6,SNR=25
NOA pP **pP** 06 21 02.2 -1.4
comp=Z,2.2nm,0.6s,baz=25,slow=4.2,SNR=1.2
Y14A Wickenburg 63.70 68 *e*P P 06 20 26.6 +1.0
comp=Z,105nm,1.1s
NC602 NORSAR Array S 63.78 342 *e*P P 06 20 25.2 -0.4
MVCO Mesa Verde 63.81 63 P P 06 20 27.7 +1.2
baz=318,SNR=9.6
EYMN Ely 64.02 44 P P 06 20 27.7 +0.2
baz=321,SNR=15
DGPR DIGLIPUR 64.12 257 *e*P P 06 20 28.9 +0.4
DGPR IAmb IAmb 06 20 32.1
comp=Z,100nm,1.6s
KSM Kuching 64.13 234 P P 06 20 31.0 +2.5
VSR Storozhevoye 64.24 322 *e*P P 06 20 26.3 -2.4
VSR pmax pmax
comp=Z,30nm,1.3s
Q24A Divide 64.30 59 P P 06 20 30.8 +1.0
baz=318,SNR=16
S22A 4UR Ranch, Cre 64.31 61 P P 06 20 31.5 +1.7
baz=318,SNR=35
VORD Divnogorie 64.39 322 *e*P P 06 20 28.4 -1.3
VORD pmax pmax
comp=Z,10.0nm,0.9s
SKAR Skarslia 64.41 344 *e*P P 06 20 30.2 +0.4
OGNE Ogallala 64.43 56 P P 06 20 31.4 +1.1
baz=318,SNR=16
TRTT Trang 64.46 248 P P 06 20 32.6 +1.9
comp=Z,92nm,1.2s,comp=Z,1µm
SKLT Songkhla 64.48 247 P P 06 20 32.8 +2.0
comp=Z,28nm,1.0s,comp=Z,652nm
W18A Petrified Fore 64.67 65 *e*P P 06 20 33.1 +1.1
comp=Z,89nm,1.0s
W18A Petrified Fore 64.67 65 P P 06 20 33.8 +1.8
baz=318,SNR=12
ECSD EROS Data Cent 64.97 50 P P 06 20 33.9 +0.3
baz=320,SNR=90
SDCO Great Sand Dun 65.02 60 P P 06 20 35.8 +1.4
baz=318,SNR=27
C40A Isle Royale Na 65.03 43 P P 06 20 33.8 -0.2
baz=322
E38A The Farm, Brul 65.04 45 P P 06 20 33.9 -0.1
baz=321,SNR=18
KONO Kongsberg 65.15 343 *e*P P 06 20 34.4 -0.1
comp=Z,139nm,1.7s
KONO Kongsberg 65.15 343⇑ *e*P P 06 20 34.4 -0.1
KONO pmax pmax
comp=Z,34nm,1.2s
PKDT Phuket 65.19 249 P P 06 20 38.6 +3.2
comp=Z,66nm,1.4s
F37A Hinrichs Farm, 65.25 46 P P 06 20 35.3 -0.1
baz=321,SNR=9.8
214A Organ Pipe Nat 65.27 69 P P 06 20 37.1 +1.3
baz=318,SNR=39
F38A Pierce - Schro 65.40 46 P P 06 20 37.0 +0.7
baz=321,SNR=25
PBA Port Blair 65.44 257 *e*P P 06 20 38.3 +1.4
PBA IAmb IAmb 06 20 40.2
comp=Z,28nm,0.5s
SPMN Marine on St. 65.56 47 *e*P P 06 20 37.4 +0.1
comp=Z,49nm,0.9s
SPMN Marine on St. 65.56 47 P P 06 20 37.5 +0.1
baz=321,SNR=12
KSCO Kaye Shedlock' 65.57 57 *e*P P 06 20 38.5 +0.8
comp=Z,44nm,0.8s
KSCO Kaye Shedlock' 65.57 57 P P 06 20 38.6 +0.8
baz=319,SNR=6.0
KAPI Kappang 65.59 222 *e*P P 06 20 39.5 +1.6
comp=Z,33nm,1.2s
E39A Mellen 65.65 45 P P 06 20 38.0 0.0
baz=322,SNR=13
BHPL Bhopal 65.84 277 *e*P P 06 20 37.9 -1.7
BHPL IAmb IAmb 06 20 38.9
comp=Z,19nm,1.2s
F39A Loretta 65.85 45 P P 06 20 39.0 -0.3
baz=322,SNR=7.7
E40A Wakefield 65.88 44 P P 06 20 39.7 +0.3
baz=322,SNR=23
BLS5 Blasjo 65.92 344 *e*P P 06 20 39.9 +0.4
GEYT Alibeck 65.95 301 P P 06 20 39.3 -0.7
comp=Z,22nm,0.8s,baz=29,slow=3.4,SNR=35
GEYT pP **pP** 06 21 19.3 -0.3
comp=Z,19nm,0.9s,baz=48,slow=2.2,SNR=3.6
GYA0B ALIBECK ARRAY 65.95 301 *e*P P 06 20 39.5 -0.6
comp=Z,86nm,1.4s
D41A Chassel 65.95 43 P P 06 20 39.8 0.0
baz=323
BGNE Belgrade 66.00 53 *e*P P 06 20 40.6 +0.3

comp=Z,143nm,0.9s
BGNE Belgrade 66.00 53 P P 06 20 40.6 +0.3
baz=320,SNR=10
KULM Kulim 66.01 246 P P 06 20 42.0 +1.4
G38A Ridgeland 66.03 46 P P 06 20 40.3 -0.1
baz=322,SNR=17
T25A Trinidad 66.05 60 P P 06 20 41.8 +0.9
baz=319,SNR=23
TUC Tucson 66.16 68 eP P 06 20 42.5 +1.0
comp=Z,74nm,1.2s
TUC Tucson 66.16 68 P P 06 20 42.7 +1.2
baz=318
F40A Park Falls 66.19 45 P P 06 20 41.5 0.0
baz=322,SNR=8.2
H38A Maiden Rock 66.22 47 P P 06 20 41.4 -0.2
baz=322
G39A Holcombe 66.24 46 P P 06 20 41.5 -0.2
baz=322,SNR=8.7
E41A Kenton 66.26 44 P P 06 20 41.7 -0.1
baz=323,SNR=9.2
NGP Nagpur 66.43 274 eP P 06 20 44.8 +1.5
IPM Ipoh 66.47 245 P P 06 20 45.0 +1.4
TASM ASL Pad, Albuq 66.59 63 P P 06 20 45.6 +1.3
baz=319,SNR=54
TASM ASL Pad, Albuq 66.59 63 P P 06 20 45.8 +1.4
baz=319,SNR=39
ANMO Albuquerque 66.59 63 eP P 06 20 45.5 +1.2
comp=Z,47nm,0.9s
ANMO Albuquerque 66.59 63c iP P 06 20 45.6 +1.2
ANMO pmax pmax
comp=Z,51nm,0.9s
ANMO Albuquerque 66.59 63 P P 06 20 45.7 +1.4
baz=319
LAZ Ladron 66.63 64 eP P 06 20 46.4 +1.7
H39A Augusta 66.66 46 P P 06 20 44.4 0.0
baz=322,SNR=7.1
G40A Rib Lake 66.67 45 eP P 06 20 45.1 +0.6
comp=Z,31nm,1.0s
G40A Rib Lake 66.67 45 P P 06 20 44.2 -0.3
baz=322,SNR=5.4
F41A Three Lakes 66.77 44 eP P 06 20 45.9 +0.7
comp=Z,52nm,0.8s
F41A Three Lakes 66.77 44 P P 06 20 45.0 -0.1
baz=323,SNR=9.7
SNART Snartemo 66.81 343 eP P 06 20 45.6 +0.5
SCHQ Schefferville 66.88 26 P P 06 20 45.6 -0.1
comp=Z,15nm,0.6s,baz=342,slow=6.5,SNR=14
SCHQ pP pP 06 21 25.2 -0.4
comp=Z,30nm,0.9s,baz=343,slow=6.3,SNR=8.3
LENM Lemitar 66.89 64 eP P 06 20 48.0 +1.7
Y22D IRIS PASSCAL I 66.99 64 P P 06 20 48.6 +1.8
baz=319
BNM Barren Site 67.09 64 eP P 06 20 48.9 +1.2
H40A Chili 67.10 46 P P 06 20 47.4 +0.2
baz=322,SNR=8.1
SUW Suwalki 67.14 333 eP P 06 20 46.5 -0.7
SUW epP PcP 06 21 14.0 0.0
SUW Suwalki 67.14 333 eP P 06 20 46.5 -0.7
SUW e*PP PcP 06 21 14.0 0.0
MYKOM Kota Tinggi 67.18 241 P P 06 20 50.0 +2.0
CBKS Cedar Bluff 67.19 56 P P 06 20 47.8 -0.1
baz=320,SNR=14
I39A Houston 67.20 47 P P 06 20 47.4 -0.4
baz=322,SNR=12
COEN Coen 67.36 195 eP P 06 20 50.1 +1.0
comp=Z,26nm,0.8s
E44A Grand Marais A 67.39 42 P P 06 20 48.7 -0.3
baz=324
H41A Junction City 67.43 45 P P 06 20 49.3 0.0
baz=323,SNR=7.6
G42A Mountain 67.46 44 P P 06 20 49.5 +0.1
baz=323
F43A Flat Rock, Esc 67.52 43 P P 06 20 49.8 +0.1
baz=324
J39A Decorah 67.53 48 P P 06 20 49.4 -0.5
baz=322,SNR=20
I40A Norwalk 67.58 46 P P 06 20 50.0 -0.2
baz=322,SNR=12
121A Cookes Peak, D 67.67 65 P P 06 20 52.9 +1.7
baz=319,SNR=26
F44A Big Bay de Noc 67.71 43 P P 06 20 50.6 -0.4
baz=324
G43A Wallace 67.76 44 eP P 06 20 51.6 +0.4
comp=Z,66nm,0.8s
G43A Wallace 67.76 44 P P 06 20 51.4 +0.1
baz=324,SNR=7.6
I41A Arkdale 67.78 46 P P 06 20 51.5 +0.1
baz=323,SNR=5.5
GROC Groznyy 67.88 313 eP P 06 20 50.5 -1.6
GROC e 06 21 15.6
GROC e*PP pP 06 21 28.6 -3.3
GROC e 06 23 25.2
GROC eS S 06 29 35.9 -0.9
GROC pmax pmax
comp=Z,14nm,0.9s
J40A Soldiers Grove 67.92 47 P P 06 20 51.8 -0.6
baz=322
D46A Sault St. Mari 67.93 41 P P 06 20 51.6 -0.8
baz=325,SNR=6.0
MATQ Matagami 67.94 35 P P 06 20 51.8 -0.5
baz=328,SNR=5.1
K39A Oelwein 67.94 48 P P 06 20 51.9 -0.6
baz=322,SNR=11
SCIA State Center 67.96 49 P P 06 20 53.1 +0.5
baz=322,SNR=9.8
H42A Shiocton 68.00 45 P P 06 20 52.6 -0.1
baz=323
LHMI Lhok Sumawe 68.15 249 eP P 06 20 54.4 +0.3
comp=Z,137nm,0.9s
D47A Chapleau 68.16 40 P P 06 20 53.0 -0.8
baz=325,SNR=7.9
AKASG Malin Array Be 68.18 327 eP P 06 20 51.8 -2.0
AKASG Malin Array Be 68.18 327 P P 06 20 52.0 -1.7
comp=Z,3.9nm,0.4s,baz=32,slow=6.6,SNR=27
AKASG pP pP 06 21 34.4 +0.8
comp=Z,4.8nm,0.6s,baz=30,slow=6.4,SNR=2.1
AKBB Malin Array Si 68.18 327 eP P 06 20 52.3 -1.4
comp=Z,18nm,1.1s
KIEV Kiev 68.19 327 eP P 06 20 52.2 -1.7
comp=Z,82nm,2.0s
KIEV Kiev 68.19 327 i P P 06 20 52.1 -1.7
SNR=9.8
KIEV Kiev 68.19 327⇑ iP P 06 20 52.5 -1.4
KIEV pmax pmax
comp=Z,9.0nm,1.0s
E46A Sault Ste Mari 68.25 41 P P 06 20 53.5 -0.9
baz=325,SNR=9.7
J41A Loganville 68.26 46 P P 06 20 54.1 -0.4
baz=323,SNR=9.5
K40A Colesburg 68.29 48 P P 06 20 54.2 -0.4
baz=322,SNR=11
F45A CMU Biological 68.32 42 P P 06 20 53.3 -1.5
baz=324
I42A Draeger Farm, 68.33 45 eP P 06 20 54.9 +0.1
comp=Z,52nm,0.9s
I42A Draeger Farm, 68.33 45 P P 06 20 54.7 -0.1
baz=323,SNR=5.8
L39A Vinton 68.35 48 P P 06 20 54.8 -0.2
baz=322,SNR=21
H43A Windswept, Lux 68.36 44 P P 06 20 54.5 -0.5
baz=324
CMBY CAMPBELL BAY 68.44 253 eP P 06 20 55.2 -0.8
CMBY IAmb IAmb 06 20 57.2
comp=Z,83nm,0.4s
JFWS Jewell Farm 68.52 47 P P 06 20 55.4 -0.7
baz=323,SNR=6.8
HSIG 68.52 70 eP P 06 20 57.6 +1.3
comp=Z,126nm,1.3s
KSU1 Kansas State U 68.53 53 P P 06 20 55.4 -0.8
baz=321,SNR=5.9
F46A Macinaw City C 68.55 42 P P 06 20 56.0 -0.2
baz=325,SNR=12
D48A Paudash Townsh 68.57 39 P P 06 20 55.8 -0.5
baz=326,SNR=6.4
E47A Iron Bridge 68.59 40 P P 06 20 55.7 -0.7
baz=325,SNR=9.8
KIV Kislovodsk 68.65 315 i P P 06 20 57.0 0.0
SNR=6.2
KIV Kislovodsk 68.65 315 eP P 06 20 56.1 -0.9
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,182nm,17.0s
KIV Kislovodsk 68.65 315 P P 06 20 56.7 -0.3
SNR=6.0
D49A Beulah Townshi 68.66 39 P P 06 20 55.9 -0.9
baz=326

I43A Langenfeld Bro 68.66 45 P P 06 20 56.9 -0.1
baz=324
J42A Columbus 68.69 46 P P 06 20 56.8 -0.4
baz=323,SNR=12
K41A Shullsburg 68.74 47 P P 06 20 57.1 -0.3
baz=323,SNR=9.9
KBZ Khabaz 68.74 315 P P 06 20 56.6 -0.7
comp=Z,3.0nm,0.6s,baz=41,slow=4.5,SNR=13
KBZ LR LR 06 53 57.6
comp=Z,112nm,20.9s,baz=25,slow=38
L40A Anamosa 68.75 48 eP P 06 20 57.3 -0.2
comp=Z,46nm,0.8s
L40A Anamosa 68.75 48 P P 06 20 57.2 -0.3
baz=323,SNR=11
LSQQ Lebel-sur-Quev 68.76 35 P P 06 20 57.0 -0.5
baz=328
M39A Webster 68.78 49 P P 06 20 57.9 +0.2
baz=322,SNR=29
G46A Petoskey 68.88 42 P P 06 20 58.2 -0.1
baz=325,SNR=11
CHGQ Chibougamau 68.92 33 P P 06 20 58.5 +0.1
baz=329,SNR=12
MTN Manton Dam 68.94 207 eP P 06 20 59.7 +0.9
comp=Z,54nm,0.9s
J43A Natural Harves 68.95 45 P P 06 20 58.3 -0.4
baz=324
H45A Beulah 68.96 43 P P 06 20 59.0 +0.2
baz=324
E48A Lockeyer 69.00 40 P P 06 20 57.8 -1.2
baz=326,SNR=8.4
PSI Prapat 69.02 246 eP P 06 20 59.8 +0.2
comp=Z,149nm,1.8s
K42A Prairie Point, 69.03 46 P P 06 20 58.7 -0.5
baz=323,SNR=8.9
ZEI Tsey 69.06 314 eP P 06 20 52.2 -7.5
ZEI pmax pmax
comp=Z,4.0nm,0.5s
L41A Preston 69.07 48 P P 06 20 59.0 -0.5
baz=323,SNR=11
RRH Rhenigidale 69.11 351⇓ eP P 06 20 59.4 0.0
M40A Post Highland 69.14 49 P P 06 20 59.9 -0.1
baz=323,SNR=15
AMTX Amarillo 69.19 60 eP P 06 21 01.2 +0.7
comp=Z,101nm,1.2s
AMTX Amarillo 69.19 60 P P 06 21 01.0 +0.5
baz=320
NEY Neytrino 69.20 315⇑ eP P 06 21 00.5 0.0
MSTX Muleshoe 69.31 61 eP P 06 21 01.5 +0.2
comp=Z,76nm,1.0s
MSTX Muleshoe 69.31 61 P P 06 21 01.8 +0.5
baz=320,SNR=39
MDO Dochfour 69.34 350 eP P 06 21 00.3 -0.5
I45A Fountain 69.36 44 P P 06 21 01.4 +0.2
baz=324
F48A Evansville 69.36 40 P P 06 21 00.4 -0.8
baz=326,SNR=7.9
H46A Fife Lake 69.38 43 P P 06 21 01.2 -0.1
baz=325,SNR=8.7
GLMI Grayling 69.39 42 P P 06 21 01.2 -0.2
baz=325
GKP Gorka Klasztor 69.39 336 eP P 06 21 01.1 -0.1
GKP Gorka Klasztor 69.39 336 eP P 06 21 01.1 -0.1
VLDQ Val d'Or 69.40 36 eP P 06 21 00.5 -0.8
comp=Z,44nm,0.9s
G47A Hillman 69.41 41 P P 06 21 01.2 -0.3
baz=325
L42A Oliver, Polo 69.50 47 P P 06 21 01.5 -0.6
baz=323,SNR=8.2
N40A Mertquake, Sal 69.52 49 P P 06 21 02.2 -0.1
baz=323,SNR=16
K43A Burlington 69.53 46 P P 06 21 02.0 -0.4
baz=324
D51A Lot 18 Range I 69.56 38 P P 06 21 01.6 -0.7
baz=327
HYB Hyderabad 69.56 272 eP P 06 21 02.9 0.0
HYB IAmb IAmb 06 21 05.0
comp=Z,17nm,1.2s
KPL Plockton 69.58 350 eP P 06 21 02.4 +0.1
E50A Wahnapitae 69.60 39 P P 06 21 01.9 -0.8
baz=327,SNR=7.3
M41A Milan 69.61 48 P P 06 21 02.6 -0.2
baz=323,SNR=17
MNTX Cornudas Mount 69.63 64 eP P 06 21 04.0 +0.9
comp=Z,78nm,1.1s
MNTX Cornudas Mount 69.63 64 P P 06 21 04.4 +1.3
baz=320,SNR=67
DRUM Mains of Drumt 69.64 348 eP P 06 21 02.4 -0.3
F49A Sandfield 69.65 40 P P 06 21 02.1 -0.8
baz=326,SNR=10
H47A Mio 69.74 42 P P 06 21 03.3 -0.2
baz=325
BEL Belsk 69.74 333 eP P 06 21 03.4 -0.1
BEL Belsk 69.74 333 eP P 06 21 03.4 -0.1
I46A Reed City 69.76 43 P P 06 21 03.9 +0.2
baz=325,SNR=5.5
L43A Garden Prairie 69.77 46 P P 06 21 03.3 -0.5
baz=324
J45A Montague 69.78 44 P P 06 21 03.8 0.0
baz=324
GDL2 Guadalupe Moun 69.81 63 eP P 06 21 04.8 +0.5
M42A Sheffield 69.90 47 P P 06 21 04.0 -0.5
baz=323
BKNI Bangkinang 69.92 242 eP P 06 21 06.8 +1.8
comp=Z,378nm,1.4s
E51A G1948 Merrick 69.98 38 P P 06 21 04.0 -1.0
baz=327,SNR=8.2
N41A Harden Midland 70.00 49 eP P 06 21 05.0 -0.2
comp=Z,128nm,1.0s
N41A Harden Midland 70.00 49 P P 06 21 05.1 -0.1
baz=323,SNR=26
D52A ZEK Kipawa Sen 70.01 37 P P 06 21 04.2 -1.0
baz=328
H48A Harrisville 70.01 41 P P 06 21 04.6 -0.6
baz=326
LATR Latur 70.02 274 eP P 06 21 03.8 -1.8
CLNB Carlsbad 70.02 63 eP P 06 21 06.8 +1.2
I47A Gladwin 70.09 43 P P 06 21 05.4 -0.3
baz=325
L44A Lake County Fo 70.14 46 P P 06 21 05.5 -0.5
baz=324
ANN Anapa 70.15 319 eP P 06 21 04.2 -1.8
ANN e*PP pP 06 21 43.8 -2.2
ANN e 06 23 42.2
ANN ePPP PPP 06 25 26.6
ANN pmax pmax
comp=Z,27nm,1.2s
J46A Howard City 70.16 44 P P 06 21 06.3 +0.2
baz=325,SNR=5.8
SOC Sochi 70.21 317 eP P 06 21 06.3 -0.1
SOC e*PP pP 06 21 44.8 -1.7
SOC eS S 06 30 05.1 +1.0
SOC eSS SS 06 34 35.1 -1.4
SOC pmax pmax
comp=Z,12nm,0.5s
M43A Waltham Townsh 70.27 47 P P 06 21 06.6 -0.2
baz=324
I48A Sherman Twp 70.28 42 P P 06 21 07.0 +0.1
baz=326
TOBO Tobermory, Bru 70.30 40 P P 06 21 06.3 -0.6
baz=326,SNR=6.7
INVG Invergeldie, C 70.30 349 eP P 06 21 05.8 -0.9
F51A Arnstein 70.33 39 P P 06 21 06.0 -1.1
baz=327
O41A Passleys Farm, 70.46 49 P P 06 21 08.1 +0.1
baz=323,SNR=22
D54A Lac Fusel, La 70.50 36 P P 06 21 07.7 -0.5
baz=329,SNR=9.4
E52A Mattawa 70.50 38 P P 06 21 07.0 -1.1
baz=328
N43A Stutzman Famil 70.58 47 P P 06 21 08.3 -0.3
baz=324
LVV L'vov 70.59 330⇑ iP P 06 21 08.1 -0.5
LVV eS S 06 30 05.0 -3.3
LVV pmax pmax
comp=Z,140nm,1.7s
J47A Sunmer 70.60 43 P P 06 21 09.2 +0.4
baz=325,SNR=6.4
LAWE Loch Awe, Argy 70.61 350 eP P 06 21 08.6 0.0
ESY Stoneypath 70.62 348 eP P 06 21 08.4 -0.3
K46A Dorr 70.64 44 P P 06 21 09.0 -0.1
baz=325,SNR=7.4
F52A Sundridge 70.67 38 P P 06 21 08.6 -0.6
baz=328,SNR=7.0
EDI Edinburgh 70.69 349 eP P 06 21 08.7 -0.4
KLBO Killbear Provi 70.69 39 P P 06 21 08.8 -0.5
baz=327,SNR=7.4
M44A Midewin, Midew 70.72 46 P P 06 21 09.3 -0.2
baz=324
E53A Dumoine, Ponti 70.79 37 P P 06 21 09.3 -0.6
baz=328
GNI Garni 70.79 311 d iP P 06 21 10.1 -0.1
GNI pmax pmax
comp=Z,118nm,1.8s
GNI Garni 70.79 311 P P 06 21 10.1 -0.1
SNR=5.7
EAU Auchinoon 70.80 349 eP P 06 21 09.9 +0.2
EAU IAmb IAmb 06 21 10.8
comp=Z,208nm,1.2s
EBL Broad Law 70.82 348 eP P 06 21 09.8 -0.1
WMOK Wichita Mounta 70.82 58 eP P 06 21 10.7 +0.4
comp=Z,50nm,0.9s
WMOK Wichita Mounta 70.82 58 P P 06 21 10.7 +0.4
baz=321,SNR=42
HDIL Hopedale 70.83 48 eP P 06 21 10.5 +0.3
comp=Z,72nm,0.8s
HDIL Hopedale 70.83 48 P P 06 21 10.1 -0.1
baz=324,SNR=12
I49A Point Hope 70.84 42 P P 06 21 10.0 -0.2
baz=326
OK023 East Waterloo 70.88 56 eP P 06 21 11.1 +0.4
comp=Z,81nm,1.0s
E54A Lac Daplat, Po 70.92 37 P P 06 21 09.9 -0.7
baz=328,SNR=6.3
BUKO Buck Lake 70.93 39 P P 06 21 10.2 -0.6
baz=328,SNR=5.4
BMRO Meriville Lake 70.94 40 P P 06 21 10.4 -0.4
baz=327,SNR=14
PGBU Glenifferbraes 70.95 349 eP P 06 21 11.0 +0.3
PGBU IAmb IAmb 06 21 11.8
comp=Z,158nm,1.0s
L46A Eue Claire 70.97 45 P P 06 21 10.9 -0.2
baz=325
K47A Vermontville 70.99 44 P P 06 21 11.3 +0.2
baz=325,SNR=11
ALGO Algonquin Park 71.01 37 P P 06 21 10.5 -0.7
baz=328
GSI Gunungsitoli 71.01 246 eP P 06 21 12.6 +1.0
comp=Z,387nm,1.8s
O43A Sugar Creek Fa 71.04 48 P P 06 21 11.2 -0.3
baz=324,SNR=5.4
M45A Boilermakers S 71.07 46 P P 06 21 10.9 -0.8
baz=325
BRCO Bruce Peninsul 71.14 40 P P 06 21 11.7 -0.3
baz=327
N44A Piper City 71.16 47 P P 06 21 12.0 -0.2
baz=324
KWP Kalwaria Pacla 71.16 331 eP P 06 21 12.3 +0.2
KWP Kalwaria Pacla 71.16 331 eP P 06 21 12.3 +0.2
J49A Marlette 71.19 42 P P 06 21 12.1 -0.3
baz=326
BASO Ashfield 71.25 41 P P 06 21 12.6 -0.1
baz=327,SNR=8.1
K48A Perry 71.25 43 P P 06 21 12.8 0.0
baz=326
ESK Eskdalemuir 71.28 348 eP P 06 21 12.6 -0.1
comp=Z,103nm,1.4s
ESK Eskdalemuir 71.28 348 eP P 06 21 12.7 0.0
ESK Eskdalemuir 71.28 348 i P P 06 21 13.5 +0.8
BWLO Walkerton 71.37 40 P P 06 21 13.5 0.0
baz=327,SNR=6.8
N45A Kentland 71.39 46 P P 06 21 13.3 -0.3
baz=324
H52A Wyevale 71.42 39 P P 06 21 13.4 -0.3
baz=327,SNR=10
TUL1 Leonard 71.42 55 eP P 06 21 14.1 +0.2
comp=Z,84nm,0.9s
TUL1 Leonard 71.42 55 P P 06 21 14.2 +0.3
baz=322,SNR=21
M46A Old House Fiel 71.44 45 eP P 06 21 14.8 +0.9
comp=Z,93nm,1.1s
M46A Old House Fiel 71.44 45 P P 06 21 13.4 -0.5
baz=325
P43A Skaggs, Pawnee 71.46 48 P P 06 21 14.0 -0.1
baz=324,SNR=9.3
OJC Ojcow 71.47 333 eP P 06 21 14.0 0.0
OJC Ojcow 71.47 333 eP P 06 21 14.0 0.0
L47A Sherwood 71.47 44 P P 06 21 13.9 -0.2
baz=325,SNR=9.5
G53A Haliburton 71.50 38 P P 06 21 14.2 0.0
baz=328,SNR=10
BHH Howats Hill 71.50 348⇓ eP P 06 21 13.7 -0.3
O44A Mansfield 71.53 47 P P 06 21 14.1 -0.3
baz=324,SNR=8.4
PEMO Pembroke 71.54 37 P P 06 21 13.6 -0.8
baz=328,SNR=5.1
K49A Clarkson 71.54 43 P P 06 21 15.0 +0.5
baz=326,SNR=9.2
POO Poona 71.58 277 eP P 06 21 14.5 -0.6
Q42A Golden Eagle 71.58 50 P P 06 21 15.2 +0.4
baz=324,SNR=25
EDMD Edmundbyers 71.60 348 eP P 06 21 14.9 +0.3
EDMD IAmb IAmb 06 21 15.3
comp=Z,64nm,1.1s
LATQ La Tuque 71.64 33 P P 06 21 15.1 +0.1
baz=331
R41A Rosebud 71.68 51 P P 06 21 15.4 0.0
baz=323,SNR=36
I51A Listowel 71.68 40 P P 06 21 15.4 +0.1
baz=327,SNR=10
N46A Monticello 71.69 46 P P 06 21 15.0 -0.4
baz=325
F55A Otter Lake 71.73 36 P P 06 21 14.8 -0.7
baz=329
O45A Potomac 71.78 47 P P 06 21 15.9 0.0
baz=325,SNR=13
M47A Cromwell 71.80 45 P P 06 21 15.9 -0.2
baz=325,SNR=6.6
KSP Ksiaz 71.84 335 eP P 06 21 15.9 -0.2
KSP epP PcP 06 21 34.8 +0.8
KSP Ksiaz 71.84 335 eP P 06 21 15.9 -0.2
KSP e*PP PcP 06 21 34.8 +0.8
BANO Bancroft 71.85 38 P P 06 21 15.7 -0.6
baz=328,SNR=8.3
CLGH Cloghs, Cushen 71.85 350 eP P 06 21 16.3 +0.2
CLGH IAmb IAmb 06 21 17.2
comp=Z,55nm,0.8s
AAM Ann Arbor 71.86 43 P P 06 21 16.6 +0.2
baz=326,SNR=5.6
MDRS Chennai 71.88 268 eP P 06 21 18.1 +1.3
GAL1 Galloway 71.91 349 eP P 06 21 16.3 -0.1
KOLS Kolonicke sedl 71.91 331 eP P 06 21 16.5 -0.1
KOLS pmax pmax
comp=Z,39nm,1.5s
KOLS Kolonicke sedl 71.91 331 eP P 06 21 16.5 -0.1
BOM Bombay 71.92 278 eP P 06 21 18.2 +1.2
CCM Cathedral Cave 71.94 51 eP P 06 21 16.8 -0.1
comp=Z,81nm,1.1s
CCM Cathedral Cave 71.94 51 P P 06 21 16.9 0.0
baz=324
SFIN Lafayette 71.96 46 P P 06 21 17.0 0.0
baz=325,SNR=5.8
L49A Milan 71.97 43 P P 06 21 17.4 +0.4
baz=326,SNR=10
KESW Keswick, Cumbr 71.98 348 eP P 06 21 17.0 +0.1
KESW IAmb IAmb 06 21 18.5
comp=Z,132nm,1.0s
IDGL Inch Island, C 72.00 351 i P P 06 21 16.8 -0.1
ABTX Abilene, Hawle 72.02 60 P P 06 21 18.0 +0.5
baz=322,SNR=21
TRQ Mont Tremblant 72.04 35 eP P 06 21 17.2 -0.2
HHAR Hobbs 72.05 54 eP P 06 21 17.1 -0.5
comp=Z,73nm,0.8s
NIE Niedzica 72.05 332 eP P 06 21 17.8 +0.3
NIE Niedzica 72.05 332 eP P 06 21 17.8 +0.3
S41A Jillco Farms, 72.07 51 P P 06 21 17.4 -0.3
baz=323,SNR=34
G55A Calabogie 72.10 37 P P 06 21 17.3 -0.4
baz=329,SNR=6.1
BUR08 Bucovina Ar. S 72.14 328 eP P 06 21 17.2 -0.9
comp=Z,48nm,1.8s
PLVO Plevna 72.15 37 P P 06 21 17.3 -0.8
baz=329,SNR=5.4
N47A Urbana 72.16 45 P P 06 21 17.6 -0.6
baz=325,SNR=7.3
BURAR Bucovina Array 72.16 328 eP P 06 21 16.6 -1.6
BURAR Bucovina Array 72.16 328⇑ iP P 06 21 17.5 -0.7
UZH Uzhgorod 72.17 330 eP P 06 21 17.2 -0.9
UZH e 06 21 33.3
UZH eS S 06 30 23.1 -3.4
UZH pmax pmax
comp=Z,8.0nm,1.4s
ACTO Acton 72.22 40 P P 06 21 18.2 -0.3
baz=328
CLL Collm 72.22 337⇓ iP P 06 21 17.6 -0.8

CLL *e**PP **pP** **06 21 58.0 -0.7**
CLL *e*S **S** **06 30 21.0 -6.0**
CLL pmax pmax
comp=Z,49nm,1.1s
CLL Collm 72.22 337 ⇓*i*P **P** **06 21 17.6 -0.8**
comp=Z,49nm,1.1s
CLL *e*PcP **PcP** **06 21 37.0 +1.4**
CLL *e*pP **pP** **06 21 58.0 -0.7**
CLL *e*sP **sP** **06 22 17.0 +0.4**
CLL *e*PP **PP** **06 24 00.0 -0.3**
CLL *e*S **S** **06 30 21.0 -6.0**
CLL *e*sS **sS** **06 31 34.0 -2.7**
CLL *e*SS **SS** **06 35 06.0 -0.8**
CLL *e*SSS SSS 06 38 48.0
CLL *e*SSSS 06 40 18.0
I53A Kortright Cn E 72.22 40 P **P** **06 21 18.4 -0.1**
baz=328
UPC Upice 72.22 335 *e*P **P** **06 21 18.4 0.0**
UPC *e*S **S** **06 30 26.0 -1.0**
UPC Upice 72.22 335 *e*P **P** **06 21 18.4 0.0**
UPC *e*S **S** **06 30 26.0 -1.0**
OKC Ostrava-Krasne 72.27 334 *e*P **P** **06 21 19.0 +0.3**
OKC Ostrava-Krasne 72.27 334 *e*P **P** **06 21 19.0 +0.3**
DPC Dobruska-Polom 72.29 335 *e*P **P** **06 21 19.1 +0.2**
DPC Dobruska-Polom 72.29 335 *e*P **P** **06 21 19.1 +0.2**
PKRO Pickering 72.31 39 P **P** **06 21 18.7 -0.3**
baz=328,SNR=5.7
P45A Graceland, Par 72.36 47 P **P** **06 21 19.1 -0.3**
baz=325,SNR=6.3
ORIO Orleans, Innes 72.36 36 P **P** **06 21 18.9 -0.4**
baz=330,SNR=6.5
J52A Paris 72.37 40 P **P** **06 21 19.3 -0.1**
baz=327
DELO Deloro Mine 72.39 38 P **P** **06 21 18.9 -0.6**
baz=329,SNR=5.5
K51A Iona Station 72.39 41 P **P** **06 21 19.3 -0.2**
baz=327
LTX Lajitas 72.39 65 *e*P **P** **06 21 20.7 +0.9**
LTX *e*pP **pP** **06 21 59.7 -0.5**
TX31 Lajitas Ar. Si 72.39 65 *e*P **P** **06 21 20.7 +0.9**
comp=Z,129nm,1.3s
TXAR Lajitas Array 72.39 65 *e*P **P** **06 21 20.3 +0.4**
TXAR Lajitas Array 72.39 65 P **P** **06 21 20.7 +0.9**
comp=Z,36nm,0.8s,baz=296,slow=4.0,SNR=187
TXAR pP **pP** **06 21 59.7 -0.5**
comp=Z,14nm,0.8s,baz=307,slow=4.2,SNR=3.7
BRG Berggiesshubel 72.40 337 *i*P **P** **06 21 18.8 -0.7**
comp=Z,33nm,1.4s
BRG *e*PCP **PcP** **06 21 36.4 0.0**
comp=Z,8.6nm,1.1s
BRG sP **sP** **06 22 13.0 -4.7**
BRG PP **PP** **06 23 56.0 -5.9**
BRG S S 06 30 16.0 -13
BRG *e*PKPPKP **P'P'df** **06 49 07.9 +2.5**
comp=Z,2.5nm,0.6s
BRG Berggiesshubel 72.40 337 *i*P **P** **06 21 18.8 -0.7**
BRG *e* 06 21 36.4
BRG pmax pmax
comp=Z,33nm,1.4s
HPK Haverah Park 72.41 347 *e*P **P** **06 21 19.8 +0.4**
HPK IAmb IAmb 06 21 20.5
comp=Z,192nm,1.2s
M49A Liberty Center 72.41 44 P **P** **06 21 19.6 0.0**
baz=326,SNR=6.6
KRLC Kraliky 72.42 335 *e*P **P** **06 21 18.3 -1.3**
KRLC Kraliky 72.42 335 *e*P **P** **06 21 18.3 -1.3**
L50A Kingsville 72.42 43 P **P** **06 21 19.5 -0.3**
baz=326
ALFO Alfred 72.44 36 P **P** **06 21 19.1 -0.5**
baz=330,SNR=7.3
N48A Decatur 72.47 45 P **P** **06 21 19.8 -0.2**
baz=326,SNR=13
BIZ Bicaz 72.47 327 ⇑*i*P **P** **06 21 19.0 -0.9**
O47A Sheridan 72.48 46 P **P** **06 21 19.8 -0.3**
baz=325
IOMK Kirk Michael 72.48 349 *e*P **P** **06 21 19.6 -0.2**
IOMK IAmb IAmb 06 21 20.1
comp=Z,191nm,1.2s
MORC Moravsky Berou 72.49 334 ⇑*i*P **P** **06 21 20.1 0.0**
MORC Moravsky Berou 72.49 334 *e*P **P** **06 21 19.6 -0.5**
U40A Yellville 72.52 53 P **P** **06 21 20.2 -0.2**
baz=323,SNR=78
H55A Tweed 72.52 38 P **P** **06 21 20.2 0.0**
baz=329,SNR=6.9
P46A Rosedale 72.53 47 P **P** **06 21 20.2 -0.2**
baz=325,SNR=19
LANS Liptovska Anna 72.53 332 *e*P **P** **06 21 21.0 +0.7**
LANS Liptovska Anna 72.53 332 *e*P **P** **06 21 21.0 +0.7**
TRPA Tarpa 72.55 330 ⇓*i*P **P** **06 21 20.2 -0.1**
TRPA Tarpa 72.55 330 ⇓*e*P **P** **06 21 20.0 -0.3**
WLVO Wesleyville 72.60 39 P **P** **06 21 20.6 -0.1**
baz=328,SNR=6.1
I55A Frankford 72.62 38 P **P** **06 21 20.5 -0.4**
baz=329
K52A Tillsonburg 72.66 41 P **P** **06 21 21.1 0.0**
baz=327
GMM Mts of Mourne 72.66 350 ⇓*e*P **P** **06 21 20.6 -0.3**
TESR Tescani 72.66 327 ⇓*i*P **P** **06 21 20.5 -0.6**
Q45A Warren Harvey, 72.69 48 P **P** **06 21 21.4 +0.1**
baz=325,SNR=15
TYNO Tyneside 72.73 40 P **P** **06 21 21.2 -0.3**
baz=328
PLIO Pelee Island, 72.74 43 P **P** **06 21 21.6 0.0**
baz=327
N49A Columbus Grove 72.78 44 P **P** **06 21 21.8 0.0**
baz=326,SNR=7.0
H56A Elgin 72.83 37 P **P** **06 21 21.5 -0.5**
baz=329,SNR=5.4
OLIL Olney 72.84 48 *e*P **P** **06 21 22.6 +0.3**
comp=Z,134nm,1.5s
M50A Fremont 72.86 43 P **P** **06 21 22.1 -0.2**
baz=326,SNR=5.4
STCO Saint Catharin 72.91 40 P **P** **06 21 22.2 -0.4**
baz=328
O48A Farmland 72.91 45 P **P** **06 21 22.1 -0.6**
baz=326,SNR=13
WTSB Winterswijk 72.94 341 *e*P **P** **06 21 22.6 +0.1**
Q46A CEJHS Indians, 72.94 47 P **P** **06 21 23.2 +0.3**
baz=325
LBWR Ladybower, Pea 72.96 347 *e*P **P** **06 21 22.6 -0.1**
LBWR IAmb IAmb 06 21 23.6
comp=Z,178nm,1.3s
CTAO Charters Tower 72.98 191 *e*P **P** **06 21 23.9 +0.7**
comp=Z,26nm,0.9s
U41A Viola 72.98 52 P **P** **06 21 22.8 -0.4**
baz=324,SNR=21
W39A Magazine 72.99 54 *e*P **P** **06 21 23.2 +0.1**
comp=Z,55nm,1.0s
W39A Magazine 72.99 54 P **P** **06 21 23.1 -0.1**
baz=323,SNR=15
P47A Martinsville 73.05 46 P **P** **06 21 23.2 -0.3**
baz=325,SNR=15
J54A Appleton 73.06 39 P **P** **06 21 23.3 -0.1**
baz=328,SNR=5.3
PRU Pruhonice 73.07 336 *e*P **P** **06 21 23.3 -0.1**
PRU *e*S **S** **06 30 34.9 -1.7**
PRU Pruhonice 73.07 336 *e*P **P** **06 21 23.3 -0.1**
PRU *e*S **S** **06 30 34.9 -1.7**
PRU *e*XS **sS** **06 31 50.8 +4.3**
GOPC GO Pecny, Ondr 73.08 336 *e*P **P** **06 21 23.0 -0.5**
GOPC *e*S **S** **06 30 36.3 -0.5**
GOPC GO Pecny, Ondr 73.08 336 *e*P **P** **06 21 23.0 -0.5**
GOPC *e*S **S** **06 30 36.3 -0.5**
GOPC *e*XS **sS** **06 31 53.0 +6.3**
PECO Prince Edward 73.12 38 P **P** **06 21 23.4 -0.4**
baz=329,SNR=8.5
R45A Skylar, Fairfi 73.12 48 P **P** **06 21 24.0 +0.1**
baz=325,SNR=6.4
HPIG 73.12 68 *e*P **P** **06 21 24.9 +0.5**
comp=Z,109nm,1.6s
S44A Carbondale 73.16 50 P **P** **06 21 24.3 +0.2**
baz=324,SNR=28
SIUC Southern Illin 73.16 49 *e*P **P** **06 21 24.2 0.0**
comp=Z,74nm,0.7s
SLBS Sierra La Lagu 73.16 73 *e*P **P** **06 21 26.1 +1.7**
comp=Z,99nm,1.3s
VRAC Vranov 73.17 334 ⇑*i*P **P** **06 21 24.5 +0.5**
VRAC Vranov 73.17 334 *e*P **P** **06 21 23.7 -0.3**
BLO Bloomington 73.20 47 *e*P **P** **06 21 24.7 +0.3**
comp=Z,34nm,0.9s
VRI Vrincioaia 73.20 326 ⇑*i*P **P** **06 21 23.7 -0.6**
MEDO Medina 73.22 39 *e*P **P** **06 21 24.9 +0.5**
comp=Z,52nm,1.1s
MEDO Medina 73.22 39 P **P** **06 21 24.5 +0.1**
baz=328,SNR=5.5

M51A Elyria 73.27 43 P **P** **06 21 24.8 0.0**
baz=327,SNR=5.3
JAVC Velka Javorina 73.29 333 *e*P **P** **06 21 25.5 +0.7**
VYHS Vyhne 73.30 333 *e*P **P** **06 21 24.9 +0.1**
VYHS pmax pmax
comp=Z,34nm,1.5s
VYHS Vyhne 73.30 333 *e*P **P** **06 21 24.9 +0.1**
CFR Carcaliu 73.32 325 ⇑*i*P **P** **06 21 24.0 -0.9**
O49A Covington 73.32 45 *e*P **P** **06 21 25.4 +0.3**
comp=Z,44nm,1.0s
O49A Covington 73.32 45 P **P** **06 21 24.8 -0.2**
baz=326,SNR=6.2
WPS Cemaes, Angles 73.32 349 *e*P **P** **06 21 24.4 -0.4**
WPS IAmb IAmb 06 21 25.2
comp=Z,81nm,1.2s
N50A Nevada 73.34 44 P **P** **06 21 25.2 0.0**
baz=326,SNR=8.7
PBMO Poplar Bluff 73.35 51 *e*P **P** **06 21 25.2 -0.1**
comp=Z,74nm,0.9s
KOLL Kolacno 73.35 333 *e*P **P** **06 21 25.3 +0.3**
NKC Novy Kostel 73.35 337 *e*P **P** **06 21 25.2 +0.1**
NKC *e*S **S** **06 30 39.1 -0.8**
NKC Novy Kostel 73.35 337 *e*P **P** **06 21 25.2 +0.1**
NKC *e*S **S** **06 30 39.1 -0.8**
NKC *e*XS **sS** **06 31 55.5 +5.7**
J55A Hilton 73.38 39 P **P** **06 21 25.1 -0.2**
baz=329,SNR=7.6
LONY Lake Ozonia 73.41 36 *e*P **P** **06 21 25.4 -0.1**
comp=Z,33nm,1.4s
LONY Lake Ozonia 73.41 36 P **P** **06 21 25.5 -0.1**
baz=330,SNR=5.1
Q47A Bedord North L 73.43 47 P **P** **06 21 25.7 0.0**
baz=325,SNR=13
M52A Chesterland 73.44 42 *e*P **P** **06 21 26.2 +0.5**
comp=Z,44nm,0.8s
M52A Chesterland 73.44 42 P **P** **06 21 25.6 -0.2**
baz=327,SNR=5.5
P48A Milroy 73.44 46 P **P** **06 21 25.5 -0.3**
baz=326,SNR=15
KRUC Moravsky 73.45 334 *e*P **P** **06 21 25.4 -0.2**
TREC Trest 73.47 335 *e*P **P** **06 21 25.5 -0.3**
TREC Trest 73.47 335 *e*P **P** **06 21 25.5 -0.3**
S45A Carrier Mills 73.48 49 P **P** **06 21 26.1 +0.1**
baz=325,SNR=12
ERPA Erie 73.51 41 *e*P **P** **06 21 26.5 +0.4**
comp=Z,33nm,0.8s
ERPA Erie 73.51 41 P **P** **06 21 26.1 0.0**
baz=328,SNR=5.6
PSZ Piszkesteto 73.52 332 *e*P **P** **06 21 26.4 +0.2**
comp=Z,81nm,1.5s
PSZ Piszkesteto 73.52 332 ⇓*e*P **P** **06 21 26.0 -0.2**
L53A Girard 73.54 41 P **P** **06 21 26.2 -0.1**
baz=328,SNR=5.9
R46A Gibon Southern 73.54 48 P **P** **06 21 26.7 +0.3**
baz=325,SNR=5.5
N51A Ashland 73.54 43 *e*P **P** **06 21 26.5 +0.1**
comp=Z,81nm,0.6s
N51A Ashland 73.54 43 P **P** **06 21 26.2 -0.1**
baz=327,SNR=16
CWF Charnwood Fore 73.55 347 *e*P **P** **06 21 26.8 +0.6**
CWF IAmb IAmb 06 21 27.8
comp=Z,151nm,1.3s
JCT Junction City 73.60 61 *e*P **P** **06 21 27.2 +0.3**
comp=Z,39nm,1.0s
JCT Junction City 73.60 61 P **P** **06 21 27.2 +0.3**
baz=322,SNR=9.3
MIAR Mount Ida 73.61 54 *e*P **P** **06 21 26.7 -0.1**
comp=Z,48nm,0.9s
MIAR Mount Ida 73.61 54 P **P** **06 21 27.0 +0.2**
baz=323,SNR=20
MOQ Mont Orford 73.63 34 *e*P **P** **06 21 27.5 +0.7**
WHAR Wooly Hollow 73.65 53 *e*P **P** **06 21 26.8 -0.2**
comp=Z,102nm,1.1s
WHTX Lake Whitney, 73.66 59 *e*P **P** **06 21 28.1 +0.9**
comp=Z,72nm,1.0s
WHTX Lake Whitney, 73.66 59 P **P** **06 21 27.3 +0.1**
baz=322,SNR=6.0
O50A Cable 73.66 44 P **P** **06 21 27.0 0.0**
baz=326,SNR=11
FOEL Foel Wylfa 73.66 348 *e*P **P** **06 21 26.6 -0.2**
FOEL IAmb IAmb 06 21 26.8
comp=Z,583nm,2.1s
L54A Sinclairville 73.67 40 P **P** **06 21 27.2 +0.1**
baz=328,SNR=5.6
DSB Dublin 73.69 350 *e*P **P** **06 21 26.7 -0.2**
DSB Dublin 73.69 350 *e*P **P** **06 21 26.9 0.0**
comp=Z,106nm,1.1s
DRGR 73.69 329 ⇓*i*P **P** **06 21 26.6 -0.6**
P49A Miami Univ. Ec 73.69 45 P **P** **06 21 27.0 -0.2**
baz=326,SNR=9.8
K55A Perry 73.74 39 P **P** **06 21 26.9 -0.6**
baz=329
Q48A North Vernon 73.75 46 P **P** **06 21 27.4 -0.2**
baz=326,SNR=6.6
LLW Llanuwychllyn 73.76 348 *e*P **P** **06 21 27.0 -0.3**
PARMO Parma 73.76 50 *e*P **P** **06 21 27.9 +0.2**
comp=Z,357nm,0.8s
W41B Gary Mavity, V 73.76 53 *e*P **P** **06 21 26.9 -0.8**
comp=Z,84nm,0.9s
W41B Gary Mavity, V 73.76 53 P **P** **06 21 27.8 +0.1**
baz=324,SNR=44
MLR Muntele Rosu 73.79 327 *e*P **P** **06 21 27.6 -0.2**
comp=Z,58nm,1.5s
MLR Muntele Rosu 73.79 327 ⇑*i*P **P** **06 21 27.9 0.0**
MMNY Mt. Morris Dam 73.80 39 *e*P **P** **06 21 27.9 +0.1**
comp=Z,42nm,0.8s
M53A WI Miller and 73.80 42 P **P** **06 21 28.1 +0.3**
baz=328,SNR=11
IGLA Glengowla, Co 73.81 352 *i*P **P** **06 21 27.2 -0.4**
MODS Modra-Piesok 73.84 334 *e*P **P** **06 21 28.1 +0.1**
MODS pmax pmax
comp=Z,86nm,1.7s
MODS Modra-Piesok 73.84 334 *e*P **P** **06 21 28.1 +0.1**
TIRR Tirgusor 73.84 325 *e*P **P** **06 21 27.0 -1.0**
comp=Z,7.3nm,0.9s
TIRR Tirgusor 73.84 325 ⇑*i*P **P** **06 21 27.2 -0.8**
ACSO Alum Creek Sta 73.86 44 *e*P **P** **06 21 28.5 +0.3**
comp=Z,56nm,1.0s
ACSO Alum Creek Sta 73.86 44 P **P** **06 21 28.3 +0.1**
baz=327,SNR=9.6
BATG Bathurst New B 73.86 29 *e*P **P** **06 21 28.7 +0.7**
comp=Z,27nm,1.0s
S46A Don Dixon Farm 73.87 48 P **P** **06 21 28.2 -0.1**
baz=325,SNR=10
R47A Wooly Knot Far 73.91 47 P **P** **06 21 28.7 +0.1**
baz=325,SNR=10.0
N52A McGinn's Farm, 73.91 43 P **P** **06 21 28.3 -0.2**
baz=327,SNR=8.4
GOA Goa 73.92 275 *e*P **P** **06 21 30.0 +1.1**
GOA IAmb IAmb 06 21 31.0
comp=Z,53nm,0.1s
HLM1 Long Mynd 73.98 348 *e*P **P** **06 21 27.5 -1.2**
HLM1 IAmb IAmb 06 21 29.2
comp=Z,77nm,1.2s
T45A Paducah 73.99 50 *e*P **P** **06 21 30.3 +1.4**
comp=Z,139nm,0.8s
T45A Paducah 73.99 50 P **P** **06 21 29.1 +0.2**
baz=325,SNR=6.7
X40A Basin Creek Fa 74.02 54 *e*P **P** **06 21 29.6 +0.3**
comp=Z,45nm,1.1s
X40A Basin Creek Fa 74.02 54 P **P** **06 21 29.4 +0.2**
baz=324,SNR=10
P50A Jamestown 74.03 45 P **P** **06 21 29.1 -0.1**
baz=326,SNR=7.6
Q49A Aurora 74.05 46 P **P** **06 21 29.2 -0.1**
baz=326
ZST Bratislava 74.05 334 *e*P **P** **06 21 28.6 -0.6**
ZST Bratislava 74.05 334 *e*P **P** **06 21 28.6 -0.6**
L55A Hinsdale 74.06 40 P **P** **06 21 29.2 -0.2**
baz=328,SNR=8.2
WCI Wyandotte Cave 74.07 47 *e*P **P** **06 21 29.4 -0.1**
comp=Z,56nm,0.8s
WCI Wyandotte Cave 74.07 47 P **P** **06 21 29.6 +0.1**
baz=326
O51A Pataskala 74.09 44 P **P** **06 21 29.4 -0.1**
baz=327,SNR=9.9
NCB Newcomb 74.11 36 *e*P **P** **06 21 30.0 +0.4**
KHC Kasperske Hory 74.11 336 *e*P **P** **06 21 29.3 -0.2**
comp=Z,27nm,1.3s
KHC Kasperske Hory 74.11 336 *e*P **P** **06 21 29.8 +0.3**
KHC *e*S **SKiKP** **06 30 42.2 +2.7**
KHC Kasperske Hory 74.11 336 *e*P **P** **06 21 29.8 +0.3**
KHC *e*S **SKiKP** **06 30 42.2 +2.7**
KHC *e*XS **sS** **06 32 00.2 +1.7**
R48A Northridge Ran 74.12 47 P **P** **06 21 30.1 +0.4**
baz=326,SNR=7.6

VOIR 74.14 327 ⇑*i*P **P** **06 21 29.8 0.0**
GRA1 Grafenberg Arr 74.14 338 *e*P **P** **06 21 30.1 +0.4**
comp=Z,47nm,0.8s
GRFO Grafenberg 74.14 338 *e*P **P** **06 21 30.1 +0.4**
comp=Z,49nm,0.9s
M54A Oil Creek Stat 74.15 41 *e*P **P** **06 21 30.1 +0.2**
comp=Z,38nm,0.8s
M54A Oil Creek Stat 74.15 41 P **P** **06 21 29.7 -0.2**
baz=328,SNR=11
GNAR Gosnell 74.20 51 *e*P **P** **06 21 31.7 +1.5**
comp=Z,273nm,1.2s
HBAR Harrisburg 74.22 52 *e*P **P** **06 21 31.3 +0.9**
comp=Z,108nm,0.9s
HGN Heimansgroeve 74.25 342 *e*P **P** **06 21 30.1 -0.1**
HGN *e*S **S** **06 30 50.5 +0.7**
BEBN Eben Emael 74.27 342 ⇑P **P** **06 21 29.3 -1.0**
N53A Lisbon 74.27 42 *e*P **P** **06 21 30.8 +0.2**
comp=Z,46nm,0.8s
N53A Lisbon 74.27 42 P **P** **06 21 30.6 0.0**
baz=328,SNR=16
T46A Princeton 74.32 49 P **P** **06 21 31.5 +0.6**
baz=325,SNR=34
S47A Hartford 74.33 48 P **P** **06 21 31.1 +0.2**
baz=325,SNR=14
ARR Arges 74.34 327 ⇓*i*P **P** **06 21 30.9 -0.1**
GEC2 GERESS Array S 74.34 336 *e*P **P** **06 21 30.5 -0.4**
comp=Z,30nm,1.3s
GERES GERESS Array B 74.34 336 *e*P **P** **06 21 29.9 -1.0**
GERES GERESS Array B 74.34 336 P **P** **06 21 29.2 -1.7**
comp=Z,4.8nm,0.5s,baz=36,slow=5.3,SNR=42
GERES LR LR 06 57 57.3
comp=Z,44nm,18.8s,baz=8.0,slow=39
MEM Membach 74.38 341 ⇑P **P** **06 21 30.3 -0.7**
comp=Z,52nm,1.2s
O52A Adamsville 74.44 43 *e*P **P** **06 21 31.6 0.0**
comp=Z,79nm,0.9s
O52A Adamsville 74.44 43 P **P** **06 21 31.5 0.0**
baz=327,SNR=13
UTMT University of 74.44 50 *e*P **P** **06 21 33.0 +1.4**
comp=Z,170nm,1.3s
P51A Williamsport 74.45 44 P **P** **06 21 30.7 -0.9**
baz=327
N54A Moraine State 74.48 41 *e*P **P** **06 21 32.1 +0.3**
comp=Z,40nm,0.8s
N54A Moraine State 74.48 41 P **P** **06 21 32.0 +0.3**
baz=328,SNR=14
CSKK Cskako 74.49 332 *e*P **P** **06 21 31.1 -0.6**
MCH1 Michaelchurch 74.51 348 *e*P **P** **06 21 31.1 -0.6**
MCH1 IAmb IAmb 06 21 32.7
comp=Z,54nm,1.1s
UCC Uccle 74.51 343 ⇓P **P** **06 21 31.6 -0.2**
R49A Shelbyville 74.52 46 P **P** **06 21 32.2 +0.1**
baz=326,SNR=7.9
WLAR White Oak Lake 74.53 55 *e*P **P** **06 21 32.5 +0.3**
comp=Z,74nm,1.0s
435B Jarrell 74.54 60 P **P** **06 21 32.6 +0.3**
baz=322
M55A Ridgway 74.54 40 P **P** **06 21 32.3 +0.2**
baz=328,SNR=15
O53A New Philadelph 74.58 43 P **P** **06 21 32.3 -0.1**
baz=328,SNR=8.6
Q50A Georgetown 74.58 45 P **P** **06 21 32.7 +0.3**
baz=326,SNR=7.9
STRD Stroud 74.61 347 *e*P **P** **06 21 32.4 +0.1**
STRD IAmb IAmb 06 21 33.4
comp=Z,189nm,1.1s
CONA Conrad Observa 74.63 334 *i*P **P** **06 21 32.9 +0.3**
comp=Z,52nm,1.4s,SNR=26
S48A Wiedeman Farm, 74.65 47 P **P** **06 21 32.9 +0.1**
baz=326,SNR=12
PKME Peaks-Kenny Pk 74.66 32 P **P** **06 21 32.4 -0.3**
baz=333
SOP Sopron 74.67 334 ⇓*e*P **P** **06 21 33.0 +0.3**
LBNH Lisbon 74.68 34 *e*P **P** **06 21 34.0 +1.2**
comp=Z,50nm,1.4s
LBNH Lisbon 74.68 34 P **P** **06 21 33.2 +0.3**
baz=332,SNR=5.4
BCLA Clavier 74.70 342 ⇓P **P** **06 21 32.5 -0.4**
comp=Z,37nm,1.3s
Q51A Peebles 74.71 45 *e*P **P** **06 21 33.4 +0.3**
comp=Z,32nm,0.8s
Q51A Peebles 74.71 45 P **P** **06 21 33.2 +0.1**
baz=327,SNR=11
P52A Corning 74.72 44 P **P** **06 21 32.6 -0.5**
baz=327
T47A Sharon Grove 74.72 48 *e*P **P** **06 21 33.5 +0.3**
comp=Z,73nm,1.0s
T47A Sharon Grove 74.72 48 P **P** **06 21 33.5 +0.3**
baz=325,SNR=22
DZM Mont Dzumac 74.74 171 *e*P **P** **06 21 35.5 +2.1**
comp=Z,62nm,1.4s
DZM Mont Dzumac 74.74 171 *e*P **P** **06 21 34.9 +1.5**
comp=Z,66nm,1.6s
U46A Springville 74.74 50 P **P** **06 21 33.9 +0.5**
baz=325,SNR=7.4
RSBS Rosebush, Pemb 74.77 349 *e*P **P** **06 21 32.9 -0.4**
RSBS IAmb IAmb 06 21 34.1
comp=Z,41nm,1.3s
ILGA Ilgaz 74.77 319 *e*P **P** **06 21 33.5 -0.2**
comp=Z,28nm,1.2s
SNF Seneffe 74.80 343 ⇓P **P** **06 21 33.1 -0.3**
ACCN Adirondack Com 74.81 36 *e*P **P** **06 21 34.0 +0.3**
comp=Z,21nm,0.8s
S49A Springfield 74.89 47 P **P** **06 21 34.3 +0.1**
baz=326,SNR=15
R50A Paris 74.90 46 P **P** **06 21 34.5 +0.3**
baz=326,SNR=8.8
WRAB Tennant Creek 74.91 202 *e*P **P** **06 21 35.1 +0.8**
comp=Z,38nm,1.0s
WRAB Tennant Creek 74.91 202 *d*iP **P** **06 21 35.1 +0.8**
WRAB pmax pmax
comp=Z,36nm,1.1s
GZR Gura Zlata 74.91 329 ⇑*i*P **P** **06 21 33.7 -0.6**
WB2 Warramunga Arr 74.92 202 *e*P **P** **06 21 35.1 +0.7**
comp=Z,50nm,1.1s
WR1 Warramunga Arr 74.92 202 *e*P **P** **06 21 35.1 +0.7**
WR1 epP **pP** **06 22 14.6 -0.4**
WRA Warramunga Arr 74.92 202 *e*P **P** **06 21 34.7 +0.3**
WRA Warramunga Arr 74.92 202 P **P** **06 21 35.1 +0.7**
comp=Z,26nm,0.9s,baz=18,slow=6.1,SNR=55
WRA pP **pP** **06 22 14.6 -0.4**
comp=Z,15nm,1.0s,baz=19,slow=6.1,SNR=5.0
T48A Bowling Green 74.95 48 P **P** **06 21 34.8 +0.3**
baz=326,SNR=7.4
X43A Marvell 74.95 53 *e*P **P** **06 21 35.5 +0.9**
comp=Z,96nm,0.9s
X43A Marvell 74.95 53 P **P** **06 21 35.0 +0.5**
baz=324,SNR=6.9
O54A Avella 74.98 42 P **P** **06 21 34.6 0.0**
baz=328,SNR=8.1
BINY Binghamton 74.99 38 P **P** **06 21 34.1 -0.6**
baz=330
TIH Tihany 75.02 333 ⇓*e*P **P** **06 21 34.1 -0.7**
HNH Hanover 75.02 35 *e*P **P** **06 21 36.0 +1.2**
comp=Z,18nm,0.8s
Z41A Richland Creek 75.02 55 *e*P **P** **06 21 35.5 +0.5**
comp=Z,50nm,1.1s
Z41A Richland Creek 75.02 55 P **P** **06 21 35.1 +0.2**
baz=324
N55A Marion Center 75.04 41 P **P** **06 21 34.8 -0.2**
baz=328,SNR=14
BZS Buzias 75.08 330 ⇑*i*P **P** **06 21 34.4 -0.7**
U47A Clarksville 75.09 49 P **P** **06 21 35.8 +0.5**
baz=325,SNR=16
WVT Waverly 75.09 49 *e*P **P** **06 21 36.0 +0.6**
comp=Z,39nm,0.8s
WVT Waverly 75.09 49 P **P** **06 21 35.7 +0.4**
baz=325
MOA Molln 75.12 335 *i*P **P** **06 21 35.3 -0.1**
comp=Z,28nm,1.4s,SNR=11
DOU Dourbes 75.14 342 ⇓P **P** **06 21 35.2 -0.1**
P53A Whipple 75.15 43 P **P** **06 21 35.2 -0.4**
baz=328
R51A Hillsboro 75.21 45 P **P** **06 21 36.3 +0.3**
baz=327,SNR=9.8
Q52A Bidwell 75.22 44 P **P** **06 21 36.0 -0.1**
baz=327,SNR=5.2
V46A Holladay 75.23 50 P **P** **06 21 36.2 +0.1**
baz=325,SNR=16
WLF Walferdange 75.25 341 ⇑P **P** **06 21 36.3 +0.2**
NATX Nacogdoches 75.28 57 *e*P **P** **06 21 37.4 +0.9**
comp=Z,102nm,1.1s
NATX Nacogdoches 75.28 57 P **P** **06 21 37.1 +0.6**
baz=323
T49A Edmonton 75.34 47 *e*P **P** **06 21 37.5 +0.7**
comp=Z,184nm,1.9s
T49A Edmonton 75.34 47 P **P** **06 21 37.1 +0.4**

baz=326,SNR=12
ARSA Arzberg 75.35 334 *i* P P 06 21 37.0 +0.3
comp=Z,44nm,1.4s,SNR=7.7
VAL Valentia 75.35 352 *e*P P 06 21 36.3 -0.2
S50A Richmond 75.37 46 P P 06 21 37.1 +0.2
baz=326
U48A Cassie Pea, Po 75.37 48 P P 06 21 37.3 +0.4
baz=326,SNR=12
O55A Ligonier 75.40 41 P P 06 21 37.0 0.0
baz=328,SNR=7.5
MORH Mrgy, Hungar 75.43 332⇓ *i*P P 06 21 35.8 -1.3
MORH Mrgy, Hungar 75.43 332⇓ *e*P P 06 21 35.1 -2.0
P54A Burton 75.43 42 P P 06 21 37.6 +0.3
baz=328,SNR=9.4
V47A Nunnelly 75.48 49 P P 06 21 37.7 +0.1
baz=325,SNR=14
HERR Herculane 75.49 329⇑ *i*P P 06 21 37.1 -0.3
833A Chaparral WMA, 75.51 62 *e*P P 06 21 38.8 +0.9
comp=Z,39nm,0.9s
833A Chaparral WMA, 75.51 62 P P 06 21 39.0 +1.1
baz=322,SNR=7.5
FITZ Fitzroy Crossi 75.55 211 *e*P P 06 21 39.2 +1.2
comp=Z,34nm,1.1s
R52A Catlettsburg 75.58 45 P P 06 21 38.1 -0.1
baz=327,SNR=6.9
SSPA Standing Stone 75.60 40 *e*P P 06 21 38.5 +0.3
comp=Z,29nm,0.7s
SSPA Standing Stone 75.60 40 P P 06 21 38.0 -0.1
baz=329
Q53A Leroy 75.62 44 P P 06 21 38.5 +0.2
baz=328,SNR=7.1
O56A Blue Knob Stat 75.64 41 *e*P P 06 21 38.6 +0.1
comp=Z,81nm,1.3s
O56A Blue Knob Stat 75.64 41 P P 06 21 38.5 0.0
baz=329,SNR=9.3
MCWV Mont Chateau 75.64 42 P P 06 21 38.7 +0.3
baz=328
W46A Michie 75.65 50 P P 06 21 38.3 -0.2
baz=325
OXF Oxford 75.67 52 *e*P P 06 21 38.8 +0.2
comp=Z,192nm,1.2s
OXF Oxford 75.67 52 P P 06 21 39.0 +0.4
baz=325,SNR=19
HTL Hartland 75.68 348 *e*P P 06 21 38.8 +0.3
HTL IAmb IAmb 06 21 39.5
comp=Z,103nm,1.2s
U49A Red Boiling Sp 75.72 48 P P 06 21 38.9 -0.1
baz=326,SNR=11
T50A Nancy 75.72 47 P P 06 21 38.6 -0.3
baz=326,SNR=14
BEHE Becsehely 75.72 333 *e*P P 06 21 38.1 -0.7
SZH Strazhica 75.75 326 *i* P P 06 21 37.8 -1.2
S51A Beattyville 75.75 46 *e*P P 06 21 40.0 +0.9
comp=Z,21nm,0.8s
S51A Beattyville 75.75 46 P P 06 21 38.9 -0.2
baz=327
P55A Reedsville 75.78 42 P P 06 21 39.5 +0.3
baz=328,SNR=9.8
Q54A Coxs Mills 75.81 43 P P 06 21 39.3 -0.1
baz=328,SNR=5.4
V48A Smith Brothers 75.88 49 *e*P P 06 21 39.3 -0.6
comp=Z,45nm,0.9s
V48A Smith Brothers 75.88 49 P P 06 21 39.9 +0.1
baz=326,SNR=17
R53A Hurricane 75.89 44 P P 06 21 39.7 -0.1
baz=327
PLAL Pickwick Lake 75.92 50 *e*P P 06 21 40.8 +0.7
comp=Z,61nm,1.0s
W47A Westpoint 75.92 50 P P 06 21 40.3 +0.2
baz=326,SNR=12
BR101 Keskin Array S 75.93 319 *e*P P 06 21 39.6 -0.6
BR101 *e*pP pP 06 22 20.0 -0.9
BR131 Keskin Array S 75.93 319 *e*P P 06 21 39.0 -1.3
comp=Z,33nm,1.9s
BR131 Keskin Array S 75.93 319 P P 06 21 39.3 -1.0
SNR=7.4
BRTR Keskin Array B 75.93 319 *e*P P 06 21 38.5 -1.7
BRTR Keskin Array B 75.93 319 *i* P P 06 21 39.0 -1.3
BRTR Keskin Array B 75.93 319 P P 06 21 39.6 -0.6
comp=Z,1.3nm,0.5s,baz=80,slow=1.4,SNR=14
BRTR pP pP 06 22 20.0 -0.9
comp=Z,3.9nm,1.1s,baz=59,slow=3.9,SNR=1.4
BRTR LR LR 06 58 59.2
comp=Z,49nm,19.0s,baz=26,slow=39
S52A Salyersville 75.95 45 P P 06 21 40.3 +0.1
baz=327
SOKA Soboth 76.00 334 *i* P P 06 21 40.4 -0.1
comp=Z,67nm,1.4s,SNR=49
X46A Booneville 76.02 51 P P 06 21 40.7 0.0
baz=325,SNR=9.9
FRGS Fruska Gora 76.04 330⇓ *i*P P 06 21 39.6 -1.0
KBA Koelnbreinsper 76.07 336 *i* P P 06 21 41.7 +0.7
comp=Z,105nm,0.9s,SNR=79
BFO Black Forest 76.07 339 *e*P P 06 21 40.1 -0.7
comp=Z,25nm,1.0s
BFO Black Forest 76.07 339 *i* P P 06 21 40.8 0.0
GROS Grobnik 76.08 334 *i* P P 06 21 40.6 -0.3
Q55A Buckhannon 76.11 43 P P 06 21 41.4 +0.2
baz=328
HKT Hockley 76.12 59 *i* P P 06 21 41.9 +0.7
HKT pmax pmax
comp=Z,21nm,1.4s
SHME Shamm 76.15 295 P P 06 21 40.4 -1.1
T51A Gray 76.16 46 P P 06 21 41.5 0.0
baz=327
N59A State Game Lan 76.18 39 *e*P P 06 21 41.5 0.0
comp=Z,28nm,0.8s
N59A State Game Lan 76.18 39 P P 06 21 41.3 -0.2
baz=330,SNR=11
U50A Jamestown 76.22 47 P P 06 21 42.0 +0.2
baz=326,SNR=11
WATA Walderalm 76.27 337 *i* P P 06 21 41.5 -0.6
comp=Z,18nm,0.8s,SNR=8.7
V49A McMinnville 76.28 48 P P 06 21 42.1 0.0
baz=326,SNR=9.3
OBKA Obir 76.29 335 *i* P P 06 21 42.3 +0.3
comp=Z,64nm,1.3s,SNR=19
RETA Reutte 76.32 337 *i* P P 06 21 42.4 +0.1
comp=Z,29nm,1.4s,SNR=9.0
WTTA Wattenberg 76.32 337 *i* P P 06 21 43.1 +0.7
comp=Z,104nm,1.3s
W48A Pulaski 76.32 49 P P 06 21 42.6 +0.2
baz=326,SNR=15
HRV Adam Dziewonsk 76.33 35 P P 06 21 41.6 -0.7
baz=332
S53A Williamson 76.36 45 P P 06 21 42.7 +0.1
baz=327
MOTA Moosalm 76.37 337 *i* P P 06 21 42.7 +0.1
comp=Z,57nm,1.1s,SNR=22
X47A Russelville 76.40 50 P P 06 21 42.6 -0.2
baz=326,SNR=8.8
MYKA Terra Mystica 76.41 335 *i* P P 06 21 42.7 -0.1
comp=Z,45nm,1.4s,SNR=14
R54A Victor 76.42 44 P P 06 21 42.7 -0.1
baz=328
ECH Echery 76.43 340 *e*P P 06 21 42.2 -0.5
comp=Z,57nm,1.2s
SQTA Sankt Quirin 76.46 337 *i* P P 06 21 43.5 +0.4
comp=Z,80nm,1.1s,SNR=26
T52A Hallie 76.46 46 P P 06 21 43.3 +0.2
baz=327,SNR=6.3
MOZS Mozjanca 76.51 335 *i* P P 06 21 42.8 -0.5
O59A Robesonia 76.54 39 P P 06 21 42.9 -0.6
baz=330
CCA1 Carnmenellis 76.56 349 *e*P P 06 21 43.3 -0.1
CCA1 IAmb IAmb 06 21 44.4
comp=Z,100nm,1.2s
ABTA Abfaltersbach 76.59 336 *i* P P 06 21 43.6 -0.2
comp=Z,85nm,1.3s,SNR=34
LUPA Lehigh Univers 76.60 39 *e*P P 06 21 44.4 +0.6
comp=Z,3.4nm,1.3s
U51A La Follette 76.62 47 P P 06 21 44.1 0.0
baz=327
W49A Belvidere 76.65 49 P P 06 21 44.3 +0.1
baz=326,SNR=9.0
CRES Cresnjev 76.68 334⇓ *i*P P 06 21 43.5 -0.7
MSFE Esma-Masafi 76.68 294 P P 06 21 45.6 +1.0
TZTN Tazewell 76.69 46 *e*P P 06 21 44.8 +0.4
comp=Z,48nm,1.1s
TZTN Tazewell 76.69 46 P P 06 21 44.8 +0.4
baz=327
R55A Marlinton 76.70 43 P P 06 21 44.7 +0.2
baz=328
DAVA Damuels 76.71 338 *i* P P 06 21 44.7 +0.2
comp=Z,48nm,1.1s,SNR=16
SWET Sewanee 76.72 49 *e*P P 06 21 44.6 -0.1
comp=Z,50nm,0.8s

V50A Pikevile 76.72 48 P P 06 21 44.2 -0.4
baz=326,SNR=7.2
LJU Ljubljana 76.72 334 *i* P P 06 21 43.9 -0.6
LJU Ljubljana 76.72 334⇓ *i*P P 06 21 43.7 -0.7
MVL Millersville 76.75 39 *e*P P 06 21 45.2 +0.6
comp=Z,19nm,1.0s
Q57A Strasburg 76.76 41 P P 06 21 44.8 +0.1
baz=329
CADS Cadrg 76.76 335 *i* P P 06 21 43.6 -1.1
FETA Feichten 76.76 337 *i* P P 06 21 45.2 +0.4
comp=Z,53nm,1.0s,SNR=26
T53A Wise 76.77 45 P P 06 21 45.1 +0.2
baz=327
PAL Palisades 76.80 37 *e*P P 06 21 44.8 -0.1
comp=Z,34nm,0.8s
PAL Palisades 76.80 37 P P 06 21 44.5 -0.4
baz=331
O60A Telford 76.83 39 P P 06 21 44.6 -0.5
baz=330
X48A Hartselle 76.83 50 *e*P P 06 21 44.4 -0.8
comp=Z,28nm,1.0s
X48A Hartselle 76.83 50 P P 06 21 44.8 -0.4
baz=326,SNR=8.0
BRYW Bryant College 76.86 35 *e*P P 06 21 45.8 +0.6
comp=Z,26nm,0.9s
U52A Thorn Hill 76.89 46 P P 06 21 45.8 +0.2
baz=327,SNR=7.6
WSAR Wadi Sarin 76.94 291 LR LR 07 00 55.4
comp=Z,56nm,18.3s,baz=70,slow=40
DIVS Divibare 76.95 330⇓ *i*P P 06 21 44.6 -1.2
V51A Loudon 76.95 47 *e*P P 06 21 45.4 -0.4
comp=Z,147nm,1.8s
V51A Loudon 76.95 47 P P 06 21 46.1 +0.2
baz=327,SNR=5.8
PGB Panagyurishte 76.99 326 *i* P P 06 21 46.2 +0.1
VBMS Vicksburg 76.99 54 *e*P P 06 21 47.2 +1.1
comp=Z,89nm,1.2s
VBMS Vicksburg 76.99 54 P P 06 21 47.1 +0.9
baz=325
W50A Signal Mountai 77.02 48 *e*P P 06 21 46.9 +0.6
comp=Z,40nm,0.9s
W50A Signal Mountai 77.02 48 P P 06 21 46.3 0.0
baz=326
CEY Cerknica 77.03 334⇓ *i*P P 06 21 45.4 -0.8
P59A Jarrettsville 77.05 40 P P 06 21 46.4 +0.1
baz=330
SDMD Soldier's Deli 77.06 40 *e*P P 06 21 47.3 +0.8
comp=Z,20nm,1.4s
HATD Hatta, Dubai 77.11 294 *i* P P 06 21 45.8 -1.1
SNR=7.8
HATD Hatta, Dubai 77.11 294 P P 06 21 46.4 -0.6
SNR=7.1
T54A Tazewell 77.11 45 P P 06 21 47.0 +0.1
baz=328,SNR=5.6
X49A Woodville 77.12 49 P P 06 21 46.9 +0.1
baz=326,SNR=9.2
JSA Saint Aubin 77.14 346 *e*P P 06 21 46.6 0.0
JSA IAmb IAmb 06 21 47.7
comp=Z,114nm,1.1s
CPCT Cooper Cave 77.17 48 *e*P P 06 21 47.3 +0.3
comp=Z,39nm,1.0s
P60A Greenville 77.18 39 P P 06 21 46.5 -0.6
baz=330
BLY Banja Luka 77.19 332⇓ *i*P P 06 21 46.0 -1.0
Y48A Jasper 77.22 50 P P 06 21 46.9 -0.5
baz=326,SNR=5.5
TRI Trieste 77.23 335 *e*P P 06 21 46.2 -1.0
comp=Z,18nm,0.9s
VTS Vitosha 77.24 327 *e*P P 06 21 46.3 -1.2
comp=Z,60nm,1.5s
VTS Vitosha 77.24 327 P P 06 21 46.5 -1.1
VTS Vitosha 77.24 327⇑ *i*P P 06 21 46.4 -1.2
VTS Vitosha 77.24 327 *i* P P 06 21 46.7 -0.9
NAZ Nazwa, Dubai 77.25 294 P P 06 21 49.0 +1.4
SNR=5.5
FUORN Ofenpass-Fuorn 77.25 337 *e*P P 06 21 47.5 -0.2
comp=Z,73nm,1.3s
V52A Sevierville 77.25 47 *e*P P 06 21 47.8 +0.2
comp=Z,32nm,0.9s
V52A Sevierville 77.25 47 P P 06 21 47.6 0.0
baz=327,SNR=9.2
ASHO Ashiyiah 77.26 294 *i* P P 06 21 48.7 +0.9
SNR=5.9
ASHO Ashiyiah 77.26 294 P P 06 21 46.5 -1.4
SNR=6.9
U53A Fall Branch 77.27 46 P P 06 21 47.8 +0.1
baz=327,SNR=6.4
HAPS Han Pijesak,Bl 77.27 331⇓ *i*P P 06 21 46.7 -1.0
W51A Cleveland 77.30 48 P P 06 21 47.9 0.0
baz=327
BBLS Lazići 77.34 330⇓ *i*P P 06 21 47.4 -0.6
JLN Jalan Bani Buh 77.35 290 P P 06 21 48.4 +0.1
KDZ Kurdzhali 77.36 325 *i* P P 06 21 51.4 +3.3
T55A Pulaski 77.40 44 P P 06 21 49.1 +0.7
baz=328
SOHO SOHO 77.43 293 P P 06 21 47.3 -1.4
SNR=8.4
S56A Natural Bridge 77.44 43 P P 06 21 48.5 -0.1
baz=329
U54A Nelsons Funny 77.46 45 P P 06 21 49.0 +0.2
baz=328
X50B Fort Payne 77.47 49 P P 06 21 48.7 -0.1
baz=326,SNR=8.1
FAQ Al Faqa, Dubai 77.47 294 P P 06 21 48.7 -0.3
FAQ Al Faqa, Dubai 77.47 294 P P 06 21 49.1 +0.2
SNR=5.1
BLA Blacksburg 77.48 44 P P 06 21 49.0 +0.2
baz=328
MGRS Mrkonjic Grad 77.52 332 *e*P P 06 21 49.4 +0.5
R58A Rapidan 77.55 42 P P 06 21 49.3 +0.1
baz=329
CLF Chambon-Foret 77.56 343 *e*P P 06 21 49.7 +0.7
comp=Z,166nm,1.2s
RZN Rozhen 77.57 326 *i* P P 06 21 48.6 -0.9
TUE Stuetta 77.60 338 *e*P P 06 21 49.3 -0.2
comp=Z,96nm,1.4s
Q59A Harwood 77.60 40 P P 06 21 49.5 +0.1
baz=330
Y49A Blount Mountai 77.62 50 *e*P P 06 21 50.0 +0.4
comp=Z,31nm,1.0s
Y49A Blount Mountai 77.62 50 P P 06 21 49.3 -0.3
baz=326,SNR=5.8
147A Livingston 77.71 52 P P 06 21 50.5 +0.3
baz=326,SNR=11
ASUD Al Ashush, Dub 77.72 294 P P 06 21 49.1 -1.2
W52A Murphy 77.73 47 P P 06 21 50.4 +0.2
baz=327
V53A Saluda 77.75 46 P P 06 21 50.6 +0.2
baz=327
X51A Calhoun 77.75 48 P P 06 21 50.3 0.0
baz=327
RDO Rodhopi 77.76 325 P P 06 21 49.8 -0.5
ALN Alexandroupoli 77.80 324 *e*P P 06 21 49.9 -0.6
comp=Z,32nm,1.6s
ALN Alexandroupoli 77.80 324 P P 06 21 49.4 -1.1
U55A TA2, Sparta 77.81 45 P P 06 21 50.5 -0.2
baz=326
CBN Corbin Frederi 77.89 41 P P 06 21 51.4 +0.5
baz=330
R58B Mineral 77.89 42 P P 06 21 51.2 +0.2
baz=329
Y50A Piedmont 77.91 49 P P 06 21 51.1 -0.1
baz=326,SNR=7.3
ALNE Al Ain 77.93 294 *i* P P 06 21 50.7 -0.8
SNR=6.6
KKB Krupnik 77.97 327 *i* P P 06 21 50.9 -0.5
R59A King George, V 77.99 41 P P 06 21 51.9 +0.3
baz=330
MMB Musomiste 78.00 326 *i* P P 06 21 50.7 -0.9
NVLJ Novalja 78.00 334 P P 06 21 50.6 -0.9
W53A Cullowhee 78.01 47 P P 06 21 51.8 -0.1
baz=327
LRAL Lakeview Retre 78.02 51 P P 06 21 51.3 -0.6
baz=326,SNR=6.7
V54A Nebo 78.03 46 P P 06 21 52.2 +0.3
baz=328
148A Greensboro 78.07 51 P P 06 21 52.0 -0.1
baz=326
UPM Unac-Piva 78.09 330 *e*P P 06 21 52.7 +0.4
Z49A Columbiana 78.11 50 P P 06 21 52.1 -0.3
baz=326,SNR=8.6
S58A Poland Farm, P 78.12 42 P P 06 21 52.3 0.0
baz=329
ZAIG Zacatecas 78.12 68 *e*P P 06 21 54.0 +1.1
comp=Z,56nm,1.1s
T57A Hurt 78.15 43 P P 06 21 52.6 +0.1
baz=329

X52A Dahlonega 78.16 48 P P 06 21 53.0 +0.4
baz=327,SNR=6.0
SENIN Lac Senin/Sane 78.16 339 *e*P P 06 21 52.4 -0.2
comp=Z,25nm,1.4s
NVR Nevrokopi 78.16 326 P P 06 21 51.6 -0.9
LNIG Linares 78.18 65 *e*P P 06 21 52.4 -0.5
comp=Z,115nm,2.0s
Y51A Rockmart 78.21 49 P P 06 21 52.6 -0.3
baz=327,SNR=7.5
U56A King 78.23 44 P P 06 21 53.1 +0.2
baz=328
KAVA Kavala 78.25 325 P P 06 21 52.0 -1.0
BG3 Lake Jocassee 78.26 47 *e*P P 06 21 54.2 +1.1
comp=Z,32nm,0.9s
V55A Taylorsville 78.29 45 P P 06 21 53.2 0.0
baz=328
S59A Mechanicsville 78.30 41 P P 06 21 53.7 +0.4
baz=330
Z50A Ashland 78.35 50 *e*P P 06 21 54.5 +0.8
comp=Z,63nm,1.0s
Z50A Ashland 78.35 50 P P 06 21 53.5 -0.1
baz=326,SNR=16
SKO Skopje 78.41 328 *i* P P 06 21 53.8 -0.1
STIP Stip 78.42 327 *i* P P 06 21 51.8 -2.1
SRS Serrai 78.46 326 P P 06 21 53.2 -1.0
BRY Bratogost 78.47 330 *e*P P 06 21 53.0 -1.4
149A Jones 78.48 51 P P 06 21 54.3 0.0
baz=326,SNR=8.2
T58A Grand View Acr 78.49 43 P P 06 21 54.4 0.0
baz=329
X53A Estanollee 78.50 47 P P 06 21 54.5 0.0
baz=327,SNR=6.7
W54A Cherokee Point 78.51 46 P P 06 21 54.6 +0.1
baz=328
U57A Blanch 78.60 43 P P 06 21 55.1 +0.2
baz=329
S60A Water View 78.60 41 P P 06 21 56.9 +2.0
baz=330
AS31 Alice Springs 78.61 202 *e*P P 06 21 56.9 +1.9
comp=Z,8.4nm,0.8s
ASAR Alice Springs 78.61 202 *e*P P 06 21 55.9 +0.9
ASAR Alice Springs 78.61 202 P P 06 21 56.2 +1.2
comp=Z,28nm,0.8s,baz=14,slow=5.3,SNR=184
ASAR pP pP 06 22 36.7 +0.7
comp=Z,12nm,0.9s,baz=12,slow=4.9,SNR=5.4
VAY Valandovo 78.62 327 P P 06 21 54.5 -0.5
VAY Valandovo 78.62 327 *i* P P 06 21 55.2 +0.2
V56A Mocksville 78.63 45 P P 06 21 55.4 +0.3
baz=328
Z51A Franklin 78.64 49 P P 06 21 55.1 -0.2
baz=327,SNR=5.6
EZN Ezine 78.65 324 P P 06 21 53.9 -1.2
EZN Ezine 78.65 324⇓ *i*P P 06 21 53.8 -1.3
KNT Kendrikon 78.66 327 P P 06 21 54.5 -0.7
PDG Podgorica 78.69 330⇑ *i*P P 06 21 54.4 -0.9
PDG Podgorica 78.69 330⇓ *i*P P 06 21 54.0 -1.3
TTG Podgorica 78.69 330 *e*P P 06 21 54.5 -0.9
comp=Z,53nm,1.2s
Y52A Lilburn 78.70 48 P P 06 21 55.8 +0.2
baz=327
TREB Trebinje 78.70 330 *e*P P 06 21 56.3 +0.9
STON Ston 78.75 331 P P 06 21 54.4 -1.2
STON Ston 78.75 331⇓ *i*P P 06 21 53.3 -2.4
ISP Isparta 78.81 320 P P 06 21 55.6 -0.6
150A Eclectic 78.84 50 P P 06 21 56.2 -0.1
baz=326,SNR=7.6
KMSC Kings Mountain 78.84 46 P P 06 21 56.3 0.0
baz=328
249A Camden 78.84 51 P P 06 21 57.1 +0.7
baz=326,SNR=11
T59A Double "B" Far 78.87 42 P P 06 21 56.7 +0.2
baz=330
V57A Coltrane Farms 78.88 44 P P 06 21 56.6 +0.1
baz=329
X54A Belton 78.88 47 P P 06 21 57.0 +0.5
baz=328
HCY Herceg Novi 78.90 330 *e*P P 06 21 55.2 -1.3
Y53A Monroe 78.92 48 P P 06 21 57.0 +0.2
baz=327,SNR=5.7
DRME Dracevica, Mon 78.93 330⇓ *i*P P 06 21 55.5 -1.2
U58A Oxford 78.96 43 P P 06 21 56.8 -0.1
baz=329
PHP Peshkopia 78.99 329 P P 06 21 56.3 -0.8
KRUS Krusevo 79.02 328 *i* P P 06 21 56.8 -0.5
MHTO MHTO 79.09 290 P P 06 21 57.5 -0.3
SNR=13
Z52A Williamson 79.10 49 P P 06 21 57.9 +0.2
baz=327,SNR=6.3
W56A Indian Trail 79.17 45 P P 06 21 58.2 +0.1
baz=328
PLG Polygyros 79.18 326 P P 06 21 57.4 -0.7
PRK Paraskevi 79.18 323 P P 06 21 58.4 +0.3
151A Opelika 79.23 50 P P 06 21 58.4 0.0
baz=327
250A Grady 79.24 51 P P 06 21 58.7 +0.1
baz=326
X55A Gracelyn & Ava 79.27 46 P P 06 21 58.7 0.0
baz=328
BIA Bitola 79.31 328 *e*P P 06 21 58.4 -0.4
U59A Littleton 79.31 42 P P 06 21 59.4 +0.6
baz=330
Y54A Tignall 79.32 47 P P 06 21 59.4 +0.4
baz=328,SNR=11
349A Repton 79.32 52 P P 06 22 00.1 +1.1
baz=326
GOGA Godfrey 79.35 48 P P 06 21 59.1 0.0
baz=327
152A Waverly Hall 79.39 49 *e*P P 06 21 59.0 -0.3
comp=Z,38nm,1.2s
152A Waverly Hall 79.39 49 P P 06 21 59.1 -0.2
baz=327
OHR Ohrid 79.39 328 *i* P P 06 21 58.7 -0.6
W57A Gilead 79.41 45 P P 06 21 59.6 +0.2
baz=329
Z53A Monticello 79.41 48 P P 06 21 59.6 +0.1
baz=327
U60A Pendleton 79.46 42 P P 06 21 59.9 +0.2
baz=330
PAIG Paliouri 79.49 326 P P 06 21 58.1 -1.7
FNA Florina 79.50 328 *e*P P 06 21 58.7 -1.1
comp=Z,36nm,1.3s
FNA Florina 79.50 328 P P 06 21 59.4 -0.5
X56A White Oak 79.52 46 P P 06 21 59.9 -0.1
baz=328
VLC Villacollemand 79.53 336 *e*P P 06 21 59.6 -0.4
comp=Z,70nm,1.0s
BRAL Brewton 79.54 52 P P 06 22 01.3 +1.2
baz=326
BNI Bardonecchia 79.54 339 *e*P P 06 22 00.2 +0.1
comp=Z,25nm,0.9s
251A Midway 79.55 50 P P 06 22 00.4 +0.2
baz=327,SNR=6.4
V59A Middlesex 79.62 43 P P 06 22 01.1 +0.6
baz=329
350A Dozier 79.67 51 P P 06 22 01.7 +0.9
baz=326,SNR=7.1
LIT Litokhoron 79.75 326 *e*P P 06 21 59.6 -1.6
comp=Z,29nm,1.5s
LIT Litokhoron 79.75 326 P P 06 21 59.2 -2.0
SSB Saint Sauveur 79.77 341 *e*P P 06 22 01.2 0.0
comp=Z,36nm,0.8s
Z54A Sparta 79.78 48 P P 06 22 01.8 +0.4
baz=328
449A Pace 79.80 52 P P 06 22 02.4 +0.9
baz=326
KZN Kozani 79.80 327 P P 06 22 00.6 -0.9
153A Fort Valley 79.82 49 P P 06 22 01.4 -0.2
baz=327
W58A Raeford 79.84 44 P P 06 22 02.0 +0.3
baz=329
U61A Possum Corner 79.87 41 P P 06 22 02.5 +0.6
baz=330
NEST Nestorio 79.94 328 P P 06 22 01.9 -0.4
252A Lumpkin 79.95 50 P P 06 22 02.6 +0.3
baz=327
X57A Johnson Farm, 79.95 45 P P 06 22 02.8 +0.5
baz=329
MNCY Minicoy 80.02 271 *e*P P 06 22 03.8 +0.8
MZR Muzera 80.03 295 P P 06 22 03.3 +0.4
SNR=5.2
V60A Jim Taylor Roa 80.03 42 P P 06 22 03.3 +0.6
baz=330
W59A Clinton 80.05 43 P P 06 22 03.5 +0.6
baz=329
450A Crestview 80.06 52 P P 06 22 04.0 +1.0
baz=326
AOS Alonnisos 80.10 325 P P 06 22 01.4 -1.6

Z55A	Blythe	80.11	47	P		P	06 22 03.4 +0.2
	baz=328						
351A	Pinckard	80.14	51	P		P	06 22 04.2 +0.8
	baz=327						
XOR	Xorichti	80.16	326	P		P	06 22 01.5 -1.9
253A	Americus	80.17	49	P		P	06 22 04.3 +0.8
	baz=327						
154A	Montrose	80.18	48	P		P	06 22 04.0 +0.4
	baz=328						
FYTO	Fytoko, Volos	80.21	326	P		P	06 22 02.9 -0.7
KPRO	Kipourio	80.25	327	P		P	06 22 02.6 -1.3
352A	Blakely	80.29	50	P		P	06 22 04.8 +0.7
	baz=327						
MBWA	Marble Bar	80.37	215	eP		P	06 22 05.5 +1.0
	comp=Z,58nm,1.3s						
FETY	Fethiye	80.41	320	P		P	06 22 04.2 -0.6
AQU	L'Aquila	80.45	334	eP		P	06 22 05.5 +0.5
	comp=Z,76nm,1.0s						
AQU	L'Aquila	80.45	334	||iP		P	06 22 05.1 +0.2
155A	Kite	80.46	48	P		P	06 22 04.5 -0.5
	baz=328						
X59A	McDuffie Farm,	80.50	44	P		P	06 22 04.7 -0.5
	baz=329						
PSAD1	Pilbara Seismi	80.61	215	eP		P	06 22 06.4 +0.6
	comp=Z,23nm,0.9s						
MRKA	Markates	80.62	325	P		P	06 22 04.2 -1.6
451A	Vernon	80.62	51	P		P	06 22 07.1 +1.2
	baz=327						
KSL	Kastellorizon	80.63	320	P		P	06 22 03.9 -2.0
254A	Abbeville	80.66	49	P		P	06 22 06.7 +0.6
	baz=328						
JAN	Janina	80.69	327	P		P	06 22 06.2 0.0
452A	Marianna	80.69	51	P		P	06 22 07.5 +1.2
	baz=327						
PSA00	Pilbara Seismi	80.71	215	eP		P	06 22 06.8 +0.4
	comp=Z,52nm,1.4s						
353A	Camilla	80.73	50	P		P	06 22 07.5 +1.0
	baz=327						
EREA	Eretria	80.75	325	P		P	06 22 05.7 -0.9
AGG	Agios Georgios	80.77	326	eP		P	06 22 04.3 -2.4
	comp=Z,17nm,1.3s						
AGG	Agios Georgios	80.77	326	P		P	06 22 04.4 -2.3
ATAL	Atalanti	80.83	325	P		P	06 22 03.8 -3.1
LKR	Lokris	80.87	325	P		P	06 22 05.3 -1.9
TIGA	Tifton	80.94	49	eP		P	06 22 07.3 -0.4
	comp=Z,87nm,0.9s						
TIGA	Tifton	80.94	49	P		P	06 22 08.8 +1.1
	baz=328						
IGT	Igoumenitsa	80.97	328	P		P	06 22 07.1 -0.6
KEK	Kerkira	80.98	328	P		P	06 22 06.1 -1.6
255A	Hazlehurst	81.04	48	P		P	06 22 09.2 +1.1
	baz=328						
MATE	Matera	81.09	331	||iP		P	06 22 07.7 -0.5
MOIG	Morelia	81.34	69	eP		P	06 22 12.2 +2.0
	comp=Z,97nm,1.2s						
355A	Pearson	81.36	49	P		P	06 22 10.8 +0.9
	baz=328						
SERG	Sergoula	81.41	326	P		P	06 22 07.7 -2.3
EFP	Efpalio	81.45	326	P		P	06 22 09.6 -0.6
LAKA	Lakka	81.59	326	P		P	06 22 09.4 -1.6
KLV	Kalavryta, Ach	81.71	326	P		P	06 22 09.4 -2.3
356A	Blackshear	81.71	48	P		P	06 22 11.8 +0.1
	baz=328						
GUR	Goura	81.74	326	P		P	06 22 10.4 -1.5
455A	Stateville	81.79	49	P		P	06 22 13.1 +1.0
	baz=328						
RLS	Riolos of Patr	81.93	326	P		P	06 22 11.5 -1.2
KFL	Anninata	82.11	327	P		P	06 22 12.2 -1.5
PMOR	Pomariorio Ree	82.16	127	eP		P	06 22 16.3 +2.3
	comp=Z,127nm,1.3s						
PMOR	Pomariorio Ree	82.16	127	eT		T	07 52 00.5
	comp=Z,3.4nm,0.2s						
555A	McAlpin	82.34	49	P		P	06 22 15.8 +0.8
	baz=328						
TIP	Timpagrande	82.42	330	eP		P	06 22 14.8 -0.6
	comp=Z,71nm,1.2s						
TIP	Timpagrande	82.42	330	P		P	06 22 13.8 -1.6
TIP	Timpagrande	82.42	330	||iP		P	06 22 15.3 -0.1
ITM	Ithomi	82.56	326	eP		P	06 22 14.0 -2.1
	comp=Z,40nm,1.3s						
ITM	Ithomi	82.56	326	P		P	06 22 14.7 -1.4
556A	Lake Butler	82.70	49	P		P	06 22 18.1 +1.3
	baz=328						
655A	Horseshoe Beac	82.72	50	P		P	06 22 18.6 +1.6
	baz=328						
PYL	PYLOS	82.88	326	P		P	06 22 14.7 -3.0
KTHR	Kythira	83.01	324	P		P	06 22 15.8 -2.6
LAST	Lasithi	83.09	322	P		P	06 22 17.1 -1.8
656A	Willston	83.17	49	P		P	06 22 20.9 +1.6
	baz=328						
IMMV	Iera Moni Meta	83.37	323	P		P	06 22 19.0 -1.2
PPT	Papeete	83.57	130	LR		LR	06 55 32.8
	comp=Z,66nm,18.2s,baz=324,slow=32						
PPT2	Papeete2	83.59	130	eS		S	06 32 27.8 -1.6
	comp=Z,147nm,27.0s						
PPT2	Papeete2	83.59	130	eLR		LR	06 47 50.2
	comp=Z,427nm,36.8s						
GVD	Gavdhos	83.89	323	P		P	06 22 21.8 -1.1
758A	Lake Helen	84.13	49	P		P	06 22 25.6 +1.5
	baz=329						
857A	Zephyrhills	84.25	50	P		P	06 22 25.8 +1.0
	baz=328						
TLIG	Tlapa	84.52	68	eP		P	06 22 28.3 +1.9
	comp=Z,43nm,1.3s						
PBRG	Braganca	85.00	348	eP		P	06 22 28.6 +0.2
	comp=Z,92nm,1.4s						
PGAV	Gavieira, Arco	85.03	349	eP		P	06 22 29.3 +0.7
	comp=Z,130nm,1.4s						
PGAV	Gavieira, Arco	85.03	349	eS		S	06 32 41.7 -1.7
STKA	Stephens Creek	85.20	193	eP		P	06 22 30.2 +1.0
	comp=Z,3.0nm,0.8s						
STKA	Stephens Creek	85.20	193	P		P	06 22 29.8 +0.6
	comp=Z,11nm,0.7s,baz=340,slow=8.8,SNR=16						
STKA				pP		pP	06 23 11.0 +0.2
	comp=Z,5.6nm,0.8s,baz=328,slow=3.9,SNR=3.1						
STKA				LR		LR	07 02 33.6
	comp=Z,16nm,18.4s,baz=19,slow=37						
PCAB	Cabril	85.25	349	eP		P	06 22 30.2 +0.6
	comp=Z,98nm,1.7s						
POLO	Lamas de Olo	85.56	349	eP		P	06 22 31.9 +0.7
	comp=Z,78nm,1.3s						
PVRL	Vila Real	85.64	349	eP		P	06 22 32.6 +1.0
	comp=Z,182nm,1.3s						
MVO	Moncorvo	85.67	348	eP		P	06 22 32.0 +0.2
	comp=Z,107nm,1.3s						
MVO	Moncorvo	85.67	348	eS		S	06 32 44.7 -5.0
PTO	Porto	85.88	349	eP		P	06 22 33.3 +0.6
	comp=Z,88nm,1.4s						
PVIS	Viseu	86.22	349	eP		P	06 22 34.5 +0.1
	comp=Z,85nm,1.3s						
MTE	Manteigas	86.49	348	eP		P	06 22 35.8 0.0
	comp=Z,75nm,1.5s						
MTE	Manteigas	86.49	348	eS		S	06 32 48.4 -9.2
MTE	Manteigas	86.49	348	eP		P	06 22 35.6 -0.1
	comp=Z,49nm,1.2s						
ESDC	Sonseca Array	86.71	346	eP		P	06 22 36.0 -0.9
ESDC	Sonseca Array	86.71	346	P		P	06 22 36.5 -0.4
	comp=Z,48nm,1.1s,baz=7.0,slow=4.4,SNR=98						
ESDC				pP		pP	06 23 18.9 +0.3
	comp=Z,12nm,0.9s,baz=4.0,slow=4.6,SNR=3.6						
ESDC				LR		LR	07 09 05.7
	comp=Z,56nm,18.3s,baz=320,slow=41						
ESLA	Sonseca Array	86.71	346	eP		P	06 22 36.3 -0.6
	comp=Z,66nm,1.1s						
FORT	Forrest	86.84	205	eP		P	06 22 37.9 +0.6
	comp=Z,64nm,0.8s						
PAB	San Pablo	86.89	346	eP		P	06 22 36.6 -1.2
	comp=Z,49nm,1.2s						
PCAS	Casmilo, Conde	86.94	349	eP		P	06 22 38.2 +0.3
	comp=Z,117nm,1.4s						
PCBR	Castelo Branco	87.03	348	eP		P	06 22 38.1 -0.2
	comp=Z,50nm,1.3s						
PTOM	Tomar	87.36	349	eP		P	06 22 40.0 +0.1
	comp=Z,42nm,1.5s						
PMRV	Marv??o	87.42	348	eP		P	06 22 39.8 -0.4
	comp=Z,42nm,1.6s						
PMRV	Marv??o	87.42	348	eS		S	06 33 02.1 -4.5
KEST	Kesra	87.74	334	eP		P	06 22 41.7 -0.2
	comp=Z,46nm,0.8s						
KEST	Kesra	87.74	334	P		P	06 22 41.8 -0.1
	comp=Z,42nm,0.7s,baz=336,slow=1.1,SNR=49						
KEST				LR		LR	07 06 14.8
	comp=Z,79nm,19.8s,baz=306,slow=38						
PMTG	Montargil	87.88	349	eP		P	06 22 42.3 -0.1
	comp=Z,39nm,1.4s						
PESTR	Estremoz	88.00	348	eP		P	06 22 42.4 -0.6
	comp=Z,48nm,1.5s						
PESTR	Estremoz	88.00	348	eP		P	06 22 41.9 -1.1
	comp=Z,23nm,1.4s						
SESP	Santiago Espad	88.00	344	P		P	06 22 43.5 +0.3
EVO	Evora	88.39	349	eP		P	06 22 44.7 -0.1
	comp=Z,35nm,1.5s						
TBI	Tubuai	88.64	133	eS		S	06 33 16.7 -1.2
	comp=Z,145nm,26.0s						
TBI	Tubuai	88.64	133	eT		T	08 00 04.4
	comp=Z,2.1nm,0.3s						
HORN	Hornachuelos	88.69	346	P		P	06 22 46.1 -0.1
PBEJ	Beja	88.87	348	eP		P	06 22 47.7 +0.7
	comp=Z,52nm,1.5s						
MORW	Morawa	88.92	215	eP		P	06 22 46.9 -0.2
	comp=Z,84nm,1.3s						
MESJ	Messejana	89.09	349	eP		P	06 22 47.9 -0.2
MESJ				AMb		AMB	06 23 13.6
	comp=Z,33nm,1.6s						
MESJ	Messejana	89.09	349	eP		P	06 22 47.9 -0.2
PCVE	Castro Verde	89.28	348	eP		P	06 22 49.1 +0.1
	comp=Z,41nm,1.7s						
PTEO	Sao Teotonio	89.44	349	eP		P	06 22 48.3 -1.4
	comp=Z,47nm,1.5s						
PVAQ	Vaqueiros	89.46	348	eS		S	06 33 13.3 -12
MORF	Marmelete	89.67	349	eP		P	06 22 50.8 -0.1
MORF				AMb		AMB	06 22 53.2
	comp=Z,80nm,1.2s						
MORF	Marmelete	89.67	349	eP		P	06 22 51.2 +0.3
	comp=Z,79nm,1.5s						
MORF	Marmelete	89.67	349	eP		P	06 22 50.8 -0.1
GOG	Mont Gurugu	90.91	344	P		P	06 22 56.0 -0.7
TAF	Taforalt	91.21	343	P		P	06 22 58.0 -0.1
JBK	JBK	91.70	343	P		P	06 22 60.0 -0.5
TOA1	Torodi Ar. Sit	111.26	334	ePdif		Pdif	06 24 30.3 +2.0
TOA1				ePKiKP		PKiKP	06 28 25.4 -0.6
TOA1				ePP		PP	06 29 06.7 -0.6
TORD	Torodi Ar. Bea	111.26	334	Pdiff		Pdif	06 24 30.3 +2.0
	comp=Z,0.2nm,0.5s,baz=8.5,slow=11,SNR=2.4						
TORD				PKiKP		PKiKP	06 28 25.4 -0.7
	comp=Z,0.8nm,0.5s,baz=7.1,slow=2.3,SNR=8.2						
TORD				PP		PP	06 29 06.7 -0.6
	comp=Z,0.5nm,0.8s,baz=16,slow=2.2,SNR=4.7						
DBIC	Dimbokro	119.07	340	PKP		PKiKP	06 28 41.3 +0.2
	comp=Z,3.6nm,0.4s,baz=4.0,slow=0.9,SNR=10						
TIC	Toumodi	119.13	340	ePKIKP		PKiKP	06 28 41.7 +0.4
KIC	Kosan Boka	119.35	339	ePKIKP		PKiKP	06 28 42.1 +0.4
	comp=Z,45nm,1.3s						
LIC	Lamto	119.54	340	ePKIKP		PKiKP	06 28 42.4 +0.4
	comp=Z,22nm,0.8s						
LSZ	Lusaka	125.40	293	ePKPdf		PKiKP	06 28 53.9 +0.3
LSZ	Lusaka	125.40	293	ePKIKP		PKiKP	06 28 53.9 +0.3
LPAZ	La Paz	129.20	62	PKP		PKiKP	06 29 01.9 +0.1
	comp=Z,1.6nm,0.7s,baz=287,slow=2.8,SNR=11						
LPAZ				pPKP		pPKPdf	06 29 44.5 -0.7
	comp=Z,2.5nm,0.9s,baz=22,slow=5.3,SNR=4.3						
VNDA	Vanda	129.84	179	ePKPdf		PKiKP	06 29 00.6 +0.1
VNDA	Vanda	129.84	179	PKP		PKPdf	06 28 59.9 +0.2
	comp=Z,1.3nm,0.8s,baz=316,slow=5.8,SNR=11						
VNDA				pPKP		pPKPdf	06 29 43.1 -0.6
	comp=Z,2.3nm,0.9s,baz=322,slow=6.0,SNR=4.8						
VNDA				SKPab		SKPab	06 32 05.1 -0.8
	comp=Z,1.4nm,0.7s,baz=312,slow=4.4,SNR=6.1						
SBA	Scott Base	130.28	177	ePKPdf		PKiKP	06 29 02.3 +0.9
SBA	Scott Base	130.28	177	ePKIKP		PKiKP	06 29 02.3 +0.9
PB11	IPOC Station P	131.18	66	ePKPdf		PKiKP	06 29 04.9 -0.2
RCBR	Riachuelo	132.16	18	SKPbc		SKPab	06 32 17.4 -0.5
	comp=Z,45nm,0.7s,baz=314,slow=1.1,SNR=3.3						
SIV	San Ignacio	132.61	54	PKP		PKPdf	06 29 06.4 -0.4
	comp=Z,1.6nm,0.7s,baz=326,slow=3.0,SNR=4.7						
SIV				pPKP		pPKPdf	06 29 50.4 -0.5
	comp=Z,7.2nm,1.0s,baz=285,slow=0.6,SNR=9.3						
SIV				PP		PP	06 31 29.5 -3.0
	comp=Z,3.9nm,0.9s,baz=329,slow=7.1,SNR=5.5						
SIV				SKPbc		SKPbc	06 32 18.1 -0.1
	comp=Z,21nm,1.2s,baz=313,slow=3.7,SNR=12						
LVC	Limon Verde	133.87	68	SKPbc		SKPbc	06 32 22.7 +0.2
	comp=Z,9.0nm,1.0s,baz=314,slow=7.9,SNR=6.5						
LVC				SKP			06 32 29.3
	comp=Z,2.0nm,0.8s,baz=16,slow=14,SNR=4.3						
LBTB	Lobatse	134.56	288	ePKPdf		PKiKP	06 29 11.5 -0.2
BOSA	Boshof	137.47	285	ePKPpre		PKPpre	06 29 05.9
BOSA				ePKPdf		PKPdf	06 29 14.2 -1.5
BOSA	Boshof	137.47	285	PKKP		PKPpre	06 29 06.0
	comp=Z,1.5nm,0.5s,baz=59,slow=6.3,SNR=3.5						
BOSA				PKP		PKPdf	06 29 14.1 -1.6
	comp=Z,2.1nm,0.4s,baz=350,slow=1.5,SNR=9.4						
BDFB	Brasilia	138.06	38	PKP		PKPdf	06 29 16.0 -1.0
	comp=Z,1.9nm,0.5s,baz=36,slow=8.7,SNR=3.7						
BDFB				pPKP		pPKPdf	06 30 01.2 +0.1
	comp=Z,5.9nm,0.9s,baz=31,slow=3.3,SNR=5.5						
BDFB				SKPbc		SKPbc	06 32 35.6 +0.4
	comp=Z,2.3nm,0.5s,baz=349,slow=6.0,SNR=5.4						
MAW	Mawson	138.57	215	ePKPdf		PKiKP	06 29 17.9 -0.5
MAW				eSKPbc		SKPbc	06 32 35.5 +0.7
MAW	Mawson	138.57	215	PKP		PKPdf	06 29 16.9 +0.7
	comp=Z,2.1nm,0.7s,baz=132,slow=6.4,SNR=6.3						
MAW				SKPbc		SKPbc	06 32 35.7 +0.9
	comp=Z,3.8nm,0.8s,baz=22,slow=3.1,SNR=4.3						
ROC1	El Roble	140.37	80	ePKPpre		PKPpre	06 29 12.3
PEL	Peldehue	140.68	80	ePKPpre		PKPpre	06 29 14.6
PEL	Peldehue	140.68	80	ePKHKP		PKPpre	06 29 14.6
CFA	Coronel Fontan	141.06	76	PKhKP		PKPpre	06 29 14.9
	comp=Z,3.6nm,0.7s,baz=289,slow=1.9,SNR=9.5						
CFA				SKPbc		SKPbc	06 32 41.5 -1.3
	comp=Z,6.0nm,1.2s,baz=254,slow=3.0,SNR=3.8						
QSPA	South Pole Qui	142.31	180	ePKPpre		PKPpre	06 29 18.3
QSPA	South Pole Qui	142.31	180	PKhKP		PKPpre	06 29 18.1
	comp=Z,12nm,0.6s,baz=322,slow=0.6,SNR=98						
QSPA				SKPbc		SKPbc	06 32 44.2 -0.6
	comp=Z,10.0nm,0.8s,baz=62,slow=1.2,SNR=8.4						
SUR	Sutherland	142.83	285	ePKPdf		PKPdf	06 29 23.4 -1.9
CPUP	Villa Florida	143.14	58	ePKPpre		PKPpre	06 29 23.7
CPUP	Villa Florida	143.14	58	PKhKP		PKPpre	06 29 23.3
	comp=Z,2.0nm,0.5s,baz=325,slow=1.8,SNR=12						
CPUP				pPKP		pPKPdf	06 30 06.2 -3.8
	comp=Z,9.4nm,1.2s,baz=260,slow=6.1,SNR=3.2						
CPUP				SKPbc		SKPbc	06 32 48.3 +0.2
	comp=Z,8.0nm,1.2s,baz=291,slow=3.2,SNR=6.2						
GO06	Curarrehue	144.44	88	ePKPdf		PKPbc	06 29 27.0 +0.2
PLCA	Paso Flores	145.69	89	ePKPdf		PKPab	06 29 31.3 +0.1
PLCA	Paso Flores	145.69	89	PKPbc		PKPab	06 29 31.1 -0.1
	comp=Z,20nm,0.9s,baz=323,slow=3.5,SNR=40						
PLCA				pPKP		pPKPdf	06 30 12.4 -1.6
	comp=Z,27nm,0.9s,baz=322,slow=3.1,SNR=7.5						
PLCA				SKPbc		SKiKP	06 32 54.5 +0.3
	comp=Z,2.2nm,0.8s,baz=254,slow=1.3,SNR=3.4						
SYO	Syowa Base	147.26	216	||PKPdf	PKPbc	06 29 34.2 +0.1
SYO	Syowa Base	147.26	216	||ePKPbc	PKiKP	06 29 35.4 -0.8
SYO	Syowa Base	147.26	216	||pPKPbc	pPKPbc	06 30 16.0 -1.6
SYO	Syowa Base	147.26	216	||pPKPab	pPKPab	06 30 18.0 -1.0
TRQA	Tornquist	149.22	78	ePKPbc		PKPbc	06 29 40.7 +0.5
TRQA	Tornquist	149.22	78	ePKP2		PKPbc	06 29 40.7 +0.5
GO09	Cerro Castillo	149.82	108	ePKPbc		PKiKP	06 29 42.3 +0.2
GO09				ePKPab		PKPab	06 29 48.8 +1.4
GO10	Punta Arenas	151.23	111	ePKPbc		PKiKP	06 29 46.1 +1.2
USHA	Ushuaia	153.18	113	PKP		PKPdf	06 29 40.8 -0.3
	comp=Z,8.3nm,1.0s,baz=320,slow=12,SNR=2.4						
USHA				PKPbc		PKiKP	06 29 49.3 +0.5
	comp=Z,6.6nm,0.5s,baz=267,slow=3.7,SNR=18						
USHA				pPKPbc		pPKPbc	06 30 31.8 -0.8
	comp=Z,19nm,0.9s,baz=186,slow=3.5,SNR=4.6						
SNAA	Sanae	158.91	197	PKPab		pPKPab	06 31 08.0 0.0
SNAA	Sanae	158.91	197	PKPdf		PKPab	06 30 25.5 0.0
SNAA	Sanae	158.91	197	PKP		PKPdf	06 29 48.1 -0.2
	comp=Z,1.3nm,0.9s,baz=165,slow=16,SNR=3.1						
SNAA				PKPab		PKPab	06 30 25.6 +0.1
	comp=Z,8.9nm,0.7s,baz=167,slow=6.2,SNR=24						
SNAA				pPKPab		pPKPab	06 31 07.5 -0.5
	comp=Z,8.3nm,1.1s,baz=179,slow=3.5,SNR=3.3						
VNA2	Neumayer--Watz	160.32	195	PKPab		pPKPab	06 31 12.4 -1.6
	baz=156,slow=4.2						
VNA2	Neumayer--Watz	160.32	195	PKPdf		PKPab	06 30 31.8 +0.2
	baz=171,slow=3.5						
VNA3	Neumayer Olymp	160.37	193	PKPab		pPKPab	06 31 12.8 -1.3
VNA3	Neumayer Olymp	160.37	193	PKPdf		PKPab	06 30 31.4 -0.5

*ISCJB **03** 06:42:23.4±0.6, 32°.14N±0°.02×115°.15W±0°.02, h13km±4km, Error ellipse: s-maj=3.5km s-min=2.6km az=3.3*
*PAS **03** 06:42:23.9±0.0, 32°.10N×115°.09W, h10km*
*ANF **03** 06:42:25.0±0.5, 32°.24N×115°.18W, h27km±3km, ML3.2/17, Error ellipse: s-maj=3.3km s-min=2.1km az=15.0*
*NEIC **03** 06:42:25.6±0.0, 32°.13N×115°.22W, h10km, ML3.4(ECX), ML3.4(PAS), After ECX.*

*ECX **03** 06:42:25.6±0.6, 32°.13N×115°.22W, h10km, MD3.4, ML3.6, Fault plane solution: NP1:ϕs48.33000°, δ60.00000°, λ0.00000°.*
*MEX **03** 06:42:25.4±0.6, 32°.27N×114°.99W, h16km±80km, MD3.6*
ISC 03 06:42:23.6±1.1, 32°.15N±0°.02×115°.20W±0°.02, h10km±9km, n69, σ1§50/95, 7C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.28	343	eP	Pb	06 42 31.2	+0.5
CPBX				eS	Sb	06 42 35.7	0.0
CPBX				IAML		06 42 37.4	
	comp=N,30μm,0.1s						
CPBX				e		06 42 37.4	
DREC	Desert Rsrch C	0.69	343	||iP	Pb	06 42 38.1	+0.4
ERPC	Ernies Place	0.71	327	eP	Pb	06 42 38.5	+0.5
WESC	Westside Schoo	0.76	324	||eP	Pb	06 42 39.2	+0.3
YUH	Yuha Desert	0.79	310	eP	Pb	06 42 39.1	-0.3
RMX	La Rumorosa	0.87	302	||iP	Pg	06 42 40.0	-0.4
RMX				eS	Sg	06 42 50.8	-0.9
RMX				IAML		06 42 51.2	
	comp=N,981nm,0.3s						
RMX				||e		06 42 51.2
IKP	In-Ko-Pah, Jac	0.92	304	P	Pb	06 42 41.5	-0.2
	baz=125,SNR=185						
IKP				S	Sb	06 42 53.7	-0.2
	baz=125						
IKP	In-Ko-Pah, Jac	0.92	304	||eP	Pb	06 42 41.4	-0.2
SWSC	Sam W. Stewart	0.94	328	P	Pg	06 42 40.8	-0.9
	baz=149,SNR=45						
SWSC				S	Sg	06 42 53.5	-0.5
	baz=149						
GLA	Glamis	0.96	19	ePg	Pg	06 42 41.4	-0.6
GLA				eSg	Sb	06 42 55.1	+0.1
GLA	Glamis	0.96	19	P	Pg	06 42 41.5	-0.5
	baz=200,SNR=105						
GLA				S	Sg	06 42 53.4	-1.2
	baz=200						
CRR	Carrizo Plain	0.98	319	eP	Pg	06 42 41.9	-0.5
ZAX	El Zacaton	1.11	236	eP	Pg	06 42 44.9	0.0
ZAX				eS	Sg	06 42 59.5	+0.3
SPIG	San Pedro Mart	1.12	192	ePg	Pb	06 42 45.6	+0.4
SPIG				eSn	Sb	06 43 00.6	+0.6
SPIG	San Pedro Mart	1.12	192	eP	Pb	06 42 45.6	+0.4
SPIG				eS	Sb	06 43 00.6	+0.6
SPX	San Pedro Mart	1.12	192	eP	Pg	06 42 44.6	-0.5
SPX				i S	Sg	06 43 00.1	+0.4
SPX	San Pedro Mart	1.12	192	eP	Pg	06 42 44.6	-0.5
SPX				eS	Sg	06 42 59.8	+0.1
CBX	Cerro Bola	1.25	278	ePn	Pn	06 42 46.9	-0.3
CBX				eSn	Sb	06 43 04.1	+0.6
CBX	Cerro Bola	1.25	278	eP	Pn	06 42 46.9	-0.3
CBX				eS	Sb	06 43 04.1	+0.6
CBX	Cerro Bola	1.25	278	||eP	Pn	06 42 47.0	-0.3
CBX				IAML		06 43 05.1	
	comp=E,2μm,0.6s						
MONP2	Monument Peak	1.27	306	P	Pn	06 42 46.6	-1.0
	baz=127,SNR=69						
MONP2				Sb	Sg	06 43 03.9	-0.7
	baz=127						
TJIG	Tijuana	1.28	283	eP	Pn	06 42 47.0	-0.5
TJIG				eS	Sb	06 43 03.7	-0.6
ECNX	Esteban Cantu	1.28	248	||eP	Pb	06 42 47.6	-0.3
ECNX				eP	Pn	06 42 47.0	-0.7
BAR	Barrett	1.35	294	ePn	Pn	06 42 48.2	-0.3
BAR				eSg	Sg	06 43 07.1	0.0
BAR	Barrett	1.35	294	||eP	Pn	06 42 48.2	-0.3
PBX	Punta Banda	1.35	253	||eP	Pn	06 42 48.6	0.0
113A	Mohawk Valley,	1.36	63	ePn	Pn	06 42 48.0	-0.7
113A				eSn	Sb	06 43 04.7	-2.0
BC3	Big Chuckawall	1.52	352	P	Pn	06 42 49.5	-1.4
	baz=173,SNR=23						
BC3				S	Sn	06 43 07.9	-2.9
	baz=173						
Y12C	Blythe	1.70	19	ePn	Pn	06 42 52.5	-0.8
109C	Camp Elliot, M	1.77	295	P	Pn	06 42 54.1	-0.1
	baz=115,SNR=52						
109C				Sb	Sb	06 43 18.8	+0.4
	baz=115						
CPE	Camp Elliot	1.77	295	ePn	Pn	06 42 54.1	-0.1
CPE				eSn	Sb	06 43 18.9	+0.6
PFO	Pinyon Flats O	1.80	324	ePn	Pn	06 42 53.6	-1.2
PFO				eSn	Sg	06 43 20.8	-0.8
PFO	Pinyon Flats O	1.80	324	P	Pn	06 42 53.6	-1.2
	baz=145,SNR=14						
PFO				S	Sn	06 43 15.1	-2.7
	baz=145						
IRM	Iron Mountain	2.01	1	P	Pn	06 42 56.6	-0.9
	baz=182						
214A	Organ Pipe Nat	2.04	95	P	Pn	06 42 57.3	-0.7

SHI	Shiraz	1.11	17	*e*Pg		Pb	07 06 51.1	-0.9
SHI				*e*Sg		Sb	07 07 05.3	-1.1
SHI				IAMB		IAmb	07 07 11.1	
	comp=Z,15μm,0.4s							
IKAZ	Kazeroun	1.23	347	*e*Pg		Pn	07 06 53.4	-0.6
IKAZ				IAMB		IAmb	07 07 20.5	
	comp=Z,37μm,0.4s							
JHRM	Jahrom	1.26	93	*e*Pg		Pb	07 06 55.4	+0.9
JHRM				IAMB		IAmb	07 07 15.6	
	comp=Z,0.0nm,0.4s							
IPAR	Pars	1.49	32	*e*Pn		Pn	07 06 57.7	+0.2
IPAR				IAMB		IAmb	07 07 25.3	
	comp=Z,7μm,0.6s							
IRAM	Ramesheh	3.23	4	*e*Pn		Pn	07 07 22.1	+0.7
IMEH	Mehriz	3.53	37	*e*Pn		Pn	07 07 27.3	+1.8
ISAD	Sadrabad	3.59	21	*e*Pn		Pn	07 07 27.4	+1.1
ZNGN	Zangian	3.71	343	*e*Pn		Pn	07 07 28.2	+0.2
GENO	Geno	3.74	107	*e*Pn		Pn	07 07 29.9	+1.5
IGAR	Gharneh	3.82	359	*e*Pn		Pn	07 07 30.3	+0.8
JHBN	Jahan bin	3.87	341	*e*Pn		Pn	07 07 31.8	+1.6
ROKH	ROKH	3.88	346	*e*Pn		Pn	07 07 29.6	-0.7
ICHK	Chekchek	4.15	27	*e*Pn		Pn	07 07 35.6	+1.6
NGRK	Negar Kerman	4.15	74	*e*Pn		Pn	07 07 35.0	+0.9
KHGB	Koh Gabri	4.18	63	*e*Pn		Pn	07 07 35.1	+0.7
TVBK	TV Kerman	4.27	70	*e*Pn		Pn	07 07 36.2	+0.5
IZEF	Zefreh	4.31	2	*e*Pn		Pn	07 07 37.5	+1.2
YZKH	Yazd	4.35	28	*e*Pn		Pn	07 07 37.2	+0.6
YZKH	Yazd	4.35	28	*e*Pn		Pn	07 07 37.2	+0.6
SHME	Shamm	4.35	124	P		Pn	07 07 36.2	-0.4
NAZ	Nazwa, Dubai	4.75	138	*i* P		Pn	07 07 43.0	+0.9
	SNR=8.7							
NAZ				S		Sn	07 08 35.2	-1.8
NAZ	Nazwa, Dubai	4.75	138	P		Pn	07 07 43.4	+1.2
	SNR=12							
NAZ				S		Sn	07 08 37.3	+0.4
NAZ	Nazwa, Dubai	4.75	138	*e*Pn		Pn	07 07 43.3	+1.2
ANAR	Anarak	4.80	16	*e*Pn		Pn	07 07 45.1	+2.3
MSFE	Esma-Masafi	4.80	131	*i* P		Pn	07 07 42.8	0.0
	SNR=9.0							
MSFE	Esma-Masafi	4.80	131	*e*Pn		Pn	07 07 43.1	+0.3
ASUD	Al Ashush, Dub	4.85	143	*i* P		Pn	07 07 44.7	+1.2
	SNR=26							
ASUD	Al Ashush, Dub	4.85	143	*e*Pn		Pn	07 07 44.8	+1.3
CHMN	Cheshme madani	4.88	73	*e*Pn		Pn	07 07 45.4	+1.2
FAQ	Al Faqa, Dubai	4.90	140	P		Pn	07 07 44.5	+0.4
FAQ	Al Faqa, Dubai	4.90	140	P		Pn	07 07 44.9	+0.8
	SNR=8.5							
FAQ				S		Sn	07 08 40.0	-0.6
FAQ	Al Faqa, Dubai	4.90	140	*e*Pn		Pn	07 07 45.0	+0.8
HATD	Hatta, Dubai	5.16	135	P		Pn	07 07 48.0	+0.3
HATD	Hatta, Dubai	5.16	135	*e*Pn		Pn	07 07 47.4	-0.3
ASHO	Ashiyiah	5.22	137	*i* P		Pn	07 07 48.7	+0.2
	SNR=20							
ASHO	Ashiyiah	5.22	137	P		Pn	07 07 48.7	+0.2
	SNR=19							
ASHO				S		Sn	07 08 47.2	-1.3
ASHO	Ashiyiah	5.22	137	*e*Pn		Pn	07 07 48.7	+0.2
KRSH	Karshahi	5.38	360	*e*Pn		Pn	07 07 50.6	-0.3
KHMZ	Khomeyn	5.48	341	*e*Pn		Pn	07 07 53.4	+1.1
KHMZ	Khomeyn	5.48	341	*e*Pn		Pn	07 07 53.4	+1.1
ALNE	Al Ain	5.54	143	P		Pn	07 07 53.6	+0.7
ALNE	Al Ain	5.54	143	*e*Pn		Pn	07 07 53.6	+0.7
MZR	Muzera	5.67	168	P		Pn	07 07 57.3	+2.5
MZR	Muzera	5.67	168	*e*Pn		Pn	07 07 56.9	+2.1
IKMR	Kamar-syah	5.90	328	*e*Pn		Pn	07 07 58.3	+0.5
TPRV	Parvadeh(Tabas	5.91	40	*e*Pn		Pn	07 07 58.9	+0.8
SOHO	SOHO	5.92	137	P		Pn	07 07 58.0	0.0
	SNR=15							
SOHO				S		Sn	07 09 03.9	-1.7
IKFM	Kafar-mosalman	6.16	324	*e*Pn		Pn	07 08 01.3	-0.1
TKDS	Koohdasht(Taba	6.59	39	*e*Pn		Pn	07 08 07.9	+0.5
TNSJ	Nastanj	6.59	34	*e*Pn		Pn	07 08 08.7	+1.3
TABS	Tabas	6.62	39	*e*Pn		Pn	07 08 08.4	+0.6
TABS	Tabas	6.62	39	*e*Pn		Pn	07 08 08.4	+0.6
IKOM	Komasi	6.85	326	*e*Pn		Pn	07 08 11.4	+0.4
IVIS	Veis	7.46	324	*e*Pn		Pn	07 08 20.7	+1.3
WSAR	Wadi Sarin	7.89	131	Pn		Pn	07 08 24.4	-0.8
	comp=Z,0.8nm,0.3s,baz=313,slow=8.4,SNR=9.9							
WSAR				Sn		Sn	07 09 48.4	-5.9
	comp=Z,0.6nm,0.3s,baz=90,slow=18,SNR=3.3							
DMTO	DMTO	11.11	166	P		Pn	07 09 07.7	-1.6
	SNR=18							
DMTO				S		Sn	07 11 04.1	-9.2
BRTR	Keskin Array B	18.89	311	P		P	07 10 52.0	+0.9
	comp=Z,0.2nm,0.3s,baz=130,slow=14,SNR=5.3							
MKAR	Makanchi Array	29.74	44	P		P	07 12 37.2	+0.6
	comp=Z,0.3nm,0.5s,baz=234,slow=5.3,SNR=4.2							
ZALV	Zalesovo Beam	34.77	34	P		P	07 13 20.0	-0.7
	comp=Z,0.8nm,0.5s,baz=232,slow=11,SNR=3.6							
FINES	FINESS Array B	37.17	340	P		P	07 13 40.1	-0.9
	comp=Z,0.6nm,0.4s,baz=139,slow=9.3,SNR=6.5							
ARCES	ARCESS Array B	43.79	347	P		P	07 14 35.6	-0.1
	comp=Z,2.7nm,1.1s,baz=151,slow=2.8,SNR=5.5							
TORD	Torodi Ar. Bea	49.23	263	P		P	07 15 19.8	+0.7
	comp=Z,0.8nm,0.5s,baz=61,slow=9.1,SNR=7.1							
YKA	Yellowknife Ar	88.63	354	P		P	07 19 24.9	+1.8
	comp=Z,0.1nm,0.5s,baz=11,slow=5.3,SNR=4.2							

IDC ***03*** *07:10:50.5±1.2, 1°.39N×126°.85E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.8/32, mbtmp4.0/7, ML4.0/1, Error ellipse: s-maj=114.0km s-min=17.8km az=70.0*
ISCJB ***03*** *07:10:57.0±0.4, 1°.44N±0°.04×126°.99E±0°.05, h66km, mb4.3/19, Error ellipse: s-maj=8.2km s-min=5.7km az=156.0*
NEIC ***03*** *07:10:58.9±1.3, 1°.35N×126°.87E, h66km±5km, mb4.5/18, Error ellipse: s-maj=17.2km s-min=12.1km az=48.0*
DJA ***03*** *07:10:59.6±0.8, 1°.N±4°×12°.7E±°, h58km±12km, M4.0/6, MLv4.0/6*

ISC 03 07:10:59.1±0.5, 1°.36N±0°.06×126°.92E±0°.06, h66km, n43, σ1°.96/47, mb4.4/19, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.74	143	*e*Pn	Pn	07 11 14.8	+0.7
TNTI				*e*Sn	Sn	07 11 26.6	+1.4
TNTI	Ternate	0.74	143	P	Pn	07 11 14.9	+0.7
TNTI				S	Sn	07 11 25.8	+0.6
SGSI	Sangihe	2.70	329	P	Pn	07 11 41.0	+0.9
KMSI	Cibinong	3.04	255	P	Pn	07 11 46.2	+1.4
KMSI				S	Sn	07 12 23.3	+3.2
SANI	Sanana	3.51	195	P	Pn	07 11 52.6	+1.3
SANI				S	Sn	07 12 32.6	+1.0
LUWI	Luwuk	4.79	240	*e*Pn	Pn	07 12 09.0	+0.4
LUWI				*e*Sn	Sn	07 13 13.4	+11
SMRI	Semarang	18.44	243	*e*P	P	07 15 06.3	-3.3
	42nm,0.9s						
FITZ	Fitzroy Crossi	19.38	184	*e*P	Pn	07 15 20.3	-1.1
	2.1nm,0.6s						
FITZ	Fitzroy Crossi	19.38	184	P	P	07 15 18.9	-0.8
	0.3nm,0.3s,baz=16,slow=11,SNR=9.9						
GUMO	Guam	21.52	55	*e*P	P	07 15 45.2	+2.4
	300nm,1.4s						
WRAB	Tennant Creek	22.38	161	*e*P	P	07 15 51.5	-0.6
	9.4nm,0.4s						
WR1	Warramunga Arr	22.39	161	*e*P	P	07 15 51.5	-0.7
WRA	Warramunga Arr	22.39	161	*e*P	P	07 15 51.0	-1.1
WRA	Warramunga Arr	22.39	161	P	P	07 15 51.5	-0.7
	4.1nm,0.6s,baz=341,slow=11,SNR=19						
WB2	Warramunga Arr	22.39	161	*e*P	P	07 15 51.6	-0.6
	11nm,1.1s						
AS31	Alice Springs	25.79	165	*e*P	P	07 16 24.2	+0.2
	1.9nm,0.4s						
ASAR	Alice Springs	25.79	165	*e*P	P	07 16 24.0	-0.1
ASAR	Alice Springs	25.79	165	P	P	07 16 23.8	-0.3
	1.6nm,0.5s,baz=347,slow=12,SNR=34						
KULM	Kulim	26.51	279	*e*P	P	07 16 28.8	-1.9
	15nm,1.4s						
FORT	Forrest	31.98	178	*e*P	P	07 17 19.1	+0.1
	21nm,0.9s						
MORW	Morawa	32.00	198	*e*P	P	07 17 19.8	+0.6
	21nm,1.4s						
BBOO	Buckleboo	35.07	167	*e*P	P	07 17 45.6	-0.2
	22nm,1.4s						
EIDS	Eidsvold	35.40	140	*e*P	P	07 17 49.6	+0.8
	23nm,1.3s						
STKA	Stephens Creek	35.87	158	*e*P	P	07 17 53.5	+0.7
	0.5nm,0.9s						
STKA	Stephens Creek	35.87	158	P	P	07 17 52.8	+0.1
	1.1nm,0.3s,baz=314,slow=12,SNR=4.2						
SONA0	Songino Array	49.59	342	*e*P	P	07 19 43.5	-0.3
SONM	Songino Array	49.59	342	P	P	07 19 43.5	-0.3
	0.4nm,0.4s,baz=147,slow=8.2,SNR=4.1						
MK31	Makanchi Array	59.60	326	*e*P	P	07 20 56.0	-0.2
	1.9nm,0.8s						
MK32	Makanchi Array	59.60	326	*e*P	P	07 20 55.9	-0.3
MKAR	Makanchi Array	59.60	326	*e*P	P	07 20 55.6	-0.6
MKAR	Makanchi Array	59.60	326	P	P	07 20 55.9	-0.4
	1.9nm,0.6s,baz=122,slow=8.7,SNR=18						
LBZ	Lake Benmore	59.63	145	*e*P	P	07 20 56.7	+0.3
MAKZ	Makanchi	59.79	326	*e*P	P	07 20 57.2	-0.3
	3.0nm,0.8s						
KHZ	Kahutara	60.49	142	*e*P	P	07 21 01.6	-0.7
	66nm,1.5s						
KURK	Kurchatov	63.83	328	*e*P	P	07 21 24.0	-0.5
	3.5nm,0.8s						
KKAR	Karatay Array	65.09	318	*e*P	P	07 21 32.3	-0.6
ABKAR	Akbulak array	74.10	321	*e*P	P	07 22 28.5	+0.3
VNDA	Vanda	81.07	173	*e*P	P	07 23 06.1	-0.4
VNDA	Vanda	81.07	173	P	P	07 23 06.3	-0.2
	0.7nm,0.8s,baz=313,slow=9.5,SNR=4.8						
PV02	Paradox Valley	115.45	46	*e*PKPdf	PKPdf	07 29 35.1	+0.9
TX31	Lajitas Ar. Si	122.87	53	*e*PKPdf	PKPdf	07 29 48.1	-0.5
GLMI	Grayling	126.14	27	*e*PKPdf	PKPdf	07 29 54.1	-0.2
JTS	Las Juntas de	146.24	69	*e*PKPdf	PKPdf	07 30 32.0	-0.2

IDC ***03*** *07:40:04.7±5.7, 15°.38N×98°.63W, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.6/39, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=100.6km s-min=23.6km az=175.0*
ISCJB ***03*** *07:40:12.7±1.7, 16°.05N±0°.08×98°.52W±0°.07, h32km±9km, mb3.6/6, Error ellipse: s-maj=16.5km s-min=7.6km az=38.4*
NEIC ***03*** *07:40:13.1±0.0, 16°.06N×98°.56W, h4km, mb4.2/3, MD3.8(MEX), After MEX.*
MEX ***03*** *07:40:13.1±0.6, 16°.06N×98°.56W, h4km±4km, MD3.8*

ISC 03 07:40:13.8±2.2, 16°.1N±0°.1×98°.48W±0°.08, h25km±13km, n24, σ1°.53/30, mb3.6/6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.45	50	*e*Pg	Pb	07 40 23.0	-0.2
PNIG				*e*Sg	Sn	07 40 31.1	-0.8
PNIG	Pinotepa	0.45	50	*i* P	Pb	07 40 23.0	-0.2
PNIG				*e*S	Sn	07 40 31.1	-0.8
TLIG	Tlapa	1.45	357	*e*Pn	Pn	07 40 37.0	-1.7
TLIG				*e*Sn	Sn	07 40 57.6	+0.6
TLIG	Tlapa	1.45	357	*e*P	Pn	07 40 36.8	-1.8
TLIG				*e*S	Sn	07 40 56.4	-0.6
HUIG	Huatulco	2.31	98	*e*Pn	Pn	07 40 49.9	-0.3
HUIG				*e*Sn	Sn	07 41 17.5	-0.4
HUIG	Huatulco	2.31	98	*i* P	Pn	07 40 49.9	-0.3
HUIG				*e*S	Sn	07 41 17.5	-0.4
YAIG	Yautepec	2.80	349	*e*Pn	Pn	07 40 56.3	-0.9
YAIG				*e*Sn	Sn	07 41 30.4	+0.2
YAIG	Yautepec	2.80	349	*e*P	Pn	07 40 56.3	-0.9
YAIG				*i* S	Sn	07 41 30.4	+0.2
CMIG	Matias Romero	3.59	74	Pn	Pn	07 41 08.0	+0.2
	2.0nm,0.3s,baz=240,slow=12,SNR=44						
CMIG				Pg	Pb	07 41 19.9	+3.3
	5.2nm,0.3s,baz=257,slow=15,SNR=16						
CMIG				Lg	Lg	07 42 10.7	
	28nm,0.3s,baz=191,slow=16,SNR=11						
LVIG	Laguna Verde	4.10	28	*e*Pn	Pn	07 41 12.8	-2.1
MOIG	Morelia	4.39	324	*e*Pn	Pn	07 41 20.7	+1.5
CCIG	Comitan	6.10	87	*e*Pn	Pn	07 41 44.3	+1.7
ZAIG	Zacatecas	7.67	330	*e*Pn	Pn	07 42 05.8	+1.5
APG	El Apazote	7.80	97	Lg	Lg	07 44 15.3	
	0.9nm,0.3s,baz=344,slow=17,SNR=2.3						
TXAR	Lajitas Array	14.01	341	*e*Pn	Pn	07 43 24.7	-6.1
JCT	Junction City	14.36	355	*e*Pn	Pn	07 43 32.4	-3.3
ANMO	Albuquerque	20.08	341	P	Pn	07 44 46.8	-0.8
	0.5nm,0.4s,baz=146,slow=13,SNR=4.9						
Y49A	Blount Mountai	20.76	29	*e*P	P	07 44 53.5	+0.7
	12nm,1.3s						
PBMO	Poplar Bluff	21.80	18	*e*P	P	07 45 07.2	+3.2
	7.6nm,0.8s						
WVT	Waverly	22.09	23	*e*P	P	07 45 09.1	+2.0
	13nm,1.1s						
PDAR	Pinedale Array	28.22	343	P	P	07 46 05.8	+0.9
	0.4nm,0.8s,baz=147,slow=8.6,SNR=3.2						
NVAR	Mina Array Bea	28.25	326	P	P	07 46 05.0	-0.3
	0.1nm,0.3s,baz=153,slow=8.0,SNR=4.3						
YKA	Yellowknife Ar	47.71	350	P	P	07 48 48.1	-0.1
	0.4nm,0.8s,baz=159,slow=7.7,SNR=5.1						
INK	Inuvik	56.73	345	P	P	07 49 53.9	-1.3
	0.8nm,0.8s,baz=93,slow=5.6,SNR=4.2						

IDC 03 07:42:07.5±10.0, 4°.68S×153°.58E, h53km±76km, mb3.6/4, mb1 3.9/5, mb1mx3.5/31, mbtmp3.9/5, ML2.1/1, Error ellipse: s-maj=80.9km s-min=38.6km az=74.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.91	233	P	Pn	07 44 01.9	+1.9
	1.4nm,0.3s,baz=42,slow=4.5,SNR=3.7						
PMG				S	Sn	07 45 26.9	-1.3
	1.1nm,0.3s,baz=161,slow=18,SNR=2.3						
WRA	Warramunga Arr	24.11	229	P	P	07 47 18.5	0.0
	5.3nm,0.3s,baz=52,slow=9.9,SNR=2.0						
ASAR	Alice Springs	26.76	223	P	P	07 47 41.4	-1.2
	0.1nm,0.3s,baz=54,slow=9.6,SNR=2.4						
ASAR				PcP	PcP	07 51 05.3	+0.5
	0.5nm,0.8s,baz=45,slow=3.0,SNR=4.8						
VNDA	Vanda	72.92	178	P	P	07 53 30.8	+0.1
	1.0nm,0.8s,baz=331,slow=6.7,SNR=7.6						
MKAR	Makanchi Array	80.75	319	P	P	07 54 16.2	+0.8
	0.5nm,0.6s,baz=104,slow=4.5,SNR=2.3						
TORD	Torodi Ar. Bea	151.00	289	PKPbc	PKPbc	08 01 54.5	-1.1
	1.5nm,0.8s,baz=74,slow=2.2,SNR=9.5						

IDC ***03*** *08:01:46.4±0.7, 10°.88S×165°.89E, h0km, mb4.1/13, mb1 4.3/15, mb1mx4.1/32, mbtmp4.2/15, ML4.5/2, MS3.5/10, Ms1 3.5/10, ms1mx3.1/39, Error ellipse: s-maj=19.8km s-min=15.9km az=96.0*
NEIC ***03*** *08:01:48.1±1.4, 10°.88S×165°.90E, h9km±3km, mb4.8/28, Error ellipse: s-maj=17.1km s-min=8.0km az=103.0*
ISCJB ***03*** *08:01:53.0±0.4, 11°.02S±0°.05×165°.82E±0°.06, h61km, mb4.5/36, Error ellipse: s-maj=8.3km s-min=6.2km az=149.1*

ISC 03 08:01:54.5±0.5, 11°.01S±0°.06×165°.89E±0°.07, h61km, n74, σ1°.27/71, mb4.6/36, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.05	284	P	Pn	08 03 19.0	-2.5
HNR				S	Sn	08 04 32.0	+2.6
HNR	Honiara	6.05	284	*e*Pn	Pn	08 03 19.3	-2.2
HNR				*e*Sn	Sn	08 04 32.8	+3.3
HNR	Honiara	6.05	284	Pn	Pn	08 03 18.9	-2.6
	25nm,0.3s,baz=270,slow=1.0,SNR=3.9						
HNR				Sn	Sn	08 04 28.2	-1.2
	16nm,0.3s,baz=180,slow=20,SNR=3.7						
HNR				LR	LR	08 05 44.4	
	comp=Z,618nm,18.5s,baz=78,slow=40						
MARNC	Mare, Loyalty	10.61	169	*e*Pn	Pn	08 04 24.9	+1.0
DZM	Mont Dzumac	11.01	177	*e*Pn	Pn	08 04 27.8	-1.6
DZM				*e*Sn	Sn	08 06 29.4	-1.6
DZM	Mont Dzumac	11.01	177	Pn	Pn	08 04 27.8	-1.6
	1.4nm,0.3s,baz=128,slow=20,SNR=40						
DZM				Sn	Sn	08 06 28.1	-2.9
	0.8nm,0.3s,baz=162,slow=20,SNR=4.0						
DZM				LR	LR	08 08 16.1	
	comp=Z,119nm,19.9s,baz=20,slow=35						
PINNC	Pines Island,	11.63	173	*e*Pn	Pn	08 04 36.6	-1.1
PMG	Port Moresby	18.50	273	LR	LR	08 13 09.0	
	comp=Z,273nm,18.2s,baz=94,slow=37						
CTA	Charters Tower	20.94	242	P	P	08 06 32.6	+0.1
	9.0nm,0.7s,baz=70,slow=13,SNR=7.3						
CTAO	Charters Tower	20.94	242	*e*P	P	08 06 33.1	+0.7
	21nm,1.1s						
COEN	Coen	22.36	260	*e*P	P	08 06 46.8	-1.0
	23nm,1.4s						
ARMA	Armidale	23.42	212	*e*P	P	08 06 59.4	+0.9
	26nm,1.5s						
OUZ	Omahuta	25.10	165	*e*P	P	08 07 16.4	+2.9
	36nm,1.3s						
URZ	Urewera	28.94	162	*e*P	P	08 07 48.0	0.0
	22nm,1.4s						
URZ	Urewera	28.94	162	P	P	08 07 47.9	-0.1
	3.3nm,0.6s,baz=30,slow=20,SNR=3.9						
H11S2	WAKE ISLAND Hy 29.32	2	T	T		08 38 13.7	
	baz=181,slow=76,SNR=7.7						
H11S3	WAKE ISLAND Hy 29.33	2	T	T		08 38 17.8	
	baz=181,slow=76,SNR=4.7						
H11S1	WAKE ISLAND Hy 29.34	2	T	T		08 38 19.2	
	baz=181,slow=76,SNR=5.4						
BKZ	Black Stump Fm	29.59	163	*e*P	P	08 07 54.2	+0.4
	36nm,1.4s						
H11N1	WAKE ISLAND Hy 30.55	2	T	T		08 39 46.1	
	baz=182,slow=76,SNR=2.7						
H11N3	WAKE ISLAND Hy 30.55	2	T	T		08 39 49.9	
	baz=182,slow=76,SNR=3.6						
STKA	Stephens Creek	30.56	223	*e*P	P	08 08 02.9	+0.4
	1.1nm,1.0s						
STKA	Stephens Creek	30.56	223	P	P	08 08 03.0	+0.6
	2.2nm,0.7s,baz=28,slow=10,SNR=5.2						
STKA				LR	LR	08 20 21.1	
	comp=Z,71nm,18.7s,baz=28,slow=36						
H11N2	WAKE ISLAND Hy 30.57	2	T	T		08 39 46.5	
	baz=182,slow=76,SNR=3.2						
BFZ	Birch Farm	30.94	165	*e*P	P	08 08 05.6	-0.1
	38nm,1.2s						
SNZO	South Karori	31.16	167	*e*P	P	08 08 07.1	-0.5
	69nm,1.3s						
THZ	Tophouse	31.25	170	*e*P	P	08 08 10.2	+1.7
WB2	Warramunga Arr	31.61	250	*e*P	P	08 08 11.8	-0.1
	9.3nm,0.8s						
WRAB	Tennant Creek	31.61	250	*e*P	P	08 08 11.7	-0.2
	8.4nm,0.8s						
WR1	Warramunga Arr	31.62	250	*e*P	P	08 08 11.1	-0.9
WRA	Warramunga Arr	31.62	250	P	P	08 08 11.1	-0.9
	16nm,0.3s,baz=81,slow=9.0,SNR=3.9						
WRA				LR	LR	08 20 34.8	
	comp=Z,76nm,18.6s,baz=75,slow=36						
KHZ	Kahutara	31.99	169	*e*P	P	08 08 16.7	+1.9
	49nm,1.5s						
LTZ	Lake Taylor	32.14	171	*e*P	P	08 08 17.1	+0.9
	27nm,1.3s						
FOZ	Fox Glacier	32.58	175	*e*P	P	08 08 21.4	+1.4
OXZ	Oxford	32.64	172	*e*P	P	08 08 21.6	+1.0
	22nm,1.4s						
RPZ	Rata Peaks	32.89	173	*e*P	P	08 08 24.0	+1.2
	14nm,0.7s						
RPZ	Rata Peaks	32.89	173	P	P	08 08 23.8	+1.0
	16nm,0.7s,baz=277,slow=3.8,SNR=9.4						
AS31	Alice Springs	32.93	243	*e*P	P	08 08 22.4	-1.0
	1.1nm,1.1s						
ASAR	Alice Springs	32.93	243	*e*P	P	08 08 24.7	+1.2
ASAR	Alice Springs	32.93	243	P	P	08 08 22.3	-1.2
	1.3nm,0.6s,baz=66,slow=10,SNR=24						
ASAR				PcP	PcP	08 11 07.8	+1.0
	0.8nm,0.8s,baz=51,slow=3.8,SNR=6.6						
ASAR				LR	LR	08 20 36.4	
	comp=Z,100nm,21.1s,baz=68,slow=34						
MQZ	McQueen's Vall	33.10	171	*e*P	P	08 08 25.0	+0.5
	36nm,1.4s						
LBZ	Lake Benmore	33.46	174	*e*P	P	08 08 28.0	+0.2
	26nm,1.4s						
BBOO	Buckleboo	34.95	227	*e*P	P	08 08 41.0	+0.2
	20nm,1.3s						
FITZ	Fitzroy Crossi	39.52	255	*e*P	P	08 09 19.6	-0.1
	6.5nm,0.8s						
PSA00	Pilbara Seismi	45.27	251	*e*P	P	08 10 07.5	+1.1
	9.7nm,0.8s						
MBWA	Marble Bar	45.34	251	*e*P	P	08 10 07.8	+0.9
	8.4nm,1.0s						
NWAO	Narrogin (SRO)	49.60	236	*e*P	P	08 10 40.7	+0.9
	31nm,1.1s						
MORW	Morawa	49.76	241	*e*P	P	08 10 41.8	+0.6
	6.3nm,0.6s						
MJAR	Matsushiro Arr	54.00	332	P	P	08 11 11.7	-0.9
	0.5nm,0.5s,baz=173,slow=9.0,SNR=3.0						
MAJO	Matsushiro	54.01	332	*e*P	P	08 11 11.7	-0.9
LEM	Lembang	57.64	269	LR	LR	08 37 12.2	
	comp=Z,21nm,19.1s,baz=34,slow=37						
CASY	Casey	66.46	201	*e*P	P	08 12 38.1	+0.9
	7.1nm,1.1s						
VNDA	Vanda	66.53	181	*e*P	P	08 12 39.8	+2.2
VNDA	Vanda	66.53	181	P	P	08 12 38.6	+1.1
	0.6nm,0.8s,baz=319,slow=8.4,SNR=4.2						
SONA0	Songino Array	78.72	324	*e*P	P	08 13 49.7	-0.8
SONM	Songino Array	78.72	324	P	P	08 13 49.7	-0.8
	0.3nm,0.5s,baz=111,slow=3.2,SNR=2.4						
SONM				LR	LR	08 48 02.2	
	comp=Z,15nm,18.9s,baz=346,slow=35						
QSPA	South Pole Qui	78.99	180	*e*P	P	08 13 52.2	+0.5
	4.7nm,1.1s						
GHO	Glory Hole Cre	80.67	20	*e*P	P	08 14 00.9	+0.2
	17nm,1.3s						
ILAR	Eielson Array	83.44	18	*e*P	P	08 14 15

mb3.9/14, Error ellipse: s-maj=15.3km s-min=6.2km az=43.4
*IDC **03** 08:22:48.4±1.1, 10.′75S×113.′82E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.9/42, mbtmp3.9/12, ML3.4/1, Error ellipse: s-maj=45.1km s-min=15.3km az=56.0*
*NEIC **03** 08:22:54.1±2.5, 10.′75S×113.′92E, h38km±6km, mb4.0/4, Error ellipse: s-maj=16.9km s-min=13.7km az=71.0*
ISC 03 08:22:50.4±0.6, **10.78S**±0.′09×**113.87E**±0.′09, **h10**km, **n42**, σ1§**12**/32, **mb4.0**/14, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.31**	**7**	*e*Pn	**Pn**	**08 23 29.3**	**+0.7**
UGM	**Wanagama**	**4.36**	**311**	*e*Pn	**Pn**	**08 23 57.8**	**+1.0**
UGM				*e*Sn	**Sn**	**08 24 48.4**	**+0.7**
XMIS	**Christmas Isla**	**8.08**	**271**	*e*Pn	**Pn**	**08 24 48.3**	**+0.4**
MBWA	**Marble Bar**	**11.76**	**152**	*e*Pn	Pn	08 25 33.5	-4.8
GIRL	**Giralia**	**11.80**	**178**	*e*Pn	Pn	08 25 34.5	-4.3
PSAC1	**Pilbara Seismi**	**12.12**	**153**	*e*Pn	Pn	08 25 38.6	-4.5
PSA00	**Pilbara Seismi**	**12.17**	**153**	*e*Pn	Pn	08 25 39.0	-4.9
SBUM	**Sibu**	**13.25**	**353**	*e*Pn	Pn	08 25 53.9	-4.8
FITZ	**Fitzroy Crossi**	**13.52**	**124**	Pn	Pn	08 26 00.4	-2.0
	0.1nm,0.3s,baz=292,slow=8.7,SNR=7.4						
FITZ				Sn	Sn	08 28 18.9	-14
	0.1nm,0.3s,baz=29,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**21.72**	**117**	*e*P	**P**	**08 27 44.5**	**+2.5**
WRA	**Warramunga Arr**	**21.72**	**117**	P	**P**	**08 27 42.7**	**+0.7**
	4.9nm,0.7s,baz=290,slow=11,SNR=10						
WR1	**Warramunga Arr**	**21.72**	**117**	*e*P	**P**	**08 27 42.7**	**+0.7**
WB2	**Warramunga Arr**	**21.73**	**117**	*e*P	**P**	**08 27 44.7**	**+2.6**
	5.2nm,0.8s						
ASAR	**Alice Springs**	**22.99**	**126**	*e*P	**P**	**08 27 56.6**	**+1.0**
ASAR	**Alice Springs**	**22.99**	**126**	P	**P**	**08 27 56.2**	**+0.7**
	2.5nm,0.7s,baz=301,slow=8.8,SNR=39						
AS31	**Alice Springs**	**22.99**	**126**	*e*P	**P**	**08 27 56.3**	**+0.8**
	1.0nm,0.6s						
FORT	**Forrest**	**23.87**	**149**	*e*P	**P**	**08 28 04.1**	**0.0**
	24nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.57**	**333**	P	**P**	**08 29 23.2**	**+1.1**
	1.0nm,0.6s,baz=172,slow=7.9,SNR=6.9						
STKA	**Stephens Creek**	**33.11**	**134**	P	**P**	**08 29 27.0**	**+0.3**
	1.7nm,0.6s,baz=306,slow=16,SNR=3.4						
H08S2	**Diego Garcia H**	**40.94**	**271**	T	T	09 14 22.8	
	baz=96,slow=74,SNR=3.9						
H08S3	**Diego Garcia H**	**40.95**	**271**	T	T	09 14 20.8	
	baz=96,slow=74,SNR=3.1						
H08S1	**Diego Carcia H**	**40.95**	**271**	T	T	09 14 24.4	
	baz=96,slow=74,SNR=10.0						
KSRS	**Korea Array**	**49.76**	**15**	P	**P**	**08 31 42.4**	**-0.7**
	1.1nm,0.5s,baz=198,slow=7.9,SNR=5.2						
USRK	**Ussuriysk Ar.**	**57.14**	**15**	P	**P**	**08 32 36.4**	**-0.8**
	2.8nm,0.7s,baz=187,slow=6.0,SNR=6.0						
SONA0	**Songino Array**	**58.73**	**354**	*e*P	P	08 32 46.9	-1.6
SONM	**Songino Array**	**58.73**	**354**	P	P	08 32 46.9	-1.6
	1.2nm,0.9s,baz=157,slow=7.8,SNR=4.1						
OXZ	**Oxford**	**59.65**	**134**	*e*P	**P**	**08 32 54.9**	**-0.1**
MK32	**Makanchi Array**	**63.89**	**336**	*e*P	**P**	**08 33 23.1**	**-0.3**
MKAR	**Makanchi Array**	**63.89**	**336**	*e*P	**P**	**08 33 22.9**	**-0.5**
MKAR	**Makanchi Array**	**63.89**	**336**	P	**P**	**08 33 23.1**	**-0.3**
	0.2nm,0.3s,baz=144,slow=8.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**68.45**	**337**	P	**P**	**08 33 51.6**	**-0.9**
	0.1nm,0.3s,baz=142,slow=6.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**69.03**	**342**	P	**P**	**08 33 54.9**	**-1.1**
	0.7nm,0.5s,baz=154,slow=4.2,SNR=3.1						
ZAA1	**Zalesovo Array**	**69.04**	**342**	*e*P	**P**	**08 33 54.9**	**-1.2**
VNDA	**Vanda**	**71.07**	**170**	*e*P	**P**	**08 34 08.7**	**+0.4**
VNDA	**Vanda**	**71.07**	**170**	P	**P**	**08 34 07.7**	**-0.6**
	0.6nm,0.8s,baz=28,slow=4.2,SNR=4.1						
ABKAR	**Akbulak array**	**76.19**	**327**	*e*P	**P**	**08 34 38.4**	**-0.3**
LON	**Longmire**	**121.06**	**42**	*e*PKPdf	**PKPdf**	**08 41 44.3**	**+0.8**
FLWY	**Flagg Ranch**	**129.30**	**41**	*e*PKPdf	**PKPdf**	**08 41 58.4**	**-1.3**
PV17	**East Wray Mesa**	**132.99**	**47**	*e*PKPdf	**PKPdf**	**08 42 08.2**	**+1.4**
SLBS	**Sierra La Lagu**	**136.41**	**67**	*e*PKPdf	**PKPdf**	**08 42 12.1**	**-1.3**
G43A	**Wallace**	**140.99**	**24**	*e*PKPdf	**PKPdf**	**08 42 20.3**	**-0.8**
TLIG	**Tlapa**	**147.87**	**74**	*e*PKPdf	**PKPdf**	**08 42 31.9**	**-2.1**

TRN 03 08:23:46.6, 15.′03N×60.′50W, h61km, **MD3.9, 1C-13D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.44**	**236**	*e*P	Pn	08 23 58.7	+0.6
MVM	**Montagne Vaucl**	**0.61**	**219**	*e*P	Pn	08 24 00.7	+0.8
LPMF	**Morne Lapointe**	**0.64**	**225**	*e*P	Pn	08 24 00.8	+0.6
BAMF	**Morne Balai**	**0.67**	**252**	*e*P	Pn	08 24 02.2	+1.6
MPOM	**Morne Pois Mar**	**0.68**	**211**	*e*P	Pn	08 24 01.3	+0.6
CXM	**Morne La Croix**	**0.69**	**252**	*e*P	Pn	08 24 02.6	+1.7
ZAM	**Aeronautique**	**0.69**	**229**	*e*P	Pn	08 24 01.6	+0.8
GBMF	**Grand Be**	**0.69**	**251**	*e*P	Pn	08 24 02.4	+1.6
FDF	**Fort de France**	**0.70**	**245**	*e*P	Pn	08 24 02.2	+1.3
FDF	**Fort de France**	**0.70**	**245**	*e*P	Pn	08 24 02.4	+1.4
FDF				*e*S	Sn	08 24 13.8	+2.3
FDF				*e*S		08 24 13.9	
PML	**Morne Lenard**	**0.71**	**250**	*e*P	Pn	08 24 02.8	+1.7
PCM	**Pelee Case Pet**	**0.72**	**253**	*e*P	Pn	08 24 02.9	+1.7
TRMF	**Trois Ilets**	**0.73**	**228**	*e*P	Pn	08 24 02.5	+1.3
BIM	**Bigot**	**0.75**	**228**	*e*P	Pn	08 24 03.1	+1.5
DLPL	**La Plaine**	**0.79**	**293**	*i* P	Pn	08 24 04.0	+2.0
DLPL	**La Plaine**	**0.79**	**293**	*i* P	Pn	08 24 04.0	+2.0
DLPL				*e*S	Sn	08 24 16.6	+3.2
DLPL				*e*S		08 24 16.6	
DWS	**Wesley**	**0.95**	**304**	*e*P	Pn	08 24 05.3	+1.2
DWS	**Wesley**	**0.95**	**304**	*e*P	Pn	08 24 05.3	+1.2
DWS				*e*S	Sn	08 24 18.5	+1.5
DWS				*e*S		08 24 18.6	
BBL	**Barber's Block**	**1.06**	**298**	*e*P	Pn	08 24 07.2	+1.6
BBL	**Barber's Block**	**1.06**	**298**	*e*P	Pn	08 24 07.4	+1.9
BBL				*e*S	Sn	08 24 21.7	+2.1
BBL				*e*S		08 24 21.9	
MDPO	**Dominica; Chan**	**1.07**	**301**	*e*P	Pn	08 24 07.2	+1.6
MDPO	**Dominica; Chan**	**1.07**	**301**	*e*P	Pn	08 24 07.3	+1.7
MDPO				*e*S	Sn	08 24 21.3	+1.5
MDPO				*e*S		08 24 21.7	
MDPV	**Dominica, Penn**	**1.07**	**304**	*e*P	Pn	08 24 06.8	+1.1
MDPV	**Dominica, Penn**	**1.07**	**304**	*e*P	Pn	08 24 07.0	+1.3
MDPV				*e*S	Sn	08 24 22.1	+2.2
MDPV				*e*S		08 24 22.5	
SLW	**Petit Monier**	**1.09**	**203**	*e*P	Pn	08 24 08.1	+2.2
SLW				*e*S	Sn	08 24 22.4	+2.2
SLBI	**Saint Lucia, B**	**1.10**	**205**	*i* P	Pn	08 24 07.0	+1.0
SLBI	**Saint Lucia, B**	**1.10**	**205**	*i* P	Pn	08 24 07.2	+1.1
SLBI				*e*S	Sn	08 24 21.8	+1.4
SLBI				*e*S		08 24 22.3	
MAGL	**Barre de l'ile**	**1.19**	**321**	*e*P	Pn	08 24 08.4	+1.2
SLPA	**Patience**	**1.24**	**199**	*e*P	Pn	08 24 10.0	+2.1
SLPA				*e*S	Sn	08 24 26.2	+2.6
SLB	**Belfond**	**1.30**	**204**	*i* P	Pn	08 24 10.4	+1.7
SLB	**Belfond**	**1.30**	**204**	*i* P	Pn	08 24 10.5	+1.8
SLB				*e*S	Sn	08 24 26.6	+1.2
SLB				*e*S		08 24 27.5	
SLDE	**Delcer**	**1.33**	**204**	*e*P	Pn	08 24 10.5	+1.4
SLDE	**Delcer**	**1.33**	**204**	*e*P	Pn	08 24 11.0	+1.9
SLDE				*e*S	Sn	08 24 28.2	+2.2
SLDE				*e*S		08 24 28.5	
TDBA	**Terre de Bas,**	**1.37**	**307**	*e*P	Pn	08 24 11.9	+2.3
MCLT	**Moule a Chique**	**1.38**	**198**	*e*P	Pn	08 24 10.4	+0.7
MCLT	**Moule a Chique**	**1.38**	**198**	*e*P	Pn	08 24 11.2	+1.5
MCLT				*e*S	Sn	08 24 29.2	+2.2
MCLT				*e*S		08 24 29.3	
TBG	**Guadaloupe-3**	**1.38**	**307**	*e*P	Pn	08 24 11.4	+1.7
TBG				*e*S	Sn	08 24 28.4	+1.3
DEG	**La Desirade**	**1.39**	**337**	*e*P	Pn	08 24 11.1	+1.2
CBE	**Ff, Capester**	**1.49**	**314**	*e*P	Pn	08 24 13.1	+1.9
ABD	**La Joyeuse, An**	**1.73**	**327**	*e*P	Pn	08 24 16.4	+2.0
SFAN	**Fancy Village**	**1.76**	**202**	*e*P	Pn	08 24 16.6	+1.8
SFAN				*e*S	Sn	08 24 37.7	+1.4
SSV	**Crater Summit**	**1.82**	**202**	*e*P	Pn	08 24 17.4	+1.6
SSV	**Crater Summit**	**1.82**	**202**	*e*P	Pn	08 24 17.5	+1.7
SSV				*e*S	Sn	08 24 39.0	+1.1
SSV				*e*S		08 24 39.7	
SVV	**Soufriere Volc**	**1.84**	**202**	*e*P	Pn	08 24 18.1	+2.2
SVV	**Soufriere Volc**	**1.84**	**202**	*e*P	Pn	08 24 18.1	+2.2
SVV				*e*S	Sn	08 24 40.8	+2.6
SVV				*e*S		08 24 40.8	
SVCV	**St. Vincent, C**	**1.85**	**200**	*e*P	Pn	08 24 17.5	+1.4
SVCV	**St. Vincent, C**	**1.85**	**200**	*e*P	Pn	08 24 17.6	+1.5
SVCV				*e*S	Sn	08 24 39.5	+1.0
SVCV				*e*S		08 24 39.8	
SVB	**Belmont**	**1.89**	**203**	*e*P	Pn	08 24 18.6	+1.9
SVB	**Belmont**	**1.89**	**203**	*e*P	Pn	08 24 18.7	+2.0
SVB				*e*S	Sn	08 24 41.4	+2.0
SVB				*e*S		08 24 41.8	
FCV	**Fort Charlotte**	**2.00**	**201**	*e*P	Pn	08 24 19.4	+1.3
FCV	**Fort Charlotte**	**2.00**	**201**	*e*P	Pn	08 24 19.4	+1.4
FCV				*e*S	Sn	08 24 43.5	+1.5
BBGH	**Gun Hill**	**2.08**	**154**	*e*P	Pn	08 24 18.5	-0.7
BBGH	**Gun Hill**	**2.08**	**154**	*e*P	Pn	08 24 21.9	+2.6
BBGH				*e*S	Sn	08 24 45.4	+1.3
BBGH				*e*S		08 24 47.3	
MLYT	**Lee's Yard**	**2.34**	**316**	*e*P	Pn	08 24 23.9	+1.1
MLYT	**Lee's Yard**	**2.34**	**316**	*e*P	Pn	08 24 26.7	+3.9
MLYT				*e*S	Sn	08 24 52.4	+1.9
MLYT				*e*S		08 24 56.5	
BPA	**Boggy Peak**	**2.40**	**327**	*e*S	Sn	08 24 53.0	+1.2
NEV	**Hard Times**	**2.89**	**317**	*e*P	Pn	08 24 31.7	+1.4
NEV				*e*S	Sn	08 25 05.9	+1.9
ANWB	**Willy Bob**	**2.90**	**335**	*e*P	Pn	08 24 31.1	+0.7
ANWB				*e*S	Sn	08 25 07.1	+2.9
GRSS	**Sisters**	**2.92**	**202**	*e*P	Pn	08 24 33.1	+2.4
GRSS				*e*S	Sn	08 24 39.8	-25
GRSS				*e*S		08 25 05.5	
GRHS	**Sauteurs**	**3.00**	**202**	*e*P	Pn	08 24 16.2	-16
GRHS	**Sauteurs**	**3.00**	**202**	*e*P	Pn	08 24 33.7	+1.9
GRHS				*e*S	Sn	08 25 08.2	+1.7
SEUS	**St. Eustatius**	**3.42**	**316**	*e*P	Pn	08 24 39.4	+1.9
SEUS				*e*S	Sn	08 25 17.6	+0.7
TOSP	**Speyside**	**3.71**	**181**	*e*P	Pn	08 24 43.2	+1.8
TOSP	**Speyside**	**3.71**	**181**	*e*P	Pn	08 24 45.2	+3.7
TOSP				*e*S	Sn	08 25 24.4	+0.6
TOSP				*e*S		08 25 26.5	
SMRT	**St. Maarten**	**3.89**	**321**	*e*P	Pn	08 24 46.2	+2.2
SMRT				*e*S	Sn	08 25 28.3	-0.1
TRN	**Trinidad (W)**	**4.44**	**192**	*e*P	Pn	08 24 53.1	+1.6

*ISK **03** 08:31:08.8, 39.′09N×38.′52E, h2km, ML2.0/3*
*ISCJB **03** 08:31:10.8±0.6, 39.′11N±0.′03×38.′59E±0.′05, h8km±5km, Error ellipse: s-maj=6.6km s-min=4.8km az=147.2*
*DDA **03** 08:31:10.2, 39.′09N×38.′55E, h7km±5km, ML2.6*
ISC 03 08:31:10.2±1.2, **39.09N**±0.′03×**38.56E**±0.′04, **h6**km±12km, **n12**, σ0§**92**/20, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.19**	**344**	IAML_P			
	comp=Z,31μm,0.1s						
KEMA				*i* P	**Pg**	**08 31 14.0**	**-0.1**
KEMA				*i* S	**Sg**	**08 31 17.6**	**+1.0**
ILIC	**ilic-Erzincan**	**0.37**	**1**	PG	**Pg**	**08 31 16.8**	**-0.6**
ILIC				SG	**Sg**	**08 31 22.8**	**+0.6**
HEKM	**Malatya_Hekimh**	**0.51**	**247**	IAML_P			
	comp=Z,1μm,0.2s						
HEKM				*i* P	**Pb**	**08 31 20.2**	**-1.5**
HEKM				*i* S	**Sb**	**08 31 31.9**	**+2.3**
ELZG	**Elazig**	**0.67**	**150**	*i* P	**Pg**	**08 31 23.2**	**0.0**
ELZG				*i* S	**Sb**	**08 31 34.8**	**+0.7**
TNCL	**Tunceli-Merkez**	**0.76**	**87**	IAML_P			
	comp=Z,646nm,0.2s						
TNCL				*i* P	**Pg**	**08 31 24.4**	**-0.4**
TNCL				*i* S	**Sb**	**08 31 37.4**	**+0.7**
SVRC	**Sivrice-ELAZID**	**0.92**	**140**	PG	**Pg**	**08 31 27.7**	**-0.1**
SVRC				SG	**Sb**	**08 31 41.7**	**+0.6**
AKCD	**Akcadag**	**0.93**	**213**	*i* P	**Pg**	**08 31 27.7**	**-0.4**
AKCD				*i* S	**Sn**	**08 31 43.0**	**-0.8**
SUSE	**Susehri**	**1.16**	**346**	IAML_P			
	comp=Z,344nm,0.1s						
SUSE				*i* P	**Pn**	**08 31 33.7**	**+0.6**
KELT	**Kelkit**	**1.19**	**27**	IAML_P			
	comp=Z,277nm,0.2s						
KELT				*i* P	**Pn**	**08 31 34.1**	**+0.5**
ELBS	**KAHRAMANMARAS**	**1.35**	**236**	IAML_P			
	comp=Z,206nm,0.3s						
ELBS				*i* P	**Pb**	**08 31 35.9**	**-0.1**
SVSK	**Karacayir**	**1.47**	**305**	PN	**Pb**	**08 31 36.8**	**-1.1**
SVSK				SN	**Sg**	**08 31 56.9**	**-0.5**
YEDI	**Yedisu-Bingol**	**1.58**	**76**	PN	**Pn**	**08 31 39.1**	**+0.2**

*BEO **03** 08:43:52.5±1.2, 40.′11N×19.′03E, h10km±7km, ML2.6/4*
*THE **03** 08:43:59.7, 40.′87N×19.′58E, h4km±1km, ML2.3/3, Error ellipse: s-maj=1.5km s-min=0.6km az=291.0*
*ATH **03** 08:44:00.2, 40.′84N×19.′63E, h18km±4km, ML2.1/2, Error ellipse: s-maj=4.7km s-min=1.7km az=257.0*
*TIR **03** 08:44:00.6, 40.′69N×19.′71E, h7km, Md2.9/5*
ISC 03 08:44:01.0±1.1, **40.71N**±0.′02×**19.60E**±0.′03, **h6**km±10km, **n36**, σ1§**92**/53, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.25**	**198**	P	**Pb**	**08 44 07.4**	**-0.6**
VLO				S	**Sb**	**08 44 13.6**	**+1.0**
VLO	**Vlora**	**0.25**	**198**	*i* PG	**Pg**	**08 44 06.7**	**+0.8**
VLO				*i* SG	**Sb**	**08 44 11.2**	**-1.4**
TPE	**Tepelena**	**0.52**	**142**	P	**Pb**	**08 44 12.0**	**-0.5**
TPE	**Tepelena**	**0.52**	**142**	*i* PG	**Pg**	**08 44 09.8**	**-1.2**
TPE				*i* SG	**Sg**	**08 44 17.2**	**-0.5**
TIR	**Tirane**	**0.67**	**18**	*e*Pg	**Pn**	**08 44 17.8**	**+0.7**
TIR				*e*Sg	Sn	08 44 35.8	+7.8
TIR	**Tirane**	**0.67**	**18**	*i* PG	**Pg**	**08 44 13.0**	**-0.9**
TIR				*i* SG	**Sb**	**08 44 23.1**	**-1.6**
TIR	**Tirane**	**0.67**	**18**	P	**Pg**	**08 44 11.3**	**-2.6**
SRN	**Sarande**	**0.88**	**159**	P	**Pn**	**08 44 19.2**	**-0.8**
SRN				S	**Sn**	**08 44 34.6**	**+1.5**
SRN	**Sarande**	**0.88**	**159**	*i* PG	**Pg**	**08 44 17.1**	**-0.8**
SRN				*i* SG	**Sg**	**08 44 23.9**	**-5.4**
KASA	**Kassiopi**	**0.99**	**165**	P	**Pn**	**08 44 22.1**	**+0.6**
KASA				S	**Sn**	**08 44 37.2**	**+1.3**
OHR	**Ohrid**	**1.00**	**66**	*i* Pg	**Pg**	**08 44 19.0**	**-1.1**
OHR				*i* Sg	**Sn**	**08 44 36.9**	**+0.8**
KEK	**Kerkira**	**1.00**	**171**	P	**Pn**	**08 44 21.3**	**-0.4**
KEK				S	**Sn**	**08 44 38.5**	**+2.3**
KEK	**Kerkira**	**1.00**	**171**	P	**Pn**	**08 44 21.2**	**-0.4**
KEK				S	**Sn**	**08 44 37.5**	**+1.3**
KEK				AML	AML	08 44 37.8	
	comp=N,254μm,0.7s						
KEK				AML	AML	08 44 39.2	
	comp=E,349μm,0.8s						
SCTE	**Santa Cesarea**	**1.07**	**234**	P	**Pn**	**08 44 22.4**	**-0.1**
SCTE				S	**Sn**	**08 44 38.3**	**+0.5**
SCTE				AML	AML	08 44 43.4	
	comp=E,90μm,0.4s						
SCTE				AML	AML	08 44 46.9	
	comp=N,96μm,0.6s						
NEST	**Nestorio**	**1.14**	**104**	P	**Pb**	**08 44 22.3**	**-1.0**
NEST	**Nestorio**	**1.14**	**104**	P	**Pb**	**08 44 21.8**	**-1.4**
PHP	**Peshkopia**	**1.17**	**33**	*i* PN	**Pb**	**08 44 22.5**	**-1.1**
PHP				*i* SN	**Sn**	**08 44 39.4**	**-0.8**
PENT	**Pentalofos**	**1.28**	**113**	P	**Pg**	**08 44 25.4**	**-0.2**
IGT	**Igoumenitsa**	**1.30**	**154**	P	**Pg**	**08 44 26.1**	**+0.1**
IGT				S	**Sg**	**08 44 46.2**	**+3.4**
IGT	**Igoumenitsa**	**1.30**	**154**	P	**Pg**	**08 44 26.0**	**+0.1**
BIA	**Bitola**	**1.35**	**76**	*i* Pg	**Pb**	**08 44 25.9**	**-0.8**
BIA				*i* Sg	**Sg**	**08 44 51.3**	**+7.1**
FNA	**Florina**	**1.35**	**86**	P	**Pn**	**08 44 24.9**	**-1.7**
FNA	**Florina**	**1.35**	**86**	P	**Pn**	**08 44 24.5**	**-2.0**
KRUS	**Krusevo**	**1.41**	**62**	*i* Pn	**Pg**	**08 44 28.1**	**0.0**
KRUS				*i* Sn	**Sg**	**08 44 48.5**	**+2.1**
JAN	**Janina**	**1.42**	**137**	P	**Pg**	**08 44 28.2**	**-0.1**
KPRO	**Kipourio**	**1.54**	**119**	P	**Pg**	**08 44 29.9**	**-0.7**
PDG	**Podgorica**	**1.74**	**352**	*e*Pg	**Pg**	**08 44 34.4**	**+0.1**
PDG				*e*Sg	Sg	08 45 06.8	+10
TREB	**Trebinje**	**2.21**	**335**	*e*Pg	**Pb**	**08 44 39.5**	**-2.0**
TREB				*e*Sg	**Sg**	**08 45 17.3**	**+5.2**
SJES	**Sjenica**	**2.57**	**6**	*e*Pn	**Pn**	**08 44 42.7**	**-0.6**
STON	**Ston**	**2.59**	**327**	*e*Pg	**Pb**	**08 44 45.1**	**-2.7**
STON				*e*Sg	**Sg**	**08 45 24.8**	**+0.8**
SELS	**Selova**	**2.75**	**24**	*e*Pn	**Pn**	**08 44 46.2**	**+0.4**
BOSS	**Bosilegrad**	**2.81**	**49**	*e*Pn	**Pn**	**08 44 46.6**	**+0.1**
IVAS	**Ivanjica**	**2.90**	**8**	*e*Pn	**Pn**	**08 44 48.4**	**+0.6**
GRUS	**Gruza**	**3.29**	**14**	*e*Pn	**Pn**	**08 44 53.8**	**+0.8**
VTS	**Vitosha**	**3.33**	**54**	*e*Pn	**Pn**	**08 44 54.2**	**+0.4**
ZAPS	**Zavoj**	**3.42**	**40**	*e*Pn	**Pn**	**08 44 55.6**	**+0.7**

*ISCJB **03** 08:52:52.7±0.4, 44.′66N±0.′08×144.′71E±0.′08, h233km±5km, mb3.3/10, Error ellipse: s-maj=13.5km s-min=9.7km az=170.4*
*JMA **03** 08:52:52.6±0.5, 44.′75N×144.′73E, h235km±4km, M3.4*
*IDC **03** 08:52:54.5±1.4, 44.′91N×144.′61E, h224km±14km, mb3.1/10, mb1 3.3/14, mb1mx3.1/51, mbtmp3.7/14, Error ellipse: s-maj=33.9km s-min=13.6km az=170.0*
ISC 03 08:52:53.5±0.7, **44.66N**±0.′09×**144.72E**±0.′08, **h227**km±7km, **n30**, σ0§**96**/36, **mb3.3**/10, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**0.77**	**158**	P	**Pn**	**08 53 25.3**	**+0.5**
JRA				*e*S	**S**	**08 53 50.6**	**+1.3**
JTKR	**Abashiri--Toko**	**0.90**	**221**	P	**Pn**	**08 53 25.9**	**+0.4**
JTKR				*e*S	**S**	**08 53 50.6**	**+0.2**
JNK	**Nakash**	**1.07**	**180**	P	**Pn**	**08 53 27.1**	**+0.6**
JNK				*e*S	**S**	**08 53 54.2**	**+1.9**
JMP	**Maruseppu**	**1.18**	**237**	P	**Pn**	**08 53 27.5**	**+0.3**
NEM2	**Nemuro 2**	**1.49**	**150**	P	**Pn**	**08 53 28.8**	**-0.7**
NEM2				*e*S	**S**	**08 53 55.7**	**-1.8**
JAR	**Ashorobuto**	**1.52**	**207**	P	**Pn**	**08 53 30.8**	**+1.0**
JSE	**Soyaes**	**1.55**	**282**	P	**Pn**	**08 53 29.6**	**-0.4**
ASAJ	**Asahikawa**	**1.62**	**251**	P	**Pn**	**08 53 31.1**	**+0.5**
ASAJ	**Asahikawa**	**1.62**	**251**	P	**Pn**	**08 53 31.3**	**+0.7**
	28nm,0.3s,baz=42,slow=3.2,SNR=226						
JKK2	**Kamakawa 2**	**1.62**	**242**	P	**Pn**	**08 53 31.2**	**+0.6**
JWK2	**Keihoku**	**2.11**	**289**	P	**Pn**	**08 53 35.5**	**+0.5**
JFR	**Furan**	**2.15**	**227**	P	**Pn**	**08 53 36.6**	**+1.1**
JCH	**Churui**	**2.27**	**206**	P	**Pn**	**08 53 36.6**	**-0.1**
JCH				*e*S	**S**	**08 54 08.8**	**-1.6**
JHR	**Hokuryu**	**2.34**	**248**	P	**Pn**	**08 53 38.3**	**+0.9**
JNBK	**Urakawa-nobuka**	**2.78**	**212**	P	**Pn**	**08 53 42.0**	**-0.1**
JNBK				*e*S	**S**	**08 54 18.7**	**-1.4**
JEW	**Eniwo**	**2.99**	**234**	P	**Pn**	**08 53 46.1**	**+1.7**
USRK	**Ussuriysk Ar.**	**9.13**	**272**	P	**Pn**	**08 55 01.3**	**+0.2**
	0.3nm,0.3s,baz=80,slow=14,SNR=6.2						
KLR	**Kul'dur**	**9.98**	**302**	P	**Pn**	**08 55 11.2**	**-0.7**
	0.1nm,0.3s,baz=123,slow=14,SNR=4.6						
PETK	**Petropavlovsk-**	**12.00**	**41**	P	**Pn**	**08 55 36.4**	**-1.0**
	0.3nm,0.3s,baz=210,slow=7.3,SNR=8.5						
SEY	**Seymchan**	**18.84**	**11**	P	**Pn**	**08 56 55.6**	**-0.6**
	0.2nm,0.3s,baz=210,slow=20,SNR=2.8						
SONM	**Songino Array**	**26.51**	**291**	P	**P**	**08 58 10.0**	**-0.1**
	0.6nm,0.3s,baz=90,slow=7.8,SNR=3.7						
ILAR	**Eielson Array**	**41.80**	**37**	P	**P**	**09 00 20.3**	**-0.1**
	0.5nm,0.4s,baz=254,slow=5.9,SNR=10						
MKAR	**Makanchi Array**	**42.62**	**296**	P	**P**	**09 00 27.5**	**+0.2**
	1.3nm,0.6s,baz=77,slow=8.8,SNR=13						
BVAR	**Borovoye Array**	**47.57**	**308**	P	**P**	**09 01 05.6**	**-0.5**
	0.4nm,0.3s,baz=73,slow=9.1,SNR=3.3						
YKA	**Yellowknife Ar**	**56.01**	**33**	P	**P**	**09 02 08.3**	**+0.3**
	0.2nm,0.6s,baz=301,slow=6.0,SNR=6.7						
FINES	**FINESS Array B**	**63.26**	**332**	P	**P**	**09 02 56.7**	**-0.8**
	0.8nm,0.7s,baz=34,slow=8.4,SNR=2.9						
NVAR	**Mina Array Bea**	**68.56**	**57**	P	**P**	**09 03 33.3**	**+1.4**
	0.4nm,0.7s,baz=306,slow=6.2,SNR=3.6						
AKASG	**Malin Array Be**	**69.81**	**322**	P	**P**	**09 03 38.5**	**-0.4**
	0.8nm,0.4s,baz=38,slow=5.8,SNR=4.4						
PDAR	**Pinedale Array**	**70.64**	**49**	P	**P**	**09 03 45.2**	**+0.8**
	0.3nm,0.5s,baz=257,slow=2.9,SNR=5.1						
TXAR	**Lajitas Array**	**83.57**	**55**	P	**

comp=Z,12nm,0.3s,baz=48,slow=7.9,SNR=6.4
YKA Yellowknife Ar 83.04 351 P P 09 10 00.9 -1.5
comp=Z,0.1nm,0.4s,baz=18,slow=6.1,SNR=3.8

ISC 03 09:06:17.4±2.2, 49°.9N±0°.1×18°.57E±0°.07, h0km, n6, σ0°.42/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.67**	**262**	*e*PG	**Pg**	**09 06 31.0**	**+0.7**
MORC				*e*SG	**Sg**	09 06 38.7	-0.3
LANS	**Liptovska Anna**	**0.93**	**141**	*e*PG	**Pb**	**09 06 36.2**	**-0.3**
LANS				*e*SG	**Sb**	**09 06 49.6**	**+0.2**
JAVC	**Velka Javorina**	**1.17**	**210**	*e*PG	**Pb**	**09 06 40.7**	**+0.1**
VYHS	**Vyhne**	**1.39**	**173**	*e*PG	**Pn**	**09 06 44.0**	**-0.1**
VYHS				*e*SG	**Sg**	**09 07 02.0**	**-0.1**
VRAC	**Vranov**	**1.40**	**247**	*e*PG	**Pn**	**09 06 43.9**	**-0.4**
VRAC				*e*SG	**Sg**	**09 07 01.9**	**-0.6**
KRUC	**Moravsky**	**1.63**	**241**	*e*SG	**Sn**	**09 07 09.0**	**-0.1**

IDC 03 09:12:37.0±2.4, 10°.58S×114°.05E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/45, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=90.9km s-min=20.3km az=51.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.49**	**125**	Pn	Pn	09 15 47.7	-2.2
	0.2nm,0.3s,baz=291,slow=8.6,SNR=3.6						
FITZ				Sn	Sn	09 18 05.8	-15
	0.1nm,0.3s,baz=176,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**21.66**	**118**	P	P	09 17 31.1	+1.7
	1.6nm,0.6s,baz=292,slow=11,SNR=16						
ASAR	**Alice Springs**	**22.97**	**127**	P	P	09 17 42.7	-0.7
	1.2nm,0.6s,baz=307,slow=10,SNR=28						
USRK	**Ussuriysk Ar.**	**56.90**	**15**	P	P	09 22 23.8	0.0
	0.8nm,0.6s,baz=184,slow=8.5,SNR=4.0						
SONM	**Songino Array**	**58.55**	**354**	P	P	09 22 35.0	-0.5
	0.2nm,0.4s,baz=159,slow=8.8,SNR=2.6						
MKAR	**Makanchi Array**	**63.77**	**336**	P	P	09 23 11.1	+0.3
	0.1nm,0.4s,baz=108,slow=4.7,SNR=2.5						

MEX 03 09:18:07.9±0.7, 15°.00N×93°.99W, h20km±22km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.02**	**47**	*e*P	Pb	09 18 24.5	-2.5
PCIG				*i* S	Sb	09 18 35.9	-4.1
THIG		**1.67**	**93**	*i* P	Pn	09 18 32.9	-3.2
THIG				*e*S	Sn	09 18 53.0	-4.0
CCIG	**Comitan**	**2.20**	**54**	*e*P	Pn	09 18 40.5	-2.9
CCIG				*i* S	Sn	09 19 06.8	-3.4
CMIG	**Matias Romero**	**2.25**	**338**	*e*P	Pn	09 18 41.5	-2.4
CMIG				*e*S	Sn	09 19 07.3	-3.8

*NEIC **03** 09:18:15.5±2.6, 28°.06S×72°.41W, h10km±1km, mb5.3/248, ML4.8(GUC), Error ellipse: s-maj=11.7km s-min=8.8km az=87.0*
*GUC **03** 09:18:16.0±0.6, 28°.14S×72°.26W, h20km, ML4.7*
*ISCJB **03** 09:18:17.7±1.2, 27°.97S±0°.02×72°.37W±0°.04, h15km±8km, mb5.2/215, MS4.4/22, Error ellipse: s-maj=5.8km s-min=3.5km az=159.0*
*IDC **03** 09:18:17.4±0.3, 28°.16S×72°.33W, h0km, mb4.9/17, mb1 4.9/23, mb1mx4.9/27, mbtmp4.8/23, ML4.7/6, MS4.2/19, Ms1 4.2/19, ms1mx4.1/22, Error ellipse: s-maj=16.4km s-min=11.5km az=74.0*
*VAO **03** 09:18:20.3±0.4, 28°.08S×72°.22W, h10km, mb5.0*
*GCMT **03** 09:18:20.5±0.2, 28°.26S±0°.01×72°.71W±0°.01, h12km, MW5.2/104, Moment Tensor Solution. s54,c63; s104,c159; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=6.69±.11; Mθθ0.25±.08; Mφφ6.44±.12; Mrθ1.59±.31; Mθφ1.32±.09; Mφr-0.09±.34; Best double couple: M0=6.88000×1016 NP1:φs204.00000°, δ47.00000°, λ-73.00000°. NP2:φs359.00000°, δ45.00000°, λ-108.00000°. Principal axes: T 6.7140, Plg1.0000°, Azm282.0000°; N 0.3350, Plg13.0000°, Azm12.0000°; P -7.0470, Plg77.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **03** 09:18:22.4±1.3, 27°.39S×72°.91W, h33km, mb5.3/37 Error ellipse: s-maj=15.9km s-min=7.8km az=90.8*
*SJA **03** 09:18:25.3±1.0, 28°.34S×72°.14W, h62km±22km, ML4.6, MW5.0*

ISC 03 09:18:17.0±0.4, 28°.11S±0°.03×72°.46W±0°.05, h10km±2km, h10km:pP-P, n1064, σ1°.99/1095, mb5.4/214, MS4.5/22, 34C-14D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.78**	**120**	*e*Pn	**Pn**	**09 18 48.2**	**0.0**
LCO				*e*Sn	Sn	09 19 00.5	-11
LCO	**Las Campanas**	**1.78**	**120**	*e*P	**Pn**	**09 18 48.0**	**-0.2**
LCO	**Las Campanas**	**1.78**	**120**	P	**Pn**	**09 18 47.0**	**-1.2**
LCO	**Las Campanas**	**1.78**	**120**	*e*P	**Pn**	**09 18 47.8**	**-0.4**
LCO				*i* S	**Sn**	**09 19 08.8**	**-2.3**
LCO				IAML		09 19 11.0	
	comp=N,16μm,0.4s						
LCO	**Las Campanas**	**1.78**	**120**	*e*P	**Pn**	**09 18 48.4**	**+0.2**
GO03	**Copiap**	**2.03**	**76**	*e*Pn	**Pn**	**09 18 51.7**	**+0.2**
GO03				*e*Sn	Sn	09 19 04.0	-13
GO03	**Copiap**	**2.03**	**76**	*e*P	**Pn**	**09 18 51.5**	**0.0**
GO03				*i* S	**Sn**	**09 19 16.4**	**-0.6**
GO03				IAML		09 19 19.1	
	comp=N,10μm,0.4s						
AROD	**Rodeo**	**3.32**	**129**	*e*P	**Pb**	**09 19 12.8**	**-3.4**
AROD				*e*S	**Sn**	**09 19 47.7**	**-1.3**
ACDV	**Cuesta del Vie**	**3.57**	**126**	*e*P	**Pn**	**09 19 16.1**	**+3.5**
ACDV				*e*S	**Sn**	**09 19 54.0**	**-0.9**
ACDV				IAML		09 20 03.0	
	comp=Z,1μm,0.5s						
AGUA	**GUANDACOL**	**3.74**	**112**	*e*P	**Pb**	**09 19 19.7**	**-3.6**
VCA	**Vinchina**	**3.79**	**100**	*e*P	**Pb**	**09 19 20.4**	**-3.8**
VCA				IAML		09 20 19.2	
	comp=Z,2μm,0.4s						
VCA				IAML		09 20 19.3	
	comp=Z,2μm,0.4s						
ACCO	**Cerro Coronel**	**3.85**	**131**	*e*P	**Pn**	**09 19 20.7**	**+4.0**
GO02	**Mina Guanaco**	**3.90**	**42**	*e*Pn	**Pn**	**09 19 18.0**	**+0.7**
GO02				*e*Sn	**Sn**	**09 19 58.1**	**-5.3**
GO02	**Mina Guanaco**	**3.90**	**42**	⇑*e*P	**Pn**	**09 19 17.6**	**+0.3**
GO02				*i* S	**Sn**	**09 20 03.5**	**+0.2**
PB14	**IPOC Station P**	**3.93**	**28**	*e*P	**Pn**	**09 19 16.6**	**-1.1**
AMOG	**MOGNA**	**4.46**	**130**	*e*P	**Pn**	**09 19 28.5**	**+3.7**
RTLS	**Leoncito**	**4.58**	**144**	*e*P	**Pn**	**09 19 30.1**	**+3.4**
RTLS				IAML		09 20 35.9	
	comp=Z,699nm,0.4s						
RTLL	**Cerro Villicun**	**4.72**	**134**	*e*P	**Pn**	**09 19 31.7**	**+3.4**
RTLL				IAML		09 20 43.9	
	comp=Z,822nm,0.4s						
ZON	**Zonda**	**4.74**	**137**	*e*P	**Pn**	**09 19 32.1**	**+3.4**
SJA	**San Juan**	**4.80**	**136**	*e*P	**Pn**	**09 19 33.9**	**+4.5**
SJA				IAML		09 20 46.6	
	comp=Z,376nm,0.8s						
AUSP	**Uspallata**	**4.88**	**148**	*e*P	**Pn**	**09 19 34.1**	**+3.3**
PB10	**IPOC Station P**	**4.89**	**21**	*e*Pn	**Pn**	**09 19 29.3**	**-1.4**
PB10				*e*Sn	**Sn**	**09 20 21.9**	**-5.4**
PB10	**IPOC Station P**	**4.89**	**21**	⇓*i*P	**Pn**	**09 19 29.1**	**-1.6**
PB10				*i* S	**Sn**	**09 20 23.5**	**-3.9**
ROCH	**El Roble**	**5.00**	**166**	⇑*i*P	**Pn**	**09 19 31.9**	**-0.5**
ROC1	**El Roble**	**5.00**	**166**	*e*Pn	**Pn**	**09 19 31.9**	**-0.6**
ROC1				*e*Sn	**Sn**	**09 20 24.2**	**-6.2**
ROC1	**El Roble**	**5.00**	**166**	*e*P	**Pn**	**09 19 31.7**	**-0.7**
ACLC	**CERRO LA CRUZ**	**5.00**	**106**	*e*P	**Pn**	**09 19 35.1**	**+2.7**
RTCV	**Cerro Valdivia**	**5.05**	**139**	*e*P	**Pn**	**09 19 36.1**	**+3.2**
CFA	**Coronel Fontan**	**5.05**	**135**	*e*P	**Pn**	**09 19 35.8**	**+2.9**
CFA	**Coronel Fontan**	**5.05**	**135**	Pn	**Pn**	**09 19 35.0**	**+2.1**
	comp=Z,48nm,0.3s,baz=317,slow=12,SNR=81						
CFA				Sn	**Sn**	**09 20 31.9**	**+0.5**
	comp=Z,48nm,0.3s,baz=45,slow=21,SNR=10.0						
PEL	**Peldehue**	**5.24**	**164**	*e*Pn	**Pn**	**09 19 35.5**	**0.0**
PEL				*e*Sn	**Sn**	**09 20 29.9**	**-6.2**
PEL	**Peldehue**	**5.24**	**164**	*e*P	**Pn**	**09 19 35.5**	**0.0**
PEL	**Peldehue**	**5.24**	**164**	P	**Pn**	**09 19 35.5**	**0.0**
ASAL	**Salagasta**	**5.45**	**146**	*e*P	**Pn**	**09 19 41.8**	**+3.4**
PB15	**IPOC Station P**	**5.58**	**30**	⇑*i*P	**Pn**	**09 19 40.4**	**+0.1**
ARCO	**CERRO ARCO**	**5.61**	**148**	*e*P	**Pn**	**09 19 44.2**	**+3.6**
ARCO				IAML		09 21 15.3	
	comp=Z,399nm,0.8s						
APLL	**PUNTA DE LOS L**	**5.66**	**115**	*e*P	**Pn**	**09 19 43.5**	**+2.3**
APLL				IAML		09 21 10.8	
	comp=Z,243nm,0.5s						
AAGR	**Agrelo**	**5.86**	**149**	*e*P	**Pn**	**09 19 47.9**	**+3.8**
CYA	**Choya**	**5.88**	**95**	*e*P	**Pn**	**09 19 46.3**	**+2.0**
CYA				IAML		09 20 01.8	
	comp=Z,413nm,0.5s						
FSA	**Cafayete**	**6.11**	**72**	*e*P	**Pn**	**09 19 51.7**	**+4.2**
PB04	**IPOC Station P**	**6.12**	**20**	*e*Pn	**Pn**	**09 19 46.3**	**-1.5**
PB04				*e*Sn	**Sn**	**09 20 51.8**	**-6.2**
ACAN	**Cantantal**	**6.16**	**134**	*e*P	**Pn**	**09 19 50.9**	**+2.8**
LVC	**Limon Verde**	**6.35**	**31**	*e*Pn	**Pn**	**09 19 51.4**	**+0.4**
LVC				*e*Sn	**Sn**	**09 20 57.4**	**-6.4**
LVC	**Limon Verde**	**6.35**	**31**	Pn	**Pn**	**09 19 51.3**	**+0.3**
	comp=Z,14nm,0.3s,baz=170,slow=6.5,SNR=187						
LVC				Sn	**Sn**	**09 21 01.8**	**-2.1**
	comp=Z,52nm,0.3s,baz=43,slow=19,SNR=10						
LVC	**Limon Verde**	**6.35**	**31**	*e*P	**Pn**	**09 19 50.9**	**-0.1**
AHML	**Horco Molle**	**6.46**	**80**	*e*P	**Pn**	**09 19 55.7**	**+3.3**
AHML				IAML		09 21 43.2	
	comp=Z,97nm,0.5s						
GO05	**Huala**	**6.89**	**176**	*e*Pn	**Pn**	**09 19 56.2**	**-2.0**
GO05				*e*Sn	Sn	09 21 06.8	-10
MRA	**San Martin**	**7.24**	**128**	*e*P	**Pn**	**09 20 04.8**	**+1.9**
MRA				IAML		09 22 09.6	
	comp=Z,212nm,0.6s						
PB01	**IPOC Station P**	**7.54**	**22**	*e*Pn	**Pn**	**09 20 06.1**	**-1.1**
PB01				*e*Sn	**Sn**	**09 21 25.9**	**-6.9**
TCA	**Tanti**	**7.55**	**117**	*e*P	**Pn**	**09 20 07.8**	**+0.5**
PB11	**IPOC Station P**	**8.70**	**18**	*e*Pn	**Pn**	**09 20 21.2**	**-1.9**
PB11				*e*Sn	**Sn**	**09 21 56.6**	**-4.8**
GO01	**Chusmiza**	**8.92**	**20**	*e*Pn	**Pn**	**09 20 25.3**	**-1.2**
GO01				*e*Sn	**Sn**	**09 22 01.7**	**-5.6**
MNMC	**Minye Minye**	**9.32**	**17**	*e*Pn	**Pn**	**09 20 30.1**	**-1.7**
MNMC				*e*Sn	**Sn**	**09 22 11.0**	**-5.8**
GO06	**Curarrehue**	**11.47**	**176**	*e*Pn	**Pn**	**09 21 00.2**	**-0.8**
LPAZ	**La Paz**	**12.43**	**20**	Pn	**Pn**	**09 21 15.2**	**+0.6**
	comp=Z,3.5nm,0.3s,baz=188,slow=4.8,SNR=100						
LPAZ	**La Paz**	**12.43**	**20**	*e*P	**Pn**	**09 21 16.0**	**+1.4**
PLCA	**Paso Flores**	**12.69**	**173**	*e*Pn	**Pn**	**09 21 16.5**	**-1.1**
PLCA	**Paso Flores**	**12.69**	**173**	P	**Pn**	**09 21 20.7**	**+3.1**
PLCA				pmax	pmax		
	comp=Z,28μm,0.9s						
PLCA	**Paso Flores**	**12.69**	**173**	Pn	**Pn**	**09 21 16.7**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=0.6,slow=11,SNR=81						
PLCA				LR	LR	09 25 45.5	
	comp=Z,529nm,18.6s,baz=28,slow=36						
PLCA	**Paso Flores**	**12.69**	**173**	*e*P	**Pn**	**09 21 20.6**	**+3.0**
TRQA	**Tornquist**	**13.24**	**141**	*e*Pn	**Pn**	**09 21 22.7**	**-2.4**
TRQA	**Tornquist**	**13.24**	**141**	*e*P	**Pn**	**09 21 27.1**	**+2.1**
CPUP	**Villa Florida**	**13.58**	**86**	*e*Pn	**Pn**	**09 21 27.4**	**-2.3**
CPUP	**Villa Florida**	**13.58**	**86**	Pn	**Pn**	**09 21 28.2**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=262,slow=13,SNR=6.5						
CPUP				Lg	Lg	09 25 29.2	
	comp=Z,0.3nm,0.3s,baz=116,slow=8.7,SNR=2.8						
CPUP				LR	LR	09 27 01.1	
	comp=Z,2μm,21.3s,baz=261,slow=39						
CPUP	**Villa Florida**	**13.58**	**86**	*e*P	**Pn**	**09 21 29.3**	**-0.4**
SIV	**San Ignacio**	**16.01**	**43**	Pn	**Pn**	**09 21 56.6**	**-5.9**
	comp=Z,1.5nm,0.3s,baz=242,slow=9.7,SNR=28						
SIV				LR	LR	09 28 53.9	
	comp=Z,1μm,18.8s,baz=233,slow=40						
NNA	**Nana**	**16.56**	**345**	*e*Pn	**Pn**	**09 22 08.8**	**-0.8**
	comp=Z,21nm,0.8s						
NNA	**Nana**	**16.56**	**345**	Pn	**P**	**09 22 11.8**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=221,slow=10,SNR=2.5						
NNA				LR	LR	09 25 44.7	
	comp=Z,188nm,21.7s,baz=176,slow=27						
AQDB	**Aquidauana**	**17.05**	**67**	*e*P	**Pn**	**09 22 15.4**	**-0.2**
ITAB	**Concordia**	**18.03**	**92**	*e*P	**P**	**09 22 28.7**	**+0.5**
PTGB	**Pitanga**	**18.57**	**84**	*e*P	**Pn**	**09 22 35.9**	**+1.3**
TRCB	**Terra Rica**	**18.66**	**78**	*e*P	**Pn**	**09 22 36.2**	**+0.6**
CNLB	**Canela**	**18.99**	**99**	*e*P	**Pn**	**09 22 41.0**	**+1.4**
SALV	**Santo Antonio**	**19.70**	**55**	*e*P	**Pn**	**09 22 47.4**	**-0.7**
TER01	**Tubaro-SC**	**20.54**	**97**	*e*P	**P**	**09 22 56.3**	**+0.6**
TIJ01	**Guaruva-PR**	**21.13**	**88**	*e*P	**P**	**09 23 01.7**	**-0.6**
FRTB	**Fartura**	**21.15**	**82**	*e*P	**P**	**09 23 04.7**	**+2.2**
ATAH	**Atahualpa**	**21.61**	**344**	P	**P**	**09 23 12.1**	**+4.3**
	comp=Z,25nm,0.9s,baz=153,slow=6.4,SNR=9.7						
ITRB	**Iturama**	**21.84**	**72**	*e*P	**P**	**09 23 11.4**	**+1.5**
BB19B	**Bebedouro**	**22.84**	**77**	*e*P	**P**	**09 23 21.1**	**+0.6**
PET01	**Itanhaem-SP**	**22.90**	**86**	*e*P	**P**	**09 23 22.1**	**+1.0**
SPB	**Sao Paulo**	**22.95**	**84**	*e*P	**P**	**09 23 20.0**	**-1.6**
	comp=Z,21nm,0.8s						
SPB	**Sao Paulo**	**22.95**	**84**	*e*P	**P**	**09 23 22.1**	**+0.5**
GO09	**Cerro Castillo**	**23.13**	**180**	*e*P	**P**	**09 23 19.7**	**-3.5**
	comp=Z,63nm,1.1s						
CLDB	**Colider**	**23.20**	**46**	*e*P	**P**	**09 23 25.5**	**+1.2**
RCLB	**Rio Claro- Sao**	**23.22**	**81**	*e*P	**P**	**09 23 26.1**	**+1.6**
GO10	**Punta Arenas**	**25.04**	**178**	*e*P	**P**	**09 23 39.9**	**-1.3**
	comp=Z,170nm,1.1s						
PMNB	**Patos De Minas**	**25.68**	**74**	*e*P	**P**	**09 23 48.7**	**+1.2**
BDFB	**Brasilia**	**25.80**	**66**	*e*P	**P**	**09 23 47.7**	**-0.9**
	comp=Z,42nm,0.8s						
BDFB	**Brasilia**	**25.80**	**66**	P	**P**	**09 23 50.2**	**+1.6**
	comp=Z,36nm,0.7s,baz=238,slow=10,SNR=72						
BDFB				LR	LR	09 34 57.3	
	comp=Z,2μm,19.9s,baz=243,slow=39						
EFI	**East Falkland**	**25.90**	**159**	*e*P	**P**	**09 23 47.6**	**-1.4**
	comp=Z,98nm,1.2s						
EFI	**East Falkland**	**25.90**	**159**	*ce*P	**P**	**09 23 50.6**	**+1.6**
EFI				pmax	pmax		
	comp=Z,53nm,1.0s						
BSCB	**Bom Sucesso**	**26.12**	**80**	*e*P	**P**	**09 23 51.7**	**+0.2**
USHA	**Ushuaia**	**26.86**	**175**	P	**P**	**09 23 58.6**	**+1.0**
	comp=Z,18nm,0.7s,baz=349,slow=3.1,SNR=16						
USHA				LR	LR	09 34 19.8	
	comp=Z,376nm,21.2s,baz=317,slow=36						
PTLC	**Puerto Leguiza**	**28.21**	**355**	*e*P	**P**	**09 24 10.1**	**-0.1**
PTLC	**Puerto Leguiza**	**28.21**	**355**	*e*P	**P**	**09 24 10.1**	**-0.1**
CAM01	**Campos-RJ**	**28.56**	**84**	*e*P	**P**	**09 24 14.9**	**+1.6**
MCI6	**Montes Claros**	**28.62**	**73**	*e*P	**P**	**09 24 15.5**	**+1.6**
MCI8	**Montes Claros**	**28.67**	**73**	*e*P	**P**	**09 24 16.5**	**+2.1**
MCI9	**Montes Claros**	**28.67**	**73**	*e*P	**P**	**09 24 16.1**	**+1.7**
OTAV	**Otavalo**	**28.77**	**347**	*e*P	**P**	**09 24 14.2**	**-1.4**
	comp=Z,3.8nm,1.0s						
OTAV	**Otavalo**	**28.77**	**347**	*e*P	**P**	**09 24 14.2**	**-1.4**
OTAV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OTAV	**Otavalo**	**28.77**	**347**	*e*P	**P**	**09 24 19.9**	**+4.3**
JANB	**Januaria**	**29.13**	**69**	*e*P	**P**	**09 24 20.4**	**+1.9**
PTGA	**Pitinga**	**29.74**	**26**	*e*P	**P**	**09 24 21.9**	**-1.8**
	comp=Z,13nm,0.9s						
PTGA				*e*PcP	**PcP**	**09 27 30.1**	**+2.3**
PTGA	**Pitinga**	**29.74**	**26**	P	**P**	**09 24 25.0**	**+1.2**
	comp=Z,12nm,0.8s,baz=207,slow=8.8,SNR=18						
PTGA				PcP	**PcP**	**09 27 30.3**	**+2.6**
	comp=Z,9.2nm,0.7s,baz=252,slow=6.4,SNR=6.3						
PTGA				LR	LR	09 37 37.3	
	comp=Z,249nm,19.9s,baz=197,slow=39						
PTGA	**Pitinga**	**29.74**	**26**	*e*P	**P**	**09 24 25.3**	**+1.6**
SJMB	**Sao Joao De Ma**	**30.11**	**79**	*e*P	**P**	**09 24 28.9**	**+1.8**
BSFB	**Barra de Sao F**	**30.36**	**79**	*e*P	**P**	**09 24 30.6**	**+1.4**
RIB01	**Linhares ES**	**30.56**	**80**	*e*P	**P**	**09 24 33.6**	**+2.6**
POPC	**Popayan, Colom**	**30.75**	**352**	*e*P	**P**	**09 24 37.5**	**+4.6**
POPC	**Popayan, Colom**	**30.75**	**352**	*e*P	**P**	**09 24 37.5**	**+4.6**
PRAC	**Prado**	**31.73**	**355**	*e*P	P	09 24 47.6	+6.3
PRAC	**Prado**	**31.73**	**355**	*e*P	P	09 24 47.6	+6.3
VILC	**Villavicencio,**	**32.06**	**358**	*e*P	**P**	**09 24 48.3**	**+3.9**
VILC	**Villavicencio,**	**32.06**	**358**	*e*P	**P**	**09 24 48.3**	**+3.9**
ROSC	**El Rosal**	**32.81**	**357**	*e*P	**P**	**09 24 48.1**	**-3.1**
	comp=Z,8.1nm,0.8s						
ROSC	**El Rosal**	**32.81**	**357**	P	**P**	**09 24 55.1**	**+3.9**
	comp=Z,2.1nm,0.3s,baz=49,slow=19,SNR=4.6						
ROSC				LR	LR	09 37 58.1	
	comp=Z,202nm,18.3s,baz=203,slow=36						
RUSC	**La Rusia**	**33.81**	**359**	*e*P	**P**	**09 25 03.2**	**+3.2**
RUSC	**La Rusia**	**33.81**	**359**	*e*P	**P**	**09 25 03.2**	**+3.2**
HELC	**Santa Helena**	**34.23**	**355**	*e*P	**P**	**09 25 06.3**	**+2.8**
HELC	**Santa Helena**	**34.23**	**355**	*e*P	**P**	**09 25 06.3**	**+2.8**
PTBC	**PUERTO BERRIO,**	**34.50**	**356**	*e*P	**P**	**09 25 06.8**	**+1.2**
PTBC	**PUERTO BERRIO,**	**34.50**	**356**	*e*P	**P**	**09 25 06.8**	**+1.2**
DBBC	**Dabeiba**	**35.11**	**354**	*e*P	**P**	**09 25 15.3**	**+4.4**
DBBC	**Dabeiba**	**35.11**	**354**	*e*P	**P**	**09 25 15.3**	**+4.4**
UREC	**San Jos de Ur**	**35.78**	**355**	*e*P	**P**	**09 25 18.6**	**+2.1**
UREC	**San Jos de Ur**	**35.78**	**355**	*e*P	**P**	**09 25 18.6**	**+2.1**
SMLC	**San Martn de**	**36.73**	**357**	*e*P	**P**	**09 25 25.4**	**+0.7**
SMLC	**San Martn de**	**36.73**	**357**	*e*P	**P**	**09 25 25.4**	**+0.7**
SDV	**Santo Domingo**	**36.82**	**3**	*e*P	**P**	**09 25 22.0**	**-3.6**
	comp=Z,21nm,0.6s						
SDV	**Santo Domingo**	**36.82**	**3**	*e*P	**P**	**09 25 27.5**	**+1.9**
PMSA	**Palmer Station**	**37.06**	**174**	*e*P	**P**	**09 25 24.9**	**-2.0**
	comp=Z,154nm,1.3s						
PMSA	**Palmer Station**	**37.06**	**174**	*e*P	**P**	**09 25 29.7**	**+2.8**
BCIP	**Isla Barro Col**	**37.74**	**348**	*e*P	**P**	**09 25 31.4**	**-1.8**
	comp=Z,34nm,1.4s						
BCIP	**Isla Barro Col**	**37.74**	**348**	*e*P	**P**	**09 25 31.4**	**-1.8**
BCIP				pmax	pmax		
	comp=Z,34nm,1.4s						
JTS	**Las Juntas de**	**40.05**	**341**	*e*P	**P**	**09 25 48.8**	**-3.8**
	comp=Z,9.6nm,1.1s						
JTS	**Las Juntas de**	**40.05**	**341**	⇑*e*P	**P**	**09 25 54.4**	**+1.8**
JTS				pmax	pmax		
	comp=Z,23nm,1.6s						
CSGN	**Cosiguina Volc**	**43.39**	**338**	*e*P	**P**	**09 26 18.6**	**-1.4**
	comp=Z,35nm,1.0s						
FDF	**Fort de France**	**43.98**	**16**	*e*P	**P**	**09 26 23.1**	**-1.6**
	comp=Z,29nm,0.9s						
FDF	**Fort de France**	**43.98**	**16**	*e*P	**P**	**09 26 23.1**	**-1.6**
FDF				pmax	pmax		
	comp=Z,29nm,0.9s						
TGUH	**Tegucigalpa,Un**	**44.31**	**339**	*e*P	**P**	**09 26 24.9**	**-2.5**
	comp=Z,29nm,1.1s						
ICMP	**Isla Caja de M**	**46.09**	**8**	*e*P	**P**	**09 26 38.8**	**-2.6**
	comp=Z,40nm,0.9s						
CRPR	**Cabo Rojo, PR**	**46.14**	**7**	*e*P	**P**	**09 26 43.3**	**+1.5**
	comp=Z,37nm,0.9s						
OBIP	**Obispado Ponce**	**46.23**	**8**	*e*P	**P**	**09 26 40.6**	**-1.9**
	comp=Z,50nm,0.8s						
SEUS	**St. Eustatius**	**46.26**	**13**	*e*P	**P**	**09 26 40.0**	**-2.7**
	comp=Z,51nm,0.8s						
BANI	**BANI**	**46.28**	**3**	*e*P	**P**	**09 26 40.2**	**-2.8**
MTDJ	**Mount Denham**	**46.33**	**353**	*e*P	**P**	**09 26 42.1**	**-1.3**
	comp=Z,34nm,0.9s						
MPR	**Mayaguez**	**46.34**	**7**	*e*P	**P**	**09 26 42.7**	**-0.7**
	comp=Z,54nm,1.0s						
SJG	**San Juan**	**46.36**	**8**	*e*P	**P**	**09 26 41.4**	**-2.1**
	comp=Z,26nm,0.9s						
SJG	**San Juan**	**46.36**	**8**	*e*P	**P**	**09 26 41.4**	**-2.1**
SJG				pmax	pmax		
	comp=Z,26nm,0.9s						
SDD	**Santo Domingo**	**46.36**	**3**	*e*P	**P**	**09 26 41.5**	**-2.0**
	comp=Z,99nm,0.7s						
MTP	**Monte Pirata**	**46.42**	**9**	*e*P	**P**	**09 26 43.1**	**-0.9**
	comp=Z,7.1nm,0.9s						
AOPR	**Arecibo Observ**	**46.52**	**7**	*e*P	**P**	**09 26 43.6**	**-1.2**
	comp=Z,29nm,0.9s						
CBYP	**Canovanas**	**46.55**	**9**	*e*P	**P**	**09 26 43.6**	**-1.5**
	comp=Z,20nm,0.9s						
CUPR	**Culebra, Puert**	**46.67**	**9**	*e*P	**P**	**09 26 45.2**	**-0.7**
	comp=Z,10nm,0.8s						
ANWB	**Willy Bob**	**46.67**	**14**	*e*P	**P**	**09 26 44.5**	**-1.4**
	comp=Z,92nm,1.4s						
SDDR	**Presa de Saban**	**46.83**	**2**	*e*P	**P**	**09 26 45.8**	**-1.5**
	comp=Z,12nm,0.9s						
GTBY	**Guantanamo Bay**	**47.83**	**357**	*e*P	**P**	**09 26 53.8**	**-1.2**
	comp=Z,29nm,0.8s						
CCIG	**Comitan**	**48.07**	**334**	*e*P	**P**	**09 26 52.5**	**-4.6**
	comp=Z,20nm,1.2s						
GRTK	**Grand Turk**	**49.35**	**2**	*e*P	**P**	**09 27 03.8**	**-2.8**
	comp=Z,63nm,1.0s						
PTCN	**Pitcairn Islan**	**51.22**	**259**	*e*P	**P**	**09 27 18.3**	**-2.8**
	comp=Z,375nm,1.3s						
MYIG	**Mrida**	**51.56**	**339**	*e*P	**P**	**09 27 20.8**	**-2.6**
	comp=Z,67nm,0.8s						
TLIG	**Tlapa**	**51.97**	**328**	*e*P	**P**	**09

baz=171
150A **Eclectic** 61.75 347 P P 09 28 36.9 +1.2
baz=166,SNR=6.2
833A **Chaparral WMA,** 61.77 333 eP P 09 28 33.5 -2.5
comp=Z,45nm,1.1s
833A **Chaparral WMA,** 61.77 333 P P 09 28 38.7 +2.7
baz=153
Z54A **Sparta** 61.80 350 P P 09 28 37.1 +1.1
baz=170
149A **Jones** 61.90 346 P P 09 28 37.7 +1.0
baz=166
HKT **Hockley** 61.91 337 eP P 09 28 36.8 +0.1
HKT pmax pmax
comp=Z,7.0nm,1.0s
Z53A **Monticello** 61.96 349 P P 09 28 38.0 +0.9
baz=169
Z52A **Williamson** 62.02 349 P P 09 28 38.5 +1.0
baz=168
Y60A **Bolivia** 62.02 355 P P 09 28 38.9 +1.5
baz=174
Y58A **Scranton** 62.06 353 P P 09 28 39.3 +1.6
baz=173
GOGA **Godfrey** 62.07 350 P P 09 28 38.7 +0.9
baz=169
QSPA **South Pole Qui** 62.10 180 eP P 09 28 35.4 -2.6
comp=Z,21nm,0.8s
148A **Greensboro** 62.11 346 P P 09 28 39.2 +1.1
baz=165
Y56A **Pelion** 62.14 352 P P 09 28 40.2 +1.9
baz=171
Y57A **Sumter** 62.25 353 P P 09 28 40.6 +1.6
baz=172
Z51A **Franklin** 62.27 348 P P 09 28 40.4 +1.1
baz=167
147A **Livingston** 62.29 345 P P 09 28 40.5 +1.2
baz=164
SHEL **Horse Pasture** 62.35 94 eP P 09 28 36.3 -4.0
comp=Z,157nm,1.0s
SHEL **Horse Pasture** 62.35 94 eP P 09 28 36.3 -4.0
SHEL pmax pmax
comp=Z,157nm,1.0s
Y55A **Saluda** 62.35 351 P P 09 28 41.1 +1.4
baz=171
Z50A **Ashland** 62.36 347 eP P 09 28 37.7 -2.1
comp=Z,30nm,0.9s
Z50A **Ashland** 62.36 347 P P 09 28 40.8 +1.0
baz=167,SNR=10
LRAL **Lakeview Retre** 62.36 346 eP P 09 28 35.5 -4.3
LRAL **Lakeview Retre** 62.36 346 P P 09 28 40.9 +1.1
baz=166
Y54A **Tignall** 62.40 350 P P 09 28 41.9 +1.9
baz=170
Z49A **Columbiana** 62.42 347 P P 09 28 41.3 +1.1
baz=166
Y53A **Monroe** 62.53 350 P P 09 28 42.8 +1.9
baz=169
X60A **Albert Glenn T** 62.57 355 P P 09 28 42.8 +1.7
baz=174
JSC **Jenkinsville** 62.61 352 eP P 09 28 40.0 -1.5
comp=Z,20nm,1.0s
JSC **Jenkinsville** 62.61 352 eP P 09 28 40.0 -1.5
JSC pmax pmax
comp=Z,20nm,1.0s
Y52A **Lilburn** 62.61 349 eP P 09 28 38.9 -2.6
comp=Z,18nm,1.0s
Y52A **Lilburn** 62.61 349 P P 09 28 42.8 +1.3
baz=168
X59A **McDuffie Farm,** 62.62 354 P P 09 28 43.0 +1.6
baz=174
X57A **Johnson Farm,** 62.66 353 P P 09 28 43.4 +1.7
baz=172
X58A **Rowland** 62.67 354 eP P 09 28 39.0 -2.8
comp=Z,45nm,0.8s
X58A **Rowland** 62.67 354 P P 09 28 43.3 +1.5
baz=173,SNR=5.2
X56A **White Oak** 62.79 352 P P 09 28 44.1 +1.5
baz=172
Y51A **Rockmart** 62.82 348 P P 09 28 44.0 +1.1
baz=168,SNR=7.0
X55A **Gracelyn & Ava** 62.85 351 P P 09 28 44.5 +1.5
baz=171
Y50A **Piedmont** 62.94 348 P P 09 28 44.9 +1.2
baz=167,SNR=7.3
W60A **Pink Hill** 63.02 355 P P 09 28 46.1 +1.9
baz=175
X54A **Belton** 63.02 351 P P 09 28 45.7 +1.5
baz=170
Y49A **Blount Mountai** 63.04 347 P P 09 28 46.1 +1.8
baz=166
W61A **Ground Anchor** 63.10 356 P P 09 28 46.9 +2.2
baz=176
X53A **Estanollee** 63.12 350 P P 09 28 46.1 +1.3
baz=169
W58A **Raeford** 63.12 354 P P 09 28 46.5 +1.7
baz=173
NATX **Nacogdoches** 63.19 339 eP P 09 28 41.6 -3.8
comp=Z,40nm,0.9s
NATX **Nacogdoches** 63.19 339 P P 09 28 47.6 +2.3
baz=158
W59A **Clinton** 63.19 355 P P 09 28 47.0 +1.7
baz=174
CNNC **Cliffs of the** 63.22 355 eP P 09 28 42.6 -2.8
comp=Z,47nm,1.0s
CNNC **Cliffs of the** 63.22 355 P P 09 28 47.0 +1.6
baz=175
Y48A **Jasper** 63.25 346 P P 09 28 47.1 +1.4
baz=166
X52A **Dahlonega** 63.31 349 P P 09 28 47.4 +1.3
baz=169,SNR=6.9
W57A **Gilead** 63.33 353 eP P 09 28 43.8 -2.4
comp=Z,19nm,0.9s
W57A **Gilead** 63.33 353 P P 09 28 47.6 +1.5
baz=172
HPIG 63.35 327 eP P 09 28 44.1 -2.7
comp=Z,8.8nm,0.8s
W56A **Indian Trail** 63.38 353 P P 09 28 47.8 +1.3
baz=172
X51A **Calhoun** 63.44 349 eP P 09 28 46.0 -0.9
comp=Z,48nm,0.9s
X51A **Calhoun** 63.44 349 P P 09 28 47.9 +1.0
baz=168,SNR=9.5
KMSC **Kings Mountain** 63.47 352 eP P 09 28 45.9 -1.2
comp=Z,23nm,1.0s
KMSC **Kings Mountain** 63.47 352 P P 09 28 48.8 +1.7
baz=171
X50B **Fort Payne** 63.48 348 P P 09 28 48.3 +1.1
baz=167,SNR=8.0
W54A **Cherokee Point** 63.53 351 P P 09 28 49.2 +1.7
baz=170
BG3 **Lake Jocassee** 63.54 350 eP P 09 28 46.9 -0.8
comp=Z,21nm,0.9s
X49A **Woodville** 63.66 347 P P 09 28 49.5 +1.2
baz=166
V61A **Roper** 63.68 356 P P 09 28 50.7 +2.2
baz=176
V60A **Jim Taylor Roa** 63.70 356 eP P 09 28 45.9 -2.7
comp=Z,39nm,0.9s
V60A **Jim Taylor Roa** 63.70 356 P P 09 28 50.4 +1.8
baz=175
X48A **Hartselle** 63.74 347 eP P 09 28 45.8 -3.2
comp=Z,39nm,0.8s
X48A **Hartselle** 63.74 347 P P 09 28 50.3 +1.4
baz=166,SNR=16
W53A **Cullowhee** 63.75 350 P P 09 28 50.7 +1.6
baz=169,SNR=11
V59A **Middlesex** 63.77 355 P P 09 28 51.1 +2.1
baz=174
W52A **Murphy** 63.79 350 eP P 09 28 45.4 -4.0
comp=Z,33nm,0.9s
W52A **Murphy** 63.79 350 P P 09 28 50.3 +1.0
baz=169,SNR=6.1
JCT **Junction City** 63.85 334 eP P 09 28 46.1 -3.7
comp=Z,21nm,0.8s
JCT **Junction City** 63.85 334 eP P 09 28 46.1 -3.7
JCT pmax pmax
comp=Z,21nm,0.8s
JCT **Junction City** 63.85 334 P P 09 28 52.5 +2.7
baz=153,SNR=16
V58A **Windy Hill, Pi** 63.88 354 P P 09 28 51.3 +1.5
baz=173
X47A **Russelville** 63.98 346 P P 09 28 51.6 +1.1
baz=165,SNR=16
W51A **Cleveland** 64.00 349 P P 09 28 52.1 +1.5
baz=168,SNR=12
Z41A **Richland Creek** 64.02 341 eP P 09 28 47.9 -2.9
comp=Z,18nm,0.9s
Z41A **Richland Creek** 64.02 341 P P 09 28 52.2 +1.5
baz=160

V56A **Mocksville** 64.03 353 eP P 09 28 48.1 -2.8
comp=Z,26nm,1.1s
V56A **Mocksville** 64.03 353 P P 09 28 52.5 +1.7
baz=172
V57A **Coltrane Farms** 64.03 353 P P 09 28 52.3 +1.5
baz=173
W50A **Signal Mountai** 64.13 348 eP P 09 28 48.7 -2.9
comp=Z,42nm,0.8s
W50A **Signal Mountai** 64.13 348 P P 09 28 53.1 +1.5
baz=167,SNR=12
V55A **Taylorsville** 64.16 352 P P 09 28 53.1 +1.4
baz=171,SNR=5.4
X46A **Booneville** 64.17 345 P P 09 28 53.0 +1.2
baz=164,SNR=7.4
V54A **Nebo** 64.18 351 P P 09 28 53.3 +1.4
baz=171,SNR=6.9
V53A **Saluda** 64.19 351 eP P 09 28 50.2 -1.8
comp=Z,24nm,0.9s
V53A **Saluda** 64.19 351 P P 09 28 53.4 +1.5
baz=170,SNR=6.9
U61A **Possum Corner** 64.21 356 eP P 09 28 49.8 -2.2
comp=Z,207nm,1.3s
U61A **Possum Corner** 64.21 356 P P 09 28 54.4 +2.5
baz=176
W49A **Belvidere** 64.23 347 P P 09 28 53.4 +1.2
baz=166
CPCT **Cooper Cave** 64.24 349 eP P 09 28 50.7 -1.5
comp=Z,37nm,1.0s
SWET **Sewanee** 64.26 348 eP P 09 28 51.7 -0.7
comp=Z,51nm,0.8s
OXF **Oxford** 64.32 345 eP P 09 28 50.4 -2.3
comp=Z,92nm,1.0s
OXF **Oxford** 64.32 345 eP P 09 28 50.4 -2.3
OXF pmax pmax
comp=Z,92nm,1.0s
OXF **Oxford** 64.32 345 P P 09 28 54.0 +1.3
baz=163,SNR=11
U59A **Littleton** 64.32 355 eP P 09 28 48.6 -4.1
comp=Z,25nm,1.0s
U59A **Littleton** 64.32 355 P P 09 28 54.7 +2.0
baz=175
WHTX **Lake Whitney,** 64.33 337 eP P 09 28 50.3 -2.6
comp=Z,23nm,0.9s
WHTX **Lake Whitney,** 64.33 337 P P 09 28 55.0 +2.1
baz=156
W48A **Pulaski** 64.38 347 P P 09 28 54.5 +1.4
baz=166,SNR=8.1
U60A **Pendleton** 64.39 356 P P 09 28 54.5 +1.4
baz=175,SNR=7.7
U58A **Oxford** 64.42 355 P P 09 28 55.0 +1.6
baz=174
TX31 **Lajitas Ar. Si** 64.46 330 eP P 09 28 54.1 +0.2
comp=Z,7.8nm,1.0s
TXAR **Lajitas Array** 64.46 330 eP P 09 28 53.8 -0.1
TXAR **Lajitas Array** 64.46 330 P P 09 28 56.6 +2.7
comp=Z,5.9nm,0.8s,baz=150,slow=8.2,SNR=40
TXAR LR LR 09 52 46.1
comp=Z,149nm,19.7s,baz=0.0,slow=32
TXAR PKP2bc 09 57 50.4
comp=Z,1.0nm,1.1s,baz=242,slow=1.9,SNR=3.5
PLAL **Pickwick Lake** 64.47 346 eP P 09 28 51.0 -2.7
comp=Z,28nm,0.9s
V52A **Sevierville** 64.47 350 eP P 09 28 53.0 -0.8
comp=Z,32nm,0.8s
V52A **Sevierville** 64.47 350 P P 09 28 55.1 +1.3
baz=169,SNR=9.8
WLAR **White Oak Lake** 64.51 341 eP P 09 28 53.3 -0.7
comp=Z,16nm,0.8s
U57A **Blanch** 64.53 354 P P 09 28 55.4 +1.4
baz=173
U56A **King** 64.55 353 P P 09 28 56.3 +2.0
baz=172
V50A **Pikeville** 64.56 349 P P 09 28 55.9 +1.6
baz=168,SNR=12
V51A **Loudon** 64.56 349 eP P 09 28 52.0 -2.3
comp=Z,26nm,0.9s
V51A **Loudon** 64.56 349 P P 09 28 55.4 +1.1
baz=168
W47A **Westpoint** 64.63 346 P P 09 28 56.1 +1.3
baz=165,SNR=11
X43A **Marvell** 64.69 343 eP P 09 28 53.2 -1.9
comp=Z,82nm,0.8s
X43A **Marvell** 64.69 343 P P 09 28 57.2 +2.1
baz=162
U55A **TA2, Sparta** 64.78 352 P P 09 28 57.3 +1.5
baz=172
V49A **McMinnville** 64.79 348 P P 09 28 57.1 +1.3
baz=167,SNR=14
U53A **Fall Branch** 64.84 351 P P 09 28 57.0 +0.9
baz=170
U54A **Nelsons Funny** 64.89 352 eP P 09 28 54.7 -1.8
comp=Z,34nm,0.8s
U54A **Nelsons Funny** 64.89 352 P P 09 28 57.7 +1.2
baz=171,SNR=6.6
T59A **Double "B" Far** 64.92 355 eP P 09 28 54.2 -2.4
comp=Z,29nm,0.8s
T59A **Double "B" Far** 64.92 355 P P 09 28 58.4 +1.8
baz=175,SNR=8.2
V48A **Smith Brothers** 64.94 347 eP P 09 28 56.8 0.0
comp=Z,32nm,0.9s
V48A **Smith Brothers** 64.94 347 P P 09 28 58.3 +1.5
baz=166,SNR=13
T58A **Grand View Acr** 64.97 355 P P 09 28 58.3 +1.4
baz=174,SNR=9.5
U52A **Thorn Hill** 64.98 350 P P 09 28 57.8 +0.7
baz=169
U51A **La Follette** 65.07 350 P P 09 28 58.6 +1.0
baz=169,SNR=6.5
T57A **Hurt** 65.08 354 P P 09 28 59.0 +1.3
baz=173
TZTN **Tazewell** 65.16 350 P P 09 28 59.4 +1.2
baz=169
V47A **Nunnelly** 65.17 347 P P 09 28 59.1 +0.9
baz=165
X40A **Basin Creek Fa** 65.18 342 eP P 09 28 55.6 -2.8
comp=Z,6.9nm,1.2s
X40A **Basin Creek Fa** 65.18 342 P P 09 29 00.1 +1.7
baz=160
CLTN **Cedars of Leba** 65.19 348 eP P 09 28 55.8 -2.6
comp=Z,7.1nm,0.8s
T56A **Rocky Mt** 65.19 353 P P 09 29 00.2 +1.8
baz=173,SNR=5.3
U50A **Jamestown** 65.24 349 P P 09 28 59.8 +1.1
baz=168,SNR=15
V46A **Holladay** 65.27 346 P P 09 28 59.8 +0.9
baz=165,SNR=11
UALR **University of** 65.31 342 eP P 09 28 56.5 -2.7
comp=Z,20nm,1.4s
T55A **Pulaski** 65.36 353 P P 09 29 00.7 +1.2
baz=172
T54A **Tazewell** 65.39 352 P P 09 29 00.9 +1.1
baz=171
BLA **Blacksburg** 65.41 353 P P 09 29 01.2 +1.4
baz=172
T53A **Wise** 65.44 351 P P 09 29 00.8 +0.7
baz=170
MIAR **Mount Ida** 65.45 341 eP P 09 28 57.1 -3.0
comp=Z,9.7nm,0.8s
MIAR **Mount Ida** 65.45 341 eP P 09 28 57.1 -3.0
MIAR pmax pmax
comp=Z,10.0nm,0.8s
MIAR **Mount Ida** 65.45 341 P P 09 29 02.2 +2.1
baz=160,SNR=5.1
U49A **Red Boiling Sp** 65.50 348 P P 09 29 01.4 +1.0
baz=167,SNR=7.1
WVT **Waverly** 65.52 346 eP P 09 28 59.6 -0.9
comp=Z,38nm,0.8s
WVT **Waverly** 65.52 346 eP P 09 28 59.7 -0.9
WVT pmax pmax
comp=Z,39nm,0.8s
WVT **Waverly** 65.52 346 P P 09 29 01.6 +1.1
baz=165
S58A **Poland Farm, P** 65.59 355 eP P 09 28 59.6 -1.4
comp=Z,21nm,0.8s
S58A **Poland Farm, P** 65.59 355 P P 09 29 03.2 +2.3
baz=175
T51A **Gray** 65.63 350 P P 09 29 02.6 +1.3
baz=169,SNR=13
U48A **Cassie Pea, Po** 65.63 348 P P 09 29 02.5 +1.3
baz=166,SNR=8.8
W41B **Gary Mavity, V** 65.67 342 eP P 09 29 00.9 -0.6
comp=Z,15nm,0.9s
W41B **Gary Mavity, V** 65.67 342 P P 09 29 03.4 +1.9
baz=161,SNR=7.6
S59A **Mechanicsville** 65.69 356 P P 09 29 01.6 0.0
baz=175,SNR=6.7
ABTX **Abilene, Hawle** 65.70 335 eP P 09 29 01.3 -0.5
comp=Z,45nm,0.9s

ABTX **Abilene, Hawle** 65.70 335 P P 09 29 04.3 +2.5
baz=154,SNR=24
U47A **Clarksville** 65.71 347 P P 09 29 03.2 +1.4
baz=166,SNR=14
S56A **Natural Bridge** 65.78 354 P P 09 29 03.9 +1.6
baz=173,SNR=7.0
WHAR **Wooly Hollow** 65.79 342 eP P 09 28 58.2 -4.1
comp=Z,18nm,0.9s
S57A **Dark Hollow, R** 65.81 354 eP P 09 29 00.4 -2.0
comp=Z,22nm,0.8s
S57A **Dark Hollow, R** 65.81 354 P P 09 29 04.2 +1.8
baz=174,SNR=6.1
U46A **Springville** 65.82 346 P P 09 29 03.6 +1.2
baz=165,SNR=7.2
T50A **Nancy** 65.83 349 P P 09 29 03.6 +1.1
baz=168,SNR=5.2
GNAR **Gosnell** 65.85 344 eP P 09 29 00.6 -2.0
comp=Z,87nm,1.0s
R58B **Mineral** 65.93 355 eP P 09 29 01.7 -1.4
comp=Z,35nm,0.8s
R58B **Mineral** 65.93 355 P P 09 29 05.5 +2.4
baz=175,SNR=8.3
UTMT **University of** 65.95 346 eP P 09 29 02.1 -1.2
comp=Z,77nm,1.1s
S55A **Lewisburg** 65.97 353 P P 09 29 05.0 +1.5
baz=172,SNR=5.0
T49A **Edmonton** 66.03 349 eP P 09 29 02.6 -1.2
comp=Z,37nm,0.8s
T49A **Edmonton** 66.03 349 P P 09 29 05.0 +1.2
baz=167,SNR=15
S53A **Williamson** 66.08 352 P P 09 29 05.7 +1.6
baz=171
R59A **King George, V** 66.11 356 P P 09 29 06.9 +2.7
baz=176
W39A **Magazine** 66.11 341 P P 09 29 06.9 +2.5
baz=159,SNR=11
CBN **Corbin Frederi** 66.13 356 eP P 09 29 02.7 -1.7
comp=Z,23nm,0.9s
CBN **Corbin Frederi** 66.13 356 P P 09 29 06.6 +2.2
baz=175
R60A **Leonardtown, M** 66.15 356 P P 09 29 06.9 +2.4
baz=176
T48A **Bowling Green** 66.19 348 P P 09 29 06.1 +1.2
baz=167,SNR=8.4
T47A **Sharon Grove** 66.20 347 eP P 09 29 03.7 -1.2
comp=Z,53nm,0.9s
T47A **Sharon Grove** 66.20 347 P P 09 29 06.4 +1.5
baz=166,SNR=19
TAOE **Nuku Hiva Isla** 66.23 273 eLR LR 09 49 01.7
comp=Z,893nm,26.2s
S51A **Beattyville** 66.24 350 eP P 09 29 01.0 -4.1
comp=Z,22nm,0.8s
S51A **Beattyville** 66.24 350 P P 09 29 06.2 +1.1
baz=169,SNR=5.6
R58A **Rapidan** 66.27 355 P P 09 29 07.4 +2.1
baz=175
R57A **Stanardsville** 66.31 355 P P 09 29 07.9 +2.3
baz=174,SNR=9.6
S50A **Richmond** 66.40 350 P P 09 29 07.4 +1.2
baz=168,SNR=9.1
T46A **Princeton** 66.42 347 P P 09 29 08.0 +1.7
baz=165,SNR=23
R54A **Victor** 66.43 353 P P 09 29 07.6 +1.3
baz=172
R55A **Marlinton** 66.44 353 P P 09 29 08.6 +2.1
baz=173
PARMO **Parma** 66.46 345 eP P 09 29 02.5 -4.1
comp=Z,88nm,0.6s
T45A **Paducah** 66.55 346 eP P 09 29 03.8 -3.3
comp=Z,75nm,0.8s
T45A **Paducah** 66.55 346 P P 09 29 08.7 +1.6
baz=164
S49A **Springfield** 66.65 349 P P 09 29 08.7 +0.9
baz=169
S48A **Wiedeman Farm,** 66.66 348 P P 09 29 08.3 +0.5
baz=167,SNR=9.0
U41A **Viola** 66.68 343 P P 09 29 09.6 +1.6
baz=161,SNR=11
R53A **Hurricane** 66.69 352 eP P 09 29 03.9 -4.2
comp=Z,13nm,0.8s
R53A **Hurricane** 66.69 352 P P 09 29 09.0 +1.0
baz=171
S47A **Hartford** 66.75 348 P P 09 29 09.2 +0.8
baz=166,SNR=14
R52A **Catlettsburg** 66.79 351 P P 09 29 09.9 +1.3
baz=170
R51A **Hillsboro** 66.88 350 P P 09 29 10.6 +1.3
baz=169,SNR=5.4
U40A **Yellville** 66.94 342 P P 09 29 11.2 +1.5
baz=160,SNR=16
R50A **Paris** 66.98 350 P P 09 29 11.0 +1.1
baz=169
S46A **Don Dixon Farm** 67.00 347 P P 09 29 11.0 +1.0
baz=165,SNR=7.8
Q57A **Strasburg** 67.03 355 P P 09 29 12.6 +2.4
baz=174,SNR=8.3
SRIG **Santa Rosalia** 67.05 322 eP P 09 29 08.3 -2.2
comp=Z,55nm,1.0s
R49A **Shelbyville** 67.12 349 P P 09 29 11.7 +0.9
baz=168,SNR=6.4
Q55A **Buckhannon** 67.14 354 P P 09 29 13.0 +2.0
baz=173
Q53A **Leroy** 67.16 352 P P 09 29 12.0 +1.0
baz=171
S45A **Carrier Mills** 67.17 346 P P 09 29 12.4 +1.4
baz=165,SNR=5.5
HHAR **Hobbs** 67.17 341 eP P 09 29 08.1 -3.1
comp=Z,22nm,0.9s
Q54A **Coxs Mills** 67.21 353 eP P 09 29 08.3 -3.0
comp=Z,20nm,0.8s
Q54A **Coxs Mills** 67.21 353 P P 09 29 12.8 +1.5
baz=172
MNTX **Cornudas Mount** 67.24 330 eP P 09 29 08.7 -3.0
comp=Z,10nm,0.8s
MNTX **Cornudas Mount** 67.24 330 P P 09 29 12.7 +1.0
baz=149,SNR=28
WCI **Wyandotte Cave** 67.26 348 eP P 09 29 09.0 -2.6
comp=Z,31nm,0.8s
WCI **Wyandotte Cave** 67.26 348 eP P 09 29 09.0 -2.6
WCI pmax pmax
comp=Z,31nm,0.8s
WMOK **Wichita Mounta** 67.29 337 eP P 09 29 10.2 -1.7
comp=Z,7.5nm,0.8s
WMOK **Wichita Mounta** 67.29 337 eP P 09 29 10.2 -1.7
WMOK pmax pmax
comp=Z,8.0nm,0.8s
WMOK **Wichita Mounta** 67.29 337 P P 09 29 13.3 +1.4
baz=155,SNR=9.4
SDMD **Soldier's Deli** 67.30 356 eP P 09 29 09.5 -2.3
comp=Z,14nm,0.9s
S44A **Carbondale** 67.33 346 P P 09 29 13.9 +1.8
baz=164,SNR=20
SIUC **Southern Illin** 67.34 346 eP P 09 29 11.0 -1.1
comp=Z,62nm,0.8s
R48A **Northridge Ran** 67.35 349 P P 09 29 13.6 +1.4
baz=167,SNR=7.7
Q52A **Bidwell** 67.36 352 P P 09 29 12.9 +0.7
baz=171
R47A **Wooly Knot Far** 67.36 348 P P 09 29 14.1 +1.8
baz=166
TUL1 **Leonard** 67.38 340 eP P 09 29 10.9 -1.5
comp=Z,31nm,0.8s
TUL1 **Leonard** 67.38 340 P P 09 29 14.2 +1.7
baz=158,SNR=9.3
R46A **Gibon Southern** 67.47 347 P P 09 29 14.8 +1.9
baz=166
Q50A **Georgetown** 67.47 350 P P 09 29 15.0 +2.0
baz=169
P59A **Jarrettsville** 67.48 357 P P 09 29 15.2 +2.3
baz=176,SNR=21
Q51A **Peebles** 67.56 351 eP P 09 29 11.8 -1.7
comp=Z,29nm,0.9s
Q51A **Peebles** 67.56 351 P P 09 29 14.7 +1.1
baz=170,SNR=6.0
OK024 **West corner E0** 67.60 339 eP P 09 29 12.5 -1.4
comp=Z,19nm,0.9s
P55A **Reedsville** 67.62 354 P P 09 29 15.8 +1.8
baz=173
OK023 **East Waterloo** 67.64 338 eP P 09 29 12.1 -2.0
comp=Z,24nm,0.8s
R45A **Skylar, Fairfi** 67.70 347 P P 09 29 15.7 +1.3
baz=165,SNR=18
PSUB **Penn St. - Bra** 67.75 358 eP P 09 29 12.7 -2.0
comp=Z,7.5nm,0.6s
P53A **Whipple** 67.77 353 eP P 09 29 13.2 -1.7
comp=Z,23nm,0.9s
P53A **Whipple** 67.77 353 P P 09 29 16.2 +1.4
baz=172

MCWV	Mont Chateau baz=173	67.77 354	P	P	09 29 16.4 +1.5
Q49A	Aurora baz=168,SNR=5.4	67.78 350	P	P	09 29 15.9 +1.0
P54A	Burton baz=172,SNR=10.0	67.78 353	P	P	09 29 16.5 +1.5
S41A	Jillco Farms, baz=162,SNR=17	67.82 344	P	P	09 29 16.9 +1.7
Q48A	North Vernon baz=167	67.84 349	P	P	09 29 16.4 +1.1
MVL	Millersville comp=Z,35nm,0.9s	67.86 357	eP	P	09 29 13.8 -1.5
Q47A	Bedord North L baz=167	67.97 348	P	P	09 29 16.6 +0.5
P51A	Williamsport comp=Z,24nm,0.8s	67.97 351	eP	P	09 29 15.3 -0.8
P51A	Williamsport baz=170	67.97 351	P	P	09 29 16.5 +0.4
P52A	Corning baz=171,SNR=6.7	68.00 352	P	P	09 29 17.0 +0.7
OLIL	Olney comp=Z,25nm,0.8s	68.09 347	eP	P	09 29 15.3 -1.6
MSTX	Muleshoe comp=Z,39nm,0.8s	68.10 333	eP	P	09 29 17.7 +0.5
MSTX	Muleshoe baz=151	68.10 333	P	P	09 29 19.3 +2.1
PAGS	Pennsylvania G comp=Z,42nm,0.8s	68.11 356	eP	P	09 29 15.6 -1.3
CCM	Cathedral Cave comp=Z,42nm,0.8s	68.14 344	eP	P	09 29 16.4 -0.8
CCM CCM	Cathedral Cave comp=Z,42nm,0.8s	68.14 344	eP pmax	P pmax	09 29 16.4 -0.8
CCM	Cathedral Cave baz=162	68.14 344	P	P	09 29 18.9 +1.8
O60A	Telford baz=177	68.14 358	P	P	09 29 19.5 +2.4
O59A	Robesonia baz=176,SNR=6.2	68.16 357	P	P	09 29 20.1 +2.8
P50A	Jamestown baz=169	68.20 351	P	P	09 29 18.7 +1.1
BLO	Bloomington comp=Z,16nm,0.8s	68.21 348	eP	P	09 29 16.6 -1.0
BLO BLO	Bloomington comp=Z,16nm,0.8s	68.21 348	eP pmax	P pmax	09 29 16.6 -1.0
Q45A	Warren Harvey, baz=165,SNR=13	68.26 347	P	P	09 29 19.0 +1.1
P49A	Miami Univ. Ec baz=168	68.26 350	P	P	09 29 18.8 +0.9
O55A	Ligonier baz=174,SNR=6.5	68.27 354	P	P	09 29 19.2 +1.2
O56A	Blue Knob Stat comp=Z,18nm,0.9s	68.27 355	eP	P	09 29 16.8 -1.2
O56A	Blue Knob Stat baz=174	68.27 355	P	P	09 29 19.8 +1.8
P48A	Milroy baz=168	68.31 349	P	P	09 29 19.1 +0.9
O54A	Avella baz=172	68.34 353	P	P	09 29 20.1 +1.6
R41A	Rosebud baz=162,SNR=24	68.40 344	P	P	09 29 20.6 +1.8
O52A	Adamsville comp=Z,18nm,0.8s	68.44 352	eP	P	09 29 17.6 -1.4
O52A	Adamsville baz=171,SNR=5.5	68.44 352	P	P	09 29 20.3 +1.2
TBI	Tubuai comp=Z,395nm,32.0s	68.45 254	eLR	LR	09 50 02.4
SLM	Saint Louis comp=Z,52nm,0.8s	68.45 345	eP	P	09 29 17.3 -1.8
SLM SLM	Saint Louis comp=Z,52nm,0.8s	68.45 345	eP pmax	P pmax	09 29 17.3 -1.8
BRNJ	Basking Ridge comp=Z,26nm,0.8s	68.47 358	eP	P	09 29 19.9 +0.8
P47A	Martinsville baz=167	68.47 349	P	P	09 29 20.2 +0.9
AMTX	Amarillo	68.48 334	eP	P	09 29 18.5 -1.0
AMTX	Amarillo baz=152	68.48 334	P	P	09 29 21.8 +2.3
O53A	New Philadelph baz=172	68.50 353	P	P	09 29 20.9 +1.5
O51A	Pataskala baz=170,SNR=7.2	68.56 352	P	P	09 29 20.9 +1.1
SSPA	Standing Stone baz=175	68.59 356	P	P	09 29 22.1 +2.2
ACSO	Alum Creek Sta comp=Z,48nm,0.8s	68.70 351	eP	P	09 29 19.9 -0.8
ACSO	Alum Creek Sta baz=170,SNR=12	68.70 351	P	P	09 29 22.0 +1.3
O50A	Cable baz=169,SNR=7.2	68.70 351	P	P	09 29 21.7 +1.0
N59A	State Game Lan comp=Z,24nm,0.8s	68.75 357	eP	P	09 29 19.9 -1.0
N59A	State Game Lan baz=177,SNR=6.8	68.75 357	P	P	09 29 23.4 +2.4
P46A	Rosedale baz=166,SNR=14	68.77 348	P	P	09 29 22.0 +0.9
PAL	Palisades baz=179	68.78 359	P	P	09 29 22.8 +1.7
Q42A	Golden Eagle baz=163,SNR=36	68.78 345	P	P	09 29 23.2 +2.0
P45A	Graceland, Par comp=Z,54nm,0.8s	68.79 347	eP	P	09 29 19.8 -1.4
P45A	Graceland, Par baz=166,SNR=13	68.79 347	P	P	09 29 22.0 +0.8
N55A	Marion Center comp=Z,44nm,0.9s	68.81 355	eP	P	09 29 18.4 -2.9
N55A	Marion Center baz=174,SNR=11	68.81 355	P	P	09 29 23.5 +2.1
O49A	Covington comp=Z,32nm,1.3s	68.84 350	eP	P	09 29 20.9 -0.7
O49A	Covington baz=169	68.84 350	P	P	09 29 22.6 +1.0
ODNJ	Ogdensburg comp=Z,19nm,1.0s	68.88 358	eP	P	09 29 20.7 -1.0
N53A	Lisbon baz=172	69.01 353	P	P	09 29 23.9 +1.3
O48A	Farmland baz=168	69.04 350	P	P	09 29 23.4 +0.6
N54A	Moraine State baz=173	69.08 354	P	P	09 29 24.0 +0.9
O47A	Sheridan baz=167,SNR=8.4	69.19 349	P	P	09 29 24.5 +0.8
N50A	Nevada baz=170,SNR=7.1	69.25 351	P	P	09 29 25.2 +1.2
P43A	Skaggs, Pawnee baz=164,SNR=27	69.26 346	P	P	09 29 25.7 +1.5
N51A	Ashland baz=171	69.30 352	P	P	09 29 25.5 +1.2
M55A	Ridgway baz=174,SNR=10	69.48 355	P	P	09 29 27.1 +1.6
O45A	Potomac baz=166,SNR=16	69.48 348	P	P	09 29 26.3 +0.8
SFIN	Lafayette comp=Z,28nm,0.8s	69.49 348	eP	P	09 29 23.9 -1.6
SFIN	Lafayette baz=166	69.49 348	P	P	09 29 26.2 +0.7
O44A	Mansfield baz=165,SNR=5.9	69.53 347	P	P	09 29 26.9 +1.0
N49A	Columbus Grove comp=Z,57nm,0.8s	69.54 351	eP	P	09 29 25.5 -0.4
N49A	Columbus Grove baz=169,SNR=11	69.54 351	P	P	09 29 27.3 +1.5
M54A	Oil Creek Stat comp=Z,24nm,0.9s	69.59 354	eP	P	09 29 25.9 -0.3
M54A	Oil Creek Stat baz=173	69.59 354	P	P	09 29 27.6 +1.4
N48A	Decatur baz=168,SNR=8.3	69.61 350	P	P	09 29 27.2 +0.9
M53A	WI Miller and baz=172	69.62 353	P	P	09 29 27.3 +0.9
M51A	Elyria baz=171	69.68 352	P	P	09 29 27.8 +1.1
BRYW	Bryant College comp=Z,61nm,0.8s	69.69 1	eP	P	09 29 24.9 -1.9
N47A	Urbana baz=168,SNR=7.5	69.73 349	P	P	09 29 27.8 +0.8
M52A	Chesterland comp=Z,19nm,0.8s	69.79 353	eP	P	09 29 27.2 -0.2
M52A	Chesterland baz=172	69.79 353	P	P	09 29 28.7 +1.3
VNDA	Vanda	69.79 191	eP	P	09 29 27.4 +0.4
VNDA	Vanda comp=Z,4.5nm,0.9s,baz=130,slow=5.9,SNR=20	69.79 191	P PKP2bc	P	09 29 29.5 +2.4
VNDA	comp=Z,1.5nm,1.0s,baz=280,slow=7.4,SNR=5.1				09 57 29.2
O43A	Sugar Creek Fa baz=164,SNR=14	69.83 346	P	P	09 29 29.0 +1.4
M50A	Fremont baz=170	69.86 352	P	P	09 29 29.0 +1.2
BNM	Barren Site	69.87 330	eP	P	09 29 25.4 -2.9
N46A	Monticello baz=167,SNR=5.4	69.93 349	P	P	09 29 28.9 +0.7
LPM	Los Pinos Moun	70.01 330	eP	P	09 29 29.1 -0.1
O41A	Passleys Farm, baz=163,SNR=14	70.01 345	P	P	09 29 30.2 +1.4
N45A	Kentland baz=166	70.02 348	P	P	09 29 29.5 +0.7
BINY	Binghamton comp=Z,28nm,1.1s	70.04 357	eP	P	09 29 27.5 -1.4
BINY	Binghamton baz=177,SNR=6.3	70.04 357	P	P	09 29 30.7 +1.8
M49A	Liberty Center baz=169,SNR=7.2	70.06 351	P	P	09 29 30.1 +1.1
N44A	Piper City baz=165,SNR=7.2	70.09 347	P	P	09 29 30.2 +1.0
HDIL	Hopedale comp=Z,70nm,0.7s	70.09 346	eP	P	09 29 27.4 -1.8
HDIL	Hopedale baz=164,SNR=17	70.09 346	P	P	09 29 30.4 +1.2
L53A	Girard baz=173	70.09 354	P	P	09 29 30.5 +1.3
PLIO	Pelee Island, baz=170,SNR=5.5	70.15 352	P	P	09 29 30.5 +0.9
WES	Weston comp=Z,31nm,0.9s	70.16 1	eP	P	09 29 28.0 -1.6
WES WES	Weston comp=Z,31nm,0.9s	70.16 1	eP pmax	P pmax	09 29 28.0 -1.6
L55A	Hinsdale baz=174,SNR=10	70.16 355	P	P	09 29 31.8 +2.1
M48A	Edgerton comp=Z,34nm,0.8s	70.17 350	eP	P	09 29 27.3 -2.4
M48A	Edgerton baz=168	70.17 350	P	P	09 29 30.8 +1.0
M47A	Cromwell baz=168	70.19 350	P	P	09 29 30.8 +0.9
ERPA	Erie comp=Z,30nm,0.9s	70.23 354	eP	P	09 29 27.3 -2.8
ERPA	Erie baz=173	70.23 354	P	P	09 29 31.4 +1.4
HRV	Adam Dziewonsk comp=Z,56nm,0.9s	70.27 1	eP	P	09 29 29.3 -1.0
HRV	Adam Dziewonsk baz=181	70.27 1	P	P	09 29 33.2 +2.9
TUC	Tucson comp=Z,5.2nm,1.1s	70.28 326	eP	P	09 29 29.1 -1.6
TUC TUC	Tucson comp=Z,5.0nm,1.1s	70.28 326	eP pmax	P pmax	09 29 29.1 -1.6
TUC	Tucson baz=144	70.28 326	P	P	09 29 33.8 +3.1
L54A	Sinclairville baz=174,SNR=8.7	70.28 355	P	P	09 29 32.4 +1.9
M46A	Old House Fiel baz=167	70.36 349	P	P	09 29 32.1 +1.2
N43A	Stutzman Famil baz=164,SNR=17	70.43 347	P	P	09 29 32.9 +1.5
ANMO	Albuquerque comp=Z,6.4nm,1.0s	70.47 331	eP	P	09 29 29.6 -2.4
ANMO ANMO	Albuquerque comp=Z,18nm,2.5s	70.47 331⇑	eP pmax	P pmax	09 29 35.5 +3.5
TASM	ASL Pad, Albuq baz=148,SNR=7.6	70.47 331	P	P	09 29 34.9 +2.9
TASM	ASL Pad, Albuq baz=148,SNR=7.0	70.47 331	P	P	09 29 34.7 +2.7
N41A	Harden Midland comp=Z,60nm,0.8s	70.57 345	eP	P	09 29 29.3 -2.9
N41A	Harden Midland baz=163,SNR=11	70.57 345	P	P	09 29 33.5 +1.4
M44A	Mwin, Midew baz=165	70.64 348	P	P	09 29 32.9 +0.3
L49A	Milan baz=169,SNR=6.9	70.65 351	P	P	09 29 34.0 +1.4
MMNY	Mt. Morris Dam comp=Z,39nm,0.8s	70.67 356	eP	P	09 29 30.7 -2.0
K55A	Perry baz=175,SNR=9.7	70.68 356	P	P	09 29 34.6 +1.8
L47A	Sherwood baz=168,SNR=7.3	70.73 350	P	P	09 29 34.0 +0.9
PPT2	Papeete2 comp=Z,255nm,24.0s	70.82 260	eS	S	09 38 43.6 -6.3
PPT2	Papeete2 comp=Z,563nm,24.2s	70.82 260	eLR	LR	09 51 10.0
M43A	Waltham Townsh baz=165,SNR=5.6	70.87 347	P	P	09 29 35.2 +1.3
N40A	Mertquake, Sal baz=162,SNR=14	70.91 345	P	P	09 29 35.7 +1.5
L46A	Eue Claire baz=167	70.94 349	P	P	09 29 35.3 +0.9
K52A	Tillsonburg baz=172,SNR=6.6	70.95 354	P	P	09 29 35.9 +1.4
K51A	Iona Station baz=172	70.98 353	P	P	09 29 35.9 +1.3
214A	Organ Pipe Nat baz=143,SNR=5.4	71.02 324	P	P	09 29 38.6 +3.4
M42A	Sheffield baz=164	71.05 346	P	P	09 29 36.3 +1.2
M41A	Milan baz=163,SNR=7.5	71.14 346	P	P	09 29 36.9 +1.3
MEDO	Medina baz=174	71.14 355	P	P	09 29 37.0 +1.4
ACCN	Adirondack Com comp=Z,16nm,0.8s	71.16 359	eP	P	09 29 34.0 -1.7
TYNO	Tyneside baz=173,SNR=6.5	71.19 354	P	P	09 29 37.2 +1.3
J55A	Hilton comp=Z,37nm,0.8s	71.20 356	eP	P	09 29 35.8 -0.1
J55A	Hilton baz=175,SNR=17	71.20 356	P	P	09 29 37.6 +1.7
STCO	Saint Catharin baz=174	71.24 355	P	P	09 29 37.5 +1.3
J54A	Appleton comp=Z,19nm,0.8s	71.26 355	eP	P	09 29 34.6 -1.7
J54A	Appleton baz=174	71.26 355	P	P	09 29 37.7 +1.4
K49A	Clarkson baz=170	71.27 351	P	P	09 29 37.2 +0.8
CBKS	Cedar Bluff comp=Z,25nm,0.8s	71.29 338	eP	P	09 29 35.5 -1.2
CBKS CBKS	Cedar Bluff comp=Z,25nm,0.8s	71.29 338	eP pmax	P pmax	09 29 35.5 -1.2
CBKS	Cedar Bluff baz=155,SNR=6.1	71.29 338	P	P	09 29 39.0 +2.3
K47A	Vermontville baz=168	71.38 350	P	P	09 29 38.1 +1.1
K48A	Perry baz=169,SNR=7.7	71.38 351	P	P	09 29 38.1 +1.1
J52A	Paris baz=172,SNR=9.4	71.39 354	P	P	09 29 38.5 +1.5
M40A	Post Highland baz=162,SNR=12	71.39 345	P	P	09 29 38.5 +1.4
HNH	Hanover comp=Z,29nm,0.8s	71.47 0	eP	P	09 29 36.1 -1.5
SYO	Syowa Base	71.47 159⇑	iP	P	09 29 36.5 -0.9
SYO	Syowa Base	71.47 159‖	i,pp		09 29 38.3
SYO	Syowa Base	71.47 159‖	ePcP	PcP	09 29 57.1 +0.2
K46A	Dorr baz=168	71.51 350	P	P	09 29 38.4 +0.6
T25A	Trinidad comp=Z,12nm,0.8s	71.51 334	eP	P	09 29 36.5 -1.8
T25A	Trinidad baz=150,SNR=12	71.51 334	P	P	09 29 40.9 +2.6
L43A	Garden Prairie baz=165,SNR=6.2	71.55 347	P	P	09 29 39.3 +1.2
L42A	Oliver, Polo baz=164	71.56 347	P	P	09 29 40.0 +1.8
M39A	Webster baz=162	71.61 345	P	P	09 29 39.8 +1.3
J49A	Marlette baz=170	71.80 352	P	P	09 29 40.7 +1.2
L41A	Preston baz=163,SNR=6.2	71.80 346	P	P	09 29 41.0 +1.4
PECO	Prince Edward baz=176,SNR=14	71.82 357	P	P	09 29 41.6 +2.0
J48A	Bridge Port baz=170,SNR=9.3	71.82 351	P	P	09 29 40.8 +1.2
DRWO	Darlington Wes baz=174,SNR=6.5	71.86 355	P	P	09 29 41.9 +2.0
DRCO	St. Marys Ceme baz=174,SNR=5.4	71.87 355	P	P	09 29 41.8 +1.9
WLVO	Wesleyville baz=174	71.89 355	P	P	09 29 42.1 +2.0
J47A	Sunmer baz=168,SNR=5.3	71.91 351	P	P	09 29 41.3 +1.1
L40A	Anamosa baz=163,SNR=24	71.95 345	P	P	09 29 41.8 +1.3
K43A	Burlington baz=165	71.97 348	P	P	09 29 42.2 +1.6
PKRO	Pickering baz=174,SNR=12	71.98 355	P	P	09 29 42.3 +1.7
I51A	Listowel baz=172,SNR=12	72.00 353	P	P	09 29 42.3 +1.5
LBNH	Lisbon baz=180	72.00 0	P	P	09 29 43.1 +2.3
J46A	Howard City baz=168	72.14 350	P	P	09 29 43.2 +1.6
I55A	Frankford baz=175,SNR=23	72.14 356	P	P	09 29 43.4 +1.8
L39A	Vinton baz=162	72.18 345	P	P	09 29 43.3 +1.4
K42A	Prairie Point, baz=164,SNR=11	72.24 347	P	P	09 29 44.0 +1.8
K41A	Shullsburg baz=164,SNR=9.6	72.27 346	P	P	09 29 44.2 +1.7
BASO	Ashfield baz=171	72.27 353	P	P	09 29 43.9 +1.6
BWLO	Walkerton baz=172,SNR=7.2	72.32 353	P	P	09 29 44.2 +1.6
I49A	Point Hope baz=170	72.33 352	P	P	09 29 43.7 +1.0
LONY	Lake Ozonia baz=178,SNR=9.5	72.41 358	P	P	09 29 45.2 +2.0
DELO	Deloro Mine baz=175,SNR=9.1	72.43 356	P	P	09 29 45.1 +1.8
H56A	Elgin baz=176,SNR=12	72.44 357	P	P	09 29 45.5 +2.2
H55A	Tweed baz=176,SNR=7.5	72.44 356	P	P	09 29 45.2 +1.8
SDCO	Great Sand Dun baz=150,SNR=15	72.47 333	P	P	09 29 47.2 +3.1
BRCO	Bruce Peninsul baz=172	72.47 353	P	P	09 29 45.3 +1.7
KSCO	Kaye Shedlock' baz=152,SNR=7.7	72.48 336	P	P	09 29 46.9 +3.0
K40A	Colesburg baz=163,SNR=15	72.53 346	P	P	09 29 45.7 +1.7
JFWS	Jewell Farm baz=164,SNR=10	72.55 346	P	P	09 29 45.9 +1.9
I47A	Gladwin baz=169,SNR=6.5	72.63 351	P	P	09 29 45.6 +1.1
J43A	Natural Harves baz=165	72.64 348	P	P	09 29 45.7 +1.1
I48A	Sherman Twp baz=170,SNR=14	72.68 352	P	P	09 29 46.0 +1.2
I46A	Reed City baz=168	72.69 350	P	P	09 29 45.9 +1.0
K39A	Oelwein baz=162,SNR=6.2	72.71 345	P	P	09 29 46.1 +1.1
J42A	Columbus baz=165,SNR=7.8	72.71 347	P	P	09 29 46.6 +1.5
H52A	Wyevale baz=173,SNR=12	72.72 354	P	P	09 29 46.5 +1.5
BMRO	Meriville Lake baz=172,SNR=7.1	72.80 353	P	P	09 29 47.0 +1.5
PLVO	Plevna baz=176,SNR=6.5	72.92 357	P	P	09 29 48.1 +1.8
J41A	Loganville baz=164,SNR=13	72.94 347	P	P	09 29 48.1 +1.7
BANO	Bancroft baz=175,SNR=7.0	72.95 356	P	P	09 29 48.1 +1.6
S22A	4UR Ranch, Cre baz=149	73.01 332	P	P	09 29 50.3 +3.0
PKME	Peaks-Kenny Pk baz=183	73.08 2	P	P	09 29 49.6 +2.4
G53A	Haliburton baz=174,SNR=56	73.10 355	P	P	09 29 49.3 +2.0
J40A	Soldiers Grove baz=163,SNR=19	73.11 346	P	P	09 29 49.1 +1.7
G55A	Calabogie baz=176	73.12 357	P	P	09 29 49.2 +1.8
H48A	Harrisville baz=170,SNR=6.2	73.14 352	P	P	09 29 48.7 +1.2
BGNE	Belgrade baz=156,SNR=6.0	73.15 340	P	P	09 29 49.8 +2.1
H47A	Mio baz=169	73.15 351	P	P	09 29 48.6 +1.0
WUAZ	Wupatki comp=Z,20nm,0.9s	73.17 328	eP	P	09 29 47.3 -0.8
WUAZ	Wupatki baz=145,SNR=21	73.17 328	P	P	09 29 51.6 +3.4
I42A	Draeger Farm, baz=165	73.22 348	P	P	09 29 49.7 +1.7
H46A	Fife Lake baz=168,SNR=8.1	73.23 351	P	P	09 29 49.1 +0.9
MVCO	Mesa Verde baz=147,SNR=11	73.26 331	P	P	09 29 51.8 +3.1
J39A	Decorah baz=162,SNR=14	73.27 345	P	P	09 29 49.8 +1.5
ORIO	Orleans, Innes baz=177	73.27 358	P	P	09 29 50.7 +2.5
Y12C	Blythe comp=Z,6.0nm,0.8s	73.31 324	eP	P	09 29 45.7 -3.1
Y12C	Blythe baz=142	73.31 324	P	P	09 29 51.9 +3.0
LIC	Lamto comp=Z,56nm,0.9s	73.35 73	eP	P	09 29 50.9 +1.4
Q24A	Divide baz=150,SNR=13	73.38 334	P	P	09 29 52.6 +3.1
ALFO	Alfred baz=178,SNR=6.2	73.42 358	P	P	09 29 51.0 +1.8
TOBO	Tobermory, Bru baz=172,SNR=5.9	73.45 353	P	P	09 29 50.7 +1.3
KLBO	Killbear Provi baz=173,SNR=27	73.46 354	P	P	09 29 51.0 +1.6
BUKO	Buck Lake baz=174,SNR=38	73.48 355	P	P	09 29 51.3 +1.8
I40A	Norwalk baz=163,SNR=5.7	73.56 346	P	P	09 29 51.5 +1.5
PEMO	Pembroke baz=176,SNR=8.1	73.57 356	P	P	09 29 51.8 +1.8
I41A	Arkdale baz=164	73.57 347	P	P	09 29 52.0 +1.9
TIC	Toumodi	73.57 73	eP	P	09 29 52.5 +1.7
H43A	Windswept, Lux baz=166	73.58 349	P	P	09 29 51.9 +1.7
KIC	Kosan Boka comp=Z,59nm,1.0s	73.66 73	eP	P	09 29 53.1 +1.7
G47A	Hillman baz=170	73.67 352	P	P	09 29 52.0 +1.3
F55A	Otter Lake baz=176	73.68 357	P	P	09 29 53.1 +2.4
I39A	Houston baz=162,SNR=14	73.72 346	P	P	09 29 52.6 +1.6
BC3	Big Chuckawall baz=141,SNR=5.4	73.72 324	P	P	09 29 53.1 +1.7
DBIC	Dimbokro comp=Z,27nm,0.6s,baz=217,slow=5.6,SNR=38	73.72 73	P	P	09 29 53.6 +1.9
DBIC	comp=Z,458nm,21.3s,baz=218,slow=34		LR	LR	09 59 25.1
H42A	Shiocton baz=165	73.75 348	P	P	09 29 52.7 +1.6
F52A	Sundridge baz=174,SNR=34	73.82 355	P	P	09 29 53.3 +1.7
ALGO	Algonquin Park baz=175,SNR=18	73.89 356	P	P	09 29 53.6 +1.7
IRM	Iron Mountain baz=142	73.95 324	P	P	09 29 55.5 +2.8
F51A	Arnstein baz=173,SNR=22	74.00 355	P	P	09 29 54.2 +1.6
F49A	Sandfield baz=171,SNR=11	74.04 353	P	P	09 29 53.9 +1.1
H41A	Junction City baz=164,SNR=5.3	74.07 347	P	P	09 29 54.3 +1.3
F48A	Evansville baz=171,SNR=7.8	74.17 353	P	P	09 29 54.8 +1.3
PV13	Radium Mtn., P comp=Z,12nm,0.8s	74.20 331	eP	P	09 29 53.2 -1.1
PV02	Paradox Valley comp=Z,7.0nm,0.8s	74.20 331	eP	P	09 29 51.9 -2.4
H40A	Chili baz=164,SNR=10	74.22 347	P	P	09 29 55.0 +1.1
PFO	Pinyon Flats O comp=Z,5.7nm,0.8s	74.22 323	eP	P	09 29 54.0 -0.3
PFO PFO	Pinyon Flats O comp=Z,6.0nm,0.8s	74.22 323	eP pmax	P pmax	09 29 54.0 -0.3
PV05	Paradox Valley comp=Z,9.9nm,0.7s	74.25 331	eP	P	09 29 52.0 -2.5
E52A	Mattawa baz=174	74.26 356	P	P	09 29 55.7 +1.6

BELC Belle Mtn. Jos 74.28 324 P **P 09 29 57.5 +2.9**
baz=141
ISCO Idaho Springs 74.29 334 *e*P **P 09 29 54.0 -0.8**
comp=Z,6.1nm,0.8s
ISCO Idaho Springs 74.29 334 *e*P **P 09 29 54.0 -0.8**
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO Idaho Springs 74.29 334 P **P 09 29 57.7 +2.9**
baz=150,SNR=10.0
E53A Dumoine, Ponti 74.29 356 P **P 09 29 56.2 +2.0**
baz=175,SNR=5.8
SMCO Snowmass 74.29 333 *e*P **P 09 29 53.7 -1.2**
comp=Z,16nm,0.8s
E54A Lac Daplat, Po 74.32 357 P **P 09 29 56.2 +1.8**
baz=176,SNR=11
U15A North Rim 74.34 328 *e*P **P 09 29 53.7 -1.5**
comp=Z,10nm,0.8s
PV07 Paradox Valley 74.36 331 *e*P **P 09 29 53.3 -1.8**
comp=Z,7.5nm,0.9s
F46A Macinaw City C 74.38 351 P **P 09 29 56.1 +1.3**
baz=169
PV04 Paradox Valley 74.43 331 *e*P **P 09 29 54.0 -1.5**
comp=Z,6.8nm,1.0s
G42A Mountain 74.44 348 P **P 09 29 57.0 +1.8**
baz=165
H39A Augusta 74.46 346 P **P 09 29 57.0 +1.7**
baz=163
E50A Wahnapitae 74.56 354 P **P 09 29 57.5 +1.7**
baz=172,SNR=12
E51A G1948 Merrick 74.57 355 P **P 09 29 57.8 +1.9**
baz=174,SNR=31
MURC Murrieta 74.61 322 P **P 09 29 58.7 +2.2**
baz=140
H38A Maiden Rock 74.67 345 P **P 09 29 58.2 +1.7**
baz=162
GMRC Granite Mounta 74.71 324 P **P 09 30 00.4 +3.2**
baz=141,SNR=9.6
E48A Lockeyer 74.76 353 P **P 09 29 58.2 +1.2**
baz=171,SNR=17
F43A Flat Rock, Esc 74.80 349 P **P 09 29 58.4 +1.2**
baz=167
G40A Rib Lake 74.80 347 P **P 09 29 58.7 +1.4**
baz=164
F44A Big Bay de Noc 74.82 350 P **P 09 29 58.8 +1.5**
baz=167
ECSD EROS Data Cent 74.85 342 *e*P **P 09 29 56.5 -1.1**
comp=Z,28nm,0.8s
ECSD EROS Data Cent 74.85 342 P **P 09 29 59.6 +1.9**
baz=158,SNR=32
E47A Iron Bridge 74.86 352 P **P 09 29 58.8 +1.2**
baz=170,SNR=10
E46A Sault Ste Mari 74.90 352 *e*P **P 09 29 56.3 -1.5**
comp=Z,30nm,0.8s
E46A Sault Ste Mari 74.90 352 P **P 09 29 58.5 +0.7**
baz=169,SNR=6.2
D52A ZEK Kipawa Sen 74.93 356 P **P 09 30 00.1 +2.1**
baz=174,SNR=16
D54A Lac Fusel, La 75.01 357 P **P 09 29 59.8 +1.3**
baz=176,SNR=9.6
G39A Holcombe 75.01 346 P **P 09 29 59.7 +1.2**
baz=163,SNR=5.3
F41A Three Lakes 75.04 348 P **P 09 30 00.3 +1.6**
baz=165
G38A Ridgeland 75.05 346 P **P 09 29 60.0 +1.3**
baz=162,SNR=6.8
HEC Hector,Ludlow 75.09 324 P **P 09 30 02.9 +3.6**
baz=141
D51A Lot 18 Range I 75.11 355 P **P 09 30 00.7 +1.7**
baz=174,SNR=5.3
LATQ La Tuque 75.15 360 P **P 09 30 01.1 +1.9**
baz=180,SNR=6.7
BATG Bathurst New B 75.26 4 *e*P **P 09 29 58.3 -1.6**
comp=Z,16nm,1.1s
E43A Lone Tree Farm 75.30 350 P **P 09 30 01.8 +1.7**
baz=167
SPMN Marine on St. 75.31 345 *e*P **P 09 29 59.0 -1.2**
comp=Z,29nm,0.8s
SPMN Marine on St. 75.31 345 P **P 09 30 01.5 +1.3**
baz=162,SNR=9.2
BFSC Mount Baldy Ra 75.34 323 P **P 09 30 03.9 +3.1**
baz=140
N23A Red Feather La 75.36 334 P **P 09 30 03.8 +2.8**
baz=150,SNR=6.6
D46A Sault St. Mari 75.38 352 P **P 09 30 02.0 +1.4**
baz=169
F40A Park Falls 75.41 347 P **P 09 30 02.4 +1.6**
baz=164,SNR=9.3
D48A Paudash Townsh 75.41 353 P **P 09 30 02.1 +1.4**
baz=171,SNR=12
D47A Chapleau 75.43 352 P **P 09 30 02.2 +1.4**
baz=170
D49A Beulah Townshi 75.46 354 P **P 09 30 02.8 +1.8**
baz=172,SNR=18
E42A Champion 75.50 349 P **P 09 30 03.2 +1.9**
baz=166,SNR=6.0
F39A Loretta 75.56 347 P **P 09 30 03.4 +1.7**
baz=163,SNR=7.1
O20A White River Ci 75.62 332 P **P 09 30 05.5 +3.1**
baz=148,SNR=20
GSC Goldstone, Bar 75.70 324 P **P 09 30 06.2 +3.4**
baz=140,SNR=5.7
E41A Kenton 75.72 348 P **P 09 30 04.3 +1.8**
baz=165
F37A Hinrichs Farm, 75.74 346 P **P 09 30 04.5 +1.8**
baz=162,SNR=14
SHPR Sheep Range 75.80 326 *e*P **P 09 30 02.3 -1.1**
comp=Z,6.3nm,0.8s
F38A Pierce - Schro 75.80 346 P **P 09 30 05.0 +2.0**
baz=162,SNR=16
E40A Wakefield 75.87 348 P **P 09 30 04.9 +1.5**
baz=164,SNR=5.7
E39A Mellen 75.93 347 P **P 09 30 05.5 +1.8**
baz=164,SNR=7.9
EDW2 Edwards Air Fo 76.01 323 P **P 09 30 07.2 +2.7**
baz=140
SUSD Miller 76.16 341 P **P 09 30 07.7 +2.6**
baz=156
D41A Chassel 76.23 349 P **P 09 30 07.9 +2.5**
baz=165
LRMC Laurel Mtn Rad 76.30 323 P **P 09 30 09.4 +3.2**
baz=140,SNR=5.5
E38A The Farm, Brul 76.35 347 P **P 09 30 07.5 +1.3**
baz=163
SBC Santa Barbara 76.61 321 P **P 09 30 09.9 +2.0**
baz=138
FURC Furnace Creek, 76.63 325 P **P 09 30 11.1 +3.2**
baz=141,SNR=10
MPMC Manual Prospec 76.64 324 P **P 09 30 11.2 +3.0**
baz=140
ISA Isabella, Lake 76.86 323 *e*P **P 09 30 06.7 -2.7**
comp=Z,6.8nm,0.8s
ISA Isabella, Lake 76.86 323 *e*P **P 09 30 06.7 -2.7**
ISA pmax pmax
comp=Z,7.0nm,0.8s
ISA Isabella, Lake 76.86 323 P **P 09 30 12.9 +3.6**
baz=139,SNR=10
LSQQ Lebel-sur-Quev 76.93 357 P **P 09 30 11.0 +1.7**
baz=176
PKM Mcpherson Peak 77.00 322 P **P 09 30 13.4 +3.1**
baz=138,SNR=6.8
K22A Casper 77.09 335 P **P 09 30 13.6 +3.0**
baz=150,SNR=12
CWC Cottonwood Cre 77.24 324 P **P 09 30 14.5 +2.9**
baz=140
GRAC Grapevine Rang 77.29 325 P **P 09 30 15.0 +3.3**
baz=140
VES Vestal, Richgr 77.31 323 P **P 09 30 14.8 +3.0**
baz=139
SMMC Simmler 77.41 322 P **P 09 30 15.9 +3.4**
baz=138,SNR=8.0
R11A Troy Canyon, C 77.45 327 *e*P **P 09 30 11.9 -0.9**
comp=Z,5.8nm,0.9s
R11A Troy Canyon, C 77.45 327 P **P 09 30 16.0 +3.2**
baz=142,SNR=18
RSSD Black Hills 77.48 337 *e*P **P 09 30 10.7 -2.1**
comp=Z,11nm,0.8s
RSSD Black Hills 77.48 337 *e*P **P 09 30 10.7 -2.1**
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD Black Hills 77.48 337 P **P 09 30 15.3 +2.5**
baz=152
EYMN Ely 77.62 347 P **P 09 30 14.7 +1.4**
baz=163
DUG Dugway, Tooele 77.63 329 P **P 09 30 16.5 +2.8**
baz=144,SNR=13
MATQ Matagami 77.66 357 P **P 09 30 14.6 +1.2**
baz=175,SNR=6.5
CHGQ Chibougamau 77.69 359 P **P 09 30 15.2 +1.6**
baz=178,SNR=7.2
PDAR Pinedale Array 78.37 333 *e*P **P 09 30 17.3 -0.5**
PDAR Pinedale Array 78.37 333 P **P 09 30 20.1 +2.2**
comp=Z,5.6nm,0.9s,baz=136,slow=7.0,SNR=30
PDAR LR LR 10 02 03.1
comp=Z,94nm,20.7s,baz=176,slow=34
BW06 Boulder Array 78.37 333 P **P 09 30 20.0 +2.2**
baz=147,SNR=11
MLAC Mammoth, Mammo 78.53 324 P **P 09 30 22.2 +3.3**
baz=139
NV11 Mina Array Sit 78.79 325 *e*P **P 09 30 17.6 -2.5**
comp=Z,0.3nm,0.9s
NVAR Mina Array Bea 78.87 325 *e*P **P 09 30 18.7 -2.0**
NVAR Mina Array Bea 78.87 325 P **P 09 30 23.7 +3.1**
comp=Z,4.6nm,0.7s,baz=158,slow=6.4,SNR=44
NVAR PKKPbc **PKKPbc 09 49 17.1 +1.2**
comp=Z,1.2nm,1.0s,baz=262,slow=2.0,SNR=5.9
NVAR LR LR 09 58 40.8
comp=Z,80nm,21.2s,baz=127,slow=31
AGMN Agassiz Nation 78.91 344 P **P 09 30 22.3 +1.9**
baz=159,SNR=17
MAW Mawson 78.92 164 *e*P **P 09 30 19.0 -1.3**
comp=Z,11nm,1.1s
MAW Mawson 78.92 164 P **P 09 30 22.2 +1.9**
comp=Z,38nm,0.9s,baz=209,slow=6.2,SNR=51
MAW LR LR 10 05 16.3
comp=Z,90nm,19.1s,baz=234,slow=36
MDND Maddock 79.46 342 P **P 09 30 25.8 +2.4**
baz=156,SNR=11
H17A Grant Village 80.13 333 P **P 09 30 30.6 +3.1**
baz=146
PMOZ Porto Moniz, M 80.16 45 *e*LQ LQ 10 00 20.5
RLMT Red Lodge 80.23 335 P **P 09 30 30.8 +2.9**
baz=148,SNR=17
LAO LASA Array 80.47 337 P **P 09 30 31.5 +2.5**
baz=150,SNR=24
ULM Lac du Bonnet 80.74 345 P **P 09 30 31.9 +1.7**
comp=Z,29nm,0.9s,baz=158,slow=6.1,SNR=44
GCMT Greycliff 80.95 335 *e*P **P 09 30 30.1 -1.5**
BEKR Beckworth 81.00 325 *e*P **P 09 30 29.2 -2.9**
comp=Z,6.3nm,0.9s
HLID Hailey 81.05 331 *e*P **P 09 30 30.8 -1.5**
comp=Z,17nm,0.9s
HLID Hailey 81.05 331 P **P 09 30 35.5 +3.2**
baz=143,SNR=45
TSUM Tsumeb 81.22 107 *e*P **P 09 30 30.8 -3.0**
comp=Z,14nm,0.8s
ORV Oroville 81.36 324 *e*P **P 09 30 32.0 -1.7**
comp=Z,10nm,0.8s
ORV Oroville 81.36 324 *e*P **P 09 30 32.1 -1.7**
ORV pmax pmax
comp=Z,10.0nm,0.8s
DGMT Dagmar 81.37 339 P **P 09 30 36.5 +2.8**
baz=152,SNR=22
GDXM Geysers 81.50 323 *e*P **P 09 30 32.3 -2.4**
comp=Z,7.7nm,1.0s
BOZ Bozeman (W) 81.55 333 P **P 09 30 37.4 +2.5**
baz=146,SNR=9.8
O03E Paynes Creek 82.06 324 P **P 09 30 39.5 +1.9**
baz=138,SNR=7.0
O02D Mt. Diablo Mer 82.48 323 P **P 09 30 41.9 +2.1**
baz=137
TOA0 Torodi Ar. Sit 82.58 71 *e*P **P 09 30 41.0 +0.2**
comp=Z,36nm,0.8s
TORD Torodi Ar. Bea 82.58 71 *e*P **P 09 30 36.8 -4.0**
TORD Torodi Ar. Bea 82.58 71 P **P 09 30 40.9 +0.1**
comp=Z,22nm,0.7s,baz=299,slow=3.1,SNR=102
TORD LR LR 10 04 47.6
comp=Z,378nm,21.2s,baz=300,slow=34
SCHQ Schefferville 82.75 3 P **P 09 30 42.4 +1.6**
comp=Z,9.7nm,1.0s,baz=162,slow=7.7,SNR=5.3
SCHQ LR LR 10 07 28.4
comp=Z,50nm,21.6s,baz=52,slow=36
EGMT Eagleton 82.86 336 P **P 09 30 43.5 +1.9**
baz=147,SNR=9.7
N02D Trinity Center 83.02 324 P **P 09 30 44.8 +2.2**
baz=137
BOSA Boshof 83.16 119 *e*P **P 09 30 41.0 -2.8**
comp=Z,30nm,0.9s
BOSA Boshof 83.16 119 P **P 09 30 45.1 +1.3**
comp=Z,24nm,0.9s,baz=237,slow=4.2,SNR=23
BOSA LR LR 10 02 55.7
comp=Z,456nm,19.9s,baz=228,slow=32
M04C Macdoel 83.17 325 P **P 09 30 46.1 +2.6**
baz=138,SNR=9.7
BMO Blue Mountains 83.34 330 *e*P **P 09 30 41.9 -2.3**
comp=Z,4.2nm,0.8s
BMO Blue Mountains 83.34 330 *e*P **P 09 30 41.9 -2.3**
BMO pmax pmax
comp=Z,4.0nm,0.8s
K05A Summer Lake 83.40 326 *e*P **P 09 30 43.4 -1.3**
comp=Z,19nm,0.8s
M02C Callahan 83.40 324 P **P 09 30 46.7 +2.1**
baz=137
YBH Yreka Blue Hor 83.58 325 *e*P **P 09 30 43.4 -2.1**
comp=Z,7.1nm,0.9s
YBH Yreka Blue Hor 83.58 325 *e*P **P 09 30 43.4 -2.1**
YBH pmax pmax
comp=Z,7.0nm,0.9s
L04D Klamath Falls 83.73 325 P **P 09 30 48.6 +2.3**
baz=137
K04D Chiloquin, OR 83.75 326 P **P 09 30 49.1 +2.7**
baz=138
J05D Fort Rock, OR 83.98 326 P **P 09 30 49.9 +2.3**
baz=138,SNR=8.2
L02E Cave Junction 84.34 324 P **P 09 30 51.8 +2.5**
baz=136
J04D Umpqua Nationa 84.38 326 P **P 09 30 51.8 +2.1**
baz=138,SNR=6.0
G08A Pilot Rock 84.42 329 *e*P **P 09 30 47.6 -2.1**
comp=Z,4.4nm,0.8s
K02D Willamette Mer 84.76 325 P **P 09 30 54.5 +3.0**
baz=136
I05D Terrebonne, OR 84.82 327 P **P 09 30 54.7 +3.0**
baz=138,SNR=9.0
I04A Tendick Farm, 84.94 326 P **P 09 30 54.4 +2.1**
baz=137
LBTB Lobatse 85.13 116 *e*P **P 09 30 51.2 -2.8**
comp=Z,16nm,1.0s
LBTB Lobatse 85.13 116 *e*P **P 09 30 51.2 -2.8**
LBTB pmax pmax
comp=Z,16nm,1.0s
WALA Waterton Lakes 85.27 334 *e*P **P 09 30 52.3 -1.6**
comp=Z,13nm,0.8s
I03D Drain, OR 85.33 326 P **P 09 30 56.5 +2.4**
baz=137
I02D Swisshome 85.87 326 P **P 09 30 59.5 +2.7**
baz=136
CASY Casey 85.88 181 *e*P **P 09 30 55.3 -1.4**
comp=Z,38nm,0.8s
NEW Newport 85.93 332 *e*P **P 09 30 55.2 -1.9**
comp=Z,4.7nm,0.8s
NEW Newport 85.93 332 *e*P **P 09 30 55.2 -1.9**
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 85.93 332 P **P 09 30 58.8 +1.7**
baz=142
FFC Flin Flon 86.33 343 *e*P **P 09 30 57.0 -1.9**
comp=Z,4.7nm,0.9s
FFC Flin Flon 86.33 343 *e*P **P 09 30 57.0 -1.9**
FFC pmax pmax
comp=Z,5.0nm,0.9s
LTY Liberty 86.69 329 *e*P **P 09 30 58.4 -2.6**
comp=Z,8.2nm,0.8s
D04E Lakebay 87.59 328 P **P 09 31 08.0 +2.9**
baz=137
D03D Eldon 88.00 328 P **P 09 31 09.2 +2.0**
baz=137
B05A Bryant 88.08 329 P **P 09 31 09.1 +1.6**
baz=138
MORF Marmelete 88.39 46 *e*P **P 09 31 12.8 +3.5**
comp=Z,36nm,1.7s
PTEO Sao Teotonio 88.49 45 *e*P **P 09 31 12.4 +2.7**
comp=Z,50nm,1.2s
PCVE Castro Verde 88.98 46 *e*P **P 09 31 14.6 +2.6**
PVAQ Vaqueiros 89.05 46 *e*SKS **S 09 42 03.3 +2.4**
PBEJ Beja 89.33 46 *e*P **P 09 31 17.8 +4.2**
comp=Z,18nm,2.1s
PMTG Montargil 89.73 45 *e*P **P 09 31 16.6 +1.1**
comp=Z,21nm,1.0s
PMRV Marv??o 90.46 45 *e*LR LR 10 03 42.6
comp=Z,163nm,20.0s
MTE Manteigas 90.95 44 *e*LR LR 10 04 09.3
comp=Z,225nm,22.0s
PGAV Gavieira, Arco 91.46 42 *e*LR LR 10 04 07.8
comp=Z,138nm,18.0s
MVO Moncorvo 91.72 43 *e*LR LR 10 04 13.1
comp=Z,181nm,22.0s
LSZ Lusaka 91.99 108 *e*P P 09 31 21.8 -5.0
comp=Z,24nm,1.5s
LSZ Lusaka 91.99 108 *e*P P 09 31 21.8 -5.0
LSZ pmax pmax
comp=Z,23nm,1.5s
ESDC Sonseca Array 92.76 46 *e*P **P 09 31 27.0 -2.6**
ESDC Sonseca Array 92.76 46 P **P 09 31 31.5 +1.8**
comp=Z,0.5nm,0.6s,baz=233,slow=5.6,SNR=4.1
ESDC LR LR 10 11 27.0
comp=Z,153nm,19.6s,baz=235,slow=34
YKA Yellowknife Ar 96.38 342 *e*P **P 09 31 44.8 -0.7**
YKA Yellowknife Ar 96.38 342 *e*P **P 09 31 44.8 -0.7**
YKA Yellowknife Ar 96.38 342 P **P 09 31 46.8 +1.2**
comp=Z,3.1nm,0.8s,baz=142,slow=4.4,SNR=71
YKA PKiKP **PKiKP 09 36 24.3 +1.1**
comp=Z,0.3nm,0.7s,baz=148,slow=2.0,SNR=5.0
YKA PKKPbc **PKKPbc 09 48 31.1 -2.0**
comp=Z,0.2nm,0.8s,baz=320,slow=3.1,SNR=6.1
YKW3 Yellowknife Ar 96.44 342 *e*P **P 09 31 45.9 0.0**
comp=Z,4.5nm,0.8s
DLBC Dease Lake 98.60 333 *e*P Pdif 09 31 56.7 +0.8
comp=Z,8.0nm,0.9s
DLBC Dease Lake 98.60 333 LR LR 10 12 49.8
comp=Z,76nm,20.9s,baz=147,slow=33
KEST Kesra 99.79 55 LR LR 10 18 23.9
comp=Z,532nm,20.6s,baz=197,slow=36
RES Resolute Bay 103.59 354 PKKPbc PKKPbc 09 48 10.6 -1.9
comp=Z,1.1nm,1.0s,baz=208,slow=4.8,SNR=4.1
DZM Mont Dzumac 104.36 235 *e*LR LR 10 06 45.7
comp=Z,233nm,30.1s
BCAR Beaver Creek A 105.98 334 *e*Pdif **Pdif 09 32 28.7 +0.1**
INK Inuvik 106.04 340 Pdiff **Pdif 09 32 30.3 +1.8**
comp=Z,2.2nm,0.9s,baz=115,slow=5.8,SNR=9.1
INK PKKPbc **PKKPbc 09 48 01.6 -3.3**
comp=Z,1.7nm,0.9s,baz=315,slow=4.0,SNR=7.1
INK PKKP **PKKPdf 09 48 18.7 +1.7**
comp=Z,1.3nm,0.8s,baz=340,slow=4.9,SNR=5.7
GERES GERESS Array B 108.23 44 PKiKP **PKiKP 09 36 46.5 +1.1**
comp=Z,1.1nm,0.7s,baz=214,slow=1.4,SNR=9.4
ILAR Eielson Array 108.78 334 Pdiff **Pdif 09 32 41.3 +0.4**
comp=Z,0.7nm,0.8s,baz=147,slow=2.3,SNR=7.2
ILAR PKiKP **PKiKP 09 36 47.0 +1.3**
comp=Z,0.7nm,0.9s,baz=188,slow=2.6,SNR=5.3
ILAR PKKPbc **PKKPbc 09 47 55.0 -1.3**
comp=Z,0.7nm,0.7s,baz=312,slow=3.7,SNR=8.0
TOLK Toolik Lake Re 111.35 337 P **PKiKP 09 36 52.5 +2.0**
baz=112
TRPA Tarpa 113.55 47 ⇑*i*P **PKiKP 09 36 56.3 +1.1**
ARR Arges 114.16 50 ⇑*i*P **PKiKP 09 36 58.3 +1.7**
MLR Muntele Rosu 115.08 50 PKiKP **PKiKP 09 37 00.0 +1.5**
MLR Muntele Rosu 115.08 50 PKP **PKiKP 09 36 60.0 +1.5**
comp=Z,2.6nm,0.6s,baz=255,slow=8.8,SNR=4.9
BURAR Bucovina Array 115.15 48 ⇑*i*P **PKiKP 09 37 00.5 +2.0**
BURAR Bucovina Array 115.15 48 ⇑PKiKP **PKiKP 09 37 00.5 +2.0**
BIZ Bicaz 115.56 49 ⇑*i*P **PKiKP 09 37 01.2 +2.0**
PLOR Plostina 115.66 50 ⇑*i*P **PKiKP 09 37 00.5 +1.1**
PLOR Plostina 115.66 50 ⇑PKiKP **PKiKP 09 37 00.5 +1.1**
VRI Vrincioaia 115.71 50 ⇑*i*P **PKiKP 09 37 00.1 +0.6**
VRI Vrincioaia 115.71 50 ⇑PKiKP **PKiKP 09 37 00.1 +0.6**
TLB Topalu 116.29 52 ⇓*i*P **PKiKP 09 37 02.0 +1.4**
TLB Topalu 116.29 52 ⇓PKiKP **PKiKP 09 37 02.0 +1.4**
CFR Carcaliu 116.50 51 ⇑*i*P **PKiKP 09 37 02.8 +1.8**
CFR Carcaliu 116.50 51 ⇑PKiKP **PKiKP 09 37 02.8 +1.8**
TIRR Tirgusor 116.52 52 ⇑*i*P **PKiKP 09 37 02.3 +1.2**
TIRR Tirgusor 116.52 52 ⇑PKiKP **PKiKP 09 37 02.3 +1.2**
VSU Vasula 118.22 36 ⇑*i*PKiKP **PKiKP 09 37 05.7 +1.8**
FINES FINESS Array B 118.30 33 PKP **PKiKP 09 37 05.6 +1.6**
comp=Z,2.0nm,0.8s,baz=318,slow=5.4,SNR=5.2
KIEV Kiev 118.38 45 *e*PKPdf **PKiKP 09 37 04.9 +0.5**
KIEV Kiev 118.38 45 ⇑*i*P **PKiKP 09 37 05.4 +0.9**
KIEV Kiev 118.38 45 ⇓*i*PKiKP **PKiKP 09 37 05.3 +0.8**
AKASG Malin Array Be 118.39 45 *e*PKPdf **PKiKP 09 37 05.0 +0.5**
AKASG Malin Array Be 118.39 45 PKP **PKiKP 09 37 05.3 +0.8**
comp=Z,7.0nm,0.6s,baz=268,slow=2.6,SNR=44
AKBB Malin Array Si 118.39 45 *e*PKPdf **PKiKP 09 37 05.4 +0.9**
AKBB Malin Array Si 118.39 45 *e*PKiKP **PKiKP 09 37 05.4 +0.9**
ANTO Ankara 118.56 58 ⇑*i*P **PKiKP 09 37 07.2 +1.9**
ANTO Ankara 118.56 58 ⇑PKiKP **PKiKP 09 37 07.2 +1.9**
MMAI Mount Meron Ar 118.80 66 PKP **PKiKP 09 37 07.6 +1.6**
comp=Z,1.5nm,0.4s,baz=225,slow=1.8,SNR=5.5
ARCES ARCESS Array B 118.81 23 PKP **PKiKP 09 37 06.5 +1.7**
comp=Z,0.7nm,0.6s,baz=262,slow=2.7,SNR=7.0
ARCES PKKPbc **PKKPbc 09 47 21.9 0.0**
comp=Z,0.7nm,0.6s,baz=72,slow=4.0,SNR=8.2
BRTR Keskin Array B 119.16 58 *e*PKPdf **PKPdf 09 37 06.5 -0.1**
BRTR Keskin Array B 119.16 58 PKP **PKiKP 09 37 08.0 +1.4**
comp=Z,3.5nm,0.8s,baz=190,slow=3.2,SNR=22
BRTR PKKPbc PKKPab 09 47 33.3 +12
comp=Z,0.4nm,0.5s,baz=100,slow=6.0,SNR=3.6
ASF Jabal al Asfar 119.78 67 PKP **PKiKP 09 37 10.2 +2.2**
comp=Z,2.8nm,0.8s,baz=136,slow=2.0,SNR=7.0
DIKM Dikmen 120.78 56 ⇑*i*P **PKiKP 09 37 11.6 +2.1**
LVZ Lovozero 122.16 25 *e*PKPdf **PKPdf 09 37 11.1 -0.2**
LVZ Lovozero 122.16 25 ⇓*i*PKiKP **PKiKP 09 37 13.7 +2.2**
ASAR Alice Springs 122.59 209 *e*PKPdf **PKPdf 09 37 12.9 -0.7**
ASAR Alice Springs 122.59 209 PKP **PKiKP 09 37 14.2 +0.5**
comp=Z,2.5nm,0.7s,baz=128,slow=1.6,SNR=32
ASAR PKKPbc **PKKPab 09 47 08.9 -0.9**
comp=Z,1.9nm,0.8s,baz=332,slow=3.2,SNR=16
OBN Obninsk 123.31 41 ⇓*i*PKiKP **PKiKP 09 37 15.4 +1.4**
OBN pmax pmax
comp=Z,17nm,1.1s
OBN MLR MLR
comp=Z,65nm,22.0s
SOC Sochi 124.35 55 *i* PKiKP **PKiKP 09 37 17.4 +0.9**
SOC *e* 09 39 04.2
SOC *e*SS SS 09 56 07.3 +13
SOC pmax pmax
comp=Z,19nm,0.9s
SOC MLR MLR
comp=Z,174nm,23.0s
LPSR Galich'ya Gora 124.61 44 *e*PKiKP **PKiKP 09 37 17.8 +1.1**
LPSR pmax pmax
comp=Z,20nm,0.7s
VSR Storozhevoye 124.69 45 *e*PKiKP **PKiKP 09 37 16.8 -0.1**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 124.76 46 *e*PKiKP **PKPdf 09 37 16.7 0.0**
VORD pmax pmax
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 124.79 34 *e*PKiKP **PKiKP 09 37 17.5 +0.7**
KLMR pmax pmax
comp=Z,15nm,0.8s
H11S2 WAKE ISLAND Hyl 125.28 274 T T 11 56 42.0
baz=116
H11S1 WAKE ISLAND Hyl 125.29 274 T T 11 56 39.1
baz=116
H11S3 WAKE ISLAND Hyl 125.29 274 T T 11 56 45.8
baz=116
WB2 Warramunga Arr 125.64 211 *e*PKPdf **PKPdf 09 37 16.6 -2.9**
WRA Warramunga Arr 125.65 211 PKhKP PKPpre 09 37 12.5
comp=Z,0.4nm,0.5s,baz=246,slow=1.4,SNR=13
WRA PKP **PKiKP 09 37 20.3 +0.4**
comp=Z,6.4nm,0.6s,baz=154,slow=1.7,SNR=70
WRAB Tennant Creek 125.65 211 *e*PKPdf **PKiKP 09 37 20.7 +0.8**
WRAB Tennant Creek 125.65 211 ⇑*i*PKiKP **PKiKP 09 37 20.6 +0.7**
WRAB pmax pmax
comp=Z,23nm,2.5s
VRH Novokhopyorsk 126.30 45 *e*PKiKP **PKiKP 09 37 21.5 +1.4**
VRH pmax pmax
comp=Z,20nm,0.7s
NEY Neytrino 126.49 55 ⇑*i*PKiKP **PKiKP 09 37 22.8 +1.8**
KIV Kislovodsk 126.53 54 *i* PKiKP **PKiKP 09 37 22.4 +1.5**
KIV pmax pmax
comp=Z,37nm,1.1s
PMG Port Moresby 126.54 232 ⇓*i*PKiKP **PKPdf 09 37 21.1 -0.2**
KBZ Khabaz 126.66 55 PKP **PKiKP 09 37 22.3 +1.3**
comp=Z,8.9nm,1.0s,baz=68,slow=0.3,SNR=18
GNI Garni 127.63 59 ⇑*i*PKiKP **PKiKP 09 37 25.4 +2.1**
FITZ Fitzroy Crossi 130.83 203 *e*PKPdf **PKiKP 09 37 30.2 -0.1**
SEY Seymchan 134.70 333 PKP **PKiKP 09 37 37.1 +0.5**
comp=Z,13nm,0.7s,baz=120,slow=2.4,SNR=43
TIXI Tiksi 134.85 351 *e*PKPdf **PKPdf 09 37 34.1 -1.1**
TIXI Tiksi 134.85 351 ⇓*i*PKiKP **PKiKP 09 37 36.4 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 134.85 351 PKP **PKiKP 09 37 36.1 -0.6**
comp=Z,3.4nm,0.6s,baz=38,slow=1.5,SNR=13
ARU Arti 135.38 37 *e*PKPdf **PKPdf 09 37 35.8 -0.9**
ARU Arti 135.38 37 *i* PKiKP **PKiKP 09 37 38.9 +0.7**
ARU 09 40 12.7
PEA1 Petropavlovsk- 135.66 319 *e*PKPdf **PKiKP 09 37 39.4 +0.4**
PETK Petropavlovsk- 135.66 319 PKP **PKiKP 09 37 39.4 +0.4**
comp=Z,6.6nm,0.8s,baz=104,slow=6.3,SNR=6.0
AKTO Aktyubinsk 136.64 45 PKP **PKiKP 09 37 41.6 +0.6**

comp=Z,6.6nm,0.8s,baz=202,slow=0.2,SNR=21
MA2 Magadan 136.98 329 ⇓*i*PKIKP **PKiKP 09 37 41.3 -0.1**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
MA2 Magadan 136.98 329 PKP **PKiKP 09 37 41.4 +0.1**
comp=Z,3.7nm,0.7s,baz=7.1,slow=2.5,SNR=4.5
NRIK Noril'sk 137.13 10 PKP **PKiKP 09 37 41.5 0.0**
comp=Z,1.8nm,0.3s,baz=34,slow=4.3,SNR=4.4
GEYT Alibeck 137.84 63 PKP **PKiKP 09 37 43.8 -0.1**
comp=Z,8.9nm,0.7s,baz=264,slow=4.5,SNR=15
ABKAR Akbulak array 138.11 46 *e*PKPdf **PKPdf 09 37 39.5 -2.4**
BRVK Borovoye 142.95 37 *e*PKPdf **PKPdf 09 37 49.6 -1.0**
BRVK Borovoye 142.95 37 *ce*PKIKP **PKPdf 09 37 49.6 -1.0**
BVAR Borovoye Array 143.02 37 PKP **PKPdf 09 37 49.8 -1.0**
comp=Z,6.5nm,0.7s,baz=298,slow=3.2,SNR=23
YAK Yakutsk 143.05 343 *e*PKIKP PKPbc 09 37 48.4 +1.1
YAK pmax pmax
comp=Z,101nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=Z,178nm,0.9s
YAK pmax pmax
comp=N,10.0nm,0.9s
CISI Cisompet, Garu 144.54 180 *e*PKPdf PKPbc 09 37 54.0 +0.7
KAPI Kappang 145.02 202 *e*PKPbc **PKPdf 09 37 56.0 +0.6**
NKL Nikolayevsk 145.06 325 *i*PKIKP **PKPdf 09 37 56.0 +1.8**
NKL pmax pmax
comp=E,17nm,0.9s
NKL pmax pmax
comp=Z,110nm,0.9s
LEM Lembang 145.26 180 PKPbc **PKiKP 09 37 58.5 -1.5**
comp=Z,157nm,0.7s,baz=127,slow=2.8,SNR=13
CHGR Chuyangaron 146.48 62 *e*PKPdf **PKPdf 09 37 57.4 0.0**
KBL Kabul 146.64 69 *e*PKPbc **PKPbc 09 37 58.7 -0.8**
KBL Kabul 146.64 69 *e*PKIKP **PKPbc 09 37 58.7 -0.8**
KK31 Karatay Array 146.68 53 *e*PKPdf **PKPbc 09 37 59.4 +0.3**
KK31 Karatay Array 146.68 53 *e*PKIKP **PKPbc 09 37 59.4 +0.3**
KKAR Karatay Array 146.68 53 *e*PKPdf **PKPab 09 37 59.9 -0.3**
KKAR Karatay Array 146.68 53 *e*PKIKP **PKPab 09 37 59.9 -0.3**
YSS Yuzh-Sakhalins 146.71 314 *e*PKPdf **PKiKP 09 38 00.9 -0.8**
YSS Yuzh-Sakhalins 146.71 314 *e*PKP2 **PKPab 09 38 00.4 +0.3**
PALK Pallekele 147.23 124 PKPbc **PKPab 09 38 03.0 -0.2**
comp=Z,11nm,0.7s,baz=315,slow=0.4,SNR=4.8
BTK Batken 147.55 59 *e*PKPbc **PKPbc 09 38 01.4 -0.3**
BTK Batken 147.55 59 *e*PKIKP **PKPbc 09 38 01.4 -0.3**
NVS Novosibirsk 148.00 27 ⇑*i*PKIKP **PKPbc 09 38 02.0 -0.3**
NVS *e* 09 41 38.0
NVS pmax pmax
comp=Z,43nm,0.8s
NVS pmax pmax
comp=E,9.0nm,0.6s
GRNR Gornyy 148.57 324 *e*PKP2 **PKiKP 09 38 06.0 +0.5**
GRNR pmax pmax
comp=Z,27nm,1.0s
KURK Kurchatov 148.58 36 *e*PKPbc **PKPbc 09 38 02.8 -1.1**
KURK Kurchatov 148.58 36 *de*PKIKP **PKPbc 09 38 02.1 -1.8**
KURK pmax pmax
comp=Z,51nm,1.0s
KURBB Kurchatov Arra 148.58 36 PKPbc **PKPab 09 38 06.5 -1.0**
comp=Z,48nm,0.7s,baz=305,slow=3.1,SNR=93
ARSB Arslanbob 148.90 56 *e*PKPbc **PKPbc 09 38 04.1 -1.2**
EKS2 Erkin-Say 149.11 53 P **PKPbc 09 38 04.8 -1.0**
SNR=22
AML Almayashu 149.20 54 P **PKPbc 09 38 05.0 -1.3**
SNR=19
ZAA0 Zalesovo Array 149.28 27 *e*PKPbc **PKPdf 09 38 03.4 +2.1**
ZAA0 *e*PKPab **sPKPbc 09 38 08.1 +0.1**
ZALV Zalesovo Beam 149.28 27 PKP **PKPbc 09 38 03.5 -2.1**
comp=Z,125nm,0.7s,baz=287,slow=2.6,SNR=78
ZALV PKPbc **PKPbc 09 38 08.2 +2.6**
comp=Z,119nm,0.6s,baz=303,slow=3.6,SNR=110
USP Ospenovka 149.43 52 P **PKPab 09 38 09.5 -1.8**
SNR=7.6
AAK Ala-Archa 149.62 53 P **PKPbc 09 38 05.5 -1.6**
SNR=42
AAK Ala-Archa 149.62 53 *e*PKPbc **PKPbc 09 38 05.5 -1.6**
AAK *e*PKPab **PKPab 09 38 10.2 -2.0**
AAK Ala-Archa 149.62 53 ⇑*e*PKHKP **PKPbc 09 38 04.3 -2.8**
AAK pmax pmax
comp=Z,73nm,1.3s
AAK Ala-Archa 149.62 53 PKPbc **PKPab 09 38 10.3 -2.0**
comp=Z,56nm,0.8s,baz=200,slow=2.8,SNR=76
CHMS Chumysh 149.69 52 P **PKiKP 09 38 09.9 +1.8**
SNR=16
UCH Uchtor 149.76 53 P **PKPbc 09 38 06.3 -1.5**
SNR=11
KBK Karagaybulak 149.94 52 P **PKPab 09 38 11.2 -2.4**
SNR=17
BOD Bodaibo 149.96 353 *e*PKHKP **PKPdf 09 38 03.4 +1.1**
BOD pmax pmax
comp=Z,29nm,1.0s
NIL Nilore 150.15 71 *e*PKPbc **PKPdf 09 38 05.6 +2.2**
NIL *e*PKPab **pPKPbc 09 38 10.3 +0.1**
TKM2 Tokmak 2 150.30 52 P **PKiKP 09 38 11.1 +1.5**
SNR=26
KZA Kyzart 150.33 53 P **PKPbc 09 38 07.3 -1.9**
SNR=13
ZEA Zeya 150.59 336 *e*PKP2 **PKiKP 09 38 10.6 +1.1**
ZEA pmax pmax
comp=Z,35nm,1.0s
ULHL Ulahol 150.97 53 P **PKPbc 09 38 07.9 -2.5**
SNR=6.7
NRN Naryn 151.06 54 *e*PKPbc **PKPdf 09 38 07.7 +2.7**
NRN *e*PKPab **sPKPbc 09 38 12.9 -0.2**
HYB Hyderabad 151.30 106 *i*PKP **PKPdf 09 38 07.0 +1.4**
HYB *e* 09 38 13.0
HYB *e* 09 38 21.0
TEY Ternei 151.41 314 ⇑*e*PKIKP **PKiKP 09 38 13.2 +1.8**
TEY pmax pmax
comp=Z,30nm,0.8s
KSH Kashi 151.55 58 PKPbc **PKiKP 09 38 13.9 +1.7**
KSH PP **PP 09 41 54.1 +2.5**
KSH SKS **SKSdf 09 45 12.6 -0.7**
KLR Kul'dur 151.90 325 PKP **PKPdf 09 38 06.8 +1.3**
comp=Z,8.3nm,1.1s,baz=327,slow=1.5,SNR=8.2
KLR PKPbc **pPKPbc 09 38 13.6 -0.1**
comp=Z,15nm,0.7s,baz=72,slow=3.5,SNR=36
PRZ Przheval'sk 152.39 51 *e*PKPdf **PKPdf 09 38 04.3 -2.5**
PRZ Przheval'sk 152.39 51 *e*PKIKP **PKPdf 09 38 04.3 -2.5**
MKAR Makanchi Array 152.81 40 *e*PKPdf **PKPdf 09 38 08.8 +1.8**
MKAR Makanchi Array 152.81 40 PKP **PKPdf 09 38 08.5 +1.5**
comp=Z,3.2nm,1.0s,baz=0.0,slow=2.4,SNR=12
MKAR PKPbc **pPKPbc 09 38 15.9 0.0**
comp=Z,27nm,0.8s,baz=319,slow=2.1,SNR=95
MJAR Matsushiro Arr 152.85 296 PKP **PKPdf 09 38 09.2 +1.8**
comp=Z,1.4nm,0.8s,baz=176,slow=3.8,SNR=3.7
MJAR PKPbc **pPKPbc 09 38 15.8 -0.5**
comp=Z,4.8nm,0.9s,baz=125,slow=1.5,SNR=12
MJAR PKPab **sPKPab 09 38 28.4 +0.5**
comp=Z,13nm,0.8s,baz=134,slow=1.8,SNR=22
MAJO Matsushiro 152.85 296 *e*PKPdf **PKPdf 09 38 09.2 +1.8**
MAJO *e*PKPbc **PKPbc 09 38 13.1 -1.5**
MAJO *e*PKPab **pPKPab 09 38 27.2 -0.2**
MAJO Matsushiro 152.85 296 *e*PKIKP **PKPdf 09 38 09.2 +1.8**
MAJO *e* 09 38 13.1
MAT Matsushiro 152.85 296 *e*PKP **PKPdf 09 38 07.2 -0.2**
MJB9 Matsu-Tunnel 152.85 296 *e*PKPbc **PKiKP 09 38 15.7 +0.9**
MJB9 *e*PKPab **pPKPab 09 38 27.2 -0.2**
KSM Kuching 153.38 186 *e*PKPab **PKPab 09 38 25.3 -2.9**
PSI Prapat 153.52 160 *e*PKPbc **PKPbc 09 38 15.4 -1.4**
PSI *e*PKPab **PKPab 09 38 27.0 -1.9**
DGZ Jazzator, Alta 153.52 30 ||*e*PKIKP **PKPdf 09 38 08.9 +0.8**
SBUM Sibu 154.09 191 *e*PKPab **PKPab 09 38 27.9 -3.4**
USRK Ussuriysk Ar. 154.70 316 PKP2 **PKPab 09 38 36.0 +2.8**
USRK Ussuriysk Ar. 154.70 316 PKPab **PKPab 09 38 36.0 +2.8**
comp=Z,6.8nm,0.8s,baz=68,slow=2.9,SNR=13
TLY Talaya 156.28 6 ||*e*PKIKP **PKPdf 09 38 13.9 +2.2**
ZAK Zakamensk 157.53 7 *e*PKIKP **PKPdf 09 38 14.7 +1.3**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
ZAK pmax pmax
comp=Z,6.0nm,1.0s
WMQ Urumqi 157.64 40 *e*PKP **PKPdf 09 38 14.4 +0.7**
WMQ LR LR
comp=Z,350nm,30.7s
PYUN Piuthan 158.35 84 *e*P **PKPdf 09 38 17.1 +1.8**
comp=Z,30nm,1.0s
CN2 Changchun 158.74 322 *e*PKP **PKPdf 09 38 14.7 -0.3**
KOLN Koldanda 158.85 85 *e*P **PKPdf 09 38 17.5 +1.6**
comp=Z,13nm,1.0s
DANN Dangsing 159.05 84 *e*P **PKPdf 09 38 18.3 +2.1**
comp=Z,72nm,0.8s
JNU Nakatsue 159.32 290 PKPab **PKPab 09 38 54.8 +1.3**
comp=Z,8.6nm,0.9s,baz=101,slow=3.9,SNR=4.4
SONM Songino Array 160.29 2 *e*PKPab **PKPab 09 38 58.5 +1.3**
SONM Songino Array 160.29 2 PKP **PKPdf 09 38 18.6 +1.8**
comp=Z,2.2nm,0.9s,baz=324,slow=1.0,SNR=11
SONM PKPab **sPKPab 09 39 00.2 +0.6**
comp=Z,8.0nm,0.8s,baz=338,slow=3.7,SNR=20
SONM PP **PP 09 42 38.0 -0.7**
comp=Z,0.6nm,0.7s,baz=354,slow=5.8,SNR=3.7
KKN Kakani 160.33 86 *eP* **PKPdf 09 38 18.3 +0.7**
comp=Z,10nm,0.6s
PKIN Phulchoki 160.41 86 *eP* **PKPdf 09 38 18.8 +1.0**
comp=Z,9.1nm,0.8s
PKI Pulchoki 160.42 86 *eP* **PKPdf 09 38 19.3 +1.5**
comp=Z,8.5nm,0.7s
KSRS Korea Array 160.53 304 PKP **PKPdf 09 38 19.1 +2.0**
comp=Z,3.0nm,0.8s,baz=93,slow=0.7,SNR=12
KSRS PKPab **sPKPab 09 39 02.0 +1.2**
comp=Z,1.3nm,0.6s,baz=76,slow=3.2,SNR=3.3
KSAR Wonju Array Be 160.56 304 *e*PKPdf **PKPdf 09 38 15.2 -2.1**
KSAR *e*PKPab **sPKPab 09 39 01.2 +0.2**
KSAR Wonju Array Be 160.56 304 *e*PKIKP **PKPdf 09 38 15.2 -2.1**
RAMN Ramite 161.39 89 *eP* **PKPdf 09 38 20.8 +2.0**
comp=Z,28nm,0.8s
HHC Hu-ho-hao-te 166.87 346 *e*PKP **PKPdf 09 38 25.4 +2.2**
HHC LR LR
comp=Z,650nm,20.7s
GTA Gaotai 167.03 28 ⇑PKP **PKPdf 09 38 26.2 +2.9**
GTA PKPab **pPKPab 09 39 29.0 +0.2**
GTA LR LR
comp=Z,110nm,18.7s
GTA LR LR
comp=Z,190nm,20.0s
GTA LR LR
comp=Z,160nm,20.3s
CMAR Chiang Mai Arr 167.56 139 *e*PKPdf **PKPdf 09 38 21.7 -2.5**
CMAR *e*PKPab **PKPab 09 39 28.1 -1.7**
CMAR Chiang Mai Arr 167.56 139 PKP **PKPdf 09 38 26.4 +2.2**
comp=Z,2.3nm,0.8s,baz=263,slow=2.1,SNR=10
CMAR PKPab **pPKPab 09 39 30.9 -0.7**
comp=Z,3.6nm,0.9s,baz=235,slow=4.8,SNR=8.5
UTTA Uttaradit 167.84 147 P **PKPab 09 39 35.0 +4.0**
comp=Z,11μm,1.1s
CHTO Chiang Mai 167.84 138 *e*PKPab **PKPab 09 39 32.2 +1.1**
CHTO Chiang Mai 167.84 138 *e*PKP2 **PKPab 09 39 32.2 +1.1**
CMMT Chiang Mai 167.84 138 P **PKPab 09 39 32.3 +1.2**
comp=Z,6.1nm,1.1s,comp=Z,179nm
LAMP Lampang 168.01 141 P **PKPab 09 39 33.6 +1.8**
comp=Z,25μm,0.8s
PHRA Phrae 168.31 143 P **PKPab 09 39 34.8 +1.7**
comp=Z,1.6nm,1.3s
SKNT Sakolnakorn 168.44 163 P **PKPab 09 39 35.1 +1.5**
NONG Nongkai 169.21 157 P **PKPab 09 39 38.2 +1.2**
comp=Z,0.9nm,0.9s,comp=Z,136nm
NJ2 Nanjing 169.45 295 *e*PKP **PKPdf 09 38 27.5 +2.5**
LZH Lanzhou 171.46 21 *e*PKP **PKPdf 09 38 21.6 -4.6**
LZH pPKP sPKPdf 09 38 32.4 +3.8
LZH LR LR
comp=Z,150nm,18.5s
LZH LR LR
comp=Z,170nm,18.3s
LZH LR LR
comp=Z,230nm,20.2s
WHN Wuhan 173.58 294 PKP **PKPdf 09 38 21.8 -5.3**
KMI Kunming 174.77 124 PKP **PKPdf 09 38 27.6 -0.3**
CD2 Chengdu 175.68 49 PKP **PKPdf 09 38 27.8 0.0**
GYA Guiyang 178.18 154 *e*PKP **PKPdf 09 38 28.0 -0.5**
GYA PKPab **pPKPab 09 40 18.6 +0.1**
GYA PKS **PKSdf 09 41 59.2 -1.6**
GYA PP **PP 09 44 13.8 +4.5**
GYA AMB AMB
comp=Z,120nm,8.2s

*ISCJB **03** 09:35:58.3±1.6, 45°.5N±0°.3×148°.7E±0°.2, h200km, mb3.9/8, Error ellipse: s-maj=43.4km s-min=10.2km az=150.4*
*IDC **03** 09:35:59.9±2.6, 45°.47N×148°.65E, h199km±22km, mb3.1/7, mb1 3.2/8, mb1mx3.0/45, mbtmp3.6/8, Error ellipse: s-maj=47.6km s-min=18.8km az=152.0*
ISC 03 09:35:60.0±1.8, **45°.5N**±0°.3×**148°.7E**±0°.2, **h200**km, **n15,** σ0°**99**/10, **mb3.5/8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**4.53**	**255**	P	**Pn**	**09 37 07.5**	**-0.8**
	0.7nm,0.3s,baz=80,slow=15,SNR=5.9						
ASAJ				S	**Sn**	**09 38 02.6**	**+0.5**
	0.8nm,0.3s,baz=244,slow=1.5,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**29.78**	**144**	T	T	10 13 08.1	
	baz=334,slow=75,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**29.80**	**144**	T	T	10 13 08.5	
	baz=334,slow=75,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**29.80**	**144**	T	T	10 13 10.3	
	baz=334,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**30.80**	**145**	T	T	10 14 23.7	
	baz=335,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**30.80**	**145**	T	T	10 14 24.5	
	baz=335,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**30.82**	**145**	T	T	10 14 24.0	
	baz=335,slow=76,SNR=8.8						
INK	**Inuvik**	**44.36**	**31**	P	**P**	**09 43 50.8**	**+0.9**
	0.5nm,0.3s,baz=304,slow=9.9,SNR=15						
MKAR	**Makanchi Array**	**44.76**	**297**	P	**P**	**09 43 52.4**	**-1.0**
	0.3nm,0.5s,baz=75,slow=6.5,SNR=3.1						
KURBB	**Kurchatov Arra**	**45.56**	**303**	P	**P**	**09 43 59.5**	**0.0**
	0.4nm,0.4s,baz=71,slow=8.2,SNR=3.1						
RES	**Resolute Bay**	**52.99**	**17**	P	**P**	**09 44 55.4**	**0.0**
	0.6nm,0.4s,baz=336,slow=7.6,SNR=5.5						
YKA	**Yellowknife Ar**	**53.76**	**35**	P	**P**	**09 44 59.6**	**-1.5**
	0.1nm,0.3s,baz=304,slow=6.6,SNR=4.2						
PSI	**Prapat**	**60.75**	**241**	P	**P**	**09 45 51.5**	**+0.6**
	21μm,0.4s,baz=8.0,slow=0.0,SNR=3.2						
FINES	**FINESS Array B**	**63.82**	**333**	P	**P**	**09 46 10.3**	**-0.1**
	1.9nm,0.7s,baz=34,slow=7.1,SNR=5.2						
GERES	**GERESS Array B**	**78.16**	**331**	P	**P**	**09 47 38.1**	**+1.2**
	0.2nm,0.2s,baz=38,slow=5.0,SNR=2.9						

MEX 03 09:42:25.4±1.1, **27°.80N**×**111°.89W, h10**km, **MD3.6, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.57**	**214**	*i* P	Pg	09 42 34.8	-1.7
SRIG				*i* S	Sg	09 42 44.2	+0.2
GUYB	**Guaymas**	**0.90**	**83**	*i* P	Pg	09 42 39.8	-3.0
GUYB				*i* S	Sg	09 42 52.1	-2.4
HSIG		**1.47**	**34**	*eP*	Pn	09 42 49.1	-2.9
HSIG				*i* S	Sn	09 43 06.1	-5.2

*ISCJB **03** 09:45:59.6±0.7, 42°.69N±0°.05×85°.68E±0°.06, h10km, mb3.6/4, MS3.7/1, Error ellipse: s-maj=7.8km s-min=6.6km az=28.7*
*IDC **03** 09:46:00.8±1.1, 42°.77N×86°.20E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.5/51, mbtmp3.6/8, ML3.1/3, MS3.2/2, Ms1 3.2/2, ms1mx2.4/36, Error ellipse: s-maj=41.6km s-min=13.1km az=58.0*
*BJI **03** 09:46:04.5±0.0, 42°.56N×85°.74E, h10km, ML3.3/8*
*NNC **03** 09:46:05.9±2.3, 42°.84N×85°.54E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=20.0km s-min=11.3km az=103.0*
ISC 03 09:46:03.3±0.9, **42°.67N**±0°.07×**85°.77E**±0°.06, **h10**km, **n19,** σ2°**25**/27, **mb3.8**/4, **8C-12D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.82**	**50**	P	**Pn**	**09 46 37.5**	**+2.7**
WMQ				Sg	**Sn**	**09 47 02.0**	**+4.0**
PDGK	**Podgornoye**	**4.65**	**280**	⇑Pn	**Pn**	**09 47 14.4**	**+0.7**
	2.4nm,0.4s						
PDGK				⇑Pg	**Pb**	**09 47 28.6**	**+3.6**
	2.9nm,0.3s						
PDGK				⇑Lg	Lg	09 48 29.6	
	44nm,0.6s						
MK31	**Makanchi Array**	**4.81**	**330**	⇑Pn	**Pn**	**09 47 17.8**	**+2.0**
	3.1nm,0.3s,baz=147,slow=13,SNR=140						
MK31				⇓Pg	**Pb**	**09 47 30.4**	**+2.7**
	2.8nm,0.3s,baz=154,slow=16,SNR=8.0						
MK31				⇑Sn	**Sn**	**09 48 12.6**	**+1.0**
	3.7nm,0.3s,baz=137,slow=18,SNR=3.6						
MK31				⇓Lg	Lg	09 48 32.2	
	10nm,0.4s,baz=143,slow=29,SNR=7.2						
MKAR	**Makanchi Array**	**4.81**	**330**	Pn	**Pn**	**09 47 17.9**	**+2.0**
	3.1nm,0.3s,baz=149,slow=14,SNR=96						
MKAR				Lg	Lg	09 48 33.5	
	9.5nm,0.3s,baz=144,slow=28,SNR=9.1						
MKAR				LR	LR	09 49 23.9	
	comp=Z,78nm,18.9s,baz=136,slow=42						
MAKZ	**Makanchi**	**4.94**	**328**	⇓Pn	**Pn**	**09 47 19.3**	**+1.7**
	1.0nm,0.2s						
MAKZ				⇓Pg	**Pb**	**09 47 31.2**	**+1.3**
	5.6nm,0.6s						
MAKZ				⇓Sn	**Sn**	**09 48 12.7**	**-2.1**
	6.5nm,0.5s						
MAKZ				⇓Lg	Lg	09 48 37.3	
	18nm,0.6s						
MDOK	**Medeo**	**6.42**	**277**	Pg	**Pb**	**09 47 58.1**	**+2.9**
	2.8nm,0.5s						
MDOK				⇓Lg	Lg	09 49 25.6	
	22nm,0.8s						
TKM2	**Tokmak 2**	**7.48**	**275**	⇓Pn	**Pn**	**09 47 52.0**	**-0.7**
	1.6nm,0.5s						
TKM2				⇓Lg	Lg	09 50 00.2	
	13nm,1.1s						
KURBB	**Kurchatov Arra**	**9.38**	**331**	⇓Pn	**Pn**	**09 48 17.8**	**-0.7**
	4.5nm,0.8s						
KURBB				⇓Sn	**Sn**	**09 50 03.3**	**-0.6**
	6.0nm,0.5s						
KURBB				⇑Lg	Lg	09 50 55.3	
	26nm,0.8s						
KURBB	**Kurchatov Arra**	**9.38**	**331**	Pn	**Pn**	**09 48 18.1**	**-0.3**
	0.1nm,0.3s,baz=146,slow=12,SNR=4.3						
KURBB				Sn	**Sn**	**09 50 00.4**	**-3.5**
	0.1nm,0.3s,baz=73,slow=15,SNR=4.3						
KURBB				Lg	Lg	09 50 56.8	
	0.2nm,0.3s,baz=155,slow=31,SNR=4.9						
KURK	**Kurchatov**	**9.42**	**331**	⇓Pn	**Pn**	**09 48 18.9**	**-0.1**
	4.3nm,1.2s						
KURK				⇑Sn	**Sn**	**09 50 02.7**	**-2.2**
	1.7nm,0.5s						
KURK				⇑Lg	Lg	09 50 57.0	
	14nm,1.0s						
ZALV	**Zalesovo Beam**	**11.30**	**357**	Pn	**Pn**	**09 48 44.0**	**-0.8**
	0.4nm,0.3s,baz=186,slow=13,SNR=5.5						
ZALV				Sn	**Sn**	**09 50 47.0**	**-4.1**
	0.6nm,0.3s,baz=180,slow=24,SNR=5.0						
BVAR	**Borovoye Array**	**14.59**	**321**	Pn	**P**	**09 49 35.8**	**-0.4**
	0.2nm,0.3s,baz=120,slow=8.5,SNR=2.4						
SONM	**Songino Array**	**15.40**	**63**	Pn	**P**	**09 49 46.0**	**+0.6**
	0.2nm,0.3s,baz=254,slow=10,SNR=3.7						
CMAR	**Chiang Mai Arr**	**26.60**	**151**	P	**P**	**09 51 41.1**	**-0.7**
	1.0nm,0.3s,baz=334,slow=10.0,SNR=4.7						
KLR	**Kul'dur**	**32.23**	**62**	P	P	09 52 27.8	-3.7
	0.9nm,0.8s,baz=45,slow=16,SNR=2.6						
YKA	**Yellowknife Ar**	**73.92**	**10**	P	**P**	**09 57 36.5**	**-1.6**
	0.0nm,0.2s,baz=341,slow=5.7,SNR=3.9						
WRA	**Warramunga Arr**	**76.69**	**134**	P	**P**	**09 57 52.3**	**-2.3**
	0.5nm,0.5s,baz=333,slow=5.3,SNR=9.9						
ASAR	**Alice Springs**	**79.53**	**136**	P	**P**	**09 58 08.1**	**-2.2**
	0.3nm,0.7s,baz=336,slow=6.4,SNR=4.9						
DBIC	**Dimbokro**	**85.99**	**275**	LR	LR	10 41 42.9	
	comp=Z,30nm,18.2s,baz=343,slow=39						

*ISCJB **03** 09:51:52.7±0.5, 38°.87N±0°.04×27°.62E±0°.04, h12km±5km, Error ellipse: s-maj=6.9km s-min=4.7km az=145.3*
*ISK **03** 09:51:52.1, 38°.91N×27°.60E, h8km, ML2.0/7*
*DDA **03** 09:51:53.0, 38°.91N×27°.64E, h7km±1km, ML2.6*
ISC 03 09:51:52.9±0.9, **38°.91N**±0°.04×**27°.61E**±0°.03, **h12**km±8km, **n15,** σ0°**46**/21, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.16**	**101**	PG	**Pg**	**09 51 56.1**	**-0.5**
AKS				SG	**Sg**	**09 51 59.1**	**-0.1**
AKHS	**Akhisar**	**0.16**	**101**	IAML_P			
	comp=Z,11μm,0.1s						
AKHS				*i* P	**Pg**	**09 51 56.3**	**-0.3**
AKHS				*i* S	**Sg**	**09 51 59.9**	**+0.7**
ZEDA	**zmir-Bergama**	**0.42**	**278**	IAML_P			
	comp=Z,1μm,0.1s						
ZEDA				*i* P	**Pb**	**09 52 02.0**	**-0.2**
ZEDA				*i* S	**Sb**	**09 52 09.3**	**+0.7**
STEP	**BALIKESIR_Sava**	**0.47**	**10**	*i* P	**Pb**	**09 52 02.9**	**-0.3**
STEP				*i* S	**Sb**	**09 52 09.7**	**-0.5**
BLCB	**Balcova**	**0.69**	**221**	PG	**Pg**	**09 52 05.6**	**-0.6**
BLCB				SG	**Sg**	**09 52 15.5**	**+0.3**
BALB	**Balikesir**	**0.76**	**16**	PG	**Pg**	**09 52 07.5**	**-0.1**
AYVA	**Ayvalik**	**0.82**	**299**	IAML_P			
	comp=Z,488nm,0.1s						
AYVA				*i* P	**Pb**	**09 52 09.5**	**+0.5**
KULA	**Kula-Manisa**	**0.91**	**115**	PG	**Pg**	**09 52 10.2**	**-0.2**
DURS	**Dursunbey**	**0.96**	**44**	*i* P	**Pg**	**09 52 11.2**	**-0.3**
DURS				*i* S	**Sn**	**09 52 25.6**	**-0.4**
URLA	**Izmir**	**0.97**	**236**	PG	**Pg**	**09 52 10.8**	**-0.7**
URLA	**Izmir**	**0.97**	**236**	IAML_P			
	comp=Z,658nm,0.2s						
URLA				*i* P	**Pb**	**09 52 11.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**167**	PG	**Pg**	**09 52 11.5**	**-0.4**
USAK	**Uak-Merkez**	**1.12**	**100**	IAML_P			
	comp=Z,575nm,0.2s						
USAK				*i* P	**Pb**	**09 52 14.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.47**	**23**	PN	**Pn**	**09 52 19.4**	**+0.1**
TVSB	**Tavsanli**	**1.54**	**69**	PN	**Pn**	**09 52 20.8**	**+0.6**

*ISK **03** 10:00:46.7, 39°.13N×29°.17E, h15km±1km, ML1.7/4*
*ISCJB **03** 10:00:47.7±0.7, 39°.12N±0°.03×29°.16E±0°.04, h10km±5km, Error ellipse: s-maj=6.3km s-min=5.2km az=41.5*
*DDA **03** 10:00:47.9, 39°.08N×29°.16E, h7km±3km, ML2.5*
ISC 03 10:00:47.3±1.0, **39°.13N**±0°.04×**29°.14E**±0°.04, **h14**km±6km, **n9,** σ0°**27**/17, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	**Saphane-Kutahy**	**0.12**	**149**	PG	**Pg**	**10 00 50.5**	**-0.3**
SHAP				SG	**Sg**	**10 00 53.0**	**-0.2**
SMAA	**Simav-Kutahya**	**0.13**	**257**	PG	**Pg**	**10 00 50.9**	**0.0**
SMAA				SG	**Sg**	**10 00 53.7**	**+0.5**
GDZ	**Gediz**	**0.27**	**98**	*i* P	**Pg**	**10 00 53.2**	**+0.1**
GDZ				*i* S	**Sg**	**10 00 57.1**	**+0.1**
TVSB	**Tavsanli**	**0.41**	**38**	PG	**Pg**	**10 00 55.2**	**-0.3**
TVSB				SG	**Sg**	**10 01 00.9**	**-0.2**
USAK	**Uak-Merkez**	**0.42**	**193**	IAML_P			
	comp=Z,2μm,0.1s						
USAK				*i* P	**Pb**	**10 00 56.6**	**0.0**
USAK				*i* S	**Sb**	**10 01 02.8**	**0.0**
DURS	**Dursunbey**	**0.70**	**313**	IAML_P			
	comp=Z,553nm,0.2s						
DURS				*i* P	**Pg**	**10 01 00.7**	**-0.3**
DURS				*i* S	**Sn**	**10 01 13.7**	**+0.3**
KULA	**Kula-Manisa**	**0.72**	**212**	PG	**Pg**	**10 01 01.2**	**-0.1**
MANT	**Manisa**	**0.78**	**216**	IAML_P			
	comp=Z,828nm,0.1s						
MANT				*i* P	**Pg**	**10 01 02.2**	**-0.3**
MANT				*i* S	**Sg**	**10 01 12.4**	**-0.4**
KHAL	**Karahalli**	**0.81**	**160**	IAML_P			
	comp=Z,493nm,0.1s						
KHAL				*i* P	**Pb**	**10 01 03.2**	**+0.1**
KHAL				*i* S	**Sb**	**10 01 14.0**	**+0.2**

*BJI **03** 10:20:57.2±0.0, 3°.70S×130°.79E, h45km, mb4.8/19, mB5.0/9, Ms4.5/5, Ms7 4.2/6*
*IDC **03** 10:20:58.2±0.6, 2°.99S×130°.12E, h0km, mb4.1/13, mb1 4.3/16, mb1mx4.2/30, mbtmp4.2/16, ML4.2/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/30, Error ellipse: s-maj=24.3km s-min=12.5km az=79.0*
*ISCJB **03** 10:20:59.4±0.2, 3°.13S±0°.03×130°.04E±0°.03, h25km, mb4.5/48, MS4.2/4, Error ellipse

TNTI	Ternate	4.74	324	ePn	Pn	10 22 09.5	-1.7
TNTI	Ternate	4.74	324	P	Pn	10 22 11.6	+0.4
SAUI	Saumlaki	5.01	167	ePn	Pn	10 22 15.2	+0.3
LUWI	Luwuk	7.67	285	ePn	Pn	10 22 50.6	-0.8
APSI	Ampana	8.79	284	P	Pn	10 23 06.0	-0.9
SOEI	Soe	8.87	221	ePn	Pn	10 23 07.3	-0.7
SOEI				eSn	Sn	10 24 48.9	+1.6
MRSI	Marisa	8.96	293	P	Pn	10 23 07.2	-1.9
21nm,1.0s,410nm							
BATI	Baumata	9.60	222	Pn	Pn	10 23 18.8	+0.8
3.4nm,0.3s,baz=61,slow=19,SNR=2.4							
BATI				LR	LR	10 27 06.5	
comp=Z,440nm,21.7s,baz=36,slow=38							
MTN	Manton Dam	9.76	175	ePn	Pn	10 23 21.7	+1.6
MTN				eSn	Sn	10 25 08.3	-0.7
GENI	Genyem	9.99	88	P	Pn	10 23 26.4	+3.1
81nm,0.7s							
JAY	Jayapura	10.53	87	Pn	Pn	10 23 31.5	+0.8
0.3nm,0.3s,baz=152,slow=21,SNR=3.6							
KAPI	Kappang	10.58	259	ePn	Pn	10 23 30.6	-0.8
FITZ	Fitzroy Crossi	15.59	196	ePn	Pn	10 24 38.4	-1.1
11nm,0.6s							
FITZ				eSn	Sn	10 27 30.3	-1.2
FITZ	Fitzroy Crossi	15.59	196	Pn	Pn	10 24 38.2	-1.2
2.3nm,0.3s,baz=29,slow=11,SNR=45							
FITZ				Sn	Sn	10 27 25.8	-5.7
0.1nm,0.3s,baz=309,slow=18,SNR=1.5							
COEN	Coen	16.79	131	ePn	Pn	10 24 55.6	+0.8
26nm,0.8s							
JAGI	Jajag, Banyuwa	16.82	251	ePn	Pn	10 24 52.6	-2.7
35nm,0.9s							
WRAB	Tennant Creek	17.25	167	ePn	Pn	10 24 58.9	-1.7
13nm,0.8s							
WR1	Warramunga Arr	17.26	167	ePn	Pn	10 24 59.7	-1.0
WR1				eSn	Sn	10 28 02.2	-10
WRA	Warramunga Arr	17.26	167	ePn	Pn	10 24 59.2	-1.5
WRA	Warramunga Arr	17.26	167	P	Pn	10 24 59.7	-1.0
0.6nm,0.3s,baz=347,slow=12,SNR=41							
WRA				S	Sn	10 28 02.2	-10
0.7nm,0.3s,baz=335,slow=22,SNR=5.3							
WB2	Warramunga Arr	17.26	167	ePn	Pn	10 24 59.7	-1.0
12nm,0.8s							
PCJI	Pacitan	19.58	254	P	Pn	10 25 34.7	+5.6
KSM	Kuching	20.37	283	eP	P	10 25 36.5	+0.2
9.9nm,0.7s							
MBWA	Marble Bar	20.66	209	eP	P	10 25 37.7	-1.6
13nm,0.8s							
AS31	Alice Springs	20.79	170	eP	P	10 25 42.2	+1.4
18nm,0.5s							
ASAR	Alice Springs	20.79	170	eP	P	10 25 42.4	+1.5
ASAR	Alice Springs	20.79	170	P	P	10 25 42.0	+1.2
30nm,0.5s,baz=348,slow=9.8,SNR=524							
ASAR				S	S	10 29 28.9	-2.9
3.2nm,0.7s,baz=350,slow=20,SNR=7.0							
PSA00	Pilbara Seismi	20.96	208	eP	P	10 25 41.5	-1.1
14nm,0.9s							
CISI	Cisompet, Garu	22.70	258	eP	P	10 25 59.5	-2.0
49nm,0.8s							
CTA	Charters Tower	23.07	138	P	P	10 26 07.0	+1.9
3.4nm,0.7s,baz=315,slow=11,SNR=4.9							
CTAO	Charters Tower	23.07	138	eP	P	10 26 05.2	0.0
15nm,0.8s							
MYKOM	Kota Tinggi	26.76	280	eP	P	10 26 38.6	-0.8
8.6nm,0.7s							
FORT	Forrest	27.64	184	eP	P	10 26 46.9	-0.1
20nm,0.7s							
MORW	Morawa	29.14	206	eP	P	10 26 58.8	-1.7
17nm,1.2s							
EIDS	Eidsvold	29.93	140	eP	P	10 27 07.4	-0.1
21nm,1.4s							
BBOO	Buckleboo	30.10	170	eP	P	10 27 09.7	+0.8
34nm,1.5s							
HNR	Honiara	30.24	103	eP	P	10 27 07.8	-2.5
33nm,0.8s							
STKA	Stephens Creek	30.60	161	eP	P	10 27 13.2	-0.2
4.9nm,1.4s							
STKA	Stephens Creek	30.60	161	P	P	10 27 14.8	+1.4
3.2nm,0.5s,baz=337,slow=9.6,SNR=14							
KULM	Kulim	30.64	286	eP	P	10 27 10.7	-3.3
16nm,1.3s							
PSI	Prapat	31.78	280	eP	P	10 27 20.3	-3.8
13nm,1.3s							
NWAO	Narrogin (SRO)	32.09	201	eP	P	10 27 25.9	-0.5
42nm,1.4s							
GSI	Gunungsitoli	32.88	277	eP	P	10 27 30.8	-2.8
26nm,0.9s							
NONG	Nongkai	33.92	309	P	P	10 27 46.8	+4.2
0.2nm,0.8s							
ARMA	Armidale	33.94	146	eP	P	10 27 42.7	-0.1
24nm,1.4s							
UTTA	Uttaradit	35.79	306	P	P	10 28 04.0	+5.2
10µm,0.9s							
JNU	Nakatsue	36.00	1	eP	P	10 28 00.5	+0.1
11nm,1.2s							
PHRA	Phrae	36.46	307	P	P	10 28 06.1	+1.6
0.8nm,1.2s							
CAN	Canberra	36.53	154	eP	P	10 28 03.7	-1.3
11nm,1.1s							
NJ2	Nanjing	36.55	344	eP	P	10 28 06.4	+1.4
NJ2				pmax	pmax		
comp=Z,12nm,0.6s							
WHN	Wuhan	36.68	337	eP	P	10 28 08.3	+2.1
TOO	Toolangi	37.10	160	eP	P	10 28 07.6	-2.2
18nm,1.4s							
CM31	Chiang Mai Arr	37.47	306	eP	P	10 28 12.3	-0.8
14nm,1.4s							
CMAR	Chiang Mai Arr	37.47	306	eP	P	10 28 13.4	+0.3
CMAR	Chiang Mai Arr	37.47	306	P	P	10 28 13.8	+0.7
3.3nm,1.0s,baz=136,slow=7.3,SNR=9.1							
CMMT	Chiang Mai	37.65	306	P	P	10 28 19.2	+4.5
CHTO	Chiang Mai	37.65	306	eP	P	10 28 14.2	-0.4
4.7nm,0.8s							
KMI	Kunming	38.66	318	P	P	10 28 25.3	+2.0
KMI				pmax	pmax		
comp=Z,10.0nm,0.6s							
MAJO	Matsushiro	40.11	10	eP	P	10 28 34.2	-0.8
MJAR	Matsushiro Arr	40.11	10	P	P	10 28 34.2	-0.8
2.0nm,0.8s,baz=181,slow=8.7,SNR=5.1							
MJB9	Matsu-Tunnel	40.12	10	eP	P	10 28 34.9	-0.2
4.1nm,0.9s							
KS15	Wonju Array Si	40.36	357	eP	P	10 28 35.8	-1.2
4.9nm,0.8s							
KSRS	Korea Array	40.37	357	P	P	10 28 36.6	-0.5
1.3nm,0.7s,baz=174,slow=9.8,SNR=8.1							
CD2	Chengdu	42.15	325	eP	P	10 28 52.0	+0.1
CD2				pmax	pmax		
comp=Z,30nm,0.5s							
LZH	Lanzhou	46.07	330	eP	P	10 29 27.0	+3.5
LZH				pP	sP	10 29 37.2	+3.1
LZH				sP	pP	10 29 43.4	+12
LZH				pmax	pmax		
comp=Z,14nm,1.4s							
LZH				pmax	pmax		
comp=Z,69nm,4.8s							
LZH				LR	LR		
comp=N,230nm,16.7s							
LZH				LR	LR		
comp=E,240nm,16.2s							
LZH				LR	LR		
comp=Z,360nm,17.3s							
HHC	Hu-ho-hao-te	46.90	341	eP	P	10 29 32.4	+2.6
HHC				pmax	pmax		
comp=Z,47nm,1.0s							
HHC				pmax	pmax		
comp=Z,160nm,5.8s							
USRK	Ussuriysk Ar.	47.08	2	P	P	10 29 31.8	+0.8
2.4nm,0.8s,baz=192,slow=9.4,SNR=4.8							
GTA	Gaotai	50.66	330	eP	P	10 29 59.9	+1.1
GTA				pP	sP	10 30 12.1	+2.6
GTA				sP	pP	10 30 17.5	+11
GTA				pmax	pmax		
comp=Z,3.0nm,1.0s							
GTA				pmax	pmax		
comp=Z,77nm,7.3s							
GTA				LR	LR		
comp=N,110nm,18.4s							
GTA				LR	LR		
comp=E,160nm,17.8s							
GTA				LR	LR		
comp=Z,230nm,21.9s							
LBZ	Lake Benmore	54.16	145	eP	P	10 30 27.3	+2.7
28nm,1.2s							
SONA0	Songino Array	54.80	341	eP	P	10 30 29.8	+0.5
SONM	Songino Array	54.80	341	P	P	10 30 29.8	+0.5
1.3nm,0.7s,baz=155,slow=6.6,SNR=8.7							
BKZ	Black Stump Fm	55.27	137	eP	P	10 30 33.7	+0.9
33nm,1.3s							
WMQ	Urumqi	60.24	326	eP	P	10 31 09.7	+2.1
WMQ				LR	LR		
comp=Z,540nm,23.9s							
PETK	Petropavlovsk-	60.56	19	P	P	10 31 09.9	+0.4
0.9nm,0.6s,baz=221,slow=7.7,SNR=2.0							
PEA1	Petropavlovsk-	60.56	19	eP	P	10 31 09.9	+0.4
CASY	Casey	64.59	189	eP	P	10 31 36.2	0.0
3.8nm,0.8s							
MK31	Makanchi Array	65.08	326	eP	P	10 31 40.7	+1.0
2.6nm,1.0s							
MKAR	Makanchi Array	65.08	326	eP	P	10 31 39.9	+0.1
MKAR	Makanchi Array	65.08	326	P	P	10 31 39.7	0.0
0.6nm,0.3s,baz=113,slow=8.1,SNR=10							
KSH	Kashi	65.29	316	P	P	10 31 43.5	+2.1
KSH				sP	sP	10 32 01.6	+9.3
KSH				PP	PP	10 34 08.6	+3.3
KSH				S	S	10 40 22.5	-1.4
KSH				ScS	SKSac	10 41 29.6	-5.7
KSH				pmax	pmax		
comp=Z,9.0nm,0.2s							
ZALV	Zalesovo Beam	68.17	333	eP	P	10 31 59.3	0.0
ZALV	Zalesovo Beam	68.17	333	P	P	10 31 59.0	-0.3
0.7nm,0.6s,baz=97,slow=6.0,SNR=3.4							
KURK	Kurchatov	69.29	328	eP	P	10 32 06.7	+0.3
5.6nm,0.8s							
KKAR	Karatay Array	70.54	318	eP	P	10 32 13.7	-0.5
TIXI	Tiksi	74.59	360	eP	P	10 32 37.9	+0.2
4.8nm,1.5s							
BRVK	Borovoye	74.94	327	eP	P	10 32 40.7	+0.6
7.4nm,1.4s							
VNDA	Vanda	76.30	173	P	P	10 32 48.5	+1.0
0.7nm,0.5s,baz=315,slow=7.1,SNR=12							
NRIK	Noril'sk	77.81	346	LR	LR	11 10 02.0	
comp=Z,40nm,21.6s,baz=197,slow=38							
MAW	Mawson	78.66	201	eP	P	10 33 01.4	+0.6
0.9nm,0.9s							
MAW	Mawson	78.66	201	P	P	10 33 01.9	+1.1
2.1nm,0.6s,baz=100,slow=4.3,SNR=9.8							
ABKAR	Akbulak array	79.57	321	eP	P	10 33 05.8	-0.3
SYO	Syowa Base	87.37	201	⇑eP	P	10 33 45.0	-0.9
TORD	Torodi Ar. Bea	128.12	284	PKP	PKiKP	10 40 07.0	+0.1
0.2nm,0.6s,baz=126,slow=2.0,SNR=2.8							
TOA1	Torodi Ar. Sit	128.13	284	ePKPdf	PKiKP	10 40 07.0	+0.1
CPUP	Villa Florida	149.88	166	ePKPbc	PKPbc	10 40 49.7	-0.4
CPUP	Villa Florida	149.88	166	PKPbc	PKiKP	10 40 51.2	+0.1
1.2nm,0.5s,baz=186,slow=4.1,SNR=5.1							
LPAZ	La Paz	153.59	137	ePKPbc	PKPbc	10 40 57.5	-2.1
LPAZ	La Paz	153.59	137	PKPbc	PKiKP	10 41 01.9	+2.1
0.6nm,0.4s,baz=13,slow=3.4,SNR=4.4							

KRSC 03 10:35:08.5±10.0, 53°.87N×160°.88E, h99km±10km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.85	36	eP	Pn	10 35 29.4	+2.2
MKZ				eS	Sn	10 35 42.2	+0.9
SPN	Mys Shipunski	0.93	214	eP	Pn	10 35 30.0	+1.9
SPN				eS	Sn	10 35 43.8	+1.0
NLC	Nalytchevo	1.16	233	eP	Pn	10 35 32.3	+1.8
NLC				eS	Sn	10 35 48.4	+1.2
KZV	Kizimen	1.29	345	eP	Pn	10 35 33.9	+1.6
KZV				eS	Sn	10 35 51.2	+0.9
SDLR	Sedlovina	1.33	244	eP	Pn	10 35 34.8	+2.0
SDLR				eS	Sn	10 35 52.4	+1.3
TUMD	Tumrok D	1.36	348	eP	Pn	10 35 34.4	+1.3
TUMD				eS	Sn	10 35 52.2	+0.6
SMAR	Somma	1.38	245	eP	Pn	10 35 35.5	+2.0
SMAR				eS	Sn	10 35 53.5	+1.2
UGLR	Uglovaya	1.40	242	eP	Pn	10 35 35.8	+2.3
UGLR				eS	Sn	10 35 54.3	+1.8
AVH	Avacha	1.42	245	eP	Pn	10 35 36.3	+2.6
AVH				eS	Sn	10 35 54.8	+2.0
KRX	Arik	1.43	250	eP	Pn	10 35 36.1	+2.2
KRX				eS	Sn	10 35 54.4	+1.2
DALK	Dalny	1.53	237	eP	Pn	10 35 37.0	+2.0
DALK				eS	Sn	10 35 56.3	+1.2
KRMR	Karymshinskiy	1.95	239	eP	Pn	10 35 42.8	+2.4
KRMR				eS	Sn	10 36 06.3	+1.6
RUS	Russkaya	2.03	226	eP	Pn	10 35 43.2	+1.9
RUS				eS	Sn	10 36 06.9	+0.5
MTVR	Mutnovka	2.14	231	eP	Pn	10 35 45.6	+2.6
MTVR				eS	Sn	10 36 10.7	+1.5
ESO	Esso	2.41	329	eP	Pn	10 35 47.9	+1.5
APC	Apacha	2.42	248	eP	Pn	10 35 49.0	+2.5
APC				eS	Sn	10 36 17.6	+2.0
KLY	Klyuchi	2.45	357	eP	Pn	10 35 49.2	+2.3
SRDR	Sredinnyy	2.54	345	eP	Pn	10 35 49.5	+1.4
KBTR	Krutoberegovo	2.59	25	eP	Pn	10 35 51.5	+2.7
KDTR	Khodutka, Kamc	2.68	221	eP	Pn	10 35 51.7	+1.8
KDTR				eS	Sn	10 36 21.3	-0.3
BDR	Baidarnaya	2.71	4	eP	Pn	10 35 53.0	+2.6
SMKR	Semkarok	2.74	7	eP	Pn	10 35 53.3	+2.5
SRKR	Sorokina	2.79	3	eP	Pn	10 35 54.1	+2.6
BKI	Bering	3.25	64	eS	Sn	10 36 35.6	+0.2
SKR	Severo-Kuril's	4.33	224	eP	Pn	10 36 14.8	+2.7
SKR				eS	Sn	10 37 02.5	+1.1
ALID	Alaid	4.44	230	P	Pn	10 36 16.2	+2.5

IDC 03 10:50:49.7±7.5, 21°.75S×177°.44W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=318.7km s-min=43.7km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.76	258	P	P	10 59 04.2	-1.1
0.2nm,0.4s,baz=95,slow=7.8,SNR=6.5							
WRA	Warramunga Arr	44.96	263	P	P	10 59 07.7	+0.8
0.2nm,0.4s,baz=100,slow=8.2,SNR=7.6							
ILAR	Eielson Array	89.41	13	P	P	11 03 47.8	0.0
0.5nm,1.0s,baz=194,slow=5.6,SNR=2.9							

*IDC **03** 11:25:06.0±1.4, 10°.65S×114°.12E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/37, mbtmp3.8/9, ML3.4/1, Error ellipse: s-maj=54.2km s-min=17.4km az=56.0*

ISC 03 11:25:11.8±1.2, 10°.6S±0°.2×114°.5E±0°.3, h35km, n10, σ2§12/11, mb3.8/8, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.14	126	Pn	Pn	11 28 17.2	+1.2
0.1nm,0.3s,baz=312,slow=15,SNR=5.7							
FITZ				Sn	Sn	11 30 36.6	-4.5
0.1nm,0.3s,baz=346,slow=23,SNR=4.8							
WRA	Warramunga Arr	21.28	118	P	P	11 29 57.3	+1.9
2.7nm,0.6s,baz=289,slow=11,SNR=25							
ASAR	Alice Springs	22.64	128	P	P	11 30 11.5	+1.6
1.8nm,0.6s,baz=301,slow=8.9,SNR=43							
CMAR	Chiang Mai Arr	32.66	332	P	P	11 31 38.9	-1.8
0.8nm,0.3s,baz=157,slow=7.6,SNR=4.4							
STKA	Stephens Creek	32.82	134	P	P	11 31 43.5	+1.3
0.6nm,0.4s,baz=327,slow=12,SNR=3.4							
KSRS	Korea Array	49.38	14	P	P	11 33 58.7	+0.7
1.2nm,0.8s,baz=210,slow=7.3,SNR=5.3							
USRK	Ussuriysk Ar.	56.76	15	P	P	11 34 52.9	+0.7
1.1nm,0.6s,baz=214,slow=7.0,SNR=3.9							
SONM	Songino Array	58.57	354	P	P	11 35 04.6	-0.4
0.4nm,0.6s,baz=178,slow=7.1,SNR=3.0							
MKAR	Makanchi Array	63.93	336	P	P	11 35 41.3	+0.1
0.1nm,0.3s,baz=127,slow=8.9,SNR=2.6							
LPAZ	La Paz	153.21	174	PKPab	PKPab	11 45 18.0	-1.2
0.7nm,0.6s,baz=198,slow=3.2,SNR=3.3							

MEX 03 11:28:57.5±0.7, 19°.40N×103°.83W, h5km±4km, MD3.6, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		0.23	69	eP	Pg	11 29 01.8	-0.2
CJM	Chamela	1.15	275	eP	Pg	11 29 16.3	-3.3
CJM				*i* S	Sg	11 29 31.8	-2.8
MMIG	Aquila	1.20	157	eP	Pg	11 29 16.6	-3.9
MMIG				*i* S	Sg	11 29 32.3	-3.6
ANIG	Ahuacatlan	1.77	339	eP	Pn	11 29 24.8	-4.1
ANIG				*i* S	Sn	11 29 46.8	-5.1

*BJI **03** 11:46:41.2±0.0, 40°.94N×79°.95E, h10km, ML3.8/9*
*IDC **03** 11:46:42.2±4.0, 40°.87N×79°.94E, h34km±29km, mb3.9/13, mb1 3.9/19, mb1mx3.6/64, mbtmp4.0/19, ML3.3/6, MS2.6/2, Ms1 2.7/2, ms1mx2.3/54, Error ellipse: s-maj=22.7km s-min=13.6km az=164.0*
*SOME **03** 11:46:42.1±1.0, 41°.00N×79°.98E, h10km, MS3.3*
*NEIC **03** 11:46:42.8±1.3, 40°.84N×79°.99E, h40km±7km, mb4.5/13, Error ellipse: s-maj=24.1km s-min=14.9km az=164.0*
*KRNET **03** 11:46:43.9±0.1, 41°.13N×79°.77E, mb4.1*
*NNC **03** 11:46:43.3±2.0, 41°.17N×80°.02E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=14.3km s-min=11.0km az=161.0*

ISC 03 11:46:41.9±0.6, 40°.84N±0°.04×80°.05E±0°.03, h32km±3km, n133, σ1§81/189, mb4.2/19, 33C-21D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.91	298	ePn	Pn	11 47 13.1	+0.5
TARG				eSn	Sn	11 47 35.8	+0.1
TARG	Taragay, Kyrgy	1.91	298	⇓*i*P	Pn	11 47 13.6	+1.0
baz=93							
TARG				⇓*i*S	Sn	11 47 35.1	-0.7
baz=93							
PRZ	Przheval'sk	2.06	324	ePn	Pn	11 47 15.1	+0.7
PRZ	Przheval'sk	2.06	324	⇑*i*P	Pn	11 47 15.1	+0.7
baz=24							
PRZ				⇑*i*S	Sn	11 47 37.4	-1.6
baz=24							
SHLS	Shalkode	2.36	349	eP	Pb	11 47 21.8	-2.0
574nm,0.3s							
SHLS				eS	Sb	11 47 51.1	-1.4
3µm,0.8s							
UZB	Uzynbulak	2.43	342	Pg	Pn	11 47 21.8	+2.3
UZB				Lg	Lg	11 47 52.7	
397nm,0.5s							
UZB	Uzynbulak	2.43	342	eP	Pb	11 47 23.0	-2.0
107nm,0.5s							
UZB				eS	Sb	11 47 52.7	-1.9
397nm,0.5s							
KDJ	Kajisay	2.51	302	ePn	Pn	11 47 21.7	+1.0
KDJ	Kajisay	2.51	302	⇓*i*P	Pn	11 47 22.5	+1.8
baz=98							
KDJ				⇓*i*S	Sn	11 47 50.5	+0.2
baz=98							
PDGK	Podgornoye	2.52	351	Pg	Pn	11 47 23.0	+2.2
118nm,0.3s							
PDGK				Lg	Lg	11 47 54.9	
396nm,0.6s							
PDGK	Podgornoye	2.52	351	⇓Pn	Pn	11 47 22.9	+2.2
84nm,0.3s							
PDGK				⇓Lg	Lg	11 47 53.0	
857nm,0.9s							
PDGK	Podgornoye	2.52	351	⇑*i*P	Pn	11 47 23.0	+2.2
baz=55							
PDGK				⇑*i*S	Sn	11 47 51.3	+0.8
baz=55							
SATY	Saty	2.53	332	Pg	Pb	11 47 23.9	-2.8
505nm,0.3s							
SATY				Lg	Lg	11 47 56.5	
2µm,0.7s							
SATY	Saty	2.53	332	eP	Pb	11 47 25.8	-0.9
220nm,0.4s							
SATY				eS	Sb	11 47 57.4	-0.1
2µm,0.7s							
KTMS	Ketmen	2.61	5	Pg	Pn	11 47 24.2	+2.1
330nm,0.3s							
KTMS				Lg	Lg	11 47 57.1	
1µm,0.4s							
KTMS	Ketmen	2.61	5	eP	Pb	11 47 25.6	-2.5
330nm,0.3s							
KTMS				eS	Sb	11 47 57.1	-2.8
1µm,0.4s							
ZHN	Zhinishke	2.62	333	Pg	Pn	11 47 24.6	+2.5
323nm,0.2s							
ZHN				Lg	Lg	11 47 58.4	
334nm,0.2s							
ZHN	Zhinishke	2.62	333	eP	Pb	11 47 26.2	-2.0
323nm,0.2s							
ZHN				eS	Sb	11 47 57.3	-2.7
334nm,0.2s							
KPKS	Kokpek	2.81	339	eP	Pb	11 47 29.2	-2.3
735nm,0.4s							
KPKS				eS	Sb	11 48 02.5	-3.1
1µm,0.4s							
ULHL	Ulahol	3.18	297	P	Pn	11 47 32.5	+2.6
SNR=55							
ULHL	Ulahol	3.18	297	⇑*i*P	Pn	11 47 32.2	+2.3
baz=94							
ULHL				⇑*i*S	Sn	11 48 07.1	+0.2
baz=94							
TNSS	Tian-Shan	3.19	315	Pg	Pb	11 47 36.0	-2.1
241nm,0.7s							
TNSS				Lg	Lg	11 48 17.1	
369nm,0.5s							
TNSS	Tian-Shan	3.19	315	eP	Pb	11 47 37.0	-1.1
241nm,0.7s							
TNSS				eS	Sb	11 48 16.6	0.0
369nm,0.5s							
MDOK	Medeo	3.22	317	⇓Pn	Pn	11 47 32.1	+1.7
15nm,0.7s							
MDOK				⇑Pg	Pb	11 47 36.5	-2.1
120nm,0.6s							
MDOK				⇑Lg	Lg	11 48 18.7	
343nm,0.5s							
MDOK	Medeo	3.22	317	Pg	Pb	11 47 36.4	-2.1
146nm,0.6s							
MDOK				Lg	Lg	11 48 17.9	
288nm,0.7s							
MDOK	Medeo	3.22	317	eP	Pb	11 47 38.1	-0.4
137nm,0.6s							
MDOK				eS	Sb	11 48 17.9	+0.6
288nm,0.7s							
KOTS	Kotyrbulak	3.24	319	Pg	Pb	11 47 36.5	-2.3
207nm,0.3s							
KOTS				Lg	Lg	11 48 17.4	
520nm,0.6s							
KOTS	Kotyrbulak	3.24	319	eP	Pb	11 47 38.0	-0.9
207nm,0.3s							
KOTS				eS	Sb	11 48 18.7	+0.8
532nm,0.5s							
KNDC	Almaty	3.30	317	⇑Pg	Pb	11 47 39.6	-0.2
177nm,0.6s							
KNDC				⇑Lg	Lg	11 48 21.8	
297nm,0.5s							
KSH	Kashi	3.39	248	Pn	Pb	11 47 37.9	-3.4
KSH				Sg	Sb	11 48 37.7	+16
KSH				smax	smax		
comp=N,210nm,0.9s							
KSH				smax	smax		
comp=E,290nm,0.9s							
MNBS	Baschi	3.46	340	Pg	Pb	11 47 40.1	-2.4
86nm,0.3s							
MNBS				Lg	Lg	11 48 24.4	
226nm,0.3s							
MNBS	Baschi	3.46	340	eP	Pb	11 47 41.7	-0.8
86nm,0.3s							
MNBS				eS	Sb	11 48 24.4	+0.3
226nm,0.3s							
BOOM	Boomskoye usch	3.49	300	ePn	Pn	11 47 35.1	+1.0
BOOM				eSn	Sn	11 48 12.8	-1.7
BOOM	Boomskoye usch	3.49	300	⇑*i*P	Pn	11 47 35.9	+1.8
baz=97							
BOOM				⇑*i*S	Sn	11 48 14.1	-0.3
baz=97							
DJR	Jarkent	3.50	357	eP	Pb	11 47 40.3	-2.8

KST eS Sb 11 48 34.0 +1.3
368nm,0.6s
CHKK Chushkaly 3.77 324 Pg Pb 11 47 45.5 -2.2
100nm,0.3s
CHKK Lg Lg 11 48 33.5
447nm,0.3s
CHKK Chushkaly 3.77 324 eP Pb 11 47 47.9 +0.1
100nm,0.3s
CHKK eS Sb 11 48 35.2 +2.3
447nm,0.3s
KTBS Karatobe 3.81 320 Pg Pb 11 47 47.0 -1.3
40nm,0.3s
KTBS Lg Lg 11 48 36.0
359nm,0.5s
KTBS Karatobe 3.81 320 eP Pb 11 47 48.2 -0.1
40nm,0.3s
KTBS eS Sb 11 48 36.0 +2.1
359nm,0.5s
KZA Kyzart 3.81 290 P Pn 11 47 40.7 +1.9
SNR=8.8
KZA Kyzart 3.81 290⇑iP Pn 11 47 40.7 +1.9
baz=87
KZA ⇑iS Sn 11 48 22.7 0.0
baz=87
TKM2 Tokmak 2 3.92 303 P Pn 11 47 42.0 +1.9
SNR=19
TKM2 Tokmak 2 3.92 303 ⇓Pn Pn 11 47 41.8 +1.7
27nm,0.5s
TKM2 ⇑Lg Lg 11 48 43.1
122nm,0.6s
TKM2 Tokmak 2 3.92 303⇑iP Pn 11 47 42.0 +1.9
baz=1.0
TKM2 ⇑iS Sn 11 48 24.3 -0.8
baz=1.0
DGS Degeres 3.99 308 Pg Pb 11 47 49.1 -2.4
129nm,0.5s
DGS Lg Lg 11 48 39.6
275nm,0.6s
DGS Degeres 3.99 308 eP Pb 11 47 50.6 -0.9
129nm,0.5s
DGS eS Sb 11 48 39.9 +0.6
275nm,0.6s
KUU Kurty 4.11 319 Pg Pb 11 47 52.6 -0.8
32nm,0.6s
KUU Lg Lg 11 48 45.7
246nm,0.5s
KUU Kurty 4.11 319 eP Pb 11 47 53.8 +0.4
32nm,0.6s
KUU eS Sb 11 48 45.6 +3.0
246nm,0.5s
KBK Karagaybulak 4.23 297 P Pn 11 47 48.7 +4.5
SNR=13
KBK Karagaybulak 4.23 297⇑iP Pn 11 47 46.5 +2.3
baz=95
KBK ⇑iS Sn 11 48 32.3 -0.2
baz=95
TDK Taldyqorghan 4.33 344 eP Pb 11 48 00.2 +2.9
194nm,0.7s
TDK eS Sb 11 48 56.1 +7.1
519nm,0.9s
UCH Uchtor 4.38 290 P Pb 11 47 59.0 +0.7
SNR=7.6
UCH Uchtor 4.38 290⇑iP Pn 11 47 49.1 +2.5
baz=87
UCH ⇑iS Sn 11 48 36.7 0.0
baz=87
ARLS Aral 4.43 285⇓iP Pn 11 47 49.6 +2.6
baz=82
ARLS ⇓iS Sn 11 48 37.6 +0.1
baz=82
KAPS Kapalarasan 4.47 354 Pg Pb 11 47 58.7 -1.0
20nm,0.3s
KAPS Lg Lg 11 48 56.1
98nm,0.3s
KAPS Kapalarasan 4.47 354 eP Pb 11 48 02.4 +2.7
27nm,0.3s
KAPS eS Sb 11 48 59.4 +6.3
98nm,0.3s
FRU1 Bishkek 4.50 298 ePn Pn 11 47 49.4 +1.5
FRU1 eSn Sn 11 48 36.5 -2.7
FRU1 Bishkek 4.50 298⇓iP Pn 11 47 50.2 +2.3
baz=95
FRU1 ⇓iS Sn 11 48 38.5 -0.7
baz=95
CHMS Chumysh 4.50 300⇓iP Pn 11 47 49.9 +2.0
baz=98
CHMS ⇓iS Sn 11 48 38.4 -0.8
baz=98
AAK Ala-Archa 4.53 295 P Pn 11 47 53.4 +5.1
SNR=7.1
AAK Ala-Archa 4.53 295 ePn Pn 11 47 48.5 +0.2
AAK Ala-Archa 4.53 295 ⇑Pn Pn 11 47 52.7 +4.3
22nm,0.5s
AAK ⇓Lg Lg 11 49 02.2
162nm,1.1s
AAK Ala-Archa 4.53 295⇑iP Pn 11 47 50.7 +2.4
baz=93
AAK ⇑eS Sn 11 48 39.3 -0.7
baz=93
AAK Ala-Archa 4.53 295 Pn Pn 11 47 49.1 +0.8
0.6nm,0.3s,baz=108,slow=13,SNR=3.7
AAK Sn Sn 11 48 37.6 -2.4
6.7nm,0.3s,baz=222,slow=12,SNR=3.5
AAK Lg Lg 11 48 59.4
5.6nm,0.3s,baz=281,slow=22,SNR=4.5
USP Ospenovka 4.79 302 P Pb 11 48 10.1 +5.0
SNR=10
USP Ospenovka 4.79 302⇓iP Pn 11 47 54.0 +2.2
baz=0.0
USP ⇓iS Sn 11 48 45.0 -1.3
baz=0.0
AML Almayashu 4.95 287 P Pb 11 48 09.2 +1.3
SNR=26
AML Almayashu 4.95 287⇑eP Pn 11 47 56.8 +2.5
baz=84
AML ⇑iS Sn 11 48 50.4 -0.2
baz=84
EKS2 Erkin-Say 5.03 293 P Pb 11 48 11.1 +1.8
SNR=11
EKS2 Erkin-Say 5.03 293⇑iP Pn 11 47 57.5 +2.3
baz=91
EKS2 ⇑eS Sn 11 48 51.6 -0.7
baz=91
ARSB Arslanbob 5.36 277 ePn Pn 11 48 01.5 +1.7
MRKS Merke 5.44 293 eP Pb 11 48 19.5 +3.3
13nm,0.5s
MRKS eS Sb 11 49 29.7 +8.6
29nm,0.7s
MAKZ Makanchi 6.13 13 ePn Pn 11 48 10.8 +0.6
MAKZ eSn Sn 11 49 18.4 -0.7
MAKZ Makanchi 6.13 13 ⇓Pn Pn 11 48 11.0 +0.8
7.3nm,0.6s
MAKZ ⇓Sn Sn 11 49 18.0 -1.1
14nm,0.6s
MAKZ ⇑Lg Lg 11 49 47.7
11nm,0.5s
MKAR Makanchi Array 6.17 14 ePn Pn 11 48 11.4 +0.7
MKAR eSn Sn 11 49 17.1 -3.1
MKAR Makanchi Array 6.17 14 Pn Pn 11 48 12.2 +1.5
2.7nm,0.3s,baz=196,slow=13,SNR=56
MKAR Sn Sn 11 49 19.5 -0.7
8.2nm,0.3s,baz=191,slow=22,SNR=9.8
MKAR Lg Lg 11 49 57.6
2.1nm,0.3s,baz=193,slow=26,SNR=3.5
MK31 Makanchi Array 6.17 14 ePn Pn 11 48 11.6 +0.9
MK31 eSn Sn 11 49 19.3 -0.8
MK31 Makanchi Array 6.17 14 ⇑Pn Pn 11 48 12.1 +1.3
0.7nm,0.2s,baz=201,slow=13,SNR=158
MK31 ⇓Pg Pb 11 48 29.9 +1.3
1.5nm,0.2s,baz=194,slow=13,SNR=3.6
MK31 ⇓Sn Sn 11 49 18.7 -1.5
12nm,0.5s,baz=194,slow=21,SNR=12
MK31 ⇑Lg Lg 11 49 50.0
10.0nm,0.5s,baz=163,slow=38,SNR=3.6
MK32 Makanchi Array 6.17 14 ePn Pn 11 48 12.2 +1.5
MK32 eSn Sn 11 49 19.5 -0.7
WMQ Urumqi 6.40 60 P Pb 11 48 31.4 -1.1
WMQ Urumqi 6.40 60 ePn Pn 11 48 15.8 +1.8
WMQ smax smax
comp=N,87nm,0.5s
WMQ smax smax
comp=E,110nm,0.5s
WMQ Urumqi 6.40 60 ePn Pn 11 48 15.5 +1.6
BTK Batken 7.08 267 ePn Pn 11 48 23.4 0.0
KK31 Karatay Array 7.46 291 ePn Pn 11 48 29.1 +0.7
KK31 Karatay Array 7.46 291 ⇑Pg Pb 11 48 56.8 +6.4
5.2nm,0.5s,baz=95,slow=15,SNR=10
KK31 ⇑Lg Lg 11 50 36.9
6.9nm,0.5s,baz=86,slow=26,SNR=4.7
NIL Nilore 8.99 219 ePn Pn 11 48 48.9 -0.6
KURBB Kurchatov Arra 9.84 354 Pn Pn 11 49 01.6 +0.6
0.2nm,0.3s,baz=184,slow=12,SNR=3.9
KURBB Sn Sn 11 50 49.9 -0.4
0.1nm,0.3s,baz=179,slow=34,SNR=2.4
KURBB Lg Lg 11 51 42.8
0.3nm,0.3s,baz=30,slow=26,SNR=5.2
KURK Kurchatov 9.93 355 ePn Pn 11 49 02.3 +0.1
KBL Kabul 10.75 238 ePn Pn 11 49 13.3 -0.4
ZALV Zalesovo Beam 13.50 12 ePn Pn 11 49 49.9 -1.2
ZALV Zalesovo Beam 13.50 12 Pn Pn 11 49 50.3 -0.8
0.2nm,0.3s,baz=191,slow=14,SNR=5.2
ZALV Sn Sn 11 52 15.6 -4.2
0.4nm,0.3s,baz=186,slow=22,SNR=5.1
ZAA1 Zalesovo Array 13.51 12 ePn Pn 11 49 50.3 -0.8
ZAA1 eSn Sn 11 52 15.6 -4.3
BVAR Borovoye Array 13.84 335 Pn Pn 11 49 54.6 -1.1
0.2nm,0.3s,baz=152,slow=13,SNR=4.8
BVAR Lg Lg 11 53 53.3
0.2nm,0.3s,baz=146,slow=24,SNR=4.1
BRVK Borovoye 13.91 335 ePn Pn 11 49 56.5 0.0
ABKAR Akbulak array 16.48 307 ePn Pn 11 50 30.5 +0.1
3.1nm,0.9s
ABKAR ePn P 11 50 30.7 -2.1
AKTO Aktyubinsk 18.09 309 P Pn 11 50 50.6 +0.1
0.2nm,0.3s,baz=107,slow=11,SNR=3.5
AKTO LR LR 11 58 30.3
comp=Z,35nm,18.6s,baz=83,slow=39
SONM Songino Array 20.04 61 eP P 11 51 12.9 +0.7
SONM Songino Array 20.04 61 P P 11 51 13.9 +1.7
4.2nm,0.9s,baz=261,slow=11,SNR=26
ARU Arti 20.96 325 eP P 11 51 21.6 -0.3
6.6nm,0.8s
CMAR Chiang Mai Arr 27.58 138 P P 11 52 31.0 +4.9
0.4nm,0.3s,baz=282,slow=4.5,SNR=2.8
CMAR LR LR 12 04 50.2
comp=Z,6.7nm,18.3s,baz=120,slow=39
BR131 Keskin Array S 35.10 284 eP P 11 53 32.3 0.0
2.5nm,0.6s
BRTR Keskin Array B 35.10 284 P P 11 53 33.1 +0.8
2.1nm,0.7s,baz=96,slow=8.8,SNR=12
BRTR pP sP 11 53 47.1 +1.1
1.5nm,0.6s,baz=95,slow=8.3,SNR=5.6
KLR Kul'dur 36.85 59 P P 11 53 47.3 +0.3
0.9nm,0.6s,baz=295,slow=8.1,SNR=4.3
KEV Kevo 39.69 334 eP P 11 54 10.4 -0.2
26nm,1.6s
ARA0 ARCESS Array S 40.13 334 eP P 11 54 14.5 +0.2
ARCES ARCESS Array B 40.13 334 P P 11 54 14.5 +0.2
1.2nm,0.5s,baz=100,slow=8.8,SNR=22
ARCES pP sP 11 54 28.9 +0.6
1.5nm,0.5s,baz=103,slow=9.2,SNR=3.5
ARE0 ARCESS Array S 40.13 334 eP P 11 54 14.3 +0.1
0.4nm,1.1s
IDI Anoyia 43.18 281 P P 11 54 39.4 -0.3
6.0nm,1.0s,baz=72,slow=13,SNR=3.2
BMAR Burnt Mountain 66.89 17 eP P 11 57 31.2 +0.8
BPAW Bear Paw Mtn. 67.93 22 eP P 11 57 37.3 +0.2
10nm,1.6s
INK Inuvik 68.30 13 eP P 11 57 38.9 -0.4
INK Inuvik 68.30 13 P P 11 57 37.8 -1.4
0.5nm,0.5s,baz=12,slow=3.8,SNR=4.2
INK pP sP 11 57 53.4 0.0
0.3nm,0.3s,baz=326,slow=11,SNR=1.2
ILAR Eielson Array 68.50 20 P P 11 57 39.7 -0.8
0.8nm,0.7s,baz=318,slow=5.5,SNR=10
ILAR pP sP 11 57 54.7 -0.1
0.4nm,0.7s,baz=324,slow=6.0,SNR=3.3
ILB Eielson Array 68.50 20 eP P 11 57 40.1 -0.5
1.8nm,0.9s
KDAK Kodiak Island 72.34 27 eP P 11 58 04.7 +0.6
36nm,1.3s
KDAK Kodiak Island 72.34 27 P P 11 58 04.6 +0.6
4.8nm,0.8s,baz=116,slow=23,SNR=3.3
KDAK pP sP 11 58 18.9 +0.6
19nm,1.2s,baz=324,slow=4.1,SNR=3.4
TOA0 Torodi Ar. Sit 72.76 273 eP P 11 58 06.5 -0.7
3.0nm,0.6s
TORD Torodi Ar. Bea 72.76 273 P P 11 58 05.6 -1.6
1.9nm,0.6s,baz=42,slow=5.9,SNR=14
TORD pP sP 11 58 21.2 -0.3
1.2nm,0.5s,baz=37,slow=5.7,SNR=6.1
BALM Baldy 72.76 20 eP P 11 58 06.9 +0.2
19nm,1.4s
YKA Yellowknife Ar 76.34 7 P P 11 58 25.9 -1.4
0.4nm,0.5s,baz=343,slow=5.7,SNR=12
YKA pP sP 11 58 41.2 -0.3
0.2nm,0.5s,baz=342,slow=5.8,SNR=3.5
YKB5 Yellowknife Ar 76.34 7 eP P 11 58 25.9 -1.4
WR1 Warramunga Arr 78.71 129 eP P 11 58 41.8 +0.7
WRA Warramunga Arr 78.71 129 P P 11 58 41.8 +0.7
0.4nm,0.7s,baz=331,slow=5.4,SNR=5.9
WRA pP sP 11 58 56.7 +1.4
0.4nm,0.8s,baz=330,slow=5.8,SNR=1.7
WB2 Warramunga Arr 78.72 129 eP P 11 58 41.3 +0.1
16nm,1.5s
ASAR Alice Springs 81.36 132 P P 11 58 56.4 +1.1
0.8nm,0.8s,baz=321,slow=5.8,SNR=7.5
DBIC Dimbokro 81.83 272 eP P 11 58 57.9 -0.2
16nm,1.5s
DBIC Dimbokro 81.83 272 P P 11 58 57.8 -0.3
2.4nm,0.7s,baz=45,slow=2.9,SNR=3.2

BJI ***03*** *12:15:33.8±0.0, 6°.56S×128°.30E, h377km, mb4.5/41, mB4.4/26*
ISCJB ***03*** *12:15:37.1±0.3, 6°.33S±0°.02×127°.96E±0°.03, h379km±3km, mb4.4/69, Error ellipse: s-maj=5.0km s-min=3.7km az=158.9*
NEIC ***03*** *12:15:37.8±1.1, 6°.32S×127°.95E, h370km±7km, mb4.5/54, Error ellipse: s-maj=11.7km s-min=9.7km az=106.0*
IDC ***03*** *12:15:38.0±1.1, 6°.38S×127°.88E, h371km±12km, mb4.0/17, mb1 4.1/22, mb1mx4.0/30, mbtmp4.8/22, Error ellipse: s-maj=11.5km s-min=7.4km az=63.0*
DJA ***03*** *12:15:38.8±0.2, 6°S±2°×12°8E±°, h362km±2km, M4.9/20, mB5.1/6, mb4.7/20, MLv5.2/7, Mw(mB)4.5/6*
KLM ***03*** *12:15:39.0, 6°.18S×128°.36E, h396km, mb4.7*
ISC 03 12:15:37.5±0.5,**6°.35S**±0°.04×**127°.95E**±0°.04,**h367**km±5km, **n151**,σ1§**09**/171,**mb4.4**/69,**2C-1D**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.66**	**47**	P	**Pn**	**12 16 37.6**	**+2.4**
BNDI				S	**S**	**12 17 25.1**	**+3.4**
SAUI	**Saumlaki**	**3.70**	**116**	ePn	**Pn**	**12 16 45.9**	**+1.4**
SAUI				eS	**S**	**12 17 35.2**	**-3.5**
SAUI	**Saumlaki**	**3.70**	**116**	P	**Pn**	**12 16 45.7**	**+1.2**
SAUI				S	**S**	**12 17 37.1**	**-1.5**
SANI	**Sanana**	**4.70**	**335**	P	**Pn**	**12 16 55.3**	**+0.6**
SANI				S	**S**	**12 17 55.5**	**-1.6**
SOEI	**Soe**	**4.98**	**227**	ePn	**Pn**	**12 16 58.8**	**+1.0**
SOEI				eS	**S**	**12 18 01.9**	**-0.9**
SOEI	**Soe**	**4.98**	**227**	P	**Pn**	**12 16 58.8**	**+1.0**
SOEI				S	**S**	**12 18 02.1**	**-0.7**
FAKI	**Fak Fak**	**5.47**	**52**	ePn	**Pn**	**12 17 03.3**	**+0.3**
FAKI				eS	**S**	**12 18 10.7**	**-1.7**
FAKI	**Fak Fak**	**5.47**	**52**	P	**Pn**	**12 17 03.5**	**+0.5**
	361nm,0.5s,8μm2.8nm						
FAKI				S	**S**	**12 18 08.2**	**-4.2**
	361nm,0.5s,8μm2.8nm						
BATI	**Baumata**	**5.72**	**228**	P	**Pn**	**12 17 07.3**	**+1.5**
BATI				S	**S**	**12 18 17.8**	**+0.3**
BATI	**Baumata**	**5.72**	**228**	P	**Pn**	**12 17 07.3**	**+1.5**
	257nm,0.3s,baz=79,slow=1.6,SNR=193						
BATI				S	**S**	**12 18 15.6**	**-1.9**
	106nm,0.3s,baz=280,slow=22,SNR=32						
MMRI	**Maumere**	**6.11**	**248**	ePn	**Pn**	**12 17 11.7**	**+1.6**
MMRI	**Maumere**	**6.11**	**248**	P	**Pn**	**12 17 13.0**	**+2.9**
	64nm,1.1s						
SWI	**Sorong**	**6.37**	**31**	S	**S**	**12 18 28.3**	**-2.5**
TNTI	**Ternate**	**7.09**	**355**	ePn	**Pn**	**12 17 21.8**	**+0.3**
MTN	**Manton Dam**	**7.18**	**154**	ePn	**P**	**12 17 23.0**	**-0.5**
LUWI	**Luwuk**	**7.38**	**315**	ePn	**Pn**	**12 17 25.2**	**+0.5**
LUWI	**Luwuk**	**7.38**	**315**	P	P	12 17 33.7	+7.9
KMSI	**Cibinong**	**7.94**	**330**	P	P	12 17 44.0	+12
KAPI	**Kappang**	**8.27**	**279**	ePn	**P**	**12 17 36.8**	**-0.2**
APSI	**Ampana**	**8.29**	**310**	P	**P**	**12 17 38.4**	**+1.2**
	48nm,1.0s						
MRSI	**Marisa**	**9.05**	**318**	P	**P**	**12 17 46.7**	**+1.0**
	31nm,0.8s,316nm						
SGSI	**Sangihe**	**10.25**	**346**	P	**Pn**	**12 17 58.2**	**-0.3**
PLAI	**Plampang**	**10.38**	**256**	P	**Pn**	**12 17 58.1**	**-2.0**
	53nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.90**	**191**	eP	**Pn**	**12 18 17.9**	**0.0**
FITZ	**Fitzroy Crossi**	**11.90**	**191**	P	**Pn**	**12 18 18.0**	**+0.2**
	7.0nm,0.3s,baz=22,slow=9.9,SNR=192						
GENI	**Genyem**	**12.73**	**74**	P	**Pn**	**12 18 30.2**	**+2.5**
	237nm,0.5s,2μm						
JAY	**Jayapura**	**13.27**	**74**	P	**Pn**	**12 18 34.9**	**+0.8**
	5.9nm,0.3s,baz=224,slow=8.2,SNR=25						
JAGI	**Jajag, Banyuwa**	**13.85**	**260**	eP	**P**	**12 18 38.5**	**-0.4**
WRAB	**Tennant Creek**	**14.87**	**156**	eP	**P**	**12 18 50.5**	**+0.5**
WRA	**Warramunga Arr**	**14.87**	**156**	P	**P**	**12 18 50.4**	**+0.4**
	4.7nm,0.3s,baz=330,slow=12,SNR=202						
WRA				S	**S**	**12 21 26.6**	**-3.0**
	1.9nm,0.3s,baz=330,slow=24,SNR=6.7						
WR1	**Warramunga Arr**	**14.87**	**156**	eP	**P**	**12 18 50.4**	**+0.4**
WR1				eS	**S**	**12 21 26.6**	**-3.0**
WB2	**Warramunga Arr**	**14.88**	**156**	eP	**P**	**12 18 50.1**	**0.0**
MBWA	**Marble Bar**	**16.74**	**208**	eP	**P**	**12 19 10.3**	**+0.1**
	30nm,0.8s						
COEN	**Coen**	**16.78**	**118**	eP	**P**	**12 19 10.8**	**+0.2**
	66nm,0.6s						
KKM	**Kota Kinabalu**	**16.99**	**316**	eP	**P**	**12 19 13.9**	**+0.8**
	33nm,0.8s						
KKM	**Kota Kinabalu**	**16.99**	**316**	P	**P**	**12 19 15.0**	**+1.9**
PSA00	**Pilbara Seismi**	**17.05**	**207**	eP	**P**	**12 19 13.4**	**-0.1**
	32nm,0.6s						
SBUM	**Sibu**	**17.97**	**299**	eP	**P**	**12 19 24.3**	**+0.8**
	5.8nm,0.9s						
SBUM	**Sibu**	**17.97**	**299**	P	**Pn**	**12 19 26.0**	**-2.0**
AS31	**Alice Springs**	**18.15**	**162**	eP	**P**	**12 19 25.7**	**+0.5**
	6.3nm,0.5s						
AS31				eS	**S**	**12 22 32.6**	**-1.4**
ASAR	**Alice Springs**	**18.15**	**162**	eP	**P**	**12 19 25.5**	**+0.2**
ASAR	**Alice Springs**	**18.15**	**162**	P	**P**	**12 19 25.9**	**+0.6**
	4.8nm,0.3s,baz=344,slow=12,SNR=346						
ASAR				S	**S**	**12 22 32.4**	**-1.6**
	1.1nm,0.3s,baz=345,slow=19,SNR=24						
KSM	**Kuching**	**19.25**	**293**	eP	**P**	**12 19 37.1**	**+0.1**
	23nm,1.0s						
PMG	**Port Moresby**	**19.27**	**100**	eP	**P**	**12 19 37.3**	**+0.2**
	67nm,0.8s						
PMG	**Port Moresby**	**19.27**	**100**	P	**P**	**12 19 38.1**	**+1.0**
	3.4nm,0.3s,baz=276,slow=7.7,SNR=10						
MANU	**Manus Island**	**19.82**	**78**	eP	**P**	**12 19 43.2**	**+0.4**
	32nm,0.9s						
CISI	**Cisompet, Garu**	**20.03**	**265**	eP	**P**	**12 19 44.8**	**0.0**
	53nm,0.8s						
CTA	**Charters Tower**	**22.41**	**129**	P	**P**	**12 20 08.1**	**+1.7**
	7.5nm,0.6s,baz=292,slow=13,SNR=9.1						
CTAO	**Charters Tower**	**22.41**	**129**	eP	**P**	**12 20 06.8**	**+0.4**
	20nm,0.9s						
MYKOM	**Kota Tinggi**	**25.38**	**288**	eP	**P**	**12 20 34.5**	**+1.3**
	19nm,0.6s						
MYKOM	**Kota Tinggi**	**25.38**	**288**	P	**P**	**12 20 36.0**	**+2.8**
BBOO	**Buckleboo**	**27.39**	**165**	eP	**P**	**12 20 51.1**	**+0.3**
	52nm,1.6s						
NWAO	**Narrogin (SRO)**	**28.27**	**199**	P	**P**	**12 20 58.8**	**+0.3**
	12nm,0.9s,baz=45,slow=8.6,SNR=3.1						
NWAO				pP	**pP**	**12 22 05.9**	**+0.3**
	11nm,0.8s,baz=30,slow=8.6,SNR=3.1						
STKA	**Stephens Creek**	**28.42**	**155**	eP	**P**	**12 21 00.3**	**+0.5**
	1.4nm,0.6s						
STKA	**Stephens Creek**	**28.42**	**155**	P	**P**	**12 21 00.6**	**+0.7**
	6.2nm,0.6s,baz=328,slow=8.6,SNR=18						
STKA				pP	**pP**	**12 22 08.1**	**+0.6**
	15nm,0.8s,baz=318,slow=8.5,SNR=7.6						
PSI	**Prapat**	**30.38**	**287**	eP	**P**	**12 21 17.0**	**-0.4**
	23nm,0.9s						
QIZ	**Qiongzhong**	**30.89**	**325**	eP	**P**	**12 21 21.3**	**-0.4**
	60nm,1.4s						
YHNB	**Yeheng**	**31.49**	**348**	eP	**P**	**12 21 25.9**	**-0.9**
	55nm,1.4s						
HNR	**Honiara**	**31.83**	**98**	eP	**P**	**12 21 30.0**	**+0.1**
	43nm,0.6s						
HNR	**Honiara**	**31.83**	**98**	P	**P**	**12 21 30.7**	**+0.8**
	36nm,0.5s,baz=219,slow=5.8,SNR=3.7						
ARMA	**Armidale**	**32.69**	**140**	eP	**P**	**12 21 37.8**	**+0.7**
	7.1nm,0.8s						
JOW	**Kunigami**	**32.98**	**1**	eP	**P**	**12 21 39.0**	**-0.5**
	33nm,0.9s						
SKNT	**Sakolnakorn**	**33.14**	**315**	P	**P**	**12 21 41.4**	**+0.3**
	8.7nm,0.8s						
CHAI	**Chaiyaphum**	**33.91**	**311**	P	**P**	**12 21 48.0**	**+0.4**
	14μm,0.8s						
CAN	**Canberra**	**34.74**	**149**	eP	**P**	**12 21 55.8**	**+1.3**
	15nm,0.6s						
TOO	**Toolangi**	**34.94**	**155**	eP	**P**	**12 21 57.6**	**+1.3**
	45nm,1.5s						
UTTA	**Uttaradit**	**36.12**	**312**	P	**P**	**12 22 07.1**	**+0.7**
	14μm,0.7s						
CM31	**Chiang Mai Arr**	**37.76**	**311**	eP	**P**	**12 22 18.4**	**-1.7**
	4.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**37.76**	**311**	eP	**P**	**12 22 19.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**37.76**	**311**	P	**P**	**12 22 19.3**	**-0.7**
	2.2nm,0.5s,baz=138,slow=7.0,SNR=17						
CMAR				PcP	**PcP**	**12 24 29.3**	**+1.0**
	1.0nm,0.5s,baz=164,slow=3.0,SNR=5.4						
CMAR				ScP	**ScP**	**12 27 40.5**	**+0.2**
	0.7nm,0.4s,baz=170,slow=4.2,SNR=5.9						
CMMT	**Chiang Mai**	**37.98**	**312**	P	**P**	**12 22 22.4**	**+0.5**
	2.6nm,0.9s						
CHTO	**Chiang Mai**	**37.98**	**312**	eP	**P**	**12 22 21.8**	**-0.1**
	3.6nm,0.6s						
WHN	**Wuhan**	**38.93**	**341**	⇑P	**P**	**12 22 29.9**	**+0.5**
WHN				pmax	pmax		
	comp=Z,48nm,0.9s						
NJ2	**Nanjing**	**39.16**	**348**	⇓iP	**P**	**12 22 31.5**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
JNU	**Nakatsue**	**39.35**	**4**	eP	**P**	**12 22 31.7**	**-1.2**
	11nm,0.8s						
KMI	**Kunming**	**39.75**	**323**	P	**P**	**12 22 37.8**	**+1.2**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
DZM	**Mont Dzumac**	**40.30**	**117**	eP	**P**	**12 22 41.1**	**+0.2**
	15nm,1.3s						
DZM	**Mont Dzumac**	**40.30**	**117**	P	**P**	**12 22 41.6**	**+0.6**
	3.6nm,0.7s,baz=246,slow=11,SNR=8.4						
ENH	**Enshi**	**40.49**	**335**	eP	**P**	**12 22 41.4**	**-0.8**
	9.4nm,0.6s						
KS15	**Wonju Array Si**	**43.56**	**360**	eP	**P**	**12 23 07.0**	**+0.4**
	14nm,0.6s						
KSAR	**Wonju Array Be**	**43.56**	**360**	eP	**P**	**12 23 07.1**	**+0.5**
KSRS	**Korea Array**	**43.57**	**360**	P	**P**	**12 23 07.2**	**+0.5**
	12nm,0.6s,baz=178,slow=10.0,SNR=71						
KSRS				PcP	**PcP**	**12 24 47.3**	**+0.4**
	1.0nm,0.6s,baz=180,slow=4.0,SNR=3.1						
CD2	**Chengdu**	**43.69**	**329**	P	**P**	**12 23 08.4**	**+0.6**
CD2				pmax	pmax		
	comp=Z,60nm,0.5s						
MJAR	**Matsushiro Arr**	**43.73**	**12**	P	**P**	**12 23 06.6**	**-1.4**
	18nm,0.8s,baz=194,slow=10.0,SNR=44						
MAJO	**Matsushiro**	**43.73**	**12**	eP	**P**	**12 23 06.8**	**-1.2**
	21nm,0.8s						
MAT	**Matsushiro**	**43.73**	**12**	P	**P**	**12 23 06.7**	**-1.3**
MJB9	**Matsu-Tunnel**	**43.73**	**12**	eP	**P**	**12 23 06.8**	**-1.2**
	22nm,0.9s						
XAN	**Xi'an**	**44.02**	**337**	P	**P**	**12 23 09.2**	**-1.2**
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN	**Xi'an**	**44.02**	**337**	eP	**P**	**12 23 08.9**	**-1.5**
	17nm,0.8s						
BJT	**Baijiatuau**	**47.40**	**348**	eP	**P**	**12 23 36.0**	**-0.3**
	15nm,0.8s						
BJI	**Beijing**	**47.42**	**348**	eP	**P**	**12 23 36.2**	**-0.2**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
LZH	**Lanzhou**	**47.89**	**334**	⇑P	**P**	**12 23 41.1**	**+0.7**
LZH				sP	PP	12 25 42.8	+6.3
LZH				pmax	pmax		
	comp=Z,30nm,1.2s						
LZH				pmax	pmax		
	comp=Z,99nm,4.8s						
CN2	**Changchun**	**49.96**	**358**	eP	**P**	**12 23 54.8**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LSA	**Lhasa**	**50.33**	**317**	eP	**P**	**12 23 58.9**	**-0.3**
	11nm,0.7s						
USRK	**Ussuriysk Ar.**	**50.44**	**4**	P	**P**	**12 23 59.3**	**+0.2**
	13nm,0.7s,baz=184,slow=7.6,SNR=33						
RAMN	**Ramite**	**51.94**	**311**	eP	**P**	**12 24 10.7**	**-0.1**
	37nm,0.7s						
GTA	**Gaotai**	**52.44**	**333**	eP	**P**	**12 24 14.3**	**+0.3**
GTA				ScP	**ScP**	**12 28 40.8**	**+0.2**
GTA				pmax	pmax		
	comp=Z,15nm,1.1s						
JIRN	**Jiri**	**52.63**	**312**	eP	**P**	**12 24 15.5**	**-0.5**

24nm,0.7s
RPZ Rata Peaks 53.00 142 *e*P **P 12 24 18.7 +0.7**
32nm,1.3s
PKI Pulchoki 53.16 311 *e*P **P 12 24 19.1 -0.6**
8.6nm,0.5s
PKIN Phulchoki 53.18 311 *e*P **P 12 24 19.0 -0.8**
9.0nm,0.6s
KKN Kakani 53.38 312 *e*P **P 12 24 20.6 -0.6**
14nm,0.6s
DMN Daman 53.41 311 *e*P **P 12 24 21.1 -0.3**
27nm,0.9s
KHZ Kahutara 53.92 139 *e*P **P 12 24 24.9 +0.4**
11nm,1.0s
KOLN Koldanda 54.63 311 *e*P **P 12 24 29.7 -0.4**
22nm,0.7s
DANN Dangsing 54.81 311 *e*P **P 12 24 31.1 -0.4**
16nm,0.8s
PYUN Piuthan 55.26 311 *e*P **P 12 24 34.4 -0.2**
37nm,0.9s
SONA0 Songino Array 57.20 343 *e*P **P 12 24 47.8 +0.2**
SONM Songino Array 57.20 343 P **P 12 24 47.8 +0.2**
7.7nm,0.7s,baz=163,slow=7.3,SNR=46
TLY Talaya 61.44 343 *e*P **P 12 25 16.3 +0.1**
4.7nm,0.8s
WMQ Urumqi 61.75 328 *e*P **P 12 25 16.9 -1.5**
WMQ pmax pmax
comp=Z,53nm,1.1s
WMQ pmax pmax
comp=Z,99nm,3.6s
WMQ Urumqi 61.75 328 *e*P **P 12 25 18.6 +0.1**
16nm,0.9s
PETK Petropavlovsk- 64.36 19 P **P 12 25 36.0 +0.9**
13nm,0.6s,baz=175,slow=3.7,SNR=44
PEA1 Petropavlovsk- 64.37 19 *e*P **P 12 25 36.0 +0.8**
NIL Nilore 65.26 311 *e*P **P 12 25 41.0 -0.3**
9.3nm,0.6s
KSH Kashi 66.17 318 P **P 12 25 47.5 +0.4**
KSH pmax pmax
comp=Z,14nm,0.5s
MK31 Makanchi Array 66.58 328 *e*P **P 12 25 49.5 +0.1**
10nm,1.1s
MK31 *e*PcP **PcP 12 26 15.4 -0.1**
MK32 Makanchi Array 66.58 328 *e*P **P 12 25 49.6 +0.2**
MK32 *e*PcP **PcP 12 26 15.4 -0.1**
MKAR Makanchi Array 66.58 328 P **P 12 25 49.6 +0.2**
8.9nm,0.7s,baz=122,slow=8.0,SNR=71
MKAR PcP **PcP 12 26 15.4 -0.1**
2.9nm,0.6s,baz=114,slow=5.0,SNR=8.8
MAKZ Makanchi 66.75 327 *e*P **P 12 25 50.3 -0.1**
18nm,1.4s
MAKZ *e*PcP **PcP 12 26 15.9 -0.4**
BOOM Boomskoye usch 67.75 321 *e*P **P 12 25 57.0 0.0**
4.3nm,0.7s
MA2 Magadan 68.17 12 *e*P **P 12 25 59.4 +0.4**
13nm,1.0s
AAK Ala-Archa 68.74 320 *e*P **P 12 26 03.4 +0.3**
6.5nm,1.0s
ARSB Arslanbob 69.05 319 *e*P **P 12 26 04.9 0.0**
19nm,1.4s
ZAA0 Zalesovo Array 70.11 335 *e*P **P 12 26 10.1 -0.7**
12nm,0.8s
ZALV Zalesovo Beam 70.11 335 P **P 12 26 10.2 -0.7**
12nm,0.7s,baz=132,slow=10,SNR=6.0
ZAA1 Zalesovo Array 70.11 335 *e*P **P 12 26 10.2 -0.7**
KURK Kurchatov 70.91 329 *e*P **P 12 26 15.8 +0.1**
22nm,1.0s
KK31 Karatay Array 71.52 319 *e*P **P 12 26 19.6 +0.1**
3.5nm,0.8s
KKAR Karatay Array 71.52 319 *e*P **P 12 26 19.4 -0.1**
3.5nm,0.8s
VNDA Vanda 73.34 173 pP pP 12 27 56.1 +5.6
0.5nm,0.6s,baz=311,slow=5.7,SNR=2.0
BRVK Borovoye 76.51 328 *e*P **P 12 26 47.5 -0.4**
7.9nm,0.9s
TIXI Tiksi 77.84 0 *e*P **P 12 26 54.0 -0.8**
9.0nm,0.7s
GEYT Alibeck 78.24 311 P **P 12 26 58.1 +0.3**
1um,0.5s,baz=115,slow=6.5,SNR=2.9
NRIK Noril'sk 80.44 347 P **P 12 27 09.3 +0.4**
4.0nm,0.5s,baz=158,slow=5.4,SNR=8.2
ABKAR Akbulak array 80.74 322 *e*P **P 12 27 10.4 -0.4**
4.2nm,0.8s
ABKAR *e*P **P 12 27 10.4 -0.4**
ARU Arti 84.08 328 *e*P **P 12 27 27.1 -0.6**
9.5nm,1.0s
KBZ Khabaz 90.77 314 P **P 12 28 00.9 +1.1**
0.7nm,0.5s,baz=104,slow=6.5,SNR=2.2
ILAR Eielson Array 93.63 25 P **P 12 28 11.2 -1.4**
0.6nm,0.7s,baz=240,slow=5.3,SNR=6.4
BMAR Burnt Mountain 94.84 23 *e*P **P 12 28 18.2 +0.1**
MENT Mentasta 94.84 27 *e*S **S 12 39 00.9 +1.7**
BCAR Beaver Creek A 95.73 27 *e*P **P 12 28 21.5 -0.8**
BR101 Keskin Array S 97.33 309 *e*P Pdif 12 28 30.9 +0.7
BRTR Keskin Array B 97.33 309 P Pdif 12 28 30.9 +0.7
0.3nm,0.5s,baz=111,slow=3.2,SNR=2.6
VYHS Vyhne 107.37 319 *e*PDIF **Pdif 12 29 15.1 +0.7**
YKA Yellowknife Ar 108.05 26 PKiKP **PKiKP 12 33 21.2 -0.6**
0.2nm,0.6s,baz=297,slow=1.5,SNR=6.0
PDAR Pinedale Array 117.87 45 PKP **PKPdf 12 33 40.8 -0.6**
0.1nm,0.4s,baz=343,slow=2.8,SNR=2.5
SFJD Kangerlussuaq 119.44 359 PKP **PKiKP 12 33 43.5 0.0**
9.4nm,1.0s,baz=315,slow=5.7,SNR=3.6
FRB Frobisher Bay 121.48 9 PKP **PKiKP 12 33 47.7 +0.1**
1.7nm,0.4s,baz=124,slow=3.7,SNR=4.1
TORD Torodi Ar. Bea 126.69 282 PKP **PKPdf 12 33 58.3 -0.6**
0.7nm,0.7s,baz=107,slow=3.3,SNR=4.3
TOA1 Torodi Ar. Sit 126.69 282 *e*PKPdf **PKPdf 12 33 58.3 -0.6**

SOME ***03*** *12:18:36.1,40.°77N×69.°77E,h15km*
NNC 03 12:18:41.1±2.3,41.°07N×69.°89E,h0km,mb3.8,mpv3.4, 2C-3D,Error ellipse: s-maj=18.0km s-min=12.7km az=24.0,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.08**	**6**	*e*P	Pg	12 19 01.8	0.0
	152nm,0.3s						
IUG				*e*S	Sn	12 19 21.3	+2.0
	112nm,0.5s						
KK31	**Karatay Array**	**2.08**	**13**	Pn	Pn	12 19 17.2	0.0
	4.7nm,0.3s,baz=202,slow=15,SNR=78						
KK31				⇑Lg	Lg	12 19 46.8	
	21nm,0.4s,baz=200,slow=27,SNR=4.6						
MRKS	**Merke**	**3.00**	**55**	*e*P	Pb	12 19 34.3	-1.1
	6.5nm,0.5s						
MRKS				*e*S	Sg	12 20 15.2	-2.2
	10nm,0.4s						
AAK	**Ala-Archa**	**3.78**	**64**	⇓Pg	Pb	12 19 48.8	0.0
	3.0nm,0.5s						
AAK				⇑Lg	Lg	12 20 41.3	
	7.0nm,0.7s						
TKM2	**Tokmak 2**	**4.64**	**65**	⇓Pg	Pb	12 20 03.9	+0.5
	2.0nm,0.6s						
TKM2				⇓Lg	Lg	12 21 08.0	
	4.0nm,0.6s						
DGS	**Degeres**	**4.88**	**62**	Pg	Pg	12 20 12.5	-2.1
	4.1nm,0.4s						
DGS				Lg	Lg	12 21 17.2	
	8.7nm,0.5s						
DGS	**Degeres**	**4.88**	**62**	*e*P	Pb	12 20 09.3	+1.8
	4.7nm,0.7s						
DGS				*e*S	Sg	12 21 15.4	-2.4
	8.7nm,0.5s						
KST	**Kastek**	**4.93**	**64**	Pg	Pg	12 20 12.1	-3.4
	4.6nm,0.3s						
KST				Lg	Lg	12 21 16.9	
	8.1nm,0.5s						
KST	**Kastek**	**4.93**	**64**	*e*P	Pb	12 20 09.7	+1.3
	4.6nm,0.3s						
KST				*e*S	Sg	12 21 16.9	-2.6
	8.1nm,0.5s						
BTLS	**Baital**	**5.00**	**36**	Pg	Pg	12 20 14.3	-2.5
	2.1nm,0.4s						
BTLS				Lg	Lg	12 21 20.5	
	8.7nm,0.6s						

JMA ***03*** *12:34:19.4±0.1,24.°00N×121.°65E,h0km,M2.9*
ISCJB ***03*** *12:34:20.2±0.3,23.°99N±0.°01×121.°67E±0.°02,h4km±2km, Error ellipse: s-maj=2.6km s-min=1.6km az=31.1*
TAP ***03*** *12:34:20.4,24.°01N×121.°62E,h9km,ML3.5,B*
ASIES ***03*** *12:34:20.3,24.°03N×121.°60E,h14km,MW3.1*
ISC 03 12:34:20.5±0.8,**24.°00N**±0.°01×**121.°64E**±0.°02,**h11**km±4km, **n113,**σ0**.9**71/160,**5C-25D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.04**	**235**	⇑*i*P	Pg	12 34 22.6	+0.1
	baz=190						
HWA				S	Sg	12 34 24.4	+0.4
	baz=190						
TWD	**Chiawan**	**0.09**	**334**	⇓*i*P	Pg	12 34 22.9	-0.1
	baz=350						
TWD				*i*S	Sg	12 34 24.5	-0.4
	baz=350						
ENLB	**Shoufeng**	**0.10**	**200**	⇑P	Pg	12 34 23.4	+0.1
	baz=190						
ENLB				S	Sg	12 34 26.3	+1.1
	baz=190						
NACB	**Ninganchiao**	**0.18**	**347**	⇓P	Pg	12 34 24.3	-0.1
	baz=360						
NACB				S	Sg	12 34 26.8	-0.3
	baz=360						
ETLH	**Xiulin Townshi**	**0.25**	**325**	⇓P	Pg	12 34 25.7	0.0
	baz=328						
ETLH				S	Sg	12 34 29.6	+0.3
	baz=328						
ESL	**Shilin**	**0.26**	**226**	⇓*i*P	Pg	12 34 25.7	-0.2
	baz=227						
ESL				*e*S	Sg	12 34 29.2	-0.3
	baz=227						
WHF	**Hehuan Shan**	**0.37**	**293**	⇓*i*P	Pg	12 34 27.9	-0.1
	baz=294						
WHF				*i*S	Sg	12 34 32.9	-0.2
	baz=294						
EGFH	**Guangfu**	**0.38**	**211**	*e*P	Pg	12 34 28.2	+0.2
	baz=217						
OWD	**Renai**	**0.43**	**264**	⇓P	Pg	12 34 29.0	+0.1
	baz=274						
OWD				*e*S	Sg	12 34 34.6	0.0
	baz=274						
CHGB	**Renai**	**0.43**	**278**	⇓P	Pb	12 34 29.2	-1.0
	baz=269						
CHGB				S	Sg	12 34 34.9	+0.1
	baz=269						
ENA	**Nanau**	**0.44**	**12**	⇓*i*P	Pg	12 34 29.2	+0.1
	baz=16						
ENA				S	Sg	12 34 35.0	+0.1
	baz=16						
TWT	**Tachien**	**0.49**	**301**	⇓*i*P	Pb	12 34 30.8	-0.5
	baz=301						
TWT				S	Sb	12 34 37.5	-1.1
	baz=301						
NNS	**Nan Shan**	**0.50**	**331**	⇓*i*P	Pg	12 34 30.5	+0.1
	baz=334						
NNS				S	Sg	12 34 36.9	-0.1
	baz=334						
TDCB	**Techi**	**0.51**	**300**	⇓P	Pb	12 34 30.8	-0.7
	baz=301						
TDCB				S	Sb	12 34 37.5	-1.4
	baz=301						
VWDT	**VWDT**	**0.52**	**242**	⇓P	Pb	12 34 30.9	-0.7
	baz=242						
VWDT				S	Sb	12 34 37.8	-1.2
	baz=242						
HGSD	**Ruisui**	**0.54**	**201**	*e*P	Pb	12 34 32.2	+0.2
	baz=217						
EHY	**Hungye**	**0.57**	**211**	⇑*i*P	Pg	12 34 31.5	-0.1
	baz=210						
NDT	**Datong Townshi**	**0.61**	**349**	⇓*i*P	Pb	12 34 32.7	-0.5
	baz=351						
NDT				S	Sb	12 34 41.0	-0.9
	baz=351						
TWC	**Suao**	**0.64**	**17**	⇓*i*P	Pg	12 34 32.8	0.0
	baz=10.0						
TWC				*i*S	Sg	12 34 41.3	0.0
	baz=10.0						
ENTT	**Nioudou**	**0.64**	**354**	⇓*i*P	Pb	12 34 33.4	-0.4
	baz=356						
ENTT				S	Sg	12 34 41.3	-0.1
	baz=356						
DPDB	**Guoxing**	**0.65**	**273**	⇓P	Pb	12 34 33.6	-0.3
	baz=273						
DPDB				S	Sb	12 34 42.2	-0.8
	baz=273						
SSLB	**Suanglung**	**0.66**	**252**	⇓P	Pg	12 34 33.3	0.0
	baz=263						
SSLB				*e*S	Sg	12 34 41.2	-0.8
	baz=263						
YULB	**Yu-li**	**0.68**	**207**	*e*P	Pg	12 34 33.4	-0.2
	baz=207						
SMLT	**Sun Moon Lake**	**0.69**	**260**	⇓*i*P	Pb	12 34 34.1	-0.5
	baz=260						
SMLT				S	Sg	12 34 42.8	-0.1
	baz=260						
WHP	**Taichung City**	**0.69**	**294**	⇓P	Pb	12 34 34.5	-0.1
	baz=287						
WHP				*e*S	Sb	12 34 43.8	-0.4
	baz=287						
EOS1	**EOS1**	**0.71**	**39**	*e*P	Pb	12 34 35.2	+0.5
	baz=28						
YHNB	**Yeheng**	**0.71**	**340**	⇓P	Pb	12 34 34.6	-0.4
	baz=342						
YHNB				*e*S	Sb	12 34 43.8	-0.9
	baz=342						
TWF1	**Yuli**	**0.72**	**206**	*e*P	Pg	12 34 33.8	-0.5
	baz=216						
TWF1				*e*S	Sb	12 34 44.3	-0.6
	baz=216						
TWE	**Neicheng**	**0.72**	**2**	⇓*i*P	Pb	12 34 34.7	-0.4
	baz=5.0						
TWE				S	Sb	12 34 44.7	-0.2
	baz=5.0						
NSK	**Sanguang**	**0.72**	**339**	⇓*i*P	Pb	12 34 34.7	-0.4
	baz=341						
NSK				*e*S	Sb	12 34 44.8	-0.2
	baz=341						
TYC	**Yuchr**	**0.72**	**263**	⇓*i*P	Pb	12 34 34.6	-0.5
	baz=263						
TYC				S	Sg	12 34 43.3	-0.6
	baz=263						
WHYT	**Xinyi Township**	**0.78**	**247**	*e*P	Pb	12 34 35.8	-0.3
	baz=248						
NWLT	**Wulai**	**0.78**	**351**	*e*P	Pb	12 34 35.9	-0.3
	baz=352						
NWLT				*e*S	Sg	12 34 46.0	0.0
	baz=352						
WJS	**Zhushan**	**0.85**	**258**	*e*P	Pn	12 34 38.2	-0.3
	baz=259						
NSTT	**Nanjuang**	**0.86**	**317**	P	Pb	12 34 37.6	+0.2
	baz=319						
NSTT				S	Sb	12 34 48.6	-0.3
	baz=319						
FULB	**Fuli**	**0.86**	**202**	*e*P	Pb	12 34 37.3	-0.1
	baz=217						
TWQ1	**Liyutan**	**0.86**	**294**	*e*P	Pn	12 34 38.6	0.0
	baz=287						
NTC	**Toucheng**	**0.87**	**11**	*e*P	Pg	12 34 37.0	-0.3
	baz=1.0						
WNT	**Mingjian**	**0.88**	**262**	⇑P	Pn	12 34 38.8	-0.1
	baz=263						
EGS		**0.88**	**18**	*e*P	Pb	12 34 38.0	+0.2
	baz=25						
TCU	**Taichung**	**0.89**	**280**	*e*P	Pn	12 34 38.8	-0.2
	baz=275						
ALS	**Alishan**	**0.91**	**238**	P	Pb	12 34 38.2	-0.1
	baz=226						
ALS				*e*S	Sb	12 34 50.4	-0.2
	baz=226						
WLTB	**Daxi**	**0.92**	**338**	*e*P	Pn	12 34 39.2	-0.2
	baz=337						
CHKT	**Chengkung**	**0.93**	**196**	*e*P	Pg	12 34 38.1	-0.3
	baz=196						
NMLH	**Miaoli**	**0.94**	**305**	*e*P	Pn	12 34 39.8	+0.2
	baz=305						
NHDH	**Xindian Distri**	**0.96**	**354**	*e*P	Pg	12 34 38.6	-0.5
	baz=354						
CHN5	**Tsauling**	**0.97**	**246**	⇑P	Pn	12 34 40.1	0.0
	baz=235						
CHN5				S	Sn	12 34 54.1	+0.3
	baz=235						
WDJ	**Dajia District**	**0.98**	**291**	*e*P	Pn	12 34 40.2	0.0
	baz=291						
TWA	**Mucha**	**0.98**	**357**	P	Pn	12 34 39.9	-0.3
	baz=349						
TWA				*e*S	Sg	12 34 51.3	-0.8
	baz=349						
TIPB	**Shuangxi**	**0.98**	**10**	P	Pb	12 34 39.3	-0.2
	baz=356						
ELDTW	**Lidau**	**0.99**	**215**	*e*P	Pg	12 34 37.5	-2.0
	baz=204						
SBCB	**Hsinchu**	**0.99**	**323**	*e*P	Pn	12 34 40.8	+0.5
	baz=323						
WCHH	**Zhanghua**	**0.99**	**275**	*e*P	Pn	12 34 40.3	0.0
	baz=275						
HSN	**Hsinchu**	**1.01**	**323**	*e*P	Pn	12 34 41.3	+0.8
	baz=325						
WGK	**Gukeng**	**1.03**	**253**	*e*P	Pn	12 34 41.1	+0.2
	baz=254						
NCUH	**Zhongli**	**1.05**	**337**	*e*P	Pn	12 34 41.4	+0.3
	baz=336						
NCU	**National Centr**	**1.05**	**337**	*e*P	Pn	12 34 41.2	+0.1
	baz=349						
NCU				*e*S	Sn	12 34 56.3	+0.5
	baz=349						
TWB1	**Santiao Chiao**	**1.05**	**17**	*e*P	Pg	12 34 40.6	-0.2
	baz=10.0						
WDLH	**Douliu**	**1.05**	**253**	*e*P	Pn	12 34 41.8	+0.6
	baz=254						
NWF	**Wu-fen Shan**	**1.07**	**7**	*e*P	Pn	12 34 41.9	+0.3
	baz=6.0						
WFSB	**Wu-fen Shan**	**1.07**	**7**	*e*P	Pn	12 34 41.7	+0.2
	baz=6.0						
TWS1	**Kuangyinshan**	**1.11**	**350**	*e*P	Pn	12 34 42.8	+0.8
	baz=359						
TWS1				*e*S	Sn	12 34 57.8	+0.4
	baz=359						
YM01	**YM01**	**1.14**	**357**	*e*P	Pn	12 34 43.1	+0.6
	baz=348						
YM01				*e*S	Sn	12 34 58.8	+0.6
	baz=348						
YM10	**YM10**	**1.15**	**356**	*e*P	Pn	12 34 43.4	+0.8
	baz=355						
CHN4	**Tsaushan**	**1.16**	**236**	*e*P	Pn	12 34 43.0	+0.4
	baz=224						
CHN4				*e*S	Sn	12 35 00.1	+1.7
	baz=224						
TPUB	**Ta-pu**	**1.16**	**233**	⇓P	Pn	12 34 43.2	+0.5
	baz=221						
TPUB				S	Sn	12 34 59.0	+0.5
	baz=221						
STYT	**Tauyuan**	**1.16**	**224**	*e*P	Pb	12 34 42.3	-0.3
	baz=212						
YM11	**YM11**	**1.16**	**357**	*e*P	Pn	12 34 42.9	+0.1
	baz=7.0						
YM07	**YM07**	**1.17**	**359**	⇓P	Pn	12 34 43.3	+0.5
	baz=9.0						
NTST	**Danshui**	**1.17**	**352**	*e*P	Pn	12 34 43.6	+0.8
	baz=350						
RLNB	**Erlin**	**1.18**	**265**	*e*P	Pn	12 34 44.0	+1.2
	baz=266						
YM08	**YM08**	**1.18**	**358**	*e*P	Pn	12 34 43.1	+0.1
	baz=7.0						
ANP	**Anpu**	**1.19**	**355**	*e*P	Pn	12 34 43.1	0.0
	baz=355						
WTP	**Ta-pu**	**1.20**	**232**	*e*P	Pg	12 34 43.5	-0.1
	baz=233						
WTP				*e*S	Sn	12 34 59.6	0.0
	baz=233						
CHY	**Chiayi**	**1.22**	**246**	*e*P	Pg	12 34 45.0	+1.1
	baz=247						
WTCT	**Ta-ch'eng**	**1.25**	**264**	*e*P	Pg	12 34 44.4	-0.1
	baz=265						
TWY	**Chenhua**	**1.27**	**358**	*e*P	Pg	12 34 45.1	+0.2
	baz=346						
JYNG	**Yonaguni jima**	**1.27**	**69**	P	Pn	12 34 44.4	+0.2
JYNG				*e*S	Sb	12 35 01.4	+0.5
TWK	**Hsinying**	**1.28**	**236**	*e*P	Pg	12 34 45.1	-0.1
	baz=226						
TWK				*e*S	Sn	12 35 03.9	+2.3
	baz=226						
TWG	**Pinlang**	**1.28**	**204**	*e*P	Pn	12 34 43.2	-1.2
	baz=205						
TWGBT	**Beinan**	**1.28**	**204**	*e*P	Pn	12 34 42.1	-2.2
	baz=205						
CHN1	**Nanshi**	**1.30**	**232**	*e*P	Pg	12 34 45.7	+0.1
	baz=234						
SNST	**Tainan City**	**1.30**	**234**	*e*P	Pg	12 34 45.9	+0.3
	baz=235						
SGST	**Jiashian**	**1.33**	**227**	*e*P	Pg	12 34 45.9	-0.1
	baz=228						
SGST				*e*S	Sg	12 35 06.3	+2.9
	baz=228						
WLGB	**Puzi**	**1.33**	**247**	*e*P	Pg	12 34 47.5	+1.4
	baz=249						
YOJ	**Yonaguni jima**	**1.33**	**70**	*e*P	Pn	12 34 45.0	0.0
	baz=70						
YOJ	**Yonaguni jima**	**1.33**	**70**	P	Pn	12 34 45.1	0.0
YOJ				*e*S	Sb	12 35 03.0	+0.4
WSF	**Szhu**	**1.35**	**255**	*e*P	Pg	12 34 46.7	+0.4
	baz=256						
SLGT	**Liugui**	**1.35**	**223**	*e*P	Pg	12 34 46.2	-0.3
	baz=224						
ECL	**Taimali**	**1.53**	**204**	*e*P	Pn	12 34 47.2	-0.5
	baz=187						
SSD	**Sandimen**	**1.55**	**217**	*e*P	Pb	12 34 49.5	+0.2
	baz=207						
TWM1	**Shoushan**	**1.62**	**224**	*e*P	Pg	12 34 52.9	+1.3
	baz=225						
MASBT	**Mashibuluo**	**1.66**	**214**	*e*P	Pn	12 34 50.2	+0.7
	baz=205						
PCYT	**Pengchaiyu**	**1.67**	**14**	*e*P	Pb	12 34 50.5	-0.7
	baz=12						
EAST	**Anshuo**	**1.77**	**205**	*e*P	Pb	12 34 52.0	-0.9
	baz=193						
SCZT	**Fangliau**	**1.87**	**210**	*e*P	Pb	12 34 54.2	-0.5
	baz=200						
IRIF	**Iriomote-Funau**	**1.94**	**80**	P	Pn	12 34 54.4	+1.0
IRIF				S	Sb	12 35 19.5	-0.5
PHUB	**P'eng-hu**	**1.96**	**256**	*e*P	Pn	12 34 54.4	+0.9
	baz=256						
PNG	**Penghu**	**1.96**	**258**	*e*P	Pb	12 34 54.6	-1.5
	baz=258						
WDGT	**Dungji**	**1.96**	**248**	*e*P	Pn	12 34 53.8	+0.2
	baz=248						
HATJ	**Hateruma jima**	**1.98**	**88**	P	Pn	12 34 52.2	-1.7
HATJ				*e*S	Sn	12 35 19.1	+0.3
VCHM	**Qimei**	**2.17**	**249**	*e*P	Pn	12 34 56.6	0.0
	baz=235						
JKRS	**Kuro-shima**	**2.18**	**83**	P	Pn	12 34 57.5	+0.8
JKRS				*e*S	Sn	12 35 24.8	+1.2
PTTC	**Pingtan**	**2.26**	**312**	*e*P	Pn	12 34 59.1	+1.3
	baz=311						
JIJ	**Ishigaki jima**	**2.31**	**80**	P	Pn	12 34 58.3	-0.2
JIJ				*e*S	Sn	12 35 27.3	+0.3
JISG	**Ishigakijimahi**	**2.51**	**76**	P	Pn	12 35 01.0	-0.2
JISG				*e*S	Sn	12 35 29.7	-2.0
PTMZ	**Houxiangcun**	**2.52**	**295**	*e*P	Pn	12 35 01.1	-0.2
	baz=294						
MATB	**Ma-tsu**	**2.64**	**325**	*e*P	Pn	12 35 03.4	+0.4
	baz=309						
JTJ	**Tarama**	**2.87**	**77**	P	Pn	12 35 06.6	+0.5
JTJ				*e*S	Sn	12 35 41.7	+1.1
KNMB	**Chin-men Tao**	**3.00**	**280**	*e*P	Pn	12 35 08.5	+0.5
	baz=279						
LYJJ	**Jianjiangzhen**	**3.06**	**327**	*e*P	Pn	12 35 10.0	+1.3
	baz=325						
MHZQ	**Yeshan**	**3.16**	**312**	*e*P	Pn	12 35 11.4	+1.3
	baz=311						
XPSS	**Dashiqiu**	**3.20**	**336**	*e*P	Pn	12 35 10.5	-0.2
	baz=334						

IDC 03 12:39:23.6±12.0,**20.°10S**×**174.°18W,h405**km±119km, **mb2.9**/2,**mb1 3.3**/2,**mb1mx2.8**/42,**mbtmp3.7**/2,**Error ellipse: s-maj=266.7km s-min=31.3km az=150.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.09**	**256**	P	P	12 47 24.9	0.0
	0.5nm,0.6s,baz=82,slow=8.1,SNR=11						
ASAR				PcP	pP	12 48 43.9	-0.8
	0.7nm,1.1s,baz=93,slow=4.6,SNR=3.5						
NVAR	**Mina Array Bea**	**78.31**	**42**	P	P	12 50 40.5	-0.1
	1.0nm,0.9s,baz=225,slow=8.7,SNR=5.9						
BRTR	**Keskin Array B**	**149.15**	**315**	PKPbc	PKiKP	12 58 26.0	-0.5
	0.5nm,0.8s,baz=80,slow=1.6,SNR=3.2						

IDC ***03*** *12:51:41.5±0.8,8.°41N×83.°27W,h0km,mb3.7/8, mb1 4.1/11,mb1mx3.9/31,mbtmp3.9/11,ML4.3/3,MS3.0/1, Ms1 3.0/1,ms1mx2.5/28,Error ellipse: s-maj=46.6km s-min=13.4km az=50.0*
ISCJB ***03*** *12:51:44.8±0.8,8.°24N±0.°04×83.°45W±0.°03,h31km±5km, mb3.9/19,Error ellipse: s-maj=7.9km s-min=4.0km az=21.0*
UCR ***03*** *12:51:45.8±2.6,8.°30N×83.°39W,h18km±7km,mb4.2(NEIC)*

*NEIC **03** 12:51:47.0±1.4, 8°.31N×83°.45W, h32km±6km, mb4.2/13, MD4.8(HDC), Error ellipse: s-maj=23.3km s-min=12.9km az=216.0*
NEIC Felt in the Zona Sur.
ISC 03 12:51:46.1±1.2, 8°.34N±0°.06×83°.44W±0°.04, h28km±7km, n74, σ1°29/86, mb4.0/19, 4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	Puerto Jimnez	0.24	34	⇓eP	Pb	12 51 51.5	-1.1
PTJ1				eS	Sb	12 51 57.5	+0.6
BRU2	Volcan	0.87	58	eP	Pb	12 52 01.4	-1.3
BRU2				eS	Sn	12 52 14.4	+0.1
DRK0	Durika	0.94	12	⇓eP	Pn	12 52 02.9	-0.7
DRK0				eP	Pn	12 52 02.9	-0.7
DRK0				eS	Sb	12 52 15.9	-0.1
DVD	David	0.98	84	eP	Pn	12 52 01.7	-2.3
DVD				eS	Sb	12 52 15.8	-1.2
LCR2	La Lucha 2	1.50	338	⇓eP	Pn	12 52 11.9	+0.5
SJS	Escuela Geolog	1.71	339	eP	Pb	12 52 16.9	+0.1
HDC	Heredia	1.78	338	ePn	Pn	12 52 15.9	+0.8
HDC				eSn	Sn	12 52 38.7	+1.7
HDC	Heredia	1.78	338	eP	Pn	12 52 15.9	+0.8
HDC				eS	Sb	12 52 40.7	+0.5
JTS	Las Juntas de	2.45	323	ePn	Pn	12 52 25.3	+1.0
JTS	Las Juntas de	2.45	323	Pn	Pn	12 52 24.2	-0.1
JTS	167nm,0.3s,baz=252,slow=4.7,SNR=357						
JTS				Sn	Sn	12 52 55.2	+1.9
JTS	53nm,0.3s,baz=223,slow=22,SNR=5.2						
JTS				Lg	Lg	12 53 00.8	
JTS	72nm,0.3s,baz=343,slow=19,SNR=8.8						
JTS	Las Juntas de	2.45	323	eP	Pn	12 52 25.2	+1.0
ARE1	Arenal 1	2.46	329	eP	Pb	12 52 27.6	-2.0
PNME	Penonome	3.08	87	eS	Sn	12 53 11.7	+2.9
AZU	Azuero	3.18	100	eP	Pn	12 52 33.8	-0.5
AZU				eS	Sn	12 53 10.2	-1.1
PINA	Piqa, Costa Ab	3.46	74	eP	Pn	12 52 39.6	+1.5
ZANG	Zanguenga, Cho	3.58	80	eP	Pn	12 52 41.9	+2.0
BCIP	Isla Barro Col	3.65	77	ePn	Pn	12 52 41.7	+0.9
BCIP	Isla Barro Col	3.65	77	⇓eP	Pn	12 52 41.7	+0.9
BCIP				eS	Sn	12 53 22.8	-0.1
FRIJ	El Hiral	3.77	76	eP	Pn	12 52 44.0	+1.6
CONN	Concepcion	3.86	326	eP	Pn	12 52 45.0	+1.3
FLAM	Flamenco Islan	3.90	81	eS	Sb	12 53 41.5	+0.5
UPA	Univ. de Panam	3.91	80	eP	Pb	12 52 57.2	+2.8
ESPN	Las Esperanzas	3.93	348	ePn	Pn	12 52 46.1	+1.5
ACON	Acoyapa	3.99	335	ePn	Pn	12 52 46.9	+1.5
ACON	Acoyapa	3.99	335	eP	Pn	12 52 47.5	+2.0
MOMN	Momotombo	5.07	323	eP	Pn	12 53 02.2	+1.9
MATN	Matagalpa	5.18	332	eP	Pn	12 53 04.3	+2.4
ESTN	Estel	5.54	329	ePn	Pn	12 53 08.5	+1.7
CSGN	Cosiguina Volc	6.14	319	ePn	Pn	12 53 16.8	+1.8
TGUH	Tegucigalpa,Un	6.82	327	ePn	Pn	12 53 26.2	+1.9
OTAV	Otavalo	9.46	148	ePn	Pn	12 54 01.6	+0.7
APG	El Apazote	9.55	315	Pn	Pn	12 54 03.6	+1.6
APG	2.0nm,0.3s,baz=128,slow=5.7,SNR=11						
APG				LR	LR	12 57 42.4	
APG	comp=Z,105nm,21.1s,baz=80,slow=38						
MTDJ	Mount Denham	11.38	30	ePn	Pn	12 54 28.5	+1.6
SDV	Santo Domingo	12.67	87	Pn	Pn	12 54 46.2	+1.5
SDV	0.7nm,0.3s,baz=349,slow=14,SNR=2.7						
CMIG	Matias Romero	14.15	309	Pn	Pn	12 55 04.9	+0.2
CMIG	0.5nm,0.3s,baz=114,slow=8.7,SNR=5.1						
SDDR	Presa de Saban	15.84	47	ePn	Pn	12 55 27.7	+0.4
SDDR	6.6nm,0.8s						
SDDR				eSn	Sn	12 58 18.7	-3.5
LTX	Lajitas	28.24	320	eP	P	12 57 35.7	-1.2
TXAR	Lajitas Array	28.24	320	P	P	12 57 35.7	-1.2
TXAR	0.2nm,0.6s,baz=149,slow=13,SNR=2.1						
H06E1	SOCORRO T-PHAS	28.62	294	T	T	13 27 46.8	
H06E1	SNR=33						
W18A	Petrified Fore	35.93	322	eP	P	12 58 44.7	+0.3
W18A	14nm,1.4s						
X16A	Lo Mia Camp, P	36.55	319	eP	P	12 58 50.9	+1.1
X16A	2.9nm,0.9s						
W13A	Hualapai Mount	38.56	318	eP	P	12 59 07.3	+0.6
W13A	4.3nm,1.0s						
PDAR	Pinedale Array	41.26	331	P	P	12 59 29.0	-0.1
PDAR	0.1nm,0.3s,baz=155,slow=11,SNR=2.6						
R11A	Troy Canyon, C	41.60	321	eP	P	12 59 32.7	+0.8
R11A	1.2nm,0.8s						
CPUP	Villa Florida	42.78	144	P	P	12 59 42.6	+1.2
CPUP	0.4nm,0.4s,baz=308,slow=12,SNR=1.9						
ULM	Lac du Bonnet	43.05	348	P	P	12 59 42.0	-1.2
ULM	2.5nm,0.8s,baz=121,slow=3.8,SNR=4.8						
PAGB	Antelope Grade	43.25	315	eP	P	12 59 45.7	+0.5
PAGB	6.6nm,0.8s						
NV11	Mina Array Sit	43.28	319	eP	P	12 59 46.0	+0.4
NV11	0.3nm,0.9s						
NV01	Mina Array Sit	43.38	319	eP	P	12 59 46.8	+0.4
NVAR	Mina Array Bea	43.38	319	eP	P	12 59 46.7	+0.3
NVAR	Mina Array Bea	43.38	319	P	P	12 59 46.8	+0.4
NVAR	3.0nm,0.8s,baz=134,slow=7.2,SNR=22						
NVAR				PcP	PcP	13 01 36.0	+1.2
NVAR	0.4nm,0.7s,baz=121,slow=3.5,SNR=3.2						
MDPB	Devils Postpil	43.44	318	eP	P	12 59 47.7	+0.7
MDPB	5.8nm,1.0s						
BMN	Battle Mountai	43.87	322	eP	P	12 59 51.3	+1.0
BMN	4.7nm,1.0s						
WAKR	Walker	44.16	319	eP	P	12 59 53.4	+0.8
WAKR	5.1nm,1.0s						
YERR	Yerington	44.30	319	eP	P	12 59 54.4	+0.6
YERR	3.7nm,0.9s						
PLCA	Paso Flores	50.25	167	P	P	13 00 38.6	-1.3
PLCA	1.5nm,0.8s,baz=331,slow=9.4,SNR=3.1						
YKA	Yellowknife Ar	58.62	344	P	P	13 01 39.6	-0.7
YKA	0.7nm,0.7s,baz=140,slow=6.7,SNR=16						
YKA				PcP	PcP	13 02 31.1	+0.9
YKA	0.2nm,0.6s,baz=141,slow=4.5,SNR=6.4						
YKB5	Yellowknife Ar	58.62	344	eP	P	13 01 39.6	-0.7
ILAR	Eielson Array	71.36	336	P	P	13 03 03.0	-0.2
ILAR	0.6nm,0.9s,baz=120,slow=4.3,SNR=5.0						
ILB	Eielson Array	71.36	336	eP	P	13 03 03.7	+0.6
ILB	4.7nm,1.3s						
BMAR	Burnt Mountain	71.50	339	eP	P	13 03 05.3	+1.2
TOA1	Torodi Ar. Sit	83.43	78	eP	P	13 04 11.6	-0.1
TORD	Torodi Ar. Bea	83.43	78	P	P	13 04 11.6	-0.1
TORD	0.5nm,0.6s,baz=282,slow=3.5,SNR=4.2						
ZAA1	Zalesovo Array	117.16	8	ePKPdf	PKPdf	13 10 28.1	-0.4
ZALV	Zalesovo Beam	117.16	8	PKP	PKPdf	13 10 28.1	-0.4
ZALV	0.3nm,0.4s,baz=357,slow=5.8,SNR=2.2						
SONA0	Songino Array	123.40	352	ePKPdf	PKPdf	13 10 40.8	-0.1
SONM	Songino Array	123.40	352	PKP	PKPdf	13 10 40.8	-0.1
SONM	0.8nm,0.7s,baz=17,slow=1.5,SNR=4.6						
MK32	Makanchi Array	123.66	12	ePKPdf	PKPdf	13 10 39.4	-2.0
MKAR	Makanchi Array	123.66	12	PKP	PKPdf	13 10 39.4	-2.0
MKAR	0.1nm,0.4s,baz=336,slow=3.2,SNR=2.9						
KSRS	Korea Array	125.82	329	PKP	PKPdf	13 10 45.1	-0.6
KSRS	1.5nm,0.7s,baz=31,slow=1.0,SNR=9.0						
ASAR	Alice Springs	141.16	242	PKhKP	PKPpre	13 11 08.0	
ASAR	0.6nm,0.5s,baz=115,slow=3.1,SNR=12						
WR1	Warramunga Arr	141.69	248	ePKPpre	PKPpre	13 11 09.6	
WR1				ePKPdf	PKPdf	13 11 16.0	+0.1
WRA	Warramunga Arr	141.69	248	PKhKP	PKPpre	13 11 09.6	
WRA	1.4nm,0.8s,baz=96,slow=2.8,SNR=8.9						
WRA				PKP	PKPdf	13 11 16.0	+0.1
WRA	1.0nm,0.8s,baz=91,slow=1.9,SNR=6.9						
CMAR	Chiang Mai Arr	153.27	355	PKPbc	PKPbc	13 11 40.5	-2.0
CMAR	0.6nm,0.3s,baz=307,slow=3.3,SNR=4.8						
CMAR				PKPab	PKPab	13 11 53.3	-0.8
CMAR	0.7nm,0.4s,baz=356,slow=3.7,SNR=5.1						

*DDA **03** 12:59:11.1, 39°.97N×28°.71E, h7km±3km, ML2.5*
*ISK **03** 12:59:11.3, 39°.92N×28°.73E, h10km±2km, ML1.8/7*
ISC 03 12:59:11.6±1.1, 39°.95N±0°.03×28°.70E±0°.04, h10km±9km, n12, σ0°51/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	Orhaneli	0.18	57	PG	Pg	12 59 15.5	0.0
ORLT				SG	Sg	12 59 18.9	+0.7
DURS	Dursunbey	0.39	207	IAML_P			
DURS	comp=Z,549nm,0.1s						
DURS				*i* P	Pg	12 59 19.4	+0.2
DURS				*i* S	Sb	12 59 26.3	-0.3
ULDT	Uludag	0.39	60	IAML_P			
ULDT	comp=Z,924nm,0.1s						
ULDT				*i* P	Pg	12 59 19.1	-0.2
ULDT				*i* S	Sg	12 59 24.3	-0.2
KCTX	Karacabey (Bur	0.41	320	PG	Pb	12 59 20.8	-0.2
KCTX				SG	Sb	12 59 27.8	+0.5
MDNY	Mudanya-Bursa	0.44	18	PG	Pb	12 59 21.0	-0.5
ARMT	Armutlu	0.63	11	PG	Pb	12 59 24.4	-0.3
TVSB	Tavsanli	0.77	130	PG	Pg	12 59 25.9	-0.6
YLV	Yalova	0.81	40	PG	Pb	12 59 27.6	-0.1
CAVI	Cavuskoy	0.91	73	PG	Pb	12 59 29.1	-0.4
STEP	BALIKESIR_Sava	0.95	233	IAML_P			
STEP	comp=Z,838nm,0.2s						
STEP				*i* P	Pg	12 59 29.1	-0.7
STEP				*i* S	Sn	12 59 44.8	+0.3
GDZ	Gediz	1.05	145	IAML_P			
GDZ	comp=Z,293nm,0.2s						
GDZ				*i* P	Pb	12 59 31.5	-0.4
GDZ				*i* S	Sn	12 59 47.4	+0.2
USAK	Uak-Merkez	1.26	169	IAML_P			
USAK	comp=Z,899nm,0.2s						
USAK				*i* P	Pg	12 59 36.0	+0.3
USAK				*i* S	Sn	12 59 53.3	+1.1

*ISCJB **03** 13:00:35.3±0.6, 39°.73N×0°.04×32°.48E±0°.05, h7km, Error ellipse: s-maj=6.4km s-min=4.6km az=148.5*
*ISK **03** 13:00:35.1, 39°.72N×32°.50E, h10km, ML2.0/9*
*DDA **03** 13:00:36.7, 39°.78N×32°.61E, h7km±2km, ML2.5*
ISC 03 13:00:35.5±1.0, 39°.73N±0°.04×32°.51E±0°.04, h7km, n16, σ0°85/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOD	Lodumlu	0.26	51	PG	Pg	13 00 41.1	+0.5
LOD				SG	Sg	13 00 45.1	+1.0
ANTO	Ankara	0.26	57	PG	Pg	13 00 41.1	+0.3
ANTO				SG	Sg	13 00 45.4	+1.1
KKUL	Konya-Kulu	0.64	150	IAML_P			
KKUL	comp=Z,461nm,0.2s						
KKUL				*i* P	Pb	13 00 50.2	+1.1
KKUL				*i* S	Sb	13 00 59.1	+0.8
CMDR	Camlidere-ANKA	0.77	358	*i* P	Pb	13 00 51.2	0.0
AUSIV	SIVRIHISAR	0.80	249	PG	Pg	13 00 50.9	0.0
AUMIH	MIHALICIK	0.80	280	PG	Pg	13 00 50.9	0.0
AUMIH	MIHALICIK	0.80	280	*i* P	Pg	13 00 45.2	-5.7
SVRH	Sivrihisar-ESK	0.81	250	PG	Pg	13 00 51.1	0.0
ELDT	Eldivan	1.04	43	*i* P	Pb	13 00 55.8	-0.1
DELI	KIRIKKALE	1.12	76	*i* P	Pb	13 00 57.1	-0.2
DELI				*i* S	Sg	13 01 09.1	-2.5
SERE	Sereflikochisa	1.13	133	PN	Pg	13 00 57.2	0.0
CHBY	Cihanbeyli	1.18	165	PN	Pg	13 00 57.9	-0.3
KIRS	Kırehir-Merke	1.24	118	IAML_P			
KIRS	comp=Z,449nm,0.3s						
KIRS				*i* P	Pb	13 00 59.2	-0.2
YAYX	Yaylak	1.28	127	PN	Pn	13 00 59.4	-0.6
CORM	Corum	1.69	74	PN	Pn	13 01 05.2	-0.4
YOZ	Yozgat	2.17	91	PN	Pn	13 01 12.3	0.0

*ISCJB **03** 13:23:42.7±0.5, 5°.7N±0°.1×61°.61E±0°.09, h14km, mb4.0/12, MS3.1/1, Error ellipse: s-maj=15.9km s-min=12.6km az=168.3*
*IDC **03** 13:23:42.8±1.7, 5°.70N×61°.68E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.5/53, mbtmp3.8/5, MS3.2/3, Ms1 3.2/3, ms1mx2.8/29, Error ellipse: s-maj=56.5km s-min=28.1km az=47.0*
*NEIC **03** 13:23:42.2±0.7, 5°.45N×61°.68E, h10km, mb4.2/7, Error ellipse: s-maj=22.0km s-min=12.7km az=141.0*
ISC 03 13:23:43.4±0.7, 5°.5N±0°.1×61°.7E±0°.1, h14km, n23, σ1°66/18, mb4.0/12, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNCI	Minicoy	11.65	76	ePn	Pn	13 26 27.2	-2.1
MSEY	Mahe Island	11.85	212	ePn	Pn	13 26 29.3	-2.8
H08N2	Diego Garcia H	15.00	141	T	T	13 42 39.9	
H08N2	baz=321,slow=76,SNR=155						
H08N3	Diego Garcia H	15.01	142	T	T	13 42 42.3	
H08N3	baz=321,slow=76,SNR=157						
H08N1	Diego Garcia H	15.02	141	T	T	13 42 41.8	
H08N1	baz=321,slow=76,SNR=150						
WSAR	Wadi Sarin	17.87	351	LR	LR	13 33 19.7	
WSAR	comp=Z,56nm,19.1s,baz=187,slow=33						
PALK	Pallekele	19.00	84	LR	LR	13 33 52.9	
PALK	comp=Z,72nm,18.6s,baz=297,slow=32						
NAI	Nairobi	25.72	256	eP	P	13 29 15.8	+1.9
NAI	28nm,0.6s						
CM31	Chiang Mai Arr	38.58	67	eP	P	13 31 07.2	+1.0
CM31	2.2nm,0.7s						
CMAR	Chiang Mai Arr	38.58	67	P	P	13 31 07.2	+1.0
CMAR	0.4nm,0.3s,baz=257,slow=8.1,SNR=4.3						
CMAR				LR	LR	13 47 21.3	
CMAR	comp=Z,29nm,19.2s,baz=194,slow=37						
CHTO	Chiang Mai	38.67	67	eP	P	13 31 07.2	+0.2
CHTO	2.8nm,1.2s						
BR101	Keskin Array S	42.41	328	eP	P	13 31 38.1	+0.3
BRTR	Keskin Array B	42.41	328	P	P	13 31 38.1	+0.3
BRTR	0.2nm,0.4s,baz=133,slow=10.0,SNR=2.8						
ABKAR	Akbulak array	43.62	358	eP	P	13 31 46.0	-1.2
ABKAR	3.1nm,1.3s						
LBTB	Lobatse	46.37	228	eP	P	13 32 11.2	+1.5
LBTB	9.0nm,1.4s						
TSUM	Tsumeb	49.86	239	eP	P	13 32 36.3	-0.5
TSUM	8.3nm,1.2s						
SONA0	Songino Array	56.85	34	eP	P	13 33 27.8	+0.1
SONM	Songino Array	56.85	34	P	P	13 33 27.8	+0.1
SONM	0.2nm,0.3s,baz=229,slow=6.6,SNR=4.3						
FINES	FINESS Array B	61.80	342	eP	P	13 34 00.6	-0.9
WR1	Warramunga Arr	75.73	112	eP	P	13 35 31.4	+2.2
WRA	Warramunga Arr	75.73	112	P	P	13 35 31.4	+2.2
WRA	1.8nm,0.8s,baz=292,slow=4.5,SNR=11						
ASAR	Alice Springs	76.10	116	P	P	13 35 33.4	+2.1
ASAR	1.0nm,0.5s,baz=290,slow=5.5,SNR=15						
AS31	Alice Springs	76.10	116	eP	P	13 35 33.4	+2.1
AS31	0.5nm,0.4s						

*TIR **03** 13:24:33.5, 40°.58N×19°.19E, h18km, Md2.7/4*
*ISCJB **03** 13:24:34.3±0.7, 40°.49N±0°.04×19°.12E±0°.04, h8km±5km, Error ellipse: s-maj=7.4km s-min=4.1km az=29.2*
*THE **03** 13:24:34.2, 40°.47N×19°.13E, h0km±3km, ML2.4/3, Error ellipse: s-maj=3.5km s-min=0.8km az=290.0*
*ATH **03** 13:24:35.6, 40°.41N×19°.08E, h34km±4km, ML2.3/2, Error ellipse: s-maj=5.1km s-min=1.5km az=211.0*
ISC 03 13:24:35.1±1.0, 40°.47N±0°.04×19°.17E±0°.02, h12km±8km, n35, σ0°86/47, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	Vlora	0.25	91	P	Pg	13 24 39.5	-0.7
VLO				S	Sg	13 24 44.1	+0.4
VLO	Vlora	0.25	91	*i* PG	Pg	13 24 33.5	-6.8
VLO				*i* SG	Sg	13 24 44.1	+0.4
TPE	Tepelena	0.66	105	*i* PG	Pb	13 24 49.0	+0.4
TPE				*i* SG	Sb	13 24 57.7	-0.1
SCTE	Santa Cesarea	0.67	234	*i* PG	Pg	13 24 47.6	-0.5
SCTE				*i* SG	Sn	13 25 00.1	-0.7
SCTE	Santa Cesarea	0.67	234	P	Pg	13 24 48.2	+0.1
SRN	Sarande	0.87	133	P	Pg	13 24 50.9	-0.9
SRN				S	Sb	13 25 04.1	+0.5
SRN	Sarande	0.87	133	*i* PG	Pb	13 24 51.9	-0.1
SRN				*i* SG	Sb	13 25 04.1	+0.5
KEK	Kerkira	0.90	147	P	Pg	13 24 51.5	-0.9
KEK				S	Sb	13 25 04.9	+0.4
KEK	Kerkira	0.90	147	P	Pg	13 24 51.6	-0.9
KEK				S	Sn	13 25 05.7	-0.7
KEK				AML	AML	13 25 09.9	
KEK	comp=E,531μm,0.2s						
KEK				AML	AML	13 25 10.2	
KEK	comp=N,480μm,0.3s						
IGT	Igoumenitsa	1.29	136	P	Pb	13 24 59.1	-0.2
IGT				S	Sg	13 25 18.3	+1.5
IGT	Igoumenitsa	1.29	136	*i* PN	Pb	13 24 59.5	+0.2
IGT				*i* SN	Sg	13 25 16.6	-0.1
IGT	Igoumenitsa	1.29	136	P	Pb	13 24 59.5	+0.2
IGT				S	Sg	13 25 16.8	0.0
IGT				AML	AML	13 25 19.6	
IGT	comp=N,184μm,0.5s						
IGT				AML	AML	13 25 24.9	
IGT	comp=E,195μm,0.4s						
CGL1	Ceglie Messapi	1.30	279	ePn	Pb	13 24 59.5	0.0
CGL1				Sn	Sg	13 25 20.0	+2.9
NEST	Nestorio	1.43	92	P	Pg	13 25 02.8	+0.2
TAR1	Taranto	1.44	273	ePn	Pn	13 25 00.2	-0.8
JAN	Janina	1.52	122	P	Pn	13 25 02.3	+0.2
PENT	Pentalofos	1.53	100	P	Pb	13 25 03.7	+0.3
NOCI	Noci	1.64	282	P	Pn	13 25 03.1	-0.6
FNA	Florina	1.71	79	P	Pb	13 25 05.3	-1.1
FNA	Florina	1.71	79	P	Pb	13 25 05.3	-1.1
MEV	Metsovon	1.72	113	P	Pb	13 25 05.8	-0.9
TSLK	Tsoukalades, L	2.00	145	P	Pn	13 25 08.5	-0.2
LKD2	Lefkada island	2.04	145	P	Pn	13 25 09.1	-0.1
LKD2	Lefkada island	2.04	145	P	Pn	13 25 09.0	-0.2
TIP	Timpagrande	2.26	236	P	Pn	13 25 11.3	-1.0
THL	Klokotos Trika	2.36	112	P	Pn	13 25 14.8	+1.1
VLS	Valsamata	2.54	154	P	Pn	13 25 15.3	-0.8
EVR	Evrytania	2.56	127	P	Pn	13 25 17.8	+1.4
PVO	Paravola	2.60	135	P	Pn	13 25 17.7	+0.8
CUC	Castrocucco	2.61	261	P	Pn	13 25 17.6	+0.4
STON	Ston	2.64	336	ePn	Pn	13 25 16.9	-0.6
STON				Sn	Sn	13 25 49.2	-0.1
KFL	Anninata	2.67	151	P	Pn	13 25 17.5	-0.4
AGG	Agios Georgios	2.83	120	P	Pn	13 25 21.4	+1.3
ANX	Ano Chora	2.83	131	P	Pn	13 25 21.9	+1.6
EFP	Efpalio	2.94	133	P	Pn	13 25 22.7	+1.1

*ISCJB **03** 13:25:12.6±0.4, 5°.39N±0°.06×61°.25E±0°.09, h14km, mb3.9/20, MS3.2/1, Error ellipse: s-maj=13.5km s-min=7.6km az=24.3*
*IDC **03** 13:25:13.2±1.3, 5°.51N×61°.41E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.7/52, mbtmp3.8/11, MS3.2/1, Ms1 3.2/1, ms1mx2.6/26, Error ellipse: s-maj=35.1km s-min=22.0km az=46.0*
*NEIC **03** 13:25:14.5±0.4, 5°.47N×61°.34E, h10km, mb4.1/9, Error ellipse: s-maj=12.6km s-min=9.5km az=100.0*
ISC 03 13:25:14.9±0.6, 5°.43N±0°.10×61°.3E±0°.1, h14km, n32, σ0°73/30, mb4.0/20, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	Mahe Island	11.60	210	ePn	Pn	13 28 00.7	+0.5
MSEY				eSn	Sn	13 30 08.4	-1.3
H08N2	Diego Garcia H	15.16	140	T	T	13 44 10.0	
H08N2	baz=321,slow=76,SNR=16						
H08N3	Diego Garcia H	15.17	140	T	T	13 44 13.3	
H08N3	baz=321,slow=76,SNR=15						
H08N1	Diego Garcia H	15.19	140	T	T	13 44 13.1	
H08N1	baz=321,slow=76,SNR=14						
AAK	Ala-Archa	38.86	16	P	P	13 32 39.9	0.0
AAK	0.5nm,0.3s,baz=170,slow=7.3,SNR=3.9						
CM31	Chiang Mai Arr	38.93	67	eP	P	13 32 41.0	+0.3
CM31	4.3nm,1.1s						
CMAR	Chiang Mai Arr	38.93	67	P	P	13 32 41.0	+0.3
CMAR	0.5nm,0.5s,baz=262,slow=9.2,SNR=4.6						
KDJ	Kajisay	39.18	19	eP	P	13 32 42.5	-0.1
KDJ	4.1nm,1.1s						
BR101	Keskin Array S	42.28	328	eP	P	13 33 08.2	0.0
BRTR	Keskin Array B	42.28	328	P	P	13 33 08.2	0.0
BRTR	0.8nm,0.9s,baz=156,slow=12,SNR=4.8						
ABKAR	Akbulak array	43.69	359	eP	P	13 33 20.1	+0.8
MK31	Makanchi Array	45.01	20	eP	P	13 33 28.8	-1.2
MK31	2.4nm,1.5s						
MK32	Makanchi Array	45.01	20	eP	P	13 33 29.6	-0.4
MKAR	Makanchi Array	45.01	20	P	P	13 33 29.6	-0.4
MKAR	0.1nm,0.4s,baz=221,slow=8.6,SNR=2.8						
MKAR				LR	LR	13 52 54.2	
MKAR	comp=Z,26nm,19.4s,baz=228,slow=37						
SBUM	Sibu	50.87	91	eP	P	13 34 16.8	+1.0
SBUM	3.9nm,1.1s						
ARU	Arti	50.91	358	eP	P	13 34 14.8	-0.6
ARU	2.7nm,0.9s						
ZAA0	Zalesovo Array	52.02	17	eP	P	13 34 24.4	+0.6
ZAA0	6.0nm,1.5s						
ZALV	Zalesovo Beam	52.02	17	P	P	13 34 23.7	-0.1
ZALV	0.3nm,0.3s,baz=220,slow=5.6,SNR=2.8						
ZAA1	Zalesovo Array	52.02	17	eP	P	13 34 23.7	-0.1
SONA0	Songino Array	57.11	35	eP	P	13 35 01.3	+0.2
SONM	Songino Array	57.11	35	eP	P	13 35 01.7	+0.6
SONM	Songino Array	57.11	35	P	P	13 35 01.3	+0.2
SONM	1.0nm,0.9s,baz=227,slow=5.9,SNR=6.8						
ULN	Ulaanbaatar	57.50	35	eP	P	13 35 02.5	-1.4
ULN	3.9nm,1.4s						
ESDC	Sonseca Array	67.59	311	P	P	13 36 12.8	+1.5
ESDC	1.0nm,0.7s,baz=91,slow=5.3,SNR=6.9						
KS15	Wonju Array Si	68.17	52	eP	P	13 36 14.1	-0.9
KS15	9.4nm,1.1s						
KSRS	Korea Array	68.20	52	P	P	13 36 14.1	-1.0
KSRS	1.1nm,0.8s,baz=266,slow=7.0,SNR=4.5						
WR1	Warramunga Arr	76.03	112	eP	P	13 37 02.8	+0.4
WRA	Warramunga Arr	76.03	112	P	P	13 37 02.8	+0.4
WRA	4.0nm,1.0s,baz=289,slow=5.2,SNR=12						
ASAR	Alice Springs	76.38	116	eP	P	13 37 04.0	-0.3
ASAR	Alice Springs	76.38	116	P	P	13 37 04.7	+0.3
ASAR	2.2nm,0.9s,baz=282,slow=5.4,SNR=11						
AS31	Alice Springs	76.38	116	eP	P	13 37 04.7	+0.3
AS31	1.0nm,0.8s						
TIXI	Tiksi	77.91	17	P	P	13 37 10.9	-1.1
TIXI

AUSP	Uspallata	1.13 212	*i* P	Pn	14 01 12.9	+1.4
AUSP			*i* S	Sn	14 01 30.7	+1.9
ACDV	Cuesta del Vie	1.16 341	*i* P	Pn	14 01 13.0	+1.2
ACDV			*i* S	Sn	14 01 30.9	+1.7
ACDV			IAML		14 01 31.1	
	comp=Z,411nm,0.4s					
ASAL	Salagasta	1.33 186	*i* P	Pn	14 01 14.5	+1.0
ARCO	CERRO ARCO	1.58 188	IAML		14 01 40.8	
	comp=Z,478nm,0.3s					
ACAN	Cantantal	1.61 129	*i* P	Pn	14 01 18.3	+1.5
APLL	PUNTA DE LOS L	2.04 65	IAML		14 01 48.9	
	comp=Z,225nm,0.4s					
APLL			*i* S	Sn	14 01 49.0	+1.1
MRA	San Martin	2.77 115	*i* P	Pn	14 01 32.7	+1.1
MRA			IAML		14 02 05.0	
	comp=Z,173nm,0.3s					

*ISCJB **03** 14:03:09.2±0.4,41°.76N±0°.03×141°.16E±0°.05, h115km±3km, mb3.4/8, Error ellipse: s-maj=6.4km s-min=4.4km az=40.5*
*IDC **03** 14:03:10.4±1.4,41°.88N×141°.33E, h115km±14km, mb3.2/8, mb1 3.3/11, mb1mx3.1/32, mbtmp3.5/11, Error ellipse: s-maj=20.3km s-min=13.4km az=112.0*
*JMA **03** 14:03:11.1±0.1,41°.80N×141°.15E, h100km±1km, M3.0*

ISC 03 14:03:10.0±0.7, 41°.79N±0°.04×141°.15E±0°.04, h111km±6km, n36, σ1°.05/48, mb3.4/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.41	191	P	Pn	14 03 26.4	0.0
JOT				*e*S	Sn	14 03 37.6	-1.1
JAHD	Aomorihigashid	0.54	165	P	Pn	14 03 27.2	0.0
JAHD				*e*S	Sn	14 03 39.3	-0.8
JSR	Shiriuchi	0.60	245	P	Pn	14 03 27.9	+0.2
JSR				*e*S	Sn	14 03 40.3	-0.7
JYM2	Yakumo 2	0.67	300	P	Pn	14 03 28.3	+0.1
JYM2				*e*S	Sn	14 03 42.6	+0.7
JNB	Noboribetsu	0.69	353	P	Pn	14 03 27.9	-0.5
JTM	Tenmabayashi	1.00	183	P	Pn	14 03 31.8	+0.5
JTM				*e*S	Sn	14 03 47.6	+0.3
JIAM	Iburiatsuma	1.01	34	P	Pn	14 03 31.5	+0.1
JIAM				*e*S	Sn	14 03 47.1	-0.5
JEW	Eniwo	1.08	12	P	Pn	14 03 32.4	+0.3
JEW				*e*S	Sn	14 03 48.9	+0.1
JSHD	Hidakashinhida	1.16	57	P	Pn	14 03 34.0	+1.0
JSHD				*e*S	Sn	14 03 51.8	+1.4
JOSM	Okushiri--Mats	1.28	284	P	Pn	14 03 34.3	0.0
JOSM				*e*S	Sn	14 03 52.6	-0.2
JNBK	Urakawa-nobuka	1.29	67	P	Pn	14 03 34.7	+0.3
JNBK				*e*S	Sn	14 03 52.8	-0.2
JBT2	Biratori 2	1.34	42	P	Pn	14 03 35.4	+0.4
JBT2				*e*S	Sn	14 03 54.0	0.0
JANG	Nango	1.44	169	P	Pn	14 03 36.1	-0.1
JANG				*e*S	Sn	14 03 55.4	-0.6
JEM	Erimo	1.52	81	P	Pn	14 03 37.7	+0.7
JEM				*e*S	Sn	14 03 57.9	+0.3
JFR	Furan	1.74	37	P	Pn	14 03 40.5	+0.7
JFR				*e*S	Sn	14 04 03.2	+0.6
JCH	Churui	1.84	63	P	Pn	14 03 41.7	+0.7
JCH				*e*S	Sn	14 04 04.3	-0.4
JHR	Hokuryu	2.00	12	P	Pn	14 03 44.5	+1.5
JHR				*e*S	Sn	14 04 09.5	+1.2
JKK2	Kamakawa 2	2.40	29	P	Pn	14 03 48.6	+0.5
JAR	Ashorobuto	2.46	51	P	Pn	14 03 48.9	0.0
JAR				*e*S	Sn	14 04 16.2	-2.5
ASAJ	Asahikawa	2.56	24	P	Pn	14 03 50.4	+0.1
ASAJ				S	Sn	14 04 18.4	-2.7
	1.9nm,0.3s,baz=314,slow=33,SNR=5.1					
MJAR	Matsushiro Arr	5.71	205	P	Pn	14 04 36.0	+3.6
	0.1nm,0.3s,baz=323,slow=16,SNR=6.8					
USRK	Ussuriysk Ar.	7.14	293	P	Pn	14 04 53.7	+2.0
	0.4nm,0.3s,baz=102,slow=14,SNR=9.5					
SONM	Songino Array	25.24	296	P	P	14 08 25.7	+0.1
	0.3nm,0.4s,baz=94,slow=8.7,SNR=2.3					
H11N2	WAKE ISLAND Hy	30.98	127	T	T	14 41 47.6	
	baz=321					
H11N1	WAKE ISLAND Hy	30.99	127	T	T	14 41 48.0	
	baz=321					
H11N3	WAKE ISLAND Hy	31.00	127	T	T	14 41 49.0	
	baz=321					
H11S1	WAKE ISLAND Hy	31.82	129	T	T	14 42 48.1	
	baz=322,slow=74					
H11S3	WAKE ISLAND Hy	31.82	129	T	T	14 42 47.1	
	baz=322					
H11S2	WAKE ISLAND Hy	31.84	129	T	T	14 42 48.5	
	baz=322,slow=74					
ZALV	Zalesovo Beam	38.69	308	P	P	14 10 22.4	-0.2
	0.8nm,0.3s,baz=96,slow=7.1,SNR=4.2					
MKAR	Makanchi Array	41.58	298	P	P	14 10 47.2	+0.6
	0.6nm,0.6s,baz=83,slow=11,SNR=6.5					
ILAR	Eielson Array	45.65	35	P	P	14 11 19.5	+0.5
	0.4nm,0.8s,baz=247,slow=6.5,SNR=4.1					
YKA	Yellowknife Ar	59.83	31	P	P	14 13 01.3	-2.0
	0.1nm,0.4s,baz=302,slow=6.5,SNR=3.0					
WRA	Warramunga Arr	61.74	187	P	P	14 13 17.0	+0.4
	0.6nm,0.6s,baz=5.1,slow=7.4,SNR=13					
FINES	FINESS Array B	64.54	331	P	P	14 13 35.0	+0.4
	0.7nm,0.5s,baz=46,slow=5.5,SNR=7.5					
ASAR	Alice Springs	65.46	187	P	P	14 13 41.1	0.0
	0.2nm,0.9s,baz=359,slow=5.9,SNR=5.1					

*ISCJB **03** 14:07:09.9±0.5,56°.13S±0°.08×27°.4W±0°.2, h112km, mb4.3/13, Error ellipse: s-maj=16.2km s-min=8.0km az=146.6*
*NEIC **03** 14:07:10.1±1.7,56°.10S×27°.34W, h97km±15km, mb4.4/10, Error ellipse: s-maj=17.6km s-min=8.8km az=54.0*
*IDC **03** 14:07:12.1±10.0,56°.13S×27°.26W, h115km±97km, mb4.1/6, mb1 4.1/6, mb1mx3.8/16, mbtmp4.4/6, MS3.1/1, Ms1 3.1/1, ms1mx2.7/20, Error ellipse: s-maj=31.4km s-min=21.0km az=78.0*

ISC 03 14:07:11.4±0.6, 56°.1S±0°.1×27°.5W±0°.1, h112km, n30, σ0°.71/29, mb4.2/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.50	286	*e*Pn	Pn	14 08 30.2	-0.7
VNA1	Neumayer--Stat	16.77	158	P	Pn	14 10 58.9	-0.1
VNA3	Neumayer Olymp	16.95	160	P	Pn	14 11 00.8	-0.5
VNA2	Neumayer--Watz	17.16	158	P	P	14 11 03.3	-0.4
	baz=320,slow=12						
SNAA	Sanae	18.72	156	P	P	14 11 20.3	-0.6
SNAA	Sanae	18.72	156	*e*P	P	14 11 20.4	-0.5
	13nm,0.6s						
QSPA	South Pole Qui	34.11	180	*e*P	P	14 13 45.8	+0.8
	3.0nm,0.8s						
CPUP	Villa Florida	36.76	312	LR	LR	14 27 17.3	
	comp=Z,29nm,21.3s,baz=36,slow=33						
MAW	Mawson	40.16	144	P	P	14 14 35.6	-0.2
	1.4nm,0.5s,baz=223,slow=10,SNR=5.4						
LVC	Limon Verde	45.22	300	*e*P	P	14 15 19.1	+1.5
	9.2nm,1.3s						
VNDA	Vanda	46.48	183	*e*P	P	14 15 27.8	+1.4
	2.2nm,0.8s						
VNDA	Vanda	46.48	183	P	P	14 15 27.0	+0.6
	1.4nm,0.5s,baz=183,slow=7.8,SNR=20						
PB01	IPOC Station P	46.83	301	*e*P	P	14 15 29.3	-0.6
	8.1nm,1.0s						
GO01	Chusmiza	47.87	302	*e*P	P	14 15 39.4	+0.9
	5.7nm,0.8s						
PB11	IPOC Station P	48.01	302	*e*P	P	14 15 38.1	-1.0
	11nm,1.1s						
MNMC	Minye Minye	48.52	302	*e*P	P	14 15 43.3	+0.1
	7.4nm,0.5s						
LPAZ	La Paz	50.31	306	*e*P	P	14 15 58.4	+1.1
LPAZ	La Paz	50.31	306	P	P	14 15 58.0	+0.7
	1.8nm,0.5s,baz=172,slow=6.1,SNR=8.1						
DBIC	Dimbokro	65.31	25	*e*P	P	14 17 41.1	-0.1
	8.4nm,1.4s						
DBIC	Dimbokro	65.31	25	P	P	14 17 41.5	+0.3
	0.5nm,0.4s,baz=165,slow=8.6,SNR=3.8						
TOA0	Torodi Ar. Sit	73.20	30	*e*P	P	14 18 30.5	+0.6
	3.0nm,0.8s						
TORD	Torodi Ar. Bea	73.20	30	P	P	14 18 29.9	0.0
	1.9nm,0.6s,baz=200,slow=6.5,SNR=12						
TOA1	Torodi Ar. Sit	73.21	30	*e*P	P	14 18 29.9	0.0
ASAR	Alice Springs	98.95	163	P	P	14 20 38.5	-0.6
	0.4nm,0.6s,baz=188,slow=4.5,SNR=11						
YKA	Yellowknife Ar	136.14	318	PKP	PKPdf	14 26 17.1	-0.7
	0.2nm,0.5s,baz=130,slow=2.5,SNR=5.1						
YKB5	Yellowknife Ar	136.14	318	*e*PKPdf	PKPdf	14 26 17.1	-0.7
ILAR	Eielson Array	150.07	312	*e*PKPbc	PKiKP	14 26 48.2	+0.1
ILAR	Eielson Array	150.07	312	PKPbc	PKiKP	14 26 47.8	-0.3
	1.4nm,0.8s,baz=137,slow=2.1,SNR=14						
ILB	Eielson Array	150.07	312	*e*PKPbc	PKiKP	14 26 47.8	-0.3
TOLK	Toolik Lake Re	151.65	319	*e*PKPbc	PKiKP	14 26 52.0	+0.6

WEL 03 14:17:47.7, 38°S±14°×18°0W±1°0, h33km, ML3.8/19, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	1.47	268	P	Pn	14 18 12.3	+0.5
PUZ	Puketiti	1.61	259	P	Pn	14 18 14.7	+0.8
PKGZ	Pakihiroa	1.73	266	P	Pn	14 18 16.0	+0.4
CNGZ	Carnagh Statio	1.77	246	P	Pb	14 18 18.0	-1.5
TWGZ	Tauwhareparae	1.85	257	P	Pn	14 18 18.5	+1.4
TWGZ				S	Sn	14 18 40.5	+1.1
HAZ	Te Kaha	1.97	270	P	Pn	14 18 19.5	+0.7
TKGZ	Te Karaka	2.01	250	P	Pn	14 18 20.6	+1.2
TKGZ				S	Sn	14 18 45.3	+1.9
RUGZ	Raukumara Rang	2.06	264	P	Pn	14 18 20.6	+0.5
RUGZ				S	Sn	14 18 44.3	-0.4
RIGZ	Rimuhau	2.17	244	P	Pn	14 18 23.2	+1.5
RIGZ				S	Sn	14 18 49.5	+2.0
PRGZ	Paritu Road	2.19	238	P	Pb	14 18 24.3	-2.4
MWZ	Matawai	2.23	255	P	Pn	14 18 23.1	+0.7
MWZ				S	Sn	14 18 49.0	+0.2
MHGZ	Mahia Peninsul	2.30	233	P	Pn	14 18 25.3	+1.9
RAGZ	Rawiri	2.35	252	P	Pn	14 18 25.8	+1.6
KNZ	Kokohu	2.38	238	P	Pn	14 18 25.8	+1.4
SNGZ	Shannon Statio	2.51	246	P	Pn	14 18 27.5	+1.3
URZ	Urewera	2.54	258	P	Pn	14 18 28.0	+1.4
RAHZ	Arahi	2.74	245	P	Pn	14 18 31.0	+1.6
MUGZ	Murupara	2.84	255	P	Pn	14 18 32.0	+1.2
MTHZ	Maungataniwha	2.90	247	P	Pn	14 18 33.2	+1.7
ARHZ	Aropaoanui	2.96	239	P	Pn	14 18 34.9	+2.5
TARZ	Mount Tarawera	3.00	260	P	Pn	14 18 34.2	+1.1
ALRZ	Allen Road	3.19	255	P	Pn	14 18 36.2	+0.7
MRHZ	Matea Rd	3.20	250	P	Pn	14 18 37.1	+1.3
MCHZ	McNeill Hill	3.25	238	P	Pn	14 18 37.8	+1.4
BKZ	Black Stump Fm	3.27	244	P	Pn	14 18 37.8	+1.2
KRHZ	Kereru	3.57	237	P	Pn	14 18 41.8	+1.0
BHHZ	Black Hill Sta	3.70	241	P	Pn	14 18 43.6	+0.9
MKAZ	Moumakai	4.12	278	P	Pn	14 18 48.3	0.0
HIZ	Hauiti	4.33	259	P	Pn	14 18 52.6	+1.4

*IDC **03** 14:41:23.7±1.5,7°.21S×144°.22E, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.6/28, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=27.5km s-min=23.2km az=72.0*
*ISCJB **03** 14:41:24.3±1.0,7°.39S±0°.09×144°.07E±0°.07, h10km, mb3.8/2, Error ellipse: s-maj=13.8km s-min=9.5km az=11.8*

ISC 03 14:41:26.7±1.1, 7°.5S±0°.1×144°.00E±0°.09, h10km, n7, σ2°.57/10, 1C, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.64	121	Pn	Pn	14 42 23.2	0.0
	4.5nm,0.3s,baz=293,slow=15,SNR=13						
PMG				Sn	Sn	14 43 04.9	-1.3
	3.0nm,0.3s,baz=197,slow=20,SNR=4.4						
WRA	Warramunga Arr	15.51	216	Pn	Pn	14 45 07.6	+2.0
	0.1nm,0.3s,baz=40,slow=11,SNR=11						
WRA				Sn	Sn	14 47 54.2	-3.4
	0.1nm,0.3s,baz=34,slow=23,SNR=4.4						
WRA				Lg	Lg	14 49 49.1	
	0.2nm,0.3s,baz=44,slow=27,SNR=4.7						
ASAR	Alice Springs	18.76	210	P	Pn	14 45 48.7	+2.2
	0.2nm,0.3s,baz=44,slow=8.7,SNR=35						
ASAR				Sn	Sn	14 49 13.7	-2.8
	0.1nm,0.3s,baz=28,slow=27,SNR=5.5						
ASAR				Lg	Lg	14 51 32.6	
	0.0nm,0.3s,baz=31,slow=32,SNR=4.5						
FITZ	Fitzroy Crossi	20.75	238	P	P	14 46 08.7	+0.9
	1.9nm,0.8s,baz=46,slow=9.1,SNR=8.8						
CMAR	Chiang Mai Arr	51.40	301	P	P	14 50 31.9	-0.3
	1.0nm,0.7s,baz=111,slow=5.8,SNR=8.0						
MKAR	Makanchi Array	76.80	322	P	P	14 53 16.1	-2.6
	1.0nm,0.9s,baz=108,slow=7.1,SNR=5.4						
SYO	Syowa Base	88.15	200	⇑*e*P	P	14 54 20.3	+2.8

*KRNET **03** 14:59:29.5±0.1,40°.10N×73°.34E, h19km, mb3.0*
*SOME **03** 14:59:32.6,40°.27N×73°.27E, h5km*
*NNC **03** 14:59:35.7±1.7,40°.38N×73°.34E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=13.7km s-min=6.4km az=1.0*

ISC 03 14:59:27.9±1.4, 40°.08N±0°.05×73°.40E±0°.03, h1km±12km, n50, σ1°.41/82, 26C-20D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	1.28	346	⇑*i*P	Pg	14 59 53.5	+1.0
ARSB	baz=47			⇑*i*S	Sn	15 00 10.9	-0.1
DRK	Karamyk	1.37	245	⇑*i*P	Pn	14 59 54.8	+0.5
DRK	baz=43			⇑*i*S	Sn	15 00 13.2	0.0
ARLS	Aral	1.92	21	⇑*i*P	Pg	15 00 04.8	+0.2
ARLS	baz=22			⇑*i*S	Sg	15 00 30.9	+1.4
BTK	Batken	1.98	270	⇓*i*P	Pg	15 00 05.8	0.0
BTK	baz=70			⇓*i*S	Sg	15 00 31.9	+0.5
AML	Almayashu	2.06	6	P	Pg	15 00 07.7	+0.2
	SNR=33						
AML	Almayashu	2.06	6	⇓*i*P	Pg	15 00 07.5	0.0
AML	baz=7.0			⇓*i*S	Sg	15 00 35.3	+1.0
UCH	Uchtor	2.31	21	P	Pg	15 00 12.9	+0.8
	SNR=31						
UCH	Uchtor	2.31	21	⇓*i*P	Pb	15 00 11.3	+0.7
UCH	baz=22			⇓*i*S	Sg	15 00 41.5	-0.6
NRN	Naryn	2.40	55	⇓*i*P	Pb	15 00 12.2	+0.2
NRN	baz=56			⇓*i*S	Sb	15 00 43.6	+1.4
KZA	Kyzart	2.44	34	P	Pg	15 00 15.7	+1.0
	SNR=6.0						
KZA	Kyzart	2.44	34	⇓*i*P	Pb	15 00 13.3	+0.5
KZA	baz=35			⇓*i*S	Sg	15 00 44.9	-1.4
EKS2	Erkin-Say	2.60	6	⇑*i*P	Pb	15 00 14.9	-0.4
EKS2	baz=7.0			⇑*i*S	Sb	15 00 47.9	+0.1
MRKS	Merke	2.67	357	Pg	Pb	15 00 17.2	+0.7
MRKS	2.4nm,0.2s			Lg	Lg	15 00 49.6	
	9.5nm,0.4s						
MRKS	Merke	2.67	357	*e*P	Pg	15 00 18.2	-0.8
MRKS	9.3nm,0.3s			*e*S	Sb	15 00 49.5	-0.2
	9.5nm,0.4s						
AAK	Ala-Archa	2.69	18	P	Pg	15 00 19.6	+0.2
	SNR=12						
AAK	Ala-Archa	2.69	18	⇑Pn	Pb	15 00 16.6	-0.3
AAK	11nm,0.5s			⇓Lg	Lg	15 00 51.6	
	19nm,0.8s						
AAK	Ala-Archa	2.69	18	⇑*i*P	Pb	15 00 16.3	-0.6
AAK	baz=18			⇑*i*S	Sb	15 00 50.2	-0.2
KBK	Karagaybulak	2.83	24	P	Pg	15 00 22.1	0.0
	SNR=11						
KBK	Karagaybulak	2.83	24	⇑*i*P	Pb	15 00 18.2	-1.1
KBK	baz=25			⇑*i*S	Sb	15 00 54.0	-0.5
FRU1	Bishkek	2.88	18	⇑*i*P	Pb	15 00 18.8	-1.3
FRU1	baz=19			⇑*i*S	Sb	15 00 55.1	-0.8
ULHL	Ulahol	3.05	44	⇓*i*P	Pb	15 00 21.7	-1.4
	baz=45						
ULHL				⇓*i*S	Sb	15 00 59.3	-1.6
BOOM	Boomskoye usch	3.08	38	⇓*e*P	Pb	15 00 21.8	-1.8
	baz=38						
BOOM				⇓*i*S	Sb	15 00 59.7	-2.0
	baz=38						
CHMS	Chumysh	3.09	19	⇑*i*P	Pb	15 00 21.9	-1.8
	baz=20						
CHMS				⇑*i*S	Sb	15 00 59.7	-2.2
	baz=20						
IUG	Iuzhnay	3.28	310	*e*P	Pb	15 00 27.9	+1.1
	11nm,0.4s						
IUG				*e*S	Sb	15 01 06.5	-0.7
	19nm,0.4s						
TKM2	Tokmak 2	3.29	29	P	Pg	15 00 31.0	+0.1
	SNR=5.6						
TKM2	Tokmak 2	3.29	29	⇓Pn	Pb	15 00 27.7	+0.6
	3.8nm,0.3s						
TKM2				⇑Lg	Lg	15 01 14.3	
	7.0nm,0.5s						
TKM2	Tokmak 2	3.29	29	⇓*i*P	Pb	15 00 25.0	-2.1
	baz=30						
TKM2				⇓*i*S	Sb	15 01 05.0	-2.7
	baz=30						
USP	Ospenovka	3.29	14	⇑*i*P	Pb	15 00 24.7	-2.4
	baz=15						
USP				⇑*i*S	Sb	15 01 04.5	-3.2
	baz=15						
KDJ	Kajisay	3.52	53	⇑*e*P	Pn	15 00 27.8	+4.0
	baz=54						
KDJ				⇑*i*S	Sb	15 01 10.4	-3.9
	baz=54						
KST	Kastek	3.54	32	Pg	Pg	15 00 36.5	+0.8
	4.1nm,0.3s						
KST				Lg	Lg	15 01 22.6	
	13nm,0.4s						
KST	Kastek	3.54	32	*e*P	Pg	15 00 36.8	+1.1
	4.1nm,0.3s						
KST				*e*S	Sg	15 01 22.6	+1.2
	13nm,0.4s						
KK31	Karatay Array	3.72	325	⇑Pn	Pn	15 00 29.2	+2.8
	0.3nm,0.2s,baz=114,slow=13,SNR=12						
KK31				⇓Pg	Pg	15 00 37.5	-1.6
	0.7nm,0.2s,baz=133,slow=15,SNR=16						
KK31				⇓Sn	Sb	15 01 14.5	-5.4
	1.1nm,0.2s						
KK31				⇑Lg	Lg	15 01 25.1	
	1.2nm,0.2s,baz=128,slow=28,SNR=3.6						
MTBS	Maitube	3.81	36	*e*P	Pg	15 00 41.6	+0.8
	3.3nm,0.4s						
MTBS				*e*S	Sg	15 01 30.7	+0.6
	8.8nm,0.4s						
TNSS	Tian-Shan	3.98	41	Pg	Pg	15 00 43.7	-0.4
	4.7nm,0.4s						
TNSS				Lg	Lg	15 01 36.4	
	15nm,0.6s						
TNSS	Tian-Shan	3.98	41	*e*P	Pg	15 00 44.2	+0.1
	3.2nm,0.4s						
TNSS				*e*S	Sg	15 01 35.8	0.0
	15nm,0.6s						
MDOK	Medeo	4.12	40	⇑Pg	Pg	15 00 47.2	+0.3
	5.1nm,1.1s						
MDOK				⇑Lg	Lg	15 01 40.8	
	11nm,0.6s						
MDOK	Medeo	4.12	40	Pg	Pg	15 00 46.7	-0.2
	1.7nm,0.5s						
MDOK				Lg	Lg	15 01 40.1	
	8.7nm,0.9s						
MDOK	Medeo	4.12	40	*e*P	Pg	15 00 46.7	-0.2
	1.7nm,0.5s						
MDOK				*e*S	Sg	15 01 40.1	-0.2
	8.7nm,0.9s						
KOTS	Kotyrbulak	4.21	40	Pg	Pg	15 00 49.0	+0.5
	2.6nm,0.3s						
KOTS				Lg	Lg	15 01 44.2	
	20nm,0.6s						
KOTS	Kotyrbulak	4.21	40	*e*P	Pg	15 00 49.0	+0.5
	2.6nm,0.3s						
KOTS				*e*S	Sg	15 01 44.2	+1.1
	20nm,0.6s						
KTBS	Karatobe	4.38	33	Pg	Pg	15 00 51.2	-0.6
	2.3nm,0.6s						
KTBS				Lg	Lg	15 01 47.9	
	17nm,0.6s						
KTBS	Karatobe	4.38	33	*e*P	Pg	15 00 51.2	-0.6
	2.3nm,0.6s						
KTBS				*e*S	Sg	15 01 48.0	-0.7
	17nm,0.6s						
SATY	Saty	4.80	50	Pg	Pg	15 00 58.9	-0.9
	2.8nm,0.6s						
SATY				Lg	Lg	15 02 01.3	
	9.3nm,1.4s						
SATY	Saty	4.80	50	*e*P	Pg	15 00 58.9	-0.9
	2.8nm,0.6s						
SATY				*e*S	Sg	15 02 01.3	-0.6
	9.3nm,1.4s						
KURS	Kuram	4.94	45	Pg	Pg	15 01 02.4	0.0
	1.3nm,0.6s						
KURS				Lg	Lg	15 02 07.1	
	5.2nm,1.0s						
KURS	Kuram	4.94	45	*e*P	Pg	15 01 02.4	0.0
	1.3nm,0.6s						
KURS				*e*S	Sg	15 02 07.1	+0.7
	5.2nm,1.0s						
UZB	Uzynbulak	5.21	52	Pg	Pg	15 01 06.7	-1.1
	1.5nm,0.5s						
UZB				Lg	Lg	15 02 14.7	
	2.6nm,0.6s						
UZB	Uzynbulak	5.21	52	*e*P	Pg	15 01 06.7	-1.1
	1.5nm,0.5s						
UZB				*e*S	Sg	15 02 14.7	-0.7
	2.6nm,0.6s						
ARXS	Arharly	5.29	37	Pg	Pg	15 01 07.9	-1.2
	1.5nm,0.3s						
ARXS				Lg	Lg	15 02 16.5	
	7.2nm,0.9s						
ARXS	Arharly	5.29	37	*e*P	Pg	15 01 07.9	-1.2
	1.5nm,0.3s						
ARXS				*e*S	Sg	15 02 16.5	-1.1
	7.2nm,0.9s						

*AZER **03** 15:08:25.1±1.3,36°.69N×50°.21E, h16km±19km, ml3.0/6, Error ellipse: s-maj=22.9km s-min=20.6km az=97.0*
*TEH **03** 15:08:25.9,36°.75N×49°.71E, h8km, ML3.1*
*THR **03** 15:08:27.5,36°.70N×49°.63E, h15km, ML2.9*

ISC 03 15:08:26.3±1.5, 36.73N±0°.04×49°.67E±0°.03, h3km±14km, n26, σ1°.05/33, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGZV	Ghazvin	0.56	128	*e*Pg	Pg	15 08 36.5	-0.5
IGZV				IAMB	IAmb	15 08 44.5	
	comp=Z,9μm,0.2s						
ZNJK	Zanjan	0.80	266	*e*AML	AML	15 08 53.4	
	comp=Z,478nm,0.2s						
ZNJK				*e*Pg	Pg	15 08 42.3	+0.6
ZNJK				*e*Sg	Sb	15 08 53.0	-1.2
QALM	Alamut, Qazvin	0.84	110	*e*Pg	Pg	15 08 42.3	-0.1
QALM				IAMB	IAmb	15 08 55.1	
	comp=Z,0.0nm,0.2s						
QABG	Abgarm-Qazvin	1.02	184	*e*Pg	Pb	15 08 46.1	-0.6
QABG				IAMB	IAmb	15 09 00.9	
	comp=Z,0.0nm,0.2s						
IMHD	Mahdasht	1.31	142	*e*Pg	Pn	15 08 51.5	-0.2
IMHD				IAMB	IAmb	15 09 11.5	
	comp=Z,10μm,0.1s						
IRAZ	Razeghan	1.33	171	*e*Pg	Pn	15 08 51.6	-0.5
IRAZ				IAMB	IAmb	15 09 15.1	
	comp=Z,4μm,0.3s						
IHSB

IDMV	**Damavand**	**2.23 120**	IAMB	IAmb	15 09 38.1
	comp=Z,0.0nm,0.3s				
IDMV			*e*Pn	**Pb**	**15 09 07.6 +0.2**
IBST	**Bostanabad**	**2.42 294**	IAMB	IAmb	15 09 08.5
	comp=Z,1μm,0.2s				
IBST			*e*Pn	**Pn**	**15 09 08.1 +1.1**
GLBA	**Ciilabad**	**2.71 338**	P	**Pn**	**15 09 10.8 +0.1**
GLBA			S	**Sn**	**15 09 44.7 +0.8**
KHMZ	**Khomeyn**	**2.99 175**	*e*Pn	**Pn**	**15 09 16.3 +1.5**
KHMZ	**Khomeyn**	**2.99 175**	*e*Pn	**Pn**	**15 09 16.2 +1.5**
IKIA	**Kiasar**	**3.27 98**	*e*Pn	**Pn**	**15 09 19.8 +1.0**
KRSH	**Karshahi**	**3.41 143**	*e*Pn	**Pn**	**15 09 22.4 +1.9**
KRSH			IAMB	IAmb	15 10 18.6
	comp=Z,0.0nm,0.4s				
ORD	**Ordubad**	**3.65 308**	S	**Sb**	**15 10 13.4 -2.8**
XNQ	**Khinaliq**	**4.60 345**	P	**Pn**	**15 09 36.5 -0.4**
XNQ			S	**Sn**	**15 10 30.0 -0.9**

IDC 03 15:12:10.8±3.6, 2°27S×136°57E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=150.7km s-min=31.3km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.70**	**187**	P	Pn	15 16 18.6	-0.3
	0.1nm,0.3s,baz=5.6,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**21.43**	**187**	P	P	15 17 00.3	-0.4
	0.4nm,0.7s,baz=6.8,slow=10,SNR=8.0						
MKAR	**Makanchi Array**	**68.14**	**323**	P	P	15 23 13.3	+0.4
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.5						

IDC 03 15:15:12.2±1.8, 3°37S×126°67E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/33, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=155.4km s-min=25.5km az=65.0, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.10**	**156**	P	Pn	15 19 25.3	+0.1
	0.1nm,0.3s,baz=334,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.36**	**162**	P	P	15 20 00.3	-1.0
	0.5nm,0.3s,baz=347,slow=11,SNR=32						
MKAR	**Makanchi Array**	**63.39**	**327**	P	P	15 25 44.0	+0.4
	0.1nm,0.5s,baz=111,slow=7.9,SNR=2.4						

*IDC **03** 15:18:35.1±1.3, 7°15S×144°22E, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.5/29, mbtmp3.5/7, ML3.3/2, MS2.3/1, Ms1 2.3/1, ms1mx2.1/21, Error ellipse: s-maj=25.7km s-min=22.7km az=96.0*
*ISCJB **03** 15:18:37.8±0.9, 7°3S±0°1×144°12E±0°08, h30km, mb3.5/3, Error ellipse: s-maj=16.6km s-min=9.7km az=26.0*
ISC 03 15:18:39.6±1.0, 7°2S±0°1×144°2E±0°1, h30km, n8, σ0§90/8, mb3.6/4, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.69**	**126**	**Pn**	**Pn**	**15 19 34.8**	**+0.2**
	1.9nm,0.3s,baz=84,slow=6.2,SNR=7.4						
PMG				Sn	**Sn**	**15 20 17.4**	**+0.3**
	4.6nm,0.3s,baz=218,slow=13,SNR=9.4						
JAY	**Jayapura**	**5.79**	**324**	LR	LR	15 22 08.9	
	comp=Z,26nm,19.8s,baz=334,slow=37						
WRA	**Warramunga Arr**	**15.83**	**216**	Pn	**Pn**	**15 22 19.2**	**-1.4**
	0.1nm,0.3s,baz=39,slow=13,SNR=5.6						
WRA				Lg	Lg	15 27 01.1	
	0.1nm,0.3s,baz=40,slow=26,SNR=5.4						
ASAR	**Alice Springs**	**19.09**	**210**	P	**P**	**15 23 00.4**	**+0.4**
	0.2nm,0.3s,baz=41,slow=9.4,SNR=18						
ASAR				Lg	Lg	15 28 44.5	
	0.0nm,0.3s,baz=30,slow=30,SNR=3.5						
FITZ	**Fitzroy Crossi**	**21.03**	**237**	P	**P**	**15 23 21.6**	**+0.6**
	1.0nm,0.5s,baz=67,slow=12,SNR=6.8						
CMAR	**Chiang Mai Arr**	**51.37**	**300**	P	**P**	**15 27 42.8**	**+0.8**
	0.8nm,0.7s,baz=114,slow=6.2,SNR=6.6						
MKAR	**Makanchi Array**	**76.55**	**321**	P	**P**	**15 30 27.7**	**0.0**
	0.5nm,0.7s,baz=129,slow=3.9,SNR=3.3						
ILAR	**Eielson Array**	**87.71**	**24**	P	**P**	**15 31 24.2**	**-0.9**
	0.2nm,0.9s,baz=239,slow=6.1,SNR=2.9						

*ISCJB **03** 15:20:11.9±1.1, 0°1N±0°2×98°2E±0°3, h10km, mb3.5/7, Error ellipse: s-maj=41.5km s-min=15.9km az=149.4*
*IDC **03** 15:20:11.8±1.4, 0°04N×98°15E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/39, mbtmp3.6/8, ML3.8/1, MS2.9/1, Ms1 3.1/1, ms1mx2.3/35, Error ellipse: s-maj=58.1km s-min=20.5km az=54.0*
ISC 03 15:20:13.5±1.4, 0°1N±0°2×98°2E±0°3, h10km, n11, σ0§60/8, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.25**	**2**	P	**P**	**15 24 26.4**	**-0.9**
	0.1nm,0.3s,baz=185,slow=10,SNR=2.9						
CMAR				LR	LR	15 30 54.0	
	comp=Z,32nm,18.4s,baz=167,slow=35						
H08S2	**Diego Garcia H**	**26.79**	**253**	T	T	15 53 27.7	
	baz=74,slow=76,SNR=26						
H08S3	**Diego Garcia H**	**26.80**	**253**	T	T	15 53 28.0	
	baz=74,slow=76,SNR=34						
H08S1	**Diego Garcia H**	**26.81**	**253**	T	T	15 53 23.5	
	baz=74,slow=76,SNR=29						
WRA	**Warramunga Arr**	**40.59**	**122**	P	**P**	**15 27 53.5**	**-0.3**
	0.5nm,0.9s,baz=308,slow=8.9,SNR=2.7						
ASAR	**Alice Springs**	**41.92**	**127**	P	**P**	**15 28 04.9**	**+0.2**
	0.3nm,0.9s,baz=302,slow=7.1,SNR=4.0						
SONM	**Songino Array**	**48.06**	**7**	P	**P**	**15 28 53.8**	**+0.5**
	0.4nm,0.5s,baz=183,slow=8.7,SNR=3.4						
MKAR	**Makanchi Array**	**48.54**	**345**	P	**P**	**15 28 57.5**	**+0.6**
	0.9nm,0.7s,baz=161,slow=7.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**54.79**	**350**	P	**P**	**15 29 43.8**	**+0.3**
	0.4nm,0.4s,baz=165,slow=6.0,SNR=2.9						
BRTR	**Keskin Array B**	**70.60**	**312**	P	**P**	**15 31 29.1**	**-0.4**
	0.5nm,0.7s,baz=111,slow=7.9,SNR=4.0						
FINES	**FINESS Array B**	**81.43**	**332**	P	**P**	**15 32 30.6**	**0.0**
	1.2nm,0.9s,baz=99,slow=3.7,SNR=2.7						

IDC 03 15:31:56.1±3.6, 26°45N×54°15E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/34, mbtmp3.6/5, MS2.6/1, Ms1 2.8/1, ms1mx2.1/30, Error ellipse: s-maj=78.8km s-min=30.8km az=22.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**21.63**	**313**	P	P	15 36 48.1	0.0
	0.5nm,0.4s,baz=119,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**30.12**	**40**	P	P	15 38 07.7	+0.3
	0.3nm,0.5s,baz=225,slow=8.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**35.60**	**31**	P	P	15 38 55.0	-0.2
	1.0nm,0.5s,baz=237,slow=10,SNR=6.4						
FINES	**FINESS Array B**	**39.77**	**339**	P	P	15 39 30.3	-0.2
	1.1nm,0.8s,baz=143,slow=10.0,SNR=4.0						
CMAR	**Chiang Mai Arr**	**41.99**	**91**	P	P	15 39 49.1	-0.2
	0.2nm,0.6s,baz=295,slow=8.7,SNR=2.9						
CMAR				LR	LR	15 58 55.9	
	comp=Z,8.1nm,21.5s,baz=195,slow=39						

MEX 03 15:49:54.2±0.5, 16°16N×97°60W, h11km±5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.56**	**295**	*e*P	Pg	15 50 04.0	-1.1
PNIG				*e*S	Sg	15 50 11.5	-1.1
HUIG	**Huatulco**	**1.48**	**105**	*e*P	Pn	15 50 16.8	-4.0
HUIG				*i* S	Sn	15 50 35.6	-4.5
TLIG	**Tlapa**	**1.68**	**327**	*e*P	Pn	15 50 20.2	-3.4
TLIG				*e*S	Sn	15 50 40.9	-4.4
CMIG	**Matias Romero**	**2.76**	**70**	*e*P	Pn	15 50 36.1	-2.3
CMIG				*i* S	Sn	15 51 07.8	-3.9

*IDC **03** 16:22:00.0±1.0, 40°27N×22°96E, h0km, mb3.3/6, mb1 3.5/13, mb1mx3.4/53, mbtmp3.4/13, ML3.2/7, MS3.1/5, Ms1 3.2/5, ms1mx2.7/26, Error ellipse: s-maj=14.7km s-min=13.8km az=96.0*
*PRU **03** 16:22:01.0±0.0, 40°54N×23°53E, h0km*
*ISCJB **03** 16:22:02.3±0.3, 40°41N±0°01×22°71E±0°01, h11km±2km, MS3.0/2, Error ellipse: s-maj=1.9km s-min=1.7km az=177.3*
*PDG **03** 16:22:02.5±0.5, 40°40N×22°71E, h12km, ML3.6/14, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*ATH **03** 16:22:02.1, 40°42N×22°69E, h28km, ML3.7/21, Error ellipse: s-maj=0.9km s-min=0.5km az=331.0*
*THE **03** 16:22:02.6, 40°41N×22°66E, h10km, ML3.8/10, Error ellipse: s-maj=0.7km s-min=0.3km az=106.0*
*SOF **03** 16:22:02.4, 40°46N×22°65E, h7km, MD3.7*
*BEO **03** 16:22:03.9±0.6, 40°37N×22°73E, h27km±4km, ML3.8/4*
*TIR **03** 16:22:06.5, 40°27N×22°41E, h8km, Md3.9/4*
*DDA **03** 16:22:50.3, 40°40N×22°78E, h11km, ML4.0*
ISC 03 16:22:02.5±0.9, 40°39N±0°02×22°73E±0°01, h13km±7km, n228, σ1§44/285, 35C-13D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.30**	**36**	P	**Pg**	**16 22 08.8**	**+0.1**
THE				S	**Sg**	**16 22 13.7**	**+0.8**
THE	**Thessaloniki**	**0.30**	**36**	P	**Pg**	**16 22 08.8**	**+0.1**
THE				S	**Sb**	**16 22 13.9**	**-0.8**
THE				AML	AML	16 22 15.9	
	comp=N,16101μm,0.4s						
THE				AML	AML	16 22 19.1	
	comp=E,14472μm,0.6s						
LIT	**Litokhoron**	**0.34**	**213**	P	**Pg**	**16 22 09.6**	**+0.3**
LIT				S	**Sg**	**16 22 14.2**	**+0.3**
LIT	**Litokhoron**	**0.34**	**213**	P	**Pg**	**16 22 09.7**	**+0.3**
LIT				S	**Sb**	**16 22 15.7**	**0.0**
LIT				AML	AML	16 22 17.5	
	comp=N,14772μm,0.2s						
LIT				AML	AML	16 22 18.3	
	comp=E,18098μm,0.2s						
HORT	**Hortiatis**	**0.35**	**53**	P	**Pg**	**16 22 10.1**	**+0.4**
HORT				S	**Sb**	**16 22 16.2**	**-0.1**
HORT	**Hortiatis**	**0.35**	**53**	P	**Pb**	**16 22 10.4**	**-0.3**
HORT				S	**Sb**	**16 22 15.6**	**-0.7**
HORT				AML	AML	16 22 16.2	
	comp=E,21500μm,0.4s						
HORT				AML	AML	16 22 16.3	
	comp=N,32430μm,0.4s						
KTI	**Kastanea**	**0.47**	**271**	P	**Pg**	**16 22 10.9**	**-0.8**
PLG	**Polygyros**	**0.55**	**91**	P	**Pb**	**16 22 14.2**	**+0.2**
PLG				S	**Sb**	**16 22 23.0**	**+1.2**
PLG	**Polygyros**	**0.55**	**91**	P	**Pb**	**16 22 14.4**	**+0.4**
PLG				S	**Sb**	**16 22 23.1**	**+1.2**
PLG				AML	AML	16 22 30.5	
	comp=N,15700μm,0.8s						
PLG				AML	AML	16 22 31.4	
	comp=E,14889μm,0.4s						
SOH	**Sokhos**	**0.65**	**47**	P	**Pb**	**16 22 15.4**	**-0.3**
SOH				S	**Sb**	**16 22 24.8**	**+0.2**
SOH	**Sokhos**	**0.65**	**47**	P	**Pb**	**16 22 15.5**	**-0.2**
SOH				S	**Sb**	**16 22 24.9**	**+0.2**
SOH				AML	AML	16 22 26.2	
	comp=N,48342μm,0.5s						
SOH				AML	AML	16 22 26.5	
	comp=E,55137μm,0.6s						
KZN	**Kozani**	**0.74**	**264**	P	**Pg**	**16 22 15.3**	**-1.5**
KZN				S	**Sg**	**16 22 25.5**	**-0.9**
KZN	**Kozani**	**0.74**	**264**	P	**Pg**	**16 22 15.5**	**-1.2**
KZN				S	**Sg**	**16 22 26.6**	**+0.2**
KZN				AML	AML	16 22 28.6	
	comp=E,13128μm,0.4s						
KZN				AML	AML	16 22 31.9	
	comp=N,5697μm,0.6s						
LRSO	**Larissa Observ**	**0.76**	**200**	P	**Pb**	**16 22 17.9**	**+0.4**
LRSO				S	**Sn**	**16 22 29.5**	**-0.7**
LRSO				AML	AML	16 22 34.5	
	comp=N,25596μm,0.7s						
LRSO				AML	AML	16 22 35.0	
	comp=E,19425μm,0.4s						
KNT	**Kendrikon**	**0.79**	**9**	P	**Pg**	**16 22 17.0**	**-0.7**
KNT	**Kendrikon**	**0.79**	**9**	P	**Pg**	**16 22 17.3**	**-0.4**
KNT				S	**Sg**	**16 22 27.4**	**-0.7**
KNT				AML	AML	16 22 29.6	
	comp=E,7372μm,0.5s						
KNT				AML	AML	16 22 31.6	
	comp=N,8033μm,0.5s						
PAIG	**Paliouri**	**0.86**	**122**	P	**Pb**	**16 22 19.6**	**+0.3**
PAIG				S	**Sn**	**16 22 33.3**	**+0.5**
PAIG	**Paliouri**	**0.86**	**122**	P	**Pb**	**16 22 19.9**	**+0.6**
PAIG				S	**Sn**	**16 22 32.8**	**+0.1**
PAIG				AML	AML	16 22 35.0	
	comp=E,6369μm,0.5s						
PAIG				AML	AML	16 22 38.8	
	comp=N,7231μm,0.5s						
VAY	**Valandovo**	**0.94**	**353**	*i* Pg	**Pg**	**16 22 19.2**	**-1.5**
VAY				*i* Sg	**Sn**	**16 22 34.0**	**-0.8**
OUR	**Ouranopolis**	**0.96**	**93**	P	**Pn**	**16 22 21.6**	**0.0**
OUR				S	**Sn**	**16 22 36.2**	**+1.0**
OUR	**Ouranopolis**	**0.96**	**93**	P	**Pn**	**16 22 21.9**	**+0.2**
OUR				S	**Sn**	**16 22 35.7**	**+0.5**
OUR				AML	AML	16 22 39.2	
	comp=E,21583μm,0.4s						
OUR				AML	AML	16 22 39.7	
	comp=N,18000μm,0.6s						
SRS	**Serrai**	**0.98**	**42**	*e*Pg	**Pn**	**16 22 22.4**	**+0.4**
SRS				*e*Sg	**Sn**	**16 22 36.4**	**+0.6**
SRS	**Serrai**	**0.98**	**42**	P	**Pg**	**16 22 20.8**	**-0.6**
SRS				S	**Sn**	**16 22 35.9**	**+0.1**
SRS	**Serrai**	**0.98**	**42**	P	**Pg**	**16 22 21.2**	**-0.3**
SRS				S	**Sb**	**16 22 34.4**	**+0.1**
SRS				AML	AML	16 22 37.8	
	comp=E,27833μm,0.5s						
SRS				AML	AML	16 22 39.9	
	comp=N,16824μm,0.5s						
THL	**Klokotos Trika**	**0.99**	**214**	P	**Pg**	**16 22 20.9**	**-0.6**
THL				S	**Sb**	**16 22 35.0**	**+0.7**
THL	**Klokotos Trika**	**0.99**	**214**	P	**Pb**	**16 22 21.5**	**+0.1**
THL				S	**Sn**	**16 22 35.8**	**0.0**
THL				AML	AML	16 22 38.1	
	comp=E,8893μm,0.8s						
THL				AML	AML	16 22 38.5	
	comp=N,4819μm,0.5s						
FYTO	**Fytoko, Volos**	**0.99**	**170**	P	**Pn**	**16 22 22.2**	**+0.1**
XOR	**Xorichti**	**1.08**	**161**	P	**Pb**	**16 22 23.0**	**0.0**
XOR	**Xorichti**	**1.08**	**161**	P	**Pg**	**16 22 23.4**	**+0.2**
FNA	**Florina**	**1.10**	**292**	*e*Pg	**Pn**	**16 22 24.2**	**+0.5**
FNA				*e*Sg	**Sn**	**16 22 39.2**	**+0.3**
FNA	**Florina**	**1.10**	**292**	P	**Pb**	**16 22 21.9**	**-1.6**
FNA				S	**Sb**	**16 22 37.1**	**-0.7**
FNA	**Florina**	**1.10**	**292**	*i* PN	**Pb**	**16 22 22.1**	**-1.4**
FNA				*i* SN	**Sb**	**16 22 33.2**	**-4.6**
FNA	**Florina**	**1.10**	**292**	P	**Pb**	**16 22 22.0**	**-1.4**
FNA				S	**Sg**	**16 22 38.3**	**+0.1**
FNA				AML	AML	16 22 42.6	
	comp=N,4782μm,0.7s						
FNA				AML	AML	16 22 42.8	
	comp=E,4100μm,0.7s						
KPRO	**Kipourio**	**1.13**	**248**	P	**Pb**	**16 22 23.8**	**-0.2**
KPRO				S	**Sg**	**16 22 39.1**	**+0.1**
KPRO				AML	AML	16 22 47.5	
	comp=E,5278μm,0.7s						
KPRO				AML	AML	16 22 48.3	
	comp=N,6120μm,0.6s						
NEO	**Neokhori**	**1.14**	**160**	P	**Pb**	**16 22 24.0**	**-0.1**
NEO	**Neokhori**	**1.14**	**160**	P	**Pb**	**16 22 24.1**	**-0.1**
PENT	**Pentalofos**	**1.23**	**262**	P	**Pn**	**16 22 24.7**	**-0.8**
PENT	**Pentalofos**	**1.23**	**262**	P	**Pn**	**16 22 25.2**	**-0.3**
PENT				S	**Sb**	**16 22 40.9**	**-0.6**
PENT				AML	AML	16 22 46.6	
	comp=E,803μm,11.3s						
PENT				AML	AML	16 22 47.4	
	comp=N,3476μm,1.0s						
BIA	**Bitola**	**1.24**	**301**	*i* Pg	**Pg**	**16 22 26.1**	**-0.3**
BIA				*i* Sg	**Sn**	**16 22 43.7**	**+1.4**
NEST	**Nestorio**	**1.28**	**272**	P	**Pn**	**16 22 25.6**	**-0.6**
NEST				S	**Sb**	**16 22 42.7**	**-0.3**
NEST	**Nestorio**	**1.28**	**272**	P	**Pn**	**16 22 25.6**	**-0.6**
NVR	**Nevrokopi**	**1.29**	**41**	P	**Pn**	**16 22 26.4**	**+0.1**
NVR				S	**Sg**	**16 22 44.8**	**+0.7**
NVR	**Nevrokopi**	**1.29**	**41**	P	**Pb**	**16 22 26.9**	**+0.2**
NVR				S	**Sg**	**16 22 44.0**	**-0.1**
NVR				AML	AML	16 22 47.4	
	comp=E,13687μm,0.5s						
NVR				AML	AML	16 22 48.3	
	comp=N,10106μm,0.7s						
MEV	**Metsovon**	**1.30**	**243**	P	**Pg**	**16 22 27.2**	**-0.2**
SKIA	**Skiathos**	**1.34**	**155**	P	**Pn**	**16 22 26.6**	**-0.3**
SKIA	**Skiathos**	**1.34**	**155**	P	**Pn**	**16 22 26.7**	**-0.3**
STIP	**Stip**	**1.37**	**343**	*i* Pn	**Pn**	**16 22 26.5**	**-0.9**
KVLA	**Kavala**	**1.38**	**66**	P	**Pn**	**16 22 27.8**	**+0.4**
KVLA				S	**Sg**	**16 22 46.9**	**+0.1**
KVLA				AML	AML	16 22 50.6	
	comp=N,12627μm,0.4s						
KVLA				AML	AML	16 22 50.9	
	comp=E,15800μm,0.5s						
AGG	**Agios Georgios**	**1.40**	**193**	P	**Pn**	**16 22 28.1**	**+0.4**
AGG	**Agios Georgios**	**1.40**	**193**	P	**Pn**	**16 22 27.9**	**+0.2**
MMB	**Musomiste**	**1.42**	**32**	*i* P	**Pn**	**16 22 28.1**	**0.0**
KAVA	**Kavala**	**1.49**	**65**	P	**Pn**	**16 22 29.4**	**+0.5**
KAVA				S	**Sg**	**16 22 49.7**	**-0.7**
KAVA	**Kavala**	**1.49**	**65**	P	**Pb**	**16 22 29.6**	**-0.4**
KAVA				S	**Sb**	**16 22 48.8**	**0.0**
KAVA				AML	AML	16 22 52.8	
	comp=E,9539μm,0.9s						
KAVA				AML	AML	16 22 53.1	
	comp=N,13308μm,0.5s						
KRUS	**Krusevo**	**1.49**	**312**	*i* Pn	**Pn**	**16 22 28.5**	**-0.6**
AOS	**Alonnisos**	**1.50**	**143**	P	**Pn**	**16 22 29.1**	**0.0**
AOS	**Alonnisos**	**1.50**	**143**	P	**Pn**	**16 22 29.1**	**0.0**
KKB	**Krupnik**	**1.50**	**10**	*i* P	**Pn**	**16 22 29.0**	**-0.2**
ALNA	**Alonissos**	**1.52**	**144**	P	**Pn**	**16 22 29.4**	**+0.1**
THAS	**Thassos island**	**1.53**	**81**	P	**Pn**	**16 22 30.1**	**+0.5**
THAS				S	**Sn**	**16 22 49.4**	**0.0**
THAS				AML	AML	16 22 56.2	
	comp=N,5155μm,0.4s						
THAS				AML	AML	16 22 57.0	
	comp=E,5302μm,0.4s						
SMIA	**Simia**	**1.55**	**166**	P	**Pn**	**16 22 30.2**	**+0.4**
JAN	**Janina**	**1.61**	**244**	P	**Pn**	**16 22 30.7**	**0.0**
EVR	**Evrytania**	**1.63**	**206**	P	**Pb**	**16 22 31.9**	**-0.6**
OHR	**Ohrid**	**1.64**	**297**	*i* Pn	**Pn**	**16 22 30.7**	**-0.3**
OHR				*i* Sn	**Sb**	**16 22 53.4**	**+0.3**
ATAL	**Atalanti**	**1.71**	**172**	P	**Pn**	**16 22 32.2**	**+0.2**
LKR	**Lokris**	**1.75**	**173**	P	**Pn**	**16 22 33.2**	**+0.7**
MRKA	**Markates**	**1.80**	**158**	P	**Pn**	**16 22 33.3**	**0.0**
SKO	**Skopje**	**1.86**	**329**	*i* Pn	**Pn**	**16 22 34.2**	**+0.1**
ANX	**Ano Chora**	**1.90**	**199**	P	**Pn**	**16 22 35.6**	**+0.9**
LIA	**Limnos Island**	**1.94**	**104**	P	**Pn**	**16 22 35.5**	**+0.3**
DSF	**Desfina**	**1.98**	**185**	P	**Pn**	**16 22 36.2**	**+0.4**
RZN	**Rozhen**	**1.99**	**48**	*i* P	**Pn**	**16 22 37.3**	**+1.3**
PVO	**Paravola**	**2.00**	**208**	P	**Pn**	**16 22 37.2**	**+1.3**
IGT	**Igoumenitsa**	**2.03**	**246**	*e*Pg	**Pb**	**16 22 40.0**	**+0.8**
IGT				*e*Sg	**Sg**	**16 23 07.9**	**+0.2**
IGT	**Igoumenitsa**	**2.03**	**246**	*i* PN	**Pg**	**16 22 40.5**	**-0.9**
IGT				*i* SN	**Sn**	**16 23 03.2**	**+1.6**
SERG	**Sergoula**	**2.04**	**195**	P	**Pn**	**16 22 36.8**	**+0.3**
EFP	**Efpalio**	**2.06**	**198**	P	**Pn**	**16 22 37.7**	**+0.9**
SKY	**Skiros Island**	**2.06**	**136**	P	**Pn**	**16 22 37.6**	**+0.7**
TPE	**Tepelena**	**2.08**	**268**	*i* PN	**Pb**	**16 22 41.0**	**+0.9**
TPE				*i* SN	**Sg**	**16 23 07.9**	**-1.4**
TRIZ	**Trizonia**	**2.08**	**194**	P	**Pn**	**16 22 38.0**	**+0.9**
PROD	**Prodromos**	**2.13**	**176**	P	**Pn**	**16 22 38.0**	**+0.2**
SMTH	**Samothraki Isl**	**2.14**	**87**	P	**Pn**	**16 22 38.6**	**+0.7**
SMTH				S	**Sn**	**16 23 05.5**	**+1.1**
SMTH				AML	AML	16 23 17.6	
	comp=N,1272μm,0.9s						
SMTH				AML	AML	16 23 21.9	
	comp=E,937μm,0.7s						
SRN	**Sarande**	**2.15**	**257**	*i* PN	**Pb**	**16 22 42.2**	**+0.9**
SRN				*i* SN	**Sb**	**16 23 09.5**	**+1.7**
EREA	**Eretria**	**2.17**	**154**	P	**Pn**	**16 22 39.0**	**+0.6**
VIL2	**Platees**	**2.21**	**169**	P	**Pn**	**16 22 39.9**	**+1.0**
LAKA	**Lakka**	**2.22**	**195**	P	**Pn**	**16 22 40.4**	**+1.4**
VTS	**Vitosha**	**2.26**	**10**	*e*Pn	**Pn**	**16 22 39.6**	**-0.1**
VTS				*e*Sn	**Sn**	**16 23 06.5**	**-1.1**
VTS	**Vitosha**	**2.26**	**10** ⇓	*i* P	**Pn**	**16 22 40.1**	**+0.4**
VTS	**Vitosha**	**2.26**	**10**	S	**Sn**	**16 23 07.9**	**+0.3**
VTS	**Vitosha**	**2.26**	**10**	*i* P	**Pn**	**16 22 39.7**	**0.0**
RDO	**Rodhopi**	**2.27**	**69**	P	**Pn**	**16 22 40.1**	**+0.5**
RDO	**Rodhopi**	**2.27**	**69**	P	**Pn**	**16 22 40.2**	**+0.5**
RDO				S	**Sn**	**16 23 06.7**	**-0.7**
RDO				AML	AML	16 23 23.0	
	comp=E,2193μm,0.9s						
RDO				AML	AML	16 23 30.4	
	comp=N,1679μm,0.6s						
PLD	**Plovdiv**	**2.27**	**40**	*i* P	**Pn**	**16 22 41.4**	**+1.7**
TIR	**Tirane**	**2.37**	**295**	*e*Pn	**Pn**	**16 22 42.8**	**+1.7**
TIR	**Tirane**	**2.37**	**295** ⇑	*i* P	**Pn**	**16 22 43.1**	**+2.0**
KLV	**Kalavryta, Ach**	**2.38**	**191**	P	**Pn**	**16 22 42.1**	**+0.8**
LOUT	**Loutraki**	**2.40**	**175**	P	**Pn**	**16 22 41.7**	**+0.2**
PGB	**Panagyurishte**	**2.42**	**26**	*i* P	**Pn**	**16 22 42.9**	**+1.1**
GUR	**Goura**	**2.46**	**187**	P	**Pn**	**16 22 43.5**	**+1.1**
DION	**Dionisos Attik**	**2.49**	**158**	P	**Pn**	**16 22 43.2**	**+0.5**
BARS	**Barje**	**2.52**	**345**	*e*Pn	**Pn**	**16 22 43.5**	**+0.3**
BARS	**Barje**	**2.52**	**345**	*e*Pn	Pg	16 22 59.3	+8.5
ALN	**Alexandroupoli**	**2.58**	**77**	P	**Pn**	**16 22 44.4**	**+0.5**
ALN	**Alexandroupoli**	**2.58**	**77**	P	**Pn**	**16 22 44.6**	**+0.7**
BOZC	**Bozcaada**	**2.61**	**101**	*i* P	**Pn**	**16 22 46.8**	**+2.5**
EZN	**Ezine**	**2.81**	**100** ⇑	*i* P	**Pb**	**16 22 50.2**	**-2.4**
TRIP	**Tripoli**	**2.88**	**187**	P	**Pn**	**16 22 49.3**	**+1.2**
ZAPS	**Zavoj**	**2.89**	**359**	*e*Pn	**Pn**	**16 22 49.1**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**3.00**	**101**	*i* P	**Pn**	**16 22 51.9**	**+2.1**
PVY	**Plav**	**3.03**	**318** ⇑	*i* Pn	**Pn**	**16 22 51.2**	**+0.9**
PVY				*e*Sn	**Sn**	**16 23 29.1**	**+2.5**
ULC	**Ulcinj**	**3.07**	**302** ⇑	*i* Pn	**Pn**	**16 22 52.6**	**+1.9**
ULC				*e*Sn	**Sn**	**16 23 30.0**	**+2.8**
SELS	**Selova**	**3.08**	**338**	*e*Pn	**Pn**	**16 22 50.4**	**-0.4**
DRME	**Dracevica, Mon

HERR	Herculane	4.50 357	⇑	*i*P	Pn	16 23 10.2 -0.1
BAI	Bari	4.50 281		*e*Pn	Pn	16 23 10.7 +0.4
BAI				Sn	Sb	16 24 20.0 +4.5
STON	Ston	4.51 305		*e*Pn	Pn	16 23 11.1 +0.6
STON	Ston	4.51 305		*e*Pn	Pn	16 23 11.7 +1.2
STON	Ston	4.51 305		*e*Pn	Pn	16 23 08.4 -2.1
SGRR	Singureni	4.53 31	⇓	*i*P	Pn	16 23 12.8 +2.1
MATE	Matera	4.60 275	⇑	*i*P	Pn	16 23 12.4 +0.7
HAPS	Han Pijesak,BI	4.64 324		*e*Pn	Pn	16 23 11.9 -0.5
TIP	Timpagrande	4.75 257	⇓	*i*P	Pn	16 23 16.5 +2.6
AYDN	Tasoluk	4.85 123		IAML_P		
	comp=Z,366nm,0.2s					
AYDN				*i* P	Pn	16 23 18.4 +3.2
KLYT	Kilyos	4.87 78	⇑	*i*P	Pn	16 23 17.3 +1.9
GZR	Gura Zlata	5.00 0	⇓	*i*P	Pn	16 23 17.4 +0.1
LOT	Lotru	5.12 8	⇑	*i*P	Pn	16 23 18.8 -0.1
ARR	Arges	5.17 15	⇑	*i*P	Pn	16 23 19.6 0.0
FRGS	Fruska Gora	5.23 337		*e*Pn	Pn	16 23 20.4 0.0
FRGS	Fruska Gora	5.23 337		*e*Pn	Pn	16 23 20.7 +0.3
BZS	Buzias	5.29 352	⇑	*i*P	Pn	16 23 20.6 -0.6
VOIR		5.33 18	⇑	*i*P	Pn	16 23 23.0 +1.2
IDI	Anoyia	5.37 161		Pn	Pn	16 23 19.9 -2.5
	comp=Z,0.1nm,0.3s,baz=18,slow=3.2,SNR=2.0					
ISR	Istrita	5.50 29	⇓	*i*P	Pn	16 23 26.2 +2.1
MLR	Muntele Rosu	5.62 24	⇑	*i*P	Pn	16 23 28.0 +2.1
MLR	Muntele Rosu	5.62 24		Pn	Pn	16 23 26.1 +0.2
	comp=Z,0.7nm,0.3s,baz=209,slow=5.6,SNR=37					
MLR				Lg	Lg	16 25 00.8
	comp=Z,0.7nm,0.3s,baz=214,slow=18,SNR=4.8					
MLR				LR	LR	16 26 21.9
	comp=Z,224nm,18.6s,baz=296,slow=46					
TLB	Topalu	5.75 41	⇑	*i*P	Pn	16 23 28.8 +1.3
MGRS	Mrkonjic Grad	5.80 316		*e*Pn	Pn	16 23 33.5 +5.2
TIRR	Tirgusor	5.85 44	⇑	*i*P	Pn	16 23 28.6 -0.3
DOPR	Dopca	5.91 18	⇑	*i*P	Pn	16 23 30.8 +1.1
BISRR	Bisoca	5.93 28	⇓	*i*P	Pn	16 23 32.0 +2.0
BLY	Banja Luka	5.98 319	⇓	*i*P	Pn	16 23 32.4 +1.7
BLY	Banja Luka	5.98 319		*e*Pn	Pn	16 23 31.9 +1.2
PLOR	Plostina	6.17 26	⇑	*i*P	Pn	16 23 35.8 +2.5
VRI	Vrincioaia	6.21 27	⇑	*i*P	Pn	16 23 36.3 +2.5
CFR	Carcaliu	6.22 38	⇑	*i*P	Pn	16 23 35.9 +1.9
MORH	Mrgy, Hungar	6.54 334		*e*Pn	Pn	16 23 39.0 +0.7
MORH	Mrgy, Hungar	6.54 334	⇓	*e*Pn	Pn	16 23 39.1 +0.7
MORH				Sn	Sn	16 24 51.0 -1.8
UDBI	Udbina	6.61 311		*i* Pn	Pn	16 23 40.8 +1.5
NVLJ	Novalja	7.15 308		*e*Pn	Pn	16 23 46.8 0.0
TIH	Tihany	7.39 333		*e*Pn	Pn	16 23 52.0 +2.0
BURAR	Bucovina Array	7.45 13	⇑	*i*P	Pn	16 23 52.0 +1.1
CRES	Cresnjev	7.61 318		*e*Pn	Pn	16 23 53.4 +0.4
PSZ	Piszkesteto	7.80 346		*e*Pn	Pn	16 23 56.0 +0.3
CEY	Cerknica	8.09 314		*e*Pn	Pn	16 23 58.9 -0.8
BRTR	Keskin Array B	8.39 91		Pn	Pn	16 24 00.5 -3.5
	comp=Z,0.1nm,0.3s,baz=270,slow=13,SNR=2.7					
SOKA	Soboth	8.41 321		*i* Pn	Pn	16 24 06.3 +2.2
	comp=Z,4.5nm,0.6s					
OBKA	Obir	8.53 319		*e*Pn	Pn	16 24 08.7 +3.0
	comp=Z,7.7nm,1.1s					
KOLS	Kolonicke sedl	8.55 358		*e*SG	Sg	16 26 38.0 +1.3
VYHS	Vyhne	8.57 342		*e*PN	Pn	16 24 09.4 +3.2
ARSA	Arzberg	8.61 325		*i* Pn	Pn	16 24 08.8 +2.0
	comp=Z,9.6nm,0.6s					
MODS	Modra-Piesok	8.89 336		*e*PN	Pn	16 24 12.5 +2.0
MODS				*e*SN	Sn	16 25 51.1 +0.6
CONA	Conrad Observa	9.01 329		*e*Pn	Pn	16 24 15.1 +2.9
	comp=Z,5.2nm,1.0s					
MYKA	Terra Mystica	9.08 316		*e*Pn	Pn	16 24 18.5 +5.3
	comp=Z,3.2nm,0.8s					
KBA	Koelnbreinsper	9.53 318		*i* Pn	Pn	16 24 21.4 +1.9
ABTA	Abfaltersbach	9.76 314		*e*Pn	Pn	16 24 25.6 +3.0
	comp=Z,2.8nm,0.5s					
WTTA	Wattenberg	10.55 314		*i* Pn	Pn	16 24 37.9 +4.4
	comp=Z,4.9nm,0.9s					
GERES	GERESS Array B	10.62 326		Pn	Pn	16 24 36.5 +2.1
	comp=Z,0.1nm,0.3s,baz=137,slow=14,SNR=4.9					
GERES				LR	LR	16 28 23.9
	comp=Z,49nm,18.6s,baz=235,slow=36					
WATA	Walderalm	10.63 314		*i* Pn	Pn	16 24 38.3 +3.8
	comp=Z,2.7nm,0.5s					
SQTA	Sankt Quirin	10.76 313		*e*Pn	Pn	16 24 39.8 +3.4
	comp=Z,8.4nm,0.9s					
KHC	Kasperske Hory	10.89 326		*e*P	Pn	16 24 41.5 +3.5
KHC				*ex*	x	16 26 25.0
KHC				AMS	AMS	16 28 50.0
	comp=Z,200nm,12.6s					
MOTA	Moosalm	10.89 314		*e*Pn	Pn	16 24 39.6 +1.4
	comp=Z,3.2nm,0.6s					
FETA	Feichten	10.92 311		*e*Pn	Pn	16 24 42.9 +4.3
	comp=Z,4.2nm,0.9s					
PRU	Pruhonice	11.20 332		AMS	AMS	16 28 40.0
	comp=Z,200nm,13.0s					
AKASG	Malin Array Be	11.27 22		Pn	Pn	16 24 41.9 -1.3
	comp=Z,0.2nm,0.3s,baz=205,slow=12,SNR=3.7					
DAVOX	Davos/Dischmat	11.29 309		Pn	Pn	16 24 46.4 +2.7
	comp=Z,0.2nm,0.3s,baz=140,slow=19,SNR=3.1					
MMAI	Mount Meron Ar	12.54 122		Pn	Pn	16 24 57.3 -3.4
	comp=Z,0.3nm,0.3s,baz=327,slow=10,SNR=2.2					
ESDC	Sonseca Array	20.43 277		P	Pn	16 26 41.5 -0.1
	comp=Z,0.2nm,0.3s,baz=81,slow=11,SNR=5.5					
HFS	Hagfors	20.56 347		P	P	16 26 40.3 -0.4
	comp=Z,2.0nm,0.9s,baz=158,slow=16,SNR=2.3					
FINES	FINESS Array B	21.18 4		P	P	16 26 48.2 +0.9
	comp=Z,0.7nm,0.6s,baz=187,slow=15,SNR=5.3					
FINES				LR	LR	16 35 44.4
	comp=Z,76nm,18.5s,baz=182,slow=39					
NB2	NORSAR Subarra	21.86 345		P	P	16 26 53.5 -1.2
	comp=Z,49nm,2.0s,baz=158,slow=11					
NOA	NORSAR Array B	21.86 345		P	P	16 26 55.2 +0.5
	comp=Z,2.1nm,0.8s,baz=157,slow=11,SNR=6.9					
NOA				LR	LR	16 35 56.1
	comp=Z,40nm,19.7s,baz=180,slow=38					
TORD	Torodi Ar. Bea	32.82 220		P	P	16 28 35.1 -0.7
	comp=Z,0.9nm,0.3s,baz=38,slow=8.4,SNR=2.2					
MKAR	Makanchi Array	42.71 61		P	P	16 29 58.8 -0.3
	comp=Z,0.2nm,0.6s,baz=286,slow=7.3,SNR=3.1					
NRIK	Noril'sk	44.05 28		LR	LR	16 51 57.2
	comp=Z,38nm,18.2s,baz=62,slow=41					
YKA	Yellowknife Ar	71.89 341		P	P	16 33 25.7 +0.8
	comp=Z,0.3nm,0.4s,baz=33,slow=6.0,SNR=5.7					

ISCJB ***03*** *16:31:13.7±0.3, 45°.92N±0°.03×151°.05E±0°.04, h88km, mb4.3/52, Error ellipse: s-maj=5.7km s-min=2.7km az=136.6*

SKHL ***03*** *16:31:15.5±0.8, 45°.84N×151°.23E, h110km±23km, mb4.3/6, msh5.6/5*

IDC ***03*** *16:31:16.7±2.7, 46°.12N×150°.79E, h95km±23km, mb3.7/17, mb1 3.8/23, mb1mx3.7/49, mbtmp4.0/23, MS2.5/1, Ms1 2.5/1, ms1mx2.0/41, Error ellipse: s-maj=18.9km s-min=12.9km az=140.0*

MOS ***03*** *16:31:16.5±1.4, 46°.01N×150°.92E, h112km, mb4.2/17, Error ellipse: s-maj=8.1km s-min=6.0km az=98.0*

NEIC ***03*** *16:31:17.3±1.0, 45°.95N×150°.90E, h108km±9km, mb4.5/23, Error ellipse: s-maj=18.2km s-min=7.3km az=150.0*

JMA ***03*** *16:31:21.0±0.7, 45°.09N×150°.87E, h127km, M4.4*

ISC 03 16:31:14.6±0.5, 45°.87N±0°.05×151°.04E±0°.05, h88km, n220, σ2°.96/243, mb4.3/52, 22C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.32	255	*d* iPN	Pn	16 31 54.8	+3.9
KUR				*i* S	Sn	16 32 23.5	+4.8
KUR				pmax	pmax		
	comp=Z,5μm,0.3s						
KUR				pmax	pmax		
	comp=N,909nm,0.2s						
KUR				pmax	pmax		
	comp=E,863nm,0.3s						
KUR				smax	smax		
	comp=N,1μm,0.3s						
KUR				smax	smax		
	comp=E,863nm,0.3s						
KUR	Kuril'sk	2.32	255	*i* P	Pn	16 31 54.8	+3.9
KUR				AMB	AMB	16 31 55.5	
	comp=E,30nm,0.3s						
KUR				AMB	AMB	16 31 55.5	
	comp=E,20nm,0.3s						
KUR				AMB	AMB	16 31 55.5	
	comp=E,40nm,0.3s						
KUR				*i* S	Sn	16 32 23.6	+4.8
KUR				A	A	16 32 24.3	
	comp=E,120nm,0.4s						
KUR				A	A	16 32 24.3	
	comp=E,380nm,0.4s						
YUK	Yuzh-Kuril'sk	4.11	245	*d* iPN	Pn	16 32 18.0	+3.0
YUK				*i* S	Sn	16 33 05.3	+3.3
YUK				pmax	pmax		
	comp=Z,962nm,0.2s						
YUK				pmax	pmax		
	comp=E,308nm,0.1s						
YUK				pmax	pmax		
	comp=N,353nm,0.2s						
YUK				smax	smax		
	comp=E,726nm,0.4s						
YUK				smax	smax		
	comp=N,256nm,0.2s						
YUK	Yuzh-Kuril'sk	4.11	245	*i* P	Pn	16 32 18.0	+3.0
YUK				AMB	AMB	16 32 18.6	
	comp=N,40nm,0.4s						
YUK				AMB	AMB	16 32 18.6	
	comp=N,30nm,0.4s						
YUK				AMB	AMB	16 32 18.6	
	comp=N,20nm,0.4s						
YUK				*i* S	Sn	16 33 05.4	+3.4
YUK				A	A	16 33 08.0	
	comp=N,230nm,0.5s						
YUK				A	A	16 33 08.0	
	comp=N,110nm,0.5s						
GRPR	Tuman	4.19	245	⇓ *i*PN	Pn	16 32 18.9	+2.8
GRPR				*i* S	Sn	16 33 05.9	+2.1
GRPR				pmax	pmax		
	comp=N,537nm,0.2s						
GRPR				pmax	pmax		
	comp=E,143nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,738nm,0.2s						
GRPR				smax	smax		
	comp=E,433nm,0.2s						
GRPR				smax	smax		
	comp=N,627nm,0.3s						
GRPR	Tuman	4.19	245	*i* P	Pn	16 32 18.0	+1.9
GRPR				AMB	AMB	16 32 22.0	
	comp=N,50nm,0.4s						
GRPR				AMB	AMB	16 32 22.0	
	comp=N,20nm,0.4s						
GRPR				*i* S	Sn	16 33 05.0	+1.2
GRPR				A	A	16 33 09.0	
	comp=N,130nm,0.5s						
GRPR				A	A	16 33 09.0	
	comp=N,230nm,0.5s						
NEM2	Nemuro 2	4.54	238	P	Pn	16 32 22.1	+1.2
NEM2				*e*S	Sn	16 33 09.5	-2.9
JRA	Rausu	4.63	247	P	Pn	16 32 25.4	+3.3
JNK	Nakash	5.05	245	P	Pn	16 32 30.5	+2.6
JAK	Akkeshi	5.38	240	P	Pn	16 32 33.2	+0.9
JAK				*e*S	Sn	16 33 29.9	-2.9
JTKR	Abashiri--Toko	5.41	252	P	Pn	16 32 36.1	+3.4
JMP	Maruseppu	5.76	254	P	Pn	16 32 41.1	+3.5
JAR	Ashorobuto	5.80	246	P	Pn	16 32 40.8	+2.8
YSS	Yuzh-Sakhalins	5.83	284	*e*Pn	Pn	16 32 42.9	+4.4
YSS	Yuzh-Sakhalins	5.83	284	⇓ *e*PN	Pn	16 32 42.9	+4.4
YSS				*e*S	Sn	16 33 48.2	+4.3
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				smax	smax		
	comp=E,30nm,0.9s						
YSS	Yuzh-Sakhalins	5.83	284	*e*P	Pn	16 32 41.9	+3.5
YSS				AMB	AMB	16 32 43.8	
	comp=E,10.0nm,0.6s						
YSS				*e*S	Sn	16 33 45.7	+1.8
YSS				A	A	16 33 50.1	
	comp=E,30nm,0.9s						
SKR	Severo-Kuril's	5.88	33	*e*PN	Pn	16 32 40.7	+1.6
SKR				*e*S	Sn	16 33 43.3	-1.8
SKR				pmax	pmax		
	comp=Z,155nm,0.5s						
SKR				smax	smax		
	comp=E,120nm,0.7s						
SKR				smax	smax		
	comp=N,49nm,0.4s						
SKR	Severo-Kuril's	5.88	33	*e*P	Pn	16 32 40.8	+1.6
SKR				AMB	AMB	16 32 42.0	
	comp=N,20nm,0.5s						
SKR				*e*S	Sn	16 33 44.0	-1.1
SKR				A	A	16 33 50.0	
	comp=N,50nm,0.4s						
SKR				A	A	16 33 50.0	
	comp=N,120nm,0.4s						
JOB	Onbets	5.96	243	P	Pn	16 32 42.0	+1.8
JOB				*e*S	Sn	16 33 45.8	-1.1
JKK2	Kamakawa 2	6.22	254	P	Pn	16 32 47.6	+3.8
JKA	Kamikawa-asahi	6.24	257	*e*P	Pn	16 32 48.3	+4.3
ASAJ	Asahikawa	6.24	257	P	Pn	16 32 48.2	+4.2
ASAJ	Asahikawa	6.24	257	P	Pn	16 32 48.3	+4.2
	comp=N,10nm,0.3s,baz=42,slow=6.1,SNR=109						
ASAJ				LR	LR	16 34 49.4	
	comp=N,43nm,21.2s,baz=201,slow=35						
JCH	Churui	6.41	242	P	Pn	16 32 47.6	+1.3
JCH				*e*S	Sn	16 33 54.7	-3.2
JFR	Furan	6.62	249	P	Pn	16 32 52.3	+3.1
JAB	Ashibetsu	6.72	253	P	Pn	16 32 54.6	+4.1
PAU	Pauzhetka	6.78	32	*e*P	Pn	16 32 52.6	+1.4
PAU				*e*S	Sn	16 34 06.0	-0.8
ERM	Erimo	6.87	239	*e*Pn	Pn	16 32 55.3	+2.7
ERM	Erimo	6.87	239	*ce*PN	Pn	16 32 55.3	+2.7
JEM	Erimo	6.87	239	*e*S	Sn	16 34 06.3	-3.0
UGL	Uglegorsk	6.88	301	PN	Pn	16 32 50.4	-2.2
UGL				S	Sn	16 34 04.1	-5.2
UGL				pmax	pmax		
	comp=Z,104nm,1.5s						
UGL				smax	smax		
	comp=N,94nm,0.9s						
UGL	Uglegorsk	6.88	301	*e*P	Pn	16 32 55.3	+2.7
UGL				AMB	AMB	16 32 57.7	
	comp=N,8.0nm,0.6s						
UGL				*e*S	Sn	16 34 11.2	+1.9
UGL				A	A	16 34 12.5	
	comp=N,90nm,0.6s						
UGL				A	A	16 34 12.5	
	comp=N,70nm,0.6s						
JBT2	Biratori 2	6.95	247	P	Pn	16 32 55.6	+1.9
JNBK	Urakawa-nobuka	6.97	242	P	Pn	16 32 54.8	+0.9
JNBK				*e*S	Sn	16 34 06.7	-4.9
TYV	Tymovskoe	7.49	315	*e*PN	Pn	16 33 05.4	+4.4
TYV				*e*S	Sn	16 34 26.6	+2.4
TYV				pmax	pmax		
	comp=Z,13nm,0.9s						
TYV				smax	smax		
	comp=E,13nm,1.1s						
TYV	Tymovskoe	7.49	315	*e*P	Pn	16 33 03.7	+2.7
TYV				AMB	AMB	16 33 06.1	
	comp=E,10.0nm,0.9s						
TYV				*e*S	Sn	16 34 24.1	-0.1
TYV				A	A	16 34 27.8	
	comp=E,10.0nm,1.0s						
JNB	Noboribetsu	7.96	248	P	Pn	16 33 09.3	+1.9
JNB				*e*S	Sn	16 34 33.9	-1.8
PEA0B	Petropavlovsk-	8.44	28	*e*Pn	Pn	16 33 15.2	+1.3
PETK	Petropavlovsk-	8.44	28	*e*Pn	Pn	16 33 15.3	+1.4
PETK	Petropavlovsk-	8.44	28	*e*PN	Pn	16 33 15.3	+1.4
PETK	Petropavlovsk-	8.44	28	P	Pn	16 33 14.9	+1.1
	comp=E,0.8nm,0.3s,baz=173,slow=10,SNR=20						
JSH	Shimam	8.53	252	P	Pn	16 33 18.2	+3.0
JYM2	Yakumo 2	8.56	248	P	Pn	16 33 17.3	+1.7
JYM2				*e*S	Sn	16 34 47.7	-2.8
PET	Petropavlovsk	8.70	32	*e*P	Pn	16 33 17.4	-0.1
PET				AMB	AMB	16 33 18.7	
	comp=E,7.0nm,0.4s						
PET				*e*S	Sn	16 34 50.4	-3.4
PET				A	A	16 34 53.6	
	comp=E,30nm,1.0s						
JSR	Shiriuchi	8.84	244	P	Pn	16 33 19.4	0.0
JSR				*e*S	Sn	16 34 52.1	-5.0
JTM	Tenmabayashi	8.87	239	P	Pn	16 33 19.5	-0.3
JTM				*e*S	Sn	16 34 50.4	-7.6
JANG	Nango	8.87	235	P	Pn	16 33 18.4	-1.5
JANG				*e*S	Sn	16 34 49.7	-8.4
JTH	Tanohata	8.97	232	P	Pn	16 33 19.7	-1.6
JTH				*e*S	Sn	16 34 51.3	-9.2
JOSM	Okushiri--Mats	9.16	250	P	Pn	16 33 24.8	+1.0
OKH	Okha	9.30	329	*de*PN	Pn	16 33 24.5	-1.1
OKH				*e*S	Sn	16 35 12.0	+3.6
OKH				smax	smax		
	comp=E,200nm,5.7s						
OKH				MLR	MLR		
	comp=Z,300nm,3.0s						
OKH	Okha	9.30	329	*e*P	Pn	16 33 27.9	+2.3
OKH				*e*S	Sn	16 35 07.3	-1.1
OKH				A	A	16 35 15.2	
	comp=Z,160nm,1.0s						
OFUJ	Ofunato	9.69	229	P	Pn	16 33 29.8	-1.3
OFUJ				*e*S	Sn	16 35 10.4	-7.7
JRG	Rokugo	10.03	233	P	Pn	16 33 35.6	-0.1
JRG				*e*S	Sn	16 35 20.6	-5.7
JIO	Ouri	10.32	228	P	Pn	16 33 37.9	-1.8
JIO				*e*S	Sn	16 35 24.8	-8.7
JFK	Kawauchi	11.40	225	*e*S	Sn	16 35 49.7	-10
JFY	Yanaizu	11.97	229	P	Pn	16 34 01.6	-0.4
MJA0	Matsu Arr-Jizo	13.39	230	*e*PN	Pn	16 34 21.3	+0.3
MJAR	Matsushiro Arr	13.41	230	P	Pn	16 34 21.0	-0.2
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=18						
MJB9	Matsu-Tunnel	13.41	231	*e*Pn	Pn	16 34 21.3	+0.1
MAJO	Matsushiro	13.41	230	*e*Pn	Pn	16 34 21.3	0.0
MAJO	Matsushiro	13.41	230	*d* iPN	Pn	16 34 19.4	-1.8
MAT	Matsushiro	13.41	230	P	Pn	16 34 21.2	0.0
KLR	Kul'dur	13.45	291	⇑ *e*PN	P	16 34 24.7	-3.1
KLR	Kul'dur	13.45	291	P	Pn	16 34 20.7	-1.0
	comp=Z,0.2nm,0.3s,baz=15,slow=14,SNR=2.7						
MA2	Magadan	13.73	359	*ce*P	P	16 34 28.1	-2.7
MA2				pmax	pmax		
	comp=Z,16nm,2.5s						
MA2	Magadan	13.73	359	P	Pn	16 34 23.3	-1.9
	comp=Z,0.1nm,0.3s,baz=141,slow=14,SNR=2.4						
EKMR	Ekimchan	13.77	308	*e*P	Pn	16 34 26.5	+0.7
EKMR				AMB	AMB	16 34 32.8	
	comp=Z,4.0nm,0.5s						
BMKR	Bomnak	16.66	310	*e*P	P	16 35 02.4	-0.9
BMKR				AMB	AMB	16 35 06.4	
	comp=Z,8.0nm,0.3s						
SEY	Seymchan	17.11	2	P	Pn	16 35 07.0	-0.8
	comp=Z,0.3nm,0.3s,baz=198,slow=11,SNR=11						
ZEA	Zeya	17.20	306	*e*P	P	16 35 09.8	+0.6
ZEA				pmax	pmax		
	comp=Z,21nm,1.2s						
ZEA	Zeya	17.20	306	*e*P	P	16 35 09.0	-0.2
ZEA				AMB	AMB	16 35 11.6	
	comp=Z,20nm,1.0s						
KSRS	Korea Array	19.16	252	*e*P	Pn	16 35 35.2	+2.5
KSRS	Korea Array	19.16	252	P	Pn	16 35 33.4	+0.7
	comp=Z,0.1nm,0.3s,baz=59,slow=11,SNR=5.0						
YAK	Yakutsk	20.33	330	*e*P	P	16 35 42.4	-0.9
YAK				pmax	pmax		
	comp=N,17nm,0.9s						
YAK				pmax	pmax		
	comp=Z,56nm,0.8s						
YAK				pmax	pmax		
	comp=E,21nm,0.9s						
TIXI	Tiksi	27.93	345	⇓ *e*P	P	16 36 53.9	-2.1
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TIXI	Tiksi	27.93	345	P	P	16 36 54.1	-1.8
	comp=Z,2.6nm,0.4s,baz=146,slow=8.3,SNR=26						
H11N2	WAKE ISLAND Hy	29.16	148	T	T	17 08 09.8	
	baz=332,slow=74						
H11N1	WAKE ISLAND Hy	29.18	148	T	T	17 08 07.7	
	baz=332,SNR=599						
H11N3	WAKE ISLAND Hy	29.18	148	T	T	17 08 05.2	
	baz=332,slow=74						
H11S1	WAKE ISLAND Hy	30.22	149	T	T	17 09 28.3	
	baz=358,slow=74,SNR=552						
H11S3	WAKE ISLAND Hy	30.23	149	T	T	17 09 27.8	
	baz=358,slow=74,SNR=332						
H11S2	WAKE ISLAND Hy	30.24	149	T	T	17 09 27.6	
	baz=358						
WHN	Wuhan	32.32	255	*e*P	P	16 37 40.2	+5.0
SVW2	Sparrevohn	34.12	44	*e*P	P	16 37 50.8	+0.2
	comp=Z,9.9nm,1.4s						
SII	Sitkinak Islan	35.02	52	*e*P	P	16 37 59.2	+0.8
	comp=Z,42nm,0.9s						
IMAR	Indian Mountai	35.32	36	*e*P	P	16 38 02.2	+1.4
OHAK	Old Harbor	35.44	51	*e*P	P	16 38 03.6	+1.7
	comp=Z,18nm,1.1s						
RSO	Redoubt South	35.51	45	*e*P	P	16 38 01.9	-0.9
KDAK	Kodiak Island	35.77	50	*e*P	P	16 38 06.3	+1.6
	comp=Z,61nm,1.5s						
KDAK	Kodiak Island	35.77	50	*e*P	P	16 38 06.3	+1.6
KDAK				pmax	pmax		
	comp=Z,61nm,1.5s						
TOLK	Toolik Lake Re	37.24	31	*e*P	P	16 38 19.0	+1.7
	comp=Z,1.8nm,0.4s						
GTA	Gaotai	37.69	279	*e*P	P	16 38 20.4	-1.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
DHY	Denali Highway	37.97	41	*e*P	P	16 38 23.2	-0.3
	comp=Z,9.4nm,1.5s						
ILAR	Eielson Array	38.12	38	*e*P	P	16 38 28.8	+4.2
ILAR	Eielson Array	38.12	38	P	P	16 38 24.0	-0.6
	comp=Z,0.2nm,0.6s,baz=267,slow=6.0,SNR=3.3						
BCAR	Beaver Creek A	40.50	40	*e*P	P	16 38 47.5	+3.0
CTGM	Chitina Glacie	41.04	43	*e*P	P	16 38 51.3	+2.3
	comp=Z,42nm,1.5s						
ZALV	Zalesovo Beam	41.96	306	P	P	16 38 54.6	-1.9
	comp=Z,0.6nm,0.5s,baz=68,slow=11,SNR=2.3						
ZALV				PcP	PcP	16 40 49.6	-0.5
	comp=Z,1.2nm,0.6s,baz=108,slow=4.7,SNR=5.9						
INK	Inuvik	43.16	32	*e*P	P	16 39 08.3	+2.4
	comp=Z,3.0nm,0.3s						
INK	Inuvik	43.16	32	P	P	16 39 07.2	+1.3
	comp=Z,2.0nm,0.3s,baz=299,slow=10,SNR=17						
MK31	Makanchi Array	46.07	297	*e*P	P	16 39 28.9	-0.5
	comp=Z,1.6nm,0.6s						
MK31	Makanchi Array	46.07	297	*e*P	P	16 39 28.9	-0.5
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	46.07	297	*e*P	P	16 39 28.6	-0.8
MKAR	Makanchi Array	46.07	297	*e*P	P	16 39 28.6	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	46.07	297	P	P	16 39 28.2	-1.2
	comp=Z,1.4nm,0.6s,baz=67,slow=7.4,SNR=14						
MKAR				PcP	PcP	16 41 04.5	+0.2
	comp=Z,0.5nm,0.6s,baz=68,slow=3.9,SNR=3.6						
MAKZ	Makanchi	46.26	297	*e*P	P	16 39 31.0	+0.1
	comp=Z,1.9nm,1.1s						
MAK

JIRN	Jiri	53.58	274	eP	P	16 40 28.2 +1.2
	comp=Z,18nm,0.4s					
KSH	Kashi	53.65	292	P	P	16 40 33.9 +6.8
KSH				pmax	pmax	
	comp=Z,13nm,0.5s					
RAMN	Ramite	53.73	273	eP	P	16 40 29.1 +1.1
	comp=Z,16nm,0.4s					
KKN	Kakani	54.13	275	eP	P	16 40 32.7 +1.9
	comp=Z,9.4nm,0.6s					
PKI	Pulchoki	54.18	274	eP	P	16 40 32.3 +1.0
	comp=Z,4.8nm,0.5s					
PKIN	Phulchoki	54.18	274	eP	P	16 40 32.3 +1.0
	comp=Z,2.1nm,0.3s					
DMN	Daman	54.37	274	eP	P	16 40 34.0 +1.4
	comp=Z,5.0nm,0.4s					
GKN	Gorkha	54.45	275	eP	P	16 40 34.4 +1.3
ARU	Arti	54.68	317	eP	P	16 40 32.7 -1.4
	comp=Z,3.8nm,0.8s					
ARU	Arti	54.68	317	c iP	P	16 40 32.6 -1.5
ARU				S	S	16 48 05.8 -1.4
ARU				SS	SS	16 51 42.1 -8.5
ARU				pmax	pmax	
	comp=Z,2.0nm,0.5s					
DANN	Dangsing	54.85	276	eP	P	16 40 37.7 +1.6
	comp=Z,14nm,0.4s					
KKAR	Karatay Array	55.16	298	eP	P	16 40 37.3 -0.5
KKAR	Karatay Array	55.16	298	eP	P	16 40 37.3 -0.5
KOLN	Koldanda	55.31	276	eP	P	16 40 40.2 +0.8
	comp=Z,4.7nm,0.3s					
PYUN	Piuthan	55.53	276	eP	P	16 40 42.4 +1.5
	comp=Z,4.1nm,0.3s					
ABKAR	Akbulak array	57.88	309	eP	P	16 40 55.9 -1.1
ARCES	ARCESS Array B	58.20	340	P	P	16 40 57.5 -1.5
	comp=Z,0.6nm,0.6s,baz=36,slow=11,SNR=6.1					
SUMG	Summit	61.67	3	eP	P	16 41 23.6 +0.6
	comp=Z,17nm,1.0s					
SUMG	Summit	61.67	3	eP	P	16 41 23.6 +0.6
SUMG				pmax	pmax	
	comp=Z,17nm,1.0s					
FIA1	FINESS Array S	64.21	334	eP	P	16 41 38.4 -1.2
	comp=Z,3.0nm,0.8s					
FINES	FINESS Array B	64.21	334	eP	P	16 41 38.4 -1.2
FINES	FINESS Array B	64.21	334	P	P	16 41 38.0 -1.5
	comp=Z,1.7nm,0.5s,baz=36,slow=8.2,SNR=17					
GEYT	Alibeck	65.81	300	P	P	16 41 51.4 +1.0
	comp=Z,5.2nm,0.7s,baz=32,slow=3.7,SNR=10					
WRA	Warramunga Arr	67.23	197	P	P	16 42 00.3 +0.9
	comp=Z,0.3nm,0.7s,baz=15,slow=7.1,SNR=2.3					
NB2	NORSAR Subarra	68.58	340	P	P	16 42 06.6 -0.9
	comp=Z,1.2nm,0.3s,baz=29,slow=6.5					
NOA	NORSAR Array B	68.58	340	P	P	16 42 06.8 -0.8
	comp=Z,2.2nm,0.4s,baz=29,slow=6.7,SNR=17					
KIV	Kislovodsk	70.37	313	eP	P	16 42 19.6 +0.7
KIV				pmax	pmax	
	comp=Z,15nm,1.1s					
KIV	Kislovodsk	70.37	313	eP	P	16 42 19.6 +0.7
KBZ	Khabaz	70.42	313	P	P	16 42 18.1 -0.9
	comp=Z,3.9nm,0.9s,baz=308,slow=0.6,SNR=11					
ASAR	Alice Springs	70.94	197	P	P	16 42 24.6 +2.2
	comp=Z,0.3nm,0.7s,baz=13,slow=5.7,SNR=3.5					
AKASG	Malin Array Be	71.46	325	eP	P	16 42 24.6 -0.6
AKASG	Malin Array Be	71.46	325	P	P	16 42 24.2 -1.0
	comp=Z,1.9nm,0.3s,baz=38,slow=6.3,SNR=18					
AKBB	Malin Array Si	71.46	325	eP	P	16 42 24.2 -1.0
	comp=Z,1.4nm,0.8s					
AKBB	Malin Array Si	71.46	325	eP	P	16 42 24.2 -1.0
AKBB				pmax	pmax	
	comp=Z,1.0nm,0.8s					
KIEV	Kiev	71.47	325	eP	P	16 42 24.2 -1.1
	comp=Z,1.4nm,0.8s					
KIEV	Kiev	71.47	325	⇓iP	P	16 42 24.3 -1.1
KIEV	Kiev	71.47	325	⇓eP	P	16 42 24.2 -1.1
KIEV				pmax	pmax	
	comp=Z,8.0nm,2.2s					
BURAR	Bucovina Array	75.51	325	eP	P	16 42 49.2 0.0
BURAR	Bucovina Array	75.51	325	⇑iP	P	16 42 49.1 -0.1
BURAR	Bucovina Array	75.51	325	eP	P	16 42 49.2 0.0
KOLS	Kolonicke sedl	75.56	328	eP	P	16 42 49.6 +0.3
KOLS	Kolonicke sedl	75.56	328	eP	P	16 42 49.6 +0.3
DIKM	Dikmen	75.76	316	⇑iP	P	16 42 52.0 +1.4
TESR	Tescani	75.83	324	⇓iP	P	16 42 50.8 -0.1
TLCR		75.97	322	⇑iP	P	16 42 51.7 0.0
TRPA	Tarpa	76.13	327	⇑iP	P	16 42 53.0 +0.5
CFR	Carcaliu	76.27	322	⇑iP	P	16 42 52.9 -0.5
LANS	Liptovska Anna	76.40	330	eP	P	16 42 55.4 +1.3
LANS	Liptovska Anna	76.40	330	eP	P	16 42 55.4 +1.3
UPC	Upice	76.41	332	eP	P	16 42 54.7 +0.6
UPC	Upice	76.41	332	eP	P	16 42 54.7 +0.6
DPC	Dobruska-Polom	76.44	332	eP	P	16 42 54.7 +0.3
DPC	Dobruska-Polom	76.44	332	eP	P	16 42 54.7 +0.3
MORC	Moravsky Berou	76.53	331	⇑iP	P	16 42 55.6 +0.7
MORC	Moravsky Berou	76.53	331	eP	P	16 42 55.0 +0.1
CLL	Collm	76.65	334	i P	P	16 42 55.1 -0.3
CLL				pmax	pmax	
	comp=Z,8.0nm,1.1s					
CLL	Collm	76.65	334	i P	P	16 42 55.1 -0.3
	comp=Z,8.0nm,1.1s					
TLB	Topalu	76.78	322	⇑iP	P	16 42 56.8 +0.5
MLR	Muntele Rosu	76.94	324	⇑iP	P	16 42 58.5 +1.1
VYHS	Vyhne	77.17	330	eP	P	16 42 59.0 +0.5
VYHS	Vyhne	77.17	330	eP	P	16 42 59.0 +0.5
VRAC	Vranov	77.25	331	⇑iP	P	16 42 59.3 +0.4
VRAC	Vranov	77.25	331	eP	P	16 42 59.5 +0.6
ICOR	Ion Corvin	77.26	322	⇑iP	P	16 42 58.5 -0.5
JAVC	Velka Javorina	77.27	331	eP	P	16 43 00.3 +1.3
PRU	Pruhonice	77.33	333	eP	P	16 42 59.6 +0.3
PRU	Pruhonice	77.33	333	eP	P	16 42 59.6 +0.3
VOIR		77.35	324	⇑iP	P	16 43 00.6 +1.0
KRUC	Moravsky	77.53	331	eP	P	16 43 00.4 0.0
ARR	Arges	77.58	324	⇑iP	P	16 43 02.0 +1.2
MODS	Modra-Piesok	77.82	330	eP	P	16 43 02.8 +0.7
MODS	Modra-Piesok	77.82	330	eP	P	16 43 02.8 +0.7
BRTR	Keskin Array B	78.03	316	eP	P	16 43 04.5 +1.0
BRTR	Keskin Array B	78.03	316	ceP	P	16 43 04.5 +1.0
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.5s					
BRTR	Keskin Array B	78.03	316	P	P	16 43 04.3 +0.8
	comp=Z,1.6nm,0.8s,baz=62,slow=3.2,SNR=9.2					
KHC	Kasperske Hory	78.39	333	eP	P	16 43 05.7 +0.5
KHC	Kasperske Hory	78.39	333	eP	P	16 43 05.7 +0.5
GERES	GERESS Array B	78.60	333	eP	P	16 43 06.4 -0.1
GERES	GERESS Array B	78.60	333	eP	P	16 43 06.4 -0.1
GERES				pmax	pmax	
	comp=Z,1.0nm,0.5s					
GERES	GERESS Array B	78.60	333	P	P	16 43 06.2 -0.2
	comp=Z,1.1nm,0.5s,baz=29,slow=6.1,SNR=14					
CONA	Conrad Observa	78.69	331	eP	P	16 43 08.4 +1.5
	comp=Z,3.2nm,0.7s					
TXAR	Lajitas Array	79.17	59	P	P	16 43 11.4 +1.5
	comp=Z,0.7nm,0.4s,baz=298,slow=4.5,SNR=18					
SOKA	Soboth	80.05	331	i P	P	16 43 15.0 +0.6
	comp=Z,4.9nm,1.2s					
KBA	Koelnbreinsper	80.26	332	i P	P	16 43 16.7 +1.1
	comp=Z,4.1nm,0.7s					
VTS	Vitosha	80.41	324	⇑iP	P	16 43 17.1 +0.6
WATA	Walderalm	80.60	333	i P	P	16 43 18.4 +1.0
	comp=Z,5.9nm,0.4s					
WTTA	Wattenberg	80.65	333	i P	P	16 43 18.6 +0.9
	comp=Z,4.5nm,0.4s					
BFO	Black Forest	80.68	336	i P	P	16 43 18.6 +0.9
RETA	Reutte	80.72	334	i P	P	16 43 18.9 +1.0
	comp=Z,3.6nm,0.9s					
MOTA	Moosalm	80.74	334	i P	P	16 43 18.8 +0.7
	comp=Z,3.3nm,0.6s					
SQTA	Sankt Quirin	80.82	334	eP	P	16 43 19.4 +0.9
	comp=Z,6.0nm,1.3s					
PDG	Podgorica	82.17	326	⇑iP	P	16 43 25.1 -0.4

DJA 03 16:34:48.0±0.3, 7°S±3°×12°2E±°, h10km, M3.6/3, MLv3.6/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	Maumere	1.45	173	P	Pn	16 35 13.5	-0.8
MMRI				S	Sb	16 35 33.8	+0.2
BBSI	Bau Bau	1.77	17	P	Pn	16 35 19.2	+0.5
BSSI	Bau Bau, Buton	1.87	304	P	Pn	16 35 20.3	+0.3
BKSI	Bulukumba	2.67	314	P	Pn	16 35 30.6	-0.5
WSI	Waingapu	3.01	215	P	Pn	16 35 35.8	0.0
SOEI	Soe	3.36	139	P	Pn	16 35 40.7	-0.1

IDC 03 16:52:40.7±1.8, 4°.19N×125°.16E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/34, mbtmp3.4/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/27, Error ellipse: s-maj=118.8km s-min=23.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	22.15	179	P	P	16 57 38.8	+0.5
	1.0nm,0.4s,baz=359,slow=8.4,SNR=13						
WRA	Warramunga Arr	25.62	160	P	P	16 58 12.1	0.0
	0.3nm,0.4s,baz=337,slow=10,SNR=7.7						
PMG	Port Moresby	25.75	122	LR	LR	17 10 30.9	
	comp=Z,37nm,19.5s,baz=143,slow=42						
ASAR	Alice Springs	28.97	163	P	P	16 58 41.8	-0.4
	0.1nm,0.4s,baz=340,slow=7.7,SNR=6.9						
MKAR	Makanchi Array	56.29	326	P	P	17 02 23.2	-0.1
	0.1nm,0.3s,baz=118,slow=7.0,SNR=3.1						

IDC 03 17:06:27.6±2.2, 1°.72N×126°.95E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/39, mbtmp3.4/3, Error ellipse: s-maj=178.7km s-min=26.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.71	162	P	P	17 11 30.8	-0.4
	1.1nm,0.8s,baz=340,slow=11,SNR=27						
ASAR	Alice Springs	26.12	165	P	P	17 12 03.9	+0.4
	0.2nm,0.3s,baz=345,slow=9.6,SNR=10						
MKAR	Makanchi Array	59.33	326	P	P	17 16 31.4	-0.1
	0.2nm,0.4s,baz=119,slow=7.7,SNR=4.5						

SJA 03 17:09:27.6±0.6, 28°.37S×67°.54W, h139km±3km, ML2.5, MW3.9, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCA	Vinchina	0.69	238	eP	Pn	17 09 49.5	+0.4
VCA				eS	Sn	17 10 06.1	+0.7
VCA				IAML		17 10 07.4	
	comp=Z,185nm,0.2s						
ACLC	CERRO LA CRUZ	1.17	154	eP	Pn	17 09 54.0	+0.9
ACLC				eS	Sn	17 10 13.0	+0.3
AGUA	GUANDACOL	1.39	217	eP	Pn	17 09 56.1	+0.7
AGUA				eS	Sn	17 10 16.9	+0.3
CYA	Choya	1.53	93	eP	Pn	17 09 57.6	+0.9
CYA				IAML		17 10 19.4	
	comp=Z,37nm,0.5s						
APLL	PUNTA DE LOS L	2.20	157	eP	Pn	17 10 05.4	+0.8
APLL				IAML		17 10 33.2	
	comp=Z,11nm,0.5s						
AHML	Horco Molle	2.51	52	eP	Pn	17 10 09.0	+0.6
FSA	Cafayete	2.64	32	eP	Pn	17 10 11.6	+1.3
CFA	Coronel Fontan	3.28	191	eP	Pn	17 10 19.5	+1.3
TCA	Tanti	3.91	140	eP	Pn	17 10 27.1	+0.7
ASAL	Salagasta	4.36	195	eP	Pn	17 10 33.4	+1.1
PB14	IPOC Station P	4.53	325	eP	Pn	17 10 35.5	+0.6
LVC	Limon Verde	5.87	347	eP	Pn	17 10 53.9	+1.1

*ISCJB **03** 17:09:42.9±0.7, 19°.08N±0°.07×145°.4E±0°.3, h214km, mb3.1/6, Error ellipse: s-maj=40.6km s-min=9.4km az=5.6*
*IDC **03** 17:09:45.5±2.7, 19°.03N×145°.39E, h227km±28km, mb3.0/6, mb1 3.3/8, mb1mx3.0/56, mbtmp3.6/8, Error ellipse: s-maj=47.4km s-min=16.5km az=100.0*
ISC 03 17:09:44.2±0.8, 19°.05N±0°.09×145°.4E±0°.3, h214km, n8, σ0°92/9, mb3.3/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	5.45	185	P	Pn	17 11 05.6	+0.9
	1.2nm,0.3s,baz=348,slow=17,SNR=3.0						
GUMO				S	S	17 12 07.5	-0.8
	1.8nm,0.3s,baz=100,slow=12,SNR=2.7						
MJAR	Matsushiro Arr	18.54	342	P	P	17 13 46.1	+1.2
	0.0nm,0.3s,baz=170,slow=9.9,SNR=4.3						
WRA	Warramunga Arr	40.23	196	P	P	17 17 00.4	+0.1
	0.4nm,0.4s,baz=25,slow=8.7,SNR=11						
ASAR	Alice Springs	41.93	195	P	P	17 17 29.8	-0.2
	0.1nm,0.4s,baz=14,slow=8.1,SNR=4.4						
ILAR	Eielson Array	63.47	26	P	P	17 19 50.5	-0.5
	0.3nm,0.8s,baz=262,slow=6.6,SNR=3.0						
YKA	Yellowknife Ar	77.82	28	P	P	17 21 17.8	+0.2
	0.3nm,0.5s,baz=288,slow=5.4,SNR=3.9						
NVAR	Mina Array Bea	83.16	52	P	P	17 21 47.1	+0.3
	0.6nm,0.6s,baz=270,slow=5.5,SNR=5.0						
FINES	FINESS Array B	86.45	335	P	P	17 22 01.1	-1.3
	0.7nm,0.8s,baz=48,slow=6.2,SNR=3.2						

*IDC **03** 17:11:11.3±1.0, 11°.51S×164°.94E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/44, mbtmp4.0/11, ML4.0/2, MS3.2/7, Ms1 3.2/7, ms1mx2.9/32, Error ellipse: s-maj=30.6km s-min=23.4km az=127.0*
*ISCJB **03** 17:11:15.1±0.5, 11°.55S±0°.07×164°.83E±0°.07, h34km, mb4.0/11, MS3.3/4, Error ellipse: s-maj=11.2km s-min=8.4km az=137.1*
*NEIC **03** 17:11:16.2±1.5, 11°.50S×164°.95E, h31km±7km, mb4.6/5, Error ellipse: s-maj=24.1km s-min=20.3km az=137.0*
ISC 03 17:11:16.7±0.7, 11°.5S±0°.1×164°.9E±0°.1, h34km, n36, σ0°66/28, mb4.0/11, MS3.3/4, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	5.28	292	ePn	Pn	17 12 33.2	-0.1
HNR	Honiara	5.28	292	Pn	Pn	17 12 33.6	+0.3
	14nm,0.3s,baz=191,slow=5.3,SNR=5.6						
HNR				Sn	Sn	17 13 31.8	-1.2
	baz=165,slow=18,SNR=2.2						
HNR				LR	LR	17 14 42.1	
	comp=Z,163nm,20.5s,baz=127,slow=40						
DZM	Mont Dzumac	10.63	172	ePn	Pn	17 13 42.2	-4.7
DZM	Mont Dzumac	10.63	172	Pn	Pn	17 13 45.8	-1.1
	0.4nm,0.3s,baz=304,slow=11,SNR=12						
DZM				LR	LR	17 17 03.4	
	comp=Z,42nm,18.2s,baz=224,slow=33						
ONTNC	Ouen Toro	10.87	172	ePn	Pn	17 13 50.6	+0.7
PINNC	Pines Island,	11.34	168	ePn	Pn	17 13 55.8	-0.6
PMG	Port Moresby	17.57	275	LR	LR	17 21 43.5	
	comp=Z,98nm,19.8s,baz=98,slow=36						
CTAO	Charters Tower	19.86	242	eP	P	17 15 46.0	+0.8
	38nm,1.5s						
COEN	Coen	21.33	261	eP	P	17 16 02.3	+1.2
	52nm,1.8s						
STKA	Stephens Creek	29.56	223	LR	LR	17 27 51.7	
	comp=Z,71nm,20.0s,baz=124,slow=34						
H11S2	WAKE ISLAND Hy 29.83	3		T	T	17 48 42.5	
	baz=184,slow=76,SNR=10						
H11S3	WAKE ISLAND Hy 29.84	3		T	T	17 48 43.0	
	baz=184,slow=76,SNR=8.1						
H11S1	WAKE ISLAND Hy 29.85	3		T	T	17 48 43.0	
	baz=184,slow=76,SNR=8.0						
WB2	Warramunga Arr	30.55	250	eP	P	17 17 28.8	+1.4
	20nm,1.8s						
WR1	Warramunga Arr	30.56	250	eP	P	17 17 27.1	-0.4
WR1				ePcP	PcP	17 20 26.0	+0.1
WRA	Warramunga Arr	30.56	250	eP	P	17 17 27.3	-0.2
WRA	Warramunga Arr	30.56	250	P	P	17 17 27.1	-0.4
	2.4nm,0.8s,baz=82,slow=8.7,SNR=11						
WRA				PcP	PcP	17 20 26.0	+0.1
	0.3nm,0.8s,baz=103,slow=2.9,SNR=2.9						
H11N1	WAKE ISLAND Hy 31.06	4		T	T	17 50 15.3	
	baz=181						
H11N3	WAKE ISLAND Hy 31.06	4		T	T	17 50 14.3	
	baz=181						
H11N2	WAKE ISLAND Hy 31.08	4		T	T	17 50 15.3	
	baz=181						
ASAR	Alice Springs	31.86	243	P	P	17 17 37.9	-1.1
	2.4nm,1.0s,baz=64,slow=10,SNR=16						
ASAR				PcP	PcP	17 20 29.1	-0.2
	0.3nm,0.7s,baz=57,slow=3.4,SNR=3.6						
GUMO	Guam	31.86	321	LR	LR	17 30 30.7	
	comp=Z,18nm,19.3s,baz=58,slow=36						
FITZ	Fitzroy Crossi	38.47	255	LR	LR	17 33 31.1	
	comp=Z,56nm,19.0s,baz=125,slow=35						
NWAO	Narrogin (SRO)	48.53	236	LR	LR	17 39 11.7	
	comp=Z,91nm,21.1s,baz=122,slow=35						
MJAR	Matsushiro Arr	53.98	333	P	P	17 20 37.2	-0.3
	1.1nm,0.8s,baz=66,slow=2.7,SNR=5.1						
MAJO	Matsushiro	53.98	333	eP	P	17 20 37.2	-0.3
CMAR	Chiang Mai Arr	71.53	294	P	P	17 22 35.6	+0.8
	0.3nm,0.6s,baz=128,slow=4.6,SNR=3.8						
SONA0	Songino Array	78.53	324	eP	P	17 23 14.8	0.0
SONM	Songino Array	78.53	324	P	P	17 23 14.8	0.0
	0.5nm,0.6s,baz=138,slow=7.6,SNR=5.1						
ILAR	Eielson Array	84.19	19	P	P	17 23 44.0	-0.2
	0.5nm,0.6s,baz=236,slow=4.8,SNR=8.4						
NV01	Mina Array Sit	86.94	50	eP	P	17 23 59.0	+0.2
NVAR	Mina Array Bea	86.94	50	P	P	17 23 59.0	+0.2
	0.2nm,0.5s,baz=229,slow=5.7,SNR=4.3						
MK32	Makanchi Array	93.27	317	eP	P	17 24 28.5	+0.4
MKAR	Makanchi Array	93.27	317	P	P	17 24 28.5	+0.4
	1.2nm,0.7s,baz=101,slow=6.2,SNR=15						
ZALV	Zalesovo Beam	93.42	324	P	P	17 24 28.1	-0.4
	0.5nm,0.6s,baz=113,slow=3.9,SNR=3.7						
ZAA1	Zalesovo Array	93.42	324	eP	P	17 24 28.1	-0.5

*JMA **03** 17:19:12.3±0.3, 26°.94N×126°.47E, h135km±4km, M3.1*
*IDC **03** 17:19:12.5±3.2, 27°.17N×126°.57E, h130km±39km, mb3.2/4, mb1 3.3/4, mb1mx3.0/48, mbtmp3.6/4, Error ellipse: s-maj=149.8km s-min=34.3km az=10.0*
ISC 03 17:19:11.6±0.9, 27°.0N±0°.1×126°.40E±0°.10, h130km±14km, n22, σ1°.11/40, mb3.4/4, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	Kume jima 2	0.78	153	P	Pn	17 19 33.2	+0.6
JKE				eS	Sn	17 19 48.5	0.0
JAGN	Aguni-jima	0.87	120	P	Pn	17 19 34.1	+0.7
JAGN				S	Sn	17 19 49.9	+0.1
JIH	Iheya	1.40	89	P	Pn	17 19 39.5	+0.9
JIH				S	Sn	17 19 58.5	-0.6
JJT3	Tamagusuku3	1.52	125	P	Pn	17 19 41.0	+1.0
JJT3				S	Sn	17 20 01.0	-0.6
JNTH	Nagotoyohara	1.54	109	P	Pn	17 19 40.7	+0.6
JNTH				eS	Sn	17 20 00.3	-1.6
JOW	Kunigami	1.69	96	P	Pn	17 19 42.4	+0.6
JOW				S	Sn	17 20 03.5	-1.5
JOW	Kunigami	1.69	96	P	Pn	17 19 42.5	+0.6
	2.1nm,0.3s,baz=330,slow=16,SNR=164						
JOW				S	Sn	17 20 03.0	-2.0
	18nm,0.3s,baz=330,slow=16,SNR=22						
JYRO	Yoronjima	1.83	90	P	Pn	17 19 44.0	+0.5
JYRO				eS	Sn	17 20 05.9	-2.0
JOKE	Okinoerabujima	1.96	80	P	Pn	17 19 45.6	+0.5
JOKE				S	Sn	17 20 10.0	-0.8
JIKM	Ikemajima	2.34	207	P	Pn	17 19 49.5	-0.3
JIKM				eS	Sn	17 20 18.5	-0.6
JTK	Tokunoshima	2.39	71	P	Pn	17 19 51.1	+0.7
JTK				S	Sn	17 20 18.6	-1.7
JOGS	Gusukube	2.43	202	P	Pn	17 19 51.4	+0.5
JOGS				eS	Sn	17 20 20.0	-1.1
JIRB	Irabujima	2.45	207	P	Pn	17 19 51.2	0.0
JIRB				eS	Sn	17 20 20.4	-1.3
JMJ2	Miyako jima3	2.47	203	P	Pn	17 19 51.7	+0.2
JMJ2				eS	Sn	17 20 21.0	-1.1
JAMN	Amaminishikomi	2.75	63	P	Pn	17 19 55.1	+0.2
JAMN				eS	Sn	17 20 26.3	-2.0
JTJ	Tarama	2.83	213	P	Pn	17 19 56.2	+0.2
JTJ				eS	Sn	17 20 28.5	-1.7
JISG	Ishigakijimahi	3.07	218	P	Pn	17 19 59.1	-0.1
JISG				eS	Sn	17 20 34.0	-1.9
JAM	Amami Oshima	3.16	63	P	Pn	17 20 00.4	+0.1
JAM				eS	Sn	17 20 35.5	-2.4
SONM	Songino Array	26.00	328	P	P	17 24 33.7	+1.3
	0.4nm,0.4s,baz=147,slow=8.1,SNR=3.3						
MKAR	Makanchi Array	39.78	312	P	P	17 26 32.2	+0.5
	0.3nm,0.4s,baz=106,slow=9.1,SNR=8.8						
ZALV	Zalesovo Beam	40.62	323	P	P	17 26 38.5	0.0
	0.8nm,0.4s,baz=115,slow=8.4,SNR=4.1						
YKA	Yellowknife Ar	78.49	24	P	P	17 30 58.2	+0.3
	0.2nm,0.5s,baz=295,slow=5.5,SNR=4.1						

*JMA **03** 17:30:30.5±0.4, 32°.86N×138°.29E, h338km±4km, M3.6*
*ISCJB **03** 17:30:32.1±0.4, 32°.94N±0°.06×138°.22E±0°.06, h326km±3km, mb3.0/12, Error ellipse: s-maj=9.1km s-min=7.6km az=168.1*
*IDC **03** 17:30:33.2±0.6, 32°.97N×138°.22E, h319km±6km, mb2.9/12, mb1 3.1/17, mb1mx3.0/47, mbtmp3.6/17, Error ellipse: s-maj=14.8km s-min=10.4km az=73.0*
ISC 03 17:30:33.3±0.7, 32°.95N±0°.07×138°.19E±0°.06, h321km±6km, n47, σ0°85/57, mb3.1/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK02	Tokai 2	1.06	340	P	Pn	17 31 15.8	0.0
TK02				eS	S	17 31 50.5	+0.7
TTO3	TONANKAI O.B.S	1.12	324	S	S	17 31 52.2	+1.6
TTO2	TONANKAI O.B.S	1.25	309	P	Pn	17 31 17.2	+0.5
TTO2				S	S	17 31 52.2	+0.8
JHJ	Hachijo jima 2	1.35	82	P	Pn	17 31 17.5	-0.1
	33nm,0.3s,baz=263,slow=23,SNR=17						
JHJ				S	S	17 31 52.9	-0.2
	19nm,0.3s,baz=176,slow=13,SNR=5.5						
TTO1	TONANKAI O.B.S	1.35	300	P	Pn	17 31 17.5	+0.2
TTO5	TONANKAI O.B.S	1.35	343	P	Pn	17 31 17.6	+0.2
JHJ2	Mitsune	1.37	83	P	Pn	17 31 16.9	-0.8
JAOM	Aogashimamukai	1.41	110	P	Pn	17 31 16.8	-1.3
JIE	Ise	1.90	320	P	Pn	17 31 20.9	-0.2
JTNC	Tanabenakahech	2.33	292	P	Pn	17 31 23.6	-0.9
JOD2	Odawara 2	2.42	18	P	Pn	17 31 25.7	+0.5
JOD2				S	S	17 32 07.7	+0.8
JWY	Kouya	2.51	301	P	Pn	17 31 25.9	-0.2
JWY				S	S	17 32 06.7	-1.7
BSO1	Boso 1	2.87	53	P	Pn	17 31 27.1	-1.5
BSO1				S	S	17 32 12.1	-1.0
JYTA	Yamagatataniai	2.90	336	P	Pn	17 31 29.4	0.0
JRY

KBZ	Khabaz	71.54	310	P	P	17 41 20.3 +0.6
	0.8nm,0.6s,baz=78,slow=9.3,SNR=3.7					
NOA	NORSAR Array B	76.89	336	P	P	17 41 50.8 +0.6
	0.7nm,0.9s,baz=40,slow=5.7,SNR=2.8					
BRTR	Keskin Array B	79.53	311	P	P	17 42 03.4 -1.7
	0.4nm,0.6s,baz=70,slow=4.7,SNR=2.9					

*ISCJB **03** 17:35:34.4±0.6, 45°.6S±0°.1×12°.4W±0°.1, h10km, mb4.4/20, MS3.6/10, Error ellipse: s-maj=15.6km s-min=11.6km az=25.9*
*IDC **03** 17:35:34.6±0.6, 45°.63S×12°.42W, h0km, mb4.2/13, mb1 4.2/13, mb1mx4.0/38, mbtmp4.2/13, MS3.6/10, Ms1 3.6/10, ms1mx3.4/18, Error ellipse: s-maj=20.9km s-min=16.7km az=24.0*
*NEIC **03** 17:35:37.1±1.7, 45°.59S×12°.42W, h15km±4km, mb4.6/14, Error ellipse: s-maj=22.8km s-min=19.5km az=208.0*
ISC 03 17:35:36.0±0.5, 45°.6S±0°.1×12°.4W±0°.1, h10km, n68, σ0s67/57, mb4.4/20, MS3.7/10, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	26.56	173	eP	P	17 41 14.1	+0.3
	13nm,1.5s						
SNAA	Sanae	26.56	173	P	P	17 41 13.3	-0.4
	0.7nm,0.7s,baz=336,slow=10.0,SNR=3.5						
SNAA				LR	LR	17 49 33.7	
	comp=Z,36nm,20.4s,baz=80,slow=32						
SUR	Sutherland	28.76	74	LR	LR	17 50 44.4	
	comp=Z,174nm,19.0s,baz=244,slow=32						
BOSA	Boshof	34.10	73	LR	LR	17 53 40.4	
	comp=Z,167nm,19.1s,baz=216,slow=32						
USHA	Ushuaia	36.14	234	P	P	17 42 37.8	-0.1
	5.3nm,0.9s,baz=51,slow=12,SNR=4.1						
H10S2	ASCENSION HYDR	36.54	356	T	T	18 21 44.9	
	baz=177						
H10S3	ASCENSION HYDR	36.55	356	T	T	18 21 47.2	
	baz=177,slow=74,SNR=11						
H10S1	ASCENSION HYDR	36.56	356	T	T	18 21 44.9	
	baz=177,slow=74,SNR=11						
LBTB	Lobatse	36.72	69	eP	P	17 42 44.0	+0.6
	23nm,1.6s						
LBTB	Lobatse	36.72	69	P	P	17 42 44.2	+0.8
	2.0nm,0.8s,baz=210,slow=12,SNR=3.5						
TRQA	Tornquist	37.21	264	eP	P	17 42 47.3	0.0
	4.5nm,0.8s						
CPUP	Villa Florida	40.52	283	eP	P	17 43 16.0	+0.9
	3.9nm,0.9s						
CPUP	Villa Florida	40.52	283	P	P	17 43 15.1	-0.1
	1.9nm,0.8s,baz=132,slow=6.5,SNR=5.5						
CPUP				LR	LR	17 56 17.0	
	comp=Z,47nm,20.7s,baz=85,slow=31						
PLCA	Paso Flores	41.90	255	eP	P	17 43 26.0	-0.5
	22nm,2.0s						
BDFB	Brasilia	42.21	303	eP	P	17 43 28.3	-0.9
	6.1nm,0.8s						
BDFB				eP	P	17 43 29.7	+0.5
BDFB	Brasilia	42.21	303	P	P	17 43 29.7	+0.5
	5.7nm,0.7s,baz=116,slow=4.2,SNR=7.4						
BDFB				LR	LR	17 57 14.2	
	comp=Z,123nm,21.7s,baz=108,slow=31						
MAW	Mawson	43.45	147	LR	LR	17 58 05.7	
	comp=Z,99nm,19.6s,baz=260,slow=31						
QSPA	South Pole Qui	44.68	180	eP	P	17 43 48.4	-0.3
	6.0nm,0.8s						
QSPA	South Pole Qui	44.68	180	P	P	17 43 48.5	-0.3
	5.0nm,0.8s,baz=219,slow=3.6,SNR=16						
CFA	Coronel Fontan	44.95	268	P	P	17 43 49.3	-1.9
	3.4nm,0.7s,baz=137,slow=7.4,SNR=7.1						
LSZ	Lusaka	45.48	62	P	P	17 43 55.1	-0.5
	0.7nm,0.4s,baz=125,slow=5.2,SNR=3.6						
GO02	Mina Guanaco	49.78	274	eP	P	17 44 30.1	+1.0
	15nm,0.6s						
SIV	San Ignacio	50.14	290	P	P	17 44 31.9	+0.2
	1.5nm,0.7s,baz=129,slow=9.8,SNR=8.0						
LVC	Limon Verde	50.94	277	eP	P	17 44 39.4	+1.4
	4.2nm,0.6s						
LVC	Limon Verde	50.94	277	P	P	17 44 39.0	+1.0
	3.8nm,0.5s,baz=72,slow=3.3,SNR=6.9						
PB01	IPOC Station P	52.38	278	eP	P	17 44 49.4	+1.0
	13nm,1.1s						
DBIC	Dimbokro	52.45	9	LR	LR	18 01 21.0	
	comp=Z,22nm,19.0s,baz=120,slow=30						
GO01	Chusmiza	53.09	280	eP	P	17 44 55.2	+1.0
	6.9nm,0.6s						
MNMC	Minye Minye	53.73	280	eP	P	17 44 59.8	+1.1
	39nm,2.0s						
LPAZ	La Paz	54.68	283	eP	P	17 45 05.2	-0.8
LPAZ	La Paz	54.68	283	P	P	17 45 05.6	-0.4
	1.0nm,0.7s,baz=266,slow=0.8,SNR=4.6						
LPAZ				LR	LR	18 08 13.5	
	comp=Z,71nm,18.3s,baz=144,slow=36						
SBA	Scott Base	56.84	180	eP	P	17 45 20.6	+0.6
	12nm,1.4s						
VNDA	Vanda	57.12	179	eP	P	17 45 22.6	+0.6
	8.8nm,1.6s						
VNDA	Vanda	57.12	179	P	P	17 45 22.0	0.0
	1.6nm,0.8s,baz=215,slow=7.3,SNR=12						
PTGA	Pitinga	61.14	303	P	P	17 45 50.7	+0.1
	2.3nm,0.6s,baz=190,slow=5.5,SNR=4.4						
KMBO	Kilima Mbogo	62.06	60	LR	LR	18 10 23.2	
	comp=Z,46nm,20.7s,baz=100,slow=34						
ROSC	El Rosal	74.36	294	LR	LR	18 18 12.1	
	comp=Z,60nm,18.1s,baz=200,slow=34						
H08S1	Diego Carcia H	81.00	92	T	T	19 16 55.2	
	baz=226,slow=76,SNR=4.0						
H08S2	Diego Garcia H	81.02	92	T	T	19 16 56.3	
	baz=226,slow=76,SNR=3.4						
H08S3	Diego Garcia H	81.02	92	T	T	19 16 59.2	
	baz=226,slow=76,SNR=4.4						
PD31	Pinedale Array	123.11	299	ePKPdf	PKPdf	17 54 31.8	-0.7
PDAR	Pinedale Array	123.11	299	ePKPdf	PKPdf	17 54 31.5	-1.0
PDAR	Pinedale Array	123.11	299	PKP	PKPdf	17 54 31.9	-0.6
	0.8nm,0.7s,baz=115,slow=3.4,SNR=7.3						
MK32	Makanchi Array	123.83	56	ePKPdf	PKPdf	17 54 32.5	-1.0
MKAR	Makanchi Array	123.83	56	PKP	PKPdf	17 54 32.5	-1.0
	0.3nm,0.8s,baz=221,slow=1.3,SNR=2.8						
FXWY	Fox Creek	124.48	299	ePKPdf	PKiKP	17 54 35.6	+0.2
ELK	Elko	125.56	294	ePKPdf	PKiKP	17 54 38.6	+0.9
NVAR	Mina Array Bea	126.29	290	PKP	PKiKP	17 54 40.0	+0.9
	0.5nm,0.6s,baz=166,slow=3.2,SNR=5.7						
G08A	Pilot Rock	130.21	298	ePKPdf	PKiKP	17 54 46.4	-0.3
YKA	Yellowknife Ar	134.39	321	ePKPdf	PKPdf	17 54 52.2	-0.7
YKA	Yellowknife Ar	134.39	321	PKP	PKPdf	17 54 53.1	+0.1
	0.8nm,0.7s,baz=111,slow=2.3,SNR=15						
YKB5	Yellowknife Ar	134.39	321	ePKPdf	PKPdf	17 54 53.1	+0.1
SONA0	Songino Array	138.93	64	ePKPdf	PKPdf	17 55 02.2	+0.1
SONM	Songino Array	138.93	64	PKP	PKPdf	17 55 02.2	+0.1
	0.6nm,0.6s,baz=237,slow=4.6,SNR=3.8						
DAWY	Dawson	145.61	322	ePKPdf	PKPab	17 55 14.1	+0.1
EGAK	Eagle	146.27	323	ePKPdf	PKPbc	17 55 15.9	+0.3
BCAR	Beaver Creek A	146.80	320	ePKPdf	PKPbc	17 55 17.0	-0.2
PRP	Porcupine Dome	147.91	325	ePKPbc	PKPbc	17 55 21.1	+0.8
TOLK	Toolik Lake Re	148.34	332	ePKPbc	PKPbc	17 55 21.3	+0.1
ILAR	Eielson Array	148.67	324	ePKPbc	PKPbc	17 55 21.9	-0.3
ILAR	Eielson Array	148.67	324	PKPbc	PKPbc	17 55 22.8	+0.6
	3.2nm,0.6s,baz=15,slow=0.9,SNR=45						
ILB	Eielson Array	148.67	324	ePKPbc	PKPbc	17 55 22.3	+0.2
CCB	Clear Creek Bu	149.08	324	ePKPbc	PKPbc	17 55 22.5	-0.6
WRH	Wood River Hil	149.25	324	ePKPbc	PKPbc	17 55 23.3	-0.3
KSRS	Korea Array	149.45	91	PKPbc	PKPbc	17 55 25.0	+0.1
	0.7nm,0.5s,baz=237,slow=2.7,SNR=5.4						
BPAW	Bear Paw Mtn.	150.57	324	ePKPbc	PKPbc	17 55 26.7	-0.1
IMAR	Indian Mountai	150.93	328	ePKPbc	PKPbc	17 55 27.7	+0.1
PPLA	Purkeypile	151.47	322	ePKPbc	PKPbc	17 55 29.0	-0.2

*ISCJB **03** 17:50:09.6±0.7, 22°.48S±0°.03×69°.92W±0°.05, h66km±6km, Error ellipse: s-maj=7.8km s-min=4.6km az=8.0*
*GUC **03** 17:50:09.9±0.5, 22°.47S×69°.90W, h63km±2km, ML3.5*
*SJA **03** 17:50:09.1±0.9, 22°.47S×69°.87W, h61km±3km, ML3.2, MW4.1*
ISC 03 17:50:10.5±1.4, 22°.48S±0°.03×69°.90W±0°.04, h57km±8km, n28, σ0s63/42, 6C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	IPOC Station P	0.27	302	eP	Pn	17 50 20.5	+0.2
PB04				eS	Sn	17 50 28.6	+1.2
PB04	IPOC Station P	0.27	302	IAML		17 50 29.7	
	comp=Z,7μm,0.1s						
PB06	IPOC Station P	0.38	127	eP	Pn	17 50 20.7	-0.5
PB06				eS	Sn	17 50 28.9	0.0
PB06	IPOC Station P	0.38	127	eP	Pn	17 50 20.7	-0.5
PB06				eS	Sn	17 50 28.8	0.0
PB06				IAML		17 50 29.2	
	comp=E,11μm,0.2s						
PB03	IPOC Station P	0.45	17	eP	Pn	17 50 21.3	-0.5
PB03				eS	Sn	17 50 29.9	-0.3
PB03	IPOC Station P	0.45	17	eP	Pn	17 50 21.4	-0.5
PB03				eS	Sn	17 50 29.8	-0.3
PB03				IAML		17 50 30.2	
	comp=N,4μm,0.2s						
PB05	IPOC Station P	0.47	217	eP	Pn	17 50 22.1	0.0
PB05				eS	Sn	17 50 31.4	+1.0
PB05	IPOC Station P	0.47	217	↓eP	Pn	17 50 21.5	-0.5
PB05				eS	Sn	17 50 30.4	0.0
PB07	IPOC Station P	0.75	1	eP	Pn	17 50 24.9	-0.5
PB07	IPOC Station P	0.75	1	↑eP	Pn	17 50 24.8	-0.5
PB07				eS	Sn	17 50 36.0	-0.2
PB07				IAML		17 50 37.1	
	comp=E,2μm,0.1s						
PB15	IPOC Station P	0.83	152	eP	Pn	17 50 26.1	-0.3
PB15	IPOC Station P	0.83	152	↑eP	Pn	17 50 25.9	-0.5
PB15				eS	Sn	17 50 38.4	+0.3
PB09	IPOC Station P	0.91	42	eP	Pn	17 50 27.5	0.0
PB09	IPOC Station P	0.91	42	↑eP	Pn	17 50 27.0	-0.4
PB09				iS	Sn	17 50 40.3	+0.4
LVC	Limon Verde	0.92	98	eP	Pn	17 50 27.9	+0.1
LVC				IAML		17 50 41.0	
	comp=Z,633nm,0.1s						
LVC	Limon Verde	0.92	98	↑iP	Pn	17 50 27.8	+0.1
LVC				iS	Sn	17 50 40.8	+0.3
PB02	IPOC Station P	1.15	0	eP	Pn	17 50 30.2	-0.4
PB02	IPOC Station P	1.15	0	↑eP	Pn	17 50 30.1	-0.5
PB02				eS	Sn	17 50 45.3	-0.2
PB02				IAML		17 50 47.1	
	comp=E,2μm,0.1s						
PB10	IPOC Station P	1.20	210	eP	Pn	17 50 30.9	-0.1
PB10	IPOC Station P	1.20	210	↓eP	Pn	17 50 30.9	-0.1
PB10				eS	Sn	17 50 46.2	-0.2
PB01	IPOC Station P	1.48	15	↓eP	Pn	17 50 34.7	-0.2
PB01				eS	Sn	17 50 53.4	+0.2
PB01				IAML		17 50 54.5	
	comp=E,972nm,0.2s						
PB14	IPOC Station P	2.19	192	eP	Pn	17 50 44.1	-0.7
PB08	IPOC Station P	2.43	17	eP	Pn	17 50 48.1	0.0
PB08	IPOC Station P	2.43	17	↑iP	Pn	17 50 47.9	-0.2
PB08				iS	Sn	17 51 18.3	+1.4
PB08				IAML		17 51 22.5	
	comp=N,128nm,0.4s						
PSGCX	Pisagua	2.87	356	eP	Pn	17 50 51.8	-2.1
MNMCX	Minye Minye	3.34	5	eP	Pn	17 50 59.8	-0.7
PB12	IPOC Station P	3.87	354	eP	Pn	17 51 08.1	+0.6
PB16	IPOC Station P	4.14	5	eP	Pn	17 51 12.7	+1.0

*SJA **03** 17:53:47.3±0.6, 21°.34S×68°.75W, h131km±5km, ML2.7, MW3.9*
*ISCJB **03** 17:53:48.2±0.7, 21°.33S±0°.03×68°.77W±0°.07, h127km±8km, Error ellipse: s-maj=10.6km s-min=4.5km az=176.6*
*GUC **03** 17:53:48.6±0.5, 21°.34S×68°.75W, h126km±2km, ML3.5*
ISC 03 17:53:48.9±1.5, 21°.33S±0°.03×68°.75W±0°.06, h122km±11km, n32, σ0s45/48, 11C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.66	224	eP	Pn	17 54 08.2	0.0
PB09				eS	Sn	17 54 23.4	+0.5
PB09	IPOC Station P	0.66	224	↑eP	Pn	17 54 08.2	0.0
PB09				eS	Sn	17 54 23.1	+0.2
PB01	IPOC Station P	0.74	292	eP	Pn	17 54 08.6	-0.3
PB01				eS	Sn	17 54 23.8	-0.1
PB01				IAML		17 54 24.9	
	comp=E,2μm,0.2s						
PB02	IPOC Station P	1.07	270	eP	Pn	17 54 12.0	+0.1
PB02				eS	Sn	17 54 30.3	+1.0
PB02	IPOC Station P	1.07	270	↑eP	Pn	17 54 11.6	-0.3
PB02				eS	Sn	17 54 29.0	-0.2
PB02				IAML		17 54 31.5	
	comp=E,2μm,0.3s						
PB07	IPOC Station P	1.13	249	eP	Pn	17 54 12.5	-0.1
PB07	IPOC Station P	1.13	249	↑eP	Pn	17 54 12.4	-0.1
PB07				eS	Sn	17 54 30.0	-0.5
PB03	IPOC Station P	1.18	232	eP	Pn	17 54 12.8	-0.2
PB03	IPOC Station P	1.18	232	↑eP	Pn	17 54 12.9	-0.1
PB03				eS	Sn	17 54 31.1	-0.2
PB03				IAML		17 54 32.7	
	comp=E,751nm,0.1s						
PB08	IPOC Station P	1.24	342	eP	Pn	17 54 14.3	+0.4
PB08	IPOC Station P	1.24	342	↓eP	Pn	17 54 14.2	+0.2
PB08				eS	Sn	17 54 33.5	+0.6
PB08				e		17 54 33.7	
PB08				IAML		17 54 34.6	
	comp=E,655nm,0.6s						
LVC	Limon Verde	1.29	187	eP	Pn	17 54 14.1	-0.3
LVC				IAML		17 54 38.2	
	comp=Z,97nm,0.4s						
LVC	Limon Verde	1.29	187	↓iP	Pn	17 54 13.9	-0.5
LVC				iS	Sn	17 54 33.5	-0.2
PB06	IPOC Station P	1.57	209	eP	Pn	17 54 17.2	-0.2
PB06	IPOC Station P	1.57	209	↑eP	Pn	17 54 17.2	-0.2
PB06				eS	Sn	17 54 39.1	0.0
PB06				IAML		17 54 40.0	
	comp=E,647nm,0.2s						
PB04	IPOC Station P	1.64	232	eP	Pn	17 54 18.1	-0.1
PB04	IPOC Station P	1.64	232	↑iP	Pn	17 54 17.9	-0.3
PB04				iS	Sn	17 54 40.4	-0.2
PB04				IAML		17 54 46.2	
	comp=N,420nm,0.2s						
PB11	IPOC Station P	1.77	331	eP	Pn	17 54 19.6	-0.3
PB11	IPOC Station P	1.77	331	↑eP	Pn	17 54 19.5	-0.3
PB11				eS	Sn	17 54 43.5	0.0
PB11				IAML		17 54 44.2	
	comp=E,860nm,0.2s						
PB15	IPOC Station P	1.99	200	eP	Pn	17 54 23.5	+1.1
PB15	IPOC Station P	1.99	200	↑eP	Pn	17 54 22.5	0.0
PB15				eS	Sn	17 54 48.5	+0.3
PB05	IPOC Station P	2.03	221	eP	Pn	17 54 22.8	-0.1
PB05	IPOC Station P	2.03	221	↓iP	Pn	17 54 22.5	-0.4
PB05				eS	Sn	17 54 48.5	-0.4
PB05				IAML		17 54 55.8	
	comp=E,148nm,0.3s						
PSGC	Pisagua	2.15	323	↑iP	Pn	17 54 23.5	-0.9
PSGC				iS	Sn	17 54 51.3	-0.3
PSGCX	Pisagua	2.15	323	eP	Pn	17 54 23.8	-0.6
MNMC	Minye Minye	2.33	340	↑iP	Pn	17 54 26.9	+0.1
MNMC				iS	Sn	17 54 56.5	+0.7
MNMC				IAML		17 55 00.1	
	comp=N,354nm,0.5s						
MNMCX	Minye Minye	2.33	340	eP	Pn	17 54 26.7	-0.1
PB16	IPOC Station P	3.06	346	eP	Pn	17 54 36.7	+0.1
PB12	IPOC Station P	3.08	331	eP	Pn	17 54 36.1	-0.3
YJA	Yavi	3.12	106	eP	Pn	17 54 36.1	-1.1
HJA	Humahuaca	3.62	122	eP	Pn	17 54 44.1	+0.5
HJA				IAML		17 54 45.6	
	comp=Z,9.7nm,0.3s						
PB14	IPOC Station P	3.62	205	eP	Pn	17 54 44.6	+0.9

WEL 03 18:08:27.7, 38°.4S±0°.8×17°.8E±°, h19km±1km, ML3.6/27, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKGZ	Te Karaka	0.07	239	P	Pg	18 08 31.6	+0.4
TKGZ				S	Sg	18 08 35.3	+1.7
TWGZ	Tauwhareparae	0.23	12	P	Pg	18 08 34.1	+0.9
CNGZ	Carnagh Statio	0.24	109	P	Pg	18 08 34.8	+1.4
MWZ	Matawai	0.32	283	P	Pb	18 08 34.9	0.0
MWZ				S	Sb	18 08 40.7	+1.1
RIGZ	Rimuhau	0.33	202	P	Pb	18 08 35.6	+0.5
RIGZ				S	Sn	18 08 42.8	-1.1
RAGZ	Rawiri	0.41	257	P	Pb	18 08 36.8	+0.3
PUZ	Puketiti	0.43	39	P	Pb	18 08 37.4	+0.6
RUGZ	Raukumara Rang	0.48	336	P	Pg	18 08 37.5	0.0
RUGZ				S	Sb	18 08 45.3	+0.9
PRGZ	Paritu Road	0.52	183	P	Pb	18 08 38.7	+0.5
PKGZ	Pakihiroa	0.53	14	P	Pb	18 08 39.2	+0.7
SNGZ	Shannon Statio	0.59	230	P	Pn	18 08 40.4	-0.8
SNGZ				S	Sn	18 08 50.4	+0.1
KNZ	Kokohu	0.65	197	P	Pb	18 08 40.4	0.0
URZ	Urewera	0.65	283	P	Pb	18 08 40.5	+0.1
HAZ	Te Kaha	0.66	350	P	Pb	18 08 40.4	-0.1
WMGZ	Waiomatatini S	0.70	34	P	Pn	18 08 42.2	-0.5
WMGZ				S	Sn	18 08 54.4	+1.4
MHGZ	Mahia Peninsul	0.75	181	P	Pb	18 08 42.2	0.0
RTZ	Ruatahuna	0.77	254	P	Pg	18 08 43.0	+0.2
RAHZ	Arahi	0.83	232	P	Pn	18 08 44.3	-0.2
MXZ	Matakaoa Point	0.90	20	P	Pg	18 08 45.1	-0.1
MUGZ	Murupara	0.91	265	P	Pb	18 08 45.1	+0.2
WHRZ	Whale Island	0.93	306	P	Pn	18 08 46.6	+0.8
MTHZ	Maungataniwha	0.96	242	P	Pn	18 08 46.2	0.0
EDRZ	Edgecumbe	0.98	287	P	Pg	18 08 47.2	+0.4
MARZ	Manawahe	1.07	293	P	Pg	18 08 48.2	-0.2
RRRZ	Republican Roa	1.11	273	P	Pn	18 08 47.4	-0.9
NMHZ	Naumai	1.11	231	P	Pb	18 08 48.7	+0.2
ARHZ	Aropaoanui	1.12	220	P	Pn	18 08 47.8	-0.6
TARZ	Mount Tarawera	1.12	278	P	Pn	18 08 48.5	-0.1
MKRZ	Makatiti	1.17	283	P	Pg	18 08 50.6	+0.1
PRRZ	Plateau Road	1.20	265	P	Pn	18 08 49.3	-0.3
OPRZ	Ohinepanea	1.21	297	P	Pn	18 08 48.9	-0.8
HLRZ	Highlands Stat	1.24	277	P	Pb	18 08 50.9	+0.2
ALRZ	Allen Road	1.25	262	P	Pn	18 08 50.0	-0.2
MRHZ	Matea Rd	1.25	250	P	Pn	18 08 50.0	-0.4
OMRZ	Omania	1.25	283	P	Pn	18 08 50.2	-0.2
HRRZ	Handcock Road	1.29	270	P	Pn	18 08 50.7	-0.1
HSRZ	Hossack Road	1.32	274	P	Pn	18 08 51.1	-0.1
KARZ	Kaharoa	1.38	286	P	Pn	18 08 51.9	-0.1
UTU	Utuhina	1.38	279	P	Pb	18 08 52.6	-0.3
MCHZ	McNeill Hill	1.41	222	P	Pn	18 08 51.4	-1.0
GRRZ	Galatos Road	1.42	272	P	Pn	18 08 52.6	-0.1
TGRZ	Tauranga	1.47	297	P	Pn	18 08 53.4	+0.1
KAHZ	Kahuranaki	1.61	210	P	Pn	18 08 53.4	-1.8
KUTZ	Kaahu Road	1.65	266	P	Pn	18 08 55.8	+0.1
RITZ	Rihia Road	1.71	250	P	Pn	18 08 57.6	+0.9
KRHZ	Kereru	1.73	224	P	Pn	18 08 55.9	-1.0
BHHZ	Black Hill Sta	1.81	233	P	Pn	18 08 56.7	-1.3
TLZ	Tolley Road	1.87	272	P	Pn	18 08 58.1	-0.7
NGZ	Ngauruhoe	1.97	246	P	Pn	18 09 00.7	+0.4
TUVZ	Tukino	1.97	243	P	Pn	18 09 01.0	+0.8
PNHZ	Pukenui	2.01	221	P	Pn	18 08 58.4	-2.4
PKVZ	Pokaka	2.19	245	P	Pb	18 09 08.0	+1.1
TSZ	Takapari Road	2.25	222	P	Pn	18 09 01.1	-2.9
HIZ	Hauiti	2.41	266	P	Pn	18 09 06.6	+0.4
VRZ	Vera Road	2.57	253	P	Pb	18 09 11.4	-1.9
BFZ	Birch Farm	2.62	209	P	Pn	18 09 04.9	-4.1
WAZ	Wanganui	2.65	239	P	Pb	18 09 12.3	-2.3
TIWZ	Tintock	2.84	213	P	Pn	18 09 11.4	-0.8
TIWZ				S	Sn	18 09 42.3	-3.6
MRZ	Mangatainoka R	2.89	218	P	Pn	18 09 11.0	-1.8
MRZ				S	Sn	18 09 43.0	-4.0

*NEIC **03** 18:08:30.7±1.5, 15°.88S×167°.95E, h156km±6km, mb4.5/20, Error ellipse: s-maj=22.0km s-min=17.3km az=223.0*
*IDC **03** 18:08:30.5±3.3, 15°.89S×167°.99E, h156km±29km, mb3.5/9, mb1 3.7/10, mb1mx3.5/28, mbtmp3.9/10, MS4.2/1, Ms1 4.2/1, ms1mx2.8/17, Error ellipse: s-maj=26.5km s-min=19.7km az=92.0*
*ISCJB **03** 18:08:31.4±0.5, 15°.97S±0°.03×167°.88E±0°.10, h177km, mb4.2/21, Error ellipse: s-maj=13.4km s-min=4.8km az=176.3*
ISC 03 18:08:33.0±0.7, 15°.99S±0°.06×167°.9E±0°.1, h177km, n51, σ0s94/54, mb4.0/21, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	5.46	178	ePn	Pn	18 09 51.6	-1.3
DZM	Mont Dzumac	6.19	192	ePn	Pn	18 10 03.0	+0.4
DZM				eSn	Sn	18 11 10.5	-2.7
DZM	Mont Dzumac	6.19	192	P	Pn	18 10 02.2	-0.4
	3.7nm,0.3s,baz=149,slow=20,SNR=20						
DZM				S	Sn	18 11 13.2	0.0
	2.8nm,0.3s,baz=310,slow=21,SNR=7.2						
ONTNC	Ouen Toro	6.42	192	ePn	Pn	18 10 04.2	-1.3
ONTNC				eSn	Sn	18 11 17.0	-1.4
OUENC	Ouen Island, N	6.46	188	ePn	Pn	18 10 04.3	-1.8
OUENC				eSn	Sn	18 11 17.9	-1.6
PINNC	Pines Island,	6.60	183	ePn	Pn	18 10 07.9	+0.1
PINNC				eSn	Sn	18 11 22.2	-0.4
HNR	Honiara	10.10	309	ePn	Pn	18 10 52.2	-1.8
EIDS	Eidsvold	18.24	237	eP	Pn	18 12 35.7	+0.5
	12nm,1.0s						
OUZ	Omahuta	19.83	166	eP	P	18 12 50.3	+0.2
	158nm,1.6s						
ARMA	Armidale	20.66	223	eP	P	18 12 59.4	+0.1
	20nm,1.5s						
URZ	Urewera	23.63	162	LR	LR	18 20 24.3	
	comp=Z,669nm,20.9s,baz=5.0,slow=30						
STKA	Stephens Creek	28.63	232	eP	P	18 14 13.8	+0.8
	1.0nm,0.9s						
STKA	Stephens Creek	28.63	232	P	P	18 14 14.0	+0.9
	4.7nm,0.6s,baz=60,slow=12,SNR=15						
WB2	Warramunga Arr	32.08	258	eP	P	18 14 44.3	+0.7
	24nm,1.7s						
WR1	Warramunga Arr	32.09	258	eP	P	18 14 44.0	+0.3
WR1				ePcP	PcP	18 17 28.8	0.0
WR

IDC 03 18:26:22.4±2.2, 2°53N×126°52E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/49, mbtmp3.5/3, Error ellipse: s-maj=183.3km s-min=25.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.62**	**161**	P	P	18 31 35.4	+0.1
	0.5nm,0.3s,baz=340,slow=11,SNR=12						
ASAR	**Alice Springs**	**27.02**	**165**	P	P	18 32 06.7	+0.3
	0.3nm,0.3s,baz=345,slow=12,SNR=11						
MKAR	**Makanchi Array**	**58.42**	**326**	P	P	18 36 19.6	-0.4
	0.2nm,0.4s,baz=117,slow=8.1,SNR=4.8						

ISCJB 03 18:31:29.8±1.0, 39°.47N±0°.07×53°.46E±0°.07, h35km, Error ellipse: s-maj=11.2km s-min=6.3km az=24.2
NNC 03 18:31:35.4±2.1, 40°.13N×54°.97E, h0km, mb3.7, Error ellipse: s-maj=29.3km s-min=6.0km az=69.0
AZER 03 18:31:39.6±0.8, 39°.40N×52°.88E, h60km, ml3.2/17, Error ellipse: s-maj=12.1km s-min=5.6km az=3.0
ISC 03 18:31:32.2±1.7, 39°36N±0°.09×53°45E±0°.08, h35km, n22, σ2°01/33, 4C-2D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**2.74**	**294**	P	**Pn**	**18 32 14.9**	**+1.3**
GALA				S	**Sn**	**18 32 46.2**	**+0.6**
GBS	**Qobustan**	**3.66**	**290**	S	**Sn**	**18 33 07.3**	**-1.0**
LKRN	**Lenkeran, Azer**	**3.69**	**261**	P	**Pn**	**18 32 28.3**	**+1.6**
LKRN				S	**Sn**	**18 33 09.5**	**+0.5**
ASTR	**Astara**	**3.72**	**259**	P	**Pn**	**18 32 28.6**	**+1.5**
ASTR				S	**Sn**	**18 33 09.8**	**+0.2**
SIZA	**Siyzn**	**3.88**	**298**	P	**Pn**	**18 32 31.0**	**+1.5**
GLBA	**Ciliabad**	**3.92**	**270**	P	**Pn**	**18 32 32.1**	**+2.2**
GLBA				S	**Sn**	**18 33 14.6**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**3.92**	**110**	⇓Pn	**Pn**	**18 32 28.0**	**-2.0**
GYA0B				⇑Sn	**Sn**	**18 33 09.3**	**-5.6**
PQL	**Pirkuli**	**3.99**	**293**	P	**Pn**	**18 32 33.4**	**+2.4**
	SNR=4.7						
PQL				S	**Sn**	**18 33 16.1**	**-0.5**
LRK	**Lerik**	**4.04**	**261**	P	**Pn**	**18 32 32.8**	**+1.1**
	SNR=6.0						
LRK				S	**Sn**	**18 33 17.0**	**-0.9**
QUBA	**Quba, Azerbaij**	**4.28**	**299**	S	**Sn**	**18 33 23.3**	**-0.3**
IML	**Ismayilli**	**4.29**	**291**	P	**Pn**	**18 32 38.5**	**+3.5**
IML				S	**Sn**	**18 33 23.3**	**-0.5**
XNQ	**Khinaliq**	**4.45**	**296**	P	**Pn**	**18 32 38.3**	**+1.0**
XNQ				S	**Sn**	**18 33 26.8**	**-1.1**
QSAR	**Qusar**	**4.50**	**300**	P	**Pn**	**18 32 40.1**	**+2.2**
QSAR				S	**Sn**	**18 33 27.9**	**-1.3**
QBL	**Gabala**	**4.58**	**292**	S	**Sn**	**18 33 29.9**	**-1.1**
SEKA	**Sheki**	**5.12**	**293**	S	**Sn**	**18 33 42.3**	**-2.1**
GANJ	**Ganja**	**5.62**	**285**	S	**Sn**	**18 33 53.8**	**-2.8**
ZKTA	**Zakatala**	**5.68**	**296**	S	**Sn**	**18 33 56.7**	**-1.3**
ORD	**Ordubad**	**5.81**	**268**	P	**Pn**	**18 32 54.9**	**-1.0**
ORD				S	**Sn**	**18 33 59.9**	**-1.5**
GDB	**GEDABAY**	**6.06**	**285**	P	**Pn**	**18 32 59.9**	**+0.5**
GDB				S	**Sn**	**18 34 03.7**	**-3.9**
QZX	**Qazax, Azerbai**	**6.41**	**288**	P	**Pn**	**18 33 04.5**	**+0.4**
QZX				S	**Sn**	**18 34 13.3**	**-2.8**
AB31	**Akbulak array**	**10.93**	**23**	⇓P	Pn	18 33 57.5	-8.5
	1.2nm,0.9s,baz=203,slow=13,SNR=9.3						
AB31				⇑S	Sn	18 35 49.7	-17
	0.3nm,0.3s,baz=201,slow=25,SNR=4.1						
AKTO	**Aktyubinsk**	**11.54**	**15**	⇑P	Pn	18 34 07.1	-7.3
	1.6nm,0.8s						
AKTO				⇑S	Sn	18 36 07.0	-15
	3.1nm,0.9s						

MAN 03 18:40:31.6, 5°44N×126°46E, h19km, mb4.1, ML2.9, MS2.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.00**	**312**	*e*P	Pb	18 40 50.1	-0.2
DDMP				*e*S	Sn	18 41 03.8	-0.4
MATI	**Mati**	**1.52**	**352**	*e*P	Pn	18 40 56.8	-0.9
MATI				*e*S	Sb	18 41 19.2	+1.3
DMPH	**Davao City--Mi**	**1.89**	**330**	⇑*e*P	Pb	18 41 05.7	+0.2
DMPH				*e*S	Sg	18 41 33.1	+0.5
SKMP	**Bagumbayan, Su**	**2.19**	**300**	*e*P	Pn	18 41 06.5	-0.5
BUKP	**Musuan**	**2.80**	**330**	*e*P	Pn	18 41 17.2	+1.8
BUKP				*e*S	Sb	18 41 54.0	-1.0

KRNET 03 18:45:10.3±0.1, 39°.10N×69°.34E, mb3.5
NNC 03 18:45:12.6±2.5, 38°.59N×70°.02E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=18.8km s-min=13.6km az=2.0
ISC 03 18:45:18.9±2.6, 39°0N±0°.1×70°04E±0°.08, h13km, n15, σ2°05/25, 12C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.24**	**29**	⇓*e*P	**Pn**	**18 45 37.8**	**-4.3**
	baz=50						
BTK				⇓*i*S	**Sb**	**18 45 58.0**	**-0.3**
	baz=50						
KK31	**Karatay Array**	**4.14**	**5**	⇓Pn	**Pn**	**18 46 22.5**	**+0.6**
	1.8nm,0.4s,baz=191,slow=14,SNR=54						
KK31				⇓Pg	**Pb**	**18 46 33.5**	**+1.7**
	2.1nm,0.5s,baz=184,slow=13,SNR=6.6						
KK31				⇑Sn	**Sb**	**18 47 18.0**	**-3.7**
	7.3nm,0.6s						
KK31				⇑Lg	Lg	18 47 34.3	
	9.7nm,0.6s,baz=190,slow=39,SNR=7.3						
AML	**Almayashu**	**4.21**	**40**	P	**Pn**	**18 46 23.4**	**+0.2**
	SNR=7.3						
AML	**Almayashu**	**4.21**	**40**	⇑*e*P	**Pn**	**18 46 21.6**	**-1.6**
	baz=46						
AML				⇑*i*S	**Sn**	**18 47 12.5**	**+0.1**
	baz=46						
EKS2	**Erkin-Say**	**4.65**	**36**	⇑*e*P	**Pn**	**18 46 26.4**	**-2.6**
	baz=42						
EKS2				⇑*i*S	**Sn**	**18 47 21.7**	**-1.2**
	baz=42						
UCH	**Uchtor**	**4.71**	**45**	P	**Pn**	**18 46 30.2**	**+0.1**
	SNR=7.5						
UCH	**Uchtor**	**4.71**	**45**	⇑*i*P	**Pn**	**18 46 28.5**	**-1.6**
	baz=50						
UCH				⇑*i*S	**Sn**	**18 47 25.0**	**+0.2**
	baz=50						
AAK	**Ala-Archa**	**4.99**	**41**	P	**Pn**	**18 46 33.8**	**+0.2**
	SNR=13						
AAK	**Ala-Archa**	**4.99**	**41**	Pn	**Pn**	**18 46 33.6**	**0.0**
	2.8nm,0.4s						
AAK				⇓Sn	**Sn**	**18 47 35.5**	**+4.3**
	5.8nm,0.7s						
AAK				⇓Lg	Lg	18 48 01.5	
	9.0nm,0.9s						
KZA	**Kyzart**	**5.04**	**50**	P	**Pn**	**18 46 33.4**	**-1.2**
	SNR=17						
KZA	**Kyzart**	**5.04**	**50**	⇑*i*P	**Pn**	**18 46 34.1**	**-0.5**
	baz=55						
KZA				⇑*i*S	**Sn**	**18 47 33.4**	**+0.5**
	baz=55						
KBK	**Karagaybulak**	**5.24**	**44**	P	**Pn**	**18 46 38.0**	**+1.0**
	SNR=12						
TKM2	**Tokmak 2**	**5.77**	**45**	P	**Pn**	**18 46 44.3**	**-0.1**
	SNR=20						
TKM2	**Tokmak 2**	**5.77**	**45**	⇓Pn	**Pn**	**18 46 44.1**	**-0.4**
	5.2nm,0.5s						
TKM2				⇓Sn	**Sn**	**18 47 53.4**	**+2.8**
	6.4nm,0.9s						
TKM2				⇓Lg	Lg	18 48 24.5	
	3.7nm,0.7s						
AB31	**Akbulak array**	**12.57**	**328**	⇑Pn	**Pn**	**18 48 15.8**	**-1.6**
	1.1nm,0.5s,baz=143,slow=11,SNR=32						
AB31				⇑Sn	**Sn**	**18 50 40.4**	**+3.3**
	0.9nm,0.6s,baz=150,slow=22,SNR=4.5						

DDA 03 18:52:54.9, 41°.17N×43°.89E, h7km±1km, ML2.7
TIF 03 18:52:54.7, 41°.18N×43°.90E, h11km±1km
ISK 03 18:52:54.9, 41°.19N×43°.91E, h5km, ML2.2/2
ISC 03 18:52:55.5±1.0, 41°18N±0°.03×43°90E±0°.02, h11km±9km, n24, σ0°50/39, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.24**	**291**	P	**Pg**	**18 53 00.9**	**+0.2**
BGD				S	**Sg**	**18 53 04.7**	**+0.5**
AKH	**Akhalkalaki**	**0.39**	**307**	PG	**Pg**	**18 53 03.1**	**-0.2**
AKH				SG	**Sg**	**18 53 08.5**	**+0.1**
AKH	**Akhalkalaki**	**0.39**	**307**	P	**Pg**	**18 53 03.1**	**-0.2**
AKH				S	**Sg**	**18 53 08.4**	**+0.1**
KZRT	**Kazreti**	**0.43**	**61**	P	**Pg**	**18 53 04.0**	**0.0**
KZRT				S	**Sg**	**18 53 10.0**	**+0.3**
EAK	**Akyaka**	**0.54**	**205**	*i* P	**Pg**	**18 53 05.8**	**-0.2**
EAK				*i* S	**Sg**	**18 53 13.3**	**+0.1**
TBLG	**Delisi**	**0.84**	**48**	PG	**Pg**	**18 53 11.3**	**-0.4**
TBLG				SG	**Sb**	**18 53 23.1**	**-0.4**
TBLG	**Delisi**	**0.84**	**48**	P	**Pg**	**18 53 11.1**	**-0.6**
TBLG				S	**Sb**	**18 53 23.0**	**-0.4**
TBLG	**Delisi**	**0.84**	**48**	IAML_P			
	comp=Z,2μm,0.1s						
TBLG				*i* P	**Pg**	**18 53 11.6**	**-0.1**
BTNK	**Botanikuri**	**0.84**	**53**	P	**Pg**	**18 53 11.2**	**-0.6**
BTNK				S	**Sg**	**18 53 23.0**	**+0.2**
BTNK	**Botanikuri**	**0.84**	**53**	IAML_P			
	comp=Z,4μm,0.1s						
BTNK				*i* P	**Pg**	**18 53 11.4**	**-0.4**
DIGO	**Kars**	**0.86**	**208**	*i* P	**Pg**	**18 53 12.0**	**-0.1**
EPOS	**Posof**	**0.94**	**291**	*i* P	**Pg**	**18 53 13.0**	**-0.7**
GNI	**Garni**	**1.21**	**148**	PN	**Pg**	**18 53 18.6**	**-0.2**
SRKG	**Sareki**	**1.22**	**340**	P	**Pg**	**18 53 19.1**	**+0.1**
SRKG				S	**Sn**	**18 53 35.4**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.22**	**168**	PN	**Pb**	**18 53 18.3**	**-0.4**
TASB				SN	**Sn**	**18 53 36.3**	**+1.1**
TKB	**Tkibuli**	**1.35**	**330**	P	**Pn**	**18 53 20.6**	**+0.2**
TKB				S	**Sg**	**18 53 39.2**	**+0.1**
GUDG	**Gudauri**	**1.36**	**18**	P	**Pb**	**18 53 20.9**	**-0.2**
GUDG				S	**Sg**	**18 53 40.2**	**+0.9**
ONI	**Oni**	**1.45**	**347**	PN	**Pn**	**18 53 22.2**	**+0.4**
ONI	**Oni**	**1.45**	**347**	P	**Sg**	**18 53 42.2**	**0.0**
DDFL	**Dedoflistskaro**	**1.69**	**80**	P	**Pn**	**18 53 24.6**	**-0.5**
DDFL				S	**Sg**	**18 53 51.5**	**+1.6**
BATM	**Batumi**	**1.71**	**285**	PN	**Pb**	**18 53 26.8**	**-0.3**
BATM	**Batumi**	**1.71**	**285**	P	**Pb**	**18 53 26.6**	**-0.5**
BATM				S	**Sb**	**18 53 49.1**	**+0.5**
BCA	**Borcka**	**1.74**	**280**	PN	**Pb**	**18 53 26.7**	**-0.8**
LGD	**Lagodekhi**	**1.88**	**69**	P	**Pb**	**18 53 29.5**	**-0.3**
LGD				S	**Sg**	**18 53 55.7**	**-0.1**

BJI 03 18:55:52.9±0.0, 55°.37N×162°.36E, h12km, mb4.6/25, mB4.9/13, Ms4.3/13, Ms7 4.0/13
IDC 03 18:55:53.6±0.5, 55°.27N×162°.32E, h0km, mb4.0/26, mb1 4.2/30, mb1mx4.1/50, mbtmp4.0/30, ML3.2/4, MS3.5/21, Ms1 3.5/21, ms1mx3.4/38, Error ellipse: s-maj=13.3km s-min=10.7km az=165.0
KRSC 03 18:55:55.4±10.0, 55°.20N×162°.62E, h40km±10km, ML4.9
NEIC 03 18:55:56.7±2.1, 55°.28N×162°.32E, h18km±1km, mb4.7/66, Error ellipse: s-maj=13.8km s-min=11.5km az=160.0
ISCJB 03 18:55:57.9±0.3, 55°.26N±0°.02×162°.47E±0°.04, h40km±3km, mb4.5/92, MS3.6/25, Error ellipse: s-maj=4.0km s-min=2.5km az=42.7
MOS 03 18:55:57.6±0.8, 55°.26N×162°.51E, h38km, mb4.6/16, Error ellipse: s-maj=6.6km s-min=4.0km az=83.7
ISC 03 18:55:57.8±0.8, 55°27N±0°.03×162°48E±0°.03, h28km±5km, n284, σ1°53/325, mb4.5/92, MS3.6/26, 20C-6D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.96**	**11**	*e*P	**Pb**	**18 56 13.4**	**-2.4**
KBTR				*e*S	**Sn**	**18 56 27.8**	**-0.4**
KBTR	**Krutoberegovo**	**0.96**	**11**	PN	**Pb**	**18 56 13.4**	**-2.4**
KBTR				S	**Sn**	**18 56 27.8**	**-0.4**
TUMD	**Tumrok D**	**1.20**	**268**	*e*P	**Pn**	**18 56 18.1**	**-0.6**
TUMD				*e*S	**Sn**	**18 56 33.9**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**1.22**	**304**	*e*P	**Pb**	**18 56 19.0**	**-1.2**
BZGR	**Bezymyannyi-Gr**	**1.22**	**304**	PN	**Pb**	**18 56 19.0**	**-1.2**
KZV	**Kizimen**	**1.27**	**264**	*e*P	**Pn**	**18 56 19.3**	**-0.5**
KZV	**Kizimen**	**1.27**	**264**	PN	**Pn**	**18 56 19.3**	**-0.5**
CIRR	**Tsirk**	**1.30**	**312**	*e*P	**Pn**	**18 56 19.8**	**-0.4**
CIRR	**Tsirk**	**1.30**	**312**	PN	**Pn**	**18 56 19.8**	**-0.4**
LGNR	**Loginova**	**1.30**	**310**	*e*P	**Pb**	**18 56 20.4**	**-1.4**
LGNR	**Loginova**	**1.30**	**310**	PN	**Pb**	**18 56 20.4**	**-1.4**
BZMR	**Bezymyannaya**	**1.31**	**301**	*e*P	**Pb**	**18 56 20.5**	**-1.4**
BZMR	**Bezymyannaya**	**1.31**	**301**	PN	**Pb**	**18 56 20.5**	**-1.4**
BZWR	**Bezymyannyi-We**	**1.32**	**303**	*e*P	**Pb**	**18 56 21.0**	**-1.1**
BZWR	**Bezymyannyi-We**	**1.32**	**303**	PN	**Pb**	**18 56 21.0**	**-1.1**
TUMR	**Tumrok**	**1.34**	**272**	PN	**Pn**	**18 56 18.1**	**-2.6**
TUMR				S	**Sn**	**18 56 33.9**	**-3.8**
KMNR	**Kamenistaya**	**1.37**	**292**	*e*P	**Pb**	**18 56 22.1**	**-0.7**
KMNR	**Kamenistaya**	**1.37**	**292**	PN	**Pb**	**18 56 22.1**	**-0.7**
KIRR	**Kirishev**	**1.40**	**300**	*e*P	**Pb**	**18 56 21.9**	**-1.4**
KIRR				*e*S	**Sb**	**18 56 41.4**	**+0.7**
KIRR	**Kirishev**	**1.40**	**300**	PN	**Pb**	**18 56 21.9**	**-1.4**
KIRR				S	**Sb**	**18 56 41.4**	**+0.7**
SMKR	**Semkarok**	**1.44**	**337**	*e*P	**Pn**	**18 56 21.3**	**-0.8**
SMKR	**Semkarok**	**1.44**	**337**	PN	**Pn**	**18 56 21.3**	**-0.8**
KRSR	**Krestovskiy**	**1.44**	**312**	*e*P	**Pb**	**18 56 22.6**	**-1.5**
KRSR	**Krestovskiy**	**1.44**	**312**	PN	**Pb**	**18 56 22.6**	**-1.5**
KPT	**Kopyto**	**1.46**	**300**	*e*P	**Pb**	**18 56 22.8**	**-1.6**
KPT				*e*S	**Sb**	**18 56 42.6**	**+0.1**
KPT	**Kopyto**	**1.46**	**300**	PN	**Pb**	**18 56 22.8**	**-1.6**
KPT				S	**Sb**	**18 56 42.6**	**+0.1**
KLY	**Klyuchi**	**1.47**	**316**	*i* P	**Pn**	**18 56 21.1**	**-1.4**
KLY				*e*S	**Sn**	**18 56 39.5**	**-1.3**
KLY	**Klyuchi**	**1.47**	**316**	PN	**Pn**	**18 56 21.1**	**-1.4**
KLY				S	**Sn**	**18 56 39.5**	**-1.3**
BDR	**Baidarnaya**	**1.49**	**332**	*i* P	**Pn**	**18 56 22.7**	**-0.1**
BDR	**Baidarnaya**	**1.49**	**332**	PN	**Pn**	**18 56 22.7**	**-0.1**
SRKR	**Sorokina**	**1.57**	**333**	*e*P	**Pn**	**18 56 23.7**	**-0.2**
SRKR	**Sorokina**	**1.57**	**333**	PN	**Pn**	**18 56 23.7**	**-0.2**
KOZ	**Kozyrevsk**	**1.68**	**299**	*e*P	**Pn**	**18 56 25.9**	**+0.6**
KOZ	**Kozyrevsk**	**1.68**	**299**	PN	**Pn**	**18 56 25.9**	**+0.6**
SRDR	**Sredinnyy**	**1.88**	**305**	*e*P	**Pn**	**18 56 28.6**	**+0.4**
SRDR	**Sredinnyy**	**1.88**	**305**	PN	**Pn**	**18 56 28.6**	**+0.4**
BKI	**Bering**	**2.00**	**90**	*i* P	**Pn**	**18 56 29.2**	**-0.5**
BKI				*e*S	**Sn**	**18 56 52.3**	**-1.5**
BKI	**Bering**	**2.00**	**90**	PN	**Pn**	**18 56 29.2**	**-0.5**
BKI				S	**Sn**	**18 56 52.3**	**-1.5**
ESO	**Esso**	**2.25**	**289**	*e*P	**Pn**	**18 56 33.1**	**0.0**
ESO				*e*S	**Sn**	**18 57 00.8**	**+0.9**
ESO	**Esso**	**2.25**	**289**	PN	**Pn**	**18 56 33.1**	**0.0**
ESO				S	**Sn**	**18 57 00.8**	**+0.9**
SPN	**Mys Shipunski**	**2.61**	**215**	*e*P	**Pn**	**18 56 37.2**	**-0.9**
SPN				*e*S	**Sn**	**18 57 05.8**	**-3.1**
SPN	**Mys Shipunski**	**2.61**	**215**	PN	**Pn**	**18 56 37.2**	**-0.9**
SPN				S	**Sn**	**18 57 05.8**	**-3.1**
NLC	**Nalytchevo**	**2.79**	**223**	*e*P	**Pn**	**18 56 40.2**	**-0.4**
NLC				*e*S	**Sn**	**18 57 13.2**	**-0.2**
NLC	**Nalytchevo**	**2.79**	**223**	PN	**Pn**	**18 56 40.2**	**-0.4**
NLC				S	**Sn**	**18 57 13.2**	**-0.2**
SDLR	**Sedlovina**	**2.90**	**228**	*e*P	**Pn**	**18 56 42.5**	**+0.2**
SDLR	**Sedlovina**	**2.90**	**228**	PN	**Pn**	**18 56 42.5**	**+0.2**
KRER	**Koryakskii**	**2.94**	**230**	*e*P	**Pn**	**18 56 44.0**	**+1.1**
KRER	**Koryakskii**	**2.94**	**230**	PN	**Pn**	**18 56 44.0**	**+1.1**
KRX	**Arik**	**2.95**	**231**	*e*P	**Pn**	**18 56 44.3**	**+1.4**
KRX	**Arik**	**2.95**	**231**	PN	**Pn**	**18 56 44.3**	**+1.4**
SMAR	**Somma**	**2.95**	**229**	*e*P	**Pn**	**18 56 43.3**	**+0.3**
SMAR				*e*S	**Sn**	**18 57 18.9**	**+1.3**
SMAR	**Somma**	**2.95**	**229**	PN	**Pn**	**18 56 43.3**	**+0.3**
SMAR				S	**Sn**	**18 57 18.9**	**+1.3**
AVH	**Avacha**	**2.98**	**229**	*e*P	**Pn**	**18 56 43.9**	**+0.7**
AVH				*e*S	**Sn**	**18 57 18.7**	**+0.7**
AVH	**Avacha**	**2.98**	**229**	PN	**Pn**	**18 56 43.9**	**+0.7**
AVH				S	**Sn**	**18 57 18.7**	**+0.7**
UGLR	**Uglovaya**	**2.98**	**228**	*e*P	**Pn**	**18 56 43.7**	**+0.4**
UGLR	**Uglovaya**	**2.98**	**228**	PN	**Pn**	**18 56 43.7**	**+0.4**
KOK	**Koryaka**	**3.00**	**230**	*e*P	**Pn**	**18 56 43.9**	**+0.3**
KOK	**Koryaka**	**3.00**	**230**	PN	**Pn**	**18 56 43.9**	**+0.3**
DALK	**Dalny**	**3.14**	**226**	*e*P	**Pn**	**18 56 45.5**	**+0.2**
DALK				*e*S	**Sn**	**18 57 22.0**	**+0.2**
DALK	**Dalny**	**3.14**	**226**	PN	**Pn**	**18 56 45.5**	**+0.2**
DALK				S	**Sn**	**18 57 22.0**	**+0.2**
PET	**Petropavlovsk**	**3.18**	**227**	*e*Pn	**Pn**	**18 56 45.9**	**0.0**
PET	**Petropavlovsk**	**3.18**	**227**	*i* P	**Pn**	**18 56 46.4**	**+0.4**
PET	**Petropavlovsk**	**3.18**	**227**	*e*PN	**Pn**	**18 56 46.4**	**+0.4**
PET				*e*S	**Sn**	**18 57 23.3**	**+0.3**
PET				pmax	pmax		
	comp=Z,486nm,0.8s						
PET				smax	smax		
	comp=N,1μm,0.5s						
PET				smax	smax		
	comp=E,962nm,0.5s						
PET				MLR	MLR		
	comp=Z,1μm,11.0s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
KRMR	**Karymshinskiy**	**3.54**	**228**	*e*P	**Pn**	**18 56 52.0**	**+1.1**
KRMR				*e*S	**Sn**	**18 57 33.4**	**+1.6**
KRMR	**Karymshinskiy**	**3.54**	**228**	PN	**Pn**	**18 56 52.0**	**+1.1**
KRMR				S	**Sn**	**18 57 33.4**	**+1.6**
PEA1	**Petropavlovsk-**	**3.54**	**234**	*e*Pn	**Pn**	**18 56 51.0**	**+0.1**
PEA1				*e*Sn	**Sn**	**18 57 36.3**	**+4.4**
PEA0B	**Petropavlovsk-**	**3.55**	**234**	*e*Pn	**Pn**	**18 56 52.0**	**+0.9**
PETK	**Petropavlovsk-**	**3.55**	**234**	*e*Pn	**Pn**	**18 56 52.1**	**+1.1**
PETK	**Petropavlovsk-**	**3.55**	**234**	Pn	**Pn**	**18 56 51.0**	**0.0**
	comp=Z,2.6nm,0.3s,baz=60,slow=15,SNR=51						
PETK				Sn	**Sn**	**18 57 36.3**	**+4.3**
	comp=Z,17nm,0.3s,baz=275,slow=21,SNR=5.4						
PETK				LR	LR	18 58 19.1	
	comp=Z,673nm,18.9s,baz=23,slow=42						
RUS	**Russkaya**	**3.69**	**221**	*e*P	**Pn**	**18 56 52.8**	**-0.1**
RUS				*e*S	**Sn**	**18 57 35.7**	**+0.3**
RUS	**Russkaya**	**3.69**	**221**	PN	**Pn**	**18 56 52.8**	**-0.1**
RUS				S	**Sn**	**18 57 35.7**	**+0.3**
MTVR	**Mutnovka**	**3.78**	**224**	*e*P	**Pn**	**18 56 54.7**	**+0.4**
MTVR				*e*S	**Sn**	**18 57 37.8**	**0.0**
MTVR	**Mutnovka**	**3.78**	**224**	PN	**Pn**	**18 56 54.7**	**+0.4**
MTVR				S	**Sn**	**18 57 37.8**	**0.0**
APC	**Apacha**	**3.92**	**235**	*e*P	**Pn**	**18 56 58.2**	**+2.2**
APC	**Apacha**	**3.92**	**235**	PN	**Pn**	**18 56 58.2**	**+2.2**
ASAK	**Asacha**	**3.97**	**225**	P	**Pn**	**18 56 59.3**	**+2.5**
ASAK	**Asacha**	**3.97**	**225**	PN	**Pn**	**18 56 59.3**	**+2.5**
OSSR	**Ossora**	**4.00**	**4**	*e*P	**Pn**	**18 56 57.8**	**+0.6**
OSSR	**Ossora**	**4.00**	**4**	PN	**Pn**	**18 56 57.8**	**+0.6**
PALN	**Palana**	**4.07**	**341**	*e*P	**Pn**	**18 57 00.7**	**+2.6**
PALN	**Palana**	**4.07**	**341**	PN	**Pn**	**18 57 00.7**	**+2.6**
KDTR	**Khodutka, Kamc**	**4.35**	**219**	*e*P	**Pn**	**18 57 02.8**	**+0.8**
KDTR				*e*S	**Sn**	**18 57 52.5**	**+0.8**
KDTR	**Khodutka, Kamc**	**4.35**	**219**	PN	**Pn**	**18 57 02.8**	**+0.8**
KDTR				S	**Sn**	**18 57 52.5**	**+0.8**
PAU	**Pauzhetka**	**5.10**	**224**	*e*P	**Pn**	**18 57 15.7**	**+3.4**
PAU	**Pauzhetka**	**5.10**	**224**	PN	**Pn**	**18 57 15.7**	**+3.4**
TILK	**Tilichiki**	**5.55**	**19**	*e*P	**Pn**	**18 57 20.2**	**+1.8**
TILK	**Tilichiki**	**5.55**	**19**	PN	**Pn**	**18 57 20.2**	**+1.8**
SKR	**Severo-Kuril's**	**5.99**	**223**	*e*P	**Pn**	**18 57 28.1**	**+3.6**
SKR	**Severo-Kuril's**	**5.99**	**223**	*e*PN	**Pb**	**18 57 39.8**	**-1.5**
SKR				*e*S	**Sn**	**18 58 36.6**	**+4.5**
SKR				pmax	pmax		
	comp=Z,110nm,0.6s						
SKR				smax	smax		
	comp=N,171nm,0.7s						
SKR				smax	smax		
	comp=E,199nm,0.9s						
ALID	**Alaid**	**6.07**	**226**	*e*P	**Pn**	**18 57 28.3**	**+2.5**
ALID	**Alaid**	**6.07**	**226**	PN	**Pn**	**18 57 28.3**	**+2.5**
SMY	**Shemya**	**7.30**	**106**	*e*Pn	**Pn**	**18 57 40.7**	**-1.8**
SMY	**Shemya**	**7.30**	**106**	*e*PN	**Pn**	**18 57 40.7**	**-1.8**
KMSK	**Kamenskaya**	**7.47**	**13**	*e*P	**Pn**	**18 57 46.6**	**+1.8**
KMSK	**Kamenskaya**	**7.47**	**13**	PN	**Pn**	**18 57 46.6**	**+1.8**
MA2	**Magadan**	**7.65**	**309**	*e*Pn	**Pn**	**18 57 47.5**	**+0.2**
MA2	**Magadan**	**7.65**	**309**	⇓*e*PN	Pn	18 57 52.7	+5.4
MA2				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MA2	**Magadan**	**7.65**	**309**	Pn	**Pn**	**18 57 47.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=162,slow=18,SNR=2.6						
MA2				LR	LR	19 01 01.7	
	comp=Z,313nm,19.6s,baz=126,slow=41						
SEY	**Seymchan**	**9.27**	**330**	Pn	**Pn**	**18 58 09.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=142,slow=19,SNR=2.0						
ADK	**Adak**	**12.82**	**97**	*e*Pn	**Pn**	**18 58 57.8**	**-0.3**
ADK	**Adak**	**12.82**	**97**	*e*PN	**Pn**	**18 58 57.8**	**-0.3**
ATKA	**Atka Island**	**14.12**	**93**	*e*Pn	**Pn**	**18 59 13.0**	**-2.7**
SPIA	**Saint Paul Isl**	**15.25**	**72**	*e*Pn	**P**	**18 59 34.1**	**-1.4**
	comp=Z,151nm,1.5s						
GAMB	**Gambell**	**15.52**	**46**	*e*Pn	**Pn**	**18 59 35.7**	**+1.4**
	comp=Z,34nm,1.9s						
YUK	**Yuzh-Kuril'sk**	**15.52**	**230**	P	**P**	**18 59 37.7**	**-0.9**
YUK	

comp=Z,11nm,0.9s
CCB Clear Creek Bu 25.91 49 *e*P P 19 01 27.6 +0.5
comp=Z,6.7nm,0.7s
KNK Knik Glacier 25.93 56 *e*P P 19 01 27.6 +0.2
comp=Z,29nm,1.2s
SML Sawmill 25.93 55 *e*P P 19 01 28.0 +0.6
comp=Z,78nm,1.6s
SML Sawmill 25.93 55 *e*P P 19 01 28.0 +0.6
SML pmax pmax
comp=Z,78nm,1.6s
DHY Denali Highway 26.22 52 *e*P P 19 01 30.8 +0.7
comp=Z,12nm,1.0s
HDA Harding Lake 26.29 49 *e*P P 19 01 29.6 -1.0
comp=Z,9.7nm,1.0s
ILAR Eielson Array 26.30 48 *e*P P 19 01 32.5 +1.9
ILAR Eielson Array 26.30 48 P **P 19 01 30.7 +0.1**
comp=Z,3.1nm,0.8s,baz=267,slow=8.2,SNR=11
ILAR LR LR 19 12 11.8
comp=Z,63nm,19.5s,baz=248,slow=37
ILB Eielson Array 26.30 48 *e*P P 19 01 32.0 +1.4
comp=Z,17nm,1.4s
CN2 Changchun 26.31 260 *e*P P 19 01 27.0 -3.9
CN2 *e*pP pP 19 01 31.5 -7.1
CN2 *e*S **S 19 05 54.9 -6.9**
CN2 LR LR
comp=Z,190nm,12.0s
CN2 LR LR
comp=Z,240nm,12.0s
CN2 LR LR
comp=Z,270nm,13.0s
BOD Bodaibo 26.39 296 *e*P P 19 01 28.6 -2.9
BOD pmax pmax
comp=Z,4.0nm,1.5s
SCM Sheep Creek Mo 26.40 55 *e*P P 19 01 32.3 +0.7
comp=Z,29nm,0.9s
SCM Sheep Creek Mo 26.40 55 *e*P P 19 01 32.3 +0.7
SCM pmax pmax
comp=Z,29nm,0.9s
PRP Porcupine Dome 26.84 47 *e*P P 19 01 36.3 +0.7
comp=Z,6.3nm,0.8s
FYU Fort Yukon 26.92 44 *e*P P 19 01 38.0 +1.8
comp=Z,31nm,1.6s
PAX Paxson 27.09 52 *e*P P 19 01 39.6 +1.7
PAX Paxson 27.09 52 *e*P P 19 01 39.6 +1.7
KLU Klutina 27.12 56 *e*P P 19 01 39.5 +1.4
comp=Z,61nm,1.8s
BMAR Burnt Mountain 27.17 42 *e*P P 19 01 39.3 +0.8
SCRK Sand Creek 27.63 50 *e*P P 19 01 43.8 +1.2
comp=Z,5.7nm,1.0s
BCAR Beaver Creek A 28.74 52 *e*P P 19 01 53.4 +0.9
EGAK Eagle 28.74 48 *e*P P 19 01 52.1 -0.3
comp=Z,37nm,2.0s
KSRS Korea Array 29.35 247 LR LR 19 14 44.6
comp=Z,97nm,19.0s,baz=56,slow=39
JNU Nakatsue 31.24 238 *e*P P 19 02 12.5 -2.4
comp=Z,9.5nm,1.2s
JNU Nakatsue 31.24 238 LR LR 19 15 24.9
comp=Z,61nm,21.6s,baz=30,slow=38
HYT Haines Junctio 31.24 55 *e*P P 19 02 14.9 +0.2
comp=Z,24nm,1.5s
INK Inuvik 31.29 40 *e*P P 19 02 15.7 +0.8
comp=Z,18nm,2.0s
INK Inuvik 31.29 40 *e*P P 19 02 15.7 +0.8
INK pmax pmax
comp=Z,18nm,2.0s
INK Inuvik 31.29 40 P **P 19 02 15.6 +0.6**
comp=Z,1.1nm,0.5s,baz=267,slow=8.6,SNR=5.5
WHY Whitehorse 32.52 54 *e*P P 19 02 28.2 +2.3
comp=Z,45nm,1.9s
BJI Beijing 34.01 263 *e*P P 19 02 38.0 -0.9
BJI LR LR
comp=Z,90nm,18.9s
BJI LR LR
comp=Z,57nm,14.2s
SONA0 Songino Array 34.80 282 *e*P P 19 02 46.1 +0.1
SONM Songino Array 34.80 282 P **P 19 02 46.1 +0.1**
comp=Z,0.3nm,0.4s,baz=47,slow=8.5,SNR=3.2
NRIK Noril'sk 34.97 323 LR LR 19 17 48.5
comp=Z,143nm,19.4s,baz=63,slow=38
DLBC Dease Lake 35.64 56 P **P 19 02 53.7 +0.7**
comp=Z,1.5nm,0.3s,baz=164,slow=25,SNR=5.8
HHC Hu-ho-hao-te 36.10 268 *e*P P 19 02 55.9 -1.2
HHC S **S 19 08 33.9 -0.8**
HHC SS **SnSn 19 10 52.2 -8.5**
HHC pmax pmax
comp=Z,75nm,0.9s
HHC pmax pmax
comp=Z,270nm,5.2s
HHC LR LR
comp=Z,740nm,14.2s
HHC LR LR
comp=Z,870nm,13.8s
HHC LR LR
comp=Z,850nm,13.7s
NJ2 Nanjing 38.29 251 *e*P P 19 03 16.2 +0.5
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
YKW3 Yellowknife Ar 40.58 45 *e*P P 19 03 35.3 +0.9
comp=Z,3.4nm,1.1s
YKA Yellowknife Ar 40.62 45 *e*P P 19 03 35.5 +0.8
YKA Yellowknife Ar 40.62 45 P **P 19 03 35.6 +0.9**
comp=Z,1.0nm,0.6s,baz=298,slow=8.1,SNR=17
YKA PcP **PcP 19 05 37.5 +1.4**
comp=Z,0.1nm,0.3s,baz=302,slow=5.8,SNR=2.9
YKA LR LR 19 22 54.7
comp=Z,5.5nm,18.2s,baz=346,slow=40
YKB5 Yellowknife Ar 40.62 45 *e*PcP PcP 19 05 37.5 +1.4
RES Resolute Bay 40.77 23 *e*P P 19 03 35.9 +0.1
comp=Z,6.4nm,1.4s
RES Resolute Bay 40.77 23 P **P 19 03 36.0 +0.1**
RES Resolute Bay 40.77 23 P **P 19 03 36.0 +0.1**
comp=Z,1.1nm,0.6s,baz=329,slow=9.7,SNR=6.0
WHN Wuhan 41.91 254 *e*P P 19 03 46.9 +1.2
ZALV Zalesovo Beam 42.80 302 LR LR 19 22 59.2
comp=Z,47nm,18.4s,baz=68,slow=38
LZH Lanzhou 43.77 269 *e*P P 19 04 01.0 +0.1
LZH pP pP 19 04 05.3 -3.2
LZH sP sP 19 04 08.0 -3.3
LZH pmax pmax
comp=Z,19nm,1.6s
LZH pmax pmax
comp=Z,110nm,4.9s
LZH LR LR
comp=Z,200nm,17.9s
LZH LR LR
comp=Z,250nm,16.2s
LZH LR LR
comp=Z,290nm,17.5s
GTA Gaotai 43.77 276 ⇑P **P 19 04 04.7 +3.8**
GTA pP sP 19 04 09.1 -2.2
GTA sP pwP 19 04 12.0 +0.4
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA pmax pmax
comp=Z,76nm,6.8s
GTA LR LR
comp=Z,120nm,15.9s
GTA LR LR
comp=Z,130nm,16.5s
GTA LR LR
comp=Z,140nm,15.6s
DGZ Jazzator, Alta 43.98 295 *de*P P 19 04 03.2 +0.7
DGZ pmax pmax
comp=Z,2.0nm,0.6s
SPA0 Spitsbergen Ar 45.22 351 *e*P P 19 04 11.7 -0.1
comp=Z,16nm,1.0s
SPA0 *e*PcP **PcP 19 05 50.0 -1.3**
SPITS Spitsbergen Ar 45.22 351 P **P 19 04 11.7 -0.1**
comp=Z,2.4nm,0.5s,baz=64,slow=9.4,SNR=25
CD2 Chengdu 47.58 264 *e*P P 19 04 28.1 -2.9
CD2 pmax pmax
comp=Z,20nm,0.5s
WMQ Urumqi 47.58 289 *e*P P 19 04 31.8 +0.9
WMQ LR LR
comp=Z,710nm,21.5s
WMQ LR LR
comp=Z,700nm,38.9s
WMQ LR LR
comp=Z,330nm,39.2s
KURK Kurchatov 47.79 301⇓ *e*P **P 19 04 29.9 -2.3**
KURK pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 48.48 295 *e*P P 19 04 35.9 -1.8
comp=Z,1.2nm,0.8s
MK31 Makanchi Array 48.48 295 *e*P P 19 04 35.9 -1.8
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 48.48 295 *e*P P 19 04 36.2 -1.5
MKAR Makanchi Array 48.48 295 *i*P P 19 04 35.7 -2.0
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 48.48 295 P **P 19 04 36.5 -1.2**
comp=Z,1.2nm,0.6s,baz=44,slow=6.3,SNR=15
MAKZ Makanchi 48.64 295 *e*P P 19 04 37.2 -1.7
comp=Z,5.8nm,1.5s
MAKZ Makanchi 48.64 295 *e*P P 19 04 37.2 -1.7
MAKZ pmax pmax
comp=Z,6.0nm,1.5s
GYA Guiyang 49.34 258 *e*P P 19 04 45.2 +0.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 50.17 308⇓ *e*P **P 19 04 50.0 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
FCC Fort Churchill 50.91 41 *e*P P 19 04 56.6 +0.7
comp=Z,7.7nm,1.0s
FCC Fort Churchill 50.91 41 *e*P P 19 04 56.6 +0.7
FCC pmax pmax
comp=Z,8.0nm,1.0s
KEV Kevo 51.19 342 *e*P P 19 04 57.1 -0.8
comp=Z,62nm,1.9s
LVZ Lovozero 51.23 337 *e*P P 19 04 57.0 -1.2
comp=Z,48nm,2.0s
LVZ Lovozero 51.23 337⇑ *e*P **P 19 04 57.1 -1.2**
LVZ pmax pmax
comp=Z,10.0nm,2.5s
ARCES ARCESS Array B 51.65 342 *e*P P 19 05 01.5 +0.1
ARCES ARCESS Array B 51.65 342 *e*P P 19 05 01.5 +0.1
ARCES ARCESS Array B 51.65 342 P **P 19 05 01.1 -0.2**
comp=Z,1.3nm,0.8s,baz=17,slow=8.9,SNR=8.0
ARE0 ARCESS Array S 51.65 342 *e*P P 19 05 02.3 +0.9
comp=Z,1.0nm,1.4s
KMI Kunming 52.58 260 P **P 19 05 09.1 0.0**
KMI pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 52.74 317 *c i*P **P 19 05 12.5 +2.8**
ARU 19 07 07.8
ARU S **S 19 12 35.9 +0.3**
ARU SS **SS 19 16 13.5 0.0**
ARU pmax pmax
comp=Z,6.0nm,1.4s
ARU MLR MLR
comp=Z,113nm,19.0s
NVAR Mina Array Bea 53.72 73 *e*P P 19 05 19.1 +1.7
NVAR Mina Array Bea 53.72 73 P **P 19 05 18.2 +0.8**
comp=Z,1.2nm,0.7s,baz=306,slow=7.2,SNR=6.9
NV11 Mina Array Sit 53.80 73 *e*P P 19 05 19.2 +1.3
comp=Z,0.7nm,1.8s
PDAR Pinedale Array 55.26 64 P **P 19 05 30.3 +1.8**
comp=Z,0.6nm,0.7s,baz=330,slow=3.1,SNR=5.5
AAK Ala-Archa 55.37 296 *e*P P 19 05 30.2 +0.9
comp=Z,3.4nm,1.1s
AAK Ala-Archa 55.37 296⇑ *i*P **P 19 05 29.9 +0.7**
AAK pmax pmax
comp=Z,2.0nm,1.0s
ULM Lac du Bonnet 56.32 49 P **P 19 05 36.2 +0.6**
comp=Z,1.9nm,0.6s,baz=307,slow=4.0,SNR=4.2
KSH Kashi 56.86 293 P **P 19 05 42.7 +2.8**
KSH pP sP 19 05 47.7 -2.8
KSH PP **PP 19 07 50.6 +4.6**
KSH S **S 19 13 33.5 +2.0**
KSH SS **SS 19 17 23.9 +4.6**
KSH pmax pmax
comp=Z,9.0nm,0.4s
KSH pmax pmax
comp=Z,74nm,3.2s
KSH LR LR
comp=Z,140nm,5.7s
KSH LR LR
comp=Z,160nm,6.5s
KSH LR LR
comp=Z,280nm,5.2s
KK31 Karatay Array 57.05 299 *e*P P 19 05 41.1 +0.1
comp=Z,3.3nm,1.0s
KKAR Karatay Array 57.05 299 *e*P P 19 05 39.8 -1.3
KKAR *e*P **P 19 05 41.2 +0.2**
ABKAR Akbulak array 57.45 311 *e*P P 19 05 42.0 -1.7
comp=Z,1.9nm,0.6s
ABKAR *e*P **P 19 05 42.0 -1.7**
FIA1 FINESS Array S 58.67 337 *e*P P 19 05 51.3 -0.7
comp=Z,61nm,1.9s
FINES FINESS Array B 58.67 337 P **P 19 05 51.2 -0.8**
comp=Z,4.9nm,0.5s,baz=31,slow=6.9,SNR=59
FINES LR LR 19 33 15.3
comp=Z,57nm,21.9s,baz=344,slow=38
EYMN Ely 59.94 48 *e*P P 19 06 01.6 +0.5
comp=Z,28nm,1.4s
CMAR Chiang Mai Arr 59.99 259 P **P 19 06 00.9 -0.9**
comp=Z,0.7nm,0.8s,baz=24,slow=6.8,SNR=7.3
CMAR LR LR 19 35 03.9
comp=Z,38nm,18.0s,baz=52,slow=39
ECSD EROS Data Cent 60.89 55 *e*P P 19 06 08.3 +0.6
comp=Z,12nm,1.5s
NC204 NORSAR Array S 61.67 345 *e*P P 19 06 11.6 -1.1
comp=Z,150nm,2.0s
NC405 NORSAR Array S 61.68 344 *e*P P 19 06 11.9 -0.8
comp=Z,88nm,1.9s
NB201 NORSAR Array S 61.81 345 *e*P P 19 06 13.1 -0.5
comp=Z,51nm,1.5s
NB2 NORSAR Subarra 61.83 345 P **P 19 06 12.5 -1.2**
comp=Z,5.4nm,0.9s,baz=29,slow=6.2
NOA NORSAR Array B 61.83 345 P **P 19 06 12.8 -1.0**
comp=Z,1.0nm,0.6s,baz=18,slow=6.9,SNR=7.7
NOA LR LR 19 34 20.1
comp=Z,32nm,19.7s,baz=15,slow=37
OK024 West corner E0 66.91 60 *e*P P 19 06 48.2 +0.8
comp=Z,127nm,1.0s
AKASG Malin Array Be 67.45 330 *ce*P **P 19 06 50.7 +0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 67.45 330 P **P 19 06 49.4 -1.1**
comp=Z,1.7nm,0.4s,baz=28,slow=6.8,SNR=14
AKASG LR LR 19 39 33.5
comp=Z,27nm,19.0s,baz=25,slow=39
AKBB Malin Array Si 67.45 330 *e*P P 19 06 49.8 -0.7
comp=Z,14nm,1.8s
KIEV Kiev 67.46 330⇓ *e*P **P 19 06 50.8 +0.2**
KIEV pmax pmax
comp=Z,12nm,2.4s
MAK Makhachkala 67.70 314 *e*P P 19 06 48.2 -4.0
MAK *e*S **S 19 15 43.8 -3.8**
MAK pmax pmax
comp=Z,45nm,0.3s
MAK MLR MLR
comp=Z,63nm,15.0s
TXAR Lajitas Array 68.52 69 *e*P P 19 06 59.0 +1.3
TXAR Lajitas Array 68.52 69 P **P 19 06 57.3 -0.4**
comp=Z,0.9nm,0.7s,baz=303,slow=3.7,SNR=12
M50A Fremont 68.78 47 *e*P P 19 07 01.3 +2.3
comp=Z,17nm,0.8s
KBZ Khabaz 68.90 317 P **P 19 06 59.1 -0.6**
comp=Z,1.4nm,0.7s,baz=39,slow=2.7,SNR=5.1
KBZ LR LR 19 39 48.4
comp=Z,51nm,21.6s,baz=22,slow=38
CLL Collm 70.80 340 *i*pP **pP 19 07 19.9 +1.0**
CLL *e*PcP **PcP 19 07 32.0 +0.1**
KOLS Kolonicke sedl 70.94 333 *e*P P 19 07 13.8 +1.6
KOLS Kolonicke sedl 70.94 333 *e*P P 19 07 13.8 +1.6
MORC Moravsky Berou 71.30 337⇑ *i*P P 19 07 23.3 +8.9
MORC Moravsky Berou 71.30 337⇑ P P 19 07 23.3 +8.9
BUR08 Bucovina Ar. S 71.35 331 *e*P P 19 07 15.6 +0.8
comp=Z,2.3nm,0.7s
BURAR Bucovina Array 71.37 331 *e*P P 19 07 14.3 -0.6
BURAR Bucovina Array 71.37 331⇑ *i*P **P 19 07 15.4 +0.5**
BURAR Bucovina Array 71.37 331⇑ P **P 19 07 15.4 +0.5**
LANS Liptovska Anna 71.44 335 *e*P P 19 07 17.7 +2.5
LANS Liptovska Anna 71.44 335 *e*P P 19 07 17.7 +2.5
TRPA Tarpa 71.62 333⇑ *i*P **P 19 07 17.4 +1.2**
VYHS Vyhne 72.20 336 *e*P P 19 07 21.1 +1.3
VYHS Vyhne 72.20 336 *e*P P 19 07 21.1 +1.3
KHC Kasperske Hory 72.76 339 *e*P P 19 07 32.5 +9.4
KHC Kasperske Hory 72.76 339 *e*P P 19 07 32.5 +9.4
GERES GERESS Array B 73.00 339 *e*P P 19 07 23.5 -1.2
GERES GERESS Array B 73.00 339 P **P 19 07 24.9 +0.3**
comp=Z,0.6nm,0.6s,baz=6.7,slow=4.6,SNR=4.6
GERES LR LR 19 44 43.4
comp=Z,34nm,18.3s,baz=6.0,slow=40
MLR Muntele Rosu 73.10 330 *e*P P 19 07 26.0 +0.7
comp=Z,18nm,1.9s
MLR Muntele Rosu 73.10 330⇑ *i*P **P 19 07 26.0 +0.7**
MLR Muntele Rosu 73.10 330⇑ P **P 19 07 26.0 +0.7**
ARR Arges 73.59 330⇑ *i*P **P 19 07 28.7 +0.6**
BZS Buzias 74.18 333⇑ *i*P **P 19 07 32.0 +0.5**
BZS Buzias 74.18 333⇑ P **P 19 07 32.0 +0.5**
BRTR Keskin Array B 75.81 322 P **P 19 07 41.2 +0.1**
comp=Z,0.6nm,0.7s,baz=112,slow=6.7,SNR=3.5
BRTR LR LR 19 47 03.4
comp=Z,18nm,18.2s,baz=78,slow=40
VTS Vitosha 76.51 330⇑ *i*P **P 19 07 46.2 +1.1**
VTS Vitosha 76.51 330⇑ P **P 19 07 46.2 +1.1**
PDG Podgorica 77.77 333⇑ *i*P **P 19 07 52.7 +0.7**
WRA Warramunga Arr 78.66 207 *e*P P 19 07 56.9 -0.1
WRA Warramunga Arr 78.66 207 *e*P P 19 07 56.9 -0.1
WRA Warramunga Arr 78.66 207 P **P 19 07 57.3 +0.3**
comp=Z,1.7nm,0.8s,baz=18,slow=5.9,SNR=14
AS31 Alice Springs 82.33 206 *e*P P 19 08 16.9 +0.3
comp=Z,1.2nm,0.6s
ASAR Alice Springs 82.33 206 *e*P P 19 08 16.5 -0.2
ASAR Alice Springs 82.33 206 P **P 19 08 16.2 -0.4**
comp=Z,2.4nm,0.7s,baz=16,slow=6.0,SNR=30
CMIG Matias Romero 83.12 70 LR LR 19 46 23.2
comp=Z,27nm,18.1s,baz=24,slow=36
ESDC Sonseca Array 84.72 350 P **P 19 08 28.8 -0.2**
comp=Z,0.1nm,0.4s,baz=342,slow=5.5,SNR=3.1
COCO West Island 86.64 243 *i*P **P 19 08 39.7 +1.1**
STKA Stephens Creek 88.63 198 LR LR 19 46 25.6
comp=Z,28nm,19.0s,baz=207,slow=34
QSPA South Pole Qui 145.02 180 PKPbc **PKPbc 19 15 28.3 -2.1**
comp=Z,5.2nm,0.7s,baz=338,slow=0.9,SNR=28

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*ATH **03** 19:05:47.8, 40°.37N×23°.98E, h14km±1km, ML1.5/8, Error ellipse: s-maj=1.8km s-min=0.7km az=212.0*
THE 03 19:05:47.8, 40°.37N×24°.00E, h14km, ML1.6/2, Error ellipse: s-maj=0.9km s-min=0.5km az=174.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.04**	**204**	P	Pg	19 05 50.4	+0.2
OUR				S	Sg	19 05 51.9	0.0
OUR	**Ouranopolis**	**0.04**	**204**	P	Pg	19 05 50.4	+0.2
OUR				S	Sg	19 05 51.9	0.0
OUR				AML	AML	19 05 52.0	
	comp=N,3543μm,0.2s						
OUR				AML	AML	19 05 52.1	
	comp=E,4201μm,0.2s						
PLG	**Polygyros**	**0.42**	**271**	P	Pg	19 05 56.0	-0.3
PLG				S	Sb	19 06 02.8	-0.7
PLG	**Polygyros**	**0.42**	**271**	P	Pg	19 05 56.0	-0.3
PLG				S	Sg	19 06 01.6	-0.4
PLG				AML	AML	19 06 03.6	
	comp=E,100μm,0.1s						
PLG				AML	AML	19 06 04.0	
	comp=N,95μm,0.2s						
PAIG	**Paliouri**	**0.50**	**209**	P	Pg	19 05 57.6	-0.1
PAIG				S	Sg	19 06 04.7	+0.2
PAIG	**Paliouri**	**0.50**	**209**	P	Pg	19 05 57.6	-0.1
PAIG				S	Sg	19 06 04.6	+0.1
PAIG				AML	AML	19 06 07.2	
	comp=N,60μm,0.1s						
PAIG				AML	AML	19 06 08.2	
	comp=E,82μm,0.2s						
THAS	**Thassos island**	**0.60**	**66**	P	Pg	19 05 59.3	-0.2
THAS				S	Sg	19 06 07.8	+0.4
THAS	**Thassos island**	**0.60**	**66**	P	Pb	19 06 00.4	+0.3
THAS				S	Sg	19 06 07.8	+0.4
THAS				AML	AML	19 06 09.7	
	comp=N,737μm,0.2s						
THAS				AML	AML	19 06 09.8	
	comp=E,334μm,0.2s						
KVLA	**Kavala**	**0.64**	**27**	P	Pb	19 06 01.0	+0.2
KVLA				S	Sg	19 06 09.0	+0.2
SOH	**Sokhos**	**0.67**	**313**	P	Pg	19 06 00.6	-0.3
SOH				S	Sg	19 06 09.8	+0.1
SOH	**Sokhos**	**0.67**	**313**	P	Pg	19 06 00.7	-0.2
SOH				S	Sg	19 06 09.1	-0.7
SOH				AML	AML	19 06 10.9	
	comp=E,95μm,0.2s						
SOH				AML	AML	19 06 11.9	
	comp=N,106μm,0.2s						
HORT	**Hortiatis**	**0.72**	**289**	P	Pg	19 06 01.5	-0.5
HORT				S	Sg	19 06 11.0	-0.5
KAVA	**Kavala**	**0.74**	**32**	P	Pg	19 06 01.9	-0.3
KAVA				S	Sb	19 06 12.7	+0.2
KAVA	**Kavala**	**0.74**	**32**	P	Pg	19 06 01.9	-0.2
KAVA				S	Sb	19 06 12.4	-0.1
KAVA				AML	AML	19 06 13.4	
	comp=N,79μm,0.2s						
KAVA				AML	AML	19 06 13.7	
	comp=E,111μm,0.2s						
SRS	**Serrai**	**0.81**	**338**	P	Pg	19 06 03.2	-0.3
SRS	**Serrai**	**0.81**	**338**	P	Pg	19 06 03.0	-0.5
SRS				S	Sb	19 06 14.4	-0.2
SRS				AML	AML	19 06 15.5	
	comp=N,42μm,0.1s						
SRS				AML	AML	19 06 17.3	
	comp=E,71μm,0.1s						
NVR	**Nevrokopi**	**0.99**	**354**	P	Pb	19 06 06.3	-0.5
NVR	**Nevrokopi**	**0.99**	**354**	P	Pb	19 06 06.5	-0.3
NVR				S	Sb	19 06 19.6	0.0
LIA	**Limnos Island**	**1.02**	**117**	P	Pb	19 06 06.4	-0.9
LIA				S	Sn	19 06 22.0	+0.1
KNT	**Kendrikon**	**1.15**	**314**	P	Pn	19 06 09.7	+0.1
KNT				S	Sb	19 06 24.4	0.0
KNT				AML	AML	19 06 27.3	
	comp=N,50μm,0.2s						
KNT				AML	AML	19 06 28.0	
	comp=E,24μm,0.1s						
SMTH	**Samothraki Isl**	**1.17**	**84**	P	Pg	19 06 10.6	+0.3
SMTH				S	Sn	19 06 26.6	+0.9
AOS	**Alonnisos**	**1.20**	**185**	P	Pn	19 06 09.0	-1.2
RDO	**Rodhopi**	**1.40**	**56**	P	Pb	19 06 13.9	+0.1
RDO				S	Sg	19 06 33.1	+0.2
ALN	**Alexandroupoli**	**1.64**	**71**	P	Pb	19 06 18.0	+0.1
ALN				S	Sg	19 06 41.0	+0.3

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*ISCJB **03** 19:29:09.4±0.8, 19°.08N±0°.05×64°.63W±0°.02, h26km±5km, Error ellipse: s-maj=8.4km s-min=3.8km az=5.0*
*NEIC **03** 19:29:11.6±0.0, 19°.01N×64°.61W, h10km, MD3.5(RSPR), After RSPR.*
*RSPR **03** 19:29:11.6, 19°.01N×64°.61W, h10km±1km, MD3.5/20*
ISC 03 19:29:08.3±1.5, 19°.13N±0°.07×64°.58W±0°.02, h29km±10km, n69, σ1s59/102, 20C-16D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.46**	**150**⇑	*e*P	**Pb**	**19 29 18.7**	**+0.7**
ABV	**Anegada**	**0.46**	**150**⇑	*e*P	**Pb**	**19 29 18.7**	**+0.7**
ABV				*e*S	**Sb**	**19 29 25.3**	**+0.7**
ABVI	**Anegada Island**	**0.46**	**150**	*e*Pg	**Pb**	**19 29 18.1**	**+0.2**
ABVI				*e*Pg	**Pn**	**19 29 18.7**	**-0.3**
ABVI				*e*Sg	**Sb**	**19 29 24.1**	**-0.4**
ABVI				*e*Sg	**Sn**	**19 29 25.3**	**-0.8**
STVI	**Saint Thomas**	**0.85**	**205**⇑	*e*P	**Pb**	**19 29 24.2**	**-0.4**
STVI	**Saint Thomas**	**0.85**	**205**	*e*Pg	**Pb**	**19 29 24.1**	**-0.4**
STVI				*e*Pn	**Sb**	**19 29 34.1**	**-1.5**
STVI	**Saint Thomas**	**0.85**	**205**⇑	*e*P	**Pb**	**19 29 24.2**	**-0.4**
STVI				*e*S	**Sb**	**19 29 34.9**	**-0.6**
CUPR	**Culebra, Puert**	**1.05**	**220**⇑	*e*P	**Pn**	**19 29 27.5**	**+0.3**
CUPR	**Culebra, Puert**	**1.05**	**220**	*e*S	**Sb**	**19 29 40.4**	**-1.0**
CUPR	**Culebra, Puert**	**1.05**	**220**	*e*Pg	**Pn**	**19 29 27.4**	**+0.3**
CUPR				*e*Sg	**Sb**	**19 29 40.0**	**-1.4**
CDVI	**St. Croix**	**1.38**	**188**⇑	*e*P	**Pn**	**19 29 33.1**	**+1.4**
CDVI	**St. Croix**	**1.38**	**188**	*e*Pn	**Pn**	**19 29 32.8**	**+1.1**
CDVI				*e*Pn	**Pn**	**19 29 33.1**	**+1.4**
CDVI				*e*Sn	**Sn**	**19 29 50.0**	**+1.1**
CDVI				*e*Sn	**Sn**	**19 29 50.2**	**+1.3**
CDVI	**St. Croix**	**1.38**	**188**⇑	*e*P	**Pn**	**19 29 33.1**	**+1.4**
CDVI				*e*S	**Sn**	**19 29 50.2**	**+1.3**
MTP	**Monte Pirata**	**1.38**	**222**⇓	*e*P	**Pn**	**19 29 32.6**	**+0.9**
MTP	**Monte Pirata**	**1.38**	**222**	*e*Pn	**Pn**	**19 29 32.5**	**+0.9**
MTP				*e*Sn	**Sn**	**19 29 48.7**	**-0.3**
MTP	**Monte Pirata**	**1.38**	**222**⇓	*e*P	**Pn**	**19 29 32.6**	**+0.9**
MTP				*e*S	**Sn**	**19 29 49.1**	**+0.1**
CBYP	**Canovanas**	**1.48**	**235**⇓	*e*P	**Pn**	**19 29 33.9**	**+0.7**
CBYP	**Canovanas**	**1.48**	**235**⇓	*e*P	**Pn**	**19 29 34.0**	**+0.8**
CBYP	**Canovanas**	**1.48**	**235**	*e*Pn	**Pn**	**19 29 34.0**	**+0.8**
CBYP				*e*Pn	**Pb**	**19 29 34.1**	**-1.2**
CBYP				*e*Sn	**Sn**	**19 29 51.1**	**-0.5**
CBYP				*e*Sn	**Sn**	**19 29 51.6**	**0.0**
CBYP	**Canovanas**	**1.48**	**235**⇓	*e*P	**Pn**	**19 29 33.9**	**+0.7**
CBYP	**Canovanas**	**1.48**	**235**⇓	*e*P	**Pn**	**19 29 34.0**	**+0.8**
CBYP				*e*S	**Sn**	**19 29 51.6**	**0.0**

HUMP	**Col San Antoni**	**1.56 231**	⇓*eP*	**Pn**	**19 29 35.2**	**+1.1**
HUMP	**Col San Antoni**	**1.56 231**	⇓*eP*	**Pn**	**19 29 35.0**	**+0.9**
HUMP	**Col San Antoni**	**1.56 231**	*e*Pn	**Pn**	**19 29 35.0**	**+0.9**
HUMP			*e*Sn	**Sn**	**19 29 52.9**	**-0.4**
HUMP	**Col San Antoni**	**1.56 231**	⇓*eP*	**Pn**	**19 29 35.0**	**+0.9**
HUMP	**Col San Antoni**	**1.56 231**	⇓*eP*	**Pn**	**19 29 35.2**	**+1.1**
HUMP			*e*S	**Sn**	**19 29 53.0**	**-0.4**
SMRT	**St. Maarten**	**1.78 127**	⇓*eP*	**Pn**	**19 29 38.6**	**+1.4**
SMRT	**St. Maarten**	**1.78 127**	*e*Pn	**Pn**	**19 29 39.0**	**+1.7**
SMRT			*e*Sn	**Sn**	**19 30 00.4**	**+1.5**
SMRT	**St. Maarten**	**1.78 127**	⇓*eP*	**Pn**	**19 29 38.6**	**+1.4**
SMRT	**St. Maarten**	**1.78 127**	*eP*	**Pn**	**19 29 38.7**	**+1.5**
SMRT			*e*S	**Sn**	**19 30 00.2**	**+1.3**
SMRT			*e*S	**Sn**	**19 30 00.4**	**+1.5**
SJG	**San Juan**	**1.80 236**	⇑*eP*	**Pn**	**19 29 39.1**	**+1.6**
SJG	**San Juan**	**1.80 236**	*e*Pn	**Pn**	**19 29 38.9**	**+1.4**
SJG			*e*Sn	**Sn**	**19 29 56.8**	**-2.7**
SJG	**San Juan**	**1.80 236**	⇑*eP*	**Pn**	**19 29 39.1**	**+1.6**
SJG			*e*S	**Sn**	**19 29 59.3**	**-0.1**
EMPR	**Esperanza - Ma**	**1.96 251**	⇑*eP*	**Pn**	**19 29 41.4**	**+1.8**
EMPR	**Esperanza - Ma**	**1.96 251**	*e*S	**Sn**	**19 30 04.5**	**+1.2**
EMPR	**Esperanza - Ma**	**1.96 251**	*e*Pn	**Pn**	**19 29 40.8**	**+1.1**
EMPR			*e*Pn	**Pn**	**19 29 41.4**	**+1.8**
EMPR			*e*Sn	**Sn**	**19 30 04.5**	**+1.2**
CELP	**Cerrillos**	**2.17 242**	⇑*eP*	**Pn**	**19 29 44.2**	**+1.7**
CELP			*e*S	**Sn**	**19 30 08.7**	**+0.2**
CELP	**Cerrillos**	**2.17 242**	*e*Pn	**Pn**	**19 29 44.2**	**+1.7**
CELP			*e*Sn	**Sn**	**19 30 08.7**	**+0.2**
CELP	**Cerrillos**	**2.17 242**	⇑*eP*	**Pn**	**19 29 44.2**	**+1.7**
CELP			*e*S	**Sn**	**19 30 08.7**	**+0.2**
AOPR	**Arecibo Observ**	**2.21 250**	⇑*eP*	**Pn**	**19 29 44.3**	**+1.2**
AOPR	**Arecibo Observ**	**2.21 250**	*e*Pn	**Pn**	**19 29 43.4**	**+0.4**
AOPR	**Arecibo Observ**	**2.21 250**	⇑*eP*	**Pn**	**19 29 44.3**	**+1.2**
OBIP	**Obispado Ponce**	**2.21 241**	⇑*eP*	**Pn**	**19 29 44.9**	**+1.8**
OBIP	**Obispado Ponce**	**2.21 241**	*e*Pn	**Pn**	**19 29 44.5**	**+1.4**
OBIP	**Obispado Ponce**	**2.21 241**	⇑*eP*	**Pn**	**19 29 44.9**	**+1.8**
OBIP			*e*S	**Sn**	**19 30 10.1**	**+0.7**
SEUS	**St. Eustatius**	**2.22 137**	*eP*	**Pn**	**19 29 39.7**	**-3.5**
SEUS			*e*S	**Sn**	**19 30 12.3**	**+2.6**
ICMP	**Isla Caja de M**	**2.23 237**	*e*Pn	**Pn**	**19 29 44.9**	**+1.6**
AGPR	**Aguadilla, PR**	**2.49 255**	⇑*eP*	**Pn**	**19 29 49.3**	**+2.3**
AGPR	**Aguadilla, PR**	**2.49 255**	⇑*eP*	**Pn**	**19 29 49.3**	**+2.3**
AGP	**Aguadilla**	**2.53 254**	*e*Pn	**Pn**	**19 29 47.9**	**+0.3**
LSP	**Las Mesas**	**2.56 249**	⇓*eP*	**Pn**	**19 29 50.5**	**+2.5**
LSP	**Las Mesas**	**2.56 249**	*e*Pn	**Pn**	**19 29 50.5**	**+2.5**
LSP	**Las Mesas**	**2.56 249**	⇓*eP*	**Pn**	**19 29 50.5**	**+2.5**
MPR	**Mayaguez**	**2.60 250**	*e*Pn	**Pn**	**19 29 50.0**	**+1.6**
CRPR	**Cabo Rojo, PR**	**2.65 246**	⇑*eP*	**Pn**	**19 29 51.4**	**+2.3**
CRPR	**Cabo Rojo, PR**	**2.65 246**	*e*Pn	**Pn**	**19 29 51.4**	**+2.3**
CRPR	**Cabo Rojo, PR**	**2.65 246**	⇑*eP*	**Pn**	**19 29 51.4**	**+2.3**
CRPR			*e*S	**Sn**	**19 30 21.5**	**+1.2**
IDE	**Isla Desecheo**	**2.84 255**	⇓*eP*	**Pn**	**19 29 53.0**	**+1.1**
IDE	**Isla Desecheo**	**2.84 255**	*e*Pn	**Pn**	**19 29 53.0**	**+1.1**
IDE			*e*Pn	**Pn**	**19 29 53.0**	**+1.1**
IDE	**Isla Desecheo**	**2.84 255**	⇓*eP*	**Pn**	**19 29 53.0**	**+1.1**
ANWB	**Willy Bob**	**3.02 118**	*e*Pn	**Pb**	**19 29 58.6**	**-2.8**
ANWB	**Willy Bob**	**3.02 118**	*eP*	**Pn**	**19 29 54.8**	**+0.6**
ANWB			*e*S	**Sn**	**19 30 33.3**	**+3.8**
MLYT	**Lee's Yard**	**3.30 136**	*eP*	**Pn**	**19 30 01.4**	**+3.3**
BPA	**Boggy Peak**	**3.31 128**	*eP*	**Pb**	**19 30 04.3**	**-2.1**
BPA			*e*S	Sn	19 30 12.3	-24
TBG	**Guadaloupe-3**	**4.29 139**	*eP*	Pn	19 30 17.7	+6.0
TBG	**Guadaloupe-3**	**4.29 139**	*eS*	**Sb**	**19 31 10.5**	**-4.0**
BBL	**Barber's Block**	**4.65 140**	*eP*	**Pn**	**19 30 18.1**	**+1.4**
FDF	**Fort de France**	**5.46 143**	*e*Pn	**Pn**	**19 30 30.9**	**+3.0**
SDDR	**Presa de Saban**	**6.35 270**	*e*Pn	**Pn**	**19 30 43.5**	**+3.4**
GRTK	**Grand Turk**	**6.60 292**	*e*Pn	**Pn**	**19 30 44.6**	**+1.2**

*IDC **03** 19:43:11.0±1.8, 1°.22N×97°.20E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/41, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=61.5km s-min=20.0km az=59.0*
*NEIC **03** 19:43:11.9±1.4, 1°.12N×96°.96E, h13km±6km, mb4.3/11, Error ellipse: s-maj=21.1km s-min=12.5km az=169.0*
*ISCJB **03** 19:43:12.1±0.7, 1°.18N±0°.09×97°.03E±0°.07, h25km, mb4.1/16, Error ellipse: s-maj=13.3km s-min=9.3km az=28.9*

ISC 03 19:43:14.1±1.2, 1°.2N±0°.1×97°.1E±0°.1, h25km, n35, σ0°74/34, mb4.2/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.52**	**79**	*e*Pg	**Pb**	**19 43 24.8**	**+0.1**
PSI	**Prapat**	**2.44**	**49**	*e*Pn	**Pn**	**19 43 52.4**	**-0.2**
LHMI	**Lhok Sumawe**	**4.00**	**358**	*e*Pn	**Pn**	**19 44 14.0**	**+0.2**
IPM	**Ipoh**	**5.12**	**50**	*e*Pn	**Pn**	**19 44 30.1**	**+0.8**
KULM	**Kulim**	**5.41**	**41**	*e*Pn	**Pn**	**19 44 32.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.25**	**6**	*e*Pn	**Pn**	**19 47 13.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.25**	**6**	P	**Pn**	**19 47 12.6**	**-0.8**
	0.1nm,0.3s,baz=196,slow=11,SNR=10						
H08S2	**Diego Garcia H**	**26.04**	**250**	T	T	20 15 40.4	
	baz=71,slow=75,SNR=277						
H08S3	**Diego Garcia H**	**26.04**	**250**	T	T	20 15 45.8	
	baz=71,slow=75,SNR=203						
H08S1	**Diego Carcia H**	**26.05**	**250**	T	T	20 15 46.9	
	baz=71,slow=75,SNR=326						
WR1	**Warramunga Arr**	**42.15**	**122**	*eP*	**P**	**19 51 04.3**	**-0.6**
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**19 51 04.3**	**-0.6**
	0.3nm,0.5s,baz=302,slow=9.1,SNR=3.4						
ASAR	**Alice Springs**	**43.51**	**127**	P	**P**	**19 51 16.1**	**+0.2**
	0.3nm,0.4s,baz=297,slow=7.6,SNR=9.8						
ARSB	**Arslanbob**	**45.48**	**334**	*eP*	**P**	**19 51 32.7**	**+1.3**
	2.7nm,0.8s						
KS15	**Wonju Array Si**	**45.89**	**35**	*eP*	**P**	**19 51 34.3**	**-0.3**
	7.3nm,0.9s						
KSAR	**Wonju Array Be**	**45.89**	**35**	*eP*	**P**	**19 51 34.2**	**-0.4**
KSRS	**Korea Array**	**45.92**	**35**	P	**P**	**19 51 34.5**	**-0.3**
	2.4nm,0.9s,baz=220,slow=8.8,SNR=9.9						
SONA0	**Songino Array**	**47.15**	**9**	*eP*	**P**	**19 51 44.9**	**+0.4**
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**19 51 44.9**	**+0.4**
	0.9nm,0.7s,baz=184,slow=9.8,SNR=6.8						
MK31	**Makanchi Array**	**47.21**	**346**	*eP*	**P**	**19 51 45.4**	**+0.5**
	1.1nm,0.8s						
MK32	**Makanchi Array**	**47.21**	**346**	*eP*	**P**	**19 51 46.0**	**+1.1**
MKAR	**Makanchi Array**	**47.21**	**346**	*eP*	**P**	**19 51 45.4**	**+0.6**
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**19 51 46.0**	**+1.1**
	0.9nm,0.5s,baz=162,slow=9.3,SNR=19						
MAKZ	**Makanchi**	**47.30**	**346**	*eP*	**P**	**19 51 45.8**	**+0.3**
	8.3nm,1.9s						
KK31	**Karatay Array**	**47.99**	**334**	*eP*	**P**	**19 51 49.6**	**-1.4**
	2.8nm,1.2s						
KKAR	**Karatay Array**	**47.99**	**334**	*eP*	**P**	**19 51 49.6**	**-1.4**
	2.8nm,1.2s						
KKAR				*eP*	**P**	**19 51 49.6**	**-1.4**
SARN	**Sarigan**	**50.35**	**69**	*eP*	**P**	**19 52 09.6**	**+0.1**
	36nm,1.0s						
KURK	**Kurchatov**	**51.75**	**345**	*eP*	**P**	**19 52 19.9**	**+0.5**
	11nm,1.8s						
ZAA0	**Zalesovo Array**	**53.53**	**351**	*eP*	**P**	**19 52 33.0**	**+0.5**
	4.9nm,1.3s						
ZALV	**Zalesovo Beam**	**53.53**	**351**	*eP*	**P**	**19 52 32.8**	**+0.3**
ZALV	**Zalesovo Beam**	**53.53**	**351**	P	**P**	**19 52 33.3**	**+0.8**
	2.4nm,0.7s,baz=160,slow=4.7,SNR=8.1						
ZAA1	**Zalesovo Array**	**53.54**	**351**	*eP*	**P**	**19 52 33.3**	**+0.7**
ABKAR	**Akbulak array**	**57.45**	**332**	*eP*	**P**	**19 53 00.6**	**-0.2**
ABKAR				*eP*	**P**	**19 53 00.7**	**-0.1**
ARA0	**ARCESS Array S**	**82.49**	**340**	*eP*	**P**	**19 55 34.9**	**+0.7**
ARCES	**ARCESS Array B**	**82.49**	**340**	P	**P**	**19 55 34.9**	**+0.7**
	1.3nm,1.0s,baz=63,slow=6.4,SNR=2.8						

*SJA **03** 19:53:55.7±0.6, 19°.46S×69°.00W, h126km±3km, ML2.2, MW2.8*
*ISCJB **03** 19:53:57.2±1.2, 19°.53S±0°.06×69°.1W±0°.1, h126km±7km, Error ellipse: s-maj=16.7km s-min=9.5km az=163.9*
*GUC **03** 19:53:57.8±0.3, 19°.54S×69°.04W, h120km±1km, ML2.9*

ISC 03 19:53:57.8±2.8, 19°.51S±0°.09×69°.1W±0°.1, h118km±14km, n19, σ0°48/31, 6C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.21**	**222**	⇑*eP*	**Pn**	**19 54 14.6**	**-0.3**
GO01				*e*S	**Sn**	**19 54 27.8**	**+0.1**
GO01				IAML		19 54 29.1	
	comp=E,872nm,0.1s						
PB11	**IPOC Station P**	**0.62**	**247**	*eP*	**Pn**	**19 54 16.3**	**-0.4**
PB11				*e*S	**Sn**	**19 54 31.8**	**+1.1**
PB11	**IPOC Station P**	**0.62**	**247**	⇑*eP*	**Pn**	**19 54 16.2**	**-0.4**
PB11				*e*S	**Sn**	**19 54 30.4**	**-0.4**
PB11				IAML		19 54 31.7	
	comp=N,389nm,0.3s						
PB08	**IPOC Station P**	**0.63**	**189**	*eP*	**Pn**	**19 54 16.9**	**-0.1**
PB08				*e*S	**Sn**	**19 54 32.1**	**+0.7**
PB08	**IPOC Station P**	**0.63**	**189**	⇑*eP*	**Pn**	**19 54 16.7**	**-0.3**
PB08				*e*S	**Sn**	**19 54 31.4**	**+0.1**
PB08				IAML		19 54 32.2	
	comp=N,306nm,0.4s						
MNMC	**Minye Minye**	**0.64**	**306**	⇑*eP*	**Pn**	**19 54 16.9**	**0.0**
MNMC				*e*S	**Sn**	**19 54 31.7**	**+0.4**
MNMCX	**Minye Minye**	**0.64**	**306**	*eP*	**Pn**	**19 54 16.7**	**-0.2**
MNMCX				*e*S	**Sn**	**19 54 31.6**	**+0.4**
PSGC	**Pisagua**	**1.02**	**265**	⇑*eP*	**Pn**	**19 54 19.7**	**-0.3**
PSGC				*e*S	**Sn**	**19 54 36.3**	**-0.4**
PSGC				IAML		19 54 37.5	
	comp=N,144nm,0.3s						
PSGCX	**Pisagua**	**1.02**	**265**	*eP*	**Pn**	**19 54 19.6**	**-0.4**
PSGCX				*e*S	**Sn**	**19 54 37.3**	**+0.5**
PB01	**IPOC Station P**	**1.58**	**195**	⇓*eP*	**Pn**	**19 54 25.8**	**-0.4**
PB01				*e*S	**Sn**	**19 54 47.1**	**-0.6**
PB01				IAML		19 54 48.3	
	comp=N,248nm,0.2s						
PB02	**IPOC Station P**	**1.97**	**204**	*eP*	**Pn**	**19 54 31.1**	**+0.2**
PB02				*e*S	**Sn**	**19 54 57.5**	**+1.3**
PB02	**IPOC Station P**	**1.97**	**204**	⇑*eP*	**Pn**	**19 54 30.6**	**-0.3**
PB02				*e*S	**Sn**	**19 54 55.6**	**-0.6**
PB02				IAML		19 54 59.0	
	comp=E,116nm,0.1s						
PB09	**IPOC Station P**	**2.28**	**185**	*eP*	**Pn**	**19 54 34.8**	**-0.1**
PB07	**IPOC Station P**	**2.34**	**200**	*eP*	**Pn**	**19 54 35.7**	**+0.1**
PB03	**IPOC Station P**	**2.61**	**195**	*eP*	**Pn**	**19 54 39.3**	**+0.2**
PB04	**IPOC Station P**	**2.99**	**200**	*eP*	**Pn**	**19 54 44.1**	**0.0**
LVC	**Limon Verde**	**3.08**	**178**	*eP*	**Pn**	**19 54 45.4**	**-0.2**
LVC				IAML		19 55 23.5	
	comp=Z,5.6nm,0.1s						
PB06	**IPOC Station P**	**3.21**	**189**	*eP*	**Pn**	**19 54 46.7**	**-0.3**
PB05	**IPOC Station P**	**3.49**	**198**	*eP*	**Pn**	**19 54 50.7**	**0.0**

*NIED **03** 20:05:00, 25°.70N×126°.30E, h14km, Mw3.8 Best double couple: M0=4.99000×10^14 NP1:φs=122.00000°, δ=46.00000°, λ=-107.00000°. NP2:φs=326.00000°, δ=46.00000°, λ=-73.00000°.*
*IDC **03** 20:05:36.8±0.8, 25°.69N×126°.08E, h0km, mb3.6/10, mb1 3.8/13, mb1mx3.7/31, mbtmp3.6/13, ML3.0/3, Error ellipse: s-maj=24.5km s-min=18.1km az=75.0*
*ISCJB **03** 20:05:40.2±0.8, 25°.87N±0°.05×126°.20E±0°.05, h29km±7km, mb3.5/10, Error ellipse: s-maj=11.7km s-min=3.4km az=137.5*
*JMA **03** 20:05:40.0±0.1, 25°.74N×126°.34E, h26km, M4.1*

ISC 03 20:05:38.6±1.1, 25°.74N±0°.07×126°.27E±0°.06, h12km±8km, n30, σ0°92/42, mb3.6/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.74**	**38**	P	**Pg**	**20 05 53.3**	**+0.3**
JKE				S	**Sg**	**20 06 03.3**	**+0.6**
JAGN	**Aguni-jima**	**1.21**	**46**	P	**Pn**	**20 06 00.6**	**-0.8**
JIKM	**Ikemajima**	**1.24**	**229**	P	**Pg**	**20 06 02.6**	**+0.2**
JIKM				S	**Sn**	**20 06 19.8**	**+1.5**
JOGS	**Gusukube**	**1.25**	**219**	P	**Pg**	**20 06 02.9**	**+0.1**
JOGS				S	**Sg**	**20 06 20.0**	**+0.9**
JMJ2	**Miyako jima3**	**1.32**	**221**	P	**Pg**	**20 06 03.8**	**-0.1**
JMJ2				S	**Sg**	**20 06 21.6**	**+0.6**
JIRB	**Irabujima**	**1.35**	**228**	P	**Pg**	**20 06 03.9**	**-0.7**
JIRB				S	**Sg**	**20 06 21.9**	**-0.2**
JJT3	**Tamagusuku3**	**1.42**	**73**	P	**Pn**	**20 06 05.0**	**+0.8**
JNTH	**Nagotoyohara**	**1.75**	**64**	P	**Pn**	**20 06 09.8**	**+1.0**
JNTH				*e*S	**Sn**	**20 06 30.1**	**-1.0**
JTJ	**Tarama**	**1.80**	**233**	P	**Pb**	**20 06 10.4**	**-1.1**
JTJ				S	**Sb**	**20 06 33.5**	**-0.5**
JIH	**Iheya**	**1.99**	**49**	P	**Pn**	**20 06 12.2**	**+0.1**
JIH				S	**Sn**	**20 06 36.5**	**-0.5**
JOW	**Kunigami**	**2.10**	**58**	P	**Pn**	**20 06 13.8**	**+0.2**
JOW	**Kunigami**	**2.10**	**58**	Pn	**Pb**	**20 06 15.7**	**-1.0**
	6.8nm,0.3s,baz=183,slow=14,SNR=82						
JOW				Sn	**Sb**	**20 06 42.2**	**-0.5**
	22nm,0.3s,baz=231,slow=26,SNR=9.8						
JISG	**Ishigakijimahi**	**2.12**	**237**	P	**Pb**	**20 06 14.8**	**-2.2**
JISG				*e*S	**Sn**	**20 06 39.9**	**-0.2**
JYRO	**Yoronjima**	**2.33**	**56**	P	**Pn**	**20 06 17.0**	**+0.2**
JIJ	**Ishigaki jima**	**2.37**	**235**	P	**Pn**	**20 06 18.2**	**+0.9**
JIJ				S	**Sn**	**20 06 46.2**	**-0.1**
JKRS	**Kuro-shima**	**2.54**	**234**	P	**Pn**	**20 06 20.8**	**+1.1**
JKRS				*e*S	**Sn**	**20 06 51.4**	**+0.8**
JOKE	**Okinoerabujima**	**2.61**	**51**	P	**Pn**	**20 06 20.9**	**+0.2**
JNU	**Nakatsue**	**8.38**	**28**	Pn	**Pn**	**20 07 41.4**	**+1.5**
	0.1nm,0.3s,baz=278,slow=7.1,SNR=2.5						
KSRS	**Korea Array**	**11.76**	**6**	Pn	**Pn**	**20 08 27.6**	**+1.5**
	0.1nm,0.3s,baz=174,slow=12,SNR=3.0						
MJAR	**Matsushiro Arr**	**14.83**	**41**	Pn	**P**	**20 09 12.9**	**-1.1**
	baz=207,slow=7.2,SNR=2.9						
SONM	**Songino Array**	**27.04**	**330**	P	**P**	**20 11 22.2**	**+1.4**
	0.4nm,0.6s,baz=138,slow=9.8,SNR=3.8						
MKAR	**Makanchi Array**	**40.56**	**313**	P	**P**	**20 13 17.6**	**-0.3**
	0.4nm,0.4s,baz=98,slow=10,SNR=9.6						
ZALV	**Zalesovo Beam**	**41.58**	**324**	P	**P**	**20 13 24.5**	**-1.6**
	0.3nm,0.3s,baz=108,slow=9.3,SNR=2.3						
WRA	**Warramunga Arr**	**46.09**	**169**	P	**P**	**20 14 02.0**	**-0.6**
	1.4nm,1.1s,baz=352,slow=8.3,SNR=7.1						
ASAR	**Alice Springs**	**49.67**	**171**	P	**P**	**20 14 30.9**	**+0.4**
	0.7nm,0.8s,baz=354,slow=14,SNR=7.8						
ILAR	**Eielson Array**	**65.69**	**28**	P	**P**	**20 16 23.9**	**+1.2**
	0.3nm,0.5s,baz=251,slow=4.4,SNR=4.8						
FINES	**FINESS Array B**	**72.41**	**330**	P	**P**	**20 17 03.5**	**-1.0**
	1.1nm,0.8s,baz=64,slow=6.3,SNR=6.2						
BRTR	**Keskin Array B**	**75.94**	**307**	P	**P**	**20 17 25.8**	**+0.1**
	0.3nm,0.5s,baz=72,slow=4.7,SNR=3.0						
NOA	**NORSAR Array B**	**78.96**	**333**	P	**P**	**20 17 41.4**	**-0.7**
	0.4nm,0.7s,baz=51,slow=6.1,SNR=2.7						
YKA	**Yellowknife Ar**	**79.70**	**24**	P	**P**	**20 17 46.6**	**+0.6**
	0.3nm,0.5s,baz=303,slow=5.5,SNR=4.3						

*ISCJB **03** 20:16:27.7±0.3, 44°.87N±0°.01×6°.63E±0°.02, h3km±4km, Error ellipse: s-maj=2.9km s-min=2.4km az=173.4*
*ROM **03** 20:16:28.4±0.2, 44°.882N±0°.007×6°.70E±0°.02, h9km, ML1.4/10, Error ellipse: s-maj=1.8km s-min=0.6km az=78.0*
*LDG **03** 20:16:28.7±0.1, 44°.88N×6°.68E, h5km, Md2.5/5, Ml2.2/9, Error ellipse: s-maj=1.7km s-min=1.4km az=80.0*
*GEN **03** 20:16:28.2, 44°.88N×6°.64E, h5km±2km, Ml1.4*

ISC 03 20:16:28.5±0.8, 44°.88N±0°.02×6°.66E±0°.02, h8km±6km, n74, σ0°50/98, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Rocca Remolon**	**0.10**	**65**	P	**Pg**	**20 16 31.0**	**0.0**
RRL				S	**Sg**	**20 16 32.7**	**-0.1**
RRL	**Rocca Remolon**	**0.10**	**65**	P	**Pg**	**20 16 31.0**	**0.0**
RRL	**Rocca Remolon**	**0.10**	**65**	P	**Pg**	**20 16 31.0**	**0.0**
RRL				S	**Sg**	**20 16 32.8**	**-0.1**
RRL	**Rocca Remolon**	**0.10**	**65**	S	**Sg**	**20 16 32.0**	**-0.8**
RRL	**Rocca Remolon**	**0.10**	**65**	S	**Sg**	**20 16 32.8**	**-0.1**
MBDF	**Montbardon**	**0.17**	**153**	*e*Pg	**Pg**	**20 16 32.0**	**-0.1**
MBDF				*e*Sg	**Sg**	**20 16 34.4**	**-0.2**
	87nm,0.2s						
BNI	**Bardonecchia**	**0.17**	**4**	P	**Pg**	**20 16 32.0**	**-0.1**
BNI				S	**Sg**	**20 16 35.0**	**+0.3**
BNI				AML	AML		
	comp=E,97μm,0.3s						
BNI				AML	AML		
	comp=N,72μm,0.5s						
BNI				AML	AML		
	comp=E,96μm,0.3s						
BNI				AML	AML		
	comp=N,72μm,0.5s						
BNI				AML	AML		
	comp=E,96μm,0.3s						
BNI				AML	AML		
	comp=N,72μm,0.5s						
BNI	**Bardonecchia**	**0.17**	**4**	P	**Pg**	**20 16 32.0**	**-0.1**
BNI	**Bardonecchia**	**0.17**	**4**	P	**Pg**	**20 16 32.1**	**-0.1**
BNI	**Bardonecchia**	**0.17**	**4**	S	**Sg**	**20 16 34.8**	**+0.1**
BHB	**Bricherasio**	**0.43**	**95**	P	**Pg**	**20 16 36.8**	**0.0**
BHB				S	**Sg**	**20 16 42.3**	**-0.2**
BHB	**Bricherasio**	**0.43**	**95**	P	**Pg**	**20 16 36.9**	**0.0**
BHB				S	**Sg**	**20 16 42.5**	**0.0**
BHB				AML	AML		
	comp=E,74μm,1.5s						
BHB				AML	AML		
	comp=N,66μm,0.4s					

MMK	**Mattmark**	**1.49**	**38**	P		**Pn**	**20 16 56.1**	**+0.2**
MMK	**Mattmark**	**1.49**	**38**	P		**Pb**	**20 16 56.3**	**-0.3**
LMR	**La Mourre**	**1.55**	**184**	*e*Pg		**Pg**	**20 16 57.9**	**-0.3**
LMR				*e*Sg		**Sg**	**20 17 17.9**	**-0.4**
	comp=N,5.6nm,0.2s							
CABF	**La Chapelle**	**1.78**	**347**	*e*Pg		**Pg**	**20 17 02.3**	**-0.3**
CABF				*e*Sg		**Sg**	**20 17 25.0**	**-0.7**
	comp=N,2.4nm,0.2s							
LASF	**Ste Croix**	**2.16**	**249**	*e*Pg		**Pg**	**20 17 09.4**	**-0.6**
SMF	**Signal de Mont**	**2.65**	**313**	*e*P		**Pn**	**20 17 13.3**	**+1.7**
SMF				*e*Sg		**Sg**	**20 17 52.5**	**-1.1**
	comp=N,3.2nm,0.3s							
AVF	**Avril sur Loir**	**3.00**	**311**	*e*Sg		**Sg**	**20 18 03.5**	**-1.4**
	comp=N,1.0nm,0.3s							
CAVE	**Cavezzo**	**3.09**	**89**	P		**Pn**	**20 17 18.2**	**+0.6**
CAVE	**Cavezzo**	**3.09**	**89**	AML		AML		
	comp=E,678µm,0.3s							
CAVE				AML		AML		
	comp=E,678µm,0.3s							
CAVE				AML		AML		
	comp=N,712µm,1.4s							
CAVE				AML		AML		
	comp=N,712µm,1.4s							
BGF	**Bois d'Agland**	**3.16**	**303**	*e*P		**Pn**	**20 17 20.0**	**+1.4**
BGF				*e*Sg		**Sg**	**20 18 08.5**	**-1.4**
	comp=N,2.3nm,0.2s							

NIED ***03*** *20:42:00,24.˚00N×123.˚60E,h26km,Mw3.7 Best double couple: M₀4.69000×10¹⁴ NP1:φ₀266.00000°,δ23.00000°, λ125.00000°. NP2:φ₀48.00000°,δ72.00000°,λ77.00000°.*
IDC ***03*** *20:42:03.5±1.0,23.˚99N×123.˚37E,h0km,mb3.5/9, mb1 3.7/9,mb1mx3.4/47,mbtmp3.5/9,MS2.7/3,Ms1 2.7/3, ms1mx2.4/29,Error ellipse: s-maj=55.8km s-min=19.9km az=64.0*
ISCJB ***03*** *20:42:08.1±0.8,23.˚93N±0.˚08×123.˚57E±0.˚04,h45km±6km, mb3.5/9,MS2.7/2,Error ellipse: s-maj=13.6km s-min=6.6km az=5.8*
JMA ***03*** *20:42:09.5±0.1,23.˚97N×123.˚59E,h32km±1km,M3.5*
ISC 03 20:42:08.5±1.2,23.˚96N±0.˚08×123.˚58E±0.˚04,h33km±3km, n20,σ0§84/25,mb3.5/9,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.23**	**64**	P	**Pb**	**20 42 15.8**	**+0.3**
HATJ				S	**Sb**	**20 42 20.4**	**+0.2**
IRIF	**Iriomote-Funau**	**0.40**	**20**	P	**Pb**	**20 42 18.0**	**+0.3**
IRIF				S	**Sb**	**20 42 24.0**	**0.0**
JKRS	**Kuro-shima**	**0.48**	**54**	P	**Pn**	**20 42 19.5**	**+0.4**
JKRS				S	**Sn**	**20 42 26.7**	**+0.3**
JIJ	**Ishigaki jima**	**0.66**	**52**	P	**Pn**	**20 42 21.6**	**+0.2**
JIJ				S	**Sb**	**20 42 30.4**	**-0.2**
YOJ	**Yonaguni jima**	**0.72**	**314**	P	**Pb**	**20 42 23.1**	**+0.3**
YOJ				*e*S	**Sb**	**20 42 32.7**	**+0.3**
JYNG	**Yonagunijimaku**	**0.76**	**311**	P	**Pb**	**20 42 23.7**	**+0.3**
JYNG				*e*S	**Sb**	**20 42 34.0**	**+0.5**
JISG	**Ishigakijimahi**	**0.92**	**47**	P	**Pn**	**20 42 25.6**	**+0.5**
JISG				*e*S	**Sn**	**20 42 37.8**	**+0.7**
JTJ	**Tarama**	**1.23**	**56**	P	**Pb**	**20 42 31.1**	**-0.2**
JTJ				*e*S	**Sb**	**20 42 46.7**	**-0.2**
KSRS	**Korea Array**	**13.96**	**14**	LR	LR	20 51 12.2	
	comp=Z,17nm,21.2s,baz=15,slow=39						
KLR	**Kul'dur**	**26.03**	**12**	LR	LR	20 58 17.3	
	comp=Z,25nm,19.5s,baz=347,slow=37						
SONM	**Songino Array**	**27.47**	**334**	LR	LR	20 59 23.1	
	comp=Z,22nm,19.8s,baz=250,slow=38						
MKAR	**Makanchi Array**	**40.03**	**315**	P	**P**	**20 49 38.4**	**-2.0**
	0.5nm,0.6s,baz=92,slow=11,SNR=5.9						
ZALV	**Zalesovo Beam**	**41.64**	**326**	P	**P**	**20 49 51.3**	**-2.1**
	0.6nm,0.5s,baz=116,slow=9.8,SNR=2.7						
KURBB	**Kurchatov Arra**	**43.70**	**319**	P	**P**	**20 50 09.7**	**-0.5**
	0.2nm,0.4s,baz=112,slow=9.3,SNR=4.4						
WRA	**Warramunga Arr**	**44.87**	**166**	P	**P**	**20 50 19.8**	**-0.1**
	0.9nm,0.8s,baz=346,slow=8.8,SNR=5.8						
ASAR	**Alice Springs**	**48.39**	**167**	P	**P**	**20 50 48.4**	**+0.9**
	0.2nm,0.5s,baz=354,slow=7.9,SNR=4.6						
FINES	**FINESS Array B**	**72.74**	**330**	P	**P**	**20 53 33.3**	**+0.2**
	0.8nm,0.8s,baz=321,slow=2.7,SNR=3.9						
BRTR	**Keskin Array B**	**75.06**	**307**	P	**P**	**20 53 47.5**	**+0.3**
	0.3nm,0.5s,baz=159,slow=3.8,SNR=3.6						
NOA	**NORSAR Array B**	**79.44**	**333**	P	**P**	**20 54 09.8**	**-1.4**
	0.4nm,0.7s,baz=54,slow=5.9,SNR=3.3						
YKA	**Yellowknife Ar**	**82.32**	**23**	P	**P**	**20 54 27.5**	**+1.0**
	0.2nm,0.5s,baz=311,slow=4.9,SNR=4.3						

TRN 03 20:43:42.3,10.˚47N×62.˚26W,h2km,MD3.5,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.81**	**101**	*e*P	Pg	20 43 58.4	+0.5
TRN	**Trinidad (W)**	**0.86**	**78**	*e*P	Pg	20 43 58.6	-0.2
TRN				*e*S	Sb	20 44 11.4	-0.4
GRGR	**Grenville**	**1.75**	**20**	*e*P	Pn	20 44 13.3	-0.4
GRGR				*e*S	Sn	20 44 37.0	+0.4
GRHS	**Sauteurs**	**1.84**	**19**	*e*P	Pn	20 44 15.2	+0.3
GRHS				*e*S	Sn	20 44 39.3	+0.5
TOSP	**Speyside**	**1.88**	**64**	*e*P	Pn	20 44 15.6	+0.2
GRSS	**Sisters**	**1.92**	**19**	*e*P	Pb	20 44 17.3	-0.8
GRSS				*e*S	Sn	20 44 41.5	+0.8
SVB	**Belmont**	**2.95**	**19**	*e*P	Pn	20 44 31.2	+0.9
SVB				*e*S	Sn	20 45 05.9	-0.3
SVCV	**St. Vincent, C**	**2.99**	**21**	*e*P	Pn	20 44 30.9	+0.2
SVCV				*e*S	Sn	20 45 07.0	-0.1
SVV	**Soufriere Volc**	**3.00**	**20**	*e*P	Pn	20 44 31.3	+0.4
SSV	**Crater Summit**	**3.02**	**20**	*e*P	Pn	20 44 32.3	+1.0
SSV				*e*S	Sn	20 45 08.8	+0.7

NIED ***03*** *20:55:00,23.˚90N×123.˚60E,h35km,Mw4.3 Best double couple: M₀2.99000×10¹⁵ NP1:φ₀264.00000°,δ21.00000°, λ123.00000°. NP2:φ₀49.00000°,δ73.00000°,λ78.00000°.*
IDC ***03*** *20:55:43.5±0.8,24.˚10N×123.˚59E,h0km,mb3.8/14, mb1 4.0/14,mb1mx3.9/39,mbtmp3.8/14,ML1.7/1,MS3.4/14, Ms1 3.4/14,ms1mx3.2/30,Error ellipse: s-maj=25.0km s-min=18.0km az=60.0*
NEIC ***03*** *20:55:46.9±2.5,24.˚02N×123.˚70E,h27km±5km,mb4.6/25, Error ellipse: s-maj=14.4km s-min=12.5km az=185.0*
NEIC Recorded [1 JMA] on Iriomote-jima.
ISCJB ***03*** *20:55:48.1±0.4,23.˚99N±0.˚04×123.˚58E±0.˚03,h47km±3km, mb4.3/37,MS3.5/11,Error ellipse: s-maj=7.5km s-min=4.8km az=173.0*
JMA ***03*** *20:55:48.6±0.2,23.˚95N×123.˚59E,h34km±1km,M3.9*
JMA Felt I J1.
ISC 03 20:55:48.2±0.9,23.˚96N±0.˚06×123.˚61E±0.˚03,h33km±3km, n76,σ1§26/80,mb4.1/37,MS3.5/11,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.20**	**61**	P	**Pb**	**20 55 55.2**	**+0.4**
HATJ				S	**Sb**	**20 56 00.3**	**+0.9**
IRIF	**Iriomote-Funau**	**0.39**	**16**	P	**Pb**	**20 55 57.4**	**+0.2**
IRIF				S	**Sb**	**20 56 03.7**	**+0.4**
JKRS	**Kuro-shima**	**0.46**	**53**	P	**Pn**	**20 55 58.9**	**+0.5**
JKRS				S	**Sn**	**20 56 06.2**	**+0.8**
JIJ	**Ishigaki jima**	**0.63**	**50**	P	**Pn**	**20 56 00.9**	**+0.2**
JIJ				S	**Sb**	**20 56 09.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.74**	**313**	*e*Pn	**Pn**	**20 56 02.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.74**	**313**	P	**Pb**	**20 56 02.5**	**-0.2**
YOJ				*e*S	**Sb**	**20 56 12.9**	**+0.3**
JYNG	**Yonagunijimaku**	**0.78**	**309**	P	**Pn**	**20 56 03.0**	**+0.2**
JYNG				*e*S	**Sn**	**20 56 13.4**	**0.0**
JISG	**Ishigakijimahi**	**0.89**	**45**	P	**Pn**	**20 56 05.0**	**+0.6**
JISG				S	**Sb**	**20 56 17.4**	**+0.5**
JTJ	**Tarama**	**1.21**	**55**	P	**Pb**	**20 56 10.5**	**0.0**
JTJ				*e*S	**Sb**	**20 56 27.0**	**+1.2**
NACB	**Ninganchiao**	**1.85**	**277**	*e*Pn	**Pn**	**20 56 17.6**	**0.0**
YHNB	**Yeheng**	**2.16**	**290**	*e*Pn	**Pn**	**20 56 23.3**	**+1.5**
YULB	**Yu-li**	**2.19**	**256**	*e*Pn	**Pn**	**20 56 21.9**	**-0.5**
SSLB	**Suanglung**	**2.44**	**267**	*e*Pn	**Pn**	**20 56 26.0**	**+0.3**
TWG	**Pinlang**	**2.59**	**245**	*e*Pn	**Pn**	**20 56 27.4**	**-0.3**
TPUB	**Ta-pu**	**2.81**	**257**	*e*Pn	**Pn**	**20 56 32.3**	**+1.5**
JOW	**Kunigami**	**5.10**	**55**	*e*Pn	**Pn**	**20 56 58.7**	**-3.5**
JOW	**Kunigami**	**5.10**	**55**	Pn	**Pn**	**20 57 02.1**	**-0.1**
	0.1nm,0.3s,baz=148,slow=9.5,SNR=2.1						
JNU	**Nakatsue**	**11.14**	**33**	LR	LR	21 03 16.2	
	comp=Z,78nm,18.5s,baz=217,slow=41						
KSRS	**Korea Array**	**13.95**	**14**	Pn	**Pn**	**20 59 06.2**	**+2.7**
	0.2nm,0.3s,baz=194,slow=12,SNR=3.0						
KSRS				LR	LR	21 04 17.9	
	comp=Z,81nm,20.9s,baz=182,slow=37						
MJAR	**Matsushiro Arr**	**17.76**	**42**	LR	LR	21 06 53.6	
	comp=Z,48nm,20.6s,baz=235,slow=38						
USRK	**Ussuriysk Ar.**	**21.33**	**17**	LR	LR	21 09 44.9	
	comp=Z,66nm,18.2s,baz=210,slow=40						
CHTO	**Chiang Mai**	**23.52**	**262**	*e*P	**P**	**21 00 50.1**	**-5.3**
	8.6nm,1.8s						
CMAR	**Chiang Mai Arr**	**23.62**	**261**	P	**P**	**21 00 56.4**	**-0.1**
	0.2nm,0.5s,baz=58,slow=9.0,SNR=3.2						
CMAR				LR	LR	21 10 01.9	
	comp=Z,36nm,18.5s,baz=124,slow=36						
SONA0	**Songino Array**	**27.48**	**334**	*e*P	**P**	**21 01 29.9**	**-1.5**
SONM	**Songino Array**	**27.48**	**334**	P	**P**	**21 01 29.9**	**-1.5**
	0.2nm,0.3s,baz=144,slow=10,SNR=4.5						
SONM				LR	LR	21 13 34.6	
	comp=Z,98nm,20.5s,baz=126,slow=39						
LSA	**Lhasa**	**29.46**	**288**	*e*P	**P**	**21 01 49.9**	**+0.3**
	1.8nm,0.6s						
PETK	**Petropavlovsk-**	**38.84**	**33**	LR	LR	21 18 49.5	
	comp=Z,32nm,21.0s,baz=357,slow=36						
MK31	**Makanchi Array**	**40.05**	**315**	*e*P	**P**	**21 03 20.0**	**-0.2**
	1.2nm,0.8s						
MK32	**Makanchi Array**	**40.05**	**315**	*e*P	**P**	**21 03 19.2**	**-1.0**
MKAR	**Makanchi Array**	**40.05**	**315**	*e*P	**P**	**21 03 19.8**	**-0.4**
MKAR	**Makanchi Array**	**40.05**	**315**	P	**P**	**21 03 19.2**	**-1.0**
	1.1nm,0.6s,baz=104,slow=10,SNR=14						
MKAR				LR	LR	21 21 11.6	
	comp=Z,52nm,20.8s,baz=52,slow=38						
WAKE	**Wake Island**	**40.17**	**88**	*e*P	**P**	**21 03 19.0**	**-2.4**
	166nm,1.0s						
MAKZ	**Makanchi**	**40.26**	**315**	*e*P	**P**	**21 03 21.7**	**-0.2**
	2.1nm,0.8s						
ZAA0	**Zalesovo Array**	**41.65**	**326**	*e*P	**P**	**21 03 31.4**	**-1.8**
	5.4nm,1.5s						
ZALV	**Zalesovo Beam**	**41.65**	**326**	*e*P	**P**	**21 03 30.9**	**-2.3**
ZALV	**Zalesovo Beam**	**41.65**	**326**	P	**P**	**21 03 32.0**	**-1.2**
	1.2nm,0.6s,baz=111,slow=7.5,SNR=6.0						
ZALV				LR	LR	21 22 06.5	
	comp=Z,73nm,19.9s,baz=70,slow=38						
ZAA1	**Zalesovo Array**	**41.65**	**326**	*e*P	**P**	**21 03 32.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**41.85**	**177**	*e*P	**P**	**21 03 35.9**	**+0.8**
	16nm,1.6s						
COEN	**Coen**	**42.26**	**151**	*e*P	**P**	**21 03 40.5**	**+1.9**
	79nm,1.9s						
KURK	**Kurchatov**	**43.70**	**319**	*e*P	**P**	**21 03 49.3**	**-0.5**
	3.3nm,0.9s						
WR1	**Warramunga Arr**	**44.87**	**166**	*e*P	**P**	**21 04 00.5**	**+1.0**
WRA	**Warramunga Arr**	**44.87**	**166**	P	**P**	**21 04 00.5**	**+1.0**
	1.2nm,0.7s,baz=346,slow=8.9,SNR=8.6						
WB2	**Warramunga Arr**	**44.87**	**166**	*e*P	**P**	**21 04 00.1**	**+0.6**
	10nm,1.2s						
AS31	**Alice Springs**	**48.38**	**167**	*e*P	**P**	**21 04 28.4**	**+1.3**
	3.0nm,1.6s						
ASAR	**Alice Springs**	**48.38**	**167**	*e*P	**P**	**21 04 28.4**	**+1.3**
ASAR	**Alice Springs**	**48.38**	**167**	P	**P**	**21 04 28.6**	**+1.5**
	0.7nm,0.7s,baz=354,slow=15,SNR=7.9						
BRVK	**Borovoye**	**49.33**	**320**	*e*P	**P**	**21 04 33.3**	**-0.7**
	2.1nm,0.8s						
NRIK	**Noril'sk**	**50.21**	**344**	LR	LR	21 28 30.8	
	comp=Z,83nm,18.8s,baz=66,slow=39						
ABKAR	**Akbulak array**	**55.18**	**314**	*e*P	**P**	**21 05 17.9**	**+0.4**
	8.6nm,1.9s						
ABKAR				*e*P	**P**	**21 05 18.5**	**+1.0**
GEYT	**Alibeck**	**56.82**	**301**	P	**P**	**21 05 30.8**	**+1.3**
	1.8nm,0.7s,baz=102,slow=11,SNR=4.2						
GEYT				LR	LR	21 34 00.1	
	comp=Z,34nm,19.2s,baz=205,slow=40						
CAST	**Castle Rocks**	**66.33**	**29**	*e*P	**P**	**21 06 31.3**	**-1.9**
	22nm,1.7s						
PPLA	**Purkeypile**	**66.34**	**30**	*e*P	**P**	**21 06 32.2**	**-1.3**
	26nm,1.5s						
KBZ	**Khabaz**	**67.35**	**309**	P	**P**	**21 06 41.0**	**+1.1**
	1.8nm,0.8s,baz=306,slow=2.2,SNR=5.6						
RND	**Reindeer**	**67.77**	**29**	*e*P	**P**	**21 06 44.0**	**+1.6**
	12nm,1.1s						
SIRT	**Sirnak**	**69.12**	**303**	*e*P	**P**	**21 06 52.0**	**+0.7**
	21nm,1.0s						
SCRK	**Sand Creek**	**69.79**	**28**	*e*P	**P**	**21 06 56.2**	**+1.2**
	19nm,2.0s						
INK	**Inuvik**	**72.60**	**22**	*e*P	**P**	**21 07 12.3**	**+0.6**
	13nm,1.8s						
FIA0	**FINESS Array S**	**72.75**	**330**	*e*P	**P**	**21 07 12.2**	**-0.6**
FINES	**FINESS Array B**	**72.75**	**330**	*e*P	**P**	**21 07 12.6**	**-0.2**
FINES	**FINESS Array B**	**72.75**	**330**	P	**P**	**21 07 12.2**	**-0.6**
	1.6nm,0.8s,baz=52,slow=3.1,SNR=4.7						
FINES				LR	LR	21 42 16.0	
	comp=Z,79nm,18.8s,baz=38,slow=38						
AKASG	**Malin Array Be**	**74.51**	**319**	*e*P	**P**	**21 07 22.3**	**-1.0**
AKASG	**Malin Array Be**	**74.51**	**319**	P	**P**	**21 07 22.0**	**-1.3**
	0.2nm,0.3s,baz=56,slow=6.7,SNR=5.2						
BR101	**Keskin Array S**	**75.08**	**307**	*e*P	**P**	**21 07 26.6**	**-0.5**
BR131	**Keskin Array S**	**75.08**	**307**	*e*P	**P**	**21 07 26.1**	**-1.0**
	2.2nm,0.9s						
BRTR	**Keskin Array B**	**75.08**	**307**	*e*P	**P**	**21 07 26.9**	**-0.2**
BRTR	**Keskin Array B**	**75.08**	**307**	P	**P**	**21 07 26.6**	**-0.5**
	1.2nm,0.8s,baz=100,slow=6.4,SNR=10						
NC405	**NORSAR Array S**	**79.20**	**333**	*e*P	**P**	**21 07 49.4**	**-0.3**
	107nm,1.9s						
NB201	**NORSAR Array S**	**79.41**	**333**	*e*P	**P**	**21 07 50.9**	**+0.1**
	239nm,1.9s						
NB2	**NORSAR Subarra**	**79.45**	**333**	P	**P**	**21 07 50.6**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=54,slow=5.9						
NOA	**NORSAR Array B**	**79.45**	**333**	P	**P**	**21 07 50.9**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=55,slow=5.8,SNR=6.7						
NOA				LR	LR	21 46 53.4	
	comp=Z,49nm,18.4s,baz=75,slow=39						
NC204	**NORSAR Array S**	**79.52**	**333**	*e*P	**P**	**21 07 51.2**	**-0.2**
	comp=Z,42nm,1.5s						
YKA	**Yellowknife Ar**	**82.30**	**23**	P	**P**	**21 08 06.9**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=305,slow=5.1,SNR=8.4						
YKB5	**Yellowknife Ar**	**82.30**	**23**	*e*P	**P**	**21 08 06.9**	**+0.8**
GERES	**GERESS Array B**	**84.41**	**321**	P	**P**	**21 08 17.8**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=81,slow=4.2,SNR=4.6						
GERES				LR	LR	21 49 58.3	
	comp=Z,28nm,18.5s,baz=48,slow=39						
NV01	**Mina Array Sit**	**95.07**	**44**	*e*P	**P**	**21 09 06.5**	**-1.8**
NVAR	**Mina Array Bea**	**95.07**	**44**	P	**P**	**21 09 06.5**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=289,slow=6.6,SNR=4.3						

TIR ***03*** *21:14:50.2,40.˚94N×20.˚23E,h21km,Md2.8/4*
BEO ***03*** *21:14:50.8±1.2,40.˚82N×20.˚17E,h0km,ML2.1/4*
THE ***03*** *21:14:52.7,41.˚12N×20.˚37E,h0km±2km,ML2.0/2,Error ellipse: s-maj=2.5km s-min=0.4km az=207.0*
ISC 03 21:14:51.8±1.3,40.˚97N±0.˚05×20.˚25E±0.˚03,h7km±11km, n20,σ1§40/34,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.44**	**71**	*i* Pg	**Pg**	**21 15 00.5**	**+0.1**
OHR				*i* Sg	**Sg**	**21 15 07.1**	**+0.9**
TIR	**Tirane**	**0.48**	**323**	*e*Pg	**Pg**	**21 15 01.0**	**-0.1**
TIR				*e*Sg	**Sb**	**21 15 08.8**	**-1.0**
TIR	**Tirane**	**0.48**	**323**	P	**Pg**	**21 15 00.7**	**-0.4**
TIR				S	**Sg**	**21 15 07.9**	**+0.6**
TIR	**Tirane**	**0.48**	**323**	*i* PG	**Pg**	**21 15 00.5**	**-0.6**
TIR				*i* SG	**Sb**	**21 15 08.8**	**-1.0**
BIA	**Bitola**	**0.82**	**86**	P	**Pg**	**21 15 06.2**	**-1.3**
BIA				S	**Sg**	**21 15 17.3**	**-0.8**
BIA	**Bitola**	**0.82**	**86**	*i* Pg	**Pg**	**21 15 07.2**	**-0.3**
BIA				*i* Sg	**Sb**	**21 15 19.3**	**-0.4**
NEST	**Nestorio**	**0.82**	**132**	P	**Pn**	**21 15 09.1**	**-0.9**
KRUS	**Krusevo**	**0.85**	**62**	*i* Pg	**Pg**	**21 15 06.9**	**-1.4**
KRUS				*i* Sg	**Sg**	**21 15 18.8**	**-0.6**
FNA	**Florina**	**0.88**	**102**	P	**Pb**	**21 15 08.7**	**-0.7**
FNA				S	**Sb**	**21 15 20.8**	**-0.5**
FNA	**Florina**	**0.88**	**102**	*i* PG	**Pg**	**21 15 08.2**	**-0.5**
FNA				*i* SG	**Sb**	**21 15 20.6**	**-0.7**
PENT	**Pentalofos**	**1.03**	**138**	P	**Pn**	**21 15 13.2**	**+0.4**
KPRO	**Kipourio**	**1.32**	**140**	P	**Pn**	**21 15 18.6**	**+1.8**
SKO	**Skopje**	**1.34**	**41**	*i* Sg	**Sg**	**21 15 33.9**	**-1.1**
BCI	**Bajram Curri**	**1.40**	**355**	*i* PN	**Pn**	**21 15 16.9**	**-1.0**
BCI				*i* SN	**Sn**	**21 15 37.4**	**+0.8**
STIP	**Stip**	**1.63**	**63**	*i* Pg	**Pg**	**21 15 23.2**	**+0.1**
STIP				*i* Sg	**Sg**	**21 15 50.0**	**+5.8**
PDG	**Podgorica**	**1.64**	**333**	*e*Pg	**Pg**	**21 15 22.5**	**-0.7**
PDG				*e*Sg	**Sg**	**21 15 46.4**	**+1.9**
BARS	**Barje**	**2.19**	**32**	*e*Pn	**Pb**	**21 15 31.0**	**-0.7**
BARS				*e*Sn	**Sb**	**21 15 59.8**	**+0.8**
TREB	**Trebinje**	**2.25**	**322**	*e*Pn	**Pn**	**21 15 29.8**	**+0.3**
TREB				*e*Sn	**Sb**	**21 16 00.2**	**-0.6**
STON	**Ston**	**2.69**	**316**	*e*Pn	**Pn**	**21 15 35.3**	**-0.2**
UDBI	**Udbina**	**4.85**	**319**	*e*Pn	**Pn**	**21 16 06.8**	**+1.5**

IDC ***03*** *21:33:10.3±5.0,9.˚86S×121.˚26E,h46km±50km,mb3.6/4, mb1 3.8/7,mb1mx3.5/30,mbtmp3.9/7,ML3.8/3,MS2.9/1, Ms1 2.9/1,ms1mx2.3/36,Error ellipse: s-maj=96.8km s-min=25.6km az=64.0*
DJA ***03*** *21:33:16.1±0.5,9.˚5S×12.˚1E±.˚,h11km±7km,M4.0/11, mb4.2/3,MLv3.9/11*
ISC 03 21:33:14.6±0.7,9.˚55S±0.˚06×121.˚29E±0.˚04,h100km,n24, σ3§04/25,mb3.6/4,Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.89**	**27**	P	**Pn**	**21 33 38.5**	**+4.6**
EDFI				S	**Sn**	**21 33 44.1**	**-4.3**
BASI	**Baing, Sumba**	**0.97**	**226**	S	**Sn**	**21 33 43.6**	**-6.1**
WSI	**Waingapu**	**0.98**	**263**	P	**Pn**	**21 33 35.7**	**+0.9**
WSI				S	**Sn**	**21 33 50.3**	**+0.3**
MMRI	**Maumere**	**1.30**	**46**	P	**Pn**	**21 33 42.9**	**+4.4**
WBSI	**Waikabubak, Su**	**1.87**	**267**	P	**Pn**	**21 33 46.0**	**+0.5**
BATI	**Baumata**	**2.43**	**106**	P	**Pn**	**21 33 53.4**	**+0.6**
BATI	**Baumata**	**2.43**	**106**	P	**Pn**	**21 33 53.6**	**+0.8**
	150nm,0.3s,baz=21,slow=0.6,SNR=182						
BATI				S	**Sn**	**21 34 20.0**	**-2.1**
	78nm,0.3s,baz=264,slow=3.1,SNR=5.6						
SOEI	**Soe**	**2.95**	**94**	P	**Pn**	**21 34 01.8**	**+2.1**
BSSI	**Bau Bau, Buton**	**3.47**	**347**	P	**Pn**	**21 34 04.7**	**-2.0**
PLAI	**Plampang**	**3.54**	**281**	P	**Pn**	**21 34 09.7**	**+2.1**
PLAI				S	**Sn**	**21 34 48.8**	**+0.2**
BBSI	**Bau Bau**	**4.23**	**18**	P	**Pn**	**21 34 14.3**	**-2.6**
BKSI	**Bulukumba**	**4.35**	**345**	P	**Pn**	**21 34 16.3**	**-2.3**
BNSI	**Bone**	**5.25**	**347**	P	**Pn**	**21 34 27.5**	**-3.1**
FITZ	**Fitzroy Crossi**	**9.49**	**154**	P	Pn	21 35 20.8	-7.6
	0.3nm,0.3s,baz=343,slow=12,SNR=7.2						
FITZ				S	Sn	21 36 54.6	-19
	2.3nm,0.3s,baz=129,slow=6.2,SNR=10						
LEM	**Lembang**	**13.80**	**280**	LR	LR	21 42 49.6	
	comp=Z,43nm,18.6s,baz=360,slow=42						
TNG	**Tangerang**	**14.88**	**282**	P	Pn	21 36 27.1	-13
WRA	**Warramunga Arr**	**16.30**	**131**	P	**Pn**	**21 36 53.1**	**-4.5**
	0.5nm,0.3s,baz=308,slow=15,SNR=27						
WRA				S	Sn	21 39 37.1	-21
	0.9nm,0.3s,baz=297,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**18.51**	**141**	P	**P**	**21 37 21.2**	**-1.9**
	0.5nm,0.3s,baz=329,slow=14,SNR=36						
ASAR				S	S	21 40 32.6	-17
	0.2nm,0.3s,baz=319,slow=25,SNR=4.4						
STKA	**Stephens Creek**	**29.12**	**143**	P	**P**	**21 39 05.1**	**-1.0**
	2.9nm,0.5s,baz=311,slow=9.3,SNR=13						
SONM	**Songino Array**	**58.64**	**348**	PcP	**PcP**	**21 43 53.5**	**+3.2**
	0.1nm,0.3s,baz=141,slow=5.0,SNR=2.2						
MKAR	**Makanchi Array**	**65.99**	**332**	P	**P**	**21 43 54.1**	**+3.8**
	0.2nm,0.5s,baz=155,slow=7.6,SNR=4.9						
ZALV	**Zalesovo Beam**	**70.37**	**338**	P	**P**	**21 44 20.4**	**+2.9**
	0.7nm,0.4s,baz=139,slow=7.0,SNR=3.6						
VNDA	**Vanda**	**71.11**	**171**	P	**P**	**21 44 21.4**	**-0.3**
	0.3nm,0.5s,baz=310,slow=7.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**120.78**	**280**	PKP	**PKiKP**	**21 51 58.5**	**+2.4**
	13nm,0.4s,baz=85,slow=1.6,SNR=3.9						

ISCJB ***03*** *21:55:21.9±0.8,24.˚26S±0.˚07×180.˚0E±0.˚2,h526km, mb3.7/8,Error ellipse: s-maj=20.1km s-min=7.6km az=167.0*
IDC ***03*** *21:55:21.2±4.2,24.˚17S×179.˚91E,h496km±45km,mb3.4/9, mb1 3.5/11,mb1mx3.3/33,mbtmp4.3/11,Error ellipse: s-maj=32.1km s-min=18.8km az=64.0*
**ISC 03 21:55:23.3±0.9,24.˚35S±0.˚08×179.˚9E±0.˚2,h526km,n36, σ1§29/

BRTR Keskin Array B 151.49 305 PKPbc **PKiKP 22 33 29.9 +0.6**
0.4nm,0.6s,baz=134,slow=3.5,SNR=3.5

*IDC **03** 22:17:48.1±4.5,6°.11S×130°.48E,h90km±43km,mb3.7/11, mb1 3.9/14,mb1mx3.6/52,mbtmp4.1/14,Error ellipse: s-maj=33.4km s-min=15.6km az=69.0*
*ISCJB **03** 22:17:51.7±0.3,6°.19S±0°.04×130°.56E±0°.05,h150km, mb4.1/12,Error ellipse: s-maj=7.8km s-min=4.8km az=166.3*
*DJA **03** 22:17:51.2±0.3,6°S±3°×13°1E±°,h174km±7km,M4.5/4, mB5.5/1,mb4.2/4,MLv4.7/3,Mw(mB)4.9/1*
ISC 03 22:17:52.9±0.6,6°27S±0°.05×130°.52E±0°.07,h150km,n39, σ1§94/43,mb3.8/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.84**	**341**	P	**Pn**	**22 18 25.5**	**-0.7**
BNDI				S	**Sn**	**22 18 50.0**	**-1.8**
SAUI	**Saumlaki**	**1.87**	**156**	P	**Pn**	**22 18 28.7**	**+2.2**
FAKI	**Fak Fak**	**3.75**	**27**	P	**Pn**	**22 18 46.4**	**-3.5**
RKPI	**Ransiki, Papua**	**5.97**	**38**	P	**Pn**	**22 19 15.7**	**-3.6**
SANI	**Sanana**	**6.17**	**313**	P	**Pn**	**22 19 20.0**	**-1.8**
MTN	**Manton Dam**	**6.56**	**175**	P	**Pn**	**22 19 28.2**	**+1.2**
	baz=6.7,SNR=158						
KDU	**Kakadu**	**6.66**	**163**	P	**Pn**	**22 19 29.3**	**+0.9**
	baz=6.8,SNR=60						
SOEI	**Soe**	**7.09**	**240**	P	**Pn**	**22 19 34.9**	**+0.6**
BATI	**Baumata**	**7.83**	**240**	P	**Pn**	**22 19 45.2**	**+1.1**
BATI	**Baumata**	**7.83**	**240**	P	**Pn**	**22 19 44.7**	**+0.6**
	20nm,0.3s,baz=95,slow=4.7,SNR=13						
BATI				S	**Sn**	**22 21 07.4**	**-4.1**
	28nm,0.3s,baz=62,slow=22,SNR=11						
BBSI	**Bau Bau**	**7.95**	**275**	P	**Pn**	**22 19 45.1**	**-0.5**
	6.0nm,0.9s						
MMRI	**Maumere**	**8.54**	**254**	P	**Pn**	**22 19 54.2**	**+0.6**
EDFI	**Ende, Flores**	**9.09**	**254**	P	**Pn**	**22 20 00.4**	**-0.6**
	11nm,0.4s						
KNRA	**Kununurra**	**9.50**	**190**	P	**Pn**	**22 20 06.0**	**-0.3**
	baz=9.7,SNR=170						
FITZ	**Fitzroy Crossi**	**12.68**	**202**	P	**Pn**	**22 20 46.2**	**-1.8**
	3.7nm,0.3s,baz=37,slow=10,SNR=63						
FITZ				S	Sn	22 22 57.0	-11
	1.7nm,0.3s,baz=78,slow=14,SNR=5.2						
WRA	**Warramunga Arr**	**14.09**	**165**	P	**Pn**	**22 21 04.5**	**-1.4**
	2.8nm,0.3s,baz=345,slow=13,SNR=67						
WRA				S	**Sn**	**22 23 35.9**	**-6.3**
	4.2nm,0.3s,baz=347,slow=22,SNR=8.7						
COEN	**Coen**	**14.61**	**122**	P	**Pn**	**22 21 11.5**	**-1.0**
	baz=15,SNR=6.3						
QIS	**Mount Isa**	**16.71**	**149**	P	**Pn**	**22 21 38.8**	**+0.4**
	baz=17,SNR=6.0						
ASAR	**Alice Springs**	**17.60**	**170**	P	**Pn**	**22 21 51.0**	**+2.0**
	1.8nm,0.3s,baz=347,slow=9.1,SNR=65						
ASAR				S	**S**	**22 25 01.4**	**-1.8**
	1.0nm,0.3s,baz=349,slow=19,SNR=7.1						
MEEK	**Meekatharra**	**23.21**	**208**	P	**P**	**22 22 47.2**	**+0.4**
	baz=24,SNR=4.6						
FORT	**Forrest**	**24.49**	**185**	P	**P**	**22 22 59.6**	**+1.4**
	baz=25						
KMBL	**Kambalda**	**26.24**	**197**	P	**P**	**22 23 15.2**	**+1.1**
	baz=26,SNR=9.2						
MORW	**Morawa**	**26.48**	**209**	P	**P**	**22 23 17.1**	**+0.8**
	baz=27						
STKA	**Stephens Creek**	**27.50**	**159**	P	**P**	**22 23 28.1**	**+2.8**
	1.0nm,0.4s,baz=320,slow=9.1,SNR=5.5						
KLBR	**Kellerberrin**	**27.88**	**204**	P	**P**	**22 23 29.4**	**+0.8**
	baz=28						
UTTA	**Uttaradit**	**38.01**	**309**	P	**P**	**22 24 57.2**	**+0.5**
	13μm,0.7s,39nm						
PHRA	**Phrae**	**38.71**	**310**	P	**P**	**22 25 04.2**	**+1.7**
CMAR	**Chiang Mai Arr**	**39.67**	**309**	P	**P**	**22 25 10.7**	**+0.1**
	1.9nm,0.6s,baz=135,slow=7.4,SNR=17						
CMMT	**Chiang Mai**	**39.87**	**309**	P	**P**	**22 25 12.9**	**+0.7**
MJAR	**Matsushiro Arr**	**43.20**	**9**	P	**P**	**22 25 37.9**	**-1.1**
	2.1nm,0.8s,baz=189,slow=11,SNR=5.5						
SONM	**Songino Array**	**57.92**	**341**	P	**P**	**22 27 30.8**	**+1.4**
	0.4nm,0.7s,baz=159,slow=4.3,SNR=3.4						
PETK	**Petropavlovsk-**	**63.48**	**18**	P	**P**	**22 28 08.2**	**+1.4**
	2.0nm,0.5s,baz=159,slow=4.3,SNR=3.1						
MKAR	**Makanchi Array**	**67.91**	**326**	P	**P**	**22 28 36.2**	**+0.9**
	2.4nm,0.4s,baz=114,slow=7.1,SNR=36						
AAK	**Ala-Archa**	**70.33**	**319**	P	**P**	**22 28 52.5**	**+2.0**
	0.7nm,0.4s,baz=143,slow=10,SNR=3.8						
ZALV	**Zalesovo Beam**	**71.17**	**333**	P	**P**	**22 28 55.2**	**+0.1**
	0.6nm,0.4s,baz=108,slow=4.7,SNR=2.5						
KURBB	**Kurchatov Arra**	**72.17**	**328**	P	**P**	**22 29 01.8**	**+0.6**
	1.0nm,0.7s,baz=125,slow=5.6,SNR=8.1						
VNDA	**Vanda**	**73.10**	**173**	P	**P**	**22 29 08.8**	**+2.5**
	0.6nm,0.8s,baz=344,slow=6.0,SNR=4.2						
BVAR	**Borovoye Array**	**77.73**	**328**	P	**P**	**22 29 33.3**	**+0.2**
	0.7nm,0.6s,baz=115,slow=9.7,SNR=3.8						
LPAZ	**La Paz**	**150.96**	**141**	PKPbc	**PKiKP**	**22 37 32.2**	**+2.0**
	0.7nm,0.4s,baz=207,slow=2.3,SNR=3.5						

*ISCJB **03** 22:19:58.7±0.9,36°.88N±0°.03×141°.46E±0°.05,h23km±5km, mb3.7/16,MS3.0/2,Error ellipse: s-maj=7.5km s-min=4.6km az=14.3*
*JMA **03** 22:20:00.3±0.1,36°.87N×141°.33E,h44km±1km,M4.0 JMA Felt I J1.*
*NIED **03** 22:20:00,36°.90N×141°.40E,h14km,Mw3.8 Best double couple: M0:5.85000×10^14 NP1:φs188.00000°,δ40.00000°, λ-128.00000°. NP2:φs53.00000°,δ60.00000°, λ-63.00000°.*
*IDC **03** 22:20:01.7±0.7,36°.88N×141°.35E,h28km±3km,mb3.6/16, mb1 3.8/19,mb1mx3.6/60,mbtmp3.8/19,ML3.6/3,MS2.8/4, Ms1 2.9/4,ms1mx2.6/34,Error ellipse: s-maj=15.3km s-min=14.7km az=109.0*
ISC 03 22:20:01.5±0.7,36°.90N±0°.04×141°.36E±0°.06,h29km±4km, n43,σ1§33/53,mb3.9/17,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**295**	P	**Pn**	**22 20 10.7**	**-2.0**
ONAJ				S	**Sb**	**22 20 18.0**	**-0.9**
JFK	**Kawauchi**	**0.61**	**321**	P	**Pn**	**22 20 12.3**	**-1.9**
JFK				S	**Sn**	**22 20 20.7**	**-2.4**
JFFD	**Fukushimafurud**	**0.67**	**287**	P	**Pn**	**22 20 13.0**	**-2.0**
JFFD				S	**Sn**	**22 20 22.1**	**-2.5**
JHO	**Hitachi**	**0.70**	**246**	P	**Pn**	**22 20 13.1**	**-2.3**
JHO				S	**Sn**	**22 20 22.3**	**-2.9**
JHYU	**Hitachinakayam**	**0.83**	**229**	P	**Pn**	**22 20 15.0**	**-2.2**
JHYU				S	**Sn**	**22 20 25.7**	**-2.8**
JFT	**Otama**	**1.03**	**308**	P	**Pn**	**22 20 19.4**	**-0.5**
JFT				S	**Sn**	**22 20 33.4**	**0.0**
JMM	**Marumori**	**1.07**	**335**	P	**Pn**	**22 20 19.1**	**-1.4**
JMM				S	**Sn**	**22 20 32.6**	**-1.8**
JFY	**Yanaizu**	**1.42**	**292**	P	**Pn**	**22 20 25.2**	**-0.1**
JFY				S	**Sn**	**22 20 43.9**	**+0.8**
JIO	**Ouri**	**1.56**	**360**	P	**Pn**	**22 20 25.8**	**-1.4**
JIO				S	**Sn**	**22 20 43.8**	**-2.6**
JOU	**Okura**	**1.57**	**340**	P	**Pn**	**22 20 27.2**	**-0.2**
JOU				S	**Sn**	**22 20 46.9**	**+0.1**
JAG	**Ashikaga**	**1.60**	**254**	P	**Pn**	**22 20 26.6**	**-1.3**
MJAR	**Matsushiro Arr**	**2.56**	**263**	Pn	**Pn**	**22 20 41.2**	**+0.2**
	2.2nm,0.3s,baz=90,slow=14,SNR=154						
MJAR				Sn	**Sn**	**22 21 13.8**	**+2.6**
	2.7nm,0.3s,baz=86,slow=16,SNR=6.8						
MAT	**Matsushiro**	**2.56**	**263**	P	**Pn**	**22 20 41.7**	**+0.7**
MAT				*e*S	**Sn**	**22 21 11.3**	**+0.1**
JHJ	**Hachijo jima 2**	**3.98**	**199**	Pn	**Pn**	**22 21 01.1**	**+0.5**
	20nm,0.3s,baz=33,slow=22,SNR=32						
JHJ				Sn	**Sn**	**22 21 45.9**	**-0.4**
	24nm,0.3s,baz=74,slow=23,SNR=6.4						
ASAJ	**Asahikawa**	**7.28**	**7**	Pn	**Pn**	**22 21 44.1**	**-1.6**
	1.8nm,0.3s,baz=196,slow=14,SNR=11						
ASAJ				Sn	**Sn**	**22 23 06.5**	**-0.8**
	0.6nm,0.3s,baz=169,slow=18,SNR=3.5						
USRK	**Ussuriysk Ar.**	**10.20**	**319**	Pn	Pn	22 22 32.0	+6.2
	0.2nm,0.3s,baz=118,slow=14,SNR=6.3						
KSRS	**Korea Array**	**10.74**	**277**	Pn	Pn	22 22 39.0	+5.8
	0.1nm,0.3s,baz=90,slow=13,SNR=2.8						
KSRS				LR	LR	22 26 27.6	
	comp=Z,42nm,19.7s,baz=109,slow=36						
KLR	**Kul'dur**	**14.17**	**333**	LR	LR	22 27 48.4	
	comp=Z,28nm,21.2s,baz=150,slow=33						
SONM	**Songino Array**	**27.83**	**304**	P	**P**	**22 25 49.2**	**+0.9**
	0.3nm,0.4s,baz=124,slow=7.8,SNR=3.2						
SONM				pP	**pP**	**22 25 57.6**	**+0.8**
	1.3nm,0.5s,baz=108,slow=9.2,SNR=9.0						
H11N2	**WAKE ISLAND Hy 28.11 120**			T	T	22 55 09.7	
	baz=313,slow=75,SNR=204						
H11N1	**WAKE ISLAND Hy 28.12 121**			T	T	22 55 11.1	
	baz=313,slow=75,SNR=241						
H11N3	**WAKE ISLAND Hy 28.13 120**			T	T	22 55 11.0	
	baz=313,slow=75,SNR=172						
H11S1	**WAKE ISLAND Hy 28.82 123**			T	T	22 56 01.4	
	baz=315,slow=76,SNR=194						
H11S3	**WAKE ISLAND Hy 28.82 123**			T	T	22 55 58.9	
	baz=315,slow=76,SNR=156						
H11S2	**WAKE ISLAND Hy 28.84 123**			T	T	22 56 01.3	
	baz=315,slow=76,SNR=126						
TIXI	**Tiksi**	**35.42**	**353**	LR	LR	22 41 46.1	
	comp=Z,17nm,20.4s,baz=40,slow=37						
ZALV	**Zalesovo Beam**	**41.98**	**312**	P	**P**	**22 27 50.3**	**+0.6**
	1.6nm,0.7s,baz=110,slow=6.8,SNR=6.2						
ZALV				pP	**pP**	**22 27 58.4**	**+0.1**
	1.8nm,0.6s,baz=90,slow=6.7,SNR=6.3						
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**22 28 07.9**	**+0.5**
	0.6nm,0.7s,baz=92,slow=11,SNR=6.2						
MKAR				pP	**pP**	**22 28 15.9**	**-0.3**
	1.3nm,0.7s,baz=86,slow=10,SNR=8.0						
KURBB	**Kurchatov Arra**	**46.05**	**308**	P	**P**	**22 28 22.2**	**-0.1**
	1.4nm,0.6s,baz=84,slow=8.1,SNR=14						
KURBB				pP	**pP**	**22 28 31.3**	**+0.2**
	3.7nm,0.7s,baz=83,slow=8.2,SNR=15						
ILAR	**Eielson Array**	**49.63**	**32**	P	**P**	**22 28 50.2**	**+0.3**
	1.3nm,0.7s,baz=272,slow=6.3,SNR=19						
ILAR				pP	**pP**	**22 28 59.4**	**+0.7**
	0.5nm,0.6s,baz=267,slow=6.2,SNR=3.7						
BVAR	**Borovoye Array**	**50.63**	**312**	P	**P**	**22 28 57.6**	**-0.1**
	0.5nm,0.4s,baz=82,slow=7.3,SNR=6.3						
WRA	**Warramunga Arr**	**56.92**	**188**	P	**P**	**22 29 43.5**	**-0.4**
	0.4nm,0.6s,baz=6.1,slow=7.9,SNR=3.3						
WRA				pP	**pP**	**22 29 51.8**	**-0.9**
	1.2nm,0.5s,baz=5.7,slow=7.6,SNR=5.6						
AKTO	**Aktyubinsk**	**58.74**	**312**	P	**P**	**22 29 55.9**	**-0.6**
	1.0nm,0.7s,baz=84,slow=9.2,SNR=3.6						
ASAR	**Alice Springs**	**60.65**	**188**	pP	pP	22 30 17.4	-1.3
	0.5nm,0.7s,baz=20,slow=9.3,SNR=3.4						
YKA	**Yellowknife Ar**	**63.95**	**30**	P	**P**	**22 30 31.4**	**0.0**
	0.2nm,0.5s,baz=296,slow=6.6,SNR=4.1						
ARCES	**ARCESS Array B**	**64.11**	**339**	P	**P**	**22 30 32.4**	**-0.1**
	2.7nm,1.1s,baz=64,slow=8.2,SNR=5.0						
FINES	**FINESS Array B**	**68.92**	**332**	P	**P**	**22 31 02.8**	**-0.5**
	0.9nm,0.7s,baz=70,slow=6.3,SNR=4.8						
FINES				pP	**pP**	**22 31 12.9**	**+0.6**
	1.1nm,0.6s,baz=76,slow=2.4,SNR=3.0						
NOA	**NORSAR Array B**	**74.30**	**337**	P	**P**	**22 31 35.8**	**+0.1**
	0.8nm,0.9s,baz=40,slow=5.8,SNR=2.9						
NOA				LR	LR	23 07 44.0	
	comp=Z,11nm,19.9s,baz=265,slow=38						
NVAR	**Mina Array Bea**	**75.11**	**53**	P	**P**	**22 31 42.5**	**+1.5**
	0.6nm,0.5s,baz=283,slow=5.1,SNR=4.5						
PDAR	**Pinedale Array**	**77.79**	**45**	P	**P**	**22 31 56.9**	**+0.7**
	0.3nm,0.6s,baz=325,slow=4.6,SNR=3.1						
MMAI	**Mount Meron Ar**	**82.01**	**305**	P	**P**	**22 32 19.9**	**+0.9**
	0.4nm,0.6s,baz=79,slow=7.5,SNR=3.3						
TXAR	**Lajitas Array**	**90.24**	**52**	P	**P**	**22 32 59.9**	**+0.2**
	0.3nm,0.6s,baz=313,slow=2.7,SNR=7.3						
LPAZ	**La Paz**	**146.80**	**60**	PKPbc	**PKPbc**	**22 39 42.3**	**+0.3**
	0.9nm,0.6s,baz=25,slow=0.2,SNR=4.7						

KRSC 03 22:26:22.7±10.0,52°.76N×157°.27E,h329km±10km,ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.82**	**113**	*e*P	Pn	22 27 06.7	+1.3
RUS				*e*S	S	22 27 39.6	0.0
AVH	**Avacha**	**1.02**	**60**	*e*P	Pn	22 27 07.8	+1.6
KRER	**Koryakskii**	**1.04**	**58**	*e*P	Pn	22 27 07.5	+1.0
SMAR	**Somma**	**1.05**	**61**	*e*P	Pn	22 27 07.6	+1.1
SDLR	**Sedlovina**	**1.10**	**61**	*e*P	Pn	22 27 08.1	+1.5
SPN	**Mys Shipunski**	**1.70**	**77**	*e*S	S	22 27 47.7	+0.1
KBTR	**Krutoberegovo**	**4.73**	**41**	*e*P	Pn	22 27 39.8	+1.6
KBTR				*e*S	S	22 28 38.3	-0.7

IDC 03 22:29:45.4±2.6,30°.06S×177°.39W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.6/19,mbtmp3.7/2,Error ellipse: s-maj=54.5km s-min=26.0km az=82.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.93**	**330**	Pn	Pn	22 30 06.1	+0.4
	248nm,0.3s,baz=86,slow=9.3,SNR=11						
RAO				Sn	Sn	22 30 20.1	+0.3
	342nm,0.3s,baz=80,slow=20,SNR=7.1						
ASAR	**Alice Springs**	**43.66**	**266**	P	P	22 37 51.7	-0.4
	0.1nm,0.3s,baz=105,slow=7.9,SNR=3.7						
WRA	**Warramunga Arr**	**44.62**	**271**	P	P	22 37 59.8	0.0
	0.4nm,0.3s,baz=109,slow=8.0,SNR=8.3						
FINES	**FINESS Array B**	**145.01**	**341**	PKPbc	PKPbc	22 49 22.3	-1.0
	0.4nm,0.4s,baz=57,slow=5.1,SNR=12						

*PRU **03** 22:32:11.6±0.0,50°.26N×12°.48E,h6km,West Bohemia Swarm*
WBNET 03 22:32:10.6,50°.25N×12°.44E,h9km,Ml0.5,6C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**306**	⇑P	Pg	22 32 12.3	-0.1
LBCW				S	Sg	22 32 13.5	-0.1
NKC	**Novy Kostel**	**0.02**	**162**	*e*PG	Pg	22 32 13.3	+0.9
NKC				*e*SG	Sg	22 32 14.7	+1.1
	comp=Z,133nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**162**	⇑P	Pg	22 32 12.2	-0.1
NKC				S	Sg	22 32 13.3	-0.3
VAC	**Vackov**	**0.04**	**244**	⇓P	Pg	22 32 12.4	-0.1
VAC				S	Sg	22 32 13.6	-0.2
STCW	**Studenec**	**0.05**	**84**	⇑P	Pg	22 32 12.4	-0.3
STCW				S	Sg	22 32 13.5	-0.5
POCW	**Potky**	**0.07**	**354**	⇑P	Pg	22 32 12.7	-0.2
POCW				S	Sg	22 32 14.1	-0.2
KVC	**Kvetna**	**0.07**	**134**	⇓P	Pg	22 32 12.5	-0.2
KVC				S	Sg	22 32 13.9	-0.5
SKC	**Skalna**	**0.10**	**210**	⇑P	Pg	22 32 13.0	-0.1
SKC				S	Sg	22 32 14.8	-0.1
KRCW	**Kraslice**	**0.10**	**38**	⇑P	Pg	22 32 12.9	-0.3
KRCW				S	Sg	22 32 14.8	-0.2
KACW	**Kaceov**	**0.12**	**155**	⇓P	Pg	22 32 13.4	-0.1
KACW				S	Sg	22 32 15.4	-0.1
KOCW	**Kopaniny**	**0.13**	**275**	⇓P	Pg	22 32 13.5	-0.1
KOCW				S	Sg	22 32 15.6	-0.2
LACW	**Lazy**	**0.24**	**149**	⇓P	Pg	22 32 15.4	-0.1
LACW				S	Sg	22 32 18.7	0.0
CLL	**Collm**	**1.11**	**19**	*i* Pg	Pn	22 32 32.5	+0.1
CLL				*i*		22 32 34.4	
CLL				*i*		22 32 36.1	
CLL				*i* Sg	Sb	22 32 46.8	+0.2
	comp=Z,3.0nm,0.6s						
BRG	**Berggiesshubel**	**1.14**	**57**	PG	Pn	22 32 33.3	+0.5
BRG				SG	Sb	22 32 47.7	+0.2
	comp=Z,3.5nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**57**	*e*SG	Sg	22 32 46.6	-0.8
KHC	**Kasperske Hory**	**1.35**	**146**	*e*PG	Pg	22 32 36.4	0.0
KHC				*e*SG	Sn	22 32 53.7	+0.1
	comp=Z,1.8nm,0.5s						
PRU	**Pruhonice**	**1.38**	**100**	*e*PG	Pb	22 32 36.3	-0.2
PRU				*e*SG	Sg	22 32 55.1	+0.1
	comp=Z,1.5nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**78**	*e*SG	Sn	22 32 54.9	+0.3
	comp=Z,4.1nm,0.4s						
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG	Sg	22 33 29.6	-1.1

WBNET 03 22:34:02.2,50°.26N×12°.44E,h9km,Ml0.2,6C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**294**	⇓P	Pg	22 34 03.9	-0.1
LBCW				S	Sg	22 34 05.1	-0.1
NKC	**Novy Kostel**	**0.02**	**171**	⇑P	Pg	22 34 03.8	-0.1
NKC				S	Sg	22 34 05.0	-0.2
VAC	**Vackov**	**0.05**	**243**	⇓P	Pg	22 34 04.0	-0.1
VAC				S	Sg	22 34 05.2	-0.2
STCW	**Studenec**	**0.05**	**88**	⇑P	Pg	22 34 04.0	-0.2
STCW				S	Sg	22 34 05.1	-0.4
POCW	**Potky**	**0.06**	**351**	⇑P	Pg	22 34 04.2	-0.1
KVC	**Kvetna**	**0.07**	**137**	⇓P	Pg	22 34 04.2	-0.2
KVC				S	Sg	22 34 05.5	-0.4
KRCW	**Kraslice**	**0.09**	**37**	⇑P	Pg	22 34 04.5	-0.2
SKC	**Skalna**	**0.10**	**211**	⇑P	Pg	22 34 04.6	-0.1
KACW	**Kaceov**	**0.12**	**157**	⇓P	Pg	22 34 05.0	-0.1
KACW				S	Sg	22 34 07.0	-0.1
KOCW	**Kopaniny**	**0.13**	**274**	⇓P	Pg	22 34 05.1	-0.1
ZHC	**Zelena Hora**	**0.20**	**205**	⇑P	Pg	22 34 06.4	-0.1
ZHC				S	Sg	22 34 09.3	-0.1

PRU 03 22:34:12.5±0.0,50°.26N×12°.49E,h2km,7C-5D,West Bohemia Swarm,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCW	**Studenec**	**0.02**	**93**	⇑P	Pg	22 34 14.0	+0.9
STCW				S	Sg	22 34 15.2	+1.7
NKC	**Novy Kostel**	**0.04**	**225**	*e*PG	Pg	22 34 14.0	+0.7
NKC				*e*SG	Sg	22 34 14.9	+1.0
	comp=Z,58nm,0.2s						
NKC	**Novy Kostel**	**0.04**	**225**	⇑P	Pg	22 34 13.9	+0.6
NKC				S	Sg	22 34 15.0	+1.1
LBCW	**Luby**	**0.05**	**276**	⇑P	Pg	22 34 13.9	+0.4
LBCW				S	Sg	22 34 15.2	+0.9
KVC	**Kvetna**	**0.06**	**163**	⇓P	Pg	22 34 14.2	+0.6
KVC				S	Sg	22 34 15.5	+1.1
POCW	**Potky**	**0.07**	**326**	⇑P	Pg	22 34 14.3	+0.3
POCW				S	Sg	22 34 15.8	+0.8
KRCW	**Kraslice**	**0.08**	**20**	⇑P	Pg	22 34 14.6	+0.5
KRCW				S	Sg	22 34 16.2	+1.1
VAC	**Vackov**	**0.08**	**251**	⇓P	Pg	22 34 14.0	0.0
VAC				S	Sg	22 34 15.3	+0.2
KACW	**Kaceov**	**0.12**	**171**	⇓P	Pg	22 34 15.1	+0.3
KACW				S	Sg	22 34 17.1	+0.8
SKC	**Skalna**	**0.12**	**223**	⇑P	Pg	22 34 14.7	-0.2
SKC				S	Sg	22 34 16.4	0.0
KOCW	**Kopaniny**	**0.17**	**272**	⇓P	Pg	22 34 15.2	-0.5
KOCW				S	Sg	22 34 17.2	-0.6
ZHC	**Zelena Hora**	**0.22**	**212**	⇑P	Pg	22 34 16.4	-0.3
ZHC				S	Sg	22 34 19.3	-0.4
LACW	**Lazy**	**0.23**	**157**	⇓P	Pg	22 34 17.1	+0.2
LACW				S	Sg	22 34 20.4	+0.6
CLL	**Collm**	**1.10**	**17**	*i* Pg	Pg	22 34 32.8	-0.7
CLL				*i*		22 34 34.7	
CLL				*e*		22 34 36.0	
CLL				*i* Sg	Sg	22 34 47.8	0.0
BRG	**Berggiesshubel**	**1.11**	**56**	*e*PG	Pg	22 34 33.3	-0.5
BRG	**Berggiesshubel**	**1.11**	**56**	PG	Pg	22 34 33.5	-0.3
BRG				SG	Sg	22 34 48.2	+0.1
	2.0nm,0.3s						
KHC	**Kasperske Hory**	**1.33**	**148**	*e*SG	Sg	22 34 53.8	-1.5
PRU	**Pruhonice**	**1.35**	**101**	*e*SG	Sg	22 34 54.9	-0.9
PVCC	**Panska Ves**	**1.36**	**78**	*e*SG	Sb	22 34 56.5	+0.1
	comp=Z,3.2nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	*e*SG	Sn	22 35 00.8	-0.3

WBNET 03 22:35:05.0,50°.26N×12°.44E,h9km,Ml0.1,7C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**289**	⇑P	Pg	22 35 06.7	-0.1
LBCW				S	Sg	22 35 07.9	-0.1
NKC	**Novy Kostel**	**0.03**	**172**	⇑P	Pg	22 35 06.7	-0.1
NKC				S	Sg	22 35 07.8	-0.2
VAC	**Vackov**	**0.05**	**240**	⇓P	Pg	22 35 06.8	-0.1
VAC				S	Sg	22 35 08.1	-0.3
STCW	**Studenec**	**0.05**	**90**	⇑P	Pg	22 35 06.8	-0.2
STCW				S	Sg	22 35 08.0	-0.4
POCW	**Potky**	**0.06**	**351**	⇑P	Pg	22 35 07.1	-0.1
POCW				S	Sg	22 35 08.5	-0.1
KVC	**Kvetna**	**0.07**	**138**	⇓P	Pg	22 35 07.0	-0.2
KVC				S	Sg	22 35 08.4	-0.4
KRCW	**Kraslice**	**0.09**	**38**	⇑P	Pg	22 35 07.3	-0.2
KRCW				S	Sg	22 35 08.9	-0.4
SKC	**Skalna**	**0.10**	**210**	⇑P	Pg	22 35 07.5	-0.1
SKC				S	Sg	22 35 09.3	-0.1
KACW	**Kaceov**	**0.12**	**157**	⇓P	Pg	22 35 07.9	-0.1
KACW				S	Sg	22 35 09.8	-0.1
KOCW	**Kopaniny**	**0.13**	**273**	⇓P	Pg	22 35 08.0	-0.1
ZHC	**Zelena Hora**	**0.21**	**204**	⇑P	Pg	22 35 09.2	-0.1
ZHC				S	Sg	22 35 12.1	-0.1
LACW	**Lazy**	**0.24**	**150**	⇓P	Pg	22 35 09.8	-0.1
LACW				S	Sg	22 35 13.2	0.0

*WBNET **03** 22:35:24.5,50°.26N×12°.44E,h9km,Ml1.6*
PRU 03 22:35:24.5±0.0,50°.26N×12°.47E,h4km,6C-6D,West Bohemia Swarm,Germany

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

POCW	**Potky**	**0.06 352**	⇑P	Pg	22 35 58.3	-0.1
POCW			S	Sg	22 35 59.8	-0.2
POCW	**Potky**	**0.06 352**	⇑P	Pg	22 35 58.3	-0.1
POCW			S	Sg	22 35 59.8	-0.2
KVC	**Kvetna**	**0.07 138**	⇓P	Pg	22 35 58.2	-0.2
KVC			S	Sg	22 35 59.6	-0.4
KVC	**Kvetna**	**0.07 138**	⇓P	Pg	22 35 58.2	-0.2
KVC			S	Sg	22 35 59.6	-0.4
KRCW	**Kraslice**	**0.09 39**	⇑P	Pg	22 35 58.6	-0.2
KRCW			S	Sg	22 36 00.1	-0.4
KRCW	**Kraslice**	**0.09 39**	⇑P	Pg	22 35 58.6	-0.2
KRCW			S	Sg	22 36 00.2	-0.4
SKC	**Skalna**	**0.10 210**	⇑P	Pg	22 35 58.7	-0.1
SKC			S	Sg	22 36 00.5	-0.1
SKC	**Skalna**	**0.10 210**	⇑P	Pg	22 35 58.7	-0.1
SKC			S	Sg	22 36 00.5	-0.1
KACW	**Kaceov**	**0.13 157**	⇓P	Pg	22 35 59.1	-0.1
KACW			S	Sg	22 36 01.1	-0.1
KACW	**Kaceov**	**0.13 157**	⇓P	Pg	22 35 59.1	-0.1
KACW			S	Sg	22 36 01.1	-0.1
KOCW	**Kopaniny**	**0.13 273**	⇓P	Pg	22 35 59.2	-0.1
KOCW			S	Sg	22 36 01.2	-0.2
ZHC	**Zelena Hora**	**0.21 204**	⇑P	Pg	22 36 00.5	-0.1
ZHC			S	Sg	22 36 03.4	-0.1
ZHC	**Zelena Hora**	**0.21 204**	⇑P	Pg	22 36 00.5	-0.1
ZHC			S	Sg	22 36 03.4	-0.1
LACW	**Lazy**	**0.24 150**	⇓P	Pg	22 36 01.1	-0.1
LACW			S	Sg	22 36 04.5	0.0
CLL	**Collm**	**1.11 19**	*e*Sg	Sg	22 36 32.0	0.0

WBNET 03 22:36:07.7,50.′26N×12.°44E, h9km, MI0.3, 7C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02 289**		⇑P	Pg	22 36 09.3	-0.1
LBCW				S	Sg	22 36 10.6	0.0
NKC	**Novy Kostel**	**0.03 170**		⇑P	Pg	22 36 09.3	-0.1
NKC				S	Sg	22 36 10.4	-0.2
VAC	**Vackov**	**0.05 240**		⇓P	Pg	22 36 09.5	-0.1
VAC				S	Sg	22 36 10.7	-0.2
STCW	**Studenec**	**0.05 90**		⇑P	Pg	22 36 09.4	-0.2
STCW				S	Sg	22 36 10.6	-0.4
POCW	**Potky**	**0.06 352**		⇑P	Pg	22 36 09.7	-0.1
POCW				S	Sg	22 36 11.2	-0.1
KVC	**Kvetna**	**0.07 138**		⇓P	Pg	22 36 09.6	-0.2
KVC				S	Sg	22 36 11.0	-0.4
KRCW	**Kraslice**	**0.09 38**		⇑P	Pg	22 36 10.0	-0.2
KRCW				S	Sg	22 36 11.5	-0.4
SKC	**Skalna**	**0.10 210**		⇑P	Pg	22 36 10.1	-0.1
SKC				S	Sg	22 36 11.9	-0.1
KACW	**Kaceov**	**0.12 157**		⇓P	Pg	22 36 10.5	-0.1
KACW				S	Sg	22 36 12.5	-0.1
KOCW	**Kopaniny**	**0.13 273**		⇓P	Pg	22 36 10.6	-0.1
KOCW				S	Sg	22 36 12.6	-0.2
ZHC	**Zelena Hora**	**0.21 204**		⇑P	Pg	22 36 11.9	-0.1
ZHC				S	Sg	22 36 14.8	-0.1
LACW	**Lazy**	**0.24 150**		⇓P	Pg	22 36 12.5	-0.1
LACW				S	Sg	22 36 15.9	+0.1

*BGR **03** 22:36:58.9±0.2, 50.′26N×12.°45E, h11km±1km, ML2.1/6, Error ellipse: s-maj=2.2km s-min=1.1km az=101.0*
*CLL **03** 22:36:59.6±0.3, 50.′26N×12.°44E, h8km±1km, ML2.1/8*
*WBNET **03** 22:36:59.4, 50.′26N×12.°44E, h9km, MI1.9*

PRU 03 22:36:59.7±0.0, 50.°26N×12.°52E, h0km, 5C-7D, West Bohemia Swarm, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCW	**Studenec**	**0.00 192**		⇑P	Pg	22 37 01.2	+1.5
STCW				S	Sg	22 37 02.3	+2.7
KVC	**Kvetna**	**0.05 183**		⇓P	Pg	22 37 01.4	+0.7
KVC				S	Sg	22 37 02.7	+1.4
NKC	**Novy Kostel**	**0.05 240**		*i* Pg	Pg	22 37 01.0	+0.3
NKC				*i* Sg	Sg	22 37 02.1	+0.7
NKC	**Novy Kostel**	**0.05 240**		*i* Pg	Pg	22 37 01.0	+0.3
NKC				*i* Sg	Sg	22 37 02.1	+0.7
NKC	**Novy Kostel**	**0.05 240**		*e*PG	Pg	22 37 01.0	+0.3
NKC				*e*SG	Sg	22 37 02.1	+0.7
	comp=Z,467nm,0.2s						
NKC	**Novy Kostel**	**0.05 240**		⇑P	Pg	22 37 01.0	+0.3
NKC				S	Sg	22 37 02.1	+0.8
LBCW	**Luby**	**0.07 275**		⇓P	Pg	22 37 01.1	0.0
LBCW				S	Sg	22 37 02.3	+0.4
KRCW	**Kraslice**	**0.07 5**		⇑P	Pg	22 37 01.7	+0.6
KRCW				S	Sg	22 37 03.3	+1.2
POCW	**Potky**	**0.09 315**		⇓P	Pg	22 37 01.4	+0.1
POCW				S	Sg	22 37 02.9	+0.5
VAC	**Vackov**	**0.10 255**		⇓P	Pg	22 37 01.2	-0.3
VAC				S	Sg	22 37 02.4	-0.3
WERN	**Wernitzgruen**	**0.10 287**		*i* Pg	Pg	22 37 01.3	-0.2
WERN				*i* Sg	Sg	22 37 02.6	-0.1
WERN				AML	AML	22 37 02.8	
	comp=E,1μm,0.2s						
WERN	**Wernitzgruen**	**0.10 287**		*i* Pg	Pg	22 37 01.3	-0.2
WERN				*i* Sg	Sg	22 37 02.6	-0.1
	comp=E,1μm,0.2s						
KACW	**Kaceov**	**0.12 181**		⇓P	Pg	22 37 02.3	+0.4
KACW				S	Sg	22 37 04.3	+0.9
ROHR	**Rohrbach**	**0.13 259**		*i* Pg	Pg	22 37 01.6	-0.7
ROHR				*i* Sg	Sg	22 37 03.1	-0.9
ROHR				AML	AML	22 37 03.2	
	comp=E,1μm,0.1s						
ROHR	**Rohrbach**	**0.13 259**		*i* Pg	Pg	22 37 01.6	-0.7
ROHR				*i* Sg	Sg	22 37 03.1	-0.9
	comp=E,1μm,0.1s						
SKC	**Skalna**	**0.14 229**		⇑P	Pg	22 37 01.9	-0.4
SKC				S	Sg	22 37 03.6	-0.4
GUNZ	**Gunzen**	**0.16 311**		*i* Pg	Pg	22 37 02.3	-0.4
GUNZ				*i* Sg	Sg	22 37 04.2	-0.6
GUNZ				AML	AML	22 37 04.7	
	comp=E,319nm,0.2s						
GUNZ	**Gunzen**	**0.16 311**		*i* Pg	Pg	22 37 02.3	-0.4
GUNZ				*i* Sg	Sg	22 37 04.2	-0.6
	comp=E,319nm,0.2s						
TANN	**Tannenbergstha**	**0.16 346**		*i* Pg	Pg	22 37 02.6	-0.1
TANN				*i* Sg	Sg	22 37 04.8	0.0
TANN				AML	AML	22 37 05.3	
	comp=N,808nm,0.2s						
TANN	**Tannenbergstha**	**0.16 346**		*i* Pg	Pg	22 37 02.6	-0.1
TANN				*i* Sg	Sg	22 37 04.8	0.0
	comp=N,808nm,0.2s						
MULD	**Muldenberg**	**0.17 334**		*i* Pg	Pg	22 37 02.6	-0.3
MULD				*i* Sg	Sg	22 37 04.8	-0.3
MULD				AML	AML	22 37 05.0	
	comp=E,425nm,0.1s						
MULD	**Muldenberg**	**0.17 334**		*i* Pg	Pg	22 37 02.6	-0.3
MULD				*i* Sg	Sg	22 37 04.8	-0.3
	comp=E,425nm,0.1s						
KOCW	**Kopaniny**	**0.18 272**		⇓P	Pg	22 37 02.4	-0.9
KOCW				S	Sg	22 37 04.4	-1.2
LACW	**Lazy**	**0.22 162**		⇓P	Pg	22 37 04.2	+0.4
LACW				S	Sg	22 37 07.6	+0.8
ZHC	**Zelena Hora**	**0.23 216**		⇑P	Pg	22 37 03.6	-0.5
ZHC				S	Sg	22 37 06.5	-0.6
TRIB	**Obertriebel**	**0.26 291**		*i* Pg	Pg	22 37 03.7	-1.0
TRIB				*i* Sg	Sg	22 37 06.6	-1.5
TRIB				AML	AML	22 37 06.9	
	comp=E,112nm,0.1s						
TRIB	**Obertriebel**	**0.26 291**		*i* Pg	Pg	22 37 03.7	-1.0
TRIB				*i* Sg	Sg	22 37 06.6	-1.5
	comp=E,112nm,0.1s						
PLN	**Plauen**	**0.32 314**		*i* Pg	Pg	22 37 05.0	-0.9
PLN				*i* Sg	Sg	22 37 08.9	-1.2
PLN				AML	AML	22 37 09.1	
	comp=E,75nm,0.2s						
PLN	**Plauen**	**0.32 314**		*i* Pg	Pg	22 37 05.0	-0.9
PLN				*i* Sg	Sg	22 37 08.9	-1.2
	comp=E,75nm,0.2s						
MANZ	**Manzenberg**	**0.38 224**		*e*Pg	Pg	22 37 06.1	-0.9
MANZ				*e*Sg	Sg	22 37 10.6	-1.3
SCHF	**Schoenfels**	**0.42 350**		*i* Pg	Pg	22 37 07.3	-0.5
SCHF				*i* Sg	Sg	22 37 12.9	-0.5
SCHF				AML	AML	22 37 13.1	
	comp=E,164nm,0.2s						
SCHF	**Schoenfels**	**0.42 350**		*i* Pg	Pg	22 37 07.3	-0.5
SCHF				*i* Sg	Sg	22 37 12.9	-0.5
	comp=E,164nm,0.2s						
ROTZ	**Rotzenmuhle**	**0.53 202**		*e*Pg	Pg	22 37 09.1	-0.8
ROTZ				*e*Sg	Sg	22 37 15.8	-1.0

MOX	**Moxa**	**0.69 304**	*e*Pg	Pg	22 37 11.8	-1.3
MOX			*e*Sg	Sg	22 37 20.4	-1.6
FBE	**Freiberg**	**0.85 38**	*e*Pg	Pg	22 37 16.1	+0.2
FBE			*e*Sg	Sg	22 37 27.0	+0.1
GRF	**Grafenberg Arr**	**1.01 236**	*e*Pg	Pg	22 37 17.8	-1.3
GRF			*e*Sg	Sg	22 37 30.3	-1.9
CLL	**Collm**	**1.09 16**	*i* Pg	Pg	22 37 19.9	-0.7
CLL			*i*		22 37 21.8	
CLL			*i*		22 37 23.4	
CLL			*i* Sg	Sg	22 37 34.3	-0.5
	comp=Z,17nm,0.6s					
CLL			*e*		22 37 38.0	
CLL	**Collm**	**1.09 16**	*e*Pg	Pg	22 37 20.0	-0.6
CLL			*e*Sg	Sg	22 37 34.3	-0.5
CLL	**Collm**	**1.09 16**	*e*PG	Pg	22 37 20.0	-0.6
CLL			*e*SG	Sg	22 37 34.1	-0.7
BRG	**Berggiesshubel**	**1.10 55**	*e*Pg	Pg	22 37 20.6	-0.1
BRG			*e*Sg	Sg	22 37 35.4	+0.5
BRG	**Berggiesshubel**	**1.10 55**	PG	Pg	22 37 20.5	-0.2
BRG			SG	Sg	22 37 35.4	+0.6
	comp=Z,22nm,0.3s					
WET	**Wettzell**	**1.14 168**	*e*Pg	Pg	22 37 20.7	-0.8
WET			*e*Sg	Sg	22 37 35.4	-0.9
KHC	**Kasperske Hory**	**1.32 148**	*e*PG	Pg	22 37 23.3	-1.7
KHC			*e*SG	Sg	22 37 40.9	-1.2
	comp=Z,9.6nm,0.3s					
PRU	**Pruhonice**	**1.33 101**	*e*PG	Pg	22 37 24.4	-0.8
PRU			*e*SG	Sg	22 37 42.5	+0.1
	comp=Z,13nm,0.2s					
PVCC	**Panska Ves**	**1.34 78**	*e*PG	Pg	22 37 24.8	-0.5
PVCC			*e*SG	Sg	22 37 42.8	+0.1
	comp=Z,32nm,0.2s					
GOPC	**GO Pecny, Ondr**	**1.50 102**	*e*SG	Sg	22 37 47.6	-0.3
	comp=Z,6.2nm,0.3s					
GEC2	**GERESS Array S**	**1.61 151**	*e*Pg	Pn	22 37 29.3	-0.2
GEC2			*e*Sg	Sn	22 37 49.7	-1.3
UPC	**Upice**	**2.25 82**	*e*SG	Sb	22 38 10.6	+1.1
	comp=Z,9.2nm,0.6s					
DPC	**Dobruska-Polom**	**2.44 86**	*e*SG	Sb	22 38 16.0	+0.9
	comp=Z,5.6nm,0.6s					
KSP	**Ksiaz**	**2.48 75**	*e*Pg	Pg	22 37 46.5	-0.7
KSP			*e*Sg	Sg	22 38 18.2	-1.0
MOA	**Molln**	**2.67 154**	*e*Pg	Pg	22 37 50.0	-0.9
	comp=Z,0.4nm,0.1s					
MOA			*e*Sg	Sg	22 38 24.1	-1.4
	comp=Z,1.4nm,0.2s					
KRUC	**Moravsky**	**2.79 114**	*e*PN	Pn	22 37 43.5	-2.1
KRUC			*e*SG	Sb	22 38 25.1	0.0
VRAC	**Vranov**	**2.81 108**	*e*PN	Pn	22 37 44.4	-1.4
VRAC			*e*SG	Sb	22 38 25.4	-0.2
WATA	**Walderalm**	**2.99 192**	*e*Sg	Sg	22 38 34.7	-1.1
	comp=Z,1.8nm,0.2s					
MOTA	**Moosalm**	**3.06 198**	*e*Sg	Sg	22 38 36.7	-1.4
	comp=Z,1.1nm,0.2s					
CONA	**Conrad Observa**	**3.20 135**	*i* Pg	Pg	22 37 59.5	-1.6
	comp=Z,0.3nm,0.1s					
CONA			*e*Sg	Sg	22 38 40.1	-2.5
	comp=Z,1.5nm,0.3s					

*NNC **03** 22:41:01.8±2.1, 48.°24N×84.°94E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=16.8km s-min=8.3km az=90.0*
*SOME **03** 22:41:03.9, 47.°87N×84.°88E, h5km*

ISC 03 22:41:01.2±2.4, 48.°19N±0.′06×85.°2E±0.′1, h10km, n8, σ1§82/15, 7C-7D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.77 195**		*e*P	**Pg**	**22 41 15.1**	**-0.9**
	44nm,0.1s						
ZSN				*e*S	**Sg**	**22 41 22.8**	**-3.2**
	416nm,0.2s						
MK31	**Makanchi Array**	**2.39 235**		⇓Pn	**Pn**	**22 41 40.1**	**-0.4**
	8.8nm,0.4s,baz=54,slow=14,SNR=454						
MK31				⇑Sn	**Sn**	**22 42 10.1**	**+0.2**
	15nm,0.4s,baz=202,slow=78,SNR=6.8						
MK31				⇑Lg	Lg	22 42 17.8	
	22nm,0.5s,baz=49,slow=26,SNR=4.7						
MAKZ	**Makanchi**	**2.56 239**		⇓Pn	**Pn**	**22 41 44.0**	**+1.2**
	8.7nm,0.4s						
MAKZ				⇑Sn	**Sb**	**22 42 15.8**	**-3.0**
	10.0nm,0.3s						
MAKZ				⇓Lg	Lg	22 42 21.9	
	15nm,0.3s						
KAPS	**Kapalarasan**	**4.93 236**		*e*P	**Pb**	**22 42 28.5**	**+0.8**
	1.3nm,0.3s						
KAPS				*e*S	**Sb**	**22 43 29.1**	**+2.1**
	3.8nm,0.4s						
KURK	**Kurchatov**	**4.96 303**		⇑Pn	**Pn**	**22 42 16.8**	**+1.2**
	0.5nm,0.3s						
KURK				⇑Sn	**Sn**	**22 43 13.1**	**+0.1**
	1.6nm,0.3s						
KURK				⇑Lg	Lg	22 43 36.7	
	14nm,0.5s						
KURBB	**Kurchatov Arra**	**4.96 302**		⇓Pn	**Pn**	**22 42 15.0**	**-0.8**
	1.1nm,0.6s						
KURBB				⇑Sn	**Sn**	**22 43 12.4**	**-0.8**
	5.4nm,0.4s						
KURBB				⇓Lg	Lg	22 43 36.6	
	57nm,0.5s						
DJR	**Jarkent**	**5.36 226**		*e*P	**Pb**	**22 42 35.9**	**+0.9**
	0.8nm,0.3s						
DJR				*e*S	**Sb**	**22 43 41.0**	**+1.6**
	3.2nm,0.5s						
PDGK	**Podgornoye**	**6.27 221**		⇓Pn	**Pn**	**22 42 36.5**	**+2.7**
	1.4nm,0.5s						
PDGK				⇓Lg	Lg	22 44 17.2	
	10nm,1.4s						

KRSC 03 22:54:30.1±10.0, 49.°87N×157.°85E, h40km±10km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.38 307**		*e*P	Pn	22 54 54.0	+1.2
SKR				*e*S	Sn	22 55 10.7	+0.9
PAU	**Pauzhetka**	**1.73 338**		*e*P	Pn	22 54 59.9	+2.2
PAU				*e*S	Sn	22 55 21.5	+3.0
ALID	**Alaid**	**1.78 305**		*e*P	Pn	22 55 01.0	+2.5
ALID				*e*S	Sn	22 55 23.0	+3.0
KDTR	**Khodutka, Kamc**	**1.95 4**		*e*P	Pn	22 55 03.0	+2.4
KDTR				*e*S	Sn	22 55 25.6	+1.8
RUS	**Russkaya**	**2.60 9**		*e*P	Pn	22 55 11.8	+2.2
RUS				*e*S	Sn	22 55 41.9	+2.0
MTVR	**Mutnovka**	**2.63 4**		*e*P	Pn	22 55 12.9	+2.8
MTVR				*e*S	Sn	22 55 43.8	+3.0
KRMR	**Karymshinskiy**	**2.97 3**		*e*P	Pn	22 55 18.4	+3.7
KRMR				*e*S	Sn	22 55 53.6	+4.6
APC	**Apacha**	**3.09 352**		*e*P	Pn	22 55 19.8	+3.5
DALK	**Dalny**	**3.22 10**		*e*P	Pn	22 55 22.8	+4.8
DALK				*e*S	Sn	22 56 00.2	+5.1
UGLR	**Uglovaya**	**3.40 10**		*e*P	Pn	22 55 25.1	+4.4
AVH	**Avacha**	**3.45 9**		*e*P	Pn	22 55 25.9	+4.6
AVH				*e*S	Sn	22 56 06.0	+5.1
SDLR	**Sedlovina**	**3.47 10**		*e*P	Pn	22 55 24.9	+3.2
KRER	**Koryakskii**	**3.48 9**		*e*P	Pn	22 55 26.2	+4.3
SPN	**Mys Shipunski**	**3.51 22**		*e*S	Sn	22 56 06.6	+4.4
KBTR	**Krutoberegovo**	**7.02 23**		*e*P	Pn	22 56 13.2	+3.0

*IDC **03** 22:58:13.0±12.0, 40.°34N×142.°71E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/42, mbtmp3.4/3, ML2.5/1, Error ellipse: s-maj=296.1km s-min=72.5km az=161.0*
*ISCJB **03** 22:58:24.2±1.4, 39.°06N±0.′04×142.°50E±0.′09, h25km±7km, mb3.5/2, Error ellipse: s-maj=11.7km s-min=6.4km az=3.4*
*JMA **03** 22:58:25.9±0.1, 39.°11N×142.°43E, h30km±1km, MJ3.4*

ISC 03 22:58:25.1±1.7, 39.°10N±0.′04×142.°45E±0.′08, h20km±4km, n19, σ1§10/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.61 269**		P	**Pg**	**22 58 37.6**	**+0.3**
OFUJ				S	**Sg**	**22 58 45.7**	**+0.2**
MIYJ	**Miyakonagasawa**	**0.69 314**		P	**Pg**	**22 58 38.5**	**-0.2**
MIYJ				S	**Sg**	**22 58 47.2**	**-0.7**
JKMT	**Kesennumamotoy**	**0.82 250**		P	**Pg**	**22 58 40.5**	**-0.6**
JKMT				S	**Sg**	**22 58 50.8**	**-1.1**
JTH	**Tanohata**	**0.96 332**		P	**Pb**	**22 58 43.4**	**+0.4**
JTH				S	**Sb**	**22 58 55.7**	**+0.5**
JMK	**Ichinoseki**	**0.97 262**		P	**Pb**	**22 58 43.1**	**-0.2**
JMK				S	**Sb**	**22 58 55.6**	**-0.1**
JOM	**Ohasama**	**0.98 293**		P	**Pb**	**22 58 43.4**	**+0.1**
JOM				S	**Sb**	**22 58 55.8**	**0.0**
JIO	**Ouri**	**1.08 234**		P	**Pb**	**22 58 44.1**	**-0.9**
JIO				S	**Sb**	**22 58 56.9**	**-1.8**
JKZ	**Kuzumaki**	**1.24 316**		P	**Pn**	**22 58 47.6**	**+0.2**
JKZ				S	**Sb**	**22 59 03.0**	**-0.5**
JRG	**Rokugo**	**1.45 282**		P	**Pn**	**22 58 51.3**	**+1.2**
JRG				S	**Sn**	**22 59 09.1**	**+0.6**
JANG	**Nango**	**1.47 331**		P	**Pn**	**22 58 50.7**	**+0.3**
JANG				S	**Sn**	**22 59 08.3**	**-0.8**
MJAR	**Matsushiro Arr**	**4.22 234**		Pn	**Pn**	**22 59 31.9**	**+3.6**
	0.2nm,0.3s,baz=38,slow=11,SNR=11						
H11N2	**WAKE ISLAND Hy**	**28.59 125**		T	T	23 34 49.2	
	baz=318,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.59 125**		T	T	23 34 52.4	
	baz=318,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.60 125**		T	T	23 34 46.6	
	baz=318,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.37 127**		T	T	23 35 48.3	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**29.38 127**		T	T	23 35 53.0	
	baz=322,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**29.39 127**		T	T	23 35 45.5	
	baz=322						
WRA	**Warramunga Arr**	**59.22 189**		P	**P**	**23 08 24.3**	**-0.7**
	0.3nm,0.6s,baz=5.7,slow=7.4,SNR=5.1						
ASAR	**Alice Springs**	**62.95 189**		P	**P**	**23 08 49.7**	**-0.5**
	0.2nm,0.6s,baz=13,slow=5.7,SNR=3.6						

*IDC **03** 23:08:44.7±1.8, 58.°18N×156.°41W, h97km±14km, mb3.4/15, mb1 3.6/18, mb1mx3.4/49, mbtmp3.8/18, Error ellipse: s-maj=25.3km s-min=13.0km az=27.0*
*ISCJB **03** 23:08:45.6±0.3, 57.°95N±0.′04×156.°18W±0.′07, h134km±2km, mb3.6/14, Error ellipse: s-maj=7.2km s-min=4.3km az=44.0*
*NEIC **03** 23:08:48.1±0.0, 57.°89N×156.°14W, h121km, ML3.2(AEIC), After AEIC.*

ISC 03 23:08:47.0±0.7, 58.°00N±0.′05×156.°20W±0.′05, h128km±5km, n86, σ1§35/95, mb3.6/14, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK2	**Peulik 2**	**0.25 196**		P	**Pn**	**23 09 04.2**	**-0.5**
PLK1	**Peulik 1**	**0.30 227**		P	**Pn**	**23 09 04.2**	**-0.6**
PLK3	**Peulik 3**	**0.32 187**		P	**Pn**	**23 09 04.3**	**-0.7**
PLK3				S	**Sn**	**23 09 17.6**	**-0.9**
PLK5	**Peulik 5**	**0.36 269**		P	**Pn**	**23 09 04.7**	**-0.3**
PLK4	**Peulik 4**	**0.38 193**		P	**Pn**	**23 09 04.6**	**-0.7**
PLK4				S	**Sn**	**23 09 18.3**	**-0.9**
KELA	**Mount Kelaz**	**0.50 29**		P	**Pn**	**23 09 05.7**	**-0.2**
ACHA	**Angle Creek He**	**0.51 65**		P	**Pn**	**23 09 05.8**	**-0.2**
ACHA				S	**Sn**	**23 09 19.9**	**-0.5**
KABU	**Katmai Buttres**	**0.56 61**		P	**Pn**	**23 09 06.2**	**0.0**
KABU				S	**Sn**	**23 09 20.7**	**-0.2**
KBM	**Katmai Bkd Mtn**	**0.60 62**		P	**Pn**	**23 09 06.0**	**-0.5**
KAHC	**Katmai Hardscr**	**0.90 44**		P	**Pn**	**23 09 08.9**	**0.0**
KAHC				S	**Sn**	**23 09 25.8**	**+0.2**
KARR	**Katmai Rainbow**	**0.93 57**		P	**Pn**	**23 09 09.3**	**+0.2**
KAHG	**Katmai Hook Gl**	**1.00 60**		P	**Pn**	**23 09 10.1**	**+0.3**
FONW	**Fourpeaked Sta**	**1.46 54**		P	**Pn**	**23 09 15.1**	**+0.5**
ANNW	**Aniakchak Nort**	**1.50 227**		P	**Pn**	**23 09 14.8**	**-0.2**
AZAC	**Aniakchak**	**1.56 226**		P	**Pn**	**23 09 15.0**	**-0.7**
ANPK	**Aniakchak Peak**	**1.56 223**		P	**Pn**	**23 09 14.9**	**-0.8**
ANPB	**Aniakchak Plen**	**1.65 224**		P	**Pn**	**23 09 15.7**	**-1.0**
OHAK	**Old Harbor**	**1.75 115**		P	**Pn**	**23 09 16.5**	**-1.3**
OHAK				S	**Sn**	**23 09 38.4**	**-2.9**
SII	**Sitkinak Islan**	**1.81 142**		P	**Pn**	**23 09 16.9**	**-1.7**
SII				S	**Sn**	**23 09 39.8**	**-3.0**
KDAK	**Kodiak Island**	**1.94 95**		P	**Pn**	**23 09 19.5**	**-0.6**
	71nm,0.3s,baz=172,slow=2.9,SNR=917						
KDAK				S	**Sn**	**23 09 43.6**	**-1.8**
	55nm,0.3s,baz=52,slow=22,SNR=41						
AUW	**Augustine West**	**1.98 45**		P	**Pn**	**23 09 21.6**	**+1.1**
AUH	**Augustine H**	**1.98 45**		P	**Pn**	**23 09 21.7**	**+1.1**
AUL	**Augustine Lava**	**2.00 45**		P	**Pn**	**23 09 21.8**	**+1.0**
VNHG	**Veniaminof 1**	**2.41 223**		P	**Pn**	**23 09 25.4**	**-0.6**
ILS	**Iliamna Low So**	**2.54 38**		P	**Pn**	**23 09 28.7**	**+1.0**
ILW	**Iliamna West**	**2.60 36**		P	**Pn**	**23 09 29.5**	**+1.0**
IVE	**Iliamna Volcan**	**2.61 38**		P	**Pn**	**23 09 29.2**	**+0.7**
RED	**Redoubt Volcan**	**3.00 35**		P	**Pn**	**23 09 34.4**	**+0.9**
RDWB	**Redoubt West**	**3.03 33**		P	**Pn**	**23 09 34.8**	**+0.7**
RDSO	**Redoubt South**	**3.03 34**		P	**Pn**	**23 09 34.9**	**+0.9**
SVW2	**Sparrevohn**	**3.12 6**		P	**Pn**	**23 09 35.7**	**+0.7**
BRLK	**Bradley Lake**	**3.27 55**		P	**Pn**	**23 09 37.3**	**+0.3**
CKL	**Chakachamna La**	**3.76 30**		P	**Pn**	**23 09 45.3**	**+1.8**
SLKM	**Skilak Lake**	**3.97 48**		P	**Pn**	**23 09 47.3**	**+1.1**
SEW	**Seward**	**4.07 56**		P	**Pn**	**23 09 48.3**	**+0.8**
RC01	**Rabbit Creek A**	**4.52 44**		P	**Pn**	**23 09 53.8**	**+0.3**
DRIA	**Deer Island**	**4.53 230**		P	**Pn**	**23 09 53.4**	**-0.3**
TT01	**Tatalina**	**4.92 1**		P	**Pn**	**23 09 59.1**	**+0.2**
PWL	**Port Wells**	**4.93 51**		P	**Pn**	**23 09 58.4**	**-0.6**
KNK	**Knik Glacier**	**5.20 46**	

ms1mx2.4/34, **Error ellipse: s-maj=53.9km s-min=18.2km az=74.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.26 314**		LR	LR	23 20 42.5	
	comp=Z,46nm,21.4s,baz=188,slow=37						
WRA	**Warramunga Arr**	**25.39 166**		P	P	23 24 12.2	+0.6
	0.3nm,0.3s,baz=346,slow=11,SNR=14						
ASAR	**Alice Springs**	**28.90 169**		P	P	23 24 42.5	-0.7
	0.2nm,0.4s,baz=348,slow=7.5,SNR=4.1						
STKA	**Stephens Creek**	**38.73 161**		P	P	23 26 08.3	-0.1
	0.8nm,0.4s,baz=324,slow=8.7,SNR=3.4						
PETK	**Petropavlovsk-**	**53.98 22**		P	P	23 28 07.8	-0.2
	1.1nm,0.6s,baz=207,slow=6.0,SNR=2.8						
MKAR	**Makanchi Array**	**57.38 324**		P	P	23 28 32.6	0.0
	0.5nm,0.4s,baz=108,slow=8.1,SNR=10						
BVAR	**Borovoye Array**	**67.09 326**		P	P	23 29 37.8	+0.1
	0.6nm,0.6s,baz=133,slow=6.3,SNR=4.1						
GNI	**Garni**	**81.73 310**		LR	LR	00 12 19.8	
	comp=Z,11nm,18.4s,baz=261,slow=39						

*IDC **03** 23:20:24.4±2.4, 43°.42N×105°.29W, h0km, mb3.8/1, mb1 3.5/4, mb1mx3.2/54, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=51.7km s-min=8.3km az=153.0*
*ISCJB **03** 23:20:26.2±0.5, 43°.75N±0°.04×105°.33W±0°.05, h0km, mb3.9/1, Error ellipse: s-maj=6.0km s-min=4.7km az=30.7*
*NEIC **03** 23:20:27.8±0.7, 43°.67N×105°.29W, h0km, ML3.0, Error ellipse: s-maj=10.2km s-min=8.6km az=172.0, Suspected Mining explosion.*
NEIC 71 km [44 miles] SSE of Gillette.

ISC 03 23:20:26.8±0.7, **43°.73N**±0°.04×**105°.25W**±0°.04, **h0**km, **n10, σ1§32**/19, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**65**	*e*Pg	**Pb**	**23 20 46.3**	**-0.1**
RSSD				S	**Sb**	**23 21 01.0**	**+1.2**
LAO	**LASA Array**	**3.04 347**		*e*Pn	**Pn**	**23 21 18.9**	**+2.7**
RLMT	**Red Lodge**	**3.20 297**		*e*Pn	**Pn**	**23 21 18.9**	**+0.3**
RLMT				*e*Pg	**Pg**	**23 21 28.2**	**0.0**
RLMT				*e*Sg	**Sg**	**23 22 10.6**	**+1.0**
BW06	**Boulder Array**	**3.29 255**		*e*Pn	**Pn**	**23 21 19.8**	**-0.1**
PDAR	**Pinedale Array**	**3.29 255**		Pn	**Pn**	**23 21 19.5**	**-0.4**
	2.3nm,0.3s,baz=81,slow=17,SNR=43						
PDAR				Lg	Lg	23 22 03.7	
	9.7nm,0.3s,baz=69,slow=29,SNR=24						
OGNE	**Ogallala**	**3.66 138**		*e*Pn	**Pn**	**23 21 25.9**	**+1.1**
OGNE				*e*Pb	**Pb**	**23 21 34.0**	**+1.5**
OGNE				*e*Sn	**Sn**	**23 22 09.7**	**+1.0**
OGNE				Sg	**Sg**	**23 22 22.3**	**-2.1**
ISCO	**Idaho Springs**	**3.93 184**		*e*Pn	**Pn**	**23 21 29.0**	**+0.2**
ISCO				Pb	**Pb**	**23 21 36.3**	**-1.0**
ISCO				*e*Sb	**Sb**	**23 22 26.2**	**+0.7**
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**23 22 38.3**	**-1.5**
	0.7nm,0.3s,baz=236,slow=14,SNR=7.8						
ULM				Sn	**Sn**	**23 24 21.1**	**-2.2**
	0.2nm,0.3s,baz=150,slow=6.2,SNR=5.2						
ULM				Lg	Lg	23 25 06.6	
	0.1nm,0.3s,baz=360,slow=21,SNR=3.0						
YKA	**Yellowknife Ar**	**19.58 347**		P	**Pn**	**23 24 57.2**	**-0.1**
	0.0nm,0.3s,baz=162,slow=13,SNR=2.9						
ARCES	**ARCESS Array B**	**61.42**	**18**	P	**P**	**23 30 43.6**	**-0.7**
	0.9nm,0.8s,baz=326,slow=7.7,SNR=4.2						

*ISCJB **03** 23:20:38.5±0.5, 18°.10N±0°.07×145°.6E±0°.1, h250km, mb3.8/20, Error ellipse: s-maj=19.3km s-min=9.1km az=174.2*
*IDC **03** 23:20:40.9±3.2, 18°.06N×145°.45E, h257km±33km, mb3.6/19, mb1 3.7/21, mb1mx3.4/63, mbtmp4.2/21, Error ellipse: s-maj=19.3km s-min=8.2km az=86.0*

ISC 03 23:20:40.0±0.7, **18°.08N**±0°.08×**145°.5E**±0°.2, **h250**km, **n23, σ1§08**/23, **mb3.8**/20, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**15.85 342**		P	**P**	**23 24 08.1**	**-1.0**
	2.1nm,0.3s,baz=90,slow=20,SNR=2.6						
JOW	**Kunigami**	**18.16 302**		P	**Pn**	**23 24 37.2**	**-0.4**
	0.4nm,0.3s,baz=136,slow=13,SNR=24						
MJAR	**Matsushiro Arr**	**19.50 342**		P	**P**	**23 24 49.6**	**+0.9**
	0.1nm,0.3s,baz=168,slow=9.9,SNR=9.8						
JAY	**Jayapura**	**21.01 194**		P	**P**	**23 25 03.2**	**-1.7**
	14nm,0.8s,baz=331,slow=7.8,SNR=5.1						
KSRS	**Korea Array**	**24.73 325**		P	**P**	**23 25 37.1**	**-1.6**
	0.5nm,0.4s,baz=142,slow=8.1,SNR=4.7						
ASAJ	**Asahikawa**	**26.08 355**		P	**P**	**23 25 51.0**	**+0.3**
	4.3nm,0.3s,baz=227,slow=7.8,SNR=12						
PETK	**Petropavlovsk-**	**36.23 12**		P	**P**	**23 27 19.8**	**+0.7**
	2.6nm,0.8s,baz=207,slow=6.1,SNR=3.6						
WRA	**Warramunga Arr**	**39.35 197**		P	**P**	**23 27 45.6**	**0.0**
	4.9nm,0.3s,baz=17,slow=8.6,SNR=73						
ASAR	**Alice Springs**	**43.02 196**		P	**P**	**23 28 15.8**	**+0.5**
	2.6nm,0.5s,baz=11,slow=6.5,SNR=36						
SONM	**Songino Array**	**43.53 322**		P	**P**	**23 28 19.8**	**+0.5**
	0.6nm,0.6s,baz=132,slow=7.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**44.15 278**		P	**P**	**23 28 27.2**	**+2.7**
	0.6nm,0.3s,baz=69,slow=6.8,SNR=7.6						
DZM	**Mont Dzumac**	**44.84 152**		P	**P**	**23 28 30.3**	**+0.4**
	9.4nm,1.0s,baz=252,slow=3.2,SNR=7.6						
SEY	**Seymchan**	**45.06**	**4**	P	**P**	**23 28 31.1**	**+0.1**
	2.4nm,0.3s,baz=101,slow=1.0,SNR=12						
STKA	**Stephens Creek**	**49.81 184**		P	**P**	**23 29 07.6**	**-0.2**
	1.5nm,0.5s,baz=2.7,slow=8.3,SNR=7.6						
ZALV	**Zalesovo Beam**	**58.41 323**		P	**P**	**23 30 08.2**	**-1.4**
	0.7nm,0.5s,baz=102,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**58.78 314**		P	**P**	**23 30 13.0**	**+0.8**
	0.9nm,0.4s,baz=91,slow=8.0,SNR=13						
KURBB	**Kurchatov Arra**	**61.68 318**		P	**P**	**23 30 31.7**	**0.0**
	2.5nm,0.4s,baz=93,slow=7.5,SNR=23						
NRIK	**Noril'sk**	**62.14 340**		P	**P**	**23 30 33.8**	**-0.6**
	1.8nm,0.6s,baz=125,slow=7.0,SNR=5.9						
BVAR	**Borovoye Array**	**66.86 321**		P	**P**	**23 31 05.2**	**0.0**
	2.2nm,0.5s,baz=96,slow=7.8,SNR=22						
INK	**Inuvik**	**70.00**	**23**	P	**P**	**23 31 24.7**	**+0.4**
	1.7nm,0.8s,baz=285,slow=8.3,SNR=11						
YKA	**Yellowknife Ar**	**78.61**	**28**	P	**P**	**23 32 14.5**	**+0.6**
	0.7nm,0.5s,baz=291,slow=5.5,SNR=12						
ARCES	**ARCESS Array B**	**83.03 342**		P	**P**	**23 32 37.0**	**-0.2**
	0.7nm,0.7s,baz=68,slow=6.7,SNR=5.9						
FINES	**FINESS Array B**	**87.38 335**		P	**P**	**23 32 56.7**	**-2.0**
	0.3nm,0.3s,baz=57,slow=4.7,SNR=8.5						

*ISCJB **03** 23:31:33.2±0.6, 36°.16N±0°.05×70°.97E±0°.08, h100km, mb3.5/3, Error ellipse: s-maj=10.5km s-min=5.1km az=145.7*
*IDC **03** 23:31:33.0±5.8, 36°.01N×71°.05E, h89km±39km, mb3.4/2, mb1 3.5/7, mb1mx3.0/61, mbtmp3.8/7, Error ellipse: s-maj=70.8km s-min=26.2km az=144.0*
*NNC **03** 23:31:40.3±8.0, 37°.10N×70°.52E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=63.7km s-min=42.2km az=172.0*

ISC 03 23:31:34.7±0.8, **36°.35N**±0°.07×**70°.99E**±0°.07, **h100**km, **n28, σ2§65**/33, **mb3.9**/3, **6C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.53 134**		*e*S	**Sn**	**23 33 56.0**	**-0.8**
AML	**Almayashu**	**6.14**	**19**	P	**Pn**	**23 33 05.7**	**+2.5**
	SNR=100						
UCH	**Uchtor**	**6.47**	**24**	P	**Pn**	**23 33 10.1**	**+2.4**
	SNR=7.9						
EKS2	**Erkin-Say**	**6.66**	**18**	P	**Pn**	**23 33 12.4**	**+2.5**
	SNR=12						
KK31	**Karatay Array**	**6.75 357**		⇑P	**Pn**	**23 33 13.0**	**+1.9**
	1.2nm,0.2s,baz=180,slow=13,SNR=99						
KK31				⇓S	**Sn**	**23 34 23.1**	**-3.4**
	3.5nm,0.3s,baz=189,slow=24,SNR=11						
AAK	**Ala-Archa**	**6.84**	**22**	P	**Pn**	**23 33 15.1**	**+2.6**
	SNR=13						
AAK	**Ala-Archa**	**6.84**	**22**	⇑P	**Pn**	**23 33 14.8**	**+2.4**
	3.9nm,0.4s						
AAK				⇑S	**Sn**	**23 34 27.5**	**-1.2**
	22nm,0.9s						
AAK	**Ala-Archa**	**6.84**	**22**	P	**Pn**	**23 33 15.0**	**+2.6**
	2.8nm,0.3s,baz=178,slow=6.3,SNR=37						
AAK				S	**Sn**	**23 34 27.9**	**-0.8**
	2.8nm,0.3s,baz=2.0,slow=20,SNR=16						
CHMS	**Chumysh**	**7.24**	**22**	P	**Pn**	**23 33 20.5**	**+2.7**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.46**	**27**	⇑P	**Pn**	**23 33 23.1**	**+2.1**
	3.2nm,0.5s						
TKM2				⇓S	**Sn**	**23 34 43.3**	**-0.7**
	9.2nm,1.0s						
GEYT	**Alibeck**	**10.39 283**		P	**Pn**	**23 34 01.1**	**+0.4**
	0.5nm,0.3s,baz=93,slow=10,SNR=6.8						
PYUN	**Piuthan**	**13.07 126**		*e*P	**Pn**	**23 34 34.1**	**-2.5**
	6.4nm,0.3s						
DANN	**Dangsing**	**13.42 123**		*e*P	**Pn**	**23 34 39.5**	**-1.8**
	9.2nm,0.3s						
KOLN	**Koldanda**	**13.69 125**		*e*P	**Pn**	**23 34 42.2**	**-2.6**
	3.5nm,0.3s						
GKN	**Gorkha**	**14.24 122**		*e*P	**Pn**	**23 34 50.3**	**-1.5**
	11nm,0.3s						
PKIN	**Phulchoki**	**15.03 122**		*e*P	**Pn**	**23 34 59.8**	**-2.2**
	4.2nm,0.4s						
PKI	**Pulchoki**	**15.04 122**		*e*P	**Pn**	**23 34 59.9**	**-2.3**
	4.1nm,0.4s						
AB31	**Akbulak array**	**15.21 331**		⇓P	**Pn**	**23 35 04.8**	**+1.0**
	0.4nm,0.3s,baz=145,slow=75,SNR=31						
AB31				⇑S	**Sn**	**23 37 44.5**	**-7.1**
	2.5nm,0.8s,baz=150,slow=23,SNR=6.6						
KURBB	**Kurchatov Arra**	**15.27**	**19**	P	**P**	**23 35 07.8**	**+0.7**
	0.0nm,0.3s,baz=207,slow=11,SNR=4.3						
JIRN	**Jiri**	**15.53 120**		*e*P	**Pn**	**23 35 06.3**	**-2.1**
	7.3nm,0.3s						
RAMN	**Ramite**	**16.25 121**		*e*P	**Pn**	**23 35 15.1**	**-2.2**
	3.2nm,0.2s						
BVAR	**Borovoye Array**	**16.68 359**		P	**P**	**23 35 24.4**	**+1.6**
	0.2nm,0.3s,baz=152,slow=9.9,SNR=5.0						
AKTO	**Aktyubinsk**	**16.90 330**		⇑P	**P**	**23 35 27.4**	**+2.1**
	4.1nm,0.9s						
AKTO				⇓S	**Sn**	**23 38 26.7**	**-5.7**
	1.8nm,0.7s						
AKTO	**Aktyubinsk**	**16.90 330**		P	**P**	**23 35 26.7**	**+1.5**
	0.4nm,0.3s,baz=148,slow=7.2,SNR=8.2						
ZALV	**Zalesovo Beam**	**20.05**	**24**	P	Pn	23 36 01.9	-0.4
	1.0nm,0.4s,baz=220,slow=11,SNR=5.7						
FINES	**FINESS Array B**	**37.60 326**		P	**P**	**23 38 41.8**	**+2.6**
	1.7nm,1.0s,baz=126,slow=8.0,SNR=4.9						
NB2	**NORSAR Subarra**	**44.49 323**		P	**P**	**23 39 37.6**	**+1.9**
	comp=Z,1.0nm,0.5s,baz=100,slow=7.9						
TORD	**Torodi Ar. Bea**	**65.70 269**		P	**P**	**23 42 08.6**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=56,slow=7.8,SNR=2.6						

*IDC **03** 23:38:12.7±0.8, 0°.35S×133°.18E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.9/34, mbtmp3.9/11, ML4.1/4, MS3.3/9, Ms1 3.3/9, ms1mx3.0/32, Error ellipse: s-maj=30.5km s-min=15.2km az=74.0*
*ISCJB **03** 23:38:15.3±0.5, 0°.33S±0°.05×133°.14E±0°.04, h32km, mb3.9/8, MS3.3/6, Error ellipse: s-maj=7.4km s-min=5.9km az=165.9*
*DJA **03** 23:38:15.4±0.4, 0°.5S±4°×13°.3E±°, h10km, M4.9/7, mB5.4/4, mb4.8/7, MLv5.0/4, Mw(mB)4.8/4*

ISC 03 23:38:17.4±0.7, **0°.36S**±0°.07×**133°.14E**±0°.06, **h32**km, **n31, σ0§84**/27, **mb3.9**/8, **MS3.2**/6, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.55 138**		P	**Pn**	**23 38 43.3**	**+0.5**
SWI	**Sorong**	**1.95 255**		P	**Pn**	**23 38 47.5**	**-0.8**
SWI				S	**Sn**	**23 39 12.1**	**+0.4**
FAKI	**Fak Fak**	**2.70 199**		P	**Pn**	**23 38 58.7**	**+0.1**
FAKI				S	**Sn**	**23 39 32.1**	**+1.9**
SRPI	**Serui, Papua**	**3.44 116**		P	**Pn**	**23 39 09.4**	**+0.5**
BNDI	**Bandanaira**	**5.25 218**		P	**Pn**	**23 39 33.7**	**-0.1**
	326nm,0.7s,4μm2.1nm						
BNDI				S	**Sn**	**23 40 34.6**	**+1.3**
	326nm,0.7s,4μm2.1nm						
SANI	**Sanana**	**7.35 257**		P	**Pn**	**23 40 02.4**	**-0.2**
GENI	**Genyem**	**7.37 108**		P	**Pn**	**23 40 03.0**	**+0.2**
SAUI	**Saumlaki**	**7.80 194**		P	**Pn**	**23 40 08.2**	**-0.5**
JAY	**Jayapura**	**7.86 106**		Pn	**Pn**	**23 40 09.4**	**-0.2**
	0.9nm,0.3s,baz=202,slow=19,SNR=3.7						
JAY				LR	LR	23 43 25.6	
	comp=Z,214nm,18.4s,baz=32,slow=40						
APSI	**Ampana**	**11.51 267**		P	**Pn**	**23 40 58.8**	**-0.8**
	61nm,0.5s,761nm						
SOEI	**Soe**	**12.85 223**		P	**Pn**	**23 41 18.0**	**-0.1**
	56nm,1.0s						
BATI	**Baumata**	**13.59 224**		Pn	**Pn**	**23 41 28.4**	**+0.3**
	1.7nm,0.3s,baz=202,slow=3.0,SNR=6.7						
BATI				LR	LR	23 47 00.9	
	comp=Z,132nm,19.7s,baz=104,slow=39						
SPSI	**Sidrap Palu**	**13.83 255**		P	**Pn**	**23 41 31.3**	**-0.1**
	8.3nm,0.8s						
PMG	**Port Moresby**	**16.60 123**		LR	LR	23 49 36.6	
	comp=Z,134nm,21.2s,baz=283,slow=41						
FITZ	**Fitzroy Crossi**	**19.11 202**		P	**P**	**23 42 36.8**	**-1.0**
	0.6nm,0.3s,baz=32,slow=12,SNR=18						
FITZ				S	Sn	23 45 58.0	-14
	0.3nm,0.3s,baz=139,slow=18,SNR=6.3						
WRA	**Warramunga Arr**	**19.50 177**		P	**P**	**23 42 41.0**	**-1.1**
	0.6nm,0.3s,baz=355,slow=13,SNR=28						
WRA				S	S	23 46 09.8	-11
	0.5nm,0.3s,baz=1.2,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**23.18 178**		P	**P**	**23 43 21.2**	**-0.4**
	7.4nm,0.7s,baz=357,slow=10,SNR=23						
ASAR				S	**S**	**23 47 29.2**	**-2.2**
	0.6nm,0.7s,baz=341,slow=11,SNR=2.3						
LEM	**Lembang**	**26.26 255**		LR	LR	23 55 52.4	
	comp=Z,53nm,18.6s,baz=179,slow=40						
STKA	**Stephens Creek**	**32.36 166**		P	**P**	**23 44 43.8**	**-0.2**
	2.7nm,0.5s,baz=349,slow=9.2,SNR=5.9						
STKA				LR	LR	23 59 15.2	
	comp=Z,130nm,20.2s,baz=9.2,slow=39						
MJAR	**Matsushiro Arr**	**37.01**	**7**	LR	LR	23 57 32.2	
	comp=Z,60nm,21.7s,baz=175,slow=31						
KSRS	**Korea Array**	**37.93 353**		LR	LR	23 59 07.1	
	comp=Z,30nm,21.3s,baz=173,slow=33						
CMAR	**Chiang Mai Arr**	**38.45 301**		P	**P**	**23 45 37.2**	**+0.5**
	1.8nm,0.8s,baz=125,slow=7.3,SNR=10						
H11N1	**WAKE ISLAND Hy**	**38.62**	**57**	T	T	00 26 49.0	
	baz=242,slow=75,SNR=27						
H11N2	**WAKE ISLAND Hy**	**38.64**	**57**	T	T	00 26 51.1	
	baz=242,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**38.64**	**57**	T	T	00 26 59.1	
	baz=242,slow=75,SNR=23						
SONM	**Songino Array**	**53.34 338**		P	**P**	**23 47 33.9**	**+0.2**
	0.4nm,0.6s,baz=139,slow=9.0,SNR=3.0						
PETK	**Petropavlovsk-**	**57.08**	**17**	LR	LR	00 09 41.2	
	comp=Z,12nm,21.8s,baz=276,slow=33						
MKAR	**Makanchi Array**	**64.58 324**		P	**P**	**23 48 52.5**	**+0.9**
	0.8nm,0.7s,baz=107,slow=8.9,SNR=6.3						
ZALV	**Zalesovo Beam**	**67.17 331**		P	**P**	**23 49 07.9**	**-0.3**
	0.4nm,0.4s,baz=90,slow=7.2,SNR=2.6						
VNDA	**Vanda**	**78.65 17**		P	**P**	**23 50 16.7**	**+0.9**
	1.0nm,0.9s,baz=322,slow=4.7,SNR=5.8						
VNDA				LR	LR	00 23 17.0	
	comp=Z,21nm,20.8s,baz=290,slow=34						
ILAR	**Eielson Array**	**86.04**	**25**	P	**P**	**23 50 54.1**	**-0.5**
	0.7nm,0.8s,baz=231,slow=5.3,SNR=5.4						

*ISCJB **03** 23:47:25.1±0.4, 6°.88N±0°.03×73°.16W±0°.04, h159km±3km, mb3.5/4, Error ellipse: s-maj=5.8km s-min=4.3km az=13.3*
*IDC **03** 23:47:25.5±0.8, 6°.75N×72°.99W, h161km±13km, mb3.3/4, mb1 3.7/7, mb1mx3.2/32, mbtmp3.9/7, Error ellipse: s-maj=37.1km s-min=7.9km az=133.0*
*RSNC **03** 23:47:27.0±1.1, 6°.83N×73°.17W, h150km±4km, ML3.4, Mw3.3*

ISC 03 23:47:25.9±0.8, **6°.88N**±0°.03×**73°.14W**±0°.04, **h157**km±5km, **n28, σ1§13**/49, **mb3.6**/4, **4C-5D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.21 344**		⇑*i*P	**Pn**	**23 47 47.4**	**+0.1**
GIRC				*e*S	**Sn**	**23 48 02.4**	**-1.1**
GIRC				*i*		23 48 04.2	
	comp=Z,507nm,0.5s						
BARC	**Barichara**	**0.29 189**		⇑*i*P	**Pn**	**23 47 47.3**	**-0.3**
BARC				*e*S	**Sn**	**23 48 02.5**	**-1.6**
BARC				*i*		23 48 05.0	
	comp=Z,679nm,0.3s						
BRRC	**Barranca, Sant**	**0.62 292**		⇑*i*P	**Pn**	**23 47 49.2**	**+0.5**
BRRC				*e*S	**Sn**	**23 48 06.2**	**+0.2**
BRRC				*i*		23 48 09.6	
	comp=Z,382nm,0.4s						
PAMC	**Pamplona, Colo**	**0.63**	**43**	⇑*i*P	**Pn**	**23 47 50.1**	**+0.8**
PAMC				*e*S	**Sn**	**23 48 07.0**	**-0.2**
PAMC				*i*		23 48 09.5	
	comp=Z,846nm,0.5s						
RUSC	**La Rusia**	**0.98 177**		⇓*i*P	**Pn**	**23 47 51.1**	**-0.6**
RUSC				*e*S	**Sn**	**23 48 09.2**	**-2.4**
RUSC				*i*		23 48 12.8	
	comp=Z,150nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.35 256**		⇓*i*P	**Pn**	**23 47 53.8**	**-0.8**
PTBC				*e*S	**Sn**	**23 48 14.9**	**-1.6**
PTBC				*i*		23 48 21.2	
	comp=Z,536nm,0.4s						
OCAC	**Ocana**	**1.37 352**		*e*P	**Pn**	**23 47 55.3**	**+0.4**
OCAC				*e*S	**Sn**	**23 48 17.4**	**+0.3**
OCAC				*i*		23 48 23.7	
	comp=Z,340nm,0.3s						
TAMC	**Tame, Arauca**	**1.41 108**		⇓*i*P	**Pn**	**23 47 55.5**	**+0.4**
TAMC				*i*		23 48 16.3	
	comp=Z,193nm,0.4s						
TAMC				*e*S	**Sn**	**23 48 17.1**	**-0.3**
YOPC	**Yopal, Colombi**	**1.67 155**		⇓*i*P	**Pn**	**23 47 57.8**	**-0.1**
YOPC				*e*S	**Sn**	**23 48 23.6**	**+1.0**
YOPC				*i*		23 48 28.4	
	comp=Z,104nm,0.3s						
SMLC	**San Martn de**	**2.12 334**		*e*P	**Pn**	**23 48 03.4**	**+0.5**
SMLC				*e*S	**Sn**	**23 48 31.1**	**-0.4**
SMLC				*i*		23 48 40.2	
	comp=Z,348nm,0.3s						
NORC	**Norcasia**	**2.16 233**		*e*P	**Pn**	**23 48 03.0**	**-0.4**
NORC				*e*S	**Sn**	**23 48 30.8**	**-1.5**
NORC				*i*		23 48 34.8	
	comp=Z,256nm,0.7s						
ROSC	**El Rosal**	**2.34 210**		⇓*i*P	**Pn**	**23 48 06.7**	**+0.8**
ROSC				*e*S	**Sn**	**23 48 37.5**	**+0.9**
ROSC				*i*		23 48 44.9	
	comp=Z,341nm,0.3s						
ROSC	**El Rosal**	**2.34 210**		P	**Pn**	**23 48 07.0**	**+1.1**
	comp=Z,46nm,0.3s,baz=333,slow=0.6,SNR=78						
ROSC				S	**Sn**	**23 48 36.1**	**-0.6**
	comp=Z,46nm,0.3s,baz=138,slow=21,SNR=11						
HELC	**Santa Helena**	**2.47 254**		*e*P	**Pn**	**23 48 07.9**	**+0.5**
HELC				*e*S	**Sn**	**23 48 40.4**	**+1.0**
HELC				*i*		23 48 45.9	
	comp=Z,138nm,0.4s						
UREC	**San Jos de Ur**	**2.53 290**		*e*P	**Pn**	**23 48 07.2**	**-0.6**
UREC				*e*S	**Sn**	**23 48 39.9**	**-0.3**
UREC				*i*		23 48 51.5	
	comp=Z,212nm,0.2s						
VILC	**Villavicencio,**	**2.80 191**		*e*P	**Pn**	**23 48 10.7**	**-0.5**
VILC				*e*S	**Sn**	**23 48 44.5**	**-1.8**
VILC				*i*		23 48 50.9	
	comp=Z,183nm,0.5s						
CODC	**Agustn Codazz**	**3.05 354**		*e*P	**Pn**	**23 48 14.7**	**+0.4**
CODC				*e*S	**Sn**	**23 48 52.2**	**+0.5**
CODC				*i*		23 48 58.2	
	comp=Z,56nm,0.3s						
SDV	**Santo Domingo**	**3.18**	**51**	P	**Pn**	**23 48 16.2**	**+0.2**
	comp=Z,43nm,0.3s,baz=212,slow=3.8,SNR=157						
SDV				S	**Sn**	**23 48 54.3**	**-0.6**
	comp=Z,11nm,0.3s,baz=74,slow=23,SNR=10						
PRAC	**Prado**	**3.59 209**		*e*P	**Pn**	**23 48 20.1**	**-1.0**
PRAC				*e*S	**Sn**	**23 49 03.7**	**-0.4**
PRAC				*i*		23 49 08.8	
	comp=Z,153nm,0.6s						
SJCC	**San Jacinto, C**	**3.62 326**		*e*P	**Pn**	**23 48 21.0**	**-0.5**
SJCC				*e*S	**Sn**	**23 49 02.7**	**-2.0**
SJCC				*i*		23 49 07.1	
	comp=Z,61nm,0.4s						
YOTC	**Yotoco, Valle**	**4.30 228**		*e*P	**Pn**	**23 48 29.8**	**-0.5**
URIC	**Uribia, Colomb**	**4.92**	**13**	*e*P	**Pn**	**23 48 37.4**	**-1.0**
URIC				*e*S	**Sn**	**23 49 30.8**	**-4.3**
URIC				*i*		23 49 37.9	
	comp=Z,15nm,0.5s						
APG	**El Apazote**	**18.82 297**		P	**P**	**23 51 34.4**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=163,slow=14,SNR=3.6						
TXAR	**Lajitas Array**	**36.41 312**		P	**P**	**23 54 16.8**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=128,slow=8.4,SNR=4.9						
ULM	**Lac du Bonnet**	**47.23 340**		P	**P**	**23 55 42.8**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=126,slow=7.7,SNR=5.1						
PDAR	**Pinedale Array**	**48.02 324**		P	**P**	**23 55 50.5**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=130,slow=8.4,SNR=3.2						
YKA	**Yellowknife Ar**	**63.21 340**		P	**P**	**23 57 37.4**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=132,slow=6.6,SNR=21						
WRA	**Warramunga Arr**	**150.35 241**		PKPbc	**PKPbc**	**00 06 58.2**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=108,slow=2.5,SNR=4.6						

*IDC **04** 00:09:52.1±0.7, 28°.22N×51°.80E, h0km, mb3.9/23, mb1 4.1/31, mb1mx4.0/43, mbtmp3.9/31, ML3.5/8, MS2.8/2, Ms1 2.9/2, ms1mx2.4/35, Error ellipse: s-maj=17.6km s-min=11.7km az=9.0*
*BJI **04** 00:09:52.5±0.0, 28°.30N×51°.80E, h10km, mb4.4/7, mB4.6/3, Ms4.1/2, Ms7 3.8/1*
*NEIC **04** 00:09:54.0±0.4, 28°.23N×51°.79E, h10km, mb4.1/17, ML4.1(THR), Error ellipse: s-maj=8.6km s-min=5.1km az=

SNR=27
MSFE Esma-Masafi 4.84 125 *e*Pn **Pn 00 11 08.7 +1.4**
FAQ Al Faqa, Dubai 4.86 134 *i* P **Pn 00 11 09.6 +2.0**
SNR=8.9
FAQ Al Faqa, Dubai 4.86 134 *e*Pn **Pn 00 11 09.9 +2.4**
IKLH Kolahrood 5.09 358 *e*Pn **Pn 00 11 10.7 -0.2**
IKLH IAMB IAmb 00 11 35.3
comp=Z,584nm,0.4s
HATD Hatta, Dubai 5.16 130 P **Pn 00 11 12.7 +1.1**
HATD Hatta, Dubai 5.16 130 *e*Pn **Pn 00 11 13.7 +2.1**
ASHO Ashiyiah 5.21 131 *i* P **Pn 00 11 13.6 +1.3**
SNR=40
ASHO Ashiyiah 5.21 131 *e*Pn **Pn 00 11 14.1 +1.8**
ANAR Anarak 5.24 18 *e*Pn **Pn 00 11 12.9 +0.1**
CHMN Cheshme madani 5.31 71 *e*Pn **Pn 00 11 15.3 +1.3**
ALNE Al Ain 5.47 138 *i* P **Pn 00 11 17.9 +2.0**
SNR=17
ALNE Al Ain 5.47 138 *e*Pn **Pn 00 11 18.0 +2.1**
KHMZ Khomeyn 5.72 345 *e*Pn **Pn 00 11 19.5 -0.1**
KHMZ Khomeyn 5.72 345 *e*Pn **Pn 00 11 19.5 -0.1**
KRSH Karshahi 5.75 3 *e*Pn **Pn 00 11 19.3 -0.5**
IKMR Kamar-syah 6.04 332 *e*Pn **Pn 00 11 24.3 +0.7**
IDOB Doab 6.36 332 *e*Pn **Pn 00 11 27.9 -0.3**
HOQ Hoqain 6.79 132 *e*Pn **Pn 00 11 35.4 +1.3**
IKOM Komasi 6.97 330 *e*Pn **Pn 00 11 37.1 +0.4**
IBZA Bozab 7.08 333 *e*Pn **Pn 00 11 37.7 -0.5**
TKDS Koohdasht(Taba 7.08 39 *e*Pn **Pn 00 11 38.3 +0.2**
IRAZ Razeghan 7.34 348 *e*Pn **Pn 00 11 41.3 -0.5**
IDMV Damavand 7.35 2 *e*Pn **Pn 00 11 41.4 -0.5**
BIDO Bidbid 7.39 128 P **Pn 00 11 43.0 +0.8**
BIDO S **Sn 00 13 05.2 0.0**
BIDO Bidbid 7.39 128 *e*Pn **Pn 00 11 42.0 -0.2**
IKOO Kooshah 7.53 54 *e*Pn **Pn 00 11 45.7 +1.3**
IGHG Ghaleghazi 7.55 325 *e*Pn **Pn 00 11 45.0 +0.4**
IVIS Veis 7.57 327 *e*Pn **Pn 00 11 45.0 +0.2**
SMDO Samad 7.64 131 P **Pn 00 11 47.6 +1.8**
SNR=5.7
SMDO S **Sn 00 13 13.5 +1.8**
ISHM Shahmirzad 7.68 9 *e*Pn **Pn 00 11 46.4 -0.1**
QABG Abgarm-Qazvin 7.70 347 *e*Pn **Pn 00 11 46.4 -0.3**
WSAR Wadi Sarin 7.92 127 Pn **Pn 00 11 49.5 -0.1**
comp=Z,4.3nm,0.3s,baz=319,slow=6.8,SNR=73
WSAR Sn **Sn 00 13 16.1 -2.3**
comp=Z,1.7nm,0.3s,baz=106,slow=18,SNR=4.0
IDHR Dehrash 7.94 326 *e*Pn **Pn 00 11 50.0 +0.1**
QALM Alamut, Qazvin 8.25 354 *e*Pn **Pn 00 11 53.8 -0.5**
WBK Wadi Bani Khal 8.57 129 P **Pn 00 11 59.8 +1.3**
WBK S **Sn 00 13 33.3 -1.0**
MHTO MHTO 9.14 141 P **Pn 00 12 07.4 +1.2**
SNR=23
MHTO S **Sn 00 13 44.6 -3.7**
JLN Jalan Bani Buh 9.18 129 P **Pn 00 12 06.6 -0.2**
SNR=11
JLN S **Sn 00 13 46.7 -2.6**
DQM DQM 9.78 146 P **Pn 00 12 15.0 -0.1**
SNR=12
DQM S **Sn 00 13 58.7 -5.5**
ISFR Sfrayin 10.26 29 *e*Pn **Pn 00 12 22.9 +1.1**
DMTO DMTO 10.85 164 P **Pn 00 12 29.2 -0.5**
SNR=50
DMTO S **Sn 00 14 26.7 -3.6**
GEYT Alibeck 11.05 27 Pn **Pn 00 12 31.4 -1.1**
comp=Z,0.2nm,0.3s,baz=211,slow=11,SNR=2.8
GYA0B ALIBECK ARRAY 11.05 27 *e*Pn **Pn 00 12 32.3 -0.2**
SIRT Sirnak 12.13 322 *e*Pn **Pn 00 12 44.7 -2.6**
SIRT *e*Sn **Sn 00 14 56.4 -5.3**
ASF Jabal al Asfar 13.46 291 Pn **Pn 00 13 05.4 0.0**
comp=Z,0.2nm,0.3s,baz=58,slow=4.6,SNR=4.3
ASF Sn **Sn 00 15 36.5 +2.3**
comp=Z,0.0nm,0.3s,baz=169,slow=5.8,SNR=3.2
ASF Lg Lg 00 17 06.7
comp=Z,0.1nm,0.3s,baz=232,slow=19,SNR=1.8
EIL Elat 14.80 280 Pn **Pn 00 13 24.5 +0.9**
comp=Z,0.1nm,0.3s,baz=61,slow=16,SNR=2.2
MMAI Mount Meron Ar 14.88 293 Pn **Pn 00 13 26.0 +1.2**
comp=Z,0.3nm,0.3s,baz=108,slow=13,SNR=7.6
MMAI Sn **Sn 00 16 11.1 +2.2**
comp=Z,0.2nm,0.3s,baz=124,slow=29,SNR=2.5
KBZ Khabaz 17.05 338 P **P 00 13 53.7 -0.5**
comp=Z,0.1nm,0.3s,baz=150,slow=9.0,SNR=7.1
KVAR Kislovodsk Arr 17.32 338 P **P 00 13 57.4 +0.1**
baz=90,slow=20,SNR=3.2
CHGR Chuyangaron 17.83 50 *e*Pn **Pn 00 14 01.2 -1.2**
comp=Z,18nm,1.3s
GAR Garm 18.79 50 *e*P **Pn 00 14 13.7 -0.5**
comp=Z,11nm,0.8s
BR131 Keskin Array S 18.88 312 *e*P **Pn 00 14 15.6 +0.3**
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 18.88 312 *e*P **Pn 00 14 15.1 -0.2**
BRTR Keskin Array B 18.88 312 P **Pn 00 14 15.2 -0.1**
comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=19
NIL Nilore 19.20 68 *e*P **Pn 00 14 19.5 +0.5**
comp=Z,9.8nm,1.0s
KK31 Karatay Array 21.20 41 *e*P **P 00 14 39.1 -0.6**
comp=Z,6.6nm,0.9s
KKAR Karatay Array 21.20 41 *e*P **P 00 14 39.0 -0.7**
ABKAR Akbulak array 21.93 14 *e*P **P 00 14 46.8 -0.6**
AKTO Aktyubinsk 22.70 10 P **P 00 14 55.3 -0.2**
comp=Z,1.1nm,0.4s,baz=192,slow=10,SNR=5.0
AAK Ala-Archa 23.36 46 *e*P **P 00 15 05.0 +2.4**
comp=Z,2.8nm,0.6s
AAK Ala-Archa 23.36 46 P **P 00 15 02.2 -0.4**
comp=Z,2.3nm,0.7s,baz=203,slow=2.5,SNR=6.7
NRN Naryn 23.77 50 *e*P **P 00 15 07.8 +1.0**
comp=Z,4.9nm,0.8s
IDI Anoyia 23.88 294 P **P 00 15 09.0 +1.4**
comp=Z,6.0nm,0.7s,baz=101,slow=12,SNR=15
TLB Topalu 25.00 317 ⇑ *i*P **P 00 15 18.1 +0.4**
CFR Carcaliu 25.27 318 ⇑ *i*P **P 00 15 20.6 +0.5**
PLOR Plostina 26.52 318 ⇓ *i*P **P 00 15 31.9 +0.5**
MLR Muntele Rosu 26.74 317 *e*P **P 00 15 35.6 +2.0**
comp=Z,14nm,1.7s
MLR Muntele Rosu 26.74 317 ⇓ *i*P **P 00 15 33.6 0.0**
MLR Muntele Rosu 26.74 317 P **P 00 15 34.9 +1.3**
comp=Z,1.6nm,0.7s,baz=351,slow=0.8,SNR=8.7
TESR Tescani 26.88 320 ⇑ *i*P **P 00 15 35.1 +0.4**
VTS Vitosha 27.18 309 ⇑ *i*P **P 00 15 37.5 -0.1**
BIZ Bicaz 27.43 320 ⇓ *i*P **P 00 15 40.4 +0.8**
ARR Arges 27.48 316 ⇑ *i*P **P 00 15 39.8 -0.3**
FNA Florina 27.87 305 *e*P **P 00 15 42.8 -0.9**
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 28.21 329 P **P 00 15 45.9 -0.5**
comp=Z,0.2nm,0.3s,baz=131,slow=8.2,SNR=4.2
BURAR Bucovina Array 28.31 320 *e*P **P 00 15 48.4 +0.8**
comp=Z,8.8nm,0.7s
BURAR Bucovina Array 28.31 320 ⇓ *i*P **P 00 15 48.6 +1.0**
BUR08 Bucovina Ar. S 28.34 320 *e*P **P 00 15 48.7 +0.9**
comp=Z,1.9nm,1.0s
BVAR Borovoye Array 28.36 24 P **P 00 15 48.2 +0.4**
comp=Z,1.6nm,0.8s,baz=214,slow=7.2,SNR=9.4
BVAR PcP **PcP 00 19 00.0 0.0**
comp=Z,0.9nm,0.7s,baz=209,slow=2.7,SNR=5.0
DRGR 29.34 317 ⇑ *i*P **P 00 15 57.7 +1.0**
MAKZ Makanchi 30.04 44 *e*P **P 00 16 03.1 +0.2**
comp=Z,3.6nm,0.7s
MK31 Makanchi Array 30.23 44 *e*P **P 00 16 04.7 +0.2**
comp=Z,2.5nm,0.8s
MKAR Makanchi Array 30.23 44 *e*P **P 00 16 04.6 +0.1**
MKAR Makanchi Array 30.23 44 P **P 00 16 04.5 -0.1**
comp=Z,1.8nm,0.6s,baz=230,slow=8.2,SNR=13
KOLS Kolonicke sedl 30.68 320 *e*P **P 00 16 10.4 +2.0**
LANS Liptovska Anna 32.38 319 *e*P **P 00 16 25.0 +1.5**
VYHS Vyhne 32.45 318 *e*P **P 00 16 24.3 +0.2**
WMQ Urumqi 32.67 52 *e*P **P 00 16 28.9 +2.8**
WMQ LR LR
comp=Z,770nm,39.2s
WMQ LR LR
comp=Z,1μm,39.3s
WMQ LR LR
comp=Z,350nm,38.5s
OJC Ojcow 32.72 321 *e*P **P 00 16 27.0 +0.6**
comp=Z,3.5nm,0.8s
ZALV Zalesovo Beam 35.26 34 *e*P **P 00 16 47.9 -0.3**
ZALV Zalesovo Beam 35.26 34 P **P 00 16 48.0 -0.3**
comp=Z,1.7nm,0.5s,baz=235,slow=10,SNR=6.7
ZALV LR LR 00 34 18.3
comp=Z,18nm,18.1s,baz=61,slow=42
GERES GERESS Array B 35.71 316 P **P 00 16 51.1 -1.3**
comp=Z,0.2nm,0.5s,baz=112,slow=8.4,SNR=2.4
GERES PcP **PcP 00 19 20.5 +0.3**
comp=Z,0.3nm,0.4s,baz=108,slow=4.3,SNR=3.7
ABTA Abfaltersbach 35.77 312 *e*P **P 00 16 54.0 +1.0**
comp=Z,3.4nm,1.3s
KHC Kasperske Hory 35.89 316 *e*P **P 00 16 54.2 +0.3**
WTTA Wattenberg 36.50 312 *e*P **P 00 16 59.4 +0.1**
comp=Z,4.1nm,0.8s
SQTA Sankt Quirin 36.77 312 *i* P **P 00 17 01.7 +0.2**
comp=Z,3.5nm,0.6s
MOTA Moosalm 36.87 312 *i* P **P 00 17 02.3 -0.2**
comp=Z,1.2nm,0.3s
FETA Feichten 37.02 312 *i* P **P 00 17 04.3 +0.5**
comp=Z,5.4nm,1.2s
CLL Collm 37.06 319 *e*(P) **P 00 17 06.0 +2.2**
CLL *e*PP **PP 00 18 27.0 -1.4**
FINES FINESS Array B 37.39 340 *e*P **P 00 17 06.0 -0.4**
FINES FINESS Array B 37.39 340 P **P 00 17 06.1 -0.3**
comp=Z,3.3nm,0.7s,baz=134,slow=11,SNR=18
DAVA Damuels 37.65 312 *i* P **P 00 17 08.3 -0.8**
comp=Z,5.5nm,0.6s
GTA Gaotai 41.02 61 *e*P **P 00 17 39.0 +1.7**
GTA pP sP 00 17 47.6 -0.8
GTA sP pP 00 17 52.0 +6.8
GTA pmax pmax
comp=Z,5.0nm,0.8s
NC602 NORSAR Array S 42.21 332 *e*P **P 00 17 45.9 -0.6**
comp=Z,148nm,2.0s
NC405 NORSAR Array S 42.34 332 *e*P **P 00 17 47.4 -0.3**
comp=Z,93nm,1.8s
NB201 NORSAR Array S 42.48 332 *e*P **P 00 17 48.1 -0.7**
comp=Z,209nm,1.9s
NB2 NORSAR Subarra 42.51 332 P **P 00 17 48.0 -1.0**
comp=Z,1.1nm,0.5s,baz=122,slow=8.6
NOA NORSAR Array B 42.51 332 P **P 00 17 48.2 -0.8**
comp=Z,0.4nm,0.5s,baz=129,slow=9.0,SNR=9.5
NOA LR LR 00 37 46.4
comp=Z,11nm,19.6s,baz=335,slow=39
ARCES ARCESS Array B 44.06 347 P **P 00 18 01.1 -0.3**
comp=Z,1.6nm,0.7s,baz=156,slow=7.8,SNR=12
CMAR Chiang Mai Arr 44.16 92 P **P 00 18 02.7 -0.1**
comp=Z,0.4nm,0.4s,baz=292,slow=7.7,SNR=3.3
CMAR PcP **PcP 00 19 47.7 +0.1**
comp=Z,1.7nm,0.7s,baz=288,slow=4.9,SNR=7.3
CD2 Chengdu 44.97 73 *e*P **P 00 18 08.2 -1.0**
KMI Kunming 45.38 82 P **P 00 18 13.1 +0.3**
KMI pP pP 00 18 17.7 -3.1
NRIK Noril'sk 46.07 17 P **P 00 18 17.2 -0.1**
comp=Z,1.4nm,0.5s,baz=269,slow=4.9,SNR=5.1
SONM Songino Array 46.23 50 P **P 00 18 18.3 -0.8**
comp=Z,0.8nm,0.5s,baz=268,slow=9.8,SNR=4.5
ESDC Sonseca Array 46.96 299 P **P 00 18 25.0 +0.1**
comp=Z,0.2nm,0.5s,baz=84,slow=7.9,SNR=4.4
TOA0 Torodi Ar. Sit 48.85 263 *e*P **P 00 18 40.5 +0.7**
comp=Z,25nm,2.0s
TORD Torodi Ar. Bea 48.85 263 P **P 00 18 38.5 -1.2**
comp=Z,1.9nm,0.9s,baz=60,slow=8.8,SNR=12
HHC Hu-ho-hao-te 49.97 59 *e*P **P 00 18 48.2 +0.2**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,70nm,6.1s
DBIC Dimbokro 57.56 259 P **P 00 19 44.1 +0.3**
comp=Z,3.1nm,0.6s,baz=47,slow=6.8,SNR=5.1
KSAR Wonju Array Be 63.05 60 P **P 00 20 20.5 -0.6**
KSRS Korea Array 63.07 60 P **P 00 20 20.5 -0.7**
comp=Z,1.1nm,0.5s,baz=281,slow=6.3,SNR=6.3
SCHQ Schefferville 82.00 329 *e*P **P 00 22 13.9 +0.3**
comp=Z,5.2nm,0.8s
SCHQ Schefferville 82.00 329 P **P 00 22 13.1 -0.5**
comp=Z,4.1nm,0.6s,baz=284,slow=8.8,SNR=4.0
IMAR Indian Mountai 84.08 10 *e*P **P 00 22 24.2 0.0**
ILAR Eielson Array 86.19 8 P **P 00 22 33.5 -1.3**
comp=Z,0.3nm,0.7s,baz=338,slow=2.1,SNR=2.8
YKA Yellowknife Ar 88.95 354 P **P 00 22 48.6 +0.6**
comp=Z,1.0nm,0.8s,baz=8,7,slow=5.1,SNR=18
WRA Warmunga Arr 92.98 111 P **P 00 23 09.5 +2.0**
comp=Z,0.5nm,0.8s,baz=308,slow=4.1,SNR=3.4
ASAR Alice Springs 94.41 114 P **P 00 23 13.5 -0.6**
comp=Z,0.4nm,0.8s,baz=328,slow=3.4,SNR=4.0

MAN 04 00:19:05.4, 13°.62N×120°.95E, h6km, mb4.1, ML2.9, MS2.5, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.12**	**176**	⇓	*e*P	Pg	00 19 08.3	+0.4
PGP					*e*S	Sg	00 19 10.8	+1.2
LUBP	**Lubang**	**0.69**	**279**		*e*P	Pb	00 19 19.2	-0.6
LUBP					*e*S	Sn	00 19 32.4	-0.3
SJMP	**San Jose**	**1.17**	**172**		*e*P	Pg	00 19 26.9	-0.8
SJMP					*e*S	Sn	00 19 45.1	+0.6

*ISCJB **04** 00:24:22.0±0.8, 19°.0N±0°.1×145°.5E±0°.2, h214km, mb3.4/8, Error ellipse: s-maj=32.6km s-min=17.6km az=177.6*
*IDC **04** 00:24:26.9±10.0, 19°.07N×145°.43E, h248km±108km, mb3.2/8, mb1 3.4/8, mb1mx3.1/41, mbtmp3.8/8, MS3.2/1, Ms1 3.2/1, ms1mx2.4/15, Error ellipse: s-maj=45.8km s-min=16.3km az=82.0*

ISC 04 00:24:23.3±1.0, 19°.1N±0°.2×145°.5E±0°.3, h214km, n9, σ0°71/8, mb3.6/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.91**	**324**		**P**		**00 29 17.9**	**+0.3**
1.3nm,0.6s,baz=147,slow=9.3,SNR=7.3								
WRA	**Warramunga Arr**	**40.27**	**196**		**P**		**00 31 39.0**	**-0.8**
0.7nm,0.7s,baz=15,slow=8.4,SNR=4.9								
SONM	**Songino Array**	**42.74**	**321**		**P**		**00 31 59.7**	**+0.1**
0.3nm,0.4s,baz=134,slow=9.0,SNR=3.5								
ASAR	**Alice Springs**	**43.95**	**195**		**P**		**00 32 10.3**	**+1.0**
0.3nm,0.6s,baz=25,slow=11,SNR=3.9								
DZM	**Mont Dzumac**	**45.73**	**152**	LR		LR	00 49 57.4	
comp=Z,32nm,21.7s,baz=173,slow=33								
YKA	**Yellowknife Ar**	**77.76**	**28**		**P**		**00 35 56.3**	**-0.1**
0.8nm,0.5s,baz=290,slow=5.4,SNR=13								
ARCES	**ARCESS Array B**	**82.09**	**342**		**P**		**00 36 19.6**	**+0.1**
0.8nm,0.8s,baz=12,slow=6.2,SNR=4.5								
NVAR	**Mina Array Bea**	**83.07**	**52**		**P**		**00 36 25.6**	**+0.1**
0.9nm,0.6s,baz=276,slow=5.0,SNR=5.3								
FINES	**FINESS Array B**	**86.47**	**335**		**P**		**00 36 40.7**	**-0.9**
0.6nm,0.4s,baz=80,slow=4.4,SNR=17								

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*IDC **04** 00:26:57.1±1.6, 7°.22S×154°.96E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/33, mbtmp3.8/7, Error ellipse: s-maj=53.9km s-min=24.4km az=111.0*
*ISCJB **04** 00:27:01.0±1.4, 7°.3S±0°.2×154°.9E±0°.3, h35km, mb3.7/7, Error ellipse: s-maj=45.7km s-min=19.8km az=21.9*

ISC 04 00:27:02.5±1.5, 7°.3S±0°.2×154°.9E±0°.3, h35km, n8, σ0°66/8, mb3.8/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.62**	**236**		**P**		**00 32 09.7**	**-1.0**
1.6nm,0.8s,baz=59,slow=9.4,SNR=7.6								
ASAR	**Alice Springs**	**25.96**	**229**		**P**		**00 32 32.1**	**+0.1**
0.6nm,0.7s,baz=59,slow=9.9,SNR=4.8								
STKA	**Stephens Creek**	**27.48**	**205**		**P**		**00 32 46.0**	**+0.4**
2.9nm,0.8s,baz=20,slow=15,SNR=3.9								
CMAR	**Chiang Mai Arr**	**60.84**	**296**		**P**		**00 37 12.8**	**+0.8**
0.6nm,0.4s,baz=106,slow=4.9,SNR=5.2								
SONM	**Songino Array**	**69.52**	**327**		**P**		**00 38 07.8**	**-0.1**
0.4nm,0.7s,baz=104,slow=6.1,SNR=3.2								
MKAR	**Makanchi Array**	**83.56**	**319**		**P**		**00 39 26.6**	**-0.5**
0.7nm,0.8s,baz=114,slow=2.9,SNR=3.6								
YKA	**Yellowknife Ar**	**96.59**	**28**		**P**		**00 40 28.4**	**-0.1**
0.3nm,0.7s,baz=269,slow=4.7,SNR=6.5								
TORD	**Torodi Ar. Bea**	**153.04**	**285**	PKPbc		**PKPbc**	**00 46 57.5**	**+0.1**
0.2nm,0.7s,baz=113,slow=3.7,SNR=3.3								

WEL 04 00:31:40.0, 38°.S±1°.×17°.7E±°, h51km±1km, ML3.5/42, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.22**	**236**		P	Pn	00 31 48.8	+0.2
URZ					S	Sn	00 31 55.3	+0.6
MWZ	**Matawai**	**0.25**	**144**		P	Pn	00 31 48.9	0.0
MWZ					S	Sn	00 31 55.8	+0.6
RUGZ	**Raukumara Rang**	**0.31**	**58**		P	Pn	00 31 49.0	-0.5
RUGZ					S	Sn	00 31 55.8	-0.5
RAGZ	**Rawiri**	**0.37**	**171**		P	Pn	00 31 50.4	+0.4
EDRZ	**Edgecumbe**	**0.48**	**273**		P	Pn	00 31 51.8	+0.6
EDRZ					S	Sn	00 32 00.3	+1.2
TKGZ	**Te Karaka**	**0.50**	**128**		P	Pn	00 31 52.2	+0.8
TKGZ					S	Sn	00 32 02.3	+2.8
TWGZ	**Tauwhareparae**	**0.50**	**95**		P	Pn	00 31 52.5	+1.0
TWGZ					S	Sn	00 32 03.0	+3.4
HAZ	**Te Kaha**	**0.51**	**43**		P	Pn	00 31 50.9	-0.5
HAZ					S	Sn	00 31 58.8	-0.8
MARZ	**Manawahe**	**0.55**	**285**		P	Pn	00 31 52.4	+0.5
RTZ	**Ruatahuna**	**0.56**	**211**		P	Pn	00 31 52.2	0.0
RTZ					S	Sn	00 32 01.2	+0.3
MUGZ	**Murupara**	**0.57**	**233**		P	Pn	00 31 52.4	+0.2
MUGZ					S	Sn	00 32 01.6	+0.6
PKGZ	**Pakihiroa**	**0.63**	**67**		P	Pn	00 31 53.4	+0.4
SNGZ	**Shannon Statio**	**0.65**	**180**		P	Pn	00 31 54.3	+1.1
RIGZ	**Rimuhau**	**0.66**	**150**		P	Pn	00 31 54.3	+0.9
RIGZ					S	Sn	00 32 05.8	+2.8
TARZ	**Mount Tarawera**	**0.67**	**261**		P	Pn	00 31 54.3	+0.8
RRRZ	**Republican Roa**	**0.69**	**252**		P	Pn	00 31 54.2	+0.5
OPRZ	**Ohinepanea**	**0.69**	**295**		P	Pn	00 31 53.7	+0.1
OPRZ					S	Sn	00 32 04.0	+0.5
MKRZ	**Makatiti**	**0.69**	**269**		P	Pn	00 31 54.5	+0.7
PUZ	**Puketiti**	**0.72**	**85**		P	Pn	00 31 54.5	+0.4
CNGZ	**Carnagh Statio**	**0.76**	**118**		P	Pn	00 31 55.9	+1.2
OMRZ	**Omania**	**0.77**	**272**		P	Pn	00 31 55.4	+0.7
HLRZ	**Highlands Stat**	**0.79**	**261**		P	Pn	00 31 55.5	+0.5
RAHZ	**Arahi**	**0.81**	**194**		P	Pn	00 31 56.1	+0.8
MTHZ	**Maungataniwha**	**0.82**	**209**		P	Pn	00 31 55.6	+0.2
MTHZ					S	Sn	00 32 07.8	+1.1
PRRZ	**Plateau Road**	**0.83**	**244**		P	Pn	00 31 55.9	+0.3
HRRZ	**Handcock Road**	**0.87**	**253**		P	Pn	00 31 56.7	+0.6
KARZ	**Kaharoa**	**0.88**	**277**		P	Pn	00 31 56.5	+0.4
HSRZ	**Hossack Road**	**0.88**	**258**		P	Pn	00 31 56.6	+0.4
PRGZ	**Paritu Road**	**0.89**	**152**		P	Pn	00 31 56.8	+0.4
ALRZ	**Allen Road**	**0.90**	**241**		P	Pn	00 31 56.8	+0.3
WMGZ	**Waiomatatini S**	**0.90**	**70**		P	Pn	00 31 56.9	+0.5
UTU	**Utuhina**	**0.91**	**267**		P	Pn	00 31 57.7	+1.1
KNZ	**Kokohu**	**0.92**	**164**		P	Pn	00 31 56.8	+0.1
WHNZ	**Waihua**	**0.95**	**185**		P	Pn	00 31 57.8	+0.7
TGRZ	**Tauranga**	**0.95**	**295**		P	Pn	00 31 57.0	0.0
MXZ	**Matakaoa Point**	**0.95**	**53**		P	Pn	00 31 58.0	+0.9
GRRZ	**Galatos Road**	**1.00**	**257**		P	Pn	00 31 58.7	+0.9
WPRZ	**Whakapapatarin**	**1.01**	**247**		P	Pn	00 31 58.0	+0.1
MRHZ	**Matea Rd**	**1.01**	**226**		P	Pn	00 31 58.2	+0.2
NMHZ	**Naumai**	**1.05**	**203**		P	Pn	00 31 59.6	+1.1
MHGZ	**Mahia Peninsul**	**1.11**	**157**		P	Pn	00 31 60.0	+0.7
ARHZ	**Aropaoanui**	**1.16**	**193**		P	Pn	00 32 01.0	+1.0
BKZ	**Black Stump Fm**	**1.23**	**213**		P	Pn	00 32 01.2	+0.2
KUTZ	**Kaahu Road**	**1.25**	**253**		P	Pn	00 32 01.8	+0.6
MCHZ	**McNeill Hill**	**1.40**	**201**		P	Pn	00 32 04.6	+1.4
RATZ	**Rangitukua**	**1.44**	**239**		P	Pn	00 32 04.4	+0.6
TLZ	**Tolley Road**	**1.44**	**262**		P	Pn	00 32 04.1	+0.4
RITZ	**Rihia Road**	**1.44**	**234**		P	Pn	00 32 04.5	+0.8
KWHZ	**Kaweka Forest**	**1.48**	**209**		P	Pn	00 32 05.0	+0.7
TOZ	**Tahuroa Road**	**1.51**	**285**		P	Pn	00 32 05.0	+0.3
CKHZ	**Cape Kidnapper**	**1.54**	**188**		P	Pn	00 32 04.2	-0.9
KATZ	**Kakaramea**	**1.54**	**236**		P	Pn	00 32 06.1	+0.8
KRVZ	**Karewarewa**	**1.54**	**234**		P	Pn	00 32 07.3	+0.7
BHHZ	**Black Hill Sta**	**1.68**	**216**		P	Pn	00 32 07.5	+0.3
WTVZ	**West Tongariro**	**1.69**	**234**		P	Pn	00 32 08.0	+0.7
KRHZ	**Kereru**	**1.69**	**206**		P	Pn	00 32 07.1	-0.1
KAHZ	**Kahuranaki**	**1.70**	**192**		P	Pn	00 32 06.9	-0.4
NGZ	**Ngauruhoe**	**1.72**	**232**		P	Pn	00 32 08.4	+0.7
TUVZ	**Tukino**	**1.74**	**229**		P	Pn	00 32 08.5	+0.6
WHVZ	**Whangaehu Hut**	**1.79**	**230**		P	Pn	00 32 09.1	+0.4
FWVZ	**Far West T-bar**	**1.79**	**231**		P	Pn	00 32 09.3	+0.5
TRVZ	**Turoa**	**1.82**	**230**		P	Pn	00 32 09.3	+0.1
KUZ	**Kuaotunu**	**1.89**	**316**		P	Pn	00 32 11.4	+1.4
MTVZ	**Mangateitei**	**1.93**	**229**		P	Pn	00 32 10.9	+0.4
PXZ	**Pawanui**	**1.93**	**191**		P	Pn	00 32 09.1	-1.4
PNHZ	**Pukenui**	**1.99**	**206**		P	Pn	00 32 10.6	-0.7
HIZ	**Hauiti**	**1.99**	**258**		P	Pn	00 32 12.6	+1.3
MKAZ	**Moumakai**	**2.02**	**300**		P	Pn	00 32 11.8	+0.2
WIAZ	**Waiheke Island**	**2.21**	**307**		P	Pn	00 32 15.6	+1.3
ETAZ	**East Tamaki Re**	**2.25**	**301**		P	Pn	00 32 16.6	+1.8
VRZ	**Vera Road**	**2.25**	**243**		P	Pn	00 32 16.5	+1.6
DVHZ	**Dannevirke**	**2.35**	**203**		P	Pn	00 32 14.1	-2.1
AWAZ	**Awhitu Peninsu**	**2.40**	**296**		P	Pn	00 32 17.6	+0.8
WAZ	**Wanganui**	**2.45**	**228**		P	Pn	00 32 18.9	+1.4
POWZ	**Post Office Ro**	**2.57**	**208**		P	Pn	00 32 20.0	+0.8
OHWZ	**Ohakea**	**2.60**	**217**		P	Pn	00 32 20.2	+0.6
LREZ	**Lake Rotokare**	**2.65**	**239**		P	Pn	00 32 22.7	+2.4
BFZ	**Birch Farm**	**2.68**	**198**		P	Pn	00 32 19.3	-1.4
TIWZ	**Tintock**	**2.87**	**203**		P	Pn	00 32 21.4	-1.9
HOWZ	**Holdsworth Sta**	**3.10**	**207**		P	Pn	00 32 24.5	-2.0
OGWZ	**Otaki Gorge**	**3.16**	**211**		P	Pn	00 32 27.0	-0.3
TMWZ	**Te Maipa**	**3.17**	**200**		P	Pn	00 32 25.0	-2.5
WCZ	**Waipu Caves**	**3.25**	**311**		P	Pn	00 32 29.6	+1.1
KIW	**Kapiti Island**	**3.31**	**214**		P	Pn	00 32 28.3	-1.1
MTW	**Mount Morrison**	**3.34**	**205**		P	Pn	00 32 26.5	-3.2
MTW					S	Sn	00 33 03.9	-4.2
CAW	**Cannon Point**	**3.45**	**210**		P	Pn	00 32 28.4	-2.9
PAWZ	**Paruwai Farm**	**3.56**	**204**		P	Pn	00 32 30.3	-2.6
PAWZ					S	Sn	00 33 09.1	-4.7
PLWZ	**Palliser**	**3.79**	**204**		P	Pn	00 32 31.8	-4.2
PLWZ					S	Sn	00 33 13.9	-5.4
TCW	**Tory Channel**	**3.88**	**217**		P	Pn	00 32 35.0	-2.1
TUWZ	**Tuamarina**	**4.21**	**217**		P	Pn	00 32 38.8	-2.8
NNZ	**Nelson**	**4.34**	**224**		P	Pn	00 32 41.1	-2.3
BSWZ	**Blackbirch Sta**	**4.46**	**216**		P	Pn	00 32 43.0	-2.1
QRZ	**Quartz Range**	**4.59**	**233**		P	Pn	00 32 46.7	-0.2
THZ	**Tophouse**	**4.98**	**222**		P	Pn	00 32 50.9	-1.3

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*IDC **04** 00:36:38.6±0.8, 14°.01N×92°.89E, h0km, mb3.9/9, mb1 4.0

mb1 3.9/2, mb1mx3.5/26, mbtmp3.7/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/30, Error ellipse: s-maj=212.2km s-min=50.2km az=129.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.82**	**119**	LR	LR	00 57 08.9	
	comp=Z,102nm,18.1s,baz=196,slow=39						
JAY	**Jayapura**	**14.62**	**286**	LR	LR	01 02 08.5	
	comp=Z,48nm,19.8s,baz=181,slow=36						
WRA	**Warramunga Arr**	**23.86**	**234**	P	P	00 58 38.9	-0.1
	2.5nm,1.0s,baz=59,slow=9.2,SNR=5.7						
ASAR	**Alice Springs**	**26.26**	**228**	P	P	00 59 00.6	-0.3
	0.9nm,1.0s,baz=55,slow=8.0,SNR=3.3						
FITZ	**Fitzroy Crossi**	**30.61**	**245**	LR	LR	01 12 01.2	
	comp=Z,44nm,18.5s,baz=106,slow=36						
TORD	**Torodi Ar. Bea**	**152.73**	**286**	PKPbc	PKiKP	01 13 23.8	0.0
	0.6nm,0.6s,baz=87,slow=1.8,SNR=5.9						

*DJA **04** 01:08:48.6±1.0, 4°N±7°×12°6E±°, h130km±6km, M4.5/1, MLv4.5/1*
*ISCJB **04** 01:08:49.1±0.4, 4°19N±0°.03×125°.99E±0°.08, h150km, mb4.2/12, Error ellipse: s-maj=11.8km s-min=3.8km az=167.6*
*MAN **04** 01:08:50.4, 4°.20N×125°.46E, h8km, mb4.7, ML3.6, MS3.5*
*NEIC **04** 01:08:50.2±1.1, 4°.21N×125°.77E, h152km±13km, mb4.6/7, Error ellipse: s-maj=62.1km s-min=8.1km az=72.0*
*IDC **04** 01:08:51.1±1.9, 4°.21N×125°.75E, h158km±24km, mb3.8/7, mb1 3.9/8, mb1mx3.4/41, mbtmp4.2/8, Error ellipse: s-maj=79.9km s-min=11.6km az=71.0*

ISC 04 01:08:50.1±0.7, 4°.21N±0°.04×126°.00E±0°.08, h150km, n38, σ1§41/43, mb4.4/12, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.71**	**222**	P	**Pn**	**01 09 11.2**	**-1.5**
SGSI				S	**Sn**	**01 09 28.2**	**-1.7**
DDMP	**Don Marcelino,**	**1.90**	**351**	*e*P	**Pn**	**01 09 22.9**	**-1.2**
DDMP				*e*S	**Sn**	**01 09 47.2**	**-2.8**
SKMP	**Bagumbayan, Su**	**2.71**	**328**	*e*P	**Pn**	**01 09 33.4**	**-0.6**
MATI	**Mati**	**2.73**	**5**	*e*P	Pn	01 09 39.6	+5.5
DAV	**Davao City (W)**	**2.87**	**352**	P	**Pn**	**01 09 36.1**	**+0.2**
DAV	55nm,0.3s,baz=47,slow=18,SNR=3.8			S	**Sn**	**01 10 13.1**	**+1.8**
	94nm,0.3s,baz=285,slow=20,SNR=4.1						
DMPH	**Davao City--Mi**	**2.89**	**350⇑**	*e*P	**Pn**	**01 09 37.7**	**+1.5**
DMPH				*e*S	**Sn**	**01 10 12.9**	**+1.1**
TNTI	**Ternate**	**3.68**	**158**	*e*Pn	**Pn**	**01 09 46.2**	**-0.1**
TNTI	**Ternate**	**3.68**	**158**	P	**Pn**	**01 09 44.6**	**-1.7**
TNTI				S	**Sn**	**01 10 28.1**	**-1.8**
BUKP	**Musuan**	**3.76**	**346**	*e*P	**Pn**	**01 09 47.7**	**+0.3**
BUKP				*e*S	**Sn**	**01 10 32.8**	**+1.0**
CGP	**Cagayan de Oro**	**4.41**	**343**	*e*P	Pn	01 10 09.7	+14
PAGZ	**Pagadian**	**4.45**	**324**	*e*P	**Pn**	**01 09 55.5**	**-0.9**
IPIL	**Ipil**	**4.92**	**316**	*e*P	**Pn**	**01 10 01.9**	**-0.7**
IPIL				*e*S	**Sn**	**01 10 55.9**	**-3.3**
MRSI	**Marisa**	**5.50**	**228**	P	**Pn**	**01 10 11.1**	**+0.9**
LUWI	**Luwuk**	**6.14**	**212**	P	**Pn**	**01 10 19.4**	**+0.7**
SANI	**Sanana**	**6.22**	**180**	P	**Pn**	**01 10 18.2**	**-1.7**
APSI	**Ampana**	**6.70**	**221**	P	**Pn**	**01 10 27.1**	**+0.9**
MTKI	**Muara Teweh, K**	**12.22**	**245**	P	**P**	**01 11 47.6**	**+2.0**
MTN	**Manton Dam**	**17.70**	**163**	*e*P	**P**	**01 12 47.4**	**+1.2**
	54nm,1.6s						
FITZ	**Fitzroy Crossi**	**22.17**	**181**	*e*P	**P**	**01 13 35.0**	**+0.8**
	12nm,0.5s						
FITZ	**Fitzroy Crossi**	**22.17**	**181**	P	**P**	**01 13 34.5**	**+0.4**
	11nm,0.4s,baz=21,slow=9.5,SNR=96						
WRAB	**Tennant Creek**	**25.36**	**161**	*e*P	**P**	**01 14 04.2**	**+0.7**
	4.7nm,0.3s						
WR1	**Warramunga Arr**	**25.36**	**161**	*e*P	**P**	**01 14 04.4**	**+0.9**
WRA	**Warramunga Arr**	**25.36**	**161**	*e*P	**P**	**01 14 04.3**	**+0.7**
WRA	**Warramunga Arr**	**25.36**	**161**	P	**P**	**01 14 04.4**	**+0.9**
	6.0nm,0.4s,baz=339,slow=10,SNR=43						
WB2	**Warramunga Arr**	**25.37**	**161**	*e*P	**P**	**01 14 04.4**	**+0.8**
	14nm,1.1s						
AS31	**Alice Springs**	**28.76**	**165**	*e*P	**P**	**01 14 35.1**	**+1.2**
	1.4nm,0.4s						
ASAR	**Alice Springs**	**28.76**	**165**	*e*P	**P**	**01 14 34.1**	**+0.2**
ASAR	**Alice Springs**	**28.76**	**165**	P	**P**	**01 14 34.9**	**+1.0**
	2.8nm,0.6s,baz=342,slow=7.3,SNR=59						
FORT	**Forrest**	**34.85**	**177**	*e*P	**P**	**01 15 27.3**	**+0.3**
	27nm,1.1s						
BBOO	**Buckleboo**	**38.04**	**166**	*e*P	**P**	**01 15 55.3**	**+1.3**
	15nm,0.6s						
STKA	**Stephens Creek**	**38.84**	**159**	P	**P**	**01 16 02.0**	**+1.3**
	2.4nm,0.4s,baz=348,slow=7.8,SNR=6.9						
MK32	**Makanchi Array**	**56.75**	**325**	*e*P	**P**	**01 18 17.8**	**-0.6**
MKAR	**Makanchi Array**	**56.75**	**325**	P	**P**	**01 18 17.8**	**-0.6**
	0.3nm,0.4s,baz=121,slow=7.0,SNR=4.5						
KURBB	**Kurchatov Arra**	**60.94**	**328**	P	**P**	**01 18 47.2**	**0.0**
	0.6nm,0.6s,baz=131,slow=6.7,SNR=3.4						
ARA0	**ARCESS Array S**	**89.75**	**340**	*e*P	**P**	**01 21 31.2**	**+0.1**
ARCES	**ARCESS Array B**	**89.75**	**340**	P	**P**	**01 21 31.2**	**+0.1**
	1.3nm,0.9s,baz=50,slow=1.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**122.08**	**288**	PKP	**PKPdf**	**01 27 24.9**	**-3.1**
	14nm,0.3s,baz=110,slow=2.3,SNR=5.2						
TOA1	**Torodi Ar. Sit**	**122.08**	**288**	*e*PKPdf	**PKPdf**	**01 27 24.9**	**-3.1**

IDC 04 01:21:42.0±8.9, 5°.72S×129°.00E, h357km±110km, mb3.2/1, mb1 3.5/4, mb1mx3.0/28, mbtmp4.2/4, Error ellipse: s-maj=60.6km s-min=41.4km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.73**	**195**	P	P	01 24 29.9	-1.5
	0.4nm,0.3s,baz=38,slow=10,SNR=14						
FITZ				S	S	01 26 50.9	-1.0
	0.2nm,0.3s,baz=250,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**15.06**	**160**	P	P	01 24 56.6	-0.4
	1.4nm,0.3s,baz=340,slow=12,SNR=57						
WRA				S	S	01 27 38.6	-0.1
	2.4nm,0.3s,baz=340,slow=22,SNR=18						
ASAR	**Alice Springs**	**18.46**	**166**	P	P	01 25 34.4	+0.8
	1.7nm,0.3s,baz=343,slow=11,SNR=81						
MKAR	**Makanchi Array**	**66.62**	**327**	P	P	01 31 55.0	0.0
	0.8nm,0.9s,baz=132,slow=8.1,SNR=5.2						

*DRS **04** 01:28:21.6±0.0, 42°.67N×44°.95E, h12km, ML3.0/4*
*NORS **04** 01:28:23.0±0.0, 42°.80N×45°.27E, h4km, MPVA3.5*
*TIF **04** 01:28:24.6, 42°.90N×45°.21E, h5km±3km*
*MOS **04** 01:28:25.7±1.5, 42°.91N×45°.21E, h10km, mb3.8/1, Error ellipse: s-maj=8.2km s-min=4.5km az=26.0*
*ISK **04** 01:28:25.0, 42°.91N×45°.14E, h6km, ML2.8/6*
*DDA **04** 01:28:42.1, 41°.95N×44°.55E, h19km±1km, ML2.2*

ISC 04 01:28:25.9±1.1, 42°.87N±0°.02×45°.22E±0°.01, h4km±9km, n98, σ1§34/168, 12C-8D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMGR	**Komgaron**	**0.32**	**307**	*e*PG	**Pg**	**01 28 31.3**	**-0.9**
KMGR				*e*S	**Sb**	**01 28 38.6**	**-1.3**
KMGR	**Komgaron**	**0.32**	**307**	*e*Pg	**Pg**	**01 28 31.3**	**-0.9**
KMGR				*e*Sg	**Sb**	**01 28 38.6**	**-1.3**
VLKR	**Vladikavkaz**	**0.44**	**295**	*e*PG	**Pb**	**01 28 35.1**	**-1.2**
VLKR				*e*S	**Sb**	**01 28 45.0**	**+1.8**
VLKR	**Vladikavkaz**	**0.44**	**295**	*e*Pg	**Pg**	**01 28 34.5**	**+0.2**
VLKR				*e*Sg	**Sb**	**01 28 44.7**	**+1.5**
GROC	**Groznyy**	**0.54**	**51**	*d i*PG	**Pg**	**01 28 36.7**	**+0.4**
GROC				*e*S	**Sb**	**01 28 47.4**	**+1.2**
GROC	comp=Z,51nm,0.6s			pmax	pmax		
GROC				smax	smax		
	comp=E,405nm,0.7s						
GROC	**Groznyy**	**0.54**	**51**	*e*Pg	**Pg**	**01 28 36.8**	**+0.4**
GROC				*e*Sg	**Sb**	**01 28 47.0**	**+0.8**
DVE	**Vedeno**	**0.67**	**82**	*d i*PG	**Pg**	**01 28 37.6**	**-1.3**
DVE				*e*S	**Sb**	**01 28 48.7**	**-1.3**
DVE	comp=Z,68nm,0.5s			pmax	pmax		
DVE				smax	smax		
	comp=E,199nm,0.8s						
DVE	**Vedeno**	**0.67**	**82**	*e*Pg	**Pg**	**01 28 37.6**	**-1.3**
DVE				*e*Sg	**Sb**	**01 28 48.8**	**-1.3**
GUDG	**Gudauri**	**0.68**	**234**	P	**Pg**	**01 28 39.0**	**0.0**
GUDG				S	**Sb**	**01 28 49.1**	**-1.1**
BTLR	**Botlikh**	**0.77**	**105**	*e*PG	**Pg**	**01 28 39.7**	**-0.9**
BTLR				*e*S	**Sb**	**01 28 52.1**	**-0.6**
BTLR	**Botlikh**	**0.77**	**105**	*e*Pg	**Pg**	**01 28 39.7**	**-0.9**
	comp=E,41nm,0.7s						
BTLR				⇓*e*Sg	**Sb**	**01 28 51.8**	**-1.0**
	comp=E,211nm,0.6s						
KORR	**Kora**	**0.87**	**285**	*e*PG	**Pn**	**01 28 44.5**	**-0.5**
KORR				*e*S	**Sn**	**01 29 00.0**	**+1.7**
KORR	comp=Z,85nm,0.4s			pmax	pmax		
KORR				smax	smax		
	comp=E,348nm,0.4s						
KORR	**Kora**	**0.87**	**285**	*e*Pg	**Pn**	**01 28 44.6**	**-0.5**
KORR				*e*Sg	**Sn**	**01 28 59.6**	**+1.3**
ZEI	**Tsey**	**0.97**	**266**	*e*PG	**Pb**	**01 28 45.1**	**-0.4**
ZEI				*e*S	**Sn**	**01 29 00.9**	**0.0**
ZEI	**Tsey**	**0.97**	**266**	*e*Pg	**Pb**	**01 28 44.9**	**-0.5**
ZEI				*i* Sg	**Sn**	**01 29 00.4**	**-0.5**
STDR	**Stavd-Durt**	**0.98**	**301**	⇑*i*PG	**Pn**	**01 28 46.5**	**-0.1**
STDR				*e*S	**Sn**	**01 29 04.0**	**+3.0**
STDR	**Stavd-Durt**	**0.98**	**301**	*i* Pg	**Pn**	**01 28 46.5**	**-0.1**
STDR				*e*Sg	**Sn**	**01 29 04.0**	**+3.0**
DLMR	**Dylym**	**1.06**	**78**	*e*PG	**Pb**	**01 28 46.5**	**-0.3**
DLMR				*i* S	**Sn**	**01 29 03.0**	**+0.2**
DLMR	**Dylym**	**1.06**	**78**	*e*Pg	**Pb**	**01 28 46.5**	**-0.3**
DLMR				*i* Sg	**Sn**	**01 29 03.0**	**+0.2**
LSNR	**Lesken**	**1.10**	**293**	*e*PG	**Pn**	**01 28 47.6**	**-0.6**
LSNR				*e*S	**Sn**	**01 29 07.2**	**+3.3**
LSNR	**Lesken**	**1.10**	**293**	*e*Pg	**Pn**	**01 28 47.6**	**-0.6**
LSNR				*e*Sg	**Sn**	**01 29 07.9**	**+4.0**
PRTR	**Priterechnaya**	**1.12**	**323**	*i* PG	**Pb**	**01 28 47.7**	**-0.2**
PRTR				*e*S	**Sn**	**01 29 06.7**	**+2.4**
PRTR	comp=Z,83nm,0.2s			pmax	pmax		
PRTR				smax	smax		
	comp=E,235nm,0.6s						
PRTR	**Priterechnaya**	**1.12**	**323**	*e*Pg	**Pn**	**01 28 47.9**	**-0.5**
PRTR				*e*Sg	**Sn**	**01 29 03.3**	**-1.0**
SEAG	**Tbilisi Sea**	**1.14**	**196**	P	**Pn**	**01 28 48.4**	**-0.4**
SEAG				S	**Sn**	**01 29 06.8**	**+1.9**
XNZR	**Khunzakh**	**1.14**	**106**	*e*PG	**Pg**	**01 28 46.8**	**-1.0**
XNZR				*e*S	**Sn**	**01 29 04.5**	**-0.6**
XNZR	**Khunzakh**	**1.14**	**106**	*e*Pg	**Pg**	**01 28 46.9**	**-1.0**
XNZR				*e*Sg	**Sn**	**01 29 04.6**	**-0.6**
UNCR	**Uncukul**	**1.17**	**97**	*e*PG	**Pg**	**01 28 48.0**	**-0.3**
UNCR				*e*S	**Sn**	**01 29 07.0**	**+1.4**
UNCR	comp=Z,250nm,0.2s			pmax	pmax		
UNCR	**Uncukul**	**1.17**	**97**	*e*Pg	**Pg**	**01 28 48.0**	**-0.3**
UNCR				*e*Sg	**Sn**	**01 29 07.0**	**+1.4**
TBLG	**Delisi**	**1.19**	**198**	PN	**Pg**	**01 28 48.6**	**-0.1**
TBLG	**Delisi**	**1.19**	**198**	P	**Pg**	**01 28 48.4**	**-0.2**
TBLG				S	**Sn**	**01 29 07.0**	**+1.0**
TBLG	**Delisi**	**1.19**	**198**	*e*Pg	**Pg**	**01 28 48.4**	**-0.2**
TBLG				*e*S	**Sn**	**01 29 07.0**	**+1.0**
TBLG	**Delisi**	**1.19**	**198**	IAML_P			
TBLG	comp=Z,5μm,0.2s			*i* P	**Pb**	**01 28 48.8**	**-0.2**
TBLG	**Delisi**	**1.19**	**198**	*e*Pg	**Pg**	**01 28 48.4**	**-0.2**
TBLG				*e*Sg	**Sn**	**01 29 07.0**	**+1.0**
DIGR	**Digorskoe uzhe**	**1.20**	**272**	*e*PG	**Pg**	**01 28 47.8**	**-1.2**
DIGR				*e*S	**Sn**	**01 29 06.3**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.20**	**272**	*e*Pg	**Pg**	**01 28 47.9**	**-1.2**
DIGR				*e*Sg	**Sn**	**01 29 05.9**	**-0.7**
BTNK	**Botanikuri**	**1.22**	**195**	P	**Pg**	**01 28 49.0**	**-0.3**
BTNK				S	**Sn**	**01 29 08.1**	**+1.2**
BTNK	**Botanikuri**	**1.22**	**195**	IAML_P			
BTNK	comp=Z,4μm,0.2s			*i* P	**Pg**	**01 28 49.2**	**-0.1**
KRNR	**Karanay**	**1.24**	**91**	*i* PG	**Pn**	**01 28 50.0**	**-0.2**
KRNR				*e*S	**Sn**	**01 29 09.0**	**+1.5**
KRNR	comp=Z,121nm,0.3s			pmax	pmax		
KRNR	**Karanay**	**1.24**	**91**	*i* Pg	**Pn**	**01 28 50.0**	**-0.2**
KRNR				*e*Sg	**Sn**	**01 29 09.0**	**+1.5**
LGD	**Lagodekhi**	**1.28**	**143**	P	**Pg**	**01 28 49.0**	**-1.4**
LGD	**Lagodekhi**	**1.28**	**143**	*i* PG	**Pg**	**01 28 49.0**	**-1.4**
LGD	**Lagodekhi**	**1.28**	**143**	*e*Pg	**Pg**	**01 28 49.0**	**-1.4**
ONI	**Oni**	**1.33**	**259**	PN	**Pn**	**01 28 50.0**	**-1.3**
ONI				SN	**Sg**	**01 29 08.2**	**-0.4**
ONI	**Oni**	**1.33**	**259**	P	**Pn**	**01 28 50.1**	**-1.3**
ONI				S	**Sn**	**01 29 10.2**	**+0.6**
ONI	**Oni**	**1.33**	**259**	*e*PG	**Pn**	**01 28 50.1**	**-1.3**
ONI				*e*S	**Sn**	**01 29 10.2**	**+0.6**
ONI	**Oni**	**1.33**	**259**	*e*Pg	**Pn**	**01 28 50.1**	**-1.3**
ONI				*e*Sg	**Sn**	**01 29 10.2**	**+0.6**
ARKR	**Arakani**	**1.33**	**101**	*i* PG	**Pn**	**01 28 51.0**	**-0.4**
ARKR				*i* S	**Sn**	**01 29 11.0**	**+1.3**
ARKR	**Arakani**	**1.33**	**101**	*i* Pg	**Pn**	**01 28 51.0**	**-0.4**
ARKR				*i* Sg	**Sn**	**01 29 11.0**	**+1.3**
NCK	**Nalchik**	**1.34**	**299**	⇑*e*PG	**Pg**	**01 28 51.8**	**+0.1**
NCK				*e*S	**Sn**	**01 29 11.7**	**+1.8**
NCK	**Nalchik**	**1.34**	**299**	*e*Pg	**Pn**	**01 28 51.3**	**-0.3**
NCK				*e*Sg	**Sn**	**01 29 12.4**	**+2.6**
GNBR	**Gunib**	**1.37**	**110**	⇑*e*PG	**Pn**	**01 28 51.0**	**-1.0**
GNBR				*e*		01 29 12.2	
GNBR	comp=Z,33nm,0.4s			pmax	pmax		
GNBR				smax	smax		
	comp=N,1μm,1.1s						
GNBR	**Gunib**	**1.37**	**110**	*e*Pg	**Pn**	**01 28 50.9**	**-1.1**
	comp=N,59nm,0.5s						
GNBR				⇑*e*Sg	**Sn**	**01 29 11.3**	**+0.6**
	comp=N,141nm,0.7s						
BUJR	**Buynaksk**	**1.39**	**91**	*e*PG	**Pg**	**01 28 52.5**	**-0.1**
BUJR				*e*S	**Sn**	**01 29 14.5**	**+3.5**
BUJR	comp=Z,69nm,0.3s			pmax	pmax		
BUJR	**Buynaksk**	**1.39**	**91**	*e*Pg	**Pg**	**01 28 52.5**	**-0.1**
BUJR				*e*Sg	**Sn**	**01 29 14.5**	**+3.5**
SRKG	**Sareki**	**1.48**	**249**	P	**Pg**	**01 28 54.7**	**+0.4**
SRKG				S	**Sg**	**01 29 19.3**	**+5.9**
DDFL	**Dedoflistskaro**	**1.57**	**154**	P	**Pn**	**01 28 53.2**	**-1.4**
DDFL				S	**Sg**	**01 29 21.4**	**+5.1**
KMKR	**Kumukh**	**1.57**	**117**	*e*PG	**Pn**	**01 28 54.0**	**-0.8**
KMKR				*e*S	**Sg**	**01 29 18.0**	**+1.6**
KMKR	comp=Z,33nm,0.3s			pmax	pmax		
KMKR	**Kumukh**	**1.57**	**117**	*e*Pg	**Pn**	**01 28 54.0**	**-0.8**
KMKR				*e*Sg	**Sg**	**01 29 18.0**	**+1.6**
KZRT	**Kazreti**	**1.60**	**203**	P	**Pn**	**01 28 54.9**	**-0.1**
KZRT				S	**Sg**	**01 29 18.0**	**+0.8**
KBTC	**Kuba-Taba**	**1.63**	**306**	⇓*e*PG	**Pn**	**01 28 54.5**	**-1.0**
KBTC				*e*S	**Sn**	**01 29 15.8**	**-1.1**
KBTC	**Kuba-Taba**	**1.63**	**306**	*e*Pg	**Pn**	**01 28 55.2**	**-0.2**
KBTC				*e*Sg	**Sb**	**01 29 17.1**	**-0.3**
MAK	**Makhachkala**	**1.68**	**86**	*e*PN	**Pn**	**01 28 55.3**	**-0.8**
MAK				*e*		01 29 18.0	
MAK	comp=Z,62nm,0.3s			pmax	pmax		
MAK				smax	smax		
	comp=E,293nm,0.4s						
MAK				smax	smax		
	comp=E,237nm,0.5s						
MAK	**Makhachkala**	**1.68**	**86**	*i* Pg	**Pn**	**01 28 56.2**	**+0.1**
MAK				*e*Sg	**Sn**	**01 29 18.0**	**-0.2**
TKB	**Tkibuli**	**1.72**	**253**	P	**Pg**	**01 28 58.5**	**-0.4**
TKB				S	**Sg**	**01 29 23.8**	**+2.6**
NEY	**Neytrino**	**1.87**	**283**	*c i*PN	**Pb**	**01 28 59.7**	**-1.1**
NEY				*e*S	**Sg**	**01 29 26.2**	**+0.3**
NEY	comp=Z,31nm,0.5s			pmax	pmax		
NEY				smax	smax		
	comp=N,75nm,0.6s						
NEY	**Neytrino**	**1.87**	**283**	*e*Pg	**Pn**	**01 28 59.1**	**+0.2**
NEY				*e*Sg	**Sg**	**01 29 27.4**	**+1.4**
URKR	**Urkarakh**	**1.92**	**111**	*e*PN	**Pb**	**01 29 01.2**	**-0.3**
URKR				*e*S	**Sg**	**01 29 27.9**	**+0.4**
URKR	**Urkarakh**	**1.92**	**111**	*e*Pg	**Pb**	**01 29 01.3**	**-0.3**
URKR				*e*Sg	**Sg**	**01 29 27.9**	**+0.4**
AKH	**Akhalkalaki**	**1.94**	**222**	PN	**Pn**	**01 28 59.5**	**-0.3**
AKH	**Akhalkalaki**	**1.94**	**222**	P	**Pb**	**01 29 01.2**	**-0.7**
AKH				S	**Sg**	**01 29 28.9**	**+0.7**
AKH	**Akhalkalaki**	**1.94**	**222**	*e*PN	**Pb**	**01 29 01.2**	**-0.7**
AKH				*e*S	**Sg**	**01 29 28.9**	**+0.7**
AKH	**Akhalkalaki**	**1.94**	**222**	*e*Pg	**Pb**	**01 29 01.2**	**-0.7**
AKH				*e*Sg	**Sg**	**01 29 28.3**	**+0.1**
PYA1	**Pyatigorsk**	**1.95**	**309**	⇑*e*PN	**Pn**	**01 28 58.6**	**-1.3**
PYA1	**Pyatigorsk**	**1.95**	**309**	*i* Pg	**Pn**	**01 28 58.7**	**-1.2**
PYA1				*e*Sg	**Sn**	**01 29 24.2**	**-0.8**
BGD	**Bogdanovka**	**2.00**	**218**	P	**Pb**	**01 29 02.0**	**-1.0**
BGD				S	**Sg**	**01 29 30.1**	**-0.1**
SHA1	**Shidzhatmaz**	**2.06**	**296**	⇑*e*PN	**Pn**	**01 29 01.0**	**-0.6**
SHA1	**Shidzhatmaz**	**2.06**	**296**	*e*Pg	**Pn**	**01 29 01.0**	**-0.6**
SHA1				*e*Sg	**Sb**	**01 29 28.6**	**-1.5**
KIV0	**Kislovodsk Arr**	**2.14**	**302**	*e*Pg	**Pn**	**01 29 01.9**	**-0.6**
KIV0				*e*Sg	**Sn**	**01 29 30.0**	**+0.4**
KIV	**Kislovodsk**	**2.14**	**301**	PN	**Pn**	**01 29 01.2**	**-1.4**
KIV	**Kislovodsk**	**2.14**	**301**	⇑*e*PN	**Pn**	**01 29 01.9**	**-0.7**
KIV				*e*S	**Sn**	**01 29 30.0**	**+0.3**
EPOS	**Posof**	**2.30**	**235**	*i* P	**Pn**	**01 29 05.5**	**+0.7**
AKT	**Akhty**	**2.32**	**126**	⇓*e*PN	**Pb**	**01 29 07.7**	**-0.8**
AKT				*e*		01 29 39.6	
AKT	comp=Z,17nm,0.4s			pmax	pmax		
AKT				smax	smax		
	comp=N,30nm,0.7s						
AKT	**Akhty**	**2.32**	**126**	*e*Pn	**Pb**	**01 29 07.2**	**-1.2**
	comp=N,17nm,0.5s						
AKT				⇑*e*Sn	**Sg**	**01 29 39.7**	**-0.9**
	comp=N,39nm,0.6s						
DRN	**Derbent**	**2.45**	**109**	⇑*e*PN	**Pb**	**01 29 10.5**	**0.0**
DRN				*e*		01 29 47.8	
DRN	comp=Z,20nm,0.7s			pmax	pmax		
DRN				smax	smax		
	comp=N,37nm,0.6s						
DRN	**Derbent**	**2.45**	**109**	⇑*e*Pg	**Pb**	**01 29 10.5**	**0.0**
	comp=N,20nm,0.7s						
DRN				⇓*e*Sg	**Sg**	**01 29 47.8**	**+3.2**
	comp=N,37nm,0.6s						
EAK	**Akyaka**	**2.49**	**209**	IAML_P			
EAK	comp=Z,535nm,0.4s			*i* P	**Pb**	**01 29 09.9**	**-1.4**
GNI	**Garni**	**2.74**	**188**	PN	**Pn**	**01 29 11.5**	**+0.7**
GNI	**Garni**	**2.74**	**188**	*ce*PN	**Pn**	**01 29 12.8**	**+2.0**
DIGO	**Kars**	**2.81**	**210**	IAML_P			
DIGO	comp=Z,278nm,0.3s			*i* P	**Pn**	**01 29 13.4**	**+1.5**
TASB	**TASBURUN-IGDIR**	**2.97**	**195**	PN	**Pn**	**01 29 14.6**	**+0.7**
BCA	**Borcka**	**3.03**	**243**	PN	**Pn**	**01 29 14.5**	**-0.2**
DAGI	**Agillar**	**3.04**	**235**	IAML_P			
DAGI	comp=Z,45nm,0.3s			*i* P	**Pb**	**01 29 18.4**	**-2.3**
SENK	**Senkaya-Erzuru**	**3.15**	**224**	PN	**Pn**	**01 29 16.5**	**0.0**
DBAD	**Bademkaya**	**3.21**	**236**	IAML_P			
DBAD	comp=Z,147nm,0.3s			*i* P	**Pn**	**01 29 19.0**	**+1.8**
AGRB	**Hanur-Agry**	**3.69**	**208**	PN	**Pn**	**01 29 24.6**	**+0.7**
ANN	**Anapa**	**5.95**	**292**	*e*P	**Pn**	**01 29 53.3**	**-1.5**
ANN	comp=Z,6.0nm,0.3s			pmax	pmax		
KIEV	**Kiev**	**13.46**	**311**	⇓*e*P	**Pn**	**01 31 36.1**	**-1.5**
AAK	**Ala-Archa**	**21.46**	**81**	⇓*e*P	**P**	**01 33 16.2**	**+0.8**

*IDC **04** 01:43:20.6±2.9, 6°.72S×148°.16E, h75km±22km, mb3.8/3, mb1 3.9/5, mb1mx3.3/45, mbtmp4.0/5, MS3.3/3, Ms1 3.2/3, ms1mx2.7/36, Error ellipse: s-maj=50.8km s-min=20.0km az=115.0*

ISC 04 01:43:15.7±2.3, 6°.4S±0°.2×148°.1E±0°.4, h51km, n8, σ1§10/8, mb3.9/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12**	**198**	P	**Pn**	**01 44 03.1**	**+0.7**
	15nm,0.3s,baz=33,slow=11,SNR=14						
PMG				S	**Sn**	**01 44 38.4**	**+0.1**
	9.9nm,0.3s,baz=30,slow=12,SNR=4.0						
JAY	**Jayapura**	**8.37**	**297**	LR	LR	01 49 07.1	
	comp=Z,100nm,20.7s,slow=41						
WRA	**Warramunga Arr**	**18.98**	**224**	P	**P**	**01 47 33.1**	**0.0**
	0.3nm,0.3s,baz=48,slow=11,SNR=2.3						
ASAR	**Alice Springs**	**21.93**	**217**	P	**P**	**01 48 05.0**	**-0.1**
	3.2nm,0.6s,baz=54,slow=9.3,SNR=42						
ASAR				S	**S**	**01 52 03.0**	**-1.6**
	3.3nm,0.8s,baz=30,slow=22,SNR=13						
FITZ	**Fitzroy Crossi**	**24.82**	**240**	P	**P**	**01 48 34.7**	**+1.4**
	3.5nm,0.4s,baz=55,slow=9.1,SNR=45						
STKA	**Stephens Creek**	**26.05**	**193**	P	**P**	**01 48 43.8**	**-0.6**
	1.3nm,0.4s,baz=360,slow=9.1,SNR=6.0						
STKA				LR	LR	01 59 09.2	
	comp=Z,70nm,18.1s,baz=23,slow=37						
URZ	**Urewera**	**41.15**	**145**	LR	LR	02 06 48.8	
	comp=Z,50nm,18.1s,baz=279,slow=34						
TORD	**Torodi Ar. Bea**	**146.29**	**284**	PKPbc	**PKiKP**	**02 02 54.0**	**-0.8**
	0.8nm,0.5s,baz=63,slow=3.6,SNR=14						

*IDC **04** 01:47:06.6±0.9, 28°.51N×52°.45E, h0km, mb3.9/16, mb1 4

ASUD Al Ashush, Dub 4.71 145 P Pn 01 48 22.3 +2.2
SNR=14
ASUD S Sn 01 49 17.2 +2.9
FAQ Al Faqa, Dubai 4.75 142 P Pn 01 48 22.1 +1.5
ANAR Anarak 4.78 14 *e*Pn **Pn 01 48 21.2 +0.1**
IKLH Kolahrood 4.81 352 Pn **Pn 01 48 21.6 -0.1**
IKLH Kolahrood 4.81 352 *e*Pn **Pn 01 48 21.5 -0.1**
IKLH IAMB IAmb 01 49 25.1
comp=Z,677nm,0.6s
HATD Hatta, Dubai 5.00 137 P Pn 01 48 25.4 +1.4
ASHO Ashiyiah 5.06 138 *i* P **Pn 01 48 25.9 +1.0**
SNR=50
ASHO Ashiyiah 5.06 138 P Pn 01 48 25.9 +1.0
SNR=50
ASHO S Sn 01 49 21.9 -1.1
ALNE Al Ain 5.40 145 *i* P **Pn 01 48 31.0 +1.5**
SNR=9.7
KRSH Karshahi 5.42 358 *e*Pn **Pn 01 48 30.1 +0.2**
SOHO SOHO 5.76 139 P Pn 01 48 35.2 +0.8
SNR=6.1
SOHO S Sn 01 49 41.9 +1.7
ISFB Sefidab 5.80 359 *e*Pn **Pn 01 48 34.5 -0.5**
GHVR GHOM 6.00 351 Pn **Pn 01 48 39.0 +1.3**
GHVR GHOM 6.00 351 *e*Pn **Pn 01 48 39.3 +1.6**
GHVR GHOM 6.00 351 *e*Pn **Pn 01 48 39.3 +1.6**
IKMR Kamar-syah 6.03 326 *e*Pn **Pn 01 48 37.8 -0.3**
IKFM Kafar-mosalman 6.31 323 *e*Pn **Pn 01 48 42.5 +0.6**
IDOB Doab 6.35 327 *e*Pn **Pn 01 48 42.9 +0.2**
TKDS Koohdasht(Taba 6.50 38 *e*Pn **Pn 01 48 43.7 -1.0**
IHSB Hasanabad 6.94 353 *e*Pn **Pn 01 48 50.3 -0.5**
IKOM Komasi 6.99 325 *e*Pn **Pn 01 48 51.6 +0.2**
IDMV Damavand 7.03 358 *e*Pn **Pn 01 48 51.7 -0.4**
IRAZ Razeghan 7.15 344 *e*Pn **Pn 01 48 53.5 -0.3**
ISHM Shahmirzad 7.29 6 *e*Pn **Pn 01 48 55.9 +0.2**
QABG Abgarm-Qazvin 7.53 342 *e*Pn **Pn 01 48 59.7 +0.7**
IVIS Veis 7.60 323 *e*Pn **Pn 01 48 59.2 -0.7**
WSAR Wadi Sarin 7.72 132 Pn **Pn 01 49 00.8 -0.5**
comp=Z,2.2nm,0.3s,baz=295,slow=8.5,SNR=21
WSAR Sn **Sn 01 50 27.2 -1.3**
comp=Z,2.7nm,0.3s,baz=142,slow=19,SNR=4.2
WSAR LR LR 01 52 08.8
comp=Z,140nm,21.6s,baz=342,slow=40
IDHR Dehrash 7.98 322 *e*Pn **Pn 01 49 03.8 -1.4**
QALM Alamut, Qazvin 8.01 350 *e*Pn **Pn 01 49 04.7 -0.8**
MHTO MHTO 9.07 145 P **Pn 01 49 21.0 +1.0**
SNR=6.9
MHTO S **Sn 01 50 58.2 -3.6**
GEYT Alibeck 10.53 26 Pn **Pn 01 49 39.6 -0.3**
comp=Z,1.0nm,0.3s,baz=202,slow=15,SNR=6.3
DMTO DMTO 11.03 167 P **Pn 01 49 46.7 -0.1**
SNR=11
DMTO S **Sn 01 51 44.0 -5.8**
SIRT Sirnak 12.21 320 *e*Pn **Pn 01 49 60.0 -3.0**
GNI Garni 13.18 333 LR LR 01 56 01.5
comp=Z,57nm,18.2s,baz=142,slow=40
ASF Jabal al Asfar 13.84 289 Pn **Pn 01 50 23.6 -1.6**
comp=Z,0.2nm,0.3s,baz=47,slow=11,SNR=6.2
ASF Sn **Sn 01 53 04.5 +5.8**
comp=Z,0.2nm,0.3s,baz=194,slow=10,SNR=3.7
ASF Lg Lg 01 54 39.8
comp=Z,0.1nm,0.3s,baz=253,slow=19,SNR=1.8
MMAI Mount Meron Ar 15.25 291 Pn **Pn 01 50 42.4 -1.9**
comp=Z,0.3nm,0.3s,baz=103,slow=14,SNR=12
MMAI Sn **Sn 01 53 27.8 -5.2**
comp=Z,0.5nm,0.3s,baz=115,slow=17,SNR=4.3
MMAI LR LR 01 58 06.4
comp=Z,96nm,19.1s,baz=75,slow=43
EIL Elat 15.27 278 Pn **Pn 01 50 43.1 -1.4**
comp=Z,0.1nm,0.3s,baz=63,slow=11,SNR=2.3
EIL Lg Lg 01 55 26.2
comp=Z,0.1nm,0.3s,baz=68,slow=18,SNR=1.7
EIL LR LR 01 57 08.6
comp=Z,52nm,21.8s,baz=98,slow=39
KBZ Khabaz 16.96 336 P **Pn 01 51 06.8 +0.7**
comp=Z,0.1nm,0.3s,baz=153,slow=9.8,SNR=5.5
GAR Garm 18.18 50 *e*Pn **P 01 51 21.5 -0.1**
comp=Z,19nm,1.0s
BTK Batken 19.05 48 *e*P **Pn 01 51 32.1 +0.1**
comp=Z,24nm,1.7s
BR131 Keskin Array S 19.06 311 *e*P **P 01 51 31.9 +0.5**
comp=Z,4.1nm,0.6s
BRTR Keskin Array B 19.06 311 *e*P **P 01 51 31.2 -0.2**
BRTR Keskin Array B 19.06 311 P **P 01 51 31.9 +0.5**
comp=Z,0.5nm,0.3s,baz=131,slow=13,SNR=38
BRTR LR LR 01 59 50.2
comp=Z,50nm,20.7s,baz=118,slow=40
KK31 Karatay Array 20.62 40 *e*P **P 01 51 47.6 -0.6**
comp=Z,2.2nm,0.7s
KKAR Karatay Array 20.62 40 *e*P **P 01 51 48.1 -0.1**
ABKAR Abkulak array 21.49 14 *e*P **P 01 51 56.3 -1.2**
AKTO Aktyubinsk 22.29 10 P **P 01 52 05.5 -0.5**
comp=Z,1.8nm,0.4s,baz=207,slow=13,SNR=8.9
AKTO LR LR 02 02 58.5
comp=Z,59nm,18.4s,baz=181,slow=43
KARP Karpathos 22.45 295 *e*P **P 01 52 14.2 +6.2**
comp=Z,26nm,0.9s
AAK Ala-Archa 22.75 46 *e*P **P 01 52 12.0 +0.8**
comp=Z,1.5nm,0.5s
AAK Ala-Archa 22.75 46 LR LR 02 02 13.1
comp=Z,63nm,20.2s,baz=240,slow=40
KLYT Kilyos 22.88 310⇑*i*P P 01 52 20.8 +8.5
NRN Naryn 23.16 50 *e*P **P 01 52 16.2 +0.5**
comp=Z,5.2nm,0.9s
IDI Anoyia 24.23 293 P **P 01 52 26.3 +0.5**
comp=Z,4.6nm,0.7s,baz=76,slow=11,SNR=12
IDI LR LR 02 04 49.7
comp=Z,39nm,21.8s,baz=74,slow=44
TIRR Tirgusor 24.84 316 *e*P **P 01 52 34.7 +3.6**
comp=Z,2.7nm,0.8s
TLB Topalu 25.13 316⇑*i*P **P 01 52 34.1 +0.4**
CFR Carcaliu 25.39 317⇑*i*P **P 01 52 37.5 +1.4**
VRI Vrincioaia 26.59 318⇓*i*P **P 01 52 48.0 +1.0**
PLOR Plostina 26.63 317⇑*i*P **P 01 52 50.4 +3.0**
MLR Muntele Rosu 26.87 316 *e*P **P 01 52 52.7 +3.0**
comp=Z,6.1nm,0.9s
MLR Muntele Rosu 26.87 316⇑*i*P **P 01 52 52.2 +2.5**
MLR Muntele Rosu 26.87 316 P **P 01 52 51.5 +1.8**
comp=Z,3.1nm,0.8s,baz=206,slow=3.2,SNR=11
TESR Tescani 26.98 319⇑*i*P **P 01 52 51.3 +0.8**
ARR Arges 27.62 315⇑*i*P **P 01 52 57.1 +0.8**
BRVK Borovoye 27.84 23 *e*P **P 01 52 57.8 -0.3**
BVAR Borovoye Array 27.85 24 P **P 01 52 58.2 -0.1**
comp=Z,0.7nm,0.4s,baz=218,slow=9.4,SNR=7.8
BURAR Bucovina Array 28.40 320 *e*P **P 01 53 05.3 +1.9**
comp=Z,8.2nm,0.7s
BURAR Bucovina Array 28.40 320⇑*i*P **P 01 53 04.9 +1.6**
BUR08 Bucovina Ar. S 28.43 320 *e*P **P 01 53 06.3 +2.7**
comp=Z,9.5nm,2.0s
DRGR 29.47 316⇑*i*P **P 01 53 13.9 +1.1**
KURBB Kurchatov Arra 29.61 35 P **P 01 53 13.4 -0.5**
comp=Z,0.6nm,0.7s,baz=235,slow=9.0,SNR=4.9
MKAR Makanchi Array 29.63 44 *e*P **P 01 53 14.3 +0.1**
MKAR Makanchi Array 29.63 44 P **P 01 53 12.8 -1.3**
comp=Z,0.7nm,0.6s,baz=238,slow=6.8,SNR=4.4
MKAR LR LR 02 06 21.6
comp=Z,38nm,18.7s,baz=240,slow=39
KURK Kurchatov 29.71 35 *e*P **P 01 53 16.4 +1.6**
WMQ Urumqi 32.06 52 *e*P P 01 53 40.0 +4.3
VYHS Vyhne 32.57 317 *e*P **P 01 53 43.2 +3.1**
KMBO Kilima Mbogo 32.87 209 LR LR 02 08 23.2
comp=Z,70nm,18.0s,baz=11,slow=39
ZAA0 Zalesovo Array 34.69 34 *e*P **P 01 53 59.0 +0.5**
comp=Z,2.9nm,0.9s
ZALV Zalesovo Beam 34.69 34 *e*P **P 01 53 58.0 -0.4**
ZALV Zalesovo Beam 34.69 34 P **P 01 53 57.8 -0.6**
comp=Z,1.8nm,0.4s,baz=239,slow=11,SNR=10
ZALV LR LR 02 09 41.8
comp=Z,46nm,18.6s,baz=250,slow=39
GERES GERESS Array B 35.84 315 P **P 01 54 07.4 -1.2**
comp=Z,0.3nm,0.5s,baz=112,slow=9.0,SNR=3.2
GERES LR LR 02 11 44.1
comp=Z,28nm,18.7s,baz=108,slow=41
KHC Kasperske Hory 36.02 316 *e*P **P 01 54 09.2 -0.8**
SQTA Sankt Quirin 36.94 312 *i* P **P 01 54 17.8 -0.1**
comp=Z,2.8nm,0.5s
MOTA Moosalm 37.04 312 *i* P **P 01 54 18.4 -0.5**
comp=Z,1.3nm,0.5s
CLL Collm 37.16 319 *e*P **P 01 54 23.1 +3.5**
comp=Z,3.7nm,1.0s
CLL Collm 37.16 319 *e*(P) **P 01 54 23.0 +3.4**
comp=Z,5.0nm,1.1s
FINES FINESS Array B 37.27 339 *e*P **P 01 54 20.1 -0.2**
FINES FINESS Array B 37.27 339 P **P 01 54 19.8 -0.5**
comp=Z,1.5nm,0.4s,baz=140,slow=10,SNR=11
FINES LR LR 02 11 43.3
comp=Z,62nm,18.1s,baz=182,slow=40

DAVA Damuels 37.83 311 *i* P **P 01 54 25.2 -0.4**
comp=Z,5.3nm,0.6s
NB2 NORSAR Subarra 42.47 332 P **P 01 55 02.9 -0.8**
comp=Z,1.9nm,0.7s,baz=122,slow=8.6
NOA NORSAR Array B 42.47 332 P **P 01 55 02.8 -0.8**
comp=Z,0.2nm,0.5s,baz=112,slow=9.6,SNR=4.8
NOA LR LR 02 14 26.8
comp=Z,18nm,20.5s,baz=150,slow=39
ARCES ARCESS Array B 43.87 347 P **P 01 55 14.4 -0.4**
comp=Z,0.4nm,0.3s,baz=136,slow=6.5,SNR=13
CD2 Chengdu 44.37 74 *e*P **P 01 55 22.1 +2.6**
KMI Kunming 44.82 82 P P 01 55 29.3 +6.0
KMI pP sP 01 55 34.6 +3.9
KMI pmax pmax
comp=Z,11nm,0.7s
NRIK Noril'sk 45.61 17 LR LR 02 15 30.3
comp=Z,27nm,20.3s,baz=218,slow=37
SONM Songino Array 45.62 50 P **P 01 55 27.8 -1.5**
comp=Z,0.2nm,0.3s,baz=280,slow=8.3,SNR=2.7
HHC Hu-ho-hao-te 49.35 59 *e*P **P 01 56 01.8 +3.5**
HHC pmax pmax
comp=Z,68nm,5.9s
TORD Torodi Ar. Bea 49.42 263 P **P 01 55 59.0 0.0**
comp=Z,22nm,0.4s,baz=51,slow=9.6,SNR=14
DBIC Dimbokro 58.13 260 P **P 01 57 02.9 +0.1**
comp=Z,2.6nm,0.8s,baz=67,slow=7.7,SNR=3.1
KSRS Korea Array 62.45 60 LR LR 02 27 50.1
comp=Z,18nm,18.4s,baz=235,slow=39
ILAR Eielson Array 85.79 8 P **P 01 59 48.7 +0.8**
comp=Z,0.4nm,0.8s,baz=329,slow=5.1,SNR=2.8
YKA Yellowknife Ar 88.69 354 P **P 02 00 01.6 -0.3**
comp=Z,0.4nm,0.8s,baz=13,slow=5.3,SNR=4.6
ASAR Alice Springs 94.07 115 P **P 02 00 26.2 -1.3**
comp=Z,0.2nm,0.3s,baz=298,slow=4.8,SNR=3.9

*IDC **04** 02:00:09.6±1.1, 1°.53N×126°.46E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.7/40, mbtmp3.9/8, ML3.8/1, MS3.0/4, Ms1 3.0/4, ms1mx2.7/40, Error ellipse: s-maj=115.5km s-min=16.1km az=70.0*
*ISCJB **04** 02:00:14.0±0.6, 1°.53N±0°.05×126°.53E±0°.06, h47km, mb4.0/7, MS3.1/1, Error ellipse: s-maj=8.4km s-min=6.8km az=15.3*
*DJA **04** 02:00:14.0±0.4, 2°.N±3°×12°.6E±°, h10km, M4.4/7, mb4.5/3, mB4.8/1, MLv4.3/7, Mw(mB)4.1/1*
ISC 04 02:00:16.4±0.8, 1°.59N±0°.05×126°.43E±0°.05, h47km, n19, σ1$37/19, mb4.0/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.24**	**131**	P	**Pn**	**02 00 37.4**	**+0.1**
TNTI				S	**Sn**	**02 00 55.8**	**+2.9**
SGSI	**Sangihe**	**2.27**	**337**	P	**Pn**	**02 00 51.0**	**-0.4**
SGSI				S	**Sn**	**02 01 19.4**	**+1.2**
KMSI	**Cibinong**	**2.65**	**248**	P	**Pn**	**02 00 56.3**	**-0.3**
KMSI				S	**Sn**	**02 01 29.2**	**+1.7**
LUWI	**Luwuk**	**4.50**	**234**	P	**Pn**	**02 01 22.0**	**0.0**
LUWI				S	**Sn**	**02 02 15.1**	**+2.0**
MRSI	**Marisa**	**4.62**	**256**	P	**Pn**	**02 01 23.5**	**-0.2**
APSI	**Ampana**	**5.39**	**243**	P	**Pn**	**02 01 34.2**	**0.0**
DAV	**Davao City (W)**	**5.51**	**351**	LR	LR	02 04 00.4	
	comp=Z,87nm,20.6s,baz=45,slow=41						
TTSI	**Tana Toraja**	**8.05**	**235**	P	**Pn**	**02 02 10.7**	**-0.2**
TGY	**Tagaytay City**	**13.57**	**337**	LR	LR	02 08 51.4	
	comp=Z,76nm,21.6s,baz=178,slow=38						
JAY	**Jayapura**	**14.84**	**106**	LR	LR	02 09 01.3	
	comp=Z,56nm,18.4s,baz=19,slow=36						
FITZ	**Fitzroy Crossi**	**19.58**	**182**	P	**P**	**02 04 38.9**	**-1.7**
	0.2nm,0.3s,baz=342,slow=5.2,SNR=16						
WRA	**Warramunga Arr**	**22.76**	**160**	P	**P**	**02 05 12.6**	**-2.3**
	3.7nm,0.6s,baz=338,slow=11,SNR=1.6						
PMG	**Port Moresby**	**23.36**	**118**	LR	LR	02 17 03.8	
	comp=Z,64nm,18.9s,baz=137,slow=44						
ASAR	**Alice Springs**	**26.14**	**164**	P	**P**	**02 05 45.4**	**-0.9**
	1.6nm,0.5s,baz=349,slow=13,SNR=25						
STKA	**Stephens Creek**	**36.26**	**158**	P	**P**	**02 07 14.0**	**-1.3**
	2.3nm,0.8s,baz=321,slow=5.0,SNR=3.1						
SONM	**Songino Array**	**49.22**	**342**	P	**P**	**02 09 01.1**	**+0.9**
	0.5nm,0.7s,baz=160,slow=9.1,SNR=4.0						
MKAR	**Makanchi Array**	**59.14**	**326**	P	**P**	**02 10 12.7**	**+0.4**
	1.4nm,0.7s,baz=119,slow=7.9,SNR=15						
ZALV	**Zalesovo Beam**	**62.35**	**334**	P	**P**	**02 10 33.4**	**-0.5**
	0.4nm,0.3s,baz=121,slow=3.7,SNR=2.6						
FINES	**FINESS Array B**	**93.56**	**332**	P	**P**	**02 13 27.9**	**+0.7**
	1.2nm,0.9s,baz=99,slow=8.9,SNR=2.7						

MEX 04 02:18:54.3±0.7, 15°.21N×93°.79W, h131km±11km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.74**	**48**	*e*P	Pn	02 19 13.8	-1.3
PCIG				*e*S	Sn	02 19 29.1	-1.8
THIG		**1.51**	**101**	*i* P	Pn	02 19 21.2	-1.3
THIG				*i* S	Sn	02 19 42.9	-1.2
TGIG		**1.69**	**22**	*e*P	Pn	02 19 23.7	-1.1
TGIG				*i* S	Sn	02 19 46.2	-1.8
CCIG	**Comitan**	**1.92**	**56**	*i* P	Pn	02 19 26.4	-1.2
CCIG				*i* S	Sn	02 19 52.1	-0.9
CMIG	**Matias Romero**	**2.15**	**331**	*e*P	Pn	02 19 28.2	-2.0
CMIG				*i* S	Sn	02 19 56.5	-1.1

*ISK **04** 02:20:27.1, 42°.21N×26°.29E, h8km, ML2.6/25*
*BEO **04** 02:20:28.8±1.1, 42°.16N×26°.19E, h2km±7km, ML2.5/5*
*SOF **04** 02:20:28.2, 42°.31N×26°.23E, h10km*
*THE **04** 02:20:29.4, 42°.12N×26°.30E, h6km±1km, ML2.5/4, Error ellipse: s-maj=1.2km s-min=0.6km az=2.0*
*DDA **04** 02:20:32.0, 42°.00N×26°.51E, h22km±3km, ML2.6*
ISC 04 02:20:28.1±1.1, 42°.17N±0°.02×26°.27E±0°.02, h7km±9km, n98, σ1$07/111, 9C-7D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.38**	**38**	PG	**Pg**	**02 20 34.7**	**-0.7**
JMB				SG	**Sg**	**02 20 39.8**	**-0.6**
JMB	**Yambol**	**0.38**	**38**	*i* Pg	**Pg**	**02 20 34.7**	**-0.7**
EDRB	**Edirne**	**0.48**	**132**	PG	**Pg**	**02 20 37.6**	**+0.3**
EDRB				SG	**Sg**	**02 20 44.3**	**+0.8**
EDRB	**Edirne**	**0.48**	**132**	P	**Pg**	**02 20 37.6**	**+0.3**
EDRB				S	**Sg**	**02 20 43.8**	**+0.3**
DIM	**Dimitrovgrad**	**0.56**	**258**	*i* Pg	**Pg**	**02 20 38.7**	**-0.2**
KIRK	**Kirklareli**	**0.73**	**122**	*i* P	**Pg**	**02 20 42.6**	**+0.6**
KDZ	**Kurdzhali**	**0.82**	**231**	*i* Pg	**Pn**	**02 20 49.0**	**+2.8**
PHSR	**Pinarhisar**	**1.08**	**119**	PN	**Pb**	**02 20 48.4**	**-0.7**
SZH	**Strazhica**	**1.13**	**347**	*i* Pg	**Pb**	**02 20 48.9**	**-1.0**
RDO	**Rodhopi**	**1.16**	**209**	PN	**Pn**	**02 20 50.7**	**0.0**
RDO	**Rodhopi**	**1.16**	**209**	P	**Pn**	**02 20 50.8**	**0.0**
RDO				S	**Sn**	**02 21 06.6**	**-0.3**
PLD	**Plovdiv**	**1.17**	**267**	PN	**Pb**	**02 20 49.8**	**-0.8**
ROIA	**ROIAK**	**1.23**	**41**	*i* Pg	**Pn**	**02 20 51.2**	**-0.6**
RZN	**Rozhen**	**1.26**	**248**	*i* Pg	**Pn**	**02 20 52.0**	**-0.3**
ALN	**Alexandroupoli**	**1.28**	**188**	PN	**Pb**	**02 20 52.6**	**0.0**
ALN	**Alexandroupoli**	**1.28**	**188**	P	**Pb**	**02 20 52.5**	**0.0**
ALN				S	**Sn**	**02 21 10.4**	**+0.5**
PRD	**Provadia**	**1.32**	**38**	*i* Pg	**Pn**	**02 20 51.9**	**-1.1**
KESN	**Edirne-Kesan**	**1.38**	**167**	*i* P	**Pg**	**02 20 54.9**	**+0.4**
KESN				*i* S	**Sg**	**02 21 13.9**	**+1.5**
ENEZ	**Enez**	**1.43**	**184**	PN	**Pn**	**02 20 54.7**	**+0.2**
ERIK	**Erikli-Kesan**	**1.51**	**173**	PN	**Pn**	**02 20 55.7**	**+0.2**
CRLT	**Corlu**	**1.51**	**133**	PN	**Pn**	**02 20 55.7**	**+0.1**
SART	**Tekirdag**	**1.63**	**155**	IAML_P			
	comp=Z,1μm,0.2s						
SART				*i* P	**Pg**	**02 20 60.0**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.63**	**155**	PN	**Pn**	**02 20 57.4**	**+0.1**
ZIMR		**1.63**	**336**	⇓*i* P	**Pb**	**02 20 58.6**	**+0.1**
ZIMR		**1.63**	**336**	S	**Sg**	**02 21 21.6**	**+1.1**
CTYL	**Yalikoy Yolu**	**1.66**	**114**	PN	**Pn**	**02 20 57.4**	**-0.2**
CTYL	**Yalikoy Yolu**	**1.66**	**114**	⇑*i* P	**Pn**	**02 20 58.5**	**+0.9**
CTYL	**Yalikoy Yolu**	**1.66**	**114**	S	**Sn**	**02 21 19.2**	**0.0**
SLVT	**Silivri**	**1.73**	**122**	PN	**Pn**	**02 20 58.5**	**-0.1**
KAVA	**Kavala**	**1.76**	**229**	P	**Pb**	**02 20 59.7**	**-1.1**
KAVA				S	**Sb**	**02 21 23.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.77**	**175**	PN	**Pn**	**02 20 59.3**	**+0.1**
SMTH	**Samothraki Isl**	**1.79**	**198**	P	**Pn**	**02 20 59.5**	**+0.1**
SMTH				S	**Sb**	**02 21 22.8**	**-1.0**
LPK	**Lapseki**	**1.83**	**168**	PN	**Pn**	**02 20 59.8**	**-0.2**
CTKS	**Kestanelik-??a**	**1.91**	**118**	PN	**Pn**	**02 21 00.9**	**-0.2**
KRBG	**Karabiga-Canak**	**1.93**	**156**	PN	**Pn**	**02 21 01.3**	**-0.1**
THAS	**Thassos island**	**1.95**	**217**	P	**Pn**	**02 21 01.9**	**+0.3**
NVR	**Nevrokopi**	**1.98**	**246**	P	**Pn**	**02 21 02.3**	**+0.2**

MMB Musomiste 1.99 254 *e*P **Pn 02 21 02.5 +0.3**
PSN Preselentsi 2.06 42 PN **Pn 02 21 01.5 -1.7**
SGRR Singureni 2.06 354⇓*i*P **Pb 02 21 05.8 -0.1**
SGRR Singureni 2.06 354 S **Sb 02 21 33.6 +1.8**
BGKT Bogazkoy 2.12 117 PN **Pn 02 21 04.1 +0.2**
EDC Edincik 2.18 146 PN **Pn 02 21 04.6 -0.2**
MPEP Malo Peshtene 2.21 303 P **Pn 02 21 05.2 -0.1**
ICOR Ion Corvin 2.25 29⇑*i*P **Pb 02 21 08.3 -0.7**
ICOR Ion Corvin 2.25 29 S **Sn 02 21 33.9 +0.2**
KLYT Kilyos 2.27 113 PN **Pn 02 21 06.1 +0.1**
KLYT Kilyos 2.27 113⇓*i*P **Pn 02 21 06.8 +0.8**
KLYT Kilyos 2.27 113 S **Sn 02 21 35.2 +1.0**
SRS Serrai 2.27 243 P **Pn 02 21 06.0 0.0**
VLAD Vladila 2.29 324⇓*i*P **Pb 02 21 09.6 -0.1**
VLAD Vladila 2.29 324 S **Sg 02 21 40.8 -0.7**
VTS Vitosha 2.29 282 *e*Pn **Pn 02 21 07.0 +0.5**
VTS *e*Sn **Sn 02 21 35.0 -0.1**
VTS Vitosha 2.29 282⇑*i*P **Pn 02 21 06.6 +0.1**
VTS Vitosha 2.29 282 S **Sn 02 21 35.0 -0.1**
BOZC Bozcaada 2.33 184 PN **Pn 02 21 06.7 -0.2**
LEHL Lehliu 2.34 10⇑*i*P **Pb 02 21 10.1 -0.5**
LEHL Lehliu 2.34 10 S **Sb 02 21 41.8 +2.1**
EZN Ezine 2.34 179 PN **Pn 02 21 07.7 +0.7**
ISK Istanbul-Kandi 2.36 117 PN **Pn 02 21 06.9 -0.4**
KAVV Kandilli-Istan 2.36 117 PN **Pn 02 21 07.3 0.0**
BAYC CANAKKALE_Bayr 2.43 175 IAML_P
comp=Z,24nm,0.1s
BAYC *i* P **Pn 02 21 09.3 +1.0**
KCTX Karacabey (Bur 2.47 140 PN **Pn 02 21 08.9 +0.1**
BUY Buyukada 2.51 121 PN **Pn 02 21 09.7 +0.4**
BUY Buyukada 2.51 121 IAML_P
comp=Z,136nm,0.2s
BUY *i* P **Pb 02 21 11.9 -1.6**
SULR 2.51 360⇑*i*P **Pn 02 21 10.7 +1.4**
SULR 2.51 360 S **Sb 02 21 47.0 +2.4**
OUR Ouranopolis 2.52 224 PN **Pn 02 21 09.0 -0.4**
ARMT Armutlu 2.52 129 PN **Pn 02 21 09.6 +0.1**
HUMR Humele 2.54 339⇑*i*P **Pn 02 21 11.8 +2.0**
HUMR Humele 2.54 339 S **Sb 02 21 47.4 +1.9**
KNT Kendrikon 2.72 249 PN **Pn 02 21 12.7 +0.4**
KNT Kendrikon 2.72 249 P **Pn 02 21 12.6 +0.3**
TLB Topalu 2.74 27⇑*i*P **Pb 02 21 15.7 -1.7**
TLB Topalu 2.74 27 S **Sb 02 21 52.5 +1.3**
TIRR Tirgusor 2.77 34⇑*i*P **Pb 02 21 16.3 -1.6**
TIRR Tirgusor 2.77 34 S **Sb 02 21 52.5 +0.4**
BALB Balikesir 2.80 154 PN **Pn 02 21 13.9 +0.5**
HRT Hereke 2.88 117 PN **Pn 02 21 14.8 +0.3**
ZAPS Zavoj 2.90 294 *e*Pn **Pn 02 21 15.8 +1.0**
ZAPS *e*Sn **Sn 02 21 50.5 +0.6**
STEP BALIKESIR_Sava 3.00 158 IAML_P
comp=Z,138nm,0.2s
STEP *i* P **Pb 02 21 20.2 -1.6**
DURS Dursunbey 3.06 146 IAML_P
comp=Z,67nm,0.2s
DURS *i* P **Pb 02 21 20.9 -2.1**
STIP Stip 3.08 263 *i* Pn **Pn 02 21 14.9 -2.4**
ADVT Abdulvahap 3.13 122 PN **Pn 02 21 18.6 +0.7**
CFR Carcaliu 3.30 24⇓*i*P **Pn 02 21 22.3 +2.1**
CFR Carcaliu 3.30 24 S **Sb 02 22 06.5 -0.8**
MLR Muntele Rosu 3.33 356⇓*i*P **Pn 02 21 22.9 +2.1**
MLR Muntele Rosu 3.33 356 S **Sb 02 22 09.4 +1.0**
BARS Barje 3.36 283 *e*Pn **Pn 02 21 21.5 +0.5**
ARR Arges 3.41 340⇑*i*P **Pn 02 21 23.8 +2.0**
ARR Arges 3.41 340 S **Sb 02 22 12.0 +1.4**
BOVS Bovan 3.66 295 *e*Pn **Pn 02 21 25.8 +0.6**
BOVS *e*Sn **Sn 02 22 08.2 -0.4**
SELS Selova 3.94 287 *e*Pn **Pn 02 21 28.9 -0.2**
MDVR Moldovita 4.22 310⇓*i*P **Pn 02 21 32.3 -0.6**
MDVR Moldovita 4.22 310 S **Sn 02 22 18.6 -3.9**
GRUS Gruza 4.42 295 *e*Pn **Pn 02 21 35.8 +0.2**
GRUS *e*Sn **Sn 02 22 26.2 -1.2**
TRUS Trudelj 4.75 298 *e*Pn **Pn 02 21 40.1 -0.1**
DIVS Divibare 4.98 295 *e*Pn **Pn 02 21 42.7 -0.7**
DIVS *e*Sn **Sn 02 22 38.7 -2.7**

*NEIC **04** 02:25:23.3±0.0, 15°.13N×94°.06W, h144km, MD4.0(MEX), After MEX.*
MEX 04 02:25:23.3±0.4, 15°.13N×94°.06W, h144km±7km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.99**	**55**	*e*P	Pn	02 25 46.0	-1.4
PCIG				*e*S	Sn	02 26 03.9	-2.0
PCIG		**0.99**	**55**	*e*P	Pn	02 25 46.0	-1.4
PCIG				*e*S	Sn	02 26 03.9	-2.0
THIG		**1.75**	**97**	*i* P	Pn	02 25 54.6	-0.6
THIG				*i* S	Sn	02 26 17.2	-2.3
THIG		**1.75**	**97**	*i* P	Pn	02 25 54.6	-0.6
THIG				*i* S	Sn	02 26 17.2	-2.3
TGIG		**1.87**	**29**	*i* P	Pn	02 25 56.0	-0.6
TGIG				*e*S	Sn	02 26 19.8	-2.5
TGIG		**1.87**	**29**	*i* P	Pn	02 25 56.0	-0.6
TGIG				*e*S	Sn	02 26 19.8	-2.5
CMIG	**Matias Romero**	**2.10**	**338**	*e*P	Pn	02 25 58.3	-1.0
CMIG				*i* S	Sn	02 26 24.9	-2.2
CMIG	**Matias Romero**	**2.10**	**338**	*e*P	Pn	02 25 58.3	-1.0
CMIG				*i* S	Sn	02 26 24.9	-2.2
CCIG	**Comitan**	**2.18**	**58**	*e*P	Pn	02 25 59.1	-1.3
CCIG				*i* S	Sn	02 26 27.0	-1.9
CCIG	**Comitan**	**2.18**	**58**	*e*P	Pn	02 25 59.1	-1.3
CCIG				*i* S	Sn	02 26 27.0	-1.9

MEX 04 02:29:13.8±0.6, 14°.61N×94°.25W, h16km±21km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.48**	**42**	*e*P	Pn	02 29 36.0	-3.8
PCIG				*i* S	Sn	02 29 53.4	-5.4
THIG		**1.94**	**81**	*i* P	Pn	02 29 43.5	-2.7
THIG				*i* S	Sn	02 30 04.8	-5.5
TGIG		**2.42**	**27**	*e*P	Pn	02 29 50.4	-2.4
TGIG				*e*S	Sn	02 30 17.9	-4.2
CMIG	**Matias Romero**	**2.54**	**346**	*i* P	Pn	02 29 50.7	-3.8
CMIG				*i* S	Sn	02 30 21.2	-3.8
CCIG	**Comitan**	**2.63**	**51**	*e*P	Pn	02 29 53.4	-2.5
CCIG				*i* S	Sn	02 30 23.4	-4.1

IDC 04 02:46:47.8±6.8, 17°.97S×168°.40E, h88km±78km, mb3.8/4, mb1 4.0/5, mb1mx3.6/28, mbtmp4.2/5, ML4.5/1, Error ellipse: s-maj=106.0km s-min=45.1km az=127.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.48**	**204**

Ms1 2.8/2, ms1mx2.6/22, Error ellipse: s-maj=33.7km s-min=20.5km az=86.0
*GUC **04** 03:12:03.5±0.5, 36°.89S×73°.02W, h35km±3km, ML4.2*
*ISCJB **04** 03:12:04.2±0.7, 36°.88S±0°.04×72°.86W±0°.10, h56km, mb4.1/6, Error ellipse: s-maj=11.6km s-min=4.6km az=10.7*
ISC 04 03:12:06.0±0.9, 36°.85S±0°.04×72°.8W±0°.1, h56km, n18, σ1§50/27, mb3.8/6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.65**	**68**	⇑*iP*	**Pn**	**03 12 18.1**	**-1.3**
CCHI				*i* S	**Sn**	03 12 28.5	-0.6
CCHI				IAML		03 12 30.4	
	comp=E,23μm,0.4s						
GO05	**Huala**	**1.98**	**22**	*eP*	**Pn**	**03 12 36.6**	**-0.5**
GO05				*i* S	**Sn**	**03 13 02.1**	**+1.3**
GO05				IAML		03 13 11.8	
	comp=E,2μm,0.6s						
CHPI	**Pichilemu**	**2.54**	**15**	*eP*	**Pn**	**03 12 44.7**	**-0.1**
GO06	**Curarrehue**	**2.93**	**159**	*eP*	**Pn**	**03 12 49.0**	**-1.2**
GO06				*i* S	**Sn**	**03 13 24.0**	**-0.2**
LMEL	**Las Melosas**	**3.68**	**36**	*eP*	**Pn**	**03 13 01.2**	**+0.6**
LMEL				*i* S	**Sn**	**03 13 44.6**	**+1.7**
CLCH	**Cerro Calan**	**3.92**	**29**	*eP*	**Pn**	**03 13 04.0**	**+0.2**
CLCH				*e*S	**Sn**	**03 13 50.0**	**+1.3**
FCH	**Farellones**	**4.08**	**31**	*eP*	**Pn**	**03 13 05.9**	**-0.4**
FCH				*i* S	**Sn**	**03 13 54.4**	**+1.5**
PEL	**Peldehue**	**4.09**	**26**	*eP*	**Pn**	**03 13 06.1**	**-0.1**
PEL				*i* S	**Sn**	**03 13 53.6**	**+0.8**
PLCA	**Paso Flores**	**4.26**	**156**	*eP*	**Pn**	**03 13 07.6**	**-0.9**
PLCA	**Paso Flores**	**4.26**	**156**	Pn	**Pn**	**03 13 07.3**	**-1.2**
	comp=E,0.6nm,0.3s,baz=358,slow=12,SNR=28						
PLCA				Sn	**Sn**	**03 14 02.6**	**+5.6**
	comp=E,2.3nm,0.3s,baz=209,slow=19,SNR=2.3						
PLCA				LR	LR	03 15 00.6	
	comp=E,136nm,21.2s,baz=350,slow=42						
CFA	**Coronel Fontan**	**6.46**	**37**	Pn	**Pn**	**03 13 36.8**	**-1.8**
	comp=E,2.3nm,0.3s,baz=212,slow=15,SNR=29						
CFA				Sn	**Sn**	**03 14 51.4**	**+0.4**
	comp=E,3.1nm,0.3s,baz=318,slow=22,SNR=6.2						
CFA				Lg	Lg	03 15 28.0	
	comp=E,1.4nm,0.3s,baz=131,slow=20,SNR=3.0						
CFA				LR	LR	03 16 26.8	
	comp=E,77nm,21.5s,baz=210,slow=41						
LPAZ	**La Paz**	**20.90**	**13**	P	**P**	**03 16 44.4**	**-0.1**
	comp=E,1.0nm,0.7s,baz=194,slow=8.4,SNR=5.4						
SIV	**San Ignacio**	**23.25**	**30**	P	**P**	**03 17 07.0**	**-1.6**
	comp=E,2.2nm,0.9s,baz=213,slow=11,SNR=5.9						
SNAA	**Sanae**	**49.20**	**157**	P	**P**	**03 20 48.1**	**-0.1**
	comp=E,1.0nm,0.8s,baz=234,slow=8.7,SNR=4.7						
TXAR	**Lajitas Array**	**71.92**	**332**	P	**P**	**03 23 23.7**	**+0.3**
	comp=E,0.5nm,0.6s,baz=157,slow=9.4,SNR=8.6						
DBIC	**Dimbokro**	**76.70**	**71**	P	**P**	**03 23 51.8**	**+0.4**
	comp=E,5.3nm,1.1s,baz=202,slow=5.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**85.78**	**70**	P	**P**	**03 24 39.3**	**-0.2**
	comp=E,6.2nm,0.2s,baz=221,slow=5.0,SNR=3.4						
PDAR	**Pinedale Array**	**86.02**	**334**	P	**P**	**03 24 39.9**	**-0.5**
	comp=E,0.2nm,0.5s,baz=123,slow=5.5,SNR=3.6						

*ISCJB **04** 03:19:18.0±0.6, 24°.82N±0°.03×122°.85E±0°.02, h10km±5km, Error ellipse: s-maj=5.8km s-min=3.5km az=17.2*
*TAP **04** 03:19:18.3, 24°.80N×122°.86E, h19km±1km, ML3.2, D*
*JMA **04** 03:19:19.0±0.1, 24°.76N×122°.85E, h25km±2km*
ISC 04 03:19:18.6±1.3, 24°.79N±0°.05×122°.84E±0°.03, h21km±3km, n64, σ0§86/85, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.35**	**164**	P	**Pb**	**03 19 26.1**	**+0.1**
JYNG				S	**Sb**	**03 19 31.1**	**0.0**
YOJ	**Yonaguni jima**	**0.36**	**155**	P	**Pb**	**03 19 26.3**	**+0.1**
	baz=158						
YOJ				*e*S	**Sb**	**03 19 31.3**	**-0.1**
	baz=158						
YOJ	**Yonaguni jima**	**0.36**	**155**	P	**Pb**	**03 19 26.3**	**+0.1**
YOJ				S	**Sb**	**03 19 31.4**	**-0.1**
EOS1	**EOS1**	**0.69**	**250**	*eP*	**Pb**	**03 19 32.3**	**+0.4**
	baz=249						
EOS1				*e*S	**Sb**	**03 19 41.6**	**+0.6**
	baz=249						
TWB1	**Santiao Chiao**	**0.80**	**286**	P	**Pb**	**03 19 33.3**	**-0.5**
	baz=285						
EGS		**0.83**	**274**	*eP*	**Pb**	**03 19 34.2**	**0.0**
	baz=273						
TWC	**Suao**	**0.92**	**259**	P	**Pb**	**03 19 35.4**	**-0.5**
	baz=258						
TWC				*e*S	**Sb**	**03 19 46.7**	**-0.9**
	baz=258						
NTC	**Toucheng**	**0.92**	**274**	*eP*	**Pb**	**03 19 35.6**	**-0.2**
	baz=273						
NTC				*e*S	**Sb**	**03 19 48.5**	**+0.9**
	baz=273						
IRIF	**Iriomote-Funau**	**0.93**	**119**	P	**Pb**	**03 19 35.6**	**-0.4**
TIPB	**Shuangxi**	**0.94**	**281**	P	**Pb**	**03 19 35.8**	**-0.3**
	baz=280						
NWF	**Wu-fen Shan**	**1.00**	**286**	*eP*	**Pb**	**03 19 37.1**	**-0.2**
	baz=286						
WFSB	**Wu-fen Shan**	**1.00**	**286**	*eP*	**Pn**	**03 19 37.6**	**+0.3**
	baz=286						
ENA	**Nanau**	**1.06**	**250**	P	**Pn**	**03 19 37.8**	**-0.4**
	baz=250						
ENA				S	**Sb**	**03 19 50.9**	**-0.9**
	baz=250						
TWE	**Neicheng**	**1.07**	**267**	P	**Pn**	**03 19 38.0**	**-0.2**
	baz=266						
TWE				*e*S	**Sn**	**03 19 52.6**	**+0.1**
	baz=266						
PCYT	**Pengchaiyu**	**1.09**	**320**	P	**Pn**	**03 19 38.4**	**-0.1**
	baz=319						
SLBB	**Yuanshan**	**1.10**	**268**	*eP*	**Pn**	**03 19 38.5**	**-0.1**
	baz=268						
SLBB				*e*S	**Sb**	**03 19 53.1**	**+0.4**
	baz=268						
HATJ	**Hateruma jima**	**1.14**	**130**	P	**Pn**	**03 19 39.2**	**-0.1**
HATJ				S	**Sn**	**03 19 55.2**	**+0.9**
TWA	**Mucha**	**1.16**	**280**	*eP*	**Pn**	**03 19 38.3**	**-1.2**
	baz=279						
ENTT	**Nioudou**	**1.17**	**263**	P	**Pn**	**03 19 40.1**	**+0.4**
	baz=262						
ENTT				*e*S	**Sb**	**03 19 54.9**	**+0.2**
	baz=262						
YM07	**YM07**	**1.17**	**289**	*eP*	**Pn**	**03 19 38.9**	**-0.8**
	baz=289						
JKRS	**Kuro-shima**	**1.20**	**117**	P	**Pn**	**03 19 40.1**	**0.0**
YM08	**YM08**	**1.20**	**289**	*eP*	**Pn**	**03 19 40.5**	**+0.4**
	baz=289						
YM01	**YM01**	**1.21**	**287**	*eP*	**Pn**	**03 19 40.6**	**+0.3**
	baz=287						
NHDH	**Xindian Distri**	**1.21**	**278**	*eP*	**Pn**	**03 19 40.4**	**+0.2**
	baz=278						
NWLT	**Wulai**	**1.22**	**270**	*eP*	**Pb**	**03 19 40.9**	**0.0**
	baz=281						
NWLT				*e*S	**Sn**	**03 19 56.0**	**-0.2**
	baz=281						
NDT	**Datong Townshi**	**1.22**	**261**	P	**Pb**	**03 19 41.0**	**+0.1**
	baz=261						
NDT				*e*S	**Sb**	**03 19 56.9**	**+0.6**
	baz=261						
JIJ	**Ishigaki jima**	**1.26**	**109**	P	**Pn**	**03 19 40.5**	**-0.4**
NACB	**Ninganchiao**	**1.29**	**242**	*eP*	**Pb**	**03 19 42.0**	**-0.2**
	baz=242						
NACB				*e*S	**Sn**	**03 19 58.1**	**+0.2**
	baz=242						
TWD	**Chiawan**	**1.34**	**238**	*eP*	**Pb**	**03 19 42.9**	**0.0**
	baz=248						
YHNB	**Yeheng**	**1.34**	**265**	*eP*	**Pn**	**03 19 42.6**	**+0.5**
	baz=265						
YHNB				*e*S	**Sn**	**03 19 59.0**	**-0.3**
	baz=265						
JISG	**Ishigakijimahi**	**1.35**	**98**	P	**Pn**	**03 19 42.2**	**0.0**
ETLH	**Xiulin Townshi**	**1.37**	**245**	*eP*	**Pb**	**03 19 43.8**	**+0.3**
	baz=254						
ETLH				*e*S	**Sb**	**03 20 01.1**	**+0.5**
	baz=254						
NNS	**Nan Shan**	**1.38**	**256**	*eP*	**Pb**	**03 19 43.6**	**-0.2**
	baz=255						
NNS				*e*S	**Sb**	**03 20 01.0**	**+0.1**
	baz=255						
ENLB	**Shoufeng**	**1.43**	**232**	*eP*	**Pn**	**03 19 43.7**	**+0.4**
	baz=234						
WHF	**Hehuan Shan**	**1.57**	**246**	*eP*	**Pb**	**03 19 47.2**	**0.0**
	baz=247						
WHF				*e*S	**Sb**	**03 20 08.3**	**+1.5**
	baz=247						
TWT	**Tachien**	**1.61**	**251**	*e*S	**Sb**	**03 20 08.1**	**+0.5**
	baz=251						
TDCB	**Techi**	**1.62**	**251**	*eP*	**Pb**	**03 19 48.6**	**+0.7**
	baz=252						
NSTT	**Nanjuang**	**1.68**	**265**	*eP*	**Pb**	**03 19 48.4**	**-0.4**
	baz=265						
NSTT				*e*S	**Sb**	**03 20 09.9**	**+0.4**
	baz=265						
CHGB	**Renai**	**1.68**	**245**	*eP*	**Pb**	**03 19 48.6**	**-0.3**
	baz=231						
JTJ	**Tarama**	**1.70**	**95**	P	**Pn**	**03 19 47.7**	**+0.7**
OWD	**Renai**	**1.73**	**242**	*eP*	**Pn**	**03 19 48.8**	**+1.2**
	baz=229						
WHP	**Taichung City**	**1.80**	**254**	*eP*	**Pb**	**03 19 51.4**	**+0.5**
	baz=241						
HGSD	**Ruisui**	**1.83**	**225**	*eP*	**Pn**	**03 19 49.2**	**+0.4**
	baz=227						
VWDT	**VWDT**	**1.86**	**237**	*eP*	**Pn**	**03 19 50.4**	**+1.2**
	baz=238						
EHY	**Hungye**	**1.89**	**228**	*eP*	**Pn**	**03 19 49.6**	**0.0**
	baz=229						
DPDB	**Guoxing**	**1.90**	**247**	*eP*	**Pb**	**03 19 51.9**	**-0.7**
	baz=235						
TWQ1	**Liyutan**	**1.93**	**257**	*eP*	**Pb**	**03 19 52.9**	**-0.2**
	baz=258						
YULB	**Yu-li**	**1.98**	**226**	*eP*	**Pn**	**03 19 51.0**	**+0.1**
	baz=215						
SMLT	**Sun Moon Lake**	**1.99**	**243**	*eP*	**Pb**	**03 19 52.8**	**-1.3**
	baz=231						
SSLB	**Suanglung**	**1.99**	**240**	*eP*	**Pn**	**03 19 52.4**	**+1.4**
	baz=227						
TWF1	**Yuli**	**2.01**	**225**	*eP*	**Pn**	**03 19 51.7**	**+0.4**
	baz=214						
TYC	**Yuchr**	**2.01**	**244**	*eP*	**Pb**	**03 19 53.5**	**-1.0**
	baz=231						
WHYT	**Xinyi Township**	**2.12**	**239**	*eP*	**Pb**	**03 19 55.3**	**-1.0**
	baz=228						
CHN5	**Tsauling**	**2.30**	**239**	*eP*	**Pb**	**03 19 57.9**	**-1.6**
	baz=241						
ELDTW	**Lidau**	**2.31**	**227**	*eP*	**Pn**	**03 19 56.1**	**+0.6**
	baz=228						
WDLH	**Douliu**	**2.37**	**243**	*eP*	**Pb**	**03 19 59.4**	**-1.2**
	baz=230						
STYT	**Tauyuan**	**2.50**	**230**	*eP*	**Pn**	**03 19 60.0**	**+1.9**
	baz=232						
CHN4	**Tsaushan**	**2.50**	**236**	*eP*	**Pb**	**03 20 01.0**	**-1.9**
	baz=237						
TWG	**Pinlang**	**2.54**	**220**	*eP*	**Pn**	**03 19 59.4**	**+0.8**
	baz=222						
WTP	**Ta-pu**	**2.55**	**233**	*eP*	**Pb**	**03 20 01.8**	**-1.9**
	baz=235						
CHN1	**Nanshi**	**2.65**	**233**	*eP*	**Pn**	**03 20 02.0**	**+1.9**
	baz=235						
CHN1				*e*S	**Sb**	**03 20 35.1**	**-2.4**
	baz=235						
SLGT	**Liugui**	**2.69**	**229**	*eP*	**Pn**	**03 20 02.8**	**+2.2**
	baz=230						
SLGT				*e*S	**Sb**	**03 20 36.2**	**-2.4**
	baz=230						
MASBT	**Mashibuluo**	**2.97**	**223**	*eP*	**Pn**	**03 20 05.7**	**+1.3**
	baz=215						
EAST	**Anshuo**	**3.01**	**218**	*eP*	**Pn**	**03 20 04.9**	**-0.2**
	baz=220						

*ISCJB **04** 03:24:18.8±0.2, 27°.90S±0°.02×66°.85W±0°.03, h164km, mb4.0/39, Error ellipse: s-maj=3.7km s-min=2.8km az=27.4*
*SJA **04** 03:24:18.7±1.1, 27°.90S×66°.94W, h177km±7km, ML4.6, MW4.7*
*NEIC **04** 03:24:18.1±0.3, 27°.87S×66°.78W, h141km±3km, mb4.2/31, Error ellipse: s-maj=5.6km s-min=3.6km az=87.0*
*VAO **04** 03:24:19.4±0.2, 27°.93S×66°.83W, h157km, mb4.6*
*IDC **04** 03:24:19.9±0.5, 27°.82S×66°.76W, h159km±4km, mb4.0/12, mb1 4.1/18, mb1mx4.0/30, mbtmp4.4/18, MS2.8/2, Ms1 2.8/2, ms1mx2.6/20, Error ellipse: s-maj=14.4km s-min=10.6km az=89.0*
ISC 04 03:24:19.7±0.4, 27°.85S±0°.04×66°.94W±0°.05, h164km, n152, σ1§40/165, mb4.2/39, 1C-1D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**1.16**	**121**	*eP*	**Pn**	**03 24 48.0**	**+0.8**
CYA				IAML		03 24 48.4	
	comp=Z,2μm,0.4s						
CYA				*e*S	**Sn**	**03 25 08.2**	**-0.3**
VCA	**Vinchina**	**1.42**	**231**	*eP*	**Pn**	**03 24 50.8**	**+1.1**
VCA				*e*S	**Sn**	**03 25 13.0**	**+0.1**
VCA				IAML		03 25 17.1	
	comp=Z,14μm,0.6s						
ACLC	**CERRO LA CRUZ**	**1.57**	**180**	*eP*	**Pn**	**03 24 51.9**	**+0.7**
AHML	**Horco Molle**	**1.78**	**54**	*eP*	**Pn**	**03 24 54.0**	**+0.6**
FSA	**Cafayete**	**1.94**	**27**	*eP*	**Pn**	**03 24 56.5**	**+1.3**
FSA				*e*S	**Sn**	**03 25 23.7**	**+1.1**
FSA				IAML		03 25 25.8	
	comp=Z,886nm,0.9s						
AGUA	**GUANDACOL**	**2.12**	**220**	*eP*	**Pn**	**03 24 57.8**	**+0.6**
APLL	**PUNTA DE LOS L**	**2.56**	**172**	*eP*	**Pn**	**03 25 02.5**	**+0.2**
GO03	**Copiap**	**2.93**	**274**	*e*Pn	**Pn**	**03 25 06.7**	**-0.2**
GO03	**Copiap**	**2.93**	**274**	*eP*	**Pn**	**03 25 07.0**	**+0.2**
ACDV	**Cuesta del Vie**	**3.00**	**219**	*eP*	**Pn**	**03 25 08.3**	**+0.5**
ACDV				IAML		03 25 08.7	
	comp=Z,2μm,0.5s						
AROD	**Rodeo**	**3.20**	**223**	*eP*	**Pn**	**03 25 11.1**	**+0.7**
ACCO	**Cerro Coronel**	**3.30**	**214**	*eP*	**Pn**	**03 25 11.8**	**+0.1**
AMOG	**MOGNA**	**3.36**	**203**	*eP*	**Pn**	**03 25 11.9**	**-0.3**
LCO	**Las Campanas**	**3.51**	**250**	*e*Pn	**Pn**	**03 25 13.6**	**-0.7**
LCO				*e*Sn	**Sn**	**03 25 55.1**	**-1.6**
LCO	**Las Campanas**	**3.51**	**250**	*eP*	**Pn**	**03 25 13.5**	**-0.7**
GO02	**Mina Guanaco**	**3.58**	**318**	*e*Pn	**Pn**	**03 25 15.9**	**+0.6**
RTLL	**Cerro Villicun**	**3.71**	**201**	*eP*	**Pn**	**03 25 16.3**	**-0.4**
RTLL				IAML		03 26 00.9	
	comp=Z,2μm,0.4s						
CFA	**Coronel Fontan**	**3.91**	**196**	*eP*	**Pn**	**03 25 18.7**	**-0.5**
CFA	**Coronel Fontan**	**3.91**	**196**	P	**Pn**	**03 25 18.7**	**-0.5**
	comp=Z,47nm,0.3s,baz=319,slow=8.1,SNR=2199						
CFA				S	**Sn**	**03 26 02.2**	**-3.3**
	comp=Z,209nm,0.3s,baz=16,slow=14,SNR=26						
SJA	**San Juan**	**3.92**	**201**	*eP*	**Pn**	**03 25 19.1**	**-0.3**
SJA				IAML		03 26 06.2	
	comp=Z,844nm,0.5s						
ZON	**Zonda**	**3.98**	**202**	*eP*	**Pn**	**03 25 19.6**	**-0.5**
ZON				IAML		03 26 07.2	
	comp=Z,623nm,0.2s						
AZAP	**Zapla**	**3.99**	**25**	*eP*	**Pn**	**03 25 21.4**	**+0.9**
TCA	**Tanti**	**4.03**	**150**	*eP*	**Pn**	**03 25 20.4**	**-0.4**
GO04	**Tololo Observa**	**4.09**	**235**	*e*Pn	**Pn**	**03 25 21.1**	**-0.7**
GO04	**Tololo Observa**	**4.09**	**235**	*eP*	**Pn**	**03 25 21.0**	**-0.7**
RTCV	**Cerro Valdivia**	**4.23**	**199**	*eP*	**Pn**	**03 25 22.8**	**-0.5**
ACAN	**Cantantal**	**4.41**	**183**	*eP*	**Pn**	**03 25 25.5**	**-0.2**
RTLS	**Leoncito**	**4.43**	**207**	*eP*	**Pn**	**03 25 25.7**	**-0.5**
RTLS				IAML		03 26 20.8	
	comp=Z,655nm,0.7s						
MRA	**San Martin**	**4.67**	**167**	*eP*	**Pn**	**03 25 28.4**	**-0.7**
MRA				IAML		03 26 57.2	
	comp=Z,231nm,0.6s						
HJA	**Humahuaca**	**4.83**	**17**	*eP*	**Pn**	**03 25 33.0**	**+1.4**
AUSP	**Uspallata**	**4.84**	**205**	*eP*	**Pn**	**03 25 31.1**	**-0.5**
ASAL	**Salagasta**	**5.00**	**199**	*eP*	**Pn**	**03 25 32.7**	**-0.7**
ARCO	**CERRO ARCO**	**5.26**	**199**	*eP*	**Pn**	**03 25 36.0**	**-0.9**
AAGR	**Agrelo**	**5.46**	**197**	*eP*	**Pn**	**03 25 39.0**	**-0.6**
LVC	**Limon Verde**	**5.52**	**341**	*e*Pn	**Pn**	**03 25 40.1**	**-0.5**
LVC				S	**Sn**	**03 26 42.5**	**-1.3**
LVC	**Limon Verde**	**5.52**	**341**	P	**Pn**	**03 25 41.4**	**+0.9**
	comp=Z,11nm,0.3s,baz=170,slow=11,SNR=5.5						
LVC				S	**Sn**	**03 26 42.5**	**-1.3**
	comp=Z,12nm,0.3s,baz=298,slow=23,SNR=9.7						
LVC	**Limon Verde**	**5.52**	**341**	*eP*	**Pn**	**03 25 41.5**	**+0.9**
PEL	**Peldehue**	**6.18**	**211**	*e*Pn	**Pn**	**03 25 47.4**	**-1.6**
ROC1	**El Roble**	**6.20**	**214**	*e*Pn	**Pn**	**03 25 47.1**	**-2.3**
PB04	**IPOC Station P**	**6.22**	**331**	*e*Pn	**Pn**	**03 25 49.1**	**-0.6**
PB01	**IPOC Station P**	**7.17**	**341**	*e*Pn	**Pn**	**03 26 01.5**	**-0.6**
GO05	**Huala**	**8.31**	**210**	*e*Pn	**Pn**	**03 26 14.5**	**-2.6**
GO01	**Chusmiza**	**8.40**	**345**	*e*Pn	**Pn**	**03 26 17.7**	**-1.3**
PB11	**IPOC Station P**	**8.43**	**342**	*e*Pn	**Pn**	**03 26 17.2**	**-1.8**
CPUP	**Villa Florida**	**8.70**	**82**	*e*Pn	**Pn**	**03 26 20.2**	**-2.2**
CPUP	**Villa Florida**	**8.70**	**82**	P	**Pn**	**03 26 19.3**	**-3.1**
	comp=Z,0.6nm,0.3s,baz=266,slow=12,SNR=28						
CPUP	**Villa Florida**	**8.70**	**82**	*eP*	**Pn**	**03 26 20.3**	**-2.0**
MNMC	**Minye Minye**	**9.02**	**344**	*e*Pn	**Pn**	**03 26 24.9**	**-1.9**
TRQA	**Tornquist**	**10.99**	**159**	*e*Pn	**Pn**	**03 26 50.2**	**-2.2**
TRQA	**Tornquist**	**10.99**	**159**	*eP*	**Pn**	**03 26 50.6**	**-1.9**
LPAZ	**La Paz**	**11.56**	**354**	P	**Pn**	**03 27 00.2**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=167,slow=8.1,SNR=34						
LPAZ				S	**Sn**	**03 29 02.4**	**-6.7**
	comp=Z,0.1nm,0.3s,baz=10,slow=18,SNR=2.8						
LPAZ	**La Paz**	**11.56**	**354**	*eP*	**Pn**	**03 27 01.7**	**+1.1**
GO06	**Curarrehue**	**12.29**	**197**	*e*Pn	**Pn**	**03 27 08.6**	**-0.8**
AQDB	**Aquidauana**	**12.61**	**57**	*eP*	**Pn**	**03 27 13.0**	**-0.5**
SIV	**San Ignacio**	**13.00**	**26**	P	**Pn**	**03 27 16.6**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=224,slow=15,SNR=66						
SIV				LR	LR	03 33 19.7	
	comp=Z,47nm,19.5s,baz=178,slow=42						
ITAB	**Concordia**	**13.15**	**91**	*eP*	**Pn**	**03 27 19.5**	**-0.9**
PLCA	**Paso Flores**	**13.19**	**192**	*e*Pn	**Pn**	**03 27 21.0**	**+0.3**
PLCA	**Paso Flores**	**13.19**	**192**	P	**Pn**	**03 27 20.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=38,slow=14,SNR=7.6						
PLCA	**Paso Flores**	**13.19**	**192**	*eP*	**Pn**	**03 27 20.4**	**-0.4**
PTGB	**Pitanga**	**13.71**	**80**	*eP*	**Pn**	**03 27 27.1**	**-0.4**
TRCB	**Terra Rica**	**13.88**	**72**	*eP*	**Pn**	**03 27 29.5**	**-0.2**
CNLB	**Canela**	**14.21**	**100**	*eP*	**Pn**	**03 27 32.6**	**-1.2**
TER01	**Tubaro-SC**	**15.72**	**97**	*eP*	**Pn**	**03 27 50.7**	**-1.7**
GO07	**Milladeo Hill,**	**16.17**	**198**	*e*Pn	**Pn**	**03 27 57.9**	**+0.2**
	comp=Z,81nm,0.6s						
TIJ01	**Guaruva-PR**	**16.24**	**85**	*eP*	**Pn**	**03 27 56.0**	**-2.9**
FRTB	**Fartura**	**16.30**	**78**	*eP*	**P**	**03 27 59.1**	**-0.4**
ITRB	**Iturama**	**17.20**	**65**	*eP*	**Pn**	**03 28 09.3**	**-1.0**
PET01	**Itanhaem-SP**	**18.02**	**83**	*eP*	**P**	**03 28 17.5**	**-0.8**
BB19B	**Bebedouro**	**18.06**	**72**	*eP*	**P**	**03 28 18.8**	**0.0**
SPB	**Sao Paulo**	**18.08**	**81**	*eP*	**P**	**03 28 18.6**	**-0.3**
	comp=Z,29nm,0.9s						
SPB	**Sao Paulo**	**18.08**	**81**	*eP*	**P**	**03 28 18.5**	**-0.4**
NNA	**Nana**	**18.31**	**328**	LR	LR	03 35 32.1	
	comp=Z,24nm,18.2s,baz=145,slow=37						
RCLB	**Rio Claro- Sao**	**18.38**	**77**	*eP*	**P**	**03 28 22.2**	**-0.1**
ESAR	**Angra dos Reis**	**20.87**	**82**	*eP*	**P**	**03 28 47.1**	**-1.9**
PMNB	**Patos De Minas**	**20.98**	**68**	*eP*	**P**	**03 28 49.2**	**-1.1**
BSCB	**Bom Sucesso**	**21.29**	**76**	*eP*	**P**	**03 28 53.0**	**-0.6**
BDFB	**Brasilia**	**21.34**	**59**	*eP*	**P**	**03 28 52.5**	**-1.6**
	comp=Z,17nm,0.8s						
BDFB	**Brasilia**	**21.34**	**59**	P	**P**	**03 28 51.8**	**-2.4**
	comp=Z,12nm,0.5s,baz=225,slow=11,SNR=30						
DUB01	**Friburgo-RJ**	**22.98**	**81**	*eP*	**P**	**03 29 09.5**	**-0.7**
CAM01	**Campos-RJ**	**23.69**	**81**	*eP*	**P**	**03 29 16.5**	**-0.1**
MCI6	**Montes Claros**	**23.94**	**68**	*eP*	**P**	**03 29 17.6**	**-1.4**
MCI8	**Montes Claros**	**24.00**	**67**	*eP*	**P**	**03 29 17.9**	**-1.6**
MCI9	**Montes Claros**	**24.00**	**67**	*eP*	**P**	**03 29 18.1**	**-1.4**
JANB	**Januaria**	**24.56**	**63**	*eP*	**P**	**03 29 23.1**	**-1.5**
EFI	**East Falkland**	**24.71**	**167**	*eP*	**P**	**03 29 25.5**	**0.0**
ALF01	**Guarapari-ES**	**24.93**	**79**	*eP*	**P**	**03 29 27.3**	**-0.6**
BSFB	**Barra de Sao F**	**25.54**	**75**	*eP*	**P**	**03 29 32.7**	**-0.8**
RIB01	**Linhares ES**	**25.73**	**76**	*eP*	**P**	**03 29 34.8**	**-0.3**
PTGA	**Pitinga**	**27.79**	**15**	*eP*	**P**	**03 29 53.7**	**+0.3**
	comp=Z,25nm,1.1s						
PTGA	**Pitinga**	**27.79**	**15**	P	**P**	**03 29 52.9**	**-0.5**
	comp=Z,6.7nm,0.4s,baz=195,slow=9.2,SNR=16						
PTGA	**Pitinga**	**27.79**	**15**	*eP*	**P**	**03 29 54.1**	**+0.7**
OTAV	**Otavalo**	**30.04**	**337**	*eP*	**P**	**03 30 14.6**	**+0.7**
SDV	**Santo Domingo**	**36.70**	**354**	*eP*	**P**	**03 31 10.6**	**-0.6**
VNA3	**Neumayer Olymp**	**53.51**	**160**	P	**P**	**03 33 24.2**	**+1.3**
VNA1	**Neumayer--Stat**	**53.73**	**159**	P	**P**	**03 33 26.0**	**+1.6**
SNAA	**Sanae**	**55.72**	**160**	P	**P**	**03 33 39.8**	**+1.0**
SNAA	**Sanae**	**55.72**	**160**	*eP*	**P**	**03 33 38.9**	**+0.1**
	comp=Z,16nm,1.0s						
SNAA	**Sanae**	**55.72**	**160**	P	**P**	**03 33 39.7**	**+0.9**
	comp=Z,8.8nm,0.8s,baz=278,slow=6.6,SNR=40						
QSPA	**South Pole Qui**	**62.37**	**180**	*eP*	**P**	**03 34 25.2**	**+0.5**
W50A	**Signal Mountai**	**65.07**	**343**	*eP*	**P**	**03 34 45.9**	**+3.3**
	comp=Z,12nm,0.6s						
JCT	**Junction City**	**65.95**	**329**	*eP*	**P**	**03 34 49.4**	**+1.0**
	comp=Z,2.2nm,0.4s						
TXAR	**Lajitas Array**	**66.85**	**325**	P	**P**	**03 34 55.0**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=141,slow=8.1,SNR=5.5						
DBIC	**Dimbokro**	**69.01**	**70**	P	**P**	**03 35 07.2**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=230,slow=8.0,SNR=10.0						
MNTX	**Cornudas Mount**	**69.63**	**326**	*eP*	**P**	**03 35 11.8**	**+0.5**
	comp=Z,0

ZALV Zalesovo Beam 146.72 31 PKPbc **PKPbc 03 43 41.6 -0.2**
comp=Z,8.8nm,0.8s,baz=296,slow=3.8,SNR=20
ZALV pPKPbc **pPKPdf 03 44 23.3 -0.2**
comp=Z,3.3nm,0.6s,baz=300,slow=3.9,SNR=3.7
MKAR Makanchi Array 149.36 44 PKPbc **PKiKP 03 43 50.5 +0.4**
comp=Z,5.1nm,0.7s,baz=310,slow=2.3,SNR=28
MJAR Matsushiro Arr 157.07 299 PKPab **PKPab 03 44 28.2 +0.9**
comp=Z,1.0nm,0.6s,baz=129,slow=2.4,SNR=5.5
SONM Songino Array 159.38 13 PKP **PKPdf 03 44 00.4 +2.0**
comp=Z,0.4nm,0.3s,baz=215,slow=1.8,SNR=4.9
CD2 Chengdu 171.33 67 PKP **PKPdf 03 44 08.2 -0.6**

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*IDC **04** 04:06:11.7±0.5, 12°.72S×77°.79W, h0km, mb4.3/18, mb1 4.4/22, mb1mx4.3/33, mbtmp4.3/22, ML3.3/4, MS3.9/15, Ms1 3.9/15, ms1mx3.7/27, Error ellipse: s-maj=12.8km s-min=11.0km az=135.0*
*ISCJB **04** 04:06:15.6±0.2, 12°.70S±0°.03×77°.70W±0°.04, h33km, mb4.6/50, MS4.0/13, Error ellipse: s-maj=6.8km s-min=3.5km az=148.5*
*VAO **04** 04:06:15.2±0.4, 12°.67S×77°.61W, h10km, mb4.8*
*BJI **04** 04:06:17.5±0.0, 12°.70S×77°.60W, h33km, mB5.0/1, Ms5.3/1, Ms7 5.0/1*
*NEIC **04** 04:06:18.4±0.7, 12°.68S×77°.58W, h44km±6km, mb4.6/37, Error ellipse: s-maj=9.2km s-min=4.2km az=71.0*
NEIC Felt at Lima.

ISC 04 04:06:17.1±0.3, 12°.72S±0°.04×77°.68W±0°.06, h33km, n157, σ1§35/155, mb4.7/50, MS3.9/13, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.09**	**48**	Pg	**Pb**	**04 06 36.3**	**-1.3**
	750nm,0.3s,baz=241,slow=13,SNR=678						
NNA				Lg	Lg	04 06 51.3	
	1μm,0.3s,baz=136,slow=14,SNR=9.9						
NNA				LR	LR	04 07 12.1	
	comp=Z,8μm,18.3s,baz=28,slow=51						
ATAH	**Atahualpa**	**5.60**	**353**	Pn	**Pn**	**04 07 40.2**	**+1.8**
	11nm,0.3s,baz=132,slow=4.9,SNR=46						
ATAH				Sn	**Sn**	**04 08 40.8**	**-1.1**
	32nm,0.3s,baz=37,slow=14,SNR=6.1						
ATAH				Lg	Lg	04 09 05.6	
	13nm,0.3s,baz=107,slow=23,SNR=6.4						
LPAZ	**La Paz**	**9.90**	**112**	Pn	**Pn**	**04 08 38.4**	**+0.7**
	0.2nm,0.3s,baz=268,slow=10.0,SNR=12						
LPAZ				Sn	**Sn**	**04 10 30.8**	**+2.7**
	baz=266,slow=19,SNR=1.4						
LPAZ				LR	LR	04 11 58.4	
	comp=Z,197nm,18.2s,baz=322,slow=35						
LPAZ	**La Paz**	**9.90**	**112**	*e*P	**Pn**	**04 08 40.5**	**+2.7**
MNMC	**Minye Minye**	**10.05**	**130**	*e*Pn	**Pn**	**04 08 38.0**	**-1.5**
PB11	**IPOC Station P**	**10.40**	**133**	*e*Pn	**Pn**	**04 08 42.5**	**-1.7**
GO01	**Chusmiza**	**10.68**	**131**	*e*Pn	**Pn**	**04 08 47.7**	**-0.6**
PB01	**IPOC Station P**	**11.39**	**138**	*e*Pn	**Pn**	**04 08 57.8**	**+0.1**
LVC	**Limon Verde**	**12.90**	**141**	*e*Pn	**Pn**	**04 09 18.4**	**-0.1**
LVC				Sn	**Sn**	**04 11 36.5**	**-4.6**
LVC				Lg	Lg	04 12 47.8	
LVC	**Limon Verde**	**12.90**	**141**	Pn	**Pn**	**04 09 16.8**	**-1.7**
	0.3nm,0.3s,baz=286,slow=8.8,SNR=7.0						
LVC				Sn	**Sn**	**04 11 36.5**	**-4.6**
	0.6nm,0.3s,baz=82,slow=22,SNR=7.2						
LVC				Lg	Lg	04 12 47.8	
	0.2nm,0.3s,baz=103,slow=18,SNR=3.3						
LVC				LR	LR	04 13 54.4	
	comp=Z,447nm,19.5s,baz=328,slow=36						
LVC	**Limon Verde**	**12.90**	**141**	*e*P	**Pn**	**04 09 17.4**	**-1.1**
OTAV	**Otavalo**	**12.90**	**357**	*e*Pn	**Pn**	**04 09 19.3**	**+0.7**
OTAV	**Otavalo**	**12.90**	**357**	*e*P	**Pn**	**04 09 18.7**	**+0.1**
GO02	**Mina Guanaco**	**14.54**	**149**	*e*Pn	**Pn**	**04 09 44.3**	**+3.4**
SIV	**San Ignacio**	**16.41**	**103**	Pn	**Pn**	**04 10 03.9**	**-1.3**
	0.1nm,0.3s,baz=283,slow=12,SNR=8.8						
SIV				Sn	**S**	**04 13 16.9**	**-0.9**
	0.1nm,0.3s,baz=262,slow=15,SNR=1.8						
SIV				Lg	Lg	04 14 44.7	
	0.2nm,0.3s,baz=204,slow=20,SNR=3.7						
SIV				LR	LR	04 16 54.7	
	comp=Z,580nm,18.4s,baz=293,slow=39						
LCO	**Las Campanas**	**17.46**	**159**	*e*P	**P**	**04 10 20.1**	**+0.7**
ROSC	**El Rosal**	**17.76**	**11**	*e*Pn	**P**	**04 10 23.3**	**+0.3**
	55nm,1.5s						
ROSC				S	**S**	**04 13 45.5**	**-0.5**
ROSC	**El Rosal**	**17.76**	**11**	*e*P	P	04 10 38.0	+15
ROSC	**El Rosal**	**17.76**	**11**	*e*P	P	04 10 38.0	+15
ROSC	**El Rosal**	**17.76**	**11**	P	**Pn**	**04 10 22.2**	**-0.2**
	0.6nm,0.3s,baz=112,slow=19,SNR=1.8						
ROSC				S	**S**	**04 13 45.5**	**-0.5**
	0.9nm,0.3s,baz=156,slow=20,SNR=1.4						
ROSC				LR	LR	04 18 13.7	
	comp=Z,986nm,18.5s,baz=211,slow=41						
NORC	**Norcasia**	**18.38**	**9**	*e*P	**Pn**	**04 10 30.4**	**+0.8**
NORC	**Norcasia**	**18.38**	**9**	*e*P	**Pn**	**04 10 30.4**	**+0.8**
HELC	**Santa Helena**	**18.91**	**7**	*e*P	**Pn**	**04 10 41.0**	**+4.7**
HELC	**Santa Helena**	**18.91**	**7**	*e*P	**Pn**	**04 10 41.0**	**+4.7**
RUSC	**La Rusia**	**19.05**	**14**	*e*P	**Pn**	**04 10 39.2**	**+1.1**
RUSC	**La Rusia**	**19.05**	**14**	*e*P	**Pn**	**04 10 39.2**	**+1.1**
PTBC	**PUERTO BERRIO,**	**19.40**	**10**	*e*P	**Pn**	**04 10 44.0**	**+2.2**
PTBC	**PUERTO BERRIO,**	**19.40**	**10**	*e*P	**Pn**	**04 10 44.0**	**+2.2**
BRRC	**Barranca, Sant**	**20.09**	**12**	*e*P	Pn	04 10 50.6	+0.6
BRRC	**Barranca, Sant**	**20.09**	**12**	*e*P	Pn	04 10 50.6	+0.6
PAMC	**Pamplona, Colo**	**20.54**	**14**	*e*P	Pn	04 10 54.8	-0.9
PAMC	**Pamplona, Colo**	**20.54**	**14**	*e*P	Pn	04 10 54.8	-0.9
CFA	**Coronel Fontan**	**20.70**	**157**	P	**P**	**04 10 55.7**	**+1.0**
	41nm,0.9s,baz=334,slow=11,SNR=52						
CFA				LR	LR	04 17 24.1	
	comp=Z,172nm,20.1s,baz=339,slow=32						
ROC1	**El Roble**	**21.06**	**164**	*e*P	**P**	**04 11 01.7**	**+2.9**
	31nm,1.0s						
PTGA	**Pitinga**	**21.22**	**57**	*e*P	**P**	**04 11 00.1**	**-0.2**
	96nm,1.5s						
PTGA				S	Sn	04 15 05.2	+2.7
PTGA	**Pitinga**	**21.22**	**57**	P	**P**	**04 10 59.7**	**-0.6**
	30nm,0.9s,baz=237,slow=12,SNR=27						
PTGA				S	Sn	04 15 05.2	+2.7
	3.0nm,0.7s,baz=306,slow=22,SNR=2.6						
PTGA				LR	LR	04 19 09.6	
	comp=Z,487nm,20.6s,baz=240,slow=36						
PTGA	**Pitinga**	**21.22**	**57**	*e*P	**P**	**04 11 00.6**	**+0.3**
PEL	**Peldehue**	**21.31**	**164**	*e*P	**P**	**04 11 04.2**	**+3.0**
	48nm,0.9s						
CLDB	**Colider**	**21.50**	**87**	*e*P	**P**	**04 11 03.2**	**-0.1**
BCIP	**Isla Barro Col**	**21.85**	**354**	*e*P	**P**	**04 11 07.5**	**+0.5**
	6.6nm,0.8s						
AQDB	**Aquidauana**	**22.41**	**113**	*e*P	**P**	**04 11 13.8**	**+0.7**
SDV	**Santo Domingo**	**22.58**	**18**	*e*P	**P**	**04 11 15.6**	**+0.5**
	28nm,1.0s						
SDV				S	Sn	04 15 37.4	+2.1
SDV	**Santo Domingo**	**22.58**	**18**	P	**P**	**04 11 14.8**	**-0.2**
	27nm,1.1s,baz=208,slow=9.5,SNR=29						
SDV				S	Sn	04 15 37.4	+2.1
	1.2nm,0.2s,baz=170,slow=22,SNR=1.4						
SDV				LR	LR	04 21 19.7	
	comp=Z,630nm,19.3s,baz=186,slow=40						
SDV	**Santo Domingo**	**22.58**	**18**	*e*P	**P**	**04 11 15.1**	**+0.1**
SJCC	**San Jacinto, C**	**22.61**	**6**	*e*P	**P**	**04 11 16.6**	**+1.3**
SJCC	**San Jacinto, C**	**22.61**	**6**	*e*P	**P**	**04 11 16.6**	**+1.3**
CODC	**Agustn Codazz**	**22.90**	**11**	*e*P	**P**	**04 11 18.8**	**+0.6**
CODC	**Agustn Codazz**	**22.90**	**11**	*e*P	**P**	**04 11 18.8**	**+0.6**
CPUP	**Villa Florida**	**23.43**	**128**	*e*P	**P**	**04 11 24.0**	**+0.5**
	12nm,1.0s						
CPUP	**Villa Florida**	**23.43**	**128**	P	**P**	**04 11 23.9**	**+0.4**
	6.1nm,1.0s,baz=315,slow=11,SNR=5.9						
CPUP				LR	LR	04 22 36.7	
	comp=Z,215nm,20.8s,baz=316,slow=42						
CPUP	**Villa Florida**	**23.43**	**128**	*e*P	**P**	**04 11 24.3**	**+0.8**
JTS	**Las Juntas de**	**23.98**	**342**	LR	LR	04 19 13.5	
	comp=Z,204nm,20.0s,baz=238,slow=33						
TRCB	**Terra Rica**	**25.83**	**116**	*e*P	**P**	**04 11 46.8**	**+1.1**
PTGB	**Pitanga**	**26.98**	**120**	*e*P	**P**	**04 11 57.5**	**+1.5**
ITRB	**Iturama**	**27.11**	**108**	*e*P	**P**	**04 11 58.6**	**+1.3**
ITAB	**Concordia**	**27.93**	**125**	*e*P	**P**	**04 12 05.0**	**+0.5**
PLCA	**Paso Flores**	**28.60**	**169**	P	**P**	**04 12 10.1**	**-0.2**
	3.1nm,0.9s,baz=19,slow=10,SNR=4.5						
PLCA	**Paso Flores**	**28.60**	**169**	*e*P	**P**	**04 12 11.9**	**+1.6**
FRTB	**Fartura**	**28.69**	**116**	*e*P	**P**	**04 12 12.7**	**+1.4**
TRQA	**Tornquist**	**28.85**	**154**	*e*P	**P**	**04 12 14.8**	**+2.2**
BDFB	**Brasilia**	**28.89**	**99**	*e*P	**P**	**04 12 13.6**	**+0.2**
	9.7nm,1.2s						
BDFB	**Brasilia**	**28.89**	**99**	P	**P**	**04 12 12.8**	**-0.5**
	3.6nm,0.8s,baz=238,slow=7.8,SNR=7.6						
BDFB				LR	LR	04 24 51.6	
	comp=Z,399nm,18.3s,baz=246,slow=39						
BB19B	**Bebedouro**	**29.06**	**111**	*e*P	**P**	**04 12 15.5**	**+0.8**
CNLB	**Canela**	**29.88**	**128**	*e*P	**P**	**04 12 23.1**	**+1.2**
RCLB	**Rio Claro- Sao**	**30.26**	**113**	*e*P	**P**	**04 12 26.0**	**+0.7**
APG	**El Apazote**	**30.32**	**335**	LR	LR	04 23 39.2	
	comp=Z,225nm,18.2s,baz=110,slow=35						
PMNB	**Patos De Minas**	**30.61**	**105**	*e*P	**P**	**04 12 26.9**	**-1.6**
JANB	**Januaria**	**32.46**	**98**	*e*P	**P**	**04 12 45.1**	**+0.4**
BSCB	**Bom Sucesso**	**32.49**	**109**	*e*P	**P**	**04 12 45.9**	**+0.8**
MCI8	**Montes Claros**	**32.86**	**101**	*e*P	**P**	**04 12 48.4**	**+0.1**
MCI9	**Montes Claros**	**32.89**	**101**	*e*P	**P**	**04 12 48.8**	**+0.3**
MCI6	**Montes Claros**	**32.89**	**101**	*e*P	**P**	**04 12 48.8**	**+0.2**
RPN	**Rapa Nui**	**32.91**	**239**	P	**P**	**04 12 48.4**	**-0.1**
	28nm,0.8s,baz=212,slow=4.2,SNR=2.7						
RPN				LR	LR	04 23 24.3	
	comp=Z,168nm,18.2s,baz=52,slow=32						
ESAR	**Angra dos Reis**	**33.17**	**113**	*e*P	**P**	**04 12 51.6**	**+0.8**
SMRT	**St. Maarten**	**33.80**	**26**	*e*P	**P**	**04 12 55.9**	**-0.4**
	20nm,1.0s						
ANWB	**Willy Bob**	**34.03**	**28**	*e*P	**P**	**04 12 57.6**	**-0.6**
	36nm,0.8s						
DUB01	**Friburgo-RJ**	**34.88**	**110**	*e*P	**P**	**04 13 07.0**	**+1.3**
SJMB	**Sao Joao De Ma**	**35.58**	**104**	*e*P	**P**	**04 13 12.6**	**+0.8**
BSFB	**Barra de Sao F**	**35.91**	**105**	*e*P	**P**	**04 13 15.4**	**+0.8**
ALF01	**Guarapari-ES**	**36.19**	**108**	*e*P	**P**	**04 13 18.0**	**+1.0**
RIB01	**Linhares ES**	**36.37**	**105**	*e*P	**P**	**04 13 19.3**	**+0.7**
NBMO	**Morrinhos-CE**	**38.37**	**79**	*e*P	**P**	**04 13 36.5**	**+0.9**
NBPA	**Parau_RN**	**40.59**	**84**	*e*P	**P**	**04 13 54.4**	**+0.3**
USHA	**Ushuaia**	**42.63**	**172**	P	**P**	**04 14 10.9**	**+0.8**
	6.9nm,0.9s,baz=0.0,slow=12,SNR=3.0						
WLAR	**White Oak Lake**	**48.44**	**343**	*e*P	**P**	**04 14 57.1**	**+0.8**
	38nm,1.2s						
TXAR	**Lajitas Array**	**48.76**	**329**	*e*P	**P**	**04 14 59.4**	**+0.3**
TXAR	**Lajitas Array**	**48.76**	**329**	P	**P**	**04 14 58.9**	**-0.2**
	1.2nm,0.9s,baz=149,slow=9.2,SNR=12						
TX31	**Lajitas Ar. Si**	**48.76**	**329**	*e*P	**P**	**04 14 59.8**	**+0.8**
	13nm,1.8s						
TUL1	**Leonard**	**51.31**	**341**	*e*P	**P**	**04 15 18.5**	**+0.3**
	13nm,1.1s						
MNTX	**Cornudas Mount**	**51.54**	**330**	*e*P	**P**	**04 15 19.1**	**-0.9**
	4.1nm,1.3s						
P45A	**Graceland, Par**	**52.82**	**350**	*e*P	**P**	**04 15 28.5**	**-0.8**
	14nm,0.6s						
PMSA	**Palmer Station**	**52.84**	**173**	*e*P	**P**	**04 15 30.5**	**+1.4**
ANMO	**Albuquerque**	**54.70**	**331**	*e*P	**P**	**04 15 43.9**	**0.4**
	3.1nm,1.1s						
TUC	**Tucson**	**54.85**	**326**	*e*P	**P**	**04 15 44.5**	**0.0**
	1.5nm,0.6s						
SPMN	**Marine on St.**	**59.28**	**348**	*e*P	**P**	**04 16 14.9**	**-0.5**
	7.6nm,0.8s						
RSSD	**Black Hills**	**61.45**	**339**	*e*P	**P**	**04 16 30.4**	**-0.2**
	1.0nm,0.7s						
DUG	**Dugway, Tooele**	**61.93**	**330**	*e*P	**P**	**04 16 33.7**	**-0.1**
	1.8nm,0.8s						
PDAR	**Pinedale Array**	**62.48**	**334**	P	**P**	**04 16 35.6**	**-2.0**
	0.3nm,0.8s,baz=138,slow=9.6,SNR=2.8						
AGMN	**Agassiz Nation**	**62.86**	**346**	*e*P	**P**	**04 16 39.0**	**-0.7**
	5.6nm,0.8s						
OMMB	**Old Mammoth Mi**	**63.32**	**324**	*e*P	**P**	**04 16 43.8**	**+0.4**
	5.7nm,1.2s						
NVAR	**Mina Array Bea**	**63.50**	**325**	*e*P	**P**	**04 16 45.0**	**+0.6**
NVAR	**Mina Array Bea**	**63.50**	**325**	P	**P**	**04 16 44.4**	**0.0**
	0.8nm,0.8s,baz=134,slow=6.6,SNR=4.7						
FLWY	**Flagg Ranch**	**64.03**	**334**	*e*P	**P**	**04 16 48.6**	**+0.8**
	5.7nm,0.9s						
ULM	**Lac du Bonnet**	**64.70**	**347**	*e*P	**P**	**04 16 51.0**	**-0.7**
	32nm,1.6s						
ULM	**Lac du Bonnet**	**64.70**	**347**	P	**P**	**04 16 51.1**	**-0.6**
	5.3nm,0.8s,baz=172,slow=8.3,SNR=15						
PAHR	**Pah Rah Range**	**64.99**	**326**	*e*P	**P**	**04 16 54.3**	**+0.2**
	7.8nm,1.3s						
HLID	**Hailey**	**65.28**	**331**	*e*P	**P**	**04 16 56.7**	**+0.8**
	0.9nm,0.7s						
SCHQ	**Schefferville**	**67.92**	**7**	LR	LR	04 48 14.2	
	comp=Z,56nm,19.6s,baz=54,slow=37						
PPT2	**Papeete2**	**69.21**	**256**	*e*LR	LR	04 38 26.6	
	comp=Z,98nm,26.8s						
VNA3	**Neumayer Olymp**	**71.02**	**162**	P	**P**	**04 17 32.5**	**+1.2**
VNA1	**Neumayer--Stat**	**71.30**	**161**	P	**P**	**04 17 34.1**	**+1.1**
FCC	**Fort Churchill**	**72.48**	**351**	*e*P	**P**	**04 17 39.6**	**-0.5**
	1.2nm,0.6s						
SNAA	**Sanae**	**73.24**	**161**	P	**P**	**04 17 45.8**	**+1.1**
SNAA	**Sanae**	**73.24**	**161**	*e*P	**P**	**04 17 45.2**	**+0.5**
	5.2nm,0.8s						
LIC	**Lamto**	**74.59**	**80**	*e*P	**P**	**04 17 53.9**	**+0.4**
	30nm,1.0s						
TIC	**Toumodi**	**74.70**	**79**	*e*P	**P**	**04 17 55.5**	**+1.3**
DBIC	**Dimbokro**	**74.87**	**79**	P	**P**	**04 17 54.1**	**-1.0**
	7.5nm,0.8s,baz=245,slow=4.0,SNR=8.7						
KIC	**Kosan Boka**	**74.90**	**80**	*e*P	**P**	**04 17 56.4**	**+1.1**
	32nm,0.9s						
QSPA	**South Pole Qui**	**77.41**	**180**	*e*P	**P**	**04 18 09.2**	**+0.4**
NRS	**Narsarsuaq**	**77.95**	**15**	*e*P	**P**	**04 18 09.0**	**-2.6**
	61nm,1.0s						
YKA	**Yellowknife Ar**	**80.31**	**344**	*e*P	**P**	**04 18 24.2**	**-0.2**
YKA	**Yellowknife Ar**	**80.31**	**344**	P	**P**	**04 18 24.3**	**-0.1**
	1.7nm,0.8s,baz=140,slow=6.1,SNR=30						
YKW3	**Yellowknife Ar**	**80.36**	**344**	*e*P	**P**	**04 18 23.9**	**-0.8**
	5.1nm,1.0s						
TOA0	**Torodi Ar. Sit**	**82.77**	**75**	*e*P	**P**	**04 18 39.2**	**+0.7**
	9.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**82.77**	**75**	P	**P**	**04 18 38.2**	**-0.3**
	5.7nm,0.9s,baz=266,slow=4.8,SNR=31						
TORD				LR	LR	04 53 30.3	
	comp=Z,124nm,19.9s,baz=305,slow=34						
VNDA	**Vanda**	**83.92**	**191**	P	**P**	**04 18 44.1**	**+0.8**
	0.5nm,0.8s,baz=130,slow=5.0,SNR=2.6						
ESDC	**Sonseca Array**	**85.87**	**48**	*e*P	**P**	**04 18 53.7**	**-0.1**
	1.0nm,0.8s						
ESDC	**Sonseca Array**	**85.87**	**48**	P	**P**	**04 18 53.1**	**-0.6**
	1.2nm,0.8s,baz=265,slow=5.0,SNR=9.6						
SYO	**Syowa Base**	**87.53**	**161**	*e*P	**P**	**04 19 00.4**	**-0.9**
RES	**Resolute Bay**	**87.89**	**355**	*e*P	**P**	**04 19 02.2**	**-0.6**
	1.8nm,1.0s						
SUMG	**Summit**	**88.91**	**11**	*e*P	**P**	**04 19 07.5**	**-0.6**
	15nm,1.0s						
SUMG	**Summit**	**88.91**	**11**	*i* P	**P**	**04 19 08.7**	**+0.6**
	40nm,1.0s						
DAWY	**Dawson**	**89.61**	**337**	*e*P	**P**	**04 19 11.4**	**+0.2**
	8.2nm,1.1s						
INK	**Inuvik**	**89.97**	**342**	*e*P	**P**	**04 19 12.4**	**-0.2**
	6.5nm,1.0s						
BCAR	**Beaver Creek A**	**90.04**	**336**	*e*P	**P**	**04 19 13.3**	**+0.1**
ILAR	**Eielson Array**	**92.82**	**336**	*e*P	**P**	**04 19 25.1**	**-0.9**
ILAR	**Eielson Array**	**92.82**	**336**	P	**P**	**04 19 25.6**	**-0.4**
	1.0nm,0.8s,baz=154,slow=3.6,SNR=9.0						
MDM	**Murphy Dome**	**93.42**	**336**	*e*P	**P**	**04 19 28.7**	**-0.1**
	8.1nm,1.0s						
BOSA	**Boshof**	**95.03**	**121**	LR	LR	05 01 19.4	
	comp=Z,94nm,18.8s,baz=204,slow=35						
DAG	**Danmarks Havn**	**95.58**	**11**	*i* P	**P**	**04 19 37.4**	**-1.0**
	8.0nm,0.8s						
ABKAR	**Akbulak array**	**129.61**	**35**	*e*PKPdf	**PKPdf**	**04 25 22.9**	**+0.1**
ASAR	**Alice Springs**	**132.44**	**221**	PKP	**PKPdf**	**04 25 28.2**	**-0.8**
	0.6nm,0.9s,baz=133,slow=2.0,SNR=4.5						
WRA	**Warrmunga Arr**	**134.76**	**225**	PKP	**PKPdf**	**04 25 33.4**	**0.0**
	0.8nm,0.8s,baz=130,slow=1.8,SNR=5.1						
ZAA0	**Zalesovo Array**	**136.60**	**15**	*e*PKPdf	**PKPdf**	**04 25 36.7**	**+1.0**
ZALV	**Zalesovo Beam**	**136.60**	**15**	*e*PKPdf	**PKPdf**	**04 25 35.8**	**+0.1**
ZALV	**Zalesovo Beam**	**136.60**	**15**	PKP	**PKPdf**	**04 25 35.3**	**-0.4**
	3.4nm,0.9s,baz=318,slow=2.0,SNR=8.9						
KSH	**Kashi**	**144.59**	**36**	PKP	**PKPdf**	**04 25 51.5**	**+0.7**
KSH				sPKP		04 26 05.7	
KSH				PP	**PP**	**04 29 10.5**	**+3.7**
KSH				SKS	**SKSdf**	**04 32 54.9**	**-3.1**
ULN	**Ulaanbaatar**	**144.74**	**354**	*e*PKPdf	PKPbc	04 25 50.4	+0.7
SONM	**Songino Array**	**144.83**	**355**	*e*PKPdf	**PKPab**	**04 25 49.8**	**-0.1**
SONM	**Songino Array**	**144.83**	**355**	PKP	**PKPab**	**04 25 48.8**	**-1.1**
	7.4nm,0.9s,baz=343,slow=2.4,SNR=19						
KSRS	**Korea Array**	**146.39**	**322**	PKP	**PKPdf**	**04 25 51.0**	**-2.7**
	1.1nm,0.7s,baz=38,slow=6.2,SNR=6.2						
KSRS				PKPbc	**PKPbc**	**04 25 55.5**	**+0.5**
	1.0nm,0.8s,baz=35,slow=4.6,SNR=5.2						
KSAR	**Wonju Array Be**	**146.42**	**322**	*e*PKPdf	**PKPdf**	**04 25 52.1**	**-1.6**
WMQ	**Urumqi**	**146.55**	**19**	*e*PKPbc	**PKPdf**	**04 25 53.9**	**0.0**
WMQ				LR	LR		
	comp=Z,400nm,31.9s						
HHC	**Hu-ho-hao-te**	**150.83**	**346**	*e*PKPbc	**PKPdf**	**04 26 02.0**	**+1.0**
NJ2	**Nanjing**	**155.49**	**324**	*e*PKP	**PKPdf**	**04 26 07.3**	**-0.6**
CD2	**Chengdu**	**161.85**	**356**	PKP	**PKPdf**	**04 26 13.8**	**-1.8**
CMAR	**Chiang Mai Arr**	**173.43**	**29**	PKPab	**PKPab**	**04 27 52.0**	**-0.5**
	0.6nm,0.3s,baz=328,slow=6.4,SNR=4.2						

IDC 04 04:11:44.9±3.0, 19°.22S×173°.18W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/30, mbtmp3.8/4, MS3.4/7, Ms1 3.4/7, ms1mx3.1/35, Error ellipse: s-maj=190.1km s-min=28.1km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**12.74**	**101**	LR	LR	04 19 10.0	
	comp=Z,92nm,18.4s,baz=274,slow=35						
DZM	**Mont Dzumac**	**19.27**	**258**	LR	LR	04 22 15.4	
	comp=Z,84nm,19.1s,baz=202,slow=33						
PPT	**Papeete**	**22.46**	**90**	LR	LR	04 23 09.0	
	comp=Z,47nm,19.5s,baz=140,slow=30						
HNR	**Honiara**	**27.75**	**287**	LR	LR	04 28 42.4	
	comp=Z,59nm,18.4s,baz=171,slow=37						
PMG	**Port Moresby**	**39.56**	**279**	LR	LR	04 32 58.6	
	comp=Z,81nm,18.1s,baz=212,slow=32						
ASAR	**Alice Springs**	**49.23**	**255**	P	P	04 20 35.2	-0.2
	3.0nm,0.6s,baz=90,slow=8.4,SNR=32						
ASAR				PcP	PcP	04 22 00.1	+1.4
	0.3nm,0.6s,baz=97,slow=3.7,SNR=3.5						
WRA	**Warramunga Arr**	**49.28**	**260**	P	P	04 20 34.9	-1.0
	0.7nm,0.4s,baz=98,slow=7.1,SNR=17						
NVAR	**Mina Array Bea**	**77.03**	**41**	P	P	04 23 39.6	-0.5
	0.2nm,0.4s,baz=231,slow=8.0,SNR=3.6						
NVAR				LR	LR	04 51 35.9	
	comp=Z,27nm,18.8s,baz=299,slow=31						
NNA	**Nana**	**91.98**	**103**	LR	LR	04 57 07.1	
	comp=Z,34nm,19.2s,baz=0.5,slow=30						
YKA	**Yellowknife Ar**	**93.50**	**23**	P	P	04 25 02.1	+0.1
	0.2nm,0.7s,baz=232,slow=4.6,SNR=4.7						
BRTR	**Keskin Array B**	**149.16**	**317**	PKPbc	PKPbc	04 31 35.8	+0.1
	0.4nm,0.7s,baz=45,slow=2.9,SNR=2.7						

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*DDA **04** 04:11:45.6, 37°.30N×37°.09E, h7km±2km, ML2.9*
*ISK **04** 04:11:45.4, 37°.29N×37°.08E, h8km, ML2.1/7*
*ISCJB **04** 04:11:46.1±0.5, 37°.28N±0°.04×37°.07E±0°.04, h7km±5km, Error ellipse: s-maj=6.3km s-min=5.2km az=22.0*

ISC 04 04:11:45.8±0.9, 37°.29N±0°.03×37°.09E±0°.03, h10km±8km, n18, σ0§57/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.15**	**140**	PG	**Pg**	**04 11 49.2**	**-0.1**
GAZ				SG	**Sg**	**04 11 51.9**	**+0.2**
HCB	**Kahramanmara**	**0.16**	**291**	IAML_P			
	comp=Z,13μm,0.1s						
HCB				*i* P	**Pg**	**04 11 49.5**	**+0.1**
AYKD	**Aykdinkavak**	**0.26**	**299**	*i* P	**Pb**	**04 11 51.5**	**-1.1**
KMRS	**Kahramanmaras**	**0.26**	**325**	PG	**Pg**	**04 11 51.2**	**0.0**
KMRS				SG	**Sg**	**04 11 55.1**	**+0.2**
KAMA	**Osmaniye**	**0.35**	**253**	IAML_P			
	comp=Z,4μm,0.1s						
KAMA				*i* P	**Pb**	**04 11 53.6**	**-0.6**
KAMA				*i* S	**Sg**	**04 11 58.1**	**+0.5**
GZT	**Gaziantep**	**0.38**	**80**	IAML_P			
	comp=Z,4μm,0.1s						
GZT				*i* P	**Pg**	**04 11 53.2**	**-0.2**
KUZU	**Kuzuini**	**0.52**	**181**	*i* P	**Pb**	**04 11 57.1**	**+0.1**
ANDN	**Andirin**	**0.66**	**296**	IAML_P			
	comp=Z,2μm,0.2s						

SNR=7.3
MSFE Esma-Masafi 4.75 125 *e*Pn **Pn 04 14 35.5 +1.2**
IZEF Zefreh 4.76 5 Pn **Pn 04 14 35.1 +0.4**
IZEF Zefreh 4.76 5 *e*Pn **Pn 04 14 35.6 +0.9**
IZEF IAMB IAmb 04 15 27.3
comp=Z,312nm,0.6s
FAQ Al Faqa, Dubai 4.77 134 *i* P **Pn 04 14 35.8 +1.3**
SNR=5.7
FAQ Al Faqa, Dubai 4.77 134 P **Pn 04 14 36.0 +1.4**
SNR=5.7
FAQ S **Sn 04 15 29.9 +0.9**
YZKH Yazd 4.86 29 *e*Pn **Pn 04 14 37.2 +1.3**
YZKH Yazd 4.86 29 *e*Pn **Pn 04 14 37.2 +1.3**
HATD Hatta, Dubai 5.07 130 P **Pn 04 14 40.0 +1.3**
SNR=6.6
HATD S **Sn 04 15 37.0 +0.6**
HATD Hatta, Dubai 5.07 130 *e*Pn **Pn 04 14 39.9 +1.3**
ASHO Ashiyiah 5.11 131 *i* P **Pn 04 14 40.1 +0.8**
SNR=37
ASHO Ashiyiah 5.11 131 P **Pn 04 14 40.3 +1.0**
SNR=37
ASHO S **Sn 04 15 37.1 -0.5**
ASHO Ashiyiah 5.11 131 *e*Pn **Pn 04 14 40.5 +1.2**
IKLH Kolahrood 5.17 358 *e*Pn **Pn 04 14 40.6 +0.3**
IKLH IAMB IAmb 04 15 47.1
comp=Z,410nm,0.7s
CHMN Cheshme madani 5.28 70 *e*Pn **Pn 04 14 43.2 +1.3**
ANAR Anarak 5.29 17 *e*Pn **Pn 04 14 43.2 +1.4**
ALNE Al Ain 5.38 138 *i* P **Pn 04 14 44.3 +1.4**
SNR=11
ALNE Al Ain 5.38 138 *e*Pn **Pn 04 14 44.4 +1.5**
SOHO SOHO 5.80 132 P **Pn 04 14 49.5 +0.8**
SNR=5.3
SOHO S **Sn 04 15 52.2 -2.3**
KHMZ Khomeyn 5.81 344 Pn **Pn 04 14 49.0 -0.1**
KHMZ Khomeyn 5.81 344 *e*Pn **Pn 04 14 49.2 +0.2**
KHMZ Khomeyn 5.81 344 *e*Pn **Pn 04 14 49.2 +0.2**
KRSH Karshahi 5.82 2 *e*Pn **Pn 04 14 48.9 -0.2**
TPRV Parvadeh(Tabas 6.42 39 *e*Pn **Pn 04 14 59.2 +1.9**
ASAO Ashtian 6.58 347 Pn **Pn 04 15 00.0 +0.4**
ASAO Ashtian 6.58 347 *e*Pn **Pn 04 15 00.5 +0.9**
ASAO Ashtian 6.58 347 *e*Pn **Pn 04 15 00.5 +0.9**
HOQ Hoqain 6.70 131 P **Pn 04 15 02.2 +1.1**
SNR=14
HOQ S **Sn 04 16 15.1 -1.5**
HOQ Hoqain 6.70 131 *e*Pn **Pn 04 15 01.5 +0.4**
IKOM Komasi 7.07 329 *e*Pn **Pn 04 15 07.0 +0.8**
TKDS Koohdasht(Taba 7.10 38 *e*Pn **Pn 04 15 06.6 0.0**
TABS Tabas 7.12 38 Pn **Pn 04 15 07.0 0.0**
TABS Tabas 7.12 38 *e*Pn **Pn 04 15 07.8 +0.8**
TABS Tabas 7.12 38 *e*Pn **Pn 04 15 07.8 +0.8**
BSY Bisya 7.23 137 P **Pn 04 15 09.6 +1.2**
SNR=26
BSY S **Sn 04 16 25.5 -4.2**
BSRN Basiran 7.38 57 *e*Pn **Pn 04 15 10.6 +0.1**
BSRN Basiran 7.38 57 *e*Pn **Pn 04 15 10.6 +0.1**
SMDO Samad 7.55 131 P **Pn 04 15 14.1 +1.3**
SNR=8.8
SMDO S **Sn 04 16 30.2 -7.5**
WSAR Wadi Sarin 7.83 127 Pn **Pn 04 15 16.6 -0.1**
comp=Z,2.6nm,0.3s,baz=335,slow=9.9,SNR=22
WSAR Sn **Sn 04 16 40.9 -3.5**
comp=Z,2.7nm,0.3s,baz=125,slow=20,SNR=2.3
WSAR LR LR 04 18 36.1
comp=Z,90nm,20.4s,baz=352,slow=40
MHTO MHTO 9.04 141 P **Pn 04 15 33.8 +0.5**
SNR=12
MHTO S **Sn 04 17 11.2 -3.1**
DMTO DMTO 10.76 164 P **Pn 04 15 56.4 -0.4**
SNR=8.8
DMTO S **Sn 04 17 53.6 -2.8**
GEYT Alibeck 11.09 27 LR LR 04 20 48.7
comp=Z,161nm,20.2s,baz=225,slow=40
ASF Jabal al Asfar 13.54 291 Pn **Pn 04 16 33.4 -1.4**
comp=Z,0.3nm,0.3s,baz=98,slow=14,SNR=3.1
ASF Sn **Sn 04 18 57.2 -7.2**
comp=Z,0.2nm,0.3s,baz=249,slow=22,SNR=1.9
ASF Lg Lg 04 20 48.2
comp=Z,0.2nm,0.3s,baz=236,slow=22,SNR=2.5
EIL Elat 14.87 280 Pn **Pn 04 16 53.7 +0.8**
comp=Z,0.1nm,0.3s,baz=117,slow=2.3,SNR=2.0
EIL Lg Lg 04 21 23.5
comp=Z,0.1nm,0.3s,baz=279,slow=16,SNR=2.2
EIL LR LR 04 22 53.6
comp=Z,84nm,21.9s,baz=108,slow=38
MMAI Mount Meron Ar 14.96 293 Pn **Pn 04 16 56.3 +2.1**
comp=Z,0.4nm,0.3s,baz=105,slow=14,SNR=3.7
MMAI Sn **Sn 04 19 37.0 -2.2**
comp=Z,0.4nm,0.3s,baz=102,slow=34,SNR=2.4
MMAI Lg Lg 04 21 36.1
baz=95,slow=34,SNR=2.6
MMAI LR LR 04 23 35.3
comp=Z,39nm,19.9s,baz=150,slow=41
DAMY Dhamar 15.17 209 *e*Pn **Pn 04 16 57.0 -0.2**
comp=Z,25nm,1.0s
KBZ Khabaz 17.14 338 P **P 04 17 23.2 -0.2**
comp=Z,0.1nm,0.3s,baz=166,slow=9.8,SNR=7.5
THW Thamme Wali 17.77 70 P **P 04 17 30.9 +0.3**
CHGR Chuyangaron 17.84 50 *e*Pn **Pn 04 17 28.7 -2.0**
comp=Z,18nm,1.1s
CEP Cherat 18.11 67 P **P 04 17 34.5 +0.1**
CEP S **Sn 04 20 55.0 -0.6**
ATD Arta Tunnel 18.55 209 P **Pn 04 17 40.6 +1.1**
comp=Z,1.1nm,0.3s,baz=358,slow=7.6,SNR=1.9
ATD Lg Lg 04 23 25.2
comp=Z,0.5nm,0.3s,baz=213,slow=20,SNR=1.1
ATD LR LR 04 25 48.6
comp=Z,204nm,18.2s,baz=38,slow=40
GAR Garm 18.79 50 *e*P **P 04 17 41.8 0.0**
comp=Z,14nm,0.8s
BR131 Keskin Array S 18.98 312 *e*P **Pn 04 17 44.7 0.0**
comp=Z,5.5nm,1.2s
BRTR Keskin Array B 18.98 312 *e*P **P 04 17 44.1 +0.2**
BRTR Keskin Array B 18.98 312 P **Pn 04 17 44.7 0.0**
comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=14
NIL Nilore 19.17 68 *e*P **Pn 04 17 46.7 -0.2**
CHCP Chirah Chowk 19.18 68 P **P 04 17 45.8 -0.3**
KK31 Karatay Array 21.22 40 *e*P **P 04 18 07.7 -0.4**
comp=Z,6.6nm,0.8s
KKAR Karatay Array 21.22 40 *e*P **P 04 18 07.7 -0.5**
ABKAR Akbulak array 21.99 14 *e*P **P 04 18 16.1 -0.2**
comp=Z,4.1nm,0.8s
AKTO Aktyubinsk 22.76 10 P **P 04 18 25.1 +0.6**
comp=Z,3.3nm,0.8s,baz=203,slow=13,SNR=5.8
AKTO LR LR 04 29 12.1
comp=Z,47nm,19.5s,baz=179,slow=42
AAK Ala-Archa 23.36 46 *e*P **P 04 18 32.0 +1.0**
comp=Z,5.8nm,0.9s
AAK Ala-Archa 23.36 46 P **P 04 18 31.7 +0.7**
comp=Z,1.3nm,0.6s,baz=220,slow=17,SNR=3.0
AAK LR LR 04 29 24.5
comp=Z,168nm,19.5s,baz=240,slow=41
SANT Santorini 23.72 297 *e*P **P 04 18 35.1 +0.8**
comp=Z,21nm,0.9s
NRN Naryn 23.77 50 *e*P **P 04 18 34.7 -0.4**
comp=Z,6.5nm,1.0s
IDI Anoyia 23.96 294 P **P 04 18 37.3 +0.6**
comp=Z,4.9nm,0.6s,baz=89,slow=10,SNR=6.8
IDI LR LR 04 30 50.8
comp=Z,33nm,20.6s,baz=74,slow=44
AGG Agios Georgios 26.76 302 *e*P **P 04 19 02.1 +0.1**
comp=Z,18nm,1.7s
VTS Vitosha 27.27 310 *e*P **P 04 19 08.2 +1.4**
comp=Z,2.7nm,1.0s
AKASG Malin Array Be 28.30 329 P **P 04 19 14.9 -0.7**
comp=Z,0.3nm,0.4s,baz=133,slow=8.8,SNR=1.9
BURAR Bucovina Array 28.40 320 *e*P **P 04 19 17.7 +1.0**
comp=Z,11nm,0.8s
BVAR Borovoye Array 28.40 24 P **P 04 19 16.9 +0.4**
comp=Z,0.4nm,0.4s,baz=249,slow=11,SNR=3.9
BUR08 Bucovina Ar. S 28.43 320 *e*P **P 04 19 17.9 +0.9**
comp=Z,5.7nm,1.5s
KURBB Kurchatov Arra 30.20 35 P **P 04 19 32.8 +0.3**
comp=Z,1.1nm,0.8s,baz=235,slow=9.1,SNR=6.0
MK31 Makanchi Array 30.24 44 *e*P **P 04 19 32.8 -0.1**
comp=Z,4.2nm,1.2s
MKAR Makanchi Array 30.24 44 P **P 04 19 33.1 +0.2**
comp=Z,1.1nm,0.5s,baz=228,slow=8.6,SNR=7.2
MKAR LR LR 04 33 39.5
comp=Z,100nm,18.2s,baz=242,slow=40
KOLS Kolonicke sedl 30.77 321 *e*P **P 04 19 39.7 +2.1**
TIP Timpagrande 31.03 300 *e*P **P 04 19 41.5 +1.5**
comp=Z,4.4nm,1.0s
LANS Liptovska Anna 32.48 319 *e*P **P 04 19 53.7 +1.1**
WMQ Urumqi 32.67 52 *e*P **P 04 19 54.0 -0.4**
WMQ LR LR
comp=Z,720nm,24.9s
WMQ LR LR
comp=Z,560nm,25.3s
MSEY Mahe Island 32.81 173 *e*P **P 04 19 56.7 +0.9**
comp=Z,28nm,1.3s
MBAR Mbarara 35.02 219 P **P 04 20 16.1 +1.0**
comp=Z,3.7nm,0.2s,baz=44,slow=9.1,SNR=3.9
ZAA0 Zalesovo Array 35.28 34 *e*P **P 04 20 16.9 0.0**
comp=Z,7.6nm,1.4s
ZALV Zalesovo Beam 35.28 34 *e*P **P 04 20 16.6 -0.2**
ZALV Zalesovo Beam 35.28 34 P **P 04 20 16.9 +0.1**
comp=Z,0.9nm,0.3s,baz=242,slow=8.2,SNR=8.1
ZALV LR LR 04 36 29.2
comp=Z,62nm,18.2s,baz=248,slow=39
KHC Kasperske Hory 35.98 316 *e*P **P 04 20 22.7 -0.3**
WTTA Wattenberg 36.59 312 *i* P **P 04 20 29.2 +0.8**
comp=Z,8.3nm,1.2s
WATA Walderalm 36.65 313 *i* P **P 04 20 29.3 +0.4**
comp=Z,2.2nm,0.5s
SQTA Sankt Quirin 36.86 312 *e*P **P 04 20 30.6 0.0**
comp=Z,4.9nm,1.1s
MOTA Moosalm 36.96 312 *e*P **P 04 20 31.3 -0.2**
comp=Z,5.6nm,1.1s
FETA Feichten 37.12 312 *e*P **P 04 20 31.9 -0.9**
comp=Z,6.6nm,1.2s
CLL Collm 37.16 319 *e*P **P 04 20 35.0 +2.1**
FINES FINESS Array B 37.48 340 *e*P **P 04 20 34.9 -0.5**
FINES FINESS Array B 37.48 340 P **P 04 20 35.4 0.0**
comp=Z,2.0nm,0.6s,baz=139,slow=9.8,SNR=16
FINES LR LR 04 35 52.0
comp=Z,36nm,19.3s,baz=155,slow=36
DAVA Damuels 37.75 312 *e*P **P 04 20 37.8 -0.3**
comp=Z,7.8nm,1.1s
GTA Gaotai 41.00 61 *e*P **P 04 21 06.4 +1.0**
GTA pP pP 04 21 13.2 -0.2
GTA sP sP 04 21 16.2 -0.4
GTA pmax pmax
comp=Z,3.0nm,1.2s
TAM Tamanrasset 41.96 274 *e*P **P 04 21 14.8 +1.4**
comp=Z,4.0nm,1.1s
NB2 NORSAR Subarra 42.60 332 P **P 04 21 17.2 -0.9**
comp=Z,1.1nm,0.7s,baz=122,slow=8.6
NOA NORSAR Array B 42.60 332 P **P 04 21 17.5 -0.6**
comp=Z,0.3nm,0.4s,baz=127,slow=9.1,SNR=9.3
NOA LR LR 04 42 04.3
comp=Z,14nm,18.6s,baz=215,slow=40
CMAR Chiang Mai Arr 44.09 92 LR LR 04 45 22.1
comp=Z,20nm,18.4s,baz=200,slow=44
ARCES ARCESS Array B 44.15 347 P **P 04 21 30.5 +0.1**
comp=Z,0.7nm,0.6s,baz=151,slow=7.8,SNR=10
CD2 Chengdu 44.93 73 *e*P **P 04 21 35.6 -1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KMI Kunming 45.34 82 P **P 04 21 40.6 -0.1**
KMI pP pP 04 21 44.0 -4.8
KMI sP sP 04 21 45.2 -6.8
KMI pmax pmax
comp=Z,7.0nm,0.5s
NRIK Noril'sk 46.12 17 LR LR 04 43 25.9
comp=Z,35nm,18.2s,baz=187,slow=39
SONM Songino Array 46.23 49 P **P 04 21 46.7 -0.7**
comp=Z,0.5nm,0.6s,baz=252,slow=8.8,SNR=2.9
SONM LR LR 04 43 46.3
comp=Z,75nm,21.7s,baz=182,slow=40
ESDC Sonseca Array 47.05 299 P **P 04 21 53.5 -0.3**
comp=Z,0.1nm,0.3s,baz=71,slow=5.7,SNR=4.4
LSZ Lusaka 48.86 211 *e*P **P 04 22 10.3 +2.3**
comp=Z,2.6nm,0.8s
TOA0 Torodi Ar. Sit 48.90 263 *e*P **P 04 22 09.0 +0.7**
comp=Z,6.1nm,1.1s
TORD Torodi Ar. Bea 48.90 263 P **P 04 22 07.7 -0.6**
comp=Z,5.6nm,1.0s,baz=71,slow=6.3,SNR=20
HHC Hu-ho-hao-te 49.95 59 *e*P **P 04 22 16.1 -0.1**
HHC pmax pmax
comp=Z,75nm,6.0s
DBIC Dimbokro 57.60 259 *e*P **P 04 23 12.7 +0.3**
comp=Z,24nm,1.3s
DBIC Dimbokro 57.60 259 P **P 04 23 12.9 +0.6**
comp=Z,3.5nm,0.4s,baz=39,slow=6.0,SNR=11
TIXI Tiksi 59.48 21 LR LR 04 51 30.0
comp=Z,33nm,19.7s,baz=328,slow=38
KSAR Wonju Array Be 63.03 60 P **P 04 23 48.5 -0.7**
KSRS Korea Array 63.06 60 P **P 04 23 48.5 -0.9**
comp=Z,0.5nm,0.4s,baz=260,slow=7.5,SNR=4.5
JNU Nakatsue 66.67 64 LR LR 04 57 01.7
comp=Z,26nm,20.3s,baz=1.5,slow=39
INK Inuvik 83.76 2 P **P 04 25 50.2 -0.5**
comp=Z,0.9nm,1.0s,baz=335,slow=2.8,SNR=2.7
IMAR Indian Mountai 84.14 10 *e*P **P 04 25 53.2 +0.4**
ILAR Eielson Array 86.25 8 P **P 04 26 02.7 -0.6**
comp=Z,0.3nm,0.8s,baz=328,slow=3.2,SNR=3.1
YKA Yellowknife Ar 89.03 354 *e*P **P 04 26 17.1 +0.4**
YKA Yellowknife Ar 89.03 354 P **P 04 26 16.4 -0.3**
comp=Z,0.4nm,0.7s,baz=9.0,slow=4.9,SNR=13
SEW Seward 90.35 10 *e*P **P 04 26 22.3 -0.6**
WRA Warramunga Arr 92.90 111 P **P 04 26 37.4 +2.0**
comp=Z,1.5nm,1.1s,baz=292,slow=4.4,SNR=3.4
ASAR Alice Springs 94.33 114 P **P 04 26 41.9 -0.1**
comp=Z,0.6nm,0.7s,baz=298,slow=2.7,SNR=4.2

*ISCJB **04** 04:32:00.5±1.1,36°.63N±0°.05×10°.92W±0°.08,h10km, Error ellipse: s-maj=9.4km s-min=6.4km az=23.4*
*MDD **04** 04:32:02.7±2.1,36°.71N×11°.15W,h20km,mbLg1.7/7, Error ellipse: s-maj=18.4km s-min=16.5km az=174.0, PRXIMO*
*INMG **04** 04:32:03.6±1.1,36°.63N×11°.21W,h31km,ML1.7, Error ellipse: s-maj=8.4km s-min=4.8km az=89.0*
ISC 04 04:31:59.1±2.2,36°.67N±0°.05×11°.1W±0°.1,h10km,n31, σ1§72/52,1C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.91**	**75¶**	*e*Pn	**Pn**	**04 32 33.1**	**+1.5**
PFVI				*e*Sn	**Sn**	**04 32 55.3**	**-0.4**
PFVI				A	A	04 32 59.9	
4.4nm,0.6s							
PFVI	**Vila Bisbo**	**1.91**	**75**	P	**Pn**	**04 32 33.2**	**+1.5**
1.8nm,0.1s,SNR=7.9							
PFVI				S	**Sn**	**04 32 55.0**	**-0.7**
3.8nm,0.1s,SNR=7.9							
MORF	**Marmelete**	**2.09**	**71**	*e*Pn	**Pn**	**04 32 36.0**	**+1.8**
MORF				*e*Sn	**Sn**	**04 32 59.7**	**-0.5**
MORF				A	A	04 33 06.0	
2.1nm,0.3s							
MORF	**Marmelete**	**2.09**	**71**	P	**Pn**	**04 32 36.0**	**+1.8**
MORF				S	**Sn**	**04 32 59.7**	**-0.5**
2.1nm,0.3s							
PTEO	**Sao Teotonio**	**2.11**	**65**	*e*Sn	**Sn**	**04 33 00.8**	**0.0**
PTEO	**Sao Teotonio**	**2.11**	**65**	S	**Sn**	**04 33 00.8**	**0.0**
PNCL	**Nicolau / Gran**	**2.52**	**54**	*e*Pn	**Pn**	**04 32 41.8**	**+1.7**
PNCL				*e*Sn	**Sn**	**04 33 11.2**	**+0.3**
PNCL				A	A	04 33 12.9	
1.5nm,0.4s							
PNCL	**Nicolau / Gran**	**2.52**	**54**	P	**Pn**	**04 32 41.8**	**+1.7**
PNCL				S	**Sn**	**04 33 11.2**	**+0.3**
1.5nm,0.4s							
PBDV	**Barranco-do-Ve**	**2.63**	**76**	*e*Sn	**Sn**	**04 33 13.3**	**-0.2**
PBDV	**Barranco-do-Ve**	**2.63**	**76**	S	**Sn**	**04 33 13.3**	**-0.2**
PCVE	**Castro Verde**	**2.65**	**68**	*e*Sn	**Sn**	**04 33 13.3**	**-0.8**
PCVE				A	A	04 33 16.4	
1.4nm,0.8s							
PCVE	**Castro Verde**	**2.65**	**68**	S	**Sn**	**04 33 13.3**	**-0.8**
1.4nm,0.8s							
PMAFR	**Mafra**	**2.71**	**32**	*e*Pn	**Pn**	**04 32 43.9**	**+1.2**
PMAFR				*e*Sn	**Sn**	**04 33 15.0**	**-0.6**
PMAFR				A	A	04 33 15.7	
8.1nm,0.5s							
PMAFR	**Mafra**	**2.71**	**32**	S	**Sn**	**04 33 13.6**	**-2.0**
4.2nm,0.2s,SNR=7.9							
PVAQ	**Vaqueiros**	**2.83**	**74**	*e*Sn	**Sn**	**04 33 18.5**	**0.0**
PVAQ	**Vaqueiros**	**2.83**	**74**	S	**Sn**	**04 33 18.5**	**0.0**
EGRO	**El Granado**	**3.04**	**72**	P	**Pn**	**04 32 48.5**	**+1.2**
0.1nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	**04 33 22.7**	**-1.0**
0.5nm,0.1s,SNR=7.9							
EVO	**Evora**	**3.10**	**52**	*e*Pn	**Pn**	**04 32 49.1**	**+1.1**
EVO				*e*Sn	**Sn**	**04 33 24.3**	**-0.8**
EVO				A	A	04 33 26.6	
2.2nm,0.5s							
EVO	**Evora**	**3.10**	**52**	P	**Pn**	**04 32 49.1**	**+1.1**
EVO				S	**Sn**	**04 33 24.3**	**-0.8**
2.2nm,0.5s							
PMTG	**Montargil**	**3.32**	**43**	*e*Pn	**Pn**	**04 32 52.8**	**+1.7**
PMTG				*e*Sn	**Sn**	**04 33 29.0**	**-1.6**
PMTG				A	A	04 33 33.9	
1.2nm,0.7s							
PMTG	**Montargil**	**3.32**	**43**	P	**Pn**	**04 32 52.8**	**+1.7**
PMTG				S	**Sn**	**04 33 29.0**	**-1.6**
1.2nm,0.7s							
EMIN	**Mina Concepcio**	**3.73**	**72**	P	**Pn**	**04 32 57.8**	**+1.2**
0.1nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**04 33 38.9**	**-1.6**
0.1nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**3.87**	**56**	P	**Pn**	**04 32 59.3**	**+0.6**
0.1nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**04 33 42.2**	**-2.0**
0.7nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**4.04**	**46**	*e*Pn	**Pn**	**04 33 02.5**	**+1.5**
PMRV				*e*Sn	**Sn**	**04 33 46.2**	**-2.1**
PMRV				A	A	04 33 48.2	
0.6nm,0.2s							
PMRV	**Marv??o**	**4.04**	**46**	P	**Pn**	**04 33 02.5**	**+1.5**
PMRV				S	**Sn**	**04 33 46.2**	**-2.1**
0.6nm,0.2s							
ECAB	**El Cabril**	**4.76**	**71**	P	**Pn**	**04 33 12.6**	**+1.7**
0.1nm,0.1s,SNR=7.9							
ECAB				S	**Sn**	**04 34 04.0**	**-2.2**
0.1nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**5.43**	**72**	P	**Pn**	**04 33 21.5**	**+1.5**
0.0nm,0.1s,SNR=7.9							
EADA				S	**Sn**	**04 34 20.5**	**-2.1**
0.1nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.71**	**24**	S	**Sn**	**04 34 24.9**	**-4.7**
0.5nm,0.1s,SNR=7.9							
MD31	**MD31**	**6.47**	**124**	P	**Pn**	**04 33 36.6**	**+2.2**
MD31				S	**Sn**	**04 34 45.4**	**-3.0**
MDT	**Midelt**	**6.60**	**124**	P	**Pn**	**04 33 36.9**	**+0.6**
MDT				S	**Sn**	**04 34 47.2**	**-4.6**
OUZM	**OUZ**	**6.80**	**146**	P	**Pn**	**04 33 39.5**	**+0.5**
OUZM				S	**Sn**	**04 34 53.7**	**-2.9**

KRSC 04 04:57:37.8±10.0,49°.38N×156°.74E,h37km±10km,ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.37**	**343**	*e*P	Pn	04 58 01.7	+1.4
SKR				*e*S	Sn	04 58 18.8	+1.7
ALID	**Alaid**	**1.68**	**333**	*e*P	Pn	04 58 06.0	+1.3
ALID				*e*S	Sn	04 58 26.5	+1.5
PAU	**Pauzhetka**	**2.09**	**1**	*e*P	Pn	04 58 13.0	+2.8
PAU				*e*S	Sn	04 58 38.2	+3.2
KDTR	**Khodutka, Kamc**	**2.58**	**19**	*e*P	Pn	04 58 20.1	+3.2
KDTR				*e*S	Sn	04 58 50.9	+3.9
MTVR	**Mutnovka**	**3.24**	**16**	*e*P	Pn	04 58 30.1	+4.0
RUS	**Russkaya**	**3.26**	**19**	*e*P	Pn	04 58 29.3	+3.1
KRMR	**Karymshinskiy**	**3.57**	**14**	*e*P	Pn	04 58 35.3	+4.8
DALK	**Dalny**	**3.87**	**18**	*e*P	Pn	04 58 38.8	+4.2
UGLR	**Uglovaya**	**4.05**	**18**	*e*P	Pn	04 58 41.4	+4.1
AVH	**Avacha**	**4.09**	**17**	*e*P	Pn	04 58 42.3	+4.6
KOK	**Koryaka**	**4.10**	**16**	*e*P	Pn	04 58 42.7	+4.8
SMAR	**Somma**	**4.10**	**18**	*e*P	Pn	04 58 42.9	+4.9
KRER	**Koryakskii**	**4.13**	**17**	*e*P	Pn	04 58 43.0	+4.6
SDLR	**Sedlovina**	**4.13**	**18**	*e*P	Pn	04 58 41.8	+3.5

PGC 04 05:05:15.2±2.4,48°.75N×129°.91W,h10km,MLSn2.9/23, Mw3.5/23,Mw3.5/23,281km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**0.97**	**146**	P	Pg	05 05 31.9	-1.8
BPBC	**Brooks Peninsu**	**1.98**	**44**	Pn	Pn	05 05 46.7	-2.1
EDB	**Eliza Dome**	**2.14**	**57**	Pn	Pn	05 05 48.9	-2.1
EDB				Sn	Sn	05 06 12.6	-5.0
HOLB	**Holberg**	**2.21**	**31**	Pn	Pn	05 05 50.3	-1.7
HOLB				Sn	Sn	05 06 15.1	-4.3
ETB	**Estevan Point**	**2.30**	**73**	Pn	Pn	05 05 52.9	-0.3
PACB	**Port Alice, BC**	**2.30**	**42**	Pn	Pn	05 05 51.2	-2.0
PACB				Sn	Sn	05 06 16.5	-5.0
NTKA	**Nootka**	**2.32**	**67**	Pn	Pn	05 05 51.5	-1.9
NTKA				Sn	Sn	05 06 14.7	-7.2
MAYB	**Maynard**	**2.43**	**46**	Pn	Pn	05 05 53.1	-1.9
MAYB				Sn	Sn	05 06 20.5	-4.4
PHC	**Port Hardy**	**2.53**	**38**	Pn	Pn	05 05 55.9	-0.4
PHC				Sn	Sn	05 06 22.4	-4.8
PHC				Sg	Sb	05 06 25.1	-6.8
TOFB	**Tofino**	**2.67**	**80**	Pn	Pn	05 05 54.8	-3.3
TOFB				Sn	Sn	05 06 26.3	-4.2
TLCB	**Telegraph Cove**	**2.68**	**47**	Pn	Pn	05 05 57.2	-1.2
TLCB				Sn	Sn	05 06 27.1	-3.9
GDR	**Gold River**	**2.74**	**66**	Pn	Pn	05 05 57.0	-2.2
GDR				Sn	Sn	05 06 29.5	-2.8
BTB	**Buttle Lake**	**2.97**	**74**	Pn	Pn	05 06 01.4	-1.1
BTB				Sn	Sn	05 06 34.9	-3.4
B928	**Bamfield**	**3.16**	**87**	Pn	Pn	05 06 03.6	-1.3
B928				Sn	Sn	05 06 38.6	-3.9
CBB	**Campbell River**	**3.23**	**65**	Pn	Pn	05 06 05.0	-0.9
CBB				Sn	Sn	05 06 41.7	-2.8
MGB	**Mount Grey**	**3.45**	**84**	Pn	Pn	05 06 08.2	-0.9
MGB				Sn	Sn	05 06 46.0	-4.0
BBB	**Bella Bella**	**3.62**	**18**	Pn	Pn	05 06 10.2	-1.1
PFB	**Port Renfrew**	**3.63**	**91**	Pn	Pn	05 06 11.3	-0.1
PFB				Sn	Sn	05 06 50.4	-3.9
TXB	**Texada**	**3.71**	**73**	Pn	Pn	05 06 11.7	-0.8
TXB				Sn	Sn	05 06 53.9	-2.4
YOUB	**Youbou, Lake C**	**3.73**	**86**	Pn	Pn	05 06 11.5	-1.4
YOUB				Sn	Sn	05 06 53.9	-3.0
B926	**Mesachie Lake**	**3.82**	**87**	Pn	Pn	05 06 13.8	-0.2
B926				Sn	Sn	05 06 55.6	-3.3
NLLB	**Nanaimo Lost L**	**3.93**	**81**	Pn	Pn	05 06 15.5	0.0
NLLB				Sn	Sn	05 06 60.0	-1.6
LZB	**Mount Lazard**	**4.03**	**90**	Pn	Pn	05 06 16.0	-1.0
LZB				Sn	Sn	05 07 00.5	-3.9
SHB	**Sechelt**	**4.05**	**76**	Pn	Pn	05 06 16.9	-0.3
SHB				Sn	Sn	05 07 02.6	-2.1
B009	**North Saanich**	**4.28**	**89**	Sn	Sn	05 07 07.0	-3.2
B010	**North Saanich**	**4.28**	**89**	Sn	Sn	05 07 06.8	-3.4
PGC	**Sidney**	**4.28**	**89**	Sn	Sn	05 07 05.7	-4.5
B011	**North Saanich**	**4.28**	**89**	Sn	Sn	05 07 06.9	-3.3
VGZ	**Gonzales**	**4.38**	**92**	Sn	Sn	05 07 08.9	-3.9
BLN	**Blyn Mountain**	**4.68**	**97**	Pn	Pn	05 06 26.5	+0.6
HDW	**Hoodsport**	**4.71**	**101**	Pn	Pn	05 06 28.8	+2.4
WSLR	**Whistler**	**4.76**	**71**	Pn	Pn	05 06 28.4	+1.4
VDB	**Vedder Mountai**	**5.16**	**84**	Pn	Pn	05 06 33.2	+0.8
MBW	**Mount Baker**	**5.29**	**87**	Pn	Pn	05 06 35.7	+1.2
MBW				Sn	Sn	05 07 35.4	-0.2
LLLB	**Lillooet**	**5.53**	**67**	Pn	Pn	05 06 38.6	+1.0
UBRB	**Upper Baezaeko**	**5.55**	**39**	Pn	Pn	05 06 39.5	+1.6
FMW	**Mount Fremont**	**5.83**	**105**	Pn	Pn	05 06 42.2	+0.3
LTY	**Liberty**	**6.38**	**100**	Pn	Pn	05 06 51.1	+1.9
FSB	**Fort Saint Jam**	**6.70**	**29**	Pn	Pn	05 06 54.4	+0.8

*IDC **04** 05:11:05.4±0.7,44°.69N×11°.65E,h0km,mb3.7/10, mb1 3.8/19,mb1mx3.7/50,mbtmp3.6/19,ML3.7/9,MS2.8/4, Ms1 2.8/4,ms1mx2.5/40, Error ellipse: s-maj=16.6km s-min=11.8km az=126.0*
*ROM **04** 05:11:06.3±0.2,44°.869N±0°.004×11°.52E±0°.01, h11km,ML3.8/110, Error ellipse: s-maj=0.8km s-min=0.3km az=80.0*
*PRU **04** 05:11:07.9±0.0,44°.81N×11°.74E,h0km*
*ZUR **04** 05:11:08.3,44°.86N×11°.37E,h13km±4km,MLh3.7/21, Error ellipse: s-maj=9.5km s-min=2.1km az=180.0*
*NEIC **04** 05:11:08.0±0.0,44°.87N×11°.45E,h8km,ML3.8(ROM), After ROM.*
*NEIC Felt at Argelato, Bologna and Ferrara

FERS	**Ferrara-Casagl**	**0.13 78**	S	**Sg**	**05 11 12.6 -1.0**
SERM	**Sermide**	**0.14 339**	P	**Pg**	**05 11 12.3 +0.7**
SERM			S	**Sb**	**05 11 17.0 +1.5**
SERM			AML	AML	
	comp=E,16450µm,0.5s				
SERM			AML	AML	
	comp=N,18700µm,0.6s				
SERM			AML	AML	
	comp=E,22950µm,0.5s				
SERM			AML	AML	
	comp=N,29000µm,0.6s				
SERM			AML	AML	
	comp=E,16450µm,0.5s				
SERM			AML	AML	
	comp=N,18700µm,0.6s				
SERM			AML	AML	
	comp=E,23000µm,0.5s				
SERM			AML	AML	
	comp=N,28950µm,0.6s				
SERM			AML	AML	
	comp=E,16450µm,0.5s				
SERM			AML	AML	
	comp=N,18750µm,0.6s				
SERM			AML	AML	
	comp=E,22950µm,0.5s				
SERM			AML	AML	
	comp=N,28950µm,0.6s				
SERM			AML	AML	
	comp=N,18750µm,0.6s				
SERM			AML	AML	
	comp=N,28950µm,0.6s				
SERM			AML	AML	
	comp=E,16450µm,0.5s				
SERM			AML	AML	
	comp=E,22950µm,0.5s				
SERM	**Sermide**	**0.14 339**	P	**Pg**	**05 11 12.3 +0.7**
FIU	**Minerbio Fiu**	**0.25 159**	P	**Pg**	**05 11 12.5 -0.8**
FIU	**Minerbio Fiu**	**0.25 159**	P	**Pg**	**05 11 12.6 -0.8**
FIU	**Minerbio Fiu**	**0.25 159**	P	**Pg**	**05 11 12.6 -0.8**
FIU			S	**Sg**	**05 11 17.4 +0.5**
FIU			AML	AML	
FIU			AML	AML	
FIU			AML	AML	
FIU			AML	AML	
FIU			AML	AML	
FIU			AML	AML	
FIU			AML	AML	
FIU			AML	AML	
FIU	**Minerbio Fiu**	**0.25 159**	S	**Sg**	**05 11 17.4 +0.5**
CAVE	**Cavezzo**	**0.26 268**	P	**Pg**	**05 11 13.7 +0.4**
CAVE			AML	AML	
	comp=E,18400µm,0.5s				
CAVE			AML	AML	
	comp=N,16750µm,0.6s				
CAVE			AML	AML	
	comp=E,18400µm,0.5s				
CAVE			AML	AML	
	comp=N,16750µm,0.6s				
CAVE			AML	AML	
	comp=N,16750µm,0.6s				
CAVE			AML	AML	
	comp=E,18400µm,0.5s				
CAVE	**Cavezzo**	**0.26 268**	P	**Pg**	**05 11 13.8 +0.4**
GAZZ	**Gazzo Veronese**	**0.31 321⇑**	*e*Pg	**Pb**	**05 11 16.1 +0.9**
GAZZ			*e*Sg	**Sn**	**05 11 23.0 -1.4**
NDIM	**Novi di Modena**	**0.33 272**	P	**Pg**	**05 11 15.2 +0.5**
NDIM			AML	AML	
	comp=E,15550µm,0.4s				
NDIM			AML	AML	
	comp=N,10935µm,0.3s				
NDIM			AML	AML	
	comp=E,15550µm,0.4s				
NDIM			AML	AML	
	comp=N,10945µm,0.3s				
NDIM			AML	AML	
	comp=E,15550µm,0.4s				
NDIM			AML	AML	
	comp=N,10960µm,0.3s				
NDIM			AML	AML	
	comp=N,10960µm,0.3s				
NDIM			AML	AML	
	comp=E,15550µm,0.4s				
NDIM	**Novi di Modena**	**0.33 272**	P	**Pg**	**05 11 15.2 +0.5**
NDIM	**Novi di Modena**	**0.33 272**	P	**Pn**	**05 11 17.2 -1.2**
SBPO	**S.Benedetto Po**	**0.36 299**	P	**Pn**	**05 11 18.1 -0.7**
MODE	**Modena**	**0.39 231**	P	**Pb**	**05 11 17.0 +0.4**
CMPO	**Campotto Po**	**0.43 133**	P	**Pg**	**05 11 15.8 -0.7**
NOVE	**Novellara**	**0.47 261**	P	**Pn**	**05 11 19.3 -1.0**
NOVE			S	**Sn**	**05 11 28.6 +0.2**
NOVE			AML	AML	
	comp=E,8690µm,0.5s				
NOVE			AML	AML	
	comp=N,9685µm,0.6s				
NOVE			AML	AML	
	comp=E,8695µm,0.5s				
NOVE			AML	AML	
	comp=N,9680µm,0.6s				
NOVE			AML	AML	
	comp=E,8695µm,0.5s				
NOVE			AML	AML	
	comp=N,9670µm,0.6s				
NOVE			AML	AML	
	comp=N,9670µm,0.6s				
NOVE			AML	AML	
	comp=E,8695µm,0.5s				
NOVE	**Novellara**	**0.47 261**	P	**Pn**	**05 11 19.5 -0.8**
NOVE	**Novellara**	**0.47 261**	S	**Sn**	**05 11 28.6 +0.2**
ADRI	**Adria, Italy**	**0.49 70⇓**	*e*Pg	**Pg**	**05 11 18.2 +0.7**
ADRI			*e*Sg	**Sn**	**05 11 28.1 -0.8**
MTRZ	**Monterenzio**	**0.51 172**	P	**Pn**	**05 11 19.6 -1.2**
MTRZ			AML	AML	
	comp=E,18700µm,0.5s				
MTRZ			AML	AML	
	comp=N,19150µm,0.9s				
MTRZ			AML	AML	
	comp=E,19450µm,0.5s				
MTRZ			AML	AML	
	comp=N,19450µm,0.9s				
MTRZ			AML	AML	
	comp=E,18700µm,0.5s				
MTRZ			AML	AML	
	comp=N,19200µm,0.9s				
MTRZ			AML	AML	
	comp=E,19450µm,0.5s				
MTRZ			AML	AML	
	comp=N,19450µm,0.9s				
MTRZ			AML	AML	
	comp=E,18700µm,0.5s				
MTRZ			AML	AML	
	comp=N,19150µm,0.9s				
MTRZ			AML	AML	
	comp=E,19450µm,0.5s				
MTRZ			AML	AML	
	comp=N,19450µm,0.9s				
MTRZ			AML	AML	
	comp=N,19450µm,0.9s				
MTRZ			AML	AML	
	comp=E,18700µm,0.5s				
MTRZ			AML	AML	
	comp=E,19450µm,0.5s				
MTRZ			AML	AML	
	comp=N,19150µm,0.9s				
MTRZ	**Monterenzio**	**0.51 172**	P	**Pn**	**05 11 19.8 -1.0**
MTRZ	**Monterenzio**	**0.51 172**	S	**Sn**	**05 11 27.9 -1.5**
TEOL	**Teolo**	**0.53 24⇓**	*e*Pg	**Pg**	**05 11 18.9 +0.5**
TEOL	**Teolo**	**0.53 24**	P	**Pg**	**05 11 18.7 +0.4**
TEOL			AML	AML	
	comp=E,22600µm,0.8s				
TEOL			AML	AML	
	comp=N,17350µm,0.7s				
TEOL			AML	AML	
	comp=E,22600µm,0.8s				
TEOL			AML	AML	
	comp=N,17350µm,0.7s				
TEOL			AML	AML	
	comp=E,22600µm,0.8s				
TEOL			AML	AML	
	comp=N,17350µm,0.7s				
TEOL			AML	AML	
	comp=E,22600µm,0.8s				
TEOL			AML	AML	
	comp=N,17350µm,0.7s				
TEOL	**Teolo**	**0.53 24**	P	**Pg**	**05 11 18.8 +0.4**
TEOL	**Teolo**	**0.53 24**	P	**Pg**	**05 11 18.9 +0.5**
IMOL	**Imola, Italy**	**0.58 152**	P	**Pn**	**05 11 21.3 -0.6**
ZOVE	**Zovencedo**	**0.58 8**	P	**Pg**	**05 11 20.2 +0.8**
ZOVE			S	**Sb**	**05 11 29.8 +1.6**
ZOVE			AML	AML	
	comp=E,8775µm,0.4s				
ZOVE			AML	AML	
	comp=N,8315µm,0.3s				
ZOVE			AML	AML	
	comp=N,8315µm,0.3s				
ZOVE			AML	AML	
	comp=E,8775µm,0.4s				
ZOVE	**Zovencedo**	**0.58 8**	P	**Pg**	**05 11 20.2 +0.8**
ZOVE	**Zovencedo**	**0.58 8**	P	**Pn**	**05 11 22.1 +0.2**
ZOVE	**Zovencedo**	**0.58 8**	S	**Sb**	**05 11 29.9 +1.8**
ZCCA	**Zocca**	**0.59 208**	P	**Pn**	**05 11 21.3 -0.7**
ZCCA			AML	AML	
	comp=E,6200µm,0.8s				
ZCCA			AML	AML	
	comp=N,8985µm,1.6s				
ZCCA			AML	AML	
	comp=E,6250µm,0.8s				
ZCCA			AML	AML	
	comp=N,9345µm,1.6s				
ZCCA			AML	AML	
	comp=E,6200µm,0.8s				
ZCCA			AML	AML	
	comp=N,8985µm,1.6s				
ZCCA			AML	AML	
	comp=E,6250µm,0.8s				
ZCCA			AML	AML	
	comp=N,9345µm,1.6s				
ZCCA			AML	AML	
	comp=E,6200µm,0.8s				
ZCCA			AML	AML	
	comp=N,8985µm,1.6s				
ZCCA			AML	AML	
	comp=E,6250µm,0.8s				
ZCCA			AML	AML	
	comp=N,9345µm,1.6s				
ZCCA			AML	AML	
	comp=E,6200µm,0.8s				
ZCCA			AML	AML	
	comp=N,8985µm,1.6s				
ZCCA			AML	AML	
	comp=N,9345µm,1.6s				
ZCCA			AML	AML	
	comp=E,6200µm,0.8s				
ZCCA			AML	AML	
	comp=E,6250µm,0.8s				
ZCCA	**Zocca**	**0.59 208**	P	**Pn**	**05 11 21.4 -0.7**
FNVD	**Fontana Vidola**	**0.73 194**	P	**Pb**	**05 11 22.5 0.0**
FNVD			AML	AML	
	comp=E,5900µm,0.9s				
FNVD			AML	AML	
	comp=N,6095µm,1.4s				
FNVD			AML	AML	
	comp=E,5900µm,0.9s				
FNVD			AML	AML	
	comp=N,6095µm,1.4s				
FNVD			AML	AML	
	comp=E,5900µm,0.9s				
FNVD			AML	AML	
	comp=N,6095µm,1.4s				
FNVD	**Fontana Vidola**	**0.73 194**	P	**Pb**	**05 11 22.6 +0.1**
FNVD	**Fontana Vidola**	**0.73 194**	P	**Pb**	**05 11 22.8 +0.3**
PRMA	**PARMA**	**0.76 262**	P	**Pn**	**05 11 24.4 +0.1**
PRMA	**PARMA**	**0.76 262**	P	**Pn**	**05 11 24.7 +0.4**
PRMA			AML	AML	
	comp=E,3790µm,0.3s				
PRMA			AML	AML	
	comp=N,4650µm,0.8s				
PRMA			AML	AML	
	comp=E,3790µm,0.3s				
PRMA			AML	AML	
	comp=N,4650µm,0.8s				
PRMA			AML	AML	
	comp=E,3790µm,0.3s				
PRMA			AML	AML	
	comp=N,4650µm,0.8s				
PRMA	**PARMA**	**0.76 262**	P	**Pn**	**05 11 24.8 +0.5**
MARN	**Marana (Italy)**	**0.77 352**	*e*Pg	**Pg**	**05 11 24.0 +1.1**
MARN			*e*Sg	**Sn**	**05 11 35.8 -0.2**
ROVR	**Rover Verones**	**0.80 345**	P	**Pb**	**05 11 24.0 +0.2**
MTCR	**Monte La Croce**	**0.89 197**	P	**Pb**	**05 11 24.4 -0.9**
MTCR	**Monte La Croce**	**0.89 197**	P	**Pn**	**05 11 25.7 -0.5**
MTCR	**Monte La Croce**	**0.89 197**	P	**Pn**	**05 11 25.8 -0.5**
MTCR			AML	AML	
	comp=E,4370µm,0.3s				
MTCR			AML	AML	
	comp=N,6440µm,0.7s				
MTCR			AML	AML	
	comp=E,4370µm,0.3s				
MTCR			AML	AML	
	comp=N,6440µm,0.7s				
POPM	**Popiglio**	**0.94 208**	P	**Pb**	**05 11 25.9 -0.1**
POPM			S	**Sn**	**05 11 40.3 +0.2**
POPM	**Popiglio**	**0.94 208**	P	**Pb**	**05 11 25.9 -0.1**
POPM	**Popiglio**	**0.94 208**	P	**Pb**	**05 11 26.0 -0.1**
POPM			AML	AML	
	comp=E,4680µm,0.7s				
POPM			AML	AML	
	comp=N,5755µm,0.3s				
POPM			AML	AML	
	comp=E,4680µm,0.7s				
POPM			AML	AML	
	comp=N,5755µm,0.3s				
POPM	**Popiglio**	**0.94 208**	P	**Pn**	**05 11 26.9 +0.1**
PTF	**Prato**	**0.94 193**	P	**Pn**	**05 11 26.6 -0.2**
PTF	**Prato**	**0.94 193**	P	**Pn**	**05 11 26.6 -0.2**
SARO	**Sassorosso**	**0.98 225**	P	**Pn**	**05 11 27.2 -0.1**
SARO			S	**Sn**	**05 11 44.5 +3.3**
SARO	**Sassorosso**	**0.98 225**	P	**Pn**	**05 11 27.3 -0.1**
SARO			AML	AML	
	comp=E,2870µm,0.5s				
SARO			AML	AML	
	comp=N,2715µm,0.5s				
SARO			AML	AML	
	comp=E,2870µm,0.5s				
SARO			AML	AML	
	comp=N,2715µm,0.5s				
SARO			AML	AML	
	comp=E,2870µm,0.5s				
SARO			AML	AML	
	comp=N,2715µm,0.5s				
SARO	**Sassorosso**	**0.98 225**	P	**Pn**	**05 11 27.6 +0.2**
SARO	**Sassorosso**	**0.98 225**	P	**Pn**	**05 11 28.3 +0.9**
VLC	**Villacollemand**	**1.00 225**	*e*Pn	**Pn**	**05 11 28.8 +1.1**
VLC	**Villacollemand**	**1.00 225**	P	**Pn**	**05 11 28.9 +1.1**
VLC			AML	AML	
	comp=E,1930µm,0.9s				
VLC			AML	AML	
	comp=N,1780µm,1.0s				
VLC			AML	AML	
	comp=E,1920µm,0.9s				
VLC			AML	AML	
	comp=N,1695µm,1.0s				
VLC			AML	AML	
	comp=E,1930µm,0.9s				
VLC			AML	AML	
	comp=N,1780µm,1.0s				
VLC			AML	AML	
	comp=E,1920µm,0.9s				
VLC			AML	AML	
	comp=N,1695µm,1.0s				
VLC			AML	AML	
	comp=E,1930µm,0.9s				
VLC			AML	AML	
	comp=N,1695µm,1.0s				
VLC	**Villacollemand**	**1.00 225**	P	**Pn**	**05 11 28.9 +1.1**
GRAM	**Graiana**	**1.00 248**	P	**Pn**	**05 11 28.6 +0.8**
GRAM			S	**Sn**	**05 11 45.1 +3.3**
GRAM	**Graiana**	**1.00 248**	P	**Pn**	**05 11 28.5 +0.8**
GRAM			AML	AML	
	comp=E,7045µm,0.4s				
GRAM			AML	AML	
	comp=N,5745µm,1.2s				
GRAM			AML	AML	
	comp=E,7045µm,0.4s				
GRAM			AML	AML	
	comp=N,5745µm,1.2s				
GRAM			AML	AML	
	comp=E,7045µm,0.4s				
GRAM			AML	AML	
	comp=N,5745µm,1.2s				
GRAM	**Graiana**	**1.00 248**	P	**Pn**	**05 11 28.6 +0.8**
DOSS	**Dosso del Somm**	**1.01 353**	*e*Pg	**Pg**	**05 11 28.4 +0.9**
DOSS			*e*Sg	**Sn**	**05 11 42.9 +0.7**
SFI	**Santa Sofia**	**1.03 160**	P	**Pb**	**05 11 27.4 -0.2**
SFI			AML	AML	
	comp=E,5210µm,0.6s				
SFI			AML	AML	
	comp=N,5575µm,0.5s				
SFI			AML	AML	
	comp=E,5525µm,0.4s				
SFI			AML	AML	
	comp=N,6415µm,0.5s				
SFI			AML	AML	
	comp=E,5215µm,0.5s				
SFI			AML	AML	
	comp=N,5575µm,0.5s				
SFI			AML	AML	
	comp=E,5530µm,0.4s				
SFI			AML	AML	
	comp=N,6415µm,0.5s				
SFI			AML	AML	
	comp=E,5530µm,0.4s				
SFI			AML	AML	
	comp=E,5215µm,0.5s				
SFI			AML	AML	
	comp=N,6415µm,0.5s				
SFI			AML	AML	
	comp=N,5575µm,0.5s				
SFI	**Santa Sofia**	**1.03 160**	P	**Pb**	**05 11 27.5 -0.2**
MAGA	**Magasa**	**1.04 330**	P	**Pn**	**05 11 28.4 +0.1**
MAGA	**Magasa**	**1.04 330**	P	**Pg**	**05 11 29.0 +1.0**
MAGA			AML	AML	
	comp=E,30200µm,0.5s				
MAGA			AML	AML	
	comp=N,23950µm,0.5s				
MAGA			AML	AML	
	comp=E,30200µm,0.5s				
MAGA			AML	AML	
	comp=N,23950µm,0.5s				
MAGA			AML	AML	
	comp=E,30200µm,0.5s				
MAGA			AML	AML	
	comp=N,23950µm,0.5s				
MAGA	**Magasa**	**1.04 330**	P	**Pg**	**05 11 29.0 +1.0**
MAGA	**Magasa**	**1.04 330**	S	**Sn**	**05 11 46.0 +3.3**
RUFI	**Rufina**	**1.04 174**	P	**Pg**	**05 11 28.5 +0.5**
RUFI			AML	AML	
	comp=E,6645µm,0.5s				
RUFI			AML	AML	
	comp=N,7670µm,0.9s				
RUFI			AML	AML	
	comp=E,6645µm,0.5s				
RUFI			AML	AML	
	comp=N,7665µm,0.9s				
RUFI			AML	AML	
	comp=E,6645µm,0.5s				
RUFI			AML	AML	
	comp=N,7665µm,0.9s				
RUFI	**Rufina**	**1.04 174**	P	**Pg**	**05 11 28.6 +0.6**
CGRP	**Cima Grappa**	**1.05 17⇓**	*e*Pg	**Pg**	**05 11 28.9 +0.7**
CGRP			*e*Sg	**Sn**	**05 11 43.5 +0.4**
CGRP	**Cima Grappa**	**1.05 17 ⇓**	Pn	**Pb**	**05 11 28.2 +0.2**
CGRP	**Cima Grappa**	**1.05 17**	*e*P	**Pb**	**05 11 28.2 +0.2**
CGRP			AML	AML	
	comp=E,5420µm,1.0s				
CGRP			AML	AML	
	comp=N,6295µm,0.7s				
CGRP			AML	AML	
	comp=E,5420µm,1.0s				
CGRP			AML	AML	
	comp=N,6295µm,0.7s				
CGRP			AML	AML	
	comp=E,5420µm,1.0s				
CGRP			AML	AML	
	comp=N,6295µm,0.7s				
CGRP	**Cima Grappa**	**1.05 17**	P	**Pb**	**05 11 28.2 +0.2**
CGRP	**Cima Grappa**	**1.05 17**	P	**Pb**	**05 11 28.2 +0.2**
IESO	**Jesolo**	**1.05 52⇑**	*e*Pg	**Pg**	**05 11 29.1 +0.8**
CARD	**Cardoso**	**1.06 217**	P	**Pg**	**05 11 29.6 +1.3**
CARD			S	**Sn**	**05 11 45.1 +2.0**
CARD	**Cardoso**	**1.06 217**	P	**Pg**	**05 11 29.6 +1.3**
CARD			AML	AML	
	comp=E,5100µm,1.0s				
CARD			AML	AML	
	comp=N,6520µm,0.8s				
CARD			AML	AML	
	comp=E,5095µm,1.0s				
CARD			AML	AML	
	comp=N,6520µm,0.8s				
CARD			AML	AML	
	comp=E,5095µm,1.0s				
CARD			AML	AML	
	comp=N,6520µm,0.8s				
CARD	**Cardoso**	**1.06 217**	P	**Pg**	**05 11 29.7 +1.3**
MTLO	**Montello**	**1.07 29⇑**	*e*Pg	**Pg**	**05 11 29.1 +0.5**
MTLO			*e*Sg	**Sg**	**05 11 45.9 +3.4**
MAIM	**Mastiano**	**1.15 213**	P	**Pg**	**05 11 30.2 +0.1**
MAIM			S	**Sg**	**05 11 48.9 +3.9**
MAIM	**Mastiano**	**1.15 213**	P	**Pg**	**05 11 30.7 +0.6**
MAIM			AML	AML	
	comp=E,3800µm,1.2s				
MAIM			AML	AML	
	comp=N,5355µm,1.0s				
MAIM			AML	AML	
	comp=E,3800µm,1.2s				
MAIM			AML	AML	
	comp=N,5355µm,1.0s				
MAIM			AML	AML	
	comp=E,3800µm,1.2s				
MAIM			AML	AML	
	comp=N,5355µm,1.0s				
MAIM	**Mastiano**	**1.15 213**	P	**Pg**	**05 11 30.7 +0.6**
CTI	**Castel Tesino**	**1.19 10**	*e*P	**Pn**	**05 11 30.4 +0.2**
CTI			S	**Sg**	**05 11 47.8 +1.4**
CTI			AML	AML	
	comp=E,6205µm,1.6s				
CTI			AML	AML	
	comp=N,6380µm,0.3s				
CTI			AML	AML	
	comp=E,6205µm,1.6s				
CTI			AML	AML	
	comp=N,6380µm,0.3s				
CTI			AML	AML	
	comp=N,6380µm,0.3s				
CTI			AML	AML	
	comp=E,6205µm,1.6s				
CTI	**Castel Tesino**	**1.19 10**	P	**Pn**	**05 11 30.5 +0.2**
CTI	**Castel Tesino**	**1.19 10**	P	**Pn**	**05 11 30.6 +0.3**
CTI	**Castel Tesino**	**1.19 10**	S	**Sg**	**05 11 49.0 +2.6**
CTL8	**Castelleone**	**1.21 290**	P	**Pg**	**05 11 33.6 +2.5**
CTL8			AML	AML	
	comp=E,7690µm,1.0s				
CTL8			AML	AML	
	comp=N,12650µm,0.7s				
CTL8			AML	AML	
	comp=E,2665µm,0.5s				
CTL8			AML	AML	
	comp=N,2810µm,1.1s				
CTL8			AML	AML	
	comp=E,2665µm,0.5s				
CTL8			AML	AML	
	comp=E,7690µm,1.0s				
CTL8			AML	AML	
	comp=N,2810µm,1.1s				
CTL8			AML	AML	
	comp=N,12650µm,0.7s				
CTL8	**Castelleone**	**1.21 290**	P	**Pg**	**05 11 33.9 +2.7**
RSM	**Repubblica di**	**1.22 140**	P	**Pg**	**05 11 32.3 +0.8**
RSM	**Repubblica di**	**1.22 140**	P	**Pg**	**05 11 32.5 +1.0**
RSM	**Repubblica di**	**1.22 140**	AML	AML	
	comp=N,7040µm,0.8s				
RSM			AML	AML	
	comp=E,4725µm,0.9s				
RSM			AML	AML	
	comp=N,7040µm,0.8s				
RSM			AML	AML	
	comp=E,4725µm,0.9s				
CPGN	**Carpegna, Ital**	**1.27 147**	P	**Pg**	**05 11 32.8 +0.3**
CPGN	**Carpegna, Ital**	**1.27 147**	AML	AML	
	comp=E,6120µm,1.0s				
CPGN			AML	AML	
	comp=E,6645µm,1.0s				
CPGN			AML	AML	
	comp=N,4360µm,0.9s				
CPGN			AML	AML	
	comp=N,4655µm,0.9s				
CPGN			AML	AML	
	comp=N,4655µm,0.9s				

CPGN			AML	AML	
	comp=N,4360µm,0.9s				
CPGN			AML	AML	
	comp=E,6645µm,1.0s				
CPGN			AML	AML	
	comp=E,6120µm,1.0s				
MABI	**Malga Bissina**	**1.32 333**	⇓Pn	**Pb**	**05 11 33.1 +0.4**
MABI			Sn	**Sg**	**05 11 51.0 +0.3**
MABI	**Malga Bissina**	**1.32 333**	P	**Pb**	**05 11 33.3 +0.6**
MABI			AML	AML	
	comp=E,1043µm,0.9s				
MABI			AML	AML	
	comp=N,972µm,1.3s				
MABI			AML	AML	
	comp=E,1043µm,0.9s				
MABI			AML	AML	
	comp=N,972µm,1.3s				
MABI			AML	AML	
	comp=E,1043µm,0.9s				
MABI			AML	AML	
	comp=N,972µm,1.3s				
MABI	**Malga Bissina**	**1.32 333**	P	**Pg**	**05 11 33.8 +0.4**
CRE	**Caprese Michel**	**1.32 161**	P	**Pb**	**05 11 32.9 +0.2**
CRE			AML	AML	
	comp=E,3590µm,1.6s				
CRE			AML	AML	
	comp=N,3400µm,0.9s				
CRE			AML	AML	
	comp=E,3585µm,1.6s				
CRE			AML	AML	
	comp=N,3400µm,0.9s				
CRE			AML	AML	
	comp=E,3585µm,1.6s				
CRE			AML	AML	
	comp=N,3400µm,0.9s				
CRE	**Caprese Michel**	**1.32 161**	P	**Pb**	**05 11 33.0 +0.2**
OSSC	**Osservatorio P**	**1.35 184**	P	**Pb**	**05 11 33.0 -0.1**
OSSC	**Osservatorio P**	**1.35 184**	P	**Pb**	**05 11 33.2 +0.1**
PLMA	**Palmaria, Port**	**1.36 233**	P	**Pg**	**05 11 34.3 +0.2**
PLMA			AML	AML	
	comp=E,1860µm,0.6s				
PLMA			AML	AML	
	comp=N,3330µm,0.7s				
PLMA			AML	AML	
	comp=E,1860µm,0.6s				
PLMA			AML	AML	
	comp=N,3330µm,0.7s				
PLMA			AML	AML	
	comp=E,1860µm,0.6s				
PLMA			AML	AML	
	comp=N,3330µm,0.7s				
PLMA	**Palmaria, Port**	**1.36 233**	P	**Pg**	**05 11 34.4 +0.2**
PLMA	**Palmaria, Port**	**1.36 233**	S	**Sg**	**05 11 55.0 +3.1**
BOB	**Bobbio (Coli)**	**1.37 266**	⇑Pn	**Pg**	**05 11 35.1 +0.8**
BOB	**Bobbio (Coli)**	**1.37 266**	P	**Pg**	**05 11 35.1 +0.8**
BOB			AML	AML	
	comp=E,2410µm,1.3s				
BOB			AML	AML	
	comp=N,2830µm,1.2s				
BOB			AML	AML	
	comp=E,2655µm,1.2s				
BOB			AML	AML	
	comp=N,2915µm,0.8s				
BOB			AML	AML	
	comp=N,2915µm,0.8s				
BOB			AML	AML	
	comp=N,2830µm,1.2s				
BOB			AML	AML	
	comp=E,2410µm,1.3s				
BOB			AML	AML	
	comp=E,2655µm,1.2s				
BOB	**Bobbio (Coli)**	**1.37 266**	P	**Pg**	**05 11 35.1 +0.8**
PARC	**Parchiule**	**1.38 153**	P	**Pb**	**05 11 33.4 -0.2**
PARC			AML	AML	
	comp=E,1850µm,1.3s				
PARC			AML	AML	
	comp=N,2115µm,0.7s				
PARC			AML	AML	
	comp=E,1850µm,1.3s				
PARC			AML	AML	
	comp=N,2115µm,0.7s				
PARC			AML	AML	
	comp=N,2115µm,0.7s				
PARC			AML	AML	
	comp=E,1850µm,1.3s				
PARC	**Parchiule**	**1.38 153**	P	**Pb**	**05 11 33.5 0.0**
POLC	**Polcenigo**	**1.40 34**	P	**Pn**	**05 11 33.3 +0.2**
POLC			AML	AML	
	comp=E,5545µm,0.6s				
POLC			AML	AML	
	comp=N,8270µm,0.5s				
POLC			AML	AML	
	comp=E,5545µm,0.6s				
POLC			AML	AML	
	comp=N,8270µm,0.5s				
POLC	**Polcenigo**	**1.40 34**	P	**Pn**	**05 11 33.4 +0.2**
POLC	**Polcenigo**	**1.40 34**	S	**Sg**	**05 11 53.9 +0.8**
CSNT	**Castellina Chi**	**1.41 182**	*i* P	**Pb**	**05 11 33.7 -0.3**
CSNT			AML	AML	
	comp=E,1670µm,0.6s				
CSNT			AML	AML	
	comp=N,2335µm,0.8s				
CSNT			AML	AML	
	comp=E,1670µm,0.6s				
CSNT			AML	AML	
	comp=N,2335µm,0.8s				
CSNT	**Castellina Chi**	**1.41 182**	P	**Pb**	**05 11 33.8 -0.3**
PE3	**Peglio**	**1.43 145**	P	**Pn**	**05 11 33.8 +0.2**
PE3	**Peglio**	**1.43 145**	P	**Pb**	**05 11 34.5 +0.1**
PE3	**Peglio**	**1.43 145**	AML	AML	
	comp=N,8390µm,0.6s				
PE3			AML	AML	
	comp=E,7270µm,0.6s				
PE3			AML	AML	
	comp=N,8390µm,0.6s				
PE3			AML	AML	
	comp=E,7270µm,0.6s				
MSSA	**Maissana**	**1.44 248**	P	**Pg**	**05 11 36.2 +0.7**
MSSA			AML	AML	
	comp=E,2460µm,1.4s				
MSSA			AML	AML	
	comp=N,2000µm,0.8s				
MSSA			AML	AML	
	comp=E,2460µm,1.4s				
MSSA			AML	AML	
	comp=N,2000µm,0.8s				
MSSA	**Maissana**	**1.44 248**	P	**Pg**	**05 11 36.2 +0.7**
AGOR	**Agordo**	**1.48 19**	Pn	**Pn**	**05 11 34.9 +0.5**
AGOR	**Agordo**	**1.48 19**	P	**Pn**	**05 11 34.8 +0.5**
AGOR			AML	AML	
	comp=E,2265µm,0.5s				
AGOR			AML	AML	
	comp=N,1900µm,0.5s				
AGOR			AML	AML	
	comp=E,2265µm,0.5s				
AGOR			AML	AML	
	comp=N,1900µm,0.5s				
AGOR	**Agordo**	**1.48 19**	P	**Pg**	**05 11 36.6 +0.2**
GORR	**Gorreto**	**1.50 260**	P	**Pg**	**05 11 36.9 +0.1**
GORR			S	**Sg**	**05 11 58.6 +2.2**
GORR	**Gorreto**	**1.50 260**	P	**Pg**	**05 11 36.9 +0.1**
GORR	**Gorreto**	**1.50 260**	P	**Pg**	**05 11 37.0 +0.1**
BADI	**Badiali**	**1.50 155**	P	**Pb**	**05 11 36.0 +0.3**
BADI			AML	AML	
	comp=E,2100µm,0.6s				
BADI			AML	AML	
	comp=N,2105µm,0.8s				
BADI			AML	AML	
	comp=E,2100µm,0.6s				
BADI			AML	AML	
	comp=N,2105µm,0.8s				
BADI	**Badiali**	**1.50 155**	P	**Pb**	**05 11 36.1 +0.4**
NARO	**Abbazia di Nar**	**1.54 145**	P	**Pn**	**05 11 34.9 -0.1**
NARO			AML	AML	
	comp=E,1335µm,0.6s				
NARO			AML	AML	
	comp=N,1845µm,0.7s				
NARO			AML	AML	
	comp=N,1845µm,0.7s				
NARO			AML	AML	
	comp=E,1335µm,0.6s				
NARO	**Abbazia di Nar**	**1.54 145**	P	**Pb**	**05 11 35.4 -0.8**
FSSB	**Fossombrone**	**1.56 139**	P	**Pn**	**05 11 35.5 +0.1**
FSSB			AML	AML	
	comp=E,4920µm,0.5s				
FSSB			AML	AML	
	comp=N,5485µm,0.6s				
FSSB			AML	AML	
	comp=N,5485µm,0.6s				
FSSB			AML	AML	
	comp=E,4920µm,0.5s				
FSSB	**Fossombrone**	**1.56 139**	P	**Pn**	**05 11 35.7 +0.4**
PIEI	**Pieia**	**1.58 148**	P	**Pb**	**05 11 36.7 -0.3**
PIEI			AML	AML	
	comp=E,3225µm,0.4s				
PIEI			AML	AML	
	comp=N,1230µm,1.6s				
PIEI			AML	AML	
	comp=N,1230µm,1.6s				
PIEI			AML	AML	
	comp=E,3225µm,0.4s				
PIEI	**Pieia**	**1.58 148**	P	**Pb**	**05 11 36.8 -0.2**
PIEI	**Pieia**	**1.58 148**	S	**Sg**	**05 11 59.0 +0.1**
KOSI	**Kohlern**	**1.59 0**	⇓Pn	**Pb**	**05 11 37.1 -0.1**
KOSI	**Kohlern**	**1.59 0**	P	**Pb**	**05 11 37.1 -0.1**
KOSI			AML	AML	
	comp=E,4755µm,0.7s				
KOSI			AML	AML	
	comp=N,2775µm,0.5s				
KOSI			AML	AML	
	comp=N,2775µm,0.5s				
KOSI			AML	AML	
	comp=E,4755µm,0.7s				
KOSI	**Kohlern**	**1.59 0**	P	**Pb**	**05 11 37.1 -0.1**
MPAG	**Monte Paganucc**	**1.60 141**	P	**Pn**	**05 11 35.8 -0.1**
MPAG			AML	AML	
	comp=E,2070µm,0.8s				
MPAG			AML	AML	
	comp=N,2415µm,0.6s				
MPAG			AML	AML	
	comp=N,2415µm,0.6s				
MPAG			AML	AML	
	comp=E,2070µm,0.8s				
MPAG	**Monte Paganucc**	**1.60 141**	P	**Pn**	**05 11 35.9 -0.1**
APPI	**Appiano**	**1.60 357**	P	**Pb**	**05 11 37.4 -0.1**
APPI			AML	AML	
	comp=E,5540µm,0.8s				
APPI			AML	AML	
	comp=N,3850µm,0.6s				
APPI			AML	AML	
	comp=E,5540µm,0.8s				
APPI			AML	AML	
	comp=N,3850µm,0.6s				
APPI	**Appiano**	**1.60 357**	P	**Pb**	**05 11 37.5 0.0**
APPI	**Appiano**	**1.60 357**	S	**Sg**	**05 12 01.0 +1.3**
CAFI	**Castiglion Fio**	**1.61 164**	P	**Pn**	**05 11 36.4 +0.4**
CAFI			AML	AML	
	comp=E,1695µm,0.8s				
CAFI			AML	AML	
	comp=N,1415µm,0.8s				
CAFI			AML	AML	
	comp=N,1415µm,0.8s				
CAFI			AML	AML	
	comp=E,1695µm,0.8s				
CAFI	**Castiglion Fio**	**1.61 164**	P	**Pb**	**05 11 36.9 -0.5**
ATPI	**Pietralunga -**	**1.61 152**	P	**Pb**	**05 11 37.2 -0.2**
ATPI			AML	AML	
	comp=E,2315µm,0.8s				
ATPI			AML	AML	
	comp=N,2005µm,1.0s				
ATPI			AML	AML	
	comp=E,2315µm,0.8s				
ATPI			AML	AML	
	comp=N,2005µm,1.0s				
ATPI	**Pietralunga -**	**1.61 152**	P	**Pb**	**05 11 37.3 -0.2**
BOSI	**Bolzano**	**1.62 359**	P	**Pg**	**05 11 38.9 -0.1**
BOSI			AML	AML	
	comp=E,8890µm,0.6s				
BOSI			AML	AML	
	comp=N,9780µm,0.6s				
BOSI			AML	AML	
	comp=N,9780µm,0.6s				
BOSI			AML	AML	
	comp=E,8890µm,0.6s				
BOSI	**Bolzano**	**1.62 359**	P	**Pg**	**05 11 39.2 +0.1**
ATVO	**AVT- Monte Val**	**1.67 153**	P	**Pb**	**05 11 37.8 -0.8**
ATVO			AML	AML	
	comp=E,2635µm,1.1s				
ATVO			AML	AML	
	comp=N,2255µm,0.8s				
ATVO			AML	AML	
	comp=N,2255µm,0.8s				
ATVO			AML	AML	
	comp=E,2635µm,1.1s				
ATVO	**AVT- Monte Val**	**1.67 153**	P	**Pb**	**05 11 37.8 -0.8**
ATMI	**Monte Miggiano**	**1.67 157**	P	**Pb**	**05 11 37.6 -1.0**
ATMI			AML	AML	
	comp=E,3025µm,1.2s				
ATMI			AML	AML	
	comp=N,3155µm,0.8s				
ATMI			AML	AML	
	comp=N,3155µm,0.8s				
ATMI			AML	AML	
	comp=E,3025µm,1.2s				
ATMI	**Monte Miggiano**	**1.67 157**	P	**Pg**	**05 11 39.2 -0.8**
FROS	**Frosini**	**1.67 185**	P	**Pn**	**05 11 36.9 0.0**
FROS			AML	AML	
	comp=E,1560µm,0.7s				
FROS			AML	AML	
	comp=N,1390µm,0.9s				
FROS			AML	AML	
	comp=N,1390µm,0.9s				
FROS			AML	AML	
	comp=E,1560µm,0.7s				
FROS	**Frosini**	**1.67 185**	P	**Pb**	**05 11 37.6 -1.0**
STAL	**STALIGIAL**	**1.68 34**	P	**Pn**	**05 11 36.7 -0.2**
STAL			AML	AML	
	comp=E,2370µm,0.9s				
STAL			AML	AML	
	comp=N,3205µm,1.2s				
STAL			AML	AML	
	comp=E,3130µm,0.7s				
STAL			AML	AML	
	comp=N,2685µm,1.0s				
STAL			AML	AML	
	comp=E,2370µm,0.9s				
STAL			AML	AML	
	comp=N,3205µm,1.2s				
STAL			AML	AML	
	comp=E,3130µm,0.7s				
STAL			AML	AML	
	comp=N,2685µm,1.0s				
STAL	**STALIGIAL**	**1.68 34**	P	**Pn**	**05 11 36.8 -0.2**
COR1	**Corinaldo**	**1.71 136**	P	**Pg**	**05 11 42.3 +1.6**
ATFO	**Monte Foce - G**	**1.74 150**	P	**Pg**	**05 11 41.9 +0.5**
BRMO	**Bormio**	**1.75 337**	Pn	**Pb**	**05 11 39.9 0.0**
BRMO	**Bormio**	**1.75 337**	P	**Pb**	**05 11 40.1 +0.2**
BRMO			AML	AML	
	comp=E,952µm,0.7s				
BRMO			AML	AML	
	comp=N,1052µm,0.8s				
BRMO			AML	AML	
	comp=E,952µm,0.7s				
BRMO			AML	AML	
	comp=N,1052µm,0.8s				
BRMO	**Bormio**	**1.75 337**	P	**Pg**	**05 11 41.4 0.0**
ARVD	**Arcevia**	**1.78 140**	P	**Pn**	**05 11 38.4 0.0**
ARVD	**Arcevia**	**1.78 140**	P	**Pn**	**05 11 38.5 0.0**
ARVD			AML	AML	
	comp=E,2485µm,0.6s				
ARVD			AML	AML	
	comp=N,1425µm,0.5s				
ARVD			AML	AML	
	comp=E,2485µm,0.6s				
ARVD			AML	AML	
	comp=N,1425µm,0.5s				
TRIF	**Trifonti**	**1.79 191**	P	**Pb**	**05 11 40.1 -0.5**
TRIF	**Trifonti**	**1.79 191**	AML	AML	
TRIF			AML	AML	
	comp=N,628µm,0.8s				
TRIF			AML	AML	
	comp=E,573µm,0.5s				
TRIF			AML	AML	
	comp=E,573µm,0.5s				
TRIF			AML	AML	
	comp=N,628µm,0.8s				
BERNI	**Berninapass**	**1.80 329**	Pn	**Pb**	**05 11 40.8 -0.2**
BERNI	**Berninapass**	**1.80 329**	P	**Pb**	**05 11 41.0 +0.1**
BERNI			AML	AML	
	comp=E,740µm,0.6s				
BERNI			AML	AML	
	comp=N,550µm,0.9s				
BERNI			AML	AML	
	comp=E,740µm,0.6s				
BERNI			AML	AML	
	comp=N,550µm,0.9s				
BERNI	**Berninapass**	**1.80 329**	P	**Pg**	**05 11 43.1 +0.5**
MURB	**Monte Urbino**	**1.82 152**	P	**Pb**	**05 11 41.1 0.0**
MURB	**Monte Urbino**	**1.82 152**	AML	AML	
	comp=N,2970µm,1.3s				
MURB			AML	AML	
	comp=E,3210µm,0.8s				
MURB			AML	AML	
	comp=E,3115µm,0.8s				
MURB			AML	AML	
	comp=N,3045µm,0.4s				
MURB			AML	AML	
	comp=N,3045µm,0.4s				
MURB			AML	AML	
	comp=E,3210µm,0.8s				
MURB			AML	AML	
	comp=E,3115µm,0.8s				
MURB			AML	AML	
	comp=N,2970µm,1.3s				
ATTE	**AVT- Monte Tez**	**1.82 157**	P	**Pn**	**05 11 39.2 +0.2**
ATTE			AML	AML	
	comp=E,1365µm,0.6s				
ATTE			AML	AML	
	comp=N,1090µm,1.4s				
ATTE			AML	AML	
	comp=E,1365µm,0.6s				
ATTE			AML	AML	
	comp=N,1090µm,1.4s				
ATTE	**AVT- Monte Tez**	**1.82 157**	P	**Pn**	**05 11 39.3 +0.2**
MOSI	**Grossmontoni**	**1.83 342**	⇓Pn	**Pb**	**05 11 41.6 +0.2**
MOSI	**Grossmontoni**	**1.83 342**	P	**Pb**	**05 11 41.6 +0.2**
MOSI			AML	AML	
	comp=E,5520µm,0.9s				
MOSI			AML	AML	
	comp=N,7175µm,0.7s				
MOSI			AML	AML	
	comp=E,5520µm,0.9s				
MOSI			AML	AML	
	comp=N,7175µm,0.7s				
MOSI	**Grossmontoni**	**1.83 342**	P	**Pb**	**05 11 41.6 +0.2**
BRES	**Bressanone**	**1.84 8**	P	**Pb**	**05 11 40.9 -0.7**
BRES			AML	AML	
	comp=E,1360µm,0.6s				
BRES			AML	AML	
	comp=N,1730µm,0.6s				
BRES			AML	AML	
	comp=N,1730µm,0.6s				
BRES			AML	AML	
	comp=E,1360µm,0.6s				
BRES	**Bressanone**	**1.84 8**	P	**Pb**	**05 11 41.5 -0.1**
ABSI	**Aberstueckl**	**1.85 359**	⇓Pn	**Pn**	**05 11 40.7 +1.1**
ABSI	**Aberstueckl**	**1.85 359**	P	**Pb**	**05 11 41.1 -0.7**
ABSI			AML	AML	
	comp=E,10550µm,0.6s				
ABSI			AML	AML	
	comp=N,4500µm,0.6s				
ABSI			AML	AML	
	comp=E,10550µm,0.6s				
ABSI			AML	AML	
	comp=N,4500µm,0.6s				
ABSI	**Aberstueckl**	**1.85 359**	P	**Pb**	**05 11 41.1 -0.7**
GEPF	**Gemona**	**1.87 41**	P	**Pn**	**05 11 39.8 +0.2**
GEPF			AML	AML	
	comp=E,1450µm,1.0s				
GEPF			AML	AML	
	comp=N,1265µm,0.7s				
GEPF			AML	AML	
	comp=E,1450µm,1.0s				
GEPF			AML	AML	
	comp=N,1265µm,0.7s				
GEPF	**Gemona**	**1.87 41**	P	**Pn**	**05 11 40.1 +0.6**
FOSV	**Fossato di Vic**	**1.87 147**	P	**Pn**	**05 11 40.4 +0.7**
FOSV			AML	AML	
	comp=E,1680µm,0.8s				
FOSV			AML	AML	
	comp=N,1645µm,0.6s				
FOSV			AML	AML	
	comp=N,1645µm,0.6s				
FOSV			AML	AML	
	comp=E,1680µm,0.8s				
FOSV	**Fossato di Vic**	**1.87 147**	P	**Pb**	**05 11 40.7 -1.3**
TRI	**Trieste**	**1.89 63**	*e*Pn	**Pn**	**05 11 38.6 -1.2**
FUORN	**Ofenpass-Fuorn**	**1.91 336**	*e*Pn	**Pb**	**05 11 42.8 0.0**
FUORN			*e*Sn	**Sb**	**05 12 07.3 +0.8**
FUORN	**Ofenpass-Fuorn**	**1.91 336**	Pn	**Pb**	**05 11 42.6 -0.1**
FUORN	**Ofenpass-Fuorn**	**1.91 336**	P	**Pb**	**05 11 42.7 0.0**
FUORN			AML	AML	
	comp=E,1630µm,0.8s				
FUORN			AML	AML	
	comp=N,906µm,0.9s				
FUORN			AML	AML	
	comp=N,906µm,0.9s				
FUORN			AML	AML	
	comp=E,1630µm,0.8s				
FUORN	**Ofenpass-Fuorn**	**1.91 336**	P	**Pb**	**05 11 43.1 +0.4**
SABO	**M.te Sabotino**	**1.92 54**	P	**Pn**	**05 11 40.4 0.0**
SABO			AML	AML	
	comp=E,2820µm,0.8s				
SABO			AML	AML	
	comp=N,4935µm,0.8s				
SABO			AML	AML	
	comp=E,2820µm,0.8s				
SABO			AML	AML	
	comp=N,4935µm,0.8s				
SABO	**M.te Sabotino**	**1.92 54**	P	**Pn**	**05 11 40.4 0.0**
VINO	**Villanova**	**1.93 44**	P	**Pn**	**05 11 40.2 -0.2**
MUGIO	**Muggio**	**1.94 303**	P	**Pn**	**05 11 41.8 +1.2**
MUGIO	**Muggio**	**1.94 303**	AML	AML	
	comp=E,654µm,0.7s				
MUGIO			AML	AML	
	comp=N,624µm,0.4s				
MUGIO			AML	AML	
	comp=E,654µm,0.7s				
MUGIO			AML	AML	
	comp=N,624µm,0.4s				
FVI	**Forni Avoltri**	**1.98 29**	P	**Pg**	**05 11 45.9 -0.2**
SKDS	**Skadanscina**	**1.99 69**	*i* Pn	**Pn**	**05 11 40.3 -0.9**
EL6	**Elcito**	**1.99 140**	P	**Pn**	**05 11 41.4 +0.1**
EL6	**Elcito**	**1.99 140**	P	**Pn**	**05 11 41.6 +0.4**
CING	**Cingoli**	**2.00 138**	P	**Pn**	**05 11 41.4 0.0**
CING			AML	AML	
	comp=E,1050µm,0.5s				
CING			AML	AML	
	comp=N,1120µm,0.9s				
CING			AML	AML	
	comp=N,1120µm,0.9s				
CING			AML	AML	
	comp=E,1050µm,0.5s				
CING	**Cingoli**	**2.00 138**	P	**Pn**	**05 11 42.4 +1.1**
ABTA	**Abfaltersbach**	**2.04 23**	*e*Pn	**Pn**	**05 11 43.3 +1.3**
	comp=E,159nm,0.5s,SNR=137				
ABTA			Sg	**Sg**	**05 12 15.5 +2.1**
	comp=E,433nm,0.6s				
MGAB	**Montegabbione**	**2.04 164**	P	**Pn**	**05 11 42.4 +0.5**
MGAB	**Montegabbione**	**2.04 164**	AML	AML	
	comp=N,1145µm,1.3s				
MGAB			AML	AML	
	comp=E,1072µm,0.7s				
MGAB			AML	AML	
	comp=E,1102µm,0.7s				
MGAB			AML	AML	
	comp=N,1092µm,1.3s				
MGAB			AML	AML	
	comp=N,1092µm,1.3s				
MGAB			AML	AML	
	comp=N,1145µm,1.3s				
MGAB			AML	AML	
	comp=E,1072µm,0.7s				
MGAB			AML	AML	
	comp=E,1102µm,0.7s				
PCP	**Piancastagn**	**2.04 262**	P	**Pb**	**05 11 44.1 -0.8**
PCP	**Piancastagn**	**2.04 262**	AML	AML	
	comp=N,874µm,0.6s				
PCP			AML	AML	
	comp=E,536µm,0.6s				
PCP			AML	AML	
	comp=N,874µm,0.6s				
PCP			AML	AML	
	comp=E,536µm,0.6s				
ROSI	**Rosskopf**	**2.05 1**	P	**Pb**	**05 11 44.2 -1.0**
ROSI			AML	AML	
	comp=E,3300µm,1.0s				
ROSI			AML	AML	
	comp=N,2540µm,1.1s				

ROSI				AML	AML	
	comp=E,3300µm,1.0s					
ROSI				AML	AML	
	comp=N,2540µm,1.1s					
ROSI	**Rosskopf**	**2.05**	**1**	P	**Pb**	**05 11 45.6 +0.5**
PTCC	**Patocco-Chiusa**	**2.07**	**42**	P	**Pn**	**05 11 42.1 -0.3**
PTCC				AML	AML	
	comp=E,1130µm,0.5s					
PTCC				AML	AML	
	comp=N,1075µm,0.8s					
PTCC				AML	AML	
	comp=N,1075µm,0.8s					
PTCC				AML	AML	
	comp=E,1130µm,0.5s					
PTCC	**Patocco-Chiusa**	**2.07**	**42**	P	**Pn**	**05 11 42.2 -0.2**
VARE	**Varese**	**2.08**	**299**	P	**Pn**	**05 11 44.2 +1.6**
VARE	**Varese**	**2.08**	**299**	AML	AML	
	comp=N,786µm,0.4s					
VARE				AML	AML	
	comp=E,1230µm,0.8s					
VARE				AML	AML	
	comp=N,786µm,0.4s					
VARE				AML	AML	
	comp=E,1230µm,0.8s					
VDL	**Val di Lei**	**2.10**	**321**	⇑Pn	**Pb**	**05 11 44.8 -1.1**
CASP	**Castiglione de**	**2.12**	**190**	P	**Pn**	**05 11 42.9 -0.1**
CASP	**Castiglione de**	**2.12**	**190**	S	**Sb**	**05 12 11.0 -1.3**
CASP	**Castiglione de**	**2.12**	**190**	AML	AML	
	comp=N,390µm,0.7s					
CASP				AML	AML	
	comp=E,339µm,0.5s					
CASP				AML	AML	
	comp=E,339µm,0.5s					
CASP				AML	AML	
	comp=N,390µm,0.7s					
RISI	**Rein**	**2.13**	**13**	P	**Pb**	**05 11 47.2 +0.8**
RISI	**Rein**	**2.13**	**13**	AML	AML	
	comp=E,3405µm,0.7s					
RISI				AML	AML	
	comp=E,3405µm,0.7s					
RISI				AML	AML	
	comp=N,2960µm,0.5s					
RISI				AML	AML	
	comp=N,2960µm,0.5s					
TUE	**Stuetta**	**2.13**	**319**	*e*Pn	**Pn**	**05 11 44.4 +1.0**
TUE				*e*Pg	**Pg**	**05 11 48.8 -0.1**
TUE	**Stuetta**	**2.13**	**319**	⇑Pn	**Pb**	**05 11 45.2 -1.3**
TUE	**Stuetta**	**2.13**	**319**	P	**Pg**	**05 11 50.0 +1.1**
JAVS	**Javornik**	**2.16**	**61**	*i* Pn	**Pn**	**05 11 43.0 -0.6**
JAVS				*i* Sn	**Sn**	**05 12 10.5 +0.3**
DAVOX	**Davos/Dischmat**	**2.17**	**332**	⇑Pn	**Pb**	**05 11 46.9 -0.3**
DAVOX	**Davos/Dischmat**	**2.17**	**332**	Pn	**Pb**	**05 11 47.2 +0.1**
	comp=N,22nm,0.3s,baz=147,slow=13,SNR=58					
DAVOX				Sn	**Sb**	**05 12 15.1 +1.1**
	comp=N,16nm,0.3s,baz=247,slow=21,SNR=4.8					
DAVOX	**Davos/Dischmat**	**2.17**	**332**	P	**Pb**	**05 11 47.2 +0.1**
DAVOX	**Davos/Dischmat**	**2.17**	**332**	AML	AML	
	comp=E,583µm,0.6s					
DAVOX				AML	AML	
	comp=N,680µm,0.7s					
DAVOX				AML	AML	
	comp=E,583µm,0.6s					
DAVOX				AML	AML	
	comp=N,680µm,0.7s					
FETA	**Feichten**	**2.19**	**349**	*e*Pn	**Pb**	**05 11 46.9 -0.6**
	comp=N,141nm,0.5s,SNR=154					
FETA				Sn	**Sb**	**05 12 15.2 +0.7**
	comp=N,126nm,0.5s					
FDMO	**Fiordimonte**	**2.22**	**145**	P	**Pn**	**05 11 44.5 +0.1**
FDMO				AML	AML	
	comp=E,976µm,0.7s					
FDMO				AML	AML	
	comp=N,938µm,0.7s					
FDMO				AML	AML	
	comp=N,938µm,0.7s					
FDMO				AML	AML	
	comp=E,976µm,0.7s					
FDMO	**Fiordimonte**	**2.22**	**145**	P	**Pn**	**05 11 44.9 +0.5**
CSP1	**Cessapalombo**	**2.22**	**143**	P	**Pn**	**05 11 44.6 +0.1**
CSP1				AML	AML	
	comp=E,1815µm,1.5s					
CSP1				AML	AML	
	comp=N,2066µm,0.6s					
CSP1				AML	AML	
	comp=E,1815µm,1.5s					
CSP1				AML	AML	
	comp=N,2066µm,0.6s					
CSP1	**Cessapalombo**	**2.22**	**143**	P	**Pn**	**05 11 44.9 +0.3**
QLNO	**Quiliano**	**2.23**	**257**	P	**Pb**	**05 11 48.2 +0.2**
QLNO	**Quiliano**	**2.23**	**257**	AML	AML	
	comp=E,556µm,0.7s					
QLNO				AML	AML	
	comp=N,516µm,0.7s					
QLNO				AML	AML	
	comp=E,556µm,0.7s					
QLNO				AML	AML	
	comp=N,516µm,0.7s					
MOMA	**Monte Martano**	**2.25**	**157**	P	**Pn**	**05 11 45.2 +0.3**
MOMA				AML	AML	
	comp=E,752µm,0.9s					
MOMA				AML	AML	
	comp=N,2144µm,1.3s					
MOMA				AML	AML	
	comp=E,734µm,0.9s					
MOMA				AML	AML	
	comp=N,824µm,0.6s					
MOMA				AML	AML	
	comp=N,824µm,0.6s					
MOMA				AML	AML	
	comp=E,752µm,0.9s					
MOMA				AML	AML	
	comp=E,734µm,0.9s					
MOMA				AML	AML	
	comp=N,2144µm,1.3s					
MOMA	**Monte Martano**	**2.25**	**157**	P	**Pn**	**05 11 45.5 +0.7**
ACOM	**Acomizza, Ital**	**2.25**	**41**	P	**Pn**	**05 11 45.9 +1.0**
ACOM				AML	AML	
	comp=E,2715µm,0.8s					
ACOM				AML	AML	
	comp=N,2170µm,0.9s					
ACOM				AML	AML	
	comp=E,2715µm,0.8s					
ACOM				AML	AML	
	comp=N,2170µm,0.9s					
ACOM	**Acomizza, Ital**	**2.25**	**41**	P	**Pn**	**05 11 46.0 +1.0**
RIY	**Rijeka**	**2.25**	**77**	*e*Pn	**Pn**	**05 11 44.4 -0.4**
RIY				*e*Sn	**Sn**	**05 12 10.7 -1.7**
RIY	**Rijeka**	**2.25**	**77**	*e*Pn	**Pn**	**05 11 43.8 -1.0**
FINB	**Finale Ligure**	**2.29**	**253**	S	**Sb**	**05 12 19.0 +1.9**
CELB	**S.Piero in Cam**	**2.29**	**202**	P	**Pn**	**05 11 45.5 +0.1**
CELB	**S.Piero in Cam**	**2.29**	**202**	AML	AML	
	comp=E,438µm,0.7s					
CELB				AML	AML	
	comp=E,438µm,0.7s					
CELB				AML	AML	
	comp=N,468µm,0.4s					
CELB				AML	AML	
	comp=N,468µm,0.4s					
CEY	**Cerknica**	**2.33**	**67**	*e*Pn	**Pn**	**05 11 45.3 -0.6**
CEY				*e*Sn	**Sn**	**05 12 11.7 -2.6**
CEY	**Cerknica**	**2.33**	**67**	⇓*i* Pn	**Pn**	**05 11 45.0 -0.9**
SQTA	**Sankt Quirin**	**2.35**	**357**	*e*Pn	**Pb**	**05 11 48.6 -1.5**
	comp=N,169nm,0.3s,SNR=151					
SQTA				Sn	**Sg**	**05 12 22.3 -1.1**
	comp=N,265nm,0.3s					
MYKA	**Terra Mystica**	**2.37**	**41**	*e*Pn	**Pn**	**05 11 47.2 +0.7**
	comp=N,77nm,0.4s,SNR=29					
MYKA				Sg	**Sg**	**05 12 25.2 +1.1**
	comp=N,297nm,0.6s					
WTTA	**Wattenberg**	**2.40**	**4**	*i* Pn	**Pb**	**05 11 49.8 -1.2**
WTTA				Sn	**Sg**	**05 12 23.9 -1.1**
	comp=N,466nm,0.5s					
WTTA	**Wattenberg**	**2.40**	**4**	⇑Pn	**Pb**	**05 11 49.5 -1.5**
WTTA	**Wattenberg**	**2.40**	**4**	*e*Pn	**Pb**	**05 11 49.9 -1.1**
	SNR=8.3					
WTTA				*e*Pg	**Pg**	**05 11 53.5 -0.4**
	SNR=123					
WTTA				*e*Sg	**Sg**	**05 12 24.8 -0.1**
	SNR=2.8					
WTTA	**Wattenberg**	**2.40**	**4**	P	**Pb**	**05 11 49.7 -1.2**
WTTA	**Wattenberg**	**2.40**	**4**	AML	AML	
	comp=E,1220µm,0.6s					
WTTA				AML	AML	
	comp=E,1220µm,0.6s					
WTTA				AML	AML	
	comp=N,1725µm,0.8s					
WTTA				AML	AML	
	comp=N,1725µm,0.8s					
NRCA	**Norcia**	**2.40**	**148**	P	**Pn**	**05 11 48.1 +1.2**
NRCA	**Norcia**	**2.40**	**148**	AML	AML	
	comp=E,822µm,1.5s					
NRCA				AML	AML	
	comp=E,878µm,1.5s					
NRCA				AML	AML	
	comp=N,1260µm,0.5s					
NRCA				AML	AML	
	comp=N,724µm,0.6s					
NRCA				AML	AML	
	comp=E,878µm,1.5s					
NRCA				AML	AML	
	comp=N,1260µm,0.5s					
NRCA				AML	AML	
	comp=N,724µm,0.6s					
NRCA				AML	AML	
	comp=E,822µm,1.5s					
CESX	**Cesi**	**2.43**	**158**	P	**Pn**	**05 11 47.7 +0.4**
CESX	**Cesi**	**2.43**	**158**	AML	AML	
	comp=N,736µm,0.9s					
CESX				AML	AML	
	comp=E,678µm,0.8s					
CESX				AML	AML	
	comp=E,678µm,0.8s					
CESX				AML	AML	
	comp=N,736µm,0.9s					
MONC	**Moncucco Torin**	**2.45**	**276**	P	**Pb**	**05 11 50.9 -0.9**
MONC	**Moncucco Torin**	**2.45**	**276**	AML	AML	
	comp=E,1265µm,0.9s					
MONC				AML	AML	
	comp=E,1265µm,0.9s					
MONC				AML	AML	
	comp=N,1135µm,0.8s					
MONC				AML	AML	
	comp=N,1135µm,0.8s					
MAON	**Monte Argentar**	**2.45**	**184**	P	**Pn**	**05 11 48.0 +0.5**
MAON	**Monte Argentar**	**2.45**	**184**	AML	AML	
	comp=E,196µm,0.6s					
MAON				AML	AML	
	comp=E,196µm,0.6s					
MAON				AML	AML	
	comp=N,152µm,0.8s					
MAON				AML	AML	
	comp=N,152µm,0.8s					
WATA	**Walderalm**	**2.46**	**3**	*e*Pn	**Pb**	**05 11 50.8 -1.4**
	comp=N,84nm,0.3s,SNR=126					
WATA				*e*Sn	**Sb**	**05 12 24.4 +2.0**
	comp=N,197nm,0.4s					
FUSIO	**Fusio**	**2.47**	**311**	P	**Pn**	**05 11 49.8 +1.9**
FUSIO	**Fusio**	**2.47**	**311**	AML	AML	
	comp=E,866µm,0.8s					
FUSIO				AML	AML	
	comp=E,866µm,0.8s					
FUSIO				AML	AML	
	comp=N,631µm,0.9s					
FUSIO				AML	AML	
	comp=N,631µm,0.9s					
MOTA	**Moosalm**	**2.48**	**356**	*e*Pn	**Pb**	**05 11 50.8 -1.6**
	comp=N,76nm,0.3s,SNR=110					
MOTA				Sn	**Sb**	**05 12 25.8 +3.0**
	comp=N,170nm,0.6s					
RORO	**Rocca Rossa**	**2.48**	**253**	P	**Pn**	**05 11 49.9 +1.9**
RORO	**Rocca Rossa**	**2.48**	**253**	AML	AML	
	comp=N,268µm,0.6s					
RORO				AML	AML	
	comp=E,264µm,0.4s					
RORO				AML	AML	
	comp=N,268µm,0.6s					
RORO				AML	AML	
	comp=E,264µm,0.4s					
ARRO	**Arrone**	**2.51**	**156**	P	**Pn**	**05 11 50.3 +1.9**
ARRO	**Arrone**	**2.51**	**156**	AML	AML	
	comp=E,488µm,1.1s					
ARRO				AML	AML	
	comp=E,488µm,1.1s					
ARRO				AML	AML	
	comp=N,424µm,0.6s					
ARRO				AML	AML	
	comp=N,424µm,0.6s					
LJU	**Ljubljana**	**2.51**	**61**	*e*Pn	**Pn**	**05 11 48.5 0.0**
LJU				*e*Sg	**Sg**	**05 12 31.3 +2.7**
LJU	**Ljubljana**	**2.51**	**61**	⇓*i* Pn	**Pn**	**05 11 48.4 0.0**
LJU	**Ljubljana**	**2.51**	**61**	P	**Pn**	**05 11 48.6 +0.2**
LJU	**Ljubljana**	**2.51**	**61**	AML	AML	
	comp=N,3640µm,0.9s					
LJU				AML	AML	
	comp=E,3465µm,0.7s					
LJU				AML	AML	
	comp=N,3640µm,0.9s					
LJU				AML	AML	
	comp=E,3465µm,0.7s					
GBRS	**Gornja Briga**	**2.52**	**74**	*i* Pn	**Pn**	**05 11 48.1 -0.4**
GBRS				*i* Sn	**Sn**	**05 12 18.4 -0.7**
OFFI	**Offida**	**2.56**	**138**	P	**Pn**	**05 11 50.5 +1.4**
OFFI	**Offida**	**2.56**	**138**	AML	AML	
	comp=N,4225µm,0.8s					
OFFI				AML	AML	
	comp=E,3005µm,0.9s					
OFFI				AML	AML	
	comp=N,4225µm,0.8s					
OFFI				AML	AML	
	comp=E,3005µm,0.9s					
KBA	**Koelnbreinsper**	**2.60**	**31**	*e*Pn	**Pn**	**05 11 51.0 +1.2**
	comp=E,9.0nm,0.2s,SNR=76					
KBA				*e*Sg	**Sg**	**05 12 31.6 +0.2**
	comp=E,331nm,0.8s					
KBA	**Koelnbreinsper**	**2.60**	**31**	*e*Pn	**Pn**	**05 11 51.5 +1.7**
	SNR=17					
KBA				*e*Pg	**Pg**	**05 11 56.9 -0.9**
	SNR=26					
KBA				*e*Sg	**Sg**	**05 12 32.4 +0.9**
	SNR=2.1					
DAVA	**Damuels**	**2.62**	**337**	*e*Pn	**Pb**	**05 11 53.5 -1.3**
	comp=E,12nm,0.2s,SNR=26					
DAVA				*e*Sn	**Sb**	**05 12 26.9 -0.1**
	comp=E,151nm,0.3s					
DAVA	**Damuels**	**2.62**	**337**	⇓Pn	**Pb**	**05 11 53.5 -1.3**
DAVA	**Damuels**	**2.62**	**337**	*e*Pn	**Pb**	**05 11 53.6 -1.3**
	SNR=27					
DAVA				*e*Sn	**Sb**	**05 12 28.0 +1.0**
	SNR=4.7					
RETA	**Reutte**	**2.65**	**351**	*e*Pn	**Pb**	**05 11 53.5 -1.6**
	comp=E,29nm,0.3s,SNR=34					
RETA				Sn	**Sb**	**05 12 26.4 -1.1**
	comp=E,110nm,0.4s					
SMA1	**SAN MARTINO**	**2.66**	**147**	P	**Pn**	**05 11 51.8 +1.3**
SMA1	**SAN MARTINO**	**2.66**	**147**	AML	AML	
	comp=N,1165µm,0.9s					
SMA1				AML	AML	
	comp=E,1440µm,0.6s					
SMA1				AML	AML	
	comp=N,1165µm,0.9s					
SMA1				AML	AML	
	comp=E,1440µm,0.6s					
LIENZ	**Kamor/St.Gall**	**2.75**	**332**	Pn	**Pb**	**05 11 54.8 -2.2**
OBKA	**Obir**	**2.76**	**53**	*e*Pn	**Pn**	**05 11 52.5 +0.6**
	comp=E,7.1nm,0.2s,SNR=19					
OBKA				*e*Pg	**Pg**	**05 11 59.6 -1.3**
	comp=E,148nm,0.5s					
OBKA				*e*Sg	**Sg**	**05 12 38.0 +1.3**
	comp=E,716nm,0.7s					
OBKA	**Obir**	**2.76**	**53**	*e*Pn	**Pn**	**05 11 52.7 +0.7**
	SNR=14					
CAMP	**Campotosto**	**2.77**	**147**	P	**Pn**	**05 11 53.0 +1.0**
CAMP	**Campotosto**	**2.77**	**147**	AML	AML	
	comp=N,632µm,0.8s					
CAMP				AML	AML	
	comp=E,514µm,0.8s					
CAMP				AML	AML	
	comp=N,632µm,0.8s					
CAMP				AML	AML	
	comp=E,514µm,0.8s					
TERO	**Teramo**	**2.77**	**143**	P	**Pn**	**05 11 52.4 +0.4**
TERO	**Teramo**	**2.77**	**143**	AML	AML	
	comp=E,285µm,0.7s					
TERO				AML	AML	
	comp=N,282µm,1.1s					
TERO				AML	AML	
	comp=E,285µm,0.7s					
TERO				AML	AML	
	comp=N,282µm,1.1s					
BOJS	**Bojanci**	**2.82**	**76**	*e*Pn	**Pn**	**05 11 52.5 -0.1**
BOJS				*e*Sg	**Sg**	**05 12 42.1 +3.7**
BOJS	**Bojanci**	**2.82**	**76**	*i* Pn	**Pn**	**05 11 52.5 -0.1**
BOJS	**Bojanci**	**2.82**	**76**	P	**Pn**	**05 11 52.5 -0.1**
BOJS	**Bojanci**	**2.82**	**76**	P	**Pg**	**05 12 00.8 -1.1**
BOJS	**Bojanci**	**2.82**	**76**	AML	AML	
	comp=N,690µm,0.8s					
BOJS				AML	AML	
	comp=E,570µm,0.7s					
BOJS				AML	AML	
	comp=N,690µm,0.8s					
BOJS				AML	AML	
	comp=E,570µm,0.7s					
MUO	**Muotathal**	**2.83**	**319**	Pn	**Pb**	**05 11 56.0 -2.3**
TOLF	**Tolfa**	**2.85**	**170**	P	**Pn**	**05 11 53.8 +0.8**
TOLF	**Tolfa**	**2.85**	**170**	AML	AML	
	comp=N,119µm,1.4s					
TOLF				AML	AML	
	comp=E,150µm,0.7s					
TOLF				AML	AML	
	comp=E,150µm,0.7s					
TOLF				AML	AML	
	comp=N,119µm,1.4s					
BNALP	**Bannalp**	**2.86**	**315**	Pn	**Pn**	**05 11 56.3 +2.9**
SAOF	**Saorge**	**2.87**	**253**	P	**Pb**	**05 11 56.2 -2.8**
SAOF				S	**Sn**	**05 12 30.4 +2.6**
PGF	**Pioggiola**	**2.89**	**217**	*e*Pn	**Pn**	**05 11 53.9 +0.2**
	SNR=1.0					
PGF				*e*Sn	**Sn**	**05 12 27.4 -1.0**
	comp=N,189nm,0.4s,SNR=1.0					
PGF	**Pioggiola**	**2.89**	**217**	P	**Pn**	**05 11 54.1 +0.3**
PGF	**Pioggiola**	**2.89**	**217**	AML	AML	
	comp=E,516µm,0.8s					
PGF				AML	AML	
	comp=N,290µm,1.0s					
PGF				AML	AML	
	comp=E,516µm,0.8s					
PGF				AML	AML	
	comp=N,290µm,1.0s					
FIAM	**Fiamignano**	**2.90**	**153**	P	**Pn**	**05 11 54.0 +0.2**
FIAM	**Fiamignano**	**2.90**	**153**	AML	AML	
	comp=N,372µm,0.7s					
FIAM				AML	AML	
	comp=E,438µm,0.7s					
FIAM				AML	AML	
	comp=N,372µm,0.7s					
FIAM				AML	AML	
	comp=E,438µm,0.7s					
AQU	**L'Aquila**	**2.92**	**149**	*e*Pn	**Pn**	**05 11 55.0 +0.9**
AQU	**L'Aquila**	**2.92**	**149**	⇓*i* Pn	**Pn**	**05 11 55.2 +1.1**
UBR	**Ueberruh**	**2.94**	**343**	*e*Pn	**Pn**	**05 11 57.3 +2.9**
	SNR=25					
UBR				*e*Sn	**Sb**	**05 12 33.8 -2.1**
	SNR=3.9					
SBF	**Sospel**	**3.00**	**252**	*e*Pn	**Pn**	**05 11 55.9 +0.8**
	SNR=1.0					
SBF				*e*Sn	**Sn**	**05 12 30.7 -0.2**
	comp=E,247nm,0.5s					
RJOB	**Jochberg**	**3.03**	**19**	*e*Pn	**Pn**	**05 11 57.8 +2.3**
	SNR=8.7					
RJOB				*e*Sn	**Sn**	**05 12 34.4 +2.7**
	SNR=1.8					
RJOB				*e*Sg	**Sg**	**05 12 49.3 +4.2**
	SNR=1.3					
CRES	**Cresnjev**	**3.04**	**70**	⇓*i* Pn	**Pn**	**05 11 55.3 -0.3**
ESCA	**l'Escarene**	**3.05**	**251**	P	**Pn**	**05 11 58.1 +2.3**
VCEL	**Villa Celiera**	**3.06**	**143**	P	**Pn**	**05 11 56.5 +0.5**
VCEL	**Villa Celiera**	**3.06**	**143**	AML	AML	
	comp=N,624µm,0.7s					
VCEL				AML	AML	
	comp=E,567µm,0.7s					
VCEL				AML	AML	
	comp=N,624µm,0.7s					
VCEL				AML	AML	
	comp=E,567µm,0.7s					
FAGN	**Fagnano**	**3.07**	**148**	P	**Pn**	**05 11 57.3 +1.3**
FAGN	**Fagnano**	**3.07**	**148**	AML	AML	
	comp=N,867µm,0.5s					
FAGN				AML	AML	
	comp=E,1680µm,0.7s					
FAGN				AML	AML	
	comp=N,867µm,0.5s					
FAGN				AML	AML	
	comp=E,1680µm,0.7s					
SOKA	**Soboth**	**3.13**	**54**	*i* Pn	**Pn**	**05 11 57.5 +0.4**
	comp=E,4.6nm,0.2s,SNR=16					
SOKA				*e*Sg	**Sg**	**05 12 47.7 -0.9**
	comp=E,80nm,0.5s					
PTQR	**Pietraquaria**	**3.21**	**152**	P	**Pn**	**05 11 58.9 +0.8**
PTQR	**Pietraquaria**	**3.21**	**152**	AML	AML	
	comp=N,148µm,1.0s					
PTQR				AML	AML	
	comp=E,186µm,0.9s					
PTQR				AML	AML	
	comp=E,186µm,0.9s					
PTQR				AML	AML	
	comp=N,148µm,1.0s					
SENIN	**Lac Senin/Sane**	**3.22**	**299**	*e*Pn	**Pn**	**05 12 00.4 +2.1**
MBDF	**Montbardon**	**3.27**	**269**	*e*Pn	**Pn**	**05 11 59.1 +0.1**
	SNR=1.0					
MBDF				*e*Sn	**Sn**	**05 12 38.2 +0.3**
MBDF				*e*Sg	**Sg**	**05 12 55.0 +1.9**
	comp=N,92nm,0.5s					
GRYON	**Gryon**	**3.29**	**296**	Pn	**Pn**	**05 12 01.8 +2.6**
LPG	**La Plagne**	**3.32**	**282**	*e*Pn	**Pn**	**05 12 00.8 +1.0**
	SNR=1.0					
LPG	**La Plagne**	**3.32**	**282**	*e*P	**Pb**	**05 12 03.8 -3.0**
LPG	**La Plagne**	**3.32**	**282**	*e*Pg	**Pg**	**05 12 12.6 +1.0**
LPG				*e*Sn	**Sn**	**05 12 39.3 0.0**
LPG				*e*Sg	**Sg**	**05 12 57.0 +2.3**
	comp=N,84nm,0.5s					
BNI	**Bardonecchia**	**3.33**	**275**	*e*Pn	**Pn**	**05 12 00.1 +0.3**
LPL	**La Plagne**	**3.34**	**283**	*e*Pn	**Pn**	**05 12 01.1 +1.1**
	SNR=1.0					
LPL	**La Plagne**	**3.34**	**283**	*e*P	**Pb**	**05 12 03.9 -3.2**
LPL	**La Plagne**	**3.34**	**283**	*e*Pg	**Pg**	**05 12 12.8 +0.9**
LPL				*e*Sn	**Sn**	**05 12 39.5 -0.1**
	comp=N,95nm,0.6s,SNR=1.0					
LPL				*e*Sg	**Sg**	**05 12 57.4 +2.2**
	comp=N,41nm,0.3s					
ZAG	**Zagreb**	**3.39**	**72**	*e*Pn	**Pg**	**05 12 10.8 -2.1**
INTR	**Introdacqua**	**3.41**	**146**	P	**Pn**	**05 12 01.9 +1.1**
INTR	**Introdacqua**	**3.41**	**146**	AML	AML	
	comp=N,550µm,1.0s					
INTR				AML	AML	
INTR				AML	AML	
INTR				AML	AML	
	comp=E,428µm,0.9s					
INTR				AML	AML	
INTR				AML	AML	
INTR				AML	AML	
	comp=E,428µm,0.9s					
INTR				AML	AML	
	comp=N,550µm,1.0s					
VVLD	**Villa Vallelon**	**3.42**	**151**	P	**Pn**	**05 12 01.7 +0.6**
VVLD	**Villa Vallelon**	**3.42**	**151**	AML	AML	
	comp=N,193µm,0.7s					
VVLD				AML	AML	
	comp=E,208µm,0.8s					
VVLD				AML	AML	
	comp=N,193µm,0.7s					
VVLD				AML	AML	
	comp=E,208µm,0.8s					
RSL	**Roselend**	**3.44**	**285**	P	**Pn**	**05 12 04.0 +2.6**
RSL				S	**Sn**	**05 12 43.6 +1.5**
LPEL	**Lama dei Pelig**	**3.49**	**143**	P	**Pn**	**05 12 01.2 -0.8**
LPEL	**Lama dei Pelig**	**3.49**	**143**	AML	AML	
	comp=N,250µm,1.4s					
LPEL				AML	AML	
	comp=E,266µm,1.1s					
LPEL				AML	AML	
	comp=N,250µm,1.4s					
LPEL				AML	AML	
	comp=E,266µm,1.1s					
MOA	**Molln**	**3.59**	**33**	*i* Pn	**Pn**	**05 12 04.6 +1.3**
	comp=E,4.8nm,0.1s,SNR=11					
MOA				*e*Sn	**Sn**	**05 12 46.9 +1.5**
	comp=E,33nm,0.3s					
MOA				Sg	**Sg**	**05 13 04.3 +1.2**
	comp=E,81nm,0.6s					
MOA	**Molln**	**3.59**	**33**	*e*Pn	**Pn**	**05 12 04.4 +1.1**
	SNR=27					
MOA				*e*Sn	**Sn**	**05 12 48.0 +2.6**
	SNR=2.0					
POFI	**Posta Fibreno**	**3.59**	**151**	P	**Pn**	**05 12 04.3 +0.9**
POFI	**Posta Fibreno**	**3.59**	**151**	AML	AML	
	comp=N,111µm,1.6s					
POFI				AML	AML	
	comp=E,150µm,0.8s					
POFI				AML	AML	

comp=E,150µm,0.8s
POFI AML AML
comp=N,111µm,1.6s
TORNY Torny/Romont 3.62 303 Pn Pn 05 12 05.8 +2.1
FRF La Foret Royal 3.64 250 *e*Pn **Pn 05 12 04.6 +0.7**
SNR=1.0
FRF *e*Sn **Sn 05 12 46.1 -0.6**
comp=N,99nm,0.5s,SNR=1.0
ARSA Arzberg 3.74 49 *e*Pn **Pn 05 12 05.3 0.0**
ARSA *e*Sg **Sg 05 13 10.5 +2.4**
ARSA Arzberg 3.74 49 *i* Pn **Pn 05 12 05.5 +0.2**
comp=N,16nm,0.4s,SNR=14
ARSA *e*Sg **Sg 05 13 10.3 +2.2**
comp=N,39nm,0.6s
ARSA Arzberg 3.74 49 *e*Pn **Pn 05 12 05.6 +0.2**
SNR=20
KOGS Kog 3.77 64 P **Pn 05 12 07.9 +2.3**
KOGS Kog 3.77 64 AML AML
comp=E,1365µm,0.7s
KOGS AML AML
comp=E,1365µm,0.7s
KOGS AML AML
comp=N,1210µm,1.0s
KOGS AML AML
comp=N,1210µm,1.0s
LMR La Mourre 3.82 248 *e*Pn **Pn 05 12 07.0 +0.6**
SNR=1.0
LMR La Mourre 3.82 248 *e*Pg **Pg 05 12 20.9 -0.3**
LMR *e*Sn **Sn 05 12 50.5 -0.7**
comp=N,34nm,0.3s,SNR=1.0
OG02 Monnetier-Morn 3.84 291 P **Pn 05 12 08.5 +1.8**
OG02 S **Sn 05 12 52.8 +1.2**
MIDA Miranda 3.86 146 P **Pn 05 12 07.0 0.0**
MIDA Miranda 3.86 146 AML AML
comp=E,126µm,1.0s
MIDA AML AML
comp=N,164µm,1.1s
MIDA AML AML
comp=E,126µm,1.0s
MIDA AML AML
comp=N,164µm,1.1s
ORIF Oris-en-Rattie 3.90 273 *e*Pn **Pn 05 12 09.3 +1.7**
SNR=1.0
ORIF *e*Sn **Sn 05 12 52.6 -0.6**
comp=N,90nm,0.6s
ORIF Oris-en-Rattie 3.90 273 P **Pn 05 12 09.4 +1.9**
BFO Black Forest 4.04 330 *e*Pn **Pn 05 12 10.9 +1.5**
BFO *e*Sn **Sn 05 12 58.1 +1.6**
BFO Black Forest 4.04 330 *e*Pn **Pn 05 12 11.4 +2.0**
SNR=8.7
BFO *e*Sn **Sn 05 12 56.9 +0.3**
SNR=5.2
CHMF Charmoille 4.05 308 Pn **Pn 05 12 10.6 +1.0**
OGSM Saint Maurice 4.07 282 P **Pn 05 12 11.2 +1.3**
OGSM S **Sn 05 12 58.4 +1.0**
CABF La Chapelle 4.08 297 *e*Pn **Pn 05 12 11.4 +1.3**
SNR=1.0
CABF *e*Sn **Sn 05 12 57.1 -0.6**
comp=N,42nm,0.6s,SNR=1.0
CABF *e*Sg **Sg 05 13 20.1 +1.1**
comp=N,102nm,0.7s
MGRS Mrkonjic Grad 4.11 94 ⇓*i*Pn **Pn 05 12 11.1 +0.8**
BEHE Becsehely 4.11 65 *e*Pn **Pb 05 12 23.4 +3.3**
SGG Gregorio Mates 4.13 147 P **Pn 05 12 12.2 +1.5**
SGG Gregorio Mates 4.13 147 AML AML
comp=E,148µm,0.5s
SGG AML AML
comp=N,105µm,1.6s
SGG AML AML
comp=E,148µm,0.5s
SGG AML AML
comp=N,105µm,1.6s
BLY Banja Luka 4.14 90 *e*Pn **Pn 05 12 11.2 +0.4**
BLY *e*Sg **Sg 05 13 26.1 +5.2**
BLY Banja Luka 4.14 90 *e*Pn **Pn 05 12 11.4 +0.6**
BLY Banja Luka 4.14 90 ⇑*i*P **Pn 05 12 11.1 +0.3**
BLY Banja Luka 4.14 90 *e*Pn **Pn 05 12 11.0 +0.3**
STU Stuttgart 4.17 340 *e*Pn **Pn 05 12 12.8 +1.6**
STU *e*Pg **Pg 05 12 29.2 +1.4**
MELA Melanico ??? S 4.19 138 P **Pn 05 12 11.1 -0.4**
MELA Melanico ??? S 4.19 138 AML AML
comp=N,402µm,1.0s
MELA AML AML
comp=E,370µm,0.4s
MELA AML AML
comp=N,402µm,1.0s
MELA AML AML
comp=E,366µm,0.4s
MELA AML AML
comp=N,391µm,1.0s
MELA AML AML
comp=E,370µm,0.4s
MELA AML AML
comp=E,366µm,0.4s
MELA AML AML
comp=N,391µm,1.0s
ARTF Artigues 4.20 254 P **Pn 05 12 13.6 +1.9**
PTRJ Pietraroja 4.21 146 P **Pn 05 12 12.2 +0.5**
PTRJ Pietraroja 4.21 146 AML AML
comp=E,307µm,0.7s
PTRJ AML AML
comp=N,286µm,0.7s
PTRJ AML AML
comp=E,307µm,0.7s
PTRJ AML AML
comp=N,286µm,0.7s
OG35 Corcelles 4.24 288 P **Pn 05 12 14.1 +1.8**
SMRF Simiane la Rot 4.25 260 *e*Pn **Pn 05 12 13.5 +1.2**
SNR=1.0
SMRF Simiane la Rot 4.25 260 *e*Pg **Pg 05 12 29.7 +0.5**
SMRF *e*Sn **Sn 05 13 00.8 -0.9**
comp=N,32nm,0.5s,SNR=1.0
GEC2 GERESS Array S 4.28 21 *e*Pn **Pn 05 12 13.0 +0.3**
GEC2 GERESS Array S 4.28 21 *e*Pn **Pn 05 12 13.5 +0.7**
SNR=10
GERES GERESS Array B 4.28 21 *e*Pn **Pn 05 12 12.8 -0.1**
GERES *e*Pg **Pg 05 12 27.9 -2.0**
GERES GERESS Array B 4.28 21 Pn **Pn 05 12 13.1 +0.3**
comp=N,2.4nm,0.3s,baz=194,slow=13,SNR=48
GERES Pg **Pg 05 12 27.6 -2.4**
comp=N,5.9nm,0.3s,baz=197,slow=16,SNR=49
GERES Sn **Sn 05 13 02.1 -0.5**
comp=N,6.9nm,0.3s,baz=198,slow=21,SNR=4.8
GERES Lg Lg 05 13 23.3
comp=N,4.9nm,0.3s,baz=196,slow=23,SNR=2.7
GERES LR LR 05 14 29.3
comp=N,127nm,18.9s,baz=232,slow=46
HINF Hinteralfeld 4.29 315 *e*Pn **Pn 05 12 13.8 +0.9**
SNR=1.0
HINF *e*Sn **Sn 05 13 01.8 -1.0**
comp=N,39nm,0.3s
HINF *e*Sg **Sg 05 13 26.3 +0.6**
comp=N,67nm,0.7s
CONA Conrad Observa 4.36 44 *i* Pn **Pn 05 12 14.2 +0.4**
comp=N,5.7nm,0.2s,SNR=16
CONA *e*Sn **Sn 05 13 04.6 +0.1**
comp=N,33nm,0.7s
CONA Sg **Sg 05 13 28.9 +1.1**
comp=N,45nm,0.7s
WET Wettzell 4.39 13 *e*Pn **Pn 05 12 15.5 +1.2**
SNR=9.2
ECH Echery 4.43 320 *e*Pn **Pn 05 12 16.0 +1.3**
ECH *e*Sn **Sn 05 13 06.8 +0.7**
SGRT San Giovanni R 4.46 133 P **Pn 05 12 14.0 -1.3**
SGRT San Giovanni R 4.46 133 AML AML
comp=N,117µm,0.2s
SGRT AML AML
comp=E,172µm,1.0s
SGRT AML AML
comp=N,117µm,0.2s
SGRT AML AML
comp=E,172µm,1.0s
KHC Kasperske Hory 4.52 19 *e*Pn **Pn 05 12 16.3 +0.3**
KHC Kasperske Hory 4.52 19 *e*Pn **Pn 05 12 16.6 +0.6**
SNR=8.5
KHC Kasperske Hory 4.52 19 *e*PN **Pn 05 12 16.3 +0.3**
KHC *e*PG **Pg 05 12 31.5 -2.9**
KHC *e*SN **Sn 05 13 07.8 -0.5**
KHC *e*SG **Sg 05 13 30.5 -2.4**
comp=E,106nm,0.7s
CDF Champ du Feu 4.52 323 *e*Pn **Pn 05 12 17.4 +1.3**
SNR=1.0
CDF Champ du Feu 4.52 323 *e*P **Pn 05 12 20.5 +4.4**
CDF Champ du Feu 4.52 323 *e*Pg **Pg 05 12 34.2 -0.3**
CDF *e*Sn **Sn 05 13 07.6 -0.9**
comp=E,52nm,0.5s,SNR=1.0
CDF *e*Sg **Sg 05 13 33.9 +0.9**
comp=E,97nm,0.8s
HAU Haudompre 4.67 314 *e*Pn **Pn 05 12 18.8 +0.7**
SNR=1.0
HAU *e*Sn **Sn 05 13 11.2 -1.0**
comp=E,56nm,0.4s,SNR=1.0
HAU *e*Sg **Sg 05 13 38.3 +0.4**
comp=E,40nm,0.5s
VIVF Saint-Julien-I 4.76 272 *e*Pn **Pn 05 12 20.2 +0.9**
SNR=1.0
VIVF *e*Sn **Sn 05 13 13.3 -1.0**
comp=E,11nm,0.5s,SNR=1.0
VIVF *e*Sg **Sg 05 13 41.3 +0.6**
comp=E,4.8nm,0.4s
GRFO Grafenberg 4.82 359 *e*Pn **Pn 05 12 20.1 0.0**
GRA1 Grafenberg Arr 4.82 359 *e*Pn **Pn 05 12 19.1 -1.0**
SSB Saint Sauveur 4.85 277 *e*Pn **Pn 05 12 21.5 +0.9**
SNAL S. Angelo Dei 4.85 143 P **Pn 05 12 20.6 -0.1**
ROTZ Rotzenmuhle 4.93 6 *e*Pn **Pn 05 12 22.5 +0.9**
SNR=9.2
ROTZ *e*Sn **Sn 05 13 16.4 -1.9**
SNR=2.0
ROTZ *e*Sg **Sg 05 13 44.0 -2.0**
SNR=2.9
STON Ston 5.00 111 *e*Pn **Pn 05 12 22.9 +0.4**
STON *e*Sn **Sn 05 13 16.5 -3.6**
STON Ston 5.00 111 *e*Pn **Pn 05 12 22.7 +0.2**
STON Ston 5.00 111 P **Pn 05 12 22.9 +0.4**
MANZ Manzenberg 5.14 5 *e*Sn **Sn 05 13 22.4 -1.2**
SNR=1.6
MANZ *e*Sg **Sg 05 13 53.6 +0.8**
SNR=2.6
ZST Bratislava 5.17 48 *e*PN **Pn 05 12 24.0 -0.8**
ZST *e*SN **Sn 05 13 19.9 -4.3**
TREC Trest 5.24 31 *e*PN **Pn 05 12 26.6 +0.7**
TREC *e*PG **Pg 05 12 46.0 -2.2**
TREC *e*SN **Sn 05 13 25.1 -1.0**
MORH Mrgy, Hungar 5.28 73 *e*Pn **Pn 05 12 24.5 -2.0**
PAGF Fort de Pagny 5.35 315 *e*Pn **Pn 05 12 28.3 +0.9**
PAGF *e*Sn **Sn 05 13 26.9 -1.8**
baz=137
PAGF *e*Sg **Sg 05 13 59.1 -0.4**
comp=E,339nm,1.4s,baz=136
MODS Modra-Piesok 5.37 47 *e*PN **Pn 05 12 26.8 -0.8**
MODS *e*SN **Sn 05 13 25.9 -3.4**
MODS *e*LG Lg 05 13 28.0
NKC Novy Kostel 5.41 7 *e*PN **Pn 05 12 29.1 +0.9**
NKC *e*PG **Pg 05 12 50.3 -1.2**
KRUC Moravsky 5.42 38 *e*PN **Pn 05 12 28.1 -0.2**
KRUC *e*PG **Pg 05 12 47.7 -4.0**
LASF Ste Croix 5.43 264 *e*Pn **Pn 05 12 28.6 0.0**
SNR=1.0
LASF *e*Sn **Sn 05 13 29.4 -1.5**
comp=E,17nm,0.6s,SNR=1.0
HAPS Han Pijesak,Bl 5.48 96 *e*Pn **Pn 05 12 28.0 -1.3**
SFTF Sexfontaines 5.49 310 *e*Pn **Pn 05 12 30.4 +1.1**
baz=129
SFTF *e*Sn **Sn 05 13 30.8 -1.5**
SFTF *e*Sg **Sg 05 14 03.7 -0.4**
comp=E,35nm,0.6s
TREB Trebinje 5.50 111 *e*Pn **Pn 05 12 29.7 +0.3**
TREB *e*Sn **Sn 05 13 29.1 -3.3**
TREB Trebinje 5.50 111 *e*Pn **Pn 05 12 28.3 -1.1**
AMUR Altamura 5.53 134 P **Pn 05 12 29.1 -0.8**
SMOL Smolenice 5.53 47 *e*PN **Pn 05 12 31.2 +1.3**
BRY Bratogost 5.55 108 *e*Pn **Pn 05 12 30.9 +0.7**
GOPC GO Pecny, Ondr 5.55 24 *e*PN **Pn 05 12 30.9 +0.8**
GOPC *e*PG **Pg 05 12 51.4 -2.7**
PRU Pruhonice 5.55 22 *e*PN **Pn 05 12 30.5 +0.4**
PRU *e*PG **Pg 05 12 50.8 -3.3**
SMF Signal de Mont 5.55 291 *e*Pn **Pn 05 12 31.0 +0.8**
SNR=1.0
SMF *e*Sn **Sn 05 13 32.0 -1.9**
comp=E,105nm,0.6s
VSL Villasalto 5.58 196 P **Pn 05 12 33.0 +2.4**
TANN Tannenbergstha 5.59 7 *e*Pn **Pn 05 12 32.6 +1.9**
SNR=8.7
MEZF Maizieres J'vi 5.66 312 *e*Pn **Pn 05 12 33.5 +1.9**
baz=105
MEZF *e*Sn **Sn 05 13 34.6 -1.8**
MEZF *e*Sg **Sg 05 14 09.0 -0.5**
comp=E,56nm,0.8s
UPM Unac-Piva 5.69 104 *e*Pn **Pn 05 12 33.8 +1.6**
VRAC Vranov 5.69 37 ⇑*i*P **Pn 05 12 34.1 +2.0**
VRAC Vranov 5.69 37 *e*PN **Pn 05 12 32.2 +0.1**
VRAC *e*PG **Pb** 05 12 51.9 +4.9
VRAC Vranov 5.69 37 Pn **Pn 05 12 32.2 +0.1**
comp=E,1.2nm,0.3s,baz=224,slow=13,SNR=5.3
VRAC Pg **Pb 05 12 51.5 +4.5**
comp=E,1.0nm,0.3s,baz=231,slow=15,SNR=13
VRAC Lg Lg 05 14 04.1
comp=E,1.2nm,0.3s,baz=343,slow=23,SNR=3.7
VRAC LR LR 05 15 05.3
comp=E,89nm,20.0s,baz=238,slow=42
TNS Taunus Mts 5.70 341 *e*Pn **Pn 05 12 34.3 +2.0**
SNR=6.7
HCY Herceg Novi 5.71 113 *e*Pn **Pn 05 12 31.6 -0.8**
LOR Lormes 5.75 297 *e*Pn **Pn 05 12 33.8 +1.0**
baz=118,SNR=1.0
LOR Lormes 5.75 297 *e*Pg **Pg 05 12 56.7 -1.2**
baz=118
LOR *e*Sn **Sn 05 13 37.0 -1.6**
comp=E,54nm,0.4s
LOR *e*Sg **Sg 05 14 11.8 -0.5**
comp=E,27nm,0.8s,baz=116
MATE Matera 5.77 135 ⇑*i*P **Pn 05 12 32.3 -0.8**
MATE Matera 5.77 135 S **Sn 05 13 34.8 -4.3**
BBLS Lazići 5.85 97 *e*Pn **Pn 05 12 34.2 -0.1**
BBLS *e*Sn **Sn 05 13 36.5 -4.7**
BBLS Lazići 5.85 97 *e*Pn **Pn 05 12 34.2 -0.1**
NOCI Noci 5.85 132 P **Pn 05 12 33.1 -1.1**
JAVC Velka Javorina 5.88 45 *e*PN **Pn 05 12 35.5 +0.8**
SSF Saint Saulge 5.90 295 *e*Pn **Pn 05 12 35.9 +1.0**
SNR=1.0
SSF *e*Sn **Sn 05 13 40.8 -1.5**
comp=E,26nm,0.5s,SNR=1.0
SSF *e*Sg **Sg 05 14 16.8 -0.4**
comp=E,12nm,0.6s
AVF Avril sur Loir 5.92 292 *e*Pn **Pn 05 12 35.3 +0.1**
SNR=1.0
AVF Avril sur Loir 5.92 292 *e*Pg **Pg 05 12 59.9 -1.3**
AVF *e*Sn **Sn 05 13 40.3 -2.5**
comp=E,19nm,0.6s,SNR=1.0
AVF *e*Sg **Sg 05 14 17.4 -0.4**
comp=E,22nm,0.8s
WLF Walferdange 5.96 325 *e*Pn **Pn 05 12 38.6 +2.8**
WLF Walferdange 5.96 325 ⇓Sn **Sn 05 13 45.8 +2.0**
FASA Fasano 5.99 131 ⇑*i*Pn **Pn 05 12 35.0 -1.1**
FRGS Fruska Gora 5.99 84 *e*Pn **Pn 05 12 35.7 -0.5**
FRGS Fruska Gora 5.99 84 *e*Pn **Pn 05 12 33.0 -3.2**
MASS Massafra 6.00 133 ⇑*i*Pn **Pn 05 12 35.3 -1.1**
PVCC Panska Ves 6.05 20 *e*PG **Pg 05 13 00.5 -3.3**
KOLL Kolacno 6.09 50 *e*PN **Pn 05 12 36.8 -0.7**
KOLL *e*SN **Sn 05 13 42.3 -4.7**
FBE Freiberg 6.19 12 *e*Pn **Pn 05 12 41.1 +2.1**
SNR=2.4
BGF Bois d'Agland 6.20 289 *e*Pn **Pn 05 12 40.2 +1.1**
SNR=1.0
BGF *e*Sn **Sn 05 13 48.2 -1.5**
comp=E,54nm,0.4s
DIVS Divibare 6.22 94 *e*Pn **Pn 05 12 39.7 +0.3**
DIVS Divibare 6.22 94 *e*Pn **Pn 05 12 39.5 +0.1**
PDG Podgorica 6.22 110 *e*Pn **Pn 05 12 39.8 +0.4**
PDG *e*Sn **Sn 05 13 44.9 -5.4**
PDG Podgorica 6.22 110 ⇑*i*P **Pn 05 12 40.0 +0.6**
PDG Podgorica 6.22 110 *e*Pn **Pn 05 12 39.6 +0.2**
TTG Podgorica 6.22 110 *e*Pn **Pn 05 12 40.0 +0.6**
BRG Berggiesshubel 6.25 15 PN **Pn 05 12 41.2 +1.5**
BRG PG **Pg 05 13 04.2 -3.2**
BRG SG **Sg 05 14 28.7 +0.5**
comp=E,48nm,1.0s
VYHS Vyhne 6.28 52 *e*Pn **Pn 05 12 39.3 -0.9**
VYHS *e*SN **Sn 05 13 47.0 -4.8**
DRME Dracevica, Mon 6.29 113 *e*Pn **Pn 05 12 40.1 -0.2**
SJES Sjenica 6.41 102 *e*Pn **Pn 05 12 42.7 +0.7**
IVAS Ivanjica 6.45 99 *e*Pn **Pn 05 12 42.0 -0.5**
UPC Upice 6.45 27 *e*PN **Pn 05 12 42.6 +0.2**
UPC *e*PG Pg 05 13 06.7 -4.6
UPC *e*SN **Sn 05 13 53.5 -2.3**
MORC Moravsky Berou 6.45 38 *e*Pn **Pn 05 12 42.0 -0.6**
MORC Moravsky Berou 6.45 38 ⇓*i*P **Pn 05 12 43.3 +0.7**
MORC Moravsky Berou 6.45 38 *e*PN **Pn 05 12 41.9 -0.6**
HYF Humbligny 6.53 295 *e*Pn **Pn 05 12 45.1 +1.6**
HYF *e*Sn **Sn 05 13 55.6 -2.2**
CLL Collm 6.53 9 *e*Pn **Pn 05 12 44.4 +0.9**
CLL Collm 6.53 9 *e*Pn **Pn 05 12 45.0 +1.5**
CLL *e* 05 12 53.0
CLL *e*Pg **Pg 05 13 12.0 -0.8**
CLL *e* 05 13 16.0
CLL *e* 05 13 51.0
CLL *e* 05 14 07.0
CLL *e*Sg **Sg 05 14 34.0 -3.3**
comp=Z,45nm,0.8s
TCF Toulx Ste Croi 6.58 286 *e*Pn **Pn 05 12 45.0 +0.7**
SNR=1.0
TCF Toulx Ste Croi 6.58 286 *e*Pg **Pg 05 13 12.2 -1.7**
TCF *e*Sn **Sn 05 13 56.8 -2.4**
comp=Z,39nm,0.8s,SNR=1.0
CAF Calviac 6.61 274 *e*Pn **Pn 05 12 46.0 +1.3**
SNR=1.0
CAF Calviac 6.61 274 *e*P Pn 05 12 49.8 +5.1
CAF *e*Sn **Sn 05 13 57.5 -2.4**
comp=Z,1.7nm,0.3s
PSZ Piszkesteto 6.63 60 *e*Pn **Pn 05 12 44.3 -0.8**
PSZ Piszkesteto 6.63 60 ⇓*i*P **Pn 05 12 45.0 -0.1**
MTLF Montolieu 6.76 260 *e*Pn **Pn 05 12 47.4 +0.6**
MTLF Montolieu 6.76 260 *e*P Pn 05 12 52.0 +5.2
MTLF *e*Sn **Sn 05 14 01.4 -2.2**
MTLF *e*Sg **Sg 05 14 43.7 -1.2**
comp=Z,3.3nm,0.6s
GRUS Gruza 6.77 95 *e*Pn **Pn 05 12 47.6 +0.7**
MEM Membach 6.78 330 ⇑Pn **Pn 05 12 50.6 +3.6**
MEM ⇓Sn **Sn 05 14 02.7 -1.3**
comp=N,23nm,0.0s
PUK Puka 6.82 112 P **Pn 05 12 48.8 +1.2**
GIVF Givet 6.85 322 *e*Pn **Pn 05 12 48.1 +0.1**
GIVF Givet 6.85 322 *e*P Pn 05 12 53.6 +5.6
GIVF *e*Sn **Sn 05 14 03.1 -2.7**
comp=N,47nm,0.8s
GIVF *e*Sg **Sg 05 14 46.1 -1.6**
comp=N,4.5nm,0.3s
MPG Monte Pellegri 6.87 167 P **Pn 05 12 52.4 +4.0**
BCLA Clavier 6.89 326 ⇑Pn **Pn 05 12 51.7 +3.1**
BCLA ⇓Sn **Sn 05 14 04.7 -2.0**
comp=N,20nm,0.0s
DOU Dourbes 6.95 321 ⇓Pn Pn 05 12 54.5 +5.2
DOU ⇑Sn **Sn 05 14 09.9 +1.7**
comp=N,16nm,0.0s
RJF Les Rejaudoux 6.99 277 *e*Pn **Pn 05 12 50.8 +0.9**
SNR=1.0
RJF *e*Sn **Sn 05 14 06.5 -2.6**
comp=N,14nm,0.7s
LANS Liptovska Anna 6.99 49 *e*PN **Pn 05 12 51.2 +1.2**
BAIF Baives 7.10 319 *e*Pn **Pn 05 12 51.3 -0.1**
BAIF *e*Sn **Sn 05 14 09.5 -2.3**
BAIF *e*Sg **Sg 05 14 54.1 -1.5**
comp=N,19nm,0.9s
TIR Tirane 7.15 117 *e*Pn **Pn 05 12 53.9 +1.8**
SELS Selova 7.22 100 *e*Pn **Pn 05 12 53.1 0.0**
BZS Buzias 7.27 81 ⇓*i*P **Pn 05 12 54.0 +0.2**
MDVR Moldovita 7.36 87 ⇓*i*P **Pn 05 12 54.4 -0.6**
MDVR Moldovita 7.36 87 S **Sn 05 14 11.9 -6.4**
KUBS Kucevo 7.37 90 *e*Pn **Pn 05 12 54.9 -0.2**
SNF Seneffe 7.39 322 ⇑Pn **Pn 05 12 58.9 +3.6**
BOVS Bovan 7.53 96 *e*Pn **Pn 05 12 57.5 +0.2**
LFF La Frestale 7.55 274 *e*Pn **Pn 05 12 58.0 +0.5**
LFF La Frestale 7.55 274 *e*Pg Pb 05 13 29.8 +11
LFF *e*Sn **Sn 05 14 20.0 -2.9**
LFF *e*Sg Sb 05 15 08.1 +20
comp=N,5.5nm,0.5s
BARS Barje 7.83 102 *e*Pn **Pn 05 13 01.7 +0.3**
HERR Herculane 7.85 86 ⇑*i*P **Pn 05 13 02.4 +0.7**
SKO Skopje 7.88 108 *i* P **Pn 05 13 02.4 +0.2**
KRUS Krusevo 8.03 112 *i* P **Pn 05 13 04.7 +0.3**
DRGR 8.15 72 ⇓*i*P **Pn 05 13 06.4 +0.5**
EPF Esparros 8.17 261 *e*P Pn 05 13 11.9 +5.8
EPF *e*Sn **Sn 05 14 35.0 -3.3**
comp=N,5.4nm,0.8s
MFF Saint Martin d 8.24 286 *e*Pn **Pn 05 13 07.8 +0.8**
SNR=1.0
MFF Saint Martin d 8.24 286 *e*Pg Pb 05 13 42.8 +12
MFF *e*Sn **Sn 05 14 35.9 -4.0**
comp=N,14nm,0.8s
ZAPS Zavoj 8.27 97 *e*Pn **Pn 05 13 07.5 0.0**
FNA Florina 8.41 116 *e*Pn **Pn 05 13 09.4 -0.1**
FNA *e*Sn **Sn 05 14 47.9 +3.6**
STIP Stip 8.51 108 *i* P **Pn 05 13 12.1 +1.4**
LDF La Druitiere 8.72 299 *e*Pn **Pn 05 13 14.3 +0.7**
SNR=1.0
LDF La Druitiere 8.72 299 *e*P Pn 05 13 19.9 +6.2
LDF La Druitiere 8.72 299 *e*Pg Pn 05 13 51.8 +38
LDF *e*Sn **Sn 05 14 47.9 -3.9**
comp=N,19nm,0.8s
ETSF Etsaut 8.84 261 *e*P Pn 05 13 21.3 +6.0
ETSF *e*Sn **Sn 05 14 50.7 -4.1**
comp=N,1.5nm,0.4s
VTS Vitosha 8.88 101 *e*Pn **Pn 05 13 15.5 -0.5**
VTS Vitosha 8.88 101 *e*Pn **Pn 05 13 16.7 +0.7**
VTS Vitosha 8.88 101 ⇓*i*P **Pn 05 13 16.0 0.0**
FLN La Foliniere 9.01 300 *e*Pn **Pn 05 13 18.0 +0.5**
baz=120
FLN La Foliniere 9.01 300 *e*Pg Pn 05 13 56.7 +39
baz=119
FLN *e*Sn **Sn 05 14 54.7 -4.0**
comp=N,7.1nm,0.5s
GRR Gorron 9.12 297 *e*Pn **Pn 05 13 19.1 +0.1**
SNR=1.0
GRR Gorron 9.12 297 *e*P Pn 05 13 24.9 +5.9
GRR *e*Sn **Sn 05 14 57.2 -4.2**
comp=N,2.8nm,0.4s
SJPF Ste Jean 9.25 263 *e*P Pn 05 13 25.8 +4.9
KEST Kesra 9.26 190 Pn **Pn 05 13 18.6 -2.6**
comp=N,0.2nm,0.3s,baz=355,slow=9.3,SNR=2.4
ARR Arges 9.39 82 ⇓*i*P **Pn 05 13 24.5 +1.6**
BUR08 Bucovina Ar. S 9.97 69 *e*Pn **Pn 05 13 33.2 +2.3**
BURAR Bucovina Array 9.98 69 *e*Pn **Pn 05 13 31.5 +0.6**
AGG Agios Georgios 10.04 122 *e*Pn **Pn 05 13 32.0 +0.2**
SGMF Saint Gilles 10.17 294 *e*Pn **Pn 05 13 33.7 +0.3**
SNR=1.0
MLR Muntele Rosu 10.31 81 Pn **Pn 05 13 33.4 -2.2**
comp=N,0.1nm,0.3s,baz=210,slow=8.1,SNR=2.3
QUIF Quistinic 10.49 292 *e*Pn **Pn 05 13 37.2 -0.6**
SNR=1.0
ROSF Rostrenen 10.65 294 *e*Pn **Pn 05 13 40.3 +0.2**
SNR=1.0
ITM Ithomi 11.07 130 *e*Pn **Pn 05 13 49.5 +3.7**
ALN Alexandroupoli 11.48 105 *e*Pn **Pn 05 13 52.6 +1.2**
TIRR Tirgusor 12.15 86 *e*Pn **Pn 05 14 01.1 +0.6**
ESDC Sonseca Array 12.48 251 *e*Pn **Pn 05 14 05.8 +0.6**
comp=N,0.2nm,0.3s,baz=65,slow=14,SNR=4.3
AKASG Malin Array Be 13.33 58 Pn **Pn 05 14 16.0 -0.7**
comp=N,0.3nm,0.3s,baz=252,slow=12,SNR=3.1
EKA Eskdalemuir Ar 13.98 324 Pn **Pn 05 14 28.4 +2.8**
baz=135,slow=14,SNR=5.1
NB2 NORSAR Subarra 16.19 360 P **P 05 14 58.7 +0.6**
comp=Z,7.7nm,1.4s,baz=177,slow=14
NOA NORSAR Array B 16.19 360 Pn **P 05 14 57.6 -0.5**
comp=Z,0.0nm,0.3s,baz=178,slow=11,SNR=4.1
NOA LR LR 05 21 26.9
comp=Z,17nm,18.1s,baz=175,slow=38
FINES FINESS Array B 18.71 22 P **P 05 15 26.0 +0.2**
comp=Z,0.2nm,0.3s,baz=200,slow=9.6,SNR=10
FINES LR LR 05 22 14.3
comp=Z,40nm,18.5s,baz=214,slow=36
MMAI Mount Meron Ar 22.04 114 P **P 05 16 05.2 +3.0**
comp=Z,0.5nm,0.5s,baz=311,slow=11,SNR=2.7
KBZ Khabaz 22.53 82 P **P 05 16 06.5 -0.7**
comp=Z,0.6nm,0.4s,baz=302,slow=11,SNR=1.8
ARCES ARCESS Array B 25.74 11 P **P 05 16 38.2 +0.5**
comp=Z,0.4nm,0.6s,baz=208,slow=7.6,SNR=3.2
TORD Torodi Ar. Bea 32.68 198 P **P 05 17 37.6 -2.3**
comp=Z,1.5nm,0.6s,baz=5.2,slow=9.9,SNR=10
TORD PcP **PcP 05 20 25.1 -0.4**
comp=Z,0.4nm,0.7s,baz=356,slow=3.3,SNR=3.3
DBIC Dimbokro 40.60 205 P **P 05 18 45.6 -1.7**
comp=Z,1.8nm,0.7s,baz=21,slow=8.6,SNR=2.5
MKAR Makanchi Array 47.89 61 P **P 05 19 45.1 -0.3**
comp=Z,0.7nm,0.6s,baz=286,slow=5.7,SNR=4.4
INK Inuvik 64.11 346 P **P 05 21 41.7 +0.5**
comp=Z,0.3nm,0.6s,baz=59,slow=3.5,SNR=3.0
YKA Yellowknife Ar 64.60 335 P **P 05 21 45.8 +1.4**
comp=Z,0.6nm,0.8s,baz=42,slow=6.2,SNR=9.4
ULM Lac du Bonnet 66.18 318 P **P 05 21 55.6 +0.7**
comp=Z,0.9nm,0.5s,baz=14,slow=4.2,SNR=3.1
ILAR Eielson Array 69.37 350 P **P 05 22 16.8 +2.1**
comp=Z,0.4nm,0.8s,baz=356,slow=5.8,SNR=3.5
TXAR Lajitas Array 85.41 307 P **P 05 23 46.7 +1.5**
comp=Z,0.3nm,0.7s,baz=66,slow=4.4,SNR=4.4
VNDA Vanda 145.18 169 PKP **PKPbc 05 30 42.4 -0.8**

comp=Z,0.7nm,0.7s,baz=241,slow=1.1,SNR=5.6

*IDC **04** 05:21:23.3±0.8, 14°.69N×52°.25E, h0km, mb3.8/16, mb1 3.9/17, mb1mx3.8/48, mbtmp3.8/17, ML3.8/1, MS3.2/10, Ms1 3.2/10, ms1mx3.0/38, Error ellipse: s-maj=21.0km s-min=17.2km az=22.0*
*ISCJB **04** 05:21:24.2±0.5, 14°.67N±0°.08×52°.23E±0°.07, h15km, mb4.2/31, MS3.2/9, Error ellipse: s-maj=12.0km s-min=9.0km az=14.8*
*NEIC **04** 05:21:25.3±1.9, 14°.68N×52°.26E, h10km±4km, mb4.6/20, Error ellipse: s-maj=19.6km s-min=15.3km az=148.0*
ISC 04 05:21:25.6±0.7, 14°.7N±0°.1×52°.26E±0°.10, h15km, n64, σ1§02/59, mb4.2/31, MS3.2/9, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**9.69**	**252**	*e*Pn	Pn	05 23 49.9	+5.3
WSAR	**Wadi Sarin**	**10.43**	**34**	Pn	**Pn**	**05 23 52.8**	**-2.0**
	0.7nm,0.3s,baz=255,slow=13,SNR=5.2						
WSAR				LR	LR	05 26 54.1	
	comp=Z,73nm,19.9s,baz=242,slow=32						
EIL	**Elat**	**21.85**	**316**	P	**P**	**05 26 15.9**	**-1.8**
	1.0nm,0.4s,baz=159,slow=14,SNR=2.6						
EIL				LR	LR	05 34 51.9	
	comp=Z,50nm,20.7s,baz=268,slow=37						
ASF	**Jabal al Asfar**	**22.35**	**324**	P	**P**	**05 26 22.7**	**-0.6**
	1.4nm,0.7s,baz=158,slow=11,SNR=2.5						
GEYT	**Alibeck**	**23.73**	**12**	LR	LR	05 37 44.4	
	comp=Z,128nm,19.2s,baz=215,slow=41						
MMAI	**Mount Meron Ar**	**23.83**	**323**	LR	LR	05 36 48.0	
	comp=Z,37nm,19.2s,baz=185,slow=39						
SIRT	**Sirnak**	**24.35**	**341**	*e*P	**P**	**05 26 45.2**	**+2.1**
	95nm,1.3s						
KBL	**Kabul**	**24.91**	**34**	*e*P	**P**	**05 26 49.9**	**+1.5**
	16nm,1.0s						
GNI	**Garni**	**26.21**	**347**	*e*P	**P**	**05 27 02.8**	**+2.7**
	8.6nm,0.8s						
GNI	**Garni**	**26.21**	**347**	LR	LR	05 39 32.5	
	comp=Z,64nm,19.6s,baz=158,slow=42						
CHGR	**Chuyangaron**	**28.16**	**29**	*e*P	**P**	**05 27 17.9**	**+0.3**
	28nm,0.9s						
BR101	**Keskin Array S**	**29.82**	**330**	*e*P	**P**	**05 27 32.5**	**+0.2**
BR131	**Keskin Array S**	**29.82**	**330**	*e*P	**P**	**05 27 32.7**	**+0.4**
	7.4nm,1.4s						
BRTR	**Keskin Array B**	**29.82**	**330**	*e*P	**P**	**05 27 32.7**	**+0.4**
BRTR	**Keskin Array B**	**29.82**	**330**	P	**P**	**05 27 32.5**	**+0.2**
	0.7nm,0.7s,baz=137,slow=11,SNR=6.3						
BRTR				LR	LR	05 40 07.9	
	comp=Z,22nm,20.2s,baz=98,slow=38						
KBZ	**Khabaz**	**30.04**	**346**	P	**P**	**05 27 34.5**	**+0.5**
	1.0nm,0.6s,baz=179,slow=3.3,SNR=3.8						
KBZ				LR	LR	05 42 25.7	
	comp=Z,97nm,19.8s,baz=158,slow=42						
KIV	**Kislovodsk**	**30.30**	**346**	*e*P	**P**	**05 27 37.0**	**+0.6**
	6.8nm,0.6s						
ANTO	**Ankara**	**30.34**	**329**	*e*P	**P**	**05 27 37.9**	**+1.1**
	9.9nm,0.8s						
ILGA	**Ilgaz**	**30.83**	**332**	*e*P	**P**	**05 27 42.3**	**+0.9**
	14nm,1.1s						
KKAR	**Karatay Array**	**32.37**	**25**	*e*P	**P**	**05 27 56.6**	**+1.9**
ABKAR	**Akbulak array**	**35.05**	**9**	*e*P	**P**	**05 28 18.2**	**+0.4**
AGG	**Agios Georgios**	**35.78**	**318**	*e*P	**P**	**05 28 25.2**	**+0.9**
	4.6nm,1.2s						
TIRR	**Tirgusor**	**35.94**	**330**	*e*P	**P**	**05 28 26.3**	**+0.8**
	4.2nm,1.0s						
BURAR	**Bucovina Array**	**39.77**	**331**	*e*P	**P**	**05 28 59.1**	**+1.1**
AKASG	**Malin Array Be**	**40.47**	**337**	P	**P**	**05 29 03.6**	**0.0**
	1.7nm,0.7s,baz=140,slow=7.6,SNR=11						
AKBB	**Malin Array Si**	**40.47**	**337**	*e*P	**P**	**05 29 03.6**	**0.0**
	12nm,1.2s						
KIEV	**Kiev**	**40.47**	**337**	*e*P	**P**	**05 29 03.5**	**-0.2**
	14nm,1.3s						
MK31	**Makanchi Array**	**40.66**	**32**	*e*P	**P**	**05 29 07.0**	**+1.7**
	2.5nm,1.0s						
MK32	**Makanchi Array**	**40.66**	**32**	*e*P	**P**	**05 29 05.7**	**+0.4**
MKAR	**Makanchi Array**	**40.66**	**32**	P	**P**	**05 29 05.7**	**+0.4**
	1.2nm,0.6s,baz=221,slow=7.8,SNR=8.8						
CM31	**Chiang Mai Arr**	**44.81**	**78**	*e*P	**P**	**05 29 40.2**	**+0.7**
	7.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**44.81**	**78**	*e*P	**P**	**05 29 40.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**44.81**	**78**	P	**P**	**05 29 39.7**	**+0.3**
	1.6nm,0.6s,baz=277,slow=8.4,SNR=13						
ZALV	**Zalesovo Beam**	**46.74**	**26**	*e*P	**P**	**05 29 53.5**	**-0.7**
ZALV	**Zalesovo Beam**	**46.74**	**26**	P	**P**	**05 29 53.9**	**-0.2**
	1.6nm,0.6s,baz=241,slow=8.8,SNR=8.6						
ZAA1	**Zalesovo Array**	**46.75**	**26**	*e*P	**P**	**05 29 53.9**	**-0.3**
LBTB	**Lobatse**	**47.25**	**214**	*e*P	**P**	**05 30 00.0**	**+1.5**
	6.8nm,0.9s						
LBTB	**Lobatse**	**47.25**	**214**	P	**P**	**05 29 59.0**	**+0.5**
	2.9nm,0.9s,baz=40,slow=5.4,SNR=4.5						
CLL	**Collm**	**48.21**	**328**	*i* P	**P**	**05 30 06.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**49.02**	**275**	P	**P**	**05 30 12.5**	**+0.1**
	9.0nm,0.3s,baz=76,slow=5.3,SNR=3.2						
TOA1	**Torodi Ar. Sit**	**49.02**	**275**	*e*P	**P**	**05 30 12.5**	**+0.1**
FIA0	**FINESS Array S**	**50.35**	**344**	*e*P	**P**	**05 30 22.0**	**+0.3**
FIA1	**FINESS Array S**	**50.35**	**344**	*e*P	**P**	**05 30 22.5**	**+0.8**
	9.9nm,1.4s						
FINES	**FINESS Array B**	**50.35**	**344**	*e*P	**P**	**05 30 22.4**	**+0.7**
FINES	**FINESS Array B**	**50.35**	**344**	P	**P**	**05 30 22.0**	**+0.3**
	1.0nm,0.6s,baz=138,slow=10,SNR=9.1						
FINES				LR	LR	05 55 07.1	
	comp=Z,39nm,18.1s,baz=152,slow=40						
ESDC	**Sonseca Array**	**54.87**	**308**	*e*P	**P**	**05 30 55.1**	**-0.6**
ESDC	**Sonseca Array**	**54.87**	**308**	P	**P**	**05 30 55.3**	**-0.4**
	0.3nm,0.6s,baz=90,slow=6.2,SNR=4.8						
NB200	**NORSAR Array S**	**54.88**	**337**	*e*P	**P**	**05 30 55.3**	**-0.2**
NOA	**NORSAR Array B**	**54.88**	**337**	P	**P**	**05 30 55.3**	**-0.2**
	0.2nm,0.7s,baz=133,slow=8.5,SNR=2.6						
NOA				LR	LR	05 56 43.7	
	comp=Z,14nm,20.5s,baz=250,slow=39						
SONA0	**Songino Array**	**55.38**	**42**	*e*P	**P**	**05 30 59.5**	**+0.1**
SONM	**Songino Array**	**55.38**	**42**	*e*P	**P**	**05 31 00.5**	**+1.1**
SONM	**Songino Array**	**55.38**	**42**	P	**P**	**05 30 59.5**	**+0.1**
	0.9nm,0.7s,baz=227,slow=7.7,SNR=3.7						
NRIK	**Noril'sk**	**58.95**	**14**	LR	LR	06 01 10.2	
	comp=Z,45nm,19.2s,baz=106,slow=40						
KSRS	**Korea Array**	**69.93**	**55**	P	**P**	**05 32 36.2**	**-0.3**
	0.5nm,0.5s,baz=275,slow=6.0,SNR=4.1						
WR1	**Warramunga Arr**	**87.71**	**111**	*e*P	**P**	**05 34 14.1**	**-0.3**
WRA	**Warramunga Arr**	**87.71**	**111**	P	**P**	**05 34 14.1**	**-0.3**
	0.5nm,0.6s,baz=301,slow=3.9,SNR=4.3						
ASAR	**Alice Springs**	**88.37**	**115**	P	**P**	**05 34 17.6**	**0.0**
	0.4nm,0.8s,baz=286,slow=5.1,SNR=4.5						
255A	**Hazlehurst**	**116.53**	**318**	*e*PKPdf	**PKPdf**	**05 40 09.0**	**-0.7**
E03A	**Lebam**	**118.94**	**357**	*e*PKPdf	**PKiKP**	**05 40 15.4**	**+1.5**
NV01	**Mina Array Sit**	**126.44**	**351**	*e*PKPdf	**PKPdf**	**05 40 27.4**	**-1.4**
NVAR	**Mina Array Bea**	**126.44**	**351**	PKP	**PKPdf**	**05 40 27.4**	**-1.4**
	0.3nm,0.7s,baz=90,slow=0.2,SNR=3.9						
U15A	**North Rim**	**127.11**	**344**	*e*PKPdf	**PKPdf**	**05 40 28.4**	**-1.8**
NIUE	**Niue**	**139.47**	**102**	*e*PKPdf	**PKiKP**	**05 40 54.7**	**-1.0**
PTCN	**Pitcairn Islan**	**169.43**	**168**	*e*PKPdf	**PKPdf**	**05 41 31.0**	**-2.2**

*IDC **04** 05:35:55.2±1.9, 11°.20S×164°.91E, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.8/36, mbtmp4.0/7, ML4.1/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/30, Error ellipse: s-maj=46.7km s-min=32.0km az=129.0*
*NEIC **04** 05:35:55.7±1.0, 11°.11S×165°.08E, h10km, mb4.4/6, Error ellipse: s-maj=18.4km s-min=11.1km az=223.0*
*ISCJB **04** 05:35:57.5±0.8, 11°.36S±0°.09×165°.06E±0°.10, h31km, mb4.3/9, MS3.5/2, Error ellipse: s-maj=15.0km s-min=12.4km az=141.7*
ISC 04 05:35:59.0±0.9, 11°.28S±0°.10×165°.0E±0°.1, h31km, n21, σ1§67/19, mb4.1/9, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.29**	**290**	*e*Pn	**Pn**	**05 37 13.4**	**-2.5**
DZM	**Mont Dzumac**	**10.82**	**173**	*e*Pn	**Pn**	**05 38 32.3**	**+0.4**
DZM	**Mont Dzumac**	**10.82**	**173**	Pn	**Pn**	**05 38 32.1**	**+0.1**
	1.3nm,0.3s,baz=309,slow=11,SNR=27						
DZM				Sn	**Sn**	**05 40 28.6**	**-3.4**
	0.1nm,0.3s,baz=175,slow=23,SNR=2.4						
DZM				LR	LR	05 41 44.2	
	comp=Z,85nm,19.1s,baz=198,slow=32						
ONTNC	**Ouen Toro**	**11.05**	**173**	*e*Pn	**Pn**	**05 38 36.7**	**+1.6**
PINNC	**Pines Island,**	**11.51**	**169**	*e*Pn	**Pn**	**05 38 41.0**	**-0.3**
PMG	**Port Moresby**	**17.64**	**274**	LR	LR	05 45 33.0	
	comp=Z,100nm,21.7s,baz=104,slow=33						
CTA	**Charters Tower**	**20.03**	**242**	P	**P**	**05 40 28.2**	**-1.4**
	3.3nm,0.8s,baz=70,slow=12,SNR=2.1						
STKA	**Stephens Creek**	**29.76**	**223**	*e*P	**P**	**05 42 06.0**	**+3.1**
	1.2nm,1.0s						
STKA	**Stephens Creek**	**29.76**	**223**	P	**P**	**05 42 03.9**	**+0.9**
	3.0nm,0.8s,baz=38,slow=12,SNR=4.5						
WC3	**Warramunga Arr**	**30.67**	**250**	*e*P	**P**	**05 42 12.4**	**+1.3**
	5.3nm,1.1s						
WB2	**Warramunga Arr**	**30.69**	**250**	*e*P	**P**	**05 42 12.8**	**+1.5**
	6.1nm,1.0s						
WR1	**Warramunga Arr**	**30.70**	**250**	*e*P	**P**	**05 42 12.3**	**+0.9**
WRA	**Warramunga Arr**	**30.70**	**250**	P	**P**	**05 42 12.3**	**+0.9**
	2.8nm,1.0s,baz=78,slow=8.9,SNR=6.5						
ASAR	**Alice Springs**	**32.02**	**243**	P	**P**	**05 42 24.0**	**+1.0**
	1.7nm,0.7s,baz=69,slow=9.6,SNR=14						
FITZ	**Fitzroy Crossi**	**38.60**	**255**	*e*P	**P**	**05 43 20.7**	**+1.1**
	2.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**38.60**	**255**	P	**P**	**05 43 19.0**	**-0.7**
	2.2nm,1.0s,baz=90,slow=9.1,SNR=3.1						
XMAS	**Kiritimati**	**39.64**	**73**	*e*P	**P**	**05 43 27.2**	**-1.1**
	102nm,1.1s						
MCQ	**Macquarie Isla**	**43.37**	**185**	*e*P	**P**	**05 43 59.4**	**+1.0**
	52nm,1.1s						
MA2	**Magadan**	**71.54**	**352**	LR	LR	06 13 00.2	
	comp=Z,23nm,20.5s,baz=117,slow=31						
KDAK	**Kodiak Island**	**77.07**	**22**	LR	LR	06 19 38.2	
	comp=Z,31nm,19.3s,baz=107,slow=34						
ILAR	**Eielson Array**	**83.97**	**19**	P	**P**	**05 48 26.7**	**+0.8**
	0.3nm,0.8s,baz=233,slow=5.1,SNR=2.5						

IDC 04 05:54:36.0±2.6, 7°.08S×129°.00E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.3/22, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=199.0km s-min=34.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.79**	**158**	Pn	Pn	05 57 52.5	-0.5
	0.2nm,0.3s,baz=332,slow=14,SNR=3.3						
WRA				Sn	Sn	06 00 15.1	-12
	0.5nm,0.3s,baz=159,slow=13,SNR=13						
ASAR	**Alice Springs**	**17.15**	**165**	Pn	Pn	05 58 37.7	+0.4
	0.1nm,0.3s,baz=344,slow=9.7,SNR=5.6						
MKAR	**Makanchi Array**	**67.75**	**327**	P	P	06 05 35.6	0.0
	0.2nm,0.5s,baz=110,slow=8.0,SNR=1.6						

*KRNET **04** 06:05:05.4±0.1, 39°.94N×70°.64E, mb2.6*
*SOME **04** 06:05:06.3, 40°.03N×70°.50E, h10km*
*ISCJB **04** 06:05:07.3±1.3, 39°.92N±0°.05×70°.70E±0°.09, h10km, Error ellipse: s-maj=10.7km s-min=6.5km az=150.8*
ISC 04 06:05:06.8±1.7, 39°.98N±0°.06×70°.68E±0°.08, h10km, n11, σ1§92/20, 12C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.13**	**54**	⇑*i*P	**Pg**	**06 05 09.0**	**-0.9**
	baz=50						
BTK				⇑*i*S	**Sg**	**06 05 12.4**	**+0.3**
	baz=50						
DRK	**Karamyk**	**1.00**	**120**	⇓*i*P	**Pg**	**06 05 24.1**	**-1.9**
	baz=17						
DRK				⇓*i*S	**Sg**	**06 05 38.4**	**-0.6**
	baz=17						
ARK	**Arkit**	**2.06**	**28**	⇑*i*P	**Pb**	**06 05 42.6**	**-1.7**
	baz=29						
ARK				⇑*i*S	**Sb**	**06 06 10.5**	**+0.5**
	baz=29						
ARSB	**Arslanbob**	**2.20**	**52**	⇓*e*P	**Pb**	**06 05 45.2**	**-1.6**
	baz=52						
ARSB				⇓*i*S	**Sb**	**06 06 14.1**	**-0.2**
	baz=52						
IUG	**Iuzhnay**	**2.22**	**347**	*e*P	**Pb**	**06 05 46.1**	**-1.0**
	52nm,0.2s						
IUG				*e*S	**Sb**	**06 06 14.3**	**-0.3**
	51nm,0.3s						
KK31	**Karatay Array**	**3.12**	**358**	⇑Pg	**Pb**	**06 06 01.8**	**-0.6**
	0.6nm,0.3s,baz=177,slow=12,SNR=23						
KK31				⇓Lg	Lg	06 06 43.4	
	3.0nm,0.5s,baz=181,slow=32,SNR=9.5						
AML	**Almayashu**	**3.13**	**46**	⇑*i*P	**Pn**	**06 05 58.6**	**+2.0**
	baz=46						
AML				⇑*i*S	**Sn**	**06 06 36.4**	**+2.2**
	baz=46						
MRKS	**Merke**	**3.36**	**34**	*e*P	**Pg**	**06 06 08.6**	**-2.5**
	4.7nm,0.3s						
MRKS				*e*S	**Sg**	**06 06 52.8**	**-1.9**
	4.0nm,0.5s						
EKS2	**Erkin-Say**	**3.55**	**40**	⇑*i*P	**Pn**	**06 06 03.1**	**+1.0**
	baz=40						
EKS2				⇑*i*S	**Sn**	**06 06 44.5**	**+0.3**
	baz=40						
UCH	**Uchtor**	**3.66**	**51**	⇑*e*P	**Pn**	**06 06 06.9**	**+3.0**
	baz=51						
UCH				⇑*i*S	**Sn**	**06 06 50.1**	**+2.7**
	baz=51						
AAK	**Ala-Archa**	**3.91**	**46**	⇓Pn	**Pn**	**06 06 10.8**	**+3.7**
	4.3nm,0.9s						
AAK				⇑Lg	Lg	06 07 13.4	
	2.2nm,0.5s						

*SOME **04** 06:08:31.9, 44°.73N×82°.07E, h0km*
*NNC **04** 06:08:32.9±0.8, 44°.68N×82°.04E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=8.2km s-min=3.8km az=124.0*
ISC 04 06:08:31.9±1.6, 44°.68N±0°.04×82°.05E±0°.06, h1km±14km, n33, σ1§48/49, 1C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.74**	**225**	P	**Pn**	**06 09 03.2**	**-0.2**
	8.7nm,0.2s						
KTMS				S	**Sn**	**06 09 25.7**	**-0.7**
	37nm,0.4s						
KTMS	**Ketmen**	**1.74**	**225**	*e*P	**Pg**	**06 09 06.4**	**+1.1**
	8.7nm,0.2s						
KTMS				*e*S	**Sg**	**06 09 30.9**	**+3.1**
	37nm,0.4s						
KAPS	**Kapalarasan**	**2.01**	**288**	Pg	**Pg**	**06 09 11.0**	**+0.7**
	5.0nm,0.2s						
KAPS				Lg	Lg	06 09 39.0	
	17nm,0.7s						
KAPS	**Kapalarasan**	**2.01**	**288**	⇓*i*P	**Pg**	**06 09 11.0**	**+0.7**
	3.0nm,0.1s						
KAPS				⇓*i*S	**Sg**	**06 09 39.0**	**+2.7**
	16nm,0.4s						
MK31	**Makanchi Array**	**2.12**	**4**	Pg	**Pb**	**06 09 11.0**	**-0.1**
	6.6nm,0.2s,baz=189,slow=16,SNR=300						
MK31				Lg	Lg	06 09 38.5	
	5.1nm,0.3s,baz=186,slow=26,SNR=23						
MAKZ	**Makanchi**	**2.12**	**359**	⇓Pg	**Pb**	**06 09 10.4**	**-0.8**
	2.4nm,0.2s						
MAKZ				⇓Lg	Lg	06 09 38.8	
	7.9nm,0.4s						
PDGK	**Podgornoye**	**2.29**	**235**	Pg	**Pg**	**06 09 15.3**	**-0.5**
	2.9nm,0.2s						
PDGK				Lg	Lg	06 09 46.6	
	12nm,0.6s						
PDGK	**Podgornoye**	**2.29**	**235**	⇑Pg	**Pb**	**06 09 14.1**	**-0.1**
	1.6nm,0.3s						
PDGK				⇓Lg	Lg	06 09 46.3	
	21nm,0.6s						
SHLS	**Shalkode**	**2.42**	**232**	Pg	**Pn**	**06 09 13.8**	**+1.1**
	12nm,0.2s						
SHLS				Lg	Lg	06 09 44.1	
	73nm,0.3s						
SHLS	**Shalkode**	**2.42**	**232**	*e*P	**Pn**	**06 09 13.8**	**+1.1**
	12nm,0.2s						
SHLS				*e*S	**Sb**	**06 09 44.1**	**-2.5**
	73nm,0.3s						
TDK	**Taldyqorghan**	**2.61**	**278**	Pg	**Pg**	**06 09 21.5**	**-0.4**
	57nm,0.3s						
TDK				Lg	Lg	06 09 57.2	
	71nm,0.3s						
TDK	**Taldyqorghan**	**2.61**	**278**	*e*P	**Pg**	**06 09 21.5**	**-0.4**
	57nm,0.3s						
TDK				*e*S	**Sg**	**06 09 57.2**	**+1.4**
	71nm,0.3s						
UZB	**Uzynbulak**	**2.68**	**236**	Pg	**Pb**	**06 09 21.6**	**+0.9**
	5.6nm,0.2s						
UZB				Lg	Lg	06 09 57.2	
	8.1nm,0.2s						
UZB	**Uzynbulak**	**2.68**	**236**	*e*P	**Pb**	**06 09 21.6**	**+0.9**
	5.6nm,0.2s						
UZB				*e*S	**Sg**	**06 09 57.2**	**-0.6**
	8.1nm,0.2s						
MNBS	**Baschi**	**2.69**	**258**	Pg	**Pg**	**06 09 22.2**	**-1.1**
	7.5nm,0.2s						
MNBS				Lg	Lg	06 09 58.3	
	32nm,0.3s						
MNBS	**Baschi**	**2.69**	**258**	*e*P	**Pg**	**06 09 22.2**	**-1.1**
	7.5nm,0.2s						
MNBS				*e*S	**Sg**	**06 09 58.3**	**+0.1**
	32nm,0.3s						
KPKS	**Kokpek**	**2.72**	**245**	*e*P	**Pg**	**06 09 22.8**	**-1.1**
	9.7nm,0.1s						
KPKS				*e*S	**Sg**	**06 09 59.5**	**+0.3**
	43nm,0.2s						
ZHN	**Zhinishke**	**3.02**	**241**	Pg	**Pb**	**06 09 28.1**	**+1.6**
	4.6nm,0.1s						
ZHN				Lg	Lg	06 10 08.5	
	22nm,0.1s						
ZHN	**Zhinishke**	**3.02**	**241**	*e*P	**Pb**	**06 09 28.1**	**+1.6**
	4.6nm,0.1s						
ZHN				*e*S	**Sg**	**06 10 08.5**	**-0.5**
	22nm,0.1s						
KURS	**Kuram**	**3.04**	**248**	Pg	**Pb**	**06 09 28.5**	**+1.6**
	9.4nm,0.9s						
KURS				Lg	Lg	06 10 09.1	
	4.6nm,0.5s						
KURS	**Kuram**	**3.04**	**248**	*e*P	**Pb**	**06 09 28.5**	**+1.6**
	9.4nm,0.9s						
KURS				*e*S	**Sg**	**06 10 09.1**	**-0.5**
	4.6nm,0.5s						
ARXS	**Arharly**	**3.06**	**263**	Pg	**Pg**	**06 09 29.0**	**-1.5**
	8.0nm,0.5s						
ARXS				Lg	Lg	06 10 10.3	
	18nm,0.3s						
ARXS	**Arharly**	**3.06**	**263**	*e*P	**Pg**	**06 09 29.1**	**-1.5**
	8.0nm,0.5s						
ARXS				*e*S	**Sg**	**06 10 10.3**	**0.0**
	18nm,0.3s						
SATY	**Saty**	**3.10**	**240**	Pg	**Pb**	**06 09 28.9**	**+1.0**
	8.7nm,0.2s						
SATY				Lg	Lg	06 10 10.0	
	32nm,0.2s						
SATY	**Saty**	**3.10**	**240**	*e*P	**Pb**	**06 09 28.9**	**+1.0**
	8.7nm,0.2s						
SATY				*e*S	**Sg**	**06 10 10.0**	**-1.4**
	32nm,0.2s						
ZSN	**Zaisan**	**3.39**	**34**	Pg	**Pb**	**06 09 33.7**	**+1.0**
	2.8nm,0.3s						
ZSN				Lg	Lg	06 10 18.0	
	3.8nm,0.3s						
ZSN	**Zaisan**	**3.39**	**34**	*e*P	**Pb**	**06 09 32.0**	**-0.7**
	1.8nm,0.2s						
ZSN				*e*S	**Sb**	**06 10 15.1**	**+0.6**
	3.8nm,0.3s						
CHKK	**Chushkaly**	**3.73**	**259**	Pg	**Pb**	**06 09 40.1**	**+1.5**
	1.7nm,0.2s						
CHKK				Lg	Lg	06 10 29.2	
	11nm,0.2s						
CHKK	**Chushkaly**	**3.73**	**259**	*e*P	**Pb**	**06 09 40.1**	**+1.5**
	1.7nm,0.2s						
CHKK				*e*S	**Sg**	**06 10 29.2**	**-2.5**
	11nm,0.2s						
KTBS	**Karatobe**	**3.98**	**258**	Pg	**Pb**	**06 09 44.4**	**+1.5**
	1.3nm,0.4s						
KTBS				Lg	Lg	06 10 36.5	
	5.3nm,0.3s						
KTBS	**Karatobe**	**3.98**	**258**	*e*P	**Pb**	**06 09 44.4**	**+1.5**
	1.3nm,0.4s						
KTBS				*e*S	**Sg**	**06 10 36.5**	**-3.2**
	5.3nm,0.3s						
TNSS	**Tian-Shan**	**4.04**	**248**	Pg	**Pb**	**06 09 45.5**	**+1.4**
	4.7nm,0.6s						
TNSS				Lg	Lg	06 10 38.6	
	3.7nm,0.4s						
TNSS	**Tian-Shan**	**4.04**	**248**	*e*P	**Pb**	**06 09 45.5**	**+1.4**
	4.7nm,0.6s						
TNSS				*e*S	**Sg**	**06 10 38.6**	**-3.2**
	3.7nm,0.4s						

*ISCJB **04** 06:23:48.2±1.2, 43°.8N±0°.1×147°.2E±0°.1, h77km±19km, Error ellipse: s-maj=23.0km s-min=7.1km az=138.0*
*JMA **04** 06:23:49.2±0.3, 43°.75N×147°.13E, h85km±4km, M2.8*
*SKHL **04** 06:23:49.1±0.6, 43°.73N×147°.29E, h33km, mb3.8/1*
ISC 04 06:23:48.8±2.0, 43°.8N±0°.1×147°.2E±0°.1, h68km±30km, n12, σ0§50/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.02**	**285**	*i* P	**Pn**	**06 24 07.0**	**-0.4**
YUK				AMB	AMB	06 24 07.0	
	30nm,0.2s						
YUK				AMB	AMB	06 24 07.0	
	40nm,0.2s						
YUK				AMB	AMB	06 24 07.0	
	20nm,0.2s						
YUK				*i* S	**Sn**	**06 24 21.0**	**-0.3**
YUK				A	A	06 24 21.0	
	370nm,0.2s						
YUK				A	A	06 24 21.0	
	300nm,0.2s						
GRPR	**Tuman**	**1.07**	**282**	*e*P	**Pn**	**06 24 08.0**	**-0.1**
GRPR				*e*S	**Sn**	**06 24 22.0**	**-0.5**
GRPR				A	A	06 24 24.0	
	250nm,0.2s						
GRPR				A	A	06 24 24.0	
	70nm,0.2s						
NEM2	**Nemuro 2**	**1.16**	**249**	P	**Pn**	**06 24 09.6**	**+0.4**
NEM2				*e*S	**Sn**	**06 24 24.7**	**+0.3**
KUR	**Kuril'sk**	**1.52**	**17**	*e*P	**Pn**	**06 24 14.2**	**+0.2**
KUR				*e*S	**Sn**	**06 24 32.7**	**-0.2**
KUR				A	A	06 24 33.5	
	270nm,0.3s						
KUR				A	A	06 24 33.5	
	140nm,0.3s						
JRA	**Rausu**	**1.53**	**277**	P	**Pn**	**06 24 14.6**	**+0.5**
JRA				*e*S	**Sn**	**06 24 34.0**	**+0.8**
JKHN	**Kushirohamanak**	**1.66**	**246**	P	**Pn**	**06 24 16.2**	**+0.4**
JKHN				*e*S	**Sn**	**06 24 36.7**	**+0.4**
JNK	**Nakash**	**1.83**	**265**	P	**Pn**	**06 24 18.2**	**+0.1**
JAK	**Akkeshi**	**2

DAV	**Davao City (W)**	5.37 352	Pn	**Pn**	**06 29 03.3**	**+3.4**
	24nm,0.3s,baz=300,slow=23,SNR=1.4					
DAV			Sn	**Sn**	**06 30 06.8**	**+6.4**
	75nm,0.3s,baz=245,slow=23,SNR=1.8					
DMPH	**Davao City--Mi**	5.39 351⇑	*e*P	**Pn**	**06 29 01.2**	**+1.0**
DMPH			*e*S	**Sn**	**06 30 03.3**	**+2.4**
SIJI	**Sorong**	5.57 118	Pn	**Pn**	**06 29 02.2**	**-0.4**
	2.0nm,0.3s,baz=343,slow=17,SNR=3.2					
SIJI			LR	LR	06 31 30.0	
	comp=Z,2μm,21.6s,baz=208,slow=40					
BUKP	**Musuan**	6.25 348	*e*P	**Pn**	**06 29 15.8**	**+3.9**
BUKP			*e*S	**Sn**	**06 30 26.2**	**+4.2**
PAGZ	**Pagadian**	6.76 334	*e*P	**Pn**	**06 29 19.5**	**+0.5**
IPIL	**Ipil**	7.09 328	*e*P	**Pn**	**06 29 23.9**	**+0.3**
BNDI	**Bandanaira**	7.16 150	P	**Pn**	**06 29 24.1**	**-0.3**
FAKI	**Fak Fak**	7.50 128	*e*Pn	**Pn**	**06 29 31.2**	**+2.0**
FAKI	**Fak Fak**	7.50 128	P	**Pn**	**06 29 26.8**	**-2.4**
TTSI	**Tana Toraja**	8.05 234	P	**Pn**	**06 29 39.5**	**+2.9**
SPSI	**Sidrap Palu**	8.65 229	P	**Pn**	**06 29 48.2**	**+3.3**
BNSI	**Bone**	8.70 226	P	**Pn**	**06 29 48.2**	**+2.7**
BKSI	**Bulukumba**	9.35 222	P	**Pn**	**06 29 57.9**	**+3.4**
	53nm,0.5s,719nm					
SMKI	**Samarinda**	9.37 257	P	Pn	06 30 00.8	+6.0
KAPI	**Kappang**	9.38 224	*e*Pn	**Pn**	**06 29 56.0**	**+1.1**
KAPI	**Kappang**	9.38 224	*e*P	**Pn**	**06 29 56.0**	**+1.1**
BSSI	**Bau Bau, Buton**	9.75 217	P	**Pn**	**06 30 02.3**	**+2.4**
KKM	**Kota Kinabalu**	10.96 293	*e*Pn	**Pn**	**06 30 17.3**	**+0.6**
KKM	**Kota Kinabalu**	10.96 293	P	**Pn**	**06 30 18.0**	**+1.3**
EDFI	**Ende, Flores**	11.38 204	P	**Pn**	**06 30 24.7**	**+2.3**
SOEI	**Soe**	11.59 190	*e*Pn	**Pn**	**06 30 23.7**	**-1.5**
SOEI	**Soe**	11.59 190	P	**Pn**	**06 30 26.7**	**+1.5**
MTKI	**Muara Teweh, K**	11.73 257	P	Pn	06 30 33.9	+6.8
BATI	**Baumata**	12.14 193	P	**Pn**	**06 30 34.8**	**+2.1**
BATI	**Baumata**	12.14 193	Pn	**P**	**06 30 40.7**	**-3.3**
	11nm,0.3s,baz=191,slow=3.1,SNR=5.8					
BATI			Sn	**Sn**	**06 32 50.8**	**+4.0**
	1.8nm,0.3s,baz=15,slow=6.8,SNR=1.7					
WBSI	**Waikabubak, Su**	13.24 211	P	**Pn**	**06 30 50.8**	**+3.1**
PLAI	**Plampang**	13.51 219	P	**Pn**	**06 30 54.5**	**+3.1**
SBUM	**Sibu**	14.12 273	*e*Pn	**Pn**	**06 30 56.4**	**-3.2**
SBUM	**Sibu**	14.12 273	P	**P**	**06 31 03.0**	**-2.9**
GENI	**Genyem**	14.48 107	P	**Pn**	**06 31 01.2**	**-3.3**
JAY	**Jayapura**	14.97 106	P	**Pn**	**06 31 08.6**	**-2.4**
JAY	**Jayapura**	14.97 106	Pn	**Pn**	**06 31 12.8**	**+1.8**
	0.9nm,0.3s,baz=315,slow=10.0,SNR=4.6					
JAY			Sn	**Sn**	**06 33 55.4**	**-0.4**
	0.3nm,0.3s,baz=230,slow=22,SNR=2.2					
MTN	**Manton Dam**	15.24 162	*e*Pn	**Pn**	**06 31 12.2**	**-2.1**
	54nm,0.6s					
JAGI	**Jajag, Banyuwa**	15.81 230	*e*Pn	**P**	**06 31 27.8**	**+3.1**
	162nm,1.3s					
JAGI	**Jajag, Banyuwa**	15.81 230	P	**P**	**06 31 24.3**	**-0.4**
KSM	**Kuching**	16.02 269	*e*Pn	**Pn**	**06 31 25.0**	**+0.7**
	100nm,1.0s					
KSM	**Kuching**	16.02 269	P	**P**	**06 31 30.0**	**+3.0**
GMJI	**Gumukmas**	16.24 232	P	**P**	**06 31 30.4**	**+0.9**
NGJI	**Ngawi**	17.37 239	P	**P**	**06 31 45.4**	**+3.4**
PWJI	**Pagerwojo**	17.42 236	P	**P**	**06 31 46.1**	**+3.5**
WOJI	**Wonogiri, Jawa**	18.06 238	P	**P**	**06 31 55.2**	**+5.5**
	89nm,0.9s					
SMRI	**Semarang**	18.09 241	*e*Pn	**Pn**	**06 31 52.3**	**+2.1**
	76nm,0.7s					
SMRI	**Semarang**	18.09 241	P	Pn	06 31 57.1	+6.9
UGM	**Wanagama**	18.44 239	*e*P	**Pn**	**06 31 55.8**	**+1.4**
	192nm,1.5s					
KPJI	**Karang Pucung**	19.55 242	P	**Pn**	**06 32 06.8**	**-0.9**
FITZ	**Fitzroy Crossi**	19.71 182	*e*P	**P**	**06 32 06.1**	**-1.5**
	38nm,1.3s					
FITZ	**Fitzroy Crossi**	19.71 182	P	**P**	**06 32 06.6**	**-1.0**
	2.8nm,0.3s,baz=14,slow=9.8,SNR=44					
FITZ			S	**S**	**06 35 43.6**	**-3.7**
	0.1nm,0.3s,baz=184,slow=12,SNR=3.0					
FITZ			LR	LR	06 39 26.7	
	comp=Z,93nm,21.3s,baz=355,slow=36					
CISI	**Cisompet, Garu**	20.64 243	P	Pn	06 32 29.9	+9.2
TWG	**Pinlang**	21.59 347	*e*P	**P**	**06 32 25.0**	**-2.9**
	160nm,0.6s					
YULB	**Yu-li**	22.09 348	*e*P	**P**	**06 32 29.6**	**-3.7**
	16nm,0.6s					
TPUB	**Ta-pu**	22.15 346	*e*P	**P**	**06 32 31.9**	**-2.1**
	59nm,0.7s					
CGJI	**Cibinong**	22.20 248	P	**P**	**06 32 36.0**	**+1.4**
	46nm,0.7s,2μm					
MYKOM	**Kota Tinggi**	22.47 271	*e*P	**P**	**06 32 36.9**	**-0.6**
	31nm,0.8s					
MYKOM	**Kota Tinggi**	22.47 271	P	**P**	**06 32 38.0**	**+0.5**
KLSI		22.50 253	P	P	06 32 48.9	+11
SSLB	**Suanglung**	22.55 347	*e*P	**P**	**06 32 36.3**	**-1.9**
	30nm,0.7s					
YOJ	**Yonaguni jima**	22.83 352	*e*P	**P**	**06 32 42.1**	**+0.9**
	114nm,1.3s					
COEN	**Coen**	22.84 134	*e*P	**P**	**06 32 40.6**	**-0.7**
	15nm,0.6s					
WRAB	**Tennant Creek**	22.91 160	*e*P	**P**	**06 32 40.3**	**-1.8**
	156nm,1.1s					
WRAB	**Tennant Creek**	22.91 160	*c i*P	**P**	**06 32 40.9**	**-1.2**
WR1	**Warramunga Arr**	22.92 160	*e*P	**P**	**06 32 40.8**	**-1.4**
WRA	**Warramunga Arr**	22.92 160	*e*P	**P**	**06 32 39.7**	**-2.5**
WRA	**Warramunga Arr**	22.92 160	*e*P	**P**	**06 32 39.7**	**-2.5**
WRA	**Warramunga Arr**	22.92 160	P	**P**	**06 32 40.8**	**-1.4**
	63nm,0.5s,baz=339,slow=11,SNR=342					
WRA			PcP	**PcP**	**06 36 31.8**	**+0.4**
	3.0nm,0.6s,baz=327,slow=2.3,SNR=4.2					
WRA			S	**S**	**06 36 46.2**	**-2.4**
	8.3nm,0.7s,baz=338,slow=18,SNR=5.1					
WRA			ScP	**ScP**	**06 40 06.2**	**+1.0**
	0.8nm,0.8s,baz=347,slow=3.4,SNR=3.4					
WRA			LR	LR	06 43 32.3	
	comp=Z,104nm,19.1s,baz=350,slow=42					
WB2	**Warramunga Arr**	22.92 160	*e*P	**P**	**06 32 40.6**	**-1.6**
	94nm,0.7s					
YHNB	**Yeheng**	23.31 349	*e*P	**P**	**06 32 44.3**	**-1.7**
	38nm,1.0s					
PMG	**Port Moresby**	23.51 118	*e*P	**P**	**06 32 47.0**	**-1.0**
	78nm,1.4s					
PMG	**Port Moresby**	23.51 118	*e*P	**P**	**06 32 47.0**	**-1.0**
PMG			pmax	pmax		
	comp=Z,79nm,1.4s					
PMG	**Port Moresby**	23.51 118	LR	LR	06 44 19.4	
	comp=Z,251nm,18.6s,baz=275,slow=42					
QIZ	**Qiongzhong**	23.59 318	P	**P**	**06 32 48.0**	**-0.7**
QIZ			S	**S**	**06 37 01.0**	**+1.3**
QIZ			pmax	pmax		
	comp=Z,25nm,0.6s					
QIZ	**Qiongzhong**	23.59 318	*e*P	**P**	**06 32 46.5**	**-2.2**
	comp=Z,32nm,0.8s					
MBWA	**Marble Bar**	23.64 196	*e*P	**P**	**06 32 47.9**	**-1.2**
	comp=Z,78nm,0.6s					
XMIS	**Christmas Isla**	23.88 239	*e*P	**P**	**06 32 50.5**	**-0.9**
	comp=Z,81nm,1.1s					
PSA00	**Pilbara Seismi**	24.00 195	*e*P	**P**	**06 32 51.7**	**-0.8**
	comp=Z,56nm,0.6s					
JOW	**Kunigami**	25.04 4	*e*P	**P**	**06 33 03.0**	**+1.1**
	comp=Z,50nm,1.1s					
JOW	**Kunigami**	25.04 4	P	**P**	**06 33 01.2**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=173,slow=12,SNR=4.0					
BKNI	**Bangkinang**	25.32 267	*e*P	**P**	**06 33 06.0**	**+1.4**
	comp=Z,204nm,1.5s					
IPM	**Ipoh**	25.41 277	*e*P	**P**	**06 33 04.4**	**-1.0**
	comp=Z,22nm,1.0s					
IPM	**Ipoh**	25.41 277	P	**P**	**06 33 05.0**	**-0.5**
KULM	**Kulim**	25.87 279	*e*P	**P**	**06 33 10.1**	**+0.5**
	comp=Z,29nm,1.2s					
PDSI	**Padang**	26.00 264	P	**P**	**06 33 15.8**	**+5.0**
	comp=Z,14nm,0.8s,comp=Z,2μm					
PANO	**Nakornpanom**	26.29 307	P	**P**	**06 33 13.5**	**+0.2**
	comp=Z,0.6nm,0.8s					
AS31	**Alice Springs**	26.29 164	*e*P	**P**	**06 33 12.5**	**-0.7**
	comp=Z,15nm,0.8s					
ASAR	**Alice Springs**	26.29 164	*e*P	**P**	**06 33 12.4**	**-0.9**
ASAR	**Alice Springs**	26.29 164	*e*P	**P**	**06 33 12.4**	**-0.9**
ASAR	**Alice Springs**	26.29 164	P	**P**	**06 33 13.3**	**0.0**
	comp=Z,23nm,0.6s,baz=345,slow=8.4,SNR=450					
ASAR			PcP	**PcP**	**06 36 38.8**	**0.0**
	comp=Z,5.8nm,0.6s,baz=345,slow=2.1,SNR=7.2					
ASAR			S	**S**	**06 37 42.3**	**-0.3**
	comp=Z,8.5nm,1.1s,baz=346,slow=20,SNR=10					
SKNT	**Sakolnakorn**	26.70 306	P	**P**	**06 33 17.8**	**+0.8**
	comp=Z,21nm,0.9s					
GIRL	**Giralia**	26.94 205	*e*P	**P**	**06 33 20.2**	**+1.2**
	comp=Z,118nm,0.9s					
TRTT	**Trang**	27.22 284	P	**P**	**06 33 24.5**	**+2.8**
	comp=Z,11nm,0.6s					
PSI	**Prapat**	27.41 273	*e*P	**P**	**06 33 22.2**	**-1.4**
	comp=Z,21nm,0.9s					
PSI	**Prapat**	27.41 273	*e*P	**P**	**06 33 22.2**	**-1.4**
PSI			pmax	pmax		
	comp=Z,21nm,0.9s					
CHAI	**Chaiyaphum**	27.82 302	P	**P**	**06 33 25.8**	**-1.3**
	comp=Z,38μm,0.7s					
PHET	**Kaeng Krachan**	28.68 294	P	P	06 33 40.0	+5.2
	comp=Z,23μm,0.9s,comp=Z,540μm					
GSI	**Gunungsitoli**	28.75 270	*e*P	**P**	**06 33 33.8**	**-1.6**
	comp=Z,30nm,0.8s					
GSI	**Gunungsitoli**	28.75 270	P	**P**	**06 33 35.2**	**-0.2**
CTA	**Charters Tower**	29.18 139	P	**P**	**06 33 40.0**	**+0.8**
	comp=Z,16nm,0.7s,baz=324,slow=12,SNR=3.4					
CTAO	**Charters Tower**	29.18 139	*e*P	**P**	**06 33 40.8**	**+1.6**
	comp=Z,17nm,0.7s					
CTAO	**Charters Tower**	29.18 139	*e*P	**P**	**06 33 40.8**	**+1.6**
CTAO			pmax	pmax		
	comp=Z,17nm,0.7s					
NANT	**Nan**	30.31 306	P	**P**	**06 33 49.4**	**+0.2**
	comp=Z,28μm,0.7s					
PHRA	**Phrae**	30.55 305	P	**P**	**06 33 51.1**	**-0.1**
	comp=Z,2.9nm,0.9s,comp=Z,161nm					
WHN	**Wuhan**	30.83 340	*e*P	**P**	**06 33 53.2**	**-0.4**
NJ2	**Nanjing**	30.98 348	*e*P	**P**	**06 33 54.0**	**-0.9**
NJ2			pmax	pmax		
	comp=Z,11nm,0.6s					
GYA	**Guiyang**	31.02 324	*e*P	**P**	**06 33 54.7**	**-0.8**
GYA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
JNU	**Nakatsue**	31.53 7	*e*P	**P**	**06 34 00.1**	**+0.3**
	comp=Z,17nm,1.0s					
JNU	**Natsue**	31.53 7	P	**P**	**06 33 59.8**	**0.0**
	comp=Z,7.7nm,0.8s,baz=159,slow=3.9,SNR=6.7					
CM31	**Chiang Mai Arr**	31.59 304	*e*P	**P**	**06 33 59.8**	**-0.7**
	comp=Z,9.2nm,0.8s					
CMAR	**Chiang Mai Arr**	31.59 304	*e*P	**P**	**06 33 58.9**	**-1.6**
CMAR	**Chiang Mai Arr**	31.59 304	P	**P**	**06 33 59.3**	**-1.2**
	comp=Z,5.4nm,0.8s,baz=123,slow=7.2,SNR=24					
CMAR			PcP	**PcP**	**06 36 53.2**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=129,slow=1.3,SNR=2.7					
CMAR			ScP	**ScP**	**06 40 33.1**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=116,slow=2.1,SNR=4.3					
CMAR			LR	LR	06 48 15.3	
	comp=Z,61nm,18.1s,baz=158,slow=39					
CMMT	**Chiang Mai**	31.76 304	P	**P**	**06 33 58.1**	**-3.8**
CHTO	**Chiang Mai**	31.76 304	*e*P	**P**	**06 33 57.8**	**-4.2**
	comp=Z,33nm,0.3s					
CHTO	**Chiang Mai**	31.76 304	*e*P	**P**	**06 33 57.8**	**-4.2**
CHTO			pmax	pmax		
	comp=Z,33nm,0.3s					
MORW	**Morawa**	32.16 197	*e*P	**P**	**06 34 05.0**	**-0.4**
	comp=Z,27nm,0.8s					
FORT	**Forrest**	32.36 177	*e*P	**P**	**06 34 06.7**	**-0.4**
	comp=Z,46nm,0.6s					
KMI	**Kunming**	32.55 318	P	**P**	**06 34 08.9**	**-0.1**
KMI			pmax	pmax		
	comp=Z,20nm,0.6s					
KMI			LR	LR		
	comp=Z,200nm,15.8s					
KMI			LR	LR		
	comp=Z,120nm,16.2s					
KMI			LR	LR		
	comp=Z,360nm,20.7s					
KMI	**Kunming**	32.55 318	*e*P	**P**	**06 34 07.6**	**-1.4**
	comp=Z,16nm,0.6s					
KMI	**Kunming**	32.55 318	*e*P	**P**	**06 34 07.6**	**-1.4**
KMI			pmax	pmax		
	comp=Z,16nm,0.6s					
ENH	**Enshi**	32.58 332	*e*P	**P**	**06 34 07.8**	**-1.3**
	comp=Z,35nm,0.8s					
INU	**Inuyama**	34.90 15	*e*P	**P**	**06 34 29.4**	**+0.3**
	comp=Z,10.0nm,0.8s					
NWAO	**Narrogin (SRO)**	35.52 193	*e*P	**P**	**06 34 34.4**	**0.0**
	comp=Z,24nm,0.7s					
NWAO	**Narrogin (SRO)**	35.52 193	*e*P	**P**	**06 34 34.4**	**0.0**
NWAO			pmax	pmax		
	comp=Z,24nm,0.7s					
NWAO	**Narrogin (SRO)**	35.52 193	P	**P**	**06 34 34.1**	**-0.3**
	comp=Z,29nm,0.8s,baz=19,slow=8.7,SNR=20					
BBOO	**Buckleboo**	35.56 166	*e*P	**P**	**06 34 34.3**	**-0.5**
	comp=Z,68nm,0.7s					
KS15	**Wonju Array Si**	35.58 2	*e*P	**P**	**06 34 36.4**	**+1.6**
	comp=Z,8.4nm,0.8s					
KSAR	**Wonju Array Be**	35.58 2	*e*P	**P**	**06 34 37.3**	**+2.4**
KSRS	**Korea Array**	35.59 2	P	**P**	**06 34 35.6**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=181,slow=10.0,SNR=11					
KSRS			LR	LR	06 52 36.7	
	comp=Z,5.2nm,18.0s,baz=170,slow=42					
XAN	**Xi'an**	36.04 335	P	**P**	**06 34 36.9**	**-2.0**
XAN			pP	pP	06 34 43.7	-8.0
XAN			pmax	pmax		
	comp=Z,12nm,1.1s					
XAN			pmax	pmax		
	comp=Z,39nm,3.6s					
XAN	**Xi'an**	36.04 335	*e*P	**P**	**06 34 37.1**	**-1.8**
	comp=Z,15nm,0.6s					
XAN	**Xi'an**	36.04 335	*e*P	**P**	**06 34 37.2**	**-1.8**
XAN			pmax	pmax		
	comp=Z,15nm,0.6s					
CD2	**Chengdu**	36.05 326⇑	*i*P	**P**	**06 34 37.6**	**-1.5**
CD2			pmax	pmax		
	comp=Z,50nm,0.9s					
EIDS	**Eidsvold**	36.05 140	*e*P	**P**	**06 34 38.2**	**-0.9**
	comp=Z,18nm,1.0s					
MAJO	**Matsushiro**	36.35 16	*e*P	**P**	**06 34 41.0**	**-0.6**
	comp=Z,8.8nm,0.8s					
MAJO	**Matsushiro**	36.35 16	*e*P	**P**	**06 34 41.0**	**-0.6**
MAJO			pmax	pmax		
	comp=Z,9.0nm,0.8s					
MJAR	**Matsushiro Arr**	36.35 16	P	**P**	**06 34 40.7**	**-0.9**
	comp=Z,4.1nm,0.9s,baz=194,slow=10,SNR=12					
MJAR			LR	LR	06 52 13.5	
	comp=Z,38nm,19.1s,baz=160,slow=40					
MJB9	**Matsu-Tunnel**	36.35 16	*e*P	**P**	**06 34 41.4**	**-0.2**
	comp=Z,8.9nm,0.8s					
STKA	**Stephens Creek**	36.42 158	*e*P	**P**	**06 34 41.9**	**-0.3**
	comp=Z,5.6nm,0.6s					
STKA	**Stephens Creek**	36.42 158	*e*P	**P**	**06 34 41.9**	**-0.3**
STKA			pmax	pmax		
	comp=Z,6.0nm,0.6s					
STKA	**Stephens Creek**	36.42 158	P	**P**	**06 34 41.3**	**-0.9**
	comp=Z,26nm,0.6s,baz=328,slow=9.7,SNR=64					
STKA			PP	**PP**	**06 36 08.9**	**+3.0**
	comp=Z,5.4nm,0.9s,baz=334,slow=12,SNR=3.4					
STKA			PcP	**PcP**	**06 37 06.0**	**+0.4**
	comp=Z,6.3nm,0.7s,baz=346,slow=8.5,SNR=2.9					
STKA			LR	LR	06 51 09.9	
	comp=Z,158nm,19.1s,baz=342,slow=39					
DL2	**Dalian**	37.26 354	P	**P**	**06 34 49.6**	**+0.4**
DL2			pmax	pmax		
	comp=Z,68nm,0.7s					
BJT	**Baijiatuau**	39.22 348	*e*P	**P**	**06 35 05.0**	**-0.7**
	comp=Z,14nm,0.8s					
BJT	**Baijiatuau**	39.22 348	*e*P	**P**	**06 35 05.0**	**-0.7**
BJT			pmax	pmax		
	comp=Z,14nm,0.8s					
BJI	**Beijing**	39.24 348⇑	*i*P	**P**	**06 35 05.1**	**-0.7**
BJI			pmax	pmax		
	comp=Z,9.0nm,0.7s					
ARMA	**Armidale**	40.04 145	*e*P	**P**	**06 35 13.2**	**+0.3**
	comp=Z,32nm,0.8s					
LZH	**Lanzhou**	40.04 331	*e*P	**P**	**06 35 12.6**	**-0.2**
LZH			pP	pP	06 35 23.7	-2.0
LZH			sP	sP	06 35 28.3	-3.1
LZH			PP	**PP**	**06 36 46.3**	**+0.6**
LZH			S	**S**	**06 41 14.0**	**-1.4**
LZH			sS	sS	06 41 33.7	-3.2
LZH			pmax	pmax		
	comp=Z,35nm,1.2s					
LZH			pmax	pmax		
	comp=Z,120nm,4.2s					
LZH			LR	LR		
	comp=Z,250nm,14.2s					
LZH			LR	LR		
	comp=Z,290nm,14.7s					
LZH			LR	LR		
	comp=Z,320nm,15.2s					
SHL	**Shillong**	40.77 309	*e*P	**P**	**06 35 17.3**	**-1.7**
	comp=Z,17nm,0.7s					
SHL	**Shillong**	40.77 309	*e*P	**P**	**06 35 17.3**	**-1.7**
SHL			pmax	pmax		
	comp=Z,17nm,0.7s					
HHC	**Hu-ho-hao-te**	41.18 343	*e*P	**P**	**06 35 23.1**	**+1.1**
HHC			S	**S**	**06 41 32.2**	**+0.1**
HHC			pmax	pmax		
	comp=Z,86nm,0.9s					
HHC			pmax	pmax		
	comp=Z,320nm,5.6s					
HHC			LR	LR		
	comp=Z,840nm,13.2s					
HHC			LR	LR		
	comp=Z,760nm,14.8s					
HHC			LR	LR		
	comp=Z,850nm,13.7s					
CAN	**Canberra**	42.52 152	*e*P	**P**	**06 35 33.5**	**+0.5**
	comp=Z,29nm,0.8s					
CAN	**Canberra**	42.52 152	*e*P	**P**	**06 35 33.5**	**+0.5**
CAN			pmax	pmax		
	comp=Z,29nm,0.8s					
USRK	**Ussuriysk Ar.**	42.59 6	P	**P**	**06 35 33.8**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=186,slow=5.7,SNR=7.2					
MDJ	**Mudanjiang**	42.81 3	P	**P**	**06 35 36.8**	**+1.6**
MDJ			pP	pP	06 35 47.1	-0.9
MDJ			sP	sP	06 35 51.3	-2.3
MDJ			PP	**PP**	**06 37 16.1**	**+0.8**
MDJ			PcP	**PcP**	**06 37 27.6**	**+1.9**
MDJ			ScP	**ScP**	**06 41 14.9**	**+2.2**
MDJ			PcS	**PcS**	**06 41 19.7**	**+1.9**
MDJ			S	**S**	**06 41 57.6**	**+1.8**
MDJ			sS	sS	06 42 18.9	+1.4
MDJ			ScS	**ScS**	**06 45 34.9**	**+3.2**
MDJ			pmax	pmax		
	comp=Z,19nm,0.7s					
MDJ			pmax	pmax		
	comp=Z,130nm,4.3s					
MDJ			LR	LR		
	comp=Z,200nm,4.2s					
MDJ			LR	LR		
	comp=Z,180nm,4.4s					
MDJ			LR	LR		
	comp=Z,140nm,4.4s					
MDJ	**Mudanjiang**	42.81 3	*e*P	**P**	**06 35 36.5**	**+1.3**
	comp=Z,12nm,0.8s					
H11S3	**WAKE ISLAND Hy**	42.93 64	T	T	07 22 51.5	
	baz=253,slow=75,SNR=34					
TOO	**Toolangi**	42.94 157	*e*P	**P**	**06 35 37.5**	**+1.2**
	comp=Z,32nm,1.2s					
TOO	**Toolangi**	42.94 157	*e*P	**P**	**06 35 37.5**	**+1.2**
TOO			pmax	pmax		
	comp=Z,32nm,1.2s					
H11S2	**WAKE ISLAND Hy**	42.94 64	T	T	07 22 58.1	
	baz=253,slow=75,SNR=11					
H11S1	**WAKE ISLAND Hy**	42.94 64	T	T	07 23 05.1	
	baz=253,slow=75,SNR=2.5					
LSA	**Lhasa**	43.49 313	P	**P**	**06 35 41.2**	**-0.2**
LSA			pmax	pmax		
	comp=Z,22nm,0.9s					
LSA	**Lhasa**	43.49 313	*e*P	**P**	**06 35 41.0**	**-0.4**
	comp=Z,15nm,0.7s					
LSA	**Lhasa**	43.49 313	*e*P	**P**	**06 35 41.0**	**-0.4**
LSA			pmax	pmax		
	comp=Z,15nm,0.7s					
TEY	**Ternei**	44.08 10	*e*P	**P**	**06 35 46.4**	**+1.1**
ASAJ	**Asahikawa**	44.62 17	P	**P**	**06 35 49.9**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=230,slow=23,SNR=3.6					
GTA	**Gaotai**	44.62 331	*e*P	**P**	**06 35 49.3**	**-0.7**
GTA			pP	pP	06 35 59.2	-3.8
GTA			sP	sP	06 36 02.6	-6.1
GTA			PcP	**PP**	**06 37 34.2**	**-0.7**
GTA			pmax	pmax		
	comp=Z,8.0nm,1.5s					
GTA			pmax	pmax		
	comp=Z,56nm,7.1s					
GTA			LR	LR		
	comp=Z,120nm,18.1s					
GTA			LR	LR		
	comp=Z,130nm,19.4s					
RAMN	**Ramite**	45.60 307	*e*P	**P**	**06 35 57.1**	**-1.0**
	comp=Z,50nm,1.0s					
DZM	**Mont Dzumac**	45.74 123	*e*P	**P**	**06 35 59.1**	**+0.1**
	comp=Z,20nm,0.8s					
DZM	**Mont Dzumac**	45.74 123	P	**P**	**06 35 59.2**	**+0.1**
	comp=Z,18nm,0.8s,baz=129,slow=21,SNR=15					
PALK	**Pallekele**	45.80 278	*e*P	**P**	**06 35 58.5**	**-1.1**
	comp=Z,12nm,0.8s					
PALK	**Pallekele**	45.80 278	*e*P	**P**	**06 35 58.5**	**-1.1**
PALK			pmax	pmax		
	comp=Z,12nm,0.8s					
OUENC	**Ouen Island, N**	46.22 124	*e*P	**P**	**06 36 03.2**	**+0.4**
	comp=Z,13nm,0.8s					
JIRN	**Jiri**	46.25 308	*e*P	**P**	**06 36 02.1**	**-1.2**
	comp=Z,36nm,0.5s					
PINNC	**Pines Island,**	46.81 124	*e*P	**P**	**06 36 08.4**	**+1.0**
	comp=Z,32nm,0.8s					
PKI	**Pulchoki**	46.83 307	*e*P	**P**	**06 36 06.4**	**-1.4**
	comp=Z,12nm,0.5s					
PKIN	**Phulchoki**	46.84 307	*e*P	**P**	**06 36 06.2**	**-1.7**
	comp=Z,19nm,0.8s					
KKN	**Kakani**	47.02 307	*e*P	**P**	**06 36 08.0**	**-1.2**
	comp=Z,20nm,0.7s					
DMN	**Daman**	47.09 307	*e*P	**P**	**06 36 07.9**	**-1.9**
	comp=Z,42nm,1.0s					
KLR	**Kul'dur**	47.56 5	*i*P	**P**	**06 36 12.9**	**+0.2**
KLR			pmax	pmax		
	comp=Z,3.0nm,0.7s					
KLR	**Kul'dur**	47.56 5	P	**P**	**06 36 12.9**	**+0.2**
	comp=Z,6.8nm,0.6s,baz=205,slow=5.5,SNR=17					
HIA	**Hailar**	47.70 354	*e*P	**P**	**06 36 14.7**	**+0.8**
	comp=Z,15nm,0.5s					
HIA	**Hailar**	47.70 354	*e*P	**P**	**06 36 14.7**	**+0.8**
HIA			pmax	pmax		
	comp=Z,15nm,0.5s					
KOLN	**Koldanda**	48.36 306	*e*P	**P**	**06 36 18.4**	**-1.2**
	comp=Z,78nm,0.7s					
DANN	**Dangsing**	48.48 307	*e*P	**P**	**06 36 19.1**	**-1.5**
	comp=Z,104nm,0.7s					
ULN	**Ulaanbaatar**	48.90 343	*e*P	**P**	**06 36 22.3**	**-1.0**
	comp=Z,6.9nm,0.8s					
ULN	**Ulaanbaatar**	48.90 343	*c e*P	**P**	**06 36 22.7**	**-0.6**
ULN			pmax	pmax		
	comp=Z,7.0nm,0.7s					
PYUN	**Piuthan**	48.99 307	*e*P	**P**	**06 36 23.4**	**-1.0**
	comp=Z,87nm,0.7s					
SONA0	**Songino Array**	49.07 342	*e*P	**P**	**06 36 24.0**	**-0.6**
SONM	**Songino Array**	49.07 342	*e*P	**P**	**06 36 23.8**	**-0.8**
SONM	**Songino Array**	49.07 342	*e

DGZ pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 58.98 326 *e*P **P 06 37 35.6 -1.1**
comp=Z,15nm,0.8s
MK31 Makanchi Array 58.98 326 *e*P **P 06 37 35.7 -1.1**
MK31 pmax pmax
comp=Z,15nm,0.8s
MK32 Makanchi Array 58.98 326 *e*P **P 06 37 35.8 -1.0**
MKAR Makanchi Array 58.98 326 *e*P **P 06 37 35.4 -1.4**
MKAR Makanchi Array 58.98 326 P **P 06 37 35.8 -1.0**
comp=Z,19nm,0.6s,baz=120,slow=7.3,SNR=122
MKAR LR LR 07 04 14.8
comp=Z,59nm,21.6s,baz=96,slow=37
TARG Taragay, Kyrgy 58.98 319 *e*P **P 06 37 38.2 +0.9**
comp=Z,18nm,1.0s
MAKZ Makanchi 59.16 326 *e*P **P 06 37 36.6 -1.4**
comp=Z,21nm,0.8s
MAKZ Makanchi 59.16 326 *e*P **P 06 37 36.6 -1.4**
MAKZ pmax pmax
comp=Z,21nm,0.8s
KSH Kashi 59.19 316 P **P 06 37 38.9 +0.4**
KSH sP sP 06 37 53.2 -4.3
KSH PP **PP 06 39 52.3 +2.6**
KSH S **S 06 45 42.1 -0.7**
KSH ScS **ScS 06 47 19.6 -5.0**
KSH pmax pmax
comp=Z,19nm,0.8s
KSH pmax pmax
comp=Z,210nm,5.2s
KSH LR LR
comp=Z,480nm,10.7s
KSH LR LR
comp=Z,420nm,8.3s
MLZ Mavora Lakes 59.72 147 *e*P **P 06 37 42.4 +0.5**
comp=Z,62nm,1.5s
WKZ Wanaka 59.88 146 *e*P **P 06 37 43.0 0.0**
comp=Z,50nm,1.1s
NRN Naryn 60.03 318 *e*P **P 06 37 43.7 -0.8**
comp=Z,11nm,0.8s
NRN Naryn 60.03 318 *e*P **P 06 37 43.7 -0.8**
NRN pmax pmax
comp=Z,11nm,0.8s
YAK Yakutsk 60.21 2 *e*P **P 06 37 45.7 +0.8**
YAK pmax pmax
comp=Z,95nm,0.8s
YAK pmax pmax
comp=N,21nm,0.7s
YAK pmax pmax
comp=E,7.0nm,0.6s
RPZ Rata Peaks 60.37 144 P **P 06 37 45.8 -0.6**
comp=E,13nm,0.8s,baz=200,slow=12,SNR=5.2
THZ Tophouse 60.38 141 *e*P **P 06 37 46.4 -0.2**
comp=E,26nm,0.7s
BOOM Boomskoye usch 60.56 319 *e*P **P 06 37 48.8 +0.9**
comp=E,66nm,1.2s
BOOM Boomskoye usch 60.56 319 *e*P **P 06 37 48.8 +0.9**
BOOM pmax pmax
comp=Z,66nm,1.2s
OXZ Oxford 60.73 143 *e*P **P 06 37 48.4 -0.4**
comp=Z,13nm,0.7s
MA2 Magadan 60.74 14 *e*P **P 06 37 50.1 +1.6**
comp=Z,10nm,0.7s
MA2 Magadan 60.74 14 *ce*P **P 06 37 50.7 +2.2**
MA2 pmax pmax
comp=Z,8.0nm,0.7s
MA2 Magadan 60.74 14 LR LR 07 04 14.8
comp=Z,8.7nm,20.1s,baz=276,slow=36
KHZ Kahutara 61.13 142 *e*P **P 06 37 50.8 -0.7**
comp=Z,29nm,0.9s
SNZO South Karori 61.28 140 *e*P **P 06 37 51.5 -1.0**
comp=Z,29nm,0.9s
URZ Urewera 61.37 136 *e*P **P 06 37 53.9 +0.7**
comp=Z,25nm,0.8s
URZ Urewera 61.37 136 P **P 06 37 53.3 +0.1**
comp=Z,16nm,0.7s,baz=349,slow=0.8,SNR=6.1
BKZ Black Stump Fm 61.38 137 *e*P **P 06 37 52.7 -0.7**
comp=Z,14nm,0.8s
AAK Ala-Archa 61.58 319 *e*P **P 06 37 54.7 -0.1**
comp=Z,7.0nm,0.8s
AAK Ala-Archa 61.58 319 *ce*P **P 06 37 53.6 -1.2**
AAK pmax pmax
comp=Z,9.0nm,1.0s
BFZ Birch Farm 61.96 139 *e*P **P 06 37 57.5 +0.3**
comp=Z,75nm,1.4s
ZAA0 Zalesovo Array 62.19 334 *e*P **P 06 37 57.1 -1.3**
comp=Z,6.0nm,0.6s
ZALV Zalesovo Beam 62.19 334 *e*P **P 06 37 57.2 -1.2**
ZALV Zalesovo Beam 62.19 334 *e*P **P 06 37 57.2 -1.2**
ZALV Zalesovo Beam 62.19 334 P **P 06 37 56.9 -1.5**
comp=Z,4.7nm,0.4s,baz=118,slow=7.1,SNR=17
ZALV LR LR 07 06 41.3
comp=Z,25nm,19.0s,baz=62,slow=38
ZAA1 Zalesovo Array 62.20 334 *e*P **P 06 37 56.9 -1.5**
KBL Kabul 62.43 308 *e*P **P 06 37 59.3 -1.4**
comp=Z,17nm,0.8s
KBL Kabul 62.43 308 *e*P **P 06 37 59.3 -1.4**
KBL pmax pmax
comp=Z,17nm,0.8s
GAR Garm 62.99 314 *e*P **P 06 38 03.0 -1.3**
comp=Z,26nm,0.6s
GAR Garm 62.99 314 *e*P **P 06 38 03.0 -1.3**
GAR pmax pmax
comp=Z,26nm,0.6s
KURK Kurchatov 63.22 328 *e*P **P 06 38 04.2 -1.2**
comp=Z,44nm,0.7s
KURK Kurchatov 63.22 328 *ce*P **P 06 38 04.1 -1.2**
KURK pmax pmax
comp=Z,43nm,0.7s
NVS Novosibirsk 63.48 334⇓ *i*P **P 06 38 05.8 -1.2**
NVS pmax pmax
comp=Z,13nm,0.8s
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.9s
SEY Seymchan 64.07 13 *ce*P **P 06 38 11.5 +0.8**
SEY Seymchan 64.07 13 P **P 06 38 11.8 +1.1**
comp=E,4.2nm,0.9s,baz=301,slow=2.1,SNR=7.8
KKAR Karatay Array 64.43 318 *e*P **P 06 38 12.6 -0.9**
KKAR Karatay Array 64.43 318 *e*P **P 06 38 12.6 -0.9**
CASY Casey 68.79 187 *e*P **P 06 38 41.4 +0.6**
comp=E,13nm,0.7s
ADK Adak 68.84 34 *e*P **P 06 38 42.0 +0.6**
comp=E,30nm,1.4s
ADK Adak 68.84 34 *e*P **P 06 38 42.0 +0.6**
ADK pmax pmax
comp=Z,30nm,1.4s
BRVK Borovoye 68.85 328 *e*P **P 06 38 41.0 -0.4**
comp=Z,10nm,0.7s
BRVK Borovoye 68.85 328 *d i*P **P 06 38 40.0 -1.5**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
WSAR Wadi Sarin 68.86 294 LR LR 07 11 05.9
comp=Z,24nm,19.2s,baz=115,slow=38
TIXI Tiksi 69.84 1 *e*P **P 06 38 47.3 +0.1**
comp=Z,6.6nm,0.8s
TIXI Tiksi 69.84 1 *d i*P **P 06 38 47.3 +0.1**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
ATKA Atka Island 70.37 34 *e*P **P 06 38 51.6 +0.8**
comp=Z,21nm,0.8s
GEYT Alibeck 71.84 309 P **P 06 38 59.1 -1.0**
comp=Z,763nm,0.5s,baz=251,slow=25,SNR=138
NRIK Noril'sk 72.27 347 P **P 06 39 02.4 +0.4**
comp=Z,24nm,0.7s,baz=132,slow=6.2,SNR=64
NRIK LR LR 07 13 36.8
comp=Z,33nm,18.2s,baz=144,slow=38
ABKAR Akbulak array 73.45 321 *e*P **P 06 39 08.7 -0.7**
comp=Z,7.1nm,0.8s
AKTO Aktyubinsk 74.98 322 LR LR 07 13 11.9
comp=Z,38nm,21.7s,baz=109,slow=36
ARU Arti 76.41 328 *e*P **P 06 39 25.7 -0.6**
comp=Z,23nm,1.0s
ARU Arti 76.41 328 *d i*P **P 06 39 25.1 -1.2**
ARU S **S 06 49 09.3 +1.5**
ARU pmax pmax
comp=Z,25nm,1.0s
HMH Humu'ula Sheep 78.30 70 *e*P **P 06 39 40.1 +2.1**
comp=Z,113nm,1.4s
AIN Ainahou 78.31 71 *e*P **P 06 39 39.6 +1.7**
comp=Z,81nm,1.1s
SDPT Sand Point 79.07 34 *e*P **P 06 39 41.8 +0.7**
comp=Z,56nm,0.8s
OPO Ambohidratompo 80.26 251 P **P 06 39 47.9 -0.7**
comp=Z,12nm,0.8s,baz=74,slow=5.6,SNR=9.0
VNDA Vanda 81.50 173 *e*P **P 06 39 54.3 +0.5**
comp=Z,13nm,0.8s
VNDA Vanda 81.50 173 *e*P **P 06 39 54.3 +0.5**
VNDA pmax pmax
comp=Z,13nm,0.8s
VNDA Vanda 81.50 173 P **P 06 39 54.1 +0.3**
comp=Z,13nm,0.7s,baz=318,slow=6.4,SNR=113
MAW Mawson 81.75 200 *e*P **P 06 39 56.0 +0.8**
comp=Z,1.3nm,0.8s
MAW Mawson 81.75 200 *e*P **P 06 39 56.0 +0.8**
MAW pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 81.75 200 P **P 06 39 54.1 -1.1**
comp=Z,4.5nm,0.7s,baz=89,slow=5.6,SNR=9.0
SBA Scott Base 82.41 172 *e*P **P 06 40 00.1 +1.5**
comp=Z,6.6nm,0.9s
SBA Scott Base 82.41 172 *e*P **P 06 40 00.1 +1.5**
SBA pmax pmax
comp=Z,7.0nm,0.9s
ZEI Tsey 83.27 313 *e*P **P 06 40 02.4 -1.6**
ZEI pmax pmax
comp=Z,9.0nm,0.7s
OHAK Old Harbor 83.35 33 *e*P **P 06 40 05.2 +1.4**
comp=Z,12nm,0.8s
AKH Akhalkalaki 83.49 311⇓ *i*P **P 06 40 06.3 +1.2**
KDAK Kodiak Island 83.79 32 *e*P **P 06 40 07.5 +1.5**
comp=Z,14nm,0.9s
KBZ Khabaz 84.06 314 P **P 06 40 07.0 -0.7**
comp=Z,3.9nm,0.8s,baz=120,slow=4.2,SNR=9.5
PRGR Permogore 84.07 332 *e*P **P 06 40 05.9 -1.5**
PRGR pmax pmax
comp=Z,25nm,0.9s
NEY Neytrino 84.16 313 *i*P **P 06 40 07.8 -0.8**
NEY pmax pmax
comp=Z,3.0nm,0.7s
KIV Kislovodsk 84.23 314 *e*P **P 06 40 08.5 -0.3**
KIV pmax pmax
comp=Z,21nm,0.9s
IMAR Indian Mountai 84.33 24 *e*P **P 06 40 09.9 +1.2**
PPLA Purkeypile 84.59 27 *e*P **P 06 40 10.2 0.0**
comp=Z,23nm,1.4s
CAST Castle Rocks 84.69 27 *e*P **P 06 40 12.9 +2.3**
comp=Z,3.6nm,0.9s
BATM Batumi 84.85 311⇑ *i*P **P 06 40 11.4 -0.4**
BRLK Bradley Lake 84.88 30 *e*P **P 06 40 12.4 +0.8**
comp=Z,36nm,1.2s
PPT Papeete 84.89 108 LR LR 07 15 25.1
comp=Z,24nm,19.3s,baz=323,slow=34
BCA Borcka 84.89 311⇓ *i*P **P 06 40 10.9 -1.2**
VRH Novokhopyorsk 85.28 321 *e*P **P 06 40 12.9 -0.8**
VRH pmax pmax
comp=Z,50nm,0.6s
MLY Manley 85.45 25 *e*P **P 06 40 15.4 +1.0**
comp=Z,2.1nm,0.7s
TOLK Toolik Lake Re 86.25 21 *e*P **P 06 40 20.1 +1.8**
comp=Z,3.1nm,0.9s
TOLK Toolik Lake Re 86.25 21 P **P 06 40 19.7 +1.4**
baz=265
SOC Sochi 86.36 313 *e*P **P 06 40 17.0 -2.3**
SOC *e**PP **PcP 06 40 26.6 +4.9**
SOC *e*S **SKSac 06 50 39.8 -1.9**
SOC *e*SS **SS 06 56 23.5 -8.3**
SOC *e*SSS SSS 06 59 54.5
SOC pmax pmax
comp=Z,24nm,0.7s
VORD Divnogorie 86.80 321 *e*P **P 06 40 20.3 -0.9**
VORD pmax pmax
comp=Z,20nm,0.6s
VSR Storozhevoye 86.89 321 *e*P **P 06 40 20.0 -1.7**
VSR pmax pmax
comp=Z,20nm,0.6s
HDA Harding Lake 87.04 26 P **P 06 40 21.4 -0.7**
baz=268
LPSR Galich'ya Gora 87.06 322 *e*P **P 06 40 22.0 -0.5**
LPSR pmax pmax
comp=Z,30nm,0.8s
ILAR Eielson Array 87.08 25 P **P 06 40 20.9 -1.4**
comp=Z,0.7nm,0.7s,baz=257,slow=4.3,SNR=6.9
MOS Moscow 87.86 326 *e*P **P 06 40 26.0 -0.2**
MOS *e* 06 40 39.8
MOS *e* 06 51 00.2
MOS pmax pmax
comp=Z,45nm,1.4s
ANN Anapa 88.01 315 *e*P **P 06 40 26.6 -0.6**
ANN pmax pmax
comp=Z,40nm,0.6s
OBN Obninsk 88.46 325⇓ *e*P **P 06 40 29.3 +0.2**
OBN *PP **pP 06 40 39.0 -4.3**
OBN S **SKSac 06 50 54.0 +0.1**
OBN pmax pmax
comp=Z,17nm,0.8s
OBN MLR MLR
comp=Z,57nm,25.0s
KMBO Kilima Mbogo 89.11 269 *i*P **P 06 40 34.9 +1.5**
KMBO pmax pmax
comp=Z,5.0nm,0.7s
KMBO Kilima Mbogo 89.11 269 P **P 06 40 33.7 +0.3**
comp=Z,4.4nm,0.6s,baz=72,slow=5.5,SNR=5.0
KMBO LR LR 07 18 24.4
comp=Z,38nm,18.6s,baz=104,slow=34
BCAR Beaver Creek A 89.33 27 *e*P **P 06 40 34.4 +1.2**
APA Apatity 89.54 337⇓ *i*P **P 06 40 37.0 +3.1**
APA pmax pmax
comp=Z,3.0nm,0.9s
APA MLR MLR
comp=Z,200nm,19.0s
SYO Syowa Base 90.42 201⇓ *e*P **P 06 40 37.6 -0.4**
SYO Syowa Base 90.42 201⇑ *e*PcP **PcP 06 40 39.6 +0.5**
BR101 Keskin Array S 90.98 310 *e*P **P 06 40 40.2 -1.2**
BR131 Keskin Array S 90.98 310 *e*P **P 06 40 40.5 -1.0**
comp=Z,2.5nm,0.6s
BRTR Keskin Array B 90.98 310 *e*P **P 06 40 40.1 -1.4**
BRTR Keskin Array B 90.98 310 P **P 06 40 40.2 -1.2**
comp=Z,2.3nm,0.7s,baz=124,slow=5.6,SNR=14
BRTR LR LR 07 26 23.8
comp=Z,18nm,19.9s,baz=97,slow=39
QSPA South Pole Qui 91.64 180 *e*P **P 06 40 44.4 +0.5**
comp=Z,4.7nm,0.8s
QSPA South Pole Qui 91.64 180 P **P 06 40 43.7 -0.2**
comp=Z,3.3nm,0.7s,baz=153,slow=1.7,SNR=19
INK Inuvik 92.17 21 *e*P **P 06 40 45.2 -0.8**
comp=Z,4.3nm,1.3s
INK Inuvik 92.17 21 *e*P **P 06 40 45.3 -0.8**
INK pmax pmax
comp=Z,4.0nm,1.3s
INK Inuvik 92.17 21 P **P 06 40 45.2 -0.8**
comp=Z,3.3nm,1.2s,baz=264,slow=8.1,SNR=5.0
ARA0 ARCESS Array S 92.18 340 *e*P **P 06 40 45.4 -0.8**
ARCES ARCESS Array B 92.18 340 P **P 06 40 45.4 -0.8**
comp=Z,4.3nm,0.8s,baz=76,slow=5.1,SNR=14
ARCES PKKP **PKKPdf 06 58 03.0 +1.5**
comp=Z,1.3nm,0.9s,baz=280,slow=3.5,SNR=4.4
SPITS Spitsbergen Ar 92.36 349 LR LR 07 27 39.4
comp=Z,24nm,18.4s,baz=15,slow=39
AKASG Malin Array Be 93.19 321 *i*P **P 06 40 50.0 -1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 93.19 321 P **P 06 40 49.8 -1.4**
comp=Z,1.1nm,0.5s,baz=66,slow=4.8,SNR=12
AKASG LR LR 07 26 55.8
comp=Z,18nm,19.9s,baz=120,slow=38
AKBB Malin Array Si 93.19 321 *e*P **P 06 40 50.3 -0.9**
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 93.19 321 *e*P **P 06 40 50.3 -0.9**
AKBB pmax pmax
comp=Z,3.0nm,0.8s
KIEV Kiev 93.20 321⇓ *i*P **P 06 40 50.1 -1.1**
KIEV Kiev 93.20 321 *i*P **P 06 40 50.3 -0.9**
KIEV pmax pmax
comp=Z,2.0nm,0.8s
FIA0 FINESS Array S 93.40 332 *e*P **P 06 40 50.6 -1.4**
FIA0 FINESS Array S 93.40 332 *e*P **P 06 40 50.6 -1.4**
FINES FINESS Array B 93.40 332 *e*P **P 06 40 51.7 -0.2**
FINES FINESS Array B 93.40 332 *i*P **P 06 40 52.0 +0.1**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 93.40 332 P **P 06 40 50.6 -1.3**
comp=Z,2.1nm,0.5s,baz=55,slow=5.4,SNR=24
FINES LR LR 07 25 28.8
comp=Z,49nm,21.3s,baz=50,slow=37
TLCR 94.09 315⇑ *i*P **P 06 40 55.2 -0.3**
TLB Topalu 94.71 315⇑ *i*P **P 06 40 58.2 -0.1**
TESR Tescani 95.42 317⇑ *i*P **P 06 41 01.0 -0.6**
VRI Vrincioaia 95.46 316⇓ *i*P **P 06 41 02.1 +0.3**
PLOR Plostina 95.52 316⇓ *i*P **P 06 41 02.3 +0.2**
MLR Muntele Rosu 96.06 316 *e*P **P 06 41 05.6 +1.0**
comp=Z,9.6nm,1.4s
MLR Muntele Rosu 96.06 316⇑ *i*P **P 06 41 03.6 -1.1**
BURAR Bucovina Array 96.22 318 *e*P **P 06 41 04.1 -1.2**
BURAR Bucovina Array 96.22 318⇑ *i*P **P 06 41 05.3 0.0**
BURAR Bucovina Array 96.22 318 *e*P **P 06 41 04.1 -1.2**
BUR08 Bucovina Ar. S 96.23 318 *e*P **P 06 41 05.3 -0.1**
comp=Z,6.0nm,0.8s
UZH Uzhgorod 97.96 319 *e*P **P 06 41 12.0 -1.0**
UZH *e* 06 41 26.2
DRGR 98.05 318⇑ *i*P **P 06 41 10.5 -3.1**
IDI Anoyia 98.34 306 PKKPbc PKKPbc 06 57 47.9 +0.9
comp=Z,1.9nm,0.6s,baz=278,slow=14,SNR=4.3
LIT Litokhoron 99.45 311 *e*P **Pdif 06 41 18.6 -1.4**
comp=Z,3.6nm,0.7s
LIT Litokhoron 99.45 311 *e*P **Pdif 06 41 18.6 -1.4**
LIT pmax pmax
comp=Z,4.0nm,0.7s
NB2 NORSAR Subarra 100.39 333 P **Pdif 06 41 21.9 -1.8**
comp=Z,2.8nm,1.1s,baz=70,slow=4.4
NB2 NORSAR Subarra 100.39 333 P **Pdif 06 41 21.9 -1.8**
baz=70,slow=4.4
NOA NORSAR Array B 100.39 333 P **Pdif 06 41 22.3 -1.4**
comp=Z,0.8nm,0.6s,baz=68,slow=4.6,SNR=4.9
YKA Yellowknife Ar 101.48 24 P **Pdif 06 41 28.6 +0.2**
comp=Z,0.3nm,0.7s,baz=298,slow=4.8,SNR=6.2
YKA PKiKP **PKiKP 06 45 52.5 +0.4**
comp=Z,0.2nm,0.5s,baz=296,slow=1.8,SNR=8.0
YKA PKKPbc **PKKPbc 06 57 35.9 -3.0**
comp=Z,0.2nm,0.7s,baz=110,slow=2.6,SNR=4.5
YKB5 Yellowknife Ar 101.48 24 *e*Pdif **Pdif 06 41 28.6 +0.2**
YKB5 *e*PKiKP **PKiKP 06 45 52.5 +0.4**
GERES GERESS Array B 103.39 321 Pdiff **Pdif 06 41 36.0 -1.4**
comp=Z,0.3nm,0.6s,baz=31,slow=4.6,SNR=2.6
NVAR Mina Array Bea 108.53 48 PKKP **PKKPab 06 57 30.0 +0.2**
comp=Z,0.6nm,0.8s,baz=131,slow=4.8,SNR=4.7
PD31 Pinedale Array 113.12 42 *e*PKiKP **PKiKP 06 46 15.0 +0.2**
PDAR Pinedale Array 113.12 42 PKiKP **PKiKP 06 46 15.2 +0.5**
comp=Z,0.2nm,0.6s,baz=17,slow=0.9,SNR=3.8
PDAR PKKPbc **PKKPbc 06 57 00.9 -1.3**
comp=Z,0.3nm,0.5s,baz=108,slow=5.9,SNR=5.4
RSSD Black Hills 116.01 38 *e*PKPdf **PKiKP 06 46 20.2 -0.1**
RSSD Black Hills 116.01 38 *e*PKIKP **PKiKP 06 46 20.2 -0.1**
RSSD Black Hills 116.01 38 P **PKPdf 06 46 20.4 +0.2**
baz=301
ULM Lac du Bonnet 116.90 29 *e*PKPdf **PKPdf 06 46 21.4 -0.1**
ULM Lac du Bonnet 116.90 29 *e*PKIKP **PKPdf 06 46 21.4 -0.1**
ULM Lac du Bonnet 116.90 29 PKP **PKPdf 06 46 21.0 -0.5**
comp=Z,1.2nm,0.6s,baz=211,slow=7.9,SNR=3.8
SDCO Great Sand Dun 118.13 45 *e*PKPdf **PKPdf 06 46 23.0 -1.6**
ECSD EROS Data Cent 120.65 35 *e*PKPdf **PKiKP 06 46 29.0 0.0**
ECSD EROS Data Cent 120.65 35 P **PKPdf 06 46 28.5 -0.4**
baz=308
MNTX Cornudas Mount 120.82 51 P **PKiKP 06 46 30.2 +0.5**
baz=294
MSTX Muleshoe 121.82 48 P **PKiKP 06 46 32.6 +0.8**
baz=297
E39A Mellen 122.14 29 P **PKiKP 06 46 31.8 0.0**
baz=315
F39A Loretta 122.28 30 P **PKPdf 06 46 31.9 -0.1**
baz=314
G38A Ridgeland 122.32 31 P **PKPdf 06 46 31.9 -0.2**
baz=313
E40A Wakefield 122.41 29 P **PKiKP 06 46 32.3 -0.1**
baz=316
F40A Park Falls 122.68 30 P **PKPdf 06 46 32.8 0.0**
baz=315
H39A Augusta 122.95 31 P **PKiKP 06 46 33.4 -0.1**
baz=314
COWI Conover 123.03 29 *e*PKPdf **PKiKP 06 46 34.1 +0.5**
G40A Rib Lake 123.10 30 *e*PKPdf **PKiKP 06 46 34.6 +0.8**
LTX Lajitas 123.13 53 *e*PKPdf **PKiKP 06 46 34.9 +0.5**
LTX Lajitas 123.13 53 *e*PKIKP **PKiKP 06 46 34.9 +0.5**
TXAR Lajitas Array 123.13 53 *e*PKPdf **PKiKP 06 46 35.1 +0.7**
TXAR Lajitas Array 123.13 53 *e*PKIKP **PKiKP 06 46 35.1 +0.7**
TXAR Lajitas Array 123.13 53 PKP **PKiKP 06 46 34.9 +0.5**
comp=Z,0.7nm,0.8s,baz=248,slow=1.7,SNR=9.3
TOA0 Torodi Ar. Sit 123.14 287 *e*PKPdf **PKiKP 06 46 34.7 0.0**
TORD Torodi Ar. Bea 123.14 287 PKP **PKPdf 06 46 33.3 -1.1**
comp=Z,9.3nm,0.2s,baz=62,slow=1.5,SNR=11
TORD PKKPab **PKKPab 06 56 25.3 -0.1**
comp=Z,0.8nm,0.7s,baz=275,slow=3.9,SNR=5.6
TOA1 Torodi Ar. Sit 123.14 287 *e*PKPdf **PKPdf 06 46 33.3 -1.1**
F41A Three Lakes 123.30 29 *e*PKPdf **PKiKP 06 46 34.3 +0.1**
F41A Three Lakes 123.30 29 P **PKiKP 06 46 34.1 -0.1**
baz=316
I39A Houston 123.39 32 *e*PKPdf **PKPdf 06 46 34.0 -0.1**
I39A Houston 123.39 32 P **PKPdf 06 46 33.7 -0.5**
baz=313
J39A Decorah 123.64 33 P **PKPdf 06 46 33.6 -1.1**
baz=312
G42A Mountain 123.99 29 *e*PKPdf **PKiKP 06 46 35.8 +0.2**
L39A Vinton 124.29 34 P **PKPdf 06 46 35.8 -0.1**
baz=312
K40A Colesburg 124.38 33 P **PKPdf 06 46 35.9 -0.2**
baz=313
M39A Webster 124.62 35 P **PKPdf 06 46 36.4 -0.2**
baz=311
L40A Anamosa 124.76 34 *e*PKPdf **PKPdf 06 46 36.7 -0.1**
CHGQ Chibougamau 125.57 16 P **PKPdf 06 46 38.2 0.0**
baz=334
JCT Junction City 125.66 50 P **PKiKP 06 46 39.5 +0.2**
baz=298
R41A Rosebud 127.14 37 P **PKPdf 06 46 41.6 +0.1**
baz=310
J47A Sunmer 127.21 28 P **PKiKP 06 46 42.3 +0.3**
baz=320
S41A Jillco Farms, 127.37 38 P **PKPdf 06 46 42.0 +0.1**
baz=309
CCM Cathedral Cave 127.38 37 *e*PKPdf **PKiKP 06 46 42.5 0.0**
CCM Cathedral Cave 127.38 37 *e*PKIKP **PKiKP 06 46 42.5 0.0**
CCM Cathedral Cave 127.38 37 P **PKiKP 06 46 42.3 -0.2**
baz=310
U40A Yellville 127.43 40 P **PKPdf 06 46 42.3 +0.2**
baz=308
W39A Magazine 127.51 42 P **PKiKP 06 46 43.2 +0.3**
baz=306
K47A Vermontville 127.56 29 P **PKPdf 06 46 42.3 +0.1**
baz=319
MIAR Mount Ida 128.03 42 *e*PKPdf **PKiKP 06 46 44.2 +0.3**
MIAR Mount Ida 128.03 42 *e*PKIKP **PKiKP 06 46 44.2 +0.3**
O49A Covington 129.75 31 *e*PKPdf **PKiKP 06 46 47.1 -0.1**
S51A Beattyville 132.03 32 *e*PKPdf **PKiKP 06 46 52.0 +0.2**
PLCA Paso Flores 138.27 161 *e*PKPdf **PKPdf 06 47 03.3 +0.8**
PLCA Paso Flores 138.27 161 *e*PKIKP **PKPdf 06 47 03.3 +0.8**
PLCA Paso Flores 138.27 161 PKP **PKPdf 06 47 03.1 +0.7**
comp=Z,5.4nm,0.9s,baz=258,slow=3.9,SNR=7.7
TRQA Tornquist 143.04 169 *e*PKPpre PKPbc 06 47 08.4 +0.5
TRQA Tornquist 143.04 169 *e*PKIKP PKPbc 06 47 08.4 +0.5
PEL Peldehue 144.90 155 *e*PKPbc **PKPdf 06 47 14.5 0.0**
PEL Peldehue 144.90 155 *e*PKIKP **PKPdf 06 47 14.5 0.0**
ROC1 El Roble 144.90 154 *e*PKPbc **PKPdf 06 47 14.9 +0.1**
ROC1 El Roble 144.90 154 *e*P **PKPdf 06 47 14.8 0.0**
AAGR Agrelo 145.71 157 *e*P **PKPab 06 47 18.4 +1.6**
ARCO CERRO ARCO 145.88 157 *e*P **PKPab 06 47 17.6 +0.2**
ASAL Salagasta 146.14 157 *e*P **PKPab 06 47 18.8 +0.5**
AUSP Uspallata 146.24 156 *e*P **PKPab 06 47 19.7 +0.7**
RTLS Leoncito 146.65 155 *e*P **PKPab 06 47 20.6 +0.1**
JTS Las Juntas de 146.66 68 *e*PKPdf **PKPab 06 47 20.8 0.0**
JTS Las Juntas de 146.66 68 *e*PKP2 **PKPab 06 47 20.8 0.0**
RTCV Cerro Valdivia 146.90 156 *e*P **PKPbc 06 47 20.4 +0.6**
ACAN Cantantal 147.05 159 *e*P **PKPab 06 47 21.1 -0.7**
ZON Zonda 147.12 156 *e*P **PKPab 06 47 21.4 -0.7**
CFA Coronel Fontan 147.25 157 *e*P **PKPbc 06 47 21.2 +0.4**
GO04 Tololo Observa 147.37 152 *e*PKPbc **PKPbc 06 47 21.9 +0.5**
MRA San Martin 147.43 161 *e*P **PKPbc 06 47 22.0 +0.6**
AMOG MOGNA 147.73 156 *e*P **PKPbc 06 47 22.3 +0.1**
ACCO Cerro Coronel 147.79 155 *e*P **PKPbc 06 47 23.5 +0.8**
AROD Rodeo 147.98 154 *e*P **PKiKP 06 47 24.7 -0.4**
ACDV Cuesta del Vie 148.13 154 *e*P **PKiKP 06 47 24.7 -0.5**
LCO Las Campanas 148.38 151 *e*PKPbc **PKiKP 06 47 25.4 -0.5**
LCO Las Campanas 148.38 151 *e*PKP2 **PKiKP 06 47 25.4 -0.5**
TCA Tanti 148.78 162 *e*P **PKiKP 06 47 25.8 -0.6**
APLL PUNTA DE LOS L 148.98 158 *e*P **PKPbc 06 47 25.7 +0.2**
AGUA GUANDACOL 148.99 154 *e*P **PKPbc 06 47 24.9 -0.7**
ACLC CERRO LA CRUZ 149.69 157 *e*P **PKiKP 06 47 28.2 -0.3**
VCA Vinchina 149.77 154 *e*P **PKiKP 06 47 28.2 -0.4**
CYA Choya 151.01 158 *e*P **PKiKP 06 47 30.9 -0.1**
BCIP Isla Barro Col 151.77 67 *e*PKPbc **PKPbc 06 47 32.2 -0.2**
BCIP Isla Barro Col 151.77 67 *e*PKIKP **PKPbc 06 47 32.3 -0.2**
GO02 Mina Guanaco 152.09 148 *e*PKPbc **PKiKP 06 47 34.5 +0.8**
AHML Horco Molle 152.68 157 *e*P **PKiKP 06 47 35.3 +0.8**
FSA Cafayete 153.01 155 *e*P **PKPdf 06 47 30.7 +2.8**
LPAZ La Paz 159.69 136 PKP **PKPdf 06 47 37.1 -0.3**
comp=Z,12nm,0.3s,baz=286,slow=3.2,SNR=220
BDFB Brasilia 165.09 202 PKPab **PKPab 06 48 38.1 -0.7**
comp=Z,1.0nm,0.6s,baz=127,slow=10,SNR=2.1

*SJA **04** 06:42:33.5±0.6, 32.°43S×72.°26W, h26km±45km, ML2.9, MW3.2*
*GUC **04** 06:42:35.9±0.6, 32.°30S×71.°90W, h34km±4km, ML3.2*
ISC 04 06:42:30.3±2.4, 32.°35S±0.°05×72.°1W±0.°1, h0km±12km, n13, σ0s80/23, 1C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.11**	**124**	⇓*i*P	**Pn**	**06 42 54.3**	**+0.9**
ROCH				*i* S	**Sn**	**06 43 08.9**	**-0.6**
ROCH				IAML		06 43 12.4	
	comp=N,669nm,0.4s						
PEL	**Peldehue**	**1.44**	**124**	⇓*i*P	**Pg**	**06 42 59.5**	**+1.6**
PEL				*i* S	**Sn**	**06 43 16.9**	**-0.4**
PEL				IAML		06 43 20.7	
	comp=E,2μm,0.9s						
CLCH	**Cerro Calan**	**1.69**	**129**	*e*P	**Pg**	**06 43 03.5**	**+0.9**
CLCH				*i* S	**Sg**	**06 43 24.1**	**-0.4**
CLCH				IAML		06 43 28.8	
	comp=E,498nm,0.5s						
ANTU	**Antumapu**	**1.74**	**135**	*i* S	**Sg**	**06 43 25.9**	**-0.2**
ANTU				IAML		06 43 34.5	
	comp=N,444nm,0.5s						
FCH	**Farellones**	**1.81**	**123**	⇑*i*P	**Pg**	**06 43 05.4**	**+0.3**
FCH				*e*S	**Sg**	**06 43 28.3**	**-0.3**
FCH				IAML		06 43 29.8	
	comp=N,292nm,0.2s						
LMEL	**Las Melosas**	**2.19**	**133**	*e*P	**Pg**	**06 43 11.7**	**-0.6**
LMEL				*i* S	**Sb**	**06 43 37.6**	**-0.9**
LMEL				IAML		06 43 45.8	
	comp=N,232nm,0.2s						
GO04	**Tololo Observa**	**2.44**	**28**	⇓*i*P	**Pb**	**06 43 14.0**	**-1.3**
GO04				*i* S	**Sn**	**06 43 43.1**	**+0.7**
RTLS	**Leoncito**	**2.45**	**78**	*e*P	**Pg**	**06 43 17.1**	**-0.2**
RTLS				*e*S	**Sg**	**06 43 49.1**	**+0.1**
RTLS				IAML		06 43 54.3	
	comp=Z,56nm,0.4s						
ASAL	**Salagasta**	**2.78**	**96**	*e*P	**Pb**	**06 43 21.0**	**+0.1**
ASAL				⇓*e*S	**Sb**	**06 43 55.7**	**+0.1**
RTCV	**Cerro Valdivia**	**3.07**	**82**	*e*P	**Pb**	**06 43 25.3**	**-0.5**
RTCV				*e*S	**Sb**	**06 44 03.6**	**-0.2**
AROD	**Rodeo**	**3.14**	**47**	*e*P	**Pb**	**06 43 27.2**	**+0.1**
ACCO	**Cerro Coronel**	**3.14**	**57**	*e*P	**Pb**	**06 43 26.8**	**-0.4**
ACCO				*e*S	**Sb**	**06 44 06.8**	**+0.6**
AMOG	**MOGNA**	**3.39**	**66**	*e*P	**Pb**	**06 43 29.7**	**-1.6**

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*IDC **04** 06:47:32.7±1.7, 6.°53S×128.°99E, h0km, mb4.2/2, mb1 4.2/4, mb1mx3.7/38, mbtmp4.1/4, ML3.8/2, Error ellipse: s-maj=114.1km s-min=28.7km az=68.0*
*ISCJB **04** 06:47:46.4±0.5, 6.°68S±0.°04×129.°96E±0.°06, h150km, Error ellipse: s-maj=8.2km s-min=5.8km az=3.1*
*NEIC **04** 06:47:49.0±2.8, 6.°59S×129.°82E, h158km±12km, mb4.0/5, Error ellipse: s-maj=25.6km s-min=10.8km az=223.0*
ISC 04 06:47:48.2±0.7, 6.°71S±0.°06×129.°88E±0.°07, h150km, n20, σ2s30/24, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.89**	**132**	*e*Pn	**Pn**	06 48 27.6	+5.5
SAUI				*e*Sn	**Sn**	**06 48 51.9**	**+3.7**
FAKI	**Fak Fak**	**4.44**	**32**	*e*Pn	**Pn**	**06 48 55.2**	**+1.0**
FAKI				*e*Sn	**Sn**	**06 49 43.4**	**-2.2**
MTN	**Manton Dam**	**6.22**	**169**	*e*Pn	**Pn**	**06 49 19.5**	**+1.6**
MTN				*e*Sn	**Sn**	**06 50 26.1**	**-2.1**
SOEI	**Soe**	**6.33**	**241**	*e*Pn	**Pn**	**06 49 21.3**	**+1.9**
SOEI				*e*Sn	**Sn**	**06 50 33.3**	**+2.5**
KAPI	**Kappang**	**10.22**	**279**	*e*Pn	**Pn**	**06 50 09.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**12.06**	**200**	*e*Pn	**Pn**	**06 50 35.2**	**-0.1**
WRAB	**Tennant Creek**	**13.85**	**162**	*e*Pn	**Pn**	**06 50 58.8**	**+0.6**
WRA	**Warramunga Arr**	**13.85**	**162**	Pn	**Pn**	**06 50 56.4**	**-1.9**
	0.3nm,0.3s,baz=338,slow=13,SNR=12						
WRA				Sn	Sn	06 53 23.6	-8.2
	0.8nm,0.3s,baz=329,slow=23,SNR=9.0						
WR1	**Warramunga Arr**	**13.85**	**162**	*e*Pn	**Pn**	**06 50 56.4**	**-1.9**
WR1				*e*Sn	Sn	06 53 23.6	-8.2
WB2	**Warramunga Arr**	**13.86**	**162**	*e*Pn	**Pn**	**06 50 56.5**	**-1.8**
COEN	**Coen**	**14.93**	**120**	*e*Pn	**P**	**06 51 14.9**	**+1.2**
	12nm,1.1s						
AS31	**Alice Springs**	**17.30**	**168**	*e*P	**P**	**06 51 41.5**	**+1.6**
	1.9nm,0.6s						
ASAR	**Alice Springs**	**17.30**	**168**	*e*P	**P**	**06 51 41.4**	**+1.5**
ASAR	**Alice Springs**	**17.30**	**168**	P	**P**	**06 51 40.8**	**+0.9**
	0.9nm,0.3s,baz=350,slow=11,SNR=39						
ASAR				S	**S**	**06 54 45.8**	**-6.9**
	0.1nm,0.3s,baz=351,slow=23,SNR=2.0						
PSA00	**Pilbara Seismi**	**17.68**	**212**	*e*P	**P**	**06 51 44.8**	**+0.7**
	13nm,1.4s						
STKA	**Stephens Creek**	**27.33**	**158**	*e*P	**P**	**06 53 18.7**	**-0.4**
	1.2nm,1.4s						
CAN	**Canberra**	**33.47**	**151**	*e*P	**P**	**06 54 15.2**	**+2.0**
	41nm,1.5s						
MK32	**Makanchi Array**	**67.92**	**327**	*e*P	**P**	**06 58 30.0**	**-0.7**
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**06 58 30.0**	**-0.7**
	1.7nm,0.4s,baz=117,slow=8.1,SNR=22						
KURBB	**Kurchatov Arra**	**72.20**	**329**	P	**P**	**06 58 55.1**	**-1.5**
	0.8nm,0.5s,baz=125,slow=5.2,SNR=6.6						

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*SOME **04** 07:00:08.2, 44.°72N×82.°12E, h0km*
*NNC **04** 07:00:11.1±0.9, 44.°70N×82.°18E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=13.7km s-min=2.6km az=116.0*
ISC 04 07:00:06.7±2.2, 44.°68N±0.°06×82.°4E±0.°2, h2km±24km, n9, σ0s76/18, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.91**	**231**	*e*P	**Pg**	**07 00 43.2**	**-0.2**
	2.3nm,0.1s						
KTMS				*e*S	**Sg**	**07 01 08.4**	**+0.3**
	8.7nm,0.3s						
MK31	**Makanchi Array**	**2.12**	**358**	⇑P	**Pg**	**07 00 47.6**	**+0.3**
	1.4nm,0.2s,baz=182,slow=14,SNR=75						
MK31				⇓S	**Sg**	**07 01 15.4**	**+0.6**
	0.4nm,0.2s,baz=186,slow=26,SNR=13						
MAKZ	**Makanchi**	**2.15**	**353**	⇓P	**Pg**	**07 00 47.6**	**-0.4**
	1.1nm,0.4s						
MAKZ				⇑S	**Sg**	**07 01 16.1**	**+0.3**
	3.0nm,0.5s						
KAPS	**Kapalarasan**	**2.23**	**287**	*e*P	**Pb**	**07 00 47.1**	**-0.7**
	0.9nm,0.1s						
KAPS				*e*S	**Sb**	**07 01 15.1**	**-0.9**
	4.3nm,0.1s						
PDGK	**Podgornoye**	**2.48**	**238**	⇑P	**Pb**	**07 00 51.5**	**-0.6**
	0.4nm,0.3s						
PDGK				⇑S	**Sb**	**07 01 22.8**	**-0.5**
	4.4nm,0.5s						
KPKS	**Kokpek**	**2.93**	**247**	*e*P	**Pb**	**07 00 59.4**	**-0.3**
	3.0nm,0.1s						
KPKS				*e*S	**Sb**	**07 01 36.2**	**+0.2**
	13nm,0.2s						
ARXS	**Arharly**	**3.30**	**264**	*e*P	**Pb**	**07 01 05.3**	**-0.7**
	2.5nm,0.7s						
ARXS				*e*S	**Sb**	**07 01 46.5**	**0.0**
	6.0nm,0.2s						
SATY	**Saty**	**3.30**	**242**	*e*P	**Pb**	**07 01 05.8**	**-0.2**
	4.4nm,0.3s						
SATY				*e*S	**Sb**	**07 01 47.4**	**+0.7**
	7.5nm,0.2s						
CHKK	**Chushkaly**	**3.96**	**260**	*e*P	**Pb**	**07 01 17.8**	**+0.5**
	1.1nm,0.2s						
CHKK				*e*S	**Sb**	**07 02 07.7**	**+2.0**
	3.3nm,0.2s						

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*ISK **04** 07:08:57.7, 37.°37N×37.°22E, h5km, ML1.9/6*
*DDA **04** 07:08:57.6, 37.°21N×37.°10E, h5km±4km, ML2.7*
*ISCJB **04** 07:08:59.8±0.6, 37.°27N±0.°04×37.°07E±0.°05, h4km±6km, Error ellipse: s-maj=7.5km s-min=4.6km az=136.2*
ISC 04 07:08:59.0±1.0, 37.°31N±0.°04×37.°13E±0.°03, h6km±10km, n14, σ1s03/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**154**	PG	**Pg**	**07 09 02.2**	**+0.1**
GAZ				SG	**Sg**	**07 09 05.3**	**+1.1**
HCB	**Kahramanmara**	**0.18**	**282**	IAML_P			
	comp=Z,7μm,0.1s						
HCB				*i* P	**Pg**	**07 09 02.2**	**-0.4**
HCB				*i* S	**Sg**	**07 09 05.7**	**+0.6**
KMRS	**Kahramanmaras**	**0.27**	**317**	PG	**Pg**	**07 09 04.0**	**-0.3**
KMRS				SG	**Sg**	**07 09 08.7**	**+0.8**
AYKD	**Aykdinkavak**	**0.28**	**293**	IAML_P			
	comp=Z,5μm,0.1s						
AYKD				*i* P	**Pb**	**07 09 05.1**	**-1.3**
AYKD				*i* S	**Sg**	**07 09 08.4**	**+0.2**
GZT	**Gaziantep**	**0.35**	**82**	IAML_P			
	comp=Z,2μm,0.1s						
GZT				*i* P	**Pb**	**07 09 06.4**	**-1.3**
KAMA	**Osmaniye**	**0.39**	**252**	IAML_P			
	comp=Z,3μm,0.1s						
KAMA				*i* P	**Pg**	**07 09 05.8**	**-0.8**
KUZU	**Kuzuini**	**0.53**	**185**	*i* P	**Pb**	**07 09 10.5**	**-0.2**
ANDN	**Andirin**	**0.68**	**294**	*i* P	**Pb**	**07 09 12.8**	**-0.5**
ANDN				*i* S	**Sg**	**07 09 21.6**	**+0.6**
ELBS	**KAHRAMANMARAS**	**1.01**	**0**	*i* P	**Pn**	**07 09 20.1**	**+0.2**
ELBS				*i* S	**Sn**	**07 09 36.2**	**+1.7**
KOZT	**Kozan**	**1.05**	**280**	PN	**Pn**	**07 09 19.5**	**-0.7**
CEYT	**Ceyhan**	**1.14**	**255**	PN	**Pn**	**07 09 21.6**	**+0.1**
AKCD	**Akcadag**	**1.17**	**32**	IAML_P			
	comp=Z,600nm,0.2s						
AKCD				*i* P	**Pn**	**07 09 23.6**	**+1.6**
AKCD				*i* S	**Sn**	**07 09 39.0**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.20**	**219**	PN	**Pn**	**07 09 22.9**	**+0.6**
URFA	**Urfa**	**1.35**	**84**	PN	**Pn**	**07 09 22.5**	**-2.0**

IDC 04 07:13:17.7±2.1, 6.°20S×129.°79E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/30, mbtmp3.4/4, ML3.1/3, MS3.3/1, Ms1 3.5/1, ms1mx2.5/34, Error ellipse: s-maj=87.3km s-min=28.0km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.50**	**199**	Pn	Pn	07 16 19.1	+2.0
	0.1nm,0.3s,baz=23,slow=9.4,SNR=6.3						
FITZ				Sn	Sn	07 18 23.2	-14
	0.1nm,0.3s,baz=53,slow=15,SNR=2.4						
WRA	**Warramunga Arr**	**14.36**	**162**	Pn	Pn	07 16 41.9	-0.6
	0.1nm,0.3s,baz=340,slow=12,SNR=4.0						
WRA				Sn	Sn	07 19 09.2	-14
	0.1nm,0.3s,baz=344,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**17.82**	**168**	P	Pn	07 17 26.1	-1.2
	0.1nm,0.3s,baz=340,slow=11,SNR=6.1						
CMAR	**Chiang Mai Arr**	**39.06**	**309**	LR	LR	07 38 26.9	
	comp=Z,38nm,18.2s,baz=186,slow=39						
MKAR	**Makanchi Array**	**67.44**	**327**	P	P	07 24 15.4	0.0
	0.3nm,0.4s,baz=117,slow=8.2,SNR=3.6						

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*IDC **04** 07:17:42.9±1.2, 21.°76S×67.°05W, h166km±14km, mb3.1/1, mb1 3.5/3, mb1mx3.1/32, mbtmp3.8/3, Error ellipse: s-maj=27.8km s-min=13.0km az=124.0*
*SJA **04** 07:17:43.8±0.8, 21.°83S×67.°35W, h187km±17km, MD3.1*
*ISCJB **04** 07:17:44.2±0.6, 21.°75S±0.°04×67.°43W±0.°07, h194km±8km, mb4.0/2, Error ellipse: s-maj=11.0km s-min=6.6km az=169.2*
*GUC **04** 07:17:45.0±0.5, 21.°66S×67.°81W, h218km±6km, ML3.7*
ISC 04 07:17:43.9±0.9, 21.°67S±0.°05×67.°28W±0.°06, h182km±9km, n26, σ1s60/44, 9C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.77**	**238**	P	**Pn**	**07 18 19.7**	**+0.5**
	baz=58,slow=8.7						
LVC				S	**S**	**07 18 45.6**	**-0.8**
	8.0nm,0.3s,baz=267,slow=18,SNR=5.3						
PB09	**IPOC Station P**	**1.82**	**266**	⇑*i*P	**Pn**	**07 18 20.4**	**+0.9**
PB09				*i* S	**S**	**07 18 47.4**	**+0.4**
PB09				IAML		07 18 53.0	
	comp=E,132nm,0.5s						
PB01	**IPOC Station P**	**2.15**	**287**	⇑*i*P	**Pn**	**07 18 23.3**	**+0.4**
PB01				*i* S	**S**	**07 18 52.3**	**-0.7**
PB01				IAML		07 18 54.1	
	comp=N,480nm,0.3s						
HJA	**Humahuaca**	**2.31**	**132**	*e*P	**Pn**	**07 18 26.0**	**+1.0**
PB08	**IPOC Station P**	**2.32**	**311**	*e*P	**Pn**	**07 18 26.9**	**+1.8**
PB08	**IPOC Station P**	**2.32**	**311**	⇑*i*P	**Pn**	**07 18 26.9**	**+1.8**
PB08				*i* S	**S**	**07 18 58.4**	**+1.4**
PB08				IAML		07 19 01.5	
	comp=E,98nm,0.2s						
PB03	**IPOC Station P**	**2.32**	**260**	*e*P	**Pn**	**07 18 24.9**	**0.0**
PB03				*e*S	**S**	**07 18 55.2**	**-1.4**
PB03	**IPOC Station P**	**2.32**	**260**	⇑*i*P	**Pn**	**07 18 24.9**	**0.0**
PB03				*i* S	**S**	**07 18 55.4**	**-1.2**
PB03				IAML		07 18 55.8	
	comp=N,526nm,0.2s						
PB07	**IPOC Station P**	**2.42**	**268**	*e*P	**Pn**	**07 18 26.5**	**+0.5**
PB07				*e*S	**S**	**07 18 57.0**	**-1.6**
PB07	**IPOC Station P**	**2.42**	**268**	*e*P	**Pn**	**07 18 25.8**	**-0.3**
PB07				*i* S	**S**	**07 18 57.1**	**-1.6**
PB07				IAML		07 18 58.1	
	comp=E,559nm,0.3s						
PB02	**IPOC Station P**	**2.46**	**278**	*e*P	**Pn**	**07 18 26.6**	**+0.2**
PB02				*e*S	**S**	**07 18 58.4**	**-0.9**
PB02	**IPOC Station P**	**2.46**	**278**	⇑*i*P	**Pn**	**07 18 26.4**	**0.0**
PB02				*e*S	**S**	**07 18 57.5**	**-1.8**
PB02				IAML		07 18 59.6	
	comp=E,590nm,0.1s						
PB15	**IPOC Station P**	**2.54**	**233**	*e*P	**Pn**	**07 18 27.8**	**+0.4**
PB15				*i* S	**S**	**07 19 00.5**	**-0.7**
GO01	**Chusmiza**	**2.68**	**318**	⇑*i*P	**Pn**	**07 18 30.7**	**+1.3**
GO01				*i* S	**S**	**07 19 07.5**	**+2.9**
PB04	**IPOC Station P**	**2.74**	**256**	*e*P	**Pn**	**07 18 29.6**	**-0.1**
PB04				*e*S	**S**	**07 19 02.9**	**-2.4**
PB11	**IPOC Station P**	**2.92**	**310**	⇑*i*P	**Pn**	**07 18 32.4**	**+0.4**
PB11				*i* S	**S**	**07 19 08.6**	**-0.7**
PB05	**IPOC Station P**	**2.95**	**246**	⇓*i*P	**Pn**	**07 18 32.0**	**-0.2**
PB05				IAML		07 19 07.9	
	comp=E,100nm,0.3s						
AZAP	**Zapla**	**3.26**	**142**	*e*P	**Pn**	**07 18 35.9**	**-0.2**
MNMC	**Minye Minye**	**3.33**	**319**	⇑*i*P	**Pn**	**07 18 38.2**	**+1.1**
MNMC				*i* S	**S**	**07 19 18.2**	**-0.2**
MNMCX	**Minye Minye**	**3.33**	**319**	*e*P	**Pn**	**07 18 38.3**	**+1.2**
PSGC	**Pisagua**	**3.37**	**307**	⇑*i*P	**Pn**	**07 18 36.6**	**-0.7**
PSGC				*i* S	**S**	**07 19 16.3**	**-2.6**
PSGC				IAML		07 19 17.9	
	comp=N,96nm,0.3s						
LPAZ	**La Paz**	**5.42**	**351**	P	**Pn**	**07 19 06.1**	**+2.1**
	comp=N,1.6nm,0.3s,baz=169,slow=11,SNR=51						
LPAZ				S	**S**	**07 20 08.2**	**+1.3**
	comp=N,0.1nm,0.3s,baz=276,slow=19,SNR=2.0						
SIV	**San Ignacio**	**8.16**	**47**	P	**Pn**	**07 19 37.7**	**-1.7**
	comp=N,3.9nm,0.3s,baz=233,slow=10.0,SNR=98						
SIV				S	**S**	**07 21 04.7**	**-6.2**
	comp=N,0.8nm,0.3s,baz=156,slow=22,SNR=4.6						
TORD	**Torodi Ar. Bea**	**75.99**	**70**	P	**P**	**07 29 11.8**	**+0.4**
	comp=N,7.9nm,0.2s,baz=251,slow=6.3,SNR=2.9						
YKA	**Yellowknife Ar**	**91.86**	**340**	P	**P**	**07 30 31.8**	**+1.0**
	comp=N,0.1nm,0.5s,baz=129,slow=4.9,SNR=5.9						
MKAR	**Makanchi Array**	**144.87**	**37**	PKP	**PKPdf**	**07 36 57.9**	**-1.3**
	comp=N,0.3nm,0.7s,baz=308,slow=3.5,SNR=2.5						

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*VIE **04** 07:18:26.0±0.9, 45.°30N×14.°97E, h8km, mb1.9/2, ml2.5/2, Error ellipse: s-maj=7.1km s-min=2.5km az=170.0*
*LJU **04** 07:18:26.0, 45.°30N×14.°97E, h8km, ML1.6*
ISC 04 07:18:26.0±1.1, 45.°29N±0.°03×14.°95E±0.°04, h9km±11km, n11, σ0s51/20, 1C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	**Gornja Briga**	**0.26**	**338**	⇓*i*Pg	**Pg**	**07 18 31.3**	**0.0**
GBRS				*i* Sg	**Sg**	**07 18 35.2**	**+0.4**
	comp=Z,33nm,0.1s						
BOJS	**Bojanci**	**0.30**	**45**	⇑*i*Pg	**Pg**	**07 18 31.9**	**-0.2**
BOJS				*i* Sg	**Sg**	**07 18 36.0**	**0.0**
	comp=Z,67nm,0.1s						
KNDS	**Knezji Dol**	**0.47**	**301**	*i* Pg	**Pg**	**07 18 34.8**	**-0.3**
KNDS				*i* Sg	**Sg**	**07 18 42.0**	**+0.7**
	comp=Z,16nm,0.2s						
OZLJ	**Ozalj**	**0.49**	**48**	*e*Pg	**Pg**	**07 18 35.6**	**+0.1**
OZLJ				Sg	**Sg**	**07 18 41.4**	**-0.5**
VISS	**Visnje**	**0.52**	**351**	⇓*i*Pg	**Pg**	**07 18 35.6**	**-0.5**
VISS				*i* Sg	**Sg**	**07 18 43.8**	**+0.9**
	comp=Z,9.0nm,0.1s						
CEY	**Cerknica**	**0.58**	**321**	*i* Pg	**Pg**	**07 18 36.9**	**-0.4**
CEY				*i* Sg	**Sb**	**07 18 46.4**	**-0.4**
	comp=Z,20nm,0.2s						
NVLJ	**Novalja**	**0.73**	**184**	*e*Pg	**Pg**	**07 18 39.8**	**-0.3**
NVLJ				Sg	**Sb**	**07 18 51.5**	**+0.6**
PDKS	**Podkum**	**0.77**	**2**	*i* Pg	**Pb**	**07 18 41.2**	**-0.4**
PDKS				*i* Sg	**Sb**	**07 18 53.1**	**+0.9**
UDBI	**Udbina**	**0.96**	**143**	*e*Pg	**Pn**	**07 18 45.6**	**-0.1**
UDBI				Sg	**Sb**	**07 18 58.2**	**+0.6**
OBKA	**Obir**	**1.25**	**347**	*e*Pg	**Pg**	**07 18 50.2**	**+0.1**
	comp=Z,5.1nm,0.1s						
SOKA	**Soboth**	**1.39**	**2**	*e*Pg	**Pg**	**07 18 52.5**	**-0.1**
	comp=Z,4.7nm,0.2s						

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*VIE **04** 07:18:44.6±0.7, 45.°34N×14.°91E, h8km, mb2.2/5, ml2.5/5, Error ellipse: s-maj=4.6km s-min=2.6km az=157.0*
*LJU **04** 07:18:44.1, 45.°29N×14.°97E, h10km, ML2.0*
ISC 04 07:18:44.3±1.0, 45.°30N±0.°03×14.°95E±0.°04, h13km±8km, n14, σ0s55/26, 1C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	**Gornja Briga**	**0.25**	**337**	⇓*i*Pg	**Pg**	**07 18 49.6**	**-0.1**
GBRS				*i* Sg	**Sg**	**07 18 53.4**	**+0.2**
	comp=Z,195nm,0.2s						
BOJS	**Bojanci**	**0.29**	**47**	⇑*i*Pg	**Pg**	**07 18 50.2**	**-0.2**
BOJS				*i* Sg	**Sg**	**07 18 54.4**	**-0.1**
	comp=Z,182nm,0.1s						
KNDS	**Knezji Dol**	**0.46**	**300**	*i* Pg	**Pb**	**07 18 54.2**	**-0.2**
KNDS				*i* Sg	**Sb**	**07 19 00.3**	**-0.8**
	comp=Z,43nm,0.2s						
OZLJ	**Ozalj**	**0.48**	**49**	*i* Pg	**Pg**	**07 18 54.0**	**+0.1**
OZLJ				Sg	**Sg**	**07 19 00.0**	**-0.2**
VISS	**Visnje**	**0.51**	**351**	⇓*i*Pg	**Pg**	**07 18 53.9**	**-0.4**
VISS				*i* Sg	**Sb**	**07 19 01.9**	**-0.6**
	comp=Z,26nm,0.1s						
CEY	**Cerknica**	**0.57**	**320**	*i* Sg	**Sb**	**07 19 04.6**	**+0.3**
	comp=Z,76nm,0.2s						
NVLJ	**Novalja**	**0.74**	**184**	*e*Pg	**Pg**	**07 18 58.0**	**-0.8**
NVLJ				Sg	**Sb**	**07 19 09.4**	**+0.3**
PDKS	**Podkum**	**0.76**	**3**	*i* Pg	**Pb**	**07 18 59.5**	**+0.1**
PDKS				*i* Sg	**Sn**	**07 19 11.5**	**-0.8**
	comp=Z,29nm,0.1s						
UDBI	**Udbina**	**0.97**	**143**	Sg	**Sg**	**07 19 16.2**	**+0.6**
OBKA	**Obir**	**1.24**	**347**	*e*Pg	**Pg**	**07 19 08.0**	**-0.2**
	comp=Z,14nm,0.1s						
OBKA				*e*Sg	**Sn**	**07 19 25.1**	**+1.0**
	comp=Z,15nm,0.2s						
SOKA	**Soboth**	**1.38**	**2**	*e*Pg	**Pg**	**07 19 10.9**	**+0.1**
	comp=Z,16nm,0.2s						
SOKA				*e*Sg	**Sg**	**07 19 28.8**	**+0.1**
	comp=Z,15nm,0.4s						
MYKA	**Terra Mystica**	**1.61**	**326**	*e*Pg	**Pg**	**07 19 14.7**	**-0.5**
	comp=Z,3.3nm,0.2s						
MYKA				*e*Sg	**Sg**	**07 19 36.5**	**+0.4**
	comp=Z,9.0nm,0.3s						
ARSA	**Arzberg**	**1.99**	**11**	*e*Pg	**Pg**	**07 19 21.4**	**-1.0**
	comp=Z,6.0nm,0.4s						
ARSA				*e*Sg	**Sg**	**07 19 48.4**	**+0.2**
	comp=Z,1.8nm,0.3s						
ABTA	**Abfaltersbach**	**2.23**	**311**	*e*Pg	**Pb**	**07 19 25.6**	**+1.0**
	comp=Z,0.5nm,0.1s						
ABTA				Sg	**Sg**	**07 19 56.2**	**+0.2**
	comp=Z,7.6nm,0.3s						

GUC 04 07:23:56.8±0.6, 35.°49S×73.°09W, h25km±13km, ML3.6, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.07**	**63**	⇑*i*P	Pb	07 24 16.9	+0.3
GO05				*i* S	Sn	07 24 31.7	+1.4
CCHI	**Chillan**	**1.38**	**144**	*e*P	Pb	07 24 21.3	-0.6
CCHI				*i* S	Sb	07 24 40.6	+1.5
CCHI				IAML		07 24 45.5	
	comp=N,898nm,0.3s						
LMEL	**Las Melosas**	**2.89**	**56**	*e*P	Pn	07 24 44.6	+3.1
LMEL				IAML		07 25 35.5	
	comp=N,174nm,0.4s						
CLCH	**Cerro Calan**	**2.97**	**46**	*e*P	Pn	07 24 45.3	+2.8
CLCH				IAML		07 25 41.7	
	comp=N,299nm,0.5s						
PEL	**Peldehue**	**3.08**	**41**	*e*P	Pn	07 24 46.4	+2.5
PEL				IAML		07 25 43.9	
	comp=E,128nm,0.7s						

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*IDC **04** 07:25:40.0±1.1, 6.°14S×150.°66E, h0km, mb4.1/7, mb1 4.3/8, mb1mx3.9/35, mbtmp4.1/8, ML2.0/1, Error ellipse: s-maj=68.2km s-min=19.3km az=130.0*
*ISCJB **04** 07:25:44.0±0.5, 6.°3S±0.°2×150.°7E±0.°2, h33km, mb4.2/11, Error ellipse: s-maj=34.6km s-min=6.7km az=44.3*
*NEIC **04** 07:25:46.8±1.1, 6.°34S×150.°75E, h46km±9km, mb4.3/11, Error ellipse: s-maj=34.1km s-min=13.7km az=138.0*
ISC 04 07:25:45.2±0.7, 6.°3S±0.°2×150.°7E±0.°2, h33km, n27, σ1s11/26, mb4.0/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.53**	**35**	*e*Pn	**Pn**	**07 26 25.5**	**+1.4**
PMG	**Port Moresby**	**4.69**	**228**	*e*Pn	**Pn**	**07 26 55.0**	**+1.3**
PMG				*e*Sn	**Sn**	**07 27 47.8**	**+0.8**
PMG	**Port Moresby**	**4.69**	**228**	Pn	**Pn**	**07 26 54.2**	**+0.5**
	5.1nm,0.3s,baz=7.4,slow=5.6,SNR=8.6						
PMG				Sn	**Sn**	**07 27 46.3**	**-0.7**
	9.0nm,0.3s,baz=342,slow=20,SNR=5.2						
MTN	**Manton Dam**	**20.36**	**250**	*e*P	Pn	07 30 20.0	-1.3
	14nm,0.9s						
WB2	**Warramunga Arr**	**20.90**	**228**	*e*P	**P**	**07 30 25.5**	**+0.5**
	7.9nm,0.5s						
WR1	**Warramunga Arr**	**20.

mb1 3.6/10,mb1mx3.3/41,mbtmp4.0/10,Error ellipse: s-maj=29.0km s-min=11.2km az=45.0
UCR ***04*** *07:58:12.0±2.0, 11°.53N×85°.97W, h161km±5km, MD4.1, ML4.3*
SNET ***04*** *07:58:15.6±1.0, 11°.12N×86°.54W, h21km±84km, ML4.7*
ISC 04 07:58:11.6±0.7, 11°.51N±0°.05×85°.97W±0°.05, h169km±5km, n72, σ1s39/100, mb3.6/7, 5C-5D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.34**	**81**	*eP*	**Pn**	**07 58 34.4**	**-0.1**
MGAN	**Managua**	**0.69**	**337**	*eP*	**Pn**	**07 58 36.3**	**+0.2**
MGAN				*eS*	**Sn**	**07 58 54.9**	**0.0**
GBS3	**Finca Las Img**	**0.89**	**145**	*i P*	**Pn**	**07 58 37.6**	**+0.2**
GBS3				*i S*	**Sn**	**07 58 56.5**	**-0.7**
BUAI	**Buenos Aires**	**0.89**	**135**	*i P*	**Pn**	**07 58 38.0**	**+0.6**
BUEV	**Buena Vista**	**0.90**	**142**	*i P*	**Pn**	**07 58 37.9**	**+0.3**
BUEV				*i S*	**Sn**	**07 58 56.7**	**-0.8**
COPN	**Copaltepe**	**0.90**	**318**	*eP*	**Pn**	**07 58 37.3**	**-0.1**
ACON	**Acoyapa**	**0.90**	**60**	‖*iP*	**Pn**	**07 58 37.3**	**-0.2**
ACON				*eS*	**Sn**	**07 58 55.6**	**-1.7**
LAPC	**Finca la Perla**	**0.91**	**144**	*i P*	**Pn**	**07 58 37.7**	**+0.2**
NY14	**Universidad de**	**0.96**	**153**	*i P*	**Pn**	**07 58 38.6**	**+0.7**
NY14				*i S*	**Sn**	**07 58 58.2**	**+0.1**
MOMN	**Momotombo**	**1.05**	**328**	*eP*	**Pn**	**07 58 38.6**	**0.0**
MOMN	**Momotombo**	**1.05**	**328**	*eP*	**Pn**	**07 58 38.6**	**0.0**
CUI	**Cuipilapa**	**1.16**	**137**	*i P*	**Pn**	**07 58 40.0**	**+0.4**
CNGN	**Cerro Negro**	**1.21**	**324**	*eP*	**Pn**	**07 58 39.2**	**-0.7**
CNGN				*eS*	**Sn**	**07 59 02.4**	**+0.5**
CNGN	**Cerro Negro**	**1.21**	**324**⇑	*eP*	**Pn**	**07 58 39.1**	**-0.9**
PTEN	**Parque Tenorio**	**1.25**	**129**	*i P*	**Pn**	**07 58 40.6**	**+0.3**
ACAL	**Aguas Claras**	**1.27**	**133**	*i P*	**Pn**	**07 58 40.9**	**+0.3**
ACAL				*i S*	**Sn**	**07 59 02.6**	**-0.2**
AMAS	**Alto Masis**	**1.31**	**133**	*i P*	**Pn**	**07 58 41.3**	**+0.3**
MATN	**Matagalpa**	**1.41**	**2**	*eP*	**Pn**	**07 58 41.8**	**0.0**
MATN				*eS*	**Sn**	**07 59 04.4**	**-0.9**
JTS	**Las Juntas de**	**1.57**	**140**	P	**Pn**	**07 58 43.2**	**-0.2**
	53nm,0.3s,baz=178,slow=23,SNR=397						
JTS				S	**Sn**	**07 59 06.1**	**-1.9**
	158nm,0.3s,baz=336,slow=20,SNR=32						
JTS	**Las Juntas de**	**1.57**	**140**‖	*eP*	**Pn**	**07 58 43.3**	**-0.1**
CRIN	**San Cristobal**	**1.58**	**318**	*eP*	**Pn**	**07 58 44.0**	**+0.4**
CRIN				*eS*	**Sn**	**07 59 09.6**	**+1.4**
CRIN				IAML		07 59 12.5	
	comp=E,2μm,0.3s						
ARE1	**Arenal 1**	**1.61**	**130**‖	*iP*	**Pn**	**07 58 44.1**	**+0.3**
CASO	**Castillo**	**1.62**	**131**	*i P*	**Pn**	**07 58 44.3**	**+0.4**
ESTN	**Estel**	**1.63**	**346**⇑	*eP*	**Pn**	**07 58 44.6**	**+0.6**
ESTN				*eS*	**Sn**	**07 59 09.8**	**+0.6**
ESTN	**Estel**	**1.63**	**346**⇑	*eP*	**Pn**	**07 58 44.6**	**+0.6**
ESTN				*eS*	**Sn**	**07 59 09.8**	**+0.6**
ESPN	**Las Esperanzas**	**1.77**	**67**‖	*iP*	**Pn**	**07 58 45.0**	**-0.4**
RCON	**San Juan de Ri**	**1.97**	**355**‖	*eP*	**Pn**	**07 58 47.7**	**0.0**
SOMN	**Somoto**	**2.00**	**342**	*eP*	**Pn**	**07 58 49.7**	**+1.7**
SOMN				*eS*	**Sn**	**07 59 18.6**	**+2.4**
CSGN	**Cosiguina Volc**	**2.13**	**313**	*eP*	**Pn**	**07 58 50.9**	**+1.5**
CSGN				*eS*	**Sn**	**07 59 19.8**	**+1.1**
CSGN	**Cosiguina Volc**	**2.13**	**313**	*eP*	**Pn**	**07 58 50.9**	**+1.5**
CSGN				*eS*	**Sn**	**07 59 17.3**	**-1.4**
HDC	**Heredia**	**2.36**	**129**‖	*eP*	**Pn**	**07 58 52.9**	**+0.7**
CNCH	**Conchagua**	**2.53**	**314**	*eP*	**Pn**	**07 58 55.2**	**+1.1**
CNCH				*eS*	**Sn**	**07 59 27.1**	**0.0**
CNCH				IAML		07 59 33.9	
	comp=Z,4μm,0.2s						
CNCH	**Conchagua**	**2.53**	**314**	*eP*	**Pn**	**07 58 55.2**	**+1.1**
CNCH				*eS*	**Sn**	**07 59 27.1**	**0.0**
CNCH				IAML		07 59 33.9	
	comp=Z,4μm,0.2s						
LCR2	**La Lucha 2**	**2.62**	**132**⇑	*eP*	**Pn**	**07 58 56.0**	**+0.7**
VSM	**San Miguel**	**2.95**	**311**	*eP*	**Pn**	**07 59 00.5**	**+1.2**
VSM				*eS*	**Sn**	**07 59 35.5**	**-0.9**
VSM	**San Miguel**	**2.95**	**311**	*eP*	**Pn**	**07 59 00.5**	**+1.2**
VSM				*eS*	**Sn**	**07 59 35.5**	**-0.9**
LCY	**Lacayo**	**2.96**	**310**	*eP*	**Pn**	**07 59 00.4**	**+1.0**
LCY				*eS*	**Sn**	**07 59 34.8**	**-1.7**
LCY	**Lacayo**	**2.96**	**310**	*eP*	**Pn**	**07 59 00.4**	**+1.0**
LCY				*eS*	**Sn**	**07 59 34.8**	**-1.7**
PACA	**Pacayal**	**3.01**	**311**	*eP*	**Pn**	**07 59 01.0**	**+1.0**
PACA				*eS*	**Sn**	**07 59 37.5**	**-0.1**
PACA	**Pacayal**	**3.01**	**311**	*eP*	**Pn**	**07 59 01.0**	**+1.0**
PACA				*eS*	**Sn**	**07 59 37.5**	**-0.1**
TECA	**Tecapa**	**3.16**	**309**	*eP*	**Pn**	**07 59 02.9**	**+1.0**
TECA				*eS*	**Sn**	**07 59 40.9**	**-0.1**
TECA	**Tecapa**	**3.16**	**309**	*eP*	**Pn**	**07 59 02.9**	**+1.0**
TECA				*eS*	**Sn**	**07 59 40.9**	**-0.1**
EDLM	**Las Mercedes**	**3.23**	**133**	*eP*	**Pn**	**07 59 03.8**	**+1.2**
DRK0	**Durika**	**3.49**	**130**	*eP*	**Pn**	**07 59 07.1**	**+1.0**
EDBA	**Buenos Aires**	**3.53**	**131**	*eP*	**Pn**	**07 59 07.5**	**+1.0**
EDPN	**Palmar Norte**	**3.54**	**135**	*eP*	**Pn**	**07 59 08.5**	**+2.0**
LFRS	**El Faro**	**3.67**	**305**	*eP*	**Pn**	**07 59 09.6**	**+1.3**
LFRS				*eS*	**Sn**	**07 59 39.4**	**-1.2**
LBRS	**Las Brisas**	**3.73**	**307**	*eP*	**Pn**	**07 59 10.5**	**+1.6**
LFU	**La Fuente**	**3.79**	**306**	*eP*	**Pn**	**07 59 11.1**	**+1.4**
LFU	**La Fuente**	**3.79**	**306**	*eP*	**Pn**	**07 59 11.1**	**+1.4**
BOQS	**Boqueron**	**3.91**	**305**	*eP*	**Pn**	**07 59 13.8**	**+2.3**
BOQS				*eS*	**Sn**	**07 59 57.9**	**-0.3**
BRU2	**Volcan**	**4.21**	**130**	*eP*	**Pn**	**07 59 16.1**	**+0.9**
SBLS	**San Blas**	**4.25**	**303**	*eP*	**Pn**	**07 59 17.3**	**+1.5**
SBLS	**San Blas**	**4.25**	**303**	*eP*	**Pn**	**07 59 17.3**	**+1.5**
SNJE	**San Jose**	**4.25**	**304**	*eP*	**Pn**	**07 59 17.6**	**+1.8**
SNJE	**San Jose**	**4.25**	**304**	*eP*	**Pn**	**07 59 17.6**	**+1.8**
RTR	**El Retiro**	**4.30**	**304**	*eP*	**Pn**	**07 59 18.1**	**+1.8**
RTR	**El Retiro**	**4.30**	**304**	*eP*	**Pn**	**07 59 18.1**	**+1.8**
APG	**El Apazote**	**5.58**	**309**	P	**Pn**	**07 59 35.3**	**+2.1**
	comp=Z,1.6nm,0.3s,baz=104,slow=12,SNR=4.1						
ICCO	**Coco Island**	**6.03**	**190**	*eP*	Pn	07 59 44.5	+5.7
CMIG	**Matias Romero**	**10.26**	**304**	P	**Pn**	**08 00 35.2**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=147,slow=12,SNR=21						
CMIG				S	**Sn**	**08 02 20.1**	**-8.7**
	comp=Z,0.3nm,0.3s,baz=41,slow=20,SNR=4.0						
SDV	**Santo Domingo**	**15.32**	**98**	P	**Pn**	**08 01 38.5**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=262,slow=4.8,SNR=23						
SJG	**San Juan**	**20.25**	**69**	P	**P**	**08 02 34.2**	**+0.2**
	comp=Z,5.6nm,0.5s,baz=237,slow=5.8,SNR=6.8						
TXAR	**Lajitas Array**	**24.22**	**320**	P	**P**	**08 03 14.6**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=139,slow=11,SNR=19						
SADO	**Sadowa**	**33.66**	**9**	P	**P**	**08 04 36.0**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=243,slow=5.0,SNR=4.0						
SIV	**San Ignacio**	**36.80**	**137**	P	**P**	**08 05 03.5**	**0.0**
	comp=Z,23nm,0.5s,baz=319,slow=9.2,SNR=224						
NVAR	**Mina Array Bea**	**39.36**	**319**	P	**P**	**08 05 26.9**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=125,slow=7.8,SNR=4.9						
BDFB	**Brasilia**	**46.26**	**125**	P	**P**	**08 06 19.4**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=290,slow=13,SNR=5.5						
YKA	**Yellowknife Ar**	**54.90**	**344**	P	**P**	**08 07 23.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=140,slow=7.0,SNR=8.4						
YKA				pP	**pP**	**08 08 02.7**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=141,slow=7.1,SNR=7.0						
RES	**Resolute Bay**	**63.35**	**357**	P	**P**	**08 08 20.7**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=186,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**140.25**	**247**	PKP	**PKPdf**	**08 17 21.7**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=97,slow=1.8,SNR=4.2						
WRA	**Warramunga Arr**	**140.39**	**253**	PKP	**PKPdf**	**08 17 22.5**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=92,slow=2.6,SNR=5.0						

BJI ***04*** *08:04:44.7±0.0, 6°.10S×112°.70E, h596km, mb4.6/38, mB4.5/24*
IDC ***04*** *08:04:45.8±0.8, 6°.02S×112°.73E, h597km±9km, mb3.8/24, mb1 3.9/28, mb1mx3.8/35, mbtmp4.8/28, Error ellipse: s-maj=11.2km s-min=6.8km az=63.0*
ISCJB ***04*** *08:04:45.3±0.2, 6°.13S±0°.03×112°.72E±0°.03, h611km±2km, mb4.5/89, Error ellipse: s-maj=5.5km s-min=3.7km az=38.6*
NEIC ***04*** *08:04:46.0±1.5, 6°.05S×112°.78E, h598km±5km, mb4.5/72, Error ellipse: s-maj=13.4km s-min=8.9km az=75.0*
KLM ***04*** *08:04:46.0, 6°.16S×112°.81E, h603km, mb4.8*
DJA ***04*** *08:04:46.3±0.1, 6°.S±3°×11°.3E±°, h594km±3km, M4.7/35, mB5.2/21, mb4.8/35, MLv5.1/25, Mw(mB)4.6/21, Mwp5.5/1*
ISC 04 08:04:45.8±0.5, 6°.13S±0°.05×112°.73E±0°.05, h600km±5km, n629, σ1s00/574, mb4.5/89, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRJI	**Gresik**	**0.82**	**198**	P	**P**	**08 05 57.6**	**+1.0**
TBJI	**Tambak Boyo**	**1.11**	**232**	P	**P**	**08 05 58.0**	**+0.8**
KMMI	**Kalianget**	**1.53**	**127**	P	**P**	**08 06 00.0**	**+1.6**
SMRI	**Semarang**	**2.45**	**248**	*eP*	**P**	**08 06 02.8**	**+0.7**
SMRI	**Semarang**	**2.45**	**248**	P	**P**	**08 06 02.0**	**-0.1**
WOJI	**Wonogiri, Jawa**	**2.47**	**227**	P	**P**	**08 06 02.2**	**+0.1**
PCJI	**Pacitan**	**2.57**	**217**	P	**P**	**08 06 02.5**	**-0.1**
JAGI	**Jajag, Banyuwa**	**2.72**	**149**	*eP*	**P**	**08 06 03.1**	**-0.3**
JAGI				*eS*	**S**	**08 07 06.5**	**-0.1**
JAGI	**Jajag, Banyuwa**	**2.72**	**149**	P	**P**	**08 06 02.4**	**-1.0**
UGM	**Wanagama**	**2.82**	**231**	*eP*	**P**	**08 06 04.6**	**+0.6**
UGM	**Wanagama**	**2.82**	**231**	P	**P**	**08 06 04.4**	**+0.4**
YOGI	**Yogyakarta**	**2.94**	**235**	P	**P**	**08 06 05.1**	**+0.5**
SRBI	**Singaraja**	**3.13**	**128**	P	**P**	**08 06 06.4**	**+0.7**
KPJI	**Karang Pucung**	**3.96**	**252**	P	**P**	**08 06 11.5**	**+0.5**
JCJI	**Jatiwangi**	**4.45**	**265**	P	**P**	**08 06 15.5**	**+1.0**
CISI	**Cisompet, Garu**	**5.08**	**254**	*eP*	**P**	**08 06 19.1**	**-0.3**
CISI				*eS*	**S**	**08 07 32.4**	**-3.4**
CISI	**Cisompet, Garu**	**5.08**	**254**	P	**P**	**08 06 18.6**	**-0.8**
	4μm,0.5s,69μm16nm						
LEM	**Lembang**	**5.13**	**262**	P	**P**	**08 06 20.5**	**+0.6**
	5μm,0.8s,40μm15nm						
LEM	**Lembang**	**5.13**	**262**	P	**P**	**08 06 20.5**	**+0.6**
	48nm,0.3s,baz=65,slow=7.8,SNR=33						
LEM				S	**S**	**08 07 35.8**	**-0.9**
	baz=307,slow=20,SNR=2.6						
MTKI	**Muara Teweh, K**	**5.59**	**23**	P	**P**	**08 06 24.9**	**+1.4**
	1μm,0.8s,4.1nm						
PLAI	**Plampang**	**5.67**	**118**	P	**P**	**08 06 21.6**	**-2.6**
	67nm,0.5s,2μm0.6nm						
CBJI	**Citeko**	**5.86**	**267**	P	**P**	**08 06 25.0**	**-0.7**
	631nm,0.6s,12μm3.1nm						
TPI	**Tanjungpandan**	**6.07**	**303**	P	**P**	**08 06 28.6**	**+1.0**
	336nm,1.0s,3μm1.2nm						
SKJI	**Sukabumi**	**6.20**	**262**	P	**P**	**08 06 27.7**	**-1.0**
	1μm,0.7s,15μm5.1nm						
BKB	**Balikpapan**	**6.38**	**41**	P	**P**	**08 06 32.3**	**+2.0**
	736nm,0.8s,10μm2.6nm						
CGJI	**Cibinong**	**7.01**	**266**	P	**P**	**08 06 34.6**	**-1.4**
KAPI	**Kappang**	**7.07**	**81**	*eP*	**P**	**08 06 36.8**	**+0.3**
SMKI	**Samarinda**	**7.20**	**39**	P	**P**	**08 06 39.3**	**+1.6**
	318nm,0.8s,5μm1.2nm						
SPSI	**Sidrap Palu**	**7.33**	**73**	P	**P**	**08 06 38.5**	**-0.4**
	34nm,0.9s,0.1nm						
BKSI	**Bulukumba**	**7.40**	**84**	P	**P**	**08 06 43.5**	**+4.0**
	18nm,0.7s,0.1nm						
BNSI	**Bone**	**7.54**	**77**	P	**P**	**08 06 41.8**	**+1.0**
	91nm,0.9s,819nm0.3nm						
PPBI	**Pangkal Pinang**	**7.67**	**301**	P	**P**	**08 06 43.2**	**+1.1**
	87nm,1.0s,5μm0.9nm						
TTSI	**Tana Toraja**	**7.70**	**67**	P	**P**	**08 06 43.7**	**+1.4**
	99nm,0.8s,1μm0.3nm						
KSM	**Kuching**	**7.93**	**342**	*eP*	**P**	**08 06 46.0**	**+1.4**
KSM	**Kuching**	**7.93**	**342**	P	**P**	**08 06 46.0**	**+1.4**
XMIS	**Christmas Isla**	**8.23**	**238**	*eP*	**P**	**08 06 46.7**	**-0.7**
SBUM	**Sibu**	**8.54**	**357**	*eP*	**P**	**08 06 51.8**	**+1.5**
SBUM	**Sibu**	**8.54**	**357**	P	**P**	**08 06 52.0**	**+1.6**
EDFI	**Ende, Flores**	**9.26**	**107**	P	**P**	**08 06 58.7**	**+1.3**
	25nm,0.8s,799nm						
MMRI	**Maumere**	**9.75**	**105**	*eP*	**P**	**08 06 59.8**	**-2.3**
MNAI	**Manna**	**9.89**	**280**	*eP*	**P**	**08 07 02.2**	**-1.4**
MNAI	**Manna**	**9.89**	**280**	P	**P**	**08 07 01.0**	**-2.6**
	219nm,0.4s,7μm						
KDI	**Kendari**	**10.08**	**78**	P	**P**	**08 07 01.3**	**-4.1**
	28μm,0.8s,392μm						
MRSI	**Marisa**	**11.29**	**55**	P	**P**	**08 07 18.9**	**+1.3**
	19nm,0.6s						
BATI	**Baumata**	**11.55**	**111**	P	**P**	**08 07 18.4**	**-1.7**
	31nm,0.6s,649nm						
BATI	**Baumata**	**11.55**	**111**	P	**P**	**08 07 19.0**	**-1.2**
	14nm,0.3s,baz=347,slow=1.7,SNR=6.6						
BATI				S	**S**	**08 09 21.6**	**-5.3**
	15nm,0.3s,baz=120,slow=20,SNR=9.9						
MYKOM	**Kota Tinggi**	**11.86**	**311**	*eP*	**P**	**08 07 24.0**	**+0.8**
MYKOM	**Kota Tinggi**	**11.86**	**311**	P	**P**	**08 07 25.0**	**+1.8**
SOEI	**Soe**	**11.98**	**108**	*eP*	**P**	**08 07 22.8**	**-1.7**
SOEI	**Soe**	**11.98**	**108**	P	**P**	**08 07 21.3**	**-3.2**
	69nm,1.0s						
GTOI	**Gorontalo**	**12.27**	**57**	P	**P**	**08 07 27.2**	**-0.1**
	48nm,0.9s,1μm						
KKM	**Kota Kinabalu**	**12.58**	**16**	*eP*	**P**	**08 07 29.6**	**-1.0**
KKM	**Kota Kinabalu**	**12.58**	**16**	P	**P**	**08 07 30.0**	**-0.6**
PDSI	**Padang**	**13.30**	**292**	P	**P**	**08 07 36.6**	**-1.2**
	23nm,0.7s,2μm6μm						
BKNI	**Bangkinang**	**13.32**	**298**	*eP*	**P**	**08 07 39.3**	**+1.3**
SANI	**Sanana**	**13.83**	**73**	P	**P**	**08 07 42.8**	**-0.3**
	23nm,0.6s						
IPM	**Ipoh**	**15.74**	**312**	*eP*	**P**	**08 08 02.3**	**+1.4**
	16nm,0.7s						
IPM	**Ipoh**	**15.74**	**312**	P	**P**	**08 08 03.0**	**+2.1**
TNTI	**Ternate**	**16.14**	**65**	*eP*	**P**	**08 08 06.1**	**+1.5**
	111nm,0.8s						
TNTI	**Ternate**	**16.14**	**65**	P	**P**	**08 08 05.5**	**+0.9**
	170nm,0.7s,3μm						
PSI	**Prapat**	**16.40**	**302**	*eP*	**P**	**08 08 08.3**	**+1.2**
	11nm,0.8s						
MBWA	**Marble Bar**	**16.41**	**156**	*eP*	**P**	**08 08 07.0**	**+0.2**
	80nm,0.8s						
GIRL	**Giralia**	**16.48**	**175**	*eP*	**P**	**08 08 08.7**	**+1.1**
	97nm,0.8s						
PSA00	**Pilbara Seismi**	**16.82**	**157**	*eP*	**P**	**08 08 11.1**	**+0.3**
	66nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.32**	**134**	*eP*	**P**	**08 08 16.0**	**+0.7**
	28nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.32**	**134**	P	**P**	**08 08 16.3**	**+1.0**
	3.2nm,0.3s,baz=332,slow=8.6,SNR=69						
FITZ				S	**S**	**08 11 09.3**	**+3.6**
	0.3nm,0.3s,baz=119,slow=19,SNR=6.0						
TRTT	**Trang**	**19.02**	**317**	P	**P**	**08 08 32.1**	**+1.3**
	13nm,1.0s						
SWI	**Sorong**	**19.21**	**75**	P	**P**	**08 08 34.0**	**+1.4**
	84nm,0.8s						
SIJI	**Sorong**	**19.22**	**75**	P	**P**	**08 08 33.1**	**+0.5**
	7.0nm,0.3s,baz=290,slow=6.0,SNR=24						
MTN	**Manton Dam**	**19.32**	**112**	*eP*	**P**	**08 08 33.4**	**-0.2**
	77nm,0.4s						
FAKI	**Fak Fak**	**19.71**	**82**	*eP*	**P**	**08 08 37.1**	**-0.1**
	29nm,0.7s						
MORW	**Morawa**	**23.03**	**173**	*eP*	**P**	**08 09 07.7**	**+1.1**
	40nm,0.6s						
MORW				*ePcP*	**PcP**	**08 12 34.0**	**+0.5**
WR1	**Warramunga Arr**	**25.08**	**125**	*eP*	**P**	**08 09 25.4**	**+0.5**
WR1				*ePcP*	**PcP**	**08 12 38.3**	**+0.1**
WR1				*eS*	**S**	**08 13 05.4**	**-3.3**
WR1				*eScP*	**ScP**	**08 15 20.3**	**-1.2**
WRA	**Warramunga Arr**	**25.08**	**125**	*eP*	**P**	**08 09 24.7**	**-0.2**
WRA	**Warramunga Arr**	**25.08**	**125**	P	**P**	**08 09 25.4**	**+0.5**
	8.2nm,0.7s,baz=312,slow=8.8,SNR=119						
WRA				PcP	**PcP**	**08 12 38.3**	**+0.1**
	3.1nm,0.7s,baz=308,slow=1.7,SNR=7.3						
WRA				S	**S**	**08 13 05.4**	**-3.3**
	10nm,0.8s,baz=291,slow=17,SNR=19						
WRA				ScP	**ScP**	**08 15 20.3**	**-1.2**
	5.5nm,0.7s,baz=315,slow=2.4,SNR=9.9						
WRAB	**Tennant Creek**	**25.09**	**125**	*eP*	**P**	**08 09 24.9**	**0.0**
	15nm,0.5s						
WB2	**Warramunga Arr**	**25.09**	**125**	*eP*	**P**	**08 09 25.3**	**+0.3**
	10.0nm,0.4s						
WB2				*ePcP*	**PcP**	**08 12 38.6**	**+0.3**
UTHA	**Uthaitani**	**25.25**	**329**	P	**P**	**08 09 28.6**	**+2.2**
	14μm,0.6s						
UTTA	**Uttaradit**	**26.60**	**333**	P	**P**	**08 09 40.9**	**+2.7**
	13μm,0.7s						
AS31	**Alice Springs**	**26.81**	**133**	*eP*	**P**	**08 09 41.1**	**+1.0**
	1.6nm,0.9s						
ASAR	**Alice Springs**	**26.81**	**133**	*eP*	**P**	**08 09 40.4**	**+0.4**
ASAR				*ePcP*	**PcP**	**08 12 42.8**	**+0.5**
ASAR	**Alice Springs**	**26.81**	**133**	P	**P**	**08 09 40.7**	**+0.7**
	2.6nm,0.7s,baz=306,slow=8.3,SNR=41						
ASAR				PcP	**PcP**	**08 12 42.4**	**0.0**
	3.2nm,0.4s,baz=330,slow=1.8,SNR=15						
ASAR				S	**S**	**08 13 32.6**	**-3.0**
	8.7nm,1.0s,baz=300,slow=15,SNR=4.2						
ASAR				ScP	**ScP**	**08 15 25.8**	**-0.8**
	3.4nm,0.6s,baz=324,slow=2.4,SNR=7.8						
NWAO	**Narrogin (SRO)**	**26.99**	**172**	*eP*	**P**	**08 09 42.0**	**+0.6**
	22nm,0.6s						
NWAO	**Narrogin (SRO)**	**26.99**	**172**	P	**P**	**08 09 42.5**	**+1.0**
	17nm,0.5s,baz=355,slow=9.0,SNR=35						
CMAR	**Chiang Mai Arr**	**27.96**	**331**	P	**P**	**08 09 50.2**	**+0.1**
	3.0nm,0.8s,baz=159,slow=8.2,SNR=12						
CMAR				PcP	**PcP**	**08 12 46.4**	**+1.2**
	1.2nm,0.4s,baz=189,slow=3.6,SNR=6.6						
CMAR				ScP	**ScP**	**08 15 30.6**	**+0.5**
	1.2nm,0.3s,baz=172,slow=3.8,SNR=5.0						
FORT	**Forrest**	**28.43**	**151**	*eP*	**P**	**08 09 55.2**	**+1.2**
	123nm,0.6s						
COEN	**Coen**	**30.94**	**107**	*eP*	**P**	**08 10 15.9**	**+0.1**
	25nm,0.7s						
COEN				*ePcP*	**PcP**	**08 12 53.8**	**+0.7**
YOJ	**Yonaguni jima**	**32.02**	**18**	*eP*	**P**	**08 10 25.9**	**+1.1**
	115nm,1.5s						
KMI	**Kunming**	**32.55**	**343**	P	**P**	**08 10 31.7**	**+2.1**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
PMG	**Port Moresby**	**34.26**	**98**	*eP*	**P**	**08 10 44.4**	**+0.6**
	50nm,0.8s						
BBOO	**Buckleboo**	**34.30**	**144**	*eP*	**P**	**08 10 43.8**	**-0.1**
	12nm,0.4s						
CTAO	**Charters Tower**	**35.37**	**116**	*eP*	**P**	**08 10 54.0**	**+1.0**
	21nm,0.9s						
CTAO				*ePcP*	**PcP**	**08 13 06.6**	**+0.7**
STKA	**Stephens Creek**	**37.19**	**137**	*eP*	**P**	**08 11 08.8**	**+1.2**
	1.1nm,0.5s						
STKA	**Stephens Creek**	**37.19**	**137**	P	**P**	**08 11 08.4**	**+0.7**
	3.5nm,0.4s,baz=320,slow=6.9,SNR=18						
GUMO	**Guam**	**37.44**	**58**	*eP*	**P**	**08 11 08.8**	**-1.1**
	55nm,0.5s						
CD2	**Chengdu**	**37.82**	**347**	P	**P**	**08 11 13.0**	**+0.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
NJ2	**Nanjing**	**38.42**	**8**	*eP*	**P**	**08 11 17.1**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XAN	**Xi'an**	**40.12**	**355**	P	**P**	**08 11 31.5**	**+0.3**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,34nm,5.1s						
EIDS	**Eidsvold**	**41.35**	**122**	*eP*	**P**	**08 11 42.2**	**+1.1**
	9.4nm,0.5s						
RAMN	**Ramite**	**41.49**	**324**	*eP*	**P**	**08 11 43.0**	**+0.5**
	7.1nm,0.3s						
JIRN	**Jiri**	**42.27**	**324**	*eP*	**P**	**08 11 49.2**	**+0.5**
	61nm,0.4s						
PKI	**Pulchoki**	**42.66**	**323**	*eP*	**P**	**08 11 51.4**	**-0.3**
	7.9nm,0.4s						
JNU	**Nakatsue**	**42.67**	**23**	*eP*	**P**	**08 11 50.5**	**-0.8**
	9.7nm,0.8s						
LZH	**Lanzhou**	**42.82**	**349**	*eP*	**P**	**08 11 53.7**	**+1.1**
LZH				pP	pP	08 13 39.7	+2.7
LZH				sP	sP	08 14 43.2	-1.0
LZH				pmax	pmax		
	comp=Z,35nm,1.1s						
LZH				pmax	pmax		
	comp=Z,130nm,4.6s						
DMN	**Daman**	**42.87**	**323**	*eP*	**P**	**08 11 53.3**	**0.0**
	27nm,0.4s						
KKN	**Kakani**	**42.90**	**323**	*eP*	**P**	**08 11 53.6**	**+0.2**
	22nm,0.7s						
TOO	**Toolangi**	**43.21**	**141**	*eP*	**P**	**08 11 57.7**	**+2.2**
	13nm,1.1s						
GKN	**Gorkha**	**43.44**	**323**	*eP*	**P**	**08 11 57.6**	**0.0**
	48nm,0.3s						
ARMA	**Armidale**	**43.78**	**128**	*eP*	**P**	**08 12 03.2**	**+3.1**
	11nm,0.9s						
KOLN	**Koldanda**	**43.91**	**322**	*eP*	**P**	**08 12 01.1**	**-0.1**
	21nm,0.3s						
DANN	**Dangsing**	**44.23**	**322**	*eP*	**P**	**08 12 03.6**	**-0.1**
	63nm,0.6s						
PYUN	**Piuthan**	**44.52**	**321**	*eP*	**P**	**08 12 05.7**	**-0.

MAW	Mawson	69.90	198	eP	P	08 14 58.3	+1.0
	2.3nm,0.8s						
MAW	Mawson	69.90	198	P	P	08 14 58.4	+1.1
	10.0nm,0.6s,baz=69,slow=5.6,SNR=18						
PEA0B	Petropavlovsk-	70.15	27	eP	P	08 14 58.6	-0.4
	22nm,0.7s						
PETK	Petropavlovsk-	70.15	27	eP	P	08 14 58.8	-0.3
PETK	Petropavlovsk-	70.15	27	P	P	08 14 59.0	-0.1
	19nm,0.8s,baz=182,slow=1.3,SNR=41						
PEA1	Petropavlovsk-	70.16	27	eP	P	08 14 59.0	-0.1
ABKAR	Akbulak array	71.71	327	eP	P	08 15 07.9	-0.3
	18nm,0.7s						
MA2	Magadan	72.11	19	eP	P	08 15 10.3	0.0
	18nm,0.8s						
AKTO	Aktyubinsk	73.40	327	P	P	08 15 17.7	-0.2
	5.2nm,0.6s,baz=90,slow=3.9,SNR=18						
VNDA	Vanda	75.81	170	eP	P	08 15 31.7	+0.7
	2.2nm,0.8s						
VNDA	Vanda	75.81	170	P	P	08 15 31.8	+0.8
	1.6nm,0.5s,baz=315,slow=7.3,SNR=37						
ARU	Arti	76.40	332	eP	P	08 15 34.0	-0.5
	13nm,1.1s						
SBA	Scott Base	76.85	170	eP	P	08 15 38.1	+1.5
	2.0nm,1.1s						
NRIK	Noril'sk	77.28	351	P	P	08 15 38.6	-0.4
	3.1nm,0.5s,baz=141,slow=5.5,SNR=9.9						
TIXI	Tiksi	78.35	5	eP	P	08 15 43.6	-1.0
	18nm,0.8s						
TIXI	Tiksi	78.35	5	P	P	08 15 43.7	-1.0
	16nm,0.7s,baz=186,slow=4.1,SNR=13						
KBZ	Khabaz	79.90	316	P	P	08 15 53.5	0.0
	2.8nm,0.8s,baz=109,slow=6.5,SNR=7.9						
KIRV	Kirov	81.75	332	P	P	08 16 02.5	-0.1
	11nm,0.7s,baz=198,slow=4.1,SNR=4.7						
ADK	Adak	83.01	36	eP	P	08 16 08.3	-0.8
	13nm,0.7s						
QSPA	South Pole Qui	83.85	180	eP	P	08 16 13.8	+0.5
	2.0nm,0.8s						
ATKA	Atka Island	84.57	36	eP	P	08 16 15.9	-0.9
	21nm,0.8s						
BR101	Keskin Array S	85.55	311	eP	P	08 16 21.0	-1.1
BR131	Keskin Array S	85.55	311	eP	P	08 16 22.4	+0.4
	6.8nm,0.9s						
BRTR	Keskin Array B	85.55	311	eP	P	08 16 21.6	-0.5
BRTR	Keskin Array B	85.55	311	P	P	08 16 21.0	-1.1
	4.5nm,0.8s,baz=124,slow=6.1,SNR=24						
AKASG	Malin Array Be	90.60	321	P	P	08 16 43.8	-1.3
	0.5nm,0.4s,baz=84,slow=4.2,SNR=6.4						
AKBB	Malin Array Si	90.60	321	eP	P	08 16 43.8	-1.3
	2.6nm,0.6s						
SNAA	Sanae	92.01	197	P	P	08 16 52.3	+0.9
FIA0	FINESS Array S	93.74	331	eP	P	08 16 58.5	-0.7
FIA0				ePKiKP	PKiKP	08 21 39.9	-0.2
FINES	FINESS Array B	93.74	331	P	P	08 16 58.5	-0.7
	2.1nm,0.6s,baz=104,slow=4.7,SNR=10						
FINES				PKiKP	PKiKP	08 21 39.9	-0.2
	1.8nm,0.9s,baz=102,slow=2.0,SNR=4.6						
ARA0	ARCESS Array S	94.73	339	eP	P	08 17 02.0	-1.6
ARA0				ePKiKP	PKiKP	08 21 40.9	-0.8
ARCES	ARCESS Array B	94.73	339	P	P	08 17 02.1	-1.6
	1.2nm,0.6s,baz=90,slow=7.3,SNR=12						
ARCES				PKiKP	PKiKP	08 21 40.9	-0.8
	0.5nm,0.7s,baz=64,slow=2.1,SNR=3.8						
VYHS	Vyhne	97.13	318	ePDIF	Pdif	08 17 14.6	-0.3
TOLK	Toolik Lake Re	98.48	22	P	P	08 17 20.4	-0.1
	baz=275						
TORD	Torodi Ar. Bea	111.82	282	PKiKP	PKiKP	08 22 13.1	-1.4
	0.8nm,0.5s,baz=46,slow=2.0,SNR=12						
TORD				SKP		08 24 51.8	
	0.4nm,0.5s,baz=17,slow=1.5,SNR=4.3						
TOA1	Torodi Ar. Sit	111.82	282	ePKiKP	PKiKP	08 22 13.1	-1.4
YKA	Yellowknife Ar	114.01	22	PKiKP	PKPdf	08 22 16.8	-0.5
	1.3nm,0.7s,baz=322,slow=1.7,SNR=24						
YKA				PP	PP	08 23 27.6	+4.8
	0.2nm,0.9s,baz=308,slow=6.1,SNR=4.3						
YKB5	Yellowknife Ar	114.01	22	ePKiKP	PKPdf	08 22 16.8	-0.5
YKB5				ePP	PP	08 23 27.6	+4.8
B05A	Bryant	117.49	38	P	PKiKP	08 22 24.6	+0.1
	baz=294						
DBIC	Dimbokro	118.01	274	ePKPdf	PKPdf	08 22 26.3	-0.2
DBIC	Dimbokro	118.01	274	PKP	PKPdf	08 22 26.1	-0.3
	3.0nm,0.6s,baz=28,slow=2.7,SNR=5.2						
H04D	Lebanon	118.51	42	P	PKiKP	08 22 27.2	+0.5
	baz=291						
I04A	Tendick Farm,	118.99	43	P	PKiKP	08 22 27.9	+0.2
	baz=291						
I05D	Terrebonne, OR	119.51	42	P	PKiKP	08 22 28.9	+0.2
	baz=292						
M02C	Callahan	119.52	46	P	PKiKP	08 22 29.2	+0.4
	baz=290						
L04D	Klamath Falls	119.62	44	P	PKiKP	08 22 29.2	+0.1
	baz=290						
N02D	Trinity Center	119.76	46	P	PKiKP	08 22 30.1	+0.8
	baz=290						
O02D	Mt. Diablo Mer	119.97	47	P	PKiKP	08 22 30.3	+0.6
	baz=289						
J05D	Fort Rock, OR	119.97	43	P	PKiKP	08 22 30.4	+0.7
	baz=292						
M04C	Macdoel	120.10	45	P	PKiKP	08 22 30.5	+0.5
	baz=291						
NEW	Newport	120.48	36	P	PKiKP	08 22 31.3	+0.9
	baz=298						
O03E	Paynes Creek	120.64	46	P	PKiKP	08 22 30.9	-0.2
	baz=290						
F10A	Beach Ranch, E	121.48	39	ePKPdf	PKiKP	08 22 32.6	+0.1
J08A	Circle Bar Ran	121.80	42	ePKPdf	PKiKP	08 22 33.8	+0.5
PAHR	Pah Rah Range	122.58	46	ePKPdf	PKiKP	08 22 35.3	+0.3
PNTR	Pine Nut	122.65	47	ePKPdf	PKiKP	08 22 36.2	+0.9
MSO	Missoula	123.07	37	ePKPdf	PKiKP	08 22 35.5	-0.2
MSO	Missoula	123.07	37	P	PKiKP	08 22 35.8	+0.1
	baz=300						
KVN	Kaiserville	123.75	47	ePKPdf	PKiKP	08 22 38.1	+0.7
NVAR	Mina Array Bea	123.83	47	ePKPdf	PKiKP	08 22 38.7	+1.1
NVAR	Mina Array Bea	123.83	47	PKP	PKiKP	08 22 38.5	+0.8
	1.8nm,0.7s,baz=245,slow=2.4,SNR=16						
NV01	Mina Array Sit	123.83	47	ePKPdf	PKiKP	08 22 38.5	+0.8
FFC	Flin Flon	124.10	24	ePKPdf	PKiKP	08 22 37.3	0.0
HLID	Hailey	124.37	40	ePKPdf	PKiKP	08 22 39.6	+1.1
HLID	Hailey	124.37	40	P	PKiKP	08 22 39.1	+0.7
	baz=298						
ISA	Isabella, Lake	124.67	51	P	PKiKP	08 22 39.5	+0.3
	baz=290						
CWC	Cottonwood Cre	124.71	49	P	PKiKP	08 22 39.6	+0.2
	baz=290						
EGMT	Eagleton	124.81	34	ePKPdf	PKiKP	08 22 39.4	+0.3
EGMT	Eagleton	124.81	34	P	PKiKP	08 22 39.7	+0.6
	baz=305						
BOZ	Bozeman (W)	125.08	37	P	PKiKP	08 22 39.9	+0.1
	baz=302						
ELK	Elko	125.08	44	ePKPdf	PKiKP	08 22 40.5	+0.5
MPMC	Manual Prospec	125.29	50	P	PKiKP	08 22 41.3	+0.7
	baz=291						
EDW2	Edwards Air Fo	125.30	51	P	PKiKP	08 22 41.4	+0.9
	baz=290						
LRMC	Laurel Mtn Rad	125.34	50	P	PKiKP	08 22 41.4	+0.9
	baz=290						
FURC	Furnace Creek,	125.61	49	P	PKiKP	08 22 41.7	+0.8
	baz=292						
BFSC	Mount Baldy Ra	125.78	52	P	PKiKP	08 22 41.9	+0.4
	baz=289						
R11A	Troy Canyon, C	125.84	46	P	PKiKP	08 22 42.2	+0.7
	baz=294						
GSC	Goldstone, Bar	126.07	50	P	PKiKP	08 22 42.7	+0.7
	baz=291						
SHOC	Shoshone, Teco	126.26	49	P	PKiKP	08 22 43.4	+1.1
	baz=292						
H17A	Grant Village	126.35	38	P	PKiKP	08 22 43.9	+1.4
	baz=302						
MURC	Murrieta	126.35	52	P	PKiKP	08 22 43.7	+1.2
	baz=289						
REDW	Red Top Meadow	126.72	39	ePKPdf	PKiKP	08 22 44.0	+0.8
RLMT	Red Lodge	126.73	36	P	PKiKP	08 22 44.4	+1.3
	baz=304						
PFO	Pinyon Flats O	126.92	52	P	PKiKP	08 22 44.8	+1.0
	baz=290						
DUG	Dugway, Tooele	126.99	43	P	PKiKP	08 22 44.7	+0.9
	baz=297						
GMRC	Granite Mounta	127.14	51	P	PKiKP	08 22 45.2	+1.0
	baz=291						
BELC	Belle Mtn. Jos	127.15	52	P	PKiKP	08 22 45.3	+1.1
	baz=290						
DGMT	Dagmar	127.46	30	P	PKiKP	08 22 45.0	+0.7
	baz=311						
IKP	In-Ko-Pah, Jac	127.52	53	P	PKiKP	08 22 45.7	+0.7
	baz=289						
LAO	LASA Array	127.54	33	P	PKiKP	08 22 45.3	+0.7
	baz=308						
BC3	Big Chuckawall	127.70	52	P	PKiKP	08 22 46.0	+0.7
	baz=291						
BW06	Boulder Array	127.84	39	P	PKiKP	08 22 45.2	-0.3
	baz=302						
PD31	Pinedale Array	127.84	39	ePKPdf	PKPdf	08 22 44.8	-0.1
PDAR	Pinedale Array	127.84	39	PKP	PKPdf	08 22 45.0	+0.2
	0.4nm,0.4s,baz=121,slow=1.3,SNR=6.6						
K22A	Casper	129.77	37	P	PKiKP	08 22 49.2	0.0
	baz=305						
RWWY	Rawlins	129.89	39	ePKPdf	PKPdf	08 22 48.8	0.0
ULM	Lac du Bonnet	129.92	24	PKP	PKPdf	08 22 48.1	-0.2
	1.8nm,0.6s,baz=278,slow=2.5,SNR=6.4						
ULM				SKPbc	SKPbc	08 25 15.3	-0.5
	8.7nm,0.8s,baz=309,slow=3.9,SNR=16						
O20A	White River Ci	130.07	41	P	PKiKP	08 22 50.3	+0.3
	baz=302						
MDND	Maddock	130.12	28	P	PKiKP	08 22 49.4	-0.2
	baz=316						
RSSD	Black Hills	130.34	34	P	PKiKP	08 22 50.5	+0.1
	baz=309						
PV01	Paradox Valley	130.87	43	ePKPdf	PKiKP	08 22 52.5	+0.8
MVCO	Mesa Verde	131.37	45	P	PKiKP	08 22 53.6	+0.9
	baz=299						
TASM	ASL Pad, Albuq	133.91	46	P	PKiKP	08 22 58.7	+0.7
	baz=299						
TASM	ASL Pad, Albuq	133.91	46	P	PKiKP	08 22 58.7	+0.7
	baz=299						
ANMO	Albuquerque	133.92	46	P	PKiKP	08 22 58.7	+0.8
	baz=299						
121A	Cookes Peak, D	134.05	50	P	PKiKP	08 22 58.3	0.0
	baz=296						
T25A	Trinidad	134.20	42	P	PKiKP	08 22 58.0	-0.5
	baz=303						
ECSD	EROS Data Cent	134.54	30	P	PKiKP	08 22 58.3	-0.4
	baz=317						
F37A	Hinrichs Farm,	134.84	25	P	PKiKP	08 22 59.1	-0.1
	baz=323						
F38A	Pierce - Schro	134.96	24	P	PKiKP	08 22 59.3	-0.1
	baz=324						
E39A	Mellen	135.15	23	P	PKiKP	08 22 59.6	-0.3
	baz=326						
SPMN	Marine on St.	135.16	26	P	PKiKP	08 22 59.5	-0.4
	baz=323						
E40A	Wakefield	135.34	22	P	PKiKP	08 22 59.5	-0.7
	baz=327						
BGNE	Belgrade	135.38	33	P	PKiKP	08 22 59.8	-0.7
	baz=314						
F39A	Loretta	135.38	24	P	PKiKP	08 22 59.9	-0.5
	baz=326						
G38A	Ridgeland	135.61	25	P	PKiKP	08 23 00.0	-0.8
	baz=324						
MATQ	Matagami	135.65	10	P	PKiKP	08 22 59.9	-0.9
	baz=345						
E41A	Kenton	135.67	21	P	PKiKP	08 23 00.2	-0.7
	baz=328						
F40A	Park Falls	135.69	23	P	PKiKP	08 23 00.5	-0.4
	baz=326						
G39A	Holcombe	135.80	24	P	PKiKP	08 23 00.7	-0.5
	baz=325						
H38A	Maiden Rock	135.83	26	P	PKiKP	08 23 00.7	-0.6
	baz=323						
CHGQ	Chibougamau	135.96	7	P	PKiKP	08 23 01.1	-0.3
	baz=350						
E42A	Champion	136.07	21	P	PKiKP	08 23 01.3	-0.4
	baz=330						
G40A	Rib Lake	136.20	23	P	PKPdf	08 23 00.5	+0.3
	baz=326						
H39A	Augusta	136.25	25	P	PKiKP	08 23 01.4	-0.7
	baz=324						
MNTX	Cornudas Mount	136.25	50	ePKPdf	PKPdf	08 22 59.2	-1.5
MNTX	Cornudas Mount	136.25	50	P	PKiKP	08 23 02.8	+0.2
	baz=298						
H40A	Chili	136.66	24	P	PKiKP	08 23 02.3	-0.7
	baz=325						
I39A	Houston	136.81	26	P	PKiKP	08 23 02.8	-0.5
	baz=323						
D46A	Sault St. Mari	136.90	17	P	PKiKP	08 23 03.1	-0.3
	baz=335						
G42A	Mountain	136.91	22	P	PKiKP	08 23 02.9	-0.6
	baz=328						
H41A	Junction City	136.96	23	P	PKiKP	08 23 03.2	-0.4
	baz=326						
D47A	Chapleau	137.01	16	P	PKiKP	08 23 03.2	-0.4
	baz=337						
MSTX	Muleshoe	137.03	45	P	PKPdf	08 23 03.1	+0.8
	baz=302						
J39A	Decorah	137.15	26	P	PKiKP	08 23 03.1	-0.9
	baz=323						
G43A	Wallace	137.16	21	P	PKiKP	08 23 03.3	-0.6
	baz=329						
I40A	Norwalk	137.16	25	P	PKiKP	08 23 03.4	-0.7
	baz=325						
D49A	Beulah Townshi	137.26	14	P	PKiKP	08 23 03.3	-0.9
	baz=339						
E46A	Sault Ste Mari	137.30	17	P	PKiKP	08 23 03.5	-0.7
	baz=335						
J40A	Soldiers Grove	137.51	25	P	PKiKP	08 23 03.9	-0.9
	baz=324						
F46A	Macinaw City C	137.69	18	P	PKiKP	08 23 04.4	-0.6
	baz=334						
E48A	Lockeyer	137.79	15	P	PKiKP	08 23 04.5	-0.8
	baz=338						
J41A	Loganville	137.85	25	P	PKiKP	08 23 04.7	-0.7
	baz=325						
L39A	Vinton	137.97	28	P	PKiKP	08 23 05.1	-0.7
	baz=322						
JFWS	Jewell Farm	138.12	25	P	PKiKP	08 23 05.1	-0.9
	baz=324						
D52A	ZEK Kipawa Sen	138.19	11	P	PKiKP	08 23 05.6	-0.4
	baz=343						
E50A	Wahnapitae	138.21	14	P	PKiKP	08 23 05.4	-0.6
	baz=340						
F48A	Evansville	138.27	16	P	PKiKP	08 23 05.3	-0.9
	baz=337						
H45A	Beulah	138.29	20	P	PKiKP	08 23 05.7	-0.6
	baz=331						
D54A	Lac Fusel, La	138.34	10	P	PKiKP	08 23 05.3	-1.0
	baz=346						
K41A	Shullsburg	138.34	26	P	PKiKP	08 23 05.6	-0.9
	baz=324						
E51A	G1948 Merrick	138.39	13	P	PKiKP	08 23 05.7	-0.8
	baz=342						
G47A	Hillman	138.51	18	P	PKiKP	08 23 06.6	-0.1
	baz=335						
TX31	Lajitas Ar. Si	138.64	52	ePKPpre	PKPpre	08 22 56.7	
LTX	Lajitas	138.64	52	ePKPpre	PKPpre	08 22 55.5	
TXAR	Lajitas Array	138.64	52	PKhKP	PKPpre	08 22 55.5	
	0.9nm,0.7s,baz=218,slow=2.8,SNR=8.7						
TXAR				SKPbc	SKPbc	08 25 44.8	+0.3
	0.3nm,0.5s,baz=211,slow=1.1,SNR=3.7						
I45A	Fountain	138.74	21	P	PKiKP	08 23 06.5	-0.7
	baz=331						
M40A	Post Highland	138.76	28	P	PKiKP	08 23 06.5	-0.9
	baz=322						
E52A	Mattawa	138.80	12	P	PKiKP	08 23 06.6	-0.7
	baz=343						
F52A	Sundridge	139.13	13	P	PKiKP	08 23 07.5	-0.4
	baz=342						
KLBO	Killbear Provi	139.33	14	P	PKiKP	08 23 07.5	-0.9
	baz=340						
BUKO	Buck Lake	139.44	13	P	PKiKP	08 23 07.9	-0.7
	baz=341						
ABTX	Abilene, Hawle	139.96	45	P	PKiKP	08 23 10.0	-0.2
	baz=304						
O41A	Passleys Farm,	140.07	29	P	PKiKP	08 23 09.3	-0.8
	baz=322						
BANO	Bancroft	140.16	12	P	PKiKP	08 23 09.6	-0.5
	baz=343						
JCT	Junction City	141.01	48	ePKPpre	PKPpre	08 23 05.0	
Q42A	Golden Eagle	141.17	29	P	PKPpre	08 23 05.4	
	baz=321						
CCM	Cathedral Cave	141.48	31	ePKPpre	PKPpre	08 23 06.0	
CCM	Cathedral Cave	141.48	31	P	PKPpre	08 23 05.9	
	baz=320						
SFIN	Lafayette	141.54	25	P	PKPpre	08 23 05.8	
	baz=327						
TYNO	Tyneside	141.54	15	P	PKPpre	08 23 06.0	
	baz=340						
S41A	Jillco Farms,	141.57	32	P	PKPpre	08 23 06.1	
	baz=319						
M49A	Liberty Center	141.78	20	P	PKPpre	08 23 06.6	
	baz=332						
MEDO	Medina	141.82	13	P	PKPpre	08 23 06.5	
	baz=342						
WHTX	Lake Whitney,	141.84	44	P	PKPpre	08 23 07.3	
	baz=306						
U40A	Yellville	141.87	34	P	PKPpre	08 23 06.7	
	baz=316						
N48A	Decatur	141.94	22	P	PKPpre	08 23 07.1	
	baz=331						
P45A	Graceland, Par	141.97	26	ePKPpre	PKPpre	08 23 07.4	
P45A	Graceland, Par	141.97	26	P	PKPpre	08 23 07.2	
	baz=326						
O47A	Sheridan	142.04	24	P	PKPpre	08 23 07.9	
	baz=328						
P46A	Rosedale	142.13	25	P	PKPpre	08 23 08.1	
	baz=327						
W39A	Magazine	142.15	37	P	PKPpre	08 23 08.0	
	baz=314						
M50A	Fremont	142.16	19	P	PKPpre	08 23 08.0	
	baz=334						
N49A	Columbus Grove	142.20	21	P	PKPpre	08 23 08.6	
	baz=332						
Q45A	Warren Harvey,	142.31	27	P	PKPpre	08 23 08.3	
	baz=325						
K55A	Perry	142.32	13	P	PKPpre	08 23 08.6	
	baz=342						
U41A	Viola	142.40	33	P	PKPpre	08 23 08.4	
	baz=317						
833A	Chaparral WMA,	142.42	50	ePKPdf	PKPdf	08 23 11.5	-0.4
833A	Chaparral WMA,	142.42	50	P	PKPdf	08 23 09.9	-2.0
	baz=300						
O48A	Farmland	142.42	23	P	PKPdf	08 23 08.9	-2.7
	baz=330						
ERPA	Erie	142.42	16	P	PKPdf	08 23 08.6	-2.9
	baz=339						
435B	Jarrell	142.44	45	P	PKPdf	08 23 09.3	-2.6
	baz=305						
OLIL	Olney	142.46	27	ePKPpre	PKPpre	08 23 09.0	
L54A	Sinclairville	142.49	15	P	PKPdf	08 23 09.4	-2.2
	baz=340						
L53A	Girard	142.50	16	P	PKPdf	08 23 09.7	-2.0
	baz=338						
M52A	Chesterland	142.57	17	P	PKPdf	08 23 09.1	-2.7
	baz=337						
P47A	Martinsville	142.63	25	P	PKPdf	08 23 09.0	-3.0
	baz=328						
N50A	Nevada	142.69	20	P	PKPdf	08 23 09.3	-2.7
	baz=333						
MIAR	Mount Ida	142.72	37	ePKPdf	PKPdf	08 23 10.1	-2.2
MIAR	Mount Ida	142.72	37	P	PKPdf	08 23 09.9	-2.4
	baz=314,SNR=8.3						
R45A	Skylar, Fairfi	142.74	28	P	PKPdf	08 23 10.0	-2.2
	baz=324						
S44A	Carbondale	142.75	29	P	PKPdf	08 23 09.7	-2.5
	baz=322						
L55A	Hinsdale	142.75	14	P	PKPdf	08 23 09.6	-2.6
	baz=342						
O49A	Covington	142.79	22	P	PKPdf	08 23 09.7	-2.6
	baz=331						
BLO	Bloomington	142.79	25	ePKPpre	PKPpre	08 23 09.8	
N51A	Ashland	142.82	19	P	PKPdf	08 23 10.2	-2.1
	baz=335						
M53A	Wt Miller and	142.86	17	P	PKPdf	08 23 09.9	-2.4
	baz=338,SNR=7.3						
PBMO	Poplar Bluff	142.87	32	ePKPpre	PKPpre	08 23 09.9	
WHAR	Wooly Hollow	142.95	35	ePKPpre	PKPpre	08 23 10.1	
P48A	Milroy	143.00	24	P	PKPdf	08 23 10.0	-2.6
	baz=329						
Q47A	Bedord North L	143.03	25	P	PKPab	08 23 10.4	-0.1
	baz=327						
W41B	Gary Mavity, V	143.06	35	ePKPdf	PKPbc	08 23 10.8	-0.3
W41B	Gary Mavity, V	143.06	35	P	PKPab	08 23 10.4	-0.3
	baz=316						
M54A	Oil Creek Stat	143.08	16	P	PKPab	08 23 10.7	+0.1
	baz=339						
O50A	Cable	143.08	21	P	PKPbc	08 23 10.9	-0.2
	baz=332						
S45A	Carrier Mills	143.09	29	P	PKPab	08 23 10.5	-0.3
	baz=323						
N52A	McGinn's Farm,	143.13	18	P	PKPab	08 23 10.4	-0.5
	baz=336						
R46A	Gibon Southern	143.16	27	P	PKPab	08 23 10.9	-0.1
	baz=325						
X40A	Basin Creek Fa	143.20	37	ePKPdf	PKPdf	08 23 12.4	-0.7
X40A	Basin Creek Fa	143.20	37	P	PKPbc	08 23 11.4	-0.2
	baz=314						
P49A	Miami Univ. Ec	143.21	23	P	PKPbc	08 23 11.2	-0.3
	baz=330						
ACSO	Alum Creek Sta	143.23	20	ePKPdf	PKPbc	08 23 11.6	0.0
ACSO	Alum Creek Sta	143.23	20	P	PKPbc	08 23 11.4	-0.2
	baz=333,SNR=14						
BINY	Binghamton	143.26	11	P	PKPbc	08 23 11.4	-0.2
	baz=345						
UALR	University of	143.29	36	ePKPdf	PKPbc	08 23 12.1	+0.2
PARMO	Parma	143.31	31	ePKPdf	PKPbc	08 23 11.9	0.0
Q48A	North Vernon	143.33	24	P	PKPbc	08 23 11.6	-0.2
	baz=328						
M55A	Ridgway	143.35	15	P	PKPab	08 23 11.6	-0.1
	baz=341						
N53A	Lisbon	143.40	17	P	PKPbc	08 23 11.8	-0.2
	baz=337						
O51A	Pataskala	143.44	20	P	PKPbc	08 23 12.1	-0.1
	baz=334,SNR=13						
S46A	Don Dixon Farm	143.49	28	P	PKPab	08 23 12.1	-0.2
	baz=324,SNR=6.0						
P50A	Jamestown	143.49	22	P	PKPbc	08 23 12.2	-0.2
	baz=332,SNR=23						
N54A	Moraine State	143.50	16	ePKPbc	PKPbc	08 23 12.3	-0.1
N54A	Moraine State	143.50	16	P	PKPbc	08 23 12.2	-0.1
	baz=338,SNR=9.8						
R47A	Wooly Knot Far	143.52	26	P	PKPbc	08 23 12.3	-0.2
	baz=327						
HRV	Adam Dziewonsk	143.58	5	P	PKPbc	08 23 12.7	+0.2
	baz=353						
T45A	Paducah	143.58	29	P	PKPbc	08 23 12.5	-0.2
	baz=322						
WLAR	White Oak Lake	143.58	38	ePKPbc	PKPdf	08 23 13.4	-0.4
Q49A	Aurora	143.60	23	P	PKPbc	08 23 12.7	0.0
	baz=330,SNR=13						
HBAR	Harrisburg	143.67	33	ePKPbc	PKPdf	08 23 14.0	+0.1
WCI	Wyandotte Cave	143.68	26	ePKPbc	PKPab	08 23 13.1	+0.1
WCI	Wyandotte Cave	143.68	26	P	PKPbc	08 23 12.8	-0.1
	baz=327						
R48A	Northridge Ran	143.72	25	P	PKPab	08 23 13.2	+0.1
	baz=328,SNR=15						
O52A	Adamsville	143.72	19	ePKPbc	PKPab	08 23 13.1	+0.1
O52A	Adamsville	143.72	19	P	PKPbc	08 23 12.8	-0.2
	baz=335,SNR=9.0						
O53A	New Philadelph	143.79	18	P	PKPbc	08 23 13.1	-0.2
	baz=336,SNR=8.1						
NATX	Nacogdoches	143.86	42	P	PKPdf	08 23 14.5	+0.1
	baz=309	

R50A	Paris	144.45	23	P	PKPdf	08 23 14.8	-0.4
	baz=330						
S49A	Springfield	144.48	25	P	PKPdf	08 23 15.1	-0.1
	baz=328,SNR=10						
O56A	Blue Knob Stat	144.53	15	ePKPdf	PKPbc	08 23 15.6	0.0
O56A	Blue Knob Stat	144.53	15	P	PKPbc	08 23 15.6	0.0
	baz=340,SNR=5.7						
N59A	State Game Lan	144.54	11	ePKPdf	PKPab	08 23 16.0	-0.2
N59A	State Game Lan	144.54	11	P	PKPab	08 23 15.9	-0.2
	baz=345						
T48A	Bowling Green	144.56	27	P	PKPbc	08 23 15.7	0.0
	baz=326						
ODNJ	Ogdensburg	144.59	10	ePKPdf	PKPab	08 23 15.9	-0.4
Q52A	Bidwell	144.61	20	P	PKPdf	08 23 15.5	0.0
	baz=334						
P54A	Burton	144.61	18	P	PKPab	08 23 16.1	-0.5
	baz=337,SNR=6.1						
WVT	Waverly	144.69	29	ePKPdf	PKPbc	08 23 16.3	+0.2
WVT	Waverly	144.69	29	P	PKPbc	08 23 16.1	0.0
	baz=323						
U47A	Clarksville	144.70	29	P	PKPbc	08 23 16.3	+0.2
	baz=324,SNR=11						
R51A	Hillsboro	144.72	23	P	PKPdf	08 23 15.6	-0.1
	baz=331						
MCWV	Mont Chateau	144.75	17	ePKPdf	PKPab	08 23 16.6	-0.4
MCWV	Mont Chateau	144.75	17	P	PKPbc	08 23 16.3	+0.1
	baz=338,SNR=5.6						
PAL	Palisades	144.77	9	ePKPdf	PKPab	08 23 16.5	-0.5
PAL	Palisades	144.77	9	P	PKPbc	08 23 16.3	+0.1
	baz=348						
V46A	Holladay	144.80	30	P	PKPbc	08 23 16.2	-0.3
	baz=322,SNR=11						
P55A	Reedsville	144.89	17	P	PKPbc	08 23 16.7	0.0
	baz=338,SNR=7.2						
S50A	Richmond	144.94	24	P	PKPdf	08 23 16.3	+0.2
	baz=329						
T49A	Edmonton	144.95	26	ePKPdf	PKPbc	08 23 17.0	+0.1
T49A	Edmonton	144.95	26	P	PKPbc	08 23 16.6	-0.3
	baz=327,SNR=6.0						
Q53A	Leroy	144.96	20	P	PKPbc	08 23 16.7	-0.2
	baz=335						
U48A	Cassie Pea, Po	144.99	28	P	PKPbc	08 23 17.1	0.0
	baz=325,SNR=8.4						
R52A	Catlettsburg	145.04	21	P	PKPbc	08 23 16.5	-0.6
	baz=333						
O59A	Robesonia	145.04	12	P	PKPbc	08 23 16.9	-0.2
	baz=344						
Q54A	Coxs Mills	145.07	19	ePKPdf	PKPbc	08 23 17.5	+0.3
Q54A	Coxs Mills	145.07	19	P	PKPbc	08 23 17.3	+0.1
	baz=336,SNR=10						
V47A	Nunnelly	145.08	29	P	PKPbc	08 23 17.1	-0.2
	baz=323,SNR=14						
OXF	Oxford	145.12	33	ePKPdf	PKPbc	08 23 17.5	+0.1
OXF	Oxford	145.12	33	P	PKPbc	08 23 17.3	-0.1
	baz=319,SNR=9.0						
O60A	Telford	145.19	11	P	PKPbc	08 23 17.3	-0.2
	baz=346						
W46A	Michie	145.19	31	P	PKPdf	08 23 16.9	+0.4
	baz=321						
R53A	Hurricane	145.29	20	P	PKPbc	08 23 17.8	0.0
	baz=334,SNR=5.9						
Q55A	Buckhannon	145.29	18	P	PKPbc	08 23 17.9	0.0
	baz=337,SNR=5.2						
S51A	Beattyville	145.29	23	ePKPdf	PKPbc	08 23 17.7	-0.2
S51A	Beattyville	145.29	23	P	PKPbc	08 23 17.5	-0.4
	baz=331,SNR=6.4						
MVL	Millersville	145.31	12	ePKPdf	PKPbc	08 23 18.1	+0.3
T50A	Nancy	145.32	25	P	PKPbc	08 23 17.5	-0.5
	baz=328,SNR=13						
U49A	Red Boiling Sp	145.33	27	P	PKPbc	08 23 17.9	-0.1
	baz=326,SNR=14						
S52A	Salyersville	145.46	22	P	PKPbc	08 23 17.7	-0.7
	baz=332						
V48A	Smith Brothers	145.49	29	ePKPdf	PKPbc	08 23 18.3	-0.3
V48A	Smith Brothers	145.49	29	P	PKPbc	08 23 18.2	-0.3
	baz=324,SNR=8.1						
W47A	Westpoint	145.50	30	P	PKPbc	08 23 18.3	-0.3
	baz=323,SNR=10.0						
X46A	Booneville	145.53	32	P	PKPbc	08 23 18.2	-0.4
	baz=320						
PSUB	Penn St. - Bra	145.56	11	ePKPdf	PKPbc	08 23 18.4	-0.2
P60A	Greenville	145.63	11	P	PKPbc	08 23 18.6	-0.2
	baz=345						
P59A	Jarrettsville	145.66	13	P	PKPbc	08 23 18.8	-0.1
	baz=344						
Q57A	Strasburg	145.73	16	P	PKPbc	08 23 19.1	0.0
	baz=340						
T51A	Gray	145.73	24	P	PKPbc	08 23 18.9	-0.3
	baz=330						
R54A	Victor	145.75	19	P	PKPbc	08 23 19.0	-0.2
	baz=335						
S53A	Williamson	145.80	21	P	PKPbc	08 23 19.2	-0.2
	baz=333						
U50A	Jamestown	145.83	26	P	PKPbc	08 23 19.6	+0.1
	baz=328						
V49A	McMinnville	145.90	28	P	PKPbc	08 23 19.2	-0.5
	baz=326						
W48A	Pulaski	145.91	29	P	PKPbc	08 23 19.3	-0.4
	baz=324,SNR=7.7						
R55A	Marlinton	145.94	18	P	PKPbc	08 23 19.8	0.0
	baz=337						
X47A	Russelville	145.94	31	P	PKPbc	08 23 19.1	-0.7
	baz=322,SNR=11						
T52A	Hallie	145.99	23	P	PKPbc	08 23 20.0	+0.1
	baz=331						
VBMS	Vicksburg	146.17	37	P	PKPbc	08 23 20.7	+0.2
	baz=315						
U51A	La Follette	146.21	25	P	PKPbc	08 23 21.1	+0.5
	baz=329						
W49A	Belvidere	146.25	29	P	PKPbc	08 23 20.2	-0.5
	baz=324,SNR=5.5						
TZTN	Tazewell	146.26	24	ePKPbc	PKPbc	08 23 20.8	+0.1
TZTN	Tazewell	146.26	24	P	PKPbc	08 23 20.8	+0.1
	baz=330						
T53A	Wise	146.27	22	P	PKPbc	08 23 20.4	-0.3
	baz=332						
S55A	Lewisburg	146.28	19	P	PKPbc	08 23 20.4	-0.3
	baz=336						
CPUP	Villa Florida	146.32	196	PKPbc	PKPbc	08 23 21.8	+0.7
	3.4nm,0.4s,baz=160,slow=2.0,SNR=14						
SWET	Sewanee	146.33	28	ePKPbc	PKPbc	08 23 20.5	-0.5
V50A	Pikevile	146.34	27	P	PKPbc	08 23 20.7	-0.2
	baz=327						
R57A	Stanardsville	146.39	16	P	PKPbc	08 23 21.2	+0.3
	baz=340						
X48A	Hartselle	146.41	30	ePKPbc	PKPbc	08 23 20.6	-0.5
X48A	Hartselle	146.41	30	P	PKPbc	08 23 20.4	-0.7
	baz=323						
U52A	Thorn Hill	146.46	24	P	PKPbc	08 23 21.1	-0.1
	baz=330						
R58A	Rapidan	146.53	15	P	PKPbc	08 23 21.4	+0.1
	baz=340						
T54A	Tazewell	146.56	21	P	PKPbc	08 23 21.3	-0.2
	baz=334						
V51A	Loudon	146.56	26	ePKPbc	PKPbc	08 23 21.6	+0.2
V51A	Loudon	146.56	26	P	PKPbc	08 23 21.5	0.0
	baz=328,SNR=5.1						
W50A	Signal Mountai	146.63	27	ePKPbc	PKPbc	08 23 21.7	-0.1
W50A	Signal Mountai	146.63	27	P	PKPbc	08 23 21.6	-0.2
	baz=326						
S56A	Natural Bridge	146.66	18	P	PKPbc	08 23 21.4	-0.3
	baz=337						
X49A	Woodville	146.71	29	P	PKPbc	08 23 21.7	-0.3
	baz=324						
S57A	Dark Hollow, R	146.77	17	P	PKPbc	08 23 22.0	+0.1
	baz=338						
Y48A	Jasper	146.77	31	P	PKPbc	08 23 21.2	-0.9
	baz=322						
CPCT	Cooper Cave	146.78	26	ePKPbc	PKPbc	08 23 22.3	+0.2
T55A	Pulaski	146.78	20	P	PKPbc	08 23 21.9	-0.2
	baz=335						
U53A	Fall Branch	146.80	23	P	PKPbc	08 23 22.0	-0.2
	baz=331						
BLA	Blacksburg	146.82	19	P	PKPbc	08 23 22.0	-0.2
	baz=336						
V52A	Sevierville	146.84	25	ePKPbc	PKPbc	08 23 22.7	+0.4
V52A	Sevierville	146.84	25	P	PKPbc	08 23 22.6	+0.4
	baz=329						
R59A	King George, V	146.85	14	P	PKPbc	08 23 22.0	-0.1
	baz=342						
R58B	Mineral	146.88	15	P	PKPbc	08 23 22.0	-0.2
	baz=340						
W51A	Cleveland	146.92	27	P	PKPbc	08 23 22.3	-0.1
	baz=327						
U54A	Nelsons Funny	146.95	22	P	PKPbc	08 23 22.5	-0.1
	baz=333						
X50B	Fort Payne	147.08	29	P	PKPbc	08 23 22.6	-0.4
	baz=325						
T56A	Rocky Mt	147.11	19	P	PKPbc	08 23 22.7	-0.2
	baz=336						
147A	Livingston	147.13	34	P	PKPbc	08 23 23.1	0.0
	baz=319						
S58A	Poland Farm, P	147.16	16	P	PKPbc	08 23 22.7	-0.3
	baz=340						
Y49A	Blount Mountai	147.20	30	ePKPbc	PKPbc	08 23 23.1	-0.2
Y49A	Blount Mountai	147.20	30	P	PKPbc	08 23 22.8	-0.4
	baz=323						
S59A	Mechanicsville	147.22	15	P	PKPbc	08 23 23.3	+0.2
	baz=341						
U55A	TA2, Sparta	147.24	21	P	PKPbc	08 23 23.1	-0.3
	baz=334						
V53A	Saluda	147.31	24	ePKPbc	PKPbc	08 23 24.0	+0.4
V53A	Saluda	147.31	24	P	PKPbc	08 23 23.6	+0.1
	baz=330						
W52A	Murphy	147.34	26	ePKPbc	PKPbc	08 23 24.0	+0.4
W52A	Murphy	147.34	26	P	PKPbc	08 23 23.9	+0.4
	baz=328						
X51A	Calhoun	147.37	28	P	PKPbc	08 23 23.8	+0.1
	baz=326						
T57A	Hurt	147.38	18	P	PKPbc	08 23 23.2	-0.4
	baz=338						
Y50A	Piedmont	147.50	29	P	PKPbc	08 23 23.7	-0.3
	baz=324						
148A	Greensboro	147.54	33	P	PKPbc	08 23 24.2	+0.1
	baz=320						
LRAL	Lakeview Retre	147.54	32	ePKPbc	PKPbc	08 23 24.2	+0.1
LRAL	Lakeview Retre	147.54	32	P	PKPbc	08 23 24.2	+0.1
	baz=321						
V54A	Nebo	147.56	23	P	PKPbc	08 23 23.8	-0.3
	baz=332						
W53A	Cullowhee	147.60	25	P	PKPbc	08 23 24.6	+0.3
	baz=330						
U56A	King	147.61	20	P	PKPbc	08 23 23.9	-0.4
	baz=335						
T58A	Grand View Acr	147.65	17	P	PKPbc	08 23 24.3	+0.1
	baz=339						
Z49A	Columbiana	147.66	31	P	PKPbc	08 23 24.3	-0.1
	baz=322						
V55A	Taylorsville	147.76	22	P	PKPbc	08 23 24.9	+0.3
	baz=333						
X52A	Dahlonega	147.77	26	P	PKPbc	08 23 25.0	+0.3
	baz=328						
Y51A	Rockmart	147.82	29	P	PKPbc	08 23 24.8	0.0
	baz=325						
BG3	Lake Jocassee	147.85	25	ePKPbc	PKiKP	08 23 25.5	-0.7
U57A	Blanch	147.88	18	P	PKPbc	08 23 25.0	+0.1
	baz=337						
T59A	Double "B" Far	147.90	16	P	PKPbc	08 23 25.2	+0.3
	baz=340						
Z50A	Ashland	147.92	30	ePKPbc	PKPbc	08 23 25.0	-0.1
Z50A	Ashland	147.92	30	P	PKPbc	08 23 25.0	-0.1
	baz=323						
149A	Jones	147.99	32	P	PKPbc	08 23 25.5	+0.2
	baz=321						
V56A	Mocksville	148.06	21	P	PKPbc	08 23 25.4	0.0
	baz=335						
W54A	Cherokee Point	148.07	24	P	PKPbc	08 23 25.7	+0.2
	baz=331						
X53A	Estanollee	148.11	26	P	PKPbc	08 23 25.9	+0.4
	baz=329						
U58A	Oxford	148.15	17	P	PKPbc	08 23 25.7	+0.2
	baz=338						
V57A	Coltrane Farms	148.23	20	P	PKPbc	08 23 25.8	0.0
	baz=336						
Z51A	Franklin	148.24	29	P	PKPbc	08 23 25.6	-0.3
	baz=325						
249A	Camden	148.29	33	P	PKPbc	08 23 26.1	0.0
	baz=320						
Y52A	Lilburn	148.31	27	ePKPbc	PKiKP	08 23 26.9	-0.3
Y52A	Lilburn	148.31	27	P	PKPbc	08 23 26.4	+0.3
	baz=327						
KMSC	Kings Mountain	148.35	22	ePKPbc	PKPbc	08 23 26.2	+0.1
KMSC	Kings Mountain	148.35	22	P	PKPbc	08 23 26.0	-0.1
	baz=333						
150A	Eclectic	148.39	31	P	PKPbc	08 23 26.2	-0.1
	baz=323						
U59A	Littleton	148.41	16	P	PKPbc	08 23 26.1	-0.1
	baz=340						
PAULI	Pauline	148.45	23	ePKPbc	PKPbc	08 23 26.6	+0.2
X54A	Belton	148.46	24	P	PKPbc	08 23 26.6	+0.2
	baz=330						
U60A	Pendleton	148.47	15	P	PKPbc	08 23 26.6	+0.3
	baz=341						
V58A	Windy Hill, Pi	148.53	19	P	PKPbc	08 23 26.7	+0.2
	baz=337						
Y53A	Monroe	148.54	27	P	PKPbc	08 23 26.7	+0.1
	baz=328						
W56A	Indian Trail	148.63	21	P	PKPbc	08 23 26.7	-0.1
	baz=334						
Z52A	Williamson	148.71	28	P	PKiKP	08 23 27.5	-0.6
	baz=326						
349A	Repton	148.73	34	P	PKiKP	08 23 27.8	-0.3
	baz=319						
250A	Grady	148.75	32	P	PKiKP	08 23 28.0	-0.1
	baz=322						
U61A	Possum Corner	148.79	14	P	PKiKP	08 23 27.7	-0.4
	baz=342						
151A	Opelika	148.80	30	P	PKPbc	08 23 27.3	0.0
	baz=324						
W57A	Gilead	148.83	20	P	PKPbc	08 23 27.2	-0.1
	baz=335						
X55A	Gracelyn & Ava	148.83	23	P	PKPbc	08 23 27.5	+0.3
	baz=332						
V59A	Middlesex	148.83	17	P	PKPbc	08 23 27.3	+0.1
	baz=339						
Y54A	Tignall	148.92	25	P	PKiKP	08 23 27.9	-0.5
	baz=329						
BRAL	Brewton	148.95	34	P	PKiKP	08 23 28.6	0.0
	baz=319						
GOGA	Godfrey	148.96	27	P	PKiKP	08 23 28.5	0.0
	baz=326						
152A	Waverly Hall	148.99	29	ePKPbc	PKPbc	08 23 28.1	+0.3
152A	Waverly Hall	148.99	29	P	PKPbc	08 23 28.0	+0.3
	baz=325						
Z53A	Monticello	149.03	27	P	PKPbc	08 23 27.8	0.0
	baz=327						
X56A	White Oak	149.04	22	P	PKPbc	08 23 27.9	+0.1
	baz=333						
251A	Midway	149.11	31	P	PKiKP	08 23 28.5	-0.4
	baz=323						
V60A	Jim Taylor Roa	149.11	16	P	PKPbc	08 23 28.1	+0.2
	baz=340						
350A	Dozier	149.15	33	P	PKiKP	08 23 28.6	-0.4
	baz=321						
Y55A	Saluda	149.20	24	P	PKPbc	08 23 28.4	+0.2
	baz=331						
W58A	Raeford	149.20	19	P	PKPbc	08 23 28.2	+0.1
	baz=336						
Z54A	Sparta	149.39	26	P	PKPbc	08 23 28.8	+0.1
	baz=328						
X57A	Johnson Farm,	149.41	21	P	PKPbc	08 23 28.8	+0.1
	baz=334						
CNNC	Cliffs of the	149.42	17	P	PKiKP	08 23 28.9	-0.5
	baz=339						
153A	Fort Valley	149.43	28	P	PKiKP	08 23 29.1	-0.5
	baz=326						
252A	Lumpkin	149.53	30	P	PKiKP	08 23 29.3	-0.5
	baz=324						
Y56A	Pelion	149.55	23	P	PKiKP	08 23 29.4	-0.4
	baz=332						
X58A	Rowland	149.59	20	P	PKPbc	08 23 29.1	0.0
	baz=336						
W60A	Pink Hill	149.65	17	P	PKPbc	08 23 29.3	+0.1
	baz=339						
Y57A	Sumter	149.70	22	P	PKiKP	08 23 29.6	-0.4
	baz=334						
Z55A	Blythe	149.71	25	P	PKiKP	08 23 29.9	-0.2
	baz=330						
253A	Americus	149.77	29	P	PKiKP	08 23 30.1	-0.2
	baz=325						
154A	Montrose	149.80	27	P	PKiKP	08 23 30.0	-0.3
	baz=328						
X59A	McDuffie Farm,	149.82	19	P	PKiKP	08 23 30.0	-0.3
	baz=337						
352A	Blakely	149.84	31	P	PKiKP	08 23 30.1	-0.3
	baz=323						
Z56A	Williston	149.94	24	P	PKiKP	08 23 30.4	-0.1
	baz=331						
X60A	Albert Glenn T	150.01	18	P	PKiKP	08 23 30.3	-0.4
	baz=338						
Y58A	Scranton	150.07	21	P	PKiKP	08 23 30.5	-0.3
	baz=335						
155A	Kite	150.08	26	P	PKiKP	08 23 31.0	+0.1
	baz=329						
452A	Marianna	150.21	32	P	PKiKP	08 23 31.3	+0.2
	baz=322						
Z57A	Bowman	150.22	23	P	PKiKP	08 23 31.2	0.0
	baz=332						
254A	Abbeville	150.27	28	P	PKiKP	08 23 31.2	-0.1
	baz=326						
353A	Camilla	150.31	30	P	PKiKP	08 23 31.6	+0.2
	baz=324						
Z58A	St. Stephen	150.53	22	P	PKiKP	08 23 31.8	0.0
	baz=334						
TIGA	Tifton	150.54	29	P	PKiKP	08 23 32.0	+0.1
	baz=326						
NHSC	New Hope	150.59	22	P	PKiKP	08 23 31.7	-0.2
	baz=333						
453A	Whigham	150.66	31	P	PKiKP	08 23 32.5	+0.4
	baz=324						
255A	Hazlehurst	150.66	27	P	PKiKP	08 23 32.4	+0.3
	baz=328						
BDFB	Brasilia	151.16	221	PKPbc	PKiKP	08 23 34.0	+0.3
	6.3nm,0.5s,baz=130,slow=2.9,SNR=15						
356A	Blackshear	151.33	27	P	PKiKP	08 23 33.9	+0.4
	baz=328						
455A	Stateville	151.39	29	P	PKiKP	08 23 34.0	+0.4
	baz=326						
555A	McAlpin	151.93	30	P	PKiKP	08 23 34.7	0.0
	baz=325						
BANI	BANI	167.45	14	ePKPdf	PKPdf	08 23 44.0	-1.1

NNC ***04*** *08:15:53.5±7.2, 53°.68N×86°.30E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=56.3km s-min=45.3km az=7.0, Suspected Mining explosion.*

KRAR 04 08:15:40.2±0.2, 54°.49N×86°.46E, M1.7, 7C-2D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	6.09	235	⇓Pn	Pb	08 17 21.9	-5.2
KURK				⇑Sn	Sn	08 18 21.8	+0.1
	0.8nm,0.5s						
KURK				⇑Lg	Lg	08 18 53.6	
	13nm,1.2s						
KURBB	Kurchatov Arra	6.19	235	⇑Pn	Pn	08 17 16.3	+3.5
	4.8nm,0.7s						
KURBB				⇑Sn	Sn	08 18 25.6	+1.3
	1.6nm,0.7s						
KURBB				⇑Lg	Lg	08 18 57.5	
	9.2nm,0.9s						
MK31	Makanchi Array	8.15	201	⇑Pn	Pn	08 17 41.1	+1.5
	0.7nm,0.6s,baz=27,slow=14,SNR=17						
MK31				⇓Sn	Sn	08 19 07.7	-4.7
	0.8nm,0.7s						
MK31				⇑Lg	Lg	08 19 51.4	
	3.8nm,0.8s,baz=31,slow=30,SNR=4.4						

IDC ***04*** *08:21:37.3±0.6, 2°.15N×92°.50E, h0km, mb4.3/20, mb1 4.4/22, mb1mx4.1/53, mbtmp4.3/22, ML4.5/2, MS3.6/16, Ms1 3.6/16, ms1mx3.4/37, Error ellipse: s-maj=20.9km s-min=12.5km az=60.0*

ISCJB ***04*** *08:21:40.6±0.3, 2°.08N±0°.04×92°.51E±0°.03, h33km, mb4.4/41, MS3.8/21, Error ellipse: s-maj=5.6km s-min=3.7km az=27.5*

NEIC ***04*** *08:21:41.9±2.0, 2°.10N×92°.45E, h30km±4km, mb4.5/28, Error ellipse: s-maj=13.0km s-min=7.6km az=160.0*

DJA ***04*** *08:21:42.5±0.6, 2°N±5°×9°2E±°, h39km±10km, M5.1/9, mb5.2/9, mB5.3/7, MLv5.4/3, Mw(mB)4.7/7*

KLM ***04*** *08:21:47.0, 2°.28N×92°.77E, h37km, mb4.9*

BJI ***04*** *08:21:49.0±0.0, 2°.30N×93°.10E, h35km, mb4.8/23, mB4.8/14, Ms4.2/12, Ms7 4.0/11*

ISC 04 08:21:42.2±0.4, 2°.12N±0°.05×92°.38E±0°.05, h35km, n146, σ2°.31/136, mb4.4/43, MS3.7/22, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		4.92	77	P	Pn	08 22 52.6	-1.2
TPTI				S	Sn	08 23 48.4	-1.2
CMBY	CAMPBELL BAY	5.10	18	eP	Pn	08 22 57.0	+0.8
GSI	Gunungsitoli	5.25	99	ePn	Pn	08 22 57.9	-0.4
GSI				eSn	Sn	08 23 50.2	-7.5
GSI	Gunungsitoli	5.25	99	P	Pn	08 22 57.6	-0.7
	2μm,0.6s,20μm5.5nm						
GSI				S	Sn	08 23 55.8	-1.9
	2μm,0.6s,20μm5.5nm						
LHMI	Lhok Sumawe	5.50	56	ePn	Pn	08 23 02.4	+0.6
LHMI	Lhok Sumawe	5.50	56	P	Pn	08 23 01.1	-0.6
LHMI				S	Sn	08 24 02.3	-1.5
PBSI	Pulau Batu	6.28	110	P	Pn	08 23 11.2	-1.2
PSI	Prapat	6.57	84	ePn	Pn	08 23 15.6	-0.9
PSI	Prapat	6.57	84	Pn	Pn	08 23 14.9	-1.7
	2μm,0.3s,SNR=44						
PKDT	Phuket	8.25	46	P	Pn	08 23 38.6	-0.9
	468nm,0.6s,10μm2.1nm						
PPI	Padang Panjang	8.41	108	P	Pn	08 23 41.0	-0.7
PDSI	Padang	8.62	110	P	Pn	08 23 43.5	-1.1
KULM	Kulim	8.83	69	ePn	Pn	08 23 46.1	-1.3
BKNI	Bangkinang	8.84	102	ePn	Pn	08 23 45.4	-2.1
BKNI	Bangkinang	8.84	102	P	Pn	08 23 46.1	-1.4
IPM	Ipoh	8.94	75	ePn	Pn	08 23 48.1	-0.9
KRAB	Krabi	9.10	48	P	Pn	08 23 52.0	+0.9
TRTT	Trang	9.23	52	P	Pn	08 23 51.7	-1.3
	259nm,0.5s,4μm1.1nm						
PBA	Port Blair	9.48	2	ePn	Pn	08 23 57.4	+1.0
PBA				eSn	Sn	08 25 37.5	-4.3
PBA	Port Blair	9.48	2	eP	Pn	08 23 54.4	-2.0
PBA				eS	Sn	08 25 32.5	-9.3
SKLT	Songkhla	9.62	58	P	Pn	08 23 57.2	-1.1
	215nm,0.8s,2μm0.8nm						
DGPR	DIGLIPUR	11.00	3	eP	Pn	08 24 17.0	-0.2
DGPR				eS	Sn	08 26 11.0	-8.1
MYKOM	Kota Tinggi	11.46	91	ePn	Pn	08 24 21.7	-1.9
MYKOM	Kota Tinggi	11.46	91	P	Pn	08 24 23.0	-0.6
MNAI	Manna	12.37	121	ePn	Pn	08 24 35.3	-0.7
PALK	Pallekele	12.71	294	ePn	Pn	08 24 42.4	+1.7
PALK	Pallekele	12.71	294	Pn	Pn	08 24 42.0	+1.3
	3.7nm,0.3s,baz=116,slow=12,SNR=20						
PALK				Sn	Sn	08 26 53.7	-7.5
	18nm,0.3s,baz=295,slow=0.8,SNR=23						
PHET	Kaeng Krachan	12.90	33	P	Pn	08 24 44.9	+1.7
	33μm,0.6s,585μm						
SRDT	SRDT	13.86	28	P	Pn	08 25 00.0	+3.7
	12nm,0.8s						
UTHA	Uthaitani	15.06	27	P	P	08 25 17.4	-0.1
	99μm,0.7s,809μm						
UMPA	Umpang Tak	15.38	24	P	P	08 25 19.3	-1.8
	50μm,0.8s						
MDRS	Chennai	16.21	313	eP	Pn	08 25 29.1	+1.7
MDRS				IAmb	IAmb	08 25 30.8	
	comp=Z,18nm,0.8s						
CM31	Chiang Mai Arr	17.46	21	eP	P	08 25 44.9	+0.8
	comp=Z,32nm,0.8s						
CMAR	Chiang Mai Arr	17.46	21	P	Pn	08 25 42.2	-1.0
	comp=Z,0.5nm,0.3s,baz=214,slow=14,SNR=18						
CMAR				LR	LR	08 32 32.7	
	comp=Z,88nm,19.3s,baz=214,slow=38						
UTTA	Uttaradit	17.48	27	P	P	08 25 44.6	+0.3
	comp=Z,45μm,1.0s,comp=Z,405μm						

NGP	Nagpur	22.95	326	eP	P	08 26 44.5	+0.9
SHL	Shillong	23.32	359	eP	P	08 26 48.6	+1.2
QIZ	Qiongzhong	23.97	44	P	P	08 26 57.2	+3.6
QIZ				sP	sP	08 27 06.1	+0.1
QIZ				S	S	08 31 10.8	+2.5
QIZ				sS	sS	08 31 19.9	-2.7
QIZ				LR	LR		
	comp=Z,370nm,19.4s						
QIZ				LR	LR		
	comp=Z,240nm,11.3s						
QIZ				LR	LR		
	comp=Z,280nm,18.1s						
KKM	Kota Kinabalu	24.08	80	eP	P	08 26 54.5	-0.3
	comp=Z,30nm,0.8s						
KKM	Kota Kinabalu	24.08	80	P	P	08 26 55.0	+0.2
KMI	Kunming	24.96	23	P	P	08 27 05.3	+2.5
KMI				pmax	pmax		
	comp=Z,31nm,0.8s						
KMI				pmax	pmax		
	comp=Z,64nm,4.7s						
KMI				LR	LR		
	comp=Z,170nm,21.2s						
KMI				LR	LR		
	comp=Z,120nm,8.2s						
KMI				LR	LR		
	comp=Z,150nm,14.3s						
KMI	Kunming	24.96	23	eP	P	08 27 05.1	+2.3
	comp=Z,36nm,1.1s						
RAMN	Ramite	25.30	348	eP	P	08 27 17.3	+11
BHPL	Bhopal	25.52	327	eP	P	08 27 09.2	+1.5
BHPL				IAmb	IAmb	08 27 25.8	
	comp=Z,27nm,1.2s						
JIRN	Jiri	26.08	347	eP	P	08 27 23.8	+11
PKI	Pulchoki	26.17	346	eP	P	08 27 27.8	+14
PKIN	Phulchoki	26.18	346	eP	P	08 27 27.9	+14
DMN	Daman	26.29	345	eP	P	08 27 30.0	+15
	comp=Z,470nm,0.8s						
KKN	Kakani	26.41	346	eP	P	08 27 29.1	+13
	comp=Z,80nm,0.5s						
GKN	Gorkha	26.78	345	eP	P	08 27 34.4	+15
	comp=Z,125nm,0.2s						
KOLN	Koldanda	26.85	343	eP	P	08 27 39.1	+19
	comp=Z,126nm,0.5s						
PYUN	Piuthan	27.35	342	eP	P	08 27 44.1	+20
	comp=Z,180nm,0.7s						
DANN	Dangsing	27.35	343	eP	P	08 27 40.7	+16
	comp=Z,73nm,0.5s						
LSA	Lhasa	27.45	358	P	P	08 27 34.0	+8.4
LSA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GYA	Guiyang	27.82	28	P	P	08 27 32.9	+4.4
GYA				pP	pwP	08 27 43.8	+0.9
GYA				PP	PnPn	08 28 22.5	+6.8
GYA				S	S	08 32 12.0	+2.5
GYA				sS	sS	08 32 26.5	+2.6
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.7s						
GYA				LR	LR		
	comp=Z,160nm,17.7s						
GYA				LR	LR		
	comp=Z,120nm,17.0s						
GYA				LR	LR		
	comp=Z,220nm,18.0s						
KAPI	Kappang	28.25	105	eP	P	08 27 33.0	+0.7
	comp=Z,9.9nm,1.0s						
CD2	Chengdu	30.59	19⇓	iP	P	08 27 58.3	+5.3
CD2				pmax	pmax		
	comp=Z,60nm,0.8s						
TGY	Tagaytay City	30.62	66	LR	LR	08 41 19.7	
	comp=Z,85nm,18.8s,baz=250,slow=39						
SMLA	Simla	32.24	335	eP	P	08 28 08.3	+0.9
SMLA				IAmb	IAmb	08 28 18.7	
	comp=Z,13nm,1.0s						
DHRM	DHARAMSHALA	33.58	335	eP	P	08 28 20.4	+1.0
DHRM				IAmb	IAmb	08 28 32.5	
WHN	Wuhan	35.10	34	eP	P	08 28 33.7	+1.4
WHN				S	S	08 34 02.6	-0.2
WHN				LR	LR		
	comp=Z,460nm,13.1s						
GTA	Gaotai	37.73	9	eP	P	08 28 55.3	+0.5
GTA				pP	pP	08 29 02.5	-1.2
GTA				sP	pwP	08 29 09.4	0.0
MORW	Morawa	38.41	146	eP	P	08 29 02.6	+2.0
	comp=Z,1.0nm,0.8s						
FITZ	Fitzroy Crossi	38.42	123	eP	P	08 28 59.5	-1.3
	comp=Z,3.5nm,0.9s						
FITZ	Fitzroy Crossi	38.42	123	P	P	08 28 60.0	-0.8
	comp=Z,2.9nm,0.6s,baz=300,slow=6.2,SNR=10						
NJ2	Nanjing	38.83	37	eP	P	08 29 08.3	+4.3
NJ2				pmax	pmax		
	comp=Z,18nm,0.6s						
WMQ	Urumqi	41.73	355	eP	P	08 29 36.8	+8.8
WMQ				LR	LR		
	comp=Z,130nm,22.1s						
WMQ				LR	LR		
	comp=Z,1μm,26.7s						
WMQ				LR	LR		
	comp=Z,210nm,5.9s						
NWAO	Narrogin (SRO)	42.03	148	eP	P	08 29 30.9	+0.3
	comp=Z,8.9nm,0.8s						
NWAO	Narrogin (SRO)	42.03	148	P	P	08 29 31.0	+0.5
	comp=Z,8.5nm,0.7s,baz=321,slow=9.6,SNR=5.3						
HHC	Hu-ho-hao-te	42.27	22	eP	P	08 29 39.9	+7.4
HHC				pP	pwP	08 29 48.2	+1.0
HHC				PP	PcP	08 31 20.7	-5.3
HHC				S	S	08 35 57.1	+6.1
HHC				pmax	pmax		
	comp=Z,36nm,0.8s						
HHC				pmax	pmax		
	comp=Z,340nm,6.0s						
HHC				LR	LR		
	comp=Z,600nm,14.0s						
HHC				LR	LR		
	comp=Z,620nm,14.7s						
HHC				LR	LR		
	comp=Z,640nm,14.1s						
BJT	Baijiatuau	43.47	27	eP	P	08 29 43.3	+1.2
	comp=Z,18nm,0.8s						
BJI	Beijing	43.49	27	eP	P	08 29 43.5	+1.3
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BJI				LR	LR		
	comp=Z,46nm,20.8s						
BJI				LR	LR		
	comp=Z,42nm,16.1s						
KK31	Karatay Array	45.23	337	eP	P	08 29 59.6	+3.5
	comp=Z,5.4nm,0.8s						
KKAR	Karatay Array	45.23	337	eP	P	08 29 58.8	+2.6
MK31	Makanchi Array	45.36	350	eP	P	08 29 58.0	+0.8
	comp=Z,4.3nm,0.8s						
MKAR	Makanchi Array	45.36	350	eP	P	08 29 57.4	+0.2
MKAR	Makanchi Array	45.36	350	P	P	08 29 57.6	+0.5
	comp=Z,1.3nm,0.7s,baz=161,slow=8.2,SNR=12						
MKAR				LR	LR	08 51 36.1	
	comp=Z,43nm,21.5s,baz=170,slow=40						
WR1	Warramunga Arr	46.63	120	eP	P	08 30 06.9	-0.6
WRA	Warramunga Arr	46.63	120	eP	P	08 30 07.0	-0.6
WRA	Warramunga Arr	46.63	120	P	P	08 30 06.9	-0.6
	comp=Z,7.2nm,1.0s,baz=300,slow=8.7,SNR=29						
WRAB	Tennant Creek	46.64	120	eP	P	08 30 07.2	-0.4
	comp=Z,4.1nm,0.8s						
WB2	Warramunga Arr	46.64	120	eP	P	08 30 07.2	-0.5
	comp=Z,3.7nm,0.8s						
SONA0	Songino Array	47.12	13	eP	P	08 30 11.9	+0.8
SONM	Songino Array	47.12	13	eP	P	08 30 11.7	+0.6
SONM	Songino Array	47.12	13	P	P	08 30 11.9	+0.8
	comp=Z,7.1nm,0.7s,baz=197,slow=8.4,SNR=26						
SONM				LR	LR	08 52 19.1	
	comp=Z,105nm,21.0s,baz=345,slow=39						
ULN	Ulaanbaatar	47.30	13	eP	P	08 30 13.3	+0.7
	comp=Z,8.1nm,1.0s						
GEYT	Alibeck	47.50	323	P	P	08 30 15.6	+1.5
	comp=Z,1.0nm,0.5s,baz=139,slow=6.6,SNR=2.5						
GEYT				LR	LR	08 50 12.3	
	comp=Z,66nm,21.7s,baz=195,slow=36						
ASAR	Alice Springs	47.83	125	eP	P	08 30 16.6	-0.3
ASAR	Alice Springs	47.83	125	P	P	08 30 16.1	-0.8
	comp=Z,1.0nm,0.4s,baz=298,slow=7.6,SNR=22						
AS31	Alice Springs	47.83	125	eP	P	08 30 16.5	-0.4
	comp=Z,0.7nm,0.4s						
KSAR	Wonju Array Be	47.95	38	eP	P	08 30 17.3	-0.2
KSRS	Korea Array	47.98	39	P	P	08 30 17.1	-0.6
	comp=Z,3.0nm,0.8s,baz=224,slow=8.2,SNR=16						
KSRS				LR	LR	08 52 47.0	
	comp=Z,80nm,18.7s,baz=226,slow=39						
ZAA0	Zalesovo Array	52.03	354	eP	P	08 30 48.5	+0.3
	comp=Z,13nm,0.9s						
ZALV	Zalesovo Beam	52.03	354	eP	P	08 30 48.5	+0.3
ZALV	Zalesovo Beam	52.03	354	P	P	08 30 48.7	+0.5
	comp=Z,1.9nm,0.4s,baz=190,slow=8.5,SNR=7.9						
ZALV				LR	LR	08 54 18.6	
	comp=Z,56nm,21.5s,baz=63,slow=38						
ZAA1	Zalesovo Array	52.04	354	eP	P	08 30 48.7	+0.5
MAJO	Matsushiro	54.37	45	eP	P	08 31 05.0	-0.8
MJAR	Matsushiro Arr	54.37	45	P	P	08 31 05.0	-0.8
	comp=Z,2.6nm,1.0s,baz=236,slow=7.0,SNR=6.2						
MJAR				LR	LR	08 56 18.6	
	comp=Z,57nm,19.5s,baz=240,slow=38						
ABKAR	Akbulak array	54.52	334	eP	P	08 31 06.5	-0.1
USRK	Ussuriysk Ar.	54.60	34	LR	LR	08 57 33.6	
	comp=Z,92nm,18.1s,baz=195,slow=40						
STKA	Stephens Creek	57.58	130	eP	P	08 31 28.8	0.0
	comp=Z,0.7nm,0.7s						
STKA	Stephens Creek	57.58	130	P	P	08 31 28.8	0.0
	comp=Z,2.7nm,0.6s,baz=316,slow=9.3,SNR=7.7						
STKA				LR	LR	08 53 37.0	
	comp=Z,91nm,21.4s,baz=214,slow=33						
KLR	Kul'dur	57.71	29	P	P	08 31 30.0	+0.6
	comp=Z,4.5nm,0.9s,baz=251,slow=7.2,SNR=11						
BRTR	Keskin Array B	64.96	313	eP	P	08 32 19.2	+0.3
BRTR	Keskin Array B	64.96	313	P	P	08 32 19.6	+0.7
	comp=Z,0.5nm,0.6s,baz=116,slow=6.6,SNR=3.3						
BRTR				LR	LR	09 01 15.8	
	comp=Z,24nm,19.8s,baz=100,slow=37						
NRIK	Noril'sk	67.19	358	P	P	08 32 32.0	-0.4
	comp=Z,1.0nm,0.4s,baz=165,slow=7.4,SNR=3.9						
NRIK				LR	LR	09 05 52.6	
	comp=Z,34nm,18.3s,baz=202,slow=40						
AKASG	Malin Array Be	71.62	323	LR	LR	09 08 20.5	
	comp=Z,18nm,18.4s,baz=110,slow=39						
MAW	Mawson	72.58	191	eP	P	08 33 07.8	+2.3
	comp=Z,1.1nm,0.8s						
MAW	Mawson	72.58	191	P	P	08 33 06.4	+0.9
	comp=Z,6.1nm,0.9s,baz=360,slow=3.0,SNR=7.0						
MA2	Magadan	72.65	27	P	P	08 33 05.8	-0.3
	comp=Z,5.2nm,0.7s,baz=175,slow=11,SNR=3.0						
BURAR	Bucovina Array	73.18	319	eP	P	08 33 11.3	+1.7
TIXI	Tiksi	73.18	11	eP	P	08 33 07.8	-1.3
	comp=Z,10nm,0.7s						
TIXI	Tiksi	73.18	11	P	P	08 33 08.5	-0.5
	comp=Z,9.3nm,0.6s,baz=228,slow=3.1,SNR=14						
ITM	Ithomi	73.19	308	eP	P	08 33 09.4	-0.5
	comp=Z,3.0nm,0.6s						
PETK	Petropavlovsk-	73.69	35	LR	LR	09 09 09.4	
	comp=Z,56nm,18.3s,baz=249,slow=39						
SEY	Seymchan	74.86	24	P	P	08 33 18.0	-1.0
	comp=Z,0.7nm,0.3s,baz=78,slow=18,SNR=2.9						
FIA0	FINESS Array S	76.99	333	eP	P	08 33 31.1	-0.1
FINES	FINESS Array B	76.99	333	P	P	08 33 31.1	-0.1
	comp=Z,0.7nm,0.7s,baz=90,slow=4.2,SNR=3.5						
FINES				LR	LR	09 09 09.3	
	comp=Z,47nm,20.8s,baz=86,slow=37						
ARA0	ARCESS Array S	80.07	341	eP	P	08 33 47.5	-0.5
ARCES	ARCESS Array B	80.07	341	P	P	08 33 47.5	-0.5
	comp=Z,1.1nm,0.8s,baz=73,slow=6.7,SNR=3.7						
GERES	GERESS Array B	80.96	319	P	P	08 33 54.8	+1.4
	comp=Z,0.6nm,0.6s,baz=99,slow=4.2,SNR=6.1						
BRG	Berggiesshubel	81.07	321	e(P)	P	08 34 03.6	+10
	comp=Z,4.1nm,1.2s						
KHC	Kasperske Hory	81.08	319	epP	pP	08 34 02.9	-0.6
CLL	Collm	81.71	321	epP	pP	08 34 07.0	+0.2
NOA	NORSAR Array B	83.87	331	LR	LR	09 15 10.8	
	comp=Z,24nm,18.4s,baz=100,slow=38						
ILAR	Eielson Array	100.70	22	PP	PKiKP	08 39 46.6	-6.0
	comp=Z,0.4nm,0.8s,baz=275,slow=5.2,SNR=4.2						
YKA	Yellowknife Ar	112.39	13	PP	PP	08 40 52.7	-6.8
	comp=Z,0.2nm,0.8s,baz=327,slow=7.6,SNR=4.3						
YKB5	Yelloknife Ar	112.39	13	ePP	PP	08 40 52.7	-6.8
PDAR	Pinedale Array	131.13	21	PKP	PKPdf	08 40 50.6	-0.6
	comp=Z,0.1nm,0.3s,baz=57,slow=3.3,SNR=2.3						
LTX	Lajitas	145.15	25	ePKPbc	PKPab	08 41 16.8	+0.2
TX31	Lajitas Ar. Si	145.15	25	ePKPbc	PKPdf	08 41 17.0	0.0
TXAR	Lajitas Array	145.15	25	PKPbc	PKPab	08 41 16.8	+0.2
	comp=Z,2.3nm,0.7s,baz=278,slow=1.9,SNR=33						
HPIG		146.27	30	ePKPdf	PKPbc	08 41 20.0	-0.2

*SJA **04** 08:31:32.7±1.5,20°.96S×66°.54W,h239km±20km,ML2.6, MW2.8*
*ISCJB **04** 08:31:34.8±1.0,21°.06S±0°.06×66°.74W±0°.05, h227km±11km, Error ellipse: s-maj=10.3km s-min=6.8km az=31.6*
*GUC **04** 08:31:35.2±0.6,21°.02S×67°.01W,h267km±14km,ML3.8*
ISC 04 08:31:32.5±2.6,21°.03S±0°.07×66°.68W±0°.07, h244km±21km, n29, σ1§42/40, 5C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	Yavi	1.58	137	eP	Pn	08 32 11.8	+0.5
YJA				IAML		08 32 12.1	
	comp=Z,46nm,0.2s						
YJA				eS	S	08 32 40.4	-1.5
HJA	Humahuaca	2.47	152	eP	Pn	08 32 20.5	+1.1
PB08	IPOC Station P	2.48	290	eP	Pn	08 32 21.5	+2.0
PB08	IPOC Station P	2.48	290	⇑iP	Pn	08 32 21.1	+1.6
PB08				i S	S	08 32 56.5	0.0
PB09	IPOC Station P	2.51	252	eP	Pn	08 32 22.2	+2.7
PB09	IPOC Station P	2.51	252	eP	Pn	08 32 21.5	+1.9
PB09				i S	S	08 32 56.6	-0.1
LVC	Limon Verde	2.60	232	eP	Pn	08 32 21.5	+0.7
LVC				IAML		08 33 02.2	
	comp=Z,6.0nm,0.1s						
PB01	IPOC Station P	2.62	269	eP	Pn	08 32 21.5	+0.9
PB01				i S	S	08 32 57.5	-1.1
PB01				IAML		08 32 59.4	
	comp=N,126nm,0.2s						
GO01	Chusmiza	2.72	299	eP	Pn	08 32 23.3	+1.2
PB02	IPOC Station P	3.02	264	eP	Pn	08 32 26.1	+1.2
PB02	IPOC Station P	3.02	264	⇑iP	Pn	08 32 25.6	+0.7
PB02				i S	S	08 33 04.2	-2.1
PB02				IAML		08 33 05.9	
	comp=E,183nm,0.1s						
PB03	IPOC Station P	3.04	250	eP	Pn	08 32 26.3	+1.1
PB03	IPOC Station P	3.04	250	⇓iP	Pn	08 32 26.1	+0.9
PB03				i S	S	08 33 05.2	-1.5
PB03				IAML		08 33 06.6	
	comp=N,80nm,0.4s						
PB11	IPOC Station P	3.06	294	eP	Pn	08 32 26.3	+0.9
PB11	IPOC Station P	3.06	294	⇓iP	Pn	08 32 25.8	+0.3
PB11				eS	S	08 33 05.5	-1.8
PB07	IPOC Station P	3.07	256	eP	Pn	08 32 26.4	+0.9
PB07	IPOC Station P	3.07	256	⇑iP	Pn	08 32 26.4	+0.9
PB07				i S	S	08 33 05.5	-1.9
PB07				IAML		08 33 07.3	
	comp=E,123nm,0.4s						
PB06	IPOC Station P	3.16	238	eP	Pn	08 32 29.2	+2.6
PB06	IPOC Station P	3.16	238	eP	Pn	08 32 28.5	+2.0
PB06				i S	S	08 33 08.5	-0.8
PB06				IAML		08 33 09.7	
	comp=E,68nm,0.1s						
MNMC	Minye Minye	3.33	304	⇑iP	Pn	08 32 29.6	+1.0
MNMC				i S	S	08 33 12.3	-0.5
MNMCX	Minye Minye	3.33	304	eP	Pn	08 32 29.6	+1.0
PB15	IPOC Station P	3.38	229	eP	Pn	08 32 31.3	+2.3
PB04	IPOC Station P	3.48	247	eP	Pn	08 32 31.1	+1.0
PB04	IPOC Station P	3.48	247	eP	Pn	08 32 31.1	+1.0
AZAP	Zapla	3.52	155	eP	Pn	08 32 31.3	+0.7
AZAP				IAML		08 32 32.1	
	comp=Z,6.3nm,0.3s						
PSGCX	Pisagua	3.53	293	eP	Pn	08 32 30.4	-0.3
PB05	IPOC Station P	3.74	240	eP	Pn	08 32 34.0	+0.9
PB05	IPOC Station P	3.74	240	⇑iP	Pn	08 32 34.0	+0.9
PB05				i S	S	08 33 18.9	-2.2
PB14	IPOC Station P	4.96	223	eP	Pn	08 32 48.5	+0.5

*NSSC **04** 08:32:37.2±0.9,33°.98N×35°.68E,h4km±22km,MD1.2, ML2.3*
*ISCJB **04** 08:32:39.4±1.2,33°.89N±0°.03×35°.72E±0°.07,h21km±11km, Error ellipse: s-maj=10.2km s-min=5.6km az=7.4*
*GRAL **04** 08:32:40.6±0.2,33°.87N×35°.84E,h0km±16km,MD3.1*
ISC 04 08:32:39.5±1.0,33°.89N±0°.03×35°.79E±0°.05,h16km±9km, n10, σ0§81/19, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.11	276	eP	Pg	08 32 43.4	+0.2
BHL				eS	Sg	08 32 45.5	-0.1
BEYL	Beirut	0.25	265	eP	Pg	08 32 45.8	+0.8
DQRL	Deir Qamar	0.26	224	eP	Pb	08 32 45.6	-0.3
DQRL				eS	Sg	08 32 49.1	-0.1
QRWL	Qaraoun	0.36	195	eP	Pg	08 32 46.7	-0.2
QRWL				eS	Sg	08 32 51.4	-0.5
RCY	Rachaya	0.40	174	eP	Pg	08 32 47.3	-0.4
RCY				eS	Sg	08 32 52.1	-1.0
HWQ	Hawqa	0.41	19	eP	Pb	08 32 48.2	-0.3
HWQ				eS	Sb	08 32 53.7	-0.8
BRBR	Barbar	0.50	164	eP	Pg	08 32 49.2	-0.3
BRBR				eS	Sb	08 32 57.4	+0.3
BRBR				AML	AML	08 33 00.1	
	comp=N,187nm,0.4s						
BRBR				AML	AML	08 33 01.2	
	comp=E,251nm,0.4s						
QASN	Qassioun	0.54	131	eP	Pg	08 32 50.4	+0.1
QASN				eS	Sb	08 32 58.9	+0.6
QASN				AML	AML	08 33 03.1	
	comp=E,1μm,0.4s						
QASN				AML	AML	08 33 03.8	
	comp=N,187nm,0.7s						
SHBL	Chebaa	0.54	184	eP	Pg	08 32 50.0	-0.4
SHBL				eS	Sg	08 32 56.9	-0.8
TOTH	TOTAH	0.75	135	eP	Pb	08 32 54.6	+0.4
TOTH				eS	Sb	08 33 06.7	+2.4
TOTH				AML	AML	08 33 13.1	
	comp=N,34nm,0.5s						
TOTH				AML	AML	08 33 13.3	
	comp=E,45nm,0.4s						

*ISCJB **04** 08:46:54.8±0.2,21°.31S±0°.02×68°.94W±0°.04,h125km±3km, mb4.0/9, Error ellipse: s-maj=6.4km s-min=4.0km az=175.3*
*SJA **04** 08:46:55.0±0.8,21°.26S×69°.00W,h123km±6km,ML3.5, MW3.7*
*GUC **04** 08:46:56.1±0.7,21°.29S×68°.98W,h110km±4km,ML4.2*
*IDC **04** 08:46:56.1±0.9,21°.28S×68°.69W,h118km±11km,mb3.8/7, mb1 3.9/10,mb1mx3.7/25,mbtmp4.1/10,Error ellipse: s-maj=20.5km s-min=14.8km az=114.0*
*NEIC **04** 08:46:56.0±0.0,21°.29S×68°.98W,h110km,mb4.1/8, ML4.2(GUC), After GUC.*
*VAO **04** 08:46:59.2±0.4,21°.58S×68°.71W,h135km,mb4.3*
ISC 04 08:46:55.3±0.6,21°.30S±0°.04×68°.95W±0°.05,h113km±5km, n96, σ1§56/118, mb4.0/9, 11C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.56	297	ePn	Pn	08 47 13.7	+0.6
PB01				eSn	Sn	08 47 27.0	+0.6
PB01	IPOC Station P	0.56	297	⇑iP	Pn	08 47 13.8	+0.8
PB01				eS	Sn	08 47 26.9	+0.6
PB09	IPOC Station P	0.57	209	eP	Pn	08 47 14.5	+1.3
PB09				eS	Sn	08 47 28.7	+2.1
PB09	IPOC Station P	0.57	209	⇑iP	Pn	08 47 14.4	+1.3
PB09				eS	Sn	08 47 27.5	+0.9
PB09				IAML		08 47 30.0	
	comp=N,8μm,0.3s						
PB02	IPOC Station P	0.88	268	eP	Pn	08 47 16.8	+1.0
PB02				eS	Sn	08 47 32.5	+1.4
PB02	IPOC Station P	0.88	268	⇑iP	Pn	08 47 16.7	+1.0
PB02				eS	Sn	08 47 32.0	+0.8
PB02				IAML		08 47 34.0	
	comp=E,9μm,0.4s						
PB07	IPOC Station P	0.97	244	eP	Pn	08 47 17.8	+1.1
PB07	IPOC Station P	0.97	244	⇑iP	Pn	08 47 17.6	+1.0
PB07				eS	Sn	08 47 33.5	+0.7
PB07				IAML		08 47 35.5	
	comp=N,6μm,0.3s						
PB03	IPOC Station P	1.06	225	eP	Pn	08 47 18.9	+1.4
PB03	IPOC Station P	1.06	225	⇑iP	Pn	08 47 18.5	+1.0
PB03				eS	Sn	08 47 35.2	+0.8
PB03				IAML		08 47 36.2	
	comp=E,6μm,0.2s						
PB08	IPOC Station P	1.17	350	eP	Pn	08 47 20.4	+1.4
PB08	IPOC Station P	1.17	350	⇑iP	Pn	08 47 20.0	+1.1
PB08				eS	Sn	08 47 38.2	+1.5
LVC	Limon Verde	1.31	178	eP	Pn	08 47 22.5	+2.0
LVC				IAML		08 47 45.5	
	comp=Z,592nm,0.5s						
LVC	Limon Verde	1.31	178	P	Pn	08 47 22.1	+1.7
	comp=Z,78nm,0.3s,baz=35,slow=11,SNR=273						
LVC				S	Sn	08 47 41.4	+1.9
	comp=Z,192nm,0.3s,baz=90,slow=20,SNR=46						
LVC	Limon Verde	1.31	178	eP	Pn	08 47 22.2	+1.7
LVC				eS	Sn	08 47 41.2	+1.7
PB06	IPOC Station P	1.52	202	eP	Pn	08 47 24.1	+1.4
PB06	IPOC Station P	1.52	202	⇑iP	Pn	08 47 24.0	+1.4
PB06				eS	Sn	08 47 44.8	+1.4
PB06				IAML		08 47 45.5	
	comp=E,5μm,0.2s						
PB04	IPOC Station P	1.52	227	ePn	Pn	08 47 23.6	+1.0
PB04				eSn	Sn	08 47 44.1	+0.6
PB04	IPOC Station P	1.52	227	eP	Pn	08 47 23.7	+1.0
PB04	IPOC Station P	1.52	227	⇑iP	Pn	08 47 23.7	+1.0
PB04				eS	Sn	08 47 43.9	+0.3
PB04				IAML		08 47 45.7	
	comp=E,4μm,0.5s						
GO01	Chusmiza	1.64	352	ePn	Pn	08 47 25.5	+1.0
GO01				eSn	Sn	08 47 48.0	+1.4
GO01	Chusmiza	1.64	352	eP	Pn	08 47 25.6	+1.1
GO01				eS	Sn	08 47 47.9	+1.4
PB11	IPOC Station P	1.67	336	ePn	Pn	08 47 24.4	-0.1
PB11				eSn	Sn	08 47 46.4	-0.3
PB11	IPOC Station P	1.67	336	eP	Pn	08 47 25.0	+0.5
PB11	IPOC Station P	1.67	336	⇑iP	Pn	08 47 24.9	+0.4
PB11				eS	Sn	08 47 47.0	+0.3
PB11				IAML		08 47 48.1	
	comp=E,2μm,0.2s						
PB05	IPOC Station P	1.94	217	eP	Pn	08 47 28.6	+0.8
PB05	IPOC Station P	1.94	217	⇑iP	Pn	08 47 28.6	+0.8
PB05				eS	Sn	08 47 51.9	-0.6
PB15	IPOC Station P	1.96	194	eP	Pn	08 47 29.9	+1.7
PB15	IPOC Station P	1.96	194	eP	Pn	08 47 29.9	+1.7
PB15				eS	Sn	08 47 55.0	+1.7
PSGC	Pisagua	2.02	327	⇑iP	Pn	08 47 28.4	-0.4
PSGC				eS	Sn	08 47 53.1	-1.3
PSGCX	Pisagua	2.02	327	eP	Pn	08 47 28.6	-0.2
MNMC	Minye Minye	2.24	344	ePn	Pn	08 47 32.5	+0.7
MNMCX	Minye Minye	2.24	344	eP	Pn	08 47 32.4	+0.6
YJA	Yavi	3.31	106	eP	Pn	08 47 48.3	+2.4
HJA	Humahuaca	3.79

PLCA	Paso Flores	19.42	184	eP	P	08 51 12.3	-0.5
	comp=Z,4.7nm,1.1s						
PLCA	Paso Flores	19.42	184	P	P	08 51 13.9	+1.1
	comp=Z,0.1nm,0.3s,baz=36,slow=11,SNR=6.2						
PLCA	Paso Flores	19.42	184	eP	P	08 51 10.8	-2.0
RCLB	Rio Claro- Sao	19.91	97	eP	P	08 51 16.8	-1.4
SPB	Sao Paulo	20.02	101	eP	P	08 51 19.6	+0.3
PET01	Itanhaem-SP	20.20	103	eP	P	08 51 21.7	+0.4
BDFB	Brasilia	20.63	78	eP	P	08 51 24.0	-2.1
	comp=Z,12nm,0.5s						
BDFB	Brasilia	20.63	78	P	P	08 51 23.9	-2.1
	comp=Z,11nm,0.5s,baz=239,slow=9.3,SNR=14						
PMNB	Patos De Minas	21.34	87	eP	P	08 51 32.8	-0.9
PTGA	Pitinga	22.24	24	eP	P	08 51 42.2	-0.8
	comp=Z,5.3nm,0.6s						
PTGA	Pitinga	22.24	24	P	P	08 51 41.3	-1.7
	comp=Z,1.4nm,0.3s,baz=308,slow=22,SNR=4.8						
PTGA	Pitinga	22.24	24	eP	P	08 51 46.3	+3.3
BSCB	Bom Sucesso	22.55	94	eP	P	08 51 45.0	-1.2
MCI6	Montes Claros	24.09	84	eP	P	08 52 00.4	-0.2
MCI8	Montes Claros	24.10	83	eP	P	08 52 00.6	-0.1
MCI9	Montes Claros	24.12	83	eP	P	08 52 00.6	-0.2
DUB01	Friburgo-RJ	24.70	97	eP	P	08 52 05.8	-0.2
SJMB	Sao Joao De Ma	26.20	89	eP	P	08 52 20.1	+0.4
RCBR	Riachuelo	35.50	69	eP	P	08 53 43.8	+2.3
	comp=Z,14nm,1.0s						
RCBR	Riachuelo	35.50	69	eP	P	08 53 42.5	+1.0
LTX	Lajitas	60.44	325	eP	P	08 56 54.1	+0.8
TXAR	Lajitas Array	60.44	325	P	P	08 56 54.1	+0.8
	comp=Z,0.3nm,0.8s,baz=141,slow=11,SNR=3.5						
DBIC	Dimbokro	68.71	74	eP	P	08 57 47.4	+0.1
	comp=Z,7.6nm,1.0s						
DBIC	Dimbokro	68.71	74	P	P	08 57 46.2	-1.1
	comp=Z,3.7nm,0.6s,baz=210,slow=4.4,SNR=3.7						
NV01	Mina Array Sit	75.31	322	eP	P	08 58 27.0	+0.6
NVAR	Mina Array Bea	75.31	322	P	P	08 58 27.0	+0.6
	comp=Z,0.3nm,0.7s,baz=147,slow=6.5,SNR=3.7						
PAHR	Pah Rah Range	76.80	322	eP	P	08 58 37.0	+2.2
	comp=Z,2.6nm,0.8s						
HLID	Hailey	76.85	328	eP	P	08 58 37.4	+2.4
	comp=Z,2.2nm,1.0s						
TOA1	Torodi Ar. Sit	77.32	70	eP	P	08 58 37.1	-0.9
TORD	Torodi Ar. Bea	77.32	70	P	P	08 58 37.1	-0.9
	comp=Z,5.2nm,0.3s,baz=258,slow=5.7,SNR=10						
YKA	Yellowknife Ar	90.98	341	P	P	08 59 47.1	+1.0
	comp=Z,0.7nm,0.7s,baz=136,slow=4.4,SNR=21						
YKA				pP	pP	09 00 12.1	-4.5
	comp=Z,0.2nm,0.5s,baz=122,slow=4.3,SNR=3.9						
WR1	Warramunga Arr	133.11	211	ePKPdf	PKiKP	09 05 59.3	-0.3
WRA	Warramunga Arr	133.11	211	PKP	PKiKP	09 05 59.3	-0.3
	comp=Z,0.3nm,0.7s,baz=173,slow=1.8,SNR=5.1						
MK32	Makanchi Array	145.49	36	eP	pPKPbc	09 06 51.3	-0.8
MKAR	Makanchi Array	145.49	36	pPKPbc	pPKPbc	09 06 51.3	-0.8
	comp=Z,3.3nm,0.9s,baz=283,slow=2.5,SNR=8.2						

NIED ***04*** *08:58:00, 37.°60N×143.°20E, h23km, Mw3.7 Best double couple: M0 3.82000×10^14 NP1:φs 332.00000°, δ32.00000°, λ-158.00000°. NP2:φs 223.00000°, δ78.00000°, λ-60.00000°.*

IDC ***04*** *08:58:06.6±1.1, 37.°45N×143.°61E, h0km, mb3.9/8, mb1 3.9/13, mb1mx3.7/38, mbtmp3.9/13, ML3.4/5, MS2.6/3, Ms1 2.6/3, ms1mx2.5/31, Error ellipse: s-maj=25.3km s-min=17.7km az=92.0*

ISCJB ***04*** *08:58:09.9±0.5, 37.°50N±0.°03×143.°33E±0.°04, h33km, mb4.1/11, Error ellipse: s-maj=4.9km s-min=3.8km az=12.7*

JMA ***04*** *08:58:11.4±0.1, 37.°57N×143.°22E, h54km, M3.9*

NEIC ***04*** *08:58:12.2±2.5, 37.°47N×143.°44E, h35km±8km, mb4.5/4, Error ellipse: s-maj=20.1km s-min=10.4km az=118.0*

ISC 04 08:58:11.8±0.8, 37.°54N±0.°04×143.°35E±0.°08, h35km, n44, σ1§64/61, mb4.1/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.68	298	P	Pn	08 58 37.7	-1.0
JIKH				eS	Sn	08 58 57.0	-2.0
JIO	Ouri	1.83	301	P	Pn	08 58 40.0	-0.7
JIO				S	Sn	08 59 00.3	-2.4
JKMT	Kesennumamotoy	1.95	311	P	Pn	08 58 41.4	-1.0
JKMT				S	Sn	08 59 03.7	-2.0
JFK	Kawauchi	1.98	266	P	Pn	08 58 41.7	-1.2
JFK				S	Sn	08 59 04.2	-2.3
JMK	Ichinoseki	2.19	311	P	Pn	08 58 44.9	-0.9
JMK				eS	Sn	08 59 10.4	-1.3
JFT	Otama	2.40	270	P	Pn	08 58 48.5	-0.1
JFT				eS	Sn	08 59 16.0	-0.8
JOM	Ohasama	2.52	321	P	Pn	08 58 49.5	-0.7
JOM				eS	Sn	08 59 18.4	-1.3
JYK	Kaneyama	2.73	301	P	Pn	08 58 53.1	-0.1
JANG	Nango	3.17	334	P	Pn	08 58 59.3	+0.1
JAG	Ashikaga	3.31	252	P	Pn	08 59 01.0	-0.2
JAG				S	Sn	08 59 38.7	-0.7
BSO1	Boso 1	3.46	214	P	Pn	08 59 02.0	-0.7
BSO1				eS	Sn	08 59 41.2	-1.0
JRY	Ryogami san	3.88	248	P	Pn	08 59 08.7	-0.3
JRY				eS	Sn	08 59 50.7	-2.7
JOD2	Odawara 2	4.12	238	P	Pn	08 59 11.8	-0.5
JOD2				S	Sn	08 59 57.0	-2.3
JOT	Ohata	4.23	336	P	Pn	08 59 14.5	+0.7
MJAR	Matsushiro Arr	4.23	258	Pn	Pn	08 59 14.6	+0.7
	1.5nm,0.3s,baz=91,slow=15,SNR=120						
MJAR				Sn	Sn	09 00 02.7	+0.6
	0.3nm,0.3s,baz=93,slow=26,SNR=2.9						
MAJO	Matsushiro	4.24	258	ePn	Pn	08 59 14.9	+1.0
MAJO				eSn	Sn	09 00 02.7	+0.6
MAT	Matsushiro	4.24	258	P	Pn	08 59 14.6	+0.7
MAT				S	Sn	09 00 02.2	+0.1
MAT	Matsushiro	4.24	258	P	Pn	08 59 15.2	+1.3
MJB9	Matsu-Tunnel	4.24	258	ePn	Pn	08 59 15.0	+1.1
ERM	Erimo	4.47	358	ePn	Pn	08 59 16.4	-0.7
JHJ2	Mitsune	5.28	214	ePn	Pn	08 59 28.8	+0.6
JHJ2				eSn	Sn	09 00 27.0	-0.8
JHJ	Hachijo jima 2	5.29	215	Pn	Pn	08 59 26.9	-1.4
	9.0nm,0.3s,baz=124,slow=23,SNR=13						
JHJ				Sn	Sn	09 00 22.5	-5.5
	49nm,0.3s,baz=82,slow=24,SNR=9.2						
JHJ				LR	LR	09 01 43.3	
	comp=Z,49nm,20.3s,baz=86,slow=41						
INU	Inuyama	5.56	249	ePn	Pn	08 59 33.5	+1.6
ASAJ	Asahikawa	6.60	355	Pn	Pn	08 59 45.6	-0.6
	2.2nm,0.3s,baz=222,slow=9.5,SNR=23						
ASAJ				Sn	Sn	09 00 55.8	-4.4
	1.0nm,0.3s,baz=75,slow=20,SNR=6.1						
ASAJ				LR	LR	09 02 54.1	
	comp=Z,67nm,20.9s,baz=328,slow=43						
USRK	Ussuriysk Ar.	10.87	311	Pn	Pn	09 00 46.3	+1.4
	0.4nm,0.3s,baz=108,slow=14,SNR=5.1						
KSRS	Korea Array	12.26	274	Pn	Pn	09 01 05.8	+2.0
	0.1nm,0.3s,baz=86,slow=12,SNR=2.9						
KSRS				LR	LR	09 05 10.9	
	comp=Z,32nm,18.4s,baz=95,slow=34						
KLR	Kul'dur	14.39	328	Pn	Pn	09 01 31.1	-1.8
	0.1nm,0.3s,baz=140,slow=15,SNR=5.9						
ANA2	Anatahan	21.22	174	eP	P	09 02 52.4	-2.2
	68nm,0.6s						
SEY	Seymchan	26.02	9	P	P	09 03 42.6	+1.4
	0.8nm,0.5s,baz=198,slow=7.8,SNR=5.0						
SONA0	Songino Array	28.80	303	eP	P	09 04 08.7	+2.2
SONM	Songino Array	28.80	303	P	P	09 04 08.7	+2.2
	0.7nm,0.4s,baz=98,slow=8.9,SNR=3.5						
ZAA1	Zalesovo Array	42.72	312	eP	P	09 06 06.5	+1.3
ZALV	Zalesovo Beam	42.72	312	P	P	09 06 06.5	+1.3
	0.8nm,0.4s,baz=87,slow=9.7,SNR=3.4						
MK32	Makanchi Array	45.16	302	eP	P	09 06 27.5	+2.5
MKAR	Makanchi Array	45.16	302	P	P	09 06 27.5	+2.5
	1.5nm,0.5s,baz=87,slow=8.9,SNR=5.7						
KURBB	Kurchatov Arra	46.91	308	P	P	09 06 39.3	+0.6
	2.3nm,0.5s,baz=81,slow=7.8,SNR=12						
ILAR	Eielson Array	48.24	33	P	P	09 06 47.8	-0.9
	0.3nm,0.7s,baz=257,slow=6.9,SNR=4.4						
WRAB	Tennant Creek	57.79	190	eP	P	09 07 59.8	+0.2
	4.6nm,0.9s						
WB2	Warramunga Arr	57.80	190	eP	P	09 07 59.6	0.0
	6.5nm,1.1s						
WR1	Warramunga Arr	57.80	190	eP	P	09 07 59.5	-0.2
WRA	Warramunga Arr	57.80	190	eP	P	09 07 57.3	-2.4
WRA	Warramunga Arr	57.80	190	P	P	09 07 59.5	-0.2
	1.9nm,0.8s,baz=11,slow=7.4,SNR=11						
ASAR	Alice Springs	61.52	190	eP	P	09 08 26.4	+1.2
ASAR	Alice Springs	61.52	190	P	P	09 08 24.9	-0.3
	0.5nm,0.8s,baz=4.3,slow=7.2,SNR=5.0						

ISK ***04*** *09:10:23.7, 37.°89N×27.°26E, h1km, ML3.4/49*

DDA ***04*** *09:10:24.0, 37.°90N×27.°27E, h7km±3km, ML3.6*

THE ***04*** *09:10:24.5, 37.°87N×27.°28E, h3km±1km, ML3.2/4, Error ellipse: s-maj=1.9km s-min=0.5km az=211.0*

ATH ***04*** *09:10:25.1, 37.°89N×27.°22E, h12km±2km, ML3.3/5, Error ellipse: s-maj=3.8km s-min=1.3km az=262.0*

ISC 04 09:10:24.9±0.9, 37.°89N±0.°02×27.°26E±0.°02, h11km±7km, n88, σ0§98/106, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.19	187	PG	Pg	09 10 28.5	-0.5
GCAM				SG	Sg	09 10 31.4	-0.3
GCAM	G?zelcaml?	0.19	187	IAML_P			
	comp=Z,208μm,0.2s						
GCAM				iP	Pg	09 10 29.2	+0.2
GCAM				iS	Sg	09 10 32.8	+1.1
SMG	Samos	0.38	242	P	Pg	09 10 31.8	-0.7
SMG				S	Sg	09 10 38.1	+0.6
SMG	Samos	0.38	242	P	Pg	09 10 32.0	-0.5
SMG				S	Sg	09 10 37.5	-0.1
SMG				AML	AML	09 10 42.8	
	comp=E,10534μm,0.2s						
SMG				AML	AML	09 10 43.2	
	comp=N,12375μm,0.3s						
AYDB	Zeytinkoy-Aydi	0.50	83	PG	Pg	09 10 34.3	-0.5
AYDB				SG	Sb	09 10 41.9	-1.3
DIDI	Didim-Aydin	0.51	182	PG	Pg	09 10 34.9	0.0
BLCB	Balcova	0.53	341	PG	Pg	09 10 34.4	-0.9
AYDN	Tasoluk	0.54	114	iP	Pb	09 10 35.9	-0.5
AYDN				iS	Sb	09 10 43.6	-0.5
ZEY	zmir	0.69	301	iP	Pg	09 10 38.3	-0.1
ZEY				iS	Sg	09 10 47.5	-0.1
URLA	Izmir	0.71	312	PG	Pg	09 10 38.2	-0.5
URLA	Izmir	0.71	312	IAML_P			
	comp=Z,15μm,0.2s						
URLA				iP	Pg	09 10 38.6	-0.1
URLA				iS	Sb	09 10 48.2	-0.8
YKAV	Yalikavak-Bodr	0.76	179	PG	Pg	09 10 39.5	-0.1
BODT	Bodrum	0.82	177	PG	Pg	09 10 40.8	0.0
BODT	Bodrum	0.82	177	P	Pg	09 10 39.9	-0.9
BODT				S	Sb	09 10 52.4	+0.1
BDRM	Kayabasi	0.83	170	IAML_P			
	comp=Z,19μm,0.3s						
BDRM				iP	Pg	09 10 41.0	0.0
CESE	eme	0.88	301	PG	Pg	09 10 41.6	-0.3
KRBN	Karaburun	0.90	322	PG	Pg	09 10 41.5	-0.8
FOCM	Foa	0.93	333	PG	Pg	09 10 41.9	-0.9
GOMA	Golmarmara-Man	0.97	32	PG	Pg	09 10 42.3	-1.3
CHOS	Chios island	1.07	298	PG	Pg	09 10 44.8	-0.8
CHOS	Chios island	1.07	298	P	Pg	09 10 44.9	-0.7
CHOS				S	Sn	09 11 00.8	-0.1
CHOS	Chios island	1.07	298	P	Pg	09 10 45.3	-0.3
CHOS				S	Sb	09 10 59.6	0.0
CHOS				AML	AML	09 11 03.5	
	comp=E,2766μm,0.3s						
CHOS				AML	AML	09 11 06.6	
	comp=N,1728μm,0.5s						
AKS	Akhisar	1.08	23	PG	Pb	09 10 45.6	-0.1
AKHS	Akhisar	1.08	23	IAML_P			
	comp=Z,11μm,0.2s						
AKHS				iP	Pg	09 10 45.1	-0.7
ZEDA	zmir-Bergama	1.09	352	iP	Pg	09 10 45.2	-0.7
ZEDA				iS	Sn	09 11 00.8	-0.4
DATC	Datca-Mugla	1.17	164	PN	Pb	09 10 47.1	0.0
DAT	Datca	1.18	168	PN	Pg	09 10 46.6	-1.1
DAT	Datca	1.18	168	iP	Pg	09 10 46.9	-0.8
KULA	Kula-Manisa	1.27	60	PN	Pg	09 10 49.0	-0.3
KULA	Kula-Manisa	1.27	60	P	Pn	09 10 47.8	-0.9
KULA				S	Sb	09 11 05.3	0.0
BBRN	Bozburun-Marma	1.36	152	PN	Pg	09 10 50.9	-0.2
TAVA	DENIZLI_Tavas	1.38	107	IAML_P			
	comp=Z,2μm,0.2s						
TAVA				iP	Pb	09 10 50.6	-0.1
MRSB	Marmaris-Mugla	1.39	147	PN	Pb	09 10 50.6	-0.2
DENT	Denizli	1.41	95	PN	Pg	09 10 51.4	-0.6
TURN	Turunc	1.47	133	PN	Pn	09 10 50.7	-0.6
TURN	Turunc	1.47	133	IAML_P			
	comp=Z,2μm,0.2s						
TURN				iP	Pn	09 10 49.1	-2.2
AMGA	Amorgos Island	1.51	226	P	Pn	09 10 51.0	-0.9
AMGA	Amorgos Island	1.51	226	P	Pb	09 10 52.7	-0.3
AMGA				S	Sg	09 11 14.5	+0.8
AMGA				AML	AML	09 11 18.0	
	comp=N,1893μm,0.5s						
AMGA				AML	AML	09 11 18.4	
	comp=E,2014μm,0.4s						
DALY	Dalyan (Mula)	1.54	133	PN	Pb	09 10 53.1	-0.3
DALY	Dalyan (Mula)	1.54	133	iP	Pn	09 10 52.5	+0.3
PRK	Paraskevi	1.56	331	P	Pn	09 10 52.5	-0.1
PRK				S	Sb	09 11 13.5	-0.2
PRK	Paraskevi	1.56	331	P	Pg	09 10 54.3	-0.6
PRK				S	Sg	09 11 15.0	-0.3
PRK				AML	AML	09 11 17.5	
	comp=N,2390μm,0.7s						
PRK				AML	AML	09 11 19.9	
	comp=E,2875μm,0.6s						
APE	Apeiranthos	1.60	240	PN	Pb	09 10 54.2	-0.3
APE	Apeiranthos	1.60	240	P	Pn	09 10 52.0	-1.2
APE	Apeiranthos	1.60	240	P	Pb	09 10 54.3	-0.2
SIGR	SIGRI	1.72	321	PN	Pb	09 10 56.2	-0.4
SIGR	SIGRI	1.72	321	P	Pn	09 10 53.8	-1.0
SIGR				S	Sn	09 11 17.6	+0.8
SIGR	SIGRI	1.72	321	P	Pb	09 10 56.8	+0.3
SIGR				S	Sb	09 11 18.7	+0.5
SIGR				AML	AML	09 11 21.5	
	comp=N,684μm,0.4s						
SIGR				AML	AML	09 11 27.6	
	comp=E,688μm,0.6s						
ARG	Arkhangelos	1.80	157	PN	Pb	09 10 57.5	-0.4
ARG	Arkhangelos	1.80	157	P	Pb	09 10 58.3	+0.4
SMAA	Simav-Kutahya	1.81	48	PN	Pb	09 10 57.6	-0.6
BALB	Balikesir	1.82	15	PN	Pb	09 10 57.3	-0.9
KHL	Karahalli	1.84	76	PN	Pb	09 10 57.6	-1.0
SHAP	Saphane-Kutahy	1.91	53	PN	Pn	09 10 58.5	+1.0
FETY	Fethiye	1.92	130	PN	Pb	09 10 58.8	-1.1
ANAF	Anafi Island	1.93	218	P	Pn	09 10 56.7	-1.0
ANAF	Anafi Island	1.93	218	P	Pb	09 11 00.1	-0.1
GEDZ	Gediz	2.05	55	PN	Pn	09 11 00.4	+1.1
EZN	Ezine	2.07	340	PN	Pn	09 11 00.7	+1.1
EZN	Ezine	2.07	340	P	Pn	09 10 59.3	-0.3
SANT	Santorini	2.09	224	PN	Pn	09 11 01.2	+1.3
BOZC	Bozcaada	2.17	335	PN	Pn	09 11 02.1	+1.1
GONE	Gonen-Balikesi	2.18	9	PN	Pn	09 11 02.5	+1.3
SERI	Serifos	2.32	253	P	Pb	09 11 05.9	-0.9
TVSB	Tavsanli	2.33	47	PN	Pn	09 11 04.5	+1.3
KARP	Karpathos	2.33	182	PN	Pn	09 11 04.8	+1.5
KARP	Karpathos	2.33	182	P	Pb	09 11 05.4	-1.7
ELL	Elmali	2.40	117	PN	Pn	09 11 05.4	+1.2
AKAS	Kas	2.50	131	PN	Pn	09 11 06.9	+1.3
EDC	Edincik	2.50	11	PN	Pn	09 11 06.9	+1.3
KRBG	Karabiga-Canak	2.50	1	PN	Pn	09 11 06.9	+1.3
ORLT	Orhaneli	2.51	30	PN	Pn	09 11 06.9	+1.3
LPK	Lapseki	2.52	351	PN	Pn	09 11 06.9	+1.2
KCTX	Karacabey (Bur	2.53	19	PN	Pn	09 11 07.0	+1.1
KSL	Kastellorizon	2.54	132	P	Pb	09 11 09.5	-1.0
ISP	Isparta	2.58	90	PN	Pn	09 11 08.3	+1.6
GELI	Tayfur-Gelibol	2.58	347	PN	Pn	09 11 08.3	+1.7
KORT	Korkueli	2.61	109	PN	Pn	09 11 08.7	+1.5
SHUT	Suhut-Afyon	2.68	75	PN	Pn	09 11 09.4	+1.4
RKY	Sarkoy-Tekirda	2.80	359	PN	Pn	09 11 11.6	+1.9
ERIK	Erikli-Kesan	2.84	348	PN	Pn	09 11 11.9	+1.7
ZKR	Zakros	2.89	197	PN	Pn	09 11 12.5	+1.6
AOS	Alonnisos	2.95	297	PN	Pn	09 11 13.3	+1.7
ARMT	Armutlu	2.95	24	PN	Pn	09 11 13.4	+1.7
GEMT	Gemlik	2.96	30	PN	Pn	09 11 13.4	+1.6
AUBOZ	BOZOYUK	2.96	46	PN	Pn	09 11 13.9	+2.0
ENEZ	Enez	2.97	344	PN	Pn	09 11 13.7	+1.7
CAVI	Cavuskoy	3.06	40	PN	Pn	09 11 15.3	+2.0

IDC ***04*** *09:39:40.3±6.5, 15.°49S×174.°87W, h188km±59km, mb3.7/17, mb1 3.9/17, mb1mx3.7/35, mbtmp4.2/17, MS3.5/3, Ms1 3.5/3, ms1mx3.0/35, Error ellipse: s-maj=18.5km s-min=15.0km az=120.0*

ISCJB ***04*** *09:39:46.7±0.6, 15.°6S±0.°1×175.°0W±0.°1, h262km, mb3.8/17, Error ellipse: s-maj=21.7km s-min=13.1km az=33.6*

ISC 04 09:39:48.1±0.6, 15.°6S±0.°1×174.°9W±0.°2, h262km, n34, σ0§65/33, mb3.7/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.68	196	P	P	09 44 34.8	-1.4
	20nm,1.1s,baz=27,slow=9.0,SNR=2.3						
HNR	Honiara	25.29	281	LR	LR	09 54 08.7	
	comp=Z,126nm,20.3s,baz=114,slow=34						
RPZ	Rata Peaks	30.50	200	LR	LR	09 57 56.8	
	comp=Z,135nm,19.4s,baz=276,slow=36						
STKA	Stephens Creek	42.70	240	P	P	09 47 20.2	+0.5
	0.7nm,0.4s,baz=98,slow=9.6,SNR=3.7						
WRA	Warramunga Arr	48.39	257	P	P	09 48 03.7	-0.7
	1.7nm,0.6s,baz=91,slow=7.5,SNR=56						
WRA				PcP	PcP	09 49 26.5	-0.1
	0.6nm,0.5s,baz=89,slow=3.7,SNR=3.6						
ASAR	Alice Springs	48.68	252	P	P	09 48 06.3	-0.2
	15nm,0.7s,baz=87,slow=8.4,SNR=166						
ASAR				PcP	PcP	09 49 27.1	-0.4
	0.9nm,0.7s,baz=90,slow=5.2,SNR=2.8						
VNDA	Vanda	63.07	186	P	P	09 49 48.5	+1.3
	1.4nm,0.9s,baz=6.0,slow=6.4,SNR=8.3						
MJAR	Matsushiro Arr	68.14	321	P	P	09 50 19.8	-0.4
	1.2nm,0.7s,baz=158,slow=5.3,SNR=3.8						
JNU	Nakatsue	70.86	314	P	P	09 50 36.5	-0.4
	7.4nm,0.6s,baz=120,slow=3.2,SNR=8.1						
PETK	Petropavlovsk-	72.36	343	P	P	09 50 44.9	-0.4
	7.1nm,0.7s,baz=103,slow=9.2,SNR=16						
YBH	Yreka Blue Hor	74.61	38	P	P	09 50 59.6	+0.8
	2.5nm,0.8s,baz=91,slow=4.1,SNR=6.7						
KSRS	Korea Array	75.27	316	P	P	09 51 03.3	+0.8
	0.8nm,0.6s,baz=126,slow=6.7,SNR=5.9						
NVAR	Mina Array Bea	75.43	43	P	P	09 51 04.2	+0.5
	0.5nm,0.6s,baz=224,slow=10.0,SNR=4.4						
SEY	Seymchan	82.31	346	P	P	09 51 40.0	-0.1
	3.5nm,0.6s,baz=149,slow=5.7,SNR=12						
ILAR	Eielson Array	82.90	12	P	P	09 51 42.5	-0.6
	1.1nm,0.5s,baz=223,slow=5.6,SNR=26						
PDAR	Pinedale Array	83.36	42	P	P	09 51 46.2	-0.1
	0.8nm,0.7s,baz=230,slow=2.8,SNR=9.6						
INK	Inuvik	88.78	14	P	P	09 52 10.4	-1.3
	0.3nm,0.4s,baz=224,slow=4.3,SNR=3.6						
YKA	Yellowknife Ar	90.83	24	P	P	09 52 21.4	0.0
	0.2nm,0.7s,baz=243,slow=4.7,SNR=6.6						
CMAR	Chiang Mai Arr	91.29	289	P	P	09 52 25.6	+1.0
	0.6nm,0.3s,baz=106,slow=3.1,SNR=5.1						
TIXI	Tiksi	94.78	345	LR	LR	10 31 36.8	
	comp=Z,14nm,20.2s,baz=206,slow=33						
ARCES	ARCESS Array B	124.57	351	PKP	PKPdf	09 58 15.4	-0.3
	1.9nm,0.7s,baz=73,slow=1.6,SNR=14						
FINES	FINESS Array B	131.78	347	PKP	PKPdf	09 58 30.2	+0.7
	0.5nm,0.4s,baz=357,slow=3.8,SNR=5.5						
MORC	Moravsky Berou	144.41	346	ePKP	PKPab	09 58 52.2	+0.1
VRAC	Vranov	145.06	347	ePKP	PKPbc	09 58 54.4	+0.2
VRAC	Vranov	145.06	347	PKP	PKPbc	09 58 54.3	+0.1
	3.2nm,0.6s,baz=54,slow=2.5,SNR=7.1						
JAVC	Velka Javorina	145.24	345	ePKP	PKPab	09 58 56.0	+0.8
KRUC	Moravsky	145.34	347	ePKP	PKPbc	09 58 55.2	+0.1
BRTR	Keskin Array B	145.36	320	PKPbc	PKPab	09 58 56.0	-0.1
	4.0nm,0.6s,baz=89,slow=3.0,SNR=22						
MLR	Muntele Rosu	145.40	334	PKPbc	PKPdf	09 58 55.3	+0.3
	4.2nm,0.7s,baz=168,slow=2.7,SNR=14						
GERES	GERESS Array B	146.07	350	PKPbc	PKPbc	09 58 57.5	+0.1
	1.7nm,0.6s,baz=21,slow=4.2,SNR=16						
MMAI	Mount Meron Ar	147.54	308	PKPbc	PKiKP	09 59 03.1	-0.8
	4.2nm,0.8s,baz=316,slow=3.5,SNR=7.6						
DAVOX	Davos/Dischmat	148.63	354	PKPbc	PKPbc	09 59 04.8	+0.3
	4.6nm,0.9s,baz=333,slow=5.3,SNR=7.9						
ESDC	Sonseca Array	154.71	17	PKPab	PKPab	09 59 34.7	+0.3
	0.2nm,0.4s,baz=325,slow=4.6,SNR=3.1						
TORD	Torodi Ar. Bea	175.92	126	PKPab	PKPab	10 01 07.3	-1.0
	0.3nm,0.6s,baz=238,slow=5.1,SNR=2.7						

BJI ***04*** *09:44:43.7±0.0, 18.°47S×177.°40W, h567km, mb5.2/46, mB5.0/27*

ISCJB ***04*** *09:44:44.3±0.5, 18.°66S±0.°03×177.°93W±0.°02, h566km±6km, mb5.0/364, Error ellipse: s-maj=4.7km s-min=3.0km az=155.9*

MOS ***04*** *09:44:45.9±1.4, 18.°25S×178.°04W, h563km, mb5.0/19, Error ellipse: s-maj=10.9km s-min=9.1km az=103.9*

IDC ***04*** *09:44:46.6±0.9, 18.°61S×177.°87W, h576km±10km, mb4.4/35, mb1 4.5/37,

ALRZ	Allen Road	20.46	193	P	P	09 48 43.1 -1.3
SNGZ	Shannon Statio	20.48	191	P	P	09 48 42.5 -2.0
MTHZ	Maungataniwha	20.64	192	P	P	09 48 45.6 -0.4
KNZ	Kokohu	20.66	190	P	P	09 48 45.6 -0.5
RAHZ	Arahi	20.66	191	P	P	09 48 46.2 0.0
MHGZ	Mahia Peninsul	20.75	189	P	P	09 48 47.3 +0.3
HIZ	Hauiti	20.78	196	eP	P	09 48 47.3 +0.1
	comp=Z,80nm,1.1s					
BKZ	Black Stump Fm	21.01	192	eP	P	09 48 48.1 -1.3
	comp=Z,18nm,0.6s					
SNZO	South Karori	23.46	194	eP	P	09 49 10.2 -0.9
	comp=Z,66nm,0.8s					
THZ	Tophouse	24.34	197	eP	P	09 49 18.6 -0.5
	comp=Z,35nm,0.9s					
KHZ	Kahutara	24.79	195	eP	P	09 49 21.8 -1.1
	comp=Z,45nm,1.0s					
LTZ	Lake Taylor	25.46	197	eP	P	09 49 27.6 -1.3
	comp=Z,41nm,0.8s					
OXZ	Oxford	26.03	197	eP	P	09 49 32.8 -1.1
	comp=Z,43nm,0.7s					
MQZ	McQueen's Vall	26.22	196	eP	P	09 49 34.6 -0.9
	comp=Z,93nm,1.5s					
RPZ	Rata Peaks	26.67	198	eP	P	09 49 39.6 +0.1
RPZ	Rata Peaks	26.67	198	P	P	09 49 40.7 +1.2
	comp=Z,15nm,0.5s,baz=60,slow=1.9,SNR=22					
PAE	Paea	26.86	92	eP	P	09 49 41.7 +0.3
	comp=Z,17nm,1.0s					
PPT2	Papeete2	26.87	92	eP	P	09 49 42.3 +0.7
	comp=Z,139nm,1.1s					
PPT	Papeete	26.87	92	eP	P	09 49 42.7 +1.1
PPT				eP	P	09 49 42.7 +1.1
PPT	Papeete	26.87	92	P	P	09 49 42.7 +1.1
	comp=Z,61nm,0.4s,baz=57,slow=3.4,SNR=28					
TBI	Tubuai	26.87	105	eP	P	09 49 42.5 +1.0
	comp=Z,181nm,0.8s					
PPTF	Pamatai, Papee	26.88	92	eP	P	09 49 42.5 +0.7
	comp=Z,284nm,1.2s					
FOZ	Fox Glacier	26.89	200	eP	P	09 49 41.0 -0.4
	comp=Z,120nm,0.9s					
TIAR	Tiarei	27.09	92	eP	P	09 49 44.0 +0.5
	comp=Z,50nm,0.9s					
TVO	Taravao	27.15	93	eP	P	09 49 44.5 +0.4
	comp=Z,15nm,0.7s					
LBZ	Lake Benmore	27.54	199	eP	P	09 49 47.6 +0.5
	comp=Z,24nm,0.7s					
ODZ	Otahua Downs	28.00	198	eP	P	09 49 50.9 -0.2
	comp=Z,44nm,1.4s					
MEH	Mehetia	28.26	93	eP	P	09 49 54.0 +0.2
	comp=Z,31nm,1.1s					
WKZ	Wanaka	28.30	200	eP	P	09 49 53.1 -0.7
	comp=Z,121nm,1.4s					
XMAS	Kiritimati	28.74	46	eP	P	09 49 57.5 -0.4
	comp=Z,91nm,1.0s					
PMOR	Pomariorio Ree	28.87	87	eP	P	09 49 59.5 +0.5
	comp=Z,164nm,1.0s					
MLZ	Mavora Lakes	29.08	201	eP	P	09 50 01.6 +1.2
	comp=Z,82nm,0.7s					
VAH	Vaihoa	29.08	88	eP	P	09 50 00.8 0.0
	comp=Z,122nm,1.0s					
DCZ	Deep Cove	29.49	202	eP	P	09 50 04.3 +0.3
	comp=Z,43nm,0.8s					
EIDS	Eidsvold	29.53	251	eP	P	09 50 05.1 +0.4
	comp=Z,9.5nm,0.9s					
EIDS	Eidsvold	29.53	251	P	P	09 50 05.4 +0.7
	baz=30,SNR=6.2					
WHZ	Wether Hill Ro	29.60	200	eP	P	09 50 06.0 +1.1
	comp=Z,109nm,0.7s					
ARMA	Armidale	30.05	241	eP	P	09 50 09.1 -0.1
	comp=Z,9.8nm,0.6s					
ARMA	Armidale	30.05	241	P	P	09 50 11.0 +1.8
	baz=30,SNR=16					
RMQ	Roma	31.75	250	P	P	09 50 25.3 +1.7
	baz=32,SNR=5.7					
CTA	Charters Tower	33.87	262	P	P	09 50 42.5 +0.8
	comp=Z,16nm,0.4s,baz=93,slow=12					
CTA				PcP	PcP	09 53 03.7 0.0
	comp=Z,5.7nm,0.8s,baz=46,slow=3.7,SNR=4.0					
CTAO	Charters Tower	33.87	262	eP	P	09 50 42.5 +0.8
	comp=Z,23nm,0.7s					
CTAO	Charters Tower	33.87	262	eP	P	09 50 42.5 +0.8
CTAO				pmax	pmax	
	comp=Z,23nm,0.7s					
PMG	Port Moresby	35.13	280	eP	P	09 50 53.6 +1.5
	comp=Z,50nm,0.8s					
PMG	Port Moresby	35.13	280	ceP	P	09 50 53.7 +1.5
PMG				pmax	pmax	
	comp=Z,231nm,0.9s					
PMG	Port Moresby	35.13	280	P	P	09 50 52.9 +0.7
	comp=Z,46nm,1.0s,baz=81,slow=6.4,SNR=7.8					
CMSA	Cobar Meteorol	35.26	242	P	P	09 50 54.4 +1.3
	baz=35,SNR=33					
COEN	Coen	37.66	271	eP	P	09 51 14.4 +1.3
	comp=Z,24nm,0.5s					
COEN	Coen	37.66	271	P	P	09 51 14.4 +1.3
	baz=38,SNR=42					
MANU	Manus Island	37.88	292	eP	P	09 51 15.3 +0.4
	comp=Z,106nm,1.3s					
STKA	Stephens Creek	38.75	242	eP	P	09 51 23.1 +1.5
	comp=Z,4.6nm,0.9s					
STKA				eScP	ScP	09 56 14.0 +0.9
STKA	Stephens Creek	38.75	242	P	P	09 51 23.2 +1.5
	baz=39,SNR=22					
STKA	Stephens Creek	38.75	242	eP	P	09 51 23.1 +1.5
STKA				pmax	pmax	
	comp=Z,5.0nm,0.9s					
STKA	Stephens Creek	38.75	242	P	P	09 51 23.2 +1.5
	comp=Z,17nm,0.8s,baz=86,slow=8.8,SNR=26					
STKA				PcP	PcP	09 53 18.9 +0.4
	comp=Z,8.9nm,0.8s,baz=45,slow=2.4,SNR=7.1					
STKA				ScP	ScP	09 56 14.0 +0.9
	comp=Z,1.7nm,0.8s,baz=64,slow=1.5,SNR=4.5					
QIS	Mount Isa	40.06	260	P	P	09 51 32.5 +0.2
	baz=40,SNR=5.7					
WAKE	Wake Island	40.67	337	eP	P	09 51 37.1 +0.1
	comp=Z,676nm,1.6s					
HTT	Hallett	41.24	240	P	P	09 51 42.7 +1.1
	baz=41,SNR=8.5					
BBOO	Buckleboo	43.52	242	eP	P	09 52 00.1 +0.7
	comp=Z,44nm,1.1s					
BBOO	Buckleboo	43.52	242	P	P	09 52 00.1 +0.7
	baz=44,SNR=16					
KHLU	Kahalu`u	43.69	31	eP	P	09 52 00.8 -0.1
	comp=Z,142nm,1.0s					
HMH	Humu'ula Sheep	43.90	31	eP	P	09 52 02.4 -0.4
	comp=Z,107nm,0.8s					
GENI	Genyem	44.10	286	P	P	09 52 05.0 +0.9
	comp=Z,116nm,0.7s					
KEKH	Kekaha	44.12	25	eP	P	09 52 04.0 0.0
	comp=Z,89nm,0.8s					
HPAH	Hawaii Prepara	44.16	31	eP	P	09 52 04.8 +0.3
	comp=Z,483nm,1.6s					
HON	Honolulu	44.23	27	eP	P	09 52 05.2 +0.3
	comp=Z,210nm,0.9s					
HON	Honolulu	44.23	27	eP	P	09 52 05.2 +0.3
HON				pmax	pmax	
	comp=Z,210nm,0.9s					
KIP	Kipapa	44.32	27	eP	P	09 52 06.2 +0.7
	comp=Z,111nm,0.9s					
KIP	Kipapa	44.32	27	ceP	P	09 52 05.7 +0.2
KIP				pmax	pmax	
	comp=Z,237nm,1.7s					
OPA	Opana	44.55	27	eP	P	09 52 07.6 +0.3
	comp=Z,72nm,0.9s					
OPA	Opana	44.55	27	eP	P	09 52 07.6 +0.3
OPA				pmax	pmax	
	comp=Z,72nm,0.9s					
KHLH	Kahului Airpor	44.56	29	eP	P	09 52 07.3 -0.1
	comp=Z,107nm,0.8s					
WB2	Warramunga Arr	45.03	260	eP	P	09 52 11.1 -0.1
	comp=Z,90nm,1.4s					
WRAB	Tennant Creek	45.03	260	eP	P	09 52 11.3 +0.1
	comp=Z,86nm,1.4s					
WRAB	Tennant Creek	45.03	260	ceP	P	09 52 11.0 -0.2
WRAB				pmax	pmax	
	comp=Z,79nm,1.7s					
WR1	Warramunga Arr	45.04	260	eP	P	09 52 11.3 0.0
WR1				ePcP	PcP	09 53 40.0 +0.1
WR1				eScP	ScP	09 56 38.8 +0.2
WR1				eS	S	09 58 05.7 -3.6
WRA	Warramunga Arr	45.04	260	eP	P	09 52 11.0 -0.2
WRA				eS	S	09 58 07.1 -2.3
WRA	Warramunga Arr	45.04	260	eP	P	09 52 11.0 -0.2
WRA				eS	S	09 58 07.1 -2.3
WRA	Warramunga Arr	45.04	260	P	P	09 52 11.3 0.0
	comp=Z,16nm,0.4s,baz=97,slow=7.5,SNR=194					
WRA				PcP	PcP	09 53 40.0 +0.1
	comp=Z,16nm,0.8s,baz=91,slow=3.8,SNR=13					
WRA				ScP	ScP	09 56 38.8 +0.2
	comp=Z,2.3nm,0.9s,baz=90,slow=4.8,SNR=4.0					
WRA				S	S	09 58 05.7 -3.6
	comp=Z,6.9nm,1.0s,baz=95,slow=13,SNR=11					
AS31	Alice Springs	45.12	255	eP	P	09 52 12.6 +0.8
	comp=Z,13nm,0.6s					
AS31				ePcP	PcP	09 53 40.2 +0.1
AS31				eScP	ScP	09 56 39.9 +0.9
AS31				eS	S	09 58 08.2 -2.2
ASAR	Alice Springs	45.12	255	eP	P	09 52 11.5 -0.3
ASAR	Alice Springs	45.12	255	P	P	09 52 12.3 +0.5
	comp=Z,48nm,0.7s,baz=86,slow=8.6,SNR=265					
ASAR				PcP	PcP	09 53 40.2 +0.1
	comp=Z,14nm,0.6s,baz=100,slow=4.1,SNR=18					
ASAR				ScP	ScP	09 56 39.9 +0.9
	comp=Z,2.0nm,0.9s,baz=100,slow=4.0,SNR=4.2					
ASAR				S	S	09 58 08.7 -1.8
	comp=Z,7.6nm,0.9s,baz=88,slow=15,SNR=21					
ASPA	Alice Springs	45.12	255	P	P	09 52 12.2 +0.4
	baz=45					
KDU	Kakadu	48.09	270	P	P	09 52 34.8 +0.5
	baz=48,SNR=43					
GUMO	Guam	48.77	308	eP	P	09 52 37.4 -1.8
	comp=Z,183nm,0.8s					
MTN	Manton Dam	49.33	269	eP	P	09 52 43.5 +0.1
	comp=Z,58nm,0.8s					
MTN	Manton Dam	49.33	269	P	P	09 52 43.4 -0.1
	baz=49,SNR=30					
WRKA	Warakurna	50.14	253	P	P	09 52 49.5 +0.1
	baz=50,SNR=77					
FORT	Forrest	50.18	245	eP	P	09 52 49.1 -0.4
	comp=Z,38nm,0.8s					
FORT	Forrest	50.18	245	P	P	09 52 49.5 0.0
	baz=50,SNR=8.7					
KNRA	Kununurra	50.96	265	P	P	09 52 55.6 +0.2
	baz=51,SNR=28					
SWI	Sorong	52.95	284	P	P	09 53 09.9 +0.2
	comp=Z,212nm,0.8s					
FITZ	Fitzroy Crossi	53.45	261	eP	P	09 53 12.9 -0.2
	comp=Z,14nm,0.6s					
FITZ	Fitzroy Crossi	53.45	261	P	P	09 53 13.9 +0.8
	baz=54,SNR=17					
PALU	Palau	53.66	294	P	P	09 53 15.5 +0.9
	baz=54,SNR=6.4					
KMBL	Kambalda	55.48	244	P	P	09 53 26.9 -0.3
	baz=56,SNR=6.0					
SOEI	Soe	56.62	270	eP	P	09 53 36.6 +1.1
	comp=Z,195nm,0.9s					
SOEI	Soe	56.62	270	P	P	09 53 36.1 +0.7
	comp=Z,227nm,0.9s,comp=Z,2μm					
TNTI	Ternate	57.17	283	eP	P	09 53 39.3 +0.3
	comp=Z,126nm,1.0s					
TNTI	Ternate	57.17	283	P	P	09 53 39.8 +0.8
SANI	Sanana	57.41	280	P	P	09 53 39.9 -0.8
	comp=Z,109nm,0.9s,comp=Z,1μm					
PSA00	Pilbara Seismi	58.25	256	eP	P	09 53 45.1 -1.1
MBWA	Marble Bar	58.42	256	eP	P	09 53 47.2 -0.2
	comp=Z,71nm,1.4s					
MEEK	Meekatharra	58.68	250	P	P	09 53 48.9 -0.3
	baz=59,SNR=13					
MMRI	Maumere	58.86	271	eP	P	09 53 48.9 -1.6
	comp=Z,83nm,0.9s					
MMRI	Maumere	58.86	271	P	P	09 53 49.5 -0.9
	comp=Z,90nm,0.8s,comp=Z,3μm					
KLBR	Kellerberrin	58.98	244	P	P	09 53 51.2 +0.1
	baz=59,SNR=32					
NWAO	Narrogin (SRO)	59.34	242	P	P	09 53 53.9 +0.4
	baz=59,SNR=4.8					
EDFI	Ende, Flores	59.34	271	P	P	09 53 53.6 -0.2
	comp=Z,67nm,0.8s,comp=Z,930nm					
SBA	Scott Base	59.70	184	eP	P	09 53 57.1 +2.2
	comp=Z,27nm,1.1s					
VNDA	Vanda	59.74	185	eP	P	09 53 56.8 +1.6
	comp=Z,22nm,1.5s					
VNDA				eScP	ScP	09 57 41.8 +0.5
VNDA	Vanda	59.74	185	P	P	09 53 57.0 +1.8
	comp=Z,8.8nm,1.1s,baz=359,slow=8.0,SNR=51					
VNDA				ScP	ScP	09 57 41.8 +0.5
	comp=Z,2.8nm,0.9s,baz=358,slow=4.8,SNR=6.5					
BLDU	Ballidu	59.95	245	P	P	09 53 57.4 -0.1
	baz=60,SNR=17					
MUN	Mundaring	60.27	243	P	P	09 54 00.1 +0.5
	baz=60,SNR=7.6					
MORW	Morawa	60.68	247	eP	P	09 54 01.9 -0.5
	comp=Z,15nm,0.8s					
MORW	Morawa	60.68	247	P	P	09 54 02.3 -0.1
	baz=61,SNR=6.0					
LUWI	Luwuk	60.77	280	eP	P	09 54 01.8 -1.4
	comp=Z,112nm,1.0s					
LUWI	Luwuk	60.77	280	P	P	09 54 03.9 +0.8
	comp=Z,126nm,1.1s					
BKSI	Bulukumba	61.84	274	P	P	09 54 09.6 -0.6
	comp=Z,13nm,1.3s					
APSI	Ampana	61.87	279	P	P	09 54 11.6 +1.3
MRSI	Marisa	62.09	281	P	P	09 54 12.6 +0.9
	comp=Z,32nm,0.8s					
BNSI	Bone	62.15	275	P	P	09 54 12.2 +0.1
	comp=Z,57nm,1.1s					
KAPI	Kappang	62.29	274	eP	P	09 54 11.0 -2.1
	comp=Z,64nm,1.6s					
SPSI	Sidrap Palu	62.61	275	P	P	09 54 14.6 -0.5
	comp=Z,24nm,0.8s,comp=Z,422nm					
TTSI	Tana Toraja	62.86	276	P	P	09 54 16.4 -0.3
	comp=Z,18nm,1.2s					
PLAI	Plampang	63.03	269	P	P	09 54 17.3 -0.5
	comp=Z,153nm,0.9s,comp=Z,1μm					
GIRL	Giralia	63.20	254	P	P	09 54 20.0 +1.2
	baz=63,SNR=5.9					
JHJ2	Mitsune	65.47	322	eP	P	09 54 33.2 +0.3
	comp=Z,382nm,0.9s					
JHJ	Hachijo jima 2	65.50	322	P	P	09 54 33.4 +0.4
	comp=Z,172nm,0.4s,baz=144,slow=4.6,SNR=16					
SRBI	Singaraja	65.67	269	P	P	09 54 35.3 +0.8
	comp=Z,60nm,1.0s,comp=Z,798nm					
JAGI	Jajag, Banyuwa	66.57	269	eP	P	09 54 39.1 -1.0
	comp=Z,108nm,0.8s					
JAGI	Jajag, Banyuwa	66.57	269	P	P	09 54 38.8 -1.3
	comp=Z,146nm,0.8s					
TGY	Tagaytay City	68.55	294	P	P	09 54 51.5 -0.7
	comp=Z,153nm,0.3s,baz=77,slow=7.2,SNR=3.8					
INU	Inuyama	68.69	322	eP	P	09 54 52.9 +0.3
	comp=Z,51nm,1.3s					
MJAR	Matsushiro Arr	68.84	323	P	P	09 54 53.4 0.0
	comp=Z,37nm,0.7s,baz=167,slow=6.2,SNR=148					
MJAR				PcP	PcP	09 55 13.4 +0.2
	comp=Z,6.7nm,0.7s,baz=179,slow=4.1,SNR=5.1					
MAJO	Matsushiro	68.84	323	eP	P	09 54 53.4 0.0
	comp=Z,50nm,0.7s					
MAJO				ePcP	PcP	09 55 13.4 +0.2
MAJO	Matsushiro	68.84	323	diP	P	09 54 53.4 0.0
MAJO				pmax	pmax	
	comp=Z,54nm,0.8s					
MAT	Matsushiro	68.84	323	P	P	09 54 53.4 0.0
MJB9	Matsu-Tunnel	68.84	323	eP	P	09 54 53.3 -0.1
	comp=Z,51nm,0.7s					
PWJI	Pagerwojo	68.92	268	P	P	09 54 54.6 +0.2
	comp=Z,128nm,0.8s					
JOW	Kunigami	69.12	309	eP	P	09 54 54.4 -0.9
	comp=Z,42nm,1.1s					
JOW	Kunigami	69.12	309	P	P	09 54 56.4 +1.1
	comp=Z,4.7nm,0.8s,baz=132,slow=13,SNR=14					
KKM	Kota Kinabalu	69.45	284	eP	P	09 54 56.8 -0.9
	comp=Z,57nm,0.6s					
PCJI	Pacitan	69.47	268	P	P	09 54 58.2 +0.5
	comp=Z,449nm,0.7s					
WOJI	Wonogiri, Jawa	69.81	268	P	P	09 54 58.2 -1.5
	comp=Z,107nm,0.9s					
UGM	Wanagama	70.17	268	eP	P	09 55 01.9 0.0
	comp=Z,153nm,0.6s					
UGM	Wanagama	70.17	268	P	P	09 55 01.9 0.0
	comp=Z,237nm,1.1s					
KIWB	Kanaga Island	70.22	0	eP	P	09 55 01.3 0.0
ADK	Adak	70.25	1	eP	P	09 55 01.0 -0.4
	comp=Z,99nm,0.7s					
GSTR	Great Sitkin T	70.47	1	eP	P	09 55 02.1 -0.7
ATKA	Atka Island	70.64	2	eP	P	09 55 02.9 -0.8
	comp=Z,177nm,1.0s					
JNU	Nakatsue	71.06	316	eP	P	09 55 07.1 +0.3
	comp=Z,41nm,1.0s					
JNU	Nakatsue	71.06	316	P	P	09 55 07.0 +0.3
	comp=Z,15nm,0.5s,baz=39,slow=1.0,SNR=26					
QSPA	South Pole Qui	71.39	180	eP	P	09 55 09.2 +0.9
	comp=Z,18nm,0.6s					
NIKH	Nikolski High	71.76	6	eP	P	09 55 09.9 -0.4
	comp=Z,189nm,1.1s					
YOJ	Yonaguni jima	71.82	305	eP	P	09 55 10.5 -0.7
	comp=Z,115nm,0.7s					
KPJI	Karang Pucung	71.84	268	P	P	09 55 12.3 +0.6
	comp=Z,70nm,0.9s					
SBUM	Sibu	71.86	279	eP	P	09 55 12.1 +0.4
	comp=Z,13nm,0.9s					
SBUM	Sibu	71.86	279	P	P	09 55 13.0 +1.2
ASAJ	Asahikawa	72.20	331	P	P	09 55 14.6 +1.6
	comp=Z,23nm,0.7s,baz=223,slow=4.5,SNR=26					
TWG	Pinlang	72.53	302	eP	P	09 55 14.2 -1.2
	comp=Z,192nm,0.7s					
YULB	Yu-li	72.64	303	eP	P	09 55 14.6 -1.4
	comp=Z,33nm,0.6s					
NACB	Ninganchiao	72.79	304	eP	P	09 55 16.6 -0.2
	comp=Z,102nm,1.1s					
CISI	Cisompet, Garu	72.84	268	eP	P	09 55 16.7 -0.8
	comp=Z,70nm,0.8s					
CISI	Cisompet, Garu	72.84	268	P	P	09 55 16.4 -1.1
	comp=Z,102nm,0.9s					
UNV	Unalaska Valle	72.87	7	eP	P	09 55 15.9 -0.7
	comp=Z,49nm,0.7s					
SSLB	Suanglung	73.10	303	eP	P	09 55 17.9 -0.8
	comp=Z,70nm,0.4s					
TPUB	Ta-pu	73.12	302	eP	P	09 55 18.2 -0.6
	comp=Z,162nm,0.8s					
YHNB	Yeheng	73.21	304	eP	P	09 55 19.6 +0.3
	comp=Z,47nm,0.8s					
KSM	Kuching	73.32	277	eP	P	09 55 20.3 +0.2
	comp=Z,96nm,1.0s					
KSM	Kuching	73.32	277	P	P	09 55 21.0 +0.8
CBJI	Citeko	74.09	268	P	P	09 55 24.3 -0.2
	comp=Z,116nm,0.7s					
SKJI	Sukabumi	74.19	268	P	P	09 55 23.8 -1.3
	comp=Z,254nm,0.8s					
PET	Petropavlovsk	74.24	345	eP	P	09 55 24.1 -0.3
PET				pmax	pmax	
	comp=Z,48nm,0.8s					
YSS	Yuzh-Sakhalins	74.33	333	eP	P	09 55 25.1 0.0
	comp=Z,80nm,1.0s					
YSS	Yuzh-Sakhalins	74.33	333⇓	eP	P	09 55 26.1 +1.0
YSS				pmax	pmax	
	comp=Z,60nm,0.9s					
PEA0B	Petropavlovsk-	74.55	345	eP	P	09 55 26.0 -0.2
	comp=Z,229nm,1.4s					
PETK	Petropavlovsk-	74.55	345	eP	P	09 55 26.0 -0.2
PETK	Petropavlovsk-	74.55	345	P	P	09 55 26.4 +0.2
	comp=Z,56nm,0.6s,baz=106,slow=7.2,SNR=153					
PEA1	Petropavlovsk-	74.55	345	eP	P	09 55 26.4 +0.2
CGJI	Cibinong	75.13	268	P	P	09 55 28.8 -1.5
	comp=Z,223nm,0.6s,comp=Z,2μm					
TJN	Taejon	75.34	317	ceP	P	09 55 32.0 +1.0
KSRS	Korea Array	75.63	318	P	P	09 55 33.5 +1.0
	comp=Z,9.6nm,0.7s,baz=134,slow=6.3,SNR=59					
KS15	Wonju Array Si	75.64	318	eP	P	09 55 32.6 0.0
	comp=Z,13nm,0.8s					
KSAR	Wonju Array Be	75.64	318	eP	P	09 55 33.5 +0.8
TEY	Ternei	75.74	329⇓	eP	P	09 55 29.4 -3.6
TEY				pmax	pmax	
	comp=Z,10.0nm,1.8s					
SPIA	Saint Paul Isl	75.82	4	eP	P	09 55 33.0 -0.1
	comp=Z,170nm,1.0s					
SCZ2	Santa Cruz Isl	76.23	47	P	P	09 55 36.7 +0.7
	baz=236					
SBC	Santa Barbara	76.42	46	P	P	09 55 38.4 +1.4
	baz=236					
CHGN	Chignik	76.45	11	eP	P	09 55 36.4 -0.2
	comp=Z,118nm,1.2s					
MCCM	Marconi Confer	76.49	42	eP	P	09 55 37.8 +0.5
	comp=Z,120nm,1.4s					
SAO	San Andreas Ge	76.59	43	eP	P	09 55 38.8 +0.8
	comp=Z,40nm,0.9s					
PKM	Mcpherson Peak	76.61	46	P	P	09 55 39.6 +1.3
	baz=236					
BLG	Laguna Peak, P	76.69	47	P	P	09 55 39.1 +0.6
	baz=236					
SMMC	Simmler	76.72	45	P	P	09 55 40.1 +1.4
	baz=236					
CIS	Catalina Islan	76.75	48	P	P	09 55 39.3 +0.4
	baz=237					
PAGB	Antelope Grade	76.79	45	eP	P	09 55 40.0 +1.0
	comp=Z,21nm,0.8s					
VLA	Vladivostok	76.88	325	diP	P	09 55 40.3 +1.0
VLA				pmax	pmax	
	comp=Z,33nm,0.8s					
HOPS	Hopland Field	76.88	41	eP	P	09 55 40.3 +0.8
	comp=Z,39nm,1.0s					
KCPM	Cahto Peak	76.99	40	eP	P	09 55 40.9 +0.7
	comp=Z,36nm,0.9s					
FMP	Fort Macarthur	77.00	48	P	P	09 55 41.2 +1.0
	baz=237					
OSI	Osito Audit: C	77.20	47	P	P	09 55 42.2 +0.9
	baz=236					
KMRM	Mail Ridge	77.25	40	eP	P	09 55 42.8 +1.3
	comp=Z,97nm,0.9s					
DECC	Green Verdugo	77.27	47	P	P	09 55 42.0 +0.3
	baz=237					
PASC	Pasadena Art C	77.33	47	eP	P	09 55 42.9 +0.9
	comp=Z,31nm,0.8s					
109C	Camp Elliot, M	77.40	49	P	P	09 55 43.4 +1.0
	baz=238,SNR=5.2					
CPE	Camp Elliot	77.40	49	eP	P	09 55 43.5 +1.1
	comp=Z,39nm,1.1s					
ARVC	Arvin	77.41	46	P	P	09 55 43.3 +0.9
	baz=236,SNR=8.0					
TYV	Tymovskoe	77.44	336	eP	P	09 55 42.6 +0.5
TYV				pmax	pmax	
	comp=Z,42nm,0.8s					
MWC	Mount Wilson	77.45	47	eP	P	09 55 42.2 -0.7
	comp=Z,42nm,0.8s					
SII	Sitkinak Islan	77.53	13	eP	P	09 55 42.7 +0.1
	comp=Z,109nm,0.7s					
USRK	Ussuriysk Ar.	77.54	326	P	P	09 55 44.0 +1.1
USRK	Ussuriysk Ar.	77.54	326	P	P	09 55 44.0 +1.1
	comp=Z,14nm,0.7s,baz=163,slow=3.6,SNR=34					
BAR	Barrett	77.60	49	eP	P	09 55 44.3 +0.8
	comp=Z,19nm,1.1s					
VES	Vestal, Richgr	77.63	45	P	P	09 55 44.2 +0.7
	baz=236,SNR=25					
KHMM	Horse Mountain	77.63	39	eP	P	09 55 43.5 -0.2
	comp=Z,82nm,1.4s					
VOG	Valley Oaks Go	77.70	45	P	P	09 55 44.5 +0.6
	baz=236					
MURC	Murrieta	77.72	48	P	P	09 55 45.2 +1.1
	baz=238,SNR=12					
BFSC	Mount Baldy Ra	77.73	47	P	P	09 55 45.2 +0.8
	baz=237,SNR=14					
O02D	Mt. Diablo Mer	77.78	40	P	P	09 55 46.1 +1.7
	baz=233,SNR=15					
EDW2	Edwards Air Fo	77.85	47	P	P	09 55 46.0 +1.1
	baz=237,SNR=24					
MONP2	Monument Peak	77.89	49	P	P	09 55 46.7 +1.4
	baz=238,SNR=35					
ISA	Isabella, Lake	77.95	46	eP	P	09 55 46.2 +0.8
	comp=Z,42nm,0.9s					
ISA	Isabella, Lake	77.95	46	P	P	09 55 46.7 +1.3

baz=238
MDPB Devils Postpil 78.64 44 eP P 09 55 50.2 +0.9
comp=Z,44nm,0.9s
CWC Cottonwood Cre 78.64 45 P P 09 55 50.1 +0.9
baz=237
OMMB Old Mammoth Mi 78.68 44 eP P 09 55 50.3 +0.7
comp=Z,34nm,1.2s
DLV T Lat 78.74 287 eP P 09 55 51.1 +0.9
comp=Z,44nm,1.2s
YBH Yreka Blue Hor 78.77 39 eP P 09 55 50.5 +0.9
comp=Z,32nm,0.9s
YBH Yreka Blue Hor 78.77 39 P P 09 55 50.9 +1.3
comp=Z,23nm,0.6s,baz=202,slow=1.7,SNR=95
BELC Belle Mtn. Jos 78.77 48 P P 09 55 51.2 +1.2
baz=238,SNR=28
MLAC Mammoth, Mammo 78.80 44 P P 09 55 51.2 +1.2
baz=236,SNR=6.0
K02D Willamette Mer 78.80 38 P P 09 55 51.0 +1.2
baz=232,SNR=5.6
MPMC Manual Prospec 78.83 46 P P 09 55 51.4 +1.1
baz=237,SNR=19
NJ2 Nanjing 78.84 309 ⇓P P 09 55 51.3 +1.2
NJ2 pmax pmax
comp=Z,46nm,1.0s
TIN Tinemaha, Big 78.88 45 P P 09 55 51.7 +1.3
baz=236,SNR=8.7
DAC Darwin (Calif) 78.88 46 eP P 09 55 52.9 +2.4
comp=Z,11nm,1.0s
GSC Goldstone, Bar 78.89 47 eP P 09 55 51.0 +0.6
comp=Z,26nm,1.3s
GSC Goldstone, Bar 78.89 47 P P 09 55 51.4 +0.9
baz=238,SNR=14
WAKR Walker 78.90 43 eP P 09 55 51.7 +1.1
comp=Z,52nm,0.9s
J01E Myrtle Point 78.94 37 P P 09 55 52.3 +2.0
baz=231
HEC Hector,Ludlow 78.97 47 P P 09 55 51.8 +0.9
baz=238,SNR=15
BC3 Big Chuckawall 78.98 49 P P 09 55 52.3 +1.3
baz=239,SNR=15
KDAK Kodiak Island 79.00 13 eP P 09 55 50.1 -0.2
comp=Z,64nm,0.9s
KDAK Kodiak Island 79.00 13 ceP P 09 55 50.4 +0.1
KDAK Kodiak Island 79.00 13 P P 09 55 50.7 +0.3
comp=Z,41nm,0.8s,baz=218,slow=3.5,SNR=23
BEKR Beckworth 79.09 41 eP P 09 55 52.4 +0.9
comp=Z,53nm,1.3s
MDJ Mudanjiang 79.12 325 P P 09 55 52.5 +1.2
MDJ PcP PcP 09 55 57.8 +0.5
MDJ pP pP 09 57 52.2 +0.8
MDJ sP sP 09 58 50.8 +1.4
MDJ PP PP 09 59 03.7 +2.2
MDJ S S 10 05 07.7 +3.1
MDJ ScS ScS 10 05 24.2 +2.3
MDJ pmax pmax
comp=Z,120nm,0.9s
MDJ pmax pmax
comp=Z,330nm,5.6s
MDJ Mudanjiang 79.12 325 eP P 09 55 52.4 +1.1
comp=Z,88nm,0.9s
GLA Glamis 79.12 50 eP P 09 55 53.0 +1.3
comp=Z,38nm,0.9s
GLA Glamis 79.12 50 P P 09 55 53.4 +1.8
baz=239,SNR=16
PNTR Pine Nut 79.13 42 eP P 09 55 52.9 +1.1
comp=Z,97nm,0.8s
HUMO Hull Mountain 79.16 38 eP P 09 55 53.0 +1.4
comp=Z,56nm,1.3s
VCNR Virginia City 79.21 42 eP P 09 55 53.2 +1.0
comp=Z,34nm,0.9s
YERR Yerington 79.30 43 eP P 09 55 53.5 +0.9
comp=Z,59nm,0.7s
L04D Klamath Falls 79.30 39 P P 09 55 53.6 +1.0
baz=233,SNR=14
M04C Macdoel 79.32 39 P P 09 55 53.8 +1.2
baz=233,SNR=14
GMRC Granite Mounta 79.42 48 P P 09 55 54.4 +1.0
baz=238,SNR=9.5
GRAC Grapevine Rang 79.42 45 P P 09 55 54.7 +1.5
baz=237,SNR=21
IRM Iron Mountain 79.46 49 P P 09 55 54.9 +1.5
baz=239,SNR=24
FURC Furnace Creek, 79.48 46 P P 09 55 54.6 +1.2
baz=237,SNR=18
MYKOM Kota Tinggi 79.51 275 eP P 09 55 54.3 +0.2
comp=Z,32nm,0.9s
MYKOM Kota Tinggi 79.51 275 P P 09 55 55.0 +0.9
RYN Ryan 79.56 43 eP P 09 55 54.9 +0.9
comp=Z,27nm,1.0s
TUQ Turquoise Moun 79.58 47 P P 09 55 55.1 +1.0
baz=238,SNR=10
SHOC Shoshone, Teco 79.58 47 P P 09 55 54.8 +0.9
baz=238,SNR=11
NV01 Mina Array Sit 79.59 43 eP P 09 55 55.3 +1.1
NVAR Mina Array Bea 79.59 43 eP P 09 55 54.9 +0.7
NVAR Mina Array Bea 79.59 43 P P 09 55 55.3 +1.1
comp=Z,27nm,0.8s,baz=224,slow=9.1,SNR=191
I03D Drain, OR 79.60 37 P P 09 55 55.0 +1.2
baz=232,SNR=7.1
PAHR Pah Rah Range 79.61 42 eP P 09 55 55.2 +1.0
comp=Z,40nm,1.0s
NV11 Mina Array Sit 79.69 44 eP P 09 55 55.6 +0.9
comp=Z,3.4nm,1.1s
Y12C Blythe 79.69 49 eP P 09 55 55.7 +1.1
comp=Z,27nm,0.8s
Y12C Blythe 79.69 49 P P 09 55 56.0 +1.4
baz=239,SNR=15
113A Mohawk Valley, 79.75 50 eP P 09 55 55.7 +0.8
comp=Z,22nm,0.9s
K04D Chiloquin, OR 79.87 38 P P 09 55 56.6 +1.1
baz=233
LDFC Landfair 79.96 48 eP P 09 55 57.5 +1.4
comp=Z,71nm,0.9s
NKL Nikolayevsk 79.99 336 eP P 09 55 55.2 -0.4
NKL pmax pmax
comp=Z,33nm,0.9s
J04D Umpqua Nationa 80.04 38 P P 09 55 57.7 +1.3
baz=233,SNR=6.1
214A Organ Pipe Nat 80.05 51 P P 09 55 58.0 +1.5
baz=241
KVN Kaiserville 80.07 43 eP P 09 55 57.3 +0.6
comp=Z,43nm,1.0s
HSIG 80.07 55 eP P 09 55 57.7 +1.0
comp=Z,29nm,1.3s
NEE2 Needles Airpor 80.14 48 P P 09 55 58.2 +1.3
baz=239
I04A Tendick Farm, 80.20 37 P P 09 55 57.6 +0.6
baz=232,SNR=7.6
PDMCI Parker Dam,Lak 80.25 49 P P 09 55 58.8 +1.4
baz=240,SNR=8.5
MOD Modoc Plateau 80.31 40 eP P 09 55 58.6 +0.8
comp=Z,48nm,0.8s
K05A Summer Lake 80.44 39 eP P 09 55 59.6 +1.1
comp=Z,70nm,0.9s
H04D Lebanon 80.46 37 P P 09 55 59.5 +1.1
baz=232
J05D Fort Rock, OR 80.57 38 P P 09 56 00.7 +1.6
baz=233
G03D McMinnville, O 80.59 36 P P 09 55 59.9 +0.9
baz=232
SHPR Sheep Range 80.66 47 eP P 09 56 01.0 +1.2
comp=Z,20nm,1.1s
W13A Hualapai Mount 80.83 48 eP P 09 56 01.7 +0.9
comp=Z,32nm,1.4s
H04A Detroit Lake 80.87 37 eP P 09 56 00.8 +0.3
comp=Z,155nm,1.6s
Y14A Wickenburg 80.88 50 eP P 09 56 01.5 +0.7
comp=Z,28nm,1.1s
CN2 Changchun 80.95 322 eP P 09 56 00.9 0.0
CN2 pmax pmax
comp=Z,50nm,1.0s
KLR Kul'dur 81.04 329 diP P 09 56 01.8 +0.6
KLR pmax pmax
comp=Z,33nm,1.5s
KLR Kul'dur 81.04 329 P P 09 56 02.0 +0.8
comp=Z,17nm,1.1s,baz=98,slow=4.1,SNR=36
PINE Pine Mountain 81.05 38 eP P 09 56 03.0 +1.4
comp=Z,92nm,0.9s
I05D Terrebonne, OR 81.14 37 P P 09 56 03.2 +1.2
baz=233
BRLK Bradley Lake 81.18 13 eP P 09 56 01.7 0.0
comp=Z,74nm,0.9s
E03A Lebam 81.26 35 eP P 09 56 03.4 +1.0
comp=Z,88nm,0.9s
F04D Rainier, OR 81.27 35 P P 09 56 03.9 +1.4
baz=232
R11A Troy Canyon, C 81.34 45 eP P 09 56 03.8 +0.5
comp=Z,19nm,1.0s
R11A Troy Canyon, C 81.34 45 P P 09 56 03.9 +0.6
baz=238
BMN Battle Mountai 81.39 42 eP P 09 56 04.5 +1.1
comp=Z,69nm,1.1s
RSO Redoubt South 81.42 12 eP P 09 56 02.2 -1.0
SVW2 Sparrevohn 81.48 11 eP P 09 56 03.2 0.0
comp=Z,19nm,0.9s
WHN Wuhan 81.49 306 ⇑P P 09 56 05.3 +1.4
WHN pmax pmax
comp=Z,58nm,0.8s
DIB Dawson Inlet, 81.57 26 eP P 09 56 03.7 -0.1
comp=Z,29nm,0.9s
WVOR Wild Horse Val 81.63 40 eP P 09 56 05.6 +1.0
comp=Z,57nm,0.9s
NLWA Neilton Lookou 81.63 34 eP P 09 56 04.7 +0.4
comp=Z,54nm,1.0s
G05D Wamic, OR 81.70 37 P P 09 56 05.6 +0.8
baz=233
TUC Tucson 81.73 52 eP P 09 56 07.0 +1.7
comp=Z,46nm,1.0s
TUC Tucson 81.73 52 P P 09 56 07.3 +2.1
baz=242
E04D Cinebar 81.81 35 P P 09 56 06.5 +1.3
baz=232
SEW Seward 81.81 14 eP P 09 56 04.7 -0.1
comp=Z,58nm,1.0s
F05D White Salmon 82.01 36 P P 09 56 06.9 +0.6
baz=233
I07A Izee 82.06 38 eP P 09 56 07.8 +1.2
comp=Z,53nm,0.8s
MA2 Magadan 82.07 344 eP P 09 56 05.6 -0.6
comp=Z,35nm,1.0s
MA2 Magadan 82.07 344 ceP P 09 56 05.6 -0.6
MA2 pmax pmax
comp=Z,63nm,1.7s
MA2 Magadan 82.07 344 P P 09 56 05.5 -0.7
comp=Z,27nm,0.8s,baz=123,slow=5.1,SNR=21
D04E Lakebay 82.08 34 P P 09 56 08.1 +1.6
baz=232
G06A Carlson Farm, 82.08 37 eP P 09 56 07.1 +0.4
comp=Z,31nm,0.9s
D03D Eldon 82.13 34 P P 09 56 07.8 +1.0
baz=231
TIA Tai'an 82.16 312 P P 09 56 07.4 +0.1
TIA pmax pmax
comp=Z,16nm,1.0s
X16A Lo Mia Camp, P 82.25 50 eP P 09 56 09.7 +1.7
comp=Z,39nm,1.0s
J08A Circle Bar Ran 82.25 39 eP P 09 56 08.7 +1.0
comp=Z,87nm,1.2s
GAMB Gambell 82.31 3 eP P 09 56 07.5 +0.2
comp=Z,94nm,1.3s
LON Longmire 82.34 35 eP P 09 56 07.6 -0.3
comp=Z,14nm,0.8s
319A Douglas 82.43 53 eP P 09 56 10.9 +2.1
comp=Z,79nm,1.0s
D05A Emumclaw 82.51 35 eP P 09 56 10.2 +1.5
comp=Z,149nm,1.3s
U15A North Rim 82.62 48 eP P 09 56 11.6 +1.7
comp=Z,69nm,0.9s
RC01 Rabbit Creek A 82.62 13 eP P 09 56 08.3 -0.7
comp=Z,58nm,0.9s
PGC Sidney 82.64 33 eP P 09 56 09.9 +0.6
comp=Z,53nm,0.8s
BBB Bella Bella 82.72 28 eP P 09 56 09.5 -0.1
comp=Z,26nm,0.7s
BBB Bella Bella 82.72 28 P P 09 56 10.2 +0.6
comp=Z,24nm,0.7s,baz=273,slow=3.4,SNR=20
WUAZ Wupatki 82.82 49 eP P 09 56 11.8 +1.0
comp=Z,39nm,1.1s
WUAZ Wupatki 82.82 49 P P 09 56 11.9 +1.1
baz=241
ELK Elko 82.83 43 eP P 09 56 11.4 +0.5
comp=Z,31nm,0.9s
F07A Phinny Hill Vi 82.87 37 eP P 09 56 11.5 +0.9
comp=Z,27nm,0.8s
IPM Ipoh 83.06 277 eP P 09 56 12.4 +0.2
comp=Z,78nm,0.9s
IPM Ipoh 83.06 277 P P 09 56 13.0 +0.7
G08A Pilot Rock 83.07 37 eP P 09 56 12.5 +0.8
comp=Z,88nm,1.4s
A04D Lummi Island 83.07 33 P P 09 56 12.2 +0.8
baz=232
B05A Bryant 83.11 34 P P 09 56 12.6 +1.0
baz=232
KNK Knik Glacier 83.20 14 eP P 09 56 11.4 -0.4
comp=Z,70nm,0.8s
PMR Palmer 83.21 13 eP P 09 56 11.6 -0.2
comp=Z,122nm,1.4s
LTY Liberty 83.27 35 eP P 09 56 12.9 +0.3
comp=Z,32nm,1.1s
E07A Sunnyside 83.30 36 eP P 09 56 13.9 +1.2
comp=Z,39nm,0.8s
MAW Mawson 83.33 200 eP P 09 56 12.1 -0.5
comp=Z,0.7nm,1.0s
MAW Mawson 83.33 200 P P 09 56 13.6 +1.0
comp=Z,1.2nm,0.5s,baz=165,slow=6.4,SNR=4.7
HPIG 83.35 59 eP P 09 56 14.6 +1.0
comp=Z,16nm,0.8s
HAWA Hanford 83.39 36 eP P 09 56 13.9 +0.8
comp=Z,34nm,0.8s
X18A Snowflake 83.39 50 eP P 09 56 15.0 +1.3
comp=Z,20nm,0.8s
GHO Glory Hole Cre 83.41 13 eP P 09 56 12.8 -0.2
comp=Z,146nm,0.7s
C06D Leavenworth 83.54 35 P P 09 56 14.1 +0.2
baz=233
SML Sawmill 83.58 14 eP P 09 56 13.7 -0.1
comp=Z,117nm,1.6s
DIV Divide 83.58 15 eP P 09 56 13.6 -0.2
comp=Z,90nm,0.8s
B06A Marblemount 83.59 34 eP P 09 56 14.0 0.0
comp=Z,28nm,0.9s
KULM Kulim 83.68 278 eP P 09 56 15.8 +0.5
comp=Z,30nm,0.9s
KULM Kulim 83.68 278 P P 09 56 16.0 +0.7
E08A Dider Farm, El 83.71 36 eP P 09 56 15.7 +1.0
comp=Z,29nm,0.7s
PPLA Purkeypile 83.76 12 eP P 09 56 13.1 -1.7
comp=Z,14nm,0.7s
BMO Blue Mountains 83.79 39 eP P 09 56 15.5 +0.2
comp=Z,16nm,0.8s
W18A Petrified Fore 83.81 50 P P 09 56 16.4 +0.6
baz=242
SCM Sheep Creek Mo 83.83 14 eP P 09 56 15.1 0.0
comp=Z,124nm,0.7s
KLU Klutina 83.86 15 eP P 09 56 14.4 -0.8
comp=Z,92nm,1.5s
WRAK Wrangell Islan 83.98 23 eP P 09 56 16.4 +0.7
comp=Z,28nm,0.8s
121A Cookes Peak, D 84.09 53 P P 09 56 18.8 +1.6
baz=244
D08A Wollman Farm, 84.11 36 eP P 09 56 17.4 +0.7
comp=Z,29nm,0.8s
DUG Dugway, Tooele 84.14 44 eP P 09 56 17.0 -0.2
comp=Z,6.1nm,1.1s
DUG Dugway, Tooele 84.14 44 P P 09 56 17.8 +0.6
baz=240
PANO Nakornpanom 84.14 290 P P 09 56 18.5 +1.0
comp=Z,1.3nm,1.1s
E09A Wood Farm, Sta 84.24 37 eP P 09 56 17.9 +0.5
comp=Z,60nm,1.4s
ZAIG Zacatecas 84.25 64 eP P 09 56 19.7 +1.4
comp=Z,10nm,1.0s
CAST Castle Rocks 84.26 11 eP P 09 56 15.7 -1.4
comp=Z,84nm,0.8s
SKLT Songkhla 84.33 279 P P 09 56 20.3 +1.8
BALM Baldy 84.38 16 eP P 09 56 17.9 0.0
comp=Z,58nm,0.6s
F10A Beach Ranch, E 84.46 38 eP P 09 56 18.8 +0.2
comp=Z,64nm,0.9s
PSI Prapat 84.49 275 eP P 09 56 19.0 -0.5
comp=Z,42nm,0.9s
CTGM Chitina Glacie 84.60 17 eP P 09 56 19.2 +0.2
comp=Z,59nm,0.9s
JIS Juneau Island 84.63 21 eP P 09 56 19.5 +0.6
comp=Z,44nm,1.2s
SEY Seymchan 84.63 347 ceP P 09 56 17.8 -1.1
SEY Seymchan 84.63 347 P P 09 56 18.9 0.0
comp=Z,57nm,0.8s,baz=146,slow=5.5,SNR=110
SKNT Sakolnakorn 84.64 290 P P 09 56 20.7 +0.7
comp=Z,62nm,1.0s,comp=Z,2μm
B08A Colville Reser 84.64 35 eP P 09 56 19.4 +0.1
comp=Z,39nm,0.9s
LLLB Lillooet 84.66 32 eP P 09 56 19.9 +0.5
comp=Z,31nm,0.9s
PLID Pearl Lake 84.69 39 eP P 09 56 19.4 -0.5
comp=Z,18nm,0.7s
BJT Baijiatuau 84.70 315 eP P 09 56 19.6 -0.2
comp=Z,19nm,0.8s
BESE Bessie Mountai 84.70 21 eP P 09 56 19.4 0.0
comp=Z,49nm,1.1s
BJI Beijing 84.70 315 ⇓iP P 09 56 20.5 +0.8
BJI pmax pmax
comp=Z,16nm,1.3s
HARP HAARP 84.83 15 eP P 09 56 19.9 -0.1
comp=Z,84nm,0.9s
HLID Hailey 84.84 41 eP P 09 56 21.8 +1.2
comp=Z,24nm,0.8s
HLID Hailey 84.84 41 P P 09 56 21.8 +1.2
baz=238
RND Reindeer 84.88 13 eP P 09 56 19.8 -0.4
comp=Z,114nm,0.8s
C09A Chrisman Ranch 84.90 36 eP P 09 56 20.9 +0.4
comp=Z,28nm,0.8s
BPAW Bear Paw Mtn. 85.08 11 eP P 09 56 19.7 -1.4
comp=Z,40nm,1.6s
ENH Enshi 85.15 304 eP P 09 56 22.9 +0.6
comp=Z,24nm,0.8s
MCK McKinley 85.16 12 eP P 09 56 21.1 -0.4
comp=Z,135nm,1.2s
PAX Paxson 85.25 14 eP P 09 56 21.2 -0.8
comp=Z,17nm,0.9s
GSI Gunungsitoli 85.29 273 eP P 09 56 22.6 -0.6
comp=Z,58nm,0.9s
GSI Gunungsitoli 85.29 273 P P 09 56 24.7 +1.5
comp=Z,76nm,1.0s
LAZ Ladron 85.40 52 eP P 09 56 24.9 +1.4
Y22D IRIS PASSCAL I 85.42 52 eP P 09 56 23.8 +0.3
comp=Z,20nm,0.7s
Y22D IRIS PASSCAL I 85.42 52 P P 09 56 25.1 +1.5
baz=244
LENM Lemitar 85.42 52 eP P 09 56 24.1 +0.5
TRTT Trang 85.42 280 P P 09 56 25.5 +1.7
BWN Browne 85.44 12 eP P 09 56 22.3 -0.5
comp=Z,156nm,1.2s
KHON Khomkaen 85.45 289 P P 09 56 25.4 +1.5
comp=Z,71μm,0.8s
MNTX Cornudas Mount 85.56 55 eP P 09 56 25.0 +0.8
comp=Z,30nm,1.1s
MNTX Cornudas Mount 85.56 55 P P 09 56 25.3 +1.2
baz=245
HYT Haines Junctio 85.59 19 eP P 09 56 24.0 +0.2
comp=Z,37nm,1.0s
MENT Mentasta 85.63 15 eP P 09 56 23.8 0.0
comp=Z,91nm,1.6s
PV05 Paradox Valley 85.64 48 eP P 09 56 25.6 +1.0
comp=Z,18nm,0.7s
HWUT Hardware Ranch 85.66 44 eP P 09 56 24.7 +0.1
comp=Z,4.5nm,0.8s
BNM Barren Site 85.67 52 eP P 09 56 25.9 +1.0
MVCO Mesa Verde 85.67 49 eP P 09 56 23.8 -1.0
comp=Z,3.8nm,0.8s
LPM Los Pinos Moun 85.73 52 eP P 09 56 24.5 -0.6
NEW Newport 85.80 36 eP P 09 56 25.0 +0.1
comp=Z,13nm,0.8s
NEW Newport 85.80 36 P P 09 56 25.2 +0.2
baz=236
NEW Newport 85.80 36 P P 09 56 25.2 +0.2
comp=Z,10nm,0.7s,baz=233,slow=4.2,SNR=30
TLIG Tlapa 85.81 70 eP P 09 56 27.7 +1.9
comp=Z,8.8nm,0.9s
PV09 Paradox Valley 85.81 47 eP P 09 56 26.7 +1.1
PV10 Paradox Valley 85.82 47 eP P 09 56 25.7 +0.1
comp=Z,22nm,0.8s
PV19 Morning Glory 85.83 47 eP P 09 56 25.9 +0.4
comp=Z,15nm,0.9s
PV14 Lion Creek, Pa 85.83 47 eP P 09 56 26.5 +0.9
comp=Z,21nm,0.8s
PV17 East Wray Mesa 85.83 47 eP P 09 56 26.4 +0.8
comp=Z,11nm,0.6s
PV20 West Nyswonger 85.86 47 eP P 09 56 25.9 +0.3
comp=Z,16nm,0.8s
PV13 Radium Mtn., P 85.87 48 eP P 09 56 25.7 0.0
comp=Z,9.1nm,0.9s
PV23 Carpenter Ridg 85.88 47 eP P 09 56 26.3 +0.5
comp=Z,24nm,0.7s
PV16 Nyswonger Mesa 85.88 47 eP P 09 56 26.0 +0.3
comp=Z,11nm,1.0s
PV03 Paradox Valley 85.90 47 eP P 09 56 26.3 +0.4
comp=Z,7.3nm,1.0s
PV11 David Mesa, Pa 85.90 47 eP P 09 56 26.4 +0.6
comp=Z,11nm,0.7s
PV04 Paradox Valley 85.92 47 eP P 09 56 26.6 +0.7
comp=Z,18nm,0.7s
LTX Lajitas 85.94 57 eP P 09 56 27.8 +1.7
LTX ePKKPbc PKKPbc 10 14 23.1 0.0
TX31 Lajitas Ar. Si 85.94 57 eP P 09 56 28.0 +1.9
comp=Z,44nm,0.9s
TXAR Lajitas Array 85.94 57 P P 09 56 27.8 +1.7
comp=Z,29nm,0.8s,baz=219,slow=6.3,SNR=368
TXAR PKKPbc PKKPbc 10 14 23.1 0.0
comp=Z,0.3nm,1.0s,baz=64,slow=2.1,SNR=3.7
PV21 Cone Mtn., Par 85.95 47 eP P 09 56 26.6 +0.5
comp=Z,18nm,0.7s
PV02 Paradox Valley 85.95 48 eP P 09 56 26.0 -0.2
comp=Z,12nm,0.8s
PV12 Saucer Basin, 85.96 47 eP P 09 56 26.8 +0.7
comp=Z,15nm,0.8s
MLY Manley 85.97 11 eP P 09 56 24.2 -1.2
comp=Z,56nm,1.4s
WRH Wood River Hil 85.99 12 eP P 09 56 24.9 -0.5
comp=Z,85nm,1.0s
PV01 Paradox Valley 86.04 48 eP P 09 56 26.9 +0.4
comp=Z,14nm,0.9s
CHAI Chaiyaphum 86.05 288 P P 09 56 27.5 +0.8
RIDG Independent Ri 86.05 14 eP P 09 56 26.0 +0.2
comp=Z,51nm,1.2s
ZEA Zeya 86.11 331 eP P 09 56 26.0 -0.2
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,78nm,1.2s
PV07 Paradox Valley 86.12 47 eP P 09 56 27.6 +0.7
comp=Z,7.8nm,0.8s
TASM ASL Pad, Albuq 86.14 51 P P 09 56 27.8 +0.8
baz=244
TASM ASL Pad, Albuq 86.14 51 P P 09 56 27.8 +0.8
baz=244
ANMO Albuquerque 86.14 51 eP P 09 56 27.6 +0.5
comp=Z,21nm,1.0s
ANMO Albuquerque 86.14 51 P P 09 56 28.0 +0.9
baz=244
ANMO Albuquerque 86.14 51 P P 09 56 27.9 +0.9
comp=Z,19nm,1.0s,baz=212,slow=6.0,SNR=44
DOT Dot Lake 86.16 14 eP P 09 56 25.9 -0.3
comp=Z,33nm,1.0s
HDA Harding Lake 86.17 13 eP P 09 56 25.8 -0.4
comp=Z,40nm,0.6s
HDA Harding Lake 86.17 13 P P 09 56 25.5 -0.7
baz=209
TIY Taiyuan 86.18 312 eP P 09 56 28.1 +1.1
TIY pmax pmax
comp=Z,36nm,0.8s
CCB Clear Creek Bu 86.20 12 eP P 09 56 25.5 -0.8
comp=Z,118nm,1.2s
BCAR Beaver Creek A 86.22 16 eP P 09 56 26.8 +0.2
WHY Whitehorse 86.28 20 eP P 09 56 27.3 +0.4
comp=Z,54nm,1.4s
DLBC Dease Lake 86.31 23 eP P 09 56 27.4 +0.2
comp=Z,15nm,0.9s
DLBC Dease Lake 86.31 23 P P 09 56 27.6 +0.5
comp=Z,10nm,0.8s,baz=208,slow=5.4,SNR=16
IMAR Indian Mountai 86.33 10 eP P 09 56 26.6 -0.4
TCOL CIGO, UAF Yank 86.39 12 P P 09 56 26.5 -0.8
baz=208
MDM Murphy Dome 86.39 12 eP P 09 56 26.3 -1.0
comp=Z,68nm,1.0s
COLA College 86.39 12 eP P 09 56 26.4 -0.8
comp=Z,80nm,0.6s
COLA College 86.39 12 diP P 09 56 26.4 -0.8
COLA pmax pmax
comp=Z,60nm,0.7s
SCRK Sand Creek 86.45 14 eP P 09 56 26.9 -0.9
comp=Z,24nm,1.0s
MCMT McKenzie Canyo 86.46 40 eP P 09 56 29.3 +0.9
ILAR Eielson Array 86.50 13 P P 09 56 27.1 -0.8
comp=Z,14nm,0.4s,baz=218,slow=4.8,SNR=242
ILAR PP PP 09 59 58.9 -1.6
comp=Z,1.7nm,1.0s,baz=215,slow=8.5,SNR=4.8
ILB Eielson Array 86.50 13 eP P 09 56 27.0 -0.8
comp=Z,31nm,0.8s
ILB ePP PP 09 59 58.9 -1.6
GDL2 Guadalupe Moun 86.56 55 eP P 09 56 29.7 +0.7
POKR Poker Plat Res 86.69 12 P P 09 56 27.8 -0.9

baz=209
PKDT Phuket 86.70 279 P P 09 56 31.8 +1.9
MSO Missoula 86.84 38 *eP* **P 09 56 28.4 -1.5**
comp=Z,9.2nm,0.6s
MSO Missoula 86.84 38 P P 09 56 29.9 0.0
baz=238
DLMT Dillon 86.88 40 *eP* **P 09 56 31.1 +0.9**
comp=Z,35nm,0.8s
CLNB Carlsbad 86.96 55 *eP* **P 09 56 32.1 +1.3**
REDW Red Top Meadow 86.98 42 *eP* **P 09 56 31.2 +0.3**
comp=Z,47nm,1.1s
TPAW Teton Pass 86.98 42 *eP* **P 09 56 31.7 +0.8**
comp=Z,31nm,1.1s
FXWY Fox Creek 87.00 42 *eP* **P 09 56 31.6 +0.6**
comp=Z,18nm,1.0s
SNOW Snow King Moun 87.09 42 *eP* **P 09 56 32.6 +1.3**
comp=Z,45nm,1.0s
S22A 4UR Ranch, Cre 87.09 49 *eP* **P 09 56 32.8 +1.2**
comp=Z,21nm,0.9s
S22A 4UR Ranch, Cre 87.09 49 P P 09 56 32.8 +1.2
baz=244
XAN Xi'an 87.15 307 P P 09 56 32.8 +1.2
XAN pmax pmax
comp=Z,30nm,1.0s
XAN Xi'an 87.15 307 *eP* **P 09 56 32.7 +1.0**
comp=Z,54nm,0.9s
O20A White River Ci 87.18 46 *eP* **P 09 56 31.7 -0.1**
comp=Z,12nm,0.9s
O20A White River Ci 87.18 46 P P 09 56 32.4 +0.6
baz=243
IMW Indian Meadow 87.18 42 *eP* **P 09 56 32.8 +0.9**
comp=Z,42nm,0.9s
LRM Limekiln Ridge 87.20 40 *eP* **P 09 56 32.9 +1.0**
MOOW Moose Ponds 87.23 42 *eP* **P 09 56 32.6 +0.6**
comp=Z,11nm,0.9s
BILL Bilibino 87.24 354 *eP* **P 09 56 30.6 -0.5**
comp=Z,14nm,0.7s
BILL Bilibino 87.24 354 *i P* **P 09 56 30.9 -0.3**
BILL *e* 10 00 11.3
BILL pmax pmax
comp=Z,12nm,0.9s
LOHW Long Hollow 87.26 42 *eP* **P 09 56 32.6 +0.5**
comp=Z,81nm,1.6s
HIA Hailar 87.30 324 *i P* **P 09 56 32.2 +0.3**
HIA pmax pmax
comp=Z,39nm,1.5s
QLMT Earthquake Lak 87.33 41 *eP* **P 09 56 34.1 +1.6**
FLWY Flagg Ranch 87.42 42 *eP* **P 09 56 34.4 +1.4**
comp=Z,57nm,1.0s
PRP Porcupine Dome 87.44 13 *eP* **P 09 56 31.8 -0.6**
comp=Z,27nm,1.1s
BW06 Boulder Array 87.52 43 *eP* **P 09 56 33.9 +0.4**
comp=Z,26nm,1.0s
BW06 Boulder Array 87.52 43 P P 09 56 33.5 +0.1
baz=242
PD31 Pinedale Array 87.53 43 *eP* **P 09 56 33.5 0.0**
comp=Z,24nm,1.0s
PD31 *e*PP **PP 10 00 07.0 -2.4**
PD31 *e*PKKPbc **PKKPbc 10 14 19.0 -1.1**
PDAR Pinedale Array 87.53 43 *eP* **P 09 56 33.7 +0.3**
PDAR Pinedale Array 87.53 43 P P 09 56 33.9 +0.5
comp=Z,15nm,0.8s,baz=212,slow=2.9,SNR=135
PDAR PP **PP 10 00 07.0 -2.4**
comp=Z,0.6nm,0.9s,baz=224,slow=6.2,SNR=4.7
PDAR PKKPbc **PKKPbc 10 14 19.0 -1.1**
comp=Z,0.5nm,0.8s,baz=76,slow=6.3,SNR=4.5
BOZ Bozeman (W) 87.59 40 *eP* **P 09 56 34.5 +1.0**
comp=Z,40nm,1.0s
BOZ Bozeman (W) 87.59 40 P P 09 56 34.7 +1.1
baz=240
SMCO Snowmass 87.62 47 *eP* **P 09 56 34.2 0.0**
comp=Z,9.3nm,0.8s
H17A Grant Village 87.65 41 *eP* **P 09 56 33.6 -0.4**
comp=Z,35nm,0.9s
H17A Grant Village 87.65 41 P P 09 56 36.1 +2.0
baz=241
DAWY Dawson 87.66 16 *eP* **P 09 56 33.7 +0.4**
comp=Z,71nm,1.4s
LNIG Linares 87.68 63 *eP* **P 09 56 33.9 -0.4**
comp=Z,29nm,0.9s
EGAK Eagle 87.80 15 *eP* **P 09 56 33.8 -0.1**
comp=Z,38nm,0.8s
LKWY Lake 87.84 41 *eP* **P 09 56 36.6 +1.7**
comp=Z,35nm,0.9s
WALA Waterton Lakes 88.02 36 *eP* **P 09 56 35.7 +0.3**
comp=Z,15nm,0.8s
HRY Holter Researc 88.02 39 *eP* **P 09 56 36.3 +0.8**
SDCO Great Sand Dun 88.04 49 *eP* **P 09 56 36.2 +0.1**
comp=Z,8.0nm,0.8s
SDCO Great Sand Dun 88.04 49 P P 09 56 36.7 +0.6
baz=245
HHC Hu-ho-hao-te 88.19 314 *eP* **P 09 56 37.9 +1.5**
HHC S **S 10 06 36.4 +2.8**
HHC sS sS 10 10 17.1 +4.8
HHC pmax pmax
comp=Z,66nm,1.2s
HHC pmax pmax
comp=Z,200nm,7.0s
FYU Fort Yukon 88.40 12 *eP* **P 09 56 36.0 -0.6**
comp=Z,18nm,0.6s
MSTX Muleshoe 88.50 53 *eP* **P 09 56 37.9 -0.1**
comp=Z,46nm,0.9s
MSTX Muleshoe 88.50 53 P P 09 56 38.7 +0.7
baz=246
SYO Syowa Base 88.54 193⇑ *eP* **P 09 56 36.2 -1.2**
T25A Trinidad 88.57 50 *eP* **P 09 56 38.6 +0.2**
comp=Z,9.4nm,0.8s
T25A Trinidad 88.57 50 P P 09 56 39.4 +1.0
baz=245
RWWY Rawlins 88.58 45 *eP* **P 09 56 37.7 -0.7**
comp=Z,40nm,1.1s
KMI Kunming 88.66 297 P P 09 56 40.9 +1.8
KMI pmax pmax
comp=Z,29nm,1.1s
Q24A Divide 88.81 48 *eP* **P 09 56 38.6 -1.0**
comp=Z,14nm,1.1s
Q24A Divide 88.81 48 P P 09 56 40.1 +0.5
baz=245
RLMT Red Lodge 88.82 41 *eP* **P 09 56 38.9 -0.5**
comp=Z,31nm,0.9s
RLMT Red Lodge 88.82 41 P P 09 56 40.4 +1.1
baz=242
ISCO Idaho Springs 88.84 47 *eP* **P 09 56 40.5 +0.7**
comp=Z,9.2nm,1.4s
ISCO Idaho Springs 88.84 47 P P 09 56 40.5 +0.7
baz=244
GCMT Greycliff 88.89 41 *eP* **P 09 56 40.4 +0.8**
CMIG Matias Romero 88.95 72 P P 09 56 41.0 +0.7
comp=Z,6.3nm,0.9s,baz=232,slow=4.9,SNR=5.0
833A Chaparral WMA, 89.01 60 *eP* **P 09 56 40.4 +0.1**
comp=Z,19nm,0.9s
833A Chaparral WMA, 89.01 60 P P 09 56 41.4 +1.1
baz=248
N23A Red Feather La 89.09 46 *eP* **P 09 56 41.4 +0.6**
comp=Z,29nm,1.2s
N23A Red Feather La 89.09 46 P P 09 56 41.6 +0.8
baz=244
BMAR Burnt Mountain 89.28 12 *eP* **P 09 56 41.4 +0.6**
TOLK Toolik Lake Re 89.43 10 *eP* **P 09 56 41.5 +0.1**
comp=Z,21nm,0.9s
TOLK Toolik Lake Re 89.43 10 P P 09 56 41.6 +0.1
baz=207
K22A Casper 89.46 44 *eP* **P 09 56 42.9 +0.5**
comp=Z,21nm,0.9s
K22A Casper 89.46 44 P P 09 56 42.8 +0.5
baz=244
JCT Junction City 89.47 58 *eP* **P 09 56 42.0 -0.5**
comp=Z,12nm,0.8s
JCT Junction City 89.47 58 P P 09 56 43.0 +0.4
baz=248
PHWY Pilot Hill 89.59 46 *eP* **P 09 56 42.4 -0.8**
comp=Z,11nm,0.9s
CM31 Chiang Mai Arr 89.65 290 *eP* **P 09 56 45.1 +1.6**
comp=Z,38nm,1.0s
CMAR Chiang Mai Arr 89.65 290 *eP* **P 09 56 44.7 +1.2**
CMAR Chiang Mai Arr 89.65 290 P P 09 56 45.0 +1.4
comp=Z,22nm,0.9s,baz=114,slow=2.9,SNR=102
AMTX Amarillo 89.69 53 *eP* **P 09 56 42.8 -0.8**
comp=Z,24nm,0.9s
AMTX Amarillo 89.69 53 P P 09 56 43.9 +0.4
baz=247
CHTO Chiang Mai 89.77 290 *eP* **P 09 56 45.0 +0.9**
comp=Z,30nm,0.9s
SNAA Sanae 89.83 178 P P 09 56 43.3 -0.2
EGMT Eagleton 89.90 39 *eP* **P 09 56 44.5 +0.5**
comp=Z,22nm,1.3s
EGMT Eagleton 89.90 39 P P 09 56 44.6 +0.5
baz=242
CD2 Chengdu 89.94 303 P P 09 56 44.5 -0.2
CD2 pmax pmax
comp=Z,30nm,1.2s
VNA3 Neumayer Olymp 89.95 176 P P 09 56 44.3 +0.3
VNA2 Neumayer--Watz 90.40 177 P P 09 56 46.4 +0.4
baz=192,slow=4.4
ABTX Abilene, Hawle 90.40 56 *eP* **P 09 56 47.1 +0.4**
comp=Z,44nm,0.9s
ABTX Abilene, Hawle 90.40 56 P P 09 56 47.2 +0.4
baz=248
YAK Yakutsk 90.48 338 *eP* **P 09 56 45.2 -1.1**
YAK pmax pmax
comp=Z,158nm,0.9s
YAK pmax pmax
comp=E,57nm,1.4s
YAK pmax pmax
comp=N,29nm,1.0s
KSCO Kaye Shedlock' 90.62 49 *eP* **P 09 56 48.7 +0.9**
comp=N,47nm,1.4s
KSCO Kaye Shedlock' 90.62 49 P P 09 56 48.3 +0.6
baz=246
VNA1 Neumayer--Stat 90.62 177 P P 09 56 47.6 +0.6
435B Jarrell 91.36 58 P P 09 56 51.7 +0.5
baz=249
LAO LASA Array 91.42 41 *eP* **P 09 56 52.6 +1.4**
comp=N,47nm,0.9s
LAO LASA Array 91.42 41 P P 09 56 52.3 +1.1
baz=244
RSSD Black Hills 91.73 44 *eP* **P 09 56 52.8 -0.1**
comp=N,30nm,1.0s
RSSD Black Hills 91.73 44 P P 09 56 53.0 +0.1
baz=246
LZH Lanzhou 91.78 307 *eP* **P 09 56 54.9 +1.7**
LZH pP pP 09 58 57.0 -0.2
LZH sP sP 09 59 51.9 -2.0
LZH pmax pmax
comp=N,34nm,1.0s
LZH pmax pmax
comp=N,93nm,4.1s
OGNE Ogallala 91.81 47 P P 09 56 53.5 +0.4
baz=247
WMOK Wichita Mounta 91.84 54 P P 09 56 54.3 +1.0
baz=249
WHTX Lake Whitney, 91.89 57 *eP* **P 09 56 53.4 -0.2**
comp=N,10nm,0.9s
WHTX Lake Whitney, 91.89 57 P P 09 56 54.2 +0.6
baz=249
INK Inuvik 92.47 15 *eP* **P 09 56 55.1 -0.2**
comp=N,41nm,1.1s
INK *e*PP **PP 10 00 43.1 -3.9**
INK Inuvik 92.47 15 P P 09 56 55.0 -0.3
comp=N,23nm,0.8s,baz=221,slow=4.0,SNR=103
INK PP **PP 10 00 43.1 -3.9**
comp=N,2.8nm,0.9s,baz=236,slow=7.0,SNR=6.0
HKT Hockley 92.49 59 *eP* **P 09 56 56.9 +0.6**
comp=N,12nm,1.4s
CBKS Cedar Bluff 92.62 50 *eP* **P 09 56 57.5 +0.6**
comp=N,29nm,0.8s
CBKS Cedar Bluff 92.62 50 P P 09 56 57.0 +0.1
baz=248
DGMT Dagmar 93.42 40 *eP* **P 09 57 01.0 +0.8**
comp=N,71nm,0.8s
DGMT Dagmar 93.42 40 P P 09 57 01.3 +1.0
baz=246
ULN Ulaanbaatar 94.08 319 *eP* **P 09 57 03.1 -0.3**
comp=N,14nm,1.1s
ULN Ulaanbaatar 94.08 319 *ceP* **P 09 57 03.7 +0.2**
ULN pmax pmax
comp=Z,17nm,1.3s
SONA0 Songino Array 94.48 319 *eP* **P 09 57 05.3 +0.1**
SONM Songino Array 94.48 319 *eP* **P 09 57 04.2 -1.0**
SONM Songino Array 94.48 319 P P 09 57 05.3 +0.1
comp=Z,3.2nm,0.6s,baz=130,slow=3.8,SNR=13
TUL1 Leonard 94.54 54 P P 09 57 06.5 +0.9
baz=250
BOD Bodaibo 94.59 330 *eP* **P 09 57 04.3 -1.0**
BOD pmax pmax
comp=Z,7.0nm,1.7s
BGNE Belgrade 94.70 48 P P 09 57 07.4 +1.1
baz=249
YKA Yellowknife Ar 94.79 25 P P 09 57 05.9 -0.2
comp=Z,6.2nm,0.6s,baz=242,slow=4.4,SNR=160
YKA PP PP 10 00 53.9 -11
comp=Z,0.3nm,0.7s,baz=242,slow=7.7,SNR=3.9
YKA PKKPbc **PKKPdf 10 13 58.5 -3.1**
comp=Z,0.2nm,0.5s,baz=39,slow=2.2,SNR=4.6
YKB5 Yellowknife Ar 94.79 25 *eP* **P 09 57 05.9 -0.2**
YKB5 *e*PKKPdf **PKKPdf 10 13 58.5 -3.1**
YKW3 Yellowknife Ar 94.82 25 *eP* **P 09 57 05.5 -0.7**
comp=Z,8.1nm,0.8s
KSU1 Kansas State U 95.01 51 P P 09 57 08.9 +1.2
baz=250
W39A Magazine 95.86 55 P P 09 57 11.6 0.0
baz=251
GTA Gaotai 95.94 309 *eP* P 09 57 20.0 +8.0
GTA pP pP 09 59 24.7 +8.2
GTA sP sP 10 00 19.1 +5.9
ECSD EROS Data Cent 96.56 46 *eP* **P 09 57 14.7 +0.2**
comp=Z,6.6nm,0.8s
ECSD EROS Data Cent 96.56 46 P P 09 57 14.8 +0.2
baz=251
U40A Yellville 96.94 54 P P 09 57 17.8 +1.3
baz=252
TIXI Tiksi 97.02 345 *eP* **P 09 57 14.7 -1.2**
comp=Z,6.0nm,0.9s
TIXI *e*P **P 09 57 15.0 -1.0**
TIXI *e*PP **PP 10 01 17.2 -4.5**
TIXI Tiksi 97.02 345 *ceP* Pdif 09 57 14.8 -1.1
TIXI pmax pmax
comp=Z,9.0nm,1.3s
TIXI Tiksi 97.02 345 P Pdif 09 57 15.0 -1.0
comp=Z,4.7nm,0.7s,baz=126,slow=4.9,SNR=19
TIXI PP **PP 10 01 17.2 -4.5**
comp=Z,0.6nm,0.3s,baz=124,slow=7.2,SNR=5.1
ZAK Zakamensk 97.32 321 *eP* Pdif 09 57 16.5 -1.4
ZAK pmax pmax
comp=Z,3.0nm,1.5s
TLY Talaya 97.56 322 *ceP* **P 09 57 19.3 +0.5**
TLY pmax pmax
comp=Z,6.0nm,0.7s
S41A Jillco Farms, 98.15 53 P P 09 57 23.3 +1.4
baz=253
AGMN Agassiz Nation 98.53 42 P P 09 57 24.8 +1.5
baz=252
R41A Rosebud 98.64 53 P P 09 57 25.3 +1.3
baz=253
CCM Cathedral Cave 98.67 53 P P 09 57 25.3 +1.2
baz=253
M39A Webster 98.97 49 P P 09 57 26.5 +1.0
baz=253
ULM Lac du Bonnet 99.14 40 P Pdif 09 57 24.7 -1.1
comp=Z,2.0nm,0.9s,baz=225,slow=5.7,SNR=3.9
N40A Mertquake, Sal 99.23 50 P Pdif 09 57 28.2 +1.7
baz=253
L39A Vinton 99.28 49 P Pdif 09 57 28.2 +1.5
baz=253
M40A Post Highland 99.43 50 P Pdif 09 57 28.6 +1.2
baz=254
O41A Passleys Farm, 99.53 51 P Pdif 09 57 29.1 +1.3
baz=254
K39A Oelwein 99.53 48 P Pdif 09 57 29.3 +1.5
baz=254
SPMN Marine on St. 99.61 46 P Pdif 09 57 29.6 +1.5
baz=253
H38A Maiden Rock 99.81 46 P Pdif 09 57 29.9 +0.9
baz=254
J39A Decorah 99.83 48 P Pdif 09 57 30.0 +0.8
baz=254
I39A Houston 100.11 47 P Pdif 09 57 31.3 +0.9
baz=254
G38A Ridgeland 100.24 46 P Pdif 09 57 32.3 +1.4
baz=254
F38A Pierce - Schro 100.44 45 P Pdif 09 57 33.0 +1.2
baz=254
H39A Augusta 100.50 46 P Pdif 09 57 33.0 +1.0
baz=254
J40A Soldiers Grove 100.53 48 P Pdif 09 57 33.4 +1.1
baz=254
U46A Springville 100.56 55 P Pdif 09 57 33.4 +1.0
baz=255
K41A Shullsburg 100.63 49 P Pdif 09 57 34.5 +1.8
baz=254
JFWS Jewell Farm 100.75 48 P Pdif 09 57 34.4 +1.2
baz=255
I40A Norwalk 100.75 47 P Pdif 09 57 34.3 +1.1
baz=254
V47A Nunnelly 100.93 56 P Pdif 09 57 35.1 +0.9
baz=255
J41A Loganville 101.03 48 P Pdif 09 57 35.1 +0.7
baz=255
F39A Loretta 101.08 45 P Pdif 09 57 35.6 +1.0
baz=255
H40A Chili 101.10 47 P Pdif 09 57 36.1 +1.4
baz=255
Y49A Blount Mountai 101.30 58 P Pdif 09 57 37.1 +1.2
baz=255
I41A Arkdale 101.31 47 P Pdif 09 57 37.0 +1.3
baz=255
E39A Mellen 101.44 45 P Pdif 09 57 37.5 +1.3
baz=255
F40A Park Falls 101.62 45 P Pdif 09 57 38.1 +1.1
baz=255
J42A Columbus 101.65 48 P Pdif 09 57 38.9 +1.7
baz=255
Y50A Piedmont 101.86 58 P Pdif 09 57 39.0 +0.6
baz=256
E40A Wakefield 101.90 45 P Pdif 09 57 40.3 +2.1
baz=256
LPAZ La Paz 102.61 112 PKKPbc PKKPbc 10 13 39.7 -0.3
comp=Z,0.6nm,0.5s,baz=32,slow=1.5,SNR=4.0
Z52A Williamson 102.75 59 P Pdif 09 57 43.6 +1.3
baz=256
Z53A Monticello 103.46 59 P Pdif 09 57 46.5 +1.0
baz=256
062Z Marathon 103.54 68 P Pdif 09 57 46.9 +0.9
baz=256
Y53A Monroe 103.58 59 P Pdif 09 57 47.2 +1.1
baz=257
N50A Nevada 105.41 52 P PKiKP 10 02 05.0 +0.9
baz=259
G47A Hillman 105.75 47 P PKiKP 10 02 06.0 +1.4
baz=259
Z57A Bowman 105.81 60 P PKiKP 10 02 06.2 +1.2
baz=258
TOBO Tobermory, Bru 107.38 47 P PKiKP 10 02 08.7 +1.1
baz=261
ZAA1 Zalesovo Array 109.16 322 *e*PKiKP **PKiKP 10 02 09.3 -1.3**
ZAA1 *e*PP **PP 10 02 47.4 -3.8**
ZALV Zalesovo Beam 109.16 322 PKiKP **PKiKP 10 02 09.3 -1.3**
comp=Z,2.8nm,0.6s,baz=156,slow=1.4,SNR=11
ZALV PP **PP 10 02 47.4 -3.8**
comp=Z,0.9nm,0.6s,baz=79,slow=7.5,SNR=2.5
MK32 Makanchi Array 110.05 314 *e*Pdif **Pdif 09 58 15.0 +0.4**
MK32 *e*PKiKP **PKiKP 10 02 11.4 -1.2**
MK32 *e*PP **PP 10 02 53.4 -4.3**
MKAR Makanchi Array 110.05 314 Pdiff **Pdif 09 58 15.0 +0.4**
comp=Z,0.6nm,0.6s,baz=90,slow=4.0,SNR=5.3
MKAR PKiKP **PKiKP 10 02 11.4 -1.2**
comp=Z,3.4nm,0.5s,baz=176,slow=0.6,SNR=33
MKAR PP **PP 10 02 53.4 -4.3**
comp=Z,1.3nm,0.9s,baz=90,slow=8.9,SNR=3.6
KURK Kurchatov 112.75 318 *c i* PKiKP **PKiKP 10 02 17.3 -0.3**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KSH Kashi 113.96 306 PKP **PKiKP 10 02 21.8 +1.4**
KSH PP **PP 10 03 31.5 +5.9**
KSH SKS **SKSdf 10 08 43.6 +4.5**
KSH AMB AMB
comp=Z,160nm,5.0s
AAK Ala-Archa 115.28 309 *e*PKPdf **PKPdf 10 02 22.3 -0.6**
AAK Ala-Archa 115.28 309 *c i* PKIKP **PKPdf 10 02 22.7 -0.2**
AAK pmax pmax
comp=Z,8.0nm,1.7s
HUMP Col San Antoni 115.84 78 *e*PKPdf **PKPdf 10 02 22.9 -1.6**
BRVK Borovoye 117.83 321 *e*PKPdf **PKPdf 10 02 26.8 -0.5**
BRVK Borovoye 117.83 321 *i* PKIKP **PKPdf 10 02 27.1 -0.2**
BTK Batken 117.96 306 *e*PKPdf **PKPdf 10 02 27.6 -0.5**
KK31 Karatay Array 118.22 309 *e*PKPdf **PKPdf 10 02 27.8 -0.6**
KKAR Karatay Array 118.22 309 *e*PKPdf **PKPdf 10 02 27.7 -0.7**
KKAR *e*PKPdf **PKPdf 10 02 27.7 -0.7**
GAR Garm 118.31 305 *e*PKPdf **PKPdf 10 02 28.3 -0.5**
KBL Kabul 119.14 300 *e*PKPdf **PKPdf 10 02 30.7 0.0**
CHGR Chuyangaron 119.21 304 *e*PKPdf **PKiKP 10 02 32.8 +2.2**
SPA0 Spitsbergen Ar 120.05 357 *e*PKPdf **PKPdf 10 02 30.4 -0.5**
SPITS Spitsbergen Ar 120.05 357 PKP **PKPdf 10 02 30.4 -0.5**
comp=Z,15nm,0.8s,baz=80,slow=1.8,SNR=27
DAG Danmarks Havn 120.91 5 *i* PKIKP **PKPdf 10 02 30.9 -1.6**
DAG pmax pmax
comp=Z,5.0nm,0.6s
DAG Danmarks Havn 120.91 5 *i* P **PKPdf 10 02 30.9 -1.6**
comp=Z,6.7nm,0.6s
SUMG Summit 121.34 13 *e*PKPdf **PKPdf 10 02 33.8 -0.2**
SUMG Summit 121.34 13 *i* PKIKP **PKPdf 10 02 34.0 0.0**
SUMG pmax pmax
comp=Z,31nm,0.9s
SUMG Summit 121.34 13 *i* P **PKPdf 10 02 34.0 0.0**
comp=Z,31nm,0.9s
ARU Arti 123.78 326 *e*PKPdf **PKPdf 10 02 38.0 -0.6**
ARU Arti 123.78 326 *i* PKIKP **PKPdf 10 02 37.8 -0.8**
ARU 10 04 28.2
ARU 10 08 52.7
ABKAR Akbulak array 124.86 318 *e*PKPdf **PKPdf 10 02 40.3 -0.6**
ABKAR *e*PKPdf **PKPdf 10 02 40.3 -0.6**
SCO Scoresbysund 126.19 10 *i* PKIKP **PKiKP 10 02 43.2 -0.1**
SCO pmax pmax
comp=Z,18nm,0.9s
SCO Scoresbysund 126.19 10 *i* P **PKiKP 10 02 43.2 -0.1**
comp=Z,18nm,0.9s
LVZ Lovozero 126.66 345 *e*PKPdf **PKPdf 10 02 43.3 -0.5**
LVZ Lovozero 126.66 345 *c i* PKIKP **PKPdf 10 02 43.7 -0.2**
LVZ pmax pmax
comp=Z,6.0nm,0.7s
KEV Kevo 126.70 349 *e*PKPdf **PKPdf 10 02 43.5 -0.3**
ARA0 ARCESS Array S 127.15 350 *e*PKPdf **PKPdf 10 02 44.4 -0.3**
ARCES ARCESS Array B 127.15 350 *e*PKPdf **PKPdf 10 02 43.6 -1.1**
ARCES ARCESS Array B 127.15 350 *e*PKIKP **PKPdf 10 02 43.6 -1.1**
ARCES ARCESS Array B 127.15 350 PKP **PKPdf 10 02 44.4 -0.3**
comp=Z,9.7nm,0.4s,baz=18,slow=1.3,SNR=104
ARE0 ARCESS Array S 127.15 350 *e*PKPdf **PKPdf 10 02 44.5 -0.3**
PRGR Permogore 127.45 336 *e*PKIKP **PKPdf 10 02 43.6 -1.8**
PRGR 10 04 50.4
PRGR *e* 10 04 58.6
PRGR pmax pmax
comp=Z,20nm,1.3s
GEYT Alibeck 127.91 304 PKP **PKPdf 10 02 47.3 +0.2**
comp=Z,13nm,0.9s,baz=222,slow=2.0,SNR=16
GYA0B ALIBECK ARRAY 127.91 304 *e*PKPdf **PKPdf 10 02 47.2 0.0**
BOSA Boshof 127.97 206 PKP **PKiKP 10 02 48.2 -0.2**
comp=Z,2.8nm,0.9s,baz=140,slow=2.9,SNR=4.2
TMCR Tamitsa 128.50 341 *e*PKIKP **PKPdf 10 02 46.7 -0.7**
KLMR Klimovskoe 130.26 337 *e*PKIKP **PKPdf 10 02 49.6 -1.2**
KLMR *e* 10 05 13.5
KLMR pmax pmax
comp=Z,23nm,1.3s
FIA1 FINESS Array S 134.06 344 *e*PKPdf **PKPdf 10 02 57.1 -0.9**
FIA0 FINESS Array S 134.06 344 *e*PKPpre PKPpre 10 02 45.1
FIA0 *e*PKPdf **PKPdf 10 02 57.6 -0.3**
FIA0 *e*SKPbc **SKPbc 10 05 33.0 -1.5**
FINES FINESS Array B 134.06 344 *e*PKPdf **PKPdf 10 02 57.3 -0.6**
FINES FINESS Array B 134.06 344 PKPkP PKPpre 10 02 45.1
comp=Z,1.2nm,0.8s,baz=90,slow=4.8,SNR=4.5
FINES PKP **PKPdf 10 02 57.6 -0.3**
comp=Z,6.6nm,0.6s,baz=64,slow=3.2,SNR=4.1
FINES SKPbc **SKPbc 10 05 32.9 -1.5**
comp=Z,1.1nm,0.5s,baz=62,slow=3.8,SNR=4.5
OBN Obninsk 135.22 333 *e*PKIKP **PKPdf 10 03 00.5 +0.2**
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN pmax pmax
comp=Z,10.0nm,0.7s
VSU Vasula 136.37 342 *e*P **PKPdf 10 02 57.7 -4.6**
VSU IAmb IAmb 10 03 00.3
comp=Z,44nm,0.5s
NC303 NORSAR Array S 136.99 353 *e*PKPdf **PKPdf 10 03 04.0 +0.5**
NB2 NORSAR Subarra 137.19 354 PKPdf PKPpre 10 02 52.6
comp=Z,2.2nm,0.5s,baz=27,slow=1.8
NOA NORSAR Array B 137.19 354 PKhKP PKPpre 10 02 53.5
comp=Z,3.8nm,0.9s,baz=26,slow=2.1,SNR=11
NOA PKP **PKPdf 10 03 03.8 -0.1**
comp=Z,3.1nm,0.6s,baz=14,slow=4.1,SNR=11
GNI Garni 137.68 310 PKP **PKPdf 10 03 05.3 -0.3**
comp=Z,4.4nm,0.4s,baz=183,slow=5.3,SNR=6.2
KBZ Khabaz 137.72 315 PKhKP PKPpre 10 02 55.4
comp=Z,1.6nm,0.8s,baz=104,slow=4.2,SNR=3.9
HFS Hagfors 137.76 351 PKhKP PKPpre 10 02 53.5
comp=Z,4.4nm,0.5s,baz=61,slow=3.7,SNR=14
IZAR Zarasai 138.74 340 *e*P PKPpre 10 03 00.2
IZAR IAmb IAmb 10 03 01.4
comp=Z,11nm,0.4s
IDID Didziasalis 138.93 339 *e*P PKPpre 10 03 00.2
IDID IAmb IAmb 10 03 04.9

comp=Z,11nm,0.5s
IIGN Ignalina 139.07 339 *e*P PKPpre 10 03 00.6
IIGN IAmb IAmb 10 03 03.9
comp=Z,6.6nm,0.6s
PABE Paberze 139.68 341 *e*P PKPpre 10 03 03.0
PABE IAmb IAmb 10 03 11.1
comp=Z,31nm,0.9s
PBUR Paburg 139.83 343 *e*P PKPpre 10 03 02.5
PBUR IAmb IAmb 10 03 12.1
comp=Z,32nm,0.9s
KMBO Kilima Mbogo 140.30 244 *e*PKPpre PKPpre 10 03 06.2
KMBO Kilima Mbogo 140.30 244 PKhKP PKPpre 10 03 05.8
comp=Z,1.8nm,0.3s,baz=213,slow=2.5,SNR=4.5
KAC Achnashellach 140.83 6 *e*P PKPpre 10 03 05.1
BNGB Bingl 141.03 310 *e*P PKPpre 10 03 06.8
AKASG Malin Array Be 141.48 332 PKhKP PKPpre 10 03 06.5
comp=Z,8.7nm,0.4s,baz=42,slow=4.3,SNR=79
AKBB Malin Array Si 141.48 332 *e*PKPpre PKPpre 10 03 06.7
KIEV Kiev 141.49 332 *e*PKPpre PKPpre 10 03 06.7
KIEV Kiev 141.49 332 ⇓*i*P PKPpre 10 03 06.5
KIEV Kiev 141.49 332 ⇓PKHKP PKPpre 10 03 06.5
MAZI Mazidag 141.71 307 *e*P **PKPdf 10 03 08.9 -4.0**
MUD Monsted U'grnd 141.91 354 *i* PKHKP PKPpre 10 03 08.7
MUD Monsted U'grnd 141.91 354 *i* P PKPpre 10 03 08.7
INVG Invergeldie, C 142.01 6 *e*P PKPpre 10 03 08.1
LAWE Loch Awe, Argy 142.03 7 *e*P PKPpre 10 03 08.8
EAB Aberfoyle 142.22 6 *e*P PKPpre 10 03 09.4
SVRC Sivrice-ELAZID 142.25 309 *e*P PKPpre 10 03 11.2
BSD Bornholm Skovb 142.34 348 *i* PKHKP PKPpre 10 03 09.1
BSD Bornholm Skovb 142.34 348 *i* P PKPpre 10 03 09.1
PGBU Glenifferbraes 142.57 6 *e*P PKPpre 10 03 10.3
EAU Auchinoon 142.64 5 *e*P PKPpre 10 03 11.2
SIM Simferopol' 142.68 322 *e*PKHKP PKPpre 10 03 12.2
SIM pmax pmax
comp=Z,84nm,0.8s
EBL Broad Law 142.75 5 *e*P PKPpre 10 03 10.7
IDGL Inch Island, C 142.91 9 *e*PKP PKPpre 10 03 11.5
URFA Urfa 142.93 308 *e*P **PKPdf 10 03 13.4 -1.6**
CLGH Cloghs, Cushen 143.10 8 *e*P PKPab 10 03 12.1 -0.3
EKA Eskdalemuir Ar 143.17 5 PKhKP PKPpre 10 03 12.1
comp=Z,28nm,0.6s,baz=330,slow=2.5,SNR=83
EKA PP **PP 10 06 28.1 -3.9**
comp=Z,2.7nm,1.0s,baz=358,slow=6.9,SNR=4.6
ESK Eskdalemuir 143.18 5 *e*PKPpre PKPab 10 03 12.5 -0.2
ESK Eskdalemuir 143.18 5 *e*P PKPab 10 03 12.1 -0.6
SVSK Karacayir 143.30 313 *e*P **PKPdf 10 03 14.9 -0.5**
BHH Howats Hill 143.41 5 *e*P PKPab 10 03 13.2 -0.3
KVT Kavak 143.44 315 *e*P PKPbc 10 03 14.9 +0.5
TOKT Tokat 143.44 314 *e*P PKPbc 10 03 14.9 +0.4
GAL1 Galloway 143.48 7 *e*P PKPab 10 03 13.5 -0.4
DARE Darende-Malaty 143.50 310 *e*P **PKPdf 10 03 15.5 -0.5**
GKP Gorka Klasztor 143.53 345 *e*PKP PKPab 10 03 14.0 -0.1
GKP Gorka Klasztor 143.53 345 *e*PKIKP PKPab 10 03 14.0 -0.1
SNOP Sinop 143.55 317 *e*P **PKPdf 10 03 15.3 -0.5**
SNOP Sinop 143.55 317 *e*PKPbc PKPbc 10 03 14.8 +0.1
DIKM Dikmen 143.69 316 *e*P PKPab 10 03 15.5 +0.4
DIKM Dikmen 143.69 316 ⇑*i*P **PKPdf 10 03 15.8 -0.3**
BBO1 Bothel 143.75 5 *e*P PKPbc 10 03 14.8 -0.1
EDMD Edmundbyers 143.76 4 *e*P PKPbc 10 03 14.3 -0.6
BEL Belsk 143.80 340 *e*PKP **PKPdf 10 03 15.6 -0.3**
BEL Belsk 143.80 340 *e*PKIKP **PKPdf 10 03 15.6 -0.3**
KESW Keswick, Cumbr 143.91 5 *e*P PKPbc 10 03 15.1 -0.2
IOMK Kirk Michael 144.09 7 *i* Pg PKPbc 10 03 15.3 -0.6
IGLA Glengowla, Co 144.18 12 *e*PKP PKPbc 10 03 16.1 -0.1
WIM Isle of Man 144.19 7 *e*P PKPbc 10 03 15.7 -0.6
GAZ Gaziantep 144.23 308 *e*P **PKPdf 10 03 17.2 -0.1**
GDLE Glaisdale, N Y 144.24 3 *e*P PKPbc 10 03 16.0 -0.3
KIS Kishinev 144.28 328 ⇑*i*PKP PKPbc 10 03 16.0 -0.8
KIS XM 10 03 16.5
comp=Z,500nm,1.2s
LVV L'vov 144.32 336 *e*PKIKP PKPbc 10 03 16.5 -0.3
KMRS Kahramanmaras 144.34 309 *e*P **PKPab 10 03 17.9 +0.1**
BZK Bozkurt 144.35 318 ⇑*i*P **PKPab 10 03 18.0 +0.4**
BNN Bunyan 144.56 312 *e*P PKPbc 10 03 18.3 +0.2
YOZ Yozgat 144.59 313 *e*P PKPbc 10 03 18.1 -0.1
HPK Haverah Park 144.65 4 *e*P **PKPdf 10 03 17.4 +0.1**
IAS Iasi 144.76 330 ⇓*i*P PKPbc 10 03 18.2 0.0
IAS Iasi 144.76 330 ⇓PKIKP PKPbc 10 03 18.2 0.0
CORM Corum 144.81 314 *e*P **PKPab 10 03 19.5 -0.1**
DSB Dublin 144.85 9 *e*PKP **PKPdf 10 03 18.0 +0.3**
DSB Dublin 144.85 9 *e*PKPdf PKPbc 10 03 18.0 -0.3
LEOM Leova 144.93 328 ⇓*i*P PKPbc 10 03 18.6 -0.1
LEOM Leova 144.93 328 ⇓PKIKP PKPbc 10 03 18.6 -0.1
WPS Cemaes, Angles 144.95 7 *e*P **PKPdf 10 03 17.8 -0.1**
WME Myndd Eilian 144.97 7 *e*P **PKPdf 10 03 18.1 +0.2**
ILGA Ilgaz 145.00 316 *e*PKPdf **PKPdf 10 03 18.0 -0.7**
ILGA *e*PKPbc **PKPab 10 03 20.3 -0.1**
WLF1 Llynfaes 145.07 7 *e*P **PKPbc 10 03 18.6 -0.4**
YRC Rhoscolyn 145.09 7 *e*P **PKPdf 10 03 18.3 +0.2**
KOZT Kozan 145.13 310 *e*P **PKPbc 10 03 19.4 -0.3**
LBWR Ladybower, Pea 145.20 4 *e*P **PKPbc 10 03 18.9 -0.4**
KURC Kurucasile-Bar 145.21 318 *e*P **PKPdf 10 03 18.6 -0.1**
LMK Market Rasen 145.22 3 *e*P **PKPbc 10 03 19.3 -0.1**
YLL Llanberis 145.24 7 *e*P **PKPbc 10 03 18.9 -0.5**
PRAR RASCA 145.27 331 ⇓*i*P **PKPbc 10 03 19.6 -0.2**
TAHT Tahtakopru-Hat 145.29 308 *e*P **PKPbc 10 03 20.4 +0.2**
CEYT Ceyhan 145.38 309 *e*P **PKPbc 10 03 20.4 0.0**
BIR Birlad 145.38 328 ⇑*i*P **PKPbc 10 03 20.2 +0.1**
BIR Birlad 145.38 328 ⇑PKIKP **PKPbc 10 03 20.2 +0.1**
TLCR 145.50 326 ⇑*i*P **PKPbc 10 03 20.4 -0.1**
TLCR 145.50 326 ⇑PKIKP **PKPbc 10 03 20.4 -0.1**
OJC Ojcow 145.51 340 *e*PKP **PKPbc 10 03 20.2 -0.2**
OJC Ojcow 145.51 340 *e*PKPdf **PKPdf 10 03 18.9 0.0**
OJC *e*PKPbc **PKPbc 10 03 20.4 +0.1**
OJC Ojcow 145.51 340 *e*PKIKP **PKPbc 10 03 20.2 -0.2**
BUR08 Bucovina Ar. S 145.52 332 *e*PKPdf **PKPbc 10 03 20.2 -0.5**
BUR08 *e*PKPbc **PKPab 10 03 21.6 -0.6**
YURE YUREGIR 145.53 309 *e*P **PKPbc 10 03 21.4 +0.5**
BURAR Bucovina Array 145.53 332 *e*PKPdf **PKPdf 10 03 19.8 +0.6**
BURAR *e*PKPbc **PKPab 10 03 21.7 -0.5**
BURAR Bucovina Array 145.53 332 ⇑*i*P **PKPbc 10 03 21.4 +0.7**
BURAR Bucovina Array 145.53 332 ⇑PKP2 **PKPbc 10 03 21.4 +0.7**
LLW Llanuwychllyn 145.58 6 *e*P **PKPbc 10 03 19.8 -0.7**
FOEL Foel Wylfa 145.59 6 *e*P **PKPbc 10 03 19.9 -0.6**
BIZ Bicaz 145.63 330 ⇓*i*P **PKPdf 10 03 20.0 +0.7**
TESR Tescani 145.68 329 ⇓*i*P **PKPbc 10 03 20.8 -0.2**
BR101 Keskin Array S 145.70 314 *e*PKPdf **PKPdf 10 03 18.3 -1.5**
BR101 *e*PKPbc **PKPbc 10 03 21.1 -0.4**
BR101 *e*SKPbc **SKPbc 10 06 05.7 -0.7**
BR131 Keskin Array S 145.70 314 *e*PKPdf **PKPdf 10 03 19.2 -0.6**
BR131 *e* 10 03 21.5
BRTR Keskin Array B 145.70 314 *e*PKPdf **PKPdf 10 03 19.2 -0.6**
BRTR *e*PKPbc **PKPbc 10 03 21.6 +0.1**
BRTR Keskin Array B 145.70 314 *e*PKIKP **PKPdf 10 03 19.2 -0.6**
BRTR Keskin Array B 145.70 314 PKP **PKPdf 10 03 18.3 -1.5**
comp=Z,25nm,0.7s,baz=121,slow=2.0,SNR=99
BRTR PKPbc **PKPbc 10 03 21.1 -0.4**
comp=Z,26nm,0.7s,baz=132,slow=4.4,SNR=109
BRTR SKPbc **SKPbc 10 06 05.7 -0.7**
comp=Z,2.2nm,0.8s,baz=140,slow=2.7,SNR=5.3
KOLS Kolonicke sedl 145.71 336 *e*PKIKP **PKPdf 10 03 20.1 +0.8**
KOLS Kolonicke sedl 145.71 336 *e*PKP **PKPdf 10 03 20.1 +0.8**
KARA Karaisali 145.79 310 *e*P **PKPdf 10 03 20.1 +0.3**
KRTS Karatas 145.82 308 *e*P **PKPbc 10 03 21.7 0.0**
TUDR 145.82 327 ⇑*i*P **PKiKP 10 03 24.8 +0.8**
CFR Carcaliu 145.87 326 ⇑*i*P **PKPbc 10 03 21.3 -0.2**
CFR Carcaliu 145.87 326 ⇑PKIKP **PKPbc 10 03 21.3 -0.2**
CWF Charnwood Fore 145.89 4 *e*P **PKPbc 10 03 20.8 -0.5**
YAYX Yaylak 145.95 313 *e*P **PKPbc 10 03 21.6 -0.5**
UZH Uzhgorod 145.95 336 ⇑*i*PKIKP **PKPbc 10 03 22.0 +0.4**
UZH *e* 10 03 24.0
HLM1 Long Mynd 145.99 6 *e*P **PKPdf 10 03 20.4 +0.7**
KSP Ksiaz 145.99 344 *e*PKP **PKPbc 10 03 22.1 +0.4**
KSP Ksiaz 145.99 344 *e*PKIKP **PKPbc 10 03 22.1 +0.4**
WACR West Acre 145.99 2 *e*P **PKPbc 10 03 21.4 -0.2**
MBAR Mbarara 146.02 239 *e*P **PKPbc 10 03 24.0 +0.9**
ASF Jabal al Asfar 146.03 300 P **PKPbc 10 03 23.0 +0.5**
ASF Jabal al Asfar 146.03 300 PKPbc **PKPbc 10 03 22.3 -0.2**
comp=Z,28nm,0.8s,baz=58,slow=2.2,SNR=41
TOTH TOTAH 146.09 302 *e*P **PKPab 10 03 24.1 -0.7**
VRI Vrincioaia 146.11 329 ⇑*i*P **PKPbc 10 03 21.5 -0.7**
VRI Vrincioaia 146.11 329 ⇑PKIKP **PKPbc 10 03 21.6 -0.7**
PLOR Plostina 146.16 329 ⇓*i*P **PKPbc 10 03 22.2 -0.2**
PLOR Plostina 146.16 329 ⇓PKIKP **PKPbc 10 03 22.2 -0.2**
QASN Qassioun 146.16 303 *e*P **PKPab 10 03 24.2 -0.9**
TIRR Tirgusor 146.20 325 *e*PKPdf **PKPdf 10 03 20.2 -0.1**
TIRR *e*PKPbc **PKPbc 10 03 22.6 +0.2**
TIRR Tirgusor 146.20 325 ⇓*i*P **PKPdf 10 03 20.5 +0.3**
TIRR Tirgusor 146.20 325 ⇓PKIKP **PKPdf 10 03 20.5 +0.3**
ANTO Ankara 146.20 315 *e*P **PKPbc 10 03 22.9 +0.2**
ANTO Ankara 146.20 315 *e*PKPdf **PKPdf 10 03 20.6 +0.1**
ANTO *e*PKPbc **PKPbc 10 03 23.0 +0.3**
ANTO Ankara 146.20 315 ⇑*i*P **PKPdf 10 03 20.6 +0.1**
ANTO Ankara 146.20 315 ⇑PKIKP **PKPdf 10 03 20.6 +0.1**
LOD Lodumlu 146.21 315 *e*P **PKPbc 10 03 22.8 0.0**
BMR Baia Mare 146.23 334 ⇓*i*P **PKPbc 10 03 23.0 +0.5**
BMR Baia Mare 146.23 334 ⇓PKP2 **PKPbc 10 03 23.0 +0.5**
TRPA Tarpa 146.26 335 ⇓*i*P **PKPbc 10 03 22.4 -0.1**
TLB Topalu 146.31 326 ⇑*i*P **PKPdf 10 03 21.1 +0.7**
TLB Topalu 146.31 326 ⇑PKIKP **PKPdf 10 03 21.1 +0.7**
CLL Collm 146.32 348 *e*PKPdf **PKPdf 10 03 19.8 -0.4**
CLL *e*PKPbc **PKPbc 10 03 22.9 +0.3**
CLL Collm 146.32 348 ⇓*i*PKIKP **PKPbc 10 03 22.6 0.0**
CLL *e* 10 03 25.0
CLL pmax pmax
comp=Z,130nm,1.0s
CLL pmax pmax
comp=Z,71nm,1.0s
CLL Collm 146.32 348 *e*PKPdf **PKPdf 10 03 21.0 +0.8**
CLL ⇓*i*PKPbc **PKPbc 10 03 22.6 0.0**
comp=Z,130nm,1.0s
CLL *i* PKiKP **PKiKP 10 03 24.6 -0.2**
comp=Z,71nm,1.0s
CLL *e* 10 05 28.0
CLL *i* pPKiKP **pPKiKP 10 05 36.6 +0.4**
CLL *e*PP **PP 10 06 53.3 +2.5**
ARCR ARCALIA 146.32 332 ⇑*i*P **PKPbc 10 03 23.3 +0.6**
MERS Mersin 146.33 309 *e*P **PKPbc 10 03 22.8 -0.4**
OKC Ostrava-Krasne 146.36 341 *e*PKP2 **PKPbc 10 03 23.2 +0.5**
OKC Ostrava-Krasne 146.36 341 ⇑*e*PKP **PKPbc 10 03 23.2 +0.5**
OKC *e*PKPAB **PKPab 10 03 25.4 +0.2**
UPC Upice 146.37 344 *e*PKP2 **PKPbc 10 03 23.2 +0.4**
UPC Upice 146.37 344 ⇑*e*PKP **PKPbc 10 03 23.2 +0.4**
UPC *e*PKPAB **PKPab 10 03 25.9 +0.7**
MFTR Murfatlar 146.38 325 ⇓*i*P **PKPdf 10 03 21.6 +1.0**
DPC Dobruska-Polom 146.43 344 *e*PKP2 **PKPbc 10 03 24.0 +1.0**
DPC Dobruska-Polom 146.43 344 ⇑*e*PKP **PKPbc 10 03 24.0 +1.0**
DPC *e*PKPAB **PKPab 10 03 27.2 +1.7**
BRBR Barbar 146.45 303 *e*P **PKPbc 10 03 24.4 +0.5**
KULU Kulu 146.46 314 *e*P **PKPbc 10 03 23.6 +0.1**
MCH1 Michaelchurch 146.49 6 *e*P **PKPbc 10 03 22.4 -0.6**
SULT Sultanhani-AKS 146.49 312 *e*P **PKPbc 10 03 23.1 -0.5**
BRG Berggiesshubel 146.53 346 *e*PKP **PKPdf 10 03 20.9 +0.3**
comp=Z,11nm,1.2s
BRG Berggiesshubel 146.53 346 *i* PKP **PKPbc 10 03 23.5 +0.3**
comp=Z,47nm,0.8s
BRG Berggiesshubel 146.53 346 *e*PKIKP **PKPdf 10 03 20.9 +0.3**
BRG pmax pmax
comp=Z,11nm,1.2s
BRG pmax pmax
comp=Z,47nm,0.8s
BHL Bhannes 146.54 304 *e*P **PKPbc 10 03 23.7 -0.2**
LANS Liptovska Anna 146.54 339 *e*PKP2 **PKiKP 10 03 24.5 -0.9**
LANS Liptovska Anna 146.54 339 *e*PKP **PKiKP 10 03 24.5 -0.9**
LANS *e* 10 03 27.4
KRLC Kraliky 146.55 343 *e*PKP2 **PKPbc 10 03 23.7 +0.4**
KRLC Kraliky 146.55 343 ⇑*e*PKP **PKPbc 10 03 23.7 +0.4**
WTSB Winterswijk 146.57 355 *e*PKPbc **PKPbc 10 03 22.9 -0.3**
WTSB *e*PKPab **PKiKP 10 03 25.4 +0.1**
MORC Moravsky Berou 146.60 342 *e*PKPdf **PKPdf 10 03 20.8 0.0**
MORC *e*PKPbc **PKPbc 10 03 23.9 +0.4**
MORC Moravsky Berou 146.60 342 ⇑*i*P **PKPdf 10 03 21.0 +0.2**
MORC Moravsky Berou 146.60 342 ⇑PKIKP **PKPdf 10 03 21.0 +0.2**
MORC Moravsky Berou 146.60 342 *e*PKP **PKPbc 10 03 23.6 +0.1**
QRWL Qaraoun 146.62 303 *e*P **PKPbc 10 03 24.4 +0.3**
SHBL Chebaa 146.64 303 *e*P **PKPbc 10 03 24.4 +0.2**
MONM Monmouth 146.66 6 *e*P **PKPbc 10 03 23.1 -0.3**
DOPR Dopca 146.68 330 ⇑*i*P **PKPbc 10 03 24.2 +0.4**
PVCC Panska Ves 146.71 346 *e*PKP2 **PKPbc 10 03 24.4 +0.7**
PVCC Panska Ves 146.71 346 ⇑*e*PKP **PKPbc 10 03 24.4 +0.7**
ISR Istrita 146.72 328 ⇑*i*P **PKPbc 10 03 23.3 -0.7**
ISR Istrita 146.72 328 ⇑PKIKP **PKPbc 10 03 23.3 -0.7**
KECS Kecovo 146.75 338 *e*PKP2 **PKPbc 10 03 24.3 +0.4**
KECS Kecovo 146.75 338 *e*PKP **PKPbc 10 03 24.3 +0.4**
KECS *e* 10 03 27.8
ICOR Ion Corvin 146.75 325 ⇓*i*P **PKPbc 10 03 24.5 +0.5**
CHBY Cihanbeyli 146.75 313 *e*P **PKPbc 10 03 23.7 -0.6**
MLR Muntele Rosu 146.76 329 *e*PKPdf **PKPdf 10 03 20.8 -0.5**
MLR *e*PKPbc **PKPbc 10 03 24.2 +0.1**
MLR Muntele Rosu 146.76 329 ⇑*i*P **PKPdf 10 03 21.0 -0.4**
MLR Muntele Rosu 146.76 329 PKPbc **PKPbc 10 03 23.7 -0.4**
comp=Z,25nm,0.6s,baz=6.9,slow=4.4,SNR=50
KIZK Mersin 146.77 309 *e*P **PKPbc 10 03 23.7 -0.6**
STRD Stroud 146.78 5 *e*P **PKPbc 10 03 23.0 -0.8**
SHMJ Saham 146.80 302 P **PKPbc 10 03 25.0 +0.5**
PSN Preselentsi 146.83 324 *e*P **PKPbc 10 03 24.9 +0.7**
MDUB Mudurnu 146.94 317 *e*P **PKPbc 10 03 24.3 -0.5**
MDUB Mudurnu 146.94 317 *e*PKPdf **PKPdf 10 03 21.4 -0.4**
MDUB *e*PKPbc **PKPbc 10 03 24.8 +0.1**
CJR Cluj-Napoca 146.94 333 ⇓*i*P **PKPbc 10 03 24.8 +0.3**
CJR Cluj-Napoca 146.94 333 ⇓PKP2 **PKPbc 10 03 24.8 +0.3**
MMAI Mount Meron Ar 147.01 302 PKPbc **PKPbc 10 03 25.6 +0.4**
comp=Z,41nm,0.6s,baz=62,slow=4.0,SNR=94
MMAI SKPbc **SKiKP 10 06 10.0 +0.5**
comp=Z,2.7nm,0.8s,baz=10,slow=0.9,SNR=3.6
SECR 147.02 328 ⇓*i*P **PKPbc 10 03 24.5 -0.2**
LEHL Lehliu 147.03 327 ⇓*i*P **PKPbc 10 03 25.2 +0.5**
AUMIH MIHALICIK 147.07 316 *e*P **PKPbc 10 03 24.5 -0.7**
WALJ Wala 147.08 300 P **PKPbc 10 03 26.0 +0.8**
KEBE Keben-Mersin 147.10 309 *e*P **PKPbc 10 03 25.4 +0.1**
IKL Isikli 147.20 309 *e*P **PKPbc 10 03 25.2 -0.2**
PRU Pruhonice 147.21 345 *e*PKIKP **PKPdf 10 03 22.4 +0.6**
PRU *e* 10 03 29.1
PRU Pruhonice 147.21 345 *e*PKPDF **PKPdf 10 03 22.4 +0.6**
PRU ⇑*e*PKP **PKPbc 10 03 25.3 +0.3**
PRU *e*PKPAB **PKPab 10 03 29.1 +0.5**
GOPC GO Pecny, Ondr 147.22 345 *e*PKIKP **PKPbc 10 03 25.2 +0.1**
GOPC *e* 10 03 29.1
GOPC GO Pecny, Ondr 147.22 345 ⇑*e*PKP **PKPbc 10 03 25.2 +0.1**
GOPC *e*PKPAB **PKPab 10 03 29.1 +0.4**
VOIR 147.23 330 ⇓*i*P **PKPbc 10 03 25.5 +0.2**
VOIR 147.23 330 ⇓PKP2 **PKPbc 10 03 25.5 +0.2**
DRGR 147.26 334 ⇑*i*P **PKPdf 10 03 21.8 -0.3**
DRGR 147.26 334 ⇑PKIKP **PKPdf 10 03 21.8 -0.3**
VRAC Vranov 147.29 342 ⇑*i*P **PKPbc 10 03 25.2 0.0**
VRAC Vranov 147.29 342 ⇑PKIKP **PKPbc 10 03 25.2 0.0**
VRAC Vranov 147.29 342 *e*PKP **PKPbc 10 03 25.3 0.0**
VRAC Vranov 147.29 342 PKPbc **PKPbc 10 03 25.5 +0.2**
comp=Z,32nm,0.9s,baz=30,slow=1.7,SNR=29
LADK Ladik-KONYA 147.30 313 *e*P **PKPbc 10 03 25.0 -0.8**
TEVE Tevekalti-Mers 147.30 309 *e*P **PKPbc 10 03 25.9 +0.1**
VYHS Vyhne 147.32 339 *e*PKP2 **PKPbc 10 03 25.7 +0.3**
VYHS Vyhne 147.32 339 *e*PKP **PKPbc 10 03 25.7 +0.3**
VYHS *e* 10 03 29.8
AKKU Akkuyu-Mersin 147.34 309 *e*P **PKPbc 10 03 25.1 -0.7**
GHAJ Ghor Haditha 147.35 299 P **PKPbc 10 03 24.5 -1.4**
JAVC Velka Javorina 147.37 341 *e*PKP **PKiKP 10 03 26.8 -0.4**
MTUR Matau 147.38 329 ⇑*i*P **PKPbc 10 03 24.6 -1.1**
MTUR Matau 147.38 329 ⇑PKIKP **PKPbc 10 03 24.6 -1.1**
KOLL Kolacno 147.39 340 *e*PKP **PKPbc 10 03 26.3 +0.8**
JDRJ Daraweish 147.41 298 P **PKPab 10 03 32.0 +1.7**
KONT Konya--Tatoy 147.42 312 *e*P **PKPbc 10 03 25.4 -0.6**
LISJ El Lisan 147.43 299 P **PKiKP 10 03 27.1 -0.6**
PSZ Piszkesteto 147.44 338 *e*PKPbc **PKPbc 10 03 25.5 -0.3**
PSZ *e*PKPab **PKPab 10 03 30.7 +1.0**
PSZ Piszkesteto 147.44 338 ⇓*i*P **PKPbc 10 03 26.0 +0.2**
PSZ Piszkesteto 147.44 338 ⇓PKP2 **PKPbc 10 03 26.0 +0.2**
ARR Arges 147.48 330 ⇑*i*P **PKPdf 10 03 23.3 +0.8**
HSNJ Maan 147.50 297 P **PKiKP 10 03 27.6 -0.5**
BERE Bereket-Mersin 147.50 309 *e*P **PKPbc 10 03 26.3 -0.1**
KRUC Moravsky 147.57 342 *e*PKP **PKPbc 10 03 26.1 +0.1**
PRD Provadia 147.58 324 *e*P **PKPbc 10 03 26.7 +0.6**
CIFT Cifteler, Eski 147.61 316 *e*P **PKPbc 10 03 26.1 -0.4**
TREC Trest 147.61 344 *e*PKIKP **PKPbc 10 03 26.2 +0.1**
TREC Trest 147.61 344 ⇑*e*PKP **PKPbc 10 03 26.2 +0.1**
TEKE Tekeli-Mersin 147.66 309 *e*P **PKPbc 10 03 25.8 -0.8**
LFK Lefkose 147.69 307 *e*P **PKPbc 10 03 26.6 -0.2**
SMOL Smolenice 147.75 341 *e*PKP2 **PKiKP 10 03 27.5 -0.4**
SMOL Smolenice 147.75 341 *e*PKP **PKiKP 10 03 27.5 -0.4**
SMOL *e* 10 03 32.1
BEBN Eben Emael 147.82 356 ⇑PKPbc **PKPbc 10 03 26.9 +0.4**
BEBN ⇑PKPab **PKPab 10 03 30.7 -0.3**
HGN Heimansgroeve 147.83 356 *e*PKPbc **PKPbc 10 03 26.5 -0.1**
HGN *e*PKPab **PKPab 10 03 30.9 -0.2**
KLYT Kilyos 147.84 320 ⇓*i*P **PKPbc 10 03 26.4 -0.5**
UCC Uccle 147.89 357 ⇑PKP **PKPbc 10 03 26.3 -0.4**
MODS Modra-Piesok 147.92 341 *e*PKIKP **PKPbc 10 03 26.9 0.0**
MODS *e* 10 03 31.9
MODS Modra-Piesok 147.92 341 *e*PKP **PKPbc 10 03 26.9 0.0**
MODS *e* 10 03 31.9
HUMR Humele 147.93 329 ⇑*i*P **PKPbc 10 03 26.7 -0.3**
CSS Mathiatis 147.97 307 P **PKPbc 10 03 27.5 0.0**
MAMC Mammari 147.97 307 P **PKPbc 10 03 28.0 +0.5**
MEM Membach 147.98 355 ⇓PKP **PKPbc 10 03 26.9 -0.1**
YLV Yalova 148.04 319 ⇑*i*P **PKPbc 10 03 26.4 -1.1**
YLV Yalova 148.04 319 ⇑PKIKP **PKPbc 10 03 26.4 -1.1**
SRO Srobarova 148.08 339 *e*PKP2 **PKPbc 10 03 27.9 +0.6**
SRO Srobarova 148.08 339 *e*PKP **PKPbc 10 03 27.9 +0.6**
SRO *e* 10 03 33.4
SIRR Siria 148.11 334 ⇓*i*P **PKPbc 10 03 27.9 +0.4**
ZST Bratislava 148.14 341 *e*PKIKP **PKPbc 10 03 27.0 -0.4**
ZST *e* 10 03 32.8
ZST Bratislava 148.14 341 *e*PKP **PKPbc 10 03 27.0 -0.4**
ZST *e* 10 03 32.8
SNF Seneffe 148.18 357 ⇑PKPbc **PKPbc 10 03 27.3 -0.2**
SNF ⇑PKPab **PKPab 10 03 32.4 -0.1**
GRA1 Grafenberg Arr 148.20 349 *e*PKPbc **PKPbc 10 03 28.0 +0.4**
GRA1 *e*PKPab **PKPab 10 03 33.2 +0.5**
GRFO Grafenberg 148.20 349 *e*PKPdf **PKPdf 10 03 23.6 +0.2**
GRFO *e*PKPbc **PKPbc 10 03 27.9 +0.3**
GRFO *e*PKPab **PKPab 10 03 33.1 +0.4**
BCLA Clavier 148.22 356 ⇑PKP **PKPdf 10 03 23.2 -0.2**
BCLA ⇑PKPbc **PKPbc 10 03 27.1 -0.5**
BCLA ⇓PKPab **PKPab 10 03 31.9 -0.9**
KHC Kasperske Hory 148.24 346 *e*PKPdf **PKPdf 10 03 23.1 -0.4**
KHC *e*PKPbc **PKiKP 10 03 28.4 -0.6**
KHC *e*PKPab **PKPab 10 03 33.4 +0.5**
KHC Kasperske Hory 148.24 346 *e*PKIKP **PKPdf 10 03 23.7 +0.1**
KHC *e* 10 03 33.1
KHC Kasperske Hory 148.24 346 *e*PKPDF **PKPdf 10 03 23.7 +0.1**
KHC ⇑*e*PKP **PKPbc 10 03 27.9 +0.2**
KHC *e*PKPAB **PKPab 10 03 33.1 +0.2**
LEF Lefka 148.24 307 *e*P **PKPbc 10 03 27.6 -0.5**
EIL Elat 148.25 296 P PKPab 10 03 47.8 +14
EIL Elat 148.25 296 PKP **PKPdf 10 03 23.9 -0.2**
comp=Z,36nm,0.9s,baz=327,slow=3.7,SNR=5.4
EIL PKPbc **PKPbc 10 03 28.4 +0.1**
comp=Z,27nm,0.7s,baz=2.9,slow=1.3,SNR=32
GZR Gura Zlata 148.32 332 ⇑*i*P **PKPdf 10 03 23.4 -0.4**
GZR Gura Zlata 148.32 332 ⇑PKIKP **PKPdf 10 03 23.4 -0.4**
SZH Strazhica 148.32 326 *e*P **PKPbc 10 03 28.1 0.0**
SHUT Suhut-Afyon 148.37 315 *e*P **PKPbc 10 03 28.7 +0.2**
SZAC Souni 148.39 307 P **PKPbc 10 03 28.5 -0.1**
GEC2 GERESS Array S 148.48 345 *e*PKPdf **PKPdf 10 03 23.5 -0.5**
GEC2 *e*PKPbc **PKPbc 10 03 28.5 +0.1**
GERES GERESS Array B 148.48 345 *e*PKPdf **PKPdf 10 03 23.9 -0.1**
GERES *e*PKPbc **PKPbc 10 03 28.7 +0.3**
GERES GERESS Array B 148.48 345 PKIKP **PKPdf 10 03 24.0 -0.1**
GERES GERESS Array B 148.48 345 PKP **PKPdf 10 03 24.0 -0.1**
comp=Z,19nm,1.0s,baz=0.0,slow=2.0,SNR=12
GERES PKPbc **PKPbc 10 03 28.3 -0.1**
comp=Z,24nm,0.8s,baz=333,slow=1.5,SNR=40
DOU Dourbes 148.58 357 ⇑PKPbc **PKPbc 10 03 28.3 -0.1**
DOU ⇑PKPab **PKPab 10 03 33.8 -0.4**
VLAD Vladila 148.59 328 ⇓*i*P **PKiKP 10 03 29.3 -0.5**
BZS Buzias 148.65 333 ⇑*i*P **PKPdf 10 03 24.0 -0.3**
BZS Buzias 148.65 333 ⇑PKIKP **PKPdf 10 03 24.0 -0.3**
SRE Strehaia 148.68 330 ⇓*i*P **PKPbc 10 03 29.4 +0.5**
PPCY Paphos 148.75 307 P **PKPbc 10 03 28.8 -0.5**
CONA Conrad Observa 148.75 342 *i* PKiKP **PKPbc 10 03 29.5 +0.4**
comp=Z,92nm,1.2s,SNR=40
ISP Isparta 148.75 314 *e*P **PKPbc 10 03 28.3 -1.1**
HERR Herculane 148.88 332 ⇑*i*P **PKPbc 10 03 29.2 -0.2**
WLF Walferdange 148.91 355 *e*PKPbc **PKiKP 10 03 30.0 -0.3**
WLF *e*PKPab **PKPab 10 03 36.1 +0.6**
WLF Walferdange 148.91 355 ⇑PKPbc **PKiKP 10 03 29.9 -0.3**
WLF ⇓PKPab **PKPab 10 03 35.9 +0.3**
BANR Banloc 149.04 334 ⇓*i*P **PKPbc 10 03 29.7 0.0**
MOA Molln 149.26 344 *i* PKPbc **PKPbc 10 03 30.1 -0.1**
comp=Z,28nm,1.0s,SNR=13
MDVR Moldovita 149.27 332 ⇓*i*P **PKPdf 10 03 24.7 -0.7**
KORT Korkueli 149.27 312 *e*P **PKPbc 10 03 30.2 -0.6**
JLP Les Platons 149.30 5 *e*P **PKPbc 10 03 30.0 -0.2**
JVM Valle D.L. Mar 149.32 6 *e*P **PKPbc 10 03 29.8 -0.5**
MORH Mrgy, Hungar 149.34 337 ⇓*i*P **PKPbc 10 03 29.8 -0.6**
JSA Saint Aubin 149.35 6 *e*P **PKPbc 10 03 30.0 -0.3**
JRS Jersey 149.35 5 *e*P **PKPbc 10 03 30.1 -0.2**
MPEP Malo Peshtene 149.39 328 P **PKPbc 10 03 30.8 +0.1**
STU Stuttgart 149.43 351 *e*PKPdf **PKPdf 10 03 25.3 -0.1**
STU *e*PKPbc **PKPbc 10 03 30.7 +0.1**
STU *e*PKPab **PKPab 10 03 37.8 0.0**
ARSA Arzberg 149.46 342 *i* PKPbc **PKPbc 10 03 30.4 -0.3**
comp=Z,23nm,1.1s,SNR=11
BALB Balikesir 149.51 319 *e*PKPdf **PKPdf 10 03 25.3 -0.5**
BALB *e*PKPbc **PKPbc 10 03 30.5 -0.5**
KULA Kula-Manisa 149.64 316 P **PKPbc 10 03 31.1 -0.4**
MANT Manisa 149.72 316 *e*PKPdf **PKPdf 10 03 26.0 -0.5**
MANT *e*PKPbc **PKPbc 10 03 31.6 -0.3**
BEHE Becsehely 149.76 340 *e*P **PKPbc 10 03 31.2 -0.2**
FRGS Fruska Gora 149.77 335 ⇓*i*P **PKPbc 10 03 31.4 -0

SRS	Serrai	151.07	325	P	PKPab	10 03 44.6	-0.3
BOJS	Bojanci	151.11	341	ePKPdf	PKPdf	10 03 27.9	-0.2
BOJS				i PKPbc	PKPbc	10 03 34.7	+0.1
BOJS				i PKPab	PKPab	10 03 45.0	0.0
JAVS	Javornik	151.11	343	ePKPdf	PKPdf	10 03 27.9	-0.4
JAVS				ePKPbc	PKPbc	10 03 33.9	-0.8
JAVS				i PKPab	PKPab	10 03 44.6	-0.5
BLY	Banja Luka	151.12	338	ePKPbc	PKPbc	10 03 34.6	0.0
BLY	Banja Luka	151.12	338⇑	iP	PKiKP	10 03 34.9	-0.1
BLY	Banja Luka	151.12	338⇓	iP	PKPbc	10 03 34.5	-0.1
CEY	Cerknica	151.15	342⇓	iP	PKPbc	10 03 34.3	-0.4
DAVOX	Davos/Dischmat	151.25	349	PKP	PKPdf	10 03 28.6	+0.1
	comp=Z,3.7nm,0.8s,baz=338,slow=3.1,SNR=7.3						
DAVOX				PKPbc	PKiKP	10 03 35.3	-0.1
	comp=Z,76nm,0.6s,baz=254,slow=3.3,SNR=107						
BODT	Bodrum	151.33	315	ePKPbc	PKPbc	10 03 34.6	-0.8
BODT	Bodrum	151.33	315	P	PKPbc	10 03 34.6	-0.8
FUORN	Ofenpass-Fuorn	151.33	348	ePKPdf	PKPdf	10 03 28.6	-0.1
FUORN				ePKPbc	PKiKP	10 03 35.6	0.0
TRI	Trieste	151.37	343	ePKPdf	PKPdf	10 03 26.8	-1.7
TRI				ePKPbc	PKPbc	10 03 34.7	-0.4
TRI				ePKPab	PKPab	10 03 45.1	-0.8
OUR	Ouranopolis	151.39	324	ePKPab	PKPab	10 03 46.8	+0.5
OUR	Ouranopolis	151.39	324	P	PKPab	10 03 46.8	+0.5
STIP	Stip	151.39	328	i P	PKPbc	10 03 35.0	-0.3
CHOS	Chios island	151.39	318	P	PKPbc	10 03 34.6	-1.0
KNT	Kendrikon	151.41	326	P	PKPab	10 03 46.5	+0.1
MGRS	Mrkonjic Grad	151.44	337	eP	PKPab	10 03 47.1	+0.7
VAY	Valandovo	151.47	327	ePKPab	PKPab	10 03 47.0	+0.4
VAY	Valandovo	151.47	327	P	PKPab	10 03 47.0	+0.4
VAY	Valandovo	151.47	327	i P	PKPbc	10 03 34.2	-1.3
RIY	Rijeka	151.51	342⇓	iP	PKPbc	10 03 34.9	-0.6
SKO	Skopje	151.56	329	ePKPab	PKPab	10 03 47.7	+0.7
SKO	Skopje	151.56	329	P	PKPab	10 03 47.7	+0.7
SKO	Skopje	151.56	329	i P	PKPbc	10 03 35.6	-0.1
TUE	Stuetta	151.64	350	ePKPdf	PKPdf	10 03 28.7	-0.4
TUE				ePKPbc	PKPbc	10 03 35.8	-0.2
TUE				ePKPab	PKPab	10 03 47.6	+0.2
PLG	Polygyros	151.66	324	P	PKPab	10 03 47.8	+0.3
UPM	Unac-Piva	151.75	334⇓	iP	PKPbc	10 03 35.2	-1.1
UDBI	Udbina	151.81	339	P	PKPbc	10 03 35.9	-0.3
PAIG	Paliouri	151.84	323	P	PKPab	10 03 48.6	+0.4
SENIN	Lac Senin/Sane	152.05	352	ePKPdf	PKPdf	10 03 29.6	-0.2
SENIN				ePKPbc	PKiKP	10 03 37.5	+0.4
SENIN				ePKPab	PKPab	10 03 49.3	+0.2
NVLJ	Novalja	152.07	340	P	PKPbc	10 03 36.0	-0.7
KRUS	Krusevo	152.10	328	i P	PKPbc	10 03 36.4	-0.7
BRY	Bratogost	152.15	334⇓	iP	PKPbc	10 03 36.3	-0.9
PDG	Podgorica	152.22	332⇑	iP	PKPbc	10 03 36.8	-0.3
PDG	Podgorica	152.22	332	eP	PKPbc	10 03 36.5	-0.6
TTG	Podgorica	152.22	332	ePKPdf	PKPdf	10 03 28.4	-1.4
TTG				ePKPbc	PKPbc	10 03 36.4	-0.7
TTG				ePKPab	PKPab	10 03 49.4	-0.3
AOS	Alonnisos	152.22	322	ePKPab	PKPab	10 03 49.2	-0.7
AOS	Alonnisos	152.22	322	P	PKPab	10 03 49.2	-0.7
KARP	Karpathos	152.23	312	ePKPbc	PKPbc	10 03 36.4	-1.0
KARP				ePKPab	PKPab	10 03 50.1	0.0
KARP	Karpathos	152.23	312	P	PKPbc	10 03 36.8	-0.6
LIT	Litokhoron	152.38	325	ePKPdf	PKPdf	10 03 28.8	-1.4
LIT				ePKPbc	PKPbc	10 03 36.6	-1.0
LIT				ePKPab	PKPab	10 03 50.5	-0.1
LIT	Litokhoron	152.38	325	P	PKPab	10 03 50.3	-0.2
TREB	Trebinje	152.38	334	eP	PKPbc	10 03 36.5	-1.0
DRME	Dracevica, Mon	152.45	332⇓	iP	PKPbc	10 03 37.0	-0.7
FNA	Florina	152.47	327	ePKPdf	PKPdf	10 03 29.4	-1.0
FNA				ePKPbc	PKPbc	10 03 36.6	-1.2
FNA				ePKPab	PKPab	10 03 50.8	-0.2
FNA	Florina	152.47	327	P	PKPbc	10 03 36.8	-1.0
XOR	Xorichti	152.49	323	P	PKPab	10 03 50.8	-0.3
APE	Apeiranthos	152.50	317⇑	iP	PKPdf	10 03 33.3	+2.8
APE	Apeiranthos	152.50	317	⇑PKIKP	PKPdf	10 03 33.3	+2.8
NEO	Neokhori	152.51	323	P	PKPab	10 03 50.8	-0.4
STON	Ston	152.52	335	P	PKPbc	10 03 36.4	-1.3
STON	Ston	152.52	335⇓	iP	PKPbc	10 03 36.4	-1.3
HCY	Herceg Novi	152.54	333	eP	PKPbc	10 03 37.0	-0.8
FYTO	Fytoko, Volos	152.61	323	ePKPab	PKPab	10 03 51.5	0.0
FYTO	Fytoko, Volos	152.61	323	P	PKPab	10 03 51.5	0.0
MRKA	Markates	152.70	321	P	PKPab	10 03 51.5	-0.5
ANAF	Anafi Island	152.75	315	P	PKPab	10 03 51.6	-0.7
SMIA	Simia	152.81	322	P	PKPab	10 03 52.3	-0.1
DION	Dionisos Attik	152.90	320	P	PKPab	10 03 37.6	-1.2
NEST	Nestorio	152.91	327	P	PKPab	10 03 53.0	+0.1
SANT	Santorini	152.95	315	ePKPbc	PKPbc	10 03 37.7	-1.3
SANT				ePKPab	PKPab	10 03 51.9	-1.3
PTL	Penteli	152.96	320	ePKPbc	PKPbc	10 03 37.9	-1.0
PTL	Penteli	152.96	320	P	PKPbc	10 03 37.9	-1.0
ATAL	Atalanti	153.04	322	ePKPbc	PKPbc	10 03 37.8	-1.3
ATAL	Atalanti	153.04	322	P	PKPbc	10 03 37.8	-1.3
ATHU	Athens Univers	153.06	320	ePKPab	PKPab	10 03 52.8	-0.7
ATHU	Athens Univers	153.06	320	P	PKPab	10 03 52.8	-0.7
LKR	Lokris	153.08	322	P	PKPab	10 03 53.0	-0.6
AXAR	Agios Charalam	153.20	323	ePKPab	PKPab	10 03 56.2	+2.1
AXAR	Agios Charalam	153.20	323	P	PKPab	10 03 56.2	+2.1
AGG	Agios Georgios	153.22	323	ePKPdf	PKPdf	10 03 30.1	-1.3
AGG				ePKPbc	PKPbc	10 03 38.0	-1.5
AGG				ePKPab	PKPab	10 03 53.0	-1.1
AGG	Agios Georgios	153.22	323	P	PKPab	10 03 53.6	-0.6
SSB	Saint Sauveur	153.39	356	ePKPdf	PKPdf	10 03 31.5	0.0
SSB				ePKPbc	PKiKP	10 03 39.9	+0.2
BNI	Bardonecchia	153.42	353	ePKPdf	PKPdf	10 03 32.2	+0.6
BNI				ePKPbc	PKiKP	10 03 40.6	+0.7
BNI				ePKPab	PKPab	10 03 55.3	+0.4
DSF	Desfina	153.52	322	P	PKPab	10 03 54.5	-1.0
EVR	Evrytania	153.58	324	P	PKPab	10 03 55.6	-0.2
LAST	Lasithi	153.60	313	ePKPab	PKPab	10 03 56.6	+0.6
LAST	Lasithi	153.60	313	P	PKPab	10 03 56.6	+0.6
DID	Didima	153.69	320	ePKPbc	PKPbc	10 03 38.7	-1.8
DID	Didima	153.69	320	P	PKPbc	10 03 38.7	-1.8
ANX	Ano Chora	153.74	323	P	PKiKP	10 03 40.7	0.0
SERG	Sergoula	153.79	323	P	PKPab	10 03 56.3	-0.3
TRIZ	Trizonia	153.81	323	P	PKPab	10 03 56.4	-0.3
IDI	Anoyia	153.94	314	PKP	PKPdf	10 03 32.2	-0.4
	comp=Z,5.8nm,0.9s,baz=112,slow=7,0,SNR=6.7						
IDI				PKPbc	PKPbc	10 03 40.8	-0.4
	comp=Z,8.1nm,0.6s,baz=127,slow=5.1,SNR=13						
GUR	Goura	153.94	322	ePKPbc	PKPbc	10 03 40.2	-0.9
GUR	Goura	153.94	322	P	PKPbc	10 03 40.2	-0.9
LAKA	Lakka	153.95	323	ePKPab	PKPab	10 03 57.2	-0.1
LAKA	Lakka	153.95	323	P	PKPab	10 03 57.2	-0.1
KLV	Kalavryta, Ach	153.99	322	P	PKPab	10 03 57.2	-0.3
KEK	Kerkira	154.08	328	ePKPbc	PKPbc	10 03 40.5	-0.7
KEK	Kerkira	154.08	328	P	PKPbc	10 03 40.5	-0.7
DRO	Drossia	154.30	322	P	PKPab	10 03 59.5	+0.7
LKD2	Lefkada island	154.31	325	P	PKPab	10 03 58.9	+0.1
VAM	Vamos	154.34	315	P	PKPab	10 03 59.8	+0.7
RLS	Riolos of Patr	154.37	323	P	PKPab	10 04 00.2	+1.1
VLI	Veliai	154.37	319	ePKPab	PKPab	10 03 58.0	-1.2
VLI	Veliai	154.37	319	P	PKPab	10 03 58.0	-1.2
IMMV	Iera Moni Meta	154.46	315	P	PKPab	10 04 00.0	+0.4
AQU	L'Aquila	154.53	340	ePKPbc	PKiKP	10 03 41.6	-0.6
AQU				ePKPab	PKPab	10 03 59.4	-0.2
AQU	L'Aquila	154.53	340	eP	PKPab	10 04 00.5	+0.9
ANKY	Antikythira Is	154.66	317	ePKPab	PKPab	10 04 00.5	+0.1
ANKY	Antikythira Is	154.66	317	P	PKPab	10 04 00.5	+0.1
ITM	Ithomi	154.69	321	ePKPdif	PKiKP	10 03 42.2	-0.4
ITM				ePKPab	PKPab	10 04 00.2	-0.3
ITM	Ithomi	154.69	321	P	PKPab	10 04 00.5	0.0
KFL	Anninata	154.72	324	P	PKPab	10 04 00.9	+0.3
PBRG	Braganca	155.72	16	ePKPab	PKPab	10 04 04.9	+0.1
POLO	Lamas de Olo	155.81	19	ePKPdf	PKPdf	10 03 35.2	+0.2
POLO				eLQ	LQ	10 03 45.3	
POLO	Lamas de Olo	155.81	19	ePKPab	PKPab	10 04 05.2	-0.1
TIP	Timpagrande	155.96	331	ePKPdf	PKPdf	10 03 34.9	-0.4
TIP				ePKPab	PKPab	10 04 05.8	-0.1
MVO	Moncorvo	156.23	17	ePKPdf	PKPdf	10 03 35.9	+0.4
MVO				eLQ	LQ	10 03 46.0	
MVO	Moncorvo	156.23	17	ePKPab	PKPab	10 04 07.3	+0.3
PVIS	Viseu	156.38	19	ePKPab	PKPab	10 04 07.8	+0.1
MTE	Manteigas	156.78	19	ePKPdf	PKPdf	10 03 35.9	-0.3
MTE	Manteigas	156.78	19	ePKPab	PKPab	10 04 09.5	+0.1
PCAS	Casmilo, Conde	156.78	21	ePKPab	PKPab	10 04 09.2	-0.2
PTOM	Tomar	157.20	21	ePKPdf	PKPdf	10 03 37.4	+0.7
PTOM	Tomar	157.20	21	ePKPab	PKPab	10 04 11.3	+0.1
PCBR	Castelo Branco	157.31	20	ePKPdf	PKPdf	10 03 37.2	+0.4
PCBR	Castelo Branco	157.31	20	ePKPab	PKPab	10 04 11.7	0.0
PMAFR	Mafra	157.47	24	ePKPab	PKPab	10 04 12.4	0.0
PMRV	Marv??o	157.72	20	ePKPdf	PKPdf	10 03 37.6	+0.2
PMRV	Marv??o	157.72	20	ePKPab	PKPab	10 04 13.6	+0.1
PMTG	Montargil	157.76	22	ePKPdf	PKPdf	10 03 37.6	+0.2
PMTG	Montargil	157.76	22	ePKPab	PKPab	10 04 13.3	-0.3
ESDC	Sonseca Array	158.40	13	ePKPdf	PKPdf	10 03 37.5	-0.7
ESDC				ePKPdf	PKPdf	10 03 38.5	+0.2
ESDC				ePKPab	PKPab	10 04 16.2	-0.3
ESDC				ePKPab	PKPab	10 04 16.4	0.0
ESDC				ePP	PP	10 07 56.9	-1.2
ESDC	Sonseca Array	158.40	13	PKP	PKPdf	10 03 38.5	+0.2
	comp=Z,0.6nm,0.6s,baz=354,slow=2.3,SNR=8.3						
ESDC				PKPab	PKPab	10 04 16.4	0.0
	comp=Z,5.0nm,0.8s,baz=345,slow=4.3,SNR=26						
ESDC				PP	PP	10 07 56.9	-1.2
	comp=Z,0.5nm,0.6s,baz=346,slow=5.0,SNR=4.8						
ESLA	Sonseca Array	158.40	13	ePKPdf	PKPdf	10 03 37.1	-1.1
ESLA				ePKPab	PKPab	10 04 16.2	-0.3
PNCL	Nicolau / Gran	158.49	24	ePKPdf	PKPdf	10 03 39.0	+0.7
PNCL	Nicolau / Gran	158.49	24	ePKPab	PKPab	10 04 16.9	+0.1
PBEJ	Beja	158.81	22	ePKPdf	PKPdf	10 03 40.7	+2.0
PBEJ	Beja	158.81	22	ePKPab	PKPab	10 04 19.1	+0.8
MESJ	Messejana	158.85	23	ePKPdf	PKPdf	10 03 38.6	-0.1
PCVE	Castro Verde	159.10	23	ePKPab	PKPab	10 04 19.6	+0.1
MORF	Marmelete	159.15	25	ePKPdf	PKPdf	10 03 38.9	-0.2
MORF	Marmelete	159.15	25	ePKPdf	PKPdf	10 03 40.3	+1.2
MORF	Marmelete	159.15	25	ePKPab	PKPab	10 04 19.8	0.0
PBDV	Barranco-do-Ve	159.48	24	ePKPab	PKPab	10 04 21.5	+0.3
KEST	Kesra	161.85	341	PKPab	PKPab	10 04 31.9	+0.2
	comp=Z,17nm,0.9s,baz=277,slow=4.2,SNR=10						
MDT	Midelt	164.65	22	PKP	PKPdf	10 03 45.2	+0.4
	comp=Z,8.3nm,1.0s,baz=61,slow=2.9,SNR=6.5						
MDT				PKPab	PKPab	10 04 44.8	+0.6
	comp=Z,8.4nm,0.9s,baz=327,slow=4.4,SNR=11						
DBIC	Dimbokro	166.25	149	PKP	PKPdf	10 03 45.5	-1.0
	comp=Z,4.3nm,0.7s,baz=62,slow=1.1,SNR=5.6						
TOA0	Torodi Ar. Sit	174.50	175	ePKPdf	PKPdf	10 03 49.6	-1.4
TORD	Torodi Ar. Bea	174.50	175	PKP	PKPdf	10 03 48.9	-2.0
	comp=Z,7.2nm,0.3s,baz=340,slow=4.0,SNR=19						
TORD				PKPab	PKPab	10 05 28.7	+0.8
	comp=Z,0.4nm,0.6s,baz=177,slow=2.3,SNR=3.3						
TOA1	Torodi Ar. Sit	174.50	175	ePKPdf	PKPdf	10 03 48.9	-2.0
TOA1				ePKPab	PKPab	10 05 28.7	+0.8
TAM	Tamanrasset	174.83	323	ePKPdf	PKPdf	10 03 51.4	+0.3
TAM				ePKPab	PKPab	10 05 30.5	+0.8
TAM	Tamanrasset	174.83	323	ePKIKP	PKPdf	10 03 51.4	+0.3
TAM				e		10 05 30.5	

*ISCJB **04** 10:06:20.3±0.4, 45°.28N±0°.02×14°.95E±0°.02, h4km±4km,*
Error ellipse: s-maj=3.2km s-min=2.8km az=38.6
*SAR **04** 10:06:20.9±0.3, 45°.25N×14°.94E, h5km±4km, ML2.3/7*
*LJU **04** 10:06:20.4, 45°.30N×14°.95E, h13km, ML1.9*
*VIE **04** 10:06:21.1±0.6, 45°.32N×14°.94E, h10km, mb2.1/3, ml2.5/3,*
Error ellipse: s-maj=3.5km s-min=2.2km az=167.0

ISC 04 10:06:20.9±1.0, 45°.29N±0°.02×14°.94E±0°.02, h9km±8km, n37, σ1s21/68, 5C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	Gornja Briga	0.25	340⇑	iPg	Pg	10 06 26.1	0.0
GBRS				i Sg	Sg	10 06 29.8	+0.2
	comp=Z,174nm,0.1s						
BOJS	Bojanci	0.31	46⇑	iPg	Pg	10 06 26.7	-0.3
BOJS				i Sg	Sg	10 06 30.9	-0.2
	comp=Z,302nm,0.3s						
RIY	Rijeka	0.32	276⇑	iPg	Pg	10 06 27.2	-0.1
RIY				eSg	Sg	10 06 32.7	+1.2
KNDS	Knezji Dol	0.46	301⇑	iPg	Pg	10 06 29.6	-0.3
KNDS				i Sg	Sb	10 06 37.2	-1.0
	comp=Z,129nm,0.5s						
OZLJ	Ozalj	0.49	49	i Pg	Pg	10 06 30.3	-0.2
OZLJ				Sg	Sg	10 06 37.1	+0.2
VISS	Visnje	0.52	352⇓	iPg	Pg	10 06 30.5	-0.4
VISS				i Sg	Sg	10 06 38.5	+0.9
	comp=Z,30nm,0.1s						
CEY	Cerknica	0.57	321⇓	iPg	Pg	10 06 31.8	-0.2
CEY				i Sg	Sb	10 06 40.8	-0.7
	comp=Z,124nm,0.3s						
CEY	Cerknica	0.57	321⇑	iPg	Pg	10 06 31.6	-0.4
CEY				eSg	Sb	10 06 40.7	-0.7
CRES	Cresnjev	0.65	34	i Pg	Pg	10 06 33.0	-0.5
CRES	Cresnjev	0.65	34	ePg	Pg	10 06 32.9	-0.5
CRES				eSg	Sb	10 06 43.3	-0.3
SKDS	Skadanscina	0.70	292	i Pg	Pg	10 06 33.6	-0.7
SKDS				i Sg	Sb	10 06 45.0	0.0
LEGS	Legarje	0.71	22	i Pg	Pg	10 06 34.3	-0.3
LEGS				eSg	Sg	10 06 44.1	+0.3
GBAS	Gorenja Brezov	0.73	332	i Pg	Pg	10 06 34.6	-0.4
GBAS				eSg	Sg	10 06 44.8	+0.3
	comp=Z,10.0nm,0.1s						
NVLJ	Novalja	0.73	184	i Pg	Pg	10 06 34.7	-0.3
NVLJ				Sg	Sb	10 06 46.2	+0.3
GCIS	Gornji Cirnik	0.75	40	ePg	Pg	10 06 34.9	-0.5
GCIS				i Sg	Sg	10 06 44.9	-0.4
	comp=Z,45nm,0.4s						
PDKS	Podkum	0.77	3	i Pg	Pg	10 06 35.4	-0.3
PDKS				i Sg	Sn	10 06 48.3	-1.5
	comp=Z,26nm,0.2s						
LJU	Ljubljana	0.80	339	i Pg	Pg	10 06 36.2	-0.2
LJU				i Sg	Sb	10 06 48.1	-0.1
	comp=Z,5.0nm,0.1s						
LJU	Ljubljana	0.80	339	ePg	Pg	10 06 36.0	-0.4
LJU				eSg	Sb	10 06 48.0	-0.1
VNDS	Vrh nad Dolski	0.82	349⇓	iPg	Pg	10 06 36.4	-0.4
VNDS				i Sg	Sn	10 06 49.8	-1.4
	comp=Z,15nm,0.2s						
JAVS	Javornik	0.86	315	i Pg	Pg	10 06 36.6	-0.8
JAVS				eSg	Sb	10 06 49.5	-0.2
	comp=Z,20nm,0.2s						
GOLS	Golise	0.86	34	ePg	Pg	10 06 37.6	0.0
GOLS				eSg	Sn	10 06 50.7	-1.4
	comp=Z,36nm,0.3s						
ZAG	Zagreb	0.91	54	ePg	Pg	10 06 37.9	-0.5
ZAG				eSg	Sb	10 06 51.0	-0.2
UDBI	Udbina	0.96	142	i Pg	Pb	10 06 40.0	+0.1
UDBI				Sg	Sb	10 06 53.0	+0.2
MOZS	Mozjanca	1.06	341	i Pg	Pn	10 06 41.6	-0.4
GORS	Gorjuse	1.22	328	i Pg	Pb	10 06 44.2	0.0
OBKA	Obir	1.25	348	ePg	Pn	10 06 44.4	-0.3
	comp=Z,6.8nm,0.1s,SNR=18						
OBKA				eSg	Sn	10 07 02.7	+1.0
	comp=Z,54nm,0.5s						
PERS	Pernice	1.35	5	i Pg	Pg	10 06 46.8	0.0
SOKA	Soboth	1.39	3	ePg	Pg	10 06 47.4	-0.1
	comp=Z,10nm,0.2s,SNR=22						
SOKA				Sg	Sg	10 07 05.2	-0.4
	comp=Z,13nm,0.4s						
MYKA	Terra Mystica	1.61	326	ePg	Pg	10 06 51.7	-0.1
	comp=Z,1.1nm,0.2s						
MYKA				eSg	Sg	10 07 13.1	+0.3
	comp=Z,7.1nm,0.3s						
BLY	Banja Luka	1.68	108	ePn	Pn	10 06 50.5	-0.1
BLY				eSn	Sn	10 07 12.3	0.0
BEHE	Becsehely	1.74	47	ePn	Pb	10 06 52.5	-0.6
BEHE				eSn	Sb	10 07 15.5	+0.4
MGRS	Mrkonjic Grad	1.76	119	ePn	Pn	10 06 51.8	+0.1
MGRS				eSn	Sn	10 07 14.6	+0.4
ARSA	Arzberg	2.00	12	ePg	Pb	10 06 58.0	+0.5
	comp=Z,2.4nm,0.2s,SNR=6.7						
KBA	Koelnbreinsper	2.10	329	ePn	Pb	10 06 58.0	-1.3
	comp=Z,0.5nm,0.2s						
ABTA	Abfaltersbach	2.23	312	ePn	Pb	10 06 60.0	-1.5
	comp=Z,0.6nm,0.1s						
ABTA				eSg	Sg	10 07 32.7	+0.2
	comp=Z,8.5nm,0.4s						
STON	Ston	3.13	140	ePn	Pn	10 07 10.4	-0.1
STON				eSn	Sn	10 07 47.3	-0.7
KHC	Kasperske Hory	3.95	347	eSN	Sn	10 08 11.5	+3.3
KHC				eSG	Sg	10 08 35.5	+7.8

MEX 04 10:07:33.2±0.7, 19°.12N×104°.13W, h3km±4km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		0.61	54	eP	Pg	10 07 44.8	-0.1
EZ5V				i S	Sg	10 07 53.9	+1.1
CJM	Chamela	0.94	294	i P	Pg	10 07 49.3	-2.1
CJM				eS	Sg	10 08 01.9	-1.8
MMIG	Aquila	1.11	138	eP	Pg	10 07 51.4	-3.1
MMIG				eS	Sg	10 08 06.7	-2.2
ANIG	Ahuacatlan	1.96	349	i P	Pn	10 08 05.3	-2.1

IDC 04 10:27:40.8±1.3, 3°.93S×104°.46W, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.6/28, mbtmp3.5/5, MS3.4/9, Ms1 3.5/9, ms1mx3.3/17, Error ellipse: s-maj=42.4km s-min=34.5km az=91.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	22.93	24	LR	LR	10 39 42.7	
	comp=Z,112nm,20.4s,baz=184,slow=32						
APG	El Apazote	23.37	36	LR	LR	10 40 03.7	
	comp=Z,119nm,19.2s,baz=67,slow=32						
H06E1	SOCORRO T-PHAS	23.45	344	T	T	10 57 06.9	
	SNR=3.3						
JTS	Las Juntas de	24.02	54	LR	LR	10 39 28.2	
	comp=Z,56nm,20.1s,baz=348,slow=29						
NNA	Nana	28.48	108	LR	LR	10 41 50.9	
	comp=Z,94nm,19.6s,baz=268,slow=30						
TXAR	Lajitas Array	33.08	1	LR	LR	10 45 31.7	
	comp=Z,61nm,19.6s,baz=0.0,slow=32						
SDV	Santo Domingo	36.05	69	P	P	10 34 44.7	+0.1
	0.7nm,0.3s,baz=282,slow=20,SNR=2.7						
LPAZ	La Paz	37.73	112	LR	LR	10 48 27.4	
	comp=Z,46nm,19.0s,baz=216,slow=33						
NVAR	Mina Array Bea	44.05	344	LR	LR	10 50 52.1	
	comp=Z,47nm,20.0s,baz=162,slow=32						
PPT	Papeete	46.21	249	LR	LR	10 50 28.3	
	comp=Z,52nm,18.1s,baz=42,slow=30						
PDAR	Pinedale Array	46.70	355	P	P	10 36 12.4	+0.6
	0.2nm,0.7s,baz=182,slow=5.4,SNR=2.7						
CPUP	Villa Florida	50.27	121	LR	LR	10 54 40.6	
	comp=Z,55nm,18.3s,baz=204,slow=32						
YKA	Yellowknife Ar	66.69	355	P	P	10 38 32.6	-0.7
	0.5nm,0.9s,baz=160,slow=6.6,SNR=2.4						
ILAR	Eielson Array	75.28	343	P	P	10 39 25.4	0.0
	0.4nm,0.8s,baz=147,slow=5.4,SNR=3.6						
VNDA	Vanda	86.99	193	P	P	10 40 27.6	0.0
	0.3nm,0.3s,baz=117,slow=4.5,SNR=7.8						
H11N3	WAKE ISLAND Hy	90.02	290	T	T	12 20 16.8	
	baz=96,slow=74,SNR=12						
H11N2	WAKE ISLAND Hy	90.03	290	T	T	12 20 25.4	
	baz=96,slow=74,SNR=17						
H11N1	WAKE ISLAND Hy	90.03	290	T	T	12 20 23.4	
	baz=96,slow=74,SNR=15						
H11S2	WAKE ISLAND Hy	90.12	288	T	T	12 20 30.7	
	baz=94,slow=75,SNR=23						
H11S1	WAKE ISLAND Hy	90.13	288	T	T	12 20 24.0	
	baz=94,slow=75,SNR=24						
H11S3	WAKE ISLAND Hy	90.14	288	T	T	12 20 32.0	
	baz=94,slow=75,SNR=22						

MEX 04 10:58:27.3±0.4, 19°.11N×104°.13W, h4km±3km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		0.62	54	eP	Pg	10 58 38.9	-0.3
CJM	Chamela	0.94	294	i P	Pg	10 58 43.4	-2.0
CJM				eS	Sg	10 58 56.0	-1.7
MMIG	Aquila	1.11	138	eP	Pg	10 58 45.7	-2.8
MMIG				eS	Sg	10 58 59.9	-3.1
ANIG	Ahuacatlan	1.96	349	eP	Pn	10 58 58.9	-2.7
ANIG				i S	Sn	10 59 21.8	-4.9

*IDC **04** 11:12:49.1±1.6, 19°.37N×105°.05W, h0km, mb3.8/7,*
mb1 4.1/10, mb1mx3.9/35, mbtmp3.9/10, ML3.7/3, MS3.3/10,
Ms1 3.3/10, ms1mx3.1/35, Error ellipse: s-maj=39.4km
*s-min=21.9km az=52.

AMTX	Amarillo 7.7nm,1.0s	15.85	10	*e*Pn	P	11 16 35.4	-1.2
AMTX	Amarillo baz=192	15.85	10	P	Pn	11 16 34.0	+0.9
WMOK	Wichita Mounta baz=202	16.36	18	P	P	11 16 41.6	-0.7
W18A	Petrified Fore baz=164	16.41	346	P	P	11 16 42.1	-0.9
GLA	Glamis 18nm,1.0s	16.41	329	*e*Pn	P	11 16 41.7	-1.1
GLA	Glamis baz=146	16.41	329	P	P	11 16 41.9	-1.0
IKP	In-Ko-Pah, Jac baz=141	16.76	325	P	P	11 16 45.8	-0.9
SWSC	Sam W. Stewart baz=142	16.82	326	P	P	11 16 46.4	-0.9
Y12C	Blythe baz=148	16.85	331	P	P	11 16 47.4	-0.2
MONP2	Monument Peak baz=141	17.11	325	P	Pn	11 16 49.5	+0.3
BC3	Big Chuckawall baz=145	17.21	329	P	P	11 16 51.5	-0.3
IRM	Iron Mountain baz=147	17.47	330	P	P	11 16 54.6	+0.1
109C	Camp Elliot, M baz=139	17.48	324	P	P	11 16 55.1	+0.4
Z41A	Richland Creek baz=221	17.64	35	P	P	11 16 57.7	+1.4
PFO	Pinyon Flats O 15nm,1.1s	17.68	326	*e*Pn	Pn	11 16 56.3	0.0
PFO	Pinyon Flats O baz=142,SNR=5.7	17.68	326	P	P	11 16 57.3	+0.3
BELC	Belle Mtn. Jos baz=144	17.75	328	P	P	11 16 58.3	+0.5
T25A	Trinidad baz=182	17.85	1	P	P	11 16 59.1	+0.2
MURC	Murrieta baz=140	18.07	325	P	P	11 17 01.0	-0.1
GMRC	Granite Mounta baz=146	18.23	330	P	Pn	11 17 02.7	-0.2
TUL1	Leonard 10.0nm,0.6s	18.44	24	*e*P	Pn	11 17 05.8	+0.5
TUL1	Leonard baz=209	18.44	24	P	Pn	11 17 05.9	+0.5
SDCO	Great Sand Dun 5.4nm,1.4s	18.46	358	*e*P	P	11 17 05.0	-0.7
SDCO	Great Sand Dun baz=179	18.46	358	P	P	11 17 05.5	-0.2
HEC	Hector,Ludlow baz=145	18.59	329	P	Pn	11 17 07.1	-0.1
CIS	Catalina Islan baz=137	18.61	322	P	Pn	11 17 07.1	-0.4
W39A	Magazine baz=215	18.68	29	P	Pn	11 17 08.5	+0.2
GSC	Goldstone, Bar 13nm,1.0s	19.19	329	*e*P	Pn	11 17 14.3	-0.3
GSC	Goldstone, Bar baz=144	19.19	329	P	Pn	11 17 13.9	-0.7
W41B	Gary Mavity, V baz=219	19.41	33	P	Pn	11 17 17.1	+0.1
SHOC	Shoshone, Teco baz=147	19.43	331	P	Pn	11 17 16.5	-0.9
SHPR	Sheep Range 3.7nm,1.0s	19.46	334	*e*P	Pn	11 17 17.0	-0.8
EDW2	Edwards Air Fo baz=141	19.47	326	P	P	11 17 16.9	+0.3
HHAR	Hobbs 8.2nm,0.6s	19.51	27	*e*P	P	11 17 17.3	+0.3
LRMC	Laurel Mtn Rad baz=142	19.77	328	P	Pn	11 17 20.8	-0.8
349A	Repton baz=238	19.98	49	P	Pn	11 17 23.5	-0.4
147A	Livingston baz=233	20.00	45	P	Pn	11 17 23.7	-0.4
U40A	Yellville baz=216,SNR=6.9	20.06	29	P	P	11 17 22.5	-0.5
ARVC	Arvin baz=139	20.10	325	P	Pn	11 17 24.5	-0.8
MPMC	Manual Prospec baz=144,SNR=12	20.13	329	P	Pn	11 17 24.9	-1.0
FURC	Furnace Creek, baz=146	20.16	331	P	Pn	11 17 25.0	-1.0
ISA	Isabella, Lake 10nm,0.8s	20.32	326	*e*P	P	11 17 26.6	+0.7
ISA	Isabella, Lake baz=141,SNR=10	20.32	326	P	P	11 17 26.6	+0.7
DAC	Darwin (Calif) 8.5nm,0.9s	20.36	329	*e*P	P	11 17 27.1	+0.7
249A	Camden baz=236	20.37	48	P	P	11 17 27.1	+0.8
148A	Greensboro baz=234	20.45	46	P	Pn	11 17 28.2	-1.2
U41A	Viola baz=218	20.50	31	P	P	11 17 27.7	0.0
350A	Dozier baz=239	20.64	50	P	Pn	11 17 30.4	-1.2
CWC	Cottonwood Cre baz=143	20.72	329	P	P	11 17 31.0	+0.7
VES	Vestal, Richgr baz=140,SNR=14	20.78	326	P	Pn	11 17 32.0	-1.2
GRAC	Grapevine Rang baz=146,SNR=6.6	20.83	331	P	Pn	11 17 33.0	-0.9
149A	Jones baz=235	20.96	47	P	P	11 17 33.7	+1.0
250A	Grady baz=238	20.98	49	P	Pn	11 17 34.9	-0.7
O20A	White River Ci baz=172	21.04	353	P	P	11 17 34.4	+0.6
LRAL	Lakeview Retre baz=234	21.07	46	P	P	11 17 35.6	+1.8
JTS	Las Juntas de 2.8nm,0.6s,baz=349,slow=7.4,SNR=3.0	21.17	112	P	P	11 17 38.6	+3.5
JTS	comp=Z,60nm,18.9s,baz=5.5,slow=32			LR	LR	11 24 04.3	
R11A	Troy Canyon, C 2.3nm,0.8s	21.22	336	*e*P	P	11 17 36.2	+0.5
R11A	Troy Canyon, C baz=152	21.22	336	P	P	11 17 36.3	+0.7
Y48A	Jasper baz=232	21.49	44	P	P	11 17 38.3	-0.1
150A	Eclectic baz=237	21.50	48	P	P	11 17 39.4	+0.9
S41A	Jillco Farms, baz=216	21.58	29	P	P	11 17 38.5	-0.8
352A	Blakely baz=241	21.70	52	P	P	11 17 40.8	+0.2
X48A	Hartselle baz=231	21.91	43	P	P	11 17 42.6	-0.3
Z50A	Ashland baz=236	21.93	47	P	P	11 17 43.6	+0.5
Y49A	Blount Mountai baz=234	21.95	45	P	P	11 17 43.7	+0.3
DUG	Dugway, Tooele baz=160	21.99	344	P	P	11 17 44.5	+0.6
MLAC	Mammoth, Mammo baz=143	22.03	329	P	P	11 17 44.2	-0.3
252A	Lumpkin baz=240	22.10	51	P	P	11 17 45.2	+0.2
OMMB	Old Mammoth Mi 4.3nm,0.9s	22.10	329	*e*P	P	11 17 45.5	+0.2
V46A	Holladay baz=227	22.14	38	P	P	11 17 45.1	-0.2
MDPB	Devils Postpil 10nm,1.0s	22.15	329	*e*P	P	11 17 46.1	+0.3
353A	Camilla baz=242	22.17	53	P	P	11 17 46.1	+0.4
CCM	Cathedral Cave baz=217	22.19	29	P	P	11 17 45.5	-0.4
R41A	Rosebud baz=216	22.32	29	P	P	11 17 47.1	-0.2
NV11	Mina Array Sit 1.0nm,1.1s	22.36	332	*e*P	P	11 17 48.7	+0.8
X49A	Woodville baz=232	22.41	43	P	P	11 17 47.7	-0.5
W48A	Pulaski baz=230	22.41	41	P	P	11 17 47.9	-0.5
Y50A	Piedmont baz=235	22.43	46	P	P	11 17 48.3	-0.2
NV01	Mina Array Sit	22.43	331	*e*P	P	11 17 49.3	+0.6
NVAR	Mina Array Bea	22.43	331	*e*P	P	11 17 49.5	+0.8
NVAR	Mina Array Bea 7.3nm,0.7s,baz=154,slow=11,SNR=38	22.43	331	P	P	11 17 49.3	+0.6
NVAR	comp=Z,103nm,19.7s,baz=165,slow=36			LR	LR	11 26 08.8	
152A	Waverly Hall baz=239	22.46	49	P	P	11 17 49.0	+0.2
Z51A	Franklin baz=237	22.48	47	P	P	11 17 48.3	-0.8
U46A	Springville baz=226	22.50	37	P	P	11 17 49.4	+0.3
V47A	Nunnelly baz=228	22.51	39	P	P	11 17 48.5	-0.8
TIGA	Tifton 148nm,1.4s	22.69	53	*e*P	P	11 17 50.6	-0.6
RYN	Ryan 8.2nm,1.0s	22.69	331	*e*P	P	11 17 52.0	+0.7
X50B	Fort Payne baz=234	22.82	44	P	P	11 17 51.5	-1.1
W49A	Belvidere baz=231	22.82	42	P	P	11 17 51.6	-1.0
KVN	Kaiserville 7.3nm,1.0s	22.85	333	*e*P	P	11 17 54.0	+0.9
V48A	Smith Brothers baz=229	22.88	40	P	P	11 17 52.4	-0.8
Y51A	Rockmart baz=236	22.89	46	P	P	11 17 53.1	-0.3
Z52A	Williamson baz=238	22.95	49	P	P	11 17 53.9	-0.1
WAKR	Walker 9.3nm,0.9s	23.02	330	*e*P	P	11 17 55.3	+0.4
U47A	Clarksville baz=227	23.07	38	P	P	11 17 55.0	-0.1
153A	Fort Valley baz=240	23.09	50	P	P	11 17 55.6	+0.2
CMB	Columbia Colle 3.8nm,0.9s	23.12	327	*e*P	P	11 17 56.0	+0.3
254A	Abbeville baz=242	23.15	53	P	P	11 17 55.4	-0.6
Q42A	Golden Eagle baz=217	23.21	29	P	P	11 17 56.4	-0.2
ELK	Elko 1.4nm,0.9s,baz=155,slow=8.7,SNR=6.8	23.22	340	P	P	11 17 55.9	-1.0
ELK	comp=Z,81nm,20.0s,baz=168,slow=36			LR	LR	11 26 40.6	
YERR	Yerington 7.3nm,0.9s	23.31	331	*e*P	P	11 17 58.6	+0.9
X51A	Calhoun baz=235	23.41	45	P	P	11 17 57.9	-0.7
W50A	Signal Mountai 33nm,0.6s	23.49	43	*e*P	P	11 17 58.8	-0.7
W50A	Signal Mountai baz=233,SNR=6.9	23.49	43	P	P	11 17 58.7	-0.7
T47A	Sharon Grove baz=227	23.55	38	P	P	11 18 01.0	+1.1
557A	Orange Park baz=248	23.55	58	P	P	11 18 00.1	0.0
PNTR	Pine Nut 15nm,0.8s	23.56	330	*e*P	P	11 18 01.6	+1.3
U48A	Cassie Pea, Po baz=228	23.56	39	P	P	11 18 00.1	+0.1
Y52A	Lilburn baz=237	23.56	48	P	P	11 18 00.2	+0.2
Z53A	Monticello baz=239	23.60	49	P	P	11 18 00.1	-0.4
154A	Montrose baz=241	23.60	51	P	P	11 18 00.4	-0.1
BMN	Battle Mountai 2.6nm,0.8s	23.66	336	*e*P	P	11 18 01.5	+0.4
S46A	Don Dixon Farm baz=224	23.70	36	P	P	11 18 01.0	-0.4
GOGA	Godfrey 18nm,0.8s	23.74	49	*e*P	P	11 18 01.7	-0.1
GOGA	Godfrey baz=239,SNR=5.3	23.74	49	P	P	11 18 01.0	-0.8
VCNR	Virginia City 3.6nm,0.8s	23.75	330	*e*P	P	11 18 02.5	+0.5
PDAR	Pinedale Array 0.4nm,0.6s,baz=169,slow=11,SNR=5.7	23.80	351	P	P	11 18 01.1	-1.5
PDAR	comp=Z,101nm,18.5s,baz=212,slow=39			LR	LR	11 28 01.6	
W51A	Cleveland baz=234	23.82	44	P	P	11 18 02.4	-0.2
R45A	Skylar, Fairfi baz=222	23.84	34	P	P	11 18 02.4	-0.3
V50A	Pikevile baz=232,SNR=8.0	23.91	43	P	P	11 18 02.9	-0.6
PAHR	Pah Rah Range 7.1nm,1.2s	23.95	332	*e*P	P	11 18 04.5	+0.5
O41A	Passleys Farm, baz=215	24.04	27	P	P	11 18 04.2	-0.3
T48A	Bowling Green baz=228	24.05	38	P	P	11 18 04.3	-0.3
X52A	Dahlonega baz=236	24.08	46	P	P	11 18 05.2	+0.2
S47A	Hartford baz=226	24.10	37	P	P	11 18 04.5	-0.7
R46A	Gibon Southern baz=224	24.19	35	P	P	11 18 06.0	+0.1
P43A	Skaggs, Pawnee baz=218	24.26	30	P	P	11 18 05.8	-0.8
W52A	Murphy baz=235	24.34	45	P	P	11 18 07.4	0.0
N40A	Mertquake, Sal baz=212	24.39	25	P	P	11 18 07.1	-0.6
X53A	Estanollee baz=237	24.44	47	P	P	11 18 08.6	+0.3
V51A	Loudon 34nm,1.2s	24.48	43	*e*P	P	11 18 08.7	+0.1
V51A	Loudon baz=233	24.48	43	P	P	11 18 08.3	-0.3
Y54A	Tignall baz=240	24.53	49	P	P	11 18 09.3	+0.2
BEKR	Beckworth 9.2nm,1.0s	24.53	330	*e*P	P	11 18 09.7	+0.5
U50A	Jamestown baz=232	24.54	42	P	P	11 18 08.5	-0.7
N41A	Harden Midland 19nm,0.9s	24.54	26	*e*P	P	11 18 08.3	-0.8
N41A	Harden Midland baz=214	24.54	26	P	P	11 18 08.1	-1.0
REDW	Red Top Meadow 4.5nm,0.9s	24.59	349	*e*P	P	11 18 09.5	-0.3
S48A	Wiedeman Farm, baz=227	24.62	38	P	P	11 18 09.4	-0.5
SNOW	Snow King Moun 4.2nm,0.8s	24.67	350	*e*P	P	11 18 10.4	-0.2
M39A	Webster baz=210	24.67	23	P	P	11 18 09.8	-0.5
LOHW	Long Hollow 3.9nm,0.8s	24.79	350	*e*P	P	11 18 11.3	-0.4
M40A	Post Highland baz=212	24.86	24	P	P	11 18 11.4	-0.6
W53A	Cullowhee baz=236,SNR=6.5	24.90	46	P	P	11 18 12.6	0.0
T50A	Nancy baz=231	24.92	41	P	P	11 18 12.3	-0.3
BG3	Lake Jocassee 74nm,1.7s	24.96	47	*e*P	P	11 18 13.9	+0.9
HODGE	Hodges 11nm,0.7s	25.02	49	*e*P	P	11 18 14.6	+1.0
P45A	Graceland, Par baz=222	25.04	32	P	P	11 18 13.2	-0.5
HDIL	Hopedale 12nm,0.6s	25.10	29	*e*P	P	11 18 14.0	-0.1
HDIL	Hopedale baz=217	25.10	29	P	P	11 18 13.6	-0.5
X54A	Belton baz=239	25.11	48	P	P	11 18 14.6	+0.2
S49A	Springfield baz=229	25.15	39	P	P	11 18 15.1	+0.4
Y55A	Saluda baz=241	25.16	50	P	P	11 18 15.3	+0.5
O44A	Mansfield baz=219	25.16	31	P	P	11 18 14.7	-0.1
L39A	Vinton baz=210	25.30	23	P	P	11 18 15.7	-0.2
T51A	Gray baz=232	25.44	42	P	P	11 18 17.4	0.0
W54A	Cherokee Point baz=238	25.52	47	P	P	11 18 18.0	-0.1
L40A	Anamosa baz=212	25.54	24	P	P	11 18 18.2	+0.1
HLID	Hailey baz=159	25.56	344	P	P	11 18 18.6	0.0
L41A	Preston baz=213	25.83	25	P	P	11 18 20.5	-0.3
WVOR	Wild Horse Val 2.6nm,0.8s	25.92	336	*e*P	P	11 18 21.8	0.0
V54A	Nebo baz=237	26.06	46	P	P	11 18 22.4	-0.6
L42A	Oliver, Polo baz=215	26.11	26	P	P	11 18 22.3	-1.0
KMSC	Kings Mountain baz=239	26.15	48	P	P	11 18 23.3	-0.5
MOD	Modoc Plateau 5.1nm,0.9s	26.15	333	*e*P	P	11 18 24.1	+0.3
K41A	Shullsburg baz=213	26.36	25	P	P	11 18 24.4	-1.1
J08A	Circle Bar Ran 3.7nm,0.8s	26.66	337	*e*P	P	11 18 28.8	+0.4
V56A	Mocksville baz=239	27.08	47	P	P	11 18 31.3	-0.8
V57A	Coltrane Farms baz=240	27.62	48	P	P	11 18 36.5	-0.5
J05D	Fort Rock, OR baz=146	27.67	334	P	P	11 18 36.6	-1.0
Q52A	Bidwell baz=232	27.72	40	P	P	11 18 38.2	+0.3
I05D	Terrebonne, OR baz=146	28.59	335	P	P	11 18 45.2	-0.4
T59A	Double "B" Far baz=241	29.71	48	P	P	11 18 55.5	0.0
U60A	Pendleton baz=243	29.75	49	P	P	11 18 57.0	+1.0
LTY	Liberty 15nm,1.5s	30.81	339	*e*P	P	11 19 06.5	+1.2
B08A	Colville Reser	31.34	341	*e*P	P	11 19 10.5	+0.6
BWLO	Walkerton baz=227	31.77	33	P	P	11 19 14.3	+0.7
D03D	Eldon baz=146	31.92	336	P	P	11 19 15.4	+0.4
OTAV	Otavalo 3.7nm,0.9s	32.03	123	*e*P	P	11 19 21.6	+4.8
B05A	Bryant baz=149	32.17	338	P	P	11 19 17.0	-0.1
SDV	Santo Domingo 14nm,0.8s	34.67	102	*e*P	P	11 19 43.1	+3.5
DLBC	Dease Lake 12nm,1.4s	43.27	341	*e*P	P	11 20 52.5	+1.7
YKA	Yellowknife Ar 0.4nm,0.7s,baz=164,slow=8.0,SNR=8.5	43.76	353	P	P	11 20 53.3	-1.3
YKA	comp=Z,5.6nm,20.5s,baz=156,slow=36			LR	LR	11 39 23.3	
EGAK	Eagle 13nm,1.5s	51.54	341	*e*P	P	11 21 55.3	+0.3
GHO	Glory Hole Cre 11nm,0.8s	52.36	335	*e*P	P	11 22 01.9	+0.6
SUA	Susitna One 9.7nm,0.7s	52.92	334	*e*P	P	11 22 06.1	+0.7
ILAR	Eielson Array	53.38	339	*e*P	P	11 22 08.8	+0.1
ILAR	Eielson Array 2.9nm,0.8s,baz=152,slow=6.8,SNR=35	53.38	339	P	P	11 22 08.7	+0.1
ILB	Eielson Array 4.6nm,0.8s	53.38	339	*e*P	P	11 22 08.7	+0.1
PRP	Porcupine Dome 3.7nm,0.7s	53.40	340	*e*P	P	11 22 09.4	+0.4
CCB	Clear Creek Bu 2.3nm,0.8s	53.62	339	*e*P	P	11 22 09.8	-0.5
BWN	Browne 17nm,0.8s	53.92	338	*e*P	P	11 22 12.2	-0.5
TOLK	Toolik Lake Re baz=128	56.60	342	P	P	11 22 31.6	-0.3
PEA1	Petropavlovsk-	79.21	323	*e*P	P	11 24 54.8	+0.5
PETK	Petropavlovsk- 2.1nm,0.7s,baz=77,slow=10.0,SNR=4.7	79.21	323	P	P	11 24 54.8	+0.5
H11N3	WAKE ISLAND Hy baz=73	82.12	288	T	T	12 55 37.8	
H11N2	WAKE ISLAND Hy baz=73,slow=74	82.13	288	T	T	12 55 35.7	
H11N1	WAKE ISLAND Hy baz=73,slow=74	82.14	288	T	T	12 55 44.2	

*ISCJB **04** 11:29:47.1±0.8,30°.17N±0°.08×102°.95E±0°.08,h10km, mb3.5/6,Error ellipse: s-maj=13.6km s-min=7.8km az=142.3*

*IDC **04** 11:29:47.7±1.1,30°.22N×102°.99E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.4/44,mbtmp3.5/7,ML3.4/1,Error ellipse: s-maj=41.7km s-min=19.2km az=64.0*

*BJI **04** 11:29:50.2±0.0,30°.28N×102°.89E,h21km,ML3.4/10*

ISC 04 11:29:48.7±1.2,30°.2N±0°.1×102°.79E±0°.09,h10km,n10, σ2s72/13,mb3.7/6,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	1.11	49	Pg	Pg	11 30 08.2	-1.9
CD2				Sg	Sg	11 30 21.7	-2.8
CD2				smax	smax		
	comp=N,2μm,0.6s						
CD2				smax	smax		
	comp=E,2μm,0.8s						
XAN	Xi'an	6.47	52	Pn	Pn	11 31 31.3	+7.2
XAN				Pg	Pg	11 31 55.3	+2.6
XAN				Sn	Sn	11 32 34.7	-3.3
XAN				Sg	Sb	11 33 05.1	+6.2
SONM	Songino Array 0.1nm,0.3s,baz=192,slow=13,SNR=2.5	17.85	8	P	Pn	11 33 56.9	-0.3
WMQ	Urumqi	18.15	323	*e*P	Pn	11 34 00.5	-0.4
KSRS	Korea Array 0.9nm,0.8s,baz=249,slow=10,SNR=4.5	22.07	64	P	P	11 34 41.9	-1.8
MKAR	Makanchi Array 0.8nm,0.7s,baz=123,slow=12,SNR=5.3	22.97	322	P	P	11 34 54.4	+1.0
ZALV	Zalesovo Beam 1.0nm,0.5s,baz=127,slow=9.2,SNR=5.7	27.09	336	P	P	11 35 32.4	+1.0
WRA	Warramunga Arr 1.0nm,0.7s,baz=328,slow=9.1,SNR=25	58.36	145	P	P	11 39 44.4	+0.1
ASAR	Alice Springs 0.4nm,0.5s,baz=333,slow=6.9,SNR=14	61.31	147	P	P	11 40 04.8	+0.2
YKA	Yellowknife Ar 0.2nm,0.5s,baz=332,slow=5.4,SNR=3.9	82.90	17	P	P	11 42 13.2	-0.1

SJA 04 11:32:12.3±0.8,28°.69S×67°.79W,h125km±3km,ML3.1, MW3.5,1D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	Vinchina	0.37	262	*e*P	Pn	11 32 31.1	+0.7
VCA				*e*S	Sn	11 32 44.6	+0.6
VCA				IAML		11 32 45.3	
	comp=Z,715nm,0.5s						
AGUA	GUANDACOL	1.01	218	*e*P	Pn	11 32 35.8	+0.8
AGUA				*e*S	Sn	11 32 53.0	+0.8
ACLC	CERRO LA CRUZ	1.04	135	*e*P	Pn	11 32 36.3	+1.0
ACLC				⇓*e*S	Sn	11 32 53.3	+0.5
CYA	Choya	1.76	82	*e*P	Pn	11 32 44.0	+0.8
ACDV	Cuesta del Vie	1.88	218	*e*P	Pn	11 32 46.2	+1.4
ACDV				IAML		11 32 46.6	
	comp=Z,89nm,0.1s						
APLL	PUNTA DE LOS L	2.02	147	*e*P	Pn	11 32 47.3	+0.9
APLL				IAML		11 32 47.4	
	comp=Z,114nm,0.2s						
AROD	Rodeo	2.08	225	*e*P	Pn	11 32 48.9	+1.6
ACCO	Cerro Coronel	2.20	210	*e*P	Pn	11 32 50.0	+1.3
AMOG	MOGNA	2.33	195	*e*P	Pn	11 32 51.0	+0.9
RTLL	Cerro Villicun	2.70	193	*e*P	Pn	11 32 56.5	+1.6
AHML	Horco Molle	2.88	49	*e*P	Pn	11 32 57.5	+0.2
CFA	Coronel Fontan	2.93	188	*e*P	Pn	11 32 58.7	+0.8
ZON	Zonda	2.95	195	*e*P	Pn	11 32 59.7	+1.5
GO04	Tololo Observa	3.02	240	*e*P	Pn	11 32 59.6	+0.4
FSA	Cafayete	3.03	32	*e*P	Pn	11 33 00.7	+1.4
RTLS	Leoncito	3.36	202	*e*P	Pn	11 33 05.5	+1.6
RTLS				IAML		11 33 46.3	
	comp=Z,44nm,0.3s						
ACAN	Cantantal	3.61	172	*e*P	Pn	11 33 08.1	+1.3
AUSP	Uspallata	3.79	201	*e*P	Pn	11 33 10.9	+1.6
TCA	Tanti	3.83	134	*e*P	Pn	11 33 10.1	+0.4
ASAL	Salagasta	3.99	193	*e*P	Pn	11 33 13.4	+1.5
MRA	San Martin	4.12	155	*e*P	Pn	11 33 14.5	+0.8
ARCO	CERRO ARCO	4.26	193	*e*P	Pn	11 33 16.6	+1.1
ARCO				IAML		11 34 07.7	
	comp=Z,25nm,0.3s						
ROC1	El Roble	5.10	212	*e*P	Pn	11 33 27.1	+0.3

*TAP **04** 11:35:55.9,24°.91N×122°.43E,h17km,ML2.5,C*

*ISCJB **04** 11:35:56.3±0.7,24°.91N±0°.03×122°.46E±0°.02,h13km±4km, Error ellipse: s-maj=5.1km s-min=3.3km az=28.5*

*JMA **04** 11:35:56.2±0.2,24°.92N×122°.47E,h33km±5km,M2.0*

ISC 04 11:35:55.9±1.1,24°.94N±0°.04×122°.47E±0°.03,h24km±12km, n39,σ0s55/65,1C-7D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao baz=283	0.44	279	⇓*i*P	Pb	11 36 05.0	0.0
TWB1				*i* S	Sb	11 36 10.8	-0.5
	baz=283						
EOS1	EOS1 baz=218	0.49	219	⇓*e*P	Pb	11 36 05.9	0.0
EOS1				*e*S	Sb	11 36 12.8	+0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=218						
TIPB	**Shuangxi**	**0.58**	**274**	⇓P	**Pb**	**11 36 08.0**	**+0.5**
	baz=276						
TIPB				S	**Sb**	**11 36 15.2**	**-0.1**
	baz=276						
NWF	**Wu-fen Shan**	**0.64**	**282**	P	**Pn**	**11 36 09.0**	**-0.4**
	baz=285						
NWF				*e*S	**Sb**	**11 36 17.4**	**+0.5**
	baz=285						
WFSB	**Wu-fen Shan**	**0.64**	**282**	P	**Pn**	**11 36 09.0**	**-0.4**
	baz=285						
WFSB				*e*S	**Sb**	**11 36 17.3**	**+0.5**
	baz=285						
TWC	**Suao**	**0.65**	**240**	*e*P	**Pb**	**11 36 08.0**	**-0.6**
	baz=240						
TWC				*e*S	**Sb**	**11 36 16.9**	**-0.2**
	baz=240						
JYNG	**Yonagunijimaku**	**0.65**	**138**	P	**Pb**	**11 36 08.5**	**-0.1**
JYNG				S	**Sb**	**11 36 17.4**	**+0.2**
YOJ	**Yonaguni jima**	**0.69**	**134**	*i* P	**Pb**	**11 36 09.0**	**-0.1**
	baz=121						
YOJ				*i* S	**Sb**	**11 36 18.2**	**0.0**
	baz=121						
YOJ	**Yonaguni jima**	**0.69**	**134**	P	**Pb**	**11 36 08.8**	**-0.4**
YOJ				*e*S	**Sb**	**11 36 18.2**	**0.0**
TWE	**Neicheng**	**0.76**	**254**	⇓*e*P	**Pb**	**11 36 10.6**	**+0.2**
	baz=246						
TWE				S	**Sb**	**11 36 20.2**	**-0.1**
	baz=246						
PCYT	**Pengchaiyu**	**0.78**	**333**	⇑P	**Pn**	**11 36 11.6**	**+0.2**
	baz=336						
YM07	**YM07**	**0.80**	**287**	*e*P	**Pn**	**11 36 11.8**	**+0.1**
	baz=289						
YM07				*e*S	**Sn**	**11 36 22.4**	**-0.5**
	baz=289						
ENA	**Nanau**	**0.83**	**233**	⇓*e*P	**Pb**	**11 36 11.3**	**-0.3**
	baz=232						
YM01	**YM01**	**0.84**	**285**	*e*P	**Pn**	**11 36 12.1**	**-0.1**
	baz=286						
YM01				*e*S	**Sb**	**11 36 21.9**	**-0.8**
	baz=286						
YM11	**YM11**	**0.84**	**286**	⇓*e*P	**Pn**	**11 36 13.3**	**+1.0**
	baz=274						
YM11				S	**Sn**	**11 36 23.6**	**-0.3**
	baz=274						
YM10	**YM10**	**0.85**	**285**	*e*P	**Pn**	**11 36 13.2**	**+0.8**
	baz=287						
NHDH	**Xindian Distri**	**0.85**	**272**	*e*S	**Sb**	**11 36 23.4**	**+0.3**
	baz=273						
TWY	**Chenhua**	**0.85**	**293**	⇓P	**Pn**	**11 36 12.5**	**+0.1**
	baz=295						
TWY				*e*S	**Sn**	**11 36 24.3**	**+0.1**
	baz=295						
ENTT	**Nioudou**	**0.87**	**250**	*e*P	**Pn**	**11 36 12.8**	**+0.1**
	baz=237						
ENTT				*i* S	**Sn**	**11 36 23.9**	**-0.6**
	baz=237						
NWLT	**Wulai**	**0.89**	**260**	*e*P	**Pn**	**11 36 13.3**	**+0.5**
	baz=261						
NWLT				*e*S	**Sb**	**11 36 23.8**	**-0.3**
	baz=261						
NDT	**Datong Townshi**	**0.93**	**249**	*e*P	**Pn**	**11 36 14.1**	**+0.6**
	baz=237						
NDT				*e*S	**Sb**	**11 36 24.9**	**-0.4**
	baz=237						
YHNB	**Yeheng**	**1.03**	**255**	*e*P	**Pn**	**11 36 14.8**	**-0.1**
	baz=240						
YHNB				*e*S	**Sn**	**11 36 28.1**	**-0.4**
	baz=240						
NACB	**Ninganchiao**	**1.10**	**226**	*i* P	**Pn**	**11 36 15.3**	**-0.5**
	baz=237						
NACB				S	**Sb**	**11 36 29.3**	**-0.8**
	baz=237						
NNS	**Nan Shan**	**1.11**	**244**	*e*P	**Pb**	**11 36 16.5**	**0.0**
	baz=232						
NNS				*e*S	**Sb**	**11 36 30.1**	**-0.5**
	baz=232						
ETLH	**Xiulin Townshi**	**1.15**	**231**	*e*P	**Pb**	**11 36 16.9**	**-0.3**
	baz=231						
ETLH				*e*S	**Sb**	**11 36 31.4**	**-0.4**
	baz=231						
TWD	**Chiawan**	**1.16**	**223**	*e*P	**Pb**	**11 36 17.9**	**+0.6**
	baz=232						
IRIF	**Iriomote-Funau**	**1.30**	**117**	P	**Pn**	**11 36 18.6**	**+0.1**
WHF	**Hehuan Shan**	**1.35**	**234**	P	**Pb**	**11 36 20.4**	**-0.2**
	baz=234						
WHF				*e*S	**Sb**	**11 36 37.5**	**-0.2**
	baz=234						
CHGB	**Renai**	**1.47**	**234**	*e*P	**Pb**	**11 36 23.1**	**+0.5**
	baz=245						
CHGB				*e*S	**Sb**	**11 36 42.0**	**+1.1**
	baz=245						
OWD	**Renai**	**1.53**	**231**	*e*P	**Pb**	**11 36 23.4**	**-0.3**
	baz=242						
OWD				*e*S	**Sb**	**11 36 43.1**	**+0.4**
	baz=242						
WHP	**Taichung City**	**1.53**	**245**	*e*P	**Pb**	**11 36 24.9**	**+1.3**
	baz=244						
WHP				*e*S	**Sb**	**11 36 42.4**	**-0.2**
	baz=244						
VWDT	**VWDT**	**1.69**	**226**	*e*P	**Pb**	**11 36 25.6**	**-0.6**
	baz=208						
VWDT				*e*S	**Sb**	**11 36 46.5**	**-0.5**
	baz=208						
HGSD	**Ruisui**	**1.72**	**214**	*e*P	**Pn**	**11 36 25.3**	**+0.9**
	baz=198						
SMLT	**Sun Moon Lake**	**1.77**	**234**	*e*P	**Pb**	**11 36 26.9**	**-0.8**
	baz=216						
SSLB	**Suanglung**	**1.79**	**231**	*e*P	**Pb**	**11 36 28.6**	**+0.5**
	baz=213						
YULB	**Yu-li**	**1.87**	**215**	*e*P	**Pn**	**11 36 27.5**	**+1.1**
	baz=214						
WHYT	**Xinyi Township**	**1.92**	**230**	*e*P	**Pb**	**11 36 29.6**	**-0.7**
	baz=216						
FULB	**Fuli**	**2.04**	**212**	*e*P	**Pn**	**11 36 30.0**	**+1.3**
	baz=197						
CHN5	**Tsauling**	**2.11**	**231**	*e*P	**Pb**	**11 36 32.5**	**-0.9**
	baz=213						

MEX 04 11:48:58.1±0.4, 15°.29N×92°.86W, h95km±4km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.54**	**320**	*e*P	Pn	11 49 12.7	-1.0
PCIG				*e*S	Sn	11 49 23.3	-1.9
THIG		**0.69**	**123**	*i* P	Pn	11 49 13.9	-1.1
THIG				*i* S	Sn	11 49 25.9	-1.7
CCIG	**Comitan**	**1.21**	**35**	*i* P	Pn	11 49 19.4	-1.3
CCIG				*e*S	Sn	11 49 36.4	-1.4
TGIG		**1.50**	**350**	*i* P	Pn	11 49 22.6	-1.6
TGIG				*i* S	Sn	11 49 42.2	-1.6
CMIG	**Matias Romero**	**2.64**	**313**	*i* P	Pn	11 49 37.8	-1.1
CMIG				*i* S	Sn	11 50 09.4	-1.0

*IDC **04** 11:53:16.0±19.0, 19°.97N×155°.59W, h0km, mb3.2/4, mb1 3.6/4, mb1mx3.3/39, mbtmp3.2/4, Error ellipse: s-maj=398.6km s-min=58.7km az=37.0*
*NEIC **04** 11:53:26.8±0.0, 20°.56N×154°.57W, h11km, ML3.6(HVO), After HVO.*

ISC 04 11:53:25.3±2.0, 20°.59N±0°.05×154°.65W±0°.07, h16km±13km, n34, σ1°56/41, mb3.2/4, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPH	**Laupahoehoe**	**0.92**	**230**	*e*Pg	**Pg**	**11 53 42.2**	**-0.9**
HPAH	**Hawaii Prepara**	**1.12**	**241**	*e*Pg	**Pb**	**11 53 44.9**	**-1.4**
POHA	**Pohakuloa**	**1.17**	**225**	*e*Pn	**Pb**	**11 53 45.5**	**-1.7**
MHA	**Mahukona**	**1.24**	**252**	*e*Pn	**Pn**	**11 53 47.4**	**-0.5**
HMH	**Humu'ula Sheep**	**1.25**	**219**	*e*Pn	**Pn**	**11 53 46.7**	**-1.7**
MLH	**Mauna Loa**	**1.28**	**212**	*e*Pn	**Pn**	**11 53 47.0**	**-1.8**
MLH				*e*Sn	**Sg**	**11 54 09.1**	**+2.2**
SBLHI	**Steaming Bluff**	**1.29**	**207**	*e*Pn	**Pn**	**11 53 48.3**	**-0.5**
HATHI	**Halema'uma'u T**	**1.29**	**206**	*e*Pn	**Pn**	**11 53 47.0**	**-1.8**
HATHI				*e*Sn	**Sb**	**11 54 06.7**	**+1.1**
UWB	**Uwekahuna B**	**1.29**	**207**	*e*Pn	**Pn**	**11 53 47.0**	**-1.8**
UWB				*e*Sn	**Sb**	**11 54 07.5**	**+1.8**
BYL	**Byron's Ledge**	**1.30**	**206**	*e*Pn	**Pn**	**11 53 47.0**	**-1.8**
BYL				*e*Sn	**Sb**	**11 54 07.9**	**+2.1**
OBL	**Observatory Le**	**1.30**	**207**	*e*Pn	**Pn**	**11 53 48.1**	**-0.8**
UWE	**Uwekahuna**	**1.30**	**208**	*e*Pn	**Pn**	**11 53 47.2**	**-1.7**
KKO	**Keanakako`i**	**1.31**	**206**	*e*Pn	**Pn**	**11 53 47.2**	**-1.9**
PUH	**Pauahi**	**1.32**	**204**	*e*Pn	**Pn**	**11 53 47.1**	**-2.0**
RIM	**Rim**	**1.32**	**206**	*e*Pn	**Pn**	**11 53 47.4**	**-1.7**
RIM				*e*Sn	**Sg**	**11 54 10.0**	**+2.0**
WRMHI	**West Rim**	**1.32**	**207**	*e*Pn	**Pn**	**11 53 48.1**	**-1.1**
WRMHI				*e*Sn	**Sb**	**11 54 08.4**	**+1.9**
SDHHI	**Sand Hill**	**1.33**	**207**	*e*Pn	**Pn**	**11 53 47.3**	**-2.0**
MLOA	**Mauna Loa Obse**	**1.36**	**220**	*e*Pn	**Pn**	**11 53 48.4**	**-1.6**
MWH	**Moku'aweowe**	**1.41**	**219**	*e*Pn	**Pn**	**11 53 48.9**	**-1.8**
HLP	**Hilina Pali**	**1.42**	**206**	*e*Pn	**Pn**	**11 53 49.5**	**-1.0**
AIN	**Ainahou**	**1.42**	**212**	*e*Pn	**Pn**	**11 53 48.9**	**-1.8**
HUH	**Hualalai**	**1.43**	**231**	*e*Pn	**Pn**	**11 53 50.7**	**-0.1**
HLK	**Haleakala**	**1.50**	**277**	*e*Pn	**Pn**	**11 53 50.4**	**-1.4**
KHLU	**Kahalu`u**	**1.53**	**230**	*e*Pn	**Pn**	**11 53 51.0**	**-0.9**
KHU	**Kahuku**	**1.61**	**214**	*e*Pn	**Pn**	**11 53 51.4**	**-1.9**
KHLH	**Kahului Airpor**	**1.69**	**281**	*e*Pn	**Pn**	**11 53 53.9**	**-0.2**
HON	**Honolulu**	**3.21**	**284**	*e*Pn	**Pn**	**11 54 15.0**	**-0.1**
HON				*e*Sn	**Sn**	**11 54 52.7**	**-0.3**
KIP	**Kipapa**	**3.25**	**285**	*e*Pn	**Pn**	**11 54 14.8**	**-0.7**
OPA	**Opana**	**3.32**	**290**	*e*Pn	**Pn**	**11 54 15.6**	**-0.9**
KEKH	**Kekaha**	**4.92**	**287**	*e*Pn	**Pn**	**11 54 37.6**	**-0.9**
PDAR	**Pinedale Array**	**43.65**	**49**	P	**P**	**12 01 31.7**	**+2.2**
	0.1nm,0.4s,baz=257,slow=1.6,SNR=2.8						
ILAR	**Eielson Array**	**44.47**	**5**	P	**P**	**12 01 34.5**	**-0.8**
	0.4nm,0.8s,baz=193,slow=8.4,SNR=4.8						
TXAR	**Lajitas Array**	**46.74**	**69**	P	**P**	**12 01 55.3**	**+1.3**
	0.2nm,0.6s,baz=258,slow=8.6,SNR=4.8						
YKA	**Yellowknife Ar**	**50.02**	**23**	P	**P**	**12 02 17.4**	**-1.2**
	0.1nm,0.7s,baz=233,slow=7.0,SNR=3.5						

NORS 04 12:06:29.6±0.0, 44°.33N×42°.33E, h14km, MPVA3.7, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVNR	**Nevinnomyssk**	**0.39**	**318**	*e*Pg	Pg	12 06 34.5	-2.9
NVNR				*e*Sg	Sg	12 06 39.7	-3.0
KIV0	**Kislovodsk Arr**	**0.46**	**144**	*e*Pg	Pb	12 06 39.9	+0.4
KIV0				*e*Sg	Sb	12 06 47.9	+1.8
PYA1	**Pyatigorsk**	**0.61**	**115**	*e*Pg	Pg	12 06 41.5	-0.1
PYA1				*e*Sg	Sb	12 06 50.6	0.0
SHA1	**Shidzhatmaz**	**0.64**	**158**	*i* Pg	Pn	12 06 43.5	-0.9
SHA1				*i* Sg	Sn	12 06 54.3	-0.1
KBTC	**Kuba-Taba**	**0.93**	**123**	*e*Pg	Pn	12 06 48.3	0.0
KBTC				*i* Sg	Sn	12 07 02.4	+0.9
ARXR	**Arkhyz**	**1.08**	**225**	*e*Pg	Pg	12 06 50.5	+0.1
ARXR				*i* Sg	Sn	12 07 06.9	+1.7
NEY	**Neytrino**	**1.11**	**165**	*e*Pg	Pg	12 06 52.0	+0.9
NEY				*e*Sg	Sn	12 07 08.7	+2.6
DOMR	**Dombai**	**1.15**	**206**	*e*Pg	Pb	12 06 45.8	-5.5
DOMR				*e*Sg	Sb	12 07 02.9	-3.4
LSNR	**Lesken**	**1.51**	**133**	*e*Pg	Pg	12 06 58.4	-0.2
LSNR				*e*Sg	Sg	12 07 20.9	+2.7
DIGR	**Digorskoe uzhe**	**1.69**	**147**	*e*Pg	Pg	12 07 02.1	-0.1
DIGR				*e*Sg	Sg	12 07 25.1	+1.0
ZEI	**Tsey**	**1.92**	**143**	*e*Pg	Pb	12 07 04.7	+0.2
ZEI				*i* Sg	Sg	12 07 31.5	+0.2
LZRR	**Lazarevskoye**	**2.16**	**261**	*e*Pg	Pn	12 07 06.7	+1.6
LZRR				*i* Sg	Sb	12 07 34.2	-0.7

*ISCJB **04** 12:07:39.1±0.4, 24°.89N±0°.03×122°.48E±0°.02, h1km±3km, Error ellipse: s-maj=4.5km s-min=2.5km az=16.0*
*TAP **04** 12:07:39.7, 24°.91N×122°.47E, h5km, ML2.7, C*
*JMA **04** 12:07:39.1±0.2, 24°.83N×122°.45E, h0km, M2.2*

ISC 04 12:07:39.6±1.1, 24°.87N±0°.03×122°.47E±0°.02, h7km±9km, n52, σ1°49/88, 11C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.44**	**224**	⇑P	**Pb**	**12 07 49.1**	**-0.6**
	baz=221						
EOS1				S	**Sb**	**12 07 56.2**	**-0.3**
	baz=221						
TWB1	**Santiao Chiao**	**0.46**	**288**	⇑P	**Pg**	**12 07 48.1**	**-0.3**
	baz=283						
TWB1				S	**Sg**	**12 07 54.1**	**-0.3**
	baz=283						
EGS		**0.48**	**267**	⇑P	**Pg**	**12 07 49.0**	**0.0**
	baz=262						
EGS				S	**Sg**	**12 07 55.8**	**+0.5**
	baz=262						
NTC	**Toucheng**	**0.58**	**269**	⇑P	**Pg**	**12 07 50.8**	**0.0**
	baz=265						
NTC				*e*S	**Sb**	**12 07 59.4**	**-1.1**
	baz=265						
TIPB	**Shuangxi**	**0.59**	**280**	P	**Pg**	**12 07 50.7**	**-0.3**
	baz=276						
TIPB				*e*S	**Sg**	**12 07 59.5**	**+0.8**
	baz=276						
JYNG	**Yonagunijimaku**	**0.60**	**133**	P	**Pg**	**12 07 50.9**	**-0.3**
JYNG				*e*S	**Sg**	**12 07 59.7**	**+0.6**
TWC	**Suao**	**0.62**	**245**	P	**Pg**	**12 07 51.0**	**-0.4**
	baz=242						
TWC				*e*S	**Sg**	**12 08 00.3**	**+0.8**
	baz=242						
YOJ	**Yonaguni jima**	**0.64**	**129**	⇑*e*P	**Pg**	**12 07 51.8**	**-0.1**
	baz=131						
YOJ				*e*S	**Sg**	**12 08 00.2**	**0.0**
	baz=131						
YOJ	**Yonaguni jima**	**0.64**	**129**	P	**Pg**	**12 07 51.8**	**-0.1**
YOJ				*e*S	**Sg**	**12 08 00.3**	**0.0**
NWF	**Wu-fen Shan**	**0.65**	**288**	⇓P	**Pg**	**12 07 52.3**	**+0.1**
	baz=284						
NWF				*e*S	**Sg**	**12 08 01.4**	**+0.6**
	baz=284						
WFSB	**Wu-fen Shan**	**0.65**	**288**	⇓P	**Pg**	**12 07 52.3**	**+0.1**
	baz=284						
WFSB				*e*S	**Sg**	**12 08 01.6**	**+0.9**
	baz=284						
TWE	**Neicheng**	**0.74**	**259**	*e*P	**Pg**	**12 07 53.6**	**-0.2**
	baz=255						
TWE				*e*S	**Sg**	**12 08 04.2**	**+0.7**
	baz=255						
ENA	**Nanau**	**0.79**	**237**	*e*P	**Pg**	**12 07 54.7**	**-0.2**
	baz=234						
ENA				*e*S	**Sb**	**12 08 05.8**	**-0.8**
	baz=234						
TWA	**Mucha**	**0.81**	**278**	*e*P	**Pg**	**12 07 55.4**	**+0.2**
	baz=275						
TWA				*e*S	**Sb**	**12 08 06.4**	**-0.8**
	baz=275						
YM07	**YM07**	**0.82**	**292**	⇑*e*P	**Pg**	**12 07 55.6**	**+0.1**
	baz=289						
YM07				*e*S	**Sg**	**12 08 06.6**	**+0.4**
	baz=289						
PCYT	**Pengchaiyu**	**0.84**	**335**	⇓*e*P	**Pg**	**12 07 55.3**	**-0.4**
	baz=333						
PCYT				*e*S	**Sg**	**12 08 05.8**	**-0.9**
	baz=333						
ENTT	**Nioudou**	**0.85**	**255**	*e*P	**Pg**	**12 07 55.7**	**-0.2**
	baz=251						
ENTT				*e*S	**Sb**	**12 08 08.4**	**+0.1**
	baz=251						
YM08	**YM08**	**0.86**	**292**	⇑*e*P	**Pg**	**12 07 55.9**	**-0.1**
	baz=289						
YM08				*e*S	**Sb**	**12 08 07.8**	**-0.8**
	baz=289						
YM01	**YM01**	**0.86**	**289**	⇑*e*P	**Pg**	**12 07 55.3**	**-0.8**
	baz=286						
YM01				*e*S	**Sb**	**12 08 08.1**	**-0.5**
	baz=286						
YM11	**YM11**	**0.86**	**290**	⇓*e*P	**Pg**	**12 07 56.1**	**-0.1**
	baz=287						
YM11				*e*S	**Sb**	**12 08 08.8**	**+0.1**
	baz=287						
YM10	**YM10**	**0.87**	**289**	⇓*e*P	**Pg**	**12 07 56.3**	**-0.1**
	baz=286						
YM10				*e*S	**Sb**	**12 08 08.3**	**-0.7**
	baz=286						
NWLT	**Wulai**	**0.88**	**264**	⇑*e*P	**Pg**	**12 07 56.6**	**+0.1**
	baz=261						
TWY	**Chenhua**	**0.88**	**298**	*e*P	**Pg**	**12 07 56.3**	**-0.3**
	baz=295						
TWY				*e*S	**Sb**	**12 08 09.1**	**-0.3**
	baz=295						
NDT	**Datong Townshi**	**0.91**	**253**	⇓*e*P	**Pg**	**12 07 57.2**	**+0.2**
	baz=250						
NDT				*e*S	**Sb**	**12 08 09.7**	**-0.3**
	baz=250						
YHNB	**Yeheng**	**1.01**	**259**	⇓*e*P	**Pg**	**12 07 58.6**	**-0.4**
	baz=256						
YHNB				*e*S	**Sg**	**12 08 12.5**	**+0.3**
	baz=256						
NACB	**Ninganchiao**	**1.05**	**229**	*e*P	**Pg**	**12 07 59.2**	**-0.6**
	baz=227						
NACB				*e*S	**Sg**	**12 08 13.0**	**-0.4**
	baz=227						
NNS	**Nan Shan**	**1.08**	**247**	*e*P	**Pg**	**12 08 00.1**	**-0.3**
	baz=244						
NNS				*e*S	**Sg**	**12 08 14.4**	**-0.1**
	baz=244						
ETLH	**Xiulin Townshi**	**1.11**	**234**	⇓*e*P	**Pg**	**12 08 00.3**	**-0.6**
	baz=232						
ETLH				*e*S	**Sb**	**12 08 16.1**	**+0.1**
	baz=232						
TWD	**Chiawan**	**1.11**	**225**	*e*P	**Pg**	**12 08 00.5**	**-0.5**
	baz=223						
TWD				*e*S	**Sn**	**12 08 17.0**	**-0.3**
	baz=223						
IRIF	**Iriomote-Funau**	**1.27**	**114**	P	**Pb**	**12 08 04.0**	**+0.1**
IRIF				*e*S	**Sn**	**12 08 21.3**	**+0.2**
WHF	**Hehuan Shan**	**1.31**	**237**	⇑*e*P	**Pg**	**12 08 04.2**	**-0.6**
	baz=235						
WHF				*e*S	**Sg**	**12 08 21.8**	**0.0**
	baz=235						
NSTT	**Nanjuang**	**1.35**	**260**	*e*P	**Pb**	**12 08 05.5**	**+0.2**
	baz=258						
NSTT				*e*S	**Sn**	**12 08 23.4**	**+0.2**
	baz=258						
ESL	**Shilin**	**1.41**	**222**	*e*P	**Pb**	**12 08 06.2**	**0.0**
	baz=220						
CHGB	**Renai**	**1.43**	**236**	⇑*e*P	**Pg**	**12 08 06.6**	**-0.4**
	baz=234						
CHGB				*e*S	**Sn**	**12 08 25.7**	**+0.4**
	baz=234						
HATJ	**Hateruma jima**	**1.46**	**123**	S	**Sb**	**12 08 25.6**	**-0.4**
OWD	**Renai**	**1.49**	**233**	*e*P	**Pb**	**12 08 07.5**	**-0.2**
	baz=231						
OWD				*e*S	**Sb**	**12 08 26.6**	**-0.2**
	baz=231						
JKRS	**Kuro-shima**	**1.54**	**114**	*e*S	**Sn**	**12 08 27.9**	**+0.1**
VWDT	**VWDT**	**1.64**	**228**	*e*P	**Pb**	**12 08 09.9**	**-0.3**
	baz=226						
HGSD	**Ruisui**	**1.67**	**215**	*e*P	**Pb**	**12 08 10.4**	**-0.3**
	baz=214						
EHY	**Hungye**	**1.71**	**218**	*e*P	**Pn**	**12 08 09.9**	**0.0**
	baz=216						
SMLT	**Sun Moon Lake**	**1.73**	**236**	*e*P	**Pg**	**12 08 12.7**	**-0.1**
	baz=234						
SSLB	**Suanglung**	**1.75**	**232**	*e*P	**Pb**	**12 08 12.1**	**0.0**
	baz=231						
SSLB				*e*S	**Sb**	**12 08 34.2**	**-0.1**
	baz=231						
TYC	**Yuchr**	**1.75**	**237**	*e*P	**Pb**	**12 08 11.9**	**-0.2**
	baz=235						
YULB	**Yu-li**	**1.81**	**216**	*e*P	**Pn**	**12 08 11.5**	**+0.1**
	baz=215						
YULB				*e*S	**Sn**	**12 08 34.6**	**-0.1**
	baz=215						
TWF1	**Yuli**	**1.85**	**216**	*e*P	**Pn**	**12 08 12.5**	**+0.7**
	baz=214						
WHYT	**Xinyi Township**	**1.88**	**232**	*e*P	**Pb**	**12 08 14.0**	**-0.3**
	baz=230						
WHYT				*e*S	**Sb**	**12 08 38.2**	**+0.2**
	baz=230						
FULB	**Fuli**	**1.98**	**213**	*e*P	**Pn**	**12 08 14.4**	**+0.8**
	baz=212						
ALS	**Alishan**	**2.03**	**229**	*e*P	**Pb**	**12 08 16.6**	**-0.5**
	baz=227						
CHN4	**Tsaushan**	**2.28**	**229**	*e*P	**Pb**	**12 08 19.6**	**-1.6**
	baz=227						
TPUB	**Ta-pu**	**2.29**	**227**	*e*P	**Pb**	**12 08 20.8**	**-0.6**
	baz=226						
WTP	**Ta-pu**	**2.34**	**227**	*e*P	**Pn**	**12 08 19.7**	**+1.1**
	baz=225						
SLGT	**Liugui**	**2.50**	**222**	*e*P	**Pn**	**12 08 21.7**	**+1.0**
	baz=221						

*NIED **04** 12:12:00, 26°.70N×129°.70E, h8km, Mw4.0 Best double couple: M0=9.84000×10^14 NP1:φs=10.00000°, δ34.00000°, λ-135.00000°. NP2:φs=240.00000°, δ67.00000°, λ-65.00000°.*
*IDC **04** 12:12:03.5±0.8, 26°.71N×129°.52E, h0km, mb3.9/16, mb1 4.0/20, mb1mx3.9/41, mbtmp3.9/20, ML3.3/4, MS3.2/10, Ms1 3.2/10, ms1mx3.0/44, Error ellipse: s-maj=17.6km s-min=15.4km az=91.0*
*ISCJB **04** 12:12:05.1±1.1, 26°.71N±0°.03×129°.64E±0°.03, h27km±8km, mb4.1/25, MS3.3/7, Error ellipse: s-maj=5.0km s-min=4.3km az=45.0*
*JMA **04** 12:12:05.7±0.1, 26°.69N×129°.67E, h50km, M4.0*
*NEIC **04** 12:12:07.2±0.9, 26°.71N×129°.52E, h28km±6km, mb4.5/14, Error ellipse: s-maj=13.5km s-min=7.9km az=85.0*

ISC 04 12:12:05.1±2.2, 26°.72N±0°.04×129°.63E±0°.04, h14km±13km, n67, σ1°33/79, mb4.2/25, MS3.1/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.09**	**287**	P	**Pb**	**12 12 25.5**	**-0.3**
JYRO				*e*S	**Sg**	**12 12 39.7**	**-0.8**
JOKE	**Okinoerabujima**	**1.14**	**305**	P	**Pb**	**12 12 26.5**	**-0.1**
JOW	**Kunigami**	**1.21**	**276**	*e*Pn	**Pn**	**12 12 27.3**	**-0.3**
JOW				*e*Sn	**Sb**	**12 12 42.4**	**-1.0**
JOW	**Kunigami**	**1.21**	**276**	P	**Pn**	**12 12 27.4**	**-0.3**
JOW				*e*S	**Sb**	**12 12 42.8**	**-0.6**
JOW	**Kunigami**	**1.21**	**276**	Pn	**Pn**	**12 12 27.6**	**-0.1**
	38nm,0.3s,baz=94,slow=18,SNR=931						
JOW				Sn	**Sb**	**12 12 42.9**	**-0.6**
	221nm,0.3s,baz=115,slow=14,SNR=46						
JTK	**Tokunoshima**	**1.22**	**331**	P	**Pn**	**12 12 27.5**	**-0.3**
JNTH	**Nagotoyohara**	**1.45**	**262**	P	**Pn**	**12 12 30.3**	**-0.6**
JNTH				S	**Sn**	**12 12 48.3**	**-1.4**
JIH	**Iheya**	**1.52**	**282**	P	**Pn**	**12 12 31.9**	**+0.1**
JIH				S	**Sn**	**12 12 50.3**	**-1.0**
JAMN	**Amaminishikomi**	**1.57**	**345**	P	**Pn**	**12 12 32.0**	**-0.6**
JAMN				*e*S	**Sn**	**12 12 51.4**	**-1.3**
JZK	**Kikaishima**	**1.62**	**11**	P	**Pn**	**12 12 33.3**	**0.0**
JZK				S	**Sn**	**12 12 53.7**	**-0.3**
JAM	**Amami Oshima**	**1.69**	**359**	P	**Pn**	**12 12 33.5**	**-0.7**
JAM				*e*S	**Sn**	**12 12 54.5**	**-1.1**
JMZ	**Minamidaito 2**	**1.69**	**122**	P	**Pn**	**12 12 32.8**	**-1.4**
JMZ				S	**Sn**	**12 12 51.8**	**-3.8**
JJT3	**Tamagusuku3**	**1.75**	**251**	P	**Pn**	**12 12 35.0**	**0.0**
JJT3				*e*S	**Sn**	**12 12 56.2**	**-0.9**
JAGN	**Aguni-jima**	**2.14**	**267**	P	**Pn**	**12 12 40.5**	**+0.1**
JAGN				*e*S	**Sn**	**12 13 05.6**	**-1.1**
JTAJ	**Takarajima**

comp=Z,28nm,18.6s,baz=210,slow=40
FAKI Fak Fak 29.57 175 *e*P **P 12 18 09.8 +0.1**
19nm,1.1s
SEY Seymchan 39.20 16 P **P 12 19 33.2 +0.8**
1.2nm,0.8s,baz=252,slow=20,SNR=3.6
MK32 Makanchi Array 42.15 311 *e*P **P 12 19 56.1 -1.0**
MKAR Makanchi Array 42.15 311 *e*P **P 12 19 55.9 -1.2**
MKAR Makanchi Array 42.15 311 P **P 12 19 56.1 -1.0**
0.5nm,0.5s,baz=95,slow=9.4,SNR=5.7
ZALV Zalesovo Beam 42.62 322 *e*P **P 12 19 59.9 -0.9**
ZALV Zalesovo Beam 42.62 322 P **P 12 20 00.4 -0.4**
0.7nm,0.4s,baz=126,slow=17,SNR=4.1
ZAA1 Zalesovo Array 42.63 322 *e*P **P 12 20 00.4 -0.4**
FITZ Fitzroy Crossi 44.72 185 *e*P **P 12 20 18.0 +0.1**
7.1nm,1.1s
KURBB Kurchatov Arra 45.37 316 P **P 12 20 21.9 -1.0**
1.1nm,0.4s,baz=101,slow=9.0,SNR=4.6
WR1 Warramunga Arr 46.61 174 *e*P **P 12 20 33.1 +0.2**
WRA Warramunga Arr 46.61 174 P **P 12 20 33.1 +0.2**
3.5nm,0.6s,baz=354,slow=8.5,SNR=34
WB2 Warramunga Arr 46.61 174 *e*P **P 12 20 32.8 -0.2**
8.4nm,0.8s
NIL Nilore 48.72 292 *e*P **P 12 20 48.5 -0.9**
8.0nm,1.2s
NRIK Noril'sk 49.18 342 LR LR 12 42 49.0
comp=Z,34nm,18.2s,baz=53,slow=38
CTAO Charters Tower 49.24 159 *e*P **P 12 20 53.5 +0.2**
6.0nm,1.0s
AS31 Alice Springs 50.26 175 *e*P **P 12 21 01.2 +0.1**
1.0nm,0.9s
ASAR Alice Springs 50.26 175 *e*P **P 12 21 01.1 0.0**
ASAR Alice Springs 50.26 175 P **P 12 21 01.8 +0.7**
1.7nm,0.5s,baz=6.1,slow=14,SNR=38
ABKAR Akbulak array 57.23 313 *e*P **P 12 21 51.9 0.0**
2.1nm,0.7s
KBZ Khabaz 69.82 310 P **P 12 23 16.1 +0.9**
3.3nm,0.7s,baz=88,slow=5.0,SNR=9.6
ARA0 ARCESS Array S 70.01 339 *e*P **P 12 23 16.5 +0.5**
ARCES ARCESS Array B 70.01 339 P **P 12 23 16.5 +0.5**
1.9nm,1.0s,baz=56,slow=13,SNR=3.3
FIA1 FINESS Array S 73.05 331 *e*P **P 12 23 34.5 +0.1**
6.8nm,1.0s
FINES FINESS Array B 73.05 331 P **P 12 23 34.2 -0.2**
1.7nm,0.6s,baz=48,slow=2.8,SNR=7.5
AKASG Malin Array Be 75.97 320 P **P 12 23 51.3 -0.3**
0.7nm,0.6s,baz=59,slow=5.2,SNR=3.5
AKASG LR LR 13 00 17.1
comp=Z,55nm,18.6s,baz=80,slow=38
YKA Yellowknife Ar 77.55 25 P **P 12 24 01.5 +1.2**
0.1nm,0.5s,baz=305,slow=5.3,SNR=3.6
YKB5 Yellowknife Ar 77.55 25 *e*P **P 12 24 01.5 +1.2**
BRTR Keskin Array B 77.72 308 *e*P **P 12 24 01.5 -0.4**
BRTR Keskin Array B 77.72 308 P **P 12 24 02.4 +0.5**
0.6nm,0.6s,baz=123,slow=4.6,SNR=4.0
NOA NORSAR Array B 79.42 334 P **P 12 24 12.7 +2.0**
0.6nm,0.6s,baz=56,slow=5.4,SNR=2.6
NOA LR LR 13 02 51.8
comp=Z,10nm,20.8s,baz=200,slow=38
BURAR Bucovina Array 79.70 318 *e*P **P 12 24 12.3 -0.3**
7.1nm,0.8s
GERES GERESS Array B 85.56 323 LR LR 13 06 30.2
comp=Z,28nm,19.1s,baz=227,slow=38

MEX 04 12:30:12.4±0.4, 14°.95N×92°.83W, h76km±6km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.55**	**94**	*e*P	Pn	12 30 24.7	-1.4
THIG				*e*S	Sn	12 30 34.8	-1.5
PCIG		**0.84**	**334**	*e*P	Pn	12 30 28.1	-1.2
PCIG				*e*S	Sn	12 30 39.9	-2.1
CCIG	**Comitan**	**1.49**	**27**	*i* P	Pn	12 30 36.9	-0.7
CCIG				*e*S	Sn	12 30 54.8	-1.7
TGIG		**1.84**	**351**	*e*P	Pn	12 30 41.1	-1.1
TGIG				*e*S	Sn	12 31 03.4	-1.4
CMIG	**Matias Romero**	**2.91**	**317**	*i* P	Pn	12 30 55.9	-0.5
CMIG				*i* S	Sn	12 31 29.1	-1.3

*SOME **04** 12:34:28.5, 44°.63N×82°.08E, h15km*
*NNC **04** 12:34:29.7±1.5, 44°.68N×81°.96E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=17.1km s-min=5.8km az=120.0*
ISC 04 12:34:25.7±1.8, 44°.66N±0°.05×82°.3E±0°.1, h5km±18km, n17, σ0°70/28, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.86**	**230**	*e*P	**Pg**	**12 35 01.1**	**-0.3**
9.6nm,0.2s
KTMS | | | | *e*S | **Sb** | **12 35 25.0** | **+1.1**
33nm,0.5s
MK31 Makanchi Array 2.13 360 ⇓Pn **Pg 12 35 06.7 +0.1**
6.3nm,0.3s,baz=190,slow=16,SNR=7.0
MK31 ⇑Sn **Sg 12 35 34.7 +0.5**
1.7nm,0.2s,baz=184,slow=28,SNR=18
MAKZ Makanchi 2.16 354 ⇑Pn **Pg 12 35 06.5 -0.6**
5.7nm,0.6s
MAKZ ⇑Sn **Sg 12 35 34.7 -0.4**
3.9nm,0.3s
KAPS Kapalarasan 2.19 288 Pg **Pb 12 35 05.9 +0.2**
6.1nm,0.3s
KAPS Lg Lg 12 35 33.3
17nm,0.2s
KAPS Kapalarasan 2.19 288 *e*P **Pb 12 35 05.5 -0.2**
6.1nm,0.3s
KAPS *e*S **Sb 12 35 32.7 -0.5**
17nm,0.2s
PDGK Podgornoye 2.43 238 Pg **Pb 12 35 09.7 -0.2**
3.6nm,0.2s
PDGK Lg Lg 12 35 40.0
9.1nm,0.5s
PDGK Podgornoye 2.43 238 ⇑Pn **Pb 12 35 09.6 -0.4**
2.5nm,0.4s
PDGK ⇓Sn **Sb 12 35 40.7 +0.4**
10nm,0.6s
SHLS Shalkode 2.55 235 Pg **Pn 12 35 08.4 +0.6**
16nm,0.4s
SHLS Lg Lg 12 35 37.6
37nm,0.3s
SHLS Shalkode 2.55 235 *e*P **Pn 12 35 08.4 +0.6**
16nm,0.4s
SHLS *e*S **Sn 12 35 37.6 -1.6**
37nm,0.3s
TDK Taldyqorghan 2.80 278 *e*P **Pb 12 35 15.8 -0.3**
15nm,0.1s
TDK *e*S **Sb 12 35 50.6 -0.1**
40nm,0.3s
KPKS Kokpek 2.88 247 *e*P **Pb 12 35 17.0 -0.5**
12nm,0.1s
KPKS *e*S **Sb 12 35 52.6 -0.3**
23nm,0.2s
SATY Saty 3.25 242 Pg **Pb 12 35 23.4 -0.4**
9.4nm,0.3s
SATY Lg Lg 12 36 03.9
19nm,0.2s
SATY Saty 3.25 242 *e*P **Pb 12 35 23.4 -0.4**
9.4nm,0.3s
SATY *e*S **Sb 12 36 03.9 +0.2**
19nm,0.2s
CHKK Chushkaly 3.91 260 Pg **Pb 12 35 35.0 0.0**
1.7nm,0.2s
CHKK Lg Lg 12 36 23.7
5.7nm,0.3s
CHKK Chushkaly 3.91 260 *e*P **Pb 12 35 35.0 0.0**
1.5nm,0.2s
CHKK *e*S **Sb 12 36 23.7 +1.1**
5.7nm,0.3s
KTBS Karatobe 4.16 259 Pg **Pb 12 35 39.6 +0.3**
1.4nm,0.3s
KTBS Lg Lg 12 36 31.7
3.6nm,0.5s
KTBS Karatobe 4.16 259 *e*P **Pb 12 35 39.6 +0.3**
1.4nm,0.3s
KTBS *e*S **Sb 12 36 31.7 +1.9**
3.6nm,0.5s

IDC 04 12:38:08.2±1.9, 6°.95S×130°.15E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/24, mbtmp3.8/4, ML4.1/2, Error ellipse: s-maj=124.5km s-min=28.2km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.54**	**163**	Pn	Pn	12 41 20.3	-1.5
1.1nm,0.3s,baz=347,slow=14,SNR=70
WRA Sn Sn 12 43 42.1 -11
2.7nm,0.3s,baz=332,slow=22,SNR=14
ASAR Alice Springs 17.01 168 P Pn 12 42 07.3 -0.4
0.6nm,0.3s,baz=342,slow=8.3,SNR=32
ASAR S Sn 12 45 04.9 -13
0.6nm,0.3s,baz=349,slow=24,SNR=13
STKA Stephens Creek 27.00 158 P P 12 43 52.5 +0.5
0.7nm,0.3s,baz=350,slow=11,SNR=1.8
MKAR Makanchi Array 68.26 327 P P 12 49 10.9 -0.1
0.3nm,0.4s,baz=122,slow=8.1,SNR=2.5

*MDD **04** 12:38:41.9±1.3, 37°.44N×17°.52W, h20km, mb4.6/16, Error ellipse: s-maj=17.1km s-min=7.4km az=128.0, PRXIMO*
*IGIL **04** 12:38:44.3, 37°.69N×17°.27W, h0km, ML3.7*
*INMG **04** 12:38:45.0±1.8, 37°.43N×17°.64W, h10km, ML3.5, Error ellipse: s-maj=6.8km s-min=2.6km az=113.0*
ISC 04 12:38:39.6±1.7, 37°.47N±0°.07×17°.3W±0°.1, h10km, n114, σ2°48/120, 1C-1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**4.48**	**169**	*e*Pn	**Pn**	**12 39 47.2**	**-0.4**
PMPS *e*Sn **Sn 12 40 33.5 -6.3**
PMPS A A 12 40 38.0
25nm,0.4s
PMPS Porto Santo 4.48 169 P **Pn 12 39 47.2 -0.4**
PMPS S **Sn 12 40 33.5 -6.3**
12nm,0.4s
PMOZ Porto Moniz, M 4.64 179 *e*Pn **Pn 12 39 49.3 -0.6**
PMOZ *e*Sn Sn 12 40 35.9 -8.0
PMOZ A A 12 40 43.0
122nm,0.6s
PMOZ Porto Moniz, M 4.64 179 P **Pn 12 39 49.7 -0.2**
57nm,0.3s,SNR=7.9
PMOZ S Sn 12 40 33.7 -10
161nm,0.4s,SNR=7.9
PMOZ Porto Moniz, M 4.64 179 P **Pn 12 39 50.8 +0.9**
PMOZ S **Sn 12 40 41.9 -2.0**
PMAR Madeira 4.75 176 *e*Pn **Pn 12 39 51.2 -0.3**
PMAR *e*Sn Sn 12 40 38.1 -8.6
PMAR A A 12 40 48.3
70nm,0.2s
PMAR Madeira 4.75 176 P **Pn 12 39 51.2 -0.3**
PMAR S Sn 12 40 38.1 -8.6
35nm,0.2s
PMAR Madeira 4.75 176 P **Pn 12 39 52.1 +0.6**
PMAR S **Sn 12 40 45.8 -0.9**
FUL Funchal 4.83 176 *e*Pn **Pn 12 39 52.8 +0.4**
FUL *e*Sn Sn 12 40 40.6 -7.8
FUL A A 12 40 44.0
79nm,0.2s
FUL Funchal 4.83 176 P **Pn 12 39 52.8 +0.4**
FUL S Sn 12 40 40.6 -7.8
39nm,0.2s
PSMN Pico do Norte, 6.18 268 *e*P Pg 12 41 00.7 +23
PSMN *e*S Sn 12 41 06.7 -15
PSMN A A 12 41 10.3
14nm,0.3s
BART Pico Bartolome 6.22 275 *e*P Pg 12 41 02.1 +23
BART *e*S Sn 12 41 09.8 -13
BART A A 12 41 12.3
7.3nm,0.1s
PSMA Santa Maria 6.24 268 *e*S Sn 12 41 07.5 -15
PSMA A A 12 41 08.9
11nm,0.1s
CMLA Cha da Macela 6.51 275 *e*S Sn 12 41 14.1 -16
CMLA A A 12 41 15.2
51nm,0.1s
PMAFR Mafra 6.51 74 *e*Pn **Pn 12 40 19.3 +3.8**
PMAFR *e*Sn **Sn 12 41 27.7 -2.1**
PMAFR A A 12 41 33.9
77nm,0.3s
PMAFR Mafra 6.51 74 P **Pn 12 40 18.9 +3.4**
3.8nm,0.1s,SNR=6.7
PMAFR S **Sn 12 41 27.3 -2.5**
208nm,0.3s,SNR=5.7
LIS Lisbon 6.58 77 *e*S Sn 12 41 26.8 -4.6
LIS AML AML 12 41 30.9
comp=N,94nm,0.3s
LIS Lisbon 6.58 77 *e*Sn **Sn 12 41 30.2 -1.2**
LIS A A 12 41 34.7
comp=N,78nm,0.3s
LIS Lisbon 6.58 77 S Sn 12 41 26.8 -4.6
comp=N,94nm,0.3s
PFVI Vila Bisbo 6.79 90 *e*Pn **Pn 12 40 21.5 +2.2**
PFVI *e*Sn **Sn 12 41 33.9 -2.8**
PFVI A A 12 41 41.9
comp=N,14nm,0.4s
PFVI Vila Bisbo 6.79 90 P **Pn 12 40 21.6 +2.2**
comp=N,5.3nm,0.2s,SNR=8.1
PFVI S **Sn 12 41 33.9 -2.8**
comp=N,23nm,0.1s,SNR=5.7
PFVI Vila Bisbo 6.79 90 P **Pn 12 40 21.6 +2.2**
PFVI S **Sn 12 41 35.6 -1.1**
PTEO Sao Teotonio 6.85 87 *e*Sg Sg 12 43 11.2 +52
PTEO Sao Teotonio 6.85 87 *e*Pn **Pn 12 40 22.4 +2.3**
PTEO *e*Sn Sn 12 41 34.1 -4.0
PTEO A A 12 41 41.1
comp=N,33nm,0.3s
PTEO Sao Teotonio 6.85 87 P **Pn 12 40 22.4 +2.3**
PTEO S Sn 12 41 34.1 -4.0
comp=N,16nm,0.3s
MORF Marmelete 6.92 89 *e*P **Pn 12 40 23.3 +2.2**
MORF *e*S Sn 12 41 35.7 -4.2
MORF AML AML 12 41 43.7
comp=N,77nm,0.4s
MORF Marmelete 6.92 89 ⇓*e*Pn **Pn 12 40 23.3 +2.2**
MORF *e*Sn **Sn 12 41 37.5 -2.4**
MORF A A 12 41 43.4
comp=N,23nm,0.2s
MORF Marmelete 6.92 89 P **Pn 12 40 23.3 +2.2**
MORF S Sn 12 41 35.7 -4.2
comp=N,77nm,0.4s
PNCL Nicolau / Gran 7.00 82 *e*Pn **Pn 12 40 24.5 +2.3**
PNCL *e*Sn **Sn 12 41 39.4 -2.5**
PNCL Nicolau / Gran 7.00 82 P **Pn 12 40 24.5 +2.3**
PNCL S **Sn 12 41 39.4 -2.5**
MESJ Messejana 7.24 84 *e*P **Pn 12 40 27.3 +1.8**
MESJ *e*S Sn 12 41 42.7 -5.1
MESJ AML AML 12 41 51.0
comp=N,45nm,0.3s
MESJ Messejana 7.24 84 P **Pn 12 40 27.3 +1.8**
MESJ S Sn 12 41 42.7 -5.1
comp=N,45nm,0.3s
PTOM Tomar 7.32 70 *e*Pn **Pn 12 40 29.3 +2.8**
PTOM *e*Sn **Sn 12 41 47.8 -1.8**
PTOM Tomar 7.32 70 P **Pn 12 40 29.3 +2.8**
PTOM S **Sn 12 41 47.8 -1.8**
PMTG Montargil 7.34 75 *e*Pn **Pn 12 40 29.3 +2.4**
PMTG *e*Sn **Sn 12 41 47.6 -2.7**
PMTG Montargil 7.34 75 P **Pn 12 40 29.3 +2.4**
PMTG S **Sn 12 41 47.6 -2.7**
PCAS Casmilo, Conde 7.37 67 ⇑*e*Pn **Pn 12 40 29.4 +2.1**
PCAS *e*Sn **Sn 12 41 48.8 -2.1**
PCAS Casmilo, Conde 7.37 67 P **Pn 12 40 29.4 +2.1**
PCAS S **Sn 12 41 48.8 -2.1**
PCVE Castro Verde 7.39 86 *e*Pn **Pn 12 40 30.3 +2.8**
PCVE *e*Sn **Sn 12 41 48.9 -2.5**
PCVE Castro Verde 7.39 86 P **Pn 12 40 30.3 +2.8**
PCVE S **Sn 12 41 48.9 -2.5**
COI Coimbra 7.48 66 *e*Sn **Sn 12 41 51.2 -2.4**
COI Coimbra 7.48 66 S **Sn 12 41 51.2 -2.4**
PBDV Barranco-do-Ve 7.50 89 *e*Pn **Pn 12 40 31.4 +2.4**
PBDV *e*Sn **Sn 12 41 51.3 -2.8**
PBDV Barranco-do-Ve 7.50 89 P **Pn 12 40 31.4 +2.4**
PBDV S **Sn 12 41 51.3 -2.8**
PBEJ Beja 7.52 83 *e*Sn **Sn 12 41 52.5 -2.2**
PBEJ Beja 7.52 83 S **Sn 12 41 52.5 -2.2**
PVAQ Vaqueiros 7.65 88 *e*S Sg 12 43 25.9 +41
PVAQ Vaqueiros 7.65 88 *e*Sn **Sn 12 41 55.1 -2.8**
PVAQ Vaqueiros 7.65 88 S **Sn 12 41 55.1 -2.8**
PTO Porto 7.70 59 *e*Sn **Sn 12 41 55.6 -3.3**
PTO Porto 7.70 59 S **Sn 12 41 55.6 -3.3**
EGRO El Granado 7.83 87 P **Pn 12 40 37.0 +3.4**
comp=N,2.7nm,0.2s,SNR=7.1
EGRO S Sn 12 41 59.0 -3.3
comp=N,23nm,0.2s,SNR=5.6
PMRV Marv??o 8.04 73 *e*Pn **Pn 12 40 39.4 +2.9**
PMRV *e*Sn Sn 12 42 03.3 -4.3
PMRV Marv??o 8.04 73 P **Pn 12 40 39.4 +2.9**
PMRV S Sn 12 42 03.3 -4.3
PCBR Castelo Branco 8.07 70 *e*Pn **Pn 12 40 38.9 +2.1**
PCBR *e*Sn Sn 12 42 04.7 -3.4
PCBR Castelo Branco 8.07 70 P **Pn 12 40 38.9 +2.1**
PCBR S Sn 12 42 04.7 -3.4
EZAM Zamans 8.12 52 P **Pn 12 40 38.9 +1.3**
comp=N,2.9nm,0.1s,SNR=7.9
EZAM S Sn 12 42 04.8 -4.7
comp=N,0.9nm,0.1s,SNR=7.9
MTE Manteigas 8.17 66 *e*Sn Sn 12 42 06.4 -4.3
MTE Manteigas 8.17 66 S Sn 12 42 06.4 -4.3
PBAR Barrancos 8.18 82 *e*Sn Sn 12 42 07.0 -3.9
PBAR Barrancos 8.18 82 S Sn 12 42 07.0 -3.9
EBAD Badajoz 8.24 78 P **Pn 12 40 41.7 +2.5**
comp=N,0.9nm,0.1s,SNR=12
EBAD S Sn 12 42 07.8 -4.5
comp=N,32nm,0.2s,SNR=9.8
PGAV Gavieira, Arco 8.30 54 *e*Pn **Pn 12 40 41.8 +1.7**
PGAV *e*Sn Sn 12 42 09.9 -4.1
PGAV Gavieira, Arco 8.30 54 P **Pn 12 40 41.8 +1.7**
PGAV S Sn 12 42 09.9 -4.1
PCAB Cabril 8.34 57 *e*Pn **Pn 12 40 42.6 +2.0**
PCAB *e*Sn **Sn 12 42 11.6 -3.2**
PCAB Cabril 8.34 57 P **Pn 12 40 42.6 +2.0**
PCAB S **Sn 12 42 11.6 -3.2**
POLO Lamas de Olo 8.35 59 *e*Pn **Pn 12 40 42.9 +2.1**
POLO *e*Sn **Sn 12 42 11.9 -3.2**
POLO A A 12 42 22.4
comp=N,3.2nm,0.4s
POLO Lamas de Olo 8.35 59 P **Pn 12 40 42.9 +2.1**
POLO S **Sn 12 42 11.9 -3.2**
comp=N,3.2nm,0.4s
PVRL Vila Real 8.36 60 *e*Sn Sn 12 42 11.9 -3.5
PVRL Vila Real 8.36 60 S Sn 12 42 11.9 -3.5
ELOB Lobios 8.39 56 P **Pn 12 40 42.3 +1.0**
comp=N,2.0nm,0.1s,SNR=16
ELOB S Sn 12 42 11.9 -4.2
comp=N,5.3nm,0.1s,SNR=4.5
EMAZ Mazaricos 8.41 47 P **Pn 12 40 43.3 +1.7**
comp=N,4.4nm,0.2s,SNR=7.9
EMAZ S Sn 12 42 10.2 -6.3
comp=N,4.1nm,0.1s,SNR=7.9
EMIN Mina Concepcio 8.47 85 P **Pn 12 40 45.0 +2.7**
comp=N,0.5nm,0.1s,SNR=8.2
EMIN S Sn 12 42 13.0 -4.9
comp=N,6.9nm,0.2s,SNR=8.4
MVO Moncorvo 8.80 62 *e*Pn **Pn 12 40 49.4 +2.5**
MVO *e*Sn Sn 12 42 21.7 -4.4
MVO Moncorvo 8.80 62 P **Pn 12 40 48.5 +1.6**
comp=N,1.4nm,0.1s,SNR=7.9
MVO S Sn 12 42 20.3 -5.8
comp=N,22nm,0.2s,SNR=11
EAGO Agolada(Pontev 8.86 50 P **Pn 12 40 47.5 -0.2**
comp=N,2.8nm,0.1s,SNR=7.9
EAGO S Sn 12 42 20.3 -7.2
comp=N,2.7nm,0.1s,SNR=7.9
ESPR Espera 9.19 90 P **Pn 12 40 56.1 +3.9**
comp=N,1.4nm,0.2s,SNR=7.9
ESPR S Sn 12 42 31.9 -3.7
comp=N,26nm,0.3s,SNR=7.9
PBRG Braganca 9.24 59 *e*Sn Sn 12 42 32.5 -4.6
PBRG Braganca 9.24 59 S Sn 12 42 32.5 -4.6
CFUE Fuerteventura 9.25 161 P **Pn 12 40 52.7 -0.5**
comp=N,4.5nm,0.2s,SNR=7.9
CFUE S Sn 12 42 28.2 -9.1
comp=N,2.2nm,0.1s,SNR=7.9
EGOM La Gomera 9.29 179 S Sn 12 42 23.4 -15
comp=N,8.2nm,0.2s,SNR=7.9
ECAL Calabor 9.30 58 P **Pn 12 40 55.2 +1.3**
comp=N,2.6nm,0.2s,SNR=9.5
ECAL S Sn 12 42 33.8 -4.9
comp=N,13nm,0.3s,SNR=5.8
CFTV Fuerteventura 9.44 162 P **Pn 12 40 56.1 +0.4**
comp=N,1.5nm,0.2s,SNR=7.9
ECAB El Cabril 9.46 83 P **Pn 12 40 58.6 +2.7**
comp=N,0.4nm,0.1s,SNR=8.5
ECAB S Sn 12 42 38.0 -4.3
comp=N,5.9nm,0.3s,SNR=8.8
HORN Hornachuelos 9.59 84 P **Pn 12 41 00.9 +3.2**
HORN S **Sn 12 42 43.7 -1.7**
ZHG ZHG 9.60 112 P Pn 12 40 56.3 -1.7
ZHG S **Sn 12 42 43.7 -2.3**
EPON Pontenova 9.72 50 P **Pn 12 41 00.4 +0.9**
comp=N,1.0nm,0.2s,SNR=7.9
EPON S Sn 12 42 42.0 -6.7
comp=N,4.3nm,0.3s,SNR=7.9
OUK Oukaimeden 10.02 126 P **Pn 12 41 06.8 +2.9**
OUK S **Sn 12 42 54.2 -2.3**
EMIJ Mijas 10.09 91 P **Pn 12 41 05.8 +1.2**
comp=N,0.1nm,0.1s,SNR=7.9
EMIJ S Sn 12 42 52.9 -5.0
comp=N,5.8nm,0.5s,SNR=7.9
EADA Adamuz 10.12 82 P **Pn 12 41 07.6 +2.6**
comp=N,1.0nm,0.1s,SNR=7.9
EADA S Sn 12 42 52.9 -5.7
comp=N,12nm,0.3s,SNR=7.2
PAB San Pablo 10.39 75 P **Pn 12 41 10.4 +1.7**
comp=N,1.2nm,0.3s,SNR=7.9
PAB S Sn 12 42 59.0 -6.2
comp=N,4.3nm,0.3s,SNR=7.9
EGOR Sierra Gorda, 10.55 88 S **Sn 12 43 06.6 -2.6**
comp=N,5.7nm,0.3s,SNR=7.9
ESDC Sonseca Array 10.70 74 P **Pn 12 41 14.8 +1.8**
comp=N,0.3nm,0.2s,baz=262,slow=13,SNR=9.3
ESDC S Sn 12 43 05.9 -6.9
comp=N,3.8nm,0.6s,baz=260,slow=23,SNR=10
GUD Guadarrama 10.73 69 P **Pn 12 41 17.0 +3.6**
comp=N,1.1nm,0.3s,SNR=4.0
GUD S Sn 12 43 08.0 -5.7
comp=N,4.0nm,0.3s,SNR=6.2
LCRM LCR 10.84 107 P **Pn 12 41 19.2 +4.2**
LCRM S **Sn 12 43 17.8 +1.3**
EARI Arriondas 10.92 54 P **Pn 12 41 17.5 +1.5**
comp=N,1.4nm,0.2s,SNR=6.6
EARI S Sn 12 43 12.5 -5.7
comp=N,0.3nm,0.2s
OUZM OUZ 10.93 124 P **Pn 12 41 18.6 +2.3**
OUZM S **Sn 12 43 17.1 -1.6**
ELGU Los Guajares, 10.96 89 S Sn 12 43 15.8 -3.4
comp=N,9.0nm,0.5s,SNR=7.9
EQUE Quentar 11.07 87 S Sn 12 43 17.4 -4.5
comp=N,4.4nm,0.4s,SNR=6.9
MD31 MD31 11.27 110 P **Pn 12 41 23.2 +2.3**
MD31 S **Sn 12 43 25.0 -1.9**
EQES Quesada 11.32 84 P **Pn 12 41 23.1 +1.7**
comp=N,0.3nm,0.2s,SNR=7.9
EQES S Sn 12 43 23.3 -4.7
comp=N,7.0nm,0.7s,SNR=6.5
MDT Midelt 11.41 110 P **Pn 12 41 25.1 +2.4**
MDT S Sn 12 43 25.6 -4.7
EBER Berja 11.54 88 S **Sn 12 43 34.0 +0.4**
comp=N,3.5nm,0.4s,SNR=7.9
SESP Santiago Espad 11.72 82 S Sn 12 43 32.6 -5.5
comp=N,22nm,0.7s,SNR=7.9
SESP Santiago Espad 11.72 82 P **Pn 12 41 30.4 +3.3**
SESP S **Sn 12 43 37.4 -0.7**
ELAN Lanestosa 12.06 57 P **Pn 12 41 35.3 +3.7**
comp=N,0.1nm,0.1s,SNR=7.9
ELAN S Sn 12 43 39.8 -6.3
comp=N,1.6nm,0.3s,SNR=7.9
ETOR Torete 12.32 70 P **Pn 12 41 39.6 +4.4**
comp=N,0.4nm,0.2s,SNR=7.9
ETOR S Sn 12 43 47.2 -5.5
comp=N,3.7nm,0.3s,SNR=7.9
ETOB Tobarra 12.50 80 P **Pn 12 41 40.8 +3.2**
comp=N,0.2nm,0.2s,SNR=7.9
ETOB S Sn 12 43 50.0 -7.0
comp=N,1.7nm,0.3s,SNR=7.9
ECHE Chera 12.99 76 S Sn 12 44 04.1 -4.8
comp=N,1.3nm,0.4s,SNR=7.9
IUNC Unciti 13.21 62 S Sn 12 44 07.7 -6.7
comp=N,2.6nm,0.3s,SNR=7.9
EALK Alkurruntz 13.36 60 S Sn 12 44 13.6 -4.4
comp=N,1.5nm,0.5s,SNR=7.9
EMOS Mosqueruela 13.45 72 S Sn 12 44 13.4 -6.8
comp=N,1.7nm,0.3s,SNR=7.9
ESAC San Caprasio 13.68 67 S Sn 12 44 19.3 -6.4
comp=N,6.7nm,0.3s,SNR=7.9
ATE Arette 13.88 61 S Sn 12 44 26.6 -3.8
comp=N,2.2nm,0.3s,SNR=7.9

MEX 04 12:50:07.7±0.5, 14°.58N×94°.85W, h15km, MD3.8, Off coast of Chiapas

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

PCIG		**1.93**	**54**	*e*P	Pn	12 50 37.2	-2.8
PCIG				*i* S	Sn	12 50 59.5	-4.5
CMIG	**Matias Romero**	**2.50**	**359**	*e*P	Pn	12 50 44.9	-3.0
CMIG				*e*S	Sn	12 51 13.8	-4.2
TGIG		**2.75**	**37**	*e*P	Pn	12 50 49.1	-2.2
TGIG				*e*S	Sn	12 51 19.7	-4.6

ROM ***04*** *12:51:15.7±0.3, 44°.857N±0°.010×11°.47E±0°.03, h10km±1km, ML2.0/7, Error ellipse: s-maj=2.5km s-min=0.9km az=74.0*
VIE ***04*** *12:51:16.3±0.7, 44°.83N×11°.36E, h10km, mb1.9/7, ml2.5/9, Error ellipse: s-maj=5.5km s-min=3.8km az=30.0*
ISC 04 12:51:18.0±0.9, 44°.87N±0°.03×11°.44E±0°.04, h16km±5km, n43, σ0§83/54, 3C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FERB	**Ferrara boreho**	**0.08**	**66**	P	**Pg**	**12 51 22.3**	**+1.2**
FERB				S	**Sg**	**12 51 24.2**	**+1.0**
FERB				AML	AML		
	comp=E,997μm,0.7s						
FERB				AML	AML		
	comp=N,981μm,0.2s						
FERB				AML	AML		
	comp=E,997μm,0.7s						
FERB				AML	AML		
	comp=N,981μm,0.2s						
FERB	**Ferrara boreho**	**0.08**	**66**	P	**Pg**	**12 51 22.3**	**+1.2**
FERB	**Ferrara boreho**	**0.08**	**66**	S	**Sg**	**12 51 24.2**	**+1.0**
FERS	**Ferrara-Casagl**	**0.08**	**64**	P	**Pg**	**12 51 19.5**	**-1.6**
FERS				S	**Sg**	**12 51 22.3**	**-0.9**
FERS	**Ferrara-Casagl**	**0.08**	**64**	P	**Pg**	**12 51 19.6**	**-1.6**
SERM	**Sermide**	**0.17**	**325**	P	**Pg**	**12 51 21.5**	**-0.8**
SERM				S	**Sb**	**12 51 25.5**	**-0.6**
SERM				AML	AML		
	comp=E,532μm,0.4s						
SERM				AML	AML		
	comp=N,434μm,0.7s						
SERM				AML	AML		
	comp=N,434μm,0.7s						
SERM				AML	AML		
	comp=E,532μm,0.4s						
SERM	**Sermide**	**0.17**	**325**	P	**Pg**	**12 51 21.5**	**-0.8**
FIU	**Minerbio Fiu**	**0.23**	**170**	P	**Pg**	**12 51 22.4**	**-0.8**
FIU				S	**Sg**	**12 51 26.5**	**-0.2**
CAVE	**Cavezzo**	**0.31**	**270**	P	Pg	12 51 17.2	-7.2
TEOL	**Teolo**	**0.52**	**18**	*e*Pg	**Pb**	**12 51 28.6**	**-0.2**
TEOL	**Teolo**	**0.52**	**18**	P	**Pg**	**12 51 28.2**	**-0.1**
TEOL				AML	AML		
	comp=E,400μm,0.5s						
TEOL				AML	AML		
	comp=N,270μm,0.6s						
TEOL				AML	AML		
	comp=N,270μm,0.6s						
TEOL				AML	AML		
	comp=E,400μm,0.5s						
TEOL	**Teolo**	**0.52**	**18**	P	**Pb**	**12 51 28.6**	**-0.2**
ZOVE	**Zovencedo**	**0.59**	**3**	P	**Pg**	**12 51 29.3**	**-0.3**
MARN	**Marana (Italy)**	**0.79**	**348⇑**	*e*Pg	**Pb**	**12 51 33.6**	**+0.2**
MARN				*e*Sg	**Sn**	**12 51 45.5**	**-0.5**
ROVR	**Rover Verones**	**0.82**	**342**	P	**Pb**	**12 51 33.9**	**-0.1**
DOSS	**Dosso del Somm**	**1.03**	**350⇓**	*e*Pg	**Pn**	**12 51 37.6**	**-0.4**
DOSS				*e*Sg	**Sn**	**12 51 52.0**	**-0.2**
CGRP	**Cima Grappa**	**1.04**	**14**	*e*Pg	**Pb**	**12 51 38.3**	**+0.1**
CGRP				*e*Sg	**Sn**	**12 51 53.3**	**+0.7**
CGRP	**Cima Grappa**	**1.04**	**14**	P	**Pg**	**12 51 37.9**	**-0.3**
CGRP				AML	AML		
	comp=E,71μm,0.5s						
CGRP				AML	AML		
	comp=N,68μm,0.8s						
CGRP				AML	AML		
	comp=E,71μm,0.5s						
CGRP				AML	AML		
	comp=N,68μm,0.8s						
CGRP	**Cima Grappa**	**1.04**	**14**	P	**Pn**	**12 51 38.5**	**+0.3**
CGRP	**Cima Grappa**	**1.04**	**14**	P	**Pn**	**12 51 38.8**	**+0.5**
CGRP	**Cima Grappa**	**1.04**	**14**	S	**Sn**	**12 51 53.0**	**+0.5**
MTLO	**Montello**	**1.05**	**26⇑**	*e*Pg	**Pg**	**12 51 38.8**	**+0.4**
MAGA	**Magasa**	**1.07**	**328⇑**	*e*Pg	**Pg**	**12 51 38.2**	**-0.5**
MAGA				*e*Sg	**Sn**	**12 51 53.4**	**+0.2**
MAGA	**Magasa**	**1.07**	**328**	P	**Pg**	**12 51 38.2**	**-0.5**
MAGA	**Magasa**	**1.07**	**328**	S	**Sn**	**12 51 54.0**	**+0.8**
MAIM	**Mastiano**	**1.17**	**216**	P	**Pg**	**12 51 40.1**	**-0.5**
MAIM				S	**Sg**	**12 51 58.7**	**+2.9**
CTI	**Castel Tesino**	**1.19**	**7**	P	**Pn**	**12 51 39.9**	**-0.2**
CTI				AML	AML		
	comp=E,150μm,0.5s						
CTI				AML	AML		
	comp=N,158μm,0.2s						
CTI				AML	AML		
	comp=N,158μm,0.2s						
CTI				AML	AML		
	comp=E,150μm,0.5s						
CTI	**Castel Tesino**	**1.19**	**7**	P	**Pn**	**12 51 40.0**	**-0.2**
CTI	**Castel Tesino**	**1.19**	**7**	P	**Pg**	**12 51 40.6**	**-0.4**
CTI	**Castel Tesino**	**1.19**	**7**	S	**Sg**	**12 51 56.7**	**+0.2**
VARN	**Col Varnada, M**	**1.22**	**22⇓**	*e*Pg	**Pg**	**12 51 41.1**	**-0.4**
VARN				*e*Sg	**Sg**	**12 51 58.6**	**+1.1**
GAGG	**Gaggia**	**1.26**	**345**	*e*Pg	**Pb**	**12 51 41.5**	**0.0**
GAGG				*e*Sg	**Sg**	**12 51 59.0**	**+0.2**
PE3	**Peglio**	**1.40**	**147**	S	**Sg**	**12 52 02.0**	**-1.1**
PE3	**Peglio**	**1.40**	**147**	AML	AML		
	comp=E,211μm,0.1s						
PE3				AML	AML		
	comp=E,211μm,0.1s						
PE3				AML	AML		
	comp=N,128μm,0.2s						
PE3				AML	AML		
	comp=N,128μm,0.2s						
KOSI	**Kohlern**	**1.59**	**359**	P	**Pb**	**12 51 47.0**	**-0.3**
KOSI	**Kohlern**	**1.59**	**359**	P	**Pg**	**12 51 47.9**	**-0.8**
KOSI	**Kohlern**	**1.59**	**359**	P	**Pg**	**12 51 48.0**	**-0.7**
ABSI	**Aberstueckl**	**1.86**	**358**	P	**Pg**	**12 51 52.6**	**-1.2**
ABTA	**Abfaltersbach**	**2.02**	**21**	*e*Pg	**Pg**	**12 51 55.9**	**-1.0**
	comp=N,1.6nm,0.3s						
FDMO	**Fiordimonte**	**2.19**	**146**	AML	AML		
	comp=E,10μm,0.7s						
FDMO				AML	AML		
	comp=E,10μm,0.7s						
FDMO				AML	AML		
	comp=N,10μm,1.4s						
FDMO				AML	AML		
	comp=N,10μm,1.4s						
FETA	**Feichten**	**2.21**	**347**	*e*Pg	**Pb**	**12 51 58.6**	**+0.9**
	comp=N,1.3nm,0.3s						
FETA				Sn	**Sb**	**12 52 24.9**	**0.0**
	comp=N,0.8nm,0.2s						
SQTA	**Sankt Quirin**	**2.36**	**356**	*e*Pg	**Pg**	**12 52 02.5**	**-0.8**
	comp=N,2.3nm,0.2s						
SQTA				*e*Sn	**Sb**	**12 52 29.1**	**-0.1**
	comp=N,6.1nm,0.2s						
KBA	**Koelnbreinsper**	**2.58**	**30**	*e*Pg	**Pg**	**12 52 06.8**	**-0.6**
	comp=N,0.6nm,0.1s						
KBA				*e*Sg	**Sg**	**12 52 41.8**	**+0.9**
	comp=N,1.1nm,0.2s						

ISCJB ***04*** *12:58:45.4±0.8, 21°.9N±0°.1×143°.4E±0°.2, h250km, mb3.4/11, Error ellipse: s-maj=30.1km s-min=14.2km az=173.3*
IDC ***04*** *12:58:47.6±4.8, 21°.86N×143°.32E, h255km±47km, mb3.2/12, mb1 3.3/13, mb1mx3.1/46, mbtmp3.8/13, Error ellipse: s-maj=28.0km s-min=13.0km az=85.0*
ISC 04 12:58:47.0±1.0, 21°.9N±0°.1×143°.4E±0°.2, h250km, n13, σ0§57/13, mb3.4/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.29**	**344**	P	**P**	**13 02 09.7**	**-0.3**
	0.1nm,0.3s,baz=171,slow=7.7,SNR=7.2						
KSRS	**Korea Array**	**20.47**	**323**	P	**P**	**13 03 06.8**	**+0.7**
	2.0nm,0.8s,baz=144,slow=8.6,SNR=10						
KLR	**Kul'dur**	**28.82**	**344**	P	**P**	**13 04 21.6**	**-0.5**
	1.5nm,0.6s,baz=152,slow=8.5,SNR=6.8						
SONM	**Songino Array**	**39.31**	**320**	P	**P**	**13 05 52.3**	**+0.2**
	0.4nm,0.4s,baz=116,slow=6.6,SNR=3.9						
WRA	**Warramunga Arr**	**42.47**	**193**	P	**P**	**13 06 18.0**	**+0.1**
	0.5nm,0.6s,baz=16,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**46.18**	**192**	P	**P**	**13 06 47.0**	**-0.3**
	0.2nm,0.6s,baz=12,slow=6.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**54.17**	**322**	P	**P**	**13 07 46.3**	**-0.3**
	0.6nm,0.5s,baz=101,slow=6.2,SNR=4.0						
KURBB	**Kurchatov Arra**	**57.51**	**317**	P	**P**	**13 08 10.1**	**-0.1**
	0.9nm,0.6s,baz=94,slow=7.6,SNR=12						
ILAR	**Eielson Array**	**61.82**	**27**	P	**P**	**13 08 38.9**	**-0.5**
	0.5nm,0.7s,baz=248,slow=5.2,SNR=5.4						
BVAR	**Borovoye Array**	**62.64**	**319**	P	**P**	**13 08 45.2**	**+0.2**
	1.1nm,0.5s,baz=91,slow=6.4,SNR=6.9						
YKA	**Yellowknife Ar**	**76.24**	**28**	P	**P**	**13 10 08.7**	**+1.0**
	0.3nm,0.4s,baz=292,slow=5.8,SNR=9.5						
ARCES	**ARCESS Array B**	**78.81**	**342**	P	**P**	**13 10 22.4**	**+0.5**
	1.5nm,0.9s,baz=64,slow=9.2,SNR=3.9						
FINES	**FINESS Array B**	**83.10**	**335**	P	**P**	**13 10 43.8**	**-0.8**
	0.7nm,0.6s,baz=64,slow=4.4,SNR=7.6						

ISCJB ***04*** *13:13:59.1±0.7, 7°.87S±0°.06×126°.46E±0°.08, h200km, mb3.5/6, Error ellipse: s-maj=12.0km s-min=8.5km az=162.4*
IDC ***04*** *13:14:02.1±3.4, 7°.89S×126°.21E, h206km±36km, mb3.3/6, mb1 3.4/8, mb1mx3.3/30, mbtmp3.9/8, Error ellipse: s-maj=45.8km s-min=13.4km az=58.0*
ISC 04 13:14:00.6±0.8, 7°.97S±0°.07×126°.4E±0°.1, h200km, n10, σ2§54/13, mb3.5/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.51**	**230**	P	**Pn**	**13 14 57.8**	**+1.4**
	129nm,0.3s,baz=58,slow=2.1,SNR=142						
BATI				S	**Sn**	**13 15 40.0**	**-0.1**
	42nm,0.3s,baz=341,slow=19,SNR=14						
FITZ	**Fitzroy Crossi**	**10.10**	**184**	P	**Pn**	**13 16 22.1**	**+0.9**
	0.3nm,0.3s,baz=349,slow=9.8,SNR=15						
FITZ				S	**Sn**	**13 18 07.8**	**-6.3**
	0.8nm,0.3s,baz=355,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**14.17**	**148**	P	**Pn**	**13 17 12.1**	**-0.6**
	0.6nm,0.3s,baz=331,slow=10,SNR=27						
WRA				S	S	13 19 44.0	-6.5
	1.9nm,0.3s,baz=331,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.18**	**156**	P	**Pn**	**13 17 51.2**	**+2.1**
	1.2nm,0.3s,baz=336,slow=12,SNR=101						
ASAR				S	**S**	**13 20 57.5**	**+1.2**
	0.4nm,0.3s,baz=323,slow=18,SNR=10						
STKA	**Stephens Creek**	**27.67**	**151**	P	**P**	**13 19 33.8**	**+3.7**
	3.0nm,0.9s,baz=328,slow=15,SNR=3.1						
CMAR	**Chiang Mai Arr**	**37.74**	**314**	P	**P**	**13 20 56.7**	**-0.8**
	0.3nm,0.3s,baz=140,slow=7.1,SNR=3.1						
KSRS	**Korea Array**	**45.21**	**2**	P	**P**	**13 21 56.9**	**-0.9**
	0.5nm,0.4s,baz=188,slow=8.8,SNR=3.8						
SONM	**Songino Array**	**58.31**	**344**	P	**P**	**13 23 33.7**	**-0.9**
	0.3nm,0.5s,baz=170,slow=8.8,SNR=4.7						
MKAR	**Makanchi Array**	**67.14**	**329**	P	**P**	**13 24 33.3**	**+0.4**
	0.8nm,0.5s,baz=127,slow=7.7,SNR=8.9						
ZALV	**Zalesovo Beam**	**70.93**	**335**	P	**P**	**13 24 55.7**	**-0.2**
	0.7nm,0.5s,baz=131,slow=6.1,SNR=5.2						

CNRM ***04*** *13:21:36.2, 36°.01N×8°.05W, h10km, ml3.3*
MDD ***04*** *13:21:37.1±1.4, 36°.12N×8°.48W, h39km±26km, mbLg2.3/22, Error ellipse: s-maj=15.5km s-min=6.4km az=39.0, PRXIMO*
IGIL ***04*** *13:21:37.1, 36°.20N×8°.47W, h14km, ML1.8*
INMG ***04*** *13:21:37.5±1.1, 36°.22N×8°.45W, h15km±6km, ML1.9, Error ellipse: s-maj=7.7km s-min=3.0km az=52.0*
ISC 04 13:21:34.9±1.3, 36°.13N±0°.04×8°.41W±0°.04, h29km±12km, n52, σ1§29/91, 1C-2D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.05**	**342**	*i*P	**Pb**	**13 21 54.6**	**+0.1**
PFVI				*e*S	**Sb**	**13 22 07.5**	**-0.5**
PFVI				A	A	13 22 08.4	
	8.1nm,0.1s						
PFVI	**Vila Bisbo**	**1.05**	**342**	P	**Pb**	**13 21 54.6**	**+0.1**
	7.4nm,0.7s,SNR=13						
PFVI				S	**Sb**	**13 22 07.4**	**-0.5**
	20nm,0.1s,SNR=9.2						
PBDV	**Barranco-do-Ve**	**1.17**	**19**	*e*P	**Pb**	**13 21 57.0**	**+0.4**
PBDV				*e*S	**Sb**	**13 22 11.6**	**+0.2**
PBDV				A	A	13 22 17.1	
	4.8nm,0.4s						
PBDV	**Barranco-do-Ve**	**1.17**	**19**	P	**Pb**	**13 21 57.0**	**+0.4**
PBDV				S	**Sb**	**13 22 11.6**	**+0.2**
	4.8nm,0.4s						
MORF	**Marmelete**	**1.19**	**351**	*e*P	**Pb**	**13 21 56.5**	**-0.3**
MORF				*e*S	**Sn**	**13 22 10.7**	**0.0**
MORF				AML	AML	13 22 12.3	
	comp=E,23nm,0.1s						
MORF	**Marmelete**	**1.19**	**351⇓**	*e*P	**Pb**	**13 21 56.5**	**-0.3**
MORF				*e*S	**Sn**	**13 22 11.0**	**+0.2**
MORF				A	A	13 22 15.3	
	comp=E,25nm,0.1s						
MORF	**Marmelete**	**1.19**	**351**	P	**Pb**	**13 21 56.5**	**-0.3**
MORF				S	**Sn**	**13 22 10.7**	**0.0**
	comp=E,23nm,0.1s						
PVAQ	**Vaqueiros**	**1.39**	**24**	*e*P	**Pb**	**13 21 59.8**	**-0.4**
PVAQ				*e*S	**Sb**	**13 22 17.0**	**-0.5**
PVAQ	**Vaqueiros**	**1.39**	**24**	P	**Pb**	**13 21 59.8**	**-0.4**
PVAQ				S	**Sb**	**13 22 17.0**	**-0.5**
PTEO	**Sao Teotonio**	**1.43**	**350⇑**	*e*P	**Pb**	**13 22 00.1**	**-0.8**
PTEO				*e*S	**Sn**	**13 22 17.2**	**+0.5**
PTEO				A	A	13 22 18.6	
	comp=E,6.3nm,0.1s						
PTEO	**Sao Teotonio**	**1.43**	**350**	P	**Pb**	**13 22 00.1**	**-0.8**
PTEO				S	**Sn**	**13 22 17.2**	**+0.5**
	comp=E,3.2nm,0.1s						
PCVE	**Castro Verde**	**1.53**	**11**	*e*P	**Pb**	**13 22 01.9**	**-0.6**
PCVE				*e*S	**Sn**	**13 22 19.8**	**+0.7**
PCVE				A	A	13 22 20.9	
	comp=E,4.9nm,0.3s						
PCVE	**Castro Verde**	**1.53**	**11**	P	**Pb**	**13 22 01.9**	**-0.6**
PCVE				S	**Sn**	**13 22 19.8**	**+0.7**
	comp=E,4.9nm,0.3s						
EGRO	**El Granado**	**1.58**	**28**	P	**Pb**	**13 22 02.9**	**-0.6**
	comp=E,1.0nm,0.3s,SNR=12						
EGRO				S	**Sn**	**13 22 21.1**	**+0.6**
	comp=E,11nm,0.1s,SNR=22						
MESJ	**Messejana**	**1.71**	**5**	*e*P	**Pb**	**13 22 04.1**	**-1.5**
MESJ				*e*S	**Sn**	**13 22 23.4**	**-0.2**
MESJ				AML	AML	13 22 24.7	
	comp=N,6.7nm,0.1s						
MESJ	**Messejana**	**1.71**	**5**	P	**Pb**	**13 22 04.1**	**-1.5**
MESJ				S	**Sn**	**13 22 23.4**	**-0.2**
	comp=N,6.7nm,0.1s						
PBEJ	**Beja**	**1.94**	**13**	*e*Sn	**Sn**	**13 22 30.5**	**+1.2**
PBEJ				A	A	13 22 33.0	
	comp=N,5.3nm,0.2s						
PBEJ	**Beja**	**1.94**	**13**	S	**Sn**	**13 22 30.5**	**+1.2**
	comp=N,2.7nm,0.2s						
PNCL	**Nicolau / Gran**	**1.98**	**357**	*e*Pn	**Pn**	**13 22 07.5**	**+1.1**
PNCL				*e*Sn	**Sn**	**13 22 29.9**	**-0.3**
PNCL				A	A	13 22 32.4	
	comp=N,4.8nm,0.1s						
PNCL	**Nicolau / Gran**	**1.98**	**357**	P	**Pn**	**13 22 07.5**	**+1.1**
PNCL				S	**Sn**	**13 22 29.9**	**-0.3**
	comp=N,4.8nm,0.1s						
EMIN	**Mina Concepcio**	**2.15**	**40**	P	**Pn**	**13 22 10.3**	**+1.6**
	comp=N,1.1nm,0.7s,SNR=11						
EMIN				S	**Sn**	**13 22 34.1**	**-0.2**
	comp=N,3.6nm,0.1s,SNR=9.4						
ESPR	**Espera**	**2.19**	**70**	P	**Pn**	**13 22 11.2**	**+1.9**
	comp=N,2.6nm,0.3s,SNR=14						
ESPR				S	**Sn**	**13 22 36.6**	**+1.2**
	comp=N,18nm,0.4s,SNR=7.9						
PBAR	**Barrancos**	**2.31**	**28**	*e*Sn	**Sn**	**13 22 39.1**	**+0.6**
PBAR	**Barrancos**	**2.31**	**28**	S	**Sn**	**13 22 39.1**	**+0.6**
EBAD	**Badajoz**	**2.84**	**23**	P	**Pn**	**13 22 19.9**	**+1.6**
	comp=N,1.0nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**13 22 51.6**	**0.0**
	comp=N,1.7nm,0.1s,SNR=8.0						
PMAFR	**Mafra**	**2.90**	**346**	P	**Pn**	**13 22 19.8**	**+0.7**
	comp=N,1.0nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**13 22 52.6**	**-0.4**
	comp=N,29nm,0.5s,SNR=7.9						
PMTG	**Montargil**	**2.94**	**3**	*e*Pn	**Pn**	**13 22 20.7**	**+1.2**
PMTG				*e*Sn	**Sn**	**13 22 53.0**	**-0.8**
PMTG				A	A	13 22 55.8	
	comp=N,5.8nm,0.1s						
PMTG	**Montargil**	**2.94**	**3**	P	**Pn**	**13 22 20.7**	**+1.2**
PMTG				S	**Sn**	**13 22 53.0**	**-0.8**
	comp=N,5.8nm,0.1s						
EMIJ	**Mijas**	**2.97**	**81**	P	**Pn**	**13 22 21.2**	**+1.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**13 22 55.4**	**+0.7**
	comp=N,0.5nm,0.2s,SNR=7.9						
HORN	**Hornachuelos**	**3.05**	**55**	P	**Pn**	**13 22 21.5**	**+0.4**
HORN				S	**Sn**	**13 22 57.6**	**+1.0**
ZHG	**ZHG**	**3.05**	**151**	P	**Pn**	**13 22 22.5**	**+1.2**
ZHG				S	**Sn**	**13 22 56.4**	**-0.4**
ECAB	**El Cabril**	**3.08**	**50**	P	**Pn**	**13 22 23.4**	**+1.8**
	comp=N,0.5nm,0.3s,SNR=11						
ECAB				S	**Sn**	**13 22 55.8**	**-1.7**
	comp=N,1.2nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**3.39**	**14**	*e*Pn	**Pn**	**13 22 27.1**	**+1.3**
PMRV				*e*Sn	**Sn**	**13 23 04.4**	**-0.6**
PMRV				A	A	13 23 06.8	
	comp=N,2.2nm,0.3s						
PMRV	**Marv??o**	**3.39**	**14**	P	**Pn**	**13 22 27.1**	**+1.3**
PMRV				S	**Sn**	**13 23 04.4**	**-0.6**
	comp=N,2.2nm,0.3s						
PTOM	**Tomar**	**3.48**	**0**	*e*Sn	**Sn**	**13 23 07.5**	**+0.3**
PTOM	**Tomar**	**3.48**	**0**	S	**Sn**	**13 23 07.5**	**+0.3**
EGOR	**Sierra Gorda,**	**3.60**	**73**	P	**Pn**	**13 22 31.4**	**+2.6**
	comp=N,0.3nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**13 23 09.8**	**-0.6**
	comp=N,1.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.68**	**55**	P	**Pn**	**13 22 31.6**	**+1.8**
	comp=N,1.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**13 23 10.8**	**-1.4**
	comp=N,3.1nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.77**	**11**	*e*Pn	**Pn**	**13 22 32.3**	**+1.2**
PCBR				*e*Sn	**Sn**	**13 23 14.0**	**-0.5**
PCBR				A	A	13 23 15.0	
	comp=N,2.4nm,0.4s						
PCBR	**Castelo Branco**	**3.77**	**11**	P	**Pn**	**13 22 32.3**	**+1.2**
PCBR				S	**Sn**	**13 23 14.0**	**-0.5**
	comp=N,1.2nm,0.4s						
PCAS	**Casmilo, Conde**	**3.91**	**359**	*e*Pn	**Pn**	**13 22 34.5**	**+1.5**
PCAS				*e*Sn	**Sn**	**13 23 17.5**	**-0.5**
PCAS				A	A	13 23 19.1	
	comp=N,1.8nm,0.5s						
PCAS	**Casmilo, Conde**	**3.91**	**359**	P	**Pn**	**13 22 34.5**	**+1.5**
PCAS				S	**Sn**	**13 23 17.5**	**-0.5**
	comp=N,1.8nm,0.5s						
EQUE	**Quentar**	**4.14**	**74**	P	**Pn**	**13 22 38.4**	**+2.2**
	comp=N,0.5nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**13 23 24.0**	**+0.4**
	comp=N,0.2nm,0.1s,SNR=7.9						
MD31	**MD31**	**4.44**	**136**	P	**Pn**	**13 22 40.9**	**+0.5**
MD31				S	**Sn**	**13 23 30.3**	**-0.8**
MDT	**Midelt**	**4.57**	**135**	P	**Pn**	**13 22 42.4**	**+0.4**
MDT				S	**Sn**	**13 23 31.9**	**-2.3**
EQES	**Quesada**	**4.59**	**67**	S	**Sn**	**13 23 33.5**	**-1.3**
	comp=N,0.5nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**4.69**	**42**	S	**Sn**	**13 23 33.5**	**-3.6**
	comp=N,0.6nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.99**	**44**	S	**Sn**	**13 23 40.6**	**-3.9**
	comp=N,0.8nm,0.1s,baz=227,slow=24,SNR=24						
SESP	**Santiago Espad**	**5.09**	**65**	S	**Sn**	**13 23 45.5**	**-1.7**
	comp=N,1.0nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.14**	**12**	S	**Sn**	**13 23 45.2**	**-3.1**
	comp=N,1.4nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**5.61**	**35**	S	**Sn**	**13 23 57.4**	**-2.6**
	comp=N,1.2nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.73**	**3**	S	**Sn**	**13 23 58.7**	**-4.2**
	comp=N,0.5nm,0.1s,SNR=7.9						

IDC 04 13:37:18.9±3.3, 32°.79S×178°.28W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/27, mbtmp3.5/3, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/16, Error ellipse: s-maj=77.3km s-min=47.5km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.63**	**213**	Pn	Pn	13 38 56.5	-1.0
	0.8nm,0.3s,baz=275,slow=5.0,SNR=7.0						
URZ				Sn	Sn	13 40 08.2	-5.6
	0.5nm,0.3s,baz=255,slow=20,SNR=4.7						
URZ				LR	LR	13 41 36.1	
	comp=Z,117nm,19.7s,baz=235,slow=39						
ASAR	**Alice Springs**	**42.80**	**270**	P	P	13 45 18.9	+0.3
	0.3nm,0.8s,baz=109,slow=7.0,SNR=4.2						
WRA	**Warramunga Arr**	**44.00**	**275**	P	P	13 45 28.2	-0.2
	0.6nm,0.8s,baz=114,slow=7.9,SNR=7.9						
FINES	**FINESS Array B**	**147.29**	**338**	PKPbc	PKPbc	13 57 02.8	-0.8
	1.6nm,0.9s,baz=28,slow=3.6,SNR=3.7						

IDC 04 13:57:02.5±9.1, 4°.98S×153°.10E, h123km±62km, mb3.1/2, mb1 3.4/3, mb1mx3.0/24, mbtmp3.6/3, Error ellipse: s-maj=118.8km s-min=57.5km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.35**	**233**	P	Pn	13 58 46.6	-0.6
	1.1nm,0.3s,baz=108,slow=19,SNR=2.8						
PMG				S	Sn	14 00 10.6	+1.4
	5.5nm,0.3s,baz=246,slow=16,SNR=9.9						
WRA	**Warramunga Arr**	**23.55**	**229**	P	P	14 02 02.3	+0.4
	1.8nm,1.0s,baz=55,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.22**	**223**	P	P	14 02 25.9	-0.2
	0.3nm,0.6s,baz=55,slow=8.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**150.64**	**288**	PKPbc	PKPbc	14 16 40.6	-0.4
	0.3nm,0.4s,baz=74,slow=2.8,SNR=4.0						

ISCJB ***04*** *14:00:36.4±0.9, 33°.78N±0°.04×35°.77E±0°.06, h11km±9km, Error ellipse: s-maj=9.7km s-min=6.4km az=150.3*
GRAL ***04*** *14:00:37.1±0.3, 33°.78N×35°.75E, h9km±2km, MD2.6*
NSSC ***04*** *14:00:38.5±0.5, 33°.70N×35°.84E, h16km±2km, ML1.4*
ISC 04 14:00:35.8±1.0, 33°.79N±0°.06×35°.75E±0°.07, h17km±10km, n7, σ0§45/12, Jordan-Syria region

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

1.2nm,0.7s,baz=230,slow=9.0,SNR=7.6
ILAR Eielson Array 83.51 13 P **P 14 26 00.3 -0.7**
0.7nm,0.4s,baz=238,slow=5.8,SNR=11
TXAR Lajitas Array 85.07 58 P **P 14 26 10.5 +0.8**
1.1nm,0.7s,baz=218,slow=6.8,SNR=11
PDAR Pinedale Array 85.86 44 P **P 14 26 12.4 -1.0**
0.8nm,0.5s,baz=231,slow=2.7,SNR=12
SNAA Sanae 93.17 179 Pdiff **P 14 26 46.4 -0.3**
VNA3 Neumayer Olymp 93.33 177 Pdiff **P 14 26 48.2 +0.8**
VNA2 Neumayer--Watz 93.76 177 Pdiff **P 14 26 50.0 +0.7**
baz=186,slow=4.0
ARCES ARCESS Array B 123.70 350 PKP **PKPdf 14 32 25.9 -1.2**
1.4nm,0.9s,baz=72,slow=4.0,SNR=4.9
GERES GERESS Array B 145.00 345 PKPbc **PKPdf 14 33 08.2 +1.0**
0.3nm,0.6s,baz=29,slow=3.0,SNR=4.0

MAN 04 14:20:16.5, 13°74N×120°75E, h17km, mb3.7, ML2.4, MS1.9, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.30**	**140**	⇓iP		Pb	14 20 23.8	+0.3
PGP				*i* S		Sb	14 20 27.9	-0.4
LUBP	**Lubang**	**0.49**	**270**	*e*P		Pb	14 20 27.1	+0.4
LUBP				*e*S		Sn	14 20 37.6	+0.7
SJMP	**San Jose**	**1.32**	**164**	*e*P		Pn	14 20 39.7	-0.4
SJMP				*e*S		Sb	14 20 57.7	+0.4

IDC 04 14:35:28.6±5.0, 15°99S×176°19W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/27, mbtmp4.2/3, Error ellipse: s-maj=160.7km s-min=98.7km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.42**	**240**	P		P	14 43 17.7	+0.6
0.9nm,0.3s,baz=86,slow=11,SNR=10
WRA Warramunga Arr 47.10 257 P P 14 44 02.3 -0.5
0.3nm,0.3s,baz=95,slow=7.6,SNR=42
ASAR Alice Springs 47.38 252 P P 14 44 04.6 -0.4
4.3nm,0.4s,baz=89,slow=7.9,SNR=183
ASAR PcP PcP 14 45 35.5 -0.3
0.3nm,0.4s,baz=102,slow=4.2,SNR=4.5

*THR **04** 14:49:19.9, 28°05N×51°79E, h28km, ML3.3*
*IDC **04** 14:49:19.1±1.5, 28°18N×51°86E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.4/45, mbtmp3.6/8, ML3.3/2, Error ellipse: s-maj=34.6km s-min=25.3km az=11.0*
*ISCJB **04** 14:49:20.6±0.7, 28°04N±0°06×51°77E±0°07, h26km, mb3.5/7, Error ellipse: s-maj=9.2km s-min=8.4km az=14.5*
*TEH **04** 14:49:21.5, 28°21N×51°86E, h17km, ML3.3*
ISC 04 14:49:21.9±0.9, 28°00N±0°08×51°88E±0°07, h26km, n24, σ0°91/26, mb3.7/7, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.02**	**74**	*e*AML		AML	14 50 09.7	
639nm,0.5s
GHIR *e*Pg **Pn 14 49 40.1 -0.6**
JHRM Jahrom 1.58 71 *e*Pn **Pb 14 49 50.3 -0.3**
SHI Shiraz 1.73 19 *e*Pg **Pn 14 49 50.7 +0.2**
SHI *e*Sg **Sn 14 50 11.8 0.0**
SHI IAMB IAmb 14 50 24.7
comp=Z,4μm,0.7s
IKAZ Kazeroun 1.77 359 *e*Pn **Pn 14 49 51.2 0.0**
IKAZ IAMB IAmb 14 50 20.7
comp=Z,6μm,0.3s
IPAR Pars 2.10 29 *e*Pn **Pn 14 49 55.7 0.0**
IPAR IAMB IAmb 14 50 27.1
comp=Z,2μm,0.7s
IRAM Ramesheh 3.82 6 *e*Pn **Pn 14 50 18.1 -1.2**
IMEH Mehriz 4.13 35 *e*Pn **Pn 14 50 24.3 +0.7**
ROKH ROKH 4.39 351 *e*Pn **Pn 14 50 27.1 0.0**
IZEF Zefreh 4.90 4 *e*Pn **Pn 14 50 34.0 -0.1**
KHMZ Khomeyn 5.95 344 *e*Pn **Pn 14 50 47.9 -0.7**
KHMZ Khomeyn 5.95 344 *e*Pn **Pn 14 50 47.9 -0.7**
KRSH Karshahi 5.96 2 *e*Pn **Pn 14 50 47.6 -1.0**
ISFB Sefidab 6.34 3 *e*Pn **Pn 14 50 52.6 -1.2**
TPRV Parvadeh(Tabas 6.51 38 *e*Pn **Pn 14 50 57.3 +1.2**
IKOM Komasi 7.20 330 *e*Pn **Pn 14 51 05.5 -0.2**
WSAR Wadi Sarin 7.72 126 Pn **Pn 14 51 14.8 +2.1**
comp=Z,0.5nm,0.3s,baz=280,slow=14,SNR=6.8
WSAR Sn **Sn 14 52 37.4 -2.0**
comp=Z,0.1nm,0.3s,baz=42,slow=14,SNR=1.7
BRTR Keskin Array B 19.09 312 P **P 14 53 43.0 +0.3**
comp=Z,0.1nm,0.3s,baz=117,slow=12,SNR=4.0
IDI Anoyia 24.05 294 P **P 14 54 36.0 +0.9**
comp=Z,1.9nm,0.7s,baz=92,slow=16,SNR=3.3
MKAR Makanchi Array 30.32 44 P **P 14 55 31.7 +0.5**
comp=Z,0.3nm,0.5s,baz=229,slow=7.4,SNR=5.6
FINES FINESS Array B 37.62 340 P **P 14 56 33.4 -0.8**
comp=Z,1.0nm,0.7s,baz=163,slow=14,SNR=4.1
HFS Hagfors 41.22 332 P **P 14 57 03.6 -0.7**
comp=Z,0.5nm,0.3s,baz=134,slow=9.1,SNR=6.0
ARCES ARCESS Array B 44.29 347 P **P 14 57 28.6 -0.4**
comp=Z,0.3nm,0.6s,baz=138,slow=6.8,SNR=3.9
TORD Torodi Ar. Bea 48.92 263 P **P 14 58 06.9 +0.8**
comp=Z,0.4nm,0.4s,baz=74,slow=7.7,SNR=4.3
YKA Yellowknife Ar 89.17 354 P **P 15 02 14.8 -0.1**
comp=Z,0.2nm,0.7s,baz=14,slow=5.5,SNR=4.0

*SKO **04** 14:54:36.9, 41°99N×20°05E, h13km*
*PDG **04** 14:54:37.4±0.3, 41°94N×20°08E, h12km, MD3.2/10, ML3.2/10, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*TIR **04** 14:54:37.0, 41°93N×20°21E, h16km, Md3.3/7*
*PRU **04** 14:54:37.4±0.0, 41°42N×20°02E, h41km*
*ISCJB **04** 14:54:37.0±0.3, 41°96N±0°01×20°11E±0°02, h9km±2km, Error ellipse: s-maj=2.7km s-min=1.9km az=138.8*
*THE **04** 14:54:37.0, 41°99N×20°17E, h1km±1km, ML2.7/3, Error ellipse: s-maj=2.2km s-min=0.5km az=329.0*
*BEO **04** 14:54:38.2±0.3, 41°96N×20°19E, h6km±3km, ML3.1/7*
ISC 04 14:54:37.8±1.0, 41°94N±0°02×20°13E±0°02, h12km±8km, n119, σ1°22/163, 22C-11D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.43**	**354**	*i* PG		**Pg**	**14 54 46.4**	**+0.1**
BCI *i* SG **Sb 14 54 53.6 -0.2**
TIR Tirane 0.62 199 *e*Pg **Pg 14 54 49.8 -0.1**
TIR *e*Sg **Sb 14 55 00.1 +0.8**
TIR Tirane 0.62 199 P **Pg 14 54 49.6 -0.3**
TIR S **Sb 14 54 59.8 +0.5**
TIR Tirane 0.62 199 *i* Pg **Pg 14 54 49.0 -1.0**
TIR Tirane 0.62 199 *i* PG **Pg 14 54 49.6 -0.3**
TIR *i* SG **Sb 14 54 59.1 -0.2**
ULC Ulcinj 0.66 272 ⇑*i*Pg **Pg 14 54 49.5 -1.1**
ULC *e*Sg **Sb 14 54 59.8 -0.7**
PVY Plav 0.67 349 ⇑*i*Pg **Pg 14 54 50.0 -0.8**
PVY *e*Sg **Sb 14 55 00.5 -0.3**
DRME Dracevica, Mon 0.75 290 ⇑*i*Pg **Pg 14 54 50.7 -1.5**
DRME *e*Sg **Sg 14 55 02.1 +0.1**
DRME Dracevica, Mon 0.75 290 ⇑*i*Pn **Pg 14 54 50.8 -1.5**
PDG Podgorica 0.81 307 *e*Pg **Pg 14 54 52.0 -1.5**
PDG *e*Sg **Sb 14 55 05.6 +0.7**
PDG Podgorica 0.81 307 ⇓*i*P **Pg 14 54 52.4 -1.1**
PDG S **Sb 14 55 05.1 +0.2**
PDG Podgorica 0.81 307 ⇑*i*Pn **Pg 14 54 52.0 -1.5**
TTG Podgorica 0.81 307 ⇑*i*Pg **Pg 14 54 52.0 -1.5**
TTG *e*Sg **Sb 14 55 04.5 -0.4**
IVA Berane 0.95 349 ⇑*i*Pg **Pg 14 54 55.3 -0.8**
IVA *e*Sg **Sn 14 55 09.7 -0.9**
OHR Ohrid 0.97 149 *i* Pg **Pg 14 54 55.3 -1.2**
OHR *i* Sg **Sb 14 55 09.9 +0.6**
SKO Skopje 0.98 88 P **Pb 14 54 56.1 -0.6**
SKO S **Sn 14 55 10.9 -0.3**
SKO Skopje 0.98 88 *i* Pg **Pb 14 54 55.7 -1.0**
SKO *i* Sg **Sb 14 55 09.9 +0.3**
BUM Brajici-Budva 0.99 292 ⇑*i*Pg **Pg 14 54 55.2 -1.7**
BUM *e*Sg **Sn 14 55 11.1 -0.4**
KRUS Krusevo 1.01 124 *i* Pg **Pb 14 54 56.0 -1.3**
KOME Kolasin 1.02 334 ⇑*i*Pg **Pb 14 54 56.4 -1.1**
KOME *e*Sg **Sn 14 55 11.9 -0.4**
CEME Cevo 1.09 304 ⇑*i*Pg **Pb 14 54 56.9 -1.7**
CEME *e*Sg **Sn 14 55 13.6 -0.3**
NKME Niksic 1.20 314 ⇓*i*Pg **Pn 14 54 59.0 -1.5**
NKME *e*Sg **Sn 14 55 17.6 +0.8**
NKY Niksic 1.21 316 ⇑*i*Pg **Pn 14 54 59.5 -1.2**
NKY *e*Sg **Sn 14 55 18.1 +0.9**

BIA Bitola 1.28 135 P **Pb 14 55 01.8 -0.1**
BIA S **Sg 14 55 20.6 +1.4**
BIA Bitola 1.28 135 *i* Pg **Pb 14 55 01.8 -0.1**
BIA *i* Sg **Sg 14 55 20.4 +1.3**
HCY Herceg Novi 1.32 293 ⇓*i*Pg **Pn 14 55 01.0 -1.1**
HCY *e*Sg **Sg 14 55 21.4 +1.2**
HCY Herceg Novi 1.32 293 ⇓*i*Pn **Pn 14 55 01.0 -1.1**
SJES Sjenica 1.33 355 *e*Pg **Pb 14 55 02.5 -0.2**
SJES *e*Sg **Sg 14 55 20.9 +0.3**
SELS Selova 1.47 29 *e*Pg **Pn 14 55 04.1 -0.1**
FNA Florina 1.49 140 P **Pn 14 55 04.5 +0.1**
FNA S **Sg 14 55 26.1 +0.4**
FNA Florina 1.49 140 *i* Pn **Pn 14 55 04.1 -0.3**
FNA Florina 1.49 140 *i* PN **Pn 14 55 04.1 -0.3**
FNA *i* SN **Sg 14 55 28.1 +2.4**
PLE Pljevlja 1.49 339 ⇓*i*Pg **Pb 14 55 05.0 -0.6**
PLE *e*Sg **Sg 14 55 27.0 +1.1**
BRY Bratogost 1.52 310 ⇓*i*Pg **Pn 14 55 04.2 -0.8**
BRY *e*Sg **Sg 14 55 27.5 +0.7**
BRY Bratogost 1.52 310 ⇓*i*Pn **Pn 14 55 04.1 -0.9**
BARS Barje 1.53 54 *e*Pn **Sn 14 55 21.1 -3.6**
TREB Trebinje 1.53 301 *e*Pg **Pn 14 55 04.8 -0.2**
TREB *e*Sg **Sg 14 55 29.2 +2.1**
TREB Trebinje 1.53 301 *e*Pn **Pn 14 55 04.7 -0.2**
VLO Vlora 1.54 198 *i* PN **Pg 14 55 09.2 +1.7**
UPM Unac-Piva 1.55 325 ⇑*i*Pg **Pn 14 55 05.9 +0.4**
UPM *e*Sg **Sg 14 55 28.3 +0.5**
UPM Unac-Piva 1.55 325 ⇓*i*Pn **Pn 14 55 05.6 +0.1**
STIP Stip 1.56 98 *i* Pn **Pg 14 55 07.8 +0.1**
IVAS Ivanjica 1.64 1 *e*Pg **Pn 14 55 06.4 -0.1**
IVAS *e*Sg **Sb 14 55 29.2 +0.6**
NEST Nestorio 1.67 155 P **Pb 14 55 07.8 -0.8**
BOSS Bosilegrad 1.83 72 *e*Pg **Pn 14 55 09.3 +0.2**
GRUS Gruza 2.00 12 *e*Pn **Pn 14 55 11.3 -0.1**
BBLS Lazići 2.00 345 *e*Pn **Pn 14 55 12.4 +0.9**
BBLS Lazići 2.00 345 ⇑*i*Pn **Pn 14 55 12.2 +0.7**
STON Ston 2.03 298 *e*Pn **Pn 14 55 12.6 +0.8**
STON Ston 2.03 298 *e*Pn **Pn 14 55 12.3 +0.6**
STON Sg **Sg 14 55 44.0 +1.1**
STON Ston 2.03 298 *e*Pn **Pn 14 55 11.9 +0.1**
KZN Kozani 2.05 142 P **Pn 14 55 12.9 +0.7**
BOVS Bovan 2.05 34 *e*Pn **Pb 14 55 13.6 -1.4**
BOVS *e*Sn **Sn 14 55 37.2 -0.5**
DIVS Divibare 2.16 357 *e*Pn **Pn 14 55 14.0 +0.3**
DIVS Divibare 2.16 357 ⇑*i*Pn **Pn 14 55 14.0 +0.3**
KPRO Kipourio 2.19 154 P **Pn 14 55 14.9 +0.8**
KNT Kendrikon 2.22 110 P **Pn 14 55 14.2 -0.2**
KEK Kerkira 2.24 187 P **Pn 14 55 15.1 +0.4**
KEK S **Sb 14 55 45.5 -0.3**
SCTE Santa Cesarea 2.25 215 *i* PN **Pn 14 55 15.5 +0.6**
SCTE *i* SN **Sg 14 55 48.2 -1.8**
ZAPS Zavoj 2.28 53 *e*Pn **Pn 14 55 16.1 +0.8**
TRUS Trudelj 2.29 5 *e*Pn **Pb 14 55 17.2 -1.9**
HAPS Han Pijesak,Bl 2.31 338 *e*Pn **Pn 14 55 16.5 +0.6**
HAPS Han Pijesak,Bl 2.31 338 *e*Pn **Pn 14 55 16.3 +0.4**
FASA Fasano 2.37 243 *e*Pn **Pn 14 55 17.4 +0.9**
CGL1 Ceglie Messapi 2.38 238 *e*Pn **Pn 14 55 16.3 -0.3**
CGL1 Sn **Sn 14 55 44.0 -1.7**
VTS Vitosha 2.40 73 *e*Pn **Pn 14 55 17.2 +0.1**
VTS *e*Sn **Sn 14 55 46.1 -0.4**
VTS Vitosha 2.40 73 ⇓*i*P **Pn 14 55 17.5 +0.4**
VTS Vitosha 2.40 73 S **Sn 14 55 46.8 +0.3**
IGT Igoumenitsa 2.41 176 P **Pn 14 55 18.2 +1.1**
IGT S **Sb 14 55 50.1 -0.7**
IGT Igoumenitsa 2.41 176 *i* PN **Pn 14 55 18.6 +1.5**
IGT *i* SN **Sn 14 55 48.1 +1.6**
ZAGS Zajecar 2.43 39 *e*Pn **Pb 14 55 19.6 -1.8**
LIT Litokhoron 2.56 135 P **Pn 14 55 19.8 +0.6**
BAI Bari 2.58 252 *e*Pn **Pn 14 55 18.6 -0.8**
BAI Sn **Sn 14 55 48.8 -1.8**
MASS Massafra 2.60 241 *e*Pn **Pn 14 55 20.7 +1.0**
KUBS Kucevo 2.72 24 *e*Pn **Pn 14 55 20.8 -0.5**
SRS Serrai 2.73 106 P **Pn 14 55 22.1 +0.7**
MATE Matera 2.88 245 ⇑*i*P **Pn 14 55 22.6 -1.0**
MDVR Moldovita 3.07 22 ⇑*i*P **Pn 14 55 26.8 +0.7**
MDVR Moldovita 3.07 22 S **Sg 14 56 18.0 +1.7**
DOB Doboj 3.16 333 *e*Pn **Pn 14 55 28.1 +0.7**
LKD2 Lefkada island 3.17 173 P **Pn 14 55 28.1 +0.5**
FRGS Fruska Gora 3.23 356 *e*Pn **Pn 14 55 28.6 +0.2**
FRGS Fruska Gora 3.23 356 *e*Pn **Pn 14 55 28.5 +0.2**
MGRS Mrkonjic Grad 3.33 319 *e*Pn **Pn 14 55 31.9 +2.1**
HERR Herculane 3.38 29 ⇑*i*P **Pn 14 55 31.3 +0.9**
BLY Banja Luka 3.54 324 *e*Pn **Pn 14 55 34.9 +2.4**
BLY Banja Luka 3.54 324 ⇓*i*P **Pb 14 55 42.8 +2.5**
BLY Banja Luka 3.54 324 S **Sg 14 56 34.1 +2.8**
BLY Banja Luka 3.54 324 *e*Pn **Pn 14 55 35.3 +2.8**
TIP Timpagrande 3.77 224 ⇑*i*P **Pn 14 55 35.2 -0.6**
BZS Buzias 3.83 16 *e*Pn **Pn 14 55 36.6 0.0**
BZS Buzias 3.83 16 ⇑*i*P **Pn 14 55 36.3 -0.3**
GZR Gura Zlata 3.95 28 ⇑*i*P **Pn 14 55 38.5 +0.2**
UDBI Udbina 4.11 311 *e*Pn **Pn 14 55 42.5 +2.0**
MORH Mrgy, Hungar 4.41 346 *e*Pn **Pn 14 55 44.1 -0.4**
DEV Deva 4.42 26 ⇓*i*P **Pb 14 55 53.4 -2.0**
NVLJ Novalja 4.65 306 *e*Pn **Pn 14 55 48.0 +0.2**
AQU L'Aquila 5.02 277 *e*Pn **Pn 14 55 53.4 +0.4**
BOJS Bojanci 5.02 317 *i* Pn **Pn 14 55 54.5 +1.6**
CRES Cresnjev 5.15 321 *i* Pn **Pn 14 55 55.9 +1.2**
CRES Cresnjev 5.15 321 ⇑*i*Pn **Pn 14 55 55.7 +1.0**
VISS Visnje 5.43 317 *i* Pn **Pn 14 56 00.5 +1.9**
CEY Cerknica 5.61 315 ⇑*i*Pn **Pn 14 56 02.2 +1.2**
SKDS Skadanscina 5.71 311 *i* Pn **Pn 14 56 02.7 +0.3**
JAVS Javornik 5.90 314 *i* Pn **Pn 14 56 06.2 +1.1**
SOKA Soboth 5.98 324 *e*Pn **Pn 14 56 07.6 +1.3**
1.9nm,0.3s
OBKA Obir 6.08 321 *e*Pn **Pn 14 56 08.9 +1.3**
2.4nm,0.3s
ARSA Arzberg 6.25 330 *i* Pn **Pn 14 56 11.5 +1.7**
4.9nm,0.3s
ARSA *i* Sn **Sn 14 57 22.1 +1.0**
1.6nm,0.3s
VYHS Vyhne 6.62 353 *e*PN **Pn 14 56 15.9 +1.0**
VYHS *e*SN **Sn 14 57 26.9 -3.3**
CONA Conrad Observa 6.71 335 *e*Pn **Pn 14 56 19.3 +3.1**
1.1nm,0.4s
CONA *e*Sn **Sn 14 57 33.6 +1.0**
2.2nm,0.5s
MODS Modra-Piesok 6.74 344 *e*PN **Pn 14 56 18.5 +1.9**
KBA Koelnbreinsper 7.06 319 *i* Pn **Pn 14 56 22.5 +1.4**
2.0nm,0.3s,SNR=7.0
KOLS Kolonicke sedl 7.16 11 *e*PN **Pn 14 56 25.8 +3.6**
MOA Molln 7.23 327 *i* Pn **Pn 14 56 26.1 +2.8**
2.3nm,0.3s
MOA *i* Sn **Sn 14 57 47.0 +1.8**
0.7nm,0.2s
ABTA Abfaltersbach 7.27 314 *e*Pn **Pn 14 56 24.7 +0.7**
1.5nm,0.2s
WTTA Wattenberg 8.06 314 *i* Pn **Pn 14 56 36.1 +1.2**
4.5nm,0.4s
WATA Walderalm 8.14 314 *e*Pn **Pn 14 56 37.3 +1.4**
3.4nm,0.4s,SNR=4.7
MOTA Moosalm 8.40 313 *e*Pn **Pn 14 56 40.9 +1.5**
3.0nm,0.5s,SNR=5.4
KHC Kasperske Hory 8.53 330 *e*PN **Pn 14 56 41.3 +0.1**
KHC *ex* x 14 56 59.3
KHC *e*SN **Sn 14 58 17.8 +0.4**

MEX 04 14:56:12.6±0.8, 18°27N×103°29W, h26km±6km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.06**	**291**	*i* P		Pb	14 56 15.8	-1.3
MMIG *e*S Sb 14 56 18.9 -1.3
EZ5V 1.24 346 *e*P Pn 14 56 32.7 -1.8
EZ5V *e*S Sn 14 56 47.6 -3.0
ZIIG Zihuatanejo 1.86 110 *e*P Pn 14 56 41.3 -1.5
ZIIG *i* S Sn 14 57 02.8 -2.6
CJM Chamela 2.06 307 *e*P Pn 14 56 44.0 -1.5
CJM *e*S Sn 14 57 07.2 -3.2

*IDC **04** 14:59:19.3±0.9, 39°16S×176°03E, h80km±9km, mb4.2/6, mb1 4.4/7, mb1mx4.0/18, mbtmp4.5/7, Error ellipse: s-maj=22.1km s-min=10.5km az=131.0*
*ISCJB **04** 14:59:20.1±0.2, 39°02S±0°02×176°00E±0°03, h94km±2km, mb4.6/24, Error ellipse: s-maj=4.1km s-min=3.3km az=136.6*
*WEL **04** 14:59:21.4, 39°0S±0°8×17°6E±°, h79km±2km, ML4.5/42*
*NEIC **04** 14:59:21.6±0.0, 39°00S×176°00E, h77km, mb4.7/22,*
ML4.2(WEL), After WEL.
ISC 04 14:59:20.8±0.6, 39°09S±0°03×175°99E±0°03, h93km±4km, n159, σ1°60/182, mb4.7/24, 1D, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RITZ	**Rihia Road**	**0.15**	**316**	P		Pn	14 59 33.2	-0.8
HATZ Hinemaiaia 0.21 22 P **Pn 14 59 32.8 -1.4**
HATZ S **Sn 14 59 40.3 -3.8**
KATZ Kakaramea 0.26 295 P **Pn 14 59 33.6 -0.8**
KRVZ Karewarewa 0.27 268 P **Pn 14 59 33.8 -0.7**
KRVZ S **Sn 14 59 43.9 -0.9**
RATZ Rangitukua 0.28 322 P **Pn 14 59 33.2 -1.3**
RATZ S **Sn 14 59 42.7 -1.9**
WTVZ West Tongariro 0.31 264 P **Pn 14 59 34.0 -0.8**
NGZ Ngauruhoe 0.32 253 P **Pn 14 59 34.3 -0.5**
TUVZ Tukino 0.32 235 P **Pn 14 59 34.6 -0.3**
TUVZ S **Sn 14 59 44.1 -1.2**
WHVZ Whangaehu Hut 0.37 238 P **Pn 14 59 34.9 -0.3**
WHVZ S **Sn 14 59 44.5 -1.4**
FWVZ Far West T-bar 0.38 243 P **Pn 14 59 34.7 -0.5**
DRZ Dome Shelter 0.38 240 P **Pn 14 59 35.2 -0.2**
BKZ Black Stump Fm 0.40 102 *e*Pn **Pn 14 59 34.7 -0.5**
BKZ Black Stump Fm 0.40 102 P **Pn 14 59 34.6 -0.5**
BKZ S **Sn 14 59 44.4 -1.5**
TRVZ Turoa 0.41 238 P **Pn 14 59 35.2 -0.2**
BHHZ Black Hill Sta 0.41 172 P **Pn 14 59 35.1 -0.1**
MRHZ Matea Rd 0.42 53 P **Pn 14 59 34.0 -1.3**
MRHZ S **Sn 14 59 43.3 -2.8**
WHTZ Whakaora 0.42 356 P **Pn 14 59 34.2 -1.1**
WATZ Wairara 0.43 332 P **Pn 14 59 34.0 -1.3**
TWVZ Taurewa 0.43 272 P **Pn 14 59 34.7 -0.7**
KWHZ Kaweka Forest 0.48 135 P **Pn 14 59 35.8 +0.1**
MTVZ Mangateitei 0.50 233 P **Pn 14 59 35.9 0.0**
PKVZ Pokaka 0.54 248 P **Pn 14 59 36.1 -0.1**
WPRZ Whakapapatarin 0.58 13 P **Pn 14 59 35.1 -1.3**
ALRZ Allen Road 0.59 28 P **Pn 14 59 35.2 -1.4**
KUTZ Kaahu Road 0.61 348 P **Pn 14 59 35.6 -1.1**
KRHZ Kereru 0.63 152 P **Pn 14 59 37.5 +0.6**
NMHZ Naumai 0.64 91 P **Pn 14 59 37.4 +0.4**
MCHZ McNeill Hill 0.66 123 P **Pn 14 59 38.0 +0.9**
PRRZ Plateau Road 0.66 28 P **Pn 14 59 35.8 -1.4**
MTHZ Maungataniwha 0.70 71 P **Pn 14 59 36.9 -0.7**
HRRZ Handcock Road 0.73 18 P **Pn 14 59 36.9 -1.0**
GRRZ Galatos Road 0.74 7 P **Pn 14 59 37.0 -1.0**
HSRZ Hossack Road 0.80 14 P **Pn 14 59 37.5 -1.0**
ARHZ Aropaoanui 0.80 103 P **Pn 14 59 38.8 +0.3**
TLZ Tolley Road 0.83 335 P **Pn 14 59 37.9 -1.0**
PNHZ Pukenui 0.84 169 P **Pn 14 59 39.7 +0.7**
RRRZ Republican Roa 0.85 29 P **Pn 14 59 37.9 -1.2**
MUGZ Murupara 0.86 45 P **Pn 14 59 38.0 -1.2**
RAHZ Arahi 0.87 79 P **Pn 14 59 39.2 -0.1**
HLRZ Highlands Stat 0.88 19 P **Pn 14 59 39.0 -0.4**
RTZ Ruatahuna 0.90 59 P **Pn 14 59 38.9 -0.8**
UTU Utuhina 0.92 10 P **Pn 14 59 39.0 -0.8**
TARZ Mount Tarawera 0.94 26 P **Pn 14 59 39.3 -0.8**
VRZ Vera Road 0.96 267 P **Pn 14 59 40.3 +0.1**
WHHZ Waihua 0.97 90 P **Pn 14 59 40.3 0.0**
TSZ Takapari Road 0.97 181 P **Pn 14 59 41.2 +0.8**
KAHZ Kahuranaki 0.99 136 P **Pn 14 59 41.3 +0.7**
MKRZ Makatiti 1.02 22 P **Pn 14 59 40.3 -0.6**
CKHZ Cape Kidnapper 1.02 125 P **Pn 14 59 41.9 +1.0**
OMRZ Omania 1.02 17 P **Pn 14 59 40.0 -1.0**
WAZ Wanganui 1.03 229 P **Pn 14 59 42.1 +1.1**
WPHZ Waipukurau 1.04 161 P **Pn 14 59 41.9 +0.8**
HIZ Hauiti 1.05 302 *e*Pn **Pn 14 59 40.8 -0.5**
HIZ *e*Sn **Sn 14 59 56.1 -0.5**
HIZ Hauiti 1.05 302 P **Pn 14 59 40.8 -0.5**
SNGZ Shannon Statio 1.09 74 P **Pn 14 59 41.4 -0.3**
LIRZ Lichensteins R 1.12 16 P **Pn 14 59 40.9 -1.2**
EDRZ Edgecumbe 1.14 31 P **Pn 14 59 41.3 -1.0**
PXZ Pawanui 1.16 145 P **Pn 14 59 43.1 +0.6**
URZ Urewera 1.20 47 *e*Pn **Pn 14 59 42.0 -1.0**
URZ *e*Sn **Sn 14 59 57.2 -2.5**
URZ Urewera 1.20 47 P **Pn 14 59 42.0 -1.0**
771nm,0.3s,baz=232,slow=5.4,SNR=5624
URZ S **Sn 14 59 57.6 -2.1**
2μm,0.3s,baz=41,slow=22,SNR=89
URZ Urewera 1.20 47 P **Pn 14 59 42.0 -1.0**
DVHZ Dannevirke 1.22 174 P **Pn 14 59 43.7 +0.4**
MARZ Manawahe 1.22 26 P **Pn 14 59 42.5 -0.8**
OHWZ Ohakea 1.23 205 P **Pn 14 59 44.9 +1.5**
KMRZ Kaimai 1.24 358 P **Pn 14 59 42.6 -0.8**
RAGZ Rawiri 1.26 63 P **Pn 14 59 43.4 -0.4**
PRHZ Porangahau 1.28 157 P **Pn 14 59 44.6 +0.7**
LREZ Lake Rotokare 1.29 253 P **Pn 14 59 45.0 +0.9**
LREZ S **Sn 15 00 03.4 +1.9**
MHEZ Mangahewa 1.30 270 P **Pn 14 59 45.2 +1.1**
MHEZ S **Sn 15 00 06.6 +1.8**
KNZ Kokohu 1.31 88 P **Pn 14 59 43.9 -0.4**
OPRZ Ohinepanea 1.32 20 P **Pn 14 59 43.4 -0.9**
POWZ Post Office Ro 1.32 187 P **Pn 14 59 44.9 +0.5**
TGRZ Tauranga 1.37 9 P **Pn 14 59 44.3 -0.7**
DREZ Durham Road 1.40 265 P **Pn 14 59 46.3 +1.0**
TOZ Tahuroa Road 1.41 344 P **Pn 14 59 44.7 -0.7**
MWZ Matawai 1.42 59 P **Pn 14 59 44.9 -0.7**
MWZ S **Sn 15 00 02.9 -1.6**
ANWZ Angora Road 1.42 165 P **Pn 14 59 46.4 +0.8**
RIGZ Rimuhau 1.43 75 P **Pn 14 59 46.1 +0.2**
PREZ Palmer Road 1.45 259 P **Pn 14 59 47.5 +1.5**
WHRZ Whale Island 1.45 32 P **Pn 14 59 45.4 -0.6**
PRWZ Pori Road 1.47 181 P **Pn 14 59 46.9 +0.7**
PRGZ Paritu Road 1.48 84 P **Pn 14 59 46.5 +0.1**
MHGZ Mahia Peninsul 1.49 93 P **Pn 14 59 46.4 -0.1**
PKE Pukeiti 1.56 265 P **Pn 14 59 48.2 +0.7**
TKGZ Te Karaka 1.59 67 P **Pn 14 59 47.3 -0.4**
BFZ Birch Farm 1.61 173 *e*Pn **Pn 14 59 48.3 +0.2**
BFZ Birch Farm 1.61 173 P **Pn 14 59 48.2 +0.2**
NMEZ Namu Road 1.67 258 P **Pn 14 59 49.9 +1.0**
TIWZ Tintock 1.69 183 P **Pn 14 59 49.3 +0.2**
RUGZ Raukumara Rang 1.73 50 P **Pn 14 59 48.6 -1.1**
TWGZ Tauwhareparae 1.80 60 P **Pn 14 59 50.4 -0.2**
WIZ White Island 1.82 32 P **Pn 14 59 49.7 -1.0**
CPWZ Castlepoint 1.83 175 P **Pn 14 59 51.6 +0.8**
HOWZ Holdsworth Sta 1.85 191 P **Pn 14 59 50.8 -0.3**
KIW Kapiti Island 1.96 205 P **Pn 14 59 52.4 -0.1**
KBAZ Karaka Road Bo 2.17 336 P **Pn 14 59 55.0 -0.3**
TRWZ Traveller 2.32 186 P **Pn 14 59 56.7 -0.6**
MXZ Matakaoa Point 2.37 51 *e*Pn **Pn 14 59 57.4 -0.6**
SNZO South Karori 2.43 203 *e*Pn **Pn 14 59 57.8 -0.9**
THZ Tophouse 3.56 220 *e*Pn **Pn 15 00 12.8 -1.2**
KHZ Kahutara 3.81 208 *e*Pn **Pn 15 00 15.5 -1.8**
OUZ Omahuta 4.31 333 *e*Pn **Pn 15 00 24.2 +0.2**
LTZ Lake Taylor 4.64 216 *e*Pn **Pn 15 00 25.8 -2.8**
CRLZ Canterbury Las 5.15 208 *e*Pn **Pn 15 00 31.5 -3.9**
CRLZ *e*Sn **Sn 15 01 27.9 -5.6**
OXZ Oxford 5.18 214 *e*Pn **Pn 15 00 31.9 -3.9**
MQZ McQueen's Vall 5.25 207 *e*Pn **Pn 15 00 32.6 -4.2**
RPZ Rata Peaks 5.93 217 *e*Pn **Pn 15 00 43.9 -2.1**
RPZ Rata Peaks 5.93 217 P **Pn 15 00 44.1 -2.0**
5.6nm,0.3s,baz=201,slow=2.3,SNR=33
RPZ S **Sn 15 01 47.1 -5.4**
32nm,0.3s,baz=315,slow=21,SNR=21
LBZ Lake Benmore 6.85 217 *e*Pn **Pn 15 00 55.2 -3.3**
LBZ *e*Sn **Sn 15 02 07.7 -7.2**
ODZ Otahua Downs 7.16 212 *e*Pn **Pn 15 00 58.5 -4.2**
ODZ *e*Sn **Sn 15 02 15.6 -6.9**
STKA Stephens Creek 28.79 274 *e*P **P 15 05 11.6 +1.7**
1.0nm,0.8s
**STKA Stephens Creek 28

MTN	Manton Dam	47.41 291	eP	P	15 07 46.5	+0.5
	15nm,1.1s					
FITZ	Fitzroy Crossi	48.22 281	eP	P	15 07 53.1	+0.8
	9.1nm,0.7s					
MORW	Morawa	49.86 262	eP	P	15 08 04.6	0.0
	6.9nm,0.9s					
SAUI	Saumlaki	50.61 296	eP	P	15 08 10.5	+0.1
	297nm,0.9s					
PSA00	Pilbara Seismi	50.72 273	eP	P	15 08 11.1	-0.1
	12nm,1.4s					
MBWA	Marble Bar	51.04 273	eP	P	15 08 13.4	-0.2
	2.5nm,0.6s					
QSPA	South Pole Qui	51.04 180	eP	P	15 08 17.0	+3.8
	6.8nm,0.6s					
MAW	Mawson	62.43 203	eP	P	15 09 35.4	+1.9
	0.9nm,0.7s					
MAW	Mawson	62.43 203	P	P	15 09 34.2	+0.7
	3.1nm,0.6s,baz=138,slow=8.7,SNR=12					
SYO	Syowa Base	67.50 196	⇓eP	P	15 10 07.0	+0.7
SNAA	Sanae	69.54 180	P	P	15 10 20.9	+1.8
SNAA	Sanae	69.54 180	eP	P	15 10 21.1	+2.0
	4.3nm,1.1s					
VNA3	Neumayer Olymp	69.90 178	P	P	15 10 23.6	+2.3
VNA2	Neumayer--Watz	70.27 179	P	P	15 10 25.7	+2.2
VNA1	Neumayer--Stat	70.53 178	P	P	15 10 27.8	+2.7
KKM	Kota Kinabalu	71.10 295	eP	P	15 10 29.5	+0.1
	14nm,1.1s					
KSM	Kuching	72.28 287	eP	P	15 10 36.0	-0.5
	4.7nm,0.8s					
GSI	Gunungsitoli	81.83 278	eP	P	15 11 30.0	0.0
	22nm,0.7s					
KSRS	Korea Array	88.07 324	P	P	15 12 01.8	+1.3
	0.8nm,0.8s,baz=140,slow=5.5,SNR=4.7					
CMAR	Chiang Mai Arr	91.83 292	P	P	15 12 19.1	+0.5
	1.9nm,0.3s,baz=139,slow=3.8,SNR=8.7					
MK32	Makanchi Array	119.39 308	ePKPdf	PKPdf	15 17 56.9	-2.0
MKAR	Makanchi Array	119.39 308	PKP	PKPdf	15 17 56.9	-2.0
	0.3nm,0.5s,baz=232,slow=2.4,SNR=6.7					
KBZ	Khabaz	144.88 293	PKP	PKPbc	15 18 45.1	-0.8
	2.3nm,0.8s,baz=45,slow=1.8,SNR=7.9					
ARA0	ARCESS Array S	145.69 342	ePKPdf	PKPdf	15 18 46.9	-0.2
ARCES	ARCESS Array B	145.69 342	PKPbc	PKPdf	15 18 46.9	-0.3
	7.1nm,0.7s,baz=38,slow=2.2,SNR=27					
LIC	Lamto	147.27 178	ePKP1	PKPdf	15 18 51.7	+0.1
	61nm,1.2s					
KIC	Kosan Boka	147.41 179	ePKP1	PKPdf	15 18 51.1	-0.7
	19nm,0.6s					
TIC	Toumodi	147.69 178	ePKP1	PKPdf	15 18 51.3	-1.0
DBIC	Dimbokro	147.72 178	PKPbc	PKPbc	15 18 55.8	+0.7
	7.5nm,0.8s,baz=155,slow=3.2,SNR=8.2					
FIA0	FINESS Array S	150.96 330	ePKPdf	PKPbc	15 19 00.5	-1.2
FIA0			ePKPbc	PKPab	15 19 08.3	-1.3
FINES	FINESS Array B	150.96 330	PKPbc	PKPbc	15 19 00.5	-1.2
	1.7nm,0.5s,baz=28,slow=2.6,SNR=24					
FINES			PKPab	PKPab	15 19 08.3	-1.3
	1.9nm,0.6s,baz=83,slow=6.0,SNR=7.8					
BR101	Keskin Array S	151.04 283	ePKPdf	PKPbc	15 19 02.0	-0.8
BR101			ePKPbc	PKPab	15 19 10.1	-0.8
BRTR	Keskin Array B	151.04 283	PKPbc	PKPbc	15 19 02.0	-0.8
	1.3nm,0.7s,baz=145,slow=3.8,SNR=9.5					
BRTR			PKPab	PKPab	15 19 10.1	-0.8
	1.0nm,0.7s,baz=102,slow=4.2,SNR=6.3					
TORD	Torodi Ar. Bea	153.68 193	PKP	PKPdf	15 19 00.7	-0.7
	1.6nm,0.3s,baz=245,slow=3.0,SNR=2.9					
TORD			PKPbc	PKPbc	15 19 09.4	+0.1
	0.6nm,0.4s,baz=171,slow=3.3,SNR=9.7					
TORD			PKPab	PKPab	15 19 22.7	+0.5
	2.7nm,0.6s,baz=164,slow=2.9,SNR=7.1					
TOA1	Torodi Ar. Sit	153.68 193	ePKPdf	PKPdf	15 19 00.7	-0.7
TOA1			ePKPab	PKPab	15 19 22.7	+0.5
AKASG	Malin Array Be	153.97 307	PKPbc	PKPbc	15 19 07.7	-1.1
	0.2nm,0.3s,baz=60,slow=3.0,SNR=3.4					
AKASG			PKPab	PKPab	15 19 21.1	-1.5
	0.1nm,0.3s,baz=66,slow=4.6,SNR=4.0					

*ISCJB **04** 15:27:47.7±0.6, 67°.57N±0°.04×142°.9E±0°.1, h10km, mb3.2/4, Error ellipse: s-maj=8.1km s-min=6.2km az=11.3*
*IDC **04** 15:27:47.5±1.5, 67°.54N×142°.79E, h0km, mb3.2/4, mb1 3.5/6, mb1mx3.3/34, mbtmp3.3/6, ML2.7/1, Error ellipse: s-maj=31.7km s-min=21.1km az=27.0*
*YARS **04** 15:27:48.8±0.2, 67°.57N±0°.01×142°.99E±0°.04, h9km±5km*
ISC 04 15:27:48.7±0.7, 67°.57N±0°.05×142°.91E±0°.05, h10km, n11, σ1§34/17, mb3.2/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	Moma	1.11	174	eP	Pb	15 28 08.6	-1.4
MOMR				Pmax		15 28 08.6	
	comp=Z,173nm,0.4s						
MOMR				eS	Sg	15 28 23.9	-0.5
MOMR				Smax		15 28 23.9	
	comp=E,1μm,0.4s						
YBGR	Belaya Gora	1.57	50	eP	Pn	15 28 16.1	-0.5
YBGR				Pmax		15 28 16.1	
	comp=Z,133nm,0.2s						
YBGR				eS	Sn	15 28 37.0	+0.1
YBGR				Smax		15 28 37.0	
	comp=E,566nm,0.4s						
DEPR	Deputatskiy	2.15	330	eP	Pn	15 28 24.9	+0.4
DEPR				eP	Pb	15 28 26.7	-0.9
DEPR				Pmax		15 28 26.7	
	comp=Z,15nm,0.3s						
DEPR				eS	Sb	15 28 55.7	+1.5
DEPR				Smax		15 28 55.7	
	comp=N,67nm,0.2s						
BTGS	Batagay	3.17	275	eP	Pn	15 28 40.0	+1.5
BTGS				eP	Pb	15 28 46.0	+1.0
BTGS				Pmax		15 28 46.0	
	comp=Z,10.0nm,0.3s						
BTGS				eS	Sg	15 29 28.0	-2.3
BTGS				Smax		15 29 28.0	
	comp=E,100nm,0.3s						
SEY	Seymchan	6.12	135	Pn	Pn	15 29 19.6	+0.7
	comp=E,0.2nm,0.3s,baz=272,slow=22,SNR=5.6						
SEY				Lg	Lg	15 31 01.2	
	comp=E,1.1nm,0.3s,baz=52,slow=4.0,SNR=9.5						
TIXI	Tiksi	6.38	316	Pn	Pn	15 29 22.9	+0.3
	comp=E,1.2nm,0.3s,baz=132,slow=17,SNR=30						
TIXI				Sn	Sn	15 30 32.4	-3.0
	comp=E,1.2nm,0.3s,baz=359,slow=20,SNR=5.6						
TIXI				Lg	Lg	15 31 02.6	
	comp=E,1.6nm,0.3s,baz=49,slow=17,SNR=8.1						
MA2	Magadan	8.74	153	Lg	Lg	15 32 25.3	
	comp=E,0.2nm,0.3s,baz=18,slow=20,SNR=2.4						
ILAR	Eielson Array	27.13	62	P	P	15 33 31.9	+0.5
	comp=E,0.4nm,0.7s,baz=300,slow=7.9,SNR=7.2						
MKAR	Makanchi Array	36.84	267	P	P	15 34 56.3	-0.4
	comp=E,0.2nm,0.5s,baz=38,slow=7.3,SNR=2.8						
YKA	Yellowknife Ar	38.80	46	P	P	15 35 13.2	+0.3
	comp=E,0.2nm,0.6s,baz=322,slow=8.1,SNR=4.9						
PDAR	Pinedale Array	57.34	57	P	P	15 37 37.8	+1.0
	comp=E,0.4nm,0.8s,baz=337,slow=4.3,SNR=2.3						

MAN 04 15:31:18.7, 10°.00N×126°.08E, h1km, mb4.7, ML3.6, MS3.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.62	250	eP	Pn	15 31 41.8	+7.2
SCPH				eS	Sn	15 31 51.7	+6.6
BUTP	Butuan	1.11	204	eP	Pg	15 31 39.6	-0.4
BUTP				eS	Sn	15 31 58.4	+0.9
MSLP	Maasin	1.21	277	eP	Pg	15 31 42.0	+0.2
MSLP				eS	Sn	15 31 59.8	0.0
BESP	Borongan	1.71	339	eP	Pn	15 31 49.8	+0.1
BESP				eS	Sb	15 32 13.0	-0.1

*ISCJB **04** 16:22:47.5±0.4, 6°.87N±0°.02×73°.14W±0°.03, h154km±3km, Error ellipse: s-maj=5.5km s-min=4.0km az=10.4*
*IDC **04** 16:22:47.7±0.8, 6°.74N×72°.94W, h155km±9km, mb3.3/4, mb1 3.6/6, mb1mx3.2/32, mbtmp3.8/6, Error ellipse: s-maj=28.5km s-min=8.0km az=130.0*
*RSNC **04** 16:22:49.4±1.0, 6°.82N×73°.15W, h145km±4km, ML3.8, Mw3.8*
ISC 04 16:22:48.2±0.8, 6°.86N±0°.03×73°.12W±0°.04, h153km±5km, n34, σ1§12/58, 9C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	Giron, Santand	0.23	342	⇑eP	Pn	16 23 09.2	+0.2
GIRC				eS	Sn	16 23 24.0	-1.0
GIRC				i		16 23 25.3	
	comp=Z,1μm,0.3s						
BARC	Barichara	0.27	193	⇓iP	Pn	16 23 09.2	-0.2
BARC				eS	Sn	16 23 23.6	-1.8
BARC				i		16 23 26.5	
	comp=Z,2μm,0.2s						
BRRC	Barranca, Sant	0.64	293	⇑e	Pn	16 23 11.0	+0.5
BRRC				⇑iP	Pn	16 23 11.1	+0.5
BRRC				eS	Sn	16 23 27.7	+0.1
BRRC				i		16 23 28.2	
	comp=N,2μm,0.2s						
PAMC	Pamplona, Colo	0.64	41	⇓eP	Pn	16 23 12.1	+0.9
PAMC				eS	Sn	16 23 28.8	+0.1
PAMC				i		16 23 30.8	
	comp=Z,762nm,0.3s						
RUSC	La Rusia	0.96	178	⇑eP	Pn	16 23 13.1	-0.4
RUSC				eS	Sn	16 23 31.3	-1.5
RUSC				i		16 23 32.7	
	comp=Z,450nm,0.3s						
PTBC	PUERTO BERRIO,	1.36	257	⇑eP	Pn	16 23 15.6	-1.0
PTBC				eS	Sn	16 23 36.9	-1.4
PTBC				i		16 23 38.9	
	comp=Z,911nm,0.1s						
OCAC	Ocana	1.38	352	eP	Pn	16 23 17.4	+0.4
OCAC				eS	Sn	16 23 38.7	-0.3
OCAC				i		16 23 42.5	
	comp=N,3μm,0.2s						
TAMC	Tame, Arauca	1.39	108	⇓iP	Pn	16 23 17.5	+0.6
TAMC				eS	Sn	16 23 38.4	-0.4
TAMC				i		16 23 40.2	
	comp=E,765nm,0.6s						
YOPC	Yopal, Colombi	1.65	155	⇑iP	Pn	16 23 19.9	+0.2
YOPC				eS	Sn	16 23 43.9	0.0
YOPC				i		16 23 47.7	
	comp=Z,354nm,0.2s						
ZARC	Zaragoza, Cauc	1.83	290	eS	Sn	16 23 48.5	+1.2
ZARC				i		16 23 54.9	
	comp=N,2μm,0.4s						
SMLC	San Martn de	2.15	334	eP	Pn	16 23 25.6	+0.4
SMLC				eS	Sn	16 23 54.5	+0.7
SMLC				i		16 23 57.2	
	comp=Z,577nm,0.3s						
NORC	Norcasia	2.16	234	⇓eP	Pn	16 23 25.1	-0.4
NORC				eS	Sn	16 23 53.4	-0.8
NORC				i		16 23 57.1	
	comp=Z,480nm,0.4s						
ROSC	El Rosal	2.33	211	⇑eP	Pn	16 23 29.1	+1.2
ROSC				eS	Sn	16 23 59.5	+1.1
ROSC				i		16 24 02.8	
	comp=Z,501nm,0.4s						
ROSC	El Rosal	2.33	211	P	Pn	16 23 29.2	+1.3
	comp=Z,32nm,0.3s,baz=347,slow=4.2,SNR=104						
ROSC				S	Sn	16 23 58.1	-0.3
	comp=Z,70nm,0.3s,baz=30,slow=20,SNR=17						
HELC	Santa Helena	2.48	255	⇑eP	Pn	16 23 29.5	-0.1
HELC				eS	Sn	16 24 00.6	-0.8
HELC				i		16 24 08.7	
	comp=Z,259nm,0.5s						
UREC	San Jos de Ur	2.55	290	eP	Pn	16 23 29.4	-0.7
UREC				eS	Sn	16 24 00.1	-2.3
UREC				i		16 24 10.6	
	comp=N,496nm,0.3s						
VILC	Villavicencio,	2.79	192	eP	Pn	16 23 32.7	-0.5
VILC				eS	Sn	16 24 07.2	-0.7
VILC				i		16 24 17.6	
	comp=Z,298nm,0.4s						
DBBC	Dabeiba	3.07	273	eP	Pn	16 23 37.1	+0.5
CODC	Agustn Codazz	3.07	354	⇓iP	Pn	16 23 36.8	+0.2
CODC				eS	Sn	16 24 13.8	-0.3
CODC				i		16 24 23.2	
	comp=Z,63nm,0.4s						
ARGC	Ariguani, Magd	3.18	340	eP	Pn	16 23 40.0	+2.0
SDV	Santo Domingo	3.18	51	eP	Pn	16 23 38.7	+0.6
SDV				i		16 23 39.5	
	comp=Z,134nm,0.3s						
SDV				eS	Sn	16 24 15.1	-1.8
SDV	Santo Domingo	3.18	51	P	Pn	16 23 38.8	+0.6
	comp=Z,43nm,0.3s,baz=232,slow=9.4,SNR=53						
SDV				S	Sn	16 24 15.0	-1.8
	comp=Z,20nm,0.3s,baz=255,slow=23,SNR=8.9						
PRAC	Prado	3.58	209	eP	Pn	16 23 42.7	-0.5
PRAC				eS	Sn	16 24 25.5	-0.5
PRAC				i		16 24 30.9	
	comp=Z,359nm,0.3s						
SJCC	San Jacinto, C	3.64	326	⇑eP	Pn	16 23 43.3	-0.6
SJCC				eS	Sn	16 24 25.2	-2.0
SJCC				i		16 24 29.2	
	comp=Z,150nm,0.5s						
YOTC	Yotoco, Valle	4.30	228	eP	Pn	16 23 51.9	-0.6
SMRC	Santa Marta, M	4.41	346	eP	Pn	16 23 56.0	+2.0
SMRC				eS	Sn	16 24 43.1	-2.0
SMRC				i		16 24 43.5	
	comp=E,115nm,0.3s						
URIC	Uribia, Colomb	4.94	13	eP	Pn	16 23 59.8	-1.1
URIC				eS	Sn	16 24 54.6	-3.0
URIC				i		16 25 02.4	
	comp=Z,20nm,0.6s						
TXAR	Lajitas Array	36.44	312	P	P	16 29 39.7	+1.2
	comp=Z,0.2nm,0.4s,baz=120,slow=9.7,SNR=4.9						
ULM	Lac du Bonnet	47.25	340	P	P	16 31 05.8	0.0
	comp=Z,1.5nm,0.5s,baz=134,slow=6.5,SNR=3.3						
PDAR	Pinedale Array	48.05	324	P	P	16 31 13.4	+1.0
	comp=Z,0.2nm,0.4s,baz=116,slow=8.2,SNR=3.0						
YKA	Yellowknife Ar	63.23	340	P	P	16 33 00.2	+0.3
	comp=Z,0.8nm,0.5s,baz=132,slow=6.8,SNR=23						
ASAR	Alice Springs	149.13	234	PKPbc	PKPbc	16 42 18.3	-1.1
	comp=Z,0.4nm,0.5s,baz=114,slow=3.7,SNR=14						
WRA	Warramunga Arr	150.35	241	PKPbc	PKPbc	16 42 21.2	-1.2
	comp=Z,0.4nm,0.5s,baz=106,slow=3.0,SNR=17						
CMAR	Chiang Mai Arr	153.65	17	PKPbc	PKPbc	16 42 29.9	0.0
	comp=Z,0.3nm,0.5s,baz=330,slow=3.6,SNR=4.1						

*ISK **04** 16:34:19.8, 37°.89N×27°.23E, h17km, ML1.9/6*
*DDA **04** 16:34:20.7, 37°.88N×27°.21E, h7km±1km, ML2.5*
ISC 04 16:34:20.6±1.0, 37°.88N±0°.04×27°.22E±0°.04, h14km±10km, n10, σ0§35/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.18	177	PG	Pg	16 34 24.8	0.0
GCAM				SG	Sg	16 34 27.9	+0.2
GCAM	G?zelcaml?	0.18	177	IAML_P			
	comp=Z,4μm,0.1s						
GCAM				iP	Pb	16 34 25.6	-0.1
GCAM				iS	Sb	16 34 28.9	-0.3
BLCB	Balcova	0.52	344	PG	Pg	16 34 30.6	-0.3
AYDB	Zeytinkoy-Aydi	0.53	83	PG	Pg	16 34 30.7	-0.4
AYDN	Tasoluk	0.57	113	IAML_P			
	comp=Z,844nm,0.1s						
AYDN				iP	Pb	16 34 32.9	+0.5
AYDN				iS	Sg	16 34 39.2	-0.1
ZEY	zmir	0.67	302	IAML_P			
	comp=Z,879nm,0.1s						
ZEY				iP	Pb	16 34 34.2	+0.1
ZEY				iS	Sb	16 34 43.6	+0.4
URLA	Izmir	0.69	314	PG	Pg	16 34 33.7	-0.3
URLA	Izmir	0.69	314	iP	Pb	16 34 34.7	+0.3
URLA				iS	Sb	16 34 44.3	+0.5
BODT	Bodrum	0.82	175	PG	Pg	16 34 36.4	-0.1
CHOS	Chios island	1.05	299	PG	Pb	16 34 40.3	-0.3

*IDC **04** 17:01:30.2±2.1, 37°.79N×144°.23E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.2/42, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=55.8km s-min=32.8km az=80.0*
*ISCJB **04** 17:01:32.1±0.8, 37°.96N±0°.05×144°.04E±0°.06, h33km, mb3.5/2, Error ellipse: s-maj=7.7km s-min=5.6km az=138.0*
*JMA **04** 17:01:33.9±0.2, 37°.91N×143°.91E, h47km, M3.3*
ISC 04 17:01:34.1±1.3, 37°.95N±0°.07×144°.02E±0°.08, h35km, n15, σ1§25/25, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.04	281	P	Pn	17 02 05.8	-0.2
JIKH				eS	Sn	17 02 29.1	-1.2
OFUJ	Ofunato	2.16	302	P	Pn	17 02 07.7	+0.1
JIO	Ouri	2.16	284	P	Pn	17 02 07.6	0.0
JIO				eS	Sn	17 02 32.4	-0.8
JKMT	Kesennumamotoy	2.18	294	P	Pn	17 02 07.9	+0.1
JKMT				eS	Sn	17 02 33.2	-0.4
JOM	Ohasama	2.62	306	P	Pn	17 02 14.6	+0.7
JOM				eS	Sn	17 02 45.1	+0.6
JFT	Otama	2.95	263	eS	Sn	17 02 51.2	-1.5
JYK	Kaneyama	3.03	290	P	Pn	17 02 20.6	+1.0
JYK				eS	Sn	17 02 55.7	+1.0
JRY	Ryogami san	4.53	246	P	Pn	17 02 39.6	-0.6
JRY				eS	Sn	17 03 29.1	-2.6
JCH	Churui	4.69	354	P	Pn	17 02 42.7	+0.4
JCH				eS	Sn	17 03 34.2	-1.2
MJAR	Matsushiro Arr	4.84	255	Pn	Pn	17 02 45.5	+0.9
	0.2nm,0.3s,baz=80,slow=15,SNR=23						
MJAR				Sn	Sn	17 03 39.6	+0.2
	0.0nm,0.3s,baz=92,slow=27,SNR=2.4						
NEM2	Nemuro 2	5.57	13	P	Pn	17 02 53.5	-0.9
JTKR	Abashiri--Toko	6.01	359	P	Pn	17 03 01.1	+0.5
JTKR				eS	Sn	17 04 04.8	-3.4
ASAJ	Asahikawa	6.25	351	Pn	Pn	17 03 06.0	+2.1
	0.7nm,0.3s,baz=198,slow=8.3,SNR=8.7						
ASAJ				Sn	Sn	17 04 13.9	-0.2
	0.4nm,0.3s,baz=21,slow=21,SNR=4.6						
WRA	Warramunga Arr	58.30	191	P	P	17 11 25.9	+0.4
	0.5nm,0.6s,baz=9.7,slow=7.2,SNR=7.0						
ASAR	Alice Springs	62.02	191	P	P	17 11 51.5	+0.6
	0.2nm,0.7s,baz=12,slow=8.6,SNR=3.9						

*JMA **04** 17:06:30.1±0.2, 43°.41N×147°.52E, h17km, M3.6*
*SKHL **04** 17:06:31.2±0.3, 43°.53N×147°.68E, h45km±3km, mb3.7/3*
*IDC **04** 17:06:32.5±2.9, 43°.55N×147°.61E, h48km±28km, mb3.3/5, mb1 3.5/8, mb1mx3.1/43, mbtmp3.5/8, ML2.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.1/28, Error ellipse: s-maj=39.7km s-min=19.5km az=120.0*
ISC 04 17:06:27.6±3.4, 43°.53N±0°.08×147°.67E±0°.06, h11km±23km, n29, σ1§52/30, mb3.8/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	1.40	292	eP	Pn	17 06 54.0	+0.9
YUK				AMB	AMB	17 06 56.0	
	20nm,0.3s						
YUK				iS	Sn	17 07 11.4	-0.1
YUK				A	A	17 07 14.0	
	150nm,0.3s						
YUK				A	A	17 07 14.0	
	280nm,0.3s						
NEM2	Nemuro 2	1.41	264	P	Pn	17 06 53.6	+0.4
NEM2				eS	Sb	17 07 10.5	-1.3
GRPR	Tuman	1.45	289	iP	Pn	17 06 54.0	+0.3
GRPR				AMB	AMB	17 06 55.0	
	10.0nm,0.2s						
GRPR				iS	Sn	17 07 11.0	-1.7
GRPR				A	A	17 07 12.0	
	200nm,0.5s						
GRPR				A	A	17 07 12.0	
	310nm,0.5s						
KUR	Kuril'sk	1.71	5	iP	Pn	17 06 58.0	+0.7
KUR				AMB	AMB	17 07 00.0	
	50nm,0.4s						
KUR				iS	Sn	17 07 18.0	-1.1
KUR				A	A	17 07 22.0	
	240nm,0.4s						
KUR				A	A	17 07 22.0	
	310nm,0.4s						
JKHN	Kushirohamanak	1.88	257	P	Pb	17 07 00.8	-1.1
JRA	Rausu	1.89	283	P	Pn	17 07 01.2	+1.4
JRA				eS	Sn	17 07 23.7	+0.2
JNK	Nakash	2.14	273	P	Pn	17 07 04.1	+0.8
JNK				eS	Sn	17 07 29.0	-0.8
JAK	Akkeshi	2.23	257	P	Pn	17 07 05.3	+0.8
JTKR	Abashiri--Toko	2.76	281	P	Pn	17 07 14.0	+2.3
JTKR				eS	Sn	17 07 47.1	+2.1
JAR	Ashorobuto	2.85	267	P	Pn	17 07 14.6	+1.6
JMP	Maruseppu	3.15	280	P	Pn	17 07 19.7	+2.5
JCH	Churui	3.28	255	eS	Sn	17 07 58.5	+0.6
ASAJ	Asahikawa	3.71	281	P	Pn	17 07 28.7	+3.8
	1.1nm,0.3s,baz=139,slow=12,SNR=21						
ASAJ				S	Sb	17 08 17.0	-1.2
	0.3nm,0.3s,baz=221,slow=19,SNR=2.6						
JFR	Furan	3.72	266	P	Pn	17 07 27.6	+2.7
JNBK	Urakawa-nobuka	3.82	253	P	Pn	17 07 27.7	+1.4
MJAR	Matsushiro Arr	10.06	229	P	Pn	17 08 52.5	+0.5
	0.0nm,0.3s,baz=30,slow=12,SNR=5.5						
PETK	Petropavlovsk-	11.67	31	P	Pn	17 09 14.3	+0.3
	0.1nm,0.3s,baz=202,slow=8.6,SNR=5.5						
H11N2	WAKE ISLAND Hy 28.69	140		T	T	17 43 06.6	
	baz=330,slow=76,SNR=7.4						
H11N1	WAKE ISLAND Hy 28.70	140		T	T	17 43 11.1	
	baz=330,slow=76,SNR=7.7						
H11N3	WAKE ISLAND Hy 28.71	140		T	T	17 43 09.0	
	baz=330,slow=76,SNR=8.6						
H11S1	WAKE ISLAND Hy 29.66	141		T	T	17 44 25.4	
	baz=331,slow=76,SNR=8.0						
H11S3	WAKE ISLAND Hy 29.67	141		T	T	17 44 26.5	
	baz=331,slow=76,SNR=6.9						
H11S2	WAKE ISLAND Hy 29.68	141		T	T	17 44 28.5	
	baz=331,slow=76,SNR=9.5						
INK	Inuvik	46.41	30	P	P	17 14 54.5	+0.9
	0.5nm,0.4s,baz=289,slow=7.7,SNR=7.6						
RES	Resolute Bay	55.07	17	P	P	17 15 58.3	-0.5
	0.3nm,0.4s,baz=343,slow=8.4,SNR=4.5						
YKA	Yellowknife Ar	55.78	34	P	P	17 16 04.3	+0.2
	0.2nm,0.7s,baz=300,slow=6.8,SNR=3.8						
AKTO	Aktyubinsk	57.96	311	LR	LR	17 41 04.9	
	comp=Z,20nm,19.4s,baz=170,slow=36						
WRA	Warramunga Arr	64.33	194	P	P	17 17 03.3	0.0
	0.7nm,1.1s,baz=17,slow=7.1,SNR=2.7						
FINES	FINESS Array B	65.24	333	P	P	17 17 07.4	-1.3
	0.6nm,0.6s,baz=62,slow=8.9,SNR=7.0						

*SOME **04** 17:21:36.9, 44°.10N×82°.42E, h5km*
*NNC **04** 17:21:38.0±1.1, 43°.88N×82°.37E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=9.9km s-min=3.5km az=130.0*
ISC 04 17:21:35.5±1.3, 43°.92N±0°.05×82°.50E±0°.05, h10km, n47, σ1§91/71, 10C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.63	254	P	Pb	17 22 06.3	+0.6
KTMS				S	Sg	17 22 28.2	+0.3
	64nm,0.3s						
KTMS	Ketmen	1.63	254	eP	Pb	17 22 06.3	+0.6
KTMS				eS	Sg	17 22 28.2	+0.3
	64nm,0.3s						
	359nm,0.3s						
DJR	Jarkent	1.99	283	Pg	Pg	17 22 13.5	-0.2
DJR				Lg	Lg	17 22 40.6	
	65nm,0.2s						
	109nm,0.4s						
DJR	Jarkent	1.99	283	eP	Pg	17 22 13.5	-0.2
DJR

27nm,0.5s,baz=182,slow=26,SNR=5.4
MAKZ Makanchi 2.91 353 ⇑Pn Pb 17 22 26.6 -1.0
4.0nm,0.5s
MAKZ ⇓Sn **Sb 17 23 02.3 -0.9**
12nm,0.5s
MAKZ ⇓Lg Lg 17 23 16.9
19nm,0.7s
MNBS Baschi 2.96 274 Pg **Pb 17 22 28.2 -0.2**
6.9nm,0.3s
MNBS Lg Lg 17 23 06.9
91nm,0.2s
MNBS Baschi 2.96 274 *eP* **Pb 17 22 28.2 -0.2**
6.9nm,0.3s
MNBS *eS* **Sb 17 23 06.9 +2.2**
91nm,0.2s
ZHN Zhinishke 3.05 257 Pg **Pb 17 22 31.2 +1.3**
8.2nm,0.2s
ZHN Lg Lg 17 23 11.4
51nm,0.2s
ZHN Zhinishke 3.05 257 *eP* **Pb 17 22 31.2 +1.3**
8.2nm,0.2s
ZHN *eS* **Sg 17 23 11.4 -2.0**
51nm,0.2s
SATY Saty 3.10 255 Pg **Pb 17 22 32.5 +1.7**
9.6nm,0.1s
SATY Lg Lg 17 23 13.9
146nm,0.2s
SATY Saty 3.10 255 *eP* **Pb 17 22 32.5 +1.7**
9.6nm,0.1s
SATY *eS* **Sg 17 23 13.9 -1.2**
146nm,0.2s
TDK Taldyqorghan 3.12 292 Pg **Pg 17 22 34.1 -1.3**
37nm,0.3s
TDK Lg Lg 17 23 16.5
92nm,0.5s
TDK Taldyqorghan 3.12 292 *eP* **Pg 17 22 34.1 -1.3**
37nm,0.3s
TDK *eS* **Sg 17 23 16.5 +0.7**
92nm,0.5s
KURS Kuram 3.17 264 Pg **Pb 17 22 33.0 +1.1**
5.3nm,0.4s
KURS Lg Lg 17 23 14.6
23nm,0.7s
KURS Kuram 3.17 264 *eP* **Pb 17 22 33.0 +1.1**
5.3nm,0.4s
KURS *eS* **Sg 17 23 14.6 -2.6**
23nm,0.7s
ARXS Arharly 3.38 277 Pg **Pb 17 22 36.1 +0.6**
1.7nm,0.2s
ARXS Lg Lg 17 23 20.1
62nm,0.6s
ARXS Arharly 3.38 277 *eP* **Pb 17 22 36.1 +0.6**
1.7nm,0.2s
ARXS *eS* **Sg 17 23 20.1 -3.9**
62nm,0.6s
ZSN Zaisan 3.90 24 Pg **Pg 17 22 48.7 -1.5**
4.5nm,0.3s
ZSN Lg Lg 17 23 42.2
19nm,0.4s
ZSN Zaisan 3.90 24 *eP* **Pb 17 22 44.6 +0.2**
4.5nm,0.3s
ZSN *eS* **Sb 17 23 35.4 +3.7**
19nm,0.4s
KOTS Kotyrbulak 3.97 262 Pg **Pg 17 22 50.8 -0.8**
7.9nm,0.3s
KOTS Lg Lg 17 23 45.5
43nm,0.4s
KOTS Kotyrbulak 3.97 262 *eP* **Pg 17 22 50.8 -0.8**
7.9nm,0.3s
KOTS *eS* **Sg 17 23 45.5 +2.4**
43nm,0.4s
CHKK Chushkaly 3.98 271 Pg **Pg 17 22 49.5 -2.3**
5.5nm,0.3s
CHKK Lg Lg 17 23 43.5
35nm,0.4s
CHKK Chushkaly 3.98 271 *eP* **Pg 17 22 49.5 -2.3**
5.5nm,0.3s
CHKK *eS* **Sg 17 23 43.5 +0.1**
35nm,0.4s
MDOK Medeo 4.03 261 ⇑Pg **Pb 17 22 49.5 +2.7**
4.2nm,0.4s
MDOK ⇑Lg Lg 17 23 43.6
18nm,0.6s
MDOK Medeo 4.03 261 Pg **Pg 17 22 50.3 -2.5**
6.5nm,0.5s
MDOK Lg Lg 17 23 45.0
22nm,0.5s
MDOK Medeo 4.03 261 *eP* **Pg 17 22 50.3 -2.5**
6.5nm,0.5s
MDOK *eS* **Sg 17 23 45.0 0.0**
22nm,0.5s
TNSS Tian-Shan 4.13 260 Pg **Pg 17 22 51.9 -2.8**
6.1nm,0.4s
TNSS Lg Lg 17 23 48.1
18nm,0.4s
TNSS Tian-Shan 4.13 260 *eP* **Pg 17 22 51.9 -2.8**
6.1nm,0.4s
TNSS *eS* **Sg 17 23 48.1 -0.2**
18nm,0.4s
KTBS Karatobe 4.21 269 Pg **Pb 17 22 51.8 +2.0**
4.0nm,0.3s
KTBS Lg Lg 17 23 47.2
40nm,0.6s
KTBS Karatobe 4.21 269 *eP* **Pb 17 22 51.8 +2.0**
4.0nm,0.3s
KTBS *eS* **Sg 17 23 47.2 -3.6**
40nm,0.6s
KUU Kurty 4.45 272 Pg **Pb 17 22 57.0 +3.3**
2.6nm,0.3s
KUU Lg Lg 17 23 56.7
25nm,0.4s
KUU Kurty 4.45 272 *eP* **Pb 17 22 57.0 +3.3**
2.6nm,0.3s
KUU *eS* **Sg 17 23 56.7 -1.7**
25nm,0.4s
KST Kastek 4.83 262 Pg **Pb 17 23 03.9 +3.5**
9.2nm,0.5s
KST Lg Lg 17 24 08.3
12nm,0.6s
KST Kastek 4.83 262 *eP* **Pb 17 23 03.9 +3.5**
9.2nm,0.5s
KST *eS* **Sg 17 24 08.3 -2.4**
12nm,0.6s
DGS Degeres 4.93 264 Pg **Pg 17 23 06.3 -3.6**
4.3nm,0.5s
DGS Lg Lg 17 24 12.9
21nm,0.5s
DGS Degeres 4.93 264 *eP* **Pg 17 23 06.3 -3.6**
4.3nm,0.5s
DGS *eS* **Sg 17 24 12.9 -1.0**
21nm,0.5s
TKM2 Tokmak 2 5.12 261 ⇑Pg **Pg 17 23 12.0 -1.7**
3.2nm,0.8s
TKM2 ⇓Lg Lg 17 24 15.4
18nm,0.8s
AAK Ala-Archa 5.98 260 ⇓Pg **Pg 17 23 28.5 -1.5**
4.3nm,1.3s
AAK ⇓Lg Lg 17 24 45.0
6.6nm,0.8s
KURBB Kurchatov Arra 7.23 340 ⇑Pn **Pn 17 23 22.8 +1.6**
1.6nm,0.5s
KURBB ⇓Sn **Sn 17 24 44.3 +1.1**
13nm,0.7s
KURBB ⇓Lg Lg 17 25 25.9
16nm,0.8s

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*IDC **04** 17:36:10.8±1.3,39°.95N×53°.27E, h0km, mb3.4/7, mb1 3.7/14, mb1mx3.5/50, mbtmp3.5/14, ML3.2/7, Error ellipse: s-maj=25.9km s-min=11.2km az=172.0*
*TEH **04** 17:36:12.4,40°.02N×53°.45E, h10km, ML3.9*
*ISCJB **04** 17:36:14.4±0.3,40°.10N±0°.03×53°.47E±0°.03, h45km, mb3.3/5, Error ellipse: s-maj=5.1km s-min=2.7km az=18.5*
*NNC **04** 17:36:18.8±7.5,40°.54N×54°.54E, h0km, mb3.6, Error ellipse: s-maj=101.8km s-min=21.6km az=71.0*
*AZER **04** 17:36:19.4±2.2,39°.90N×53°.23E, h34km±84km, ml4.0/13, Error ellipse: s-maj=64.0km s-min=13.1km az=91.0*
ISC 04 17:36:15.7±0.7,**40°.05N**±0°.06×**53°.46E**±0°.04,**h45**km,**n69,**
σ1°**72**/**87**,**mb3.1**/**5**,**1C-3D**,**Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**3.17 151**		*e*Pn	**Pn**	**17 37 04.5**	**+1.4**
IMND				IAMB	IAmb	17 37 48.3	
	comp=Z,0.0nm,0.3s						
ATGJ	**Altiaghaj**	**3.54 285**		*e*Pn	**Pn**	**17 37 10.0**	**+1.8**
ATGJ	**Altiaghaj**	**3.54 285**		P	**Pn**	**17 37 10.1**	**+1.8**
ATGJ				S	**Sn**	**17 37 51.4**	**+2.5**
SIZA	**Siyzn**	**3.62 288**		*e*Pn	**Pn**	**17 37 10.8**	**+1.5**
SIZA	**Siyzn**	**3.62 288**		P	**Pn**	**17 37 10.8**	**+1.5**
	SNR=5.5						
SIZA				S	**Sn**	**17 37 55.8**	**+4.9**
PQL	**Pirkuli**	**3.79 283**		*e*Pn	**Pn**	**17 37 14.0**	**+2.4**
PQL	**Pirkuli**	**3.79 283**		P	**Pn**	**17 37 14.0**	**+2.4**
	SNR=4.4						
PQL				S	**Sn**	**17 37 58.1**	**+3.1**
IKIA	**Kiasar**	**3.84 177**		*e*Pn	**Pn**	**17 37 13.9**	**+1.5**
LKRN	**Lenkeran, Azer**	**3.86 251**		*e*Pn	**Pn**	**17 37 13.4**	**+0.9**
LKRN	**Lenkeran, Azer**	**3.86 251**		P	**Pn**	**17 37 13.4**	**+0.9**
	SNR=4.4						
LKRN				S	**Sn**	**17 37 56.2**	**-0.4**
IPRN	**Peran**	**3.90 193**		*e*Pn	**Pn**	**17 37 13.3**	**+0.1**
ASTR	**Astara**	**3.91 249**		*e*Pn	**Pn**	**17 37 13.6**	**+0.4**
ASTR	**Astara**	**3.91 249**		P	**Pn**	**17 37 13.6**	**+0.4**
	SNR=7.0						
ASTR				S	**Sn**	**17 37 56.2**	**-1.7**
GLBA	**Ciilabad**	**3.99 260**		*e*Pn	**Pn**	**17 37 16.0**	**+1.7**
GLBA	**Ciilabad**	**3.99 260**		P	**Pn**	**17 37 16.0**	**+1.7**
	SNR=10						
GLBA				S	**Sn**	**17 38 00.3**	**+0.5**
IML	**Ismayilli**	**4.10 282**		*e*Pn	**Pn**	**17 37 17.8**	**+2.0**
IML	**Ismayilli**	**4.10 282**		P	**Pn**	**17 37 17.8**	**+2.0**
IML				S	**Sn**	**17 38 02.8**	**+0.3**
GEYT	**Alibeck**	**4.20 119**		Pn	**Pn**	**17 37 18.1**	**+0.9**
	comp=Z,6.6nm,0.3s,baz=302,slow=15,SNR=163						
GEYT				Sn	**Sn**	**17 38 01.4**	**-3.5**
	comp=Z,3.8nm,0.3s,baz=290,slow=18,SNR=3.9						
GYA0B	**ALIBECK ARRAY**	**4.20 119**		Pn	**Pn**	**17 37 18.3**	**+1.1**
GYA0B				Sn	**Sn**	**17 38 05.1**	**+0.2**
XNQ	**Khinaliq**	**4.20 287**		*e*Pn	**Pn**	**17 37 17.8**	**+0.4**
XNQ	**Khinaliq**	**4.20 287**		P	**Pn**	**17 37 17.8**	**+0.4**
	SNR=9.9						
XNQ				S	**Sn**	**17 38 04.5**	**-0.8**
LRK	**Lerik**	**4.21 252**		*e*Pn	**Pn**	**17 37 17.5**	**+0.1**
LRK	**Lerik**	**4.21 252**		P	**Pn**	**17 37 17.6**	**+0.1**
	SNR=17						
LRK				S	**Sn**	**17 38 02.7**	**-2.7**
QALM	**Alamut, Qazvin**	**4.23 212**		*e*Pn	**Pn**	**17 37 17.3**	**-0.5**
ISHM	**Shahmirzad**	**4.23 182**		*e*Pn	**Pn**	**17 37 19.3**	**+1.4**
QBL	**Gabala**	**4.38 284**		*e*Pn	**Pn**	**17 37 21.6**	**+2.0**
QBL	**Gabala**	**4.38 284**		P	**Pn**	**17 37 21.7**	**+2.0**
	SNR=4.6						
QBL				S	**Sn**	**17 38 09.0**	**-0.4**
IFIR	**Firoozkooh**	**4.43 187**		*e*Pn	**Pn**	**17 37 22.6**	**+2.0**
IGZV	**Ghazvin**	**4.46 216**		*e*Pn	**Pn**	**17 37 22.0**	**+1.1**
IANJ	**Anjilo**	**4.58 175**		*e*Pn	**Pn**	**17 37 24.1**	**+1.4**
IDMV	**Damavand**	**4.60 195**		*e*Pn	**Pn**	**17 37 23.9**	**+0.9**
ISFR	**Sfrayin**	**4.65 129**		*e*Pn	**Pn**	**17 37 25.1**	**+1.6**
ISFR				IAMB	IAmb	17 38 25.0	
	comp=Z,1μm,0.3s						
IEMG	**Emamgholi**	**4.83 121**		*e*Pn	**Pn**	**17 37 26.8**	**+0.6**
IEMG				IAMB	IAmb	17 38 31.7	
	comp=Z,958nm,0.2s						
SEKA	**Sheki**	**4.90 286**		*e*Pn	**Pn**	**17 37 27.5**	**+0.7**
SEKA	**Sheki**	**4.90 286**		P	**Pn**	**17 37 27.6**	**+0.7**
	SNR=5.9						
SEKA				S	**Sn**	**17 38 24.1**	**+1.7**
ISRB	**Sarab**	**5.03 246**		*e*Pn	**Pn**	**17 37 29.4**	**+0.6**
ISRB				IAMB	IAmb	17 38 27.5	
	comp=Z,546nm,0.2s						
IKRD	**Kardeh**	**5.14 128**		*e*Pn	Pn	17 37 40.8	+11
IHRS	**Heris**	**5.28 253**		IAMB	IAmb	17 38 33.3	
	comp=Z,724nm,0.3s						
QABG	**Abgarm-Qazvin**	**5.30 217**		*e*Pn	**Pn**	**17 37 33.6**	**+1.0**
IAKL	**Akhelmad**	**5.40 128**		*e*Pn	**Pn**	**17 37 35.5**	**+1.6**
IAKL				IAMB	IAmb	17 38 44.2	
	comp=Z,743nm,0.3s						
ZKTA	**Zakatala**	**5.42 289**		*e*Pn	**Pn**	**17 37 34.5**	**+0.5**
ZKTA	**Zakatala**	**5.42 289**		P	**Pn**	**17 37 34.5**	**+0.5**
	SNR=5.9						
ZKTA				S	**Sn**	**17 38 35.7**	**+0.6**
GANJ	**Ganja**	**5.49 279**		*e*Pn	**Pn**	**17 37 35.4**	**+0.6**
GANJ	**Ganja**	**5.49 279**		P	**Pn**	**17 37 35.5**	**+0.6**
	SNR=5.0						
GANJ				S	**Sn**	**17 38 34.1**	**-2.5**
IPAY	**Payeh**	**5.64 128**		*e*Pn	**Pn**	**17 37 39.0**	**+1.8**
ORD	**Ordubad**	**5.88 261**		*e*Pn	**Pn**	**17 37 42.4**	**+2.1**
ORD	**Ordubad**	**5.88 261**		P	**Pn**	**17 37 42.4**	**+2.1**
	SNR=3.4						
ORD				S	**Sn**	**17 38 45.5**	**-0.9**
GDB	**GEDABAY**	**5.92 279**		*e*Pn	**Pn**	**17 37 42.9**	**+2.0**
GDB	**GEDABAY**	**5.92 279**		P	**Pn**	**17 37 42.9**	**+2.0**
	SNR=9.6						
GDB				S	**Sn**	**17 38 44.8**	**-2.8**
QZX	**Qazax, Azerbai**	**6.24 282**		*e*Pn	**Pn**	**17 37 46.6**	**+1.4**
QZX	**Qazax, Azerbai**	**6.24 282**		P	**Pn**	**17 37 46.7**	**+1.4**
	SNR=4.6						
QZX				S	**Sn**	**17 38 53.4**	**-1.8**
IMYA	**Miami**	**6.41 123**		*e*Pn	**Pn**	**17 37 48.9**	**+1.3**
GNI	**Garni**	**6.69 274**		Pn	**Pn**	**17 37 53.4**	**+2.0**
	comp=Z,2.8nm,0.3s,baz=156,slow=7.8,SNR=6.7						
GNI				Sn	**Sn**	**17 39 10.4**	**+4.1**
	comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=2.4						
JRKH	**Jarkhoshk**	**6.83 125**		*e*Pn	**Pn**	**17 37 54.2**	**+0.8**
KBZ	**Khabaz**	**8.69 298**		Pn	**Pn**	**17 38 17.2**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=87,slow=4.0,SNR=8.8						
KBZ				Sn	**Sn**	**17 39 49.8**	**-5.5**
	comp=Z,0.4nm,0.3s,baz=72,slow=20,SNR=3.5						
AB31	**Akbulak array**	**10.30 24**		⇓Pn	**Pn**	**17 38 38.7**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=208,slow=13						
AB31				⇓Sn	Sn	17 40 24.7	-10
	comp=Z,2.8nm,0.5s,baz=210,slow=23						
AKTO	**Aktyubinsk**	**10.87 16**		⇓Pn	**Pn**	**17 38 49.3**	**+0.8**
	comp=Z,0.9nm,0.5s						
AKTO				⇑Sn	Sn	17 40 39.2	-10
	comp=Z,5.4nm,0.5s						
AKTO	**Aktyubinsk**	**10.87 16**		Pn	**Pn**	**17 38 48.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=192,slow=10,SNR=3.1						
AKTO				Sn	Sn	17 40 39.0	-10
	comp=Z,1.9nm,0.3s,baz=76,slow=8.1,SNR=13						
BRTR	**Keskin Array B**	**15.22 275**		Pn	**Pn**	**17 39 47.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=90,slow=14,SNR=2.6						
AAK	**Ala-Archa**	**16.01 74**		Pn	**Pn**	**17 39 56.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=204,slow=18,SNR=5.4						
BVAR	**Borovoye Array**	**17.38 36**		P	**P**	**17 40 16.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=212,slow=9.7,SNR=5.5						
AKASG	**Malin Array Be**	**19.99 310**		P	**P**	**17 40 43.5**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=112,slow=10,SNR=12						
KURBB	**Kurchatov Arra**	**20.46 51**		P	**P**	**17 40 49.6**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=249,slow=14,SNR=3.0						
MLR	**Muntele Rosu**	**20.87 294**		P	**P**	**17 40 54.0**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=37,slow=9.5,SNR=6.6						
MKAR	**Makanchi Array**	**21.92 63**		P	**P**	**17 41 06.9**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=248,slow=12,SNR=5.7						
FINES	**FINESS Array B**	**27.18 331**		P	**P**	**17 41 54.1**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=142,slow=17,SNR=5.5						
GERES	**GERESS Array B**	**29.43 301**		P	**P**	**17 42 15.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=90,slow=6.9,SNR=3.6						
HFS	**Hagfors**	**31.77 323**		P	**P**	**17 42 34.8**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=111,slow=9.9,SNR=3.0						
ESDC	**Sonseca Array**	**43.41 289**		P	**P**	**17 44 13.7**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=76,slow=7.3,SNR=3.8						

MAN 04 17:38:18.9,17°.81N×120°.12E, h28km, mb4.4, ML3.2, MS3.0, Luzon

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*NEIC **04** 18:12:27.1±2.5,10°.87S×166°.19E, h8km±5km, mb4.9/31, Error ellipse: s-maj=16.5km s-min=13.1km az=96.0*
*ISCJB **04** 18:12:31.5±0.4,10°.94S±0°.04×166°.15E±0°.06, h61km, mb4.4/21, Error ellipse: s-maj=8.1km s-min=5.5km az=159.9*
*IDC **04** 18:12:32.8±3.2,10°.94S×166°.12E, h45km±28km, mb3.7/8, mb1 4.0/10, mb1mx3.6/44, mbtmp4.0/10, ML4.5/2, MS3.2/7, Ms1 3.2/7, ms1mx2.9/35, Error ellipse: s-maj=23.9km s-min=20.3km az=45.0*
ISC 04 18:12:33.3±0.5,**10°.92S**±0°.06×**166°.19E**±0°.07,**h61**km,**n60,**
σ1°**33**/**54**,**mb4.3**/**21**,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.32 283**		*e*Pn	**Pn**	**18 14 02.6**	**-1.4**
HNR				*e*Sn	**Sn**	**18 15 18.1**	**+3.2**
HNR	**Honiara**	**6.32 283**		P	**Pn**	**18 14 03.4**	**-0.6**
	28nm,0.3s,baz=130,slow=5.3,SNR=13						
HNR				S	**Sn**	**18 15 12.8**	**-2.1**
	baz=342,slow=20,SNR=1.3						
HNR				LR	LR	18 16 21.1	
	comp=Z,179nm,19.6s,baz=54,slow=36						
MARNC	**Mare, Loyalty**	**10.65 171**		*e*Pn	**Pn**	**18 15 02.8**	**-0.4**
DZM	**Mont Dzumac**	**11.10 179**		*e*Pn	**Pn**	**18 15 08.8**	**-0.6**
DZM				*e*Sn	**Sn**	**18 17 08.3**	**-3.6**
DZM	**Mont Dzumac**	**11.10 179**		P	**Pn**	**18 15 08.9**	**-0.4**
	1.4nm,0.3s,baz=355,slow=15,SNR=27						
DZM				S	**Sn**	**18 17 10.3**	**-1.6**
	0.2nm,0.3s,baz=70,slow=15,SNR=2.7						
DZM				LR	LR	18 18 41.7	
	comp=Z,90nm,21.8s,baz=34,slow=33						
ONTNC	**Ouen Toro**	**11.33 179**		*e*Pn	**Pn**	**18 15 11.2**	**-1.3**
PINNC	**Pines Island,**	**11.69 174**		*e*Pn	**Pn**	**18 15 17.4**	**0.0**
TARA	**Tarawa**	**13.91 29**		*e*Pn	**Pn**	**18 15 45.2**	**-2.3**
RABL	**Rabaul**	**15.42 295**		*e*Pn	**Pn**	**18 16 07.1**	**-0.2**
	105nm,0.6s						
PMG	**Port Moresby**	**18.80 273**		LR	LR	18 22 29.5	
	comp=Z,68nm,21.7s,baz=82,slow=32						
KWAJ	**Kwajalein Atol**	**19.64 4**		*e*P	**P**	**18 16 56.4**	**-0.7**
	487nm,1.4s						
EIDS	**Eidsvold**	**20.29 223**		*e*P	**P**	**18 17 03.6**	**-0.5**
	14nm,1.0s						
CTAO	**Charters Tower**	**21.25 242**		*e*P	**P**	**18 17 14.5**	**0.0**
	20nm,1.3s						
URZ	**Urewera**	**28.93 162**		*e*P	**P**	**18 18 26.9**	**+0.1**
	57nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**29.22 1**		T	T	18 48 54.1	
	baz=181,slow=76,SNR=90						
H11S3	**WAKE ISLAND Hy**	**29.23 1**		T	T	18 48 50.0	
	baz=181,slow=76,SNR=68						
H11S1	**WAKE ISLAND Hy**	**29.24 1**		T	T	18 48 55.5	
	baz=181,slow=76,SNR=41						
BKZ	**Black Stump Fm**	**29.59 164**		*e*P	**P**	**18 18 33.3**	**+0.6**
	34nm,1.7s						
WAKE	**Wake Island**	**30.01 1**		*e*P	**P**	**18 18 36.3**	**-0.1**
	91nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**30.44 1**		T	T	18 50 23.8	
	baz=182,slow=76,SNR=42						
H11N3	**WAKE ISLAND Hy**	**30.45 1**		T	T	18 50 22.6	
	baz=182,slow=76,SNR=26						
H11N2	**WAKE ISLAND Hy**	**30.46 1**		T	T	18 50 21.4	
	baz=182,slow=76,SNR=23						
STKA	**Stephens Creek**	**30.84 224**		*e*P	**P**	**18 18 44.4**	**+0.7**
	1.5nm,1.3s						
STKA	**Stephens Creek**	**30.84 224**		P	**P**	**18 18 45.4**	**+1.7**
	2.0nm,0.9s,baz=60,slow=7.9,SNR=2.8						
STKA				LR	LR	18 32 08.8	
	comp=Z,64nm,18.1s,baz=29,slow=38						
BFZ	**Birch Farm**	**30.95 165**		*e*P	**P**	**18 18 43.9**	**-0.7**
	87nm,1.5s						
SNZO	**South Karori**	**31.19 168**		*e*P	**P**	**18 18 45.7**	**-0.9**
	32nm,1.1s						
WB2	**Warramunga Arr**	**31.93 250**		*e*P	**P**	**18 18 52.1**	**-1.4**
	6.1nm,1.0s						
WR1	**Warramunga Arr**	**31.94 250**		*e*P	**P**	**18 18 53.5**	**-0.1**
WRA	**Warramunga Arr**	**31.94 250**		*e*P	**P**	**18 18 52.4**	**-1.2**
WRA	**Warramunga Arr**	**31.94 250**		P	**P**	**18 18 53.5**	**-0.1**
	2.5nm,0.8s,baz=82,slow=9.1,SNR=12						
KHZ	**Kahutara**	**32.03 170**		*e*P	**P**	**18 18 54.7**	**+0.7**
	59nm,1.5s						
LTZ	**Lake Taylor**	**32.19 172**		*e*P	**P**	**18 18 57.0**	**+1.6**
	21nm,1.3s						
GUMO	**Guam**	**32.26 319**		*e*P	**P**	**18 18 54.3**	**-2.0**
	108nm,1.3s						
TOO	**Toolangi**	**32.41 212**		*e*P	**P**	**18 18 59.1**	**+1.6**
	25nm,1.4s						
OXZ	**Oxford**	**32.69 172**		*e*P	**P**	**18 19 00.2**	**+0.4**
	45nm,1.5s						
CRLZ	**Canterbury Las**	**33.01 171**		*e*P	**P**	**18 19 03.5**	**+0.9**
	160nm,1.7s						
MQZ	**McQueen's Vall**	**33.15 171**		*e*P	**P**	**18 19 03.7**	**-0.1**
	40nm,1.3s						
AS31	**Alice Springs**	**33.24 243**		*e*P	**P**	**18 19 04.2**	**-0.8**
	0.6nm,1.0s						
ASAR	**Alice Springs**	**33.24 243**		P	**P**	**18 19 04.6**	**-0.4**
	0.6nm,0.6s,baz=65,slow=10,SNR=17						
LBZ	**Lake Benmore**	**33.53 175**		*e*P	**P**	**18 19 07.3**	**+0.2**
	63nm,1.6s						
WKZ	**Wanaka**	**33.88 176**		*e*P	**P**	**18 19 10.6**	**+0.4**
	96nm,1.5s						
SARN	**Sarigan**	**34.07 323**		*e*P	**P**	**18 19 10.8**	**-1.3**
	48nm,1.3s						
DCZ	**Deep Cove**	**34.44 179**		*e*P	**P**	**18 19 15.7**	**+0.8**
	64nm,1.3s						
BBOO	**Buckleboo**	**35.24 227**		*e*P	**P**	**18 19 20.1**	**-1.9**
	28nm,1.5s						
JOHN	**Johnston Islan**	**36.48 41**		*e*P	**P**	**18 19 32.1**	**-0.7**
	380nm,1.6s						
FITZ	**Fitzroy Crossi**	**39.84 255**		*e*P	**P**	**18 20 01.2**	**+0.1**
	3.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.84 255**		P	**P**	**18 20 01.5**	**+0.4**
	3.7nm,0.9s,baz=94,slow=8.3,SNR=7.4						
KSRS	**Korea Array**	**60.02 325**		LR	LR	18 46 39.1	
	comp=Z,20nm,19.5s,baz=153,slow=34						
KS15	**Wonju Array Si**	**60.03 325**		*e*P	**P**	**18 22 34.3**	**+0.4**
	14nm,1.4s						
VNDA	**Vanda**	**66.63 181**		*e*P	**P**	**18 23 20.0**	**+3.0**
	3.2nm,1.5s						
MA2	**Magadan**	**71.34 352**		LR	LR	18 51 02.5	
	comp=Z,9.2nm,19.1s,baz=205,slow=32						
CM31	**Chiang Mai Arr**	**72.47 293**		*e*P	**P**	**18 23 54.7**	**+0.7**
	1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**72.47 293**		*e*P	**P**	**18 23 55.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**72.47 293**		P	**P**	**18 23 55.6**	**+1.7**
	0.5nm,0.8s,baz=120,slow=2.9,SNR=5.6						
ILAR	**Eielson Array**	**83.25 18**		P	**P**	**18 24 54.1**	**+1.2**
	0.4nm,0.6s,baz=233,slow=4.9,SNR=6.7						
NV01	**Mina Array Sit**	**85.61 50**		*e*P	**P**	**18 25 07.4**	**+1.7**
NVAR	**Mina Array Bea**	**85.61 50**		P	**P**	**18 25 07.4**	**+1.7**
	0.3nm,0.6s,baz=237,slow=8.3,SNR=2.3						
MK32	**Makanchi Array**	**93.73 317**		*e*P	**P**	**18 25 44.3**	**+0.7**
MKAR	**Makanchi Array**	**93.73 317**		P	**P**	**18 25 44.3**	**+0.7**
	0.8nm,0.7s,baz=90,slow=6.3,SNR=9.7						
NRIK	**Noril'sk**	**96.16 340**		LR	LR	19 10 47.8	
	comp=Z,15nm,18.6s,baz=72,slow=36						

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*ISCJB **04** 18:19:10.0±0.6,39°.79N±0°.03×40°.49E±0°.06, h13km±6km, Error ellipse: s-maj=7.8km s-min=4.6km az=158.8*
*DDA **04** 18:19:09.8,39°.79N×40°.49E, h7km±2km, ML2.6*
*ISK **04** 18:19:09.5,39°.82N×40°.53E, h13km, ML2.0/8*
ISC 04 18:19:09.8±1.5,**39°.82N**±0°.03×**40°.53E**±0°.03,**h13**km±14km,
n16,σ0°**86**/**22**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.20 353**		*i* P	**Pb**	**18 19 14.8**	**-0.6**
KOPT				*i* S	**Sb**	**18 19 19.8**	**+0.5**
YEDI	**Yedisu-Bingol**	**0.38 178**		PG	**Pb**	**18 19 17.8**	**-0.7**
YEDI				SG	**Sb**	**18 19 23.4**	**-1.0**
ECAT	**Cat-ERZURUM**	**0.41 122**		*i* P	**Pb**	**18 19 18.4**	**-0.6**
ECAT				*i* S	**Sb**	**18 19 25.2**	**+0.1**
BAYB	**BAYBURT**	**0.48 335**		IAML_P			
	comp=Z,2μm,0.2s						
BAYB				*i* P	**Pb**	**18 19 20.3**	**0.0**
BAYB				*i* S	**Sb**	**18 19 27.6**	**+0.2**
KRIK	**Erzurum-spir**	**0.60 31**		*i* P	**Pb**	**18 19 22.2**	**-0.1**
KRIK				*i* S	**Sn**	**18 19 32.4**	**-1.6**
BAYT	**Aydıntepe-Bayb**	**0.64 333**		PG	**Pb**	**18 19 22.6**	**-0.4**
BAYT				SG	**Sb**	**18 19 32.2**	**+0.2**
EUZM	**Uzumlu**	**0.65 260**		IAML_P			
	comp=Z,3μm,0.1s						
EUZM				*i* P	**Pb**	**18

Error ellipse: s-maj=8.2km s-min=5.2km az=101.2
BJI ***04*** *18:25:06.2±0.0,26°.00N×124°.40E,h190km,mb4.5/55, mB4.6/29*
JMA ***04*** *18:25:06.7±0.2,26°.04N×124°.37E,h185km,M4.2*
IDC ***04*** *18:25:07.3±0.6,26°.07N×124°.52E,h194km±5km,mb3.9/35, mb1 4.0/38,mb1mx3.9/61,mbtmp4.4/38,Error ellipse: s-maj=8.5km s-min=7.8km az=171.0*
NEIC ***04*** *18:25:07.6±1.8,25°.99N×124°.41E,h201km±6km, mb4.6/136,Error ellipse: s-maj=12.1km s-min=3.8km az=181.0*

ISC 04 18:25:07.3±0.4,25°.98N±0°.04×124°.44E±0°.03,h199km±3km, h200km:pP-P,n345,σ1944/437,mb4.5/169,18C-13D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.28**	**145**	P	**Pn**	**18 25 38.5**	**-0.6**
JIKM				*e*S	**Sn**	**18 26 02.7**	**-1.1**
JIRB	**Irabujima**	**1.33**	**150**	P	**Pn**	**18 25 38.4**	**-1.1**
JIRB				S	**Sn**	**18 26 02.1**	**-2.3**
JTJ	**Tarama**	**1.36**	**170**	P	**Pn**	**18 25 38.7**	**-1.0**
JTJ				S	**Sn**	**18 26 02.0**	**-2.9**
JISG	**Ishigakijimahi**	**1.39**	**185**	P	**Pn**	**18 25 38.6**	**-1.5**
JISG				S	**Sn**	**18 26 02.3**	**-3.2**
JMJ2	**Miyako jima3**	**1.48**	**147**	P	**Pn**	**18 25 40.3**	**-0.5**
JMJ2				*e*S	**Sn**	**18 26 05.8**	**-0.9**
JOGS	**Gusukube**	**1.50**	**144**	P	**Pn**	**18 25 40.7**	**-0.3**
JOGS				S	**Sn**	**18 26 05.6**	**-1.5**
JIJ	**Ishigaki jima**	**1.63**	**189**	P	**Pn**	**18 25 40.4**	**-1.8**
JIJ				S	**Sn**	**18 26 04.9**	**-4.4**
IRIF	**Iriomote-Funau**	**1.76**	**201**	P	**Pn**	**18 25 41.6**	**-1.8**
IRIF				S	**Sn**	**18 26 08.3**	**-3.1**
JKRS	**Kuro-shima**	**1.78**	**193**	P	**Pn**	**18 25 42.1**	**-1.5**
JKRS				S	**Sn**	**18 26 09.0**	**-2.8**
YOJ	**Yonaguni jima**	**1.99**	**221**	*e*Pn	**Pn**	**18 25 44.6**	**-1.1**
YOJ				*e*Sn	**Sn**	**18 26 11.0**	**-4.5**
YOJ	**Yonaguni jima**	**1.99**	**221**	*e*P	**Pn**	**18 25 44.6**	**-1.1**
YOJ				*e*		18 26 11.0	
YOJ	**Yonaguni jima**	**1.99**	**221**	P	**Pn**	**18 25 44.6**	**-1.1**
YOJ				S	**Sn**	**18 26 14.0**	**-1.5**
HATJ	**Hateruma jima**	**2.00**	**197**	P	**Pn**	**18 25 44.6**	**-1.2**
HATJ				S	**Sn**	**18 26 12.2**	**-3.6**
JYNG	**Yonagunijimaku**	**2.04**	**222**	P	**Pn**	**18 25 45.1**	**-1.1**
JYNG				S	**Sn**	**18 26 14.4**	**-1.9**
JKE	**Kume jima 2**	**2.14**	**80**	P	**Pn**	**18 25 46.7**	**-0.5**
JKE				*e*S	**Sn**	**18 26 16.6**	**-1.6**
JAGN	**Aguni-jima**	**2.59**	**76**	P	**Pn**	**18 25 51.2**	**-0.9**
JAGN				S	**Sn**	**18 26 24.1**	**-3.0**
JJT3	**Tamagusuku3**	**3.02**	**86**	P	**Pn**	**18 25 56.8**	**-0.3**
JJT3				S	**Sn**	**18 26 33.5**	**-2.5**
YHNB	**Yeheng**	**3.06**	**245**	*e*Pn	**Pn**	**18 25 57.9**	**+0.2**
NACB	**Ninganchiao**	**3.14**	**236**	*e*Pn	**Pn**	**18 25 56.7**	**-1.9**
NACB				*e*Sn	**Sn**	**18 26 35.4**	**-3.4**
JNTH	**Nagotoyohara**	**3.27**	**80**	P	**Pn**	**18 25 59.0**	**-1.0**
JIH	**Iheya**	**3.33**	**71**	P	**Pn**	**18 25 59.8**	**-1.0**
JIH				S	**Sn**	**18 26 39.1**	**-3.7**
JOW	**Kunigami**	**3.55**	**75**	*e*Pn	**Pn**	**18 26 02.0**	**-1.5**
JOW				*e*Sn	**Sn**	**18 26 41.9**	**-5.5**
JOW	**Kunigami**	**3.55**	**75**	P	**Pn**	**18 26 02.1**	**-1.3**
JOW				S	**Sn**	**18 26 42.9**	**-4.5**
JOW	**Kunigami**	**3.55**	**75**	P	**Pn**	**18 26 02.2**	**-1.3**
	4.3nm,0.3s,baz=158,slow=13,SNR=137						
JOW				S	**Sn**	**18 26 42.6**	**-4.9**
	15nm,0.3s,baz=189,slow=15,SNR=19						
JYRO	**Yoronjima**	**3.75**	**73**	P	**Pn**	**18 26 04.4**	**-1.5**
JYRO				S	**Sn**	**18 26 47.2**	**-4.6**
SSLB	**Suanglung**	**3.84**	**236**	*e*Pn	**Pn**	**18 26 05.8**	**-1.4**
SSLB				*e*Sn	**Sn**	**18 26 51.6**	**-2.5**
YULB	**Yu-li**	**3.85**	**229**	*e*Pn	**Pn**	**18 26 04.5**	**-2.7**
YULB				*e*Sn	**Sn**	**18 26 48.3**	**-5.9**
JOKE	**Okinoerabujima**	**3.95**	**69**	P	**Pn**	**18 26 06.6**	**-1.8**
TPUB	**Ta-pu**	**4.37**	**233**	*e*Pn	**Pn**	**18 26 12.5**	**-1.3**
TPUB				*e*Sn	**Sn**	**18 27 04.8**	**-1.2**
TWG	**Pinlang**	**4.39**	**225**	*e*Pn	**Pn**	**18 26 11.4**	**-2.7**
TWG				*e*Sn	**Sn**	**18 27 02.4**	**-4.1**
JTK	**Tokunoshima**	**4.41**	**65**	P	**Pn**	**18 26 12.2**	**-2.0**
JTK				S	**Sn**	**18 27 02.5**	**-4.4**
JAMN	**Amaminishikomi**	**4.79**	**61**	P	**Pn**	**18 26 16.6**	**-2.3**
QZH	**Quanzhou**	**5.38**	**260**	*i*P	**Pn**	**18 26 26.4**	**-0.2**
QZH				pmax	pmax		
	comp=Z,120nm,0.7s						
KNMB	**Chin-men Tao**	**5.68**	**256**	*e*Pn	**Pn**	**18 26 29.7**	**-0.7**
NJ2	**Nanjing**	**7.77**	**322**	*e*P	**Pn**	**18 26 58.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,21nm,0.8s						
JNU	**Nakatsue**	**9.06**	**37**	P	**Pn**	**18 27 14.7**	**+0.3**
	1.1nm,0.3s,baz=217,slow=2.2,SNR=20						
WHN	**Wuhan**	**9.98**	**299**	P	**Pn**	**18 27 27.7**	**+1.4**
TJN	**Taejon**	**10.66**	**13**	*i*P	**Pn**	**18 27 36.4**	**+1.4**
KS15	**Wonju Array Si**	**11.79**	**14**	*e*Pn	**Pn**	**18 27 50.4**	**+0.9**
KSAR	**Wonju Array Be**	**11.79**	**14**	*e*Pn	**Pn**	**18 27 50.6**	**+1.1**
KSAR	**Wonju Array Be**	**11.79**	**14**	*e*P	**Pn**	**18 27 50.6**	**+1.1**
KSRS	**Korea Array**	**11.81**	**14**	P	**Pn**	**18 27 51.5**	**+1.8**
	0.9nm,0.3s,baz=199,slow=13,SNR=56						
TIA	**Tai'an**	**11.96**	**330**	P	**Pn**	**18 27 53.7**	**+2.1**
TIA				pmax	pmax		
	comp=Z,12nm,0.8s						
DL2	**Dalian**	**13.10**	**350**	P	**P**	**18 28 10.8**	**+1.8**
DL2				pmax	pmax		
	comp=Z,45nm,0.9s						
ENH	**Enshi**	**13.86**	**291**	*e*Pn	**P**	**18 28 17.4**	**-0.2**
INU	**Inuyama**	**14.28**	**46**	*e*Pn	**Pn**	**18 28 19.0**	**-1.7**
JHJ2	**Mitsune**	**15.15**	**58**	*e*Pn	**Pn**	**18 28 31.0**	**-0.3**
	338nm,1.4s						
BJI	**Beijing**	**15.62**	**336**	*e*P	**P**	**18 28 41.4**	**+4.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
XAN	**Xi'an**	**15.64**	**305**	P	**P**	**18 28 38.6**	**+1.3**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAJO	**Matsushiro**	**15.78**	**45**	*e*P	**Pn**	**18 28 39.8**	**+0.9**
	16nm,1.4s						
MAJO	**Matsushiro**	**15.78**	**45**	*e*P	**Pn**	**18 28 39.8**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,16nm,1.4s						
MAT	**Matsushiro**	**15.78**	**45**	P	**Pn**	**18 28 39.8**	**+0.9**
MJAR	**Matsushiro Arr**	**15.78**	**45**	P	**Pn**	**18 28 39.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=223,slow=9.6,SNR=22						
MJB9	**Matsu-Tunnel**	**15.78**	**45**	*e*P	**Pn**	**18 28 39.7**	**+0.8**
	comp=Z,17nm,1.4s						
CN2	**Changchun**	**17.80**	**2**	*e*P	**Pn**	**18 29 02.7**	**-0.1**
CN2				*es*P	sP	18 29 55.3	-3.5
CN2				*e*S	**S**	**18 32 12.1**	**-2.8**
CN2				pmax	pmax		
	comp=Z,30nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,120nm,11.0s						
CN2				LR	LR		
	comp=Z,130nm,11.0s						
CN2				LR	LR		
	comp=Z,150nm,12.0s						
HHC	**Hu-ho-hao-te**	**18.28**	**327**	*e*P	**Pn**	**18 29 09.0**	**+0.4**
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
HHC				pmax	pmax		
	comp=Z,200nm,7.0s						
CD2	**Chengdu**	**18.83**	**290**	*e*P	**P**	**18 29 11.3**	**-0.9**
CD2				pmax	pmax		
	comp=Z,140nm,0.8s						
MDJ	**Mudanjiang**	**19.05**	**11**	P	**P**	**18 29 15.4**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,11nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,110nm,3.9s						
MDJ	**Mudanjiang**	**19.05**	**11**	*e*P	**P**	**18 29 15.2**	**+0.7**
	comp=Z,7.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**19.18**	**17**	P	**P**	**18 29 16.6**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=206,slow=10.0,SNR=19						
KMI	**Kunming**	**19.59**	**272**	P	**Pn**	**18 29 22.9**	**-1.6**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LZH	**Lanzhou**	**20.28**	**305**	*e*P	**P**	**18 29 29.8**	**+1.9**
LZH				sP	sP	18 30 22.7	-3.7
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
ERM	**Erimo**	**22.21**	**39**	*e*P	**P**	**18 29 45.8**	**-1.6**
ERM	**Erimo**	**22.21**	**39**	*e*P	**P**	**18 29 45.8**	**-1.6**
KHON	**Khomkaen**	**22.29**	**249**	P	**P**	**18 29 50.1**	**+1.7**
	comp=Z,43μm,0.8s						
ASAJ	**Asahikawa**	**23.33**	**35**	P	**P**	**18 29 57.5**	**-0.1**
	comp=Z,9.9nm,0.5s,baz=227,slow=9.5,SNR=28						
HIA	**Hailar**	**23.53**	**352**	*e*P	**P**	**18 29 59.1**	**-0.2**
	comp=Z,17nm,0.6s						
HIA	**Hailar**	**23.53**	**352**	*e*P	**P**	**18 29 59.2**	**-0.2**
HIA				pmax	pmax		
	comp=Z,17nm,0.6s						
PHRA	**Phrae**	**23.59**	**257**	P	**P**	**18 30 03.8**	**+3.7**
	comp=Z,0.8nm,0.9s						
KLR	**Kul'dur**	**23.90**	**12**	P	**P**	**18 30 03.1**	**+0.5**
	comp=Z,7.0nm,0.8s,baz=207,slow=7.1,SNR=26						
LAMP	**Lampang**	**24.10**	**257**	P	**P**	**18 30 06.7**	**+1.9**
	comp=Z,11μm,0.7s						
GTA	**Gaotai**	**24.57**	**309**	*e*P	**P**	**18 30 08.9**	**-0.2**
GTA				pP	pP	18 30 47.3	-0.5
GTA				sP	PP	18 31 09.6	+0.6
GTA				PcP	**PcP**	**18 33 43.2**	**+1.7**
GTA				pmax	pmax		
	comp=Z,11nm,1.3s						
GTA				LR	LR		
	comp=Z,57nm,16.2s						
GTA				LR	LR		
	comp=Z,54nm,16.8s						
GTA				LR	LR		
	comp=Z,59nm,16.2s						
CMMT	**Chiang Mai**	**24.59**	**258**	P	**P**	**18 30 10.5**	**+1.2**
	comp=Z,2.5nm,1.1s,comp=Z,364nm						
CHTO	**Chiang Mai**	**24.60**	**258**	*e*P	**P**	**18 30 09.4**	**+0.1**
	comp=Z,3.3nm,0.8s						
CHTO	**Chiang Mai**	**24.60**	**258**	*e*P	**P**	**18 30 09.4**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CM31	**Chiang Mai Arr**	**24.73**	**258**	*e*P	**P**	**18 30 11.4**	**+0.9**
	comp=Z,2.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**24.73**	**258**	*e*P	**P**	**18 30 10.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**24.73**	**258**	*ce*P	**P**	**18 30 11.3**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**24.73**	**258**	P	**P**	**18 30 11.4**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=57,slow=8.0,SNR=16						
CMAR				PcP	**PcP**	**18 33 43.5**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=66,slow=0.6,SNR=9.5						
YSS	**Yuzh-Sakhalins**	**25.48**	**30**	*e*P	**P**	**18 30 16.6**	**-0.3**
	comp=Z,82nm,1.9s						
YSS	**Yuzh-Sakhalins**	**25.48**	**30**	*e*P	**P**	**18 30 16.6**	**-0.3**
YSS				pmax	pmax		
	comp=Z,82nm,1.9s						
ULN	**Ulaanbaatar**	**25.77**	**332**	*e*P	**P**	**18 30 19.9**	**0.0**
	comp=Z,9.3nm,0.6s						
ULN	**Ulaanbaatar**	**25.77**	**332**	*ce*P	**P**	**18 30 20.1**	**+0.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.4s						
SONA0	**Songino Array**	**26.03**	**332**	*e*PcP	**PcP**	**18 33 45.7**	**+1.1**
SONA0				*e*ScP	**ScP**	**18 37 05.4**	**+0.1**
SONM	**Songino Array**	**26.03**	**332**	*e*P	**P**	**18 30 21.8**	**-0.2**
SONM	**Songino Array**	**26.03**	**332**	P	**P**	**18 30 22.1**	**0.0**
	comp=Z,4.0nm,0.5s,baz=145,slow=9.3,SNR=19						
SONM				PcP	**PcP**	**18 33 45.7**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=159,slow=4.1,SNR=3.8						
SONM				ScP	**ScP**	**18 37 05.4**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=4.0						
ZEA	**Zeya**	**27.80**	**4**	*e*P	**P**	**18 30 38.0**	**+0.4**
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**29.61**	**285**	*e*P	**P**	**18 30 55.5**	**+1.0**
	comp=Z,7.2nm,0.8s						
LSA	**Lhasa**	**29.61**	**285**	*e*P	**P**	**18 30 55.5**	**+1.0**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FAKI	**Fak Fak**	**29.71**	**164**	*e*P	**P**	**18 30 55.5**	**+0.6**
	comp=Z,26nm,1.2s						
TLY	**Talaya**	**30.13**	**334**	*e*P	**P**	**18 30 58.7**	**+0.4**
	comp=Z,11nm,0.7s						
TLY	**Talaya**	**30.13**	**334**	*ce*P	**P**	**18 30 59.5**	**+1.2**
TLY				pmax	pmax		
	comp=Z,27nm,0.7s						
MOY	**Mondy**	**31.22**	**331**	*e*P	**P**	**18 31 07.9**	**-0.1**
MOY				pmax	pmax		
	comp=Z,24nm,2.0s						
RAMN	**Ramite**	**33.80**	**280**	*e*P	**P**	**18 31 31.1**	**+0.2**
	comp=Z,9.2nm,0.8s						
JIRN	**Jiri**	**34.08**	**282**	*e*P	**P**	**18 31 33.9**	**+0.4**
	comp=Z,22nm,0.8s						
WMQ	**Urumqi**	**34.64**	**310**	*e*P	**P**	**18 31 38.4**	**+0.7**
PKI	**Pulchoki**	**34.78**	**282**	*e*P	**P**	**18 31 39.4**	**0.0**
	comp=Z,14nm,0.7s						
PKIN	**Phulchoki**	**34.79**	**282**	*e*P	**P**	**18 31 39.5**	**+0.1**
	comp=Z,9.2nm,0.5s						
KKN	**Kakani**	**34.87**	**282**	*e*P	**P**	**18 31 40.4**	**+0.4**
	comp=Z,29nm,0.8s						
DMN	**Daman**	**35.05**	**282**	*e*P	**P**	**18 31 41.6**	**0.0**
	comp=Z,16nm,0.7s						
GKN	**Gorkha**	**35.41**	**282**	*e*P	**P**	**18 31 44.8**	**+0.2**
	comp=Z,33nm,0.9s						
DANN	**Dangsing**	**36.15**	**283**	*e*P	**P**	**18 31 51.7**	**+0.7**
	comp=Z,41nm,0.7s						
UGM	**Wanagama**	**36.30**	**204**	*e*P	**P**	**18 31 51.4**	**-0.7**
	comp=Z,284nm,1.6s						
KOLN	**Koldanda**	**36.35**	**282**	*e*P	**P**	**18 31 53.0**	**+0.4**
	comp=Z,16nm,0.8s						
PEA0B	**Petropavlovsk-**	**36.74**	**34**	*e*P	**P**	**18 31 54.9**	**-0.4**
	comp=Z,212nm,1.9s						
PEA0B	**Petropavlovsk-**	**36.74**	**34**	*e*P	**P**	**18 31 54.9**	**-0.4**
PEA0B				pmax	pmax		
	comp=Z,212nm,1.9s						
PETK	**Petropavlovsk-**	**36.74**	**34**	*e*P	**P**	**18 31 54.6**	**-0.7**
PETK	**Petropavlovsk-**	**36.74**	**34**	P	**P**	**18 31 55.0**	**-0.3**
	comp=Z,4.0nm,0.6s,baz=158,slow=2.6,SNR=14						
PYUN	**Piuthan**	**36.85**	**283**	*e*P	**P**	**18 31 57.4**	**+0.6**
	comp=Z,43nm,0.8s						
DGZ	**Jazzator, Alta**	**37.05**	**320**	*i*P	**P**	**18 31 57.8**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PET	**Petropavlovsk**	**37.17**	**34**	*e*P	**P**	**18 31 58.5**	**-0.4**
	comp=Z,58nm,1.4s						
PET	**Petropavlovsk**	**37.17**	**34**	*e*P	**P**	**18 31 58.8**	**-0.1**
PET				pmax	pmax		
	comp=Z,21nm,0.8s						
MTN	**Manton Dam**	**39.14**	**170**	*e*P	**P**	**18 32 15.8**	**+0.1**
	comp=Z,26nm,1.4s						
MK31	**Makanchi Array**	**39.18**	**313**	*e*P	**P**	**18 32 15.7**	**-0.2**
	comp=Z,7.4nm,0.6s						
MK31				*ep*P	**pP**	**18 32 58.6**	**+0.8**
MK31				*ePc*P	**PcP**	**18 34 22.0**	**+1.0**
MK31	**Makanchi Array**	**39.18**	**313**	*e*P	**P**	**18 32 15.7**	**-0.2**
MK31				*e**PP	**pP**	**18 32 58.7**	**+0.8**
MK31				*e*		18 34 22.0	
MK31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MK32	**Makanchi Array**	**39.18**	**313**	*ep*P	**pP**	**18 32 58.9**	**+1.0**
MK32				*ePc*P	**PcP**	**18 34 21.5**	**+0.5**
MKAR	**Makanchi Array**	**39.18**	**313**	*e*P	**P**	**18 32 15.7**	**-0.2**
MKAR				*ep*P	**pP**	**18 32 59.1**	**+1.2**
MKAR				*ePP*	**PP**	**18 33 51.0**	**+0.9**
MKAR				*ePc*P	**PcP**	**18 34 21.9**	**+0.9**
MKAR	**Makanchi Array**	**39.18**	**313**	P	**P**	**18 32 15.9**	**0.0**
	comp=Z,11nm,0.6s,baz=98,slow=11,SNR=172						
MKAR				pP	**pP**	**18 32 58.9**	**+1.0**
	comp=Z,3.6nm,1.1s,baz=110,slow=11,SNR=1.9						
MKAR				PP	**PP**	**18 33 50.7**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=106,slow=11,SNR=3.9						
MKAR				PcP	**PcP**	**18 34 21.5**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=93,slow=4.9,SNR=6.9						
MAKZ	**Makanchi**	**39.39**	**313**	*e*P	**P**	**18 32 17.6**	**0.0**
	comp=Z,13nm,0.6s						
MAKZ				*ep*P	**pP**	**18 33 00.7**	**+1.0**
MAKZ				*ePP*	**PP**	**18 33 53.0**	**+0.7**
MAKZ				*ePc*P	**PcP**	**18 34 22.1**	**+0.5**
MAKZ	**Makanchi**	**39.39**	**313**	*e*P	**P**	**18 32 17.6**	**0.0**
MAKZ				*e**PP	**pP**	**18 33 00.7**	**+1.0**
MAKZ				*e*		18 33 53.0	
MAKZ				*e*		18 34 22.1	
MAKZ				pmax	pmax		
	comp=Z,13nm,0.6s						
ZAA0	**Zalesovo Array**	**40.42**	**324**	*e*P	**P**	**18 32 24.7**	**-1.1**
	comp=Z,7.8nm,0.8s						
ZAA0				*ep*P	**pP**	**18 33 08.3**	**+0.2**
ZAA0				*ePc*P	**PcP**	**18 34 24.3**	**-0.4**
ZALV	**Zalesovo Beam**	**40.42**	**324**	*e*P	**P**	**18 32 25.0**	**-0.9**
ZALV				*ep*P	**pP**	**18 33 08.8**	**+0.7**
ZALV				*ePc*P	**PcP**	**18 34 23.7**	**-1.0**
ZALV	**Zalesovo Beam**	**40.42**	**324**	*e*P	**P**	**18 32 25.0**	**-0.9**
ZALV				*e**PP	**pP**	**18 33 08.9**	**+0.7**
ZALV				*e*		18 34 23.7	
ZALV	**Zalesovo Beam**	**40.42**	**324**	P	**P**	**18 32 25.1**	**-0.9**
	comp=Z,6.9nm,0.4s,baz=116,slow=8.4,SNR=44						
ZALV				pP	**pP**	**18 33 08.6**	**+0.5**
	comp=Z,3.4nm,0.7s,baz=115,slow=7.7,SNR=2.8						
ZALV				PcP	**PcP**	**18 34 25.3**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=107,slow=4.8,SNR=3.6						
ZALV				ScP	**ScP**	**18 37 56.3**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=114,slow=4.7,SNR=5.6						
SEY	**Seymchan**	**41.31**	**19**	P	**P**	**18 32 32.7**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=204,slow=6.1,SNR=8.1						
SEY				PcP	**PcP**	**18 34 28.5**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=76,slow=22,SNR=8.1						
KDJ	**Kajisay**	**41.78**	**305**	*e*P	**P**	**18 32 38.1**	**+0.7**
	comp=Z,11nm,0.7s						
KDJ				*e*PP	**PP**	**18 34 12.0**	**-6.3**
KDJ	**Kajisay**	**41.78**	**305**	*e*P	**P**	**18 32 38.2**	**+0.7**
KDJ				pmax	pmax		
	comp=Z,11nm,0.7s						
KSH	**Kashi**	**42.45**	**301**	P	**P**	**18 32 46.5**	**+3.7**
KSH				pP	pP	18 33 29.1	+3.7
KSH				PP	**PcP**	**18 34 31.5**	**-0.4**
KSH				S	**S**	**18 38 52.8**	**+3.2**
KSH				SS	**SS**	**18 42 04.0**	**-2.9**
KSH				pmax	pmax		
	comp=Z,14nm,0.6s						
KSH				pmax	pmax		
	comp=Z,120nm,4.1s						
KSH				LR	LR		
	comp=Z,440nm,12.9s						
KSH				LR	LR		
	comp=Z,310nm,13.3s						
NRN	**Naryn**	**42.58**	**304**	*e*P	**P**	**18 32 44.9**	**+0.8**
	comp=Z,12nm,0.9s						
NRN				*ep*P	**pP**	**18 33 28.3**	**+1.6**
KURK	**Kurchatov**	**42.68**	**318**	*e*P	**P**	**18 32 43.6**	**-0.7**
	comp=Z,5.8nm,0.8s						
KURK				*ep*P	**pP**	**18 33 27.1**	**+0.2**
KURK				*e*PP	**PP**	**18 34 21.5**	**-5.9**
KURK	**Kurchatov**	**42.68**	**318**	*e*P	**P**	**18 32 43.6**	**-0.7**
KURK				*e**PP	**pP**	**18 33 27.1**	**+0.2**
KURK				*e*		18 34 21.5	
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TKM2	**Tokmak 2**	**43.04**	**306**	P	**P**	**18 32 48.4**	**+0.8**
	SNR=20						
KZA	**Kyzart**	**43.21**	**305**	P	**P**	**18 32 50.6**	**+1.5**
	SNR=9.6						
KBK	**Karagaybulak**	**43.49**	**305**	P	**P**	**18 32 52.2**	**+1.1**
	SNR=9.5						
CHMS	**Chumysh**	**43.67**	**306**	P	**P**	**18 32 53.1**	**+0.7**
	SNR=10						
FRU1	**Bishkek**	**43.74**	**306**	*e*P	**P**	**18 32 53.0**	**0.0**
	comp=Z,8.7nm,0.8s						
FRU1	**Bishkek**	**43.74**	**306**	*e*P	**P**	**18 32 53.0**	**0.0**
FRU1				pmax	pmax		
	comp=Z,9.0nm,0.8s						
UCH	**Uchtor**	**43.77**	**305**	P	**P**	**18 32 55.2**	**+1.5**
	SNR=22						
AAK	**Ala-Archa**	**43.82**	**305**	*e*P	**P**	**18 32 54.2**	**+0.5**
	comp=Z,2.9nm,0.6s						
AAK	**Ala-Archa**	**43.82**	**305**	*ce*P	**P**	**18 32 54.0**	**+0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**43.82**	**305**	P	**P**	**18 32 54.5**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=112,slow=4.5,SNR=13						
AAK				PcP	**PcP**	**18 34 37.4**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=142,slow=5.1,SNR=2.5						
FITZ	**Fitzroy Crossi**	**43.83**	**178**	*e*P	**P**	**18 32 54.1**	**+0.3**
	comp=Z,20nm,1.6s						
FITZ	**Fitzroy Crossi**	**43.83**	**178**	P	**P**	**18 32 54.3**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=13,slow=6.4,SNR=12						
AML	**Almayashu**	**44.36**	**305**	P	**P**	**18 32 59.9**	**+1.5**
	SNR=8.9						
NIL	**Nilore**	**44.69**	**292**	*e*P	**P**	**18 33 01.0**	**+0.4**
	comp=Z,13nm,0.7s						
NIL	**Nilore**	**44.69**	**292**	*e*P	**P**	**18 33 01.0**	**+0.4**
NIL				pmax	pmax		
	comp=Z,13nm,0.7s						
TIXI	**Tiksi**	**45.77**	**2**	*e*P	**P**	**18 33 07.1**	**-1.3**
	comp=Z,10nm,1.1s						
TIXI				*e*PcP	**PcP**	**18 34 41.2**	**-1.3**
TIXI	**Tiksi**	**45.77**	**2**	*ce*P	**P**	**18 33 07.0**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,11nm,1.1s						
TIXI	**Tiksi**	**45.77**	**2**	P	**P**	**18 33 07.6**	**-0.8**
	comp=Z,5.8nm,0.6s,baz=158,slow=5.8,SNR=32						
TIXI				PcP	**PcP**	**18 34 42.2**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=139,slow=1.1,SNR=7.0						
OTUK	**Ortayu**	**46.08**	**313**	P	**P**	**18 33 12.1**	**+0.8**
OTUK				pmax	pmax		
	comp=Z,9μm,0.9s						
BTK	**Batken**	**46.44**	**301**	*e*P	**P**	**18 33 13.5**	**-0.8**
	comp=Z,3.7nm,0.5s						
BTK				*ep*P	**pP**	**18 33 57.9**	**+0.2**
BTK

comp=Z,24nm,0.6s,baz=50,slow=2.3,SNR=71
GYA0B ALIBECK ARRAY 56.45 300 *eP* **P 18 34 29.3 +0.8**
comp=Z,27nm,0.7s
PRGR Permogore 62.21 328 *eP* **P 18 35 06.2 -1.2**
PRGR pmax pmax
comp=Z,14nm,0.9s
IMAR Indian Mountai 63.26 27 *eP* **P 18 35 14.6 +0.3**
IMAR *ePcP* **PcP 18 35 50.9 +1.3**
CAST Castle Rocks 64.21 30 *eP* **P 18 35 21.5 +0.9**
comp=Z,28nm,1.9s
PPLA Purkeypile 64.22 30 *eP* **P 18 35 21.8 +1.0**
comp=Z,37nm,1.6s
RSO Redoubt South 64.26 33 *eP* **P 18 35 21.8 +0.6**
MLY Manley 64.60 28 *eP* **P 18 35 23.7 +0.6**
comp=Z,6.3nm,1.3s
BPAW Bear Paw Mtn. 64.61 29 *eP* **P 18 35 23.7 +0.5**
comp=Z,19nm,1.7s
KDAK Kodiak Island 64.73 36 *eP* **P 18 35 24.0 +0.1**
comp=Z,111nm,1.6s
KDAK Kodiak Island 64.73 36 P **P 18 35 24.5 +0.5**
comp=Z,8.5nm,0.7s,baz=275,slow=6.6,SNR=6.7
SUA Susitna One 65.09 32 *eP* **P 18 35 26.8 +0.4**
comp=Z,29nm,1.6s
KLMR Klimovskoe 65.23 328 *eP* **P 18 35 25.3 -1.8**
KLMR pmax pmax
comp=Z,8.0nm,1.1s
BWN Browne 65.26 29 *eP* **P 18 35 28.3 +1.0**
comp=Z,65nm,1.9s
TMCR Tamitsa 65.39 331 *eP* **P 18 35 26.8 -1.3**
TMCR pmax pmax
comp=Z,17nm,0.6s
MCK McKinley 65.56 29 *eP* **P 18 35 30.5 +1.2**
comp=Z,29nm,1.7s
RC01 Rabbit Creek A 65.63 32 *eP* **P 18 35 30.4 +0.7**
comp=Z,53nm,1.8s
RND Reindeer 65.65 30 *eP* **P 18 35 29.9 0.0**
comp=Z,6.1nm,0.6s
MDM Murphy Dome 65.66 28 *eP* **P 18 35 30.4 +0.5**
comp=Z,5.8nm,1.0s
WRH Wood River Hil 65.80 28 *eP* **P 18 35 31.6 +0.9**
comp=Z,29nm,2.0s
CCB Clear Creek Bu 65.89 28 *eP* **P 18 35 31.7 +0.3**
comp=Z,17nm,1.9s
GHO Glory Hole Cre 65.90 31 *eP* **P 18 35 31.0 -0.5**
comp=Z,41nm,1.7s
SEW Seward 65.94 33 *eP* **P 18 35 30.6 -1.1**
comp=Z,106nm,1.8s
SML Sawmill 66.17 31 *eP* **P 18 35 33.5 +0.3**
comp=Z,60nm,1.8s
ZEI Tsey 66.18 307 *eP* **P 18 35 33.2 -0.6**
ZEI pmax pmax
comp=Z,9.0nm,0.8s
KNK Knik Glacier 66.18 32 *eP* **P 18 35 33.5 +0.2**
comp=Z,73nm,1.7s
TOO Toolangi 66.24 162 *eP* **P 18 35 35.1 +1.2**
comp=Z,52nm,1.5s
ILAR Eielson Array 66.26 28 *eP* **P 18 35 33.7 0.0**
ILAR Eielson Array 66.26 28 P **P 18 35 33.0 -0.7**
ILAR Eielson Array 66.26 28 P **P 18 35 33.0 -0.7**
comp=Z,0.5nm,0.4s,baz=259,slow=5.4,SNR=12
ILB Eielson Array 66.26 28 *eP* **P 18 35 33.9 +0.2**
comp=Z,16nm,1.8s
FYU Fort Yukon 66.59 26 *eP* **P 18 35 37.3 +1.6**
comp=Z,30nm,1.6s
SCM Sheep Creek Mo 66.63 31 *eP* **P 18 35 36.5 +0.3**
comp=Z,117nm,1.8s
KBZ Khabaz 66.66 309 P **P 18 35 37.5 +1.0**
comp=Z,7.9nm,0.8s,baz=114,slow=3.8,SNR=29
BMAR Burnt Mountain 66.67 25 *eP* **P 18 35 37.7 +1.4**
PRP Porcupine Dome 66.68 27 *eP* **P 18 35 36.9 +0.4**
comp=Z,17nm,1.9s
KIV Kislovodsk 66.75 309 *eP* **P 18 35 38.4 +1.1**
comp=Z,15nm,0.7s
KIV Kislovodsk 66.75 309 ⇑*iP* **P 18 35 38.0 +0.7**
KIV Kislovodsk 66.75 309 ⇑⇑P **P 18 35 38.0 +0.7**
AKH Akhalkalaki 66.81 306 *eP* **P 18 35 39.5 +1.7**
comp=Z,10.0nm,0.8s
NEY Neytrino 66.90 308 *i* P **P 18 35 39.1 +0.7**
NEY pmax pmax
comp=Z,2.0nm,0.8s
PAX Paxson 67.24 30 *eP* **P 18 35 40.6 +0.6**
comp=Z,18nm,1.8s
RIDG Independent Ri 67.34 29 *eP* **P 18 35 40.0 -0.7**
comp=Z,38nm,2.0s
HARP HAARP 67.50 30 *eP* **P 18 35 43.0 +1.4**
comp=Z,91nm,1.7s
DIV Divide 67.51 32 *eP* **P 18 35 42.5 +0.8**
comp=Z,57nm,1.7s
EYAK Cordova Ski Ar 67.65 32 *eP* **P 18 35 42.7 +0.2**
comp=Z,179nm,1.8s
SCRK Sand Creek 67.66 28 *eP* **P 18 35 42.5 -0.2**
comp=Z,17nm,1.7s
DOT Dot Lake 67.70 29 *eP* **P 18 35 43.1 +0.2**
comp=Z,27nm,1.4s
OBN Obninsk 67.92 322 *eP* **P 18 35 44.2 0.0**
comp=Z,19nm,0.5s
BATM Batumi 68.07 307 ⇓*iP* **P 18 35 46.2 +0.7**
BCA Borcka 68.16 307 ⇓*iP* **P 18 35 46.7 +0.6**
SPA0 Spitsbergen Ar 68.36 348 *eP* **P 18 35 46.5 -0.1**
comp=Z,15nm,1.0s
SPA0 *e*pP **pP 18 36 33.6 +0.3**
KEV Kevo 68.41 338 *eP* **P 18 35 46.7 -0.3**
comp=Z,32nm,1.7s
HMT Hamilton 68.42 32 *eP* **P 18 35 51.9 +4.6**
comp=Z,262nm,1.9s
EGAK Eagle 68.65 27 *eP* **P 18 35 49.2 +0.6**
comp=Z,34nm,2.0s
KBS Kingsbay 68.84 349 *eP* **P 18 35 49.2 -0.4**
comp=Z,38nm,1.8s
BCAR Beaver Creek A 68.84 29 *eP* **P 18 35 50.9 +1.0**
BCAR *e*PcP **PcP 18 36 14.9 +1.9**
ARCES ARCESS Array B 68.98 338 *eP* **P 18 35 50.5 -0.1**
ARCES *e*PcP **PcP 18 36 13.5 +0.1**
ARCES ARCESS Array B 68.98 338 *eP* **P 18 35 50.5 -0.1**
ARCES *e* 18 36 13.5
ARCES ARCESS Array B 68.98 338 P **P 18 35 50.2 -0.3**
comp=Z,1.7nm,0.6s,baz=69,slow=6.7,SNR=13
ARE0 ARCESS Array S 68.98 338 *eP* **P 18 35 50.2 -0.4**
comp=Z,2.6nm,1.9s
DAWY Dawson 69.59 28 *eP* **P 18 35 54.8 +0.3**
comp=Z,12nm,1.6s
INK Inuvik 70.45 23 P **P 18 35 59.6 +0.1**
comp=Z,3.8nm,0.8s,baz=287,slow=7.7,SNR=16
FIA1 FINESS Array S 71.38 330 *eP* **P 18 36 04.5 -0.7**
comp=Z,10nm,0.8s
FINES FINESS Array B 71.38 330 *eP* **P 18 36 05.1 -0.2**
FINES *e*pP **pP 18 36 55.2 +2.8**
FINES FINESS Array B 71.38 330 P **P 18 36 05.2 -0.2**
comp=Z,7.1nm,0.6s,baz=56,slow=5.8,SNR=38
VSU Vasula 72.10 327 *eP* **P 18 36 10.3 +0.7**
VSU pmax pmax
comp=Z,65nm,2.5s
WHY Whitehorse 72.72 30 *eP* **P 18 36 14.7 +1.3**
comp=Z,28nm,1.6s
AKASG Malin Array Be 73.48 319 *eP* **P 18 36 17.7 -0.2**
AKASG Malin Array Be 73.48 319 *eP* **P 18 36 17.7 -0.2**
AKASG Malin Array Be 73.48 319 P **P 18 36 17.2 -0.7**
comp=Z,2.0nm,0.5s,baz=57,slow=6.5,SNR=21
AKBB Malin Array Si 73.48 319 *eP* **P 18 36 17.4 -0.5**
comp=Z,4.7nm,0.8s
KIEV Kiev 73.50 319 *eP* **P 18 36 17.4 -0.6**
comp=Z,5.0nm,0.9s
KIEV Kiev 73.50 319 ⇓*iP* **P 18 36 16.8 -1.2**
KIEV Kiev 73.50 319 ⇓P **P 18 36 16.8 -1.2**
BR131 Keskin Array S 74.47 307 *eP* **P 18 36 24.3 +0.3**
comp=Z,6.1nm,0.8s
BRTR Keskin Array B 74.47 307 P **P 18 36 24.4 +0.3**
comp=Z,4.7nm,0.8s,baz=96,slow=5.3,SNR=30
BRTR pP **pP 18 37 12.6 +1.0**
comp=Z,0.9nm,0.8s,baz=108,slow=4.7,SNR=2.3
DAG Danmarks Havn 75.03 352 *i* P **P 18 36 25.4 -1.0**
DAG pmax pmax
comp=Z,7.0nm,1.1s
DAG Danmarks Havn 75.03 352 *i* P **P 18 36 25.4 -1.0**
comp=Z,5.2nm,1.1s
MMAI Mount Meron Ar 75.58 300 P **P 18 36 31.1 +0.6**
comp=Z,3.2nm,0.7s,baz=66,slow=8.3,SNR=14
SUW Suwalki 75.64 323 *eP* **P 18 36 29.4 -0.8**
comp=Z,36nm,1.1s
CFR Carcaliu 76.22 314 ⇓*iP* **P 18 36 33.5 -0.2**
CFR Carcaliu 76.22 314 ⇓P **P 18 36 33.5 -0.2**
RES Resolute Bay 76.41 10 *eP* **P 18 36 33.4 -0.8**
comp=Z,4.7nm,1.0s
RES Resolute Bay 76.41 10 P **P 18 36 33.4 -0.8**
RES pmax pmax
comp=Z,5μm,1.0s
TLB Topalu 76.51 313 ⇑*iP* **P 18 36 35.3 0.0**
TLB Topalu 76.51 313 ⇑P **P 18 36 35.3 0.0**
TESR Tescani 76.65 315 ⇓*iP* **P 18 36 36.1 0.0**
VRI Vrincioaia 76.86 315 ⇑*iP* **P 18 36 36.2 -1.1**
VRI Vrincioaia 76.86 315 ⇑P **P 18 36 36.2 -1.1**
BUR08 Bucovina Ar. S 77.09 317 *eP* **P 18 36 38.6 -0.1**
comp=Z,12nm,1.6s
BURAR Bucovina Array 77.10 317 *eP* **P 18 36 39.0 +0.3**
BURAR Bucovina Array 77.10 317 ⇑*iP* **P 18 36 39.0 +0.3**
BURAR Bucovina Array 77.10 317 ⇑P **P 18 36 39.0 +0.3**
HFS Hagfors 77.43 331 P **P 18 36 40.0 -0.2**
HFS Hagfors 77.43 331 P **P 18 36 40.0 -0.2**
comp=Z,7.9nm,0.7s,baz=73,slow=5.1,SNR=13
ISP Isparta 77.44 306 *eP* **P 18 36 40.0 -0.8**
comp=Z,8.8nm,0.7s
MLR Muntele Rosu 77.51 315 *eP* **P 18 36 40.4 -0.7**
comp=Z,5.9nm,1.3s
MLR Muntele Rosu 77.51 315 ⇓*iP* **P 18 36 41.2 +0.1**
MLR Muntele Rosu 77.51 315 ⇓P **P 18 36 41.2 +0.1**
MLR Muntele Rosu 77.51 315 P **P 18 36 41.0 -0.1**
comp=Z,2.0nm,0.5s,baz=345,slow=9.1,SNR=10
NC405 NORSAR Array S 77.75 333 *eP* **P 18 36 41.7 -0.2**
comp=Z,129nm,1.8s
NC303 NORSAR Array S 77.84 333 *eP* **P 18 36 42.2 -0.2**
comp=Z,91nm,1.6s
NB201 NORSAR Array S 77.96 333 *eP* **P 18 36 43.1 0.0**
comp=Z,220nm,1.9s
NB2 NORSAR Subarra 78.00 333 P **P 18 36 42.7 -0.7**
comp=Z,2.4nm,0.6s,baz=55,slow=5.6
NOA NORSAR Array B 78.00 333 P **P 18 36 43.0 -0.4**
NOA NORSAR Array B 78.00 333 P **P 18 36 43.0 -0.4**
comp=Z,3.9nm,0.7s,baz=56,slow=5.4,SNR=20
NC602 NORSAR Array S 78.03 332 *eP* **P 18 36 42.3 -1.2**
comp=Z,163nm,1.9s
NC204 NORSAR Array S 78.06 333 *eP* **P 18 36 43.1 -0.6**
comp=Z,156nm,1.9s
UZH Uzhgorod 78.44 319 *eP* P 18 36 37.6 -8.3
UZH *e* 18 36 53.2
OJC Ojcow 79.17 321 *eP* **P 18 36 49.5 -0.5**
comp=Z,6.2nm,0.6s
ALN Alexandroupoli 79.36 310 *eP* **P 18 36 50.6 -0.5**
comp=Z,3.3nm,1.0s
YKW3 Yellowknife Ar 80.11 24 *eP* **P 18 36 54.4 -0.3**
comp=Z,10nm,1.5s
YKA Yellowknife Ar 80.16 24 *eP* **P 18 36 54.3 -0.7**
YKA Yellowknife Ar 80.16 24 P **P 18 36 54.9 0.0**
comp=Z,1.7nm,0.6s,baz=304,slow=5.2,SNR=41
YKA PKKPbc **PKKPbc 18 55 35.3 -2.9**
comp=Z,0.2nm,0.5s,baz=127,slow=2.7,SNR=8.1
PSZ Piszkesteto 80.19 319 *eP* **P 18 36 55.2 -0.3**
comp=Z,8.9nm,1.4s
VTS Vitosha 80.51 313 *eP* **P 18 36 57.6 +0.1**
comp=Z,6.6nm,0.8s
VTS Vitosha 80.51 313 ⇓*iP* **P 18 36 57.9 +0.5**
VTS Vitosha 80.51 313 ⇓P **P 18 36 57.9 +0.5**
MDVR Moldovita 80.52 315 ⇓*iP* **P 18 36 57.4 +0.1**
VYHS Vyhne 80.54 319 *eP* **P 18 36 58.0 +0.7**
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 80.54 319 *eP* **P 18 36 58.0 +0.7**
MORC Moravsky Berou 80.67 321 *eP* **P 18 36 57.3 -0.7**
comp=Z,2.0nm,0.8s
MORC Moravsky Berou 80.67 321 ⇑*iP* **P 18 36 57.3 -0.7**
MORC Moravsky Berou 80.67 321 ⇑P **P 18 36 57.3 -0.7**
SUMG Summit 81.01 355 *eP* **P 18 36 59.9 0.0**
comp=Z,4.9nm,0.8s
SUMG Summit 81.01 355 *i* P **P 18 37 00.0 +0.2**
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 81.01 355 *i* P **P 18 37 00.0 +0.2**
comp=Z,13nm,0.8s
VRAC Vranov 81.43 321 P **P 18 37 02.9 +0.9**
comp=Z,3.4nm,0.7s,baz=53,slow=5.9,SNR=5.2
GOPC GO Pecny, Ondr 82.14 322 *eP* **P 18 37 07.0 +1.3**
GOPC GO Pecny, Ondr 82.14 322 *eP* **P 18 37 07.0 +1.3**
LIT Litokhoron 82.14 311 *eP* **P 18 37 05.0 -1.0**
comp=Z,5.1nm,0.7s
CLL Collm 82.37 324 *eP* **P 18 37 06.7 -0.1**
comp=Z,2.7nm,0.7s
FNA Florina 82.58 312 *eP* **P 18 37 07.5 -0.8**
comp=Z,2.2nm,0.7s
IDI Anoyia 82.62 306 P **P 18 37 07.6 -1.0**
comp=Z,2.8nm,0.6s,baz=29,slow=9.5,SNR=12
AGG Agios Georgios 82.75 310 *eP* **P 18 37 07.7 -1.4**
comp=Z,6.9nm,0.9s
TTG Podgorica 83.20 314 *eP* **P 18 37 10.2 -1.0**
comp=Z,8.2nm,1.1s
KHC Kasperske Hory 83.22 322 *eP* **P 18 37 12.3 +1.0**
KHC Kasperske Hory 83.22 322 *eP* **P 18 37 12.3 +1.0**
GEC2 GERESS Array S 83.30 322 *eP* **P 18 37 11.7 -0.1**
comp=Z,5.2nm,1.4s
GERES GERESS Array B 83.30 322 *eP* **P 18 37 11.6 -0.3**
GERES GERESS Array B 83.30 322 P **P 18 37 11.8 0.0**
comp=Z,0.7nm,0.7s,baz=46,slow=3.9,SNR=6.8
ITM Ithomi 83.89 308 *eP* **P 18 37 13.6 -1.3**
comp=Z,14nm,0.7s
FUORN Ofenpass-Fuorn 86.47 321 *eP* **P 18 37 28.5 +0.7**
comp=Z,17nm,1.8s
LTY Liberty 86.51 38 *eP* **P 18 37 28.8 +1.1**
comp=Z,11nm,1.4s
DAVOX Davos/Dischmat 86.59 321 P **P 18 37 29.1 +0.8**
comp=Z,0.9nm,0.4s,baz=270,slow=1.0,SNR=3.2
B08A Colville Reser 86.60 37 *eP* **P 18 37 29.4 +1.2**
comp=Z,4.8nm,1.0s
D08A Wollman Farm, 87.59 38 *eP* **P 18 37 33.5 +0.6**
comp=Z,6.8nm,0.8s
HAWA Hanford 87.65 38 *eP* **P 18 37 34.8 +1.7**
comp=Z,6.8nm,0.8s
NEW Newport 87.84 36 *eP* **P 18 37 35.3 +1.2**
comp=Z,8.2nm,0.8s
NEW Newport 87.84 36 P **P 18 37 35.9 +1.8**
comp=Z,9.1nm,0.8s,baz=313,slow=4.1,SNR=9.3
E08A Dider Farm, El 87.85 38 *eP* **P 18 37 35.2 +1.1**
comp=Z,6.9nm,0.7s
E09A Wood Farm, Sta 88.34 38 *eP* **P 18 37 37.6 +1.2**
comp=Z,5.7nm,0.8s
WALA Waterton Lakes 89.00 34 *eP* **P 18 37 41.2 +1.5**
comp=Z,6.8nm,1.0s
WDD Wied Dalam 89.72 310 *eP* **P 18 37 44.1 +1.0**
comp=Z,225nm,1.1s
FCC Fort Churchill 89.72 19 *eP* **P 18 37 42.2 -0.3**
comp=Z,6.8nm,1.3s
BMO Blue Mountains 89.82 39 *eP* **P 18 37 44.8 +1.2**
comp=Z,5.4nm,0.9s
J08A Circle Bar Ran 90.05 40 *eP* **P 18 37 46.0 +1.3**
comp=Z,5.2nm,0.8s
FFC Flin Flon 90.29 25 *eP* **P 18 37 45.4 +0.1**
comp=Z,3.4nm,1.0s
FFC Flin Flon 90.29 25 *i* P **P 18 37 46.3 +0.9**
PLID Pearl Lake 90.41 38 *eP* **P 18 37 47.6 +1.2**
comp=Z,6.0nm,0.9s
MSO Missoula 90.42 36 *eP* **P 18 37 47.4 +1.1**
comp=Z,4.8nm,0.9s
HLID Hailey 92.25 39 *eP* **P 18 37 57.0 +2.0**
comp=Z,6.5nm,0.8s
KVN Kaiserville 92.86 44 *eP* **P 18 37 59.1 +1.3**
comp=Z,3.3nm,1.1s
NVAR Mina Array Bea 93.10 44 *eP* **P 18 37 59.4 +0.4**
NVAR Mina Array Bea 93.10 44 P **P 18 38 00.9 +1.9**
comp=Z,1.1nm,0.8s,baz=278,slow=5.2,SNR=6.5
PDAR Pinedale Array 95.44 37 P **P 18 38 09.6 -0.1**
comp=Z,0.4nm,0.8s,baz=52,slow=1.5,SNR=2.6
DBIC Dimbokro 121.06 296 PKhKP PKPpre 18 43 33.9
comp=Z,3.4nm,0.8s,baz=124,slow=3.6,SNR=3.1
MDP Montagnes des 148.97 354 PKPbc **PKiKP 18 44 33.3 -0.4**
comp=Z,12nm,1.0s,baz=125,slow=2.3,SNR=4.6
PTGA Pitinga 154.54 10 PKPbc **PKiKP 18 44 45.3 +0.2**
comp=Z,0.9nm,0.3s,baz=97,slow=4.6,SNR=4.7

ROM 04 18:35:15.0±0.1, 43°.829N±0°.003×11°.997E±0°.007, h10km, ML0.5/4, Error ellipse: s-maj=0.6km s-min=0.2km az=256.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.13**	**305**	P	Pg	18 35 18.6	+0.5
SFI				S	Sg	18 35 21.2	+0.8
SFI				AML	AML		
	comp=E,31μm,0.5s						
SFI				AML	AML		
	comp=N,33μm,0.6s						
SFI				AML	AML		
	comp=N,33μm,0.6s						
SFI				AML	AML		
	comp=E,31μm,0.5s						
ASQU	**Asqua**	**0.15**	**258**	P	Pg	18 35 19.0	+0.6
ASQU				S	Sg	18 35 21.8	+0.9
ASQU				AML	AML		
	comp=E,45μm,0.2s						
ASQU				AML	AML		
	comp=N,24μm,0.4s						
ASQU				AML	AML		
	comp=E,45μm,0.2s						
ASQU				AML	AML		
	comp=N,24μm,0.4s						
ASQU	**Asqua**	**0.15**	**258**	P	Pg	18 35 19.1	+0.6
CRE	**Caprese Michel**	**0.21**	**189**	P	Pg	18 35 20.1	+0.6
CRE				S	Sg	18 35 23.9	+1.4
CRE				AML	AML		
	comp=E,20μm,0.6s						
CRE				AML	AML		
	comp=N,25μm,0.9s						
CRE				AML	AML		
	comp=N,25μm,0.9s						
CRE				AML	AML		
	comp=E,20μm,0.6s						
CRE	**Caprese Michel**	**0.21**	**189**	P	Pg	18 35 20.1	+0.6
PARC	**Parchiule**	**0.25**	**136**	P	Pg	18 35 20.7	+0.5
PARC				S	Sb	18 35 25.0	-1.0
PARC				AML	AML		
	comp=E,14μm,1.3s						
PARC				AML	AML		
	comp=N,14μm,1.5s						
PARC				AML	AML		
	comp=N,14μm,1.5s						
PARC				AML	AML		
	comp=E,14μm,1.3s						
PARC	**Parchiule**	**0.25**	**136**	P	Pg	18 35 20.7	+0.6
SACS	**San Casciano d**	**0.98**	**184**	P	Pg	18 35 28.6	-5.3

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*IDC **04** 18:37:49.0±2.5, 60°.66N×152°.28W, h65km±23km, mb3.3/5, mb1 3.7/9, mb1mx3.2/64, mbtmp3.7/9, Error ellipse: s-maj=33.1km s-min=18.9km az=78.0*
*ISCJB **04** 18:37:49.1±0.3, 60°.54N±0°.02×151°.57W±0°.06, h92km±4km, mb3.4/5, Error ellipse: s-maj=4.9km s-min=3.9km az=18.3*
*NEIC **04** 18:37:51.3±0.0, 60°.57N×151°.67W, h70km, ML3.3(AEIC), After AEIC.*

ISC 04 18:37:50.3±0.8, 60°.56N±0°.04×151°.66W±0°.05, h77km±8km, n93, σ1°.32/102, mb3.6/5, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDN	**Redoubt North**	**0.55**	**266**	*e*Pn	**Pn**	**18 38 03.9**	**-0.5**
RSO	**Redoubt South**	**0.55**	**260**	*e*Pn	**Pn**	**18 38 04.1**	**-0.3**
SLKM	**Skilak Lake**	**0.71**	**93**	*e*Pn	**Pn**	**18 38 05.7**	**-0.2**
BRLK	**Bradley Lake**	**0.89**	**154**	*e*Pn	**Pn**	**18 38 07.9**	**0.0**
BRLK				*e*Pn	Pn	18 38 08.0	+0.1
BRLK				*e*Sn	**Sn**	**18 38 21.7**	**+0.9**
BRLK				*e*Sn	Sn	18 38 21.7	+0.9
HOM	**Homer**	**0.90**	**179**	*e*Pn	**Pn**	**18 38 08.5**	**+0.5**
HOM				*e*Sn	**Sn**	**18 38 22.7**	**+1.6**
SUA	**Susitna One**	**1.01**	**26**	*e*Pn	**Pn**	**18 38 09.6**	**+0.2**
SUA				*e*Sn	**Sn**	**18 38 24.3**	**+0.6**
RC01	**Rabbit Creek A**	**1.08**	**60**	*e*Pn	**Pn**	**18 38 10.2**	**0.0**
RC01				*e*Sn	**Sn**	**18 38 25.6**	**+0.5**
SEW	**Seward**	**1.19**	**112**	*e*Pn	**Pn**	**18 38 10.8**	**-0.6**
PTE	**Portage**	**1.33**	**76**	*e*Pn	**Pn**	**18 38 13.6**	**+0.3**
PMR	**Palmer**	**1.61**	**49**	*e*Pn	**Pn**	**18 38 16.7**	**-0.2**
PMR				*e*Sn	**Sn**	**18 38 36.7**	**-0.3**
KNK	**Knik Glacier**	**1.78**	**60**	*e*Pn	**Pn**	**18 38 19.1**	**-0.1**
KNK				*e*Pn	Pn	18 38 19.1	-0.1
KNK				*e*Sn	**Sn**	**18 38 39.2**	**-2.0**
KNK				*e*Sn	Sn	18 38 41.0	-0.2
GHO	**Glory Hole Cre**	**1.80**	**46**	*e*Pn	**Pn**	**18 38 19.3**	**-0.2**
GHO				*e*Pn	Pn	18 38 19.5	0.0
SML	**Sawmill**	**2.04**	**51**	*e*Pn	**Pn**	**18 38 22.5**	**-0.2**
PPLA	**Purkeypile**	**2.36**	**354**	*e*Pn	**Pn**	**18 38 27.8**	**+0.8**
SCM	**Sheep Creek Mo**	**2.46**	**57**	*e*Pn	**Pn**	**18 38 28.1**	**-0.2**
JPK	**Jack Peak**	**2.53**	**76**	*e*Pn	**Pn**	**18 38 28.2**	**-1.0**
HUR	**Hurricane**	**2.61**	**21**	*e*Pn	**Pn**	**18 38 31.3**	**+1.0**
VMT	**TAPS TI Valdez**	**2.65**	**76**	*e*Pn	**Pn**	**18 38 30.1**	**-0.6**
KDAK	**Kodiak Island**	**2.82**	**190**	*e*Pn	**Pn**	**18 38 32.6**	**-0.5**
KDAK	**Kodiak Island**	**2.82**	**190**	P	**Pn**	**18 38 32.2**	**-1.0**
	3.8nm,0.3s,baz=42,slow=7.3,SNR=79						
KDAK				S	**Sn**	**18 39 05.0**	**-1.1**
	12nm,0.3s,baz=1.2,slow=13,SNR=8.0						
CAST	**Castle Rocks**	**2.88**	**356**	*e*Pn	**Pn**	**18 38 34.7**	**+0.8**
MID	**Middleton Isla**	**2.91**	**111**	*e*Pn	**Pn**	**18 38 34.8**	**+0.6**
EYAK	**Cordova Ski Ar**	**2.92**	**88**	*e*Pn	**Pn**	**18 38 32.8**	**-1.6**
DIV	**Divide**	**2.94**	**76**	*e*Pn	**Pn**	**18 38 33.8**	**-1.0**
KLU	**Klutina**	**2.95**	**69**	*e*Pn	**Pn**	**18 38 34.3**	**-0.6**
TT01	**Tatalina**	**3.14**	**321**	*e*Pn	**Pn**	**18 38 37.7**	**+0.3**
RND	**Reindeer**	**3.15**	**24**	*e*Pn	**Pn**	**18 38 38.1**	**+0.4**
PS12	**TAPS Pump St12**	**3.30**	**71**	*e*Pn	**Pn**	**18 38 39.2**	**-0.5**
PS11	**TAPS Pump St11**	**3.35**	**60**	*e*Pn	**Pn**	**18 38 40.7**	**+0.4**
MCK	**McKinley**	**3.43**	**21**	*e*Pn	**Pn**	**18 38 41.9**	**+0.4**
OHAK	**Old Harbor**	**3.45**	**195**	*e*Pn	**Pn**	**18 38 40.5**	**-1.2**
BPAW	**Bear Paw Mtn.**	**3.57**	**5**	*e*Pn	**Pn**	**18 38 43.5**	**+0.2**
HARP	**HAARP**	**3.63**	**56**	*e*Pn	**Pn**	**18 38 44.2**	**+0.1**
HMT	**Hamilton**	**3.67**	**90**	*e*Pn	**Pn**	**18 38 42.8**	**-1.9**
BWN	**Browne**	**3.77**	**15**	*e*Pn	**Pn**	**18 38 46.4**	**+0.5**
BWN				*e*Pn	Pn	18 38 46.8	+0.9
PAX	**Paxson**	**3.81**	**48**	*e*Pn	**Pn**	**18 38 47.1**	**+0.5**
PS10	**TAPS Pump St10**	**4.00**	**41**	*e*Pn	**Pn**	**18 38 51.0**	**+1.9**
SII	**Sitkinak Islan**	**4.22**	**199**	*e*Pn	**Pn**	**18 38 52.9**	**+0.7**
WRH	**Wood River Hil**	**4.26**	**21**	*e*Pn	**Pn**	**18 38 53.5**	**+0.8**
MCARA	**McCarthy VSAT**	**4.29**	**75**	*e*Pn	**Pn**	**18 38 52.5**	**-0.6**
HDA	**Harding Lake**	**4.44**	**27**	*e*Pn	**Pn**	**18 38 56.0**	**+0.9**
MENT	**Mentasta**	**4.47**	**54**	*e*Pn	**Pn**	**18 38 55.4**	**-0.1**
CCB	**Clear Creek Bu**	**4.47**	**22**	*e*Pn	**Pn**	**18 38 56.2**	**+0.7**
MLY	**Manley**	**4.51**	**5**	*e*Pn	**Pn**	**18 38 56.7**	**+0.6**
RIDG	**Independent Ri**	**4.52**	**42**	*e*Pn	**Pn**	**18 38 57.2**	**+0.9**
PS08	**TAPS Pump Stn8**	**4.58**	**27**	*e*Pn	**Pn**	**18 38 57.4**	**+0.4**
BALM	**Baldy**	**4.59**	**80**	*e*Pn	**Pn**	**18 38 56.0**	**-1.2**
BALM				*e*Pn	Pn	18 38 56.1	-1.2
COLA	**College**	**4.67**	**20**	*e*Pn	**Pn**	**18 38 58.8**	**+0.6**
MDM	**Murphy Dome**	**4.69**	**18**	*e*Pn	**Pn**	**18 38 59.2**	**+0.6**
DOT	**Dot Lake**	**4.73**	**46**	*e*Pn	**Pn**	**18 38 59.2**	**+0.2**
ILAR	**Eielson Array**	**4.77**	**25**	*e*Pn	**Pn**	**18 38 59.6**	**+0.1**
ILAR	**Eielson Array**	**4.77**	**25**	P	**Pn**	**18 38 59.5**	**-0.1**
	3.7nm,0.3s,baz=208,slow=13,SNR=138						
ILAR				S	**Sn**	**18 39 50.8**	**-2.6**
	1.9nm,0.3s,baz=222,slow=19,SNR=7.3						
ILB	**Eielson Array**	**4.77**	**25**	*e*Sn	**Sn**	**18 39 53.1**	**-0.3**
SCRK	**Sand Creek**	**4.96**	**43**	*e*Pn	**Pn**	**18 39 02.2**	**-0.1**
CTGM	**Chitina Glacie**	**5.08**	**81**	*e*Pn	**Pn**	**18 39 03.4**	**-0.6**
CTGM				*e*Pn	Pn	18 39 03.5	-0.5
BCA3	**Beaver Creek A**	**5.32**	**57**	*e*Pn	**Pn**	**18 39 06.8**	**-0.2**
BCAR	**Beaver Creek A**	**5.32**	**57**	*e*Pn	**Pn**	**18 39 06.4**	**-0.7**
PS06	**TAPS Pump Stn6**	**5.39**	**8**	*e*Pn	**Pn**	**18 39 09.2**	**+1.2**
IMAR	**Indian Mountai**	**5.53**	**351**	*e*Pn	**Pn**	**18 39 10.7**	**+0.7**
PRP	**Porcupine Dome**	**5.71**	**27**	*e*Pn	**Pn**	**18 39 13.0**	**+0.5**
BCPM	**Bancas Point**	**6.02**	**91**	*e*Pn	**Pn**	**18 39 16.6**	**-0.1**
PNL	**Peninsula**	**6.20**	**93**	*e*Pn	**Pn**	**18 39 19.0**	**-0.1**
EGAK	**Eagle**	**6.42**	**44**	*e*Pn	**Pn**	**18 39 22.1**	**0.0**
FYU	**Fort Yukon**	**6.68**	**23**	*e*Pn	**Pn**	**18 39 26.0**	**+0.5**
DAWY	**Dawson**	**6.71**	**53**	*e*Pn	**Pn**	**18 39 26.1**	**0.0**
HYT	**Haines Junctio**	**6.96**	**82**	*e*Pn	**Pn**	**18 39 29.1**	**-0.5**
SDPT	**Sand Point**	**7.01**	**226**	*e*Pn	**Pn**	**18 39 32.8**	**+2.6**
ANM	**Nome**	**7.49**	**308**	*e*Pn	**Pn**	**18 39 38.2**	**+1.4**
BM3	**Burnt Mountain**	**7.55**	**21**	*e*Pn	**Pn**	**18 39 37.3**	**-0.2**
BMAR	**Burnt Mountain**	**7.56**	**21**	*e*Pn	**Pn**	**18 39 37.6**	**0.0**
TOLK	**Toolik Lake Re**	**8.17**	**5**	*e*Pn	**Pn

0.1nm,0.4s,baz=316,slow=7.0,SNR=3.6
FIA0 FINESS Array S 58.31 1 *e*P **P 18 47 35.7 -0.8**
FINES FINESS Array B 58.31 1 P **P 18 47 35.7 -0.8**
1.1nm,0.9s,baz=19,slow=8.8,SNR=3.9
AKASG Malin Array Be 69.09 359 P **P 18 48 46.7 -0.8**
0.3nm,0.4s,baz=3.1,slow=6.6,SNR=4.0

ISCJB ***04*** *18:48:46.6±0.3, 43°.98N±0°.02×7°.41E±0°.02, h10km±2km, Error ellipse: s-maj=2.9km s-min=2.7km az=169.4*
ROM ***04*** *18:48:46.8±0.2, 43°.999N±0°.009×7°.46E±0°.01, h8km, ML2.0/10, Error ellipse: s-maj=1.2km s-min=0.2km az=222.0*
GEN ***04*** *18:48:47.2, 43°.97N×7°.43E, h6km±2km, Ml1.8*
LDG ***04*** *18:48:47.6±0.1, 43°.98N×7°.46E, h2km, Md2.7/2, Ml2.7/15, Error ellipse: s-maj=1.2km s-min=1.1km az=149.0*
ISC 04 18:48:46.9±0.8, 43°.97N±0°.02×7°.45E±0°.02, h14km±5km, n65, σ0s62/98, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBF	**Sospel**	**0.10**	**185**	*e*Pg	**Pg**	**18 48 49.7**	**-0.5**
SBF				*e*Sg	**Sg**	**18 48 51.6**	**-0.8**
1μm,0.2s							
NEGI	**Seborga**	**0.22**	**122**	P	**Pg**	**18 48 52.0**	**+0.2**
NEGI				S	**Sg**	**18 48 55.5**	**+0.4**
NEGI	**Seborga**	**0.22**	**122**	P	**Pg**	**18 48 52.0**	**+0.2**
NEGI				S	**Sg**	**18 48 55.5**	**+0.4**
NEGI				AML	AML		
comp=E,454μm,0.5s							
NEGI				AML	AML		
comp=N,704μm,0.2s							
NEGI				AML	AML		
comp=E,454μm,0.5s							
NEGI				AML	AML		
comp=N,704μm,0.2s							
NEGI				AML	AML		
comp=N,704μm,0.2s							
NEGI				AML	AML		
comp=E,454μm,0.5s							
NEGI	**Seborga**	**0.22**	**122**	P	**Pg**	**18 48 52.0**	**+0.2**
NEGI	**Seborga**	**0.22**	**122**	S	**Sg**	**18 48 55.6**	**+0.4**
ENR	**Entracque**	**0.26**	**356**	P	**Pg**	**18 48 52.5**	**-0.1**
ENR				S	**Sg**	**18 48 56.1**	**-0.3**
ENR	**Entracque**	**0.26**	**356**	P	**Pg**	**18 48 52.5**	**-0.1**
ENR				S	**Sg**	**18 48 56.1**	**-0.3**
ENR				AML	AML		
comp=E,1005μm,0.1s							
ENR				AML	AML		
comp=N,1028μm,0.2s							
ENR				AML	AML		
comp=E,1005μm,0.1s							
ENR				AML	AML		
comp=N,1028μm,0.2s							
ENR				AML	AML		
comp=E,1005μm,0.1s							
ENR				AML	AML		
comp=N,1028μm,0.2s							
ENR	**Entracque**	**0.26**	**356**	P	**Pg**	**18 48 52.5**	**-0.1**
ENR	**Entracque**	**0.26**	**356**	S	**Sg**	**18 48 56.1**	**-0.3**
MGRO	**Montegrosso**	**0.27**	**73**	P	**Pg**	**18 48 52.8**	**+0.1**
MGRO				S	**Sg**	**18 48 56.9**	**+0.1**
MGRO	**Montegrosso**	**0.27**	**73**	P	**Pg**	**18 48 52.9**	**+0.1**
MGRO				S	**Sg**	**18 48 57.0**	**+0.3**
MGRO				AML	AML		
comp=E,274μm,0.5s							
MGRO				AML	AML		
comp=N,362μm,1.0s							
MGRO				AML	AML		
comp=E,274μm,0.5s							
MGRO				AML	AML		
comp=N,362μm,1.0s							
MGRO				AML	AML		
comp=E,274μm,0.5s							
MGRO				AML	AML		
comp=N,362μm,1.0s							
MGRO	**Montegrosso**	**0.27**	**73**	P	**Pg**	**18 48 52.9**	**+0.1**
MGRO	**Montegrosso**	**0.27**	**73**	S	**Sg**	**18 48 57.0**	**+0.1**
STV	**Sant Anna di V**	**0.29**	**343**	P	**Pg**	**18 48 53.0**	**-0.1**
STV				S	**Sg**	**18 48 56.7**	**-0.6**
STV	**Sant Anna di V**	**0.29**	**343**	P	**Pg**	**18 48 53.0**	**-0.1**
STV	**Sant Anna di V**	**0.29**	**343**	P	**Pg**	**18 48 53.0**	**-0.1**
STV				S	**Sg**	**18 48 56.8**	**-0.6**
STV				AML	AML		
comp=E,886μm,0.5s							
STV				AML	AML		
comp=N,804μm,0.2s							
STV				AML	AML		
comp=E,886μm,0.5s							
STV				AML	AML		
comp=N,804μm,0.2s							
STV				AML	AML		
comp=N,804μm,0.2s							
STV				AML	AML		
comp=E,886μm,0.5s							
STV	**Sant Anna di V**	**0.29**	**343**	S	**Sg**	**18 48 56.8**	**-0.6**
IMI	**Imperia**	**0.33**	**99**	P	**Pg**	**18 48 53.8**	**+0.2**
IMI				S	**Sg**	**18 48 58.8**	**+0.5**
GBOS	**Grotte di Boss**	**0.40**	**46**	P	**Pg**	**18 48 55.1**	**+0.2**
GBOS				S	**Sg**	**18 49 00.3**	**0.0**
GBOS	**Grotte di Boss**	**0.40**	**46**	P	**Pg**	**18 48 55.0**	**+0.2**
GBOS				S	**Sg**	**18 49 00.3**	**0.0**
GBOS				AML	AML		
comp=E,281μm,0.2s							
GBOS				AML	AML		
comp=N,147μm,0.2s							
GBOS				AML	AML		
comp=E,281μm,0.2s							
GBOS				AML	AML		
comp=N,147μm,0.2s							
GBOS				AML	AML		
comp=E,281μm,0.2s							
GBOS				AML	AML		
comp=N,147μm,0.2s							
GBOS	**Grotte di Boss**	**0.40**	**46**	P	**Pg**	**18 48 55.1**	**+0.2**
GBOS	**Grotte di Boss**	**0.40**	**46**	S	**Sg**	**18 49 00.5**	**+0.2**
RORO	**Rocca Rossa**	**0.47**	**72**	P	**Pg**	**18 48 56.5**	**+0.3**
RORO				S	**Sg**	**18 49 02.7**	**+0.2**
RORO	**Rocca Rossa**	**0.47**	**72**	P	**Pg**	**18 48 56.4**	**+0.3**
RORO				S	**Sg**	**18 49 03.0**	**+0.5**
RORO				AML	AML		
comp=E,232μm,0.9s							
RORO				AML	AML		
comp=N,324μm,1.6s							
RORO				AML	AML		
comp=E,232μm,0.9s							
RORO				AML	AML		
comp=N,324μm,1.6s							
RORO				AML	AML		
comp=E,232μm,0.9s							
RORO				AML	AML		
comp=N,324μm,1.6s							
RORO	**Rocca Rossa**	**0.47**	**72**	P	**Pg**	**18 48 56.6**	**+0.3**
RORO	**Rocca Rossa**	**0.47**	**72**	S	**Sg**	**18 49 03.2**	**+0.6**
DOI	**San Damiano**	**0.56**	**345**	P	**Pg**	**18 48 57.9**	**+0.1**
DOI				S	**Sg**	**18 49 05.0**	**-0.4**
DOI				AML	AML		
comp=E,297μm,0.7s							
DOI				AML	AML		
comp=N,298μm,0.6s							
DOI				AML	AML		
comp=E,297μm,0.7s							
DOI				AML	AML		
comp=N,298μm,0.6s							
DOI	**San Damiano**	**0.56**	**345**	P	**Pg**	**18 48 58.0**	**+0.1**
DOI	**San Damiano**	**0.56**	**345**	S	**Sg**	**18 49 05.0**	**-0.4**
PZZ	**Stroppo**	**0.59**	**336**	P	**Pg**	**18 48 58.5**	**0.0**
PZZ				S	**Sg**	**18 49 06.0**	**-0.4**
PZZ	**Stroppo**	**0.59**	**336**	P	**Pg**	**18 48 58.5**	**0.0**
PZZ				S	**Sg**	**18 49 06.3**	**-0.1**
PZZ				AML	AML		
comp=E,164μm,1.3s							
PZZ				AML	AML		
comp=N,238μm,1.5s							
PZZ				AML	AML		
comp=E,164μm,1.3s							
PZZ				AML	AML		
comp=N,238μm,1.5s							
PZZ				AML	AML		
comp=N,238μm,1.5s							
PZZ				AML	AML		
comp=E,164μm,1.3s							
PZZ	**Stroppo**	**0.59**	**336**	P	**Pg**	**18 48 58.5**	**0.0**
PZZ	**Stroppo**	**0.59**	**336**	S	**Sg**	**18 49 06.1**	**-0.3**
PZZ	**Stroppo**	**0.59**	**336**	S	**Sg**	**18 49 07.0**	**+0.5**
FRF	**La Foret Royal**	**0.71**	**235**	*e*Pg	**Pg**	**18 49 00.8**	**+0.1**
FRF	**La Foret Royal**	**0.71**	**235**	*e*P	**Pn**	**18 49 03.0**	**+0.6**
FRF				*e*Sg	**Sg**	**18 49 10.2**	**+0.2**
comp=E,45nm,0.2s							
FRF				*e*Sn	**Sn**	**18 49 14.2**	**+1.1**
comp=E,38nm,0.2s							
QLNO	**Quiliano**	**0.74**	**61**	P	**Pg**	**18 49 01.3**	**+0.1**
QLNO				S	**Sg**	**18 49 11.0**	**-0.1**
QLNO				AML	AML		
comp=E,176μm,0.8s							
QLNO				AML	AML		
comp=N,106μm,1.2s							
QLNO				AML	AML		
comp=E,176μm,0.8s							
QLNO				AML	AML		
comp=N,106μm,1.2s							
QLNO				AML	AML		
comp=N,106μm,1.2s							
QLNO				AML	AML		
comp=E,176μm,0.8s							
QLNO	**Quiliano**	**0.74**	**61**	P	**Pg**	**18 49 01.4**	**+0.1**
MBDF	**Montbardon**	**0.90**	**328**	*e*Pg	**Pg**	**18 49 04.5**	**+0.1**
MBDF				*e*Sg	**Sg**	**18 49 16.5**	**+0.2**
comp=E,23nm,0.2s							
LMR	**La Mourre**	**0.93**	**228**	*e*Pg	**Pg**	**18 49 04.7**	**-0.1**
LMR				*e*Sg	**Sg**	**18 49 16.9**	**-0.1**
comp=E,47nm,0.2s							
LMR				*e*Sn	**Sn**	**18 49 19.5**	**+1.0**
comp=E,255nm,0.2s							
PCP	**Piancastagn**	**0.98**	**53**	P	**Pg**	**18 49 05.6**	**-0.2**
PCP				S	**Sg**	**18 49 17.5**	**-1.0**
PCP	**Piancastagn**	**0.98**	**53**	P	**Pg**	**18 49 05.5**	**-0.2**
PCP				AML	AML		
comp=E,99μm,0.6s							
PCP				AML	AML		
comp=N,109μm,0.2s							
PCP				AML	AML		
comp=E,99μm,0.6s							
PCP				AML	AML		
comp=N,109μm,0.2s							
PCP	**Piancastagn**	**0.98**	**53**	P	**Pg**	**18 49 05.6**	**-0.2**
PCP	**Piancastagn**	**0.98**	**53**	P	**Pb**	**18 49 06.0**	**+0.4**
RRL	**Rocca Remolon**	**1.06**	**334**	P	**Pb**	**18 49 07.0**	**-0.2**
RRL	**Rocca Remolon**	**1.06**	**334**	P	**Pb**	**18 49 07.5**	**+0.3**
MONC	**Moncucco Torin**	**1.16**	**17**	P	**Pg**	**18 49 09.9**	**+0.7**
MONC	**Moncucco Torin**	**1.16**	**17**	P	**Pg**	**18 49 10.1**	**+0.9**
SMRF	**Simiane la Rot**	**1.35**	**271**	*e*Pg	**Pb**	**18 49 12.9**	**+0.9**
SMRF	**Simiane la Rot**	**1.35**	**271**	*e*P	**Pg**	**18 49 13.7**	**+0.8**
SMRF				*e*Sg	**Sg**	**18 49 31.2**	**+0.7**
comp=N,39nm,0.2s							
ORIF	**Oris-en-Rattie**	**1.47**	**311**	*e*Pn	**Pn**	**18 49 13.7**	**+0.7**
ORIF	**Oris-en-Rattie**	**1.47**	**311**	*e*P	**Pg**	**18 49 15.5**	**+0.3**
ORIF				*e*Sg	**Sg**	**18 49 34.3**	**-0.1**
comp=N,7.5nm,0.2s							
LPG	**La Plagne**	**1.61**	**342**	*e*Pn	**Pn**	**18 49 15.9**	**+0.8**
LPG	**La Plagne**	**1.61**	**342**	*e*Pg	**Pg**	**18 49 17.9**	**0.0**
LPG				*e*Sg	**Sg**	**18 49 38.6**	**-0.2**
comp=N,4.7nm,0.3s							
LPL	**La Plagne**	**1.63**	**342**	*e*Pn	**Pn**	**18 49 15.9**	**+0.5**
LPL	**La Plagne**	**1.63**	**342**	*e*Pg	**Pg**	**18 49 18.4**	**+0.1**
LPL				*e*Sg	**Sg**	**18 49 39.3**	**-0.2**
comp=N,9.0nm,0.4s							
PGF	**Pioggiola**	**1.81**	**141**	*e*Pn	**Pn**	**18 49 16.6**	**-1.1**
PGF				*e*Sn	**Sn**	**18 49 38.1**	**-2.4**
comp=N,5.7nm,0.2s							
PGF	**Pioggiola**	**1.81**	**141**	P	**Pn**	**18 49 16.8**	**-1.0**
VIVF	**Saint-Julien-l**	**2.18**	**295**	*e*Pn	**Pn**	**18 49 24.0**	**+1.3**
VIVF	**Saint-Julien-l**	**2.18**	**295**	*e*Pg	**Pg**	**18 49 28.1**	**-0.6**
VIVF				*e*Sn	**Sn**	**18 49 49.9**	**+0.4**
comp=N,1.7nm,0.2s							
LASF	**Ste Croix**	**2.59**	**274**	*e*Pn	**Pn**	**18 49 28.8**	**+0.4**
LASF	**Ste Croix**	**2.59**	**274**	*e*Pg	**Pg**	**18 49 35.7**	**-0.9**
LASF				*e*Sn	**Sn**	**18 49 59.0**	**-0.6**
comp=N,4.2nm,0.2s							
CABF	**La Chapelle**	**2.81**	**341**	*e*Pg	**Pg**	**18 49 40.0**	**-0.8**
CABF				*e*Sg	**Sg**	**18 50 15.1**	**-2.2**
comp=N,0.8nm,0.3s							
MTLF	**Montolieu**	**3.85**	**262**	*e*Pn	**Pn**	**18 49 46.3**	**+0.7**
MTLF	**Montolieu**	**3.85**	**262**	*e*Pg	**Pg**	**18 49 59.2**	**-1.3**
MTLF				*e*Sn	**Sn**	**18 50 29.2**	**-1.3**
comp=N,1.9nm,0.2s							

NSSC ***04*** *19:08:26.9±0.8, 34°.55N×36°.34E, h29km±4km, ML1.5*
GRAL 04 19:08:24.4±0.3, 34°.71N×36°.30E, h8km±2km, MD2.8, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.52**	**214**	*e*P	Pg	19 08 33.9	-0.6
HWQ				*e*S	Sg	19 08 40.8	-0.5
BHL	**Bhannes**	**0.96**	**214**	*e*P	Pg	19 08 41.4	-1.5
BHL				*e*S	Sg	19 08 54.2	-1.2
DQRL	**Deir Qamar**	**1.17**	**211**	*e*P	Pg	19 08 44.9	-1.9
QASN	**Qassioun**	**1.17**	**181**	*e*P	Pg	19 08 46.3	-0.7
QASN				*e*S	Sg	19 08 58.6	-3.6
QASN				AML	AML	19 09 04.1	
comp=N,19nm,0.3s							
QASN				AML	AML	19 09 04.2	
comp=E,43nm,0.2s							
BRBR	**Barbar**	**1.33**	**193**	*e*P	Pn	19 08 47.9	-1.5
BRBR				*e*S	Sb	19 09 03.1	-3.7
BRBR				AML	AML	19 09 06.8	
comp=E,10.0nm,0.7s							
BRBR				AML	AML	19 09 07.9	
comp=N,9.9nm,0.4s							
TOTH	**TOTAH**	**1.35**	**175**	*e*P	Pn	19 08 48.0	-1.5
TOTH				*e*S	Sb	19 09 03.2	-4.1
TOTH				AML	AML	19 09 05.9	
comp=N,8.1nm,0.4s							
TOTH				AML	AML	19 09 10.1	
comp=E,9.4nm,0.3s							
SHBL	**Chebaa**	**1.43**	**199**	*e*P	Pn	19 08 49.2	-1.6

IDC 04 19:54:05.8±6.9, 4°.50S×11°.81W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/27, mbtmp3.7/4, Error ellipse: s-maj=208.9km s-min=93.8km az=152.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.25**	**219**	T	T	19 59 00.9	
baz=49,slow=74,SNR=270							
H10N1	**ASCENSION HYDR**	**4.25**	**219**	T	T	19 59 01.4	
baz=49,slow=74,SNR=184							
H10N3	**ASCENSION HYDR**	**4.26**	**219**	T	T	19 59 03.1	
baz=49,slow=74,SNR=204							
H10S1	**ASCENSION HYDR**	**5.24**	**212**	T	T	20 00 12.3	
baz=40,slow=74,SNR=34							
H10S2	**ASCENSION HYDR**	**5.25**	**212**	T	T	20 00 14.0	
baz=40,slow=74,SNR=27							
H10S3	**ASCENSION HYDR**	**5.25**	**213**	T	T	20 00 13.3	
baz=40,slow=74,SNR=27							
TORD	**Torodi Ar. Bea**	**22.07**	**37**	P	P	19 59 02.2	-0.3
0.9nm,0.7s,baz=224,slow=8.1,SNR=5.8							
GERES	**GERESS Array B**	**57.60**	**20**	P	P	20 03 58.7	+1.1
0.4nm,0.6s,baz=196,slow=6.1,SNR=6.2							
BRTR	**Keskin Array B**	**60.67**	**39**	P	P	20 04 20.1	+1.0
0.7nm,1.0s,baz=194,slow=11,SNR=4.3							
AKASG	**Malin Array Be**	**65.29**	**27**	P	P	20 04 47.9	-1.5
1.1nm,0.8s,baz=228,slow=7.3,SNR=7.1							
FINES	**FINESS Array B**	**71.96**	**18**	P	P	20 05 30.8	0.0
1.2nm,0.7s,baz=226,slow=7.6,SNR=6.6							

ISCJB ***04*** *19:56:41.2±0.8, 13°.23N±0°.06×88°.15W±0°.03, h3km±6km, Error ellipse: s-maj=10.6km s-min=2.7km az=19.2*
SNET ***04*** *19:56:41.3±1.3, 13°.32N×88°.12W, h6km±3km, ML3.5*
UCR ***04*** *19:56:41.3±1.6, 13°.31N×88°.12W, h5km±3km, ML3.6*
ISC 04 19:56:41.7±0.9, 13°.28N±0°.06×88°.13W±0°.02, h12km±7km, n36, σ0s57/56, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**0.19**	**327**	*e*P	**Pg**	**19 56 45.4**	**-0.6**
BLLM	**Bellamira**	**0.19**	**327**	*e*P	**Pg**	**19 56 45.4**	**-0.6**
VSM	**San Miguel**	**0.20**	**316**	*e*P	**Pg**	**19 56 46.4**	**+0.1**
VSM	**San Miguel**	**0.20**	**316**	*e*P	**Pg**	**19 56 46.4**	**+0.1**
LCY	**Lacayo**	**0.22**	**312**	*e*P	**Pg**	**19 56 46.4**	**0.0**
LCY				*e*S	**Sg**	**19 56 49.0**	**-0.5**
LCY	**Lacayo**	**0.22**	**312**	*e*P	**Pg**	**19 56 46.4**	**0.0**
LCY				*e*S	**Sg**	**19 56 49.0**	**-0.5**
LCND	**La Caada**	**0.23**	**83**	*e*P	**Pg**	**19 56 46.4**	**-0.2**
LCND				*e*S	**Sg**	**19 56 50.1**	**+0.1**
LCND				AML		19 56 52.2	
comp=Z,9μm,0.3s							
LCND	**La Caada**	**0.23**	**83**	*e*P	**Pg**	**19 56 46.4**	**-0.2**
LCND				*e*S	**Sg**	**19 56 50.1**	**+0.1**
LCND				AML		19 56 52.2	
comp=Z,9μm,0.3s							
PACA	**Pacayal**	**0.27**	**315**	*e*P	**Pg**	**19 56 46.9**	**-0.4**
PACA				*e*S	**Sg**	**19 56 51.1**	**+0.1**
PACA	**Pacayal**	**0.27**	**315**	*e*P	**Pg**	**19 56 46.9**	**-0.4**
PACA				*e*S	**Sg**	**19 56 51.1**	**+0.1**
CNCH	**Conchagua**	**0.29**	**91**	*e*P	**Pg**	**19 56 47.6**	**-0.1**
CNCH				*e*S	**Sb**	**19 56 52.4**	**-1.4**
CNCH				AML		19 56 57.5	
comp=Z,43μm,0.3s							
CNCH	**Conchagua**	**0.29**	**91**	*e*P	**Pg**	**19 56 47.6**	**-0.1**
CNCH				*e*P	**Pg**	**19 56 47.6**	**-0.1**
CNCH				*e*S	**Sg**	**19 56 52.2**	**+0.6**
CNCH				*e*S	**Sg**	**19 56 52.3**	**+0.6**
CNCH				AML		19 56 57.5	
comp=Z,43μm,0.3s							
TECA	**Tecapa**	**0.42**	**300**	*e*P	**Pg**	**19 56 50.1**	**0.0**
TECA	**Tecapa**	**0.42**	**300**	*e*P	**Pg**	**19 56 50.1**	**0.0**
CAHU	**Cacacuatique**	**0.49**	**351**	*e*P	**Pb**	**19 56 52.6**	**+0.1**
CSGN	**Cosiguina Volc**	**0.63**	**118**	*e*P	**Pb**	**19 56 54.6**	**-0.2**
PAVA	**Las Pavas**	**0.90**	**299**	*e*P	**Pg**	**19 56 58.5**	**-0.5**
PAVA				*e*S	**Sb**	**19 57 11.8**	**+0.5**
PAVA	**Las Pavas**	**0.90**	**299**	*e*P	**Pg**	**19 56 58.5**	**-0.5**
PAVA				*e*S	**Sb**	**19 57 11.8**	**+0.5**
LFRS	**El Faro**	**0.97**	**291**	*e*P	**Pg**	**19 56 59.6**	**-0.8**
LFRS				*e*S	**Sb**	**19 57 13.3**	**-0.2**
LFU	**La Fuente**	**1.07**	**296**	*e*P	**Pb**	**19 57 02.0**	**-0.2**
LFU	**La Fuente**	**1.07**	**296**	*e*P	**Pb**	**19 57 02.0**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.14**	**47**	*e*P	**Pg**	**19 57 01.9**	**-1.7**
CRIN	**San Cristobal**	**1.20**	**119**	*e*P	**Pg**	**19 57 03.9**	**-0.8**
CRIN				*e*S	**Sn**	**19 57 21.5**	**+0.8**
BOQS	**Boqueron**	**1.21**	**292**	*e*P	**Pg**	**19 57 04.0**	**-1.0**
BOQS				*e*S	**Sn**	**19 57 21.3**	**+0.1**
TEL3	**Telica 3**	**1.44**	**119**	*e*P	**Pn**	**19 57 06.7**	**-0.9**
SOMN	**Somoto**	**1.48**	**84**	*e*P	**Pn**	**19 57 08.8**	**+0.4**
SOMN				*e*S	**Sg**	**19 57 30.3**	**+0.9**
SNJE	**San Jose**	**1.55**	**292**	*e*P	**Pn**	**19 57 09.7**	**+0.3**
SNJE	**San Jose**	**1.55**	**292**	*e*P	**Pn**	**19 57 09.7**	**+0.3**
CEVE	**Cerro Verde**	**1.55**	**291**	*e*P	**Pn**	**19 57 09.8**	**+0.3**
CEVE	**Cerro Verde**	**1.55**	**291**	*e*P	**Pn**	**19 57 09.8**	**+0.3**
SBLS	**San Blas**	**1.56**	**291**	*e*P	**Pn**	**19 57 10.1**	**+0.6**
SBLS				*e*S	**Sg**	**19 57 31.9**	**0.0**
SBLS	**San Blas**	**1.56**	**291**	*e*P	**Pn**	**19 57 10.1**	**+0.6**
SBLS				*e*S	**Sg**	**19 57 31.9**	**0.0**
CNGN	**Cerro Negro**	**1.59**	**119**	*e*P	**Pn**	**19 57 09.5**	**-0.3**
CNGN				*e*S	**Sn**	**19 57 31.4**	**+1.0**
ESTN	**Estel**	**1.72**	**96**	*e*S	**Sb**	**19 57 35.1**	**0.0**
MOMN	**Momotombo**	**1.77**	**119**	*e*P	**Pn**	**19 57 11.8**	**-0.5**
MOMN				*e*S	**Sb**	**19 57 37.0**	**+0.5**
RCON	**San Juan de Ri**	**1.93**	**84**	*e*P	**Pn**	**19 57 15.5**	**+0.9**

ISCJB ***04*** *20:04:09.0±0.6, 37°.29N±0°.05×37°.11E±0°.04, h11km±4km, Error ellipse: s-maj=8.6km s-min=4.6km az=23.1*
DDA ***04*** *20:04:08.6, 37°.29N×37°.10E, h7km±1km, ML2.8*
ISK ***04*** *20:04:08.3, 37°.31N×37°.13E, h10km, ML1.7/7*
ISC 04 20:04:08.7±0.9, 37°.30N±0°.04×37°.12E±0°.03, h12km±7km, n14, σ0s43/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**149**	PG	**Pg**	**20 04 12.2**	**-0.1**
GAZ				SG	**Sg**	**20 04 14.9**	**0.0**
HCB	**Kahramanmara**	**0.17**	**285**	IAML_P			
comp=Z,5μm,0.1s							
HCB				*i* P	**Pg**	**20 04 12.8**	**+0.2**
HCB				*i* S	**Sg**	**20 04 15.1**	**-0.3**
KMRS	**Kahramanmaras**	**0.27**	**320**	PG	**Pg**	**20 04 14.3**	**0.0**
KMRS				SG	**Sg**	**20 04 18.4**	**+0.3**
AYKD	**Aykdinkavak**	**0.27**	**295**	IAML_P			
comp=Z,3μm,0.1s							
AYKD				*i* P	**Pb**	**20 04 15.3**	**-0.2**
AYKD				*i* S	**Sb**	**20 04 19.0**	**-1.1**
GZT	**Gaziantep**	**0.36**	**81**	IAML_P			
comp=Z,2μm,0.1s							
GZT				*i* P	**Pb**	**20 04 17.1**	**-0.1**
GZT				*i* S	**Sb**	**20 04 22.4**	**-0.4**
KAMA	**Osmaniye**	**0.38**	**252**	IAML_P			
comp=Z,3μm,0.1s							
KAMA				*i* P	**Pb**	**20 04 16.6**	**-0.7**
KUZU	**Kuzuini**	**0.53**	**184**	IAML_P			
comp=Z,4μm,0.1s							
KUZU				*i* P	**Pb**	**20 04 20.1**	**+0.2**
ANDN	**Andirin**	**0.67**	**295**	*i* P	**Pb**	**20 04 23.0**	**+0.6**
ANDN				*i* S	**Sb**	**20 04 31.7**	**0.0**
KOZT	**Kozan**	**1.04**	**280**	PG	**Pn**	**20 04 29.3**	**+0.2**
CEYT	**Ceyhan**	**1.13**	**256**	PN	**Pn**	**20 04 30.6**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.19**	**219**	PN	**Pn**	**20 04 31.6**	**+0.5**
DARE	**Darende-Malaty**	**1.30**	**13**	PN	**Pb**	**20 04 33.1**	**0.0**
URFA	**Urfa**	**1.37**	**84**	PN	**Pn**	**20 04 33.8**	**+0.2**
SVRC	**Sivrice-ELAZID**	**2.04**	**58**	PN	**Pn**	**20 04 43.2**	**+0.2**

MEX 04 20:12:37.1±0.3, 16°.25N×98°.27W, h7km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**44**	*i* P	Pg	20 12 40.7	-0.4
PNIG				*i* S	Sg	20 12 43.7	0.0
TLIG	**Tlapa**	**1.33**	**348**	*e*P	Pn	20 12 58.4	-3.9
TLIG				*i* S	Sb	20 13 15.7	-4.3
CAIG	**El Cayaco**	**2.07**	**293**	*i* P	Pn	20 13 09.1	-3.3
CAIG				*e*S	Sn	20 13 34.4	-4.1

MAN 04 20:16:39.6, 18°.01N×119°.07E, h1km, mb4.2, ML3.0, MS2.7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.60**	**103**	*e*P	Pn	20 17 07.1	-1.9
ABRA				*e*S	Sn	20 17 25.2	-5.3
APYP	**Conner**	**2.07**	**94**	*e*S	Sn	20 17 35.8	-6.2
SMPP	**San Manuel, Pa**	**2.41**	**140**	*e*P	Pn	20 17 20.5	+0.4
SMPP				*e*S	Sn	20 17 51.1	+0.8
CVP	**Callao Caves**	**2.64**	**96**	*e*P	Pn	20 17 22.9	-0.4
CAUP	**Cauayan**	**2.83**	**112**	*e*P	Pn	20 17 27.3	+1.3
CAUP				*e*S	Sn	20 18 02.4	+1.6
BALP	**Baler**	**3.29**	**133**	*e*P	Pn	20 17 34.6	+2.2

MAN 04 20:18:57.8, 12°.91N×122°.90E, h17km, mb4.2, ML3.0, MS2.7, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.47**	**332**	*e*P	Pb	20 19 08.0	+0.4
AUQP				*e*S	Sn	20 19 18.2

*NNC **04** 20:23:47.2±2.5, 42°.87N×85°.77E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=20.4km s-min=12.5km az=113.0*

ISC 04 20:23:44.2±0.4, 42°.64N±0°.04×85°.90E±0°.02, h10km, n133, σ1§95/151, mb4.2/47, MS3.0/4, 16C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.76**	**48**	Pg	**Pb**	**20 24 17.2**	**+0.5**
WMQ				Sg	**Sb**	**20 24 40.5**	**+1.6**
WMQ	comp=N,3μm,0.4s			smax	smax		
WMQ	comp=E,3μm,0.5s			smax	smax		
WMQ	**Urumqi**	**1.76**	**48**	*e*Pn	**Pn**	**20 24 16.9**	**+2.0**
WMQ				*e*Sn	**Sb**	**20 24 39.2**	**+0.3**
KTMS	**Ketmen**	**4.14**	**283**	*e*P	**Pn**	**20 24 50.4**	**+2.8**
KTMS	15nm,0.3s			*e*S	**Sb**	**20 25 52.1**	**+4.7**
PDGK	**Podgornoye**	**4.75**	**280**	⇑Pn	**Pn**	**20 24 57.9**	**+2.0**
PDGK	6.7nm,0.4s			⇑Pg	**Pg**	**20 25 14.4**	**-0.8**
PDGK	82nm,0.9s			⇓Lg	Lg	20 26 13.3	
DJR	**Jarkent**	**4.75**	**293**	*e*P	Pn	20 25 01.0	+5.1
DJR	20nm,0.5s			*e*S	**Sb**	**20 26 10.7**	**+5.8**
SHLS	**Shalkode**	**4.75**	**278**	*e*P	**Pn**	**20 24 55.5**	**-0.5**
SHLS	30nm,0.6s			*e*S	**Sb**	**20 26 01.3**	**-3.7**
ZSN	**Zaisan**	**4.86**	**352**	*e*P	**Pn**	**20 25 00.5**	**+3.1**
ZSN	4.2nm,0.6s			*e*S	**Sb**	**20 26 09.3**	**+1.4**
MK31	**Makanchi Array**	**4.88**	**329**	*e*Pn	**Pn**	**20 24 58.8**	**+1.1**
MK31				*e*Sn	**Sn**	**20 25 52.2**	**-2.0**
MK31	**Makanchi Array**	**4.88**	**329**	⇑Pn	**Pn**	**20 24 59.6**	**+1.9**
MK31	22nm,0.7s,baz=145,slow=14,SNR=226			⇑Sn	**Sn**	**20 25 53.6**	**-0.6**
MK31	26nm,0.6s,baz=148,slow=17,SNR=4.3			⇓Lg	Lg	20 26 16.3	
MK32	**Makanchi Array**	**4.88**	**329**	*e*Pn	**Pn**	**20 24 59.1**	**+1.5**
MK32				*e*Sn	**Sn**	**20 25 48.6**	**-5.6**
MKAR	**Makanchi Array**	**4.88**	**329**	*e*Pn	**Pn**	**20 24 58.9**	**+1.3**
MKAR				*e*Sn	**Sn**	**20 25 51.4**	**-2.8**
MKAR	**Makanchi Array**	**4.88**	**329**	Pn	**Pn**	**20 24 59.1**	**+1.5**
MKAR	4.0nm,0.3s,baz=149,slow=13,SNR=114			Sn	**Sn**	**20 25 48.6**	**-5.6**
MKAR	5.9nm,0.3s,baz=148,slow=22,SNR=4.6			Lg	Lg	20 26 15.0	
MKAR	26nm,0.3s,baz=131,slow=24,SNR=12			LR	LR	20 27 18.9	
MAKZ	**Makanchi**	**5.01**	**328**	*e*Pn	**Pn**	**20 25 01.1**	**+1.6**
MAKZ	comp=Z,84nm,21.8s,baz=192,slow=44			*e*Sn	**Sn**	**20 25 56.6**	**-0.8**
MAKZ	**Makanchi**	**5.01**	**328**	⇑Pn	**Pn**	**20 25 01.6**	**+2.1**
MAKZ	13nm,0.6s			⇑Lg	Lg	20 26 19.5	
KPKS	**Kokpek**	**5.35**	**281**	*e*P	Pb	20 25 13.6	-4.2
KPKS	7.0nm,0.2s			*e*S	**Sg**	**20 26 32.4**	**-3.5**
KAPS	**Kapalarasan**	**5.41**	**301**	*e*P	Pb	20 25 14.6	-4.1
KAPS	3.8nm,0.3s			*e*S	**Sg**	**20 26 33.9**	**-3.9**
SATY	**Saty**	**5.52**	**277**	*e*P	Pn	20 25 14.8	+8.2
SATY	43nm,0.7s			*e*S	**Sb**	**20 26 34.4**	**+7.3**
PRZ	**Przheval'sk**	**5.54**	**271**	*e*Pn	**Pn**	**20 25 07.9**	**+1.0**
KURS	**Kuram**	**5.72**	**281**	*e*P	Pb	20 25 20.1	-4.0
KURS	7.6nm,0.5s			*e*S	**Sg**	**20 26 43.6**	**-4.3**
TARG	**Taragay, Kyrgy**	**6.08**	**264**	*e*Pn	**Pn**	**20 25 15.9**	**+1.5**
TARG	54nm,0.7s			*e*Sn	**Sn**	**20 26 24.6**	**+0.2**
ARXS	**Arharly**	**6.08**	**288**	*e*P	Pb	20 25 25.9	-4.3
ARXS	9.7nm,0.5s			*e*S	Sb	20 26 53.5	+10
KDJ	**Kajisay**	**6.47**	**268**	*e*Pn	**Pn**	**20 25 21.0**	**+1.3**
KDJ	76nm,0.9s			*e*Sn	**Sn**	**20 26 32.6**	**-1.1**
KOTS	**Kotyrbulak**	**6.47**	**278**	*e*P	**Pb**	**20 25 35.2**	**-1.8**
KOTS	11nm,0.4s			*e*S	**Sg**	**20 27 09.4**	**-2.5**
MDOK	**Medeo**	**6.52**	**278**	⇑Pn	**Pn**	**20 25 22.2**	**+2.0**
MDOK	9.6nm,0.7s			⇑Lg	Lg	20 27 14.1	
MDOK	**Medeo**	**6.52**	**278**	*e*P	Pb	20 25 33.0	-4.8
MDOK	6.5nm,0.3s			*e*S	Sb	20 27 05.5	+10
KNDC	**Almaty**	**6.58**	**278**	⇑Pg	**Pg**	**20 25 50.4**	**+0.2**
KNDC	38nm,0.7s			⇑Lg	Lg	20 27 10.1	
NRN	**Naryn**	**7.47**	**264**	*e*Pn	**Pn**	**20 25 35.0**	**+1.6**
NRN				*e*Sn	**Sn**	**20 26 58.4**	**+0.1**
TKM2	**Tokmak 2**	**7.58**	**276**	⇑Pn	**Pn**	**20 25 36.4**	**+1.5**
TKM2	6.6nm,0.5s			⇑Sn	**Sn**	**20 27 02.8**	**+1.8**
TKM2	23nm,0.7s			⇓Lg	Lg	20 27 46.5	
KSH	**Kashi**	**8.12**	**251**	P	Pn	20 25 50.9	+8.7
KSH				S	**Sn**	**20 27 19.9**	**+5.8**
KSH	comp=N,120nm,0.9s			smax	smax		
KSH	comp=E,150nm,0.9s			smax	smax		
FRU1	**Bishkek**	**8.30**	**275**	*e*Pn	**Pn**	**20 25 45.3**	**+0.7**
AAK	**Ala-Archa**	**8.41**	**274**	*e*Pn	**Pn**	**20 25 47.1**	**+0.9**
AAK	**Ala-Archa**	**8.41**	**274**	Pn	**Pn**	**20 25 46.6**	**+0.5**
AAK	2.2nm,0.5s			⇑Lg	Lg	20 28 09.5	
AAK	**Ala-Archa**	**8.41**	**274**	Pn	**Pn**	**20 25 47.4**	**+1.3**
AAK	0.6nm,0.3s,baz=81,slow=5.1,SNR=7.7			Sn	**Sn**	**20 27 15.2**	**-6.0**
AAK	0.6nm,0.3s,baz=111,slow=17,SNR=3.5			Lg	Lg	20 28 08.2	
AAK	0.5nm,0.3s,baz=17,slow=19,SNR=4.7			LR	LR	20 29 22.4	
KURBB	**Kurchatov Arra**	**9.45**	**330**	Pn	**Pn**	**20 25 57.7**	**-2.5**
KURBB	0.1nm,0.3s,baz=148,slow=12,SNR=6.7			Sn	**Sn**	**20 27 42.8**	**-3.7**
KURBB	0.3nm,0.3s,baz=151,slow=19,SNR=7.8			Lg	Lg	20 28 37.9	
KURK	**Kurchatov**	**9.49**	**331**	*e*Pn	**Pn**	**20 26 01.4**	**+0.6**
KURK	**Kurchatov**	**9.49**	**331**	⇓Pn	**Pn**	**20 25 60.0**	**-0.9**
KURK	6.0nm,0.8s			⇑Sn	**Sn**	**20 27 46.2**	**-1.3**
KURK	24nm,0.9s			⇑Lg	Lg	20 28 36.3	
GTA	**Gaotai**	**11.00**	**102**	⇑P	**Pn**	**20 26 21.4**	**-0.3**
GTA	75nm,1.3s			pmax	pmax		
OTUK	**Ortayu**	**11.04**	**305**	⇓Pn	**Pn**	**20 26 23.6**	**+1.5**
OTUK	comp=Z,3.0nm,0.9s 2.6nm,0.6s			⇓Lg	Lg	20 29 34.4	
KKAR	**Karatay Array**	**11.30**	**278**	*e*Pn	**Pn**	**20 26 26.2**	**+0.5**
ZAA0	**Zalesovo Array**	**11.34**	**357**	*e*Pn	**Pn**	**20 26 25.6**	**-0.5**
ZAA0	18nm,0.9s			*e*Sn	**Sn**	**20 28 28.2**	**-4.4**
ZALV	**Zalesovo Beam**	**11.34**	**357**	Pn	**Pn**	**20 26 25.4**	**-0.7**
ZALV	0.6nm,0.3s,baz=182,slow=13,SNR=17			Sn	**Sn**	**20 28 28.8**	**-3.9**
ZALV	1.3nm,0.3s,baz=171,slow=23,SNR=8.1			Lg	Lg	20 29 40.9	
ZALV	baz=186,slow=32,SNR=2.3			LR	LR	20 31 21.9	
BTK	**Batken**	**11.62**	**262**	*e*Pn	**Pn**	**20 26 30.6**	**+0.5**
GAR	**Garm**	**12.35**	**258**	*e*Pn	**Pn**	**20 26 41.0**	**+0.9**
NIL	**Nilore**	**13.39**	**232**	*e*Pn	**Pn**	**20 26 54.0**	**-0.2**
DANN	**Dangsing**	**14.37**	**188**	*e*P	**P**	**20 27 14.1**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=356,slow=4.7,SNR=2.5						
LPAZ	**La Paz**	**145.61**	**312**	PKPbc	**PKPdf**	**20 43 22.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=30,slow=12,SNR=4.2						
CPUP	**Villa Florida**	**145.91**	**287**	PKPbc	**PKPdf**	**20 43 22.5**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=323,slow=5.0,SNR=3.6						

IDC 04 20:38:55.4±12.0, 5°.94N×95°.40E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.1/50, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=314.9km s-min=44.3km az=82.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.91**	**15**	Pn	Pn	20 42 00.3	-0.1
	0.1nm,0.3s,baz=210,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**46.13**	**125**	P	P	20 47 21.9	-0.1
	0.1nm,0.3s,baz=303,slow=9.4,SNR=8.8						
ASAR	**Alice Springs**	**47.73**	**130**	P	P	20 47 34.3	-0.1
	0.3nm,0.7s,baz=305,slow=7.9,SNR=3.9						

*IDC **04** 20:39:12.1±8.2, 29°.54N×104°.86E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/51, mbtmp3.6/4, Error ellipse: s-maj=220.9km s-min=64.2km az=19.0*

*BJI **04** 20:39:14.0±0.0, 29°.36N×105°.11E, h10km, ML3.5/13, Ms3.3/3, Ms7 3.2/2*

ISC 04 20:39:12.9±1.7, 29°.4N±0°.1×105°.16E±0°.09, h10km, n7, σ2§46/10, mb3.6/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.97**	**322**	Pg	**Pn**	**20 39 48.0**	**+1.6**
CD2				Sg	**Sb**	**20 40 14.0**	**+0.5**
CD2	comp=N,2μm,0.6s			smax	smax		
CD2	comp=E,2μm,0.6s			smax	smax		
XAN	**Xi'an**	**5.67**	**34**	Pg	**Pb**	**20 40 56.3**	**+4.4**
XAN				Sn	**Sn**	**20 41 39.9**	**-2.5**
XAN				Sg	**Sg**	**20 42 12.6**	**-2.3**
XAN	comp=N,62nm,0.9s			smax	smax		
XAN	comp=E,71nm,0.9s			smax	smax		
XAN	comp=N,140nm,5.0s			LR	LR		
XAN	comp=E,130nm,6.7s			LR	LR		
XAN	comp=Z,63nm,5.0s			LR	LR		
WMQ	**Urumqi**	**20.07**	**321**	*e*P	**P**	**20 43 46.8**	**+0.4**
MKAR	**Makanchi Array**	**24.90**	**321**	P	**P**	**20 44 34.5**	**-1.5**
	0.3nm,0.5s,baz=121,slow=10,SNR=5.1						
ZALV	**Zalesovo Beam**	**28.69**	**335**	P	**P**	**20 45 08.1**	**-1.8**
	0.5nm,0.4s,baz=128,slow=9.5,SNR=2.8						
FINES	**FINESS Array B**	**59.52**	**327**	P	**P**	**20 49 14.3**	**-1.8**
	2.0nm,1.1s,baz=104,slow=5.9,SNR=4.5						
YKA	**Yellowknife Ar**	**83.09**	**17**	P	**P**	**20 51 39.0**	**+0.5**
	0.1nm,0.3s,baz=335,slow=5.3,SNR=4.1						

IDC 04 20:39:25.8±3.4, 5°.28S×152°.17E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/39, mbtmp3.7/3, Error ellipse: s-maj=113.9km s-min=48.9km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.66**	**228**	P	P	20 44 27.9	-1.0
	0.7nm,0.7s,baz=54,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**25.37**	**222**	P	P	20 44 55.0	+0.1
	2.0nm,0.8s,baz=58,slow=8.8,SNR=18						
FITZ	**Fitzroy Crossi**	**28.88**	**242**	P	P	20 45 27.0	+0.6
	1.1nm,0.6s,baz=56,slow=10,SNR=5.6						
TORD	**Torodi Ar. Bea**	**149.85**	**287**	PKPbc	PKPbc	20 59 18.6	-0.5
	1.1nm,1.0s,baz=85,slow=2.3,SNR=3.9						

*ISCJB **04** 20:41:25.3±0.6, 19°.6S±0°.1×177°.6W±0°.1, h550km, mb3.9/18, Error ellipse: s-maj=17.4km s-min=12.2km az=142.2*

*IDC **04** 20:41:25.2±3.3, 19°.54S×177°.52W, h536km±37km, mb3.5/18, mb1 3.6/20, mb1mx3.5/37, mbtmp4.4/20, Error ellipse: s-maj=17.9km s-min=16.3km az=38.0*

ISC 04 20:41:26.0±0.7, 19°.5S±0°.1×177°.5W±0°.1, h550km, n45, σ0§82/47, mb4.0/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.22**	**258**	P	**P**	**20 44 38.3**	**+0.4**
	0.7nm,0.3s,baz=80,slow=19,SNR=8.5						
URZ	**Urewera**	**19.23**	**193**	P	**P**	**20 45 13.6**	**-1.4**
	0.7nm,0.3s,baz=306,slow=8.7,SNR=4.8						
CTA	**Charters Tower**	**34.06**	**263**	P	**P**	**20 47 25.4**	**+0.2**
	10nm,0.5s,baz=91,slow=11,SNR=20						
STKA	**Stephens Creek**	**38.63**	**243**	P	**P**	**20 48 02.5**	**-0.1**
	4.8nm,0.9s,baz=101,slow=9.0,SNR=7.8						
JAY	**Jayapura**	**44.19**	**287**	P	**P**	**20 48 46.8**	**-0.1**
	12nm,0.8s,baz=151,slow=17,SNR=4.2						
ASAR	**Alice Springs**	**45.20**	**256**	P	**P**	**20 48 54.2**	**-0.3**
	9.3nm,0.8s,baz=90,slow=7.8,SNR=99						
ASAR	1.6nm,0.7s,baz=101,slow=4.1,SNR=8.2			PcP	**PcP**	**20 50 22.9**	**-0.2**
WRA	**Warramunga Arr**	**45.20**	**261**	P	**P**	**20 48 53.6**	**-1.0**
	2.7nm,0.6s,baz=97,slow=7.9,SNR=62						
WRA	0.9nm,0.7s,baz=94,slow=3.5,SNR=4.6			PcP	**PcP**	**20 50 22.3**	**-0.8**
SIJI	**Sorong**	**53.45**	**284**	P	**P**	**20 49 55.2**	**-0.2**
	17nm,1.0s,baz=101,slow=8.2,SNR=6.7						
FITZ	**Fitzroy Crossi**	**53.62**	**262**	P	**P**	**20 49 56.3**	**-0.3**
	3.0nm,0.5s,baz=96,slow=3.4,SNR=27						
BATI	**Baumata**	**57.38**	**270**	P	**P**	**20 50 23.7**	**+0.9**
	20nm,0.8s,baz=68,slow=5.4,SNR=3.6						
VNDA	**Vanda**	**58.90**	**185**	P	**P**	**20 50 33.4**	**+1.5**
	0.4nm,0.7s,baz=357,slow=4.5,SNR=3.4						
MJAR	**Matsushiro Arr**	**69.72**	**323**	P	**P**	**20 51 40.8**	**-0.3**
	1.7nm,0.7s,baz=173,slow=6.6,SNR=7.5						
ASAJ	**Asahikawa**	**73.11**	**331**	P	**P**	**20 52 02.3**	**+1.6**
	4.1nm,0.9s,baz=50,slow=2.1,SNR=4.8						
LEM	**Lembang**	**73.53**	**268**	P	**P**	**20 52 04.5**	**+0.5**
	17nm,0.6s,baz=135,slow=20,SNR=4.5						
PETK	**Petropavlovsk-**	**75.47**	**345**	P	**P**	**20 52 13.6**	**-0.2**
	3.2nm,0.8s,baz=98,slow=9.1,SNR=4.1						
NVAR	**Mina Array Bea**	**80.01**	**43**	P	**P**	**20 52 38.8**	**-0.1**
	0.7nm,0.8s,baz=238,slow=9.4,SNR=3.6						
TXAR	**Lajitas Array**	**86.15**	**57**	P	**P**	**20 53 10.3**	**+0.7**
	0.5nm,0.6s,baz=223,slow=7.1,SNR=8.4						
ILAR	**Eielson Array**	**87.28**	**13**	P	**P**	**20 53 13.7**	**-0.3**
	0.7nm,0.7s,baz=218,slow=5.6,SNR=7.8						
PDAR	**Pinedale Array**	**87.95**	**43**	P	**P**	**20 53 18.9**	**+0.9**
	0.3nm,0.5s,baz=199,slow=3.4,SNR=4.2						
CMAR	**Chiang Mai Arr**	**90.23**	**289**	P	**P**	**20 53 30.0**	**+1.2**
	1.6nm,0.8s,baz=120,slow=2.6,SNR=17						
ARCES	**ARCESS Array B**	**128.06**	**350**	PKP	**PKiKP**	**20 59 29.2**	**-0.5**
	2.0nm,0.6s,baz=9.7,slow=2.1,SNR=12						
FINES	**FINESS Array B**	**134.98**	**344**	PKP	**PKiKP**	**20 59 42.6**	**-1.3**
	0.7nm,0.5s,baz=35,slow=7.0,SNR=4.5						
AKASG	**Malin Array Be**	**142.40**	**332**	PKhKP	PKPpre	20 59 52.0	
	1.0nm,0.5s,baz=42,slow=4.3,SNR=8.7						
BRTR	**Keskin Array B**	**146.53**	**314**	PKPbc	**PKPbc**	**21 00 05.9**	**-0.5**
	2.1nm,0.6s,baz=129,slow=5.2,SNR=15						
CLL	**Collm**	**147.23**	**348**	*i* PKPbc	**PKiKP**	**21 00 07.6**	**-1.8**
	comp=Z,6.0nm,0.8s						
CLL				*e*PKPab	**PKPab**	**21 00 11.0**	**-0.2**
BRG	**Berggiesshubel**	**147.44**	**346**	*i* PKP	**PKiKP**	**21 00 08.4**	**-1.4**
	comp=Z,3.3nm,0.8s						
PVCC	**Panska Ves**	**147.62**	**346**	*e*PKP	**PKiKP**	**21 00 09.5**	**-0.7**
PRU	**Pruhonice**	**148.13**	**345**	*e*PKP	**PKiKP**	**21 00 10.4**	**-0.9**
VYHS	**Vyhne**	**148.24**	**339**	*e*P	**PKiKP**	**21 00 10.9**	**-0.7**
TREC	**Trest**	**148.53**	**344**	*e*PKP	**PKiKP**	**21 00 11.4**	**-0.8**
KHC	**Kasperske Hory**	**149.16**	**346**	*e*PKP	**PKiKP**	**21 00 12.9**	**-0.6**
KHC				*ex*	x	21 00 20.0	
GERES	**GERESS Array B**	**149.40**	**345**	PKPbc	**PKiKP**	**21 00 13.6**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=38,slow=2.4,SNR=30						
CONA	**Conrad Observa**	**149.67**	**342**	*i* PKPbc	**PKiKP**	**21 00 14.2**	**-0.5**
	comp=Z,3.9nm,0.6s						
MOA	**Molln**	**150.18**	**344**	*e*PKPbc	**PKiKP**	**21 00 14.9**	**-0.7**
	comp=Z,1.5nm,0.6s						
SOKA	**Soboth**	**151.04**	**342**	*e*PKPbc	**PKiKP**	**21 00 17.2**	**-0.3**
	comp=Z,3.9nm,1.1s						
KBA	**Koelnbreinsper**	**151.13**	**345**	*e*PKPbc	**PKiKP**	**21 00 17.3**	**-0.5**
	comp=Z,3.0nm,0.8s						
WATA	**Walderalm**	**151.30**	**347**	*e*PKPbc	**PKiKP**	**21 00 17.2**	**-1.0**
	comp=Z,1.5nm,0.5s						

OBKA	**Obir**	**151.34 343**	*e*PKPbc	**PKPbc**	**21 00 17.0**	**-0.9**
	comp=Z,1.2nm,0.6s					
WTTA	**Wattenberg**	**151.36 347**	*e*PKPbc	**PKiKP**	**21 00 17.9**	**-0.4**
	comp=Z,2.3nm,0.5s					
MOTA	**Moosalm**	**151.39 348**	*i* PKPbc	**PKiKP**	**21 00 17.6**	**-0.7**
	comp=Z,1.2nm,0.6s					
MYKA	**Terra Mystica**	**151.47 344**	*i* PKPbc	**PKPbc**	**21 00 17.2**	**-0.9**
	comp=Z,1.9nm,0.6s					
SQTA	**Sankt Quirin**	**151.49 348**	*i* PKPbc	**PKiKP**	**21 00 18.0**	**-0.4**
	comp=Z,2.3nm,0.7s					
ABTA	**Abfaltersbach**	**151.65 345**	*i* PKPbc	**PKiKP**	**21 00 17.8**	**-0.9**
	comp=Z,2.0nm,0.7s					
DAVA	**Damuels**	**151.67 349**	*e*PKPbc	**PKiKP**	**21 00 18.5**	**-0.4**
	comp=Z,0.6nm,0.4s					
FETA	**Feichten**	**151.77 348**	*i* PKPbc	**PKiKP**	**21 00 18.7**	**-0.4**
	comp=Z,2.9nm,0.7s					

MAN 04 20:44:12.1, 10°.14N×126°.17E, h63km, mb3.9, ML2.7, MS2.3, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.76**	**242**	⇓*i*P	Pn	20 44 33.5	+6.3
SCPH				*i* S	Sn	20 44 43.1	+4.7
BUTP	**Butuan**	**1.29**	**205**	*e*P	Pn	20 44 34.7	+0.6
BUTP				*e*S	Sn	20 44 50.8	+0.4
MSLP	**Maasin**	**1.29**	**270**	*e*P	Pn	20 44 34.7	+0.6
MSLP				*e*S	Sn	20 44 52.2	+1.7
BESP	**Borongan**	**1.62**	**334**	*e*P	Pn	20 44 39.6	+1.2
CGP	**Cagayan de Oro**	**2.22**	**221**	⇓*e*P	Pn	20 44 48.2	+1.5
CGP				*e*S	Sn	20 45 14.2	+1.1
CNP	**Catarman**	**2.78**	**328**	*e*P	Pn	20 44 55.2	+1.0
CNP				*e*S	Sn	20 45 29.5	+2.9

MOS ***04*** *20:52:18.9±1.9, 49°.80N×88°.21E, h11km, mb3.7/3, Error ellipse: s-maj=9.7km s-min=7.6km az=94.5*
IDC ***04*** *20:52:18.3±0.8, 49°.90N×88°.45E, h0km, mb3.5/10, mb1 3.8/16, mb1mx3.7/38, mbtmp3.7/16, ML3.9/6, MS2.7/7, Ms1 2.7/7, ms1mx2.5/37, Error ellipse: s-maj=15.7km s-min=12.0km az=155.0*
ISCJB ***04*** *20:52:18.3±0.4, 49°.95N±0°.03×88°.27E±0°.05, h11km, mb3.5/10, MS2.8/3, Error ellipse: s-maj=4.9km s-min=3.7km az=18.0*
NNC ***04*** *20:52:21.6±3.3, 49°.87N×87°.96E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=25.9km s-min=18.1km az=89.0*
BJI ***04*** *20:52:21.0±0.0, 49°.90N×88°.20E, h5km, mb3.8/2, mB4.1/1, ML3.9/5, Ms3.5/1*
ASRS ***04*** *20:52:22.6±1.3, 49°.97N×88°.18E, h15km, Ms3.7/2*

ISC 04 20:52:20.5±0.6, 49°.84N±0°.04×88°.21E±0°.04, h11km, n55, σ2°.38/79, mb3.6/10, MS2.8/3, 17C-9D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**0.52**	**255**	*c i*PG	**Pg**	**20 52 28.3**	**-2.4**
UKR	**Ust'-Kan**	**2.46**	**298**	*e*Pg	**Pb**	**20 53 03.6**	**-1.2**
UKR				*e*Sg	**Sg**	**20 53 39.6**	**+0.1**
UKR	**Ust'-Kan**	**2.46**	**298**	*e*PN	**Pb**	**20 53 03.6**	**-1.2**
UKR				*e*		20 53 39.6	
TASR	**Tashtagol**	**2.94**	**356**	*e*Pn	**Pn**	**20 53 10.2**	**+3.1**
TASR				*e*Pg	**Pb**	**20 53 11.5**	**-1.3**
TASR				*e*Sg	**Sb**	**20 53 50.9**	**+2.2**
TASR	**Tashtagol**	**2.94**	**356**	*e*PN	**Pn**	**20 53 10.2**	**+3.1**
TASR				*e*		20 53 50.9	
CERR	**Cheremushki**	**3.63**	**32**	*e*Pn	**Pn**	**20 53 19.0**	**+2.4**
CERR				*e*Pg	**Pb**	**20 53 26.5**	**+1.9**
CERR				*e*Sg	**Sg**	**20 54 13.6**	**-3.3**
CERR	**Cheremushki**	**3.63**	**32**	*e*PN	**Pn**	**20 53 19.0**	**+2.4**
CERR				*e*		20 53 26.5	
CERR				*e*		20 54 13.6	
ELT	**Eltsovka**	**3.64**	**341**	*e*Pn	**Pn**	**20 53 19.4**	**+2.6**
ELT				*e*Pg	**Pg**	**20 53 29.0**	**-1.3**
ELT				*e*Sg	**Sb**	**20 54 11.0**	**+2.0**
ELT	**Eltsovka**	**3.64**	**341**	*e*PN	**Pn**	**20 53 19.4**	**+2.6**
ELT				*e*		20 53 29.0	
ELT				*e*		20 54 11.0	
ZALV	**Zalesovo Beam**	**4.62**	**334**	*e*PN	**Pn**	**20 53 31.1**	**+0.9**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ZALV	**Zalesovo Beam**	**4.62**	**334**	Pn	**Pn**	**20 53 30.8**	**+0.6**
	comp=Z,6.9nm,0.3s,baz=157,slow=14,SNR=37						
ZALV				Sn	**Sn**	**20 54 24.4**	**+0.6**
	comp=Z,13nm,0.3s,baz=151,slow=22,SNR=8.6						
ZALV				Lg	Lg	20 54 42.5	
	comp=Z,19nm,0.3s,baz=154,slow=31,SNR=5.6						
ZALV				LR	LR	20 54 51.2	
	comp=Z,16nm,20.1s,baz=228,slow=33						
MK31	**Makanchi Array**	**4.99**	**235**	⇑Pn	**Pn**	**20 53 37.8**	**+2.5**
	comp=Z,11nm,0.5s,baz=80,slow=11,SNR=412						
MK31				⇑Pg	**Pb**	**20 53 50.6**	**+2.9**
	comp=Z,25nm,0.5s,baz=55,slow=11,SNR=21						
MK31				⇓Sn	**Sn**	**20 54 36.4**	**+3.5**
	comp=Z,15nm,0.4s,baz=61,slow=26,SNR=4.9						
MK31				⇓Lg	Lg	20 54 55.3	
	comp=Z,122nm,0.7s,baz=53,slow=27,SNR=11						
MK31	**Makanchi Array**	**4.99**	**235**	PN	**Pn**	**20 53 37.8**	**+2.5**
MK31				*e*S	Pg	20 53 50.6	-5.4
MK31				pmax	pmax		
	comp=Z,11μm,0.5s						
MKAR	**Makanchi Array**	**4.99**	**235**	Pn	**Pn**	**20 53 37.9**	**+2.6**
	comp=Z,10nm,0.3s,baz=50,slow=17,SNR=212						
MKAR				Sn	**Sn**	**20 54 35.8**	**+2.8**
	comp=Z,20nm,0.3s,baz=62,slow=28,SNR=9.5						
MKAR				Lg	Lg	20 54 55.6	
	comp=Z,30nm,0.3s,baz=55,slow=26,SNR=12						
MKAR				LR	LR	20 55 42.2	
	comp=Z,79nm,18.9s,baz=349,slow=40						
MAKZ	**Makanchi**	**5.14**	**236**	⇓Pn	**Pn**	**20 53 39.8**	**+2.3**
	comp=Z,14nm,0.4s						
MAKZ				⇑Sn	**Sn**	**20 54 40.3**	**+3.5**
	comp=Z,18nm,0.3s						
MAKZ				⇑Lg	Lg	20 54 59.5	
	comp=Z,228nm,1.0s						
MAKZ	**Makanchi**	**5.14**	**236**	PN	**Pn**	**20 53 39.8**	**+2.3**
MAKZ				*e*S	**Sn**	**20 54 40.3**	**+3.5**
MAKZ				pmax	pmax		
	comp=Z,14μm,0.4s						
MAKZ				smax	smax		
	comp=Z,18μm,0.3s						
NVS	**Novosibirsk**	**5.87**	**331**	*e*Pn	**Pn**	**20 53 49.5**	**+2.2**
NVS				*e*Pg	**Pb**	**20 54 06.4**	**+3.7**
NVS				*e*Sn	**Sn**	**20 54 54.5**	**+0.1**
NVS				*e*Sg	**Sb**	**20 55 20.8**	**+7.9**
NVS	**Novosibirsk**	**5.87**	**331**	*e*PN	**Pn**	**20 53 49.5**	**+2.2**
NVS				*e*		20 54 06.2	
NVS				*e*		20 54 54.3	
NVS				*i*		20 55 22.2	
WMQ	**Urumqi**	**6.03**	**184**	Pn	**Pn**	**20 53 53.2**	**+3.6**
WMQ				Sn	**Sn**	**20 55 00.1**	**+1.5**
WMQ				smax	smax		
	comp=Z,44nm,0.6s						
WMQ				smax	smax		
	comp=Z,21nm,0.7s						
KURK	**Kurchatov**	**6.21**	**282**	⇓Pn	**Pn**	**20 53 52.9**	**+0.9**
	comp=Z,24nm,0.6s						
KURK				⇑Sn	**Sn**	**20 55 05.0**	**+2.0**
	comp=Z,83nm,0.8s						
KURK				⇓Lg	Lg	20 55 35.0	
	comp=Z,91nm,0.5s						
KURK	**Kurchatov**	**6.21**	**282**	*c i*PN	**Pn**	**20 53 52.9**	**+0.9**
KURBB	**Kurchatov Arra**	**6.26**	**281**	Pn	**Pn**	**20 53 54.0**	**+1.2**
	comp=Z,3.0nm,0.3s,baz=93,slow=15,SNR=155						
KURBB				Sn	**Sn**	**20 55 03.8**	**-0.4**
	comp=Z,2.5nm,0.3s,baz=87,slow=28,SNR=12						
KURBB				Lg	Lg	20 55 36.2	
	comp=Z,3.0nm,0.3s,baz=91,slow=32,SNR=7.3						
PDGK	**Podgornoye**	**8.85**	**226**	⇓Pn	**Pn**	**20 54 28.3**	**-0.1**
	comp=Z,8.1nm,0.9s						
PDGK				⇓Sn	**Sn**	**20 56 05.9**	**-2.3**
	comp=Z,14nm,0.9s						
PDGK				⇓Lg	Lg	20 56 55.1	
	comp=Z,27nm,0.8s						
PDGK	**Podgornoye**	**8.85**	**226**	P	**Pn**	**20 54 28.3**	**-0.1**
PDGK				*e*S	**Sn**	**20 56 05.9**	**-2.3**
PDGK				pmax	pmax		
	comp=Z,8μm,0.9s						
PDGK				smax	smax		
	comp=Z,14μm,0.9s						
MDOK	**Medeo**	**10.18**	**233**	⇑Lg	Lg	20 57 37.6	
	comp=Z,20nm,0.9s						
OTUK	**Ortayu**	**10.54**	**267**	⇓Pn	**Pn**	**20 54 50.7**	**-0.8**
	comp=Z,9.2nm,0.6s						
OTUK				⇑Sn	**Sn**	**20 56 46.2**	**-3.3**
	comp=Z,9.5nm,0.9s						
OTUK				⇑Lg	Lg	20 57 45.5	
	comp=Z,32nm,0.7s						
OTUK	**Ortayu**	**10.54**	**267**	P	**Pn**	**20 54 50.7**	**-0.8**
OTUK				*e*S	**Sn**	**20 56 46.2**	**-3.3**
OTUK				pmax	pmax		
	comp=Z,9μm,0.6s						
OTUK				smax	smax		
	comp=Z,10μm,0.9s						
TKM2	**Tokmak 2**	**11.12**	**236**	⇑Pn	**Pn**	**20 54 55.4**	**-4.1**
	comp=Z,2.3nm,0.7s						
TKM2				⇑Lg	Lg	20 58 05.9	
	comp=Z,20nm,1.1s						
BVA1	**Borovoye Array**	**11.57**	**293**	Pn	**Pn**	**20 55 04.1**	**-1.4**
BVA1				Sn	**Sn**	**20 57 12.9**	**-1.7**
BVAR	**Borovoye Array**	**11.57**	**293**	Pn	**Pn**	**20 55 04.6**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=107,slow=15,SNR=22						
BVAR				Sn	**Sn**	**20 57 12.6**	**-2.0**
	comp=Z,1.6nm,0.3s,baz=108,slow=21,SNR=6.1						
BRVK	**Borovoye**	**11.64**	**293**	*i* P	**Pn**	**20 55 07.4**	**+1.0**
AAK	**Ala-Archa**	**11.91**	**238**	⇑Pn	**Pn**	**20 55 12.4**	**+2.1**
	comp=Z,2.3nm,0.6s						
AAK				⇑Lg	Lg	20 58 31.3	
	comp=Z,13nm,0.8s						
AAK	**Ala-Archa**	**11.91**	**238**	Pn	**Pn**	**20 55 12.2**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=72,slow=6.6,SNR=15						
AAK				Sn	**Sn**	**20 57 19.5**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=156,slow=20,SNR=2.6						
AAK				Lg	Lg	20 58 35.2	
	comp=Z,0.2nm,0.3s,baz=164,slow=21,SNR=4.9						
SONM	**Songino Array**	**12.15**	**93**	Lg	Lg	20 58 38.9	
	comp=Z,0.2nm,0.3s,baz=269,slow=30,SNR=7.0						
SONM				LR	LR	20 59 59.0	
	comp=Z,38nm,20.9s,baz=266,slow=38						
KK31	**Karatay Array**	**13.91**	**248**	Pn	**Pn**	**20 55 35.4**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=49,slow=13,SNR=12						
KK31				⇑Sn	**Sn**	**20 58 06.0**	**-6.0**
	comp=Z,1.8nm,0.7s,baz=52,slow=22,SNR=5.2						
KK31				⇑Lg	Lg	20 59 34.0	
	comp=Z,3.5nm,0.6s,baz=51,slow=25,SNR=4.0						
ARU	**Arti**	**18.87**	**302**	*c i*P	**Pn**	**20 56 42.0**	**+1.0**
ARU				S	**S**	**21 00 14.6**	**0.0**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**19.31**	**283**	P	**P**	**20 56 45.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=80,slow=11,SNR=13						
AKTO				LR	LR	21 04 30.2	
	comp=Z,30nm,18.8s,baz=27,slow=38						
TIXI	**Tiksi**	**28.55**	**26**	P	**P**	**20 58 14.2**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=279,slow=8.2,SNR=3.5						
TIXI				LR	LR	21 10 10.9	
	comp=Z,24nm,18.7s,baz=244,slow=38						
KSRS	**Korea Array**	**30.92**	**98**	LR	LR	21 12 03.7	
	comp=Z,16nm,19.4s,baz=155,slow=38						
FINES	**FINESS Array B**	**35.54**	**313**	*i* P	**P**	**20 59 19.6**	**+2.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**35.54**	**313**	P	**P**	**20 59 17.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=87,slow=9.7,SNR=5.8						
AKASG	**Malin Array Be**	**36.84**	**295**	P	**P**	**20 59 28.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=58,slow=9.0,SNR=3.1						
MJAR	**Matsushiro Arr**	**38.10**	**91**	LR	LR	21 14 09.7	
	comp=Z,18nm,18.0s,baz=55,slow=34						
BRTR	**Keskin Array B**	**39.23**	**276**	P	**P**	**20 59 49.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=69,slow=6.0,SNR=4.9						
KOLS	**Kolonicke sedl**	**41.67**	**295**	*e*P	**P**	**21 00 06.8**	**-2.0**
KOLS	**Kolonicke sedl**	**41.67**	**295**	*e*P	**P**	**21 00 06.8**	**-2.0**
NOA	**NORSAR Array B**	**42.55**	**315**	*e*P	**P**	**21 00 16.5**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**42.55**	**315**	P	**P**	**21 00 16.1**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=66,slow=7.8,SNR=3.3						
PALK	**Pallekele**	**42.89**	**191**	*i* P	**P**	**21 00 21.3**	**+2.3**
ILAR	**Eielson Array**	**58.01**	**24**	*e*P	**P**	**21 02 11.9**	**-0.8**
ILAR	**Eielson Array**	**58.01**	**24**	P	**P**	**21 02 11.5**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=309,slow=4.3,SNR=4.5						
ESDC	**Sonseca Array**	**62.25**	**299**	P	**P**	**21 02 44.2**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=33,slow=7.1,SNR=5.2						
YKA	**Yellowknife Ar**	**66.56**	**11**	P	**P**	**21 03 07.8**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=340,slow=6.6,SNR=4.0						
WRA	**Warramunga Arr**	**80.57**	**137**	P	**P**	**21 04 32.6**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=335,slow=5.5,SNR=3.2						
ASAR	**Alice Springs**	**83.66**	**139**	P	**P**	**21 04 48.0**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=343,slow=5.0,SNR=2.6						

ISCJB ***04*** *21:06:37.7±1.2, 14°.90N±0°.08×93°.25W±0°.07, h54km±14km, mb3.4/2, Error ellipse: s-maj=16.6km s-min=6.9km az=38.5*
MEX ***04*** *21:06:38.8±0.5, 14°.84N×93°.22W, h56km±12km, MD3.7*
IDC ***04*** *21:06:39.8±2.9, 14°.98N×93°.24W, h71km±20km, mb3.0/2, mb1 3.6/6, mb1mx3.3/32, mbtmp3.5/6, MS2.1/1, Ms1 2.1/1, ms1mx2.0/14, Error ellipse: s-maj=47.1km s-min=8.0km az=28.0*

ISC 04 21:06:38.9±1.5, 15°.00N±0°.1×93°.22W±0°.08, h57km±13km, n11, σ1°.50/17, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.75**	**0**	*i* P	**Pn**	**21 06 53.2**	**-0.4**
PCIG				*i* S	**Sn**	**21 07 04.9**	**+0.6**
THIG		**0.93**	**93**	*e*P	**Pn**	**21 06 54.4**	**-1.4**
THIG				*e*S	**Sn**	**21 07 06.4**	**-2.0**
CCIG	**Comitan**	**1.69**	**38**	*e*P	**Pn**	**21 07 05.9**	**-0.3**
CCIG				*i* S	**Sn**	**21 07 26.9**	**0.0**
TGIG		**1.82**	**3**	*e*P	**Pn**	**21 07 08.5**	**+0.6**
TGIG				*e*S	**Sn**	**21 07 30.6**	**+0.8**
CMIG	**Matias Romero**	**2.66**	**323**	P	**Pn**	**21 07 19.1**	**-0.2**
	6.6nm,0.3s,baz=146,slow=17,SNR=47						
CMIG				S	**Sn**	**21 07 51.4**	**+1.0**
	24nm,0.3s,baz=248,slow=18,SNR=8.1						
CMIG				LR	LR	21 08 07.9	
	comp=Z,33nm,19.4s,baz=186,slow=34						
APG	**El Apazote**	**2.67**	**89**	P	**Pn**	**21 07 19.6**	**-0.1**
	11nm,0.3s,baz=299,slow=16,SNR=40						
APG				S	**Sn**	**21 07 53.3**	**+2.3**
	42nm,0.3s,baz=353,slow=20,SNR=9.4						
JTS	**Las Juntas de**	**9.31**	**119**	P	**Pn**	**21 08 53.2**	**+2.7**
	0.7nm,0.3s,baz=306,slow=19,SNR=2.8						
TXAR	**Lajitas Array**	**17.26**	**328**	P	**P**	**21 10 37.9**	**+1.0**
	0.0nm,0.3s,baz=154,slow=15,SNR=5.9						
NVAR	**Mina Array Bea**	**32.19**	**321**	P	**P**	**21 13 02.5**	**+0.8**
	0.5nm,0.7s,baz=121,slow=9.7,SNR=4.3						
YKA	**Yellowknife Ar**	**49.83**	**347**	P	**P**	**21 15 24.5**	**-1.4**
	0.2nm,0.6s,baz=151,slow=6.9,SNR=3.3						
CMAR	**Chiang Mai Arr**	**144.70**	**340**	PKP	**PKPab**	**21 26 06.9**	**-2.0**
	0.2nm,0.4s,baz=347,slow=3.7,SNR=4.4						

MEX 04 21:14:30.5±0.4, 16°.81N×98°.67W, h33km±16km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.67**	**128**	*e*P	Pn	21 14 41.4	-2.2
PNIG				*i* S	Sb	21 14 50.5	-2.4
TLIG	**Tlapa**	**0.76**	**8**	*e*P	Pn	21 14 43.0	-2.0
TLIG				*e*S	Sn	21 14 52.6	-2.7
CAIG	**El Cayaco**	**1.54**	**279**	*i* P	Pn	21 14 53.4	-2.3
CAIG				*i* S	Sn	21 15 12.2	-2.4

IDC 04 21:25:11.3±2.8, 7°.09S×126°.41E, h433km±31km, mb2.6/1, mb1 2.6/4, mb1mx2.5/30, mbtmp3.4/4, Error ellipse: s-maj=59.4km s-min=14.6km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.12**	**221**	P	P	21 26 27.3	+0.8
	23nm,0.3s,baz=72,slow=1.7,SNR=27						
BATI				S	S	21 27 27.9	+0.3
	2.6nm,0.3s,baz=114,slow=19,SNR=4.4						
FITZ	**Fitzroy Crossi**	**10.97**	**184**	P	P	21 27 39.5	+0.3
	0.0nm,0.3s,baz=0.0,slow=9.1,SNR=3.7						
WRA	**Warramunga Arr**	**14.92**	**150**	P	P	21 28 20.6	-1.5
	0.2nm,0.3s,baz=325,slow=12,SNR=16						
ASAR	**Alice Springs**	**17.99**	**157**	P	P	21 28 54.2	-0.5
	0.5nm,0.3s,baz=338,slow=9.0,SNR=30						
ASAR				S	S	21 31 59.5	+1.0
	0.1nm,0.3s,baz=330,slow=20,SNR=3.7						
MKAR	**Makanchi Array**	**66.39**	**329**	P	P	21 35 16.0	0.0
	0.3nm,0.7s,baz=116,slow=8.2,SNR=4.1						

IDC 04 21:46:04.3±7.6, 9°.87S×120°.86E, h89km±76km, mb3.4/1, mb1 3.2/3, mb1mx3.0/22, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=75.6km s-min=34.8km az=65.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.79**	**97**	P	Pn	21 46 47.0	+0.1
	74nm,0.3s,baz=275,slow=11,SNR=72						
BATI				S	Sn	21 47 20.3	+0.6
	7.1nm,0.3s,baz=240,slow=20,SNR=8.5						
WRA	**Warramunga Arr**	**16.42**	**129**	P	Pn	21 49 47.9	-1.6
	0.1nm,0.3s,baz=304,slow=13,SNR=3.4						
WRA				S	Sn	21 52 35.7	-16
	0.3nm,0.3s,baz=305,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**18.54**	**139**	P	Pn	21 50 14.9	-0.3
	0.1nm,0.3s,baz=316,slow=11,SNR=3.9						
ASAR				S	S	21 53 30.9	-10
	0.1nm,0.3s,baz=315,slow=22,SNR=3.0						
MKAR	**Makanchi Array**	**66.07**	**332**	P	P	21 56 41.7	0.0
	0.4nm,0.4s,baz=146,slow=7.8,SNR=12						

SJA 04 22:00:01.1±0.8, 27°.20S×67°.54W, h30km±15km, ML3.1, MW3.7, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**1.64**	**201**	*e*P	Pb	22 00 29.9	-0.9
VCA				*e*S	Sb	22 00 51.4	+0.2
VCA				IAML		22 00 56.2	
	comp=Z,217nm,0.2s						
FSA	**Cafayete**	**1.77**	**53**	*e*P	Pb	22 00 32.7	-0.3
FSA				*e*S	Sb	22 00 55.5	+0.6
FSA				IAML		22 00 56.8	
	comp=Z,101nm,0.2s						
CYA	**Choya**	**1.98**	**129**	*e*P	Pb	22 00 35.7	-0.8
AHML	**Horco Molle**	**2.01**	**79**	*e*P	Pb	22 00 36.5	-0.6
AHML				IAML		22 01 05.3	
	comp=Z,243nm,0.5s						
AGUA	**GUANDACOL**	**2.43**	**200**	*e*P	Pb	22 00 43.0	-1.2

IDC 04 22:04:33.1±1.7, 14°.54S×65°.71E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/44, mbtmp3.6/5, MS3.4/5, Ms1 3.4/5, ms1mx3.0/35, Error ellipse: s-maj=68.5km s-min=28.5km az=45.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**9.53**	**45**	T	T	22 16 02.5	
	baz=225,slow=75,SNR=250						
H08S2	**Diego Garcia H**	**9.55**	**45**	T	T	22 16 03.5	
	baz=225,slow=75,SNR=204						
H08S3	**Diego Garcia H**	**9.55**	**45**	T	T	22 16 03.9	
	baz=225,slow=75,SNR=272						
H08N3	**Diego Garcia H**	**9.65**	**33**	T	T	22 16 00.9	
	baz=211,slow=76,SNR=724						
H08N1	**Diego Garcia H**	**9.67**	**33**	T	T	22 16 03.7	
	baz=211,slow=76,SNR=656						
H08N2	**Diego Garcia H**	**9.67**	**33**	T	T	22 16 03.8	
	baz=211,slow=76,SNR=771						
PALK	**Pallekele**	**26.28**	**35**	LR	LR	22 18 26.6	
	comp=Z,96nm,18.3s,baz=295,slow=32						
KMBO	**Kilima Mbogo**	**31.12**	**293**	LR	LR	22 22 14.9	
	comp=Z,54nm,18.4s,baz=93,slow=34						
BOSA	**Boshof**	**39.94**	**243**	LR	LR	22 26 10.5	
	comp=Z,100nm,18.1s,baz=98,slow=32						
CMAR	**Chiang Mai Arr**	**46.34**	**46**	LR	LR	22 29 28.4	
	comp=Z,40nm,19.6s,baz=196,slow=32						
H01W3	**Cape Leeuwin H**	**47.91**	**124**	T	T	23 04 21.6	
	baz=283,slow=75,SNR=22						
H01W2	**Cape Leeuwin H**	**47.91**	**124**	T	T	23 04 21.4	
	baz=283,slow=75,SNR=22						
H01W1	**Cape Leeuwin H**	**47.92**	**124**	T	T	23 04 23.1	
	baz=283,slow=75,SNR=22						
BRTR	**Keskin Array B**	**61.70**	**332**	P	P	22 14 53.2	-0.1
	0.3nm,0.9s,baz=151,slow=6.3,SNR=2.4						
MKAR	**Makanchi Array**	**62.84**	**13**	P	P	22 15 00.1	-0.6
	0.5nm,0.8s,baz=207,slow=8.7,SNR=4.0						
ASAR	**Alice Springs**	**64.57**	**110**	P	P	22 15 12.8	+0.1
	0.4nm,0.8s,baz=270,slow=5.6,SNR=4.1						
WRA	**Warramunga Arr**	**65.38**	**105**	P	P	22 15 17.8	-0.2
	1.3nm,1.0s,baz=268,slow=6.1,SNR=5.2						
SONM	**Songino Array**	**71.91**	**28**	P	P	22 15 58.7	+0.4
	0.3nm,0.4s,baz=209,slow=6.5,SNR=3.4						
KSRS	**Korea Array**	**77.98**	**46**	LR	LR	22 50 11.7	
	comp=Z,9.6nm,19.6s,baz=226,slow=35						
YKA	**Yellowknife Ar**	**132.11**	**0**	PKP	PKPdf	22 23 48.6	+0.1
	0.3nm,0.8s,baz=345,slow=2.8,SNR=5.1						
PDAR	**Pinedale Array**	**151.57**	**353**	PKP	PKPdf	22 24 21.3	-2.4
	0.5nm,0.9s,baz=5.7,slow=3.0,SNR=3.8						
PDAR				PKPbc	PKiKP	22 24 30.4	0.0
	1.8nm,0.9s,baz=26,slow=1.0,SNR=11						

NIED ***04*** *22:17:00.36°.30N×140°.50E, h92km, Mw4.0 Best double couple: M0 1.31000×10^15 NP1: φs225.00000°, δ36.00000°, λ-80.00000°. NP2: φs33.00000°, δ55.00000°, λ-97.00000°.*
ISCJB ***04*** *22:17:05.4±0.3, 36°.21N±0°.03×140°.47E±0°.05, h101km±2km, mb3.9/16, Error ellipse: s-maj=6.1km s-min=4.9km az=15.8*
JMA ***04*** *22:17:06.5±0.1, 36°.23N×140°.46E, h94km±1km, M3.9 Broadband fault plane

0.5nm,0.3s,baz=95,slow=14,SNR=14
KSRS LR LR 22 23 02.7
comp=Z,37nm,21.9s,baz=86,slow=35
USRK Ussuriysk Ar. 10.24 323 P **Pn 22 19 31.0 +0.8**
0.6nm,0.3s,baz=139,slow=13,SNR=11
KLR Kul'dur 14.45 337 P **Pn 22 20 23.2 -2.8**
0.3nm,0.3s,baz=160,slow=12,SNR=4.6
PETK Petropavlovsk- 20.75 30 P **P 22 21 40.4 +1.3**
2.1nm,0.8s,baz=198,slow=8.8,SNR=2.8
MA2 Magadan 24.28 13 P **P 22 22 16.1 +1.7**
1.7nm,0.4s,baz=167,slow=18,SNR=2.8
SONM Songino Array 27.60 305 P **P 22 22 44.9 +0.3**
0.9nm,0.4s,baz=108,slow=9.7,SNR=6.9
SONM LR LR 22 35 03.2
comp=Z,5.0nm,21.1s,baz=258,slow=39
H11N2 WAKE ISLAND Hy 28.43 118 T T 22 53 09.4
baz=312,slow=75,SNR=24
H11N1 WAKE ISLAND Hy 28.44 118 T T 22 53 09.1
baz=312,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 28.45 118 T T 22 53 09.9
baz=312,slow=75,SNR=18
H11S1 WAKE ISLAND Hy 29.10 120 T T 22 54 02.6
baz=314,slow=76,SNR=41
H11S3 WAKE ISLAND Hy 29.10 120 T T 22 54 01.6
baz=314,slow=76,SNR=30
H11S2 WAKE ISLAND Hy 29.12 120 T T 22 54 04.2
baz=314,slow=76,SNR=36
ZALV Zalesovo Beam 41.88 313 P **P 22 24 47.4 +0.6**
2.8nm,0.6s,baz=96,slow=7.0,SNR=12
ZALV PcP **PcP 22 26 39.9 -0.9**
1.2nm,0.4s,baz=97,slow=3.3,SNR=4.5
MKAR Makanchi Array 43.89 303 P **P 22 25 03.8 +0.6**
1.9nm,0.6s,baz=90,slow=10.0,SNR=20
MKAR PcP **PcP 22 26 47.5 -0.2**
0.4nm,0.6s,baz=87,slow=5.1,SNR=3.1
ILAR Eielson Array 50.56 32 P **P 22 25 55.2 +0.5**
3.6nm,0.8s,baz=270,slow=6.3,SNR=39
WRA Warramunga Arr 56.19 187 P **P 22 26 35.0 -1.3**
1.8nm,0.5s,baz=3.8,slow=7.4,SNR=36
ASAR Alice Springs 59.92 187 P **P 22 27 01.5 -0.8**
1.1nm,0.7s,baz=18,slow=6.0,SNR=15
ARCES ARCESS Array B 64.45 339 P **P 22 27 32.3 +0.2**
1.0nm,0.8s,baz=49,slow=8.5,SNR=3.3
YKA Yellowknife Ar 64.87 30 P **P 22 27 35.0 +0.1**
0.4nm,0.6s,baz=301,slow=6.7,SNR=12
FINES FINESS Array B 69.14 332 P **P 22 28 01.9 0.0**
1.4nm,0.7s,baz=43,slow=4.6,SNR=10
AKASG Malin Array Be 74.44 322 P **P 22 28 33.5 -0.3**
1.1nm,0.5s,baz=46,slow=6.5,SNR=9.7
NB2 NORSAR Subarra 74.61 337 P **P 22 28 34.5 -0.2**
comp=Z,2.0nm,0.6s,baz=40,slow=5.9
NOA NORSAR Array B 74.61 337 P **P 22 28 34.7 0.0**
comp=Z,1.8nm,0.7s,baz=39,slow=5.8,SNR=7.0
NVAR Mina Array Bea 76.07 53 P **P 22 28 44.8 +1.1**
comp=Z,0.7nm,0.5s,baz=295,slow=5.9,SNR=5.9
BRTR Keskin Array B 78.79 311 P **P 22 28 59.2 +0.5**
comp=Z,0.5nm,0.7s,baz=116,slow=2.9,SNR=4.5
GERES GERESS Array B 82.97 328 P **P 22 29 20.1 -0.7**
comp=Z,0.3nm,0.6s,baz=52,slow=6.4,SNR=4.0
TXAR Lajitas Array 91.20 52 P **P 22 30 01.9 +0.8**
comp=Z,0.8nm,0.5s,baz=305,slow=2.8,SNR=16
LPAZ La Paz 147.75 59 PKPbc **PKiKP 22 36 42.3 -0.8**
comp=Z,0.8nm,0.5s,baz=348,slow=3.9,SNR=4.6

*DDA **04** 22:23:02.9,37°.81N×27°.06E,h7km±2km,ML1.9*
ISK 04 22:23:02.5,37°.78N±27°.04E,h5km,ML1.7/6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.17**	**117**	PG	Pg		22 23 06.6	+0.6
GCAM	**G?zelcaml?**	**0.17**	**117**	IAML_P				
	comp=Z,2μm,0.1s							
GCAM				*i* P	Pg		22 23 07.2	+1.3
BLCB	**Balcova**	**0.60**	**0**	PG	Pg		22 23 14.7	+0.6
BLCB				SG	Sb		22 23 23.5	-0.8
ZEY	**zmir**	**0.62**	**317**	IAML_P				
	comp=Z,298nm,0.1s							
ZEY				*i* P	Pb		22 23 15.4	-0.4
ZEY				*i* S	Sb		22 23 24.8	-0.1
URLA	**Izmir**	**0.68**	**329**	PG	Pg		22 23 16.0	+0.5
URLA	**Izmir**	**0.68**	**329**	*i* P	Pg		22 23 16.1	+0.6
AYDN	**Tasoluk**	**0.68**	**100**	IAML_P				
	comp=Z,168nm,0.1s							
AYDN				*i* P	Pb		22 23 16.3	-0.5
AYDB	**Zeytinkoy-Aydi**	**0.69**	**76**	PG	Pg		22 23 16.3	+0.4
AYDB				SG	Sb		22 23 26.5	-0.6
BODT	**Bodrum**	**0.75**	**163**	PG	Pb		22 23 17.5	-0.5
BDRM	**Kayabasi**	**0.79**	**156**	IAML_P				
	comp=Z,160nm,0.2s							
BDRM				*i* P	Pb		22 23 19.1	+0.5
CHOS	**Chios island**	**0.98**	**308**	PG	Pb		22 23 21.8	-0.3

*DDA **04** 22:24:34.5,37°.74N×27°.00E,h7km±1km,ML2.2*
ISK 04 22:24:34.4,37°.75N±27°.01E,h6km,ML2.1/10,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.19**	**104**	PG	Pg		22 24 38.8	+0.7
GCAM				SG	Sg		22 24 41.9	+1.3
GCAM	**G?zelcaml?**	**0.19**	**104**	*i* P	Pg		22 24 39.6	+1.5
ZEY	**zmir**	**0.63**	**321**	*i* P	Pb		22 24 47.4	-0.5
ZEY				*i* S	Sb		22 24 57.1	+0.1
BLCB	**Balcova**	**0.64**	**3**	PG	Pg		22 24 46.9	+0.2
URLA	**Izmir**	**0.69**	**332**	PG	Pg		22 24 48.2	+0.5
URLA				SG	Sb		22 24 58.4	-0.5
URLA	**Izmir**	**0.69**	**332**	IAML_P				
	comp=Z,682nm,0.2s							
URLA				*i* P	Pb		22 24 48.9	-0.1
URLA				*i* S	Sb		22 24 58.9	+0.1
AYDN	**Tasoluk**	**0.70**	**97**	IAML_P				
	comp=Z,604nm,0.1s							
AYDN				*i* P	Pg		22 24 48.3	+0.5
BODT	**Bodrum**	**0.72**	**160**	PG	Pg		22 24 48.6	+0.3
AYDB	**Zeytinkoy-Aydi**	**0.73**	**74**	PG	Pg		22 24 48.9	+0.5
BDRM	**Kayabasi**	**0.76**	**153**	IAML_P				
	comp=Z,412nm,0.2s							
BDRM				*i* P	Pb		22 24 49.7	-0.5
CHOS	**Chios island**	**0.99**	**311**	PG	Pb		22 24 53.8	-0.2
DAT	**Datca**	**1.11**	**156**	PN	Pb		22 24 56.2	0.0
DAT	**Datca**	**1.11**	**156**	*i* P	Pb		22 24 56.2	+0.1
DAT				*i* S	Sn		22 25 12.5	+0.1
DAT	**Datca**	**1.11**	**156**	*i* P	Pn		22 24 57.0	+0.3
APE	**Apeiranthos**	**1.35**	**241**	PN	Pg		22 25 00.5	+0.1
TURN	**Turunc**	**1.54**	**124**	PN	Pn		22 25 00.8	-1.7
SIGR	**SIGRI**	**1.72**	**329**	PN	Pb		22 25 05.8	-0.6

*ISCJB **04** 22:26:06.9±1.0,11°.08S±0°.08×165°.9E±0°.1,h61km,*
mb3.9/5,Error ellipse: s-maj=16.0km s-min=8.6km
az=145.4
*IDC **04** 22:26:09.5±3.9,10°.99S×165°.93E,h71km±34km,mb3.6/5,*
mb1 3.9/7,mb1mx3.5/40,mbtmp4.0/7,ML4.3/2,MS3.1/5,
Ms1 3.1/5,ms1mx2.8/31,Error ellipse: s-maj=35.6km
s-min=31.5km az=142.0
ISC 04 22:26:08.3±1.1,11°.08S±0°.1×166°.0E±0°.1,h61km,n17,
σ0s90/10,mb3.8/5,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.15**	**284**	P		**Pn**	**22 27 36.7**	**+0.1**
	16nm,0.3s,baz=27,slow=0.8,SNR=8.0							
HNR				S		**Sn**	**22 28 45.9**	**+0.2**
	12nm,0.3s,baz=37,slow=20,SNR=2.0							
HNR				LR		LR	22 30 11.3	
	comp=Z,209nm,18.6s,baz=87,slow=40							
DZM	**Mont Dzumac**	**11.03**	**178**	P		**Pn**	**22 28 44.9**	**+1.5**
	0.8nm,0.3s,baz=357,slow=5.4,SNR=12							
DZM				S		**Sn**	**22 30 43.8**	**-1.4**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.9							
DZM				LR		LR	22 31 43.2	
	comp=Z,55nm,18.1s,baz=9.5,slow=30							
JAY	**Jayapura**	**26.47**	**287**	LR		LR	22 42 18.1	
	comp=Z,39nm,18.9s,baz=68,slow=37							
H11S2	**WAKE ISLAND Hy 29.30**	**1**		T		T	23 02 30.8	
	baz=182,slow=74							
H11S3	**WAKE ISLAND Hy 29.31**	**1**		T		T	23 02 32.0	
	baz=182							
H11S1	**WAKE ISLAND Hy 29.32**	**1**		T		T	23 02 32.4	
	baz=182,slow=74							
H11N1	**WAKE ISLAND Hy 30.52**	**2**		T		T	23 04 01.2	
	baz=182,slow=76,SNR=4.9							
H11N3	**WAKE ISLAND Hy 30.53**	**2**		T		T	23 04 01.6	
	baz=182,slow=76,SNR=7.0							
H11N2	**WAKE ISLAND Hy 30.54**	**2**		T		T	23 04 02.5	
	baz=182,slow=76,SNR=4.6							
STKA	**Stephens Creek**	**30.65**	**224**	LR		LR	22 45 22.5	
	comp=Z,50nm,18.9s,baz=217,slow=38							
WRA	**Warramunga Arr**	**31.73**	**250**	P		**P**	**22 32 26.3**	**-0.4**
	1.3nm,0.7s,baz=82,slow=9.4,SNR=9.0							
ASAR	**Alice Springs**	**33.03**	**243**	P		**P**	**22 32 37.6**	**-0.5**
	0.6nm,0.7s,baz=63,slow=10,SNR=7.6							
PETK	**Petropavlovsk-**	**64.24**	**354**	LR		LR	23 00 25.5	
	comp=Z,12nm,19.6s,baz=129,slow=32							
CMAR	**Chiang Mai Arr**	**72.31**	**293**	P		**P**	**22 37 28.4**	**+0.4**
	0.6nm,0.3s,baz=122,slow=4.6,SNR=3.0							
ILAR	**Eielson Array**	**83.39**	**18**	P		**P**	**22 38 28.6**	**+0.1**
	0.6nm,0.6s,baz=238,slow=5.0,SNR=6.6							
MKAR	**Makanchi Array**	**93.65**	**317**	P		**P**	**22 39 17.8**	**-0.4**
	0.6nm,0.7s,baz=116,slow=3.4,SNR=5.2							
ESDC	**Sonseca Array**	**150.07**	**344**	PKPbc		**PKPbc**	**22 45 51.8**	**-0.8**
	0.1nm,0.3s,baz=339,slow=3.1,SNR=3.4							

*ISCJB **04** 22:27:33.7±0.8,24°.1N±0°.1×142°.0E±0°.1,h80km,mb3.8/8,*
Error ellipse: s-maj=17.8km s-min=15.5km az=6.4
*IDC **04** 22:27:48.5±4.5,24°.11N×141°.56E,h202km±42km,mb3.3/8,*
mb1 3.4/10,mb1mx3.1/43,mbtmp3.8/10,MS2.4/1,
Ms1 2.4/1,ms1mx2.0/19,Error ellipse: s-maj=25.6km
s-min=12.9km az=93.0
ISC 04 22:27:35.4±0.9,24°.1N±0°.1×141°.9E±0°.2,h80km,n21,
σ1s07/20,mb3.9/8,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**12.84**	**346**	P		**P**	**22 30 42.7**	**+0.1**
	0.1nm,0.3s,baz=167,slow=10,SNR=7.3							
JNU	**Nakatsue**	**13.24**	**315**	LR		LR	22 34 28.5	
	comp=Z,18nm,21.9s,baz=238,slow=31							
KSRS	**Korea Array**	**17.94**	**321**	P		**Pn**	**22 31 41.5**	**+2.0**
	0.2nm,0.3s,baz=134,slow=12,SNR=4.1							
SEY	**Seymchan**	**39.49**	**8**	P		**P**	**22 34 59.0**	**+1.2**
	1.9nm,0.4s,baz=177,slow=7.7,SNR=9.9							
WRA	**Warramunga Arr**	**44.35**	**190**	P		**P**	**22 35 38.6**	**+0.7**
	0.8nm,0.4s,baz=7.9,slow=8.8,SNR=28							
ASAR	**Alice Springs**	**48.07**	**190**	P		**P**	**22 36 07.6**	**+0.5**
	0.2nm,0.6s,baz=19,slow=12,SNR=2.9							
RAMN	**Ramite**	**49.67**	**286**	*e*P		**P**	**22 36 20.1**	**+0.4**
	3.9nm,0.4s							
JIRN	**Jiri**	**49.92**	**287**	*e*P		**P**	**22 36 22.6**	**+0.9**
	16nm,0.6s							
PKI	**Pulchoki**	**50.62**	**287**	*e*P		**P**	**22 36 27.0**	**+0.1**
	2.5nm,0.4s							
PKIN	**Phulchoki**	**50.62**	**287**	*e*P		**P**	**22 36 26.9**	**0.0**
	2.6nm,0.4s							
KKN	**Kakani**	**50.69**	**287**	*e*P		**P**	**22 36 27.8**	**+0.4**
	3.7nm,0.5s							
DMN	**Daman**	**50.87**	**287**	*e*P		**P**	**22 36 28.8**	**0.0**
	4.3nm,0.5s							
GKN	**Gorkha**	**51.22**	**287**	*e*P		**P**	**22 36 32.0**	**+0.7**
	4.0nm,0.3s							
DANN	**Dangsing**	**51.93**	**288**	*e*P		**P**	**22 36 37.2**	**+0.5**
	19nm,0.6s							
MKAR	**Makanchi Array**	**52.25**	**311**	P		**P**	**22 36 36.8**	**-1.7**
	0.8nm,0.4s,baz=87,slow=9.6,SNR=22							
PYUN	**Piuthan**	**52.64**	**288**	*e*P		**P**	**22 36 41.9**	**0.0**
	6.1nm,0.4s							
ILAR	**Eielson Array**	**60.49**	**28**	P		**P**	**22 37 36.4**	**-0.3**
	0.8nm,0.8s,baz=250,slow=5.9,SNR=10							
YKA	**Yellowknife Ar**	**74.92**	**28**	P		**P**	**22 39 07.8**	**+0.4**
	0.3nm,0.3s,baz=295,slow=6.0,SNR=7.5							
ARCES	**ARCESS Array B**	**76.32**	**341**	P		**P**	**22 39 14.6**	**-0.7**
	1.7nm,1.1s,baz=61,slow=6.3,SNR=2.9							
FINES	**FINESS Array B**	**80.55**	**334**	P		**P**	**22 39 36.0**	**-2.8**
	1.6nm,0.9s,baz=43,slow=5.4,SNR=9.9							
LPAZ	**La Paz**	**150.81**	**80**	PKPbc		**PKPbc**	**22 47 20.1**	**-0.1**
	0.6nm,0.6s,baz=233,slow=5.1,SNR=3.2							

*IDC **04** 22:44:59.6±4.0,19°.43N×109°.12W,h0km,mb3.4/6,*
mb1 3.9/9,mb1mx3.7/38,mbtmp3.6/9,ML3.4/3,MS3.1/4,
Ms1 3.1/4,ms1mx2.7/26,Error ellipse: s-maj=82.5km
s-min=17.2km az=131.0
ISC 04 22:45:03.4±3.9,19°.4N±0°.4×109°.2W±0°.3,h26km,n14,
σ1s07/15,mb3.2/5,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.74**	**249**	Pn		**Pn**	**22 45 32.2**	**+0.3**
H06E1				Sn		**Sn**	**22 45 53.7**	**+0.4**
	SNR=349							
H06E1				T		T	22 47 37.9	
	SNR=16							
H06N1	**SOCORRO T-PHAS**	**1.76**	**252**	Pn		**Pn**	**22 45 32.5**	**+0.2**
H06N1				Sn		**Sn**	**22 45 53.1**	**-0.8**
	SNR=78							
H06N1				T		T	22 47 30.6	
	SNR=8.2							
H06S1	**SOCORRO T**	**1.78**	**248**	Pn		**Pn**	**22 45 33.1**	**+0.5**
H06S1				Sn		**Sn**	**22 45 53.9**	**-0.4**
H06S1				T		T	22 47 33.8	
	SNR=8.1							
LPIG	**La Paz**	**4.76**	**348**	Pn		**Pn**	**22 46 11.2**	**-2.3**
	14nm,0.3s,baz=171,slow=11,SNR=3.9							
LPIG				LR		LR	22 47 48.8	
	comp=Z,203nm,18.6s,baz=180,slow=35							
TXAR	**Lajitas Array**	**11.08**	**26**	Pn		**Pn**	**22 47 41.8**	**+1.4**
	0.0nm,0.3s,baz=199,slow=15,SNR=16							
TXAR				LR		LR	22 51 23.6	
	comp=Z,70nm,20.4s,baz=0.0,slow=35							
PFO	**Pinyon Flats O**	**15.54**	**337**	LR		LR	22 53 31.9	
	comp=Z,117nm,19.3s,baz=168,slow=33							
ANMO	**Albuquerque**	**15.65**	**8**	Pn		**Pn**	**22 48 42.8**	**+0.3**
	0.0nm,0.3s,baz=188,slow=7.1,SNR=2.6							
NVAR	**Mina Array Bea**	**20.52**	**339**	P		**P**	**22 49 40.2**	**+0.3**
	2.0nm,0.8s,baz=161,slow=12,SNR=3.7							
ELK	**Elko**	**21.87**	**348**	P		**P**	**22 49 55.4**	**+1.0**
	0.9nm,0.8s,baz=144,slow=1.2,SNR=3.8							
PDAR	**Pinedale Array**	**23.27**	**359**	P		**P**	**22 50 07.6**	**-1.6**
	0.5nm,0.8s,baz=170,slow=8.2,SNR=4.4							
YBH	**Yreka Blue Hor**	**25.02**	**336**	LR		LR	22 59 42.5	
	comp=Z,31nm,19.2s,baz=158,slow=35							
YKA	**Yellowknife Ar**	**43.19**	**356**	P		**P**	**22 53 01.2**	**-0.6**
	0.4nm,0.9s,baz=169,slow=7.8,SNR=10							
INK	**Inuvik**	**51.20**	**349**	P		**P**	**22 54 04.8**	**+0.7**
	0.4nm,0.3s,baz=146,slow=7.3,SNR=3.2							
ILAR	**Eielson Array**	**51.77**	**341**	P		**P**	**22 54 09.2**	**+0.6**
	0.6nm,0.7s,baz=142,slow=6.6,SNR=5.0							

*ISK **04** 22:47:43.8,39°.70N×25°.59E,h10km,ML3.3/28*
*THE **04** 22:47:44.9,39°.68N×25°.60E,h9km,ML3.0/5,Error ellipse:*
s-maj=0.7km s-min=0.3km az=64.0
*DDA **04** 22:47:44.3,39°.68N×25°.69E,h7km±5km,ML3.5*
*ISCJB **04** 22:47:44.1±0.4,39°.68N±0°.02×25°.58E±0°.02,h6km±3km,*
Error ellipse: s-maj=2.9km s-min=2.4km az=40.1
*ATH **04** 22:47:44.4,39°.68N×25°.56E,h27km±2km,ML3.0/4,Error*
ellipse: s-maj=3.4km s-min=1.3km az=51.0
*BEO **04** 22:47:45.8±1.2,39°.23N×24°.78E,h7km±5km,ML2.8/4*
ISC 04 22:47:44.5±1.1,39°.67N±0°.02×25°.58E±0°.02,h6km±9km,
n96,σ1s08/120,4C-5D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.38**	**307**	P		**Pb**	**22 47 52.9**	**-0.6**
LIA				S		**Sb**	**22 47 58.4**	**-1.3**
LIA	**Limnos Island**	**0.38**	**307**	P		**Pb**	**22 47 53.0**	**-0.6**
LIA				S		**Sb**	**22 47 58.7**	**-1.0**
LIA				AML	AML		22 48 03.7	
	comp=N,1233μm,0.3s							
LIA				AML	AML		22 48 04.1	
	comp=E,1891μm,0.5s							
BOZC	**Bozcaada**	**0.41**	**65**	PG		**Pg**	**22 47 52.1**	**-0.2**
BOZC				SG		**Sg**	**22 47 57.5**	**-0.1**
BOZC	**Bozcaada**	**0.41**	**65**	IAML_P				
	comp=Z,45μm,0.1s							
BOZC				*i* P		**Pg**	**22 47 52.4**	**+0.1**
BOZC				*i* S		**Sg**	**22 47 58.1**	**+0.4**
GPNR	**Gulpinar-Canak**	**0.48**	**116**	PG		**Pg**	**22 47 53.9**	**+0.2**
SIGR	**SIGRI**	**0.51**	**155**	PG		**Pg**	**22 47 54.7**	**+0.5**
SIGR				SG		**Sb**	**22 48 02.3**	**-1.0**
SIGR	**SIGRI**	**0.51**	**155**	P		**Pg**	**22 47 54.7**	**+0.5**
SIGR				S		**Sb**	**22 48 02.2**	**-1.0**
SIGR	**SIGRI**	**0.51**	**155**	P		**Pg**	**22 47 55.0**	**+0.8**
SIGR				S		**Sb**	**22 48 02.3**	**-1.0**
SIGR				AML	AML		22 48 02.8	
	comp=N,9043μm,0.4s							
SIGR				AML	AML		22 48 03.0	
	comp=E,6530μm,0.2s							
GOKC	**Gokceada-Canak**	**0.59**	**26**	PG		**Pg**	**22 47 55.6**	**-0.2**
EZN	**Ezine**	**0.60**	**75**	PG		**Pg**	**22 47 55.6**	**-0.4**
EZN	**Ezine**	**0.60**	**75**	P		**Pg**	**22 47 55.7**	**-0.3**
PRK	**Paraskevi**	**0.68**	**128**	P		**Pb**	**22 47 58.9**	**+0.2**
PRK				S		**Sb**	**22 48 08.9**	**+0.4**
PRK				AML	AML		22 48 11.9	
	comp=N,5730μm,0.4s							
PRK				AML	AML		22 48 12.5	
	comp=E,6457μm,0.3s							
BAYC	**CANAKKALE_Bayr**	**0.75**	**84**	IAML_P				
	comp=Z,14μm,0.1s							
BAYC				*i* P		**Pg**	**22 47 59.0**	**+0.1**
BAYC				*i* S		**Sg**	**22 48 09.2**	**+0.6**
SMTH	**Samothraki Isl**	**0.80**	**357**	P		**Pg**	**22 47 59.8**	**-0.1**
SMTH				S		**Sb**	**22 48 11.4**	**-0.5**
SMTH	**Samothraki Isl**	**0.80**	**357**	P		**Pg**	**22 47 59.9**	**+0.1**
SMTH				S		**Sg**	**22 48 10.5**	**+0.2**
SMTH				AML	AML		22 48 12.8	
	comp=E,1108μm,0.3s							
SMTH				AML	AML		22 48 13.7	
	comp=N,885μm,0.1s							
AYVA	**Ayvalik**	**0.93**	**112**	*i* P		**Pg**	**22 48 02.1**	**-0.3**
AYVA				*i* S		**Sn**	**22 48 17.2**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.00**	**43**	PG		**Pg**	**22 48 02.8**	**-0.9**
SKY	**Skiros Island**	**1.12**	**226**	P		**Pg**	**22 48 05.7**	**-0.3**
SKY				S		**Sn**	**22 48 22.2**	**-0.2**
SKY	**Skiros Island**	**1.12**	**226**	P		**Pg**	**22 48 05.8**	**-0.3**
PSRA	**Psara**	**1.13**	**181**	P		**Pn**	**22 48 06.7**	**0.0**
THAS	**Thassos island**	**1.14**	**325**	P		**Pg**	**22 48 06.1**	**-0.3**
THAS				S		**Sn**	**22 48 22.3**	**-0.6**
LPK	**Lapseki**	**1.15**	**52**	PN		**Pg**	**22 48 05.4**	**-1.1**
ENEZ	**Enez**	**1.15**	**22**	PN		**Pg**	**22 48 05.8**	**-0.8**
CAND	**Candarli**	**1.19**	**127**	PN		**Pb**	**22 48 07.3**	**-0.1**
ERIK	**Erikli-Kesan**	**1.23**	**35**	PN		**Pb**	**22 48 06.9**	**-1.2**
ALN	**Alexandroupoli**	**1.28**	**16**	PN		**Pn**	**22 48 07.9**	**-0.9**
ALN	**Alexandroupoli**	**1.28**	**16**	P		**Pn**	**22 48 07.8**	**-1.0**
FOCM	**Foa**	**1.31**	**136**	PN		**Pn**	**22 48 09.0**	**-0.2**
KRBN	**Karaburun**	**1.32**	**144**	PN		**Pn**	**22 48 09.1**	**-0.2**
CHOS	**Chios island**	**1.33**	**164**	PN		**Pn**	**22 48 08.8**	**-0.8**
CHOS	**Chios island**	**1.33**	**164**	P		**Pn**	**22 48 08.8**	**-0.8**
CHOS				S		**Sb**	**22 48 27.2**	**0.0**
CHOS	**Chios island**	**1.33**	**164**	P		**Pn**	**22 48 08.9**	**-0.7**
ZEDA	**zmir-Bergama**	**1.36**	**121**	IAML_P				
	comp=Z,4μm,0.1s							
ZEDA				*i* P		**Pn**	**22 48 09.7**	**-0.2**
OUR	**Ouranopolis**	**1.39**	**299**	PN		**Pn**	**22 48 09.9**	**-0.4**
OUR	**Ouranopolis**	**1.39**	**299**	P		**Pn**	**22 48 10.0**	**-0.4**
AOS	**Alonnisos**	**1.41**	**250**	PN		**Pn**	**22 48 09.9**	**-0.6**
AOS	**Alonnisos**	**1.41**	**250**	P		**Pn**	**22 48 10.0**	**-0.6**
AOS				S		**Sg**	**22 48 29.9**	**+0.3**
KESN	**Edirne-Kesan**	**1.43**	**36**	IAML_P				
	comp=Z,702nm,0.1s							
KESN				*i* P		**Pn**	**22 48 10.2**	**-1.0**
KESN				*i* S		**Sb**	**22 48 29.9**	**-0.5**
RDO	**Rodhopi**	**1.48**	**359**	PN		**Pn**	**22 48 10.4**	**-1.1**
RDO	**Rodhopi**	**1.48**	**359**	P		**Pn**	**22 48 10.7**	**-0.8**
PAIG	**Paliouri**	**1.48**	**281**	P		**Pn**	**22 48 11.1**	**-0.5**
KRBG	**Karabiga-Canak**	**1.51**	**61**	PN		**Pn**	**22 48 11.5**	**-0.4**
URLA	**Izmir**	**1.53**	**148**	PN		**Pn**	**22 48 11.5**	**-0.8**
URLA	**Izmir**	**1.53**	**148**	*i* P		**Pn**	**22 48 11.8**	**-0.5**
URLA				*i* S		**Sn**	**22 48 31.4**	**-1.1**
KAVA	**Kavala**	**1.56**	**329**	P		**Pn**	**22 48 12.0**	**-0.6**
BALY	**Balya**	**1.58**	**87**	IAML_P				
	comp=Z,2μm,0.1s							
BALY				*i* P		**Pn**	**22 48 13.1**	**+0.1**
BALY				*i* S		**Sb**	**22 48 33.8**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.59**	**50**	PN		**Pn**	**22 48 12.6**	**-0.6**
SART	**Tekirdag**	**1.59**	**50**	*i* P		**Pn**	**22 48 12.9**	**-0.3**
SART				*i* S		**Sg**	**22 48 35.4**	**-0.4**
KNL	**Balıkesir**	**1.61**	**68**	IAML_P				
	comp=Z,2μm,0.1s							
KNL				*i* P		**Pn**	**22 48 13.5**	**+0.1**
KNL				*i* S		**Sb**	**22 48 35.6**	**+0.4**
GONE	**Gonen-Balikesi**	**1.67**	**76**	PN		**Pn**	**22 48 13.4**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.68**	**99**	IAML_P				
	comp=Z,1μm,0.2s							
STEP				*i* P		**Pn**	**22 48 14.4**	**0.0**
SKIA	**Skiathos**	**1.71**	**254**	P		**Pn**	**22 48 14.4**	**-0.4**
BLCB	**Balcova**	**1.72**	**138**	PN		**Pn**	**22 48 14.4**	**-0.4**
BALB	**Balikesir**	**1.78**	**90**	PN		**Pn**	**22 48 14.9**	**-0.8**
PLG	**Polygyros**	**1.78**	**294**	P		**Pn**	**22 48 15.5**	**-0.3**
MRKA	**Markates**	**1.82**	**239**	P		**Pn**	**22 48 15.8**	**-0.5**
EDC	**Edincik**	**1.88**	**68**	PN		**Pn**	**22 48 16.4**	**-0.7**
KDZ	**Kurdzhali**	**1.98**	**357**	PN		**Pn**	**22 48 17.4**	**-1.1**
TKR	**Tekirdag**	**2.00**	**48**	PN		**Pn**	**22 48 18.0**	**-0.7**
DION	**Dionisos Attik**	**2.04**	**219**	P		**Pn**	**22 48 18.8**	**-0.6**
SRS	**Serrai**	**2.10**	**314**	*e*Pg		**Pb**	**22 48 23.4**	**+0.6**
SRS				*e*Sg		**Sg**	**22 48 51.9**	**+0.1**
SRS	**

BHL	**Bhannes**	**0.60 304**	*e*P	**Pg**	**22 48 55.4**	**+0.1**
BEYL	**Beirut**	**0.70 295**	*e*P	**Pg**	**22 48 57.0**	**-0.2**
HWQ	**Hawqa**	**0.75 340**	*e*P	**Pg**	**22 48 58.7**	**+0.5**
SHMJ	**Saham**	**0.94 206**	P	**Pg**	**22 49 02.0**	**+0.2**
HSUJ	**Al Zarqa**	**1.47 182**	P	**Pn**	**22 49 11.0**	**-0.4**
	comp=N,142nm,0.4s					
ASF	**Jabal al Asfar**	**1.50 159**	P	**Pn**	**22 49 11.3**	**-0.6**
WALJ	**Wala**	**2.04 191**	P	**Pn**	**22 49 20.1**	**+0.9**
GHAJ	**Ghor Haditha**	**2.34 195**	P	**Pn**	**22 49 23.1**	**-0.2**
	comp=N,28nm,0.4s					

*LJU **04** 22:49:26.7,45°.28N×14°.94E,h12km, ML2.2*
*ROM **04** 22:49:28.1±0.6,45°.26N±0°.04×14°.91E±0°.03,h10km, ML3.1/10,Error ellipse: s-maj=5.0km s-min=1.5km az=344.0*
*BEO **04** 22:49:28.0±0.4,45°.28N×14°.97E,h1km±3km,ML2.7/6*
*SAR **04** 22:49:28.4±0.2,45°.31N×14°.94E,h4km±2km,ML2.7/1*
*PRU **04** 22:49:28.5±0.0,45°.37N×15°.03E,h0km*
ISC 04 22:49:27.9±1.0,**45°.31N**±0°.02×**14°.93E**±0°.01,**h7**km±8km, **n104**,σ1§**18**/149,**3C-11D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	**Gornja Briga**	**0.24 339**	⇓	*i*Pg	**Pg**	**22 49 32.4**	**-0.3**
GBRS				*i* Sg	**Sg**	**22 49 36.1**	**+0.2**
	comp=Z,392nm,0.2s						
BOJS	**Bojanci**	**0.30 49**		*e*Pg	**Pg**	**22 49 33.1**	**-0.7**
BOJS				*e*Sg	**Sg**	**22 49 37.3**	**-0.5**
BOJS	**Bojanci**	**0.30 49**	⇑	*i*Pg	**Pg**	**22 49 33.2**	**-0.7**
BOJS				*i* Sg	**Sg**	**22 49 37.4**	**-0.5**
	comp=Z,541nm,0.3s						
RIY	**Rijeka**	**0.32 274**		*e*Pg	**Pg**	**22 49 33.6**	**-0.5**
RIY				*e*Sg	**Sg**	**22 49 39.1**	**+0.9**
RIY	**Rijeka**	**0.32 274**	⇑	*i*Pg	**Pg**	**22 49 33.6**	**-0.5**
RIY				*e*Sg	**Sg**	**22 49 39.4**	**+1.2**
KNDS	**Knezji Dol**	**0.45 300**	⇑	*i*Pg	**Pg**	**22 49 36.0**	**-0.6**
KNDS				*i* Sg	**Sg**	**22 49 43.4**	**+0.9**
	comp=Z,176nm,0.3s						
OZLJ	**Ozalj**	**0.49 50**		*i* Pg	**Pg**	**22 49 36.6**	**-0.7**
VISS	**Visnje**	**0.50 353**	⇓	*i*Pg	**Pg**	**22 49 36.9**	**-0.7**
VISS				*i* Sg	**Sg**	**22 49 45.5**	**+1.3**
	comp=Z,87nm,0.2s						
CEY	**Cerknica**	**0.56 321**		*e*Pg	**Pg**	**22 49 38.6**	**-0.1**
CEY				*e*Sg	**Sg**	**22 49 47.2**	**+1.2**
CEY	**Cerknica**	**0.56 321**	⇓	*i*Pg	**Pg**	**22 49 38.2**	**-0.5**
CEY				*i* Sg	**Sb**	**22 49 47.7**	**-0.5**
	comp=Z,281nm,0.3s						
CEY	**Cerknica**	**0.56 321**	⇓	*i*Pg	**Pg**	**22 49 38.1**	**-0.6**
CEY				*e*Sg	**Sg**	**22 49 47.0**	**+1.0**
CRES	**Cresnjev**	**0.64 35**	⇓	*i*Pg	**Pg**	**22 49 39.7**	**-0.5**
CRES	**Cresnjev**	**0.64 35**	⇓	*i*Pg	**Pg**	**22 49 39.6**	**-0.6**
CRES				*e*Sg	**Sg**	**22 49 48.5**	**0.0**
SKDS	**Skadanscina**	**0.69 291**		*i* Pg	**Pg**	**22 49 39.9**	**-1.2**
SKDS				*i* Sg	**Sg**	**22 49 51.1**	**+1.0**
	comp=Z,62nm,0.2s						
LEGS	**Legarje**	**0.70 23**	⇓	*i*Pg	**Pg**	**22 49 40.7**	**-0.6**
NVLJ	**Novalja**	**0.74 183**		*i* Pg	**Pg**	**22 49 41.1**	**-1.0**
NVLJ				Sg	**Sg**	**22 49 52.5**	**+0.7**
GCIS	**Gornji Cirnik**	**0.74 41**		*i* Pg	**Pg**	**22 49 41.6**	**-0.6**
GCIS				*e*Sg	**Sg**	**22 49 51.3**	**-0.6**
	comp=Z,74nm,0.4s						
PDKS	**Podkum**	**0.76 4**		*i* Pg	**Pg**	**22 49 41.8**	**-0.7**
PDKS				*i* Sg	**Sb**	**22 49 54.5**	**+0.6**
	comp=Z,56nm,0.2s						
CESS	**Cesta pri Krsk**	**0.77 29**		*e*Pg	**Pg**	**22 49 42.0**	**-0.5**
LJU	**Ljubljana**	**0.79 339**		*e*Pg	**Pg**	**22 49 42.4**	**-0.7**
LJU				*e*Sg	**Sb**	**22 49 54.8**	**-0.1**
LJU	**Ljubljana**	**0.79 339**		*i* Pg	**Pg**	**22 49 42.5**	**-0.5**
LJU				*i* Sg	**Sb**	**22 49 54.8**	**-0.1**
	comp=Z,52nm,0.3s						
LJU	**Ljubljana**	**0.79 339**	⇓	*i*Pg	**Pg**	**22 49 42.4**	**-0.7**
LJU				*e*Sg	**Sg**	**22 49 54.3**	**+1.0**
VNDS	**Vrh nad Dolski**	**0.81 349**	⇓	*i*Pg	**Pg**	**22 49 42.8**	**-0.7**
	comp=Z,95nm,0.4s						
JAVS	**Javornik**	**0.85 314**		*i* Pg	**Pg**	**22 49 43.0**	**-1.1**
JAVS				*e*Sg	**Sg**	**22 49 55.8**	**+0.7**
	comp=Z,68nm,0.3s						
GOLS	**Golise**	**0.86 34**		*i* Pg	**Pg**	**22 49 44.2**	**-0.1**
GOLS				*i* Sg	**Sb**	**22 49 57.8**	**+1.0**
	comp=Z,62nm,0.3s						
CRNS	**Crni Vrh**	**0.91 329**		*e*Pg	**Pg**	**22 49 44.5**	**-0.8**
CRNS				*e*Sg	**Sb**	**22 49 58.5**	**+0.2**
	comp=Z,42nm,0.2s						
ZAG	**Zagreb**	**0.91 55**	⇓	*i*Pg	**Pg**	**22 49 45.1**	**-0.2**
ZAG				*e*Sg	**Sg**	**22 49 57.5**	**+0.4**
TRI	**Trieste**	**0.91 297**		P	**Pg**	**22 49 44.6**	**-0.8**
TRI				S	**Sg**	**22 49 58.1**	**+0.8**
TRI				AML	AML		
	comp=E,373μm,0.3s						
TRI				AML	AML		
	comp=N,186μm,0.4s						
TRI				AML	AML		
	comp=E,373μm,0.3s						
TRI				AML	AML		
	comp=N,186μm,0.4s						
TRI				AML	AML		
	comp=E,373μm,0.3s						
TRI				AML	AML		
	comp=N,186μm,0.4s						
TRI	**Trieste**	**0.91 297**		S	**Sg**	**22 49 58.1**	**+0.8**
TRI	**Trieste**	**0.91 297**		P	**Sg**	**22 49 58.6**	**+1.3**
DOBS	**Dobrina**	**0.92 24**		*i* Pg	**Pg**	**22 49 44.7**	**-0.9**
DOBS				*e*Sg	**Sb**	**22 49 59.9**	**+1.2**
	comp=Z,24nm,0.2s						
UDBI	**Udbina**	**0.98 142**		*i* Pg	**Pg**	**22 49 46.1**	**-0.5**
UDBI				Sg	**Sb**	**22 49 59.9**	**-0.4**
VOJS	**Vojsko**	**1.03 315**		*e*Pg	**Pg**	**22 49 46.4**	**-1.3**
VOJS				*e*Sg	**Sb**	**22 50 02.3**	**+0.4**
	comp=Z,66nm,0.4s						
MOZS	**Mozjanca**	**1.05 341**		*i* Pg	**Pg**	**22 49 47.3**	**-0.6**
MOZS				*e*Sg	**Sb**	**22 50 02.6**	**+0.4**
	comp=Z,34nm,0.2s						
GORS	**Gorjuse**	**1.21 327**		*i* Pg	**Pg**	**22 49 50.4**	**-0.6**
	comp=Z,57nm,0.3s						
GROS	**Grobnik**	**1.22 19**		*e*Pg	**Pg**	**22 49 50.2**	**-1.1**
	comp=Z,37nm,0.2s						
OBKA	**Obir**	**1.23 348**		*e*Pg	**Pg**	**22 49 50.5**	**-1.0**
	comp=Z,21nm,0.2s,SNR=39						
OBKA				Sn	**Sn**	**22 50 09.5**	**+1.0**
	comp=Z,71nm,0.3s						
CADS	**Cadrg**	**1.25 318**		*i* Pg	**Pg**	**22 49 51.0**	**-0.7**
PERS	**Pernice**	**1.34 6**		*i* Pg	**Pn**	**22 49 53.0**	**0.0**
	comp=Z,31nm,0.2s						
BISS	**Bistriski jare**	**1.35 6**		*e*Pg	**Pn**	**22 49 53.3**	**+0.1**
SOKA	**Soboth**	**1.37 3**		Pg	**Pn**	**22 49 53.9**	**+0.3**
	comp=Z,27nm,0.3s,SNR=22						
SOKA				Sn	**Sb**	**22 50 11.6**	**-0.1**
	comp=Z,31nm,0.5s						
KOGS	**Kog**	**1.47 38**		*e*Pg	**Pn**	**22 49 54.9**	**+0.1**
KOGS	**Kog**	**1.47 38**		P	**Pn**	**22 49 55.3**	**+0.5**
KOGS				S	**Sg**	**22 50 15.7**	**+0.6**
KOGS				AML	AML		
	comp=E,386μm,1.0s						
KOGS				AML	AML		
	comp=N,443μm,1.0s						
KOGS				AML	AML		
	comp=N,443μm,1.0s						
KOGS				AML	AML		
	comp=E,386μm,1.0s						
KOGS	**Kog**	**1.47 38**		P	**Pg**	**22 49 56.9**	**+0.9**
KOGS	**Kog**	**1.47 38**		S	**Sg**	**22 50 15.7**	**+0.6**
KOGS	**Kog**	**1.47 38**		P	**Sn**	**22 50 16.9**	**+2.7**
VINO	**Villanova**	**1.50 310**		P	**Pb**	**22 49 56.0**	**0.0**
VINO	**Villanova**	**1.50 310**		P	**Pb**	**22 49 56.0**	**0.0**
GEPF	**Gemona**	**1.58 308**		P	**Pb**	**22 49 57.2**	**-0.2**
GEPF				AML	AML		
	comp=E,344μm,0.3s						
GEPF				AML	AML		
	comp=N,268μm,0.5s						
GEPF				AML	AML		
	comp=E,344μm,0.3s						
GEPF				AML	AML		
	comp=N,268μm,0.5s						
GEPF				AML	AML		
	comp=E,344μm,0.3s						
GEPF				AML	AML		
	comp=N,268μm,0.5s						
GEPF	**Gemona**	**1.58 308**		P	**Pb**	**22 49 57.5**	**0.0**
ACOM	**Acomizza, Ital**	**1.59 322**		P	**Pb**	**22 49 57.5**	**-0.1**
ACOM				AML	AML		
	comp=E,375μm,0.4s						
ACOM				AML	AML		
	comp=N,400μm,0.3s						
ACOM				AML	AML		
	comp=E,375μm,0.4s						
ACOM				AML	AML		
	comp=N,400μm,0.3s						
ACOM				AML	AML		
	comp=E,375μm,0.4s						
ACOM				AML	AML		
	comp=N,400μm,0.3s						
ACOM	**Acomizza, Ital**	**1.59 322**		P	**Pb**	**22 49 57.6**	**-0.1**
MYKA	**Terra Mystica**	**1.60 326**		Pg	**Pn**	**22 49 57.5**	**+0.8**
	comp=N,4.8nm,0.2s,SNR=11						
MYKA				Sn	**Sb**	**22 50 19.1**	**+0.8**
	comp=N,11nm,0.3s						
BLY	**Banja Luka**	**1.69 108**		*e*Pg	**Pn**	**22 49 58.0**	**+0.2**
BLY				*e*Sg	**Sn**	**22 50 20.3**	**+0.6**
BLY	**Banja Luka**	**1.69 108**		*e*Pn	**Pn**	**22 49 58.0**	**+0.2**
BLY				*e*Sn	**Sn**	**22 50 20.1**	**+0.4**
BEHE	**Becsehely**	**1.74 47**		*e*Pn	**Pn**	**22 49 59.3**	**+0.9**
BEHE				*e*Sn	**Sn**	**22 50 21.3**	**+0.5**
MGRS	**Mrkonjic Grad**	**1.77 119**	⇓	*i*Pn	**Pb**	**22 49 59.9**	**-0.8**
MGRS				*e*Sn	**Sb**	**22 50 23.2**	**+0.1**
STAL	**STALIGIAL**	**1.82 302**		P	**Pn**	**22 50 00.1**	**+0.5**
STAL				AML	AML		
	comp=E,338μm,0.7s						
STAL				AML	AML		
	comp=N,452μm,0.7s						
STAL				AML	AML		
	comp=E,490μm,1.2s						
STAL				AML	AML		
	comp=N,398μm,1.6s						
STAL				AML	AML		
	comp=E,338μm,0.7s						
STAL				AML	AML		
	comp=N,452μm,0.7s						
STAL				AML	AML		
	comp=E,490μm,1.2s						
STAL				AML	AML		
	comp=N,398μm,1.6s						
STAL				AML	AML		
	comp=N,398μm,1.6s						
STAL				AML	AML		
	comp=N,452μm,0.7s						
STAL				AML	AML		
	comp=E,338μm,0.7s						
STAL				AML	AML		
	comp=E,490μm,1.2s						
STAL	**STALIGIAL**	**1.82 302**		P	**Pn**	**22 50 00.3**	**+0.7**
POLC	**Polcenigo**	**1.85 294**		P	**Pn**	**22 50 01.0**	**+1.0**
POLC				AML	AML		
	comp=E,375μm,0.7s						
POLC				AML	AML		
	comp=N,526μm,0.5s						
POLC				AML	AML		
	comp=E,375μm,0.7s						
POLC				AML	AML		
	comp=N,526μm,0.5s						
POLC				AML	AML		
	comp=E,375μm,0.7s						
POLC				AML	AML		
	comp=N,526μm,0.5s						
POLC	**Polcenigo**	**1.85 294**		P	**Pn**	**22 50 01.1**	**+1.1**
ARSA	**Arzberg**	**1.99 12**		Pn	**Pb**	**22 50 04.4**	**+0.1**
	comp=N,12nm,0.3s						
ARSA				Sg	**Sb**	**22 50 30.7**	**+1.4**
	comp=N,5.3nm,0.3s						
PESA	**Pesaro**	**2.02 228**		P	**Sn**	**22 50 25.4**	**-2.4**
PESA	**Pesaro**	**2.02 228**		AML	AML		
	comp=N,185μm,0.4s						
PESA				AML	AML		
	comp=E,210μm,1.0s						
PESA				AML	AML		
	comp=N,185μm,0.4s						
PESA				AML	AML		
	comp=E,210μm,1.0s						
KBA	**Koelnbreinsper**	**2.09 329**		Pn	**Pn**	**22 50 04.8**	**+1.4**
	comp=E,2.4nm,0.3s						
ASOL	**Asolo**	**2.18 284**		S	**Sn**	**22 50 26.0**	**-5.9**
ABTA	**Abfaersbach**	**2.22 311**		Pn	**Pn**	**22 50 06.4**	**+1.2**
	comp=E,3.1nm,0.3s,SNR=6.2						
ABTA				Sg	**Sg**	**22 50 39.4**	**+0.3**
	comp=E,40nm,0.7s						
DOB	**Doboj**	**2.32 103**		*e*Pn	**Pn**	**22 50 06.5**	**+0.1**
DOB				*e*Sn	**Sn**	**22 50 36.1**	**+0.9**
MOA	**Molln**	**2.59 350**		Pn	**Pn**	**22 50 11.3**	**+1.1**
	comp=E,0.5nm,0.2s						
CDCA	**Citt' di Caste**	**2.67 227**		P	Pg	22 50 28.7	+10
CDCA	**Citt' di Caste**	**2.67 227**		AML	AML		
	comp=N,107μm,1.6s						
CDCA				AML	AML		
	comp=E,110μm,1.3s						
CDCA				AML	AML		
	comp=E,110μm,1.3s						
CDCA				AML	AML		
	comp=N,107μm,1.6s						
CONA	**Conrad Observa**	**2.70 13**		Pn	**Pn**	**22 50 12.3**	**+0.6**
	comp=N,1.5nm,0.4s						
MORH	**Mrgy, Hungar**	**2.75 69**		*e*Sn	**Sn**	**22 50 47.1**	**+1.2**
CAVE	**Cavezzo**	**2.82 262**		P	**Pg**	**22 50 21.5**	**-0.3**
ABSI	**Aberstueckl**	**2.89 301**		P	**Pn**	**22 50 17.2**	**+2.7**
ABSI	**Aberstueckl**	**2.89 301**		AML	AML		
	comp=N,221μm,0.6s						
ABSI				AML	AML		
	comp=E,187μm,0.6s						
ABSI				AML	AML		
	comp=N,221μm,0.6s						
ABSI				AML	AML		
	comp=E,187μm,0.6s						
WTTA	**Wattenberg**	**3.01 312**		Pn	**Pb**	**22 50 19.4**	**-2.4**
	comp=E,2.2nm,0.3s						
MAGA	**Magasa**	**3.06 280**		P	**Pn**	**22 50 17.0**	**+0.3**
MAGA	**Magasa**	**3.06 280**		AML	AML		
	comp=N,104μm,0.5s						
MAGA				AML	AML		
	comp=E,201μm,0.4s						
MAGA				AML	AML		
	comp=N,104μm,0.5s						
MAGA				AML	AML		
	comp=E,201μm,0.4s						
HAPS	**Han Pijesak,Bl**	**3.12 112**		*e*Pg	**Pb**	**22 50 23.7**	**+0.1**
HAPS				*e*Sg	**Sg**	**22 51 06.0**	**-1.9**
HAPS	**Han Pijesak,Bl**	**3.12 112**		*e*Pn	**Pn**	**22 50 18.3**	**+0.8**
HAPS				*e*Sn	**Sn**	**22 50 55.2**	**+0.2**
STON	**Ston**	**3.15 140**		*e*Pn	**Pn**	**22 50 20.6**	**+2.8**
STON				Sn	**Sn**	**22 50 59.0**	**+3.4**
STON	**Ston**	**3.15 140**		*e*Pn	**Pn**	**22 50 18.5**	**+0.7**
STON				*e*Sn	**Sn**	**22 50 56.4**	**+0.8**
SQTA	**Sankt Quirin**	**3.21 308**		*e*Pn	**Pn**	**22 50 21.8**	**+3.0**
	comp=E,0.9nm,0.3s						
SQTA				Sg	**Sg**	**22 51 13.6**	**+2.5**
	comp=E,19nm,0.6s						
MOTA	**Moosalm**	**3.34 309**		*e*Pn	**Pn**	**22 50 23.3**	**+2.6**
	comp=E,1.0nm,0.4s,SNR=6.3						
FRGS	**Fruska Gora**	**3.45 91**		*e*Sn	**Sn**	**22 51 03.3**	**+0.2**
BBLS	**Lazići**	**3.51 113**		*e*Sn	**Sn**	**22 51 04.8**	**+0.2**
BRY	**Bratogost**	**3.54 131**		*e*Pn	**Pn**	**22 50 24.2**	**+0.8**
BRY				*e*Sn	**Sn**	**22 51 05.9**	**+0.4**
UPM	**Unac-Piva**	**3.55 125**		*e*Pn	**Pn**	**22 50 24.9**	**+1.4**
TREB	**Trebinje**	**3.58 135**		*e*Pn	**Pn**	**22 50 24.5**	**+0.8**
TREB				*e*Sn	**Sn**	**22 51 06.5**	**+0.3**
SMOL	**Smolenice**	**3.64 27**		*e*SG	**Pn**	**22 50 23.5**	**-1.1**
DIVS	**Divibare**	**3.81 107**		*e*Pn	**Pn**	**22 50 26.5**	**-0.5**
DIVS	**Divibare**	**3.81 107**		*e*Sn	**Sn**	**22 51 11.5**	**-0.5**
HCY	**Herceg Novi**	**3.85 137**		*e*Pn	**Pn**	**22 50 28.2**	**+0.8**
KRUC	**Moravsky**	**3.89 14**		*e*PN	**Pn**	**22 50 27.9**	**-0.1**
KRUC				*e*SN	**Sn**	**22 51 12.5**	**-1.4**
KHC	**Kasperske Hory**	**3.94 347**		*e*PN	**Pn**	**22 50 29.1**	**+0.4**
KHC				*ex*	x	22 50 47.5	
KHC				*e*SN	**Sn**	**22 51 14.3**	**-0.8**
KHC				*e*SG	**Sg**	**22 51 34.3**	**+0.1**
	comp=E,2.3nm,0.6s						
JAVC	**Velka Javorina**	**4.02 27**		*e*PN	**Pn**	**22 50 30.0**	**+0.2**
VRAC	**Vranov**	**4.16 15**		*e*PN	**Pn**	**22 50 30.8**	**-1.0**
VYHS	**Vyhne**	**4.16 39**		*e*PG	**Pn**	**22 50 32.7**	**+0.9**
DRME	**Dracevica, Mon**	**4.38 134**		*e*Pn	**Pn**	**22 50 35.9**	**+1.1**
DRME				*e*Sn	**Sn**	**22 51 25.5**	**-0.6**
MORC	**Moravsky Berou**	**4.81 21**		*e*PN	**Pn**	**22 50 39.5**	**-1.2**
NKC	**Novy Kostel**	**5.21 342**		*e*SG	**Sg**	**22 52 14.7**	**-0.2**
	comp=E,2.5nm,0.5s						
BRG	**Berggiesshubel**	**5.61 354**		SG	**Sg**	**22 52 28.5**	**+0.6**
	comp=E,3.7nm,1.3s						
CLL	**Collm**	**6.14 349**		*e*(Pn)	**Pn**	**22 51 00.0**	**+1.1**
CLL				*e*Sg	**Sg**	**22 52 40.0**	**-4.9**

*NSSC **04** 22:52:14.8±0.5,33°.58N×36°.30E,h2km±1km,ML2.2*
*ISCJB **04** 22:52:15.3±1.0,33°.57N±0°.05×36°.26E±0°.05,h3km±13km, Error ellipse: s-maj=8.9km s-min=6.5km az=37.8*
*GRAL **04** 22:52:16.9±0.3,33°.54N×36°.20E,h0km±104km,MD2.9*
ISC 04 22:52:15.3±1.3,**33°.57N**±0°.06×**36°.27E**±0°.05,**h3**km±13km, **n8**,σ0§**65**/13,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QASN	**Qassioun**	**0.04 167**		*e*P	**Pg**	**22 52 16.1**	**-0.1**
QASN				*e*S	**Sg**	**22 52 16.9**	**0.0**
QASN				AML	AML	22 52 18.2	
	comp=E,12μm,0.3s						
QASN				AML	AML	22 52 19.4	
	comp=N,5μm,0.2s						
TOTH	**TOTAH**	**0.25 147**		*e*P	**Pg**	**22 52 20.5**	**+0.4**
TOTH				*e*S	**Sg**	**22 52 23.6**	**+0.3**
TOTH				AML	AML	22 52 37.9	
	comp=E,86nm,0.6s						
TOTH				AML	AML	22 52 40.0	
	comp=N,90nm,0.7s						
BRBR	**Barbar**	**0.31 239**		*e*P	**Pg**	**22 52 21.4**	**+0.1**
BRBR				*e*S	**Sg**	**22 52 26.8**	**+1.5**
BRBR				AML	AML	22 52 34.0	
	comp=E,157nm,0.3s						
BRBR				AML	AML	22 52 36.3	
	comp=N,128nm,0.5s						
RCY	**Rachaya**	**0.37 259**		*e*P	**Pg**	**22 52 22.5**	**+0.1**
SHBL	**Chebaa**	**0.49 243**		*e*P	**Pg**	**22 52 24.6**	**-0.1**
SHBL				*e*S	**Sg**	**22 52 30.2**	**-0.9**
DQRL	**Deir Qamar**	**0.60 283**		*e*P	**Pg**	**22 52 26.9**	**+0.1**
BHL	**Bhannes**	**0.61 303**		*e*P	**Pg**	**22 52 27.4**	**+0.4**
BHL				*e*S	**Sg**	**22 52 35.2**	**+0.3**
HWQ	**Hawqa**	**0.76 339**		*e*P	**Pb**	**22 52 30.7**	**-0.5**

*NSSC **04** 22:57:50.5±0.4,33°.60N×36°.28E,h1km±1km,ML1.6*
*GRAL **04** 22:57:52.9±0.3,33°.54N×36°.21E,h0km±228km,MD2.7*
ISC 04 22:57:50.2±1.1,**33°.57N**±0°.06×**36°.28E**±0°.05,**h11**km±7km, **n7**,σ0§**83**/12,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QASN	**Qassioun**	**0.03 183**		*e*P	**Pg**	**22 57 52.1**	**-0.3**
QASN				*e*S	**Sg**	**22 57 53.0**	**-1.0**
QASN				AML	AML	22 57 53.8	
	comp=N,901nm,0.3s						
QASN				AML	AML	22 57 54.3	
	comp=E,3μm,0.3s						
TOTH	**TOTAH**	**0.24 148**		*e*P	**Pb**	**22 57 56.4**	**-0.2**
TOTH				*e*S	**Sb**	**22 58 00.5**	**+1.8**
TOTH				AML	AML	22 58 14.7	
	comp=N,27nm,0.5s						
TOTH				AML	AML	22 58 17.0	
	comp=E,23nm,0.4s						
BRBR	**Barbar**	**0.31 241**		*e*P	**Pg**	**22 57 57.2**	**+0.5**
BRBR				*e*S	**Sb**	**22 58 02.7**	**-0.4**
BRBR				AML	AML	22 58 10.2	
	comp=N,55nm,0.6s						
BRBR				AML	AML	22 58 12.7	
	comp=E,43nm,0.4s						
SHBL	**Chebaa**	**0.50 244**		*e*P	**Pb**	**22 58 00.7**	**-0.3**
SHBL				*e*S	**Sg**	**22 58 06.5**	**-0.1**
DQRL	**Deir Qamar**	**0.61 284**		*e*P	**Pb**	**22 58 03.0**	**+0.1**
DQRL				*e*S	**Sg**	**22 58 10.4**	**+0.3**
BHL	**Bhannes**	**0.62 303**		*e*P	**Pb**	**22 58 03.4**	**+0.3**
HWQ	**Hawqa**	**0.76 339**		*e*P	**Pn**	**22 58 06.7**	**-0.4**

IDC 04 23:02:58.9±8.7,**8°.42S**×**119°.79E,h175**km±46km,**mb4.0**/2, **mb1 3.7**/5,**mb1mx3.1**/42,**mbtmp4.1**/5,**Error ellipse: s-maj=100.0km s-min=69.3km az=1.0,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.22 115**		P	Pn	23 04 02.6	0.0
	5.8nm,0.3s,baz=277,slow=3.8,SNR=5.0						
BATI				S	Sn	23 04 53.0	+0.5
	11nm,0.3s,baz=312,slow=21,SNR=7.2						
FITZ	**Fitzroy Crossi**	**11.18 150**		P	Pn	23 05 34.0	+0.1
	0.1nm,0.3s,baz=323,slow=10,SNR=7.0						
FITZ				S	Sn	23 07 32.9	-5.1
	0.6nm,0.3s,baz=198,slow=19,SNR=8.5						
WRA	**Warramunga Arr**	**18.15 131**		P	P	23 06 57.6	-0.6
	0.8nm,0.3s,baz=306,slow=13,SNR=38						
WRA				S	S	23 10 15.7	-1.4
	0.2nm,0.3s,baz=308,slow=20,SNR=5.8						
ASAR	**Alice Springs**	**20.31 140**		P	P	23 07 21.4	-0.1
	6.9nm,0.4s,baz=315,slow=9.0,SNR=64						
STKA	**Stephens Creek**	**30.91 142**		P	P	23 08 59.4	+0.2
	4.1nm,0.3s,baz=313,slow=9.0,SNR=16						

*IDC **04** 23:19:54.5±1.1,34°.59N×25°.71E,h0km,mb3.9/4, mb1 3.7/6,mb1mx3.4/48,mbtmp3.7/6,ML3.5/2,MS3.2/1, Ms1 3.3/1,ms1mx2.2/51,Error ellipse: s-maj=28.1km s-min=22.6km az=112.0*
*ATH **04** 23:19:57.3,34°.26N×25°.76E,h26km±4km,ML2.7/2,Error ellipse: s-maj=6.8km s-min=1.8km az=353.0*
*THE **04** 23:19:59.5,34°.39N×25°.76E,h3km±3km,ML2.6/6,Error ellipse: s-maj=3.7km s-min=1.1km az=131.0*
*HLW **04** 23:20:00.2,34°.02N×26°.26E,h10km±7km,Ml3.2*
ISC 04 23:19:57.7±1.3,**34°.27N**±0°.04×**25°.80E**±0°.04,**h34**km±3km, **n31**,σ1§**74**/38,**mb3.8**/5,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.91 22**		P	**Pb**	**23 20 15.7**	**+0.6**
ZKR				S	**Sb**	**23 20 27.0**	**0.0**
	438nm,0.5s						
ZKR	**Zakros**	**0.91 22**		P	**Pb**	**23 20 15.7**	**+0.6**
ZKR				S	**Sn**	**23 20 28.6**	**+2.4**
ZKR				AML	AML	23 20 31.2	
	comp=N,502μm,0.3s						
ZKR				AML	AML	23 20 31.9	
	comp=E,1426μm,0.5s						
LAST	**Lasithi**	**0.93 344**		P	**Pb**	**23 20 15.1**	**-0.3**
LAST				S	**Sb**	**23 20 27.1**	**-0.5**
	comp=E,428nm,0.6s						
LAST	**Lasithi**	**0.93 344**		P	**Pb**	**23 20 15.2**	**-0.3**
LAST				S	**Sn**	**23 20 28.8**	**+2.1**
LAST				AML	AML	23 20 30.4	
	comp=N,925μm,0.6s						
LAST				AML	AML	23 20 31.9	
	comp=E,769μm,0.8s			

ESDC	Sonseca Array	24.32	292	LR	LR	23 34 41.5	
	comp=E,55nm,20.8s,baz=310,slow=37						
FINES	FINESS Array B	27.20	0	P	P	23 25 36.5	-1.4
	comp=E,1.1nm,0.9s,baz=163,slow=10,SNR=3.7						
TORD	Torodi Ar. Bea	30.34	232	P	P	23 26 08.1	+1.8
	comp=E,6.9nm,0.2s,baz=36,slow=9.0,SNR=5.3						
ARCES	ARCESS Array B	35.32	360	P	P	23 26 47.8	-1.5
	comp=E,0.9nm,0.8s,baz=174,slow=9.1,SNR=4.0						
MKAR	Makanchi Array	43.83	56	P	P	23 28 02.1	+1.7
	comp=E,0.5nm,0.5s,baz=263,slow=9.6,SNR=8.8						
BOSA	Boshof	62.54	181	P	P	23 30 23.8	+5.6
	comp=E,3.0nm,1.0s,baz=354,slow=9.2,SNR=4.7						

IDC 04 23:34:34.0±3.4, 5°.96S×151°.61E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/32, mbtmp3.4/2, Error ellipse: s-maj=133.5km s-min=48.6km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.80	229	P	P	23 39 28.4	+0.6
	0.4nm,0.4s,baz=54,slow=10,SNR=8.2						
ASAR	Alice Springs	24.50	222	P	P	23 39 54.9	-0.4
	0.5nm,0.4s,baz=55,slow=8.8,SNR=8.5						
TORD	Torodi Ar. Bea	149.51	286	PKPbc	PKPbc	23 54 25.9	-0.5
	1.3nm,0.3s,baz=100,slow=2.3,SNR=4.2						

*IDC **04** 23:39:02.5±0.4, 54°.20S×136°.83W, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.3/32, mbtmp4.3/14, MS5.1/7, Ms1 5.1/7, ms1mx4.8/12, Error ellipse: s-maj=20.1km s-min=14.0km az=168.0*

*MOS **04** 23:39:03.8±1.4, 54°.55S×136°.57W, h10km, mb5.3/15, MS5.0/7, Error ellipse: s-maj=22.1km s-min=14.4km az=73.2*

*NEIC **04** 23:39:04.8±0.2, 54°.58S×136°.74W, h10km, mb5.1/43, MS5.2/88, Error ellipse: s-maj=11.4km s-min=8.3km az=145.0*

*ISCJB **04** 23:39:06.4±0.3, 54°.67S±0°.06×136°.4W±0°.1, h23km, mb4.9/51, MS5.2/106, Error ellipse: s-maj=10.2km s-min=7.9km az=27.0*

*GCMT **04** 23:39:06.8±0.1, 54°.42S±0°.01×136°.72W±0°.01, h12km, MW5.5/124, Moment Tensor Solution. s99, c173; s124, c240; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr=0.23±.02; Mθθ 1.66±.03; Mφφ -1.43±.02; Mrθ 0.18±.06; Mrφ 1.49±.02; Mθφ 0.31±.05; Best double couple: M=2.17600×10^17 NP1:φs=203.00000°, δ=90.00000°, λ=-170.00000°. NP2:φs=113.00000°, δ=80.00000°, λ=0.00000°. Principal axes: T 2.2930, Plg6.0000°, Azm338.0000°; N -0.2300, Plg80.0000°, Azm206.0000°; P -2.0590, Plg7.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 23:39:07.5±0.3, 54°.47S±0°.09×136°.46W±0°.08, h23km, n308, σ2°.27/193, mb5.0/51, MS5.2/106, 2C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	30.54	200	eP	P	23 45 17.8	-0.8
	55nm,1.8s						
SBA	Scott Base	30.54	200	eP	P	23 45 17.8	-0.8
SBA				pmax	pmax		
	comp=Z,55nm,1.8s						
RKT	Rikitea	31.33	3	eT	T	00 17 46.1	
	comp=Z,32nm,0.2s						
VNDA	Vanda	31.49	202	eP	P	23 45 25.6	-1.3
VNDA				epP	P	23 45 27.1	+0.1
VNDA	Vanda	31.49	202	P	P	23 45 28.6	+1.7
	comp=Z,3.3nm,1.2s,baz=91,slow=9.8,SNR=6.1						
VNDA				LR	LR	23 54 57.7	
	comp=Z,3μm,21.1s,baz=81,slow=30						
TBI	Tubuai	32.58	337	eLR	LR	23 53 47.1	
	comp=Z,14μm,28.2s						
TBI	Tubuai	32.58	337	eT	T	00 19 16.0	
	comp=Z,73nm,0.3s						
RPN	Rapa Nui	33.77	47	PFAKE		23 46 00.0	+13
RPN				LR	LR		
	comp=Z,2μm,21.0s						
URZ	Urewera	35.17	278	LR	LR	23 56 46.2	
	comp=Z,4μm,20.6s,baz=134,slow=30						
RPZ	Rata Peaks	35.23	266	LR	LR	23 56 59.7	
	comp=Z,4μm,19.3s,baz=130,slow=31						
QSPA	South Pole Qui	35.70	180	eP	P	23 46 00.7	-3.1
	comp=Z,86nm,1.9s						
QSPA	South Pole Qui	35.70	180	P	P	23 46 05.5	+1.7
	comp=Z,4.4nm,1.0s,baz=86,slow=1.2,SNR=12						
QSPA				LR	LR	23 59 11.6	
	comp=Z,9μm,18.3s,baz=71,slow=34						
MEH	Mehetia	37.61	342	eT	T	00 25 36.0	
	comp=Z,14nm,0.3s						
TVO	Taravao	37.93	340	eT	T	00 25 59.4	
	comp=Z,1.8nm,0.2s						
PAE	Paea	38.11	339	eT	T	00 26 08.5	
	comp=Z,4.7nm,0.3s						
TIAR	Tiarei	38.16	340	eT	T	00 26 04.5	
	comp=Z,4.5nm,0.3s						
PPT2	Papeete2	38.18	340	eS	S	23 52 16.5	-0.8
	comp=Z,632nm,26.2s						
PPT2				eLR	LR	23 56 35.9	
	comp=Z,12μm,25.8s						
PPT2	Papeete2	38.18	340	eT	T	00 26 09.4	
	comp=Z,8.3nm,0.3s						
RAO	Raoul Island	39.01	293	LR	LR	23 59 43.7	
	comp=Z,805nm,18.4s,baz=164,slow=32						
VAH	Vaihoa	40.11	343	eT	T	00 28 42.8	
	comp=Z,71nm,0.3s						
PMOR	Pomariorio Ree	40.38	343	eT	T	00 29 03.5	
	comp=Z,6.5nm,0.3s						
PLCA	Paso Flores	44.86	100	P	P	23 47 20.6	+0.8
	comp=Z,0.7nm,0.5s,baz=225,slow=16,SNR=2.6						
PLCA				LR	LR	00 01 55.7	
	comp=Z,2μm,18.3s,baz=254,slow=30						
EFI	East Falkland	44.89	120	PFAKE		23 47 30.0	+10
EFI				LR	LR		
	comp=Z,3μm,19.0s						
VNA3	Neumayer Olymp	49.06	160	P	P	23 47 51.9	-0.3
TAU	Tasmania Unive	49.23	250	PFAKE		23 48 00.0	+6.2
TAU				LR	LR		
	comp=Z,4μm,20.0s						
CASY	Casey	49.44	209	eP	P	23 47 56.0	+1.0
	comp=Z,39nm,1.3s						
CASY				LR	LR		
	comp=Z,285nm,19.0s						
VNA2	Neumayer--Watz	49.77	160	P	P	23 47 57.5	-0.1
	baz=217,slow=7.4						
VNA1	Neumayer--Stat	49.81	160	P	P	23 47 58.3	+0.4
SNAA	Sanae	49.99	163	P	P	23 47 59.1	-0.3
SNAA	Sanae	49.99	163	eP	P	23 47 58.9	-0.5
	comp=Z,38nm,1.5s						
SNAA	Sanae	49.99	163	eP	P	23 47 58.9	-0.5
SNAA				pmax	pmax		
	comp=Z,38nm,1.5s						
PEL	Peldehue	50.00	93	eP	P	23 47 59.3	-0.6
	comp=Z,40nm,1.1s						
PEL	Peldehue	50.00	93	eP	P	23 47 59.3	-0.6
PEL				pmax	pmax		
	comp=Z,40nm,1.1s						
TRQA	Tornquist	51.56	104	eP	P	23 48 11.8	+0.3
	comp=Z,25nm,1.3s						
TRQA	Tornquist	51.56	104	eP	P	23 48 11.8	+0.3
TRQA				pmax	pmax		
	comp=Z,25nm,1.3s						
GO04	Tololo Observa	52.09	90	eP	P	23 48 16.3	+0.4
	comp=Z,127nm,1.6s						
LCO	Las Campanas	53.01	89	PFAKE		23 48 40.0	+17
LCO				LR	LR		
	comp=Z,2μm,20.0s						
HOPE	Hope Point	53.24	134	PFAKE		23 48 40.0	+16
HOPE				LR	LR		
	comp=Z,3μm,20.0s						
DZM	Mont Dzumac	53.31	284	eLR	LR	00 03 54.5	
	comp=Z,3μm,22.8s						
SYO	Syowa Base	56.80	178⇑	eX	P	23 48 55.2	+6.1
SYO	Syowa Base	56.80	178⇑	ePcP	PcP	23 49 45.0	+0.3
MAW	Mawson	57.39	189	eP	P	23 48 53.6	+0.2
	comp=Z,3.2nm,1.2s						
MAW	Mawson	57.39	189	eP	P	23 48 53.6	+0.2
MAW				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MAW	Mawson	57.39	189	P	P	23 48 53.3	0.0
	comp=Z,2.8nm,0.7s,baz=203,slow=13,SNR=3.9						
LVC	Limon Verde	58.91	86	eP	P	23 49 06.1	+1.0
	comp=Z,29nm,1.2s						
LVC				LR	LR		
	comp=Z,610nm,19.0s						
LVC	Limon Verde	58.91	86	eP	P	23 49 06.1	+1.0
LVC				pmax	pmax		
	comp=Z,29nm,1.2s						
LVC				MLR	MLR		
	comp=Z,610nm,19.0s						
EIDS	Eidsvold	59.66	268	eP	P	23 49 13.0	+3.2
	comp=Z,21nm,1.2s						
PB01	IPOC Station P	59.79	84	eP	P	23 49 11.1	+0.2
	comp=Z,35nm,1.1s						
PB11	IPOC Station P	60.70	83	eP	P	23 49 17.9	+0.7
	comp=Z,22nm,1.0s						
MNMC	Minye Minye	61.23	83	eP	P	23 49 20.8	-0.1
	comp=Z,89nm,1.5s						
CPUP	Villa Florida	62.81	98	eP	P	23 49 31.6	+0.5
	comp=Z,27nm,1.4s						
CPUP	Villa Florida	62.81	98	P	P	23 49 30.4	-0.7
	comp=Z,3.2nm,1.0s,baz=216,slow=6.2,SNR=5.3						
NNA	Nana	62.84	72	eP	P	23 49 30.7	-0.8
	comp=Z,61nm,1.4s						
NNA				LR	LR		
	comp=Z,1μm,20.0s						
NNA	Nana	62.84	72	eP	P	23 49 30.7	-0.8
NNA				pmax	pmax		
	comp=Z,61nm,1.4s						
NNA				MLR	MLR		
	comp=Z,1μm,20.0s						
LPAZ	La Paz	64.32	82	P	P	23 49 41.7	-0.2
	comp=Z,1.9nm,0.7s,baz=161,slow=2.7,SNR=10						
CTA	Charters Tower	66.55	268	P	P	23 49 54.7	-0.9
	comp=Z,4.0nm,0.8s,baz=153,slow=9.3,SNR=3.1						
CTAO	Charters Tower	66.55	268	PFAKE		23 50 10.0	+14
CTAO				LR	LR		
	comp=Z,1μm,22.0s						
HNR	Honiara	67.15	286	PFAKE		23 50 10.0	+11
HNR				LR	LR		
	comp=Z,651nm,19.0s						
ASAR	Alice Springs	70.88	256	eP	P	23 50 20.0	-2.6
ASAR	Alice Springs	70.88	256	eP	P	23 50 20.0	-2.6
ASAR	Alice Springs	70.88	256	P	P	23 50 19.2	-3.4
	comp=Z,2.5nm,0.8s,baz=138,slow=5.8,SNR=16						
OTAV	Otavalo	72.19	63	eP	P	23 50 31.5	+0.4
	comp=Z,16nm,1.3s						
OTAV	Otavalo	72.19	63	eP	P	23 50 31.5	+0.4
OTAV				pmax	pmax		
	comp=Z,16nm,1.3s						
H01W1	Cape Leeuwin H	72.35	234	T	T	01 10 14.4	
	baz=144,slow=76,SNR=38						
H01W2	Cape Leeuwin H	72.36	234	T	T	01 10 14.8	
	baz=144,slow=76,SNR=40						
H01W3	Cape Leeuwin H	72.37	234	T	T	01 10 15.7	
	baz=144,slow=76,SNR=28						
WB2	Warramunga Arr	73.56	259	eP	P	23 50 36.5	-2.1
	comp=Z,22nm,1.3s						
WRA	Warramunga Arr	73.56	259	eP	P	23 50 36.5	-2.2
WRA	Warramunga Arr	73.56	259	P	P	23 50 35.5	-3.2
	comp=Z,2.7nm,0.7s,baz=144,slow=5.2,SNR=13						
WRAB	Tennant Creek	73.56	259	eP	P	23 50 36.3	-2.4
	comp=Z,19nm,1.3s						
WRAB				LR	LR		
	comp=Z,2μm,20.0s						
WRAB	Tennant Creek	73.56	259	eP	P	23 50 36.3	-2.4
WRAB				pmax	pmax		
	comp=Z,19nm,1.3s						
WRAB				MLR	MLR		
	comp=Z,2μm,20.0s						
H06S1	SOCORRO T	76.11	25	T	T	01 14 04.1	
	SNR=10.0						
MORW	Morawa	76.18	239	eP	P	23 50 55.2	+1.5
	comp=Z,29nm,1.4s						
BDFB	Brasilia	76.54	98	eP	P	23 50 54.1	-1.9
	comp=Z,14nm,1.1s						
BDFB	Brasilia	76.54	98	P	P	23 50 55.3	-0.7
	comp=Z,2.9nm,0.6s,baz=233,slow=3.3,SNR=7.6						
JTS	Las Juntas de	77.68	52	PFAKE		23 51 10.0	+7.8
JTS				LR	LR		
	comp=Z,1μm,19.0s						
ROSC	El Rosal	78.24	64	eP	P	23 51 05.5	-0.3
	comp=Z,3.2nm,0.6s						
ROSC	El Rosal	78.24	64	P	P	23 51 05.0	-0.8
	comp=Z,4.2nm,0.3s,baz=252,slow=3.9,SNR=5.0						
ROSC				LR	LR	00 18 49.4	
	comp=Z,733nm,21.8s,baz=250,slow=30						
TLIG	Tlapa	78.70	37	eP	P	23 51 08.1	+0.3
	comp=Z,20nm,1.3s						
BCIP	Isla Barro Col	79.13	57	PFAKE		23 51 20.0	+10
BCIP				LR	LR		
	comp=Z,1μm,19.0s						
FITZ	Fitzroy Crossi	79.95	253	eP	P	23 51 13.2	-1.6
	comp=Z,32nm,1.4s						
FITZ	Fitzroy Crossi	79.95	253	P	P	23 51 12.2	-2.5
	comp=Z,2.0nm,0.9s,baz=149,slow=5.5,SNR=4.3						
PSA00	Pilbara Seismi	80.32	247	eP	P	23 51 17.1	+0.5
	comp=Z,27nm,1.4s						
MBWA	Marble Bar	80.71	247	PFAKE		23 51 30.0	+11
MBWA				LR	LR		
	comp=Z,1μm,20.0s						
LNIG	Linares	85.22	33	eP	P	23 51 41.9	+0.1
HPIG		85.31	27	eP	P	23 51 44.5	+2.0
	comp=Z,10nm,0.9s						
TX31	Lajitas Ar. Si	88.13	28	eP	P	23 51 56.1	+0.1
	comp=Z,32nm,1.9s						
TXAR	Lajitas Array	88.13	28	eP	P	23 51 54.9	-1.1
TXAR	Lajitas Array	88.13	28	eP	P	23 51 54.9	-1.1
TXAR	Lajitas Array	88.13	28	P	P	23 51 54.5	-1.5
	comp=Z,1.0nm,0.9s,baz=195,slow=8.6,SNR=7.5						
KVTX	Kingsville	88.19	34	PFAKE		23 52 10.0	+14
KVTX				LR	LR		
	comp=Z,433nm,19.0s						
H11N3	WAKE ISLAND Hy	88.27	308	T	T	01 29 07.8	
	baz=148,slow=76,SNR=4.7						
H11N1	WAKE ISLAND Hy	88.28	308	T	T	01 29 28.7	
	baz=148,slow=76,SNR=4.9						
H11N2	WAKE ISLAND Hy	88.29	308	T	T	01 29 26.7	
	baz=148,slow=76,SNR=4.1						
833A	Chaparral WMA,	88.43	32	eP	P	23 51 59.4	+2.0
	comp=Z,70nm,1.6s						
833A	Chaparral WMA,	88.43	32	P	P	23 51 59.1	+1.8
	baz=201						
214A	Organ Pipe Nat	88.46	20	P	P	23 51 59.8	+2.3
	baz=194						
319A	Douglas	88.66	23	eP	P	23 52 01.9	+3.4
	comp=Z,22nm,1.4s						
113A	Mohawk Valley,	89.07	19	eP	P	23 51 60.0	-0.2
	comp=Z,33nm,2.0s						
TUC	Tucson	89.23	22	eP	P	23 51 59.9	-1.2
	comp=Z,10nm,1.2s						
TUC	Tucson	89.23	22	eP	P	23 51 59.9	-1.2
TUC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TUC	Tucson	89.23	22	P	P	23 52 03.5	+2.4
	baz=195						
PFO	Pinyon Flats O	89.41	17	eP	P	23 52 02.3	+0.3
	comp=Z,24nm,1.5s						
PFO				LR	LR		
	comp=Z,1μm,19.0s						
PFO	Pinyon Flats O	89.41	17	eP	P	23 52 02.3	+0.3
PFO				pmax	pmax		
	comp=Z,24nm,1.5s						
PFO				MLR	MLR		
	comp=Z,1μm,19.0s						
MIDW	Midway	89.58	325	PFAKE		23 52 10.0	+7.3
MIDW				LR	LR		
	comp=Z,837nm,19.0s						
BFSC	Mount Baldy Ra	89.83	15	P	P	23 52 04.0	0.0
	baz=191						
MNTX	Cornudas Mount	89.91	26	eP	P	23 52 03.0	-1.2
	comp=Z,22nm,1.8s						
MNTX				LR	LR		
	comp=Z,1μm,20.0s						
MNTX	Cornudas Mount	89.91	26	P	P	23 52 06.1	+1.9
	baz=198						
IRM	Iron Mountain	90.17	18	P	P	23 52 08.3	+2.9
	baz=192						
JCT	Junction City	90.32	31	eP	P	23 52 06.5	+0.3
	comp=Z,24nm,1.3s						
JCT				LR	LR		
	comp=Z,317nm,19.0s						
JCT	Junction City	90.32	31	eP	P	23 52 06.5	+0.3
JCT				pmax	pmax		
	comp=Z,24nm,1.3s						
JCT				MLR	MLR		
	comp=Z,317nm,19.0s						
JCT	Junction City	90.32	31	P	P	23 52 08.5	+2.3
	baz=200						
Y14A	Wickenburg	90.35	19	eP	P	23 52 07.0	+0.7
	comp=Z,9.1nm,1.4s						
GTBY	Guantanamo Bay	90.68	56	PFAKE		23 52 20.0	+12
GTBY				LR	LR		
	comp=Z,930nm,22.0s						
GSC	Goldstone, Bar	91.00	16	P	P	23 52 12.6	+3.2
	baz=191						
HKT	Hockley	91.08	34	eP	P	23 52 11.1	+1.5
	comp=Z,12nm,1.4s						
HKT	Hockley	91.08	34	eP	P	23 52 11.1	+1.5
HKT				pmax	pmax		
	comp=Z,12nm,1.4s						
ISA	Isabella, Lake	91.10	15	P	P	23 52 11.7	+1.9
	baz=190						
X16A	Lo Mia Camp, P	91.12	20	eP	P	23 52 11.8	+1.8
	comp=Z,6.5nm,1.3s						
GRGR	Grenville	91.14	71	PFAKE		23 52 20.0	+10
GRGR				LR	LR		
	comp=Z,871nm,19.0s						
SUR	Sutherland	91.30	161	PFAKE		23 52 20.0	+8.7
SUR				LR	LR		
	comp=Z,3μm,19.0s						
CWC	Cottonwood Cre	91.92	15	P	P	23 52 18.6	+5.0
	baz=191						
BNM	Barren Site	91.94	24	eP	P	23 52 15.3	+1.4
FURC	Furnace Creek,	92.14	16	P	P	23 52 18.0	+3.7
	baz=191						
ABTX	Abilene, Hawle	92.37	30	P	P	23 52 16.1	+0.5
	baz=200						
SHPR	Sheep Range	92.45	17	eP	P	23 52 17.1	+1.0
	comp=Z,9.2nm,1.4s						
TASM	ASL Pad, Albuq	92.74	24	P	P	23 52 20.0	+2.5
	baz=197						
ANMO	Albuquerque	92.74	24	eP	P	23 52 17.6	+0.1
	comp=Z,4.5nm,1.1s						
ANMO				LR	LR		
	comp=Z,697nm,21.0s						
ANMO	Albuquerque	92.74	24	eP	P	23 52 17.6	+0.1
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ANMO				MLR	MLR		
	comp=Z,697nm,21.0s						
U15A	North Rim	92.90	19	eP	P	23 52 19.9	+1.5
	comp=Z,19nm,1.4s						
OMMB	Old Mammoth Mi	92.94	14	eP	P	23 52 21.4	+2.9
	comp=Z,8.2nm,1.3s						
BBGH	Gun Hill	93.13	72	PFAKE		23 52 30.0	+10
BBGH				LR	LR		
	comp=Z,1μm,22.0s						
NATX	Nacogdoches	93.13	35	PFAKE		23 52 30.0	+11
NATX				LR	LR		
	comp=Z,357nm,22.0s						
CMB	Columbia Colle	93.17	13	eP	P	23 52 20.7	+1.4
	comp=Z,8.8nm,1.4s						
CMB	Columbia Colle	93.17	13	eP	P	23 52 20.7	+1.4
CMB				pmax	pmax		
	comp=Z,9.0nm,1.4s						
NVAR	Mina Array Bea	93.84	14	eP	P	23 52 23.8	+1.3
NVAR	Mina Array Bea	93.84	14	P	P	23 52 20.0	-2.6
	comp=Z,1.6nm,1.0s,baz=213,slow=8.8,SNR=4.2						
KAPI	Kappang	93.90	256	PFAKE		23 52 30.0	+6.7
KAPI				LR	LR		
	comp=Z,493nm,19.0s						
GRTK	Grand Turk	93.97	58	PFAKE		23 52 30.0	+6.8
GRTK				LR	LR		
	comp=Z,553nm,19.0s						
R11A	Troy Canyon, C	94.18	16	eP	P	23 52 26.0	+2.0
	comp=Z,2.9nm,1.1s						
R11A	Troy Canyon, C	94.18	16	P	P	23 52 23.1	-0.9
	baz=192						
MVCO	Mesa Verde	94.44	22	PFAKE		23 52 40.0	+15
MVCO				LR	LR		
	comp=Z,668nm,19.0s						
GUMO	Guam	94.48	287	PFAKE		23 52 40.0	+14
GUMO				LR	LR		
	comp=Z,444nm,20.0s						
KVN	Kaiserville	94.48	14	eP	P	23 52 26.3	+0.9
	comp=Z,7.5nm,1.5s						
KVN	Kaiserville	94.48	14	eP	P	23 52 26.3	+0.9
KVN				pmax	pmax		
	comp=Z,8.0nm,1.5s						
ANWB	Willy Bob	95.62	68	PFAKE		23 52 40.0	+9.1
ANWB				LR	LR		
	comp=Z,425nm,19.0s						
SDCO	Great Sand Dun	95.64	24	PFAKE		23 52 40.0	+9.1
SDCO				LR	LR		
	comp=Z,1μm,19.0s						
MIAR	Mount Ida	96.05	34	PFAKE		23 52 40.0	+7.6
MIAR				LR	LR		
	comp=Z,264nm,19.0s						
DUG	Dugway, Tooele	96.46	18	PFAKE		23 52 50.0	+16
DUG				LR	LR		
	comp=Z,865nm,19.0s						
ISCO	Idaho Springs	97.56	23	PFAKE		23 52 50.0	+10
ISCO				LR	LR		
	comp=Z,1μm,19.0s						
HWUT	Hardware Ranch	98.05	19	PFAKE		23 52 50.0	+8.4
HWUT				LR	LR		
	comp=Z,415nm,19.0s						
CBKS	Cedar Bluff	98.13	28	PFAKE		23 52 50.0	+8.1
CBKS				LR	LR		
	comp=Z,709nm,20.0s						
AHID	Auburn Hatcher	99.26	19	PFAKE		23 53 00.0	+13
AHID				LR	LR		
	comp=Z,567nm,20.0s						
KSU1	Kansas State U	99.29	30	PFAKE		23 53 00.0	+13
KSU1				LR	LR		
	comp=Z,274nm,19.0s						
HLID	Hailey	99.46	16	PFAKE		23 53 00.0	+12
HLID				LR	LR		
	comp=Z,1μm,20.0s						
BW06	Boulder Array	99.56	20	PFAKE		23 53 00.0	+12
BW06				LR	LR		
	comp=Z,1μm,19.0s						
BMO	Blue Mountains	100.29	14	PFAKE		23 53 00.0	+8.6
BMO				LR	LR		
	comp=Z,848nm,19.0s						
DAV	Davao City (W)	100.34	268	PFAKE		23 53 00.0	+7.7
DAV				LR	LR		
	comp=Z,228nm,20.0s						
LKWY	Lake	101.13	19	PFAKE		23 53 10.0	+15
LKWY				LR	LR		
	comp=Z,927nm,19.0s						
ASCN	Ascension	101.30	121	PFAKE		23 53 10.0	+13
ASCN				LR	LR		
	comp=Z,71μm,20.0s						
HAWA	Hanford	101.51	12	PFAKE		23 53 10.0	+13
HAWA				LR	LR		
	comp=Z,653nm,20.0s						
RLMT	Red Lodge	101.88	19	PFAKE		23 53 10.0	+11
RLMT				LR	LR		
	comp=Z,647nm,19.0s						
BOZ	Bozeman (W)	101.91	18	PFAKE		23 53 10.0	+11
BOZ				LR	LR		
	comp=Z,692nm,19.0s						
NLWA	Neilton Lookou	102.05	9	PFAKE		23 53 10.0	+11
NLWA				LR	LR		
	comp=Z,625nm,19.0s						
CNNC	Cliffs of the	102.55	46	PFAKE		23 53 10.0	+8.5
CNNC				LR	LR		
	comp=Z,1μm,22.0s						
HDIL	Hopedale	102.92	35	PFAKE		23 53 10.0	+7.0
HDIL				LR	LR		
	comp=Z,340nm,21.0s						
ECSD	EROS Data Cent	103.56	29	PFAKE		23 53 20.0	+14
ECSD				LR	LR		
	comp=Z,881nm,20.0s						
NEW	Newport	103.66	13	PFAKE		23 53 20.0	+14
NEW				LR	LR		
	comp=Z,521nm,21.0s						
LAO	LASA Array	104.00	21	PFAKE		23 53 20.0	+12
LAO				LR	LR		
	comp=Z,697nm,20.0s						
EGMT	Eagleton	104.58	18	PFAKE		23 53 20.0	+10
EGMT				LR	LR		
	comp=Z,632nm,21.0s						
JFWS	Jewell Farm	104.72	33	PFAKE		23 53 20.0	+9.0
JFWS				LR	LR		
	comp=Z,370nm,19.0s						
ACSO	Alum Creek Sta	104.86	40	PFAKE		23 57 40.0	+13
ACSO				LR	LR		
	comp=Z,460nm,20.0s						
CBN	Corbin Frederi	105.30	44	PFAKE		23 57 40.0	+13
CBN				LR	LR		
	comp=Z,770nm,20.0s						

DGMT	**Dagmar**	**106.12**	**22**	PFAKE			23 57 40.0	+11
DGMT				LR	LR			
comp=Z,471nm,20.0s								
AAM	**Ann Arbor**	**106.42**	**38**	PFAKE			23 57 40.0	+11
AAM				LR	LR			
comp=Z,395nm,20.0s								
ABPO	**Ambohimpanom**	**106.74**	**184**	PFAKE			23 57 40.0	+8.9
ABPO				LR	LR			
comp=Z,1μm,19.0s								
COWI	**Conover**	**107.93**	**33**	PFAKE			23 57 40.0	+7.8
COWI				LR	LR			
comp=Z,349nm,20.0s								
AGMN	**Agassiz Nation**	**107.97**	**27**	PFAKE			23 57 40.0	+7.9
AGMN				LR	LR			
comp=Z,618nm,22.0s								
GLMI	**Grayling**	**108.29**	**36**	PFAKE			23 57 40.0	+7.1
GLMI				LR	LR			
comp=Z,458nm,20.0s								
EYMN	**Ely**	**108.87**	**30**	PFAKE			23 57 50.0	+16
EYMN				LR	LR			
comp=Z,825nm,20.0s								
BINY	**Binghamton**	**109.25**	**43**	PFAKE			23 57 50.0	+15
BINY				LR	LR			
comp=Z,794nm,19.0s								
LSZ	**Lusaka**	**109.31**	**164**	PFAKE			23 57 50.0	+14
LSZ				LR	LR			
comp=Z,2μm,22.0s								
ADK	**Adak**	**111.16**	**335**	PFAKE			23 57 50.0	+12
ADK				LR	LR			
comp=Z,732nm,20.0s								
LONY	**Lake Ozonia**	**111.83**	**43**	PFAKE			23 57 50.0	+10
LONY				LR	LR			
comp=Z,385nm,20.0s								
FFC	**Flin Flon**	**112.48**	**21**	PFAKE			23 57 50.0	+10
FFC				LR	LR			
comp=Z,964nm,19.0s								
KDAK	**Kodiak Island**	**112.66**	**351**	PFAKE			23 57 50.0	+9.4
KDAK				LR	LR			
comp=Z,645nm,22.0s								
MAJO	**Matsushiro**	**116.30**	**296**	PFAKE			23 58 00.0	+12
MAJO				LR	LR			
comp=Z,418nm,22.0s								
YKA	**Yellowknife Ar**	**117.88**	**11**	PKP		**PKPdf**	**23 57 48.3**	**-2.2**
comp=Z,0.2nm,0.7s,baz=190,slow=2.8,SNR=3.4								
YKA				PKKPab		**PKKPbc**	**00 08 11.9**	**+0.8**
comp=Z,0.1nm,0.3s,baz=2.4,slow=4.0,SNR=4.0								
YKB5	**Yellowknife Ar**	**117.88**	**11**	*e*PKPdf		**PKPdf**	**23 57 48.4**	**-2.2**
DOT	**Dot Lake**	**117.94**	**356**	*e*PKPdf		**PKPdf**	**23 57 49.3**	**-1.4**
ERM	**Erimo**	**117.96**	**304**	PFAKE			23 58 00.0	+8.6
ERM				LR	LR			
comp=Z,240nm,19.0s								
EGAK	**Eagle**	**118.97**	**358**	PFAKE			23 58 00.0	+7.4
EGAK				LR	LR			
comp=Z,2μm,20.0s								
ILAR	**Eielson Array**	**119.18**	**355**	*e*PKPdf		**PKiKP**	**23 57 54.9**	**+1.9**
ILAR	**Eielson Array**	**119.18**	**355**	PKP		**PKiKP**	**23 57 53.1**	**+0.1**
comp=Z,0.5nm,0.8s,baz=236,slow=2.5,SNR=4.0								
ILB	**Eielson Array**	**119.18**	**355**	*e*PKPdf		**PKiKP**	**23 57 53.1**	**+0.1**
COLA	**College**	**119.34**	**354**	PFAKE			23 58 00.0	+6.7
COLA				LR	LR			
comp=Z,919nm,19.0s								
MSEY	**Mahe Island**	**120.23**	**194**	PFAKE			23 58 10.0	+13
MSEY				LR	LR			
comp=Z,1μm,19.0s								
PETK	**Petropavlovsk-**	**120.25**	**320**	PKP		**PKPdf**	**23 57 54.3**	**-1.1**
comp=Z,2.2nm,0.8s,baz=171,slow=2.8,SNR=2.7								
PEA1	**Petropavlovsk-**	**120.26**	**320**	*e*PKPdf		**PKPdf**	**23 57 54.3**	**-1.1**
NJ2	**Nanjing**	**123.67**	**279**	*e*PKP		**PKiKP**	**23 58 04.9**	**+2.0**
KMBO	**Kilima Mbogo**	**124.35**	**172**	PFAKE			23 58 20.0	+15
KMBO				LR	LR			
comp=Z,947nm,19.0s								
CHTO	**Chiang Mai**	**125.04**	**252**	PFAKE			23 58 20.0	+14
CHTO				LR	LR			
comp=Z,498nm,22.0s								
GYA	**Guiyang**	**126.61**	**265**	*e*Pdif		**Pdif**	**23 54 52.0**	**+3.1**
GYA	**Guiyang**	**126.61**	**265**	PKP		**PKiKP**	**23 58 11.4**	**+2.3**
GYA	**Guiyang**	**126.61**	**265**	PKP		**PKiKP**	**23 58 11.4**	**+2.3**
GYA				AMB	AMB			
comp=Z,120nm,7.9s								
MDJ	**Mudanjiang**	**126.66**	**297**	PFAKE			23 58 20.0	+12
MDJ				LR	LR			
comp=Z,372nm,21.0s								
TORD	**Torodi Ar. Bea**	**127.38**	**125**	PKP		**PKPdf**	**23 58 07.5**	**-2.7**
TORD	**Torodi Ar. Bea**	**127.38**	**125**	PKP		**PKPdf**	**23 58 07.5**	**-2.7**
comp=Z,1.0nm,0.7s,baz=202,slow=3.1,SNR=5.3								
TOA1	**Torodi Ar. Sit**	**127.38**	**125**	*e*PKPdf		**PKPdf**	**23 58 07.5**	**-2.7**
MA2	**Magadan**	**127.66**	**322**	PFAKE			23 58 20.0	+10
MA2				LR	LR			
comp=Z,709nm,20.0s								
ENH	**Enshi**	**127.81**	**270**	PFAKE			23 58 20.0	+8.7
ENH				LR	LR			
comp=Z,16nm,22.0s								
BILL	**Bilibino**	**129.32**	**336**	PFAKE			23 58 20.0	+6.9
BILL				LR	LR			
comp=Z,933nm,22.0s								
BJT	**Baijiatuau**	**130.84**	**284**	PFAKE			23 58 30.0	+13
BJT				LR	LR			
comp=Z,332nm,20.0s								
CD2	**Chengdu**	**131.62**	**266**	PKP		**PKiKP**	**23 58 21.0**	**+2.0**
CD2				AMB	AMB			
comp=Z,300nm,5.9s								
CD2				LR	LR			
comp=Z,410nm,19.1s								
CD2				LR	LR			
comp=Z,690nm,19.1s								
ZEA	**Zeya**	**133.72**	**305**	*e*P		**Pdif**	**23 55 05.9**	**-14**
HHC	**Hu-ho-hao-te**	**134.01**	**282**	*e*PKP		**PKiKP**	**23 58 27.4**	**+3.9**
HHC				LR	LR			
comp=Z,210nm,19.1s								
HHC				LR	LR			
comp=Z,270nm,18.3s								
HHC				LR	LR			
comp=Z,390nm,19.0s								
HIA	**Hailar**	**134.81**	**296**	PFAKE			23 58 30.0	+5.2
HIA				LR	LR			
comp=Z,256nm,21.0s								
LZH	**Lanzhou**	**135.27**	**271**	*e*PKP		**PKPdf**	**23 58 24.7**	**-0.1**
LZH				LR	LR			
comp=Z,120nm,16.0s								
LZH				LR	LR			
comp=Z,180nm,16.2s								
LZH				LR	LR			
comp=Z,180nm,18.6s								
LSA	**Lhasa**	**137.96**	**254**	PFAKE			23 58 40.0	+7.6
LSA				LR	LR			
comp=Z,325nm,20.0s								
GTA	**Gaotai**	**139.86**	**272**	*e*PKP		**PKiKP**	**23 58 40.7**	**+5.2**
MDT	**Midelt**	**139.99**	**103**	PKP		**PKPdf**	**23 58 33.4**	**-0.1**
comp=Z,2.4nm,0.9s,baz=154,slow=6.0,SNR=3.7								
SONM	**Songino Array**	**141.21**	**287**	*e*PKPdf		**PKPdf**	**23 58 36.1**	**+0.8**
SONM	**Songino Array**	**141.21**	**287**	*e*PKIKP		**PKPdf**	**23 58 36.1**	**+0.8**
SONM	**Songino Array**	**141.21**	**287**	PKhKP		PKPpre	23 58 29.5	
comp=Z,0.2nm,0.4s,baz=132,slow=2.2,SNR=3.6								
SUMG	**Summit**	**143.01**	**30**	*i* P		PKPab	23 58 31.3	-2.1
ZAK	**Zakamensk**	**144.30**	**289**	*e*PKHKP		PKPpre	23 58 35.5	
ZAK				pmax	pmax			
comp=Z,14nm,1.5s								
TLY	**Talaya**	**144.74**	**291**	PFAKE			23 58 50.0	+5.0
TLY				LR	LR			
comp=Z,165nm,19.0s								
PAB	**San Pablo**	**144.84**	**95**	*e*PKPdf		PKPbc	23 58 40.8	-0.3
PAB	**San Pablo**	**144.84**	**95**	*e*PKIKP		PKPbc	23 58 40.8	-0.3
ESDC	**Sonseca Array**	**145.15**	**95**	*e*PKPbc		**PKPbc**	**23 58 41.8**	**-0.3**
ESDC	**Sonseca Array**	**145.15**	**95**	PKPbc		**PKPbc**	**23 58 41.4**	**-0.7**
comp=Z,2.1nm,0.7s,baz=232,slow=3.1,SNR=29								
MOY	**Mondy**	**146.19**	**289**	*e*PKP2		**PKPbc**	**23 58 44.1**	**-0.9**
MOY				pmax	pmax			
comp=Z,61nm,2.5s								
DAG	**Danmarks Havn**	**148.53**	**23**	*e*PKIKP		**PKPdf**	**23 58 48.0**	**+1.1**
DAG	**Danmarks Havn**	**148.53**	**23**	*i* P		**PKPdf**	**23 58 48.0**	**+1.1**
WMQ	**Urumqi**	**149.70**	**268**	*e*PKPbc		**PKPbc**	**23 58 51.9**	**-2.6**
WMQ				pPKP		pPKPbc	23 59 00.7	-0.8
WMQ				LR	LR			
comp=Z,2μm,38.1s								
WMQ				LR	LR			
comp=Z,2μm,38.9s								
WMQ				LR	LR			
comp=Z,2μm,26.7s								
KEST	**Kesra**	**149.87**	**114**	*e*PKPbc		**PKPbc**	**23 58 54.8**	**-0.4**
KEST	**Kesra**	**149.87**	**114**	PKPbc		**PKPbc**	**23 58 54.8**	**-0.4**
comp=Z,5.2nm,1.0s,baz=302,slow=4.3,SNR=3.3								
NIL	**Nilore**	**150.54**	**237**	PFAKE			23 59 00.0	+2.4
NIL				LR	LR			
comp=Z,143nm,20.0s								
KBS	**Kingsbay**	**153.22**	**13**	PFAKE			23 59 00.0	-1.6
KBS				LR	LR			
comp=Z,561nm,19.0s								
KBL	**Kabul**	**153.27**	**232**	*e*PKPab		**PKPab**	**23 59 17.1**	**+1.8**
ESK	**Eskdalemuir**	**153.49**	**69**	PFAKE			23 59 10.0	-5.3
ESK				LR	LR			
comp=Z,574nm,20.0s								
EKA	**Eskdalemuir Ar**	**153.52**	**69**	PKPbc		**PKPbc**	**23 59 01.6**	**-1.2**
comp=Z,1.1nm,0.6s,baz=256,slow=2.4,SNR=6.5								
KSH	**Kashi**	**153.59**	**249**	PKPbc		**PKPdf**	**23 58 59.1**	**+3.1**
KSH				AMB	AMB			
comp=Z,190nm,4.7s								
KSH				LR	LR			
comp=Z,400nm,12.9s								
KSH				LR	LR			
comp=Z,340nm,13.3s								
KSH				LR	LR			
comp=Z,370nm,15.2s								
MK31	**Makanchi Array**	**154.52**	**269**	*e*PKPab		**PKPab**	**23 59 16.3**	**-3.7**
MK32	**Makanchi Array**	**154.52**	**269**	*e*PKPbc		**PKPbc**	**23 59 03.6**	**-1.7**
MKAR	**Makanchi Array**	**154.52**	**269**	*e*PKPbc		**PKPbc**	**23 59 04.7**	**-0.6**
MKAR				PKPab		**PKPab**	**23 59 17.4**	**-2.6**
MKAR				PP		**PP**	**00 02 57.0**	**+0.9**
MKAR	**Makanchi Array**	**154.52**	**269**	PKPbc		**PKPbc**	**23 59 03.6**	**-1.7**
comp=Z,0.9nm,0.9s,baz=87,slow=2.9,SNR=5.9								
MKAR				PKPab		**PKPab**	**23 59 17.4**	**-2.6**
comp=Z,3.4nm,1.0s,baz=116,slow=2.8,SNR=10								
MKAR				PP		**PP**	**00 02 57.0**	**+0.9**
comp=Z,0.4nm,0.9s,baz=122,slow=7.0,SNR=3.3								
NRIK	**Noril'sk**	**155.24**	**324**	PKPab		**PKPab**	**23 59 20.6**	**-1.8**
comp=Z,3.3nm,0.9s,baz=88,slow=1.5,SNR=7.2								
ZAA0	**Zalesovo Array**	**156.10**	**286**	*e*PKPab		**PKPab**	**23 59 24.8**	**-1.7**
ZALV	**Zalesovo Beam**	**156.10**	**286**	PKPab		**PKPab**	**23 59 23.3**	**-3.2**
comp=Z,5.5nm,0.9s,baz=70,slow=4.7,SNR=8.1								
ZAA1	**Zalesovo Array**	**156.10**	**286**	*e*PKPab		**PKPab**	**23 59 23.3**	**-3.2**
GAR	**Garm**	**156.20**	**240**	*e*PKPab		**PKPab**	**23 59 26.6**	**-0.9**
AAK	**Ala-Archa**	**156.54**	**252**	*e*PKPab		**PKPab**	**23 59 26.5**	**-2.5**
AAK				LR	LR			
comp=Z,437nm,20.0s								
IDI	**Anoyia**	**156.84**	**138**	PKP		**PKPdf**	**23 58 60.0**	**-0.4**
comp=Z,1.8nm,0.9s,baz=207,slow=4.5,SNR=2.3								
BFO	**Black Forest**	**157.37**	**91**	PFAKE			23 59 10.0	+9.4
BFO				LR	LR			
comp=Z,17nm,20.0s								
DAVA	**Damuels**	**157.75**	**95**	*e*P		**PKPdf**	**23 59 05.8**	**+4.6**
comp=Z,9.0nm,1.3s								
MMAI	**Mount Meron Ar**	**157.79**	**162**	PKP		**PKPdf**	**23 59 00.9**	**-0.8**
comp=Z,0.1nm,0.4s,baz=220,slow=3.4,SNR=2.8								
FETA	**Feichten**	**158.10**	**96**	*e*PKPdf		**PKPdf**	**23 59 03.0**	**+1.3**
comp=Z,3.4nm,1.2s								
RETA	**Reutte**	**158.36**	**95**	*e*PKPdf		**PKPdf**	**23 59 03.0**	**+1.1**
comp=Z,4.8nm,1.1s								
SQTA	**Sankt Quirin**	**158.48**	**96**	*e*PKPdf		**PKPdf**	**23 59 03.7**	**+1.6**
comp=Z,5.1nm,1.4s								
MOTA	**Moosalm**	**158.49**	**96**	*e*PKPdf		**PKPdf**	**23 59 02.7**	**+0.5**
comp=Z,3.1nm,1.0s								
KURK	**Kurchatov**	**158.50**	**274**	PFAKE			23 59 10.0	+8.2
KURK				LR	LR			
comp=Z,1μm,20.0s								
WTTA	**Wattenberg**	**158.75**	**97**	*e*PKPdf		**PKPdf**	**23 59 03.2**	**+0.7**
comp=Z,7.1nm,1.3s								
WATA	**Walderalm**	**158.75**	**96**	*e*PKPdf		**PKPdf**	**23 59 02.6**	**+0.2**
comp=Z,3.4nm,1.1s								
JAVS	**Javornik**	**159.39**	**102**	*i* PKPdf		**PKPdf**	**23 59 10.7**	**+7.5**
MYKA	**Terra Mystica**	**159.57**	**100**	*e*PKPdf		**PKPdf**	**23 59 01.8**	**-1.6**
comp=Z,5.3nm,1.0s								
VISS	**Visnje**	**159.78**	**104**	*e*PKPdf		PKPdf	23 59 11.3	+7.8
BOJS	**Bojanci**	**159.84**	**105**	*i* PKPdf		PKPdf	23 59 11.5	+7.9
OBKA	**Obir**	**160.02**	**102**	*e*PKPdf		**PKPdf**	**23 59 03.5**	**-0.4**
comp=Z,1.8nm,0.6s								
SOKA	**Soboth**	**160.39**	**102**	*e*PKPdf		**PKPdf**	**23 59 03.8**	**-0.5**
comp=Z,14nm,1.4s								
MOA	**Moln**	**160.58**	**98**	PKPdf		**PKPdf**	**23 59 03.0**	**-1.4**
comp=Z,4.1nm,1.2s								
NKC	**Novy Kostel**	**160.63**	**90**	AMS	AMS		01 15 10.0	
comp=Z,500nm,17.5s								
GEYT	**Alibeck**	**160.69**	**217**	PKPab		**PKPab**	**23 59 46.8**	**0.0**
comp=Z,0.7nm,0.5s,baz=110,slow=6.7,SNR=2.8								
GERES	**GERESS Array B**	**160.74**	**95**	*e*PKPdf		**PKPdf**	**23 59 05.0**	**+0.3**
GERES	**GERESS Array B**	**160.74**	**95**	*e*PKIKP		**PKPdf**	**23 59 05.0**	**+0.3**
GERES	**GERESS Array B**	**160.74**	**95**	PKP		**PKPdf**	**23 59 04.1**	**-0.5**
comp=Z,0.2nm,0.3s,baz=336,slow=2.9,SNR=4.2								
KHC	**Kasperske Hory**	**160.81**	**94**	AMS	AMS		01 15 00.0	
comp=Z,400nm,21.6s								
KHC				*e*PKP		**PKPdf**	**23 59 11.1**	**+6.5**
VAY	**Valandovo**	**160.84**	**125**	*i* PKP		**PKPdf**	**23 59 11.4**	**+6.6**
STIP	**Stip**	**160.94**	**123**	*i* PKP		**PKPdf**	**23 59 10.0**	**+5.0**
CLL	**Collm**	**161.38**	**87**	*e*PKIKP		**PKPdf**	**23 59 11.0**	**+5.9**
CLL				MLR	MLR			
comp=Z,300nm,19.6s								
CONA	**Conrad Observa**	**161.54**	**99**	*e*PKPdf		**PKPdf**	**23 59 04.2**	**-1.3**
comp=Z,4.5nm,1.3s								
PRU	**Pruhonice**	**161.75**	**92**	AMS	AMS		01 22 10.0	
comp=Z,400nm,20.7s								
GOPC	**GO Pecny, Ondr**	**161.86**	**93**	AMS	AMS		01 22 20.0	
comp=Z,400nm,18.9s								
PVCC	**Panska Ves**	**161.99**	**91**	AMS	AMS		01 13 50.0	
comp=Z,400nm,24.0s								
TREC	**Trest**	**161.99**	**95**	*e*PKIKP		**PKPdf**	**23 59 04.9**	**-0.9**
TREC	**Trest**	**161.99**	**95**	*e*PKP		**PKPdf**	**23 59 04.9**	**-0.9**
UPC	**Upice**	**162.82**	**92**	AMS	AMS		01 18 20.0	
comp=Z,400nm,18.8s								
KEV	**Kevo**	**162.94**	**20**	PFAKE			23 59 20.0	+14
KEV				LR	LR			
comp=Z,895nm,20.0s								
VYHS	**Vyhne**	**163.54**	**101**	*e*PKIKP		**PKPdf**	**23 59 11.8**	**+4.4**
VYHS	**Vyhne**	**163.54**	**101**	*e*PKP		**PKPdf**	**23 59 11.8**	**+4.4**
ANTO	**Ankara**	**163.69**	**149**	PFAKE			23 59 20.0	+12
ANTO				LR	LR			
comp=Z,477nm,22.0s								
OKC	**Ostrava-Krasne**	**163.78**	**96**	AMS	AMS		01 18 00.0	
comp=Z,600nm,19.7s								
BRTR	**Keskin Array B**	**163.81**	**152**	PKP		**PKPdf**	**23 59 06.7**	**-1.4**
comp=Z,0.5nm,1.0s,baz=204,slow=3.2,SNR=3.1								
BRTR				PKPab		**PKPab**	**23 59 59.1**	**-1.4**
comp=Z,1.4nm,0.8s,baz=177,slow=6.4,SNR=8.1								
BR101	**Keskin Array S**	**163.81**	**152**	*e*PKPdf		**PKPdf**	**23 59 06.7**	**-1.4**
BR101				*e*PKPab		**PKPab**	**23 59 59.1**	**-1.4**
BR131	**Keskin Array S**	**163.81**	**152**	*e*PKPdf		**PKPdf**	**23 59 10.5**	**+2.4**
BR131				*e*PKPab		**PKPab**	**00 00 00.6**	**+0.1**
BVAR	**Borovoye Array**	**164.09**	**276**	PKPab		**PKPab**	**23 59 57.4**	**-4.0**
comp=Z,1.3nm,0.9s,baz=97,slow=3.7,SNR=6.3								
BVAR				PP		**PP**	**00 03 52.1**	**+4.1**
comp=Z,0.7nm,0.7s,baz=72,slow=4.8,SNR=4.6								
BRVK	**Borovoye**	**164.16**	**276**	PFAKE			23 59 20.0	+12
BRVK				LR	LR			
comp=Z,325nm,20.0s								
GNI	**Garni**	**165.65**	**184**	PKPab		**PKPab**	**00 00 07.8**	**-0.8**
GNI				LR	LR			
comp=Z,996nm,22.0s								
GNI	**Garni**	**165.65**	**184**	PKPab		**PKPab**	**00 00 07.8**	**-0.8**
comp=Z,0.9nm,0.3s,baz=128,slow=19,SNR=4.4								
LVZ	**Lovozero**	**165.89**	**14**	PFAKE			23 59 20.0	+11
LVZ				LR	LR			
comp=Z,346nm,21.0s								
ABKAR	**Akbulak array**	**168.60**	**249**	*e*PKPab		**PKPab**	**00 00 21.0**	**-0.4**
KBZ	**Khabaz**	**169.24**	**178**	PKPab		**PKPab**	**00 00 22.6**	**-1.5**
comp=Z,0.6nm,0.5s,baz=257,slow=7.7,SNR=4.5								
KIV	**Kislovodsk**	**169.46**	**177**	*e*PKPab		**PKPab**	**00 00 24.1**	**-1.2**
KIV				LR	LR			
comp=Z,266nm,19.0s								
KIV	**Kislovodsk**	**169.46**	**177**	*e*PKP2		**PKPab**	**00 00 23.7**	**-1.6**
KIV				pmax	pmax			
comp=Z,20nm,1.1s								
KIEV	**Kiev**	**170.49**	**108**	PFAKE			23 59 20.0	+7.6
KIEV				LR	LR			
comp=Z,589nm,19.0s								
AKASG	**Malin Array Be**	**170.51**	**108**	PKPab		**PKPab**	**00 00 31.8**	**+2.0**
comp=Z,0.1nm,0.3s,baz=252,slow=3.6,SNR=3.9								
ARU	**Arti**	**171.24**	**289**	PFAKE			23 59 20.0	+7.4
ARU				LR	LR			
comp=Z,406nm,22.0s								
OBN	**Obninsk**	**175.91**	**78**	PFAKE			23 59 20.0	+5.7
OBN				LR	LR			
comp=Z,393nm,20.0s								

*ISCJB **04** 23:40:21.5±0.9, 54.0°S±0.2°×136.9°W±0.2°, h10km, mb4.3/10, Error ellipse: s-maj=29.5km s-min=16.2km az=164.0*
*IDC **04** 23:40:21.3±0.7, 53.99°S×136.88°W, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.3/34, mbtmp4.4/10, Error ellipse: s-maj=30.9km s-min=17.7km az=173.0*
ISC 04 23:40:22.7±0.8, **54.0°S**±0.2°×**136.9°W**±0.1°, **h10**km, **n28,**
σ1§**11**/24, **mb4.3**/10, **Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**31.83**	**201**	P	**P**	**23 46 48.7**	**+1.6**
0.8nm,0.9s,baz=52,slow=5.2,SNR=3.1							
QSPA	**South Pole Qui**	**36.15**	**180**	P	**P**	**23 47 25.5**	**+0.6**
4.3nm,0.9s,baz=81,slow=5.2,SNR=4.1							
PLCA	**Paso Flores**	**45.17**	**101**	P	**P**	**23 48 40.4**	**+0.9**
4.3nm,1.1s,baz=228,slow=11,SNR=2.9							
VNA3	**Neumayer Olymp**	**49.57**	**160**	pP	**P**	**23 49 11.9**	**-1.3**
VNA2	**Neumayer--Watz**	**50.27**	**161**	pP	**P**	**23 49 16.9**	**-1.7**
VNA1	**Neumayer--Stat**	**50.32**	**160**	pP	**P**	**23 49 18.3**	**-0.6**
SNAA	**Sanae**	**50.49**	**163**	pP	**P**	**23 49 19.0**	**-1.4**
MAW	**Mawson**	**57.80**	**189**	P	**P**	**23 50 13.5**	**0.0**
2.9nm,0.8s,baz=162,slow=9.6,SNR=2.9							
CPUP	**Villa Florida**	**63.10**	**98**	P	**P**	**23 50 50.2**	**0.0**
7.5nm,1.0s,baz=225,slow=7.8,SNR=5.6							
LPAZ	**La Paz**	**64.49**	**83**	P	**P**	**23 51 01.5**	**+1.2**
22nm,1.2s,baz=219,slow=5.0,SNR=6.8							
ASAR	**Alice Springs**	**70.77**	**256**	P	**P**	**23 51 39.3**	**0.0**
1.8nm,0.8s,baz=138,slow=6.8,SNR=4.2							
H01W1	**Cape Leeuwin H**	**72.43**	**235**	T	T	01 11 39.6	
baz=144,slow=76,SNR=8.8							
H01W2	**Cape Leeuwin H**	**72.44**	**235**	T	T	01 11 36.2	
baz=144,slow=76,SNR=7.8							
H01W3	**Cape Leeuwin H**	**72.45**	**235**	T	T	01 11 40.7	
baz=144,slow=76,SNR=9.2							
WRA	**Warramunga Arr**	**73.43**	**259**	P	**P**	**23 51 55.5**	**+0.3**
2.1nm,0.8s,baz=145,slow=5.2,SNR=7.3							
H06S1	**SOCORRO T**	**75.80**	**25**	T	T	01 15 25.0	
BDFB	**Brasilia**	**76.83**	**98**	P	**P**	**23 52 14.9**	**0.0**
6.7nm,0.8s,baz=192,slow=3.8,SNR=5.4							
FITZ	**Fitzroy Crossi**	**79.87**	**253**	P	**P**	**23 52 32.0**	**+0.5**
4.4nm,1.1s,baz=104,slow=4.2,SNR=3.7							
YKA	**Yellowknife Ar**	**117.48**	**11**	PKKPab	PKKPab	00 09 33.2	+3.1
0.3nm,0.9s,baz=3.9,slow=3.4,SNR=3.1							
TORD	**Torodi Ar. Bea**	**127.83**	**125**	PKP	**PKPdf**	**23 59 26.3**	**-2.2**
0.6nm,0.6s,baz=190,slow=1.5,SNR=3.8							
TORD	**Torodi Ar. Bea**	**127.83**	**125**	PKP	**PKPdf**	**23 59 26.3**	**-2.2**
ESDC	**Sonseca Array**	**145.42**	**95**	PKPbc	**PKPab**	**00 00 00.8**	**+0.3**
2.4nm,0.8s,baz=247,slow=2.7,SNR=4.9							
KEST	**Kesra**	**150.26**	**114**	PKPbc	**PKPbc**	**00 00 13.8**	**+0.2**
2.9nm,0.8s,baz=253,slow=11,SNR=3.1							
KEST				PKPab	**PKPab**	**00 00 19.9**	**0.0**
10nm,0.9s,baz=235,slow=4.2,SNR=4.3							
KEST	**Kesra**	**150.26**	**114**	PKPab	**PKPab**	**00 00 19.9**	**0.0**
MKAR	**Makanchi Array**	**154.30**	**270**	PKPab	**PKPab**	**00 00 35.3**	**-1.1**
0.7nm,0.8s,baz=129,slow=4.6,SNR=2.9							
ZALV	**Zalesovo Beam**	**155.75**	**287**	PKPab	**PKPab**	**00 00 42.8**	**+0.4**
0.7nm,0.4s,baz=134,slow=5.4,SNR=2.2							
IDI	**Anoyia**	**157.33**	**138**	PKPab	**PKPab**	**00 00 49.1**	**-0.6**
1.4nm,0.6s,baz=227,slow=11,SNR=4.9							
BRTR	**Keskin Array B**	**164.31**	**152**	PKPab	**PKPab**	**00 01 18.9**	**-1.2**
1.0nm,0.6s,baz=182,slow=7.1,SNR=6.2							

*DDA **04** 23:40:31.9, 37.02N×36.74E, h7km±5km, ML2.6*
*ISK **04** 23:40:32.3, 37.07N×36.82E, h6km, ML1.5/6*
*ISCJB **04** 23:40:33.0±0.6, 37.06N±0.03°×36.81E±0.04, h9km±6km, Error ellipse: s-maj=6.0km s-min=4.7km az=147.5*
ISC 04 23:40:32.8±1.0, **37.05N**±0.04°×**36.83E**±0.03, **h14**km±8km,
n13, σ0§**53**/20, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMA	**Osmaniye**	**0.18**	**316**	*i* P	**Pg**	**23 40 37.6**	**+0.3**
KAMA				*i* S	**Sg**	**23 40 40.0**	**-0.2**
KAMA				IAML_P			
comp=Z,3μm,0.1s							
HCB	**Kahramanmara**	**0.30**	**12**	*i* P	**Pg**	**23 40 39.0**	**0.0**
HCB				*i* S	**Sg**	**23 40 43.7**	**+0.3**
HCB				IAML_P			
comp=Z,1μm,0.1s							
GAZ	**Gaziantep**	**0.33**	**69**	PG

SONM	Songino Array	46.46	326	P	P	00 06 00.0	+1.5
	0.3nm,0.4s,baz=133,slow=7.2,SNR=2.7						
MKAR	Makanchi Array	61.01	316	P	P	00 07 44.3	+1.0
	0.4nm,0.5s,baz=98,slow=8.8,SNR=5.2						
KURBB	Kurchatov Arra	64.23	320	P	P	00 08 04.9	-0.5
	0.6nm,0.4s,baz=105,slow=6.8,SNR=7.2						
ILAR	Eielson Array	69.64	25	P	P	00 08 39.1	-0.3
	0.5nm,0.7s,baz=255,slow=5.8,SNR=5.6						
YKA	Yellowknife Ar	83.97	27	P	P	00 09 59.6	0.0
	0.3nm,0.5s,baz=287,slow=5.1,SNR=4.8						
ARCES	ARCESS Array B	87.23	342	P	P	00 10 14.9	-0.8
	0.9nm,0.8s,baz=60,slow=7.4,SNR=5.2						
NVAR	Mina Array Bea	88.29	51	P	P	00 10 22.8	+1.1
	0.5nm,0.5s,baz=258,slow=7.4,SNR=4.4						
FINES	FINESS Array B	91.13	335	P	P	00 10 32.0	-2.0
	1.0nm,0.3s,baz=66,slow=3.7,SNR=23						
LPAZ	La Paz	149.21	100	PKPbc	PKiKP	00 17 19.5	-0.7
	0.8nm,0.6s,baz=270,slow=3.4,SNR=4.9						

*ISCJB **04** 23:58:38.0±0.9, 51°.41N±0°.04×16°.08E±0°.05, h0km, Error ellipse: s-maj=5.9km s-min=3.5km az=33.3*
*PRU **04** 23:58:39.3±0.0, 51°.47N×16°.10E, h0km*
*VIE **04** 23:58:40.0±0.9, 51°.35N×16°.03E, h0km, mb2.0/3, ml2.1/5, Error ellipse: s-maj=7.4km s-min=4.6km az=15.0, Suspected Mining induced.*

ISC 04 23:58:38.4±1.7, 51°.48N±0°.08×16°.13E±0°.05, h0km, n19, σ0°68/38, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.65	171	ePKIKP	Pg	23 58 51.4	+0.7
KSP				e	Sg	23 58 59.9	+0.8
UPC	Upice	0.98	184	ePG	Pg	23 58 57.3	+0.2
UPC				eSG	Sb	23 59 10.4	-1.2
DPC	Dobruska-Polom	1.14	174	ePG	Pg	23 59 00.0	-0.2
DPC				eSG	Sg	23 59 14.7	-0.2
PVCC	Panska Ves	1.37	227	ePG	Pg	23 59 04.5	-0.1
PVCC				eSG	Sn	23 59 23.5	-0.1
	comp=Z,40nm,0.3s						
KRLC	Kraliky	1.47	163	ePG	Pn	23 59 06.5	+0.4
KRLC				eSG	Sn	23 59 25.7	-0.3
	comp=Z,2.3nm,0.5s						
BRG	Berggiesshubel	1.50	247	PG	Pb	23 59 07.4	+0.2
BRG				SG	Sn	23 59 27.2	+0.4
	18nm,0.3s						
GOPC	GO Pecny, Ondr	1.79	209	ePG	Pb	23 59 11.9	-0.1
GOPC				eSG	Sg	23 59 35.4	-0.3
	comp=Z,4.4nm,0.3s						
PRU	Pruhonice	1.80	215	ePN	Pn	23 59 10.1	-0.6
PRU				ePG	Pb	23 59 12.2	0.0
PRU				eSG	Sg	23 59 35.4	-0.8
	comp=Z,6.2nm,0.5s						
MORC	Moravsky Berou	1.93	152	ePN	Pn	23 59 12.0	-0.5
MORC				eSG	Sb	23 59 38.8	-0.2
CLL	Collm	1.97	266	ePg	Pb	23 59 15.0	0.0
CLL				e		23 59 18.0	
CLL				e		23 59 30.0	
CLL				eSg	Sb	23 59 40.0	0.0
	comp=Z,7.0nm,0.5s						
OKC	Ostrava-Krasne	2.09	141	eSG	Sg	23 59 44.9	-0.5
VRAC	Vranov	2.20	172	eSG	Sg	23 59 48.7	-0.2
TREC	Trest	2.23	191	ePN	Pn	23 59 17.8	+1.3
TREC				ePG	Pg	23 59 20.2	-0.8
TREC				eSG	Sg	23 59 49.1	-0.8
KRUC	Moravsky	2.43	176	eSG	Sg	23 59 55.9	-0.4
NKC	Novy Kostel	2.65	243	ePN	Pn	23 59 22.7	+0.4
NKC				ePG	Pg	23 59 28.6	-0.4
KHC	Kasperske Hory	2.87	216	ePN	Pn	23 59 25.7	+0.4
KHC				ePG	Pb	23 59 31.4	+1.0
KHC				eSG	Sg	00 00 10.5	+0.1
CONA	Conrad Observa	3.56	183	Pg	Pg	23 59 45.7	-0.9
	comp=Z,0.7nm,0.3s						
CONA				Sg	Sg	00 00 32.6	-0.1
	comp=Z,2.8nm,0.5s						
MOA	Molln	3.83	199	ePn	Pn	23 59 39.0	+0.4
	comp=Z,0.2nm,0.2s						
MOA				Pg	Pg	23 59 52.1	+0.4
	comp=Z,0.7nm,0.3s						
MOA				Sg	Sg	00 00 41.0	-0.4
	comp=Z,1.5nm,0.4s						
ARSA	Arzberg	4.25	186	Sg	Sg	00 00 57.2	+2.3
	comp=Z,1.3nm,0.4s						

*ISCJB **05** 00:12:38.6±0.4, 24°.52N±0°.03×122°.88E±0°.02, h93km±4km, Error ellipse: s-maj=4.7km s-min=2.5km az=174.7*
*JMA **05** 00:12:38.3±0.2, 24°.48N×122°.88E, h102km±2km, M2.0*
*TAP **05** 00:12:38.3, 24°.58N×122°.89E, h99km, ML3.3, B*

ISC 05 00:12:38.9±1.4, 24°.52N±0°.04×122°.88E±0°.02, h95km±8km, n73, σ0°79/136, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.09	138	P	Pn	00 12 52.7	+0.5
JYNG				S	Sn	00 13 03.0	+0.9
YOJ	Yonaguni jima	0.13	115	P	Pn	00 12 52.5	+0.3
YOJ	baz=144			S	Sn	00 13 02.7	+0.5
	baz=144						
YOJ	Yonaguni jima	0.13	115	P	Pn	00 12 52.6	+0.3
YOJ				S	Sn	00 13 02.9	+0.6
EOS1	EOS1	0.68	273	P	Pn	00 12 55.7	+0.1
	baz=260						
EOS1				S	Sn	00 13 08.3	+0.1
	baz=260						
IRIF	Iriomote-Funau	0.80	103	P	Pn	00 12 56.9	+0.1
IRIF				eS	Sn	00 13 10.0	-0.2
EGS		0.92	291	eP	Pn	00 12 57.9	-0.2
	baz=282						
TWC	Suao	0.94	276	i P	Pn	00 12 58.0	-0.3
TWC	baz=271			i S	Sn	00 13 11.7	-1.2
	baz=271						
HATJ	Hateruma jima	0.96	118	S	Sn	00 13 13.9	+0.7
NTC	Toucheng	1.01	290	P	Pn	00 12 59.0	-0.1
NTC	baz=279			S	Sn	00 13 13.9	-0.3
	baz=279						
NANB	Nanao	1.03	265	P	Pn	00 12 59.5	+0.2
NANB	baz=256			S	Sn	00 13 14.3	-0.4
	baz=256						
ENA	Nanau	1.04	265	i P	Pn	00 12 59.5	+0.1
ENA	baz=256			i S	Sn	00 13 14.7	-0.1
	baz=256						
TIPB	Shuangxi	1.06	295	P	Pn	00 12 59.3	-0.4
TIPB	baz=286			S	Sn	00 13 14.3	-0.9
	baz=286						
JKRS	Kuro-shima	1.07	105	P	Pn	00 13 00.3	+0.6
JKRS				S	Sn	00 13 15.9	+0.6
TWE	Neicheng	1.12	281	P	Pn	00 13 00.2	-0.1
TWE	baz=271			S	Sn	00 13 15.5	-0.9
	baz=271						
NWF	Wu-fen Shan	1.14	299	eP	Pn	00 13 00.6	0.0
NWF	baz=287			eS	Sn	00 13 17.0	+0.1
	baz=287						
WFSB	Wu-fen Shan	1.14	299	eP	Pn	00 13 00.6	+0.1
WFSB	baz=288			eS	Sn	00 13 17.1	+0.2
	baz=288						
JIJ	Ishigaki jima	1.16	97	P	Pn	00 13 00.8	0.0
JIJ				S	Sn	00 13 16.2	-1.1
ENTT	Nioudou	1.20	276	eP	Pn	00 13 01.7	+0.4
ENTT	baz=267			eS	Sn	00 13 18.2	+0.1
	baz=267						
NACB	Ninganchiao	1.22	254	P	Pn	00 13 01.0	-0.4
NACB	baz=244			S	Sn	00 13 17.3	-1.2
	baz=244						
NDT	Datong Townshi	1.25	274	P	Pn	00 13 02.1	+0.3
NDT	baz=270			S	Sn	00 13 19.1	0.0
	baz=270						
TWD	Chiawan	1.25	250	P	Pn	00 13 01.4	-0.4
TWD	baz=247			S	Sn	00 13 18.4	-0.7
	baz=247						
NWLT	Wulai	1.28	282	P	Pn	00 13 02.2	0.0
	baz=284						
NWLT				S	Sn	00 13 19.1	-0.7
	baz=284						
HWA	Hwalien	1.28	245	eP	Pn	00 13 02.1	-0.1
	baz=243						
JISG	Ishigakijimahi	1.31	87	P	Pn	00 13 02.2	-0.3
JISG				S	Sn	00 13 19.3	-1.0
ETLH	Xiulin Townshi	1.31	257	P	Pn	00 13 02.3	-0.4
	baz=248						
ETLH				S	Sn	00 13 20.1	-0.5
	baz=248						
ENLB	Shoufeng	1.32	243	eP	Pn	00 13 02.5	-0.2
	baz=235						
ENLB				eS	Sn	00 13 20.6	0.0
	baz=235						
YM07	YM07	1.32	300	eP	Pn	00 13 02.4	-0.3
	baz=296						
YM07				eS	Sn	00 13 20.0	-0.6
	baz=296						
PCYT	Pengchaiyu	1.33	327	eP	Pn	00 13 02.5	-0.3
	baz=318						
YM01	YM01	1.34	298	eP	Pn	00 13 03.0	0.0
	baz=294						
YM01				eS	Sn	00 13 20.6	-0.6
	baz=294						
YM10	YM10	1.35	298	eP	Pn	00 13 02.8	-0.3
	baz=288						
NNS	Nan Shan	1.37	267	eP	Pn	00 13 02.8	-0.7
	baz=257						
NNS				eS	Sn	00 13 21.3	-0.7
	baz=257						
YHNB	Yeheng	1.38	277	P	Pn	00 13 03.6	+0.2
	baz=266						
YHNB				S	Sn	00 13 21.7	-0.3
	baz=266						
TWS1	Kuangyinshan	1.45	294	eP	Pn	00 13 04.3	+0.1
	baz=283						
TWS1				eS	Sn	00 13 24.3	+0.8
	baz=283						
ESL	Shilin	1.50	242	eP	Pn	00 13 04.4	-0.5
	baz=245						
ESL				eS	Sn	00 13 23.5	-1.0
	baz=245						
WHF	Hehuan Shan	1.52	256	i P	Pn	00 13 05.4	-0.2
	baz=259						
WHF				eS	Sn	00 13 24.7	-0.9
	baz=259						
EGFH	Guangfu	1.57	238	eP	Pn	00 13 05.2	-0.6
	baz=232						
EGFH				eS	Sn	00 13 25.1	-1.1
	baz=232						
TWT	Tachien	1.57	261	eP	Pn	00 13 06.5	+0.5
	baz=254						
TWT				eS	Sn	00 13 26.4	-0.1
	baz=254						
TDCB	Techi	1.59	261	eP	Pn	00 13 06.5	+0.3
	baz=254						
TDCB				eS	Sn	00 13 26.2	-0.6
	baz=254						
CHGB	Renai	1.62	254	P	Pn	00 13 06.8	+0.2
	baz=245						
CHGB				S	Sn	00 13 27.0	-0.6
	baz=245						
OWD	Renai	1.65	250	P	Pn	00 13 06.7	-0.2
	baz=243						
OWD				S	Sn	00 13 27.0	-1.2
	baz=243						
JTJ	Tarama	1.66	85	P	Pn	00 13 06.9	0.0
JTJ				eS	Sn	00 13 28.0	-0.2
HGSD	Ruisui	1.68	233	P	Pn	00 13 06.6	-0.5
	baz=228						
HGSD				S	Sn	00 13 27.6	-1.0
	baz=228						
NSTT	Nanjuang	1.71	274	P	Pn	00 13 07.5	0.0
	baz=271						
NSTT				eS	Sn	00 13 28.8	-0.6
	baz=271						
EHY	Hungye	1.74	235	i P	Pn	00 13 07.5	-0.5
	baz=233						
EHY				eS	Sn	00 13 28.6	-1.5
	baz=233						
VWDT	VWDT	1.76	245	P	Pn	00 13 08.3	+0.2
	baz=237						
VWDT				S	Sn	00 13 30.2	-0.3
	baz=237						
WHP	Taichung City	1.78	263	P	Pn	00 13 09.6	+1.1
	baz=256						
WHP				S	Sn	00 13 31.4	+0.4
	baz=256						
YULB	Yu-li	1.83	233	P	Pn	00 13 08.6	-0.5
	baz=239						
YULB				S	Sn	00 13 30.9	-1.2
	baz=239						
DPDB	Guoxing	1.85	255	eP	Pn	00 13 09.7	+0.3
	baz=250						
DPDB				eS	Sn	00 13 32.6	+0.1
	baz=250						
TWF1	Yuli	1.85	232	P	Pn	00 13 09.1	-0.3
	baz=239						
TWF1				eS	Sn	00 13 32.0	-0.7
	baz=239						
NMLH	Miaoli	1.90	271	eP	Pn	00 13 10.0	0.0
	baz=260						
NMLH				eS	Sn	00 13 33.6	-0.2
	baz=260						
SSLB	Suanglung	1.90	248	eP	Pn	00 13 10.1	+0.1
	baz=246						
SSLB				eS	Sn	00 13 32.7	-1.1
	baz=246						
SMLT	Sun Moon Lake	1.92	251	P	Pn	00 13 10.6	+0.4
	baz=245						
SMLT				S	Sn	00 13 34.3	+0.1
	baz=245						
NSY	Sanyi	1.93	267	eP	Pn	00 13 10.6	+0.2
	baz=264						
NSY				eS	Sn	00 13 34.2	-0.3
	baz=264						
TYC	Yuchr	1.94	252	P	Pn	00 13 10.3	-0.2
	baz=245						
TYC				S	Sn	00 13 35.7	+1.0
	baz=245						
FULB	Fuli	1.96	228	eP	Pn	00 13 10.0	-0.7
	baz=221						
FULB				eS	Sn	00 13 34.7	-0.4
	baz=221						
CHKT	Chengkung	1.98	225	eP	Pn	00 13 10.0	-1.0
	baz=220						
CHKT				eS	Sn	00 13 33.7	-1.8
	baz=220						
WHYT	Xinyi Township	2.02	247	eP	Pn	00 13 12.3	+0.7
	baz=246						
WHYT				eS	Sn	00 13 36.8	+0.1
	baz=246						
WJS	Zhushan	2.08	251	eP	Pn	00 13 13.7	+1.3
	baz=249						
WJS				eS	Sn	00 13 40.1	+2.1
	baz=249						
WNT	Mingjian	2.10	253	eP	Pn	00 13 13.4	+0.8
	baz=250						
WNT				eS	Sn	00 13 40.4	+2.1
	baz=250						
JIRB	Irabujima	2.11	81	eS	Sn	00 13 38.4	-0.1
ELDTW	Lidau	2.16	233	i P	Pn	00 13 13.2	-0.3
	baz=227						
ELDTW				i S	Sn	00 13 38.6	-1.3
	baz=227						
CHN5	Tsauling	2.21	246	P	Pn	00 13 15.2	+1.1
	baz=237						
CHN5				S	Sn	00 13 42.0	+1.0
	baz=237						
JMJ	Miyako jima 2	2.22	82	eS	Sn	00 13 40.3	-0.8
	baz=84						
WDLH	Douliu	2.29	249	eP	Pn	00 13 16.2	+1.1
	baz=258						
WDLH				eS	Sn	00 13 44.8	+2.0
	baz=258						
TWGBT	Beinan	2.36	225	eP	Pn	00 13 15.6	-0.4
	baz=230						
TWGBT				eS	Sn	00 13 43.0	-1.5
	baz=230						
STYT	Tauyuan	2.37	236	eP	Pn	00 13 17.4	+1.3
	baz=230						
STYT				eS	Sn	00 13 44.7	0.0
	baz=230						
RLNB	Erlin	2.38	255	eP	Pn	00 13 16.5	+0.2
	baz=253						
RLNB				eS	Sn	00 13 45.7	+0.7
	baz=253						
TPUB	Ta-pu	2.39	240	eP	Pn	00 13 17.7	+1.3
	baz=231						
TPUB				eS	Sn	00 13 46.4	+1.2
	baz=231						
CHN4	Tsaushan	2.39	241	P	Pn	00 13 18.1	+1.6
	baz=233						
CHN4				S	Sn	00 13 47.0	+1.7
	baz=233						
SLGT	Liugui	2.55	234	eP	Pn	00 13 19.8	+1.3
	baz=225						
SLGT				eS	Sn	00 13 51.0	+2.1
	baz=225						
MASBT	Mashibuluo	2.80	228	eP	Pn	00 13 22.9	+1.0
	baz=225						
EAST	Anshuo	2.83	222	eP	Pn	00 13 22.2	0.0
	baz=226						
PHUB	P'eng-hu	3.19	252	eS	Sn	00 14 02.5	-1.7
	baz=250						

IDC 05 00:38:09.1±999.0, 3°.29S×77°.77W, h0km, Error ellipse: s-maj=1363.0km s-min=265.1km az=137.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	LAS PENAS INFR	15.78	145	i		02 14 10.0	
	baz=325,slow=324,SNR=2.2						
I41PY	VILLA FLORIDA	30.17	141	i		03 42 10.0	
	baz=314,slow=319,SNR=1.1						
I09BR	BRASILIA INFRA	31.75	115	i		03 53 50.0	
	baz=291,slow=323,SNR=2.4						

*SNET **05** 00:42:18.7±2.4, 15°.69N×87°.20W, h0km±57km, ML4.7*
*UCR **05** 00:42:19.9±2.2, 15°.81N×87°.06W, h27km, MD4.5, ML4.4, mb4.7(NEIC)*
*ISCJB **05** 00:42:20.9±0.1, 15°.61N±0°.01×87°.16W±0°.02, h10km, mb4.7/233, MS4.2/16, Error ellipse: s-maj=2.4km s-min=2.1km az=177.2*
*IDC **05** 00:42:20.0±0.6, 15°.61N×87°.05W, h0km, mb4.4/23, mb1 4.6/24, mb1mx4.3/45, mbtmp4.4/24, ML3.4/1, MS4.1/14, Ms1 4.1/14, ms1mx3.9/36, Error ellipse: s-maj=23.5km s-min=11.1km az=52.0*
*GCMT **05** 00:42:22.9±0.3, 15°.50N±0°.04×87°.35W±0°.02, h17km±1km, MW5.0/66, Moment Tensor Solution. s23,c26; s66,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.29±.24; $M_{\theta\theta}$0.12±.13; $M_{\phi\phi}$3.17±.17; $M_{r\theta}$-1.41±.44; $M_{\theta\phi}$0.59±.09; $M_{\phi r}$1.55±.36; Best double couple: $M_0$3.85800×10^{16} NP1:ϕ_s168.00000°, δ60.00000°, λ-113.00000°. NP2: ϕ_s29.00000°, δ38.00000°, λ-56.00000°. Principal axes: T 3.5440, Plg12.0000°, Azm275.0000°; N 0.6260, Plg20.0000°, Azm181.0000°; P -4.1720, Plg67.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **05** 00:42:24.0±1.0, 15°.60N×87°.18W, h33km, mb4.9/41 Error ellipse: s-maj=12.1km s-min=5.3km az=107.8*
*NEIC **05** 00:42:24.9±1.1, 15°.55N×87°.14W, h27km±8km, mb4.7/233, Error ellipse: s-maj=4.3km s-min=2.9km az=224.0*
NEIC Felt [III] at San Pedro Sula. Also felt at La Lima, Tegucigalpa and Tela.
*BJI **05** 00:42:24.0±0.0, 15°.60N×87°.20W, h27km, Ms5.4/5, Ms7 5.1/4*

ISC 05 00:42:21.6±0.3, 15°.57N±0°.03×87°.33W±0°.04, h10km, n819, σ1°53/826, mb4.8/233, MS4.2/17, 10C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	Tegucigalpa,Un	1.51	178	ePn	Pn	00 42 48.2	-0.5
CAHU	Cacacuatique	1.98	206	eP	Pn	00 42 56.0	+0.6
CAHU	Cacacuatique	1.98	206	eP	Pn	00 42 56.0	+0.6
VICT	Victoria	2.04	218	eP	Pn	00 42 57.0	+0.8
VICT				eS	Sg	00 43 25.8	-1.5
VICT				IAML		00 43 27.7	
	comp=Z,4μm,0.8s						
VICT	Victoria	2.04	218	eP	Pn	00 42 57.0	+0.8
VICT				eS	Sg	00 43 25.8	-1.5
VICT				IAML		00 43 27.7	
	comp=Z,4μm,0.8s						
MTO3	Montecristo	2.28	240	eP	Pn	00 42 59.4	-0.2
MTO3	Montecristo	2.28	240	eP	Pn	00 42 59.4	-0.2
MTO3				eS	Sg	00 43 34.0	-1.0
BLLM	Bellamira	2.29	203	eP	Pn	00 42 59.8	+0.2
BLLM				eS	Sg	00 43 33.9	-1.5
BLLM	Bellamira	2.29	203	eP	Pn	00 42 59.8	+0.2
BLLM				eS	Sg	00 43 33.9	-1.5
LCND	La Caada	2.31	194	eS	Sb	00 43 31.6	-0.5
LCND	La Caada	2.31	194	eS	Sb	00 43 31.6	-0.5
LCND				IAML		00 43 38.2	
	comp=Z,3μm,0.4s						
VSM	San Miguel	2.32	203	eP	Pn	00 43 01.4	+1.3
VSM	San Miguel	2.32	203	eP	Pn	00 43 01.4	+1.3
MRL	Marmol	2.32	258	eP	Pn	00 43 01.3	+1.1
CNCH	Conchagua	2.33	192	eP	Pn	00 43 01.7	+1.5
CNCH				eS	Sg	00 43 34.2	-2.5
CNCH	Conchagua	2.33	192	eP	Pn	00 43 01.7	+1.5
CNCH				eS	Sg	00 43 34.2	-2.5
PAVA	Las Pavas	2.42	220	IAML		00 43 44.3	
	comp=Z,5μm,0.4s						
CUSC	San Salvador	2.56	225	IAML		00 43 46.7	
	comp=Z,3μm,0.4s						
CSGN	Cosiguina Volc	2.59	185	ePn	Pb	00 43 06.3	-1.9
ESTN	Estel	2.62	159	ePn	Pn	00 43 05.6	+1.4
SNET	Serv Nac Est T	2.63	225	IAML		00 43 52.0	
	comp=Z,2μm,0.8s						
CEVE	Cerro Verde	2.82	232	eP	Pn	00 43 09.2	+2.2
CEVE	Cerro Verde	2.82	232	eP	Pn	00 43 09.2	+2.2
CEVE				IAML		00 43 56.7	
	comp=Z,5μm,0.4s						
NBG	Las Nubes	3.07	252	eP	Pn	00 43 11.9	+1.4
APG	El Apazote	3.08	260	Pn	Pn	00 43 10.3	-0.2
	comp=Z,62nm,0.3s,baz=119,slow=11,SNR=282						
APG				Sn	Sn	00 43 49.9	+2.4
	comp=Z,303nm,0.3s,baz=76,slow=19,SNR=11						
APG				LR	LR	00 44 44.3	
	comp=Z,5μm,19.7s,baz=82,slow=43						
IXG	Ixpaco	3.31	246	eP	Pn	00 43 15.7	+2.0
PCG	Pacaya	3.38	250	eP	Pn	00 43 16.9	+2.2
FUG	Fuego 3	3.57	252	eP	Pn	00 43 19.3	+1.9
ESPN	Las Esperanzas	4.46	138	ePn	Pn	00 43 25.8	-3.6
CCIG	Comitan	4.68	279	ePn	Pn	00 43 33.3	+0.8
JTS	Las Juntas de	5.74	156	Pn	Pn	00 43 46.7	-0.2
	comp=Z,1.0nm,0.3s,baz=39,slow=11,SNR=5.3						
JTS				Lg	Lg	00 45 16.3	
	comp=Z,11nm,0.3s,baz=232,slow=19,SNR=3.8						
HDC	Heredia	6.36	150	eP	Pb	00 44 12.6	0.0
CMIG	Matias Romero	7.41	283	Pn	Pn	00 44 09.5	-0.4
	comp=Z,1.9nm,0.3s,baz=90,slow=10,SNR=16						
CMIG				Sn	Sn	00 45 29.3	-4.8
	comp=Z,4.6nm,0.3s,baz=229,slow=20,SNR=9.3						
CMIG				Lg	Lg	00 46 26.5	
	comp=Z,2.8nm,0.3s,baz=42,slow=12,SNR=3.9						
CMIG				LR	LR	00 47 25.7	
	comp=Z,4μm,18.0s,baz=85,slow=40						
MTDJ	Mount Denham	9.74	73	ePn	Pn	00 44 41.7	-0.3
TLIG	Tlapa	10.96	282	ePn	Pn	00 45 01.4	+2.7
GTBY	Guantanamo Bay	12.42	68	ePn	Pn	00 45 15.5	-3.1
SJCC	San Jacinto, C	13.12	114	eP	Pn	00 45 24.0	-4.3
SJCC	San Jacinto, C	13.12	114	eP	Pn	00 45 24.0	-4.3
DBBC	Dabeiba	13.82	127	eP	Pn	00 45 36.6	-1.2
DBBC	Dabeiba	13.82	127	eP	Pn	00 45 36.6	-1.2
656A	Willston	14.43	17	P	Pn	00 45 45.1	-0.9
	baz=198						
LNIG	Linares	14.68	311	ePn	Pn	00 45 50.5	+1.0
555A	McAlpin	15.03	15	ePn	Pn	00 45 53.5	-0.7
	comp=Z,459nm,1.8s						
555A	McAlpin	15.03	15	P	Pn	00 45 53.0	-1.1
	baz=196						
PTBC	PUERTO BERRIO,	15.49	124	eP	Pn	00 45 58.6	-1.7
PTBC	PUERTO BERRIO,	15.49	124	eP	Pn	00 45 58.6	-1.7
OCAC	Ocana	15.52	116	eP	P	00 46 04.6	-0.7
OCAC	Ocana	15.52	116	eP	P	00 46 04.6	-0.7
455A	Stateville	15.61	14	P	Pn	00 46 00.9	-0.9
	baz=195						
GUY2C	Guyana, Caldas	15.62	130	eP	Pn	00 46 02.0	-0.4
GUY2C	Guyana, Caldas	15.62	130	eP	Pn	00 46 02.0	-0.4
SDDR	Presa de Saban	15.69	75	ePn	Pn	00 46 04.1	+1.1
	comp=Z,24nm,1.1s						
351A	Pinckard	15.71	5	P	Pn	00 46 02.3	-0.9
	baz=186						
NORC	Norcasia	15.77	128	eP	Pn	00 46 04.9	+0.9

NORC	Norcasia	15.77	128	eP	Pn	00 46 04.9	+0.9
HKT	Hockley	16.31	333	ePn	Pn	00 46 10.9	+0.1
	comp=Z,33nm,1.2s						
HKT				eSn	Sn	00 49 06.9	-4.9
HKT	Hockley	16.31	333	eP	Pn	00 46 10.9	+0.1
HKT				e		00 49 06.9	
HKT				pmax	pmax		
	comp=Z,33nm,1.2s						
250A	Grady	16.36	3	ePn	Pn	00 46 12.0	+0.5
	comp=Z,153nm,1.8s						
250A	Grady	16.36	3	P	Pn	00 46 11.7	+0.2
	baz=183						
BARC	Barichara	16.49	121	eP	Pn	00 46 12.2	-1.3
BARC	Barichara	16.49	121	eP	Pn	00 46 12.2	-1.3
PAMC	Pamplona, Colo	16.50	118	eP	Pn	00 46 15.6	+1.7
PAMC	Pamplona, Colo	16.50	118	eP	Pn	00 46 15.6	+1.7
252A	Lumpkin	16.52	8	P	Pn	00 46 13.8	+0.3
	baz=188,SNR=5.4						
251A	Midway	16.54	6	P	Pn	00 46 14.3	+0.5
	baz=186						
ROSC	El Rosal	16.65	128	ePn	Pn	00 46 17.7	+2.0
	comp=Z,66nm,1.3s						
ROSC	El Rosal	16.65	128	eP	P	00 46 18.1	0.0
ROSC	El Rosal	16.65	128	eP	P	00 46 18.1	0.0
ROSC	El Rosal	16.65	128	Pn	P	00 46 19.2	+1.2
	comp=Z,0.8nm,0.3s,baz=343,slow=7.8,SNR=19						
ROSC				LR	LR	00 53 16.4	
	comp=Z,846nm,18.4s,baz=350,slow=40						
POPC	Popayan, Colom	16.67	140	eP	Pn	00 46 14.7	-1.0
POPC	Popayan, Colom	16.67	140	eP	Pn	00 46 14.7	-1.0
253A	Americus	16.67	10	P	Pn	00 46 15.6	+0.1
	baz=190						
255A	Hazlehurst	16.87	14	P	Pn	00 46 18.1	+0.1
	baz=196						
833A	Chaparral WMA,	16.90	321	ePn	Pn	00 46 18.5	+0.1
	comp=Z,50nm,1.1s						
833A				eSn	Sn	00 49 18.2	-8.1
149A	Jones	16.96	2	P	Pn	00 46 19.1	0.0
	baz=181						
RUSC	La Rusia	16.97	123	eP	Pn	00 46 18.9	-0.9
RUSC	La Rusia	16.97	123	eP	Pn	00 46 18.9	-0.9
151A	Opelika	16.98	6	P	Pn	00 46 19.1	-0.2
	baz=186						
148A	Greensboro	17.00	359	P	Pn	00 46 21.8	+2.2
	baz=179						
150A	Eclectic	17.00	4	P	Pn	00 46 20.0	+0.4
	baz=184						
SOTA	Rioblanco	17.03	141	eP	P	00 46 25.3	+2.9
SOTA	Rioblanco	17.03	141	eP	P	00 46 25.3	+2.9
147A	Livingston	17.05	357	ePn	Pn	00 46 20.6	+0.4
	comp=Z,122nm,1.5s						
147A	Livingston	17.05	357	P	Pn	00 46 20.0	-0.2
	baz=176						
152A	Waverly Hall	17.19	7	ePn	Pn	00 46 23.1	+1.2
	comp=Z,75nm,1.6s						
152A	Waverly Hall	17.19	7	P	Pn	00 46 22.7	+0.7
	baz=188						
CRUC	La Cruz	17.27	143	eP	Pn	00 46 24.0	+0.5
CRUC	La Cruz	17.27	143	eP	Pn	00 46 24.0	+0.5
LRAL	Lakeview Retre	17.39	1	ePn	Pn	00 46 25.1	+0.6
	comp=Z,32nm,1.4s						
LRAL	Lakeview Retre	17.39	1	P	Pn	00 46 25.3	+0.8
	baz=180						
Z49A	Columbiana	17.56	2	P	Pn	00 46 27.6	+1.0
	baz=182						
OTAV	Otavalo	17.58	149	ePn	Pn	00 46 27.7	+0.3
	comp=Z,15nm,1.1s						
OTAV	Otavalo	17.58	149	eP	Pn	00 46 28.3	+0.9
OTAV	Otavalo	17.58	149	eP	Pn	00 46 27.7	+0.3
OTAV				pmax	pmax		
	comp=Z,15nm,1.1s						
OTAV	Otavalo	17.58	149	eP	Pn	00 46 28.3	+0.9
VILC	Villavicencio,	17.59	129	eP	Pn	00 46 27.4	+0.1
VILC	Villavicencio,	17.59	129	eP	Pn	00 46 27.4	+0.1
SDV	Santo Domingo	17.61	110	ePn	Pn	00 46 27.8	+0.3
	comp=Z,63nm,1.4s						
SDV	Santo Domingo	17.61	110	eP	Pn	00 46 28.5	+1.0
SDV	Santo Domingo	17.61	110	eP	Pn	00 46 28.5	+1.0
SDV	Santo Domingo	17.61	110	P	Pn	00 46 28.8	+1.2
	comp=Z,0.4nm,0.3s,baz=308,slow=8.8,SNR=28						
Z50A	Ashland	17.65	4	ePn	Pn	00 46 29.9	+2.2
	comp=Z,26nm,1.0s						
Z50A	Ashland	17.65	4	P	Pn	00 46 28.4	+0.7
	baz=184,SNR=5.7						
TAMC	Tame, Arauca	17.74	119	eP	Pn	00 46 29.3	+0.4
TAMC	Tame, Arauca	17.74	119	eP	Pn	00 46 29.3	+0.4
Z52A	Williamson	17.74	8	P	Pn	00 46 29.7	+0.9
	baz=189,SNR=5.5						
Z51A	Franklin	17.78	6	P	Pn	00 46 30.3	+1.0
	baz=186						
Z53A	Monticello	17.96	10	P	Pn	00 46 31.6	+0.1
	baz=191						
FLOC	Florencia	18.05	139	eP	Pn	00 46 31.6	-1.2
FLOC	Florencia	18.05	139	eP	Pn	00 46 31.6	-1.2
GOGA	Godfrey	18.10	10	P	Pn	00 46 33.9	+0.6
	baz=191						
Y49A	Blount Mountai	18.23	2	P	Pn	00 46 36.1	+1.2
	baz=182						
Y48A	Jasper	18.26	0	P	P	00 46 37.5	+2.1
	baz=180						
Z41A	Richland Creek	18.30	345	eP	Pn	00 46 37.3	+1.6
	comp=Z,98nm,1.7s						
Z41A	Richland Creek	18.30	345	P	P	00 46 37.7	+1.9
	baz=162						
Y50A	Piedmont	18.30	4	P	Pn	00 46 37.6	+1.9
	baz=184						
Y51A	Rockmart	18.36	6	P	P	00 46 38.0	+1.4
	baz=186						
Y52A	Lilburn	18.45	9	P	P	00 46 38.7	+1.2
	baz=189						
Y53A	Monroe	18.52	10	P	P	00 46 39.9	+1.7
	baz=191						
CCAR	Cane Creek	18.70	348	eP	P	00 46 41.8	+1.6
	comp=Z,173nm,1.5s						
JCT	Junction City	18.74	325	eP	Pn	00 46 43.6	+2.5
	comp=Z,17nm,0.9s						
JCT				eSn	Sn	00 50 07.8	-3.1
JCT	Junction City	18.74	325	eP	Pn	00 46 43.6	+2.5
JCT				e		00 50 07.8	
JCT				pmax	pmax		
	comp=Z,17nm,0.9s						
WHTX	Lake Whitney,	18.77	332	eP	Pn	00 46 47.4	+6.0
	comp=Z,38nm,0.8s						
WHTX				eSn	Sn	00 50 04.9	-6.7
WHTX	Lake Whitney,	18.77	332	P	Pn	00 46 43.5	+2.0
	baz=148,SNR=5.1						
WLAR	White Oak Lake	18.78	345	eP	Pn	00 46 44.1	+2.6
	comp=Z,36nm,1.1s						
X48A	Hartselle	18.80	1	eP	P	00 46 42.0	+0.6
	comp=Z,17nm,1.0s						
X48A	Hartselle	18.80	1	P	P	00 46 42.7	+1.3
	baz=180						
X50B	Fort Payne	18.87	4	P	P	00 46 43.5	+1.3
	baz=184						
X47A	Russelville	18.87	359	P	P	00 46 43.8	+1.7
	baz=178						
X49A	Woodville	18.88	3	P	P	00 46 43.9	+1.6
	baz=182						
X46A	Booneville	18.94	357	P	P	00 46 44.6	+1.8
	baz=176						
Y55A	Saluda	18.94	14	P	P	00 46 43.8	+0.9
	baz=196						
OXF	Oxford	18.95	355	eP	P	00 46 45.0	+2.0
	comp=Z,44nm,1.0s						
OXF	Oxford	18.95	355	eP	P	00 46 45.0	+2.0
OXF				pmax	pmax		
	comp=Z,44nm,1.0s						
OXF	Oxford	18.95	355	P	P	00 46 44.6	+1.6
	baz=173						
X43A	Marvell	19.14	351	eP	Pn	00 46 48.5	+2.6
	comp=Z,58nm,1.1s						
X43A	Marvell	19.14	351	P	P	00 46 47.0	+2.0
	baz=169						
X53A	Estanollee	19.20	10	P	P	00 46 46.8	+1.1
	baz=191						
X52A	Dahlonega	19.20	9	P	P	00 46 47.1	+1.3
	baz=190						
X54A	Belton	19.42	12	P	P	00 46 49.0	+0.9
	baz=194						
GUVC	San Jose del G	19.43	130	eP	P	00 46 48.6	+0.2
GUVC	San Jose del G	19.43	130	eP	P	00 46 48.6	+0.2
X40A	Basin Creek Fa	19.48	346	eP	Pn	00 46 51.4	+1.4
	comp=Z,52nm,1.4s						
X40A	Basin Creek Fa	19.48	346	P	P	00 46 50.7	+1.9
	baz=164,SNR=14						
W48A	Pulaski	19.49	1	P	P	00 46 50.5	+1.7
	baz=181						
W49A	Belvidere	19.49	3	P	P	00 46 50.1	+1.2
	baz=182						
X55A	Gracelyn & Ava	19.51	14	P	P	00 46 49.8	+0.8
	baz=196						
W47A	Westpoint	19.60	359	P	P	00 46 51.7	+1.6
	baz=179						
W50A	Signal Mountai	19.63	5	P	P	00 46 52.0	+1.5
	baz=185						
W51A	Cleveland	19.64	6	P	P	00 46 52.1	+1.5
	baz=187						
UALR	University of	19.65	348	eP	P	00 46 52.3	+1.7
	comp=Z,47nm,1.1s						
X56A	White Oak	19.68	16	P	P	00 46 51.4	+0.5
	baz=198						
W52A	Murphy	19.68	8	P	P	00 46 52.0	+1.0
	baz=189						
MIAR	Mount Ida	19.71	345	eP	P	00 46 52.2	+0.9
	comp=Z,30nm,1.1s						
MIAR	Mount Ida	19.71	345	eP	P	00 46 52.2	+0.9
MIAR				pmax	pmax		
	comp=Z,30nm,1.1s						
MIAR	Mount Ida	19.71	345	P	P	00 46 53.0	+1.7
	baz=162,SNR=5.6						
W53A	Cullowhee	19.87	10	P	P	00 46 53.3	+0.1
	baz=191						
AOPR	Arecibo Observ	19.87	79	eP	P	00 46 53.6	+0.3
	comp=Z,65nm,1.5s						
CPCT	Cooper Cave	19.96	7	eP	P	00 46 54.0	+0.1
	comp=Z,52nm,1.7s						
W54A	Cherokee Point	19.98	12	P	P	00 46 55.1	+0.9
	baz=194						
OBIP	Obispado Ponce	19.99	80	eP	P	00 46 54.5	0.0
	comp=Z,30nm,1.3s						
W41B	Gary Mavity, V	20.01	348	eP	P	00 46 56.6	+2.0
	comp=Z,41nm,1.2s						
W41B	Gary Mavity, V	20.01	348	P	P	00 46 56.0	+1.5
	baz=166,SNR=7.1						
V48A	Smith Brothers	20.09	1	eP	P	00 46 57.0	+1.5
	comp=Z,49nm,1.4s						
V48A	Smith Brothers	20.09	1	P	P	00 46 56.2	+0.8
	baz=181,SNR=9.1						
V50A	Pikevile	20.12	5	P	P	00 46 57.2	+1.5
	baz=186						
WHAR	Wooly Hollow	20.14	348	eP	P	00 46 58.5	+2.6
	comp=Z,46nm,1.3s						
V49A	McMinnville	20.15	3	P	P	00 46 57.4	+1.3
	baz=184						
V46A	Holladay	20.16	358	P	P	00 46 56.7	+0.5
	baz=177,SNR=7.1						
V47A	Nunnelly	20.18	360	P	P	00 46 57.4	+1.0
	baz=179,SNR=25						
X37A	Clayton	20.27	341	eP	P	00 46 59.3	+1.9
	comp=Z,28nm,1.0s						
V51A	Loudon	20.32	7	eP	P	00 46 57.7	-0.3
	comp=Z,86nm,1.6s						
V51A	Loudon	20.32	7	P	P	00 46 59.3	+1.3
	baz=188						
ABTX	Abilene, Hawle	20.33	329	eP	Pn	00 47 01.2	+1.0
	comp=Z,50nm,1.1s						
ABTX	Abilene, Hawle	20.33	329	P	P	00 47 00.4	+2.3
	baz=144,SNR=13						
TX31	Lajitas Ar. Si	20.35	315	eP	Pn	00 47 02.2	+1.7
	comp=Z,16nm,0.9s						
TXAR	Lajitas Array	20.35	315	P	Pn	00 47 01.6	+1.1
	comp=Z,12nm,0.8s,baz=138,slow=9.4,SNR=82						
TXAR				S	S	00 50 40.5	-6.1
	comp=Z,1.0nm,0.9s,baz=118,slow=17,SNR=4.6						
TXAR				LR	LR	00 55 35.4	
	comp=Z,235nm,18.0s,baz=0.0,slow=39						
W39A	Magazine	20.38	345	eP	P	00 47 01.0	+2.4
	comp=Z,73nm,1.8s						
W39A	Magazine	20.38	345	P	P	00 47 00.6	+1.9
	baz=162						
V53A	Saluda	20.42	11	eP	P	00 47 01.4	+2.3
V53A				ePn	Pn	00 47 06.5	+5.3
V53A	Saluda	20.42	11	P	P	00 47 00.3	+1.3
	baz=192						
SJG	San Juan	20.43	80	eP	P	00 47 01.4	+2.1
	comp=Z,88nm,1.8s						
SJG	San Juan	20.43	80	P	P	00 46 57.7	-1.5
	comp=Z,10nm,0.8s,baz=263,slow=12,SNR=5.6						
SJG				LR	LR	00 54 43.5	
	comp=Z,370nm,19.1s,baz=260,slow=37						
GNAR	Gosnell	20.45	354	eP	P	00 47 01.5	+2.1
	comp=Z,115nm,1.2s						
HPIG		20.46	307	eP	P	00 47 02.2	+2.4
	comp=Z,42nm,1.5s						
V52A	Sevierville	20.46	9	P	P	00 47 00.4	+0.9
	baz=190						
WVT	Waverly	20.48	359	eP	P	00 47 01.1	+1.5
	comp=Z,48nm,1.6s						
WVT	Waverly	20.48	359	eP	P	00 47 01.1	+1.5
WVT				pmax	pmax		
	comp=Z,48nm,1.6s						
WVT	Waverly	20.48	359	P	P	00 47 00.4	+0.7
	baz=178						
W57A	Gilead	20.58	17	P	P	00 47 01.4	+0.7
	baz=200						
W58A	Raeford	20.69	19	P	P	00 47 02.2	+0.3
	baz=202						
V54A	Nebo	20.69	12	P	P	00 47 02.5	+0.6
	baz=194						
HUMP	Col San Antoni	20.71	80	eP	P	00 47 03.0	+0.7
	comp=Z,38nm,1.3s						
CBYP	Canovanas	20.72	80	eP	P	00 47 02.4	-0.1
	comp=Z,42nm,1.4s						
U46A	Springville	20.72	358	P	P	00 47 03.8	+1.5
	baz=177						
U47A	Clarksville	20.79	0	P	P	00 47 03.7	+0.7
	baz=180						
U48A	Cassie Pea, Po	20.87	2	P	P	00 47 04.7	+0.9
	baz=182,SNR=5.3						
U50A	Jamestown	20.88	6	P	P	00 47 04.6	+0.6
	baz=186,SNR=5.4						
U49A	Red Boiling Sp	20.90	4	P	P	00 47 05.0	+0.7
	baz=184,SNR=7.4						
V55A	Taylorsville	20.93	14	P	P	00 47 04.5	0.0
	baz=196						
U51A	La Follette	20.93	8	P	P	00 47 06.0	+1.4
	baz=188						
MTP	Monte Pirata	20.99	80	eP	P	00 47 07.3	+1.9
	comp=Z,100nm,1.7s						
U52A	Thorn Hill	21.04	9	P	P	00 47 07.1	+1.3
	baz=190						
V56A	Mocksville	21.06	16	P	P	00 47 06.3	+0.4
	baz=198						
U41A	Viola	21.09	350	P	P	00 47 07.4	+1.1
	baz=167,SNR=7.2						
PARMO	Parma	21.12	355	eP	P	00 47 07.5	+1.0
	comp=Z,31nm,0.7s						
U53A	Fall Branch	21.14	11	P	P	00 47 07.6	+0.7
	baz=192						
TZTN	Tazewell	21.16	8	eP	P	00 47 07.7	+0.7
	comp=Z,104nm,1.8s						
CUPR	Culebra, Puert	21.26	80	eP	P	00 47 08.1	-0.2
	comp=Z,59nm,1.5s						
U40A	Yellville	21.28	348	P	P	00 47 10.1	+1.8
	baz=165,SNR=20						
PBMO	Poplar Bluff	21.30	353	eP	P	00 47 10.1	+1.6
	comp=Z,53nm,0.8s						
T47A	Sharon Grove	21.33	0	eP	P	00 47 10.4	+1.5
	comp=Z,50nm,1.3s						
T47A	Sharon Grove	21.33	0	P	P	00 47 09.9	+1.0
	baz=180,SNR=8.0						
T46A	Princeton	21.39	359	P	P	00 47 10.4	+1.0
	baz=178						
U54A	Nelsons Funny	21.43	12	P	P	00 47 10.8	+0.8
	baz=194						
HHAR	Hobbs	21.45	345	eP	P	00 47 12.6	+2.4
	comp=Z,29nm,1.1s						
T48A	Bowling Green	21.47	2	P	P	00 47 11.3	+1.0
	baz=182,SNR=5.5						
T50A	Nancy	21.48	5	P	P	00 47 11.2	+0.8
	baz=186						
T49A	Edmonton	21.51	4	eP	P	00 47 11.9	+1.1
	comp=Z,52nm,1.0s						
T49A	Edmonton	21.51	4	P	P	00 47 11.6	+0.8
	baz=184,SNR=15						
T51A	Gray	21.52	7	P	P	00 47 11.6	+0.7
	baz=188						
STVI	Saint Thomas	21.58	79	eP	P	00 47 11.4	-0.3
	comp=Z,57nm,1.2s						
U55A	TA2, Sparta	21.59	14	P	P	00 47 12.5	+0.8
	baz=196						
U56A	King	21.60	15	P	P	00 47 12.1	+0.4
	baz=198						
W61A	Ground Anchor	21.61	24	P	P	00 47 12.6	+0.7
	baz=207						
TUL1	Leonard	21.62	341	eP	P	00 47 12.2	+0.2
	comp=Z,18nm,0.9s						
TUL1	Leonard	21.62	341	P	P	00 47 13.5	+1.5
	baz=157						
WMOK	Wichita Mounta	21.69	334	eP	P	00 47 14.5	+1.8
WMOK	Wichita Mounta	21.69	334	eP	P	00 47 14.5	+1.8
WMOK	Wichita Mounta	21.69	334	P	P	00 47 14.1	+1.4
	baz=148,SNR=14						
CDVI	St. Croix	21.72	81	eP	P	00 47 14.4	+1.2
	comp=Z,35nm,0.9s						
T53A	Wise	21.75	10	P	P	00 47 14.1	+0.7
	baz=192						
T52A	Hallie	21.80	9	P	P	00 47 14.6	+0.8
	baz=191						
OK023	East Waterloo	21.91	338	eP	P	00 47 16.9	+1.7
	comp=Z,27nm,1.2s						
OK023				eS	S	00 51 15.3	-1.9
S47A	Hartford	21.94	1	P	P	00 47 16.1	+0.7
	baz=181,SNR=7.2						
U57A	Blanch	21.96	17	P	P	00 47 16.4	+0.8
	baz=200						
T54A	Tazewell	22.01	12	P	P	00 47 17.2	+1.0
	baz=194						
S48A	Wiedeman Farm,	22.03	3	P	P	00 47 17.1	+0.7
	baz=183						
S46A	Don Dixon Farm	22.03	359	P	P	00 47 17.2	+0.8
	baz=178,SNR=8.5						
S45A	Carrier Mills	22.05	357	P	P	00 47 16.4	-0.2
	baz=176,SNR=5.2						
S44A	Carbondale	22.10	356	P	P	00 47 17.2	+0.1
	baz=175,SNR=7.1						
SIUC	Southern Illin	22.12	356	eP	P	00 47 19.1	+1.8
	comp=Z,96nm,1.4s						
U58A	Oxford	22.17	19	P	P	00 47 17.6	-0.2
	baz=202						
S50A	Richmond	22.17	6	P	P	00 47 18.0	+0.1
	baz=187						
S49A	Springfield	22.20	4	P	P	00 47 18.5	+0.3
	baz=185,SNR=5.3						
S51A	Beattyville	22.23	8	eP	P	00 47 19.4	+0.9
	comp=Z,34nm,1.0s						
S51A	Beattyville	22.23	8	P	P	00 47 19.1	+0.6
	baz=189						
S41A	Jillco Farms,	22.28	351	P	P	00 47 19.9	+0.9
	baz=168,SNR=7.1						
T56A	Rocky Mt	22.34	16	P	P	00 47 20.8	+1.1
	baz=198						
S52A	Salyersville	22.34	9	P	P	00 47 20.5	+0.8
	baz=190						
BLA	Blacksburg	22.41	15	P	P	00 47 21.5	+1.0
	baz=197						
S53A	Williamson	22.50	11	P	P	00 47 22.4	+0.9
	baz=193,SNR=5.1						
T57A	Hurt	22.52	17	P	P	00 47 22.6	+1.0
	baz=200						
R46A	Gibon Southern	22.55	360	P	P	00 47 22.7	+0.8
	baz=179,SNR=5.5						
WCI	Wyandotte Cave	22.59	2	eP	P	00 47 23.5	+1.1
	comp=Z,44nm,1.1s						
WCI	Wyandotte Cave	22.59	2	P	P	00 47 23.6	+1.3
	baz=182						
R47A	Wooly Knot Far	22.65	2	P	P	00 47 23.8	+0.8
	baz=182,SNR=5.7						
CCM	Cathedral Cave	22.66	352	eP	P	00 47 23.4	+0.3
	comp=Z,52nm,1.1s						
CCM	Cathedral Cave	22.66	352	eP	P	00 47 23.4	+0.3
CCM				pmax	pmax		
	comp=Z,52nm,1.1s						
CCM	Cathedral Cave	22.66	352	P	P	00 47 24.3	+1.1
	baz=170						
GDL2	Guadalupe Moun	22.68	320	eP	P	00 47 26.8	+3.3
T58A	Grand View Acr	22.68	19	P	P	00 47 24.5	+1.2
	baz=202						
R49A	Shelbyville	22.71	4	P	P	00 47 24.4	+0.8
	baz=185						
SLBS	Sierra La Lagu	22.76	294	eP	P	00 47 29.6	+5.2
R48A	Northridge Ran	22.78	3	P	P	00 47 25.5	+1.2
	baz=183						
R50A	Paris	22.78	6	P	P	00 47 25.2	+0.9
	baz=187						
R51A	Hillsboro	22.88	8	P	P	00 47 26.6	+1.2
	baz=189,SNR=7.2						
R41A	Rosebud	22.92	352	P	P	00 47 25.7	-0.1
	baz=170,SNR=17						
S55A	Lewisburg	22.93	14	P	P	00 47 26.8	+0.8
	baz=197						
MNTX	Cornudas Mount	22.99	317	eP	P	00 47 28.6	+1.9
	comp=Z,40nm,1.5s						
MNTX	Cornudas Mount	22.99	317	P	P	00 47 27.5	+0.8
	baz=130,SNR=10.0						
MSTX	Muleshoe	23.02	326	eP	P	00 47 29.1	+2.1
	comp=Z,30nm,1.2s						
MSTX	Muleshoe	23.02	326	P	P	00 47 28.2	+1.2
	baz=139						
T59A	Double "B" Far	23.02	20	P	P	00 47 27.8	+0.9
	baz=204						
OLIL	Olney	23.09	358	eP	P	00 47 28.7	+1.2
	comp=Z,50nm,1.0s						
AMTX	Amarillo	23.15	329	eP	P	00 47 30.3	+1.9
	comp=Z,23nm,1.1s						
AMTX	Amarillo	23.15	329	P	P	00 47 30.0	+1.6
	baz=142						
R53A	Hurricane	23.16	11	P	P	00 47 29.0	+0.7
	baz=193						
LPIG	La Paz	23.20	295	LR	LR	00 57 06.9	
	comp=Z,1μm,19.2s,baz=161,slow=38						
R54A	Victor	23.21	13	P	P	00 47 29.8	+0.9
	baz=195						
Q45A	Warren Harvey,	23.25	358	P	P	00 47 30.0	+0.8
	baz=178,SNR=7.6						
Q47A	Bedord North L	23.29	2	P	P	00 47 30.1	+0.5
	baz=182,SNR=8.4						
Q48A	North Vernon	23.31	3	P	P	00 47 30.7	+0.8
	baz=183						
Q42A	Golden Eagle	23.42	354	P	P	00 47 32.2	+1.3
	baz=172						
Q49A	Aurora	23.44	5	P	P	00 47 32.0	+0.9
	baz=185,SNR=5.1						
R55A	Marlinton	23.50	14	P	P	00 47 32.8	+0.9
	baz=197						
BLO	Bloomington	23.52	2	eP	P	00 47 33.1	+1.1
	comp=Z,95nm,1.8s						
BLO	Bloomington	23.52	2	eP	P	00 47 33.1	+1.1
BLO				pmax	pmax		
	comp=Z,95nm,1.8s						
Q51A	Peebles	23.63	8	eP	P	00 47 33.6	+0.7
	comp=Z,37nm,0.9s						
Q51A	Peebles	23.63	8	P	P	00 47 34.0	+1.0
	baz=189,SNR=7.9						
Q52A	Bidwell	23.72	10	P	P	00 47 34.6	+0.7
	baz=192						
Q53A	Leroy	23.75	11	P	P	00 47 34.1	-0.1
	baz=194						
R58B	Mineral	23.82	19	P	P	00 47 35.5	+0.7
	baz=203						
P47A	Martinsville	23.84	2	P	P	00 47 35.1	0.0
	baz=182						
P48A	Milroy	23.86	4	P	P	00 47 35.1	-0.1
	baz=184						
P45A	Graceland, Par	23.87	359	eP	P	00 47 36.1	+0.8
	comp=Z,36nm,1.2s						
P45A	Graceland, Par	23.87	359	P	P	00 47 36.1	+0.8
	baz=179						
R57A	Stanardsville	23.93	17	P	P	00 47 36.4	+0.5
	baz=201						
P46A	Rosedale	23.96	0	P	P	00 47 37.0	+0.9
	baz=180						
P49A	Miami Univ. Ec	23.98	5	P	P	00 47 37.1	+0.7
	baz=186						
Q54A	Coxs Mills	24.01	13	P	P	00 47 37.1	+0.5
	baz=195						
P43A	Skaggs, Pawnee	24.06	356	P	P	00 47 37.8	+0.7
	baz=174,SNR=8.9						
R58A	Rapidan	24.09	18	P	P	00 47 37.4	0.0
	baz=202						
P51A	Williamsport	24.

P53A	Whipple	24.39	11	P		P	00 47 40.6 +0.5
	baz=194,SNR=7.5						
P52A	Corning	24.40	10	P		P	00 47 40.8 +0.5
	baz=192,SNR=8.8						
O44A	Mansfield	24.51	358	P		P	00 47 41.6 +0.3
	baz=177						
O47A	Sheridan	24.60	2	P		P	00 47 42.4 +0.4
	baz=182						
O41A	Passleys Farm,	24.65	353	P		P	00 47 41.6 -0.9
	baz=171,SNR=5.1						
Q57A	Strasburg	24.65	17	P		P	00 47 42.0 -0.6
	baz=200						
O49A	Covington	24.67	6	eP		P	00 47 43.0 +0.3
	comp=Z,21nm,0.9s						
O49A	Covington	24.67	6	P		P	00 47 42.8 +0.2
	baz=186						
O48A	Farmland	24.67	4	P		P	00 47 43.2 +0.5
	baz=185						
P54A	Burton	24.68	13	P		P	00 47 43.2 +0.4
	baz=196						
O43A	Sugar Creek Fa	24.68	356	P		P	00 47 43.4 +0.6
	baz=175						
O50A	Cable	24.70	7	P		P	00 47 43.4 +0.5
	baz=188,SNR=5.0						
SFIN	Lafayette	24.72	0	eP		P	00 47 43.5 +0.4
	comp=Z,33nm,1.3s						
SFIN	Lafayette	24.72	0	P		P	00 47 43.4 +0.3
	baz=180						
P55A	Reedsville	24.74	14	P		P	00 47 44.3 +1.0
	baz=197						
O51A	Pataskala	24.83	9	P		P	00 47 44.8 +0.7
	baz=190						
ACSO	Alum Creek Sta	24.86	8	eP		P	00 47 45.6 +1.2
	comp=Z,43nm,1.2s						
ACSO	Alum Creek Sta	24.86	8	P		P	00 47 45.1 +0.7
	baz=190,SNR=5.5						
MCWV	Mont Chateau	24.88	14	eP		P	00 47 45.4 +0.9
	comp=Z,45nm,1.5s						
MCWV	Mont Chateau	24.88	14	P		P	00 47 45.3 +0.8
	baz=197						
O52A	Adamsville	24.92	10	eP		P	00 47 46.3 +1.4
	comp=Z,120nm,1.6s						
O52A	Adamsville	24.92	10	P		P	00 47 45.8 +0.9
	baz=192,SNR=5.4						
HDIL	Hopedale	24.95	356	eP		P	00 47 46.1 +0.9
	comp=Z,52nm,1.2s						
HDIL	Hopedale	24.95	356	P		P	00 47 45.7 +0.5
	baz=175						
121A	Cookes Peak, D	25.10	316	P		P	00 47 49.0 +2.1
	baz=127,SNR=6.8						
N44A	Piper City	25.14	359	P		P	00 47 46.7 -0.2
	baz=178						
O53A	New Philadelph	25.16	11	P		P	00 47 47.4 +0.3
	baz=194,SNR=8.6						
N45A	Kentland	25.19	360	P		P	00 47 47.0 -0.3
	baz=179						
N41A	Harden Midland	25.23	354	eP		P	00 47 48.0 +0.2
	comp=Z,45nm,0.9s						
N41A	Harden Midland	25.23	354	P		P	00 47 47.5 -0.2
	baz=172						
N46A	Monticello	25.24	1	P		P	00 47 47.7 -0.1
	baz=181						
N47A	Urbana	25.26	3	P		P	00 47 47.7 -0.3
	baz=183						
O54A	Avella	25.26	13	P		P	00 47 47.8 -0.2
	baz=195						
N48A	Decatur	25.28	4	P		P	00 47 48.3 +0.1
	baz=185						
N43A	Stutzman Famil	25.33	357	P		P	00 47 48.4 -0.2
	baz=175						
N50A	Nevada	25.37	7	P		P	00 47 48.9 -0.2
	baz=189						
BNM	Barren Site	25.39	320	eP		P	00 47 53.0 +3.4
N49A	Columbus Grove	25.41	6	eP		P	00 47 50.1 +0.8
	comp=Z,27nm,0.9s						
N49A	Columbus Grove	25.41	6	P		P	00 47 48.5 -0.8
	baz=187,SNR=5.2						
SDMD	Soldier's Deli	25.47	19	eP		P	00 47 49.7 -0.2
	comp=Z,17nm,1.2s						
319A	Douglas	25.48	312	eP		P	00 47 51.7 +1.5
	comp=Z,18nm,0.9s						
N40A	Mertquake, Sal	25.49	352	P		P	00 47 49.3 -0.8
	baz=170,SNR=5.4						
LENM	Lemitar	25.61	320	eP		P	00 47 53.9 +2.4
N51A	Ashland	25.62	9	P		P	00 47 51.5 +0.3
	baz=191						
N52A	McGinn's Farm,	25.62	10	P		P	00 47 51.6 +0.2
	baz=192						
M44A	Midewin, Midew	25.73	359	P		P	00 47 52.4 +0.1
	baz=178						
N53A	Lisbon	25.77	11	P		P	00 47 52.8 +0.2
	baz=194						
M43A	Waltham Townsh	25.81	357	P		P	00 47 53.7 +0.7
	baz=176						
ANMO	Albuquerque	25.83	322	eP		P	00 47 56.7 +3.2
	comp=Z,18nm,1.6s						
ANMO	Albuquerque	25.83	322	eP		P	00 47 56.7 +3.2
ANMO				pmax		pmax	
	comp=Z,18nm,1.6s						
ANMO	Albuquerque	25.83	322	P		P	00 47 54.2 +0.8
	baz=133						
ANMO	Albuquerque	25.83	322	P		P	00 47 55.8 +2.3
	comp=Z,2.2nm,0.9s,baz=148,slow=11,SNR=7.4						
TASM	ASL Pad, Albuq	25.83	322	P		P	00 47 54.0 +0.5
	baz=133						
TASM	ASL Pad, Albuq	25.83	322	P		P	00 47 54.9 +1.4
	baz=133						
M41A	Milan	25.86	354	P		P	00 47 53.5 +0.1
	baz=172,SNR=7.9						
LAZ	Ladron	25.87	320	eP		P	00 47 55.6 +1.7
M42A	Sheffield	25.88	356	P		P	00 47 53.6 0.0
	baz=174						
M49A	Liberty Center	25.98	6	P		P	00 47 54.4 -0.1
	baz=187						
M40A	Post Highland	26.00	353	P		P	00 47 54.2 -0.5
	baz=170,SNR=5.7						
M50A	Fremont	26.01	7	P		P	00 47 55.0 +0.2
	baz=189						
M51A	Elyria	26.05	9	P		P	00 47 55.1 -0.1
	baz=191						
N54A	Moraine State	26.09	13	eP		P	00 47 56.3 +0.7
	comp=Z,105nm,1.9s						
N54A	Moraine State	26.09	13	P		P	00 47 56.3 +0.7
	baz=196						
M39A	Webster	26.16	352	P		P	00 47 55.5 -0.6
	baz=169,SNR=9.0						
MVL	Millersville	26.16	19	eP		P	00 47 57.1 +0.9
	comp=Z,48nm,1.5s						
P60A	Greenville	26.23	21	P		P	00 47 56.5 -0.3
	baz=206						
SSPA	Standing Stone	26.29	16	P		P	00 47 57.6 +0.3
	baz=200						
T25A	Trinidad	26.29	328	eP		P	00 48 00.4 +2.7
	comp=Z,16nm,1.1s						
T25A	Trinidad	26.29	328	P		P	00 47 59.1 +1.5
	baz=140						
L42A	Oliver, Polo	26.42	356	eP		P	00 47 58.7 +0.2
	comp=Z,52nm,1.2s						
L42A	Oliver, Polo	26.42	356	P		P	00 47 57.8 -0.7
	baz=175,SNR=6.5						
L43A	Garden Prairie	26.55	358	P		P	00 47 59.8 +0.1
	baz=177						
L41A	Preston	26.55	355	P		P	00 47 59.0 -0.7
	baz=173,SNR=6.7						
L40A	Anamosa	26.61	354	eP		P	00 48 00.6 +0.4
	comp=Z,35nm,1.0s						
L40A	Anamosa	26.61	354	P		P	00 47 59.3 -0.9
	baz=171,SNR=9.8						
L39A	Vinton	26.77	352	P		P	00 48 00.8 -0.8
	baz=170,SNR=5.5						
L53A	Girard	26.99	12	P		P	00 48 03.4 -0.3
	baz=195						
TUC	Tucson	27.06	312	eP		P	00 48 04.0 -0.3
	comp=Z,6.3nm,0.9s						
TUC	Tucson	27.06	312	eP		P	00 48 04.0 -0.5
TUC				pmax		pmax	
	comp=Z,6.0nm,0.9s						
TUC	Tucson	27.06	312	P		P	00 48 06.6 +2.2
	baz=122						
K41A	Shullsburg	27.07	355	P		P	00 48 04.4 +0.1
	baz=173						
K47A	Vermontville	27.08	4	P		P	00 48 04.0 -0.4
	baz=184						
K42A	Prairie Point,	27.17	357	P		P	00 48 05.3 0.0
	baz=175						
N59A	State Game Lan	27.18	19	P		P	00 48 04.4 -1.0
	baz=204						
K40A	Colesburg	27.23	354	P		P	00 48 05.8 0.0
	baz=172						
SDCO	Great Sand Dun	27.31	327	eP		P	00 48 08.5 +1.5
	comp=Z,5.8nm,1.0s						
SDCO	Great Sand Dun	27.31	327	P		P	00 48 08.9 +1.9
	baz=139						
K39A	Oelwein	27.32	353	P		P	00 48 05.6 -1.1
	baz=170,SNR=7.0						
JFWS	Jewell Farm	27.37	355	eP		P	00 48 07.2 +0.2
	comp=Z,20nm,1.3s						
JFWS	Jewell Farm	27.37	355	eP		P	00 48 07.2 +0.2
JFWS				pmax		pmax	
	comp=Z,20nm,1.3s						
JFWS	Jewell Farm	27.37	355	P		P	00 48 07.2 +0.2
	baz=174						
L55A	Hinsdale	27.61	14	P		P	00 48 09.3 +0.1
	baz=198						
J42A	Columbus	27.70	357	P		P	00 48 10.1 +0.1
	baz=176						
J41A	Loganville	27.80	356	P		P	00 48 10.8 -0.1
	baz=174						
J40A	Soldiers Grove	27.89	355	P		P	00 48 11.9 +0.2
	baz=173						
W18A	Petrified Fore	27.97	318	P		P	00 48 13.3 +0.5
	baz=128						
S22A	4UR Ranch, Cre	28.02	326	P		P	00 48 14.8 +1.4
	baz=137,SNR=8.3						
I43A	Langenfeld Bro	28.23	359	P		P	00 48 14.4 -0.3
	baz=178						
I42A	Draeger Farm,	28.26	358	P		P	00 48 14.6 -0.4
	baz=176						
BINY	Binghamton	28.28	18	eP		P	00 48 16.9 +1.7
	comp=Z,30nm,1.4s						
BINY	Binghamton	28.28	18	P		P	00 48 15.9 +0.7
	baz=203						
OGNE	Ogallala	28.32	336	eP		P	00 48 17.4 +1.7
	comp=Z,71nm,1.6s						
OGNE	Ogallala	28.32	336	P		P	00 48 17.7 +2.0
	baz=149						
I39A	Houston	28.42	354	eP		P	00 48 16.3 -0.1
	comp=Z,18nm,0.9s						
I39A	Houston	28.42	354	P		P	00 48 16.0 -0.4
	baz=171,SNR=6.7						
I41A	Arkdale	28.48	356	P		P	00 48 16.7 -0.3
	baz=174						
J54A	Appleton	28.59	13	P		P	00 48 18.7 +0.7
	baz=197						
I51A	Listowel	28.65	10	P		P	00 48 18.2 -0.3
	baz=192						
X16A	Lo Mia Camp, P	28.68	315	eP		P	00 48 20.7 +1.6
	comp=Z,6.6nm,0.8s						
BASO	Ashfield	28.76	9	P		P	00 48 19.1 -0.3
	baz=191						
BWLO	Walkerton	28.94	9	P		P	00 48 21.1 0.0
	baz=192						
ISCO	Idaho Springs	28.95	330	eP		P	00 48 21.9 +0.3
	comp=Z,13nm,1.6s						
ISCO	Idaho Springs	28.95	330	eP		P	00 48 21.9 +0.3
ISCO				pmax		pmax	
	comp=Z,13nm,1.6s						
ISCO	Idaho Springs	28.95	330	P		P	00 48 22.0 +0.4
	baz=141						
H41A	Junction City	29.02	357	eP		P	00 48 21.2 -0.6
	comp=Z,9.7nm,1.0s						
H41A	Junction City	29.02	357	P		P	00 48 21.7 -0.1
	baz=175						
I52A	Shelburne	29.05	11	P		P	00 48 22.0 0.0
	baz=194						
H47A	Mio	29.06	5	P		P	00 48 21.8 -0.3
	baz=186						
H40A	Chili	29.07	356	P		P	00 48 21.5 -0.7
	baz=174,SNR=6.4						
SMCO	Snowmass	29.15	328	eP		P	00 48 25.4 +1.9
	comp=Z,9.5nm,1.4s						
ECSD	EROS Data Cent	29.16	346	eP		P	00 48 23.0 -0.1
	comp=Z,17nm,1.6s						
ECSD	EROS Data Cent	29.16	346	P		P	00 48 23.0 -0.1
	baz=161						
H39A	Augusta	29.21	354	P		P	00 48 23.3 -0.2
	baz=172						
H48A	Harrisville	29.23	6	P		P	00 48 23.5 -0.1
	baz=188						
WUAZ	Wupatki	29.27	317	eP		P	00 48 27.6 +3.3
	comp=Z,10.0nm,1.1s						
H38A	Maiden Rock	29.31	353	P		P	00 48 24.4 0.0
	baz=170						
PV13	Radium Mtn., P	29.42	324	eP		P	00 48 27.3 +1.6
	comp=Z,14nm,1.6s						
PV03	Paradox Valley	29.50	324	eP		P	00 48 27.9 +1.5
	comp=Z,6.0nm,0.9s						
PV07	Paradox Valley	29.52	325	eP		P	00 48 28.2 +1.7
	comp=Z,8.2nm,1.2s						
PV11	David Mesa, Pa	29.55	324	eP		P	00 48 30.7 +4.0
	comp=Z,4.9nm,0.8s						
PV16	Nyswonger Mesa	29.58	324	eP		P	00 48 30.5 +3.4
	comp=Z,10nm,1.2s						
PV17	East Wray Mesa	29.58	324	eP		P	00 48 30.8 +3.7
	comp=Z,8.8nm,1.1s						
G42A	Mountain	29.59	358	eP		P	00 48 26.5 -0.3
	comp=Z,9.9nm,0.8s						
G42A	Mountain	29.59	358	P		P	00 48 26.6 -0.2
	baz=178						
G43A	Wallace	29.59	359	P		P	00 48 27.0 +0.1
	baz=179						
PECO	Prince Edward	29.61	15	P		P	00 48 26.6 -0.3
	baz=200						
PV19	Morning Glory	29.61	324	eP		P	00 48 29.3 +1.9
	comp=Z,8.2nm,1.2s						
PV20	West Nyswonger	29.63	324	eP		P	00 48 29.1 +1.6
	comp=Z,7.7nm,1.1s						
PV04	Paradox Valley	29.63	324	eP		P	00 48 31.4 +3.9
	comp=Z,12nm,1.1s						
M65A	Busby, Falmout	29.64	26	P		P	00 48 26.8 -0.6
	baz=214						
G40A	Rib Lake	29.70	356	P		P	00 48 27.2 -0.7
	baz=174						
I55A	Frankford	29.71	14	P		P	00 48 28.1 +0.3
	baz=199						
PV23	Carpenter Ridg	29.73	324	eP		P	00 48 29.3 +0.8
	comp=Z,6.3nm,0.9s						
G38A	Ridgeland	29.75	354	P		P	00 48 27.4 -0.8
	baz=171						
G39A	Holcombe	29.80	355	P		P	00 48 27.8 -0.8
	baz=172,SNR=5.9						
SADO	Sadowa	29.92	12	eP		P	00 48 28.6 -1.1
	comp=Z,9.3nm,0.9s						
SADO	Sadowa	29.92	12	P		P	00 48 29.5 -0.2
	comp=Z,6.4nm,0.8s,baz=245,slow=5.2,SNR=6.8						
SPMN	Marine on St.	29.92	352	P		P	00 48 29.0 -0.7
	baz=169,SNR=5.6						
N23A	Red Feather La	29.96	331	eP		P	00 48 32.8 +2.3
	comp=Z,15nm,1.5s						
N23A	Red Feather La	29.96	331	P		P	00 48 33.3 +2.8
	baz=142						
TOBO	Tobermory, Bru	29.96	8	P		P	00 48 29.9 -0.3
	baz=191						
DELO	Deloro Mine	30.01	14	P		P	00 48 30.1 -0.4
	baz=199						
F41A	Three Lakes	30.11	358	P		P	00 48 30.9 -0.6
	baz=176						
F43A	Flat Rock, Esc	30.17	0	P		P	00 48 31.5 -0.5
	baz=180						
KLBO	Killbear Provi	30.29	10	P		P	00 48 32.1 -0.9
	baz=193						
F44A	Big Bay de Noc	30.32	1	P		P	00 48 32.9 -0.4
	baz=181						
F40A	Park Falls	30.35	356	P		P	00 48 33.4 -0.1
	baz=174						
G53A	Haliburton	30.36	12	P		P	00 48 33.0 -0.6
	baz=196						
F39A	Loretta	30.40	355	P		P	00 48 33.7 -0.3
	baz=173						
U15A	North Rim	30.41	318	eP		P	00 48 33.8 -0.8
	comp=Z,8.4nm,1.4s						
F48A	Evansville	30.42	7	P		P	00 48 33.7 -0.5
	baz=189						
F49A	Sandfield	30.43	7	P		P	00 48 33.7 -0.5
	baz=190						
PDMCI	Parker Dam,Lak	30.49	313	P		P	00 48 35.7 +0.7
	baz=121						
O20A	White River Ci	30.52	327	P		P	00 48 37.5 +2.1
	baz=137						
BUKO	Buck Lake	30.52	11	P		P	00 48 35.1 +0.1
	baz=195						
F38A	Pierce - Schro	30.54	354	P		P	00 48 33.8 -1.4
	baz=171,SNR=5.5						
PLVO	Plevna	30.63	14	P		P	00 48 35.5 -0.5
	baz=199						
E43A	Lone Tree Farm	30.71	0	P		P	00 48 36.5 -0.2
	baz=180						
W13A	Hualapai Mount	30.73	314	eP		P	00 48 39.2 +1.9
	comp=Z,3.9nm,0.9s						
E42A	Champion	30.77	359	P		P	00 48 36.7 -0.6
	baz=179						
E41A	Kenton	30.83	358	P		P	00 48 36.7 -1.1
	baz=177						
E39A	Mellen	30.83	356	P		P	00 48 37.2 -0.6
	baz=174,SNR=9.2						
E40A	Wakefield	30.86	357	P		P	00 48 38.2 +0.1
	baz=175						
F52A	Sundridge	30.87	11	P		P	00 48 37.8 -0.4
	baz=195						
LONY	Lake Ozonia	30.90	18	eP		P	00 48 39.6 +1.1
	comp=Z,17nm,1.1s						
LONY	Lake Ozonia	30.90	18	P		P	00 48 38.9 +0.4
	baz=204						
G55A	Calabogie	30.91	15	P		P	00 48 37.8 -0.7
	baz=200						
E47A	Iron Bridge	30.98	5	P		P	00 48 38.7 -0.3
	baz=187						
PKCU	Pink Cliffs	31.04	319	eP		P	00 48 42.9 +2.8
	comp=Z,31nm,1.3s						
SRU	San Rafael Swe	31.04	324	eP		P	00 48 43.0 +3.1
	comp=Z,5.8nm,0.9s						
SRU	San Rafael Swe	31.04	324	eP		P	00 48 43.1 +3.1
SRU				pmax		pmax	
	comp=Z,6.0nm,0.9s						
KNB	Kanab	31.11	318	eP		P	00 48 44.0 +3.5
	comp=Z,19nm,1.5s						
KNB	Kanab	31.11	318	eP		P	00 48 44.1 +3.5
KNB				pmax		pmax	
	comp=Z,19nm,1.5s						
BC3	Big Chuckawall	31.12	310	P		P	00 48 40.3 -0.4
	baz=118						
E48A	Lockeyer	31.12	7	P		P	00 48 40.2 -0.2
	baz=189						
E38A	The Farm, Brul	31.14	354	eP		P	00 48 39.7 -0.8
	comp=Z,21nm,0.9s						
E38A	The Farm, Brul	31.14	354	P		P	00 48 39.5 -1.1
	baz=172,SNR=7.7						
E50A	Wahnapitae	31.25	9	P		P	00 48 41.3 -0.2
	baz=192						
ALGO	Algonquin Park	31.28	13	P		P	00 48 41.8 +0.1
	baz=197						
Q16A	Castle Valley	31.29	323	eP		P	00 48 43.3 +1.2
	comp=Z,5.9nm,1.2s						
MTPU	Mount Pierson	31.33	320	eP		P	00 48 46.0 +3.2
	comp=Z,8.9nm,1.1s						
LCMT	Little Creek M	31.38	318	eP		P	00 48 45.2 +2.3
	comp=Z,5.0nm,1.1s						
P17A	Butcher Ranch,	31.41	324	eP		P	00 48 45.4 +2.2
	comp=Z,5.8nm,0.9s						
PTGA	Pitinga	31.52	118	eP		P	00 48 44.0 -0.2
	comp=Z,13nm,1.4s						
PTGA	Pitinga	31.52	118	P		P	00 48 43.2 -1.0
	comp=Z,1.7nm,0.3s,baz=332,slow=8.5,SNR=6.7						
E51A	G1948 Merrick	31.56	10	P		P	00 48 44.8 +0.7
	baz=194						
TMUT	Trail Mountain	31.56	323	eP		P	00 48 48.5 +3.8
	comp=Z,6.3nm,1.2s						
K22A	Casper	31.62	332	eP		P	00 48 47.8 +2.8
	comp=Z,39nm,1.5s						
K22A	Casper	31.62	332	P		P	00 48 46.6 +1.6
	baz=143,SNR=6.5						
SZCU	Shurtz Canyon	31.62	319	eP		P	00 48 47.3 +2.2
	comp=Z,8.6nm,1.0s						
ALFO	Alfred	31.74	17	P		P	00 48 46.6 +0.9
	baz=203						
E53A	Dumoine, Ponti	31.76	13	P		P	00 48 47.0 +1.0
	baz=198						
CCUT	Cedar City	31.77	319	eP		P	00 48 48.8 +2.3
	comp=Z,7.2nm,1.0s						
GMRC	Granite Mounta	31.82	312	P		P	00 48 48.6 +1.8
	baz=120						
TCRU	Three Creeks R	31.85	321	eP		P	00 48 49.0 +1.8
	comp=Z,10nm,0.9s						
E54A	Lac Daplat, Po	31.92	13	P		P	00 48 46.8 -0.6
	baz=198,SNR=5.1						
D49A	Beulah Townshi	32.00	8	P		P	00 48 47.7 -0.3
	baz=190						
D52A	ZEK Kipawa Sen	32.18	11	P		P	00 48 49.8 +0.2
	baz=196						
MPU	Maple Canyon	32.28	324	eP		P	00 48 53.1 +2.2
	comp=Z,9.5nm,1.0s						
SHPR	Sheep Range	32.36	315	eP		P	00 48 53.0 +1.4
	comp=Z,14nm,1.7s						
TRQ	Mont Tremblant	32.38	17	eP		P	00 48 52.1 +0.7
EYMN	Ely	32.47	355	eP		P	00 48 51.4 -0.8
	comp=Z,31nm,1.4s						
EYMN	Ely	32.47	355	P		P	00 48 51.2 -1.0
	baz=172,SNR=6.3						
NLU	North Lily Min	32.50	323	eP		P	00 48 55.1 +2.3
	comp=Z,5.7nm,1.1s						
PSUT	Pine Spring	32.67	320	eP		P	00 48 56.2 +1.9
	comp=Z,12nm,1.0s						
D54A	Lac Fusel, La	32.72	14	P		P	00 48 54.1 -0.3
	baz=199						
GSC	Goldstone, Bar	32.89	312	P		P	00 48 58.2 +2.0
	baz=119						
DUG	Dugway, Tooele	33.08	323	eP		P	00 48 59.2 +1.4
	comp=Z,7.5nm,1.1s						
DUG	Dugway, Tooele	33.08	323	eP		P	00 48 59.2 +1.4
DUG				pmax		pmax	
	comp=Z,8.0nm,1.1s						
DUG	Dugway, Tooele	33.08	323	P		P	00 48 59.2 +1.4
	baz=130,SNR=7.0						
BW06	Boulder Array	33.13	329	eP		P	00 49 00.1 +1.8
	comp=Z,9.4nm,1.2s						
BW06	Boulder Array	33.13	329	P		P	00 48 59.8 +1.5
	baz=138						
PD31	Pinedale Array	33.13	329	eP		P	00 49 00.4 +2.0
	comp=Z,9.4nm,1.3s						
PDAR	Pinedale Array	33.13	329	P		P	00 48 59.3 +1.0
	comp=Z,2.3nm,0.9s,baz=130,slow=9.6,SNR=14						
PKME	Peaks-Kenny Pk	33.28	23	P		P	00 48 59.8 +0.6
	baz=213						
HWUT	Hardware Ranch	33.33	326	eP		P	00 49 02.0 +2.0
	comp=Z,6.0nm,0.9s						
AGMN	Agassiz Nation	33.38	350	eP		P	00 48 59.9 -0.3
	comp=Z,17nm,1.0s						
AGMN	Agassiz Nation	33.38	350	P		P	00 48 59.6 -0.6
	baz=165,SNR=9.8						
FURC	Furnace Creek,	33.51	314	P		P	00 49 03.8 +2.4
	baz=120						
SPUT	South Promonto	33.61	325	eP		P	00 49 03.6 +1.2
	comp=Z,11nm,1.2s						
R11A	Troy Canyon, C	33.66	318	eP		P	00 49 04.4 +1.4
	comp=Z,5.2nm,1.1s						
R11A	Troy Canyon, C	33.66	318	P		P	00 49 04.0 +1.0
	baz=124,SNR=7.5						
BGU	Big Grassy Mou	33.68	324	eP		P	00 49 06.1 +3.0
	comp=Z,14nm,1.1s						
MPMC	Manual Prospec	33.74	313	P		P	00 49 05.7 +2.0
	baz=119						
HVU	Hansel Valley	34.11	325	eP		P	00 49 09.4 +2.6
	comp=Z,12nm,1.4s						
HVU	Hansel Valley	34.11	325	eP		P	00 49 09.4 +2.6
HVU				pmax		pmax	
	comp=Z,12nm,1.4s						
REDW	Red Top Meadow	34.21	329	eP		P	00 49 10.0 +2.2
	comp=Z,34nm,0.9s						
SNOW	Snow King Moun	34.23	329	eP		P	00 49 10.4 +2.4
	comp=Z,30nm,0.9s						
LOHW	Long Hollow	34.27	329	eP		P	00 49 10.7 +2.5
	comp=Z,16nm,1.1s						
TPAW	Teton Pass	34.35	329	eP		P	00 49 11.6 +2.6
	comp=Z,15nm,1.0s						
MOOW	Moose Ponds	34.44	329	eP		P	00 49 11.7 +2.0
	comp=Z,13nm,1.2s						
LSQQ	Lebel-sur-Quev	34.45	12	P		P	00 49 10.0 +0.6
	baz=198						
FXWY	Fox Creek	34.50	329	eP		P	00 49 12.5 +2.2
	comp=Z,6.0nm,0.9s						
IMW	Indian Meadow	34.64	329	eP		P	00 49 14.0 +2.4
	comp=Z,31nm,1.8s						
FLWY	Flagg Ranch	34.66	330	eP		P	00 49 14.9 +3.2
	comp=Z,28nm,1.3s						
VES	Vestal, Richgr	34.78	311	P		P	00 49 15.2 +2.7
	baz=117						
RLMT	Red Lodge	34.78	332	eP		P	00 49 14.6 +2.0
	comp=Z,21nm,1.1s						
RLMT	Red Lodge	34.78	332	P	

H17A	Grant Village	34.84	330	P		P	00 49 16.2 +3.1
	baz=138,SNR=7.0						
YPP	Pitchstone Pla	34.85	330	eP		P	00 49 16.7 +3.3
	comp=Z,9.2nm,1.2s						
ELK	Elko	34.86	322	eP		P	00 49 16.3 +2.8
	comp=Z,11nm,1.0s						
ELK	Elko	34.86	322	P		P	00 49 14.2 +0.8
	comp=Z,7.8nm,0.9s,baz=133,slow=5.9,SNR=18						
LKWY	Lake	34.88	331	eP		P	00 49 17.3 +3.7
	comp=Z,13nm,1.0s						
PKM	Mcpherson Peak	34.89	309	P		P	00 49 15.0 +1.3
	baz=115						
MATQ	Matagami	35.00	11	P		P	00 49 14.1 -0.1
	baz=196,SNR=5.3						
YFT	Old Faithful	35.00	330	eP		P	00 49 18.9 +4.3
	comp=Z,52nm,1.7s						
YNR	Norris Junctio	35.12	331	eP		P	00 49 19.0 +3.4
	comp=Z,14nm,1.4s						
YMR	Madison River	35.23	330	eP		P	00 49 20.1 +3.6
	comp=Z,26nm,1.1s						
YHH	Holmes Hill	35.26	331	eP		P	00 49 20.2 +3.4
	comp=Z,30nm,1.7s						
ULM	Lac du Bonnet	35.28	350	eP		P	00 49 14.2 -2.4
	comp=Z,21nm,1.3s						
ULM	Lac du Bonnet	35.28	350	eP		P	00 49 14.2 -2.4
ULM				pmax		pmax	
	comp=Z,21nm,1.3s						
ULM	Lac du Bonnet	35.28	350	P		P	00 49 14.8 -1.7
	comp=Z,7.7nm,0.9s,baz=171,slow=9.8,SNR=16						
ULM				LR		LR	01 06 24.7
	comp=Z,141nm,18.1s,baz=166,slow=41						
YHB	Horse Butte	35.40	330	eP		P	00 49 19.5 +1.6
	comp=Z,5.4nm,0.9s						
NV11	Mina Array Sit	35.40	316	eP		P	00 49 20.3 +2.3
	comp=Z,0.7nm,1.1s						
GCMT	Greycliff	35.48	333	eP		P	00 49 20.6 +2.0
NVAR	Mina Array Bea	35.50	316	eP		P	00 49 21.4 +2.5
NVAR				PcP		PcP	00 51 48.5 +0.2
NVAR	Mina Array Bea	35.50	316	P		P	00 49 21.0 +2.1
	comp=Z,6.5nm,1.0s,baz=122,slow=8.6,SNR=33						
NVAR				PcP		PcP	00 51 48.5 +0.2
	comp=Z,1.5nm,0.9s,baz=134,slow=3.9,SNR=4.3						
NVAR				LR		LR	01 07 11.1
	comp=Z,391nm,18.1s,baz=166,slow=42						
OMMB	Old Mammoth Mi	35.56	314	eP		P	00 49 21.0 +1.4
	comp=Z,3.7nm,1.2s						
QLMT	Earthquake Lak	35.57	330	eP		P	00 49 22.2 +2.8
PAGB	Antelope Grade	35.58	311	eP		P	00 49 21.7 +2.3
	comp=Z,37nm,1.7s						
LMN	Caledonia Moun	35.61	27	eP		P	00 49 20.1 +0.6
	comp=Z,23nm,1.4s						
KVN	Kaiserville	35.69	317	eP		P	00 49 22.2 +1.7
	comp=Z,8.2nm,1.0s						
KVN	Kaiserville	35.69	317	eP		P	00 49 22.2 +1.7
KVN				pmax		pmax	
	comp=Z,8.0nm,1.0s						
RYN	Ryan	35.75	316	eP		P	00 49 22.2 +1.2
	comp=Z,7.1nm,1.1s						
CHGQ	Chibougamau	35.83	14	P		P	00 49 21.1 -0.2
	baz=201						
BMN	Battle Mountai	35.89	320	eP		P	00 49 25.3 +3.1
	comp=Z,15nm,1.0s						
BMN	Battle Mountai	35.89	320	eP		P	00 49 25.3 +3.1
BMN				pmax		pmax	
	comp=Z,15nm,1.0s						
HLID	Hailey	36.20	326	eP		P	00 49 26.6 +1.8
	comp=Z,6.4nm,1.0s						
HLID	Hailey	36.20	326	P		P	00 49 25.6 +0.8
	baz=132,SNR=11						
BOZ	Bozeman (W)	36.23	331	eP		P	00 49 27.5 +2.5
	comp=Z,25nm,1.1s						
BOZ	Bozeman (W)	36.23	331	eP		P	00 49 27.5 +2.5
BOZ				pmax		pmax	
	comp=Z,25nm,1.1s						
BOZ	Bozeman (W)	36.23	331	P		P	00 49 26.9 +1.9
	baz=138,SNR=43						
MCMT	McKenzie Canyo	36.26	329	eP		P	00 49 28.5 +3.1
WAKR	Walker	36.30	315	eP		P	00 49 30.3 +4.5
	comp=Z,10.0nm,1.3s						
YERR	Yerington	36.41	316	eP		P	00 49 28.8 +2.0
	comp=Z,6.6nm,1.0s						
DLMT	Dillon	36.52	330	eP		P	00 49 30.6 +3.1
	comp=Z,17nm,1.0s						
PNTR	Pine Nut	36.71	316	eP		P	00 49 30.6 +1.3
	comp=Z,8.2nm,1.0s						
LRM	Limekiln Ridge	36.78	330	eP		P	00 49 32.2 +2.4
PAHR	Pah Rah Range	36.88	317	eP		P	00 49 32.3 +1.6
	comp=Z,15nm,1.5s						
LPAZ	La Paz	36.90	148	eP		P	00 49 30.4 -1.0
	comp=Z,7.1nm,1.4s						
LPAZ	La Paz	36.90	148	eP		P	00 49 30.5 -1.0
LPAZ				pmax		pmax	
	comp=Z,7.0nm,1.4s						
LPAZ	La Paz	36.90	148	P		P	00 49 29.8 -1.7
	comp=Z,2.6nm,1.2s,baz=304,slow=9.3,SNR=4.9						
LPAZ				LR		LR	01 06 08.0
	comp=Z,182nm,18.0s,baz=330,slow=39						
HRY	Holter Researc	37.15	332	eP		P	00 49 35.3 +2.5
EGMT	Eagleton	37.27	335	eP		P	00 49 35.4 +1.6
	comp=Z,32nm,1.4s						
EGMT	Eagleton	37.27	335	P		P	00 49 34.6 +0.9
	baz=142,SNR=9.1						
BEKR	Beckworth	37.61	317	eP		P	00 49 39.8 +3.0
	comp=Z,4.4nm,0.8s						
WVOR	Wild Horse Val	37.91	321	eP		P	00 49 41.8 +2.5
	comp=Z,16nm,1.0s						
WVOR	Wild Horse Val	37.91	321	eP		P	00 49 41.8 +2.5
WVOR				pmax		pmax	
	comp=Z,16nm,1.0s						
MSO	Missoula	38.23	330	eP		P	00 49 43.9 +2.0
	comp=Z,62nm,1.6s						
MSO	Missoula	38.23	330	P		P	00 49 43.3 +1.5
	baz=136						
J08A	Circle Bar Ran	38.36	323	eP		P	00 49 45.0 +1.9
	comp=Z,35nm,1.4s						
BMO	Blue Mountains	38.62	325	eP		P	00 49 46.5 +1.3
	comp=Z,13nm,1.0s						
BMO	Blue Mountains	38.62	325	eP		P	00 49 46.5 +1.3
BMO				pmax		pmax	
	comp=Z,13nm,1.0s						
MOD	Modoc Plateau	38.64	319	eP		P	00 49 47.4 +1.9
	comp=Z,10nm,1.0s						
MNMC	Minye Minye	38.65	153	eP		P	00 49 45.4 -0.4
	comp=Z,45nm,1.0s						
PB11	IPOC Station P	39.18	153	eP		P	00 49 50.1 0.0
	comp=Z,18nm,0.8s						
F10A	Beach Ranch, E	39.30	327	eP		P	00 49 52.2 +1.4
	comp=Z,24nm,0.9s						
GO01	Chusmiza	39.30	152	eP		P	00 49 52.4 +0.8
	comp=Z,18nm,0.9s						
I07A	Izee	39.39	323	eP		P	00 49 53.4 +1.7
	comp=Z,9.4nm,1.0s						
K05A	Summer Lake	39.46	320	eP		P	00 49 54.5 +2.1
	comp=Z,12nm,1.1s						
G08A	Pilot Rock	39.81	325	eP		P	00 49 57.2 +2.0
	comp=Z,7.7nm,1.3s						
WALA	Waterton Lakes	39.84	333	eP		P	00 49 57.1 +1.7
	comp=Z,18nm,1.0s						
J05D	Fort Rock, OR	39.97	321	P		P	00 49 58.1 +1.5
	baz=123						
M02C	Callahan	40.02	317	P		P	00 49 58.5 +1.6
	baz=119						
L04D	Klamath Falls	40.07	319	P		P	00 49 59.0 +1.6
	baz=121						
PINE	Pine Mountain	40.08	321	eP		P	00 49 59.4 +1.9
	comp=Z,18nm,0.9s						
SIV	San Ignacio	40.69	139	P		P	00 49 59.9 -2.8
	comp=Z,2.2nm,0.7s,baz=328,slow=5.5,SNR=13						
FFC	Flin Flon	40.70	347	eP		P	00 50 02.0 -0.2
	comp=Z,4.1nm,1.0s						
FFC	Flin Flon	40.70	347	i P		P	00 50 02.3 +0.1
NEW	Newport	40.77	329	eP		P	00 50 04.5 +1.5
	comp=Z,12nm,1.3s						
NEW	Newport	40.77	329	eP		P	00 50 04.5 +1.5
NEW				pmax		pmax	
	comp=Z,12nm,1.3s						
NEW	Newport	40.77	329	P		P	00 50 03.8 +0.8
	baz=133,SNR=5.4						
NEW	Newport	40.77	329	P		P	00 50 03.8 +0.8
	comp=Z,3.8nm,0.9s,baz=135,slow=8.6,SNR=7.5						
L02E	Cave Junction	40.88	318	P		P	00 50 04.7 +0.8
	baz=119						
D08A	Wollman Farm,	40.89	327	eP		P	00 50 05.7 +1.7
	comp=Z,18nm,1.1s						
I04A	Tendick Farm,	40.97	321	P		P	00 50 06.2 +1.5
	baz=122						
C09A	Chrisman Ranch	41.04	328	eP		P	00 50 07.2 +2.0
	comp=Z,39nm,1.6s						
G05D	Wamic, OR	41.12	323	P		P	00 50 07.4 +1.5
	baz=125						
H04A	Detroit Lake	41.31	322	eP		P	00 50 09.4 +1.9
	comp=Z,28nm,1.0s						
I03D	Drain, OR	41.49	320	P		P	00 50 09.8 +0.8
	baz=121,SNR=6.0						
H04D	Lebanon	41.56	321	P		P	00 50 10.5 +1.1
	baz=123						
F05D	White Salmon	41.57	324	P		P	00 50 12.1 +2.5
	baz=125						
B08A	Colville Reser	41.94	328	eP		P	00 50 14.2 +1.6
	comp=Z,14nm,1.1s						
LTY	Liberty	41.95	326	eP		P	00 50 14.8 +2.1
	comp=Z,39nm,1.9s						
LVC	Limon Verde	42.02	154	eP		P	00 50 14.6 +0.8
	comp=Z,25nm,1.3s						
LVC	Limon Verde	42.02	154	eP		P	00 50 14.6 +0.8
LVC				pmax		pmax	
	comp=Z,25nm,1.3s						
G03D	McMinnville, O	42.24	322	P		P	00 50 16.8 +1.7
	baz=123						
LON	Longmire	42.27	325	eP		P	00 50 17.5 +2.1
	comp=Z,12nm,1.0s						
LON	Longmire	42.27	325	eP		P	00 50 17.5 +2.1
LON				pmax		pmax	
	comp=Z,12nm,1.0s						
C06D	Leavenworth	42.48	327	P		P	00 50 18.7 +1.8
	baz=128						
F04D	Rainier, OR	42.57	323	P		P	00 50 19.7 +2.0
	baz=124						
F03A	Seaside	42.81	323	eP		P	00 50 24.6 +4.9
	comp=Z,120nm,1.2s						
FCC	Fort Churchill	43.41	355	eP		P	00 50 23.8 -0.5
	comp=Z,14nm,1.0s						
FCC	Fort Churchill	43.41	355	eP		P	00 50 23.8 -0.5
FCC				pmax		pmax	
	comp=Z,14nm,1.0s						
D03D	Eldon	43.44	325	P		P	00 50 26.0 +1.3
	baz=125						
LLLB	Lillooet	44.66	329	eP		P	00 50 36.6 +2.1
	comp=Z,42nm,1.4s						
BDFB	Brasilia	49.69	127	LR		LR	01 13 26.7
	comp=Z,293nm,18.8s,baz=300,slow=38						
YKA	Yellowknife Ar	50.66	344	P		P	00 51 20.3 -0.5
	comp=Z,4.4nm,0.8s,baz=139,slow=7.8,SNR=93						
YKA				PcP		PcP	00 52 37.7 -0.5
	comp=Z,1.9nm,0.9s,baz=146,slow=4.0,SNR=13						
YKW3	Yellowknife Ar	50.71	344	eP		P	00 51 21.2 -0.1
	comp=Z,9.4nm,1.0s						
CPUP	Villa Florida	50.85	145	LR		LR	01 12 53.9
	comp=Z,115nm,20.3s,baz=326,slow=36						
DLBC	Dease Lake	53.17	334	eP		P	00 51 42.2 +2.4
	comp=Z,26nm,1.1s						
DLBC	Dease Lake	53.17	334	P		P	00 51 41.2 +1.4
	comp=Z,13nm,1.0s,baz=150,slow=4.7,SNR=9.8						
RES	Resolute Bay	59.27	358	eP		P	00 52 22.7 -0.2
	comp=Z,8.9nm,0.9s						
RES	Resolute Bay	59.27	358	eP		P	00 52 22.7 -0.2
RES				pmax		pmax	
	comp=Z,9.0nm,0.9s						
RES	Resolute Bay	59.27	358	P		P	00 52 22.2 -0.7
	comp=Z,5.7nm,0.8s,baz=186,slow=8.4,SNR=33						
INK	Inuvik	60.28	342	P		P	00 52 30.1 0.0
INK				ePcP		PcP	00 53 15.4 +0.1
INK	Inuvik	60.28	342	P		P	00 52 30.1 0.0
INK				e			00 53 15.4
INK	Inuvik	60.28	342	P		P	00 52 30.1 0.0
	comp=Z,4.4nm,1.1s,baz=123,slow=6.6,SNR=12						
INK				PcP		PcP	00 53 14.9 -0.3
	comp=Z,5.3nm,1.1s,baz=119,slow=3.9,SNR=5.9						
BCAR	Beaver Creek A	60.49	335	eP		P	00 52 30.6 -1.0
DOT	Dot Lake	61.66	335	eP		P	00 52 40.9 +1.3
TULEG	Thule	61.74	5	eP		P	00 52 41.1 +1.3
	comp=Z,15nm,1.3s						
SCRK	Sand Creek	61.77	335	eP		P	00 52 42.0 +1.7
	comp=Z,27nm,1.8s						
PAX	Paxson	61.98	334	eP		P	00 52 42.7 +0.9
PAX	Paxson	61.98	334	eP		P	00 52 42.7 +0.9
RIDG	Independent Ri	62.02	335	eP		P	00 52 43.8 +1.8
	comp=Z,37nm,1.4s						
PRP	Porcupine Dome	62.99	337	eP		P	00 52 49.4 +0.8
	comp=Z,14nm,1.4s						
HDA	Harding Lake	63.13	335	P		P	00 52 50.4 +1.1
	baz=111						
ILAR	Eielson Array	63.24	336	eP		P	00 52 49.9 -0.2
ILAR	Eielson Array	63.24	336	eP		P	00 52 49.9 -0.2
ILAR	Eielson Array	63.24	336	P		P	00 52 50.1 +0.1
	comp=Z,3.5nm,1.0s,baz=114,slow=4.9,SNR=23						
ILB	Eielson Array	63.24	336	eP		P	00 52 50.2 +0.1
	comp=Z,20nm,1.4s						
SUMG	Summit	63.56	15	eP		P	00 52 52.5 0.0
	comp=Z,31nm,1.2s						
SUMG	Summit	63.56	15	eP		P	00 52 52.5 0.0
SUMG				pmax		pmax	
	comp=Z,31nm,1.2s						
SUMG	Summit	63.56	15	i P		P	00 52 52.3 -0.2
	comp=Z,108nm,1.3s						
CCB	Clear Creek Bu	63.56	335	eP		P	00 52 52.9 +0.7
	comp=Z,14nm,1.6s						
RND	Reindeer	63.58	334	eP		P	00 52 53.7 +1.3
	comp=Z,53nm,1.6s						
RND	Reindeer	63.58	334	eP		P	00 52 53.7 +1.3
RND				pmax		pmax	
	comp=Z,53nm,1.6s						
MCK	McKinley	63.72	334	eP		P	00 52 54.5 +1.2
	comp=Z,26nm,1.5s						
MCK	McKinley	63.72	334	eP		P	00 52 54.5 +1.2
MCK				pmax		pmax	
	comp=Z,27nm,1.5s						
KDAK	Kodiak Island	63.81	327	LR		LR	01 23 04.5
	comp=Z,80nm,18.2s,baz=118,slow=38						
BWN	Browne	64.08	334	eP		P	00 52 56.2 +0.6
	comp=Z,36nm,1.1s						
BPAW	Bear Paw Mtn.	64.69	334	eP		P	00 53 00.3 +0.6
	comp=Z,15nm,1.1s						
MLY	Manley	64.87	335	eP		P	00 53 01.6 +0.8
	comp=Z,11nm,1.2s						
CAST	Castle Rocks	64.97	333	eP		P	00 53 01.6 +0.1
	comp=Z,12nm,1.2s						
TOLK	Toolik Lake Re	65.63	339	P		P	00 53 06.1 +0.4
	baz=110						
PPT	Papeete	69.63	244	LR		LR	01 16 31.7
	comp=Z,127nm,19.1s,baz=3.5,slow=29						
DAG	Danmarks Havn	70.11	13	eP		P	00 53 32.6 -1.1
DAG	Danmarks Havn	70.11	13	i P		P	00 53 32.6 -1.1
PCAS	Casmilo, Conde	71.68	52	eP		P	00 53 43.7 -0.3
	comp=Z,24nm,1.5s						
PMTG	Montargil	71.99	53	eP		P	00 53 45.7 -0.1
	comp=Z,23nm,1.5s						
PVIS	Viseu	72.08	52	eP		P	00 53 46.1 -0.3
	comp=Z,14nm,1.6s						
EVO	Evora	72.20	54	eP		P	00 53 47.1 0.0
	comp=Z,12nm,1.9s						
MTE	Manteigas	72.38	52	eP		P	00 53 48.3 +0.1
	comp=Z,19nm,1.5s						
PCBR	Castelo Branco	72.48	53	eP		P	00 53 48.9 +0.1
	comp=Z,17nm,1.5s						
PMRV	Marv??o	72.59	53	eP		P	00 53 49.5 0.0
	comp=Z,11nm,1.1s						
MVO	Moncorvo	72.69	51	eP		P	00 53 50.5 +0.4
	comp=Z,13nm,1.7s						
PBRG	Braganca	72.84	51	eP		P	00 53 51.4 +0.5
	comp=Z,17nm,1.8s						
PAB	San Pablo	74.92	53	eP		P	00 54 03.5 +0.3
	comp=Z,15nm,1.3s						
PAB	San Pablo	74.92	53	eP		P	00 54 03.5 +0.3
PAB				pmax		pmax	
	comp=Z,15nm,1.3s						
ESDC	Sonseca Array	75.19	52	eP		P	00 54 04.5 -0.3
	comp=Z,5.5nm,1.0s						
ESDC	Sonseca Array	75.19	52	P		P	00 54 04.2 -0.5
	comp=Z,4.0nm,0.8s,baz=289,slow=5.7,SNR=41						
ESLA	Sonseca Array	75.19	52	eP		P	00 54 05.0 +0.3
	comp=Z,8.3nm,1.0s						
CLF	Chambon-Foret	78.33	43	eP		P	00 54 21.8 -0.4
	comp=Z,43nm,1.5s						
SNF	Sedeffe	79.17	41	⇑P		P	00 54 26.6 -0.2
DOU	Dourbes	79.44	41	⇑P		P	00 54 27.2 -1.1
BCLA	Clavier	79.82	40	⇑P		P	00 54 29.3 -1.0
WLF	Walferdange	80.52	41	⇑P		P	00 54 32.4 -1.7
	comp=Z,14nm,2.3s						
NB2	NORSAR Subarra	80.60	29	P		P	00 54 34.3 -0.1
	comp=Z,30nm,2.0s,baz=286,slow=5.6						
NB2	NORSAR Subarra	80.60	29	P		P	00 54 34.3 -0.1
	baz=286,slow=5.6						
NOA	NORSAR Array B	80.60	29	P		P	00 54 34.2 -0.1
	comp=Z,3.4nm,0.9s,baz=286,slow=5.4,SNR=6.6						
ECH	Echery	81.50	42	eP		P	00 54 38.5 -0.9
	comp=Z,8.2nm,1.2s						
ECH	Echery	81.50	42	eP		P	00 54 38.5 -0.9
ECH				pmax		pmax	
	comp=Z,8.0nm,1.2s						
BILL	Bilibino	81.67	339	eP		P	00 54 40.6 +0.7
	comp=Z,16nm,1.4s						
BILL	Bilibino	81.67	339	eP		P	00 54 40.9 +1.0
BILL				e			00 57 47.5
BILL				ePPP		PPP	00 59 37.9
BILL				pmax		pmax	
	comp=Z,10.0nm,1.3s						
BILL				MLR		MLR	
	comp=Z,124nm,19.0s						
SENIN	Lac Senin/Sane	82.03	44	eP		P	00 54 42.3 -0.2
	comp=Z,16nm,1.3s						
BFO	Black Forest	82.23	42	i P		P	00 54 42.7 -0.6
ARCES	ARCESS Array B	83.21	19	P		P	00 54 47.1 -0.9
	comp=Z,5.2nm,1.1s,baz=282,slow=4.5,SNR=6.3						
DAVA	Damuels	83.51	43	eP		P	00 54 51.0 +0.9
	comp=Z,11nm,1.5s						
FUORN	Ofenpass-Fuorn	83.94	43	eP		P	00 54 52.0 -0.4
	comp=Z,6.1nm,0.9s						
RETA	Reutte	84.03	42	eP		P	00 54 52.4 -0.3
	comp=Z,7.1nm,1.3s,SNR=6.1						
FETA	Feichten	84.14	43	eP		P	00 54 52.2 -1.2
	comp=Z,4.1nm,1.0s						
MOTA	Moosalm	84.29	43	eP		P	00 54 53.4 -0.7
	comp=Z,2.4nm,1.0s						
NKC	Novy Kostel	84.30	39	eP		P	00 54 53.5 -0.4
NKC	Novy Kostel	84.30	39	eP		P	00 54 53.5 -0.4
CLL	Collm	84.31	38	eP		P	00 54 52.5 -1.4
	comp=Z,4.1nm,0.9s						
CLL	Collm	84.31	38	eP		P	00 54 53.0 -0.9
CLL				pmax		pmax	
	comp=Z,8.0nm,1.4s						
CLL	Collm	84.31	38	eP		P	00 54 53.0 -0.9
	comp=Z,8.0nm,1.4s						
SQTA	Sankt Quirin	84.40	43	eP		P	00 54 54.2 -0.3
	comp=Z,6.4nm,1.2s						
WATA	Walderalm	84.60	42	eP		P	00 54 55.8 +0.2
	comp=Z,1.0nm,0.7s						
WTTA	Wattenberg	84.66	43	eP		P	00 54 55.6 -0.4
	comp=Z,3.8nm,1.3s						
BRG	Berggiesshubel	85.01	39	eP		P	00 54 57.1 -0.3
	comp=Z,17nm,1.7s						
BRG	Berggiesshubel	85.01	39	eP		P	00 54 57.1 -0.3
BRG				pmax		pmax	
	comp=Z,17nm,1.7s						
KHC	Kasperske Hory	85.33	40	eP		P	00 54 57.9 -1.3
	comp=Z,3.9nm,1.2s						
KHC	Kasperske Hory	85.33	40	eP		P	00 54 57.9 -1.3
KHC				pmax		pmax	
	comp=Z,4.0nm,1.2s						
KHC	Kasperske Hory	85.33	40	eP		P	00 54 58.9 -0.3
ABTA	Abfaltersbach	85.39	43	eP		P	00 54 59.2 -0.3
	comp=Z,6.2nm,1.0s,SNR=5.5						
GEC2	GERESS Array S	85.50	41	eP		P	00 54 59.3 -0.8
	comp=Z,12nm,1.2s						
GEC2	GERESS Array S	85.50	41	eP		P	00 54 59.3 -0.8
GEC2				pmax		pmax	
	comp=Z,12nm,1.2s						
GERES	GERESS Array B	85.50	41	eP		P	00 54 59.2 -0.8
GERES	GERESS Array B	85.50	41	eP		P	00 54 59.3 -0.8
GERES	GERESS Array B	85.50	41	P		P	00 54 59.0 -1.1
	comp=Z,2.9nm,0.9s,baz=302,slow=2.2,SNR=23						
TORD	Torodi Ar. Bea	85.62	78	P		P	00 54 58.5 -2.7
	comp=Z,14nm,0.2s,baz=279,slow=5.1,SNR=5.4						
TORD				LR		LR	01 29 46.3
	comp=Z,86nm,21.0s,baz=330,slow=33						
PRU	Pruhonice	85.66	39	eP		P	00 54 59.8 -0.9
PRU	Pruhonice	85.66	39	eP		P	00 54 59.8 -0.9
KBA	Koelnbreinsper	85.83	42	eP		P	00 55 01.5 -0.4
	comp=Z,6.2nm,1.3s,SNR=6.6						
MYKA	Terra Mystica	86.16	43	eP		P	00 55 02.8 -0.6
	comp=Z,7.5nm,1.0s						
MOA	Molln	86.18	41	eP		P	00 55 02.9 -0.4
	comp=Z,3.2nm,0.9s						
CADS	Cadrg	86.36	43	i P		P	00 55 03.7 -0.6
UPC	Upice	86.37	39	eP		P	00 55 04.1 -0.1
UPC	Upice	86.37	39	eP		P	00 55 04.1 -0.1
TRI	Trieste	86.54	44	eP		P	00 55 04.5 -0.6
	comp=Z,23nm,1.4s						
TRI	Trieste	86.54	44	eP		P	00 55 04.5 -0.6
TRI				pmax		pmax	
	comp=Z,23nm,1.4s						
DPC	Dobruska-Polom	86.61	39	eP		P	00 55 05.4 -0.1
DPC	Dobruska-Polom	86.61	39	eP		P	00 55 05.4 -0.1
JAVS	Javornik	86.68	43	i P		P	00 55 05.3 -0.7
OBKA	Obir	86.80	43	eP		P	00 55 05.8 -0.7
	comp=Z,11nm,1.2s						
SOKA	Soboth	87.06	42	eP		P	00 55 06.9 -0.9
	comp=Z,12nm,1.4s						
KRUC	Moravsky	87.10	40	eP		P	00 55 07.1 -0.7
FINES	FINESS Array B	87.14	26	eP		P	00 55 08.6 +0.9
FINES	FINESS Array B	87.14	26	eP		P	00 55 08.6 +0.9
FINES	FINESS Array B	87.14	26	P		P	00 55 07.2 -0.5
	comp=Z,2.6nm,1.0s,baz=268,slow=7.2,SNR=4.4						
VRAC	Vranov	87.14	39	eP		P	00 55 07.7 -0.3
CONA	Conrad Observa	87.16	41	eP		P	00 55 08.1 -0.1
	comp=Z,5.9nm,1.0s,SNR=5.0						
ARSA	Arzberg	87.18	42	eP		P	00 55 07.8 -0.5
	comp=Z,3.7nm,0.9s						
AQU	L'Aquila	87.36	47	eP		P	00 55 09.4 +0.1
	comp=Z,9.9nm,1.2s						
AQU	L'Aquila	87.36	47	eP		P	00 55 09.4 +0.1
AQU				pmax		pmax	
	comp=Z,10.0nm,1.2s						
MORC	Moravsky Berou	87.55	39	eP		P	00 55 10.1 +0.1
	comp=Z,7.6nm,1.3s						
MORC	Moravsky Berou	87.55	39	eP		P	00 55 10.1 +0.1
MORC				pmax		pmax	
	comp=Z,8.0nm,1.3s						
MORC	Moravsky Berou	87.55	39	eP		P	00 55 09.8 -0.2
OKC	Ostrava-Krasne	87.89	39	eP		P	00 55 11.7 +0.1
OKC	Ostrava-Krasne	87.89	39	eP		P	00 55 11.7 +0.1
NIUE	Niue	88.24	250	eP		P	00 55 14.2 +0.4
	comp=Z,903nm,1.7s						
VYHS	Vyhne	88.81	40	eP		P	00 55 16.1 +0.1
VYHS	Vyhne	88.81	40	eP		P	00 55 16.1 +0.1
VSU	Vas

HHC	**Hu-ho-hao-te**	**121.19**	**343**	*e*PKP	**PKPdf**	**01 01 14.0**	**-1.4**
HHC				LR	LR		
	comp=Z,330nm,18.8s						
HHC				LR	LR		
	comp=Z,220nm,19.8s						
HHC				LR	LR		
	comp=Z,360nm,18.7s						
KSH	**Kashi**	**123.03**	**15**	PKP	**PKPdf**	**01 01 17.6**	**-1.4**
KSH				sPKP		01 01 29.7	
KSH				PP	**PP**	**01 02 59.8**	**+3.1**
KSH				SKS	**SKSdf**	**01 08 24.3**	**-7.1**
KSH				LR	LR		
	comp=Z,220nm,13.7s						
KSH				LR	LR		
	comp=Z,140nm,9.4s						
NJ2	**Nanjing**	**126.41**	**332**	*e*PKP	**PKPdf**	**01 01 26.0**	**+0.5**
LZH	**Lanzhou**	**127.55**	**349**	*e*PKP	**PKPdf**	**01 01 26.9**	**-0.9**
LZH				sPKP		01 01 41.4	
LZH				LR	LR		
	comp=Z,150nm,15.4s						
LZH				LR	LR		
	comp=Z,140nm,16.0s						
LZH				LR	LR		
	comp=Z,190nm,17.4s						
CD2	**Chengdu**	**132.57**	**347**	PKP	**PKPdf**	**01 01 36.5**	**-0.8**
WRA	**Warramunga Arr**	**140.15**	**257**	*c i*PKIKP	**PKPdf**	**01 01 50.2**	**-1.3**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**140.15**	**257**	PKhKP	PKPpre	01 01 44.0	
	comp=Z,0.6nm,0.8s,baz=99,slow=2.0,SNR=4.1						
WRA				PKP	**PKPdf**	**01 01 52.6**	**+1.0**
	comp=Z,2.7nm,1.0s,baz=88,slow=2.2,SNR=8.4						
ASAR	**Alice Springs**	**140.44**	**252**	PKhKP	PKPpre	01 01 44.1	
	comp=Z,0.5nm,0.9s,baz=96,slow=2.7,SNR=3.6						
ASAR				PKP	**PKPdf**	**01 01 52.5**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=91,slow=2.0,SNR=7.5						
PAYA	**Payao**	**144.57**	**348**	P	**PKiKP**	**01 02 07.8**	**+4.7**
NONG	**Nongkai**	**145.02**	**342**	P	**PKPbc**	**01 01 59.5**	**+0.1**
	comp=Z,0.4nm,0.8s,comp=Z,172nm						
CMMT	**Chiang Mai**	**145.28**	**350**	P	**PKPbc**	**01 02 00.1**	**-0.2**
	comp=Z,3.7nm,1.0s						
PHRA	**Phrae**	**145.34**	**347**	P	**PKPbc**	**01 02 00.4**	**-0.1**
	comp=Z,1.8nm,1.0s,comp=Z,2μm						
LAMP	**Lampang**	**145.44**	**348**	P	**PKPbc**	**01 02 01.2**	**+0.4**
	comp=Z,12μm,0.9s						
CMAR	**Chiang Mai Arr**	**145.63**	**349**	*c i*PKP2	**PKiKP**	**01 02 08.3**	**+3.0**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**145.63**	**349**	PKPbc	**PKPdf**	**01 02 00.7**	**-0.6**
	comp=Z,5.3nm,0.7s,baz=3.8,slow=2.7,SNR=29						
UTTA	**Uttaradit**	**146.00**	**346**	P	**PKPdf**	**01 02 02.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**148.37**	**261**	PKPbc	**PKPdf**	**01 02 08.4**	**+2.7**
	comp=Z,4.4nm,1.0s,baz=34,slow=3.2,SNR=4.1						
PALK	**Pallekele**	**154.39**	**28**	*i* PKIKP	**PKPdf**	**01 02 17.0**	**+1.8**

DJA 05 00:47:02.6±0.3, 7°S±3°×10°8E±°, h10km, M4.0/13, MLv4.0/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.30**	**123**	P	Pg	00 47 08.3	-0.4
CISI				S	Sg	00 47 13.0	+0.2
LEM	**Lembang**	**0.56**	**6**	P	Pg	00 47 12.2	-1.4
LEM				S	Sg	00 47 20.4	-0.6
SKJI	**Sukabumi**	**1.07**	**291**	P	Pg	00 47 21.9	-1.2
SKJI				S	Sg	00 47 36.5	-0.5
JCJI	**Jatiwangi**	**1.14**	**38**	P	Pb	00 47 21.1	-3.3
JCJI				S	Sb	00 47 35.1	-4.2
SBJI	**Serang**	**1.90**	**312**	P	Pb	00 47 38.1	+0.7
SBJI				S	Sb	00 48 00.5	-0.7
CGJI	**Cibinong**	**2.01**	**292**	P	Pn	00 47 36.2	-0.4
CGJI				S	Sn	00 48 01.8	0.0
YOGI	**Yogyakarta**	**2.74**	**99**	P	Pn	00 47 47.6	+0.9
SMRI	**Semarang**	**2.88**	**83**	P	Pn	00 47 48.9	+0.3
UGM	**Wanagama**	**2.98**	**100**	P	Pn	00 47 50.0	0.0
UGM				S	Sn	00 48 27.4	+1.5
WOJI	**Wonogiri, Jawa**	**3.36**	**98**	P	Pn	00 47 55.1	-0.1
PCJI	**Pacitan**	**3.67**	**103**	P	Pn	00 48 00.1	+0.6
PCJI				S	Sn	00 48 43.7	+0.8
KLSI		**3.89**	**313**	P	Pn	00 47 43.9	-19
PWJI	**Pagerwojo**	**4.25**	**99**	P	Pn	00 48 08.3	+0.8
PWJI				S	Sn	00 48 59.0	+1.8

DJA 05 00:49:41.5±0.4, 9°S±4°×11°8E±°, h68km±8km, M3.5/8, MLv3.5/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.77**	**295**	P	Pn	00 49 57.8	+0.7
PLAI				S	Sn	00 50 10.4	+1.8
WBSI	**Waikabubak, Su**	**1.02**	**118**	P	Pn	00 50 00.0	-0.2
WBSI				S	Sn	00 50 14.3	+0.2
WSI	**Waingapu**	**1.86**	**106**	P	Pn	00 50 10.8	-0.5
EDFI	**Ende, Flores**	**3.20**	**83**	P	Pn	00 50 29.9	+0.4
IGBI	**Denpasar**	**3.31**	**276**	P	Pn	00 50 30.7	-0.2
IGBI				S	Sn	00 51 10.4	+1.2
SRBI	**Singaraja**	**3.40**	**288**	P	Pn	00 50 32.8	+0.6
BSSI	**Bau Bau, Buton**	**3.60**	**34**	P	Pn	00 50 35.1	+0.2
BSSI				S	Sn	00 51 16.1	-0.1
BKSI	**Bulukumba**	**4.15**	**23**	P	Pn	00 50 44.2	+1.8
BKSI				S	Sn	00 51 28.0	-1.6
JAGI	**Jajag, Banyuwa**	**4.33**	**279**	P	Pn	00 50 44.2	-0.7
JAGI				S	Sn	00 51 33.4	-0.8

ROM 05 00:53:07.8±0.1, 39°880N±0°004×16°154E±0°006, h10km, ML1.3/2, Error ellipse: s-maj=0.5km s-min=0.2km az=277.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0701	**Viggianello (P**	**0.11**	**345**	P	Pg	00 53 10.9	+0.3
T0701				S	Sg	00 53 12.9	+0.3
SALB	**San Lorenzo Be**	**0.15**	**91**	P	Pg	00 53 11.7	+0.5
SALB	**San Lorenzo Be**	**0.15**	**91**	P	Pg	00 53 11.7	+0.5
SALB				S	Sg	00 53 14.1	+0.6
SALB				AML	AML		
	comp=E,134μm,0.2s						
SALB				AML	AML		
	comp=N,99μm,0.5s						
SALB				AML	AML		
	comp=N,99μm,0.5s						
SALB				AML	AML		
	comp=E,134μm,0.2s						
SALB	**San Lorenzo Be**	**0.15**	**91**	S	Sg	00 53 14.1	+0.6
T0721	**Laino Castello**	**0.15**	**293**	P	Pg	00 53 11.8	+0.6
T0721	**Laino Castello**	**0.15**	**293**	P	Pg	00 53 11.8	+0.6
T0721				S	Sg	00 53 14.6	+1.2
T0721	**Laino Castello**	**0.15**	**293**	P	Pg	00 53 11.8	+0.6
T0702	**Acquaformosa (**	**0.17**	**199**	P	Pg	00 53 12.2	+0.7
T0702	**Acquaformosa (**	**0.17**	**199**	P	Pg	00 53 12.2	+0.7
T0702				S	Sg	00 53 15.2	+1.2
T0702	**Acquaformosa (**	**0.17**	**199**	S	Sg	00 53 15.2	+1.2
ORI	**Oriolo Calabro**	**0.29**	**51**	P	Pg	00 53 14.3	+0.6
ORI	**Oriolo Calabro**	**0.29**	**51**	P	Pg	00 53 14.4	+0.7
ORI				S	Sb	00 53 20.1	-0.1
ORI				AML	AML		
	comp=E,126μm,1.3s						
ORI				AML	AML		
	comp=N,120μm,0.4s						
ORI				AML	AML		
	comp=E,126μm,1.3s						
ORI				AML	AML		
	comp=N,120μm,0.4s						
ORI	**Oriolo Calabro**	**0.29**	**51**	P	Pb	00 53 14.5	-0.7
ORI	**Oriolo Calabro**	**0.29**	**51**	S	Sb	00 53 20.0	-0.2
SCHR	**S. Chirico Rap**	**0.33**	**349**	P	Pg	00 53 14.8	+0.5
SCHR				S	Sb	00 53 20.2	-1.1
SCHR	**S. Chirico Rap**	**0.33**	**349**	P	Pg	00 53 14.8	+0.5
SCHR	**S. Chirico Rap**	**0.33**	**349**	P	Pg	00 53 14.8	+0.5
SCHR	**S. Chirico Rap**	**0.33**	**349**	S	Sb	00 53 20.2	-1.0
CET2	**Cetraro**	**0.38**	**204**	P	Pg	00 53 16.0	+0.6
CET2	**Cetraro**	**0.38**	**204**	P	Pg	00 53 16.0	+0.6
CET2				S	Sb	00 53 21.7	-1.1
CET2	**Cetraro**	**0.38**	**204**	P	Pg	00 53 16.1	+0.7
CET2	**Cetraro**	**0.38**	**204**	S	Sb	00 53 21.8	-1.1

ISCJB ***05*** *00:59:01.4±0.5, 23°52S±0°04×179°93E±0°04, h543km±7km, mb4.5/130, Error ellipse: s-maj=7.0km s-min=5.6km az=146.1*

IDC ***05*** *00:59:01.2±1.4, 23°43S×179°96W, h529km±15km, mb3.8/25, mb1 4.0/27, mb1mx3.9/40, mbtmp4.7/27, Error ellipse: s-maj=11.6km s-min=10.3km az=104.0*

NEIC ***05*** *00:59:03.8±0.5, 23°45S×179°87E, h562km±4km, mb4.6/105, Error ellipse: s-maj=12.1km s-min=3.9km az=163.0*

BJI ***05*** *00:59:03.0±0.0, 23°43S×179°81E, h554km, mb4.7/19, mB5.1/10*

ISC 05 00:59:02.3±0.4, 23°59S±0°05×179°93W±0°06, h546km±4km, h546km:pP-P, n349, σ1§31/409, mb4.5/130, 36C-18D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.92**	**163**	P	**P**	**01 00 39.6**	**-0.2**
	102nm,0.3s,baz=77,slow=9.3,SNR=5.7						
RAO				S	**S**	**01 01 56.2**	**-3.5**
	77nm,0.3s,baz=287,slow=19,SNR=2.2						
GLKZ	**Green Lake**	**5.93**	**163**	P	**P**	**01 00 38.9**	**-1.0**
GLKZ				S	**S**	**01 01 58.5**	**-1.4**
NIUE	**Niue**	**10.34**	**66**	*e*P	**P**	**01 01 25.2**	**+1.4**
MARNC	**Mare, Loyalty**	**11.33**	**278**	*e*P	**P**	**01 01 33.1**	**-0.8**
PINNC	**Pines Island,**	**11.66**	**272**	*e*P	**P**	**01 01 37.4**	**0.0**
ONTNC	**Ouen Toro**	**12.62**	**273**	*e*P	**P**	**01 01 47.0**	**-0.2**
DZM	**Mont Dzumac**	**12.66**	**274**	P	**P**	**01 01 47.7**	**-0.1**
	1.5nm,0.3s,baz=78,slow=18,SNR=16						
DZM				S	**S**	**01 04 04.3**	**+0.2**
	baz=196,slow=7.4,SNR=2.3						
OUZ	**Omahuta**	**12.88**	**204**	P	**P**	**01 01 49.7**	**-0.1**
WCZ	**Waipu Caves**	**13.27**	**201**	P	**P**	**01 01 53.8**	**0.0**
KUZ	**Kuaotunu**	**13.64**	**195**	P	**P**	**01 02 00.1**	**+2.5**
ETAZ	**East Tamaki Re**	**14.04**	**197**	P	**P**	**01 02 04.8**	**+3.0**
MKAZ	**Moumakai**	**14.12**	**196**	P	**P**	**01 02 02.6**	**+0.1**
KBAZ	**Karaka Road Bo**	**14.18**	**197**	P	**P**	**01 02 03.6**	**+0.5**
WMGZ	**Waiomatatini S**	**14.25**	**185**	P	**P**	**01 02 04.4**	**+0.4**
WMGZ				S	**S**	**01 04 36.4**	**+2.8**
HAZ	**Te Kaha**	**14.26**	**187**	P	**P**	**01 02 03.4**	**-0.5**
HAZ				S	**S**	**01 04 33.2**	**-0.4**
PUZ	**Puketiti**	**14.52**	**186**	P	**P**	**01 02 08.0**	**+1.3**
TOZ	**Tahuroa Road**	**14.63**	**194**	P	**P**	**01 02 07.5**	**-0.3**
TWGZ	**Tauwhareparae**	**14.65**	**187**	P	**P**	**01 02 06.2**	**-1.8**
TWGZ				S	**S**	**01 04 40.7**	**-0.6**
TWGZ	**Tauwhareparae**	**14.65**	**187**	P	S	01 04 52.8	+12
URZ	**Urewera**	**14.84**	**189**	P	**P**	**01 02 07.1**	**-2.9**
	8.2nm,0.3s,baz=288,slow=2.9,SNR=31						
URZ				S	**S**	**01 04 39.7**	**-4.9**
	0.9nm,0.3s,baz=217,slow=20,SNR=6.4						
URZ	**Urewera**	**14.84**	**189**	P	**P**	**01 02 06.5**	**-3.5**
URZ				S	**S**	**01 04 39.3**	**-5.3**
URZ	**Urewera**	**14.84**	**189**	P	**S**	**01 04 47.8**	**+3.1**
MWZ	**Matawai**	**14.86**	**188**	P	**P**	**01 02 07.8**	**-2.4**
MWZ	**Matawai**	**14.86**	**188**	P	**S**	**01 04 45.4**	**+0.3**
RAGZ	**Rawiri**	**15.03**	**188**	P	**P**	**01 02 11.5**	**-0.6**
HRRZ	**Handcock Road**	**15.10**	**192**	P	**P**	**01 02 11.7**	**-1.1**
TLZ	**Tolley Road**	**15.20**	**194**	P	**P**	**01 02 17.0**	**+3.3**
RIGZ	**Rimuhau**	**15.20**	**187**	P	**P**	**01 02 13.0**	**-0.7**
RIGZ	**Rimuhau**	**15.20**	**187**	P	**S**	**01 04 52.3**	**+1.1**
SNGZ	**Shannon Statio**	**15.32**	**188**	P	**P**	**01 02 14.5**	**-0.5**
SNGZ	**Shannon Statio**	**15.32**	**188**	P	**S**	**01 04 59.7**	**+6.3**
RAHZ	**Arahi**	**15.49**	**189**	P	**P**	**01 02 17.4**	**+0.7**
RAHZ	**Arahi**	**15.49**	**189**	P	**S**	**01 04 57.8**	**+1.6**
MRHZ	**Matea Rd**	**15.51**	**191**	P	**P**	**01 02 14.7**	**-2.3**
HIZ	**Hauiti**	**15.53**	**195**	P	**P**	**01 02 17.2**	**+0.1**
WHHZ	**Waihua**	**15.63**	**188**	P	**S**	**01 05 01.4**	**+2.9**
RATZ	**Rangitukua**	**15.66**	**193**	P	**P**	**01 02 18.1**	**-0.4**
NMHZ	**Naumai**	**15.71**	**189**	P	**S**	**01 05 02.4**	**+2.4**
BKZ	**Black Stump Fm**	**15.82**	**190**	P	**S**	**01 05 02.0**	**0.0**
MCHZ	**McNeill Hill**	**16.06**	**189**	P	**P**	**01 02 20.5**	**-1.8**
MCHZ	**McNeill Hill**	**16.06**	**189**	P	**S**	**01 05 08.0**	**+2.2**
KWHZ	**Kaweka Forest**	**16.09**	**190**	P	**S**	**01 05 06.7**	**+0.4**
RPZ	**Rata Peaks**	**21.40**	**198**	P	**P**	**01 03 11.4**	**+0.4**
	11nm,0.5s,baz=53,slow=1.6,SNR=13						
HNR	**Honiara**	**23.84**	**303**	P	**P**	**01 03 36.7**	**+3.6**
	95nm,0.7s,baz=141,slow=4.6,SNR=7.2						
CTA	**Charters Tower**	**31.54**	**270**	P	**P**	**01 04 40.0**	**-0.4**
	10nm,0.4s,baz=86,slow=11,SNR=11						
STKA	**Stephens Creek**	**34.90**	**248**	*e*P	**P**	**01 05 08.3**	**-0.3**
	6.5nm,1.8s						
STKA				PcP	**PcP**	**01 07 26.9**	**+1.0**
STKA	**Stephens Creek**	**34.90**	**248**	P	**P**	**01 05 08.8**	**+0.2**
	4.0nm,0.5s,baz=93,slow=11,SNR=13						
STKA				PcP	**PcP**	**01 07 26.9**	**+1.0**
	2.3nm,0.4s,baz=120,slow=5.9,SNR=4.7						
ASAR	**Alice Springs**	**42.15**	**260**	*e*P	**P**	**01 06 06.4**	**-1.0**
ASAR				*e*PP	**pwP**	**01 07 49.3**	**0.0**
ASAR				ScP	**ScP**	**01 10 51.6**	**+3.7**
ASAR				S	**S**	**01 11 47.0**	**-1.2**
ASAR	**Alice Springs**	**42.15**	**260**	P	**P**	**01 06 07.0**	**-0.5**
	6.3nm,0.6s,baz=98,slow=6.9,SNR=71						
ASAR				PcP	**pwP**	**01 07 49.6**	**+0.3**
	2.6nm,0.8s,baz=96,slow=4.8,SNR=8.2						
ASAR				ScP	**ScP**	**01 10 51.6**	**+3.7**
	2.2nm,0.9s,baz=109,slow=4.2,SNR=7.1						
ASAR				S	**S**	**01 11 47.0**	**-1.2**
	2.0nm,0.7s,baz=97,slow=14,SNR=17						
WB2	**Warramunga Arr**	**42.49**	**266**	*e*P	**P**	**01 06 09.0**	**-1.0**
	20nm,1.4s						
WRAB	**Tennant Creek**	**42.49**	**266**	*e*P	**P**	**01 06 08.6**	**-1.5**
	30nm,1.4s						
WRA	**Warramunga Arr**	**42.50**	**266**	*e*P	**P**	**01 06 08.9**	**-1.2**
	3.2nm,0.5s						
WRA				*e*pP	**PcP**	**01 07 50.9**	**+0.5**
WRA				*e*S	**S**	**01 11 50.2**	**-2.9**
WRA	**Warramunga Arr**	**42.50**	**266**	P	**P**	**01 06 08.9**	**-1.2**
	4.8nm,0.3s,baz=95,slow=8.2,SNR=211						
WRA				PcP	**PcP**	**01 07 50.5**	**+0.2**
	2.1nm,0.6s,baz=95,slow=3.4,SNR=5.6						
WRA				S	**S**	**01 11 50.6**	**-2.6**
	4.0nm,1.0s,baz=97,slow=14,SNR=8.2						
FORT	**Forrest**	**46.48**	**249**	*e*P	**P**	**01 06 39.9**	**-0.8**
	38nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.92**	**265**	*e*P	**P**	**01 07 13.0**	**-0.7**
	12nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.92**	**265**	P	**P**	**01 07 13.3**	**-0.4**
	4.5nm,0.5s,baz=97,slow=5.9,SNR=36						
VNDA	**Vanda**	**54.69**	**185**	P	**P**	**01 07 41.6**	**+2.0**
	1.3nm,0.8s,baz=347,slow=6.5,SNR=9.8						
VNDA				PcP	**PcP**	**01 08 35.1**	**+1.2**
	1.7nm,0.8s,baz=345,slow=5.9,SNR=8.0						
VNDA				ScP	**ScP**	**01 11 42.0**	**+1.9**
	0.5nm,0.8s,baz=0.1,slow=3.2,SNR=5.5						
BATI	**Baumata**	**55.27**	**274**	P	**P**	**01 07 45.2**	**+0.4**
	18nm,0.5s,baz=127,slow=5.7,SNR=5.0						
QSPA	**South Pole Qui**	**66.49**	**180**	P	**P**	**01 08 59.5**	**+1.7**
	12nm,0.8s,baz=25,slow=1.0,SNR=54						
MJAR	**Matsushiro Arr**	**71.68**	**326**	*e*P	**P**	**01 09 29.2**	**+0.1**
	501nm,0.7s						
MJAR	**Matsushiro Arr**	**71.68**	**326**	P	**P**	**01 09 28.4**	**-0.8**
	4.5nm,0.8s,baz=162,slow=5.9,SNR=16						
MAJO	**Matsushiro**	**71.68**	**326**	*e*P	**P**	**01 09 29.0**	**-0.2**
	7.1nm,0.8s						
MAT	**Matsushiro**	**71.68**	**326**	P	**P**	**01 09 28.3**	**-0.9**
MJB9	**Matsu-Tunnel**	**71.69**	**326**	*e*P	**P**	**01 09 28.5**	**-0.7**
	7.3nm,0.8s						
KSM	**Kuching**	**72.12**	**280**	*e*P	**P**	**01 09 30.8**	**-1.5**
	13nm,0.7s						
NACB	**Ninganchiao**	**73.98**	**306**	*e*P	**P**	**01 09 41.4**	**-1.2**
	55nm,1.3s						
ADK	**Adak**	**75.20**	**2**	*e*P	**P**	**01 09 47.3**	**-1.5**
	27nm,0.6s						
ASAJ	**Asahikawa**	**75.62**	**333**	P	**P**	**01 09 52.1**	**+0.8**
	6.2nm,0.7s,baz=80,slow=6.1,SNR=7.8						
ATKA	**Atka Island**	**75.63**	**4**	*e*P	**P**	**01 09 49.2**	**-1.9**
	36nm,0.9s						
NIKH	**Nikolski High**	**76.84**	**7**	*e*P	**P**	**01 09 56.8**	**-1.1**
	51nm,0.6s						
KSRS	**Korea Array**	**78.06**	**320**	P	**P**	**01 10 05.2**	**+0.4**
	2.8nm,0.7s,baz=136,slow=5.5,SNR=12						
MAW	**Mawson**	**78.06**	**200**	P	**P**	**01 10 05.7**	**+1.3**
	7.4nm,0.3s,baz=144,slow=5.3,SNR=11						
KSAR	**Wonju Array Be**	**78.07**	**320**	*e*P	**P**	**01 10 03.5**	**-1.3**
MYKOM	**Kota Tinggi**	**78.11**	**277**	*e*P	**P**	**01 10 03.6**	**-2.1**
	0.8nm,0.8s						
PETK	**Petropavlovsk-**	**78.82**	**346**	*e*P	**P**	**01 10 07.4**	**-1.1**
PETK	**Petropavlovsk-**	**78.82**	**346**	P	**P**	**01 10 07.7**	**-0.8**
	8.9nm,0.7s,baz=104,slow=7.9,SNR=16						
NJ2	**Nanjing**	**80.51**	**311**	*e*P	**P**	**01 10 16.6**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
USRK	**Ussuriysk Ar.**	**80.54**	**327**	P	**P**	**01 10 18.3**	**+0.6**
	6.0nm,0.9s,baz=105,slow=5.1,SNR=7.6						
SPIA	**Saint Paul Isl**	**80.86**	**5**	*e*P	**P**	**01 10 18.8**	**-0.2**
	28nm,0.9s						
IPM	**Ipoh**	**81.79**	**279**	*e*P	**P**	**01 10 23.0**	**-1.9**
	13nm,0.7s						
ISA	**Isabella, Lake**	**82.76**	**46**	*e*P	**P**	**01 10 30.0**	**+0.6**
	11nm,0.9s						
WHN	**Wuhan**	**82.87**	**308**	P	**P**	**01 10 30.5**	**+0.6**
CMB	**Columbia Colle**	**82.93**	**43**	*e*P	**P**	**01 10 30.1**	**-0.1**
	12nm,0.9s						
WDC	**Whiskeytown Da**	**83.18**	**40**	*e*P	**P**	**01 10 30.7**	**-0.6**
	14nm,1.1s						
SYO	**Syowa Base**	**83.33**	**193**	*e*P	**P**	**01 10 29.4**	**-2.2**
SYO	**Syowa Base**	**83.33**	**193**	*e*PcP	**PcP**	**01 10 35.0**	**+0.4**
MDPB	**Devils Postpil**	**83.52**	**44**	*e*P	**P**	**01 10 34.4**	**+1.0**
	11nm,1.0s						
OMMB	**Old Mammoth Mi**	**83.56**	**44**	*e*P	**P**	**01 10 33.9**	**+0.2**
	13nm,1.5s						
DAC	**Darwin (Calif)**	**83.70**	**46**	*e*P	**P**	**01 10 36.5**	**+2.2**
	7.9nm,1.3s						
GLA	**Glamis**	**83.78**	**50**	*e*P	**P**	**01 10 35.5**	**+1.0**
	23nm,1.0s						
YBH	**Yreka Blue Hor**	**83.80**	**39**	*e*P	**P**	**01 10 35.4**	**+1.0**
	17nm,1.4s						
YBH	**Yreka Blue Hor**	**83.80**	**39**	P	**P**	**01 10 35.3**	**+0.8**
	5.1nm,0.9s,baz=236,slow=3.6,SNR=7.3						
WAKR	**Walker**	**83.81**	**43**	*e*P	**P**	**01 10 35.5**	**+0.8**
	19nm,1.1s						
PNTR	**Pine Nut**	**84.06**	**43**	*e*P	**P**	**01 10 35.9**	**0.0**
	19nm,0.9s						
TIA	**Tai'an**	**84.07**	**314**	P	**P**	**01 10 36.5**	**+0.7**
TIA				pmax	pmax		
	comp=Z,14nm,1.0s						
VCNR	**Virginia City**	**84.15**	**43**	*e*P	**P**	**01 10 37.5**	**+1.1**
	7.2nm,1.0s						
HUMO	**Hull Mountain**	**84.22**	**38**	*e*P	**P**	**01 10 37.5**	**+1.1**
	16nm,1.2s						
YERR	**Yerington**	**84.22**	**43**	*e*P	**P**	**01 10 37.1**	**+0.3**
	9.7nm,1.0s						
113A	**Mohawk Valley,**	**84.37**	**51**	*e*P	**P**	**01 10 36.9**	**-0.4**
	11nm,1.0s						
RYN	**Ryan**	**84.46**	**44**	*e*P	**P**	**01 10 38.3**	**+0.4**
	5.5nm,1.1s						
HSIG		**84.48**	**55**	*e*P	**P**	**01 10 36.5**	**-1.5**
	12nm,0.7s						
NVAR	**Mina Array Bea**	**84.48**	**44**	*e*P	**P**	**01 10 37.6**	**-0.5**
NVAR	**Mina Array Bea**	**84.48**	**44**	P	**P**	**01 10 38.3**	**+0.2**
	6.8nm,1.0s,baz=222,slow=8.0,SNR=27						
PAHR	**Pah Rah Range**	**84.56**	**42**	*e*P	**P**	**01 10 37.8**	**-0.5**
	8.7nm,1.1s						
NV11	**Mina Array Sit**	**84.58**	**44**	*e*P	**P**	**01 10 38.7**	**+0.2**
	0.8nm,1.2s						
SNAA	**Sanae**	**84.97**	**179**	P	**P**	**01 10 39.4**	**-0.4**
SNAA				x	x	01 12 40.7	
KVN	**Kaiserville**	**84.97**	**44**	*e*P	**P**	**01 10 40.5**	**+0.1**
	6.0nm,1.0s						
VNA3	**Neumayer Olymp**	**85.18**	**177**	P	**P**	**01 10 40.6**	**-0.1**
VNA3				x	x	01 12 42.2	
MOD	**Modoc Plateau**	**85.32**	**40**	*e*P	**P**	**01 10 42.9**	**+0.9**
	12nm,1.3s						
SHPR	**Sheep Range**	**85.44**	**47**	*e*P	**P**	**01 10 42.2**	**-0.5**
	4.9nm,1.1s						
K05A	**Summer Lake**	**85.48**	**39**	*e*P	**P**	**01 10 42.7**	**-0.1**
	14nm,0.9s						
W13A	**Hualapai Mount**	**85.54**	**49**	*e*P	**P**	**01 10 43.2**	**0.0**
	4.4nm,0.9s						
VNA1	**Neumayer--Stat**	**85.83**	**177**	P	**P**	**01 10 43.5**	**-0.2**
VNA1				x	x	01 12 43.5	
H04A	**Detroit Lake**	**85.96**	**37**	*e*P	**P**	**01 10 44.4**	**-0.4**
	39nm,1.8s						
PINE	**Pine Mountain**	**86.11**	**38**	*e*P	**P**	**01 10 46.2**	**+0.4**
	44nm,1.5s						
R11A	**Troy Canyon, C**	**86.19**	**45**	*e*P	**P**	**01 10 46.1**	**-0.2**
	2.3nm,1.0s						
TUC	**Tucson**	**86.28**	**52**	*e*P	**P**	**01 10 48.1**	**+1.4**
	14nm,1.0s						
MA2	**Magadan**	**86.30**	**346**	*e*P	**P**	**01 10 44.7**	**-1.3**
	15nm,0.9s						
BMN	**Battle Mountai**	**86.33**	**43**	*e*P	**P**	**01 10 47.0**	**+0.2**
	5.8nm,0.9s						
WVOR	**Wild Horse Val**	**86.63**	**41**	*e*P	**P**	**01 10 48.0**	**-0.1**
	21nm,1.3s						
DIB	**Dawson Inlet,**	**86.83**	**26**	*e*P	**P**	**01 10 48.9**	**+0.3**
	35nm,1.4s						
X16A	**Lo Mia Camp, P**	**86.89**	**50**	*e*P	**P**	**01 10 50.0**	**+0.3**
	6.0nm,0.9s						
319A	**Douglas**	**86.91**	**54**	*e*P	**P**	**01 10 50.4**	**+0.6**
	19nm,0.9s						
LCMT	**Little Creek M**	**87.01**	**47**	*e*P	**P**	**01 10 50.3**	**+0.2**
	6.2nm,0.8s

SRU	San Rafael Swe	89.94	47	eP	P	01 11 04.1	+0.4
	15nm,0.9s						
CTU	Camp Tracy	89.95	45	eP	P	01 11 04.1	+0.4
	9.1nm,1.0s						
LAZ	Ladron	89.96	52	eP	P	01 11 04.8	+0.9
LENM	Lemitar	89.97	52	eP	P	01 11 04.8	+0.8
P17A	Butcher Ranch,	89.98	46	eP	P	01 11 05.1	+1.2
	10nm,1.0s						
MNTX	Cornudas Mount	89.98	55	eP	P	01 11 04.1	+0.2
	6.5nm,0.9s						
RND	Reindeer	90.10	13	eP	P	01 11 02.8	-0.9
	11nm,1.0s						
TX31	Lajitas Ar. Si	90.21	58	eP	P	01 11 06.0	+0.9
	6.1nm,0.9s						
TXAR	Lajitas Array	90.21	58	eP	P	01 11 05.5	+0.4
TXAR	Lajitas Array	90.21	58	P	P	01 11 05.9	+0.8
	4.3nm,0.8s,baz=214,slow=6.5,SNR=44						
HHC	Hu-ho-hao-te	90.25	315	eP	P	01 11 06.7	+1.7
HHC				pmax	pmax		
	comp=Z,14nm,1.3s						
HHC				pmax	pmax		
	comp=Z,65nm,7.7s						
TCUT	Toone Canyon	90.39	45	eP	P	01 11 06.5	+0.6
	20nm,0.9s						
PV21	Cone Mtn., Par	90.70	48	eP	P	01 11 08.3	+0.9
	7.9nm,1.1s						
ANMO	Albuquerque	90.71	52	eP	P	01 11 07.7	+0.3
	6.3nm,1.1s						
ANMO	Albuquerque	90.71	52	P	P	01 11 07.1	-0.3
	3.8nm,1.0s,baz=214,slow=7.0,SNR=8.4						
PV01	Paradox Valley	90.77	48	eP	P	01 11 07.8	+0.2
	3.0nm,0.8s						
CCB	Clear Creek Bu	91.41	13	eP	P	01 11 08.1	-1.5
	5.2nm,1.0s						
MCMT	McKenzie Canyo	91.45	41	eP	P	01 11 11.2	+0.5
BCAR	Beaver Creek A	91.47	16	eP	P	01 11 08.5	-1.6
IMAR	Indian Mountai	91.50	10	eP	P	01 11 08.9	-1.1
ILAR	Eielson Array	91.72	14	eP	P	01 11 08.9	-2.1
ILAR	Eielson Array	91.72	14	P	P	01 11 09.6	-1.5
	1.1nm,0.8s,baz=225,slow=5.4,SNR=12						
S22A	4UR Ranch, Cre	91.78	49	eP	P	01 11 13.0	+0.6
	6.0nm,1.0s						
REDW	Red Top Meadow	91.91	43	eP	P	01 11 13.0	+0.2
	10nm,1.3s						
BILL	Bilibino	91.93	355	eP	P	01 11 11.1	-0.9
	6.3nm,0.9s						
FXWY	Fox Creek	91.94	43	eP	P	01 11 13.8	+0.8
	6.2nm,1.6s						
LOHW	Long Hollow	92.19	43	eP	P	01 11 14.3	+0.2
	2.2nm,0.8s						
SMCO	Snowmass	92.37	48	eP	P	01 11 15.2	0.0
	3.1nm,0.8s						
BW06	Boulder Array	92.42	44	eP	P	01 11 15.5	+0.3
	3.7nm,0.9s						
PD31	Pinedale Array	92.42	44	eP	P	01 11 15.2	+0.1
	3.3nm,0.9s						
PDAR	Pinedale Array	92.42	44	eP	P	01 11 13.7	-1.5
PDAR	Pinedale Array	92.42	44	P	P	01 11 15.0	-0.2
	1.9nm,0.7s,baz=219,slow=3.8,SNR=16						
BOZ	Bozeman (W)	92.59	41	eP	P	01 11 16.0	+0.2
	2.2nm,0.8s						
SDCO	Great Sand Dun	92.71	50	eP	P	01 11 18.6	+1.9
	16nm,1.4s						
LZH	Lanzhou	93.24	308	eP	P	01 11 20.2	+1.2
LZH				pP	pP	01 13 19.9	+2.0
LZH				sP	sP	01 14 10.0	-2.2
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,4.1s						
SONM	Songino Array	96.91	319	P	P	01 11 35.6	+0.3
	0.5nm,0.4s,baz=123,slow=5.3,SNR=4.0						
YKA	Yellowknife Ar	100.06	25	P	Pdif	01 11 47.8	-0.9
	0.3nm,0.8s,baz=243,slow=4.3,SNR=4.4						
RES	Resolute Bay	111.25	17	PKiKP	PKiKP	01 16 32.1	-1.2
	0.3nm,0.6s,baz=309,slow=3.9,SNR=4.6						
ZALV	Zalesovo Beam	111.76	321	PKiKP	PKiKP	01 16 33.1	-1.7
	0.7nm,0.3s,baz=344,slow=2.1,SNR=4.0						
MKAR	Makanchi Array	112.00	313	PKiKP	PKiKP	01 16 34.3	-1.3
	1.1nm,0.6s,baz=93,slow=2.6,SNR=16						
KURK	Kurchatov	115.03	317	ePKPdf	PKPdf	01 16 40.2	-1.0
KSH	Kashi	115.16	304	PKP	PKiKP	01 16 43.7	+1.7
KSH				PP	PP	01 17 59.5	+6.8
KSH				sPKP		01 19 42.6	
KSH				SKS	SKSdf	01 23 05.0	+2.5
KSH				SKKS	SKKSac	01 23 55.2	-1.6
KSH				AMB	AMB		
	comp=Z,160nm,4.7s						
GAR	Garm	119.41	303	ePKPdf	PKiKP	01 16 50.3	0.0
KK31	Karatay Array	119.73	307	ePKPdf	PKPdf	01 16 50.1	-0.5
KKAR	Karatay Array	119.73	307	ePKPdf	PKPdf	01 16 49.2	-1.3
KKAR				ePKPdf	PKiKP	01 16 50.1	-0.6
KBL	Kabul	119.76	297	ePKPdf	PKiKP	01 16 51.4	+0.2
FRB	Frobisher Bay	120.34	29	PKP	PKPdf	01 16 49.9	-1.1
	3.6nm,0.5s,baz=314,slow=2.1,SNR=12						
ARU	Arti	126.68	324	ePKPdf	PKPdf	01 17 02.4	-1.0
ABKAR	Akbulak array	127.04	315	ePKPdf	PKPdf	01 17 03.5	-0.8
ABKAR				ePKPdf	PKiKP	01 17 04.0	-0.9
GEYT	Alibeck	128.87	300	ePKPdf	PKPdf	01 17 08.2	0.0
ARCES	ARCESS Array B	131.60	348	PKP	PKPdf	01 17 11.5	-0.9
	3.9nm,0.7s,baz=48,slow=1.3,SNR=19						
PUL	Pulkovo	138.09	338	eP	PKiKP	01 17 33.3	+6.4
FINES	FINESS Array B	138.18	342	PKhKP	PKPpre	01 17 12.6	
	0.9nm,0.4s,baz=38,slow=2.5,SNR=13						
FINES				PKP	PKPdf	01 17 24.5	-0.3
	1.0nm,0.3s,baz=75,slow=1.9,SNR=12						
NB2	NORSAR Subarra	141.79	351	PKP	PKPpre	01 17 26.5	
	comp=Z,2.7nm,0.7s,baz=20,slow=3.6						
NOA	NORSAR Array B	141.79	351	PKhKP	PKPpre	01 17 25.8	
	comp=Z,3.3nm,0.7s,baz=16,slow=4.7,SNR=16						
IZAR	Zarasai	142.54	336	eP	PKPdf	01 17 29.4	-3.4
IZAR				IAmb	IAmb	01 17 31.2	
	comp=Z,7.9nm,0.7s						
IDID	Didziasalis	142.67	335	eP	PKPdf	01 17 29.9	-3.1
IDID				IAmb	IAmb	01 17 32.3	
	comp=Z,4.1nm,0.8s						
IIGN	Ignalina	142.84	335	eP	PKPdf	01 17 30.6	-2.8
IIGN				IAmb	IAmb	01 17 32.1	
	comp=Z,6.8nm,0.8s						
KONO	Kongsberg	143.35	352	ePKPdf	PKPab	01 17 31.8	-0.5
PABE	Paberze	143.56	337	eP	PKPab	01 17 32.6	-0.7
PABE				IAmb	IAmb	01 17 33.7	
	comp=Z,42nm,0.8s						
PBUR	Paburg	143.84	339	eP	PKPbc	01 17 33.3	-1.0
PBUR				IAmb	IAmb	01 17 34.6	
	comp=Z,105nm,0.7s						
AKASG	Malin Array Be	144.75	328	PKP	PKPdf	01 17 35.8	-1.1
	comp=Z,8.8nm,0.4s,baz=45,slow=4.1,SNR=121						
AKBB	Malin Array Si	144.75	328	ePKPdf	PKPdf	01 17 35.6	-1.2
KIEV	Kiev	144.76	328	ePKPdf	PKPdf	01 17 35.6	-1.3
KIEV	Kiev	144.76	328	⇑P	PKPdf	01 17 36.0	-0.9
SUW	Suwalki	145.01	336	ePKP	PKPdf	01 17 36.7	-0.5
SUW	Suwalki	145.01	336	ePKPdf	PKPdf	01 17 37.0	-0.2
BSD	Bornholm Skovb	146.64	344	⇑P	PKPbc	01 17 41.5	-1.0
	comp=Z,32nm,1.0s						
COP	Copenhagen	146.67	347	*i* P	PKPbc	01 17 41.6	-1.0
	comp=Z,8.7nm,0.5s						
TOTH	TOTAH	146.74	295	eP	PKPbc	01 17 44.4	+0.8
QASN	Qassioun	146.84	296	eP	PKPbc	01 17 44.6	+0.6
ILGA	Ilgaz	146.93	310	ePKPbc	PKPbc	01 17 44.5	+0.4
BRBR	Barbar	147.13	295	eP	PKPbc	01 17 44.7	-0.1
KIS	Kishinev	147.21	323	eP	PKPdf	01 17 42.0	+0.9
BHL	Bhannes	147.30	296	eP	PKPbc	01 17 45.1	0.0
SHBL	Chebaa	147.31	295	eP	PKPbc	01 17 45.5	+0.2
BR131	Keskin Array S	147.45	308	ePKPdf	PKPdf	01 17 41.5	-0.4
BRTR	Keskin Array B	147.45	308	ePKPdf	PKPdf	01 17 40.9	-1.0
BRTR				ePKPbc	PKPbc	01 17 44.6	-0.8
BRTR				ePKPab	PKPab	01 17 49.0	-0.3
BRTR	Keskin Array B	147.45	308	PKPbc	PKPbc	01 17 44.5	-0.8
	comp=Z,3.3nm,0.6s,baz=141,slow=4.8,SNR=27						
BEL	Belsk	147.62	336	ePKP	PKPbc	01 17 45.1	-0.1
GKP	Gorka Klasztor	147.64	341	ePKP	PKPbc	01 17 44.4	-0.8
ANTO	Ankara	148.01	308	ePKPbc	PKPbc	01 17 46.5	-0.2
ANTO	Ankara	148.01	308	⇑P	PKPbc	01 17 46.8	+0.1
BR231	Keskin MP Arra	148.03	308	ePKPbc	PKPbc	01 17 46.7	-0.2
TLCR		148.24	320	⇓P	PKPbc	01 17 47.1	+0.1
PRAR	RASCA	148.39	325	⇑P	PKiKP	01 17 48.2	-0.3
CFR	Carcaliu	148.64	320	⇑P	PKPbc	01 17 47.9	-0.1
TESR	Tescani	148.70	324	⇑P	PKPbc	01 17 46.7	-1.4
BIZ	Bicaz	148.73	325	⇑P	PKiKP	01 17 49.1	-0.1
BUR08	Bucovina Ar. S	148.74	326	ePKPbc	PKPbc	01 17 48.7	+0.4
BURAR	Bucovina Array	148.75	326	ePKPdf	PKPdf	01 17 43.6	-0.2
BURAR				ePKPbc	PKiKP	01 17 49.1	-0.2
BURAR	Bucovina Array	148.75	326	⇑P	PKiKP	01 17 49.0	-0.4
TLB	Topalu	149.02	319	⇓P	PKPbc	01 17 48.8	-0.1
VRI	Vrincioaia	149.05	322	⇑P	PKPbc	01 17 47.8	-1.2
PLOR	Plostina	149.10	322	⇑P	PKPbc	01 17 48.1	-1.1
KOLS	Kolonicke sedl	149.24	331	ePKP	PKiKP	01 17 50.0	-0.2
KOLS				e		01 17 57.7	
OJC	Ojcow	149.29	335	ePKP	PKPbc	01 17 48.8	-0.6
OJC	Ojcow	149.29	335	ePKPbc	PKPbc	01 17 48.8	-0.6
ARCR	ARCALIA	149.54	326	⇑P	PKiKP	01 17 50.8	-0.1
BMR	Baia Mare	149.57	328	⇓P	PKPbc	01 17 49.8	-0.4
TRPA	Tarpa	149.70	330	⇓P	PKPbc	01 17 49.9	-0.5
MLR	Muntele Rosu	149.71	323	ePKPbc	PKPbc	01 17 49.5	-1.2
MLR	Muntele Rosu	149.71	323	⇓P	PKPbc	01 17 50.3	-0.5
DOPR	Dopca	149.72	324	⇑P	PKiKP	01 17 51.0	-0.3
LEHL	Lehliu	149.81	320	⇓P	PKiKP	01 17 51.2	-0.3
SECR		149.92	322	⇑P	PKPbc	01 17 50.9	-0.2
KSP	Ksiaz	150.02	339	ePKP	PKPbc	01 17 51.1	-0.1
OKC	Ostrava-Krasne	150.22	336	⇑ePKP	PKPbc	01 17 51.4	-0.2
OKC				epPKP	pPKPbc	01 19 59.5	+1.7
VOIR		150.24	323	⇑P	PKPbc	01 17 51.3	-0.6
LANS	Liptovska Anna	150.27	334	ePKP	PKiKP	01 17 53.1	+0.7
LANS				e		01 18 01.1	
UPC	Upice	150.41	339	⇑ePKP	PKPbc	01 17 51.9	-0.1
UPC				epPKP	pPKPab	01 20 01.1	-0.8
DPC	Dobruska-Polom	150.44	339	⇑ePKP	PKPbc	01 17 52.0	-0.2
DPC				epPKP	pPKPab	01 20 01.9	-0.1
MORC	Moravsky Berou	150.50	337	ePKPbc	PKPbc	01 17 51.9	-0.5
MORC	Moravsky Berou	150.50	337	⇓*i*P	PKPbc	01 17 51.8	-0.5
MORC	Moravsky Berou	150.50	337	ePKP	PKPbc	01 17 52.2	-0.1
MORC				e		01 18 01.3	
MORC				e		01 20 01.6	
KRLC	Kraliky	150.51	338	⇑ePKP	PKPbc	01 17 52.0	-0.4
KRLC				epPKP	pPKPab	01 20 01.7	-0.7
DRGR		150.57	327	⇑*i*P	PKPbc	01 17 52.5	-0.1
CLL	Collm	150.58	343	ePKPbc	PKPbc	01 17 51.4	-1.0
CLL	Collm	150.58	343	⇓*i*PKPbc	PKPbc	01 17 52.4	0.0
	comp=Z,33nm,0.8s						
CLL				e		01 17 55.0	
CLL				⇓*i*PKPab	PKPab	01 18 01.1	-0.5
	comp=Z,10.0nm,0.6s						
CLL				epPKPdf	pPKPbc	01 19 57.0	-1.4
CLL				*i* pPKPbc	pPKPab	01 20 00.3	-2.3
	comp=Z,13nm,1.1s						
BRG	Berggiesshubel	150.72	342	*i* PKP	PKPbc	01 17 52.3	-0.4
	comp=Z,24nm,0.8s						
BRG				epPKP	pPKPbc	01 20 01.2	+2.3
	comp=Z,14nm,1.3s						
PVCC	Panska Ves	150.84	341	⇑ePKP	PKPbc	01 17 52.7	-0.3
PVCC				epPKP	pPKPab	01 20 02.5	-1.1
HUMR	Humele	150.84	322	⇑*i*P	PKPbc	01 17 51.6	-1.6
LOT	Lotru	150.93	324	⇓*i*P	PKPbc	01 17 52.5	-1.1
VYHS	Vyhne	151.04	334	ePKP	PKPbc	01 17 53.3	-0.3
VYHS				e		01 18 04.1	
PSZ	Piszkesteto	151.05	332	ePKPbc	PKPbc	01 17 51.5	-2.2
PSZ	Piszkesteto	151.05	332	⇓*i*P	PKiKP	01 17 54.5	+0.4
KOLL	Kolacno	151.15	334	ePKP	PKiKP	01 17 54.3	+0.2
KOLL				e		01 18 04.5	
JAVC	Velka Javorina	151.21	336	ePKP	PKiKP	01 17 55.0	+0.7
JAVC				e		01 20 04.2	
VRAC	Vranov	151.23	337	⇓*i*P	PKPbc	01 17 54.1	+0.1
VRAC	Vranov	151.23	337	ePKP	PKPbc	01 17 54.0	+0.1
VRAC				e		01 18 04.5	
VRAC				e		01 20 03.3	
GOPC	GO Pecny, Ondr	151.31	340	⇑ePKP	PKPbc	01 17 53.4	-0.8
PRU	Pruhonice	151.32	340	⇑ePKP	PKPbc	01 17 54.0	-0.1
PRU				ePKPAB	PKPab	01 18 04.9	+0.1
PRU				epPKP	pPKPbc	01 20 01.9	+1.5
SIRR	Siria	151.45	328	⇑*i*P	PKPbc	01 17 54.5	-0.1
GZR	Gura Zlata	151.49	325	⇓*i*P	PKPbc	01 17 54.4	-0.4
KRUC	Moravsky	151.51	337	ePKP	PKPbc	01 17 54.1	-0.5
KRUC				e		01 18 05.5	
KRUC				e		01 20 03.6	
TREC	Trest	151.62	339	⇑ePKP	PKPbc	01 17 54.7	-0.2
TREC				epPKP	pPKPbc	01 20 03.2	+2.1
NKC	Novy Kostel	151.71	343	⇑ePKP	PKPbc	01 17 54.7	-0.3
NKC				ePKPAB	PKPab	01 18 06.0	-0.5
SRE	Strehaia	151.74	324	⇓*i*P	PKPbc	01 17 54.9	-0.4
MODS	Modra-Piesok	151.75	335	ePKP	PKPbc	01 17 55.0	-0.2
MODS				e		01 18 06.6	
BZS	Buzias	151.93	327	⇓*i*P	PKPbc	01 17 55.5	-0.1
HERR	Herculane	152.02	325	⇑*i*P	PKPbc	01 17 55.7	-0.2
ALN	Alexandroupoli	152.22	315	ePKPbc	PKPbc	01 17 55.5	-0.9
KHC	Kasperske Hory	152.38	341	ePKPdf	PKPdf	01 17 49.4	+0.2
KHC				ePKPab	PKPab	01 18 09.5	+0.1
KHC	Kasperske Hory	152.38	341	⇑ePKP	PKPbc	01 17 56.0	-0.6
KHC				ePKPAB	PKPab	01 18 09.7	+0.3
KHC				epPKP	pPKPbc	01 20 04.5	+1.5
MDVR	Moldovita	152.46	325	⇓*i*P	PKPbc	01 17 56.7	-0.2
BEBN	Eben Emael	152.50	352	⇑PKPbc	PKiKP	01 17 57.9	+1.1
EZN	Ezine	152.56	312	⇑*i*P	PKPbc	01 17 56.8	-0.4
GEC2	GERESS Array S	152.59	340	ePKPbc	PKPbc	01 17 56.9	-0.2
GERES	GERESS Array B	152.59	340	PKPbc	PKPbc	01 17 56.1	-1.0
	comp=Z,2.2nm,0.8s,baz=45,slow=2.1,SNR=21						
MEM	Membach	152.64	352	⇑PKPbc	PKPbc	01 17 56.1	-0.9
CONA	Conrad Observa	152.65	337	ePKiKP	PKPbc	01 17 57.0	-0.2
	comp=Z,9.7nm,1.2s						
CONA				ePKPab	PKPab	01 18 11.2	+0.6
	comp=Z,7.8nm,0.7s						
CONA				epPKPbc	pPKPbc	01 20 06.6	+2.9
	comp=Z,5.0nm,1.3s						
SNF	Seneffe	152.93	354	⇑PKPbc	PKPbc	01 17 56.8	-0.9
SNF				⇓PKPab	PKPab	01 18 09.6	-1.9
VTS	Vitosha	153.01	320	ePKPbc	PKPbc	01 17 58.1	-0.2
VTS				ePKPab	PKPab	01 18 12.3	-0.1
VTS	Vitosha	153.01	320	⇑*i*P	PKPab	01 18 13.4	+0.9
MOA	Molln	153.28	338	ePKiKP	PKiKP	01 18 00.2	+1.6
	comp=Z,4.2nm,1.2s						
MOA				PKPab	PKPab	01 18 13.6	+0.4
	comp=Z,5.2nm,1.1s						
DOU	Dourbes	153.31	354	⇓PKPbc	PKPbc	01 17 58.2	-0.3
ARSA	Arzberg	153.34	336	ePKPab	PKPab	01 18 13.8	+0.3
	comp=Z,4.4nm,0.8s						
WLF	Walferdange	153.54	351	⇑PKPbc	PKiKP	01 17 59.2	+0.2
SOKA	Soboth	154.01	336	ePKPdf	PKPdf	01 17 51.1	-0.6
	comp=Z,1.3nm,0.5s						
SOKA				ePKPab	PKPab	01 18 16.3	-0.2
	comp=Z,10nm,1.3s						
SOKA				epPKPbc	pPKPbc	01 20 09.3	+2.5
	comp=Z,1.1nm,0.5s						
KBA	Koelnbreinsper	154.26	339	pPKPbc	pPKPbc	01 20 10.1	+2.7
	comp=Z,4.3nm,1.5s						
OBKA	Obir	154.33	337	ePKiKP	PKiKP	01 18 00.8	-0.1
	comp=Z,0.7nm,0.5s						
OBKA				ePKPab	PKPab	01 18 17.4	-0.5
	comp=Z,5.6nm,0.9s						
OBKA				epPKPdf	pPKPdf	01 20 00.1	+0.4
	comp=Z,1.9nm,0.6s						
BFO	Black Forest	154.46	347	ePKPab	PKPab	01 18 16.8	-1.5
MYKA	Terra Mystica	154.55	338	ePKPab	PKPab	01 18 18.2	-0.6
	comp=Z,2.9nm,0.6s						
WATA	Walderalm	154.58	342	ePKiKP	PKiKP	01 18 01.0	-0.5
	comp=Z,1.1nm,0.5s						
WATA				ePKPab	PKPab	01 18 18.9	-0.1
	comp=Z,2.0nm,0.5s						
WATA				epPKPbc	pPKPbc	01 20 10.9	+2.7
	comp=Z,1.5nm,0.7s						
WTTA	Wattenberg	154.63	341	ePKPab	PKPab	01 18 19.1	-0.1
	comp=Z,4.8nm,0.5s						
WTTA				epPKiKP	pPKiKP	01 20 11.6	+3.2
	comp=Z,5.4nm,1.2s						
RETA	Reutte	154.67	343	ePKPab	PKPab	01 18 19.1	-0.2
	comp=Z,3.2nm,0.6s,SNR=5.2						
MOTA	Moosalm	154.71	342	ePKPdf	PKPdf	01 17 52.0	-0.7
	comp=Z,1.9nm,0.8s,SNR=5.0						
MOTA				ePKPab	PKPab	01 18 19.6	+0.1
	comp=Z,2.3nm,0.6s						
LJU	Ljubljana	154.73	336	*i* PKPdf	PKPdf	01 17 52.1	-0.5
LJU				ePKPbc	PKiKP	01 18 00.8	-0.8
LJU				*i* PKPab	PKPab	01 18 18.6	-0.8
ECH	Echery	154.79	349	ePKPab	PKPab	01 18 18.7	-1.0
SQTA	Sankt Quirin	154.79	342	ePKPab	PKPab	01 18 19.8	0.0
	comp=Z,8.4nm,1.1s						
SQTA				pPKPbc	pPKPbc	01 20 10.4	+1.9
	comp=Z,1.9nm,0.8s						
ABTA	Abfaltersbach	154.82	340	ePKPdf	PKPdf	01 17 52.0	-0.8
	comp=Z,7.7nm,1.3s						
ABTA				ePKPab	PKPab	01 18 19.6	-0.4
	comp=Z,1.7nm,0.5s						
BOJS	Bojanci	154.90	334	*i* PKPdf	PKPdf	01 17 52.5	-0.2
BOJS				*i* PKPbc	PKiKP	01 18 01.7	-0.3
BOJS				*i* PKPab	PKPab	01 18 19.3	-0.9
DAVA	Damuels	155.08	344	ePKPab	PKPab	01 18 21.0	-0.1
	comp=Z,7.4nm,0.8s						
FETA	Feichten	155.10	343	ePKPdf	PKPdf	01 17 53.0	-0.2
	comp=Z,4.7nm,0.9s						
FETA				ePKPab	PKPab	01 18 21.3	+0.1
	comp=Z,3.3nm,1.1s						
TTG	Podgorica	155.37	324	ePKPab	PKPab	01 18 22.2	-0.1
CLF	Chambon-Foret	155.55	356	ePKPab	PKPab	01 18 22.8	0.0
FUORN	Ofenpass-Fuorn	155.60	343	ePKPab	PKPab	01 18 24.0	+0.5
TUE	Stuetta	155.98	344	ePKPab	PKPab	01 18 24.5	-0.6
SENIN	Lac Senin/Sane	156.54	347	ePKPab	PKPab	01 18 27.5	-0.1
BNI	Bardonecchia	157.92	347	ePKPab	PKPab	01 18 32.2	-1.2
ESDC	Sonseca Array	163.60	11	PKP	PKPdf	01 18 03.2	+0.2
	comp=Z,0.1nm,0.4s,baz=354,slow=2.6,SNR=4.6						
ESDC				PKPab	PKPab	01 18 57.5	-0.9
	comp=Z,1.9nm,0.8s,baz=347,slow=4.5,SNR=15						
ESLA	Sonseca Array	163.60	11	ePKPab	PKPab	01 18 58.0	-0.4
TORD	Torodi Ar. Bea	169.50	189	PKP	PKPdf	01 18 07.2	-0.8
	comp=Z,3.5nm,1.1s,baz=251,slow=2.6,SNR=8.6						
TORD				PKPab	PKPab	01 19 25.5	+0.7
	comp=Z,1.4nm,0.9s,baz=159,slow=5.9,SNR=5.2						

*CNRM **05** 01:04:34.3, 36°.84N×12°.67W, h129km*
*MDD **05** 01:04:35.3±0.7, 36°.93N×12°.80W, h41km, mb4.6/13, Error ellipse: s-maj=10.0km s-min=6.5km az=141.0, PRXIMO*
*INMG **05** 01:04:37.5±1.9, 36°.90N×12°.82W, h2km±8km, ML2.8, Error ellipse: s-maj=4.1km s-min=3.5km az=129.0*
*LDG **05** 01:04:37.7±0.2, 37°.05N×12°.53W, h10km, Ml3.2/3, Error ellipse: s-maj=4.8km s-min=3.4km az=49.0*
*IGIL **05** 01:04:37.3, 37°.09N×12°.46W, h0km, ML2.5*

ISC 05 01:04:31.3±1.3, 36°.96N±0°.04×12°.71W±0°.06, h10km, n98, σ2s05/131, 8C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.11**	**86**	⇑ePn	**Pn**	**01 05 22.6**	**+2.2**
PFVI				eSn	**Sn**	**01 05 55.7**	**-1.9**
PFVI				A	A	01 05 58.5	
	9.3nm,0.3s						
PFVI	**Vila Bisbo**	**3.11**	**86**	⇑P	**Pn**	**01 05 22.6**	**+2.2**
	25nm,0.1s,SNR=18						
PFVI				S	**Sn**	**01 05 55.5**	**-2.1**
	17nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.11**	**86**	P	Pn	01 05 20.5	+0.1
PFVI				S	**Sn**	**01 05 59.9**	**+2.3**
PTEO	**Sao Teotonio**	**3.23**	**78**	⇑ePn	**Pn**	**01 05 24.4**	**+2.3**
PTEO				eSn	**Sn**	**01 05 58.6**	**-2.0**
PTEO				A	A	01 06 07.2	
	7.4nm,0.7s						
PTEO	**Sao Teotonio**	**3.23**	**78**	P	**Pn**	**01 05 24.4**	**+2.3**
PTEO				S	**Sn**	**01 05 58.6**	**-2.0**
	3.7nm,0.7s						
MORF	**Marmelete**	**3.26**	**83**	eP	**Pn**	**01 05 24.6**	**+2.1**
MORF				eS	**Sn**	**01 05 59.9**	**-1.5**
MORF				AML	AML	01 06 04.2	
	comp=N,21nm,0.4s						
MORF	**Marmelete**	**3.26**	**83**	⇑ePn	**Pn**	**01 05 24.6**	**+2.1**
MORF				eSn	**Sn**	**01 06 00.4**	**-1.0**
MORF				A	A	01 06 03.9	
	comp=N,11nm,0.2s						
MORF	**Marmelete**	**3.26**	**83**	P	**Pn**	**01 05 24.6**	**+2.1**
MORF				S	**Sn**	**01 06 00.4**	**-1.0**
	comp=N,11nm,0.2s						
PMAFR	**Mafra**	**3.36**	**53**	ePn	**Pn**	**01 05 26.3**	**+2.4**
PMAFR				eSn	**Sn**	**01 06 02.8**	**-1.0**
PMAFR				A	A	01 06 03.8	
	comp=N,58nm,0.2s						
PMAFR	**Mafra**	**3.36**	**53**	P	**Pn**	**01 05 26.3**	**+2.4**
	comp=N,7.7nm,0.1s,SNR=21						
PMAFR				S	**Sn**	**01 06 02.4**	**-1.5**

comp=N,13nm,0.3s
MTE Manteigas 5.30 48 P **Pn 01 05 52.9 +2.3**
MTE S **Sn 01 06 49.3 -2.5**
comp=N,6.6nm,0.3s
PVIS Viseu 5.31 44 *e*Pn **Pn 01 05 52.6 +1.9**
PVIS *e*Sn **Sn 01 06 49.0 -2.9**
PVIS A A 01 06 53.0
comp=N,13nm,0.2s
PVIS Viseu 5.31 44 P **Pn 01 05 52.6 +1.9**
PVIS S **Sn 01 06 49.0 -2.9**
comp=N,6.3nm,0.2s
PMAR Madeira 5.46 220 *e*Pn **Pn 01 05 52.2 -0.6**
PMAR *e*Sn Sn 01 06 49.0 -6.8
PMAR A A 01 06 52.1
comp=N,18nm,0.2s
PMAR Madeira 5.46 220 P **Pn 01 05 52.2 -0.6**
PMAR S Sn 01 06 49.0 -6.8
comp=N,8.8nm,0.2s
PMAR Madeira 5.46 220 P **Pn 01 05 52.4 -0.4**
PMAR S **Sn 01 06 54.6 -1.2**
ESPR Espera 5.49 89 P **Pn 01 05 55.8 +2.7**
comp=N,5.2nm,0.1s,SNR=20
ESPR S **Sn 01 06 54.8 -1.5**
comp=N,14nm,0.3s
PMOZ Porto Moniz, M 5.53 223 *e*Pn **Pn 01 05 53.0 -0.8**
PMOZ *e*Sn Sn 01 06 49.5 -8.0
PMOZ A A 01 06 56.1
comp=N,18nm,0.4s
PMOZ Porto Moniz, M 5.53 223 P **Pn 01 05 52.9 -0.9**
comp=N,5.6nm,0.2s,SNR=7.9
PMOZ S Sn 01 06 49.1 -8.4
comp=N,22nm,0.4s,SNR=7.9
PMOZ Porto Moniz, M 5.53 223 P **Pn 01 05 53.7 0.0**
PMOZ S **Sn 01 06 56.4 -1.1**
PVRL Vila Real 5.80 40 *e*Pn **Pn 01 05 59.3 +1.9**
PVRL *e*Sn Sn 01 06 59.9 -4.1
PVRL A A 01 07 03.0
comp=N,9.1nm,0.1s
PVRL Vila Real 5.80 40 P **Pn 01 05 59.3 +1.9**
PVRL S Sn 01 06 59.9 -4.1
comp=N,4.6nm,0.1s
POLO Lamas de Olo 5.83 39 *e*Pn **Pn 01 05 59.5 +1.6**
POLO *e*Sn Sn 01 07 00.3 -4.5
POLO A A 01 07 05.2
comp=N,2.4nm,0.3s
POLO Lamas de Olo 5.83 39 P **Pn 01 05 59.5 +1.6**
POLO S Sn 01 07 00.3 -4.5
comp=N,2.4nm,0.3s
ECAB El Cabril 5.90 77 P **Pn 01 06 00.9 +2.1**
comp=N,1.0nm,0.1s,SNR=33
ECAB S Sn 01 07 02.4 -4.1
comp=N,1.1nm,0.1s
PCAB Cabril 5.97 36 *e*Pn **Pn 01 06 02.8 +3.1**
PCAB *e*Sn Sn 01 07 04.2 -4.0
PCAB A A 01 07 07.2
comp=N,11nm,0.1s
PCAB Cabril 5.97 36 P **Pn 01 06 02.8 +3.1**
PCAB S Sn 01 07 04.2 -4.0
comp=N,5.6nm,0.1s
SRHM Skhour des Reh 5.98 137 P **Pn 01 06 01.0 +1.1**
SRHM S **Sn 01 07 09.1 +0.6**
HORN Hornachuelos 6.00 79 P **Pn 01 06 00.9 +0.8**
HORN S **Sn 01 07 08.1 -0.8**
EZAM Zamans 6.04 30 P **Pn 01 06 02.7 +2.1**
comp=N,0.3nm,0.0s,SNR=7.9
EZAM S Sn 01 07 04.0 -5.8
comp=N,10nm,0.2s,SNR=7.9
PGAV Gavieira, Arco 6.07 33 *e*Pn **Pn 01 06 03.4 +2.3**
PGAV *e*Sn Sn 01 07 06.9 -3.7
PGAV A A 01 07 12.3
comp=N,6.2nm,0.2s
PGAV Gavieira, Arco 6.07 33 P **Pn 01 06 03.4 +2.3**
PGAV S Sn 01 07 06.9 -3.7
comp=N,6.2nm,0.2s
ELOB Lobios 6.08 35 P **Pn 01 06 03.5 +2.2**
comp=N,0.4nm,0.1s,SNR=6.8
ELOB S Sn 01 07 06.7 -4.2
comp=N,5.6nm,0.1s,SNR=5.6
ZHG ZHG 6.08 123 P **Pn 01 06 01.2 0.0**
ZHG S **Sn 01 07 08.3 -2.7**
MVO Moncorvo 6.10 45 *e*Pn **Pn 01 06 03.4 +1.9**
MVO *e*Sn Sn 01 07 06.7 -4.6
MVO A A 01 07 10.2
comp=N,13nm,0.3s
MVO Moncorvo 6.10 45 P **Pn 01 06 03.0 +1.6**
comp=N,1.2nm,0.1s,SNR=11
MVO S Sn 01 07 06.6 -4.7
comp=N,17nm,0.2s,SNR=5.8
EMIJ Mijas 6.38 91 P **Pn 01 06 07.1 +1.7**
comp=N,0.4nm,0.2s,SNR=7.9
EMIJ S Sn 01 07 14.6 -3.8
comp=N,2.0nm,0.5s,SNR=7.9
EADA Adamuz 6.57 77 P **Pn 01 06 10.0 +2.0**
comp=N,1.1nm,0.1s,SNR=21
EADA S Sn 01 07 19.8 -3.2
comp=N,1.3nm,0.1s
EMAZ Mazaricos 6.63 24 P **Pn 01 06 10.0 +1.3**
comp=N,1.4nm,0.1s,SNR=7.9
EMAZ S Sn 01 07 17.1 -7.3
comp=N,14nm,0.1s,SNR=7.9
PBRG Braganca 6.69 42 *e*Pn **Pn 01 06 11.6 +2.0**
PBRG *e*Sn Sn 01 07 22.2 -3.7
PBRG A A 01 07 23.6
comp=N,4.8nm,0.2s
PBRG Braganca 6.69 42 P **Pn 01 06 11.6 +2.0**
PBRG S Sn 01 07 22.2 -3.7
comp=N,2.4nm,0.2s
ECAL Calabor 6.79 41 P **Pn 01 06 12.8 +1.8**
comp=N,1.2nm,0.2s,SNR=7.3
ECAL S Sn 01 07 24.3 -4.0
comp=N,4.9nm,0.2s,SNR=4.6
EAGO Agolada(Pontev 6.83 30 P **Pn 01 06 13.6 +2.1**
comp=N,0.1nm,0.1s,SNR=7.9
EAGO S Sn 01 07 21.8 -7.5
comp=N,4.4nm,0.1s,SNR=7.9
EGOR Sierra Gorda, 6.88 86 P **Pn 01 06 14.9 +2.6**
comp=N,0.2nm,0.2s,SNR=7.9
EGOR S Sn 01 07 26.9 -3.9
comp=N,0.9nm,0.4s,SNR=7.9
PAB San Pablo 7.07 66 P **Pn 01 06 15.8 +1.0**
comp=N,0.3nm,0.1s,SNR=7.9
PAB S Sn 01 07 30.3 -5.0
comp=N,0.4nm,0.1s,SNR=7.9
LCRM LCR 7.20 115 P Pn 01 06 16.2 -0.6
LCRM S **Sn 01 07 35.1 -3.5**
ELGU Los Guajares, 7.28 88 P **Pn 01 06 21.0 +3.3**
comp=N,0.9nm,0.2s,SNR=7.9
ELGU S **Sn 01 07 40.0 -0.4**
comp=N,2.5nm,0.3s,SNR=7.9
ESDC Sonseca Array 7.39 66 P **Pn 01 06 20.6 +1.4**
comp=N,1.8nm,0.1s,baz=253,slow=13,SNR=15
ESDC S Sn 01 07 38.5 -4.6
comp=N,0.9nm,0.1s,baz=253,slow=23,SNR=5.0
GUD Guadarrama 7.63 59 P **Pn 01 06 24.1 +1.6**
comp=N,0.2nm,0.1s,SNR=7.9
GUD S Sn 01 07 44.2 -4.8
comp=N,0.3nm,0.1s,SNR=7.9
EPON Pontenova 7.65 32 P **Pn 01 06 24.5 +1.7**
comp=N,0.1nm,0.1s,SNR=7.9
EPON S Sn 01 07 43.1 -6.4
comp=N,2.1nm,0.2s,SNR=7.9
MD31 MD31 7.70 120 P Pn 01 06 22.7 -0.9
MD31 S **Sn 01 07 47.9 -3.0**
EQES Quesada 7.72 81 P **Pn 01 06 25.8 +2.0**
comp=N,0.8nm,0.2s,SNR=10
EQES S Sn 01 07 47.2 -4.2
comp=N,0.8nm,0.3s,SNR=7.9
OUZM OUZ 7.80 139 P Pn 01 06 24.1 -0.8
OUZM S Sn 01 07 49.1 -4.3
MDT Midelt 7.84 119 P Pn 01 06 24.5 -0.9
MDT S **Sn 01 07 51.0 -3.2**
SESP Santiago Espad 8.16 79 P **Pn 01 06 31.4 +1.6**
comp=N,0.3nm,0.1s,SNR=7.9
SESP S Sn 01 07 57.3 -4.9
comp=N,0.7nm,0.3s,SNR=7.9
CFUE Fuerteventura 8.35 187 P Pn 01 06 27.0 -5.4
comp=N,1.0nm,0.1s,SNR=7.9
CFUE S Sn 01 07 54.0 -13
comp=N,3.5nm,0.2s,SNR=7.9
EARI Arriondas 8.55 40 P **Pn 01 06 37.3 +2.2**
comp=N,0.1nm,0.2s,SNR=7.9
EARI S Sn 01 08 06.8 -4.8
comp=N,3.0nm,0.6s,SNR=7.9
CFTV Fuerteventura 8.60 188 S Sn 01 07 59.2 -14
comp=N,0.3nm,0.1s,SNR=7.9
JBK JBK 8.66 105 P Pn 01 06 34.0 -2.9
JBK S Sn 01 08 10.1 -4.5
ETOB Tobarra 8.99 76 P **Pn 01 06 42.4 +1.1**
comp=N,0.9nm,0.2s,SNR=8.9
ETOR Torete 9.16 62 P **Pn 01 06 45.4 +1.0**
comp=N,1.0nm,0.2s,SNR=9.2
ETOR S Sn 01 08 18.7 -7.9
comp=N,0.3nm,0.2s,SNR=7.9
ELAN Lanestosa 9.47 46 S Sn 01 08 27.6 -6.6
comp=N,0.9nm,0.3s,SNR=7.9
EMOS Mosqueruela 10.16 67 S Sn 01 08 46.0 -5.3
comp=N,0.3nm,0.2s,SNR=7.9
SJPF Ste Jean 10.73 52 *e*Pn **Pn 01 07 07.2 +2.2**
SJPF *e*Sn Sn 01 08 58.2 -7.0
comp=N,0.6nm,0.2s
SJPF Ste Jean 10.73 52 P **Pn 01 07 07.2 +2.2**
SJPF S Sn 01 08 58.2 -7.0
comp=N,0.3nm,0.2s
ATE Arette 11.05 53 P **Pn 01 07 12.0 +2.6**
comp=N,0.6nm,0.1s,SNR=7.9
ATE S Sn 01 09 06.2 -6.8
comp=N,0.5nm,0.3s,SNR=7.9
ETSF Etsaut 11.05 54 *e*Pn **Pn 01 07 11.5 +2.1**
ETSF *e*Sn Sn 01 09 05.8 -7.3
comp=N,0.9nm,0.3s
ETSF Etsaut 11.05 54 P **Pn 01 07 11.5 +2.1**
ETSF S Sn 01 09 05.8 -7.3
comp=N,0.4nm,0.3s
EPF Esparros 11.70 55 *e*Pn **Pn 01 07 20.2 +2.0**
EPF *e*Sn Sn 01 09 23.1 -5.7
comp=N,0.6nm,0.3s
EPF Esparros 11.70 55 P **Pn 01 07 20.2 +2.0**
EPF S Sn 01 09 23.1 -5.7
comp=N,0.3nm,0.3s

*ISK **05** 01:33:07.6, 39°.70N×25°.61E, h10km, ML2.2/21*
*ATH **05** 01:33:07.8, 39°.67N×25°.57E, h29km±1km, ML1.9/4, Error ellipse: s-maj=2.6km s-min=1.2km az=64.0*
*ISCJB **05** 01:33:08.9±0.4, 39°.70N±0°.02×25°.63E±0°.03, h19km±5km, Error ellipse: s-maj=4.2km s-min=3.3km az=38.7*
*THE **05** 01:33:08.4, 39°.69N×25°.63E, h6km, ML2.1/2, Error ellipse: s-maj=1.0km s-min=0.4km az=50.0*
*DDA **05** 01:33:10.7, 39°.65N×25°.83E, h9km±5km, ML2.7*
ISC 05 01:33:08.3±0.9, **39°.69N**±0°.02×**25°.62E**±0°.02, **h27**km±6km, **n56**, σ1°**06**/76, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.37**	**65**	PG		**Pb**	**01 33 15.8**	**-0.7**
BOZC				SG		**Sb**	**01 33 21.1**	**-1.0**
BOZC	**Bozcaada**	**0.37**	**65**	IAML_P				
	comp=Z,3μm,0.1s							
BOZC				*i* P		**Pb**	**01 33 16.5**	**0.0**
BOZC				*i* S		**Sb**	**01 33 21.2**	**-0.8**
LIA	**Limnos Island**	**0.39**	**302**	P		**Pb**	**01 33 16.4**	**-0.4**
LIA				S		**Sb**	**01 33 22.0**	**-0.7**
LIA	**Limnos Island**	**0.39**	**302**	P		**Pb**	**01 33 16.5**	**-0.4**
LIA				S		**Sb**	**01 33 21.9**	**-0.7**
LIA	**Limnos Island**	**0.39**	**302**	P		**Pb**	**01 33 16.5**	**-0.4**
LIA				S		**Sb**	**01 33 22.2**	**-0.4**
LIA				AML		AML	01 33 22.6	
	comp=N,121μm,0.2s							
LIA				AML		AML	01 33 23.9	
	comp=E,114μm,0.1s							
GPNR	**Gulpinar-Canak**	**0.46**	**120**	PG		**Pb**	**01 33 17.4**	**-0.5**
SIGR	**SIGRI**	**0.51**	**159**	PG		**Pb**	**01 33 18.2**	**-0.6**
SIGR				SG		**Sb**	**01 33 25.8**	**0.0**
SIGR	**SIGRI**	**0.51**	**159**	P		**Pb**	**01 33 18.2**	**-0.6**
SIGR				S		**Sb**	**01 33 25.9**	**0.0**
SIGR	**SIGRI**	**0.51**	**159**	P		**Pb**	**01 33 18.1**	**-0.6**
SIGR				S		**Sb**	**01 33 25.8**	**0.0**
SIGR				AML		AML	01 33 26.5	
	comp=N,600μm,0.5s							
SIGR				AML		AML	01 33 26.6	
	comp=E,409μm,0.2s							
SIGR	**SIGRI**	**0.51**	**159**	P		**Pb**	**01 33 18.3**	**-0.4**
SIGR				S		**Sb**	**01 33 25.7**	**-0.2**
SIGR				AML		AML	01 33 26.6	
	comp=E,409μm,0.2s							
SIGR				AML		AML	01 33 26.8	
	comp=N,600μm,0.5s							
GOKC	**Gokceada-Canak**	**0.56**	**24**	PG		**Pb**	**01 33 18.9**	**-0.7**
EZN	**Ezine**	**0.56**	**76**	PG		**Pb**	**01 33 19.1**	**-0.5**
EZN	**Ezine**	**0.56**	**76**	P		**Pb**	**01 33 19.1**	**-0.5**
EZN				S		**Sb**	**01 33 27.2**	**-0.1**
PRK	**Paraskevi**	**0.67**	**131**	P		**Pn**	**01 33 22.5**	**+0.5**
PRK				S		**Sn**	**01 33 31.5**	**-0.1**
PRK				AML		AML	01 33 35.7	
	comp=N,424μm,0.4s							
PRK				AML		AML	01 33 36.2	
	comp=E,432μm,0.3s							
PRK	**Paraskevi**	**0.67**	**131**	P		**Pn**	**01 33 22.5**	**+0.5**
PRK				S		**Sn**	**01 33 32.3**	**+0.7**
PRK				AML		AML	01 33 35.7	
	comp=N,424μm,0.4s							
PRK				AML		AML	01 33 36.2	
	comp=E,432μm,0.3s							
BAYC	**CANAKKALE_Bayr**	**0.72**	**86**	IAML_P				
	comp=Z,1μm,0.1s							
BAYC				*i* P		**Pn**	**01 33 23.0**	**+0.3**
SMTH	**Samothraki Isl**	**0.78**	**355**	P		**Pb**	**01 33 23.4**	**+0.1**
SMTH				S		**Sn**	**01 33 34.7**	**+0.2**
SMTH	**Samothraki Isl**	**0.78**	**355**	P		**Pb**	**01 33 23.5**	**+0.1**
SMTH				S		**Sn**	**01 33 34.5**	**0.0**
SMTH				AML		AML	01 33 36.3	
	comp=E,77μm,0.3s							
SMTH				AML		AML	01 33 37.2	
	comp=N,64μm,0.1s							
SMTH	**Samothraki Isl**	**0.78**	**355**	P		**Pn**	**01 33 23.6**	**0.0**
AYVA	**Ayvalik**	**0.91**	**114**	IAML_P				
	comp=Z,517nm,0.1s							
AYVA				*i* P		**Pb**	**01 33 26.2**	**+0.7**
AYVA				*i* S		**Sn**	**01 33 40.9**	**+3.3**
GELI	**Tayfur-Gelibol**	**0.97**	**43**	PG		**Pb**	**01 33 26.5**	**+0.1**
LPK	**Lapseki**	**1.11**	**52**	PN		**Pb**	**01 33 29.1**	**+0.2**
ENEZ	**Enez**	**1.12**	**21**	PN		**Pb**	**01 33 29.4**	**+0.4**
THAS	**Thassos island**	**1.15**	**323**	P		**Pb**	**01 33 29.8**	**+0.4**
THAS	**Thassos island**	**1.15**	**323**	P		**Pb**	**01 33 29.8**	**+0.4**
THAS				S		**Sb**	**01 33 44.5**	**+0.6**
THAS				AML		AML	01 33 46.8	
	comp=E,55μm,0.4s							
THAS				AML		AML	01 33 47.4	
	comp=N,74μm,0.3s							
SKY	**Skiros Island**	**1.16**	**226**	P		**Pb**	**01 33 29.7**	**+0.1**
ERIK	**Erikli-Kesan**	**1.20**	**35**	PN		**Pb**	**01 33 30.4**	**+0.1**
ALN	**Alexandroupoli**	**1.25**	**15**	PN		**Pb**	**01 33 31.7**	**+0.5**
ALN	**Alexandroupoli**	**1.25**	**15**	P		**Pb**	**01 33 31.4**	**+0.2**
ALN	**Alexandroupoli**	**1.25**	**15**	P		**Pb**	**01 33 31.4**	**+0.2**
ALN	**Alexandroupoli**	**1.25**	**15**	P		**Pb**	**01 33 31.6**	**+0.5**
CHOS	**Chios island**	**1.34**	**165**	PN		**Pb**	**01 33 32.4**	**-0.4**
CHOS	**Chios island**	**1.34**	**165**	P		**Pb**	**01 33 32.3**	**-0.6**
CHOS				S		**Sb**	**01 33 51.3**	**+1.6**
CHOS	**Chios island**	**1.34**	**165**	P		**Pn**	**01 33 31.9**	**+0.5**
CHOS	**Chios island**	**1.34**	**165**	P		**Pb**	**01 33 32.4**	**-0.4**
OUR	**Ouranopolis**	**1.41**	**298**	PN		**Pb**	**01 33 33.3**	**-0.6**
OUR	**Ouranopolis**	**1.41**	**298**	P		**Pb**	**01 33 33.3**	**-0.6**
OUR				S		**Sb**	**01 33 53.7**	**+2.2**
OUR	**Ouranopolis**	**1.41**	**298**	P		**Pb**	**01 33 33.3**	**-0.6**
AOS	**Alonnisos**	**1.44**	**249**	PN		**Pb**	**01 33 34.5**	**+0.1**
AOS	**Alonnisos**	**1.44**	**249**	P		**Pb**	**01 33 34.2**	**-0.2**
AOS				S		**Sb**	**01 33 54.8**	**+2.4**
AOS	**Alonnisos**	**1.44**	**249**	P		**Pn**	**01 33 33.4**	**+0.8**
AOS	**Alonnisos**	**1.44**	**249**	P		**Pb**	**01 33 34.5**	**+0.1**
RDO	**Rodhopi**	**1.46**	**358**	PN		**Pb**	**01 33 34.4**	**-0.3**
KRBG	**Karabiga-Canak**	**1.47**	**61**	PN		**Pn**	**01 33 33.7**	**+0.7**
URLA	**Izmir**	**1.53**	**150**	PN		**Pb**	**01 33 35.2**	**-0.8**
BALY	**Balya**	**1.55**	**87**	IAML_P				
	comp=Z,175nm,0.1s							
BALY				*i* P		**Pb**	**01 33 36.7**	**+0.4**
BALY				*i* S		**Sb**	**01 33 57.4**	**+1.9**
KAVA	**Kavala**	**1.55**	**328**	P		**Pb**	**01 33 35.4**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.56**	**50**	PN		**Pb**	**01 33 35.7**	**-0.8**
BLCB	**Balcova**	**1.71**	**139**	PN		**Pb**	**01 33 38.5**	**-0.5**
BALB	**Balikesir**	**1.75**	**91**	PN		**Pn**	**01 33 38.3**	**+1.5**
EDC	**Edincik**	**1.85**	**68**	PN		**Pb**	**01 33 40.1**	**-1.2**
KDZ	**Kurdzhali**	**1.96**	**356**	PN		**Pn**	**01 33 41.3**	**+1.5**
HORT	**Hortiatis**	**2.13**	**296**	PN		**Pn**	**01 33 43.8**	**+1.6**
KCTX	**Karacabey (Bur**	**2.18**	**74**	PN		**Pn**	**01 33 44.6**	**+1.8**
SDV	**Santo Domingo**	**89.16**	**281**	*e*S		**S**	**01 56 46.1**	**-3.7**
SDV	**Santo Domingo**	**89.16**	**281**	*e*S		**S**	**01 56 46.1**	**-3.7**

*ISCJB **05** 01:40:11.7±0.6, 29°.25N±0°.03×130°.80E±0°.06, h48km±6km, mb3.6/12, Error ellipse: s-maj=9.8km s-min=3.3km az=20.1*
*JMA **05** 01:40:12.2±0.1, 29°.33N×130°.70E, h71km±3km, M3.3*
*IDC **05** 01:40:14.2±1.7, 29°.38N×130°.60E, h46km±14km, mb3.4/12, mb1 3.6/15, mb1mx3.5/32, mbtmp3.7/15, ML3.1/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/20, Error ellipse: s-maj=25.9km s-min=9.2km az=111.0*
ISC 05 01:40:12.7±0.8, **29°.26N**±0°.04×**130°.80E**±0°.06, **h38**km±2km, **n33**, σ0°**91**/49, **mb3.6**/12, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.99**	**306**	P		**Pn**	**01 40 29.2**	**-0.9**
JNN				S		**Sn**	**01 40 42.4**	**-0.5**
JYAK	**Yakushimahirau**	**1.01**	**345**	P		**Pn**	**01 40 29.8**	**-0.5**
JYAK				*e*S		**Sn**	**01 40 43.3**	**+0.1**
JMTN	**Minamitane**	**1.14**	**4**	P		**Pn**	**01 40 31.8**	**-0.3**
JMTN				*e*S		**Sn**	**01 40 46.9**	**+0.5**
JZK	**Kikaishima**	**1.19**	**218**	P		**Pn**	**01 40 33.6**	**+0.8**
JKC	**Kuchinoerabu**	**1.31**	**336**	P		**Pn**	**01 40 33.8**	**-0.6**
JKC				*e*S		**Sn**	**01 40 50.6**	**0.0**
JAM	**Amami Oshima**	**1.35**	**231**	P		**Pn**	**01 40 34.9**	**-0.1**
JAM				S		**Sn**	**01 40 52.6**	**+1.0**
JTN	**Tanegashima 3**	**1.40**	**6**	P		**Pn**	**01 40 35.4**	**-0.3**
JTN				S		**Sn**	**01 40 53.4**	**+0.5**
JTAJ	**Takarajima**	**1.40**	**266**	P		**Pn**	**01 40 35.3**	**-0.4**
JAMN	**Amaminishikomi**	**1.75**	**235**	P		**Pn**	**01 40 40.5**	**0.0**
JAMN				*e*S		**Sn**	**01 41 02.6**	**+1.0**
JTSR	**Tashiro 2**	**1.90**	**3**	P		**Pn**	**01 40 42.5**	**-0.1**
JTSR				*e*S		**Sn**	**01 41 06.0**	**+0.6**
JTK	**Tokunoshima**	**2.19**	**228**	P		**Pn**	**01 40 47.0**	**+0.4**
JTK				S		**Sn**	**01 41 13.4**	**+0.9**
JOKE	**Okinoerabujima**	**2.73**	**227**	P		**Pn**	**01 40 54.2**	**+0.2**
JOKE				*e*S		**Sn**	**01 41 26.7**	**+1.0**
JYRO	**Yoronjima**	**3.04**	**224**	P		**Pn**	**01 40 58.0**	**-0.3**
JYRO				*e*S		**Sn**	**01 41 32.8**	**-0.7**
JOW	**Kunigami**	**3.29**	**223**	P		**Pn**	**01 41 02.1**	**+0.3**
JOW				*e*S		**Sn**	**01 41 39.6**	**0.0**
JOW	**Kunigami**	**3.29**	**223**	P		**Pn**	**01 41 02.0**	**+0.3**
	0.5nm,0.3s,baz=128,slow=14,SNR=9.8							
JOW				S		**Sn**	**01 41 40.8**	**+1.1**
	2.2nm,0.3s,baz=67,slow=28,SNR=6.3							
JIH	**Iheya**	**3.34**	**229**	P		**Pn**	**01 41 02.0**	**-0.4**
JIH				*e*S		**Sn**	**01 41 39.8**	**-1.1**
JMZ	**Minamidaito 2**	**3.45**	**174**	P		**Pn**	**01 41 03.1**	**-0.8**
JMZ				*e*S		**Sn**	**01 41 41.4**	**-2.0**
JNTH	**Nagotoyohara**	**3.68**	**223**	P		**Pn**	**01 41 07.5**	**+0.5**
JNU	**Nakatsue**	**3.85**	**1**	P		**Pn**	**01 41 10.1**	**+0.7**
	5.6nm,0.3s,baz=203,slow=10,SNR=43							
JNU				S		**Sn**	**01 41 53.1**	**-0.3**
	4.0nm,0.3s,baz=335,slow=9.3,SNR=5.9							
KSRS	**Korea Array**	**8.52**	**344**	P		**Pn**	**01 42 15.6**	**+2.2**
	baz=160,slow=14,SNR=7.4							
KSRS				LR		LR	01 45 36.7	
	comp=Z,64nm,19.9s,baz=170,slow=39							
KLR	**Kul'dur**	**19.96**	**2**	P		**P**	**01 44 40.0**	**-1.3**
	0.3nm,0.3s,baz=211,slow=5.4,SNR=12							
SONM	**Songino Array**	**26.43**	**321**	P		**P**	**01 45 44.4**	**-1.5**
	1.1nm,0.7s,baz=142,slow=12,SNR=5.2							
MKAR	**Makanchi Array**	**41.32**	**309**	P		**P**	**01 47 54.5**	**0.0**
	0.6nm,0.5s,baz=90,slow=9.3,SNR=8.0							
WRA	**Warramunga Arr**	**49.03**	**176**	P		**P**	**01 48 58.3**	**+2.4**
	0.7nm,0.9s,baz=355,slow=8.8,SNR=2.9							
ILAR	**Eielson Array**	**60.70**	**29**	P		**P**	**01 50 20.0**	**+0.2**
	0.3nm,0.8s,baz=270,slow=6.4,SNR=4.0							
INK	**Inuvik**	**65.21**	**24**	P		**P**	**01 50 50.4**	**+0.7**
	0.6nm,0.7s,baz=323,slow=5.0,SNR=4.0							
KBZ	**Khabaz**	**69.02**	**309**	P		**P**	**01 51 14.6**	**+0.3**
	2.1nm,0.9s,baz=344,slow=3.1,SNR=6.3							
FINES	**FINESS Array B**	**71.35**	**331**	P		**P**	**01 51 26.8**	**-1.4**
	1.5nm,0.7s,baz=70,slow=5.9,SNR=6.0							
AKASG	**Malin Array Be**	**74.71**	**320**	P		**P**	**01 51 47.5**	**-0.8**
	0.3nm,0.3s,baz=58,slow=6.4,SNR=3.1							
YKA	**Yellowknife Ar**	**74.82**	**26**	P		**P**	**01 51 49.5**	**+0.8**
	0.1nm,0.4s,baz=303,slow=5.6,SNR=4.3							
BRTR	**Keskin Array B**	**76.97**	**308**	P		**P**	**01 52 01.4**	**-0.2**
	0.6nm,0.7s,baz=92,slow=5.1,SNR=7.3							
NOA	**NORSAR Array B**	**77.59**	**334**	P		**P**	**01 52 03.4**	**-1.2**
	0.3nm,0.6s,baz=52,slow=5.3,SNR=3.0							
NVAR	**Mina Array Bea**	**86.78**	**47**	P		**P**	**01 52 54.0**	**+0.7**
	0.2nm,0.6s,baz=305,slow=5.4,SNR=2.5							

*ISK **05** 02:16:45.9, 37°.29N×37°.06E, h9km, ML1.8/7*
*ISCJB **05** 02:16:46.6±0.6, 37°.29N±0°.04×37°.08E±0°.04, h10km±5km, Error ellipse: s-maj=7.2km s-min=5.2km az=23.7*
*DDA **05** 02:16:46.5, 37°.32N×37°.12E, h6km±1km, ML2.8*
ISC 05 02:16:46.9±0.9, **37°.30N**±0°.03×**37°.09E**±0°.03, **h10**km±9km, **n14**, σ0°**49**/19, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HCB	**Kahramanmara**	**0.15**	**288**	IAML_P				
	comp=Z,6μm,0.1s							
HCB				*i* P		**Pg**	**02 16 50.1**	**-0.2**
GAZ	**Gaziantep**	**0.16**	**142**	PG		**Pg**	**02 16 49.8**	**-0.6**
GAZ				SG		**Sg**	**02 16 52.9**	**0.0**
AYKD	**Aykdinkavak**	**0.25**	**297**	IAML_P				
	comp=Z,6μm,0.1s							
AYKD				*i* P		**Pg**	**02 16 52.6**	**+0.6**
AYKD				*i* S		**Sg**	**02 16 56.4**	**+0.9**
KMRS	**Kahramanmaras**	**0.26**	**324**	PG		**Pg**	**02 16 51.7**	**-0.4**
KMRS				SG		**Sg**	**02 16 55.6**	**-0.1**
KAMA	**Osmaniye**	**0.35**	**252**	*i* P		**Pg**	**02 16 54.1**	**+0.1**
GZT	**Gaziantep**	**0.38**	**81**	IAML_P				
	comp=Z,2μm,0.1s							
GZT				*i* P		**Pg**	**02 16 54.7**	**+0.2**
GZT				*i* S		**Sg**	**02 16 59.8**	**+0.2**
KUZU	**Kuzuini**	**0.52**	**181**	IAML_P				
	comp=Z,3μm,0.1s							
KUZU				*i* P		**Pb**	**02 16 58.4**	**+0.3**
ANDN	**Andirin**	**0.66**	**296**	IAML_P				
	comp=Z,699nm,0.1s							
ANDN				*i* P		**Pb**	**02 17 00.7**	**+0.2**
KOZT	**Kozan**	**1.02**	**281**	PG		**Pg**	**02 17 05.3**	**-1.2**
SAIM	**ADANA**	**1.05**	**311**	IAML_P				
	comp=Z,457nm,0.1s							
SAIM				*i* P		**Pb**	**02 17 07.0**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.17**	**219**	PN		**Pn**	**02 17 09.3**	**0.0**
TAHT				SN		**Sg**	**02 17 24.7**	**+0.1**
DARE	**Darende-Malaty**	**1.31**	**14**	PN		**Pb**	**02 17 11.3**	**-0.3**
URFA	**Urfa**	**1.39**	**84**	PN		**Pn**	**02 17 12.4**	**+0.1**
SVRC	**Sivrice-ELAZID**	**2.06**	**58**	PN		**Pn**	**02 17 21.9**	**+0.2**

MEX 05 02:24:54.8±0.5, **15°.54N**×**93°.56W**, **h88**km±5km, **MD3.6**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PCIG		**0.37**	**64**	*e*P		Pn	02 25 06.9	-1.5
PCIG				*e*S		Sn	02 25 16.6	-1.8
TGIG		**1.30**	**19**	*e*P		Pn	02 25 17.0	-1.0
TGIG				*e*S		Sn	02 25 33.8	-1.7
THIG		**1.40**	**117**	*e*P		Pn	02 25 18.1	-1.1
THIG				*e*S		Sn	02 25 36.6	-1.1
CCIG	**Comitan**	**1.56**	**62**	*i* P		Pn	02 25 20.7	-0.

KLR LR LR 02 39 10.8
comp=Z,20nm,20.4s,baz=86,slow=34
KSRS Korea Array 22.71 255 P **P 02 34 55.1 -1.5**
0.4nm,0.4s,baz=50,slow=9.1,SNR=4.0
INK Inuvik 40.33 33 P **P 02 37 31.7 -0.2**
0.5nm,0.5s,baz=316,slow=8.7,SNR=6.2
ZALV Zalesovo Beam 43.94 306 P **P 02 38 02.2 +0.8**
0.4nm,0.4s,baz=72,slow=6.2,SNR=2.1
MKAR Makanchi Array 48.45 298 P **P 02 38 38.5 +1.4**
0.3nm,0.6s,baz=60,slow=3.2,SNR=3.8
YKA Yellowknife Ar 49.50 38 P **P 02 38 44.7 -0.1**
0.4nm,0.6s,baz=295,slow=7.4,SNR=9.1
ARCES ARCESS Array B 58.13 342 P **P 02 39 48.2 +0.3**
1.8nm,0.9s,baz=23,slow=6.7,SNR=4.4
PDAR Pinedale Array 63.00 55 P **P 02 40 22.3 +0.5**
0.3nm,0.8s,baz=323,slow=3.9,SNR=3.7
FINES FINESS Array B 64.51 336 P **P 02 40 31.5 +0.4**
2.0nm,0.9s,baz=2.6,slow=8.4,SNR=6.0
AKASG Malin Array Be 72.29 328 P **P 02 41 19.6 -0.4**
0.2nm,0.4s,baz=36,slow=7.7,SNR=2.8
ASAR Alice Springs 73.18 201 P **P 02 41 25.6 +0.1**
0.2nm,0.4s,baz=19,slow=5.7,SNR=4.1
TXAR Lajitas Array 75.66 62 P **P 02 41 40.5 +0.4**
0.7nm,0.5s,baz=299,slow=5.0,SNR=9.4

*ISCJB **05** 02:52:22.3±0.2, 19°.97N±0°.02×105°.02W±0°.02, h33km, mb4.4/115, MS3.7/14, Error ellipse: s-maj=3.9km s-min=2.6km az=40.1*
*MEX **05** 02:52:22.6±0.4, 19°.97N×105°.36W, h20km±21km, MD4.6*
*NEIC **05** 02:52:22.6±0.0, 19°.97N×105°.36W, h20km, mb4.4/158, MD4.6(MEX), After MEX.*
NEIC Felt [III] at Bucerias and [II] at Puerto Vallarta. Also felt at Cihuatlan, Colima, La Penita de Jaltemba, Manzanillo, Union de Tula and Zapopan.
*IDC **05** 02:52:29.3±2.2, 20°.12N×105°.00W, h77km±18km, mb3.8/23, mb1 4.0/29, mb1mx3.9/44, mbtmp4.2/29, MS3.7/17, Ms1 3.7/17, ms1mx3.5/42, Error ellipse: s-maj=23.2km s-min=10.2km az=51.0*
ISC 05 02:52:23.8±0.4, 19°.96N±0°.03×105°.23W±0°.05, h35km, n590, σ1°38/593, mb4.5/115, MS3.7/14, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.49**	**160**	*e*P	**Pn**	**02 52 31.8**	**-2.5**
CJM				*i* S	**Sn**	**02 52 38.6**	**-2.9**
CJM	**Chamela**	**0.49**	**160**	*e*P	**Pn**	**02 52 31.8**	**-2.5**
CJM				*i* S	**Sn**	**02 52 38.6**	**-2.9**
ANIG	**Ahuacatlan**	**1.27**	**31**	*i* P	**Pn**	**02 52 43.5**	**-1.8**
ANIG				*e*S	**Sn**	**02 52 59.1**	**-2.1**
ANIG	**Ahuacatlan**	**1.27**	**31**	*i* P	**Pn**	**02 52 43.5**	**-1.8**
ANIG				*e*S	**Sn**	**02 52 59.1**	**-2.1**
EZ5V		**1.60**	**107**	*i* P	**Pn**	**02 52 48.9**	**-0.9**
EZ5V				*e*S	**Sn**	**02 53 09.0**	**-0.4**
MMIG	**Aquila**	**2.43**	**133**	*e*P	**Pn**	**02 52 60.0**	**-1.1**
MMIG				*e*S	**Sn**	**02 53 30.1**	**+0.5**
MMIG	**Aquila**	**2.43**	**133**	*e*P	**Pn**	**02 52 60.0**	**-1.1**
MMIG				*e*S	**Sn**	**02 53 30.1**	**+0.5**
ZAIG	**Zacatecas**	**3.73**	**41**	*e*Pn	**Pn**	**02 53 17.9**	**-1.3**
ZAIG				*i* S	**Sn**	**02 54 01.6**	**-0.6**
ZAIG	**Zacatecas**	**3.73**	**41**	*e*P	**Pn**	**02 53 18.1**	**-1.2**
ZAIG				*i* S	**Sn**	**02 54 01.6**	**-0.6**
IGIG	**Irapuato, Guan**	**3.74**	**77**	*e*P	**Pn**	**02 53 19.1**	**-0.2**
IGIG				*i* S	**Sn**	**02 54 02.8**	**+0.6**
IGIG	**Irapuato, Guan**	**3.74**	**77**	*e*P	**Pn**	**02 53 19.1**	**-0.2**
IGIG				*i* S	**Sn**	**02 54 02.8**	**+0.6**
MOIG	**Morelia**	**3.81**	**94**	*e*Pn	**Pn**	**02 53 20.5**	**+0.2**
ZIIG	**Zihuatanejo**	**4.26**	**123**	*e*P	**Pn**	**02 53 25.4**	**-0.9**
ZIIG				*i* S	**Sn**	**02 54 14.8**	**+0.1**
ZIIG	**Zihuatanejo**	**4.26**	**123**	*e*P	**Pn**	**02 53 25.4**	**-0.9**
ZIIG				*i* S	**Sn**	**02 54 14.8**	**+0.1**
H06E1	**SOCORRO T-PHAS**	**5.51**	**259**	T	T	02 59 16.5	
SNR=1742							
H06N1	**SOCORRO T-PHAS**	**5.55**	**260**	T	T	02 59 14.7	
SNR=257							
H06S1	**SOCORRO T**	**5.55**	**258**	T	T	02 59 19.0	
SNR=422							
SLBS	**Sierra La Lagu**	**5.74**	**311**	*e*Pn	**Pn**	**02 53 49.8**	**+3.2**
LPIG	**La Paz**	**6.26**	**312**	*i* P	**Pn**	**02 53 51.2**	**-2.5**
LPIG	**La Paz**	**6.26**	**312**	P	**Pn**	**02 53 58.0**	**+4.3**
9.5nm,0.3s,baz=148,slow=0.5,SNR=11							
LPIG				LR	LR	02 55 55.5	
comp=Z,363nm,18.3s,baz=186,slow=33							
TLIG	**Tlapa**	**6.74**	**110**	*e*Pn	**Pn**	**02 54 02.1**	**+1.7**
HPIG		**6.96**	**357**	*e*Pn	**Pn**	**02 54 03.3**	**-0.1**
LNIG	**Linares**	**7.25**	**46**	*e*Pn	**Pn**	**02 54 07.5**	**+0.2**
TX31	**Lajitas Ar. Si**	**9.44**	**8**	*e*Pn	**Pn**	**02 54 38.5**	**+1.0**
TXAR	**Lajitas Array**	**9.44**	**8**	P	**Pn**	**02 54 38.4**	**+1.0**
0.8nm,0.3s,baz=189,slow=13,SNR=33							
TXAR				Lg	Lg	02 57 15.4	
1.1nm,0.3s,baz=192,slow=34,SNR=4.5							
SRIG	**Santa Rosalia**	**9.75**	**320**	*e*Pn	**Pn**	**02 54 46.0**	**+4.5**
833A	**Chaparral WMA,**	**9.88**	**31**	*e*Pn	**Pn**	**02 54 46.5**	**+3.1**
833A	**Chaparral WMA,**	**9.88**	**31**	P	**Pn**	**02 54 43.2**	**-0.2**
baz=214							
CMIG	**Matias Romero**	**10.22**	**105**	P	**Pn**	**02 54 50.8**	**+2.8**
2.1nm,0.3s,baz=283,slow=12,SNR=22							
CMIG				Lg	Lg	02 57 37.1	
0.9nm,0.3s,baz=88,slow=7.9,SNR=4.4							
CMIG				LR	LR	02 59 22.3	
comp=Z,474nm,18.3s,baz=305,slow=41							
JCT	**Junction City**	**11.56**	**24**	*e*Pn	**Pn**	**02 55 07.5**	**+1.0**
JCT	**Junction City**	**11.56**	**24**	P	**Pn**	**02 55 07.5**	**+1.0**
baz=207,SNR=15							
MNTX	**Cornudas Mount**	**11.69**	**359**	*e*Pn	**Pn**	**02 55 11.2**	**+3.0**
MNTX	**Cornudas Mount**	**11.69**	**359**	P	**Pn**	**02 55 10.9**	**+2.7**
baz=180,SNR=7.0							
319A	**Douglas**	**11.94**	**343**	*e*Pn	**Pn**	**02 55 14.9**	**+3.3**
GDL2	**Guadalupe Moun**	**12.21**	**3**	*e*Pn	**Pn**	**02 55 18.5**	**+3.1**
CLNB	**Carlsbad**	**12.31**	**5**	*e*Pn	**Pn**	**02 55 20.6**	**+3.8**
121A	**Cookes Peak, D**	**12.73**	**350**	P	**Pn**	**02 55 25.0**	**+2.4**
baz=170,SNR=7.2							
435B	**Jarrell**	**12.79**	**31**	*e*Pn	**Pn**	**02 55 24.3**	**+1.0**
435B	**Jarrell**	**12.79**	**31**	P	**Pn**	**02 55 24.4**	**+1.1**
baz=215							
CCIG	**Comitan**	**12.97**	**104**	*e*Pn	**Pn**	**02 55 30.5**	**+4.7**
CPRX	**Cap Rock**	**13.07**	**5**	*e*Pn	**Pn**	**02 55 26.0**	**-1.2**
HKT	**Hockley**	**13.09**	**39**	*e*Pn	**Pn**	**02 55 27.8**	**+0.6**
TUC	**Tucson**	**13.27**	**339**	*e*Pn	**Pn**	**02 55 34.2**	**+4.4**
TUC	**Tucson**	**13.27**	**339**	P	**Pn**	**02 55 32.6**	**+2.8**
baz=157							
ABTX	**Abilene, Hawle**	**13.56**	**20**	*e*Pn	**Pn**	**02 55 35.2**	**+1.4**
ABTX	**Abilene, Hawle**	**13.56**	**20**	P	**Pn**	**02 55 35.2**	**+1.4**
baz=203							
214A	**Organ Pipe Nat**	**13.75**	**332**	P	**Pn**	**02 55 37.2**	**+0.9**
baz=149							
WHTX	**Lake Whitney,**	**13.86**	**29**	*e*Pn	**Pn**	**02 55 38.7**	**+0.9**
WHTX	**Lake Whitney,**	**13.86**	**29**	P	**Pn**	**02 55 38.6**	**+0.9**
baz=212,SNR=10							
MSTX	**Muleshoe**	**14.12**	**8**	*e*Pn	**Pn**	**02 55 43.1**	**+1.6**
MSTX	**Muleshoe**	**14.12**	**8**	P	**Pn**	**02 55 43.4**	**+1.9**
baz=190,SNR=14							
BNM	**Barren Site**	**14.19**	**355**	*e*Pn	**Pn**	**02 55 43.4**	**+0.9**
LENM	**Lemitar**	**14.24**	**354**	*e*Pn	**P**	**02 55 46.6**	**-3.4**
LAZ	**Ladron**	**14.49**	**354**	*e*Pn	**P**	**02 55 50.3**	**-2.5**
113A	**Mohawk Valley,**	**14.87**	**331**	*e*Pn	**P**	**02 55 57.1**	**+0.4**
APG	**El Apazote**	**14.92**	**107**	P	**P**	**02 55 55.4**	**-2.3**
0.1nm,0.3s,baz=316,slow=12,SNR=6.0							
APG				LR	LR	03 02 13.1	
comp=Z,295nm,18.9s,baz=282,slow=40							
ANMO	**Albuquerque**	**14.97**	**356**	*e*Pn	**P**	**02 55 56.5**	**-1.7**
ANMO				Lg	Lg	03 00 21.1	
ANMO	**Albuquerque**	**14.97**	**356**	P	**Pn**	**02 55 53.8**	**+0.8**
baz=176							
ANMO	**Albuquerque**	**14.97**	**356**	P	**P**	**02 55 56.0**	**-2.1**
0.1nm,0.3s,baz=174,slow=9.1,SNR=11							
ANMO				Lg	Lg	03 00 21.1	
0.1nm,0.3s,baz=72,slow=6.1,SNR=3.8							
TASM	**ASL Pad, Albuq**	**14.97**	**356**	P	**Pn**	**02 55 54.4**	**+1.4**
baz=176							
TASM	**ASL Pad, Albuq**	**14.97**	**356**	P	**Pn**	**02 55 54.1**	**+1.1**
baz=176							
NATX	**Nacogdoches**	**15.10**	**37**	*e*Pn	**Pn**	**02 55 54.4**	**-0.2**
NATX				*ep*P	**P**	**02 56 01.3**	**+1.9**
NATX	**Nacogdoches**	**15.10**	**37**	P	**Pn**	**02 55 53.1**	**-1.5**
baz=222,SNR=5.6							
X18A	**Snowflake**	**15.11**	**345**	*e*Pn	**P**	**02 55 58.2**	**-1.4**
22nm,1.4s							
AMTX	**Amarillo**	**15.19**	**11**	*e*Pn	**Pn**	**02 55 56.4**	**+0.5**
57nm,0.8s							
AMTX	**Amarillo**	**15.19**	**11**	P	**Pn**	**02 55 55.7**	**-0.2**
baz=193							
X16A	**Lo Mia Camp, P**	**15.42**	**340**	*e*Pn	**P**	**02 56 05.5**	**+2.4**
18nm,1.0s							
Y14A	**Wickenburg**	**15.55**	**335**	*e*Pn	**P**	**02 56 07.9**	**+3.5**
45nm,1.8s							
GLA	**Glamis**	**15.60**	**329**	P	**Pn**	**02 56 02.5**	**+1.4**
baz=145							
W18A	**Petrified Fore**	**15.62**	**346**	*e*Pn	**P**	**02 56 04.8**	**-0.5**
34nm,1.3s							
W18A	**Petrified Fore**	**15.62**	**346**	P	**Pn**	**02 56 03.0**	**+1.5**
baz=165							
WMOK	**Wichita Mounta**	**15.79**	**20**	*e*Pn	**Pn**	**02 56 03.1**	**-0.4**
22nm,0.8s							
WMOK	**Wichita Mounta**	**15.79**	**20**	P	**Pn**	**02 56 03.2**	**-0.4**
baz=203,SNR=33							
Y12C	**Blythe**	**16.03**	**331**	*e*Pn	**P**	**02 56 12.0**	**+2.3**
15nm,1.0s							
WUAZ	**Wupatki**	**16.42**	**342**	*e*Pn	**P**	**02 56 15.5**	**+1.4**
26nm,1.0s							
WUAZ	**Wupatki**	**16.42**	**342**	P	**P**	**02 56 15.1**	**+0.9**
baz=160							
PFO	**Pinyon Flats O**	**16.88**	**326**	P	**P**	**02 56 19.2**	**-0.1**
baz=141							
PFO	**Pinyon Flats O**	**16.88**	**326**	P	**P**	**02 56 22.0**	**+2.7**
baz=120,slow=8.1,SNR=2.9							
X37A	**Clayton**	**16.99**	**29**	*e*Pn	**Pn**	**02 56 18.6**	**0.0**
40nm,0.9s							
T25A	**Trinidad**	**17.13**	**2**	*e*Pn	**P**	**02 56 22.9**	**+0.8**
26nm,1.1s							
T25A	**Trinidad**	**17.13**	**2**	P	**P**	**02 56 22.4**	**+0.2**
baz=183,SNR=14							
OK023	**East Waterloo**	**17.23**	**23**	*e*Pn	**Pn**	**02 56 21.9**	**+0.1**
33nm,0.9s							
Z41A	**Richland Creek**	**17.26**	**37**	*e*Pn	**P**	**02 56 23.5**	**+0.1**
46nm,0.9s							
Z41A	**Richland Creek**	**17.26**	**37**	P	**Pn**	**02 56 21.8**	**-0.4**
baz=223							
WLAR	**White Oak Lake**	**17.41**	**36**	*e*Pn	**Pn**	**02 56 23.7**	**-0.2**
80nm,1.4s							
GMRC	**Granite Mounta**	**17.41**	**330**	P	**P**	**02 56 25.7**	**+0.6**
baz=146							
MVCO	**Mesa Verde**	**17.43**	**351**	*e*Pn	**P**	**02 56 26.3**	**+0.9**
53nm,1.7s							
MVCO	**Mesa Verde**	**17.43**	**351**	P	**P**	**02 56 25.2**	**-0.2**
baz=170,SNR=9.6							
U15A	**North Rim**	**17.54**	**341**	*e*Pn	**Pn**	**02 56 26.2**	**+0.4**
20nm,1.4s							
SDCO	**Great Sand Dun**	**17.73**	**359**	*e*Pn	**P**	**02 56 30.0**	**+1.3**
12nm,1.0s							
SDCO	**Great Sand Dun**	**17.73**	**359**	P	**Pn**	**02 56 28.4**	**+0.3**
baz=180,SNR=5.6							
S22A	**4UR Ranch, Cre**	**17.78**	**356**	*e*Pn	**P**	**02 56 31.9**	**+2.5**
21nm,1.3s							
S22A	**4UR Ranch, Cre**	**17.78**	**356**	P	**P**	**02 56 29.4**	**0.0**
baz=176,SNR=17							
MIAR	**Mount Ida**	**17.82**	**33**	*e*Pn	**Pn**	**02 56 29.1**	**+0.1**
14nm,0.7s							
MIAR	**Mount Ida**	**17.82**	**33**	P	**Pn**	**02 56 28.6**	**-0.4**
baz=219,SNR=13							
TUL1	**Leonard**	**17.93**	**26**	*e*Pn	**Pn**	**02 56 30.4**	**+0.1**
96nm,0.8s							
TUL1	**Leonard**	**17.93**	**26**	P	**Pn**	**02 56 30.5**	**+0.1**
baz=210,SNR=46							
VBMS	**Vicksburg**	**17.96**	**44**	*e*Pn	**Pn**	**02 56 30.4**	**-0.4**
35nm,8s							
RRX	**Edison Barstow**	**18.14**	**327**	P	**P**	**02 56 33.4**	**+0.3**
baz=142							
X40A	**Basin Creek Fa**	**18.16**	**35**	*e*P	**Pn**	**02 56 33.2**	**0.0**
19nm,1.1s							
X40A	**Basin Creek Fa**	**18.16**	**35**	P	**Pn**	**02 56 33.0**	**-0.3**
baz=221,SNR=6.5							
W39A	**Magazine**	**18.23**	**31**	*e*P	**Pn**	**02 56 34.3**	**+0.3**
27nm,0.8s							
W39A	**Magazine**	**18.23**	**31**	P	**Pn**	**02 56 34.3**	**+0.3**
baz=217,SNR=12							
KNB	**Kanab**	**18.25**	**340**	*e*P	**Pn**	**02 56 35.7**	**+1.3**
17nm,1.1s							
PV01	**Paradox Valley**	**18.34**	**352**	*e*P	**Pn**	**02 56 37.9**	**+2.2**
11nm,1.0s							
PV05	**Paradox Valley**	**18.37**	**350**	*e*P	**Pn**	**02 56 38.8**	**+2.9**
24nm,1.1s							
LCMT	**Little Creek M**	**18.38**	**339**	*e*P	**Pn**	**02 56 39.4**	**+3.4**
6.6nm,1.0s							
PV13	**Radium Mtn., P**	**18.40**	**351**	*e*P	**Pn**	**02 56 37.5**	**+1.1**
12nm,0.9s							
PV02	**Paradox Valley**	**18.44**	**351**	*e*P	**Pn**	**02 56 37.4**	**+0.6**
12nm,0.9s							
PKCU	**Pink Cliffs**	**18.48**	**342**	*e*P	**Pn**	**02 56 37.5**	**0.0**
56nm,1.6s							
PV03	**Paradox Valley**	**18.50**	**351**	*e*P	**Pn**	**02 56 39.2**	**+1.7**
13nm,1.0s							
PV17	**East Wray Mesa**	**18.54**	**351**	*e*P	**Pn**	**02 56 38.8**	**+0.7**
15nm,0.9s							
PV11	**David Mesa, Pa**	**18.55**	**351**	*e*P	**Pn**	**02 56 40.0**	**+2.0**
32nm,1.4s							
PV12	**Saucer Basin,**	**18.56**	**351**	*e*P	**Pn**	**02 56 41.1**	**+2.8**
25nm,1.0s							
PV16	**Nyswonger Mesa**	**18.57**	**351**	*e*P	**Pn**	**02 56 40.4**	**+2.1**
29nm,1.4s							
PV19	**Morning Glory**	**18.57**	**351**	*e*P	**P**	**02 56 38.0**	**0.0**
14nm,1.0s							
PV20	**West Nyswonger**	**18.60**	**351**	*e*P	**Pn**	**02 56 39.0**	**+0.2**
12nm,0.9s							
PV14	**Lion Creek, Pa**	**18.64**	**351**	*e*P	**Pn**	**02 56 41.3**	**+2.0**
17nm,1.0s							
PV04	**Paradox Valley**	**18.64**	**351**	*e*P	**Pn**	**02 56 41.2**	**+2.0**
23nm,1.0s							
UALR	**University of**	**18.64**	**35**	*e*P	**P**	**02 56 38.5**	**0.0**
15nm,0.9s							
PV10	**Paradox Valley**	**18.65**	**351**	*e*P	**Pn**	**02 56 40.1**	**+0.7**
24nm,1.0s							
PV07	**Paradox Valley**	**18.65**	**352**	*e*P	**Pn**	**02 56 42.2**	**+2.8**
27nm,0.9s							
PV23	**Carpenter Ridg**	**18.72**	**351**	*e*P	**Pn**	**02 56 42.1**	**+1.8**
21nm,1.1s							
PV09	**Paradox Valley**	**18.78**	**350**	*e*P	**Pn**	**02 56 41.2**	**+0.2**
PV21	**Cone Mtn., Par**	**18.82**	**351**	*e*P	**Pn**	**02 56 42.0**	**+0.5**
24nm,1.2s							
Q24A	**Divide**	**18.94**	**0**	*e*P	**P**	**02 56 41.2**	**-1.0**
25nm,1.3s							
Q24A	**Divide**	**18.94**	**0**	P	**P**	**02 56 41.1**	**-1.0**
baz=181							
W41B	**Gary Mavity, V**	**19.00**	**34**	*e*P	**P**	**02 56 42.2**	**-0.2**
23nm,1.3s							
W41B	**Gary Mavity, V**	**19.00**	**34**	P	**P**	**02 56 42.0**	**-0.4**
baz=221							
MTPU	**Mount Pierson**	**19.01**	**343**	*e*P	**Pn**	**02 56 43.7**	**-0.1**
13nm,1.0s							
HHAR	**Hobs**	**19.04**	**29**	*e*P	**Pn**	**02 56 43.5**	**-0.4**
36nm,0.8s							
WHAR	**Wooly Hollow**	**19.07**	**34**	*e*P	**P**	**02 56 42.9**	**-0.3**
33nm,1.2s							
KSCO	**Kaye Shedlock'**	**19.12**	**6**	*e*P	**P**	**02 56 44.3**	**+0.4**
47nm,1.3s							
SMCO	**Snowmass**	**19.21**	**356**	*e*P	**Pn**	**02 56 47.3**	**+1.0**
13nm,1.0s							
X43A	**Marvell**	**19.28**	**38**	*e*P	**P**	**02 56 45.7**	**+0.2**
46nm,0.8s							
X43A	**Marvell**	**19.28**	**38**	P	**P**	**02 56 44.8**	**-0.7**
baz=225							
MPMC	**Manual Prospec**	**19.32**	**329**	P	**Pn**	**02 56 47.5**	**0.0**
baz=143							
CBKS	**Cedar Bluff**	**19.38**	**13**	*e*P	**P**	**02 56 46.8**	**+0.1**
87nm,0.9s							
CBKS	**Cedar Bluff**	**19.38**	**13**	P	**P**	**02 56 46.3**	**-0.3**
baz=196,SNR=10.0							
MSU	**Marysvale**	**19.45**	**343**	*e*P	**Pn**	**02 56 48.7**	**-0.3**
DAC	**Darwin (Calif)**	**19.55**	**329**	*e*P	**Pn**	**02 56 50.0**	**-0.1**
5.1nm,0.8s							
Q16A	**Castle Valley**	**19.58**	**346**	*e*P	**Pn**	**02 56 51.0**	**+0.5**
40nm,1.3s							
U40A	**Yellville**	**19.61**	**31**	P	**P**	**02 56 48.9**	**-0.3**
baz=217,SNR=27							
SRU	**San Rafael Swe**	**19.63**	**348**	*e*P	**Pn**	**02 56 52.9**	**+1.8**
18nm,1.0s							
147A	**Livingston**	**19.75**	**47**	P	**P**	**02 56 50.2**	**-0.5**
baz=234							
ISCO	**Idaho Springs**	**19.78**	**359**	*e*P	**Pn**	**02 56 52.9**	**-0.1**
12nm,1.0s							
ISCO	**Idaho Springs**	**19.78**	**359**	P	**Pn**	**02 56 52.7**	**-0.2**
baz=179,SNR=16							
349A	**Repton**	**19.79**	**51**	P	**P**	**02 56 50.5**	**-0.6**
baz=239							
CWC	**Cottonwood Cre**	**19.91**	**328**	P	**Pn**	**02 56 54.3**	**-0.2**
baz=142							
TMUT	**Trail Mountain**	**19.95**	**346**	*e*P	**Pn**	**02 56 54.8**	**-0.2**
16nm,1.0s							
PSUT	**Pine Spring**	**19.96**	**340**	*e*P	**Pn**	**02 56 55.0**	**-0.1**
13nm,1.0s							
GRAC	**Grapevine Rang**	**20.02**	**331**	P	Pn	02 56 56.8	+1.2
baz=145							
P17A	**Butcher Ranch,**	**20.02**	**347**	*e*P	Pn	02 56 54.9	-0.8
15nm,1.1s							
U41A	**Viola**	**20.07**	**33**	P	**P**	**02 56 54.1**	**0.0**
baz=219,SNR=17							
HBAR	**Harrisburg**	**20.15**	**37**	*e*P	**P**	**02 56 54.7**	**-0.3**
120nm,1.3s							
OXF	**Oxford**	**20.16**	**41**	P	Pn	02 56 56.3	-0.8
baz=228							
249A	**Camden**	**20.17**	**50**	P	**P**	**02 56 56.1**	**+0.8**
baz=238							
148A	**Greensboro**	**20.21**	**48**	P	**P**	**02 56 56.7**	**+0.9**
baz=236							
O20A	**White River Ci**	**20.27**	**353**	*e*P	Pn	02 56 58.4	-0.3
16nm,0.9s							
O20A	**White River Ci**	**20.27**	**353**	P	Pn	02 56 58.3	-0.4
baz=172,SNR=5.4							
R11A	**Troy Canyon, C**	**20.41**	**336**	*e*P	Pn	02 56 59.5	-0.8
5.3nm,1.1s							
R11A	**Troy Canyon, C**	**20.41**	**336**	P	Pn	02 56 60.0	-0.3
baz=151							
KSU1	**Kansas State U**	**20.48**	**19**	*e*P	**P**	**02 56 59.1**	**+0.5**
74nm,1.0s							
KSU1	**Kansas State U**	**20.48**	**19**	P	**P**	**02 56 59.2**	**+0.6**
baz=204,SNR=14							
MPU	**Maple Canyon**	**20.73**	**346**	*e*P	Pn	02 57 03.1	-0.9
11nm,1.2s							
149A	**Jones**	**20.74**	**49**	P	**P**	**02 57 00.6**	**-0.8**
baz=237							
250A	**Grady**	**20.79**	**51**	*e*P	**P**	**02 57 02.7**	**+0.7**
70nm,1.1s							
250A	**Grady**	**20.79**	**51**	P	**P**	**02 57 00.5**	**-1.5**
baz=240							
LRAL	**Lakeview Retre**	**20.83**	**48**	*e*P	**P**	**02 57 03.3**	**+0.9**
24nm,1.3s							
LRAL	**Lakeview Retre**	**20.83**	**48**	P	**P**	**02 57 01.1**	**-1.4**
baz=236							
N23A	**Red Feather La**	**20.88**	**358**	*e*P	**P**	**02 57 04.2**	**+1.1**
13nm,1.0s							
N23A	**Red Feather La**	**20.88**	**358**	P	Pn	02 57 05.2	-0.6
baz=178,SNR=10							
351A	**Pinckard**	**20.94**	**54**	P	**P**	**02 57 03.2**	**-0.4**
baz=242							
OGNE	**Ogallala**	**21.09**	**7**	*e*P	**P**	**02 57 05.5**	**+0.2**
24nm,0.9s							
OGNE	**Ogallala**	**21.09**	**7**	P	**P**	**02 57 06.3**	**+1.0**
baz=189							
S41A	**Jillco Farms,**	**21.13**	**31**	P	**P**	**02 57 05.5**	**0.0**
baz=218,SNR=11							
X47A	**Russelville**	**21.14**	**43**	P	**P**	**02 57 05.2**	**-0.5**
baz=231							
PBMO	**Poplar Bluff**	**21.17**	**35**	*e*P	**P**	**02 57 06.3**	**+0.2**
46nm,1.5s							
DUG	**Dugway, Tooele**	**21.19**	**344**	*e*P	**P**	**02 57 07.8**	**+1.4**
21nm,1.3s							
DUG	**Dugway, Tooele**	**21.19**	**344**	P	**P**	**02 57 08.6**	**+2.2**
baz=160							
Y48A	**Jasper**	**21.22**	**45**	P	**P**	**02 57 06.1**	**-0.6**
baz=234							
JLU	**Jordanelle**	**21.25**	**347**	*e*P	**P**	**02 57 08.9**	**+1.7**
7.2nm,1.0s							
150A	**Eclectic**	**21.29**	**50**	P	**P**	**02 57 06.8**	**-0.6**
baz=239							
OMMB	**Old Mammoth Mi**	**21.29**	**329**	*e*P	**P**	**02 57 11.4**	**+3.7**
12nm,1.2s							
MDPB	**Devils Postpil**	**21.34**	**329**	*e*P	**P**	**02 57 10.4**	**+2.2**
9.2nm,1.0s							
CTU	**Camp Tracy**	**21.41**	**346**	*e*P	**P**	**02 57 09.4**	**+0.7**
14nm,1.2s							
352A	**Blakely**	**21.55**	**54**	P	**P**	**02 57 09.0**	**-1.1**
baz=243							
NV11	**Mina Array Sit**	**21.55**	**331**	*e*P	**P**	**02 57 11.8**	**+1.5**
1.6nm,1.2s							
NVAR	**Mina Array Bea**	**21.61**	**331**	*e*P	**P**	**02 57 12.0**	**+0.9**
NVAR	**Mina Array Bea**	**21.61**	**331**	P	**P**	**02 57 14.6**	**+3.5**
2.0nm,0.7s,baz=153,slow=10,SNR=16							
X48A	**Hartselle**	**21.62**	**44**	*e*P	**P**	**02 57 12.5**	**+1.6**
13nm,0.9s							
X48A	**Hartselle**	**21.62**	**44**	P	**P**	**02 57 09.4**	**-1.6**
baz=233							
Z50A	**Ashland**	**21.70**	**49**	*e*P	**P**	**02 57 12.1**	**+0.3**
67nm,1.7s							
Z50A	**Ashland**	**21.70**	**49**	P	**P**	**02 57 10.1**	**-1.8**
baz=237							
RWWY	**Rawlins**	**21.73**	**356**	*e*P	**P**	**02 57 12.3**	**0.0**
19nm,1.0s							
CCM	**Cathedral Cave**	**21.74**	**31**	*e*P	**P**	**02 57 12.2**	**0.0**
15nm,0.8s							
CCM	**Cathedral Cave**	**21.74**	**31**	P	**P**	**02 57 11.8**	**-0.4**
baz=218							
453A	**Whigham**	**21.74**	**56**	P	**P**	**02

baz=263
BW06 Boulder Array 23.03 352 eP P 02 57 26.2 +0.1
11nm,1.3s
BW06 Boulder Array 23.03 352 P P 02 57 26.8 +0.8
baz=170
PD31 Pinedale Array 23.03 352 eP P 02 57 26.2 +0.1
10.0nm,1.4s
PDAR Pinedale Array 23.03 352 eP P 02 57 26.3 +0.3
PDAR Pinedale Array 23.03 352 P P 02 57 27.5 +1.4
2.4nm,0.9s,baz=163,slow=11,SNR=9.8
X51A Calhoun 23.16 47 P P 02 57 25.2 -2.0
baz=236
V49A McMinnville 23.16 43 P P 02 57 26.6 -0.6
baz=232,SNR=5.6
DWPF Disney Wildern 23.17 65 P P 02 57 26.0 -1.3
baz=255
T47A Sharon Grove 23.20 39 eP P 02 57 27.2 -0.4
28nm,0.8s
T47A Sharon Grove 23.20 39 P P 02 57 26.3 -1.3
baz=228,SNR=12
W50A Signal Mountai 23.21 45 P P 02 57 26.8 -1.1
baz=234
U48A Cassie Pea, Po 23.23 41 P P 02 57 26.4 -1.5
baz=230,SNR=6.9
858A St. Cloud 23.25 65 P P 02 57 26.8 -1.4
baz=255
S46A Don Dixon Farm 23.32 37 P P 02 57 27.9 -0.9
baz=226,SNR=8.5
Y52A Lilburn 23.34 49 P P 02 57 27.1 -2.0
baz=239
Z53A Monticello 23.41 51 P P 02 57 27.6 -2.0
baz=241
154A Montrose 23.44 53 P P 02 57 27.9 -2.1
baz=243
R45A Skylar, Fairfi 23.44 35 P P 02 57 29.1 -0.9
baz=224,SNR=19
O41A Passleys Farm, 23.56 28 P P 02 57 30.2 -0.8
baz=216,SNR=19
W51A Cleveland 23.56 46 P P 02 57 29.8 -1.4
baz=236
V50A Pikevile 23.63 44 P P 02 57 30.3 -1.5
baz=234,SNR=5.7
U49A Red Boiling Sp 23.70 42 P P 02 57 30.9 -1.6
baz=231
T48A Bowling Green 23.71 40 P P 02 57 31.2 -1.3
baz=229,SNR=12
BEKR Beckworth 23.72 330 eP P 02 57 33.9 +1.1
12nm,1.2s
S47A Hartford 23.74 38 P P 02 57 31.6 -1.3
baz=228,SNR=26
REDW Red Top Meadow 23.81 350 eP P 02 57 34.3 +0.6
16nm,1.1s
R46A Gibon Southern 23.81 36 P P 02 57 33.0 -0.4
baz=225,SNR=8.0
P43A Skaggs, Pawnee 23.82 31 P P 02 57 32.7 -0.8
baz=219,SNR=14
X52A Dahlonega 23.85 48 P P 02 57 32.2 -1.8
baz=238
OLIL Olney 23.86 35 eP P 02 57 33.4 -0.5
48nm,1.1s
N40A Mertquake, Sal 23.89 26 P P 02 57 33.3 -0.9
baz=213
SNOW Snow King Moun 23.89 350 eP P 02 57 34.6 +0.1
14nm,0.9s
Z54A Sparta 23.92 52 P P 02 57 33.0 -1.5
baz=242
155A Kite 23.93 54 P P 02 57 33.4 -1.2
baz=244
Q45A Warren Harvey, 23.95 34 P P 02 57 33.9 -0.8
baz=223,SNR=5.9
TPAW Teton Pass 23.95 350 eP P 02 57 35.3 +0.3
16nm,1.2s
LOHW Long Hollow 24.01 350 eP P 02 57 36.6 +1.1
7.1nm,0.8s
N41A Harden Midland 24.05 28 eP P 02 57 35.2 -0.5
29nm,0.5s
N41A Harden Midland 24.05 28 P P 02 57 34.4 -1.2
baz=215,SNR=6.3
W52A Murphy 24.09 47 P P 02 57 34.4 -1.8
baz=237
FXWY Fox Creek 24.11 350 eP P 02 57 37.0 +0.6
6.0nm,0.9s
RSSD Black Hills 24.11 2 eP P 02 57 37.0 +0.4
6.6nm,1.0s
RSSD Black Hills 24.11 2 P P 02 57 36.9 +0.4
baz=183
M39A Webster 24.15 25 P P 02 57 35.7 -0.9
baz=212,SNR=11
MOOW Moose Ponds 24.17 350 eP P 02 57 38.1 +1.1
8.0nm,0.9s
V51A Loudon 24.20 45 P P 02 57 36.4 -0.8
baz=235
T49A Edmonton 24.23 41 P P 02 57 36.8 -0.6
baz=231
S48A Wiedeman Farm, 24.27 39 P P 02 57 36.6 -1.2
baz=229,SNR=18
Y54A Tignall 24.33 51 P P 02 57 37.2 -1.2
baz=241
M40A Post Highland 24.35 26 P P 02 57 37.5 -1.0
baz=213,SNR=15
O43A Sugar Creek Fa 24.42 30 P P 02 57 37.7 -1.4
baz=219,SNR=8.3
R47A Wooly Knot Far 24.42 38 P P 02 57 38.8 -0.3
baz=227
FLWY Flagg Ranch 24.48 350 eP P 02 57 40.5 +0.7
8.3nm,0.9s
WCI Wyandotte Cave 24.51 38 eP P 02 57 39.6 -0.4
17nm,0.8s
WCI Wyandotte Cave 24.51 38 P P 02 57 39.1 -0.8
baz=226
T50A Nancy 24.61 42 P P 02 57 39.8 -1.0
baz=232
P45A Graceland, Par 24.63 34 eP P 02 57 40.6 -0.3
27nm,0.8s
P45A Graceland, Par 24.63 34 P P 02 57 40.3 -0.7
baz=223,SNR=6.9
HDIL Hopedale 24.64 30 eP P 02 57 40.3 -0.7
55nm,0.6s
HDIL Hopedale 24.64 30 P P 02 57 40.4 -0.7
baz=218,SNR=12
W53A Cullowhee 24.66 48 P P 02 57 40.7 -0.7
baz=238,SNR=6.0
156A Sylvania 24.68 54 P P 02 57 40.9 -0.6
baz=245
YPP Pitchstone Pla 24.68 350 eP P 02 57 42.1 +0.3
5.5nm,1.1s
O44A Mansfield 24.73 32 P P 02 57 41.0 -0.8
baz=221,SNR=7.2
V52A Sevierville 24.73 46 P P 02 57 41.1 -0.8
baz=236
M41A Milan 24.73 27 P P 02 57 41.3 -0.5
baz=215,SNR=10
HLID Hailey 24.76 344 eP P 02 57 44.0 +1.6
4.6nm,1.0s
HLID Hailey 24.76 344 P P 02 57 43.2 +0.8
baz=159
L39A Vinton 24.77 24 P P 02 57 41.7 -0.6
baz=211,SNR=6.9
H17A Grant Village 24.77 351 eP P 02 57 42.9 +0.4
4.6nm,1.0s
ECSD EROS Data Cent 24.78 15 eP P 02 57 43.0 +0.7
6.9nm,0.9s
ECSD EROS Data Cent 24.78 15 P P 02 57 42.4 +0.1
baz=200
S49A Springfield 24.82 40 P P 02 57 41.6 -1.1
baz=230,SNR=6.9
YFT Old Faithful 24.87 350 eP P 02 57 43.5 +0.1
6.5nm,0.7s
X54A Belton 24.90 50 P P 02 57 42.0 -1.5
baz=240
Q47A Bedord North L 24.92 37 P P 02 57 43.0 -0.7
baz=226,SNR=8.3
P46A Rosedale 24.98 34 P P 02 57 43.6 -0.5
baz=224
N43A Stutzman Famil 25.00 30 P P 02 57 44.7 +0.4
baz=218
L40A Anamosa 25.02 25 eP P 02 57 44.5 +0.1
30nm,0.8s
L40A Anamosa 25.02 25 P P 02 57 44.6 +0.1
baz=213,SNR=11
BLO Bloomington 25.03 36 eP P 02 57 44.5 -0.1
14nm,0.8s
Z56A Williston 25.06 53 P P 02 57 44.1 -0.9
baz=244
M42A Sheffield 25.14 28 P P 02 57 45.3 -0.2
baz=216
T51A Gray 25.15 43 P P 02 57 44.7 -1.0
baz=234

TZTN Tazewell 25.16 44 P P 02 57 45.1 -0.7
baz=235
O45A Potomac 25.17 33 P P 02 57 45.4 -0.5
baz=222,SNR=6.8
YHH Holmes Hill 25.20 351 eP P 02 57 47.1 +0.7
6.3nm,1.0s
S50A Richmond 25.29 41 P P 02 57 46.1 -1.0
baz=232
W54A Cherokee Point 25.30 49 P P 02 57 45.5 -1.6
baz=240
Q48A North Vernon 25.31 38 P P 02 57 46.5 -0.6
baz=227
K39A Oelwein 25.31 23 P P 02 57 45.4 -1.8
baz=211,SNR=7.6
Y56A Pelion 25.32 52 P P 02 57 46.6 -0.7
baz=243
L41A Preston 25.33 26 P P 02 57 46.0 -1.3
baz=214,SNR=10
N44A Piper City 25.38 31 P P 02 57 47.2 -0.5
baz=220
P47A Martinsville 25.39 36 P P 02 57 46.8 -1.1
baz=226
M43A Waltham Townsh 25.49 29 P P 02 57 47.9 -0.8
baz=218,SNR=8.1
SFIN Lafayette 25.59 33 eP P 02 57 49.3 -0.4
18nm,0.7s
SFIN Lafayette 25.59 33 P P 02 57 48.7 -1.0
baz=223
K40A Colesburg 25.59 25 P P 02 57 48.5 -1.2
baz=212
MCMT McKenzie Canyo 25.59 347 eP P 02 57 51.1 +1.1
L42A Oliver, Polo 25.62 28 eP P 02 57 49.0 -0.9
33nm,1.1s
L42A Oliver, Polo 25.62 28 P P 02 57 48.3 -1.6
baz=216
N45A Kentland 25.73 32 P P 02 57 49.5 -1.4
baz=221,SNR=5.9
S51A Beattyville 25.77 42 P P 02 57 50.0 -1.4
baz=233
V54A Nebo 25.82 48 P P 02 57 51.3 -0.5
baz=239
Q49A Aurora 25.84 38 P P 02 57 50.6 -1.4
baz=229
P48A Milroy 25.85 37 P P 02 57 50.2 -1.8
baz=227
K41A Shullsburg 25.85 26 P P 02 57 50.7 -1.3
baz=214,SNR=19
T52A Hallie 25.85 44 P P 02 57 50.5 -1.6
baz=235
J39A Decorah 25.92 23 P P 02 57 52.2 -0.4
baz=210
KMSC Kings Mountain 25.93 49 P P 02 57 50.9 -2.0
baz=241
O47A Sheridan 25.97 35 P P 02 57 52.6 -0.5
baz=225
BOZ Bozeman (W) 26.11 350 eP P 02 57 54.0 -0.5
5.3nm,0.9s
BOZ Bozeman (W) 26.11 350 P P 02 57 54.4 -0.2
baz=166
JFWS Jewell Farm 26.13 26 eP P 02 57 53.8 -0.7
44nm,0.8s
JFWS Jewell Farm 26.13 26 P P 02 57 53.3 -1.3
baz=214,SNR=11
L43A Garden Prairie 26.18 29 P P 02 57 54.2 -0.8
baz=217
R51A Hillsboro 26.18 41 P P 02 57 54.3 -0.8
baz=232
YBH Yreka Blue Hor 26.29 329 LR LR 03 08 06.1
comp=Z,57nm,20.8s,baz=172,slow=36
P49A Miami Univ. Ec 26.30 38 P P 02 57 55.1 -1.0
baz=228
J40A Soldiers Grove 26.34 24 P P 02 57 55.3 -1.1
baz=212,SNR=7.9
K42A Prairie Point, 26.39 27 P P 02 57 56.0 -0.9
baz=216
I39A Houston 26.44 23 eP P 02 57 56.7 -0.6
11nm,0.7s
I39A Houston 26.44 23 P P 02 57 56.6 -0.8
baz=210
O48A Farmland 26.54 36 P P 02 57 57.2 -1.1
baz=226,SNR=7.7
J41A Loganville 26.60 25 P P 02 57 58.1 -0.7
baz=214,SNR=8.0
N47A Urbana 26.69 34 P P 02 57 59.3 -0.3
baz=225
S53A Williamson 26.74 44 P P 02 57 58.4 -1.8
baz=235
T54A Tazewell 26.76 45 P P 02 57 58.5 -1.9
baz=237
Q51A Peebles 26.78 40 P P 02 57 58.7 -1.8
baz=231
R52A Catlettsburg 26.79 42 P P 02 57 59.1 -1.5
baz=233
I40A Norwalk 26.81 24 P P 02 57 59.7 -1.0
baz=212
P50A Jamestown 26.88 39 P P 02 57 59.6 -1.8
baz=230
H38A Maiden Rock 26.89 21 P P 02 58 00.4 -1.1
baz=208
J42A Columbus 26.93 27 P P 02 58 00.6 -1.1
baz=215
O49A Covington 26.96 37 eP P 02 58 01.6 -0.5
18nm,0.7s
O49A Covington 26.96 37 P P 02 58 00.5 -1.5
baz=228
N48A Decatur 27.03 35 P P 02 58 01.8 -0.9
baz=226,SNR=8.7
M47A Cromwell 27.07 34 P P 02 58 02.6 -0.5
baz=224
L46A Eue Claire 27.21 32 P P 02 58 03.7 -0.5
baz=222
SPMN Marine on St. 27.21 19 eP P 02 58 03.7 -0.6
13nm,1.3s
SPMN Marine on St. 27.21 19 P P 02 58 03.1 -1.2
baz=206
R53A Hurricane 27.23 43 P P 02 58 03.9 -0.6
baz=234
I41A Arkdale 27.24 25 eP P 02 58 04.5 -0.1
15nm,0.9s
I41A Arkdale 27.24 25 P P 02 58 04.0 -0.5
baz=213
H39A Augusta 27.24 22 P P 02 58 03.8 -0.8
baz=210
P51A Williamsport 27.24 40 eP P 02 58 04.2 -0.3
16nm,0.9s
P51A Williamsport 27.24 40 P P 02 58 03.8 -0.8
baz=231
V57A Coltrane Farms 27.41 49 P P 02 58 05.0 -1.1
baz=242
G38A Ridgeland 27.47 21 P P 02 58 05.2 -1.4
baz=208
I42A Draeger Farm, 27.48 26 P P 02 58 05.8 -0.9
baz=215
H40A Chili 27.51 23 P P 02 58 06.2 -0.8
baz=212
N49A Columbus Grove 27.54 36 eP P 02 58 06.2 -1.1
15nm,0.7s
N49A Columbus Grove 27.54 36 P P 02 58 06.0 -1.3
baz=227
F37A Hinrichs Farm, 27.72 19 P P 02 58 07.4 -1.4
baz=206
L47A Sherwood 27.73 33 P P 02 58 08.0 -1.0
baz=224
MSO Missoula 27.73 347 eP P 02 58 09.7 +0.6
32nm,2.0s
MSO Missoula 27.73 347 P P 02 58 08.7 -0.4
baz=162
F10A Beach Ranch, E 27.76 342 eP P 02 58 10.2 +0.9
8.2nm,0.9s
I43A Langenfeld Bro 27.80 27 P P 02 58 07.9 -1.6
baz=216
G39A Holcombe 27.81 22 P P 02 58 07.8 -1.8
baz=210
P52A Corning 27.90 40 P P 02 58 08.1 -2.4
baz=232
M49A Liberty Center 28.03 35 P P 02 58 10.5 -1.1
baz=227
G40A Rib Lake 28.14 23 P P 02 58 11.2 -1.3
baz=211
P53A Whipple 28.26 41 P P 02 58 11.9 -1.8
baz=234
Q54A Coxs Mills 28.32 43 P P 02 58 13.4 -0.8
baz=235
K47A Vermontville 28.34 32 P P 02 58 13.6 -0.8
baz=223
O52A Adamsville 28.37 40 P P 02 58 13.1 -1.6
baz=232
F39A Loretta 28.44 21 P P 02 58 13.5 -1.8

baz=209
M50A Fremont 28.50 37 eP P 02 58 15.2 -0.6
38nm,0.6s
M50A Fremont 28.50 37 P P 02 58 14.8 -1.0
baz=228,SNR=5.4
F40A Park Falls 28.72 22 P P 02 58 16.8 -1.0
baz=211,SNR=7.0
AAM Ann Arbor 28.77 35 P P 02 58 17.4 -0.9
baz=226
Q55A Buckhannon 28.81 43 P P 02 58 17.9 -0.8
baz=236
O53A New Philadelph 28.83 40 P P 02 58 17.1 -1.7
baz=233
E38A The Farm, Brul 28.84 20 P P 02 58 18.5 -0.3
baz=208
N52A McGinn's Farm, 28.89 39 P P 02 58 18.3 -1.1
baz=231
P54A Burton 28.90 42 P P 02 58 18.6 -0.8
baz=235
M51A Elyria 28.94 38 P P 02 58 18.9 -0.8
baz=230
F41A Three Lakes 28.94 24 eP P 02 58 18.9 -0.8
8.0nm,0.8s
F41A Three Lakes 28.94 24 P P 02 58 18.7 -1.0
baz=213,SNR=5.2
PLIO Pelee Island, 28.96 36 P P 02 58 19.5 -0.4
baz=228
E39A Mellen 28.97 21 P P 02 58 18.7 -1.3
baz=210,SNR=6.2
L50A Kingsville 29.06 36 P P 02 58 19.7 -1.1
baz=228
G43A Wallace 29.11 26 P P 02 58 19.2 -1.9
baz=216
COWI Conover 29.24 23 eP P 02 58 21.5 -0.8
13nm,0.8s
E40A Wakefield 29.25 22 P P 02 58 21.6 -0.8
baz=211,SNR=7.4
AGMN Agassiz Nation 29.27 13 eP P 02 58 22.5 -0.1
18nm,1.4s
AGMN Agassiz Nation 29.27 13 P P 02 58 21.7 -0.9
baz=198,SNR=5.4
M52A Chesterland 29.55 38 P P 02 58 23.7 -1.4
baz=231
E41A Kenton 29.61 23 P P 02 58 24.5 -1.1
baz=212,SNR=5.4
J49A Marlette 29.79 34 P P 02 58 26.1 -1.2
baz=226
G45A Suttons Bay 29.81 29 P P 02 58 26.4 -1.0
baz=220
NEW Newport 29.83 344 P P 02 58 27.9 +0.2
baz=157
NEW Newport 29.83 344 P P 02 58 27.9 +0.2
1.7nm,0.8s,baz=125,slow=7.9,SNR=3.9
NEW LR LR 03 10 19.7
comp=Z,148nm,19.0s,baz=166,slow=36
M53A WI Miller and 29.88 39 P P 02 58 26.7 -1.4
baz=232
E42A Champion 29.98 24 P P 02 58 27.3 -1.6
baz=214
LTY Liberty 30.00 339 eP P 02 58 29.9 +0.7
7.6nm,1.3s
N54A Moraine State 30.00 40 P P 02 58 28.0 -1.2
baz=233
EYMN Ely 30.05 19 eP P 02 58 29.0 -0.6
26nm,0.8s
EYMN Ely 30.05 19 P P 02 58 28.6 -1.0
baz=207,SNR=12
I48A Sherman Twp 30.09 32 P P 02 58 28.4 -1.5
baz=224
GLMI Grayling 30.12 30 P P 02 58 28.4 -1.8
baz=221
F44A Big Bay de Noc 30.21 27 P P 02 58 29.5 -1.5
baz=217
D41A Chassel 30.26 23 P P 02 58 30.6 -0.8
baz=212
I49A Point Hope 30.36 33 P P 02 58 31.1 -1.2
baz=225
F45A CMU Biological 30.37 28 P P 02 58 30.3 -2.0
baz=219
G46A Petoskey 30.38 29 P P 02 58 31.1 -1.4
baz=220
L53A Girard 30.45 38 P P 02 58 32.4 -0.7
baz=232
N55A Marion Center 30.51 41 P P 02 58 32.5 -1.2
baz=235
M54A Oil Creek Stat 30.53 40 P P 02 58 32.5 -1.3
baz=233
B08A Colville Reser 30.54 341 eP P 02 58 35.0 +1.1
6.0nm,1.0s
K52A Tillsonburg 30.71 37 P P 02 58 33.4 -2.0
baz=230,SNR=5.2
BASO Ashfield 31.01 34 P P 02 58 36.6 -1.4
baz=227
E45A Wooded Hills, 31.04 27 P P 02 58 37.3 -1.0
baz=219
M55A Ridgway 31.05 40 P P 02 58 37.4 -1.0
baz=234
ULM Lac du Bonnet 31.12 12 eP P 02 58 37.9 -1.1
21nm,1.8s
ULM Lac du Bonnet 31.12 12 P P 02 58 37.8 -1.1
1.9nm,0.5s,baz=193,slow=10,SNR=7.9
ULM LR LR 03 12 21.7
comp=Z,71nm,19.9s,baz=195,slow=39
J52A Paris 31.14 36 P P 02 58 37.5 -1.6
baz=230,SNR=6.6
I51A Listowel 31.21 35 P P 02 58 38.9 -0.9
baz=228
BWLO Walkerton 31.36 34 P P 02 58 40.2 -0.9
baz=228
TYNO Tyneside 31.39 37 P P 02 58 39.3 -2.1
baz=231
F48A Evansville 31.81 31 P P 02 58 44.1 -0.9
baz=223
I52A Shelburne 31.84 35 P P 02 58 44.1 -1.3
baz=229,SNR=6.4
TOBO Tobermory, Bru 31.92 32 P P 02 58 45.0 -1.0
baz=226
I53A Kortright Cn E 32.01 36 P P 02 58 45.4 -1.3
baz=230
F49A Sandfield 32.04 31 P P 02 58 46.5 -0.6
baz=224
SMLC San Martn de 32.09 106 eP P 02 58 48.2 +0.4
SMLC San Martn de 32.09 106 eP P 02 58 48.2 +0.4
J54A Appleton 32.20 38 P P 02 58 46.7 -1.8
baz=232
K55A Perry 32.21 39 P P 02 58 46.7 -1.9
baz=234
MEDO Medina 32.24 38 P P 02 58 47.1 -1.8
baz=233
H52A Wyevale 32.38 35 P P 02 58 48.4 -1.6
baz=229,SNR=6.9
PKRO Pickering 32.39 36 P P 02 58 48.9 -1.2
baz=231
D47A Chapleau 32.49 29 P P 02 58 49.4 -1.6
baz=221
E48A Lockeyer 32.50 30 P P 02 58 49.8 -1.3
baz=223
DRWO Darlington Wes 32.52 37 P P 02 58 49.7 -1.5
baz=231
GUY2C Guyana, Caldas 32.53 113 eP P 02 58 54.1 +1.9
GUY2C Guyana, Caldas 32.53 113 eP P 02 58 54.1 +1.9
O60A Telford 32.57 45 P P 02 58 50.2 -1.6
baz=240
N59A State Game Lan 32.63 44 P P 02 58 51.9 -0.5
baz=239
BBAC Balboa, Cauca 32.64 120 eP P 02 58 56.7 +3.8
BBAC Balboa, Cauca 32.64 120 eP P 02 58 56.7 +3.8
J55A Hilton 32.67 39 P P 02 58 51.2 -1.5
baz=233
KLBO Killbear Provi 32.68 34 P P 02 58 50.7 -2.0
baz=228
PTBC PUERTO BERRIO, 32.71 110 eP P 02 58 53.3 0.0
PTBC PUERTO BERRIO, 32.71 110 eP P 02 58 53.3 0.0
OTAV Otavalo 32.73 124 eP P 02 58 55.2 +1.2
22nm,1.5s
WLVO Wesleyville 32.74 37 P P 02 58 51.4 -1.8
baz=232,SNR=6.5
SADO Sadowa 32.86 35 eP P 02 58 53.2 -1.1
19nm,0.6s
SADO Sadowa 32.86 35 P P 02 58 52.8 -1.5
18nm,0.6s,baz=264,slow=8.7,SNR=26
GCUF Volcan Galeras 33.02 121 eP P 02 58 58.4 +1.8
GCUF Volcan Galeras 33.02 121 eP P 02 58 58.4 +1.8
SOTA Rioblanco 33.10 119 eP P 02 59 01.8 +4.5
SOTA Rioblanco 33.10 119 eP P 02 59 01.8 +4.5
E50A Wahnapitae 33.15 32 P P 02 58 55.2 -1.6
baz=226
PCON Cinco Dias 33.16 118 eP P 02 59 00.1 +2.2

PCON	Cinco Dias	33.16	118	eP		P	02 59 00.1 +2.2
BUKO	Buck Lake	33.17	34	P		P	02 58 55.3 -1.7
	baz=229						
BINY	Binghamton	33.17	42	P		P	02 58 56.1 -1.0
	baz=237						
D48A	Paudash Townsh	33.18	30	P		P	02 58 55.5 -1.5
	baz=223						
I55A	Frankford	33.33	37	P		P	02 58 56.4 -2.0
	baz=232						
G53A	Haliburton	33.37	35	P		P	02 58 57.0 -1.7
	baz=230						
F52A	Sundridge	33.44	34	P		P	02 58 57.7 -1.7
	baz=228						
D49A	Beulah Townshi	33.46	30	P		P	02 58 58.1 -1.3
	baz=224						
DELO	Deloro Mine	33.55	37	P		P	02 58 58.7 -1.6
	baz=232						
PECO	Prince Edward	33.55	38	P		P	02 58 58.3 -2.0
	baz=234,SNR=7.0						
BANO	Bancroft	33.69	36	P		P	02 58 59.9 -1.6
	baz=231,SNR=5.1						
H55A	Tweed	33.81	37	P		P	02 58 59.9 -2.7
	baz=233						
E51A	G1948 Merrick	33.85	33	P		P	02 59 01.4 -1.5
	baz=227						
PAMC	Pamplona, Colo	33.92	107	eP		P	02 59 05.1 +0.7
PAMC	Pamplona, Colo	33.92	107	eP		P	02 59 05.1 +0.7
PLVO	Plevna	34.17	37	eP		P	02 59 04.2 -1.5
	12nm,0.9s						
PLVO	Plevna	34.17	37	P		P	02 59 04.6 -1.1
	baz=232						
RUSC	La Rusia	34.21	110	eP		P	02 59 06.0 -1.0
RUSC	La Rusia	34.21	110	eP		P	02 59 06.0 -1.0
ALGO	Algonquin Park	34.22	35	P		P	02 59 04.9 -1.2
	baz=230						
H56A	Elgin	34.37	38	P		P	02 59 05.4 -2.0
	baz=234						
PEMO	Pembroke	34.47	36	P		P	02 59 06.7 -1.6
	baz=231						
G55A	Calabogie	34.50	37	P		P	02 59 06.6 -2.0
	baz=232						
E53A	Dumoine, Ponti	34.70	34	P		P	02 59 08.7 -1.6
	baz=230						
FFC	Flin Flon	34.80	3	eP		P	02 59 09.8 -1.1
	4.3nm,0.9s						
E54A	Lac Daplat, Po	34.98	35	P		P	02 59 11.3 -1.4
	baz=231						
F55A	Otter Lake	35.06	36	P		P	02 59 11.6 -1.7
	baz=232,SNR=5.6						
SDV	Santo Domingo	35.19	103	eP		P	02 59 15.2 +0.2
	7.5nm,0.8s						
SDV	Santo Domingo	35.19	103	P		P	02 59 14.8 -0.2
	1.8nm,0.3s,baz=285,slow=6.2,SNR=5.6						
SOCV	Socops	35.21	104	eP		P	02 59 14.4 -0.6
SOCV	Socops	35.21	104	eP		P	02 59 14.4 -0.6
ORIO	Orleans, Innes	35.30	37	P		P	02 59 14.0 -1.5
	baz=234						
LONY	Lake Ozonia	35.36	39	P		P	02 59 14.6 -1.4
	baz=236						
D54A	Lac Fusel, La	35.72	34	P		P	02 59 17.6 -1.4
	baz=230						
ALFO	Alfred	35.76	37	P		P	02 59 17.4 -2.0
	baz=234						
TRQ	Mont Tremblant	36.30	37	eP		P	02 59 23.0 -1.1
LSQQ	Lebel-sur-Quev	36.80	31	P		P	02 59 27.0 -1.3
	baz=228						
MATQ	Matagami	36.97	30	P		P	02 59 28.4 -1.2
	baz=226						
MOQ	Mont Orford	37.13	40	eP		P	02 59 29.6 -1.5
LATQ	La Tuque	37.96	36	P		P	02 59 36.2 -1.9
	baz=235						
CHGQ	Chibougamau	38.65	32	P		P	02 59 41.8 -2.0
	baz=231,SNR=5.6						
BATG	Bathurst New B	41.83	40	eP		P	03 00 08.7 -1.6
	6.0nm,0.7s						
LMN	Caledonia Moun	41.99	43	eP		P	03 00 10.0 -1.6
	8.4nm,0.7s						
YKA	Yellowknife Ar	42.99	354	P		P	03 00 18.5 -0.9
	0.6nm,0.6s,baz=160,slow=7.8,SNR=15						
YKA				PcP		PcP	03 02 08.3 -1.0
	0.6nm,0.9s,baz=153,slow=3.1,SNR=5.5						
YKA				LR		LR	03 19 22.2
	comp=Z,14nm,19.6s,baz=171,slow=38						
PTGA	Pitinga	48.87	109	eP		P	03 01 07.2 +0.7
	18nm,1.6s						
BCAR	Beaver Creek A	49.74	339	eP		P	03 01 13.3 +0.7
RIDG	Independent Ri	51.23	339	eP		P	03 01 25.7 +2.0
	20nm,1.3s						
LPAZ	La Paz	51.24	132	P		P	03 01 25.6 +0.5
	0.7nm,0.7s,baz=250,slow=7.9,SNR=5.6						
LPAZ				LR		LR	03 20 48.8
	comp=Z,80nm,19.3s,baz=322,slow=33						
INK	Inuvik	51.47	347	eP		P	03 01 25.5 +0.2
	4.6nm,0.7s						
INK	Inuvik	51.47	347	P		P	03 01 25.8 +0.4
	3.8nm,0.6s,baz=134,slow=6.8,SNR=53						
HDA	Harding Lake	52.37	339	P		P	03 01 31.6 -0.6
	baz=128						
ILAR	Eielson Array	52.57	339	eP		P	03 01 34.2 +0.6
ILAR				PcP		PcP	03 02 43.4 -0.1
ILAR	Eielson Array	52.57	339	P		P	03 01 34.6 +1.0
	2.3nm,0.7s,baz=164,slow=6.4,SNR=39						
ILAR				PcP		PcP	03 02 43.4 -0.1
	0.9nm,0.6s,baz=155,slow=2.4,SNR=7.3						
ILAR				LR		LR	03 25 06.1
	comp=Z,103nm,18.1s,baz=140,slow=37						
ILB	Eielson Array	52.57	339	eP		P	03 01 33.9 +0.2
	27nm,1.8s						
PRP	Porcupine Dome	52.59	340	eP		P	03 01 34.5 +0.5
	24nm,1.8s						
CCB	Clear Creek Bu	52.81	339	eP		P	03 01 36.2 +0.9
	25nm,2.0s						
BWN	Browne	53.11	338	eP		P	03 01 38.1 +0.5
	29nm,1.2s						
BPAW	Bear Paw Mtn.	53.62	337	eP		P	03 01 42.2 +0.8
	18nm,1.6s						
CAST	Castle Rocks	53.67	336	eP		P	03 01 42.2 +0.4
	24nm,1.7s						
MLY	Manley	54.05	338	eP		P	03 01 44.9 +0.3
	10nm,1.5s						
RES	Resolute Bay	55.04	3	eP		P	03 01 49.7 -1.7
	3.7nm,1.2s						
RES				PcP		PcP	03 02 51.8 -0.9
RES	Resolute Bay	55.04	3	P		P	03 01 49.8 -1.7
	0.5nm,0.4s,baz=183,slow=11,SNR=9.3						
RES				PcP		PcP	03 02 51.8 -0.9
	1.2nm,0.7s,baz=188,slow=8.5,SNR=4.6						
IMAR	Indian Mountai	55.63	338	eP		P	03 01 55.3 -0.5
TOLK	Toolik Lake Re	55.79	342	P		P	03 01 57.7 +0.5
	baz=128						
CPUP	Villa Florida	65.40	133	P		P	03 03 03.1 +0.1
	1.9nm,0.8s,baz=280,slow=5.6,SNR=4.6						
BDFB	Brasilia	66.43	118	P		P	03 03 11.1 +1.0
	1.9nm,0.6s,baz=276,slow=10,SNR=2.2						
PLCA	Paso Flores	68.45	152	P		P	03 03 23.0 +0.7
	2.6nm,1.0s,baz=45,slow=6.9,SNR=4.0						
JMIC	Jan Mayen	73.47	20	LR		LR	03 37 02.2
	comp=Z,183nm,21.4s,baz=72,slow=36						
SPITS	Spitsbergen Ar	76.68	10	LR		LR	03 39 03.9
	comp=Z,78nm,19.1s,baz=10.0,slow=36						
SEY	Seymchan	77.91	333	P		P	03 04 18.5 +0.6
	2.9nm,0.6s,baz=103,slow=6.5,SNR=13						
PETK	Petropavlovsk-	78.41	322	P		P	03 04 21.8 +1.0
	2.2nm,0.8s,baz=81,slow=9.5,SNR=3.6						
TIXI	Tiksi	81.54	345	eP		P	03 04 36.6 -0.7
	5.5nm,0.8s						
PMAFR	Mafra	82.15	52	eP		P	03 04 41.2 -0.1
PCAS	Casmilo, Conde	82.36	50	eP		P	03 04 42.1 -0.3
	9.7nm,1.3s						
POLO	Lamas de Olo	82.42	49	eP		P	03 04 42.1 -0.7
	5.0nm,1.3s						
PVIS	Viseu	82.57	49	eP		P	03 04 42.9 -0.6
	8.8nm,1.4s						
PMTG	Montargil	82.89	51	eP		P	03 04 44.5 -0.6
	12nm,2.0s						
MTE	Manteigas	82.93	50	eP		P	03 04 44.4 -1.0
	14nm,1.3s						
MTE	Manteigas	82.93	50	eP		P	03 04 44.3 -1.1
	11nm,1.1s						
MVO	Moncorvo	83.03	49	eP		P	03 04 46.2 +0.3
	8.3nm,1.4s						
PCBR	Castelo Branco	83.17	50	eP		P	03 04 45.8 -0.7
	9.6nm,1.3s						
EVO	Evora	83.23	52	eP		P	03 04 46.9 0.0
	7.4nm,1.7s						
PMRV	Marv??o	83.38	51	eP		P	03 04 47.0 -0.6
	11nm,1.5s						
ARCES	ARCESS Array B	84.16	16	eP		P	03 04 50.1 -0.9
ARCES	ARCESS Array B	84.16	16	P		P	03 04 50.8 -0.3
	6.2nm,0.7s,baz=319,slow=3.4,SNR=31						
NB2	NORSAR Subarra	84.69	26	P		P	03 04 53.1 -0.8
	comp=Z,0.7nm,0.7s,baz=301,slow=4.6						
NOA	NORSAR Array B	84.69	26	P		P	03 04 53.6 -0.3
	comp=Z,1.0nm,0.7s,baz=301,slow=4.6,SNR=4.0						
NOA				LR		LR	03 44 14.0
	comp=Z,19nm,20.4s,baz=300,slow=37						
PAB	San Pablo	85.53	50	eP		P	03 04 58.1 -0.5
	comp=Z,3.7nm,0.8s						
ESDC	Sonseca Array	85.76	49	eP		P	03 04 58.8 -0.9
	comp=Z,1.8nm,0.8s						
ESDC	Sonseca Array	85.76	49	P		P	03 04 59.3 -0.4
	comp=Z,2.2nm,0.7s,baz=305,slow=5.2,SNR=26						
FINES	FINESS Array B	90.04	21	P		P	03 05 20.4 +0.7
	comp=Z,1.9nm,0.9s,baz=343,slow=7.7,SNR=2.7						
FINES				LR		LR	03 46 53.9
	comp=Z,57nm,18.1s,baz=239,slow=36						
NRIK	Noril'sk	90.48	355	P		P	03 05 21.7 +0.2
	comp=Z,1.9nm,0.3s,baz=50,slow=5.1,SNR=4.2						
NRIK				LR		LR	03 48 59.0
	comp=Z,66nm,18.2s,baz=44,slow=38						
GRFO	Grafenberg	90.80	36	eP		P	03 05 22.7 -0.8
	comp=Z,2.1nm,0.5s						
GERES	GERESS Array B	92.63	35	P		P	03 05 30.7 -1.4
	comp=Z,0.2nm,0.3s,baz=319,slow=5.3,SNR=4.3						
GERES				LR		LR	03 46 42.5
	comp=Z,56nm,21.9s,baz=304,slow=35						
VRAC	Vranov	93.90	34	LR		LR	03 48 07.7
	comp=Z,26nm,19.3s,baz=44,slow=36						
WRAB	Tennant Creek	124.28	259	ePKPdf		PKiKP	03 11 20.1 +0.1
WRA	Warramunga Arr	124.29	259	PKP		PKPdf	03 11 19.6 -0.1
	comp=Z,0.7nm,0.6s,baz=81,slow=2.6,SNR=12						
ASAR	Alice Springs	125.31	255	PKP		PKPdf	03 11 21.4 -0.3
	comp=Z,0.5nm,0.6s,baz=83,slow=2.3,SNR=6.4						

IDC 05 03:06:14.6±3.7, 28°.23N×61°.47E, h0km, mb3.4/2, mb1 3.5/2, mb1mx3.1/38, mbtmp3.4/2, Error ellipse: s-maj=96.5km s-min=36.8km az=147.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	24.69	36	P	P	03 11 37.3	0.0
	0.2nm,0.3s,baz=218,slow=8.9,SNR=4.2						
FINES	FINESS Array B	40.67	335	P	P	03 13 56.3	-0.2
	0.8nm,0.7s,baz=128,slow=9.0,SNR=4.4						
TORD	Torodi Ar. Bea	57.38	268	P	P	03 16 05.1	-0.1
	13nm,0.2s,baz=55,slow=5.8,SNR=4.5						

*IDC **05** 03:35:07.4±1.4, 62°.18S×156°.23W, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/40, mbtmp4.0/6, MS4.4/20, Ms1 4.3/20, ms1mx4.3/22, Error ellipse: s-maj=41.2km s-min=26.3km az=57.0*

*GCMT **05** 03:35:22.0±0.1, 62°.96S±0°.01×158°.34W±0°.02, h12km±1km, MW5.2/105, Moment Tensor Solution. s67,c102; s105,c166; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.11±.01; Mθθ=0.79±.02; Mφφ=-0.68±.01; Mrθ=0.00±.03; Mrφ=0.29±.01; Mθφ=0.15±.04; Best double couple: M=0.80800×10^17 NP1:φ=215.00000°, δ=82.00000°, λ=-170.00000°. NP2:φ=124.00000°, δ=80.00000°, λ=-8.00000°. Principal axes: T 0.8480, Plg2.0000°, Azm349.0000°; N -0.0800, Plg78.0000°, Azm252.0000°; P -0.7680, Plg12.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 05 03:35:08.4±1.4, 62°.1S±0°.2×156°.2W±0°.3, h10km, n38, σ1°39/10, mb4.2/5, MS4.4/23, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	20.36	205	P	P	03 39 44.8	+0.4
	2.4nm,0.6s,baz=73,slow=18,SNR=35						
VNDA				LR	LR	03 45 11.6	
	comp=Z,1μm,20.9s,baz=65,slow=30						
RPZ	Rata Peaks	26.57	299	LR	LR	03 50 21.9	
	comp=Z,633nm,18.5s,baz=132,slow=34						
QSPA	South Pole Qui	28.00	180	P	P	03 40 59.1	0.0
	5.5nm,0.9s,baz=52,slow=6.8,SNR=10						
QSPA				LR	LR	03 49 55.4	
	comp=Z,895nm,21.1s,baz=58,slow=32						
URZ	Urewera	28.98	313	LR	LR	03 49 57.3	
	comp=Z,986nm,21.9s,baz=166,slow=31						
PMSA	Palmer Station	37.81	136	LR	LR	03 55 54.8	
	comp=Z,681nm,19.6s,baz=238,slow=33						
TBI	Tubuai	39.03	10	eLR	LR	03 53 36.6	
	comp=Z,2μm,27.8s						
TBI	Tubuai	39.03	10	eT	T	04 25 04.1	
	55nm,0.3s						
RKT	Rikitea	41.58	30	eT	T	04 28 34.5	
	17nm,0.2s						
TVO	Taravao	44.56	9	eT	T	04 31 58.9	
	5.4nm,0.3s						
MEH	Mehetia	44.57	11	eT	T	04 32 01.2	
	105nm,0.2s						
PAE	Paea	44.66	9	eT	T	04 32 05.2	
	9.3nm,0.3s						
PPT2	Papeete2	44.73	9	eS	S	03 50 17.1	+19
	374nm,25.0s						
PPT2				eLR	LR	03 56 11.0	
	comp=Z,2μm,27.2s						
PPT2	Papeete2	44.73	9	eT	T	04 32 10.3	
	10nm,0.3s						
PPT	Papeete	44.75	9	LR	LR	03 57 38.2	
	comp=Z,547nm,20.6s,baz=184,slow=30						
TIAR	Tiarei	44.78	9	eT	T	04 32 14.2	
	4.6nm,0.2s						
VAH	Vaihoa	47.22	11	eT	T	04 35 20.0	
	329nm,0.2s						
PMOR	Pomariorio Ree	47.43	11	eT	T	04 35 35.3	
	14nm,0.3s						
MAW	Mawson	47.51	199	P	P	03 43 42.4	-0.6
	1.8nm,0.9s,baz=42,slow=15,SNR=3.1						
MAW				LR	LR	04 01 01.8	
	comp=Z,396nm,20.7s,baz=154,slow=33						
STKA	Stephens Creek	49.44	278	P	P	03 43 58.8	+0.5
	1.1nm,0.8s,baz=155,slow=4.6,SNR=1.7						
STKA				LR	LR	04 01 45.5	
	comp=Z,398nm,18.1s,baz=147,slow=32						
PLCA	Paso Flores	53.06	109	LR	LR	04 03 01.6	
	comp=Z,240nm,18.9s,baz=238,slow=32						
TAOE	Nuku Hiva Isla	54.45	20	eS	S	03 52 33.4	+19
	193nm,26.3s						
TAOE				eLR	LR	04 00 57.6	
	comp=Z,850nm,24.4s						
H01W1	Cape Leeuwin H	59.67	252	T	T	04 49 07.6	
	baz=146,slow=76,SNR=10						
H01W2	Cape Leeuwin H	59.68	252	T	T	04 49 10.0	
	baz=146,slow=76,SNR=13						
H01W3	Cape Leeuwin H	59.69	252	T	T	04 49 07.2	
	baz=146,slow=76,SNR=5.0						
ASAR	Alice Springs	59.98	276	P	P	03 45 15.5	+0.6
	2.0nm,0.9s,baz=150,slow=6.7,SNR=9.7						
ASAR				LR	LR	04 06 44.1	
	comp=Z,624nm,21.4s,baz=152,slow=32						
WRA	Warramunga Arr	62.98	279	P	P	03 45 35.6	+0.5
	1.4nm,1.0s,baz=155,slow=5.6,SNR=5.0						
WRA				PcP	PcP	03 46 09.9	-3.2
	1.5nm,0.9s,baz=151,slow=3.8,SNR=3.7						
WRA				LR	LR	04 09 42.3	
	comp=Z,338nm,18.1s,baz=170,slow=33						
CPUP	Villa Florida	71.06	110	LR	LR	04 14 12.3	
	comp=Z,214nm,19.4s,baz=212,slow=33						
LPAZ	La Paz	74.85	96	LR	LR	04 12 44.2	
	comp=Z,80nm,20.9s,baz=193,slow=30						
BDFB	Brasilia	84.53	113	LR	LR	04 23 03.5	
	comp=Z,419nm,19.6s,baz=194,slow=34						
BOSA	Boshof	89.58	181	LR	LR	04 23 30.2	
	comp=Z,332nm,21.6s,baz=168,slow=32						
ROSC	El Rosal	90.44	81	LR	LR	04 22 04.8	
	comp=Z,61nm,18.0s,baz=184,slow=31						
JTS	Las Juntas de	90.45	69	LR	LR	04 21 25.4	
	comp=Z,96nm,19.4s,baz=266,slow=31						
APG	El Apazote	92.31	62	LR	LR	04 21 33.0	
	comp=Z,150nm,21.7s,baz=269,slow=30						
CMIG	Matias Romero	92.40	57	LR	LR	04 19 02.2	
	comp=Z,78nm,19.2s,baz=211,slow=28						
LPIG	La Paz	93.41	41	LR	LR	04 20 51.6	
	comp=Z,92nm,19.9s,baz=192,slow=29						
ILAR	Eielson Array	126.78	5	PKP	PKPdf	03 54 10.1	-0.3
	0.2nm,0.5s,baz=238,slow=1.0,SNR=2.8						
MKAR	Makanchi Array	144.12	272	PKP	PKPdf	03 54 44.3	+1.2
	0.2nm,0.4s,baz=180,slow=2.9,SNR=3.9						
ESDC	Sonseca Array	151.91	130	PKPab	PKPab	03 55 12.7	+0.8
	0.4nm,0.6s,baz=229,slow=1.8,SNR=6.3						

*IDC **05** 03:37:56.3±0.8, 56°.49S×25°.05W, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.2/31, mbtmp4.4/10, ML4.6/1, Error ellipse: s-maj=27.2km s-min=17.2km az=58.0*

*ISCJB **05** 03:37:59.9±0.6, 56°.52S±0°.09×24°.9W±0°.2, h40km, mb4.4/12, Error ellipse: s-maj=20.3km s-min=9.2km az=149.9*

*NEIC **05** 03:38:01.6±0.4, 56°.48S×25°.03W, h35km, mb4.5/4, Error ellipse: s-maj=17.4km s-min=10.6km az=60.0*

ISC 05 03:38:01.9±0.7, 56°.5S±0°.1×25°.0W±0°.2, h40km, n35, σ0°92/35, mb4.5/12, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.92	159	P	Pn	03 41 41.4	-1.2
VNA3	Neumayer Olymp	16.16	162	P	Pn	03 41 44.0	-1.8
SNAA	Sanae	17.83	157	P	Pn	03 42 06.6	-0.1
SNAA	Sanae	17.83	157	ePn	Pn	03 42 06.3	-0.3
	15nm,1.0s						
SNAA				eSn	Sn	03 45 13.4	-11
SNAA	Sanae	17.83	157	P	Pn	03 42 05.7	-0.9
	1.8nm,0.3s,baz=23,slow=11,SNR=174						
SNAA				S	Sn	03 45 13.4	-11
	0.1nm,0.3s,baz=327,slow=16,SNR=2.5						
USHA	Ushuaia	24.23	256	P	P	03 43 13.2	-1.3
	11nm,0.8s,baz=53,slow=4.4,SNR=5.1						
SYO	Syowa Base	30.46	140	eP	P	03 44 04.4	-5.8
PLCA	Paso Flores	33.26	279	P	P	03 44 31.1	-4.1
	2.2nm,0.9s,baz=135,slow=5.7,SNR=4.0						
QSPA	South Pole Qui	33.73	180	eP	P	03 44 40.5	+1.3
QSPA	South Pole Qui	33.73	180	P	P	03 44 39.8	+0.7
	3.9nm,0.5s,baz=228,slow=2.1,SNR=13						
CPUP	Villa Florida	38.03	309	eP	P	03 45 16.7	+0.6
	30nm,2.0s						
CPUP	Villa Florida	38.03	309	P	P	03 45 16.7	+0.6
	1.6nm,0.4s,baz=166,slow=7.8,SNR=11						
CFA	Coronel Fontan	38.85	291	P	P	03 45 21.6	-1.3
	3.5nm,0.4s,baz=160,slow=9.7,SNR=12						
VNDA	Vanda	46.16	182	eP	P	03 46 23.0	+1.3
	6.5nm,1.4s						
VNDA	Vanda	46.16	182	P	P	03 46 21.8	+0.1
	0.8nm,0.6s,baz=177,slow=5.9,SNR=12						
LVC	Limon Verde	46.58	298	eP	P	03 46 26.7	+0.7
	14nm,1.0s						
LVC	Limon Verde	46.58	298	P	P	03 46 25.1	-1.0
	11nm,0.8s,baz=156,slow=4.7,SNR=13						
SIV	San Ignacio	48.78	311	P	P	03 46 43.0	+0.2
	0.9nm,0.5s,baz=183,slow=10,SNR=8.9						
GO01	Chusmiza	49.22	300	eP	P	03 46 47.5	+0.9
	12nm,0.6s						
LPAZ	La Paz	51.63	303	eP	P	03 47 02.6	-2.5
	10nm,0.6s						
LPAZ	La Paz	51.63	303	P	P	03 47 06.2	+1.2
	2.3nm,0.3s,baz=111,slow=5.8,SNR=6.1						
TORD	Torodi Ar. Bea	72.90	27	P	P	03 49 26.1	-0.5
	0.8nm,0.3s,baz=203,slow=6.6,SNR=8.3						
TOA1	Torodi Ar. Sit	72.90	27	eP	P	03 49 26.1	-0.5
SDV	Santo Domingo	75.20	313	eP	P	03 49 40.9	+0.6
	5.5nm,0.9s						
YKA	Yellowknife Ar	137.33	317	ePKPdf	PKPdf	03 57 19.6	+0.3
YKA	Yellowknife Ar	137.33	317	PKP	PKiKP	03 57 20.4	-0.8
	0.9nm,0.8s,baz=123,slow=2.2,SNR=8.5						
YKB5	Yellowknife Ar	137.33	317	ePKPdf	PKiKP	03 57 20.4	-0.8
INK	Inuvik	146.93	320	ePKPbc	PKPbc	03 57 38.6	+0.4
SONA0	Songino Array	149.56	86	ePKPdf	PKPdf	03 57 41.2	-0.2
SONA0				ePKPbc	PKPbc	03 57 46.1	+0.1
SONM	Songino Array	149.56	86	PKP	PKPdf	03 57 41.2	-0.2
	0.5nm,0.4s,baz=216,slow=4.6,SNR=2.6						
SONM				PKPbc	PKPbc	03 57 46.1	+0.1
	1.1nm,0.5s,baz=215,slow=2.9,SNR=4.3						
RIDG	Independent Ri	150.23	309	ePKPbc	PKiKP	03 57 48.4	+0.6
ILAR	Eielson Array	151.33	311	ePKPbc	PKiKP	03 57 50.1	+0.1
ILAR	Eielson Array	151.33	311	PKPbc	PKiKP	03 57 50.5	+0.5
	2.7nm,0.7s,baz=138,slow=1.9,SNR=26						
ILB	Eielson Array	151.33	311	ePKPbc	PKiKP	03 57 50.2	+0.3
BPAW	Bear Paw Mtn.	152.96	309	ePKPbc	PKiKP	03 57 54.2	+0.8

*IDC **05** 03:38:35.2±4.7, 20°.15S×178°.41W, h565km±47km, mb3.0/6, mb1 3.4/7, mb1mx3.0/42, mbtmp3.9/7, Error ellipse: s-maj=99.1km s-min=21.1km az=152.0*

*ISCJB **05** 03:38:37.2±1.9, 20°.1S±0°.8×178°.6W±0°.4, h602km, mb3.5/6, Error ellipse: s-maj=114.2km s-min=16.1km az=156.2*

ISC 05 03:38:38.3±1.8, 20°.0S±0°.7×178°.7W±0°.3, h602km, n10, σ1°07/12, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.07	259	P	P	03 41 36.7	-1.2
	0.2nm,0.3s,baz=79,slow=16,SNR=2.9						
ASAR	Alice Springs	44.04	256	P	P	03 45 55.3	+0.8
	1.1nm,0.5s,baz=94,slow=7.4,SNR=14						
ASAR				PcP	PcP	03 47 27.0	+0.7
	0.6nm,0.8s,baz=90,slow=4.6,SNR=3.8						
WRA	Warramunga Arr	44.06	262	P	P	03 45 55.2	+0.5
	0.5nm,0.4s,baz=96,slow=7.5,SNR=23						
WRA				PcP	PcP	03 47 27.4	+1.0
	0.4nm,0.7s,baz=94,slow=3.2,SNR=2.5						
NVAR	Mina Array Bea	81.08	44	P	P	03 49 52.4	+0.2
	1.1nm,0.8s,baz=221,slow=9.2,SNR=7.7						
TXAR	Lajitas Array	87.30	58	P	P	03 50 22.1	-0.6
	0.6nm,0.8s,baz=218,slow=7.9,SNR=4.3						
ILAR	Eielson Array	87.95	13	P	P	03 50 24.8	+0.1
	0.4nm,0.5s,baz=214,slow=5.5,SNR=5.7						
PDAR	Pinedale Array	89.01	43	P	P	03 50 30.5	0.0
	0.5nm,0.6s,baz=222,slow=3.6,SNR=5.1						
AKASG	Malin Array Be	142.27	331	PKP	PKPdf	03 57 00.9	-2.1
	1.5nm,0.5s,baz=42,slow=4.5,SNR=15						
BRTR	Keskin Array B	146.04	312	PKPbc	PKPbc	03 57 13.4	+1.2
	0.6nm,0.6s,baz=120,slow=5.5,SNR=4.5						
GERES	GERESS Array B	149.54	344	PKPbc	PKiKP	03 57 22.1	+0.6

*DDA **05** 04:11:14.8, 39.31N×27.61E, h14km±1km, ML3.7*
*ISK **05** 04:11:14.6, 39.32N×27.59E, h8km, ML3.2/34*
*ISCJB **05** 04:11:15.0±0.4, 39.31N±0.02×27.58E±0.02, h8km±3km, Error ellipse: s-maj=2.9km s-min=2.8km az=35.4*
*THE **05** 04:11:16.5, 39.30N×27.65E, h14km±2km, ML2.8/6, Error ellipse: s-maj=2.8km s-min=0.8km az=89.0*
*ATH **05** 04:11:18.4, 39.32N×27.35E, h78km±8km, ML2.8/7, Error ellipse: s-maj=9.1km s-min=1.8km az=253.0*

ISC 05 04:11:14.5±0.9, 39.25N±0.02×27.61E±0.02, h15km±7km, n78, σ1.9±1.02/104, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.15**	**35**	*i* P	**Pg**	**04 11 18.1**	**-0.3**
STEP				*i* S	**Sg**	**04 11 21.2**	**+0.2**
AKHS	**Akhisar**	**0.41**	**157**	IAML_P			
	comp=Z,23μm,0.1s						
AKHS				*i* P	**Pn**	**04 11 24.2**	**-1.7**
AKHS				*i* S	**Sn**	**04 11 31.6**	**-1.7**
AKS	**Akhisar**	**0.41**	**157**	PG	**Pn**	**04 11 24.2**	**-1.7**
AKS				SG	**Sn**	**04 11 31.3**	**-2.0**
BALB	**Balikesir**	**0.44**	**29**	PG	**Pg**	**04 11 22.9**	**-0.4**
BALB				SG	**Sg**	**04 11 28.9**	**-0.3**
BALY	**Balya**	**0.49**	**1**	IAML_P			
	comp=Z,26μm,0.1s						
BALY				*i* P	**Pb**	**04 11 24.8**	**0.0**
BALY				*i* S	**Sg**	**04 11 30.3**	**-0.4**
ZEDA	**zmir-Bergama**	**0.50**	**235**	IAML_P			
	comp=Z,19μm,0.1s						
ZEDA				*i* P	**Pn**	**04 11 26.3**	**-0.9**
GOMA	**Golmarmara-Man**	**0.60**	**156**	PG	**Pn**	**04 11 27.7**	**-0.8**
CAND	**Candarli**	**0.69**	**245**	PG	**Pn**	**04 11 28.7**	**-1.1**
AYVA	**Ayvalik**	**0.71**	**275**	IAML_P			
	comp=Z,12μm,0.2s						
AYVA				*i* P	**Pn**	**04 11 29.1**	**-0.9**
DURS	**Dursunbey**	**0.76**	**62**	IAML_P			
	comp=Z,5μm,0.1s						
DURS				*i* P	**Pb**	**04 11 29.4**	**0.0**
DURS				*i* S	**Sb**	**04 11 40.3**	**+0.7**
GONE	**Gonen-Balikesi**	**0.79**	**4**	PG	**Pb**	**04 11 29.3**	**-0.7**
FOCM	**Foa**	**0.87**	**232**	PG	**Pn**	**04 11 32.5**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.95**	**301**	*i* P	**Pn**	**04 11 33.3**	**-0.1**
BAYC				*i* S	**Sb**	**04 11 45.1**	**-0.1**
BLCB	**Balcova**	**0.97**	**207**	PG	**Pn**	**04 11 34.7**	**+1.1**
KNL	**Balıkesir**	**1.02**	**357**	IAML_P			
	comp=Z,10μm,0.2s						
KNL				*i* P	**Pb**	**04 11 33.4**	**-0.4**
KNL				*i* S	**Sb**	**04 11 47.5**	**+0.4**
PRK	**Paraskevi**	**1.04**	**270**	P	**Pg**	**04 11 36.3**	**+1.8**
PRK				S	**Sn**	**04 11 51.1**	**+2.3**
PRK	**Paraskevi**	**1.04**	**270**	P	**Pg**	**04 11 36.4**	**+1.9**
PRK				S	**Sn**	**04 11 48.9**	**+0.2**
PRK				AML	AML	04 11 53.4	
	comp=N,2499μm,0.4s						
PRK				AML	AML	04 11 53.9	
	comp=E,3281μm,0.3s						
KRBN	**Karaburun**	**1.05**	**232**	PN	**Pg**	**04 11 35.9**	**+1.1**
MANT	**Manisa**	**1.06**	**135**	IAML_P			
	comp=Z,5μm,0.2s						
MANT				*i* P	**Pg**	**04 11 36.4**	**+1.3**
MANT				*i* S	**Sn**	**04 11 51.9**	**+2.1**
SMAA	**Simav-Kutahya**	**1.08**	**98**	PN	**Pg**	**04 11 36.4**	**+1.1**
KULA	**Kula-Manisa**	**1.11**	**132**	PN	**Pg**	**04 11 36.5**	**+0.7**
KULA	**Kula-Manisa**	**1.11**	**132**	P	**Pg**	**04 11 36.7**	**+0.9**
EDC	**Edincik**	**1.11**	**10**	PG	**Pn**	**04 11 34.9**	**-0.6**
EZN	**Ezine**	**1.14**	**300**	PN	**Pg**	**04 11 36.3**	**-0.2**
EZN	**Ezine**	**1.14**	**300**	P	**Pg**	**04 11 36.4**	**-0.1**
EZN				S	**Sg**	**04 11 52.7**	**+1.3**
GPNR	**Gulpinar-Canak**	**1.16**	**280**	PN	**Pg**	**04 11 36.6**	**-0.2**
KRBG	**Karabiga-Canak**	**1.16**	**348**	PN	**Pn**	**04 11 35.6**	**-0.7**
KCTX	**Karacabey (Bur**	**1.16**	**30**	PN	**Pn**	**04 11 36.1**	**-0.2**
URLA	**Izmir**	**1.19**	**222**	PN	**Pg**	**04 11 37.8**	**+0.3**
URLA	**Izmir**	**1.19**	**222**	IAML_P			
	comp=Z,9μm,0.2s						
URLA				*i* P	**Pg**	**04 11 38.4**	**+1.0**
USAK	**Uak-Merkez**	**1.23**	**116**	IAML_P			
	comp=Z,6μm,0.2s						
USAK				*i* P	**Pg**	**04 11 39.2**	**+1.1**
USAK				*i* S	**Sg**	**04 11 55.4**	**+1.4**
ORLT	**Orhaneli**	**1.27**	**51**	PN	**Pb**	**04 11 38.3**	**+0.1**
SHAP	**Saphane-Kutahy**	**1.28**	**100**	PN	**Pg**	**04 11 40.3**	**+1.2**
LPK	**Lapseki**	**1.29**	**330**	PN	**Pb**	**04 11 38.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**170**	PN	**Pg**	**04 11 39.9**	**-0.1**
BOZC	**Bozcaada**	**1.34**	**297**	PN	**Pb**	**04 11 39.7**	**+0.4**
BOZC	**Bozcaada**	**1.34**	**297**	IAML_P			
	comp=Z,5μm,0.2s						
BOZC				*i* P	**Pg**	**04 11 40.2**	**0.0**
BOZC				*i* S	**Sg**	**04 11 57.4**	**-0.2**
SIGR	**SIGRI**	**1.36**	**269**	PN	**Pg**	**04 11 40.0**	**-0.7**
SIGR	**SIGRI**	**1.36**	**269**	P	**Pg**	**04 11 40.0**	**-0.7**
SIGR				S	**Sg**	**04 11 59.0**	**+0.6**
	comp=Z,700nm,0.8s						
SIGR	**SIGRI**	**1.36**	**269**	P	**Pg**	**04 11 40.1**	**-0.5**
SIGR				S	**Sn**	**04 11 56.2**	**-0.5**
SIGR				AML	AML	04 12 01.8	
	comp=E,1599μm,0.7s						
SIGR				AML	AML	04 12 04.2	
	comp=N,1268μm,0.4s						
GELI	**Tayfur-Gelibol**	**1.44**	**323**	PN	**Pb**	**04 11 41.0**	**0.0**
TVSB	**Tavsanli**	**1.45**	**82**	PN	**Pg**	**04 11 42.1**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.47**	**347**	PN	**Pb**	**04 11 41.2**	**-0.4**
ULDT	**Uludag**	**1.48**	**53**	*i* P	**Pb**	**04 11 42.1**	**+0.4**
ULDT				*i* S	**Sg**	**04 12 02.7**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.49**	**41**	PN	**Pb**	**04 11 41.5**	**-0.3**
CHOS	**Chios island**	**1.49**	**235**	P	**Pb**	**04 11 42.1**	**+0.1**
CHOS				S	**Sg**	**04 12 02.4**	**-0.1**
	comp=N,225nm,0.4s						
CHOS	**Chios island**	**1.49**	**235**	P	**Pb**	**04 11 42.0**	**+0.1**
CHOS				S	**Sb**	**04 12 00.2**	**-0.5**
CHOS				AML	AML	04 12 07.6	
	comp=N,429μm,0.4s						
CHOS				AML	AML	04 12 10.8	
	comp=E,520μm,0.3s						
ARMT	**Armutlu**	**1.63**	**36**	PN	**Pn**	**04 11 42.9**	**+0.2**
ERIK	**Erikli-Kesan**	**1.65**	**330**	PN	**Pn**	**04 11 43.6**	**+0.7**
SMG	**Samos**	**1.66**	**202**	P	**Pg**	**04 11 46.2**	**-0.1**
SMG	**Samos**	**1.66**	**202**	P	**Pg**	**04 11 47.1**	**+0.8**
SMG				S	**Sg**	**04 12 09.0**	**+1.1**
SMG				AML	AML	04 12 12.4	
	comp=E,293μm,0.6s						
SMG				AML	AML	04 12 13.3	
	comp=N,392μm,0.3s						
GEMT	**Gemlik**	**1.70**	**45**	PN	**Pn**	**04 11 44.3**	**+0.7**
PSRA	**Psara**	**1.75**	**247**	P	**Pb**	**04 11 46.2**	**0.0**
ENEZ	**Enez**	**1.85**	**323**	PN	**Pb**	**04 11 46.9**	**-1.2**
CRLT	**Corlu**	**1.88**	**3**	PN	**Pn**	**04 11 47.2**	**+1.1**
YLV	**Yalova**	**1.89**	**45**	PN	**Pb**	**04 11 47.5**	**-1.2**
CAVI	**Cavuskoy**	**1.97**	**61**	PN	**Pb**	**04 11 48.8**	**-1.2**
BUY	**Buyukada**	**1.97**	**36**	PN	**Pn**	**04 11 48.6**	**+1.2**
LIA	**Limnos Island**	**1.98**	**290**	P	**Pb**	**04 11 48.8**	**-1.4**
LIA				S	**Sb**	**04 12 13.7**	**-1.0**
	comp=N,102nm,0.6s						
LIA	**Limnos Island**	**1.98**	**290**	P	**Pb**	**04 11 48.8**	**-1.4**
LIA				S	**Sn**	**04 12 09.8**	**-2.3**
LIA				AML	AML	04 12 19.1	
	comp=N,159μm,0.4s						
LIA				AML	AML	04 12 19.1	
	comp=E,241μm,0.7s						
AUBOZ	**BOZOYUK**	**1.99**	**70**	PN	**Pb**	**04 11 49.5**	**-0.9**
SMTH	**Samothraki Isl**	**2.01**	**308**	P	**Pn**	**04 11 49.0**	**+1.1**
SMTH	**Samothraki Isl**	**2.01**	**308**	P	**Pn**	**04 11 48.9**	**+1.1**
SMTH				S	**Sn**	**04 12 11.3**	**-1.5**
SMTH				AML	AML	04 12 19.4	
	comp=E,178μm,0.4s						
SMTH				AML	AML	04 12 20.2	
	comp=N,219μm,0.2s						
ADVT	**Abdulvahap**	**2.02**	**54**	PN	**Pb**	**04 11 49.5**	**-1.4**
SLVT	**Silivri**	**2.03**	**13**	PN	**Pn**	**04 11 48.9**	**+0.8**
ALN	**Alexandroupoli**	**2.03**	**324**	P	**Pn**	**04 11 49.2**	**+1.0**
ALN				S	**Sn**	**04 12 13.8**	**+0.5**
	comp=N,85nm,0.6s						
ALN	**Alexandroupoli**	**2.03**	**324**	P	**Pn**	**04 11 49.0**	**+0.8**
ALN				S	**Sn**	**04 12 13.1**	**-0.2**
ALN				AML	AML	04 12 19.9	
	comp=N,202μm,0.3s						
ALN				AML	AML	04 12 20.5	
	comp=E,120μm,0.4s						
CTKS	**Kestanelik-??a**	**2.10**	**19**	PN	**Pn**	**04 11 49.5**	**+0.4**
ISK	**Istanbul-Kandi**	**2.12**	**31**	P	**Pn**	**04 11 49.4**	**-0.1**
BODT	**Bodrum**	**2.20**	**186**	P	**Pb**	**04 11 52.0**	**-2.0**
RDO	**Rodhopi**	**2.47**	**321**	P	**Pn**	**04 11 55.6**	**+1.4**
RDO	**Rodhopi**	**2.47**	**321**	P	**Pn**	**04 11 55.5**	**+1.3**
THAS	**Thassos island**	**2.60**	**302**	P	**Pn**	**04 11 56.6**	**+0.6**
THAS	**Thassos island**	**2.60**	**302**	P	**Pn**	**04 11 56.8**	**+0.8**
THAS				S	**Sn**	**04 12 24.9**	**-2.4**
EDRB	**Edirne**	**2.67**	**346**	P	**Pn**	**04 11 57.4**	**+0.4**
AOS	**Alonnisos**	**2.90**	**270**	P	**Pn**	**04 12 01.9**	**+1.8**
AOS	**Alonnisos**	**2.90**	**270**	P	**Pn**	**04 12 01.6**	**+1.5**
PAIG	**Paliouri**	**3.11**	**284**	P	**Pn**	**04 12 04.0**	**+1.0**

*ISCJB **05** 04:12:08.1±0.8, 19.98N±0.04×105.03W±0.07, h10km, mb2.8/2, Error ellipse: s-maj=9.6km s-min=5.1km az=176.8*
*MEX **05** 04:12:08.4±0.4, 19.97N×105.34W, h16km±5km, MD4.0*
*IDC **05** 04:12:13.4±3.0, 20.39N×104.98W, h0km, mb2.8/2, mb1 3.4/4, mb1mx3.2/38, mbtmp3.1/4, ML3.0/2, Error ellipse: s-maj=49.6km s-min=30.8km az=60.0*

ISC 05 04:12:08.7±1.0, 19.98N±0.04×104.98W±0.08, h10km, n8, σ1.55/11, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.48**	**188**	*e*P	**Pg**	**04 12 17.3**	**-0.9**
CJM				*e*S	**Sg**	**04 12 24.1**	**-0.4**
ANIG	**Ahuacatlan**	**1.15**	**22**	*e*P	**Pb**	**04 12 29.1**	**-1.7**
ANIG				*e*S	**Sg**	**04 12 44.9**	**-1.0**
EZ5V		**1.39**	**111**	*e*P	**Pn**	**04 12 34.4**	**0.0**
EZ5V				*e*S	**Sg**	**04 12 54.1**	**+0.7**
MMIG	**Aquila**	**2.28**	**137**	*e*P	**Pn**	**04 12 45.7**	**-0.8**
MMIG				*e*S	**Sn**	**04 13 15.4**	**+0.8**
TXAR	**Lajitas Array**	**9.39**	**7**	Pn	**Pn**	**04 14 24.4**	**+0.2**
	0.1nm,0.3s,baz=187,slow=14,SNR=3.2						
TXAR				Lg	Lg	04 16 57.3	
	0.1nm,0.3s,baz=192,slow=34,SNR=2.6						
CMIG	**Matias Romero**	**9.99**	**105**	Pn	Pn	04 14 39.8	+7.3
	0.3nm,0.3s,baz=287,slow=13,SNR=6.5						
CMIG				Lg	Lg	04 17 23.0	
	0.2nm,0.3s,baz=283,slow=11,SNR=4.3						
NVAR	**Mina Array Bea**	**21.71**	**331**	P	**P**	**04 17 02.9**	**+2.6**
	0.2nm,0.5s,baz=152,slow=9.7,SNR=3.5						
PDAR	**Pinedale Array**	**23.04**	**351**	P	**P**	**04 17 16.9**	**+2.4**
	0.1nm,0.3s,baz=170,slow=11,SNR=3.2						

IDC 05 04:31:21.7±66.0, 14.07S×166.21E, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.7/30, mbtmp4.2/3, Error ellipse: s-maj=1108.0km s-min=105.8km az=63.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.66**	**228**	P	P	04 37 19.9	-0.3
	1.8nm,0.4s,baz=56,slow=11,SNR=11						
WRA	**Warramunga Arr**	**31.00**	**255**	P	P	04 37 41.6	+0.4
	0.9nm,0.5s,baz=84,slow=9.3,SNR=3.7						
ASAR	**Alice Springs**	**31.96**	**248**	P	P	04 37 49.5	-0.1
	1.3nm,0.4s,baz=76,slow=9.2,SNR=27						

*ISCJB **05** 04:39:31.0±1.0, 33.11N±0.04×75.5E±0.1, h16km, mb3.4/3, MS3.7/1, Error ellipse: s-maj=13.2km s-min=6.2km az=174.4*
*IDC **05** 04:39:33.9±2.7, 33.22N×76.27E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/38, mbtmp3.4/4, ML3.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/32, Error ellipse: s-maj=111.0km s-min=31.5km az=86.0*
*NDI **05** 04:39:36.7±1.2, 33.12N×75.60E, h15km±8km, ML3.5*

ISC 05 04:39:33.6±0.9, 33.16N±0.05×75.53E±0.09, h16km, n24, σ1.91/31, mb3.5/3, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**0.69**	**230**	*e*P	**Pn**	**04 39 50.5**	**+1.8**
THN	**Thein Dam**	**0.74**	**167**	*ex*	**Pg**	**04 39 48.0**	**-0.1**
THN				*ex*	**Sg**	**04 39 56.0**	**-1.9**
DHRM	**DHARAMSHALA**	**1.12**	**144**	*e*P	**Pg**	**04 39 56.3**	**+1.1**
DHRM				*e*S	**Sn**	**04 40 11.5**	**+1.6**
DHRM				IAML		04 40 16.5	
	comp=N,2μm,0.3s						
DHRM				IAML		04 40 17.8	
	comp=E,3μm,0.4s						
BHK	**Bhakra**	**1.89**	**156**	*e*P	**Pb**	**04 40 08.6**	**+0.8**
BHK				*e*S	**Sb**	**04 40 31.8**	**+0.5**
SMLA	**Simla**	**2.46**	**145**	*e*P	**Pb**	**04 40 16.1**	**-1.3**
SMLA				*e*S	**Sn**	**04 40 44.2**	**+1.5**
SMLA				IAML		04 40 49.6	
	comp=N,899nm,0.3s						
SMLA				IAML		04 40 49.7	
	comp=E,1μm,0.3s						
DDI	**Dehra Dun**	**3.56**	**142**	*e*S	**Sn**	**04 41 09.7**	**-0.2**
JOSI	**Joshimath**	**4.30**	**126**	*e*P	**Pn**	**04 40 40.0**	**+1.4**
JOSI				*e*S	**Sn**	**04 41 27.7**	**-0.9**
JOSI				IAML		04 41 41.2	
	comp=E,176nm,0.7s						
JOSI				IAML		04 41 44.6	
	comp=N,156nm,0.5s						
NDI	**New Delhi**	**4.69**	**162**	*e*P	**Pn**	**04 40 47.0**	**+3.2**
NDI				*e*S	**Sn**	**04 41 37.0**	**-0.9**
AYAN	**Aya Nagar**	**4.86**	**163**	*e*S	**Sn**	**04 41 40.3**	**-1.7**
KUDL	**Kundal**	**5.07**	**170**	*e*P	**Pn**	**04 40 47.6**	**-1.3**
KUDL				*e*S	**Sn**	**04 41 42.0**	**-5.1**
KUDL				IAML		04 42 09.9	
	comp=E,40nm,0.6s						
KUDL				IAML		04 42 11.0	
	comp=N,36nm,0.5s						
SONA	**Sohna**	**5.07**	**164**	*e*S	**Sn**	**04 41 46.0**	**-1.2**
KHET	**Khetri**	**5.07**	**177**	*e*S	**Sn**	**04 41 45.8**	**-1.5**
KHET				IAML		04 42 19.4	
	comp=N,39nm,0.3s						
KHET				IAML		04 42 19.6	
	comp=E,39nm,0.4s						
PYUN	**Piuthan**	**8.17**	**126**	*e*P	**Pn**	**04 41 33.2**	**+1.4**
	comp=E,4.3nm,0.2s						
DANN	**Dangsing**	**8.55**	**122**	*e*P	**Pn**	**04 41 38.1**	**+1.0**
	comp=E,5.5nm,0.3s						
KOLN	**Koldanda**	**8.79**	**126**	*e*P	**Pn**	**04 41 39.8**	**-0.6**
GKN	**Gorkha**	**9.38**	**121**	*e*P	**Pn**	**04 41 48.4**	**0.0**
	comp=E,6.6nm,0.2s						
DMN	**Daman**	**9.95**	**121**	*e*P	**Pn**	**04 41 56.2**	**0.0**
PKIN	**Phulchoki**	**10.18**	**121**	*e*P	**Pn**	**04 41 58.4**	**-0.9**
PKI	**Pulchoki**	**10.19**	**121**	*e*P	**Pn**	**04 41 58.3**	**-1.3**
	comp=E,7.3nm,0.4s						
MKAR	**Makanchi Array**	**14.56**	**19**	Pn	**Pn**	**04 42 59.6**	**+0.6**
	comp=E,0.1nm,0.3s,baz=200,slow=12,SNR=4.5						
MKAR				Sn	**Sn**	**04 45 35.2**	**-4.9**
	comp=E,0.1nm,0.3s,baz=194,slow=20,SNR=4.0						
ZALV	**Zalesovo Beam**	**21.81**	**15**	P	**P**	**04 44 23.8**	**-1.1**
	comp=E,0.6nm,0.3s,baz=192,slow=13,SNR=2.2						
NRIK	**Norilsk**	**36.86**	**7**	LR	LR	05 03 16.3	
	comp=E,123nm,21.4s,baz=316,slow=39						
ASAR	**Alice Springs**	**79.28**	**127**	P	**P**	**04 51 39.0**	**+0.5**
	comp=E,0.3nm,0.8s,baz=314,slow=4.7,SNR=3.7						
YKA	**Yellowknife Ar**	**84.33**	**5**	P	**P**	**04 52 07.2**	**+2.7**
	comp=E,0.2nm,0.7s,baz=348,slow=4.9,SNR=7.0						

*IDC **05** 05:09:37.6±1.1, 10.87N×140.39E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/36, mbtmp3.8/7, MS3.0/2, Ms1 3.0/2, ms1mx2.5/32, Error ellipse: s-maj=34.1km s-min=27.0km az=114.0*
*ISCJB **05** 05:09:41.0±0.9, 10.8N±0.2×140.3E±0.2, h33km, mb3.7/7, MS2.9/1, Error ellipse: s-maj=28.9km s-min=21.7km az=14.3*

ISC 05 05:09:42.6±1.0, 10.8N±0.2×140.3E±0.2, h33km, n15, σ1.48/7, mb3.8/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**13.26**	**178**	LR	LR	05 16 56.9	
	comp=Z,59nm,18.7s,baz=212,slow=33						
MJAR	**Matsushiro Arr**	**25.67**	**356**	P	**P**	**05 15 07.3**	**-2.2**
	1.0nm,0.8s,baz=182,slow=11,SNR=3.2						
H11S3	**WAKE ISLAND Hy 26.58**	**70**		T	T	05 43 34.6	
	baz=257,slow=75,SNR=45						
H11S1	**WAKE ISLAND Hy 26.59**	**70**		T	T	05 43 34.1	
	baz=257,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy 26.59**	**70**		T	T	05 43 33.5	
	baz=257,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy 27.06**	**68**		T	T	05 44 06.5	
	baz=254,slow=75,SNR=33						
H11N2	**WAKE ISLAND Hy 27.07**	**68**		T	T	05 44 08.4	
	baz=254,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy 27.08**	**68**		T	T	05 44 09.5	
	baz=254,slow=75,SNR=48						
KSRS	**Korea Array**	**28.77**	**339**	LR	LR	05 26 29.6	
	comp=Z,26nm,18.8s,baz=320,slow=35						
ASAR	**Alice Springs**	**34.86**	**190**	P	**P**	**05 16 30.0**	**-0.9**
	0.3nm,0.5s,baz=19,slow=12,SNR=4.1						
CMAR	**Chiang Mai Arr**	**40.69**	**286**	P	**P**	**05 17 21.2**	**+0.9**
	1.0nm,0.5s,baz=100,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**60.47**	**318**	P	**P**	**05 19 49.2**	**-0.1**
	0.3nm,0.4s,baz=98,slow=9.4,SNR=4.8						
ILAR	**Eielson Array**	**72.94**	**25**	P	**P**	**05 21 08.1**	**-0.4**
	0.8nm,0.6s,baz=248,slow=6.2,SNR=15						
YKA	**Yellowknife Ar**	**87.31**	**27**	P	**P**	**05 22 26.9**	**+1.0**
	0.7nm,0.7s,baz=289,slow=5.2,SNR=12						
NVAR	**Mina Array Bea**	**92.09**	**50**	P	**P**	**05 22 50.1**	**+0.9**
	0.1nm,0.3s,baz=268,slow=5.4,SNR=3.5						

MAN 05 05:17:41.0, 11.21N×122.01E, h37km, mb3.9, ML2.7, MS2.2, Panay

*SKHL **05** 05:27:39.5±0.2, 43.63N×147.13E, h55km, mb3.6/2*
*JMA **05** 05:27:40.1±0.3, 43.61N×146.94E, h80km±4km, M2.5*

ISC 05 05:27:39.2±2.0, 43.70N±0.08×147.05E±0.08, h31km±14km, n12, σ0.66/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.92**	**292**	*i* P	**Pb**	**05 27 56.9**	**+0.3**
YUK				AMB	AMB	05 27 57.0	
	40nm,0.2s						
YUK				AMB	AMB	05 27 57.0	
	10.0nm,0.2s						
YUK				*i* S	**Sn**	**05 28 09.0**	**+0.8**
YUK				A	A	05 28 10.0	
	370nm,0.3s						
YUK				A	A	05 28 10.0	
	210nm,0.3s						
GRPR	**Tuman**	**0.97**	**288**	*e*P	**Pn**	**05 27 57.0**	**+0.3**
GRPR				AMB	AMB	05 27 59.0	
	20nm,0.2s						
GRPR				*e*S	**Sb**	**05 28 10.0**	**+0.1**
GRPR				A	A	05 28 11.0	
	300nm,0.2s						
GRPR				A	A	05 28 11.0	
	200nm,0.2s						
NEM2	**Nemuro 2**	**1.01**	**251**	P	**Pb**	**05 27 58.2**	**+0.2**
NEM2				*e*S	**Sb**	**05 28 11.5**	**+0.6**
JRA	**Rausu**	**1.42**	**280**	P	**Pb**	**05 28 03.9**	**-1.0**
JRA				*e*S	**Sb**	**05 28 21.7**	**-0.9**
JKHN	**Kushirohamanak**	**1.51**	**247**	P	**Pn**	**05 28 04.8**	**+0.7**
KUR	**Kuril'sk**	**1.64**	**21**	*e*P	**Pn**	**05 28 06.0**	**+0.1**
KUR				*e*S	**Sn**	**05 28 26.0**	**0.0**
KUR				A	A	05 28 28.0	
	130nm,0.2s						
KUR				A	A	05 28 28.0	
	20nm,0.2s						
JAK	**Akkeshi**	**1.85**	**249**	P	**Pn**	**05 28 09.0**	**+0.2**
JAK				*e*S	**Sn**	**05 28 30.3**	**-0.9**
JTKR	**Abashiri--Toko**	**2.29**	**278**	P	**Pn**	**05 28 15.4**	**+0.6**
JAR	**Ashorobuto**	**2.42**	**262**	P	**Pn**	**05 28 17.5**	**+0.9**
JAR				*e*S	**Sn**	**05 28 44.6**	**-0.6**
JOB	**Onbets**	**2.48**	**252**	*e*S	**Sn**	**05 28 46.0**	**-0.6**
JMP	**Maruseppu**	**2.69**	**278**	P	**Pn**	**05 28 21.0**	**+0.7**
JCH	**Churui**	**2.91**	**249**	P	**Pn**	**05 28 23.4**	**+0.1**

IDC 05 05:28:20.4±2.0, 2.72N×126.19E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/35, mbtmp3.6/4, Error ellipse: s-maj=176.4km s-min=26.2km az=65.0, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.90**	**161**	P	P	05 33 36.0	0.0
	1.3nm,0.7s,baz=340,slow=11,SNR=13						
ASAR	**Alice Springs**	**27.28**	**164**	P	P	05 34 07.0	+0.3
	0.3nm,0.6s,baz=350,slow=7.3,SNR=4.1						
STKA	**Stephens Creek**	**37.39**	**158**	P	P	05 35 35.1	0.0
	1.6nm,0.7s,baz=338,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**58.08**	**326**	P	P	05 38 15.2	-0.4
	0.2nm,0.3s,baz=124,slow=8.3,SNR=3.6						

*ISCJB **05** 05:31:33.8±0.3, 7.21S±0.03×130.55E±0.04, h78km, Error ellipse: s-maj=5.7km s-min=4.7km az=177.5*
*NEIC **05** 05:31:34.3±1.9, 7.19S×130.58E, h65km±14km, mb4.3/28, Error ellipse: s-maj=15.4km s-min=6.5km az=217.0*
*IDC **05** 05:31:34.7±2.3, 7.165×130.53E, h105km±27km, mb3.5/3, mb1 4.2/8, mb1mx3.7/33, mbtmp4.5/8, Error ellipse: s-maj=32.4km s-min=20.6km az=97.0*

ISC 05 05:31:34.5±0.5, 7.20S±0.04×130.63E±0.05, h78km, n53, σ2.58/58, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.02**	**140**	*e*Pn	**Pn**	**05 31 53.0**	**-0.7**
FAKI	**Fak Fak**	**4.54**	**21**	*e*Pn	**Pn**	**05 32 41.9**	**+1.0**
FAKI				*e*Sn	**Sn**	**05 33 28.8**	**-3.7**
MTN	**Manton Dam**	**5.63**	**175**	*e*Pn	**Pn**	**05 32 58.9**	**+3.1**
MTN				*e*Sn	**Sn**	**05 34 01.4**	**+2.3**
SIJI	**Sorong**	**6.32**	**6**	P	**Pn**	**05 33 04.5**	**-0.6**
	baz=180,slow=18						
SIJI				S	**Sn**	**05 34 08.8**	**-7.1**
	10nm,0.3s,baz=233,slow=20,SNR=13						
SOEI	**Soe**	**6.79**	**248**	*e*Pn	**Pn**	**05 33 11.8**	**+0.2**
SOEI				*e*Sn	**Sn**	**05 34 26.6**	**-1.0**
BATI	**Baumata**	**7.51**	**246**	P	**P

SBUM	**Sibu**	**20.72**	**297**	*e*P	**P**	**05 36 09.7**	**+0.9**
	1.9nm,0.8s						
GIRL	**Giralia**	**22.03**	**224**	*e*P	**P**	**05 36 23.6**	**+0.9**
	190nm,1.6s						
FORT	**Forrest**	**23.58**	**186**	*e*P	**P**	**05 36 39.8**	**+1.5**
	27nm,0.9s						
GUMO	**Guam**	**25.03**	**34**	*e*P	**P**	**05 36 54.2**	**+2.7**
	204nm,1.2s						
MORW	**Morawa**	**25.74**	**211**	*e*P	**P**	**05 36 59.3**	**+1.4**
	16nm,1.5s						
YOJ	**Yonaguni jima**	**32.33**	**347**	*e*P	P	05 38 05.5	+9.1
	100nm,1.0s						
TOO	**Toolangi**	**33.11**	**158**	*e*P	**P**	**05 38 05.2**	**+2.0**
	32nm,1.5s						
PSI	**Prapat**	**33.16**	**286**	*e*P	**P**	**05 38 06.1**	**+2.0**
	7.9nm,1.2s						
HKPS	**Hong Kong Po S**	**33.45**	**332**	*e*P	**P**	**05 38 06.5**	**+0.2**
	131nm,1.5s						
CM31	**Chiang Mai Arr**	**40.34**	**310**	*e*P	**P**	**05 39 04.8**	**0.0**
	6.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.34**	**310**	P	**P**	**05 39 00.7**	**-4.1**
	0.7nm,0.3s,baz=139,slow=7.0,SNR=3.9						
MJAR	**Matsushiro Arr**	**44.09**	**9**	P	**P**	**05 39 32.3**	**-2.7**
	1.3nm,0.6s,baz=185,slow=9.3,SNR=6.4						
HHC	**Hu-ho-hao-te**	**50.93**	**341**	*e*P	**P**	**05 40 32.3**	**+4.2**
WMQ	**Urumqi**	**63.90**	**327**	*e*P	**P**	**05 42 03.4**	**+4.1**
MKAR	**Makanchi Array**	**68.73**	**327**	P	**P**	**05 42 27.6**	**-2.5**
	0.5nm,0.5s,baz=120,slow=8.7,SNR=3.7						
ARSB	**Arslanbob**	**71.46**	**318**	*e*P	**P**	**05 42 48.1**	**+1.1**
	8.1nm,0.4s						
SML	**Sawmill**	**92.07**	**28**	*e*P	P	05 44 49.3	+14
	18nm,1.0s						
SCM	**Sheep Creek Mo**	**92.54**	**28**	*e*P	P	05 44 48.4	+11
	80nm,0.9s						
KLU	**Klutina**	**93.14**	**29**	*e*P	**P**	**05 44 42.9**	**+3.1**
	17nm,0.8s						
DIV	**Divide**	**93.16**	**29**	*e*P	**P**	**05 44 42.1**	**+2.2**
	39nm,0.8s						

ISCJB ***05*** *05:33:34.0±0.2, 44°.90N±0°.01×6°.53E±0°.02, h5km±2km, Error ellipse: s-maj=2.1km s-min=1.7km az=135.3*
ROM ***05*** *05:33:35.6±0.2, 44°.884N±0°.006×6°.66E±0°.02, h9km, ML2.0/22, Error ellipse: s-maj=1.3km s-min=0.4km az=261.0*
GEN ***05*** *05:33:35.7, 44°.87N×6°.65E, h3km±2km, Ml2.0*
LDG ***05*** *05:33:36.4±0.1, 44°.87N×6°.68E, h2km, Md2.6/2, Ml2.6/26, Error ellipse: s-maj=1.3km s-min=1.1km az=71.0*
ISC 05 05:33:35.8±0.8, 44°.88N±0°.01×6.66E±0°.01, h11km±5km, n109, σ0°98/174, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Rocca Remolon**	**0.10**	**68**	P	**Pg**	**05 33 38.5**	**-0.2**
RRL				S	**Sg**	**05 33 40.2**	**-0.7**
RRL	**Rocca Remolon**	**0.10**	**68**	P	**Pg**	**05 33 38.5**	**-0.2**
RRL				S	**Sg**	**05 33 40.3**	**-0.7**
RRL				AML	AML		
	comp=E,2615μm,0.3s						
RRL				AML	AML		
	comp=N,5210μm,0.3s						
RRL				AML	AML		
	comp=E,2615μm,0.3s						
RRL				AML	AML		
	comp=N,5210μm,0.3s						
RRL				AML	AML		
	comp=N,5210μm,0.3s						
RRL				AML	AML		
	comp=E,2615μm,0.3s						
RRL	**Rocca Remolon**	**0.10**	**68**	S	**Sg**	**05 33 40.2**	**-0.7**
BNI	**Bardonecchia**	**0.17**	**6**	P	**Pg**	**05 33 39.6**	**-0.1**
BNI				S	**Sg**	**05 33 42.1**	**-0.3**
BNI				AML	AML		
	comp=E,284μm,0.3s						
BNI				AML	AML		
	comp=N,230μm,0.4s						
BNI				AML	AML		
	comp=E,358μm,0.3s						
BNI				AML	AML		
	comp=N,262μm,0.4s						
BNI				AML	AML		
	comp=E,284μm,0.3s						
BNI				AML	AML		
	comp=N,229μm,0.4s						
BNI				AML	AML		
	comp=E,358μm,0.3s						
BNI				AML	AML		
	comp=N,262μm,0.4s						
BNI				AML	AML		
	comp=E,284μm,0.3s						
BNI				AML	AML		
	comp=E,358μm,0.3s						
BNI				AML	AML		
	comp=N,229μm,0.4s						
BNI				AML	AML		
	comp=N,262μm,0.4s						
BNI	**Bardonecchia**	**0.17**	**6**	S	**Sg**	**05 33 42.1**	**-0.3**
MBDF	**Montbardon**	**0.17**	**152**	*e*Pg	**Pg**	**05 33 39.5**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**05 33 41.8**	**-0.6**
	comp=N,416nm,0.2s						
PZZ	**Stroppo**	**0.50**	**139**	P	**Pg**	**05 33 45.2**	**-0.3**
PZZ				S	**Sg**	**05 33 51.8**	**-0.3**
PZZ	**Stroppo**	**0.50**	**139**	P	**Pg**	**05 33 45.1**	**-0.3**
PZZ	**Stroppo**	**0.50**	**139**	P	**Pg**	**05 33 45.2**	**-0.3**
PZZ				S	**Sg**	**05 33 52.5**	**+0.4**
PZZ				AML	AML		
	comp=E,550μm,1.1s						
PZZ				AML	AML		
	comp=N,538μm,0.3s						
PZZ				AML	AML		
	comp=E,550μm,1.1s						
PZZ				AML	AML		
	comp=N,538μm,0.3s						
PZZ				AML	AML		
	comp=N,538μm,0.3s						
PZZ				AML	AML		
	comp=E,550μm,1.1s						
PZZ	**Stroppo**	**0.50**	**139**	S	**Sg**	**05 33 52.5**	**+0.4**
RSP	**Reno Superiore**	**0.51**	**58**	P	**Pg**	**05 33 45.9**	**+0.2**
RSP				S	**Sg**	**05 33 52.5**	**0.0**
RSP	**Reno Superiore**	**0.51**	**58**	P	**Pg**	**05 33 46.0**	**+0.2**
RSP				S	**Sg**	**05 33 52.7**	**+0.2**
RSP				AML	AML		
	comp=E,312μm,1.1s						
RSP				AML	AML		
	comp=N,256μm,0.1s						
RSP				AML	AML		
	comp=E,312μm,1.1s						
RSP				AML	AML		
	comp=N,256μm,0.1s						
RSP				AML	AML		
	comp=E,312μm,1.1s						
RSP				AML	AML		
	comp=N,256μm,0.1s						
RSP	**Reno Superiore**	**0.51**	**58**	P	**Pg**	**05 33 46.0**	**+0.2**
RSP	**Reno Superiore**	**0.51**	**58**	S	**Sg**	**05 33 52.5**	**0.0**
ORIF	**Oris-en-Rattie**	**0.55**	**274**	*e*Pg	**Pg**	**05 33 46.5**	**0.0**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**05 33 53.4**	**-0.4**
	comp=N,81nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.55**	**274**	P	**Pg**	**05 33 46.5**	**0.0**
ORIF	**Oris-en-Rattie**	**0.55**	**274**	P	**Pg**	**05 33 46.6**	**0.0**
ORIF				AML	AML		
	comp=E,140μm,0.3s						
ORIF				AML	AML		
	comp=N,108μm,0.6s						
ORIF				AML	AML		
	comp=N,108μm,0.6s						
ORIF				AML	AML		
	comp=E,140μm,0.3s						
ORIF	**Oris-en-Rattie**	**0.55**	**274**	S	**Sg**	**05 33 53.7**	**-0.2**
DOI	**San Damiano**	**0.57**	**132**	P	**Pg**	**05 33 46.5**	**-0.3**
DOI	**San Damiano**	**0.57**	**132**	P	**Pg**	**05 33 46.5**	**-0.3**
DOI				S	**Sg**	**05 33 54.6**	**+0.3**
DOI				AML	AML		
	comp=E,334μm,0.2s						
DOI				AML	AML		
	comp=N,285μm,0.8s						
DOI				AML	AML		
	comp=E,334μm,0.2s						
DOI				AML	AML		
	comp=N,286μm,0.8s						
DOI				AML	AML		
	comp=E,334μm,0.2s						
DOI				AML	AML		
	comp=N,286μm,0.8s						
DOI	**San Damiano**	**0.57**	**132**	S	**Sg**	**05 33 54.3**	**0.0**
LPG	**La Plagne**	**0.62**	**6**	*e*Pg	**Pg**	**05 33 48.1**	**+0.2**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**05 33 56.0**	**-0.1**
	comp=N,59nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**0.64**	**5**	*e*Pg	**Pg**	**05 33 48.2**	**0.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**05 33 56.7**	**+0.1**
	comp=N,71nm,0.5s,SNR=1.0						
LSD	**Lago del Serru**	**0.67**	**30**	P	**Pg**	**05 33 48.7**	**-0.1**
LSD				S	**Sg**	**05 33 57.4**	**-0.3**
LSD	**Lago del Serru**	**0.67**	**30**	P	**Pg**	**05 33 48.7**	**-0.1**
LSD				S	**Sg**	**05 33 57.5**	**-0.1**
LSD				AML	AML		
	comp=E,255μm,0.3s						
LSD				AML	AML		
	comp=N,164μm,1.1s						
LSD				AML	AML		
	comp=E,255μm,0.3s						
LSD				AML	AML		
	comp=N,164μm,1.1s						
LSD				AML	AML		
	comp=E,255μm,0.3s						
LSD				AML	AML		
	comp=N,164μm,1.1s						
LSD	**Lago del Serru**	**0.67**	**30**	S	**Sg**	**05 33 57.6**	**-0.1**
STV	**Sant Anna di V**	**0.80**	**143**	P	**Pg**	**05 33 50.7**	**-0.5**
STV				S	**Sg**	**05 34 01.0**	**-0.5**
STV	**Sant Anna di V**	**0.80**	**143**	P	**Pg**	**05 33 50.6**	**-0.5**
STV				S	**Sg**	**05 34 01.9**	**+0.4**
STV				AML	AML		
	comp=E,95μm,0.5s						
STV				AML	AML		
	comp=N,77μm,1.0s						
STV				AML	AML		
	comp=E,95μm,0.5s						
STV				AML	AML		
	comp=N,77μm,1.0s						
STV				AML	AML		
	comp=N,77μm,1.0s						
STV				AML	AML		
	comp=E,95μm,0.5s						
STV	**Sant Anna di V**	**0.80**	**143**	P	**Pg**	**05 33 50.9**	**-0.2**
STV	**Sant Anna di V**	**0.80**	**143**	P	**Pg**	**05 33 51.1**	**0.0**
STV	**Sant Anna di V**	**0.80**	**143**	S	**Sg**	**05 34 01.7**	**+0.2**
ENR	**Entracque**	**0.85**	**140**	P	**Pg**	**05 33 51.8**	**-0.4**
ENR				S	**Sg**	**05 34 03.1**	**-0.3**
ENR	**Entracque**	**0.85**	**140**	P	**Pg**	**05 33 52.0**	**-0.2**
ENR				S	**Sg**	**05 34 03.7**	**+0.3**
ENR				AML	AML		
	comp=E,124μm,0.8s						
ENR				AML	AML		
	comp=N,148μm,0.9s						
ENR				AML	AML		
	comp=E,124μm,0.8s						
ENR				AML	AML		
	comp=N,148μm,0.9s						
ENR				AML	AML		
	comp=N,148μm,0.9s						
ENR				AML	AML		
	comp=E,124μm,0.8s						
ENR	**Entracque**	**0.85**	**140**	P	**Pg**	**05 33 52.0**	**-0.2**
ENR	**Entracque**	**0.85**	**140**	P	**Pb**	**05 33 52.5**	**-0.1**
MONC	**Moncucco Torin**	**0.92**	**77**	P	**Pb**	**05 33 54.5**	**+0.8**
MONC				AML	AML		
	comp=E,328μm,0.6s						
MONC				AML	AML		
	comp=N,363μm,0.4s						
MONC				AML	AML		
	comp=E,328μm,0.6s						
MONC				AML	AML		
	comp=N,363μm,0.4s						
MONC	**Moncucco Torin**	**0.92**	**77**	P	**Pb**	**05 33 54.6**	**+0.8**
MRGE	**Morge**	**0.93**	**18**	P	**Pg**	**05 33 53.5**	**-0.3**
MRGE				AML	AML		
	comp=E,50μm,0.7s						
MRGE				AML	AML		
	comp=N,64μm,0.5s						
MRGE				AML	AML		
	comp=E,50μm,0.7s						
MRGE				AML	AML		
	comp=N,64μm,0.5s						
MRGE	**Morge**	**0.93**	**18**	P	**Pg**	**05 33 53.6**	**-0.2**
MRGE	**Morge**	**0.93**	**18**	P	**Pg**	**05 33 53.9**	**+0.1**
CIRO	**Champorcher**	**0.97**	**42**	P	**Pg**	**05 33 54.2**	**-0.2**
CIRO	**Champorcher**	**0.97**	**42**	P	**Pg**	**05 33 54.2**	**-0.2**
CIRO				S	**Sg**	**05 34 06.4**	**-0.7**
CIRO				AML	AML		
	comp=E,102μm,0.2s						
CIRO				AML	AML		
	comp=N,73μm,0.3s						
CIRO				AML	AML		
	comp=N,73μm,0.3s						
CIRO				AML	AML		
	comp=E,102μm,0.2s						
CIRO	**Champorcher**	**0.97**	**42**	S	**Sg**	**05 34 06.5**	**-0.6**
CIRO	**Champorcher**	**0.97**	**42**	S	**Sg**	**05 34 07.0**	**-0.1**
TRAV	**Traversella**	**1.00**	**50**	P	**Pg**	**05 33 54.6**	**-0.3**
TRAV				S	**Sg**	**05 34 07.3**	**-0.7**
TRAV	**Traversella**	**1.00**	**50**	P	**Pg**	**05 33 54.8**	**-0.2**
TRAV				S	**Sg**	**05 34 07.8**	**-0.1**
TRAV				AML	AML		
	comp=E,133μm,1.0s						
TRAV				AML	AML		
	comp=N,102μm,0.2s						
TRAV				AML	AML		
	comp=N,102μm,0.2s						
TRAV				AML	AML		
	comp=E,133μm,1.0s						
TRAV	**Traversella**	**1.00**	**50**	P	**Pg**	**05 33 54.8**	**-0.2**
TRAV	**Traversella**	**1.00**	**50**	S	**Sb**	**05 34 09.0**	**+0.7**
REMY	**Saint-Rhmy-en**	**1.02**	**20**	P	**Pg**	**05 33 55.3**	**-0.1**
REMY	**Saint-Rhmy-en**	**1.02**	**20**	P	**Pg**	**05 33 55.4**	**-0.1**
REMY				S	**Sg**	**05 34 09.2**	**+0.5**
REMY				AML	AML		
	comp=E,61μm,0.4s						
REMY				AML	AML		
	comp=N,75μm,0.6s						
REMY				AML	AML		
	comp=E,61μm,0.4s						
REMY				AML	AML		
	comp=N,75μm,0.6s						
REMY	**Saint-Rhmy-en**	**1.02**	**20**	P	**Pg**	**05 33 55.5**	**+0.1**
GBOS	**Grotte di Boss**	**1.06**	**127**	P	**Pg**	**05 33 55.7**	**-0.5**
GBOS				S	**Sb**	**05 34 10.2**	**+0.2**
GBOS				AML	AML		
	comp=E,105μm,0.4s						
GBOS				AML	AML		
	comp=N,86μm,0.4s						
GBOS				AML	AML		
	comp=N,86μm,0.4s						
GBOS				AML	AML		
	comp=E,105μm,0.4s						
SAOF	**Saorge**	**1.10**	**144**	P	**Pg**	**05 33 56.5**	**-0.4**
SAOF				AML	AML		
	comp=E,65μm,0.3s						
SAOF				AML	AML		
	comp=N,76μm,0.3s						
SAOF				AML	AML		
	comp=E,65μm,0.3s						
SAOF				AML	AML		
	comp=N,76μm,0.3s						
SAOF	**Saorge**	**1.10**	**144**	S	**Sb**	**05 34 12.0**	**+0.7**
SBF	**Sospel**	**1.16**	**151**	*e*Pg	**Pg**	**05 33 57.9**	**-0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**05 34 12.8**	**-0.4**
	comp=N,124nm,0.4s,SNR=1.0						
MGRO	**Montegrosso**	**1.18**	**135**	P	**Pg**	**05 33 57.4**	**-1.0**
MGRO				S	**Sb**	**05 34 14.3**	**+0.8**
MGRO				AML	AML		
	comp=E,65μm,0.7s						
MGRO				AML	AML		
	comp=N,53μm,0.4s						
MGRO				AML	AML		
	comp=E,65μm,0.7s						
MGRO				AML	AML		
	comp=N,53μm,0.4s						
MGRO	**Montegrosso**	**1.18**	**135**	P	**Pg**	**05 33 57.7**	**-0.7**
SMRF	**Simiane la Rot**	**1.19**	**221**	*e*Pg	**Pn**	**05 33 59.3**	**+0.9**
	SNR=1.0						
SMRF				*e*Sg	**Sn**	**05 34 17.0**	**+2.4**
	comp=N,52nm,0.6s,SNR=1.0						
ROTM	**Rocchetta Tana**	**1.21**	**91**	P	**Pn**	**05 33 59.5**	**+0.9**
ROTM				AML	AML		
	comp=E,153μm,0.5s						
ROTM				AML	AML		
	comp=N,232μm,1.0s						
ROTM				AML	AML		
	comp=N,232μm,1.0s						
ROTM				AML	AML		
	comp=E,153μm,0.5s						
ROTM	**Rocchetta Tana**	**1.21**	**91**	P	**Pn**	**05 33 59.5**	**+0.9**
RORO	**Rocca Rossa**	**1.27**	**127**	P	**Pg**	**05 33 59.2**	**-0.9**
RORO				AML	AML		
	comp=E,45μm,0.9s						
RORO				AML	AML		
	comp=N,49μm,0.2s						
RORO				AML	AML		
	comp=N,49μm,0.2s						
RORO				AML	AML		
	comp=E,45μm,0.9s						
NEGI	**Seborga**	**1.28**	**144**	P	**Pg**	**05 33 59.7**	**-0.6**
IMI	**Imperia**	**1.31**	**137**	P	**Pg**	**05 34 00.0**	**-1.0**
IMI	**Imperia**	**1.31**	**137**	P	**Pg**	**05 34 00.0**	**-1.0**
FRF	**La Foret Royal**	**1.32**	**180**	*e*Pg	**Pg**	**05 34 00.8**	**-0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**05 34 17.3**	**-0.9**
	comp=E,29nm,0.2s						
QLNO	**Quiliano**	**1.33**	**114**	P	**Pg**	**05 34 00.3**	**-1.0**
QLNO				AML	AML		
	comp=E,39μm,1.6s						
QLNO				AML	AML		
	comp=N,34μm,1.1s						
QLNO				AML	AML		
	comp=E,39μm,1.6s						
QLNO				AML	AML		
	comp=N,34μm,1.1s						
FINB	**Finale Ligure**	**1.39**	**120**	P	**Pn**	**05 34 01.3**	**+0.3**
PCP	**Piancastagn**	**1.39**	**103**	*i* P	**Pn**	**05 34 01.4**	**+0.3**
PCP				AML	AML		
	comp=E,43μm,0.3s						
PCP				AML	AML		
	comp=N,43μm,0.5s						
PCP				AML	AML		
	comp=N,43μm,0.5s						
PCP				AML	AML		
	comp=E,43μm,0.3s						
PCP	**Piancastagn**	**1.39**	**103**	P	**Pn**	**05 34 01.6**	**+0.5**
VIVF	**Saint-Julien-l**	**1.41**	**270**	*e*Pg	**Pg**	**05 34 03.2**	**+0.4**
	SNR=1.0						
VIVF				*e*Sn	**Sg**	**05 34 19.9**	**-1.2**
VIVF				*e*Sg	**Sn**	**05 34 21.8**	**+1.8**
	comp=E,8.4nm,0.2s,SNR=1.0						
MMK	**Mattmark**	**1.49**	**38**	P	**Pn**	**05 34 03.4**	**+0.7**
MMK				AML	AML		
	comp=E,24μm,1.5s						
MMK				AML	AML		
	comp=N,28μm,0.5s						
MMK				AML	AML		
	comp=N,28μm,0.5s						
MMK				AML	AML		
	comp=E,24μm,1.5s						
MMK	**Mattmark**	**1.49**	**38**	P	**Pn**	**05 34 03.6**	**+0.9**
LMR	**La Mourre**	**1.55**	**184**	*e*Pg	**Pg**	**05 34 05.2**	**-0.3**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**05 34 25.3**	**-0.3**
	comp=E,24nm,0.3s						
CABF	**La Chapelle**	**1.77**	**347**	*e*Pn	**Pn**	**05 34 06.9**	**+0.4**
	SNR=1.0						
CABF	**La Chapelle**	**1.77**	**347**	*e*Pg	**Pg**	**05 34 10.3**	**+0.5**
CABF				*e*Sn	**Sn**	**05 34 28.8**	**-0.3**
CABF				*e*Sg	**Sg**	**05 34 32.9**	**+0.1**
	comp=E,6.6nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.16**	**249**	*e*Pn	**Pn**	**05 34 11.8**	**+0.1**
	SNR=1.0						
LASF	**Ste Croix**	**2.16**	**249**	*e*Pg	**Pg**	**05 34 17.4**	**+0.3**
LASF				*e*Sn	**Sn**	**05 34 37.7**	**-0.8**
LASF				*e*Sg	**Sg**	**05 34 44.7**	**-0.4**
	comp=E,2.1nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**2.64**	**313**	*e*P	**Pn**	**05 34 20.7**	**+2.3**
	SNR=1.0						
SMF	**Signal de Mont**	**2.64**	**313**	*e*Pg	**Pg**	**05 34 26.2**	**-0.2**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**05 34 49.8**	**-0.6**
SMF				*e*Sg	**Sg**	**05 35 00.8**	**+0.1**
	comp=E,10.0nm,0.3s						
PGF	**Pioggiola**	**2.88**	**143**	*e*Pn	**Pn**	**05 34 22.5**	**+0.7**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**05 34 54.2**	**-2.3**
	comp=E,2.7nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**2.94**	**3**	*e*Pn	**Pn**	**05 34 22.8**	**+0.4**
	SNR=1.0						
HINF	**Hinteralfeld**	**2.94**	**3**	*e*Pg	**Pg**	**05 34 31.3**	**-0.8**
HINF				*e*Sn	**Sn**	**05 34 55.9**	**-1.9**
HINF				*e*Sg	**Sg**	**05 35 08.8**	**-1.3**
	comp=E,5.2nm,0.5s						
AVF	**Avril sur Loir**	**3.00**	**311**	*e*P	**Pn**	**05 34 25.5**	**+2.3**
AVF	**Avril sur Loir**	**3.00**	**311**	*e*Pg	**Pg**	**05 34 32.6**	**-0.5**
AVF				*e*Sn	**Sn**	**05 34 58.1**	**-1.0**
LOR	**Lormes**	**3.08**	**322**	*e*P	**Pn**	**05 34 26.8**	**+2.4**
	SNR=1.0						
LOR	**Lormes**	**3.08**	**322**	*e*Pg	**Pg**	**05 34 34.6**	**-0.1**
LOR				*e*Sn	**Sn**	**05 34 59.7**	**-1.5**
LOR				*e*Sg	**Sg**	**05 35 14.1**	**-0.6**
	comp=E,6.9nm,0.5s						
SSF	**Saint Saulge**	**3.10**	**316**	*e*P	**Pn**	**05 34 26.8**	**+2.3**
	SNR=1.0						
SSF	**Saint Saulge**	**3.10**	**316**	*e*Pg	**Pg**	**05 34 34.6**	**-0.4**
SSF				*e*Sn	**Sn**	**05 35 00.4**	**-1.1**
SSF				*e*Sg	**Sg**	**05 35 14.3**	**-0.8**
	comp=E,6.0nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**3.13**	**356**	*e*Pn	**Pn**	**05 34 25.1**	**0.0**
HAU	**Haudompre**	**3.13**	**356**	*e*Pg	**Pg**	**05 34 34.8**	**-1.0**
HAU				*e*Sg	**Sg**	**05 35 17.2**	**+0.9**
	comp=E,6.4nm,0.3s						
BGF	**Bois d'Agland**	**3.15**	**304**	*e*P	**Pn**	**05 34 27.3**	**+2.0**
BGF	**Bois d'Agland**	**3.15**	**304**	*e*Pg	**Pg**	**05 34 35.4**	**-0.7**
BGF				*e*Sn	**Sn**	**05 35 01.9**	**-1.0**
BGF				*e*Sg	**Sb**	**05 35 13.7**	**+3.5**
	comp=E,14nm,0.4s						
CAF	**Calviac**	**3.26**	**272**	*e*Pn	**Pn**	**05 34 27.5**	**+0.6**
CAF	**Calviac**	**3.26**	**272**	*e*Pg	**Pg**	**05 34 37.4**	**-0.8**
CAF				*e*Sn	**Sn**	**05 35 04.1**	**-1.6**
CAF				*e*Sg	**Sg**	**05 35 18.6**	**-1.9**
	comp=E,2.0nm,0.4s						
TCF	**Toulx Ste Croi**	**3.42**	**296**	*e*P	**Pn**	**05 34 31.9**	**+2.8**
TCF	**Toulx Ste Croi**	**3.42**	**296**	*e*Pg	**Pg**	**05 34 40.1**	**-1.2**
TCF				*e*Sn	**Sn**	**05 35 07.6**	**-2.1**
TCF				*e*Sg	**Sg**	**05 35 24.7**	**-1.0**
	comp=E,2.5nm,0.4s						
SFTF	**Sexfontaines**	**3.51**	**342**	*e*Pn	**Pn**	**05 34 30.4**	**+0.2**
SFTF	**Sexfontaines**	**3.51**	**342**	*e*Pg	**Pg**	**05 34 42.2**	**-0.7**
SFTF				*e*Sn	**Sn**	**05 35 10.0**	**-1.7**
SFTF				*e*Sg	**Sg**	**05 35 26.7**	**-1.6**
	comp=E,4.9nm,0.3s						
MTLF	**Montolieu**	**3.55**	**246**	*e*P	**Pn**	**05 34 33.6**	**+2.8**
MTLF	**Montolieu**	**3.55**	**246**	*e*Pg	**Pg**	**05 34 42.8**	**-0.9**
MTLF				*e*Sn	**Sn**	**05 35 11.1**	**-1.6**
MTLF				*e*Sg	**Sg**	**05 35 28.6**	**-1.0**
	comp=E,0.7nm,0.2s						
CDF	**Champ du Feu**	**3.56**	**7**	*e*Pn	**Pn**	**05 34 31.7**	**+0.7**
CDF	**Champ du Feu**	**3.56**	**7**	*e*Pg	**Pg**	**05 34 44.0**	**+0.1**
CDF				*e*Sn	**Sn**	**05 35 12.2**	**-0.9**
CDF				*e*Sg	**Sg**	**05 35 30.5**	**+0.5**
	comp=E,1.5nm,0.3s						
RJF	**Les Rejaudoux**	**3.66**	**278**	*e*Pg	**Pg**	**05 34 44.9**	**-1.0**
RJF				*e*Sn	**Sn**	**05 35 13.7**	**-1.9**
RJF				*e*Sg	**Sg**	**05 35 32.0**	**-1.4**
	comp=E,7.6nm,0.6s						
HYF	**Humbligny**	**3.68**	**312**	*e*Pn	**Pn**	**05 34 32.2**	**-0.3**
HYF				*e*Sn	**Sn**	**05 35 14.0**	**-1.9**
HYF				*e*Sg	**Sg**	**05 35 32.7**	**-1.0**
PAGF	**Fort de Pagny**	**3.73**	**350**	*e*Pn	**Pn**	**05 34 33.4**	**+0.1**
PAGF	**Fort de Pagny**	**3.73**	**350**	*e*Pg	**Pg**	**05 34 45.7**	**-1.5**
PAGF				*e*Sn	**Sn**	**05 35 15.4**	**-1.8**
PAGF				*e*Sg	**Sg**	**05 35 34.1**	**-1.4**
	comp=E,8.1nm,0.7s						
MEZF	**Maizieres J'vi**	**3.79**	**344**	*e*Pg	**Pg**	**05 34 47.0**	**-1.3**
MEZF				*e*Sg	**Sg**	**05 35 35.4**	**-1.9**
	comp=E,6.1nm,0.5s						
LFF	**La Frestale**	**4.20**	**273**	*e*Pn	**Pn**	**05 34 39.9**	**+0.2**
LFF	**La Frestale**	**4.20**	**273**	*e*Pg	**Pg**	**05 34 55.1**	**-1.1**
LFF				*e*Sg	**Sg**	**05 35 49.1**	**-1.5**
	comp=E,4.7nm,0.4s,SNR=1.0						

MEX 05 05:48:22.8±0.7, 15°.54N×92°.49W, h151km±6km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.66**	**161**	*e*P	Pn	05 48 43.8	-1.3
THIG				*e*S	Sn	05 49 00.2	-1.9
PCIG		**0.72**	**283**	*i* P	Pn	05 48 44.1	-1.3
PCIG				*e*S	Sn	05 49 01.1	-1.6
CCIG	**Comitan**	**0.81**	**25**	*e*P	Pn	05 48 45.5	-0.8
CCIG				*e*S	Sn	05 49 02.2	-2.2
TGIG		**1.37**	**334**	*e*P	Pn	05 48 49.9	-1.3
TGIG				*e*S	Sn	05 49 10.4	-2.6

TIR ***05*** *05:59:32.1, 40.˙62N×19.˚63E, h9km, Md2.7/4*
BEO ***05*** *05:59:39.5±1.2, 41.˚12N×20.˚48E, h34km, ML2.1/5*
SKO ***05*** *05:59:42.0, 41.˚26N×20.˚30E, h29km, M1.4, ML1.9*

ISC 05 05:59:42.4±1.2, 41˚29N±0.˚04×20˚31E±0.˚02, h2km±12km, n23, σ1§68/37, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.34**	**280**	*e*Pg	**Pb**	**05 59 51.0**	**-0.3**
TIR				*e*Sg	**Sb**	**06 00 00.3**	**+3.0**
TIR	**Tirane**	**0.34**	**280**	*i* Pg	**Pb**	**05 59 50.5**	**-0.8**
TIR	**Tirane**	**0.34**	**280**	*i* PG	**Pg**	**05 59 47.1**	**-2.0**
TIR				*i* SG	**Sb**	**05 59 57.3**	**+0.1**
OHR	**Ohrid**	**0.41**	**116**	*i* Pg	**Pg**	**05 59 51.3**	**+1.0**
OHR				*i* Sg	**Sb**	**05 59 58.4**	**-0.7**
OHR				*e*Lg	Lg	05 59 58.6 comp=E,128nm,0.6s	
OHR				*e*Lg	Lg	05 59 58.9 comp=N,62nm,0.3s	
KRUS	**Krusevo**	**0.71**	**83**	*i* Pg	**Pg**	**05 59 56.5**	**+0.5**
KRUS				*i* Sg	**Sb**	**06 00 07.8**	**-0.1**
KRUS				*e*Lg	Lg	06 00 08.0 comp=E,29nm,0.3s	
KRUS				*e*Lg	Lg	06 00 08.4 comp=N,27nm,0.5s	
BIA	**Bitola**	**0.81**	**109**	*i* Pg	**Pg**	**05 59 58.6**	**+0.7**
BIA				*i* Sg	**Sb**	**06 00 11.1**	**+0.4**
BIA				*e*Lg	Lg	06 00 11.4 comp=N,15nm,0.3s	
BIA				*e*Lg	Lg	06 00 11.6 comp=E,15nm,0.4s	
PUK	**Puka**	**0.82**	**337**	*i* PN	**Pn**	**05 59 59.3**	**-1.8**
PUK				*i* SN	**Sn**	**06 00 16.4**	**+2.5**
FNA	**Florina**	**0.95**	**122**	*i* Pg	**Pg**	**06 00 00.6**	**0.0**
FNA				*i* Sg	**Sg**	**06 00 14.3**	**+1.4**
FNA	**Florina**	**0.95**	**122**	*i* PN	**Pg**	**05 59 59.4**	**-1.2**
FNA				*i* SN	**Sg**	**06 00 14.3**	**+1.4**
ULC	**Ulcinj**	**1.05**	**310**	*i* Pg	**Pn**	**06 00 03.5**	**-0.8**
PDG	**Podgorica**	**1.39**	**326**	*e*Pg	**Pb**	**06 00 08.2**	**-0.9**
PDG				*e*Sg	**Sg**	**06 00 31.0**	**+3.9**
STIP	**Stip**	**1.46**	**73**	*i* Pn	**Pg**	**06 00 13.4**	**+2.9**
VAY	**Valandovo**	**1.70**	**88**	*e*Pn	**Pg**	**06 00 15.1**	**0.0**
BARS	**Barje**	**1.89**	**36**	*e*Pg	**Pn**	**06 00 15.5**	**-0.4**
BARS				*e*Sg	**Sg**	**06 00 42.9**	**-0.4**
KNT	**Kendrikon**	**1.95**	**93**	*i* Pn	**Pb**	**06 00 17.4**	**-1.3**
SJES	**Sjenica**	**1.99**	**353**	*e*Pg	**Pb**	**06 00 17.8**	**-1.7**
SJES				*e*Sg	**Sg**	**06 00 48.5**	**+2.2**
TREB	**Trebinje**	**2.04**	**315**	*e*Pg	**Pb**	**06 00 19.9**	**-0.4**
TREB				*e*Sg	**Sg**	**06 00 50.6**	**+2.5**
KKB	**Krupnik**	**2.16**	**74**	*i* Pn	**Pb**	**06 00 21.0**	**-1.3**
IVAS	**Ivanjica**	**2.29**	**357**	*e*Pg	**Pb**	**06 00 24.6**	**0.0**
STON	**Ston**	**2.51**	**310**	*i* Pn	**Pb**	**06 00 26.7**	**-1.5**
STON				Sn	**Sg**	**06 01 01.1**	**-1.9**
VTS	**Vitosha**	**2.55**	**58**	*e*Pg	**Pn**	**06 00 25.5**	**+0.5**
VTS				*e*Sg	**Sb**	**06 00 58.6**	**-2.4**
BOVS	**Bovan**	**2.56**	**23**	*e*Sg	**Sg**	**06 01 04.1**	**-0.6**
ZAPS	**Zavoj**	**2.63**	**40**	*e*Sg	**Sg**	**06 01 04.2**	**-2.6**

IDC 05 06:07:53.6±6.2, 16˚18S×177˚78W, h674km±73km, mb2.9/6, mb1 3.1/6, mb1mx2.8/35, mbtmp4.0/6, Error ellipse: s-maj=54.0km s-min=28.8km az=128.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**22.71**	**284**	P	P	06 12 10.3	+1.6 72nm,0.5s,baz=153,slow=4.5,SNR=4.2
PMG	**Port Moresby**	**34.81**	**277**	P	P	06 13 51.3	-0.9 7.2nm,0.4s,baz=54,slow=18,SNR=3.3
STKA	**Stephens Creek**	**40.00**	**240**	P	P	06 14 34.2	+0.4 0.6nm,0.4s,baz=90,slow=2.0,SNR=2.2
WRA	**Warramunga Arr**	**45.56**	**258**	P	P	06 15 15.9	-1.0 0.3nm,0.3s,baz=82,slow=6.2,SNR=12
ASAR	**Alice Springs**	**45.86**	**253**	P	P	06 15 19.3	+0.2 4.9nm,0.5s,baz=85,slow=7.9,SNR=99
ILAR	**Eielson Array**	**84.08**	**13**	P	P	06 19 13.6	-1.9 0.4nm,0.6s,baz=227,slow=6.1,SNR=4.1
TXAR	**Lajitas Array**	**84.57**	**58**	P	P	06 19 18.9	+0.1 0.4nm,0.7s,baz=213,slow=6.5,SNR=2.9
BRTR	**Keskin Array B**	**143.97**	**317**	PKP	PKPbc	06 26 14.7	-0.1 1.1nm,0.9s,baz=40,slow=2.5,SNR=5.4
GERES	**GERESS Array B**	**146.09**	**346**	PKPbc	PKiKP	06 26 21.9	-0.9 0.2nm,0.5s,baz=347,slow=4.0,SNR=3.5

ISCJB ***05*** *06:54:10.2±0.5, 36.˚30N±0.˚03×140.˚05E±0.˚06, h86km±3km, mb3.5/9, Error ellipse: s-maj=8.0km s-min=5.0km az=13.3*
IDC ***05*** *06:54:11.3±1.7, 36.˚29N×139.˚96E, h79km±14km, mb3.3/9, mb1 3.4/12, mb1mx3.2/52, mbtmp3.6/12, Error ellipse: s-maj=21.5km s-min=9.0km az=62.0*
JMA ***05*** *06:54:12.0, 36.˚30N×140.˚02E, h72km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕ_s=359.00000°, δ61.00000°, λ84.00000°. NP2: ϕ_s=191.00000°, δ29.00000°, λ100.00000°. Principal axes: T Plg73.0000°, Azm255.0000°; N Plg5.0000°, Azm2.0000°; P Plg16.0000°, Azm93.0000°;*
JMA Felt I J1.

ISC 05 06:54:11.1±0.8, 36˚32N±0.˚04×140˚05E±0.˚06, h78km±7km, n31, σ1§17/41, mb3.6/9, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.15**	**128**	⇑P	**Pn**	**06 54 22.8**	**+0.4**
JYT				*e*S	**Sn**	**06 54 30.6**	**-0.2**
JAG	**Ashikaga**	**0.49**	**282**	⇓P	**Pn**	**06 54 24.8**	**+0.2**
JAG				S	**Sn**	**06 54 34.2**	**-0.3**
JKT	**Katashina**	**0.78**	**305**	⇓P	**Pn**	**06 54 28.1**	**+0.5**
JKT				S	**Sn**	**06 54 40.4**	**+0.6**
JRY	**Ryogami san**	**0.97**	**252**	⇓P	**Pn**	**06 54 30.2**	**+0.4**
JRY				S	**Sn**	**06 54 43.7**	**0.0**
JFY	**Yanaizu**	**1.12**	**346**	P	**Pn**	**06 54 32.3**	**+0.8**
JFY				S	**Sn**	**06 54 47.1**	**+0.3**
JFT	**Otama**	**1.22**	**11**	⇑P	**Pn**	**06 54 33.9**	**+1.2**
JFT				S	**Sn**	**06 54 50.2**	**+1.3**
JHK	**Hiroka**	**1.24**	**319**	⇓P	**Pn**	**06 54 33.9**	**+0.9**
JHK				S	**Sn**	**06 54 50.3**	**+0.9**
JOD2	**Odawara 2**	**1.31**	**217**	⇓P	**Pn**	**06 54 34.2**	**+0.2**
JOD2				S	**Sn**	**06 54 50.2**	**-0.9**
JYN	**Shimob**	**1.47**	**236**	⇓P	**Pn**	**06 54 37.0**	**+1.0**
JYN				*e*S	**Sn**	**06 54 55.3**	**+0.5**
MJAR	**Matsushiro Arr**	**1.50**	**279**	P	**Pn**	**06 54 36.5**	**+0.1** 6.1nm,0.3s,baz=131,slow=8.8,SNR=381
MJAR				S	**Sn**	**06 54 53.4**	**-2.0** 3.5nm,0.3s,baz=92,slow=20,SNR=11
MAT	**Matsushiro**	**1.50**	**279**	P	**Pn**	**06 54 37.2**	**+0.9**
MAT				*e*S	**Sn**	**06 54 55.8**	**+0.4**
MAT	**Matsushiro**	**1.50**	**279**	P	**Pn**	**06 54 37.2**	**+0.9**
MAT				*e*S	**Sn**	**06 54 55.9**	**+0.5**
JFNN	**Fujinakano**	**1.58**	**225**	P	**Pn**	**06 54 38.0**	**+0.6**
JFNN				S	**Sn**	**06 54 56.9**	**-0.3**
JHJ	**Hachijo jima 2**	**3.20**	**184**	P	**Pn**	**06 54 59.5**	**+0.3** 26nm,0.3s,baz=317,slow=24,SNR=9.9
JHJ				S	**Sn**	**06 55 34.9**	**-1.4** 15nm,0.3s,baz=55,slow=16,SNR=4.9
ASAJ	**Asahikawa**	**8.03**	**13**	P	**Pn**	**06 56 04.6**	**-0.2** 0.2nm,0.3s,baz=233,slow=20,SNR=2.5
ASAJ				S	**Sn**	**06 57 29.1**	**-4.9** 0.2nm,0.3s,baz=106,slow=20,SNR=2.1
KSRS	**Korea Array**	**9.78**	**280**	P	**Pn**	**06 56 30.6**	**+1.7** 0.2nm,0.3s,baz=98,slow=14,SNR=5.5
H11N2	**WAKE ISLAND Hy**	**28.76**	**118**	T	T	07 30 12.4	baz=312,slow=75,SNR=3.0
H11N1	**WAKE ISLAND Hy**	**28.77**	**118**	T	T	07 30 11.8	baz=312,slow=75,SNR=6.1
H11N3	**WAKE ISLAND Hy**	**28.78**	**118**	T	T	07 30 12.3	baz=312,slow=75,SNR=4.2
H11S1	**WAKE ISLAND Hy**	**29.43**	**120**	T	T	07 31 05.7	baz=312,slow=74,SNR=9.3
H11S3	**WAKE ISLAND Hy**	**29.43**	**120**	T	T	07 31 08.3	baz=312,slow=74,SNR=6.3
H11S2	**WAKE ISLAND Hy**	**29.44**	**120**	T	T	07 31 05.1	baz=312
ZALV	**Zalesovo Beam**	**41.59**	**313**	P	**P**	**07 01 49.6**	**-1.4** 0.8nm,0.7s,baz=100,slow=6.8,SNR=3.7
MKAR	**Makanchi Array**	**43.57**	**303**	P	**P**	**07 02 07.4**	**+0.2** 0.8nm,0.8s,baz=91,slow=9.7,SNR=7.5
MKAR				PcP	**PcP**	**07 03 52.9**	**-0.6** 0.3nm,0.8s,baz=72,slow=4.7,SNR=2.6
KURBB	**Kurchatov Arra**	**45.58**	**308**	P	**P**	**07 02 22.4**	**-0.7** 0.8nm,0.5s,baz=86,slow=7.8,SNR=7.6
ILAR	**Eielson Array**	**50.68**	**32**	P	**P**	**07 03 03.4**	**+1.2** 0.3nm,0.7s,baz=256,slow=7.0,SNR=4.8
WRA	**Warramunga Arr**	**56.22**	**186**	P	**P**	**07 03 43.0**	**-0.2** 0.3nm,0.4s,baz=2.1,slow=7.6,SNR=15
ASAR	**Alice Springs**	**59.95**	**187**	P	**P**	**07 04 10.4**	**+1.2** 0.2nm,0.4s,baz=20,slow=10.0,SNR=4.5
FINES	**FINESS Array B**	**68.93**	**332**	P	**P**	**07 05 07.2**	**-0.2** 0.8nm,0.7s,baz=60,slow=5.5,SNR=3.5
AKASG	**Malin Array Be**	**74.18**	**322**	P	**P**	**07 05 38.2**	**-0.9** 0.1nm,0.3s,baz=46,slow=6.7,SNR=5.4
NOA	**NORSAR Array B**	**74.41**	**337**	P	**P**	**07 05 40.1**	**-0.2** 0.2nm,0.5s,baz=42,slow=8.0,SNR=2.6

IDC ***05*** *07:00:51.7±0.7, 13.˚48N×121.˚69E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.8/48, mbtmp3.9/14, MS3.4/13, Ms1 3.4/13, ms1mx3.1/46, Error ellipse: s-maj=21.0km s-min=9.3km az=51.0*
MAN ***05*** *07:00:54.9, 13.˚44N×121.˚49E, h13km, ML2.0, MS3.5*
NEIC ***05*** *07:00:54.8±1.7, 13.˚49N×121.˚54E, h21km±12km, mb4.3/7, Error ellipse: s-maj=12.2km s-min=6.1km az=79.0*
NEIC Felt [III PIVS] at Batangas, Luzon.

ISC 05 07:00:52.5±1.8, 13˚46N±0.˚03×121˚50E±0.˚03, h3km±11km, n63, σ1§93/69, mb4.1/22, MS3.2/13, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.33**	**90**	*e*P	**Pn**	**07 01 03.0**	**-1.2**
BOAC				*e*S	**Sb**	**07 01 09.0**	**+2.2**
PGP	**Puerto Galera**	**0.54**	**274**	⇑*e*P	**Pb**	**07 01 05.7**	**+1.1**
PGP				*i* S	**Sb**	**07 01 13.6**	**+0.8**
TGY	**Tagaytay City**	**0.84**	**319**	Pg	**Pn**	**07 01 10.9**	**-0.4** 1μm,0.3s,baz=173,slow=2.7,SNR=81
TGY				Lg	Lg	07 01 23.4 5μm,0.3s,baz=180,slow=20,SNR=30	
TGY	**Tagaytay City**	**0.84**	**319**	*e*P	**Pn**	**07 01 11.3**	**-0.1**
TGY				*e*S	**Sb**	**07 01 21.1**	**-0.5**
SJMP	**San Jose**	**1.06**	**201**	*e*P	**Pn**	**07 01 15.8**	**+1.4**
SJMP				*e*S	**Sn**	**07 01 37.2**	**+7.5**
AUQP	**San Andres**	**1.15**	**97**	*e*P	**Pn**	**07 01 17.9**	**+2.4**
AUQP				*e*S	**Sn**	**07 01 37.5**	**+5.8**
OTRP	**Odiongan**	**1.20**	**155**	*e*P	**Pb**	**07 01 15.9**	**0.0**
OTRP				*e*S	**Sn**	**07 01 33.2**	**0.0**
POLP	**Polilio Island**	**1.33**	**18**	*e*P	**Pb**	**07 01 18.5**	**+0.4**
POLP				*e*S	**Sn**	**07 01 37.9**	**+1.8**
BUSP	**Coron**	**1.93**	**221**	*e*P	**Pb**	**07 01 28.5**	**+0.1**
BUSP				*e*S	**Sb**	**07 01 52.5**	**-0.3**
RCP	**Roxas**	**2.25**	**147**	⇓*e*P	**Pb**	**07 01 32.4**	**-1.4**
BALP	**Baler**	**2.27**	**2**	*e*P	**Pb**	**07 01 32.9**	**-1.2**
BALP				*e*S	**Sg**	**07 02 06.7**	**+1.3**
PVCP	**Virac**	**2.58**	**87**	*e*P	**Pn**	**07 01 37.0**	**+1.8**
PVCP				*e*S	**Sg**	**07 02 15.9**	**+0.4**
CUYO	**Cuyo Island**	**2.64**	**190**	*e*P	**Pn**	**07 01 37.2**	**+1.1**
CUYO				*e*S	**Sn**	**07 02 09.8**	**+1.1**
JAP	**San Jose, Anti**	**2.73**	**171**	⇓*e*P	**Pb**	**07 01 41.2**	**-0.8**
SCZP	**Santa Cruz**	**2.77**	**326**	*e*P	**Pb**	**07 01 40.0**	**-2.7**
SMPP	**San Manuel, Pa**	**2.79**	**343**	*e*P	**Pn**	**07 01 39.1**	**+1.0**
SMPP				*e*S	**Sg**	**07 02 21.5**	**-0.6**
GUIM	**Jordan**	**3.01**	**159**	*e*P	**Pb**	**07 01 44.5**	**-2.3**
ENPP	**El Nido**	**3.03**	**222**	*e*P	**Pb**	**07 01 44.8**	**-2.2**
BOLP	**Bolinao**	**3.28**	**332**	*e*P	**Pn**	**07 01 47.3**	**+2.4**
BOLP				*e*S	**Sn**	**07 02 27.1**	**+2.5**
CAUP	**Cauayan**	**3.48**	**5**	*e*P	**Pn**	**07 01 49.4**	**+1.9**
LLP	**Lapu-Lapu**	**3.95**	**142**	*e*P	**Pn**	**07 01 54.4**	**+0.3**
LLP				*e*S	**Sn**	**07 02 41.3**	**+0.4**
ABRA	**Dolores**	**4.23**	**350**	*e*P	**Pn**	**07 02 00.7**	**+2.7**
APYP	**Conner**	**4.38**	**357**	*e*P	**Pn**	**07 02 02.4**	**+2.4**
KKM	**Kota Kinabalu**	**9.03**	**216**	*e*Pn	**Pn**	**07 03 05.1**	**+1.1**
PHRA	**Phrae**	**21.05**	**287**	P	**P**	**07 05 44.4**	**+6.5** 0.8nm,0.9s,132nm
JNU	**Nakatsue**	**21.36**	**22**	LR	LR	07 14 12.7 comp=Z,18nm,18.6s,baz=206,slow=38	
CM31	**Chiang Mai Arr**	**22.25**	**286**	*e*P	**P**	**07 05 50.6**	**-0.2** 6.3nm,0.7s
CMAR	**Chiang Mai Arr**	**22.25**	**286**	*e*P	**P**	**07 05 50.7**	**0.0**
CMAR	**Chiang Mai Arr**	**22.25**	**286**	P	**P**	**07 05 52.8**	**+2.0** 2.6nm,0.5s,baz=97,slow=8.0,SNR=7.9
CMAR				LR	LR	07 15 10.2 comp=Z,50nm,18.4s,baz=126,slow=38	
BATI	**Baunata**	**23.61**	**175**	P	**P**	**07 06 05.3**	**+0.4** 49nm,0.7s,baz=334,slow=5.1,SNR=5.6
KS15	**Wonju Array Si**	**24.55**	**12**	*e*P	**P**	**07 06 12.1**	**-1.5** 6.0nm,0.8s
KSRS	**Korea Array**	**24.57**	**12**	P	**P**	**07 06 14.1**	**+0.4** 0.5nm,0.5s,baz=202,slow=9.4,SNR=6.1
JAY	**Jayapura**	**24.80**	**128**	LR	LR	07 15 05.9 comp=Z,61nm,19.4s,baz=350,slow=35	
JHJ	**Hachijo jima 2**	**25.70**	**37**	LR	LR	07 15 10.2 comp=Z,69nm,18.7s,baz=80,slow=34	
WR1	**Warramunga Arr**	**35.52**	**159**	*e*P	**P**	**07 07 49.9**	**-1.0**
WRA	**Warramunga Arr**	**35.52**	**159**	P	**P**	**07 07 49.9**	**-1.0** 2.4nm,0.6s,baz=332,slow=10,SNR=28
WB2	**Warramunga Arr**	**35.52**	**159**	*e*P	**P**	**07 07 50.0**	**-0.9** 10nm,1.1s
SONA0	**Songino Array**	**36.51**	**343**	*e*P	**P**	**07 07 57.3**	**-2.0**
SONM	**Songino Array**	**36.51**	**343**	P	**P**	**07 07 57.3**	**-2.0** 0.6nm,0.6s,baz=167,slow=7.2,SNR=2.4
SONM				LR	LR	07 24 52.0 comp=Z,96nm,18.7s,baz=244,slow=39	
KLR	**Kul'dur**	**36.65**	**11**	P	**P**	**07 08 00.6**	**+0.3** 9.7nm,1.4s,baz=207,slow=6.7,SNR=4.4
AS31	**Alice Springs**	**38.84**	**162**	*e*P	**P**	**07 08 17.8**	**-1.4** 1.9nm,0.5s
ASAR	**Alice Springs**	**38.84**	**162**	P	**P**	**07 08 19.4**	**+0.2** 3.3nm,0.6s,baz=344,slow=7.8,SNR=55
MK32	**Makanchi Array**	**46.69**	**323**	*e*P	**P**	**07 09 22.7**	**0.0**
MKAR	**Makanchi Array**	**46.69**	**323**	P	**P**	**07 09 22.7**	**0.0** 0.2nm,0.5s,baz=129,slow=8.4,SNR=2.7
MKAR				LR	LR	07 30 43.8 comp=Z,26nm,19.0s,baz=72,slow=38	
PETK	**Petropavlovsk-**	**48.86**	**28**	LR	LR	07 31 01.1 comp=Z,20nm,19.3s,baz=360,slow=37	
STKA	**Stephens Creek**	**49.02**	**157**	*e*P	**P**	**07 09 41.3**	**+0.5** 1.8nm,1.0s
STKA	**Stephens Creek**	**49.02**	**157**	P	**P**	**07 09 39.0**	**-1.8** 2.6nm,0.7s,baz=332,slow=6.9,SNR=6.9
ZALV	**Zalesovo Beam**	**49.63**	**332**	P	**P**	**07 09 44.7**	**-0.5** 0.5nm,0.5s,baz=108,slow=4.7,SNR=2.4
ZALV				LR	LR	07 33 08.2 comp=Z,37nm,18.2s,baz=70,slow=39	
ZAA1	**Zalesovo Array**	**49.63**	**332**	*e*P	**P**	**07 09 44.7**	**-0.5**
AAK	**Ala-Archa**	**49.79**	**315**	LR	LR	07 32 04.3 comp=Z,44nm,21.4s,baz=110,slow=38	
KURK	**Kurchatov**	**50.82**	**326**	*e*P	**P**	**07 09 53.8**	**-0.4** 5.2nm,0.6s
KURBB	**Kurchatov Arra**	**50.82**	**326**	P	**P**	**07 09 54.1**	**-0.2** 1.0nm,0.7s,baz=122,slow=8.0,SNR=6.4
SEY	**Seymchan**	**54.01**	**17**	P	**P**	**07 10 17.4**	**-0.3** 1.0nm,0.7s,baz=248,slow=16,SNR=5.2
NRIK	**Noril'sk**	**59.82**	**347**	LR	LR	07 38 53.9 comp=Z,105nm,18.8s,baz=160,slow=38	
ABKAR	**Akbulak array**	**61.42**	**319**	*e*P	**P**	**07 11 09.8**	**-0.4**
AKTO	**Aktyubinsk**	**62.90**	**320**	LR	LR	07 41 25.8 comp=Z,42nm,18.2s,baz=129,slow=39	
GNI	**Garni**	**71.38**	**308**	LR	LR	07 48 20.8 comp=Z,13nm,19.6s,baz=248,slow=40	
KDAK	**Kodiak Island**	**76.56**	**33**	*e*P	**P**	**07 12 43.9**	**-0.2** 214nm,1.8s
INK	**Inuvik**	**83.03**	**21**	*e*P	**P**	**07 13 17.6**	**-1.4** 15nm,1.9s
INK	**Inuvik**	**83.03**	**21**	P	**P**	**07 13 17.7**	**-1.4** 1.0nm,1.0s,baz=296,slow=1.8,SNR=2.0
NOA	**NORSAR Array B**	**87.83**	**333**	P	**P**	**07 13 41.9**	**-1.3** 0.7nm,0.9s,baz=69,slow=5.0,SNR=2.9
NOA				LR	LR	07 57 37.2 comp=Z,42nm,18.4s,baz=65,slow=39	
YKA	**Yellowknife Ar**	**92.69**	**23**	P	**P**	**07 14 05.7**	**-0.1** 0.2nm,0.9s,baz=318,slow=4.6,SNR=4.6
YKB5	**Yellowknife Ar**	**92.69**	**23**	*e*P	**P**	**07 14 05.7**	**-0.1**

IDC ***05*** *07:26:32.9±1.0, 28.˚48N×52.˚23E, h0km, mb3.7/13, mb1 3.8/15, mb1mx3.6/46, mbtmp3.7/15, ML3.6/3, MS3.0/7, Ms1 3.0/7, ms1mx2.7/45, Error ellipse: s-maj=22.1km s-min=17.4km az=15.0*
ISCJB ***05*** *07:26:34.5±0.4, 28.˚48N±0.˚03×52.˚07E±0.˚04, h16km, mb3.7/14, MS3.0/4, Error ellipse: s-maj=6.2km s-min=3.3km az=152.3*
THR ***05*** *07:26:36.1, 28.˚47N×52.˚21E, h38km, ML3.7*
TEH ***05*** *07:26:36.4, 28.˚60N×52.˚19E, h17km, ML3.9*
OMAN ***05*** *07:26:41.0±1.6, 28.˚00N×51.˚99E, h18km, ml4.0/4, Error ellipse: s-maj=16.8km s-min=11.7km az=121.0*

ISC 05 07:26:35.9±0.6, 28˚53N±0.˚05×52˚21E±0.˚06, h16km, n63, σ1§87/66, mb3.7/14, MS2.9/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.73**	**110**	*e*AML	AML	07 27 13.4 comp=E,3μm,0.2s	
GHIR				*e*Pg	**Pg**	**07 26 50.2**	**0.0**
GHIR				*e*Sg	**Sb**	**07 27 00.8**	**+0.6**
GHIR				*e*AML	AML	07 27 15.8 comp=N,3μm,0.5s	
SHI	**Shiraz**	**1.14**	**14**	*e*Pg	**Pb**	**07 26 56.7**	**-0.6**
SHI				*e*Sg	**Sb**	**07 27 11.9**	**0.0**
SHI				IAMB	IAmb	07 27 16.9 comp=Z,18μm,0.5s	
JHRM	**Jahrom**	**1.21**	**91**	*e*Pg	**Pg**	**07 27 00.5**	**+1.3**
IKAZ	**Kazeroun**	**1.28**	**346**	IAMB	IAmb	07 27 26.0 comp=Z,30μm,0.5s	
IPAR	**Pars**	**1.50**	**29**	IAMB	IAmb	07 27 32.2 comp=N,24μm,1.2s	
IPAR				*e*Pg	**Pn**	**07 27 04.2**	**+1.8**
IMEH	**Mehriz**	**3.53**	**36**	*e*Pn	**Pn**	**07 27 32.6**	**+2.3**
ISAD	**Sadrabad**	**3.60**	**20**	*e*Pn	**Pn**	**07 27 34.0**	**+2.6**
BNDS	**Bandar-Abbas**	**3.69**	**107**	*e*Pn	**Pn**	**07 27 32.5**	**+0.1**
BNDS	**Bandar-Abbas**	**3.69**	**107**	*e*P	**Pn**	**07 27 32.5**	**+0.1**
GENO	**Geno**	**3.69**	**107**	*e*Pn	**Pn**	**07 27 33.6**	**+1.2**
JHBN	**Jahan bin**	**3.92**	**341**	*e*Pn	**Pn**	**07 27 38.3**	**+2.6**
NGRK	**Negar Kerman**	**4.11**	**73**	*e*Pn	**Pn**	**07 27 41.0**	**+2.6**
KHGB	**Koh Gabri**	**4.15**	**63**	*e*Pn	**Pn**	**07 27 40.7**	**+1.8**
ICHK	**Chekchek**	**4.16**	**27**	*e*Pn	**Pn**	**07 27 40.1**	**+1.2**
NIAN	**Nian**	**4.21**	**102**	*e*Pn	**Pn**	**07 27 43.0**	**+3.6**
TVBK	**TV Kerman**	**4.24**	**69**	*e*Pn	**Pn**	**07 27 42.7**	**+2.6**
SHME	**Shamm**	**4.29**	**124**	*e*Pn	**Pn**	**07 27 41.5**	**+1.0**
IZEF	**Zefreh**	**4.35**	**1**	*e*Pn	**Pn**	**07 27 43.0**	**+1.4**
YZKH	**Yazd**	**4.36**	**28**	*e*Pn	**Pn**	**07 27 43.1**	**+1.5**
YZKH	**Yazd**	**4.36**	**28**	*e*Pn	**Pn**	**07 27 43.1**	**+1.5**
AJN	**Ajban**	**4.67**	**147**	*e*Pn	**Pn**	**07 27 49.8**	**+4.0**
NAZ	**Nazwa, Dubai**	**4.69**	**138**	*e*Pn	**Pn**	**07 27 48.7**	**+2.6**
MSFE	**Esma-Masafi**	**4.74**	**131**	*e*Pn	**Pn**	**07 27 49.3**	**+2.6**
ASUD	**Al Ashush, Dub**	**4.79**	**144**	*e*Pn	**Pn**	**07 27 50.7**	**+3.3**
IKLH	**Kolahrood**	**4.80**	**354**	*e*Pn	**Pn**	**07 27 49.1**	**+1.3**
ANAR	**Anarak**	**4.82**	**15**	*e*Pn	**Pn**	**07 27 49.7**	**+1.7**
FAQ	**Al Faqa, Dubai**	**4.84**	**140**	P	**Pn**	**07 27 50.2**	**+2.1**
FAQ				S	**Sn**	**07 28 45.4**	**+1.6**
FAQ	**Al Faqa, Dubai**	**4.84**	**140**	*e*Pn	**Pn**	**07 27 49.6**	**+1.5**
CHMN	**Cheshme madani**	**4.85**	**73**	*e*Pn	**Pn**	**07 27 50.2**	**+1.7**
HATD	**Hatta, Dubai**	**5.10**	**136**	P	**Pn**	**07 27 53.5**	**+1.9**
HATD				S	**Sn**	**07 28 50.5**	**+0.3**
HATD	**Hatta, Dubai**	**5.10**	**136**	*e*Pn	**Pn**	**07 27 53.7**	**+2.1**
ASHO	**Ashiyiah**	**5.16**	**137**	P	**Pn**	**07 27 54.2**	**+1.7** SNR=6.2
ASHO				S	**Sn**	**07 28 51.9**	**+0.2**
ASHO	**Ashiyiah**	**5.16**	**137**	*e*Pn	**Pn**	**07 27 54.6**	**+2.1**
KRSH	**Karshahi**	**5.42**	**359**	*e*Pn	**Pn**	**07 27 57.2**	**+1.0**
ALNE	**Al Ain**	**5.48**	**144**	*e*Pn	**Pn**	**07 28 00.4**	**+3.5**
KHMZ	**Khomeyn**	**5.54**	**340**	*e*Pn	**Pn**	**07 27 58.8**	**+1.0**
KHMZ	**Khomeyn**	**5.54**	**340**	*e*Pn	**Pn**	**07 27 58.8**	**+1.0**
MZR	**Muzera**	**5.63**	**168**	*e*Pn	**Pn**	**07 28 03.2**	**+4.3**
TPRV	**Parvadeh(Tabas**	**5.91**	**40**	*e*Pn	**Pn**	**07 28 04.2**	**+1.3**
TKDS	**Koohdasht(Taba**	**6.59**	**39**	*e*Pn	**Pn**	**07 28 13.6**	**+1.4**
WSAR	**Wadi Sarin**	**7.83**	**131**	Pn	**Pn**	**07 28 28.1**	**-1.0** comp=N,1.8nm,0.3s,baz=315,slow=12,SNR=12
WSAR				Sn	**Sn**	**07 29 53.2**	**-4.2** comp=N,0.6nm,0.3s,baz=323,slow=20,SNR=3.6
MHTO	**MHTO**	**9.16**	**144**	P	**Pn**	**07 28 48.3**	**+0.9** SNR=6.7
MHTO				S	**

ISC 05 08:20:38.2±0.3,**13°42N**±0°.04×**49°64E**±0°.04,**h10**km,**n446**, σ1§**86**/486,**mb4.8**/169,**MS4.4**/65,**29C-26D**,**Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAMY	**Dhamar**	**5.22**	**283**	*e*Pn	**Pn**	**08 21 56.4**	**-0.3**
ABTO	**Aybut**	**5.27**	**42**	P	**Pn**	**08 21 55.7**	**-1.5**
	SNR=15						
ABTO				S	**Sn**	**08 22 53.4**	**-4.6**
WHFO	**Wadi Hawf**	**5.99**	**41**	P	**Pn**	**08 22 05.3**	**-1.8**
RBK	**Rabkut**	**5.99**	**47**	P	**Pn**	**08 22 05.4**	**-1.7**
	SNR=16						
RBK				S	**Sn**	**08 23 13.7**	**-2.1**
DMTO	**DMTO**	**6.67**	**49**	P	**Pn**	**08 22 14.7**	**-1.6**
	SNR=12						
NJRNS	**Najran**	**6.73**	**309**	P	**Pn**	**08 22 16.7**	**-0.6**
NJRNS				S	**Sn**	**08 23 29.4**	**-4.8**
ATD	**Arta Tunnel**	**6.89**	**255**	*e*Pn	**Pn**	**08 22 18.4**	**-1.0**
ATD	**Arta Tunnel**	**6.89**	**255**	Pn	**Pn**	**08 22 18.3**	**-1.1**
	8.1nm,0.3s,baz=65,slow=20,SNR=19						
ATD				Sn	**Sb**	**08 23 57.1**	**-3.5**
	baz=45,slow=22,SNR=1.3						
ATD				LR	LR	08 24 22.9	
	comp=Z,6μm,19.6s,baz=68,slow=33						
DJNS	**Zahran al Janu**	**7.25**	**307**	P	**Pn**	**08 22 24.0**	**-0.6**
DJNS				S	**Sn**	**08 23 41.1**	**-6.1**
KNGHS	**KNGHS**	**7.64**	**310**	P	**Pn**	**08 22 29.7**	**-0.3**
RHWAS	**RHWAS**	**7.76**	**317**	P	**Pn**	**08 22 30.2**	**-1.3**
TATS	**Tathlith**	**8.48**	**317**	P	**Pn**	**08 22 41.1**	**-0.3**
DQM	**DQM**	**9.96**	**48**	P	**Pn**	**08 23 00.6**	**-1.0**
	SNR=5.0						
MHTO	**MHTO**	**10.95**	**45**	P	**Pn**	**08 23 13.2**	**-1.9**
MHTO				S	**Sn**	**08 25 15.7**	**-2.0**
FURI	**Furi**	**11.65**	**248**	*e*Pn	**Pn**	**08 23 23.5**	**-1.5**
ASUD	**Al Ashush, Dub**	**12.38**	**25**	Pn	**Pn**	**08 23 31.2**	**-3.5**
SMDO	**Samad**	**12.48**	**39**	P	**Pn**	**08 23 33.0**	**-3.1**
	SNR=7.4						
FAQ	**Al Faqa, Dubai**	**12.59**	**26**	Pn	**Pn**	**08 23 35.4**	**-2.2**
NAZ	**Nazwa, Dubai**	**12.84**	**25**	Pn	**Pn**	**08 23 39.0**	**-1.9**
BIDO	**Bidbid**	**12.87**	**37**	P	**Pn**	**08 23 39.9**	**-1.5**
BIDO				S	**Sn**	**08 25 58.6**	**-6.2**
WSAR	**Wadi Sarin**	**12.97**	**40**	Pn	**Pn**	**08 23 39.4**	**-3.3**
	0.5nm,0.3s,baz=244,slow=13,SNR=3.9						
WSAR				Sn	Sn	08 25 57.3	-10
	0.8nm,0.3s,baz=95,slow=15,SNR=4.9						
WSAR				LR	LR	08 28 35.6	
	comp=Z,2μm,20.3s,baz=235,slow=37						
MSFE	**Esma-Masafi**	**13.37**	**26**	Pn	**Pn**	**08 23 45.4**	**-2.8**
SHME	**Shamm**	**13.97**	**25**	Pn	**Pn**	**08 23 53.2**	**-3.3**
SHME				Sn	Sn	08 26 20.0	-12
MSEY	**Mahe Island**	**18.89**	**162**	*e*P	**P**	**08 24 57.2**	**-1.8**
	50nm,1.2s						
MSEY	**Mahe Island**	**18.89**	**162**	*e*P	**P**	**08 24 57.2**	**-1.8**
MSEY				pmax	pmax		
	comp=Z,50nm,1.2s						
KMBO	**Kilima Mbogo**	**18.96**	**221**	*e*P	**P**	**08 24 58.6**	**-1.5**
	comp=Z,25nm,1.6s						
KMBO				*e*S	**Sn**	**08 28 34.0**	**+0.6**
KMBO	**Kilima Mbogo**	**18.96**	**221**	*e*P	**P**	**08 24 58.6**	**-1.5**
KMBO				pmax	pmax		
	comp=Z,25nm,1.6s						
KMBO	**Kilima Mbogo**	**18.96**	**221**	P	**P**	**08 25 00.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=25,slow=9.2,SNR=5.5						
KMBO				S	**Sn**	**08 28 34.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=94,slow=11,SNR=2.3						
KMBO				LR	LR	08 31 50.6	
	comp=Z,1μm,19.2s,baz=36,slow=36						
EIL	**Elat**	**21.13**	**322**	*e*P	**P**	08 25 45.6	+22
EIL	**Elat**	**21.13**	**322**	P	P	08 25 45.4	+22
EIL	**Elat**	**21.13**	**322**	P	**P**	**08 25 25.3**	**+1.9**
	comp=Z,14nm,0.9s,baz=145,slow=8.8,SNR=12						
EIL				S	Sn	08 29 26.6	+1.5
	comp=Z,1.5nm,0.4s,baz=284,slow=22,SNR=1.8						
HSNJ	**Maan**	**21.14**	**325**	P	**P**	**08 25 28.9**	**+5.3**
	comp=Z,290nm,1.4s						
JDRJ	**Daraweish**	**21.51**	**325**	P	**P**	**08 25 33.2**	**+5.6**
	comp=Z,76nm,1.0s						
GHAJ	**Ghor Haditha**	**22.01**	**326**	P	**P**	**08 25 32.6**	**-0.2**
ASF	**Jabal al Asfar**	**22.02**	**330**	P	**P**	**08 25 34.0**	**+1.0**
	comp=Z,53nm,1.1s						
ASF	**Jabal al Asfar**	**22.02**	**330**	P	**P**	**08 25 34.0**	**+1.0**
	comp=Z,39nm,1.1s,baz=104,slow=4.2,SNR=54						
ASF				S	**S**	**08 29 40.5**	**+4.5**
	comp=Z,0.6nm,0.3s,baz=67,slow=21,SNR=1.6						
ASF				LR	LR	08 33 57.8	
	comp=Z,1μm,18.9s,baz=102,slow=36						
WALJ	**Wala**	**22.08**	**327**	P	**P**	**08 25 36.3**	**+2.8**
	comp=Z,104nm,1.0s						
SHMJ	**Saham**	**23.03**	**329**	P	**P**	**08 25 38.5**	**-5.1**
TOTH	**TOTAH**	**23.22**	**331**	*e*P	**P**	**08 25 48.0**	**+2.4**
TOTH				AML	AML	08 34 26.8	
	comp=E,13nm,0.4s						
TOTH				AML	AML	08 34 41.4	
	comp=N,18nm,0.4s						
MBAR	**Mbarara**	**23.34**	**235**	LR	LR	08 34 08.8	
	comp=N,679nm,20.4s,baz=43,slow=35						
QASN	**Qassioun**	**23.43**	**331**	*e*P	**P**	**08 25 49.7**	**+1.9**
QASN				AML	AML	08 33 49.3	
	comp=E,46nm,0.3s						
QASN				AML	AML	08 34 14.1	
	comp=N,21nm,1.0s						
MMAI	**Mount Meron Ar**	**23.44**	**329**	P	**P**	**08 25 49.8**	**+1.9**
	comp=N,7.2nm,0.6s,baz=140,slow=9.2,SNR=15						
MMAI				LR	LR	08 35 48.8	
	comp=N,2μm,19.6s,baz=150,slow=39						
BRBR	**Barbar**	**23.49**	**330**	*e*P	**P**	**08 25 50.1**	**+1.6**
BRBR				*e*S	**S**	**08 29 57.4**	**-5.1**
BRBR				AML	AML	08 33 42.9	
	comp=N,9.6nm,0.9s						
BRBR				AML	AML	08 33 51.3	
	comp=E,9.4nm,0.7s						
SHBL	**Chebaa**	**23.54**	**330**	*e*P	**P**	**08 25 49.6**	**+0.7**
MNCI	**Minicoy**	**23.55**	**100**	*e*P	**P**	**08 25 50.7**	**+1.6**
	comp=E,236nm,1.4s						
BHL	**Bhannes**	**24.03**	**330**	*e*P	**P**	**08 25 54.9**	**+1.3**
SIRT	**Sirnak**	**24.83**	**346**	*e*P	**P**	**08 26 02.1**	**+1.2**
SIRT	**Sirnak**	**24.83**	**346**	*e*P	**P**	**08 26 02.4**	**+1.6**
	comp=E,148nm,0.8s						
MAZI	**Mazidag**	**25.31**	**343**	*e*P	**P**	**08 26 06.0**	**+0.8**
GEYT	**Alibeck**	**25.55**	**16**	P	**P**	**08 26 07.8**	**+0.4**
	comp=E,571nm,0.4s,baz=202,slow=7.4,SNR=36						
GEYT				LR	LR	08 36 27.3	
	comp=E,1μm,20.5s,baz=205,slow=37						
GYA0B	**ALIBECK ARRAY**	**25.55**	**16**	*e*P	**P**	**08 26 07.7**	**+0.4**
	comp=E,31nm,0.9s						
VANB	**Van**	**25.68**	**349**	*e*P	**P**	**08 26 10.7**	**+2.1**
SVAN	**Silvan-Diyarba**	**25.75**	**345**	*e*P	**P**	**08 26 11.2**	**+2.0**
URFA	**Urfa**	**25.80**	**340**	*e*P	**P**	**08 26 12.0**	**+2.3**
EREN	**Erenkoy**	**26.06**	**330**	*e*P	**P**	**08 26 11.7**	**-0.2**
CLDR	**Caldiran**	**26.12**	**350**	*e*P	**P**	**08 26 13.6**	**+0.9**
GAZ	**Gaziantep**	**26.14**	**337**	*e*P	**P**	**08 26 13.9**	**+1.2**
MLAZ	**Malazgirt-MUS**	**26.38**	**348**	*e*P	**P**	**08 26 17.7**	**+2.7**
YURE	**YUREGIR**	**26.47**	**334**	*e*P	**P**	**08 26 17.7**	**+2.0**
CEYT	**Ceyhan**	**26.58**	**335**	*e*P	**P**	**08 26 11.7**	**-4.9**
BNGB	**Bingl**	**26.68**	**344**	*e*P	**P**	**08 26 19.8**	**+2.2**
AGRB	**Hanur-Agry**	**26.71**	**349**	*e*P	**P**	**08 26 20.5**	**+2.5**
KOZT	**Kozan**	**26.95**	**335**	*e*P	**P**	**08 26 20.9**	**+0.9**
GNI	**Garni**	**26.98**	**352**	*e*P	**P**	**08 26 19.9**	**-0.4**
GNI	**Garni**	**26.98**	**352**	*e*P	**P**	**08 26 22.5**	**+2.1**
	comp=E,70nm,1.0s						
GNI	**Garni**	**26.98**	**352**	P	**P**	**08 26 21.8**	**+1.4**
GNI	**Garni**	**26.98**	**352**	*c i* P	**P**	**08 26 22.4**	**+2.1**
GNI				pmax	pmax		
	comp=Z,328nm,1.3s						
GNI	**Garni**	**26.98**	**352**	P	**P**	**08 26 22.2**	**+1.9**
	comp=Z,52nm,0.9s,baz=117,slow=2.0,SNR=14						
GNI				LR	LR	08 38 56.1	
	comp=Z,3μm,18.2s,baz=170,slow=41						
MERS	**Mersin**	**26.99**	**333**	*e*P	**P**	**08 26 18.9**	**-1.5**
KARA	**Karaisali**	**27.08**	**334**	*e*P	**P**	**08 26 21.5**	**+0.3**
YEDI	**Yedisu-Bingol**	**27.13**	**344**	*e*P	**P**	**08 26 23.3**	**+1.5**
KBL	**Kabul**	**27.41**	**37**	*e*P	**P**	**08 26 27.1**	**+2.7**
	comp=Z,22nm,1.0s						
KBL	**Kabul**	**27.41**	**37**	*e*P	**P**	**08 26 27.1**	**+2.7**
KBL				pmax	pmax		
	comp=Z,22nm,1.0s						
SENK	**Senkaya-Erzuru**	**27.79**	**348**	*e*P	**P**	**08 26 34.0**	**+6.3**
HYB	**Hyderabad**	**28.14**	**78**	*i* P	**P**	**08 26 32.0**	**+1.1**
AKH	**Akhalkalaki**	**28.40**	**350**	*e*P	**P**	**08 26 34.8**	**+1.7**
	comp=Z,21nm,1.1s						
AKH	**Akhalkalaki**	**28.40**	**350**	*e*P	**P**	**08 26 34.8**	**+1.7**
AKH				pmax	pmax		
	comp=Z,21nm,1.1s						
TBLG	**Delisi**	**28.53**	**352**	*e*P	**P**	**08 26 35.4**	**+1.4**
TBLG	**Delisi**	**28.53**	**352**	*e*P	**P**	**08 26 35.5**	**+1.4**
TBLG				pmax	pmax		
	comp=Z,54nm,1.4s						
TBLG	**Delisi**	**28.53**	**352**	*e*P	**P**	**08 26 35.5**	**+1.4**
TBLG				pmax	pmax		
	comp=Z,54nm,1.4s						
SVSK	**Karacayir**	**28.65**	**339**	*e*P	**P**	**08 26 34.5**	**-0.6**
KONT	**Konya--Tatoy**	**28.86**	**331**	*e*P	**P**	**08 26 38.4**	**+1.3**
H08N2	**Diego Garcia H**	**28.89**	**131**	T	T	08 56 42.9	
	baz=313,slow=76,SNR=16						
H08N3	**Diego Garcia H**	**28.90**	**132**	T	T	08 56 46.7	
	baz=313,slow=76,SNR=16						
H08N1	**Diego Carcia H**	**28.91**	**131**	T	T	08 56 45.0	
	baz=313,slow=76,SNR=18						
LADK	**Ladik-KONYA**	**29.07**	**331**	*e*P	**P**	**08 26 39.4**	**+0.4**
ELL	**Elmali**	**29.19**	**326**	*e*P	**P**	**08 26 41.1**	**+1.0**
MAK	**Makhachkala**	**29.50**	**357**	*e*P	**P**	**08 26 39.0**	**-3.6**
MAK				*e*		08 27 34.1	
MAK				*e*S	**S**	**08 31 32.7**	**-4.3**
MAK				pmax	pmax		
	comp=Z,38nm,0.4s						
MAK				MLR	MLR		
	comp=Z,978nm,14.0s						
ISP	**Isparta**	**29.67**	**328**	*e*P	**P**	**08 26 39.8**	**-4.6**
ISP	**Isparta**	**29.67**	**328**	*e*P	**P**	**08 26 43.9**	**-0.5**
	comp=Z,17nm,1.0s						
ISP	**Isparta**	**29.67**	**328**	*e*P	**P**	**08 26 43.9**	**-0.5**
ISP				pmax	pmax		
	comp=Z,17nm,1.0s						
ZEI	**Tsey**	**29.68**	**351**	*e*P	**P**	**08 26 42.7**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,22nm,1.4s						
BRTR	**Keskin Array B**	**29.75**	**335**	*e*P	**P**	**08 26 45.2**	**+0.1**
BRTR	**Keskin Array B**	**29.75**	**335**	*i* P	**P**	**08 26 45.7**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRTR	**Keskin Array B**	**29.75**	**335**	P	**P**	**08 26 46.3**	**+1.2**
	comp=Z,6.2nm,0.8s,baz=155,slow=10,SNR=41						
BRTR				LR	LR	08 40 32.2	
	comp=Z,961nm,18.0s,baz=130,slow=40						
BR101	**Keskin Array S**	**29.76**	**335**	*e*P	**P**	**08 26 46.4**	**+1.2**
BR131	**Keskin Array S**	**29.76**	**335**	*e*P	**P**	**08 26 45.3**	**+0.2**
	comp=Z,13nm,0.9s						
GROC	**Groznyy**	**29.86**	**354**	*e*P	**P**	**08 26 47.7**	**+1.8**
GROC				*e*		08 27 45.0	
GROC				pmax	pmax		
	comp=Z,13nm,0.4s						
BR231	**Keskin MP Arra**	**30.22**	**334**	*e*P	**P**	**08 26 51.2**	**+2.0**
	comp=Z,40nm,0.8s						
SHUT	**Suhut-Afyon**	**30.22**	**329**	*e*P	P	08 26 42.4	-6.8
ANTO	**Ankara**	**30.23**	**334**	*e*P	**P**	**08 26 51.1**	**+1.8**
ANTO	**Ankara**	**30.23**	**334**	*e*P	**P**	**08 26 50.0**	**+0.7**
	comp=Z,58nm,0.9s						
ANTO	**Ankara**	**30.23**	**334**	⇓*i* P	**P**	**08 26 51.6**	**+2.3**
LOD	**Lodumlu**	**30.26**	**334**	*e*P	**P**	**08 26 50.7**	**+1.1**
NEY	**Neytrino**	**30.32**	**350**	⇓*e*P	**P**	**08 26 53.0**	**+2.9**
NEY				pmax	pmax		
	comp=Z,4.0nm,1.5s						
NCK	**Nalchik**	**30.42**	**351**	⇓*e*P	**P**	**08 26 52.0**	**+1.2**
SVRH	**Sivrihisar-ESK**	**30.46**	**332**	*e*P	**P**	**08 26 51.7**	**+0.4**
CHGR	**Chuyangaron**	**30.52**	**31**	*e*P	**P**	**08 26 51.3**	**-0.6**
	comp=Z,26nm,0.9s						
DGAR	**Diego Garcia**	**30.69**	**131**	*e*P	**P**	**08 26 52.5**	**-0.9**
	comp=Z,231nm,1.1s						
KBZ	**Khabaz**	**30.76**	**350**	P	**P**	**08 26 55.6**	**+1.9**
	comp=Z,6.4nm,0.8s,baz=190,slow=5.3,SNR=15						
KBZ				LR	LR	08 40 45.0	
	comp=Z,1μm,21.1s,baz=180,slow=39						
AUMIH	**MIHALICIK**	**30.81**	**332**	*e*P	**P**	**08 26 54.5**	**0.0**
ILGA	**Ilgaz**	**30.85**	**336**	*e*P	**P**	**08 26 54.2**	**-0.7**
	comp=Z,56nm,1.1s						
KIV	**Kislovodsk**	**31.01**	**350**	*e*P	**P**	**08 26 57.6**	**+1.4**
KIV	**Kislovodsk**	**31.01**	**350**	*e*P	**P**	**08 26 57.5**	**+1.4**
	comp=Z,25nm,1.3s						
KIV	**Kislovodsk**	**31.01**	**350**	P	**P**	**08 26 58.0**	**+1.9**
KIV	**Kislovodsk**	**31.01**	**350**	*e*P	**P**	**08 26 57.8**	**+1.7**
KIV				*e*		08 32 04.3	
KIV				pmax	pmax		
	comp=Z,46nm,1.0s						
KIV				MLR	MLR		
	comp=Z,2μm,15.0s						
SNOP	**Sinop**	**31.13**	**339**	*e*P	**P**	**08 26 56.6**	**-0.5**
	comp=Z,17nm,1.0s						
PALK	**Pallekele**	**31.14**	**98**	P	**P**	**08 26 59.4**	**+1.8**
	comp=Z,11nm,0.9s,baz=293,slow=6.9,SNR=2.0						
KULA	**Kula-Manisa**	**31.16**	**327**	*e*P	P	08 26 50.4	-7.1
MANT	**Manisa**	**31.20**	**327**	*e*P	**P**	**08 26 58.6**	**+0.7**
	comp=Z,139nm,1.4s						
SOC	**Sochi**	**31.25**	**346**	*e*P	**P**	**08 26 57.8**	**-0.3**
SOC				*e*		08 27 59.2	
SOC				*e*S	**S**	**08 32 06.0**	**+1.4**
SOC				pmax	pmax		
	comp=Z,17nm,0.8s						
SOC				MLR	MLR		
	comp=Z,1μm,12.0s						
GAR	**Garm**	**31.36**	**32**	*e*P	**P**	**08 27 00.5**	**+1.2**
	comp=Z,20nm,1.0s						
MDUB	**Mudurnu**	**31.43**	**332**	*e*P	**P**	**08 27 00.3**	**+0.5**
	comp=Z,53nm,1.0s						
TVSB	**Tavsanli**	**31.45**	**329**	*e*P	**P**	**08 26 58.1**	**-2.0**
SANT	**Santorini**	**31.51**	**321**	*e*P	**P**	**08 26 59.1**	**-1.4**
	comp=Z,32nm,0.9s						
AUBOZ	**BOZOYUK**	**31.53**	**330**	*e*P	**P**	**08 27 01.7**	**+1.0**
CAVI	**Cavuskoy**	**31.84**	**331**	*e*P	**P**	**08 27 04.9**	**+1.5**
KURC	**Kurucasile-Bar**	**31.91**	**336**	*e*P	**P**	**08 27 04.2**	**+0.3**
APE	**Apeiranthos**	**31.92**	**322**	⇓*i*P	**P**	**08 27 06.3**	**+2.2**
ABPO	**Ambohimpanom**	**32.32**	**184**	*e*P	**P**	**08 27 04.5**	**-3.4**
	comp=Z,20nm,1.4s						
BALB	**Balikesir**	**32.40**	**328**	*e*P	**P**	**08 27 09.1**	**+0.8**
	comp=Z,98nm,1.2s						
HRT	**Hereke**	**32.41**	**331**	*e*P	**P**	**08 27 07.2**	**-1.2**
CHOS	**Chios island**	**32.50**	**324**	P	**P**	**08 27 11.7**	**+2.4**
ANKY	**Antikythira Is**	**32.56**	**318**	P	**P**	**08 27 14.3**	**+4.6**
ANN	**Anapa**	**32.96**	**344**	*e*P	**P**	**08 27 10.6**	**-2.5**
ANN				*e**PP	**pP**	**08 27 14.8**	**-0.7**
ANN				*e*		08 28 21.6	
ANN				*e*S	**S**	**08 32 29.4**	**-1.8**
ANN				pmax	pmax		
	comp=Z,25nm,1.1s						
ANN				MLR	MLR		
	comp=N,945nm,14.0s						
ANN				MLR	MLR		
	comp=Z,1μm,14.0s						
ANN				MLR	MLR		
	comp=E,547nm,14.0s						
VLY	**Voula,Athens**	**33.48**	**321**	P	**P**	**08 27 19.0**	**+1.3**
SIM	**Simferopol'**	**34.09**	**340**	*c i*P	**P**	**08 27 24.4**	**+1.4**
SIM				*e*S	**S**	**08 32 55.9**	**+7.1**
SIM				MLR	MLR		
	comp=Z,270nm,15.0s						
ITM	**Ithomi**	**34.23**	**319**	*e*P	**P**	**08 27 24.7**	**+0.3**
	comp=Z,16nm,1.2s						
SMTH	**Samothraki Isl**	**34.24**	**326**	P	**P**	**08 27 26.1**	**+1.7**
ALN	**Alexandroupoli**	**34.27**	**327**	*e*P	**P**	**08 27 21.1**	**-3.5**
ALN	**Alexandroupoli**	**34.27**	**327**	*e*P	**P**	**08 27 25.1**	**+0.5**
	comp=Z,15nm,1.1s						
ALN	**Alexandroupoli**	**34.27**	**327**	P	**P**	**08 27 27.0**	**+2.4**
AOS	**Alonnisos**	**34.28**	**323**	*e*P	**P**	**08 27 25.3**	**+0.6**
AOS	**Alonnisos**	**34.28**	**323**	P	**P**	**08 27 26.2**	**+1.5**
PYUN	**Piuthan**	**34.30**	**60**	*e*P	**P**	**08 27 25.8**	**+0.5**
	comp=Z,121nm,1.2s						
GUR	**Goura**	**34.42**	**320**	P	**P**	**08 27 27.4**	**+1.3**
ARSB	**Arslanbob**	**34.46**	**32**	*e*P	**P**	**08 27 27.6**	**+1.3**
	comp=Z,28nm,1.4s						
ATAL	**Atalanti**	**34.48**	**322**	P	**P**	**08 27 27.0**	**+0.5**
DSF	**Desfina**	**34.60**	**321**	P	**P**	**08 27 27.9**	**+0.3**
KK31	**Karatay Array**	**34.63**	**27**	*e*P	**P**	**08 27 27.2**	**-0.4**
	comp=Z,5.2nm,0.9s						
KKAR	**Karatay Array**	**34.63**	**27**	*e*P	**P**	**08 27 27.2**	**-0.4**
	comp=Z,5.2nm,0.9s						
KKAR				*e*P	**P**	**08 27 29.2**	**+1.5**
KOLN	**Koldanda**	**34.72**	**60**	*e*P	**P**	**08 27 29.3**	**+0.4**
	comp=Z,70nm,1.0s						
RDO	**Rodhopi**	**34.72**	**327**	P	**P**	**08 27 30.1**	**+1.6**
DRO	**Drossia**	**34.83**	**320**	P	**P**	**08 27 30.8**	**+1.3**
KSH	**Kashi**	**34.85**	**37**	P	**P**	**08 27 29.7**	**-0.1**
KSH				sP	pwP	08 27 36.7	+1.8
KSH				PP	**PnPn**	**08 28 46.7**	**+0.5**
KSH				S	**S**	**08 32 56.4**	**-4.5**
KSH				SS	**SnSn**	**08 35 05.9**	**-8.9**
KSH				pmax	pmax		
	comp=Z,16nm,0.4s						
KSH				pmax	pmax		
	comp=Z,280nm,4.7s						
KSH				LR	LR		
	comp=Z,400nm,9.0s						
KSH				LR	LR		
	comp=Z,340nm,6.8s						
TRIZ	**Trizonia**	**34.85**	**320**	P	**P**	**08 27 30.9**	**+1.2**
PAIG	**Paliouri**	**34.90**	**324**	P	**P**	**08 27 31.6**	**+1.6**
DANN	**Dangsing**	**35.02**	**59**	*e*P	**P**	**08 27 31.8**	**+0.1**
	comp=Z,86nm,0.8s						
AGG	**Agios Georgios**	**35.11**	**322**	*e*P	**P**	**08 27 31.7**	**-0.2**
	comp=Z,12nm,1.0s						
KDZ	**Kurdzhali**	**35.15**	**328**	*e*P	**P**	**08 27 36.0**	**+3.8**
KDZ	**Kurdzhali**	**35.15**	**328**	P	P	08 27 37.0	+4.8
PVO	**Paravola**	**35.35**	**320**	P	**P**	**08 27 35.2**	**+1.3**
RZN	**Rozhen**	**35.54**	**327**	P	**P**	**08 27 37.0**	**+1.2**
LSZ	**Lusaka**	**35.54**	**217**	P	**P**	**08 27 37.7**	**+1.8**
	comp=Z,1.0nm,0.4s,baz=73,slow=14,SNR=1.9						
THL	**Klokotos Trika**	**35.64**	**322**	P	**P**	**08 27 36.4**	**0.0**
GKN	**Gorkha**	**35.66**	**60**	*e*P	**P**	**08 27 37.0**	**0.0**
LIT	**Litokhoron**	**35.70**	**323**	P	**P**	**08 27 37.8**	**+0.8**
SRS	**Serrai**	**35.75**	**325**	P	**P**	**08 27 38.8**	**+1.4**
TIRR	**Tirgusor**	**35.86**	**334**	*e*P	**P**	**08 27 38.6**	**+0.4**
	comp=Z,19nm,1.0s						
TIRR	**Tirgusor**	**35.86**	**334**	⇓*i*P	**P**	**08 27 39.5**	**+1.3**
DMN	**Daman**	**35.95**	**61**	*e*P	**P**	**08 27 39.8**	**+0.2**
	comp=Z,68nm,1.1s						
SZH	**Strazhica**	**36.07**	**330**	P	**P**	**08 27 40.0**	**-0.1**
TLB	**Topalu**	**36.12**	**334**	⇑*i*P	**P**	**08 27 41.7**	**+1.3**
NRN	**Naryn**	**36.14**	**34**	*e*P	**P**	**08 27 41.1**	**0.0**
	comp=Z,16nm,0.8s						
KKN	**Kakani**	**36.15**	**61**	*e*P	**P**	**08 27 41.3**	**+0.1**
	comp=Z,169nm,1.3s						
AAK	**Ala-Archa**	**36.18**	**32**	*e*P	**P**	**08 27 42.0**	**+0.7**
	comp=Z,36nm,1.6s						
AAK	**Ala-Archa**	**36.18**	**32**	P	**P**	**08 27 44.7**	**+3.4**
AAK	**Ala-Archa**	**36.18**	**32**	⇑*e*P	**P**	**08 27 43.3**	**+2.0**
AAK				pmax	pmax		
	comp=Z,21nm,3.5s						
PKIN	**Phulchoki**	**36.19**	**61**	*e*P	**P**	**08 27 41.4**	**-0.2**
PKI	**Pulchoki**	**36.20**	**61**	*e*P	**P**	**08 27 41.4**	**-0.4**
	comp=Z,110nm,1.4s						
VAY	**Valandovo**	**36.46**	**325**	*i* P	**P**	**08 27 44.4**	**+1.0**
CFR	**Carcaliu**	**36.55**	**334**	⇓*i*P	**P**	**08 27 45.5**	**+1.4**
IGT	**Igoumenitsa**	**36.64**	**321**	P	**P**	**08 27 46.3**	**+1.3**
ABKAR	**Akbulak array**	**36.73**	**11**	*e*P	**P**	**08 27 45.6**	**0.0**
	comp=Z,23nm,1.2s						
ABKAR				*e*P	**P**	**08 27 45.8**	**+0.1**
FNA	**Florina**	**36.79**	**323**	*e*P	**P**	**08 27 45.4**	**-0.9**
	comp=Z,18nm,1.2s						
FNA	**Florina**	**36.79**	**323**	P	**P**	**08 27 47.1**	**+0.8**
STIP	**Stip**	**36.92**	**325**	*i* P	**P**	**08 27 47.7**	**+0.3**
BIA	**Bitola**	**36.97**	**323**	*i* P	**P**	**08 27 49.5**	**+1.7**
VTS	**Vitosha**	**36.98**	**327**	*e*P	**P**	**08 27 47.9**	**-0.1**
	comp=Z,11nm,1.0s						
VTS	**Vitosha**	**36.98**	**327**	⇑*i*P	**P**	**08 27 49.2**	**+1.2**
VTS	**Vitosha**	**36.98**	**327**	P	**P**	**08 27 49.0**	**+1.0**
RAMN	**Ramite**	**37.06**	**63**	*e*P	**P**	**08 27 48.9**	**-0.2**
	comp=Z,101nm,1.2s						
TARG	**Taragay, Kyrgy**	**37.35**	**36**	*e*P	**P**	**08 27 51.0**	**-0.5**
	comp=Z,22nm,1.2s						
VRI	**Vrincioaia**	**37.70**	**334**	*e*P	**P**	**08 27 55.1**	**+1.2**
VRI	**Vrincioaia**	**37.70**	**334**	⇑*i*P	**P**	**08 27 55.9**	**+2.0**
PLOR	**Plostina**	**37.72**	**334**	⇑*i*P	**P**	**08 27 55.6**	**+1.4**
MLR	**Muntele Rosu**	**37.75**	**333**	*e*P	**P**	**08 27 54.7**	**+0.2**
	comp=Z,35nm,1.3s						
MLR	**Muntele Rosu**	**37.75**	**333**	⇓*i*P	**P**	**08 27 56.0**	**+1.5**
KIS	**Kishinev**	**37.76**	**337**	⇑*i*P	**P**	**08 27 54.0**	**-0.3**
	comp=Z,140nm,1.2s						
KIS	**Kishinev**	**37.76**	**337**	*e*PP	PP	08 29 24.0	+3.4
KIS				*e*S	**S**	**08 33 46.0**	**+1.1**
KIS				LRM	MLR	08 46 40.0	
	comp=Z,800nm,18.0s						
KIS	**Kishinev**	**37.76**	**

KOLS	**Kolonicke sedl**	**41.99 333**	*e*P		**P**	**08 28 31.6 +2.0**
PSZ	**Piszkesteto**	**42.36 330**	*e*P		**P**	**08 28 33.2 +0.4**
	comp=Z,12nm,1.0s					
PSZ	**Piszkesteto**	**42.36 330**	⇑*i*P		**P**	**08 28 33.1 +0.4**
PSZ	**Piszkesteto**	**42.36 330**	*e*P		**P**	**08 28 32.0 -0.7**
KEST	**Kesra**	**42.44 309**	*e*P		**P**	**08 28 33.4 -0.2**
	comp=Z,46nm,1.6s					
KEST	**Kesra**	**42.44 309**	P		**P**	**08 28 33.4 -0.2**
	comp=Z,3.5nm,0.7s,baz=63,slow=11,SNR=2.6					
KEST			LR		LR	08 46 12.6
	comp=Z,709nm,19.2s,baz=322,slow=36					
TAM	**Tamanrasset**	**42.82 289**	*e*P		**P**	**08 28 36.0 -0.9**
	comp=Z,4.9nm,1.0s					
BRVK	**Borovoye**	**42.83 18**	*e*P		**P**	**08 28 35.8 -0.5**
	comp=Z,7.4nm,0.9s					
BRVK	**Borovoye**	**42.83 18**	⇓*e*P		**P**	**08 28 37.1 +0.8**
BRVK			pmax		pmax	
	comp=Z,7.0nm,1.1s					
OBN	**Obninsk**	**42.84 349**	*e*P		**P**	**08 28 36.9 +0.6**
OBN			*e*			08 30 25.4
OBN			*e*PPP		PPP	08 30 47.2
OBN			*e*S		**S**	**08 35 03.1 +2.6**
OBN			pmax		pmax	
	comp=Z,49nm,1.6s					
OBN			MLR		MLR	
	comp=Z,609nm,16.0s					
MAKZ	**Makanchi**	**42.92 33**	*e*P		**P**	**08 28 37.8 +0.5**
	comp=Z,11nm,0.8s					
MK31	**Makanchi Array**	**43.08 33**	*e*P		**P**	**08 28 38.8 +0.3**
	comp=Z,12nm,1.1s					
MK32	**Makanchi Array**	**43.08 33**	*e*P		**P**	**08 28 38.3 -0.2**
MKAR	**Makanchi Array**	**43.08 33**	*e*P		**P**	**08 28 38.6 +0.2**
MKAR	**Makanchi Array**	**43.08 33**	*i* P		**P**	**08 28 38.7 +0.2**
MKAR			pmax		pmax	
	comp=Z,3.0nm,0.6s					
MKAR	**Makanchi Array**	**43.08 33**	P		**P**	**08 28 38.3 -0.2**
	comp=Z,2.5nm,0.6s,baz=220,slow=7.7,SNR=22					
MKAR			LR		LR	08 48 47.9
	comp=Z,548nm,19.2s,baz=236,slow=39					
MOS	**Moscow**	**43.25 350**	*e*P		**P**	**08 28 38.6 -1.0**
MOS			*e*			08 30 20.0
MOS			*e*S		**S**	**08 35 06.6 +0.1**
MOS			pmax		pmax	
	comp=Z,33nm,1.3s					
VYHS	**Vyhne**	**43.27 330**	*e*P		**P**	**08 28 40.6 +0.6**
VYHS			pmax		pmax	
	comp=Z,4.0nm,0.9s					
VYHS	**Vyhne**	**43.27 330**	*e*P		**P**	**08 28 40.6 +0.6**
ARU	**Arti**	**43.47 7**	*e*P		**P**	**08 28 41.6 +0.1**
	comp=Z,8.8nm,0.9s					
ARU	**Arti**	**43.47 7**	*d i*P		**P**	**08 28 41.2 -0.2**
ARU						08 30 19.2
ARU						08 30 29.5
ARU			S		**S**	**08 35 11.5 +1.7**
ARU			SS		**SS**	**08 38 22.9 -1.2**
ARU			pmax		pmax	
	comp=Z,11nm,1.1s					
ARU			MLR		MLR	
	comp=Z,511nm,20.0s					
GROS	**Grobnik**	**43.67 326**	*i* P		**P**	**08 28 44.4 +1.1**
SOP	**Sopron**	**43.87 328**	*e*P		**P**	**08 28 45.1 +0.2**
MODS	**Modra-Piesok**	**43.96 329**	*e*P		**P**	**08 28 45.0 -0.5**
MODS			pmax		pmax	
	comp=Z,14nm,1.3s					
MODS	**Modra-Piesok**	**43.96 329**	*e*P		**P**	**08 28 45.0 -0.5**
KURK	**Kurchatov**	**44.02 26**	*e*P		**P**	**08 28 47.2 +1.2**
	comp=Z,8.9nm,0.8s					
KURK	**Kurchatov**	**44.02 26**	⇑*e*P		**P**	**08 28 47.3 +1.3**
KURK			pmax		pmax	
	comp=Z,6.0nm,1.0s					
OJC	**Ojcow**	**44.03 333**	*e*P		**P**	**08 28 46.5 +0.4**
OJC	**Ojcow**	**44.03 333**	*e*P		**P**	**08 28 45.9 -0.2**
	comp=Z,19nm,1.4s					
OJC	**Ojcow**	**44.03 333**	*e*P		**P**	**08 28 46.5 +0.4**
SOKA	**Soboth**	**44.05 326**	*e*P		**P**	**08 28 47.7 +1.3**
	comp=Z,9.9nm,1.1s					
JAVC	**Velka Javorina**	**44.09 330**	*e*P		**P**	**08 28 47.5 +0.9**
JAVC			*e*			08 30 36.8
SVE	**Sverdlovsk**	**44.13 9**	*e*P		**P**	**08 28 47.0 +0.2**
SVE			pmax		pmax	
	comp=Z,19nm,1.3s					
ARSA	**Arzberg**	**44.14 327**	*e*P		**P**	**08 28 48.4 +1.4**
	comp=Z,2.8nm,0.7s					
MOZS	**Mozjanca**	**44.15 325**	*i* P		**P**	**08 28 48.4 +1.2**
OBKA	**Obir**	**44.22 325**	P		**P**	**08 28 49.3 +1.6**
	comp=Z,13nm,1.1s					
CONA	**Conrad Observa**	**44.39 328**	*e*P		**P**	**08 28 50.1 +1.0**
	comp=Z,14nm,1.0s,SNR=16					
WMQ	**Urumqi**	**44.47 40**	P		**P**	**08 28 52.1 +2.3**
WMQ			pP		pwP	08 28 55.9 +0.9
WMQ			sP		sP	08 28 59.2 +5.9
WMQ			S		**S**	**08 35 28.3 +3.4**
WMQ			sS		sS	08 35 33.8 +4.8
WMQ			pmax		pmax	
	comp=Z,12nm,0.7s					
WMQ			pmax		pmax	
	comp=Z,110nm,3.9s					
WMQ			LR		LR	
	comp=Z,3μm,24.5s					
WMQ			LR		LR	
	comp=Z,3μm,27.9s					
WMQ			LR		LR	
	comp=Z,870nm,31.5s					
OKC	**Ostrava-Krasne**	**44.52 331**	*e*P		**P**	**08 28 49.9 -0.1**
OKC			*e*S		**S**	**08 35 31.7 +6.3**
OKC			MLR		MLR	
	comp=Z,300nm,20.1s					
OKC	**Ostrava-Krasne**	**44.52 331**	*e*P		**P**	**08 28 49.9 -0.1**
OKC			*e*S		**S**	**08 35 31.7 +6.3**
OKC			AMS		AMS	08 55 00.0
	comp=Z,300nm,20.1s					
MORC	**Moravsky Berou**	**44.77 331**	*e*P		**P**	**08 28 52.1 +0.1**
	comp=Z,6.0nm,0.8s					
MORC	**Moravsky Berou**	**44.77 331**	⇑*i*P		**P**	**08 28 52.1 +0.1**
MORC	**Moravsky Berou**	**44.77 331**	*e*P		**P**	**08 28 52.3 +0.3**
MYKA	**Terra Mystica**	**44.80 325**	*e*P		**P**	**08 28 53.5 +1.2**
	comp=Z,30nm,1.7s,SNR=7.9					
LBTB	**Lobatse**	**44.82 212**	*e*P		**P**	**08 28 52.7 -0.1**
	comp=Z,12nm,1.1s					
LBTB	**Lobatse**	**44.82 212**	P		**P**	**08 28 52.7 -0.1**
	comp=Z,1.9nm,0.6s,baz=39,slow=13,SNR=2.9					
KRUC	**Moravsky**	**44.85 329**	*e*P		**P**	**08 28 52.8 +0.2**
VRAC	**Vranov**	**44.91 330**	⇑*i*P		**P**	**08 28 53.6 +0.4**
VRAC	**Vranov**	**44.91 330**	*e*P		**P**	**08 28 53.5 +0.4**
VRAC			*e*			08 30 40.0
MOA	**Molln**	**45.18 327**	*e*P		**P**	**08 28 56.0 +0.6**
	comp=Z,8.5nm,0.8s,SNR=9.3					
KBA	**Koelnbreinsper**	**45.22 325**	*e*P		**P**	**08 28 56.7 +0.9**
	comp=Z,7.4nm,0.9s					
ABTA	**Abfaltersbach**	**45.50 324**	*e*P		**P**	**08 28 58.9 +0.9**
	comp=Z,5.7nm,0.9s					
SUW	**Suwalki**	**45.55 338**	*e*P		**P**	**08 28 58.0 -0.1**
SUW	**Suwalki**	**45.55 338**	*e*P		**P**	**08 28 58.0 -0.1**
	comp=Z,77nm,1.2s					
SUW	**Suwalki**	**45.55 338**	*e*P		**P**	**08 28 58.0 -0.1**
DPC	**Dobruska-Polom**	**45.73 331**	*e*P		**P**	**08 28 59.0 -0.7**
DPC			*e*			08 29 07.7
DPC			*e*S		**S**	**08 35 44.9 +1.8**
DPC			MLR		MLR	
	comp=Z,400nm,18.8s					
DPC	**Dobruska-Polom**	**45.73 331**	*e*P		**P**	**08 28 59.0 -0.7**
DPC			*ex*		x	08 29 07.7
DPC			*e*S		**S**	**08 35 44.9 +1.8**
DPC			AMS		AMS	08 49 30.0
	comp=Z,400nm,18.8s					
UPC	**Upice**	**45.99 331**	*e*P		**P**	**08 29 02.3 +0.6**
UPC			MLR		MLR	
	comp=Z,300nm,16.2s					
UPC	**Upice**	**45.99 331**	*e*P		**P**	**08 29 02.3 +0.6**
UPC			AMS		AMS	08 49 50.0
	comp=Z,300nm,16.2s					
KSP	**Ksiaz**	**46.08 331**	*e*P		**P**	**08 29 02.9 +0.6**
KSP	**Ksiaz**	**46.08 331**	*e*P		**P**	**08 29 02.9 +0.6**
GEC2	**GERESS Array S**	**46.09 327**	*e*P		**P**	**08 29 02.3 -0.3**
	comp=Z,5.2nm,0.8s					
GERES	**GERESS Array B**	**46.09 327**	*e*P		**P**	**08 29 01.1 -1.5**
GERES	**GERESS Array B**	**46.09 327**	P		**P**	**08 29 01.8 -0.8**
	comp=Z,2.3nm,0.6s,baz=137,slow=7.3,SNR=24					
GERES			LR		LR	08 49 57.4
	comp=Z,271nm,20.9s,baz=132,slow=38					
GOPC	**GO Pecny, Ondr**	**46.20 329**	*e*P		**P**	**08 29 03.4 0.0**
GOPC			*e*S		**S**	**08 35 50.2 +0.5**
GOPC			MLR		MLR	
	comp=Z,300nm,18.4s					
GOPC	**GO Pecny, Ondr**	**46.20 329**	*e*P		**P**	**08 29 03.4 0.0**
GOPC			*e*S		**S**	**08 35 50.2 +0.5**
GOPC			AMS		AMS	08 50 40.0
	comp=Z,300nm,18.4s					
WTTA	**Wattenberg**	**46.29 325**	*e*P		**P**	**08 29 05.0 +0.7**
	comp=Z,19nm,1.3s					
KHC	**Kasperske Hory**	**46.33 328**	*e*P		**P**	**08 29 02.8 -1.6**
	comp=Z,1.9nm,0.8s					
KHC	**Kasperske Hory**	**46.33 328**	*e*P		**P**	**08 29 04.1 -0.3**
KHC			*e*			08 29 16.5
KHC			*e*S		**S**	**08 35 58.6 +7.0**
KHC			MLR		MLR	
	comp=Z,300nm,23.9s					
KHC	**Kasperske Hory**	**46.33 328**	*e*P		**P**	**08 29 04.1 -0.3**
KHC			*ex*		x	08 29 16.5
KHC			*e*S		**S**	**08 35 58.6 +7.0**
KHC			AMS		AMS	08 49 20.0
	comp=Z,300nm,23.9s					
WATA	**Walderalm**	**46.36 325**	*e*P		**P**	**08 29 05.0 +0.2**
	comp=Z,3.2nm,0.6s					
PRU	**Pruhonice**	**46.37 329**	*e*P		**P**	**08 29 04.5 -0.2**
PRU			*e*			08 29 16.0
PRU			*e*S		**S**	**08 35 53.1 +1.0**
PRU			MLR		MLR	
	comp=Z,200nm,16.4s					
PRU	**Pruhonice**	**46.37 329**	*e*P		**P**	**08 29 04.5 -0.2**
PRU			*ex*		x	08 29 16.0
PRU			*e*S		**S**	**08 35 53.1 +1.0**
PRU			AMS		AMS	08 51 10.0
	comp=Z,200nm,16.4s					
SQTA	**Sankt Quirin**	**46.50 324**	*e*P		**P**	**08 29 05.4 -0.5**
	comp=Z,6.3nm,0.8s					
TORD	**Torodi Ar. Bea**	**46.60 275**	P		**P**	**08 29 05.8 -1.1**
	comp=Z,2.1nm,1.0s,baz=89,slow=6.6,SNR=4.9					
TORD			PcP		**PcP**	**08 30 42.8 +1.7**
	comp=Z,1.0nm,0.7s,baz=83,slow=4.7,SNR=2.4					
TORD			LR		LR	08 49 29.5
	comp=Z,329nm,18.9s,baz=10.0,slow=37					
TOA1	**Torodi Ar. Sit**	**46.60 275**	*e*P		**P**	**08 29 05.8 -1.2**
TOA1			*e*PcP		**PcP**	**08 30 42.8 +1.7**
MOTA	**Moosalm**	**46.63 324**	*e*P		**P**	**08 29 06.7 -0.3**
	comp=Z,3.9nm,0.6s,SNR=6.6					
FETA	**Feichten**	**46.67 324**	*e*P		**P**	**08 29 07.6 +0.3**
	comp=Z,3.4nm,0.8s					
PVCC	**Panska Ves**	**46.70 330**	*e*P		**P**	**08 29 07.7 +0.5**
PVCC			MLR		MLR	
	comp=Z,300nm,16.5s					
PVCC	**Panska Ves**	**46.70 330**	*e*P		**P**	**08 29 07.7 +0.5**
PVCC			AMS		AMS	08 55 30.0
	comp=Z,300nm,16.5s					
FUORN	**Ofenpass-Fuorn**	**46.72 323**	*e*P		**P**	**08 29 07.8 0.0**
	comp=Z,8.7nm,1.2s					
RETA	**Reutte**	**46.90 324**	*e*P		**P**	**08 29 08.5 -0.5**
	comp=Z,3.9nm,0.9s					
DAVOX	**Davos/Dischmat**	**47.03 323**	LR		LR	08 51 38.1
	comp=Z,190nm,18.6s,baz=100,slow=40					
BRG	**Berggiesshubel**	**47.23 330**	*e*P		**P**	**08 29 11.2 -0.2**
	comp=Z,7.5nm,0.8s					
BRG	**Berggiesshubel**	**47.23 330**	*e*P		**P**	**08 29 11.2 -0.2**
BRG			pmax		pmax	
	comp=Z,8.0nm,0.9s					
BRG			MLR		MLR	
	comp=N,336nm,20.0s					
BRG			MLR		MLR	
	comp=E,191nm,15.4s					
BRG			MLR		MLR	
	comp=Z,391nm,19.7s					
DAVA	**Damuels**	**47.30 324**	*e*P		**P**	**08 29 11.6 -0.6**
	comp=Z,6.4nm,0.7s					
CMMT	**Chiang Mai**	**47.56 77**	P		P	08 29 24.9 +10
CM31	**Chiang Mai Arr**	**47.56 77**	*e*P		**P**	**08 29 14.2 -0.3**
	comp=Z,18nm,0.9s					
CMAR	**Chiang Mai Arr**	**47.56 77**	*i* P		**P**	**08 29 14.1 -0.4**
CMAR			pmax		pmax	
	comp=Z,9.0nm,0.8s					
CMAR	**Chiang Mai Arr**	**47.56 77**	P		**P**	**08 29 14.0 -0.5**
	comp=Z,9.3nm,0.8s,baz=276,slow=8.8,SNR=54					
CMAR			LR		LR	08 49 18.0
	comp=Z,102nm,18.0s,baz=280,slow=36					
DGZ	**Jazzator, Alta**	**47.58 33**	⇑*e*P		**P**	**08 29 16.6 +2.3**
DGZ			pmax		pmax	
	comp=Z,2.0nm,1.0s					
NKC	**Novy Kostel**	**47.58 328**	*e*S		**S**	**08 36 13.7 +4.3**
NKC			AMS		AMS	08 51 30.0
	comp=Z,300nm,16.1s					
GRFO	**Grafenberg**	**47.90 327**	*e*P		**P**	**08 29 16.4 -0.2**
	comp=Z,26nm,1.6s					
KLMR	**Klimovskoe**	**47.93 353**	*e*P		**P**	**08 29 13.9 -2.8**
KLMR			pmax		pmax	
	comp=Z,40nm,1.1s					
CLL	**Collm**	**47.96 330**	*e*P		**P**	**08 29 16.2 -0.8**
	comp=Z,7.5nm,1.1s					
CLL	**Collm**	**47.96 330**	⇓*i*P		**P**	**08 29 15.8 -1.3**
CLL			*e*			08 29 27.0
CLL			*e*S		**S**	**08 36 17.0 +2.3**
CLL			pmax		pmax	
	comp=Z,7.0nm,1.0s					
CLL			MLR		MLR	
	comp=Z,300nm,19.4s					
CLL	**Collm**	**47.96 330**	⇓*i*P		**P**	**08 29 15.8 -1.3**
	comp=Z,7.0nm,1.0s					
CLL			*e*			08 29 27.0
CLL			*i*			08 29 32.7
	comp=Z,8.0nm,1.1s					
CLL			*e*S		**S**	**08 36 17.0 +2.3**
CLL			*e*			08 37 19.0
CLL			*e*SS		SS	08 39 57.0 +13
CLL			LmH			08 51 00.0
	comp=Z,300nm,21.2s					
CLL			LmV			08 52 00.0
	comp=Z,300nm,19.4s					
BOSA	**Boshof**	**47.98 209**	P		**P**	**08 29 16.2 -1.4**
	comp=Z,3.5nm,0.9s,baz=310,slow=5.3,SNR=2.2					
BOSA			LR		LR	08 48 07.5
	comp=Z,490nm,18.9s,baz=31,slow=34					
VSU	**Vasula**	**48.14 344**	⇓*e*P		**P**	**08 29 20.8 +2.5**
VSU			pmax		pmax	
	comp=Z,63nm,1.4s					
UTHA	**Uthaitani**	**48.19 81**	P		**P**	**08 29 19.6 +0.3**
	comp=Z,20μm,0.8s					
PRGR	**Permogore**	**48.23 357**	*e*P		**P**	**08 29 16.1 -2.8**
PRGR			pmax		pmax	
	comp=Z,18nm,0.8s					
SENIN	**Lac Senin/Sane**	**48.36 321**	*e*P		**P**	**08 29 19.5 -1.0**
	comp=Z,14nm,1.1s					
BFO	**Black Forest**	**48.74 324**	*e*P		**P**	**08 29 22.7 -0.5**
	comp=Z,19nm,1.3s					
BFO	**Black Forest**	**48.74 324**	*i* P		**P**	**08 29 23.9 +0.7**
PHRA	**Phrae**	**48.78 77**	P		**P**	**08 29 23.7 -0.2**
	comp=Z,1.3nm,1.6s					
NVS	**Novosibirsk**	**48.94 25**	*i* P		**P**	**08 29 25.2 +0.7**
ZAA0	**Zalesovo Array**	**49.00 27**	*e*P		**P**	**08 29 24.6 -0.4**
	comp=Z,9.8nm,0.9s					
ZALV	**Zalesovo Beam**	**49.00 27**	*e*P		**P**	**08 29 24.6 -0.4**
ZALV	**Zalesovo Beam**	**49.00 27**	P		**P**	**08 29 23.7 -1.3**
	comp=Z,2.5nm,0.6s,baz=247,slow=8.1,SNR=8.0					
ZALV			LR		LR	08 53 50.3
	comp=Z,266nm,19.9s,baz=248,slow=41					
ZAA1	**Zalesovo Array**	**49.00 27**	*e*P		**P**	**08 29 23.7 -1.3**
ECH	**Echery**	**49.35 323**	*e*P		**P**	**08 29 27.7 -0.2**
	comp=Z,10nm,1.4s					
WLF	**Walferdange**	**50.65 325**	*e*P		**P**	**08 29 38.0 +0.3**
	comp=Z,73nm,0.9s					
WLF	**Walferdange**	**50.65 325**	⇓P		**P**	**08 29 37.9 +0.2**
	comp=Z,16nm,1.2s					
FIA0	**FINESS Array S**	**50.89 346**	*e*P		**P**	**08 29 38.8 -0.5**
FIA0	**FINESS Array S**	**50.89 346**	*e*P		**P**	**08 29 38.8 -0.5**
FINES	**FINESS Array B**	**50.89 346**	*e*P		**P**	**08 29 39.1 -0.1**
FINES	**FINESS Array B**	**50.89 346**	*i* P		**P**	**08 29 39.7 +0.5**
FINES			pmax		pmax	
	comp=Z,7.0nm,0.7s					
FINES	**FINESS Array B**	**50.89 346**	P		**P**	**08 29 38.8 -0.5**
	comp=Z,7.3nm,0.7s,baz=147,slow=9.6,SNR=35					
FINES			LR		LR	08 54 22.4
	comp=Z,461nm,18.3s,baz=154,slow=40					
GTA	**Gaotai**	**51.06 50**	*e*P		P	08 29 47.2 +6.1
GTA			pP		pwP	08 29 52.1 +5.8
GTA			sP		sP	08 29 54.5 +10
GTA			pmax		pmax	
	comp=Z,5.0nm,1.1s					
GTA			pmax		pmax	
	comp=Z,120nm,8.1s					
GTA			LR		LR	
	comp=Z,210nm,19.7s					
GTA			LR		LR	
	comp=Z,190nm,19.7s					
GTA			LR		LR	
	comp=Z,190nm,18.7s					
KMI	**Kunming**	**51.18 69**	P		**P**	**08 29 43.8 +1.5**
KMI			pP		sP	08 29 46.1 +0.7
KMI			sP		pwP	08 29 47.6 -0.8
KMI			PP		**PP**	**08 31 45.1 +6.0**
KMI			S		**S**	**08 37 00.0 -1.0**
KMI			sS		sS	08 37 06.1 +1.2
KMI			SS		**SS**	**08 40 34.5 -1.9**
KMI			pmax		pmax	
	comp=Z,15nm,0.7s					
KMI			pmax		pmax	
	comp=Z,110nm,4.6s					
KMI			LR		LR	
	comp=Z,230nm,16.8s					
KMI			LR		LR	
	comp=Z,270nm,17.9s					
KMI			LR		LR	
	comp=Z,370nm,19.7s					
MEM	**Membach**	**51.21 326**	⇓P		**P**	**08 29 42.8 +0.9**
TMCR	**Tamitsa**	**51.33 354**	*e*P		**P**	**08 29 42.2 -0.2**
TMCR			pmax		pmax	
	comp=Z,20nm,0.8s					
BCLA	**Clavier**	**51.50 325**	⇓x		**P**	**08 29 44.9 +0.9**
NONG	**Nongkai**	**51.57 78**	P		P	08 29 51.5 +6.5
	comp=Z,0.3nm,0.9s					
DOU	**Dourbes**	**51.74 325**	⇑P		**P**	**08 29 46.0 +0.1**
	comp=Z,7.6nm,1.2s					
SKNT	**Sakolnakorn**	**52.43 79**	P		**P**	**08 29 51.6 +0.1**
	comp=Z,13nm,1.2s,comp=Z,2μm					
CD2	**Chengdu**	**52.55 61**	*e*P		**P**	**08 29 51.5 -0.8**
MDT	**Midelt**	**52.90 301**	LR		LR	08 53 02.3
	comp=Z,698nm,18.7s,baz=108,slow=37					
PANO	**Nakornpanom**	**53.02 79**	P		**P**	**08 29 55.6 -0.3**
	comp=Z,0.4nm,1.3s					
LZH	**Lanzhou**	**53.40 55**	*e*P		**P**	**08 29 59.6 +1.0**
LZH			pP		pwP	08 30 05.0 +0.2
LZH			sP		sP	08 30 07.5 +5.8
LZH			SS		**SKiKP**	**08 41 08.4 -7.3**
LZH			pmax		pmax	
	comp=Z,25nm,1.0s					
LZH			pmax		pmax	
	comp=Z,72nm,4.9s					
LZH			LR		LR	
	comp=Z,280nm,16.8s					
LZH			LR		LR	
	comp=Z,300nm,16.3s					
LZH			LR		LR	
	comp=Z,380nm,13.0s					
ESDC	**Sonseca Array**	**53.68 310**	*e*P		**P**	**08 29 60.0 -0.5**
ESDC			*e*P		**P**	**08 30 01.1 +0.6**
ESDC	**Sonseca Array**	**53.68 310**	P		**P**	**08 30 01.1 +0.6**
	comp=Z,3.0nm,0.8s,baz=96,slow=6.7,SNR=30					
ESDC			LR		LR	08 54 25.2
	comp=Z,320nm,18.3s,baz=120,slow=38					
ESLA	**Sonseca Array**	**53.68 310**	*e*P		**P**	**08 30 00.8 +0.3**
	comp=Z,12nm,1.0s					
PAB	**San Pablo**	**53.94 309**	*e*P		**P**	**08 30 03.4 +1.0**
	comp=Z,16nm,1.1s					
PAB	**San Pablo**	**53.94 309**	*e*P		**P**	**08 30 03.4 +1.0**
PAB			pmax		pmax	
	comp=Z,16nm,1.1s					
DBIC	**Dimbokro**	**53.99 269**	LR		LR	08 51 39.1
	comp=Z,166nm,19.8s,baz=52,slow=34					
GYA	**Guiyang**	**54.77 67**	P		**P**	**08 30 08.9 +0.2**
GYA			PP		**PP**	**08 32 14.8 +3.4**
GYA			S		**S**	**08 37 49.6 -0.2**
GYA			pmax		pmax	
	comp=Z,10.0nm,1.0s					
GYA			pmax		pmax	
	comp=Z,120nm,5.2s					
NB2	**NORSAR Subarra**	**55.08 338**	P		**P**	**08 30 09.3 -0.9**
	comp=Z,21nm,1.7s,baz=132,slow=7.4					
NOA	**NORSAR Array B**	**55.08 338**	P		**P**	**08 30 09.6 -0.6**
	comp=Z,2.0nm,0.8s,baz=125,slow=7.6,SNR=6.4					
NOA			LR		LR	08 56 41.9
	comp=Z,408nm,19.2s,baz=145,slow=39					
PBRG	**Braganca**	**56.22 311**	*e*P		**P**	**08 30 19.4 +0.6**
	comp=Z,14nm,1.5s					
MVO	**Moncorvo**	**56.30 311**	*e*P		**P**	**08 30 20.2 +0.8**
EVO	**Evora**	**56.54 307**	*e*P		**P**	**08 30 21.3 +0.2**
	comp=Z,18nm,1.6s					
POLO	**Lamas de Olo**	**56.90 311**	*e*P		**P**	**08 30 24.6 +0.9**
	comp=Z,9.9nm,1.2s					
PCAB	**Cabril**	**57.14 311**	*e*P		**P**	**08 30 26.3 +0.9**
	comp=Z,22nm,1.5s					
XAN	**Xi'an**	**57.24 58**	P		**P**	**08 30 25.1 -1.1**
XAN			S		**S**	**08 38 18.6 -3.7**
XAN			pmax		pmax	
	comp=Z,5.0nm,1.0s					
XAN			LR		LR	
	comp=Z,190nm,19.5s					
XAN			LR		LR	
	comp=Z,120nm,25.0s					
XAN			LR		LR	
	comp=Z,100nm,22.8s					
TLY	**Talaya**	**57.56 37**	⇓*e*P		**P**	**08 30 30.4 +2.3**
TLY			pmax		pmax	
	comp=Z,10.0nm,0.8s					
QIZ	**Qiongzhong**	**57.85 76**	P		**P**	**08 30 30.9 +0.2**
QIZ			S		**S**	**08 38 30.5 -0.2**
QIZ			LR		LR	
	comp=Z,180nm,16.2s					
QIZ			LR		LR	
	comp=Z,250nm,23.5s					
QIZ			LR		LR	
	comp=Z,280nm,36.3s					
SONA0	**Songino Array**	**58.01 42**	*e*P		**P**	**08 30 31.8 +0.3**
SONM	**Songino Array**	**58.01 42**	*e*P		**P**	**08 30 31.5 0.0**
SONM	**Songino Array**	**58.01 42**	P		**P**	**08 30 31.8 +0.3**
	comp=Z,1.7nm,0.7s,baz=240,slow=7.7,SNR=10					
SONM			LR		LR	08 58 06.7
	comp=Z,372nm,19.5s,baz=268,slow=39					
KEV	**Kevo**	**58.08 351**	*e*P		**P**	**08 30 31.1 -0.3**
	comp=Z,14nm,1.0s					
KEV	**Kevo**	**58.08 351**	*e*P		**P**	**08 30 31.1 -0.3**
KEV			pmax		pmax	
	comp=Z,14nm,1.0s					
ARA0	**ARCESS Array S**	**58.12 350**	*e*P		**P**	**08 30 31.2 -0.4**
ARCES	**ARCESS Array B**	**58.12 350**	*e*P		**P**	**08 30 32.0 +0.4**
ARCES	**ARCESS Array B**	**58.12 350**	P		**P**	**08 30 31.2 -0.4**
	comp=Z,5.8nm,0.8s,baz=152,slow=5.5,SNR=17					
ARCES			LR		LR	08 58 36.2
	comp=Z,336nm,20.0s,baz=148,slow=39					
ARE0	**ARCESS Array S**	**58.12 350**	*e*P		**P**	**08 30 31.4 -0.3**
	comp=Z,0.4nm,0.9s					
HHC	**Hu-ho-hao-te**	**60.16 51**	*e*P		**P**	**08 30 46.0 -0.5**
HHC			S		**S**	**08 38 59.9 -0.3**
HHC			ScS		SKKSac	08 40 36.7 -0.7
HHC			SS		**SS**	**08 42 59.3 +2.1**
HHC			pmax		pmax	
	comp=Z,77nm,1.1s					
HHC			pmax		pmax	
	comp=Z,300nm,6.7s					
HHC			LR		LR	
	comp=Z,470nm,16.0s					
HHC			LR		LR	
	comp=Z,510nm,16.7s					
HHC			LR		LR	
	comp=Z,530nm,16.9s					
NRIK	**Noril'sk**	**60.79 14**	P		**P**	**08 30 50.4 +0.2**
	comp=Z,2.0nm,0.6s,baz=208,slow=7.4,SNR=5.8					
NRIK			LR		LR	09

KSRS	**Korea Array**	**72.73**	**55**	P	**P**	**08 32 06.5**	**-0.4**
	comp=Z,1.7nm,1.1s,baz=55,slow=31,SNR=2.9						
KSRS				LR	LR	09 08 40.2	
	comp=Z,90nm,18.2s,baz=280,slow=40						
YAK	**Yakutsk**	**73.58**	**29**	*e*P	P	08 32 16.6	+5.2
YAK				*e**PP	**PcP**	**08 32 24.9**	**-2.4**
YAK				*e*		08 34 52.1	
YAK				*e*S	**SKiKP**	**08 41 49.1**	**+7.2**
YAK				*e*		08 42 13.9	
YAK				*e*SS	**SS**	**08 46 24.8**	**+0.8**
YAK				pmax	pmax		
	comp=Z,84nm,1.0s						
YAK				pmax	pmax		
	comp=N,11nm,0.9s						
YAK				pmax	pmax		
	comp=E,40nm,1.0s						
YAK				pmax	pmax		
	comp=Z,344nm,3.7s						
YAK				pmax	pmax		
	comp=E,132nm,3.3s						
YAK				pmax	pmax		
	comp=N,190nm,3.7s						
YAK				smax	smax		
	comp=N,146nm,3.0s						
YAK				smax	smax		
	comp=E,403nm,3.7s						
YAK				MLR	MLR		
	comp=Z,1μm,16.0s						
YAK				MLR	MLR		
	comp=E,1μm,17.0s						
TIXI	**Tiksi**	**73.96**	**19**⇓	*e*P	**P**	**08 32 15.5**	**+2.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KLR	**Kul'dur**	**74.83**	**42**⇓	*e*P	**P**	**08 32 18.7**	**-0.3**
KLR				pmax	pmax		
	comp=Z,14nm,2.7s						
USRK	**Ussuriysk Ar.**	**75.33**	**47**	P	**P**	**08 32 21.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=181,slow=13,SNR=2.7						
USRK				LR	LR	09 10 39.3	
	comp=Z,183nm,18.6s,baz=273,slow=40						
SUMG	**Summit**	**76.72**	**342**	*e*P	**P**	**08 32 29.9**	**0.0**
SUMG	**Summit**	**76.72**	**342**	*i* P	**P**	**08 32 29.9**	**0.0**
PSA00	**Pilbara Seismi**	**77.15**	**116**	*e*P	**P**	**08 32 31.8**	**-0.9**
	comp=Z,16nm,1.2s						
MAJO	**Matsushiro**	**81.01**	**55**	*e*P	**P**	**08 32 53.3**	**-0.4**
MAJO	**Matsushiro**	**81.01**	**55**	*e*P	**P**	**08 32 53.3**	**-0.4**
MJAR	**Matsushiro Ar**	**81.01**	**55**	P	**P**	**08 32 53.3**	**-0.4**
	comp=Z,1.3nm,1.0s,baz=111,slow=11,SNR=3.9						
MJAR				LR	LR	09 12 16.0	
	comp=Z,116nm,20.1s,baz=280,slow=38						
FITZ	**Fitzroy Crossi**	**81.22**	**111**	*e*P	**P**	**08 32 53.4**	**-1.6**
	comp=Z,13nm,1.0s						
FITZ	**Fitzroy Crossi**	**81.22**	**111**	P	**P**	**08 32 54.4**	**-0.6**
	comp=Z,7.3nm,1.0s,baz=258,slow=10,SNR=4.7						
MAW	**Mawson**	**81.37**	**175**	P	**P**	**08 32 54.6**	**-0.1**
	comp=Z,2.2nm,1.0s,baz=36,slow=13,SNR=2.0						
MAW				LR	LR	09 03 42.5	
	comp=Z,179nm,19.1s,baz=346,slow=32						
SIJI	**Sorong**	**82.06**	**93**	P	**P**	**08 32 59.5**	**-0.1**
	comp=Z,8.3nm,0.7s,baz=328,slow=6.0,SNR=6.4						
SEY	**Seymchan**	**83.87**	**27**⇑	*e*P	**P**	**08 33 08.7**	**+0.7**
BILL	**Bilibino**	**87.16**	**20**	*e*P	**P**	**08 33 27.2**	**+2.9**
BILL				*e*S	**SKSac**	**08 43 52.9**	**+1.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,4.3s						
BILL				MLR	MLR		
	comp=Z,352nm,20.0s						
WRA	**Warramunga Arr**	**89.64**	**110**	*e*P	**P**	**08 33 35.5**	**-1.5**
WRA	**Warramunga Arr**	**89.64**	**110**	P	**P**	**08 33 37.0**	**0.0**
	comp=Z,8.6nm,0.8s,baz=300,slow=3.6,SNR=20						
WR1	**Warramunga Arr**	**89.64**	**110**	*e*P	**P**	**08 33 37.0**	**0.0**
WRAB	**Tennant Creek**	**89.64**	**110**	*e*P	**P**	**08 33 36.6**	**-0.4**
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**89.64**	**110**⇓	*e*P	**P**	**08 33 37.9**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,15nm,0.9s						
WB2	**Warramunga Arr**	**89.65**	**110**	*e*P	**P**	**08 33 35.8**	**-1.2**
	comp=Z,20nm,0.8s						
PETK	**Petropavlovsk-**	**89.88**	**35**	LR	LR	09 18 33.2	
	comp=Z,101nm,19.3s,baz=300,slow=39						
ASAR	**Alice Springs**	**90.17**	**114**	P	**P**	**08 33 39.6**	**+0.2**
	comp=Z,7.4nm,1.0s,baz=290,slow=4.4,SNR=18						
ASAR				LR	LR	09 10 36.9	
	comp=Z,144nm,18.3s,baz=284,slow=33						
AS31	**Alice Springs**	**90.17**	**114**	*e*P	**P**	**08 33 38.6**	**-0.8**
	comp=Z,1.0nm,1.3s						
SNAA	**Sanae**	**91.79**	**195**	Pdiff	**P**	**08 33 49.3**	**+3.4**
VNA1	**Neumayer--Stat**	**92.58**	**196**	Pdiff	P	08 33 39.9	-10
VNA3	**Neumayer Olymp**	**93.30**	**196**	Pdiff	P	08 33 39.6	-13
SCHQ	**Schefferville**	**93.61**	**329**	LR	LR	09 17 48.4	
	comp=Z,72nm,19.0s,baz=22,slow=37						
STKA	**Stephens Creek**	**98.60**	**121**	LR	LR	09 15 39.8	
	comp=Z,244nm,18.0s,baz=260,slow=34						
YKA	**Yellowknife Ar**	**103.33**	**353**	PP	**PP**	**08 38 51.5**	**-1.3**
	comp=Z,0.4nm,0.9s,baz=12,slow=6.8,SNR=6.5						
YKB5	**Yellowknife Ar**	**103.33**	**353**	*e*PP	**PP**	**08 38 51.5**	**-1.3**
DZM	**Mont Dzumac**	**119.55**	**108**	*e*LR	LR	09 16 05.8	
	comp=Z,178nm,24.6s						
NV01	**Mina Array Sit**	**127.20**	**348**	*e*PKPdf	**PKPdf**	**08 39 43.9**	**+0.2**
NVAR	**Mina Array Bea**	**127.20**	**348**	PKP	**PKPdf**	**08 39 43.9**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=33,slow=2.2,SNR=4.0						
LTX	**Lajitas**	**130.29**	**329**	*e*PKPdf	**PKPdf**	**08 39 47.8**	**-1.9**
LTX	**Lajitas**	**130.29**	**329**	*e*PKIKP	**PKIKP**	**08 39 47.8**	**-1.9**
TXAR	**Lajitas Array**	**130.29**	**329**	PKP	**PKPdf**	**08 39 47.8**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=39,slow=5.8,SNR=2.6						
PPT2	**Papeete2**	**161.03**	**105**	*e*LR	LR	09 35 17.4	
	comp=Z,162nm,23.2s						

*ISCJB **05** 08:26:43.4±0.7, 4°.21S±0°.08×143°.6E±0°.1, h100km, mb3.9/9, Error ellipse: s-maj=17.3km s-min=10.9km az=168.6*
*IDC **05** 08:26:45.3±2.4, 4°.23S×143°.56E, h101km±24km, mb3.7/10, mb1 3.8/13, mb1mx3.6/29, mbtmp4.1/13, Error ellipse: s-maj=25.9km s-min=17.9km az=96.0*
ISC 05 08:26:45.2±0.8, 4°.2S±0°.1×143°.6E±0°.1, h100km, n13, σ0s59/13, mb4.0/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.32**	**301**	P	**Pn**	**08 27 35.1**	**-0.1**
	0.9nm,0.3s,baz=144,slow=8.7,SNR=3.6						
PMG	**Port Moresby**	**6.27**	**145**	P	**Pn**	**08 28 15.0**	**-0.1**
	0.5nm,0.3s,baz=305,slow=16,SNR=3.3						
WRA	**Warramunga Arr**	**18.02**	**209**	P	**P**	**08 30 48.9**	**+0.4**
	1.1nm,0.3s,baz=30,slow=12,SNR=57						
BATI	**Baumata**	**20.61**	**252**	P	**P**	**08 31 15.9**	**-0.7**
	6.1nm,0.3s,baz=77,slow=14,SNR=1.8						
ASAR	**Alice Springs**	**21.46**	**205**	P	**P**	**08 31 26.0**	**+0.3**
	1.4nm,0.7s,baz=34,slow=11,SNR=14						
MJAR	**Matsushiro Arr**	**40.86**	**353**	P	**P**	**08 34 17.1**	**-0.2**
	1.2nm,0.7s,baz=182,slow=8.2,SNR=4.9						
KSRS	**Korea Array**	**43.95**	**342**	P	**P**	**08 34 42.6**	**+0.4**
	3.4nm,0.5s,baz=162,slow=8.8,SNR=18						
USRK	**Ussuriysk Ar.**	**49.31**	**349**	P	**P**	**08 35 24.2**	**+0.2**
	1.3nm,0.6s,baz=167,slow=5.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**49.40**	**299**	P	**P**	**08 35 26.1**	**+0.9**
	0.5nm,0.3s,baz=117,slow=5.3,SNR=4.0						
PETK	**Petropavlovsk-**	**58.35**	**10**	P	**P**	**08 36 29.8**	**0.0**
	2.1nm,0.9s,baz=204,slow=6.3,SNR=2.1						
SONM	**Songino Array**	**61.22**	**332**	P	**P**	**08 36 50.0**	**+0.3**
	0.3nm,0.4s,baz=150,slow=6.7,SNR=1.9						
MKAR	**Makanchi Array**	**73.97**	**321**	P	**P**	**08 38 09.2**	**-0.5**
	4.1nm,1.1s,baz=125,slow=6.4,SNR=12						
ZALV	**Zalesovo Beam**	**75.71**	**329**	P	**P**	**08 38 18.5**	**-1.1**
	0.9nm,0.6s,baz=101,slow=7.5,SNR=4.2						

RSNC 05 08:27:00.6±2.0, 7°.25N×78°.26W, h4km±10km, ML3.0, Mw3.6, 1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.46**	**103**⇓	*i* P	Pg	08 27 08.8	-0.6
PTAC				*e*S	Sg	08 27 13.8	-1.5
UPD2	**Meteti**	**1.31**	**10**	*e*P	Pn	08 27 24.1	-1.6
UPD2				*e*S	Sg	08 27 41.2	-1.5
SOLC	**Bahia Solano**	**1.32**	**140**	*e*P	Pn	08 27 22.6	-3.3
SOLC				*e*S	Sg	08 27 42.0	-1.1
SOLC				*i*		08 27 49.3	
	comp=N,756nm,0.5s						
DBBC	**Dabeiba**	**2.04**	**96**	*e*P	Pn	08 27 34.7	-1.2
DBBC				*i*		08 28 08.4	
	comp=Z,94nm,0.6s						
AZU	**Azuero**	**2.07**	**285**	*e*P	Pn	08 27 35.6	-0.6
AZU				*e*S	Sn	08 28 00.0	-2.5
AZU				*i*		08 28 14.9	
	comp=N,145nm,0.4s						
UPA	**Univ. de Panam**	**2.13**	**324**	*e*P	Pn	08 27 35.4	-1.6
UPA				*e*S	Sn	08 28 03.3	-0.7
BCIP	**Isla Barro Col**	**2.46**	**321**	*e*P	Pn	08 27 40.2	-1.4
BCIP				*e*S	Sn	08 28 10.8	-1.4
BCIP				*i*		08 28 20.6	
	comp=Z,82nm,0.5s						
HELC	**Santa Helena**	**2.91**	**111**	*e*P	Pn	08 27 46.6	-1.4
HELC				*i*		08 28 29.7	
	comp=N,27nm,0.4s						
GUY2C	**Guyana, Caldas**	**3.51**	**125**	*e*P	Pn	08 27 56.0	-0.4
GUY2C				*i*		08 28 10.9	
	comp=Z,19nm,0.6s						
GUY2C				*e*S	Sn	08 28 40.1	+1.5

IDC 05 08:35:11.8±5.1, 3°.98S×151°.59E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, Error ellipse: s-maj=155.3km s-min=33.4km az=104.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.12**	**225**	P	P	08 40 19.6	-0.1
	0.1nm,0.3s,baz=51,slow=10.0,SNR=9.4						
ASAR	**Alice Springs**	**25.97**	**219**	P	P	08 40 46.7	+0.3
	0.4nm,0.3s,baz=53,slow=8.9,SNR=9.3						
MKAR	**Makanchi Array**	**78.92**	**319**	P	P	08 47 17.2	-0.1
	0.1nm,0.5s,baz=106,slow=4.7,SNR=2.2						

TRN 05 08:42:59.0, 15°.93N×60°.95W, h58km, MD3.5, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	**Barre de l'ile**	**0.32**	**274**	*e*P	Pn	08 43 10.4	+1.4
CBE	**Ff, Capester**	**0.65**	**283**	*e*P	Pn	08 43 14.1	+1.5
DLPL	**La Plaine**	**0.65**	**206**⇑	*i*P	Pn	08 43 14.0	+1.3
DLPL				*e*S	Sn	08 43 24.4	+1.9
TDBA	**Terre de Bas,**	**0.66**	**263**	*e*P	Pn	08 43 14.1	+1.4
ABD	**La Joyeuse, An**	**0.75**	**317**	*e*P	Pn	08 43 14.8	+1.0
BAMF	**Morne Balai**	**1.12**	**190**	*e*P	Pn	08 43 19.7	+1.1
CXM	**Morne La Croix**	**1.13**	**191**	*e*P	Pn	08 43 20.0	+1.2
PCM	**Pelee Case Pet**	**1.13**	**193**	*e*P	Pn	08 43 19.7	+0.9
GBMF	**Grand Be**	**1.14**	**190**	*e*P	Pn	08 43 20.0	+1.1
ILAM	**Ilet Lapin Mar**	**1.15**	**176**	*e*P	Pn	08 43 20.3	+1.4
PML	**Morne Lenard**	**1.16**	**191**	*e*P	Pn	08 43 20.3	+1.1
FDF	**Fort de France**	**1.20**	**189**⇑	*i*P	Pn	08 43 20.8	+1.1
FDF				*e*S	Sn	08 43 35.9	+0.8
LPMF	**Morne Lapointe**	**1.34**	**181**	*e*P	Pn	08 43 22.5	+0.9
ZAM	**Aeronautique**	**1.35**	**183**	*e*P	Pn	08 43 22.5	+0.9
MVM	**Montagne Vaucl**	**1.36**	**178**	*e*P	Pn	08 43 23.4	+1.4
TRMF	**Trois Ilets**	**1.39**	**184**	*e*P	Pn	08 43 23.8	+1.6
BIM	**Bigot**	**1.41**	**185**	*e*P	Pn	08 43 24.1	+1.6
MPOM	**Morne Pois Mar**	**1.48**	**176**	*e*P	Pn	08 43 24.8	+1.5
SLBI	**Saint Lucia, B**	**1.89**	**181**	*e*P	Pn	08 43 30.4	+1.4
SLBI				*e*S	Sn	08 43 53.3	+1.5
ANWB	**Willy Bob**	**1.91**	**335**	*e*P	Pn	08 43 29.8	+0.6
MCLT	**Moule a Chique**	**2.20**	**180**	*e*P	Pn	08 43 34.9	+1.6
MCLT				*e*S	Sn	08 44 00.5	+1.1
SVB	**Belmont**	**2.65**	**186**	*e*P	Pn	08 43 41.6	+2.1
SVB				*e*S	Sn	08 44 11.9	+1.4

DJA 05 08:58:07.5±0.9, 3°.5±15°.×13°.6E±°, h105km±21km, M4.2/4, MLv4.2/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**3.70**	**88**	P	Pn	08 59 03.0	+0.3
FAKI	**Fak Fak**	**4.22**	**268**	P	Pn	08 59 09.6	-0.2
JAY	**Jayapura**	**4.24**	**87**	P	Pn	08 59 09.7	-0.3

*SJA **05** 08:59:33.5±0.8, 29°.73S×68°.94W, h10km±4km, ML3.6, MW5.0*
*ISCJB **05** 08:59:34.1±0.8, 29°.75S±0°.03×68°.83W±0°.04, h1km±5km, mb3.7/7, Error ellipse: s-maj=5.4km s-min=4.1km az=28.1*
*GUC **05** 08:59:35.1±0.6, 29°.77S×68°.76W, h65km±42km, ML3.7*
*IDC **05** 08:59:37.1±3.0, 29°.79S×68°.89W, h18km±19km, mb3.6/8, mb1 3.8/13, mb1mx3.7/23, mbtmp3.7/13, ML3.5/5, MS2.8/1, Ms1 2.8/1, ms1mx2.5/19, Error ellipse: s-maj=22.7km s-min=12.3km az=85.0*
ISC 05 08:59:34.3±1.3, 29.80S±0°.03×68.83W±0°.03, h1km±9km, n38, σ1s12/42, mb3.6/7, 3C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**0.43**	**43**	*i* P	**Pg**	**08 59 42.8**	**+0.2**
ACDV	**Cuesta del Vie**	**0.45**	**215**	*i* P	**Pg**	**08 59 43.2**	**+0.2**
ACDV				*i* S	**Sb**	**08 59 50.6**	**-1.8**
AROD	**Rodeo**	**0.67**	**237**	*i* P	**Pg**	**08 59 46.9**	**-0.3**
AROD				*i* S	**Sg**	**08 59 57.1**	**+1.1**
AMOG	**MOGNA**	**1.17**	**166**	*i* P	**Pg**	**08 59 57.7**	**+0.9**
VCA	**Vinchina**	**1.19**	**27**	*i* P	**Pn**	**08 59 55.9**	**-2.4**
VCA				IAML		09 00 27.6	
	comp=Z,1μm,0.5s						
VCA				IAML		09 00 27.8	
	comp=Z,1μm,0.5s						
VCA	**Vinchina**	**1.19**	**27**⇑	*i*P	**Pn**	**08 59 56.4**	**-1.9**
VCA				*i* S	**Sb**	**09 00 12.4**	**-1.4**
VCA				IAML		09 00 23.7	
	comp=E,2μm,0.4s						
RTLL	**Cerro Villicun**	**1.55**	**169**	*i* P	**Pg**	**09 00 04.6**	**+0.4**
RTLL				IAML		09 00 30.7	
	comp=Z,397nm,0.3s						
RTLL				IAML		09 00 37.0	
	comp=N,1μm,0.8s						
RTLL	**Cerro Villicun**	**1.55**	**169**	*e*P	**Pb**	**09 00 03.1**	**-0.9**
SJA	**San Juan**	**1.74**	**173**	IAML		09 00 36.1	
	comp=Z,274nm,0.2s						
ZON	**Zonda**	**1.74**	**176**	IAML		09 00 37.4	
	comp=Z,193nm,0.5s						
GO04	**Tololo Observa**	**1.75**	**257**⇓	*i*P	**Pn**	**09 00 06.1**	**0.0**
GO04				*i* S	**Sb**	**09 00 29.2**	**-0.9**
LCO	**Las Campanas**	**1.82**	**295**⇑	*i*P	**Pn**	**09 00 06.7**	**-0.3**
LCO				*i* S	**Sn**	**09 00 30.0**	**-0.7**
LCO				IAML		09 00 31.7	
	comp=N,1μm,0.4s						
CFA	**Coronel Fontan**	**1.87**	**164**	Pn	**Pb**	**09 00 08.5**	**-0.8**
	comp=N,19nm,0.3s,baz=12,slow=21,SNR=123						
CFA				LR	LR	09 00 31.9	
	comp=N,28nm,18.4s,baz=25,slow=29						
CFA				Sn	**Sg**	**09 00 33.0**	**-1.3**
	comp=N,52nm,0.3s,baz=350,slow=8.1,SNR=26						
CFA				Lg	Lg	09 00 37.5	
	comp=N,136nm,0.3s,baz=188,slow=17,SNR=36						
RTLS	**Leoncito**	**2.03**	**191**	*i* P	**Pb**	**09 00 11.9**	**-0.3**
RTLS				*i* S	**Sg**	**09 00 39.1**	**-0.6**
RTLS				IAML		09 00 44.5	
	comp=Z,444nm,0.4s						
RTCV	**Cerro Valdivia**	**2.07**	**173**	*i* P	**Pb**	**09 00 11.7**	**-1.0**
APLL	**PUNTA DE LOS L**	**2.08**	**107**	*i* P	**Pb**	**09 00 12.7**	**-0.2**
APLL				*i* S	**Sg**	**09 00 41.1**	**0.0**
APLL				IAML		09 00 45.6	
	comp=Z,227nm,0.2s						
GO03	**Copiap**	**2.52**	**330**⇑	*i*P	**Pb**	**09 00 19.1**	**-1.4**
GO03				*e*S	**Sn**	**09 00 49.8**	**+1.9**
GO03				IAML		09 00 58.8	
	comp=N,356nm,0.5s						
CYA	**Choya**	**2.97**	**64**	IAML		09 01 10.7	
	comp=Z,150nm,0.6s						
ARCO	**CERRO ARCO**	**3.03**	**182**	IAML		09 01 12.0	
	comp=Z,398nm,0.8s						
MRA	**San Martin**	**3.73**	**135**	IAML		09 01 35.3	
	comp=Z,154nm,0.7s						
TCA	**Tanti**	**3.96**	**114**	IAML		09 01 44.4	
	comp=Z,200nm,0.8s						
LVC	**Limon Verde**	**7.16**	**359**	Pn	**Pn**	**09 01 21.8**	**+1.2**
	comp=Z,5.0nm,0.3s,baz=179,slow=10,SNR=5.8						
LVC				Lg	Lg	09 03 20.7	
	comp=Z,2.6nm,0.3s,baz=317,slow=14,SNR=3.4						
LVC				LR	LR	09 04 20.9	
	comp=Z,66nm,19.3s,baz=202,slow=40						
CPUP	**Villa Florida**	**10.72**	**74**	Pn	**Pn**	**09 02 09.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=248,slow=12,SNR=7.9						
CPUP				Sn	**Sn**	**09 04 11.0**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=188,slow=13,SNR=2.3						
CPUP				Lg	Lg	09 05 21.7	
	comp=Z,0.2nm,0.3s,baz=352,slow=18,SNR=2.9						
PLCA	**Paso Flores**	**11.00**	**187**	Pn	**Pn**	**09 02 13.9**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=4.4,slow=13,SNR=2.3						
PLCA				Lg	Lg	09 05 27.2	
	comp=Z,0.1nm,0.3s,baz=105,slow=11,SNR=2.8						
LPAZ	**La Paz**	**13.47**	**3**	Pn	**Pn**	**09 02 48.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=183,slow=7.0,SNR=4.5						
SIV	**San Ignacio**	**15.48**	**29**	Pn	**Pn**	**09 03 14.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=253,slow=11,SNR=3.4						
BDFB	**Brasilia**	**23.76**	**58**	P	**P**	**09 04 49.5**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=199,slow=15,SNR=3.1						
ATAH	**Atahualpa**	**24.28**	**336**	P	**P**	**09 04 55.4**	**+1.7**
	comp=Z,2.4nm,0.5s,baz=151,slow=14,SNR=2.2						
PTGA	**Pitinga**	**30.12**	**18**	P	**P**	**09 05 47.3**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=321,slow=22,SNR=2.8						
TXAR	**Lajitas Array**	**67.55**	**327**	P	**P**	**09 10 31.7**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=143,slow=6.3,SNR=2.4						
TORD	**Torodi Ar. Bea**	**80.18**	**69**	P	**P**	**09 11 46.4**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=295,slow=6.3,SNR=4.5						
PDAR	**Pinedale Array**	**81.35**	**331**	P	**P**	**09 11 52.0**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=157,slow=4.8,SNR=3.0						
NVAR	**Mina Array Bea**	**82.10**	**323**	P	**P**	**09 11 56.4**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=134,slow=3.9,SNR=2.9						
YKA	**Yellowknife Ar**	**99.00**	**340**	P	**Pdif**	**09 13 15.6**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=133,slow=4.5,SNR=3.1						
ASAR	**Alice Springs**	**122.53**	**205**	PKP	**PKiKP**	**09 18 32.6**	**+0.2**
	comp=Z,0.2nm,0.9s,baz=129,slow=1.3,SNR=2.5						
WRA	**Warramunga Arr**	**125.74**	**207**	PKP	**PKPdf**	**09 18 37.4**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=149,slow=1.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**149.23**	**31**	PKPbc	**PKiKP**	**09 19 23.8**	**-1.6**
	comp=Z,3.3nm,0.6s,baz=296,slow=2.9,SNR=12						
MKAR	**Makanchi Array**	**151.91**	**45**	PKPbc	**PKiKP**	**09 19 30.1**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=302,slow=2.5,SNR=8.1						

*NEIC **05** 09:04:37.8±0.4, 9°.71N×84°.08W, h12km±17km, MW3.6(UCR), Error ellipse: s-maj=67.6km s-min=5.1km az=46.0*
NEIC Felt at Aserri, Cachi, Cartago, Curridabat, Desamparados, Orosi, Sabanilla, San Jose, Tejar and Tres Rios.
*ISCJB **05** 09:04:38.0±0.6, 9°.77N±0°.05×84°.03W±0°.05, h10km±4km, Error ellipse: s-maj=11.1km s-min=3.0km az=44.7*
*UCR **05** 09:04:38.6±3.0, 9°.80N×84°.02W, h7km±5km, MD3.9*
ISC 05 09:04:38.4±0.8, 9.78N±0°.05×84°.01W±0°.05, h13km±5km, n28, σ0s82/40, 8C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.04**	**170**⇑	*e*P	**Pg**	**09 04 41.0**	**-0.2**
LCR2				*e*S	**Sg**	**09 04 42.6**	**-0.4**
SJS	**Escuela Geolog**	**0.17**	**345**⇑	*e*P	**Pg**	**09 04 43.0**	**+0.5**
SJS				*e*S	**Sg**	**09 04 45.0**	**-0.3**
HDC	**Heredia**	**0.24**	**335**	*e*Pg	**Pg**	**09 04 43.9**	**+0.1**
HDC	**Heredia**	**0.24**	**335**	*e*P	**Pg**	**09 04 43.0**	**-0.8**
EDLM	**Las Mercedes**	**0.65**	**140**⇑	*i*P	**Pg**	**09 04 50.7**	**-0.3**
DRK0	**Durika**	**0.91**	**124**⇑	*i*P	**Pg**	**09 04 54.8**	**-1.4**
DRK0				*e*S	**Sg**	**09 05 07.4**	**-0.7**
FORC	**Fortuna**	**0.94**	**317**	*i* P	**Pg**	**09 04 56.0**	**-0.7**
FORC				*i* S	**Sg**	**09 05 08.3**	**-0.7**
EDBA	**Buenos Aires**	**0.95**	**130**⇑	*e*P	**Pg**	**09 04 55.1**	**-1.7**
CASO	**Castillo**	**0.97**	**312**	*i* P	**Pg**	**09 04 56.2**	**-0.9**
CASO				*i* S	**Sg**	**09 05 09.4**	**-0.4**
ARE1	**Arenal 1**	**0.97**	**314**⇑	*e*P	**Pg**	**09 04 56.5**	**-0.8**
EDPN	**Palmar Norte**	**0.98**	**146**	*e*P	**Pg**	**09 04 56.6**	**-0.7**
CEDE	**Laguna Cedeo**	**0.98**	**316**	*i* P	**Pg**	**09 04 56.8**	**-0.6**
CEDE				*i* S	**Sb**	**09 05 10.1**	**-0.1**
JTS	**Las Juntas de**	**1.06**	**299**	*e*Pg	**Pg**	**09 04 57.8**	**-1.1**
JTS				*e*Sn	**Sb**	**09 05 12.8**	**+0.4**
JTS	**Las Juntas de**	**1.06**	**299**⇑	*e*P	**Pg**	**09 04 57.7**	**-1.1**
JTS				*e*S	**Sg**	**09 05 11.9**	**-0.9**
EDSV	**San Vito**	**1.40**	**133**⇑	*i*P	**Pb**	**09 05 05.0**	**+0.5**
PTJ1	**Puerto Jimnez**	**1.42**	**150**	*e*P	**Pb**	**09 05 04.7**	**0.0**
CUI	**Cuipilapa**	**1.43**	**308**	*i* P	**Pn**	**09 05 04.2**	**0.0**
COLC	**Colonia**	**1.47**	**307**	*i* P	**Pn**	**09 05 04.8**	**+0.2**
BRU2	**Volcan**	**1.63**	**127**	*e*P	**Pn**	**09 05 07.7**	**+0.8**
BRU2				*e*S	**Sn**	**09 05 28.6**	**+0.8**
DVD	**David**	**2.04**	**131**	*e*P	**Pn**	**09 05 12.7**	**+0.3**
DVD				*e*S	**Sn**	**09 05 39.4**	**+1.7**
ESPN	**Las Esperanzas**	**2.42**	**353**	*e*Pn	**Pn**	**09 05 17.3**	**-0.3**
ESPN	**Las Esperanzas**	**2.42**	**353**	*e*P	**Pn**	**09 05 16.2**	**-1.4**
ESPN				*e*S	**Sb**	**09 05 50.8**	**-0.8**
ACON	**Acoyapa**	**2.46**	**332**	*e*Pn	**Pn**	**09 05 19.1**	**+0.9**
ACON	**Acoyapa**

IPM Ipoh 4.97 95 *e*Pn **Pn 09 36 56.6 -1.3**
IPM *e*Sn **Sn 09 37 53.1 -1.1**
CMAR Chiang Mai Arr 13.71 12 Pn **P 09 39 05.0 -0.8**
0.3nm,0.3s,baz=200,slow=16,SNR=3.3
CMAR LR LR 09 44 48.9
comp=Z,56nm,18.1s,baz=187,slow=38
PALK Pallekele 15.44 279 LR LR 09 44 33.7
comp=Z,35nm,21.2s,baz=123,slow=36
H08S2 Diego Garcia E 26.64 242 T T 10 08 29.1
baz=61,slow=76,SNR=120
H08S3 Diego Garcia H 26.64 242 T T 10 08 30.4
baz=61,slow=76,SNR=22
H08S1 Diego Carcia H 26.66 242 T T 10 08 30.6
baz=61,slow=76,SNR=61
DAV Davao City (W) 29.43 84 LR LR 09 56 30.6
comp=Z,28nm,18.9s,baz=327,slow=42
FITZ Fitzroy Crossi 37.10 129 *e*P **P 09 42 50.8 -2.1**
5.8nm,1.1s
FITZ Fitzroy Crossi 37.10 129 P **P 09 42 50.3 -2.6**
2.2nm,0.9s,baz=292,slow=11,SNR=2.3
FITZ LR LR 09 59 42.9
comp=Z,20nm,19.0s,baz=304,slow=39
MK32 Makanchi Array 43.34 346 *e*P **P 09 43 46.2 +1.9**
MKAR Makanchi Array 43.34 346 P **P 09 43 46.2 +1.9**
0.2nm,0.5s,baz=153,slow=8.1,SNR=2.7
KSRS Korea Array 43.50 38 P P 09 43 51.5 +5.8
0.6nm,0.7s,baz=226,slow=7.2,SNR=3.3
SONA0 Songino Array 43.63 10 *e*P P 09 43 51.4 +4.7
SONM Songino Array 43.63 10 P P 09 43 51.4 +4.7
0.4nm,0.4s,baz=184,slow=8.2,SNR=3.1
WRA Warramunga Arr 45.04 125 *e*P **P 09 43 57.1 -1.1**
WRA Warramunga Arr 45.04 125 P **P 09 43 56.4 -1.9**
0.6nm,0.7s,baz=302,slow=9.2,SNR=8.4
WR1 Warramunga Arr 45.04 125 *e*P **P 09 43 56.4 -1.9**
WB2 Warramunga Arr 45.05 125 *e*P **P 09 43 56.8 -1.6**
7.6nm,1.4s
ASAR Alice Springs 46.60 129 P **P 09 44 09.3 -1.3**
2.1nm,0.7s,baz=299,slow=7.9,SNR=31
AS31 Alice Springs 46.60 129 *e*P **P 09 44 09.5 -1.1**
0.7nm,0.7s
FORT Forrest 46.89 141 *e*P **P 09 44 12.6 -0.1**
24nm,1.1s
GEYT Alibeck 47.63 319 P **P 09 44 17.7 -0.8**
1.2nm,0.5s,baz=136,slow=9.4,SNR=3.8
KURBB Kurchatov Arra 47.83 345 P **P 09 44 22.2 +2.5**
0.3nm,0.6s,baz=166,slow=7.0,SNR=2.8
ABKAR Akbulak array 53.69 331 *e*P **P 09 45 02.8 -1.1**
STKA Stephens Creek 56.73 133 *e*P **P 09 45 25.7 -0.4**
1.8nm,1.4s
STKA Stephens Creek 56.73 133 P **P 09 45 25.2 -0.9**
1.6nm,0.7s,baz=284,slow=8.3,SNR=3.0
KBZ Khabaz 60.51 318 P **P 09 45 52.5 +0.3**
0.9nm,0.8s,baz=108,slow=3.2,SNR=1.8
BR101 Keskin Array S 65.77 311 *e*P **P 09 46 26.4 -1.1**
BRTR Keskin Array B 65.77 311 P **P 09 46 26.4 -1.1**
0.2nm,0.5s,baz=98,slow=10,SNR=2.5
TIRR Tirgusor 70.65 315 *e*P **P 09 46 56.8 -0.9**
3.9nm,1.0s

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*IGQ **05** 09:39:33.8±0.7,2°S±4°×7°8W±°,h12km,MLv3.9*
ISC 05 09:39:27.8±2.0,2°45S±0°09×77°45W±0°05,h7km±14km, n38,σ0°89/44,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**1.11**	**329**	P	**Pn**	**09 39 50.2**	**+0.2**
PUYO				S	**Sn**	**09 40 05.1**	**-0.6**
PAT1	**Patacocha**	**1.36**	**313**	P	**Pg**	**09 39 54.1**	**+0.1**
ARRY	**Arrayan**	**1.38**	**313**	P	**Pb**	**09 39 54.0**	**-0.2**
RUN5	**Runtun**	**1.42**	**317**	P	**Pb**	**09 39 54.9**	**+0.1**
POND	**Pondoa**	**1.43**	**316**	P	**Pn**	**09 39 54.5**	**-0.1**
POND				S	**Sb**	**09 40 13.1**	**-0.6**
BIL2	**Estacion Bilba**	**1.45**	**313**	P	**Pn**	**09 39 54.5**	**-0.2**
PIS1	**Pisayambo**	**1.67**	**326**	P	**Pb**	**09 39 59.5**	**+0.3**
PISA	**Pisayambo**	**1.67**	**326**	P	**Pb**	**09 39 59.6**	**+0.3**
COV1	**Cotopaxi Volc**	**1.99**	**333**	P	**Pg**	**09 40 06.2**	**+0.1**
BTAM	**Cotopaxi Volca**	**2.00**	**332**	P	**Pb**	**09 40 04.8**	**-0.1**
BTAM				S	**Sb**	**09 40 30.9**	**+0.6**
VC1	**Cotopaxi 1**	**2.04**	**332**	P	**Pb**	**09 40 05.4**	**0.0**
ANTM	**Antisana-La Mi**	**2.05**	**338**	P	**Pn**	**09 40 04.6**	**+1.3**
ANTM				S	**Sb**	**09 40 30.8**	**-1.0**
NAS2	**Nasa**	**2.06**	**330**	P	**Pb**	**09 40 06.8**	**+0.9**
ANTS	**Antisana-Sarah**	**2.07**	**340**	P	**Pb**	**09 40 06.1**	**0.0**
ANTS				S	**Sb**	**09 40 31.4**	**-0.9**
ANTG	**Antisana-Guama**	**2.10**	**337**	P	**Pb**	**09 40 05.4**	**-1.2**
ANTG				S	**Sb**	**09 40 32.4**	**-0.7**
ANTI	**Antisana**	**2.11**	**340**	P	**Pb**	**09 40 06.5**	**-0.3**
MILO	**Milagro-Astudi**	**2.11**	**275**	P	**Pg**	**09 40 08.4**	**0.0**
MILO				S	**Sg**	**09 40 35.5**	**-0.3**
PITA	**Cotopaxi Volc**	**2.12**	**332**	P	**Pb**	**09 40 07.2**	**+0.2**
ILLI	**Illinizas Sur**	**2.15**	**323**	P	**Pb**	**09 40 07.9**	**+0.5**
REVS	**Reventador Sur**	**2.34**	**356**	P	**Pg**	**09 40 13.6**	**+0.9**
GGPC	**Guagua Pichinc**	**2.53**	**333**	P	**Pb**	**09 40 15.0**	**+1.0**
CASC	**Dorado de Casc**	**2.57**	**2**	P	**Pb**	**09 40 15.8**	**+1.3**
PULU	**Pululahua**	**2.67**	**337**	P	**Pb**	**09 40 17.1**	**+0.8**
IMBA	**Imbabura, San**	**2.81**	**345**	P	Pg	09 40 28.6	+6.9
OTAV	**Otavalo**	**2.85**	**339**	*e*P	**Pb**	**09 40 19.4**	**0.0**
OTAV	**Otavalo**	**2.85**	**339**	*e*P	**Pb**	**09 40 19.4**	**0.0**
URCU	**Urcuqui**	**2.98**	**344**	P	**Pg**	**09 40 25.6**	**+0.5**
PAC1	**Pacto, Paraso**	**3.02**	**334**	P	**Pb**	**09 40 22.8**	**+0.8**
PTLC	**Puerto Leguiza**	**3.72**	**46**	*e*P	**Pn**	**09 40 25.7**	**0.0**
PTLC	**Puerto Leguiza**	**3.72**	**46**	*e*P	**Pn**	**09 40 25.7**	**0.0**
CRUC	**La Cruz**	**4.02**	**7**	*e*P	**Pg**	**09 40 43.0**	**-2.0**
CRUC	**La Cruz**	**4.02**	**7**	*e*P	**Pg**	**09 40 43.0**	**-2.0**
FLOC	**Florencia**	**4.39**	**24**	*e*P	**Pn**	**09 40 36.4**	**+1.4**
FLOC	**Florencia**	**4.39**	**24**	*e*P	**Pn**	**09 40 36.4**	**+1.4**
PCON	**Cinco Dias**	**4.86**	**12**	*e*P	**Pg**	**09 40 59.5**	**-1.5**
PCON	**Cinco Dias**	**4.86**	**12**	*e*P	**Pg**	**09 40 59.5**	**-1.5**
POPC	**Popayan, Colom**	**5.02**	**9**	*e*P	**Pg**	**09 41 05.1**	**+1.0**
POPC	**Popayan, Colom**	**5.02**	**9**	*e*P	**Pg**	**09 41 05.1**	**+1.0**

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*ISCJB **05** 09:42:36.7±0.4,19°57N±0°04×109°25W±0°03,h10km, mb3.9/11,MS3.1/5,Error ellipse: s-maj=5.6km s-min=4.2km az=155.0*
*IDC **05** 09:42:38.4±0.8,19°79N×108°95W,h0km,mb3.9/12, mb1 4.2/16,mb1mx4.0/37,mbtmp4.0/16,ML4.1/4,MS3.2/9, Ms1 3.2/9,ms1mx3.0/32,Error ellipse: s-maj=27.9km s-min=15.4km az=66.0*
*ANF **05** 09:42:40.8±2.0,19°92N×109°12W,h5km±11km,ML4.2/9, Error ellipse: s-maj=9.9km s-min=3.1km az=14.0*
ISC 05 09:42:38.4±0.6,19°57N±0°08×109°30W±0°06,h10km±4km,n95, σ1°17/95,mb4.0/11,MS3.1/5,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.72**	**243**	Pn	**Pn**	**09 43 08.8**	**+0.4**
H06E1				Sn	**Sn**	**09 43 28.4**	**-2.1**
H06E1				T	T	09 45 20.5	
SNR=561							
H06N1	**SOCORRO T-PHAS**	**1.74**	**247**	Pn	**Pn**	**09 43 09.2**	**+0.5**
H06N1				Sn	**Sn**	**09 43 28.6**	**-2.3**
H06N1				T	T	09 45 10.5	
SNR=289							
H06S1	**SOCORRO T**	**1.77**	**242**	Pn	**Pn**	**09 43 08.7**	**-0.4**
H06S1				Sn	**Sn**	**09 43 29.1**	**-2.6**
H06S1				T	T	09 45 15.6	
SNR=108							
LPIG	**La Paz**	**4.61**	**348**	Pn	**Pn**	**09 43 46.9**	**-1.2**
7.6nm,0.3s,baz=171,slow=5.3,SNR=14							
LPIG				LR	LR	09 45 17.0	
comp=Z,324nm,19.0s,baz=176,slow=35							
TXAR	**Lajitas Array**	**10.99**	**27**	Pn	**Pn**	**09 45 15.4**	**-0.4**
0.1nm,0.3s,baz=199,slow=15,SNR=17							
TXAR				Sn	Sn	09 47 10.1	-8.9
0.0nm,0.3s,baz=202,slow=21,SNR=3.2							
TXAR				LR	LR	09 48 60.0	
comp=Z,160nm,21.2s,baz=0.0,slow=36							
MNTX	**Cornudas Mount**	**12.59**	**16**	P	**Pn**	**09 45 36.3**	**-1.3**
baz=197,SNR=5.3							
214A	**Organ Pipe Nat**	**12.73**	**346**	P	**Pn**	**09 45 38.6**	**-1.0**
baz=164							
TUC	**Tucson**	**12.76**	**354**	P	**Pn**	**09 45 40.0**	**0.0**
baz=173							
121A	**Cookes Peak, D**	**12.98**	**6**	P	**Pn**	**09 45 41.8**	**-1.4**
baz=186							
JCT	**Junction City**	**13.85**	**37**	P	**Pn**	**09 45 52.0**	**-2.9**
baz=221							
CMIG	**Matias Romero**	**13.91**	**98**	Pn	**Pn**	**09 45 55.7**	**+0.1**
0.3nm,0.3s,baz=289,slow=12,SNR=8.5							
CMIG				LR	LR	09 50 36.6	
comp=Z,130nm,21.6s,baz=299,slow=35							
IKP	**In-Ko-Pah, Jac**	**14.39**	**336**	P	**Pn**	**09 46 01.1**	**-1.2**
baz=152							
SWSC	**Sam W. Stewart**	**14.54**	**338**	P	**Pn**	**09 46 04.5**	**+0.3**
baz=154							
109C	**Camp Elliot, M**	**14.99**	**334**	P	**Pn**	**09 46 10.5**	**+0.1**
baz=149							
BC3	**Big Chuckawall**	**15.07**	**340**	P	**Pn**	**09 46 11.9**	**+0.4**
baz=156							
PFO	**Pinyon Flats O**	**15.38**	**337**	P	**Pn**	**09 46 16.3**	**+0.7**
baz=153							
PFO	**Pinyon Flats O**	**15.38**	**337**	Pn	**Pn**	**09 46 19.6**	**+4.0**
0.5nm,0.3s,baz=184,slow=8.2,SNR=2.9							
435B	**Jarrell**	**15.39**	**41**	P	**Pn**	**09 46 13.9**	**-1.8**
baz=226							
IRM	**Iron Mountain**	**15.43**	**342**	P	**Pn**	**09 46 16.8**	**+0.5**
baz=158							
W18A	**Petrified Fore**	**15.50**	**359**	P	**Pn**	**09 46 16.6**	**-0.6**
baz=178							
TASM	**ASL Pad, Albuq**	**15.52**	**9**	P	**Pn**	**09 46 15.9**	**-1.7**
baz=190							
TASM	**ASL Pad, Albuq**	**15.52**	**9**	P	**Pn**	**09 46 15.8**	**-1.8**
baz=190							
ANMO	**Albuquerque**	**15.53**	**9**	P	**Pn**	**09 46 15.9**	**-1.7**
baz=190							
ANMO	**Albuquerque**	**15.53**	**9**	Pn	**Pn**	**09 46 18.3**	**+0.6**
0.1nm,0.3s,baz=203,slow=13,SNR=2.1							
ANMO				LR	LR	09 51 59.5	
comp=Z,219nm,19.1s,baz=246,slow=37							
ABTX	**Abilene, Hawle**	**15.62**	**32**	P	**Pn**	**09 46 16.3**	**-2.4**
baz=216							
SCI2	**San Clemente I**	**15.71**	**330**	P	**Pn**	**09 46 20.1**	**+0.3**
baz=145							
WUAZ	**Wupatki**	**15.99**	**354**	P	**Pn**	**09 46 22.3**	**-1.4**
baz=172							
CIS	**Catalina Islan**	**16.00**	**331**	P	**Pn**	**09 46 23.8**	**+0.2**
baz=146							
GMRC	**Granite Mounta**	**16.17**	**341**	P	**Pn**	**09 46 25.8**	**-0.1**
baz=157							
BFSC	**Mount Baldy Ra**	**16.39**	**335**	P	**Pn**	**09 46 28.7**	**-0.1**
baz=150							
HEC	**Hector,Ludlow**	**16.43**	**339**	P	**Pn**	**09 46 29.3**	**+0.1**
baz=155							
AMTX	**Amarillo**	**16.68**	**22**	P	**Pn**	**09 46 31.6**	**-0.8**
baz=206							
TUQ	**Turquoise Moun**	**16.86**	**341**	P	**Pn**	**09 46 35.8**	**+1.1**
baz=157							
SHOC	**Shoshone, Teco**	**17.39**	**341**	P	**Pn**	**09 46 42.4**	**+1.2**
baz=157							
SBC	**Santa Barbara**	**17.46**	**330**	P	**Pn**	**09 46 43.8**	**+1.7**
baz=144							
MVCO	**Mesa Verde**	**17.59**	**2**	P	**Pn**	**09 46 43.7**	**-0.3**
baz=182,SNR=7.1							
WMOK	**Wichita Mounta**	**17.76**	**30**	P	**Pn**	**09 46 44.7**	**-1.1**
baz=214							
MPMC	**Manual Prospec**	**17.94**	**338**	P	**Pn**	**09 46 49.0**	**+0.8**
baz=153							
ISA	**Isabella, Lake**	**17.96**	**335**	P	**Pn**	**09 46 49.2**	**+0.9**
baz=150							
T25A	**Trinidad**	**18.02**	**13**	P	**Pn**	**09 46 49.3**	**0.0**
baz=195,SNR=5.9							
FURC	**Furnace Creek,**	**18.10**	**340**	P	**Pn**	**09 46 51.2**	**+1.3**
baz=156							
S22A	**4UR Ranch, Cre**	**18.24**	**6**	P	**Pn**	**09 46 52.8**	**+0.8**
baz=187,SNR=6.8							
SDCO	**Great Sand Dun**	**18.41**	**10**	P	**Pn**	**09 46 54.7**	**0.6**
baz=191,SNR=8.2							
CWC	**Cottonwood Cre**	**18.49**	**337**	P	**P**	**09 46 56.1**	**+1.2**
baz=152							
APG	**El Apazote**	**18.55**	**101**	P	**P**	**09 46 53.6**	**-2.0**
1.0nm,0.3s,baz=220,slow=19,SNR=6.9							
R11A	**Troy Canyon, C**	**19.50**	**345**	P	**P**	**09 47 06.8**	**+0.9**
baz=161							
Z41A	**Richland Creek**	**20.07**	**44**	P	**P**	**09 47 11.8**	**-0.1**
baz=232							
NVAR	**Mina Array Bea**	**20.36**	**339**	P	**P**	**09 47 17.3**	**+2.0**
4.9nm,0.9s,baz=166,slow=14,SNR=22							
NVAR				LR	LR	09 54 50.5	
comp=Z,76nm,18.5s,baz=196,slow=36							
ISCO	**Idaho Springs**	**20.41**	**8**	P	**P**	**09 47 16.5**	**+0.5**
baz=190,SNR=5.3							
O20A	**White River Ci**	**20.52**	**2**	P	**P**	**09 47 17.2**	**+0.2**
baz=182,SNR=5.7							
W39A	**Magazine**	**20.75**	**38**	P	**P**	**09 47 18.4**	**-0.9**
baz=226							
DUG	**Dugway, Tooele**	**20.78**	**352**	P	**P**	**09 47 20.6**	**+0.9**
baz=170,SNR=13							
X40A	**Basin Creek Fa**	**20.84**	**41**	P	**P**	**09 47 19.4**	**-0.9**
baz=229							
N23A	**Red Feather La**	**21.45**	**7**	P	**P**	**09 47 27.4**	**+0.3**
baz=188,SNR=5.6							
W41B	**Gary Mavity, V**	**21.65**	**41**	P	**P**	**09 47 28.9**	**-0.2**
baz=229							
ELK	**Elko**	**21.71**	**348**	P	**P**	**09 47 31.1**	**+1.2**
2.4nm,0.9s,baz=181,slow=9.9,SNR=6.8							
U40A	**Yellville**	**22.10**	**37**	P	**P**	**09 47 33.8**	**-0.1**
baz=225							
449A	**Pace**	**22.84**	**56**	P	**P**	**09 47 41.7**	**-0.1**
baz=246							
BW06	**Boulder Array**	**23.13**	**360**	P	**P**	**09 47 44.6**	**-0.4**
baz=179							
PDAR	**Pinedale Array**	**23.13**	**360**	P	**P**	**09 47 45.1**	**+0.1**
0.9nm,0.7s,baz=161,slow=11,SNR=11							
PDAR				LR	LR	09 56 43.5	
comp=Z,61nm,18.5s,baz=126,slow=37							
K22A	**Casper**	**23.13**	**5**	P	**P**	**09 47 44.4**	**-0.5**
baz=186,SNR=10.0							
S41A	**Jillco Farms,**	**23.59**	**37**	P	**P**	**09 47 48.4**	**-1.0**
baz=225							
149A	**Jones**	**23.96**	**53**	P	**P**	**09 47 52.8**	**-0.2**
baz=243							
LRAL	**Lakeview Retre**	**24.01**	**52**	P	**P**	**09 47 53.3**	**-0.1**
baz=242							
552A	**Lynn Haven**	**24.14**	**60**	P	**P**	**09 47 54.7**	**+0.1**
baz=250							
X47A	**Russelville**	**24.14**	**48**	P	**P**	**09 47 54.8**	**+0.1**
baz=238							
HLID	**Hailey**	**24.31**	**351**	P	**P**	**09 47 57.0**	**+0.7**
baz=198,SNR=8.2							
RSSD	**Black Hills**	**24.88**	**9**	P	**P**	**09 48 01.7**	**+0.2**
baz=192							
453A	**Whigham**	**25.18**	**59**	P	**P**	**09 48 03.7**	**-0.4**
baz=250							
RLMT	**Red Lodge**	**25.48**	**0**	P	**P**	**09 48 07.5**	**+0.5**
baz=180							
J05D	**Fort Rock, OR**	**25.69**	**340**	P	**P**	**09 48 09.5**	**+0.7**
baz=153							
BOZ	**Bozeman (W)**	**26.03**	**356**	P	**P**	**09 48 12.8**	**+0.9**
baz=175							
058A	**Arcadia**	**26.29**	**68**	P	**P**	**09 48 14.3**	**+0.1**
baz=260							
T48A	**Bowling Green**	**26.57**	**44**	P	**P**	**09 48 16.6**	**-0.1**
baz=235							
GOGA	**Godfrey**	**26.83**	**54**	P	**P**	**09 48 19.2**	**+0.1**
baz=246							
V51A	**Loudon**	**27.27**	**48**	P	**P**	**09 48 22.7**	**-0.2**
baz=240							
MSO	**Missoula**	**27.46**	**353**	P	**P**	**09 48 25.1**	**+0.5**
baz=170							
357A	**Townsend**	**27.66**	**59**	P	**P**	**09 48 25.9**	**-0.6**
baz=252							
NHSC	**New Hope**	**29.26**	**57**	P	**P**	**09 48 41.1**	**+0.3**
baz=250							
NEW	**Newport**	**29.32**	**349**	P	**P**	**09 48 42.1**	**+0.9**
baz=164							
NEW	**Newport**	**29.32**	**349**	P	**P**	**09 48 41.0**	**-0.2**
1.6nm,0.6s,baz=165,slow=7.2,SNR=5.3							
D03D	**Eldon**	**30.07**	**341**	P	**P**	**09 48 48.4**	**+0.6**
baz=153							
ULM	**Lac du Bonnet**	**32.43**	**16**	P	P	09 49 05.7	-2.8
baz=222,slow=8.2,SNR=5.3							
YKA	**Yellowknife Ar**	**43.05**	**356**	P	**P**	**09 50 36.9**	**-1.1**
0.8nm,0.8s,baz=171,slow=8.0,SNR=21							
YKA				LR	LR	10 09 06.2	
comp=Z,6.4nm,19.0s,baz=178,slow=37							
SCHQ	**Schefferville**	**47.62**	**32**	P	**P**	**09 51 14.6**	**+0.1**
3.1nm,0.6s,baz=246,slow=12,SNR=3.0							
ILAR	**Eielson Array**	**51.61**	**341**	P	**P**	**09 51 44.6**	**-0.1**
1.1nm,0.8s,baz=148,slow=7.1,SNR=12							
LPAZ	**La Paz**	**53.92**	**129**	P	**P**	**09 52 04.2**	**+1.1**
1.1nm,0.8s,baz=17,slow=5.4,SNR=4.4							
CPUP	**Villa Florida**	**68.01**	**130**	P	**P**	**09 53 38.8**	**+0.7**
1.2nm,0.9s,baz=77,slow=13,SNR=2.0							
SEY	**Seymchan**	**76.49**	**332**	P	**P**	**09 54 28.8**	**+0.5**
0.4nm,0.3s,baz=104,slow=6.6,SNR=3.5							
MA2	**Magadan**	**78.24**	**329**	P	**P**	**09 54 40.1**	**+1.9**
0.9nm,0.3s,baz=63,slow=2.3,SNR=2.6							
ARCES	**ARCESS Array B**	**85.53**	**14**	P	**P**	**09 55 15.5**	**-0.9**
1.1nm,0.8s,baz=298,slow=2.6,SNR=4.0							
NOA	**NORSAR Array B**	**86.69**	**25**	LR	LR	10 33 53.3	
comp=Z,7.8nm,18.1s,baz=295,slow=36							
NRIK	**Noril'sk**	**90.52**	**354**	LR	LR	10 39 55.9	
comp=Z,23nm,18.2s,baz=66,slow=38							
WRA	**Warramunga Arr**	**120.45**	**258**	PKP	**PKPdf**	**10 01 33.6**	**+2.7**
0.2nm,0.7s,baz=76,slow=2.5,SNR=3.3							
ASAR	**Alice Springs**	**121.51**	**254**	PKP	**PKPdf**	**10 01 35.6**	**+2.7**
0.1nm,0.5s,baz=72,slow=3.0,SNR=3.1							

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*IDC **05** 09:49:50.4±1.3,51°68N×177°55W,h0km,mb3.2/6, mb1 3.6/7,mb1mx3.4/45,mbtmp3.4/7,ML3.7/1,MS2.5/1, Ms1 2.5/1,ms1mx2.1/16,Error ellipse: s-maj=48.5km s-min=25.2km az=158.0*
*ISCJB **05** 09:49:56.4±0.8,51°37N±0°07×177°06W±0°07,h45km, mb3.4/5,Error ellipse: s-maj=9.5km s-min=6.3km az=174.9*
*NEIC **05** 09:49:57.7±0.0,51°52N×177°07W,h43km,ML3.3(AEIC), After AEIC.*
ISC 05 09:49:57.0±0.9,51°5N±0°1×177°15W±0°05,h45km,n30, σ1°41/28,mb3.5/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.40**	**360**	*e*Pn	**Pn**	**09 50 06.8**	**+0.1**
KIWB				*e*Sn	**Sn**	**09 50 14.4**	**+0.8**
KIKV	**Kanaga Island**	**0.42**	**358**	*e*Pn	**Pn**	**09 50 07.5**	**+0.5**
KIRH	**Kanaga Island**	**0.45**	**4**	*e*Pn	**Pn**	**09 50 07.9**	**+0.6**
ADK	**Adak**	**0.52**	**34**	*e*Pn	**Pn**	**09 50 08.0**	**-0.1**
ADK				*e*Sn	**Sn**	**09 50 16.4**	**+0.3**
ETKA	**Kagalaska Isla**	**0.61**	**48**	*e*Pn	**Pn**	**09 50 09.0**	**-0.4**
TASE	**Tanaga Southea**	**0.67**	**305**	*e*Pn	**Pn**	**09 50 11.3**	**+1.1**
TAFP	**Tanaga Falls P**	**0.69**	**311**	*e*Pn	**Pn**	**09 50 11.3**	**+0.9**
GSTD	**Great Sitkin T**	**0.87**	**46**	*e*Pn	**Pn**	**09 50 13.1**	**+0.3**
GSTD				*e*Sn	**Sn**	**09 50 24.4**	**0.0**
GSTR	**Great Sitkin T**	**0.93**	**46**	*e*Pn	**Pn**	**09 50 14.2**	**+0.6**
GAEA	**Gareloi East**	**1.05**	**289**	*e*Pn	**Pn**	**09 50 16.6**	**+1.4**
ATKA	**Atka Island**	**1.98**	**67**	*e*Pn	**Pn**	**09 50 27.9**	**0.0**
ATKA				*e*Sn	**Sn**	**09 50 51.7**	**+0.2**
KOWE	**Korovin West**	**2.01**	**62**	*e*Pn	**Pn**	**09 50 29.6**	**+1.1**
KOKL	**Mount Kliuchef**	**2.02**	**63**	*e*Pn	**Pn**	**09 50 29.7**	**+1.1**
NIKH	**Nikolski High**	**5.32**	**70**	*e*Pn	**Pn**	**09 51 15.0**	**+1.3**
UNV	**Unalaska Valle**	**6.91**	**66**	*e*Pn	**Pn**	**09 51 38.8**	**+3.3**
SPIA	**Saint Paul Isl**	**7.01**	**32**	*e*Pn	**Pn**	**09 51 40.3**	**+3.5**
PETK	**Petropavlovsk-**	**15.46**	**286**	LR	LR	09 58 46.4	
comp=Z,21nm,21.3s,baz=139,slow=35							
KDAK	**Kodiak Island**	**15.52**	**56**	Pn	**Pn**	**09 53 30.6**	**-1.9**
0.3nm,0.3s,baz=255,slow=12,SNR=3.0							
ILAR	**Eielson Array**	**20.54**	**38**	P	**P**	**09 54 31.2**	**0.0**
0.2nm,0.6s,baz=230,slow=8.2,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	**34.06**	**208**	T	T	10 32 58.5	
baz=17,slow=76,SNR=28							
H11N3	**WAKE ISLAND Hy**	**34.06**	**208**	T	T	10 32 59.7	
baz=17,slow=76,SNR=28							
H11N1	**WAKE ISLAND Hy**	**34.08**	**208**	T	T	10 33 02.7	
baz=17,slow=76,SNR=37							
YKA	**Yellowknife Ar**	**34.43**	**47**	P	**P**	**09 56 39.1**	**-0.5**
0.1nm,0.5s,baz=283,slow=8.7,SNR=2.7							
YKA				PcP	**PcP**	**09 59 14.6**	**+0.6**
0.1nm,0.3s,baz=294,slow=3.4,SNR=4.9							
H11S1	**WAKE ISLAND Hy**	**35.27**	**207**	T	T	10 34 34.2	
baz=17,slow=76,SNR=26							
H11S2	**WAKE ISLAND Hy**	**35.29**	**207**	T	T	10 34 33.9	
baz=17,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy**	**35.29**	**207**	T	T	10 34 28.9	
baz=17,slow=76,SNR=19							
PDAR	**Pinedale Array**	**45.30**	**73**	P	**P**	**09 58 11.3**	**+1.0**
0.5nm,0.5s,baz=317,slow=3.7,SNR=7.1							
TXAR	**Lajitas Array**	**57.62**	**82**	P	**P**	**09 59 42.4**	**0.0**
0.2nm,0.5s,baz=317,slow=3.8,SNR=3.1							
MKAR	**Makanchi Array**	**60.79**	**309**	P	**P**	**10 00 00.6**	**-3.4**
0.1nm,0.4s,baz=35,slow=7.8,SNR=2.4							
ASAR	**Alice Springs**	**86.25**	**224**	P	**P**	**10 02 34.2**	**+0.7**
0.3nm,0.7s,baz=26,slow=4.8,SNR=4.6							

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*ISCJB **05** 10:14:00.4±0.4,48°86S±0°05×124°4E±0°2,h13km, mb4.1/15,MS3.5/10,Error ellipse: s-maj=14.8km s-min=7.1km az=15.0*
*IDC **05** 10:14:00.2±0.6,48°83S×124°47E,h0km,mb4.2/10, mb1 4.3/11,mb1mx4.1/21,mbtmp4.2/11,ML2.3/1,MS3.5/11, Ms1 3.5/11,ms1mx3.4/26,Error ellipse: s-maj=28.1km s-min=14.3km az=104.0*
*NEIC **05** 10:14:02.0±1.5,48°84S×124°47E,h10km±3km,mb4.2/14, Error ellipse: s-maj=25.7km s-min=15.5km az=105.0*
ISC 05 10:14:02.2±0.5,48°83S±0°08×124°4E±0°1,h13km,n64, σ0°62/55,mb4.2/15,MS3.5/10,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.86**	**328**	T	T	10 34 16.2	
baz=153,slow=74,SNR=69							
H01W2	**Cape Leeuwin H**	**15.86**	**328**	T	T	10 34 17.8	
baz=153,slow=74,SNR=60							
H01W3	**Cape Leeuwin H**	**15.88**	**328**	T	T	10 34 18.0	
baz=153,slow=74,SNR=64							
NWAO	**Narrogin (SRO)**	**16.77**	**339**	*e*Pn	**P**	**10 17 59.3**	**+0.3**

10nm,0.9s
SNAA Sanae 54.16 198 P P 10 23 27.0 +0.4
8.9nm,0.9s,baz=149,slow=7.4,SNR=19
VNA3 Neumayer Olymp 55.83 196 P P 10 23 38.1 -0.6
VNA1 Neumayer--Stat 56.05 197 P P 10 23 40.2 +0.1
H08S2 Diego Garcia H 59.78 295 T T 11 28 60.0
baz=143,slow=76,SNR=8.4
H08S1 Diego Carcia H 59.79 295 T T 11 29 04.8
baz=143,slow=76,SNR=8.9
H08S3 Diego Garcia H 59.80 295 T T 11 29 01.0
baz=143,slow=76,SNR=9.7
CMAR Chiang Mai Arr 70.73 334 P P 10 25 17.8 -0.1
0.8nm,0.3s,baz=187,slow=5.8,SNR=6.3
CMAR LR LR 10 57 09.0
comp=Z,12nm,18.2s,baz=180,slow=37
SUR Sutherland 74.41 239 eP P 10 25 41.6 +1.5
45nm,1.4s
MJAR Matsushiro Arr 85.89 11 P P 10 26 40.9 -0.4
1.8nm,0.9s,baz=198,slow=7.6,SNR=7.1
MAJO Matsushiro 85.89 11 eP P 10 26 40.9 -0.4
KSRS Korea Array 85.97 3 LR LR 11 08 00.2
comp=Z,10nm,18.3s,baz=89,slow=38
KLR Kul'dur 97.89 5 LR LR 11 10 21.7
comp=Z,15nm,21.0s,baz=150,slow=34
H10S2 ASCENSION HYDR 112.14 224 T T 12 35 23.5
baz=151,slow=75,SNR=12
H10S3 ASCENSION HYDR 112.15 224 T T 12 35 25.6
baz=151,slow=75,SNR=10
H10S1 ASCENSION HYDR 112.16 224 T T 12 35 27.2
baz=151,slow=75,SNR=12
TORD Torodi Ar. Bea 121.16 253 PKP PKiKP 10 32 54.8 -0.3
0.4nm,0.9s,baz=145,slow=5.3,SNR=2.3
TOA1 Torodi Ar. Sit 121.16 253 ePKPdf PKiKP 10 32 54.8 -0.3
ILAR Eielson Array 132.21 35 ePKPdf PKiKP 10 33 14.9 -0.6
ILAR Eielson Array 132.21 35 PKP PKiKP 10 33 14.7 -0.8
0.4nm,0.6s,baz=278,slow=3.4,SNR=6.6
TOLK Toolik Lake Re 132.97 30 ePKPdf PKiKP 10 33 17.8 +0.7
NV01 Mina Array Sit 134.64 79 ePKPdf PKPdf 10 33 19.9 -0.3
NVAR Mina Array Bea 134.64 79 PKP PKPdf 10 33 19.9 -0.3
0.4nm,0.6s,baz=200,slow=3.8,SNR=3.8
INK Inuvik 138.44 33 ePKPpre PKPpre 10 33 19.8
INK ePKPdf PKiKP 10 33 28.0 -0.1
WMOK Wichita Mounta 145.34 98 ePKPbc PKPdf 10 33 39.3 -0.1
YKA Yellowknife Ar 145.37 44 ePKPbc PKPab 10 33 38.9 +0.3
YKA Yellowknife Ar 145.37 44 PKPbc PKPab 10 33 38.6 0.0
5.6nm,0.8s,baz=269,slow=3.4,SNR=119
YKB5 Yellowknife Ar 145.37 44 ePKPbc PKPab 10 33 38.6 0.0
YKW3 Yellowknife Ar 145.37 44 ePKPbc PKPab 10 33 39.1 +0.5
LAO LASA Array 146.41 74 ePKPdf PKPab 10 33 43.5 +0.3
RSSD Black Hills 146.77 80 ePKPbc PKPab 10 33 43.9 -1.0
X37A Clayton 147.48 101 ePKPdf PKPdf 10 33 43.8 +0.8
X37A ePKPbc pPKPdf 10 33 45.6 -0.5
RES Resolute Bay 149.26 19 ePKPbc PKPbc 10 33 49.1 +0.1
WHAR Wooly Hollow 149.90 103 ePKPbc PKPbc 10 33 51.5 -0.3
ECSD EROS Data Cent 151.46 85 ePKPbc PKiKP 10 33 55.0 -0.7

*NEIC **05** 10:18:53.7±0.0, 19°.32N×67°.97W, h78km, MD3.4(RSPR), After RSPR.*
RSPR 05 10:18:53.7, 19°.32N×67°.97W, h78km±5km, MD3.4/11, 9C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.90	206	ePn	Pn	10 19 06.1	-5.3
AGPR	Aguadilla, PR	1.18	136⇑	ePn	Pn	10 19 14.0	-0.8
AGPR	Aguadilla, PR	1.18	136	eS	Sn	10 19 30.0	-0.6
AGP	Aguadilla	1.20	139	ePn	Pn	10 19 14.0	-1.2
AGP				eSn	Sn	10 19 29.1	-2.1
LSP	Las Mesas	1.41	144⇑	ePn	Pn	10 19 17.0	-0.8
LSP	Las Mesas	1.41	144	ePn	Pn	10 19 17.0	-0.8
DR12	Loma Pena Alta	1.44	249⇓	ePn	Pn	10 19 17.3	-0.9
DR12				eS	Sn	10 19 36.4	-0.3
AOPR	Arecibo Observ	1.50	130⇑	ePn	Pn	10 19 18.3	-0.7
AOPR	Arecibo Observ	1.50	130	eS	Sn	10 19 37.3	-0.8
AOPR	Arecibo Observ	1.50	130	ePn	Pn	10 19 18.3	-0.7
CRPR	Cabo Rojo, PR	1.54	148⇑	ePn	Pn	10 19 18.4	-1.1
CRPR	Cabo Rojo, PR	1.54	148	eS	Sn	10 19 38.8	-0.2
CRPR	Cabo Rojo, PR	1.54	148	ePn	Pn	10 19 18.5	-1.0
EMPR	Esperanza - Ma	1.60	122⇑	ePn	Pn	10 19 19.9	-0.3
EMPR	Esperanza - Ma	1.60	122	eS	Sn	10 19 39.9	-0.4
EMPR	Esperanza - Ma	1.60	122	ePn	Pn	10 19 20.6	+0.4
CELP	Cerrillos	1.81	133⇑	ePn	Pn	10 19 22.3	-0.7
CELP				eS	Sn	10 19 45.1	-0.1
CELP	Cerrillos	1.81	133	ePn	Pn	10 19 22.3	-0.7
CELP				eSn	Sn	10 19 45.1	-0.1
OBIP	Obispado Ponce	1.81	134⇑	ePn	Pn	10 19 23.0	0.0
OBIP	Obispado Ponce	1.81	134	eS	Sn	10 19 45.4	+0.1
OBIP	Obispado Ponce	1.81	134	ePn	Pn	10 19 23.4	+0.4
OBIP				eSn	Sn	10 19 45.5	+0.2
ICMP	Isla Caja de M	1.98	136	ePn	Pn	10 19 27.1	+1.9
ICMP				eSn	Sn	10 19 53.5	+4.2
SJG	San Juan	2.10	125	ePn	Pn	10 19 26.6	-0.3
SJG				eSn	Sn	10 19 51.3	-0.9
CBYP	Canovanas	2.26	117⇑	ePn	Pn	10 19 28.9	-0.1
CBYP	Canovanas	2.26	117	eS	Sn	10 19 56.5	+0.4
CBYP	Canovanas	2.26	117	ePn	Pn	10 19 28.6	-0.4
CBYP				eSn	Sn	10 19 56.5	+0.4
HUMP	Col San Antoni	2.33	120⇑	ePn	Pn	10 19 29.0	-0.9
HUMP	Col San Antoni	2.33	120	eS	Sn	10 19 57.1	-0.4
HUMP	Col San Antoni	2.33	120	ePn	Pn	10 19 29.4	-0.4
MTP	Monte Pirata	2.59	118⇑	ePn	Pn	10 19 33.1	-0.4
MTP	Monte Pirata	2.59	118	eS	Sn	10 20 03.9	-0.1
MTP	Monte Pirata	2.59	118	ePn	Pn	10 19 33.6	+0.1
CUPR	Culebra, Puert	2.74	111	ePn	Pn	10 19 36.3	+0.9
SDDR	Presa de Saban	3.16	264	ePn	Pn	10 19 42.8	+1.6

*ISCJB **05** 10:37:12.0±1.0, 13°.53N±0°.03×120°.56E±0°.04, h2km±6km, mb3.6/4, MS3.4/1, Error ellipse: s-maj=6.3km s-min=4.5km az=13.1.*
*MAN **05** 10:37:12.1, 13°.53N×120°.57E, h1km, MS3.0*
*IDC **05** 10:37:12.5±1.1, 13°.43N×120°.68E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/37, mbtmp3.6/4, MS3.0/2, Ms1 3.1/2, ms1mx2.4/29, Error ellipse: s-maj=25.9km s-min=9.6km az=105.0*
ISC 05 10:37:13.0±1.4, 13°.49N±0°.03×120°.64E±0°.05, h4km±10km, n19, σ0°73/27, mb3.6/4, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.31	87⇑	eP	Pg	10 37 19.1	+0.1
PGP				i S	Sg	10 37 23.9	+0.9
TGY	Tagaytay City	0.68	26	Pg	Pg	10 37 26.4	+0.3
882nm,0.3s,baz=158,slow=7.8,SNR=40							
TGY				Lg	Lg	10 37 36.0	
1μm,0.3s,baz=314,slow=23,SNR=29							
TGY	Tagaytay City	0.68	26	eP	Pg	10 37 26.1	+0.1
TGY				i S	Sg	10 37 35.5	+0.6
SJMP	San Jose	1.12	155	eP	Pn	10 37 35.6	+0.1
SJMP				eS	Sn	10 37 53.1	+1.7
BOAC	Boac	1.18	91	eP	Pg	10 37 34.3	-1.3
BOAC				eS	Sn	10 37 52.2	-0.5
BUSP	Coron	1.54	196	eP	Pn	10 37 41.5	+0.3
BUSP				eS	Sg	10 38 02.4	-0.1
OTRP	Odiongan	1.75	130	eP	Pn	10 37 44.7	+0.5
OTRP				eS	Sg	10 38 09.2	-0.2
GQP	Guinayangan	1.81	77⇑	eP	Pn	10 37 45.4	+0.4
GQP				i S	Sg	10 38 11.0	-0.1
BALP	Baler	2.42	22	eP	Pn	10 37 53.6	+0.2
BALP				eS	Sn	10 38 22.7	-0.7
ENPP	El Nido	2.56	208	eP	Pn	10 37 55.4	+0.1
ENPP				eS	Sn	10 38 26.1	-0.8
SMPP	San Manuel, Pa	2.65	1	eP	Pn	10 37 55.8	-0.7
SMPP				eS	Sn	10 38 29.2	+0.1
CUYO	Cuyo Island	2.65	172	eP	Pn	10 37 57.1	+0.5
CAUP	Cauayan	3.62	18	eP	Pb	10 38 17.3	-0.4
DAV	Davao City (W)	8.02	142	LR	LR	10 42 25.7	
comp=Z,51nm,18.4s,baz=165,slow=39							
CMAR	Chiang Mai Arr	21.43	286	P	P	10 42 02.1	-0.2
0.8nm,0.3s,baz=121,slow=9.9,SNR=5.2							
WRA	Warramunga Arr	35.85	158	P	P	10 44 13.0	-1.1
0.9nm,0.5s,baz=333,slow=10,SNR=14							
ASAR	Alice Springs	39.14	161	P	P	10 44 41.7	-0.3
0.8nm,0.5s,baz=338,slow=7.0,SNR=16							
MKAR	Makanchi Array	46.16	324	P	P	10 45 40.3	+1.4
0.2nm,0.7s,baz=134,slow=8.2,SNR=2.2							
ILAR	Eielson Array	78.97	26	LR	LR	11 27 10.9	
comp=Z,15nm,18.1s,baz=176,slow=38							

UCR 05 10:39:29.3±2.5, 8°.40N×82°.79W, h30km±4km, MD4.2,

Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	David	0.34	84	eP	Pb	10 39 36.9	-0.4
DVD				eS	Sn	10 39 44.0	0.0
BRU2	Volcan	0.40	14	eP	Pb	10 39 38.0	-0.4
BRU2				eS	Sn	10 39 45.8	-0.1
HDC	Heredia	2.06	321	eP	Pn	10 40 01.2	-0.8
HDC				eS	Sb	10 40 29.6	-1.8
AZU	Azuero	2.56	103	eP	Pn	10 40 10.0	+1.2
AZU				eS	Sn	10 40 41.5	+2.5
FORC	Fortuna	2.77	318	i P	Pn	10 40 12.1	+0.4
CASO	Castillo	2.79	317	i P	Pn	10 40 12.7	+0.7
JTS	Las Juntas de	2.84	312	eP	Pn	10 40 11.3	-1.4
JTS				eS	Sn	10 40 44.2	-1.8
BCIP	Isla Barro Col	3.02	75	eP	Pn	10 40 16.2	+1.2
BCIP				eS	Sn	10 40 52.4	+2.3

*ISK **05** 10:54:27.8, 40°.57N×34°.91E, h13km, ML1.9/4*
*ISCJB **05** 10:54:28.6±1.1, 40°.57N±0°.04×34°.78E±0°.07, h10km±10km, Error ellipse: s-maj=10.0km s-min=5.3km az=34.7*
*DDA **05** 10:54:28.8, 40°.55N×34°.75E, h7km±2km, ML2.5*
ISC 05 10:54:27.9±1.7, 40°.56N±0°.04×34°.84E±0°.05, h7km±15km, n9, σ0°37/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COAL	Corum-Alaca	0.33	160	IAML_P			
comp=Z,415nm,0.1s							
COAL				i P	Pb	10 54 36.3	+0.2
COAL				i S	Sb	10 54 41.2	-0.3
CORM	Corum	0.41	203	PG	Pb	10 54 37.1	-0.5
CORM				SG	Sb	10 54 43.9	-0.2
HAVZ	Havza	0.84	52	i P	Pn	10 54 46.1	0.0
HAVZ				i S	Sn	10 54 59.3	+0.5
DELI	KIRIKKALE	0.90	232	i P	Pg	10 54 45.4	+0.2
DELI				i S	Sb	10 54 57.6	-0.4
ILGA	Ilgaz	0.98	300	IAML_P			
comp=Z,480nm,0.1s							
ILGA				i P	Pb	10 54 47.8	+0.4
YOZ	Yozgat	0.99	158	PG	Pg	10 54 46.9	0.0
YOZ				SG	Sb	10 55 01.1	+0.4
CDAG	Cicekdag	1.00	201	i P	Pn	10 54 48.4	0.0
CDAG				i S	Sb	10 55 01.1	+0.1
DIKM	Dikmen	1.13	16	PN	Pb	10 54 49.5	-0.3
SNOP	Sinop	1.48	11	PN	Pn	10 54 54.5	-0.4

*IDC **05** 11:03:39.9±1.2, 30°.22N×142°.85E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/41, mbtmp3.6/7, ML2.9/2, MS2.5/1, Ms1 2.5/1, ms1mx2.0/42, Error ellipse: s-maj=44.4km s-min=20.2km az=76.0*
*ISCJB **05** 11:03:42.4±0.8, 30°.35N±0°.06×142°.4E±0°.1, h24km, mb3.6/5, Error ellipse: s-maj=18.0km s-min=5.4km az=159.5*
*JMA **05** 11:03:43.5±0.3, 30°.32N×142°.60E, h50km, M4.0*
ISC 05 11:03:43.6±1.1, 30°.36N±0°.06×142°.7E±0°.1, h24km, n22, σ2°81/24, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.28	188	P	Pn	11 04 33.1	-0.4
CBIJ				eS	Sn	11 05 06.3	-5.5
JHCJ	Hachijojimakas	3.65	319	eS	Sn	11 05 18.5	-2.3
JHJ2	Mitsune	3.66	319	S	Sn	11 05 18.1	-3.2
JHJ	Hachijo jima 2	3.69	319	Pn	Pn	11 04 39.8	+0.7
6.2nm,0.3s,baz=72,slow=21,SNR=8.7							
JHJ				Sn	Sn	11 05 17.9	-3.9
26nm,0.3s,baz=317,slow=23,SNR=9.6							
JMKN	Mikurajimanish	4.38	324	eS	Sn	11 05 37.5	-1.5
BSO1	Boso 1	4.51	342	eS	Sn	11 05 41.4	-0.1
BSO3	Boso 3	4.79	338	S	Sn	11 05 49.4	+0.8
JOD2	Odawara 2	5.74	329	S	Sn	11 06 12.3	-0.3
JHU	Hanno	6.17	334	P	Pn	11 05 15.3	+2.0
JYT	Yasato	6.21	341	eS	Sn	11 06 23.8	-0.2
JRY	Ryogami san	6.46	332	P	Pn	11 05 19.0	+1.7
JHO	Hitachi	6.48	345	P	Pn	11 05 17.9	+0.4
JAG	Ashikaga	6.62	337	P	Pn	11 05 20.5	+1.1
JFK	Kawauchi	7.15	348	S	Sn	11 06 41.2	-6.0
MJAR	Matsushiro Arr	7.20	330	Pn	Pn	11 05 29.1	+1.7
0.1nm,0.3s,baz=265,slow=16,SNR=6.5							
MJAR				Sn	Sn	11 06 47.2	-1.3
0.1nm,0.3s,baz=160,slow=28,SNR=4.5							
JMK	Ichinoseki	8.65	352	S	Sn	11 07 17.5	-6.7
JNU	Nakatsue	10.41	288	LR	LR	11 09 47.1	
comp=Z,25nm,20.8s,baz=229,slow=35							
SONM	Songino Array	32.74	313	P	P	11 10 17.0	+2.4
0.4nm,0.4s,baz=91,slow=7.5,SNR=1.2							
MKAR	Makanchi Array	48.78	307	P	P	11 12 27.7	+1.0
0.2nm,0.5s,baz=82,slow=8.4,SNR=2.5							
WRA	Warramunga Arr	50.65	190	P	P	11 12 40.0	-1.0
1.2nm,0.6s,baz=8.4,slow=7.8,SNR=18							
ASAR	Alice Springs	54.37	190	P	P	11 13 07.7	-0.9
0.4nm,0.6s,baz=0.1,slow=5.0,SNR=14							
YKA	Yellowknife Ar	69.09	29	P	P	11 14 47.6	+0.3
0.2nm,0.6s,baz=284,slow=6.1,SNR=4.2							

*NSSC **05** 11:21:00.7±11.0, 33°.92N×36°.32E, h3km±671km, ML1.5*
*ISCJB **05** 11:21:01.8±1.6, 34°.05N±0°.05×36°.3E±0°.1, h12km, Error ellipse: s-maj=14.9km s-min=5.5km az=156.0*
*GRAL **05** 11:21:03.2±0.3, 34°.12N×36°.17E, h30km±4km, MD2.7*
ISC 05 11:21:00.1±2.0, 34°.01N±0°.07×36°.3E±0°.1, h12km, n7, σ2°61/11, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	Hawqa	0.37	315	eP	Pb	11 21 09.7	+0.9
HWQ				eS	Sb	11 21 14.3	-0.3
QASN	Qassioun	0.48	179	eP	Pg	11 21 01.3	-8.3
QASN				eS	Sg	11 21 09.2	-6.8
QASN				AML	AML	11 21 15.6	
comp=E,159nm,0.5s							
QASN				AML	AML	11 21 16.0	
comp=N,51nm,0.4s							
BHL	Bhannes	0.52	258	eP	Pn	11 21 12.8	-0.7
RCY	Rachaya	0.62	215	eP	Pn	11 21 15.8	+0.8
RCY				eS	Sn	11 21 25.1	+0.1
DQRL	Deir Qamar	0.65	242	eP	Pn	11 21 15.2	-0.1
BRBR	Barbar	0.65	203	eP	Pn	11 21 15.9	+0.5
BRBR				eS	Sg	11 21 22.7	+1.1
BRBR				AML	AML	11 21 34.1	
comp=N,27nm,0.7s							
BRBR				AML	AML	11 21 36.5	
comp=E,26nm,0.6s							
TOTH	TOTAH	0.66	168	eP	Pb	11 21 15.0	+1.3
TOTH				AML	AML	11 21 16.4	
comp=N,13nm,0.3s							
TOTH				eS	Sb	11 21 24.6	+1.7
TOTH				AML	AML	11 21 28.3	
comp=E,21nm,0.2s							

*NIED **05** 11:22:00, 36°.90N×140°.90E, h17km, Mw3.6 Best double couple: M0=2.44000×10^14 NP1:φs=114.00000°, δ69.00000°, λ167.00000°. NP2:φs=209.00000°, δ78.00000°, λ21.00000°.*
*IDC **05** 11:22:32.8±1.1, 36°.84N×141°.02E, h0km, mb3.3/3, mb1 3.6/6, mb1mx3.4/45, mbtmp3.5/6, ML3.0/3, MS2.9/2, Ms1 2.9/2, ms1mx2.3/32, Error ellipse: s-maj=30.5km s-min=18.8km az=126.0*
*ISCJB **05** 11:22:33.8±0.8, 36°.85N±0°.03×140°.99E±0°.05, h12km±4km, mb3.5/4, MS3.5/1, Error ellipse: s-maj=6.9km s-min=4.3km az=12.9*
*JMA **05** 11:22:35.1, 36°.85N×140°.88E, h20km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=105.00000°, δ68.00000°, λ130.00000°. NP2: φs=219.00000°, δ45.00000°, λ32.00000°. Principal axes: T Plg50.0000°, Azm60.0000°; N Plg37.0000°, Azm268.0000°; P Plg14.0000°, Azm167.0000°;*
JMA Felt II J1.
ISC 05 11:22:33.9±1.3, 36°.87N±0°.03×140°.95E±0°.05, h11km±9km, n24, σ1°13/29, mb3.4/4, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.27	332	⇓P	Pb	11 22 41.0	+0.2
ONAJ				S	Sb	11 22 45.0	-0.4
JFFD	Fukushimafurud	0.39	306	⇓P	Pb	11 22 42.4	-0.4
JFFD				S	Sg	11 22 47.2	+0.5
JHO	Hitachi	0.40	231	⇑P	Pb	11 22 42.2	-0.8
JHO				S	Sg	11 22 47.2	+0.1
JFK	Kawauchi	0.50	353	⇓P	Pb	11 22 45.1	+0.3
JFK				S	Sb	11 22 52.1	-0.1
JFT	Otama	0.82	323	⇓P	Pb	11 22 50.3	+0.2
JFT				S	Sg	11 23 01.1	+0.8
JSB	Shiboa	0.83	277	⇑P	Pb	11 22 50.6	+0.1
JSB				S	Sg	11 23 00.6	-0.3
JYT	Yasato	0.88	224	⇓P	Pg	11 22 50.4	-0.5
JYT				S	Sg	11 23 01.8	-0.6
JMM	Marumori	1.01	353	P	Pg	11 22 53.1	-0.2
JMM				S	Sg	11 23 06.5	+0.1
JFY	Yanaizu	1.13	299	⇓P	Pb	11 22 55.2	-0.4
JFY				S	Sb	11 23 09.3	-1.1
MJAR	Matsushiro Arr	2.23	262	Pn	Pn	11 23 11.6	+0.7
1.5nm,0.3s,baz=80,slow=17,SNR=64							
MJAR				Sn	Sb	11 23 41.0	-0.8
3.3nm,0.3s,baz=88,slow=27,SNR=14							
MJAR				LR	LR	11 24 21.4	
comp=Z,59nm,19.3s,baz=70,slow=48							
MAT	Matsushiro	2.23	262	P	Pn	11 23 12.1	+1.2
MAT				S	Sn	11 23 40.0	+1.5
JHJ	Hachijo jima 2	3.86	195	Pn	Pn	11 23 34.7	+1.4
2.7nm,0.3s,baz=45,slow=14,SNR=5.6							
JHJ				Sn	Sn	11 24 20.1	+1.5
6.0nm,0.3s,baz=233,slow=20,SNR=2.9							
ASAJ	Asahikawa	7.35	9	Pn	Pn	11 24 21.5	+0.3
0.4nm,0.3s,baz=221,slow=14,SNR=6.4							
ASAJ				Sn	Sn	11 25 40.6	-3.9
0.1nm,0.3s,baz=189,slow=19,SNR=2.1							
H11N2	WAKE ISLAND Hy	28.38	120	T	T	11 58 18.2	
baz=313,slow=75,SNR=53							
H11N1	WAKE ISLAND Hy	28.39	120	T	T	11 58 18.8	
baz=313,slow=75,SNR=104							
H11N3	WAKE ISLAND Hy	28.40	120	T	T	11 58 19.6	
baz=313,slow=75,SNR=78							
H11S1	WAKE ISLAND Hy	29.08	122	T	T	11 59 07.4	
baz=314,slow=75,SNR=68							
H11S3	WAKE ISLAND Hy	29.08	122	T	T	11 59 07.5	
baz=314,slow=75,SNR=79							
H11S2	WAKE ISLAND Hy	29.10	122	T	T	11 59 09.4	
baz=314,slow=75,SNR=52							
ILAR	Eielson Array	49.83	32	P	P	11 31 26.0	-0.6
0.3nm,0.7s,baz=255,slow=7.1,SNR=3.2							
AAK	Ala-Archa	50.24	298	LR	LR	11 55 19.0	
comp=Z,42nm,19.9s,baz=64,slow=39							
WRA	Warramunga Arr	56.85	187	P	P	11 32 17.9	-0.8
0.6nm,0.8s,baz=4.5,slow=7.3,SNR=5.2							
ASAR	Alice Springs	60.57	187	P	P	11 32 49.4	+4.9
0.3nm,0.7s,baz=10,slow=5.7,SNR=4.5							
NVAR	Mina Array Bea	75.38	53	P	P	11 34 19.4	+1.4
0.2nm,0.7s,baz=304,slow=6.4,SNR=2.5							

*ISCJB **05** 11:37:38.4±0.5, 36°.43S±0°.08×17°.4W±0°.1, h10km, mb4.3/16, MS3.9/13, Error ellipse: s-maj=12.8km s-min=11.8km az=3.4*
*IDC **05** 11:37:38.1±0.7, 36°.47S×17°.27W, h0km, mb4.0/10, mb1 4.0/10, mb1mx3.9/42, mbtmp4.0/10, MS3.9/13, Ms1 3.9/13, ms1mx3.7/20, Error ellipse: s-maj=22.6km s-min=20.3km az=101.0*
*NEIC **05** 11:37:39.8±1.7, 36°.45S×17°.48W, h10km±3km, mb4.7/11, Error ellipse: s-maj=19.0km s-min=18.0km az=185.0*
ISC 05 11:37:40.0±0.6, 36°.4S±0°.1×17°.5W±0°.1, h10km, n55, σ1°39/32, mb4.3/16, MS3.9/13, 1C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09W1	TRISTAN DA CUN	4.23	100	T	T	11 42 44.7	
SNR=265							
H09N1	TRISTAN DA CUN	4.24	100	T	T	11 42 46.0	
SNR=26							
TRIS	Tristan da Cun	4.24	100	ePn	Pn	11 38 45.1	+0.5
H10S2	ASCENSION HYDR	27.48	6	T	T	12 12 12.4	
baz=185,slow=75,SNR=68							
H10S3	ASCENSION HYDR	27.49	6	T	T	12 12 12.7	
baz=185,slow=75,SNR=63							
H10S1	ASCENSION HYDR	27.50	6	T	T	12 12 16.6	
baz=185,slow=75,SNR=13							
H10N1	ASCENSION HYDR	28.60	6	T	T	12 13 34.7	
baz=191,slow=79,SNR=16							
H10N3	ASCENSION HYDR	28.61	6	T	T	12 13 35.3	
baz=191,slow=79,SNR=76							
H10N2	ASCENSION HYDR	28.62	6	T	T	12 13 36.0	
baz=191,slow=79,SNR=35							
SUR	Sutherland	31.76	94	eP	P	11 44 04.2	-0.4
64nm,1.5s							
BDFB	Brasilia	34.10	299	LR	LR	11 55 53.9	
comp=Z,321nm,19.4s,baz=103,slow=32							
VNA1	Neumayer--Stat	34.63	175	P	P	11 44 33.9	+5.0
VNA3	Neumayer Olymp	35.11	176	P	P	11 44 33.4	+0.3
CPUP	Villa Florida	35.22	275	LR	LR	11 56 36.3	
comp=Z,241nm,20.0s,baz=134,slow=32							
TSUM	Tsumeb	35.25	70	eP	P	11 44 38.1	+3.0
2.2nm,0.9s							
SNAA	Sanae	36.12	172	P	P	11 44 41.6	-0.2
SNAA	Sanae	36.12	172	eP	P	11 44 41.9	+0.1
10nm,1.4s							
SNAA	Sanae	36.12	172	P	P	11 44 41.7	-0.2
1.1nm,0.7s,baz=0.0,slow=7.1,SNR=2.9							
BOSA	Boshof	36.68	90	eP	P	11 44 45.3	-1.9
19nm,1.4s							
BOSA	Boshof	36.68	90	P	P	11 44 42.9	-4.3
2.7nm,0.8s,baz=207,slow=6.8,SNR=3.4							
BOSA				LR	LR	11 56 35.1	
comp=Z,235nm,21.2s,baz=224,slow=31							
PLCA	Paso Flores	41.14	247	LR	LR	12 01 14.9	
comp=Z,137nm,18.5s,baz=129,slow=34							
MATP	Matopo	43.10	81	P	P	11 45 39.7	-0.9
3.0nm,0.6s,baz=237,slow=9.2,SNR=7.5							
SIV	San Ignacio	43.60	286	P	P	11 45 46.1	+1.5
2.1nm,1.0s,baz=138,slow=12,SNR=5.2							
DBIC	Dimbokro	44.51	18	LR	LR	12 00 20.7	
comp=Z,52nm,18.3s,baz=126,slow=31							
SYO	Syowa Base	44.81	155⇑	iP	P	11 45 57.6	+4.0
LPAZ	La Paz	48.97	280	eP	P	11 46 28.6	+1.1
LPAZ	La Paz	48.97	280	P	P	11 46 28.4	+0.8
1.0nm,0.9s,baz=146,slow=3.6,SNR=3.8							
LPAZ				LR	LR	12 07 08.9	
comp=Z,102nm,18.4s,baz=122,slow=36							
TOA0	Torodi Ar. Sit	52.56	24	eP	P	11 46 53.4	-0.4
9.0nm,0.8s							
TORD	Torodi Ar. B

comp=Z,9.9nm,21.7s,baz=180,slow=34
YKA Yellowknife Ar 124.74 326 PKP **PKPdf 11 56 37.7 -1.3**
0.4nm,0.7s,baz=101,slow=2.1,SNR=9.3
YKB5 Yellowknife Ar 124.74 326 *e*PKPdf **PKPdf 11 56 37.7 -1.3**
BMAR Burnt Mountain 137.15 333 *e*PKPdf **PKPdf 11 57 02.1 -0.3**
ILAR Eielson Array 138.89 330 PKP **PKPdf 11 57 04.2 -1.4**
0.4nm,0.8s,baz=132,slow=1.3,SNR=5.0
SEY Seymchan 152.76 10 PKPbc **PKiKP 11 57 35.8 -0.6**
1.5nm,0.6s,baz=335,slow=4.1,SNR=9.8

ISCJB ***05*** *11:42:40.1±0.6,51°.39N±0°.03×16°.09E±0°.03,h0km, Error ellipse: s-maj=4.2km s-min=2.7km az=20.7*
IPEC ***05*** *11:42:40.5±0.3,51°.50N×16°.19E,h2km±1km,ML2.0/5, Error ellipse: s-maj=2.2km s-min=0.9km az=24.0*
PRU ***05*** *11:42:41.7±0.0,51°.43N×16°.10E,h0km*
IDC ***05*** *11:42:42.0±1.2,51°.52N×15°.86E,h0km,mb1 3.5/3, mb1mx3.1/45,mbtmp3.4/3,ML2.6/4, Error ellipse: s-maj=28.5km s-min=9.5km az=124.0*
VIE ***05*** *11:42:43.2±0.8,51°.29N×16°.02E,h0km,mb2.1/6,ml2.5/6, Error ellipse: s-maj=6.5km s-min=3.9km az=24.0, Suspected Mining induced.*
ISC 05 11:42:39.3±0.8,51°.52N±0°.04×16°.09E±0°.03,h0km,n34, σ1§20/70,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**169**	*e*Pg	**Pg**	**11 42 53.4**	**+0.9**
KSP				*e*Sg	**Sg**	**11 43 01.7**	**+0.2**
UPC	**Upice**	**1.02**	**183**	*e*PG	**Pg**	**11 42 59.4**	**+0.7**
UPC				*e*SG	**Sg**	**11 43 12.2**	**+0.3**
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG	**Pg**	**11 43 02.2**	**+0.3**
DPC				*e*SG	**Sg**	**11 43 16.5**	**-0.7**
	comp=Z,30nm,0.8s						
PVCC	**Panska Ves**	**1.38**	**225**	*e*PG	**Pb**	**11 43 06.9**	**+0.9**
PVCC				*e*SG	**Sn**	**11 43 24.8**	**0.0**
	comp=Z,73nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**245**	PG	**Pg**	**11 43 09.0**	**+1.1**
BRG				SG	**Sn**	**11 43 29.2**	**+1.6**
	59nm,0.3s						
KRLC	**Kraliky**	**1.51**	**163**	*e*PG	**Pn**	**11 43 08.1**	**+0.5**
KRLC				*e*SG	**Sg**	**11 43 26.4**	**-1.4**
	comp=Z,7.8nm,0.5s						
ANAC	**Anensky vrch**	**1.67**	**150**	*e*Pn	**Pn**	**11 43 09.7**	**0.0**
ANAC				*e*Sg	**Sn**	**11 43 30.8**	**-1.0**
	12nm,0.2s,baz=332						
LIPC	**Lipinka**	**1.79**	**160**	*e*Pn	**Pn**	**11 43 11.9**	**+0.5**
LIPC				*e*Sg	**Sn**	**11 43 35.2**	**+0.4**
	23nm,0.2s,baz=342						
GOPC	**GO Pecny, Ondr**	**1.81**	**208**	*e*PG	**Pb**	**11 43 13.6**	**+0.3**
GOPC				*e*SG	**Sg**	**11 43 37.4**	**0.0**
	comp=Z,11nm,0.4s						
PRU	**Pruhonice**	**1.82**	**213**	*e*PN	**Pn**	**11 43 12.2**	**+0.4**
PRU				*e*PG	**Pg**	**11 43 14.1**	**-0.1**
PRU				*e*SG	**Sb**	**11 43 37.1**	**+0.3**
	comp=Z,21nm,0.6s						
CLL	**Collm**	**1.94**	**265**	*e*Pn	**Pn**	**11 43 14.0**	**+0.5**
CLL				*e*Pg	**Pg**	**11 43 17.0**	**+0.5**
CLL				*e*		11 43 40.0	
CLL				*e*Sg	**Sg**	**11 43 43.0**	**+1.3**
	comp=Z,13nm,0.4s						
MORC	**Moravsky Berou**	**1.98**	**152**	*e*PN	**Pn**	**11 43 14.1**	**0.0**
MORC				*e*SG	**Sb**	**11 43 41.3**	**-0.1**
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	**Pn**	**11 43 14.0**	**0.0**
MORC	baz=334			*e*Sg	**Sb**	**11 43 41.2**	**-0.1**
	comp=Z,11nm,0.3s,baz=334						
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*SG	**Sb**	**11 43 46.2**	**+0.4**
	comp=Z,17nm,0.6s						
VRAC	**Vranov**	**2.24**	**172**	*e*PN	**Pn**	**11 43 18.1**	**+0.5**
VRAC				*e*SG	**Sb**	**11 43 49.8**	**+0.9**
VRAC	**Vranov**	**2.24**	**172**	*e*Pn	**Pn**	**11 43 18.0**	**+0.5**
VRAC	baz=353			*e*Sg	**Sb**	**11 43 49.7**	**+0.9**
	comp=Z,7.1nm,0.3s,baz=353						
TREC	**Trest**	**2.26**	**190**	*e*PN	**Pb**	**11 43 19.7**	**-1.3**
TREC				*e*PG	**Pg**	**11 43 22.3**	**-0.3**
TREC				*e*SG	**Sg**	**11 43 51.1**	**-0.8**
	comp=Z,13nm,0.3s						
KRUC	**Moravsky**	**2.47**	**175**	*e*PN	**Pn**	**11 43 21.5**	**+0.7**
KRUC				*e*SG	**Sb**	**11 43 57.0**	**+1.5**
KRUC	**Moravsky**	**2.47**	**175**	*e*Pn	**Pn**	**11 43 21.5**	**+0.7**
KRUC	baz=357			*e*Sg	**Sb**	**11 43 57.0**	**+1.5**
	comp=Z,5.8nm,0.3s,baz=357						
NKC	**Novy Kostel**	**2.64**	**242**	*e*PN	**Pn**	**11 43 24.3**	**+1.2**
NKC				*e*PG	**Pg**	**11 43 30.4**	**+0.5**
NKC				*e*SG	**Sg**	**11 44 04.6**	**+0.5**
	comp=Z,20nm,0.4s						
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**11 43 32.5**	**+1.8**
OJC				*e*Sg	**Sg**	**11 44 06.7**	**+1.1**
JAVC	**Velka Javorina**	**2.85**	**159**	*e*PN	**Pn**	**11 43 26.6**	**+0.5**
JAVC				*e*SG	**Sb**	**11 44 08.7**	**+2.2**
JAVC	**Velka Javorina**	**2.85**	**159**	*e*Pn	**Pn**	**11 43 26.6**	**+0.5**
JAVC	baz=341			*e*Sg	**Sb**	**11 44 08.7**	**+2.2**
	baz=341						
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN	**Pn**	**11 43 27.6**	**+1.1**
KHC				*e*PG	**Pg**	**11 43 33.4**	**-1.1**
KHC				*e*SN	**Sn**	**11 44 01.0**	**-0.9**
KHC				*e*SG	**Sg**	**11 44 10.4**	**-1.5**
	comp=Z,10nm,0.6s						
GERES	**GERESS Array B**	**3.09**	**211**	Pn	**Pn**	**11 43 31.4**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=28,slow=11,SNR=5.6						
GERES				Pg	**Pb**	**11 43 36.9**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=29,slow=16,SNR=14						
GERES				Sn	**Sn**	**11 44 07.2**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=36,slow=27,SNR=6.0						
GERES				Lg	Lg	11 44 16.5	
	comp=Z,2.4nm,0.3s,baz=35,slow=28,SNR=12						
MODS	**Modra-Piesok**	**3.24**	**166**	*e*PN	**Pn**	**11 43 27.0**	**-4.4**
MODS				*e*SG	**Sg**	**11 44 23.9**	**+0.5**
VYHS	**Vyhne**	**3.51**	**149**	*e*PN	**Pn**	**11 43 34.8**	**-0.3**
VYHS				*e*SG	**Sb**	**11 44 27.8**	**+2.4**
CONA	**Conrad Observa**	**3.60**	**182**	*e*Pn	**Pn**	**11 43 37.9**	**+1.5**
	comp=Z,0.2nm,0.2s						
CONA				Pg	**Pg**	**11 43 47.3**	**-1.0**
	comp=Z,0.4nm,0.2s						
CONA				Sg	**Sg**	**11 44 33.6**	**-1.3**
	comp=Z,2.2nm,0.3s						
MOA	**Molln**	**3.86**	**199**	*e*Pn	**Pn**	**11 43 41.1**	**+1.2**
	comp=Z,0.3nm,0.2s						
MOA				Sg	**Sg**	**11 44 43.0**	**-0.3**
	comp=Z,3.2nm,0.3s						
ARSA	**Arzberg**	**4.29**	**185**	Sg	**Sg**	**11 44 57.4**	**+0.4**
	comp=Z,8.7nm,0.8s						
KBA	**Koelnbreinsper**	**4.80**	**203**	Sg	**Sg**	**11 45 11.8**	**-1.5**
	comp=Z,1.5nm,0.5s						
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**11 44 41.8**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=284,slow=12,SNR=2.3						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**11 45 21.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=209,slow=14,SNR=2.1						
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**P**	**11 46 55.0**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=202,slow=14,SNR=4.5						

ISCJB ***05*** *11:50:02.9±1.0,0°.31N±0°.08×126°.03E±0°.07,h10km, mb3.5/3,Error ellipse: s-maj=12.3km s-min=9.2km az=29.4*
IDC ***05*** *11:50:05.9±1.9,0°.03N×126°.23E,h0km,mb3.4/3, mb1 3.8/4,mb1mx3.3/56,mbtmp3.6/4,ML3.5/1,Error ellipse: s-maj=110.1km s-min=27.0km az=68.0*
DJA ***05*** *11:50:05.3±1.7,0°.N±5°.×12°.6E±°.,h14km±14km,M3.5/4, MLv3.5/4*
ISC 05 11:50:05.2±1.1,0°.36N±0°.08×126°.07E±0°.07,h10km,n7, σ3§15/9,mb3.5/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.36**	**72**	P	**Pn**	**11 50 28.9**	**-1.3**
KMSI	**Cibinong**	**2.10**	**276**	P	**Pn**	**11 50 40.0**	**-0.4**
KMSI				S	**Sn**	**11 51 02.8**	**-3.9**
SANI	**Sanana**	**2.39**	**182**	P	**Pn**	**11 50 46.2**	**+1.8**
SANI				S	**Sn**	**11 51 11.7**	**-2.1**
FITZ	**Fitzroy Crossi**	**18.34**	**181**	P	**P**	**11 54 17.8**	**-2.1**
	0.1nm,0.3s,baz=9.2,slow=13,SNR=6.2						
WRA	**Warramunga Arr**	**21.74**	**159**	P	**P**	**11 54 54.1**	**-2.8**
	1.0nm,0.6s,baz=337,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.06**	**163**	P	**P**	**11 55 29.8**	**-0.1**
	0.6nm,0.6s,baz=341,slow=6.7,SNR=17						
MKAR	**Makanchi Array**	**59.97**	**327**	P	**P**	**12 00 16.6**	**+4.7**
	0.3nm,0.4s,baz=115,slow=10,SNR=1.9						

IDC 05 11:54:17.7±1.7,39°.36N×110°.67E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.4/62,mbtmp3.7/5,ML3.6/1,MS3.1/1, Ms1 3.3/1,ms1mx2.3/32,Error ellipse: s-maj=37.9km s-min=23.7km az=92.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.02**	**341**	Pn	**Pn**	**11 56 29.0**	**-0.2**
	0.6nm,0.3s,baz=157,slow=9.1,SNR=10						
SONM				Lg	Lg	11 59 05.0	
	0.1nm,0.3s,baz=159,slow=30,SNR=5.5						
MKAR	**Makanchi Array**	**21.94**	**299**	P	P	11 59 12.7	0.0
	2.0nm,0.9s,baz=96,slow=12,SNR=9.9						
CMAR	**Chiang Mai Arr**	**23.18**	**209**	P	P	11 59 26.1	+0.1
	2.0nm,0.7s,baz=13,slow=9.8,SNR=14						
CMAR				LR	LR	12 08 18.9	
	comp=Z,39nm,18.0s,baz=211,slow=36						
KURBB	**Kurchatov Arra**	**25.17**	**307**	P	P	11 59 44.5	-0.1
	0.5nm,0.4s,baz=106,slow=9.7,SNR=5.7						
YKA	**Yellowknife Ar**	**72.17**	**20**	P	P	12 05 43.9	+0.1
	0.3nm,0.8s,baz=328,slow=5.7,SNR=7.6						

IDC ***05*** *12:00:10.3±0.9,10°.93S×164°.78E,h0km,mb4.0/12, mb1 4.2/14,mb1mx4.0/43,mbtmp4.1/14,ML4.5/2,MS3.4/4, Ms1 3.4/4,ms1mx3.0/27,Error ellipse: s-maj=28.8km s-min=17.7km az=135.0*
ISCJB ***05*** *12:00:13.3±0.4,11°.00S±0°.05×164°.72E±0°.06,h29km, mb4.2/18,MS3.3/2,Error ellipse: s-maj=8.7km s-min=7.3km az=148.4*
NEIC ***05*** *12:00:14.9±2.8,10°.92S×164°.70E,h24km±5km,mb4.5/12, Error ellipse: s-maj=20.7km s-min=17.5km az=94.0*
ISC 05 12:00:15.0±0.6,11°.01S±0°.07×164°.77E±0°.09,h29km,n49, σ1§43/45,mb4.2/18,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.00**	**288**	*e*P	Pb	12 01 34.0	-7.8
HNR	**Honiara**	**5.00**	**288**	*e*Pn	**Pn**	**12 01 28.2**	**+0.1**
HNR	**Honiara**	**5.00**	**288**	Pn	**Pn**	**12 01 27.9**	**-0.1**
	34nm,0.3s,baz=181,slow=1.3,SNR=18						
HNR				Sn	**Sn**	**12 02 25.2**	**+0.3**
	9.1nm,0.3s,baz=217,slow=20,SNR=2.9						
MARNC	**Mare, Loyalty**	**10.87**	**164**	*e*Pn	**Pn**	**12 02 49.4**	**+0.6**
DZM	**Mont Dzumac**	**11.11**	**172**	*e*Pn	**Pn**	**12 02 52.6**	**+0.4**
DZM	**Mont Dzumac**	**11.11**	**172**	Pn	**Pn**	**12 02 52.8**	**+0.7**
	1.9nm,0.3s,baz=8.3,slow=8.4,SNR=66						
DZM				Sn	**Sn**	**12 04 50.0**	**-5.5**
	0.3nm,0.3s,baz=18,slow=20,SNR=4.7						
DZM				LR	LR	12 06 45.7	
	comp=Z,146nm,18.3s,baz=32,slow=35						
OUENC	**Ouen Island, N**	**11.51**	**170**	*e*Pn	**Pn**	**12 03 00.6**	**+3.1**
PINNC	**Pines Island,**	**11.82**	**168**	*e*Pn	**Pn**	**12 03 03.5**	**+1.9**
PMG	**Port Moresby**	**17.40**	**274**	LR	LR	12 09 53.3	
	comp=Z,160nm,20.0s,baz=72,slow=34						
CTA	**Charters Tower**	**19.97**	**241**	P	**Pn**	**12 04 46.2**	**-0.7**
	16nm,1.0s,baz=60,slow=13,SNR=8.1						
CTAO	**Charters Tower**	**19.97**	**241**	*e*P	**Pn**	**12 04 46.9**	**-0.1**
	17nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**29.38**	**4**	T	T	12 37 20.0	
	baz=184,slow=76,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**29.38**	**4**	T	T	12 37 12.0	
	baz=184,slow=76,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**29.40**	**4**	T	T	12 37 23.1	
	baz=184,slow=76,SNR=4.4						
STKA	**Stephens Creek**	**29.81**	**222**	*e*P	**P**	**12 06 20.7**	**+1.1**
	1.0nm,1.3s						
STKA	**Stephens Creek**	**29.81**	**222**	P	**P**	**12 06 20.6**	**+1.0**
	2.0nm,1.0s,baz=37,slow=12,SNR=3.2						
WB2	**Warramunga Arr**	**30.58**	**249**	*e*P	**P**	**12 06 26.6**	**0.0**
	5.9nm,1.1s						
WR1	**Warramunga Arr**	**30.59**	**249**	*e*P	**P**	**12 06 25.9**	**-0.8**
WR1				*e*PcP	**PcP**	**12 09 24.5**	**-0.5**
WRA	**Warramunga Arr**	**30.59**	**249**	P	**P**	**12 06 26.2**	**-0.4**
WRA	**Warramunga Arr**	**30.59**	**249**	P	**P**	**12 06 25.9**	**-0.8**
	2.1nm,0.8s,baz=80,slow=9.0,SNR=14						
WRA				PcP	**PcP**	**12 09 24.5**	**-0.5**
	0.4nm,0.7s,baz=80,slow=2.5,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**30.61**	**4**	T	T	12 38 46.3	
	baz=184,slow=75						
H11N3	**WAKE ISLAND Hy**	**30.61**	**4**	T	T	12 38 46.1	
	baz=184						
H11N2	**WAKE ISLAND Hy**	**30.62**	**4**	T	T	12 38 50.4	
	baz=184,slow=75						
AS31	**Alice Springs**	**31.95**	**243**	*e*P	**P**	**12 06 38.1**	**-0.5**
	0.9nm,0.6s						
ASAR	**Alice Springs**	**31.95**	**243**	*e*P	**P**	**12 06 39.1**	**+0.4**
ASAR	**Alice Springs**	**31.95**	**243**	P	**P**	**12 06 38.0**	**-0.6**
	2.5nm,0.7s,baz=63,slow=10,SNR=31						
ASAR				PcP	**PcP**	**12 09 29.1**	**+0.5**
	0.5nm,0.8s,baz=60,slow=1.8,SNR=5.2						
ASAR				LR	LR	12 19 40.7	
	comp=Z,48nm,18.1s,baz=76,slow=37						
BBOO	**Buckleboo**	**34.15**	**226**	*e*P	**P**	**12 06 58.4**	**+0.6**
	32nm,1.5s						
FITZ	**Fitzroy Crossi**	**38.46**	**255**	*e*P	**P**	**12 07 33.9**	**-0.8**
	10nm,1.4s						
FITZ	**Fitzroy Crossi**	**38.46**	**255**	P	**P**	**12 07 33.7**	**-1.0**
	2.4nm,0.8s,baz=79,slow=5.1,SNR=6.4						
QIZ	**Qiongzhong**	**61.82**	**299**	*e*P	**P**	**12 10 30.5**	**-1.2**
	29nm,1.4s						
PETK	**Petropavlovsk-**	**64.15**	**355**	P	**P**	**12 10 47.5**	**+0.9**
	2.8nm,0.9s,baz=184,slow=10,SNR=3.6						
PEA1	**Petropavlovsk-**	**64.16**	**355**	*e*P	**P**	**12 10 47.5**	**+0.8**
SBA	**Scott Base**	**66.84**	**180**	*e*P	**P**	**12 11 06.9**	**+3.2**
	12nm,1.5s						
CMAR	**Chiang Mai Arr**	**71.22**	**294**	LR	LR	12 44 50.0	
	comp=Z,19nm,18.1s,baz=198,slow=38						
SONA0	**Songino Array**	**78.07**	**324**	*e*P	**P**	**12 12 10.0**	**-1.2**
SONM	**Songino Array**	**78.07**	**324**	P	**P**	**12 12 10.0**	**-1.2**
	0.8nm,0.9s,baz=147,slow=6.6,SNR=4.1						
QSPA	**South Pole Qui**	**78.99**	**180**	*e*P	**P**	**12 12 17.6**	**+1.5**
	5.2nm,1.0s						
IMAR	**Indian Mountai**	**82.65**	**16**	*e*P	**P**	**12 12 36.4**	**+1.1**
HDA	**Harding Lake**	**83.53**	**19**	*e*P	**P**	**12 12 40.8**	**+1.0**
	5.4nm,1.0s						
ILAR	**Eielson Array**	**83.79**	**19**	*e*P	**P**	**12 12 42.2**	**+0.9**
ILAR	**Eielson Array**	**83.79**	**19**	P	**P**	**12 12 40.8**	**-0.5**
	0.7nm,0.7s,baz=230,slow=4.8,SNR=11						
NV01	**Mina Array Sit**	**86.74**	**50**	*e*P	**P**	**12 12 56.2**	**-0.7**
NVAR	**Mina Array Bea**	**86.74**	**50**	P	**P**	**12 12 56.2**	**-0.7**
	0.6nm,0.9s,baz=236,slow=6.4,SNR=3.8						
MK32	**Makanchi Array**	**92.84**	**317**	*e*P	**P**	**12 13 25.2**	**+0.2**
MKAR	**Makanchi Array**	**92.84**	**317**	P	**P**	**12 13 25.3**	**+0.2**
	0.7nm,0.9s,baz=111,slow=8.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**92.97**	**324**	P	**P**	**12 13 25.8**	**+0.3**
	0.3nm,0.4s,baz=100,slow=5.0,SNR=2.5						
ZAA1	**Zalesovo Array**	**92.97**	**324**	*e*P	**P**	**12 13 25.8**	**+0.3**
YKA	**Yellowknife Ar**	**95.39**	**27**	P	**P**	**12 13 34.2**	**-2.2**
	0.1nm,0.5s,baz=255,slow=4.9,SNR=3.1						
YKB5	**Yellowknife Ar**	**95.39**	**27**	*e*P	**P**	**12 13 34.2**	**-2.2**

DDA ***05*** *12:04:18.9,37°.29N×37°.09E,h2km±2km,ML2.9*
ISK ***05*** *12:04:18.1,37°.28N×37°.07E,h14km,ML2.0/7*
ISCJB ***05*** *12:04:19.3±0.5,37°.24N±0°.03×37°.05E±0°.03,h11km±4km, Error ellipse: s-maj=5.7km s-min=4.1km az=25.7*
ISC 05 12:04:19.0±0.9,37°.26N±0°.03×37°.07E±0°.03,h14km±6km, n19,σ0§69/29,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.14**	**129**	PG	**Pg**	**12 04 22.3**	**-0.4**
GAZ				SG	**Sg**	**12 04 25.2**	**-0.1**
HCB	**Kahramanmara**	**0.15**	**302**	IAML_P			
	comp=Z,3μm,0.1s						
HCB				*i* P	**Pg**	**12 04 23.1**	**+0.3**
HCB				*i* S	**Sg**	**12 04 25.9**	**+0.5**
AYKD	**Aykdinkavak**	**0.26**	**306**	IAML_P			
	comp=Z,6μm,0.1s						
AYKD				*i* P	**Pb**	**12 04 25.6**	**+0.1**
AYKD				*i* S	**Sb**	**12 04 28.7**	**-1.2**
KMRS	**Kahramanmaras**	**0.28**	**330**	PG	**Pg**	**12 04 24.4**	**-0.4**
KMRS				SG	**Sg**	**12 04 28.4**	**-0.4**
KAMA	**Osmaniye**	**0.33**	**257**	IAML_P			
	comp=Z,6μm,0.1s						
KAMA				*i* P	**Pb**	**12 04 26.1**	**-0.6**
KAMA				*i* S	**Sb**	**12 04 31.7**	**-0.2**
GZT	**Gaziantep**	**0.40**	**77**	IAML_P			
	comp=Z,4μm,0.2s						
GZT				*i* P	**Pg**	**12 04 26.8**	**-0.3**
KUZU	**Kuzuini**	**0.49**	**180**	*i* P	**Pb**	**12 04 30.7**	**+1.3**
ANDN	**Andirin**	**0.66**	**299**	IAML_P			
	comp=Z,996nm,0.1s						
ANDN				*i* P	**Pb**	**12 04 32.1**	**-0.3**
ANDN				*i* S	**Sb**	**12 04 41.4**	**0.0**
ATAB	**Bozova**	**1.00**	**78**	*i* P	**Pn**	**12 04 38.6**	**0.0**
ATAB				*i* S	**Sn**	**12 04 52.6**	**+0.1**
KOZT	**Kozan**	**1.01**	**283**	PG	**Pg**	**12 04 37.8**	**-0.8**
ELBS	**KAHRAMANMARAS**	**1.06**	**3**	*i* P	**Pn**	**12 04 40.6**	**+1.0**
ELBS				*i* S	**Sn**	**12 04 55.1**	**+0.9**
SAIM	**ADANA**	**1.06**	**312**	IAML_P			
	comp=Z,954nm,0.2s						
SAIM				*i* P	**Pn**	**12 04 40.8**	**+1.2**
CEYT	**Ceyhan**	**1.09**	**257**	PN	**Pb**	**12 04 39.8**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.14**	**219**	PN	**Pg**	**12 04 40.2**	**-0.7**
AKCD	**Akcadag**	**1.23**	**33**	IAML_P			
	comp=Z,1μm,0.2s						
AKCD				*i* P	**Pn**	**12 04 42.6**	**+0.7**
AKCD				*i* S	**Sn**	**12 04 59.5**	**+1.0**
YURE	**YUREGIR**	**1.23**	**250**	PN	**Pn**	**12 04 41.9**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.29**	**107**	IAML_P			
	comp=Z,310nm,0.1s						
SURC				*i* P	**Pb**	**12 04 43.1**	**0.0**
SURC				*i* S	**Sg**	**12 04 60.0**	**-0.6**
DARE	**Darende-Malaty**	**1.34**	**14**	PN	**Pn**	**12 04 42.5**	**-1.0**
URFA	**Urfa**	**1.41**	**82**	PN	**Pn**	**12 04 44.0**	**-0.3**

IDC ***05*** *12:04:54.5±1.0,32°.75S×178°.92W,h0km,mb4.0/4, mb1 4.3/5,mb1mx3.9/23,mbtmp4.1/5,ML4.0/1,Error ellipse: s-maj=31.0km s-min=28.7km az=121.0*
WEL ***05*** *12:04:57.5±0.7,33°.S±6°.×17°.9W±1°.4,h12km,ML5.0/17*
NEIC ***05*** *12:04:57.4±2.4,32°.86S×178°.91W,h10km±4km,mb4.4/7, Error ellipse: s-maj=27.0km s-min=22.8km az=201.0*
ISC 05 12:04:56.9±0.7,33°.04S±0°.06×178°.6W±0°.1,h10km,n68, σ1§90/73,mb4.3/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.81**	**9**	P	**Pn**	**12 05 54.8**	**-0.9**
GLKZ				S	**Sn**	**12 06 37.2**	**-3.3**
WMGZ	**Waiomatatini S**	**5.35**	**206**	P	**Pn**	**12 06 20.6**	**+3.9**
WMGZ				S	**Sn**	**12 07 20.2**	**+1.7**
PKGZ	**Pakihiroa**	**5.54**	**208**	P	**Pn**	**12 06 19.3**	**-0.2**
PKGZ				S	**Sn**	**12 07 19.9**	**-3.4**
HAZ	**Te Kaha**	**5.55**	**211**	P	**Pn**	**12 06 22.0**	**+2.4**
HAZ				S	**Sn**	**12 07 22.9**	**-0.5**
PUZ	**Puketiti**	**5.63**	**206**	P	**Pn**	**12 06 21.6**	**+0.9**
PUZ				S	**Sn**	**12 07 23.0**	**-2.4**
TWGZ	**Tauwhareparae**	**5.83**	**208**	P	**Pn**	**12 06 25.7**	**+2.3**
TWGZ				S	**Sn**	**12 07 29.2**	**-1.2**
CNGZ	**Carnagh Statio**	**6.02**	**205**	P	**Pn**	**12 06 26.9**	**+1.0**
TKGZ	**Te Karaka**	**6.11**	**207**	P	**Pn**	**12 06 27.5**	**+0.3**
MWZ	**Matawai**	**6.15**	**210**	P	**Pn**	**12 06 28.2**	**+0.5**
MWZ				S	**Sn**	**12 07 37.2**	**-0.9**
URZ	**Urewera**	**6.26**	**213**	*e*Pn	**Pn**	**12 06 29.2**	**-0.1**
URZ	**Urewera**	**6.26**	**213**	Pn	**Pn**	**12 06 29.1**	**-0.3**
	3.6nm,0.3s,baz=266,slow=4.5,SNR=40						
URZ				Sn	**Sn**	**12 07 39.7**	**-1.3**
	3.7nm,0.3s,baz=246,slow=4.5,SNR=6.3						
URZ	**Urewera**	**6.26**	**213**	P	**Pn**	**12 06 30.8**	**+1.4**
URZ				S	**Sn**	**12 07 38.9**	**-2.1**
RIGZ	**Rimuhau**	**6.37**	**207**	P	**Pn**	**12 06 30.2**	**-0.7**
RIGZ				S	**Sn**	**12 07 42.1**	**-1.7**
WCZ	**Waipu Caves**	**6.50**	**242**	P	**Pn**	**12 06 35.3**	**+2.7**
PRGZ	**Paritu Road**	**6.52**	**205**	P	**Pn**	**12 06 33.9**	**+1.0**
SNGZ	**Shannon Statio**	**6.60**	**209**	P	**Pn**	**12 06 35.7**	**+1.7**
SNGZ				S	**Sn**	**12 07 47.7**	**-1.7**
KNZ	**Kokohu**	**6.69**	**206**	P	**Pn**	**12 06 33.6**	**-1.5**
TOZ	**Tahuroa Road**	**6.71**	**224**	P	**Pn**	**12 06 38.6**	**+3.1**
MHGZ	**Mahia Peninsul**	**6.72**	**204**	P	**Pn**	**12 06 34.6**	**-1.0**
OUZ	**Omahuta**	**6.82**	**249**	*e*Pn	**Pn**	**12 06 38.7**	**+1.7**
OUZ	**Omahuta**	**6.82**	**249**	P	**Pn**	**12 06 39.4**	**+2.4**
RAHZ	**Arahi**	**6.82**	**210**	P	**Pn**	**12 06 39.0**	**+2.0**
MTHZ	**Maungataniwha**	**6.87**	**211**	P	**Pn**	**12 06 40.5**	**+2.7**
MTHZ				S	**Sn**	**12 07 54.8**	**-1.3**
WHHZ	**Waihua**	**6.90**	**208**	P	**Pn**	**12 06 40.5**	**+2.4**
MRHZ	**Matea Rd**	**7.05**	**214**	P	**Pn**	**12 06 39.8**	**-0.4**
NMHZ	**Naumai**	**7.09**	**210**	P	**Pn**	**12 06 42.6**	**+1.8**
NMHZ				S	**Sn**	**12 08 00.5**	**-1.0**
ARHZ	**Aropaoanui**	**7.16**	**209**	P	**Pn

0.6nm,0.3s,baz=58,slow=19,SNR=5.8
STKA Stephens Creek 34.15 249 P **P 12 36 01.7 0.0**
1.8nm,0.3s,baz=88,slow=11,SNR=18
ASAR Alice Springs 41.66 262 P **P 12 37 02.4 -0.7**
1.9nm,0.4s,baz=93,slow=7.0,SNR=101
WRA Warramunga Arr 42.13 267 P **P 12 37 05.9 -1.0**
4.9nm,0.3s,baz=99,slow=7.0,SNR=113
MJAR Matsushiro Arr 72.60 326 P **P 12 40 33.9 -0.8**
1.0nm,0.7s,baz=167,slow=6.1,SNR=5.5
NVAR Mina Array Bea 85.63 44 P **P 12 41 44.3 +0.2**
0.7nm,0.8s,baz=227,slow=8.7,SNR=5.1
CMAR Chiang Mai Arr 89.67 290 P **P 12 42 04.0 +0.8**
0.7nm,0.8s,baz=140,slow=3.1,SNR=5.5
TXAR Lajitas Array 91.15 58 P **P 12 42 10.3 +0.3**
0.4nm,0.7s,baz=221,slow=5.0,SNR=4.3
AKASG Malin Array Be 145.69 326 PKPbc **PKPdf 12 48 39.3 0.0**
0.2nm,0.3s,baz=39,slow=4.5,SNR=6.8
BRTR Keskin Array B 148.00 306 PKPbc **PKPbc 12 48 46.4 -1.2**
0.7nm,0.7s,baz=106,slow=3.1,SNR=4.2

MEX 05 12:49:57.3±0.4, 14°.40N×91°.95W, h102km±8km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.78**	**317**	*eP*	Pn	12 50 26.5	-0.7
PCIG				*i* S	Sn	12 50 48.3	-1.7
CCIG	**Comitan**	**1.88**	**354**	*i* P	Pn	12 50 28.1	-0.5
CCIG				*i* S	Sn	12 50 50.7	-1.7
TGIG		**2.62**	**335**	*eP*	Pn	12 50 37.7	-0.4
TGIG				*i* S	Sn	12 51 07.4	-2.1

IDC 05 12:55:25.9±4.8, 12°.40S×167°.85E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.6/4, Error ellipse: s-maj=267.0km s-min=29.3km az=142.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.00**	**252**	P	P	13 02 02.5	-0.4
	0.3nm,0.4s,baz=83,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**34.08**	**246**	P	P	13 02 12.6	+0.2
	0.3nm,0.4s,baz=68,slow=10,SNR=13						
ILAR	**Eielson Array**	**84.15**	**18**	P	P	13 07 59.8	+1.2
	0.5nm,0.7s,baz=236,slow=5.9,SNR=5.4						
YKA	**Yellowknife Ar**	**95.23**	**27**	P	P	13 08 49.2	-2.0
	0.1nm,0.5s,baz=258,slow=4.9,SNR=2.5						

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*NEIC **05** 12:58:21.8±0.0, 30°.30N×105°.23W, h15km, MD4.0(MEX), After MEX.*

MEX 05 12:58:21.8±0.3, 30°.30N×105°.23W, h15km, MD4.0, Texas-Mexico border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNTX	**Cornudas Mount**	**1.40**	**355**	*ePn*	Pn	12 58 43.2	-3.7
MNTX				*eSn*	Sn	12 59 02.8	-2.3
TX31	**Lajitas Ar. Si**	**1.66**	**125**	*ePn*	Pn	12 58 49.8	-0.7
TX31				*eSn*	Sg	12 59 15.5	+0.1
TXAR	**Lajitas Array**	**1.67**	**125**	*ePn*	Pn	12 58 49.1	-1.4
GDL2	**Guadalupe Moun**	**2.03**	**21**	*ePn*	Pn	12 58 54.4	-1.3
GDL2				*eSn*	Sb	12 59 22.4	-1.3
CLNB	**Carlsbad**	**2.27**	**30**	*ePn*	Pn	12 58 60.0	+1.1
CLNB				*eSn*	Sb	12 59 31.4	+0.8
CGIG		**2.38**	**272**	*ePn*	Pn	12 58 57.4	-3.0
CGIG				*eSn*	Sn	12 59 25.1	-4.2
CGIG		**2.38**	**272**	*eP*	Pn	12 58 57.4	-3.0
CGIG				*i* S	Sn	12 59 25.1	-4.2
CPRX	**Cap Rock**	**2.96**	**23**	*ePn*	Pn	12 59 08.5	+0.1
CPRX				*ePg*	Pg	12 59 18.6	0.0
HPIG		**3.38**	**187**	*ePn*	Pn	12 59 10.1	-4.1
HPIG				*ePg*	Pb	12 59 20.8	-0.7
HPIG		**3.38**	**187**	*i* P	Pn	12 59 12.1	-2.1
HPIG				*eS*	Sn	12 59 50.4	-3.7
319A	**Douglas**	**3.65**	**288**	*ePn*	Pn	12 59 13.4	-4.4
319A				*eSg*	Sb	13 00 09.5	-0.6
BNM	**Barren Site**	**4.02**	**343**	*ePn*	Pn	12 59 19.8	-3.2
Y22D	**IRIS PASSCAL I**	**4.03**	**340**	*ePn*	Pn	12 59 20.5	-2.6
LENM	**Lemitar**	**4.13**	**339**	*ePn*	Pn	12 59 21.3	-3.2
LPM	**Los Pinos Moun**	**4.17**	**344**	*ePg*	Pb	12 59 35.6	+0.6
MSTX	**Muleshoe**	**4.21**	**29**	*ePn*	Pn	12 59 23.6	-2.0
LAZ	**Ladron**	**4.40**	**339**	*ePn*	Pn	12 59 24.0	-4.2
LAZ				*ePg*	Pb	12 59 39.6	+0.7
JCT	**Junction City**	**4.69**	**86**	*ePn*	Pn	12 59 37.7	+5.6
ANMO	**Albuquerque**	**4.75**	**348**	*ePn*	Pn	12 59 35.7	+2.7
HSIG		**5.14**	**257**	*ePn*	Pn	12 59 38.4	+0.2
HSIG				*eSn*	Sn	13 00 30.6	-6.7
HSIG		**5.14**	**257**	*i* P	Pn	12 59 35.8	-2.5
HSIG				*i* S	Sn	13 00 33.5	-3.8
TUC	**Tucson**	**5.16**	**294**	*ePn*	Pn	12 59 34.2	-4.3
TUC				*ePg*	Pb	12 59 51.0	-0.8
ABTX	**Abilene, Hawle**	**5.30**	**63**	*ePn*	Pn	12 59 40.2	-0.3
833A	**Chaparral WMA,**	**5.46**	**110**	*ePn*	Pn	12 59 46.8	+4.1
AMTX	**Amarillo**	**5.46**	**32**	*ePn*	Pn	12 59 42.7	-0.1
AMTX				*eSn*	Sn	13 00 42.9	-2.5
X18A	**Snowflake**	**5.80**	**318**	*ePn*	Pn	12 59 44.6	-3.0
435B	**Jarrell**	**6.61**	**84**	*ePn*	Pn	12 59 59.1	+0.6
X16A	**Lo Mia Camp, P**	**6.67**	**310**	*ePn*	Pn	12 59 55.6	-3.8
T25A	**Trinidad**	**6.85**	**5**	*ePn*	Pn	13 00 04.1	+2.2
WHTX	**Lake Whitney,**	**6.87**	**74**	*ePn*	Pn	13 00 05.7	+3.6
WHTX				*ePg*	Pb	13 00 25.2	+4.2
WMOK	**Wichita Mounta**	**7.01**	**49**	*ePn*	Pn	13 00 03.1	-0.9
WUAZ	**Wupatki**	**7.33**	**317**	*ePn*	Pn	13 00 08.0	-0.5
Y14A	**Wickenburg**	**7.53**	**301**	*ePn*	Pn	13 00 06.8	-4.3
113A	**Mohawk Valley,**	**7.69**	**291**	*ePn*	Pn	13 00 10.1	-3.2
X37A	**Clayton**	**9.36**	**60**	*ePn*	Pn	13 00 37.6	+1.4
WLAR	**White Oak Lake**	**10.83**	**69**	*ePn*	Pn	13 00 59.4	+3.2

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*ISCJB **05** 13:18:55.7±0.8, 9°.36S±0°.02×79°.10W±0°.03, h41km±6km, mb5.1/299, MS4.0/20, Error ellipse: s-maj=6.0km s-min=2.9km az=151.3*
*MOS **05** 13:18:56.0±1.1, 9°.43S×79°.27W, h41km, mb5.1/32, Error ellipse: s-maj=12.7km s-min=5.0km az=111.1*
*ARE **05** 13:18:56.0±0.0, 9°.52S×79°.23W, h40km*
*IDC **05** 13:18:58.5±0.5, 9°.39S×79°.14W, h47km±3km, mb4.5/26, mb1 4.6/27, mb1mx4.6/36, mbtmp4.7/27, MS3.8/19, Ms1 3.8/19, ms1mx3.7/25, Error ellipse: s-maj=17.4km s-min=10.2km az=58.0*
*NEIC **05** 13:18:58.3±0.1, 9°.44S×79°.09W, mb5.1/267, ML5.2(ARE), Error ellipse: s-maj=4.8km s-min=2.2km az=62.0*
NEIC Felt [III] at Chimbote.
*BJI **05** 13:18:59.0±0.0, 9°.40S×79°.00W, h40km, mB5.1/3, Ms5.3/6, Ms7 5.0/6*
*VAO **05** 13:18:59.4±0.4, 9°.42S×78°.98W, h52km, mb4.9*

ISC 05 13:18:58.4±0.5, 9°.48S±0°.04×79°.16W±0°.06, h51km±3km, h51km:pP-P, n1046, o1°.03/1060, mb5.1/296, MS4.0/20, 19C-3D, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.45**	**18**	P	**Pn**	**13 19 38.9**	**+2.5**
	288nm,0.3s,baz=200,slow=4.4,SNR=2633						
ATAH				S	**Sn**	**13 20 09.8**	**+4.5**
	627nm,0.3s,baz=66,slow=12,SNR=9.8						
NNA	**Nana**	**3.37**	**138**	P	**Pn**	**13 19 48.8**	**+0.2**
	502nm,0.3s,baz=325,slow=13,SNR=341						
NNA				S	**Sn**	**13 20 28.8**	**+1.3**
	306nm,0.3s,baz=147,slow=23,SNR=7.1						
NNA				LR	LR	13 21 13.9	
	comp=Z,2μm,19.4s,baz=314,slow=40						
OTAV	**Otavalo**	**9.68**	**4**	*ePn*	**Pn**	**13 21 16.3**	**+0.7**
OTAV	**Otavalo**	**9.68**	**4**	*eP*	**Pn**	**13 21 17.0**	**+1.4**
OTAV				*eS*	**Sn**	**13 23 00.2**	**-3.0**
OTAV				*i*		13 23 34.6	
	comp=Z,21nm,0.5s						
OTAV	**Otavalo**	**9.68**	**4**	*eP*	**Pn**	**13 21 16.3**	**+0.7**
OTAV	**Otavalo**	**9.68**	**4**	*eP*	**Pn**	**13 21 17.0**	**+1.4**
OTAV				*eS*	**Sn**	**13 23 00.2**	**-3.0**
OTAV				*i*		13 23 34.6	
	comp=Z,21nm,0.5s						
OTAV	**Otavalo**	**9.68**	**4**	*eP*	**Pn**	**13 21 15.3**	**-0.2**
PTLC	**Puerto Leguiza**	**10.53**	**25**	*eP*	Pn	13 21 21.8	-4.9
PTLC				*eS*	Sn	13 23 08.3	-15
PTLC				*i*		13 24 08.4	
	comp=Z,220nm,0.6s						
PTLC	**Puerto Leguiza**	**10.53**	**25**	*eP*	Pn	13 21 21.8	-4.9
PTLC				*eS*	Sn	13 23 08.3	-15
PTLC				*i*		13 24 08.4	
	comp=Z,220nm,0.6s						
GCUF	**Volcan Galeras**	**10.79**	**10**	*eP*	**Pn**	**13 21 32.5**	**+1.7**
GCUF				*eS*	**Sn**	**13 23 32.0**	**+1.6**
GCUF				*i*		13 24 20.5	
	comp=N,42nm,0.6s						
GCUF	**Volcan Galeras**	**10.79**	**10**	*eP*	**Pn**	**13 21 32.5**	**+1.7**
GCUF				*eS*	**Sn**	**13 23 32.0**	**+1.6**
GCUF				*i*		13 24 20.5	
	comp=N,42nm,0.6s						
FLOC	**Florencia**	**11.54**	**18**	*eP*	**Pn**	**13 21 39.0**	**-1.5**
FLOC				*eS*	**Sn**	**13 23 40.4**	**-7.6**
FLOC				*i*		13 23 46.7	
	comp=N,223nm,0.5s						
FLOC	**Florencia**	**11.54**	**18**	*eP*	**Pn**	**13 21 39.0**	**-1.5**
FLOC				*eS*	**Sn**	**13 23 40.4**	**-7.6**
FLOC				*i*		13 23 46.7	
	comp=N,223nm,0.5s						
BBAC	**Balboa, Cauca**	**11.59**	**10**	*eP*	**Pn**	**13 21 42.7**	**+1.3**
BBAC	**Balboa, Cauca**	**11.59**	**10**	*eP*	**Pn**	**13 21 42.7**	**+1.3**
POPC	**Popayan, Colom**	**12.20**	**12**	*eP*	**Pn**	**13 21 50.5**	**+0.7**
POPC				*eS*	**Sn**	**13 24 05.2**	**+0.7**
POPC	**Popayan, Colom**	**12.20**	**12**	*eP*	**Pn**	**13 21 50.5**	**+0.7**
POPC				*eS*	**Sn**	**13 24 05.2**	**+0.7**
LPAZ	**La Paz**	**12.70**	**123**	*ePn*	**Pn**	**13 21 58.0**	**+1.1**
LPAZ	**La Paz**	**12.70**	**123**	P	**Pn**	**13 22 00.2**	**+3.3**
	comp=N,0.4nm,0.3s,baz=317,slow=12,SNR=25						
LPAZ				LR	LR	13 26 42.1	
	comp=N,198nm,20.1s,baz=300,slow=36						
LPAZ	**La Paz**	**12.70**	**123**	*eP*	**Pn**	**13 21 55.1**	**-1.8**
MNMC	**Minye Minye**	**13.33**	**137**	*ePn*	**Pn**	**13 22 04.2**	**-1.0**
YOTC	**Yotoco, Valle**	**13.67**	**12**	*eP*	**Pn**	**13 22 10.2**	**+0.4**
YOTC	**Yotoco, Valle**	**13.67**	**12**	*eP*	**Pn**	**13 22 10.2**	**+0.4**
PB11	**IPOC Station P**	**13.74**	**139**	*ePn*	**Pn**	**13 22 08.8**	**-1.9**
GO01	**Chusmiza**	**13.97**	**138**	*ePn*	**Pn**	**13 22 12.3**	**-1.9**
PAYG	**Puerto Ayora**	**14.11**	**308**	*ePn*	**Pn**	**13 22 16.2**	**+0.5**
PB01	**IPOC Station P**	**14.79**	**142**	*ePn*	**Pn**	**13 22 25.0**	**+0.3**
ROSC	**El Rosal**	**15.02**	**19**	*eP*	**P**	**13 22 36.3**	**+3.8**
ROSC	**El Rosal**	**15.02**	**19**	*eP*	**P**	**13 22 36.3**	**+3.8**
ROSC	**El Rosal**	**15.02**	**19**	P	**P**	**13 22 36.2**	**+3.8**
	comp=N,3.0nm,0.3s,baz=176,slow=6.2,SNR=12						
ROSC				S	Sn	13 24 55.0	-19
	comp=N,0.9nm,0.3s,baz=221,slow=19,SNR=2.3						
ROSC				LR	LR	13 28 56.9	
	comp=N,988nm,19.3s,baz=216,slow=40						
PB04	**IPOC Station P**	**15.43**	**147**	*ePn*	**Pn**	**13 22 32.9**	**-0.1**
	comp=N,42nm,0.9s						
NORC	**Norcasia**	**15.55**	**16**	*eP*	**P**	**13 22 38.9**	**+1.0**
NORC	**Norcasia**	**15.55**	**16**	*eP*	**P**	**13 22 38.9**	**+1.0**
HELC	**Santa Helena**	**15.99**	**13**	*eP*	**P**	**13 22 44.0**	**+0.9**
HELC	**Santa Helena**	**15.99**	**13**	*eP*	**P**	**13 22 44.0**	**+0.9**
LVC	**Limon Verde**	**16.34**	**144**	*eP*	**P**	**13 22 46.2**	**-0.8**
	comp=N,123nm,1.3s						
LVC	**Limon Verde**	**16.34**	**144**	*eP*	**P**	**13 22 46.2**	**-0.8**
LVC				pmax	pmax		
	comp=Z,123nm,1.3s						
LVC	**Limon Verde**	**16.34**	**144**	P	**P**	**13 22 49.7**	**+2.8**
	comp=Z,0.9nm,0.3s,baz=309,slow=6.4,SNR=9.9						
LVC	**Limon Verde**	**16.34**	**144**	*eP*	**Pn**	**13 22 44.2**	**-0.6**
RUSC	**La Rusia**	**16.43**	**22**	*eP*	**P**	**13 22 47.8**	**-0.4**
RUSC	**La Rusia**	**16.43**	**22**	*eP*	**P**	**13 22 47.8**	**-0.4**
GO02	**Mina Guanaco**	**18.05**	**151**	*eP*	**P**	**13 23 05.5**	**-0.4**
	comp=Z,75nm,1.0s						
BCIP	**Isla Barro Col**	**18.54**	**358**	*eP*	**Pn**	**13 23 11.7**	**+0.1**
	comp=Z,92nm,1.2s						
BCIP	**Isla Barro Col**	**18.54**	**358**	*eP*	**Pn**	**13 23 11.7**	**+0.1**
BCIP				pmax	pmax		
	comp=Z,92nm,1.2s						
SIV	**San Ignacio**	**18.78**	**112**	P	**Pn**	**13 23 14.9**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=296,slow=11,SNR=52						
SMLC	**San Martn de**	**18.86**	**16**	*eP*	**P**	**13 23 14.3**	**-0.1**
SMLC	**San Martn de**	**18.86**	**16**	*eP*	**P**	**13 23 14.3**	**-0.1**
SJCC	**San Jacinto, C**	**19.66**	**12**	*eP*	**Pn**	**13 23 25.0**	**0.0**
SJCC	**San Jacinto, C**	**19.66**	**12**	*eP*	**Pn**	**13 23 25.0**	**0.0**
HDC	**Heredia**	**19.98**	**346**	*eP*	**Pn**	**13 23 28.4**	**-0.5**
	comp=Z,75nm,0.7s						
CODC	**Agustn Codazz**	**20.11**	**17**	*eP*	**P**	**13 23 28.5**	**+0.4**
CODC	**Agustn Codazz**	**20.11**	**17**	*eP*	**P**	**13 23 28.5**	**+0.4**
SDV	**Santo Domingo**	**20.13**	**25**	*eP*	**P**	**13 23 29.2**	**+0.7**
	comp=Z,45nm,1.0s						
SDV	**Santo Domingo**	**20.13**	**25**	P	Pn	13 23 29.2	-1.5
	comp=Z,7.6nm,0.4s,baz=260,slow=6.6,SNR=11						
SDV	**Santo Domingo**	**20.13**	**25**	*eP*	**P**	**13 23 27.6**	**-0.9**
JTS	**Las Juntas de**	**20.47**	**343**	*eP*	Pn	13 23 33.9	-0.7
	comp=Z,47nm,1.3s						
JTS	**Las Juntas de**	**20.47**	**343**	*c iP*	Pn	13 23 34.5	-0.1
JTS	**Las Juntas de**	**20.47**	**343**	P	Pn	13 23 34.4	-0.2
	comp=Z,18nm,0.9s,baz=220,slow=4.6,SNR=12						
PTGA	**Pitinga**	**20.98**	**67**	*eP*	**P**	**13 23 37.0**	**-0.6**
	comp=Z,53nm,0.7s						
PTGA	**Pitinga**	**20.98**	**67**	P	**P**	**13 23 37.5**	**-0.1**
	comp=Z,19nm,0.4s,baz=249,slow=13,SNR=43						
PTGA				S	**S**	**13 27 31.7**	**+3.0**
	comp=Z,20nm,0.6s,baz=145,slow=20,SNR=5.6						
PTGA	**Pitinga**	**20.98**	**67**	*eP*	**P**	**13 23 37.5**	**-0.1**
LCO	**Las Campanas**	**20.98**	**159**	*eP*	**P**	**13 23 38.6**	**+0.8**
	comp=Z,117nm,1.3s						
LCO	**Las Campanas**	**20.98**	**159**	*eP*	**P**	**13 23 38.6**	**+0.8**
LCO				pmax	pmax		
	comp=Z,117nm,1.3s						
LCO	**Las Campanas**	**20.98**	**159**	*eP*	**P**	**13 23 39.1**	**+1.4**
GO04	**Tololo Observa**	**22.02**	**160**	*eP*	**P**	**13 23 49.6**	**+0.8**
	comp=Z,82nm,0.9s						
ACON	**Acoyapa**	**22.14**	**344**	*eP*	**P**	**13 23 49.7**	**-0.2**
	comp=Z,26nm,0.8s						
ESPN	**Las Esperanzas**	**22.14**	**347**	*eP*	**P**	**13 23 49.6**	**-0.3**
	comp=Z,34nm,0.9s						
URIC	**Uribia, Colomb**	**22.22**	**19**	*eP*	**P**	**13 23 49.7**	**-1.1**
URIC	**Uribia, Colomb**	**22.22**	**19**	*eP*	**P**	**13 23 49.7**	**-1.1**
CLDB	**Colider**	**23.04**	**95**	*eP*	**P**	**13 23 58.1**	**-1.4**
ESTN	**Estel**	**23.55**	**342**	*eP*	**P**	**13 24 03.4**	**-1.1**
	comp=Z,111nm,1.6s						
CFA	**Coronel Fontan**	**24.24**	**157**	P	**P**	**13 24 11.9**	**+1.3**
	comp=Z,15nm,0.9s,baz=334,slow=9.7,SNR=20						
TGUH	**Tegucigalpa,Un**	**24.73**	**341**	*eP*	**P**	**13 24 14.9**	**-0.3**
	comp=Z,52nm,0.8s						
PEL	**Peldehue**	**24.81**	**163**	*eP*	**P**	**13 24 15.8**	**0.0**
	comp=Z,34nm,0.8s						
PEL	**Peldehue**	**24.81**	**163**	*eP*	**P**	**13 24 15.8**	**0.0**
PEL				pmax	pmax		
	comp=Z,34nm,0.8s						
AQDB	**Aquidauana**	**25.12**	**118**	*eP*	**P**	**13 24 18.0**	**-0.7**
CPUP	**Villa Florida**	**26.61**	**132**	*eP*	**P**	**13 24 32.1**	**0.0**
	comp=Z,24nm,0.9s						
CPUP	**Villa Florida**	**26.61**	**132**	P	**P**	**13 24 33.2**	**+1.0**
	comp=Z,5.5nm,1.0s,baz=320,slow=10,SNR=7.4						
CPUP				LR	LR	13 38 12.5	
	comp=Z,382nm,18.0s,baz=318,slow=43						
CPUP	**Villa Florida**	**26.61**	**132**	*eP*	**P**	**13 24 32.9**	**+0.7**
APG	**El Apazote**	**26.79**	**335**	P	**P**	**13 24 36.1**	**+2.0**
	comp=Z,2.1nm,0.3s,baz=161,slow=14,SNR=4.5						
APG				LR	LR	13 33 28.9	
	comp=Z,458nm,21.4s,baz=211,slow=33						
TRCB	**Terra Rica**	**28.64**	**121**	*eP*	**P**	**13 24 51.5**	**+1.0**
GTBY	**Guantanamo Bay**	**29.50**	**8**	*eP*	**P**	**13 24 59.4**	**+1.5**
	comp=Z,35nm,0.8s						
ITRB	**Iturama**	**29.62**	**113**	*eP*	**P**	**13 24 58.8**	**-0.3**
PTGB	**Pitanga**	**29.91**	**124**	*eP*	**P**	**13 25 01.6**	**-0.1**
MPR	**Mayaguez**	**29.97**	**23**	*eP*	**P**	**13 25 00.7**	**-1.5**
	comp=Z,22nm,0.9s						
AOPR	**Arecibo Observ**	**30.24**	**24**	*eP*	**P**	**13 25 03.9**	**-0.7**
	comp=Z,28nm,0.8s						
SJG	**San Juan**	**30.28**	**25**	*eP*	**P**	**13 25 03.8**	**-1.0**
	comp=Z,25nm,1.1s						
SJG	**San Juan**	**30.28**	**25**	*eP*	**P**	**13 25 03.8**	**-1.0**
SJG				pmax	pmax		
	comp=Z,25nm,1.1s						
CMIG	**Matias Romero**	**30.64**	**329**	LR	LR	13 35 16.1	
	comp=Z,291nm,20.6s,baz=134,slow=32						
GO06	**Curarrehue**	**30.75**	**168**	*eP*	**P**	**13 25 08.9**	**-0.1**
	comp=Z,8.4nm,0.9s						
BDFB	**Brasilia**	**30.98**	**105**	*eP*	**P**	**13 25 09.6**	**-1.7**
	comp=Z,11nm,1.0s						
BDFB	**Brasilia**	**30.98**	**105**	P	**P**	**13 25 11.0**	**-0.4**
BDFB	**Brasilia**	**30.98**	**105**	P	**P**	**13 25 11.0**	**-0.4**
	comp=Z,5.0nm,0.8s,baz=277,slow=11,SNR=8.0						
BDFB				LR	LR	13 38 22.7	
	comp=Z,547nm,21.1s,baz=284,slow=38						
ITAB	**Concordia**	**31.02**	**128**	*eP*	**P**	**13 25 11.5**	**+0.1**
FRTB	**Fartura**	**31.47**	**120**	*eP*	**P**	**13 25 14.7**	**-0.7**
BB19B	**Bebedouro**	**31.64**	**115**	*eP*	**P**	**13 25 16.2**	**-0.8**
PLCA	**Paso Flores**	**32.05**	**168**	*eP*	**P**	**13 25 21.0**	**+0.7**
PLCA	**Paso Flores**	**32.05**	**168**	P	**P**	**13 25 21.8**	**+1.5**
	comp=Z,10nm,1.0s,baz=359,slow=10,SNR=22						
PLCA				PcP	**PcP**	**13 28 10.6**	**+1.5**
	comp=Z,4.3nm,0.7s,baz=333,slow=4.5,SNR=8.4						
PLCA	**Paso Flores**	**32.05**	**168**	*eP*	**P**	**13 25 21.8**	**+1.5**
TRQA	**Tornquist**	**32.38**	**154**	*eP*	**P**	**13 25 22.8**	**-0.5**
	comp=Z,21nm,1.4s						
TRQA				*ePcP*	**PcP**	**13 28 10.9**	**+0.9**
TRQA	**Tornquist**	**32.38**	**154**	*eP*	**P**	**13 25 22.8**	**-0.5**
TRQA				*e*		13 28 10.9	
TRQA				pmax	pmax		
	comp=Z,21nm,1.4s						
TIJ01	**Guaruva-PR**	**32.69**	**123**	*eP*	**P**	**13 25 25.0**	**-1.2**
CNLB	**Canela**	**33.04**	**131**	*eP*	**P**	**13 25 29.5**	**+0.3**
SPB	**Sao Paulo**	**33.39**	**119**	*eP*	**P**	**13 25 32.8**	**+0.5**
PET01	**Itanhaem-SP**	**33.76**	**120**	*eP*	**P**	**13 25 34.0**	**-1.5**
JANB	**Januaria**	**34.47**	**103**	*eP*	**P**	**13 25 41.0**	**-0.7**
BSCB	**Bom Sucesso**	**35.01**	**113**	*eP*	**P**	**13 25 46.1**	**-0.3**
MCI8	**Montes Claros**	**35.02**	**105**	*eP*	**P**	**13 25 45.9**	**-0.6**
MCI9	**Montes Claros**	**35.05**	**106**	*eP*	**P**	**13 25 45.6**	**-1.2**
MCI6	**Montes Claros**	**35.06**	**106**	*eP*	**P**	**13 25 46.3**	**-0.6**
VAS01	**Vassouras-RJ**	**36.53**	**115**	*eP*	**P**	**13 25 58.1**	**-1.2**
BSFB	**Barra de Sao F**	**38.22**	**108**	*eP*	**P**	**13 26 13.4**	**-0.3**
ALF01	**Guarapari-ES**	**38.63**	**111**	*eP*	**P**	**13 26 16.7**	**-0.4**
RIB01	**Linhares ES**	**38.71**	**109**	*eP*	**P**	**13 26 17.1**	**-0.7**
658A	**Bunnell**	**38.73**	**357**	P	**P**	**13 26 17.7**	**0.0**
	baz=177						
656A	**Willston**	**38.76**	**355**	P	**P**	**13 26 18.0**	**0.0**
	baz=175						
657A	**Interlachen**	**38.93**	**356**	P	**P**	**13 26 19.6**	**+0.2**
	baz=176						
NBMO	**Morrinhos-CE**	**39.33**	**84**	*eP*	**P**	**13 26 22.6**	**-0.4**
557A	**Orange Park**	**39.35**	**356**	P	**P**	**13 26 22.8**	**0.0**
	baz=176						
556A	**Lake Butler**	**39.38**	**356**	P	**P**	**13 26 23.3**	**+0.2**
	baz=175						
LNIG	**Linares**	**39.50**	**330**	*eP*	**P**	**13 26 23.8**	**-0.4**
	comp=Z,9.3nm,0.8s						
LNIG				*ePcP*	**PcP**	**13 28 31.0**	**-0.3**
555A	**McAlpin**	**39.55**	**355**	P	**P**	**13 26 24.7**	**+0.2**
	baz=174						
455A	**Stateville**	**40.17**	**355**	P	**P**	**13 26 29.8**	**+0.1**
	baz=174						
454A	**Quitman**	**40.20**	**354**	P	**P**	**13 26 29.8**	**-0.1**
	baz=173						
451A	**Vernon**	**40.37**	**351**	P	**P**	**13 26 31.6**	**+0.3**
	baz=170						
452A	**Marianna**	**40.52**	**352**	P	**P**	**13 26 32.8**	**+0.3**
	baz=171						
450A	**Crestview**	**40.69**	**350**	P	**P**	**13 26 34.3**	**+0.3**
	baz=169						
353A	**Camilla**	**40.89**	**353**	P	**P**	**13 26 36.1**	**+0.5**
	baz=172						
351A	**Pinckard**	**40.99**	**352**	P	**P**	**13 26 36.6**	**+0.2**
	baz=170						
KVTX	**Kingsville**	**41.04**	**334**	*eP*	**P**	**13 26 37.5**	**+0.5**
	comp=Z,112nm,0.7s						
352A	**Blakely**	**41.10**	**352**	P	**P**	**13 26 37.4**	**0.0**
	baz=171						
BRAL	**Brewton**	**41.12**	**350**	P	**P**	**13 26 37.4**	**-0.1**
	baz=168						
350A	**Dozier**	**41.25**	**351**	P	**P**	**13 26 38.8**	**+0.2**
	baz=169,SNR=7.1						
255A	**Hazlehurst**	**41.30**	**356**	P	**P**	**13 26 39.3**	**+0.3**
	baz=175						
256A	**Glennville**	**41.31**	**356**	P	**P**	**13 26 39.3**	**+0.2**
	baz=176						
349A	**Repton**	**41.33**	**350**	P	**P**	**13 26 39.3**	**+0.1**
	baz=168,SNR=6.2						
254A	**Abbeville**	**41.38**	**355**	P	**P**	**13 26 39.7**	**0.0**
	baz=174						
253A	**Americus**	**41.58**	**354**	P	**P**	**13 26 41.0**	**-0.3**
	baz=172						
252A	**Lumpkin**	**41.59**	**353**	P	**P**	**13 26 41.1**	**-0.2**
	baz=172						
251A	**Midway**	**41.77**	**352**	P	**P**	**13 26 42.7**	**-0.1**
	baz=171,SNR=7.8						
250A	**Grady**	**41.78**	**351**	P	**P**	**13 26 42.8**	**-0.1**
	baz=169						
249A	**Camden**	**41.92**	**350**	P	**P**	**13 26 44.2**	**+0.2**
	baz=168,SNR=5.6						
156A	**

comp=Z,18nm,0.9s
435B Jarrell 43.77 337 P P 13 26 59.3 +0.2
baz=153
X56A White Oak 43.77 358 P P 13 26 58.7 -0.3
baz=177
X55A Gracelyn & Ava 43.77 357 P P 13 26 59.1 0.0
baz=176
X58A Rowland 43.80 360 P P 13 26 59.1 -0.1
baz=180
X59A McDuffie Farm, 43.82 1 P P 13 26 58.9 -0.5
baz=181
Y48A Jasper 43.82 350 P P 13 26 58.9 -0.6
baz=168,SNR=7.7
X54A Belton 43.90 356 P P 13 26 59.5 -0.5
baz=175
X53A Estanollee 43.92 355 P P 13 26 59.9 -0.4
baz=174
X52A Dahlonega 44.07 354 P P 13 27 00.9 -0.6
baz=173
PAULI Pauline 44.13 357 eP P 13 27 00.6 -1.4
comp=Z,27nm,0.6s
X50B Fort Payne 44.13 352 P P 13 27 01.3 -0.7
baz=171,SNR=5.6
W58A Raeford 44.26 360 P P 13 27 02.4 -0.6
baz=180
X49A Woodville 44.28 352 P P 13 27 02.7 -0.4
baz=170
X48A Hartselle 44.33 351 eP P 13 27 02.3 -1.2
comp=Z,12nm,0.7s
X48A Hartselle 44.33 351 P P 13 27 03.2 -0.3
baz=169
BG3 Lake Jocassee 44.38 356 eP P 13 27 03.1 -0.8
comp=Z,15nm,0.9s
W56A Indian Trail 44.40 358 P P 13 27 03.7 -0.3
baz=178
W57A Gilead 44.40 359 P P 13 27 03.7 -0.3
baz=179
HPIG 44.41 325 eP P 13 27 04.5 0.0
comp=Z,12nm,1.1s
JCT Junction City 44.41 334 eP P 13 27 03.1 -1.1
comp=Z,15nm,0.8s
JCT Junction City 44.41 334 eP P 13 27 03.2 -1.1
JCT pmax pmax
comp=Z,15nm,0.8s
JCT Junction City 44.41 334 P P 13 27 04.4 +0.1
baz=150,SNR=6.8
W54A Cherokee Point 44.42 356 P P 13 27 04.4 +0.2
baz=176
KMSC Kings Mountain 44.43 357 eP P 13 27 03.5 -0.8
comp=Z,40nm,0.8s
KMSC Kings Mountain 44.43 357 P P 13 27 04.2 -0.1
baz=177,SNR=8.0
Z41A Richland Creek 44.45 344 P P 13 27 04.7 +0.3
baz=161
X47A Russelville 44.53 350 P P 13 27 04.3 -0.8
baz=168,SNR=5.9
W52A Murphy 44.56 354 eP P 13 27 04.4 -1.0
comp=Z,19nm,0.8s
W52A Murphy 44.56 354 P P 13 27 04.9 -0.5
baz=173
W53A Cullowhee 44.57 355 P P 13 27 05.1 -0.5
baz=174,SNR=8.0
SLBS Sierra La Lagu 44.64 318 eP P 13 27 06.9 +0.7
comp=Z,15nm,0.8s
X46A Booneville 44.70 349 P P 13 27 05.8 -0.7
baz=167,SNR=5.3
W51A Cleveland 44.72 353 P P 13 27 06.1 -0.5
baz=172
WHTX Lake Whitney, 44.80 338 P P 13 27 06.8 -0.5
baz=154
W50A Signal Mountai 44.82 353 eP P 13 27 05.6 -1.8
comp=Z,15nm,0.8s
W50A Signal Mountai 44.82 353 P P 13 27 06.8 -0.6
baz=171
OXF Oxford 44.82 348 P P 13 27 06.8 -0.7
baz=166
W49A Belvidere 44.87 352 P P 13 27 07.5 -0.3
baz=170
SWET Sewanee 44.92 352 eP P 13 27 06.8 -1.4
comp=Z,19nm,0.7s
WLAR White Oak Lake 44.94 343 eP P 13 27 08.4 +0.1
comp=Z,114nm,1.0s
CPCT Cooper Cave 44.98 354 eP P 13 27 08.3 -0.4
comp=Z,36nm,1.4s
W48A Pulaski 44.98 351 P P 13 27 08.1 -0.6
baz=169,SNR=6.5
V59A Middlesex 45.01 1 P P 13 27 08.5 -0.4
baz=181
V58A Windy Hill, Pi 45.03 0 P P 13 27 08.5 -0.6
baz=180
V53A Saluda 45.04 356 P P 13 27 08.8 -0.5
baz=175
V56A Mocksville 45.07 358 P P 13 27 09.2 -0.2
baz=178
V54A Nebo 45.09 357 P P 13 27 09.2 -0.4
baz=176,SNR=6.5
V57A Coltrane Farms 45.13 359 P P 13 27 09.3 -0.6
baz=179
X43A Marvell 45.15 346 P P 13 27 10.7 +0.6
baz=164
W47A Westpoint 45.20 350 P P 13 27 09.6 -0.9
baz=168,SNR=6.3
LTX Lajitas 45.25 329 eP P 13 27 11.8 +0.7
LTX ePcP PcP 13 28 50.9 +0.5
LTX Lajitas 45.25 329 eP P 13 27 11.8 +0.7
LTX e 13 28 50.9
TXAR Lajitas Array 45.25 329 eP P 13 27 11.3 +0.3
TXAR Lajitas Array 45.25 329 P P 13 27 11.8 +0.7
comp=Z,6.8nm,0.9s,baz=147,slow=9.1,SNR=30
TXAR PcP PcP 13 28 50.9 +0.5
comp=Z,1.0nm,0.4s,baz=160,slow=5.9,SNR=10
TXAR LR LR 13 44 30.2
comp=Z,120nm,18.4s,baz=0.0,slow=34
TX31 Lajitas Ar. Si 45.25 329 eP P 13 27 10.5 -0.6
comp=Z,4.8nm,0.8s
V50A Pikevile 45.26 353 P P 13 27 10.3 -0.6
baz=172
V52A Sevierville 45.27 355 eP P 13 27 10.4 -0.7
comp=Z,32nm,0.8s
V52A Sevierville 45.27 355 P P 13 27 10.4 -0.7
baz=174,SNR=5.6
V51A Loudon 45.31 354 eP P 13 27 10.8 -0.5
comp=Z,17nm,0.8s
V51A Loudon 45.31 354 P P 13 27 10.5 -0.8
baz=173
V49A McMinnville 45.45 352 P P 13 27 11.3 -1.1
baz=171
V48A Smith Brothers 45.56 351 eP P 13 27 12.3 -1.0
comp=Z,29nm,0.7s
V48A Smith Brothers 45.56 351 P P 13 27 12.6 -0.7
baz=169,SNR=14
U56A King 45.60 359 P P 13 27 13.5 -0.1
baz=178
X40A Basin Creek Fa 45.61 344 eP P 13 27 12.5 -1.2
comp=Z,20nm,1.1s
X40A Basin Creek Fa 45.61 344 P P 13 27 13.7 0.0
baz=161,SNR=9.7
U58A Oxford 45.64 1 P P 13 27 13.6 -0.2
baz=181
U57A Blanch 45.67 360 P P 13 27 13.6 -0.5
baz=180
U53A Fall Branch 45.72 356 P P 13 27 14.0 -0.6
baz=175,SNR=5.7
U60A Pendleton 45.75 2 P P 13 27 14.3 -0.4
baz=183
V47A Nunnelly 45.75 351 P P 13 27 13.6 -1.2
baz=168,SNR=5.3
UALR University of 45.76 345 eP P 13 27 14.1 -0.8
comp=Z,45nm,0.8s
U55A TA2, Sparta 45.77 358 P P 13 27 14.3 -0.7
baz=177,SNR=5.2
U52A Thorn Hill 45.80 355 P P 13 27 14.5 -0.7
baz=174
U54A Nelsons Funny 45.83 357 P P 13 27 14.8 -0.7
baz=176
V46A Holladay 45.83 350 P P 13 27 13.8 -1.5
baz=168
U51A La Follette 45.84 355 P P 13 27 14.0 -1.6
baz=173
MIAR Mount Ida 45.87 343 eP P 13 27 15.9 +0.1
comp=Z,24nm,0.9s
MIAR Mount Ida 45.87 343 eP P 13 27 15.9 +0.1
MIAR pmax pmax
comp=Z,24nm,0.9s
MIAR Mount Ida 45.87 343 P P 13 27 15.8 +0.1
baz=160,SNR=11
U50A Jamestown 45.97 354 P P 13 27 15.5 -1.0
baz=172,SNR=5.8

TZTN Tazewell 45.97 355 P P 13 27 15.5 -1.0
baz=174
WVT Waverly 46.10 350 eP P 13 27 16.3 -1.2
comp=Z,15nm,0.7s
WVT Waverly 46.10 350 eP P 13 27 16.3 -1.2
WVT pmax pmax
comp=Z,15nm,0.7s
WVT Waverly 46.10 350 P P 13 27 16.3 -1.2
baz=168
W41B Gary Mavity, V 46.11 345 eP P 13 27 17.8 +0.2
comp=Z,31nm,0.8s
W41B Gary Mavity, V 46.11 345 P P 13 27 18.1 +0.5
baz=162,SNR=18
U49A Red Boiling Sp 46.17 353 P P 13 27 17.4 -0.7
baz=171
T58A Grand View Acr 46.19 1 P P 13 27 17.9 -0.2
baz=181,SNR=6.1
ABTX Abilene, Hawle 46.21 336 eP P 13 27 19.1 +0.7
comp=Z,32nm,0.8s
ABTX Abilene, Hawle 46.21 336 P P 13 27 19.2 +0.7
baz=151,SNR=23
WHAR Wooly Hollow 46.23 345 eP P 13 27 19.1 +0.6
comp=Z,38nm,0.8s
T59A Double "B" Far 46.23 2 P P 13 27 18.4 -0.1
baz=182
T57A Hurt 46.23 360 P P 13 27 18.3 -0.3
baz=180,SNR=11
T56A Rocky Mt 46.27 359 P P 13 27 18.8 -0.1
baz=179
U48A Cassie Pea, Po 46.27 352 P P 13 27 18.3 -0.6
baz=170
U47A Clarksville 46.32 351 P P 13 27 18.2 -1.0
baz=169
T53A Wise 46.33 356 P P 13 27 18.8 -0.6
baz=175,SNR=6.5
T54A Tazewell 46.35 357 P P 13 27 18.9 -0.7
baz=177
U46A Springville 46.38 350 P P 13 27 18.6 -1.1
baz=168,SNR=7.4
T51A Gray 46.42 355 P P 13 27 19.4 -0.7
baz=173,SNR=6.6
X37A Clayton 46.45 341 eP P 13 27 21.2 +0.9
comp=Z,58nm,0.7s
BLA Blacksburg 46.46 359 eP P 13 27 19.9 -0.5
BLA Blacksburg 46.46 359 eP P 13 27 19.9 -0.5
BLA Blacksburg 46.46 359 P P 13 27 19.9 -0.5
baz=178
T52A Hallie 46.48 356 P P 13 27 20.1 -0.4
baz=175,SNR=5.7
W39A Magazine 46.54 343 eP P 13 27 20.8 -0.2
comp=Z,22nm,0.9s
W39A Magazine 46.54 343 P P 13 27 21.4 +0.4
baz=160,SNR=9.8
T50A Nancy 46.56 354 P P 13 27 20.6 -0.6
baz=172
T49A Edmonton 46.73 353 eP P 13 27 21.7 -0.7
comp=Z,18nm,0.9s
T49A Edmonton 46.73 353 P P 13 27 22.0 -0.4
baz=171,SNR=5.9
T47A Sharon Grove 46.82 351 eP P 13 27 21.6 -1.5
T47A ePcP PcP 13 28 54.6 -1.0
T47A Sharon Grove 46.82 351 P P 13 27 22.3 -0.9
baz=169
T48A Bowling Green 46.84 352 P P 13 27 22.7 -0.6
baz=170
S58A Poland Farm, P 46.86 1 P P 13 27 23.1 -0.3
baz=181,SNR=5.2
S56A Natural Bridge 46.91 360 P P 13 27 23.5 -0.4
baz=179
S57A Dark Hollow, R 47.00 0 P P 13 27 24.3 -0.3
baz=180
S53A Williamson 47.00 357 P P 13 27 23.9 -0.7
baz=176
T46A Princeton 47.00 350 P P 13 27 24.1 -0.5
baz=168
S55A Lewisburg 47.02 359 P P 13 27 24.1 -0.7
baz=178
S52A Salyersville 47.06 356 P P 13 27 24.3 -0.7
baz=175,SNR=6.1
S51A Beattyville 47.06 355 eP P 13 27 23.6 -1.5
comp=Z,25nm,0.8s
S51A Beattyville 47.06 355 P P 13 27 24.3 -0.7
baz=174,SNR=7.2
T45A Paducah 47.11 350 eP P 13 27 24.7 -0.7
comp=Z,81nm,0.4s
U41A Viola 47.14 346 P P 13 27 25.7 0.0
baz=163,SNR=14
S50A Richmond 47.17 354 P P 13 27 25.3 -0.6
baz=173,SNR=8.5
R58B Mineral 47.21 1 eP P 13 27 26.1 -0.1
comp=Z,50nm,0.8s
R58B Mineral 47.21 1 P P 13 27 26.0 -0.1
baz=182,SNR=10
PBMO Poplar Bluff 47.22 348 eP P 13 27 25.4 -0.9
comp=Z,15nm,0.7s
S48A Wiedeman Farm, 47.34 353 P P 13 27 26.3 -0.9
baz=171
S49A Springfield 47.37 353 P P 13 27 26.5 -0.9
baz=172
U40A Yellville 47.38 345 P P 13 27 28.2 +0.6
baz=162,SNR=50
S47A Hartford 47.39 352 P P 13 27 26.4 -1.1
baz=170
R54A Victor 47.45 358 P P 13 27 27.7 -0.3
baz=178
CBN Corbin Frederi 47.47 2 eP P 13 27 27.8 -0.4
comp=Z,41nm,0.6s
CBN Corbin Frederi 47.47 2 P P 13 27 28.4 +0.3
baz=182
R59A King George, V 47.47 2 P P 13 27 28.2 0.0
baz=183
R55A Marlinton 47.53 359 P P 13 27 28.7 0.0
baz=179
R57A Stanardsville 47.53 1 P P 13 27 28.6 -0.1
baz=181
R58A Rapidan 47.55 1 P P 13 27 29.1 +0.3
baz=181,SNR=9.6
S46A Don Dixon Farm 47.60 351 P P 13 27 28.0 -1.2
baz=168
HHAR Hobbs 47.60 344 eP P 13 27 28.9 -0.4
comp=Z,31nm,1.2s
R53A Hurricane 47.64 357 P P 13 27 28.8 -0.7
baz=176
R52A Catlettsburg 47.68 356 P P 13 27 29.1 -0.8
baz=175
R51A Hillsboro 47.71 355 P P 13 27 29.5 -0.6
baz=174,SNR=9.7
S45A Carrier Mills 47.74 350 P P 13 27 29.2 -1.0
baz=167
WMOK Wichita Mounta 47.75 338 eP P 13 27 29.8 -0.7
comp=Z,7.7nm,0.8s
WMOK Wichita Mounta 47.75 338 eP P 13 27 29.8 -0.7
WMOK pmax pmax
comp=Z,8.0nm,0.8s
WMOK Wichita Mounta 47.75 338 P P 13 27 30.3 -0.2
baz=153,SNR=10
R50A Paris 47.76 355 P P 13 27 29.6 -0.9
baz=173
TUL1 Leonard 47.80 342 eP P 13 27 30.6 -0.2
comp=Z,44nm,0.8s
TUL1 Leonard 47.80 342 P P 13 27 31.1 +0.4
baz=158,SNR=14
R49A Shelbyville 47.86 354 P P 13 27 30.7 -0.5
baz=172
S44A Carbondale 47.87 349 P P 13 27 30.9 -0.4
baz=166,SNR=8.2
SIUC Southern Illin 47.89 349 eP P 13 27 30.8 -0.6
comp=Z,32nm,0.8s
WCI Wyandotte Cave 47.93 352 eP P 13 27 30.2 -1.6
comp=Z,9.7nm,0.7s
WCI Wyandotte Cave 47.93 352 eP P 13 27 30.2 -1.6
WCI pmax pmax
comp=Z,10.0nm,0.7s
WCI Wyandotte Cave 47.93 352 P P 13 27 30.7 -1.1
baz=170
GDL2 Guadalupe Moun 47.94 331 eP P 13 27 31.3 -0.8
R47A Wooly Knot Far 48.03 352 P P 13 27 31.5 -1.0
baz=170
MNTX Cornudas Mount 48.03 330 eP P 13 27 32.7 0.0
comp=Z,14nm,1.1s
MNTX Cornudas Mount 48.03 330 P P 13 27 32.9 +0.2
baz=144,SNR=12
R48A Northridge Ran 48.05 353 P P 13 27 32.4 -0.3
baz=171
OK023 East Waterloo 48.07 340 eP P 13 27 32.5 -0.4
comp=Z,63nm,1.3s
Q53A Leroy 48.14 358 P P 13 27 33.1 -0.3
baz=177,SNR=8.2

Q55A Buckhannon 48.24 359 P P 13 27 34.2 0.0
baz=179,SNR=7.4
Q54A Coxs Mills 48.24 358 eP P 13 27 33.4 -0.7
comp=Z,34nm,0.7s
Q54A Coxs Mills 48.24 358 P P 13 27 33.5 -0.7
baz=178,SNR=8.8
Q57A Strasburg 48.27 1 P P 13 27 34.7 +0.3
baz=181,SNR=6.3
Q52A Bidwell 48.28 357 P P 13 27 33.8 -0.7
baz=176
R45A Skylar, Fairfi 48.28 350 P P 13 27 33.5 -1.0
baz=168
S41A Jillco Farms, 48.29 347 P P 13 27 34.4 -0.2
baz=163,SNR=40
Q50A Georgetown 48.29 355 P P 13 27 33.7 -0.8
baz=174
CPRX Cap Rock 48.39 332 eP P 13 27 35.5 -0.2
Q51A Peebles 48.42 356 eP P 13 27 34.7 -0.8
comp=Z,38nm,1.1s
Q51A Peebles 48.42 356 P P 13 27 34.8 -0.8
baz=174,SNR=7.3
Q49A Aurora 48.53 354 P P 13 27 35.4 -1.0
baz=172
Q48A North Vernon 48.55 353 P P 13 27 35.6 -1.0
baz=171,SNR=5.2
CCM Cathedral Cave 48.62 347 eP P 13 27 37.3 +0.2
comp=Z,27nm,0.7s
CCM Cathedral Cave 48.62 347 eP P 13 27 37.3 +0.2
CCM pmax pmax
comp=Z,27nm,0.7s
CCM Cathedral Cave 48.62 347 P P 13 27 36.6 -0.5
baz=164
Q47A Bedord North L 48.64 352 P P 13 27 36.2 -1.0
baz=170,SNR=6.9
OLIL Olney 48.69 351 eP P 13 27 36.7 -0.9
comp=Z,16nm,0.7s
MSTX Muleshoe 48.69 334 eP P 13 27 37.6 -0.3
comp=Z,19nm,0.8s
MSTX Muleshoe 48.69 334 P P 13 27 37.6 -0.3
baz=148,SNR=7.7
P55A Reedsville 48.74 359 P P 13 27 37.5 -0.6
baz=179
P53A Whipple 48.76 358 eP P 13 27 37.3 -0.9
comp=Z,23nm,1.0s
P53A Whipple 48.76 358 P P 13 27 37.5 -0.7
baz=177
P51A Williamsport 48.85 356 eP P 13 27 38.0 -0.8
comp=Z,30nm,0.8s
P51A Williamsport 48.85 356 P P 13 27 37.9 -0.9
baz=175,SNR=5.4
P54A Burton 48.85 359 P P 13 27 38.3 -0.6
baz=178,SNR=5.1
R41A Rosebud 48.88 347 P P 13 27 38.7 -0.4
baz=164,SNR=16
MCWV Mont Chateau 48.90 359 P P 13 27 38.6 -0.6
baz=179
P59A Jarrettsville 48.91 3 P P 13 27 39.3 0.0
baz=184
P52A Corning 48.94 357 P P 13 27 38.6 -0.9
baz=176,SNR=8.3
AMTX Amarillo 49.01 335 eP P 13 27 39.3 -1.0
comp=Z,8.0nm,0.8s
AMTX Amarillo 49.01 335 P P 13 27 40.2 -0.1
baz=150
P50A Jamestown 49.03 355 P P 13 27 39.2 -1.0
baz=174,SNR=5.8
P49A Miami Univ. Ec 49.04 354 P P 13 27 39.2 -1.1
baz=173
P48A Milroy 49.04 354 P P 13 27 39.6 -0.7
baz=172
P60A Greenville 49.15 4 P P 13 27 40.3 -0.8
baz=184
P47A Martinsville 49.17 353 P P 13 27 40.6 -0.6
baz=171
Q42A Golden Eagle 49.30 348 P P 13 27 41.9 -0.4
baz=165,SNR=5.5
P45A Graceland, Par 49.41 351 eP P 13 27 41.6 -1.5
comp=Z,30nm,1.1s
P45A Graceland, Par 49.41 351 P P 13 27 42.5 -0.6
baz=169
O52A Adamsville 49.41 357 eP P 13 27 42.2 -0.9
comp=Z,35nm,0.8s
O52A Adamsville 49.41 357 P P 13 27 42.2 -0.9
baz=176,SNR=9.4
P46A Rosedale 49.42 352 P P 13 27 43.0 -0.1
baz=170
O54A Avella 49.43 359 P P 13 27 42.9 -0.4
baz=178
O55A Ligonier 49.44 360 P P 13 27 43.0 -0.4
baz=180
O51A Pataskala 49.48 357 P P 13 27 43.0 -0.7
baz=176,SNR=7.7
O56A Blue Knob Stat 49.50 1 eP P 13 27 43.7 -0.2
comp=Z,28nm,0.7s
O56A Blue Knob Stat 49.50 1 P P 13 27 43.9 0.0
baz=181,SNR=6.3
O53A New Philadelph 49.52 358 P P 13 27 43.1 -0.8
baz=177
O50A Cable 49.55 356 P P 13 27 43.5 -0.7
baz=174,SNR=11
ACSO Alum Creek Sta 49.59 356 eP P 13 27 43.5 -1.0
comp=Z,76nm,0.8s
ACSO Alum Creek Sta 49.59 356 P P 13 27 43.8 -0.7
baz=175,SNR=21
O59A Robesonia 49.62 3 P P 13 27 45.1 +0.4
baz=184
O49A Covington 49.65 355 eP P 13 27 44.1 -0.9
comp=Z,36nm,0.9s
O49A Covington 49.65 355 P P 13 27 44.0 -0.9
baz=173,SNR=8.6
O60A Telford 49.67 4 P P 13 27 45.1 0.0
baz=185,SNR=5.0
O48A Farmland 49.80 354 P P 13 27 45.0 -1.1
baz=172,SNR=22
P43A Skaggs, Pawnee 49.81 350 P P 13 27 45.5 -0.7
baz=166,SNR=6.6
319A Douglas 49.83 326 eP P 13 27 46.1 -0.6
comp=Z,29nm,1.1s
SSPA Standing Stone 49.88 1 eP P 13 27 46.5 -0.2
comp=Z,68nm,1.5s
SSPA Standing Stone 49.88 1 P P 13 27 46.2 -0.4
baz=182
O47A Sheridan 49.89 353 P P 13 27 45.5 -1.3
baz=171,SNR=11
121A Cookes Peak, D 49.92 328 P P 13 27 47.6 +0.2
baz=142,SNR=7.8
LUPA Lehigh Univers 49.95 4 eP P 13 27 45.8 -1.5
comp=Z,3.7nm,1.2s
N55A Marion Center 50.01 0 P P 13 27 47.5 -0.3
baz=180,SNR=6.8
N53A Lisbon 50.06 358 eP P 13 27 47.0 -1.0
comp=Z,58nm,1.4s
N53A Lisbon 50.06 358 P P 13 27 47.4 -0.7
baz=178
N52A McGinn's Farm, 50.10 357 P P 13 27 47.3 -1.1
baz=177,SNR=5.9
O45A Potomac 50.11 351 P P 13 27 47.3 -1.1
baz=169,SNR=11
O44A Mansfield 50.13 351 P P 13 27 47.9 -0.7
baz=168
N50A Nevada 50.14 356 P P 13 27 47.8 -0.9
baz=175,SNR=15
SFIN Lafayette 50.15 352 eP P 13 27 47.3 -1.5
comp=Z,86nm,1.4s
SFIN Lafayette 50.15 352 P P 13 27 47.4 -1.3
baz=170,SNR=9.1
N54A Moraine State 50.20 359 eP P 13 27 48.6 -0.5
comp=Z,35nm,1.3s
N54A Moraine State 50.20 359 P P 13 27 48.3 -0.8
baz=179
N51A Ashland 50.24 357 eP P 13 27 48.4 -1.0
comp=Z,50nm,0.6s
N51A Ashland 50.24 357 P P 13 27 48.5 -0.9
baz=176,SNR=8.5
N59A State Game Lan 50.24 3 eP P 13 27 50.0 +0.5
comp=Z,32nm,0.8s
N59A State Game Lan 50.24 3 P P 13 27 50.1 +0.6
baz=184,SNR=9.9
N49A Columbus Grove 50.37 355 eP P 13 27 49.5 -0.8
comp=Z,59nm,0.9s
N49A Columbus Grove 50.37 355 P P 13 27 49.6 -0.8
baz=174,SNR=18
N48A Decatur 50.38 354 P P 13 27 49.4 -1.1
baz=172,SNR=14
O43A Sugar Creek Fa 50.40 350 P P 13 27 49.8 -0.9
baz=167
PAL Palisades 50.47 5 P P 13 27 50.5 -0.6
baz=187

N47A	Urbana	50.47	354	P	P	13 27 50.0 -1.2
	baz=172,SNR=12					
O41A	Passleys Farm,	50.53	348	P	P	13 27 50.7 -0.8
	baz=165,SNR=17					
N46A	Monticello	50.61	353	P	P	13 27 51.0 -1.2
	baz=170,SNR=7.4					
M51A	Elyria	50.64	357	P	P	13 27 51.3 -1.1
	baz=176,SNR=6.5					
HDIL	Hopedale	50.66	350	eP	P	13 27 51.2 -1.4
	comp=Z,38nm,0.7s					
HDIL	Hopedale	50.66	350	P	P	13 27 51.7 -0.9
	baz=167,SNR=7.4					
N45A	Kentland	50.67	352	P	P	13 27 51.2 -1.4
	baz=169,SNR=8.0					
M53A	Wl Miller and	50.69	359	P	P	13 27 51.6 -1.2
	baz=178					
M55A	Ridgway	50.70	0	P	P	13 27 51.7 -1.2
	baz=180					
N44A	Piper City	50.71	351	P	P	13 27 51.7 -1.2
	baz=168,SNR=6.2					
M54A	Oil Creek Stat	50.74	360	eP	P	13 27 52.3 -0.9
	comp=Z,28nm,0.7s					
M54A	Oil Creek Stat	50.74	360	P	P	13 27 52.3 -0.9
	baz=179,SNR=9.0					
M50A	Fremont	50.76	356	eP	P	13 27 52.1 -1.2
	comp=Z,94nm,0.7s					
M50A	Fremont	50.76	356	P	P	13 27 52.6 -0.7
	baz=175,SNR=12					
M52A	Chesterland	50.81	358	eP	P	13 27 52.2 -1.5
	comp=Z,22nm,0.8s					
M52A	Chesterland	50.81	358	P	P	13 27 52.7 -1.0
	baz=177					
ALLY	Alegheny Colle	50.89	359	eP	P	13 27 52.8 -1.4
	comp=Z,57nm,1.5s					
M49A	Liberty Center	50.90	355	P	P	13 27 53.6 -0.8
	baz=174,SNR=9.1					
M47A	Cromwell	50.94	354	P	P	13 27 53.7 -0.9
	baz=172					
M48A	Edgerton	50.97	355	eP	P	13 27 53.7 -1.2
	comp=Z,26nm,0.9s					
M48A	Edgerton	50.97	355	P	P	13 27 54.0 -1.0
	baz=173					
KSU1	Kansas State U	50.99	343	P	P	13 27 54.9 -0.2
	baz=158					
N43A	Stutzman Famil	51.02	350	P	P	13 27 54.3 -0.9
	baz=167					
M46A	Old House Fiel	51.07	353	eP	P	13 27 54.2 -1.5
	comp=Z,55nm,1.3s					
M46A	Old House Fiel	51.07	353	P	P	13 27 54.5 -1.2
	baz=171					
PLIO	Pelee Island,	51.08	357	P	P	13 27 54.5 -1.2
	baz=176,SNR=8.7					
ANMO	Albuquerque	51.19	331	eP	P	13 27 56.8 0.0
	comp=Z,29nm,1.4s					
ANMO	Albuquerque	51.19	331	c iP	P	13 27 57.9 +1.0
ANMO				pmax	pmax	
	comp=Z,20nm,1.3s					
ANMO	Albuquerque	51.19	331	LR	LR	13 48 34.0
	comp=Z,84nm,18.4s,baz=47,slow=35					
TASM	ASL Pad, Albuq	51.19	331	P	P	13 27 57.9 +1.0
	baz=144,SNR=18					
TASM	ASL Pad, Albuq	51.19	331	P	P	13 27 57.9 +1.0
	baz=144,SNR=12					
L53A	Girard	51.19	359	P	P	13 27 55.5 -1.0
	baz=178					
ERPA	Erie	51.35	359	eP	P	13 27 56.5 -1.3
	comp=Z,17nm,0.8s					
ERPA	Erie	51.35	359	P	P	13 27 56.6 -1.1
	baz=179					
TUC	Tucson	51.38	325	eP	P	13 27 57.8 -0.4
	comp=Z,6.6nm,0.9s					
TUC	Tucson	51.38	325	eP	P	13 27 57.8 -0.4
TUC				pmax	pmax	
	comp=Z,7.0nm,0.9s					
TUC	Tucson	51.38	325	P	P	13 27 57.9 -0.4
	baz=139					
L50A	Kingsville	51.38	357	P	P	13 27 56.9 -1.1
	baz=175,SNR=5.4					
N40A	Mertquake, Sal	51.41	348	P	P	13 27 57.5 -0.7
	baz=164,SNR=5.4					
L55A	Hinsdale	51.42	1	P	P	13 27 57.6 -0.7
	baz=181,SNR=7.7					
M43A	Waltham Townsh	51.46	351	P	P	13 27 57.3 -1.3
	baz=168					
L54A	Sinclairville	51.47	360	P	P	13 27 57.9 -0.7
	baz=180,SNR=7.0					
L47A	Sherwood	51.51	354	P	P	13 27 57.8 -1.1
	baz=172					
BINY	Binghamton	51.51	3	eP	P	13 27 58.6 -0.4
	comp=Z,42nm,0.7s					
BINY	Binghamton	51.51	3	P	P	13 27 59.1 +0.1
	baz=184,SNR=12					
L49A	Milan	51.51	356	P	P	13 27 58.2 -0.7
	baz=174,SNR=8.2					
M41A	Milan	51.68	349	P	P	13 27 59.3 -0.9
	baz=166					
AAM	Ann Arbor	51.70	356	P	P	13 28 00.0 -0.3
	baz=174					
CBKS	Cedar Bluff	51.73	340	eP	P	13 28 00.5 -0.2
	comp=Z,22nm,0.9s					
CBKS	Cedar Bluff	51.73	340	eP	P	13 28 00.5 -0.2
CBKS				pmax	pmax	
	comp=Z,22nm,0.9s					
CBKS	Cedar Bluff	51.73	340	P	P	13 28 01.0 +0.3
	baz=154					
M40A	Post Highland	51.90	348	P	P	13 28 01.0 -0.9
	baz=164,SNR=10.0					
K55A	Perry	51.97	1	P	P	13 28 01.7 -0.7
	baz=181,SNR=9.1					
MMNY	Mt. Morris Dam	51.97	1	eP	P	13 28 01.1 -1.3
	comp=Z,17nm,0.7s					
K52A	Tillsonburg	52.03	359	P	P	13 28 01.9 -0.9
	baz=178					
T25A	Trinidad	52.08	334	eP	P	13 28 03.1 -0.4
	comp=Z,36nm,1.5s					
T25A	Trinidad	52.08	334	P	P	13 28 04.1 +0.6
	baz=148,SNR=11					
M39A	Webster	52.10	348	P	P	13 28 02.7 -0.7
	baz=164,SNR=11					
L42A	Oliver, Polo	52.13	350	eP	P	13 28 02.3 -1.3
	comp=Z,23nm,1.1s					
L42A	Oliver, Polo	52.13	350	P	P	13 28 02.3 -1.3
	baz=167					
L43A	Garden Prairie	52.16	351	P	P	13 28 02.6 -1.1
	baz=168					
K49A	Clarkson	52.16	356	P	P	13 28 02.6 -1.2
	baz=175					
HRV	Adam Dziewonsk	52.20	7	P	P	13 28 04.0 -0.1
	baz=189					
K48A	Perry	52.23	355	P	P	13 28 02.9 -1.4
	baz=174,SNR=11					
K46A	Dorr	52.27	354	P	P	13 28 02.9 -1.7
	baz=172,SNR=5.2					
214A	Organ Pipe Nat	52.28	323	P	P	13 28 05.1 +0.2
	baz=136					
TYNO	Tyneside	52.33	359	P	P	13 28 03.7 -1.3
	baz=179					
L41A	Preston	52.35	349	P	P	13 28 03.8 -1.4
	baz=166					
L40A	Anamosa	52.47	349	eP	P	13 28 04.7 -1.4
	comp=Z,26nm,0.8s					
L40A	Anamosa	52.47	349	P	P	13 28 05.1 -1.0
	baz=165,SNR=9.9					
J52A	Paris	52.48	359	P	P	13 28 04.8 -1.3
	baz=178,SNR=13					
J54A	Appleton	52.50	0	P	P	13 28 05.2 -1.1
	baz=181					
J55A	Hilton	52.51	1	P	P	13 28 05.4 -0.9
	baz=182					
X18A	Snowflake	52.61	328	eP	P	13 28 08.1 +0.7
	comp=Z,12nm,1.3s					
K43A	Burlington	52.61	351	eP	P	13 28 05.6 -1.5
	comp=Z,19nm,1.0s					
K43A	Burlington	52.61	351	P	P	13 28 06.3 -0.8
	baz=168					
L39A	Vinton	52.69	348	P	P	13 28 06.5 -1.1
	baz=164,SNR=5.4					
J48A	Bridge Port	52.70	356	P	P	13 28 06.5 -1.2
	baz=174,SNR=8.3					
J49A	Marlette	52.72	356	P	P	13 28 06.3 -1.5
	baz=175,SNR=5.2					
J47A	Sunmer	52.72	355	P	P	13 28 06.6 -1.3
	baz=173					
K42A	Prairie Point,	52.84	351	P	P	13 28 07.9 -0.9
	baz=167					
ACTO	Acton	52.84	359	P	P	13 28 07.6 -1.2
	baz=179					
ACCN	Adirondack Com	52.85	5	eP	P	13 28 08.2 -0.7
	comp=Z,30nm,0.9s					
W18A	Petrified Fore	52.95	328	eP	P	13 28 10.2 +0.2
	comp=Z,55nm,1.3s					
W18A	Petrified Fore	52.95	328	P	P	13 28 11.0 +1.0
	baz=141,SNR=6.0					
KSCO	Kaye Shedlock'	52.96	337	P	P	13 28 10.2 +0.3
	baz=150					
SDCO	Great Sand Dun	53.06	334	eP	P	13 28 10.4 -0.5
	comp=Z,7.8nm,0.8s					
SDCO	Great Sand Dun	53.06	334	P	P	13 28 11.6 +0.7
	baz=147,SNR=22					
I51A	Listowel	53.06	358	P	P	13 28 09.0 -1.4
	baz=178,SNR=6.5					
K40A	Colesburg	53.07	349	P	P	13 28 09.4 -1.1
	baz=165,SNR=8.6					
WLVO	Wesleyville	53.16	1	P	P	13 28 10.0 -1.1
	baz=181,SNR=8.9					
PKRO	Pickering	53.19	0	P	P	13 28 10.1 -1.2
	baz=180					
PECO	Prince Edward	53.20	2	P	P	13 28 10.5 -0.9
	baz=183,SNR=7.7					
K39A	Oelwein	53.22	348	P	P	13 28 10.4 -1.3
	baz=164,SNR=7.0					
I49A	Point Hope	53.27	357	eP	P	13 28 10.1 -1.9
	comp=Z,32nm,0.7s					
I49A	Point Hope	53.27	357	P	P	13 28 10.4 -1.6
	baz=175,SNR=5.8					
BASO	Ashfield	53.29	358	P	P	13 28 10.9 -1.2
	baz=177					
HNH	Hanover	53.30	6	eP	P	13 28 12.0 -0.2
	comp=Z,67nm,1.8s					
I52A	Shelburne	53.30	359	P	P	13 28 10.9 -1.3
	baz=179,SNR=9.6					
X16A	Lo Mia Camp, P	53.32	327	eP	P	13 28 13.2 +0.5
	comp=Z,8.1nm,0.9s					
BWLO	Walkerton	53.38	358	P	P	13 28 11.3 -1.4
	baz=178,SNR=11					
NCB	Newcomb	53.39	4	eP	P	13 28 12.2 -0.6
	comp=Z,7.3nm,0.7s					
I55A	Frankford	53.46	1	P	P	13 28 12.1 -1.2
	baz=182,SNR=6.1					
I47A	Gladwin	53.47	355	P	P	13 28 11.9 -1.5
	baz=173,SNR=5.2					
I46A	Reed City	53.48	354	P	P	13 28 12.1 -1.3
	baz=172					
BRCO	Bruce Peninsul	53.51	358	P	P	13 28 12.3 -1.4
	baz=177					
J41A	Loganville	53.52	350	P	P	13 28 12.5 -1.2
	baz=167					
BGNE	Belgrade	53.57	342	eP	P	13 28 13.6 -0.7
	comp=Z,29nm,0.8s					
BGNE	Belgrade	53.57	342	P	P	13 28 13.9 -0.4
	baz=156					
I48A	Sherman Twp	53.58	356	P	P	13 28 12.9 -1.2
	baz=174,SNR=8.6					
S22A	4UR Ranch, Cre	53.65	333	eP	P	13 28 15.1 -0.1
	comp=Z,5.2nm,1.0s					
S22A	4UR Ranch, Cre	53.65	333	P	P	13 28 15.3 +0.1
	baz=145					
I45A	Fountain	53.65	354	P	P	13 28 14.0 -0.7
	baz=171					
J40A	Soldiers Grove	53.67	350	P	P	13 28 13.7 -1.2
	baz=166,SNR=6.3					
I43A	Langenfeld Bro	53.74	352	P	P	13 28 14.6 -0.8
	baz=169,SNR=8.6					
DELO	Deloro Mine	53.77	1	P	P	13 28 14.6 -1.0
	baz=182,SNR=11					
J39A	Decorah	53.80	349	P	P	13 28 14.4 -1.4
	baz=165,SNR=5.4					
H55A	Tweed	53.81	2	P	P	13 28 14.8 -1.0
	baz=182,SNR=7.0					
Y14A	Wickenburg	53.83	325	eP	P	13 28 16.9 +0.6
	comp=Z,5.2nm,0.8s					
I42A	Draeger Farm,	53.85	351	eP	P	13 28 15.2 -1.0
	comp=Z,48nm,1.4s					
I42A	Draeger Farm,	53.85	351	P	P	13 28 15.4 -0.8
	baz=168,SNR=8.2					
BMRO	Meriville Lake	53.86	358	P	P	13 28 14.8 -1.4
	baz=177,SNR=6.2					
LBNH	Lisbon	53.87	6	P	P	13 28 15.0 -1.3
	baz=189					
H52A	Wyevale	53.88	359	P	P	13 28 14.9 -1.4
	baz=179					
VT1	Waterbury	53.88	6	eP	P	13 28 15.8 -0.6
	comp=Z,40nm,1.5s					
H56A	Elgin	53.89	3	P	P	13 28 16.1 -0.3
	baz=183,SNR=16					
MVCO	Mesa Verde	53.98	331	eP	P	13 28 17.0 -0.6
	comp=Z,15nm,1.3s					
MVCO	Mesa Verde	53.98	331	P	P	13 28 17.9 +0.3
	baz=143					
SADO	Sadowa	54.00	0	eP	P	13 28 15.3 -2.0
	comp=Z,13nm,0.7s					
SADO	Sadowa	54.00	0	P	P	13 28 15.2 -2.0
	comp=Z,9.3nm,0.6s,baz=224,slow=4.3,SNR=11					
SADO				PcP	PcP	13 29 21.7 -0.2
	comp=Z,46nm,1.4s,baz=230,slow=1.5,SNR=3.8					
LONY	Lake Ozonia	54.01	4	eP	P	13 28 16.2 -1.2
	comp=Z,20nm,0.8s					
LONY	Lake Ozonia	54.01	4	P	P	13 28 17.2 -0.1
	baz=186,SNR=9.5					
H47A	Mio	54.02	356	P	P	13 28 16.5 -0.9
	baz=174					
H46A	Fife Lake	54.05	355	P	P	13 28 16.8 -0.8
	baz=173					
H48A	Harrisville	54.06	356	P	P	13 28 16.7 -1.0
	baz=175					
WUAZ	Wupatki	54.11	328	eP	P	13 28 18.3 -0.2
	comp=Z,20nm,0.9s					
WUAZ	Wupatki	54.11	328	P	P	13 28 19.8 +1.3
	baz=140,SNR=12					
I40A	Norwalk	54.13	350	P	P	13 28 17.3 -1.0
	baz=166,SNR=5.1					
I41A	Arkdale	54.17	350	eP	P	13 28 16.8 -1.7
	comp=Z,50nm,1.9s					
I41A	Arkdale	54.17	350	P	P	13 28 17.7 -0.8
	baz=167					
H45A	Beulah	54.21	354	P	P	13 28 17.8 -1.0
	baz=172					
I39A	Houston	54.26	349	eP	P	13 28 17.9 -1.3
	comp=Z,29nm,0.7s					
I39A	Houston	54.26	349	P	P	13 28 18.3 -0.9
	baz=165,SNR=14					
H43A	Windswept, Lux	54.26	352	eP	P	13 28 17.7 -1.5
	comp=Z,70nm,1.4s					
H43A	Windswept, Lux	54.26	352	P	P	13 28 18.3 -0.8
	baz=170,SNR=5.2					
FRNY	Flat Rock	54.30	5	eP	P	13 28 19.5 0.0
	comp=Z,30nm,0.8s					
PLVO	Plevna	54.30	2	eP	P	13 28 18.1 -1.4
	comp=Z,17nm,1.0s					
PLVO	Plevna	54.30	2	P	P	13 28 18.7 -0.8
	baz=182,SNR=5.9					
G53A	Haliburton	54.35	0	P	P	13 28 18.6 -1.3
	baz=181,SNR=8.9					
H42A	Shiocton	54.41	352	eP	P	13 28 18.5 -1.7
	comp=Z,33nm,1.3s					
H42A	Shiocton	54.41	352	P	P	13 28 19.3 -0.9
	baz=169					
TOBO	Tobermory, Bru	54.50	358	P	P	13 28 19.2 -1.7
	baz=177,SNR=8.6					
G55A	Calabogie	54.53	2	P	P	13 28 20.4 -0.7
	baz=183,SNR=10.0					
G47A	Hillman	54.57	356	P	P	13 28 20.1 -1.3
	baz=174					
Y12C	Blythe	54.57	324	P	P	13 28 20.2 -1.4
	baz=136					
G45A	Suttons Bay	54.59	354	P	P	13 28 20.1 -1.4
	baz=172					
KLBO	Killbear Provi	54.59	359	P	P	13 28 20.0 -1.5
	baz=179,SNR=16					
BUKO	Buck Lake	54.67	360	P	P	13 28 20.8 -1.4
	baz=180,SNR=8.3					
H41A	Junction City	54.68	351	eP	P	13 28 20.5 -1.7
	comp=Z,45nm,1.5s					
H41A	Junction City	54.68	351	P	P	13 28 21.1 -1.1
	baz=167,SNR=5.4					
PV01	Paradox Valley	54.76	332	eP	P	13 28 22.2 -1.0
	comp=Z,34nm,1.6s					
ORIO	Orleans, Innes	54.78	3	P	P	13 28 22.2 -0.7
	baz=184					
G46A	Petoskey	54.79	355	P	P	13 28 21.5 -1.5
	baz=173					
H40A	Chili	54.80	350	P	P	13 28 22.3 -0.8
	baz=166,SNR=9.4					
ISCO	Idaho Springs	54.83	335	eP	P	13 28 23.4 -0.4
	comp=Z,9.2nm,1.1s					
ISCO	Idaho Springs	54.83	335	eP	P	13 28 23.4 -0.4
ISCO				pmax	pmax	
	comp=Z,9.0nm,1.1s					
ISCO	Idaho Springs	54.83	335	P	P	13 28 24.2 +0.5
	baz=148,SNR=9.6					
SMCO	Snowmass	54.89	334	eP	P	13 28 24.0 -0.3
	comp=Z,5.8nm,0.6s					
PV02	Paradox Valley	54.90	332	eP	P	13 28 23.9 -0.3
	comp=Z,13nm,0.6s					
PV13	Radium Mtn., P	54.90	332	eP	P	13 28 24.0 -0.2
	comp=Z,20nm,1.1s					
PEMO	Pembroke	54.93	2	P	P	13 28 23.0 -1.1
	baz=182,SNR=13					
RKT	Rikitea	54.96	248	eT	T	14 27 12.2
	comp=Z,12nm,0.3s					
PV03	Paradox Valley	54.99	332	eP	P	13 28 24.4 -0.4
	comp=Z,9.6nm,0.8s					
ALFO	Alfred	54.99	4	P	P	13 28 24.3 -0.1
	baz=185,SNR=6.8					
H39A	Augusta	55.01	349	P	P	13 28 23.7 -0.9
	baz=165,SNR=6.5					
PV12	Saucer Basin,	55.02	332	eP	P	13 28 25.7 +0.6
	comp=Z,49nm,1.6s					
F52A	Sundridge	55.02	360	P	P	13 28 23.0 -1.7
	baz=180,SNR=5.6					
G43A	Wallace	55.03	353	eP	P	13 28 23.6 -1.1
	comp=Z,33nm,1.0s					
G43A	Wallace	55.03	353	P	P	13 28 23.8 -0.9
	baz=170,SNR=8.1					
PV11	David Mesa, Pa	55.03	332	eP	P	13 28 24.9 -0.2
PV07	Paradox Valley	55.04	332	eP	P	13 28 24.8 -0.4
	comp=Z,8.6nm,0.9s					
BC3	Big Chuckawall	55.05	323	P	P	13 28 26.0 +0.7
	baz=135					
F49A	Sandfield	55.05	358	P	P	13 28 23.1 -1.7
	baz=176,SNR=14					
PV17	East Wray Mesa	55.06	332	eP	P	13 28 25.1 -0.3
	comp=Z,10.0nm,0.8s					
PV16	Nyswonger Mesa	55.06	332	eP	P	13 28 25.2 -0.2
	comp=Z,11nm,1.1s					
G42A	Mountain	55.11	352	eP	P	13 28 23.9 -1.4
	comp=Z,13nm,1.0s					
G42A	Mountain	55.11	352	P	P	13 28 24.5 -0.8
	baz=169					
PV20	West Nyswonger	55.11	332	eP	P	13 28 25.7 0.0
	comp=Z,20nm,1.5s					
F55A	Otter Lake	55.12	2	P	P	13 28 24.7 -0.7
	baz=183					
PV04	Paradox Valley	55.12	332	eP	P	13 28 25.1 -0.7
	comp=Z,8.2nm,0.8s					
F48A	Evansville	55.15	357	P	P	13 28 24.1 -1.5
	baz=176,SNR=20					
F51A	Arnstein	55.16	359	P	P	13 28 23.8 -1.8
	baz=179,SNR=8.7					
W13A	Hualapai Mount	55.17	325	eP	P	13 28 25.6 -0.6
	comp=Z,9.3nm,0.9s					
G41A	Antigo	55.19	351	P	P	13 28 25.1 -0.8
	baz=168					
ALGO	Algonquin Park	55.19	1	P	P	13 28 24.7 -1.2
	baz=181,SNR=11					
H38A	Maiden Rock	55.20	349	P	P	13 28 25.3 -0.7
	baz=164,SNR=7.0					
F45A	CMU Biological	55.21	355	P	P	13 28 25.0 -1.0
	baz=172					
PKME	Peaks-Kenny Pk	55.22	8	eP	P	13 28 26.6 +0.6
	comp=Z,16nm,0.7s					
PKME	Peaks-Kenny Pk	55.22	8	P	P	13 28 27.0 +0.9
	baz=192,SNR=5.1					
IRM	Iron Mountain	55.22	324	P	P	13 28 27.4 +1.1
	baz=135,SNR=6.0					
F46A	Macinaw City C	55.23	355	P	P	13 28 25.0 -1.2
	baz=173					
U15A	North Rim	55.29	328	eP	P	13 28 27.1 -0.1
	comp=Z,8.2nm,1.0s					
ECSD	EROS Data Cent	55.29	345	eP	P	13 28 25.7 -1.0
	comp=Z,14nm,0.7s					
ECSD	EROS Data Cent	55.29	345	P	P	13 28 25.9 -0.7
	baz=159,SNR=15					
PV09	Paradox Valley	55.32	332	eP	P	13 28 26.4 -0.9
G40A	Rib Lake	55.40	351	eP	P	13 28 26.4 -1.1
	comp=Z,8.9nm,0.8s					
GGN	Saint George	55.47	11	eP	P	13 28 27.5 -0.4
	comp=Z,13nm,0.8s					
E52A	Mattawa	55.52	0	P	P	13 28 26.9 -1.3
	baz=180					
F43A	Flat Rock, Esc	55.53	353	P	P	13 28 27.2 -1.1
	baz=170,SNR=6.2					
G39A	Holcombe	55.58	350	P	P	13 28 28.1 -0.7
	baz=166,SNR=7.7					
F44A	Big Bay de Noc	55.59	354	P	P	13 28 27.5 -1.2
	baz=171					
G38A	Ridgeland	55.59	349	P	P	13 28 27.9 -0.9
	baz=165,SNR=8.9					
TRQ	Mont Tremblant	55.60	4	eP	P	13 28 27.8 -1.2
BELC	Belle Mtn. Jos	55.61	323	P	P	13 28 28.9 -0.4
	baz=134					
PFO	Pinyon Flats O	55.62	322	eP	P	13 28 28.1 -1.2
	comp=Z,12nm,1.1s					
PFO	Pinyon Flats O	55.62	322	eP	P	13 28 28.2 -1.2
PFO				pmax	pmax	
	comp=Z,12nm,1.1s					
PFO	Pinyon Flats O	55.62	322	P	P	13 28 29.3 0.0
	baz=134					
E53A	Dumoine, Ponti	55.62	1	P	P	13 28 27.7 -1.3
	baz=182					
E50A	Wahnapitae	55.67	359	P	P	13 28 27.7 -1.7
	baz=178,SNR=7.9					
E54A	Lac Daplat, Po	55.69	2	P	P	13 28 28.5 -1.0
	baz=182,SNR=13					
F41A	Three Lakes	55.69	352	eP	P	13 28 27.9 -1.7
	comp=Z,37nm,1.7s					
F41A	Three Lakes	55.69	352	P	P	13 28 28.5 -1.0
	baz=168,SNR=5.7					
E51A	G1948 Merrick	55.76	360	P	P	13 28 28.8 -1.2
	baz=180,SNR=32					
E48A	Lockeyer	55.77	357	P	P	13 28 28.9 -1.2
	baz=176,SNR=19					
E46A	Sault Ste Mari	55.79	356	P	P	13 28 28.7 -1.5
	baz=174,SNR=8.2					
E47A	Iron Bridge	55.81	357	P	P	13 28 29.0 -1.3
	baz=175,SNR=12					
SPMN	Marine on St.	55.83	348	eP	P	13 28 28.6 -1.9
	comp=Z,21nm,0.9s					
SPMN	Marine on St.	55.83	348	P	P	13 28 29.6 -0.9
	baz=164,SNR=9.1					
E45A	Wooded Hills,	55.85	355	P	P	13 28 29.6 -1.0
	baz=173					
N23A	Red Feather La	55.88	336	P	P	13 28 31.7 +0.3
	baz=148					
GMRC	Granite Mounta	55.96	324	P	P	13 28 32.1 +0.3
	baz=135					
F40A	Park Falls	56.02	351	P	P	13 28 31.1 -0.8
	baz=167,SNR=7.7					
E43A	Lone Tree Farm	56.05	353	eP	P	13 28 30.7 -1.3
	comp=Z,33nm,1.2s					
E43A	Lone Tree Farm	56.05	353	P	P	13 28 30.8 -1.2
	baz=171,SNR=5.2					
COWI	Conover	56.05	352	eP	P	13 28 31.1 -0.9
COWI				ePcP	PcP	13 29 29.6 -0.1
F39A	Loretta	56.15	350	P	P	13 28 32.0 -0.8
	baz=166,SNR=5.4					
E42A	Champion	56.21	353	P	P	13 28 32.5 -0.7
	baz=170,SNR=6.0					
D52A	ZEK Kipawa Sen	56.21	1	P	P	13 28 32.4 -0.8
	baz=181,SNR=12					
O20A	White River Ci	56.23	333	eP	P	13 28 33.7 0.0
	comp=Z,17nm,1.1s					
O20A	White River Ci	56.23	333	P	P	13 28 34.3 +0.5
	baz=145,SNR=10					
F37A	Hinrichs Farm,	56.27	349	P	P	13 28 33.1 -0.5
	baz=164					
D46A	Sault St. Mari	56.29	356	P	P	13 28 32.1 -1.7
	baz=174,SNR=5.3					
F38A	Pierce - Schro	56.36	349	P	P	13 28 33.9 -0.4
	baz=165,SNR=13					
E41A	Kenton	56.38	352	P	P	13 28 33.9 -0.5
	baz=168					
D47A	Chapleau	56.40	357	P	P	13 28 32.9 -1.6
	baz=175,SNR=17					
D54A	Lac Fusel, La	56.43	2	P	P	13 28 33.5 -1.3
	baz=183,SNR=12					
D48A	Paudash Townsh	56.45	358	P	P	13 28 33.2 -1.7
	baz=177,SNR=17					
E40A	Wakefield	56.50	351	P	P	13 28 34.7 -0.5
	baz=167,SNR=10					
D49A	Beulah Townshi	56.54	358	P	P	13 28 34.0 -1.5
	baz=177,SNR=12					
E39A	Mellen	56.54	351	P	P	13 28 35.0 -0.6
	baz=166,SNR=5.8					

LMN	Caledonia Moun	56.57	12	eP	P	13 28 36.1	+0.3
	comp=Z,20nm,0.9s						
TUQ	Turquoise Moun	56.57	324	P	P	13 28 37.4	+1.2
	baz=135						
BFSC	Mount Baldy Ra	56.77	322	P	P	13 28 38.7	+1.0
	baz=133						
PQI	Presque Isle	56.78	9	eP	P	13 28 37.2	0.0
	comp=Z,13nm,1.0s						
LATQ	La Tuque	56.90	5	P	P	13 28 38.1	+0.1
	baz=187						
SHPR	Sheep Range	56.90	326	eP	P	13 28 38.2	-0.4
	comp=Z,8.3nm,0.9s						
D41A	Chassel	56.91	352	eP	P	13 28 37.4	-0.8
	comp=Z,46nm,1.0s						
D41A	Chassel	56.91	352	P	P	13 28 37.7	-0.4
	baz=169,SNR=5.8						
E38A	The Farm, Brul	56.93	350	eP	P	13 28 37.2	-1.1
	comp=Z,28nm,1.4s						
E38A	The Farm, Brul	56.93	350	P	P	13 28 37.8	-0.4
	baz=165						
GSC	Goldstone, Bar	56.99	323	eP	P	13 28 38.2	-0.9
	comp=Z,9.1nm,0.8s						
GSC	Goldstone, Bar	56.99	323	eP	P	13 28 38.2	-0.9
GSC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GSC	Goldstone, Bar	56.99	323	P	P	13 28 40.5	+1.4
	baz=134,SNR=5.1						
RWWY	Rawlins	57.07	335	eP	P	13 28 38.6	-1.2
	comp=Z,27nm,1.1s						
SHOC	Shoshone, Teco	57.10	324	P	P	13 28 40.9	+1.1
	baz=135						
VLDQ	Val d'Or	57.36	1	eP	P	13 28 40.0	-1.3
	comp=Z,15nm,1.1s						
EDW2	Edwards Air Fo	57.41	322	P	P	13 28 42.8	+0.8
	baz=133,SNR=6.1						
K22A	Casper	57.60	336	P	P	13 28 43.7	+0.4
	baz=148,SNR=6.7						
FURC	Furnace Creek,	57.84	324	P	P	13 28 46.1	+1.3
	baz=135,SNR=6.9						
MPMC	Manual Prospec	57.92	324	P	P	13 28 46.6	+0.9
	baz=134,SNR=5.9						
RSSD	Black Hills	57.93	339	eP	P	13 28 45.4	-0.3
	comp=Z,25nm,1.4s						
RSSD	Black Hills	57.93	339	eP	P	13 28 45.4	-0.3
RSSD				pmax	pmax		
	comp=Z,25nm,1.4s						
RSSD	Black Hills	57.93	339	P	P	13 28 46.3	+0.7
	baz=151						
EYMN	Ely	58.21	350	eP	P	13 28 46.1	-1.3
	comp=Z,15nm,1.2s						
EYMN	Ely	58.21	350	P	P	13 28 46.6	-0.8
	baz=166						
ISA	Isabella, Lake	58.23	323	P	P	13 28 49.1	+1.3
	baz=133,SNR=5.8						
LSQQ	Lebel-sur-Quev	58.32	2	P	P	13 28 48.0	0.0
	baz=182						
DUG	Dugway, Tooele	58.41	330	eP	P	13 28 49.6	+0.5
	comp=Z,8.9nm,0.8s						
DUG	Dugway, Tooele	58.41	330	eP	P	13 28 49.6	+0.5
DUG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DUG	Dugway, Tooele	58.41	330	P	P	13 28 50.3	+1.3
	baz=140,SNR=12						
R11A	Troy Canyon, C	58.47	327	eP	P	13 28 50.4	+0.9
	comp=Z,5.5nm,0.8s						
R11A	Troy Canyon, C	58.47	327	P	P	13 28 50.9	+1.4
	baz=137,SNR=15						
CWC	Cottonwood Cre	58.53	324	P	P	13 28 50.9	+0.9
	baz=133						
VES	Vestal, Richgr	58.72	322	P	P	13 28 51.8	+0.8
	baz=132						
HWUT	Hardware Ranch	58.91	332	eP	P	13 28 52.7	+0.1
	comp=Z,27nm,1.1s						
SMMC	Simmler	58.92	321	P	P	13 28 52.6	0.0
	baz=131						
BW06	Boulder Array	58.95	334	eP	P	13 28 52.1	-0.7
	comp=Z,6.0nm,0.9s						
BW06	Boulder Array	58.95	334	P	P	13 28 52.6	-0.2
	baz=144,SNR=9.2						
PDAR	Pinedale Array	58.95	334	P	P	13 28 52.6	-0.2
	comp=Z,4.3nm,0.8s,baz=131,slow=8.0,SNR=39						
PDAR				PcP	PcP	13 29 41.0	-0.6
	comp=Z,2.4nm,0.5s,baz=128,slow=7.3,SNR=8.3						
PDAR				LR	LR	13 54 00.8	
	comp=Z,65nm,21.4s,baz=168,slow=36						
MATQ	Matagami	59.01	1	P	P	13 28 51.7	-1.1
	baz=182,SNR=12						
CHGQ	Chibougamau	59.29	4	P	P	13 28 54.1	-0.7
	baz=185,SNR=9.0						
AGMN	Agassiz Nation	59.40	347	eP	P	13 28 54.8	-0.8
	comp=Z,24nm,0.8s						
AGMN	Agassiz Nation	59.40	347	P	P	13 28 55.4	-0.1
	baz=161,SNR=25						
MDND	Maddock	59.89	344	eP	P	13 28 58.5	-0.4
	comp=Z,110nm,1.3s						
MDND	Maddock	59.89	344	P	P	13 28 59.3	+0.4
	baz=156						
MDPB	Devils Postpil	59.92	324	eP	P	13 28 58.9	-0.8
	comp=Z,7.4nm,0.7s						
REDW	Red Top Meadow	59.99	334	eP	P	13 28 59.7	-0.3
	comp=Z,13nm,1.1s						
SNOW	Snow King Moun	60.02	334	eP	P	13 29 00.0	-0.2
	comp=Z,4.9nm,0.6s						
NV01	Mina Array Sit	60.03	325	eP	P	13 29 01.6	+1.3
NV01				ePcP	PcP	13 29 46.5	+0.5
NVAR	Mina Array Bea	60.03	325	P	P	13 29 01.6	+1.3
	comp=Z,9.6nm,0.7s,baz=135,slow=6.8,SNR=107						
NVAR				PcP	PcP	13 29 46.5	+0.5
	comp=Z,3.5nm,0.8s,baz=170,slow=3.9,SNR=4.4						
NVAR				LR	LR	13 53 41.7	
	comp=Z,70nm,19.5s,baz=194,slow=35						
ELK	Elko	60.04	329	eP	P	13 29 00.6	+0.2
	comp=Z,7.1nm,0.8s						
ELK	Elko	60.04	329	eP	P	13 29 00.6	+0.2
ELK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LOHW	Long Hollow	60.08	334	eP	P	13 29 00.5	-0.1
	comp=Z,5.7nm,0.6s						
TPAW	Teton Pass	60.13	334	eP	P	13 29 00.1	-1.0
	comp=Z,14nm,1.4s						
MOOW	Moose Ponds	60.25	334	eP	P	13 29 01.1	-0.7
	comp=Z,7.5nm,1.4s						
FXWY	Fox Creek	60.28	334	eP	P	13 29 01.2	-0.8
	comp=Z,3.5nm,0.8s						
RYN	Ryan	60.29	325	eP	P	13 29 01.7	-0.4
	comp=Z,5.5nm,0.8s						
KVN	Kaiserville	60.35	326	eP	P	13 29 01.6	-0.8
	comp=Z,5.5nm,0.9s						
KVN	Kaiserville	60.35	326	eP	P	13 29 01.7	-0.8
KVN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
IMW	Indian Meadow	60.45	334	eP	P	13 29 02.3	-0.9
	comp=Z,6.1nm,0.6s						
FLWY	Flagg Ranch	60.50	334	eP	P	13 29 02.9	-0.6
	comp=Z,16nm,1.0s						
H17A	Grant Village	60.70	335	eP	P	13 29 05.1	+0.3
	comp=Z,4.9nm,0.7s						
H17A	Grant Village	60.70	335	P	P	13 29 06.0	+1.2
	baz=144,SNR=6.4						
WAKR	Walker	60.73	324	eP	P	13 29 05.8	+0.8
	comp=Z,9.1nm,0.7s						
RLMT	Red Lodge	60.75	336	eP	P	13 29 05.0	-0.1
	comp=Z,5.5nm,0.6s						
RLMT	Red Lodge	60.75	336	P	P	13 29 05.4	+0.2
	baz=145,SNR=9.8						
BMN	Battle Mountai	60.85	327	eP	P	13 29 06.3	+0.5
	comp=Z,4.6nm,0.8s						
BMN	Battle Mountai	60.85	327	eP	P	13 29 06.3	+0.5
BMN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LAO	LASA Array	60.92	339	eP	P	13 29 04.7	-1.4
	comp=Z,26nm,1.4s						
LAO	LASA Array	60.92	339	P	P	13 29 06.2	+0.1
	baz=149						
YERR	Yerington	60.94	325	eP	P	13 29 07.4	+0.9
	comp=Z,9.7nm,0.6s						
CMB	Columbia Colle	60.96	323	eP	P	13 29 06.8	+0.3
	comp=Z,7.1nm,1.2s						
CMB	Columbia Colle	60.96	323	eP	P	13 29 06.8	+0.3
CMB				pmax	pmax		
	comp=Z,7.0nm,1.2s						
PNTR	Pine Nut	61.22	325	eP	P	13 29 08.1	-0.4
	comp=Z,10.0nm,0.7s						
ULM	Lac du Bonnet	61.25	348	eP	P	13 29 07.4	-0.7
ULM	Lac du Bonnet	61.25	348	P	P	13 29 07.5	-0.5
	comp=Z,18nm,0.7s,baz=160,slow=6.7,SNR=48						
ULM				LR	LR	13 56 31.5	
	comp=Z,43nm,18.9s,baz=118,slow=37						
VCNR	Virginia City	61.39	325	eP	P	13 29 09.0	-0.5
	comp=Z,10nm,0.8s						
QLMT	Earthquake Lak	61.41	334	eP	P	13 29 10.2	+0.5
GCMT	Greycliff	61.46	336	eP	P	13 29 10.0	+0.2
DRLN	Deer Lake	61.51	16	eP	P	13 29 10.1	+0.2
	comp=Z,57nm,0.8s						
PAHR	Pah Rah Range	61.52	325	eP	P	13 29 11.0	+0.6
	comp=Z,10nm,0.9s						
HLID	Hailey	61.76	332	eP	P	13 29 12.6	+0.7
	comp=Z,6.6nm,0.7s						
HLID	Hailey	61.76	332	P	P	13 29 13.1	+1.1
	baz=140,SNR=20						
DGMT	Dagmar	61.79	341	eP	P	13 29 12.2	+0.3
	comp=Z,17nm,1.0s						
DGMT	Dagmar	61.79	341	P	P	13 29 12.1	+0.3
	baz=152						
AFDM	Forest Hills D	61.91	324	eP	P	13 29 13.0	+0.2
	comp=Z,29nm,1.7s						
MCMT	McKenzie Canyo	62.03	333	eP	P	13 29 14.4	+0.6
BOZ	Bozeman (W)	62.11	335	eP	P	13 29 14.4	+0.2
	comp=Z,7.5nm,0.8s						
BOZ	Bozeman (W)	62.11	335	eP	P	13 29 14.4	+0.2
BOZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BOZ	Bozeman (W)	62.11	335	P	P	13 29 14.8	+0.5
	baz=143,SNR=18						
BEKR	Beckworth	62.18	325	eP	P	13 29 15.6	+0.8
	comp=Z,7.5nm,0.8s						
DLMT	Dillon	62.34	334	eP	P	13 29 15.7	0.0
	comp=Z,10.0nm,1.0s						
ORV	Oroville	62.62	324	eP	P	13 29 17.1	-0.5
	comp=Z,14nm,0.8s						
ORV	Oroville	62.62	324	eP	P	13 29 17.1	-0.5
ORV				pmax	pmax		
	comp=Z,14nm,0.8s						
WVOR	Wild Horse Val	63.02	328	eP	P	13 29 19.3	-1.0
	comp=Z,8.1nm,1.1s						
WVOR	Wild Horse Val	63.02	328	eP	P	13 29 19.3	-1.0
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HRY	Holter Researc	63.09	335	eP	P	13 29 20.6	-0.1
O03E	Paynes Creek	63.28	325	P	P	13 29 22.4	+0.3
	baz=132						
EGMT	Eagleton	63.34	338	eP	P	13 29 22.1	-0.2
	comp=Z,15nm,1.1s						
EGMT	Eagleton	63.34	338	P	P	13 29 22.5	+0.3
	baz=146,SNR=12						
MOD	Modoc Plateau	63.53	327	eP	P	13 29 24.4	+0.6
	comp=Z,18nm,0.6s						
J08A	Circle Bar Ran	63.60	329	eP	P	13 29 23.3	-0.8
	comp=Z,5.0nm,0.6s						
O02D	Mt. Diablo Mer	63.77	324	P	P	13 29 25.4	+0.1
	baz=131						
MSO	Missoula	64.07	334	eP	P	13 29 27.8	+0.7
	comp=Z,13nm,0.8s						
MSO	Missoula	64.07	334	P	P	13 29 28.1	+0.9
	baz=141,SNR=21						
BMO	Blue Mountains	64.10	331	eP	P	13 29 26.8	-0.6
	comp=Z,14nm,1.9s						
BMO	Blue Mountains	64.10	331	eP	P	13 29 26.8	-0.6
BMO				pmax	pmax		
	comp=Z,14nm,1.9s						
M04C	Macdoel	64.30	326	P	P	13 29 29.6	+0.9
	baz=132,SNR=5.6						
K05A	Summer Lake	64.42	327	eP	P	13 29 29.4	-0.2
	comp=Z,103nm,1.9s						
M02C	Callahan	64.61	325	P	P	13 29 31.0	+0.2
	baz=131						
I07A	Izee	64.64	329	eP	P	13 29 31.5	+0.6
YBH	Yreka Blue Hor	64.75	325	eP	P	13 29 31.2	-0.5
	comp=Z,46nm,1.8s						
YBH	Yreka Blue Hor	64.75	325	eP	P	13 29 31.2	-0.5
YBH				pmax	pmax		
	comp=Z,46nm,1.8s						
K04D	Chiloquin, OR	64.81	326	P	P	13 29 32.6	+0.5
	baz=132						
L04D	Klamath Falls	64.84	326	P	P	13 29 32.7	+0.4
	baz=132						
F10A	Beach Ranch, E	64.89	332	eP	P	13 29 32.3	-0.3
	comp=Z,68nm,1.8s						
SCHQ	Schefferville	64.91	8	P	P	13 29 31.7	-0.6
	comp=Z,8.9nm,0.7s,baz=204,slow=9.2,SNR=3.7						
SCHQ				LR	LR	14 00 50.9	
	comp=Z,31nm,18.1s,baz=304,slow=39						
J05D	Fort Rock, OR	64.98	327	P	P	13 29 34.1	+0.9
	baz=133,SNR=5.7						
PINE	Pine Mountain	65.18	328	eP	P	13 29 35.0	+0.4
	comp=Z,14nm,0.9s						
G08A	Pilot Rock	65.22	330	eP	P	13 29 34.9	+0.1
I05D	Terrebonne, OR	65.76	328	P	P	13 29 39.2	+1.0
	baz=133,SNR=7.4						
WALA	Waterton Lakes	65.80	336	eP	P	13 29 38.5	+0.1
	comp=Z,10nm,0.7s						
K02D	Willamette Mer	65.92	326	P	P	13 29 39.6	+0.4
	baz=131						
I04A	Tendick Farm,	65.96	327	P	P	13 29 39.8	+0.4
	baz=132						
G05D	Wamic, OR	66.37	329	P	P	13 29 43.1	+1.1
	baz=134						
I03D	Drain, OR	66.40	327	P	P	13 29 43.1	+1.0
	baz=131						
NEW	Newport	66.55	333	eP	P	13 29 43.1	0.0
	comp=Z,9.4nm,0.6s						
NEW	Newport	66.55	333	P	P	13 29 43.6	+0.5
	baz=139,SNR=16						
NEW	Newport	66.55	333	P	P	13 29 43.8	+0.7
	comp=Z,8.0nm,0.6s,baz=139,slow=11						
H04D	Lebanon	66.62	328	P	P	13 29 43.9	+0.4
	baz=132						
C09A	Chrisman Ranch	66.73	332	eP	P	13 29 44.8	+0.6
	comp=Z,5.5nm,0.8s						
FFC	Flin Flon	66.79	346	eP	P	13 29 44.1	-0.3
	comp=Z,10nm,0.8s						
FFC	Flin Flon	66.79	346	*i* P	P	13 29 44.4	0.0
LTY	Liberty	67.46	331	eP	P	13 29 49.0	+0.1
	comp=Z,7.4nm,0.6s						
B08A	Colville Reser	67.62	332	eP	P	13 29 50.0	+0.2
	comp=Z,7.0nm,0.8s						
D05A	Enumclaw	68.05	330	eP	P	13 29 52.5	-0.1
TBI	Tubuai	68.28	249	eT	T	14 43 50.4	
	comp=Z,18nm,0.3s						
PPT2	Papeete2	68.62	255	eS	S	13 38 58.4	+2.1
	comp=Z,65nm,28.8s						
PPT2	Papeete2	68.62	255	eLR	LR	13 50 39.0	
	comp=Z,260nm,24.2s						
D03D	Eldon	68.84	330	P	P	13 29 58.4	+1.0
	baz=133						
B05A	Bryant	68.85	331	P	P	13 29 57.8	+0.3
	baz=134,SNR=10						
FCC	Fort Churchill	69.08	352	eP	P	13 29 58.2	-0.5
	comp=Z,34nm,1.2s						
FCC	Fort Churchill	69.08	352	eP	P	13 29 58.2	-0.5
FCC				pmax	pmax		
	comp=Z,34nm,1.2s						
NLWA	Neilton Lookou	69.13	329	eP	P	13 29 59.5	+0.2
A04D	Lummi Island	69.46	331	P	P	13 30 02.6	+1.4
	baz=134						
PGC	Sidney	69.77	330	eP	P	13 30 03.6	+0.4
LLLB	Lillooet	70.39	333	eP	P	13 30 05.4	-1.6
	comp=Z,7.2nm,0.8s						
FRB	Frobisher Bay	73.46	5	P	P	13 30 25.0	0.0
	comp=Z,11nm,0.8s,baz=206,slow=7.0,SNR=24						
VNA3	Neumayer Olymp	74.53	162	P	P	13 30 32.4	+1.0
VNA1	Neumayer--Stat	74.81	161	P	P	13 30 33.9	+0.9
LIC	Lamto	75.49	81	eP	P	13 30 38.5	+0.6
	comp=Z,66nm,1.4s						
TIC	Toumodi	75.58	81	eP	P	13 30 39.2	+0.7
DBIC	Dimbokro	75.74	81	eP	P	13 30 39.1	-0.3
	comp=Z,14nm,0.8s						
DBIC	Dimbokro	75.74	81	P	P	13 30 40.2	+0.9
	comp=Z,11nm,0.8s,baz=236,slow=5.3,SNR=12						
DBIC				LR	LR	14 02 05.4	
	comp=Z,70nm,20.2s,baz=201,slow=34						
KIC	Kosan Boka	75.80	81	eP	P	13 30 40.5	+0.8
	comp=Z,121nm,1.3s						
SNAA	Sanae	76.76	162	P	P	13 30 45.1	+1.0
SNAA	Sanae	76.76	162	eP	P	13 30 44.8	+0.6
	comp=Z,26nm,1.0s						
SNAA	Sanae	76.76	162	*c i* P	P	13 30 45.1	+1.0
YKA	Yellowknife Ar	76.81	344	P	P	13 30 44.1	-0.2
	comp=Z,11nm,0.8s,baz=139,slow=5.8,SNR=267						
YKA				pP	pP	13 30 58.5	-0.4
	comp=Z,2.5nm,0.5s,baz=144,slow=6.0,SNR=6.8						
YKB5	Yellowknife Ar	76.81	344	eP	P	13 30 44.1	-0.2
YKB5				epP	pP	13 30 58.5	-0.4
YKW3	Yellowknife Ar	76.87	344	eP	P	13 30 44.0	-0.7
SFJD	Kangerlussuaq	79.04	11	P	P	13 30 56.1	-0.6
	comp=Z,8.4nm,1.0s,baz=130,slow=7.9,SNR=3.0						
DLBC	Dease Lake	79.15	335	eP	P	13 30 58.6	+1.1
	comp=Z,30nm,1.0s						
MORF	Marmelete	80.58	50	eP	P	13 31 07.6	+1.9
MORF				AMb	AMB	13 31 09.2	
	comp=Z,34nm,1.0s						
MORF	Marmelete	80.58	50	eP	P	13 31 07.7	+1.9
	comp=Z,36nm,1.0s						
MORF	Marmelete	80.58	50	eP	P	13 31 07.6	+1.9
PTEO	Sao Teotonio	80.60	49	eP	P	13 31 07.9	+2.1
	comp=Z,48nm,0.9s						
QSPA	South Pole Qui	80.63	180	eP	P	13 31 07.1	+1.5
	comp=Z,73nm,1.3s						
PMAFR	Mafra	80.67	48	eP	P	13 31 08.0	+1.9
	comp=Z,44nm,1.1s						
PNCL	Nicolau / Gran	80.94	49	eP	P	13 31 09.2	+1.6
	comp=Z,19nm,1.0s						
MESJ	Messejana	81.08	49	eP	P	13 31 10.0	+1.7
MESJ				AMb	AMB	13 31 12.9	
	comp=Z,18nm,2.4s						
MESJ	Messejana	81.08	49	eP	P	13 31 10.0	+1.7
PBDV	Barranco-do-Ve	81.10	50	eP	P	13 31 10.2	+1.7
	comp=Z,40nm,1.4s						
BESE	Bessie Mountai	81.27	334	eP	P	13 31 10.2	+1.3
	comp=Z,64nm,1.3s						
PBEJ	Beja	81.40	49	eP	P	13 31 13.1	+3.0
	comp=Z,18nm,1.0s						
EVO	Evora	81.46	49	eP	P	13 31 11.3	+0.9
	comp=Z,10nm,1.0s						
PMTG	Montargil	81.48	48	eP	P	13 31 11.4	+1.0
	comp=Z,22nm,1.9s						
PTOM	Tomar	81.53	47	eP	P	13 31 11.9	+1.2
	comp=Z,18nm,0.9s						
PCAS	Casmilo, Conde	81.61	47	eP	P	13 31 12.3	+1.2
	comp=Z,14nm,1.2s						
COI	Coimbra	81.73	47	eP	P	13 31 13.5	+1.8
	comp=Z,47nm,0.8s						
PMRV	Marv??o	82.21	48	eP	P	13 31 14.7	+0.4
	comp=Z,8.9nm,1.6s						
PVIS	Viseu	82.27	47	eP	P	13 31 15.3	+0.7
	comp=Z,16nm,0.9s						
PCBR	Castelo Branco	82.28	48	eP	P	13 31 15.6	+1.0
	comp=Z,8.3nm,2.0s						
MDT	Midelt	82.36	55	P	P	13 31 17.2	+1.9
MTE	Manteigas	82.42	47	eP	P	13 31 16.2	+0.8
	comp=Z,6.0nm,0.7s						
WHY	Whitehorse	82.46	336	eP	P	13 31 15.4	+0.1
	comp=Z,23nm,1.3s						
POLO	Lamas de Olo	82.56	46	eP	P	13 31 16.7	+0.5
	comp=Z,5.6nm,1.9s						
PVRL	Vila Real	82.58	46	eP	P	13 31 17.1	+0.9
MVO	Moncorvo	83.04	46	eP	P	13 31 19.6	+1.0
	comp=Z,13nm,2.1s						
HORN	Hornachuelos	83.31	50	P	P	13 31 21.3	+1.3
TOA1	Torodi Ar. Sit	83.35	76	eP	P	13 31 20.0	-0.7
TOA1				epP	pP	13 31 35.8	+0.4
TOA0	Torodi Ar. Sit	83.35	76	eP	P	13 31 20.6	-0.1
	comp=Z,18nm,0.8s						
TORD	Torodi Ar. Bea	83.35	76	eP	P	13 31 18.9	-1.9
TORD	Torodi Ar. Bea	83.35	76	P	P	13 31 20.0	-0.7
	comp=Z,15nm,0.9s,baz=292,slow=6.3,SNR=52						
TORD				pP	pP	13 31 35.8	+0.4
	comp=Z,8.6nm,0.8s,baz=273,slow=4.3,SNR=7.7						
TORD				LR	LR	14 07 22.2	
	comp=Z,94nm,18.1s,baz=300,slow=35						
PBRG	Braganca	83.45	46	eP	P	13 31 22.0	+1.3
	comp=Z,20nm,1.5s						
JBK	JBK	84.41	54	P	P	13 31 28.0	+2.0
PAB	San Pablo	84.49	49	eP	P	13 31 26.3	+0.2
	comp=Z,17nm,1.0s						
RES	Resolute Bay	84.58	356	eP	P	13 31 25.1	-0.6
	comp=Z,14nm,1.3s						
RES	Resolute Bay	84.58	356	P	P	13 31 25.4	-0.2
	comp=Z,6.6nm,0.9s,baz=185,slow=9.2,SNR=25						
ESDC	Sonseca Array	84.81	49	P	P	13 31 28.1	+0.5
	comp=Z,3.3nm,0.5s,baz=256,slow=5.3,SNR=47						
ESDC				pP	pP	13 31 43.4	+1.0
	comp=Z,4.8nm,0.8s,baz=262,slow=5.2,SNR=9.1						
FIGM	Figuig	84.90	56	P	P	13 31 30.0	+1.6
SESP	Santiago Espad	85.44	50	P	P	13 31 33.8	+2.8
BALM	Baldy	85.78	334	eP	P	13 31 32.6	+0.6
	comp=Z,13nm,0.7s						
BALM	Baldy	85.78	334	eP	P	13 31 32.7	+0.6
BALM				pmax	pmax		
	comp=Z,13nm,0.7s						
SUMG	Summit	86.03	11	eP	P	13 31 33.5	0.0
	comp=Z,30nm,0.8s						
SUMG	Summit	86.03	11	*i* P	P	13 31 34.1	+0.6
SUMG				pmax	pmax		
	comp=Z,75nm,0.8s						
SUMG	Summit	86.03	11	*i* P	P	13 31 34.1	+0.6
	comp=Z,75nm,0.8s						
DAWY	Dawson	86.08	338	eP	P	13 31 33.4	-0.1
	comp=Z,26nm,1.2s						
TULEG	Thule	86.09	2	eP	P	13 31 33.4	+0.2
	comp=Z,42nm,1.0s						
INK	Inuvik	86.46	342	eP	P	13 31 35.0	-0.1
	comp=Z,43nm,1.1s						
INK	Inuvik	86.46	342	P	P	13 31 35.4	+0.3
	comp=Z,21nm,0.9s,baz=110,slow=4.7,SNR=82						
INK				pP	pP	13 31 49.3	-0.6
	comp=Z,15nm,0.9s,baz=156,slow=6.5,SNR=11						
BCAR	Beaver Creek A	86.51	336	eP	P	13 31 36.0	+0.4
VNDA	Vanda	86.80	191	eP	P	13 31 37.3	+0.5
VNDA				ePcP	PcP	13 31 37.5	-1.6
VNDA	Vanda	86.80	191	eP	P	13 31 37.3	+0.5
VNDA	Vanda	86.80	191	P	P	13 31 38.2	+1.4
	comp=Z,1.4nm,0.7s,baz=118,slow=2.2,SNR=5.9						
VNDA				LR	LR	14 01 44.6	
	comp=Z,88nm,21.3s,baz=136,slow=30						
EGAK	Eagle	87.10	338	eP	P	13 31 38.5	+0.1
MENT	Mentasta	87.23	336	eP	P	13 31 38.8	-0.3
	comp=Z,7.5nm,0.6s						
DIV	Divide	87.31	334	eP	P	13 31 38.9	-0.6
	comp=Z,21nm,0.8s						
KLU	Klutina	87.53	334	eP	P	13 31 40.5	-0.1
	comp=Z,31nm,0.8s						
DOT	Dot Lake	87.69	336	eP	P	13 31 41.1	-0.2
	comp=Z,22nm,0.8s						
DOT				epP	pP	13 31 56.4	+0.3
SCRK	Sand Creek	87.81	336	eP	P	13 31 42.0	0.0
	comp=Z,21nm,0.6s						
PAX	Paxson	87.97	335	eP	P	13 31 42.3	-0.4
	comp=Z,29nm,0.8s						
PAX	Paxson	87.97	335	e

ILAR PP **PP** **13 35 21.0 +0.9**
comp=Z,0.6nm,0.8s,baz=120,slow=5.9,SNR=6.2
ILAR LR LR 14 13 14.1
comp=Z,40nm,19.9s,baz=130,slow=36
ILB Eielson Array 89.29 337 *e*P **P** **13 31 47.9 -0.9**
comp=Z,13nm,0.8s
ILB *e*pP **pP** **13 32 02.6 -1.0**
FYU Fort Yukon 89.43 339 *e*P **P** **13 31 49.9 +0.5**
comp=Z,44nm,0.8s
RND Reindeer 89.55 335 *e*P **P** **13 31 50.4 +0.3**
comp=Z,66nm,1.2s
CCB Clear Creek Bu 89.60 336 *e*P **P** **13 31 49.4 -0.8**
comp=Z,18nm,0.7s
POKR Poker Plat Res 89.65 337 P **P** **13 31 50.7 +0.3**
baz=114
WRH Wood River Hil 89.65 336 *e*P **P** **13 31 49.9 -0.5**
comp=Z,22nm,0.7s
SUA Susitna One 89.65 333 *e*P **P** **13 31 49.7 -1.0**
comp=Z,16nm,0.9s
MCK McKinley 89.71 335 *e*P **P** **13 31 50.0 -0.7**
comp=Z,12nm,0.9s
MCK McKinley 89.71 335 *e*P **P** **13 31 50.0 -0.7**
MCK pmax pmax
comp=Z,13nm,0.9s
COLA College 89.71 337 *e*P **P** **13 31 50.2 -0.5**
comp=Z,35nm,0.8s
COLA College 89.71 337 *c i*P **P** **13 31 50.4 -0.3**
TCOL CIGO, UAF Yank 89.72 337 P **P** **13 31 51.0 +0.3**
baz=113
EKA Eskdalemuir Ar 89.88 34 P **P** **13 31 51.6 -0.1**
comp=Z,0.8nm,0.5s,baz=236,slow=5.1,SNR=5.2
MDM Murphy Dome 89.89 337 *e*P **P** **13 31 51.7 +0.1**
comp=Z,60nm,0.8s
BWN Browne 90.09 336 *e*P **P** **13 31 52.2 -0.3**
comp=Z,83nm,1.0s
RSO Redoubt South 90.24 332 *e*P **P** **13 31 53.2 -0.3**
BPAW Bear Paw Mtn. 90.69 335 *e*P **P** **13 31 55.0 -0.3**
comp=Z,24nm,0.6s
PPLA Purkeypile 90.78 334 *e*P **P** **13 31 55.6 -0.4**
comp=Z,119nm,1.8s
CAST Castle Rocks 90.91 335 *e*P **P** **13 31 55.9 -0.5**
comp=Z,33nm,0.8s
MLY Manley 90.91 336 *e*P **P** **13 31 56.0 -0.4**
comp=Z,29nm,0.7s
SYO Syowa Base 91.05 162⇑ *e*P **P** **13 31 55.8 -1.1**
SYO Syowa Base 91.05 162⇑ *e*PcP **PcP** **13 31 57.6 -0.3**
SYO Syowa Base 91.05 162⇑ *e*P P 13 32 09.2 +12
TOLK Toolik Lake Re 91.79 340 *e*P **P** **13 32 00.2 -0.1**
comp=Z,9.3nm,0.8s
TOLK Toolik Lake Re 91.79 340 P **P** **13 32 00.7 +0.3**
baz=112
IMAR Indian Mountai 92.41 337 *e*P **P** **13 32 03.0 -0.3**
DAG Danmarks Havn 92.72 12⇑ *i*P **P** **13 32 04.3 -0.1**
DAG *i* 13 32 18.3
DAG pmax pmax
comp=Z,10.0nm,0.9s
DAG Danmarks Havn 92.72 12⇑ *i*P **P** **13 32 04.3 -0.1**
comp=Z,12nm,0.9s
DAG *i* 13 32 18.3
DOU Dourbes 93.22 40 ⇑P **P** **13 32 07.2 -0.1**
WLF Walferdange 94.13 40 ⇑P **P** **13 32 12.0 +0.5**
BOSA Boshof 97.93 121 LR LR 14 15 23.0
comp=Z,76nm,18.3s,baz=222,slow=35
NOA NORSAR Array B 98.40 29 P Pdif 13 32 31.4 +0.7
comp=Z,0.4nm,0.7s,baz=268,slow=4.4,SNR=2.9
NOA LR LR 14 18 38.7
comp=Z,5.5nm,18.3s,baz=275,slow=36
GERES GERESS Array B 98.94 42 P Pdif 13 32 33.7 +0.2
comp=Z,0.2nm,0.4s,baz=274,slow=4.6,SNR=3.2
VYHS Vyhne 102.33 42 *e*P **Pdif** **13 32 48.5 0.0**
VYHS Vyhne 102.33 42 *e*PDIF **Pdif** **13 32 48.5 0.0**
KLNR Kaliningrad 103.09 36⇓ *e*P **Pdif** **13 32 49.9 -1.8**
KLNR pmax pmax
comp=Z,94nm,0.8s
ARA0 ARCESS Array S 103.95 21 *e*Pdif **Pdif** **13 32 55.2 0.0**
ARCES ARCESS Array B 103.95 21 Pdiff **Pdif** **13 32 55.2 0.0**
comp=Z,0.8nm,0.6s,baz=276,slow=3.5,SNR=6.7
BILL Bilibino 107.82 339 *e*P **Pdif** **13 33 11.8 -0.6**
BILL *e* 13 37 39.9
BILL pmax pmax
comp=Z,1.0nm,1.1s
OBN Obninsk 112.33 34 *i*PKIKP **PKiKP** **13 37 28.8 +0.4**
OBN *e* 13 38 14.5
OBN *e*PPP PPP 13 40 33.2
OBN pmax pmax
comp=Z,2.0nm,0.9s
SEY Seymchan 115.23 337 *c i*PKIKP **PKPdf** **13 37 34.1 +0.3**
H11N3 WAKE ISLAND Hyl 15.59 287 T T 15 43 21.3
baz=93,slow=74,SNR=29
H11N2 WAKE ISLAND Hyl 15.60 287 T T 15 43 17.7
baz=93,slow=74,SNR=28
H11N1 WAKE ISLAND Hyl 15.61 287 T T 15 43 22.6
baz=93,slow=74,SNR=20
H11S2 WAKE ISLAND Hyl 15.75 286 T T 15 43 29.5
baz=93,slow=76,SNR=70
H11S1 WAKE ISLAND Hyl 15.75 286 T T 15 43 29.6
baz=93,slow=76,SNR=20
H11S3 WAKE ISLAND Hyl 15.77 286 T T 15 43 30.1
baz=93,slow=76,SNR=37
PEA1 Petropavlovsk- 117.11 325 *e*PKPdf **PKPdf** **13 37 37.4 -0.4**
PETK Petropavlovsk- 117.11 325 PKP **PKPdf** **13 37 37.4 -0.4**
comp=Z,2.9nm,1.1s,baz=92,slow=4.3,SNR=2.7
KBZ Khabaz 119.49 45 PKIKP **PKiKP** **13 37 43.0 +0.4**
KBZ Khabaz 119.49 45 PKP **PKiKP** **13 37 43.0 +0.4**
comp=Z,3.5nm,0.8s,baz=302,slow=2.9,SNR=9.6
ARU Arti 122.79 26 *i*PKIKP **PKiKP** **13 37 48.9 +0.2**
ARU 13 39 26.9
ARU 13 44 56.1
STKA Stephens Creek 123.35 222 *e*PKPdf **PKPdf** **13 37 49.8 -0.7**
STKA Stephens Creek 123.35 222 PKP **PKiKP** **13 37 51.0 +0.3**
comp=Z,1.4nm,0.5s,baz=106,slow=7.4,SNR=8.2
AKTO Aktyubinsk 126.05 33 PKP **PKPdf** **13 37 55.1 +0.1**
comp=Z,1.9nm,0.8s,baz=210,slow=1.4,SNR=7.4
ABKAR Akbulak array 127.75 33 *e*PKPdf **PKPdf** **13 37 58.0 -0.3**
YSS Yuzh-Sakhalins 128.47 324 *e*PKIKP **PKPdf** **13 37 57.8 -1.9**
BRVK Borovoye 130.03 24 *c i*PKIKP **PKPdf** **13 38 02.7 +0.2**
GEYT Alibeck 132.32 47 PKP **PKiKP** **13 38 08.1 -0.4**
comp=Z,552nm,0.5s,baz=289,slow=4.5,SNR=6.5
GEYT *p*PKP **pPKPdf** **13 38 22.1 -0.7**
comp=Z,1.4nm,0.5s,baz=306,slow=3.5,SNR=3.4
MSEY Mahe Island 132.66 105 *i*PKIKP **PKPdf** **13 38 05.9 -2.8**
KLR Kul'dur 132.72 333 *i*PKIKP **PKPdf** **13 38 07.0 -0.7**
ZAA1 Zalesovo Array 133.82 13 *e*PKPpre PKPpre 13 38 04.6
ZAA1 *e*PKPdf **PKPdf** **13 38 09.7 0.0**
ZAA1 *e*pPKPdf pPKPdf 13 38 22.6 -2.4
ZAA0 Zalesovo Array 133.83 13 *e*PKPdf **PKPdf** **13 38 09.1 -0.6**
ZALV Zalesovo Beam 133.83 13 PKhKP PKPpre 13 38 04.6
comp=Z,4.8nm,0.7s,baz=353,slow=1.1,SNR=3.8
ZALV PKP **PKPdf** **13 38 09.7 0.0**
comp=Z,3.0nm,0.4s,baz=257,slow=3.3,SNR=20
ZALV *p*PKP pPKPdf 13 38 22.6 -2.4
comp=Z,3.0nm,0.4s,baz=287,slow=2.3,SNR=7.8
AS31 Alice Springs 133.84 224 *e*PKPdf **PKPdf** **13 38 09.6 -1.1**
ASAR Alice Springs 133.84 224 *e*PKPdf **PKPdf** **13 38 09.2 -1.5**
ASAR Alice Springs 133.84 224 PKhKP PKPpre 13 37 58.0
comp=Z,0.3nm,0.8s,baz=130,slow=2.6,SNR=4.7
ASAR PKP **PKPdf** **13 38 11.2 +0.5**
comp=Z,2.8nm,0.7s,baz=118,slow=2.1,SNR=15
ASAR *p*PKP pPKPdf 13 38 23.9 -2.1
comp=Z,4.9nm,0.8s,baz=119,slow=2.1,SNR=13
KURK Kurchatov 134.99 20 *e*PKPdf **PKPdf** **13 38 10.9 -1.0**
KURK Kurchatov 134.99 20 *c i*PKIKP **PKPdf** **13 38 12.2 +0.3**
WRAB Tennant Creek 135.92 228 *e*PKPdf **PKPdf** **13 38 13.3 -1.3**
WRAB Tennant Creek 135.92 228 ⇓*i*PKIKP **PKPdf** **13 38 14.3 -0.3**
WR1 Warramunga Arr 135.93 228 *e*PKPpre PKPpre 13 38 07.4
WR1 *e*PKPdf **PKPdf** **13 38 14.9 +0.3**
WR1 *e*pPKPdf pPKPdf 13 38 27.8 -2.2
WRA Warramunga Arr 135.93 228 PKhKP PKPpre 13 38 07.4
comp=Z,0.2nm,0.5s,baz=116,slow=2.1,SNR=6.4
WRA PKP **PKPdf** **13 38 14.9 +0.3**
comp=Z,6.4nm,0.7s,baz=122,slow=2.1,SNR=46
WRA *p*PKP pPKPdf 13 38 27.8 -2.2
comp=Z,9.7nm,0.8s,baz=124,slow=2.0,SNR=16
MJAR Matsushiro Arr 136.76 314 PKhKP PKPpre 13 38 02.3
comp=Z,0.6nm,0.8s,baz=119,slow=1.7,SNR=4.0
MJAR PKP **PKPdf** **13 38 15.1 -0.6**
comp=Z,2.3nm,0.7s,baz=104,slow=1.0,SNR=13
MJAR *p*PKP pPKPdf 13 38 28.8 -2.3
comp=Z,3.7nm,0.7s,baz=132,slow=0.6,SNR=7.2
MAJO Matsushiro 136.76 314 *e*PKPpre PKPpre 13 38 02.3
MAJO *e*PKPdf **PKPdf** **13 38 14.6 -1.1**
MAJO *e*pPKPdf pPKPdf 13 38 28.8 -2.3
MAJO Matsushiro 136.76 314 *e*PKHKP PKPpre 13 38 02.3
MAJO *e* 13 38 14.6
MAJO *e* 13 38 28.8

MAT Matsushiro 136.76 314 *e*PKP **PKPdf** **13 38 15.4 -0.3**
MJB9 Matsu-Tunnel 136.76 314 *e*PKPdf **PKPdf** **13 38 14.7 -1.0**
DGZ Jazzator, Alta 138.38 13⇑ *e*PKIKP **PKPdf** **13 38 17.8 -0.7**
CHGR Chuyangaron 139.38 39 *e*PKPdf **PKPdf** **13 38 18.9 -1.6**
MAKZ Makanchi 139.48 20 *e*PKPdf **PKPdf** **13 38 19.6 -0.8**
MK31 Makanchi Array 139.60 20 *e*PKPdf **PKPdf** **13 38 20.1 -0.5**
MK32 Makanchi Array 139.60 20 *e*PKPpre PKPpre 13 38 12.9
MK32 *e*PKPdf **PKPdf** **13 38 20.4 -0.2**
MK32 *ep*PKPdf pPKPdf 13 38 34.5 -1.4
MKAR Makanchi Array 139.60 20 PKhKP PKPpre 13 38 12.9
comp=Z,0.4nm,0.4s,baz=304,slow=3.6,SNR=6.0
MKAR PKP **PKPdf** **13 38 20.4 -0.2**
comp=Z,1.7nm,0.6s,baz=347,slow=1.7,SNR=11
MKAR *p*PKP pPKPdf 13 38 34.5 -1.4
comp=Z,1.8nm,0.6s,baz=5.7,slow=2.4,SNR=6.1
AAK Ala-Archa 139.71 30⇑ *i*PKIKP **PKPdf** **13 38 21.9 +0.8**
SONA0 Songino Array 141.49 354 *e*PKPpre PKPpre 13 38 18.2
SONM Songino Array 141.49 354 *e*PKPpre PKPpre 13 38 17.5
SONM Songino Array 141.49 354 PKhKP PKPpre 13 38 18.2
comp=Z,3.2nm,0.9s,baz=338,slow=3.8,SNR=11
KSH Kashi 142.76 33 PKP **PKiKP** **13 38 29.4 -0.4**
KSH *p*PKP pPKPdf 13 38 39.4 -2.6
KSH PP **PP** **13 41 40.3 +5.5**
KSH SKS **SKSdf** **13 45 32.5 0.0**
KSH LR LR
comp=Z,140nm,4.4s
KSH LR LR
comp=Z,240nm,5.0s
KSRS Korea Array 142.95 323 PKhKP PKPpre 13 38 23.2
comp=Z,9.5nm,0.6s,baz=59,slow=3.1,SNR=47
FITZ Fitzroy Crossi 143.25 222 *e*PKPdf PKPbc 13 38 24.6 -0.4
WMQ Urumqi 143.93 16 *e*PKP PKPbc 13 38 26.9 +0.6
WMQ *p*PKP pPKPdf 13 38 39.5 -4.4
WMQ *s*PKP 13 38 48.3
WMQ LR LR
comp=Z,560nm,39.0s
WMQ LR LR
comp=Z,420nm,38.5s
TJN Taejon 144.00 322 *c i*PKIKP **PKPab** **13 38 25.9 -0.2**
MBWA Marble Bar 144.34 211 *e*PKPdf **PKPab** **13 38 27.8 0.0**
NIL Nilore 145.04 42 *e*PKPbc PKPbc 13 38 28.7 -1.4
NIL Nilore 145.04 42 *e*PKP2 PKPbc 13 38 28.7 -1.4
DL2 Dalian 145.28 331 PKPbc **PKPbc** **13 38 30.0 -0.6**
FAKI Fak Fak 146.37 250 *e*PKPdf **PKPdf** **13 38 33.6 +0.1**
BJT Baijiatuau 146.67 338 *e*PKPdf **PKPdf** **13 38 33.5 +0.4**
BJT Baijiatuau 146.67 338 *e*PKP2 **PKPdf** **13 38 33.6 +0.4**
HHC Hu-ho-hao-te 147.35 345 *e*PKPbc **PKPdf** **13 38 34.2 -0.3**
BTO Baotou 147.95 347 *e*PKPbc **PKPbc** **13 38 37.5 -1.0**
GTA Gaotai 150.19 2 ⇓PKPbc **PKPdf** **13 38 40.2 +1.0**
GTA *p*PKP pPKPdf 13 38 53.7 -0.9
GTA *s*PKP 13 38 58.9
GTA LR LR
comp=Z,45nm,18.4s
GTA LR LR
comp=Z,61nm,17.5s
GTA LR LR
comp=Z,55nm,17.8s
NJ2 Nanjing 152.02 326 *e*PKPbc **PKPdf** **13 38 41.6 -0.4**
LZH Lanzhou 153.38 355 *e*PKPbc **PKPdf** **13 38 45.5 +1.4**
LZH *p*PKP PKiKP 13 38 54.7 +2.9
LZH *s*PKP 13 38 59.9
LZH SS SS 14 02 11.3 +4.9
LZH LR LR
comp=Z,130nm,14.1s
LZH LR LR
comp=Z,170nm,17.9s
LZH LR LR
comp=Z,180nm,17.3s
XAN Xi'an 154.46 344 PKPbc **PKPdf** **13 38 45.7 +0.2**
PYUN Piuthan 154.99 40 *e*P **PKPdf** **13 38 46.5 -0.2**
comp=Z,11nm,0.7s
DANN Dangsing 155.29 38 *e*P **PKPdf** **13 38 47.7 +0.5**
comp=Z,18nm,0.7s
KKN Kakani 156.62 37 *e*P **PKPdf** **13 38 53.5 +4.7**
DMN Daman 156.65 37 *e*P **PKPdf** **13 38 54.0 +5.1**
PKI Pulchoki 156.86 37 *e*P **PKPdf** **13 38 55.1 +5.8**
comp=Z,2.1nm,0.4s
RAMN Ramite 158.02 36 *e*P PKPdf 13 39 00.6 +10
comp=Z,13nm,0.7s
CD2 Chengdu 158.51 353 PKP **PKPdf** **13 38 49.0 -1.9**
GYA Guiyang 162.24 343 *e*PKP **PKPdf** **13 38 53.0 -2.2**
GYA PKPab **PKPab** **13 39 42.4 +0.3**
GYA PKS **PKSdf** **13 42 25.5 -3.1**
GYA PP **PP** **13 43 27.9 +2.9**
GYA AMB AMB
comp=Z,120nm,8.2s
KMI Kunming 164.34 354 PKP **PKPdf** **13 38 55.3 -2.1**
CHTO Chiang Mai 170.54 11 *e*PKPab **PKPab** **13 40 17.3 -1.4**
CMMT Chiang Mai 170.55 11 P **PKPab** **13 40 18.3 -0.4**
comp=Z,4.3nm,1.3s
CM31 Chiang Mai Arr 170.89 11 *e*PKPab **PKPab** **13 40 19.4 -0.8**
CMAR Chiang Mai Arr 170.89 11 *e*PKPdf **PKPdf** **13 39 00.4 -1.5**
CMAR *e*PKPab **PKPab** **13 40 19.0 -1.3**
CMAR Chiang Mai Arr 170.89 11 PKP **PKPdf** **13 39 02.2 +0.3**
comp=Z,0.8nm,0.7s,baz=288,slow=1.7,SNR=10
CMAR *p*PKP **pPKPdf** **13 39 17.2 -0.2**
comp=Z,0.9nm,0.8s,baz=286,slow=1.4,SNR=3.9
CMAR PKPab **PKPab** **13 40 19.6 -0.6**
comp=Z,3.1nm,0.7s,baz=327,slow=5.2,SNR=20
CMAR *p*PKPab **pPKPab** **13 40 34.2 -0.9**
comp=Z,4.2nm,0.9s,baz=329,slow=4.5,SNR=11
CMAR PP **PP** **13 44 08.1 -1.2**
comp=Z,0.9nm,0.8s,baz=338,slow=4.5,SNR=6.6
PHRA Phrae 171.02 4 P **PKPab** **13 40 20.2 -0.6**
comp=Z,2.0nm,1.2s,comp=Z,55nm

*BJI **05** 13:19:28.7±0.0, 4°.95S×145°.51E, h67km, mb4.6/3, mB4.8/3*
*ISCJB **05** 13:19:30.3±0.5, 4°.75S±0°.05×145°.21E±0°.07, h62km, mb4.0/13, Error ellipse: s-maj=10.0km s-min=6.5km az=162.3*
*NEIC **05** 13:19:31.8±0.8, 4°.71S×145°.20E, h59km±9km, mb4.2/8, Error ellipse: s-maj=10.0km s-min=7.3km az=89.0*
*IDC **05** 13:19:32.4±2.9, 4°.76S×145°.12E, h62km±26km, mb3.6/10, mb1 3.9/15, mb1mx3.6/44, mbtmp4.0/15, ML4.2/4, MS3.1/5, Ms1 3.1/5, ms1mx2.7/25, Error ellipse: s-maj=28.2km s-min=15.2km az=74.0*
ISC 05 13:19:32.0±0.7, 4°.73S±0°.06×145°.17E±0°.09, h62km, n29, σ1°.9 13/30, mb3.8/13, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.45**	**39**	*e*Pn	**Pn**	**Pn**	**13 20 21.7**	**-1.6**
JAY	**Jayapura**	**4.97**	**296**	P	**Pn**	**Pn**	**13 20 45.2**	**+1.0**
	3.0nm,0.3s,baz=173,slow=8.1,SNR=16							
JAY				S		**Sn**	**13 21 37.0**	**-3.4**
	baz=167,slow=14,SNR=2.1							
JAY				LR	LR		13 23 12.8	
	comp=Z,117nm,19.1s,baz=26,slow=45							
PMG	**Port Moresby**	**5.05**	**157**	P		**Pn**	**13 20 44.8**	**-0.4**
	12nm,0.3s,baz=359,slow=6.7,SNR=30							
PMG				S		**Sn**	**13 21 41.5**	**-0.8**
	9.6nm,0.3s,baz=297,slow=22,SNR=8.2							
PMG				LR	LR		13 23 20.1	
	comp=Z,224nm,19.6s,baz=14,slow=45							
COEN	**Coen**	**9.38**	**192**	*e*Pn		**Pn**	**13 21 46.0**	**+1.4**
FAKI	**Fak Fak**	**13.02**	**277**	*e*Pn		**Pn**	**13 22 34.1**	**-0.2**
SIJI	**Sorong**	**14.41**	**285**	P		**Pn**	**13 22 52.7**	**-0.2**
	2.3nm,0.3s,baz=68,slow=10,SNR=12							
CTA	**Charters Tower**	**15.30**	**176**	P		**P**	**13 23 06.4**	**-1.7**
	0.5nm,0.3s,baz=3.2,slow=15,SNR=7.9							
CTAO	**Charters Tower**	**15.30**	**176**	*e*Pn		**P**	**13 23 08.1**	**0.0**
	18nm,1.3s							
MTN	**Manton Dam**	**16.04**	**239**	*e*Pn		**Pn**	**13 23 13.3**	**-0.5**
	24nm,1.1s							
WRAB	**Tennant Creek**	**18.43**	**214**	*e*P		**P**	**13 23 40.5**	**-2.1**
	9.2nm,0.6s							
WB2	**Warramunga Arr**	**18.43**	**214**	*e*P		**Pn**	**13 23 42.9**	**-0.5**
	11nm,0.5s							
WRA	**Warramunga Arr**	**18.44**	**214**	*e*P		**P**	**13 23 41.9**	**-0.8**
	2.0nm,0.6s							
WRA	**Warramunga Arr**	**18.44**	**214**	P		**Pn**	**13 23 43.1**	**-0.3**
	1.3nm,0.3s,baz=28,slow=10,SNR=47							
SOEI	**Soe**	**21.32**	**255**	*e*P		**P**	**13 24 15.2**	**+1.0**
	34nm,0.9s							
AS31	**Alice Springs**	**21.74**	**209**	*e*P		**P**	**13 24 19.1**	**+0.7**
	1.4nm,0.7s							
ASAR	**Alice Springs**	**21.74**	**209**	P		**P**	**13 24 18.4**	**-0.1**
	2.2nm,0.6s,baz=37,slow=11,SNR=30							
BATI	**Baumata**	**22.00**	**254**	P		**P**	**13 24 21.0**	**-0.4**
	15nm,0.5s,baz=90,slow=8.1,SNR=2.2							
FITZ	**Fitzroy Crossi**	**23.27**	**234**	*e*P		**P**	**13 24 35.1**	**+0.6**
	14nm,0.8s							
FITZ	**Fitzroy Crossi**	**23.27**	**234**	P		**P**	**13 24 33.4**	**-1.1**
	14nm,0.7s,baz=44,slow=9.0,SNR=59							
FITZ				LR	LR		13 34 13.2	
	comp=Z,59nm,19.2s,baz=76,slow=38							
STKA	**Stephens Creek**	**27.22**	**187**	P		**P**	**13 25 09.9**	**-0.3**
	1.7nm,0.6s,baz=341,slow=10,SNR=7.1							
STKA				LR	LR		13 37 11.7	
	comp=Z,64nm,18.1s,baz=24,slow=39							
MJAR	**Matsushiro Arr**	**41.57**	**352**	P		**P**	**13 27 13.6**	**-0.2**
	0.4nm,0.5s,baz=177,slow=7.8,SNR=3.3							
KSRS	**Korea Array**	**44.94**	**340**	LR	LR		13 44 22.4	
	comp=Z,15nm,19.3s,baz=188,slow=33							
CMAR	**Chiang Mai Arr**	**51.05**	**298**	P		**P**	**13 28 28.5**	**0.0**
	0.4nm,0.6s,baz=116,slow=6.1,SNR=2.9							
HHC	**Hu-ho-hao-te**	**54.81**	**329**	*e*P		**P**	**13 28 57.6**	**+1.7**
HHC				pmax	pmax			
	comp=Z,20nm,1.0s							
HHC				pmax	pmax			
	comp=Z,79nm,6.1s							
WMQ	**Urumqi**	**70.65**	**320**	*e*P		**P**	**13 30 41.6**	**+0.3**
VNDA	**Vanda**	**73.29**	**176**	P		**P**	**13 30 57.2**	**+0.8**
	0.5nm,0.5s,baz=323,slow=7.1,SNR=4.9							
MKAR	**Makanchi Array**	**75.37**	**321**	P		**P**	**13 31 09.9**	**+0.8**
	0.3nm,0.4s,baz=116,slow=8.2,SNR=3.6							
KURBB	**Kurchatov Arra**	**79.13**	**323**	P		**P**	**13 31 30.3**	**+0.2**
	0.3nm,0.6s,baz=113,slow=4.3,SNR=3.2							
BVAR	**Borovoye Array**	**84.68**	**324**	P		**P**	**13 31 59.8**	**+0.6**
	0.6nm,0.5s,baz=118,slow=9.1,SNR=4.9							

*ATH **05** 13:30:34.3, 40°.78N×20°.28E, h10km±2km, ML2.0/7, Error ellipse: s-maj=3.5km s-min=1.5km az=145.0*
*THE **05** 13:30:35.5, 40°.74N×20°.29E, h2km±23km, ML2.2/4, Error ellipse: s-maj=23.8km s-min=0.5km az=315.0*
*TIR **05** 13:30:36.0, 40°.64N×20°.35E, h2km, Md2.6/6*
*ISCJB **05** 13:30:36.4±0.5, 40°.69N±0°.03×20°.33E±0°.03, h1km±6km, Error ellipse: s-maj=5.5km s-min=3.2km az=139.8*
*SKO **05** 13:30:37.0, 40°.73N×20°.26E, h13km, M1.5, ML1.9*
ISC 05 13:30:36.4±1.2, 40°.68N±0°.03×20°.35E±0°.02, h5km±10km, n29, σ0°.76/50, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.46**	**214**	P		**Pg**	**13 30 44.5**	**-0.7**
TPE	**Tepelena**	**0.46**	**214**	*i* PG		**Pg**	**13 30 44.5**	**-0.7**
TPE				*i* SG		**Sg**	**13 30 52.0**	**+0.8**
OHR	**Ohrid**	**0.55**	**38**	*i* Pg		**Pg**	**13 30 47.1**	**+0.1**
OHR				*i* Sg		**Sb**	**13 30 56.5**	**-0.2**
OHR				*e*Lg		Lg	13 30 57.3	
	comp=N,32nm,0.4s							
OHR				*e*Lg		Lg	13 30 58.1	
	comp=E,59nm,0.4s							
NEST	**Nestorio**	**0.59**	**116**	P		**Pg**	**13 30 47.6**	**-0.2**
NEST				S		**Sb**	**13 30 57.5**	**-0.5**
NEST	**Nestorio**	**0.59**	**116**	P		**Pg**	**13 30 47.1**	**-0.7**
NEST				S		**Sg**	**13 30 56.7**	**+1.2**
NEST				AML		AML	13 31 00.8	
	comp=E,168μm,0.3s							
NEST				AML		AML	13 31 05.2	
	comp=N,138μm,0.4s							
VLO	**Vlora**	**0.68**	**253**	*i* PG		**Pb**	**13 30 49.9**	**-0.9**
VLO				*i* SG		**Sb**	**13 31 00.1**	**-0.4**
TIR	**Tirane**	**0.76**	**331**	*i* PG		**Pb**	**13 30 51.9**	**-0.2**
TIR				*i* SG		**Sn**	**13 31 05.0**	**-0.7**
FNA	**Florina**	**0.79**	**82**	P		**Pg**	**13 30 51.6**	**+0.1**
FNA				S		**Sb**	**13 31 03.2**	**-0.3**
FNA	**Florina**	**0.79**	**82**	*i* Pg		**Pg**	**13 30 51.6**	**+0.1**
FNA				*i* Sg		**Sb**	**13 31 04.6**	**+1.1**
FNA	**Florina**	**0.79**	**82**	*i* PG		**Pg**	**13 30 51.6**	**+0.1**
FNA				*i* SG		**Sb**	**13 31 04.2**	**+0.7**
FNA	**Florina**	**0.79**	**82**	P		**Pg**	**13 30 51.3**	**-0.1**
FNA				S		**Sg**	**13 31 02.7**	**+1.0**
FNA				AML		AML	13 31 05.9	
	comp=E,40μm,0.7s							
FNA				AML		AML	13 31 07.2	
	comp=N,376μm,0.6s							
BIA	**Bitola**	**0.81**	**65**	*i* Pg		**Pb**	**13 30 52.5**	**-0.6**
BIA				*i* Sg		**Sn**	**13 31 05.6**	**-1.4**
BIA				*e*Lg		Lg	13 31 05.8	
	comp=E,40nm,0.3s							
BIA				*e*Lg		Lg	13 31 06.4	
	comp=N,24nm,0.3s							
SRN	**Sarande**	**0.84**	**199**	P		**Pg**	**13 30 52.0**	**-0.5**
SRN				S		**Sb**	**13 31 05.3**	**+0.3**
SRN	**Sarande**	**0.84**	**199**	*i* PG		**Pg**	**13 30 52.8**	**+0.3**
SRN				*i* SG		**Sb**	**13 31 06.0**	**+1.1**
KRUS	**Krusevo**	**0.97**	**44**	*i* Pg		**Pb**	**13 30 55.0**	**-0.7**
KEK	**Kerkira**	**1.05**	**204**	P		**Pg**	**13 30 56.0**	**-0.5**
KEK				S		**Sb**	**13 31 11.6**	**+0.5**
KEK	**Kerkira**	**1.05**	**204**	P		**Pg**	**13 30 55.9**	**-0.6**
KEK				S		**Sb**	**13 31 11.1**	**0.0**
KEK				AML		AML	13 31 14.9	
	comp=N,162μm,0.3s							
KEK				AML		AML	13 31 16.9	
	comp=E,219μm,0.5s							
KPRO	**Kipourio**	**1.06**	**133**	P		**Pg**	**13 30 55.2**	**-1.4**
JAN	**Janina**	**1.09**	**159**	P		**Pg**	**13 30 56.3**	**-0.9**
JAN				S		**Sn**	**13 31 14.0**	**+0.2**
JAN				AML		AML	13 31 19.8	
	comp=N,195μm,0.4s							
JAN				AML		AML	13 31 20.8	
	comp=E,288μm,0.5s							
IGT	**Igoumenitsa**	**1.14**	**181**	P		**Pg**	**13 30 58.1**	**-0.2**
IGT				S		**Sn**	**13 31 15.8**	**+0.7**
IGT	**Igoumenitsa**	**1.14**	**181**	*i* Pg		**Pg**	**13 30 57.9**	**-0.4**
IGT				*i* Sg		**Sn**	**13 31 15.8**	**+0.7**
IGT	**Igoumenitsa**	**1.14**	**181**	P		**Pg**	**13 30 57.6**	**-0.6**
IGT				S		**Sn**	**13 31 15.8**	**+0.7**
IGT				AML		AML	13 31 18.5	
	comp=E,200μm,0.4s							
IGT				AML		AML	13 31 19.7	
	comp=N,198μm,0.3s							
KZN	**Kozani**	**1.14**	**108**	P		**Pg**	**13 30 57.0**	**-1.3**
KZN				S		**Sn**	**13 31 15.0**	**-0.2**
KZN				AML		AML	13 31 21.4	
	comp=N,150μm,0.6s							
KZN				AML		AML	13 31 21.6	
	comp=E,167μm,0.6s							
THL	**Klokotos Trika**	**1.69**	**131**	P		**Pn**	**13 31 07.2**	**+0.7**
THL				S		**Sg**	**13 31 31.5**	**+0.8**
THL				AML		AML	13 31 35.5	
	comp=N,50μm,0.5s							
THL				AML		AML	13 31 36.6	
	comp=E,30μm,0.7s							
LKD2	**Lefkada island**	**1.90**	**173**	P		**Pn**	**13 31 10.2**	**+0.7**
KNT	**Kendrikon**	**1.99**	**75**	P		**Pn**	**13 31 10.3**	**-0.3**
AGG	**Agios Georgios**	**2.25**	**137**	P		**Pb**	**13 31 16.3**	**-1.1**
ANX	**Ano Chora**	**2.41**	**149**	P		**Pb**	**13 31 18.9**	**-1.3**
XOR	**Xorichti**	**2.54**	**120**	P		**Pn**	**13 31 19.4**	**+1.1**

*MEX **05** 13:37:19.6±0.8, 14°.33N×92°.09W, h62km±13km, MD4.0*
*NEIC **05** 13:37:19.6±0.0, 14°.33N×92°.09W, h62km, MD4.0(MEX), After MEX.*
*ISCJB **05** 13:37:20.3±1.2, 14°.39N±0°.09×92°.30W±0°.07, h52km±9km, mb3.7/4, Error ellipse: s-maj=16.8km s-min=8.2km az=32.5*
*IDC **05** 13:37:28.4±3.2, 14°.

TGIG			*e*S	**Sn**	**13 38 28.7**	**+0.6**
TGIG		**2.45 340**	*e*P	**Pn**	**13 37 59.3**	**-0.1**
TGIG			*e*S	**Sn**	**13 38 28.7**	**+0.6**
CMIG	**Matias Romero**	**3.63 316**	P	**Pn**	**13 38 15.6**	**0.0**
3.1nm,0.3s,baz=139,slow=12,SNR=50						
CMIG			S	Sn	13 39 07.1	+10
26nm,0.3s,baz=264,slow=4.2,SNR=11						
JTS	**Las Juntas de**	**8.26 119**	P	**Pn**	**13 39 19.6**	**+0.6**
0.6nm,0.3s,baz=172,slow=23,SNR=6.4						
TXAR	**Lajitas Array**	**18.17 326**	P	**Pn**	**13 41 32.7**	**+2.4**
0.1nm,0.3s,baz=148,slow=11,SNR=3.3						
ANMO	**Albuquerque**	**24.08 330**	P	**P**	**13 42 33.5**	**+1.2**
0.9nm,0.7s,baz=152,slow=11,SNR=8.0						
NVAR	**Mina Array Bea**	**33.16 321**	P	**P**	**13 43 55.4**	**+2.2**
0.9nm,0.6s,baz=133,slow=8.1,SNR=7.6						
YKA	**Yellowknife Ar**	**50.52 347**	P	**P**	**13 46 12.4**	**-1.8**
0.8nm,0.6s,baz=152,slow=7.3,SNR=21						
YKA			PcP	**PcP**	**13 47 29.7**	**-1.8**
0.2nm,0.6s,baz=149,slow=3.8,SNR=5.7						
ILAR	**Eielson Array**	**62.32 337**	P	**P**	**13 47 37.8**	**-0.3**
0.7nm,0.8s,baz=114,slow=5.8,SNR=5.7						
CMAR	**Chiang Mai Arr**	**145.47 341**	PKPbc	**PKPdf**	**13 56 53.3**	**-1.4**
1.5nm,0.6s,baz=327,slow=3.4,SNR=9.6						

IDC ***05*** *13:46:00.2±13.0, 8°.18S×112°.77E, h95km±127km, mb3.7/6, mb1 3.8/7, mb1mx3.4/34, mbtmp3.9/7, ML3.3/1, Error ellipse: s-maj=127.2km s-min=26.8km az=55.0*
ISCJB ***05*** *13:46:05.7±0.4, 8°.64S±0°.08×112°.93E±0°.04, h136km, mb3.8/6, Error ellipse: s-maj=12.1km s-min=4.6km az=16.5.*
DJA ***05*** *13:46:06.2±0.3, 9°.S±7°.×11°.3E±°, h138km±4km, M4.0/15, mB5.5/3, mb3.9/5, MLv3.9/15, Mw(mB)5.0/3*
ISC 05 13:46:05.1±0.8, 8°.5S±0°.1×112°.96E±0°.05, h136km, n23, σ2°56/28, mb3.8/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.53**	**65**	P	**Pn**	**13 46 27.4**	**+2.4**
GMJI				S	**Sn**	**13 46 43.4**	**+3.4**
JAGI	**Jajag, Banyuwa**	**1.18**	**89**	P	**Pn**	**13 46 32.9**	**+2.6**
JAGI				S	**Sn**	**13 46 51.8**	**+2.4**
PWJI	**Pagerwojo**	**1.24**	**292**	P	**Pn**	**13 46 32.3**	**+1.5**
PWJI				S	**Sn**	**13 46 52.2**	**+1.8**
GRJI	**Gresik**	**1.64**	**343**	P	**Pn**	**13 46 36.7**	**+1.5**
KMMI	**Kalianget**	**1.75**	**35**	P	**Pn**	**13 46 38.1**	**+1.6**
PCJI	**Pacitan**	**1.79**	**280**	P	**Pn**	**13 46 38.8**	**+1.9**
PCJI				S	**Sn**	**13 47 02.6**	**+1.4**
NGJI	**Ngawi**	**1.86**	**307**	P	**Pn**	**13 46 40.1**	**+2.4**
WOJI	**Wonogiri, Jawa**	**2.12**	**288**	P	**Pn**	**13 46 42.9**	**+2.1**
SRBI	**Singaraja**	**2.27**	**80**	P	**Pn**	**13 46 45.0**	**+2.4**
UGM	**Wanagama**	**2.48**	**283**	P	**Pn**	**13 46 46.7**	**+1.4**
PLAI	**Plampang**	**4.77**	**94**	P	**Pn**	**13 47 16.5**	**+1.2**
CISI	**Cisompet, Garu**	**5.18**	**280**	P	**Pn**	**13 47 21.5**	**+0.7**
WSI	**Waingapu**	**7.34**	**100**	P	**Pn**	**13 47 51.4**	**+1.7**
CGJI	**Cibinong**	**7.44**	**284**	P	**Pn**	**13 47 51.2**	**+0.1**
EDFI	**Ende, Flores**	**8.64**	**92**	P	**Pn**	**13 48 08.0**	**+0.8**
BATI	**Baumata**	**10.70**	**100**	S	**Sn**	**13 50 28.7**	**-4.2**
1.7nm,0.3s,baz=248,slow=19,SNR=3.2							
FITZ	**Fitzroy Crossi**	**15.59**	**129**	P	**P**	**13 49 38.9**	**0.0**
0.1nm,0.3s,baz=317,slow=14,SNR=5.3							
FITZ				S	**Sn**	**13 52 24.1**	**-6.6**
0.3nm,0.3s,baz=350,slow=23,SNR=9.9							
WRA	**Warramunga Arr**	**23.61**	**121**	P	**P**	**13 51 05.3**	**+1.5**
0.9nm,0.3s,baz=295,slow=12,SNR=54							
WRA				S	Sn	13 55 36.1	-6.9
0.2nm,0.5s,baz=307,slow=25,SNR=1.9							
ASAR	**Alice Springs**	**25.09**	**129**	P	**P**	**13 51 19.1**	**+1.7**
1.4nm,0.5s,baz=303,slow=9.0,SNR=31							
ASAR				S	S	13 56 10.1	+38
0.7nm,1.0s,baz=304,slow=22,SNR=3.7							
STKA	**Stephens Creek**	**35.34**	**135**	P	**P**	**13 52 50.1**	**+2.7**
3.0nm,0.4s,baz=311,slow=11,SNR=16							
MKAR	**Makanchi Array**	**61.45**	**336**	P	**P**	**13 56 04.8**	**-2.3**
0.6nm,0.5s,baz=152,slow=7.6,SNR=7.4							
ZALV	**Zalesovo Beam**	**66.60**	**342**	P	**P**	**13 56 37.5**	**-3.1**
0.5nm,0.4s,baz=149,slow=5.9,SNR=3.5							
BRTR	**Keskin Array B**	**87.25**	**311**	P	**P**	**13 58 34.2**	**-2.5**
0.5nm,0.7s,baz=107,slow=5.0,SNR=3.2							

MEX 05 13:47:16.4±0.9, 19°.95N×105°.30W, h26km±5km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.50**	**152**	*e*P	Pb	13 47 24.7	-2.0
CJM				*i* S	Sb	13 47 31.8	-1.9
ANIG	**Ahuacatlan**	**1.32**	**33**	*e*P	Pn	13 47 36.5	-2.8
ANIG				*e*S	Sn	13 47 52.7	-3.5
EZ5V		**1.66**	**106**	*e*P	Pn	13 47 42.3	-1.9
EZ5V				*e*S	Sn	13 48 01.9	-3.0
MMIG	**Aquila**	**2.47**	**131**	*i* P	Pn	13 47 52.9	-2.2
MMIG				*i* S	Sn	13 48 21.9	-2.6

IDC ***05*** *14:10:16.0±1.7, 2°.22N×126°.02E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/32, mbtmp4.0/4, MS2.5/1, Ms1 2.5/1, ms1mx2.0/32, Error ellipse: s-maj=115.3km s-min=21.6km az=68.0*
ISCJB ***05*** *14:10:23.2±0.6, 2°.18N±0°.05×126°.12E±0°.07, h83km, mb3.8/4, Error ellipse: s-maj=9.6km s-min=6.5km az=169.0*
NEIC ***05*** *14:10:23.9±1.8, 2°.21N×126°.19E, h72km±17km, mb4.0/3, Error ellipse: s-maj=20.5km s-min=12.1km az=217.0*
DJA ***05*** *14:10:24.0±0.4, 2°.N±3°.×12°.6E±°, h44km±30km, M4.2/12, mb4.2/7, mB4.8/2, MLv4.2/12, Mw(mB)4.1/2*
ISC 05 14:10:24.0±1.0, 2°.21N±0°.08×126°.23E±0°.10, h83km, n28, σ1°18/28, mb3.9/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.63**	**334**	P	**Pn**	**14 10 50.2**	**-0.9**
SGSI				S	**Sn**	**14 11 10.4**	**-1.2**
TNTI	**Ternate**	**1.82**	**141**	*e*Pn	**Pn**	**14 10 52.8**	**-0.9**
TNTI	**Ternate**	**1.82**	**141**	P	**Pn**	**14 10 53.4**	**-0.3**
KMSI	**Cibinong**	**2.77**	**234**	P	**Pn**	**14 11 05.8**	**-0.5**
SANI	**Sanana**	**4.24**	**183**	P	**Pn**	**14 11 24.5**	**-1.7**
MRSI	**Marisa**	**4.62**	**248**	P	**Pn**	**14 11 31.4**	**0.0**
LUWI	**Luwuk**	**4.73**	**227**	*e*Pn	**Pn**	**14 11 35.0**	**+2.0**
LUWI	**Luwuk**	**4.73**	**227**	P	**Pn**	**14 11 32.4**	**-0.5**
APSI	**Ampana**	**5.53**	**236**	P	**Pn**	**14 11 43.4**	**-0.4**
KDI	**Kendari**	**7.11**	**211**	P	**Pn**	**14 12 04.7**	**-0.7**
TTSI	**Tana Toraja**	**8.27**	**231**	P	**Pn**	**14 12 20.9**	**-0.3**
SPSI	**Sidrap Palu**	**8.91**	**226**	P	**Pn**	**14 12 29.6**	**-0.3**
BNSI	**Bone**	**8.98**	**223**	P	**Pn**	**14 12 30.5**	**-0.4**
BKSI	**Bulukumba**	**9.65**	**219**	P	**Pn**	**14 12 40.5**	**+0.4**
KAPI	**Kappang**	**9.66**	**222**	*e*Pn	**Pn**	**14 12 40.2**	**-0.1**
MTN	**Manton Dam**	**15.73**	**162**	*e*Pn	**Pn**	**14 14 00.4**	**-0.4**
28nm,1.7s							
KSM	**Kuching**	**15.93**	**268**	*e*Pn	**Pn**	**14 14 01.7**	**-1.7**
7.7nm,1.2s							
UGM	**Wanagama**	**18.62**	**237**	*e*P	**P**	**14 14 33.4**	**-1.7**
225nm,1.5s							
FITZ	**Fitzroy Crossi**	**20.19**	**182**	*e*P	**P**	**14 14 52.5**	**+0.4**
FITZ				S	Sn	14 18 55.4	+13
FITZ	**Fitzroy Crossi**	**20.19**	**182**	P	**P**	**14 14 53.2**	**+1.2**
2.5nm,0.6s,baz=7.9,slow=11,SNR=12							
FITZ				S	Sn	14 18 55.4	+13
1.6nm,0.9s,baz=121,slow=19,SNR=2.1							
WR1	**Warramunga Arr**	**23.41**	**160**	*e*P	**P**	**14 15 27.3**	**+1.4**
WRA	**Warramunga Arr**	**23.41**	**160**	P	**P**	**14 15 27.3**	**+1.4**
2.5nm,0.6s,baz=337,slow=11,SNR=44							
ASAR	**Alice Springs**	**26.78**	**164**	P	**P**	**14 15 58.4**	**+2.0**
0.6nm,0.4s,baz=347,slow=9.6,SNR=21							
KSRS	**Korea Array**	**35.11**	**2**	LR	LR	14 32 52.6	
comp=Z,7.8nm,19.9s,baz=80,slow=39							
MK31	**Makanchi Array**	**58.52**	**326**	*e*P	**P**	**14 20 13.0**	**+1.2**
0.8nm,0.6s							
MK32	**Makanchi Array**	**58.52**	**326**	*e*P	**P**	**14 20 13.3**	**+1.5**
MKAR	**Makanchi Array**	**58.52**	**326**	*e*P	**P**	**14 20 13.0**	**+1.2**
MKAR	**Makanchi Array**	**58.52**	**326**	P	**P**	**14 20 13.3**	**+1.5**
1.0nm,0.5s,baz=121,slow=8.3,SNR=21							

ISCJB ***05*** *14:28:18.8±0.5, 24°.93N±0°.02×121°.80E±0°.02, h123km±3km, Error ellipse: s-maj=4.5km s-min=3.2km az=142.3*
JMA ***05*** *14:28:18.1±0.2, 25°.00N×121°.77E, h122km±2km, M2.3*
TAP ***05*** *14:28:18.5, 24°.95N×121°.81E, h125km, ML3.1, B*
ISC 05 14:28:18.9±1.8, 24°.95N±0°.05×121°.80E±0°.03, h124km±9km, n80, σ0°59/148, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIPB	**Shuangxi**	**0.04**	**43**	*e*P	**Pn**	**14 28 35.6**	**-0.2**
baz=15							
TIPB				*e*S	**Sn**	**14 28 48.6**	**+0.1**
baz=15							
NTC	**Toucheng**	**0.10**	**162**	*e*P	**Pn**	**14 28 35.5**	**-0.3**
baz=178							
NTC				*e*S	**Sn**	**14 28 49.2**	**+0.7**
baz=178							
NWF	**Wu-fen Shan**	**0.13**	**353**	P	**Pn**	**14 28 35.8**	**-0.1**
baz=354							
NWF				*e*S	**Sn**	**14 28 49.0**	**+0.1**
baz=354							
WFSB	**Wu-fen Shan**	**0.13**	**353**	*e*P	**Pn**	**14 28 35.8**	**0.0**
baz=354							
WFSB				*e*S	**Sn**	**14 28 48.9**	**+0.3**
baz=354							
EGS		**0.16**	**129**	*e*P	**Pn**	**14 28 35.3**	**-0.5**
baz=120							
TWB1	**Santiao Chiao**	**0.18**	**70**	*e*P	**Pn**	**14 28 35.8**	**-0.1**
baz=84							
TWB1				*e*S	**Sn**	**14 28 48.6**	**-0.1**
baz=84							
ILA	**Ilan**	**0.18**	**194**	*e*P	**Pn**	**14 28 35.7**	**-0.2**
baz=201							
ILA				*e*S	**Sn**	**14 28 50.2**	**+1.5**
baz=201							
TWA	**Mucha**	**0.20**	**280**	*e*P	**Pn**	**14 28 36.0**	**+0.1**
baz=264							
TWA				*e*S	**Sn**	**14 28 49.1**	**+0.3**
baz=264							
SLBB	**Yuanshan**	**0.24**	**218**	*e*P	**Pn**	**14 28 36.3**	**+0.1**
baz=234							
SLBB				*e*S	**Sn**	**14 28 48.9**	**-0.3**
baz=234							
NHDH	**Xindian Distri**	**0.25**	**274**	*e*P	**Pn**	**14 28 35.9**	**-0.1**
baz=263							
NHDH				*e*S	**Sn**	**14 28 48.5**	**-0.6**
baz=263							
TWE	**Neicheng**	**0.25**	**208**	*e*P	**Pn**	**14 28 36.4**	**+0.3**
baz=223							
TWE				*e*S	**Sn**	**14 28 49.4**	**+0.3**
baz=223							
YM07	**YM07**	**0.28**	**325**	*e*P	**Pn**	**14 28 36.2**	**-0.1**
baz=322							
YM07				*e*S	**Sn**	**14 28 49.2**	**-0.2**
baz=322							
YM01	**YM01**	**0.29**	**314**	*e*P	**Pn**	**14 28 35.7**	**-0.5**
baz=319							
YM01				*e*S	**Sn**	**14 28 48.4**	**-1.0**
baz=319							
YM11	**YM11**	**0.30**	**317**	*e*P	**Pn**	**14 28 36.5**	**+0.1**
baz=315							
YM11				*e*S	**Sn**	**14 28 49.5**	**0.0**
baz=315							
YM10	**YM10**	**0.30**	**314**	*e*P	**Pn**	**14 28 36.3**	**-0.1**
baz=319							
YM10				*e*S	**Sn**	**14 28 49.2**	**-0.4**
baz=319							
YM08	**YM08**	**0.31**	**322**	*e*P	**Pn**	**14 28 36.5**	**+0.1**
baz=319							
YM08				*e*S	**Sn**	**14 28 49.5**	**0.0**
baz=319							
NWLT	**Wulai**	**0.32**	**238**	P	**Pn**	**14 28 35.8**	**-0.5**
baz=234							
NWLT				*e*S	**Sn**	**14 28 48.4**	**-1.2**
baz=234							
TWC	**Suao**	**0.34**	**172**	*e*P	**Pn**	**14 28 36.8**	**+0.4**
baz=165							
TWC				*e*S	**Sn**	**14 28 50.2**	**+0.5**
baz=165							
ANP	**Anpu**	**0.35**	**314**	*e*P	**Pn**	**14 28 36.1**	**-0.4**
baz=316							
ANP				*e*S	**Sn**	**14 28 49.0**	**-0.9**
baz=316							
ENTT	**Nioudou**	**0.37**	**215**	*e*P	**Pn**	**14 28 36.7**	**+0.1**
baz=225							
ENTT				*e*S	**Sn**	**14 28 49.7**	**-0.3**
baz=225							
TWY	**Chenhua**	**0.38**	**331**	*e*P	**Pn**	**14 28 36.0**	**-0.6**
baz=326							
TWY				*e*S	**Sn**	**14 28 49.5**	**-0.4**
baz=326							
TWS1	**Kuangyinshan**	**0.38**	**294**	*e*P	**Pn**	**14 28 36.9**	**+0.3**
baz=293							
TWS1				*e*S	**Sn**	**14 28 50.0**	**+0.1**
baz=293							
NTST	**Danshui**	**0.38**	**305**	*e*P	**Pn**	**14 28 36.6**	**0.0**
baz=303							
NTST				*e*S	**Sn**	**14 28 50.6**	**+0.7**
baz=303							
NDT	**Datong Townshi**	**0.43**	**217**	*e*P	**Pn**	**14 28 36.9**	**0.0**
baz=228							
NDT				*e*S	**Sn**	**14 28 50.6**	**+0.1**
baz=228							
YHNB	**Yeheng**	**0.47**	**235**	*e*P	**Pn**	**14 28 36.9**	**-0.3**
baz=237							
YHNB				*e*S	**Sn**	**14 28 49.8**	**-1.1**
baz=237							
EOS1	**EOS1**	**0.49**	**143**	*e*P	**Pn**	**14 28 37.6**	**+0.4**
baz=141							
EOS1				*e*S	**Sn**	**14 28 51.1**	**+0.2**
baz=141							
NANB	**Nanao**	**0.52**	**185**	*e*P	**Pn**	**14 28 37.9**	**+0.6**
baz=178							
NANB				*e*S	**Sn**	**14 28 52.6**	**+1.3**
baz=178							
ENA	**Nanau**	**0.52**	**186**	*e*P	**Pn**	**14 28 37.9**	**+0.6**
baz=178							
ENA				*e*S	**Sn**	**14 28 52.9**	**+1.6**
baz=178							
NCU	**National Centr**	**0.56**	**273**	*e*P	**Pn**	**14 28 37.4**	**-0.1**
baz=273							
NCU				*e*S	**Sn**	**14 28 51.9**	**+0.3**
baz=273							
NCUH	**Zhongli**	**0.56**	**272**	*e*P	**Pn**	**14 28 37.4**	**-0.2**
baz=273							
NCUH				*e*S	**Sn**	**14 28 51.3**	**-0.4**
baz=273							
NNS	**Nan Shan**	**0.64**	**218**	*e*P	**Pn**	**14 28 38.6**	**+0.3**
baz=220							
NNS				*e*S	**Sn**	**14 28 52.4**	**-0.5**
baz=220							
SBCB	**Hsinchu**	**0.75**	**259**	*e*P	**Pn**	**14 28 39.0**	**0.0**
baz=259							
SBCB				*e*S	**Sn**	**14 28 54.5**	**+0.3**
baz=259							
NSTT	**Nanjuang**	**0.79**	**247**	*e*P	**Pn**	**14 28 39.4**	**0.0**
baz=244							
NSTT				*e*S	**Sn**	**14 28 54.5**	**-0.2**
baz=244							
ETLH	**Xiulin Townshi**	**0.79**	**201**	P	**Pn**	**14 28 39.4**	**-0.1**
baz=209							
ETLH				*e*S	**Sn**	**14 28 54.7**	**-0.3**
baz=209							
NACB	**Ninganchiao**	**0.79**	**194**	P	**Pn**	**14 28 38.8**	**-0.5**
baz=203							
NACB				*e*S	**Sn**	**14 28 54.0**	**-0.8**
baz=203							
TWD	**Chiawan**	**0.88**	**192**	*e*P	**Pn**	**14 28 40.0**	**-0.1**
baz=202							
TWD				*e*S	**Sn**	**14 28 55.8**	**-0.4**
baz=202							
TWT	**Tachien**	**0.89**	**220**	*e*P	**Pn**	**14 28 41.6**	**+1.2**
baz=229							
TWT				*e*S	**Sn**	**14 28 57.1**	**+0.4**
baz=229							
TDCB	**Techi**	**0.90**	**220**	*e*P	**Pn**	**14 28 41.0**	**+0.5**
baz=229							
TDCB				*e*S	**Sn**	**14 28 57.0**	**+0.2**
baz=229							
WHF	**Hehuan Shan**	**0.93**	**211**	*e*P	**Pn**	**14 28 41.8**	**+0.7**
baz=209							
WHF				*e*S	**Sn**	**14 28 57.7**	**-0.1**
baz=209							
NMLH	**Miaoli**	**1.00**	**246**	*e*P	**Pn**	**14 28 41.3**	**+0.1**
baz=247							
NMLH				*e*S	**Sn**	**14 28 58.2**	**+0.1**
baz=247							
WHP	**Taichung City**	**1.02**	**230**	P	**Pn**	**14 28 41.9**	**+0.3**
baz=225							
WHP				*e*S	**Sn**	**14 28 58.7**	**0.0**
baz=225							
CHGB	**Renai**	**1.05**	**213**	*e*P	**Pn**	**14 28 42.6**	**+0.7**
baz=211							
CHGB				*e*S	**Sn**	**14 28 59.8**	**+0.4**
baz=211							
ENLB	**Shoufeng**	**1.05**	**190**	*e*P	**Pn**	**14 28 41.9**	**+0.1**
baz=199							
ENLB				*e*S	**Sn**	**14 29 00.1**	**+1.0**
baz=199							
NSY	**Sanyi**	**1.08**	**241**	*e*P	**Pn**	**14 28 41.9**	**-0.1**
baz=242							
NSY				*e*S	**Sn**	**14 28 60.0**	**+0.4**
baz=242							
TWQ1	**Liyutan**	**1.11**	**238**	*e*P	**Pn**	**14 28 42.6**	**+0.3**
baz=239							
TWQ1				*e*S	**Sn**	**14 28 59.2**	**-0.8**
baz=239							
OWD	**Renai**	**1.14**	**210**	*e*P	**Pn**	**14 28 43.7**	**+0.9**
baz=216							
OWD				*e*S	**Sn**	**14 29 01.6**	**+0.8**
baz=216							
JYNG	**Yonagunijimaku**	**1.15**	**115**	P	**Pn**	**14 28 42.7**	**0.0**
JYNG				*e*S	**Sn**	**14 29 00.7**	**-0.1**
ESL	**Shilin**	**1.17**	**197**	*e*P	**Pn**	**14 28 41.9**	**-1.1**
baz=202							
ESL				*e*S	**Sn**	**14 29 00.1**	**-1.2**
baz=202							
YOJ	**Yonaguni jima**	**1.20**	**113**	*e*P	**Pn**	**14 28 43.2**	**0.0**
baz=119							
YOJ				*e*S	**Sn**	**14 29 01.1**	**-0.6**
baz=119							
YOJ	**Yonaguni jima**	**1.20**	**113**	P	**Pn**	**14 28 43.2**	**0.0**
YOJ				*e*S	**Sn**	**14 29 01.3**	**-0.4**
DPDB	**Guoxing**	**1.21**	**221**	*e*P	**Pn**	**14 28 43.9**	**+0.5**
baz=228							
DPDB				*e*S	**Sn**	**14 29 02.2**	**+0.3**
baz=228							
WDJ	**Dajia District**	**1.21**	**241**	*e*P	**Pn**	**14 28 43.5**	**+0.2**
baz=234							
EGFH	**Guangfu**	**1.31**	**195**	*e*P	**Pn**	**14 28 43.2**	**-1.3**
baz=201							
EGFH				*e*S	**Sn**	**14 29 02.7**	**-1.2**
baz=201							
VWDT	**VWDT**	**1.33**	**207**	*e*P	**Pn**	**14 28 45.0**	**+0.4**
baz=214							
VWDT				*e*S	**Sn**	**14 29 05.2**	**+1.0**
baz=214							
SMLT	**Sun Moon Lake**	**1.34**	**218**	*e*P	**Pn**	**14 28 45.3**	**+0.5**
baz=219							
SMLT				*e*S	**Sn**	**14 29 04.2**	**-0.4**
baz=219							
TYC	**Yuchr**	**1.35**	**220**	P	**Pn**	**14 28 45.3**	**+0.5**
baz=220							
TYC				*e*S	**Sn**	**14 29 03.9**	**-0.6**
baz=220							
SSLB	**Suanglung**	**1.39**	**214**	P	**Pn**	**14 28 45.7**	**+0.4**
baz=223							
SSLB				*e*S	**Sn**	**14 29 05.1**	**-0.3**
baz=223							
WNT	**Mingjian**	**1.47**	**224**	P	**Pn**	**14 28 46.8**	**+0.6**
baz=232							
WNT				*e*S	**Sn**	**14 29 07.7**	**+0.8**
baz=232							
WJS	**Zhushan**	**1.48**	**221**	*e*P	**Pn**	**14 28 46.8**	**+0.4**
baz=230							
WJS				*e*S	**Sn**	**14 29 07.2**	**0.0**
baz=230							
HGSD	**Ruisui**	**1.49**	**193**	*e*P	**Pn**	**14 28 46.2**	**-0.1**
baz=195							
HGSD				*e*S	**Sn**	**14 29 06.5**	**-0.8**
baz=195							
EHY	**Hungye**	**1.50**	**197**	*e*P	**Pn**	**14 28 46.5**	**0.0**
baz=191							
EHY				*e*S	**Sn**	**14 29 06.2**	**-1.3**
baz=191							
WHYT	**Xinyi Township**	**1.51**	**215**	P	**Pn**	**14 28 47.3**	**+0.6**
baz=221							
WHYT				*e*S	**Sn**	**14 29 08.3**	**+0.3**
baz=221							
YULB	**Yu-li**	**1.61**	**197**	*e*P	**Pn**	**14 28 46.7**	**-1.2**
baz=191							
YULB				*e*S	**Sn**	**14 29 08.0**	**-1.9**
baz=191							
TWF1	**Yuli**	**1.65**	**196**	*e*P	**Pn**	**14 28 47.9**	**-0.4**
baz=192							
TWF1				*e*S	**Sn**	**14 29 09.3**	**-1.5**
baz=192							
TWF1	**Yuli**	**1.65**	**196**	S	**Pn**	**14 28 47.5**	**-0.8**
baz=41							
CHN5	**Tsauling**	**1.69**	**218**	*e*P	**Pn**	**14 28 49.4**	**+0.5**
baz=227							
CHN5				*e*S	**Sn**	**14 29 11.8**	**+0.2**
baz=227							
ALS	**Alishan**	**1.69**	**213**	*e*P	**Pn**	**14 28 48.9**	**-0.2**
baz=221							
ALS				*e*S	**Sn**	**14 29 12.9**	**+0.8**
baz=221							
ALS	**Alishan**	**1.69**	**213**	*e*S	**Pn**	**14 28 48.9**	**-0.2**
baz=11							
IRIF	**Iriomote-Funau**	**1.86**	**109**	P	**Pn**	**14 28 50.6**	**-0.2**
IRIF				S	**Sn**	**14 29 15.0**	**-0.1**
ELDTW	**Lidau**	**1.89**	**202**	*e*P	**Pn**	**14 28 51.9**	**+0.7**
baz=204							
ELDTW				*e*S	**Sn**	**14 29 15.8**	**-0.2**
baz=204							
CHN4	**Tsaushan**	**1.93**	**215**	*e*S	**Sn**	**14 29 17.4**	**+0.6**
baz=217							
TPUB	**Ta-pu**	**1.96**	**213**	*e*S	**Sn**	**14 29 17.7**	**+0.4**
baz=215							
WTP	**Ta-pu**	**2.01**	**213**	*e*S	**Sn**	**14 29 18.2**	**-0.3**
baz=213							
HATJ	**Hateruma jima**	**2.03**	**115**	*e*S	**Sn**	**14 29 20.1**	**+1.2**
TWK	**Hsinying**	**2.06**	**216**	*e*S	**Sn**	**14 29 19.6**	**0.0**
baz=218							
CHN1	**Nanshi**	**2.10**	**214**	*e*S	**Sn**	**14 29 20.2**	**-0.4**
baz=216							
JKRS	**Kuro-shima**	**2.13**	**109**	P	**Pn**	**14 28 54.4**	**+0.3**
JKRS				*e*S	**Sn**	**14 29 22.0**	**+0.9**
SGST	**Jiashian**	**2.16**	**211**	*e*S	**Sn**	**14 29 22.1**	**+0.2**
baz=219							
JIJ	**Ishigaki jima**	**2.21**	**105**	P	**Pn**	**14 28 54.9**	**-0.2**
JIJ				S	**Sn**	**14 29 22.6**	**-0.3**
JISG	**Ishigakijimahi**	**2.31**	**98**	P	**Pn**	**14 28 56.7**	**+0.3**

TAP 05 14:28:20.9, 22°.74N×120°.74E, h25km, ML2.1, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.10**	**273**	*i* P	Pb	14 28 25.8	+0.3
baz=272							
SSD				S	Sb	14 28 29.2	+0.6
baz=272							
MASBT	**Mashibuluo**	**0.16**	**217**	*e*P	Pb	14 28 26.3	+0.2
baz=224							
MASBT				*e*S	Sb	14 28 29.8	+0.3
baz=224							
SGLT	**Jiouru**	**0.23**	**266**	*e*S	Sb	14 28 33.1	+2.2
baz=266							
ECL	**Taimali**	**0.24**	**126**	P	Pb	14 28 27.6	+0.5
baz=125						

SNJT	**Kaohsiung City**	**0.37**	**272**	*e*P	Pn	14 28 31.0 +0.2
	baz=272					
SNJT				*e*S	Sn	14 28 39.2 +2.0
	baz=272					
SCZT	**Fangliau**	**0.38**	**197**	P	Pb	14 28 29.6 +0.4
	baz=199					
SCZT				*e*S	Sb	14 28 35.4 +0.6
	baz=199					
TAW	**Tawu**	**0.41**	**159**	*e*S	Sb	14 28 36.2 +0.7
	baz=155					
KAU	**Kaohsiung**	**0.43**	**247**	*e*S	Sn	14 28 39.6 +0.9
	baz=246					
CHN1	**Nanshi**	**0.48**	**336**	*e*P	Pn	14 28 32.0 -0.3
	baz=346					
CHN1				*e*S	Sn	14 28 40.4 +0.3
	baz=346					
WLCH	**Liuqiu**	**0.51**	**221**	*e*P	Pn	14 28 34.2 +1.5
	baz=215					
WLCH				*e*S	Sn	14 28 43.8 +3.2
	baz=215					
ELDTW	**Lidau**	**0.51**	**30**	*e*P	Pn	14 28 32.2 -0.6
	baz=31					
ELDTW				*e*S	Sn	14 28 39.9 -1.0
	baz=31					
WTP	**Ta-pu**	**0.52**	**347**	P	Pn	14 28 32.3 -0.5
	baz=348					
WTP				S	Sn	14 28 41.3 +0.5
	baz=348					
TWP	**Hsiaoliuchiu**	**0.53**	**222**	*e*P	Pn	14 28 33.8 +0.9
	baz=221					
TWP				*e*S	Sn	14 28 43.7 +2.8
	baz=221					
SNST	**Tainan City**	**0.53**	**335**	*e*P	Pn	14 28 33.0 +0.1
	baz=345					
SNST				*e*S	Sn	14 28 41.3 +0.2
	baz=345					
TPUB	**Ta-pu**	**0.57**	**350**	*e*P	Pn	14 28 33.2 -0.3
	baz=350					
TPUB				*e*S	Sn	14 28 42.5 +0.4
	baz=350					
TWK	**Hsinying**	**0.57**	**336**	*e*P	Pn	14 28 34.2 +0.6
	baz=337					
TWK				*e*S	Sn	14 28 43.1 +0.8
	baz=337					
CHN4	**Tsaushan**	**0.62**	**348**	*e*P	Pn	14 28 34.1 -0.1
	baz=348					
CHN4				*e*S	Sn	14 28 44.6 +1.2
	baz=348					
FULB	**Fuli**	**0.69**	**48**	*e*P	Pn	14 28 35.4 +0.3
	baz=42					
FULB				*e*S	Sn	14 28 45.5 +0.5
	baz=42					
HEN	**Hengchun**	**0.73**	**180**	*e*S	Sn	14 28 47.1 +1.0
	baz=173					
ALS	**Alishan**	**0.77**	**5**	*e*P	Pn	14 28 36.6 +0.1
	baz=11					
TWF1	**Yuli**	**0.80**	**40**	P	Pn	14 28 36.8 +0.2
	baz=41					
TWK1	**Hengchun**	**0.80**	**176**	*e*P	Pn	14 28 36.9 +0.4
	baz=175					
TWK1				*e*S	Sn	14 28 49.0 +1.4
	baz=175					
TWKBT	**Hengchun**	**0.80**	**175**	*e*P	Pn	14 28 37.2 +0.6
	baz=175					
TWKBT				*e*S	Sn	14 28 48.7 +1.0
	baz=175					
CHY	**Chiayi**	**0.81**	**339**	*e*S	Sn	14 28 50.2 +2.2
	baz=340					
YULB	**Yu-li**	**0.83**	**38**	*e*P	Pn	14 28 37.2 +0.1
	baz=39					
YULB				*e*S	Sn	14 28 48.1 -0.4
	baz=39					
TSEB	**Hengchuen, Pin**	**0.85**	**170**	*e*S	Sn	14 28 51.5 +2.5
	baz=184					
CHN5	**Tsauling**	**0.85**	**356**	*e*P	Pn	14 28 38.9 +1.4
	baz=356					
CHN5				*e*S	Sn	14 28 50.2 +0.9
	baz=356					
EHY	**Hungye**	**0.93**	**35**	*e*P	Pn	14 28 38.7 +0.2
	baz=32					
EHY				*e*S	Sn	14 28 51.4 +0.3
	baz=32					
WHYT	**Xinyi Township**	**0.96**	**6**	*e*P	Pb	14 28 39.9 +1.1
	baz=358					
WHYT				*e*S	Sn	14 28 53.7 +2.0
	baz=358					
HGSD	**Ruisui**	**0.98**	**40**	*e*P	Pb	14 28 40.8 +1.6
	baz=30					
VWDT	**VWDT**	**1.07**	**20**	*e*P	Pb	14 28 41.2 +0.4
	baz=20					

*IDC **05** 14:33:07.7±2.0, 12°.76S×70°.84W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/23, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=88.5km s-min=30.1km az=46.0*
*ISCJB **05** 14:33:09.7±0.6, 15°.42S±0°.08×72°.51W±0°.08, h108km, mb3.7/3, Error ellipse: s-maj=14.7km s-min=7.1km az=44.0*
*NEIC **05** 14:33:11.7±0.9, 15°.48S×72°.49W, h119km±12km, mb4.2/1, Error ellipse: s-maj=24.4km s-min=10.2km az=46.0*
ISC 05 14:33:10.8±0.8, 15°.5S±0°.1×72°.52W±0°.08, h108km, n19, σ1.31/21, mb3.7/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.29**	**101**	*e*Pn	**Pn**	**14 34 15.8**	**+1.2**
LPAZ				Sn	**Sn**	**14 35 03.7**	**-0.4**
LPAZ	**La Paz**	**4.29**	**101**	Pn	**Pn**	**14 34 15.9**	**+1.3**
	6.7nm,0.3s,baz=287,slow=9.1,SNR=169						
LPAZ				Sn	**Sn**	**14 35 03.7**	**-0.4**
	baz=45,slow=19,SNR=1.1						
MNMC	**Minye Minye**	**4.57**	**143**	*e*Pn	**Pn**	**14 34 19.2**	**+1.1**
PB11	**IPOC Station P**	**5.04**	**148**	*e*Pn	**Pn**	**14 34 25.1**	**+0.7**
GO01	**Chusmiza**	**5.22**	**143**	*e*Pn	**Pn**	**14 34 28.9**	**+1.8**
NNA	**Nana**	**5.46**	**309**	*e*Pn	**Pn**	**14 34 30.3**	**+0.4**
PB01	**IPOC Station P**	**6.22**	**153**	*e*Pn	**Pn**	**14 34 42.1**	**+1.7**
PB04	**IPOC Station P**	**7.16**	**162**	*e*Pn	**Pn**	**14 34 52.2**	**-0.9**
LVC	**Limon Verde**	**7.86**	**155**	*e*Pn	**Pn**	**14 35 03.5**	**+0.7**
CPUP	**Villa Florida**	**17.80**	**130**	*e*P	**Pn**	**14 37 12.4**	**+0.6**
	26nm,1.8s						
LTX	**Lajitas**	**53.77**	**326**	*e*P	**P**	**14 42 23.1**	**+0.8**
TXAR	**Lajitas Array**	**53.77**	**326**	P	**P**	**14 42 23.1**	**+0.8**
TXAR	**Lajitas Array**	**53.77**	**326**	P	**P**	**14 42 23.1**	**+0.8**
	0.2nm,0.4s,baz=138,slow=8.4,SNR=1.9						
TOA1	**Torodi Ar. Sit**	**78.72**	**73**	*e*P	**P**	**14 44 59.6**	**-2.3**
TORD	**Torodi Ar. Bea**	**78.72**	**73**	P	**P**	**14 44 59.6**	**-2.3**
TORD	**Torodi Ar. Bea**	**78.72**	**73**	P	**P**	**14 44 59.6**	**-2.3**
	0.9nm,0.7s,baz=262,slow=6.4,SNR=5.1						
YKA	**Yellowknife Ar**	**84.43**	**342**	P	**P**	**14 45 30.9**	**0.0**
YKA	**Yellowknife Ar**	**84.43**	**342**	P	**P**	**14 45 30.9**	**0.0**
	0.9nm,0.7s,baz=134,slow=5.3,SNR=24						
YKB5	**Yellowknife Ar**	**84.43**	**342**	*e*P	**P**	**14 45 30.9**	**0.0**

ISC 05 14:41:26.3±18.0, 60°.40S×99°.33E, h0km, Error ellipse: s-maj=43.4km s-min=16.8km az=168.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**27.26**	**27**	H	H	15 15 36.9	
	baz=196,slow=76,SNR=50						
H01W1	**Cape Leeuwin H**	**27.27**	**27**	H	H	15 15 40.2	
	baz=196,slow=76,SNR=46						
H01W3	**Cape Leeuwin H**	**27.28**	**27**	H	H	15 15 39.6	
	baz=196,slow=76,SNR=45						
H08S2	**Diego Garcia H**	**56.37**	**327**	H	H	15 51 55.2	
	baz=164,slow=76,SNR=30						
H08S1	**Diego Garcia H**	**56.38**	**327**	H	H	15 51 55.6	
	baz=164,slow=76,SNR=33						
H08S3	**Diego Garcia H**	**56.39**	**327**	H	H	15 51 56.7	
	baz=164,slow=76,SNR=28						
H10S2	**ASCENSION HYDR**	**93.73**	**245**	H	H	16 39 37.0	
	baz=152,slow=75,SNR=8.9						
H10S3	**ASCENSION HYDR**	**93.74**	**245**	H	H	16 39 37.9	
	baz=152,slow=75,SNR=5.1						
H10S1	**ASCENSION HYDR**	**93.75**	**245**	H	H	16 39 38.4	
	baz=152,slow=75,SNR=6.2						

*IDC **05** 15:03:20.6±2.0, 13°.84N×92°.74W, h0km, mb3.6/4, mb1 3.9/8, mb1mx3.6/34, mbtmp3.5/8, ML3.4/4, MS2.7/2, Ms1 2.8/2, ms1mx2.3/33, Error ellipse: s-maj=46.1km s-min=19.0km az=23.0*
*NEIC **05** 15:03:22.9±0.0, 13°.79N×92°.84W, h15km, MD4.0(MEX), After MEX.*
*MEX **05** 15:03:22.9±0.6, 13°.79N×92°.84W, h15km, MD4.0*
ISC 05 15:03:22.9±2.4, 14°.04N±0°.09×92°.84W±0°.06, h5km±13km, n19, σ0.89/28, mb3.7/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.03**	**33**	*i* P	**Pg**	**15 03 42.5**	**-0.1**
THIG				*i* S	**Sb**	**15 03 57.4**	**+0.4**
THIG		**1.03**	**33**	*i* P	**Pg**	**15 03 42.5**	**-0.1**
THIG				*i* S	**Sb**	**15 03 57.4**	**+0.4**
PCIG		**1.70**	**348**	*e*P	**Pn**	**15 03 51.9**	**-1.2**
PCIG				*i* S	**Sn**	**15 04 14.4**	**-0.8**
PCIG		**1.70**	**348**	*e*P	**Pn**	**15 03 51.9**	**-1.2**
PCIG				*i* S	**Sn**	**15 04 14.4**	**-0.8**
CCIG	**Comitan**	**2.33**	**17**	*e*P	**Pn**	**15 04 01.4**	**-0.6**
CCIG				*i* S	**Sn**	**15 04 31.8**	**+0.6**
CCIG	**Comitan**	**2.33**	**17**	*e*P	**Pn**	**15 04 01.4**	**-0.6**
CCIG				*i* S	**Sn**	**15 04 31.8**	**+0.6**
APG	**El Apazote**	**2.49**	**67**	Pn	**Pn**	**15 04 03.7**	**-0.6**
	7.3nm,0.3s,baz=248,slow=15,SNR=90						
APG				LR	LR	15 04 34.6	
	comp=Z,63nm,19.4s,baz=332,slow=30						
APG				Sn	**Sn**	**15 04 35.0**	**-0.2**
	6.8nm,0.3s,baz=318,slow=21,SNR=1.4						
TGIG		**2.74**	**354**	*i* P	**Pn**	**15 04 07.3**	**-0.2**
TGIG				*i* S	**Sn**	**15 04 40.7**	**-0.3**
TGIG		**2.74**	**354**	*i* P	**Pn**	**15 04 07.3**	**-0.2**
TGIG				*i* S	**Sn**	**15 04 40.7**	**-0.3**
CMIG	**Matias Romero**	**3.62**	**327**	*e*P	**Pn**	**15 04 19.6**	**-0.1**
CMIG				*i* S	**Sn**	**15 05 02.0**	**-0.7**
CMIG	**Matias Romero**	**3.62**	**327**	Pn	**Pn**	**15 04 19.5**	**-0.1**
	2.0nm,0.3s,baz=141,slow=13,SNR=18						
CMIG				Sn	**Sn**	**15 05 02.3**	**-0.4**
	4.8nm,0.3s,baz=5.7,slow=17,SNR=5.6						
JTS	**Las Juntas de**	**8.56**	**115**	Pn	Pn	15 05 23.9	-3.6
	0.3nm,0.3s,baz=242,slow=11,SNR=1.9						
JTS				Lg	Lg	15 07 46.1	
	0.6nm,0.3s,baz=174,slow=17,SNR=5.3						
TXAR	**Lajitas Array**	**18.23**	**328**	P	**P**	**15 07 39.0**	**+2.0**
	0.0nm,0.3s,baz=143,slow=14,SNR=2.5						
PDAR	**Pinedale Array**	**32.06**	**336**	P	**P**	**15 09 51.0**	**+0.1**
	0.2nm,0.6s,baz=141,slow=8.8,SNR=2.5						
NVAR	**Mina Array Bea**	**33.13**	**322**	P	**P**	**15 10 02.1**	**+1.8**
	0.7nm,0.7s,baz=134,slow=8.9,SNR=6.1						
YKA	**Yellowknife Ar**	**50.81**	**347**	P	**P**	**15 12 23.0**	**-1.0**
	2.4nm,0.7s,baz=150,slow=7.4,SNR=56						
ILAR	**Eielson Array**	**62.49**	**337**	P	**P**	**15 13 47.6**	**+0.6**
	0.3nm,0.6s,baz=102,slow=6.9,SNR=4.6						
NOA	**NORSAR Array B**	**84.50**	**28**	LR	LR	15 56 11.2	
	comp=Z,8.8nm,18.9s,baz=265,slow=38						
CMAR	**Chiang Mai Arr**	**145.69**	**340**	PKPbc	**PKPdf**	**15 23 01.7**	**-1.8**
	0.9nm,0.7s,baz=340,slow=3.8,SNR=7.5						

*ISCJB **05** 15:13:27.9±0.5, 52°.26S±0°.08×14°.0E±0°.2, h10km, mb4.1/11, MS3.6/11, Error ellipse: s-maj=19.6km s-min=11.3km az=171.3*
*IDC **05** 15:13:28.1±0.6, 52°.25S×14°.04E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/32, mbtmp4.1/12, MS3.7/11, Ms1 3.7/11, ms1mx3.5/22, Error ellipse: s-maj=28.3km s-min=16.7km az=82.0*
*NEIC **05** 15:13:29.8±0.3, 52°.28S×14°.09E, h10km, mb4.5/5, Error ellipse: s-maj=14.1km s-min=8.7km az=78.0*
ISC 05 15:13:29.5±0.5, 52°.27S±0°.09×14°.1E±0°.1, h10km, n51, σ0.76/44, mb4.0/11, MS3.6/11, 2C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.48**	**17**	*e*P	**P**	**15 18 07.5**	**0.0**
	94nm,1.8s						
SUR				S	S	15 21 43.7	-13
SUR	**Sutherland**	**20.48**	**17**	P	**P**	**15 18 07.4**	**0.0**
	6.4nm,1.0s,baz=185,slow=8.7,SNR=2.7						
SUR				S	S	15 21 43.7	-13
	3.5nm,0.9s,baz=177,slow=21,SNR=1.7						
SUR				LR	LR	15 24 18.7	
	comp=Z,231nm,18.2s,baz=174,slow=32						
SYO	**Syowa Base**	**20.66**	**154**	⇑*e*P	**P**	**15 18 07.0**	**-1.9**
SYO	**Syowa Base**	**20.66**	**154**	⇑*e*P	**P**	**15 18 10.0**	**+1.1**
SNAA	**Sanae**	**20.87**	**195**	*e*P	**P**	**15 18 11.3**	**0.0**
	26nm,1.0s						
SNAA	**Sanae**	**20.87**	**195**	P	**P**	**15 18 11.5**	**+0.3**
	21nm,0.9s,baz=23,slow=10.0,SNR=24						
SNAA				LR	LR	15 24 20.5	
	comp=Z,129nm,21.1s,baz=334,slow=31						
BOSA	**Boshof**	**25.06**	**24**	LR	LR	15 26 54.5	
	comp=Z,182nm,20.7s,baz=199,slow=32						
MAW	**Mawson**	**27.91**	**142**	*e*P	**P**	**15 19 18.0**	**-1.2**
	4.9nm,1.8s						
MAW	**Mawson**	**27.91**	**142**	LR	LR	15 28 17.7	
	comp=Z,192nm,21.0s,slow=32						
QSPA	**South Pole Qui**	**37.97**	**180**	*e*P	**P**	**15 20 47.1**	**0.0**
	31nm,1.8s						
QSPA	**South Pole Qui**	**37.97**	**180**	P	**P**	**15 20 46.9**	**-0.2**
	2.2nm,0.7s,baz=62,slow=2.4,SNR=16						
PMSA	**Palmer Station**	**39.91**	**221**	LR	LR	15 33 28.5	
	comp=Z,80nm,20.2s,baz=118,slow=30						
VNDA	**Vanda**	**48.94**	**171**	*e*P	**P**	**15 22 14.9**	**-0.2**
VNDA	**Vanda**	**48.94**	**171**	P	**P**	**15 22 15.3**	**+0.2**
	2.4nm,0.7s,baz=239,slow=6.2,SNR=15						
VNDA				LR	LR	15 41 55.9	
	comp=Z,198nm,19.8s,baz=232,slow=35						
CPUP	**Villa Florida**	**58.39**	**267**	*e*P	**P**	**15 23 23.9**	**-1.0**
CPUP	**Villa Florida**	**58.39**	**267**	P	**P**	**15 23 25.0**	**+0.1**
	1.2nm,0.8s,baz=104,slow=4.2,SNR=3.1						
DBIC	**Dimbokro**	**60.89**	**338**	LR	LR	15 48 08.9	
	comp=Z,45nm,18.1s,baz=135,slow=34						
TORD	**Torodi Ar. Bea**	**66.02**	**347**	P	**P**	**15 24 14.7**	**-1.3**
	0.7nm,0.8s,baz=171,slow=5.6,SNR=3.1						
TORD				LR	LR	15 50 13.0	
	comp=Z,37nm,18.1s,baz=290,slow=33						
TOA1	**Torodi Ar. Sit**	**66.02**	**347**	*e*P	**P**	**15 24 14.7**	**-1.4**
H01W2	**Cape Leeuwin H**	**68.85**	**120**	T	T	16 40 18.1	
	baz=220						
H01W3	**Cape Leeuwin H**	**68.86**	**120**	T	T	16 40 16.4	
	baz=220						
H01W1	**Cape Leeuwin H**	**68.86**	**120**	T	T	16 40 19.7	
	baz=220						
LPAZ	**La Paz**	**72.53**	**266**	P	**P**	**15 24 58.3**	**+1.0**
	2.2nm,0.9s,baz=132,slow=3.9,SNR=3.7						
STKA	**Stephens Creek**	**84.49**	**137**	*e*P	**P**	**15 26 03.0**	**+0.6**
	3.1nm,1.6s						
STKA	**Stephens Creek**	**84.49**	**137**	P	**P**	**15 26 02.9**	**+0.4**
	1.2nm,0.7s,baz=237,slow=8.1,SNR=3.6						
ASAR	**Alice Springs**	**88.03**	**127**	P	**P**	**15 26 20.9**	**+0.9**
	2.3nm,0.7s,baz=204,slow=4.7,SNR=43						
ASAR				LR	LR	16 01 02.2	
	comp=Z,46nm,18.3s,baz=123,slow=32						
AS31	**Alice Springs**	**88.03**	**127**	*e*P	**P**	**15 26 21.0**	**+1.0**
WR1	**Warramunga Arr**	**91.38**	**126**	*e*P	**P**	**15 26 35.2**	**-0.5**
WRA	**Warramunga Arr**	**91.38**	**126**	P	**P**	**15 26 35.2**	**-0.5**
	0.6nm,0.7s,baz=209,slow=4.0,SNR=5.8						
ESDC	**Sonseca Array**	**92.90**	**346**	P	**P**	**15 26 42.6**	**+0.6**
	0.1nm,0.3s,baz=154,slow=4.4,SNR=4.4						
BRTR	**Keskin Array B**	**93.19**	**15**	P	**P**	**15 26 44.4**	**+0.9**
	0.5nm,0.7s,baz=171,slow=6.5,SNR=3.8						
BR101	**Keskin Array S**	**93.19**	**15**	*e*P	**P**	**15 26 44.4**	**+0.9**
GEYT	**Alibeck**	**97.69**	**34**	LR	LR	16 13 03.7	
	comp=Z,10nm,18.3s,baz=25,slow=37						
KBZ	**Khabaz**	**98.81**	**21**	LR	LR	16 10 50.0	
	comp=Z,38nm,21.5s,baz=200,slow=35						
PDAR	**Pinedale Array**	**141.65**	**279**	PKhKP	PKPpre	15 32 54.4	
	0.6nm,0.8s,baz=118,slow=5.5,SNR=4.2						
NV01	**Mina Array Sit**	**144.44**	**266**	*e*PKPdf	**PKPdf**	**15 33 05.1**	**-0.5**
NVAR	**Mina Array Bea**	**144.44**	**266**	PKP	**PKPdf**	**15 33 05.1**	**-0.5**
	0.7nm,0.9s,baz=146,slow=5.2,SNR=3.1						
RES	**Resolute Bay**	**144.44**	**334**	*e*PKPdf	**PKPdf**	**15 33 04.4**	**+0.2**
HRY	**Holter Researc**	**145.11**	**283**	*e*PKPbc	**PKPdf**	**15 33 07.1**	**+0.7**
TIXI	**Tiksi**	**146.10**	**31**	*e*PKPdf	**PKPbc**	**15 33 07.9**	**-0.2**
TIXI				*e*PKPdf	**PKPab**	**15 33 08.2**	**-0.5**
TIXI	**Tiksi**	**146.10**	**31**	PKPbc	**PKPbc**	**15 33 07.9**	**-0.2**
	7.9nm,0.9s,baz=354,slow=1.2,SNR=23						
AFDM	**Forest Hills D**	**146.39**	**265**	*e*PKPdf	**PKPbc**	**15 33 09.4**	**-0.6**
MSO	**Missoula**	**146.43**	**282**	*e*PKPdf	**PKPab**	**15 33 10.7**	**-0.2**
WALA	**Waterton Lakes**	**147.44**	**285**	*e*PKPdf	**PKPbc**	**15 33 11.6**	**-1.2**
BMO	**Blue Mountains**	**147.49**	**277**	*e*PKPbc	**PKPbc**	**15 33 13.9**	**+0.8**
G08A	**Pilot Rock**	**148.72**	**276**	*e*PKPbc	**PKiKP**	**15 33 17.3**	**-0.4**
YKA	**Yellowknife Ar**	**151.27**	**311**	PKPbc	**PKPbc**	**15 33 21.9**	**+0.2**
	2.0nm,0.8s,baz=88,slow=2.5,SNR=36						
YKA				PKPab	**PKPab**	**15 33 29.6**	**-0.3**
	1.6nm,0.8s,baz=89,slow=2.3,SNR=12						
YKB5	**Yellowknife Ar**	**151.27**	**311**	*e*PKPbc	**PKPbc**	**15 33 21.9**	**+0.2**
YKB5				*e*PKPab	**PKPab**	**15 33 29.6**	**-0.3**
INK	**Inuvik**	**157.69**	**328**	*e*PKPab	**PKPab**	**15 33 58.2**	**+1.2**
ILAR	**Eielson Array**	**164.09**	**329**	PKPab	**PKPab**	**15 34 25.7**	**+0.6**
	0.6nm,0.7s,baz=33,slow=3.5,SNR=5.6						
ILB	**Eielson Array**	**164.09**	**329**	*e*PKPab	**PKPab**	**15 34 25.7**	**+0.6**

*ISCJB **05** 15:22:06.5±0.4, 23°.16S±0°.03×66°.90W±0°.05, h217km±5km, mb3.4/4, Error ellipse: s-maj=8.0km s-min=4.9km az=164.3*
*IDC **05** 15:22:06.8±1.0, 23°.18S×66°.71W, h197km±11km, mb3.3/4, mb1 3.5/10, mb1mx3.3/26, mbtmp3.9/10, MS2.1/1, Ms1 2.3/1, ms1mx2.0/9, Error ellipse: s-maj=18.1km s-min=15.0km az=106.0*
*GUC **05** 15:22:08.4±0.5, 23°.10S×67°.17W, h244km±6km, ML4.2*
*NEIC **05** 15:22:08.0±0.0, 23°.01S×67°.41W, h250km, mb4.4/2, ML4.1(GUC), After GUC.*
ISC 05 15:22:06.8±0.7, 23°.18S±0°.05×66°.89W±0°.06, h213km±7km, n43, σ1.60/64, mb3.5/4, 5C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.95**	**287**	*i* P	**Pn**	**15 22 47.4**	**+1.1**
LVC				*i* S	**S**	**15 23 17.3**	**+0.7**
LVC	**Limon Verde**	**1.95**	**287**	P	**Pn**	**15 22 47.4**	**+1.1**
	18nm,0.3s,baz=86,slow=6.5,SNR=131						
LVC				S	**S**	**15 23 17.6**	**+1.0**
	22nm,0.3s,baz=297,slow=19,SNR=28						
SLA	**San Lorenzo**	**1.99**	**141**	⇓*i*P	**Pn**	**15 22 47.8**	**+1.4**
SLA				*i* S	**S**	**15 23 17.1**	**0.0**
PB15	**IPOC Station P**	**2.38**	**269**	⇑*e*P	**Pn**	**15 22 51.8**	**+1.3**
PB15				*i* S	**S**	**15 23 25.2**	**+1.1**
PB06	**IPOC Station P**	**2.52**	**280**	*e*P	**Pn**	**15 22 53.0**	**+1.1**
PB06				*i* S	**S**	**15 23 26.8**	**0.0**
PB06				IAML		15 23 29.3	
	comp=E,290nm,0.3s						
PB09	**IPOC Station P**	**2.58**	**302**	*e*P	**Pn**	**15 22 54.0**	**+1.4**
PB09				*i* S	**S**	**15 23 28.3**	**+0.3**
PB09				IAML		15 23 32.4	
	comp=E,159nm,0.5s						
PB03	**IPOC Station P**	**2.88**	**293**	*e*P	**Pn**	**15 22 56.6**	**+0.6**
PB03				*i* S	**S**	**15 23 33.0**	**-1.1**
PB03				IAML		15 23 34.4	
	comp=E,407nm,0.3s						
PB05	**IPOC Station P**	**3.07**	**275**	⇑*i*P	**Pn**	**15 22 59.0**	**+0.8**
PB05				*i* S	**S**	**15 23 36.8**	**-1.1**
PB04	**IPOC Station P**	**3.13**	**285**	*e*Pn	**Pn**	**15 22 59.1**	**+0.3**
PB04	**IPOC Station P**	**3.13**	**285**	*e*P	**Pn**	**15 22 59.4**	**+0.6**
PB04				*e*S	**S**	**15 23 38.0**	**-1.1**
PB04				IAML		15 23 43.3	
	comp=N,337nm,0.5s						
PB07	**IPOC Station P**	**3.13**	**297**	*e*P	**Pn**	**15 22 59.5**	**+0.6**
PB07				*i* S	**S**	**15 23 38.0**	**-1.3**
PB07				IAML		15 23 40.0	
	comp=E,558nm,0.4s						
GO02	**Mina Guanaco**	**3.16**	**231**	*e*Pn	**Pn**	**15 23 00.5**	**+1.1**
GO02	**Mina Guanaco**	**3.16**	**231**	⇑*i*P	**Pn**	**15 23 00.7**	**+1.3**
GO02				*i* S	**S**	**15 23 41.8**	**+1.7**
GO02				IAML		15 23 43.2	
	comp=E,358nm,0.2s						
PB01	**IPOC Station P**	**3.21**	**311**	*e*Pn	**Pn**	**15 23 00.0**	**+0.2**
PB01	**IPOC Station P**	**3.21**	**311**	*e*P	**Pn**	**15 23 00.5**	**+0.7**
PB01				*i* S	**S**	**15 23 40.1**	**-0.9**
PB01				IAML		15 23 41.6	
	comp=N,291nm,0.3s						
PB02	**IPOC Station P**	**3.35**	**303**	*e*P	**Pn**	**15 23 01.8**	**+0.4**
PB02				*i* S	**S**	**15 23 42.0**	**-1.7**
PB14	**IPOC Station P**	**3.52**	**245**	⇑*e*P	**Pn**	**15 23 04.5**	**+0.9**
PB14				*i* S	**S**	**15 23 48.0**	**+0.1**
PB08	**IPOC Station P**	**3.69**	**325**	*e*P	**Pn**	**15 23 07.0**	**+1.2**
PB08				*e*S	**S**	**15 23 51.7**	**+0.1**
GO01	**Chusmiza**	**4.10**	**328**	*e*Pn	**Pn**	**15 23 11.0**	**+0.1**
GO01	**Chusmiza**	**4.10**	**328**	⇑*e*P	**Pn**	**15 23 11.8**	**+0.9**
GO01				*i* S	**S**	**15 24 00.2**	**-0.7**
GO01				IAML		15 24 03.3	
	comp=N,177nm,0.4s						
PB11	**IPOC Station P**	**4.27**	**322**	*e*Pn	**Pn**	**15 23 11.8**	**-0.8**
PB11	**IPOC Station P**	**4.27**	**322**	*e*P	**Pn**	**15 23 12.1**	**-0.6**
PB11				*i* S	**S**	**15 24 01.6**	**-2.6**
MNMC	**Minye Minye**	**4.76**	**327**	*e*Pn	**Pn**	**15 23 18.4**	**-0.5**
GO03	**Copiap**	**5.33**	**214**	*e*Pn	**Pn**	**15 23 25.4**	**-0.5**
LCO	**Las Campanas**	**6.74**	**210**	*e*Pn	**Pn**	**15 23 42.8**	**-1.2**
LPAZ	**La Paz**	**6.96**	**350**	*e*Pn	**Pn**	**15 23 47.3**	**+0.1**
LPAZ	**La Paz**	**6.96**	**350**	P	**Pn**	**15 23 47.9**	**+0.6**
	comp=N,0.9nm,0.3s,baz=166,slow=5.4,SNR=19						
LPAZ				S	**S**	**15 25 04.7**	**-2.4**
	comp=N,0.1nm,0.3s,baz=122,slow=23,SNR=4.0						
LPAZ				LR	LR	15 26 30.1	
	comp=N,17nm,20.8s,baz=234,slow=38						
GO04	**Tololo Observa**	**7.79**	**206**	*e*Pn	**Pn**	**15 23 56.0**	**-1.6**
CFA	**Coronel Fontan**	**8.48**	**188**	P	**Pn**	**15 24 06.0**	**-0.3**
	comp=N,0.6nm,0.3s,baz=46,slow=17,SNR=16						
CFA				S	**S**	**15 25 35.5**	**-6.3**
	comp=N,1.3nm,0.3s,baz=320,slow=22,SNR=12						
SIV	**San Ignacio**	**9.01**	**38**	P	**Pn**	**15 24 10.5**	**-2

FNA			S	Sg	15 57 41.4	-0.8
PENT	**Pentalofos**	**1.32 120**	P	Pg	15 57 24.0	-1.0
DRME	**Dracevica, Mon**	**1.37 346** ⇑	*i*Pg	Pn	15 57 25.5	-0.1
DRME			*e*Sg	Sn	15 57 45.9	+1.7
DRME	**Dracevica, Mon**	**1.37 346**	*e*Pn	Pn	15 57 25.4	-0.1
IGT	**Igoumenitsa**	**1.43 158**	P	Pn	15 57 26.5	+0.1
IGT			S	Sn	15 57 46.7	+1.0
JAN	**Janina**	**1.52 142**	P	Pn	15 57 27.5	-0.2
BCI	**Bajram Curri**	**1.54 12**	*i* PN	Pg	15 57 29.3	+0.1
BCI			*i* SN	Sg	15 57 51.9	+2.8
BUM	**Brajici-Budva**	**1.54 339** ⇑	*i*Pg	Pn	15 57 27.8	-0.3
BUM			*e*Sg	Sg	15 57 49.4	+0.2
PDG	**Podgorica**	**1.59 350**	*e*Pg	Pn	15 57 28.5	-0.2
PDG			*e*Sg	Sg	15 57 51.3	+0.5
PDG	**Podgorica**	**1.59 350** ⇑	*i*P	Pb	15 57 29.7	0.0
PDG	**Podgorica**	**1.59 350**	*e*Pn	Pn	15 57 28.0	-0.7
TTG	**Podgorica**	**1.59 350** ⇑	*i*Pg	Pn	15 57 28.4	-0.2
TTG			*e*Sg	Sg	15 57 51.9	+1.1
PVY	**Plav**	**1.75 8** ⇓	*i*Pn	Pn	15 57 31.5	+0.5
PVY			*e*Sn	Sg	15 57 55.8	-0.1
CEME	**Cevo**	**1.77 343** ⇑	*i*Pn	Pn	15 57 30.9	-0.3
CEME			*e*Sn	Sb	15 57 55.7	+0.4
HCY	**Herceg Novi**	**1.80 332** ⇓	*i*Pn	Pn	15 57 31.6	0.0
HCY			*e*Sn	Sb	15 57 56.6	+0.4
HCY	**Herceg Novi**	**1.80 332**	*e*Pn	Pn	15 57 29.6	-2.0
NKME	**Niksic**	**1.97 345** ⇓	*i*Pn	Pn	15 57 34.2	+0.2
NKME			*e*Sn	Sb	15 58 00.3	-0.9
KOME	**Kolasin**	**1.99 357** ⇓	*i*Pn	Pn	15 57 34.8	+0.6
KOME			*e*Sn	Sb	15 58 01.2	-0.5
NKY	**Niksic**	**2.01 346** ⇓	*i*Pn	Pn	15 57 35.0	+0.5
NKY			*e*Sn	Sb	15 58 02.0	-0.3
IVA	**Berane**	**2.02 5** ⇑	*i*Pn	Pn	15 57 35.3	+0.7
IVA			*e*Sn	Sb	15 58 02.0	-0.6
TREB	**Trebinje**	**2.09 333**	*e*Pn	Pn	15 57 35.6	+0.1
TREB			*e*Sn	Sn	15 58 03.0	+1.0
TREB	**Trebinje**	**2.09 333**	*e*Pn	Pn	15 57 34.2	-1.3
STIP	**Stip**	**2.10 66**	*i* Pn	Pb	15 57 38.2	-0.1
BRY	**Bratogost**	**2.20 339** ⇑	*i*Pn	Pn	15 57 37.4	+0.3
BRY			*e*Sn	Sn	15 58 06.0	+1.1
BRY	**Bratogost**	**2.20 339**	*e*Pn	Pn	15 57 35.5	-1.6
MATE	**Matera**	**2.23 266** ⇑	*i*P	Pb	15 57 41.3	+0.7
VAY	**Valandovo**	**2.27 77**	*i* Pn	Pn	15 57 37.9	0.0
LIT	**Litokhoron**	**2.31 108**	P	Pn	15 57 38.5	0.0
UPM	**Unac-Piva**	**2.40 347** ⇑	*i*Pn	Pn	15 57 40.4	+0.4
UPM			*e*Sn	Sn	15 58 11.0	+1.0
UPM	**Unac-Piva**	**2.40 347**	*e*Pn	Pb	15 57 42.8	-0.8
SJES	**Sjenica**	**2.41 6**	*e*Pn	Pn	15 57 41.6	+1.5
SJES			*e*Sn	Sn	15 58 11.5	+1.3
PLE	**Pljevlja**	**2.48 356** ⇑	*i*Pn	Pn	15 57 41.9	+1.0
PLE			*e*Sn	Sn	15 58 12.9	+1.2
STON	**Ston**	**2.48 325**	*e*Pn	Pn	15 57 39.5	-1.3
STON	**Ston**	**2.48 325**	*e*Pn	Pn	15 57 38.0	-2.8
STON			Sn	Sn	15 58 09.1	-2.4
STON	**Ston**	**2.48 325**	*e*Pn	Pn	15 57 36.9	-3.9
KNT	**Kendrikon**	**2.49 82**	P	Pn	15 57 40.6	-0.4
BARS	**Barje**	**2.54 39**	*e*Pn	Pn	15 57 42.1	+0.3
SELS	**Selova**	**2.60 25**	*e*Pn	Pn	15 57 42.8	+0.2
BOSS	**Bosilegrad**	**2.69 52**	*e*Pn	Pn	15 57 43.8	+0.1
IVAS	**Ivanjica**	**2.74 8**	*e*Pn	Pn	15 57 43.9	-0.6
BBLS	**Lazići**	**3.01 357**	*e*Pn	Pn	15 57 49.0	+0.8
BBLS	**Lazići**	**3.01 357**	*e*Pn	Pb	15 57 53.0	-0.9
GRUS	**Gruza**	**3.13 14**	*e*Pn	Pn	15 57 51.0	+1.2
VTS	**Vitosha**	**3.22 56**	*e*Pn	Pn	15 57 51.4	+0.3
VTS			*e*Sn	Sn	15 58 29.6	-0.4
VTS	**Vitosha**	**3.22 56** ⇑	*i*P	Pn	15 57 51.8	+0.7
DIVS	**Divibare**	**3.25 5**	*e*Pn	Pn	15 57 52.4	+0.9
DIVS	**Divibare**	**3.25 5**	*e*Pn	Pn	15 57 47.7	-3.8
HAPS	**Han Pijesak,BI**	**3.25 351**	*e*Pn	Pn	15 57 50.9	-0.9
ZAPS	**Zavoj**	**3.29 42**	*e*Pn	Pn	15 57 51.9	-0.1
ZAPS			*e*Sn	Sn	15 58 33.7	+2.1
TRUS	**Trudelj**	**3.41 9**	*e*Pn	Pn	15 57 54.4	+0.7
ZAGS	**Zajecar**	**3.52 32**	*e*Pn	Pn	15 57 56.0	+0.8
FRGS	**Fruska Gora**	**4.30 2**	*e*Pn	Pn	15 58 03.0	-2.9
NVLJ	**Novalja**	**5.10 318**	*i* Pn	Pn	15 58 17.4	+0.6
CRES	**Cresnjev**	**5.82 330**	*e*Pn	Pn	15 58 24.1	-2.7

*ISCJB **05** 16:02:13.5±0.4, 43°.72N±0°.03×105°.10W±0°.06, h0km, mb3.6/2, Error ellipse: s-maj=6.2km s-min=4.1km az=168.9*
*IDC **05** 16:02:14.7±1.9, 43°.67N×105°.43W, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.3/39, mbtmp3.3/5, ML3.2/3, Error ellipse: s-maj=42.3km s-min=7.9km az=149.0*
*NEIC **05** 16:02:15.8±0.3, 43°.70N×105°.18W, h0km, ML3.3, Error ellipse: s-maj=3.8km s-min=2.9km az=85.0, Suspected Mining explosion.*
NEIC 71 km [44 miles] SSE of Gillette. ML 3.3 [GS].

ISC 05 16:02:14.7±0.9, 43°.71N±0°.05×105°.13W±0°.06, h0km, n53, σ0s99/54, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.89**	**62**	*e*Pn	**Pn**	16 02 35.3	+0.5
K22A	**Casper**	**1.47**	**225**	*e*Pn	**Pn**	16 02 40.5	-2.1
PHWY	**Pilot Hill**	**2.42**	**186**	*e*Pn	**Pn**	16 02 56.4	+0.6
RWWY	**Rawlins**	**2.53**	**218**	*e*Pn	**Pn**	16 02 58.4	+1.0
N23A	**Red Feather La**	**2.88**	**192**	*e*Pn	**Pn**	16 03 03.2	+1.2
LAO	**LASA Array**	**3.08**	**346**	*e*Pn	**Pn**	16 03 06.2	+1.6
RLMT	**Red Lodge**	**3.29**	**297**	*e*Pn	**Pn**	16 03 07.9	+0.3
PDAR	**Pinedale Array**	**3.37**	**255**	Pn	**Pn**	16 03 08.6	-0.2
	2.4nm,0.3s,baz=77,slow=17,SNR=29						
PDAR				Lg	Lg	16 03 53.6	
	8.9nm,0.3s,baz=75,slow=28,SNR=19						
BW06	**Boulder Array**	**3.37**	**255**	*e*Pn	**Pn**	16 03 08.7	-0.2
OGNE	**Ogallala**	**3.59**	**139**	*e*Pn	**Pn**	16 03 12.2	+0.5
GCMT	**Greycliff**	**3.85**	**304**	*e*Pn	**Pn**	16 03 15.4	+0.2
LKWY	**Lake**	**3.89**	**285**	*e*Pn	**Pn**	16 03 16.9	+0.9
ISCO	**Idaho Springs**	**3.92**	**185**	*e*Pn	**Pn**	16 03 17.4	+1.0
LOHW	**Long Hollow**	**3.97**	**271**	*e*Pn	**Pn**	16 03 18.3	+1.2
H17A	**Grant Village**	**3.99**	**282**	*e*Pn	**Pn**	16 03 18.3	+1.0
FLWY	**Flagg Ranch**	**4.04**	**277**	*e*Pn	**Pn**	16 03 18.8	+0.7
MOOW	**Moose Ponds**	**4.07**	**273**	*e*Pn	**Pn**	16 03 18.3	-0.1
SNOW	**Snow King Moun**	**4.09**	**269**	*e*Pn	**Pn**	16 03 19.6	+0.8
REDW	**Red Top Meadow**	**4.18**	**267**	*e*Pn	**Pn**	16 03 20.6	+0.8
IMW	**Indian Meadow**	**4.21**	**275**	*e*Pn	**Pn**	16 03 21.3	+0.9
TPAW	**Teton Pass**	**4.24**	**269**	*e*Pn	**Pn**	16 03 21.1	+0.4
O20A	**White River Ci**	**4.26**	**214**	*e*Pn	**Pn**	16 03 21.4	+0.4
FXWY	**Fox Creek**	**4.28**	**271**	*e*Pn	**Pn**	16 03 21.7	+0.4
QLMT	**Earthquake Lak**	**4.66**	**286**	*e*Pn	**Pn**	16 03 27.8	+1.2
SMCO	**Snowmass**	**4.73**	**198**	*e*Pn	**Pn**	16 03 29.1	+1.4
Q24A	**Divide**	**4.74**	**180**	*e*Pn	**Pn**	16 03 29.2	+1.5
DGMT	**Dagmar**	**4.81**	**7**	*e*Pn	**Pn**	16 03 30.4	+2.0
BOZ	**Bozeman (W)**	**5.01**	**294**	*e*Pn	**Pn**	16 03 32.5	+1.2
KSCO	**Kaye Shedlock'**	**5.05**	**157**	*e*Pn	**Pn**	16 03 32.7	+0.9
HWUT	**Hardware Ranch**	**5.19**	**248**	*e*Pn	**Pn**	16 03 33.7	-0.1
EGMT	**Eagleton**	**5.39**	**325**	*e*Pn	**Pn**	16 03 36.5	+0.1
HR1	**Holter Researc**	**5.61**	**305**	*e*Pn	**Pn**	16 03 40.7	+1.2
MCMT	**McKenzie Canyo**	**5.66**	**284**	*e*Pn	**Pn**	16 03 41.0	+0.8
PV07	**Paradox Valley**	**5.90**	**208**	*e*Pn	**Pn**	16 03 44.4	+0.8
SDCO	**Great Sand Dun**	**5.96**	**183**	*e*Pn	**Pn**	16 03 45.5	+1.0
PV23	**Carpenter Ridg**	**6.01**	**210**	*e*Pn	**Pn**	16 03 46.3	+1.1
PV09	**Paradox Valley**	**6.02**	**212**	*e*Pn	**Pn**	16 03 45.7	+0.5
PV04	**Paradox Valley**	**6.03**	**210**	*e*Pn	**Pn**	16 03 46.2	+0.9
S22A	**4UR Ranch, Cre**	**6.09**	**193**	*e*Pn	**Pn**	16 03 46.0	-0.3
PV20	**West Nyswonger**	**6.09**	**210**	*e*Pn	**Pn**	16 03 46.4	+0.1
PV11	**David Mesa, Pa**	**6.10**	**209**	*e*Pn	**Pn**	16 03 46.7	+0.4
PV16	**Nyswonger Mesa**	**6.10**	**209**	*e*Pn	**Pn**	16 03 47.2	+0.8
PV03	**Paradox Valley**	**6.13**	**209**	*e*Pn	**Pn**	16 03 47.8	+1.0
PV01	**Paradox Valley**	**6.15**	**206**	*e*Pn	**Pn**	16 03 48.2	+1.2
PV05	**Paradox Valley**	**6.38**	**209**	*e*Pn	**Pn**	16 03 49.4	-0.8
DUG	**Dugway, Tooele**	**6.72**	**241**	*e*Pn	**Pn**	16 03 54.7	0.0
MSO	**Missoula**	**6.96**	**300**	*e*Pn	**Pn**	16 03 58.5	+0.5
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**Pn**	16 04 27.9	+0.8
	0.7nm,0.3s,baz=234,slow=13,SNR=6.5						
ULM				Sn	**Sn**	16 06 07.7	-2.6
	0.2nm,0.3s,baz=131,slow=19,SNR=4.5						
ULM				Lg	Lg	16 07 01.3	
	0.2nm,0.3s,baz=155,slow=5.0,SNR=3.9						
YKA	**Yellowknife Ar**	**19.62**	**347**	P	**P**	16 06 44.9	+0.5
	0.1nm,0.3s,baz=156,slow=9.2,SNR=5.8						
YKB5	**Yellowknife Ar**	**19.62**	**347**	*e*P	**P**	16 06 44.9	+0.5
ILAR	**Eielson Array**	**31.36**	**327**	P	**P**	16 08 35.2	-1.4
	0.2nm,0.6s,baz=123,slow=9.0,SNR=2.7						
ARA0	**ARCESS Array S**	**61.41**	**18**	*e*P	**P**	16 12 32.4	+0.3
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	16 12 32.4	+0.3
	1.1nm,0.8s,baz=335,slow=6.2,SNR=5.5						

*ISCJB **05** 16:07:43.3±0.5, 50°.33N±0°.03×4°.47W±0°.05, h3km±5km, Error ellipse: s-maj=6.2km s-min=3.6km az=143.0*
*BGS **05** 16:07:45.1±0.9, 50°.39N×4°.62W, h4km±6km, ML1.8*
*LDG **05** 16:07:45.0±0.2, 50°.39N×4°.64W, h4km, Md2.8/1, Ml2.5/7, Error ellipse: s-maj=2.8km s-min=2.5km az=97.0*

ISC 05 16:07:45.5±0.9, 50°.37N±0°.03×4°.61W±0°.03, h10km±10km, n24, σ1s57/41, 4C, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBD	**Saint Breward**	**0.20**	**345**	*e*P	**Pg**	**16 07 49.0**	**-0.6**
SBD				*e*S	**Sg**	**16 07 51.5**	**-1.1**
SBD				IAML		16 07 51.5	
	comp=E,1μm,0.1s						
SBD				IAML		16 07 51.6	
	comp=N,586nm,0.2s						
SBD	**Saint Breward**	**0.20**	**345**	*e*P	**Pg**	**16 07 49.0**	**-0.6**
SBD				*e*S	**Sg**	**16 07 51.5**	**-1.1**
SBD				IAML		16 07 51.5	
	comp=E,1μm,0.1s						
SBD				IAML		16 07 51.6	
	comp=N,586nm,0.2s						
DYA	**Yadsworthy**	**0.44**	**81**	*e*P	**Pg**	**16 07 53.9**	**-0.1**
DYA				*e*S	**Sg**	**16 07 59.8**	**+0.1**
DYA				IAML		16 08 00.1	
	comp=N,72nm,0.2s						
DYA				IAML		16 08 00.1	
	comp=E,43nm,0.1s						
DYA	**Yadsworthy**	**0.44**	**81**	*e*P	**Pg**	**16 07 53.9**	**-0.1**
DYA				*e*S	**Sg**	**16 07 59.8**	**+0.1**
DYA				IAML		16 08 00.1	
	comp=N,72nm,0.2s						
DYA				IAML		16 08 00.1	
	comp=E,43nm,0.1s						
CCA1	**Carnmenellis**	**0.44**	**245** ⇑	*i*P	**Pg**	**16 07 54.2**	**+0.1**
CCA1				*e*S	**Sg**	**16 07 59.8**	**-0.1**
CCA1				IAML		16 08 00.8	
	comp=E,61nm,0.1s						
CCA1				IAML		16 08 01.0	
	comp=N,56nm,0.1s						
CCA1	**Carnmenellis**	**0.44**	**245** ⇑	*i*P	**Pg**	**16 07 54.2**	**+0.1**
CCA1				*e*S	**Sg**	**16 07 59.8**	**-0.1**
CCA1				IAML		16 08 00.8	
	comp=E,61nm,0.1s						
CCA1				IAML		16 08 01.0	
	comp=N,56nm,0.1s						
HTL	**Hartland**	**0.63**	**7** ⇑	*i*P	**Pg**	**16 07 57.2**	**-0.4**
HTL				*e*S	**Sg**	**16 08 05.1**	**-0.8**
HTL				IAML		16 08 06.0	
	comp=N,51nm,0.2s						
HTL				IAML		16 08 06.5	
	comp=E,36nm,0.1s						
HTL	**Hartland**	**0.63**	**7** ⇑	*i*P	**Pg**	**16 07 57.2**	**-0.4**
HTL				*e*S	**Sg**	**16 08 05.1**	**-0.8**
HTL				IAML		16 08 06.0	
	comp=N,51nm,0.2s						
HTL				IAML		16 08 06.5	
	comp=E,36nm,0.1s						
ROSF	**Rostrenen**	**2.21**	**156**	*e*Pn	**Pn**	**16 08 21.0**	**-1.3**
ROSF	**Rostrenen**	**2.21**	**156**	*e*P	**Pn**	**16 08 23.4**	**+1.1**
ROSF	**Rostrenen**	**2.21**	**156**	*e*Pg	**Pb**	**16 08 26.8**	**+1.2**
ROSF				*e*Sn	**Sn**	**16 08 47.1**	**-2.6**
ROSF				*e*Sg	**Sg**	**16 08 55.6**	**-1.0**
	comp=E,4.2nm,0.2s						
SGMF	**Saint Gilles**	**2.51**	**147**	*e*Pn	**Pn**	**16 08 24.7**	**-1.6**
SGMF	**Saint Gilles**	**2.51**	**147**	*e*P	**Pn**	**16 08 27.6**	**+1.3**
SGMF	**Saint Gilles**	**2.51**	**147**	*e*Pg	**Pb**	**16 08 32.0**	**+1.4**
SGMF				*e*Sn	**Sn**	**16 08 54.4**	**-2.5**
SGMF				*e*Sg	**Sg**	**16 09 04.6**	**-1.4**
	comp=E,3.5nm,0.2s						
QUIF	**Quistinic**	**2.63**	**158**	*e*Pn	**Pn**	**16 08 26.7**	**-1.3**
QUIF	**Quistinic**	**2.63**	**158**	*e*Pg	**Pb**	**16 08 34.2**	**+1.5**
QUIF				*e*Sn	**Sn**	**16 08 57.5**	**-2.5**
QUIF				*e*Sg	**Sb**	**16 09 08.1**	**+3.0**
	comp=E,4.2nm,0.2s						
FLN	**La Foliniere**	**3.13**	**119**	*e*P	**Pn**	**16 08 36.4**	**+1.5**
	baz=299						
FLN	**La Foliniere**	**3.13**	**119**	*e*Pg	**Pb**	**16 08 43.3**	**+2.1**
	baz=299						
FLN				*e*Sg	**Sg**	**16 09 24.2**	**-1.7**
	comp=E,2.4nm,0.2s,baz=301						
GRR	**Gorron**	**3.15**	**128**	*e*Pn	**Pn**	**16 08 33.8**	**-1.4**
GRR	**Gorron**	**3.15**	**128**	*e*P	**Pn**	**16 08 37.3**	**+2.1**
GRR	**Gorron**	**3.15**	**128**	*e*Pg	**Pb**	**16 08 43.6**	**+2.0**
GRR				*e*Sg	**Sg**	**16 09 25.2**	**-1.4**
	comp=E,3.0nm,0.2s						
LDF	**La Druitiere**	**3.42**	**120**	*e*P	**Pn**	**16 08 40.6**	**+1.7**
LDF	**La Druitiere**	**3.42**	**120**	*e*Pg	**Pb**	**16 08 48.5**	**+2.3**
LDF				*e*Sg	**Sg**	**16 09 32.6**	**-2.7**
	comp=E,1.2nm,0.2s						
MFF	**Saint Martin d**	**4.80**	**140**	*e*Pn	**Pn**	**16 08 56.3**	**-1.5**

IDC 05 16:10:48.7±5.8, 18°.42S×176°.43W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/20, mbtmp3.8/2, Error ellipse: s-maj=292.7km s-min=53.4km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.39**	**260**	P	P	16 19 17.3	0.0
	0.4nm,0.3s,baz=97,slow=7.5,SNR=17						
ASAR	**Alice Springs**	**46.47**	**255**	P	P	16 19 17.8	-0.2
	0.7nm,0.4s,baz=87,slow=7.9,SNR=31						
GERES	**GERESS Array B**	**148.56**	**347**	PKPbc	PKPbc	16 30 37.1	-0.7
	0.3nm,0.5s,baz=0.0,slow=2.1,SNR=3.6						

*ISCJB **05** 16:21:12.0±0.7, 33°.6S±0°.1×14°.2W±0°.2, h10km, mb4.1/7, MS3.8/10, Error ellipse: s-maj=18.9km s-min=14.0km az=164.3*
*IDC **05** 16:21:11.7±0.9, 33°.66S×14°.16W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/20, mbtmp3.9/5, MS3.8/10, Ms1 3.7/10, ms1mx3.4/28, Error ellipse: s-maj=35.0km s-min=25.4km az=110.0*
*NEIC **05** 16:21:13.6±0.5, 33°.60S×14°.15W, h10km, mb4.6/2, Error ellipse: s-maj=15.8km s-min=11.9km az=74.0*

ISC 05 16:21:13.6±0.8, 33°.6S±0°.1×14°.2W±0°.2, h10km, n28, σ0s77/14, mb4.1/7, MS3.7/10, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**3.78**	**157**	*e*Pn	**Pn**	**16 22 12.2**	**+0.3**
H10S2	**ASCENSION HYDR**	**24.53**	**359**	T	T	16 51 53.2	
	baz=178,slow=75						
H10S3	**ASCENSION HYDR**	**24.53**	**359**	T	T	16 51 59.3	
	baz=178,slow=75						
H10S1	**ASCENSION HYDR**	**24.54**	**359**	T	T	16 52 01.0	
	baz=178,slow=75						
H10N1	**ASCENSION HYDR**	**25.63**	**359**	T	T	16 53 31.8	
	baz=189						
H10N3	**ASCENSION HYDR**	**25.64**	**359**	T	T	16 53 22.2	
	baz=189						
H10N2	**ASCENSION HYDR**	**25.65**	**359**	T	T	16 53 27.0	
	baz=189						
BOSA	**Boshof**	**33.98**	**92**	LR	LR	16 39 35.0	
	comp=Z,203nm,18.4s,baz=228,slow=32						
BDFB	**Brasilia**	**35.37**	**292**	*e*P	**P**	**16 28 09.7**	**0.0**
BDFB	**Brasilia**	**35.37**	**292**	P	**P**	**16 28 09.3**	**-0.3**
	11nm,1.0s,baz=149,slow=5.9,SNR=10						
BDFB				LR	LR	16 40 21.9	
	comp=Z,142nm,19.3s,baz=149,slow=32						
CPUP	**Villa Florida**	**37.87**	**269**	LR	LR	16 41 33.9	
	comp=Z,119nm,18.2s,baz=92,slow=32						
PLCA	**Paso Flores**	**44.83**	**244**	*e*P	**P**	**16 29 29.5**	**+1.6**
PLCA	**Paso Flores**	**44.83**	**244**	P	**P**	**16 29 27.6**	**-0.3**
	1.1nm,0.7s,baz=104,slow=17,SNR=3.9						
PLCA				LR	LR	16 44 42.2	
	comp=Z,101nm,19.6s,baz=142,slow=32						
TORD	**Torodi Ar. Bea**	**48.89**	**21**	P	**P**	**16 30 00.4**	**+0.7**
	1.8nm,0.9s,baz=204,slow=7.4,SNR=9.4						
TOA1	**Torodi Ar. Sit**	**48.89**	**21**	*e*P	**P**	**16 30 00.4**	**+0.7**
GO01	**Chusmiza**	**50.57**	**271**	*e*P	**P**	**16 30 12.9**	**-0.3**
	7.1nm,0.8s						
LPAZ	**La Paz**	**51.31**	**276**	LR	LR	16 50 51.0	
	comp=Z,62nm,20.2s,baz=127,slow=35						
PTGA	**Pitinga**	**53.92**	**298**	*e*P	**P**	**16 30 37.7**	**+0.1**
	5.8nm,0.9s						
MAW	**Mawson**	**54.52**	**153**	LR	LR	16 48 12.6	
	comp=Z,52nm,20.0s,baz=66,slow=30						
ROSC	**El Rosal**	**68.42**	**292**	LR	LR	16 59 58.9	
	comp=Z,67nm,21.5s,baz=66,slow=34						
VNDA	**Vanda**	**69.11**	**179**	P	**P**	**16 32 19.1**	**-0.3**
	0.6nm,0.8s,baz=202,slow=5.4,SNR=2.5						
ATD	**Arta Tunnel**	**70.37**	**61**	LR	LR	17 00 39.0	
	comp=Z,61nm,19.3s,baz=342,slow=34						
ESDC	**Sonseca Array**	**73.52**	**8**	P	**P**	**16 32 46.0**	**-0.4**
	0.1nm,0.3s,baz=192,slow=6.6,SNR=3.8						
GEYT	**Alibeck**	**97.84**	**49**	LR	LR	17 19 09.3	
	comp=Z,26nm,19.1s,baz=220,slow=36						
PALK	**Pallekele**	**98.03**	**87**	LR	LR	17 12 02.4	
	comp=Z,62nm,20.2s,baz=296,slow=31						
ASAR	**Alice Springs**	**115.45**	**148**	PKP	**PKiKP**	**16 39 54.7**	**-1.6**
	0.3nm,0.8s,baz=204,slow=2.0,SNR=3.1						
YKA	**Yellowknife Ar**	**123.92**	**327**	PKP	**PKPdf**	**16 40 11.1**	**0.0**
	0.1nm,0.5s,baz=108,slow=1.4,SNR=3.0						
YKB5	**Yellowknife Ar**	**123.92**	**327**	*e*PKPdf	**PKPdf**	**16 40 11.1**	**0.0**

*ISCJB **05** 16:21:26.8±0.7, 35°.74N±0°.06×139°.21E±0°.08, h128km±5km, mb3.2/2, Error ellipse: s-maj=12.8km s-min=8.5km az=141.6*
*IDC **05** 16:21:27.0±5.8, 35°.47N×137°.19E, h90km±100km, mb2.9/2, mb1 3.1/2, mb1mx2.8/37, mbtmp3.2/2, Error ellipse: s-maj=112.2km s-min=86.9km az=177.0*
*JMA **05** 16:21:28.8±0.1, 35°.75N×139°.31E, h114km±1km, M2.8*

ISC 05 16:21:27.9±1.2, 35°.75N±0°.06×139°.20E±0°.07, h123km±8km, n13, σ0s55/22, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**0.12**	**33**	P	**Pn**	**16 21 44.7**	**0.0**
JHU				S	**Sn**	**16 21 56.5**	**-0.8**
JRY	**Ryogami san**	**0.36**	**317**	P	**Pn**	**16 21 45.9**	**+0.5**
JRY				S	**Sn**	**16 21 59.1**	**+0.4**
JOD2	**Odawara 2**	**0.50**	**191**	P	**Pn**	**16 21 46.2**	**0.0**
JOD2				S	**Sn**	**16 21 59.4**	**-0.5**
JYN	**Shimob**	**0.59**	**245**	P	**Pn**	**16 21 47.1**	**+0.3**
JYN				S	**Sn**	**16 22 01.6**	**+0.5**
JAG	**Ashikaga**	**0.70**	**17**	P	**Pn**	**16 21 47.5**	**0.0**
JAG				*e*S	**Sn**	**16 22 01.9**	**-0.4**
JFNN	**Fujinakano**	**0.70**	**217**	P	**Pn**	**16 21 48.4**	**+0.9**
MJAR	**Matsushiro Arr**	**1.13**	**315**	P	**Pn**	**16 21 51.0**	**-0.4**
	0.9nm,0.3s,baz=219,slow=8.0,SNR=130						
MJAR				S	**Sn**	**16 22 09.0**	**-0.3**
	2.2nm,0.3s,baz=129,slow=13,SNR=7.2						
MAT	**Matsushiro**	**1.13**	**315**	P	**Pn**	**16 21 51.9**	**+0.5**
MAT				S	**Sn**	**16 22 09.1**	**-0.2**
MAT	**Matsushiro**	**1.13**	**315**	P	**Pn**	**16 21 52.0**	**+0.5**
MAT				S	**Sn**	**16 22 09.3**	**0.0**
BSO1	**Boso 1**	**1.82**	**127**	P	**Pn**	**16 21 58.8**	**+0.1**
BSO1				*e*S	**Sn**	**16 22 22.9**	**+0.6**
JFT	**Otama**	**1.98**	**27**	P	**Pn**	**16 22 02.2**	**+1.0**
WRA	**Warramunga Arr**	**55.58**	**186**	P	**P**	**16 30 50.8**	**0.0**
	0.2nm,0.3s,baz=0.4,slow=7.8,SNR=3.3						
ASAR	**Alice Springs**	**59.31**	**186**	P	**P**	**16 31 16.1**	**-0.8**
	0.1nm,0.4s,baz=5.1,slow=6.1,SNR=0.7						

*IDC **05** 16:22:19.2±1.5, 11°.35S×165°.08E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.6/27, mbtmp3.7/6, ML4.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/25, Error ellipse: s-maj=34.3km s-min=29.6km az=141.0*
*ISCJB **05** 16:22:22.7±1.2, 11°.57S±0°.09×165°.0E±0°.1, h34km, mb3.5/4, Error ellipse: s-maj=19.6km s-min=8.4km az=144.5*

ISC 05 16:22:24.3±1.3, 11°.5S±0°.1×165°.1E±0°.1, h34km, n6, σ0s69/8, mb3.5/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.43**	**291**	Pn	**Pn**	**16 23 42.8**	**0.0**
	8.4nm,0.3s,baz=108,slow=20,SNR=2.7						
HNR				S

KAMA	**Osmaniye**	0.35	258	IAML_P			
	comp=Z,85μm,0.1s						
KAMA				*i* P	**Pg**	**16 52 36.1**	**+0.1**
GZT	**Gaziantep**	0.38	75	IAML_P			
	comp=Z,76μm,0.3s						
GZT				*i* P	**Pb**	**16 52 37.1**	**-0.7**
GZT				*i* S	**Sg**	**16 52 42.0**	**+0.3**
KUZU	**Kuzuini**	0.48	182	IAML_P			
	comp=Z,87μm,0.1s						
KUZU				*i* P	**Pb**	**16 52 40.6**	**+1.2**
ANDN	**Andirin**	0.68	298	IAML_P			
	comp=Z,8μm,0.1s						
ANDN				*i* P	**Pb**	**16 52 42.3**	**-0.5**
ANDN				*i* S	**Sg**	**16 52 50.3**	**-0.8**
ATAB	**Bozova**	0.97	77	IAML_P			
	comp=Z,132μm,0.1s						
ATAB				*i* P	**Pn**	**16 52 48.4**	**-0.1**
ATAB				*i* S	**Sb**	**16 53 01.6**	**+0.9**
KOZT	**Kozan**	1.04	283	PG	**Pb**	**16 52 48.9**	**0.0**
KOZT				SG	**Sn**	**16 53 03.9**	**0.0**
ELBS	**KAHRAMANMARAS**	1.06	1	IAML_P			
	comp=Z,26μm,0.2s						
ELBS				*i* P	**Pn**	**16 52 49.4**	**-0.5**
ELBS				*i* S	**Sn**	**16 53 06.5**	**+1.7**
SAIM	**ADANA**	1.08	312	IAML_P			
	comp=Z,18μm,0.2s						
SAIM				*i* P	**Pg**	**16 52 49.2**	**-0.5**
SAIM				*i* S	**Sn**	**16 53 05.5**	**+0.4**
CEYT	**Ceyhan**	1.11	257	PN	**Pg**	**16 52 50.1**	**-0.1**
TAHT	**Tahtakopru-Hat**	1.15	220	PN	**Pg**	**16 52 51.4**	**+0.4**
AKCD	**Akcadag**	1.22	32	IAML_P			
	comp=Z,23μm,0.3s						
AKCD				*i* P	**Pn**	**16 52 52.1**	**0.0**
AKCD				*i* S	**Sn**	**16 53 09.7**	**+1.0**
YURE	**YUREGIR**	1.25	250	PN	**Pn**	**16 52 52.8**	**+0.4**
YURE	**YUREGIR**	1.25	250	*i* P	**Pg**	**16 52 54.5**	**+1.5**
SURC	**SANLIURFA_SURC**	1.27	107	IAML_P			
	comp=Z,4μm,0.1s						
SURC				*i* P	**Pg**	**16 52 53.4**	**+0.1**
SURC				*i* S	**Sn**	**16 53 10.3**	**+0.6**
AKO	**Adana**	1.33	279	IAML_P			
	comp=Z,3μm,0.2s						
AKO				*i* P	**Pb**	**16 52 54.0**	**+0.1**
DARE	**Darende-Malaty**	1.34	13	PN	**Pg**	**16 52 54.5**	**-0.3**
URFA	**Urfa**	1.38	82	PN	**Pn**	**16 52 54.0**	**-0.2**
YAYL	**Yayladag**	1.46	213	*i* P	**Pn**	**16 52 55.7**	**+0.4**
CUGUR	**Gurin_SVAS**	1.47	5	*i* P	**Pg**	**16 52 56.2**	**-0.9**
CUGUR				*i* S	**Sg**	**16 53 17.3**	**+1.1**
KRTD	**Karatas-Adana**	1.50	244	PN	**Pn**	**16 52 56.5**	**+0.7**
SANL	**SANLIURFA_Merk**	1.51	93	IAML_P			
	comp=Z,9μm,0.3s						
SANL				*i* P	**Pn**	**16 52 56.2**	**+0.2**
KRTS	**Karatas**	1.54	244	PN	**Pn**	**16 52 56.9**	**+0.6**
YAHY	**KAYSERI_Yahyal**	1.61	302	IAML_P			
	comp=Z,4μm,0.2s						
YAHY				*i* P	**Pg**	**16 52 59.2**	**-0.6**
YAHY				*i* S	**Sg**	**16 53 20.5**	**-0.3**
KARA	**Karaisali**	1.63	271	PN	**Pn**	**16 52 58.3**	**+0.7**
HEKM	**Malatya_Hekimh**	1.75	22	IAML_P			
	comp=Z,5μm,0.3s						
HEKM				*i* P	**Pg**	**16 53 02.6**	**+0.1**
HEKM				*i* S	**Sg**	**16 53 25.5**	**+0.2**
DED	**Mersin**	1.86	262	IAML_P			
	comp=Z,6μm,0.2s						
DED				*i* P	**Pn**	**16 53 02.3**	**+1.5**
BNN	**Bunyan**	1.87	328	PN	**Pb**	**16 53 02.0**	**-1.2**
CUALT	**Altinyayla-SIV**	2.03	352	*i* P	**Pb**	**16 53 05.9**	**0.0**
SVRC	**Sivrice-ELAZID**	2.07	57	PN	**Pn**	**16 53 04.0**	**+0.2**
CUKAN	**kangal_SIVAS**	2.08	8	*i* P	**Pb**	**16 53 06.0**	**-0.6**
MERS	**Mersin**	2.10	260	PN	**Pn**	**16 53 04.9**	**+0.9**
NIG	**Nigde**	2.15	294	PN	**Pn**	**16 53 05.8**	**+0.9**
CUSAR	**Sarkisla-SIVAS**	2.26	343	*i* P	**Pb**	**16 53 07.8**	**-2.0**
AVNS	**Nevsehir-Avano**	2.36	312	IAML_P			
	comp=Z,1μm,0.2s						
AVNS				*i* P	**Pb**	**16 53 09.6**	**-1.8**
KERG	**Konya-Eregli**	2.38	275	IAML_P			
	comp=Z,376nm,0.2s						
KERG				*i* P	**Pn**	**16 53 10.0**	**+2.1**
ILIC	**ilic-Erzincan**	2.48	27	PN	**Pn**	**16 53 10.6**	**+1.3**
DIYA	**Diyarbakir**	2.49	74	IAML_P			
	comp=Z,2μm,0.1s						
DIYA				*i* P	**Pn**	**16 53 10.8**	**+1.4**
KIZK	**Mersin**	2.50	253	PN	**Pn**	**16 53 10.6**	**+1.2**
KIZK	**Mersin**	2.50	253	IAML_P			
	comp=Z,1μm,0.2s						
KIZK				*i* P	**Pn**	**16 53 11.3**	**+1.9**
DYBB	**Diyarbakir**	2.51	73	PN	**Pn**	**16 53 10.7**	**+1.0**
SIRC	**Yozgat**	2.58	324	IAML_P			
	comp=Z,172nm,0.1s						
SIRC				*i* P	**Pn**	**16 53 12.0**	**+1.3**
SVSK	**Karacayir**	2.66	358	PN	**Pn**	**16 53 13.1**	**+1.5**
TNCL	**Tuncelí-Merkez**	2.67	45	IAML_P			
	comp=Z,704nm,0.6s						
TNCL				*i* P	**Pg**	**16 53 19.7**	**-0.4**
MAZI	**Mazidag**	2.67	85	PN	**Pn**	**16 53 11.9**	**-0.1**
SILI	**Silifke-Mersin**	2.70	252	PN	**Pn**	**16 53 13.5**	**+1.3**
YOZ	**Yozgat**	2.76	330	PN	**Pn**	**16 53 14.5**	**+1.3**
KEBE	**Keben-Mersin**	2.83	254	PN	**Pn**	**16 53 15.4**	**+1.2**
HANI	**Diyarbakir_Han**	2.86	65	IAML_P			
	comp=Z,453nm,0.2s						
HANI				*i* P	**Pn**	**16 53 15.8**	**+1.3**
IKL	**Isikli**	2.92	251	PN	**Pn**	**16 53 16.8**	**+1.5**
EREN	**Erenkoy**	2.93	235	PN	**Pn**	**16 53 16.7**	**+1.4**
EREN	**Erenkoy**	2.93	235	IAML_P			
	comp=Z,3μm,0.2s						
EREN				*i* P	**Pn**	**16 53 16.8**	**+1.4**
MARD	**Mardin**	2.94	88	*i* P	**Pn**	**16 53 15.6**	**0.0**
SULT	**Sultanhani-AKS**	2.99	289	PN	**Pn**	**16 53 18.0**	**+1.6**
TEVE	**Tevekalti-Mers**	3.05	255	PN	**Pn**	**16 53 18.6**	**+1.5**
GULN	**MERSIN_Gulnar**	3.05	250	IAML_P			
	comp=Z,322nm,0.2s						
GULN				*i* P	**Pn**	**16 53 18.3**	**+1.2**
AKKU	**Akkuyu-Mersin**	3.06	250	PN	**Pn**	**16 53 18.6**	**+1.5**
TOKT	**Tokat**	3.09	352	PN	**Pn**	**16 53 19.2**	**+1.6**
ERZN	**Erzincan**	3.10	41	PN	**Pn**	**16 53 19.5**	**+1.5**
HWQ	**Hawqa**	3.12	198	*eP*	**Pb**	**16 53 22.8**	**-1.6**
RSDY	**Resadiye-TOKAT**	3.14	3	PN	**Pn**	**16 53 19.9**	**+1.6**
CDAG	**Cicekdag**	3.19	319	IAML_P			
	comp=Z,304nm,0.1s						
CDAG				*i* P	**Pn**	**16 53 21.0**	**+2.0**
BERE	**Bereket-Mersin**	3.24	255	PN	**Pn**	**16 53 21.4**	**+1.6**
KELT	**Kelkit**	3.34	30	*i* P	**Pn**	**16 53 23.1**	**+1.9**
SVAN	**Silvan-Diyarba**	3.37	73	PN	**Pn**	**16 53 23.2**	**+1.7**
SVAN	**Silvan-Diyarba**	3.37	73	IAML_P			
	comp=Z,2μm,0.2s						
SVAN				*i* P	**Pb**	**16 53 30.7**	**+2.0**
BTMN	**Batman**	3.37	78	IAML_P			
	comp=Z,178nm,0.3s						
BTMN				*i* P	**Pn**	**16 53 22.8**	**+1.2**
TEKE	**Tekeli-Mersin**	3.39	252	PN	**Pn**	**16 53 23.4**	**+1.7**
COAL	**Corum-Alaca**	3.42	332	*i* P	**Pn**	**16 53 23.8**	**+1.6**
ERBA	**Erbaa**	3.43	356	*i* P	**Pb**	**16 53 30.5**	**+0.8**
YEDI	**Yedisu-Bingol**	3.47	50	PN	**Pn**	**16 53 24.7**	**+1.7**
LFK	**Lefkose**	3.49	237	PN	**Pn**	**16 53 24.7**	**+1.5**
BHL	**Bhannes**	3.55	200	*eP*	**Pb**	**16 53 29.9**	**-1.8**
BNGL	**BINGOL**	3.61	61	*i* P	**Pg**	**16 53 36.5**	**-1.7**
DQRL	**Deir Qamar**	3.76	200	*eP*	**Pb**	**16 53 33.9**	**-1.4**
QASN	**Qassioun**	3.78	190	*eP*	**Pb**	**16 53 34.4**	**-1.3**
QASN				*eS*	**Sb**	**16 54 19.8**	**-1.6**
QASN				AML	AML	16 54 40.9	
	comp=E,242nm,0.6s						
QASN				AML	AML	16 54 42.1	
	comp=N,71nm,0.8s						
KOPT	**Kop Dagi**	3.83	43	*i* P	**Pg**	**16 53 40.8**	**-1.5**
BAYB	**BAYBURT**	3.88	39	*i* P	**Pg**	**16 53 41.2**	**-2.1**
TOTH	**TOTAH**	3.93	188	*eP*	**Pb**	**16 53 35.9**	**-2.3**
TOTH				*eS*	**Sb**	**16 54 22.9**	**-2.8**
TOTH				AML	AML	16 54 38.9	
	comp=E,54nm,0.5s						
TOTH				AML	AML	16 54 58.2	
	comp=N,60nm,0.7s						
BRBR	**Barbar**	3.95	194	*eP*	**Pb**	**16 53 36.6**	**-2.1**
BRBR				*eS*	**Sb**	**16 54 24.1**	**-2.5**
BRBR				AML	AML	16 54 47.7	
	comp=N,77nm,0.8s						
BRBR				AML	AML	16 54 50.5	
	comp=E,65nm,0.8s						
SHBL	**Chebaa**	4.06	196	*eP*	**Pn**	**16 53 35.0**	**+4.0**

IDC 05 17:04:40.8±16.0,**2°.81N×99°.54E,h237**km±154km,**mb2.8**/3, **mb1 2.9**/4,**mb1mx2.7**/38,**mbtmp3.3**/4,**Error ellipse:**
s-maj=187.4km s-min=19.8km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.56**	**358**	P	P	17 08 08.0	+0.3
	0.1nm,0.3s,baz=191,slow=11,SNR=6.3						
WRA	**Warramunga Arr**	**40.97**	**125**	P	P	17 12 01.0	+0.1
	0.2nm,0.3s,baz=306,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**42.56**	**130**	P	P	17 12 13.3	-0.5
	0.2nm,0.5s,baz=307,slow=7.8,SNR=8.1						
MKAR	**Makanchi Array**	**46.31**	**344**	P	P	17 12 42.9	-0.2
	0.3nm,0.4s,baz=161,slow=8.7,SNR=4.6						
TXAR	**Lajitas Array**	**141.06**	**33**	PKP	PKPdf	17 23 43.7	0.0
	0.1nm,0.7s,baz=256,slow=1.9,SNR=2.0						

*IDC **05** 17:12:32.8±30.0, 30°.69S×176°.68W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/34, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=540.3km s-min=59.0km az=88.0*
*NEIC **05** 17:12:37.0±1.3, 30°.57S×176°.68W, h35km, mb4.2/7, Error ellipse: s-maj=35.1km s-min=16.7km az=131.0*
ISC 05 17:12:36.5±1.6,**30°.65**±0°.2×**176°.7W**±0°.2,**h35**km,**n16,**
σ1°57/16,**mb4.2**/10,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.16**	**212**	Pn	**Pn**	**17 14 44.6**	**-1.6**
	0.2nm,0.3s,baz=49,slow=15,SNR=4.5						
URZ				Sn	Sn	17 16 12.8	-15
	1.6nm,0.3s,baz=189,slow=16,SNR=18						
SNZO	**South Karori**	**12.72**	**211**	*e*Pn	**Pn**	**17 15 35.9**	**+1.2**
CAN	**Canberra**	**29.07**	**252**	*eP*	**P**	**17 18 33.1**	**-0.6**
	6.9nm,1.0s						
CTAO	**Charters Tower**	**34.95**	**279**	*eP*	**P**	**17 19 24.3**	**-1.1**
	6.0nm,1.0s						
STKA	**Stephens Creek**	**35.52**	**257**	*eP*	**P**	**17 19 32.2**	**+2.0**
	0.8nm,1.1s						
STKA	**Stephens Creek**	**35.52**	**257**	P	**P**	**17 19 31.8**	**+1.6**
	1.5nm,0.9s,baz=81,slow=18,SNR=3.4						
AS31	**Alice Springs**	**44.22**	**267**	*eP*	**P**	**17 20 43.9**	**+1.3**
	0.4nm,0.8s						
ASAR	**Alice Springs**	**44.22**	**267**	P	**P**	**17 20 43.9**	**+1.3**
	1.3nm,0.7s,baz=106,slow=7.2,SNR=40						
WB2	**Warramunga Arr**	**45.22**	**272**	*eP*	**P**	**17 20 52.5**	**+1.9**
	3.2nm,1.1s						
WRAB	**Tennant Creek**	**45.23**	**272**	*eP*	**P**	**17 20 51.6**	**+1.0**
	4.9nm,1.1s						
WR1	**Warramunga Arr**	**45.23**	**272**	*eP*	**P**	**17 20 52.1**	**+1.5**
WRA	**Warramunga Arr**	**45.23**	**272**	*eP*	**P**	**17 20 52.0**	**+1.3**
WRA	**Warramunga Arr**	**45.23**	**272**	P	**P**	**17 20 52.1**	**+1.5**
	0.8nm,0.5s,baz=111,slow=7.9,SNR=17						
HPAH	**Hawaii Prepara**	**54.27**	**25**	*eP*	**P**	**17 21 58.9**	**-0.3**
	24nm,0.5s						
MHA	**Mahukona**	**54.34**	**24**	*eP*	**P**	**17 22 00.2**	**+0.6**
SOEI	**Soe**	**58.51**	**278**	*eP*	**P**	**17 22 27.5**	**-2.3**
	17nm,1.1s						

*IDC **05** 17:16:02.9±0.8, 14°.34N×146°.89E, h0km, mb3.7/16, mb1 3.9/16, mb1mx3.7/55, mbtmp3.7/16, Error ellipse: s-maj=27.2km s-min=16.0km az=97.0*
*ISCJB **05** 17:16:06.2±0.8, 14°.32N±0°.09×146°.9E±0°.2, h33km, mb3.7/16, Error ellipse: s-maj=25.7km s-min=12.6km az=9.8*
ISC 05 17:16:08.2±0.9,**14°.4N**±0°.1×**146°.9E**±0°.2,**h33**km,**n17,**
σ1°38/18,**mb3.7**/16,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**21.63**	**227**	P	**P**	**17 20 55.6**	**-0.2**
	2.0nm,0.4s,baz=68,slow=9.0,SNR=4.0						
MJAR	**Matsushiro Arr**	**23.42**	**342**	P	**P**	**17 21 12.1**	**-2.4**
	0.8nm,0.7s,baz=171,slow=12,SNR=5.1						
JNU	**Nakatsue**	**23.69**	**325**	P	**P**	**17 21 16.7**	**-0.4**
	9.6nm,1.2s,baz=2.6,slow=5.1,SNR=5.2						
KSRS	**Korea Array**	**28.53**	**327**	P	**P**	**17 22 01.4**	**+0.7**
	0.8nm,0.8s,baz=144,slow=9.6,SNR=4.1						
WRA	**Warramunga Arr**	**36.25**	**200**	P	**P**	**17 23 07.4**	**-1.1**
	0.8nm,0.8s,baz=21,slow=9.4,SNR=5.3						
KLR	**Kul'dur**	**36.93**	**343**	P	**P**	**17 23 13.2**	**-0.9**
	0.7nm,0.6s,baz=259,slow=2.2,SNR=6.6						
ASAR	**Alice Springs**	**39.86**	**199**	P	**P**	**17 23 38.0**	**-1.0**
	0.3nm,0.6s,baz=26,slow=8.4,SNR=8.2						
CMAR	**Chiang Mai Arr**	**46.07**	**282**	P	**P**	**17 24 29.8**	**+0.4**
	0.3nm,0.3s,baz=91,slow=7.3,SNR=4.6						
CMAR				PcP	**PcP**	**17 26 09.2**	**+3.7**
	0.3nm,0.7s,baz=94,slow=1.2,SNR=3.3						
SEY	**Seymchan**	**48.67**	**3**	P	**P**	**17 24 49.3**	**+0.4**
	0.3nm,0.4s,baz=163,slow=19,SNR=4.4						
ZALV	**Zalesovo Beam**	**62.16**	**324**	P	**P**	**17 26 24.3**	**-1.8**
	0.3nm,0.3s,baz=101,slow=6.7,SNR=2.6						
MKAR	**Makanchi Array**	**62.31**	**316**	P	**P**	**17 26 27.8**	**+0.4**
	0.4nm,0.3s,baz=88,slow=8.9,SNR=7.9						
ILAR	**Eielson Array**	**67.05**	**25**	P	**P**	**17 26 57.9**	**0.0**
	0.3nm,0.5s,baz=251,slow=5.5,SNR=7.7						
BVAR	**Borovoye Array**	**70.55**	**321**	P	**P**	**17 27 20.0**	**+0.1**
	0.8nm,0.5s,baz=100,slow=6.6,SNR=8.5						
YKA	**Yellowknife Ar**	**81.28**	**28**	P	**P**	**17 28 21.0**	**+0.1**
	0.2nm,0.7s,baz=286,slow=5.0,SNR=3.4						
ARCES	**ARCESS Array B**	**86.95**	**343**	P	**P**	**17 28 50.9**	**+1.2**
	0.6nm,0.6s,baz=64,slow=6.1,SNR=4.6						
FINES	**FINESS Array B**	**91.29**	**336**	P	**P**	**17 29 09.7**	**-0.5**
	1.8nm,0.7s,baz=82,slow=4.2,SNR=6.9						
LPAZ	**La Paz**	**146.20**	**98**	PKPbc	**PKPdf**	**17 35 46.2**	**+0.4**
	0.7nm,0.4s,baz=312,slow=2.8,SNR=5.3						

IDC 05 17:21:16.1±7.4,**22°.93N×144°.86E,h0**km,**mb3.4**/3, **mb1 3.6**/4,**mb1mx3.2**/57,**mbtmp3.4**/4,**ML2.5**/1,**MS2.4**/1, **Ms1 2.4**/1,**ms1mx2.1**/21,**Error ellipse: s-maj=322.6km s-min=27.5km az=80.0,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.73**	**338**	Pn	Pn	17 24 46.7	+0.9
	0.0nm,0.3s,baz=155,slow=11,SNR=3.6						
MJAR				LR	LR	17 29 42.5	
	comp=Z,17nm,20.8s,baz=245,slow=34						
WRA	**Warramunga Arr**	**43.84**	**194**	P	P	17 29 23.6	-0.6
	0.2nm,0.3s,baz=17,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**47.53**	**194**	P	P	17 29 53.8	+0.4
	0.2nm,0.7s,baz=12,slow=6.9,SNR=7.1						
BVAR	**Borovoye Array**	**62.75**	**319**	P	P	17 31 42.7	-0.3
	0.4nm,0.4s,baz=101,slow=7.5,SNR=5.1						

*NIED **05** 17:39:00, 36°.30N×141°.10E, h23km, Mw3.7 Best double couple: M0 4.12000×10^14 NP1:φs29.00000°, δ28.00000°, λ-82.00000°. NP2:φs200.00000°, δ63.00000°, λ-94.00000°.*
*IDC **05** 17:39:36.7±0.7, 36°.22N×141°.00E, h0km, mb3.6/11, mb1 3.8/15, mb1mx3.6/35, mbtmp3.6/15, ML3.2/4, MS2.7/4, Ms1 2.7/4, ms1mx2.4/38, Error ellipse: s-maj=17.4km s-min=15.4km az=121.0*
*JMA **05** 17:39:40.0±0.1, 36°.26N×141°.01E, h39km±1km, M3.8*
JMA Felt II J1.
ISC 05 17:39:39.4±1.6,**36°.32N**±0°.04×**141°.02E**±0°.05,**h17**km±10km, **n34,σ0°98**/33,**mb3.7**/11,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.35**	**273**	P	**Pn**	**17 39 48.8**	**-0.9**
JHYU				S	**Sn**	**17 39 54.6**	**-1.7**
JHO	**Hitachi**	**0.46**	**309**	P	**Pb**	**17 39 50.5**	**+1.4**
JHO				S	**Sn**	**17 39 58.2**	**-0.9**
JIHU	**Itakohorinouch**	**0.53**	**228**	P	**Pb**	**17 39 51.2**	**+0.9**
JIHU				S	**Sb**	**17 39 59.0**	**+1.3**
CHOJ	**Chosi**	**0.63**	**192**	P	**Pg**	**17 39 51.4**	**-0.4**
JYT	**Yasato**	**0.67**	**262**	P	**Pb**	**17 39 52.9**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.80**	**347**	P	**Pb**	**17 39 55.3**	**+0.4**
JSMT	**Sammumatsuo**	**0.82**	**214**	P	**Pb**	**17 39 55.1**	**-0.1**
JFK	**Kawauchi**	**1.05**	**354**	P	**Pb**	**17 39 58.8**	**-0.4**
JAG	**Ashikaga**	**1.27**	**275**	P	**Pn**	**17 40 01.6**	**-0.7**
MJAR	**Matsushiro Arr**	**2.27**	**276**	Pn	**Pn**	**17 40 16.6**	**+0.3**
	4.9nm,0.3s,baz=68,slow=31,SNR=406						
MJAR				Sn	**Sn**	**17 40 44.0**	**+0.1**
	2.5nm,0.3s,baz=50,slow=28,SNR=6.4						
MJAR				LR	LR	17 41 21.1	
	comp=Z,106nm,19.3s,baz=95,slow=47						
MAT	**Matsushiro**	**2.28**	**276**	P	**Pn**	**17 40 16.9**	**+0.6**
MAT				S	**Sn**	**17 40 44.2**	**+0.3**
JHJ	**Hachijo jima 2**	**3.35**	**198**	Pn	**Pn**	**17 40 30.3**	**-0.8**
	11nm,0.3s,baz=339,slow=21,SNR=11						
JHJ				Sn	**Sn**	**17 41 10.5**	**0.0**
	29nm,0.3s,baz=265,slow=23,SNR=6.7						
ASAJ	**Asahikawa**	**7.88**	**8**	Pn	**Pn**	**17 41 33.5**	**+0.3**
	0.5nm,0.3s,baz=239,slow=7.1,SNR=8.7						
ASAJ				Sn	**Sn**	**17 42 59.3**	**-2.6**
	0.1nm,0.3s,baz=280,slow=26,SNR=1.1						
JNU	**Nakatsue**	**8.93**	**252**	LR	LR	17 45 34.5	
	comp=Z,79nm,18.0s,baz=48,slow=40						
KSRS	**Korea Array**	**10.55**	**280**	Pn	**Pn**	**17 42 09.2**	**-0.6**
	0.0nm,0.3s,baz=94,slow=14,SNR=3.1						
KSRS				LR	LR	17 45 56.6	
	comp=Z,31nm,18.8s,baz=79,slow=36						
KLR	**Kul'dur**	**14.57**	**335**	LR	LR	17 48 30.1	
	comp=Z,28nm,19.3s,baz=178,slow=36						
SONM	**Songino Array**	**27.93**	**305**	P	**P**	**17 45 28.0**	**-0.8**
	0.8nm,0.6s,baz=99,slow=8.9,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.07**	**119**	T	T	18 14 48.9	
	baz=312,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**28.08**	**119**	T	T	18 14 50.0	
	baz=312,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**28.09**	**119**	T	T	18 14 50.0	
	baz=312,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**28.75**	**121**	T	T	18 15 37.9	
	baz=314,slow=75,SNR=109						
H11S3	**WAKE ISLAND Hy**	**28.75**	**121**	T	T	18 15 38.3	
	baz=314,slow=75,SNR=127						
H11S2	**WAKE ISLAND Hy**	**28.77**	**121**	T	T	18 15 36.1	
	baz=314,slow=75,SNR=77						
ZALV	**Zalesovo Beam**	**42.16**	**313**	P	**P**	**17 47 30.9**	**0.0**
	1.0nm,0.5s,baz=94,slow=6.7,SNR=6.5						
MKAR	**Makanchi Array**	**44.23**	**303**	P	**P**	**17 47 47.8**	**+0.1**
	0.8nm,0.7s,baz=87,slow=9.1,SNR=9.2						
ILAR	**Eielson Array**	**50.27**	**32**	P	**P**	**17 48 35.3**	**+0.8**
	0.6nm,0.8s,baz=253,slow=6.7,SNR=6.5						
INK	**Inuvik**	**55.16**	**27**	P	**P**	**17 49 12.2**	**+1.6**
	0.4nm,0.5s,baz=298,slow=8.0,SNR=3.8						
WRA	**Warramunga Arr**	**56.31**	**188**	P	**P**	**17 49 18.4**	**-0.9**
	0.9nm,0.7s,baz=5.5,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**60.04**	**188**	P	**P**	**17 49 44.0**	**-1.4**
	0.5nm,0.7s,baz=6.3,slow=9.3,SNR=7.2						
YKA	**Yellowknife Ar**	**64.58**	**30**	P	**P**	**17 50 16.0**	**+0.6**
	0.2nm,0.8s,baz=304,slow=6.4,SNR=4.6						
AKASG	**Malin Array Be**	**74.66**	**322**	P	**P**	**17 51 18.6**	**+0.8**
	0.1nm,0.3s,baz=46,slow=6.0,SNR=3.0						
NVAR	**Mina Array Bea**	**75.67**	**53**	P	**P**	**17 51 24.6**	**+0.5**
	0.5nm,0.6s,baz=297,slow=4.0,SNR=4.1						
PDAR	**Pinedale Array**	**78.39**	**45**	P	**P**	**17 51 39.7**	**+0.3**
	0.2nm,0.6s,baz=248,slow=1.5,SNR=3.5						
LPAZ	**La Paz**	**147.33**	**60**	PKPbc	**PKPbc**	**17 59 22.2**	**-1.1**
	0.5nm,0.5s,baz=326,slow=3.6,SNR=2.9						

*ISCJB **05** 18:02:40.1±0.7, 21°.9N±0°.1×143°.4E±0°.2, h250km, mb3.5/11, Error ellipse: s-maj=25.9km s-min=14.5km az=173.8*
*IDC **05** 18:02:40.8±4.7, 21°.85N×143°.49E, h242km±46km, mb3.3/12, mb1 3.4/13, mb1mx3.1/54, mbtmp3.8/13, MS2.4/1, Ms1 2.4/1, ms1mx2.1/13, Error ellipse: s-maj=23.3km s-min=12.3km az=88.0*
ISC 05 18:02:41.6±0.9,**21°.9N**±0°.1×**143°.5E**±0°.2,**h250**km,**n13,**
σ0°89/13,**mb3.6**/11,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.32**	**344**	P	**P**	**18 06 03.2**	**-1.6**
	0.0nm,0.3s,baz=172,slow=11,SNR=4.7						
KSRS	**Korea Array**	**20.53**	**323**	P	**P**	**18 07 02.4**	**+1.2**
	0.4nm,0.5s,baz=153,slow=8.8,SNR=5.7						
KSRS				LR	LR	18 14 47.7	
	comp=Z,11nm,21.5s,baz=25,slow=35						
KLR	**Kul'dur**	**28.84**	**344**	P	**P**	**18 08 16.4**	**-0.4**
	1.4nm,0.4s,baz=159,slow=8.6,SNR=12						
WRA	**Warramunga Arr**	**42.51**	**193**	P	**P**	**18 10 12.7**	**0.0**
	0.2nm,0.3s,baz=15,slow=9.2,SNR=20						
ASAR	**Alice Springs**	**46.21**	**192**	P	**P**	**18 10 41.1**	**-0.9**
	0.1nm,0.4s,baz=12,slow=6.7,SNR=9.8						
MKAR	**Makanchi Array**	**54.77**	**313**	P	**P**	**18 11 46.4**	**+0.7**
	0.3nm,0.5s,baz=93,slow=8.7,SNR=5.0

CPUP	**Villa Florida**	**42.00 246**	P		**P**		**18 10 40.5**	**-0.1**
	2.6nm,0.9s,baz=122,slow=10,SNR=4.3							
CPUP			LR		LR		18 26 00.6	
	comp=Z,435nm,18.8s,baz=87,slow=33							
SIV	**San Ignacio**	**45.19 261**	P		**P**		**18 11 07.2**	**+0.8**
	1.1nm,0.5s,baz=90,slow=12,SNR=3.7							
LPAZ	**La Paz**	**51.92 260**	P		**P**		**18 11 59.5**	**+0.5**
	0.7nm,0.6s,baz=97,slow=5.2,SNR=3.5							
LPAZ			LR		LR		18 32 27.7	
	comp=Z,175nm,21.1s,baz=100,slow=34							
KMBO	**Kilima Mbogo**	**52.51 80**	LR		LR		18 31 40.0	
	comp=Z,124nm,20.5s,baz=94,slow=33							
H05S1	**Guadeloupe/Mar**	**54.19 300**	T		T		19 10 35.4	
	SNR=22							
GO04	**Tololo Observa**	**54.22 243**	*e*P		**P**		**18 12 14.3**	**-1.1**
	30nm,1.1s							
ESDC	**Sonseca Array**	**54.45 10**	P		**P**		**18 12 16.4**	**-0.1**
	0.6nm,0.6s,baz=186,slow=8.4,SNR=11							
ESDC			LR		LR		18 34 29.6	
	comp=Z,204nm,19.5s,baz=260,slow=35							
KEST	**Kesra**	**54.45 24**	LR		LR		18 34 21.9	
	comp=Z,491nm,20.5s,baz=182,slow=35							
H05N1	**Guadeloupe/Mar**	**55.31 302**	T		T		19 11 56.3	
	SNR=12							
PLCA	**Paso Flores**	**55.44 230**	LR		LR		18 32 33.9	
	comp=Z,374nm,21.3s,baz=111,slow=32							
SNAA	**Sanae**	**57.85 176**	*e*P		**P**		**18 12 40.6**	**+0.2**
	16nm,1.4s							
SNAA	**Sanae**	**57.85 176**	P		**P**		**18 12 40.6**	**+0.2**
	1.3nm,0.9s,baz=22,slow=11,SNR=3.4							
ROSC	**El Rosal**	**62.52 283**	LR		LR		18 38 51.8	
	comp=Z,198nm,20.9s,baz=160,slow=35							
MMAI	**Mount Meron Ar**	**66.71 44**	P		**P**		**18 13 40.4**	**+0.1**
	0.5nm,0.3s,baz=243,slow=5.4,SNR=3.1							
GERES	**GERESS Array B**	**67.49 20**	P		**P**		**18 13 44.2**	**-0.8**
	0.6nm,0.8s,baz=197,slow=4.2,SNR=4.9							
GERES			LR		LR		18 42 38.8	
	comp=Z,349nm,19.2s,baz=244,slow=36							
CLL	**Collm**	**69.43 18**	*e*S		**S**		**18 23 09.0**	**+4.9**
CLL			*e*SS		SS		18 27 18.0	-14
CLL			Lm		MLR		18 42 00.0	
	comp=Z,300nm,22.0s							
MLR	**Muntele Rosu**	**69.64 29**	*e*P		**P**		**18 13 57.9**	**-0.8**
	comp=Z,7.6nm,1.2s							
MLR	**Muntele Rosu**	**69.64 29**	P		**P**		**18 13 57.8**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=165,slow=12,SNR=6.0							
BR101	**Keskin Array S**	**69.73 38**	*e*P		**P**		**18 13 59.2**	**0.0**
BRTR	**Keskin Array B**	**69.73 38**	*e*P		**P**		**18 13 57.6**	**-1.7**
BRTR	**Keskin Array B**	**69.73 38**	P		**P**		**18 13 59.2**	**0.0**
	comp=Z,0.8nm,0.9s,baz=212,slow=6.8,SNR=5.2							
BRTR			LR		LR		18 45 19.9	
	comp=Z,44nm,21.8s,baz=244,slow=37							
MAW	**Mawson**	**72.05 157**	LR		LR		18 40 25.7	
	comp=Z,208nm,18.7s,baz=294,slow=31							
AKASG	**Malin Array Be**	**74.97 27**	P		**P**		**18 14 28.3**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=224,slow=6.1,SNR=9.7							
AKASG			LR		LR		18 48 33.8	
	comp=Z,101nm,21.2s,baz=245,slow=37							
QSPA	**South Pole Qui**	**75.95 180**	*e*P		**P**		**18 14 37.2**	**+1.4**
	comp=Z,14nm,1.4s							
KBZ	**Khabaz**	**77.67 39**	P		**P**		**18 14 45.5**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=216,slow=2.6,SNR=2.9							
KBZ			LR		LR		18 50 27.2	
	comp=Z,40nm,18.5s,baz=243,slow=37							
NB2	**NORSAR Subarra**	**77.69 12**	P		P		18 14 52.7	+7.2
	comp=Z,3.2nm,1.0s,baz=206,slow=5.9							
NOA	**NORSAR Array B**	**77.69 12**	P		**P**		**18 14 46.2**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=191,slow=8.1,SNR=3.3							
NOA			LR		LR		18 50 21.2	
	comp=Z,110nm,18.7s,baz=205,slow=37							
WSAR	**Wadi Sarin**	**80.38 63**	P		**P**		**18 15 02.5**	**+1.5**
	comp=Z,6.3nm,0.7s,baz=223,slow=5.1,SNR=4.8							
SCHQ	**Schefferville**	**81.85 332**	LR		LR		18 44 36.2	
	comp=Z,54nm,21.4s,baz=129,slow=31							
FIA0	**FINESS Array S**	**81.87 18**	*e*P		**P**		**18 15 07.9**	**-0.1**
FINES	**FINESS Array B**	**81.87 18**	P		**P**		**18 15 07.9**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=211,slow=4.9,SNR=3.5							
FINES			LR		LR		18 52 07.0	
	comp=Z,144nm,19.6s,baz=244,slow=36							
GEYT	**Alibeck**	**85.23 49**	P		**P**		**18 15 26.1**	**+0.2**
	comp=Z,522nm,0.5s,baz=260,slow=7.2,SNR=4.3							
GEYT			LR		LR		18 52 59.3	
	comp=Z,67nm,21.9s,baz=240,slow=35							
ARA0	**ARCESS Array S**	**88.06 13**	*e*P		**P**		**18 15 39.2**	**+0.2**
ARCES	**ARCESS Array B**	**88.06 13**	P		**P**		**18 15 39.2**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=226,slow=6.2,SNR=3.3							
VNDA	**Vanda**	**88.42 179**	LR		LR		18 50 02.2	
	comp=Z,154nm,19.9s,baz=178,slow=32							
AKTO	**Aktyubinsk**	**89.91 38**	P		**P**		**18 15 48.5**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=252,slow=6.0,SNR=6.2							
ULM	**Lac du Bonnet**	**95.54 320**	LR		LR		18 52 36.2	
	comp=Z,87nm,19.2s,baz=87,slow=31							
TXAR	**Lajitas Array**	**96.35 299**	LR		LR		18 56 17.7	
	comp=Z,14nm,22.0s,baz=0,slow=33							
TBI	**Tubuai**	**122.45 230**	*e*LR		LR		18 59 45.0	
	comp=Z,255nm,25.8s							
PPT2	**Papeete2**	**125.78 236**	*e*LR		LR		19 01 14.2	
	comp=Z,197nm,26.5s							
SEY	**Seymchan**	**130.43 8**	PKP		**PKPdf**		**18 21 59.6**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=306,slow=4.8,SNR=4.4							
MAJO	**Matsushiro**	**146.82 43**	*e*PKPdf		**PKPdf**		**18 22 30.4**	**+0.5**
MJAR	**Matsushiro Arr**	**146.82 43**	PKPbc		**PKPdf**		**18 22 30.5**	**+0.5**
	comp=Z,2.7nm,1.2s,baz=293,slow=4.4,SNR=4.1							

NIED ***05*** *18:06:00,37°.10N×141°.50E,h44km,Mw3.5 Best double couple: M0 2.31000×10^14 NP1:φ=108.00000°,δ=49.00000°, λ=129.00000°. NP2:φ=238.00000°,δ=54.00000°,λ=55.00000°.*
IDC ***05*** *18:06:39.9±1.1,37°.04N×141°.68E,h0km,mb3.4/6, mb1 3.5/9,mb1mx3.3/53,mbtmp3.4/9,ML3.2/3,Error ellipse: s-maj=30.5km s-min=18.4km az=94.0*
JMA ***05*** *18:06:45.2±0.2,37°.07N×141°.52E,h48km±2km,M3.7*
ISC 05 18:06:42.5±1.9,37°.03N±0°.05×141°.62E±0°.07,h17km±11km, n23,σ0°77/30,mb3.4/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.66**	**277**	P	**Pn**	**18 06 57.2**	**0.0**
ONAJ				*e*S	**Sb**	18 07 05.4	+0.9
JFK	**Kawauchi**	**0.68**	**300**	P	**Pn**	18 06 57.4	-0.1
JFK				*e*S	**Sb**	18 07 05.6	+0.4
JFFD	**Fukushimafurud**	**0.85**	**275**	P	**Pn**	18 06 59.8	+0.1
JFFD				*e*S	**Sb**	18 07 10.0	+0.1
JHO	**Hitachi**	**0.94**	**244**	P	**Pn**	18 07 01.1	+0.1
JHO				*e*S	**Sg**	18 07 12.6	-0.5
JMM	**Marumori**	**1.06**	**322**	P	**Pb**	18 07 02.6	+0.1
JFT	**Otama**	**1.13**	**296**	P	**Pg**	18 07 04.5	+0.1
JFT				*e*S	**Sb**	18 07 18.1	0.0
JIO	**Ouri**	**1.44**	**352**	P	**Pn**	18 07 08.0	+0.1
JOU	**Okura**	**1.54**	**331**	P	**Pb**	18 07 10.4	-0.2
JFY	**Yanaizu**	**1.57**	**285**	P	**Pb**	18 07 10.8	-0.4
JYS	**Shirataka**	**1.71**	**315**	P	**Pb**	18 07 12.9	-0.7
JYS				*e*S	**Sn**	18 07 33.6	+0.4
MJAR	**Matsushiro Arr**	**2.78**	**261**	Pn	**Pn**	18 07 28.0	+1.7
	0.5nm,0.3s,baz=84,slow=14,SNR=44						
MJAR				Sn	**Sb**	18 08 05.0	-0.5
	1.4nm,0.3s,baz=66,slow=27,SNR=7.0						
MAT	**Matsushiro**	**2.78**	**261**	P	**Pn**	18 07 28.4	+2.1
MAT				*e*S	**Sn**	18 07 58.5	-1.0
JHJ	**Hachijo jima 2**	**4.18**	**202**	Pn	**Pn**	18 07 46.9	+1.4
	15nm,0.3s,baz=149,slow=23,SNR=13						
JHJ				Sn	**Sn**	18 08 33.2	-0.7
	31nm,0.3s,baz=130,slow=24,SNR=11						
ASAJ	**Asahikawa**	**7.12**	**6**	Pn	**Pn**	18 08 26.8	+0.9
	0.5nm,0.3s,baz=224,slow=12,SNR=8.0						
ASAJ				Sn	**Sn**	18 09 46.1	-0.4
	0.4nm,0.3s,baz=226,slow=19,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**28.00 121**		T	T	18 42 11.0	
	baz=313,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**28.01 121**		T	T	18 41 56.8	
	baz=313,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.02 121**		T	T	18 42 08.0	
	baz=313,slow=75,SNR=11						
MKAR	**Makanchi Array**	**44.26 302**		P	**P**	18 14 51.3	+0.2
	0.2nm,0.6s,baz=91,slow=8.6,SNR=2.6						
KURBB	**Kurchatov Arra**	**46.13 308**		P	**P**	18 15 05.2	-0.6
	0.5nm,0.5s,baz=85,slow=7.9,SNR=8.0						
ILAR	**Eielson Array**	**49.41 32**		P	**P**	18 15 31.8	+0.7
	0.3nm,0.7s,baz=267,slow=6.3,SNR=4.3						
WRA	**Warramunga Arr**	**57.08 188**		P	**P**	18 16 27.6	-0.3
	0.3nm,0.9s,baz=6.1,slow=7.2,SNR=5.8						
ASAR	**Alice Springs**	**60.80 188**		P	**P**	18 16 53.7	-0.1
	0.3nm,0.8s,baz=22,slow=8.0,SNR=5.2						
AKASG	**Malin Array Be**	**74.40 322**		P	**P**	18 18 19.0	-0.4
	0.2nm,0.4s,baz=49,slow=6.2,SNR=5.9						

IDC ***05*** *18:40:32.2±3.1,55°.74N×154°.31W,h0km,mb3.6/5, mb1 3.7/8,mb1mx3.4/37,mbtmp3.6/8,ML3.5/3,Error ellipse: s-maj=68.0km s-min=32.3km az=148.0*
ISCJB ***05*** *18:40:40.5±1.1,56°.5N±0°.1×154°.0W±0°.1,h38km±6km, mb3.7/4,Error ellipse: s-maj=20.7km s-min=9.0km az=148.4*
NEIC ***05*** *18:40:42.1±0.0,56°.44N×154°.06W,h23km,ML3.3(AEIC), After AEIC.*
ISC 05 18:40:41.5±1.2,56°.5N±0°.1×154°.14W±0°.07,h33km±6km, n38,σ1°61/46,mb3.7/4,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.05**	**333**	*e*Pg	**Pb**	**18 40 46.6**	**-0.4**
SII				*e*Sg	**Sb**	18 40 50.7	-0.1
OHAK	**Old Harbor**	**0.85**	**33**	*e*Pg	**Pb**	18 40 57.7	-0.1
OHAK				*e*Sn	**Sb**	18 41 09.0	+0.1
KDAK	**Kodiak Island**	**1.53**	**33**	*e*Pn	**Pn**	18 41 07.0	+0.5
KDAK				*e*Pg	**Pb**	18 41 07.1	-2.0
KDAK				*e*Sn	**Sb**	18 41 28.9	+0.7
KDAK				*e*Sg	**Sn**	18 41 29.2	+4.0
KDAK	**Kodiak Island**	**1.53**	**33**	Pn	**Pn**	18 41 06.9	+0.4
	16nm,0.3s,baz=217,slow=12,SNR=165						
KDAK				Sn	**Sb**	18 41 29.8	+1.6
	33nm,0.3s,baz=67,slow=12,SNR=14						
CHGN	**Chignik**	**2.38**	**267**	*e*Pn	**Pb**	18 41 21.3	-2.3
CHGN				*e*Sn	**Sb**	18 41 54.3	+1.7
BRLK	**Bradley Lake**	**3.69**	**27**	*e*Pn	**Pn**	18 41 36.3	+0.2
BRLK				*e*Pn	**Pn**	18 41 36.5	+0.4
RSO	**Redoubt South**	**4.03**	**10**	*e*Pn	**Pn**	18 41 42.4	+1.4
SEW	**Seward**	**4.37**	**33**	*e*Pn	**Pn**	18 41 44.7	-0.7
RC01	**Rabbit Creek A**	**5.13**	**25**	*e*Pn	**Pn**	18 41 56.4	+0.6
SUA	**Susitna One**	**5.27**	**18**	*e*Pn	**Pn**	18 41 59.0	+1.1
KNK	**Knik Glacier**	**5.72**	**29**	*e*Pn	**Pn**	18 42 04.0	-0.1
GHO	**Glory Hole Cre**	**5.92**	**25**	*e*Pn	**Pn**	18 42 06.8	0.0
EYAK	**Cordova Ski Ar**	**5.97**	**44**	*e*Pn	**Pn**	18 42 07.8	+0.3
SML	**Sawmill**	**6.09**	**27**	*e*Pn	**Pn**	18 42 09.2	+0.1
DIV	**Divide**	**6.35**	**40**	*e*Pn	**Pn**	18 42 12.4	-0.2
SCM	**Sheep Creek Mo**	**6.38**	**30**	*e*Pn	**Pn**	18 42 13.6	+0.5
HMT	**Hamilton**	**6.45**	**49**	*e*Pn	**Pn**	18 42 14.7	+0.7
PPLA	**Purkeypile**	**6.48**	**8**	*e*Pn	**Pn**	18 42 17.4	+2.9
TT01	**Tatalina**	**6.48**	**352**	*e*Pn	**Pn**	18 42 15.9	+1.4
KLU	**Klutina**	**6.55**	**37**	*e*Pn	**Pn**	18 42 15.6	+0.1
RND	**Reindeer**	**7.40**	**19**	*e*Pn	**Pn**	18 42 26.8	-0.3
DHY	**Denali Highway**	**7.41**	**25**	*e*Pn	**Pn**	18 42 28.4	+1.1
HARP	**HAARP**	**7.47**	**34**	*e*Pn	**Pn**	18 42 29.2	+1.1
BALM	**Baldy**	**7.62**	**49**	*e*Pn	**Pn**	18 42 30.2	+0.1
MCK	**McKinley**	**7.69**	**18**	*e*Pn	**Pn**	18 42 31.2	+0.2
PAX	**Paxson**	**7.81**	**30**	*e*Pn	**Pn**	18 42 34.3	+1.6
CTGM	**Chitina Glacie**	**8.01**	**51**	*e*Pn	**Pn**	18 42 36.9	+1.3
CCB	**Clear Creek Bu**	**8.73**	**18**	*e*Pn	**Pn**	18 42 46.2	+1.0
MDM	**Murphy Dome**	**8.95**	**16**	*e*Pn	**Pn**	18 42 49.4	+1.1
ILAR	**Eielson Array**	**9.01**	**20**	Pn	**Pn**	18 42 49.2	+0.1
	0.2nm,0.3s,baz=220,slow=13,SNR=10						
ILAR				Sn	**Sn**	18 44 22.4	-6.9
	0.0nm,0.3s,baz=82,slow=18,SNR=2.2						
ILB	**Eielson Array**	**9.01**	**20**	*e*Pn	**Pn**	18 42 49.6	+0.5
SCRK	**Sand Creek**	**9.02**	**30**	*e*Pn	**Pn**	18 42 50.6	+1.3
INK	**Inuvik**	**15.09**	**30**	Pn	**P**	18 44 16.1	-0.7
	0.1nm,0.3s,baz=221,slow=9.5,SNR=3.8						
YKA	**Yellowknife Ar**	**20.67**	**57**	P	Pn	18 45 19.8	-0.8
	1.0nm,0.7s,baz=271,slow=10,SNR=12						
ARCES	**ARCESS Array B**	**54.26**	**0**	P	**P**	**18 50 02.8**	**-0.7**
	0.9nm,0.7s,baz=14,slow=8.4,SNR=5.4						
FINES	**FINESS Array B**	**62.38**	**360**	P	**P**	**18 51 01.2**	**+1.0**
	1.9nm,0.8s,baz=352,slow=8.6,SNR=4.0						
MKAR	**Makanchi Array**	**66.78**	**321**	P	**P**	**18 51 29.5**	**+0.2**
	0.2nm,0.7s,baz=44,slow=8.1,SNR=3.6						
AKASG	**Malin Array Be**	**73.11**	**358**	P	**P**	**18 52 08.9**	**+0.9**
	0.2nm,0.4s,baz=9.0,slow=5.9,SNR=3.5						

IDC ***05*** *18:49:20.3±4.2,56°.64N×154°.40W,h0km,mb3.7/9, mb1 3.7/10,mb1mx3.5/41,mbtmp3.7/10,ML3.2/1,MS3.4/3, Ms1 3.4/3,ms1mx2.6/45,Error ellipse: s-maj=100.4km s-min=20.8km az=160.0*
ISCJB ***05*** *18:49:21.9±1.1,56°.4N±0°.1×154°.0W±0°.1,h37km±6km, mb3.7/8,MS3.3/3,Error ellipse: s-maj=20.2km s-min=6.9km az=149.4*
NEIC ***05*** *18:49:24.7±0.0,56°.48N×154°.12W,h23km,ML3.4(AEIC), After AEIC.*
ISC 05 18:49:23.3±1.4,56°.4N±0°.1×154°.07W±0°.08,h31km±6km, n47,σ1°37/50,mb3.7/8,MS3.3/3,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.15**	**336**	*e*Pg	**Pb**	**18 49 29.0**	**-0.1**
SII				*e*Sg	**Sb**	18 49 32.8	-0.3
OHAK	**Old Harbor**	**0.91**	**28**	*e*Pg	**Pn**	18 49 39.9	-0.1
OHAK				*e*Sn	**Sn**	18 49 51.2	-0.9
KDAK	**Kodiak Island**	**1.59**	**30**	*e*Pn	**Pn**	18 49 49.1	-0.1
KDAK				*e*Sn	**Sb**	18 50 13.0	+1.4
KDAK				*e*Sg	**Sb**	18 50 13.1	+1.4
KDAK	**Kodiak Island**	**1.59**	**30**	Pn	**Pn**	18 49 49.2	-0.1
	20nm,0.3s,baz=201,slow=13,SNR=198						
KDAK				Sn	**Sn**	18 50 11.2	+2.4
	37nm,0.3s,baz=68,slow=18,SNR=14						
CHGN	**Chignik**	**2.42**	**269**	*e*Pn	**Pn**	18 50 01.4	+0.7
HOM	**Homer**	**3.49**	**21**	*e*Pn	**Pn**	18 50 11.9	-3.6
BRLK	**Bradley Lake**	**3.75**	**25**	*e*Pn	**Pn**	18 50 18.8	-0.3
RSO	**Redoubt South**	**4.11**	**9**	*e*Pn	**Pn**	18 50 24.5	+0.4
SEW	**Seward**	**4.43**	**32**	*e*Pn	**Pn**	18 50 27.1	-1.1
RC01	**Rabbit Creek A**	**5.20**	**24**	*e*Pn	**Pn**	18 50 38.6	-0.2
SUA	**Susitna One**	**5.34**	**17**	*e*Pn	**Pn**	18 50 42.5	+1.6
FALS	**False Pass**	**5.52**	**257**	*e*Pn	**Pn**	18 50 44.3	+1.0
KNK	**Knik Glacier**	**5.79**	**28**	*e*Pn	**Pn**	18 50 45.9	-1.1
GHO	**Glory Hole Cre**	**5.99**	**24**	*e*Pn	**Pn**	18 50 49.8	0.0
EYAK	**Cordova Ski Ar**	**6.01**	**43**	*e*Pn	**Pn**	18 50 49.7	-0.3
SML	**Sawmill**	**6.16**	**26**	*e*Pn	**Pn**	18 50 51.4	-0.7
DIV	**Divide**	**6.39**	**39**	*e*Pn	**Pn**	18 50 52.8	-2.5
HMT	**Hamilton**	**6.48**	**49**	*e*Pn	**Pn**	18 50 56.8	+0.3
PPLA	**Purkeypile**	**6.57**	**8**	*e*Pn	**Pn**	18 50 59.2	+1.4
KLU	**Klutina**	**6.60**	**36**	*e*Pn	**Pn**	18 50 57.7	-0.5
CAST	**Castle Rocks**	**7.09**	**7**	*e*Pn	**Pn**	18 51 05.1	+0.2
RND	**Reindeer**	**7.48**	**18**	*e*Pn	**Pn**	18 51 09.4	-0.8
DHY	**Denali Highway**	**7.48**	**24**	*e*Pn	**Pn**	18 51 09.9	-0.4
HARP	**HAARP**	**7.53**	**33**	*e*Pn	**Pn**	18 51 11.2	+0.4
BALM	**Baldy**	**7.65**	**48**	*e*Pn	**Pn**	18 51 12.8	+0.1
MCK	**McKinley**	**7.77**	**17**	*e*Pn	**Pn**	18 51 15.5	+1.4
BPAW	**Bear Paw Mtn.**	**7.86**	**10**	*e*Pn	**Pn**	18 51 15.2	-0.1
PAX	**Paxson**	**7.87**	**30**	*e*Pn	**Pn**	18 51 16.6	+1.0
CTGM	**Chitina Glacie**	**8.04**	**50**	*e*Pn	**Pn**	18 51 18.7	+0.7
RIDG	**Independent Ri**	**8.66**	**28**	*e*Pn	**Pn**	18 51 27.7	+1.3
SCRK	**Sand Creek**	**9.08**	**29**	*e*Pn	**Pn**	18 51 32.3	+0.1
ILAR	**Eielson Array**	**9.09**	**20**	*e*Pn	**Pn**	18 51 33.3	+1.1
ILAR	**Eielson Array**	**9.09**	**20**	Pn	**Pn**	18 51 32.5	+0.3
	0.3nm,0.3s,baz=218,slow=14,SNR=10						
ILAR				Sn	**Sn**	18 53 07.4	-5.8
	0.1nm,0.3s,baz=180,slow=27,SNR=2.7						
IMAR	**Indian Mountai**	**9.60**	**1**	*e*Pn	**Pn**	18 51 40.1	+1.0
INK	**Inuvik**	**15.15**	**30**	Pn	**Pn**	18 52 55.9	+1.2
	0.1nm,0.3s,baz=238,slow=11,SNR=3.5						
YKA	**Yellowknife Ar**	**20.69**	**57**	P	**P**	**18 54 01.6**	**+1.2**
	1.3nm,0.8s,baz=270,slow=11,SNR=12						
YBH	**Yreka Blue Hor**	**24.98**	**113**	LR	LR	19 02 49.3	
	comp=Z,94nm,18.5s,baz=90,slow=32						
PETK	**Petropavlovsk-**	**27.57**	**284**	P	**P**	**18 55 07.5**	**+0.3**
	1.3nm,0.8s,baz=77,slow=12,SNR=4.5						
KLR	**Kul'dur**	**43.35**	**293**	P	**P**	**18 57 22.4**	**+0.1**
	0.4nm,0.3s,baz=0.0,slow=7.1,SNR=3.9						
TXAR	**Lajitas Array**	**44.40**	**106**	LR	LR	19 14 00.0	
	comp=Z,44nm,18.7s,baz=0.0,slow=33						
LPIG	**La Paz**	**45.22**	**117**	LR	LR	19 14 52.6	
	comp=Z,28nm,19.1s,baz=22,slow=34						
ARCES	**ARCESS Array B**	**54.35**	**0**	P	**P**	**18 58 45.7**	**-0.6**
	0.5nm,0.5s,baz=26,slow=6.4,SNR=7.0						
ZALV	**Zalesovo Beam**	**59.94**	**324**	P	**P**	**18 59 24.8**	**-1.1**
	0.6nm,0.5s,baz=65,slow=8.5,SNR=4.0						
NOA	**NORSAR Array B**	**62.31**	**8**	P	**P**	**18 59 42.0**	**0.0**
	0.4nm,0.6s,baz=8.2,slow=6.0,SNR=2.6						
FINES	**FINESS Array B**	**62.48**	**360**	P	**P**	**18 59 43.3**	**+0.3**
	0.6nm,0.6s,baz=2.3,slow=9.5,SNR=5.0						
MKAR	**Makanchi Array**	**66.88**	**322**	P	**P**	**19 00 12.3**	**+0.2**
	0.3nm,0.6s,baz=44,slow=5.6,SNR=3.7						
AKASG	**Malin Array Be**	**73.21**	**358**	P	**P**	**19 00 50.9**	**+0.2**
	0.2nm,0.4s,baz=5.1,slow=5.9,SNR=4.5						

KRSC 05 18:58:40.0±10.0,60°.06N×163°.41E,h59km±10km,ML4.6, FELT [III] at Ilpyrskiy.,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.83**	**192**	*e*P	Pn	18 58 55.9	+0.2
OSSR				*e*S	Sn	18 59 07.4	+0.1
TILK	**Tilichiki**	**1.42**	**73**	*e*P	Pn	18 59 05.8	+2.2
TILK				*e*S	Sn	18 59 25.2	+4.0
PALN	**Palana**	**2.00**	**243**	*e*P	Pn	18 59 13.9	+2.5
PALN				*e*S	Sn	18 59 39.2	+3.9
KMSK	**Kamenskaya**	**2.77**	**28**	*e*P	Pn	18 59 23.9	+2.0
KMSK				*e*S	Sn	18 59 56.2	+2.1
KBTR	**Krutoberegovo**	**3.87**	**185**	*e*P	Pn	18 59 41.2	+4.2
BKI	**Bering**	**5.06**	**163**	*e*P	Pn	18 59 56.5	+3.3

JMA ***05*** *19:01:48.0±0.3,34°.94N×142°.04E,h56km±4km,M2.9*
IDC ***05*** *19:01:49.0±1.8,35°.06N×141°.76E,h0km,mb3.2/3, mb1 3.4/6,mb1mx3.2/41,mbtmp3.3/6,ML3.0/3,Error ellipse: s-maj=45.6km s-min=22.7km az=76.0*
ISCJB ***05*** *19:01:49.2±1.0,34°.98N±0°.05×141°.92E±0°.09,h29km, mb3.3/3,Error ellipse: s-maj=11.0km s-min=6.2km az=14.3*
ISC 05 19:01:49.8±1.6,35°.01N±0°.06×141°.9E±0°.1,h29km,n21, σ1°28/24,mb3.2/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.85**	**245**	P	**Pb**	**19 02 04.9**	**-0.7**
BSO1				*e*S	**Sb**	19 02 17.7	+1.3
CHOJ	**Chosi**	**1.10**	**309**	P	**Pb**	**19 02 09.4**	**-0.9**
CHOJ				*e*S	**Sb**	19 02 25.1	+0.8
BSO3	**Boso 3**	**1.17**	**260**	P	**Pb**	**19 02 10.1**	**-1.1**
BSO4	**Boso 4**	**1.29**	**270**	P	**Pb**	**19 02 12.2**	**-1.2**
JKUC	**kamogawauchiur**	**1.41**	**277**	P	**Pn**	**19 02 13.3**	**-0.2**
JIM2	**Oshima 3**	**2.06**	**263**	P	**Pn**	**19 02 21.8**	**-0.7**
JMKN	**Mikurajimanish**	**2.22**	**240**	P	**Pn**	**19 02 24.4**	**-0.2**
JOD2	**Odawara 2**	**2.33**	**277**	P	**Pn**	**19 02 25.9**	**-0.2**
JAG	**Ashikaga**	**2.45**	**306**	P	**Pn**	**19 02 28.7**	**+0.9**
JFK	**Kawauchi**	**2.50**	**341**	P	**Pn**	**19 02 28.3**	**-0.2**
JIZS	**Izushimoda**	**2.51**	**264**	P	**Pn**	**19 02 28.1**	**-0.5**
JHJ2	**Mitsune**	**2.57**	**223**	P	**Pn**	**19 02 29.3**	**-0.2**
JHJ2				*e*S	**Sn**	**19 02 59.1**	**-0.6**
JHJ	**Hachijo jima 2**	**2.58**	**224**	Pn	**Pn**	**19 02 29.9**	**+0.3**
	9.0nm,0.3s,baz=355,slow=24,SNR=10						
JHJ				Sn	**Sn**	**19 02 57.6**	**-2.5**
	17nm,0.3s,baz=347,slow=24,SNR=7.7			

TWC	baz=311			S	Sn	19 17 07.0	-0.6
YOJ	**Yonaguni jima**	**0.68**	**63**	P	Pn	19 16 58.5	+0.3
YOJ	baz=56			S	Sn	19 17 08.8	+0.4
YOJ	**Yonaguni jima**	**0.68**	**63**	P	Pn	19 16 58.9	+0.7
YOJ	baz=56			eS	Sn	19 17 08.4	0.0
NACB	**Ninganchiao**	**0.69 272**		P	Pn	19 16 58.9	+0.4
NACB	baz=267			S	Sn	19 17 08.9	+0.1
TWD	**Chiawan**	**0.69 264**		*i* P	Pn	19 16 58.9	+0.4
TWD	baz=250			eS	Sn	19 17 08.6	-0.3
HWA	**Hwalien**	**0.70 256**		eP	Pn	19 16 59.5	+0.9
HWA	baz=251			eS	Sn	19 17 10.5	+1.5
ENLB	**Shoufeng**	**0.73 250**		S	Sn	19 17 10.6	+0.9
EGS	baz=239	**0.79 331**		*i* P	Pn	19 17 00.7	+0.9
EGS	baz=322			eS	Sn	19 17 10.7	-0.5
ETLH	**Xiulin Townshi**	**0.80 274**		P	Pn	19 17 00.5	+0.5
ETLH	baz=270			eS	Sn	19 17 11.6	+0.1
TWE	**Neicheng**	**0.84 312**		*i* P	Pn	19 17 01.5	+0.9
TWE	baz=306			eS	Sn	19 17 12.7	+0.1
NTC	**Toucheng**	**0.85 326**		eS	Sn	19 17 11.9	-0.7
ENTT	**Nioudou**	**0.87 304**		*i* P	Pn	19 17 01.5	+0.6
ENTT	baz=301			eS	Sn	19 17 13.3	+0.2
NDT	**Datong Townshi**	**0.89 301**		*i* P	Pn	19 17 02.0	+0.8
NDT	baz=291			S	Sn	19 17 14.2	+0.5
ESL	**Shilin**	**0.91 248**		*i* P	Pn	19 17 01.6	+0.2
ESL	baz=237			eS	Sn	19 17 14.0	0.0
TWB1	**Santiao Chiao**	**0.92 339**		eP	Pn	19 17 01.6	+0.1
TWB1	baz=325			eS	Sg	19 17 13.2	-0.2
NNS	**Nan Shan**	**0.94 288**		*i* P	Pn	19 17 02.4	+0.4
NNS	baz=284			eS	Sn	19 17 15.5	+0.4
TIPB	**Shuangxi**	**0.95 330**		*i* P	Pn	19 17 02.4	+0.4
TIPB	baz=339			*i* S	Sg	19 17 13.8	-0.7
EGFH	**Guangfu**	**0.97 241**		*i* P	Pg	19 17 02.9	+0.5
EGFH	baz=230			S	Sn	19 17 15.8	+0.1
WHF	**Hehuan Shan**	**0.99 270**		*i* P	Pn	19 17 03.4	+0.4
WHF	baz=256			S	Sn	19 17 17.1	+0.2
NWLT	**Wulai**	**0.99 309**		*i* P	Pg	19 17 03.6	+0.8
NWLT	baz=298			S	Sn	19 17 16.3	0.0
YHNB	**Yeheng**	**1.03 300**		P	Pg	19 17 04.2	+0.7
YHNB	baz=297			eS	Sn	19 17 17.3	0.0
NWF	**Wu-fen Shan**	**1.05 331**		eP	Pg	19 17 04.3	+0.4
NWF	baz=329			eS	Sg	19 17 16.9	-0.9
WFSB	**Wu-fen Shan**	**1.05 331**		eP	Pb	19 17 03.0	-0.2
WFSB	baz=329			eS	Sb	19 17 16.8	0.0
HGSD	**Ruisui**	**1.07 233**		eP	Pg	19 17 05.0	+0.7
HGSD	baz=223			eS	Sg	19 17 19.3	+0.9
CHGB	**Renai**	**1.08 265**		P	Pg	19 17 04.8	+0.3
CHGB	baz=253			eS	Sg	19 17 18.6	-0.1
TWA	**Mucha**	**1.08 320**		eS	Sg	19 17 20.0	+1.3
OWD	**Renai**	**1.09 260**		*i* P	Pg	19 17 04.7	-0.1
OWD	baz=257			*i* S	Sn	19 17 18.7	-0.2
TDCB	**Techi**	**1.10 276**		P	Pg	19 17 05.2	+0.4
NHDH	baz=267 **Xindian Distri**	**1.11 317**		eP	Pg	19 17 06.1	+1.2
NHDH	baz=326			eS	Sg	19 17 19.5	0.0
EHY	**Hungye**	**1.14 236**		*i* P	Pb	19 17 05.3	+0.5
EHY	baz=233			eS	Sb	19 17 19.3	0.0
VWDT	**VWDT**	**1.18 251**		P	Pg	19 17 06.2	-0.1
VWDT	baz=248			eS	Sn	19 17 20.8	0.0
YM07	**YM07**	**1.22 327**		eP	Pg	19 17 06.5	-0.6
YM07	baz=325			S	Sb	19 17 20.2	-1.4
YM01	**YM01**	**1.22 324**		eP	Pg	19 17 06.9	-0.2
YM01	baz=333			eS	Sb	19 17 20.6	-1.0
YULB	**Yu-li**	**1.23 232**		P	Pb	19 17 06.3	+0.1
YULB	baz=241			S	Sb	19 17 21.5	-0.3
YM10	**YM10**	**1.23 324**		P	Pb	19 17 06.3	0.0
YM10	baz=333			eS	Sb	19 17 21.2	-0.7
YM11	**YM11**	**1.23 325**		eP	Pb	19 17 06.3	-0.1
YM08	baz=324 **YM08**	**1.25 326**		eS	Sb	19 17 21.3	-1.0
TWF1	**Yuli**	**1.25 231**		*i* P	Pn	19 17 06.7	+0.5
TWF1	baz=240			eS	Sb	19 17 22.4	-0.1
IRIF	**Iriomote-Funau**	**1.27**	**81**	P	Pn	19 17 07.0	+0.6
IRIF				eS	Sb	19 17 22.7	-0.3
WHP	**Taichung City**	**1.29 276**		eP	Pg	19 17 08.5	+0.1
WHP	baz=273			S	Sg	19 17 24.6	-0.7
NTST	**Danshui**	**1.30 321**		eS	Sb	19 17 22.9	-1.0
DPDB	baz=330 **Guoxing**	**1.31 265**		*i* P	Pb	19 17 08.2	+0.6
TWY	baz=257 **Chenhua**	**1.31 329**		eS	Sb	19 17 23.2	-1.0
NSTT	baz=327 **Nanjuang**	**1.32 291**		P	Pg	19 17 08.7	-0.3
NSTT	baz=289			S	Sb	19 17 24.8	+0.3
HATJ	**Hateruma jima**	**1.33**	**94**	eS	Sn	19 17 24.6	+0.1
SSLB	**Suanglung**	**1.33 255**		P	Pb	19 17 08.4	+0.4
SSLB	baz=258			eS	Sb	19 17 25.0	+0.3
SMLT	**Sun Moon Lake**	**1.35 259**		*i* P	Pb	19 17 08.9	+0.5
SMLT	baz=248			*i* S	Sb	19 17 25.7	+0.2
FULB	**Fuli**	**1.36 226**		P	Pb	19 17 09.1	+0.6
FULB	baz=214			eS	Sb	19 17 25.9	+0.4
CHKT	**Chengkung**	**1.38 221**		eS	Sn	19 17 23.7	-2.2
	baz=212						
TYC	**Yuchr**	**1.39 260**		*i* P	Pb	19 17 09.2	+0.2
TYC	baz=250			eS	Sb	19 17 26.6	+0.2
WHYT	**Xinyi Township**	**1.45 252**		*i* P	Pb	19 17 10.2	+0.3
WHYT	baz=242			S	Sb	19 17 28.2	+0.2
TWQ1	**Liyutan**	**1.46 278**		eP	Pb	19 17 10.0	-0.1
TWQ1	baz=276			eS	Sb	19 17 29.1	+0.8
JKRS	**Kuro-shima**	**1.52**	**86**	P	Pb	19 17 11.1	0.0
JKRS				eS	Sn	19 17 29.8	+0.7
WJS	**Zhushan**	**1.52 258**		eP	Pg	19 17 12.9	+0.1
WJS	baz=255			eS	Sg	19 17 31.7	-1.0
TCU	**Taichung**	**1.53 270**		eP	Pg	19 17 12.4	-0.6
TCU	baz=268			eS	Sg	19 17 31.6	-1.4
WNT	**Mingjian**	**1.55 260**		*i* P	Pg	19 17 12.7	-0.6
WNT	baz=257			eS	Sg	19 17 32.4	-1.2
ALS	**Alishan**	**1.55 246**		P	Pb	19 17 12.2	+0.2
ALS	baz=235			eS	Sb	19 17 31.3	-0.2
ELDTW	**Lidau**	**1.55 232**		S	Sn	19 17 29.6	-0.7
CHN5	baz=221 **Tsauling**	**1.63 251**		eP	Pb	19 17 13.8	+0.7
CHN5	baz=248			eS	Sb	19 17 33.8	+0.4
JIJ	**Ishigaki jima**	**1.65**	**82**	P	Pn	19 17 12.0	+0.4
JIJ				eS	Sn	19 17 31.1	-1.3
WGK	**Gukeng**	**1.70 255**		*i* P	Pb	19 17 14.7	+0.4
WGK	baz=242			eS	Sg	19 17 37.2	-1.2
WDLH	**Douliu**	**1.72 255**		P	Pb	19 17 14.9	+0.2
WDLH	baz=242			eS	Sb	19 17 37.2	+1.2
STYT	**Tauyuan**	**1.76 236**		eP	Pb	19 17 14.7	-0.7
STYT	baz=227			eS	Sn	19 17 36.5	+1.1
TWGBT	**Beinan**	**1.77 222**		eS	Sn	19 17 34.8	-0.6
TWG	baz=228 **Pinlang**	**1.77 222**		eS	Sn	19 17 34.8	-0.6
TPUB	baz=227 **Ta-pu**	**1.79 242**		P	Pb	19 17 15.9	0.0
TPUB	baz=240			eS	Sb	19 17 38.2	+0.1
CHN4	**Tsaushan**	**1.80 244**		*i* P	Pb	19 17 16.2	+0.3
CHN4	baz=235			S	Sb	19 17 38.9	+0.7
WTP	**Ta-pu**	**1.83 241**		eS	Sb	19 17 39.3	+0.1
JISG	baz=238 **Ishigakijimahi**	**1.84**	**76**	P	Pn	19 17 14.4	+0.2
JISG				eS	Sn	19 17 36.2	-0.8
RLNB	**Erlin**	**1.84 262**		eP	Pb	19 17 16.3	-0.4
RLNB	baz=260			S	Sb	19 17 39.2	-0.2
TWK	**Hsinying**	**1.92 243**		P	Pb	19 17 17.5	-0.6
TWK	baz=240			eS	Sb	19 17 41.5	-0.3
CHN1	**Nanshi**	**1.93 240**		eP	Pb	19 17 17.6	-0.6
CHN1	baz=238			eS	Sb	19 17 41.5	-0.5
SNST	**Tainan City**	**1.94 242**		eS	Sb	19 17 41.2	-1.0
SGST	baz=239 **Jiashian**	**1.94 237**		eP	Pb	19 17 18.1	-0.3
SGST	baz=234			eS	Sb	19 17 42.0	-0.3
SLGT	**Liugui**	**1.94 234**		*i* P	Pb	19 17 18.1	-0.4
SLGT	baz=223			eS	Sb	19 17 41.5	-0.9
ECL	**Taimali**	**2.01 220**		eS	Sn	19 17 39.9	-1.4
SSD	baz=225 **Sandimen**	**2.11 229**		eS	Sn	19 17 45.5	+1.7
JTJ	baz=226 **Tarama**	**2.20**	**77**	P	Pn	19 17 20.1	+1.0
JTJ				eS	Sn	19 17 46.1	+0.2
MASBT	**Mashibuluo**	**2.20 226**		eP	Pb	19 17 22.1	-0.7
MASBT	baz=223			eS	Sb	19 17 48.3	-1.5
PHUB	baz=223 **P'eng-hu**	**2.62 257**		eP	Pn	19 17 25.2	+0.1
PHUB	baz=254			S	Sn	19 17 55.7	-0.8
JIRB	**Irabujima**	**2.66**	**75**	P	Pn	19 17 26.5	+1.0
JIRB				eS	Sn	19 17 57.6	+0.3
ZPLA	**Ao Xicun**	**4.21 268**		eP	Pn	19 17 47.0	+0.1
	baz=267						

ISCJB ***05*** *19:28:11.2±0.8, 5°.71S±0°.07×146°.6E±0°.2, h50km, mb3.8/8, MS3.1/1, Error ellipse: s-maj=21.8km s-min=9.0km az=170.1*

IDC ***05*** *19:28:15.0±2.3, 5°.83S×146°.68E, h73km±21km, mb3.6/8, mb1 3.8/12, mb1mx3.5/45, mbtmp4.0/12, MS3.2/2, Ms1 3.2/2, ms1mx2.7/23, Error ellipse: s-maj=24.1km s-min=12.7km az=103.0*

ISC 05 19:28:12.8±0.9, 5°.71S±0°.08×146°.6E±0°.2, h50km, n13, σ1§03/16, mb3.9/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**172**	P	**Pn**	**19 29 08.3**	**+0.6**
	14nm,0.3s,baz=355,slow=3.1,SNR=26						
PMG				S	**Sn**	**19 29 49.5**	**-0.7**
	12nm,0.3s,baz=162,slow=20,SNR=3.3						
PMG				LR	LR	19 30 49.5	
	comp=Z,322nm,18.2s,baz=349,slow=43						
CTA	**Charters Tower**	**14.30**	**181**	P	**Pn**	**19 31 34.2**	**+1.7**
	0.8nm,0.3s,baz=1.4,slow=14,SNR=7.5						
SIJI	**Sorong**	**16.05**	**287**	P	**P**	**19 31 59.0**	**+1.0**
	0.7nm,0.3s,baz=130,slow=8.5,SNR=12						
WRA	**Warramunga Arr**	**18.51**	**219**	P	**P**	**19 32 24.5**	**-0.6**
	0.2nm,0.3s,baz=45,slow=12,SNR=15						
WRA				S	Sn	19 35 39.9	-12
	0.1nm,0.3s,baz=43,slow=25,SNR=4.1						
WRA				PcP	**PcP**	**19 36 54.4**	**+0.8**
	0.0nm,0.3s,baz=20,slow=1.8,SNR=5.7						
ASAR	**Alice Springs**	**21.65**	**213**	P	**P**	**19 32 59.1**	**-0.1**
	1.6nm,0.7s,baz=52,slow=9.3,SNR=19						
ASAR				S	**S**	**19 36 54.6**	**-1.8**
	0.5nm,0.9s,baz=24,slow=24,SNR=2.6						
FITZ	**Fitzroy Crossi**	**23.90**	**237**	P	**P**	**19 33 21.6**	**-0.5**
	2.5nm,0.5s,baz=38,slow=13,SNR=18						
STKA	**Stephens Creek**	**26.45**	**190**	P	**P**	**19 33 44.7**	**-0.5**
	1.7nm,0.5s,baz=8.1,slow=12,SNR=4.8						
STKA				LR	LR	19 44 21.8	
	comp=Z,60nm,19.9s,baz=18,slow=37						
CMAR	**Chiang Mai Arr**	**52.77**	**298**	P	**P**	**19 37 24.6**	**+1.3**
	0.9nm,0.8s,baz=128,slow=5.7,SNR=9.5						
MKAR	**Makanchi Array**	**77.03**	**321**	P	**P**	**19 40 00.3**	**-0.2**
	0.3nm,0.7s,baz=110,slow=6.8,SNR=3.7						
TIXI	**Tiksi**	**78.08**	**354**	P	**P**	**19 40 05.2**	**-0.7**
	0.8nm,0.3s,baz=212,slow=1.3,SNR=7.5						
QSPA	**South Pole Qui**	**84.26**	**180**	P	**P**	**19 40 38.4**	**-0.6**
	1.0nm,0.5s,baz=275,slow=0.7,SNR=11						
ILAR	**Eielson Array**	**85.37**	**23**	P	**P**	**19 40 44.2**	**-0.2**
	0.7nm,0.6s,baz=252,slow=4.4,SNR=9.0						
TORD	**Torodi Ar. Bea**	**144.65**	**285**	PKP	**PKPab**	**19 47 42.3**	**-1.4**
	0.7nm,0.7s,baz=63,slow=3.1,SNR=6.3						

ISCJB ***05*** *19:40:30.0±1.2, 43°.36N±0°.06×145°.82E±0°.08, h92km±7km, Error ellipse: s-maj=12.1km s-min=6.4km az=138.4*

JMA ***05*** *19:40:29.5±0.1, 43°.35N×145°.87E, h96km±1km, M2.8*

SKHL ***05*** *19:40:29.5±0.4, 43°.12N×145°.74E, h62km, mb3.7/2*

ISC 05 19:40:31.0±2.1, 43°.38N±0°.07×145°.80E±0°.07, h87km±12km, n13, σ0§75/25, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.04**	**251**	P	**Pn**	**19 40 43.0**	**-0.2**
NEM2				eS	**Sn**	**19 40 53.2**	**+0.9**
JKHN	**Kushirohamanak**	**0.55**	**238**	P	**Pn**	**19 40 45.7**	**-0.1**
JKHN				eS	**Sn**	**19 40 57.5**	**+0.6**
GRPR	**Tuman**	**0.61**	**358**	eP	**Pn**	**19 40 45.0**	**-1.4**
GRPR				AMB	AMB	19 40 46.0	
	30nm,0.3s						
GRPR				AMB	AMB	19 40 46.0	
	60nm,0.3s						
GRPR				eS	**Sn**	**19 40 57.0**	**-0.9**
GRPR				A	A	19 40 58.0	
	410nm,0.3s						
GRPR				A	A	19 40 58.0	
	370nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.66**	**4**	*i* P	**Pn**	**19 40 46.3**	**-0.5**
YUK				AMB	AMB	19 40 46.5	
	20nm,0.2s						
YUK				*i* S	**Sn**	**19 40 58.6**	**0.0**
YUK				A	A	19 40 59.6	
	190nm,0.2s						
YUK				A	A	19 40 59.6	
	280nm,0.2s						
JRA	**Rausu**	**0.74**	**319**	P	**Pn**	**19 40 47.5**	**-0.1**
JRA				eS	**Sn**	**19 41 01.4**	**+1.3**
JNK	**Nakash**	**0.81**	**285**	P	**Pn**	**19 40 48.0**	**-0.4**
JNK				eS	**Sn**	**19 41 01.5**	**+0.1**
JAK	**Akkeshi**	**0.89**	**245**	P	**Pn**	**19 40 48.8**	**-0.4**
JAK				eS	**Sn**	**19 41 03.5**	**+0.6**
JAR	**Ashorobuto**	**1.48**	**268**	P	**Pn**	**19 40 56.4**	**+0.1**
JAR				eS	**Sn**	**19 41 16.2**	**+0.7**
JTKR	**Abashiri--Toko**	**1.49**	**294**	P	**Pn**	**19 40 56.2**	**-0.3**
JTKR				eS	**Sn**	**19 41 16.3**	**+0.5**
JOB	**Onbets**	**1.51**	**252**	P	**Pn**	**19 40 56.6**	**-0.1**
JOB				eS	**Sn**	**19 41 16.5**	**+0.3**
JMP	**Maruseppu**	**1.88**	**290**	P	**Pn**	**19 41 01.2**	**-0.3**
JMP				eS	**Sn**	**19 41 25.1**	**+0.4**
JCH	**Churui**	**1.94**	**248**	P	**Pn**	**19 41 01.5**	**-0.8**
JCH				eS	**Sn**	**19 41 25.4**	**-0.8**
KUR	**Kuril'sk**	**2.38**	**38**	eS	**Sn**	**19 41 38.0**	**+1.6**

IDC ***05*** *19:59:37.4±0.6, 14°.95S×167°.04E, h0km, mb4.5/17, mb1 4.6/19, mb1mx4.5/30, mbtmp4.5/19, ML4.6/2, MS3.9/23, Ms1 3.9/23, ms1mx3.9/28, Error ellipse: s-maj=19.9km s-min=14.9km az=108.0*

BJI ***05*** *19:59:42.3±0.0, 14°.75S×167°.13E, h41km, mb4.9/43, mB5.0/32, Ms4.6/13, Ms7 4.4/9*

ISCJB ***05*** *19:59:43.7±0.3, 15°.05S±0°.03×166°.95E±0°.06, h57km, mb4.9/44, MS4.0/25, Error ellipse: s-maj=8.6km s-min=4.7km az=176.3*

NEIC ***05*** *19:59:43.0±0.3, 14°.89S×166°.87E, h35km, mb4.9/15, Error ellipse: s-maj=10.4km s-min=6.2km az=97.0*

ISC 05 19:59:45.3±0.3, 15°.02S±0°.05×167°.06E±0°.07, h57km, n146, σ1§82/153, mb4.8/44, MS4.0/26, 4C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**6.49**	**172**	ePn	**Pn**	**20 01 18.6**	**+0.3**
MARNC				eSn	**Sn**	**20 02 32.6**	**+1.6**
DZM	**Mont Dzumac**	**7.04**	**185**	ePn	**Pn**	**20 01 25.1**	**-0.7**
	45nm,0.3s						
DZM				eSn	**Sn**	**20 02 42.7**	**-1.8**
	30nm,0.3s						
DZM				eLR	LR	20 03 04.3	
	comp=Z,3μm,24.2s						
DZM	**Mont Dzumac**	**7.04**	**185**	ePn	**Pn**	**20 01 25.3**	**-0.5**
DZM				eSn	**Sn**	**20 02 43.8**	**-0.6**
DZM	**Mont Dzumac**	**7.04**	**185**	Pn	**Pn**	**20 01 24.4**	**-1.4**
	7.6nm,0.3s,baz=124,slow=23,SNR=173						
DZM				Sn	**Sn**	**20 02 43.8**	**-0.6**
	7.0nm,0.3s,baz=147,slow=22,SNR=8.8						
DZM				LR	LR	20 04 02.6	
	comp=Z,2μm,18.3s,baz=350,slow=37						
ONTNC	**Ouen Toro**	**7.27**	**184**	ePn	**Pn**	**20 01 28.4**	**-0.5**
OUENC	**Ouen Island, N**	**7.36**	**182**	ePn	**Pn**	**20 01 29.8**	**-0.4**
HNR	**Honiara**	**8.89**	**308**	Pn	**Pn**	**20 01 48.5**	**-2.6**
	8.9nm,0.3s,baz=157,slow=7.7,SNR=2.4						
HNR				Sn	**Sn**	**20 03 25.4**	**-4.6**
	10nm,0.3s,baz=126,slow=19,SNR=2.3						
HNR				LR	LR	20 04 57.1	
	comp=Z,1μm,19.1s,baz=171,slow=36						
EIDS	**Eidsvold**	**18.17**	**233**	P	**Pn**	**20 03 56.5**	**+2.9**
	baz=18,SNR=3.4						
RAO	**Raoul Island**	**19.82**	**138**	LR	LR	20 09 48.7	
	comp=Z,315nm,18.8s,baz=146,slow=31						
PMG	**Port Moresby**	**20.22**	**284**	LR	LR	20 11 09.0	
	comp=Z,209nm,19.9s,baz=11,slow=34						
CTA	**Charters Tower**	**20.46**	**253**	P	**P**	**20 04 17.2**	**-1.2**
	10nm,0.8s,baz=76,slow=13,SNR=7.5						
CTA				LR	LR	20 11 41.9	
	comp=Z,790nm,19.6s,baz=39,slow=35						
RMQ	**Roma**	**20.53**	**233**	P	**P**	**20 04 20.0**	**+0.9**
	baz=21,SNR=10						
URZ	**Urewera**	**24.80**	**161**	LR	LR	20 14 01.6	
	comp=Z,513nm,18.1s,baz=356,slow=35						
CMSA	**Cobar Meteorol**	**25.52**	**226**	P	**P**	**20 05 10.6**	**+2.0**
	baz=26,SNR=22						
STKA	**Stephens Creek**	**28.65**	**230**	P	**P**	**20 05 36.7**	**0.0**
	baz=29,SNR=7.3						
STKA	**Stephens Creek**	**28.65**	**230**	P	**P**	**20 05 36.6**	**0.0**
	2.8nm,0.7s,baz=32,slow=9.3,SNR=6.8						
STKA				LR	LR	20 16 15.7	
	comp=Z,435nm,20.7s,baz=50,slow=35						
RPZ	**Rata Peaks**	**28.80**	**174**	LR	LR	20 15 52.9	
	comp=Z,399nm,20.7s,baz=360,slow=34						
WR1	**Warramunga Arr**	**31.55**	**256**	eP	**P**	**20 06 00.1**	**-2.4**
WR1				ePcP	**PcP**	**20 08 53.5**	**-0.8**
WRA	**Warramunga Arr**	**31.55**	**256**	eP	**P**	**20 05 59.8**	**-2.7**
WRA	**Warramunga Arr**	**31.55**	**256**	P	**P**	**20 06 00.1**	**-2.4**
	2.4nm,0.8s,baz=85,slow=8.9,SNR=19						
WRA				PcP	**PcP**	**20 08 53.5**	**-0.8**
	2.0nm,1.0s,baz=82,slow=2.6,SNR=5.1						
WRA				ScP	**ScP**	**20 12 41.6**	**+8.8**
	0.4nm,1.0s,baz=80,slow=4.2,SNR=2.6						
WRA				LR	LR	20 18 19.4	
	comp=Z,822nm,18.7s,baz=80,slow=36						
RAR	**Rarotonga**	**32.08**	**106**	LR	LR	20 16 42.0	
	comp=Z,94nm,20.6s,baz=260,slow=32						
ASAR	**Alice Springs**	**32.38**	**249**	eP	**P**	**20 06 06.8**	**-2.9**
ASAR	**Alice Springs**	**32.38**	**249**	P	**P**	**20 06 08.2**	**-1.6**
	3.6nm,0.9s,baz=73,slow=9.4,SNR=22						
ASAR				PcP	**PcP**	**20 08 56.4**	**-0.1**
	1.4nm,0.7s,baz=75,slow=2.1,SNR=3.1						
ASAR				ScP	**ScP**	**20 12 43.7**	**+8.1**
	0.2nm,0.6s,baz=64,slow=4.3,SNR=3.4						
ASAR				LR	LR	20 18 49.3	
	comp=Z,514nm,18.8s,baz=78,slow=36						
MTN	**Manton Dam**	**34.91**	**269**	P	**P**	**20 06 32.6**	**+0.8**
	baz=35,SNR=5.2						
KNRA	**Kununurra**	**36.90**	**264**	P	**P**	**20 06 47.6**	**-1.2**
	baz=37,SNR=5.9						
WRKA	**Warakurna**	**37.64**	**248**	P	**P**	**20 06 53.5**	**-1.5**
	baz=38,SNR=8.1						
FITZ	**Fitzroy Crossi**	**39.76**	**260**	eP	**P**	**20 07 11.5**	**-1.4**
	8.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.76**	**260**	P	**P**	**20 07 11.3**	**-1.5**
	baz=40,SNR=12						
PPT2	**Papeete2**	**41.64**	**100**	eS	**S**	**20 13 36.8**	**-4.4**
	67nm,28.0s						
PPT2				eLR	LR	20 18 45.5	
	comp=Z,266nm,25.5s						
EDFI	**Ende, Flores**	**44.76**	**273**	P	**P**	**20 07 53.4**	**-0.4**
MEEK	**Meekatharra**	**46.48**	**247**	P	**P**	**20 08 06.6**	**-0.5**
	baz=46,SNR=6.7						
NWAO	**Narrogin (SRO)**	**48.42**	**239**	eP	**P**	**20 08 20.7**	**-1.3**
	19nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.42**	**239**	P	**P**	**20 08 21.5**	**-0.5**
	baz=48,SNR=6.6						
MORW	**Morawa**	**48.95**	**244**	eP	**P**	**20 08 25.7**	**-0.5**
	12nm,0.8s						
MORW	**Morawa**	**48.95**	**244**	P	**P**	**20 08 25.6**	**-0.6**
	baz=49,SNR=6.6						
MUN	**Mundaring**	**49.14**	**241**	P	**P**	**20 08 27.0**	**-0.6**
	baz=49,SNR=5.9						
MJAR	**Matsushiro Arr**	**58.07**	**333**	P	**P**	**20 09 31.5**	**-1.2**
	6.4nm,0.7s,baz=173,slow=8.3,SNR=20						
MJAR				LR	LR	20 35 18.9	
	comp=Z,11nm,19.2s,baz=160,slow=37						
MAJO	**Matsushiro**	**58.07**	**333**	eP	**P**	**20 09 31.4**	**-1.3**
	7.1nm,0.7s						
MAT	**Matsushiro**	**58.07**	**333**	P	**P**	**20 09 31.6**	**-1.1**

MJB9	Matsu-Tunnel	58.07	333	eP	P	20 09 31.5	-1.3
	7.2nm,0.7s						
VNDA	Vanda	62.57	181	eP	P	20 10 04.2	+1.3
	5.1nm,0.8s						
VNDA	Vanda	62.57	181	P	P	20 10 04.0	+1.1
	4.9nm,0.9s,baz=1.4,slow=6.2,SNR=22						
VNDA				LR	LR	20 32 39.6	
	comp=Z,22nm,21.3s,baz=280,slow=32						
SBA	Scott Base	62.85	180	eP	P	20 10 07.1	+2.4
	16nm,0.8s						
KSRS	Korea Array	63.86	326	P	P	20 10 11.3	-0.6
	2.6nm,0.9s,baz=140,slow=6.6,SNR=8.8						
KSRS				LR	LR	20 36 10.3	
	comp=Z,41nm,20.5s,baz=141,slow=34						
NJ2	Nanjing	65.74	316	eP	P	20 10 22.8	-1.5
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
USRK	Ussuriysk Ar.	67.05	333	P	P	20 10 32.9	+0.4
	13nm,1.1s,baz=145,slow=5.3,SNR=9.9						
PETK	Petropavlovsk-	68.33	354	eP	P	20 10 40.7	+0.4
PETK	Petropavlovsk-	68.33	354	P	P	20 10 40.5	+0.2
	21nm,0.8s,baz=130,slow=8.5,SNR=16						
PETK				LR	LR	20 35 18.8	
	comp=Z,71nm,21.5s,baz=150,slow=31						
MDJ	Mudanjiang	68.44	332	P	P	20 10 42.0	+0.8
MDJ				pP	pP	20 10 53.9	-2.8
MDJ				sP	sP	20 10 59.1	-3.8
MDJ				PP	PP	20 13 14.2	+1.1
MDJ				S	S	20 19 42.8	+4.2
MDJ				ScS	ScS	20 20 37.7	+1.7
MDJ				pmax	pmax		
	comp=Z,16nm,1.0s						
MDJ				LR	LR		
	comp=N,120nm,26.3s						
MDJ				LR	LR		
	comp=E,120nm,18.3s						
TIA	Tai'an	69.42	319	P	P	20 10 47.5	0.0
TIA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CN2	Changchun	69.79	329	eP	P	20 10 49.6	0.0
SKNT	Sakolnakorn	69.88	295	P	P	20 10 51.4	+0.7
UTHA	Uthaitani	73.38	292	P	P	20 11 14.3	+2.6
	11μm,1.1s						
NANT	Nan	73.46	295	P	P	20 11 13.7	+1.5
XAN	Xi'an	73.73	313	P	P	20 11 13.5	-0.1
XAN				pP	PcP	20 11 23.2	-5.8
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,42nm,3.8s						
XAN				LR	LR		
	comp=E,94nm,20.6s						
XAN				LR	LR		
	comp=Z,110nm,25.0s						
PHRA	Phrae	73.76	295	P	P	20 11 15.2	+1.2
	1.3nm,1.0s						
KMI	Kunming	74.28	302	P	P	20 11 17.3	+0.1
KMI				pmax	pmax		
	comp=Z,20nm,0.7s						
KMI				pmax	pmax		
	comp=Z,71nm,5.0s						
LAMP	Lampang	74.30	294	P	P	20 11 18.7	+1.6
	31μm,0.7s,270μm						
CMAR	Chiang Mai Arr	74.88	294	eP	P	20 11 21.1	+0.6
CMAR	Chiang Mai Arr	74.88	294	P	P	20 11 21.6	+1.1
	4.5nm,0.9s,baz=126,slow=4.5,SNR=33						
CMMT	Chiang Mai	75.01	295	P	P	20 11 22.3	+1.1
	4.7nm,1.2s,206nm						
QSPA	South Pole Qui	75.01	180	eP	P	20 11 21.9	+1.4
	19nm,0.9s						
CHTO	Chiang Mai	75.01	295	eP	P	20 11 21.4	+0.2
	6.5nm,1.0s						
HHC	Hu-ho-hao-te	75.67	320	eP	P	20 11 25.5	+0.8
HHC				pmax	pmax		
	comp=Z,66nm,1.2s						
HHC				pmax	pmax		
	comp=Z,270nm,7.1s						
CD2	Chengdu	76.02	308	eP	P	20 11 26.0	-0.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	Lanzhou	78.36	312	eP	P	20 11 40.9	+0.9
LZH				pP	pP	20 11 54.0	-1.8
LZH				sP	sP	20 11 59.1	-2.9
LZH				PP	PP	20 14 39.5	+1.5
LZH				pmax	pmax		
	comp=Z,35nm,1.0s						
LZH				pmax	pmax		
	comp=Z,96nm,4.3s						
LZH				LR	LR		
	comp=N,180nm,13.0s						
LZH				LR	LR		
	comp=Z,220nm,14.6s						
MAW	Mawson	81.54	202	P	P	20 11 56.2	-0.2
	baz=82,SNR=11						
MAW	Mawson	81.54	202	LR	LR	20 42 46.6	
	comp=Z,145nm,21.9s,baz=76,slow=32						
SONM	Songino Array	82.61	324	P	P	20 12 02.0	-0.4
	1.4nm,0.7s,baz=132,slow=6.4,SNR=4.5						
GTA	Gaotai	82.72	314	⇑P	P	20 12 04.1	+0.9
GTA				pP	pP	20 12 16.0	-3.2
GTA				sP	sP	20 12 20.6	-4.8
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,77nm,7.3s						
GTA				LR	LR		
	comp=N,67nm,18.1s						
GTA				LR	LR		
	comp=E,76nm,20.0s						
GTA				LR	LR		
	comp=Z,120nm,20.6s						
BILL	Bilibino	82.83	360	eP	P	20 12 03.3	+0.3
	29nm,1.0s						
SHL	Shillong	83.52	299	eP	P	20 12 06.0	-1.8
BWN	Browne	85.66	18	eP	P	20 12 17.2	-0.2
	16nm,0.8s						
IMAR	Indian Mountai	85.90	15	eP	P	20 12 19.1	+0.5
WRH	Wood River Hil	86.29	18	eP	P	20 12 19.8	-0.8
	4.6nm,0.6s						
RIDG	Independent Ri	86.77	19	eP	P	20 12 23.1	+0.1
	3.8nm,0.8s						
ILAR	Eielson Array	86.87	18	eP	P	20 12 21.9	-1.4
ILAR	Eielson Array	86.87	18	P	P	20 12 22.4	-1.0
	3.6nm,0.6s,baz=239,slow=5.5,SNR=42						
ILAR				LR	LR	20 46 07.3	
	comp=Z,130nm,20.2s,baz=230,slow=32						
SCRK	Sand Creek	87.21	19	eP	P	20 12 25.0	-0.2
	2.4nm,0.8s						
NV01	Mina Array Sit	87.62	49	eP	P	20 12 28.5	+0.6
NVAR	Mina Array Bea	87.62	49	P	P	20 12 28.5	+0.6
	1.3nm,0.7s,baz=227,slow=9.5,SNR=7.3						
NVAR				LR	LR	20 44 06.4	
	comp=Z,158nm,20.4s,baz=264,slow=30						
SYO	Syowa Base	88.37	197	⇑iP	P	20 12 29.4	-1.2
SYO	Syowa Base	88.37	197	⇓iX	P	20 12 39.8	+9.2
RAMN	Ramite	88.46	298	eP	P	20 12 32.0	-0.2
	7.0nm,0.5s						
JIRN	Jiri	89.02	299	eP	P	20 12 35.0	+0.1
	12nm,0.6s						
PKI	Pulchoki	89.65	299	eP	P	20 12 37.5	-0.4
	23nm,1.1s						
PKIN	Phulchoki	89.67	299	eP	P	20 12 37.3	-0.6
	12nm,1.0s						
KKN	Kakani	89.83	299	eP	P	20 12 38.3	-0.2
	18nm,0.9s						
DMN	Daman	89.92	299	eP	P	20 12 38.9	-0.1
	37nm,1.1s						
TIXI	Tiksi	90.21	349	eP	P	20 12 38.2	-0.8
	4.7nm,1.0s						
GKN	Gorkha	90.43	299	eP	P	20 12 40.5	-0.8
DANN	Dangsing	91.27	299	eP	P	20 12 44.3	-1.1
PMSA	Palmer Station	91.56	161	LR	LR	20 48 32.1	
	comp=Z,72nm,19.2s,baz=24,slow=32						
PYUN	Piuthan	91.86	298	eP	P	20 12 46.9	-1.1
WMQ	Urumqi	92.78	315	eP	P	20 12 51.6	-0.1
WMQ				pmax	pmax		
	comp=Z,50nm,1.7s						
WMQ				LR	LR		
	comp=N,370nm,39.1s						
WMQ				LR	LR		
	comp=Z,470nm,39.2s						
SNAA	Sanae	93.25	183	P	P	20 12 53.1	-0.3
VNA3	Neumayer Olymp	93.92	181	P	P	20 12 56.0	-0.5
VNA1	Neumayer--Stat	94.48	182	P	P	20 12 54.6	-4.3
PDAR	Pinedale Array	95.30	47	LR	LR	20 49 57.5	
	comp=Z,46nm,19.0s,baz=246,slow=32						
LTX	Lajitas	96.60	62	eP	P	20 13 08.5	-1.1
TXAR	Lajitas Array	96.60	62	P	P	20 13 08.5	-1.1
	0.2nm,0.6s,baz=216,slow=4.5,SNR=3.1						
TXAR				LR	LR	20 51 50.6	
	comp=Z,34nm,18.6s,baz=0.0,slow=32						
MKAR	Makanchi Array	97.27	316	P	P	20 13 11.9	-0.2
	2.8nm,0.8s,baz=101,slow=6.3,SNR=11						
MKAR				LR	LR	21 00 19.7	
	comp=Z,19nm,18.1s,baz=68,slow=38						
ZALV	Zalesovo Beam	97.50	324	P	P	20 13 11.2	-1.7
	2.2nm,0.8s,baz=90,slow=2.9,SNR=7.1						
ZALV				LR	LR	20 56 37.6	
	comp=Z,42nm,20.6s,baz=70,slow=35						
YKA	Yellowknife Ar	97.90	27	eP	P	20 13 13.7	-0.8
YKA	Yellowknife Ar	97.90	27	P	P	20 13 13.8	-0.7
	1.1nm,0.7s,baz=255,slow=4.5,SNR=29						
KSH	Kashi	100.22	308	P	Pdif	20 13 27.5	+1.9
KSH				PP	PP	20 17 37.1	+4.9
KSH				S	Sdif	20 24 56.7	-0.1
KSH				SS	SS	20 31 57.1	+4.6
KSH				pmax	pmax		
	comp=Z,110nm,4.8s						
KSH				LR	LR		
	comp=E,140nm,6.7s						
KSH				LR	LR		
	comp=Z,200nm,6.8s						
LPAZ	La Paz	117.26	118	PKP	PKiKP	20 18 26.3	+0.3
	1.0nm,0.6s,baz=323,slow=3.4,SNR=4.3						
CPUP	Villa Florida	120.40	133	PKP	PKPdf	20 18 30.8	-0.2
	2.7nm,0.9s,baz=50,slow=4.0,SNR=3.8						
ARA0	ARCESS Array S	120.48	345	ePKPdf	PKPdf	20 18 29.7	-0.1
ARCES	ARCESS Array B	120.48	345	PKP	PKPdf	20 18 29.7	-0.1
	2.8nm,0.5s,baz=77,slow=1.5,SNR=33						
FIA0	FINESS Array S	125.92	338	ePKPdf	PKPdf	20 18 39.8	-0.7
FINES	FINESS Array B	125.92	338	PKP	PKPdf	20 18 39.8	-0.7
	4.1nm,0.8s,baz=31,slow=3.2,SNR=14						
NB2	NORSAR Subarra	130.85	345	PKPdf	PKiKP	20 18 50.6	-0.2
	comp=Z,0.6nm,0.6s,baz=31,slow=1.9						
NOA	NORSAR Array B	130.85	345	PKP	PKPdf	20 18 50.3	+0.3
	comp=Z,1.5nm,1.0s,baz=30,slow=2.0,SNR=3.4						
AKASG	Malin Array Be	130.86	326	PKP	PKiKP	20 18 51.1	0.0
	comp=Z,0.4nm,0.5s,baz=120,slow=0.4,SNR=5.8						
AKBB	Malin Array Si	130.86	326	ePKPdf	PKiKP	20 18 51.1	0.0
BR101	Keskin Array S	132.54	311	ePKPdf	PKiKP	20 18 54.6	-0.4
BRTR	Keskin Array B	132.54	311	PKP	PKiKP	20 18 54.6	-0.4
	comp=Z,0.5nm,0.6s,baz=134,slow=3.6,SNR=4.6						
KOLS	Kolonicke sedl	135.58	327	ePKP	PKiKP	20 19 00.8	+0.1
MODS	Modra-Piesok	138.47	330	ePKP	PKiKP	20 19 06.7	0.0
PRU	Pruhonice	138.59	333	ePKP	PKiKP	20 19 08.2	+1.4
PRU				ex	x	20 19 10.6	
CONA	Conrad Observa	139.47	330	PKiKP	PKiKP	20 19 09.4	+0.6
	comp=Z,1.5nm,0.6s						
KHC	Kasperske Hory	139.65	333	ePKP	PKPdf	20 19 06.8	+0.1
KHC				ex	x	20 19 09.6	
GERES	GERESS Array B	139.81	333	PKhKP	PKPpre	20 19 01.9	
	comp=Z,0.2nm,0.3s,baz=77,slow=5.1,SNR=4.4						
KBA	Koelnbreinsper	141.27	331	PKPdf	PKPdf	20 19 09.3	-0.6
	comp=Z,0.6nm,0.4s						
MEM	Membach	141.33	341	⇑PKiKP	PKPdf	20 19 10.6	+1.0
ABTA	Abfaltersbach	141.90	331	PKPdf	PKPdf	20 19 09.6	-1.3
	comp=Z,2.2nm,0.7s						
MOTA	Moosalm	142.08	333	ePKPdf	PKPdf	20 19 08.7	-2.6
	comp=Z,3.6nm,1.0s						
WLF	Walferdange	142.10	340	⇓PKiKP	PKPdf	20 19 04.1	-6.9
SQTA	Sankt Quirin	142.13	333	PKiKP	PKPdf	20 19 12.3	+1.0
	comp=Z,3.8nm,1.1s						
DOU	Dourbes	142.22	342	⇑PKiKP	PKiKP	20 19 17.8	+3.5
FETA	Feichten	142.50	333	ePKPdf	PKPdf	20 19 10.6	-1.4
	comp=Z,4.6nm,1.1s						
SENIN	Lac Senin/Sane	144.45	336	ePKPdf	PKPdf	20 19 15.2	-0.3
TIP	Timpagrande	144.53	318	ePKPdf	PKPdf	20 19 15.2	-0.5
SSB	Saint Sauveur	146.42	337	ePKPdf	PKPab	20 19 21.1	+0.1
KEST	Kesra	151.30	320	PKPbc	PKiKP	20 19 33.6	+0.1
	comp=Z,10nm,0.6s,baz=153,slow=2.2,SNR=9.2						
PBRG	Braganca	152.78	350	ePKP	PKiKP	20 19 36.6	+0.3
PBRG				eLQ	LQ	20 19 46.2	
POLO	Lamas de Olo	153.36	351	ePKP	PKiKP	20 19 38.1	+0.5
POLO				eLQ	LQ	20 19 50.7	
MVO	Moncorvo	153.45	350	ePKPdf	PKiKP	20 19 38.7	+0.9
MVO				eLQ	LQ	20 19 49.5	
PVIS	Viseu	154.02	351	ePKP	PKiKP	20 19 40.8	+1.9
PVIS				eLQ	LQ	20 19 53.5	
ESDC	Sonseca Array	154.21	344	PKPbc	PKiKP	20 19 40.1	+0.8
	comp=Z,0.1nm,0.3s,baz=0.3,slow=3.4,SNR=4.1						
MTE	Manteigas	154.28	350	eLQ	LQ	20 19 54.6	
PCAS	Casmilo, Conde	154.76	352	ePKP	PKiKP	20 19 41.4	+1.0
PCAS				eLQ	LQ	20 19 55.9	
PMRV	Marv??o	155.20	350	ePKP	PKPdf	20 19 43.2	+11
TORD	Torodi Ar. Bea	165.68	264	PKP	PKPdf	20 19 44.5	0.0
	comp=Z,2.0nm,1.0s,baz=336,slow=4.7,SNR=7.3						
TORD				PKPab	PKPab	20 20 43.7	-0.2
	comp=Z,1.2nm,0.8s,baz=92,slow=4.8,SNR=6.1						
TOA1	Torodi Ar. Sit	165.68	264	ePKPdf	PKPdf	20 19 44.5	0.0
TOA1				ePKPab	PKPab	20 20 43.7	-0.2

MEX 05 20:11:41.6±0.5, 18°30N×101°89W, h1 km±4 km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.80	149	eP	Pg	20 11 55.8	-1.1
ZIIG				i S	Sg	20 12 07.0	-0.2
MMIG	Aquila	1.38	270	eP	Pn	20 12 03.6	-4.4
MMIG				eS	Sg	20 12 22.1	-3.9
ARIG	Puente Sto Nin	1.47	90	eP	Pn	20 12 05.3	-3.9
ARIG				i S	Sg	20 12 24.6	-4.2
MOIG	Morelia	1.53	26	i P	Pn	20 12 06.5	-3.7
MOIG				i S	Sg	20 12 25.2	-5.6
MEIG	Mezcala	2.19	99	eP	Pn	20 12 16.0	-3.3
MEIG				i S	Sn	20 12 43.1	-4.0
PLIG	Platanillo	2.27	87	eP	Pn	20 12 17.5	-2.9
PLIG				i S	Sn	20 12 44.6	-4.5
PPM	Popocatepetl	3.19	76	i P	Pn	20 12 30.8	-2.5
PPM				i S	Sn	20 13 08.6	-3.7
CJM	Chamela	3.21	292	i P	Pn	20 12 30.6	-2.6
CJM				i S	Sn	20 13 08.5	-3.6
TLIG	Tlapa	3.25	102	i P	Pn	20 12 31.7	-2.1
TLIG				i S	Sn	20 13 09.1	-4.2

*ISCJB **05** 20:30:30.8±0.3, 45°30N±0°02×16°35E±0°03, h5km±3km, Error ellipse: s-maj=3.9km s-min=2.2km az=144.3*
*BEO **05** 20:30:31.6±0.8, 44°90N×15°71E, h0km, ML2.7/8*
*SAR **05** 20:30:32.7±0.2, 45°28N×16°38E, h6km±1km, ML2.6/1*
*PRU **05** 20:30:33.3±0.0, 45°47N×16°41E, h0km*
*VIE **05** 20:30:34.1±0.7, 45°39N×16°32E, h14km, mb2.1/6, ml2.4/7, Error ellipse: s-maj=6.7km s-min=4.1km az=18.0*
ISC 05 20:30:31.7±1.1, 45°31N±0°02×16°36E±0°02, h7km±9km, n49, σ1°31/90, 5C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAG	Zagreb	0.58	333	⇑iPg	Pb	20 30 43.7	-0.5
ZAG				eSg	Sb	20 30 53.4	+0.7
OZLJ	Ozalj	0.70	296	ePg	Pg	20 30 45.3	+0.1
OZLJ				Sg	Sg	20 30 54.2	-0.2
BLY	Banja Luka	0.81	134	⇑iPg	Pg	20 30 45.8	-1.4
BLY				eSg	Sg	20 30 57.6	-0.1
CRES	Cresnjev	0.82	309	i Pg	Pn	20 30 49.4	-0.3
CRES	Cresnjev	0.82	309	ePg	Pg	20 30 47.5	0.0
CRES				eSg	Sb	20 30 59.8	+0.2
UDBI	Udbina	0.89	209	i Pg	Pg	20 30 48.0	-0.9
UDBI				Sg	Sg	20 30 59.0	-1.3
MGRS	Mrkonjic Grad	1.03	150	ePg	Pg	20 30 50.8	-0.7
MGRS				eSg	Sg	20 31 04.6	-0.2
BEHE	Becsehely	1.20	14	ePg	Pb	20 30 54.7	0.0
BEHE				eSg	Sn	20 31 11.7	+0.4
NVLJ	Novalja	1.29	235	i Pg	Pn	20 30 55.7	-0.5
NVLJ				eSg	Sn	20 31 14.5	+0.8
RIY	Rijeka	1.33	271	⇑iPg	Pn	20 30 56.3	-0.3
RIY				eSg	Sg	20 31 14.9	+0.5
DOB	Doboj	1.36	114	⇑iPg	Pn	20 30 55.9	-1.2
DOB				eSg	Sb	20 31 15.1	+0.1
CEY	Cerknica	1.43	288	⇓iPg	Pb	20 30 58.8	+0.1
CEY				eSg	Sg	20 31 18.1	+0.5
LJU	Ljubljana	1.48	300	ePg	Pg	20 31 00.3	+0.1
LJU				eSg	Sg	20 31 19.8	+0.4
SOKA	Soboth	1.66	326	ePn	Pn	20 31 01.0	-0.2
	0.3nm,0.1s,SNR=8.4						
SOKA				Sn	Sn	20 31 21.8	-1.0
	2.7nm,0.2s						
SOKA				Sg	Sg	20 31 26.4	+1.4
	10nm,0.4s						
OBKA	Obir	1.75	314	Pg	Pg	20 31 06.0	+0.8
	6.6nm,0.2s						
OBKA				Sg	Sg	20 31 29.8	+1.9
	25nm,0.6s						
MORH	Mrgy, Hungar	1.84	60	ePn	Pn	20 31 04.0	+0.4
MORH				eSn	Sb	20 31 28.4	-0.3
ARSA	Arzberg	2.03	344	Pn	Pn	20 31 06.6	+0.3
	0.4nm,0.1s						
ARSA				Sg	Sg	20 31 37.6	+0.7
	3.4nm,0.2s						
HAPS	Han Pijesak,Bl	2.21	123	ePn	Pn	20 31 09.6	+0.7
HAPS				eSn	Sn	20 31 36.7	+0.2
MYKA	Terra Mystica	2.31	306	Pg	Pg	20 31 16.4	+0.4
	1.5nm,0.3s						
MYKA				Sg	Sg	20 31 47.3	+1.2
	1.4nm,0.2s						
FRGS	Fruska Gora	2.44	92	ePn	Pg	20 31 18.6	+0.1
FRGS				eSn	Sg	20 31 54.5	+4.4
FRGS	Fruska Gora	2.44	92	ePn	Pn	20 31 13.0	+1.0
FRGS				eSn	Sn	20 31 42.4	+0.4
BBLS	Lazići	2.61	122	ePn	Pb	20 31 18.4	-0.4
BBLS				eSn	Sb	20 31 53.0	+2.0
BBLS	Lazići	2.61	122	ePn	Pn	20 31 15.5	+1.2
BBLS				eSn	Sn	20 31 47.0	+0.8
STON	Ston	2.62	158	ePg	Pn	20 31 15.6	+1.2
STON				eSg	Sb	20 31 49.9	-1.4
STON	Ston	2.62	158	i Pn	Pn	20 31 15.5	+1.2
STON				Sn	Sn	20 31 49.1	+2.8
STON	Ston	2.62	158	⇑iPn	Pn	20 31 15.4	+1.0
STON				eSn	Sn	20 31 47.2	+0.8
CONA	Conrad Observa	2.64	353	ePn	Pn	20 31 15.4	+0.6
	1.3nm,0.1s,SNR=13						
CONA				Sn	Sn	20 31 45.8	-1.3
	1.9nm,0.2s						
KBA	Koelnbreinsper	2.74	311	Pg	Pg	20 31 24.9	+0.6
	1.2nm,0.3s						
UPM	Unac-Piva	2.79	138	ePn	Pn	20 31 17.7	+0.8
UPM				eSn	Sn	20 31 50.6	-0.2
DIVS	Divibare	2.86	114	ePn	Pb	20 31 22.6	-0.4
DIVS				eSn	Sg	20 32 01.4	-2.1
DIVS	Divibare	2.86	114	ePn	Pn	20 31 18.6	+0.9
DIVS				eSn	Sn	20 31 53.0	+0.6
BRY	Bratogost	2.87	146	ePn	Pn	20 31 19.0	+1.0
BRY				eSn	Sn	20 31 53.1	+0.3
MOA	Molln	2.92	331	Pn	Pn	20 31 20.0	+1.3
	1.3nm,0.3s,SNR=11						
MOA				Sn	Sn	20 31 54.4	+0.4
	3.5nm,0.2s						
TREB	Trebinje	2.96	150	ePn	Pn	20 31 19.6	+0.5
TREB				eSn	Sn	20 31 54.5	-0.3
TREB	Trebinje	2.96	150	ePn	Pn	20 31 19.9	+0.8
TREB				eSn	Sn	20 31 55.8	+1.0
TRUS	Trudelj	3.08	109	ePn	Pb	20 31 26.2	-0.6
TRUS				eSn	Sb	20 32 06.0	+1.5
MODS	Modra-Piesok	3.13	11	ePN	Pn	20 31 22.0	+0.6
MODS				eSN	Sn	20 31 56.0	-3.0
IVAS	Ivanjica	3.22	121	ePn	Pb	20 31 26.3	-2.9
IVAS				eSn	Sb	20 32 08.2	-0.4
SJES	Sjenica	3.30	127	ePn	Pn	20 31 26.9	+3.0
GRUS	Gruza	3.42	113	ePn	Pb	20 31 30.0	-2.5
KOLL	Kolacno	3.56	22	ePN	Pn	20 31 27.7	+0.4
KOLL				eSN	Sn	20 32 06.8	-2.7
PDG	Podgorica	3.56	143	ePn	Pn	20 31 28.2	+0.9
VYHS	Vyhne	3.61	27	ePN	Pn	20 31 28.9	+0.9
VYHS				eSN	Sn	20 32 08.2	-2.7
DRME	Dracevica, Mon	3.73	146	ePn	Pn	20 31 30.7	+1.0
KRUC	Moravsky	3.76	0	ePN	Pn	20 31 29.8	-0.2
KRUC				eSN	Sn	20 32 11.2	-3.2
SELS	Selova	4.00	120	ePn	Pn	20 31 36.2	+2.7
VRAC	Vranov	4.00	2	ePN	Pn	20 31 33.3	-0.2
KHC	Kasperske Hory	4.27	335	ePN	Pn	20 31 36.7	-0.4
KHC				eSN	Sn	20 32 25.6	-1.5
MORC	Moravsky Berou	4.54	10	ePN	Pn	20 31 40.4	-0.5

*BJI **05** 20:37:09.6±0.0, 10°14S×126°34E, h66km, mb4.6/25, mB5.0/16, Ms4.5/4, Ms7 4.5/2*
*IDC **05** 20:37:12.1±0.4, 8°96S×125°66E, h0km, mb4.4/21, mb1 4.4/23, mb1mx4.4/37, mbtmp4.4/23, ML5.0/2, MS3.5/15, Ms1 3.5/15, ms1mx3.3/33, Error ellipse: s-maj=16.0km s-min=10.1km az=96.0*
*NEIC **05** 20:37:12.9±0.4, 9°10S×125°73E, h10km, mb4.7/10, Error ellipse: s-maj=9.8km s-min=8.1km az=56.0*
*ISCJB **05** 20:37:13.7±0.3, 9°27S±0°04×125°76E±0°03, h33km, mb4.5/37, MS3.6/12, Error ellipse: s-maj=5.1km s-min=3.7km az=174.5*
*DJA **05** 20:37:17.9±0.2, 9°S±2°×12°6E±°, h56km±4km, M4.6/22, mB5.1/19, mb4.6/22, MLv4.9/15, Mw(mB)4.5/19*
ISC 05 20:37:16.7±0.3, 9°20S±0°05×125°70E±0°04, h35km, n129, σ2°20/136, mb4.5/37, MS3.5/13, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.52	249	ePn	Pn	20 37 44.1	+2.6
SOEI				eSn	Sn	20 37 56.1	-4.0
SOEI	Soe	1.52	249	P	Pn	20 37 43.2	+1.7
SOEI				S	Sn	20 37 59.2	-0.9
BATI	Baumata	2.24	243	P	Pn	20 37 53.2	+1.8
BATI	Baumata	2.24	243	Pn	Pn	20 37 53.9	+2.5
	372nm,0.3s,baz=60,slow=2.7,SNR=529						
BATI				Sn	Sn	20 38 24.1	+6.2
	371nm,0.3s,baz=217,slow=20,SNR=8.9						
MMRI	Maumere	3.47	279	ePn	Pn	20 38 10.2	+1.9
MMRI				eSn	Sn	20 38 45.9	-2.2
MMRI	Maumere	3.47	279	P	Pn	20 38 10.1	+1.9
EDFI	Ende, Flores	3.99	276	P	Pn	20 38 17.1	+1.6
EDFI				S	Sn	20 39 03.6	+2.5
BBSI	Bau Bau	4.82	320	P	Pn	20 38 30.7	+3.8
BASI	Baing, Sumba	5.15	258	P	Pn	20 38 31.3	-0.1
WSI	Waingapu	5.35	265	P	Pn	20 38 34.5	+0.4
	691nm,0.5s,9μm4.2nm						
SAUI	Saumlaki	5.67	78	P	Pn	20 38 39.

DAV Davao City (W) 16.16 360 LR LR 20 47 39.3
comp=Z,201nm,19.7s,baz=186,slow=39
ASAR Alice Springs 16.39 152 *e*Pn **Pn 20 41 02.3 -1.9**
ASAR Alice Springs 16.39 152 Pn **Pn 20 41 02.1 -2.1**
1.2nm,0.3s,baz=318,slow=11,SNR=119
ASAR Sn Sn 20 43 52.4 -13
1.8nm,0.3s,baz=323,slow=21,SNR=14
ASAR LR LR 20 48 22.8
comp=Z,227nm,19.0s,baz=322,slow=40
COEN Coen 17.75 107 *e*Pn **Pn 20 41 20.4 -0.9**
15nm,0.7s
CISI Cisompet, Garu 17.77 274 *e*Pn **Pn 20 41 21.4 -0.1**
47nm,0.5s
CISI Cisompet, Garu 17.77 274 P **P 20 41 22.8 +0.7**
LEM Lembang 18.06 276 P **Pn 20 41 23.9 -1.3**
4.3nm,0.3s,baz=355,slow=13,SNR=4.5
CBJI Citeko 18.88 277 P **P 20 41 33.6 -0.6**
TPI Tanjungpandan 19.05 289 P **Pn 20 41 37.2 +0.1**
28nm,0.9s
CGJI Cibinong 19.98 276 P **P 20 41 43.4 -2.9**
71nm,0.4s,1μm
PPBI Pangkal Pinang 20.68 289 P **P 20 41 53.3 -0.5**
PMG Port Moresby 21.18 92 P **P 20 42 00.8 +1.5**
16nm,0.8s,baz=209,slow=19,SNR=2.1
PMG LR LR 20 51 38.9
comp=Z,238nm,18.4s,baz=326,slow=41
CTA Charters Tower 22.61 121 P **P 20 42 16.3 +1.7**
7.3nm,1.0s,baz=305,slow=14,SNR=2.8
TPRI Tanjung Pinang 23.36 294 P **P 20 42 21.2 -1.1**
29nm,0.9s
NWAO Narrogin (SRO) 24.87 197 P **P 20 42 37.0 +0.8**
9.2nm,0.8s,baz=12,slow=9.4,SNR=6.4
NWAO S **S 20 47 04.8 +7.8**
8.2nm,0.9s,baz=302,slow=11,SNR=2.3
STKA Stephens Creek 26.96 149 P **P 20 42 56.9 +1.9**
5.2nm,0.7s,baz=316,slow=9.8,SNR=14
STKA LR LR 20 55 34.6
comp=Z,352nm,18.4s,baz=340,slow=40
CMAR Chiang Mai Arr 38.11 316 *e*P **P 20 44 29.9 -2.7**
CMAR Chiang Mai Arr 38.11 316 P **P 20 44 32.5 -0.1**
1.3nm,0.8s,baz=143,slow=6.5,SNR=13
CMAR PcP **PcP 20 46 48.4 +1.0**
1.3nm,0.9s,baz=164,slow=2.8,SNR=5.9
CMAR LR LR 21 02 51.0
comp=Z,92nm,19.2s,baz=140,slow=41
JNU Nakatsue 42.38 6 P **P 20 45 06.1 -1.6**
7.7nm,0.8s,baz=242,slow=0.4,SNR=5.2
JNU LR LR 21 00 29.0
comp=Z,54nm,21.9s,baz=192,slow=33
JHJ Hachijo jima 2 44.17 17 LR LR 21 01 33.0
comp=Z,56nm,19.4s,baz=83,slow=33
XAN Xi'an 45.86 340 P **P 20 45 35.5 -0.2**
XAN pmax pmax
comp=Z,4.0nm,0.9s
XAN LR LR
comp=E,91nm,19.5s
KSAR Wonju Array Be 46.44 2 *e*P **P 20 45 39.6 -0.5**
KSRS Korea Array 46.46 2 P **P 20 45 39.8 -0.4**
9.8nm,0.9s,baz=179,slow=9.6,SNR=30
KSRS LR LR 21 04 26.8
comp=Z,26nm,20.9s,baz=185,slow=35
MAT Matsushiro 47.00 14 P **P 20 45 42.6 -1.9**
MJAR Matsushiro Arr 47.00 14 P **P 20 45 42.6 -2.0**
5.8nm,0.7s,baz=193,slow=9.5,SNR=26
MJAR LR LR 21 04 47.2
comp=Z,39nm,19.9s,baz=170,slow=35
LZH Lanzhou 49.53 337 *e*P **P 20 46 07.8 +3.5**
LZH pP sP 20 46 23.4 +4.2
LZH sP pP 20 46 30.5 +16
LZH pmax pmax
comp=Z,23nm,1.0s
LSA Lhasa 51.01 321 *e*P **P 20 46 16.4 +0.5**
4.4nm,0.7s
HHC Hu-ho-hao-te 51.48 346 *e*P **P 20 46 22.2 +3.3**
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,100nm,6.6s
RAMN Ramite 52.24 315 *e*P **P 20 46 23.8 -1.2**
12nm,0.6s
JIRN Jiri 52.97 315 *e*P **P 20 46 29.0 -1.5**
22nm,0.9s
USRK Ussuriysk Ar. 53.45 6 P **P 20 46 32.5 -0.7**
3.8nm,0.6s,baz=197,slow=8.2,SNR=11
PKI Pulchoki 53.46 314 *e*P **P 20 46 32.1 -2.0**
4.3nm,0.5s
PKIN Phulchoki 53.47 314 *e*P **P 20 46 33.1 -1.0**
3.6nm,0.4s
KKN Kakani 53.69 315 *e*P **P 20 46 33.8 -1.8**
DMN Daman 53.70 314 *e*P **P 20 46 34.2 -1.5**
6.1nm,0.5s
GTA Gaotai 54.01 335 *e*P **P 20 46 38.1 +0.5**
GTA pmax pmax
comp=Z,2.0nm,1.2s
KOLN Koldanda 54.87 313 *e*P **P 20 46 42.5 -1.7**
11nm,0.8s
DANN Dangsing 55.09 314 *e*P **P 20 46 44.2 -1.7**
14nm,0.7s
ASAJ Asahikawa 55.23 15 P **P 20 46 45.4 -0.8**
1.7nm,0.5s,baz=225,slow=11,SNR=6.5
ASAJ LR LR 21 11 14.7
comp=Z,34nm,19.0s,baz=76,slow=37
PYUN Piuthan 55.50 313 *e*P **P 20 46 47.1 -1.6**
15nm,0.7s
KLR Kul'dur 58.42 5 P **P 20 47 07.5 -1.3**
1.0nm,0.6s,baz=209,slow=3.8,SNR=4.9
KLR LR LR 21 12 07.3
comp=Z,31nm,21.5s,baz=190,slow=36
SONA0 Songino Array 59.31 345 *e*P **P 20 47 14.0 -1.1**
SONM Songino Array 59.31 345 P **P 20 47 14.0 -1.1**
1.0nm,0.5s,baz=150,slow=10.0,SNR=3.2
WMQ Urumqi 63.03 330 *e*P **P 20 47 41.0 +0.6**
WMQ pP sP 20 47 55.0 -0.3
WMQ sP PcP 20 48 06.1 -12
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ pmax pmax
comp=Z,210nm,3.7s
WMQ LR LR
comp=N,330nm,36.3s
WMQ LR LR
comp=E,540nm,36.3s
NIL Nilore 65.52 313 *e*P **P 20 47 55.4 -1.4**
6.7nm,0.6s
KSH Kashi 66.86 320 P **P 20 48 04.4 -1.0**
KSH sP PcP 20 48 28.2 -5.8
KSH PP **PP 20 50 34.9 +1.7**
KSH S **S 20 56 50.0 -6.0**
KSH pmax pmax
comp=Z,14nm,0.4s
KSH pmax pmax
comp=Z,96nm,4.6s
KSH LR LR
comp=N,210nm,6.8s
KSH LR LR
comp=E,160nm,6.5s
KSH LR LR
comp=Z,220nm,7.1s
PETK Petropavlovsk- 67.79 20 *e*P **P 20 48 11.4 +0.5**
PETK Petropavlovsk- 67.79 20 P **P 20 48 10.6 -0.2**
9.1nm,0.6s,baz=178,slow=4.0,SNR=28
PETK LR LR 21 23 27.9
comp=Z,10.0nm,18.0s,baz=239,slow=41
PEA1 Petropavlovsk- 67.79 20 *e*P **P 20 48 10.6 -0.3**
MK31 Makanchi Array 67.83 329 *e*P **P 20 48 09.8 -1.5**
3.8nm,1.0s
MKAR Makanchi Array 67.83 329 *e*P **P 20 48 09.6 -1.8**
MKAR Makanchi Array 67.83 329 P **P 20 48 10.0 -1.3**
1.9nm,0.5s,baz=124,slow=7.5,SNR=47
MAKZ Makanchi 68.00 329 *e*P **P 20 48 10.7 -1.6**
1.6nm,0.8s
KBL Kabul 69.00 312 *e*P **P 20 48 16.6 -2.6**
5.2nm,0.7s
AAK Ala-Archa 69.56 322 *e*P **P 20 48 21.8 -0.6**
5.1nm,0.8s
VNDA Vanda 70.82 172 *e*P **P 20 48 30.3 +1.0**
VNDA Vanda 70.82 172 P **P 20 48 31.1 +1.7**
0.4nm,0.5s,baz=313,slow=10,SNR=5.3
VNDA LR LR 21 19 22.4
comp=Z,87nm,18.1s,baz=290,slow=36
MA2 Magadan 71.43 13 P **P 20 48 31.6 -1.6**
6.5nm,0.9s,baz=325,slow=23,SNR=4.7
ZALV Zalesovo Beam 71.75 336 P **P 20 48 33.2 -2.0**
2.0nm,0.6s,baz=113,slow=3.4,SNR=7.2
KURK Kurchatov 72.25 331 *e*P **P 20 48 36.5 -1.8**
5.0nm,1.2s
KKAR Karatay Array 72.26 321 *e*P **P 20 48 36.6 -2.0**

SEY Seymchan 74.79 12 P **P 20 48 52.8 -0.2**
3.1nm,0.5s,baz=206,slow=5.4,SNR=20
GEYT Alibeck 78.44 312 P **P 20 49 13.3 -0.9**
440nm,0.4s,baz=108,slow=4.8,SNR=6.7
TIXI Tiksi 80.70 1 P **P 20 49 24.1 -1.6**
3.0nm,0.5s,baz=162,slow=4.2,SNR=16
QSPA South Pole Qui 80.79 180 *e*P **P 20 49 28.6 +2.0**
38nm,1.9s
ABKAR Akbulak array 81.63 323 *e*P **P 20 49 29.5 -1.6**
KMBO Kilima Mbogo 88.29 269 P **P 20 50 07.5 +1.7**
1.2nm,0.3s,baz=77,slow=6.3,SNR=4.8
BOSA Boshof 94.69 240 P **P 20 50 36.5 +1.5**
1.2nm,0.6s,baz=77,slow=15,SNR=3.2
GERES GERESS Array B 111.32 319 PKiKP **PKiKP 20 55 47.4 +0.3**
0.2nm,0.4s,baz=86,slow=3.0,SNR=3.6
YKA Yellowknife Ar 111.58 26 PKiKP **PKiKP 20 55 48.0 +0.9**
0.2nm,0.5s,baz=290,slow=1.7,SNR=7.4
NVAR Mina Array Bea 115.99 52 PKP **PKiKP 20 55 58.0 +1.4**
0.3nm,0.3s,baz=256,slow=3.6,SNR=3.9
PD31 Pinedale Array 121.45 45 *e*PKPdf **PKiKP 20 56 08.2 +1.0**
PDAR Pinedale Array 121.45 45 *e*PKPdf **PKiKP 20 56 07.9 +0.7**
PDAR Pinedale Array 121.45 45 PKP **PKiKP 20 56 08.2 +1.0**
1.0nm,0.7s,baz=253,slow=1.0,SNR=9.9
TORD Torodi Ar. Bea 125.02 280 PKP **PKiKP 20 56 15.4 +0.8**
5.5nm,0.9s,baz=51,slow=2.0,SNR=32
TOA1 Torodi Ar. Sit 125.02 280 *e*PKPdf **PKiKP 20 56 15.4 +0.8**
ANMO Albuquerque 126.03 53 *e*PKPdf **PKiKP 20 56 18.5 +2.1**
ANMO Albuquerque 126.03 53 PKP **PKiKP 20 56 17.5 +1.1**
0.5nm,0.4s,baz=185,slow=5.0,SNR=5.5
ULM Lac du Bonnet 126.58 32 PKP **PKiKP 20 56 16.5 -0.2**
1.6nm,0.6s,baz=335,slow=8.5,SNR=3.9
LTX Lajitas 129.70 59 *e*PKPdf **PKiKP 20 56 23.8 0.0**
TXAR Lajitas Array 129.70 59 PKP **PKiKP 20 56 23.8 0.0**
0.4nm,0.7s,baz=217,slow=1.3,SNR=5.6
DBIC Dimbokro 131.00 271 PKP **PKiKP 20 56 26.5 -0.1**
4.1nm,0.8s,baz=168,slow=6.4,SNR=3.2
CPUP Villa Florida 144.56 175 *e*PKPdf **PKPdf 20 56 50.9 +0.6**
CPUP Villa Florida 144.56 175 PKP **PKPdf 20 56 50.6 +0.2**
3.6nm,0.6s,baz=209,slow=0.8,SNR=10.0
LVC Limon Verde 145.29 156 PKPbc **PKiKP 20 56 54.5 -1.6**
3.1nm,0.6s,baz=254,slow=8.3,SNR=5.6
JTS Las Juntas de 149.78 85 PKPbc **PKiKP 20 57 06.2 +1.1**
14nm,1.0s,baz=3.6,slow=5.0,SNR=5.8
ATAH Atahualpa 151.02 123 PKPbc **PKiKP 20 57 10.3 +2.1**
4.5nm,0.7s,baz=142,slow=2.9,SNR=3.7
LPAZ La Paz 151.21 152 *e*PKPbc **PKiKP 20 57 10.6 +1.9**
LPAZ La Paz 151.21 152 PKPbc **PKiKP 20 57 10.5 +1.7**
3.8nm,0.8s,baz=172,slow=2.7,SNR=17
SIV San Ignacio 154.09 165 PKPab **PKPab 20 57 27.8 +0.6**
1.3nm,0.6s,baz=198,slow=5.1,SNR=9.7

*IDC **05** 20:42:10.3±0.8, 8°.97S×125°.89E, h0km, mb3.8/6, mb1 4.1/10, mb1mx3.8/37, mbtmp4.0/10, ML4.1/3, Error ellipse: s-maj=30.0km s-min=18.2km az=80.0*
*ISCJB **05** 20:42:12.1±0.7, 9°.09S±0°.07×125°.99E±0°.07, h33km, mb3.8/6, Error ellipse: s-maj=11.1km s-min=9.8km az=138.1*
ISC 05 20:42:14.6±0.7, **9°.26S**±0°.07×**126°.01E**±0°.09, **h35**km, **n13, σ2°76/17, mb3.9/6, Timor region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BATI	**Baumata**	**2.50**	**248**		Pn	**Pn**	**20 42 53.5**	**+0.7**
	43nm,0.3s,baz=304,slow=3.2,SNR=59							
BATI					Sn	**Sn**	**20 43 22.0**	**-0.1**
	22nm,0.3s,baz=204,slow=14,SNR=4.2							
FITZ	**Fitzroy Crossi**	**8.80**	**182**		Pn	**Pn**	**20 44 20.8**	**+1.4**
	1.4nm,0.3s,baz=356,slow=12,SNR=4.5							
FITZ					Sn	**Sn**	**20 45 52.7**	**-4.7**
	7.6nm,0.3s,baz=164,slow=20,SNR=9.5							
WRA	**Warramunga Arr**	**13.33**	**144**		Pn	**Pn**	**20 45 23.3**	**+1.9**
	0.8nm,0.3s,baz=316,slow=14,SNR=2.3							
WRA					Sn	**Sn**	**20 47 44.7**	**-3.8**
	2.0nm,0.3s,baz=316,slow=27,SNR=5.8							
ASAR	**Alice Springs**	**16.20**	**153**		Pn	**Pn**	**20 46 01.9**	**+2.2**
	baz=329,slow=12,SNR=3.2							
ASAR					Sn	**Sn**	**20 48 54.7**	**-3.6**
	0.5nm,0.3s,baz=323,slow=20,SNR=5.6							
STKA	**Stephens Creek**	**26.76**	**149**		P	**P**	**20 47 55.1**	**+3.9**
	2.5nm,0.7s,baz=329,slow=12,SNR=3.1							
CMAR	**Chiang Mai Arr**	**38.36**	**316**		P	**P**	**20 49 30.7**	**-1.9**
	0.2nm,0.7s,baz=106,slow=6.7,SNR=2.7							
KSRS	**Korea Array**	**46.50**	**2**		P	**P**	**20 50 36.4**	**-2.0**
	1.8nm,0.9s,baz=179,slow=10.0,SNR=5.2							
MJAR	**Matsushiro Arr**	**46.98**	**13**		P	**P**	**20 50 39.5**	**-2.8**
	0.8nm,0.6s,baz=196,slow=9.1,SNR=3.0							
PETK	**Petropavlovsk-**	**67.73**	**20**		P	**P**	**20 53 09.9**	**+1.5**
	6.2nm,1.1s,baz=188,slow=8.7,SNR=4.5							
MKAR	**Makanchi Array**	**68.03**	**329**		P	**P**	**20 53 09.1**	**-1.4**
	0.2nm,0.5s,baz=118,slow=7.3,SNR=4.0							
TORD	**Torodi Ar. Bea**	**125.32**	**280**		PKP	**PKPdf**	**21 01 13.2**	**+0.4**
	0.6nm,0.8s,baz=90,slow=2.9,SNR=3.8							
LPAZ	**La Paz**	**151.02**	**151**		PKPbc	**PKiKP**	**21 02 08.9**	**+2.7**
	1.1nm,0.8s,baz=187,slow=1.0,SNR=3.9							
SIV	**San Ignacio**	**153.96**	**164**		PKPab	**PKPab**	**21 02 26.6**	**+2.0**
	0.7nm,0.6s,baz=277,slow=20,SNR=3.6							

*IDC **05** 20:55:57.6±1.8, 14°.19N×92°.71W, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.7/43, mbtmp3.8/9, ML3.3/3, Error ellipse: s-maj=33.9km s-min=15.5km az=9.0*
*ISCJB **05** 20:56:01.1±0.9, 14°.21N±0°.06×92°.76W±0°.06, h37km, mb4.1/8, Error ellipse: s-maj=9.3km s-min=8.7km az=159.2*
*MEX **05** 20:56:01.4±0.7, 14°.14N×92°.87W, h15km±81km, MD4.0*
*NEIC **05** 20:56:01.4±0.0, 14°.14N×92°.87W, h15km, mb4.1/5, MD4.1(MEX), After MEX.*
ISC 05 20:56:01.6±1.0, **14°.12N**±0°.09×**92°.71W**±0°.07, **h37**km, **n27, σ1°60/31, mb4.2/8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
THIG		**0.89**	**29**	*e*P		**Pn**	**20 56 16.7**	**-1.0**
THIG				*e*S		**Sn**	**20 56 28.6**	**-0.8**
PCIG		**1.65**	**343**	*e*P		**Pn**	**20 56 26.2**	**-1.8**
PCIG				*i* S		**Sn**	**20 56 43.8**	**-4.2**
CCIG	**Comitan**	**2.22**	**14**	*e*Pn		**Pn**	**20 56 38.3**	**+2.3**
CCIG	**Comitan**	**2.22**	**14**	*i* P		**Pn**	**20 56 35.9**	**-0.2**
CCIG				*e*S		**Sn**	**20 57 01.7**	**-0.6**
APG	**El Apazote**	**2.34**	**68**	Pn		**Pn**	**20 56 38.4**	**+0.6**
	10nm,0.3s,baz=251,slow=4.7,SNR=134							
APG				Lg		Lg	20 57 11.7	
	22nm,0.3s,baz=340,slow=22,SNR=6.6							
TGIG		**2.67**	**351**	*e*P		**Pn**	**20 56 40.5**	**-1.6**
TGIG				*i* S		**Sn**	**20 57 10.3**	**-3.0**
CMIG	**Matias Romero**	**3.62**	**325**	Pn		**Pn**	**20 56 54.4**	**-0.8**
	1.6nm,0.3s,baz=137,slow=11,SNR=20							
CMIG				Sn		**Sn**	**20 57 37.3**	**+0.6**
	4.3nm,0.3s,baz=93,slow=18,SNR=5.6							
CMIG				Lg		Lg	20 57 50.6	
	11nm,0.3s,baz=190,slow=9.2,SNR=5.6							
CSGN	**Cosiguina Volc**	**5.13**	**102**	*e*Pn		**Pn**	**20 57 13.3**	**-2.7**
JTS	**Las Juntas de**	**8.48**	**116**	Lg		Lg	21 00 17.0	
	0.1nm,0.3s,baz=3.5,slow=18,SNR=4.8							
LTX	**Lajitas**	**18.23**	**328**	*e*P		**Pn**	**21 00 12.9**	**+1.1**
TXAR	**Lajitas Array**	**18.23**	**328**	P		**Pn**	**21 00 12.9**	**+1.1**
	0.0nm,0.3s,baz=134,slow=10,SNR=3.6							
ANMO	**Albuquerque**	**24.16**	**332**	*e*P		**P**	**21 01 14.9**	**+0.3**
	1.0nm,0.9s							
ANMO	**Albuquerque**	**24.16**	**332**	P		**P**	**21 01 14.9**	**+0.3**
	0.4nm,0.3s,baz=136,slow=18,SNR=2.2							
NV01	**Mina Array Sit**	**33.15**	**322**	*e*P		**P**	**21 02 36.4**	**+1.7**
NVAR	**Mina Array Bea**	**33.15**	**322**	P		**P**	**21 02 36.4**	**+1.7**
	1.0nm,0.8s,baz=135,slow=9.8,SNR=5.7							
EGMT	**Eagleton**	**36.65**	**341**	*e*P		**P**	**21 03 04.2**	**-0.4**
	6.1nm,0.6s							
YKA	**Yellowknife Ar**	**50.76**	**347**	*e*P		**P**	**21 04 56.4**	**-1.3**
YKA	**Yellowknife Ar**	**50.76**	**347**	P		**P**	**21 04 57.6**	**0.0**
	3.0nm,0.7s,baz=150,slow=7.4,SNR=54							
YKB5	**Yellowknife Ar**	**50.76**	**347**	*e*P		**P**	**21 04 57.6**	**0.0**
YKW3	**Yellowknife Ar**	**50.82**	**347**	*e*P		**P**	**21 04 57.6**	**-0.5**
	3.0nm,0.8s							
INK	**Inuvik**	**60.13**	**344**	P		**P**	**21 06 05.5**	**+0.6**
	1.0nm,0.6s,baz=122,slow=5.4,SNR=8.5							
KDAK	**Kodiak Island**	**62.26**	**328**	*e*P		**P**	**21 06 19.2**	**-0.3**
KDAK	**Kodiak Island**	**62.26**	**328**	P		**P**	**21 06 21.5**	**+1.9**
	4.5nm,0.8s,baz=280,slow=11,SNR=2.8							
ILAR	**Eielson Array**	**62.46**	**337**	P		**P**	**21 06 22.9**	**+2.1**
	0.4nm,0.6s,baz=106,slow=6.7,SNR=3.6							
ILB	**Eielson Array**	**62.46**	**337**	*e*P		**P**	**21 06 22.9**	**+2.1**
	0.9nm,0.9s							
CM31	**Chiang Mai Arr**	**145.65**	**340**	*e*PKPdf		**PKPbc**	**21 15 36.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**145.65**	**340**	PKPbc		**PKPbc**	**21 15 36.9**	**-0.3**
	0.9nm,0.7s,baz=332,slow=3.6,SNR=7.6							

*IDC **05** 21:08:12.9±1.1, 6°.77N×127°.00E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.7/41, mbtmp3.9/8, ML4.0/2, Error ellipse: s-maj=40.3km s-min=16.3km az=62.0*
*MAN **05** 21:08:18.4, 6°.48N×126°.62E, h24km, MS3.5*
ISC 05 21:08:17.1±1.9, **6°.46N**±0°.05×**126°.59E**±0°.06, **h18**km±10km, **n18, σ1°52/28, mb3.8/6, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MATI	**Mati**	**0.58**	**325**	*e*P		**Pn**	**21 08 30.6**	**0.0**
MATI				*e*S		**Sn**	**21 08 40.8**	**+1.1**
DDMP	**Don Marcelino,**	**0.95**	**248**	*e*P		**Pn**	**21 08 36.3**	**+0.7**
DDMP				*e*S		**Sb**	**21 08 48.9**	**+1.7**
DAV	**Davao City (W)**	**1.17**	**301**	Pn		**Pg**	**21 08 40.5**	**+0.7**
	70nm,0.3s,baz=82,slow=4.1,SNR=7.1							
DAV				Sn		**Sb**	**21 08 55.4**	**+1.6**
	128nm,0.3s,baz=268,slow=22,SNR=7.8							
DAV				LR		LR	21 09 27.5	
	comp=Z,38nm,21.1s,baz=308,slow=52							
DMPH	**Davao City--Mi**	**1.24**	**300**	*e*P		**Pn**	**21 08 40.3**	**+0.7**
DMPH				*e*S		**Sn**	**21 08 56.8**	**+0.9**
GSPH	**General Santos**	**1.68**	**257**	*i* P		**Pn**	**21 08 45.3**	**-0.5**
GSPH				*i* S		**Sn**	**21 09 04.4**	**-2.5**
SKMP	**Bagumbayan, Su**	**2.04**	**272**	*e*P		**Pn**	**21 08 51.6**	**+1.0**
SKMP				*e*S		**Sn**	**21 09 17.6**	**+2.0**
BUKP	**Musuan**	**2.07**	**313**	*e*P		**Pn**	**21 08 52.2**	**+1.2**
BUKP				*e*S		**Sn**	**21 09 17.7**	**+1.3**
BUTP	**Butuan**	**2.67**	**339**	*e*P		**Pb**	**21 09 03.6**	**-0.8**
CGP	**Cagayan de Oro**	**2.73**	**317**	*e*P		**Pb**	**21 09 03.3**	**-2.1**
CGP				*e*S		**Sb**	**21 09 37.1**	**-1.5**
MSLP	**Maasin**	**4.03**	**335**	*e*P		**Pn**	**21 09 19.4**	**+1.4**
MSLP				*e*S		**Sn**	**21 10 07.2**	**+2.5**
SIJI	**Sorong**	**8.65**	**147**	Pn		**Pn**	**21 10 20.6**	**-0.9**
	0.3nm,0.3s,baz=73,slow=19,SNR=1.7							
SIJI				Sn		**Sn**	**21 12 00.2**	**+1.5**
	0.7nm,0.3s,baz=180,slow=20,SNR=2.4							
BATI	**Baumata**	**16.82**	**190**	P		**P**	**21 12 15.9**	**+1.9**
	2.5nm,0.3s,baz=270,slow=4.0,SNR=4.0							
FITZ	**Fitzroy Crossi**	**24.43**	**182**	P		**P**	**21 13 35.3**	**+0.4**
	1.7nm,0.7s,baz=6.7,slow=12,SNR=8.5							
WRA	**Warramunga Arr**	**27.33**	**164**	P		**P**	**21 14 02.0**	**+0.8**
	0.6nm,0.4s,baz=345,slow=10,SNR=7.2							
ASAR	**Alice Springs**	**30.79**	**167**	P		**P**	**21 14 32.3**	**+0.3**
	0.3nm,0.5s,baz=346,slow=7.0,SNR=6.0							
MKAR	**Makanchi Array**	**55.26**	**324**	P		**P**	**21 17 47.9**	**-1.5**
	0.3nm,0.3s,baz=112,slow=7.0,SNR=14							
ARCES	**ARCESS Array B**	**87.85**	**340**	P		**P**	**21 21 03.2**	**-2.0**
	2.8nm,1.0s,baz=92,slow=7.2,SNR=4.3							
FINES	**FINESS Array B**	**89.37**	**332**	P		**P**	**21 21 10.9**	**-1.6**
	1.0nm,0.7s,baz=38,slow=7.0,SNR=4.4							

*ISCJB **05** 21:14:55.9±0.5, 27°.63N±0°.06×127°.20E±0°.07, h145km±5km, mb3.2/5, Error ellipse: s-maj=13.2km s-min=3.9km az=43.9*
*IDC **05** 21:14:57.5±1.4, 27°.68N×127°.37E, h145km±13km, mb3.1/5, mb1 3.3/5, mb1mx3.0/44, mbtmp3.5/5, Error ellipse: s-maj=44.0km s-min=19.4km az=79.0*
*JMA **05** 21:14:58.2±0.2, 27°.65N×127°.22E, h131km, M3.2*
ISC 05 21:14:57.2±0.9, **27°.60N**±0°.06×**127°.23E**±0°.06, **h146**km±8km, **n26, σ1°24/44, mb3.2/5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JIH	**Iheya**	**0.86**	**130**		P	**Pn**	**21 15 20.9**	**+0.4**
JIH					S	**Sn**	**21 15 37.9**	**-0.3**
JAGN	**Aguni-jima**	**1.00**	**179**		P	**Pn**	**21 15 21.9**	**+0.2**
JAGN					*e*S	**Sn**	**21 15 40.2**	**-0.1**
JOW	**Kunigami**	**1.21**	**129**		P	**Pn**	**21 15 23.8**	**+0.3**
JOW					*e*S	**Sn**	**21 15 42.5**	**-1.1**
JOW	**Kunigami**	**1.21**	**129**		P	**Pn**	**21 15 23.9**	**+0.4**
	26nm,0.3s,baz=118,slow=14,SNR=250							
JOW					S	**Sn**	**21 15 42.7**	**-0.9**
	4.0nm,0.3s,baz=157,slow=17,SNR=3.7							
JOKE	**Okinoerabujima**	**1.22**	**101**		P	**Pn**	**21 15 23.8**	**+0.2**
JOKE					*e*S	**Sn**	**21 15 42.7**	**-1.1**
JYRO	**Yoronjima**	**1.23**	**117**		P	**Pn**	**21 15 24.0**	**+0.3**
JYRO					*e*S	**Sn**	**21 15 42.5**	**-1.4**
JNTH	**Nagotoyohara**	**1.29**	**146**		P	**Pn**	**21 15 24.8**	**+0.5**
JNTH					*e*S	**Sn**	**21 15 43.8**	**-1.2**
JKE	**Kume jima 2**	**1.33**	**197**		P	**Pn**	**21 15 24.9**	**+0.2**
JKE					*e*S	**Sn**	**21 15 44.7**	**-1.0**
JJT3	**Tamagusuku3**	**1.53**	**161**		P	**Pn**	**21 15 28.1**	**+1.2**
JJT3					*e*S	**Sn**	**21 15 50.5**	**+1.0**
JTK	**Tokunoshima**	**1.54**	**83**		P	**Pn**	**21 15 27.0**	**+0.1**
JTK					S	**Sn**	**21 15 48.3**	**-1.3**
JAMN	**Amaminishikomi**	**1.84**	**69**		P	**Pn**	**21 15 30.1**	**-0.1**
JAMN					*e*S	**Sn**	**21 15 54.0**	**-1.5**
JAM	**Amami Oshima**	**2.25**	**68**		P	**Pn**	**21 15 35.1**	**0.0**
JAM					*e*S	**Sn**	**21 16 03.1**	**-1.2**
JZK	**Kikaishima**	**2.53**	**73**		*e*S	**Sn**	**21 16 10.9**	**+0.5**
JIKM	**Ikemajima**	**3.20**	**214**		P	**Pn**	**21 15 46.4**	**-0.7**
JIKM					*e*S	**Sn**	**21 16 24.1**	**-1.5**
JOGS	**Gusukube**	**3.27**	**210**		P	**Pn**	**21 15 47.6**	**-0.3**
JOGS					*e*S	**Sn**	**21 16 25.9**	**-1.1**
JMJ2	**Miyako jima3**	**3.32**	**211**		P	**Pn**	**21 15 47.8**	**-0.8**
JMJ2					*e*S	**Sn**	**21 16 27.5**	**-0.7**
JIRB	**Irabujima**	**3.32**	**214**		P	**Pn**	**21 15 47.6**	**-1.0**
JIRB					*e*S	**Sn**	**21 16 25.4**	**-2.9**
JYAK	**Yakushimahirau**	**3.90**	**47**		P	**Pn**	**21 15 56.9**	**+0.9**
JYAK					*e*S	**Sn**	**21 16 39.2**	**-2.5**
JMZ	**Minamidaito 2**	**3.99**	**115**		P	**Pn**	**21 15 56.8**	**-0.4**
JMZ					*e*S	**Sn**	**21 16 39.7**	**-4.1**
JMTN	**Minamitane**	**4.26**	**48**		*e*S	**Sn**	**21 16 48.8**	**-1.4**
JTN	**Tanegashima 3**	**4.48**	**46**		*e*S	**Sn**	**21 16 54.4**	**-1.0**
MKAR	**Makanchi Array**	**39.96**	**311**		P	**P**	**21 22 17.6**	**+0.3**
	0.2nm,0.5s,baz=100,slow=9.6,SNR=4.1							
FITZ	**Fitzroy Crossi**	**45.45**	**182**		P	**P**	**21 23 02.2**	**+0.6**
	1.5nm,0.6s,baz=11,slow=6.4,SNR=7.3							
WRA	**Warramunga Arr**	**47.76**	**171**		P	**P**	**21 23 19.6**	**-0.1**
	0.4nm,0.5s,baz=352,slow=8.6,SNR=3.8							
ASAR	**Alice Springs**	**51.37**	**172**		P	**P**	**21 23 48.8**	**+1.8**
	0.2nm,0.5s,baz=360,slow=14,SNR=9.6							
YKA	**Yellowknife Ar**	**77.67**	**25**		P	**P**	**21 26 36.9**	**-0.4**
	0.2nm,0.4s,baz=298,slow=5.5,SNR=5.9							

TAP 05 21:16:11.5, 24°.32N×122°.06E, h60km, **ML2.2, C, Taiwan region**

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

baz=228
WHP Taichung City 1.02 268 *e*P Pn 21 16 31.1 +1.2
baz=264
EHY Hungye 1.05 220 *e*P Pn 21 16 30.0 -0.3
baz=227
DPDB Guoxing 1.07 255 *e*P Pn 21 16 32.5 +2.0
baz=251
SSLB Suanglung 1.14 243 *e*P Pn 21 16 31.9 +0.5
baz=235
SMLT Sun Moon Lake 1.15 248 *e*P Pn 21 16 32.8 +1.3
baz=238
YULB Yu-li 1.16 217 *e*P Pn 21 16 30.6 -1.1
baz=225
TYC Yuchr 1.17 250 *e*P Pn 21 16 33.5 +1.7
baz=242
TWF1 Yuli 1.19 216 P Pn 21 16 31.3 -0.8
baz=224
WHYT Xinyi Township 1.27 241 *e*P Pn 21 16 34.8 +1.7
baz=236
ALS Alishan 1.40 235 *e*P Pn 21 16 36.7 +1.5
baz=234
CHN5 Tsauling 1.45 241 *e*P Pn 21 16 37.5 +1.8
baz=239
ELDTW Lidau 1.48 221 *e*P Pn 21 16 34.1 -1.9
baz=214
CHN4 Tsaushan 1.65 235 *e*P Pn 21 16 39.0 +0.7
baz=233
TPUB Ta-pu 1.66 233 *e*P Pn 21 16 38.8 +0.5
baz=231
STYT Tauyuan 1.66 226 *e*P Pn 21 16 38.8 +0.4
baz=217
WTP Ta-pu 1.70 231 *e*P Pn 21 16 40.1 +1.1
baz=230
TWK Hsinying 1.78 234 *e*P Pn 21 16 40.8 +0.8
baz=232
SGST Jiashian 1.83 228 *e*P Pn 21 16 41.9 +1.2
baz=218
SLGT Liugui 1.85 225 *e*P Pn 21 16 42.2 +1.2
baz=223
EAST Anshuo 2.23 210 *e*P Pn 21 16 45.6 -0.5
baz=202

KRSC 05 21:21:55.4±10.0, 60°.50N×166°.66E, h15km±10km, ML3.6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.26**	**259**	*e*P	Pb	21 22 02.0	+0.3
TILK				*e*S	Sb	21 22 06.1	+0.1
KMSK	**Kamenskaya**	**1.99**	**354**	*e*P	Pb	21 22 30.2	-1.0
KMSK				*e*S	Sb	21 22 54.6	-1.2
OSSR	**Ossora**	**2.20**	**237**	*e*P	Pn	21 22 32.0	+0.7
OSSR				*e*S	Sb	21 23 01.0	-0.9
KBTR	**Krutoberegovo**	**4.75**	**207**	*e*P	Pn	21 23 11.0	+4.7

IDC 05 21:23:41.0±3.0, 30°.18S×177°.64W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/21, mbtmp3.7/2, Error ellipse: s-maj=62.4km s-min=23.5km az=100.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.96**	**346**	Pn	Pn	21 24 02.9	+1.2
	53nm,0.3s,baz=72,slow=19,SNR=4.5						
RAO				Sn	Sn	21 24 15.0	-1.0
	357nm,0.3s,baz=78,slow=20,SNR=16						
ASAR	**Alice Springs**	**43.43**	**267**	P	P	21 31 45.7	-0.2
	0.3nm,0.4s,baz=102,slow=7.6,SNR=7.2						
WRA	**Warramunga Arr**	**44.40**	**272**	P	P	21 31 53.6	-0.1
	0.6nm,0.3s,baz=110,slow=8.2,SNR=31						
FINES	**FINESS Array B**	**145.05**	**340**	PKPbc	PKPbc	21 43 17.5	-1.5
	3.5nm,1.0s,baz=52,slow=5.4,SNR=3.6						

*ISCJB **05** 21:51:26.0±0.7, 40°.31S±0°.04×74°.25W±0°.07, h33km, Error ellipse: s-maj=8.4km s-min=6.0km az=160.0*
*IDC **05** 21:51:25.8±1.6, 40°.27S×74°.05W, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.8/36, mbtmp3.8/8, ML4.3/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/22, Error ellipse: s-maj=29.6km s-min=23.7km az=74.0*
*GUC **05** 21:51:25.7±0.4, 40°.57S×74°.28W, h26km, ML3.8*
*NEIC **05** 21:51:26.9±3.6, 40°.37S×74°.19W, h25km±10km, mb4.3/4, ML3.8(GUC), Error ellipse: s-maj=29.4km s-min=17.5km az=102.0*
NEIC Felt [III] at San Juan de la Costa and [II] at Rio Negro.

ISC 05 21:51:27.8±0.9, 40°.40S±0°.05×74°.17W±0°.09, h35km, n25, σ2§47/36, 1D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO06	**Curarrehue**	**2.23**	**69**	*e*Pn	**Pn**	**21 52 03.9**	**+1.6**
GO06	**Curarrehue**	**2.23**	**69**	⇓*i*P	**Pn**	**21 52 04.0**	**+1.6**
GO06				*e*S	**Sn**	**21 52 32.5**	**+3.8**
GO06				IAML		21 52 48.9	
	comp=N,261nm,0.6s						
GO07	**Milladeo Hill,**	**2.74**	**172**	*e*Pn	**Pn**	**21 52 09.7**	**+0.4**
GO07	**Milladeo Hill,**	**2.74**	**172**	*e*P	**Pn**	**21 52 06.3**	**-3.0**
GO07				*i*S	**Sn**	**21 52 37.6**	**-3.6**
GO07				IAML		21 52 52.3	
	comp=N,1μm,0.6s						
PLCA	**Paso Flores**	**2.78**	**98**	*e*P	**Pn**	**21 52 09.2**	**-0.7**
PLCA				*i*S	**Sn**	**21 52 44.0**	**+1.8**
PLCA	**Paso Flores**	**2.78**	**98**	Pn	**Pn**	**21 52 09.3**	**-0.5**
	comp=N,15nm,0.3s,baz=278,slow=13,SNR=278						
PLCA				Sn	**Sn**	**21 52 44.4**	**+2.1**
	comp=N,12nm,0.3s,baz=34,slow=20,SNR=4.4						
CCHI	**Chillan**	**4.13**	**24**	*e*P	**Pn**	**21 52 30.1**	**+1.7**
GO05	**Huala**	**5.66**	**19**	*e*Pn	**Pn**	**21 52 52.0**	**+2.5**
GO05				*e*Sn	**Sn**	**21 53 50.0**	**-3.3**
PEL	**Peldehue**	**7.76**	**22**	*e*Pn	**Pn**	**21 53 18.1**	**-0.2**
PEL				*e*Sn	**Sn**	**21 54 42.6**	**-2.3**
ROC1	**El Roble**	**7.83**	**20**	*e*Pn	**Pn**	**21 53 19.2**	**-0.2**
ROC1				*e*Sn	**Sn**	**21 54 48.6**	**+1.7**
TRQA	**Tornquist**	**9.75**	**80**	*e*Pn	**Pn**	**21 53 45.4**	**-0.1**
TRQA				*e*Sn	**Sn**	**21 55 27.5**	**-6.1**
CFA	**Coronel Fontan**	**10.00**	**31**	Pn	**Pn**	**21 53 49.7**	**+0.7**
	comp=N,1.9nm,0.3s,baz=222,slow=13,SNR=22						
CFA				Sn	**Sn**	**21 55 39.5**	**-0.5**
	comp=N,0.5nm,0.3s,baz=294,slow=20,SNR=2.8						
CFA				LR	LR	21 57 51.5	
	comp=N,81nm,18.6s,baz=270,slow=39						
GO04	**Tololo Observa**	**10.56**	**16**	*e*Pn	**Pn**	**21 53 56.8**	**-0.1**
GO04				*e*Sn	**Sn**	**21 55 50.7**	**-3.4**
LCO	**Las Campanas**	**11.71**	**15**	*e*Pn	**Pn**	**21 54 12.6**	**0.0**
LCO				*e*Sn	**Sn**	**21 56 18.9**	**-3.3**
CPUP	**Villa Florida**	**19.82**	**50**	*e*P	**Pn**	**21 55 56.3**	**-0.8**
	comp=N,6.6nm,1.3s						
CPUP	**Villa Florida**	**19.82**	**50**	P	**Pn**	**21 55 56.3**	**-0.8**
	comp=N,0.3nm,0.3s,baz=231,slow=9.0,SNR=6.0						
CPUP				LR	LR	22 04 44.0	
	comp=N,61nm,20.3s,baz=220,slow=41						
PB11	**IPOC Station P**	**20.93**	**12**	*e*P	**P**	**21 56 04.7**	**-2.9**
	comp=N,10nm,1.0s						
LPAZ	**La Paz**	**24.59**	**14**	P	**P**	**21 56 48.8**	**+3.5**
	comp=N,0.2nm,0.3s,baz=179,slow=6.3,SNR=1.9						
SIV	**San Ignacio**	**26.85**	**29**	P	**P**	**21 57 07.9**	**+2.8**
	comp=N,0.4nm,0.5s,baz=162,slow=20,SNR=2.7						
BDFB	**Brasilia**	**33.55**	**50**	P	**P**	**21 58 05.5**	**+0.9**
	comp=N,2.3nm,0.5s,baz=222,slow=7.8,SNR=5.4						
SNAA	**Sanae**	**46.39**	**156**	*e*P	**P**	**21 59 50.4**	**+0.1**
	comp=N,3.8nm,1.0s						
SNAA	**Sanae**	**46.39**	**156**	P	**P**	**21 59 55.0**	**+4.7**
	comp=N,1.8nm,0.8s,baz=293,slow=13,SNR=5.2						
TXAR	**Lajitas Array**	**74.58**	**334**	P	**P**	**22 03 04.6**	**+1.5**
	comp=N,0.4nm,0.8s,baz=139,slow=6.0,SNR=4.0						
LTX	**Lajitas**	**74.59**	**334**	*e*P	**P**	**22 03 04.6**	**+1.5**
RSSD	**Black Hills**	**88.33**	**339**	*e*P	**P**	**22 04 13.1**	**-2.5**
	comp=N,23nm,0.3s						

*ISCJB **05** 22:05:27.4±0.9, 15°.04S±0°.09×71°.4W±0°.1, h174km, mb3.2/4, Error ellipse: s-maj=16.2km s-min=9.3km az=143.1*
*IDC **05** 22:05:31.2±2.1, 15°.19S×71°.08W, h206km±25km, mb3.0/4, mb1 3.3/7, mb1mx3.1/34, mbtmp3.6/7, Error ellipse: s-maj=29.0km s-min=25.0km az=108.0*

ISC 05 22:05:28.6±0.9, 15°.1S±0°.1×71°.3W±0°.1, h174km, n7, σ1§20/9, mb3.2/4, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.29**	**112**	P	**Pn**	**22 06 22.4**	**+1.3**
	1.5nm,0.3s,baz=297,slow=9.4,SNR=41						
LPAZ				S	**Sn**	**22 07 02.7**	**+0.9**
	0.6nm,0.3s,baz=304,slow=7.3,SNR=14						
LVC	**Limon Verde**	**7.83**	**164**	P	**Pn**	**22 07 20.8**	**+0.9**
	2.8nm,0.3s,baz=346,slow=11,SNR=29						
LVC				S	**Sn**	**22 08 47.4**	**-0.5**
	1.2nm,0.3s,baz=81,slow=19,SNR=7.7						
SIV	**San Ignacio**	**9.90**	**97**	P	**Pn**	**22 07 46.6**	**-0.4**
	0.3nm,0.3s,baz=256,slow=11,SNR=5.1						
TXAR	**Lajitas Array**	**54.09**	**325**	P	**P**	**22 14 35.8**	**+0.1**
	0.2nm,0.6s,baz=150,slow=7.7,SNR=4.1						
PDAR	**Pinedale Array**	**67.44**	**330**	P	**P**	**22 16 06.4**	**+0.7**
	0.2nm,0.5s,baz=129,slow=9.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**77.48**	**73**	P	**P**	**22 17 03.4**	**-2.1**
	0.5nm,1.0s,baz=266,slow=5.1,SNR=4.2						
YKA	**Yellowknife Ar**	**84.41**	**341**	P	**P**	**22 17 41.4**	**+0.4**
	0.4nm,0.6s,baz=134,slow=5.0,SNR=9.8						

MEX 05 22:30:22.0±0.4, 15°.11N×93°.47W, h61km±11km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.64**	**22**	*e*P	Pn	22 30 34.1	-1.5
PCIG				*e*S	Sn	22 30 43.7	-1.8
TGIG		**1.69**	**11**	*i*P	Pn	22 30 48.1	-1.3
TGIG				*i*S	Sn	22 31 08.3	-1.8
CCIG	**Comitan**	**1.73**	**47**	*i*P	Pn	22 30 49.0	-1.0
CCIG				*i*S	Sn	22 31 09.2	-2.0
CMIG	**Matias Romero**	**2.40**	**326**	*e*P	Pn	22 30 57.6	-1.3
CMIG				*i*S	Sn	22 31 25.7	-1.5

*NSSC **05** 22:53:52.1±9.3, 33°.86N×36°.05E, h3km±999km, ML1.3*
*ISCJB **05** 22:53:54.1±0.6, 33°.78N±0°.04×35°.78E±0°.05, h6km, Error ellipse: s-maj=6.9km s-min=4.1km az=138.6*
*GRAL **05** 22:53:54.9±0.3, 33°.77N×35°.76E, h0km±23km, MD3.0*

ISC 05 22:53:51.3±1.2, 33°.84N±0°.06×35°.97E±0°.06, h6km, n10, σ1§59/14, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.27**	**285**	*e*P	**Pg**	**22 53 57.7**	**+1.0**
BHL				*e*S	**Sg**	**22 53 59.8**	**-0.4**
DQRL	**Deir Qamar**	**0.36**	**249**	*e*P	**Pg**	**22 53 58.1**	**-0.2**
DQRL				*e*S	**Sg**	**22 54 00.4**	**-2.6**
RCY	**Rachaya**	**0.36**	**198**	*e*P	**Pg**	**22 53 59.9**	**+1.6**
QRWL	**Qaraoun**	**0.37**	**220**	*e*P	**Pg**	**22 53 59.0**	**+0.4**
BEYL	**Beirut**	**0.40**	**275**	*e*P	**Pg**	**22 53 59.4**	**+0.3**
QASN	**Qassioun**	**0.40**	**140**	*e*P	Pg	22 53 55.0	-4.1
QASN				*e*S	**Sg**	**22 54 00.6**	**-3.7**
QASN				AML	AML	22 54 06.4	
	comp=N,26nm,0.2s						
QASN				AML	AML	22 54 06.9	
	comp=E,70nm,0.5s						
BRBR	**Barbar**	**0.42**	**182**	*e*P	**Pb**	**22 54 01.9**	**+0.6**
BRBR				*e*S	**Sb**	**22 54 07.7**	**-0.4**
BRBR				AML	AML	22 54 10.3	
	comp=E,48nm,0.6s						
BRBR				AML	AML	22 54 11.1	
	comp=N,46nm,0.4s						
HWQ	**Hawqa**	**0.44**	**358**	*e*P	**Pn**	**22 54 04.5**	**+0.1**
SHBL	**Chebaa**	**0.52**	**201**	*e*P	**Pg**	**22 54 02.4**	**+1.0**
TOTH	**TOTAH**	**0.61**	**141**	*e*P	**Pn**	**22 54 07.9**	**+1.3**
TOTH				AML	AML	22 54 08.3	
	comp=E,9.8nm,0.2s						
TOTH				AML	AML	22 54 09.1	
	comp=N,5.1nm,0.1s						
TOTH				*e*S	**Sn**	**22 54 16.6**	**-0.2**

IDC 05 23:08:44.3±2.9, 32°.99S×178°.20W, h0km, mb4.3/2, mb1 4.5/3, mb1mx3.9/22, mbtmp4.3/3, ML4.0/1, Error ellipse: s-maj=70.1km s-min=35.4km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.50**	**215**	Pn	Pn	23 10 20.8	-0.4
	3.0nm,0.3s,baz=306,slow=19,SNR=13						
URZ				Sn	Sn	23 11 35.5	-0.6
	3.0nm,0.3s,baz=105,slow=19,SNR=7.7						
ASAR	**Alice Springs**	**42.87**	**270**	P	P	23 16 44.9	+0.3
	0.7nm,0.5s,baz=109,slow=7.1,SNR=9.7						
WRA	**Warramunga Arr**	**44.09**	**275**	P	P	23 16 54.3	-0.2
	8.7nm,0.4s,baz=114,slow=7.9,SNR=11						
FINES	**FINESS Array B**	**147.50**	**338**	PKPbc	PKPbc	23 28 28.7	-0.9
	2.4nm,0.9s,baz=41,slow=3.9,SNR=10						

*ISCJB **05** 23:21:43.4±1.0, 32°.06S±0°.03×70°.08W±0°.05, h115km±11km, Error ellipse: s-maj=8.1km s-min=4.4km az=22.7*
*GUC **05** 23:21:43.2±0.5, 32°.05S×70°.19W, h105km±11km, ML3.5*
*SJA **05** 23:21:43.5±0.6, 32°.02S×70°.10W, h98km±7km, ML3.7, MW3.8*

ISC 05 23:21:44.1±1.8, 32°.05S±0°.04×70°.10W±0°.05, h109km±18km, n16, σ0§97/31, 7C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.72**	**70**	*e*P	**Pn**	**23 22 02.4**	**-0.5**
RTLS				*e*S	**Sn**	**23 22 16.3**	**-0.7**
RTLS				IAML		23 22 16.9	
	comp=Z,1μm,0.4s						
PEL	**Peldehue**	**1.20**	**204**	⇑*i*P	**Pn**	**23 22 06.8**	**-0.6**
PEL				*i*S	**Sn**	**23 22 24.3**	**-0.7**
PEL				IAML		23 22 26.0	
	comp=N,836nm,0.4s						
ROCH	**El Roble**	**1.20**	**220**	⇑*i*P	**Pn**	**23 22 07.0**	**-0.6**
ROCH				*i*S	**Sn**	**23 22 25.2**	**-0.1**
ROCH				IAML		23 22 27.3	
	comp=N,838nm,0.5s						
ARCO	**CERRO ARCO**	**1.26**	**129**	*e*P	**Pn**	**23 22 08.3**	**+0.2**
ARCO				*e*S	**Sn**	**23 22 27.0**	**+0.5**
ARCO				IAML		23 22 29.0	
	comp=Z,1μm,0.4s						
FCH	**Farellones**	**1.28**	**187**	⇑*i*P	**Pn**	**23 22 08.7**	**+0.1**
FCH				*i*S	**Sn**	**23 22 28.1**	**+0.9**
FCH				IAML		23 22 28.9	
	comp=E,1μm,0.3s						
ZON	**Zonda**	**1.31**	**68**	*e*P	**Pn**	**23 22 08.1**	**-0.5**
ZON				*e*S	**Sn**	**23 22 26.6**	**-0.6**
CLCH	**Cerro Calan**	**1.39**	**195**	⇑*i*P	**Pn**	**23 22 09.4**	**-0.2**
CLCH				*i*S	**Sn**	**23 22 28.8**	**-0.2**
CLCH				IAML		23 22 37.4	
	comp=N,926nm,0.5s						
FSR	**Penalolen**	**1.47**	**194**	*i*P	**Pn**	**23 22 11.4**	**+0.9**
FSR				*i*S	**Sn**	**23 22 31.8**	**+1.2**
AAGR	**Agrelo**	**1.49**	**134**	*e*P	**Pn**	**23 22 11.0**	**+0.3**
AAGR				*e*S	**Sn**	**23 22 31.5**	**+0.5**
RTLL	**Cerro Villicun**	**1.56**	**63**	*e*P	**Pn**	**23 22 11.0**	**-0.6**
RTLL				*e*S	**Sn**	**23 22 31.9**	**-0.6**
ANTU	**Antumapu**	**1.58**	**196**	*e*P	**Pn**	**23 22 11.6**	**-0.2**
ANTU				*i*S	**Sn**	**23 22 33.1**	**+0.2**
ANTU				IAML		23 22 35.0	
	comp=E,2μm,0.4s						
ACCO	**Cerro Coronel**	**1.71**	**31**	*e*P	**Pn**	**23 22 13.9**	**+0.2**
ACCO				*e*S	**Sn**	**23 22 36.8**	**+0.6**
LMEL	**Las Melosas**	**1.79**	**183**	⇑*i*P	**Pn**	**23 22 14.6**	**+0.1**
LMEL				*i*S	**Sn**	**23 22 40.8**	**+3.0**
LMEL				IAML		23 22 42.1	
	comp=N,511nm,0.3s						
GO04	**Tololo Observa**	**1.97**	**342**	⇑*i*P	**Pn**	**23 22 17.1**	**+0.2**
GO04				*i*S	**Sn**	**23 22 43.0**	**+1.1**
LCO	**Las Campanas**	**3.08**	**350**	⇑*i*P	**Pn**	**23 22 31.4**	**0.0**
LCO				*e*S	**Sn**	**23 23 08.3**	**+0.6**
GO05	**Huala**	**3.32**	**207**	*e*P	**Pn**	**23 22 31.6**	**-2.7**

*UCR **05** 23:27:08.7±1.3, 13°.81N×93°.41W, h35km±999km, MD4.0, mb4.4(NEIC)*
*MEX **05** 23:27:15.2±0.6, 13°.84N×92°.87W, h40km±55km, MD4.2*
*NEIC **05** 23:27:15.2±0.0, 13°.84N×92°.87W, h40km, mb4.4/27, MD4.2(MEX), After MEX.*
*ISCJB **05** 23:27:16.3±1.0, 13°.98N±0°.06×92°.75W±0°.06, h33km±8km, mb4.3/33, MS3.6/15, Error ellipse: s-maj=12.0km s-min=5.8km az=44.0*
*IDC **05** 23:27:18.2±4.5, 14°.19N×92°.59W, h33km±32km, mb3.8/10, mb1 4.0/14, mb1mx3.8/41, mbtmp3.9/14, ML3.5/4, MS3.6/17, Ms1 3.6/17, ms1mx3.3/40, Error ellipse: s-maj=32.7km s-min=13.3km az=39.0*

ISC 05 23:27:19.1±1.7, 14°.10N±0°.09×92°.71W±0°.07, h41km±14km, n78, σ1§74/79, mb4.3/33, MS3.6/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.92**	**28**	*e*P	**Pn**	**23 27 34.1**	**-1.4**
THIG				*e*S	**Sn**	**23 27 48.9**	**+1.4**
THIG		**0.92**	**28**	*e*P	**Pn**	**23 27 34.1**	**-1.4**
THIG				*e*S	**Sn**	**23 27 48.9**	**+1.4**
PCIG		**1.67**	**343**	*e*P	**Pn**	**23 27 43.7**	**-2.2**
PCIG				*e*S	**Sn**	**23 28 04.6**	**-1.5**
PCIG		**1.67**	**343**	*e*P	**Pn**	**23 27 43.7**	**-2.2**
PCIG				*e*S	**Sn**	**23 28 04.6**	**-1.5**
FUG	**Fuego 3**	**1.85**	**79**	*e*P	**Pn**	**23 27 47.6**	**-0.9**
PCG	**Pacaya**	**2.06**	**82**	*e*P	**Pn**	**23 27 51.3**	**-0.2**
IXG	**Ixpaco**	**2.19**	**88**	*e*P	**Pn**	**23 27 52.9**	**-0.3**
IXG				*e*S	**Sn**	**23 28 27.2**	**+8.0**
CCIG	**Comitan**	**2.24**	**14**	*e*Pn	**Pn**	**23 27 55.6**	**+1.7**
CCIG				*i*S	**Sn**	**23 28 21.5**	**+1.0**
CCIG	**Comitan**	**2.24**	**14**	*e*P	**Pn**	**23 27 53.1**	**-0.8**
CCIG				*i*S	**Sn**	**23 28 21.5**	**+1.0**
NBG	**Las Nubes**	**2.34**	**78**	*e*P	**Pn**	**23 27 56.8**	**+1.4**
APG	**El Apazote**	**2.36**	**67**	Pn	**Pn**	**23 27 54.3**	**-1.2**
	16nm,0.3s,baz=246,slow=7.8,SNR=268						
APG				Lg	Lg	23 28 29.3	
	19nm,0.3s,baz=324,slow=18,SNR=6.3						
APG				LR	LR	23 29 07.3	
	comp=Z,812nm,19.0s,baz=243,slow=49						
TGIG		**2.69**	**352**	*e*P	**Pn**	**23 27 58.7**	**-1.4**
TGIG				*i*S	**Sn**	**23 28 32.1**	**+0.6**
TGIG		**2.69**	**352**	*e*P	**Pn**	**23 27 58.7**	**-1.4**
TGIG				*i*S	**Sn**	**23 28 32.1**	**+0.6**
CMIG	**Matias Romero**	**3.64**	**325**	Pn	**Pn**	**23 28 11.2**	**-1.8**
	2.9nm,0.3s,baz=139,slow=11,SNR=60						
CMIG				Sn	**Sn**	**23 28 56.2**	**+1.6**
	12nm,0.3s,baz=102,slow=16,SNR=5.9						
CMIG				Lg	Lg	23 29 09.8	
	19nm,0.3s,baz=135,slow=16,SNR=5.8						
CSGN	**Cosiguina Volc**	**5.13**	**102**	*e*Pn	**Pn**	**23 28 30.9**	**-2.7**
TLIG	**Tlapa**	**6.60**	**302**	*e*Pn	**Pn**	**23 28 54.0**	**+0.2**
JTS	**Las Juntas de**	**8.48**	**116**	Pn	**Pn**	**23 29 18.3**	**-1.1**
	0.6nm,0.3s,baz=0.0,slow=18,SNR=3.7						
JTS				Sn	**Sn**	**23 30 47.8**	**-6.1**
	0.4nm,0.3s,baz=341,slow=18,SNR=3.0						
JTS				Lg	Lg	23 31 37.0	
	0.2nm,0.3s,baz=318,slow=20,SNR=5.9						
TX31	**Lajitas Ar. Si**	**18.24**	**328**	*e*P	**Pn**	**23 31 32.0**	**+2.7**
	6.6nm,1.1s						
TXAR	**Lajitas Array**	**18.24**	**328**	*e*P	**Pn**	**23 31 31.1**	**+1.8**
TXAR	**Lajitas Array**	**18.24**	**328**	P	**Pn**	**23 31 30.2**	**+0.9**
	0.0nm,0.3s,baz=150,slow=11,SNR=7.8						
TXAR				LR	LR	23 39 29.4	
	comp=Z,68nm,19.2s,baz=0.0,slow=40						
LPIG	**La Paz**	**19.36**	**304**	LR	LR	23 39 08.4	
	comp=Z,68nm,20.0s,baz=82,slow=37						
MIAR	**Mount Ida**	**20.38**	**358**	*e*P	**P**	**23 31 53.5**	**+1.3**
	10nm,0.9s						
MNTX	**Cornudas Mount**	**21.02**	**329**	*e*P	**P**	**23 32 00.2**	**+0.9**
	4.3nm,0.9s						
WMOK	**Wichita Mounta**	**21.27**	**346**	*e*P	**P**	**23 32 04.2**	**+2.3**
	24nm,2.0s						
OK023	**East Waterloo**	**21.91**	**350**	*e*P	**P**	**23 32 09.1**	**+0.4**
	13nm,0.7s						
AMTX	**Amarillo**	**22.23**	**340**	*e*P	**P**	**23 32 13.2**	**+0.9**
	14nm,0.8s						
ANMO	**Albuquerque**	**24.18**	**332**	*e*P	**P**	**23 32 33.3**	**+1.4**
	1.9nm,0.8s						
ANMO	**Albuquerque**	**24.18**	**332**	P	**P**	**23 32 32.0**	**+0.1**
	1.0nm,0.7s,baz=155,slow=12,SNR=5.2						
WCI	**Wyandotte Cave**	**24.70**	**12**	*e*P	**P**	**23 32 35.3**	**-1.1**
	9.4nm,0.9s						
CBKS	**Cedar Bluff**	**25.39**	**347**	*e*P	**P**	**23 32 43.6**	**+0.9**
	11nm,0.7s						
ATAH	**Atahualpa**	**25.43**	**145**	LR	LR	23 41 09.3	
	comp=Z,52nm,21.6s,baz=339,slow=33						
SDCO	**Great Sand Dun**	**26.16**	**337**	*e*P	**P**	**23 32 50.3**	**+0.4**
	8.4nm,1.3s						
SMCO	**Snowmass**	**27.97**	**336**	*e*P	**P**	**23 33 06.2**	**-0.1**
	6.0nm,1.4s						
PDAR	**Pinedale Array**	**32.05**	**336**	*e*P	**P**	**23 33 43.1**	**+1.0**
PDAR	**Pinedale Array**	**32.05**	**336**	P	**P**	**23 33 41.0**	**-1.1**
	0.7nm,0.8s,baz=134,slow=6.4,SNR=4.9						
PDAR				LR	LR	23 47 48.5	
	comp=Z,60nm,18.3s,baz=148,slow=38						
HVU	**Hansel Valley**	**32.62**	**332**	*e*P	**P**	**23 33 49.3**	**+2.3**
	2.3nm,0.8s						
SADO	**Sadowa**	**32.68**	**18**	LR	LR	23 48 11.4	
	comp=Z,191nm,19.0s,baz=238,slow=38						
REDW	**Red Top Meadow**	**33.06**	**335**	*e*P	**P**	**23 33 52.9**	**+1.9**
	9.9nm,1.0s						
SNOW	**Snow King Moun**	**33.11**	**336**	*e*P	**P**	**23 33 52.4**	**+0.9**
	14nm,0.8s						
NVAR	**Mina Array Bea**	**33.16**	**322**	P	**P**	**23 33 52.0**	**0.0**
NVAR	**Mina Array Bea**	**33.16**	**322**	P	**P**	**23 33 52.0**	**0.0**
	2.3nm,0.6s,baz=148,slow=8.7,SNR=6.4						
NVAR				LR	LR	23 49 02.3	
	comp=Z,135nm,19.2s,baz=232,slow=39						
LOHW	**Long Hollow**	**33.17**	**336**	*e*P	**P**	**23 33 53.7**	**+1.7**
	4.2nm,0.9s						
TPAW	**Teton Pass**	**33.21**	**335**	*e*P	**P**	**23 33 54.2**	**+1.9**
	9.1nm,1.2s						
MOOW	**Moose Ponds**	**33.34**	**336**	*e*P	**P**	**23 33 54.9**	**+1.5**
	3.0nm,1.1s						
FXWY	**Fox Creek**	**33.36**	**335**	*e*P	**P**	**23 33 55.2**	**+1.5**
	4.9nm,1.3s						
IMW	**Indian Meadow**	**33.55**	**336**	*e*P	**P**	**23 33 56.7**	**+1.4**
	5.5nm,1.4s						
HLID	**Hailey**	**34.76**	**332**	*e*P	**P**	**23 34 08.0**	**+2.3**
	16nm,2.0s						
MCMT	**McKenzie Canyo**	**35.09**	**335**	*e*P	**P**	**23 34 10.5**	**+1.9**
PTGA	**Pitinga**	**35.62**	**112**	*e*P	**P**	**23 34 12.8**	**-0.5**
	6.9nm,0.8s						
PTGA	**Pitinga**	**35.62**	**112**	P	**P**	**23 34 12.4**	**-0.8**
	3.5nm,0.5s,baz=301,slow=8.0,SNR=12						
ULM	**Lac du Bonnet**	**36.15**	**357**	P	**P**	**23 34 15.4**	**-1.9**
	2.2nm,0.8s,baz=174,slow=9.1,SNR=4.8						
LPAZ	**La Paz**	**38.75**	**140**	LR	LR	23 51 30.8	
	comp=Z,39nm,19.6s,baz=302,slow=38						
NEW	**Newport**	**39.61**	**334**	LR	LR	23 54 19.0	

FINES	**FINESS Array B**	**90.70**	**25**	LR	LR	00 21 53.1
	comp=Z,28nm,18.3s,baz=304,slow=36					
NRIK	**Noril'sk**	**96.78**	**360**	LR	LR	00 28 31.2
	comp=Z,67nm,19.2s,baz=40,slow=38					
ASAR	**Alice Springs**	**135.04**	**251**	PKP	**PKPdf**	**23 46 35.7 +1.0**
	0.4nm,0.9s,baz=90,slow=3.7,SNR=4.2					
CMAR	**Chiang Mai Arr**	**145.67**	**340**	PKPbc	**PKPbc**	**23 46 54.6 +0.4**
	2.6nm,0.7s,baz=342,slow=3.8,SNR=15					

*ISCJB **05** 23:54:08.5±0.6, 24°.87N±0°.03×122°.42E±0°.02, h12km±4km, Error ellipse: s-maj=5.0km s-min=2.9km az=16.4*
*TAP **05** 23:54:08.9, 24°.85N×122°.35E, h9km±1km, mL2.5, C*
*JMA **05** 23:54:08.2±0.2, 24°.80N×122°.41E, h0km, M2.5*

ISC 05 23:54:08.3±1.1, 24°.83N±0°.03×122°.40E±0°.02, h7km±10km, n33, σ0s51/58, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.38**	**222**	*e*P	**Pb**	**23 54 17.1**	**-0.3**
	baz=213						
EOS1				*e*S	**Sb**	**23 54 23.6**	**+0.2**
	baz=213						
TWB1	**Santiao Chiao**	**0.42**	**295**	P	**Pg**	**23 54 16.4**	**0.0**
	baz=296						
TWB1				S	**Sg**	**23 54 22.7**	**+0.8**
	baz=296						
TIPB	**Shuangxi**	**0.54**	**285**	P	**Pg**	**23 54 19.4**	**+0.6**
	baz=284						
TIPB				S	**Sb**	**23 54 27.6**	**-0.7**
	baz=284						
TWC	**Suao**	**0.55**	**246**	*e*P	**Pb**	**23 54 19.7**	**-0.6**
	baz=241						
TWC				*e*S	**Sb**	**23 54 27.6**	**-0.8**
	baz=241						
NWF	**Wu-fen Shan**	**0.61**	**293**	P	**Pg**	**23 54 20.8**	**+0.6**
	baz=293						
NWF				S	**Sb**	**23 54 29.4**	**-0.9**
	baz=293						
WFSB	**Wu-fen Shan**	**0.61**	**293**	*e*P	**Pb**	**23 54 20.9**	**-0.5**
	baz=293						
WFSB				*e*S	**Sb**	**23 54 29.4**	**-0.8**
	baz=293						
JYNG	**Yonagunijimaku**	**0.62**	**128**	P	**Pg**	**23 54 20.4**	**+0.1**
JYNG				S	**Sg**	**23 54 29.0**	**+0.6**
YOJ	**Yonaguni jima**	**0.67**	**124**	*e*P	**Pg**	**23 54 20.8**	**-0.3**
	baz=122						
YOJ				*e*S	**Sg**	**23 54 29.9**	**0.0**
	baz=122						
YOJ	**Yonaguni jima**	**0.67**	**124**	P	**Pg**	**23 54 20.9**	**-0.3**
YOJ				*e*S	**Sg**	**23 54 29.8**	**0.0**
TWE	**Neicheng**	**0.68**	**261**	*e*P	**Pb**	**23 54 22.3**	**-0.2**
	baz=257						
TWE				*e*S	**Sb**	**23 54 31.3**	**-0.8**
	baz=257						
NANB	**Nanao**	**0.72**	**236**	*e*P	**Pg**	**23 54 22.5**	**+0.3**
	baz=232						
NANB				*e*S	**Sb**	**23 54 32.5**	**-0.8**
	baz=232						
ENA	**Nanau**	**0.73**	**236**	P	**Pb**	**23 54 22.8**	**-0.5**
	baz=232						
ENA				*e*S	**Sb**	**23 54 32.9**	**-0.6**
	baz=232						
ENTT	**Nioudou**	**0.79**	**256**	*e*P	**Pg**	**23 54 23.2**	**-0.2**
	baz=253						
ENTT				*e*S	**Sb**	**23 54 35.0**	**-0.3**
	baz=253						
YM07	**YM07**	**0.79**	**296**	*e*P	**Pb**	**23 54 24.1**	**-0.3**
	baz=296						
YM07				*e*S	**Sg**	**23 54 33.4**	**-0.3**
	baz=296						
YM08	**YM08**	**0.82**	**296**	*e*P	**Pg**	**23 54 23.9**	**-0.2**
	baz=296						
NWLT	**Wulai**	**0.82**	**266**	P	**Pb**	**23 54 25.0**	**0.0**
	baz=264						
NWLT				*e*S	**Sg**	**23 54 35.0**	**+0.2**
	baz=264						
YM11	**YM11**	**0.82**	**294**	*e*P	**Pg**	**23 54 24.2**	**0.0**
	baz=294						
YM10	**YM10**	**0.83**	**293**	*e*P	**Pg**	**23 54 24.0**	**-0.3**
	baz=293						
YM10				*e*S	**Sg**	**23 54 35.6**	**+0.6**
	baz=293						
NDT	**Datong Townshi**	**0.84**	**254**	P	**Pb**	**23 54 25.1**	**-0.3**
	baz=252						
NDT				*e*S	**Sb**	**23 54 36.6**	**-0.2**
	baz=252						
PCYT	**Pengchaiyu**	**0.85**	**339**	*e*P	**Pg**	**23 54 24.5**	**-0.1**
	baz=342						
YHNB	**Yeheng**	**0.95**	**260**	*e*P	**Pb**	**23 54 27.1**	**-0.1**
	baz=258						
YHNB				*e*S	**Sb**	**23 54 39.5**	**-0.5**
	baz=258						
NACB	**Ninganchiao**	**0.99**	**228**	*e*P	**Pg**	**23 54 26.5**	**-0.8**
	baz=225						
NACB				*e*S	**Sb**	**23 54 41.0**	**0.0**
	baz=225						
NNS	**Nan Shan**	**1.02**	**248**	*e*P	**Pb**	**23 54 28.5**	**+0.2**
	baz=244						
NNS				*e*S	**Sb**	**23 54 41.5**	**-0.4**
	baz=244						
ETLH	**Xiulin Townshi**	**1.05**	**234**	*e*P	**Pg**	**23 54 28.4**	**-0.1**
	baz=230						
ETLH				*e*S	**Sb**	**23 54 43.5**	**+0.7**
	baz=230						
WHF	**Hehuan Shan**	**1.24**	**237**	P	**Pb**	**23 54 32.2**	**-0.2**
	baz=234						
IRIF	**Iriomote-Funau**	**1.30**	**112**	P	**Pn**	**23 54 33.1**	**+0.1**
IRIF				S	**Sg**	**23 54 49.3**	**-1.0**
CHGB	**Renai**	**1.36**	**236**	*e*P	**Pn**	**23 54 33.6**	**-0.4**
	baz=233						
OWD	**Renai**	**1.42**	**232**	P	**Pn**	**23 54 34.7**	**0.0**
	baz=230						
OWD				*e*S	**Sn**	**23 54 54.3**	**+0.6**
	baz=230						
WHP	**Taichung City**	**1.44**	**248**	*e*P	**Pg**	**23 54 35.8**	**-0.1**
	baz=245						
HATJ	**Hateruma jima**	**1.49**	**121**	P	**Pn**	**23 54 36.6**	**+1.0**
HATJ				S	**Sn**	**23 54 56.1**	**+0.8**
VWDT	**VWDT**	**1.58**	**227**	*e*P	**Pn**	**23 54 37.2**	**+0.5**
	baz=225						
VWDT				*e*S	**Sn**	**23 54 57.6**	**+0.2**
	baz=225						
SSLB	**Suanglung**	**1.68**	**232**	*e*P	**Pb**	**23 54 39.2**	**-0.4**
	baz=230						
YULB	**Yu-li**	**1.76**	**215**	*e*P	**Pn**	**23 54 39.8**	**+0.5**
	baz=213						

JMA 06 00:06:45.1, 38°.58N×141°.93E, h40km±1km, M3.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.42**	**303**	P	Pn	00 06 54.8	-0.1
JKMT				S	Sn	00 07 01.4	-0.3
JIKH	**Ishinomakikobu**	**0.45**	**234**	P	Pn	00 06 55.1	-0.1
JIKH				S	Sn	00 07 01.8	-0.5
JIO	**Ouri**	**0.47**	**255**	P	Pn	00 06 55.3	-0.2
JIO				S	Sn	00 07 02.2	-0.5
OFUJ	**Ofunato**	**0.54**	**338**	P	Pn	00 06 56.3	-0.1
OFUJ				S	Sn	00 07 03.9	-0.5
JMK	**Ichinoseki**	**0.67**	**304**	P	Pn	00 06 58.1	0.0
JMK				S	Sn	00 07 07.3	-0.1
JOU	**Okura**	**1.02**	**258**	P	Pn	00 07 03.1	+0.2
JOU				S	Sn	00 07 16.4	+0.4
JOM	**Ohasama**	**1.02**	**331**	P	Pn	00 07 03.1	+0.2
JOM				S	Sn	00 07 16.0	-0.1
JMM	**Marumori**	**1.15**	**232**	P	Pn	00 07 04.3	-0.3
JMM				S	Sn	00 07 18.2	-0.9
JYK	**Kaneyama**	**1.27**	**286**	P	Pn	00 07 06.8	+0.4
JYK				*e*S	Sn	00 07 23.3	+1.0
JRG	**Rokugo**	**1.30**	**309**	P	Pn	00 07 07.4	+0.7
JRG				*e*S	Sn	00 07 24.8	+1.9
MAT	**Matsushiro**	**3.59**	**237**	P	Pn	00 07 40.4	+2.1
MAT				*e*S	Sn	00 08 27.8	+8.4

*DDA **06** 00:48:29.6, 35°.13N×27°.60E, h11km±1km, ML3.4*
*IDC **06** 00:48:31.9±1.2, 35°.14N×27°.75E, h0km, mb3.4/2, mb1 3.5/9, mb1mx3.3/40, mbtmp3.3/9, ML3.2/7, MS2.7/2, Ms1 2.7/2, ms1mx2.2/33, Error ellipse: s-maj=22.7km s-min=16.6km az=5.0*
*ATH **06** 00:48:34.0, 35°.29N×27°.75E, h19km±4km, ML3.2/2, Error ellipse: s-maj=8.4km s-min=2.5km az=333.0*
*ISCJB **06** 00:48:34.3±0.9, 35°.22N±0°.04×27°.80E±0°.03, h18km±9km, mb3.3/2, Error ellipse: s-maj=6.4km s-min=4.1km az=160.2*
*THE **06** 00:48:34.8, 35°.31N×27°.69E, h0km±1km, ML3.1/2, Error ellipse: s-maj=1.6km s-min=0.6km az=130.0*
*ISK **06** 00:48:35.7, 35°.41N×27°.70E, h15km, ML3.4/29*

ISC 06 00:48:34.4±1.3, 35°.25N±0°.04×27°.71E±0°.03, h13km±9km, n81, σ1s30/98, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.54**	**304**	P	**Pg**	**00 48 44.8**	**-0.2**
KARP				S	**Sb**	**00 48 53.1**	**-0.4**
KARP	**Karpathos**	**0.54**	**304**	P	**Pg**	**00 48 44.3**	**-0.7**
KARP				S	**Sb**	**00 48 53.0**	**-0.4**
KARP				AML	AML	00 48 54.7	
	comp=E,6745μm,0.4s						
KARP				AML	AML	00 48 55.5	
	comp=N,9781μm,0.5s						
ARG	**Arkhangelos**	**1.02**	**19**	PG	**Pg**	**00 48 53.2**	**-0.9**
ARG	**Arkhangelos**	**1.02**	**19**	P	**Pg**	**00 48 53.6**	**-0.5**
ARG	**Arkhangelos**	**1.02**	**19**	P	**Pg**	**00 48 53.4**	**-0.7**
ZKR	**Zakros**	**1.23**	**264**	P	**Pn**	**00 48 57.3**	**0.0**
ZKR				S	**Sn**	**00 49 14.8**	**+1.0**
ZKR	**Zakros**	**1.23**	**264**	P	**Pn**	**00 48 57.3**	**0.0**
ZKR				S	**Sn**	**00 49 15.7**	**+1.9**
ZKR				AML	AML	00 49 23.9	
	comp=N,1098μm,0.4s						
ZKR				AML	AML	00 49 27.9	
	comp=E,2233μm,0.6s						
STIA	**Sitia Lasithi**	**1.33**	**269**	P	**Pb**	**00 48 59.0**	**-0.1**
STIA				S	**Sg**	**00 49 18.0**	**+0.8**
BBRN	**Bozburun-Marma**	**1.46**	**11**	PN	**Pb**	**00 49 00.9**	**-0.4**
DAT	**Datca**	**1.48**	**356**	PN	**Pn**	**00 49 00.9**	**+0.1**
DAT	**Datca**	**1.48**	**356**	IAML_P			
	comp=Z,1μm,0.2s						
DAT				*i* P	**Pn**	**00 49 00.4**	**-0.4**
DAT				*i* S	**Sg**	**00 49 22.7**	**+0.5**
DATC	**Datca-Mugla**	**1.51**	**358**	PN	**Pn**	**00 49 00.9**	**-0.2**
MRSB	**Marmaris-Mugla**	**1.52**	**15**	PN	**Pn**	**00 49 00.9**	**-0.3**
NPS	**Neapolis**	**1.72**	**271**	P	**Pb**	**00 49 06.3**	**+0.5**
DALY	**Dalyan (Mula)**	**1.74**	**26**	PN	**Pn**	**00 49 04.3**	**0.0**
DALY	**Dalyan (Mula)**	**1.74**	**26**	IAML_P			
	comp=Z,1μm,0.4s						
DALY				*i* P	**Pb**	**00 49 05.7**	**-0.5**
DALY				*i* S	**Sg**	**00 49 32.7**	**+2.3**
KSL	**Kastellorizon**	**1.77**	**59**	P	**Pn**	**00 49 05.0**	**+0.4**
KSL	**Kastellorizon**	**1.77**	**59**	P	**Pn**	**00 49 04.7**	**+0.1**
FETY	**Fethiye**	**1.78**	**38**	PN	**Pn**	**00 49 05.1**	**+0.3**
FETY	**Fethiye**	**1.78**	**38**	IAML_P			
	comp=Z,1μm,0.3s						
FETY				*i* P	**Pn**	**00 49 05.7**	**+0.9**
TURN	**Turunc**	**1.78**	**24**	PN	**Pn**	**00 49 02.3**	**-2.4**
TURN	**Turunc**	**1.78**	**24**	IAML_P			
	comp=Z,633nm,0.1s						
TURN				*i* P	**Pn**	**00 49 02.6**	**-2.1**
TURN				*i* S	**Sn**	**00 49 26.8**	**-0.3**
AKAS	**Kas**	**1.83**	**57**	PN	**Pn**	**00 49 05.6**	**0.0**
AKAS	**Kas**	**1.83**	**57**	*i* P	**Pn**	**00 49 06.6**	**+1.1**
BDRM	**Kayabasi**	**1.83**	**353**	IAML_P			
	comp=Z,1μm,0.3s						
BDRM				*i* P	**Pn**	**00 49 05.7**	**+0.2**
BDRM				*i* S	**Sg**	**00 49 32.8**	**-0.4**
LAST	**Lasithi**	**1.83**	**268**	P	**Pb**	**00 49 08.1**	**+0.4**
BODT	**Bodrum**	**1.84**	**350**	PN	**Pn**	**00 49 05.1**	**-0.6**
BODT	**Bodrum**	**1.84**	**350**	P	**Pn**	**00 49 05.2**	**-0.5**
YKAV	**Yalikavak-Bodr**	**1.91**	**350**	PN	**Pn**	**00 49 06.2**	**-0.3**
SANT	**Santorini**	**2.15**	**302**	PN	**Pn**	**00 49 10.7**	**+0.8**
AMGA	**Amorgos Island**	**2.16**	**318**	P	**Pn**	**00 49 09.8**	**-0.3**
AMGA	**Amorgos Island**	**2.16**	**318**	P	**Pn**	**00 49 09.9**	**-0.2**
IDI	**Anoyia**	**2.31**	**272**	Pn	**Pn**	**00 49 12.2**	**0.0**
	comp=Z,3.7nm,0.3s,baz=69,slow=3.7,SNR=18						
IDI				Sn	**Sb**	**00 49 44.8**	**+0.4**
	comp=Z,12nm,0.3s,baz=189,slow=5.9,SNR=6.4						
IDI				LR	LR	00 50 30.0	
	comp=Z,137nm,19.1s,baz=100,slow=50						
ELL	**Elmali**	**2.33**	**49**	PN	**Pn**	**00 49 13.4**	**+1.0**
AKUM	**Antalya-Kumluc**	**2.39**	**63**	IAML_P			
	comp=Z,652nm,0.2s						
AKUM				*i* P	**Pn**	**00 49 14.5**	**+1.3**
AYDN	**Tasoluk**	**2.41**	**3**	IAML_P			
	comp=Z,1μm,0.2s						
AYDN				*i* P	**Pn**	**00 49 14.2**	**+0.7**
AYDN				*i* S	**Sb**	**00 49 46.6**	**-0.7**
TAVA	**DENIZLI_Tavas**	**2.42**	**23**	IAML_P			
	comp=Z,658nm,0.3s						
TAVA				*i* P	**Pn**	**00 49 14.7**	**+1.0**
TAVA				*i* S	**Sg**	**00 49 54.5**	**+2.4**
GCAM	**G?zelcaml?**	**2.48**	**351**	PN	**Pn**	**00 49 14.3**	**-0.1**
GCAM	**G?zelcaml?**	**2.48**	**351**	IAML_P			
	comp=Z,562nm,0.3s						
GCAM				*i* P	**Pn**	**00 49 15.4**	**+1.1**
APE	**Apeiranthos**	**2.54**	**316**	PN	**Pn**	**00 49 15.6**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**2.70**	**3**	PN	**Pn**	**00 49 18.1**	**+0.6**
KORT	**Korkueli**	**2.76**	**50**	PN	**Pn**	**00 49 19.4**	**+1.0**
KORT	**Korkueli**	**2.76**	**50**	IAML_P			
	comp=Z,453nm,0.4s						
KORT				*i* P	**Pn**	**00 49 19.8**	**+1.4**
GVD	**Gavdhos**	**3.00**	**263**	PN	**Pb**	**00 49 24.8**	**-2.9**
IMMV	**Iera Moni Meta**	**3.06**	**275**	PN	**Pn**	**00 49 24.5**	**+2.1**
BRDR	**BURDUR-Merkez**	**3.09**	**37**	IAML_P			
	comp=Z,336nm,0.2s						
BRDR				*i* P	**Pn**	**00 49 25.5**	**+2.6**
ZEY	**zmir**	**3.14**	**342**	IAML_P			
	comp=Z,828nm,0.2s						
ZEY				*i* P	**Pn**	**00 49 24.6**	**+1.1**
BLCB	**Balcova**	**3.18**	**350**	PN	**Pn**	**00 49 24.3**	**+0.3**
BCK	**Bucak**	**3.20**	**46**	PN	**Pn**	**00 49 26.1**	**+1.7**
URLA	**Izmir**	**3.23**	**344**	PN	**Pn**	**00 49 24.7**	**-0.1**
URLA	**Izmir**	**3.23**	**344**	IAML_P			
	comp=Z,848nm,0.4s						
URLA				*i* P	**Pn**	**00 49 25.9**	**+1.1**
MANT	**Manisa**	**3.31**	**12**	*i* P	**Pn**	**00 49 26.6**	**+0.6**
KULA	**Kula-Manisa**	**3.35**	**13**	PN	**Pn**	**00 49 26.2**	**-0.2**
CHOS	**Chios island**	**3.41**	**337**	PN	**Pn**	**00 49 27.8**	**+0.6**
ISP	**Isparta**	**3.42**	**41**	PN	**Pn**	**00 49 28.9**	**+1.4**
KHAL	**Karahalli**	**3.43**	**24**	IAML_P			
	comp=Z,169nm,0.1s						
KHAL				*i* P	**Pn**	**00 49 27.7**	**+0.1**
KEPZ	**Antalya-Kepez**	**3.56**	**61**	IAML_P			
	comp=Z,890nm,0.5s						
KEPZ				*i* P	**Pn**	**00 49 30.7**	**+1.4**
USAK	**Uak-Merkez**	**3.62**	**16**	IAML_P			
	comp=Z,256nm,0.3s						
USAK				*i* P	**Pn**	**00 49 30.1**	**0.0**
AKHS	**Akhisar**	**3.63**	**1**	IAML_P			
	comp=Z,339nm,0.2s						
AKHS				*i* P	**Pn**	**00 49 30.2**	**0.0**
ZEDA	**zmir-Bergama**	**3.75**	**352**	IAML_P			
	comp=Z,247nm,0.3s						
ZEDA				*i* P	**Pn**	**00 49 32.2**	**+0.3**
GAZI	**Gazipasa**	**3.87**	**74**	IAML_P			
	comp=Z,565nm,0.2s						
GAZI				*i* P	**Pn**	**00 49 33.8**	**+0.3**
GAZI				*i* S	**Sn**	**00 50 16.0**	**-2.9**
SHUT	**Suhut-Afyon**	**4.01**	**34**	PN	**Pn**	**00 49 36.8**	**+1.3**
STEP	**BALIKESIR_Sava**	**4.12**	**0**	IAML_P			
	comp=Z,67nm,0.3s						
STEP				*i* P	**Pn**	**00 49 37.5**	**+0.5**
DOGA	**KONYA_Doganhis**	**4.27**	**47**	IAML_P			
	comp=Z,275nm,0.2s						
DOGA				*i* P	**Pn**	**00 49 41.6**	**+2.5**
BALB	**Balikesir**	**4.39**	**2**	PN	**Pn**	**00 49 41.6**	**+1.0**
DURS	**Dursunbey**	**4.39**	**8**	IAML_P			
	comp=Z,270nm,0.4s						
DURS				*i* P	**Pn**	**00 49 41.6**	**+0.9**
TVSB	**Tavsanli**	**4.42**	**18**	PN	**Pn**	**00 49 42.1**	**+0.9**
ERMK	**Ermenek**	**4.44**	**70**	IAML_P			
	comp=Z,971nm,0.3s						
ERMK				*i* P	**Pn**	**00 49 43.8**	**+2.3**
ERMK				*i* S	**Sn**	**00 50 34.7**	**+1.4**
BALY	**Balya**	**4.49**	**359**	IAML_P			
	comp=Z,320nm,0.5s						
BALY				*i* P	**Pn**	**00 49 42.0**	**0.0**
BAYC	**CANAKKALE_Bayr**	**4.58**	**349**	IAML_P			
	comp=Z,465nm,0.3s						
BAYC				*i* P	**Pn**	**00 49 43.6**	**+0.3**
EZN	**Ezine**	**4.70**	**347**	PN	**Pn**	**00 49 45.9**	**+1.0**
KCTX	**Karacabey (Bur**	**5.04**	**6**	PN	**Pn**	**00 49 50.6**	**+1.0**
BRTR	**Keskin Array B**	**6.49**	**45**	Pn	**Pn**	**00 50 10.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=224,slow=16,SNR=5.0						
BRTR				Sn	**Sn**	**00 51 24.3**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=210,slow=26,SNR=5.5						
MMAI	**Mount Meron Ar**	**6.75**	**107**	Pn	**Pn**	**00 50 11.9**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=309,slow=13,SNR=7.7						
MMAI				Sn	**Sn**	**00 51 30.4**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=291,slow=24,SNR=4.2						
ASF	**Jabal al Asfar**	**8.24**	**109**	Pn	**Pn**	**00 50 31.7**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=56,slow=3.6,SNR=2.7						
ASF				Sn	**Sn**	**00 52 11.0**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=62,slow=15,SNR=1.6						
EIL	**Elat**	**8.26**	**130**	Pn	**Pn**	**00 50 32.1**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=225,slow=1.4,SNR=3.9						
EIL				Sn	**Sn**	**00 52 03.4**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=263,slow=3.2,SNR=5.2						
MLR	**Muntele Rosu**	**10.32**	**353**	Pn	**Pn**	**00 51 05.7**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=225,slow=10,SNR=5.0						
MLR				LR	LR	00 55 24.5	
	comp=Z,49nm,18.7s,baz=316,slow=40						
VYHS	**Vyhne**	**14.78**	**336**	*e*PN	Pn	00 51 57.9	-5.1
GERES	**GERESS Array B**	**17.08**	**327**	P	**P**	**00 52 34.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=140,slow=10,SNR=4.0						
ESDC	**Sonseca Array**	**25.46**	**289**	P	**P**	**00 54 00.6**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=78,slow=9.4,SNR=9.7						
TORD	**Torodi Ar. Bea**	**32.18**	**233**	P	**P**	**00 55 01.7**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=35,slow=7.7,SNR=7.9						

*ISCJB **06** 00:54:40.7±1.6, 23°.4S±0°.4×179°.8E±0°.2, h535km, mb3.6/6, Error ellipse: s-maj=58.9km s-min=21.8km az=158.8*
*IDC **06** 00:54:41.2±8.8, 23°.41S×179°.92E, h532km±96km, mb3.4/6, mb1 3.7/6, mb1mx3.3/22, mbtmp4.2/6, Error ellipse: s-maj=53.1km s-min=36.5km az=150.0*

ISC 06 00:54:41.0±1.5, 23°.5S±0°.4×179°.9E±0°.2, h535km, n11, σ0s49/10, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.04**	**260**	P	**P**	**01 01 46.5**	**+0.4**
	1.6nm,0.7s,baz=91,slow=7.9,SNR=16						
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**01 01 48.6**	**0.0**
	1.9nm,0.5s,baz=101,slow=8.3,SNR=5.8						
MJAR	**Matsushiro Arr**	**71.52**	**326**	P	**P**	**01 05 07.9**	**+0.1**
	1.7nm,0.6s,baz=178,slow=6.4,SNR=5.4						
PETK	**Petropavlovsk-**	**78.68**	**347**	P	**P**	**01 05 47.6**	**+0.2**
	1.9nm,0.6s,baz=106,slow=6.0,SNR=5.7						
TXAR	**Lajitas Array**	**90.26**	**58**	P	**P**	**01 06 45.6**	**+0.5**
	0.6nm,0.7s,baz=210,slow=6.8,SNR=5.8						
PDAR	**Pinedale Array**	**92.43**	**44**	P	**P**	**01 06 54.9**	**-0.1**
	0.3nm,0.7s,baz=246,slow=3.6,SNR=3.7						
FINES	**FINESS Array B**	**138.03**	**342**	PKP	**PKPdf**	**01 13 03.5**	**-0.9**
	0.5nm,0.6s,baz=20,slow=4.6,SNR=3.9						
NOA	**NORSAR Array B**	**141.66**	**351**	PKhKP	PKPpre	01 13 05.8	
	1.4nm,1.0s,baz=17,slow=4.7,SNR=3.5						
AKASG	**Malin Array Be**	**144.59**	**328**	PKP	**PKPdf**	**01 13 15.8**	**-0.6**
	2.1nm,0.6s,baz=44,slow=4.2,SNR=19						
BRTR	**Keskin Array B**	**147.27**	**308**	PKPbc	**PKPbc**	**01 13 24.8**	**0.0**
	0.8nm,0.6s,baz=144,slow=6.0,SNR=5.3						
CLL	**Collm**	**150.44**	**343**	*i* PKPbc	**PKiKP**	**01 13 32.4**	**0.0**
	comp=Z,6.0nm,0.8s						

SJA 06 01:14:07.5±1.0, 29°.30S×68°.37W, h112km±4km, ML3.3, MW3.5, 5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**0.21**	**209**	*e*P	Pn	01 14 24.3	+1.0
AGUA			⇓	*e*S	Sn	01 14 36.2	+1.0
VCA	**Vinchina**	**0.58**	**15**	*e*P	Pn	01 14 26.4	+1.1
VCA				*e*S	Sn	01 14 39.1	+0.5
VCA				IAML		01 14 44.0	
	comp=Z,1μm,0.6s						
ACDV	**Cuesta del Vie**	**1.09**	**217**	*e*P	Pn	01 14 31.2	+1.3
ACDV				*e*S	Sn	01 14 48.2	+1.4
AROD	**Rodeo**	**1.29**	**228**	*e*P	Pn	01 14 33.6	+1.3
AROD				*e*S	Sn	01 14 52.7	+1.6
ACCO	**Cerro Coronel**	**1.42**	**205**	*e*P	Pn	01 14 35.1	+1.3
ACCO				*e*S	Sn	01 14 55.3	+1.5
AMOG	**MOGNA**	**1.64**	**184**	*e*P	Pn	01 14 37.1	+1.0
AMOG				*e*S	Sn	01 14 59.0	+1.0
APLL	**PUNTA DE LOS L**	**1.94**	**125**	⇓*e*P	Pn	01 14 41.2	+1.4
APLL				*e*S	Sn	01 15 05.5	+0.9
APLL				IAML		01 15 06.0	
	comp=Z,106nm,0.2s						
RTLL	**Cerro Villicun**	**2.03**	**182**	*e*P	Pn	01 14 42.3	+1.4
RTLL				*e*S	Sn	01 15 07.9	+1.4
RTLL				IAML		01 15 09.4	
	comp=Z,444nm,0.3s						
ZON	**Zonda**	**2.26**	**187**	⇓*e*P	Pn	01 14 45.3	+1.4
ZON				IAML		01 15 18.5	
	comp=Z,67nm,0.3s						
RTCV	**Cerro Valdivia**	**2.56**	**183**	*e*P	Pn	01 14 49.2	+1.4
RTCV				*e*S	Sn	01 15 19.0	+0.3
RTLS	**Leoncito**	**2.62**	**198**	*e*P	Pn	01 14 50.1	+1.3
RTLS				IAML		01 15 23.3	
	comp=Z,104nm,0.2s						
ACAN	**Cantantal**	**3.14**	**161**	*e*P	Pn	01 14 57.0	+1.6
ACAN				*e*S	Sn	01 15 32.6	+0.3
ASAL	**Salagasta**	**3.31**	**187**	*e*P	Pn	01 14 59.0	+1.3
ASAL			⇓	*e*S	Sn	01 15 37.4	+0.9
AHML	**Horco Molle**	**3.67**	**48**	*e*P	Pn	01 15 02.9	+0.3
AHML				IAML		01 15 03.1	
	comp=Z,64nm,0.2s						
AAGR	**Agrelo**	**3.80**	**186**	⇓*e*P	Pn	01 15 05.7	+1.5

IDC 06 01:37:10.2±19.0, 4°.88S×152°.13E, h284km±157km, mb3.4/6, mb1 3.5/6, mb1mx3.2/37, mbtmp4.0/6, Error ellipse: s-maj=158.6km s-min=32.7km az=94.0, New Britain region

| Code

PDAR	Pinedale Array	60.31	331	P		P	01 51 05.8	+0.7
	0.2nm,0.4s,baz=42,slow=2.4,SNR=4.2							
PDAR				pP		pP	01 51 38.6	-1.3
	0.2nm,0.3s,baz=59,slow=31,SNR=2.9							
ULM	Lac du Bonnet	61.55	345	P		P	01 51 12.4	-0.6
	0.8nm,0.4s,baz=149,slow=11,SNR=3.7							
NVAR	Mina Array Bea	62.05	322	P		P	01 51 18.5	+1.5
	0.6nm,0.6s,baz=119,slow=6.9,SNR=3.6							
DBIC	Dimbokro	71.21	80	P		P	01 52 15.3	+0.1
	3.4nm,0.6s,baz=258,slow=5.4,SNR=6.2							
YKA	Yellowknife Ar	77.37	342	P		P	01 52 50.4	+0.5
	1.5nm,0.5s,baz=142,slow=5.9,SNR=49							
TORD	Torodi Ar. Bea	78.83	75	P		P	01 52 58.2	-0.8
	0.9nm,0.6s,baz=255,slow=4.4,SNR=16							
TORD				pP		pP	01 53 32.5	-3.0
	0.8nm,0.8s,baz=235,slow=4.5,SNR=3.1							
ESDC	Sonseca Array	80.96	48	P		P	01 53 11.1	+1.0
	1.4nm,0.9s,baz=254,slow=5.7,SNR=8.9							
ILAR	Eielson Array	90.38	336	P		P	01 53 56.5	+0.7
	0.3nm,0.4s,baz=125,slow=3.7,SNR=6.5							
ILAR				pP		pP	01 54 32.1	-1.2
	1.3nm,0.8s,baz=143,slow=3.9,SNR=10							
ZALV	Zalesovo Beam	131.94	16	PKP		PKPdf	02 00 08.5	+1.0
	0.9nm,0.4s,baz=215,slow=1.8,SNR=5.8							
ZALV				pPKP		pPKPdf	02 00 45.8	-0.8
	1.2nm,0.6s,baz=298,slow=3.2,SNR=3.0							
MKAR	Makanchi Array	137.23	23	PKP		PKPdf	02 00 18.8	+1.1
	0.5nm,0.7s,baz=28,slow=2.9,SNR=3.9							
ASAR	Alice Springs	137.43	220	PKP		PKPdf	02 00 19.8	+1.0
	0.6nm,0.6s,baz=140,slow=1.7,SNR=7.0							
KSRS	Korea Array	144.84	328	PKP		PKPab	02 00 31.3	+0.4
	1.6nm,0.6s,baz=360,slow=2.4,SNR=5.6							

JMA 06 01:48:07.2±0.2, 35°.82N×140°.99E, h11km±2km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.16	222	P	Pg	01 48 10.7	-0.1
CHOJ				S	Sg	01 48 13.3	0.0
JIHU	Itakohorinouch	0.40	291	P	Pg	01 48 15.7	+0.5
JSMT	Sammumatsuo	0.47	248	P	Pg	01 48 16.9	+0.4
JSMT				S	Sg	01 48 23.0	+0.2
JHYU	Hitachinakayam	0.61	328	S	Sg	01 48 27.7	+0.5
JCN	Nagara	0.76	238	P	Pb	01 48 22.5	+0.1
JYT	Yasato	0.76	302	P	Pg	01 48 21.4	-0.6
JYT				S	Sg	01 48 31.6	-0.3
JHO	Hitachi	0.86	337	P	Pg	01 48 22.9	-0.9
JHO				S	Sg	01 48 34.8	-0.2
BSO4	Boso 4	0.98	213	P	Pn	01 48 26.6	-0.3
MAT	Matsushiro	2.36	289	P	Pn	01 48 45.0	-1.0

JMA 06 01:48:51.3, 36°.53N×139°.36E, h6km±1km, M2.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	Ashikaga	0.13	144	P	Pg	01 48 54.0	0.0
JKT	Katashina	0.25	339	P	Pg	01 48 56.6	+0.3
JKT				S	Sg	01 49 00.3	+0.6
JGK	Kuni	0.58	273	S	Sg	01 49 10.7	+0.6
JRY	Ryogami san	0.63	216	P	Pg	01 49 03.4	-0.1
JHK	Hiroka	0.77	339	P	Pg	01 49 06.0	-0.1
JHK				S	Sg	01 49 16.0	-0.1
MAT	Matsushiro	0.93	271	P	Pg	01 49 08.9	-0.2
MAT				S	Sg	01 49 20.5	-0.7
MAT	Matsushiro	0.93	271	S	Pg	01 49 08.9	-0.2

*BJI **06** 01:49:43.5±0.0, 27°.83S×67°.27W, h122km, mB4.9/1*
*NEIC **06** 01:49:44.7±1.6, 27°.26S×67°.20W, h122km±4km, mb4.5/62, MD4.5(SJA), Error ellipse: s-maj=13.9km s-min=11.7km az=83.0*
*ISCJB **06** 01:49:44.9±0.2, 27°.33S±0°.02×67°.30W±0°.02, h141km±2km, mb4.3/55, Error ellipse: s-maj=3.6km s-min=3.2km az=4.8*
*SJA **06** 01:49:45.6±0.7, 27°.37S×67°.30W, h149km±8km, ML4.2, MW4.5*
*VAO **06** 01:49:46.0±0.3, 27°.25S×67°.27W, h135km, mb4.6*
*IDC **06** 01:49:46.6±0.6, 27°.30S×67°.12W, h137km±5km, mb4.1/14, mb1 4.2/19, mb1mx4.1/26, mbtmp4.5/19, MS3.1/1, Ms1 3.1/1, ms1mx2.7/29, Error ellipse: s-maj=15.4km s-min=11.3km az=89.0*
*GUC **06** 01:49:46.5±0.3, 27°.33S×67°.48W, h159km±5km, ML4.1*

ISC 06 01:49:45.4±0.6, 27°.30S±0°.04×67°.34W±0°.04, h132km±5km, n196, σ1°32/220, mb4.5/55, 6C-2D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	Vinchina	1.62	208	eP	Pn	01 50 17.3	+2.1
VCA	Vinchina	1.62	208	⇑iP	Pn	01 50 17.2	+2.1
VCA				eS	Sn	01 50 40.4	+2.4
CYA	Choya	1.78	130	eP	Pn	01 50 18.3	+1.4
CYA				IAML		01 50 18.6	
	comp=Z,925nm,0.3s						
CYA				eS	Sn	01 50 41.8	+0.9
CYA	Choya	1.78	130	⇓iP	Pn	01 50 18.2	+1.4
CYA				eS	Sn	01 50 41.1	+0.2
CYA				IAML		01 50 44.1	
	comp=E,1μm,0.6s						
AHML	Horco Molle	1.86	75	eP	Pn	01 50 19.7	+1.8
AHML				IAML		01 50 20.7	
	comp=Z,947nm,0.2s						
AHML	Horco Molle	1.86	75	⇑iP	Pn	01 50 19.6	+1.7
AHML				eS	Sn	01 50 43.8	+1.1
ACLC	CERRO LA CRUZ	2.15	171	eP	Pn	01 50 22.7	+1.3
AGUA	GUANDACOL	2.41	205	eP	Pn	01 50 25.9	+1.4
AGUA				eS	Sn	01 50 55.6	+0.9
GO03	Copiap	2.59	263	ePn	Pn	01 50 27.7	+0.9
GO03				eSn	Sn	01 50 59.7	+1.0
GO03	Copiap	2.59	263	iP	Pn	01 50 27.8	+0.9
GO03				eS	Sn	01 50 59.4	+0.7
GO02	Mina Guanaco	2.93	316	ePn	Pn	01 50 34.0	+2.4
GO02	Mina Guanaco	2.93	316	⇑iP	Pn	01 50 33.7	+2.2
GO02				iS	Sn	01 51 09.2	+2.2
GO02				IAML		01 51 12.9	
	comp=N,354nm,0.4s						
SLA	San Lorenzo	3.05	33	eP	Pn	01 50 35.5	+2.5
SLA				IAML		01 50 36.4	
	comp=Z,278nm,0.4s						
SLA				eS	Sn	01 51 11.6	+2.0
SLA	San Lorenzo	3.05	33	⇑iP	Pn	01 50 35.6	+2.7
SLA				eS	Sn	01 51 11.6	+2.0
SLA				IAML		01 51 15.8	
	comp=E,318nm,0.6s						
ACDV	Cuesta del Vie	3.26	208	eP	Pn	01 50 37.2	+1.6
ACDV				eS	Sn	01 51 14.6	+0.2
ACDV				IAML		01 51 18.0	
	comp=Z,1μm,0.3s						
LCO	Las Campanas	3.42	239	ePn	Pn	01 50 38.0	+0.1
LCO				eSn	Sn	01 51 17.0	-1.3
LCO	Las Campanas	3.42	239	⇑eP	Pn	01 50 38.0	+0.1
LCO				eS	Sn	01 51 18.5	+0.2
LCO	Las Campanas	3.42	239	eP	Pn	01 50 38.4	+0.5
AZAP	Zapla	3.68	34	eP	Pn	01 50 43.5	+2.2
AZAP				IAML		01 50 43.8	
	comp=Z,351nm,0.4s						
PB14	IPOC Station P	3.83	313	eP	Pn	01 50 45.0	+1.7
GO04	Tololo Observa	4.17	226	ePn	Pn	01 50 47.1	-0.6
GO04				eSn	Sn	01 51 35.1	-1.0
GO04	Tololo Observa	4.17	226	eP	Pn	01 50 46.9	-0.8
GO04				eS	Sn	01 51 35.7	-0.4
CFA	Coronel Fontan	4.36	190	P	Pn	01 50 50.0	0.0
	comp=Z,100nm,0.3s,baz=25,slow=17,SNR=528						
CFA				S	Sn	01 51 38.4	-2.0
	comp=Z,400nm,0.3s,baz=241,slow=17,SNR=28						
RTCV	Cerro Valdivia	4.67	193	eP	Pn	01 50 54.4	+0.3
TCA	Tanti	4.69	150	eP	Pn	01 50 54.5	+0.1
TCA				eS	Sn	01 51 46.2	-1.9
LVC	Limon Verde	4.88	343	ePn	Pn	01 50 59.3	+2.0
LVC				eSn	Sn	01 51 51.6	-1.5
LVC	Limon Verde	4.88	343	P	Pn	01 50 59.2	+1.9
	comp=Z,31nm,0.3s,baz=164,slow=10,SNR=214						
LVC				S	Sn	01 51 53.8	+0.7
	comp=Z,43nm,0.3s,baz=288,slow=20,SNR=36						
PB06	IPOC Station P	5.00	336	⇑eP	Pn	01 51 00.4	+1.7
PB06				⇓eP	Pn	01 51 00.4	+1.7
PB06				iS	Sn	01 51 56.9	+1.2
YJA	Yavi	5.36	18	eP	Pn	01 51 06.9	+3.1
PB04	IPOC Station P	5.56	332	ePn	Pn	01 51 06.6	+0.3
ROC1	El Roble	6.49	208	ePn	Pn	01 51 16.5	-2.3
PEL	Peldehue	6.50	206	ePn	Pn	01 51 16.9	-1.8
PB01	IPOC Station P	6.53	342	ePn	Pn	01 51 19.5	+0.3
GO01	Chusmiza	7.78	347	ePn	Pn	01 51 36.4	0.0
GO01				eSn	Sn	01 52 58.9	-4.3
PB11	IPOC Station P	7.79	344	ePn	Pn	01 51 35.1	-1.2
MNMC	Minye Minye	8.39	345	ePn	Pn	01 51 43.2	-1.2
GO05	Huala	8.63	206	ePn	Pn	01 51 42.4	-5.0
GO05				eSn	Sn	01 53 18.9	-4.1
CPUP	Villa Florida	9.00	86	ePn	Pn	01 51 50.3	-2.0
CPUP	Villa Florida	9.00	86	P	Pn	01 51 50.5	-1.7
	comp=Z,1.8nm,0.3s,baz=261,slow=12,SNR=18						
CPUP	Villa Florida	9.00	86	eP	Pn	01 51 50.6	-1.7
LPAZ	La Paz	10.98	356	ePn	Pn	01 52 19.0	-0.5
LPAZ	La Paz	10.98	356	P	Pn	01 52 19.6	+0.1
	comp=Z,3.0nm,0.3s,baz=150,slow=7.1,SNR=44						
LPAZ				S	Sn	01 54 18.0	-2.9
	comp=Z,0.5nm,0.3s,baz=352,slow=15,SNR=2.2						
LPAZ	La Paz	10.98	356	eP	Pn	01 52 19.2	-0.3
TRQA	Tornquist	11.64	159	ePn	Pn	01 52 25.6	-1.8
TRQA	Tornquist	11.64	159	eP	Pn	01 52 28.5	+1.1
AQDB	Aquidauana	12.63	60	eP	Pn	01 52 39.4	-1.1
SIV	San Ignacio	12.67	29	P	Pn	01 52 39.6	-1.5
	comp=Z,3.2nm,0.3s,baz=210,slow=10,SNR=14						
GO06	Curarrehue	12.73	195	ePn	Pn	01 52 40.1	-1.7
OGAUY	Aigu	12.92	126	eP	Pn	01 52 43.8	-0.4
ITAB	Concordia	13.53	93	eP	Pn	01 52 52.2	+0.1
PLCA	Paso Flores	13.66	190	P	Pn	01 52 52.1	-1.6
	comp=Z,0.5nm,0.3s,baz=29,slow=16,SNR=4.6						
PTGB	Pitanga	13.98	83	eP	Pn	01 52 58.4	+0.4
TRCB	Terra Rica	14.06	75	eP	Pn	01 52 59.6	+0.6
CNLB	Canela	14.67	102	eP	Pn	01 53 07.2	+0.6
C2SB	Chapadao do Su	15.81	61	eP	Pn	01 53 20.9	0.0
TER01	Tubaro-SC	16.15	99	eP	Pn	01 53 24.5	-0.4
FRTB	Fartura	16.55	80	eP	Pn	01 53 29.3	-0.6
GO07	Milladeo Hill,	16.60	196	ePn	P	01 53 30.5	+0.1
	comp=Z,104nm,0.6s						
ITRB	Iturama	17.30	68	eP	P	01 53 38.3	-0.1
BB19B	Bebedouro	18.25	74	eP	P	01 53 48.3	-0.5
PET01	Itanhaem-SP	18.32	84	eP	P	01 53 50.0	+0.5
SPB	Sao Paulo	18.36	83	eP	P	01 53 50.5	+0.6
RCLB	Rio Claro- Sao	18.62	79	eP	P	01 53 52.7	-0.2
CLDB	Colider	19.62	36	eP	P	01 54 02.0	-1.7
PMNB	Patos De Minas	21.11	70	eP	P	01 54 18.5	-1.4
ESAR	Angra dos Reis	21.16	83	eP	P	01 54 19.3	-0.9
BDFB	Brasilia	21.37	61	eP	P	01 54 21.0	-1.7
BDFB				eP	P	01 54 21.2	-1.4
BDFB	Brasilia	21.37	61	P	P	01 54 21.0	-1.7
	comp=Z,14nm,0.3s,baz=217,slow=8.0,SNR=53						
BSCB	Bom Sucesso	21.51	78	eP	P	01 54 22.9	-1.2
VAS01	Vassouras-RJ	22.25	82	eP	P	01 54 31.9	+0.2
CAM01	Campos-RJ	23.97	82	eP	P	01 54 47.2	-0.6
MCI6	Montes Claros	24.07	69	eP	P	01 54 46.9	-1.9
MCI8	Montes Claros	24.12	69	eP	P	01 54 47.3	-1.9
MCI9	Montes Claros	24.12	69	eP	P	01 54 47.4	-1.9
JANB	Januaria	24.64	65	eP	P	01 54 52.2	-1.8
ALF01	Guarapari-ES	25.19	80	eP	P	01 54 58.0	-0.8
EFI	East Falkland	25.34	166	eP	P	01 54 59.9	0.0
	comp=Z,52nm,0.8s						
SJMB	Sao Joao De Ma	25.51	76	eP	P	01 55 00.9	-0.9
BSFB	Barra de Sao F	25.75	77	eP	P	01 55 02.8	-1.1
RIB01	Linhares ES	25.95	78	eP	P	01 55 05.7	-0.1
PTGA	Pitinga	27.35	16	eP	P	01 55 18.5	+0.3
	comp=Z,19nm,0.7s						
PTGA	Pitinga	27.35	16	P	P	01 55 18.5	+0.3
	comp=Z,16nm,0.5s,baz=206,slow=11,SNR=33						
PTGA	Pitinga	27.35	16	eP	P	01 55 18.6	+0.3
USHA	Ushuaia	27.52	181	P	P	01 55 19.2	-0.2
	comp=Z,12nm,0.9s,baz=42,slow=12,SNR=3.3						
ROSC	El Rosal	32.65	347	LR	LR	02 13 09.5	
	comp=Z,31nm,18.6s,baz=204,slow=43						
HOPE	Hope Point	35.17	149	eP	P	01 56 26.6	+0.3
NBPA	Parau_RN	35.86	59	eP	P	01 56 32.7	-0.1
SDV	Santo Domingo	36.11	354	eP	P	01 56 34.1	-0.9
	comp=Z,11nm,1.1s						
SDV	Santo Domingo	36.11	354	eP	P	01 56 34.5	-0.6
RCBR	Riachuelo	36.74	60	eP	P	01 56 39.4	-0.9
	comp=Z,18nm,1.0s						
RCBR	Riachuelo	36.74	60	eP	P	01 56 40.7	+0.4
PMSA	Palmer Station	37.55	178	eP	P	01 56 47.0	+0.6
SVB	Belmont	40.76	9	eP	P	01 57 13.2	-0.4
SVCV	St. Vincent, C	40.77	9	eP	P	01 57 13.4	-0.4
SVV	Soufriere Volc	40.81	9	eP	P	01 57 14.3	+0.2
SSV	Crater Summit	40.82	9	eP	P	01 57 14.5	+0.2
SLB	Belfond	41.33	9	eP	P	01 57 14.4	-4.0
SLBI	Saint Lucia, B	41.53	9	eP	P	01 57 17.8	-2.2
MPOM	Morne Pois Mar	41.97	9	eP	P	01 57 22.4	-1.1
TRMF	Trois Ilets	42.03	9	eP	P	01 57 23.2	-0.8
ZAM	Aeronautique	42.07	9	eP	P	01 57 23.2	-1.1
MVM	Montagne Vauct	42.07	9	eP	P	01 57 23.1	-1.3
LPMF	Morne Lapointe	42.08	9	eP	P	01 57 23.4	-1.0
FDF	Fort de France	42.21	9	eP	P	01 57 24.7	-0.8
	comp=Z,54nm,0.4s						
FDF	Fort de France	42.21	9	eP	P	01 57 24.9	-0.6
PML	Morne Lenard	42.25	9	eP	P	01 57 25.4	-0.5
GBMF	Grand Be	42.27	9	eP	P	01 57 25.7	-0.4
CXM	Morne La Croix	42.28	9	eP	P	01 57 25.4	-0.9
BAMF	Morne Balai	42.29	9	eP	P	01 57 25.8	-0.4
BBL	Barber's Block	42.95	8	eP	P	01 57 34.8	+3.3
VNA3	Neumayer Olymp	54.16	160	P	P	01 58 57.1	+0.5
VNA1	Neumayer--Stat	54.38	159	P	P	01 58 58.4	+0.3
SNAA	Sanae	56.36	160	P	P	01 59 12.7	+0.2
SNAA	Sanae	56.36	160	eP	P	01 59 12.7	+0.2
	comp=Z,8.6nm,0.6s						
QSPA	South Pole Qui	62.92	180	eP	P	01 59 58.6	+1.0
	comp=Z,18nm,0.6s						
JCT	Junction City	65.29	329	eP	P	02 00 13.5	+0.2
	comp=Z,6.3nm,0.8s						
WVT	Waverly	65.98	342	eP	P	02 00 17.7	+0.2
	comp=Z,16nm,1.1s						
TXAR	Lajitas Array	66.19	326	P	P	02 00 20.9	+1.7
	comp=Z,0.8nm,0.7s,baz=146,slow=9.1,SNR=6.7						
CCM	Cathedral Cave	68.76	340	eP	P	02 00 35.5	+0.5
	comp=Z,7.8nm,0.8s						
DBIC	Dimbokro	69.16	70	eP	P	02 00 37.3	-0.8
	comp=Z,9.1nm,1.1s						
DBIC	Dimbokro	69.16	70	P	P	02 00 37.3	-0.8
	comp=Z,3.4nm,0.3s,baz=203,slow=6.1,SNR=15						
VNDA	Vanda	71.41	190	eP	P	02 00 52.4	+1.6
	comp=Z,2.9nm,1.0s						
VNDA	Vanda	71.41	190	P	P	02 00 51.6	+0.9
	comp=Z,1.8nm,0.9s,baz=139,slow=5.7,SNR=7.0						
I42A	Draeger Farm,	73.55	344	eP	P	02 01 03.4	-0.3
	comp=Z,8.3nm,0.6s						
H42A	Shiocton	74.04	344	eP	P	02 01 06.4	-0.2
	comp=Z,15nm,1.1s						
BGNE	Belgrade	74.08	336	eP	P	02 01 07.7	+0.8
	comp=Z,30nm,0.6s						
Q24A	Divide	74.78	330	eP	P	02 01 11.2	-0.3
	comp=Z,5.5nm,0.8s						
F41A	Three Lakes	75.33	344	eP	P	02 01 14.0	0.0
	comp=Z,6.2nm,0.8s						
ISCO	Idaho Springs	75.68	330	eP	P	02 01 17.7	+1.2
	comp=Z,3.0nm,0.8s						
COWI	Conover	75.68	345	eP	P	02 01 15.4	-0.6
	comp=Z,3.7nm,0.8s						
SMCO	Snowmass	75.78	329	eP	P	02 01 18.9	+1.7
	comp=Z,2.7nm,0.7s						
W13A	Hualapai Mount	76.07	322	eP	P	02 01 20.3	+1.6
	comp=Z,3.3nm,0.9s						
U15A	North Rim	76.22	324	eP	P	02 01 21.7	+2.1
	comp=Z,2.6nm,0.8s						
D41A	Chassel	76.45	345	eP	P	02 01 20.8	+0.4
	comp=Z,18nm,0.8s						
O20A	White River Ci	77.13	329	eP	P	02 01 25.8	+1.3
	comp=Z,4.1nm,0.8s						
RWWY	Rawlins	77.92	331	eP	P	02 01 30.2	+1.2
	comp=Z,11nm,0.9s						
TOA0	Torodi Ar. Sit	78.05	68	eP	P	02 01 30.1	+0.1
	comp=Z,7.8nm,0.7s						
TORD	Torodi Ar. Bea	78.05	68	P	P	02 01 28.1	-1.9
	comp=Z,9.3nm,0.9s,baz=273,slow=4.4,SNR=64						
MAW	Mawson	78.39	163	eP	P	02 01 31.9	+0.9
	comp=Z,1.2nm,0.6s						
MAW	Mawson	78.39	163	P	P	02 01 31.9	+0.9
	comp=Z,3.8nm,0.5s,baz=213,slow=5.7,SNR=14						
RSSD	Black Hills	78.61	334	eP	P	02 01 34.1	+1.4
	comp=Z,3.6nm,0.6s						
DUG	Dugway, Tooele	79.35	326	eP	P	02 01 37.9	+1.2
	comp=Z,3.0nm,0.9s						
AGMN	Agassiz Nation	79.48	341	eP	P	02 01 37.2	+0.2
	comp=Z,4.7nm,0.6s						
BOSA	Boshof	79.52	117	P	P	02 01 38.2	+0.1
	comp=Z,5.3nm,0.7s,baz=252,slow=3.8,SNR=17						
PD31	Pinedale Array	79.82	330	eP	P	02 01 40.0	+0.7
	comp=Z,1.9nm,0.8s						
PDAR	Pinedale Array	79.82	330	P	P	02 01 40.5	+1.2
	comp=Z,2.0nm,0.7s,baz=120,slow=7.0,SNR=21						
BW06	Boulder Array	79.82	330	eP	P	02 01 40.3	+1.0
	comp=Z,2.1nm,0.8s						
HWUT	Hardware Ranch	79.83	328	eP	P	02 01 39.7	+0.3
	comp=Z,3.3nm,0.8s						
MDND	Maddock	80.23	339	eP	P	02 01 42.0	+0.9
	comp=Z,27nm,0.8s						
AHID	Auburn Hatcher	80.52	329	eP	P	02 01 43.6	+0.6
	comp=Z,5.1nm,0.7s						
OMMB	Old Mammoth Mi	80.72	321	eP	P	02 01 45.5	+1.1
	comp=Z,3.0nm,0.8s						
NVAR	Mina Array Bea	80.92	322	P	P	02 01 46.4	+1.1
	comp=Z,0.9nm,0.8s,baz=170,slow=6.2,SNR=4.5						
MOOW	Moose Ponds	81.13	330	eP	P	02 01 46.9	+0.6
	comp=Z,1.3nm,0.7s						
ULM	Lac du Bonnet	81.25	342	P	P	02 01 46.5	+0.1
	comp=Z,4.0nm,0.7s,baz=181,slow=3.7,SNR=10						
IMW	Indian Meadow	81.33	330	eP	P	02 01 48.2	+0.8
	comp=Z,5.2nm,0.8s						
J08A	Circle Bar Ran	84.53	325	eP	P	02 02 04.0	+0.3
	comp=Z,4.4nm,0.6s						
EVO	Evora	85.81	43	eP	P	02 02 11.4	+1.4
F10A	Beach Ranch, E	85.82	328	eP	P	02 02 11.5	+1.5
PMTG	Montargil	86.03	42	eP	P	02 02 12.3	+1.2
PTOM	Tomar	86.27	42	eP	P	02 02 14.7	+2.4
	comp=Z,18nm,1.3s						
PCAS	Casmilo, Conde	86.50	41	eP	P	02 02 15.7	+2.3
	comp=Z,14nm,1.9s						
PMRV	Marv??o	86.76	42	eP	P	02 02 15.7	+1.0
	comp=Z,11nm,1.4s						
PCBR	Castelo Branco	86.97	42	eP	P	02 02 18.2	+2.6
PVIS	Viseu	87.28	41	eP	P	02 02 18.9	+1.7
	comp=Z,9.6nm,1.5s						
MTE	Manteigas	87.28	41	eP	P	02 02 20.4	+3.1
D08A	Wollman Farm,	87.41	328	eP	P	02 02 18.4	+0.8
	comp=Z,3.7nm,0.8s						
C09A	Chrisman Ranch	87.64	328	eP	P	02 02 18.5	-0.2
	comp=Z,6.4nm,0.8s						
MVO	Moncorvo	88.07	41	eP	P	02 02 23.6	+2.6
	comp=Z,13nm,2.0s						
ESDC	Sonseca Array	88.99	44	eP	P	02 02 24.9	-0.4
ESDC	Sonseca Array	88.99	44	P	P	02 02 25.3	0.0
	comp=Z,0.6nm,0.8s,baz=229,slow=3.4,SNR=5.9						
YKA	Yellowknife Ar	97.10	340	P	Pdif	02 03 02.2	+0.1
	comp=Z,0.8nm,0.7s,baz=138,slow=4.3,SNR=23						
YKA				pP		02 03 38.1	+0.9
	comp=Z,0.1nm,0.3s,baz=56,slow=43,SNR=2.0						
BR101	Keskin Array S	114.91	57	ePKiKP	PKPdf	02 08 10.7	-0.2
BRTR	Keskin Array B	114.91	57	PKP	PKPdf	02 08 10.7	-0.2
	comp=Z,0.5nm,0.7s,baz=171,slow=2.4,SNR=6.0						
ASAR	Alice Springs	125.34	204	PKP	PKPdf	02 08 30.9	-0.5
	comp=Z,1.5nm,0.6s,baz=136,slow=1.8,SNR=29						
ASAR				pPKP	pPKPdf	02 09 07.8	-0.2
	comp=Z,0.4nm,0.7s,baz=134,slow=2.0,SNR=2.9						
AS31	Alice Springs	125.34	204	ePKPdf	PKPdf	02 08 30.9	-0.5
WR1	Warramunga Arr	128.56	206	ePKPdf	PKPdf	02 08 37.4	-0.1
WRA	Warramunga Arr	128.56	206	PKP	PKPdf	02 08 37.4	-0.2
	comp=Z,2.0nm,0.7s,baz=161,slow=1.7,SNR=16						
SEY	Seymchan	135.95	335	PKP	PKiKP	02 08 51.5	-0.2
	comp=Z,1.8nm,0.6s,baz=122,slow=9.5						
ARSB	Arslanbob	144.68	56	ePKPdf	PKPdf	02 09 06.3	-0.4
KURBB	Kurchatov Arra	145.17	39	PKPbc	PKPab	02 09 08.1	+1.0
	comp=Z,6.7nm,0.8s,baz=298,slow=3.5,SNR=50						
KURBB				pPKPbc	pPKPab	02 09 42.5	-0.2
	comp=Z,1.3nm,0.5s,baz=302,slow=3.6,SNR=3.5						
AAK	Ala-Archa	145.50	54	PKPbc	PKPab	02 09 09.4	+0.5
	comp=Z,16nm,0.8s,baz=208,slow=2.3,SNR=54						
NIL	Nilore	145.60	70	ePKPdf	PKPab	02 09 09.1	-0.2
ZAA1	Zalesovo Array	146.41	30	ePKPdf	PKPbc	02 09 10.1	-0.5
ZAA1				epPKPdf	pPKPbc	02 09 47.1	+0.4
ZAA0	Zalesovo Array	146.42	30	ePKPdf	PKPbc	02 09 10.1	-0.5
ZALV	Zalesovo Beam	146.42	30	PKPbc	PKPbc	02 09 10.1	-0.5
	comp=Z,12nm,0.4s,baz=288,slow=3.2,SNR=47						
ZALV				pPKPbc	pPKPbc	02 09 47.1	+0.4
	comp=Z,2.9nm,0.5s,baz=302,slow=3.9,SNR=3.2						
SIJI

ROC1	**El Roble**	**2.95**	**176**	*e*Pn	**Pn**	**02 04 15.8 -0.4**
ROC1				*e*Sn	Sn	02 04 36.6 -14
RTCV	**Cerro Valdivia**	**2.95**	**129**	*e*P	**Pn**	**02 04 18.6 +2.5**
CFA	**Coronel Fontan**	**3.02**	**122**	*e*P	**Pn**	**02 04 19.1 +2.1**
CFA	**Coronel Fontan**	**3.02**	**122**	P	**Pn**	**02 04 19.1 +2.1**
	comp=Z,31nm,0.3s,baz=310,slow=13,SNR=156					
CFA				S	**Sn**	**02 04 56.0 +3.9**
	comp=Z,82nm,0.3s,baz=142,slow=17,SNR=7.3					
PEL	**Peldehue**	**3.15**	**171**	*e*Pn	**Pn**	**02 04 18.7 +0.1**
PEL	**Peldehue**	**3.15**	**171**	*e*P	**Pn**	**02 04 18.9 +0.3**
PEL				*e*S	**Sn**	**02 04 55.4 +0.4**
PEL				IAML		02 05 04.7
	comp=N,470nm,0.3s					
ASAL	**Salagasta**	**3.28**	**142**	*e*P	**Pn**	**02 04 23.5 +2.9**
FCH	**Farellones**	**3.39**	**166**	*e*P	**Pn**	**02 04 23.5 +1.2**
FCH				*e*S	**Sn**	**02 05 02.6 +1.1**
FCH				IAML		02 05 03.9
	comp=E,398nm,0.2s					
CLCH	**Cerro Calan**	**3.41**	**170**	*e*P	**Pn**	**02 04 23.1 +0.8**
CLCH				*e*S	**Sn**	**02 05 02.1 +0.5**
CLCH				IAML		02 05 12.1
	comp=E,700nm,0.7s					
ARCO	**CERRO ARCO**	**3.43**	**146**	*e*P	**Pn**	**02 04 26.0 +3.3**
ARCO				IAML		02 04 51.1
	comp=Z,172nm,0.4s					
FSR	**Penalolen**	**3.50**	**170**	*e*P	**Pn**	**02 04 25.6 +2.1**
FSR				*e*S	**Sn**	**02 05 05.6 +1.9**
ANTU	**Antumapu**	**3.57**	**172**	*e*P	**Pn**	**02 04 25.6 +1.0**
ANTU				*e*S	**Sn**	**02 05 06.0 +0.5**
ANTU				IAML		02 05 07.3
	comp=E,843nm,0.5s					
AAGR	**Agrelo**	**3.68**	**147**	*e*P	**Pn**	**02 04 29.3 +3.3**
LMEL	**Las Melosas**	**3.91**	**167**	*e*P	**Pn**	**02 04 30.6 +1.3**
LMEL				*e*S	**Sn**	**02 05 15.0 +1.0**
LMEL				IAML		02 05 16.8
	comp=N,346nm,0.3s					
APLL	**PUNTA DE LOS L**	**4.09**	**96**	*e*P	**Pn**	**02 04 33.8 +2.1**
APLL				IAML		02 04 45.8
	comp=Z,92nm,0.3s					
GO05	**Huala**	**5.00**	**187**	*e*Pn	**Pn**	**02 04 41.6 -2.5**
GO02	**Mina Guanaco**	**5.06**	**17**	*e*Pn	**Pn**	**02 04 43.9 -1.3**
LVC	**Limon Verde**	**7.67**	**16**	P	**Pn**	**02 05 20.3 -0.7**
	comp=Z,0.4nm,0.3s,baz=170,slow=11,SNR=5.1					
PB01	**IPOC Station P**	**9.08**	**10**	*e*Pn	**Pn**	**02 05 37.9 -2.2**
TRQA	**Tornquist**	**11.09**	**139**	*e*Pn	**Pn**	**02 06 06.5 -0.8**
CPUP	**Villa Florida**	**12.81**	**77**	LR	LR	02 12 02.4
	comp=Z,52nm,18.6s,baz=236,slow=40					
LPAZ	**La Paz**	**13.97**	**12**	P	**Pn**	**02 06 48.4 +1.3**
	comp=Z,0.1nm,0.3s,baz=143,slow=7.2,SNR=5.4					
LPAZ				LR	LR	02 12 25.5
	comp=Z,29nm,19.1s,baz=105,slow=38					
SIV	**San Ignacio**	**16.80**	**36**	P	**Pn**	**02 07 24.0 +1.2**
	comp=Z,0.1nm,0.3s,baz=235,slow=12,SNR=13					
BDFB	**Brasilia**	**25.68**	**61**	P	**P**	**02 08 55.9 -0.1**
	comp=Z,2.4nm,0.6s,baz=223,slow=8.5,SNR=5.1					
TXAR	**Lajitas Array**	**66.64**	**329**	P	**P**	**02 14 16.6 +0.9**
	comp=Z,0.5nm,0.6s,baz=146,slow=9.1,SNR=4.1					
DBIC	**Dimbokro**	**73.28**	**72**	pP	**pP**	**02 15 13.7 -0.2**
	comp=Z,2.5nm,0.6s,baz=177,slow=2.7,SNR=1.6					
DBIC				sP	sP	02 15 20.9 +0.1
	comp=Z,3.2nm,0.6s,baz=212,slow=4.9,SNR=1.9					
PDAR	**Pinedale Array**	**80.55**	**332**	P	**P**	**02 15 37.8 +0.5**
	comp=Z,0.2nm,0.5s,baz=160,slow=5.6,SNR=2.8					
BOSA	**Boshof**	**81.32**	**118**	P	**P**	**02 15 41.3 -0.4**
	comp=Z,3.2nm,0.9s,baz=225,slow=4.3,SNR=3.2					
TORD	**Torodi Ar. Bea**	**82.22**	**70**	P	**P**	**02 15 44.8 -1.6**
	comp=Z,1.2nm,0.6s,baz=272,slow=4.3,SNR=23					
TORD				pP	**pP**	**02 16 02.3 -1.5**
	comp=Z,0.9nm,0.6s,baz=284,slow=5.7,SNR=4.7					
TORD				sP	**sP**	**02 16 10.8 +0.2**
	comp=Z,1.1nm,0.6s,baz=265,slow=5.1,SNR=5.3					
ZALV	**Zalesovo Beam**	**150.47**	**29**	PKPbc	**PKPbc**	**02 23 15.8 +0.1**
	comp=Z,7.1nm,0.7s,baz=290,slow=3.4,SNR=24					
ZALV				pPKPbc	**sPKPdf**	**02 23 33.6 -1.4**
	comp=Z,2.3nm,0.8s,baz=264,slow=4.1,SNR=2.2					
MKAR	**Makanchi Array**	**153.53**	**43**	PKPbc	**PKPbc**	**02 23 22.6 -0.2**
	comp=Z,0.7nm,0.8s,baz=266,slow=3.6,SNR=4.5					
MKAR				PKPab	**PKPab**	**02 23 36.4 +0.9**
	comp=Z,0.6nm,0.6s,baz=268,slow=4.6,SNR=4.7					

MEX 06 02:14:55.9±0.6, 15°.29N×93°.10W, h100km±6km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.42**	**344**	*e*P	Pn	02 15 09.8	-1.5
PCIG				*e*S	Sn	02 15 21.1	-1.6
THIG		**0.89**	**115**	*i* P	Pn	02 15 14.6	-0.6
THIG				*i* S	Sn	02 15 28.6	-1.1
CCIG	**Comitan**	**1.35**	**43**	*i* P	Pn	02 15 20.1	-0.4
CCIG				*i* S	Sn	02 15 37.8	-1.4
TGIG		**1.48**	**359**	*i* P	Pn	02 15 20.3	-1.7
TGIG				*e*S	Sn	02 15 39.3	-2.4
CMIG	**Matias Romero**	**2.48**	**316**	*i* P	Pn	02 15 33.3	-1.4
CMIG				*i* S	Sn	02 16 03.4	-1.2

*ISCJB **06** 02:15:47.5±0.3, 4°.63S±0°.04×144°.89E±0°.04, h38km, mb4.5/28, MS3.6/10, Error ellipse: s-maj=6.7km s-min=5.0km az=31.2*
*BJI **06** 02:15:48.3±0.0, 5°.02S×144°.49E, h48km, mb4.7/19, mB4.9/12, Ms4.8/3, Ms7 4.8/3*
*NEIC **06** 02:15:50.7±0.7, 4°.62S×144°.79E, h55km±7km, mb4.6/16, Error ellipse: s-maj=7.4km s-min=5.6km az=102.0*
*IDC **06** 02:15:51.4±2.8, 4°.66S×144°.76E, h60km±25km, mb3.9/12, mb1 4.2/16, mb1mx3.9/40, mbtmp4.3/16, ML4.2/3, MS3.7/14, Ms1 3.7/14, ms1mx3.5/34, Error ellipse: s-maj=22.7km s-min=11.4km az=96.0*
*DJA **06** 02:15:52.1±0.5, 5°.S±4°.×14°.5E±°., h64km±4km, M5.0/30, mB5.4/10, mb4.9/30, MLv5.2/2, Mw(mB)4.9/10*
ISC 06 02:15:49.1±0.5, 4°.65S±0°.05×144°.89E±0°.07, h38km, n79, σ1§38/77, mb4.5/28, MS3.7/10, 1C, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.58**	**44**	*e*Pn	**Pn**	**02 16 43.2 +1.1**
MANU				*e*Sn	**Sn**	**02 17 22.8 -0.4**
JAY	**Jayapura**	**4.68**	**297**	P	**Pn**	**02 16 58.2 +0.8**
	4.5nm,0.3s,baz=134,slow=2.4,SNR=14					
JAY				LR	LR	02 19 07.2
	comp=Z,1μm,19.6s,baz=1.5,slow=43					
GENI	**Genyem**	**5.14**	**293**	P	**Pn**	**02 17 04.5 +1.0**
PMG	**Port Moresby**	**5.24**	**155**	*e*Pn	**Pn**	**02 17 07.4 +2.5**
PMG				*e*S	**Sn**	**02 18 00.9 -3.1**
PMG	**Port Moresby**	**5.24**	**155**	P	**Pn**	**02 17 07.5 +2.6**
	17nm,0.3s,baz=345,slow=4.8,SNR=17					
PMG				LR	LR	02 20 07.2
	comp=Z,986nm,18.3s,baz=332,slow=48					
COEN	**Coen**	**9.40**	**190**	*e*Pn	**Pn**	**02 18 05.6 +3.4**
FAKI	**Fak Fak**	**12.73**	**277**	*e*Pn	**Pn**	**02 18 47.5 -0.2**
FAKI	**Fak Fak**	**12.73**	**277**	P	**Pn**	**02 18 48.6 +0.9**
SAUI	**Saumlaki**	**13.91**	**256**	P	**Pn**	**02 19 05.6 +1.8**
SIJI	**Sorong**	**14.11**	**285**	P	**Pn**	**02 19 07.2 +0.5**
	0.8nm,0.3s,baz=93,slow=8.8,SNR=6.2					
SIJI				LR	LR	02 26 02.5
	comp=Z,204nm,19.0s,baz=166,slow=44					
SWI	**Sorong**	**14.12**	**285**	P	**Pn**	**02 19 08.5 +1.8**
BNDI	**Bandanaira**	**14.94**	**270**	P	**Pn**	**02 19 19.1 +1.4**
CTAO	**Charters Tower**	**15.40**	**175**	*e*Pn	**Pn**	**02 19 25.0 +1.2**
HNR	**Honiara**	**15.68**	**108**	LR	LR	02 25 13.0
	comp=Z,191nm,20.7s,baz=308,slow=36					
MTN	**Manton Dam**	**15.84**	**238**	*e*Pn	**Pn**	**02 19 29.8 +0.4**
	18nm,0.6s					
WRAB	**Tennant Creek**	**18.34**	**213**	*e*P	**P**	**02 20 00.2 -0.2**
	24nm,0.8s					
WB2	**Warramunga Arr**	**18.34**	**213**	*e*P	**Pn**	**02 20 00.8 +0.1**
	35nm,1.0s					
WRA	**Warramunga Arr**	**18.35**	**213**	*e*P	**P**	**02 19 59.1 -1.5**
	5.3nm,0.8s					
WRA				S	**Sn**	**02 23 24.5 -0.3**
WRA	**Warramunga Arr**	**18.35**	**213**	P	**P**	**02 20 00.5 -0.1**
	1.8nm,0.3s,baz=36,slow=12,SNR=66					
WRA				S	**Sn**	**02 23 24.5 -0.3**
	0.1nm,0.3s,baz=34,slow=22,SNR=3.3					
WRA				LR	LR	02 27 55.6
	comp=Z,253nm,20.5s,baz=40,slow=40					
SOEI	**Soe**	**21.07**	**255**	*e*P	**P**	**02 20 30.9 +0.4**
	183nm,0.8s					
SOEI	**Soe**	**21.07**	**255**	P	**P**	**02 20 30.9 +0.4**
KMSI	**Cibinong**	**21.52**	**283**	P	**P**	**02 20 35.3 +0.2**
AS31	**Alice Springs**	**21.67**	**208**	*e*P	**P**	**02 20 36.9 +0.2**
	6.3nm,0.6s					
ASAR	**Alice Springs**	**21.68**	**208**	*e*P	**P**	**02 20 35.7 -1.0**
ASAR	**Alice Springs**	**21.68**	**208**	P	**P**	**02 20 36.6 -0.1**
	5.1nm,0.6s,baz=34,slow=11,SNR=46					
ASAR				LR	LR	02 29 39.1
	comp=Z,151nm,20.9s,baz=28,slow=38					
BATI	**Baumata**	**21.75**	**254**	P	**P**	**02 20 38.1 +0.5**
KDI	**Kendari**	**22.22**	**271**	P	**P**	**02 20 42.3 -0.3**
	27nm,0.7s					
BBSI	**Bau Bau**	**22.25**	**267**	P	**P**	**02 20 43.6 +0.7**
LUWI	**Luwuk**	**22.38**	**279**	P	**P**	**02 20 44.9 +0.6**
MMRI	**Maumere**	**22.84**	**259**	*e*P	**P**	**02 20 48.3 -0.9**
	70nm,0.8s					
MMRI	**Maumere**	**22.84**	**259**	P	**P**	**02 20 48.6 -0.6**
FITZ	**Fitzroy Crossi**	**23.09**	**233**	*e*P	**P**	**02 20 50.7 -1.0**
	54nm,0.8s					
FITZ	**Fitzroy Crossi**	**23.09**	**233**	P	**P**	**02 20 52.1 +0.4**
	41nm,0.7s,baz=50,slow=10.0,SNR=104					
FITZ				LR	LR	02 30 57.1
	comp=Z,343nm,19.1s,baz=56,slow=39					
EDFI	**Ende, Flores**	**23.39**	**259**	P	**P**	**02 20 52.1 -2.8**
MRSI	**Marisa**	**23.48**	**282**	P	**P**	**02 20 55.6 -0.1**
BSSI	**Bau Bau, Buton**	**24.34**	**265**	P	**P**	**02 21 03.5 -0.1**
BKSI	**Bulukumba**	**24.68**	**267**	P	**P**	**02 21 06.5 -0.3**
BNSI	**Bone**	**24.71**	**270**	P	**P**	**02 21 07.2 +0.2**
BASI	**Baing, Sumba**	**24.73**	**256**	P	**P**	**02 21 07.2 +0.1**
KAPI	**Kappang**	**25.05**	**268**	*e*P	**P**	**02 21 09.8 -0.3**
	15nm,0.9s					
SPSI	**Sidrap Palu**	**25.06**	**271**	P	**P**	**02 21 10.1 -0.1**
TTSI	**Tana Toraja**	**25.06**	**273**	P	**P**	**02 21 10.5 +0.3**
WBSI	**Waikabubak, Su**	**25.77**	**257**	P	**P**	**02 21 15.2 -1.5**
DZM	**Mont Dzumac**	**27.13**	**132**	*e*LR	LR	02 28 30.0
	comp=Z,376nm,24.6s					
DZM	**Mont Dzumac**	**27.13**	**132**	LR	LR	02 31 58.2
	comp=Z,212nm,20.1s,baz=312,slow=36					
STKA	**Stephens Creek**	**27.26**	**186**	P	**P**	**02 21 30.1 +0.2**
	2.9nm,0.5s,baz=5.5,slow=7.2,SNR=4.7					
STKA				LR	LR	02 34 11.2
	comp=Z,237nm,18.3s,baz=17,slow=40					
MBWA	**Marble Bar**	**29.43**	**234**	*e*P	**P**	**02 21 48.4 -0.9**
	50nm,0.8s					
PSA00	**Pilbara Seismi**	**29.54**	**233**	*e*P	**P**	**02 21 49.8 -0.5**
	25nm,0.9s					
MORW	**Morawa**	**36.56**	**225**	*e*P	**P**	**02 22 51.3 -0.2**
	38nm,1.1s					
NWAO	**Narrogin (SRO)**	**38.18**	**219**	*e*P	**P**	**02 23 05.3 +0.1**
MJAR	**Matsushiro Arr**	**41.45**	**352**	P	**P**	**02 23 31.8 -0.4**
	1.3nm,0.7s,baz=179,slow=9.1,SNR=4.3					
MJAR				LR	LR	02 40 22.3
	comp=Z,46nm,19.4s,baz=305,slow=36					
NJ2	**Nanjing**	**44.11**	**328**	*e*P	**P**	**02 23 52.5 -1.4**
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
KSRS	**Korea Array**	**44.77**	**341**	P	**P**	**02 23 59.1 0.0**
	2.1nm,0.8s,baz=159,slow=8.7,SNR=6.1					
KSRS				LR	LR	02 40 57.8
	comp=Z,56nm,18.9s,baz=158,slow=34					
KSAR	**Wonju Array Be**	**44.77**	**341**	P	**P**	**02 23 59.1 0.0**
WHN	**Wuhan**	**45.58**	**322**	P	P	02 23 59.5 -6.1
PSI	**Prapat**	**46.52**	**278**	*e*P	**P**	**02 24 10.1 -3.4**
	6.3nm,1.0s					
ASAJ	**Asahikawa**	**48.59**	**358**	LR	LR	02 42 40.5
	comp=Z,24nm,21.3s,baz=162,slow=33					
CMAR	**Chiang Mai Arr**	**50.76**	**298**	P	**P**	**02 24 45.6 -0.3**
	1.0nm,0.3s,baz=123,slow=4.2,SNR=9.6					
CD2	**Chengdu**	**52.84**	**315**	*e*P	**P**	**02 25 01.0 -0.2**
CD2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
HHC	**Hu-ho-hao-te**	**54.60**	**329**	*e*P	**P**	**02 25 15.6 +1.6**
HHC				pmax	pmax	
	comp=Z,30nm,1.0s					
HHC				pmax	pmax	
	comp=Z,110nm,6.1s					
LZH	**Lanzhou**	**55.83**	**320**	*e*P	**P**	**02 25 25.6 +2.6**
LZH				pP	sP	02 25 38.1 -0.6
LZH				sP	pP	02 25 44.6 +10
LZH				pmax	pmax	
	comp=Z,15nm,1.1s					
PETK	**Petropavlovsk-**	**58.55**	**9**	P	**P**	**02 25 42.0 +0.3**
	4.8nm,1.0s,baz=152,slow=6.7,SNR=3.5					
GTA	**Gaotai**	**60.37**	**321**	*e*P	**P**	**02 25 58.4 +3.7**
GTA				pP	pP	02 26 03.6 -2.5
GTA				pmax	pmax	
	comp=Z,2.0nm,0.7s					
SONM	**Songino Array**	**62.22**	**332**	P	**P**	**02 26 06.2 -0.8**
	0.4nm,0.6s,baz=134,slow=10,SNR=2.9					
PPT2	**Papeete2**	**65.30**	**107**	*e*LR	LR	02 46 09.7
	comp=Z,56nm,23.5s					
WMQ	**Urumqi**	**70.41**	**320**	*e*P	**P**	**02 27 00.1 +0.6**
VNDA	**Vanda**	**73.38**	**176**	*e*P	**P**	**02 27 17.1 +0.3**
	1.8nm,0.9s					
VNDA	**Vanda**	**73.38**	**176**	P	**P**	**02 27 17.0 +0.3**
	1.1nm,0.6s,baz=327,slow=8.2,SNR=7.0					
VNDA				LR	LR	02 55 55.9
	comp=Z,47nm,21.5s,baz=280,slow=33					
MKAR	**Makanchi Array**	**75.13**	**321**	P	**P**	**02 27 26.5 -1.0**
	0.7nm,0.5s,baz=108,slow=7.1,SNR=6.5					
ZALV	**Zalesovo Beam**	**76.76**	**328**	*e*P	**P**	**02 27 35.2 -1.3**
ZALV	**Zalesovo Beam**	**76.76**	**328**	P	**P**	**02 27 35.4 -1.1**
	1.1nm,0.6s,baz=123,slow=5.5,SNR=3.8					
KSH	**Kashi**	**76.92**	**312**	P	**P**	**02 27 39.3 +1.4**
KSH				pP	sP	02 27 52.1 -1.9
KSH				S	**S**	**02 37 21.5 -2.0**
KSH				pmax	pmax	
	comp=Z,200nm,4.3s					
KSH				LR	LR	
	comp=N,280nm,7.2s					
KSH				LR	LR	
	comp=E,210nm,9.6s					
KSH				LR	LR	
	comp=Z,370nm,5.8s					
NRIK	**Noril'sk**	**83.36**	**342**	P	**P**	**02 28 11.2 -0.6**
	2.3nm,0.6s,baz=105,slow=5.0,SNR=4.4					
QSPA	**South Pole Qui**	**85.31**	**180**	*e*P	**P**	**02 28 18.3 -3.7**
	5.2nm,0.8s					
BCAR	**Beaver Creek A**	**86.64**	**26**	*e*P	**P**	**02 28 29.5 +1.0**
EGAK	**Eagle**	**87.40**	**24**	*e*P	**P**	**02 28 32.4 +0.3**
	1.9nm,0.8s					
SYO	**Syowa Base**	**91.13**	**200**	*e*PcP	**P**	**02 28 52.8 +3.2**
NVAR	**Mina Array Bea**	**98.20**	**52**	LR	LR	03 05 03.9
	comp=Z,61nm,21.4s,baz=349,slow=30					
PLCA	**Paso Flores**	**124.39**	**148**	PKP	**PKPdf**	**02 34 44.1 -0.5**
	2.1nm,1.0s,baz=315,slow=1.4,SNR=3.1					

DJA 06 02:17:01.9±0.9, 0°.N±2°.×12°.6E±°., h12km±7km, M4.2/12, mb4.4/3, mB5.0/1, MLv4.1/12, Mw(mB)4.4/1, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.68**	**64**	P	Pn	02 17 30.7	-0.5
KMSI	**Cibinong**	**1.94**	**286**	P	Pn	02 17 34.6	-0.1
KMSI				S	Sn	02 17 59.9	+0.8
SANI	**Sanana**	**2.08**	**176**	P	Pn	02 17 36.7	+0.1
SANI				S	Sn	02 18 03.2	+0.7
LUWI	**Luwuk**	**3.26**	**251**	P	Pn	02 17 53.2	+0.3
LUWI				S	Sn	02 18 32.7	+1.1
SGSI	**Sangihe**	**3.64**	**355**	P	Pn	02 17 57.9	-0.2
SGSI				S	Sn	02 18 42.4	+1.5
MRSI	**Marisa**	**3.93**	**276**	P	Pn	02 18 01.8	-0.3
APSI	**Ampana**	**4.31**	**257**	P	Pn	02 18 06.8	-0.5
KDI	**Kendari**	**5.12**	**219**	P	Pn	02 18 18.4	0.0
	18nm,0.5s,0.1nm						
SWI	**Sorong**	**5.48**	**99**	P	Pn	02 18 23.1	-0.4

*BJI **06** 02:28:01.0±0.0, 28°.40N×51°.80E, h10km, mb5.0/56, mB5.1/43, Ms4.9/51, Ms7 4.7/48*
*ISCJB **06** 02:28:03.3±0.5, 28°.43N±0°.02×51°.71E±0°.01, h23km±3km, mb5.1/224, MS4.4/61, Error ellipse: s-maj=2.8km s-min=1.6km az=28.8*
*NEIC **06** 02:28:03.2±0.2, 28°.43N×51°.74E, h10km, mb5.0/92, ML5.0(THR), MN5.1(TEH), Error ellipse: s-maj=4.2km s-min=2.7km az=197.0*
*MOS **06** 02:28:03.1±1.0, 28°.47N×51°.74E, h21km, mb5.2/90, MS4.2/33, Error ellipse: s-maj=5.4km s-min=3.0km az=113.9*
*GCMT **06** 02:28:04.2±0.2, 28°.33N±0°.02×51°.55E±0°.02, h18km, MW5.0/80, Moment Tensor Solution. s51,c64; s80,c117; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.57±.17; Mθθ-1.26±.12; Mφφ-2.31±.11; Mrθ0.71±.28; Mθφ2.11±.08; Mφr-0.74±.25; Best double couple: M0 3.90200×10^16*
NP1:φs140.00000°, δ53.00000°, λ88.00000°. NP2: φs324.00000°, δ37.00000°, λ93.00000°. Principal axes: T 3.7090, Plg82.0000°, Azm38.0000°; N 0.3860, Plg2.0000°, Azm142.0000°; P -4.0950, Plg8.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*DSN **06** 02:28:04.5±0.6, 28°.44N×51°.75E, h10km, mb5.2/3, ML5.0/5 Error ellipse: s-maj=19.6km s-min=4.6km az=51.0*
*OMAN **06** 02:28:04.5±0.2, 28°.46N×51°.81E, h10km, mb5.7/4, ml5.3/5, ms4.0/3, Error ellipse: s-maj=22.1km s-min=2.9km az=234.0*
*TEH **06** 02:28:04.4, 28°.52N×51°.67E, h20km, ML5.0*
*THR **06** 02:28:04.1, 28°.43N×51°.57E, h28km, ML5.0*
*IDC **06** 02:28:06.8±1.7, 28°.48N×51°.75E, h32km±12km, mb4.6/46, mb1 4.6/51, mb1mx4.6/63, mbtmp4.8/51, ML4.3/4, MS4.2/37, Ms1 4.2/37, ms1mx4.1/58, Error ellipse: s-maj=9.6km s-min=8.8km az=154.0*
*GII **06** 02:28:10.2±0.0, 28°.00N×51°.00E, h20km*
ISC 06 02:28:04.3±0.5, 28°.49N±0°.03×51°.73E±0°.03, h17km±2km, h18km: pP-P, n1044, σ1§48/1127, mb5.1/240, MS4.3/64, 82C-29D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.12**	**100**	*e*Pn	**Pg**	**02 28 27.2 +1.2**
GHIR	**Ghir-Karzin**	**1.12**	**100**	*e*AML	AML	02 28 47.9
	9μm,0.4s					
GHIR				*e*Pg	**Pg**	**02 28 27.2 +1.2**
GHIR				*e*Sg	**Sg**	**02 28 44.1 +3.3**
IKAZ	**Kazeroun**	**1.29**	**4**	*e*Pg	**Pb**	**02 28 28.6 +0.3**
IKAZ				*e*Sg	**Sg**	**02 28 46.2 +0.1**
IKAZ				IAMB	IAmb	02 28 51.5
	comp=Z,68μm,1.0s					
SHI	**Shiraz**	**1.34**	**31**	*e*Pg	**Pg**	**02 28 29.7 -0.4**
SHI				IAMB	IAmb	02 28 51.9
	comp=Z,67μm,0.8s					
JHRM	**Jahrom**	**1.62**	**89**	*e*Pn	**Pg**	**02 28 34.9 -0.6**
IRAM	**Ramesheh**	**3.36**	**9**	*e*Pn	**Pn**	**02 28 57.9 +1.8**
IRAM				IAMB	IAmb	02 30 06.0
	comp=Z,41μm,1.1s					
ISAD	**Sadrabad**	**3.81**	**26**	*e*Pn	**Pn**	**02 29 05.1 +2.7**
ISAD				IAMB	IAmb	02 30 18.0
	comp=Z,19μm,0.8s					
IMEH	**Mehriz**	**3.82**	**40**	IAMB	IAmb	02 29 08.3
	comp=Z,45μm,0.4s					
IMEH				*e*Pn	**Pn**	**02 29 05.9 +3.4**
IGAR	**Gharneh**	**3.91**	**4**	*e*Pn	**Pn**	**02 29 05.9 +2.1**
IGAR				IAMB	IAmb	02 30 17.1
	comp=Z,15μm,0.8s					
GENO	**Geno**	**4.07**	**104**	Pn	**Pn**	**02 29 07.0 +1.1**
GENO	**Geno**	**4.07**	**104**	*e*Pn	**Pn**	**02 29 07.3 +1.4**
IPIR	**Pirpir**	**4.24**	**350**	*e*Pn	**Pn**	**02 29 10.0 +1.6**
IPIR				IAMB	IAmb	02 30 41.8
	comp=Z,38μm,1.6s					
ICHK	**Chekchek**	**4.40**	**31**	*e*Pn	**Pn**	**02 29 13.2 +2.8**
ICHK				IAMB	IAmb	02 29 32.1
	comp=Z,9μm,0.8s					
IZEF	**Zefreh**	**4.42**	**7**	*e*Pn	**Pn**	**02 29 12.3 +1.5**
IZEF				IAMB	IAmb	02 29 14.0
	comp=Z,8μm,0.2s					
NGRK	**Negar Kerman**	**4.52**	**74**	*e*Pn	**Pn**	**02 29 14.0 +1.7**
KHGB	**Koh Gabri**	**4.54**	**64**	*e*Pn	**Pn**	**02 29 14.6 +2.1**
UMQ	**Umm Al-Quwin**	**4.58**	**129**	*e*Pn	**Pn**	**02 29 15.5 +2.8**
NIAN	**Nian**	**4.60**	**100**	*e*Pn	**Pn**	**02 29 13.8 +0.7**
YZKH	**Yazd**	**4.61**	**32**	*e*Pn	**Pn**	**02 29 16.2 +3.0**
YZKH	**Yazd**	**4.61**	**32**	*e*Pn	**Pn**	**02 29 16.2 +3.0**
SHME	**Shamm**	**4.62**	**121**	*e*Pn	**Pn**	**02 29 14.5 +1.3**
TVBK	**TV Kerman**	**4.64**	**70**	*e*Pn	**Pn**	**02 29 16.3 +2.4**
IKLH	**Kolahrood**	**4.82**	**358**	*e*Pn	**Pn**	**02 29 17.3 +1.1**
IKLH				IAMB	IAmb	02 31 00.8
	comp=Z,11μm,1.2s					
AJN	**Ajban**	**4.88**	**143**	*e*Pn	**Pn**	**02 29 18.9 +2.1**
NAZ	**Nazwa, Dubai**	**4.95**	**134**	*i* P	**Pn**	**02 29 19.8 +2.0**
	SNR=136					
NAZ				S	**Sn**	**02 30 14.5 -0.2**
NAZ	**Nazwa, Dubai**	**4.95**	**134**	P	**Pn**	**02 29 20.0 +2.2**
	SNR=136					
NAZ				S	**Sn**	**02 30 15.7 +1.1**
NAZ	**Nazwa, Dubai**	**4.95**	**134**	*e*Pn	**Pn**	**02 29 19.8 +2.0**
ANAR	**Anarak**	**4.99**	**20**	*e*Pn	**Pn**	**02 29 20.0 +1.5**
ASUD	**Al Ashush, Dub**	**5.02**	**139**	*i* P	**Pn**	**02 29 20.7 +2.0**
	SNR=282					
ASUD	**Al Ashush, Dub**	**5.02**	**139**	P	**Pn**	**02 29 20.8 +2.0**
	SNR=7.4					
ASUD				S	**Sn**	**02 30 17.4 +1.0**
ASUD	**Al Ashush, Dub**	**5.02**	**139**	*e*Pn	**Pn**	**02 29 20.9 +2.2**
MSFE	**Esma-Masafi**	**5.03**	**127**	*e*Pn	**Pn**	**02 29 20.2 +1.2**
FAQ	**Al Faqa, Dubai**	**5.08**	**136**	*i* P	**Pn**	**02 29 21.2 +1.6**
	SNR=37					
FAQ	**Al Faqa, Dubai**	**5.08**	**136**	P	**Pn**	**02 29 21.2 +1.6**
	SNR=37					
FAQ				S	**Sn**	**02 30 18.5 +0.5**
FAQ	**Al Faqa, Dubai**	**5.08**	**136**	*e*Pn	**Pn**	**02 29 21.3 +1.7**
CHMN	**Cheshme mad

WSAR LR LR 02 34 29.6
comp=Z,1µm,18.3s,baz=326,slow=47
IDAH Dahanechah 8.19 57 *e*Pn **Pn 02 30 06.2 +3.7**
IMON Monand 8.28 54 *e*Pn **Pn 02 30 07.3 +3.6**
JMDO Jabal Madar 8.38 135 P **Pn 02 30 05.1 +0.1**
SNR=19
WBK Wadi Bani Khal 8.77 130 P **Pn 02 30 10.5 +0.1**
SNR=19
IMND Minoodasht 9.27 18 *e*Pn **Pn 02 30 18.9 +1.8**
SBZV Sabzevar 9.31 31 *e*Pn **Pn 02 30 19.5 +1.6**
MHTO MHTO 9.37 141 P **Pn 02 30 19.0 +0.4**
SNR=27
JLN Jalan Bani Buh 9.38 131 P **Pn 02 30 17.7 -1.0**
SNR=7.3
JLN S **Sn 02 31 59.9 -3.9**
MAHB Mahabad 9.69 330 *e*Pn **Pn 02 30 22.7 -0.3**
IAKL Akhelmad 10.03 34 *e*Pn **Pn 02 30 29.8 +2.1**
IPAY Payeh 10.03 36 *e*Pn **Pn 02 30 31.6 +3.9**
DQM DQM 10.03 147 P **Pn 02 30 26.6 -1.0**
SNR=9.8
ISFR Sfrayin 10.04 30 *e*Pn **Pn 02 30 29.9 +2.0**
IKRD Kardeh 10.04 33 *e*Pn Pn 02 30 37.8 +10
JRKH Jarkhoshk 10.39 42 *e*Pn **Pn 02 30 35.5 +3.0**
IMYA Miami 10.55 40 *e*Pn **Pn 02 30 37.3 +2.5**
GEYT Alibeck 10.82 28 Pn **Pn 02 30 40.8 +2.4**
comp=Z,3.8nm,0.3s,baz=212,slow=14,SNR=28
GEYT LR LR 02 36 03.4
comp=Z,1µm,18.5s,baz=215,slow=44
CUKT Cukurca 11.08 324 *e*P **Pn 02 30 39.8 -2.3**
DMTO DMTO 11.12 164 P **Pn 02 30 40.7 -1.8**
SNR=6.6
SIRT Sirnak 11.89 321 *e*P **Pn 02 30 51.0 -2.1**
SIRT Sirnak 11.89 321 *e*Pn **Pn 02 30 50.8 -2.3**
AKDM Akdamar-Van 12.23 326 *e*P **Pn 02 30 57.0 -0.8**
VANB Van 12.24 328 *e*P **Pn 02 30 57.0 -0.9**
CLDR Caldiran 12.45 331 *e*P **Pn 02 31 01.5 +0.7**
GURO Guroymak-BITLI 12.88 324 *e*P **Pn 02 31 04.7 -2.0**
GNI Garni 12.98 335 *e*P **Pn 02 31 09.8 +1.8**
GNI Garni 12.98 335 *e*Pn **Pn 02 31 09.0 +0.9**
GNI *e*S **Sn 02 33 31.3 -0.8**
GNI Garni 12.98 335 P **Pn 02 31 09.7 +1.6**
GNI Garni 12.98 335 *e*P **Pn 02 31 09.0 +0.9**
GNI *e*S **Sn 02 33 31.3 -0.8**
GNI Garni 12.98 335 P **Pn 02 31 09.9 +1.9**
SNR=22
GNI Garni 12.98 335 Pn **Pn 02 31 09.8 +1.8**
comp=Z,0.2nm,0.3s,baz=174,slow=2.7,SNR=15
SVAN Silvan-Diyarba 13.05 320 *e*P **Pn 02 31 04.5 -4.3**
AGRB Hanur-Agry 13.21 329 *e*P **Pn 02 31 13.4 +2.2**
ASF Jabal al Asfar 13.33 290 P **Pn 02 31 11.7 -1.1**
comp=Z,25nm,0.9s
ASF Jabal al Asfar 13.33 290 Pn **Pn 02 31 10.9 -1.8**
comp=Z,1.8nm,0.3s,baz=99,slow=1.7,SNR=13
VRTB Varto-Mus 13.64 324 *e*P **Pn 02 31 18.1 +1.1**
SWQJ Swaqa 13.88 285 P **Pn 02 31 21.8 +1.6**
comp=Z,211nm,0.8s
BNGB Bingl 13.93 322 *e*P **Pn 02 31 17.5 -3.4**
TOTH TOTAH 14.00 294 *e*P **Pn 02 31 19.5 -2.4**
TOTH AML AML 02 36 32.6
comp=N,50nm,0.8s
TOTH AML AML 02 36 43.8
comp=E,62nm,0.9s
URFA Urfa 14.03 313 *e*P Pn 02 31 16.6 -5.7
KOPR Koprukoy-ERZUR 14.07 327 *e*P **Pn 02 31 26.5 +3.5**
WALJ Wala 14.13 286 P **Pn 02 31 22.6 -1.0**
comp=E,103nm,0.7s
JDRJ Daraweish 14.16 283 P **P 02 31 28.5 -3.1**
comp=E,76nm,0.9s
QASN Qassioun 14.17 295 *e*P **Pn 02 31 22.4 -1.9**
QASN *e*S Sn 02 33 42.3 -19
QASN AML AML 02 34 50.9
comp=E,178nm,0.6s
QASN AML AML 02 36 27.8
comp=N,72nm,0.7s
SENK Senkaya-Erzuru 14.30 330 *e*P **Pn 02 31 26.3 +0.2**
GHAJ Ghor Haditha 14.30 285 P **Pn 02 31 29.3 +3.4**
comp=N,72nm,0.7s
GHAJ Ghor Haditha 14.30 285 Pn **Pn 02 31 25.8 -0.1**
SVRC Sivrice-ELAZID 14.30 317 *e*P **Pn 02 31 23.3 -2.8**
YEDI Yedisu-Bingol 14.32 323 *e*P **Pn 02 31 25.7 -0.6**
LISJ El Lisan 14.37 285 P **Pn 02 31 27.3 +0.5**
comp=N,48nm,1.6s
SHMJ Saham 14.38 291 P **Pn 02 31 25.6 -1.5**
comp=N,158nm,0.6s
TBLG Delisi 14.39 338 *e*P **Pn 02 31 28.9 +1.7**
TBLG Delisi 14.39 338 *e*Pn **Pn 02 31 30.0 +2.9**
TBLG Delisi 14.39 338 *e*P **Pn 02 31 30.0 +2.9**
BRBR Barbar 14.40 294 *e*P **Pn 02 31 25.3 -2.2**
BRBR *e*S Sn 02 33 48.4 -18
BRBR AML AML 02 36 37.5
comp=N,91nm,0.8s
BRBR AML AML 02 37 16.3
comp=E,44nm,0.8s
HMDT Nahal Hemdat 14.48 289 Pn **Pn 02 31 28.0 -0.5**
NATI Neve Ativ 14.54 293 Pn **Pn 02 31 29.6 +0.5**
AKH Akhalkalaki 14.54 335 *e*Pn **Pn 02 31 31.5 +2.1**
AKH Akhalkalaki 14.54 335 *e*P **Pn 02 31 31.5 +2.1**
SHBL Chebaa 14.55 293 *e*P **Pn 02 31 31.4 +1.9**
GEM Giv'at Ha'Em 14.58 293 Pn **Pn 02 31 30.0 +0.2**
MMLI Mount Malkishu 14.61 290 Pn **Pn 02 31 30.5 +0.3**
AQBJ Aqaba 14.64 279 P **P 02 31 34.6 -2.2**
comp=E,92nm,0.7s
HRFI Mount Harif 14.66 280 Pn **Pn 02 31 28.2 -2.7**
HWQ Hawqa 14.66 297 *e*P **Pn 02 31 32.0 +1.0**
YTIR Yattir 14.69 285 Pn **Pn 02 31 31.6 +0.2**
PRNI Paran 14.70 281 Pn **Pn 02 31 30.8 -0.6**
EIL Elat 14.72 279 Pn **Pn 02 31 30.7 -1.1**
EIL Elat 14.72 279 LR LR 02 37 41.2
comp=E,892nm,18.5s,baz=97,slow=39
MMA0B Mount Meron ar 14.75 292 Pn **Pn 02 31 33.1 +1.0**
MMAI Mount Meron Ar 14.75 292 Pn **Pn 02 31 30.1 -2.0**
comp=E,2.2nm,0.3s,baz=100,slow=19,SNR=14
MMAI LR LR 02 38 29.0
comp=E,2µm,18.1s,baz=105,slow=42
MBRI Mt Berech 14.76 279 Pn **Pn 02 31 31.4 -0.9**
BHL Bhannes 14.78 295 *e*P **Pn 02 31 33.6 +1.1**
MAK Makhachkala 14.84 348 *e*P **Pn 02 31 32.2 -1.0**
MAK *e*S **Sn 02 34 17.3 +0.1**
MAK pmax pmax
comp=Z,165nm,1.5s
MAK MLR MLR
comp=Z,681nm,16.0s
BLGI Bet Lehem HaGe 14.86 291 Pn **Pn 02 31 33.7 +0.2**
ERZN Erzincan 14.87 321 *e*P **Pn 02 31 34.9 +1.1**
KRMI Paran Flat 14.93 280 Pn **Pn 02 31 32.8 -1.8**
GAZ Gaziantep 14.95 309 *e*P **Pn 02 31 34.1 -0.8**
KZIT Kziot 15.26 283 Pn **Pn 02 31 37.5 -1.4**
TAHT Tahtakopru-Hat 15.29 305 *e*P **P 02 31 42.3 -1.7**
KMRS Kahramanmaras 15.34 310 *e*P **Pn 02 31 38.8 -1.1**
BCA Borcka 15.34 330 *e*P **Pn 02 31 38.8 -1.1**
DAMY Dhamar 15.43 208 *e*Pn **Pn 02 31 38.0 -3.6**
comp=Z,78nm,1.0s
ILIC Ilic-Erzincan 15.44 319 *e*P **P 02 31 44.9 -0.9**
BATM Batumi 15.44 331 *e*P **Pn 02 31 41.3 +0.1**
GROC Groznyy 15.44 344 *e*P **Pn 02 31 41.2 0.0**
GROC *e*S **Sn 02 34 32.5 +0.6**
GROC pmax pmax
comp=Z,70nm,1.3s
DARE Darende-Malaty 15.55 314 *e*P **Pn 02 31 41.2 -1.5**
ONI Oni 15.59 337 *e*P **Pn 02 31 45.1 +1.9**
ZEI Tsey 15.61 338 *e*P **Pn 02 31 40.9 -2.7**
ZEI pmax pmax
comp=Z,91nm,0.9s
YURE YUREGIR 15.89 306 *e*P **Pn 02 31 48.3 +1.2**
KBL Kabul 15.94 63 *e*Pn **P 02 31 51.1 -0.4**
comp=Z,112nm,1.3s
KBL Kabul 15.94 63 *e*P **P 02 31 51.1 -0.4**
KBL pmax pmax
comp=Z,112nm,1.3s
KOZT Kozan 16.06 308 *e*P **Pn 02 31 49.3 0.0**
NCK Nalchik 16.34 339‖*e*P **Pn 02 31 51.3 -1.6**
NEY Neytrino 16.42 336‖*e*P **Pn 02 31 53.9 -0.1**
KARA Karaisali 16.50 306 *e*P **P 02 31 58.6 +1.1**
SVSK Karacayir 16.66 317 *e*P **Pn 02 31 57.6 +0.7**
MERS Mersin 16.71 304 *e*P **Pn 02 31 57.1 -0.5**
RSDY Resadiye-TOKAT 16.77 319 *e*P **Pn 02 31 58.6 +0.2**
KBZ Khabaz 16.78 337 P **P 02 32 00.0 -0.5**
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 16.78 337 Pn **P 02 31 60.0 -0.5**
comp=Z,0.5nm,0.3s,baz=139,slow=7.3,SNR=53
LFK Lefkose 16.86 298 *e*P **Pn 02 31 58.1 -1.5**
KIV Kislovodsk 17.05 337 *e*P **P 02 32 03.8 +0.1**
KIV Kislovodsk 17.05 337 *e*Pn **P 02 32 03.2 -0.4**
comp=Z,189nm,1.3s
KIV Kislovodsk 17.05 337⇑*i*P **P 02 32 03.5 -0.1**
KIV Kislovodsk 17.05 337 P **P 02 32 03.9 +0.3**
KIV Kislovodsk 17.05 337 *e*P **Pn 02 32 00.4 -1.5**
KIV *e* 02 35 11.1
KIV pmax pmax
comp=Z,341nm,1.0s
KIV MLR MLR
comp=Z,1µm,14.0s
KIV Kislovodsk 17.05 337 P **P 02 32 03.5 -0.1**
SNR=81
IKL Isikli 17.08 301 *e*P **P 02 32 04.7 +0.9**
KEBE Keben-Mersin 17.14 302 *e*P **P 02 32 04.5 -0.1**
AKKU Akkuyu-Mersin 17.15 301 *e*P **P 02 32 04.3 -0.3**
TOKT Tokat 17.19 317 *e*P **Pn 02 32 04.0 +0.4**
LEF Lefka 17.32 297 *e*P **P 02 32 08.3 +1.8**
TEVE Tevekalti-Mers 17.33 302 *e*P **P 02 32 07.2 +0.4**
BERE Bereket-Mersin 17.47 301 *e*P **Pn 02 32 06.2 -1.0**
TEKE Tekeli-Mersin 17.48 301 *e*P **P 02 32 08.4 +0.2**
YOZ Yozgat 17.54 314 *e*P **P 02 32 10.3 +1.2**
CHGR Chuyangaron 17.68 51 *e*Pn Pn 02 32 01.9 -7.9
comp=Z,214nm,1.1s
THW Thamme Wali 17.74 71 P **Pn 02 32 10.3 -0.2**
SOC Sochi 17.89 331 *e*P **Pn 02 32 10.7 -1.6**
SOC *e* 02 35 30.0
SOC pmax pmax
comp=Z,46nm,0.8s
SOC MLR MLR
comp=Z,938nm,17.0s
KVT Kavak 17.96 318 *e*P **P 02 32 13.9 +0.3**
SULT Sultanhani-AKS 18.01 307 *e*P **P 02 32 14.4 +0.1**
CEP Cherat 18.06 68 P **Pn 02 32 14.3 -0.2**
CEP S **S 02 35 39.0 -2.5**
YAYX Yaylak 18.16 310 *e*P **P 02 32 16.4 +0.5**
CORM Corum 18.28 314 *e*P **P 02 32 17.3 +0.1**
SERE Serefiikochisa 18.33 309 *e*P **P 02 32 18.9 +1.1**
SARP Sargodha 18.42 74 P **P 02 32 18.3 -0.4**
CHBY Cihanbeyli 18.62 308 *e*P **Pn 02 32 22.2 +0.8**
GAR Garm 18.64 51 *e*P **P 02 32 21.0 -0.2**
comp=Z,339nm,1.4s
GAR Garm 18.64 51 *e*P **P 02 32 21.0 -0.2**
GAR pmax pmax
comp=Z,339nm,1.4s
BR131 Keskin Array S 18.67 312 *e*P **Pn 02 32 22.1 +0.1**
comp=Z,26nm,0.8s
BRTR Keskin Array B 18.67 312 P **P 02 32 21.5 -0.1**
comp=Z,1.9nm,0.3s,baz=135,slow=11,SNR=90
BRTR PcP **PcP 02 36 50.1 +0.5**
comp=Z,0.2nm,0.3s,baz=145,slow=4.7,SNR=5.0
BRTR ScP **ScP 02 40 22.8 -1.7**
comp=Z,0.1nm,0.3s,baz=159,slow=4.6,SNR=6.4
BRTR LR LR 02 41 16.1
comp=Z,995nm,18.1s,baz=120,slow=42
KONT Konya--Tatoy 18.72 305 *e*P **Pn 02 32 25.8 +3.3**
DIKM Dikmen 18.78 319 *e*P **Pn 02 32 23.9 +0.8**
DIKM Dikmen 18.78 319⇑*i*P **Pn 02 32 24.4 +1.3**
ATD Arta Tunnel 18.81 208 *e*P **Pn 02 32 23.4 -0.3**
comp=Z,156nm,1.9s
ATD Arta Tunnel 18.81 208 P **Pn 02 32 25.5 +1.9**
comp=Z,0.5nm,0.3s,baz=358,slow=7.0,SNR=8.4
LADK Ladik-KONYA 18.83 306 *e*P **Pn 02 32 25.9 +2.1**
SNOP Sinop 19.04 319 *e*P **P 02 32 25.5 0.0**
SNOP Sinop 19.04 319 *e*P **P 02 32 25.0 -0.5**
comp=Z,77nm,1.2s
NIL Nilore 19.13 69 *e*P **Pn 02 32 27.2 -0.2**
comp=Z,129nm,1.3s
NIL Nilore 19.13 69 *e*P **Pn 02 32 27.2 -0.2**
NIL pmax pmax
comp=Z,129nm,1.3s
CHCP Chirah Chowk 19.14 69 P **P 02 32 26.8 +0.2**
CANT Cankiri 19.16 314 *e*P **Pn 02 32 28.1 +0.3**
TAS Tashkent 19.22 44 P **Pn 02 32 30.7 +2.2**
BR231 Keskin MP Arra 19.30 311 *e*P **Pn 02 32 29.3 -0.3**
comp=Z,39nm,0.8s
ANTO Ankara 19.31 311 *e*P **P 02 32 27.5 -1.0**
ANTO Ankara 19.31 311 *e*P **Pn 02 32 29.2 -0.3**
comp=Z,97nm,1.2s
ANTO *e*S Sn 02 35 39.3 -26
ANTO Ankara 19.31 311⇑*i*P **Pn 02 32 30.3 +0.7**
ANTO Ankara 19.31 311 *e*P **Pn 02 32 29.2 -0.3**
ANTO pmax pmax
comp=Z,97nm,1.2s
ANTO Ankara 19.31 311 P **Pn 02 32 29.6 +0.1**
SNR=28
LOD Lodumlu 19.34 311 *e*P **Pn 02 32 30.5 +0.6**
ILGA Ilgaz 19.35 315 *e*P **Pn 02 32 30.2 0.0**
comp=Z,149nm,1.5s
BZK Bozkurt 19.71 318 *e*P **Pn 02 32 34.3 +0.1**
BZK Bozkurt 19.71 318‖*i*P **Pn 02 32 34.4 +0.2**
BCK Bucak 19.84 302 *e*P **Pn 02 32 36.1 +0.2**
KORT Korkueli 19.86 301 *e*P **P 02 32 34.7 +0.1**
ANN Anapa 19.87 329 *e*P **Pn 02 32 36.4 +0.3**
ANN *e* 02 32 50.9
ANN *e*S **S 02 36 17.6 +0.2**
ANN pmax pmax
comp=Z,78nm,1.3s
ANN MLR MLR
comp=Z,965nm,22.0s
AUSIV SIVRIHISAR 19.95 308 *e*P **Pn 02 32 36.8 -0.5**
SVRH Sivrihisar-ESK 19.97 308 *e*P **Pn 02 32 37.2 -0.2**
ISP Isparta 20.01 303 *e*P Pn 02 32 37.4 -0.6
ISP Isparta 20.01 303 *e*P Pn 02 32 39.0 +1.0
comp=Z,36nm,0.8s
ISP Isparta 20.01 303‖*i*P Pn 02 32 38.8 +0.8
ISP Isparta 20.01 303‖P Pn 02 32 38.8 +0.8
ELL Elmali 20.11 300 *e*P **P 02 32 36.8 -0.6**
AUMIH MIHALICIK 20.19 309 *e*P **P 02 32 39.0 +0.8**
AKAS Kas 20.20 298 *e*P **P 02 32 36.6 -1.7**
SHUT Suhut-Afyon 20.27 305 *e*P Pn 02 32 40.8 -0.3
KURC Kurucasile-Bar 20.40 316 *e*P **P 02 32 40.7 +0.4**
MDUB Mudurnu 20.67 311 *e*P Pn 02 32 44.6 -1.1
FETY Fethiye 20.71 299 *e*P **P 02 32 43.9 +0.1**
FETY Fethiye 20.71 299 P **P 02 32 43.9 +0.1**
FETY Fethiye 20.71 299 P **P 02 32 43.9 +0.1**
SRCK Saricakaya, Es 20.85 309 *e*P **P 02 32 45.6 +0.4**
BORA Eskisehir 20.90 308 *e*P **P 02 32 46.8 +1.0**
KK31 Karatay Array 21.02 41 *e*P **P 02 32 47.8 +0.8**
comp=Z,109nm,0.9s
KK31 Karatay Array 21.02 41 *e*P **P 02 32 47.8 +0.8**
KK31 pmax pmax
comp=Z,109nm,0.9s
KKAR Karatay Array 21.02 41 *e*P **P 02 32 47.8 +0.8**
KKAR Karatay Array 21.02 41 *e*P **P 02 32 47.8 +0.8**
DALY Dalyan (Mula) 21.10 299 *e*P **P 02 32 48.5 +0.7**
GULT Gulveren 21.11 310 *e*P **P 02 32 49.2 +1.2**
TURN Turunc 21.15 299 *e*P **P 02 32 52.6 +4.2**
AUBOZ BOZOYUK 21.20 308 *e*P **P 02 32 50.1 +1.0**
ARG Arkhangelos 21.35 297 *e*P **P 02 32 49.3 -1.2**
SPNC Sapanca-Adapaz 21.36 310 *e*P **P 02 32 51.6 +0.9**
SAUV Serdivan-Sakar 21.38 310 *e*P **P 02 32 51.8 +1.0**
TVSB Tavsanli 21.41 306 *e*P **P 02 32 50.5 -0.8**
CAVI Cavuskoy 21.46 309 *e*P **P 02 32 53.0 +1.2**
SIM Simferopol' 21.59 324 *e*P **P 02 32 53.6 +0.5**
SIM *i* S **S 02 36 50.0 -1.6**
SIM pmax pmax
comp=Z,119nm,1.4s
SIM MLR MLR
comp=N,480nm,17.2s
KULA Kula-Manisa 21.63 303 *e*P **P 02 32 53.0 -0.7**
KULA Kula-Manisa 21.63 303 P **P 02 32 53.9 +0.2**
KULA Kula-Manisa 21.63 303 P **P 02 32 53.9 +0.2**
ADVT Abdulvahap 21.64 309 *e*P **P 02 32 54.9 +1.3**
ABKAR Akbulak array 21.67 15 *e*P **P 02 32 54.1 +0.2**
MANT Manisa 21.70 303 *e*P **P 02 32 55.5 +0.9**
comp=N,266nm,1.0s
HRT Hereke 21.86 310 *e*P **P 02 32 56.8 +0.7**
DAT Datca 21.90 298 *e*P **P 02 32 55.5 -1.2**
YLV Yalova 21.94 309⇑*i*P **P 02 32 57.8 +0.8**
YLV Yalova 21.94 309⇑P **P 02 32 57.8 +0.8**
YLV *e* 02 33 01.8
AYDB Zeytinkoy-Aydi 22.01 302 *e*P **P 02 32 56.6 -1.3**
MDNY Mudanya-Bursa 22.19 308 *e*P **P 02 33 01.8 +2.2**
BODT Bodrum 22.20 299 *e*P **P 02 32 59.2 -0.5**
BODT Bodrum 22.20 299 P **P 02 32 59.5 -0.2**
BODT Bodrum 22.20 299 P **P 02 32 59.5 -0.2**
BUY Buyukada 22.25 310 *e*P **P 02 33 00.4 +0.3**
ARMT Armutlu 22.29 309 *e*P **P 02 33 01.0 +0.3**
KAVV Kandilli-Istan 22.38 310 *e*P **P 02 33 01.2 -0.4**
ISK Istanbul-Kandi 22.38 310 *e*P **P 02 32 59.4 -2.2**
AML Almayashu 22.42 47 P **P 02 33 05.6 +3.1**
SNR=5.8
AKTO Aktyubinsk 22.43 11 P **P 02 33 02.9 +0.9**
comp=N,19nm,0.5s,baz=204,slow=11,SNR=37
AKTO LR LR 02 43 42.2
comp=N,246nm,21.2s,baz=179,slow=42
GCAM G?zelcaml? 22.44 300 *e*P **P 02 33 04.1 +1.9**
KCTX Karacabey (Bur 22.52 308 *e*P **P 02 33 02.9 -0.2**
BALB Balikesir 22.61 306 *e*P **P 02 33 04.8 +0.8**
BLCB Balcova 22.79 302 *e*P **P 02 33 07.1 +1.1**
CTKS Kestanelik-??a 22.83 310 *e*P **P 02 33 04.7 -1.7**
KSH Kashi 22.84 55 P **P 02 33 04.2 -2.5**
KSH pP pP 02 33 08.8 -3.0
KSH PP **PnPn 02 33 33.1 +2.1**
KSH S **S 02 37 05.4 -10**
KSH SS **SnSn 02 37 46.1 -0.4**
KSH pmax pmax
comp=N,70nm,1.1s
KSH LR LR
comp=N,1µm,8.1s
KSH LR LR
comp=N,820nm,7.5s
KSH LR LR
comp=N,820nm,8.7s
SLVT Silivri 23.03 310 *e*P **P 02 33 06.8 -1.6**
FURI Furi 23.04 215 *e*P **P 02 33 12.4 +3.3**
comp=N,34nm,0.9s
AAK Ala-Archa 23.19 46 P **P 02 33 12.1 +1.8**
SNR=15
AAK Ala-Archa 23.19 46 *e*P **P 02 33 11.0 +0.7**
comp=N,81nm,1.3s
AAK Ala-Archa 23.19 46 P **P 02 33 12.0 +1.7**
AAK Ala-Archa 23.19 46*c i*P **P 02 33 11.8 +1.5**
AAK pmax pmax
comp=Z,69nm,2.5s
AAK Ala-Archa 23.19 46 P **P 02 33 11.4 +1.1**
SNR=43
AAK Ala-Archa 23.19 46 P **P 02 33 11.6 +1.4**
comp=Z,10nm,0.5s,baz=199,slow=4.7,SNR=30
AAK LR LR 02 42 52.4
comp=Z,621nm,21.9s,baz=238,slow=38
LAST Lasithi 23.24 293 P **P 02 33 12.2 +1.4**
LAST Lasithi 23.24 293 P **P 02 33 12.2 +1.4**
CRLT Corlu 23.31 309 *e*P **P 02 33 08.0 -3.3**
KRBG Karabiga-Canak 23.31 307 *e*P **P 02 33 13.4 +2.1**
KZA Kyzart 23.41 48 P **P 02 33 16.1 +3.4**
SNR=36
SANT Santorini 23.48 296 *e*P **P 02 33 09.6 -3.5**
SANT Santorini 23.48 296 *e*P **P 02 33 13.4 +0.4**
comp=Z,63nm,0.9s
SANT Santorini 23.48 296⇑*i*P **P 02 33 13.9 +0.8**
KBK Karagaybulak 23.49 47 P **P 02 33 16.1 +2.9**
SNR=14
USP Ospenovka 23.51 45 P **P 02 33 15.2 +1.8**
SNR=18
CHOS Chios island 23.53 301 *e*P **P 02 33 08.0 -5.6**
CHOS Chios island 23.53 301 P **P 02 33 18.7 +5.1**
CHOS Chios island 23.53 301 P **P 02 33 18.7 +5.1**
CHMS Chumysh 23.53 46 P **P 02 33 14.0 +0.5**
SNR=6.6
CMBO Columbo, Santo 23.54 296 P **P 02 33 18.2 +4.6**
APE Apeiranthos 23.58 298 *e*P **P 02 33 11.1 -3.0**
APE Apeiranthos 23.58 298‖*e*P **P 02 33 15.0 +0.9**
NRN Naryn 23.62 50 *e*P **P 02 33 16.0 +1.2**
comp=Z,161nm,1.6s
NRN Naryn 23.62 50 *e*P **P 02 33 16.0 +1.2**
NRN pmax pmax
comp=Z,161nm,1.6s
PHSR Pinarhisar 23.67 310‖*i*P **P 02 33 16.2 +1.4**
IDI Anoyia 23.74 293 P **P 02 33 17.0 +1.4**
comp=Z,23nm,0.6s,baz=102,slow=10.0,SNR=26
IDI LR LR 02 45 58.2
comp=Z,476nm,21.4s,baz=82,slow=45
EZN Ezine 23.79 305 *e*P **P 02 33 14.6 -1.4**
EZN Ezine 23.79 305 P **P 02 33 16.7 +0.7**
EZN Ezine 23.79 305 P **P 02 33 16.7 +0.7**
EZN Ezine 23.79 305‖*i*P **P 02 33 16.8 +0.7**
EZN Ezine 23.79 305‖P **P 02 33 16.8 +0.7**
GELI Tayfur-Gelibol 23.89 306 *e*P **P 02 33 18.9 +1.9**
VRH Novokhopyorsk 23.91 344 *e*P **P 02 33 16.9 -0.1**
VRH *e*S **S 02 37 30.1 -2.3**
VRH pmax pmax
comp=Z,200nm,0.6s
VRH smax smax
comp=E,720nm,1.9s
VRH MLR MLR
comp=Z,490nm,14.0s
ERIK Erikli-Kesan 23.97 307 *e*P **P 02 33 18.7 +1.0**
BOZC Bozcaada 23.99 305 *e*P **P 02 33 17.9 0.0**
TKM2 Tokmak 2 24.04 47 P **P 02 33 20.0 +1.4**
SNR=9.6
ULHL Ulahol 24.14 49 P **P 02 33 21.9 +2.3**
SNR=7.0
PSN Preselentsi 24.22 315 *e*P **P 02 33 21.9 +1.9**
PSN Preselentsi 24.22 315 P **P 02 33 20.9 +0.9**
EDRB Edirne 24.29 310 *e*P **P 02 33 21.5 +0.8**
EDRB Edirne 24.29 310 P **P 02 33 21.4 +0.8**
EDRB Edirne 24.29 310 P **P 02 33 21.4 +0.8**
VAM Vamos 24.31 293 P **P 02 33 22.6 +1.7**
VAM Vamos 24.31 293 P **P 02 33 22.6 +1.7**
GVD Gavdhos 24.32 292 *e*P **P 02 33 21.9 +0.9**
GVD Gavdhos 24.32 292 P **P 02 33 20.5 -0.5**
GVD Gavdhos 24.32 292 P **P 02 33 20.5 -0.5**
VORD Divnogorie 24.34 341 *e*P **P 02 33 20.5 -0.5**
VORD *e*S **S 02 37 39.2 -0.1**
VORD pmax pmax
comp=Z,80nm,1.2s
VORD smax smax
comp=N,10.0nm,1.6s
ALN Alexandroupoli 24.38 307 *e*P **P 02 33 22.4 +0.9**
ALN Alexandroupoli 24.38 307 *e*P **P 02 33 22.4 +0.9**
comp=N,18nm,0.9s
ALN Alexandroupoli 24.38 307 P **P 02 33 21.3 -0.2**
CHAN Chania 24.45 294 P **P 02 33 23.3 +1.1**
PRD Provadia 24.47 313 P **P 02 33 23.0 +0.7**
TIRR Tirgusor 24.49 317 *e*P **P 02 33 22.3 -0.1**
comp=N,16nm,0.8s
TIRR Tirgusor 24.49 317⇑*i*P **P 02 33 23.0 +0.6**
TIRR Tirgusor 24.49 317⇑P **P 02 33 23.0 +0.6**
IMMV Iera Moni Meta 24.50 294 *e*P **P 02 33 24.0 +1.4**
IMMV Iera Moni Meta 24.50 294 P **P 02 33 17.1 -5.5**
VSR Storozhevoye 24.59 341 *e*P **P 02 33 22.0 -1.3**
VSR *e*S **S 02 37 40.2 -3.3**
VSR pmax pmax
comp=Z,100nm,1.4s
VSR smax smax
comp=N,550nm,1.4s
VSR MLR MLR
comp=Z,470nm,21.0s
LIA Limnos Island 24.64 304 P **P 02 33 24.8 +0.9**
LIA Limnos Island 24.64 304 P **P 02 33 24.8 +0.9**
JMB Yambol 24.66 311 P **P 02 33 28.9 +4.8**
ICOR Ion Corvin 24.68 316⇑*i*P **P 02 33 25.8 +1.6**
KDJ Kajisay 24.72 50 *e*P **P 02 33 26.6 +1.8**
comp=Z,49nm,0.9s
KDJ Kajisay 24.72 50 *e*P **P 02 33 26.6 +1.8**
KDJ pmax pmax
comp=Z,49nm,0.9s
TLB Topalu 24.78 317⇑*i*P **P 02 33 26.1 +1.1**
TLB Topalu 24.78 317⇑P **P 02 33 26.1 +1.1**
RDO Rodhopi 24.83 307 *e*P **P 02 33 26.6 +1.0**
RDO Rodhopi 24.83 307 P **P 02 33 26.2 +0.6**
RDO Rodhopi 24.83 307 P **P 02 33 26.2 +0.6**
VORR Voronezh 24.99 341 *e*P **P 02 33 27.0 +0.1**
VORR pmax pmax
comp=Z,350nm,1.6s
AAA Alma-Ata 25.02 47 *e*P **P 02 33 30.7 +3.3**
AAA *e*S **S 02 37 50.8 +0.1**
AAA pmax pmax
comp=Z,300nm,6.3s
AAA smax smax
comp=E,400nm,10.3s
AAA MLR MLR
comp=Z,2µm,14.0s
CFR Carcaliu 25.05 318⇑*i*P **P 02 33 27.7 +0.3**
CFR Carcaliu 25.05 318⇑P **P 02 33 27.7 +0.3**
DION Dionisos Attik 25.05 300 P **P 02 33 28.4 +0.7**
ANKY Antikythira Is 25.11 294 P **P 02 33 30.0 +1.9**
ANKY Antikythira Is 25.11 294 P **P 02 33 30.0 +1.9**
VLY Voula,Athens 25.11 299 P **P 02 33 28.7 +0.6**
VLY Voula,Athens 25.11 299 P **P 02 33 28.7 +0.6**
ATHU Athens Univers 25.14 299 P **P 02 33 30.2 +1.8**
ATHU Athens Univers 25.14 299 P **P 02 33 30.2 +1.8**
EREA Eretria 25.14 300 P **P 02 33 30.2 +1.8**
DIM Dimitrovgrad 25.19 309 P **P 02 33 30.2 +1.4**
ATH Athens Observa 25.19 299 P **P 02 33 31.1 +2.2**
ATH Athens Observa 25.19 299 P **P 02 33 31.1 +2.2**

ATH Athens Observa 25.19 299 P **P 02 33 31.1 +2.2**
THAS Thassos island 25.22 306 P **P 02 33 31.6 +2.6**
OTUK Ortayu 25.35 33 P **P 02 33 31.6 +1.3**
AOS Alonnisos 25.38 302 *e*P **P 02 33 32.1 +1.5**
AOS Alonnisos 25.38 302 P **P 02 33 32.0 +1.5**
AOS Alonnisos 25.38 302 P **P 02 33 32.0 +1.5**
KTHR Kythira 25.41 295 P **P 02 33 31.2 +0.3**
SZH Strazhica 25.45 312 P **P 02 33 32.5 +1.3**
LEHL Lehliu 25.47 315⇑ *i*P **P 02 33 32.6 +1.3**
MRKA Markates 25.47 301 P **P 02 33 32.7 +1.2**
KRND KRANIDI 25.50 298 P **P 02 33 31.7 0.0**
VLI Veliai 25.54 296 P **P 02 33 31.5 -0.5**
VLI Veliai 25.54 296 P **P 02 33 31.5 -0.5**
VILL Vilia 25.55 300 P **P 02 33 32.6 +0.4**
OUR Ouranopolis 25.66 305 *e*P **P 02 33 32.2 -0.8**
PRZ Przheval'sk 25.69 50 *e*P **P 02 33 34.2 +0.7**
comp=Z,135nm,1.3s
PRZ Przheval'sk 25.69 50 *e*P **P 02 33 34.2 +0.7**
PRZ pmax pmax
comp=Z,135nm,1.3s
SKIA Skiathos 25.69 302 P **P 02 33 34.5 +1.1**
LEOM Leova 25.72 321⇓ *i*P **P 02 33 34.6 +1.0**
LEOM Leova 25.72 321⇓ P **P 02 33 34.6 +1.0**
KIS Kishinev 25.72 322⇑ *i*P **P 02 33 33.0 -0.6**
comp=Z,180nm,1.4s
KIS Kishinev 25.72 322 *e*PP P 02 34 18.0 +44
KIS *e*S **S 02 38 06.0 +4.4**
comp=Z,900nm,6.0s
KIS *e*SS **SnSn 02 39 04.0 +7.2**
KIS LRM MLR 02 47 50.0
comp=Z,900nm,16.0s
KIS Kishinev 25.72 322⇑ *i*P **P 02 33 33.0 -0.6**
KIS *e* 02 33 42.0
KIS *e* 02 34 18.0
KIS *e*S **S 02 38 06.0 +4.4**
KIS *e*SS **SnSn 02 39 04.0 +7.2**
KIS pmax pmax
comp=Z,180nm,1.4s
KIS smax smax
comp=N,900nm,6.0s
PAIG Paliouri 25.75 304 P **P 02 33 37.0 +3.1**
PAIG Paliouri 25.75 304 P **P 02 33 37.0 +3.1**
PAIG Paliouri 25.75 304 P **P 02 33 37.0 +3.1**
LOUT Loutraki 25.77 299 P **P 02 33 34.1 0.0**
PLD Plovdiv 25.78 309 *e*P **P 02 33 35.1 +0.9**
SMIA Simia 25.80 301 P **P 02 33 36.0 +1.5**
PETR Petresti 25.88 318⇑ *i*P **P 02 33 35.1 +0.1**
LPSR Galich'ya Gora 25.90 342 *e*P **P 02 33 35.0 -0.1**
LPSR *e*S **S 02 38 01.3 -2.9**
LPSR pmax pmax
comp=Z,190nm,1.1s
LPSR smax smax
comp=E,290nm,2.1s
LPSR MLR MLR
comp=Z,380nm,17.0s
JBP Jabalpur 25.94 95 *e*P **P 02 33 36.7 +0.9**
JBP *e*S S 02 38 22.7 +17
XOR Xorichti 25.95 302 P **P 02 33 36.7 +0.9**
XOR Xorichti 25.95 302 P **P 02 33 36.7 +0.9**
BIR Birlad 25.95 320⇓ *i*P **P 02 33 36.8 +1.1**
BIR Birlad 25.95 320⇓ P **P 02 33 36.8 +1.1**
ODBI Odobesti 26.00 318⇓ *i*P **P 02 33 37.2 +1.1**
PLG Polygyros 26.06 304 P **P 02 33 38.2 +1.4**
PLG Polygyros 26.06 304 P **P 02 33 38.2 +1.4**
PLG Polygyros 26.06 304 P **P 02 33 38.2 +1.4**
NVR Nevrokopi 26.08 307 P **P 02 33 38.0 +1.0**
NVR Nevrokopi 26.08 307 P **P 02 33 38.0 +1.0**
VLX Vlachokerasia 26.10 297 P **P 02 33 37.2 0.0**
VLX Vlachokerasia 26.10 297 P **P 02 33 37.2 0.0**
FYTO Fytoko, Volos 26.15 302 P **P 02 33 38.2 +0.7**
FYTO Fytoko, Volos 26.15 302 P **P 02 33 38.2 +0.7**
AXAR Agios Charalam 26.19 301 P **P 02 33 41.1 +3.1**
AXAR Agios Charalam 26.19 301 P **P 02 33 41.1 +3.1**
SRS Serrai 26.19 306 P **P 02 33 39.3 +1.3**
SRS Serrai 26.19 306 P **P 02 33 39.3 +1.3**
SRS Serrai 26.19 306 P **P 02 33 39.3 +1.3**
DSF Desfina 26.21 300 P **P 02 33 38.2 0.0**
DSF Desfina 26.21 300 P **P 02 33 38.2 0.0**
SECR 26.21 316⇑ *i*P **P 02 33 40.7 +2.6**
GUR Goura 26.24 299 P **P 02 33 39.0 +0.4**
GUR Goura 26.24 299 P **P 02 33 39.0 +0.4**
VRI Vrincioaia 26.25 318 *e*P **P 02 33 39.9 +1.5**
VRI Vrincioaia 26.25 318⇑ *i*P **P 02 33 39.8 +1.4**
VRI Vrincioaia 26.25 318⇑ P **P 02 33 39.8 +1.4**
MMB Musomiste 26.26 307 P **P 02 33 40.1 +1.5**
SOH Sokhos 26.27 305 P **P 02 33 40.2 +1.5**
SOH Sokhos 26.27 305 P **P 02 33 40.2 +1.5**
PLOR Plostina 26.29 318⇑ *i*P **P 02 33 40.3 +1.5**
PLOR Plostina 26.29 318⇑ P **P 02 33 40.4 +1.6**
PGB Panagyurishte 26.32 310 P **P 02 33 40.4 +1.2**
HORT Hortiatis 26.38 305 *e*P **P 02 33 40.1 +0.4**
HORT Hortiatis 26.38 305 P **P 02 33 40.9 +1.2**
HORT Hortiatis 26.38 305 P **P 02 33 40.9 +1.2**
KLV Kalavryta, Ach 26.41 299 P **P 02 33 40.0 0.0**
KLV Kalavryta, Ach 26.41 299 P **P 02 33 40.0 0.0**
ITM Ithomi 26.42 297 *e*P **P 02 33 37.8 -2.2**
ITM Ithomi 26.42 297 *e*P **P 02 33 38.0 -2.0**
comp=Z,30nm,0.8s
ITM Ithomi 26.42 297 P **P 02 33 40.8 +0.8**
THE Thessaloniki 26.49 305 P **P 02 33 42.1 +1.5**
THE Thessaloniki 26.49 305 P **P 02 33 42.1 +1.5**
AGG Agios Georgios 26.50 301 *e*P **P 02 33 41.0 +0.2**
AGG Agios Georgios 26.50 301 *e*P **P 02 33 39.9 -0.9**
comp=Z,53nm,1.3s
AGG Agios Georgios 26.50 301 P **P 02 33 40.8 0.0**
AGG Agios Georgios 26.50 301 *e*P **P 02 33 39.9 -0.9**
AGG pmax pmax
comp=Z,53nm,1.3s
PYL PYLOS 26.51 296 P **P 02 33 40.0 -0.9**
PYL PYLOS 26.51 296 P **P 02 33 40.0 -0.9**
MLR Muntele Rosu 26.52 317 *e*P **P 02 33 42.4 +1.4**
comp=Z,56nm,0.9s
MLR Muntele Rosu 26.52 317⇓ *i*P **P 02 33 43.0 +2.0**
MLR Muntele Rosu 26.52 317⇓ P **P 02 33 43.0 +2.0**
MLR Muntele Rosu 26.52 317 P **P 02 33 42.0 +1.0**
comp=Z,6.7nm,0.7s,baz=43,slow=1.5,SNR=22
MLR LR LR 02 46 20.7
comp=Z,860nm,20.6s,baz=138,slow=41
IAS Iasi 26.53 321⇓ *i*P **P 02 33 41.5 +0.6**
IAS Iasi 26.53 321⇓ P **P 02 33 41.5 +0.6**
TRIZ Trizonia 26.54 299 P **P 02 33 42.1 +1.0**
SERG Sergoula 26.57 300 P **P 02 33 41.5 +0.1**
LAKA Lakka 26.59 299 P **P 02 33 42.6 +1.0**
LAKA Lakka 26.59 299 P **P 02 33 42.6 +1.0**
HUMR Humele 26.64 314⇑ *i*P **P 02 33 43.8 +1.9**
TESR Tescani 26.65 319⇑ *i*P **P 02 33 42.8 +0.8**
AMT Artemida-Makis 26.65 298 P **P 02 33 43.1 +0.9**
LIT Litokhoron 26.67 303 *e*P **P 02 33 42.9 +0.6**
comp=Z,11nm,0.6s
LIT Litokhoron 26.67 303 *e*P **P 02 33 42.9 +0.6**
LIT pmax pmax
comp=Z,11nm,0.6s
KNT Kendrikon 26.70 306 *e*P **P 02 33 41.3 -1.3**
KNT Kendrikon 26.70 306 P **P 02 33 43.4 +0.8**
KNT Kendrikon 26.70 306 P **P 02 33 43.4 +0.8**
KNT Kendrikon 26.70 306 P **P 02 33 43.4 +0.8**
ANX Ano Chora 26.71 300 P **P 02 33 41.6 -1.2**
DRO Drossia 26.73 298 P **P 02 33 43.8 +0.9**
VLAD Vladila 26.77 313⇓ *i*P **P 02 33 44.2 +1.1**
KKB Krupnik 26.81 307 P **P 02 33 44.0 +0.5**
EVR Evrytania 26.87 301 P **P 02 33 44.0 -0.2**
EVR Evrytania 26.87 301 P **P 02 33 44.0 -0.2**
MTUR Matau 26.92 316⇑ *i*P **P 02 33 45.4 +0.8**
MTUR Matau 26.92 316⇑ P **P 02 33 45.4 +0.8**
MPEP Malo Peshtene 26.93 311 P **P 02 33 44.8 +0.2**
RLS Riolos of Patr 26.95 299 P **P 02 33 45.8 +1.1**
RLS Riolos of Patr 26.95 299 P **P 02 33 45.8 +1.1**
HYB Hyderabad 26.98 108 *i*P **P 02 33 46.0 +0.7**
VTS Vitosha 26.98 309 *e*P **P 02 33 46.2 +1.0**
comp=Z,19nm,1.2s
VTS Vitosha 26.98 309 P **P 02 33 46.2 +1.0**
VTS Vitosha 26.98 309⇑ *i*P **P 02 33 46.1 +0.9**
VTS Vitosha 26.98 309⇑ P **P 02 33 46.1 +0.9**
VTS Vitosha 26.98 309 P **P 02 33 46.3 +1.0**
VAY Valandovo 26.99 306 *i*P **P 02 33 46.3 +1.2**
PVO Paravola 27.02 300 P **P 02 33 45.6 +0.2**
DOPR Dopca 27.10 317⇑ *i*P **P 02 33 47.1 +1.0**
BIZ Bicaz 27.20 320⇑ *i*P **P 02 33 48.0 +1.0**
PRAR RASCA 27.37 320⇑ *i*P **P 02 33 49.2 +0.7**
PYUN Piuthan 27.49 83 *e*P **P 02 33 50.8 +0.8**
comp=Z,64nm,0.6s

FNA Florina 27.68 304 *e*P **P 02 33 52.2 +0.8**
FNA Florina 27.68 304 *e*P **P 02 33 52.4 +1.0**
comp=Z,15nm,0.8s
FNA Florina 27.68 304 P **P 02 33 52.2 +0.8**
FNA Florina 27.68 304 *e*P **P 02 33 52.4 +1.0**
FNA pmax pmax
comp=Z,15nm,0.8s
LKD2 Lefkada island 27.72 300 P P 02 33 43.5 -8.2
LKD2 Lefkada island 27.72 300 P P 02 33 43.5 -8.2
BIA Bitola 27.79 305 *i*P **P 02 33 54.0 +1.6**
KRUS Krusevo 27.95 305 *i*P **P 02 33 56.7 +2.9**
AKASG Malin Array Be 27.95 329 *e*P **P 02 33 52.9 -0.7**
comp=Z,3.4nm,0.6s
AKASG PcP **PcP 02 37 08.2 -0.4**
AKASG ScP **ScP 02 40 46.2 -2.5**
AKASG Malin Array Be 27.95 329 *e*P **P 02 33 52.9 -0.7**
AKASG 02 37 08.2
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 27.95 329 P **P 02 33 53.2 -0.4**
comp=Z,4.9nm,0.6s,baz=135,slow=8.4,SNR=48
AKASG PcP **PcP 02 37 08.2 -0.4**
comp=Z,1.0nm,0.3s,baz=94,slow=2.8,SNR=6.8
AKASG ScP **ScP 02 40 46.2 -2.5**
comp=Z,0.8nm,0.5s,baz=102,slow=2.7,SNR=4.8
AKBB Malin Array Si 27.95 329 *e*P **P 02 33 53.4 -0.2**
comp=Z,136nm,1.9s
AKBB Malin Array Si 27.95 329 *e*P **P 02 33 53.4 -0.2**
AKBB pmax pmax
comp=Z,136nm,1.9s
KIEV Kiev 27.96 329 *e*P **P 02 33 53.9 +0.2**
comp=Z,123nm,1.9s
KIEV *e*PcP PcP 02 36 59.4 -9.2
KIEV *e*S **S 02 38 44.3 +7.5**
KIEV Kiev 27.96 329⇑ *i*P **P 02 33 53.6 0.0**
KIEV Kiev 27.96 329*c i*P **P 02 33 53.2 -0.4**
KIEV pmax pmax
comp=Z,36nm,1.4s
KOLN Koldanda 28.07 84 *e*P **P 02 33 55.7 +0.5**
comp=Z,28nm,0.8s
BURAR Bucovina Array 28.08 320 *e*P **P 02 33 55.2 +0.3**
comp=Z,67nm,0.8s
BURAR Bucovina Array 28.08 320⇓ *i*P **P 02 33 56.0 +1.1**
BURAR Bucovina Array 28.08 320⇓ P **P 02 33 56.0 +1.1**
BUR08 Bucovina Ar. S 28.10 320 *e*P **P 02 33 56.0 +0.9**
comp=Z,10nm,0.7s
BRVK Borovoye 28.11 24 *e*P **P 02 33 55.9 +0.8**
comp=Z,18nm,0.6s
BRVK Borovoye 28.11 24*c i*P **P 02 33 56.3 +1.3**
BRVK pmax pmax
comp=Z,18nm,0.7s
BRVK Borovoye 28.11 24 P **P 02 33 56.3 +1.3**
SNR=13
BVAR Borovoye Array 28.12 24 P **P 02 33 56.4 +1.3**
comp=Z,23nm,0.7s,baz=223,slow=7.6,SNR=68
BVAR PcP **PcP 02 37 09.3 +0.3**
comp=Z,6.0nm,0.7s,baz=2.9,slow=3.0,SNR=4.4
DANN Dangsing 28.13 83 *e*P **P 02 33 56.7 +0.9**
comp=Z,113nm,0.7s
ARU Arti 28.35 8 *e*P **P 02 33 58.1 +1.0**
comp=Z,62nm,1.4s
ARU Arti 28.35 8*c i*P **P 02 33 58.1 +1.0**
ARU 02 34 49.2
ARU S **S 02 38 48.3 +5.5**
ARU SS **SnSn 02 40 05.2 +4.6**
ARU pmax pmax
comp=Z,22nm,1.2s
ARU MLR MLR
comp=Z,566nm,17.0s
GZR Gura Zlata 28.43 314⇑ *i*P **P 02 33 58.2 +0.2**
GZR Gura Zlata 28.43 314⇑ P **P 02 33 58.2 +0.2**
HERR Herculane 28.44 313⇓ *i*P **P 02 33 59.1 +1.1**
CJR Cluj-Napoca 28.55 317⇓ *i*P **P 02 34 00.0 +1.0**
CJR Cluj-Napoca 28.55 317⇓ P **P 02 34 00.0 +1.0**
OBN Obninsk 28.78 342 *e*P **P 02 34 00.5 -0.4**
comp=Z,89nm,1.3s
OBN Obninsk 28.78 342⇑ *i*P **P 02 34 01.3 +0.4**
OBN Obninsk 28.78 342*c i*P **P 02 34 01.0 +0.1**
OBN *e* 02 34 52.7
OBN *e*SS SS 02 40 23.8 -28
OBN pmax pmax
comp=Z,92nm,1.7s
OBN MLR MLR
comp=Z,394nm,18.0s
OBN Obninsk 28.78 342 P **P 02 34 01.3 +0.4**
comp=Z,3.4nm,0.4s,baz=168,slow=4.1,SNR=13
OBN LR LR 02 47 12.8
comp=Z,105nm,19.1s,baz=166,slow=40
GKN Gorkha 28.94 83 *e*P **P 02 34 03.4 +0.5**
MOS Moscow 29.06 344 *e*P **P 02 34 02.8 -0.6**
MOS *e* 02 34 52.8
MOS *e*S **S 02 38 53.1 -0.8**
MOS *e* 02 40 44.6
MOS pmax pmax
comp=Z,76nm,1.8s
BMR Baia Mare 29.09 319⇓ *i*P **P 02 34 02.7 -1.1**
BMR Baia Mare 29.09 319⇓ P **P 02 34 02.7 -1.1**
DRGR 29.12 317⇑ *i*P **P 02 34 05.2 +1.1**
DRGR 29.12 317⇑ P **P 02 34 05.2 +1.1**
BZS Buzias 29.26 314⇑ *i*P **P 02 34 05.8 +0.5**
BZS Buzias 29.26 314⇑ P **P 02 34 05.9 +0.6**
DMN Daman 29.42 84 *e*P **P 02 34 07.4 +0.2**
comp=Z,18nm,0.5s
KKN Kakani 29.54 83 *e*P **P 02 34 08.5 +0.2**
DRME Dracevica, Mon 29.67 306 *e*P **P 02 34 07.5 -1.5**
PKIN Phulchoki 29.68 84 *e*P **P 02 34 09.8 +0.3**
PDG Podgorica 29.69 307 *e*P **P 02 34 07.0 -2.1**
PKI Pulchoki 29.69 84 *e*P **P 02 34 09.7 0.0**
DIVS Divibare 29.73 310 *e*P **P 02 34 09.4 -0.2**
TRPA Tarpa 29.88 319⇑ *i*P **P 02 34 11.6 +0.8**
TRPA Tarpa 29.88 319⇑ *e*P **P 02 34 11.0 +0.3**
LVV L'vov 29.97 323 *e*P **P 02 34 15.0 +3.5**
LVV *e* 02 35 12.3
LVV *e*S **S 02 39 08.6 +0.2**
KURBB Kurchatov Arra 29.97 35 P **P 02 34 12.8 +1.2**
comp=Z,12nm,0.7s,baz=228,slow=9.8,SNR=4.0
KURBB ScP **ScP 02 40 53.6 -1.5**
comp=Z,2.7nm,1.1s,baz=229,slow=4.7,SNR=6.4
MKAR Makanchi Array 30.05 44 P **P 02 34 14.0 +1.7**
comp=Z,7.6nm,0.6s,baz=230,slow=8.5,SNR=2.0
MKAR PcP **PcP 02 37 13.6 -0.4**
comp=Z,1.7nm,0.5s,baz=255,slow=2.5,SNR=4.0
MKAR ScP **ScP 02 40 53.8 -1.7**
comp=Z,1.6nm,0.9s,baz=266,slow=1.9,SNR=3.5
KURK Kurchatov 30.07 35 P **P 02 34 12.8 +0.3**
KURK 02 40 53.6
KURK pmax pmax
comp=Z,13nm,0.7s
KURK pmax pmax
comp=N,3.0nm,1.1s
KIRV Kirov 30.13 358 P **P 02 34 14.1 +1.3**
comp=N,42nm,0.6s,baz=193,slow=3.7,SNR=23
KIRV LR LR 02 49 28.2
comp=N,542nm,18.3s,baz=187,slow=42
UZH Uzhgorod 30.28 320⇑ *i*P **P 02 34 14.6 +0.3**
UZH *i* 02 35 21.5
UZH *e*S **S 02 39 10.1 -3.2**
UZH *e* 02 41 17.4
BRY Bratogost 30.33 307 *e*P **P 02 34 13.2 -1.8**
JIRN Jiri 30.36 83 *e*P **P 02 34 15.8 +0.1**
comp=N,36nm,0.5s
TREB Trebinje 30.41 307 *e*P **P 02 34 13.2 -2.4**
HAPS Han Pijesak,Bl 30.43 310 *e*P **P 02 34 16.6 +0.8**
KOLS Kolonicke sedl 30.44 320 *e*P **P 02 34 17.5 +1.7**
KOLS pmax pmax
comp=Z,34nm,1.3s
KOLS Kolonicke sedl 30.44 320 *e*P **P 02 34 17.5 +1.7**
TIP Timpagrande 30.78 299 *e*P **P 02 34 20.2 +1.2**
comp=Z,20nm,1.1s
TIP Timpagrande 30.78 299⇓ *i*P **P 02 34 20.1 +1.2**
RAMN Ramite 30.84 84 *e*P **P 02 34 19.3 -0.5**
comp=Z,34nm,0.7s
MICGM Minsk 31.24 333 *e* **P 02 34 21.0 -1.7**
MNK Minsk 31.24 333 *e*P **P 02 34 21.0 -1.7**
KECS Kecovo 31.25 318 *e*P **P 02 34 24.1 +1.2**
KECS pmax pmax
comp=Z,74nm,1.2s
KECS Kecovo 31.25 318 *e*P **P 02 34 24.1 +1.2**
PSZ Piszkesteto 31.34 317 *e*P P 02 34 30.1 +6.3
MORH Mrgy, Hungar 31.40 313 *e*P **P 02 34 24.1 -0.2**
MORH Mrgy, Hungar 31.40 313 *e*P **P 02 34 24.0 -0.2**
BLY Banja Luka 31.84 310 *e*P **P 02 34 28.6 +0.5**
comp=Z,7.1nm,0.8s
BLY Banja Luka 31.84 310⇑ *i*P **P 02 34 28.7 +0.5**

BLY Banja Luka 31.84 310 *e*P **P 02 34 27.5 -0.6**
LANS Liptovska Anna 32.16 319 *e*P **P 02 34 32.3 +1.3**
LANS Liptovska Anna 32.16 319 *e*P **P 02 34 32.2 +1.3**
VYHS Vyhne 32.23 317 *e*P **P 02 34 32.0 +0.5**
VYHS pmax pmax
comp=Z,8.0nm,1.4s
VYHS Vyhne 32.23 317 *e*P **P 02 34 32.0 +0.5**
IDID Didziasalis 32.28 333 *e*P **P 02 34 32.3 +0.4**
IDID IAmb IAmb 02 34 33.8
comp=Z,15nm,1.0s
VAE Valguarnera 32.39 296 LR LR 02 52 06.8
comp=Z,187nm,18.1s,baz=178,slow=44
OJC Ojcow 32.48 321 *e*P **P 02 34 34.2 +0.5**
OJC Ojcow 32.48 321 *e*P **P 02 34 34.3 +0.5**
comp=Z,34nm,1.0s
OJC Ojcow 32.48 321 *e*P **P 02 34 34.2 +0.5**
IIGN Ignalina 32.52 333 *e*P **P 02 34 34.6 +0.7**
IIGN IAmb IAmb 02 34 36.0
comp=Z,50nm,1.2s
KOLL Kolacno 32.52 317 *e*P **P 02 34 34.6 +0.5**
WMQ Urumqi 32.53 52 *e*P **P 02 34 36.0 +1.7**
WMQ pP pP 02 34 40.4 +0.6
WMQ pmax pmax
comp=Z,610nm,3.7s
WMQ LR LR
comp=Z,3μm,12.9s
WMQ LR LR
comp=Z,2μm,12.3s
WMQ LR LR
comp=Z,2μm,14.7s
KMBO Kilima Mbogo 32.56 208 LR LR 02 48 19.8
comp=Z,275nm,21.0s,baz=19,slow=37
IZAR Zarasai 32.79 333 *e*P **P 02 34 37.0 +0.7**
IZAR IAmb IAmb 02 34 38.4
comp=Z,33nm,1.1s
SUW Suwalki 32.92 329 *e*P **P 02 34 37.3 -0.2**
SUW Suwalki 32.92 329 *e*P **P 02 34 37.3 -0.2**
comp=Z,26nm,0.8s
SUW Suwalki 32.92 329 *e*P **P 02 34 37.3 -0.2**
SMOL Smolenice 33.08 317 *e*P **P 02 34 40.3 +1.3**
SMOL Smolenice 33.08 317 *e*P **P 02 34 40.3 +1.3**
JAVC Velka Javorina 33.08 317 *e*P **P 02 34 40.2 +1.2**
MODS Modra-Piesok 33.11 316 *e*P **P 02 34 38.2 -1.1**
MODS pmax pmax
comp=Z,26nm,1.6s
MODS Modra-Piesok 33.11 316 *e*P **P 02 34 38.2 -1.1**
ZST Bratislava 33.15 316 *e*P **P 02 34 39.1 -0.4**
ZST Bratislava 33.15 316 *e*P **P 02 34 39.1 -0.4**
OKC Ostrava-Krasne 33.24 319 *e*P **P 02 34 40.6 +0.3**
OKC MLR MLR
comp=Z,500nm,8.4s
OKC Ostrava-Krasne 33.24 319 *e*P **P 02 34 40.6 +0.3**
OKC AMS AMS 02 52 20.0
comp=Z,500nm,8.4s
SOP Sopron 33.28 315 *e*P **P 02 34 41.0 +0.3**
CRES Cresnjev 33.34 311 *e*P **P 02 34 40.2 -1.1**
BOJS Bojanci 33.38 311 *i*P **P 02 34 42.1 +0.6**
KLMR Klimovskoe 33.39 349⇑ *i*P **P 02 34 41.5 0.0**
KLMR *e*S **S 02 39 58.6 -3.0**
KLMR pmax pmax
comp=Z,149nm,1.4s
PRGR Permogore 33.40 355⇑ *i*P **P 02 34 41.7 +0.2**
PRGR pmax pmax
comp=Z,39nm,0.9s
PABE Paberze 33.55 331 *e*P **P 02 34 42.6 -0.4**
PABE IAmb IAmb 02 34 44.5
comp=Z,107nm,1.3s
MORC Moravsky Berou 33.56 319 *e*P **P 02 34 43.4 +0.2**
comp=Z,22nm,1.3s
MORC Moravsky Berou 33.56 319⇑ *i*P **P 02 34 43.1 -0.1**
MORC Moravsky Berou 33.56 319⇑ P **P 02 34 43.1 -0.1**
MORC *e* 02 34 44.8
MORC Moravsky Berou 33.56 319 *e*P **P 02 34 43.4 +0.2**
VISS Visnje 33.74 311 *i*P P 02 34 39.7 -5.1
ARSA Arzberg 33.78 314 *e*P **P 02 34 45.8 +0.7**
comp=Z,4.0nm,0.9s
ARSA *e*PcP **PcP 02 37 23.9 -0.2**
comp=Z,2.7nm,0.9s
CONA Conrad Observa 33.81 315 *e*P **P 02 34 45.6 +0.2**
comp=Z,9.5nm,1.3s,SNR=7.1
AQU L'Aquila 33.87 304 *e*P **P 02 34 46.6 +0.6**
SOKA Soboth 33.90 312 *e*P **P 02 34 46.7 +0.5**
comp=Z,6.5nm,1.3s
SOKA *e*PcP **PcP 02 37 25.3 +0.8**
comp=Z,4.5nm,0.6s
VRAC Vranov 33.91 318⇓ *i*P **P 02 34 46.6 +0.4**
VRAC Vranov 33.91 318 *e*P **P 02 34 46.5 +0.4**
VRAC Vranov 33.91 318 P **P 02 34 46.6 +0.4**
comp=Z,8.5nm,1.1s,baz=106,slow=8.6,SNR=14
KRUC Moravsky 33.93 317 *e*P **P 02 34 46.5 +0.1**
CEY Cerknica 34.00 311 *e*P **P 02 34 46.2 -0.8**
LJU Ljubljana 34.02 311 *e*P **P 02 34 48.1 +0.9**
KRLC Kraliky 34.13 319 *e*P **P 02 34 48.4 +0.2**
KRLC Kraliky 34.13 319 *e*P **P 02 34 48.4 +0.2**
OBKA Obir 34.16 312 *i*pP **P 02 34 50.3 +1.9**
comp=Z,18nm,1.8s
OBKA *e*PcP **PcP 02 37 25.3 0.0**
comp=Z,8.0nm,1.5s
JAVS Javornik 34.29 311 *i*P **P 02 34 49.9 +0.3**
LSA Lhasa 34.35 78 *e*P **P 02 34 50.8 0.0**
comp=Z,30nm,0.6s
LSA Lhasa 34.35 78 *e*P **P 02 34 50.8 0.0**
LSA pmax pmax
comp=Z,30nm,0.6s
DGZ Jazzator, Alta 34.41 42*c i*P **P 02 34 52.1 +1.4**
DGZ pmax pmax
comp=Z,17nm,1.6s
PUL Pulkovo 34.52 341⇑ *e*P **P 02 34 53.0 +1.7**
DPC Dobruska-Polom 34.52 319 *e*P **P 02 34 51.6 +0.1**
DPC MLR MLR
comp=Z,300nm,10.6s
DPC Dobruska-Polom 34.52 319 *e*P **P 02 34 51.6 +0.1**
DPC AMS AMS 02 51 30.0
comp=Z,300nm,10.6s
PALK Pallekele 34.55 122 *e*P **P 02 34 52.6 +0.6**
comp=Z,17nm,0.7s
PALK Pallekele 34.55 122 *e*P **P 02 34 52.7 +0.6**
PALK pmax pmax
comp=Z,17nm,0.7s
PALK Pallekele 34.55 122 P **P 02 34 53.0 +0.9**
comp=Z,19nm,0.9s,baz=295,slow=7.3,SNR=6.0
TREC Trest 34.57 317 *e*P **P 02 34 52.1 +0.2**
TREC MLR MLR
comp=Z,500nm,13.9s
TREC Trest 34.57 317 *e*P **P 02 34 52.1 +0.2**
TREC *e*x x 02 35 16.1
TREC AMS AMS 02 52 50.0
comp=Z,500nm,13.9s
VSU Vasula 34.61 337*c i*P **P 02 34 52.2 +0.1**
VSU pmax pmax
comp=Z,210nm,1.3s
VSU Vasula 34.61 337 *e*P **P 02 34 52.1 0.0**
VSU IAmb IAmb 02 34 52.7
comp=Z,145nm,0.5s
KLNR Kaliningrad 34.67 328⇓ *e*P **P 02 34 54.6 +2.0**
KLNR pmax pmax
comp=Z,69nm,2.1s
KSP Ksiaz 34.75 320 *e*P **P 02 34 53.9 +0.4**
KSP Ksiaz 34.75 320 *e*P **P 02 34 53.9 +0.4**
UPC Upice 34.77 319 *e*P **P 02 34 53.9 +0.3**
UPC Upice 34.77 319 *e*P **P 02 34 53.9 +0.3**
MOA Molln 34.78 314 *e*P **P 02 34 54.2 +0.4**
comp=Z,6.3nm,0.8s,SNR=6.0
MYKA Terra Mystica 34.79 312 *e*P **P 02 34 55.3 +1.4**
comp=Z,14nm,1.5s
MYKA *e*PcP **PcP 02 37 26.8 -0.3**
comp=Z,0.8nm,0.4s
NVS Novosibirsk 34.80 32 *e*P **P 02 34 53.8 +0.1**
NVS *e*S **S 02 40 20.2 -3.2**
NVS pmax pmax
comp=Z,15nm,0.8s
NVS pmax pmax
comp=E,9.0nm,0.8s
NVS smax smax
comp=N,25nm,1.7s
NVS smax smax
comp=E,6.0nm,0.7s
ZALV Zalesovo Beam 35.05 34 P **P 02 34 56.5 +0.6**
comp=E,22nm,0.5s,baz=241,slow=11,SNR=6.8
ZALV LR LR 02 49 24.4
comp=E,223nm,21.0s,baz=248,slow=36
KBA Koelnbreinsper 35.12 312 *e*P **P 02 34 57.3 +0.4**
comp=E,6.5nm,0.8s,SNR=8.2
GOPC GO Pecny, Ondr 35.23 318 *e*P **P 02 34 57.4 -0.3**
GOPC MLR MLR

comp=Z,500nm,21.4s
GOPC GO Pecny, Ondr 35.23 318 *e*P **P 02 34 57.4 -0.3**
GOPC AMS AMS 02 51 20.0
comp=Z,500nm,21.4s
MBAR Mbarara 35.23 218 *e*P **P 02 35 01.7 +3.6**
comp=Z,8.2nm,0.6s
PRU Pruhonice 35.41 318 *e*P **P 02 34 59.1 0.0**
PRU MLR MLR
comp=Z,500nm,19.2s
PRU Pruhonice 35.41 318 *e*P **P 02 34 59.1 0.0**
PRU AMS AMS 02 51 30.0
comp=Z,500nm,19.2s
GEC2 GERESS Array S 35.49 315 *e*P **P 02 34 60.0 0.0**
comp=Z,23nm,2.0s
GEC2 GERESS Array S 35.49 315 *e*P **P 02 35 00.0 0.0**
GEC2 pmax pmax
comp=Z,23nm,2.0s
GERES GERESS Array B 35.49 315 *e*P **P 02 34 59.5 -0.4**
GERES *e*PcP **PcP 02 37 28.9 -0.2**
GERES GERESS Array B 35.49 315 *e*P **P 02 34 59.5 -0.4**
GERES *e* 02 37 28.9
GERES GERESS Array B 35.49 315 P **P 02 34 59.8 -0.2**
comp=Z,1.3nm,0.6s,baz=103,slow=8.0,SNR=12
GERES PcP **PcP 02 37 29.1 0.0**
comp=Z,2.9nm,0.6s,baz=143,slow=3.3,SNR=7.0
GERES LR LR 02 53 37.4
comp=Z,283nm,19.1s,baz=118,slow=43
ABTA Abfaltersbach 35.56 312 *e*P **P 02 35 01.0 +0.4**
comp=Z,12nm,1.3s,SNR=6.0
ABTA *e*PcP **PcP 02 37 30.0 +0.6**
comp=Z,9.7nm,1.3s
PVCC Panska Ves 35.61 319 *e*P **P 02 35 01.5 +0.7**
PVCC MLR MLR
comp=Z,500nm,20.1s
PVCC Panska Ves 35.61 319 *e*P **P 02 35 01.5 +0.7**
PVCC AMS AMS 02 52 30.0
comp=Z,500nm,20.1s
KHC Kasperske Hory 35.66 316 *e*P **P 02 35 01.8 +0.4**
comp=Z,9.1nm,1.3s
KHC Kasperske Hory 35.66 316 *e*P **P 02 35 01.5 +0.1**
KHC *e* 02 35 15.0
KHC MLR MLR
comp=Z,400nm,18.0s
KHC Kasperske Hory 35.66 316 *e*P **P 02 35 01.5 +0.1**
KHC *ex* x 02 35 15.0
KHC *ex* x 02 35 55.0
KHC AMS AMS 02 53 30.0
comp=Z,400nm,18.0s
SLIT Slitere, Latvi 35.67 333 *e*P **P 02 35 00.6 -0.6**
SLIT IAmb IAmb 02 35 02.4
comp=Z,136nm,0.8s
BRG Berggiesshubel 36.11 319 *e*P **P 02 35 04.8 -0.3**
comp=Z,8.8nm,1.1s
BRG *e*PCP **PcP 02 37 31.2 +0.4**
comp=Z,11nm,1.3s
BRG Berggiesshubel 36.11 319 *e*P **P 02 35 04.8 -0.3**
BRG *e* 02 37 31.2
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG MLR MLR
comp=N,453nm,27.9s
BRG MLR MLR
comp=E,211nm,10.2s
BRG MLR MLR
comp=Z,542nm,18.9s
WTTA Wattenberg 36.29 312 *e*P **P 02 35 07.0 0.0**
comp=Z,9.6nm,0.7s
WTTA *e*PcP **PcP 02 37 31.9 +0.3**
comp=Z,1.5nm,0.3s
WTTA S **S 02 40 45.7 -1.2**
comp=Z,12nm,1.3s
WATA Walderalm 36.35 312 *e*P **P 02 35 07.3 -0.1**
comp=Z,6.8nm,0.8s,SNR=11
WATA *e*PcP **PcP 02 37 31.8 +0.1**
comp=Z,1.9nm,0.4s
KEST Kesra 36.40 292 *e*P **P 02 35 10.6 +2.6**
comp=Z,15nm,0.8s
KEST Kesra 36.40 292 P **P 02 35 10.2 +2.3**
comp=Z,11nm,0.7s,baz=72,slow=2.4,SNR=14
KEST LR LR 02 53 06.3
comp=Z,419nm,19.2s,baz=16,slow=41
SQTA Sankt Quirin 36.56 312 *e*P **P 02 35 08.9 -0.2**
comp=Z,9.0nm,0.7s,SNR=7.3
SQTA *e*PcP **PcP 02 37 32.3 -0.1**
comp=Z,6.7nm,0.5s
SQTA *e*S **S 02 40 50.4 -0.5**
comp=Z,7.6nm,1.3s
MOTA Moosalm 36.66 312 *e*P **P 02 35 09.5 -0.6**
comp=Z,6.9nm,0.7s,SNR=10
MOTA *e*PcP **PcP 02 37 32.7 -0.1**
comp=Z,4.4nm,0.6s
MOTA *e*S **S 02 40 50.6 -2.0**
comp=Z,2.3nm,0.9s
NKC Novy Kostel 36.75 317 *e*P **P 02 35 10.8 +0.2**
NKC MLR MLR
comp=Z,500nm,16.6s
NKC Novy Kostel 36.75 317 *e*P **P 02 35 10.8 +0.2**
NKC AMS AMS 02 55 00.0
comp=Z,500nm,16.6s
TMCR Tamitsa 36.75 350 *e*P **P 02 35 10.8 +0.4**
TMCR pmax pmax
comp=Z,32nm,0.6s
FETA Feichten 36.82 311 *e*P **P 02 35 11.4 0.0**
comp=Z,18nm,1.1s,SNR=14
FETA *e*PcP **PcP 02 37 33.8 +0.5**
comp=Z,3.4nm,0.7s
FETA *e*S **S 02 40 53.8 -1.2**
comp=Z,9.4nm,1.4s
CLL Collm 36.83 319 *e*P **P 02 35 10.8 -0.5**
comp=Z,24nm,1.3s
CLL Collm 36.83 319⇑ *i*P **P 02 35 11.1 -0.2**
CLL *e* 02 37 33.0
CLL *e*S **S 02 40 53.0 -1.7**
CLL pmax pmax
comp=Z,22nm,1.2s
CLL MLR MLR
comp=Z,400nm,18.6s
CLL Collm 36.83 319⇑ *i*P **P 02 35 11.1 -0.2**
comp=Z,22nm,1.2s
CLL *i* 02 35 33.9
CLL *e*PPP PPP 02 36 50.0
CLL *e*PcP **PcP 02 37 33.0 +0.1**
comp=Z,7.0nm,0.9s
CLL *e*S **S 02 40 53.0 -1.7**
CLL *e* 02 41 30.0
CLL *e*(SS) 02 43 42.0
CLL LmV 02 52 00.0
comp=Z,400nm,18.6s
CLL LmH 02 53 00.0
comp=N,300nm,21.2s
CLL LmH 02 53 00.0
comp=E,200nm,19.2s
RUE Ruedersdorf 36.88 321 *e*P **P 02 35 11.7 +0.1**
RUE IAmb IAmb 02 35 13.3
comp=Z,19nm,0.8s
RETA Reutte 36.92 312 *i* P **P 02 35 11.6 -0.6**
comp=Z,0.3nm,0.3s,SNR=7.9
RETA *i* PcP **PcP 02 37 33.8 +0.4**
comp=Z,3.9nm,0.6s
RETA *e*S **S 02 40 53.7 -2.7**
comp=Z,10nm,1.7s
FUORN Ofenpass-Fuorn 37.02 311 *e*P **P 02 35 14.0 +0.7**
comp=Z,12nm,0.9s
FIA1 FINESS Array S 37.12 340 *e*P **P 02 35 13.9 +0.3**
comp=Z,44nm,0.6s
FINES FINESS Array B 37.12 340 P **P 02 35 13.8 +0.2**
comp=Z,29nm,0.5s,baz=146,slow=8.3,SNR=230
FINES LR LR 02 52 31.9
comp=Z,319nm,18.1s,baz=141,slow=40
GRA1 Grafenberg Arr 37.30 316 *e*P **P 02 35 15.3 0.0**
comp=Z,15nm,0.9s
GRF Grafenberg Arr 37.30 316 *e*P **P 02 35 15.3 0.0**
GRF pmax pmax
comp=Z,15nm,0.9s
GRFO Grafenberg 37.30 316 *e*P **P 02 35 14.9 -0.3**
comp=Z,13nm,0.9s
GRFO *e*PcP **PcP 02 37 35.4 +1.0**
GRFO Grafenberg 37.30 316 *e*P **P 02 35 15.0 -0.3**
GRFO *e* 02 37 35.4
GRFO pmax pmax
comp=Z,13nm,0.9s
DAVOX Davos/Dischmat 37.32 311 P **P 02 35 15.6 -0.1**
comp=Z,9.1nm,0.8s,baz=110,slow=9.7,SNR=12
DAVA Damuels 37.45 312 *e*P **P 02 35 16.5 -0.3**
comp=Z,18nm,0.7s,SNR=18
DAVA *e*PcP **PcP 02 37 35.4 +0.3**
comp=Z,1.9nm,0.5s
DAVA *e*S **S 02 41 05.9 +1.4**
comp=Z,10nm,1.8s
BSD Bornholm Skovb 37.51 326 *i* P **P 02 35 16.1 -0.9**
BSD pmax pmax
comp=Z,13nm,0.7s
BSD Bornholm Skovb 37.51 326 *i* P **P 02 35 16.1 -0.9**
comp=Z,13nm,0.7s
TUE Stuetta 37.60 310 *e*P **P 02 35 18.2 +0.1**
comp=Z,16nm,1.2s
ABSA Djebel Ababsia 37.91 293 P **P 02 35 24.0 +3.3**
CMAH Djebel Manchou 37.95 294 P **P 02 35 22.8 +1.7**
RGN Rugen 38.05 324 *e*P **P 02 35 22.5 +1.0**
comp=Z,102nm,1.3s
CAEH 'Ain El Ouahch 38.41 294 P **P 02 35 25.6 +0.8**
CKFL Kef-Lekhel 38.52 294 P **P 02 35 27.2 +1.3**
CASM Ain Smara 38.71 293 P **P 02 35 28.4 +1.0**
BFO Black Forest 38.72 313 *i* P **P 02 35 28.8 +1.4**
SENIN Lac Senin/Sane 38.96 310 *e*P **P 02 35 28.8 -0.8**
comp=Z,10nm,0.9s
COP Copenhagen 39.03 325⇑ *i*P **P 02 35 30.7 +1.0**
COP pmax pmax
comp=Z,36nm,1.0s
COP Copenhagen 39.03 325⇑ *i*P **P 02 35 30.7 +1.0**
comp=Z,36nm,1.0s
BNI Bardonecchia 39.15 307 *e*P **P 02 35 29.9 -1.1**
comp=Z,24nm,1.2s
BNI Bardonecchia 39.15 307 *e*P **P 02 35 30.0 -1.1**
BNI pmax pmax
comp=Z,24nm,1.2s
DFRA Djebel Bou Aff 39.19 294 P **P 02 35 33.5 +1.9**
ECH Echery 39.45 312 *e*P **P 02 35 32.8 -0.7**
comp=Z,14nm,1.1s
ECH Echery 39.45 312 *e*P **P 02 35 32.8 -0.7**
ECH pmax pmax
comp=Z,14nm,1.1s
CKHR Kef el Ahmar 39.51 293 P **P 02 35 36.6 +2.4**
SET Setif 39.59 293 P **P 02 35 37.0 +2.1**
WLF Walferdange 40.45 314⇑ P **P 02 35 41.4 -0.2**
APA Apatity 40.64 349⇑ *i*P **P 02 35 42.7 -0.3**
APA pmax pmax
comp=Z,18nm,0.7s
APA MLR MLR
comp=Z,700nm,17.0s
LVZ Lovozero 40.74 350 *e*P **P 02 35 44.0 +0.1**
comp=Z,17nm,0.9s
LVZ Lovozero 40.74 350 *e*P **P 02 35 44.0 +0.1**
LVZ pmax pmax
comp=Z,17nm,0.9s
GTA Gaotai 40.92 62⇑ P **P 02 35 47.4 +1.5**
GTA pP pP 02 35 51.3 -0.2
GTA sP sP 02 35 54.2 +0.5
GTA S **S 02 42 02.2 +5.2**
GTA sS sS 02 42 10.2 +4.0
GTA pmax pmax
comp=Z,48nm,0.9s
GTA pmax pmax
comp=Z,200nm,7.0s
GTA LR LR
comp=Z,390nm,14.9s
GTA LR LR
comp=Z,530nm,16.5s
GTA LR LR
comp=Z,720nm,14.9s
MUD Monsted U'grnd 41.01 325⇑ *i*P **P 02 35 47.3 +1.2**
MUD pmax pmax
comp=Z,31nm,0.8s
MUD Monsted U'grnd 41.01 325⇑ *i*P **P 02 35 47.3 +1.2**
comp=Z,31nm,0.8s
BCLA Clavier 41.16 315⇑ P **P 02 35 47.8 +0.3**
DOU Dourbes 41.53 315⇑ P **P 02 35 50.5 0.0**
SNF Seneffe 41.82 315⇑ P **P 02 35 53.3 +0.4**
SNF ⇑ sP **pP 02 35 57.2 -1.3**
UCC Uccle 41.84 316 *e*P **P 02 35 54.1 +1.0**
comp=Z,24nm,1.2s
UCC Uccle 41.84 316 *e*P **P 02 35 54.1 +1.0**
UCC pmax pmax
comp=Z,24nm,1.2s
UCC Uccle 41.84 316⇑ P **P 02 35 53.3 +0.2**
UCC ⇑ sP **pP 02 35 57.2 -1.5**
TAM Tamanrasset 41.85 273 *e*P **P 02 35 54.4 +0.7**
comp=Z,8.7nm,0.7s
OSL Oslo 41.89 330 *e*P **P 02 35 53.7 +0.3**
NC602 NORSAR Array S 41.95 332 *e*P **P 02 35 54.0 +0.2**
comp=Z,76nm,1.5s
NC405 NORSAR Array S 42.08 332 *e*P **P 02 35 54.8 -0.2**
comp=Z,144nm,1.3s
NB201 NORSAR Array S 42.22 332 *e*P **P 02 35 55.8 -0.3**
comp=Z,84nm,1.3s
KONO Kongsberg 42.25 330 *e*P **P 02 35 56.3 +0.1**
comp=Z,51nm,1.4s
KONO Kongsberg 42.25 330⇑ *e*P **P 02 35 55.9 -0.4**
KONO pmax pmax
comp=Z,36nm,1.3s
KONO Kongsberg 42.25 330 *e*P **P 02 35 55.2 -1.1**
NB2 NORSAR Subarra 42.25 332 P **P 02 35 55.7 -0.6**
comp=Z,9.4nm,0.5s,baz=122,slow=8.6
NB2 NORSAR Subarra 42.25 332 P **P 02 35 55.7 -0.6**
baz=122,slow=8.6
NOA NORSAR Array B 42.25 332 P **P 02 35 55.8 -0.6**
comp=Z,8.4nm,0.6s,baz=122,slow=8.3,SNR=60
NOA LR LR 02 55 17.2
comp=Z,338nm,20.4s,baz=120,slow=39
NAO01 NORSAR Array S 42.29 332 *e*P **P 02 35 56.4 -0.3**
comp=Z,46nm,0.9s
NC303 NORSAR Array S 42.29 332 *e*P **P 02 35 56.2 -0.4**
comp=Z,74nm,1.3s
NBO00 NORSAR Array S 42.43 332 *e*P **P 02 35 57.8 0.0**
comp=Z,82nm,1.4s
NC204 NORSAR Array S 42.56 332 *e*P **P 02 35 58.6 -0.3**
comp=Z,26nm,0.8s
NC204 NORSAR Array S 42.56 332 *e*P **P 02 35 58.5 -0.4**
SNART Snartemo 42.76 327 *e*P **P 02 36 01.1 +0.6**
MOY Mondy 43.20 44 *e*P **P 02 36 05.9 +1.6**
MOY pmax pmax
comp=Z,57nm,1.9s
SKAR Skarslia 43.31 330 *e*P **P 02 36 05.8 +0.8**
BLS5 Blasjo 43.58 328 *e*P **P 02 36 07.3 +0.3**
DOMB Dombas 43.65 332 *e*P **P 02 36 08.6 +0.9**
KEV Kevo 43.69 348 *e*P **P 02 36 08.0 +0.2**
comp=Z,103nm,1.6s
KEV Kevo 43.69 348 *e*P **P 02 36 08.0 +0.2**
KEV pmax pmax
comp=Z,103nm,1.6s
ODD1 Odda 43.70 329 *e*P **P 02 36 08.1 0.0**
ARCES ARCESS Array B 43.79 347 *e*P **P 02 36 09.2 +0.6**
ARCES ARCESS Array B 43.79 347 P **P 02 36 09.1 +0.5**
comp=Z,3.6nm,0.5s,baz=153,slow=7.0,SNR=50
ARE0 ARCESS Array S 43.79 347 *e*P **P 02 36 09.2 +0.5**
KTK1 Kautokeino 43.83 346 *e*P **P 02 36 09.5 +0.5**
NSS Namsos 43.91 336 *e*P **P 02 36 10.0 +0.3**
CHTO Chiang Mai 44.07 92 *e*P **P 02 36 11.6 0.0**
comp=Z,41nm,1.3s
CHTO Chiang Mai 44.07 92 *e*P **P 02 36 11.6 0.0**
CHTO pmax pmax
comp=Z,41nm,1.3s
CHTO Chiang Mai 44.07 92 P **P 02 36 11.7 +0.1**
SNR=11
CMMT Chiang Mai 44.07 92 P **P 02 36 12.5 +0.9**
comp=Z,13nm,1.0s,comp=Z,275nm
MOR8 Moi Rana 44.10 339 *e*P **P 02 36 10.9 -0.3**
CMAR Chiang Mai Arr 44.20 92 P **P 02 36 13.1 +0.5**
comp=Z,3.8nm,0.4s,baz=287,slow=9.0,SNR=18
CMAR PcP **PcP 02 37 57.1 -0.2**
comp=Z,3.4nm,0.7s,baz=287,slow=7.2,SNR=4.4
CMAR LR LR 03 00 01.2
comp=Z,344nm,18.5s,baz=285,slow=43
LZH Lanzhou 44.26 66 *e*P **P 02 36 13.7 +0.6**
LZH pP pP 02 36 18.6 -0.2
LZH sP sP 02 36 21.3 +0.3
LZH PP **PcP 02 37 58.5 +1.0**
LZH pmax pmax
comp=Z,41nm,1.1s
LZH pmax pmax
comp=Z,150nm,4.4s
LZH LR LR
comp=Z,570nm,12.5s
LZH LR LR
comp=Z,740nm,11.9s
LZH LR LR
comp=Z,760nm,12.5s
BER Bergen 44.49 329 *e*P **P 02 36 14.6 +0.2**
AKN Aaknes 44.57 332 *e*P **P 02 36 16.4 +1.4**
ASK Askoy 44.59 329 *e*P **P 02 36 15.8 +0.7**
KONS Konsvik 44.72 339 *e*P **P 02 36 16.3 +0.2**
TLY Talaya 44.81 44 *c i*P **P 02 36 18.7 +1.6**
CD2 Chengdu 44.92 74 P **P 02 36 18.2 -0.1**
CD2 S **S 02 42 56.5 +0.7**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,180nm,6.3s
CD2 LR LR
comp=Z,820nm,17.2s
CD2 LR LR
comp=Z,510nm,14.7s
CD2 LR LR
comp=Z,760nm,17.7s
UMPA Umpang Tak 45.01 95 P **P 02 36 20.8 +1.7**
comp=Z,111μm,1.2s
STEI Steigen 45.03 341 *e*P **P 02 36 18.6 +0.1**
HAMF Hammerfest 45.06 347 *e*P **P 02 36 19.7 +0.9**
TRO Tromso 45.29 345 *e*P **P 02 36 20.9 +0.3**
PHRA Phrae 45.32 92 P **P 02 36 22.4 +0.9**
comp=Z,5.4nm,1.4s
KMI Kunming 45.38 82 P **P 02 36 22.6 +0.4**
KMI pP pP 02 36 25.7 -2.0
KMI sP sP 02 36 27.6 -2.3
KMI pmax pmax
comp=Z,32nm,0.6s
KMI pmax pmax
comp=Z,120nm,4.7s
KMI LR LR
comp=Z,360nm,16.1s
KMI LR LR
comp=Z,300nm,15.4s
KMI LR LR
comp=Z,370nm,14.1s
WOL Wolverton 45.39 315 *e*P **P 02 36 21.9 +0.2**
FIGM Figuig 45.52 288 P **P 02 36 24.0 +0.8**
NANT Nan 45.62 91 P **P 02 36 25.0 +1.1**
comp=Z,61μm,0.9s,comp=Z,742μm
JLP Les Platons 45.67 312 *e*P **P 02 36 23.3 -0.6**
CWF Charnwood Fore 45.69 317 *e*P **P 02 36 23.5 -0.5**
CWF IAmb IAmb 02 36 24.5
comp=Z,36nm,1.3s
JSA Saint Aubin 45.71 312 *e*P **P 02 36 23.6 -0.6**
JSA IAmb IAmb 02 36 24.4
comp=Z,51nm,1.3s
JVM Valle D.L. Mar 45.73 312 *e*P **P 02 36 23.8 -0.6**
GDLE Glaisdale, N Y 45.74 320 *e*P **P 02 36 24.6 +0.1**
GDLE IAmb IAmb 02 36 25.3
comp=Z,40nm,0.9s
SWN1 Swindon 45.78 315 *e*P **P 02 36 25.1 +0.3**
UTHA Uthaitani 45.79 96 P **P 02 36 26.2 +1.0**
comp=Z,51μm,0.7s,comp=Z,629μm
SESP Santiago Espad 45.81 297 P **P 02 36 25.7 +0.3**
NRIK Noril'sk 45.82 17 P **P 02 36 26.4 +1.6**
comp=Z,20nm,0.9s,baz=220,slow=5.6,SNR=23
NRIK LR LR 02 59 12.6
comp=Z,741nm,19.5s,baz=212,slow=41
UTTA Uttaradit 45.89 92 P **P 02 36 26.9 +0.9**
comp=Z,69μm,0.9s,comp=Z,742μm
TDRA Tendrara 46.01 290 P **P 02 36 28.3 +1.2**
SRDT SRDT 46.02 98 P **P 02 36 28.5 +1.4**
comp=Z,17nm,1.5s
STRD Stroud 46.05 316 *e*P **P 02 36 26.8 0.0**
SONM Songino Array 46.08 50 P **P 02 36 28.3 +0.9**
comp=Z,3.5nm,0.6s,baz=262,slow=8.5,SNR=7.2
SONM LR LR 02 57 14.2
comp=Z,59nm,19.5s,baz=243,slow=38
UCM Universidad Co 46.20 300 *i* P **P 02 36 29.1 +0.8**
JBK JBK 46.25 292 P **P 02 36 31.0 +2.0**
OLDB Oldbury-Upon-S 46.27 316 *e*P **P 02 36 28.3 -0.3**
OLDB IAmb IAmb 02 36 29.7
comp=Z,45nm,1.2s
MONM Monmouth 46.45 316 *e*P **P 02 36 29.6 -0.4**
EDMD Edmundbyers 46.48 320 *e*P **P 02 36 30.2 0.0**
ULN Ulaanbaatar 46.52 50 *ce*P **P 02 36 31.7 +0.8**
ULN pmax pmax
comp=Z,25nm,1.2s
MCH1 Michaelchurch 46.59 316 *e*P **P 02 36 30.7 -0.4**
MCH1 IAmb IAmb 02 36 31.5
comp=Z,27nm,0.7s
HLM1 Long Mynd 46.60 317 *e*P **P 02 36 29.8 -1.5**
HLM1 IAmb IAmb 02 36 31.4
comp=Z,24nm,1.0s
ESDC Sonseca Array 46.80 299 P **P 02 36 33.1 +0.1**
comp=Z,1.8nm,0.5s,baz=67,slow=7.6,SNR=35
ESDC PcP **PcP 02 38 06.2 +0.1**
comp=Z,1.6nm,0.7s,baz=71,slow=5.0,SNR=5.2
ESDC ScP **ScP 02 41 58.0 -1.0**
comp=Z,1.1nm,0.7s,baz=56,slow=4.0,SNR=5.9
ESLA Sonseca Array 46.80 299 *e*P **P 02 36 33.2 +0.2**
comp=Z,5.2nm,0.8s
FOEL Foel Wylfa 46.85 317 *e*P **P 02 36 33.4 +0.2**
OPO Ambohidratompo 46.99 186 P **P 02 36 36.5 +1.8**
comp=Z,4.7nm,0.9s,baz=331,slow=7.1,SNR=3.4
ESY Stoneypath 47.08 321 *e*P **P 02 36 35.0 +0.2**
PHET Kaeng Krachan 47.09 99 P **P 02 36 37.3 +1.8**
comp=Z,48μm,1.2s,comp=Z,674μm
PAB San Pablo 47.10 299 *e*P **P 02 36 35.5 0.0**
comp=Z,17nm,1.4s
PAB San Pablo 47.10 299 *e*P **P 02 36 35.5 0.0**
PAB pmax pmax
comp=Z,17nm,1.4s
LLW Llanuwychllyn 47.12 317 *e*P **P 02 36 35.2 -0.1**
PALE Palemas 47.25 293 P **P 02 36 38.0 +1.4**
EBL Broad Law 47.28 321 *e*P **P 02 36 36.6 +0.1**
ABPO Ambohimpanom 47.43 186 *e*P **P 02 36 38.1 0.0**
comp=Z,28nm,0.9s
ABPO Ambohimpanom 47.43 186 *e*P **P 02 36 38.1 0.0**
ABPO pmax pmax
comp=Z,28nm,0.9s
EMAL Malaga-Limoner 47.44 295 *i* P **P 02 36 38.0 +0.1**
WME Myndd Eilian 47.58 318 *e*P **P 02 36 39.4 +0.5**
WLF1 Llynfaes 47.62 318 *e*P **P 02 36 39.3 +0.2**
WLF1 IAmb IAmb 02 36 40.3
comp=Z,76nm,1.2s
RSBS Rosebush, Pemb 47.66 316 *e*P **P 02 36 39.1 -0.3**
WPS Cemaes, Angles 47.70 318 *e*P **P 02 36 40.0 +0.3**
WPS IAmb IAmb 02 36 40.4
comp=Z,46nm,1.0s
YRC Rhoscolyn 47.72 317 *e*P **P 02 36 40.0 +0.1**
MCD Coleburn Disti 47.79 323 *e*P **P 02 36 40.4 0.0**
CHAI Chaiyaphum 47.87 94 P **P 02 36 42.5 +0.9**
comp=Z,28μm,0.9s
INVG Invergeldie, C 47.97 322 *e*P **P 02 36 41.6 -0.2**
INVG IAmb IAmb 02 36 42.8
comp=Z,21nm,0.9s
HORN Hornachuelos 47.97 297 P **P 02 36 41.7 -0.4**
NONG Nongkai 48.05 91 P **P 02 36 42.8 -0.1**
comp=Z,1.6nm,0.9s
MDT Midelt 48.18 290 P **P 02 36 45.0 +1.0**
comp=Z,6.2nm,0.8s,baz=90,slow=10.0,SNR=14
MDT Midelt 48.18 290 P **P 02 36 45.1 +1.2**
LIJA Lijar 48.20 295 *i* P **P 02 36 42.8 -1.2**
LCRM LCR 48.23 291 P **P 02 36 47.0 +2.6**
GYA Guiyang 48.42 79⇑ *i*P **P 02 36 45.5 -0.4**
GYA ScP **ScP 02 42 06.3 +0.1**
GYA S **S 02 43 50.0 +3.9**
GYA SS **SS 02 47 10.5 -5.3**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,130nm,6.6s
GYA LR LR
comp=Z,340nm,19.6s
GYA LR LR
comp=Z,250nm,13.2s
GYA LR LR
comp=Z,370nm,14.4s
IFR Ifrane 48.48 291 *i* P **P 02 36 47.9 +1.6**
XAN Xi'an 48.66 68 P **P 02 36 46.8 -0.8**
XAN pP pP 02 36 51.1 -2.2
XAN PcP **PcP 02 38 13.1 +0.3**
XAN PP **PP 02 38 39.5 -1.0**
XAN S **S 02 43 50.1 +0.9**
XAN ScS **ScS 02 46 36.3 -3.4**
XAN SS **SS 02 47 09.5 -10**
XAN pmax pmax
comp=Z,9.0nm,1.2s
XAN pmax pmax
comp=Z,75nm,6.3s
XAN LR LR
comp=Z,620nm,17.1s
XAN LR LR
comp=Z,390nm,13.7s
XAN LR LR
comp=Z,350nm,16.7s
XAN Xi'an 48.66 68 *e*P **P 02 36 47.1 -0.5**

comp=Z,36nm,0.8s
XAN Xi'an 48.66 68 *e*P **P 02 36 47.1 -0.5**
XAN pmax pmax
comp=Z,37nm,0.8s
BTO Baotou 48.71 60 P **P 02 36 46.8 -1.1**
PBRG Braganca 48.76 302 *e*P **P 02 36 48.5 +0.3**
comp=Z,17nm,1.9s
DSB Dublin 48.80 317 *e*P **P 02 36 46.7 -1.5**
DSB *i* PP **pP 02 36 48.4 -5.5**
RSA Sarsar 48.82 293 P **P 02 36 49.4 +0.6**
TOA0 Torodi Ar. Sit 48.85 263 *e*P **P 02 36 48.9 -0.3**
TORD Torodi Ar. Bea 48.85 263 *e*P **P 02 36 47.4 -1.8**
TORD Torodi Ar. Bea 48.85 263 P **P 02 36 48.0 -1.1**
comp=Z,7.4nm,0.6s,baz=66,slow=7.2,SNR=39
TORD LR LR 02 59 23.9
comp=Z,453nm,21.6s,baz=345,slow=38
MVO Moncorvo 49.02 301 *e*P **P 02 36 51.0 +0.8**
comp=Z,13nm,1.3s
SKNT Sakolnakorn 49.20 92 P **P 02 36 51.8 0.0**
comp=Z,63nm,1.2s
PMRV Marv??o 49.46 299 *e*P **P 02 36 53.5 0.0**
comp=Z,19nm,1.6s
PCBR Castelo Branco 49.48 300 *e*P **P 02 36 54.8 +1.1**
comp=Z,23nm,1.4s
PVRL Vila Real 49.53 301 *e*P **P 02 36 54.7 +0.6**
comp=Z,23nm,1.6s
POLO Lamas de Olo 49.58 302 *e*P **P 02 36 55.3 +0.8**
comp=Z,12nm,1.6s
IDGL Inch Island, C 49.68 320 *e*P **P 02 36 54.2 -0.7**
IDGL *e*PP **pP 02 36 56.0 -4.6**
PANO Nakornpanom 49.69 91 P **P 02 36 55.6 +0.1**
comp=Z,1.4nm,1.1s
PVIS Viseu 49.71 301 *e*P **P 02 36 56.3 +0.8**
comp=Z,30nm,1.3s
HHC Hu-ho-hao-te 49.85 59 *e*P **P 02 36 57.9 +1.2**
HHC S **S 02 44 04.6 -1.3**
HHC sS sS 02 44 17.6 +2.3
HHC pmax pmax
comp=Z,79nm,1.1s
HHC pmax pmax
comp=Z,260nm,6.0s
HHC LR LR
comp=Z,600nm,14.4s
HHC LR LR
comp=Z,450nm,15.7s
HHC LR LR
comp=Z,540nm,14.0s
PGAV Gavieira, Arco 49.88 302 *e*P **P 02 36 58.6 +1.7**
comp=Z,28nm,1.6s
ENH Enshi 49.89 73 *e*P **P 02 36 55.0 -2.0**
TPTI 49.96 112 P **P 02 36 55.6 -2.0**
comp=Z,16nm,1.8s
PBEJ Beja 49.99 297 *e*P **P 02 36 58.6 +1.0**
comp=Z,14nm,1.5s
EVO Evora 50.04 298 *e*P **P 02 36 58.2 +0.3**
comp=Z,15nm,1.4s
EVO Evora 50.04 298 *i* P **P 02 36 58.3 +0.3**
COI Coimbra 50.16 300 *e*P **P 02 36 59.9 +1.1**
comp=Z,27nm,1.2s
PTOM Tomar 50.22 299 *e*P **P 02 37 00.0 +0.7**
comp=Z,30nm,1.2s
PCAS Casmilo, Conde 50.24 300 *e*P **P 02 37 00.3 +0.8**
comp=Z,12nm,1.3s
PNCL Nicolau / Gran 50.50 297 *e*P **P 02 37 02.0 +0.6**
comp=Z,20nm,1.9s
IGLA Glengowla, Co 50.60 317 *e*P **P 02 37 00.4 -1.6**
IGLA *i* PP **pP 02 37 02.2 -5.5**
PTEO Sao Teotonio 50.73 297 *e*P **P 02 37 02.8 -0.4**
comp=Z,36nm,1.6s
PFVI Vila Bisbo 50.88 296 *e*P **P 02 37 04.8 +0.5**
comp=Z,45nm,1.1s
GSI Gunungsitoli 51.41 113 P **P 02 37 08.0 -0.5**
comp=Z,34nm,1.2s
PSI Prapat 51.65 111 *e*P **P 02 37 10.1 -0.4**
comp=Z,13nm,0.8s
SPA0 Spitsbergen Ar 52.24 351 *e*P **P 02 37 15.2 +1.3**
comp=Z,88nm,1.5s
SPA0 Spitsbergen Ar 52.24 351 *e*P **P 02 37 14.9 +1.0**
SPITS Spitsbergen Ar 52.24 351 P **P 02 37 14.9 +1.0**
comp=Z,4.2nm,0.4s,baz=128,slow=13,SNR=49
BJT Baijiatuau 53.44 60 *e*P **P 02 37 22.9 -0.4**
comp=Z,18nm,0.5s
BJT Baijiatuau 53.44 60 *e*P **P 02 37 22.9 -0.4**
BJT pmax pmax
comp=Z,18nm,0.5s
MATP Matopo 53.56 207 P **P 02 37 24.7 +0.3**
comp=Z,6.5nm,0.8s,baz=29,slow=8.7,SNR=12
WHN Wuhan 53.90 71 P **P 02 37 27.3 +0.5**
WHN S **S 02 45 05.9 +4.4**
WHN LR LR
comp=Z,1μm,17.0s
WHN LR LR
comp=Z,720nm,12.3s
WHN LR LR
comp=Z,1μm,13.2s
SISI Saibi 54.18 115 P **P 02 37 27.9 -1.1**
comp=Z,16nm,1.3s
PPI Padang Panjang 54.72 113 P **P 02 37 32.6 -0.3**
BKNI Bangkinang 54.79 112 P **P 02 37 32.6 -0.9**
comp=Z,64nm,0.5s
TIA Tai'an 54.86 64 P **P 02 37 34.2 +0.4**
TIA pmax pmax
comp=Z,19nm,0.5s
HIA Hailar 54.94 48 *e*P **P 02 37 33.1 -1.0**
HIA Hailar 54.94 48 *e*P **P 02 37 33.1 -1.0**
PDSI Padang 55.04 114 P **P 02 37 34.9 -0.4**
comp=Z,19nm,0.8s
NJ2 Nanjing 57.23 68 *e*P **P 02 37 49.6 -1.2**
NJ2 sP **pP 02 37 55.1 -1.5**
NJ2 pmax pmax
comp=Z,18nm,0.5s
DBIC Dimbokro 57.57 259 *e*P **P 02 37 53.5 +0.1**
comp=Z,35nm,0.9s
DBIC Dimbokro 57.57 259 P **P 02 37 53.4 +0.1**
comp=Z,22nm,0.6s,baz=36,slow=7.4,SNR=32
DBIC LR LR 03 05 23.4
comp=Z,590nm,18.1s,baz=41,slow=39
KIC Kosan Boka 57.63 259 *e*P **P 02 37 53.7 -0.1**
comp=Z,44nm,0.8s
TIC Toumodi 57.73 259 *e*P **P 02 37 54.4 -0.1**
TSUM Tsumeb 57.77 219 *e*P **P 02 37 55.4 +0.6**
comp=Z,20nm,1.6s
TSUM Tsumeb 57.77 219 P **P 02 37 54.8 +0.1**
comp=Z,3.6nm,0.7s,baz=340,slow=11,SNR=14
DL2 Dalian 57.80 60 P **P 02 37 55.2 +0.5**
DL2 *e*S **S 02 45 54.3 +1.1**
DL2 pmax pmax
comp=Z,28nm,1.2s
DL2 pmax pmax
comp=Z,140nm,5.9s
DL2 LR LR
comp=Z,330nm,20.2s
DL2 LR LR
comp=Z,470nm,16.3s
DL2 LR LR
comp=Z,550nm,17.0s
LIC Lamto 57.94 259 *e*P **P 02 37 55.9 -0.1**
comp=Z,103nm,0.8s
SCO Scoresbysund 57.99 338 *e*P **P 02 37 57.1 +1.6**
comp=Z,34nm,1.6s
SCO Scoresbysund 57.99 338 *e*P **P 02 37 57.1 +1.6**
SCO pmax pmax
comp=Z,34nm,1.6s
SCO Scoresbysund 57.99 338 *i* P **P 02 37 57.7 +2.2**
DAG Danmarks Havn 58.01 345 *i* P **P 02 37 55.8 +0.3**
DAG pmax pmax
comp=Z,5.0nm,0.6s
DAG Danmarks Havn 58.01 345 *i* P **P 02 37 55.8 +0.3**
comp=Z,7.7nm,0.6s
LBTB Lobatse 58.84 208 *e*P **P 02 38 03.0 +1.0**
comp=Z,10nm,0.8s
LBTB Lobatse 58.84 208 *e*P **P 02 38 03.1 +1.0**
LBTB pmax pmax
comp=Z,11nm,0.8s
MNAI Manna 59.08 115 P **P 02 38 03.3 -0.6**
comp=Z,200nm,1.5s
ZEA Zeya 59.17 42 *e*P **P 02 38 04.3 +0.3**
ZEA pmax pmax
comp=Z,63nm,2.0s
ZEA MLR MLR
comp=E,800nm,14.0s
ZEA MLR MLR
comp=Z,1μm,14.0s
TIXI Tiksi 59.19 21 P **P 02 38 04.0 +0.2**
TIXI pmax pmax
comp=Z,12nm,0.5s
TIXI Tiksi 59.19 21 P **P 02 38 04.0 +0.2**
comp=Z,12nm,0.5s,baz=302,slow=4.3,SNR=15
CN2 Changchun 59.60 54 *e*P **P 02 38 06.5 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,380nm,13.0s
CN2 LR LR
comp=Z,510nm,13.0s
CN2 LR LR
comp=Z,780nm,13.0s
YAK Yakutsk 59.66 32 *e*P **P 02 38 05.8 -1.4**
YAK *e**PP **sP 02 38 16.4 +1.3**
YAK *e* 02 38 55.1
YAK *e*S **S 02 46 12.1 -4.6**
YAK *e**SS **sS 02 46 27.5 +1.3**
YAK *e* 02 47 57.9
YAK pmax pmax
comp=Z,68nm,0.8s
YAK pmax pmax
comp=N,7.0nm,0.6s
YAK pmax pmax
comp=E,8.0nm,0.4s
YAK pmax pmax
comp=Z,161nm,21.1s
YAK pmax pmax
comp=E,335nm,22.9s
YAK pmax pmax
comp=N,153nm,25.4s
YAK smax smax
comp=N,400nm,16.6s
YAK smax smax
comp=E,395nm,19.1s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK MLR MLR
comp=N,531nm,14.0s
YAK MLR MLR
comp=E,2μm,14.0s
PPBI Pangkal Pinang 60.38 111 P **P 02 38 12.4 -0.5**
KLSI 60.69 114 P **P 02 38 14.1 -0.9**
comp=E,79nm,1.1s,comp=E,2μm
BOSA Boshof 62.18 206 P **P 02 38 24.9 +0.1**
BOSA pmax pmax
comp=Z,4.0nm,0.8s
BOSA MLR MLR
comp=Z,183nm,18.5s
BOSA Boshof 62.18 206 P **P 02 38 24.9 +0.1**
comp=Z,2.7nm,0.5s,baz=25,slow=8.4,SNR=9.9
BOSA LR LR 03 08 32.4
comp=Z,183nm,18.5s,baz=20,slow=39
CGJI Cibinong 62.60 115 P **P 02 38 26.4 -1.4**
comp=Z,35nm,0.8s
KLR Kul'dur 62.72 47 *c i*P **P 02 38 27.5 -0.7**
KLR pmax pmax
comp=Z,11nm,1.2s
KLR Kul'dur 62.72 47 P **P 02 38 27.6 -0.7**
comp=Z,2.1nm,0.4s,baz=283,slow=5.0,SNR=13
TJN Taejon 62.84 61‖ *e*P **P 02 38 28.2 -1.0**
KSAR Wonju Array Be 62.94 60 *e*P **P 02 38 29.1 -0.7**
KSAR Wonju Array Be 62.94 60 *e*P **P 02 38 29.1 -0.7**
KSRS Korea Array 62.96 60 P **P 02 38 29.3 -0.7**
comp=Z,6.0nm,0.5s,baz=279,slow=6.9,SNR=21
KSRS LR LR 03 09 06.6
comp=Z,357nm,18.8s,baz=283,slow=39
SUMG Summit 63.15 340 *e*P **P 02 38 32.3 +1.2**
comp=Z,43nm,1.1s
SUMG Summit 63.15 340 *e*P **P 02 38 32.3 +1.2**
SUMG pmax pmax
comp=Z,43nm,1.1s
SUMG Summit 63.15 340 *i* P **P 02 38 32.4 +1.2**
comp=Z,82nm,0.9s
USRK Ussuriysk Ar. 64.10 52 P **P 02 38 36.4 -1.0**
comp=Z,4.2nm,0.8s,baz=256,slow=7.7,SNR=6.5
USRK LR LR 03 09 52.9
comp=Z,517nm,18.6s,baz=288,slow=39
JNU Nakatsue 66.60 64 LR LR 03 14 10.1
comp=Z,184nm,18.4s,baz=284,slow=42
SFJD Kangerlussuaq 68.76 336 *i* P **P 02 39 07.1 +0.3**
SFJD Kangerlussuaq 68.76 336 *i* P **P 02 39 07.1 +0.3**
TULEG Thule 69.12 348 *e*P **P 02 39 08.2 -0.7**
SEY Seymchan 69.66 29 P **P 02 39 13.6 +1.1**
comp=Z,16nm,0.7s,baz=277,slow=5.1,SNR=32
MA2 Magadan 70.24 32 *e*P **P 02 39 16.5 +0.4**
MA2 Magadan 70.24 32 *c i*P **P 02 39 16.3 +0.2**
MA2 pmax pmax
comp=Z,17nm,1.0s
YSS Yuzh-Sakhalins 70.43 47 *e*P **P 02 39 17.0 -0.5**
YSS *e**SP **pP 02 39 20.3 -3.1**
YSS *e*S **S 02 48 30.0 +0.5**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,600nm,18.0s
YSS MLR MLR
comp=E,600nm,17.0s
MAJO Matsushiro 71.04 58 *e*P **P 02 39 20.7 -0.7**
comp=E,3.8nm,0.6s
MAJO Matsushiro 71.04 58‖ *e*P **P 02 39 20.3 -1.1**
MAJO pmax pmax
comp=Z,13nm,1.3s
MJAR Matsushiro Arr 71.04 58 P **P 02 39 20.8 -0.6**
comp=Z,1.9nm,0.7s,baz=292,slow=8.9,SNR=5.7
MJAR LR LR 03 14 09.1
comp=Z,82nm,18.8s,baz=270,slow=39
ASAJ Asahikawa 71.36 49 LR LR 03 14 51.4
comp=Z,389nm,19.0s,baz=328,slow=39
TTSI Tana Toraja 72.36 104 P **P 02 39 28.0 -1.6**
comp=Z,14nm,0.9s
BILL Bilibino 72.41 21 *e*P **P 02 39 30.0 +0.9**
BILL Bilibino 72.41 21 *c i*P **P 02 39 30.2 +1.1**
BILL *e* 02 39 48.1
BILL *i* 02 42 14.1
BILL *e*S SKiKP 02 49 24.1 +21
BILL pmax pmax
comp=Z,28nm,1.0s
BILL MLR MLR
comp=Z,236nm,13.0s
MRSI Marisa 72.42 99 P **P 02 39 29.7 -0.3**
comp=Z,27nm,0.9s
SPSI Sidrap Palu 72.79 104 P **P 02 39 31.6 -0.6**
comp=Z,5.2nm,0.8s
APSI Ampana 72.86 101 P **P 02 39 31.4 -1.2**
comp=Z,25nm,1.2s
BNSI Bone 73.30 105 P **P 02 39 34.9 -0.3**
comp=Z,21nm,1.3s
KAPI Kappang 73.32 105 *e*P **P 02 39 34.4 -1.0**
comp=Z,10nm,0.5s
KAPI Kappang 73.32 105 *e*P **P 02 39 34.4 -1.0**
KAPI pmax pmax
comp=Z,10.0nm,0.5s
KAPI Kappang 73.32 105 P **P 02 39 34.9 -0.4**
SNR=6.2
PLAI Plampang 73.69 110 P **P 02 39 37.0 -0.5**
comp=Z,32nm,1.1s
BKSI Bulukumba 73.79 105 P **P 02 39 37.6 -0.5**
comp=Z,17nm,1.1s
LUWI Luwuk 73.89 100 P **P 02 39 37.3 -1.4**
comp=Z,41nm,0.5s
SGSI Sangihe 74.01 95 P **P 02 39 38.8 -0.6**
KMSI Cibinong 74.15 98 P **P 02 39 39.5 -0.7**
comp=Z,69nm,0.6s
BSSI Bau Bau, Buton 74.53 106 P **P 02 39 41.4 -1.0**
comp=Z,58nm,1.1s
RES Resolute Bay 74.81 351 *e*P **P 02 39 42.8 -0.3**
comp=Z,5.4nm,1.1s
RES Resolute Bay 74.81 351 *e*P **P 02 39 42.8 -0.3**
RES pmax pmax
comp=Z,5.0nm,1.1s
RES Resolute Bay 74.81 351 P **P 02 39 43.9 +0.8**
comp=Z,3.4nm,0.8s,baz=37,slow=10,SNR=13
KDI Kendari 75.22 103 P **P 02 39 45.1 -1.4**
comp=Z,43nm,1.4s
PETK Petropavlovsk- 76.55 37 P **P 02 39 52.0 -1.4**
comp=Z,5.5nm,0.9s,baz=316,slow=4.1,SNR=5.3
PETK LR LR 03 16 30.5
comp=Z,158nm,18.1s,baz=301,slow=38
BASI Baing, Sumba 76.76 109 P **P 02 39 54.1 -1.0**
PET Petropavlovsk 77.09 36 *c e*P **P 02 39 56.2 -0.2**
PET *e*S **S 02 49 40.5 -3.9**
PET pmax pmax
comp=Z,100nm,14.3s
PET MLR MLR
comp=Z,300nm,16.0s
PET MLR MLR
comp=Z,400nm,16.0s
SANI Sanana 77.18 99 P **P 02 39 57.3 -0.3**
comp=Z,36nm,1.1s
BATI Baumata 79.33 108 P **P 02 40 09.7 +0.2**
comp=Z,31nm,1.0s
SOEI Soe 79.60 107 *e*P **P 02 40 10.5 -0.6**
SOEI Soe 79.60 107 P **P 02 40 10.0 -1.1**
comp=Z,72nm,1.2s
RDOG Red Dog Mine 80.36 13 *e*P **P 02 40 14.8 +0.7**
SCHQ Schefferville 81.75 329 P **P 02 40 22.3 +0.4**
comp=Z,35nm,0.7s,baz=48,slow=4.2,SNR=22
TOLK Toolik Lake Re 81.89 8 *e*P **P 02 40 23.6 +1.2**
TOLK Toolik Lake Re 81.89 8 P **P 02 40 23.6 +1.2**
baz=341
MBWA Marble Bar 82.09 119 *e*P **P 02 40 22.1 -1.9**
comp=Z,135nm,1.6s
PSA00 Pilbara Seismi 82.42 119 *e*P **P 02 40 25.6 -0.2**
INK Inuvik 83.42 2 *e*P **P 02 40 30.6 +0.4**
INK Inuvik 83.42 2 P **P 02 40 30.7 +0.5**
comp=Z,5.2nm,0.9s,baz=8.5,slow=8.2,SNR=8.7
INK LR LR 03 21 38.3
comp=Z,79nm,21.8s,baz=9.0,slow=38
IMAR Indian Mountai 83.82 10 *e*P **P 02 40 32.7 +0.4**
MORW Morawa 83.99 128 *e*P **P 02 40 33.6 -0.1**
FITZ Fitzroy Crossi 85.09 113 *e*P **P 02 40 39.7 +0.2**
MLY Manley 85.16 9 *e*P **P 02 40 40.1 +0.9**
POKR Poker Plat Res 85.52 8 P **P 02 40 41.7 +0.8**
baz=343
TCOL CIGO, UAF Yank 85.70 8 P **P 02 40 42.5 +0.6**
baz=343
COLA College 85.70 8 *e*P **P 02 40 42.0 +0.2**
comp=Z,21nm,1.4s
COLA College 85.70 8 *c i*P **P 02 40 41.9 +0.1**
COLA pmax pmax
comp=Z,13nm,1.2s
ILAR Eielson Array 85.92 8 P **P 02 40 42.6 -0.3**
comp=Z,2.4nm,0.8s,baz=327,slow=3.9,SNR=19
ILAR PKKPbc **PKKPbc 02 58 42.6 -1.9**
comp=Z,0.3nm,0.6s,baz=186,slow=2.1,SNR=4.4
ILAR LR LR 03 25 21.7
comp=Z,89nm,18.2s,baz=326,slow=40
ILB Eielson Array 85.92 8 *e*P **P 02 40 43.0 0.0**
BPAW Bear Paw Mtn. 86.00 10 *e*P **P 02 40 43.7 +0.3**
HDA Harding Lake 86.26 8 P **P 02 40 44.0 -0.6**
baz=344
CAST Castle Rocks 86.47 10 *e*P **P 02 40 46.6 +0.9**
EGAK Eagle 86.50 5 *e*P **P 02 40 46.1 +0.3**
EGAK *e*PP PP 02 43 56.2 -10
MCK McKinley 86.65 9 *e*P **P 02 40 46.7 +0.1**
MCK McKinley 86.65 9 *e*P **P 02 40 46.7 +0.1**
RND Reindeer 86.97 9 *e*P **P 02 40 48.1 -0.2**
RND Reindeer 86.97 9 *e*P **P 02 40 48.1 -0.2**
NWAO Narrogin (SRO) 87.12 130 *e*P **P 02 40 48.5 -0.8**
comp=Z,46nm,0.7s
NWAO Narrogin (SRO) 87.12 130 *e*P **P 02 40 48.5 -0.8**
NWAO pmax pmax
comp=Z,46nm,0.7s
RIDG Independent Ri 87.15 7 *e*P **P 02 40 49.5 +0.4**
DOT Dot Lake 87.33 7 *e*P **P 02 40 50.5 +0.6**
DAWY Dawson 87.34 5 *e*P **P 02 40 49.4 -0.6**
comp=Z,23nm,1.4s
DHY Denali Highway 87.49 9 *e*P **P 02 40 51.0 +0.2**
MENT Mentasta 88.06 7 *e*P **P 02 40 54.8 +1.4**
BCAR Beaver Creek A 88.13 6 *e*P **P 02 40 54.0 +0.2**
FCC Fort Churchill 88.54 343 *e*P **P 02 40 56.0 +0.3**
FCC Fort Churchill 88.54 343 *e*P **P 02 40 56.0 +0.3**
YKA Yellowknife Ar 88.67 354 P **P 02 40 56.9 +0.7**
comp=Z,6.9nm,0.7s,baz=10,slow=5.1,SNR=114
LSQQ Lebel-sur-Quev 90.27 329 P **P 02 41 05.2 +1.2**
baz=43
KDAK Kodiak Island 91.66 13 *i* P **P 02 41 11.0 +0.7**
KDAK Kodiak Island 91.66 13 LR LR 03 27 17.6
comp=Z,105nm,19.1s,baz=334,slow=39
E54A Lac Daplat, Po 92.28 327 P **P 02 41 13.4 0.0**
baz=43
D52A ZEK Kipawa Sen 92.45 328 P **P 02 41 14.2 0.0**
baz=42
PEMO Pembroke 92.86 327 P **P 02 41 15.6 -0.5**
baz=43
WRA Warramunga Arr 93.11 111 P **P 02 41 16.9 -0.8**
comp=Z,3.1nm,0.7s,baz=315,slow=4.1,SNR=23
WRA PKKPbc **PKKPbc 02 58 27.2 +1.1**
comp=Z,1.6nm,0.6s,baz=111,slow=2.6,SNR=15
WRAB Tennant Creek 93.12 111 *e*P **P 02 41 16.6 -1.1**
comp=Z,39nm,1.6s
WRAB Tennant Creek 93.12 111⇑ *i*P **P 02 41 16.8 -0.9**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
E51A G1948 Merrick 93.28 329 P **P 02 41 17.6 -0.4**
baz=42
DLBC Dease Lake 93.39 1 LR LR 03 30 04.5
comp=Z,84nm,20.2s,baz=310,slow=40
F52A Sundridge 93.75 328 P **P 02 41 20.3 +0.1**
baz=42
G53A Haliburton 93.92 327 P **P 02 41 20.8 -0.2**
baz=42
F51A Arnstein 93.93 328 P **P 02 41 21.0 -0.1**
baz=41
BUKO Buck Lake 94.05 328 P **P 02 41 21.3 -0.3**
baz=42
FFC Flin Flon 94.09 345 *e*P **P 02 41 21.7 +0.1**
comp=Z,19nm,1.4s
FFC Flin Flon 94.09 345 *e*P **P 02 41 21.7 +0.1**
FFC pmax pmax
comp=Z,19nm,1.4s
FFC Flin Flon 94.09 345 *i* P **P 02 41 22.2 +0.6**
SADO Sadowa 94.43 327 LR LR 03 26 07.9
comp=Z,110nm,18.8s,baz=16,slow=37
KLBO Killbear Provi 94.50 328 P **P 02 41 23.6 0.0**
baz=41
E48A Lockeyer 94.52 330 P **P 02 41 23.1 -0.6**
baz=39
ASAR Alice Springs 94.56 114 P **P 02 41 23.6 -0.7**
comp=Z,8.6nm,0.7s,baz=304,slow=4.6,SNR=109
ASAR PKKPbc **PKKPdf 02 58 22.7 +0.1**
comp=Z,0.8nm,0.8s,baz=116,slow=3.8,SNR=8.4
F49A Sandfield 95.02 330 P **P 02 41 26.0 0.0**
baz=40
F48A Evansville 95.22 330 P **P 02 41 26.9 -0.1**
baz=39
E46A Sault Ste Mari 95.53 331 P **P 02 41 27.8 -0.6**
baz=38
BMRO Merville Lake 95.54 328 P **P 02 41 26.4 -2.0**
baz=40
BWLO Walkerton 95.86 328 P **P 02 41 29.6 -0.3**
baz=40
MAW Mawson 96.16 176 LR LR 03 18 59.5
comp=Z,63nm,20.1s,baz=38,slow=32
G47A Hillman 96.28 330 P **P 02 41 31.8 0.0**
baz=38
ULM Lac du Bonnet 96.51 340 P **P 02 41 32.2 -0.5**
comp=Z,1.4nm,0.5s,baz=27,slow=6.8,SNR=4.7
BBB Bella Bella 99.67 360 LR LR 03 34 29.4
comp=Z,60nm,20.5s,baz=346,slow=40
NVAR Mina Array Bea 112.78 352 PKiKP **PKiKP 02 46 41.3 +0.7**
comp=Z,0.5nm,0.6s,baz=35,slow=3.3,SNR=4.0
SIV San Ignacio 117.26 266 PKP **PKPdf 02 46 48.8 -0.5**
comp=Z,0.9nm,0.6s,baz=105,slow=3.6,SNR=4.9
TXAR Lajitas Array 117.88 336 PKP **PKPdf 02 46 50.1 -0.4**
comp=Z,0.3nm,0.6s,baz=147,slow=2.5,SNR=3.6
QSPA South Pole Qui 118.33 180 *e*PKPdf **PKPdf 02 46 48.9 -1.0**
LPAZ La Paz 123.59 269 PKP **PKPdf 02 47 02.0 -0.2**
comp=Z,1.4nm,0.6s,baz=17,slow=1.4,SNR=6.4
CMIG Matias Romero 124.36 320 PKP **PKPdf 02 47 02.3 -0.6**
comp=Z,1.6nm,0.5s,baz=58,slow=2.9,SNR=8.4
CFA Coronel Fontan 128.51 251 PKP **PKiKP 02 47 11.1 -0.1**
comp=Z,8.8nm,0.9s,baz=12,slow=0.8,SNR=8.7
PLCA Paso Flores 131.74 239 PKP **PKiKP 02 47 17.1 -0.4**
comp=Z,3.2nm,1.1s,baz=82,slow=2.6,SNR=5.2

BJI ***06*** *02:29:43.8±0.0, 51°.08N×90°.15E, h9km, ML4.0/3*
ISCJB ***06*** *02:29:46.5±0.7, 51°.07N±0°.07×89°.96E±0°.10, h10km, Error ellipse: s-maj=11.2km s-min=7.3km az=143.4*
MOS ***06*** *02:29:46.3±1.6, 50°.92N×90°.26E, h17km, mb4.1/2, Error ellipse: s-maj=10.6km s-min=9.7km az=77.3*
IDC ***06*** *02:29:48.0±1.6, 51°.04N×89°.83E, h0km, mb3.0/1, mb1 3.6/5, mb1mx3.3/66, mbtmp3.6/5, ML3.5/4, MS2.5/1, Ms1 2.5/1, ms1mx2.1/24, Error ellipse: s-maj=18.8km s-min=15.4km az=138.0*
NNC ***06*** *02:29:49.1±2.2, 51°.11N×89°.75E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=22.4km s-min=10.7km az=91.0*
ISC 06 02:29:47.3±0.8,**51°.02N**±0°.06×**90°.08E**±0°.06,**h10**km,**n30,**

σ1°73/32, **9C-6D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**1.71**	**247**	*e*PN	**Pn**	**02 30 18.4**	**+1.1**
AKAR				*e*		02 30 41.5	
CERR	**Cheremushki**	**2.01**	**24**	*e*PN	**Pn**	**02 30 21.6**	**+0.3**
CERR				*i*		02 30 49.0	
DGZ	**Jazzator, Alta**	**2.15**	**233**	*de*PN	**Pn**	**02 30 25.3**	**+2.0**
TASR	**Tashtagol**	**2.21**	**323**	*e*PN	**Pb**	**02 30 26.7**	**-0.6**
TASR				*e*		02 30 55.0	
ELT	**Eltsovka**	**3.26**	**315**	*e*PN	**Pn**	**02 30 39.0**	**+0.6**
ELT				*e*		02 31 26.0	
UKR	**Ust'-Kan**	**3.35**	**271**	*e*PN	**Pb**	**02 30 45.4**	**-1.4**
UKR				*e*		02 31 25.7	
ZAA0	**Zalesovo Array**	**4.35**	**314**	⇓Pn	**Pn**	**02 30 53.8**	**+0.4**
	0.7nm,0.4s						
ZAA0				⇑Pg	**Pb**	**02 31 04.7**	**+0.9**
	3.0nm,0.5s						
ZAA0				⇑Lg	Lg	02 31 59.3	
	21nm,0.6s						
ZALV	**Zalesovo Beam**	**4.35**	**314**	Pn	**Pn**	**02 30 52.5**	**-0.9**
	3.1nm,0.3s,baz=134,slow=13,SNR=18						
ZALV				Pg	**Pb**	**02 31 04.7**	**+1.0**
	11nm,0.3s,baz=135,slow=17,SNR=34						
ZALV				Lg	Lg	02 31 59.9	
	25nm,0.3s,baz=123,slow=28,SNR=9.4						
NVS	**Novosibirsk**	**5.63**	**315**	*e*PN	**Pn**	**02 31 15.0**	**+4.0**
NVS				*e*		02 31 28.6	
NVS				*e*		02 32 39.7	
MK31	**Makanchi Array**	**6.65**	**234**	⇑Pn	**Pn**	**02 31 26.3**	**+1.3**
	7.1nm,0.5s,baz=54,slow=12,SNR=130						
MK31				⇓Lg	Lg	02 33 18.6	
	20nm,0.5s,baz=60,slow=31,SNR=4.9						
MK31	**Makanchi Array**	**6.65**	**234**	PN	**Pn**	**02 31 26.3**	**+1.3**
MK31				pmax	pmax		
	comp=Z,71nm,0.5s						
MKAR	**Makanchi Array**	**6.65**	**234**	*i* PN	**Pn**	**02 31 26.2**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MKAR	**Makanchi Array**	**6.65**	**234**	Pn	**Pn**	**02 31 26.2**	**+1.2**
	comp=Z,3.4nm,0.3s,baz=52,slow=13,SNR=90						
MKAR				Lg	Lg	02 33 17.5	
	comp=Z,5.1nm,0.3s,baz=53,slow=36,SNR=6.7						
MKAR				LR	LR	02 34 07.6	
	comp=Z,39nm,21.0s,baz=28,slow=40						
MAKZ	**Makanchi**	**6.80**	**235**	⇑Pn	**Pn**	**02 31 28.9**	**+1.8**
	comp=Z,4.7nm,0.5s						
MAKZ				⇑Lg	Lg	02 33 20.4	
	comp=Z,105nm,1.2s						
MAKZ	**Makanchi**	**6.80**	**235**	PN	**Pn**	**02 31 28.9**	**+1.8**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KURK	**Kurchatov**	**7.26**	**272**	⇑Pn	**Pn**	**02 31 33.7**	**+0.3**
	comp=Z,2.8nm,0.3s						
KURK				⇑Lg	Lg	02 33 32.6	
	comp=Z,45nm,0.7s						
KURK	**Kurchatov**	**7.26**	**272**	⇑*e*P	**Pn**	**02 31 33.5**	**+0.2**
KURBB	**Kurchatov Arra**	**7.33**	**271**	⇑Pn	**Pn**	**02 31 33.9**	**-0.3**
	comp=Z,13nm,0.5s						
KURBB				⇓Lg	Lg	02 33 36.9	
	comp=Z,94nm,1.0s						
KURBB	**Kurchatov Arra**	**7.33**	**271**	Pn	**Pn**	**02 31 34.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=84,slow=14,SNR=17						
KURBB				Pg	Pb	02 31 45.5	-8.9
	comp=Z,1.3nm,0.3s,baz=82,slow=15,SNR=29						
KURBB				Sn	**Sn**	**02 32 56.0**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=84,slow=25,SNR=7.2						
KURBB				Lg	Lg	02 33 36.2	
	comp=Z,1.0nm,0.3s,baz=84,slow=34,SNR=13						
SONM	**Songino Array**	**11.10**	**100**	Pg	Pg	02 33 04.8	
	comp=Z,0.2nm,0.3s,baz=297,slow=16,SNR=4.6						
SONM				Lg	Lg	02 35 38.7	
	comp=Z,0.5nm,0.3s,baz=282,slow=28,SNR=8.1						
ULN	**Ulaanbaatar**	**11.49**	**99**	*i* P	**Pn**	**02 32 30.5**	**-1.0**
BVAR	**Borovoye Array**	**12.29**	**287**	Pn	**Pn**	**02 32 39.8**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=99,slow=13,SNR=8.9						
BRVK	**Borovoye**	**12.36**	**287**	⇓*e*P	**Pn**	**02 32 44.5**	**+1.4**
AAK	**Ala-Archa**	**13.55**	**238**	*i* P	**Pn**	**02 32 59.1**	**-0.5**
UCH	**Uchtor**	**13.82**	**237**	P	**P**	**02 33 09.8**	**-2.3**
	SNR=28						
EKS2	**Erkin-Say**	**13.92**	**239**	P	**Pn**	**02 33 09.2**	**+4.6**
	SNR=5.4						
KLR	**Kul'dur**	**26.52**	**77**	⇓*e*P	**P**	**02 35 25.1**	**+0.3**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.5s						
MA2	**Magadan**	**34.44**	**52**	*i* P	**P**	**02 36 33.7**	**-0.9**
MA2				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BFO	**Black Forest**	**50.36**	**301**	*i* P	**P**	**02 38 44.3**	**+0.1**
YKA	**Yellowknife Ar**	**65.15**	**12**	P	**P**	**02 40 30.8**	**+3.0**
	comp=Z,0.1nm,0.6s,baz=338,slow=6.8,SNR=2.8						

IDC 06 02:54:20.4±2.0, 11°.13N×143°.99E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/41, mbtmp3.5/3, Error ellipse: s-maj=450.0km s-min=22.6km az=110.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.30**	**197**	P	P	03 00 50.6	-0.7
	8.9nm,0.3s,baz=21,slow=11,SNR=29						
ASAR	**Alice Springs**	**35.96**	**196**	P	P	03 01 23.7	+0.6
	0.2nm,0.7s,baz=24,slow=12,SNR=3.9						
ILAR	**Eielson Array**	**71.15**	**25**	P	P	03 05 40.2	-0.4
	0.4nm,0.6s,baz=248,slow=6.1,SNR=10						
YKA	**Yellowknife Ar**	**85.43**	**27**	P	P	03 07 00.4	+0.7
	0.2nm,0.4s,baz=288,slow=4.7,SNR=5.9						

*IDC **06** 03:01:11.2±1.0, 10°.90S×164°.76E, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.0/44, mbtmp4.2/10, ML3.8/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/32, Error ellipse: s-maj=33.5km s-min=20.7km az=119.0*

*NEIC **06** 03:01:13.1±0.6, 10°.98S×164°.80E, h10km, mb4.4/9, Error ellipse: s-maj=14.8km s-min=11.6km az=88.0*

*ISCJB **06** 03:01:14.4±0.5, 11°.11S±0°.07×164°.75E±0°.09, h31km, mb4.2/14, MS3.5/4, Error ellipse: s-maj=13.0km s-min=10.1km az=0.6*

ISC 06 03:01:16.2±0.7, 11°.01S±0°.10×164°.8E±0°.1, h31km, n37, σ1°27/30, mb4.2/14, MS3.5/4, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.05**	**288**	LR	LR	03 03 49.0	
	comp=Z,153nm,21.7s,baz=140,slow=32						
DZM	**Mont Dzumac**	**11.11**	**172**	*e*Pn	**Pn**	**03 03 51.5**	**-1.6**
	2.0nm,0.2s						
DZM				*e*LR	LR	03 06 25.7	
	comp=Z,244nm,24.1s						
DZM	**Mont Dzumac**	**11.11**	**172**	Pn	**Pn**	**03 03 52.1**	**-1.0**
	0.7nm,0.3s,baz=357,slow=12,SNR=8.7						
DZM				LR	LR	03 07 17.8	
	comp=Z,227nm,19.3s,baz=18,slow=33						
PINNC	**Pines Island,**	**11.81**	**168**	*e*Pn	**Pn**	**03 04 02.6**	**+0.1**
RABL	**Rabaul**	**14.25**	**297**	*e*Pn	**Pn**	**03 04 37.0**	**+1.0**
PMG	**Port Moresby**	**17.46**	**274**	LR	LR	03 11 26.8	
	comp=Z,254nm,19.4s,baz=102,slow=35						
CTA	**Charters Tower**	**20.02**	**241**	P	**P**	**03 05 47.6**	**+0.9**
	16nm,0.9s,baz=81,slow=11,SNR=9.8						
CTAO	**Charters Tower**	**20.02**	**241**	*e*P	**Pn**	**03 05 48.0**	**-0.5**
	17nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**29.37**	**4**	T	T	03 38 09.4	
	baz=184,slow=76,SNR=8.2						
H11S3	**WAKE ISLAND Hy**	**29.38**	**4**	T	T	03 38 12.0	
	baz=184,slow=76,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**29.39**	**4**	T	T	03 38 12.7	
	baz=184,slow=76,SNR=9.8						
STKA	**Stephens Creek**	**29.85**	**222**	P	**P**	**03 07 21.1**	**+0.2**
	0.5nm,0.3s,baz=79,slow=10,SNR=3.9						
WB2	**Warramunga Arr**	**30.63**	**249**	*e*P	**P**	**03 07 26.2**	**-1.8**
	3.9nm,0.9s						
WR1	**Warramunga Arr**	**30.64**	**249**	*e*P	**P**	**03 07 26.5**	**-1.6**
WRA	**Warramunga Arr**	**30.64**	**249**	*e*P	**P**	**03 07 28.4**	**+0.3**
WRA	**Warramunga Arr**	**30.64**	**249**	P	**P**	**03 07 26.5**	**-1.6**
	3.8nm,1.0s,baz=78,slow=9.3,SNR=10						
WRA				LR	LR	03 19 38.1	
	comp=Z,131nm,18.5s,baz=105,slow=36						
AS31	**Alice Springs**	**32.00**	**243**	*e*P	**P**	**03 07 38.5**	**-1.6**
	1.1nm,0.6s						
ASAR	**Alice Springs**	**32.00**	**243**	*e*P	**P**	**03 07 37.4**	**-2.6**
ASAR	**Alice Springs**	**32.00**	**243**	P	**P**	**03 07 38.2**	**-1.8**
	3.7nm,0.9s,baz=62,slow=10,SNR=27						
ASAR				PcP	**PcP**	**03 10 30.1**	**+0.4**
	0.2nm,0.7s,baz=93,slow=2.9,SNR=4.2						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**44.59**	**104**	LR	LR	03 24 40.1	
	comp=Z,45nm,20.0s,baz=292,slow=32						
PPT2	**Papeete2**	**44.59**	**104**	*e*LR	LR	03 22 12.0	
	comp=Z,115nm,27.0s						
VNDA	**Vanda**	**66.51**	**181**	P	**P**	**03 12 03.7**	**+1.2**
	1.8nm,0.9s,baz=1.7,slow=10,SNR=6.1						
SBA	**Scott Base**	**66.84**	**180**	*e*P	**P**	**03 12 07.3**	**+2.7**
	5.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**71.27**	**294**	LR	LR	03 41 33.9	
	comp=Z,14nm,21.7s,baz=125,slow=34						
SONA0	**Songino Array**	**78.11**	**324**	*e*P	**P**	**03 13 12.7**	**+0.3**
SONM	**Songino Array**	**78.11**	**324**	P	**P**	**03 13 12.7**	**+0.3**
	1.0nm,0.8s,baz=133,slow=6.3,SNR=4.8						
QSPA	**South Pole Qui**	**78.99**	**180**	*e*P	**P**	**03 13 18.0**	**+1.0**
	8.8nm,1.0s						
HDA	**Harding Lake**	**83.51**	**19**	*e*P	**P**	**03 13 41.4**	**+0.7**
	4.8nm,0.9s						
ILAR	**Eielson Array**	**83.77**	**19**	*e*P	**P**	**03 13 41.3**	**-0.7**
ILAR	**Eielson Array**	**83.77**	**19**	P	**P**	**03 13 41.2**	**-0.8**
	1.2nm,0.9s,baz=228,slow=6.4,SNR=11						
ILB	**Eielson Array**	**83.77**	**19**	*e*P	**P**	**03 13 41.2**	**-0.8**
	0.4nm,0.8s						
EGAK	**Eagle**	**85.66**	**20**	*e*P	**P**	**03 13 52.6**	**+1.1**
	3.6nm,0.9s						
MK32	**Makanchi Array**	**92.88**	**317**	*e*P	**P**	**03 14 25.8**	**-0.4**
MKAR	**Makanchi Array**	**92.88**	**317**	*e*P	**P**	**03 14 25.9**	**-0.3**
MKAR	**Makanchi Array**	**92.88**	**317**	P	**P**	**03 14 25.8**	**-0.4**
	1.3nm,0.9s,baz=90,slow=6.1,SNR=6.8						
YKA	**Yellowknife Ar**	**95.36**	**27**	P	**P**	**03 14 35.7**	**-1.4**
	0.6nm,1.0s,baz=262,slow=4.2,SNR=5.3						
YKB5	**Yellowknife Ar**	**95.36**	**27**	*e*P	**P**	**03 14 35.7**	**-1.4**

*ISCJB **06** 03:01:19.0±0.5, 31°.36S±0°.04×68°.58W±0°.07, h115km±4km, mb3.5/2, Error ellipse: s-maj=10.0km s-min=6.6km az=22.8*

*SJA **06** 03:01:19.5±0.6, 31°.35S×68°.63W, h103km±2km, ML4.0, MW3.9*

*IDC **06** 03:01:20.1±0.7, 31°.28S×68°.32W, h101km±8km, mb3.5/2, mb1 3.5/6, mb1mx3.3/34, mbtmp3.7/6, Error ellipse: s-maj=33.1km s-min=25.3km az=81.0*

ISC 06 03:01:19.3±0.7, 31°.34S±0°.05×68°.62W±0°.06, h108km±6km, n23, σ1°37/33, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.12**	**85**	*e*P	**Pn**	**03 01 34.8**	**+0.5**
RTLL				*e*S	**Sn**	**03 01 45.6**	**-0.1**
RTLL				IAML		03 01 46.6	
	comp=Z,6μm,0.3s						
SJA	**San Juan**	**0.19**	**165**	*e*P	**Pn**	**03 01 35.1**	**+0.6**
SJA				IAML		03 01 35.2	
	comp=Z,2μm,0.2s						
SJA				AMPG		03 01 35.5	
	comp=Z,25μm,0.3s						
SJA				*e*S	**Sn**	**03 01 45.9**	**-0.1**
SJA				AMSG		03 01 50.6	
	comp=Z,23μm,0.5s						
CFA	**Coronel Fontan**	**0.42**	**129**	*e*P	**Pn**	**03 01 36.3**	**+0.8**
CFA				*e*S	**Sn**	**03 01 47.7**	**0.0**
CFA	**Coronel Fontan**	**0.42**	**129**	P	**Pn**	**03 01 36.0**	**+0.4**
	comp=Z,380nm,0.3s,baz=258,slow=8.4						
CFA				S	**Sn**	**03 01 47.8**	**+0.2**
	comp=Z,1μm,0.3s,baz=264,slow=23,SNR=242						
RTLS	**Leoncito**	**0.74**	**231**	*e*P	**Pn**	**03 01 38.9**	**+0.7**
RTLS				IAML		03 01 38.9	
	comp=Z,2μm,0.2s						
RTLS				*e*S	**Sn**	**03 01 53.1**	**+0.8**
AUSP	**Uspallata**	**1.10**	**216**	*e*P	**Pn**	**03 01 42.6**	**+1.0**
ACDV	**Cuesta del Vie**	**1.24**	**340**	*e*P	**Pn**	**03 01 44.5**	**+1.3**
ACDV				*e*S	**Sn**	**03 02 02.7**	**+1.5**
ACDV				IAML		03 02 04.2	
	comp=Z,677nm,0.4s						
ASAL	**Salagasta**	**1.26**	**188**	*e*P	**Pn**	**03 01 44.2**	**+0.9**
ARCO	**CERRO ARCO**	**1.52**	**190**	*e*P	**Pn**	**03 01 47.1**	**+0.7**
ARCO				*e*S	**Sn**	**03 02 07.8**	**+0.8**
ARCO				IAML		03 02 10.1	
	comp=Z,2μm,0.6s						
ACAN	**Cantantal**	**1.53**	**128**	*e*P	**Pn**	**03 01 47.6**	**+1.1**
AAGR	**Agrelo**	**1.75**	**186**	*e*P	**Pn**	**03 01 49.8**	**+0.6**
APLL	**PUNTA DE LOS L**	**2.03**	**63**	*e*P	**Pn**	**03 01 54.1**	**+1.4**
APLL				*e*S	**Sn**	**03 02 19.3**	**+1.2**
APLL				IAML		03 02 20.7	
	comp=Z,271nm,0.3s						
ACLC	**CERRO LA CRUZ**	**2.39**	**37**	*e*P	**Pn**	**03 01 58.6**	**+1.1**
LVC	**Limon Verde**	**8.70**	**358**	P	**Pn**	**03 03 21.4**	**-1.2**
	comp=Z,2.1nm,0.3s,baz=183,slow=8.6,SNR=14						
LVC				S	**Sn**	**03 04 54.9**	**-4.3**
	comp=Z,0.6nm,0.3s,baz=225,slow=24,SNR=2.4						
PLCA	**Paso Flores**	**9.50**	**189**	P	**Pn**	**03 03 31.6**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=6.2,slow=12,SNR=12						
CPUP	**Villa Florida**	**11.09**	**66**	P	**Pn**	**03 03 52.5**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=237,slow=13,SNR=3.0						
LPAZ	**La Paz**	**14.99**	**2**	P	**Pn**	**03 04 48.0**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=186,slow=8.9,SNR=5.4						
SIV	**San Ignacio**	**16.76**	**26**	P	**Pn**	**03 05 07.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=224,slow=13,SNR=6.1						
TXAR	**Lajitas Array**	**68.94**	**327**	P	**P**	**03 12 14.6**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=154,slow=10,SNR=6.2						
TORD	**Torodi Ar. Bea**	**80.57**	**68**	P	**P**	**03 13 19.3**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=289,slow=6.8,SNR=9.4						
KURBB	**Kurchatov Arra**	**148.97**	**42**	PKPbc	**PKPbc**	**03 20 55.5**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=298,slow=3.3,SNR=5.0						
ZALV	**Zalesovo Beam**	**150.44**	**32**	PKPbc	**PKPbc**	**03 20 58.6**	**+1.0**
	comp=Z,1.1nm,0.4s,baz=299,slow=4.7,SNR=5.4						
MKAR	**Makanchi Array**	**152.85**	**47**	PKPbc	**PKPbc**	**03 21 04.4**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=268,slow=4.0,SNR=3.7						
MKAR				PKPab	**PKPab**	**03 21 15.9**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=304,slow=2.0,SNR=3.8						

*BJI **06** 03:13:40.0±0.0, 42°.60N×111°.90W, h11km, mb5.2/3, mB5.2/1*

*BUT **06** 03:13:41.0±0.0, 42°.60N×112°.02W, h0km*

*ANF **06** 03:13:42.6±0.3, 42°.63N×111°.95W, ML4.2/11, Error ellipse: s-maj=3.3km s-min=2.6km az=94.0*

*IDC **06** 03:13:42.8±0.5, 42°.50N×111°.93W, h0km, mb3.9/6, mb1 4.2/12, mb1mx3.8/52, mbtmp4.0/12, ML3.5/6, MS2.9/3, Ms1 2.9/3, ms1mx2.5/46, Error ellipse: s-maj=11.1km s-min=5.0km az=161.0*

*ISCJB **06** 03:13:43.2±0.1, 42°.62N±0°.01×111°.87W±0°.02, h10km, mb4.3/14, Error ellipse: s-maj=2.2km s-min=2.0km az=28.3*

*NEIC **06** 03:13:44.1±0.2, 42°.63N×111°.83W, h5km, mb4.2/25, MW3.9, ML3.9(BUT), Error ellipse: s-maj=3.0km s-min=2.5km az=118.0, Moment Tensor Solution. s85 Moment tensor: Scale 10^{14}Nm; M_{rr}-5.08; $M_{\theta\theta}$0.97; $M_{\phi\phi}$4.11; $M_{r\theta}$4.71; $M_{\theta\phi}$-0.54; $M_{\phi r}$-6.82; Best double couple: $M_0$9.50000×10^{14} NP1:ϕ_s177.00000°, δ16.00000°, λ-63.00000°. NP2:ϕ_s329.00000°, δ76.00000°, λ-97.00000°. Principal axes: T 8.8000, Plg31.0000°, Azm65.0000°; N 1.4000, Plg7.0000°, Azm331.0000°; P -10.1000, Plg5.0000°, Azm22.0000°;*

NEIC Felt [IV] at Lava Hot Springs; [III] at Arimo, Bancroft, Downey, Grace, McCammon and Soda Springs; [II] at Malad City and Preston. Also felt at Dayton and Pocatello. Felt at Clarkston, Logan and Richmond, Utah. Also felt at Afton, Auburn, Etna and Thayne, Wyoming.

ISC 06 03:13:44.4±0.4, 42°.61N±0°.02×111°.80W±0°.02, h10km, n208, σ1°99/242, mb4.6/14, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	**Auburn Hatcher**	**0.54**	**73**	*e*Pg	**Pb**	**03 13 55.9**	**-0.3**
AHID				*e*Sg	**Sg**	**03 14 01.8**	**-0.4**
REDW	**Red Top Meadow**	**1.03**	**42**	*e*Pg	**Pg**	**03 14 03.1**	**-1.2**
TPAW	**Teton Pass**	**1.08**	**35**	*e*Pg	**Pg**	**03 14 04.2**	**-1.1**
HVU	**Hansel Valley**	**1.10**	**222**	*e*Pg	**Pg**	**03 14 02.2**	**-3.3**
SNOW	**Snow King Moun**	**1.15**	**42**	*e*Pn	**Pg**	**03 14 05.5**	**-1.1**
FXWY	**Fox Creek**	**1.18**	**29**	*e*Pn	**Pb**	**03 14 05.5**	**-1.5**
LOHW	**Long Hollow**	**1.34**	**41**	*e*Pn	**Pn**	**03 14 08.5**	**-0.8**
MOOW	**Moose Ponds**	**1.38**	**34**	*e*Pn	**Pn**	**03 14 09.0**	**-0.9**
SPUT	**South Promonto**	**1.38**	**201**	*e*Pn	**Pn**	**03 14 07.8**	**-2.1**
IMW	**Indian Meadow**	**1.44**	**26**	*e*Pn	**Pn**	**03 14 09.6**	**-1.2**
TCUT	**Toone Canyon**	**1.52**	**169**	*e*Pn	**Pn**	**03 14 11.8**	**-0.1**
BW06	**Boulder Array**	**1.66**	**84**	*e*Pn	**Pb**	**03 14 15.0**	**-0.2**
BW06				*e*S	**Sb**	**03 14 36.1**	**-0.3**
BW06	**Boulder Array**	**1.66**	**84**	P	**Pb**	**03 14 15.1**	**-0.2**
	baz=266						
BW06				S	**Sg**	**03 14 39.2**	**+1.2**
	baz=266						
PD31	**Pinedale Array**	**1.66**	**84**	*e*Pn	**Pb**	**03 14 15.0**	**-0.3**
PDAR	**Pinedale Array**	**1.66**	**84**	*e*Pn	**Pn**	**03 14 13.6**	**-0.2**
PDAR				Lg	Lg	03 14 39.6	
PDAR	**Pinedale Array**	**1.66**	**84**	Pn	**Pb**	**03 14 14.8**	**-0.5**
	192nm,0.3s,baz=268,slow=14,SNR=1506						
PDAR				Lg	Lg	03 14 39.6	
	144nm,0.3s,baz=258,slow=20,SNR=11						
PDAR				LR	LR	03 15 19.7	
	comp=Z,424nm,21.3s,baz=62,slow=55						
FLWY	**Flagg Ranch**	**1.68**	**28**	*e*Pn	**Pn**	**03 14 14.0**	**-0.1**
YPP	**Pitchstone Pla**	**1.82**	**23**	*e*Pn	**Pn**	**03 14 15.7**	**-0.3**
CTU	**Camp Tracy**	**1.91**	**179**	*e*Pn	**Pn**	**03 14 16.7**	**-0.5**
BGU	**Big Grassy Mou**	**1.91**	**209**	*e*Pn	**Pn**	**03 14 14.8**	**-2.4**
YFT	**Old Faithful**	**1.98**	**21**	*e*Pn	**Pn**	**03 14 18.2**	**+0.1**
H17A	**Grant Village**	**2.00**	**26**	*e*Pn	**Pn**	**03 14 18.3**	**-0.1**
H17A	**Grant Village**	**2.00**	**26**	P	**Pn**	**03 14 18.4**	**-0.1**
	baz=210						
H17A				Sb	**Sg**	**03 14 48.6**	**-0.1**
	baz=210						
JLU	**Jordanelle**	**2.02**	**172**	*e*Pn	**Pn**	**03 14 18.6**	**-0.1**
HLID	**Hailey**	**2.14**	**297**	*e*Pn	**Pn**	**03 14 17.7**	**-2.6**
HLID				*e*S	**Sn**	**03 14 44.7**	**-2.3**
HLID	**Hailey**	**2.14**	**297**	P	**Pn**	**03 14 17.7**	**-2.6**
	baz=117						
HLID				S	**Sn**	**03 14 44.9**	**-2.1**
	baz=117						
YMR	**Madison River**	**2.15**	**16**	*e*Pn	**Pn**	**03 14 20.6**	**+0.1**
LKWY	**Lake**	**2.21**	**27**	*e*Pn	**Pn**	**03 14 22.0**	**+0.6**
LKWY				*e*S	**Sn**	**03 14 47.3**	**-1.6**
QLMT	**Earthquake Lak**	**2.24**	**7**	*e*Pn	**Pn**	**03 14 21.4**	**-0.4**
YNR	**Norris Junctio**	**2.26**	**21**	*e*Pn	**Pn**	**03 14 22.4**	**+0.3**
YHH	**Holmes Hill**	**2.29**	**17**	*e*Pn	**Pn**	**03 14 22.5**	**-0.1**
MCMT	**McKenzie Canyo**	**2.35**	**342**	*e*Pn	**Pn**	**03 14 22.3**	**-1.0**
DUG	**Dugway, Tooele**	**2.52**	**198**	*e*Pn	**Pn**	**03 14 24.0**	**-1.6**
DUG	**Dugway, Tooele**	**2.52**	**198**	P	**Pn**	**03 14 24.2**	**-1.4**
	baz=15						
DUG				Sb	**Sb**	**03 15 02.4**	**+1.3**
	baz=15						
MPU	**Maple Canyon**	**2.59**	**177**	*e*Pn	**Pn**	**03 14 26.4**	**-0.2**
NLU	**North Lily Min**	**2.66**	**184**	*e*Pn	**Pn**	**03 14 26.9**	**-0.6**
DLMT	**Dillon**	**2.82**	**349**	*e*Pn	**Pn**	**03 14 29.3**	**-0.3**
BOZ	**Bozeman (W)**	**2.99**	**2**	*e*Pn	**Pn**	**03 14 32.4**	**+0.3**
BOZ				*e*S	**Sb**	**03 15 12.3**	**-2.2**
BOZ	**Bozeman (W)**	**2.99**	**2**	P	**Pn**	**03 14 31.7**	**-0.4**
	baz=184						
BOZ				S	**Sb**	**03 15 12.0**	**-2.5**
	baz=184						
RLMT	**Red Lodge**	**3.11**	**35**	*e*Pn	**Pn**	**03 14 34.6**	**+0.8**
RLMT				*e*S	**Sg**	**03 15 21.4**	**-3.0**
RLMT	**Red Lodge**	**3.11**	**35**	P	**Pn**	**03 14 34.1**	**+0.4**
	baz=219						
RLMT				Sb	**Sg**	**03 15 21.7**	**-2.7**
	baz=219						
ELK	**Elko**	**3.17**	**235**	Pn	**Pn**	**03 14 32.7**	**-1.9**
	40nm,0.3s,baz=40,slow=9.2,SNR=596						
ELK				Lg	Lg	03 15 20.0	
	81nm,0.3s,baz=174,slow=19,SNR=8.8						
P17A	**Butcher Ranch,**	**3.23**	**165**	*e*Pn	**Pn**	**03 14 36.5**	**+1.1**
TMUT	**Trail Mountain**	**3.34**	**172**	*e*Pn	**Pn**	**03 14 37.2**	**+0.3**
RWWY	**Rawlins**	**3.54**	**103**	*e*Pn	**Pn**	**03 14 41.0**	**+1.4**
GCMT	**Greycliff**	**3.54**	**25**	*e*Pn	**Pn**	**03 14 40.6**	**+1.1**
SRU	**San Rafael Swe**	**3.62**	**164**	*e*Pn	**Pn**	**03 14 41.9**	**+1.1**
O20A	**White River Ci**	**3.64**	**131**	*e*Pn	**Pn**	**03 14 43.7**	**+2.6**
O20A	**White River Ci**	**3.64**	**131**	P	**Pn**	**03 14 43.1**	**+2.1**
	baz=313						
O20A				S	**Sn**	**03 15 28.5**	**+4.3**
	baz=313						
K22A	**Casper**	**3.90**	**88**	*e*Pn	**Pn**	**03 14 46.8**	**+2.4**
K22A	**Casper**	**3.90**	**88**	P	**Pn**	**03 14 46.9**	**+2.4**
	baz=272						
K22A				Sb	**Sg**	**03 15 46.4**	**-3.1**
	baz=272						
TCRU	**Three Creeks R**	**4.02**	**187**	*e*Pn	**Pn**	**03 14 47.1**	**+0.8**
MSU	**Marysvale**	**4.10**	**184**	*e*Pn	**Pn**	**03 14 47.3**	**0.0**
HRY	**Holter Researc**	**4.11**	**360**	*e*Pn	**Pn**	**03 14 47.0**	**-0.3**
PSUT	**Pine Spring**	**4.36**	**202**	*e*Pn	**Pn**	**03 14 50.3**

NVAR			Lg	Lg	03 17 02.4	
NVAR	**Mina Array Bea**	**6.47 232**	Pn	**Pn**	**03 15 18.2**	**-1.7**
	5.2nm,0.3s,baz=35,slow=13,SNR=120					
NVAR			Lg	Lg	03 17 02.4	
	11nm,0.3s,baz=51,slow=28,SNR=6.5					
NVAR			LR	LR	03 18 18.0	
	comp=Z,100nm,18.5s,baz=28,slow=44					
RYN	**Ryan**	**6.47 234**	*e*Pn	**Pn**	**03 15 18.7**	**-1.2**
SHPR	**Sheep Range**	**6.62 204**	*e*Pn	**Pn**	**03 15 22.6**	**+0.7**
HAWA	**Hanford**	**6.70 307**	*e*Pn	**Pn**	**03 15 23.0**	**+0.3**
HAWA			*e*Pg	**Pg**	**03 15 48.0**	**-4.6**
HAWA			*e*S	**Sb**	**03 17 04.6**	**+3.7**
YERR	**Yerington**	**6.70 240**	*e*Pn	**Pn**	**03 15 22.0**	**-1.0**
K05A	**Summer Lake**	**6.70 274**	*e*Pn	**Pn**	**03 15 26.1**	**+3.1**
NEW	**Newport**	**6.78 328**	*e*Pn	**Pn**	**03 15 24.3**	**+0.4**
NEW			*e*Pg	Pb	03 15 47.5	+5.2
NEW			*e*Sn	**Sn**	**03 16 43.6**	**+2.4**
NEW			Lg	Lg	03 17 09.5	
NEW			*e*Sg	**Sb**	**03 17 09.8**	**+6.4**
NEW	**Newport**	**6.78 328**	P	**Pn**	**03 15 23.4**	**-0.6**
	baz=145					
NEW	**Newport**	**6.78 328**	Pn	**Pn**	**03 15 24.8**	**+0.8**
	0.3nm,0.3s,baz=138,slow=12,SNR=9.9					
NEW			Lg	Lg	03 17 09.5	
	3.2nm,0.3s,baz=58,slow=22,SNR=12					
VCNR	**Virginia City**	**6.80 244**	*e*Pn	**Pn**	**03 15 22.6**	**-1.8**
SDCO	**Great Sand Dun**	**6.84 133**	*e*Pn	**Pn**	**03 15 26.5**	**+1.4**
SDCO			*e*Pg	Pg	03 15 50.1	-5.3
SDCO	**Great Sand Dun**	**6.84 133**	P	**Pn**	**03 15 26.3**	**+1.2**
	baz=317					
PNTR	**Pine Nut**	**6.87 242**	*e*Pn	**Pn**	**03 15 25.1**	**-0.4**
C09A	**Chrisman Ranch**	**6.92 321**	*e*Pn	**Pn**	**03 15 26.8**	**+1.0**
J05D	**Fort Rock, OR**	**6.95 279**	P	**Pn**	**03 15 23.1**	**-3.4**
	baz=92					
BEKR	**Beckworth**	**7.00 250**	*e*Pn	**Pn**	**03 15 27.6**	**+0.4**
WUAZ	**Wupatki**	**7.09 177**	*e*Pn	**Pn**	**03 15 29.6**	**+1.3**
WUAZ			*e*S	**Sb**	**03 17 10.9**	**-1.4**
WUAZ	**Wupatki**	**7.09 177**	P	**Pn**	**03 15 29.1**	**+0.8**
	baz=357					
WAKR	**Walker**	**7.11 237**	*e*Pn	**Pn**	**03 15 28.4**	**-0.3**
OMMB	**Old Mammoth Mi**	**7.43 230**	*e*Pn	**Pn**	**03 15 35.5**	**+2.4**
MDPB	**Devils Postpil**	**7.46 231**	*e*Pn	**Pn**	**03 15 36.1**	**+2.5**
OGNE	**Ogallala**	**7.49 100**	*e*Pn	**Pn**	**03 15 33.2**	**-0.6**
OGNE			*e*Pg	**Pg**	**03 16 04.7**	**-3.1**
OGNE			*e*Sg	**Sg**	**03 17 40.8**	**-3.9**
OGNE	**Ogallala**	**7.49 100**	P	**Pn**	**03 15 33.6**	**-0.2**
	baz=286					
DAC	**Darwin (Calif)**	**7.74 217**	*e*Pn	**Pn**	**03 15 41.0**	**+3.6**
DAC			*e*Pg	**Pg**	**03 16 11.4**	**-1.2**
DAC			*e*Sg	**Sg**	**03 17 45.4**	**-7.5**
B08A	**Colville Reser**	**7.81 320**	*e*Pn	**Pn**	**03 15 38.7**	**+0.6**
LTY	**Liberty**	**7.82 310**	*e*Pn	**Pn**	**03 15 38.6**	**+0.3**
AFDM	**Forest Hills D**	**7.86 245**	*e*Pn	**Pn**	**03 15 41.4**	**+2.6**
T25A	**Trinidad**	**7.88 131**	*e*Pn	**Pn**	**03 15 42.0**	**+2.7**
T25A	**Trinidad**	**7.88 131**	P	**Pn**	**03 15 40.4**	**+1.2**
	baz=316					
MPMC	**Manual Prospec**	**7.88 216**	P	**Pn**	**03 15 39.8**	**+0.6**
	baz=31					
DGMT	**Dagmar**	**7.93 40**	*e*Pn	**Pn**	**03 15 41.2**	**+1.5**
DGMT			*e*Pg	Pb	03 16 06.8	+5.0
LDFC	**Landfair**	**7.95 200**	*e*Pn	**Pn**	**03 15 41.9**	**+1.8**
CMB	**Columbia Colle**	**7.99 238**	*e*Pn	**Pn**	**03 15 40.8**	**+0.2**
CMB			*e*Pg	**Pb**	**03 16 05.8**	**+2.9**
CMB			*e*Sg	Sg	03 17 49.6	-11
YBH	**Yreka Blue Hor**	**8.15 268**	*e*Pn	**Pn**	**03 15 44.9**	**+2.1**
YBH	**Yreka Blue Hor**	**8.15 268**	Pn	**Pn**	**03 15 44.0**	**+1.2**
	0.2nm,0.3s,baz=75,slow=6.6,SNR=11					
YBH			LR	LR	03 19 19.4	
	comp=Z,60nm,21.2s,baz=56,slow=42					
GMRC	**Granite Mounta**	**8.37 202**	P	**Pn**	**03 15 45.8**	**-0.1**
	baz=19					
Y14A	**Wickenburg**	**8.70 187**	*e*Pn	**Pn**	**03 15 52.7**	**+2.3**
ANMO	**Albuquerque**	**8.71 150**	*e*Pn	**Pn**	**03 15 52.7**	**+2.1**
SUSD	**Miller**	**9.51 75**	P	**Pn**	**03 16 01.4**	**0.0**
	baz=264					
PFO	**Pinyon Flats O**	**9.70 204**	LR	LR	03 20 23.6	
	comp=Z,90nm,18.6s,baz=314,slow=42					
CBKS	**Cedar Bluff**	**9.91 108**	*e*Pn	**Pn**	**03 16 07.4**	**+0.5**
CBKS	**Cedar Bluff**	**9.91 108**	P	**Pn**	**03 16 07.0**	**+0.1**
	baz=296					
MDND	**Maddock**	**10.07 54**	*e*Pn	**Pn**	**03 16 09.9**	**+0.8**
MDND	**Maddock**	**10.07 54**	P	**Pn**	**03 16 08.9**	**-0.2**
	baz=244					
AMTX	**Amarillo**	**11.04 131**	*e*Pn	**Pn**	**03 16 26.6**	**+4.3**
	4.9nm,0.8s					
ECSD	**EROS Data Cent**	**11.15 79**	*e*Pn	**Pn**	**03 16 22.9**	**-1.0**
ECSD	**EROS Data Cent**	**11.15 79**	P	**Pn**	**03 16 22.6**	**-1.3**
	baz=270					
AGMN	**Agassiz Nation**	**12.55 58**	*e*Pn	**Pn**	**03 16 41.1**	**-1.9**
AGMN	**Agassiz Nation**	**12.55 58**	P	**Pn**	**03 16 41.0**	**-1.9**
	baz=249					
ULM	**Lac du Bonnet**	**13.37 50**	*e*Pn	**Pn**	**03 16 52.4**	**-1.7**
ULM	**Lac du Bonnet**	**13.37 50**	Pn	**Pn**	**03 16 52.5**	**-1.6**
	1.2nm,0.3s,baz=236,slow=11,SNR=18					
FFC	**Flin Flon**	**13.74 25**	*e*Pn	**Pn**	**03 16 57.0**	**-2.1**
SPMN	**Marine on St.**	**13.95 73**	*e*Pn	**Pn**	**03 16 59.2**	**-2.8**
G38A	**Ridgeland**	**14.61 73**	P	**Pn**	**03 17 09.9**	**-1.2**
	baz=267					
TX31	**Lajitas Ar. Si**	**14.78 151**	*e*Pn	**P**	**03 17 17.2**	**-2.4**
TXAR	**Lajitas Array**	**14.78 151**	*e*Pn	**Pn**	**03 17 15.2**	**+1.6**
TXAR	**Lajitas Array**	**14.78 151**	Pn	**Pn**	**03 17 15.0**	**+1.4**
	0.1nm,0.3s,baz=342,slow=11,SNR=16					
I39A	**Houston**	**14.84 78**	*e*Pn	**Pn**	**03 17 14.5**	**+0.3**
E38A	**The Farm, Brul**	**14.96 68**	*e*Pn	**P**	**03 17 20.6**	**-0.8**
	6.9nm,0.8s					
EYMN	**Ely**	**15.25 63**	*e*Pn	**Pn**	**03 17 17.6**	**-2.0**
I41A	**Arkdale**	**16.02 77**	*e*Pn	**Pn**	**03 17 29.0**	**-0.7**
	11nm,0.6s					
H41A	**Junction City**	**16.16 75**	*e*Pn	**P**	**03 17 34.5**	**-0.3**
	9.8nm,1.1s					
CCM	**Cathedral Cave**	**16.31 99**	*e*Pn	**Pn**	**03 17 33.0**	**-0.5**
	27nm,1.7s					
COWI	**Conover**	**16.57 70**	*e*Pn	**Pn**	**03 17 35.9**	**-0.9**
	5.3nm,0.7s					
F41A	**Three Lakes**	**16.57 71**	*e*Pn	**Pn**	**03 17 37.0**	**+0.2**
	5.1nm,0.8s					
I42A	**Draeger Farm,**	**16.72 78**	*e*Pn	**P**	**03 17 40.5**	**-0.4**
	14nm,0.8s					
C40A	**Isle Royale Na**	**16.79 64**	*e*Pn	**Pn**	**03 17 35.5**	**-3.9**
	8.3nm,0.7s					
H42A	**Shiocton**	**16.97 76**	*e*Pn	**P**	**03 17 43.9**	**+0.2**
	30nm,0.3s					
G42A	**Mountain**	**17.04 73**	*e*Pn	**P**	**03 17 43.8**	**-0.7**
	8.9nm,1.1s					
D41A	**Chassel**	**17.05 67**	*e*Pn	**Pn**	**03 17 40.2**	**-2.6**
	10.0nm,0.8s					
K43A	**Burlington**	**17.26 82**	*e*Pn	**P**	**03 17 46.6**	**-0.3**
	25nm,1.0s					
H43A	**Windswept, Lux**	**17.51 76**	*e*Pn	**P**	**03 17 49.7**	**0.0**
	26nm,0.6s					
E43A	**Lone Tree Farm**	**18.07 69**	*e*Pn	**Pn**	**03 17 54.9**	**-0.6**
	11nm,0.8s					
P45A	**Graceland, Par**	**18.39 92**	*e*P	**Pn**	**03 18 00.2**	**+0.9**
	14nm,0.9s					
WCI	**Wyandotte Cave**	**19.88 94**	*e*P	**Pn**	**03 18 17.6**	**+0.2**
	8.0nm,0.8s					
YKA	**Yellowknife Ar**	**19.99 356**	*e*P	**P**	**03 18 15.7**	**-1.0**
YKA	**Yellowknife Ar**	**19.99 356**	P	**P**	**03 18 16.0**	**-0.7**
	3.4nm,0.7s,baz=172,slow=9.9,SNR=29					
YKW3	**Yellowknife Ar**	**20.06 356**	*e*P	Pn	03 18 19.3	0.0
	3.2nm,0.7s					
V48A	**Smith Brothers**	**20.50 101**	*e*P	Pn	03 18 27.1	+2.4
	7.6nm,0.7s					
O49A	**Covington**	**20.71 87**	*e*P	**P**	**03 18 25.4**	**+0.6**
	20nm,0.9s					
N51A	**Ashland**	**21.97 84**	*e*P	**P**	**03 18 38.1**	**-0.3**
	35nm,1.1s					
S51A	**Beattyville**	**22.08 93**	*e*P	**P**	**03 18 43.9**	**+4.4**
	25nm,1.3s					
P53A	**Whipple**	**23.09 87**	*e*P	**P**	**03 18 54.9**	**+4.7**
	24nm,1.1s					
SADO	**Sadowa**	**23.63 74**	P	**P**	**03 18 55.8**	**+0.2**
	3.0nm,0.8s,baz=275,slow=13,SNR=3.1					
N54A	**Moraine State**	**23.71 83**	*e*P	**P**	**03 18 57.0**	**+0.5**
	14nm,0.7s					
M54A	**Oil Creek Stat**	**23.82 82**	*e*P	**P**	**03 18 57.3**	**-0.1**
	41nm,1.6s					
MCWV	**Mont Chateau**	**24.18 86**	*e*P	**P**	**03 19 01.4**	**+0.6**
	15nm,0.6s					
INK	**Inuvik**	**28.22 343**	P	**P**	**03 19 40.3**	**+3.3**
	1.0nm,0.8s,baz=148,slow=9.6,SNR=4.9					
ILAR	**Eielson Array**	**29.74 330**	P	**P**	**03 19 52.4**	**+1.9**
	0.3nm,0.6s,baz=112,slow=8.3,SNR=5.5					
RES	**Resolute Bay**	**33.08 8**	*e*P	**P**	**03 20 19.5**	**-0.3**
	5.2nm,1.4s					
PETK	**Petropavlovsk-**	**57.71 315**	P	**P**	**03 23 35.0**	**+0.1**
	4.5nm,0.7s,baz=78,slow=12,SNR=5.7					
NOA	**NORSAR Array B**	**66.83 26**	P	**P**	**03 24 38.8**	**+2.8**
	0.9nm,0.9s,baz=312,slow=6.5,SNR=3.4					
AKASG	**Malin Array Be**	**81.05 24**	P	**P**	**03 26 01.4**	**+2.1**
	0.9nm,0.6s,baz=336,slow=4.7,SNR=9.5					
HHC	**Hu-ho-hao-te**	**88.15 329**	*e*P	**P**	**03 26 32.3**	**-3.2**
HHC			pmax	pmax		
	comp=Z,55nm,1.3s					
WMQ	**Urumqi**	**92.20 346**	*e*P	**P**	**03 26 54.0**	**-0.3**

*IDC **06** 03:20:57.0±0.8, 42°.56N×111°.96W, h0km, mb3.7/2, mb1 4.0/6, mb1mx3.5/62, mbtmp3.7/6, ML3.1/4, MS3.3/1, Ms1 3.3/1, ms1mx2.3/49, Error ellipse: s-maj=17.1km s-min=5.3km az=159.0*

*BUT **06** 03:20:56.0±0.0, 42°.62N×112°.00W, h4km*

*ISCJB **06** 03:20:57.8±0.2, 42°.62N±0°.02×111°.96W±0°.03, h10km, mb4.4/1, MS3.2/1, Error ellipse: s-maj=3.2km s-min=2.3km az=10.5*

*ANF **06** 03:20:57.1±1.3, 42°.59N×112°.01W, ML3.6/11, Error ellipse: s-maj=3.7km s-min=3.0km az=82.0*

*NEIC **06** 03:20:58.0±0.3, 42°.64N×112°.00W, h5km, ML3.4(BUT), MW3.5(SLM), Error ellipse: s-maj=5.2km s-min=3.2km az=102.0*

NEIC Felt [III] at Soda Springs. Also felt at Downey, Grace, Lava Hot Springs, McCammon and Preston.

ISC 06 03:20:58.1±0.6, 42°.65N±0°.02×112°.05W±0°.02, h10km, n119, σ2°.36/146, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	**Auburn Hatcher**	**0.71**	**80**	*e*Pg	**Pg**	**03 21 09.9**	**-1.9**
AHID				*e*S	**Sg**	**03 21 17.4**	**-3.8**
HVU	**Hansel Valley**	**1.02**	**212**	*e*Pg	**Pg**	**03 21 16.3**	**-1.4**
HWUT	**Hardware Ranch**	**1.10**	**161**	*e*Pg	**Pg**	**03 21 17.3**	**-1.9**
HWUT				*e*S	**Sg**	**03 21 31.5**	**-2.1**
REDW	**Red Top Meadow**	**1.13**	**50**	*e*Pg	**Pg**	**03 21 17.9**	**-1.9**
TPAW	**Teton Pass**	**1.16**	**43**	*e*Pg	**Pg**	**03 21 18.5**	**-2.0**
FXWY	**Fox Creek**	**1.24**	**37**	*e*Pg	**Pb**	**03 21 19.8**	**-2.0**
SNOW	**Snow King Moun**	**1.25**	**49**	*e*Pg	**Pb**	**03 21 20.0**	**-1.9**
SPUT	**South Promonto**	**1.37**	**193**	*e*Pn	**Pn**	**03 21 21.9**	**-1.6**
LOHW	**Long Hollow**	**1.43**	**47**	*e*Pn	**Pn**	**03 21 22.9**	**-1.5**
MOOW	**Moose Ponds**	**1.46**	**40**	*e*Pn	**Pn**	**03 21 23.4**	**-1.3**
IMW	**Indian Meadow**	**1.49**	**33**	*e*Pn	**Pn**	**03 21 23.8**	**-1.5**
TCUT	**Toone Canyon**	**1.60**	**162**	*e*Pn	**Pn**	**03 21 26.1**	**-0.6**
FLWY	**Flagg Ranch**	**1.74**	**34**	*e*Pn	**Pn**	**03 21 27.8**	**-0.8**
BW06	**Boulder Array**	**1.84**	**85**	*e*Pn	**Pn**	**03 21 29.4**	**-0.5**
BW06				*e*S	**Sn**	**03 21 49.2**	**-4.2**
BW06	**Boulder Array**	**1.84**	**85**	P	**Pn**	**03 21 29.2**	**-0.7**
	baz=265						
BW06				S	**Sb**	**03 21 54.1**	**-1.1**
	baz=265						
PD31	**Pinedale Array**	**1.84**	**85**	*e*Pn	**Pn**	**03 21 29.4**	**-0.5**
PDAR	**Pinedale Array**	**1.84**	**85**	*e*Pn	**Pn**	**03 21 29.0**	**-1.0**
PDAR				Lg	Lg	03 21 54.2	
PDAR	**Pinedale Array**	**1.84**	**85**	Pn	**Pn**	**03 21 29.4**	**-0.6**
	39nm,0.3s,baz=270,slow=14,SNR=548						
PDAR				Lg	Lg	03 21 54.2	
	29nm,0.3s,baz=254,slow=20,SNR=9.7						
YPP	**Pitchstone Pla**	**1.86**	**29**	*e*Pn	**Pn**	**03 21 30.0**	**-0.3**
BGU	**Big Grassy Mou**	**1.87**	**203**	*e*Pn	**Pn**	**03 21 29.1**	**-1.3**
HLID	**Hailey**	**1.96**	**299**	*e*Pn	**Pn**	**03 21 31.9**	**+0.3**
HLID				*e*S	**Sn**	**03 21 57.8**	**+1.5**
HLID	**Hailey**	**1.96**	**299**	P	**Pn**	**03 21 31.9**	**+0.3**
	baz=118						
HLID				S	**Sb**	**03 21 59.0**	**+0.4**
	baz=118						
CTU	**Camp Tracy**	**1.97**	**173**	*e*Pn	**Pn**	**03 21 30.8**	**-0.9**
YFT	**Old Faithful**	**2.01**	**26**	*e*Pn	**Pn**	**03 21 32.7**	**+0.4**
H17A	**Grant Village**	**2.05**	**31**	*e*Pn	**Pn**	**03 21 32.8**	**0.0**
H17A	**Grant Village**	**2.05**	**31**	P	**Pn**	**03 21 32.9**	**0.0**
	baz=210						
H17A				S	**Sb**	**03 22 01.4**	**+0.2**
	baz=210						
JLU	**Jordanelle**	**2.09**	**167**	*e*Pn	**Pn**	**03 21 33.3**	**-0.2**
YMR	**Madison River**	**2.17**	**21**	*e*Pn	**Pn**	**03 21 35.0**	**+0.5**
YHB	**Horse Butte**	**2.19**	**16**	*e*Pn	**Pn**	**03 21 35.1**	**+0.3**
QLMT	**Earthquake Lak**	**2.23**	**11**	*e*Pn	**Pn**	**03 21 35.8**	**+0.5**
MCMT	**McKenzie Canyo**	**2.25**	**345**	*e*Pn	**Pb**	**03 21 37.6**	**-1.5**
LKWY	**Lake**	**2.26**	**31**	*e*Pn	**Pn**	**03 21 36.2**	**+0.4**
YNR	**Norris Junctio**	**2.29**	**25**	*e*Pn	**Pn**	**03 21 36.5**	**+0.3**
YHH	**Holmes Hill**	**2.31**	**22**	*e*Pn	**Pn**	**03 21 36.7**	**+0.2**
DUG	**Dugway, Tooele**	**2.52**	**193**	*e*Pn	**Pn**	**03 21 38.2**	**-1.0**
DUG	**Dugway, Tooele**	**2.52**	**193**	P	**Pn**	**03 21 38.2**	**-1.0**
	baz=14						
DUG				Sb	**Sb**	**03 22 14.8**	**+0.2**
	baz=14						
MPU	**Maple Canyon**	**2.65**	**173**	*e*Pn	**Pn**	**03 21 40.6**	**-0.5**
NLU	**North Lily Min**	**2.69**	**180**	*e*Pn	**Pn**	**03 21 41.0**	**-0.7**
DLMT	**Dillon**	**2.74**	**352**	*e*Pn	**Pb**	**03 21 45.0**	**-2.4**
BOZ	**Bozeman (W)**	**2.96**	**6**	*e*Pn	**Pb**	**03 21 48.4**	**-2.7**
BOZ				*e*S	**Sb**	**03 22 26.7**	**-0.7**
BOZ	**Bozeman (W)**	**2.96**	**6**	P	**Pb**	**03 21 48.5**	**-2.6**
	baz=185						
BOZ				S	**Sb**	**03 22 26.8**	**-0.7**
	baz=185						
ELK	**Elko**	**3.05**	**233**	Pn	**Pn**	**03 21 46.8**	**+0.1**
	12nm,0.3s,baz=31,slow=9.2,SNR=167						
ELK				Lg	Lg	03 22 34.2	
	20nm,0.3s,baz=167,slow=22,SNR=12						
RLMT	**Red Lodge**	**3.19**	**38**	*e*Pn	**Pn**	**03 21 49.0**	**+0.6**
RLMT				*e*S	**Sn**	**03 22 29.1**	**+2.4**
RLMT	**Red Lodge**	**3.19**	**38**	P	**Pn**	**03 21 49.2**	**+0.7**
	baz=219						
RLMT				Sb	**Sg**	**03 22 36.9**	**-3.5**
	baz=219						
P17A	**Butcher Ranch,**	**3.32**	**162**	*e*Pn	**Pn**	**03 21 48.7**	**-1.6**
TMUT	**Trail Mountain**	**3.41**	**169**	*e*Pn	**Pn**	**03 21 51.3**	**-0.3**
GCMT	**Greycliff**	**3.58**	**28**	*e*Pn	**Pb**	**03 21 58.1**	**-3.5**
SRU	**San Rafael Swe**	**3.72**	**161**	*e*Pn	**Pn**	**03 21 56.3**	**+0.6**
RWWY	**Rawlins**	**3.72**	**103**	*e*Pn	**Pn**	**03 21 55.6**	**-0.3**
Q16A	**Castle Valley**	**3.79**	**170**	*e*Pn	**Pn**	**03 21 56.7**	**0.0**
O20A	**White River Ci**	**3.81**	**130**	*e*Pn	**Pn**	**03 21 58.1**	**+1.1**
O20A	**White River Ci**	**3.81**	**130**	P	**Pn**	**03 21 57.7**	**+0.7**
	baz=312						
O20A				S	**Sn**	**03 22 42.8**	**+0.9**
	baz=312						
TCRU	**Three Creeks R**	**4.05**	**184**	*e*Pn	**Pn**	**03 22 02.4**	**+2.0**
HRY	**Holter Researc**	**4.07**	**2**	*e*Pn	**Pn**	**03 22 04.2**	**+3.7**
K22A	**Casper**	**4.08**	**88**	*e*Pn	**Pn**	**03 22 01.4**	**+0.8**
K22A	**Casper**	**4.08**	**88**	P	**Pn**	**03 22 01.2**	**+0.6**
	baz=271						
K22A				Sb	**Sb**	**03 23 02.1**	**+2.7**
	baz=271						
MSU	**Marysvale**	**4.13**	**181**	*e*Pn	**Pn**	**03 22 02.3**	**+0.8**
PSUT	**Pine Spring**	**4.33**	**199**	*e*Pn	Pn	03 21 57.5	-6.8
MSO	**Missoula**	**4.39**	**343**	P	**Pn**	**03 22 06.9**	**+2.0**
	baz=161						
MSO				Sb	**Sb**	**03 23 13.5**	**+5.1**
	baz=161						
BMO	**Blue Mountains**	**4.40**	**302**	*e*Pn	**Pn**	**03 22 04.3**	**-0.8**
BMO				*e*Pg	**Pb**	**03 22 18.0**	**+2.5**
BMO				*e*S	**Sn**	**03 22 52.8**	**-3.6**
BMN	**Battle Mountai**	**4.47**	**242**	*e*Pn	**Pn**	**03 22 06.2**	**+0.1**
BMN				*e*S	**Sb**	**03 23 09.0**	**-1.8**
PV09	**Paradox Valley**	**4.70**	**151**	*e*Pn	**Pn**	**03 22 10.9**	**+1.5**
PV21	**Cone Mtn., Par**	**4.71**	**149**	*e*Pn	**Pn**	**03 22 12.2**	**+2.8**
PV23	**Carpenter Ridg**	**4.79**	**150**	*e*Pn	**Pn**	**03 22 11.3**	**+0.7**
PV14	**Lion Creek, Pa**	**4.85**	**151**	*e*Pn	**Pn**	**03 22 11.9**	**+0.5**
WVOR	**Wild Horse Val**	**4.87**	**270**	*e*Pn	**Pn**	**03 22 14.3**	**+2.7**
WVOR				*e*S	**Sb**	**03 23 25.8**	**+3.5**
PV04	**Paradox Valley**	**4.88**	**150**	*e*Pn	**Pn**	**03 22 13.8**	**+2.1**
N23A	**Red Feather La**	**4.89**	**109**	*e*Pn	**Pn**	**03 22 12.2**	**+0.3**
N23A	**Red Feather La**	**4.89**	**109**	P	**Pn**	**03 22 11.9**	**-0.1**
	baz=293						
N23A				Sb	**Sb**	**03 23 26.0**	**+3.1**
	baz=293						
PV20	**West Nyswonger**	**4.90**	**150**	*e*Pn	**Pn**	**03 22 11.6**	**-0.4**
PV19	**Morning Glory**	**4.92**	**151**	*e*Pn	**Pn**	**03 22 14.4**	**+2.0**
PV07	**Paradox Valley**	**4.94**	**147**	*e*Pn	**Pn**	**03 22 12.7**	**+0.1**
PV16	**Nyswonger Mesa**	**4.95**	**150**	*e*Pn	**Pn**	**03 22 12.3**	**-0.4**
PV17	**East Wray Mesa**	**4.96**	**151**	*e*Pn	**Pn**	**03 22 14.9**	**+2.0**
PV11	**David Mesa, Pa**	**4.97**	**150**	*e*Pn	**Pn**	**03 22 15.4**	**+2.4**
PV03	**Paradox Valley**	**5.02**	**150**	*e*Pn	**Pn**	**03 22 15.2**	**+1.5**
R11A	**Troy Canyon, C**	**5.07**	**213**	*e*Pn	**Pn**	**03 22 14.7**	**+0.4**
R11A	**Troy Canyon, C**	**5.07**	**213**	P	**Pn**	**03 22 14.3**	**0.0**
	baz=32						
R11A				Sb	**Sb**	**03 23 32.4**	**+4.4**
	baz=32						
PV05	**Paradox Valley**	**5.09**	**153**	*e*Pn	**Pn**	**03 22 17.5**	**+2.8**
PV05				*e*Pg	**Pg**	**03 22 31.4**	**-4.2**
PHWY	**Pilot Hill**	**5.09**	**103**	*e*Pn	**Pn**	**03 22 13.9**	**-0.9**
PV02	**Paradox Valley**	**5.11**	**149**	*e*Pn	**Pn**	**03 22 15.8**	**+0.9**
PV13	**Radium Mtn., P**	**5.12**	**150**	*e*Pn	**Pn**	**03 22 14.6**	**-0.4**
SMCO	**Snowmass**	**5.18**	**130**	*e*Pn	**Pn**	**03 22 14.8**	**-1.2**
CCUT	**Cedar City**	**5.19**	**192**	*e*Pn	**Pn**	**03 22 17.0**	**+0.9**
PKCU	**Pink Cliffs**	**5.20**	**182**	*e*Pn	**Pn**	**03 22 17.9**	**+1.6**
PV01	**Paradox Valley**	**5.23**	**148**	*e*Pn	**Pn**	**03 22 15.7**	**-0.9**
EGMT	**Eagleton**	**5.61**	**16**	*e*Pn	**Pn**	**03 22 22.8**	**+1.1**
EGMT				*e*S	**Sb**	**03 23 45.6**	**+2.1**
EGMT	**Eagleton**	**5.61**	**16**	Sb	**Sb**	**03 23 48.3**	**+4.8**
	baz=197						
ISCO	**Idaho Springs**	**5.62**	**118**	*e*Pn	**Pn**	**03 22 23.6**	**+1.6**
ISCO				*e*Pg	**Pb**	**03 22 38.1**	**+1.6**
ISCO				*e*S	**Sb**	**03 23 47.5**	**+3.4**
ISCO	**Idaho Springs**	**5.62**	**118**	P	**Pn**	**03 22 21.0**	**-1.1**
	baz=302						
ISCO				Sb	**Sb**	**03 23 49.0**	**+4.9**
	baz=302						
LAO	**LASA Array**	**5.79**	**44**	*e*Pn	**Pn**	**03 22 25.8**	**+1.7**
LAO	**LASA Array**	**5.79**	**44**	P	**Pn**	**03 22 25.4**	**+1.3**
	baz=227						
LAO				Sb	**Sb**	**03 23 54.4**	**+5.7**
	baz=227						
KVN	**Kaiserville**	**5.83**	**234**	*e*Pn	**Pn**	**03 22 25.7**	**+1.0**
RSSD	**Black Hills**	**6.02**	**73**	*e*Pn	**Pn**	**03 22 26.6**	**-0.8**
RSSD				*e*Pg	**Pb**	**03 22 47.1**	**+3.9**
RSSD				*e*Sg	**Sb**	**03 23 59.9**	**+4.5**
RSSD	**Black Hills**	**6.02**	**73**	P	**Pn**	**03 22 26.7**	**-0.8**
	baz=258						
RSSD				Sb	**Sb**	**03 24 01.2**	**+5.8**
	baz=258						
MVCO	**Mesa Verde**	**6.08**	**152**	*e*Pn	**Pn**	**03 22 28.6**	**+0.4**
MVCO				*e*S	**Sb**	**03 24 01.0**	**+3.9**
MVCO	**Mesa Verde**	**6.08**	**152**	P	**Pn**	**03 22 27.5**	**-0.7**
	baz=334						
MVCO				Sb	**Sb**	**03 24 01.7**	**+4.6**
	baz=334						
MOD	**Modoc Plateau**	**6.17**	**266**	*e*Pn	**Pn**	**03 22 32.1**	**+2.7**
MOD				*e*S	**Sg**	**03 24 10.0**	**-6.1**
U15A	**North Rim**	**6.21**	**182**	*e*Pn	Pn	03 22 35.3	+5.1
NV11	**Mina Array Sit**	**6.27**	**230**	*e*Pn	**Pn**	**03 22 34.8**	**+4.0**
RYN	**Ryan**	**6.35**	**233**	*e*Pn	**Pn**	**03 22 36.1**	**+4.2**
NVAR	**Mina Array Bea**	**6.36**	**231**	*e*Pn	**Pn**	**03 22 34.6**	**+2.5**
NVAR				Lg	Lg	03 24 17.4	
NVAR	**Mina Array Bea**	**6.36**	**231**	Pn	**Pn**	**03 22 33.6**	**+1.5**
	1.1nm,0.3s,baz=36,slow=13,SNR=41						
NVAR				Lg	Lg	03 24 17.4	
	5.3nm,0.3s,baz=330,slow=4.2,SNR=7.8						
Q24A	**Divide**	**6.40**	**123**	Sb	**Sb**	**03 24 12.6**	**+6.2**
	baz=307						
SHPR	**Sheep Range**	**6.59**	**202**	*e*Pn	**Pn**	**03 22 38.5**	**+3.3**
NEW	**Newport**	**6.65**	**329**	*e*Pn	**Pn**	**03 22 40.2**	**+4.3**
NEW				*e*Pg	**Pg**	**03 23 02.8**	**-2

NIKH				S	Sb	03 33 47.5	+0.2
OKSP	**Okmok Steeple**	**1.56**	**8**	P	Pn	03 33 34.3	-0.5
OKSP				S	Sn	03 33 54.3	-0.3
OKRE	**Okmok R'deer P**	**1.84**	**9**	P	Pn	03 33 38.6	+0.1
OKRE				S	Sn	03 34 02.7	+1.3
MREP	**Makushin Rep't**	**2.40**	**28**	P	Pn	03 33 46.2	-0.1
MREP				S	Sn	03 34 13.6	-1.7
MSW	**Makushin Switc**	**2.48**	**26**	P	Pn	03 33 47.7	+0.3
MSW				S	Sn	03 34 16.2	-1.0
UNV	**Unalaska Valle**	**2.50**	**30**	P	Pn	03 33 47.5	-0.2
UNV				S	Sn	03 34 16.7	-1.1
MTBL	**Makushin Table**	**2.56**	**27**	P	Pn	03 33 49.0	+0.6
MTBL				S	Sn	03 34 19.7	+0.5
AKRB	**Akutan Reef Bi**	**2.88**	**32**	P	Pn	03 33 54.0	+1.2
AKRB				S	Sn	03 34 28.3	+1.2
KOFP	**Korovin Flat P**	**3.42**	**282**	P	Pn	03 34 00.8	+0.5
ATKA	**Atka Island**	**3.47**	**280**	P	Pn	03 34 00.9	-0.1
KOKL	**Mount Kliuchef**	**3.49**	**282**	P	Pn	03 34 01.9	+0.6
KOWE	**Korovin West**	**3.53**	**283**	P	Pn	03 34 02.6	+0.9
GSMY	**Great Sitkin M**	**4.61**	**277**	P	Pn	03 34 16.8	+0.2
GSTD	**Great Sitkin T**	**4.66**	**277**	P	Pn	03 34 17.6	+0.2
ETKA	**Kagalaska Isla**	**4.83**	**275**	P	Pn	03 34 19.5	0.0
ADAG	**Mount Adagdak**	**4.95**	**276**	P	Pn	03 34 22.1	+0.9
ADK	**Adak**	**5.00**	**275**	*e*Pn	Pn	03 34 22.0	+0.1
ADK				*e*S	Sn	03 35 17.0	-2.2
KIRH	**Kanaga Island**	**5.25**	**275**	P	Pn	03 34 26.3	+0.9
KIKV	**Kanaga Island**	**5.30**	**275**	P	Pn	03 34 26.8	+0.7
KIMD	**Kanaga Island**	**5.34**	**274**	P	Pn	03 34 27.1	+0.5
TAFP	**Tanaga Falls P**	**5.80**	**276**	P	Pn	03 34 33.3	+0.3
TASE	**Tanaga Southea**	**5.84**	**275**	P	Pn	03 34 34.1	+0.6
KDAK	**Kodiak Island**	**11.08**	**50**	P	Pn	03 35 44.2	-1.1
	0.6nm,0.3s,baz=253,slow=5.2,SNR=8.7						
INK	**Inuvik**	**23.66**	**32**	P	**P**	**03 38 17.9**	**+0.1**
	0.9nm,0.6s,baz=267,slow=7.4,SNR=8.7						
YKA	**Yellowknife Ar**	**30.34**	**48**	P	P	03 39 20.2	+2.2
	0.1nm,0.4s,baz=271,slow=7.7,SNR=3.3						
YKA				pP	pwP	03 39 32.2	+2.9
	0.5nm,0.7s,baz=270,slow=7.6,SNR=7.1						
PDAR	**Pinedale Array**	**40.09**	**79**	P	P	03 40 43.0	+0.6
	0.3nm,0.5s,baz=306,slow=6.2,SNR=4.3						
PDAR				pP	pwP	03 40 54.9	0.0
	0.4nm,0.8s,baz=300,slow=3.3,SNR=3.1						
PFO	**Pinyon Flats O**	**41.43**	**95**	P	P	03 40 54.3	+0.8
	3.3nm,0.4s,baz=315,slow=8.6,SNR=5.1						
TXAR	**Lajitas Array**	**52.31**	**89**	P	**P**	**03 42 18.5**	**+0.1**
	0.3nm,0.6s,baz=299,slow=6.1,SNR=3.9						
TXAR				pP	**pwP**	**03 42 30.7**	**-0.2**
	0.3nm,0.6s,baz=290,slow=6.3,SNR=2.9						

IDC 06 03:59:06.7±3.4, 20°.90S×175°.71W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.6/24, mbtmp4.1/2, Error ellipse: s-maj=206.5km s-min=52.3km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.52**	**257**	P	P	04 07 36.8	+0.5
	1.9nm,0.6s,baz=97,slow=7.6,SNR=32						
ASAR				PcP	PcP	04 09 09.3	-1.5
	0.4nm,0.6s,baz=115,slow=4.6,SNR=5.1						
WRA	**Warramunga Arr**	**46.67**	**262**	P	P	04 07 37.0	-0.5
	1.0nm,0.4s,baz=97,slow=7.8,SNR=32						
AKASG	**Malin Array Be**	**144.38**	**333**	PKP	PKPdf	04 18 44.3	-0.4
	1.5nm,0.4s,baz=42,slow=4.1,SNR=19						
BRTR	**Keskin Array B**	**148.69**	**313**	PKPbc	PKPbc	04 18 56.4	0.0
	0.5nm,0.6s,baz=98,slow=2.0,SNR=4.9						

DJA 06 04:01:11.7±0.3, 7°S±4°×10°8E±°, h10km±3km, M3.7/12, MLv3.7/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.30**	**139**	P	Pb	04 01 19.0	-0.2
CISI				S	Sb	04 01 23.4	-0.8
LEM	**Lembang**	**0.50**	**360**	P	Pg	04 01 21.6	+0.1
JCJI	**Jatiwangi**	**1.05**	**38**	P	Pg	04 01 28.9	-3.1
SKJI	**Sukabumi**	**1.10**	**287**	P	Pb	04 01 32.5	-0.4
SKJI				S	Sb	04 01 47.4	0.0
SBJI	**Serang**	**1.91**	**309**	P	Pn	04 01 44.6	+0.3
CGJI	**Cibinong**	**2.04**	**290**	P	Pn	04 01 46.5	+0.4
CGJI				S	Sn	04 02 12.6	+0.9
YOGI	**Yogyakarta**	**2.70**	**101**	P	Pn	04 01 54.7	-0.5
SMRI	**Semarang**	**2.81**	**84**	P	Pn	04 01 57.2	+0.4
UGM	**Wanagama**	**2.94**	**102**	P	Pn	04 01 58.2	-0.3
PCJI	**Pacitan**	**3.63**	**104**	P	Pn	04 02 08.0	0.0
PWJI	**Pagerwojo**	**4.20**	**100**	P	Pn	04 02 15.6	-0.3

*SOME **06** 04:11:11.7, 42°.37N×81°.80E, h10km*
*NNC **06** 04:11:15.3±3.2, 41°.83N×81°.16E, h6km±13km, mb3.5, mpv3.1, Error ellipse: s-maj=29.7km s-min=17.7km az=13.0*

ISC 06 04:11:08.5±2.4, 42°.31N±0°.09×81°.85E±0°.08, h10km, n34, σ1°.92/58, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.58**	**316**	P	**Pg**	**04 11 40.4**	**+1.6**
	6.9nm,0.2s						
KTMS				S	**Sg**	**04 12 01.3**	**+2.0**
	12nm,0.4s						
KTMS	**Ketmen**	**1.58**	**316**	*e*P	**Pg**	**04 11 40.4**	**+1.6**
	1.8nm,0.2s						
KTMS				*e*S	**Sg**	**04 12 01.3**	**+2.0**
	12nm,0.4s						
SHLS	**Shalkode**	**1.95**	**297**	P	**Pn**	**04 11 42.4**	**+0.6**
	29nm,0.2s						
SHLS				S	**Sn**	**04 12 05.6**	**-0.8**
	50nm,0.2s						
SHLS	**Shalkode**	**1.95**	**297**	*e*P	**Pn**	**04 11 42.4**	**+0.6**
	29nm,0.2s						
SHLS				*e*S	**Sn**	**04 12 04.9**	**-1.4**
	50nm,0.2s						
PDGK	**Podgornoye**	**2.01**	**301**	Pg	**Pg**	**04 11 47.6**	**+0.6**
	4.9nm,0.2s						
PDGK				Lg	Lg	04 12 15.4	
	13nm,0.2s						
PDGK	**Podgornoye**	**2.01**	**301**	⇓Pn	**Pg**	**04 11 47.3**	**+0.2**
	3.8nm,0.4s						
PDGK				⇓Sn	**Sg**	**04 12 14.8**	**+1.7**
	22nm,0.6s						
UZB	**Uzynbulak**	**2.24**	**293**	Pg	**Pg**	**04 11 51.8**	**+0.4**
	6.2nm,0.3s						
UZB				Lg	Lg	04 12 22.2	
	16nm,0.2s						
UZB	**Uzynbulak**	**2.24**	**293**	*e*P	**Pg**	**04 11 51.8**	**+0.4**
	6.2nm,0.3s						
UZB				*e*S	**Sg**	**04 12 20.7**	**+0.2**
	16nm,0.2s						
DJR	**Jarkent**	**2.52**	**324**	Pg	**Pg**	**04 11 56.6**	**-0.1**
	3.0nm,0.3s						
DJR				Lg	Lg	04 12 29.8	
	7.6nm,0.5s						
DJR	**Jarkent**	**2.52**	**324**	*e*P	**Pg**	**04 11 56.6**	**-0.1**
	3.0nm,0.3s						
DJR				*e*S	**Sg**	**04 12 29.3**	**-0.1**
	7.5nm,0.6s						
KPKS	**Kokpek**	**2.59**	**298**	*e*P	**Pg**	**04 11 58.6**	**+0.4**
	5.7nm,0.3s						
KPKS				*e*S	**Sg**	**04 12 32.2**	**+0.4**
	58nm,0.5s						
SATY	**Saty**	**2.64**	**288**	Pg	**Pg**	**04 12 00.4**	**+1.2**
	4.7nm,0.3s						
SATY				Lg	Lg	04 12 34.9	
	51nm,0.6s						
SATY	**Saty**	**2.64**	**288**	*e*P	**Pg**	**04 11 59.4**	**+0.3**
	4.5nm,0.5s						
SATY				*e*S	**Sg**	**04 12 34.3**	**+0.9**
	53nm,0.5s						
ZHN	**Zhinishke**	**2.66**	**290**	Pg	**Pg**	**04 11 59.7**	**+0.4**
	4.9nm,0.2s						
ZHN				Lg	Lg	04 12 35.0	
	13nm,0.3s						
ZHN	**Zhinishke**	**2.66**	**290**	*e*P	**Pg**	**04 11 59.9**	**+0.6**
	4.9nm,0.2s						
ZHN				*e*S	**Sg**	**04 12 35.0**	**+1.3**
	13nm,0.3s						
KURS	**Kuram**	**2.95**	**295**	Pg	**Pg**	**04 12 05.7**	**+0.8**
	1.0nm,0.4s						
KURS				Lg	Lg	04 12 45.4	
	6.0nm,0.8s						
KURS	**Kuram**	**2.95**	**295**	*e*P	**Pg**	**04 12 05.7**	**+0.8**
	0.9nm,0.4s						
KURS				*e*S	**Sg**	**04 12 44.8**	**+1.7**
	6.0nm,0.8s						

MNBS	**Baschi**	**3.08**	**306**	Pg	**Pg**	**04 12 06.3**	**-1.1**
	2.2nm,0.1s						
MNBS				Lg	Lg	04 12 46.4	
	20nm,0.2s						
MNBS	**Baschi**	**3.08**	**306**	*e*P	**Pg**	**04 12 06.3**	**-1.1**
	2.2nm,0.1s						
MNBS				*e*S	**Sg**	**04 12 46.2**	**-1.1**
	21nm,0.3s						
KAPS	**Kapalarasan**	**3.48**	**330**	Pg	**Pg**	**04 12 14.8**	**-0.3**
	0.7nm,0.1s						
KAPS				Lg	Lg	04 12 59.7	
	3.4nm,0.2s						
KAPS	**Kapalarasan**	**3.48**	**330**	*e*P	**Pg**	**04 12 14.8**	**-0.3**
	0.7nm,0.1s						
KAPS				*e*S	**Sg**	**04 13 00.0**	**-0.1**
	5.8nm,0.2s						
ARXS	**Arharly**	**3.50**	**304**	*e*P	**Pg**	**04 12 14.3**	**-1.1**
	3.6nm,0.5s						
ARXS				*e*S	**Sg**	**04 12 59.3**	**-1.4**
	7.0nm,0.4s						
KOTS	**Kotyrbulak**	**3.60**	**286**	*e*P	**Pg**	**04 12 17.4**	**-0.1**
	3.1nm,0.3s						
KOTS				*e*S	**Sg**	**04 13 04.5**	**+0.3**
	7.3nm,0.6s						
MDOK	**Medeo**	**3.63**	**285**	*e*P	**Pg**	**04 12 17.9**	**-0.2**
	1.5nm,0.4s						
MDOK				*e*S	**Sg**	**04 13 05.3**	**+0.1**
	6.6nm,0.7s						
TNSS	**Tian-Shan**	**3.68**	**283**	Pg	**Pg**	**04 12 18.9**	**-0.2**
	2.8nm,0.3s						
TNSS				Lg	Lg	04 13 07.5	
	5.3nm,0.3s						
TNSS	**Tian-Shan**	**3.68**	**283**	*e*P	**Pg**	**04 12 18.9**	**-0.2**
	2.8nm,0.3s						
TNSS				*e*S	**Sg**	**04 13 07.5**	**+0.7**
	5.3nm,0.3s						
CHKK	**Chushkaly**	**3.88**	**295**	*e*P	**Pg**	**04 12 21.2**	**-1.5**
	0.8nm,0.2s						
CHKK				*e*S	**Sg**	**04 13 11.1**	**-1.9**
	8.0nm,0.2s						
KTBS	**Karatobe**	**4.04**	**292**	*e*P	**Pg**	**04 12 24.3**	**-1.5**
	1.3nm,0.4s						
KTBS				*e*S	**Sg**	**04 13 16.4**	**-1.7**
	14nm,0.5s						
KUU	**Kurty**	**4.33**	**293**	*e*P	**Pg**	**04 12 31.0**	**-0.4**
	0.7nm,0.1s						
KUU				*e*S	**Sg**	**04 13 27.8**	**+0.3**
	5.1nm,0.6s						
KST	**Kastek**	**4.40**	**282**	*e*P	**Pg**	**04 12 32.2**	**-0.5**
	1.4nm,0.3s						
KST				*e*S	**Sg**	**04 13 29.9**	**+0.2**
	4.6nm,0.7s						
MK31	**Makanchi Array**	**4.50**	**4**	⇑Pn	**Pg**	**04 12 34.3**	**-0.2**
	0.5nm,0.5s,baz=187,slow=16,SNR=5.4						
MK31				⇑Sn	**Sg**	**04 13 31.7**	**-1.0**
	0.7nm,0.4s,baz=178,slow=25,SNR=3.6						
MAKZ	**Makanchi**	**4.50**	**1**	⇓Pn	**Pg**	**04 12 36.2**	**+1.6**
	0.6nm,0.4s						
MAKZ				⇓Sn	**Sg**	**04 13 31.4**	**-1.4**
	2.1nm,0.8s						
DGS	**Degeres**	**4.57**	**284**	Pg	**Pg**	**04 12 34.8**	**-1.2**
	1.5nm,0.3s						
DGS				Lg	Lg	04 13 33.7	
	5.7nm,0.5s						
DGS	**Degeres**	**4.57**	**284**	*e*P	**Pg**	**04 12 34.8**	**-1.2**
	1.5nm,0.3s						
DGS				*e*S	**Sg**	**04 13 34.6**	**-0.5**
	7.9nm,0.5s						

WEL 06 04:19:10.7, 41°S±1°×17°5E±°, h30km±1km, ML4.0/23, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHW	**Baring Head**	**0.19**	**258**	P	Pn	04 19 17.3	-0.2
BHW				S	Sb	04 19 21.6	+0.8
PLWZ	**Palliser**	**0.23**	**152**	P	Pb	04 19 17.7	+0.4
PLWZ				S	Sb	04 19 23.0	+1.3
PAWZ	**Paruwai Farm**	**0.23**	**93**	P	Pn	04 19 17.8	-0.4
PAWZ				S	Sb	04 19 23.0	+1.2
CAW	**Cannon Point**	**0.27**	**352**	P	Pn	04 19 18.3	-0.2
KIW	**Kapiti Island**	**0.53**	**343**	P	Pn	04 19 22.3	+0.1
CMWZ	**Cape Campbell**	**0.78**	**240**	P	Pb	04 19 26.4	+0.8
MRZ	**Mangatainoka R**	**0.79**	**26**	P	Pb	04 19 25.9	0.0
TIWZ	**Tintock**	**0.83**	**45**	P	Pn	04 19 26.3	-0.1
TUWZ	**Tuamarina**	**0.88**	**266**	P	Pn	04 19 26.9	-0.1
CPWZ	**Castlepoint**	**0.94**	**61**	P	Pb	04 19 28.2	-0.2
BSWZ	**Blackbirch Sta**	**0.99**	**249**	P	Pn	04 19 28.8	+0.3
PRWZ	**Pori Road**	**1.04**	**39**	P	Pn	04 19 29.4	+0.2
DUWZ	**D'Urville Isla**	**1.07**	**302**	P	Pb	04 19 30.6	+0.1
POWZ	**Post Office Ro**	**1.10**	**27**	P	Pn	04 19 30.4	+0.4
BFZ	**Birch Farm**	**1.10**	**52**	P	Pn	04 19 29.5	-0.6
OHWZ	**Ohakea**	**1.17**	**8**	P	Pb	04 19 32.6	+0.3
NNZ	**Nelson**	**1.32**	**276**	P	Pn	04 19 33.5	+0.5
DVHZ	**Dannevirke**	**1.33**	**37**	P	Pn	04 19 32.9	-0.4
ANWZ	**Angora Road**	**1.38**	**49**	P	Pn	04 19 33.6	-0.2
TSZ	**Takapari Road**	**1.46**	**26**	P	Pn	04 19 35.2	+0.2
KHZ	**Kahutara**	**1.57**	**228**	P	Pn	04 19 36.0	-0.5
PRHZ	**Porangahau**	**1.60**	**47**	P	Pn	04 19 36.0	-0.9
WPHZ	**Waipukurau**	**1.65**	**38**	P	Pn	04 19 37.3	-0.3
PNHZ	**Pukenui**	**1.67**	**30**	P	Pn	04 19 37.8	-0.1
THZ	**Tophouse**	**1.70**	**256**	P	Pn	04 19 38.2	-0.2
PXZ	**Pawanui**	**1.89**	**45**	P	Pn	04 19 39.7	-1.1
KRHZ	**Kereru**	**1.97**	**29**	P	Pn	04 19 41.7	-0.4
BHHZ	**Black Hill Sta**	**2.01**	**21**	P	Pn	04 19 43.1	+0.5
MOVZ	**Moawhango**	**2.02**	**14**	P	Pn	04 19 43.7	+1.0
QRZ	**Quartz Range**	**2.03**	**285**	P	Pn	04 19 44.0	+1.2
KAHZ	**Kahuranaki**	**2.07**	**41**	P	Pn	04 19 42.5	-0.9
WHVZ	**Whangaehu Hut**	**2.12**	**10**	P	Pn	04 19 45.6	+1.3
FWVZ	**Far West T-bar**	**2.14**	**9**	P	Pn	04 19 45.9	+1.3
TUVZ	**Tukino**	**2.14**	**11**	P	Pn	04 19 45.9	+1.4
KWHZ	**Kaweka Forest**	**2.19**	**28**	P	Pn	04 19 44.5	-0.5
NGZ	**Ngauruhoe**	**2.22**	**10**	P	Pn	04 19 47.1	+1.5
VRZ	**Vera Road**	**2.26**	**353**	P	Pn	04 19 48.1	+2.1
MCHZ	**McNeill Hill**	**2.27**	**33**	P	Pn	04 19 45.4	-0.8
WTVZ	**West Tongariro**	**2.28**	**9**	P	Pn	04 19 48.4	+2.0
KRVZ	**Karewarewa**	**2.31**	**10**	P	Pn	04 19 48.5	+1.8
TWVZ	**Taurewa**	**2.31**	**6**	P	Pn	04 19 48.1	+1.3
PKE	**Pukeiti**	**2.34**	**338**	P	Pb	04 19 49.8	-2.3
BKZ	**Black Stump Fm**	**2.44**	**26**	P	Pn	04 19 47.9	-0.7
DSZ	**Denniston Nort**	**2.51**	**260**	P	Pn	04 19 49.5	0.0
LTZ	**Lake Taylor**	**2.54**	**235**	P	Pn	04 19 49.5	-0.5
ARHZ	**Aropaoanui**	**2.55**	**35**	P	Pn	04 19 49.3	-0.7
OKCZ	**Okains Bay**	**2.80**	**212**	P	Pn	04 19 52.7	-0.8
MTHZ	**Maungataniwha**	**2.84**	**28**	P	Pn	04 19 53.1	-0.9
HIZ	**Hauiti**	**2.86**	**356**	P	Pn	04 19 56.0	+1.8
MQZ	**McQueen's Vall**	**2.96**	**217**	P	Pn	04 19 54.2	-1.4
INZ	**Inchbonnie**	**3.05**	**242**	P	Pn	04 19 56.4	-0.5
MWZ	**Matawai**	**3.56**	**32**	P	Pn	04 20 01.4	-2.5
ODZ	**Otahua Downs**	**4.92**	**220**	P	Pn	04 20 21.0	-1.5
CTZ	**Chatham Island**	**6.55**	**114**	P	Pn	04 20 43.6	-1.3

*NIED **06** 04:32:00, 38°.50N×142°.10E, h65km, Mw3.9 Best double couple: M0 9.11000×10^14 NP1:φ0 173.00000°, δ16.00000°, λ23.00000°. NP2:φ0 61.00000°, δ84.00000°, λ105.00000°.*
*ISCJB **06** 04:32:49.4±0.9, 38°.45N±0°.04×142°.11E±0°.10, h49km±7km, mb3.8/12, Error ellipse: s-maj=12.8km s-min=6.7km az=14.7*
*JMA **06** 04:32:49.6±0.1, 38°.46N×142°.12E, h41km±1km, M3.9*
JMA Felt II J1.
*IDC **06** 04:32:54.3±2.5, 38°.42N×142°.07E, h82km±21km, mb3.6/12, mb1 3.7/15, mb1mx3.5/48, mbtmp3.9/15, MS2.7/6, Ms1 2.7/6, ms1mx2.6/41, Error ellipse: s-maj=22.0km s-min=17.5km az=125.0*

ISC 06 04:32:50.3±1.5, 38°.45N±0°.05×142°.06E±0°.10, h42km±13km, n39, σ0°.99/36, mb3.8/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.48**	**254**	P	**Pn**	**04 33 00.8**	**-0.1**
JIKH				S	**Sn**	**04 33 08.2**	**-0.2**
JIO	**Ouri**	**0.55**	**271**	P	**Pn**	**04 33 01.8**	**0.0**
JIO				S	**Sn**	**04 33 10.2**	**+0.2**
JKMT	**Kesennumamotoy**	**0.58**	**309**	P	**Pn**	**04 33 01.9**	**-0.3**
JKMT				S	**Sn**	**04 33 10.5**	**-0.2**
OFUJ	**Ofunato**	**0.70**	**335**	P	**Pn**	**04 33 03.2**	**-0.6**
OFUJ				S	**Sn**	**04 33 12.9**	**-0.7**
JMK	**Ichinoseki**	**0.83**	**308**	P	**Pn**	**04 33 05.4**	**-0.1**
JMK				*e*S	**Sn**	**04 33 16.8**	**+0.2**
JOU	**Okura**	**1.09**	**266**	P	**Pn**	**04 33 09.6**	**+0.4**
JOU				S	**Sn**	**04 33 24.5**	**+1.3**
JMM	**Marumori**	**1.15**	**240**	P	**Pn**	**04 33 09.7**	**-0.2**
JMM				S	**Sn**	**04 33 24.9**	**+0.4**
JOM	**Ohasama**	**1.19**	**330**	P	**Pn**	**04 33 10.4**	**0.0**
JOM				S	**Sn**	**04 33 25.6**	**+0.2**
JYK	**Kaneyama**	**1.41**	**290**	P	**Pn**	**04 33 14.1**	**+0.6**
JYK				S	**Sn**	**04 33 32.6**	**+1.8**
JFK	**Kawauchi**	**1.43**	**221**	P	**Pn**	**04 33 13.2**	**-0.5**
JRG	**Rokugo**	**1.46**	**311**	P	**Pn**	**04 33 14.7**	**+0.5**
MJAR	**Matsushiro Arr**	**3.60**	**239**	P	Pn	04 33 47.5	+3.9
	0.4nm,0.3s,baz=35,slow=13,SNR=12						
MJAR				LR	LR	04 35 27.8	
	comp=Z,63nm,18.3s,baz=75,slow=43						
MAT	**Matsushiro**	**3.60**	**239**	P	**Pn**	**04 33 47.0**	**+3.4**
MAT				S	Sn	04 34 33.6	+8.7
ASAJ	**Asahikawa**	**5.68**	**4**	P	**Pn**	**04 34 15.3**	**+3.2**
	2.5nm,0.3s,baz=207,slow=14,SNR=8.1						
USRK	**Ussuriysk Ar.**	**9.50**	**310**	P	Pn	04 35 10.0	+5.5
	0.3nm,0.3s,baz=110,slow=13,SNR=8.0						
USRK				LR	LR	04 38 34.7	
	comp=Z,54nm,18.0s,baz=38,slow=36						
JNU	**Nakatsue**	**10.51**	**243**	LR	LR	04 39 28.8	
	comp=Z,43nm,19.7s,baz=353,slow=38						
KSRS	**Korea Array**	**11.20**	**269**	LR	LR	04 39 36.5	
	comp=Z,27nm,18.1s,baz=52,slow=36						
KLR	**Kul'dur**	**13.08**	**329**	LR	LR	04 41 02.2	
	comp=Z,51nm,18.1s,baz=148,slow=37						
PETK	**Petropavlovsk-**	**18.22**	**31**	LR	LR	04 44 08.2	
	comp=Z,29nm,18.2s,baz=100,slow=37						
SEY	**Seymchan**	**25.31**	**11**	P	**P**	**04 38 13.7**	**+1.1**
	1.0nm,0.5s,baz=198,slow=6.2,SNR=11						
H11N2	**WAKE ISLAND Hy**	**28.47**	**124**	T	T	05 09 13.0	
	baz=316,slow=75,SNR=105						
H11N1	**WAKE ISLAND Hy**	**28.48**	**124**	T	T	05 09 02.7	
	baz=316,slow=75,SNR=102						
H11N3	**WAKE ISLAND Hy**	**28.49**	**124**	T	T	05 09 02.7	
	baz=316,slow=75,SNR=94						
H11S1	**WAKE ISLAND Hy**	**29.24**	**126**	T	T	05 09 59.8	
	baz=318,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.24**	**126**	T	T	05 09 58.0	
	baz=318,slow=76,SNR=62						
H11S2	**WAKE ISLAND Hy**	**29.25**	**126**	T	T	05 10 01.9	
	baz=318,slow=76,SNR=32						
ZALV	**Zalesovo Beam**	**41.35**	**311**	P	**P**	**04 40 32.0**	**+0.2**
	1.9nm,0.5s,baz=80,slow=8.7,SNR=6.9						
MKAR	**Makanchi Array**	**43.81**	**301**	P	**P**	**04 40 52.0**	**+0.1**
	1.2nm,0.8s,baz=82,slow=11,SNR=7.3						
KURBB	**Kurchatov Arra**	**45.55**	**307**	P	**P**	**04 41 05.5**	**-0.1**
	3.9nm,0.6s,baz=81,slow=8.1,SNR=24						
ILAR	**Eielson Array**	**48.03**	**33**	P	**P**	**04 41 24.8**	**-0.1**
	0.7nm,0.7s,baz=268,slow=6.1,SNR=9.5						
BVAR	**Borovoye Array**	**50.01**	**312**	PcP	**PcP**	**04 42 59.8**	**+0.2**
	0.7nm,0.6s,baz=68,slow=5.1,SNR=4.5						
WRA	**Warramunga Arr**	**58.53**	**189**	P	**P**	**04 42 42.0**	**-0.4**
	0.5nm,0.5s,baz=6.5,slow=7.4,SNR=3.9						
YKA	**Yellowknife Ar**	**62.34**	**31**	P	**P**	**04 43 07.5**	**-0.4**
	0.2nm,0.7s,baz=300,slow=6.3,SNR=5.2						
ARCES	**ARCESS Array B**	**62.86**	**339**	P	**P**	**04 43 11.4**	**+0.1**
	1.1nm,0.8s,baz=41,slow=8.4,SNR=4.4						
FINES	**FINESS Array B**	**67.81**	**332**	P	**P**	**04 43 43.2**	**-0.3**
	1.7nm,0.7s,baz=57,slow=7.0,SNR=6.8						
NB2	**NORSAR Subarra**	**73.08**	**337**	P	**P**	**04 44 15.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**73.08**	**337**	P	**P**	**04 44 15.4**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=39,slow=6.0,SNR=4.4						
AKASG	**Malin Array Be**	**73.49**	**322**	P	**P**	**04 44 17.7**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=48,slow=6.0,SNR=13						
PDAR	**Pinedale Array**	**76.32**	**46**	P	**P**	**04 44 34.8**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=260,slow=1.7,SNR=7.1						

*ISCJB **06** 04:40:25.9±0.3, 24°.38N±0°.02×122°.06E±0°.02, h20km±4km, Error ellipse: s-maj=3.2km s-min=2.2km az=138.5*
*TAP **06** 04:40:25.8, 24°.40N×121°.96E, h8km, ML3.2, C*
*JMA **06** 04:40:25.1±0.1, 24°.33N×121°.98E, h26km±4km, M2.7*

ISC 06 04:40:25.3±0.9, 24°.37N±0°.02×122°.01E±0°.02, h16km±7km, n59, σ0°.76/104, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.21**	**31**	P	**Pb**	**04 40 31.3**	**+0.5**
	baz=46						
EOS1				*e*S	**Sb**	**04 40 35.8**	**+1.4**
	baz=46						
NANB	**Nanao**	**0.24**	**285**	P	**Pb**	**04 40 30.7**	**-0.6**
	baz=277						
NANB				*e*S	**Sb**	**04 40 34.3**	**-1.0**
	baz=277						
ENA	**Nanau**	**0.25**	**284**	P	**Pg**	**04 40 30.6**	**-0.2**
	baz=277						
ENA				*e*S	**Sg**	**04 40 34.3**	**-0.4**
	baz=277						
**TW

baz=324
ESL Shilin 0.76 224 *eP* **Pn 04 40 41.2 -0.1**
ESL baz=218 *eS* **Sn 04 40 53.0 +0.6**
baz=218
TWT Tachien 0.77 262 *eP* **Pn 04 40 41.5 -0.1**
baz=258
TDCB Techi 0.78 262 P **Pn 04 40 41.2 -0.6**
TDCB baz=258 *eS* **Sn 04 40 52.7 -0.5**
baz=258
CHGB Renai 0.82 248 P **Pn 04 40 41.8 -0.6**
CHGB baz=244 *eS* **Sn 04 40 54.2 0.0**
baz=244
JYNG Yonagunijimaku 0.86 84 P **Pb 04 40 41.7 -0.1**
JYNG S **Sb 04 40 53.5 +0.5**
OWD Renai 0.86 242 P **Pn 04 40 42.2 -0.7**
OWD baz=238 *eS* **Sn 04 40 55.8 +0.6**
baz=238
EGFH Guangfu 0.87 218 *eP* **Pn 04 40 42.9 0.0**
baz=213
YM01 YM01 0.87 333 P **Pn 04 40 43.0 +0.1**
YM01 baz=334 *eS* **Sn 04 40 54.9 -0.4**
baz=334
YM07 YM07 0.88 336 P **Pg 04 40 42.3 -0.1**
YM07 baz=338 *eS* **Sn 04 40 55.1 -0.3**
baz=338
YM10 YM10 0.89 333 *eP* **Pn 04 40 43.4 +0.3**
YM10 baz=334 S **Sn 04 40 54.8 -0.8**
baz=334
YM11 YM11 0.89 334 *eP* **Pn 04 40 43.3 +0.1**
baz=335
YM08 YM08 0.90 335 *eP* **Pn 04 40 43.4 +0.1**
baz=336
YOJ Yonaguni jima 0.92 84 *eP* **Pb 04 40 42.9 +0.1**
baz=86
YOJ Yonaguni jima 0.92 84 P **Pb 04 40 42.8 0.0**
YOJ S **Sb 04 40 54.9 +0.2**
WHP Taichung City 0.97 265 P **Pn 04 40 44.7 +0.4**
WHP baz=262 *eS* **Sn 04 40 58.5 +0.7**
baz=262
TWY Chenhua 0.98 338 *eP* **Pn 04 40 45.0 +0.7**
TWY baz=339 *eS* **Sn 04 40 59.0 +1.2**
baz=339
VWDT VWDT 1.00 233 P **Pn 04 40 44.5 -0.1**
VWDT baz=229 *eS* **Sn 04 41 00.2 +1.9**
baz=229
HGSD Ruisui 1.02 212 *eP* **Pg 04 40 45.2 +0.1**
baz=208
DPDB Guoxing 1.04 252 *eP* **Pg 04 40 45.5 0.0**
baz=248
SMLT Sun Moon Lake 1.12 245 P **Pg 04 40 47.1 +0.2**
SMLT baz=241 *eS* **Sg 04 41 03.3 +1.7**
baz=241
SSLB Suanglung 1.12 239 *eP* **Pn 04 40 46.2 -0.1**
SSLB baz=236 *eS* **Sg 04 41 03.7 +2.0**
baz=236
NMLH Miaoli 1.12 279 *eP* **Pg 04 40 48.1 +1.1**
baz=277
TWQ1 Liyutan 1.13 269 *eP* **Pg 04 40 47.0 -0.1**
TWQ1 baz=267 *eS* **Sg 04 41 03.0 +1.2**
baz=267
NSY Sanyi 1.14 273 *eP* **Pg 04 40 47.0 -0.3**
NSY baz=270 *eS* **Sg 04 41 03.1 +0.9**
baz=270
TYC Yuchr 1.15 247 P **Pg 04 40 47.4 -0.1**
TYC baz=243 *eS* **Sg 04 41 03.9 +1.5**
baz=243
YULB Yu-li 1.17 214 *eP* **Pg 04 40 48.2 +0.3**
baz=211
WJS Zhushan 1.29 245 *eP* **Pg 04 40 50.2 +0.1**
baz=242
WDLH Douliu 1.50 244 *eP* **Pg 04 40 53.7 -0.5**
baz=241
IRIF Iriomote-Funau 1.57 91 P **Pn 04 40 51.9 -0.5**
IRIF S **Sn 04 41 11.4 -1.0**
CHN4 Tsaushan 1.64 232 *eP* **Pg 04 40 55.9 -1.0**
CHN4 baz=230 *eS* **Sg 04 41 17.5 -0.7**
baz=230
STYT Tauyuan 1.66 224 *eP* **Pb 04 40 55.2 -0.2**
baz=221
HATJ Hateruma jima 1.67 100 P **Pn 04 40 53.6 -0.2**
WTP Ta-pu 1.69 229 *eP* **Pb 04 40 56.1 0.0**
baz=226
JKRS Kuro-shima 1.83 94 P **Pn 04 40 56.1 +0.1**
JKRS *eS* **Sn 04 41 17.6 -1.2**
JIJ Ishigaki jima 1.95 90 P **Pn 04 40 57.7 +0.1**
JIJ S **Sn 04 41 20.1 -1.6**
JISG Ishigakijimahi 2.11 84 P **Pn 04 40 58.8 -1.0**
JISG S **Sn 04 41 24.8 -0.9**
JTJ Tarama 2.47 83 P **Pn 04 41 05.1 +0.3**
JTJ *eS* **Sn 04 41 33.4 -1.2**

IDC 06 04:56:47.5±3.9, 16°.35S×172°.98W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/41, mbtmp3.7/5, MS3.3/10, Ms1 3.3/10, ms1mx3.1/27, Error ellipse: s-maj=271.1km s-min=24.3km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.41**	**113**	LR	LR	05 03 29.9	
	comp=Z,23nm,21.9s,baz=270,slow=30						
RAO	**Raoul Island**	**13.62**	**199**	LR	LR	05 04 10.6	
	comp=Z,2μm,19.4s,baz=156,slow=32						
PPT	**Papeete**	**22.42**	**96**	LR	LR	05 09 26.5	
	comp=Z,18nm,19.0s,baz=307,slow=34						
WRA	**Warramunga Arr**	**50.03**	**257**	P	P	05 05 44.2	-0.1
	0.2nm,0.3s,baz=96,slow=8.3,SNR=3.8						
ASAR	**Alice Springs**	**50.21**	**253**	P	P	05 05 45.6	0.0
	1.5nm,0.7s,baz=86,slow=8.3,SNR=14						
MJAR	**Matsushiro Arr**	**69.92**	**320**	LR	LR	05 33 18.1	
	comp=Z,17nm,21.1s,baz=140,slow=31						
PETK	**Petropavlovsk-**	**73.65**	**342**	LR	LR	05 43 24.8	
	comp=Z,7.5nm,18.5s,baz=146,slow=38						
NVAR	**Mina Array Bea**	**74.76**	**42**	P	P	05 08 30.2	+0.3
	1.4nm,0.8s,baz=232,slow=11,SNR=9.5						
NVAR				LR	LR	05 34 26.0	
	comp=Z,34nm,21.2s,baz=186,slow=30						
KSRS	**Korea Array**	**77.12**	**316**	LR	LR	05 38 34.2	
	comp=Z,7.5nm,19.6s,baz=230,slow=32						
TXAR	**Lajitas Array**	**80.81**	**56**	LR	LR	05 38 12.0	
	comp=Z,22nm,19.0s,baz=0.0,slow=31						
PDAR	**Pinedale Array**	**82.70**	**42**	P	P	05 09 13.9	+0.4
	0.4nm,0.8s,baz=233,slow=7.2,SNR=3.9						
PDAR				LR	LR	05 39 45.8	
	comp=Z,29nm,18.1s,baz=249,slow=31						
MAW	**Mawson**	**87.03**	**199**	LR	LR	05 46 12.5	
	comp=Z,65nm,20.1s,baz=161,slow=34						
YKA	**Yellowknife Ar**	**90.80**	**23**	P	P	05 09 51.2	-1.1
	0.1nm,0.6s,baz=229,slow=4.6,SNR=4.1						
ULM	**Lac du Bonnet**	**94.41**	**39**	LR	LR	05 47 42.2	
	comp=Z,38nm,18.4s,baz=138,slow=32						

*IDC **06** 05:08:55.4±1.2, 1°.23N×123°.41E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/39, mbtmp3.5/4, MS3.0/5, Ms1 3.0/5, ms1mx2.7/26, Error ellipse: s-maj=166.2km s-min=21.2km az=66.0*
*DJA **06** 05:08:59.1±0.3, 1°.N±3°×12°.2E±°, h10km, M4.2/14, mb4.3/5, mB4.8/2, MLv4.2/14, Mw(mB)4.0/2*
*ISCJB **06** 05:09:00.5±0.9, 0°.97N±0°.08×121°.99E±0°.06, h51km, mb3.5/4, MS3.0/4, Error ellipse: s-maj=11.4km s-min=8.0km az=164.6*
ISC 06 05:09:02.5±1.0, 0°.93N±0°.07×122°.06E±0°.06, h51km, n20, σ2°50/20, mb3.6/4, MS3.0/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.47**	**195**	P	**Pn**	**05 09 10.6**	**-2.9**
MRSI				S	**Sn**	**05 09 17.5**	**-3.8**
APSI	**Ampana**	**1.87**	**193**	P	**Pn**	**05 09 31.7**	**-0.5**
APSI				S	**Sn**	**05 09 58.1**	**+3.4**
KMSI	**Cibinong**	**1.95**	**100**	P	**Pn**	**05 09 33.0**	**-0.2**
KMSI				S	**Sn**	**05 09 58.8**	**+2.2**
LUWI	**Luwuk**	**2.08**	**160**	P	**Pn**	**05 09 34.4**	**-0.7**
LUWI				S	**Sn**	**05 10 03.7**	**+3.9**
TTSI	**Tana Toraja**	**4.54**	**210**	P	**Pn**	**05 10 09.5**	**+0.7**
SGKI	**Sangatta, Kali**	**4.69**	**252**	P	**Pn**	**05 10 10.2**	**-0.6**
KDI	**Kendari**	**4.89**	**173**	P	**Pn**	**05 10 13.6**	**+0.1**
SANI	**Sanana**	**4.92**	**127**	P	**Pn**	**05 10 12.5**	**-1.4**
SPSI	**Sidrap Palu**	**5.37**	**205**	P	**Pn**	**05 10 21.6**	**+1.4**
	33nm,0.6s						
BNSI	**Bone**	**5.64**	**200**	P	**Pn**	**05 10 24.7**	**+0.8**
BBSI	**Bau Bau**	**6.39**	**175**	P	**Pn**	**05 10 34.6**	**+0.4**
BKSI	**Bulukumba**	**6.50**	**197**	P	**Pn**	**05 10 36.5**	**+0.8**
DAV	**Davao City (W)**	**7.04**	**30**	LR	LR	05 13 10.9	
	comp=Z,50nm,20.6s,baz=163,slow=41						
WRA	**Warramunga Arr**	**23.98**	**151**	P	**P**	**05 14 08.2**	**-4.3**
	0.9nm,0.5s,baz=327,slow=10,SNR=3.8						
PMG	**Port Moresby**	**27.02**	**113**	LR	LR	05 27 03.7	
	comp=Z,100nm,18.0s,baz=155,slow=42						
ASAR	**Alice Springs**	**27.02**	**156**	P	**P**	**05 14 37.0**	**-3.1**
	0.4nm,0.4s,baz=332,slow=7.3,SNR=9.2						
ASAR				LR	LR	05 25 02.0	
	comp=Z,58nm,19.1s,baz=94,slow=36						
CMAR	**Chiang Mai Arr**	**28.61**	**309**	LR	LR	05 26 40.7	
	comp=Z,21nm,18.7s,baz=166,slow=36						
JNU	**Nakatsue**	**33.08**	**14**	LR	LR	05 26 59.4	
	comp=Z,9.7nm,21.9s,baz=283,slow=33						
SONM	**Songino Array**	**48.66**	**346**	P	**P**	**05 17 40.4**	**-1.2**
	0.6nm,0.6s,baz=161,slow=7.5,SNR=4.6						
MKAR	**Makanchi Array**	**57.34**	**329**	P	**P**	**05 18 49.4**	**+3.9**
	0.2nm,0.4s,baz=116,slow=9.8,SNR=3.5						

*ISK **06** 05:14:51.9, 34°.96N×34°.19E, h29km, ML2.3/12*
*NIC **06** 05:14:56.4±0.4, 34°.99N×33°.95E, h25km, ML2.7*
ISC 06 05:14:53.1±2.8, 35°.0N±0°.1×34°.2E±0°.1, h43km±13km, n18, σ0°54/25, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.11**	**294**	P	**Pn**	**05 15 00.3**	**+0.1**
	baz=255						
PHNC				S	**Sn**	**05 15 05.1**	**-0.1**
AKIN	**Akıncılar- Kıb**	**0.57**	**276**	PG	**Pn**	**05 15 04.6**	**-0.3**
EREN	**Erenkoy**	**0.57**	**1**	PG	**Pn**	**05 15 04.4**	**-0.5**
EREN				SG	**Sn**	**05 15 13.8**	**+0.5**
LFK	**Lefkose**	**0.60**	**302**	PG	**Pn**	**05 15 05.4**	**0.0**
LFK				SG	**Sn**	**05 15 14.5**	**+0.3**
MAMC	**Mammari**	**0.80**	**286**	P	**Pn**	**05 15 08.2**	**+0.2**
	baz=106						
LEF	**Lefka**	**1.05**	**279**	PN	**Pn**	**05 15 12.1**	**+0.7**
SZAC	**Souni**	**1.07**	**259**	P	**Pn**	**05 15 12.1**	**+0.4**
	baz=75						
ALFC	**Alefka**	**1.29**	**279**	P	**Pn**	**05 15 14.8**	**0.0**
	baz=98						
ALFC				S	**Sn**	**05 15 29.0**	**-1.9**
AKKU	**Akkuyu-Mersin**	**1.29**	**338**	PN	**Pn**	**05 15 14.7**	**-0.1**
IKL	**Isikli**	**1.33**	**343**	PN	**Pn**	**05 15 14.8**	**-0.5**
SILI	**Silifke-Mersin**	**1.42**	**352**	PN	**Pn**	**05 15 16.3**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.46**	**325**	PN	**Pn**	**05 15 16.6**	**-0.4**
TEKE				SN	**Sn**	**05 15 35.2**	**+0.4**
KIZK	**Mersin**	**1.52**	**360**	PN	**Pn**	**05 15 17.9**	**+0.1**
KIZK				SN	**Sn**	**05 15 36.6**	**+0.2**
KEBE	**Keben-Mersin**	**1.53**	**346**	PN	**Pn**	**05 15 18.0**	**0.0**
KEBE				SN	**Sn**	**05 15 37.2**	**+0.5**
BERE	**Bereket-Mersin**	**1.58**	**332**	PN	**Pn**	**05 15 18.7**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.58**	**339**	PN	**Pn**	**05 15 18.8**	**0.0**
MERS	**Mersin**	**1.93**	**9**	PN	**Pn**	**05 15 23.4**	**-0.1**
GAZI	**Gazipasa**	**1.97**	**311**	PN	**Pn**	**05 15 24.6**	**+0.6**

IDC 06 05:16:14.9±26.0, 10°.26S×166°.61E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/33, mbtmp4.0/5, ML4.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/21, Error ellipse: s-maj=462.4km s-min=51.1km az=56.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.62**	**277**	LR	LR	05 20 23.5	
	comp=Z,228nm,19.0s,baz=101,slow=38						
DZM	**Mont Dzumac**	**11.74**	**181**	Pn	Pn	05 19 03.6	-0.3
	2.0nm,0.3s,baz=133,slow=21,SNR=8.2						
JAY	**Jayapura**	**26.85**	**285**	LR	LR	05 33 20.9	
	comp=Z,43nm,18.8s,baz=296,slow=38						
STKA	**Stephens Creek**	**31.59**	**223**	P	P	05 22 40.6	+1.0
	1.3nm,0.5s,baz=32,slow=8.1,SNR=3.3						
WRA	**Warramunga Arr**	**32.55**	**249**	P	P	05 22 48.9	+0.8
	3.0nm,0.8s,baz=81,slow=9.0,SNR=7.0						
ASAR	**Alice Springs**	**33.90**	**243**	P	P	05 22 58.5	-1.5
	0.6nm,0.9s,baz=72,slow=9.0,SNR=5.7						
FITZ	**Fitzroy Crossi**	**40.41**	**254**	P	P	05 23 54.9	-0.3
	2.3nm,0.9s,baz=105,slow=6.8,SNR=6.0						

*ISCJB **06** 05:24:48.2±0.3, 7°.86N±0°.02×73°.55W±0°.03, h62km±5km, mb3.6/5, Error ellipse: s-maj=4.7km s-min=3.6km az=10.2*
*IDC **06** 05:24:48.1±0.8, 7°.66N×73°.54W, h54km±6km, mb3.3/5, mb1 3.8/7, mb1mx3.4/26, mbtmp3.7/7, MS3.2/1, Ms1 3.3/1, ms1mx2.6/12, Error ellipse: s-maj=25.7km s-min=11.3km az=167.0*
*RSNC **06** 05:24:49.8±1.0, 7°.84N×73°.54W, h46km±10km, ML3.6, Mw3.6*
ISC 06 05:24:48.7±0.7, 7°.85N±0°.03×73°.55W±0°.03, h52km±7km, n34, σ1°00/53, mb3.5/6, 4C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.45**	**31**	↓*iP*	**Pn**	**05 24 59.8**	**0.0**
OCAC				*eS*	**Sn**	**05 25 08.0**	**+0.3**
OCAC				*i*		05 25 08.7	
	comp=Z,5μm,0.2s						
BRRC	**Barranca, Sant**	**0.75**	**192**	↑*iP*	**Pn**	**05 25 03.3**	**+0.1**
BRRC				*eS*	**Sn**	**05 25 14.2**	**+0.5**
BRRC				*i*		05 25 17.7	
	comp=Z,3μm,0.2s						
GIRC	**Giron, Santand**	**0.84**	**155**	↓*iP*	**Pn**	**05 25 04.5**	**+0.1**
GIRC				*eS*	**Sn**	**05 25 16.2**	**+0.2**
GIRC				*i*		05 25 18.4	
	comp=Z,2μm,0.3s						
PAMC	**Pamplona, Colo**	**0.98**	**121**	↓*iP*	**Pn**	**05 25 07.3**	**+0.6**
PAMC				*eS*	**Sn**	**05 25 21.0**	**+1.1**
SMLC	**San Martn de**	**1.08**	**332**	↓*iP*	**Pn**	**05 25 06.8**	**-0.7**
SMLC				*eS*	**Sn**	**05 25 21.3**	**-0.2**
SMLC				*i*		05 25 27.9	
	comp=Z,2μm,0.1s						
BARC	**Barichara**	**1.30**	**164**	↑*iP*	**Pn**	**05 25 10.7**	**0.0**
BARC				*eS*	**Sn**	**05 25 27.2**	**+0.1**
BARC				*i*		05 25 28.7	
	comp=Z,1μm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.34**	**255**	*eP*	**Pn**	**05 25 10.6**	**-0.5**
PTBC	**PUERTO BERRIO,**	**1.58**	**215**	↑*iP*	**Pn**	**05 25 13.1**	**-1.2**
PTBC				*eS*	**Sn**	**05 25 33.8**	**+0.2**
PTBC				*i*		05 25 38.2	
	comp=Z,540nm,0.3s						
UREC	**San Jos de Ur**	**1.96**	**267**	*eP*	**Pn**	**05 25 20.5**	**+1.0**
UREC				*eS*	**Sn**	**05 25 43.7**	**+0.6**
UREC				*i*		05 25 47.9	
	comp=Z,1μm,0.3s						
RUSC	**La Rusia**	**2.00**	**166**	*eP*	**Pn**	**05 25 20.7**	**+0.3**
RUSC				*i*		05 26 12.3	
	comp=Z,290nm,0.7s						
CODC	**Agustn Codazz**	**2.08**	**3**	↓*iP*	**Pn**	**05 25 21.2**	**0.0**
CODC				*eS*	**Sn**	**05 25 46.5**	**+0.6**
CODC				*i*		05 25 57.0	
	comp=Z,155nm,0.2s						
ARGC	**Ariguani, Magd**	**2.11**	**341**	*eP*	**Pn**	**05 25 22.0**	**+0.4**
TAMC	**Tame, Arauca**	**2.24**	**129**	*eP*	**Pn**	**05 25 24.3**	**+0.9**
TAMC				*i*		05 25 45.4	
	comp=Z,219nm,0.2s						
HELC	**Santa Helena**	**2.56**	**230**	*eP*	**Pn**	**05 25 29.3**	**+1.2**
HELC				*eS*	**Sn**	**05 25 59.4**	**+1.2**
HELC				*i*		05 26 04.6	
	comp=Z,278nm,0.4s						
SJCC	**San Jacinto, C**	**2.59**	**322**	↓*iP*	**Pn**	**05 25 30.0**	**+1.7**
SJCC				*eS*	**Sn**	**05 26 00.2**	**+1.5**
SJCC				*i*		05 26 05.1	
	comp=Z,393nm,0.8s						
NORC	**Norcasia**	**2.62**	**210**	*eP*	**Pn**	**05 25 28.0**	**-0.6**
NORC				*eS*	**Sn**	**05 25 58.9**	**-0.2**
NORC				*i*		05 26 04.9	
	comp=Z,162nm,0.3s						
DBBC	**Dabeiba**	**2.76**	**253**	*eP*	**Pn**	**05 25 31.8**	**+1.3**
SDV	**Santo Domingo**	**3.07**	**70**	↑*iP*	**Pn**	**05 25 36.4**	**+1.6**
SDV				*eS*	**Sn**	**05 26 10.5**	**+0.1**
SDV	**Santo Domingo**	**3.07**	**70**	P	**Pn**	**05 25 36.5**	**+1.7**
	comp=Z,24nm,0.3s,baz=262,slow=5.1,SNR=64						
SDV				S	**Sn**	**05 26 12.4**	**+1.9**
	comp=Z,42nm,0.3s,baz=233,slow=23,SNR=6.3						
ROSC	**El Rosal**	**3.08**	**194**	*eP*	**Pn**	**05 25 36.3**	**+1.1**
ROSC	**El Rosal**	**3.08**	**194**	P	**Pn**	**05 25 36.8**	**+1.5**
	comp=Z,1.8nm,0.3s,baz=32,slow=0.3,SNR=16						
SMRC	**Santa Marta, M**	**3.36**	**349**	*eP*	**Pn**	**05 25 39.3**	**+0.6**
SMRC				*eS*	**Sn**	**05 26 17.9**	**+0.5**
SMRC				*i*		05 26 31.2	
	comp=Z,102nm,0.5s						
URIC	**Uribia, Colomb**	**4.13**	**22**	*eP*	**Pn**	**05 25 48.8**	**-0.4**
URIC				*eS*	**Sn**	**05 26 35.4**	**-0.8**
URIC				*i*		05 26 42.3	
	comp=Z,67nm,0.4s						
PTAC	**Punta Ardita,**	**4.28**	**261**	*eP*	**Pn**	**05 25 52.2**	**+1.0**
PTAC				*eS*	**Sn**	**05 26 39.9**	**0.0**
PRAC	**Prado**	**4.31**	**198**	*eP*	**Pn**	**05 25 53.0**	**+1.2**
APG	**El Apazote**	**18.03**	**295**	P	**Pn**	**05 28 57.7**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=67,slow=7.0,SNR=3.5						
TXAR	**Lajitas Array**	**35.47**	**311**	P	**P**	**05 31 40.9**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=124,slow=9.0,SNR=9.1						
PDAR	**Pinedale Array**	**47.00**	**324**	P	**P**	**05 33 15.3**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=127,slow=13,SNR=3.0						
NVAR	**Mina Array Bea**	**50.46**	**314**	P	**P**	**05 33 42.6**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=129,slow=7.1,SNR=3.4						
NVAR				LR	LR	06 00 03.5	
	comp=Z,23nm,18.4s,baz=198,slow=42						
YKA	**Yellowknife Ar**	**62.16**	**340**	P	**P**	**05 35 04.0**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=131,slow=6.9,SNR=37						
YKA				pP	**pP**	**05 35 18.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=131,slow=7.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**73.95**	**79**	P	**P**	**05 36 16.6**	**-2.6**
	comp=Z,0.1nm,0.4s,baz=281,slow=6.2,SNR=4.4						
ILAR	**Eielson Array**	**75.86**	**335**	pP	pP	05 36 44.4	+0.3
	comp=Z,0.4nm,0.8s,baz=108,slow=4.4,SNR=4.3						
ASAR	**Alice Springs**	**149.34**	**236**	PKPbc	**PKPbc**	**05 44 31.6**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=117,slow=3.5,SNR=18						
ASAR				pPKPbc	**pPKPbc**	**05 44 47.4**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=120,slow=3.6,SNR=8.5						
WRA	**Warramunga Arr**	**150.43**	**243**	PKPbc	**PKPbc**	**05 44 34.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=105,slow=2.7,SNR=5.6						
WRA				pPKPbc	**pPKPbc**	**05 44 50.3**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=104,slow=2.3,SNR=5.0						

*ISK **06** 05:29:50.9, 37°.56N×35°.71E, h1km, ML3.1/24*
*ISCJB **06** 05:29:51.8±0.5, 37°.54N±0°.02×35°.70E±0°.02, h1km±4km, Error ellipse: s-maj=3.8km s-min=3.0km az=163.5*
*DDA **06** 05:29:51.0, 37°.56N×35°.69E, h18km±1km, ML3.6*
ISC 06 05:29:51.4±0.9, 37°.56N±0°.02×35°.71E±0°.02, h12km±6km, n56, σ1°02/69, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.12**	**131**	PG	**Pg**	**05 29 54.4**	**-0.2**
KOZT				SG	**Sg**	**05 29 56.4**	**-0.5**
AKO	**Adana**	**0.23**	**244**	IAML_P			
	comp=Z,62μm,0.1s						
AKO				*i* P	**Pg**	**05 29 56.7**	**+0.4**
AKO				*i* S	**Sg**	**05 30 00.5**	**+0.8**
ANDN	**Andirin**	**0.51**	**88**	IAML_P			
	comp=Z,29μm,0.3s						
ANDN				*i* P	**Pb**	**05 30 01.9**	**-0.4**
ANDN				*i* S	**Sb**	**05 30 10.2**	**+0.6**
SAIM	**ADANA**	**0.51**	**35**	IAML_P			
	comp=Z,23μm,0.1s						
SAIM				*i* P	**Pb**	**05 30 02.1**	**-0.2**
CEYT	**Ceyhan**	**0.55**	**177**	PG	**Pb**	**05 30 02.7**	**-0.3**
CEYT				SG	**Sb**	**05 30 11.3**	**+0.5**
YAHY	**KAYSERI_Yahyal**	**0.60**	**333**	IAML_P			
	comp=Z,10μm,0.1s						
YAHY				*i* P	**Pb**	**05 30 03.2**	**-0.6**
YAHY				*i* S	**Sb**	**05 30 11.6**	**-0.7**
KARA	**Karaisali**	**0.60**	**240**	PG	**Pg**	**05 30 02.8**	**-0.3**
YURE	**YUREGIR**	**0.74**	**185**	PG	**Pb**	**05 30 06.2**	**0.0**
YURE	**YUREGIR**	**0.74**	**185**	*i* P	**Pb**	**05 30 06.4**	**+0.3**
GULE	**Gulek**	**0.79**	**250**	IAML_P			
	comp=Z,9μm,0.3s						
GULE				*i* P	**Pg**	**05 30 06.3**	**-0.4**
GULE				*i* S	**Sn**	**05 30 19.0**	**-1.3**
KAMA	**Osmaniye**	**0.85**	**116**	*i* P	**Pg**	**05 30 06.9**	**-0.9**
AYKD	**Aykdinkavak**	**0.89**	**99**	IAML_P			
	comp=Z,9μm,0.2s						
AYKD				*i* P	**Pb**	**05 30 08.5**	**-0.2**
DED	**Mersin**	**0.94**	**231**	IAML_P			
	comp=Z,4μm,0.1s						
DED				*i* P	**Pb**	**05 30 09.5**	**-0.1**
DED				*i* S	**Sb**	**05 30 21.9**	**-0.2**
KMRS	**Kahramanmaras**	**0.95**	**93**	PG	**Pb**	**05 30 09.6**	**-0.2**
HCB	**Kahramanmara**	**0.98**	**102**	IAML_P			
	comp=Z,4μm,0.1s						
HCB				*i* P	**Pb**	**05 30 10.3**	**+0.1**
KRTD	**Karatas-Adana**	**0.99**	**194**	PG	**Pn**	**05 30 11.2**	**+0.1**
KRTS	**Karatas**	**1.02**	**195**	PG	**Pn**	**05 30 11.2**	**-0.3**
NIG	**Nigde**	**1.03**	**302**	PG	**Pn**	**05 30 12.0**	**+0.1**
MERS	**Mersin**	**1.17**	**234**	PN	**Pn**	**05 30 14.2**	**+0.5**
MERS				SN	**Sn**	**05 30 31.4**	**+1.8**
TAHT	**Tahtakopru-Hat**	**1.24**	**162**	PN	**Pg**	**05 30 14.8**	**-0.5**
GAZ	**Gaziantep**	**1.26**	**108**	PN	**Pg**	**05 30 15.8**	**+0.2**
KERG	**Konya-Eregli**	**1.27**	**264**	*i* P	**Pn**	**05 30 14.8**	**-0.2**
BNN	**Bunyan**	**1.29**	**5**	PN	**Pg**	**05 30 15.9**	**-0.4**
KUZU	**Kuzuini**	**1.34**	**125**	IAML_P			
	comp=Z,4μm,0.3s						
KUZU				*i* P	**Pg**	**05 30 16.9**	**-0.3**
KUZU				*i* S	**Sg**	**05 30 34.3**	**-0.4**
ELBS	**KAHRAMANMARAS**	**1.36**	**56**	IAML_P			
	comp=Z,2μm,0.3s						
ELBS				*i* P	**Pg**	**05 30 17.5**	**0.0**
ELBS				*i* S	**Sg**	**05 30 38.1**	**+2.9**
AVNS	**Nevsehir-Avano**	**1.42**	**332**	IAML_P			
	comp=Z,3μm,0.2s						
AVNS				*i* P	**Pg**	**05 30 18.8**	**+0.2**
AVNS				*i* S	**Sg**	**05 30 38.4**	**+1.4**
GZT	**Gaziantep**	**1.49**	**97**	IAML_P			
	comp=Z,3μm,0.1s						
GZT				*i* P	**Pg**	**05 30 19.6**	**-0.5**
KIZK	**Mersin**	**1.65**	**230**	PN	**Pb**	**05 30 21.6**	**-0.2**
KIZK	**Mersin**	**1.65**	**230**	IAML_P			
	comp=Z,2μm,0.1s						
KIZK				*i* P	**Pg**	**05 30 22.2**	**-0.9**
KIZK				*i* S	**Sg**	**05 30 44.7**	**+0.1**
DARE	**Darende-Malaty**	**1.73**	**54**	PN	**Pb**	**05 30 23.2**	**+0.1**
SIRC	**Yozgat**	**1.82**	**346**	*i* P	**Pb**	**05 30 25.0**	**+0.2**
SLFK	**Silifke-Mersin**	**1.83**	**231**	PN	**Pb**	**05 30 24.0**	**-0.8**
AKSY	**AKSARAY - Alti**	**1.88**	**306**	*i* P	**Pb**	**05 30 25.4**	**-0.3**
AKSY				*i* S	**Sb**	**05 30 50.1**	**+0.9**
CUALT	**Altinyayla-SIV**	**1.90**	**25**	*i* P	**Pb**	**05 30 25.9**	**-0.1**
CUSAR	**Sarkisla-SIVAS**	**1.90**	**13**	*i* P	**P

MAN 06 05:56:53.8, 10°.23N×122°.28E, h1km, mb3.5, ML2.2, MS1.6, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.50**	**37**	*eP*	Pg	05 57 03.5	+0.2
GUIM				*eS*	Sb	05 57 16.9	+3.8
RCP	**Roxas**	**1.40**	**19**	⇑*eP*	Pn	05 57 19.7	-0.7
RCP				*eS*	Sn	05 57 40.1	+0.6
LLP	**Lapu-Lapu**	**1.66**	**87**	*eP*	Pn	05 57 23.9	-0.1

*ISCJB **06** 06:42:39.6±0.3, 36°.55N±0°.06×135°.05E±0°.07, h375km, mb3.1/6, Error ellipse: s-maj=8.0km s-min=7.4km az=156.1*
*JMA **06** 06:42:40.4±0.2, 36°.55N×134°.99E, h368km±2km, M2.9*
*IDC **06** 06:42:40.6±1.3, 36°.56N×135°.10E, h367km±13km, mb2.8/5, mb1 2.8/11, mb1mx2.6/53, mbtmp3.5/11, Error ellipse: s-maj=31.3km s-min=15.7km az=166.0*

ISC 06 06:42:40.3±0.8, 36°.48N±0°.10×135°.07E±0°.08, h375km, n31, σ0s80/33, mb3.0/6, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**0.85**	**178**	P	**Pn**	**06 43 28.0**	**-0.3**
JKG	**Kaga**	**1.03**	**101**	*eS*	**S**	**06 44 05.5**	**-2.4**
JWT	**Wachi**	**1.22**	**167**	P	**Pn**	**06 43 29.7**	**0.0**
JWT				S	**S**	**06 44 07.8**	**-1.6**
JYTA	**Yamagatataniai**	**1.61**	**123**	P	**Pn**	**06 43 31.9**	**+0.3**
JYTA				S	**S**	**06 44 11.6**	**-1.2**
JHS	**Saijyo**	**2.17**	**228**	P	**Pn**	**06 43 34.6**	**-0.6**
JWY	**Kouya**	**2.29**	**169**	P	**Pn**	**06 43 36.3**	**+0.1**
JNG	**Nsakai**	**2.44**	**91**	P	**Pn**	**06 43 37.6**	**+0.5**
JIE	**Ise**	**2.47**	**147**	P	**Pn**	**06 43 38.0**	**+0.7**
MAT	**Matsushiro**	**2.52**	**88**	P	**Pn**	**06 43 38.1**	**+0.4**
MAT	**Matsushiro**	**2.52**	**88**	P	**Pn**	**06 43 38.0**	**+0.4**
MJAR	**Matsushiro Arr**	**2.53**	**88**	P	**Pn**	**06 43 38.2**	**+0.5**
	0.6nm,0.3s,baz=269,slow=10.0,SNR=21						
JTNC	**Tanabenakahech**	**2.69**	**170**	P	**Pn**	**06 43 39.0**	**-0.1**
JAI	**Aioi**	**2.73**	**191**	P	**Pn**	**06 43 39.6**	**+0.2**
JHT	**Toyohira**	**2.82**	**231**	P	**Pn**	**06 43 39.6**	**-0.5**
JSD	**Sado**	**2.98**	**58**	P	**Pn**	**06 43 41.4**	**+0.1**
JRY	**Ryogami san**	**3.13**	**97**	P	**Pn**	**06 43 43.5**	**+0.8**
JTO	**Tosashimizu**	**4.07**	**208**	P	**Pn**	**06 43 52.0**	**+0.4**
JFT	**Otama**	**4.34**	**75**	P	**Pn**	**06 43 54.6**	**+0.4**
JFK	**Kawauchi**	**4.73**	**77**	P	**Pn**	**06 43 57.7**	**-0.5**
JMM	**Marumori**	**4.77**	**71**	P	**Pn**	**06 43 58.5**	**-0.1**
JNU	**Nakatsue**	**4.81**	**227**	P	**Pn**	**06 43 59.4**	**+0.2**
	0.9nm,0.3s,baz=84,slow=2.2,SNR=4.6						
KSRS	**Korea Array**	**5.81**	**282**	P	**Pn**	**06 44 08.7**	**-1.1**
	0.3nm,0.3s,baz=102,slow=12,SNR=10.0						
USRK	**Ussuriysk Ar.**	**8.06**	**344**	P	**Pn**	**06 44 35.4**	**0.0**
	0.3nm,0.3s,baz=159,slow=12,SNR=7.7						
ASAJ	**Asahikawa**	**9.55**	**35**	P	**Pn**	**06 44 52.2**	**-0.5**
	0.6nm,0.3s,baz=232,slow=18,SNR=3.6						
KLR	**Kul'dur**	**12.97**	**350**	P	**P**	**06 45 30.6**	**-0.8**
	0.1nm,0.3s,baz=217,slow=4.7,SNR=3.5						
SONM	**Songino Array**	**23.96**	**307**	P	**P**	**06 47 22.8**	**+0.4**
	0.3nm,0.5s,baz=113,slow=6.9,SNR=3.0						
MKAR	**Makanchi Array**	**40.09**	**302**	P	**P**	**06 49 41.9**	**+1.1**
	0.3nm,0.5s,baz=89,slow=11,SNR=4.5						
AAK	**Ala-Archa**	**46.24**	**297**	P	**P**	**06 50 30.9**	**+1.3**
	0.8nm,0.4s,baz=72,slow=3.2,SNR=2.4						
ILAR	**Eielson Array**	**52.67**	**32**	P	**P**	**06 51 16.9**	**-0.2**
	0.2nm,0.5s,baz=272,slow=6.0,SNR=3.6						
INK	**Inuvik**	**57.17**	**26**	P	**P**	**06 51 49.1**	**+0.3**
	0.3nm,0.4s,baz=287,slow=1.6,SNR=4.7						
ESDC	**Sonseca Array**	**95.35**	**329**	P	**P**	**06 55 23.6**	**+0.7**
	0.7nm,0.5s,baz=33,slow=5.7,SNR=4.6						

*ISCJB **06** 06:46:43.9±0.9, 18°.3S±0°.2×178°.1W±0°.1, h650km, mb3.5/8, Error ellipse: s-maj=22.6km s-min=16.2km az=146.2*
*IDC **06** 06:46:45.5±2.7, 18°.26S×178°.12W, h647km±33km, mb3.0/8, mb1 3.2/8, mb1mx3.0/30, mbtmp4.0/8, Error ellipse: s-maj=26.4km s-min=13.6km az=154.0*

ISC 06 06:46:45.6±0.8, 18°.2S±0°.2×178°.1W±0°.1, h650km, n13, σ0s96/16, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**27.00**	**197**	P	**P**	**06 51 37.1**	**-1.7**
	16nm,0.9s,baz=91,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	**06 53 17.4**	**+0.4**
	1.4nm,0.5s,baz=112,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**44.86**	**260**	P	**P**	**06 54 05.4**	**+0.4**
	0.9nm,0.4s,baz=94,slow=7.3,SNR=3.1						
WRA				PcP	**PcP**	**06 55 32.6**	**+0.5**
	0.5nm,0.3s,baz=90,slow=3.4,SNR=1.8						
WRA				S	**S**	**06 59 56.8**	**-1.0**
	0.5nm,0.3s,baz=101,slow=13,SNR=2.4						
ASAR	**Alice Springs**	**44.98**	**255**	P	**P**	**06 54 06.7**	**+0.7**
	2.9nm,0.4s,baz=91,slow=7.5,SNR=52						
ASAR				PcP	**PcP**	**06 55 33.3**	**+0.8**
	1.2nm,0.4s,baz=106,slow=3.9,SNR=14						
ASAR				S	**S**	**07 00 00.6**	**+1.1**
	1.4nm,0.8s,baz=91,slow=15,SNR=14						
VNDA	**Vanda**	**60.14**	**185**	P	**P**	**06 55 52.1**	**0.0**
	0.5nm,0.6s,baz=45,slow=10.0,SNR=4.1						
MJAR	**Matsushiro Arr**	**68.34**	**323**	P	**P**	**06 56 43.7**	**-0.7**
	1.0nm,0.5s,baz=156,slow=6.0,SNR=3.6						
TXAR	**Lajitas Array**	**85.92**	**57**	P	**P**	**06 58 20.9**	**+1.6**
	0.2nm,0.8s,baz=260,slow=5.4,SNR=2.5						
ILAR	**Eielson Array**	**86.14**	**13**	P	**P**	**06 58 18.2**	**-1.1**
	0.3nm,0.4s,baz=216,slow=5.1,SNR=7.3						
MKAR	**Makanchi Array**	**109.57**	**314**	PKiKP	**PKiKP**	**07 04 03.4**	**-0.7**
	0.3nm,0.6s,baz=52,slow=2.3,SNR=2.9						
ARCES	**ARCESS Array B**	**126.69**	**350**	PKP	**PKPdf**	**07 04 35.9**	**-0.3**
	1.1nm,0.7s,baz=58,slow=2.2,SNR=4.3						
AKASG	**Malin Array Be**	**140.99**	**332**	PKhKP	PKPpre	07 04 58.1	
	0.3nm,0.3s,baz=41,slow=3.3,SNR=3.3						
BRTR	**Keskin Array B**	**145.22**	**315**	PKPbc	**PKPbc**	**07 05 13.0**	**+0.3**
	1.1nm,0.5s,baz=127,slow=3.1,SNR=6.4						
GERES	**GERESS Array B**	**148.00**	**345**	PKPbc	**PKPbc**	**07 05 19.7**	**-0.1**
	0.9nm,0.5s,baz=35,slow=3.6,SNR=5.9						

*ISK **06** 06:49:18.1, 37°.92N×27°.21E, h4km, ML1.9/3*
*DDA **06** 06:49:19.2, 37°.78N×27°.06E, h7km±2km, ML2.5*

ISC 06 06:49:19.1±1.2, 37°.91N±0°.04×27°.18E±0°.05, h6km±23km, n7, σ0s72/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.21**	**169**	PG	**Pg**	**06 49 23.1**	**-0.2**
GCAM				SG	**Sg**	**06 49 26.3**	**+0.2**
GCAM	**G?zelcaml?**	**0.21**	**169**	*i* P	**Pg**	**06 49 23.0**	**-0.2**
GCAM				*i* S	**Sg**	**06 49 26.1**	**0.0**
BLCB	**Balcova**	**0.49**	**347**	PG	**Pg**	**06 49 27.9**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.56**	**86**	PG	**Pg**	**06 49 29.7**	**-0.2**
AYDB				SG	**Sg**	**06 49 37.3**	**+0.1**
AYDN	**Tasoluk**	**0.60**	**114**	IAML_P			
	comp=Z,484nm,0.1s						
AYDN				*i* P	**Pg**	**06 49 30.8**	**+0.1**
ZEY	**zmir**	**0.63**	**302**	IAML_P			
	comp=Z,854nm,0.1s						
ZEY				*i* P	**Pb**	**06 49 32.4**	**-0.1**
URLA	**Izmir**	**0.65**	**314**	PG	**Pg**	**06 49 30.9**	**-0.6**
URLA				SG	**Sg**	**06 49 41.6**	**+1.6**

*NNC **06** 07:03:03.0±7.0, 40°.54N×79°.76E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=50.1km s-min=44.6km az=118.0*
*SOME **06** 07:03:06.5, 40°.63N×79°.93E, h20km*

ISC 06 07:03:02.6±3.8, 40°.5N±0°.2×79°.7E±0°.1, h10km, n8, σ1s04/12, 1C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**2.66**	**350**	*eP*	**Pg**	**07 03 54.4**	**+0.8**
	2.3nm,0.2s						
UZB				*eS*	**Sg**	**07 04 28.7**	**+0.7**
	5.5nm,0.7s						
SATY	**Saty**	**2.70**	**340**	Pg	**Pg**	**07 03 55.2**	**+0.9**
	9.2nm,0.3s						
SATY				Lg	Lg	07 04 29.6	
	7.5nm,0.4s						
SATY	**Saty**	**2.70**	**340**	*eP*	**Pg**	**07 03 55.2**	**+0.9**
	9.0nm,0.3s						
SATY				*eS*	**Sg**	**07 04 30.5**	**+1.2**
	7.4nm,0.3s						
PDGK	**Podgornoye**	**2.80**	**357**	⇓Pg	**Pb**	**07 03 52.6**	**-0.2**
	4.1nm,0.5s						
PDGK				⇑Lg	Lg	07 04 30.0	
	4.1nm,0.7s						
KPKS	**Kokpek**	**3.02**	**346**	*eP*	**Pg**	**07 03 59.5**	**-1.1**
	8.1nm,0.2s						
KPKS				*eS*	**Sg**	**07 04 37.7**	**-2.0**
	10nm,0.4s						
CHKK	**Chushkaly**	**3.87**	**330**	Pg	**Pg**	**07 04 16.4**	**-0.4**
	1.1nm,0.2s						
CHKK				Lg	Lg	07 05 06.9	
	3.4nm,0.3s						
CHKK	**Chushkaly**	**3.87**	**330**	*eP*	**Pg**	**07 04 16.4**	**-0.4**
	1.1nm,0.2s						
CHKK				*eS*	**Sg**	**07 05 06.9**	**-0.1**
	3.4nm,0.3s						
TKM2	**Tokmak 2**	**3.88**	**309**	⇓Pg	**Pb**	**07 04 11.2**	**0.0**
	0.5nm,0.4s						
TKM2				⇓Lg	Lg	07 05 08.9	
	0.7nm,0.6s						

*ISCJB **06** 07:29:46.9±0.5, 49°.35N±0°.03×66°.77W±0°.05, h18km, Error ellipse: s-maj=4.4km s-min=3.7km az=167.5*
*OTT **06** 07:29:48.7±0.1, 49°.41N×66°.77W, h18km, MN3.5/19*
OTT 35km northeast from Cap-Chat, Qc. Felt Lower St. Lawrence Seismic Zone, Qc. Felt at Islets-Caribou, Qc.

ISC 06 07:29:48.0±0.9, 49°.44N±0°.03×66°.81W±0°.04, h18km, n27, σ1s47/47, 1D, Gaspe Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICQ	**Pointe Anglais**	**0.31**	**286**	⇓PG	**Pg**	**07 29 55.8**	**+1.0**
ICQ				SG	**Sg**	**07 30 00.6**	**+1.3**
ICQ				Trac		07 30 00.9	
	comp=Z,586nm,0.1s						
GSQ	**Grosses Roches**	**0.56**	**200**	PG	**Pb**	**07 30 00.2**	**+0.9**
GSQ				SG	**Sb**	**07 30 08.1**	**+1.1**
GSQ				Trac		07 30 08.6	
	comp=Z,734nm,0.1s						
SMQ	**Clarke City**	**0.79**	**5**	PG	**Pb**	**07 30 03.5**	**+0.3**
SMQ				SG	**Sb**	**07 30 14.5**	**+1.0**
SMQ				Trac		07 30 17.8	
	comp=Z,386nm,0.1s						
CNQ	**Baie Comeau**	**0.84**	**261**	PG	**Pb**	**07 30 04.0**	**0.0**
CNQ				SG	**Sb**	**07 30 15.3**	**+0.4**
CNQ				Trac		07 30 15.4	
	comp=Z,389nm,0.1s						
MNQ	**Manicouagan**	**1.68**	**312**	PN	**Pn**	**07 30 16.6**	**+0.1**
MNQ				SN	**Sn**	**07 30 39.0**	**+1.5**
MNQ				Trac		07 30 40.8	
	comp=Z,187nm,0.1s						
BATG	**Bathurst New B**	**2.22**	**167**	PN	**Pn**	**07 30 25.0**	**+1.1**
BATG				Trac		07 31 01.6	
	comp=Z,16nm,0.0s						
A21	**Saint Andre**	**2.58**	**229**	PN	**Pn**	**07 30 29.1**	**+0.3**
A21				SN	**Sn**	**07 31 00.3**	**+0.6**
A21				Trac		07 31 06.5	
	comp=Z,100nm,0.3s						
A21				LG	Lg	07 31 09.2	
A64	**Saint Simeon**	**2.60**	**233**	PN	**Pn**	**07 30 29.1**	**0.0**
A64				SN	**Sn**	**07 30 58.8**	**-1.5**
A64				LG	Lg	07 31 08.2	
A64				Trac		07 31 14.0	
	comp=Z,22nm,0.1s						
A61	**Sainte Mathild**	**2.79**	**233**	PN	**Pn**	**07 30 32.2**	**+0.5**
A61				SN	**Sn**	**07 31 04.7**	**-0.3**
A61				Trac		07 31 16.5	
	comp=Z,22nm,0.1s						
A61				LG	Lg	07 31 16.6	
A16	**Riviere Ouelle**	**2.90**	**228**	PN	**Pn**	**07 30 33.6**	**+0.5**
A16				SN	**Sn**	**07 31 07.2**	**-0.3**
A16				LG	Lg	07 31 18.3	
A16				Trac		07 31 24.9	
	comp=Z,17nm,0.1s						
LMQ	**La Malbaie**	**3.01**	**232**	PN	**Pn**	**07 30 34.7**	**0.0**
LMQ				SN	**Sn**	**07 31 09.4**	**-0.8**
LMQ				Trac		07 31 26.0	
	comp=Z,24nm,0.1s						
A54	**Misere**	**3.11**	**232**	PN	**Pn**	**07 30 36.6**	**+0.5**
A54				SN	**Sn**	**07 31 12.1**	**-0.7**
A54				Trac		07 31 25.9	
	comp=Z,18nm,0.1s						
DAQ	**Lac Daran**	**3.28**	**245**	PN	**Pn**	**07 30 38.1**	**-0.5**
DAQ				SN	**Sn**	**07 31 16.1**	**-1.2**
DAQ				Trac		07 31 32.2	
	comp=Z,29nm,0.1s						
DMCQ	**Dolbeau-Mistas**	**3.48**	**264**	PN	**Pn**	**07 30 40.5**	**-0.7**
DMCQ				SN	**Sn**	**07 31 19.6**	**-2.3**
DMCQ				LG	Lg	07 31 39.3	
DMCQ				Trac		07 31 43.1	
	comp=Z,34nm,0.2s						
ELNB	**Elgin, New Bru**	**3.76**	**162**	PN	**Pn**	**07 30 45.3**	**+0.3**
LMN	**Caledonia Moun**	**3.83**	**159**	PN	**Pn**	**07 30 46.0**	**-0.2**
LMN				SN	**Sn**	**07 31 28.9**	**-1.8**
LMN				Trac		07 31 30.9	
	comp=Z,3.3nm,0.1s						
GGN	**Saint George**	**4.32**	**180**	PN	**Pn**	**07 30 53.1**	**+0.3**
GGN				SN	**Sn**	**07 31 40.2**	**-2.4**
GGN				SN	**Sn**	**07 31 40.5**	**-2.1**
GGN				Trac		07 31 46.7	
	comp=Z,8.3nm,0.1s						
PKME	**Peaks-Kenny Pk**	**4.50**	**203**	P	**Pn**	**07 30 55.8**	**+0.5**
	baz=22						
PKME	**Peaks-Kenny Pk**	**4.50**	**203**	PN	**Pn**	**07 30 55.8**	**+0.5**
PKME				SN	**Sn**	**07 31 44.3**	**-2.8**
PKME				Trac		07 31 51.5	
	comp=Z,5.8nm,0.1s						
DPQ	**Saint Jean**	**4.86**	**238**	PN	**Pn**	**07 30 59.2**	**-0.9**
DPQ				SN	**Sn**	**07 31 51.6**	**-4.3**
DPQ				Trac		07 31 57.2	
	comp=Z,4.7nm,0.1s						
CHEG	**Cheticamp, Nov**	**4.88**	**120**	PN	**Pn**	**07 31 01.0**	**+0.6**
CHEG				SN	**Sn**	**07 31 53.5**	**-3.0**
CHEG				Trac		07 31 58.5	
	comp=Z,8.4nm,0.1s						
CHGQ	**Chibougamau**	**4.93**	**278**	P	**Pn**	**07 30 58.9**	**-2.3**
	baz=93						
CHGQ	**Chibougamau**	**4.93**	**278**	PN	**Pn**	**07 30 59.5**	**-1.6**
CHGQ				Trac		07 31 59.0	
	comp=Z,6.4nm,0.1s						
SCHQ	**Schefferville**	**5.40**	**360**	PN	**Pn**	**07 31 07.3**	**-0.3**
SCHQ				SN	**Sn**	**07 32 05.8**	**-3.5**
SCHQ				Trac		07 32 10.0	
	comp=Z,4.8nm,0.1s						
LBNH	**Lisbon**	**6.27**	**216**	P	**Pn**	**07 31 20.2**	**+0.7**
	baz=32						
ALFO	**Alfred**	**6.66**	**238**	P	**Pn**	**07 31 24.4**	**-0.5**
	baz=52						
LONY	**Lake Ozonia**	**7.17**	**231**	P	**Pn**	**07 31 30.6**	**-1.3**
	baz=45						

*IDC **06** 07:33:01.9±0.6, 21°.38S×175°.82W, h0km, mb4.4/18, mb1 4.5/19, mb1mx4.4/43, mbtmp4.4/19, ML3.3/1, MS4.9/28, Ms1 4.9/28, ms1mx4.9/29, Error ellipse: s-maj=25.2km s-min=15.9km az=151.0*
*NEIC **06** 07:33:03.6±2.2, 21°.38S×176°.30W, h10km±1km, mb4.7/138, MS5.2/542, MW5.5, Error ellipse: s-maj=16.7km s-min=8.8km az=97.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{17}Nm; M_{rr}2.21; $M_{\theta\theta}$-1.65; $M_{\phi\phi}$-0.56; $M_{r\theta}$-1.20; $M_{\theta\phi}$0.43; $M_{\phi r}$0.02; Best double couple: $M_0$2.40000×10^{17} NP1:ϕ_s114.00000°, δ30.00000°, λ102.00000°. NP2:ϕ_s281.00000°, δ60.00000°, λ83.00000°. Principal axes: T 2.5500, Plg74.0000°, Azm173.0000°; N -0.4400, Plg6.0000°, Azm284.0000°; P -2.1100, Plg15.0000°, Azm16.0000°;*
*BJI **06** 07:33:04.9±0.0, 20°.69S×175°.95W, h14km, mb5.2/15, Ms5.1/13, Ms7 4.8/14*
*ISCJB **06** 07:33:05.6±0.2, 21°.49S±0°.06×176°.28W±0°.04, h33km, mb4.7/149, MS5.2/544, Error ellipse: s-maj=9.2km s-min=4.7km az=156.6*
*GFZ **06** 07:33:06.0±0.0, 21°.08S×175°.83W, h10km*
*GCMT **06** 07:33:07.6±0.1, 21°.27S±0°.01×175°.60W±0°.01, h12km, MW5.4/125, Moment Tensor Solution. s104, c182; s125, c221; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.91±.02; $M_{\theta\theta}$-0.85±.02; $M_{\phi\phi}$-1.06±.02; $M_{r\theta}$-0.53±.04; $M_{\theta\phi}$0.25±.01; $M_{\phi r}$-0.32±.04; Best double couple: $M_0$1.63800×10^{17} NP1:ϕ_s313.00000°, δ47.00000°, λ73.00000°. NP2:ϕ_s158.00000°, δ46.00000°, λ108.00000°. Principal axes: T 2.0480, Plg77.0000°, Azm149.0000°; N -0.8230, Plg13.0000°, Azm325.0000°; P -1.2280, Plg1.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 07:33:03.1±0.5, 21°.46S±0°.08×176°.05W±0°.06, h9km±2km, h9km: pP-P, n848, σ1s51/466, mb4.7/149, MS5.2/544, 25C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.94**	**192**	*e*Pn	**Pn**	**07 34 59.5**	**+0.7**
RAR	**Rarotonga**	**15.17**	**92**	*e*Pn	**Pn**	**07 36 35.0**	**-2.7**
RAR	**Rarotonga**	**15.17**	**92**	Pn	**Pn**	**07 36 34.7**	**-3.0**
	1.2nm,0.3s,baz=120,slow=4.7,SNR=3.8						
RAR				LR	LR	07 40 46.5	
	comp=Z,6μm,20.8s,baz=267,slow=31						
PINNC	**Pines Island,**	**15.35**	**263**	*e*Pn	**Pn**	**07 36 37.0**	**-3.0**
	59nm,1.4s						
ONTNC	**Ouen Toro**	**16.26**	**264**	*e*Pn	**Pn**	**07 36 50.2**	**-1.6**
	155nm,1.5s						
DZM	**Mont Dzumac**	**16.27**	**265**	*e*S	**S**	**07 40 05.8**	**0.0**
	1μm,21.9s						
DZM				*e*LR	LR	07 40 50.7	
	comp=Z,15μm,24.9s						
DZM	**Mont Dzumac**	**16.27**	**265**	*e*Pn	**Pn**	**07 36 47.6**	**-4.5**
	50nm,1.1s						
DZM	**Mont Dzumac**	**16.27**	**265**	Pn	**P**	**07 36 58.4**	**+3.2**
	0.2nm,0.3s,baz=105,slow=18,SNR=2.5						
DZM				LR	LR	07 42 24.7	
	comp=Z,11μm,18.7s,baz=106,slow=34						
URZ	**Urewera**	**17.75**	**198**	LR	LR	07 43 21.1	
	comp=Z,18μm,19.4s,baz=26,slow=35						
BFZ	**Birch Farm**	**20.25**	**197**	PFAKE		07 37 50.0	+9.3
BFZ				LR	LR		
	comp=Z,13μm,20.0s						
SNZO	**South Karori**	**21.28**	**199**	PFAKE		07 38 00.0	+10
SNZO				LR	LR		
	comp=Z,11μm,21.0s						
THZ	**Tophouse**	**22.28**	**202**	PFAKE		07 38 10.0	+9.3
THZ				LR	LR		
	comp=Z,9μm,18.0s						
KHZ	**Kahutara**	**22.65**	**200**	PFAKE		07 38 20.0	+16
KHZ				LR	LR		
	comp=Z,8μm,22.0s						
LTZ	**Lake Taylor**	**23.40**	**202**	PFAKE		07 38 20.0	+7.7
LTZ				LR	LR		
	comp=Z,11μm,18.0s						
OXZ	**Oxford**	**23.96**	**202**	PFAKE		07 38 30.0	+12
OXZ				LR	LR		
	comp=Z,10μm,19.0s						
TBI	**Tubuai**	**24.65**	**99**	*e*LR	LR	07 44 19.3	
	comp=Z,9μm,27.8s						
TBI	**Tubuai**	**24.65**	**99**	*e*T	T	08 02 50.5	
	comp=Z,7.7nm,0.4s						
RPZ	**Rata Peaks**	**24.65**	**203**	PFAKE		07 38 40.0	+16
RPZ				LR	LR		
	comp=Z,12μm,19.0s						
RPZ	**Rata Peaks**	**24.65**	**203**	LR	LR	07 48 09.6	
	comp=Z,11μm,18.8s,baz=36,slow=37						
PAE	**Paea**	**25.22**	**86**	*e*T	T	08 03 28.6	
	comp=Z,3.2nm,0.2s						
PPT2	**Papeete2**	**25.24**	**86**	*e*S	**S**	**07 42 53.4**	**-2.1**
	comp=Z,1μm,27.5s						
PPT2				*e*LQ	LQ	07 43 21.0	
	comp=Z,3μm,24.5s						
PPT2				*e*LR	LR	07 44 30.2	
	comp=Z,10μm,26.8s						
PPT2	**Papeete2**	**25.24**	**86**	*e*T	T	08 03 30.6	
	comp=Z,3.9nm,0.3s						
PPT	**Papeete**	**25.24**	**86**	LR	LR	07 47 33.0	
	comp=Z,2μm,18.4s,baz=262,slow=35						
TVO	**Taravao**	**25.50**	**86**	*e*T	T	08 03 45.3	
	comp=Z,1.9nm,0.3s						
LBZ	**Lake Benmore**	**25.55**	**203**	PFAKE		07 38 40.0	+7.8
LBZ				LR	LR		
	comp=Z,12μm,20.0s						
HNR	**Honiara**	**25.99**	**294**	*e*P	**P**	**07 38 34.9**	**-1.6**
	comp=Z,103nm,1.0s						
HNR	**Honiara**	**25.99**	**294**	LR	LR	07 48 25.1	
	comp=Z,2μm,18.5s,baz=132,slow=35						
WHZ	**Wether Hill Ro**	**27.66**	**204**	*e*P	**P**	**07 38 53.2**	**+1.9**
	comp=Z,58nm,1.5s						
WHZ				LR	LR		
	comp=Z,6μm,20.0s						
ARMA	**Armidale**	**30.32**	**246**	PFAKE		07 39 30.0	+15
ARMA				LR	LR		
	comp=Z,4μm,20.0s						
EIDS	**Eidsvold**	**30.37**	**256**	PFAKE		07 39 30.0	+14
EIDS				LR	LR		
	comp=Z,4μm,20.0s						
CAN	**Canberra**	**33.52**	**238**	PFAKE		07 39 50.0	+6.8
CAN				LR	LR		
	comp=Z,4μm,18.0s						
CTA	**Charters Tower**	**35.22**	**265**	P	**P**	**07 40 02.0**	**+4.0**
	comp=Z,2.4nm,0.3s,baz=68,slow=9.5,SNR=5.0						
CTAO	**Charters Tower**	**35.22**	**265**	*e*P	**P**	**07 39 57.4**	**-0.6**
	comp=Z,15nm,0.9s						
CTAO				LR	LR		
	comp=Z,3μm,19.0s						
RABL	**Rabaul**	**35.30**	**295**	PFAKE		07 40 10.0	+11
RABL				LR	LR		
	comp=Z,2μm,22.0s						
TAOE	**Nuku Hiva Isla**	**36.75**	**76**	*e*LR	LR	07 49 56.9	
	comp=Z,6μm,26.3s						
TOO	**Toolangi**	**36.83**	**236**	PFAKE		07 40 20.0	+8.3
TOO				LR	LR		
	comp=Z,3μm,22.0s						
TAU	**Tasmania Unive**	**37.25**	**226**	PFAKE		07 40 30.0	+15
TAU				LR	LR		
	comp=Z,4μm,19.0s						
PMG	**Port Moresby**	**37.33**	**283**	*e*P	**P**	**07 40 17.3**	**+1.2**
	comp=Z,93nm,1.5s						
PMG				LR	LR		
	comp=Z,4μm,18.0s						
PMG	**Port Moresby**	**37.33**	**283**	P	**P**	**07 40 18.5**	**+2.4**
	comp=Z,7.4nm,0.5s,baz=55,slow=10,SNR=3.5						
PATS	**Pohnpei**	**37.73**	**315**	PFAKE		07 40 30.0	+11
PATS				LR	LR		
	comp=Z,4μm,20.0s						
RKT	**Rikitea**	**37.96**	**100**	*e*T	T	08 19 25.7	
	comp=Z,7.0nm,0.4s						
STKA	**Stephens Creek**	**39.03**	**246**	*e*P	**P**	**07 40 31.1**	**+0.8**
	comp=Z,1.6nm,1.5s						
STKA				LR	LR		
	comp=Z,800nm,19.0s						
STKA	**Stephens Creek**	**39.03**	**246**	P	**P**	**07 40 31.5

WC3 LR LR
comp=Z,3μm,18.0s
WC2 Warramunga Arr 46.26 263 PFAKE 07 41 40.0 +11
WC2 LR LR
comp=Z,3μm,18.0s
WB5 Warramunga Arr 46.26 263 PFAKE 07 41 40.0 +11
WB5 LR LR
comp=Z,2μm,18.0s
WB3 Warramunga Arr 46.26 263 PFAKE 07 41 40.0 +11
WB3 LR LR
comp=Z,2μm,18.0s
WB2 Warramunga Arr 46.27 263 *eP* **P 07 41 26.7 -2.6**
comp=Z,3.8nm,1.0s
WB2 LR LR
comp=Z,2μm,20.0s
WB4 Warramunga Arr 46.27 263 PFAKE 07 41 40.0 +11
WB4 LR LR
comp=Z,2μm,18.0s
WB6 Warramunga Arr 46.27 263 PFAKE 07 41 40.0 +11
WB6 LR LR
comp=Z,2μm,18.0s
WRAB Tennant Creek 46.27 263 PFAKE 07 41 40.0 +11
WRAB LR LR
comp=Z,2μm,21.0s
WC4 Warramunga Arr 46.27 262 PFAKE 07 41 40.0 +11
WC4 LR LR
comp=Z,2μm,19.0s
WR1 Warramunga Arr 46.27 263 *eP* **P 07 41 27.1 -2.3**
WRA Warramunga Arr 46.28 263 P **P 07 41 27.1 -2.3**
comp=Z,4.8nm,0.3s,baz=94,slow=8.3,SNR=2.7
WRA LR LR 08 00 40.6
comp=Z,1μm,19.2s,baz=110,slow=36
WC1 Warramunga Arr 46.28 263 PFAKE 07 41 40.0 +11
WC1 LR LR
comp=Z,1μm,19.0s
FORT Forrest 50.59 247 PFAKE 07 42 10.0 +7.5
FORT LR LR
comp=Z,2μm,18.0s
MTN Manton Dam 50.99 271 PFAKE 07 42 20.0 +14
MTN LR LR
comp=Z,2μm,19.0s
ANA2 Anatahan 53.07 312 PFAKE 07 42 30.0 +8.9
ANA2 LR LR
comp=Z,1μm,21.0s
SARN Sarigan 53.27 312 PFAKE 07 42 30.0 +7.4
SARN LR LR
comp=Z,600nm,21.0s
FITZ Fitzroy Crossi 54.71 263 *eP* **P 07 42 29.5 -3.6**
comp=Z,23nm,1.5s
SIJI Sorong 55.24 285 P **P 07 42 37.9 +0.8**
comp=Z,6.0nm,0.2s,baz=67,slow=8.5,SNR=6.5
SBA Scott Base 57.05 184 *eP* **P 07 42 49.2 +0.2**
comp=Z,3.7nm,1.0s
VNDA Vanda 57.13 186 *eP* **P 07 42 51.4 +1.8**
comp=Z,4.9nm,1.4s
VNDA Vanda 57.13 186 P **P 07 42 50.1 +0.5**
comp=Z,1.1nm,1.0s,baz=34,slow=11,SNR=2.5
VNDA LR LR 08 03 44.5
comp=Z,360nm,21.9s,baz=20,slow=32
SOEI Soe 58.35 272 PFAKE 07 43 10.0 +11
SOEI LR LR
comp=Z,2μm,21.0s
PSAD2 Pilbara Seismi 59.11 257 PFAKE 07 43 20.0 +16
PSAD2 LR LR
comp=Z,3μm,20.0s
PSAC2 Pilbara Seismi 59.18 257 PFAKE 07 43 20.0 +15
PSAC2 LR LR
comp=Z,2μm,20.0s
PSAB3 Pilbara Seismi 59.21 257 PFAKE 07 43 20.0 +15
PSAB3 LR LR
comp=Z,2μm,18.0s
PSAB2 Pilbara Seismi 59.22 257 PFAKE 07 43 20.0 +15
PSAB2 LR LR
comp=Z,2μm,19.0s
PSAA3 Pilbara Seismi 59.22 257 PFAKE 07 43 20.0 +15
PSAA3 LR LR
comp=Z,2μm,18.0s
PSA00 Pilbara Seismi 59.23 257 *eP* **P 07 43 03.1 -2.1**
comp=Z,13nm,1.2s
PSA00 LR LR
comp=Z,2μm,18.0s
PSAA2 Pilbara Seismi 59.23 257 PFAKE 07 43 20.0 +15
PSAA2 LR LR
comp=Z,2μm,18.0s
PSAC3 Pilbara Seismi 59.23 257 PFAKE 07 43 20.0 +15
PSAC3 LR LR
comp=Z,2μm,19.0s
PSAB1 Pilbara Seismi 59.25 257 PFAKE 07 43 20.0 +15
PSAB1 LR LR
comp=Z,3μm,18.0s
PSAD1 Pilbara Seismi 59.27 257 PFAKE 07 43 20.0 +15
PSAD1 LR LR
comp=Z,2μm,19.0s
PSAC1 Pilbara Seismi 59.27 257 PFAKE 07 43 20.0 +15
PSAC1 LR LR
comp=Z,2μm,20.0s
MBWA Marble Bar 59.42 257 *eP* **P 07 43 04.5 -2.1**
comp=Z,7.8nm,1.1s
MBWA LR LR
comp=Z,3μm,20.0s
TNTI Ternate 59.46 284 *eP* **P 07 43 06.3 -0.5**
comp=Z,25nm,0.9s
NWAO Narrogin (SRO) 59.57 244 PFAKE 07 43 20.0 +13
NWAO LR LR
comp=Z,2μm,18.0s
MMRI Maumere 60.61 272 PFAKE 07 43 30.0 +15
MMRI LR LR
comp=Z,600nm,18.0s
MORW Morawa 61.15 248 PFAKE 07 43 30.0 +12
MORW LR LR
comp=Z,2μm,18.0s
GIRL Giralia 64.05 255 PFAKE 07 43 50.0 +12
GIRL LR LR
comp=Z,5μm,19.0s
KAPI Kappang 64.18 275 *eP* **P 07 43 35.1 -3.6**
comp=Z,10nm,1.2s
QSPA South Pole Qui 68.62 180 *eP* **P 07 44 07.6 +1.2**
comp=Z,6.2nm,0.9s
KKM Kota Kinabalu 71.76 284 *eP* **P 07 44 24.6 -1.8**
comp=Z,21nm,1.3s
KKM LR LR
comp=Z,400nm,21.0s
MJAR Matsushiro Arr 72.06 323 LR LR 08 10 32.5
comp=Z,208nm,21.6s,baz=100,slow=31
ADK Adak 73.03 360 PFAKE 07 44 40.0 +7.0
ADK LR LR
comp=Z,1μm,22.0s
ERM Erimo 73.56 329 PFAKE 07 44 50.0 +14
ERM LR LR
comp=Z,1μm,20.0s
SBUM Sibu 73.96 279 *eP* **P 07 44 38.5 -0.9**
comp=Z,4.4nm,1.5s
SBUM LR LR
comp=Z,100nm,18.0s
JNU Nakatsue 74.22 316 PFAKE 07 44 50.0 +9.4
JNU LR LR
comp=Z,500nm,21.0s
CISI Cisompet, Garu 74.40 268 PFAKE 07 44 50.0 +7.9
CISI LR LR
comp=Z,1μm,22.0s
YOJ Yonaguni jima 74.78 304 PFAKE 07 44 50.0 +6.1
YOJ LR LR
comp=Z,800nm,21.0s
SSLB Suanglung 76.02 303 PFAKE 07 45 00.0 +8.9
SSLB LR LR
comp=Z,600nm,21.0s
YHNB Yeheng 76.15 304 PFAKE 07 45 00.0 +8.1
YHNB LR LR
comp=Z,700nm,21.0s
PET Petropavlovsk 77.36 345 PFAKE 07 45 10.0 +12
PET LR LR
comp=Z,1μm,20.0s
CIS Catalina Islan 77.42 46 P **P 07 45 00.5 +1.6**
baz=234
SAO San Andreas Ge 77.50 42 *eP* **P 07 44 59.0 -0.2**
comp=Z,36nm,1.4s
SAO LR LR
comp=Z,1μm,21.0s
SMMC Simmler 77.52 44 P **P 07 45 01.3 +1.9**
baz=232
YSS Yuzh-Sakhalins 77.57 332 *eP* **P 07 45 01.8 +2.5**
comp=Z,32nm,1.5s
YSS LR LR
comp=Z,400nm,21.0s
PAGB Antelope Grade 77.61 44 *eP* **P 07 45 01.0 +1.2**
comp=Z,7.4nm,1.1s
PAGB LR LR
comp=Z,1μm,21.0s
PEA0B Petropavlovsk- 77.67 344 PFAKE 07 45 10.0 +10
PEA0B LR LR
comp=Z,1μm,21.0s
PETK Petropavlovsk- 77.67 344 *eP* **P 07 44 58.7 -1.0**
PETK Petropavlovsk- 77.67 344 P **P 07 44 59.4 -0.4**
comp=Z,7.3nm,0.9s,baz=119,slow=5.6,SNR=7.8
PETK LR LR 08 12 25.6
comp=Z,955nm,21.6s,baz=151,slow=30
PEA1 Petropavlovsk- 77.68 344 *eP* **P 07 44 59.4 -0.4**
OSI Osito Audit: C 77.93 45 *eP* **P 07 45 02.1 +0.3**
comp=Z,8.9nm,0.9s
OSI LR LR
comp=Z,1μm,22.0s
OSI Osito Audit: C 77.93 45 P **P 07 45 02.5 +0.8**
baz=233
GDXM Geysers 77.97 40 PFAKE 07 45 10.0 +8.1
GDXM LR LR
comp=Z,1μm,20.0s
DECC Green Verdugo 77.98 46 P **P 07 45 02.4 +0.5**
baz=234
109C Camp Elliot, M 78.01 47 P **P 07 45 03.0 +0.9**
baz=235
CPE Camp Elliot 78.01 47 *eP* **P 07 45 02.9 +0.8**
comp=Z,19nm,1.5s
CPE LR LR
comp=Z,900nm,22.0s
PASC Pasadena Art C 78.03 46 *eP* **P 07 45 02.2 0.0**
comp=Z,12nm,1.1s
PASC LR LR
comp=Z,1μm,22.0s
MWC Mount Wilson 78.14 46 PFAKE 07 45 20.0 +17
MWC LR LR
comp=Z,1μm,21.0s
ARVC Arvin 78.17 45 P **P 07 45 04.2 +1.2**
baz=233
BAR Barrett 78.19 48 PFAKE 07 45 20.0 +17
BAR LR LR
comp=Z,800nm,21.0s
MURC Murrieta 78.36 47 P **P 07 45 04.8 +0.7**
baz=235
BFSC Mount Baldy Ra 78.42 46 P **P 07 45 05.0 +0.5**
baz=234
SLBS Sierra La Lagu 78.43 59 PFAKE 07 45 20.0 +15
SLBS LR LR
comp=Z,1μm,22.0s
QZH Quanzhou 78.46 303⇑ *iP* **P 07 45 06.0 +1.3**
QZH S **S 07 55 06.0 +4.8**
QZH LR LR
comp=Z,310nm,17.5s
QZH LR LR
comp=Z,390nm,19.9s
SRIG Santa Rosalia 78.48 55 *eP* **P 07 45 05.5 +0.7**
comp=Z,29nm,1.5s
SRIG LR LR
comp=Z,1μm,22.0s
SPIA Saint Paul Isl 78.48 3 *eP* **P 07 45 03.9 -0.2**
comp=Z,104nm,1.3s
MONP2 Monument Peak 78.48 48 P **P 07 45 05.8 +0.8**
baz=235
IKP In-Ko-Pah, Jac 78.56 48 P **P 07 45 06.4 +1.1**
baz=235
JCC Jacoby Creek, 78.57 38 PFAKE 07 45 20.0 +15
JCC LR LR
comp=Z,2μm,22.0s
EDW2 Edwards Air Fo 78.57 45 P **P 07 45 06.3 +1.0**
baz=234
ISA Isabella, Lake 78.72 45 *eP* **P 07 45 06.3 +0.2**
comp=Z,16nm,1.4s
ISA LR LR
comp=Z,900nm,21.0s
ISA Isabella, Lake 78.72 45 P **P 07 45 07.4 +1.3**
baz=233
KHMM Horse Mountain 78.77 38 PFAKE 07 45 20.0 +14
KHMM LR LR
comp=Z,2μm,20.0s
KSRS Korea Array 78.81 318 LR LR 08 13 42.5
comp=Z,391nm,21.3s,baz=121,slow=31
PFO Pinyon Flats O 78.87 47 *eP* **P 07 45 06.6 -0.4**
comp=Z,11nm,1.4s
PFO LR LR
comp=Z,800nm,19.0s
PFO Pinyon Flats O 78.87 47 P **P 07 45 08.1 +1.1**
baz=235
CHGN Chignik 78.88 10 *eP* **P 07 45 06.3 0.0**
comp=Z,26nm,1.2s
BBRC Big Bear Solar 78.93 46 P **P 07 45 08.7 +1.3**
baz=235
SWSC Sam W. Stewart 78.94 48 P **P 07 45 08.1 +0.8**
baz=236
CMB Columbia Colle 78.95 42 PFAKE 07 45 20.0 +13
CMB LR LR
comp=Z,900nm,21.0s
AFDM Forest Hills D 79.16 41 PFAKE 07 45 20.0 +12
AFDM LR LR
comp=Z,1μm,22.0s
ORV Oroville 79.22 40 PFAKE 07 45 20.0 +11
ORV LR LR
comp=Z,800nm,21.0s
RRX Edison Barstow 79.23 46 P **P 07 45 09.7 +0.8**
baz=234
WDC Whiskeytown Da 79.27 39 *eP* **P 07 45 09.4 +0.5**
comp=Z,5.0nm,1.1s
WDC LR LR
comp=Z,2μm,22.0s
BELC Belle Mtn. Jos 79.41 47 P **P 07 45 11.0 +1.0**
baz=235
N02D Trinity Center 79.43 38 P **P 07 45 11.6 +1.8**
baz=230
CWC Cottonwood Cre 79.44 44 P **P 07 45 10.9 +0.7**
baz=234
O03E Paynes Creek 79.52 39 P **P 07 45 10.9 +0.6**
baz=230
MDPB Devils Postpil 79.52 43 *eP* **P 07 45 10.2 -0.5**
comp=Z,8.5nm,1.0s
MDPB LR LR
comp=Z,1μm,22.0s
OMMB Old Mammoth Mi 79.56 43 *eP* **P 07 45 12.1 +1.2**
comp=Z,4.7nm,1.1s
OMMB LR LR
comp=Z,1μm,22.0s
BC3 Big Chuckawall 79.58 48 P **P 07 45 12.2 +1.3**
baz=236
MPMC Manual Prospec 79.60 45 P **P 07 45 11.8 +0.7**
baz=234
GSC Goldstone, Bar 79.61 46 *eP* **P 07 45 11.8 +0.8**
comp=Z,8.3nm,1.5s
GSC LR LR
comp=Z,1μm,22.0s
GSC Goldstone, Bar 79.61 46 P **P 07 45 12.0 +1.1**
baz=235
HEC Hector,Ludlow 79.65 46 P **P 07 45 12.0 +0.8**
baz=235
DAC Darwin (Calif) 79.66 44 *eP* **P 07 45 14.3 +2.9**
comp=Z,0.7nm,0.6s
DAC LR LR
comp=Z,1μm,22.0s
MLAC Mammoth, Mammo 79.67 43 P **P 07 45 12.6 +1.1**
baz=233
GLA Glamis 79.68 48 *eP* **P 07 45 12.5 +1.2**
comp=Z,8.2nm,0.8s
GLA LR LR
comp=Z,700nm,21.0s
GLA Glamis 79.68 48 P **P 07 45 12.7 +1.3**
baz=236
L02E Cave Junction 79.69 37 P **P 07 45 14.4 +3.2**
baz=229
SSE Sheshan 79.70 309 P **P 07 45 06.9 -4.5**
SSE Sheshan 79.70 309 S **S 07 55 19.8 +5.6**
TIN Tinemaha, Big 79.71 43 P **P 07 45 13.1 +1.5**
baz=233
RUBR Rubicon Trail 79.72 41 PFAKE 07 45 20.0 +8.3
RUBR LR LR
comp=Z,1μm,21.0s
KEBM Edson Butte 79.76 36 PFAKE 07 45 20.0 +8.4
KEBM LR LR
comp=Z,2μm,22.0s
WAKR Walker 79.82 42 *eP* **P 07 45 13.1 +0.9**
comp=Z,3.6nm,1.0s
WAKR LR LR
comp=Z,1μm,20.0s
SII Sitkinak Islan 79.88 12 PFAKE 07 45 20.0 +8.2
SII LR LR
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 79.92 38 *eP* **P 07 45 12.5 0.0**
comp=Z,4.4nm,1.1s
YBH LR LR
comp=Z,2μm,22.0s
YBH Yreka Blue Hor 79.92 38 P **P 07 45 12.3 -0.2**
comp=Z,2.8nm,1.0s,baz=153,slow=6.5,SNR=6.4
K02D Willamette Mer 80.01 36 P **P 07 45 15.4 +2.4**
baz=229
IRM Iron Mountain 80.08 47 P **P 07 45 15.1 +1.6**
baz=236
GMRC Granite Mounta 80.08 47 P **P 07 45 15.1 +1.5**
baz=235
PNTR Pine Nut 80.08 41 *eP* **P 07 45 13.5 -0.1**
comp=Z,12nm,0.9s
PNTR LR LR
comp=Z,1μm,21.0s
BEKR Beckworth 80.10 40 *eP* **P 07 45 14.1 +0.5**
comp=Z,3.7nm,1.3s
BEKR LR LR
comp=Z,900nm,21.0s
VCNR Virginia City 80.18 41 *eP* **P 07 45 15.9 +1.8**
comp=Z,9.9nm,1.2s
VCNR LR LR
comp=Z,1μm,21.0s
GRAC Grapevine Rang 80.23 44 P **P 07 45 15.9 +1.7**
baz=234
YERR Yerington 80.24 41 *eP* **P 07 45 15.3 +0.9**
comp=Z,13nm,1.4s
YERR LR LR
comp=Z,1μm,21.0s
FURC Furnace Creek, 80.25 45 P **P 07 45 15.7 +1.4**
baz=234
113A Mohawk Valley, 80.27 49 *eP* **P 07 45 16.0 +1.5**
comp=Z,4.7nm,1.1s
TUQ Turquoise Moun 80.27 46 P **P 07 45 15.6 +1.0**
baz=235
Y12C Blythe 80.28 48 *eP* **P 07 45 15.8 +1.3**
comp=Z,7.9nm,1.2s
Y12C LR LR
comp=Z,800nm,21.0s
Y12C Blythe 80.28 48 P **P 07 45 16.0 +1.5**
baz=236
HSIG 80.33 54 *eP* **P 07 45 16.3 +1.4**
comp=Z,20nm,1.5s
HSIG LR LR
comp=Z,600nm,21.0s
HUMO Hull Mountain 80.35 37 PFAKE 07 45 30.0 +15
HUMO LR LR
comp=Z,2μm,22.0s
M04C Macdoel 80.45 38 P **P 07 45 17.9 +2.5**
baz=230
L04D Klamath Falls 80.46 37 P **P 07 45 18.0 +2.5**
baz=230
RYN Ryan 80.47 42 *eP* **P 07 45 15.5 -0.2**
comp=Z,2.4nm,1.3s
RYN LR LR
comp=Z,900nm,22.0s
NV01 Mina Array Sit 80.49 42 *eP* **P 07 45 14.1 -1.7**
NVAR Mina Array Bea 80.49 42 *eP* **P 07 45 15.2 -0.7**
NVAR Mina Array Bea 80.49 42 P **P 07 45 14.1 -1.7**
comp=Z,2.8nm,0.8s,baz=222,slow=8.6,SNR=18
NVAR LR LR 08 13 01.2
comp=Z,826nm,20.8s,baz=220,slow=30
214A Organ Pipe Nat 80.50 50 P **P 07 45 17.5 +1.7**
baz=238
NV11 Mina Array Sit 80.58 42 *eP* **P 07 45 16.8 +0.6**
comp=Z,0.9nm,1.5s
NV11 LR LR
comp=Z,100nm,20.0s
PAHR Pah Rah Range 80.59 41 *eP* **P 07 45 17.8 +1.6**
comp=Z,14nm,1.5s
PAHR LR LR
comp=Z,1μm,21.0s
LDFC Landfair 80.62 47 *eP* **P 07 45 18.6 +2.2**
comp=Z,45nm,1.4s
LDFC LR LR
comp=Z,1μm,21.0s
HKPS Hong Kong Po S 80.75 298 PFAKE 07 45 30.0 +13
HKPS LR LR
comp=Z,800nm,21.0s
NEE2 Needles Airpor 80.78 47 P **P 07 45 18.4 +1.3**
baz=236
USA0B Ussuriysk Arra 80.78 325 PFAKE 07 45 30.0 +13
USA0B LR LR
comp=Z,1μm,19.0s
USRK Ussuriysk Ar. 80.78 325 P **P 07 45 18.5 +1.5**
comp=Z,3.7nm,1.0s,baz=111,slow=8.0,SNR=4.6
USRK LR LR 08 16 33.4
comp=Z,896nm,21.1s,baz=128,slow=32
PDMCI Parker Dam,Lak 80.85 48 P **P 07 45 18.8 +1.3**
baz=236
TPNV Topopah Spring 80.93 45 *eP* **P 07 45 19.6 +1.4**
comp=Z,13nm,1.5s
KVN Kaiserville 80.99 42 *eP* **P 07 45 20.0 +1.5**
comp=Z,6.6nm,1.4s
KVN LR LR
comp=Z,900nm,22.0s
K04D Chiloquin, OR 81.04 37 P **P 07 45 19.7 +1.1**
baz=230
J04D Umpqua Nationa 81.23 37 P **P 07 45 21.1 +1.4**
baz=230
MAW Mawson 81.28 199 P **P 07 45 20.5 +1.2**
comp=Z,6.6nm,0.8s,baz=180,slow=5.1,SNR=2.4
MAW LR LR 08 20 35.4
comp=Z,977nm,18.3s,baz=110,slow=35
KDAK Kodiak Island 81.34 12 PFAKE 07 45 30.0 +10
KDAK LR LR
comp=Z,2μm,22.0s
SHPR Sheep Range 81.39 45 *eP* **P 07 45 20.9 +0.3**
comp=Z,0.8nm,0.9s
SHPR LR LR
comp=Z,800nm,21.0s
MOD Modoc Plateau 81.41 39 *eP* **P 07 45 21.2 +0.6**
comp=Z,8.5nm,1.4s
MOD LR LR
comp=Z,1μm,22.0s
I04A Tendick Farm, 81.43 36 P **P 07 45 22.6 +2.1**
baz=230
Y14A Wickenburg 81.44 49 *eP* **P 07 45 22.2 +1.4**
comp=Z,1.0nm,0.7s
Y14A LR LR
comp=Z,700nm,21.0s
MYKOM Kota Tinggi 81.44 275 PFAKE 07 45 30.0 +8.8
MYKOM LR LR
comp=Z,600nm,22.0s
COR Corvallis 81.46 35 PFAKE 07 45 30.0 +9.4
COR LR LR
comp=Z,2μm,21.0s
W13A Hualapai Mount 81.46 47 *eP* **P 07 45 21.4 +0.2**
comp=Z,5.1nm,1.4s
W13A LR LR
comp=Z,800nm,22.0s
K05A Summer Lake 81.59 38 *eP* **P 07 45 22.9 +1.4**
K05A LR LR
comp=Z,2μm,22.0s
H04D Lebanon 81.72 35 P **P 07 45 25.1 +3.1**
baz=229
J05D Fort Rock, OR 81.75 37 P **P 07 45 23.4 +1.1**
baz=230
NJ2 Nanjing 81.89 309 *eP* **P 07 45 24.1 +1.0**
NJ2 pmax pmax
comp=Z,14nm,0.6s
H04A Detroit Lake 82.13 36 PFAKE 07 45 40.0 +16
H04A LR LR
comp=Z,2μm,22.0s
TUC Tucson 82.15 51 *eP* **P 07 45 25.6 +1.0**
comp=Z,1.2nm,1.0s
TUC LR LR
comp=Z,700nm,22.0s
TUC Tucson 82.15 51 P **P 07 45 26.3 +1.6**
baz=239
R11A Troy Canyon, C 82.17 44 *eP* **P 07 45 25.8 +1.1**
R11A LR LR
comp=Z,1μm,22.0s
R11A Troy Canyon, C 82.17 44 P **P 07 45 25.3 +0.6**
baz=235
PINE Pine Mountain 82.24 37 *eP* **P 07 45 25.4 +0.4**
comp=Z,24nm,1.4s
PINE LR LR
comp=Z,2μm,21.0s
MDJ Mudanjiang 82.35 324 PFAKE 07 45 40.0 +15
MDJ LR LR
comp=Z,800nm,21.0s
BMN Battle Mountai 82.35 41 *eP* **P 07 45 26.5 +0.9**
comp=Z,8.7nm,1.4s
BMN LR LR
comp=Z,900nm,21.0s
I05D Terrebonne, OR 82.37 36 P **P 07 45 28.1 +2.6**
baz=230
E03A Lebam 82.63 34 PFAKE 07 45 40.0 +13

E03A LR LR
comp=Z,900nm,21.0s
WVOR Wild Horse Val 82.71 39 *eP* **P 07 45 28.3 +0.9**
comp=Z,7.9nm,1.1s
WVOR LR LR
comp=Z,1μm,22.0s
319A Douglas 82.77 52 *eP* **P 07 45 26.8 -1.1**
comp=Z,3.6nm,0.7s
319A LR LR
comp=Z,800nm,18.0s
X16A Lo Mia Camp, P 82.79 49 *eP* **P 07 45 29.8 +1.8**
comp=Z,6.5nm,1.3s
X16A LR LR
comp=Z,800nm,21.0s
QIZ Qiongzhong 82.91 294 PFAKE 07 45 40.0 +11
QIZ LR LR
comp=Z,400nm,19.0s
E04D Cinebar 83.15 34 P **P 07 45 32.0 +2.7**
baz=229
I07A Izee 83.23 37 *eP* **P 07 45 31.5 +1.5**
comp=Z,8.3nm,1.4s
I07A LR LR
comp=Z,1μm,21.0s
HOM Homer 83.26 12 PFAKE 07 45 40.0 +10
HOM LR LR
comp=Z,1μm,20.0s
U15A North Rim 83.27 47 *eP* **P 07 45 32.3 +1.7**
comp=Z,6.5nm,1.0s
U15A LR LR
comp=Z,800nm,22.0s
F05D White Salmon 83.30 35 P **P 07 45 32.9 +2.7**
baz=230
G06A Carlson Farm, 83.33 36 PFAKE 07 45 40.0 +10
G06A LR LR
comp=Z,2μm,22.0s
J08A Circle Bar Ran 83.37 38 *eP* **P 07 45 32.0 +1.3**
comp=Z,8.4nm,1.3s
J08A LR LR
comp=Z,1μm,22.0s
HPIG 83.38 58 *eP* **P 07 45 32.7 +1.4**
comp=Z,3.3nm,1.3s
HPIG LR LR
comp=Z,1μm,21.0s
WUAZ Wupatki 83.42 48 PFAKE 07 45 40.0 +8.8
WUAZ LR LR
comp=Z,700nm,21.0s
WUAZ Wupatki 83.42 48 P **P 07 45 33.1 +1.9**
baz=238
D04E Lakebay 83.45 33 P **P 07 45 34.8 +3.9**
baz=229
BRLK Bradley Lake 83.51 13 PFAKE 07 45 40.0 +9.0
BRLK LR LR
comp=Z,2μm,21.0s
BKNI Bangkinang 83.52 273 PFAKE 07 45 40.0 +7.9
BKNI LR LR
comp=Z,500nm,20.0s
D03D Eldon 83.53 33 P **P 07 45 32.5 +1.2**
baz=229
LON Longmire 83.67 34 PFAKE 07 45 40.0 +7.9
LON LR LR
comp=Z,600nm,22.0s
DL2 Dalian 83.68 316 P **P 07 45 32.3 +0.1**
DL2 PP **PP 07 48 45.8 +0.4**
DL2 S **S 07 55 52.6 -2.4**
DL2 pmax pmax
comp=Z,29nm,0.7s
DL2 LR LR
comp=Z,250nm,24.7s
DL2 LR LR
comp=Z,230nm,24.8s
DL2 LR LR
comp=Z,480nm,25.1s
ELK Elko 83.76 42 *eP* **P 07 45 33.2 +0.2**
comp=Z,2.7nm,1.0s
ELK LR LR
comp=Z,1μm,22.0s
MOIG Morelia 83.83 66 PFAKE 07 45 50.0 +16
MOIG LR LR
comp=Z,1μm,21.0s
D05A Enumclaw 83.86 34 PFAKE 07 45 40.0 +7.0
D05A LR LR
comp=Z,700nm,20.0s
X18A Snowflake 83.89 49 *eP* **P 07 45 35.3 +1.6**
comp=Z,8.7nm,1.4s
X18A LR LR
comp=Z,600nm,21.0s
ZAIG Zacatecas 84.00 63 *eP* **P 07 45 35.3 +0.6**
comp=Z,1.6nm,1.0s
ZAIG LR LR
comp=Z,500nm,22.0s
PGC Sidney 84.09 32 *eP* **P 07 45 35.5 +1.5**
comp=Z,7.2nm,1.3s
F07A Phinny Hill Vi 84.13 36 *eP* **P 07 45 35.5 +1.2**
comp=Z,5.2nm,0.8s
F07A LR LR
comp=Z,2μm,22.0s
CN2 Changchun 84.17 322 *eP* **P 07 45 31.7 -3.0**
CN2 *eS* **S 07 56 03.6 +3.8**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 LR LR
comp=Z,240nm,19.0s
CN2 LR LR
comp=Z,340nm,19.0s
CN2 LR LR
comp=Z,430nm,20.0s
KLR Kul'dur 84.28 329 LR LR 08 17 35.2
comp=Z,955nm,21.6s,baz=162,slow=32
G08A Pilot Rock 84.28 37 *eP* **P 07 45 36.1 +0.7**
comp=Z,7.7nm,1.4s
G08A LR LR
comp=Z,1μm,21.0s
W18A Petrified Fore 84.35 49 PFAKE 07 45 50.0 +14
W18A LR LR
comp=Z,600nm,21.0s
W18A Petrified Fore 84.35 49 P **P 07 45 37.5 +1.4**
baz=239
BBB Bella Bella 84.40 27 PFAKE 07 45 50.0 +14
BBB LR LR
comp=Z,800nm,21.0s
121A Cookes Peak, D 84.45 52 P **P 07 45 38.3 +1.7**
baz=240
A04D Lummi Island 84.50 32 P **P 07 45 37.1 +0.9**
baz=229
B05A Bryant 84.51 33 P **P 07 45 37.1 +0.8**
baz=229
E07A Sunnyside 84.58 35 PFAKE 07 45 50.0 +13
E07A LR LR
comp=Z,2μm,21.0s
LTY Liberty 84.59 34 *eP* **P 07 45 37.1 +0.3**
comp=Z,8.3nm,1.4s
LTY LR LR
comp=Z,600nm,22.0s
HAWA Hanford 84.65 35 *eP* **P 07 45 37.7 +0.6**
comp=Z,9.2nm,1.4s
HAWA LR LR
comp=Z,2μm,21.0s
BMO Blue Mountains 84.94 38 *eP* **P 07 45 39.8 +1.1**
comp=Z,0.8nm,1.0s
BMO LR LR
comp=Z,1μm,22.0s
RC01 Rabbit Creek A 84.96 12 *eP* **P 07 45 38.6 +0.4**
comp=Z,18nm,1.2s
RC01 LR LR
comp=Z,900nm,22.0s
E08A Dider Farm, El 84.97 36 *eP* **P 07 45 40.2 +1.6**
comp=Z,10nm,1.5s
E08A LR LR
comp=Z,1μm,21.0s
DUG Dugway, Tooele 84.98 43 PFAKE 07 45 50.0 +11
DUG LR LR
comp=Z,600nm,21.0s
DUG Dugway, Tooele 84.98 43 P **P 07 45 39.5 +0.5**
baz=237
B06A Marblemount 84.99 33 *eP* **P 07 45 40.1 +1.5**
comp=Z,6.9nm,0.5s
B06A LR LR
comp=Z,800nm,20.0s
EPT El Paso 85.03 53 PFAKE 07 45 50.0 +11
EPT LR LR
comp=Z,700nm,21.0s
IPM Ipoh 85.05 277 PFAKE 07 45 50.0 +10
IPM LR LR
comp=Z,700nm,20.0s
MA2 Magadan 85.20 344 *eP* **P 07 45 40.2 +0.7**
comp=Z,15nm,1.2s
MA2 LR LR
comp=Z,900nm,22.0s
TLIG Tlapa 85.21 69 *eP* **P 07 45 43.1 +2.5**
comp=Z,31nm,1.5s
TLIG LR LR
comp=Z,900nm,21.0s
GLI Glacier Island 85.33 14 PFAKE 07 45 50.0 +10
GLI LR LR
comp=Z,1μm,20.0s
D08A Wollman Farm, 85.40 35 *eP* **P 07 45 42.2 +1.4**
comp=Z,12nm,1.1s
D08A LR LR
comp=Z,2μm,21.0s
E09A Wood Farm, Sta 85.48 36 *eP* **P 07 45 42.0 +0.7**
comp=Z,12nm,1.4s
E09A LR LR
comp=Z,1μm,21.0s
HMT Hamilton 85.51 15 PFAKE 07 45 50.0 +8.9
HMT LR LR
comp=Z,2μm,19.0s
KNK Knik Glacier 85.51 13 *eP* **P 07 45 41.5 +0.5**
comp=Z,8.7nm,1.0s
KNK LR LR
comp=Z,1μm,21.0s
F10A Beach Ranch, E 85.66 37 *eP* **P 07 45 42.2 -0.1**
comp=Z,3.9nm,1.0s
F10A LR LR
comp=Z,2μm,22.0s
KULM Kulim 85.70 277 PFAKE 07 45 50.0 +6.9
KULM LR LR
comp=Z,600nm,20.0s
GHO Glory Hole Cre 85.74 13 *eP* **P 07 45 42.9 +0.6**
comp=Z,13nm,0.9s
GHO LR LR
comp=Z,700nm,20.0s
PLID Pearl Lake 85.83 38 *eP* **P 07 45 45.5 +2.2**
comp=Z,12nm,1.4s
MNTX Cornudas Mount 85.83 54 *eP* **P 07 45 44.6 +1.2**
comp=Z,3.9nm,1.2s
MNTX LR LR
comp=Z,600nm,21.0s
MNTX Cornudas Mount 85.83 54 P **P 07 45 44.6 +1.2**
baz=242
Y22D IRIS PASSCAL I 85.84 51 *eP* **P 07 45 45.9 +2.4**
comp=Z,22nm,1.0s
Y22D LR LR
comp=Z,800nm,22.0s
Y22D IRIS PASSCAL I 85.84 51 P **P 07 45 45.3 +1.8**
baz=241
LAZ Ladron 85.84 51 *eP* **P 07 45 46.4 +2.8**
LENM Lemitar 85.84 51 *eP* **P 07 45 45.5 +2.0**
HLID Hailey 85.88 40 *eP* **P 07 45 44.0 +0.5**
comp=Z,4.1nm,1.4s
HLID LR LR
comp=Z,800nm,22.0s
HLID Hailey 85.88 40 P **P 07 45 44.4 +0.9**
baz=235
WRAK Wrangell Islan 85.88 23 PFAKE 07 45 50.0 +7.1
WRAK LR LR
comp=Z,700nm,20.0s
SML Sawmill 85.90 13 PFAKE 07 45 50.0 +7.0
SML LR LR
comp=Z,900nm,21.0s
B08A Colville Reser 85.99 34 *eP* **P 07 45 44.3 +0.6**
comp=Z,4.3nm,1.3s
B08A LR LR
comp=Z,300nm,21.0s
TX31 Lajitas Ar. Si 86.05 57 *eP* **P 07 45 46.9 +2.3**
comp=Z,5.7nm,1.4s
TXAR Lajitas Array 86.05 57 *eP* **P 07 45 43.8 -0.8**
TXAR Lajitas Array 86.05 57 P **P 07 45 43.0 -1.6**
comp=Z,2.3nm,0.9s,baz=198,slow=3.7,SNR=23
TXAR LR LR 08 15 48.0
comp=Z,666nm,21.9s,baz=0.0,slow=30
LTX Lajitas 86.05 57 *eP* **P 07 45 43.0 -1.6**
BNM Barren Site 86.08 51 *eP* **P 07 45 45.1 +0.3**
SCM Sheep Creek Mo 86.13 13 PFAKE 07 46 00.0 +16
SCM LR LR
comp=Z,1μm,21.0s
KLU Klutina 86.13 14 PFAKE 07 46 00.0 +16
KLU LR LR
comp=Z,1μm,22.0s
ANM Nome 86.14 5 PFAKE 07 46 00.0 +16
ANM LR LR
comp=Z,500nm,21.0s
LLLB Lilloet 86.15 31 *eP* **P 07 45 43.6 -0.9**
comp=Z,9.4nm,1.4s
C09A Chrisman Ranch 86.20 35 *eP* **P 07 45 46.1 +1.3**
comp=Z,3.7nm,0.9s
C09A LR LR
comp=Z,2μm,22.0s
MVCO Mesa Verde 86.28 48 PFAKE 07 46 00.0 +14
MVCO LR LR
comp=Z,700nm,22.0s
PSI Prapat 86.39 274 PFAKE 07 46 00.0 +13
PSI LR LR
comp=Z,900nm,21.0s
BCPM Bancas Point 86.39 17 PFAKE 07 46 00.0 +15
BCPM LR LR
comp=Z,2μm,20.0s
PV19 Morning Glory 86.50 47 *eP* **P 07 45 47.9 +1.1**
comp=Z,2.1nm,1.0s
PV17 East Wray Mesa 86.50 47 *eP* **P 07 45 48.4 +1.7**
PV20 West Nyswonger 86.53 47 PFAKE 07 46 00.0 +13
PV20 LR LR
comp=Z,700nm,18.0s
HWUT Hardware Ranch 86.54 43 PFAKE 07 46 00.0 +13
HWUT LR LR
comp=Z,700nm,22.0s
BALM Baldy 86.59 16 PFAKE 07 46 00.0 +13
BALM LR LR
comp=Z,2μm,22.0s
TASM ASL Pad, Albuq 86.59 50 P **P 07 45 48.4 +1.2**
baz=241
TASM ASL Pad, Albuq 86.59 50 P **P 07 45 48.6 +1.3**
baz=241
ANMO Albuquerque 86.59 50 *eP* **P 07 45 48.8 +1.5**
comp=Z,1.4nm,1.1s
ANMO LR LR
comp=Z,700nm,21.0s
ANMO Albuquerque 86.59 50 P **P 07 45 48.6 +1.4**
baz=241
JIS Juneau Island 86.62 21 PFAKE 07 46 00.0 +13
JIS LR LR
comp=Z,1μm,20.0s
PV21 Cone Mtn., Par 86.64 46 *eP* **P 07 45 48.7 +1.3**
PV21 LR LR
comp=Z,600nm,21.0s
CAST Castle Rocks 86.67 11 *eP* **P 07 45 45.9 -0.9**
comp=Z,9.9nm,1.4s
CAST LR LR
comp=Z,1μm,20.0s
CTGM Chitina Glacie 86.79 16 PFAKE 07 46 00.0 +12
CTGM LR LR
comp=Z,2μm,22.0s
SNAA Sanae 87.00 178 PFAKE 07 46 00.0 +11
SNAA LR LR
comp=Z,900nm,19.0s
NEW Newport 87.10 35 *eP* **P 07 45 49.9 +0.7**
comp=Z,1.1nm,1.1s
NEW LR LR
comp=Z,2μm,22.0s
NEW Newport 87.10 35 P **P 07 45 49.6 +0.4**
baz=233
HARP HAARP 87.11 14 PFAKE 07 46 00.0 +11
HARP LR LR
comp=Z,1μm,20.0s
DHY Denali Highway 87.24 13 *eP* **P 07 45 49.9 +0.2**
comp=Z,6.6nm,1.2s
DHY LR LR
comp=Z,600nm,19.0s
RND Reindeer 87.24 12 *eP* **P 07 45 50.0 +0.5**
comp=Z,9.6nm,0.8s
RND LR LR
comp=Z,2μm,21.0s
PLCA Paso Flores 87.29 133 LR LR 08 15 40.2
comp=Z,744nm,21.9s,baz=260,slow=29
AHID Auburn Hatcher 87.46 42 *eP* **P 07 45 52.8 +1.5**
comp=Z,5.4nm,0.9s
AHID LR LR
comp=Z,800nm,21.0s
LNIG Linares 87.48 62 *eP* **P 07 45 51.5 -0.1**
comp=Z,18nm,1.1s
LNIG LR LR
comp=Z,800nm,22.0s
BPAW Bear Paw Mtn. 87.49 11 *eP* **P 07 45 47.4 -3.3**
comp=Z,0.9nm,0.6s
BPAW LR LR
comp=Z,600nm,20.0s
MCMT McKenzie Canyo 87.52 39 *eP* **P 07 45 51.4 -0.2**
MCK McKinley 87.52 12 *eP* **P 07 45 50.9 0.0**
comp=Z,5.8nm,1.1s
MCK LR LR
comp=Z,2μm,21.0s
S22A 4UR Ranch, Cre 87.69 48 PFAKE 07 46 00.0 +7.3
S22A LR LR
comp=Z,800nm,22.0s
S22A 4UR Ranch, Cre 87.69 48 P **P 07 45 54.2 +1.5**
baz=241
SEY Seymchan 87.73 346 P **P 07 45 51.1 -0.7**
comp=Z,9.6nm,0.8s,baz=140,slow=6.3,SNR=15
BWN Browne 87.82 11 *eP* **P 07 45 53.6 +1.3**
comp=Z,30nm,1.3s
BWN LR LR
comp=Z,2μm,20.0s
O20A White River Ci 87.92 45 PFAKE 07 46 10.0 +16
O20A LR LR
comp=Z,700nm,21.0s
O20A White River Ci 87.92 45 P **P 07 45 54.9 +1.3**
baz=240
REDW Red Top Meadow 87.93 41 *eP* **P 07 45 53.9 +0.3**
REDW LR LR
comp=Z,800nm,22.0s
TPAW Teton Pass 87.94 41 *eP* **P 07 45 55.2 +1.5**
comp=Z,2.5nm,1.0s
TPAW LR LR
comp=Z,700nm,21.0s
LVIG Laguna Verde 87.94 68 PFAKE 07 46 10.0 +16
LVIG LR LR
comp=Z,800nm,22.0s
DLMT Dillon 87.96 39 PFAKE 07 46 10.0 +16
DLMT LR LR
comp=Z,1μm,22.0s
FXWY Fox Creek 87.97 41 *eP* **P 07 45 54.9 +1.1**
MSO Missoula 88.01 37 *eP* **P 07 45 53.7 0.0**
comp=Z,3.3nm,1.1s
MSO LR LR
comp=Z,2μm,22.0s
MSO Missoula 88.01 37 P **P 07 45 53.7 0.0**
baz=236
SNOW Snow King Moun 88.04 41 *eP* **P 07 45 55.2 +1.0**
comp=Z,4.3nm,1.4s
SNOW LR LR
comp=Z,800nm,21.0s
ENH Enshi 88.08 303 *eP* **P 07 45 57.0 +2.6**
comp=Z,9.9nm,1.4s
IMW Indian Meadow 88.16 41 PFAKE 07 46 10.0 +15
IMW LR LR
comp=Z,600nm,21.0s
MOOW Moose Ponds 88.20 41 *eP* **P 07 45 56.7 +1.8**
comp=Z,0.5nm,1.1s
MOOW LR LR
comp=Z,600nm,21.0s
LOHW Long Hollow 88.22 41 *eP* **P 07 45 56.3 +1.4**
comp=Z,2.9nm,1.5s
LOHW LR LR
comp=Z,600nm,21.0s
DLBC Dease Lake 88.23 22 PFAKE 07 46 10.0 +16
DLBC LR LR
comp=Z,700nm,19.0s
DLBC Dease Lake 88.23 22 LR LR 08 21 14.3
comp=Z,484nm,18.2s,baz=238,slow=33
SMCO Snowmass 88.30 47 *eP* **P 07 45 55.4 -0.3**
comp=Z,5.0nm,1.4s
SMCO LR LR
comp=Z,700nm,22.0s
WHY Whitehorse 88.35 19 PFAKE 07 46 10.0 +15
WHY LR LR
comp=Z,2μm,22.0s
WRH Wood River Hil 88.35 12 *eP* **P 07 45 55.0 +0.2**
comp=Z,4.6nm,0.9s
WRH LR LR
comp=Z,1μm,20.0s
RIDG Independent Ri 88.36 13 *eP* **P 07 45 55.3 +0.4**
comp=Z,4.4nm,1.3s
RIDG LR LR
comp=Z,2μm,21.0s
MLY Manley 88.39 10 *eP* **P 07 45 54.1 -0.8**
MLY LR LR
comp=Z,500nm,20.0s
FLWY Flagg Ranch 88.41 41 PFAKE 07 46 10.0 +14
FLWY LR LR
comp=Z,600nm,21.0s
BW06 Boulder Array 88.42 42 *eP* **P 07 45 55.0 -0.9**
comp=Z,4.2nm,1.5s
BW06 LR LR
comp=Z,600nm,21.0s
BW06 Boulder Array 88.42 42 P **P 07 45 56.1 +0.1**
baz=239
PD31 Pinedale Array 88.42 42 *eP* **P 07 45 55.5 -0.5**
comp=Z,2.9nm,1.5s
PDAR Pinedale Array 88.42 42 *eP* **P 07 45 54.8 -1.2**
PDAR Pinedale Array 88.42 42 P **P 07 45 55.4 -0.5**
comp=Z,0.5nm,0.8s,baz=187,slow=2.5,SNR=5.5
PDAR PP **PP 07 49 21.9 -2.2**
comp=Z,0.2nm,0.8s,baz=151,slow=3.4,SNR=3.7
PDAR LR LR 08 17 33.4
comp=Z,517nm,21.5s,baz=246,slow=30
DOT Dot Lake 88.45 14 *eP* **P 07 45 55.6 +0.3**
comp=Z,1.4nm,0.7s
BCAR Beaver Creek A 88.47 15 *eP* **P 07 45 56.4 +1.0**
HDA Harding Lake 88.52 12 *eP* **P 07 45 56.0 +0.4**
comp=Z,4.1nm,1.2s
HDA LR LR
comp=Z,900nm,22.0s
HDA Harding Lake 88.52 12 P **P 07 45 56.8 +1.2**
baz=207
CCB Clear Creek Bu 88.56 12 *eP* **P 07 45 54.2 -1.5**
comp=Z,5.1nm,1.2s
CCB LR LR
comp=Z,1μm,20.0s
SDCO Great Sand Dun 88.61 48 P **P 07 45 57.4 +0.4**
baz=242
H17A Grant Village 88.65 41 PFAKE 07 46 10.0 +13
H17A LR LR
comp=Z,900nm,22.0s
H17A Grant Village 88.65 41 P **P 07 45 58.8 +1.9**
baz=238
BOZ Bozeman (W) 88.66 39 *eP* **P 07 45 56.4 -0.5**
BOZ LR LR
comp=Z,1μm,21.0s
BOZ Bozeman (W) 88.66 39 P **P 07 45 57.6 +0.7**
baz=237
SCRK Sand Creek 88.75 14 *eP* **P 07 45 57.3 +0.5**
comp=Z,7.5nm,1.5s
SCRK LR LR
comp=Z,1μm,22.0s
TCOL CIGO, UAF Yank 88.76 12 P **P 07 45 56.3 -0.4**
baz=206
COLA College 88.76 12 *eP* **P 07 45 56.8 +0.1**
comp=Z,10nm,1.4s
COLA LR LR
comp=Z,1μm,21.0s
MDM Murphy Dome 88.77 11 *eP* **P 07 45 56.5 -0.3**
comp=Z,4.2nm,1.2s
MDM LR LR
comp=Z,2μm,22.0s
IMAR Indian Mountai 88.80 9 *eP* **P 07 45 56.8 -0.1**
MSTX Muleshoe 88.83 53 *eP* **P 07 45 58.3 +0.4**
comp=Z,6.1nm,1.1s
MSTX LR LR
comp=Z,900nm,21.0s
MSTX Muleshoe 88.83 53 P **P 07 45 58.4 +0.4**
baz=243
LKWY Lake 88.84 41 *eP* **P 07 45 58.2 +0.3**
comp=Z,3.2nm,1.4s
LKWY LR LR
comp=Z,700nm,20.0s
ILAR Eielson Array 88.85 12 *eP* **P 07 45 55.1 -2.1**
ILAR Eielson Array 88.85 12 P **P 07 45 55.3 -1.8**
comp=Z,1.9nm,0.9s,baz=222,slow=5.3,SNR=13
ILAR LR LR 08 18 08.9
comp=Z,680nm,22.0s,baz=216,slow=30
ILB Eielson Array 88.85 12 *eP* **P 07 45 55.8 -1.4**
comp=Z,6.9nm,1.4s
833A Chaparral WMA, 88.98 59 *eP* **P 07 45 59.4 +0.9**
comp=Z,11nm,1.1s
833A LR LR
comp=Z,800nm,21.0s
833A Chaparral WMA, 88.98 59 P **P 07 45 58.9 +0.3**
baz=245
POKR Poker Plat Res 89.06 12 P **P 07 45 57.4 -0.7**
baz=207
T25A Trinidad 89.09 49 PFAKE 07 46 10.0 +11
T25A LR LR

comp=Z,500nm,21.0s
T25A Trinidad 89.09 49 P **P 07 45 59.6 +0.4**
baz=242
HRY Holter Researc 89.15 38 *eP* **P 07 46 00.6 +1.5**
WALA Waterton Lakes 89.29 36 PFAKE 07 46 10.0 +10
WALA LR LR
comp=Z,1μm,22.0s
RWWY Rawlins 89.38 44 PFAKE 07 46 10.0 +9.5
RWWY LR LR
comp=Z,1μm,22.0s
Q24A Divide 89.44 47 PFAKE 07 46 10.0 +9.1
Q24A LR LR
comp=Z,900nm,21.0s
Q24A Divide 89.44 47 P **P 07 46 01.6 +0.6**
baz=242
ISCO Idaho Springs 89.52 47 PFAKE 07 46 10.0 +8.7
ISCO LR LR
comp=Z,400nm,20.0s
ISCO Idaho Springs 89.52 47 P **P 07 46 01.9 +0.7**
baz=242
JCT Junction City 89.57 57 *eP* **P 07 46 00.6 -0.7**
comp=Z,3.6nm,0.8s
JCT LR LR
comp=Z,900nm,22.0s
JCT Junction City 89.57 57 P **P 07 46 01.5 +0.2**
baz=245
RDOG Red Dog Mine 89.77 5 PFAKE 07 46 10.0 +8.6
RDOG LR LR
comp=Z,700nm,22.0s
PRP Porcupine Dome 89.78 12 *eP* **P 07 46 02.0 +0.3**
comp=Z,4.9nm,1.2s
PRP LR LR
comp=Z,700nm,22.0s
RLMT Red Lodge 89.82 41 PFAKE 07 46 10.0 +7.6
RLMT LR LR
comp=Z,500nm,21.0s
N23A Red Feather La 89.82 45 PFAKE 07 46 10.0 +7.4
N23A LR LR
comp=Z,400nm,22.0s
N23A Red Feather La 89.82 45 P **P 07 46 03.3 +0.7**
baz=241
DAWY Dawson 89.89 15 *eP* **P 07 46 02.3 +0.2**
comp=Z,8.2nm,1.5s
DAWY LR LR
comp=Z,1μm,22.0s
AMTX Amarillo 90.04 52 *eP* **P 07 46 03.6 +0.1**
comp=Z,5.2nm,0.8s
AMTX LR LR
comp=Z,900nm,22.0s
AMTX Amarillo 90.04 52 P **P 07 46 03.9 +0.3**
baz=244
EGAK Eagle 90.07 14 *eP* **P 07 46 02.4 -0.4**
comp=Z,9.2nm,1.4s
EGAK LR LR
comp=Z,1μm,21.0s
XAN Xi'an 90.16 307 P **P 07 46 05.3 +1.2**
XAN pP pwP 07 46 12.4 +3.2
XAN pmax pmax
comp=Z,5.0nm,2.3s
K22A Casper 90.30 44 PFAKE 07 46 20.0 +15
K22A LR LR
comp=Z,1μm,22.0s
K22A Casper 90.30 44 P **P 07 46 05.1 +0.4**
baz=241
PHWY Pilot Hill 90.34 45 PFAKE 07 46 20.0 +15
PHWY LR LR
comp=Z,500nm,21.0s
CCIG Comitan 90.37 73 PFAKE 07 46 20.0 +14
CCIG LR LR
comp=Z,600nm,22.0s
HIA Hailar 90.53 324 PFAKE 07 46 20.0 +15
HIA LR LR
comp=Z,900nm,21.0s
ABTX Abilene, Hawle 90.60 55 *eP* **P 07 46 07.2 +1.0**
comp=Z,12nm,1.4s
ABTX LR LR
comp=Z,900nm,22.0s
ABTX Abilene, Hawle 90.60 55 P **P 07 46 06.4 +0.3**
baz=245
FYU Fort Yukon 90.77 12 PFAKE 07 46 20.0 +14
FYU LR LR
comp=Z,1μm,22.0s
EGMT Eagleton 91.04 38 PFAKE 07 46 20.0 +12
EGMT LR LR
comp=Z,2μm,22.0s
EGMT Eagleton 91.04 38 P **P 07 46 08.2 +0.3**
baz=239
KSCO Kaye Shedlock' 91.20 48 PFAKE 07 46 20.0 +11
KSCO LR LR
comp=Z,600nm,22.0s
KSCO Kaye Shedlock' 91.20 48 P **P 07 46 09.0 +0.1**
baz=243
HHC Hu-ho-hao-te 91.32 314 *eP* **P 07 46 11.8 +2.4**
HHC SKS **SKSac 07 56 41.8 -0.3**
HHC S **ScS 07 57 10.4 -1.2**
HHC sS sS 07 57 19.1 +6.5
HHC SS **SS 08 03 14.5 +0.2**
HHC LR LR
comp=Z,370nm,17.6s
HHC LR LR
comp=Z,360nm,17.3s
HHC LR LR
comp=Z,370nm,16.9s
KMI Kunming 91.40 296 PFAKE 07 46 20.0 +10
KMI LR LR
comp=Z,500nm,21.0s
435B Jarrell 91.43 58 PFAKE 07 46 20.0 +10
435B LR LR
comp=Z,1μm,18.0s
435B Jarrell 91.43 58 P **P 07 46 10.5 +0.5**
baz=246
BMAR Burnt Mountain 91.65 12 *eP* **P 07 46 12.2 +2.0**
TOLK Toolik Lake Re 91.89 9 PFAKE 07 46 20.0 +8.7
TOLK LR LR
comp=Z,600nm,20.0s
TOLK Toolik Lake Re 91.89 9 P **P 07 46 12.9 +1.7**
baz=205
WHTX Lake Whitney, 92.02 56 PFAKE 07 46 20.0 +7.3
WHTX LR LR
comp=Z,1μm,22.0s
WHTX Lake Whitney, 92.02 56 P **P 07 46 14.4 +1.7**
baz=246
WMOK Wichita Mounta 92.14 54 PFAKE 07 46 30.0 +17
WMOK LR LR
comp=Z,500nm,20.0s
WMOK Wichita Mounta 92.14 54 P **P 07 46 13.6 +0.4**
baz=246
CMAR Chiang Mai Arr 92.15 289 *eP* **P 07 46 11.6 -2.0**
CMAR Chiang Mai Arr 92.15 289 P **P 07 46 14.4 +0.9**
comp=Z,1.8nm,0.3s,baz=114,slow=2.3,SNR=8.1
CMAR LR LR 08 27 41.2
comp=Z,265nm,19.2s,baz=110,slow=36
CHTO Chiang Mai 92.28 289 PFAKE 07 46 20.0 +5.8
CHTO LR LR
comp=Z,300nm,20.0s
LAO LASA Array 92.45 40 *eP* **P 07 46 15.2 +0.8**
comp=Z,24nm,1.4s
LAO LR LR
comp=Z,1μm,22.0s
LAO LASA Array 92.45 40 P **P 07 46 15.6 +1.2**
baz=241
OGNE Ogallala 92.47 47 PFAKE 07 46 30.0 +15
OGNE LR LR
comp=Z,600nm,22.0s
HKT Hockley 92.48 59 PFAKE 07 46 30.0 +15
HKT LR LR
comp=Z,700nm,22.0s
RSSD Black Hills 92.59 43 *eP* **P 07 46 15.5 +0.1**
comp=Z,2.1nm,0.8s
RSSD LR LR
comp=Z,900nm,21.0s
RSSD Black Hills 92.59 43 P **P 07 46 15.4 +0.1**
baz=243
CD2 Chengdu 92.84 302 *eP* **P 07 46 17.5 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CBKS Cedar Bluff 93.14 49 P **P 07 46 18.1 +0.3**
baz=245
OK023 East Waterloo 93.75 53 PFAKE 07 46 30.0 +9.4
OK023 LR LR
comp=Z,400nm,20.0s
TGUH Tegucigalpa,Un 93.93 77 PFAKE 07 46 30.0 +8.2
TGUH LR LR
comp=Z,600nm,21.0s
NNA Nana 94.06 104 PFAKE 07 46 40.0 +17
NNA LR LR
comp=Z,1μm,22.0s
NATX Nacogdoches 94.11 58 PFAKE 07 46 30.0 +7.7
NATX LR LR
comp=Z,800nm,18.0s
MYIG Mrida 94.21 69 PFAKE 07 46 40.0 +17
MYIG LR LR
comp=Z,700nm,22.0s
DGMT Dagmar 94.50 39 PFAKE 07 46 40.0 +16
DGMT LR LR
comp=Z,1μm,22.0s
DGMT Dagmar 94.50 39 P **P 07 46 24.7 +0.9**
baz=243
X37A Clayton 94.65 55 PFAKE 07 46 40.0 +15
X37A LR LR
comp=Z,900nm,20.0s
INK Inuvik 94.73 15 PFAKE 07 46 40.0 +16
INK LR LR
comp=Z,1μm,22.0s
INK Inuvik 94.73 15 P **P 07 46 23.4 -0.8**
comp=Z,1.5nm,0.8s,baz=213,slow=3.0,SNR=7.6
INK LR LR 08 21 31.1
comp=Z,790nm,21.8s,baz=160,slow=31
LZH Lanzhou 94.80 307 *eP* **P 07 46 27.8 +2.2**
LZH pP pwP 07 46 32.1 +1.3
LZH sP sP 07 46 34.7 +5.9
LZH pmax pmax
comp=Z,18nm,1.0s
TUL1 Leonard 94.84 53 PFAKE 07 46 40.0 +14
TUL1 LR LR
comp=Z,500nm,19.0s
TUL1 Leonard 94.84 53 P **P 07 46 26.0 +0.4**
baz=247
PBA Port Blair 95.29 280 PFAKE 07 46 40.0 +12
PBA LR LR
comp=Z,1μm,22.0s
BGNE Belgrade 95.32 48 PFAKE 07 46 40.0 +12
BGNE LR LR
comp=Z,700nm,21.0s
BGNE Belgrade 95.32 48 P **P 07 46 28.2 +0.5**
baz=246
KSU1 Kansas State U 95.49 50 PFAKE 07 46 40.0 +12
KSU1 LR LR
comp=Z,600nm,20.0s
KSU1 Kansas State U 95.49 50 P **P 07 46 30.2 +1.7**
baz=247
ESPN Las Esperanzas 95.98 79 PFAKE 07 46 40.0 +8.8
ESPN LR LR
comp=Z,600nm,20.0s
MIAR Mount Ida 96.00 55 PFAKE 07 46 40.0 +9.1
MIAR LR LR
comp=Z,600nm,22.0s
MIAR Mount Ida 96.00 55 P **P 07 46 31.7 +0.7**
baz=248
SUSD Miller 96.02 45 P **P 07 46 30.7 0.0**
baz=246
WLAR White Oak Lake 96.05 56 PFAKE 07 46 40.0 +8.9
WLAR LR LR
comp=Z,1μm,21.0s
W39A Magazine 96.09 55 PFAKE 07 46 40.0 +8.7
W39A LR LR
comp=Z,1μm,21.0s
Z41A Richland Creek 96.13 57 PFAKE 07 46 40.0 +8.5
Z41A LR LR
comp=Z,900nm,21.0s
HHAR Hobbs 96.37 54 PFAKE 07 46 40.0 +7.4
HHAR LR LR
comp=Z,600nm,21.0s
X40A Basin Creek Fa 96.55 56 PFAKE 07 46 50.0 +17
X40A LR LR
comp=Z,700nm,22.0s
LVC Limon Verde 96.59 117 PFAKE 07 46 50.0 +16
LVC LR LR
comp=Z,1μm,20.0s
YKA Yellowknife Ar 96.63 24 P **P 07 46 32.3 -0.7**
comp=Z,0.6nm,0.7s,baz=241,slow=4.7,SNR=14
YKA LR LR 08 24 38.9
comp=Z,66nm,19.4s,baz=250,slow=32
YKB5 Yellowknife Ar 96.63 24 *eP* **P 07 46 32.4 -0.7**
YKW3 Yellowknife Ar 96.66 24 PFAKE 07 46 40.0 +6.8
YKW3 LR LR
comp=Z,700nm,19.0s
PB01 IPOC Station P 96.79 116 PFAKE 07 46 50.0 +15
PB01 LR LR
comp=Z,1μm,20.0s
MDND Maddock 97.00 41 PFAKE 07 46 50.0 +15
MDND LR LR
comp=Z,700nm,22.0s
OTAV Otavalo 97.17 93 PFAKE 07 46 50.0 +13
OTAV LR LR
comp=Z,600nm,22.0s
CCAR Cane Creek 97.17 57 PFAKE 07 46 50.0 +14
CCAR LR LR
comp=Z,1μm,22.0s
U40A Yellville 97.22 54 P **P 07 46 35.8 -0.6**
baz=249
W41B Gary Mavity, V 97.25 55 PFAKE 07 46 50.0 +13
W41B LR LR
comp=Z,1μm,22.0s
WHAR Wooly Hollow 97.26 55 PFAKE 07 46 50.0 +13
WHAR LR LR
comp=Z,900nm,21.0s
ULN Ulaanbaatar 97.28 319 PFAKE 07 46 50.0 +13
ULN LR LR
comp=Z,300nm,20.0s
ECSD EROS Data Cent 97.28 46 *eP* **P 07 46 36.6 +0.1**
comp=Z,5.5nm,1.3s
ECSD LR LR
comp=Z,600nm,22.0s
ECSD EROS Data Cent 97.28 46 P **P 07 46 36.2 -0.4**
baz=248
VBMS Vicksburg 97.56 58 PFAKE 07 46 50.0 +12
VBMS LR LR
comp=Z,600nm,18.0s
SONM Songino Array 97.67 318 LR LR 08 27 44.2
comp=Z,180nm,20.5s,baz=116,slow=34
X43A Marvell 98.07 56 PFAKE 07 46 50.0 +10
X43A LR LR
comp=Z,1μm,22.0s
FFC Flin Flon 98.51 34 PFAKE 07 46 50.0 +8.2
FFC LR LR
comp=Z,900nm,20.0s
HBAR Harrisburg 98.60 55 PFAKE 07 46 50.0 +7.4
HBAR LR LR
comp=Z,1μm,22.0s
CCM Cathedral Cave 99.02 53 PFAKE 07 47 00.0 +16
CCM LR LR
comp=Z,600nm,18.0s
OXF Oxford 99.21 57 PFAKE 07 47 00.0 +15
OXF LR LR
comp=Z,1μm,22.0s
GNAR Gosnell 99.23 55 PFAKE 07 47 00.0 +15
GNAR LR LR
comp=Z,900nm,21.0s
AGMN Agassiz Nation 99.48 42 PFAKE 07 47 00.0 +14
AGMN LR LR
comp=Z,400nm,18.0s
147A Livingston 99.50 59 PFAKE 07 47 00.0 +13
147A LR LR
comp=Z,700nm,22.0s
PVMO Portageville 99.62 55 PFAKE 07 47 00.0 +13
PVMO LR LR
comp=Z,1μm,22.0s
PARMO Parma 99.67 54 PFAKE 07 47 00.0 +13
PARMO LR LR
comp=Z,700nm,22.0s
HALT Halls 99.73 55 PFAKE 07 47 00.0 +12
HALT LR LR
comp=Z,900nm,21.0s
GLAT Glass 99.89 55 PFAKE 07 47 00.0 +12
GLAT LR LR
comp=Z,1μm,21.0s
SLM Saint Louis 99.96 52 PFAKE 07 47 00.0 +11
SLM LR LR
comp=Z,500nm,20.0s
LPAZ La Paz 100.02 112 LR LR 08 22 24.1
comp=Z,572nm,21.1s,baz=272,slow=30
TIXI Tiksi 100.14 345 PFAKE 07 47 00.0 +11
TIXI LR LR
comp=Z,1μm,20.0s
ULM Lac du Bonnet 100.19 40 PFAKE 07 47 00.0 +11
ULM LR LR
comp=Z,2μm,21.0s
ULM Lac du Bonnet 100.19 40 LR LR 08 24 57.4
comp=Z,1μm,21.8s,baz=259,slow=31
N41A Harden Midland 100.19 50 PFAKE 07 47 00.0 +10
N41A LR LR
comp=Z,800nm,21.0s
SPMN Marine on St. 100.36 46 PFAKE 07 47 00.0 +10
SPMN LR LR
comp=Z,700nm,22.0s
L40A Anamosa 100.38 49 PFAKE 07 47 00.0 +10
L40A LR LR
comp=Z,500nm,22.0s
PLAL Pickwick Lake 100.40 57 PFAKE 07 47 00.0 +9.3
PLAL LR LR
comp=Z,700nm,20.0s
SIUC Southern Illin 100.41 54 PFAKE 07 47 00.0 +9.3
SIUC LR LR
comp=Z,700nm,21.0s
T45A Paducah 100.62 54 PFAKE 07 47 00.0 +8.4
T45A LR LR
comp=Z,800nm,22.0s
LRAL Lakeview Retre 100.63 59 PFAKE 07 47 00.0 +8.3
LRAL LR LR
comp=Z,500nm,18.0s
SHL Shillong 100.74 293 PFAKE 07 47 00.0 +7.3
SHL LR LR
comp=Z,300nm,21.0s
I39A Houston 100.77 47 PFAKE 07 47 00.0 +7.9
I39A LR LR
comp=Z,400nm,20.0s
TLY Talaya 100.77 321 PFAKE 07 47 00.0 +8.0
TLY LR LR
comp=Z,401nm,20.0s
250A Grady 100.88 60 PFAKE 07 47 10.0 +17
250A LR LR
comp=Z,400nm,22.0s
WVT Waverly 100.96 56 PFAKE 07 47 10.0 +17
WVT LR LR
comp=Z,1μm,22.0s
X48A Hartselle 101.04 57 PFAKE 07 47 10.0 +16
X48A LR LR
comp=Z,800nm,22.0s
HDIL Hopedale 101.27 51 PFAKE 07 47 10.0 +16
HDIL LR LR
comp=Z,900nm,20.0s
JFWS Jewell Farm 101.34 48 PFAKE 07 47 10.0 +15
JFWS LR LR
comp=Z,700nm,21.0s
L42A Oliver, Polo 101.46 49 PFAKE 07 47 10.0 +15
L42A LR LR
comp=Z,400nm,20.0s
Z50A Ashland 101.55 59 PFAKE 07 47 10.0 +14
Z50A LR LR
comp=Z,600nm,19.0s
OLIL Olney 101.57 53 PFAKE 07 47 10.0 +14
OLIL LR LR
comp=Z,600nm,20.0s
V48A Smith Brothers 101.61 56 PFAKE 07 47 10.0 +14
V48A LR LR
comp=Z,700nm,18.0s
E38A The Farm, Brul 101.65 44 PFAKE 07 47 10.0 +14
E38A LR LR
comp=Z,900nm,22.0s
T47A Sharon Grove 101.78 55 PFAKE 07 47 10.0 +13
T47A LR LR
comp=Z,900nm,21.0s
I41A Arkdale 101.97 47 PFAKE 07 47 10.0 +13
I41A LR LR
comp=Z,700nm,22.0s
P45A Graceland, Par 102.08 52 PFAKE 07 47 10.0 +12
P45A LR LR
comp=Z,700nm,18.0s
CLTN Cedars of Leba 102.10 56 PFAKE 07 47 10.0 +12
CLTN LR LR
comp=Z,500nm,22.0s
EYMN Ely 102.11 43 PFAKE 07 47 10.0 +12
EYMN LR LR
comp=Z,500nm,20.0s
G40A Rib Lake 102.12 46 PFAKE 07 47 10.0 +12
G40A LR LR
comp=Z,500nm,18.0s
SWET Sewanee 102.14 57 PFAKE 07 47 10.0 +12
SWET LR LR
comp=Z,800nm,20.0s
H41A Junction City 102.29 47 PFAKE 07 47 10.0 +11
H41A LR LR
comp=Z,500nm,18.0s
152A Waverly Hall 102.34 60 PFAKE 07 47 10.0 +11
152A LR LR
comp=Z,400nm,18.0s
M44A Midewin, Midew 102.43 50 PFAKE 07 47 10.0 +10
M44A LR LR
comp=Z,900nm,21.0s
I42A Draeger Farm, 102.57 48 PFAKE 07 47 10.0 +10
I42A LR LR
comp=Z,600nm,21.0s
K43A Burlington 102.62 49 PFAKE 07 47 10.0 +10
K43A LR LR
comp=Z,400nm,22.0s
W50A Signal Mountai 102.62 57 PFAKE 07 47 10.0 +9.4
W50A LR LR
comp=Z,700nm,20.0s
LSA Lhasa 102.64 297 PFAKE 07 47 10.0 +8.6
LSA LR LR
comp=Z,200nm,22.0s
ROSC El Rosal 102.66 90 PFAKE 07 47 10.0 +8.3
ROSC LR LR
comp=Z,100nm,20.0s
WCI Wyandotte Cave 102.77 54 PFAKE 07 47 10.0 +8.9
WCI LR LR
comp=Z,700nm,20.0s
X51A Calhoun 102.79 58 PFAKE 07 47 10.0 +8.7
X51A LR LR
comp=Z,900nm,21.0s
SFIN Lafayette 102.81 52 PFAKE 07 47 10.0 +8.7
SFIN LR LR
comp=Z,700nm,22.0s
F41A Three Lakes 103.00 46 PFAKE 07 47 10.0 +8.0
F41A LR LR
comp=Z,600nm,19.0s
T49A Edmonton 103.02 55 PFAKE 07 47 10.0 +7.7
T49A LR LR
comp=Z,900nm,21.0s
H42A Shiocton 103.02 47 PFAKE 07 47 10.0 +7.9
H42A LR LR
comp=Z,700nm,21.0s
COWI Conover 103.08 46 PFAKE 07 47 10.0 +7.6
COWI LR LR
comp=Z,800nm,22.0s
Y52A Lilburn 103.22 59 PFAKE 07 47 20.0 +17
Y52A LR LR
comp=Z,400nm,18.0s
G42A Mountain 103.30 46 PFAKE 07 47 20.0 +17
G42A LR LR
comp=Z,500nm,19.0s
CPCT Cooper Cave 103.31 57 PFAKE 07 47 20.0 +16
CPCT LR LR
comp=Z,600nm,20.0s
H43A Windswept, Lux 103.53 47 PFAKE 07 47 20.0 +16
H43A LR LR
comp=Z,700nm,20.0s
V51A Loudon 103.55 57 PFAKE 07 47 20.0 +15
V51A LR LR
comp=Z,700nm,22.0s
C40A Isle Royale Na 103.61 44 PFAKE 07 47 20.0 +15
C40A LR LR
comp=Z,600nm,22.0s
M46A Old House Fiel 103.65 51 PFAKE 07 47 20.0 +15
M46A LR LR
comp=Z,1μm,22.0s
W52A Murphy 103.68 57 PFAKE 07 47 20.0 +15
W52A LR LR
comp=Z,800nm,22.0s
D41A Chassel 103.74 45 PFAKE 07 47 20.0 +15
D41A LR LR
comp=Z,1μm,22.0s
G43A Wallace 103.81 47 PFAKE 07 47 20.0 +14
G43A LR LR
comp=Z,500nm,19.0s
L46A Eue Claire 103.86 50 PFAKE 07 47 20.0 +14
L46A LR LR
comp=Z,700nm,21.0s
FCC Fort Churchill 104.04 32 PFAKE 07 47 20.0 +14
FCC LR LR
comp=Z,400nm,20.0s
V52A Sevierville 104.15 57 PFAKE 07 47 20.0 +13
V52A LR LR
comp=Z,600nm,19.0s
J45A Montague 104.19 49 PFAKE 07 47 20.0 +13
J45A LR LR

comp=Z,600nm,22.0s
TZTN Tazewell 104.38 56 PFAKE 07 47 20.0 +12
TZTN LR LR
comp=Z,800nm,21.0s
BG3 Lake Jocassee 104.43 58 PFAKE 07 47 20.0 +11
BG3 LR LR
comp=Z,900nm,22.0s
I45A Fountain 104.47 48 PFAKE 07 47 20.0 +11
I45A LR LR
comp=Z,600nm,21.0s
E43A Lone Tree Farm 104.58 46 PFAKE 07 47 20.0 +11
E43A LR LR
comp=Z,800nm,22.0s
S51A Beattyville 104.65 55 PFAKE 07 47 20.0 +10
S51A LR LR
comp=Z,900nm,20.0s
V53A Saluda 104.71 57 PFAKE 07 47 20.0 +10
V53A LR LR
comp=Z,800nm,21.0s
O49A Covington 104.78 52 PFAKE 07 47 20.0 +10
O49A LR LR
comp=Z,600nm,21.0s
M48A Edgerton 104.85 51 PFAKE 07 47 20.0 +10
M48A LR LR
comp=Z,900nm,21.0s
T52A Hallie 104.97 56 PFAKE 07 51 40.0 +14
T52A LR LR
comp=Z,1μm,20.0s
N49A Columbus Grove 105.09 52 PFAKE 07 51 40.0 +14
N49A LR LR
comp=Z,600nm,22.0s
G45A Suttons Bay 105.13 47 PFAKE 07 51 40.0 +14
G45A LR LR
comp=Z,600nm,20.0s
Q51A Peebles 105.21 54 PFAKE 07 51 40.0 +14
Q51A LR LR
comp=Z,600nm,20.0s
J47A Sunmer 105.24 49 PFAKE 07 51 40.0 +14
J47A LR LR
comp=Z,700nm,22.0s
E44A Grand Marais A 105.36 46 PFAKE 07 51 40.0 +14
E44A LR LR
comp=Z,900nm,22.0s
P51A Williamsport 105.54 53 PFAKE 07 51 40.0 +13
P51A LR LR
comp=Z,700nm,18.0s
I47A Gladwin 105.66 49 PFAKE 07 51 40.0 +13
I47A LR LR
comp=Z,600nm,21.0s
U54A Nelsons Funny 105.72 57 PFAKE 07 51 40.0 +13
U54A LR LR
comp=Z,600nm,18.0s
KMSC Kings Mountain 105.74 58 PFAKE 07 51 40.0 +13
KMSC LR LR
comp=Z,700nm,18.0s
GLMI Grayling 105.79 48 PFAKE 07 51 40.0 +13
GLMI LR LR
comp=Z,600nm,20.0s
ACSO Alum Creek Sta 105.79 53 PFAKE 07 51 40.0 +13
ACSO LR LR
comp=Z,500nm,19.0s
AAM Ann Arbor 105.83 50 PFAKE 07 51 40.0 +13
AAM LR LR
comp=Z,800nm,21.0s
J48A Bridge Port 105.99 49 PFAKE 07 51 40.0 +12
J48A LR LR
comp=Z,700nm,22.0s
M50A Fremont 106.05 51 PFAKE 07 51 40.0 +12
M50A LR LR
comp=Z,800nm,22.0s
R53A Hurricane 106.08 55 PFAKE 07 51 40.0 +12
R53A LR LR
comp=Z,1μm,21.0s
E46A Sault Ste Mari 106.38 46 PFAKE 07 51 40.0 +12
E46A LR LR
comp=Z,400nm,18.0s
N51A Ashland 106.41 52 PFAKE 07 51 40.0 +12
N51A LR LR
comp=Z,700nm,22.0s
O52A Adamsville 106.61 53 PFAKE 07 51 40.0 +11
O52A LR LR
comp=Z,700nm,19.0s
H48A Harrisville 106.65 48 PFAKE 07 51 40.0 +11
H48A LR LR
comp=Z,700nm,22.0s
P53A Whipple 106.80 54 PFAKE 07 51 40.0 +11
P53A LR LR
comp=Z,700nm,20.0s
I49A Point Hope 106.82 49 PFAKE 07 51 40.0 +11
I49A LR LR
comp=Z,700nm,22.0s
BLA Blacksburg 106.98 56 PFAKE 07 51 40.0 +10
BLA LR LR
comp=Z,800nm,22.0s
Q54A Coxs Mills 107.09 54 PFAKE 07 51 40.0 +10
Q54A LR LR
comp=Z,1μm,22.0s
M52A Chesterland 107.31 52 PFAKE 07 51 40.0 +10
M52A LR LR
comp=Z,800nm,21.0s
R55A Marlinton 107.47 55 PFAKE 07 51 40.0 +9.4
R55A LR LR
comp=Z,1μm,21.0s
SDV Santo Domingo 107.49 87 PFAKE 07 51 40.0 +8.5
SDV LR LR
comp=Z,400nm,22.0s
N53A Lisbon 107.52 52 PFAKE 07 51 40.0 +9.5
N53A LR LR
comp=Z,600nm,21.0s
T57A Hurt 107.83 57 PFAKE 07 51 40.0 +8.8
T57A LR LR
comp=Z,1μm,22.0s
MCWV Mont Chateau 108.00 54 PFAKE 07 51 40.0 +8.6
MCWV LR LR
comp=Z,400nm,21.0s
N54A Moraine State 108.18 52 PFAKE 07 51 40.0 +8.2
N54A LR LR
comp=Z,600nm,21.0s
RES Resolute Bay 108.21 16 PFAKE 07 51 40.0 +9.2
RES LR LR
comp=Z,1μm,21.0s
S57A Dark Hollow, R 108.24 56 PFAKE 07 51 40.0 +8.1
S57A LR LR
comp=Z,700nm,22.0s
ERPA Erie 108.43 51 PFAKE 07 51 40.0 +7.8
ERPA LR LR
comp=Z,800nm,22.0s
M54A Oil Creek Stat 108.54 52 PFAKE 07 51 40.0 +7.6
M54A LR LR
comp=Z,800nm,22.0s
U59A Littleton 108.83 58 PFAKE 07 51 50.0 +17
U59A LR LR
comp=Z,800nm,21.0s
N55A Marion Center 108.88 53 PFAKE 07 51 50.0 +17
N55A LR LR
comp=Z,700nm,18.0s
S58A Poland Farm, P 108.91 56 PFAKE 07 51 50.0 +17
S58A LR LR
comp=Z,700nm,19.0s
WMQ Urumqi 108.93 310 PFAKE 07 51 40.0 +6.9
WMQ LR LR
comp=Z,599nm,21.0s
O56A Blue Knob Stat 109.09 53 PFAKE 07 51 50.0 +16
O56A LR LR
comp=Z,900nm,21.0s
R58B Mineral 109.12 56 PFAKE 07 51 50.0 +16
R58B LR LR
comp=Z,800nm,22.0s
T59A Double "B" Far 109.15 57 PFAKE 07 51 50.0 +16
T59A LR LR
comp=Z,600nm,20.0s
CBN Corbin Frederi 109.56 56 PFAKE 07 51 50.0 +16
CBN LR LR
comp=Z,900nm,22.0s
SADO Sadowa 109.58 49 PFAKE 07 51 50.0 +16
SADO LR LR
comp=Z,700nm,21.0s
J54A Appleton 109.64 50 PFAKE 07 51 50.0 +16
J54A LR LR
comp=Z,500nm,21.0s
SSPA Standing Stone 109.67 53 PFAKE 07 51 50.0 +15
SSPA LR LR
comp=Z,500nm,18.0s
MEDO Medina 109.76 50 PFAKE 07 51 50.0 +15
MEDO LR LR
comp=Z,600nm,20.0s
T60A Surry 109.83 57 PFAKE 07 51 50.0 +15
T60A LR LR
comp=Z,800nm,22.0s
SDDR Presa de Saban 110.01 77 PFAKE 07 51 50.0 +14
SDDR LR LR
comp=Z,700nm,22.0s
MMNY Mt. Morris Dam 110.07 51 PFAKE 07 51 50.0 +15
MMNY LR LR
comp=Z,700nm,21.0s
J55A Hilton 110.23 50 PFAKE 07 51 50.0 +15
J55A LR LR
comp=Z,500nm,21.0s
N59A State Game Lan 111.30 53 PFAKE 07 51 50.0 +12
N59A LR LR
comp=Z,700nm,21.0s
BINY Binghamton 111.37 52 PFAKE 07 51 50.0 +12
BINY LR LR
comp=Z,800nm,21.0s
KSPA Keystone Colle 111.42 52 PFAKE 07 51 50.0 +12
KSPA LR LR
comp=Z,800nm,22.0s
LUPA Lehigh Univers 111.54 54 PFAKE 07 51 50.0 +12
LUPA LR LR
comp=Z,100nm,22.0s
BRNJ Basking Ridge 112.16 54 PFAKE 07 51 50.0 +11
BRNJ LR LR
comp=Z,1μm,22.0s
ODNJ Ogdensburg 112.20 53 PFAKE 07 51 50.0 +11
ODNJ LR LR
comp=Z,900nm,22.0s
ZAA0 Zalesovo Array 112.38 321 PFAKE 07 51 50.0 +11
ZAA0 LR LR
comp=Z,400nm,20.0s
PAL Palisades 112.71 53 PFAKE 07 51 50.0 +10
PAL LR LR
comp=Z,1μm,22.0s
LONY Lake Ozonia 112.76 49 PFAKE 07 51 50.0 +10
LONY LR LR
comp=Z,700nm,22.0s
SPB Sao Paulo 112.87 129 PFAKE 07 51 50.0 +8.8
SPB LR LR
comp=Z,1μm,20.0s
NCB Newcomb 112.92 50 PFAKE 07 51 50.0 +9.4
NCB LR LR
comp=Z,400nm,20.0s
KSCT Kent School, K 113.13 53 PFAKE 07 51 50.0 +9.0
KSCT LR LR
comp=Z,600nm,22.0s
TRY Troy 113.15 52 PFAKE 07 51 50.0 +9.0
TRY LR LR
comp=Z,500nm,18.0s
MK32 Makanchi Array 113.18 313 *e*PKiKP **PKiKP 07 51 42.3 +1.2**
MKAR Makanchi Array 113.18 313 PKiKP **PKiKP 07 51 42.3 +1.2**
comp=Z,0.5nm,0.6s,baz=59,slow=1.7,SNR=4.2
MAKZ Makanchi 113.39 313 PFAKE 07 51 50.0 +8.6
MAKZ LR LR
comp=Z,400nm,21.0s
FRNY Flat Rock 113.49 49 PFAKE 07 51 50.0 +8.4
FRNY LR LR
comp=Z,600nm,22.0s
CRPR Cabo Rojo, PR 113.55 79 PFAKE 07 52 00.0 +18
CRPR LR LR
comp=Z,300nm,20.0s
MPR Mayaguez 113.58 79 PFAKE 07 51 50.0 +7.5
MPR LR LR
comp=Z,600nm,22.0s
PTGA Pitinga 113.89 101 PFAKE 07 52 00.0 +17
PTGA LR LR
comp=Z,800nm,22.0s
VT1 Waterbury 114.02 50 PFAKE 07 51 50.0 +7.3
VT1 LR LR
comp=Z,400nm,19.0s
QUA2 Belchertown 114.05 52 PFAKE 07 52 00.0 +17
QUA2 LR LR
comp=Z,600nm,18.0s
HNH Hanover 114.28 51 PFAKE 07 52 00.0 +17
HNH LR LR
comp=Z,600nm,18.0s
LBNH Lisbon 114.60 50 PFAKE 07 52 00.0 +16
LBNH LR LR
comp=Z,600nm,19.0s
BRYW Bryant College 114.60 53 PFAKE 07 52 00.0 +16
BRYW LR LR
comp=Z,900nm,22.0s
HRV Adam Dziewonsk 114.66 52 PFAKE 07 52 00.0 +16
HRV LR LR
comp=Z,700nm,18.0s
FFD Franklin Falls 114.71 51 PFAKE 07 52 00.0 +16
FFD LR LR
comp=Z,500nm,21.0s
TULEG Thule 114.72 14 PFAKE 07 52 00.0 +17
TULEG LR LR
comp=Z,1μm,19.0s
WES Weston 114.82 52 PFAKE 07 52 00.0 +16
WES LR LR
comp=Z,700nm,18.0s
MTP Monte Pirata 115.00 79 PFAKE 07 52 00.0 +15
MTP LR LR
comp=Z,300nm,20.0s
TARG Taragay, Kyrgy 115.79 307 PFAKE 07 52 00.0 +13
TARG LR LR
comp=Z,200nm,19.0s
KURK Kurchatov 115.93 317 PFAKE 07 52 00.0 +14
KURK LR LR
comp=Z,401nm,19.0s
WVL Waterville 116.25 50 PFAKE 07 52 00.0 +13
WVL LR LR
comp=Z,600nm,22.0s
PKME Peaks-Kenny Pk 116.56 49 PFAKE 07 52 00.0 +12
PKME LR LR
comp=Z,900nm,22.0s
KSH Kashi 116.93 304 PKP **PKPdf 07 11 46.5 -2.1**
KSH PP **PP 07 53 01.6 +3.7**
KSH SKS **SKSdf 07 58 54.1 -7.0**
KSH SKKS **SKKSac 07 59 50.3 -8.7**
SEUS St. Eustatius 117.19 81 PFAKE 07 52 00.0 +10
SEUS LR LR
comp=Z,300nm,20.0s
SMRT St. Maarten 117.26 80 PFAKE 07 52 00.0 +10
SMRT LR LR
comp=Z,400nm,20.0s
PQI Presque Isle 117.54 48 PFAKE 07 52 00.0 +11
PQI LR LR
comp=Z,600nm,22.0s
EMMW East Machias 117.83 50 PFAKE 07 52 00.0 +10
EMMW LR LR
comp=Z,700nm,22.0s
FRU1 Bishkek 118.23 308 PFAKE 07 52 00.0 +9.0
FRU1 LR LR
comp=Z,300nm,21.0s
AAK Ala-Archa 118.32 308 PFAKE 07 52 00.0 +8.7
AAK LR LR
comp=Z,300nm,21.0s
NIL Nilore 118.37 298 PFAKE 07 52 00.0 +8.5
NIL LR LR
comp=Z,299nm,21.0s
LMN Caledonia Moun 119.74 49 PFAKE 07 52 10.0 +16
LMN LR LR
comp=Z,600nm,19.0s
HAL Halifax 120.58 50 PFAKE 07 52 10.0 +15
HAL LR LR
comp=Z,600nm,20.0s
BRVK Borovoye 121.04 320 PFAKE 07 52 10.0 +14
BRVK LR LR
comp=Z,399nm,19.0s
KKAR Karatay Array 121.26 308 *e*PKPdf **PKPdf 07 51 54.1 -2.6**
ABPO Ambohimpanom 121.59 230 PFAKE 07 52 10.0 +12
ABPO LR LR
comp=Z,1μm,20.0s
KBL Kabul 121.94 298 PFAKE 07 52 10.0 +11
KBL LR LR
comp=Z,300nm,19.0s
KBS Kingsbay 122.36 358 PFAKE 07 52 10.0 +12
KBS LR LR
comp=Z,400nm,22.0s
ARU Arti 127.02 325 PFAKE 07 52 20.0 +12
ARU LR LR
comp=Z,600nm,19.0s
KEV Kevo 129.74 350 PFAKE 07 52 20.0 +7.2
KEV LR LR
comp=Z,500nm,20.0s
ARA0 ARCESS Array S 130.18 350 *e*PKPdf **PKPdf 07 52 13.1 +0.1**
ARCES ARCESS Array B 130.18 350 PKP **PKPdf 07 52 13.1 +0.1**
comp=Z,2.8nm,0.8s,baz=79,slow=1.9,SNR=5.4
GYA0B ALIBECK ARRAY 130.83 302 PFAKE 07 52 30.0 +14
GYA0B LR LR
comp=Z,600nm,20.0s
RCBR Riachuelo 132.44 120 PFAKE 07 52 30.0 +10
RCBR LR LR
comp=Z,600nm,21.0s
FIA0 FINESS Array S 137.19 345 *e*PKPdf **PKiKP 07 52 28.4 +0.3**
FINES FINESS Array B 137.19 345 PKP **PKiKP 07 52 28.4 +0.3**
comp=Z,2.3nm,0.8s,baz=355,slow=3.3,SNR=4.1
TSUM Tsumeb 137.44 199 PFAKE 07 52 40.0 +10
TSUM LR LR
comp=Z,700nm,21.0s
OBN Obninsk 138.46 332 PFAKE 07 52 40.0 +9.1
OBN LR LR
comp=Z,500nm,18.0s
NB200 NORSAR Array S 140.12 354 *e*PKPdf **PKiKP 07 52 33.7 -0.5**
NOA NORSAR Array B 140.12 354 PKP **PKiKP 07 52 33.7 -0.5**
comp=Z,0.6nm,0.6s,baz=14,slow=4.1,SNR=3.7
TBLG Delisi 140.27 310 *i* P **PKiKP 07 52 35.0 -0.1**
KMBO Kilima Mbogo 140.47 240 PFAKE 07 52 50.0 +13
KMBO LR LR
comp=Z,600nm,19.0s
GNI Garni 140.73 308 *i* P **PKiKP 07 52 36.8 +0.5**
GNI Garni 140.73 308 PFAKE 07 52 50.0 +14
GNI LR LR
comp=Z,300nm,20.0s
NAI Nairobi 140.74 239 PFAKE 07 52 50.0 +13
NAI LR LR
comp=Z,800nm,21.0s
ONI Oni 140.90 312 *i* P **PKiKP 07 52 36.4 0.0**
KIV Kislovodsk 140.92 314 *i* P **PKiKP 07 52 36.4 -0.1**
KIV Kislovodsk 140.92 314 PFAKE 07 52 50.0 +14
KIV LR LR
comp=Z,300nm,20.0s
DAMY Dhamar 141.02 267 PFAKE 07 52 50.0 +12
DAMY LR LR
comp=Z,700nm,21.0s
AKH Akhalkalaki 141.26 310 *i* P **PKiKP 07 52 37.8 +0.4**
AKH Akhalkalaki 141.26 310 PFAKE 07 52 50.0 +13
AKH LR LR
comp=Z,500nm,20.0s
ATD Arta Tunnel 141.51 261 PFAKE 07 52 50.0 +12
ATD LR LR
comp=Z,500nm,20.0s
CLDR Caldiran 141.61 306 *i* P **PKiKP 07 52 38.4 +0.2**
CUKT Cukurca 142.32 304 *i* P **PKiKP 07 52 39.2 -0.4**
SENK Senkaya-Erzuru 142.35 309 *i* P **PKiKP 07 52 38.8 -0.9**
BATM Batumi 142.47 311 *i* P **PKiKP 07 52 38.4 -1.2**
AKDM Akdamar-Van 142.53 305 *i* P **PKPdf 07 52 34.2 -2.8**
BCA Borcka 142.57 311 *i* P **PKPdf 07 52 34.8 -2.0**
KOPR Koprukoy-ERZUR 142.89 309 *i* P **PKPdf 07 52 35.6 -2.0**
SIRT Sirnak 143.16 304 *i* P PKPbc 07 52 35.8 +0.9
SIRT Sirnak 143.16 304 PFAKE 07 52 50.0 +8.7
SIRT LR LR
comp=Z,900nm,22.0s
GURO Guroymak-BITLI 143.19 306 *i* P PKPbc 07 52 36.2 +1.2
VRTB Varto-Mus 143.44 307 *i* P **PKiKP 07 52 40.9 -1.0**
SVAN Silvan-Diyarba 143.93 306 *i* P **PKPdf 07 52 39.4 +0.1**
YEDI Yedisu-Bingol 144.02 308 *i* P **PKPdf 07 52 39.4 -0.2**
BNGB Bingl 144.07 307 *i* P **PKPdf 07 52 39.8 +0.2**
FURI Furi 144.33 255 PFAKE 07 52 50.0 +5.4
FURI LR LR
comp=Z,600nm,20.0s
SUW Suwalki 144.36 341 *e*PKP **PKPdf 07 52 38.8 -0.6**
SUW Suwalki 144.36 341 PFAKE 07 52 50.0 +7.0
SUW LR LR
comp=Z,800nm,21.0s
MAZI Mazidag 144.70 305 *i* P **PKPdf 07 52 41.9 +1.2**
AKASG Malin Array Be 144.72 332 PKP **PKPdf 07 52 39.6 -0.5**
comp=Z,8.5nm,0.7s,baz=37,slow=4.1,SNR=33
AKBB Malin Array Si 144.72 332 *e*PKPdf **PKPab 07 52 38.9 0.0**
KIEV Kiev 144.73 332 *e*PKPdf **PKPab 07 52 38.9 0.0**
KIEV Kiev 144.73 332 ⇑*i*P **PKPab 07 52 38.5 -0.4**
DYBB Diyarbakir 144.79 306 *i* P **PKiKP 07 52 42.8 -1.8**
SVRC Sivrice-ELAZID 145.28 307 *i* P **PKPdf 07 52 43.4 +1.6**
ILIC ilic-Erzincan 145.46 309 *i* P **PKiKP 07 52 44.9 -1.1**
MBAR Mbarara 145.86 233 PFAKE 07 53 00.0 +12
MBAR LR LR
comp=Z,700nm,20.0s
URFA Urfa 145.94 306 *i* P **PKiKP 07 52 46.5 -0.5**
RSDY Resadiye-TOKAT 145.98 311 *i* P **PKiKP 07 52 45.9 -1.0**
SVSK Karacayir 146.40 311 *i* P **PKiKP 07 52 47.8 +0.1**
TOKT Tokat 146.56 312 *i* P **PKiKP 07 52 47.9 -0.2**
DARE Darende-Malaty 146.56 308 *i* P **PKiKP 07 52 48.7 +0.5**
KVT Kavak 146.58 313 *i* P **PKiKP 07 52 48.4 +0.3**
GKP Gorka Klasztor 146.65 345 *e*PKP **PKPab 07 52 46.5 +0.5**
SNOP Sinop 146.71 315 *i* P **PKiKP 07 52 48.2 -0.1**
SNOP Sinop 146.71 315 PFAKE 07 53 00.0 +12
SNOP LR LR
comp=Z,400nm,20.0s
DIKM Dikmen 146.85 315 *i* P **PKiKP 07 52 48.8 +0.2**
BEL Belsk 146.97 341 *e*PKP **PKiKP 07 52 48.3 -0.2**
GAZ Gaziantep 147.24 306 *i* P **PKiKP 07 52 49.9 +0.2**
KMRS Kahramanmaras 147.36 307 *i* P **PKiKP 07 52 50.2 +0.4**
KIS Kishinev 147.52 328 ⇓*i*PKP **PKPab 07 52 49.0 -0.7**
KIS XM 07 52 49.5
comp=Z,300nm,2.5s
YOZ Yozgat 147.70 311 *i* P **PKiKP 07 52 50.5 -0.1**
CORM Corum 147.94 313 *i* P **PKPbc 07 52 48.8 -0.4**
ILGA Ilgaz 148.15 315 PFAKE 07 53 00.0 +7.3
ILGA LR LR
comp=Z,400nm,22.0s
KOZT Kozan 148.17 307 *i* P **PKPbc 07 52 48.6 -1.1**
TAHT Tahtakopru-Hat 148.28 305 *i* P **PKPbc 07 52 49.2 -0.8**
CEYT Ceyhan 148.40 306 *i* P **PKPbc 07 52 48.8 -1.5**
OJC Ojcow 148.69 340 *e*PKP **PKiKP 07 52 52.1 0.0**
BURAR Bucovina Array 148.77 332 *e*PKPdf **PKPdf 07 52 46.3 -1.0**
BURAR *e*PKPbc **sPKPdf 07 52 50.8 +0.3**
BURAR *e*PKPab **sPKPbc 07 52 54.6 +0.2**
BURAR Bucovina Array 148.77 332 ⇑*i*P **PKPbc 07 52 51.0 -0.1**
KARA Karaisali 148.82 307 *i* P **PKPdf 07 52 49.2 +1.7**
BR101 Keskin Array S 148.83 312 *e*PKPbc **PKiKP 07 52 52.9 0.0**
BR131 Keskin Array S 148.83 312 *e*PKPdf **PKPdf 07 52 45.2 -2.4**
BR131 *e*PKPbc **pPKPdf 07 52 50.4 +0.3**
BR131 *e*PKPab **pPKPbc 07 52 53.7 -0.3**
BRTR Keskin Array B 148.83 312 *e*PKPdf **PKPbc 07 52 51.1 -0.4**
BRTR *e*PKPbc **PKiKP 07 52 53.3 +0.3**
BRTR Keskin Array B 148.83 312 PKPbc **PKiKP 07 52 52.9 0.0**
comp=Z,4.3nm,0.7s,baz=140,slow=5.4,SNR=20
BIZ Bicaz 148.88 330 ⇑*i*P **PKPbc 07 52 50.8 -0.4**
TESR Tescani 148.93 329 ⇑*i*P **PKPbc 07 52 50.5 -0.9**
KOLS Kolonicke sedl 148.93 336 *e*PKP **PKiKP 07 52 53.9 +1.2**
YAYX Yaylak 149.05 311 *i* P **PKPdf 07 52 49.6 +1.6**
CFR Carcaliu 149.10 326 ⇑*i*P **PKPbc 07 52 49.9 -1.9**
KSP Ksiaz 149.11 345 *e*PKP **PKPbc 07 52 49.8 -1.9**
SERE Sereflikochisa 149.22 311 *i* P **PKPdf 07 52 49.9 +1.6**
ANTO Ankara 149.34 313 PFAKE 07 53 00.0 +2.6
ANTO LR LR
comp=Z,300nm,21.0s
ANTO Ankara 149.34 313 ⇑*i*P **PKPbc 07 52 53.1 +0.4**
VRI Vrincioaia 149.35 328 ⇑*i*P **PKPbc 07 52 50.9 -1.6**
MERS Mersin 149.37 307 *i* P **PKPdf 07 52 49.9 +1.4**
CLL Collm 149.38 349 *e*PKPdf **PKPdf 07 52 47.5 -0.4**
CLL *e*PKPbc **PKPbc 07 52 51.9 -0.4**
CLL *e*PKPab **sPKPbc 07 52 56.0 +0.5**
CLL LR LR
comp=Z,600nm,19.0s
CLL Collm 149.38 349 *e*PKPdf **PKPdf 07 52 50.0 +2.1**
CLL ⇓*i*PKPbc **PKiKP 07 52 53.9 +0.4**
comp=Z,17nm,0.9s
CLL *i* PKPab **PKPab 07 52 57.5 +0.5**
CLL *e* 07 54 41.0
CLL LmV 09 04 00.0
comp=Z,500nm,19.6s
TRPA Tarpa 149.49 335 ⇑*i*P **PKiKP 07 52 54.8 +1.0**
UPC Upice 149.49 345 ⇑*e*PKP **PKiKP 07 52 55.3 +1.5**
UPC AMS AMS 08 58 10.0
comp=Z,800nm,21.3s
OKC Ostrava-Krasne 149.53 342 AMS AMS 08 57 50.0
comp=Z,600nm,21.4s
TLB Topalu 149.55 325 ⇓*i*P **PKPbc 07 52 52.7 -0.2**
DPC Dobruska-Polom 149.56 344 ⇑*e*PKP **PKiKP 07 52 55.3 +1.3**
DPC *e*PKPAB **pPKPab 07 52 59.9 -0.3**
DPC *ex* x 07 53 07.0
DPC AMS AMS 08 50 50.0
comp=Z,600nm,27.8s
SULT Sultanhani-AKS 149.58 310 *i* P **PKPbc 07 52 51.4 -2.0**
BRG Berggiesshubel 149.61 347 *i* PKP **PKiKP 07 52 54.3 +0.3**
comp=Z,43nm,1.8s
MORC Moravsky Berou 149.76 342 *e*PKPbc **PKiKP 07 52 54.5 +0.2**
MORC *e*PKPab **pPKPab 07 53 00.8 -0.2**
MORC Moravsky Berou 149.76 342 *e*PKP **PKiKP 07 52 55.3 +0.9**

KIZK Mersin 149.79 306 *i* P PKPdf 07 52 49.8 +0.7
PVCC Panska Ves 149.81 346⇑ *e*PKP PKiKP 07 52 56.3 +1.9
PVCC AMS AMS 08 49 30.0
comp=Z,800nm,32.8s
DOPR Dopca 149.93 329⇑ *i*P PKiKP 07 52 56.2 +1.4
KECS Kecovo 149.96 338 *e*PKP PKiKP 07 52 56.1 +1.3
SILI Silifke-Mersin 150.00 306 *i* P PKPdf 07 52 51.4 +2.0
MLR Muntele Rosu 150.00 328 *e*PKPbc PKiKP 07 52 55.3 +0.2
MLR LR LR
comp=Z,800nm,21.0s
MLR Muntele Rosu 150.00 328⇑ *i*P PKPbc 07 52 52.8 -1.4
MDUB Mudurnu 150.10 316 PFAKE 07 53 00.0 -0.5
MDUB LR LR
comp=Z,1μm,20.0s
EREN Erenkoy 150.10 305 *i* P PKPbc 07 52 52.3 -2.3
KEBE Keben-Mersin 150.12 307 *i* P PKPdf 07 52 51.8 +2.1
IKL Isikli 150.22 306 *i* P PKPdf 07 52 51.6 +1.8
PRU Pruhonice 150.32 346⇑ *e*PKP PKiKP 07 52 57.0 +1.5
PRU AMS AMS 08 59 20.0
comp=Z,700nm,18.7s
VRAC Vranov 150.44 343⇑ *i*P PKiKP 07 52 56.7 +0.9
VRAC Vranov 150.44 343 *e*PKP PKiKP 07 52 57.1 +1.3
DRGR 150.49 333⇑ *i*P PKiKP 07 52 55.9 -0.1
VYHS Vyhne 150.50 340 *e*PKP PKiKP 07 52 57.9 +2.0
VYHS *e* 07 53 04.0
NKC Novy Kostel 150.51 349 AMS AMS 08 49 00.0
comp=Z,900nm,33.2s
JAVC Velka Javorina 150.54 341 *e*PKP PKiKP 07 52 58.4 +2.3
KOLL Kolacno 150.57 340 *e*PKP PKiKP 07 52 58.2 +2.2
PSZ Piszkesteto 150.65 338 PFAKE 07 53 00.0 -2.4
PSZ LR LR
comp=Z,500nm,22.0s
KRUC Moravsky 150.72 343 *e*PKP PKiKP 07 52 57.5 +1.2
TREC Trest 150.74 344⇑ *e*PKP PKiKP 07 52 58.1 +1.7
TREC AMS AMS 08 51 10.0
comp=Z,500nm,21.0s
MEM Membach 150.86 357 ⇓PKPbc PKiKP 07 52 57.3 +0.7
BCLA Clavier 151.08 358 ⇑PKPbc PKiKP 07 52 59.8 +2.8
MODS Modra-Piesok 151.09 341 *e*PKP PKPbc 07 52 53.7 -2.9
MODS *e* 07 52 58.4
MODS *e* 07 53 05.8
LEF Lefka 151.23 304⇑ *i*P PKPdf 07 52 54.0 +2.6
KHC Kasperske Hory 151.34 347 *e*PKPbc PKPbc 07 52 57.1 -0.1
KHC *e*PKPab PKPab 07 53 06.1 +0.9
KHC LR LR
comp=Z,300nm,22.0s
KHC Kasperske Hory 151.34 347⇑ *e*PKP PKiKP 07 52 58.3 +0.6
KHC *e*PKPAB pPKPab 07 53 06.8 -0.8
KHC AMS AMS 09 00 30.0
comp=Z,700nm,15.4s
SIRR Siria 151.34 334⇑ *i*P PKPbc 07 52 55.2 -2.0
DOU Dourbes 151.42 359 ⇓PKPbc PKiKP 07 52 58.9 +1.2
GZR Gura Zlata 151.56 331⇑ *i*P PKPbc 07 52 55.8 -2.0
GEC2 GERESS Array S 151.58 346 *e*PKPdf PKPdf 07 52 51.0 -0.6
GEC2 *e*PKPbc pPKPbc 07 52 59.4 -0.9
GEC2 *e*PKPab PKPab 07 53 07.0 +0.7
GEC2 LR LR
comp=Z,800nm,22.0s
GERES GERESS Array B 151.58 346 *e*PKPdf PKPdf 07 52 52.3 +0.7
GERES *e*PKPab PKPab 07 53 07.2 +0.9
GERES GERESS Array B 151.58 346 PKP PKPdf 07 52 52.7 +1.1
comp=Z,0.4nm,0.5s,baz=99,slow=3.1,SNR=3.3
GERES PKPbc PKiKP 07 52 59.2 +1.0
comp=Z,2.3nm,0.8s,baz=36,slow=2.5,SNR=12
ISP Isparta 151.86 311 PFAKE 07 53 00.0 +0.8
ISP LR LR
comp=Z,600nm,21.0s
BZS Buzias 151.89 333⇑ *i*P PKPdf 07 52 55.1 +3.1
CONA Conrad Observa 151.90 343 *e*pPKPbc pPKPbc 07 53 01.2 +0.2
comp=Z,4.9nm,0.9s
CONA *e*pPKPab pPKPab 07 53 10.4 +0.4
MOA Molln 152.39 345 *e*pPKPbc pPKPbc 07 53 02.0 0.0
comp=Z,2.2nm,0.7s
MOA *e*pPKPab pPKPab 07 53 11.8 -0.1
MDVR Moldovita 152.51 332⇑ *i*P PKPdf 07 52 54.8 +1.7
BALB Balikesir 152.69 317 PFAKE 07 53 00.0 -0.5
BALB LR LR
comp=Z,2μm,22.0s
MANT Manisa 152.88 314 PFAKE 07 53 10.0 -2.3
MANT LR LR
comp=Z,2μm,21.0s
BFO Black Forest 152.96 354 *e*PKPdf PKPdf 07 52 50.8 -2.8
BFO *e*PKPbc PKPbc 07 53 00.3 -0.5
BFO *e*PKPab PKPab 07 53 10.9 -1.1
ALN Alexandroupoli 153.06 321 PFAKE 07 53 10.0 -2.6
ALN LR LR
comp=Z,300nm,19.0s
SOKA Soboth 153.27 343 *e*pPKPbc pPKPbc 07 53 03.3 -0.7
comp=Z,0.8nm,0.5s
SOKA *e*pPKPab pPKPab 07 53 15.2 -0.6
PERS Pernice 153.29 343 *i* PKPdf PKPdf 07 52 53.3 -0.8
KBA Koelnbreinsper 153.33 346 *e*pPKPbc pPKPbc 07 53 04.3 -0.9
comp=Z,3.3nm,0.7s
KBA *e*pPKPab pPKPab 07 53 15.5 -0.7
VTS Vitosha 153.43 327 PFAKE 07 53 10.0 -4.3
VTS LR LR
comp=Z,700nm,21.0s
WTTA Wattenberg 153.51 348 *e*pPKPbc pPKPbc 07 53 04.3 -0.4
comp=Z,7.1nm,1.2s
WTTA *e*pPKPab pPKPab 07 53 16.3 -0.7
MOTA Moosalm 153.53 349 *e*PKiKP PKiKP 07 53 03.3 +0.9
comp=Z,1.5nm,0.5s
OBKA Obir 153.56 343 *e*pPKPab pPKPab 07 53 15.9 -1.2
comp=Z,9.9nm,1.5s
SQTA Sankt Quirin 153.63 349 *e*pPKPbc pPKPbc 07 53 04.3 -0.6
comp=Z,4.0nm,0.8s
MYKA Terra Mystica 153.68 345 *e*PKiKP PKiKP 07 53 03.9 +1.3
comp=Z,3.6nm,0.8s
DAVA Damuels 153.79 351 *e*pPKPbc pPKPbc 07 53 05.2 -0.1
comp=Z,2.0nm,0.5s
ABTA Abfaltersbach 153.83 347 *e*PKiKP PKiKP 07 53 04.2 +1.3
comp=Z,2.7nm,0.6s
ABTA *e*pPKPab pPKPab 07 53 17.1 -1.0
FETA Feichten 153.91 349 *e*pPKPbc pPKPbc 07 53 05.2 -0.3
comp=Z,6.2nm,1.1s
FETA *e*pPKPab pPKPab 07 53 19.0 +0.4
VISS Visnje 154.13 342 *e*PKPdf PKPdf 07 52 56.5 +1.2
JAVS Javornik 154.26 344 *i* PKPdf PKPdf 07 52 56.0 +0.4
BOJS Bojanci 154.28 341 *i* PKPdf PKPdf 07 52 57.4 +1.9
BLY Banja Luka 154.33 338 PFAKE 07 53 10.0 +6.1
BLY LR LR
comp=Z,600nm,21.0s
TTG Podgorica 155.46 332 PFAKE 07 53 10.0 -13
TTG LR LR
comp=Z,500nm,22.0s
FNA Florina 155.72 326 PFAKE 07 53 10.0 +12
FNA LR LR
comp=Z,400nm,22.0s
TIR Tirane 156.04 329 PFAKE 07 53 10.0 +12
TIR LR LR
comp=Z,900nm,22.0s
SANT Santorini 156.09 313 PFAKE 07 53 10.0 +12
SANT LR LR
comp=Z,400nm,21.0s
AGG Agios Georgios 156.44 322 PFAKE 07 53 10.0 +11
AGG LR LR
comp=Z,500nm,21.0s
VLC Villacollemand 156.74 348 PFAKE 07 53 10.0 +11
VLC LR LR
comp=Z,700nm,21.0s
AQU L'Aquila 157.70 341 PFAKE 07 53 10.0 +10
AQU LR LR
comp=Z,700nm,20.0s
ITM Ithomi 157.90 319 PFAKE 07 53 10.0 +9.4
ITM LR LR
comp=Z,400nm,22.0s
COI Coimbra 158.55 27 PFAKE 07 53 10.0 +8.8
COI LR LR
comp=Z,500nm,21.0s
TIP Timpagrande 159.20 331 PFAKE 07 53 10.0 +7.8
TIP LR LR
comp=Z,700nm,21.0s
MESJ Messejana 160.58 30 *e*PKPdf PKPdf 07 53 03.8 +0.1
MESJ AMS AMS 08 59 32.6
comp=Z,311nm,25.6s
ESDC Sonseca Array 160.62 19 PKP PKPdf 07 53 05.5 +1.7
comp=Z,0.2nm,0.3s,baz=297,slow=5.6,SNR=4.4
ESDC PKPab PKPab 07 53 45.7 +0.5
comp=Z,0.4nm,0.5s,baz=330,slow=5.4,SNR=4.2
MORF Marmelete 160.80 32 *e*PKPdf PKPdf 07 53 04.0 +0.1
MORF AMS AMS 09 00 42.1
comp=Z,442nm,12.7s
TORD Torodi Ar. Bea 171.46 165 PKPab PKPab 07 54 33.5 +0.1
comp=Z,0.9nm,1.1s,baz=207,slow=2.9,SNR=2.3
TOA1 Torodi Ar. Sit 171.47 165 *e*PKPab PKPab 07 54 33.5 +0.1

*DDA **06** 08:02:50.1,36.′43N×27.″09E, h7km±2km, ML2.4*
*ISK **06** 08:02:50.7,36.′46N×27.″11E, h4km, ML2.5/9*
*ATH **06** 08:02:51.3,36.′50N×27.″11E, h27km±3km, ML2.1/2, Error ellipse: s-maj=3.8km s-min=1.1km az=189.0*
*ISCJB **06** 08:02:52.6±0.5,36.′48N±0.′03×27.″11E±0.′04, h15km±10km, Error ellipse: s-maj=5.3km s-min=5.1km az=2.0*
ISC 06 08:02:51.8±1.1, 36.′50N±0.′04×27.″16E±0.′03, h25km±12km, n22, σ1.9±71/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	Datca	0.41	56	PG	Pb	08 03 00.3	-0.3
DAT				SG	Sb	08 03 07.4	+0.8
DAT	Datca	0.41	56	*i* P	Pb	08 03 00.2	-0.4
DAT				*i* S	Sb	08 03 07.8	+1.2
BODT	Bodrum	0.58	12	PG	Pb	08 03 03.3	-0.1
BDRM	Kayabasi	0.61	22	IAML_P			
	comp=Z,498nm,0.1s						
BDRM				*i* P	Pn	08 03 04.8	-0.2
BDRM				*i* S	Sn	08 03 14.3	+0.2
BBRN	Bozburun-Marma	0.75	76	PG	Pn	08 03 06.6	-0.2
ARG	Arkhangelos	0.83	109	PG	Pn	08 03 07.8	-0.2
ARG	Arkhangelos	0.83	109	P	Pn	08 03 08.0	0.0
ARG				S	Sn	08 03 21.0	+1.5
ARG				AML	AML	08 03 22.9	
	comp=E,254μm,0.2s						
ARG				AML	AML	08 03 23.6	
	comp=N,263μm,0.2s						
KARP	Karpathos	0.95	180	P	Pn	08 03 09.9	+0.3
KARP				S	Sn	08 03 22.8	+0.4
KARP				AML	AML	08 03 26.0	
	comp=N,249μm,0.5s						
KARP				AML	AML	08 03 26.4	
	comp=E,209μm,0.4s						
AMGA	Amorgos Island	1.07	289	P	Pb	08 03 10.9	-0.8
AMGA				S	Sn	08 03 26.0	+0.7
ANAF	Anafi Island	1.12	263	P	Pb	08 03 12.4	-0.2
TURN	Turunc	1.22	72	PG	Pn	08 03 09.8	-3.5
TURN	Turunc	1.22	72	*i* P	Pn	08 03 10.0	-3.3
TURN				*i* S	Sb	08 03 24.4	-5.2
SMG	Samos	1.24	348	P	Pb	08 03 14.5	0.0
SMG				S	Sb	08 03 30.7	+0.7
DALY	Dalyan (Mula)	1.25	75	PN	Pb	08 03 15.7	+1.1
DALY	Dalyan (Mula)	1.25	75	IAML_P			
	comp=Z,353nm,0.3s						
DALY				*i* P	Pb	08 03 15.2	+0.6
AYDN	Tasoluk	1.30	26	*i* P	Pb	08 03 17.4	+1.8
AYDN				*i* S	Sb	08 03 35.8	+3.9
SANT	Santorini	1.38	265	PN	Pb	08 03 16.7	-0.2
APE	Apeiranthos	1.43	294	PN	Pb	08 03 18.0	+0.3
APE	Apeiranthos	1.43	294	P	Pb	08 03 17.7	-0.1
FETY	Fethiye	1.56	84	PN	Pb	08 03 20.6	+0.6
FETY	Fethiye	1.56	84	IAML_P			
	comp=Z,605nm,0.3s						
FETY				*i* P	Pb	08 03 21.0	+1.0
URLA	Izmir	1.91	347	PN	Pb	08 03 25.5	-0.5

*ISCJB **06** 08:15:16.8±0.4,21.′0S±0.′1×176.″13W±0.″09, h10km, mb4.3/32, MS4.0/6, Error ellipse: s-maj=17.1km s-min=8.9km az=148.2*
*IDC **06** 08:15:16.7±0.7,20.′93S×176.″11W, h0km, mb4.1/12, mb1 4.4/12, mb1mx4.2/27, mbtmp4.1/12, MS4.0/8, Ms1 4.0/8, ms1mx3.5/36, Error ellipse: s-maj=33.2km s-min=22.6km az=135.0*
*NEIC **06** 08:15:18.2±0.3,20.′94S×176.″08W, h10km, mb4.5/21, Error ellipse: s-maj=14.6km s-min=7.7km az=149.0*
ISC 06 08:15:18.1±0.6, 20.′9S±0.′1×176.″1W±0.″1, h10km, n61, σ0.9±69/52, mb4.4/31, MS3.9/6, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.12	74	*e*Pn	Pn	08 16 41.2	-7.5
DZM	Mont Dzumac	16.26	263	*e*Pn	P	08 19 10.1	+0.3
	8.0nm,0.7s						
DZM	Mont Dzumac	16.26	263	LR	LR	08 23 15.4	
	comp=Z,327nm,18.7s,baz=204,slow=29						
URZ	Urewera	18.23	197	LR	LR	08 25 21.9	
	comp=Z,560nm,20.2s,baz=22,slow=33						
STKA	Stephens Creek	39.18	245	LR	LR	08 37 29.5	
	comp=Z,147nm,18.1s,baz=17,slow=34						
AS31	Alice Springs	46.12	257	*e*P	P	08 23 44.5	+1.5
	1.0nm,0.8s						
ASAR	Alice Springs	46.12	257	*e*P	P	08 23 42.9	-0.1
ASAR	Alice Springs	46.12	257	P	P	08 23 43.6	+0.6
	3.0nm,0.8s,baz=95,slow=7.0,SNR=25						
WC3	Warramunga Arr	46.24	262	*e*P	P	08 23 44.0	+0.1
	10nm,1.0s						
WB2	Warramunga Arr	46.26	262	*e*P	P	08 23 43.2	-0.9
	14nm,1.0s						
WRAB	Tennant Creek	46.26	262	*e*P	P	08 23 44.6	+0.5
	12nm,1.1s						
WRA	Warramunga Arr	46.27	262	*e*P	P	08 23 43.2	-1.0
FITZ	Fitzroy Crossi	54.70	262	LR	LR	08 48 10.2	
	comp=Z,175nm,18.8s,baz=52,slow=36						
SBA	Scott Base	57.57	184	*e*P	P	08 25 08.8	+1.3
	2.3nm,1.1s						
VNDA	Vanda	57.65	186	*e*P	P	08 25 09.1	+1.0
VNDA	Vanda	57.65	186	P	P	08 25 08.4	+0.3
	1.1nm,0.8s,baz=351,slow=6.7,SNR=4.8						
PSAB1	Pilbara Seismi	59.30	257	*e*P	P	08 25 20.0	-0.5
	3.7nm,0.9s						
QSPA	South Pole Qui	69.14	180	*e*P	P	08 26 24.1	-0.4
	2.4nm,0.8s						
ADK	Adak	72.50	360	*e*P	P	08 26 45.7	+0.9
	15nm,1.1s						
ASAJ	Asahikawa	74.95	331	LR	LR	08 54 26.7	
	comp=Z,303nm,20.1s,baz=178,slow=31						
PETK	Petropavlovsk-	77.14	344	P	P	08 27 10.6	-1.1
	1.5nm,0.6s,baz=114,slow=11,SNR=4.2						
PETK				LR	LR	08 58 52.8	
	comp=Z,42nm,18.4s,baz=101,slow=34						
PEA1	Petropavlovsk-	77.15	344	*e*P	P	08 27 10.6	-1.1
KSRS	Korea Array	78.37	318	LR	LR	08 58 03.1	
	comp=Z,43nm,19.6s,baz=236,slow=33						
PNTR	Pine Nut	79.73	41	*e*P	P	08 27 26.8	+0.2
	4.7nm,0.8s						
YERR	Yerington	79.89	42	*e*P	P	08 27 27.4	0.0
	2.6nm,0.8s						
NV01	Mina Array Sit	80.15	42	*e*P	P	08 27 29.7	+0.8
NVAR	Mina Array Bea	80.15	42	*e*P	P	08 27 29.2	+0.3
NVAR	Mina Array Bea	80.15	42	P	P	08 27 29.7	+0.8
	0.9nm,0.7s,baz=226,slow=8.6,SNR=10						
NVAR				LR	LR	08 57 26.1	
	comp=Z,65nm,18.3s,baz=333,slow=32						
KVN	Kaiserville	80.64	42	*e*P	P	08 27 31.5	0.0
BMN	Battle Mountai	82.01	41	*e*P	P	08 27 39.3	+0.6
	1.2nm,0.9s						
X16A	Lo Mia Camp, P	82.50	49	*e*P	P	08 27 41.6	+0.2
	1.0nm,0.8s						
U15A	North Rim	82.97	47	*e*P	P	08 27 44.5	+0.5
	3.1nm,0.9s						
G08A	Pilot Rock	83.90	37	*e*P	P	08 27 49.3	+1.0
	3.3nm,1.1s						
MNTX	Cornudas Mount	85.58	54	*e*P	P	08 27 56.6	-0.4
	3.9nm,1.1s						
LTX	Lajitas	85.82	57	*e*P	P	08 27 58.7	+0.4
TX31	Lajitas Ar. Si	85.82	57	*e*P	P	08 27 57.8	-0.5
	2.6nm,1.0s						
TXAR	Lajitas Array	85.82	57	P	P	08 27 58.7	+0.4
	1.2nm,0.8s,baz=220,slow=8.2,SNR=8.5						
NEW	Newport	86.71	35	P	P	08 28 02.0	-0.1
	0.7nm,0.5s,baz=175,slow=6.1,SNR=3.8						
LNIG	Linares	87.30	62	*e*P	P	08 28 04.1	-1.5
	3.3nm,0.7s						
DLBC	Dease Lake	87.77	22	P	P	08 28 07.6	+0.5
	0.7nm,0.9s,baz=262,slow=10,SNR=3.7						
RIDG	Independent Ri	87.86	13	*e*P	P	08 28 08.0	+0.6
	6.6nm,0.7s						
PDAR	Pinedale Array	88.08	43	*e*P	P	08 28 09.2	0.0
PDAR	Pinedale Array	88.08	43	P	P	08 28 09.0	-0.2
	0.2nm,0.6s,baz=282,slow=2.9,SNR=4.2						
IMAR	Indian Mountai	88.29	9	*e*P	P	08 28 09.8	+0.4
ILAR	Eielson Array	88.35	12	P	P	08 28 11.0	+1.4
	0.5nm,0.8s,baz=202,slow=4.7,SNR=4.1						
HRY	Holter Researc	88.78	38	*e*P	P	08 28 12.1	-0.1
DAWY	Dawson	89.40	15	*e*P	P	08 28 14.4	-0.2
	2.1nm,0.9s						
EGAK	Eagle	89.58	14	*e*P	P	08 28 15.7	+0.3
	2.6nm,1.1s						
CMAR	Chiang Mai Arr	91.91	289	P	P	08 28 27.6	+0.3
	0.7nm,0.3s,baz=131,slow=4.1,SNR=2.9						
YKA	Yellowknife Ar	96.18	24	P	P	08 28 45.9	0.0
	0.4nm,0.7s,baz=240,slow=4.7,SNR=13						
YKB5	Yellowknife Ar	96.18	24	*e*P	P	08 28 45.9	0.0
SONA0	Songino Array	97.23	318	*e*P	Pdif	08 28 52.4	+1.2
SONM	Songino Array	97.23	318	P	Pdif	08 28 52.4	+1.2
	0.5nm,0.4s,baz=90,slow=4.3,SNR=3.0						
AKASG	Malin Array Be	144.22	332	PKP	PKPab	08 34 51.6	-0.3
	0.2nm,0.3s,baz=42,slow=4.5,SNR=19						
AKBB	Malin Array Si	144.22	332	*e*PKPdf	PKPab	08 34 51.9	-0.1
BR101	Keskin Array S	148.41	313	*e*PKPbc	PKPbc	08 35 04.6	-0.7
BRTR	Keskin Array B	148.41	313	PKPbc	PKPbc	08 35 04.6	-0.7
	1.7nm,0.7s,baz=133,slow=4.9,SNR=10						
CLL	Collm	148.84	349	⇓*i*PKPbc	PKPbc	08 35 06.3	+0.5
	comp=Z,6.0nm,0.7s						
GERES	GERESS Array B	151.05	347	PKPbc	PKPbc	08 35 11.0	-0.5
	comp=Z,0.6nm,0.4s,baz=0.0,slow=2.0,SNR=5.8						
TORD	Torodi Ar. Bea	171.99	165	PKPab	PKPab	08 36 49.7	-0.9
	comp=Z,0.7nm,0.9s,baz=274,slow=1.8,SNR=4.3						
TOA1	Torodi Ar. Sit	171.99	165	*e*PKPab	PKPab	08 36 49.7	-0.9

*NEIC **06** 08:33:30.7±0.0, 19.″02N×98.″63W, h1km, MD4.1(MEX), After MEX.*
MEX 06 08:33:30.7±0.5, 19.″02N×98.″63W, h1km, MD4.1, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPM	Popocatepetl	0.04	8	*e*Pg	Pg	08 33 32.2	+0.6
PPM	Popocatepetl	0.04	8	*e*P	Pg	08 33 31.0	-0.7
PPM				*i* S	Sg	08 33 32.2	-0.1
AMVM	AMECAMECA	0.18	307	*e*P	Pg	08 33 34.0	-0.3
AMVM				*e*S	Sg	08 33 36.7	0.0
PHPU	Puebla	0.44	87	*e*P	Pg	08 33 38.3	-0.8
PHPU				*i* S	Sg	08 33 45.1	+0.2
YAIG	Yautepec	0.44	249	*e*Pg	Pg	08 33 38.2	-0.9
YAIG				*e*Sg	Sg	08 33 44.9	0.0
YAIG	Yautepec	0.44	249	*e*P	Pg	08 33 38.2	-0.9
YAIG				*e*S	Sg	08 33 44.9	0.0
PBVM	Pinon	0.59	314	*e*Sg	Sg	08 33 49.6	-0.2
PBVM	Pinon	0.59	314	*e*S	Sg	08 33 49.6	-0.2
MAVM	Malinalco, Edo	0.82	265	*e*P	Pg	08 33 45.5	-0.8
MAVM				*i* S	Sg	08 33 56.4	-0.6
ZUVM	ZUMPANGO	0.90	332	*e*P	Pg	08 33 46.5	-1.6
ZUVM				*e*S	Sg	08 33 58.7	-1.1
PLIG	Platanillo	1.04	233	*e*Pg	Pg	08 33 49.1	-1.5
PLIG				*e*Sg	Sg	08 34 01.8	-2.2
PLIG	Platanillo	1.04	233	*e*P	Pg	08 33 49.1	-1.5
PLIG				*i* S	Sg	08 34 01.8	-2.2
DEIG	Demacu	1.33	343	*e*Pg	Pg	08 33 52.2	-4.0
DEIG				*e*Sg	Sg	08 34 09.8	-3.6
DEIG	Demacu	1.33	343	*i* P	Pg	08 33 52.2	-4.0
DEIG				*i* S	Sg	08 34 09.8	-3.6
TPIG	Tehuac#an	1.35	116	*e*Pg	Pg	08 33 52.3	-4.2
TPIG				*e*Sg	Sg	08 34 09.8	-4.2
TPIG	Tehuac#an	1.35	116	*e*P	Pg	08 33 52.3	-4.2
TPIG				*i* S	Sg	08 34 09.8	-4.2
TLIG	Tlapa	1.46	178	*e*Pn	Pn	08 33 57.2	-1.1
TLIG				*e*Sg	Sg	08 34 15.3	-2.2
TLIG	Tlapa	1.46	178	*e*P	Pn	08 33 54.5	-3.8
TLIG				*i* S	Sg	08 34 13.2	-4.3
ARIG	Puente Sto Nin	1.79	246	*e*P	Pn	08 33 59.2	-3.5
ARIG				*e*S	Sn	08 34 20.7	-5.4
LVIG	Laguna Verde	2.20	71	*e*Pn	Pn	08 34 07.5	-0.9
LVIG				*e*Sn	Sn	08 34 33.2	-3.2
LVIG	Laguna Verde	2.20	71	*i* P	Pn	08 34 07.8	-0.7
MOIG	Morelia	2.50	286	*e*Pn	Pn	08 34 09.8	-2.9
MOIG				*e*Sn	Sn	08 34 39.4	-4.7
MOIG	Morelia	2.50	286	*i* P	Pn	08 34 10.2	-2.5
MOIG				*i* S	Sn	08 34 39.0	-5.0
ZIIG	Zihuatanejo	3.04	243	*e*Pn	Pn	08 34 16.5	-3.4
ZIIG				*e*Sn	Sn	08 34 53.9	-3.1
ZIIG	Zihuatanejo	3.04	243	*i* P	Pn	08 34 16.5	-3.4
ZIIG				*e*S	Sn	08 34 53.9	-3.1

*IDC **06** 08:34:55.3±2.8, 54.′11N×87.″26E, h0km, mb1 2.8/2, mb1mx2.8/58, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=23.1km s-min=16.4km az=60.0*
NNC 06 08:34:54.5±2.7, 53.′89N×87.″27E, h0km, mb3.2, mpv3.0, 6C-4D, Error ellipse: s-maj=31.0km s-min=12.3km az=23.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.45	273	*i*		08 44 25.5	
	baz=85,slow=335,SNR=5.2						
ZAA0	Zalesovo Array	1.45	273	⇓P	Pn	08 35 21.5	-0.5
	0.2nm,0.4s						
ZAA0				⇑S	Sg	08 35 41.1	+0.1
	0.9nm,0.6s						
ZALV	Zalesovo Beam	1.45	273	Pg	Pn	08 35 21.4	-0.5
	1.8nm,0.3s,baz=84,slow=16,SNR=17						
ZALV				Lg	Lg	08 35 40.9	
	2.2nm,0.3s,baz=79,slow=25,SNR=12						
KURK	Kurchatov	6.18	243	⇑Pn	Pn	08 36 25.1	-1.9
	2.3nm,0.8s						
KURK				⇑Lg	Lg	08 38 11.8	
	7.1nm,1.4s						
KURBB	Kurchatov Arra	6.28	242	⇓Pn	Pn	08 36 25.5	-2.8
	1.4nm,0.6s						
KURBB				⇑Lg	Lg	08 38 12.9	
	19nm,1.2s						
KURBB	Kurchatov Arra	6.28	242	Pn	Pn	08 36 31.9	+3.5
	0.1nm,0.3s,baz=58,slow=14,SNR=5.8						
KURBB				Sn	Sn	08 37 42.6	+1.9
	0.0nm,0.3s,baz=60,slow=26,SNR=2.6						
KURBB				Lg	Lg	08 38 19.9	
	0.0nm,0.3s,baz=49,slow=31,SNR=5.4						
MK31	Makanchi Array	7.78	206	⇓Pn	Pn	08 36 52.1	+3.1
	1.0nm,0.8s,baz=29,slow=14,SNR=6.6						
MK31				⇑Lg	Lg	08 39 05.8	
	3.8nm,1.1s,baz=36,slow=31,SNR=4.0						
MKAR	Makanchi Array	7.78	206	Pn	Pn	08 36 53.1	+4.1
	0.1nm,0.3s,baz=27,slow=14,SNR=5.4						
MKAR				Sn	Sn	08 38 23.3	+5.5
	0.1nm,0.3s,baz=22,slow=24,SNR=2.8						
MKAR				Lg	Lg	08 39 09.0	
	0.0nm,0.3s,baz=25,slow=30,SNR=5.1						
MAKZ	Makanchi	7.86	208	⇓Pn	Pn	08 36 49.1	-0.8
	3.3nm,1.2s						
MAKZ				⇑Lg	Lg	08 39 04.5	
	3.5nm,1.0s						

IDC 06 08:38:50.1±2.0, 20.′71S×176.″19W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/41, mbtmp3.8/6, Error ellipse: s-maj=110.7km s-min=30.1km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.12	257	P	P	08 47 17.0	+0.4
	1.0nm,0.8s,baz=88,slow=7.6,SNR=7.4						
NVAR	Mina Array Bea	80.03	42	P	P	08 51 03.2	+1.3
	0.8nm,0.8s,baz=224,slow=6.7,SNR=5.1						
TXAR	Lajitas Array	85.75	57	P	P	08 51 31.4	-0.3
	0.6nm,0.8s,baz=256,slow=5.0,SNR=4.6						
SEY	Seymchan	86.98	346	P	P	08 51 36.5	-0.2
	1.8nm,0.8s,baz=180,slow=8.0,SNR=5.7						
PDAR	Pinedale Array	87.96	43	P	P	08 51 41.8	-0.5
	0.3nm,0.8s,baz=253,slow=5.6,SNR=3.1						
YKA	Yellowknife Ar	96.00	24	P	P	08 52 19.0	+0.3
	0.2nm,0.7s,baz=242,slow=4.4,SNR=3.9						
AKASG	Malin Array Be	144.00	332	PKP	PKPab	08 58 25.0

SCPH	**Surigao**	**1.04 275**	⇓*i*P	Pn	08 40 18.4	+7.0
SCPH			*i* S	**Sn**	**08 40 30.1**	**+4.0**
BUTP	**Butuan**	**1.16 232**	*e*P	**Pg**	**08 40 12.3**	**-0.7**
BUTP			*e*S	**Sg**	**08 40 27.2**	**-0.9**
BIPH	**Bislig**	**1.51 187**	⇑*e*P	**Pg**	**08 40 19.4**	**-0.4**
BIPH			*e*S	**Sn**	**08 40 37.0**	**-0.7**
MSLP	**Maasin**	**1.72 285**	*e*P	**Pn**	**08 40 21.5**	**+0.7**
MSLP			*e*S	**Sn**	**08 40 42.3**	**-0.4**
PLP	**Palo**	**2.12 314**	⇓*e*P	**Pb**	**08 40 28.0**	**-1.3**
PLP			*e*S	**Sn**	**08 40 52.0**	**-0.8**
BESP	**Borongan**	**2.18 330**	*e*P	**Pb**	**08 40 28.6**	**-1.8**
BESP			*e*S	**Sg**	**08 41 01.0**	**0.0**
CGP	**Cagayan de Oro**	**2.20 236**	⇓*e*P	**Pn**	**08 40 28.2**	**+0.8**
CGP			*e*S	**Sn**	**08 40 53.7**	**-1.1**
BUKP	**Musuan**	**2.32 219**	*e*P	**Pn**	**08 40 31.2**	**+2.0**
BUKP			*e*S	**Sn**	**08 41 00.7**	**+2.8**
OCLP	**Ormoc**	**2.33 305**	*e*P	**Pb**	**08 40 32.0**	**-0.9**
OCLP			*e*S	**Sg**	**08 41 08.6**	**+2.9**
LLP	**Lapu-Lapu**	**2.61 284**	*e*P	**Pn**	**08 40 34.8**	**+1.8**
LLP			*e*S	**Sn**	**08 41 05.6**	**+0.7**
DAV	**Davao City (W)**	**2.78 200**	P	**Pg**	**08 40 44.4**	**+0.4**
	111nm,0.3s,baz=132,slow=6.5,SNR=3.9					
DAV			S	**Sb**	**08 41 14.8**	**+0.2**
	22nm,0.3s,baz=99,slow=20,SNR=6.5					
DMPH	**Davao City--Mi**	**2.79 202**	⇑*e*P	**Pb**	**08 40 40.9**	**+0.2**
DMPH			*e*S	**Sb**	**08 41 13.9**	**-1.1**
CNP	**Catarman**	**3.35 327**	*e*P	**Pn**	**08 40 46.3**	**+3.1**
CNP			*e*S	**Sn**	**08 41 24.0**	**+0.9**
PAGZ	**Pagadian**	**3.62 240**	*e*P	**Pn**	**08 40 49.0**	**+2.0**
PAGZ			*e*S	**Sn**	**08 41 29.6**	**-0.3**
DDMP	**Don Marcelino,**	**3.66 193**	*e*P	**Pb**	**08 40 53.2**	**-2.4**
DDMP			*e*S	**Sn**	**08 41 34.6**	**+3.8**
SKMP	**Bagumbayan, Su**	**3.73 212**	*e*P	**Pn**	**08 40 52.2**	**+3.8**
SKMP			*e*S	**Sn**	**08 41 36.0**	**+3.6**
RCP	**Roxas**	**4.17 297**	⇑*e*P	**Pn**	**08 40 57.6**	**+3.1**
PVCP	**Virac**	**4.53 329**	*e*P	**Pn**	**08 41 01.9**	**+2.4**
JAY	**Jayapura**	**18.61 130**	LR	LR	08 50 45.8	
	comp=Z,62nm,19.3s,baz=352,slow=34					
BATI	**Baumata**	**19.98 188**	P	Pn	08 44 26.3	+1.1
	6.5nm,0.3s,baz=343,slow=11,SNR=3.0					
FITZ	**Fitzroy Crossi**	**27.63 182**	P	**P**	**08 45 38.8**	**+0.1**
	5.6nm,0.7s,baz=358,slow=7.2,SNR=18					
KSRS	**Korea Array**	**27.66 2**	P	**P**	**08 45 40.1**	**+1.2**
	0.7nm,0.5s,baz=169,slow=13,SNR=4.5					
CMAR	**Chiang Mai Arr**	**28.12 291**	P	**P**	**08 45 42.1**	**-1.1**
	1.2nm,0.4s,baz=103,slow=6.6,SNR=4.4					
CMAR			LR	LR	08 57 11.3	
	comp=Z,52nm,18.7s,baz=105,slow=37					
WRA	**Warramunga Arr**	**30.43 165**	P	**P**	**08 46 03.0**	**-0.7**
	18nm,0.3s,baz=346,slow=9.6,SNR=18					
WRA			PcP	**PcP**	**08 49 01.2**	**-2.2**
	9.1nm,0.3s,baz=330,slow=2.6,SNR=3.1					
ASAR	**Alice Springs**	**33.93 168**	P	**P**	**08 46 34.0**	**-0.3**
	0.4nm,0.3s,baz=350,slow=6.9,SNR=18					
ASAR			PcP	**PcP**	**08 49 12.2**	**-0.7**
	0.4nm,0.6s,baz=338,slow=2.0,SNR=4.5					
USRK	**Ussuriysk Ar.**	**34.70 7**	P	**P**	**08 46 42.3**	**+1.5**
	2.7nm,0.8s,baz=195,slow=5.4,SNR=6.1					
KLR	**Kul'dur**	**39.65 5**	P	**P**	**08 47 24.1**	**+1.4**
	1.1nm,0.5s,baz=213,slow=6.9,SNR=7.1					
H11S3	**WAKE ISLAND Hy 39.83 73**		T	T	09 30 37.5	
	baz=262,slow=75,SNR=23					
H11S1	**WAKE ISLAND Hy 39.84 73**		T	T	09 30 36.0	
	baz=262,slow=75,SNR=10					
H11S2	**WAKE ISLAND Hy 39.84 73**		T	T	09 30 23.8	
	baz=262,slow=75,SNR=15					
H11N1	**WAKE ISLAND Hy 40.18 71**		T	T	09 30 58.1	
	baz=265,slow=74,SNR=18					
H11N2	**WAKE ISLAND Hy 40.19 71**		T	T	09 31 03.0	
	baz=265,slow=74,SNR=11					
H11N3	**WAKE ISLAND Hy 40.20 71**		T	T	09 30 49.5	
	baz=265,slow=74,SNR=14					
SONM	**Songino Array**	**41.65 340**	P	**P**	**08 47 40.1**	**+0.7**
	0.3nm,0.4s,baz=158,slow=9.0,SNR=2.7					
STKA	**Stephens Creek**	**43.77 161**	P	**P**	**08 47 56.9**	**+0.1**
	1.0nm,0.3s,baz=340,slow=8.7,SNR=4.9					
MKAR	**Makanchi Array**	**52.65 323**	P	**P**	**08 49 03.4**	**-1.8**
	1.0nm,0.7s,baz=118,slow=6.9,SNR=4.7					
ZALV	**Zalesovo Beam**	**55.26 331**	P	**P**	**08 49 22.3**	**-1.8**
	0.5nm,0.4s,baz=123,slow=10,SNR=2.6					
SEY	**Seymchan**	**56.31 14**	P	**P**	**08 49 32.6**	**+1.2**
	0.6nm,0.5s,baz=215,slow=8.1,SNR=4.7					
TIXI	**Tiksi**	**61.92 1**	P	**P**	**08 50 10.1**	**-0.2**
	4.3nm,0.7s,baz=159,slow=3.8,SNR=9.8					
KDAK	**Kodiak Island**	**76.99 33**	P	**P**	**08 51 45.6**	**+1.9**
	2.3nm,0.5s,baz=241,slow=10,SNR=4.8					
ILAR	**Eielson Array**	**79.84 26**	P	**P**	**08 51 59.0**	**-0.3**
	0.6nm,0.7s,baz=232,slow=5.1,SNR=9.1					
INK	**Inuvik**	**84.72 22**	P	**P**	**08 52 25.1**	**+0.3**
	2.0nm,1.1s,baz=253,slow=5.2,SNR=6.7					
ARCES	**ARCESS Array B**	**84.82 340**	P	**P**	**08 52 24.4**	**-0.9**
	1.1nm,0.6s,baz=78,slow=6.3,SNR=8.2					
FINES	**FINESS Array B**	**86.52 332**	P	**P**	**08 52 32.7**	**-1.1**
	1.3nm,0.4s,baz=86,slow=4.3,SNR=15					
AKASG	**Malin Array Be**	**87.18 321**	P	**P**	**08 52 35.7**	**-1.5**
	0.2nm,0.3s,baz=51,slow=4.6,SNR=2.4					
NACGM	**Naroch**	**87.70 325**	eLR	LR	08 51 46.0	
VNDA	**Vanda**	**89.33 173**	P	**P**	**08 52 45.6**	**-1.3**
	0.8nm,0.7s,baz=276,slow=7.2,SNR=4.0					
YKA	**Yellowknife Ar**	**94.17 24**	P	**P**	**08 53 10.8**	**+1.1**
	0.9nm,0.6s,baz=299,slow=4.5,SNR=26					
TORD	**Torodi Ar. Bea**	**120.73 292**	PKP	**PKiKP**	**08 58 44.5**	**+0.2**
	0.4nm,0.6s,baz=128,slow=2.4,SNR=3.5					
PLCA	**Paso Flores**	**145.57 157**	PKPbc	**PKPdf**	**08 59 29.2**	**-0.7**
	2.6nm,0.8s,baz=292,slow=4.7,SNR=4.8					

MEX 06 08:41:21.5±0.5, 27°.71N×111°.70W, h10km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.61**	**231**	*e*P		08 41 31.9	-1.5
SRIG				*e*S		08 41 40.9	-0.6
GUYB	**Guaymas**	**0.76**	**75**	*e*P		08 41 34.1	-2.1
GUYB				*i* S		08 41 44.4	-1.7
HSIG		**1.47**	**27**	*e*P		08 41 44.1	-3.9
HSIG				*e*S		08 42 03.2	-4.1

GUC 06 08:47:31.2±0.6, 22°.16S×68°.49W, h129km±3km, ML3.7, 11C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.60**	**221**	*e*P		08 47 50.7	-0.6
LVC				*e*S		08 48 05.0	-1.4
PB09	**IPOC Station P**	**0.78**	**297**	⇑*i*P		08 47 52.3	-0.1
PB09				*e*S		08 48 08.1	-0.3
PB09				IAML		08 48 09.6	
	comp=N,931nm,0.3s						
PB06	**IPOC Station P**	**1.14**	**241**	⇑*i*P		08 47 55.5	-0.1
PB06				*i* S		08 48 13.7	-0.4
PB06				IAML		08 48 16.8	
	comp=E,645nm,0.1s						
PB03	**IPOC Station P**	**1.18**	**275**	⇑*i*P		08 47 55.8	-0.2
PB03				*i* S		08 48 14.4	-0.3
PB03				IAML		08 48 15.5	
	comp=N,1μm,0.3s						
PB07	**IPOC Station P**	**1.36**	**288**	⇑*i*P		08 47 57.9	-0.1
PB07				*e*S		08 48 17.8	-0.5
PB07				IAML		08 48 18.3	
	comp=N,2μm,0.4s						
PB15	**IPOC Station P**	**1.39**	**221**	⇑*e*P		08 47 58.4	+0.2
PB15				*i* S		08 48 18.8	+0.1
PB01	**IPOC Station P**	**1.44**	**320**	*e*P		08 47 58.3	-0.4
PB01				*e*S		08 48 19.4	-0.3
PB01				IAML		08 48 21.0	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**1.55**	**263**	⇑*i*P		08 47 59.6	-0.4
PB04				*i* S		08 48 21.4	-0.5
PB04				IAML		08 48 24.3	
	comp=N,626nm,0.5s						
PB02	**IPOC Station P**	**1.55**	**302**	⇑*i*P		08 47 59.6	-0.3
PB02				*e*S		08 48 21.5	-0.3
PB02				IAML		08 48 22.3	
	comp=E,2μm,0.3s						
PB05	**IPOC Station P**	**1.73**	**246**	⇑*e*P		08 48 01.9	-0.1
PB05				*i* S		08 48 24.6	-0.9
PB05				IAML		08 48 29.3	
	comp=E,298nm,0.8s						
PB08	**IPOC Station P**	**2.10**	**343**	⇑*i*P		08 48 07.3	+0.5
PB08				*i* S		08 48 34.5	+0.6
PB08				IAML		08 48 36.0	
	comp=E,873nm,0.7s						

GO01	**Chusmiza**	**2.56**	**345**	*e*P	Pn	08 48 12.9	+0.2
GO01				*i* S	Sn	08 48 44.4	0.0
PB11	**IPOC Station P**	**2.62**	**335**	⇑*i*P	Pn	08 48 12.2	-0.9
PB11				*i* S	Sn	08 48 44.4	-0.8
PB11				IAML		08 48 45.6	
	comp=E,670nm,0.2s						
PSGC	**Pisagua**	**2.97**	**329**	⇑*i*P	Pn	08 48 15.5	-2.0
PSGC				*i* S	Sn	08 48 51.5	-1.7
PSGC				IAML		08 49 02.6	
	comp=E,194nm,0.3s						

*IDC **06** 08:47:38.2±1.5, 23°.42S×177°.97W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.8/32, mbtmp4.1/5, Error ellipse: s-maj=52.1km s-min=32.5km az=140.0*
*NEIC **06** 08:47:38.9±1.4, 23°.19S×177°.95W, h10km±1km, mb4.7/15, Error ellipse: s-maj=23.4km s-min=5.3km az=60.0*
*ISCJB **06** 08:47:40.9±0.9, 23°.3S±0°.1×178°.0W±0°.1, h33km, mb4.4/17, Error ellipse: s-maj=21.4km s-min=17.0km az=41.0*
ISC 06 08:47:42.5±0.9, 23°.3S±0°.2×177°.9W±0°.2, h35km, n24, σ1§08/24, mb4.5/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**21.63**	**200**	*e*P	**P**	**08 52 30.5**	**+0.9**
	54nm,1.4s						
RPZ	**Rata Peaks**	**22.30**	**202**	*e*P	**P**	**08 52 36.4**	**-0.4**
	90nm,1.5s						
EIDS	**Eidsvold**	**28.34**	**259**	*e*P	**P**	**08 53 32.6**	**-0.7**
	28nm,1.4s						
CTAO	**Charters Tower**	**33.44**	**269**	*e*P	**P**	**08 54 21.0**	**+2.6**
	22nm,1.4s						
TOO	**Toolangi**	**34.41**	**237**	*e*P	**P**	**08 54 26.9**	**+0.4**
	14nm,1.3s						
TAU	**Tasmania Unive**	**34.76**	**227**	*e*P	**P**	**08 54 30.8**	**+1.3**
	37nm,1.4s						
STKA	**Stephens Creek**	**36.76**	**248**	*e*P	**P**	**08 54 47.3**	**+0.5**
	1.8nm,1.5s						
STKA	**Stephens Creek**	**36.76**	**248**	P	**P**	**08 54 47.0**	**+0.2**
	1.9nm,0.6s,baz=96,slow=13,SNR=13						
BBOO	**Buckleboo**	**41.47**	**246**	*e*P	**P**	**08 55 24.9**	**-1.3**
	10nm,1.1s						
AS31	**Alice Springs**	**44.06**	**260**	*e*P	**P**	**08 55 47.0**	**-0.4**
	0.7nm,0.8s						
ASAR	**Alice Springs**	**44.06**	**260**	*e*P	**P**	**08 55 46.1**	**-1.2**
ASAR	**Alice Springs**	**44.06**	**260**	P	**P**	**08 55 46.8**	**-0.6**
	0.9nm,0.3s,baz=95,slow=6.7,SNR=36						
WB2	**Warramunga Arr**	**44.39**	**265**	*e*P	**P**	**08 55 49.6**	**-0.4**
	9.7nm,1.4s						
WRAB	**Tennant Creek**	**44.40**	**265**	*e*P	**P**	**08 55 49.4**	**-0.7**
	6.6nm,1.1s						
WR1	**Warramunga Arr**	**44.41**	**265**	*e*P	**P**	**08 55 49.5**	**-0.7**
WRA	**Warramunga Arr**	**44.41**	**265**	P	**P**	**08 55 49.5**	**-0.7**
	2.5nm,0.4s,baz=103,slow=8.3,SNR=4.1						
FORT	**Forrest**	**48.35**	**249**	*e*P	**P**	**08 56 18.6**	**-2.3**
	9.7nm,0.6s						
MAW	**Mawson**	**78.97**	**200**	*e*P	**P**	**08 59 42.4**	**+0.2**
	2.6nm,1.4s						
MAW	**Mawson**	**78.97**	**200**	P	**P**	**08 59 42.7**	**+0.4**
	1.2nm,0.5s,baz=118,slow=7.7,SNR=5.3						
SAO	**San Andreas Ge**	**79.99**	**43**	*e*P	**P**	**08 59 48.3**	**0.0**
	16nm,1.4s						
ILAR	**Eielson Array**	**91.02**	**13**	P	**P**	**09 00 43.3**	**+0.7**
	0.3nm,0.9s,baz=209,slow=6.8,SNR=4.5						
AKASG	**Malin Array Be**	**145.51**	**329**	PKPbc	**PKiKP**	**09 07 19.3**	**-1.4**
	0.4nm,0.3s,baz=43,slow=4.2,SNR=4.7						
BR101	**Keskin Array S**	**148.76**	**309**	*e*PKPbc	**PKiKP**	**09 07 27.4**	**-0.5**
BRTR	**Keskin Array B**	**148.76**	**309**	PKPbc	**PKiKP**	**09 07 27.5**	**-0.5**
	0.3nm,0.5s,baz=52,slow=2.4,SNR=3.0						

IDC 06 08:52:42.2±3.4, 2°.20N×96°.36E, h0km, mb4.1/4, mb1 4.4/5, mb1mx3.7/36, mbtmp4.1/5, ML3.9/1, Error ellipse: s-maj=121.1km s-min=31.2km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.36**	**9**	Pn	P	08 56 35.4	-1.1
	0.2nm,0.3s,baz=200,slow=10,SNR=1.8						
H08S2	**Diego Garcia H**	**25.74**	**247**	T	T	09 25 05.1	
	baz=68,slow=75,SNR=40						
H08S3	**Diego Garcia H**	**25.74**	**247**	T	T	09 24 59.3	
	baz=68,slow=75,SNR=29						
H08S1	**Diego Carcia H**	**25.76**	**247**	T	T	09 24 44.2	
	baz=68,slow=75,SNR=29						
H01W3	**Cape Leeuwin H**	**40.48**	**157**	T	T	09 43 19.4	
	baz=332,slow=76,SNR=4.6						
H01W2	**Cape Leeuwin H**	**40.49**	**157**	T	T	09 43 24.3	
	baz=332,slow=76,SNR=3.8						
H01W1	**Cape Leeuwin H**	**40.49**	**157**	T	T	09 43 23.0	
	baz=332,slow=76,SNR=4.1						
WRA	**Warramunga Arr**	**43.27**	**122**	P	P	09 00 46.0	0.0
	5.4nm,0.3s,baz=303,slow=9.5,SNR=1.4						
MKAR	**Makanchi Array**	**46.08**	**347**	P	P	09 01 08.2	+0.2
	0.7nm,0.4s,baz=159,slow=7.9,SNR=5.3						
SONM	**Songino Array**	**46.28**	**9**	P	P	09 01 09.1	-0.6
	0.3nm,0.4s,baz=204,slow=9.5,SNR=2.1						
ZALV	**Zalesovo Beam**	**52.45**	**351**	P	P	09 01 56.1	-0.5
	1.7nm,0.4s,baz=175,slow=6.8,SNR=6.7						

*TIF **06** 08:53:46.1, 43°.56N×40°.90E, h19km±2km*
*MOS **06** 08:53:48.0±1.8, 43°.50N×40°.97E, h19km, mb3.8/1, Error ellipse: s-maj=9.9km s-min=7.4km az=165.8*
*ISK **06** 08:53:53.3, 42°.98N×41°.39E, h5km, ML3.1/3*
*DDA **06** 08:54:10.1, 41°.77N×41°.12E, h3km±3km, ML3.3*
ISC 06 08:53:44.3±1.1, 43°.36N±0°.02×40°.89E±0°.02, h7km±9km, n56, σ1§55/98, 6C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXR	**Arkhyz**	**0.35**	**54**	*i* Pg	**Pg**	**08 53 51.8**	**+0.6**
ARXR				*e*Sg	**Sg**	**08 53 55.1**	**-0.7**
DOMR	**Dombai**	**0.54**	**97**	*e*Pg	Pg	08 53 48.5	-6.3
DOMR				*e*Sg	**Sg**	**08 53 55.4**	**-6.5**
SOC	**Sochi**	**0.88**	**285**	*ce*PG	**Pn**	**08 54 02.7**	**-0.4**
SOC				*i* S	**Sn**	**08 54 17.8**	**+1.6**
SOC				pmax	pmax		
	comp=Z,450nm,0.5s						
SOC	**Sochi**	**0.88**	**285**	*e*Pg	**Pn**	**08 54 04.2**	**+1.0**
SOC				*e*Sg	**Sn**	**08 54 16.6**	**+0.4**
LABN	**Labinsk**	**1.29**	**355**	*e*PG	**Pg**	**08 54 11.1**	**+2.1**
LABN				*e*S	**Sg**	**08 54 28.8**	**+3.1**
LABN	**Labinsk**	**1.29**	**355**	*e*Pg	**Pg**	**08 54 10.6**	**+1.5**
LABN				*e*Sg	**Sg**	**08 54 29.1**	**+3.3**
SHA1	**Shidzhatmaz**	**1.34**	**73**	⇓*e*PG	**Pn**	**08 54 09.3**	**-0.4**
SHA1				*e*S	**Sn**	**08 54 26.6**	**-1.3**
SHA1	**Shidzhatmaz**	**1.34**	**73**	*e*Pg	**Pg**	**08 54 10.3**	**+0.2**
SHA1				*e*Sg	**Sb**	**08 54 27.1**	**-0.3**
NEY	**Neytrino**	**1.34**	**94**	*ce*PG	**Pb**	**08 54 10.0**	**0.0**
NEY				pmax	pmax		
	comp=Z,458nm,0.6s						
NEY	**Neytrino**	**1.34**	**94**	*e*Pg	**Pb**	**08 54 10.0**	**0.0**
NEY				*e*Sg	**Sn**	**08 54 25.4**	**-2.6**
KIV	**Kislovodsk**	**1.44**	**65**	⇑*e*PG	**Pb**	**08 54 10.8**	**-0.7**
KIV				*i* S	**Sn**	**08 54 28.7**	**-1.3**
KIV	**Kislovodsk**	**1.44**	**65**	*e*Pg	**Pb**	**08 54 10.9**	**-0.6**
KIV				*i* Sg	**Sn**	**08 54 28.8**	**-1.2**
NVNR	**Nevinnomyssk**	**1.48**	**31**	*e*Pg	**Pg**	**08 54 14.2**	**+1.6**
BEYR	**Belyy Ugol+**	**1.54**	**64**	⇑*e*PG	**Pb**	**08 54 13.4**	**+0.1**
BEYR				*e*S	**Sb**	**08 54 32.0**	**-1.1**
BEYR	**Belyy Ugol+**	**1.54**	**64**	*e*Pg	**Pb**	**08 54 13.4**	**+0.1**
BEYR				*e*Sg	**Sb**	**08 54 32.0**	**-1.1**
PYA1	**Pyatigorsk**	**1.75**	**66**	⇑*e*PN	**Pb**	**08 54 16.2**	**-0.6**
PYA1				*e*S	**Sb**	**08 54 38.2**	**-0.8**
PYA1	**Pyatigorsk**	**1.75**	**66**	*e*Pg	**Pb**	**08 54 16.9**	**+0.1**
PYA1				*e*Sg	**Sb**	**08 54 38.1**	**-0.9**
TKB	**Tkibuli**	**1.85**	**122**	P	**Pg**	**08 54 20.3**	**+0.6**
TKB				S	**Sg**	**08 54 45.7**	**+2.0**
BATM	**Batumi**	**1.85**	**161**	PN	**Pg**	**08 54 20.8**	**+1.0**
BATM	**Batumi**	**1.85**	**161**	P	**Pg**	**08 54 20.5**	**+0.7**
BATM				S	**Sg**	**08 54 46.9**	**+3.0**
KBTC	**Kuba-Taba**	**1.89**	**75**	*e*PN	**Sg**	**08 54 21.3**	**+0.8**
KBTC				*e*S	**Sg**	**08 54 45.5**	**+0.5**
KBTC	**Kuba-Taba**	**1.89**	**75**	*e*Pg	**Pg**	**08 54 20.6**	**+0.1**
KBTC				*e*Sg	**Sg**	**08 54 45.0**	**0.0**
NCK	**Nalchik**	**1.98**	**85**	*ce*PN	**Pb**	**08 54 19.3**	**-1.4**
NCK	**Nalchik**	**1.98**	**85**	*e*Pg	**Pb**	**08 54 20.8**	**+0.1**
NCK				*e*Sg	**Sn**	**08 54 42.2**	**-1.1**
BCA	**Borcka**	**1.99**	**164**	PN	**Pg**	**08 54 22.9**	**+0.5**
BCA				SN	**Sb**	**08 54 44.8**	**-1.0**
DIGR	**Digorskoe uzhe**	**2.02**	**102**	*e*PN	**Pg**	**08 54 24.5**	**+1.4**
DIGR				*e*S	**Sg**	**08 54 52.7**	**+3.3**
ONI	**Oni**	**2.03**	**111**	PN	**Pg**	**08 54 23.4**	**+0.1**
ONI				SN	**Sn**	**08 54 45.2**	**+0.4**
ONI	**Oni**	**2.03**	**111**	P	**Pg**	**08 54 23.7**	**+0.4**
ONI				S	**Sg**	**08 54 49.4**	**-0.3**
ONI	**Oni**	**2.03**	**111**	*e*PN	**Pg**	**08 54 23.7**	**+0.4**
ONI	**Oni**	**2.03**	**111**	*e*Pg	**Pg**	**08 54 23.7**	**+0.4**
ONI				*e*Sg	**Sg**	**08 54 49.4**	**-0.3**
SRKG	**Sareki**	**2.09**	**119**	P	**Pg**	**08 54 24.4**	**+0.1**
SRKG				S	**Sg**	**08 54 52.1**	**+0.8**
DBOC	**Borcka**	**2.09**	**164**	*i* P	**Pb**	**08 54 23.5**	**+0.8**
DBOC				*i* S	**Sb**	**08 54 48.9**	**0.0**
ZEI	**Tsey**	**2.28**	**103**	*e*PN	**Pg**	**08 54 28.3**	**+0.2**
ZEI				*e*S	**Sg**	**08 54 57.9**	**+0.3**
GOF	**Gofitskoye**	**2.30**	**42**	*i* PN	**Pb**	**08 54 24.2**	**-1.9**
GOF				*e*S	**Sb**	**08 54 52.6**	**-2.2**
GOF	**Gofitskoye**	**2.30**	**42**	*e*Pg	**Pb**	**08 54 24.6**	**-1.5**
EPOS	**Posof**	**2.30**	**143**	*i* P	**Pb**	**08 54 27.4**	**+1.2**
EPOS				*i* S	**Sg**	**08 54 58.4**	**+0.1**
DAGI	**Agillar**	**2.40**	**161**	*i* P	**Pb**	**08 54 28.8**	**+0.8**
DAGI				*i* S	**Sn**	**08 54 55.4**	**+1.5**
DBAD	**Bademkaya**	**2.42**	**165**	*i* P	**Pb**	**08 54 27.2**	**-1.0**
DBAD				*i* S	**Sn**	**08 54 54.1**	**-0.1**
KTUT	**Trabzon**	**2.51**	**200**	PN	**Pg**	**08 54 34.2**	**+1.7**
DDEM	**Demirkent**	**2.55**	**165**	*i* P	**Pb**	**08 54 29.6**	**-0.8**
DDEM				*i* S	**Sb**	**08 55 02.2**	**+0.2**
AKH	**Akhalkalaki**	**2.74**	**134**	PN	**Pb**	**08 54 32.3**	**-1.5**
AKH	**Akhalkalaki**	**2.74**	**134**	P	**Pb**	**08 54 33.5**	**-0.3**
AKH				S	**Sb**	**08 55 07.7**	**0.0**
AKH	**Akhalkalaki**	**2.74**	**134**	*e*PN	**Pb**	**08 54 33.5**	**-0.3**
AKH				*e*S	**Sb**	**08 55 07.7**	**0.0**
AKH	**Akhalkalaki**	**2.74**	**134**	*e*Pn	**Pb**	**08 54 33.5**	**-0.3**
AKH				*e*Sn	**Sb**	**08 55 07.7**	**0.0**
ANN	**Anapa**	**2.88**	**301**	*e*PN	**Pb**	**08 54 35.4**	**-0.5**
ANN				*e*S	**Sg**	**08 55 13.5**	**-3.2**
ANN				pmax	pmax		
	comp=Z,53nm,1.3s						
ANN	**Anapa**	**2.88**	**301**	*i* Pn	**Pb**	**08 54 35.5**	**-0.4**
ANN				*e*Sn	**Sg**	**08 55 13.5**	**-3.2**
BGD	**Bogdanovka**	**2.90**	**135**	P	**Pb**	**08 54 35.8**	**-0.7**
BGD				S	**Sb**	**08 55 11.3**	**-1.0**
KRIK	**Erzurum-spir**	**3.02**	**179**	*i* P	**Pb**	**08 54 38.4**	**-0.1**
KRIK				*i* S	**Sb**	**08 55 15.9**	**+0.2**
BAYB	**BAYBURT**	**3.13**	**189**	*i* P	**Pb**	**08 54 38.9**	**-1.6**
BAYB				*i* S	**Sb**	**08 55 15.8**	**-3.1**
KOPT	**Kop Dagi**	**3.35**	**185**	*i* P	**Pb**	**08 54 43.9**	**-0.4**
KOPT				*i* S	**Sb**	**08 55 25.7**	**+0.4**
KELT	**Kelkit**	**3.43**	**201**	*i* P	**Pb**	**08 54 43.7**	**-1.9**
KELT				*i* S	**Sb**	**08 55 23.9**	**-3.6**
SUSE	**Susehri**	**3.73**	**213**	IAML_P			
	comp=Z,344nm,0.2s						
SUSE				*i* P	**Pb**	**08 54 47.5**	**-3.1**
SUSE				*i* S	**Sb**	**08 55 33.3**	**-2.9**
BRTR	**Keskin Array B**	**6.54**	**239**	*i* P	Pn	08 55 26.1	+5.1
ARU	**Arti**	**17.27**	**35**	*i* P	**P**	**08 57 48.0**	**+0.7**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRVK	**Borovoye**	**21.72**	**53**	*i* P	**P**	**08 58 37.0**	**+1.1**
AAK	**Ala-Archa**	**24.50**	**80**	*i* P	**P**	**08 59 05.8**	**+1.5**

*NNC **06** 09:24:05.9±2.4, 53°.55N×87°.91E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=20.4km s-min=9.2km az=60.0, Suspected Mining explosion.*
IDC 06 09:24:05.3±2.9, 53°.67N×88°.01E, h0km, mb1 3.1/2, mb1mx2.9/43, mbtmp3.1/2, ML2.8/2, 5C-7D, Error ellipse: s-maj=23.9km s-min=15.3km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**280**	*i*		09 36 10.0	
	baz=98,slow=347,SNR=4.8						
ZAA0	**Zalesovo Array**	**1.91**	**280**	⇑Pn	Pn	09 24 39.1	-0.1
	1.2nm,0.6s						
ZAA0			

0.2nm,0.3s,baz=28,slow=34,SNR=7.2
MAKZ Makanchi 7.67 211 ⇑Pn Pn 09 35 45.9 +1.1
1.1nm,0.6s
MAKZ ⇑Sn Sn 09 37 13.3 +1.0
2.7nm,1.4s
MAKZ ⇓Lg Lg 09 37 52.2
4.4nm,1.1s
BVAR Borovoye Array 10.40 274 Sn Sn 09 38 16.7 -2.5
0.3nm,0.3s,baz=67,slow=22,SNR=3.5

KRSC 06 09:33:56.4±10.0, 49°.76N×157°.10E, h15km±10km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.12**	**326**	*e*P	Pb	09 34 16.3	-1.1
SKR				*e*S	Sb	09 34 30.7	-1.0
PAU	**Pauzhetka**	**1.72**	**354**	*e*P	Pb	09 34 26.8	-0.8
PAU				*e*S	Sb	09 34 49.1	+0.2
KDTR	**Khodutka, Kamc**	**2.14**	**16**	*e*P	Pb	09 34 33.6	-1.2
KDTR				*e*S	Sb	09 35 00.9	-0.2
MTVR	**Mutnovka**	**2.81**	**14**	*e*P	Pn	09 34 43.2	+2.4
MTVR				*e*S	Sn	09 35 17.2	+2.7
RUS	**Russkaya**	**2.82**	**18**	*e*P	Pn	09 34 42.5	+1.7
RUS				*e*S	Sn	09 35 16.5	+2.0
KRMR	**Karymshinskiy**	**3.14**	**11**	*e*S	Sb	09 35 26.7	-3.1
UGLR	**Uglovaya**	**3.61**	**17**	*e*P	Pn	09 34 55.3	+3.4
AVH	**Avacha**	**3.65**	**16**	*e*P	Pn	09 34 55.9	+3.5
KOK	**Koryaka**	**3.66**	**15**	*e*P	Pn	09 34 56.0	+3.5
SMAR	**Somma**	**3.66**	**16**	*e*P	Pn	09 34 56.6	+4.0
SDLR	**Sedlovina**	**3.69**	**17**	*e*P	Pn	09 34 55.6	+2.6
KRER	**Koryakskii**	**3.69**	**16**	*e*S	Sn	09 35 40.1	+3.8
SPN	**Mys Shipunski**	**3.81**	**28**	*e*S	Sn	09 35 42.6	+3.7

IDC 06 09:36:29.8±49.0, 16°.67S×178°.29W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/29, mbtmp3.8/3, Error ellipse: s-maj=894.8km s-min=162.1km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.33**	**240**	P	P	09 44 01.6	+0.6
1.1nm,0.6s,baz=66,slow=10.0,SNR=3.7							
WRA	**Warramunga Arr**	**44.98**	**258**	P	P	09 44 46.5	-0.8
0.4nm,0.8s,baz=95,slow=7.9,SNR=9.7							
ASAR	**Alice Springs**	**45.24**	**253**	P	P	09 44 49.3	-0.1
2.7nm,0.6s,baz=88,slow=8.1,SNR=63							

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*ISCJB **06** 09:36:53.2±0.6, 20°.82S±0°.02×69°.31W±0°.09, h117km±4km, mb3.3/2, Error ellipse: s-maj=13.8km s-min=3.9km az=2.3*
*GUC **06** 09:36:53.6±0.6, 20°.80S×69°.22W, h113km±3km, ML3.8*
*IDC **06** 09:36:54.2±1.4, 20°.80S×69°.02W, h113km±20km, mb3.0/2, mb1 3.3/4, mb1mx3.1/26, mbtmp3.3/4, Error ellipse: s-maj=43.2km s-min=16.8km az=102.0*
ISC 06 09:36:53.6±0.9, 20°.81S±0°.03×69°.24W±0°.08, h110km±6km, n22, σ0°.78/39, 12C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.33**	**225**	⇓*i*P	**Pn**	**09 37 09.5**	**-0.1**
PB01				*e*S	**Sn**	**09 37 21.6**	**-0.1**
PB01				IAML		09 37 22.0	
comp=N,14μm,0.2s							
PB08	**IPOC Station P**	**0.67**	**7**	⇑*i*P	**Pn**	**09 37 12.1**	**-0.1**
PB08				*i* S	**Sn**	**09 37 26.3**	**+0.2**
PB08				IAML		09 37 26.6	
comp=E,3μm,0.3s							
PB02	**IPOC Station P**	**0.80**	**230**	⇑*i*P	**Pn**	**09 37 12.9**	**-0.1**
PB02				*i* S	**Sn**	**09 37 27.8**	**+0.3**
PB02				IAML		09 37 29.9	
comp=E,3μm,0.2s							
PB09	**IPOC Station P**	**0.98**	**180**	⇓*i*P	**Pn**	**09 37 15.2**	**+0.3**
PB09				*e*S	**Sn**	**09 37 31.4**	**+0.5**
PB09				IAML		09 37 32.5	
comp=N,2μm,0.2s							
PB07	**IPOC Station P**	**1.10**	**213**	⇓*i*P	**Pn**	**09 37 16.4**	**+0.4**
PB07				*e*S	**Sn**	**09 37 33.3**	**+0.3**
PB11	**IPOC Station P**	**1.11**	**339**	⇑*i*P	**Pn**	**09 37 16.4**	**+0.1**
PB11				*e*S	**Sn**	**09 37 33.4**	**+0.2**
PB11				IAML		09 37 34.4	
comp=E,5μm,0.3s							
GO01	**Chusmiza**	**1.13**	**2**	⇑*i*P	**Pn**	**09 37 17.0**	**+0.2**
GO01				*e*S	**Sn**	**09 37 34.5**	**+0.2**
GO01				IAML		09 37 35.4	
comp=N,5μm,0.3s							
PB03	**IPOC Station P**	**1.32**	**201**	⇓*i*P	**Pn**	**09 37 18.9**	**+0.3**
PB03				*e*S	**Sn**	**09 37 37.2**	**-0.3**
PSGC	**Pisagua**	**1.46**	**325**	⇑*i*P	**Pn**	**09 37 19.9**	**-0.2**
PSGC				*e*S	**Sn**	**09 37 40.1**	**-0.1**
MNMC	**Minye Minye**	**1.70**	**349**	⇑*i*P	**Pn**	**09 37 23.4**	**+0.2**
MNMC				*i* S	**Sn**	**09 37 46.3**	**+0.7**
MNMC				IAML		09 37 49.1	
comp=E,1μm,0.6s							
PB04	**IPOC Station P**	**1.74**	**209**	⇑*i*P	**Pn**	**09 37 23.8**	**+0.2**
PB04				*i* S	**Sn**	**09 37 46.7**	**+0.4**
LVC	**Limon Verde**	**1.82**	**170**	⇑*e*P	**Pn**	**09 37 25.4**	**+0.7**
LVC				*i* S	**Sn**	**09 37 49.0**	**+0.6**
LVC	**Limon Verde**	**1.82**	**170**	P	**Pn**	**09 37 25.3**	**+0.6**
comp=E,13nm,0.3s,baz=348,slow=12,SNR=230							
LVC				S	**Sn**	**09 37 49.0**	**+0.6**
comp=E,70nm,0.3s,baz=140,slow=19,SNR=68							
PB06	**IPOC Station P**	**1.92**	**189**	⇑*i*P	**Pn**	**09 37 25.9**	**+0.1**
PB06				*i* S	**Sn**	**09 37 49.7**	**-0.5**
PB06				IAML		09 37 51.2	
comp=E,374nm,0.7s							
PB05	**IPOC Station P**	**2.22**	**204**	⇑*i*P	**Pn**	**09 37 29.5**	**-0.1**
PB05				*i* S	**Sn**	**09 37 55.6**	**-1.6**
PB05				IAML		09 37 57.2	
comp=E,252nm,0.5s							
PB15	**IPOC Station P**	**2.40**	**185**	⇑*i*P	**Pn**	**09 37 32.1**	**+0.1**
PB15				*e*S	**Sn**	**09 38 01.8**	**+0.4**
GO02	**Mina Guanaco**	**4.35**	**184**	⇑*i*P	**Pn**	**09 37 57.0**	**-1.0**
GO02				*e*S	**Sn**	**09 38 47.7**	**-0.1**
GO02				IAML		09 38 51.7	
comp=E,82nm,0.2s							
LPAZ	**La Paz**	**4.62**	**13**	P	**Pn**	**09 38 03.1**	**+1.2**
comp=E,1.3nm,0.3s,baz=174,slow=14,SNR=32							
SIV	**San Ignacio**	**9.11**	**60**	P	**Pn**	**09 38 58.9**	**-3.4**
comp=E,0.3nm,0.3s,baz=252,slow=14,SNR=8.1							
TXAR	**Lajitas Array**	**59.89**	**325**	P	**P**	**09 46 48.9**	**+0.8**
comp=E,0.1nm,0.5s,baz=142,slow=8.0,SNR=2.8							
YKA	**Yellowknife Ar**	**90.43**	**341**	P	**P**	**09 49 41.9**	**-0.4**
comp=E,0.2nm,0.6s,baz=132,slow=4.5,SNR=7.4							
MKAR	**Makanchi Array**	**145.25**	**35**	PKPbc	**PKPdf**	**09 56 18.5**	**+0.1**
comp=E,0.6nm,0.8s,baz=307,slow=4.3,SNR=3.6							

IDC 06 09:40:24.5±1.7, 21°.15S×175°.97W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/33, mbtmp4.0/6, MS3.4/3, Ms1 3.4/3, ms1mx2.9/39, Error ellipse: s-maj=91.3km s-min=24.3km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.06**	**198**	LR	LR	09 50 50.3	
comp=Z,102nm,18.6s,baz=4.5,slow=35							
RPZ	**Rata Peaks**	**24.96**	**203**	LR	LR	09 54 30.4	
comp=Z,115nm,19.5s,baz=18,slow=34							
ASAR	**Alice Springs**	**46.22**	**257**	P	P	09 48 51.7	-0.1
2.9nm,1.0s,baz=86,slow=8.2,SNR=14							
WRA	**Warramunga Arr**	**46.39**	**262**	P	P	09 48 53.5	+0.4
0.7nm,0.9s,baz=90,slow=6.9,SNR=3.8							
PETK	**Petropavlovsk-**	**77.40**	**344**	P	P	09 52 21.4	+0.3
2.7nm,0.9s,baz=146,slow=8.0,SNR=3.7							
NVAR	**Mina Array Bea**	**80.21**	**42**	P	P	09 52 37.8	+0.5
0.8nm,0.7s,baz=226,slow=8.3,SNR=7.0							
TXAR	**Lajitas Array**	**85.82**	**57**	P	P	09 53 06.8	+0.4
1.7nm,1.1s,baz=224,slow=7.0,SNR=9.1							
DLBC	**Dease Lake**	**87.92**	**22**	LR	LR	10 23 34.0	
comp=Z,20nm,20.5s,baz=51,slow=30							
YKA	**Yellowknife Ar**	**96.32**	**24**	P	P	09 53 54.0	-0.6
0.3nm,0.7s,baz=244,slow=5.1,SNR=6.4							
AKASG	**Malin Array Be**	**144.49**	**332**	PKP	PKPab	10 00 00.2	-0.8
0.5nm,0.5s,baz=39,slow=4.3,SNR=14							
BRTR	**Keskin Array B**	**148.68**	**313**	PKPbc	PKPbc	10 00 12.9	-1.2
2.5nm,1.0s,baz=103,slow=2.7,SNR=10							
GERES	**GERESS Array B**	**151.31**	**347**	PKPbc	PKPbc	10 00 20.0	-0.1
1.6nm,0.9s,baz=15,slow=4.1,SNR=4.1							

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*ISCJB **06** 09:47:42.7±0.3, 44°.88N±0°.01×6°.58E±0°.02, h9km±2km,*
Error ellipse: s-maj=2.6km s-min=2.2km az=141.3
*ROM **06** 09:47:43.5±0.1, 44°.885N±0°.004×6°.665E±0°.008, h9km, ML1.9/15, Error ellipse: s-maj=0.6km s-min=0.3km az=270.0*
*GEN **06** 09:47:43.7, 44°.88N×6°.64E, h4km±2km, Ml1.8*
*LDG **06** 09:47:44.1±0.1, 44°.88N×6°.69E, h2km, Md2.4/2, Ml2.5/13, Error ellipse: s-maj=1.3km s-min=1.0km az=70.0*
ISC 06 09:47:43.6±0.8, 44°.88N±0°.01×6°.67E±0°.02, h11km±4km, n87, σ0°.91/129, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Rocca Remolon**	**0.10**	**67**	P	**Pg**	**09 47 46.5**	**-0.1**
RRL				S	**Sg**	**09 47 48.3**	**-0.4**
RRL	**Rocca Remolon**	**0.10**	**67**	P	**Pg**	**09 47 46.4**	**-0.1**
RRL				S	**Sg**	**09 47 48.2**	**-0.4**
RRL				AML	AML		
comp=E,1046μm,0.4s							
RRL				AML	AML		
comp=N,2290μm,0.2s							
RRL				AML	AML		
comp=E,1048μm,0.4s							
RRL				AML	AML		
comp=N,2290μm,0.2s							
RRL				AML	AML		
comp=N,2290μm,0.2s							
RRL				AML	AML		
comp=E,1048μm,0.4s							
RRL	**Rocca Remolon**	**0.10**	**67**	P	**Pg**	**09 47 46.5**	**-0.1**
RRL	**Rocca Remolon**	**0.10**	**67**	S	**Sg**	**09 47 48.2**	**-0.4**
BNI	**Bardonecchia**	**0.17**	**3**	P	**Pg**	**09 47 47.6**	**0.0**
BNI				S	**Sg**	**09 47 50.6**	**+0.4**
BNI				AML	AML		
comp=E,148μm,0.3s							
BNI				AML	AML		
comp=N,124μm,0.5s							
BNI				AML	AML		
comp=E,148μm,0.3s							
BNI				AML	AML		
comp=N,124μm,0.5s							
BNI				AML	AML		
comp=E,148μm,0.3s							
BNI				AML	AML		
comp=N,124μm,0.5s							
BNI	**Bardonecchia**	**0.17**	**3**	S	**Sg**	**09 47 50.0**	**-0.3**
MBDF	**Montbardon**	**0.17**	**154**	*e*Pg	**Pg**	**09 47 47.4**	**-0.2**
SNR=1.0							
MBDF				*e*Sg	**Sg**	**09 47 50.1**	**-0.2**
comp=N,198nm,0.2s							
PZZ	**Stroppo**	**0.49**	**139**	P	**Pg**	**09 47 53.1**	**-0.2**
PZZ				S	**Sg**	**09 47 59.8**	**-0.1**
PZZ	**Stroppo**	**0.49**	**139**	P	**Pg**	**09 47 53.2**	**-0.1**
PZZ	**Stroppo**	**0.49**	**139**	P	**Pg**	**09 47 53.4**	**0.0**
PZZ				S	**Sg**	**09 48 01.1**	**+1.2**
PZZ				AML	AML		
comp=E,339μm,1.1s							
PZZ				AML	AML		
comp=N,302μm,0.3s							
PZZ				AML	AML		
comp=E,340μm,1.1s							
PZZ				AML	AML		
comp=N,302μm,0.3s							
PZZ				AML	AML		
comp=N,302μm,0.3s							
PZZ				AML	AML		
comp=E,340μm,1.1s							
PZZ	**Stroppo**	**0.49**	**139**	S	**Sg**	**09 48 00.2**	**+0.3**
RSP	**Reno Superiore**	**0.50**	**58**	P	**Pg**	**09 47 53.9**	**+0.5**
RSP				S	**Sg**	**09 48 00.3**	**+0.2**
RSP	**Reno Superiore**	**0.50**	**58**	P	**Pg**	**09 47 53.9**	**+0.5**
RSP	**Reno Superiore**	**0.50**	**58**	P	**Pg**	**09 47 54.0**	**+0.5**
RSP				S	**Sg**	**09 48 00.8**	**+0.7**
RSP				AML	AML		
comp=E,161μm,1.1s							
RSP				AML	AML		
comp=N,143μm,0.1s							
RSP				AML	AML		
comp=E,160μm,1.1s							
RSP				AML	AML		
comp=N,143μm,0.1s							
RSP				AML	AML		
comp=N,143μm,0.1s							
RSP				AML	AML		
comp=E,160μm,1.1s							
RSP	**Reno Superiore**	**0.50**	**58**	P	**Pg**	**09 47 54.0**	**+0.5**
ORIF	**Oris-en-Rattie**	**0.56**	**274**	*e*Pg	**Pg**	**09 47 54.4**	**-0.1**
SNR=1.0							
ORIF				*e*Sg	**Sg**	**09 48 01.4**	**-0.6**
comp=E,64nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.56**	**274**	P	**Pg**	**09 47 54.5**	**-0.1**
ORIF	**Oris-en-Rattie**	**0.56**	**274**	P	**Pg**	**09 47 54.5**	**-0.1**
ORIF				AML	AML		
comp=E,71μm,0.3s							
ORIF				AML	AML		
comp=N,42μm,0.6s							
ORIF				AML	AML		
comp=N,42μm,0.6s							
ORIF				AML	AML		
comp=E,71μm,0.3s							
ORIF	**Oris-en-Rattie**	**0.56**	**274**	S	**Sg**	**09 48 01.5**	**-0.6**
DOI	**San Damiano**	**0.56**	**132**	P	**Pg**	**09 47 54.5**	**-0.1**
DOI				S	**Sg**	**09 48 02.9**	**+0.9**
DOI				AML	AML		
comp=E,182μm,0.2s							
DOI				AML	AML		
comp=N,180μm,1.3s							
DOI				AML	AML		
comp=E,182μm,0.2s							
DOI				AML	AML		
comp=N,180μm,1.3s							
DOI				AML	AML		
comp=E,182μm,0.2s							
DOI				AML	AML		
comp=N,180μm,1.3s							
DOI	**San Damiano**	**0.56**	**132**	P	**Pg**	**09 47 54.5**	**-0.1**
DOI	**San Damiano**	**0.56**	**132**	S	**Sg**	**09 48 02.3**	**+0.3**
LPG	**La Plagne**	**0.62**	**6**	*e*Pg	**Pg**	**09 47 56.0**	**+0.3**
SNR=1.0							
LPG	**La Plagne**	**0.62**	**6**	*e*Pn	**Pn**	**09 47 58.8**	**+0.1**
LPG				*e*Sg	**Sg**	**09 48 04.8**	**+0.9**
comp=N,25nm,0.2s							
LPL	**La Plagne**	**0.64**	**4**	*e*Pg	**Pg**	**09 47 56.3**	**+0.2**
SNR=1.0							
LPL				*e*Sn	**Sg**	**09 48 05.1**	**+0.6**
comp=N,24nm,0.3s							
LSD	**Lago del Serru**	**0.67**	**30**	P	**Pg**	**09 47 56.7**	**+0.1**
LSD				S	**Sg**	**09 48 05.5**	**+0.1**
LSD	**Lago del Serru**	**0.67**	**30**	P	**Pg**	**09 47 56.6**	**+0.1**
LSD				S	**Sg**	**09 48 05.7**	**+0.3**
LSD				AML	AML		
comp=E,136μm,1.0s							
LSD				AML	AML		
comp=N,96μm,0.3s							
LSD				AML	AML		
comp=E,136μm,1.0s							
LSD				AML	AML		
comp=N,96μm,0.3s							
LSD				AML	AML		
comp=E,136μm,1.0s							
LSD				AML	AML		
comp=N,96μm,0.3s							
LSD	**Lago del Serru**	**0.67**	**30**	P	**Pg**	**09 47 56.7**	**+0.1**
LSD	**Lago del Serru**	**0.67**	**30**	P	**Pg**	**09 47 56.7**	**+0.1**
LSD	**Lago del Serru**	**0.67**	**30**	S	**Sg**	**09 48 05.5**	**+0.1**
STV	**Sant Anna di V**	**0.79**	**143**	P	**Pg**	**09 47 58.4**	**-0.6**
STV				S	**Sg**	**09 48 09.2**	**-0.1**
STV	**Sant Anna di V**	**0.79**	**143**	P	**Pg**	**09 47 58.6**	**-0.4**
STV	**Sant Anna di V**	**0.79**	**143**	P	**Pg**	**09 47 59.0**	**0.0**
STV				S	**Sg**	**09 48 09.8**	**+0.5**
STV				AML	AML		
comp=E,51μm,0.5s							
STV				AML	AML		
comp=N,43μm,0.3s							
STV				AML	AML		
comp=E,51μm,0.5s							
STV				AML	AML		
comp=N,43μm,0.3s							
STV				AML	AML		
comp=N,43μm,0.3s							
STV				AML	AML		
comp=E,51μm,0.5s							
STV	**Sant Anna di V**	**0.79**	**143**	P	**Pg**	**09 47 59.2**	**+0.2**
ENR	**Entracque**	**0.85**	**140**	P	**Pg**	**09 47 59.9**	**-0.1**
ENR				S	**Sg**	**09 48 10.9**	**-0.2**
ENR	**Entracque**	**0.85**	**140**	P	**Pg**	**09 47 59.9**	**-0.1**
ENR	**Entracque**	**0.85**	**140**	P	**Pg**	**09 47 60.0**	**-0.1**
ENR				S	**Sg**	**09 48 11.5**	**+0.4**
ENR				AML	AML		
comp=E,79μm,0.6s							
ENR				AML	AML		
comp=N,84μm,0.9s							
ENR				AML	AML		
comp=E,79μm,0.6s							
ENR				AML	AML		
comp=N,84μm,0.9s							
ENR				AML	AML		
comp=N,84μm,0.9s							
ENR				AML	AML		
comp=E,79μm,0.6s							
ENR	**Entracque**	**0.85**	**140**	P	**Pg**	**09 48 00.2**	**+0.2**
ENR	**Entracque**	**0.85**	**140**	S	**Sg**	**09 48 11.1**	**0.0**
MONC	**Moncucco Torin**	**0.92**	**78**	P	**Pg**	**09 48 00.8**	**-0.5**
MONC				S	**Sg**	**09 48 13.8**	**+0.6**
MONC				AML	AML		
comp=E,141μm,0.4s							
MONC				AML	AML		
comp=N,172μm,0.5s							
MONC				AML	AML		
comp=E,141μm,0.4s							
MONC				AML	AML		
comp=N,172μm,0.5s							
MONC	**Moncucco Torin**	**0.92**	**78**	P	**Pn**	**09 48 02.8**	**+0.3**
CIRO	**Champorcher**	**0.96**	**41**	P	**Pg**	**09 48 02.1**	**-0.1**
CIRO				S	**Sg**	**09 48 13.9**	**-0.8**
CIRO	**Champorcher**	**0.96**	**41**	P	**Pg**	**09 48 02.1**	**-0.1**
CIRO				S	**Sg**	**09 48 14.7**	**-0.1**
CIRO				AML	AML		
comp=E,60μm,0.2s							
CIRO				AML	AML		
comp=N,47μm,1.1s							
CIRO				AML	AML		
comp=N,47μm,1.1s							
CIRO				AML	AML		
comp=E,60μm,0.2s							
CIRO	**Champorcher**	**0.96**	**41**	P	**Pg**	**09 48 02.2**	**0.0**
CIRO	**Champorcher**	**0.96**	**41**	P	**Pg**	**09 48 02.2**	**0.0**
CIRO	**Champorcher**	**0.96**	**41**	S	**Sg**	**09 48 14.2**	**-0.5**
CIRO	**Champorcher**	**0.96**	**41**	S	**Sg**	**09 48 15.0**	**+0.2**
TRAV	**Traversella**	**0.99**	**50**	P	**Pg**	**09 48 02.8**	**0.0**
TRAV				S	**Sg**	**09 48 15.4**	**-0.2**
TRAV	**Traversella**	**0.99**	**50**	P	**Pg**	**09 48 02.1**	**-0.6**
TRAV				S	**Sg**	**09 48 15.7**	**0.0**
TRAV				AML	AML		
comp=E,68μm,0.9s							
TRAV				AML	AML		
comp=N,61μm,0.2s							
TRAV				AML	AML		
comp=N,61μm,0.2s							
TRAV				AML	AML		
comp=E,68μm,0.9s							
TRAV	**Traversella**	**0.99**	**50**	P	**Pg**	**09 48 03.0**	**+0.3**
REMY	**Saint-Rhmy-en**	**1.02**	**20**	P	**Pg**	**09 48 03.0**	**-0.3**
REMY	**Saint-Rhmy-en**	**1.02**	**20**	P	**Pg**	**09 48 03.5**	**+0.2**
SAOF	**Saorge**	**1.10**	**144**	P	**Pg**	**09 48 04.3**	**-0.4**
SAOF				AML	AML		
comp=E,40μm,0.6s							
SAOF				AML	AML		
comp=N,47μm,1.6s							
SAOF				AML	AML		
comp=N,47μm,1.6s							
SAOF				AML	AML		
comp=E,40μm,0.6s							
SAOF	**Saorge**	**1.10**	**144**	P	**Pg**	**09 48 04.7**	**-0.1**
SBF	**Sospel**	**1.16**	**151**	*e*Pg	**Pg**	**09 48 05.7**	**-0.2**
SNR=1.0							
SBF				*e*Sg	**Sb**	**09 48 21.6**	**+0.8**
comp=E,72nm,0.4s							
MGRO	**Montegrosso**	**1.17**	**135**	P	**Pg**	**09 48 05.3**	**-0.8**
MGRO				AML	AML		
comp=E,37μm,1.6s							
MGRO				AML	AML		
comp=N,38μm,1.5s							
MGRO				AML	AML		
comp=E,37μm,1.6s							
MGRO				AML	AML		
comp=N,38μm,1.5s							
MGRO	**Montegrosso**	**1.17**	**135**	P	**Pg**	**09 48 05.6**	**-0.6**
SMRF	**Simiane la Rot**	**1.20**	**221**	*e*Pg	**Pg**	**09 48 06.7**	**+0.1**
SNR=1.0							
SMRF				*e*Sg	**Sb**	**09 48 22.6**	**+0.8**
comp=N,35nm,0.7s,SNR=1.0							
NEGI	**Seborga**	**1.27**	**144**	P	**Pg**	**09 48 07.3**	**-0.8**
NEGI				AML	AML		
comp=E,77μm,1.2s							
NEGI				AML	AML		
comp=N,127μm,0.3s							
NEGI				AML	AML		
comp=N,127μm,0.3s							
NEGI				AML	AML		
comp=E,77μm,1.2s							
NEGI	**Seborga**	**1.27**	**144**	P	**Pg**	**09 48 08.1**	**0.0**
SATI	**Passo dei Sala**	**1.30**	**40**	P	**Pg**	**09 48 07.8**	**-1.0**
SATI	**Passo dei Sala**	**1.30**	**40**	P	**Pn**	**09 48 09.1**	**+0.9**
FRF	**La Foret Royal**	**1.32**	**181**	*e*Pg	**Pn**	**09 48 08.7**	**+0.7**
FRF				*e*Sg	**Sg**	**09 48 26.0**	**-0.2**
comp=E,18nm,0.4s							
QLNO	**Quiliano**	**1.32**	**114**	P	**Pn**	**09 48 08.3**	**+0.2**
QLNO	**Quiliano**	**1.32**	**114**	P	**Pn**	**09 48 08.5**	**+0.4**
PCP	**Piancastagn**	**1.38**	**104**	P	**Pn**	**09 48 09.0**	**+0.1**
PCP	**Piancastagn**	**1.38**	**104**	P	**Pn**	**09 48 09.7**	**+0.8**
VIVF	**Saint-Julien-l**	**1.42**	**270**	*e*P	**Pg**	**09 48 11.0**	**+0.1**
SNR=1.0							
VIVF	**Saint-Julien-l**	**1.42**	**270**	*e*Pg	**Pg**	**09 48 11.4**	**+0.5**
SNR=1.0							
VIVF				*e*Sn	**Sn**	**09 48 29.7**	**+1.6**
comp=E,5.9nm,0.3s,SNR=1.0							
LMR	**La Mourre**	**1.55**	**184**	*e*Pg	**Pb**	**09 48 13.0**	**+0.6**
LMR				*e*Sg	**Sg**	**09 48 33.9**	**+0.3**
comp=E,13nm,0.3s,SNR=1.0							
CABF	**La Chapelle**	**1.77**	**347**	*e*P	**Pb**	**09 48 16.3**	**0.0**
CABF	**La Chapelle**	**1.77**	**347**	*e*Pg	**Pg**	**09 48 17.8**	**+0.1**
CABF				*e*Sg	**Sb**	**09 48 40.0**	**+1.4**
comp=E,4.5nm,0.3s							
LASF	**Ste Croix**	**2.17**	**249**	*e*Pg	**Pg**	**09 48 25.4**	**+0.2**
LASF				*e*Sg	**Sg**	**09 48 53.3**	**+0.1**
comp=E,1.7nm,0.4s,SNR=1.0							
SMF	**Signal de Mont**	**2.65**	**313**	*e*P	**Pn**	**09 48 26.9**	**+0.6**
SMF	**Signal de Mont**	**2.65**	**313**	*e*Pg	**Pg**	**09 48 34.4**	**0.0**
SMF				*e*Sn	**Sn**	**09 48 57.1**	**-1.3**
SMF				*e*Sg	**Sg**	**09 49 07.9**	**-0.8**
comp=E,5.4nm,0.3s							
PGF	**Pioggiola**	**2.88**	**143**	*e*Pn	**Pn**	**09 48 29.2**	**-0.4**
PGF				*e*Sn	**Sn**	**09 49 02.3**	**-2.0**
comp=E,1.8nm,0.3s							
NDIM	**Novi di Modena**	**3.01**	**88**	S	**Sn**	**09 49 11.0**	**+3.8**
LOR	**Lormes**	**3.08**	**322**	*e*P	**Pn**	**09 48 34.7**	**+2.4**
LOR				*e*Sn	**Sn**	**09 49 07.8**	**-1.4**
LOR				*e*Sg	**Sg**	**09 49 20.9**	**-1.8**
comp=E,1.9nm,0.3s							
SSF	**Saint Saulge**	**3.10**	**316**	*e*P	**Pn**	**09 48 35.4**	**+2.9**
SSF				*e*Sg	**Sg**	**09 49 22.0**	**-1.1**
comp=E,2.5nm,0.3s							
BGF	**Bois d'Agland**	**3.16**	**303**	*e*P	**Pn**	**09 48 35.7**	**+2.4**
BGF	**Bois d'Agland**	**3.16**	**303**	*e*Pg	**Pg**	**09 48 43.0**	**-1.1**
BGF				*e*Sn	**Sn**	**09 49 09.3**	**-1.6**
BGF				*e*Sg	**Sg**	**09 49 23.6**	**-1.4**
comp=E,12nm,0.5s							
CDF	**Champ du Feu**	**3.56**	**7**	*e*P	**Pn**	**09 48 39.8**	**+1.0**
CDF				*e*Sn	**Sn**	**09 49 19.0**	**-1.9**
CDF			

21nm,0.3s,baz=34,slow=11,SNR=12
JAY LR LR 09 52 35.8
comp=Z,51nm,18.9s,baz=121,slow=50
WRA Warramunga Arr 15.95 196 Pn Pn 09 54 09.7 +0.9
0.8nm,0.3s,baz=12,slow=12,SNR=32
WRA Sn Sn 09 56 52.1 -14
0.5nm,0.3s,baz=14,slow=24,SNR=5.8
FITZ Fitzroy Crossi 18.74 223 P Pn 09 54 43.9 +0.2
0.9nm,0.3s,baz=35,slow=12,SNR=24
FITZ S Sn 09 57 58.4 -16
0.4nm,0.3s,baz=203,slow=15,SNR=5.3
ASAR Alice Springs 19.62 194 P P 09 54 52.3 -0.8
0.7nm,0.3s,baz=25,slow=9.9,SNR=62
ASAR S Sn 09 58 18.9 -16
0.1nm,0.3s,baz=7.8,slow=28,SNR=4.7
CMAR Chiang Mai Arr 45.60 301 P P 09 58 44.8 -0.3
0.9nm,0.4s,baz=106,slow=5.6,SNR=4.3

*ISCJB **06** 09:54:54.3±0.3, 44°.90N±0°.01×6°.55E±0°.02, h9km±2km, Error ellipse: s-maj=2.5km s-min=2.0km az=145.1*
*ROM **06** 09:54:55.4±0.1, 44°.873N±0°.004×6°.654E±0°.009, h8km, ML2.1/20, Error ellipse: s-maj=0.7km s-min=0.3km az=81.0*
*LDG **06** 09:54:55.9±0.1, 44°.88N×6°.66E, h2km, Md2.7/2, Ml2.8/19, Error ellipse: s-maj=1.6km s-min=1.3km az=78.0*
*GEN **06** 09:54:55.7, 44°.88N×6°.65E, h3km±3km, Ml2.2*
ISC 06 09:54:55.1±0.8, 44°.92N±0°.01×6°.67E±0°.02, h13km±5km, n99, σ1s07/151, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRL	**Rocca Remolon**	**0.09**	**89**	P	**Pg**	**09 54 58.4**	**+0.1**
RRL				S	**Sg**	**09 55 00.1**	**-0.3**
RRL	**Rocca Remolon**	**0.09**	**89**	P	**Pg**	**09 54 58.4**	**+0.1**
RRL				S	**Sg**	**09 55 00.2**	**-0.3**
RRL				AML	AML		
	comp=E,2490μm,0.5s						
RRL				AML	AML		
	comp=N,4865μm,0.2s						
RRL	**Rocca Remolon**	**0.09**	**89**	S	**Sg**	**09 55 00.2**	**-0.3**
BNI	**Bardonecchia**	**0.13**	**3**	P	**Pb**	**09 54 59.5**	**-0.1**
BNI	**Bardonecchia**	**0.13**	**3**	P	**Pb**	**09 54 59.5**	**-0.1**
BNI				S	**Sb**	**09 55 02.5**	**-0.1**
BNI				AML	AML		
	comp=E,345μm,0.3s						
BNI				AML	AML		
	comp=N,286μm,0.5s						
BNI				AML	AML		
	comp=E,448μm,0.3s						
BNI				AML	AML		
	comp=N,361μm,0.9s						
BNI				AML	AML		
	comp=E,345μm,0.3s						
BNI				AML	AML		
	comp=N,286μm,0.5s						
BNI				AML	AML		
	comp=E,448μm,0.3s						
BNI				AML	AML		
	comp=N,361μm,0.9s						
BNI				AML	AML		
	comp=E,448μm,0.3s						
BNI				AML	AML		
	comp=E,345μm,0.3s						
BNI				AML	AML		
	comp=N,361μm,0.9s						
BNI				AML	AML		
	comp=N,286μm,0.5s						
BNI	**Bardonecchia**	**0.13**	**3**	S	**Sb**	**09 55 02.1**	**-0.5**
MBDF	**Montbardon**	**0.21**	**159**	*e*Pg	**Pg**	**09 54 59.4**	**-0.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**09 55 02.0**	**-1.0**
	comp=N,523nm,0.2s						
RSP	**Reno Superiore**	**0.48**	**61**	P	**Pb**	**09 55 05.8**	**+0.3**
RSP				S	**Sb**	**09 55 12.3**	**-0.2**
RSP	**Reno Superiore**	**0.48**	**61**	P	**Pb**	**09 55 05.9**	**+0.3**
RSP				S	**Sb**	**09 55 13.4**	**+0.9**
RSP				AML	AML		
	comp=E,416μm,1.1s						
RSP				AML	AML		
	comp=N,442μm,0.1s						
RSP				AML	AML		
	comp=E,416μm,1.1s						
RSP				AML	AML		
	comp=N,442μm,0.1s						
RSP				AML	AML		
	comp=N,442μm,0.1s						
RSP				AML	AML		
	comp=E,416μm,1.1s						
RSP	**Reno Superiore**	**0.48**	**61**	S	**Sb**	**09 55 12.7**	**+0.1**
PZZ	**Stroppo**	**0.52**	**142**	P	**Pg**	**09 55 05.2**	**-0.2**
PZZ				S	**Sg**	**09 55 11.9**	**-0.4**
PZZ	**Stroppo**	**0.52**	**142**	P	**Pg**	**09 55 05.1**	**-0.3**
PZZ	**Stroppo**	**0.52**	**142**	P	**Pg**	**09 55 05.5**	**+0.1**
PZZ				S	**Sg**	**09 55 13.0**	**+0.7**
PZZ				AML	AML		
	comp=E,906μm,0.2s						
PZZ				AML	AML		
	comp=N,780μm,0.6s						
PZZ				AML	AML		
	comp=E,906μm,0.2s						
PZZ				AML	AML		
	comp=N,780μm,0.6s						
PZZ				AML	AML		
	comp=E,906μm,0.2s						
PZZ				AML	AML		
	comp=N,780μm,0.6s						
PZZ	**Stroppo**	**0.52**	**142**	S	**Sg**	**09 55 12.4**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.56**	**270**	*e*Pg	**Pg**	**09 55 06.4**	**+0.3**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**09 55 13.4**	**-0.2**
	comp=N,115nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.56**	**270**	P	**Pg**	**09 55 06.4**	**+0.3**
ORIF				AML	AML		
	comp=E,182μm,0.3s						
ORIF				AML	AML		
	comp=N,103μm,0.6s						
ORIF				AML	AML		
	comp=E,182μm,0.3s						
ORIF				AML	AML		
	comp=N,103μm,0.6s						
ORIF	**Oris-en-Rattie**	**0.56**	**270**	P	**Pg**	**09 55 06.4**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.56**	**270**	S	**Sg**	**09 55 13.6**	**0.0**
LPG	**La Plagne**	**0.58**	**6**	*e*Pg	**Pb**	**09 55 07.9**	**+0.6**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**09 55 16.1**	**+0.5**
	comp=N,81nm,0.2s,SNR=1.0						
DOI	**San Damiano**	**0.58**	**135**	P	**Pg**	**09 55 06.5**	**-0.1**
DOI				S	**Sg**	**09 55 15.0**	**+0.6**
DOI				AML	AML		
	comp=E,489μm,0.2s						
DOI				AML	AML		
	comp=N,478μm,0.6s						
DOI				AML	AML		
	comp=E,489μm,0.2s						
DOI				AML	AML		
	comp=N,478μm,0.6s						
DOI				AML	AML		
	comp=E,489μm,0.2s						
DOI				AML	AML		
	comp=N,478μm,0.6s						
DOI	**San Damiano**	**0.58**	**135**	S	**Sg**	**09 55 14.6**	**+0.3**
LPL	**La Plagne**	**0.60**	**4**	*e*Pg	**Pb**	**09 55 08.1**	**+0.5**
	SNR=1.0						
LPL				*e*Sg	**Sb**	**09 55 16.5**	**+0.5**
	comp=N,51nm,0.2s,SNR=1.0						
LSD	**Lago del Serru**	**0.63**	**31**	P	**Pb**	**09 55 08.7**	**+0.5**
LSD				S	**Sb**	**09 55 17.3**	**+0.3**
LSD	**Lago del Serru**	**0.63**	**31**	P	**Pb**	**09 55 08.5**	**+0.3**
LSD	**Lago del Serru**	**0.63**	**31**	P	**Pb**	**09 55 08.7**	**+0.5**
LSD				S	**Sn**	**09 55 18.4**	**-1.7**
LSD				AML	AML		
	comp=E,314μm,0.2s						
LSD				AML	AML		
	comp=N,244μm,0.8s						
LSD				AML	AML		
	comp=E,314μm,0.2s						
LSD				AML	AML		
	comp=N,244μm,0.8s						
LSD				AML	AML		
	comp=N,244μm,0.8s						
LSD				AML	AML		
	comp=E,314μm,0.2s						
LSD	**Lago del Serru**	**0.63**	**31**	P	**Pb**	**09 55 08.8**	**+0.5**
LSD	**Lago del Serru**	**0.63**	**31**	S	**Sb**	**09 55 17.7**	**+0.6**
STV	**Sant Anna di V**	**0.82**	**145**	P	**Pg**	**09 55 10.6**	**-0.4**
STV				S	**Sg**	**09 55 21.4**	**-0.5**
STV	**Sant Anna di V**	**0.82**	**145**	P	**Pg**	**09 55 10.7**	**-0.4**
STV				S	**Sg**	**09 55 21.6**	**-0.2**
STV				AML	AML		
	comp=E,98μm,1.4s						
STV				AML	AML		
	comp=N,104μm,0.6s						
STV				AML	AML		
	comp=E,98μm,1.4s						
STV				AML	AML		
	comp=N,104μm,0.6s						
STV				AML	AML		
	comp=N,104μm,0.6s						
STV				AML	AML		
	comp=E,98μm,1.4s						
STV	**Sant Anna di V**	**0.82**	**145**	P	**Pg**	**09 55 10.7**	**-0.3**
STV	**Sant Anna di V**	**0.82**	**145**	P	**Pg**	**09 55 10.8**	**-0.3**
STV	**Sant Anna di V**	**0.82**	**145**	S	**Sg**	**09 55 21.3**	**-0.5**
ENR	**Entracque**	**0.88**	**142**	P	**Pg**	**09 55 11.9**	**-0.1**
ENR				AML	AML		
	comp=E,210μm,0.8s						
ENR				AML	AML		
	comp=N,186μm,0.9s						
ENR				AML	AML		
	comp=E,210μm,0.8s						
ENR				AML	AML		
	comp=N,186μm,0.9s						
ENR				AML	AML		
	comp=N,186μm,0.9s						
ENR				AML	AML		
	comp=E,210μm,0.8s						
ENR	**Entracque**	**0.88**	**142**	P	**Pg**	**09 55 12.0**	**-0.1**
ENR	**Entracque**	**0.88**	**142**	P	**Pg**	**09 55 12.1**	**0.0**
MRGE	**Morge**	**0.90**	**18**	P	**Pn**	**09 55 13.7**	**+0.1**
MRGE				AML	AML		
	comp=E,81μm,0.6s						
MRGE				AML	AML		
	comp=N,83μm,0.5s						
MRGE				AML	AML		
	comp=N,83μm,0.5s						
MRGE				AML	AML		
	comp=E,81μm,0.6s						
MRGE	**Morge**	**0.90**	**18**	P	**Pn**	**09 55 13.7**	**+0.1**
MRGE	**Morge**	**0.90**	**18**	P	**Pn**	**09 55 13.8**	**+0.3**
MONC	**Moncucco Torin**	**0.91**	**80**	P	**Pn**	**09 55 13.4**	**-0.1**
MONC				AML	AML		
	comp=E,362μm,0.6s						
MONC				AML	AML		
	comp=N,460μm,0.6s						
MONC				AML	AML		
	comp=E,362μm,0.6s						
MONC				AML	AML		
	comp=N,460μm,0.6s						
MONC	**Moncucco Torin**	**0.91**	**80**	P	**Pn**	**09 55 14.7**	**+1.1**
CIRO	**Champorcher**	**0.93**	**43**	P	**Pn**	**09 55 13.9**	**-0.2**
CIRO				S	**Sn**	**09 55 26.0**	**-1.5**
CIRO	**Champorcher**	**0.93**	**43**	P	**Pn**	**09 55 14.0**	**-0.2**
CIRO				S	**Sn**	**09 55 27.2**	**-0.3**
CIRO				AML	AML		
	comp=E,122μm,1.6s						
CIRO				AML	AML		
	comp=N,97μm,0.9s						
CIRO				AML	AML		
	comp=E,122μm,1.6s						
CIRO				AML	AML		
	comp=N,97μm,0.9s						
CIRO	**Champorcher**	**0.93**	**43**	P	**Pn**	**09 55 14.1**	**-0.1**
CIRO	**Champorcher**	**0.93**	**43**	S	**Sn**	**09 55 27.0**	**-0.5**
CIRO	**Champorcher**	**0.93**	**43**	S	**Sn**	**09 55 27.0**	**-0.5**
TRAV	**Traversella**	**0.97**	**52**	P	**Pn**	**09 55 14.5**	**0.0**
TRAV				S	**Sn**	**09 55 27.7**	**-0.3**
TRAV	**Traversella**	**0.97**	**52**	P	**Pn**	**09 55 14.7**	**+0.3**
TRAV				AML	AML		
	comp=E,161μm,0.9s						
TRAV				AML	AML		
	comp=N,132μm,0.6s						
TRAV				AML	AML		
	comp=E,161μm,0.9s						
TRAV				AML	AML		
	comp=N,132μm,0.6s						
TRAV	**Traversella**	**0.97**	**52**	P	**Pn**	**09 55 14.8**	**+0.3**
REMY	**Saint-Rhmy-en**	**0.98**	**20**	P	**Pn**	**09 55 15.2**	**+0.4**
REMY				AML	AML		
	comp=E,93μm,0.4s						
REMY				AML	AML		
	comp=N,95μm,0.6s						
REMY				AML	AML		
	comp=E,93μm,0.4s						
REMY				AML	AML		
	comp=N,95μm,0.6s						
REMY	**Saint-Rhmy-en**	**0.98**	**20**	P	**Pn**	**09 55 15.4**	**+0.6**
GBOS	**Grotte di Boss**	**1.08**	**129**	P	**Pb**	**09 55 15.4**	**-0.2**
GBOS				AML	AML		
	comp=E,110μm,0.4s						
GBOS				AML	AML		
	comp=N,86μm,0.5s						
GBOS				AML	AML		
	comp=N,86μm,0.5s						
GBOS				AML	AML		
	comp=E,110μm,0.4s						
GBOS	**Grotte di Boss**	**1.08**	**129**	P	**Pb**	**09 55 15.6**	**-0.1**
SAOF	**Saorge**	**1.13**	**145**	P	**Pb**	**09 55 16.2**	**-0.2**
SAOF				AML	AML		
	comp=E,101μm,0.6s						
SAOF				AML	AML		
	comp=N,108μm,0.6s						
SAOF				AML	AML		
	comp=E,101μm,0.6s						
SAOF				AML	AML		
	comp=N,108μm,0.6s						
SAOF	**Saorge**	**1.13**	**145**	P	**Pb**	**09 55 16.5**	**0.0**
SAOF	**Saorge**	**1.13**	**145**	S	**Sg**	**09 55 32.0**	**+0.4**
SBF	**Sospel**	**1.19**	**152**	*e*Pg	**Pn**	**09 55 17.6**	**+0.1**
	SNR=1.0						
SBF				*e*Sg	**Sb**	**09 55 32.5**	**-0.4**
	comp=N,133nm,0.4s,SNR=1.0						
MGRO	**Montegrosso**	**1.20**	**137**	P	**Pn**	**09 55 15.7**	**-2.0**
MGRO	**Montegrosso**	**1.20**	**137**	P	**Pn**	**09 55 17.3**	**-0.4**
SMRF	**Simiane la Rot**	**1.23**	**220**	*e*P	**Pg**	**09 55 19.5**	**+0.8**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**09 55 33.4**	**-0.5**
	comp=N,58nm,0.7s						
SATI	**Passo dei Sala**	**1.28**	**41**	P	**Pg**	**09 55 20.2**	**+0.4**
SATI				AML	AML		
	comp=E,53μm,0.7s						
SATI				AML	AML		
	comp=N,45μm,0.6s						
SATI				AML	AML		
	comp=E,53μm,0.7s						
SATI				AML	AML		
	comp=N,45μm,0.6s						
SATI	**Passo dei Sala**	**1.28**	**41**	P	**Pg**	**09 55 20.8**	**+1.1**
RORO	**Rocca Rossa**	**1.28**	**128**	P	**Pn**	**09 55 19.0**	**+0.2**
RORO				AML	AML		
	comp=E,75μm,1.0s						
RORO				AML	AML		
	comp=N,64μm,0.5s						
RORO				AML	AML		
	comp=E,75μm,1.0s						
RORO				AML	AML		
	comp=N,64μm,0.5s						
RORO	**Rocca Rossa**	**1.28**	**128**	P	**Pb**	**09 55 19.2**	**+0.1**
NEGI	**Seborga**	**1.30**	**145**	P	**Pn**	**09 55 19.3**	**+0.3**
NEGI				AML	AML		
	comp=E,144μm,0.4s						
NEGI				AML	AML		
	comp=N,250μm,0.3s						
NEGI				AML	AML		
	comp=N,250μm,0.3s						
NEGI				AML	AML		
	comp=E,144μm,0.4s						
NEGI	**Seborga**	**1.30**	**145**	P	**Pb**	**09 55 19.8**	**+0.3**
QLNO	**Quiliano**	**1.34**	**116**	P	**Pb**	**09 55 20.2**	**+0.2**
QLNO				AML	AML		
	comp=E,51μm,0.6s						
QLNO				AML	AML		
	comp=N,42μm,1.6s						
QLNO				AML	AML		
	comp=E,51μm,0.6s						
QLNO				AML	AML		
	comp=N,42μm,1.6s						
QLNO	**Quiliano**	**1.34**	**116**	P	**Pb**	**09 55 20.4**	**+0.4**
FRF	**La Foret Royal**	**1.36**	**181**	*e*P	**Pn**	**09 55 20.3**	**+0.6**
	SNR=1.0						
FRF				*e*Sg	**Sn**	**09 55 37.2**	**-0.4**
	comp=N,33nm,0.2s,SNR=1.0						
PCP	**Piancastagn**	**1.39**	**105**	P	**Pb**	**09 55 21.2**	**+0.3**
PCP	**Piancastagn**	**1.39**	**105**	P	**Pg**	**09 55 21.6**	**-0.2**
FINB	**Finale Ligure**	**1.40**	**121**	P	**Pb**	**09 55 21.1**	**+0.1**
FINB	**Finale Ligure**	**1.40**	**121**	P	**Pb**	**09 55 21.6**	**+0.5**
VIVF	**Saint-Julien-l**	**1.42**	**268**	*e*P	**Pg**	**09 55 23.0**	**+0.6**
	SNR=1.0						
VIVF				*e*Sg	**Sb**	**09 55 40.0**	**+0.5**
	comp=N,29nm,0.5s,SNR=1.0						
MMK	**Mattmark**	**1.45**	**38**	P	**Pg**	**09 55 23.1**	**+0.1**
MMK				AML	AML		
	comp=E,32μm,0.5s						
MMK				AML	AML		
	comp=N,37μm,0.6s						
MMK				AML	AML		
	comp=E,32μm,0.5s						
MMK				AML	AML		
	comp=N,37μm,0.6s						
MMK	**Mattmark**	**1.45**	**38**	P	**Pg**	**09 55 23.6**	**+0.5**
LMR	**La Mourre**	**1.59**	**184**	*e*Pg	**Pb**	**09 55 24.7**	**+0.4**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**09 55 41.9**	**-1.4**
LMR				*e*Sg	**Sb**	**09 55 44.4**	**+0.1**
	comp=N,26nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.74**	**347**	*e*P	**Pg**	**09 55 28.0**	**-0.5**
CABF	**La Chapelle**	**1.74**	**347**	*e*Pg	**Pg**	**09 55 29.8**	**+1.3**
CABF				*e*Sn	**Sb**	**09 55 47.6**	**-1.2**
CABF				*e*Sg	**Sg**	**09 55 51.9**	**+0.8**
	comp=N,36nm,0.6s						
LASF	**Ste Croix**	**2.18**	**248**	*e*P	**Pn**	**09 55 32.9**	**+1.8**
	SNR=1.0						
LASF	**Ste Croix**	**2.18**	**248**	*e*Pg	**Pg**	**09 55 38.1**	**+1.2**
LASF				*e*Sn	**Sn**	**09 55 58.7**	**+0.7**
LASF				*e*Sg	**Sg**	**09 56 06.4**	**+1.2**
	comp=N,1.7nm,0.2s						
SMF	**Signal de Mont**	**2.63**	**312**	*e*P	**Pb**	**09 55 40.3**	**-1.7**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**09 56 08.1**	**-0.8**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**09 56 19.4**	**-0.1**
	comp=N,12nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**2.90**	**2**	*e*P	**Pb**	**09 55 44.5**	**-2.2**
HINF	**Hinteralfeld**	**2.90**	**2**	*e*Pg	**Pg**	**09 55 50.3**	**-0.4**
HINF				*e*Sn	**Sn**	**09 56 15.7**	**-0.1**
HINF				*e*Sg	**Sg**	**09 56 28.1**	**-0.2**
	comp=N,4.0nm,0.3s						
PGF	**Pioggiola**	**2.91**	**144**	*e*P	**Pn**	**09 55 41.1**	**-0.1**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**09 56 14.1**	**-2.0**
	comp=N,2.6nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.98**	**310**	*e*P	**Pn**	**09 55 44.9**	**+2.9**
	SNR=1.0						
AVF	**Avril sur Loir**	**2.98**	**310**	*e*Pg	**Pg**	**09 55 51.1**	**-1.1**
AVF				*e*Sn	**Sn**	**09 56 16.6**	**-1.0**
AVF				*e*Sg	**Sg**	**09 56 30.0**	**-0.8**
	comp=N,6.0nm,0.4s,SNR=1.0						
LOR	**Lormes**	**3.06**	**321**	*e*P	**Pn**	**09 55 46.0**	**+2.9**
	baz=141,SNR=1.0						
LOR				*e*Sn	**Sn**	**09 56 18.5**	**-1.0**
	baz=145						
LOR				*e*Sg	**Sg**	**09 56 32.3**	**-1.0**
	comp=N,9.6nm,0.5s,baz=153,SNR=1.0						
SSF	**Saint Saulge**	**3.07**	**315**	*e*P	**Pb**	**09 55 46.5**	**-3.1**
SSF	**Saint Saulge**	**3.07**	**315**	*e*Pg	**Pg**	**09 55 52.9**	**-1.1**
SSF				*e*Sn	**Sn**	**09 56 19.2**	**-0.7**
SSF				*e*Sg	**Sg**	**09 56 32.9**	**-0.9**
	comp=N,8.7nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**3.10**	**356**	*e*P	**Pn**	**09 55 46.1**	**+2.4**
	SNR=1.0						
HAU	**Haudompre**	**3.10**	**356**	*e*Pg	**Pg**	**09 55 55.1**	**+0.7**
HAU				*e*Sn	**Sn**	**09 56 19.9**	**-0.6**
HAU				*e*Sg	**Sg**	**09 56 34.3**	**-0.2**
	comp=N,5.2nm,0.3s						
BGF	**Bois d'Agland**	**3.14**	**303**	*e*P	**Pn**	**09 55 47.3**	**+3.1**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.14**	**303**	*e*Pg	**Pg**	**09 55 54.2**	**-1.0**
BGF				*e*Sn	**Sn**	**09 56 20.3**	**-1.2**
BGF				*e*Sg	**Sg**	**09 56 34.3**	**-1.6**
	comp=N,22nm,0.4s						
CAF	**Calviac**	**3.27**	**272**	*e*P	**Pn**	**09 55 48.7**	**+2.6**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**09 56 23.0**	**-1.8**
CAF				*e*Sg	**Sg**	**09 56 37.9**	**-2.2**
	comp=N,3.5nm,0.4s						
TCF	**Toulx Ste Croi**	**3.42**	**295**	*e*P	**Pn**	**09 55 51.4**	**+3.3**
TCF				*e*Sn	**Sn**	**09 56 26.9**	**-1.5**
TCF				*e*Sg	**Sg**	**09 56 42.8**	**-2.0**
	comp=N,3.1nm,0.3s,SNR=1.0						
SFTF	**Sexfontaines**	**3.47**	**342**	*e*P	**Pn**	**09 55 52.2**	**+3.4**
	baz=161						
SFTF				*e*Sn	**Sn**	**09 56 29.1**	**-0.7**
SFTF				*e*Sg	**Sg**	**09 56 45.7**	**-0.9**
	comp=N,5.2nm,0.3s						
CDF	**Champ du Feu**	**3.52**	**7**	*e*Pg	**Pg**	**09 56 01.9**	**-0.6**
CDF				*e*Sn	**Sn**	**09 56 30.3**	**-0.7**
CDF				*e*Sg	**Sg**	**09 56 47.4**	**-0.7**
	comp=N,2.3nm,0.4s						
PAGF	**Fort de Pagny**	**3.69**	**350**	*e*P	**Pn**	**09 55 55.0**	**+3.1**
NARO	**Abbazia di Nar**	**4.44**	**105**	P	**Pb**	**09 56 15.4**	**+2.5**

IDC 06 10:09:56.4±3.3, 14°.92S×115°.27W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.7/20, mbtmp3.5/5, Error ellipse: s-maj=165.4km s-min=49.3km az=116.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**45.40**	**14**	P	P	10 18 17.6	+0.6
	0.1nm,0.5s,baz=200,slow=7.7,SNR=3.6						
NVAR	**Mina Array Bea**	**53.15**	**357**	P	P	10 19 17.0	+0.7
	0.9nm,0.8s,baz=177,slow=10,SNR=7.1						
PDAR	**Pinedale Array**	**57.64**	**5**	P	P	10 19 47.7	-1.0
	0.3nm,0.7s,baz=175,slow=7.4,SNR=3.8						
YKA	**Yellowknife Ar**	**77.16**	**0**	P	P	10 21 51.4	-0.2
	0.2nm,0.7s,baz=175,slow=6.0,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**83.70**	**291**	T	T	11 54 56.0	
	baz=108,slow=74,SNR=28						
H11S1	**WAKE ISLAND Hy**	**83.72**	**291**	T	T	11 54 55.9	
	baz=108,slow=74,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**83.72**	**291**	T	T	11 54 58.4	
	baz=108,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**83.90**	**292**	T	T	11 55 07.8	
	baz=108						
H11N1	**WAKE ISLAND Hy**	**83.91**	**292**	T	T	11 55 08.9	
	baz=108						
H11N2	**WAKE ISLAND Hy**	**83.92**	**292**	T	T	11 55 09.4	
	baz=108						
INK	**Inuvik**	**84.04**	**353**	P	P	10 22 27.1	-1.3
	0.5nm,0.6s,baz=140,slow=3.2,SNR=4.9						
BRTR	**Keskin Array B**	**143.26**	**42**	PKP	PKPdf	10 29 32.6	-0.6
	0.3nm,0.4s,baz=344,slow=3.1,SNR=3.0						
MKAR	**Makanchi Array**	**145.00**	**339**	PKPbc	PKPab	10 29 34.8	-0.3
	0.3nm,0.6s,baz=35,slow=5.3,SNR=2.6						
CMAR	**Chiang Mai Arr**	**147.07**	**281**	PKPbc	PKPbc	10 29 41.8	-0.4
	0.8nm,0.3s,baz=52,slow=1.5,SNR=4.3						

*NIED **06** 10:16:00, 40°.20N×142°.40E, h41km, Mw3.9 Best double couple: M0 9.03000×10^14 NP1:φ0 178.00000°, δ18.00000°, λ54.00000°. NP2:φ0 35.00000°, δ75.00000°, λ101.00000°.*
*ISCJB **06** 10:16:36.0±0.5, 40°.23N±0°.03×142°.56E±0°.05, h31km, mb3.8/15, Error ellipse: s-maj=5.8km s-min=3.8km az=37.6*
*JMA **06** 10:16:38.4±0.1, 40°.22N×142°.39E, h35km±1km, M3.9*
JMA Felt I J1.
*IDC **06** 10:16:41.2±2.0, 40°.24N×142°.42E, h69km±17km, mb3.5/15, mb1 3.7/20, mb1mx3.5/48, mbtmp3.8/20, MS2.8/4, Ms1 2.8/4, ms1mx2.5/34, Error ellipse: s-maj=19.2km s-min=11.8km az=113.0*

ISC 06 10:16:37.6±0.6, 40°.22N±0°.04×142°.42E±0°.06, h31km, n39, σ1s57/43, mb3.9/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.51**	**237**	P	**Pn**	**10 16 48.9**	**+0.2**
JTH				S	**Sn**	**10 16 56.3**	**0.0**
JKEN	**Kujiedanarisaw**	**0.54**	**269**	P	**Pn**	**10 16 49.0**	**-0.2**
JKEN				S	**Sb**	**10 16 56.4**	**+0.1**
JANG	**Nango**	**0.71**	**283**	P	**Pn**	**10 16 51.5**	**0.0**
JANG				S	**Sb**	**10 17 00.7**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.79**	**216**	P	**Pn**	**10 16 52.7**	**+0.1**
MIYJ				S	**Sb**	**10 17 03.2**	**+0.1**
JKZ	**Kuzumaki**	**0.86**	**255**	P	**Pb**	**10 16 54.1**	**-0.1**

JKZ			S		Sb	10 17 05.8	+0.4
JARK	Aomorirokkasho	1.12 315	P		Pn	10 16 57.6	+0.4
JARK			S		Sn	10 17 11.7	+0.1
JOM	Ohasama	1.14 230	P		Pb	10 16 58.4	-0.3
JOM			eS		Sb	10 17 13.0	-0.2
JTM	Tenmabayashi	1.18 299	P		Pb	10 16 58.6	-0.7
JTM			S		Sb	10 17 13.3	-0.9
JAH	Hinai	1.36 269	P		Pb	10 17 01.6	-0.9
JAH			eS		Sb	10 17 19.0	-0.6
JOT	Ohata	1.56 319	P		Pn	10 17 04.1	+0.9
JMK	Ichinoseki	1.56 217	S		Sb	10 17 25.4	+0.1
ASAJ	Asahikawa	3.90 2	P		Pn	10 17 37.0	+1.6
	3.5nm,0.3s,baz=212,slow=13,SNR=20						
ASAJ			S		Sn	10 18 22.3	+2.2
	3.1nm,0.3s,baz=256,slow=19,SNR=3.6						
ASAJ			LR		LR	10 19 10.6	
	comp=Z,107nm,20.1s,baz=189,slow=38						
MAT	Matsushiro	4.94 223	P		Pn	10 17 53.2	+3.5
MAT			eS		Sn	10 18 48.6	+2.9
MJAR	Matsushiro Arr	4.94 223	P		Pn	10 17 53.5	+3.8
	0.4nm,0.3s,baz=30,slow=13,SNR=30						
USRK	Ussuriysk Ar.	8.70 301	P		Pn	10 18 45.6	+4.3
	0.7nm,0.3s,baz=101,slow=14,SNR=9.3						
USRK			LR		LR	10 21 50.9	
	comp=Z,90nm,21.2s,baz=38,slow=36						
KSRS	Korea Array	11.63 261	P		Pn	10 19 26.7	+5.2
	0.2nm,0.3s,baz=69,slow=14,SNR=3.8						
KSRS			LR		LR	10 23 36.6	
	comp=Z,48nm,18.9s,baz=20,slow=36						
KLR	Kul'dur	11.77 324	P		Pn	10 19 27.7	+4.4
	0.1nm,0.3s,baz=140,slow=16,SNR=2.1						
KLR			LR		LR	10 24 00.1	
	comp=Z,54nm,19.2s,baz=154,slow=37						
SEY	Seymchan	23.52 11	P		P	10 21 44.3	-0.4
	1.1nm,0.5s,baz=175,slow=12,SNR=6.5						
SONM	Songino Array	26.81 299	P		P	10 22 14.5	-0.5
	1.1nm,0.6s,baz=108,slow=8.9,SNR=8.5						
H11N2	WAKE ISLAND Hy	29.27 127	T		T	10 53 25.8	
	baz=319,slow=75						
H11N1	WAKE ISLAND Hy	29.28 127	T		T	10 53 31.1	
	baz=319,slow=75						
H11N3	WAKE ISLAND Hy	29.29 127	T		T	10 53 31.2	
	baz=319,slow=75						
H11S1	WAKE ISLAND Hy	30.09 129	T		T	10 54 30.1	
	baz=321,slow=76						
H11S3	WAKE ISLAND Hy	30.09 129	T		T	10 54 31.1	
	baz=321,slow=76						
H11S2	WAKE ISLAND Hy	30.10 129	T		T	10 54 31.1	
	baz=321,slow=76						
ZALV	Zalesovo Beam	40.42 310	P		P	10 24 11.9	-0.8
	1.0nm,0.5s,baz=83,slow=7.9,SNR=5.2						
MKAR	Makanchi Array	43.17 299	P		P	10 24 34.9	-0.5
	0.8nm,0.4s,baz=86,slow=8.6,SNR=12						
ILAR	Eielson Array	46.41 34	P		P	10 25 00.3	-0.5
	0.4nm,0.6s,baz=265,slow=6.3,SNR=8.4						
INK	Inuvik	51.21 28	P		P	10 25 36.6	-1.0
	0.8nm,0.5s,baz=291,slow=6.6,SNR=7.8						
WRA	Warramunga Arr	60.32 189	P		P	10 26 42.1	-1.3
	0.7nm,0.7s,baz=6.5,slow=7.4,SNR=12						
YKA	Yellowknife Ar	60.68 31	P		P	10 26 44.8	-0.6
	0.2nm,0.6s,baz=302,slow=6.4,SNR=6.4						
ARCES	ARCESS Array B	61.30 339	P		P	10 26 48.5	-1.1
	3.2nm,0.9s,baz=51,slow=7.9,SNR=4.7						
ASAR	Alice Springs	64.05 189	P		P	10 27 07.0	-1.4
	0.3nm,0.4s,baz=2.7,slow=7.3,SNR=5.2						
FINES	FINESS Array B	66.37 332	P		P	10 27 22.2	-0.9
	1.5nm,0.8s,baz=48,slow=5.7,SNR=4.8						
KBZ	Khabaz	69.44 310	P		P	10 27 40.8	-1.8
	0.5nm,0.4s,baz=37,slow=5.1,SNR=4.7						
NB2	NORSAR Subarra	71.56 337	P		P	10 27 54.4	-0.9
	comp=Z,0.7nm,0.6s,baz=39,slow=6.2						
NOA	NORSAR Array B	71.56 337	P		P	10 27 54.8	-0.5
	comp=Z,1.0nm,0.6s,baz=39,slow=5.9,SNR=5.4						
AKASG	Malin Array Be	72.27 322	P		P	10 27 58.8	-0.8
	comp=Z,0.8nm,0.6s,baz=44,slow=6.3,SNR=8.9						
TXAR	Lajitas Array	87.57 53	P		P	10 29 23.6	+0.7
	comp=Z,0.1nm,0.5s,baz=285,slow=3.5,SNR=2.4						

GUC 06 10:23:27.7±0.6, 23°.33S×68°.15W, h128km±4km, ML3.5, 8C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	1.00 315		⇓iP	Pn	10 23 50.9	0.0
PB15	IPOC Station P	1.22 275		⇓iP	Pn	10 23 53.0	+0.1
PB15				i S	Sn	10 24 11.8	-0.1
PB06	IPOC Station P	1.45 295		⇑iP	Pn	10 23 55.2	-0.1
PB06				eS	Sn	10 24 15.8	-0.4
PB06				IAML		10 24 17.9	
	comp=E,770nm,0.3s						
PB09	IPOC Station P	1.83 326		⇑iP	Pn	10 24 00.1	+0.4
PB09				i S	Sn	10 24 24.4	+0.2
PB09				IAML		10 24 28.1	
	comp=N,220nm,0.2s						
PB05	IPOC Station P	1.95 284		⇑iP	Pn	10 24 00.7	-0.4
PB05				i S	Sn	10 24 26.2	-0.4
PB05				IAML		10 24 29.0	
	comp=E,124nm,0.5s						
PB03	IPOC Station P	1.96 310		⇑iP	Pn	10 24 01.3	+0.1
PB03				i S	Sn	10 24 26.6	-0.2
PB03				IAML		10 24 27.9	
	comp=N,379nm,0.2s						
PB04	IPOC Station P	2.10 298		⇑iP	Pn	10 24 02.8	-0.2
PB04				i S	Sn	10 24 29.6	-0.2
PB04				IAML		10 24 36.8	
	comp=E,298nm,0.2s						
GO02	Mina Guanaco	2.25 216		⇑iP	Pn	10 24 05.5	+0.5
GO02				i S	Sn	10 24 34.3	+0.8
GO02				IAML		10 24 39.7	
	comp=E,445nm,0.7s						
PB07	IPOC Station P	2.27 314		i P	Pn	10 24 05.3	+0.2
PB07				i S	Sn	10 24 33.4	-0.2
PB07				IAML		10 24 34.3	
	comp=E,323nm,0.5s						
PB14	IPOC Station P	2.43 238		eP	Pn	10 24 07.5	+0.2
PB14				i S	Sn	10 24 36.7	-0.9
PB14				IAML		10 24 46.8	
	comp=E,182nm,0.2s						
PB02	IPOC Station P	2.58 321		eP	Pn	10 24 08.7	-0.2
PB02				IAML		10 24 51.7	
	comp=E,291nm,0.3s						
PB01	IPOC Station P	2.59 331		⇑iP	Pn	10 24 09.4	+0.2
PB01				i S	Sn	10 24 40.7	-0.3

IDC 06 10:28:29.2±1.0, 20°.74S×176°.11W, h0km, mb4.0/6, mb1 4.4/6, mb1mx4.0/28, mbtmp4.0/6, Error ellipse: s-maj=56.9km s-min=23.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	46.18 257		P	P	10 36 55.8	-0.3
	2.1nm,0.9s,baz=94,slow=7.5,SNR=12						
ASAR				PcP	PcP	10 38 32.9	+0.8
	0.3nm,0.8s,baz=109,slow=5.0,SNR=2.8						
WRA	Warramunga Arr	46.32 262		P	P	10 36 57.4	+0.2
	0.8nm,1.0s,baz=97,slow=9.2,SNR=2.8						
NVAR	Mina Array Bea	80.00 42		P	P	10 40 41.8	+1.1
	1.1nm,0.8s,baz=221,slow=8.2,SNR=7.5						
TXAR	Lajitas Array	85.70 57		P	P	10 41 10.9	+0.4
	1.3nm,0.9s,baz=215,slow=7.6,SNR=12						
ILAR	Eielson Array	88.17 12		P	P	10 41 20.8	-0.7
	0.9nm,1.0s,baz=234,slow=5.9,SNR=8.3						
YKA	Yellowknife Ar	96.00 24		P	P	10 41 56.9	-0.8
	0.4nm,0.8s,baz=240,slow=4.4,SNR=9.0						
AKASG	Malin Array Be	144.06 332		PKP	PKPab	10 48 04.0	-0.1
	1.2nm,0.7s,baz=40,slow=4.3,SNR=13						
BRTR	Keskin Array B	148.30 313		PKPbc	PKPbc	10 48 17.6	-0.2
	1.9nm,0.9s,baz=158,slow=3.6,SNR=7.7						
BRG	Berggiesshubel	148.90 348		ePKP	PKiKP	10 48 20.2	0.0
	7.3nm,1.3s						
GERES	GERESS Array B	150.87 347		PKPbc	PKPbc	10 48 22.7	-1.1
	1.3nm,0.8s,baz=7.8,slow=3.0,SNR=6.5						
TORD	Torodi Ar. Bea	172.17 164		PKPab	PKPab	10 50 02.9	-1.1
	0.5nm,0.8s,baz=228,slow=4.6,SNR=3.7						

*IDC **06** 10:29:32.2±1.5, 3°.38S×143°.95E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/26, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=34.0km s-min=25.8km az=134.0*

ISC 06 10:29:37.4±1.6, 3°.2S±0°.2×143°.4E±0°.1, h31km, n12, σ0s92/6, mb3.8/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	2.78 283			Pb	10 30 25.5	-1.0
	4.2nm,0.3s,baz=112,slow=11,SNR=12						
JAY				Sn	Sb	10 31 01.4	+1.2
	0.9nm,0.3s,baz=120,slow=20,SNR=2.0						
HNR	Honiara	17.57 112		Pn	Pn	10 33 29.6	-11
	16nm,0.3s,baz=141,slow=14,SNR=2.2						
WRA	Warramunga Arr	18.89 207		P	P	10 33 55.7	+0.2
	0.2nm,0.3s,baz=32,slow=11,SNR=15						
ASAR	Alice Springs	22.37 203		P	P	10 34 33.4	+0.1
	0.3nm,0.3s,baz=30,slow=9.0,SNR=10						
FITZ	Fitzroy Crossi	22.89 228		P	P	10 34 38.8	0.0
	3.8nm,0.7s,baz=39,slow=10,SNR=12						
H11S3	WAKE ISLAND Hy	31.43 46		T	T	11 08 52.4	
	baz=228,slow=75						
H11S2	WAKE ISLAND Hy	31.44 46		T	T	11 08 53.1	
	baz=228,slow=75						
H11S1	WAKE ISLAND Hy	31.45 46		T	T	11 08 54.3	
	baz=228,slow=75						
H11N1	WAKE ISLAND Hy	32.38 44		T	T	11 10 04.2	
	baz=227,slow=76						
H11N2	WAKE ISLAND Hy	32.40 44		T	T	11 10 05.4	
	baz=227,slow=76						
H11N3	WAKE ISLAND Hy	32.40 45		T	T	11 10 05.4	
	baz=227,slow=76						
ILAR	Eielson Array	84.31 24		P	P	10 42 06.4	+0.3
	0.5nm,0.7s,baz=249,slow=5.0,SNR=4.9						

BUC 06 10:45:26.4±0.6, 45°.58N×26°.34E, h151km±5km, MD3.8/4, 48C-8D, Error ellipse: s-maj=4.4km s-min=3.9km az=319.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	Muntele Rosu	0.29 252		⇑iP	Pn	10 45 47.1	-0.1
MLR				i S	Sn	10 46 01.3	-1.6
MLR	Muntele Rosu	0.29 252		⇑iP	Pn	10 45 47.1	-0.1
PLOR	Plostina	0.35 39		⇑iP	Pn	10 45 46.8	-0.4
PLOR				i S	Sn	10 46 01.8	-1.4
PLOR	Plostina	0.35 39		⇑iP	Pn	10 45 46.8	-0.4
VRI	Vrincioaia	0.39 44		⇑iP	Pn	10 45 47.1	-0.3
VRI				i S	Sn	10 46 02.3	-1.1
VRI	Vrincioaia	0.39 44		⇑iP	Pn	10 45 47.1	-0.3
ISR	Istrita	0.49 163		⇑iP	Pn	10 45 48.2	+0.3
ISR				i S	Sn	10 46 02.9	-1.2
ISR	Istrita	0.49 163		⇑iP	Pn	10 45 48.2	+0.3
ISR				S	Sn	10 46 02.9	-1.2
GRER		0.49 114		i S	Sn	10 46 03.9	-0.1
GRER		0.49 114		S	Sn	10 46 03.9	-0.1
ODBI	Odobesti	0.54 70		⇑iP	Pn	10 45 48.7	+0.7
ODBI	Odobesti	0.54 70		⇑iP	Pn	10 45 48.7	+0.7
SECR		0.58 199		⇑iP	Pn	10 45 48.5	+0.2
SECR		0.58 199		⇑iP	Pn	10 45 48.5	+0.2
PETR	Petresti	0.64 77		⇑iP	Pn	10 45 48.9	+0.3
PETR				i S	Sn	10 46 05.4	-0.1
PETR	Petresti	0.64 77		⇑iP	Pn	10 45 48.9	+0.3
PLAR	PLOIESTI	0.70 198		⇑iP	Pn	10 45 49.3	+0.3
PLAR	PLOIESTI	0.70 198		⇑iP	Pn	10 45 49.3	+0.3
DOPR	Dopca	0.77 300		⇑iP	Pn	10 45 49.2	-0.2
DOPR				i S	Sn	10 46 06.7	-0.4
DOPR	Dopca	0.77 300		⇑iP	Pn	10 45 49.2	-0.2
TUDR		0.93 89		⇑iP	Pn	10 45 50.4	-0.2
TUDR				i S	Sn	10 46 08.3	-0.8
TUDR		0.93 89		⇑iP	Pn	10 45 50.4	-0.2
TESR	Tescani	0.95 13		⇑iP	Pn	10 45 50.6	-0.2
TESR				i S	Sn	10 46 08.1	-1.5
TESR	Tescani	0.95 13		⇑iP	Pn	10 45 50.6	-0.2
MTUR	Matau	0.97 249		⇓iP	Pn	10 45 50.9	-0.2
MTUR	Matau	0.97 249		⇓iP	Pn	10 45 50.9	-0.2
BIR	Birlad	1.13 52		⇑iP	Pn	10 45 51.9	-0.4
BIR				i S	Sn	10 46 12.2	0.0
BIR	Birlad	1.13 52		⇑iP	Pn	10 45 51.9	-0.4
LEHL	Lehliu	1.16 163		⇑iP	Pn	10 45 52.6	-0.1
LEHL				i S	Sn	10 46 11.7	-1.0
LEHL	Lehliu	1.16 163		⇑iP	Pn	10 45 52.6	-0.1
AMRR	Amara	1.20 144		⇑iP	Pn	10 45 53.0	0.0
AMRR				i S	Sn	10 46 12.4	-0.9
AMRR	Amara	1.20 144		⇑iP	Pn	10 45 53.0	0.0
GOLR		1.22 233		⇑iP	Pn	10 45 53.4	+0.1
GOLR				i S	Sn	10 46 13.6	-0.1
GOLR		1.22 233		⇑iP	Pn	10 45 53.4	+0.1
BUC1	Bucharest	1.25 190		⇑iP	Pn	10 45 53.8	+0.3
BUC1				i S	Sn	10 46 13.2	-1.0
BUC1	Bucharest	1.25 190		⇑iP	Pn	10 45 53.8	+0.3
CFR	Carcaliu	1.33 107		⇑iP	Pn	10 45 53.6	-0.6
CFR				i S	Sn	10 46 13.6	-1.9
CFR	Carcaliu	1.33 107		⇑iP	Pn	10 45 53.6	-0.6
BIZ	Bicaz	1.37 353		⇑iP	Pn	10 45 55.7	+1.1
BIZ	Bicaz	1.37 353		⇑iP	Pn	10 45 55.7	+1.1
SGRR	Singureni	1.38 191		⇑iP	Pn	10 45 54.5	-0.3
SGRR				i S	Sn	10 46 15.3	-1.2
SGRR	Singureni	1.38 191		⇑iP	Pn	10 45 54.5	-0.3
HUMR	Humele	1.43 223		⇑iP	Pn	10 45 54.8	-0.5
HUMR				i S	Sn	10 46 16.0	-1.3
HUMR	Humele	1.43 223		⇑iP	Pn	10 45 54.8	-0.5
TLB	Topalu	1.57 129		⇓iP	Pn	10 45 56.3	-0.4
TLB				i S	Sn	10 46 17.8	-2.0
TLB	Topalu	1.57 129		⇓iP	Pn	10 45 56.3	-0.4
LEOM	Leova	1.60 56		⇓iP	Pn	10 45 57.2	+0.2
LEOM				i S	Sn	10 46 19.5	-1.0
LEOM	Leova	1.60 56		⇓iP	Pn	10 45 57.2	+0.2
CVDA	Cernavoda	1.74 135		⇓iP	Pn	10 45 58.3	-0.2
CVDA				i S	Sn	10 46 21.5	-1.7
CVDA	Cernavoda	1.74 135		⇓iP	Pn	10 45 58.3	-0.2
TLCR		1.79 102		⇑iP	Pn	10 45 59.0	-0.1
TLCR				i S	Sn	10 46 23.2	-1.0
TLCR		1.79 102		⇑iP	Pn	10 45 59.0	-0.1
ICOR	Ion Corvin	1.80 144		⇑iP	Pn	10 45 59.3	+0.1
ICOR				i S	Sn	10 46 22.9	-1.5
ICOR	Ion Corvin	1.80 144		⇑iP	Pn	10 45 59.3	+0.1
MFTR	Murfatlar	2.04 133		⇑iP	Pn	10 46 01.7	-0.3
MFTR	Murfatlar	2.04 133		⇑iP	Pn	10 46 01.7	-0.3
MILM	Milestii Mici	2.18 51		⇑iP	Pn	10 46 03.4	-0.2
MILM				i S	Sn	10 46 30.4	-1.8
MILM	Milestii Mici	2.18 51		⇑iP	Pn	10 46 03.4	-0.2

*NNC **06** 10:54:30.8±16.0, 43°.92N×77°.33E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=123.7km s-min=91.7km az=67.0*
*SOME **06** 10:54:31.0, 45°.33N×81°.93E, h0km*

ISC 06 10:54:31.3±3.2, 45°.3N±0°.1×81°.9E±0°.1, h10km, n7, σ0s87/13, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPS	Kapalarasan	1.82 269		P	Pg	10 55 05.4	-0.8
	4.6nm,0.4s						
KAPS				S	Sg	10 55 30.3	+0.4
	4.5nm,0.5s						
KAPS	Kapalarasan	1.82 269		eP	Pg	10 55 05.4	-0.8
	4.6nm,0.4s						
KAPS				eS	Sg	10 55 30.3	+0.4
	4.4nm,0.5s						
DJR	Jarkent	1.83 237		P	Pg	10 55 05.7	-0.7
	5.0nm,0.3s						
DJR				S	Sg	10 55 30.6	+0.5
	2.3nm,0.5s						
DJR	Jarkent	1.83 237		eP	Pg	10 55 05.7	-0.7
	5.0nm,0.3s						
DJR				eS	Sg	10 55 30.6	+0.5
	3.6nm,0.5s						
KTMS	Ketmen	2.21 212		Pg	Pn	10 55 09.2	+1.1
	1.8nm,0.2s						
KTMS				Lg	Lg	10 55 36.3	
	4.0nm,0.3s						
KTMS	Ketmen	2.21 212		eP	Pg	10 55 12.5	-1.1
	1.2nm,0.3s						
KTMS				eS	Sg	10 55 42.4	+0.1
	3.0nm,0.4s						
ARXS	Arharly	3.14 250		eP	Pg	10 55 30.0	-1.4
	7.1nm,0.8s						
ARXS				eS	Sg	10 56 12.4	+0.3
	4.8nm,0.6s						

*ISCJB **06** 11:09:55.3±0.4, 21°.12S±0°.02×69°.11W±0°.07, h126km±4km, mb3.8/5, Error ellipse: s-maj=10.8km s-min=3.5km az=1.0*
*SJA **06** 11:09:55.0±0.8, 21°.10S×68°.76W, h33km, ML3.1, MW3.6*
*IDC **06** 11:09:56.6±1.0, 21°.11S×68°.82W, h119km±14km, mb3.5/6, mb1 3.7/8, mb1mx3.5/25, mbtmp4.0/8, MS4.2/1, Ms1 4.2/1, ms1mx2.6/21, Error ellipse: s-maj=25.3km s-min=16.6km az=111.0*
*GUC **06** 11:09:56.1±0.5, 21°.10S×69°.06W, h121km±2km, ML4.0*
*NEIC **06** 11:09:56.0±0.0, 21°.08S×69°.06W, h112km, ML4.0(GUC), After GUC.*

ISC 06 11:09:56.1±0.7, 21°.09S±0°.03×69°.04W±0°.06, h122km±5km, n50, σ1s34/87, mb3.9/5, 11C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	IPOC Station P	0.42 277		ePn	Pn	11 10 12.5	-1.4
PB01				eSn	Sn	11 10 25.5	-1.8
PB01	IPOC Station P	0.42 277		eP	Pn	11 10 13.3	-0.6
PB01				eS	Sn	11 10 26.0	-1.4
PB01	IPOC Station P	0.42 277		eP	Pn	11 10 13.1	-0.8
PB01				eS	Sn	11 10 25.8	-1.6
PB09	IPOC Station P	0.72 195		eP	Pn	11 10 16.3	+0.2
PB09				eS	Sn	11 10 30.6	-0.6
PB09	IPOC Station P	0.72 195		⇓iP	Pn	11 10 15.6	-0.4
PB09				eS	Sn	11 10 30.8	-0.4
PB09				IAML		11 10 32.0	
	comp=N,5μm,0.3s						
PB02	IPOC Station P	0.83 254		eP	Pn	11 10 16.8	0.0
PB02				eS	Sn	11 10 32.3	-0.2
PB02	IPOC Station P	0.83 254		⇑iP	Pn	11 10 16.3	-0.5
PB02				eS	Sn	11 10 31.7	-0.8
PB08	IPOC Station P	0.95 354		eP	Pn	11 10 18.2	-0.1
PB08				eS	Sn	11 10 34.4	-0.7
PB08	IPOC Station P	0.95 354		⇓iP	Pn	11 10 18.0	-0.3
PB08				i S	Sn	11 10 34.8	-0.3
PB08				IAML		11 10 36.7	
	comp=E,3μm,0.2s						
PB07	IPOC Station P	1.01 231		eP	Pn	11 10 18.2	-0.4
PB07				eS	Sn	11 10 34.8	-0.8
PB07	IPOC Station P	1.01 231		⇑iP	Pn	11 10 18.1	-0.4
PB07				eS	Sn	11 10 34.8	-0.8
PB07				IAML		11 10 35.8	
	comp=E,5μm,0.5s						
PB03	IPOC Station P	1.16 215		eP	Pn	11 10 20.2	+0.1
PB03				eS	Sn	11 10 37.2	-1.1
PB03	IPOC Station P	1.16 215		⇑iP	Pn	11 10 19.6	-0.5
PB03				i S	Sn	11 10 37.3	-1.0
PB03				IAML		11 10 38.5	
	comp=E,2μm,0.4s						
GO01	Chusmiza	1.42 354		ePn	Pn	11 10 23.1	-0.2
GO01	Chusmiza	1.42 354		eP	Pn	11 10 23.4	+0.1
GO01				eS	Sn	11 10 44.2	+0.3
GO01				IAML		11 10 45.8	
	comp=N,4μm,0.2s						
PB11	IPOC Station P	1.45 336		ePn	Pn	11 10 22.2	-1.0
PB11				eSn	Sn	11 10 43.0	-0.8
PB11	IPOC Station P	1.45 336		eP	Pn	11 10 22.9	-0.3
PB11				⇓eS	Sn	11 10 43.5	-0.3
PB11	IPOC Station P	1.45 336		⇑iP	Pn	11 10 22.8	-0.4
PB11				i S	Sn	11 10 43.3	-0.5
PB11				IAML		11 10 44.8	
	comp=E,5μm,0.2s						
LVC	Limon Verde	1.52 175		eP	Pn	11 10 24.4	+0.2
LVC				eS	Sn	11 10 45.6	0.0
LVC				IAML		11 10 50.1	
	comp=Z,482nm,0.3s						
LVC	Limon Verde	1.52 175		⇑iP	Pn	11 10 24.2	+0.1
LVC				i S	Sn	11 10 45.4	-0.2
LVC	Limon Verde	1.52 175		P	Pn	11 10 24.3	+0.1
	comp=Z,23nm,0.3s,baz=31,slow=8.5,SNR=693						
LVC				S	Sn	11 10 45.4	-0.2
	comp=Z,231nm,0.3s,baz=242,slow=22,SNR=68						
PB04	IPOC Station P	1.61 220		ePn	Pn	11 10 24.8	-0.3
PB04				eSn	Sn	11 10 46.1	-1.1
PB04	IPOC Station P	1.61 220		eP	Pn	11 10 24.6	-0.5
PB04				eS	Sn	11 10 46.4	-0.8
PB04	IPOC Station P	1.61 220		⇑iP	Pn	11 10 24.8	-0.3
PB04				i S	Sn	11 10 46.4	-0.8
PB04				IAML		11 10 48.1	
	comp=N,2μm,0.1s						
PB06	IPOC Station P	1.68 197		eP	Pn	11 10 25.9	0.0
PB06				eS	Sn	11 10 48.2	-0.5
PB06	IPOC Station P	1.68 197		⇑iP	Pn	11 10 25.7	-0.2
PB06				i S	Sn	11 10 48.1	-0.5
PB06				IAML		11 10 48.9	
	comp=N,1μm,0.4s						
PSGCX	Pisagua	1.80 325		eP	Pn	11 10 26.5	-0.8
PSGCX				eS	Sn	11 10 49.9	-1.3
PSGC	Pisagua	1.80 325		⇑iP	Pn	11 10 26.4	-0.9
PSGC				i S	Sn	11 10 50.1	-1.0
PSGC				IAML		11 10 51.5	
	comp=N,1μm,0.6s						
MNMC	Minye Minye	2.02 345		ePn	Pn	11 10 30.1	-0.1
MNMC				eSn	Sn	11 10 56.0	-0.2
MNMC	Minye Minye	2.02 345		⇑iP	Pn	11 10 30.2	0.0
MNMC				i S	Sn	11 10 56.5	+0.2
MNMC				IAML		11 10 59.2	
	comp=E,2μm,0.2s						
MNMCX	Minye Minye	2.02 345		eP	Pn	11 10 30.4	+0.2
MNMCX				eS	Sn	11 10 56.6	+0.3
PB05	IPOC Station P	2.06 211		eP	Pn	11 10 30.2	-0.3
PB05				eS	Sn	11 10 53.8	-3.0
PB05	IPOC Station P	2.06 211		⇑iP	Pn	11 10 30.1	-0.3
PB05				i S	Sn	11 10 54.9	-1.9
PB05				IAML		11 10 55.4	
	comp=N,833nm,0.3s						
PB15	IPOC Station P	2.14 191		eP	Pn	11 10 31.7	+0.1
PB15				eS	Sn	11 10 58.5	-0.3
PB15	IPOC Station P	2.14 191		⇑iP	Pn	11 10 31.7	+0.1
PB15				i S	Sn	11 10 58.9	+0.1
PB14	IPOC Station P	3.73 199		eP	Pn	11 10 51.0	-1.5
PB14				i S	Sn	11 11 32.8	-3.2
PB14				IAML		11 11 41.9	
	comp=E,172nm,0.5s						
GO02	Mina Guanaco	4.08 187		ePn	Pn	11 10 56.0	-

MLv4.0/11
*NEIC **06** 11:12:01.9±0.9, 7°.60S×107°.70E, h16km±6km, mb4.1/7, Error ellipse: s-maj=19.5km s-min=11.6km az=166.0*
NEIC Felt [II] at Bandung Selatan, Banjaran, Gunung Puntang, Pangalengan and Soreang.

ISC 06 11:11:58.7±0.6, 7°.36S±0°.04×107°.55E±0°.04, h10km, n29, σ1§14/36, mb3.8/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.33**	**127**	*e*Pg	**Pg**	**11 12 05.2**	**-0.1**
CISI				*e*Sg	**Sg**	**11 12 09.6**	**-0.1**
CISI	**Cisompet, Garu**	**0.33**	**127**	P	**Pg**	**11 12 05.1**	**-0.2**
CISI				S	**Sg**	**11 12 09.8**	**+0.1**
LEM	**Lembang**	**0.53**	**7**	P	**Pg**	**11 12 08.9**	**-0.2**
LEM				S	**Sb**	**11 12 18.1**	**+0.1**
SKJI	**Sukabumi**	**1.05**	**289**	P	**Pg**	**11 12 18.7**	**-0.2**
SKJI				S	**Sb**	**11 12 33.9**	**+1.2**
TNG	**Tangerang**	**1.48**	**323**	P	**Pb**	**11 12 26.5**	**+0.2**
SBJI	**Serang**	**1.87**	**311**	P	**Pn**	**11 12 31.6**	**+0.8**
CGJI	**Cibinong**	**1.99**	**292**	P	**Pn**	**11 12 32.2**	**-0.2**
YOGI	**Yogyakarta**	**2.76**	**100**	P	**Pn**	**11 12 43.0**	**0.0**
SMRI	**Semarang**	**2.88**	**84**	*e*Pn	**Pn**	**11 12 45.7**	**+1.0**
SMRI	**Semarang**	**2.88**	**84**	P	**Pn**	**11 12 46.4**	**+1.7**
UGM	**Wanagama**	**3.00**	**101**	*e*Pn	**Pn**	**11 12 46.6**	**+0.2**
UGM	**Wanagama**	**3.00**	**101**	P	**Pn**	**11 12 46.0**	**-0.3**
WOJI	**Wonogiri, Jawa**	**3.38**	**98**	P	**Pn**	**11 12 51.5**	**0.0**
XMIS	**Christmas Isla**	**3.63**	**211**	*e*Pn	**Pn**	**11 12 56.5**	**+1.5**
XMIS				*e*Sn	**Sn**	**11 13 36.2**	**-1.7**
PCJI	**Pacitan**	**3.69**	**103**	P	**Pn**	**11 12 56.6**	**+0.8**
PWJI	**Pagerwojo**	**4.27**	**99**	P	**Pn**	**11 13 03.9**	**+0.1**
FITZ	**Fitzroy Crossi** 4.7nm,0.8s	**20.60**	**123**	*e*P	**P**	**11 16 38.0**	**-0.2**
FITZ	**Fitzroy Crossi** 4.9nm,0.8s,baz=308,slow=5.9,SNR=14	**20.60**	**123**	P	**P**	**11 16 38.4**	**+0.2**
WRA	**Warramunga Arr**	**28.82**	**118**	*e*P	**P**	**11 17 58.1**	**+0.7**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=290,slow=12,SNR=4.4	**28.82**	**118**	P	**P**	**11 17 58.5**	**+1.0**
WRA				PcP	**PcP**	**11 21 07.0**	**-0.2**
	0.4nm,0.9s,baz=292,slow=4.4,SNR=3.5						
WB2	**Warramunga Arr** 6.6nm,1.3s	**28.83**	**118**	*e*P	**P**	**11 17 57.4**	**-0.1**
WC3	**Warramunga Arr** 4.6nm,1.0s	**28.86**	**118**	*e*P	**P**	**11 17 56.9**	**-0.8**
ASAR	**Alice Springs** 0.5nm,0.7s,baz=298,slow=8.3,SNR=4.2	**30.04**	**126**	P	**P**	**11 18 08.9**	**+0.7**
ASAR				PcP	**PcP**	**11 21 10.3**	**0.0**
	0.1nm,0.5s,baz=270,slow=2.8,SNR=3.2						
STKA	**Stephens Creek** 0.8nm,0.8s	**40.00**	**132**	*e*P	**P**	**11 19 33.8**	**0.0**
STKA	**Stephens Creek** 2.7nm,0.7s,baz=306,slow=9.7,SNR=6.6	**40.00**	**132**	P	**P**	**11 19 34.5**	**+0.6**
SONM	**Songino Array** 0.3nm,0.6s,baz=152,slow=6.4,SNR=3.2	**54.96**	**359**	P	**P**	**11 21 29.2**	**-0.9**
MK31	**Makanchi Array** 2.2nm,1.3s	**58.41**	**340**	*e*P	**P**	**11 21 58.8**	**+4.3**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=180,slow=10,SNR=4.2	**58.41**	**340**	P	**P**	**11 21 53.6**	**-0.9**
BRTR	**Keskin Array B** 0.3nm,0.3s,baz=140,slow=7.6,SNR=3.7	**82.47**	**312**	P	**P**	**11 24 19.1**	**-2.7**

IDC 06 11:23:46.8±2.0, 23°.58N×44°.83W, h0km, mb3.5/6, mb1 3.9/6, mb1mx3.6/35, mbtmp3.5/6, MS3.3/11, Ms1 3.3/11, ms1mx3.0/46, Error ellipse: s-maj=70.1km s-min=24.5km az=13.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan** comp=Z,38nm,18.2s,baz=77,slow=32	**20.64**	**259**	LR	LR	11 34 58.6	
PTGA	**Pitinga** comp=Z,45nm,18.6s,baz=342,slow=34	**28.29**	**213**	LR	LR	11 39 44.3	
SCHQ	**Schefferville** comp=Z,34nm,19.6s,baz=60,slow=35	**35.26**	**338**	LR	LR	11 44 06.1	
DBIC	**Dimbokro** comp=Z,46nm,18.6s,baz=264,slow=33	**41.90**	**107**	LR	LR	11 46 53.0	
H10N2	**ASCENSION HYDR** baz=317,slow=75,SNR=23	**43.05**	**133**	T	T	12 17 27.0	
H10N3	**ASCENSION HYDR** baz=317,slow=75,SNR=24	**43.05**	**133**	T	T	12 17 27.0	
H10N1	**ASCENSION HYDR** baz=317,slow=75,SNR=24	**43.07**	**133**	T	T	12 17 28.4	
H10S3	**ASCENSION HYDR** baz=318,slow=74,SNR=53	**43.76**	**134**	T	T	12 18 18.4	
H10S1	**ASCENSION HYDR** baz=318,slow=74,SNR=53	**43.76**	**134**	T	T	12 18 18.5	
H10S2	**ASCENSION HYDR** baz=318,slow=74,SNR=45	**43.78**	**134**	T	T	12 18 19.6	
TORD	**Torodi Ar. Bea** 1.5nm,1.0s,baz=295,slow=10.0,SNR=7.2	**45.19**	**95**	P	P	11 32 05.8	-0.1
TORD				LR	LR	11 48 48.2	
	comp=Z,46nm,20.7s,baz=305,slow=33						
ULM	**Lac du Bonnet** comp=Z,38nm,20.3s,baz=123,slow=34	**47.52**	**317**	LR	LR	11 50 37.1	
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=104,slow=7.1,SNR=5.8	**52.52**	**290**	P	P	11 33 02.1	-0.2
TXAR				LR	LR	11 54 02.9	
	comp=Z,28nm,21.2s,baz=0.0,slow=35						
PDAR	**Pinedale Array** 0.2nm,0.3s,baz=79,slow=7.7,SNR=4.0	**56.11**	**307**	P	P	11 33 27.9	-0.5
PDAR				LR	LR	11 56 11.4	
	comp=Z,30nm,19.0s,baz=88,slow=35						
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=99,slow=7.6,SNR=3.6	**60.03**	**330**	P	P	11 33 54.6	-0.5
MLR	**Muntele Rosu** comp=Z,21nm,20.2s,baz=150,slow=34	**60.32**	**50**	LR	LR	11 57 54.6	
AKASG	**Malin Array Be** 0.1nm,0.2s,baz=274,slow=6.0,SNR=3.3	**62.15**	**44**	P	P	11 34 09.4	-0.3
NVAR	**Mina Array Bea** comp=Z,29nm,19.0s,baz=18,slow=35	**63.18**	**302**	LR	LR	12 00 47.7	
BRTR	**Keskin Array B** comp=Z,14nm,18.4s,baz=91,slow=36	**66.76**	**55**	LR	LR	12 03 46.3	
ILAR	**Eielson Array** 1.0nm,0.9s,baz=69,slow=4.8,SNR=8.5	**73.91**	**334**	P	P	11 35 24.4	+1.0

*ISK **06** 11:43:08.8, 39°.06N×25°.85E, h11km, ML3.6/33*
*DDA **06** 11:43:09.1, 39°.09N×25°.97E, h6km±5km, ML3.5*
*ISCJB **06** 11:43:09.2±0.4, 39°.07N±0°.02×25°.89E±0°.02, h11km±3km, Error ellipse: s-maj=3.3km s-min=2.8km az=175.2*
*THE **06** 11:43:09.9, 39°.08N×25°.95E, h9km, ML3.4/4, Error ellipse: s-maj=0.7km s-min=0.3km az=76.0*
*ATH **06** 11:43:09.1, 39°.08N×26°.01E, h35km±2km, ML3.4/6, Error ellipse: s-maj=3.0km s-min=1.1km az=90.0*
*SOF **06** 11:43:11.5, 39°.31N×25°.87E, h5km*

ISC 06 11:43:09.5±0.9, 39°.08N±0°.02×25°.95E±0°.02, h13km±6km, n112, σ1§01/137, 12C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.16**	**331**	PG	**Pg**	**11 43 13.4**	**0.0**
SIGR				SG	**Sg**	**11 43 15.9**	**0.0**
SIGR	**SIGRI**	**0.16**	**331**	P	**Pg**	**11 43 13.4**	**0.0**
SIGR				S	**Sg**	**11 43 16.0**	**0.0**
PRK	**Paraskevi**	**0.30**	**55**	P	**Pb**	**11 43 16.5**	**-0.3**
PRK				S	**Sb**	**11 43 20.6**	**-1.0**
PRK	**Paraskevi**	**0.30**	**55**	P	**Pb**	**11 43 16.4**	**-0.3**
PRK				S	**Sb**	**11 43 20.9**	**-0.7**
PRK	comp=N,41977μm,0.4s			AML	AML	11 43 21.1	
PRK	comp=E,34967μm,0.4s			AML	AML	11 43 22.7	
GPNR	**Gulpinar-Canak**	**0.41**	**20**	PG	**Pg**	**11 43 17.4**	**-0.3**
PSRA	**Psara**	**0.61**	**210**	P	**Pb**	**11 43 22.4**	**+0.4**
PSRA				S	**Sn**	**11 43 32.6**	**-0.9**
PSRA	comp=N,13452μm,0.3s			AML	AML	11 43 35.7	
PSRA	comp=E,11347μm,0.3s			AML	AML	11 43 35.7	
AYVA	**Ayvalik**	**0.62**	**68**	*i* P	**Pg**	**11 43 21.4**	**-0.2**
AYVA				*i* S	**Sg**	**11 43 29.1**	**-0.8**
CHOS	**Chios island**	**0.69**	**173**	PG	**Pb**	**11 43 23.2**	**-0.2**
CHOS	**Chios island**	**0.69**	**173**	P	**Pb**	**11 43 23.3**	**-0.2**
CHOS				S	**Sb**	**11 43 33.3**	**+0.4**
CHOS	**Chios island**	**0.69**	**173**	P	**Pb**	**11 43 23.3**	**-0.2**
CHOS				S	**Sb**	**11 43 33.5**	**+0.6**
CHOS	comp=E,7575μm,0.4s			AML	AML	11 43 37.0	
CHOS	comp=N,4081μm,0.6s			AML	AML	11 43 37.7	
BOZC	**Bozcaada**	**0.77**	**6**	PG	**Pg**	**11 43 23.9**	**-0.6**
BOZC	**Bozcaada**	**0.77**	**6**	*i* P	**Pb**	**11 43 24.8**	**0.0**
BOZC				*i* S	**Sb**	**11 43 35.5**	**+0.4**
EZN	**Ezine**	**0.80**	**21**	PG	**Pg**	**11 43 24.7**	**-0.4**
EZN	**Ezine**	**0.80**	**21**	P	**Pg**	**11 43 24.4**	**-0.7**
EZN				S	**Sb**	**11 43 37.0**	**+0.9**
EZN	**Ezine**	**0.80**	**21**	⇑*i*P	**Pg**	**11 43 24.5**	**-0.7**
EZN				S	**Sg**	**11 43 35.5**	**-0.2**
BAYC	**CANAKKALE_Bayr** comp=Z,26μm,0.2s	**0.81**	**35**	IAML_P			
BAYC				*i* P	**Pg**	**11 43 24.6**	**-0.7**
BAYC				*i* S	**Sb**	**11 43 37.3**	**+1.0**
URLA	**Izmir**	**0.87**	**145**	PG	**Pb**	**11 43 26.7**	**+0.2**
URLA	**Izmir** comp=Z,28μm,0.2s	**0.87**	**145**	IAML_P			
URLA				*i* P	**Pb**	**11 43 26.9**	**+0.4**
ZEDA	**zmir-Bergama** comp=Z,14μm,0.2s	**0.88**	**97**	IAML_P			
ZEDA				*i* P	**Pn**	**11 43 27.5**	**-0.1**
ZEDA				*i* S	**Sn**	**11 43 40.3**	**0.0**
LIA	**Limnos Island**	**1.01**	**324**	P	**Pb**	**11 43 28.8**	**-0.1**
LIA				S	**Sn**	**11 43 43.6**	**+0.1**
LIA	**Limnos Island**	**1.01**	**324**	P	**Pb**	**11 43 28.9**	**-0.1**
LIA				S	**Sn**	**11 43 43.0**	**-0.5**
LIA	comp=E,8240μm,0.5s			AML	AML	11 43 43.4	
LIA	comp=N,8536μm,0.5s			AML	AML	11 43 43.8	
BLCB	**Balcova**	**1.10**	**129**	PN	**Pn**	**11 43 30.7**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.38**	**17**	PN	**Pn**	**11 43 34.6**	**+0.1**
GELI				SN	**Sg**	**11 43 53.9**	**-0.2**
STEP	**BALIKESIR_Sava** comp=Z,24μm,0.5s	**1.41**	**77**	IAML_P			
STEP				*i* P	**Pg**	**11 43 36.0**	**-0.6**
STEP				*i* S	**Sn**	**11 43 52.5**	**-0.6**
SMTH	**Samothraki Isl**	**1.43**	**347**	P	**Pn**	**11 43 34.7**	**-0.5**
SMTH				S	**Sg**	**11 43 54.7**	**-1.0**
SMTH	**Samothraki Isl**	**1.43**	**347**	P	**Pn**	**11 43 35.5**	**+0.3**
SMTH				S	**Sn**	**11 43 52.8**	**-1.0**
SMTH	comp=N,895μm,0.4s			AML	AML	11 43 57.0	
SMTH	comp=E,1204μm,0.4s			AML	AML	11 43 57.1	
LPK	**Lapseki**	**1.44**	**25**	PN	**Pb**	**11 43 35.7**	**-0.5**
AKHS	**Akhisar** comp=Z,559nm,0.1s	**1.46**	**97**	IAML_P			
AKHS				*i* P	**Pn**	**11 43 36.0**	**+0.4**
SMG	**Samos**	**1.53**	**153**	P	**Pn**	**11 43 36.5**	**0.0**
SMG	**Samos**	**1.53**	**153**	P	**Pn**	**11 43 35.8**	**-0.7**
BALB	**Balikesir**	**1.60**	**69**	PN	**Pb**	**11 43 38.8**	**-0.1**
AOS	**Alonnisos**	**1.61**	**274**	PN	**Pn**	**11 43 36.6**	**-1.1**
AOS	**Alonnisos**	**1.61**	**274**	P	**Pn**	**11 43 38.0**	**+0.3**
AOS	**Alonnisos**	**1.61**	**274**	P	**Pn**	**11 43 37.9**	**+0.2**
ERIK	**Erikli-Kesan**	**1.65**	**15**	PN	**Pb**	**11 43 39.3**	**-0.5**
TNSA	**Tinos**	**1.65**	**202**	P	**Pn**	**11 43 38.4**	**+0.2**
GONE	**Gonen-Balikesi**	**1.66**	**54**	PN	**Pn**	**11 43 39.0**	**+0.8**
ENEZ	**Enez**	**1.67**	**5**	PN	**Pn**	**11 43 38.5**	**+0.1**
KRBG	**Karabiga-Canak**	**1.68**	**38**	PN	**Pb**	**11 43 39.5**	**-0.7**
GCAM	**G?zelcaml?**	**1.70**	**143**	PN	**Pb**	**11 43 39.8**	**-0.8**
GCAM	**G?zelcaml?** comp=Z,1μm,0.2s	**1.70**	**143**	IAML_P			
GCAM				*i* P	**Pg**	**11 43 42.9**	**+0.7**
EREA	**Eretria**	**1.71**	**248**	P	**Pn**	**11 43 38.8**	**-0.2**
THAS	**Thassos island**	**1.80**	**329**	P	**Pn**	**11 43 39.9**	**-0.3**
THAS				S	**Sn**	**11 43 03.8**	**+0.9**
THAS	**Thassos island**	**1.80**	**329**	P	**Pn**	**11 43 39.8**	**-0.3**
THAS				S	**Sn**	**11 44 01.8**	**-1.1**
ALN	**Alexandroupoli**	**1.82**	**2**	PN	**Pn**	**11 43 40.5**	**-0.1**
ALN	**Alexandroupoli**	**1.82**	**2**	P	**Pn**	**11 43 40.4**	**-0.1**
ALN	**Alexandroupoli**	**1.82**	**2**	P	**Pn**	**11 43 40.4**	**-0.1**
ALN				S	**Sn**	**11 44 02.7**	**-0.7**
ALN	comp=E,546μm,0.4s			AML	AML	11 44 07.2	
ALN	comp=N,688μm,0.9s			AML	AML	11 44 08.3	
KESN	**Edirne-Kesan**	**1.84**	**18**	*i* P	**Pn**	**11 43 41.1**	**+0.1**
KESN				*i* S	**Sn**	**11 44 04.1**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.87**	**30**	PN	**Pb**	**11 43 42.4**	**-1.1**
DION	**Dionisos Attik**	**1.87**	**238**	P	**Pn**	**11 43 40.8**	**-0.3**
DION	**Dionisos Attik**	**1.87**	**238**	P	**Pn**	**11 43 40.9**	**-0.3**
SART	**Tekirdag**	**1.87**	**30**	*i* P	**Pb**	**11 43 43.6**	**0.0**
SART				*i* S	**Sb**	**11 44 06.8**	**0.0**
MRKA	**Markates**	**1.88**	**259**	P	**Pn**	**11 43 41.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.89**	**126**	PN	**Pn**	**11 43 42.4**	**+0.8**
SKIA	**Skiathos**	**1.94**	**273**	P	**Pn**	**11 43 42.1**	**0.0**
EDC	**Edincik**	**1.95**	**49**	PN	**Pn**	**11 43 43.4**	**+1.2**
PAIG	**Paliouri**	**1.95**	**297**	P	**Pn**	**11 43 42.2**	**-0.1**
PAIG	**Paliouri**	**1.95**	**297**	P	**Pn**	**11 43 42.1**	**-0.2**
OUR	**Ouranopolis**	**1.97**	**310**	PN	**Pn**	**11 43 42.4**	**-0.2**
DURS	**Dursunbey** comp=Z,1μm,0.3s	**2.02**	**74**	IAML_P			
DURS				*i* P	**Pn**	**11 43 43.9**	**+0.5**
DURS				*i* S	**Sg**	**11 44 13.5**	**-1.1**
APE	**Apeiranthos**	**2.03**	**190**	PN	**Pn**	**11 43 42.5**	**-0.9**
APE	**Apeiranthos**	**2.03**	**190**	P	**Pn**	**11 43 43.1**	**-0.3**
APE	**Apeiranthos**	**2.03**	**190**	⇑*i*P	**Pn**	**11 43 43.2**	**-0.2**
APE	**Apeiranthos**	**2.03**	**190**	P	**Pn**	**11 43 42.5**	**-0.9**
RDO	**Rodhopi**	**2.09**	**351**	PN	**Pn**	**11 43 45.2**	**+1.0**
RDO	**Rodhopi**	**2.09**	**351**	P	**Pn**	**11 43 44.3**	**+0.1**
XOR	**Xorichti**	**2.16**	**279**	P	**Pn**	**11 43 44.9**	**-0.3**
KULA	**Kula-Manisa**	**2.19**	**104**	PN	**Pb**	**11 43 47.7**	**-1.3**
KULA	**Kula-Manisa**	**2.19**	**104**	P	**Pn**	**11 43 45.9**	**+0.3**
KCTX	**Karacabey (Bur**	**2.20**	**57**	PN	**Pn**	**11 43 46.8**	**+1.0**
KAVA	**Kavala**	**2.21**	**331**	P	**Pn**	**11 43 45.8**	**-0.1**
KAVA	**Kavala**	**2.21**	**331**	P	**Pn**	**11 43 45.5**	**-0.4**
AMGA	**Amorgos Island**	**2.24**	**181**	P	**Pn**	**11 43 44.9**	**-1.4**
BODT	**Bodrum**	**2.28**	**152**	PN	**Pn**	**11 43 47.1**	**+0.3**
BODT	**Bodrum**	**2.28**	**152**	P	**Pn**	**11 43 46.4**	**-0.4**
KDZ	**Kurdzhali**	**2.60**	**351**	P	**Pb**	**11 43 55.5**	**-0.5**
HORT	**Hortiatis**	**2.67**	**306**	P	**Pn**	**11 43 52.9**	**+0.6**
SRS	**Serrai**	**2.73**	**319**	P	**Pn**	**11 43 52.9**	**-0.1**
TVSB	**Tavsanli**	**2.75**	**81**	PN	**Pn**	**11 43 55.1**	**+1.7**
SLVT	**Silivri**	**2.76**	**38**	PN	**Pn**	**11 43 55.8**	**+2.4**
RZN	**Rozhen**	**2.78**	**341**	*i* P	**Pn**	**11 43 54.1**	**+0.3**
NVR	**Nevrokopi**	**2.78**	**326**	P	**Pn**	**11 43 54.0**	**+0.3**
PHSR	**Pinarhisar**	**2.82**	**25**	PN	**Pn**	**11 43 56.5**	**+2.2**
EDRB	**Edirne**	**2.83**	**12**	PN	**Pn**	**11 43 55.7**	**+1.3**
GEMT	**Gemlik**	**2.84**	**60**	PN	**Pn**	**11 43 57.0**	**+2.5**
CTKS	**Kestanelik-??a**	**2.91**	**41**	PN	**Pn**	**11 43 57.5**	**+2.0**
DIM	**Dimitrovgrad**	**2.99**	**354**	P	**Pn**	**11 43 57.2**	**+0.6**
BUY	**Buyukada**	**3.01**	**53**	PN	**Pn**	**11 43 59.2**	**+2.3**
BGKT	**Bogazkoy**	**3.02**	**45**	PN	**Pn**	**11 43 59.6**	**+2.7**
YLV	**Yalova**	**3.03**	**59**	⇑*i*P	**Pb**	**11 44 04.9**	**+1.6**
YLV	**Yalova**	**3.03**	**59**	S	**Sg**	**11 44 44.7**	**-2.1**
MMB	**Musomiste**	**3.03**	**327**	P	**Pn**	**11 43 57.2**	**0.0**
KNT	**Kendrikon**	**3.13**	**313**	PN	**Pn**	**11 43 58.7**	**+0.1**
PLD	**Plovdiv**	**3.17**	**343**	PN	**Pn**	**11 43 59.9**	**+0.8**
ARG	**Arkhangelos**	**3.33**	**148**	PN	**Pn**	**11 44 02.8**	**+1.5**
HRT	**Hereke**	**3.35**	**57**	PN	**Pn**	**11 44 03.7**	**+2.2**
VAY	**Valandovo**	**3.43**	**312**	*i* Pn	**Pg**	**11 44 16.8**	**+1.6**
KKB	**Krupnik**	**3.54**	**323**	P	**Pn**	**11 44 05.5**	**+1.3**
STIP	**Stip**	**3.89**	**313**	*i* Pn	**Pn**	**11 44 08.9**	**-0.1**
VTS	**Vitosha**	**4.10**	**331**	⇓*i*P	**Pn**	**11 44 13.6**	**+1.7**
VTS	**Vitosha**	**4.10**	**331**	P	**Pn**	**11 44 12.7**	**+0.8**
MPEP	**Malo Peshtene**	**4.59**	**339**	P	**Pn**	**11 44 19.5**	**+0.9**
CFR	**Carcaliu**	**6.31**	**14**	⇑*i*P	**Pn**	**11 44 41.0**	**-1.2**
HERR	**Herculane**	**6.37**	**337**	⇓*i*P	**Pn**	**11 44 44.7**	**+1.7**
MLR	**Muntele Rosu**	**6.41**	**360**	⇑*i*P	**Pn**	**11 44 46.0**	**+2.3**
GZR	**Gura Zlata**	**6.74**	**341**	⇑*i*P	**Pn**	**11 44 50.6**	**+2.5**
PLOR	**Plostina**	**6.79**	**4**	⇑*i*P	**Pn**	**11 44 50.7**	**+1.9**
VRI	**Vrincioaia**	**6.81**	**5**	⇑*i*P	**Pn**	**11 44 51.3**	**+2.2**
BZS	**Buzias**	**7.28**	**335**	⇑*i*P	**Pn**	**11 44 58.5**	**+3.0**
TESR	**Tescani**	**7.45**	**4**	⇑*i*P	**Pn**	**11 44 58.6**	**+0.8**
DRGR		**8.07**	**344**	⇑*i*P	**Pn**	**11 45 08.6**	**+2.2**
BURAR	**Bucovina Array**	**8.55**	**357**	⇑*i*P	**Pn**	**11 45 14.7**	**+1.7**

*RSNC **06** 11:44:00.9±0.9, 0°.95N×78°.28W, h0km±10km, ML3.2, Mw3.1*
*IGQ **06** 11:44:00.0±0.9, 1°.N±7°.×7°.8W±°, h10km, MLv3.6*

ISC 06 11:44:00.4±1.2, 0°.84N±0°.03×77°.95W±0°.03, h2km±11km, n49, σ1§33/53, 4C-1D, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULM	**Tulcn-Chalpat**	**0.20**	**126**	P	**Pg**	**11 44 04.3**	**-0.1**
TULM				S	**Sg**	**11 44 07.0**	**-0.1**
ATUL	**Tulcn**	**0.24**	**105**	P	**Pg**	**11 44 05.4**	**+0.4**
ATUL				S	**Sg**	**11 44 09.2**	**+1.0**
URCU	**Urcuqui**	**0.50**	**218**	P	**Pg**	**11 44 09.8**	**-0.1**
AIB2	**Ibarra (Univer**	**0.51**	**197**	P	**Pg**	**11 44 10.9**	**+0.7**
IMBA	**Imbabura, San**	**0.61**	**204**	P	**Pg**	**11 44 12.6**	**+0.5**
COTA	**Cotacachi**	**0.63**	**218**	P	**Pg**	**11 44 12.7**	**+0.3**
CUIC	**Cuicocha-Domo**	**0.67**	**218**	P	**Pg**	**11 44 12.8**	**-0.4**
GCUF	**Volcan Galeras**	**0.72**	**57**	⇑*e*P	**Pb**	**11 44 15.0**	**-1.0**
GCUF				*i*		11 44 28.8	
GCUF	comp=Z,162nm,0.6s			*e*S	**Sn**	**11 44 33.0**	**+3.1**
CAYA	**Cayambe**	**0.76**	**183**	P	**Pg**	**11 44 14.7**	**-0.3**
OTAV	**Otavalo**	**0.78**	**220**	⇑*e*P	**Pg**	**11 44 14.5**	**-0.8**
OTAV				*e*S	**Sg**	**11 44 25.7**	**+0.4**
OTAV	comp=Z,399nm,0.7s			*i*		11 44 29.3	
CPAS2	**Pasto**	**0.80**	**61**	*e*S	**Sn**	**11 44 29.4**	**-2.2**
CASC	**Dorado de Casc**	**0.93**	**139**	P	**Pg**	**11 44 17.3**	**-0.9**
CONE	**Cono NE Rev Vo**	**0.95**	**161**	P	**Pn**	**11 44 22.9**	**+1.8**
PULU	**Pululahua**	**0.98**	**214**	P	**Pn**	**11 44 18.1**	**-1.1**
REVS	**Reventador Sur**	**0.99**	**160**	P	**Pg**	**11 44 18.3**	**-1.1**
PAC1	**Pacto, Paraso**	**1.01**	**236**	P	**Pg**	**11 44 18.8**	**-1.0**
GGPC	**Guagua Pichinc**	**1.20**	**213**	P	**Pb**	**11 44 22.2**	**-1.9**
TERV	**Terraza Guagua**	**1.20**	**213**	P	**Pb**	**11 44 22.8**	**-1.3**
CRUC	**La Cruz**	**1.24**	**54**	*e*P	**Pn**	**11 44 24.9**	**-0.1**
ANTI	**Antisana**	**1.29**	**189**	P	**Pn**	**11 44 24.7**	**-1.3**
ANTS	**Antisana-Sarah**	**1.34**	**189**	P	**Pn**	**11 44 24.9**	**-1.7**
ANTG	**Antisana-Guama**	**1.36**	**193**	P	**Pn**	**11 44 25.4**	**-1.5**
BBAC	**Balboa, Cauca**	**1.37**	**31**	⇓*e*P	**Pg**	**11 44 26.9**	**+0.2**
BBAC				*e*S	**Sg**	**11 44 47.0**	**+2.4**
BBAC	comp=Z,839nm,1.0s			*i*		11 44 53.2	
NINA	**Atacazo Ninahu**	**1.39**	**209**	P	**Pn**	**11 44 25.5**	**-1.7**
ANTM	**Antisana-La Mi**	**1.39**	**191**	P	**Pn**	**11 44 25.8**	**-1.5**
PITA	**Cotopaxi Volc**	**1.47**	**199**	P	**Pb**	**11 44 27.8**	**-0.9**
VC1	**Cotopaxi 1**	**1.54**	**197**	P	**Pb**	**11 44 29.0**	**-0.9**
COV1	**Cotopaxi Volc**	**1.54**	**195**	P	**Pg**	**11 44 33.9**	**+4.0**
BVC2	**Cotopaxi Volca**	**1.55**	**197**	P	Pn	11 44 23.9	-5.7
BMOR	**Cotopaxi Volca**	**1.64**	**198**	P	**Pb**	**11 44 30.8**	**-0.8**
ILLI	**Illinizas Sur**	**1.72**	**207**	P	**Pb**	**11 44 31.8**	**-1.3**
ARDO	**Archidona, Ten**	**1.82**	**175**	P	**Pb**	**11 44 33.4**	**-1.1**
PIS1	**Pisayambo**	**1.93**	**193**	P	**Pg**	**11 44 37.7**	**+0.2**
PISA	**Pisayambo**	**1.93**	**193**	P	**Pg**	**11 44 37.1**	**-0.3**
MAG1	**Magdalena**	**2.03**	**244**	P	**Pg**	**11 44 39.3**	**0.0**
POPC	**Popayan, Colom**	**2.12**	**37**	*e*P	**Pb**	**11 44 39.2**	**-0.4**
PUYO	**Puyo, Santa Ro**	**2.31**	**182**	P	**Pg**	**11 44 44.1**	**-0.7**
FLOC	**Florencia**	**2.42**	**72**	⇑*e*P	**Pg**	**11 44 45.1**	**-1.6**
FLOC				*e*S	**Sg**	**11 45 18.5**	**+0.4**
FLOC	comp=Z,264nm,0.9s			*i*		11 45 22.0	
PTLC	**Puerto Leguiza**	**3.22**	**102**	⇑*e*P	**Pb**	**11 44 57.2**	**-1.2**
MILO	**Milagro-Astudi**	**3.48**	**207**	P	**Pb**	**11 45 03.7**	**+0.9**
YOTC	**Yotoco, Valle**	**3.52**	**27**	*e*P	**Pb**	**11 45 02.3**	**-1.2**
COHC	**Cochancay**	**3.53**	**202**	P	**Pb**	**11 45 05.0**	**+1.4**
SALI	**Salinas**	**4.27**	**225**	P	**Pb**	**11 45 15.9**	**-0.3**
MCRA	**Macar, Loja**	**5.54**	**201**	P	**Pn**	**11 45 25.2**	**+1.1**
MNMC	**Minye Minye**	**21.47**	**158**	P	P	11 49 02.2	+12
PB11	**IPOC Station P**	**22.03**	**159**	P	**P**	**11 48 57.7**	**+1.2**
PB08	**IPOC Station P**	**22.56**	**158**	P	**P**	**11 49 02.5**	**0.0**
PB02	**IPOC Station P**	**23.39**	**161**	P	**P**	**11 49 09.8**	**-1.0**
PB07	**IPOC Station P**	**23.77**	**161**	P	**P**	**11 49 16.3**	**+1.7**

*ISCJB **06** 11:44:10.5±0.4, 8°.30S±0°.04×107°.83E±0°.03, h57km±5km, mb4.2/13, MS3.1/6, Error ellipse: s-maj=6.4km s-min=4.4km az=26.2*
*DJA **06** 11:44:11.2±0.8, 8°.S±4°.×10°.8E±°, h18km±5km, M4.5/15, mb4.5/6, mB4.8/1, MLv4.4/15, Mw(mB)4.0/1*
*NEIC **06** 11:44:11.7±1.3, 8°.21S×107°.76E, h60km±9km, mb4.4/15, Error ellipse: s-maj=13.7km s-min=13.2km az=48.0*
*IDC **06** 11:44:15.2±2.9, 8°.08S×107°.91E, h84km±19km, mb3.6/6, mb1 3.8/7, mb1mx3.5/47, mbtmp4.0/7, MS3.1/7, Ms1 3.2/7, ms1mx2.8/48, Error ellipse: s-maj=67.8km s-min=13.5km az=52.0*

ISC 06 11:44:11.1±1.0, 8°.28S±0°.05×107°.83E±0°.04, h47km±9km, n59, σ1§36/67, mb4.3/13, MS3.1/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.72**	**359**	*e*Pn	**Pn**	**11 44 24.4**	**-0.8**
CISI				*e*Sn	**Sn**	**11 44 35.0**	**-0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM				LR	LR	12 18 42.5	
	comp=Z,31nm,18.7s,baz=176,slow=37						
KSH	**Kashi**	**55.97**	**330**	**P**	**P**	**11 53 48.3**	**+3.3**
KSH				sP	sP	11 54 10.6	+8.3
KSH				PcP	**PcP**	**11 54 45.3**	**+2.2**
KSH				S	**S**	**12 01 29.1**	**-0.9**
GAR	**Garm**	**58.53**	**326**	*eP*	**P**	**11 54 01.1**	**-2.0**
	3.0nm,0.7s						
AAK	**Ala-Archa**	**59.10**	**332**	LR	LR	12 23 48.4	
	comp=Z,13nm,18.1s,baz=188,slow=40						
MKAR	**Makanchi Array**	**59.36**	**340**	*eP*	**P**	**11 54 07.1**	**-1.5**
MKAR	**Makanchi Array**	**59.36**	**340**	P	**P**	**11 54 06.6**	**-2.0**
	1.0nm,0.5s,baz=152,slow=8.1,SNR=9.2						
ABKAR	**Akbulak array**	**70.93**	**329**	*eP*	**P**	**11 55 22.1**	**-1.4**
	4.9nm,0.7s						
ABKAR				*eP*	**P**	**11 55 22.1**	**-1.4**
QSPA	**South Pole Qui**	**81.71**	**180**	*eP*	**P**	**11 56 25.3**	**+0.7**
	12nm,1.6s						
BRTR	**Keskin Array B**	**83.29**	**312**	P	**P**	**11 56 33.1**	**-0.2**
	0.5nm,0.7s,baz=132,slow=6.0,SNR=3.7						
YKA	**Yellowknife Ar**	**117.77**	**21**	PKP	**PKPdf**	**12 02 51.1**	**-0.9**
	0.2nm,0.6s,baz=338,slow=2.2,SNR=5.5						
TXAR	**Lajitas Array**	**143.77**	**51**	PKP	PKPbc	12 03 40.5	+0.9
	0.1nm,0.5s,baz=241,slow=3.7,SNR=4.2						

*IDC **06** 11:58:24.9±3.5, 6°.22N×127°.20E, h60km±31km, mb3.6/10, mb1 3.7/10, mb1mx3.4/45, mbtmp3.8/10, Error ellipse: s-maj=42.8km s-min=12.1km az=61.0*
*ISCJB **06** 11:58:28.1±0.8, 5°.70N±0°.07×126°.24E±0°.09, h97km±7km, mb3.7/10, Error ellipse: s-maj=14.8km s-min=11.3km az=9.5*
*MAN **06** 11:58:28.4, 5°.64N×126°.29E, h52km, mb4.3, ML3.1, MS2.9*
ISC 06 11:58:28.0±1.2,**5°.59N**±0°.08×**126°.30E**±0°.09,**h75**km±12km, **n18**, σ2°**24**/25, **mb3.8**/10, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.78**	**311**	*eP*	**Pn**	**11 58 44.3**	**+0.1**
DDMP				*eS*	**Sn**	**11 58 55.9**	**-0.3**
MATI	**Mati**	**1.35**	**358**	*eP*	**Pn**	**11 58 50.5**	**-0.7**
MATI				*eS*	**Sn**	**11 59 07.8**	**-0.8**
GSPH	**General Santos**	**1.43**	**290**	*eP*	**Pn**	**11 58 52.6**	**+0.2**
GSPH				*eS*	**Sn**	**11 59 10.2**	**-0.5**
DAV	**Davao City (W)**	**1.64**	**334**	P	**Pn**	**11 58 55.1**	**+0.1**
	48nm,0.3s,baz=90,slow=20,SNR=3.6						
DAV				S	**Sn**	**11 59 16.2**	**+0.8**
	89nm,0.3s,baz=71,slow=21,SNR=7.4						
DAV				LR	LR	11 59 54.5	
	comp=Z,73nm,21.1s,baz=164,slow=49						
SKMP	**Bagumbayan, Su**	**1.98**	**298**	*eP*	**Pn**	**11 58 59.8**	**+0.3**
SKMP				*eS*	**Sn**	**11 59 23.2**	**-0.3**
BUKP	**Musuan**	**2.58**	**332**	*eP*	**Pn**	**11 59 08.2**	**+0.4**
BUKP				*eS*	**Sn**	**11 59 38.3**	**+0.1**
BUTP	**Butuan**	**3.42**	**349**	*eP*	**Pn**	**11 59 20.5**	**+1.4**
BUTP				*eS*	**Sn**	**12 00 04.1**	**+5.5**
FITZ	**Fitzroy Crossi**	**23.55**	**182**	P	**P**	**12 03 35.0**	**+3.1**
	0.9nm,0.8s,baz=352,slow=8.3,SNR=5.5						
PMG	**Port Moresby**	**25.57**	**126**	P	**P**	**12 03 44.5**	**-5.8**
	21nm,1.1s,baz=336,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**26.58**	**163**	P	**P**	**12 04 00.2**	**+0.9**
	2.5nm,0.6s,baz=343,slow=10,SNR=13						
ASAR	**Alice Springs**	**30.01**	**166**	P	**P**	**12 04 32.0**	**+2.1**
	0.8nm,0.6s,baz=343,slow=7.2,SNR=20						
ASAR				PcP	**PcP**	**12 07 31.4**	**+0.7**
	0.3nm,0.6s,baz=358,slow=3.1,SNR=4.4						
STKA	**Stephens Creek**	**40.01**	**160**	P	**P**	**12 05 57.6**	**+1.9**
	1.0nm,0.3s,baz=350,slow=7.6,SNR=6.6						
MKAR	**Makanchi Array**	**55.80**	**325**	P	**P**	**12 07 55.8**	**-1.7**
	0.5nm,0.5s,baz=125,slow=7.1,SNR=6.9						
ZALV	**Zalesovo Beam**	**58.75**	**333**	P	**P**	**12 08 15.3**	**-2.8**
	0.2nm,0.3s,baz=103,slow=6.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**59.95**	**327**	P	**P**	**12 08 24.7**	**-1.8**
	0.9nm,0.6s,baz=123,slow=7.0,SNR=9.0						
BVAR	**Borovoye Array**	**65.54**	**327**	P	**P**	**12 09 02.1**	**-1.5**
	0.5nm,0.5s,baz=127,slow=9.4,SNR=3.8						
ILAR	**Eielson Array**	**83.62**	**26**	P	P	12 10 41.8	-6.3
	0.3nm,0.8s,baz=243,slow=5.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**121.92**	**289**	PKP	**PKPdf**	**12 17 14.3**	**-0.6**
	0.3nm,0.8s,baz=80,slow=1.6,SNR=3.9						

*DDA **06** 11:58:53.7, 37°.29N×37°.12E, h6km±2km, ML3.5*
*ISCJB **06** 11:58:54.8±0.4, 37°.30N±0°.03×37°.11E±0°.02, h6km±3km, Error ellipse: s-maj=4.3km s-min=3.1km az=1.1*
*ISK **06** 11:58:54.1, 37°.33N×37°.13E, h7km, ML3.1/19*
ISC 06 11:58:54.6±0.9,**37°.33N**±0°.03×**37°.11E**±0°.02,**h10**km±7km, **n34**, σ0°**84**/47, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCB	**Kahramanmara**	**0.16**	**275**	*i* P	**Pg**	**11 58 58.8**	**+0.5**
HCB				*i* S	**Sg**	**11 59 01.0**	**+0.3**
GAZ	**Gaziantep**	**0.18**	**153**	PG	**Pg**	**11 58 57.9**	**-0.6**
GAZ				SG	**Sg**	**11 59 01.1**	**0.0**
KMRS	**Kahramanmaras**	**0.24**	**316**	PG	**Pg**	**11 58 59.6**	**-0.1**
KMRS				SG	**Sg**	**11 59 03.7**	**+0.7**
AYKD	**Aykdinkavak**	**0.26**	**290**	*i* P	**Pb**	**11 59 00.2**	**-1.1**
AYKD				*i* S	**Sb**	**11 59 04.7**	**-1.2**
GZT	**Gaziantep**	**0.36**	**86**	IAML_P			
	comp=Z,27μm,0.3s						
GZT				*i* P	**Pg**	**11 59 01.6**	**-0.2**
GZT				*i* S	**Sg**	**11 59 06.9**	**+0.2**
KAMA	**Osmaniye**	**0.38**	**248**	IAML_P			
	comp=Z,52μm,0.2s						
KAMA				*i* P	**Pb**	**11 59 02.7**	**-0.8**
KAMA				*i* S	**Sg**	**11 59 07.5**	**+0.2**
ANDN	**Andirin**	**0.66**	**293**	*i* P	**Pg**	**11 59 07.2**	**-0.2**
ANDN				*i* S	**Sb**	**11 59 16.9**	**-0.6**
ATAB	**Bozova**	**0.95**	**81**	*i* P	**Pb**	**11 59 12.9**	**-0.3**
ATAB				*i* S	**Sb**	**11 59 26.3**	**+0.3**
ELBS	**KAHRAMANMARAS**	**0.99**	**1**	*i* P	**Pn**	**11 59 14.5**	**-0.3**
ELBS				*i* S	**Sn**	**11 59 28.5**	**-0.4**
KOZT	**Kozan**	**1.03**	**279**	PG	**Pb**	**11 59 14.5**	**-0.1**
SAIM	**ADANA**	**1.04**	**309**	*i* P	**Pg**	**11 59 14.1**	**-0.6**
CEYT	**Ceyhan**	**1.13**	**254**	PN	**Pn**	**11 59 16.4**	**-0.1**
AKCD	**Akcadag**	**1.16**	**33**	*i* P	**Pg**	**11 59 16.3**	**-0.7**
AKCD				*i* S	**Sn**	**11 59 34.4**	**+1.3**
TAHT	**Tahtakopru-Hat**	**1.21**	**218**	PN	**Pn**	**11 59 17.3**	**-0.3**
TAHT				SN	**Sn**	**11 59 35.1**	**+1.1**
DARE	**Darende-Malaty**	**1.27**	**13**	PN	**Pg**	**11 59 19.3**	**+0.2**
SURC	**SANLIURFA_SURC**	**1.28**	**110**	*i* P	**Pg**	**11 59 18.9**	**-0.4**
SURC				*i* S	**Sn**	**11 59 35.8**	**-0.2**
YURE	**YUREGIR**	**1.28**	**247**	PN	**Pg**	**11 59 19.7**	**+0.4**
YURE	**YUREGIR**	**1.28**	**247**	*i* P	**Pg**	**11 59 19.6**	**+0.4**
AKO	**Adana**	**1.33**	**276**	IAML_P			
	comp=Z,2μm,0.1s						
AKO				*i* P	**Pn**	**11 59 19.1**	**-0.3**
URFA	**Urfa**	**1.37**	**85**	PN	**Pg**	**11 59 19.9**	**-1.0**
URFA				SN	**Sn**	**11 59 38.9**	**+0.8**
KRTS	**Karatas**	**1.58**	**242**	PN	**Pb**	**11 59 23.3**	**-0.6**
KARA	**Karaisali**	**1.64**	**268**	PN	**Pg**	**11 59 25.2**	**-0.9**
HEKM	**Malatya_Hekimh**	**1.69**	**23**	*i* P	**Pg**	**11 59 26.6**	**-0.4**
BNN	**Bunyan**	**1.82**	**327**	PN	**Pb**	**11 59 27.1**	**-1.0**
SVRC	**Sivrice-ELAZID**	**2.03**	**58**	PN	**Pn**	**11 59 29.5**	**+0.4**
MERS	**Mersin**	**2.12**	**258**	PN	**Pb**	**11 59 31.6**	**-1.6**
DYBB	**Diyarbakir**	**2.48**	**75**	PN	**Pn**	**11 59 36.4**	**+1.2**
KIZK	**Mersin**	**2.52**	**251**	PN	**Pn**	**11 59 36.4**	**+0.7**
SVSK	**Karacayir**	**2.59**	**358**	PN	**Pn**	**11 59 38.3**	**+1.8**
MAZI	**Mazidag**	**2.66**	**86**	PN	**Pn**	**11 59 38.2**	**+0.5**
KEBE	**Keben-Mersin**	**2.86**	**253**	PN	**Pn**	**11 59 41.6**	**+1.2**
IKL	**Isikli**	**2.96**	**249**	PN	**Pn**	**11 59 43.3**	**+1.7**
BERE	**Bereket-Mersin**	**3.27**	**254**	PN	**Pn**	**11 59 47.6**	**+1.5**
TEKE	**Tekeli-Mersin**	**3.42**	**251**	PN	**Pn**	**11 59 49.3**	**+1.3**

*IDC **06** 12:04:41.8±1.0, 58°.47N×142°.66W, h0km, mb3.6/6, mb1 3.7/12, mb1mx3.5/58, mbtmp3.6/12, ML3.3/5, MS3.0/12, Ms1 3.0/12, ms1mx2.8/47, Error ellipse: s-maj=20.5km s-min=12.1km az=24.0*
*ISCJB **06** 12:04:42.4±1.0, 58°.41N±0°.02×142°.68W±0°.03, h33km±10km, mb3.6/6, MS3.0/7, Error ellipse: s-maj=4.1km s-min=2.9km az=17.5*
*PGC **06** 12:04:43.8±0.4, 58°.51N×142°.61W, h10km, ML3.8/8, 199km Wsw of Yakutat, Ak Gulf Of Alaska*
*NEIC **06** 12:04:46.7±0.0, 58°.40N×142°.76W, h20km, ML3.5(AEIC), ML3.8(OTT), After AEIC.*
ISC 06 12:04:44.3±3.3,**58°.42N**±0°.05×**142°.68W**±0°.04, **h27**km±28km, **n143**, σ1°**48**/162, **mb3.7**/6, **MS3.1**/7, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESA	**MESA**	**1.81**	**12**	*ePn*	**Pn**	**12 05 13.2**	**-0.6**
MESA				*eSn*	**Sn**	**12 05 35.5**	**-0.4**
MESA	**MESA**	**1.81**	**12**	Pn	**Pn**	**12 05 13.2**	**-0.6**
MESA				Sn	**Sn**	**12 05 35.5**	**-0.4**
YKU2	**Yakutat**	**1.91**	**54**	*ePn*	**Pn**	**12 05 15.0**	**+0.1**
YKU2				*eSn*	**Sn**	**12 05 40.2**	**+2.2**
NICHA	**Nichawak Mount**	**1.94**	**341**	*ePn*	**Pn**	**12 05 14.8**	**-0.6**
SAMH	**Samovar Hills**	**1.98**	**29**	*ePn*	**Pn**	**12 05 15.9**	**-0.2**
SAMH				*eSn*	**Sn**	**12 05 39.0**	**-1.0**
SAMH	**Samovar Hills**	**1.98**	**29**	Pn	**Pn**	**12 05 15.9**	**-0.2**
SAMH				Sn	**Sn**	**12 05 39.0**	**-1.0**
RKAV	**Rock Avalanche**	**2.01**	**19**	*ePn*	**Pn**	**12 05 16.3**	**-0.2**
RKAV	**Rock Avalanche**	**2.01**	**19**	Pn	**Pn**	**12 05 16.3**	**-0.2**
RKAV				Sn	**Sn**	**12 05 39.0**	**-1.9**
HMT	**Hamilton**	**2.09**	**338**	*ePn*	**Pn**	**12 05 16.7**	**-0.9**
PNL	**Peninsula**	**2.11**	**52**	*ePn*	**Pn**	**12 05 17.2**	**-0.6**
PNL	**Peninsula**	**2.11**	**52**	Pn	**Pn**	**12 05 17.2**	**-0.6**
PNL				Sn	**Sn**	**12 05 40.6**	**-2.6**
MID	**Middleton Isla**	**2.15**	**300**	*ePn*	**Pn**	**12 05 17.6**	**-0.7**
MID				*eSn*	**Sn**	**12 05 41.2**	**-2.9**
BCPM	**Bancas Point**	**2.20**	**44**	*ePn*	**Pn**	**12 05 18.5**	**-0.5**
BCPM				*eSn*	**Sn**	**12 05 44.8**	**-0.5**
KIAG	**Kiagna River**	**2.52**	**4**	Pn	**Pn**	**12 05 22.9**	**-0.7**
KIAG				Sn	**Sn**	**12 05 51.5**	**-2.0**
BALM	**Baldy**	**2.63**	**4**	*ePn*	**Pn**	**12 05 24.6**	**-0.5**
BALM				*eSn*	**Sn**	**12 05 53.6**	**-2.6**
BALM	**Baldy**	**2.63**	**4**	Pn	**Pn**	**12 05 24.5**	**-0.6**
BALM				Sn	**Sn**	**12 05 54.0**	**-2.2**
CTGM	**Chitina Glacie**	**2.65**	**14**	*ePn*	**Pn**	**12 05 24.9**	**-0.4**
CTGM	**Chitina Glacie**	**2.65**	**14**	Pn	**Pn**	**12 05 24.7**	**-0.6**
CTGM				Sn	**Sn**	**12 05 54.5**	**-2.0**
EYAK	**Cordova Ski Ar**	**2.65**	**325**	*ePn*	**Pn**	**12 05 24.0**	**-1.2**
MCARA	**McCarthy VSAT**	**2.98**	**357**	*ePn*	**Pn**	**12 05 29.3**	**-0.5**
DIV	**Divide**	**3.14**	**331**	*ePn*	**Pn**	**12 05 30.8**	**-1.2**
DIV	**Divide**	**3.14**	**331**	Pn	**Pn**	**12 05 31.0**	**-0.9**
YUK7	**Dusty Glacier**	**3.14**	**46**	Pn	**Pn**	**12 05 32.5**	**+0.4**
JPK	**Jack Peak**	**3.31**	**325**	*ePn*	**Pn**	**12 05 33.0**	**-1.2**
GLI	**Glacier Island**	**3.33**	**320**	*ePn*	**Pn**	**12 05 33.3**	**-1.3**
YUK6	**Outpost Mounta**	**3.35**	**39**	Pn	**Pn**	**12 05 35.5**	**+0.5**
PLBC	**Pleasant Camp**	**3.44**	**70**	*ePn*	**Pn**	**12 05 35.8**	**-0.2**
PLBC	**Pleasant Camp**	**3.44**	**70**	Pn	**Pn**	**12 05 35.8**	**-0.2**
PLBC				Sn	**Sn**	**12 06 14.1**	**-1.7**
KLU	**Klutina**	**3.49**	**334**	*ePn*	**Pn**	**12 05 36.0**	**-0.8**
HYT	**Haines Junctio**	**3.57**	**45**	*ePn*	**Pn**	**12 05 38.3**	**+0.4**
HYT	**Haines Junctio**	**3.57**	**45**	Pn	**Pn**	**12 05 38.1**	**+0.1**
YUK4	**Talbot Arm**	**3.57**	**33**	Pn	**Pn**	**12 05 40.5**	**+2.4**
YUK5	**Granite Creek**	**3.66**	**40**	Pn	**Pn**	**12 05 39.5**	**+0.4**
SEW	**Seward**	**3.86**	**299**	*ePn*	**Pn**	**12 05 40.5**	**-1.4**
SEW				*eSn*	**Sn**	**12 06 23.1**	**-3.1**
PS11	**TAPS Pump St11**	**3.93**	**340**	*ePn*	**Pn**	**12 05 42.8**	**+0.1**
SKAG	**Skagway**	**3.95**	**72**	*ePn*	**Pn**	**12 05 43.1**	**+0.1**
BESE	**Bessie Mountai**	**4.11**	**84**	*ePn*	**Pn**	**12 05 44.8**	**-0.5**
BESE	**Bessie Mountai**	**4.11**	**84**	Pn	**Pn**	**12 05 44.6**	**-0.8**
BESE				Sn	**Sn**	**12 06 29.6**	**-2.9**
BVCY	**Beaver Creek**	**4.11**	**12**	Pn	**Pn**	**12 05 45.8**	**+0.5**
BVCY				Sn	**Sn**	**12 06 30.5**	**-1.9**
SCM	**Sheep Creek Mo**	**4.14**	**328**	*ePn*	**Pn**	**12 05 45.2**	**-0.5**
SIT	**Sitka**	**4.17**	**106**	*ePn*	**Pn**	**12 05 45.2**	**-0.8**
KNK	**Knik Glacier**	**4.18**	**318**	*ePn*	**Pn**	**12 05 45.9**	**-0.3**
HARP	**HAARP**	**4.19**	**344**	*ePn*	**Pn**	**12 05 46.2**	**-0.1**
HARP	**HAARP**	**4.19**	**344**	Pn	**Pn**	**12 05 46.0**	**-0.3**
JIS	**Juneau Island**	**4.38**	**88**	*ePn*	**Pn**	**12 05 49.4**	**+0.6**
JIS				*eSn*	**Sn**	**12 06 37.2**	**-1.7**
SLKM	**Skilak Lake**	**4.38**	**302**	*ePn*	**Pn**	**12 05 48.0**	**-1.0**
SML	**Sawmill**	**4.42**	**323**	*ePn*	**Pn**	**12 05 48.9**	**-0.7**
BRLK	**Bradley Lake**	**4.44**	**291**	*ePn*	**Pn**	**12 05 50.0**	**+0.2**
RC01	**Rabbit Creek A**	**4.46**	**310**	*ePn*	**Pn**	**12 05 49.3**	**-0.7**
PMR	**Palmer**	**4.54**	**317**	*ePn*	**Pn**	**12 05 50.7**	**-0.4**
WHY	**Whitehorse**	**4.56**	**57**	*ePn*	**Pn**	**12 05 51.7**	**+0.1**
WHY	**Whitehorse**	**4.56**	**57**	Pn	**Pn**	**12 05 51.7**	**+0.1**
WHY				Sn	**Sn**	**12 06 41.8**	**-1.9**
MENT	**Mentasta**	**4.57**	**354**	*ePn*	**Pn**	**12 05 51.4**	**-0.2**
GHO	**Glory Hole Cre**	**4.59**	**320**	*ePn*	**Pn**	**12 05 51.7**	**-0.3**
BCA3	**Beaver Creek A**	**4.69**	**5**	*ePn*	**Pn**	**12 05 53.0**	**-0.2**
BCAR	**Beaver Creek A**	**4.69**	**5**	*ePn*	**Pn**	**12 05 52.5**	**-0.7**
PAX	**Paxson**	**4.77**	**344**	*ePn*	**Pn**	**12 05 54.0**	**-0.4**
PAX	**Paxson**	**4.77**	**344**	Pn	**Pn**	**12 05 53.6**	**-0.8**
PAX				Sn	**Sn**	**12 06 45.7**	**-3.0**
DHY	**Denali Highway**	**5.21**	**336**	*ePn*	**Pn**	**12 06 00.2**	**-0.2**
KDAK	**Kodiak Island**	**5.29**	**267**	*ePn*	**Pn**	**12 06 01.7**	**+0.3**
KDAK				*eSn*	**Sn**	**12 06 58.5**	**-2.9**
KDAK	**Kodiak Island**	**5.29**	**267**	Pn	**Pn**	**12 06 01.9**	**+0.4**
	17nm,0.3s,baz=59,slow=8.1,SNR=176						
KDAK				Sn	**Sn**	**12 06 56.7**	**-4.8**
	4.4nm,0.3s,baz=108,slow=20,SNR=12						
KDAK				LR	LR	12 08 09.7	
	comp=Z,90nm,19.5s,baz=142,slow=39						
DOT	**Dot Lake**	**5.29**	**353**	*ePn*	**Pn**	**12 06 01.5**	**0.0**
DOT	**Dot Lake**	**5.29**	**353**	Pn	**Pn**	**12 06 01.6**	**+0.1**
RIDG	**Independent Ri**	**5.45**	**350**	*ePn*	**Pn**	**12 06 04.1**	**+0.5**
RSO	**Redoubt South**	**5.53**	**296**	*ePn*	**Pn**	**12 06 04.9**	**0.0**
SCRK	**Sand Creek**	**5.62**	**354**	*ePn*	**Pn**	**12 06 05.8**	**-0.2**
HUR	**Hurricane**	**5.71**	**326**	*ePn*	**Pn**	**12 06 07.0**	**-0.2**
OHAK	**Old Harbor**	**5.79**	**263**	*ePn*	**Pn**	**12 06 08.6**	**+0.3**
RND	**Reindeer**	**5.84**	**332**	*ePn*	**Pn**	**12 06 09.1**	**0.0**
DAWY	**Dawson**	**5.89**	**14**	*ePn*	**Pn**	**12 06 09.8**	**+0.2**
DAWY	**Dawson**	**5.89**	**14**	Pn	**Pn**	**12 06 09.7**	**0.0**
DAWY				Sn	**Sn**	**12 07 12.2**	**-3.9**
WRAK	**Wrangell Islan**	**5.93**	**105**	*ePn*	**Pn**	**12 06 10.9**	**+0.6**
CRAG	**Craig**	**6.01**	**115**	*ePn*	**Pn**	**12 06 11.1**	**-0.2**
MCK	**McKinley**	**6.13**	**333**	*ePn*	**Pn**	**12 06 13.2**	**+0.2**
HDA	**Harding Lake**	**6.35**	**343**	*ePn*	**Pn**	**12 06 15.9**	**0.0**
EGAK	**Eagle**	**6.42**	**6**	*ePn*	**Pn**	**12 06 17.9**	**+1.0**
SII	**Sitkinak Islan**	**6.48**	**258**	*ePn*	**Pn**	**12 06 18.0**	**+0.3**
PPLA	**Purkeypile**	**6.48**	**318**	*ePn*	**Pn**	**12 06 17.8**	**-0.1**
WRH	**Wood River Hil**	**6.60**	**339**	*ePn*	**Pn**	**12 06 18.7**	**-0.7**
DLBC	**Dease Lake**	**6.65**	**84**	*ePn*	**Pn**	**12 06 20.6**	**+0.5**
DLBC				*eSn*	**Sn**	**12 07 33.9**	**-1.1**
DLBC	**Dease Lake**	**6.65**	**84**	Pn	**Pn**	**12 06 20.6**	**+0.5**
	0.5nm,0.3s,baz=292,slow=7.2,SNR=23						
DLBC				Sn	**Sn**	**12 07 31.1**	**-3.9**
	1.6nm,0.3s,baz=3.4,slow=27,SNR=8.0						
DLBC	**Dease Lake**	**6.65**	**84**	Pn	**Pn**	**12 06 20.3**	**+0.1**
DLBC				Sn	**Sn**	**12 07 31.0**	**-3.9**
ILAR	**Eielson Array**	**6.68**	**344**	*ePn*	**Pn**	**12 06 19.7**	**-0.8**
ILAR	**Eielson Array**	**6.68**	**344**	Pn	**Pn**	**12 06 19.6**	**-1.0**
	0.8nm,0.3s,baz=166,slow=13,SNR=55						
ILAR				Sn	**Sn**	**12 07 31.2**	**-4.4**
	0.1nm,0.3s,baz=170,slow=15,SNR=4.1						
ILAR				LR	LR	12 09 09.4	
	comp=Z,115nm,21.2s,baz=156,slow=40						
ILB	**Eielson Array**	**6.68**	**344**	*ePn*	**Pn**	**12 06 19.7**	**-0.8**
ILB				*eSn*	**Sn**	**12 07 33.9**	**-1.8**
CCB	**Clear Creek Bu**	**6.71**	**341**	*ePn*	**Pn**	**12 06 20.4**	**-0.5**
CAST	**Castle Rocks**	**6.79**	**322**	*ePn*	**Pn**	**12 06 22.1**	**0.0**
COLA	**College**	**6.93**	**341**	*ePn*	**Pn**	**12 06 23.5**	**-0.4**
BPAW	**Bear Paw Mtn.**	**6.96**	**328**	*ePn*	**Pn**	**12 06 23.5**	**-0.9**
MDM	**Murphy Dome**	**7.07**	**340**	*ePn*	**Pn**	**12 06 24.9**	**-1.0**
PRP	**Porcupine Dome**	**7.25**	**351**	*ePn*	**Pn**	**12 06 28.4**	**-0.1**
MLY	**Manley**	**7.66**	**333**	*ePn*	**Pn**	**12 06 33.2**	**-0.7**
DIB	**Dawson Inlet,**	**7.76**	**128**	*ePn*	**Pn**	**12 06 35.1**	**-0.2**
DIB	**Dawson Inlet,**	**7.76**	**128**	Pn	**Pn**	**12 06 35.0**	**-0.4**
DIB				Sn	**Sn**	**12 07 56.8**	**-5.5**
H02S1	**DAWSON INLET T**	**7.76**	**128**	Pn	**Pn**	**12 06 35.0**	**-0.3**
TT01	**Tatalina**	**7.94**	**310**	*ePn*	**Pn**	**12 06 37.4**	**-0.4**
MOBC	**Moresby Island**	**8.02**	**127**	Pn	**Pn**	**12 06 38.6**	**-0.3**
MOBC				Sn	**Sn**	**12 08 04.4**	**-4.2**
RUBB	**Prince Rupert**	**8.02**	**115**	Pn	**Pn**	**12 06 38.4**	**-0.5**
FYU	**Fort Yukon**	**8.27**	**353**	*ePn*	**Pn**	**12 06 42.2**	**+0.1**
BNB	**Barry Inlet**	**8.52**	**129**	Pn	**Pn**	**12 06 45.8**	**0.0**
HG3B	**Hotspring**	**8.65**	**128**	Pn	**Pn**	**12 06 47.0**	**-0.5**
CHGN	**Chignik**	**8.76**	**263**	*ePn*	**Pn**	**12 06 50.3**	**+1.3**
CHGN				*eSn*	**Sn**	**12 08 25.2**	**-1.5**
HG4B	**Hotspring**	**8.96**	**128**	Pn	**Pn**	**12 06 51.6**	**-0.1**
BM3	**Burnt Mountain**	**9.08**	**355**	*ePn*	**Pn**	**12 06 53.6**	**+0.2**
BMAR	**Burnt Mountain**	**9.09**	**355**	*ePn*	**Pn**	**12 06 53.7**	**+0.1**
IMAR	**Indian Mountai**	**9.17**	**330**	*ePn*	**Pn**	**12 06 53.4**	**-1.2**
SDPT	**Sand Point**	**10.21**	**260**	*ePn*	**Pn**	**12 07 10.1**	**+1.3**
BBB	**Bella Bella**	**10.38**	**121**	Pn	**Pn**	**12 07 11.0**	**-0.2**
	0.6nm,0.3s,baz=323,slow=16,SNR=9.2						
BBB				Sn	**Sn**	**12 09 03.0**	**-3.4**
	0.3nm,0.3s,baz=329,slow=12,SNR=3.2						
BBB				LR	LR	12 10 43.7	
	comp=Z,119nm,18.9s,baz=359,slow=35						
BBB	**Bella Bella**	**10.38**	**121**	Pn	**Pn**	**12 07 10.7**	**-0.4**
TOLK	**Toolik Lake Re**	**10.70**	**346**	*ePn*	**Pn**	**12 07 17.4**	**+1.7**
INK	**Inuvik**	**10.73**	**19**	*ePn*	**Pn**	**12 07 16.8**	**+0.9**
INK	**Inuvik**	**10.73**	**19**	Pn	**Pn**	**12 07 16.5**	**+0.6**
	0.1nm,0.3s,baz=178,slow=12,SNR=4.3						
INK				Sn	Sn	12 09 06.8	-8.0
	0.1nm,0.3s,baz=210,slow=14,SNR=1.9						
INK	**Inuvik**	**10.73**	**19**	Pn	**Pn**	**12 07 15.2**	**-0.7**
FALS	**False Pass**	**11.95**	**262**	*ePn*	**Pn**	**12 07 34.8**	**+2.3**
DHRN	**Dharma Camp**	**13.60**	**41**	Pn	Pn	12 07 53.5	-1.5
YKA	**Yellowknife Ar**	**14.37**	**62**	*ePn*	**Pn**	**12 08 05.3**	**-0.3**
YKA	**Yellowknife Ar**	**14.37**	**62**	Pn	**Pn**	**12 08 04.8**	**-0.9**
	0.1nm,0.3s,baz=264,slow=13,SNR=6.5						
YKA				LR	LR	12 13 46.0	
	comp=Z,9.7nm,21.6s,baz=257,slow=38						
YKB5	**Yellowknife Ar**	**14.37**	**62**	*ePn*	**Pn**	**12 08 04.8**	**-0.9**
KUKN	**Kugluktuk,NWT**	**15.48**	**41**	Pn	**Pn**	**12 08 20.1**	**-0.3**
NEW	**Newport**	**18.22**	**113**	LR	LR	12 15 45.0	
	comp=Z,122nm,18.3s,baz=300,slow=36						
YBH	**Yreka Blue Hor**	**20.91**	**134**	P	Pn	12 09 32.1	+5.0
	1.8nm,0.9s,baz=330,slow=7.0,SNR=6.1						
YBH				LR	LR	12 16 17.0	
	comp=Z,24nm,18.9s,baz=314,slow=33						
RES	**Resolute Bay**	**23.98**	**29**	P	**P**	**12 09 57.9**	**+2.0**
	0.5nm,0.6s,baz=268,slow=7.4,SNR=4.1						
ELK	**Elko**	**24.81**	**123**	LR	LR	12 19 09.2	
	comp=Z,51nm,18.5s,baz=337,slow=35						
NV01	**Mina Array Sit**	**25.47**	**131**	*eP*	**P**	**12 10 12.8**	**+2.7**
NVAR	**Mina Array Bea**	**25.47**	**131**	P	**P**	**12 10 12.8**	**+2.7**
	0.6nm,0.9s,baz=316,slow=10.0,SNR=2.8						
NVAR				LR	LR	12 18 50.3	
	comp=Z,66nm,19.5s,baz=356,slow=33						
PDAR	**Pinedale Array**	**25.86**	**113**	LR	LR	12 19 58.2	
	comp=Z,32nm,19.1s,baz=320,slow=35						
PEA1

MHGZ			S	S	12 19 43.9	+1.8
TLZ	Tolley Road	7.01 211	P	Pn	12 18 21.9	+2.5
MRHZ	Matea Rd	7.10 204	P	Pn	12 18 21.4	+0.8
NMHZ	Naumai	7.21 201	P	Pn	12 18 22.1	+0.2
BKZ	Black Stump Fm	7.38 203	P	Pn	12 18 22.5	-1.2
HIZ	Hauiti	7.47 214	P	Pn	12 18 26.5	+1.7
TUVZ	Tukino	7.76 207	P	Pn	12 18 28.8	+0.4
FWVZ	Far West T-bar	7.79 207	P	Pn	12 18 29.9	+1.2
WHVZ	Whangaehu Hut	7.80 207	P	Pn	12 18 29.7	+0.8
BHHZ	Black Hill Sta	7.81 204	P	Pn	12 18 27.0	-1.8
TRVZ	Turoa	7.83 207	P	Pn	12 18 29.4	+0.1
MOVZ	Moawhango	7.85 206	P	Pn	12 18 29.3	0.0
KRHZ	Kereru	7.85 202	P	Pn	12 18 28.7	-0.6
VRZ	Vera Road	8.01 212	P	P	12 18 32.8	-1.4
PXZ	Pawanui	8.06 198	P	Pn	12 18 32.2	+0.4
PNHZ	Pukenui	8.15 202	P	Pn	12 18 30.9	-2.0
TSZ	Takapari Road	8.36 203	P	Pn	12 18 33.5	-1.8
DVHZ	Dannevirke	8.51 201	P	Pn	12 18 36.5	-0.6
POWZ	Post Office Ro	8.72 203	P	Pn	12 18 39.3	-0.3
PRWZ	Pori Road	8.80 201	P	Pn	12 18 40.5	-0.1
BFZ	Birch Farm	8.84 200	P	Pn	12 18 40.5	-0.5
MRZ	Mangatainoka R	9.03 203	P	Pn	12 18 40.5	-2.7
TIWZ	Tintock	9.03 201	P	P	12 18 45.3	-0.3
CPWZ	Castlepoint	9.06 199	P	P	12 18 45.8	-0.1
HOWZ	Holdsworth Sta	9.26 202	P	Pn	12 18 43.2	-2.8
OGWZ	Otaki Gorge	9.30 204	P	Pn	12 18 45.0	-1.5
TMWZ	Te Maipa	9.34 200	P	Pn	12 18 47.7	+0.8
KIW	Kapiti Island	9.43 205	P	Pn	12 18 46.6	-1.4
MTW	Mount Morrison	9.50 202	P	Pn	12 18 47.4	-1.4
CAW	Cannon Point	9.60 204	P	Pn	12 18 47.5	-2.5
TRWZ	Traveller	9.66 200	P	Pn	12 18 50.7	-0.1
PAWZ	Paruwai Farm	9.73 201	P	Pn	12 18 50.9	-0.7
DUWZ	D'Urville Isla	9.76 209	P	Pn	12 18 49.3	-2.7
MSWZ	Moikau Station	9.81 202	P	Pn	12 18 51.4	-1.3
PLWZ	Palliser	9.95 202	P	Pn	12 18 53.9	-0.3
TCW	Tory Channel	9.97 206	P	Pn	12 18 52.0	-2.5
TUWZ	Tuamarina	10.29 207	P	Pn	12 18 54.8	-3.4
NNZ	Nelson	10.33 210	P	Pn	12 18 55.3	-3.5
QRZ	Quartz Range	10.39 214	P	Pn	12 18 56.5	-3.0
BSWZ	Blackbirch Sta	10.56 206	P	Pn	12 18 58.9	-2.6
THZ	Tophouse	10.98 210	P	Pn	12 19 03.8	-2.8
KHZ	Kahutara	11.29 206	P	Pn	12 19 07.5	-2.7
DSZ	Denniston Nort	11.45 213	P	Pn	12 19 09.0	-3.2
LTZ	Lake Taylor	12.09 209	P	P	12 19 16.0	-3.6
AMCZ	Amberley	12.28 207	P	P	12 19 19.8	-1.7
INZ	Inchbonnie	12.39 211	P	P	12 19 20.3	-2.6
CRLZ	Canterbury Las	12.63 206	P	P	12 19 24.3	-1.1
OXZ	Oxford	12.64 208	P	P	12 19 22.1	-3.5
MQZ	McQueen's Vall	12.73 205	P	P	12 19 24.6	-1.9
WVZ	Waitaha Valley	12.99 212	P	P	12 19 27.3	-2.1
RPZ	Rata Peaks	13.36 210	P	P	12 19 29.5	-4.1
	0.9nm,0.3s,baz=7.5,slow=3.6,SNR=7.0					
RPZ			S	S	12 21 49.5	-10
	0.4nm,0.3s,baz=28,slow=18,SNR=3.4					
RPZ	Rata Peaks	13.36 210	P	P	12 19 31.5	-2.1
ODZ	Otahua Downs	14.63 208	P	Pn	12 19 49.1	-0.3
WKZ	Wanaka	15.13 212	P	P	12 19 54.0	+1.0
WHZ	Wether Hill Ro	16.43 211	P	Pn	12 20 10.3	-0.1
CTA	Charters Tower	32.62 284	P	P	12 22 28.6	-8.9
	2.4nm,0.5s,baz=99,slow=10,SNR=4.5					
ASAR	Alice Springs	41.46 270	P	P	12 23 42.2	-8.9
	0.2nm,0.4s,baz=108,slow=7.5,SNR=12					
WRA	Warramunga Arr	42.63 275	P	P	12 23 51.1	-9.4
	0.6nm,0.4s,baz=113,slow=7.9,SNR=23					
PETK	Petropavlovsk-	87.36 347	P	P	12 28 47.5	+2.8
	2.5nm,1.0s,baz=114,slow=8.5,SNR=3.2					

*IDC **06** 12:30:07.9±0.7, 1°.72N×126°.26E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.7/45, mbtmp4.0/8, ML3.8/1, Error ellipse: s-maj=55.3km s-min=15.9km az=76.0*
*ISCJB **06** 12:30:12.4±0.4, 1°.75N±0°.04×126°.55E±0°.05, h47km, mb4.1/16, Error ellipse: s-maj=7.2km s-min=5.2km az=165.0*
*DJA **06** 12:30:12.4±0.5, 2°N±3°×12°6E±°, h10km, M4.2/7, mb4.5/2, mB4.7/1, MLv4.0/7, Mw(mB)3.9/1*
*NEIC **06** 12:30:16.2±1.9, 1°.64N×126°.47E, h66km±8km, mb4.1/13, Error ellipse: s-maj=14.5km s-min=8.7km az=159.0*
ISC 06 12:30:14.5±0.6, 1°.76N±0°.06×126°.53E±0°.07, h47km, n42, σ0s96/46, mb4.1/16, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.29	139	ePn	Pn	12 30 37.5	+1.3
TNTI	Ternate	1.29	139	P	Pn	12 30 37.3	+1.1
SGSI	Sangihe	2.16	333	P	Pn	12 30 47.7	-0.3
SGSI				S	Sn	12 31 13.4	-0.1
KMSI	Cibinong	2.80	245	P	Pn	12 30 56.0	-0.9
KMSI				S	Sn	12 31 29.6	+0.1
SANI	Sanana	3.82	188	P	Pn	12 31 10.8	-0.1
LUWI	Luwuk	4.67	233	ePn	Pn	12 31 23.7	+1.1
LUWI				e		12 32 23.2	
LUWI	Luwuk	4.67	233	P	Pn	12 31 24.5	+2.0
MRSI	Marisa	4.76	255	P	Pn	12 31 22.8	-0.9
APSI	Ampana	5.55	241	P	Pn	12 31 34.5	-0.1
KAPI	Kappang	9.54	225	ePn	Pn	12 32 29.9	+0.5
KKM	Kota Kinabalu	11.13	293	ePn	Pn	12 32 53.6	+2.4
SOEI	Soe	11.66	191	ePn	Pn	12 32 57.6	-0.9
SBUM	Sibu	14.31	273	ePn	Pn	12 33 36.0	+1.5
MTN	Manton Dam	15.21	163	ePn	Pn	12 33 45.4	-1.0
	21nm,1.3s						
FITZ	Fitzroy Crossi	19.75	182	eP	P	12 34 39.3	-1.3
	10nm,1.5s						
FITZ	Fitzroy Crossi	19.75	182	P	P	12 34 39.7	-0.9
	0.2nm,0.3s,baz=360,slow=10,SNR=11						
WR1	Warramunga Arr	22.89	161	eP	P	12 35 13.7	-0.7
WRA	Warramunga Arr	22.89	161	P	P	12 35 13.7	-0.7
	7.0nm,0.4s,baz=338,slow=11,SNR=127						
WRA				PcP	PcP	12 39 04.7	+0.7
	0.2nm,0.5s,baz=320,slow=2.1,SNR=3.9						
WB2	Warramunga Arr	22.89	161	eP	P	12 35 13.6	-0.8
	12nm,0.4s						
MBWA	Marble Bar	23.73	196	eP	P	12 35 20.6	-1.9
	6.8nm,1.0s						
PSA00	Pilbara Seismi	24.09	195	eP	P	12 35 25.3	-0.5
	8.9nm,1.4s						
AS31	Alice Springs	26.27	165	eP	P	12 35 45.2	-0.5
	1.2nm,0.8s						
ASAR	Alice Springs	26.27	165	eP	P	12 35 45.3	-0.3
ASAR	Alice Springs	26.27	165	P	P	12 35 45.9	+0.2
	1.6nm,0.4s,baz=344,slow=8.2,SNR=63						
ASAR				PcP	PcP	12 39 11.8	+0.4
	0.5nm,0.4s,baz=343,slow=2.0,SNR=8.2						
BBOO	Buckleboo	35.55	166	eP	P	12 37 07.2	0.0
	11nm,1.4s						
STKA	Stephens Creek	36.38	158	eP	P	12 37 13.8	-0.6
	0.9nm,1.3s						
STKA	Stephens Creek	36.38	158	P	P	12 37 14.0	-0.4
	2.0nm,0.7s,baz=351,slow=8.7,SNR=6.5						
SONA0	Songino Array	49.09	342	eP	P	12 38 57.2	-0.1
SONM	Songino Array	49.09	342	P	P	12 38 57.2	-0.1
	0.3nm,0.5s,baz=150,slow=12,SNR=2.1						
PETK	Petropavlovsk-	57.32	22	P	P	12 39 58.4	+0.9
	1.7nm,0.9s,baz=197,slow=4.4,SNR=3.3						
PEA1	Petropavlovsk-	57.32	22	eP	P	12 39 58.4	+0.8
MK31	Makanchi Array	59.05	326	eP	P	12 40 08.6	-1.2
	0.9nm,0.7s						
MK32	Makanchi Array	59.05	326	eP	P	12 40 08.9	-0.9
MKAR	Makanchi Array	59.05	326	P	P	12 40 08.9	-0.9
	0.9nm,0.5s,baz=122,slow=8.4,SNR=13						
MAKZ	Makanchi	59.24	326	eP	P	12 40 10.6	-0.5
	5.9nm,1.5s						
KDJ	Kajisay	59.68	319	eP	P	12 40 14.0	-0.5
	1.9nm,1.1s						
KURK	Kurchatov	63.29	328	eP	P	12 40 37.5	-0.9
	3.0nm,0.5s						
VNDA	Vanda	81.51	173	eP	P	12 42 25.8	-0.6
VNDA	Vanda	81.51	173	P	P	12 42 26.8	+0.3
	0.5nm,0.4s,baz=321,slow=5.7,SNR=5.2						
IMAR	Indian Mountai	84.21	24	eP	P	12 42 42.1	+1.4
TORD	Torodi Ar. Bea	123.31	287	PKP	PKPdf	12 49 06.4	-1.0
	0.3nm,0.6s,baz=94,slow=3.7,SNR=2.8						
TOA1	Torodi Ar. Sit	123.31	287	ePKPdf	PKPdf	12 49 06.4	-1.0

*IDC **06** 12:37:14.8±1.1, 9°.76N×93°.56E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/54, mbtmp3.5/6, MS2.8/2, Ms1 2.9/2, ms1mx2.5/42, Error ellipse: s-maj=48.7km s-min=20.6km az=48.0*
*ISCJB **06** 12:37:16.7±1.0, 9°.9N±0°.1×93°.7E±0°.2, h24km, mb3.5/5, MS2.9/1, Error ellipse: s-maj=26.8km s-min=18.6km az=153.3*
ISC 06 12:37:18.6±1.2, 9°.8N±0°.2×93°.6E±0°.2, h24km, n7, σ0s58/6, mb3.4/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.02	30	Pn	Pn	12 39 41.0	-0.1
	baz=224,slow=14,SNR=6.3						
CMAR				LR	LR	12 43 25.5	
	comp=Z,30nm,19.7s,baz=195,slow=37						
AAK	Ala-Archa	36.74	336	LR	LR	13 00 44.3	
	comp=Z,21nm,18.8s,baz=149,slow=38						
MKAR	Makanchi Array	38.10	347	P	P	12 44 35.7	+0.2
	0.4nm,0.6s,baz=167,slow=9.8,SNR=3.8						
WRA	Warramunga Arr	49.80	127	P	P	12 46 09.9	+0.1
	0.2nm,0.5s,baz=307,slow=8.5,SNR=15						
ASAR	Alice Springs	51.55	131	P	P	12 46 22.9	-0.1
	0.2nm,0.5s,baz=306,slow=7.7,SNR=10						
BRTR	Keskin Array B	60.80	310	P	P	12 47 28.4	-0.7
	0.4nm,0.6s,baz=84,slow=7.5,SNR=3.2						
GERES	GERESS Array B	76.06	318	P	P	12 49 05.0	+0.7
	0.3nm,0.2s,baz=99,slow=6.1,SNR=2.9						

*ISCJB **06** 12:39:10.9±0.4, 39°.10N±0°.02×25°.95E±0°.04, h9km±3km, Error ellipse: s-maj=4.8km s-min=3.2km az=178.9*
*ISK **06** 12:39:10.2, 39°.09N×26°.00E, h9km, ML2.3/12*
*DDA **06** 12:39:10.2, 39°.10N×25°.94E, h7km±2km, ML2.9*
*ATH **06** 12:39:10.5, 39°.14N×25°.95E, h21km±2km, ML2.2/5, Error ellipse: s-maj=2.9km s-min=1.6km az=264.0*
*THE **06** 12:39:11.4, 39°.10N×25°.96E, h8km±2km, ML2.1/3, Error ellipse: s-maj=2.0km s-min=0.7km az=36.0*
ISC 06 12:39:11.0±0.8, 39°.11N±0°.02×25°.97E±0°.03, h14km±5km, n30, σ0s52/50, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.14	321	PG	Pg	12 39 14.4	-0.1
SIGR				SG	Sg	12 39 17.0	0.0
SIGR	SIGRI	0.14	321	P	Pg	12 39 14.5	-0.1
SIGR				S	Sg	12 39 16.9	0.0
SIGR	SIGRI	0.14	321	P	Pg	12 39 14.4	-0.1
SIGR				S	Sg	12 39 16.6	-0.4
SIGR				AML	AML	12 39 17.2	
	comp=E,2390μm,0.2s						
SIGR				AML	AML	12 39 17.4	
	comp=N,3795μm,0.2s						
PRK	Paraskevi	0.28	59	P	Pb	12 39 17.5	-0.2
PRK				S	Sg	12 39 21.1	+0.3
PRK	Paraskevi	0.28	59	P	Pb	12 39 17.5	-0.2
PRK				S	Sg	12 39 21.3	+0.5
PRK				AML	AML	12 39 22.1	
	comp=N,1099μm,0.5s						
PRK				AML	AML	12 39 22.4	
	comp=E,856μm,0.3s						
GPNR	Gulpinar-Canak	0.37	20	PG	Pg	12 39 18.3	-0.2
GPNR				SG	Sb	12 39 24.2	-0.9
AYVA	Ayvalik	0.60	70	*i* P	Pg	12 39 22.8	+0.1
AYVA				*i* S	Sb	12 39 31.5	-0.1
PSRA	Psara	0.64	209	P	Pb	12 39 24.0	+0.1
PSRA				S	Sb	12 39 34.0	+1.2
KRBN	Karaburun	0.69	138	PG	Pg	12 39 23.3	-1.1
CHOS	Chios island	0.72	174	PG	Pg	12 39 24.2	-0.8
CHOS	Chios island	0.72	174	P	Pg	12 39 24.6	-0.4
CHOS				S	Sb	12 39 35.9	+0.7
CHOS	Chios island	0.72	174	P	Pg	12 39 24.4	-0.7
CHOS				S	Sb	12 39 35.8	+0.7
CHOS				AML	AML	12 39 37.6	
	comp=E,722μm,0.3s						
CHOS				AML	AML	12 39 38.7	
	comp=N,371μm,0.3s						
BOZC	Bozcaada	0.74	5	PG	Pg	12 39 25.1	-0.2
BOZC				SG	Sb	12 39 36.5	+0.9
BOZC	Bozcaada	0.74	5	IAML_P			
	comp=Z,5μm,0.2s						
BOZC				*i* P	Pg	12 39 25.0	-0.4
BOZC				*i* S	Sb	12 39 36.4	+0.8
EZN	Ezine	0.77	21	PG	Pg	12 39 25.6	-0.4
EZN				SG	Sb	12 39 37.0	+0.5
BAYC	CANAKKALE_Bayr	0.78	35	*i* P	Pg	12 39 25.8	-0.3
BAYC				*i* S	Sn	12 39 39.0	0.0
ZEDA	zmir-Bergama	0.88	99	IAML_P			
	comp=Z,1μm,0.1s						
ZEDA				*i* P	Pb	12 39 27.9	0.0
ZEDA				*i* S	Sn	12 39 41.7	+0.3
URLA	Izmir	0.89	146	PG	Pg	12 39 27.7	-0.6
URLA	Izmir	0.89	146	IAML_P			
	comp=Z,2μm,0.1s						
URLA				*i* P	Pn	12 39 28.9	-0.2
URLA				*i* S	Sb	12 39 40.7	+0.7
LIA	Limnos Island	1.00	323	P	Pb	12 39 30.0	0.0
LIA				S	Sn	12 39 44.1	-0.3
LIA	Limnos Island	1.00	323	P	Pb	12 39 29.8	-0.2
LIA				S	Sn	12 39 44.0	-0.4
LIA				AML	AML	12 39 44.5	
	comp=E,435μm,0.3s						
LIA				AML	AML	12 39 44.9	
	comp=N,365μm,0.3s						
GELI	Tayfur-Gelibol	1.35	17	PN	Pn	12 39 35.8	+0.4
SMTH	Samothraki Isl	1.40	346	P	Pb	12 39 36.7	-0.3
SMTH	Samothraki Isl	1.40	346	P	Pb	12 39 36.7	-0.3
SMTH				S	Sb	12 39 53.9	-0.9
SMTH				AML	AML	12 39 58.4	
	comp=E,37μm,0.5s						
SMTH				AML	AML	12 39 58.6	
	comp=N,29μm,0.2s						
LPK	Lapseki	1.41	26	PN	Pn	12 39 36.5	+0.3
ERIK	Erikli-Kesan	1.62	15	PN	Pn	12 39 39.7	+0.6
KRBG	Karabiga-Canak	1.65	38	PN	Pn	12 39 39.9	+0.4
ALN	Alexandroupoli	1.79	2	PN	Pn	12 39 42.2	+0.7
ALN	Alexandroupoli	1.79	2	P	Pn	12 39 41.3	-0.2
ALN				S	Sn	12 40 03.7	-0.3
RKY	Sarkoy-Tekirda	1.83	30	PN	Pn	12 39 42.6	+0.5

*NIED **06** 12:42:00, 38°.50N×144°.70E, h5km, Mw3.8 Best double couple: M0 6.14000×10^14 NP1:ϕs 18.00000°, δ20.00000°, λ-89.00000°. NP2:ϕs 197.00000°, δ70.00000°, λ-90.00000°.*
*IDC **06** 12:42:56.3±0.7, 38°.43N×144°.92E, h0km, mb3.6/14, mb1 3.8/17, mb1mx3.7/41, mbtmp3.6/17, ML3.2/3, MS2.8/6, Ms1 2.8/6, ms1mx2.5/48, Error ellipse: s-maj=18.4km s-min=15.6km az=128.0*
*ISCJB **06** 12:42:57.1±0.5, 38°.68N±0°.04×144°.68E±0°.04, h10km, mb3.5/14, MS3.0/1, Error ellipse: s-maj=6.8km s-min=4.2km az=150.6*
*JMA **06** 12:42:59.6±0.2, 38°.55N×144°.66E, h42km, M3.8*
ISC 06 12:42:59.0±0.9, 38°.66N±0°.07×144°.71E±0°.07, h10km, n34, σ1s73/37, mb3.5/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.41	281	P	Pn	12 43 37.8	-0.7
MIYJ	Miyakonagasawa	2.42	293	P	Pn	12 43 38.1	-0.6
JKMT	Kesennumamotoy	2.53	274	P	Pn	12 43 39.5	-0.7
JKMT				eS	Sn	12 44 09.2	-1.9
JIKH	Ishinomakikobu	2.57	263	P	Pn	12 43 39.4	-1.3
JIKH				eS	Sn	12 44 08.6	-3.4
JMK	Ichinoseki	2.74	277	P	Pn	12 43 42.6	-0.4
JMK				eS	Sn	12 44 14.9	-1.3
JOM	Ohasama	2.78	288	P	Pn	12 43 43.4	-0.2
JOM				eS	Sn	12 44 16.3	-0.9
JANG	Nango	3.00	306	P	Pn	12 43 46.1	-0.6
JANG				eS	Sn	12 44 20.5	-2.2
JYK	Kaneyama	3.41	276	P	Pn	12 43 52.2	0.0
JYK				eS	Sn	12 44 32.1	-0.6
JFT	Otama	3.63	253	P	Pn	12 43 54.9	-0.4
JFT				eS	Sn	12 44 35.9	-2.4
JCH	Churui	4.08	346	P	Pn	12 44 00.9	-0.6
JCH				eS	Sn	12 44 46.5	-2.7
NEM2	Nemuro 2	4.76	9	P	Pn	12 44 08.2	-2.6
NEM2				eS	Sn	12 45 00.7	-5.4
JRY	Ryogami san	5.33	242	P	Pn	12 44 16.9	-1.7
JRY				S	Sn	12 45 14.9	-5.2
JTKR	Abashiri--Toko	5.34	354	P	Pn	12 44 17.8	-0.9
JTKR				eS	Sn	12 45 16.1	-4.2
MJAR	Matsushiro Arr	5.58	250	Pn	Pn	12 44 21.5	-0.5
	0.4nm,0.3s,baz=52,slow=9.4,SNR=32						
MJAR				Sn	Sn	12 45 26.3	0.0
	0.1nm,0.3s,baz=157,slow=35,SNR=3.0						
MJAR				LR	LR	12 46 47.5	
	comp=Z,59nm,18.4s,baz=80,slow=41						
MAT	Matsushiro	5.58	250	P	Pn	12 44 22.3	+0.2
MAT				S	Sn	12 45 25.7	-0.6
ASAJ	Asahikawa	5.68	344	Pn	Pn	12 44 24.0	+0.6
	1.6nm,0.3s,baz=182,slow=15,SNR=18						
ASAJ				Sn	Sn	12 45 27.0	-1.6
	1.5nm,0.3s,baz=60,slow=21,SNR=4.0						
ASAJ				LR	LR	12 47 34.0	
	comp=Z,39nm,18.6s,baz=228,slow=47						
USRK	Ussuriysk Ar.	11.03	304	Pn	Pn	12 45 38.7	+1.9
	0.3nm,0.3s,baz=113,slow=14,SNR=9.7						
JNU	Nakatsue	12.50	248	LR	LR	12 50 57.3	
	comp=Z,47nm,19.2s,baz=60,slow=38						
KSRS	Korea Array	13.29	270	LR	LR	12 50 10.8	
	comp=Z,44nm,19.1s,baz=90,slow=32						
KLR	Kul'dur	14.07	323	LR	LR	12 51 20.3	
	comp=Z,28nm,19.5s,baz=148,slow=35						
SEY	Seymchan	24.75	8	P	P	12 48 21.8	+1.4
	1.7nm,0.6s,baz=206,slow=5.3,SNR=11						
SONM	Songino Array	29.12	301	P	P	12 49 02.3	+2.2
	0.2nm,0.3s,baz=103,slow=6.5,SNR=2.3						
SONM				LR	LR	13 01 07.3	
	comp=Z,33nm,18.8s,baz=212,slow=37						
ZALV	Zalesovo Beam	42.78	311	P	P	12 50 57.0	+0.5
	0.3nm,0.4s,baz=89,slow=8.4,SNR=1.7						
MKAR	Makanchi Array	45.48	301	P	P	12 51 18.6	+0.2
	0.4nm,0.7s,baz=73,slow=9.9,SNR=3.1						
ILAR	Eielson Array	46.72	33	P	P	12 51 26.5	-1.3
	0.4nm,0.7s,baz=264,slow=6.3,SNR=6.6						
INK	Inuvik	51.74	28	P	P	12 52 05.8	-0.3
	0.3nm,0.5s,baz=274,slow=2.7,SNR=3.4						
WRA	Warramunga Arr	59.10	191	P	P	12 52 56.6	-3.0
	1.4nm,0.7s,baz=12,slow=7.2,SNR=16						
YKA	Yellowknife Ar	61.08	31	P	P	12 53 11.8	-0.9
	0.2nm,0.7s,baz=304,slow=6.4,SNR=5.4						
ASAR	Alice Springs	62.82	191	P	P	12 53 22.8	-2.1
	0.8nm,0.7s,baz=12,slow=7.8,SNR=15						
FINES	FINESS Array B	68.57	333	P	P	12 54 02.3	+0.8
	2.5nm,0.9s,baz=32,slow=8.2,SNR=3.9						
NVAR	Mina Array Bea	71.92	55	P	P	12 54 22.1	-0.7
	0.6nm,0.8s,baz=290,slow=6.2,SNR=4.7						
AKASG	Malin Array Be	74.58	323	P	P	12 54 39.3	+1.4
	0.2nm,0.3s,baz=40,slow=7.8,SNR=2.7						
PDAR	Pinedale Array	74.66	47	P	P	12 54 38.2	-0.7
	0.1nm,0.5s,baz=264,slow=3.6,SNR=3.2						
TXAR	Lajitas Array	87.06	54	P	P	12 55 44.4	-0.8
	0.1nm,0.4s,baz=282,slow=4.2,SNR=2.8						

*NIED **06** 13:14:00, 37°.50N×143°.60E, h8km, Mw5.0 Best double couple: M0 3.09000×10^16 NP1:ϕs 331.00000°, δ36.00000°, λ-147.00000°. NP2:ϕs 214.00000°, δ71.00000°, λ-58.00000°.*
*ISCJB **06** 13:14:32.6±0.7, 37°.47N±0°.02×143°.65E±0°.02, h11km±4km, mb4.9/227, MS4.5/64, Error ellipse: s-maj=3.5km s-min=2.3km az=173.7*
*IDC **06** 13:14:32.3±0.4, 37°.39N×143°.71E, h0km, mb4.5/41, mb1 4.7/48, mb1mx4.6/58, mbtmp4.6/48, ML4.5/6, MS4.2/32, Ms1 4.2/32, ms1mx4.1/48, Error ellipse: s-maj=12.1km s-min=10.4km az=135.0*
*NEIC **06** 13:14:33.9±1.5, 37°.41N×143°.67E, h11km±9km, mb5.0/154, Error ellipse: s-maj=4.0km s-min=2.4km az=139.0*
NEIC Recorded [1 JMA] in Ibaraki, Iwate and Miyagi.
*JMA **06** 13:14:34.9±0.2, 37°.47N×143°.65E, h45km, M5.0*
JMA Felt I J1.
*GCMT **06** 13:14:36.9±0.2, 37°.52N±0°.01×143°.74E±0°.01, h18km, MW5.1/88, Moment Tensor Solution. s41,c61; s88,c149; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.50±.13; Mθθ-3.12±.10; Mφφ4.62±.12; Mrθ1.72±.28; Mrφ1.20±.08; Mθφ2.00±.26; Best double couple: M0 4.87300×10^16 NP1:ϕs 228.00000°, δ81.00000°, λ-38.00000°. NP2: ϕs 325.00000°, δ53.00000°, λ-168.00000°. Principal axes: T 5.5350, Plg18.0000°, Azm282.0000°; N -1.3230, Plg51.0000°, Azm36.0000°; P -4.2120, Plg33.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **06** 13:14:37.7±1.1, 37°.74N×143°.59E, h35km, mb5.1/70, MS4.4/20 Error ellipse: s-maj=6.4km s-min=3.8km az=106.4*
*BJI **06** 13:14:38.9±0.0, 37°.65N×143°.12E, h30km, mb4.9/78, mB5.1/55, Ms4.8/85, Ms7 4.5/80*
ISC 06 13:14:36.3±0.4, 37°.51N±0°.03×143°.69E±0°.03, h27km±2km, h28km:pP-P, n670, σ1s52/700, mb5.0/238, MS4.5/64, 50C-31D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.94	295	P	Pn	13 15 06.1	-1.3
JIKH				S	Sn	13 15 28.7	-2.2
JIO	Ouri	2.08	298	↑↑P	Pn	13 15 08.2	-1.2
JIO				S	Sn	13 15 32.8	-1.6
JKMT	Kesennumamotoy	2.18	307	P	Pn	13 15 09.5	-1.3
JKMT				S	Sn	13 15 35.0	-1.9
OFUJ	Ofunato	2.24	315	↑↑P	Pn	13 15 10.3	-1.3
OFUJ				eS	Sn	13 15 36.4	-1.9
JFK	Kawauchi	2.25	267	P	Pn	13 15 10.1	-1.6
JFK				eS	Sn	13 15 35.9	-2.7
JMK	Ichinoseki	2.43	307	P	Pn	13 15 13.1	-1.0
JMK				eS	Sn	13 15 41.7	-1.2
JFT	Otama	2.67	271	↑↑P	Pn	13 15 16.9	-0.6
JFT				eS	Sn	13 15 47.5	-1.5
JOM	Ohasama	2.72	317	↑↑P	Pn	13 15 17.6	-0.6
JOM				S	Sn	13 15 49.3	-1.0
JYK	Kaneyama	2.98	299	↑↑P	Pn	13 15 21.6	-0.2
JYK				eS	Sn	13 15 56.6	-0.1
JYA	Atsumi	3.33	290	↑↑P	Pn	13 15 26.5

YUK					pmax	pmax	
	comp=E,208nm,0.2s						
YUK					pmax	pmax	
	comp=Z,405nm,0.2s						
YUK					smax	smax	
	comp=E,802nm,0.2s						
YUK					smax	smax	
	comp=N,1μm,0.5s						
LAGR	**Lagunnoye**	**6.73**	**13**	⇑*i*P	**Pn**	**13 16 11.7**	**-1.6**
LAGR				*i* S	**Sn**	**13 17 22.1**	**-6.9**
LAGR				pmax	pmax		
	comp=Z,764nm,0.3s						
LAGR				pmax	pmax		
	comp=N,403nm,0.1s						
LAGR				pmax	pmax		
	comp=E,561nm,0.4s						
LAGR				smax	smax		
	comp=N,4μm,0.5s						
LAGR				smax	smax		
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	**8.33**	**21**	*e*P	**Pn**	**13 16 32.8**	**-2.4**
KUR				*e*S	Sn	13 17 59.3	-9.1
KUR				pmax	pmax		
	comp=Z,168nm,0.5s						
KUR				pmax	pmax		
	comp=N,35nm,0.3s						
KUR				pmax	pmax		
	comp=E,39nm,0.2s						
KUR				pmax	pmax		
	comp=Z,441nm,1.0s						
KUR				smax	smax		
	comp=N,400nm,0.6s						
KUR				smax	smax		
	comp=E,260nm,0.7s						
KUR				smax	smax		
	comp=N,2μm,2.0s						
KUR				smax	smax		
	comp=E,447nm,1.1s						
KUR				MLR	MLR		
	comp=Z,2μm,10.0s						
KUR				MLR	MLR		
	comp=E,2μm,13.0s						
KUR				MLR	MLR		
	comp=N,835nm,11.0s						
TEY	**Ternei**	**9.22**	**327**	⇑*e*P	**Pn**	**13 16 48.8**	**+1.4**
TEY				*e*S	**Sn**	**13 18 30.7**	**+0.5**
TEY				pmax	pmax		
	comp=N,80nm,0.8s						
TEY				pmax	pmax		
	comp=E,70nm,0.8s						
TEY				pmax	pmax		
	comp=Z,80nm,0.7s						
TEY				smax	smax		
	comp=N,20nm,1.4s						
TEY				smax	smax		
	comp=E,30nm,0.9s						
TEY				MLR	MLR		
	comp=E,3μm,15.0s						
TEY				MLR	MLR		
	comp=N,3μm,14.0s						
TEY				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**9.47**	**356**	*e*Pn	**Pn**	**13 16 48.7**	**-2.0**
YSS	**Yuzh-Sakhalins**	**9.47**	**356**	⇓*e*P	**Pn**	**13 16 50.2**	**-0.6**
YSS				*e*S	**Sn**	**13 18 32.4**	**-3.9**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax	smax		
	comp=N,900nm,2.6s						
YSS				smax	smax		
	comp=E,600nm,2.0s						
YSS				smax	smax		
	comp=N,200nm,1.4s						
YSS				smax	smax		
	comp=E,150nm,1.4s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
VLA	**Vladivostok**	**10.62**	**306**	*c i*P	**Pn**	**13 17 06.1**	**-0.4**
MSHR	**Mys Shultsa**	**10.86**	**302**	*c i*P	**Pn**	**13 17 10.3**	**+0.4**
USA0B	**Ussuriysk Arra**	**11.10**	**311**	*e*Pn	**Pn**	**13 17 14.1**	**+0.9**
USRK	**Ussuriysk Ar.**	**11.10**	**311**	*e*Pn	**Pn**	**13 17 12.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**11.10**	**311**	Pn	**Pn**	**13 17 14.1**	**+1.0**
	comp=E,3.9nm,0.3s,baz=124,slow=12,SNR=46						
USRK				LR	LR	13 21 32.4	
	comp=E,2μm,18.6s,baz=116,slow=38						
JNU	**Nakatsue**	**11.35**	**251**	*e*Pn	**Pn**	**13 17 15.9**	**-0.7**
JNU	**Nakatsue**	**11.35**	**251**	Pn	**Pn**	**13 17 16.1**	**-0.5**
	comp=E,1.5nm,0.3s,baz=66,slow=1.7,SNR=19						
KSRS	**Korea Array**	**12.53**	**275**	P	**Pn**	**13 17 34.0**	**+1.2**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,466nm,19.2s						
KSRS	**Korea Array**	**12.53**	**275**	Pn	**Pn**	**13 17 34.0**	**+1.2**
	comp=Z,2.2nm,0.3s,baz=89,slow=13,SNR=94						
KSRS				LR	LR	13 22 14.8	
	comp=Z,466nm,19.2s,baz=74,slow=37						
KSRS				PcP	**PcP**	**13 23 11.9**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=38,slow=1.3,SNR=5.0						
KS15	**Wonju Array Si**	**12.56**	**275**	*e*Pn	**Pn**	**13 17 34.4**	**+1.2**
KSAR	**Wonju Array Be**	**12.56**	**275**	*e*Pn	**Pn**	**13 17 32.7**	**-0.5**
KSAR				PcP	**PcP**	**13 23 11.9**	**+1.0**
KSAR	**Wonju Array Be**	**12.56**	**275**	*e*P	**Pn**	**13 17 32.7**	**-0.5**
MDJ	**Mudanjiang**	**12.79**	**308**	P	**Pn**	**13 17 37.1**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,61nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,380nm,5.0s						
MDJ				LR	LR		
	comp=Z,4μm,15.0s						
MDJ				LR	LR		
	comp=Z,1μm,13.5s						
MDJ				LR	LR		
	comp=Z,2μm,13.2s						
MDJ	**Mudanjiang**	**12.79**	**308**	*e*Pn	**Pn**	**13 17 36.2**	**0.0**
TJN	**Taejon**	**13.12**	**270**	*ce*P	**Pn**	**13 17 42.3**	**+1.6**
TYV	**Tymovskoe**	**13.38**	**357**	*e*P	**Pn**	**13 17 43.3**	**-0.9**
TYV				*e*		13 20 02.3	
TYV				pmax	pmax		
	comp=Z,22nm,1.0s						
TYV				MLR	MLR		
	comp=N,1μm,18.0s						
TYV				MLR	MLR		
	comp=Z,2μm,19.0s						
GRNR	**Gornyy**	**14.24**	**341**	*e*P	**Pn**	**13 17 54.6**	**-1.4**
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
KLR	**Kul'dur**	**14.56**	**327**	P	**Pn**	**13 17 58.3**	**-2.1**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR				MLR	MLR		
	comp=Z,2μm,19.2s						
KLR	**Kul'dur**	**14.56**	**327**	Pn	**Pn**	**13 17 58.3**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=130,slow=12,SNR=58						
KLR				LR	LR	13 23 47.0	
	comp=Z,2μm,19.2s,baz=144,slow=38						
CN2	**Changchun**	**15.20**	**300**	*e*P	**Pn**	**13 18 07.1**	**-1.9**
CN2				*e*S	**Sn**	**13 20 56.2**	**-0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,300nm,6.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,940nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
NKL	**Nikolayevsk**	**15.79**	**353**	*e*P	**Pn**	**13 18 15.0**	**-1.5**
NKL				*e*		13 21 14.0	
NKL				pmax	pmax		
	comp=N,12nm,1.0s						
NKL				pmax	pmax		
	comp=Z,34nm,1.0s						
SKR	**Severo-Kuril's**	**15.88**	**30**	*e*P	Pn	13 18 06.8	-11
SKR				*e*S	**Sn**	**13 21 08.2**	**-4.6**
SKR				pmax	pmax		
	comp=Z,239nm,1.1s						
SKR				MLR	MLR		
	comp=Z,700nm,15.0s						
SKR				MLR	MLR		
	comp=Z,900nm,16.0s						
OKH	**Okha**	**16.05**	**358**	*de*P	**P**	**13 18 22.3**	**-0.8**
OKH				*e*S	**Sn**	**13 21 20.1**	**+3.1**
OKH				pmax	pmax		
	comp=Z,100nm,12.6s						
OKH				smax	smax		
	comp=N,100nm,17.5s						
OKH				MLR	MLR		
	comp=Z,1μm,18.0s						
SNY	**Shenyang**	**16.07**	**292**	⇓P	**Pn**	**13 18 19.4**	**-0.9**
SNY				pmax	pmax		
	comp=Z,21nm,0.5s						
SNY				pmax	pmax		
	comp=Z,470nm,7.3s						
SNY				LR	LR		
	comp=Z,4μm,15.8s						
SNY				LR	LR		
	comp=Z,2μm,17.8s						
SNY				LR	LR		
	comp=Z,3μm,17.6s						
JOW	**Kunigami**	**16.82**	**235**	*e*Pn	**Pn**	**13 18 27.0**	**-2.9**
	comp=Z,22nm,1.1s						
DL2	**Dalian**	**17.40**	**281**	⇑*i*P	**Pn**	**13 18 34.1**	**-2.9**
DL2				sP	**sP**	**13 18 46.9**	**+0.5**
DL2				PP	**PnPn**	**13 18 48.9**	**+1.7**
DL2				S	**Sn**	**13 21 42.5**	**-7.3**
DL2				pmax	pmax		
	comp=Z,130nm,0.8s						
DL2				pmax	pmax		
	comp=Z,440nm,3.9s						
DL2				LR	LR		
	comp=Z,1μm,16.6s						
DL2				LR	LR		
	comp=Z,500nm,23.8s						
DL2				LR	LR		
	comp=Z,1μm,18.0s						
PEA0B	**Petropavlovsk-**	**18.40**	**28**	*e*P	**P**	**13 18 49.2**	**+0.1**
	comp=Z,110nm,1.6s						
PETK	**Petropavlovsk-**	**18.40**	**28**	*e*P	**P**	**13 18 49.1**	**+0.1**
PETK	**Petropavlovsk-**	**18.40**	**28**	P	**Pn**	**13 18 49.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=212,slow=9.1,SNR=13						
PETK				LR	LR	13 26 37.4	
	comp=Z,487nm,20.3s,baz=211,slow=39						
PET	**Petropavlovsk**	**18.69**	**29**	*e*P	**Pn**	**13 18 52.6**	**-0.1**
	comp=Z,60nm,1.5s						
PET	**Petropavlovsk**	**18.69**	**29**	*e*P	**P**	**13 18 48.7**	**-3.5**
PET				*e*S	**Sn**	**13 22 10.5**	**-10**
PET				pmax	pmax		
	comp=Z,100nm,9.3s						
PET				pmax	pmax		
	comp=Z,21nm,1.1s						
PET				MLR	MLR		
	comp=Z,900nm,18.0s						
PET				MLR	MLR		
	comp=Z,800nm,13.0s						
SSE	**Sheshan**	**19.64**	**258**	P	**P**	**13 19 02.8**	**0.0**
SSE				S	**S**	**13 22 33.8**	**-9.2**
SSE				pmax	pmax		
	comp=Z,15nm,0.6s						
SSE				pmax	pmax		
	comp=Z,130nm,3.8s						
SSE				LR	LR		
	comp=Z,860nm,17.1s						
ZEA	**Zeya**	**19.81**	**330**	*e*P	**P**	**13 19 04.1**	**-0.5**
ZEA				*e*S	**S**	**13 22 43.0**	**-3.2**
ZEA				pmax	pmax		
	comp=N,300nm,2.0s						
ZEA				pmax	pmax		
	comp=E,200nm,2.0s						
ZEA				pmax	pmax		
	comp=Z,500nm,2.0s						
ZEA				pmax	pmax		
	comp=E,83nm,1.4s						
ZEA				pmax	pmax		
	comp=N,180nm,1.6s						
ZEA				pmax	pmax		
	comp=Z,490nm,2.0s						
ZEA				smax	smax		
	comp=E,400nm,3.0s						
ZEA				smax	smax		
	comp=N,200nm,4.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,17.0s						
ZEA				MLR	MLR		
	comp=N,2μm,16.0s						
HIA	**Hailar**	**20.91**	**312**	*e*P	**P**	**13 19 14.6**	**-1.9**
	comp=N,26nm,0.8s						
HIA	**Hailar**	**20.91**	**312**	*e*P	**P**	**13 19 14.6**	**-1.9**
HIA				pmax	pmax		
	comp=Z,26nm,0.8s						
NJ2	**Nanjing**	**21.09**	**262**	*e*P	**P**	**13 19 17.1**	**-1.4**
NJ2				pP	**sP**	**13 19 25.4**	**-1.3**
NJ2				sP	**pwP**	**13 19 30.5**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,19nm,1.1s						
NJ2				LR	LR		
	comp=Z,1μm,14.1s						
NJ2				LR	LR		
	comp=Z,770nm,13.6s						
NJ2				LR	LR		
	comp=Z,1μm,14.6s						
TIA	**Tai'an**	**21.28**	**275**	P	**P**	**13 19 20.0**	**-0.6**
TIA				pmax	pmax		
	comp=Z,86nm,1.3s						
TIA				pmax	pmax		
	comp=Z,210nm,3.5s						
TIA				LR	LR		
	comp=Z,1μm,12.0s						
TIA				LR	LR		
	comp=Z,1μm,13.4s						
TIA				LR	LR		
	comp=Z,1μm,14.9s						
BJI	**Beijing**	**21.57**	**285**	P	**P**	**13 19 23.2**	**-0.5**
BJI				S	**S**	**13 23 20.9**	**-0.4**
BJI				pmax	pmax		
	comp=Z,17nm,1.2s						
BJI				LR	LR		
	comp=Z,700nm,14.7s						
BJI				LR	LR		
	comp=Z,330nm,17.5s						
BJI				LR	LR		
	comp=Z,260nm,23.7s						
BJT	**Baijiatuau**	**21.58**	**285**	*e*P	**P**	**13 19 21.4**	**-2.3**
	comp=Z,180nm,1.6s						
BJT	**Baijiatuau**	**21.58**	**285**	*e*P	**P**	**13 19 21.4**	**-2.3**
BJT				pmax	pmax		
	comp=Z,180nm,1.6s						
MA2	**Magadan**	**22.55**	**9**	*e*P	**P**	**13 19 34.5**	**+0.5**
	comp=Z,50nm,1.2s						
MA2	**Magadan**	**22.55**	**9**	*e*P	**P**	**13 19 33.6**	**-0.4**
MA2				pmax	pmax		
	comp=Z,44nm,1.7s						
MA2	**Magadan**	**22.55**	**9**	P	**P**	**13 19 35.5**	**+1.5**
	comp=Z,13nm,0.9s,baz=185,slow=9.3,SNR=7.7						
MA2				LR	LR	13 30 52.1	
	comp=Z,208nm,18.4s,baz=207,slow=43						
YULB	**Yu-li**	**23.81**	**240**	*e*P	**P**	**13 19 46.3**	**-0.7**
	comp=Z,17nm,0.8s						
TIY	**Taiyuan**	**24.71**	**280**	*e*P	**P**	**13 19 57.4**	**+2.1**
TIY				sP	**pwP**	**13 20 10.8**	**+1.5**
TIY				pmax	pmax		
	comp=Z,52nm,1.0s						
TIY				pmax	pmax		
	comp=Z,310nm,4.8s						
TIY				LR	LR		
	comp=Z,410nm,12.5s						
TIY				LR	LR		
	comp=Z,1μm,15.0s						
TIY				LR	LR		
	comp=Z,1μm,14.0s						
QZH	**Quanzhou**	**24.77**	**247**	⇑*i*P	**P**	**13 19 55.0**	**-0.7**
QZH				sP	**pwP**	**13 20 09.3**	**-0.8**
QZH				S	**S**	**13 24 17.3**	**+0.9**
QZH				LR	LR		
	comp=Z,830nm,18.9s						
QZH				LR	LR		
	comp=Z,740nm,19.9s						
QZH				LR	LR		
	comp=Z,560nm,13.7s						
HHC	**Hu-ho-hao-te**	**25.05**	**288**	*e*P	**P**	**13 19 57.1**	**-1.3**
HHC				pP	sP	13 20 07.1	+0.5
HHC				sP	pwP	13 20 11.6	-0.9
HHC				S	**S**	**13 24 17.9**	**-3.2**
HHC				pmax	pmax		
	comp=Z,100nm,0.9s						
HHC				pmax	pmax		
	comp=Z,320nm,4.1s						
HHC				LR	LR		
	comp=Z,2μm,12.2s						
HHC				LR	LR		
	comp=Z,880nm,11.9s						
HHC				LR	LR		
	comp=Z,2μm,11.4s						
WHN	**Wuhan**	**25.23**	**263**	P	**P**	**13 20 00.2**	**+0.3**
WHN				pP	**pwP**	**13 20 13.3**	**-1.2**
WHN				S	**S**	**13 24 26.6**	**+2.9**
WHN				LR	LR		
	comp=Z,1μm,11.7s						
WHN				LR	LR		
	comp=Z,3μm,14.2s						
WHN				LR	LR		
	comp=Z,3μm,17.3s						
CIT	**Chita**	**25.63**	**314**	*e*P	**P**	**13 20 04.7**	**+1.3**
CIT				*e*		13 20 17.2	
CIT				*e*		13 20 45.4	
CIT				pmax	pmax		
	comp=Z,165nm,1.0s						
SEY	**Seymchan**	**26.01**	**9**	*ce*P	**P**	**13 20 08.7**	**+2.1**
SEY	**Seymchan**	**26.01**	**9**	P	**P**	**13 20 08.3**	**+1.7**
	comp=Z,19nm,0.9s,baz=192,slow=6.4,SNR=41						
YAK	**Yakutsk**	**26.05**	**345**	*e*P	**P**	**13 20 07.4**	**+0.4**
YAK				*e**PP	**pwP**	**13 20 19.5**	**-1.5**
YAK				*e*		13 20 43.3	
YAK				*e*PPP	PPP	13 20 54.6	
YAK				*e*		13 23 33.6	
YAK				*e*S	**S**	**13 24 37.4**	**+1.3**
YAK				*e**SS	**sS**	**13 24 51.1**	**+4.7**
YAK				*e*SS	**SnSn**	**13 25 36.5**	**+1.8**
YAK				*e*SSS	SSS	13 25 54.5	
YAK				pmax	pmax		
	comp=Z,70nm,0.9s						
YAK				pmax	pmax		
	comp=N,33nm,1.0s						
YAK				pmax	pmax		
	comp=E,16nm,1.4s						
YAK				pmax	pmax		
	comp=Z,409nm,2.0s						
YAK				pmax	pmax		
	comp=N,324nm,1.9s						
YAK				pmax	pmax		
	comp=E,378nm,2.0s						
YAK				smax	smax		
	comp=N,1μm,2.8s						
YAK				smax	smax		
	comp=E,592nm,2.2s						
YAK				MLR	MLR		
	comp=Z,2μm,15.0s						
YAK				MLR	MLR		
	comp=N,1μm,16.0s						
YAK				MLR	MLR		
	comp=E,2μm,16.0s						
BTO	**Baotou**	**26.24**	**287**	*e*P	**P**	**13 20 12.0**	**+2.9**
H11N2	**WAKE ISLAND Hy**	**26.87**	**125**	T	T	13 47 22.3	
	baz=316,slow=74,SNR=134						
H11N1	**WAKE ISLAND Hy**	**26.88**	**125**	T	T	13 47 23.0	
	baz=316,slow=74,SNR=49						
H11N3	**WAKE ISLAND Hy**	**26.89**	**125**	T	T	13 47 26.3	
	baz=316,slow=74,SNR=60						
H11S1	**WAKE ISLAND Hy**	**27.64**	**127**	T	T	13 48 17.3	
	baz=318,slow=74						
H11S3	**WAKE ISLAND Hy**	**27.64**	**127**	T	T	13 48 17.4	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**27.65**	**127**	T	T	13 48 16.5	
	baz=318,slow=74						
BOD	**Bodaibo**	**28.13**	**326**	*e*P	**P**	**13 20 26.1**	**+0.3**
BOD				pmax	pmax		
	comp=Z,43nm,1.1s						
XAN	**Xi'an**	**28.33**	**274**	P	**P**	**13 20 29.3**	**+1.4**
XAN				sP	pwP	13 20 42.7	+0.8
XAN				PP	**PnPn**	**13 21 19.2**	**+2.3**
XAN				S	**S**	**13 25 11.9**	**-0.9**
XAN				pmax	pmax		
	comp=Z,29nm,0.8s						
XAN				pmax	pmax		
	comp=Z,130nm,2.6s						
XAN				LR	LR		
	comp=Z,1μm,16.2s						
XAN				LR	LR		
	comp=Z,190nm,19.1s						
XAN				LR	LR		
	comp=Z,370nm,17.0s						
XAN	**Xi'an**	**28.33**	**274**	*e*P	**P**	**13 20 28.4**	**+0.6**
	comp=Z,38nm,0.8s						
XAN	**Xi'an**	**28.33**	**274**	*e*P	**P**	**13 20 28.5**	**+0.6**
XAN				pmax	pmax		
	comp=Z,38nm,0.8s						
ULN	**Ulaanbaatar**	**28.61**	**303**	*e*P	**P**	**13 20 31.1**	**+0.7**
	comp=Z,95nm,1.6s						
ULN	**Ulaanbaatar**	**28.61**	**303**	*ce*P	**P**	**13 20 32.3**	**+1.9**
ULN				pmax	pmax		
	comp=Z,49nm,1.3s						
ULN	**Ulaanbaatar**	**28.61**	**303**	P	**P**	**13 20 31.8**	**+1.4**
	SNR=23						
SONM	**Songino Array**	**29.05**	**303**	*e*P	**P**	**13 20 34.9**	**+0.7**
	comp=Z,15nm,1.0s						
SONM	**Songino Array**	**29.05**	**303**	*e*P	**P**	**13 20 34.9**	**+0.7**
SONM				pmax	pmax		
	comp=Z,15nm,1.0s						
SONM	**Songino Array**	**29.05**	**303**	P	**P**	**13 20 35.4**	**+1.2**
	comp=Z,13nm,0.8s,baz=102,slow=8.9,SNR=39						
ENH	**Enshi**	**29.18**	**266**	*e*P	**P**	**13 20 35.4**	**-0.1**
	comp=Z,29nm,0.9s						
IRK	**Irkutsk**	**31.15**	**311**	*e*P	**P**	**13 20 54.3**	**+1.7**
IRK				pmax	pmax		
	comp=Z,55nm,3.4s						
TLY	**Talaya**	**31.41**	**310**	*e*P	**P**	**13 20 55.7**	**+0.8**
	comp=Z,14nm,0.9s						
TLY	**Talaya**	**31.41**	**310**	*ce*P	**P**	**13 20 57.1**	**+2.2**
TLY				pmax	pmax		
	comp=Z,40nm,1.0s						
TLY	**Talaya**	**31.41**	**310**	P	**P**	**13 20 55.4**	**+0.5**
	SNR=10						
ZAK	**Zakamensk**	**31.42**	**307**	*e*P	**P**	**13 20 54.4**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,15nm,1.6s						
LZH	**Lanzhou**	**31.78**	**280**	*e*P	**P**	**13 21 00.3**	**+1.8**
LZH				pP	pwP	13 21 09.6	-3.0
LZH				sP	sP	13 21 13.8	+7.0
LZH				*e*S	**S**	**13 26 02.8**	**-4.3**
LZH				sS	sS	13 26 18.5	+1.0
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,240nm,5.4s						
LZH				LR	LR		
	comp=Z,1μm,15.7s						
LZH				LR	LR		
	comp=Z,680nm,16.3s						
LZH				LR	LR		
	comp=Z,1μm,16.0s						
MOY	**Mondy**	**33.04**	**309**	*e*P	**P**	**13 21 10.7**	**+1.4**
MOY				pmax	pmax		
	comp=Z,57nm,2.7s						
BILL	**Bilibino**	**33.08**	**15**	*e*P	**P**	**13 21 09.5**	**+0.2**
	comp=Z,25nm,1.1s						
BILL	**Bilibino**	**33.08**	**15**	⇓*i*P	**P**	**13 21 09.7**	**+0.4**
BILL				*e*		13 22 20.8	
BILL				pmax	pmax		
	comp=Z,40nm,1.7s						
BILL				MLR	MLR		
	comp=Z,313nm,16.0s						
GYA	**Guiyang**	**33.09**	**261**	⇑*i*P	**P**	**13 21 09.4**	**-0.6**
GYA				pP	sP	13 21 17.0	-1.2
GYA				sP	pwP	13 21 23.7	-1.0
GYA				PP	**PnPn**	**13 22 20.3**	**+0.3**
GYA				S	**S**	**13 26 25.4**	**-2.2**
GYA				sS	sS	13 26 38.5	+0.7
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=Z,1μm,16.7s						
GYA				LR	LR		
	comp=Z,600nm,20.8s						
GYA				LR	LR		
	comp=Z,720nm,20.1s						
CD2	**Chengdu**	**33.49**	**271**	P	**P**	**13 21 13.0**	**-0.4**
CD2				pP	pP	13 21 18.8	-0.7
CD2				S	S	13 26 21.0	-13
CD2				pmax	pmax		
	comp=Z,40nm,0.7s						
CD2				pmax	pmax		
	comp=Z,100nm,4.5s						
CD2				LR	LR		

comp=Z,1μm,18.1s
CD2 LR LR
comp=Z,1μm,14.7s
CD2 LR LR
comp=Z,1μm,15.7s
GTA Gaotai 34.16 287 *e*P **P 13 21 20.4 +1.1**
GTA pP pwP 13 21 31.0 -2.4
GTA sP sP 13 21 35.2 +7.6
GTA S **S 13 26 46.2 +2.1**
GTA ScP **ScP 13 27 35.7 -3.3**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,240nm,6.8s
GTA LR LR
comp=Z,2μm,17.1s
GTA LR LR
comp=Z,780nm,16.8s
GTA LR LR
comp=Z,1μm,19.7s
QIZ Qiongzhong 34.78 247 P **P 13 21 24.0 -0.7**
QIZ S **S 13 26 53.4 -0.3**
QIZ sS sS 13 27 08.4 +4.4
QIZ LR LR
comp=Z,510nm,24.5s
QIZ LR LR
comp=Z,410nm,23.0s
QIZ LR LR
comp=Z,170nm,23.5s
TIXI Tiksi 35.06 352 *e*P **P 13 21 26.2 -0.2**
comp=Z,11nm,1.1s
TIXI Tiksi 35.06 352⇑*i*P **P 13 21 27.1 +0.7**
TIXI pmax pmax
comp=Z,7.0nm,1.1s
TIXI Tiksi 35.06 352 P **P 13 21 26.4 -0.1**
comp=Z,2.9nm,0.8s,baz=148,slow=7.4,SNR=9.4
TIXI LR LR 13 38 24.9
comp=Z,576nm,18.8s,baz=150,slow=41
KMI Kunming 36.83 262 P **P 13 21 43.2 +0.8**
KMI pP sP 13 21 52.1 +1.5
KMI sP pwP 13 21 56.7 -0.4
KMI PP **PnPn 13 23 10.4 +3.8**
KMI S **S 13 27 23.0 -2.4**
KMI sS sS 13 27 38.5 +2.9
KMI pmax pmax
comp=Z,22nm,0.8s
KMI pmax pmax
comp=Z,130nm,4.5s
KMI LR LR
comp=Z,850nm,17.8s
KMI LR LR
comp=Z,780nm,18.4s
KMI LR LR
comp=Z,840nm,20.2s
TNTI Ternate 39.53 206 *e*P **P 13 22 04.1 -0.8**
comp=Z,51nm,1.1s
NONG Nongkai 40.38 253 P P 13 22 17.6 +5.6
comp=Z,0.4nm,0.7s
SKNT Sakolnakorn 40.42 251 P P 13 22 22.2 +10
DGZ Jazzator, Alta 41.59 306*c i*P **P 13 22 23.7 +1.8**
DGZ pmax pmax
comp=Z,20nm,1.0s
WMQ Urumqi 42.25 297 P **P 13 22 30.5 +3.3**
WMQ pP sP 13 22 35.8 +0.1
WMQ sP pwP 13 22 43.9 +2.5
WMQ pmax pmax
comp=Z,32nm,1.3s
WMQ pmax pmax
comp=Z,100nm,3.7s
WMQ LR LR
comp=Z,3μm,17.1s
WMQ LR LR
comp=Z,1μm,26.3s
WMQ LR LR
comp=Z,2μm,21.7s
RDOG Red Dog Mine 42.27 27 *e*P **P 13 22 28.9 +1.9**
comp=Z,38nm,1.2s
PHRA Phrae 42.36 256 P **P 13 22 29.6 +1.3**
comp=Z,2.9nm,1.1s
UTTA Uttaradit 42.55 255 P **P 13 22 32.4 +2.6**
comp=Z,24μm,0.8s
CHAI Chaiyaphum 42.58 251 P P 13 22 38.4 +8.3
LAMP Lampang 42.80 256 P **P 13 22 34.1 +2.2**
comp=Z,54μm,0.8s,comp=Z,405μm
ZAA0 Zalesovo Array 42.95 312 *e*P **P 13 22 32.7 +0.1**
comp=Z,36nm,0.8s
ZALV Zalesovo Beam 42.95 312 P **P 13 22 32.8 +0.2**
comp=Z,3.6nm,0.5s,baz=93,slow=6.2,SNR=24
ZALV PcP **PcP 13 24 23.1 +0.3**
comp=Z,7.8nm,0.7s,baz=75,slow=2.9,SNR=5.3
ZALV LR LR 13 40 52.2
comp=Z,532nm,18.2s,baz=70,slow=37
CMMT Chiang Mai 43.17 257 P **P 13 22 35.7 +0.8**
comp=Z,11nm,1.0s,comp=Z,199nm
CHTO Chiang Mai 43.17 257 *e*P **P 13 22 34.4 -0.4**
comp=Z,16nm,0.8s
CHTO Chiang Mai 43.17 257 *e*P **P 13 22 34.4 -0.4**
CHTO pmax pmax
comp=Z,16nm,0.8s
CM31 Chiang Mai Arr 43.38 257 *e*P **P 13 22 36.6 +0.1**
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 43.38 257 *e*P **P 13 22 36.5 0.0**
CMAR PcP **PcP 13 24 25.6 +0.7**
CMAR Chiang Mai Arr 43.38 257 *i* P **P 13 22 37.7 +1.2**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 43.38 257 P **P 13 22 37.1 +0.6**
comp=Z,3.8nm,0.8s,baz=45,slow=7.3,SNR=30
CMAR PcP **PcP 13 24 25.6 +0.7**
comp=Z,2.5nm,0.9s,baz=22,slow=2.9,SNR=5.1
CMAR LR LR 13 42 10.1
comp=Z,243nm,18.1s,baz=60,slow=38
NRIK Noril'sk 43.61 335 P **P 13 22 37.9 +0.1**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
NRIK MLR MLR
comp=Z,1μm,19.6s
NRIK Noril'sk 43.61 335 P **P 13 22 37.9 +0.1**
comp=Z,2.7nm,0.4s,baz=116,slow=7.4,SNR=11
NRIK LR LR 13 41 48.4
comp=Z,1μm,19.6s,baz=108,slow=37
NVS Novosibirsk 43.84 313 *e*P **P 13 22 41.1 +1.4**
NVS *e* 13 24 21.7
NVS *e*S **S 13 29 12.9 +4.1**
NVS pmax pmax
comp=Z,53nm,1.7s
NVS pmax pmax
comp=N,9.0nm,1.5s
NVS pmax pmax
comp=E,29nm,1.1s
NVS pmax pmax
comp=Z,29nm,2.1s
NVS smax smax
comp=E,10.0nm,1.4s
SBUM Sibu 45.30 227 *e*P **P 13 22 51.9 0.0**
comp=E,6.9nm,1.1s
IMAR Indian Mountai 45.32 31 *e*P **P 13 22 52.2 +0.7**
RSO Redoubt South 45.40 39 *e*P **P 13 22 51.1 -1.3**
MK31 Makanchi Array 45.41 302 *e*P **P 13 22 52.7 +0.2**
comp=E,17nm,1.0s
MK31 Makanchi Array 45.41 302 *e*P **P 13 22 52.7 +0.2**
MK31 pmax pmax
comp=Z,17nm,1.0s
MKAR Makanchi Array 45.41 302 *e*P **P 13 22 52.2 -0.3**
MKAR Makanchi Array 45.41 302 *e*P **P 13 22 52.2 -0.3**
MKAR Makanchi Array 45.41 302 P **P 13 22 53.4 +0.9**
comp=Z,6.1nm,0.8s,baz=86,slow=8.4,SNR=36
MKAR LR LR 13 41 42.7
comp=Z,312nm,19.5s,baz=78,slow=36
KDAK Kodiak Island 45.53 42 *e*P **P 13 22 54.0 +0.8**
comp=Z,32nm,0.9s
KDAK Kodiak Island 45.53 42 P **P 13 22 53.9 +0.7**
comp=Z,14nm,0.6s,baz=250,slow=5.2,SNR=16
MAKZ Makanchi 45.62 302 *e*P **P 13 22 54.4 +0.2**
comp=Z,16nm,0.8s
MAKZ Makanchi 45.62 302 *e*P **P 13 22 54.4 +0.2**
MAKZ pmax pmax
comp=Z,16nm,0.8s
PPLA Purkeypile 45.74 35 *e*P **P 13 22 56.7 +1.7**
CAST Castle Rocks 45.81 34 *e*P **P 13 22 57.5 +2.0**
comp=Z,24nm,1.2s
PHET Kaeng Krachan 46.23 250 P P 13 23 06.6 +7.3
BPAW Bear Paw Mtn. 46.33 33 *e*P **P 13 23 01.2 +1.7**
comp=Z,50nm,1.8s
SUA Susitna One 46.39 37 *e*P **P 13 23 00.8 +0.7**
comp=Z,25nm,1.3s
MLY Manley 46.48 32 *e*P **P 13 23 02.4 +1.6**
comp=Z,34nm,1.1s
PMG Port Moresby 46.78 175 *e*P **P 13 23 03.8 +0.4**
RC01 Rabbit Creek A 46.88 38 *e*P **P 13 23 04.7 +0.9**
comp=Z,65nm,1.5s
BWN Browne 47.00 33 *e*P **P 13 23 06.2 +1.4**
comp=Z,140nm,1.2s
SEW Seward 47.06 39 *e*P **P 13 23 06.0 +0.8**
KURK Kurchatov 47.07 308 *e*P **P 13 23 05.5 0.0**
comp=Z,32nm,0.7s
KURK Kurchatov 47.07 308*ce*P **P 13 23 05.8 +0.3**
KURK pmax pmax
comp=Z,30nm,0.9s
KURK Kurchatov 47.07 308 P **P 13 23 05.2 -0.3**
SNR=20
PMR Palmer 47.16 37 *e*P **P 13 23 06.6 +0.7**
comp=Z,16nm,0.9s
PMR Palmer 47.16 37 *e*P **P 13 23 06.6 +0.7**
PMR pmax pmax
comp=Z,16nm,0.9s
KSM Kuching 47.21 229 *e*P **P 13 23 07.0 +0.1**
comp=Z,21nm,0.9s
TOLK Toolik Lake Re 47.22 27 *e*P **P 13 23 08.2 +1.8**
comp=Z,17nm,0.9s
TOLK Toolik Lake Re 47.22 27 P **P 13 23 06.9 +0.4**
baz=264
MCK McKinley 47.23 34 *e*P **P 13 23 07.5 +1.0**
comp=Z,27nm,1.1s
MCK McKinley 47.23 34 *e*P **P 13 23 07.5 +1.0**
MCK pmax pmax
comp=Z,27nm,1.1s
RND Reindeer 47.26 34 *e*P **P 13 23 07.6 +0.7**
comp=Z,51nm,1.3s
RND Reindeer 47.26 34 *e*P **P 13 23 07.6 +0.7**
RND pmax pmax
comp=Z,51nm,1.3s
KNK Knik Glacier 47.49 37 *e*P **P 13 23 08.2 -0.4**
comp=Z,75nm,1.6s
SML Sawmill 47.53 37 *e*P **P 13 23 09.5 +0.5**
comp=Z,47nm,1.1s
SML Sawmill 47.53 37 *e*P **P 13 23 09.5 +0.5**
SML pmax pmax
comp=Z,47nm,1.1s
MDM Murphy Dome 47.55 32 *e*P **P 13 23 10.4 +1.4**
comp=Z,40nm,1.0s
WRH Wood River Hil 47.60 33 *e*P **P 13 23 10.3 +0.9**
comp=Z,12nm,0.9s
TCOL CIGO, UAF Yank 47.70 32 P **P 13 23 10.4 +0.2**
baz=270
COLA College 47.71 32 *e*P **P 13 23 10.8 +0.7**
comp=Z,15nm,0.8s
COLA College 47.71 32*c i*P **P 13 23 12.2 +2.0**
COLA pmax pmax
comp=Z,42nm,2.1s
CCB Clear Creek Bu 47.73 33 *e*P **P 13 23 11.2 +0.9**
comp=Z,11nm,1.2s
POKR Poker Plat Res 47.89 32 P **P 13 23 13.6 +2.0**
baz=270,SNR=12
DHY Denali Highway 47.94 35 *e*P **P 13 23 12.9 +0.7**
comp=Z,44nm,1.7s
SCM Sheep Creek Mo 48.01 37 *e*P **P 13 23 13.8 +1.2**
comp=Z,41nm,1.1s
HDA Harding Lake 48.10 33 *e*P **P 13 23 13.7 +0.5**
comp=Z,19nm,0.9s
ILAR Eielson Array 48.12 33 *e*P **P 13 23 12.7 -0.7**
ILAR Eielson Array 48.12 33 *e*P **P 13 23 12.7 -0.7**
ILAR Eielson Array 48.12 33 P **P 13 23 14.0 +0.6**
comp=Z,12nm,0.8s,baz=264,slow=6.4,SNR=134
ILAR LR LR 13 42 03.0
comp=Z,85nm,21.9s,baz=266,slow=34
ILB Eielson Array 48.12 33 *e*P **P 13 23 13.6 +0.2**
comp=Z,21nm,0.9s
PRP Porcupine Dome 48.69 32 *e*P **P 13 23 18.6 +0.7**
comp=Z,13nm,1.0s
RAMN Ramite 48.78 275 *e*P **P 13 23 20.0 +0.7**
JIRN Jiri 48.78 276 *e*P **P 13 23 20.9 +1.4**
comp=Z,61nm,0.6s
FYU Fort Yukon 48.79 30 *e*P **P 13 23 20.6 +2.0**
comp=Z,64nm,1.2s
DIV Divide 48.80 37 *e*P **P 13 23 19.8 +1.0**
comp=Z,58nm,1.4s
PAX Paxson 48.81 35 *e*P **P 13 23 19.8 +0.9**
comp=Z,34nm,1.9s
PAX Paxson 48.81 35 *e*P **P 13 23 19.8 +0.9**
PAX pmax pmax
comp=Z,34nm,1.9s
EYAK Cordova Ski Ar 48.86 38 *e*P **P 13 23 21.0 +1.9**
comp=Z,47nm,1.2s
HARP HAARP 48.99 36 *e*P **P 13 23 22.2 +2.1**
comp=Z,28nm,0.9s
RIDG Independent Ri 49.05 34 *e*P **P 13 23 21.5 +0.9**
comp=Z,32nm,1.4s
DOT Dot Lake 49.40 34 *e*P **P 13 23 24.0 +0.7**
PKI Pulchoki 49.44 276 *e*P **P 13 23 25.3 +0.8**
comp=Z,20nm,0.5s
KKN Kakani 49.44 277 *e*P **P 13 23 25.2 +0.9**
comp=Z,59nm,0.7s
PKIN Phulchoki 49.45 276 *e*P **P 13 23 25.3 +0.9**
comp=Z,16nm,0.4s
GKN Gorkha 49.85 277 *e*P **P 13 23 28.6 +1.2**
comp=Z,43nm,0.5s
KDJ Kajisay 50.14 297 *e*P **P 13 23 29.9 +0.5**
comp=Z,33nm,1.4s
KDJ Kajisay 50.14 297 *e*P **P 13 23 29.9 +0.5**
KDJ pmax pmax
comp=Z,33nm,1.4s
DANN Dangsing 50.39 278 *e*P **P 13 23 32.7 +1.1**
comp=Z,142nm,0.5s
SOEI Soe 50.41 205 *e*P **P 13 23 30.7 -0.9**
comp=Z,62nm,1.2s
BALM Baldy 50.47 37 *e*P **P 13 23 32.4 +0.9**
comp=Z,31nm,1.2s
BALM Baldy 50.47 37 *e*P **P 13 23 32.4 +0.9**
BALM pmax pmax
comp=Z,31nm,1.2s
EGAK Eagle 50.57 32 *e*P **P 13 23 33.0 +0.9**
comp=Z,47nm,1.8s
KOLN Koldanda 50.78 277 *e*P **P 13 23 35.6 +1.1**
comp=Z,25nm,0.5s
BATI Baumata 51.04 206 LR LR 13 43 05.1
comp=Z,172nm,21.4s,baz=8.5,slow=34
PYUN Piuthan 51.11 278 *e*P **P 13 23 38.2 +1.2**
comp=Z,55nm,0.5s
NRN Naryn 51.20 297 *e*P **P 13 23 37.2 -0.4**
comp=Z,8.1nm,1.0s
NRN Naryn 51.20 297 *e*P **P 13 23 37.2 -0.4**
NRN pmax pmax
comp=Z,8.0nm,1.0s
DAWY Dawson 51.41 33 *e*P **P 13 23 40.2 +1.7**
comp=Z,19nm,1.5s
MTN Manton Dam 51.45 196 *e*P **P 13 23 38.1 -1.1**
comp=Z,52nm,0.8s
BRVK Borovoye 51.65 312*ce*P **P 13 23 42.6 +2.2**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 51.65 312 P **P 13 23 40.8 +0.4**
SNR=8.2
BRVK P **P 13 23 40.8 +0.4**
SNR=8.2
AAK Ala-Archa 51.86 299 *e*P **P 13 23 42.3 -0.1**
comp=Z,15nm,1.0s
AAK Ala-Archa 51.86 299⇑*e*P **P 13 23 43.5 +1.1**
AAK pmax pmax
comp=Z,10.0nm,1.6s
AAK Ala-Archa 51.86 299 LR LR 13 46 20.1
comp=Z,337nm,18.5s,baz=56,slow=37
KSH Kashi 51.87 295 P P 13 23 47.4 +5.0
KSH pP pwP 13 23 58.0 +1.4
KSH PcP **PcP 13 24 59.2 +4.2**
KSH S **S 13 31 08.4 +5.0**
KSH ScS **ScS 13 33 31.6 +0.8**
KSH pmax pmax
comp=Z,21nm,0.8s
KSH pmax pmax
comp=Z,260nm,4.1s
KSH LR LR
comp=Z,320nm,8.6s
KSH LR LR
comp=Z,260nm,7.9s
KSH LR LR
comp=Z,450nm,7.9s
HYT Haines Junctio 52.83 37 *e*P **P 13 23 49.2 0.0**
comp=Z,57nm,1.2s
INK Inuvik 53.13 27 P **P 13 23 52.7 +1.5**
comp=Z,8.2nm,0.6s,baz=296,slow=6.5,SNR=50
ARSB Arslanbob 53.37 298 *e*P **P 13 23 54.0 +0.5**
comp=Z,79nm,1.4s
WHY Whitehorse 54.12 37 *e*P **P 13 24 00.1 +1.4**
comp=Z,9.8nm,0.9s
SKAG Skagway 54.20 38 *e*P **P 13 23 59.7 +0.6**
KK31 Karatay Array 54.46 301 *e*P **P 13 24 01.6 +0.3**
comp=Z,103nm,2.0s
KK31 Karatay Array 54.46 301 *e*P **P 13 24 01.6 +0.3**
KK31 pmax pmax
comp=Z,103nm,2.0s
KKAR Karatay Array 54.46 301 *e*P **P 13 24 01.4 +0.1**
KKAR Karatay Array 54.46 301 *e*P **P 13 24 01.4 +0.1**
BTK Batken 55.37 297 *e*P **P 13 24 08.1 +0.1**
comp=Z,29nm,1.3s
BTK Batken 55.37 297 *e*P **P 13 24 08.1 +0.1**
BTK pmax pmax
comp=Z,29nm,1.3s
SVE Sverdlovsk 55.99 319 *e*P **P 13 24 14.0 +1.9**
SVE pmax pmax
comp=Z,55nm,0.9s
SVE MLR MLR
comp=Z,905nm,15.0s
GAR Garm 56.13 296 *e*P **P 13 24 13.3 -0.2**
comp=Z,24nm,0.9s
GAR Garm 56.13 296 *e*P **P 13 24 13.3 -0.2**
GAR pmax pmax
comp=Z,24nm,0.9s
DLBC Dease Lake 57.13 39 *e*P **P 13 24 21.7 +1.5**
comp=Z,13nm,1.1s
DLBC Dease Lake 57.13 39 P **P 13 24 22.9 +2.7**
comp=Z,5.7nm,0.9s,baz=292,slow=10.0,SNR=9.2
ARU Arti 57.21 319 *e*P **P 13 24 21.1 +0.5**
comp=Z,44nm,0.8s
ARU Arti 57.21 319*c i*P **P 13 24 21.2 +0.5**
ARU *PP **sP 13 24 30.9 +1.5**
ARU 13 25 12.6
ARU S **S 13 32 16.1 +1.6**
ARU SS **SS 13 36 00.9 -2.2**
ARU pmax pmax
comp=Z,23nm,0.9s
ARU MLR MLR
comp=Z,959nm,17.0s
WRAB Tennant Creek 57.80 190 *e*P **P 13 24 24.1 -1.2**
comp=Z,53nm,0.8s
WRAB Tennant Creek 57.80 190⇑*i*P **P 13 24 24.6 -0.6**
WB2 Warramunga Arr 57.81 190 *e*P **P 13 24 24.1 -1.2**
comp=Z,56nm,0.8s
WRA Warramunga Arr 57.81 190 *e*P **P 13 24 23.2 -2.1**
comp=Z,23nm,0.8s
WRA Warramunga Arr 57.81 190 P **P 13 24 23.6 -1.7**
comp=Z,35nm,0.7s,baz=11,slow=7.4,SNR=323
FITZ Fitzroy Crossi 57.86 200 *e*P **P 13 24 24.9 -0.7**
comp=Z,38nm,1.2s
ABKAR Akbulak array 59.02 311 *e*P **P 13 24 33.4 -0.1**
AKTO Aktyubinsk 59.71 312 P **P 13 24 38.6 +0.4**
comp=Z,4.1nm,0.8s,baz=71,slow=12
AKTO LR LR 13 51 18.4
comp=Z,310nm,20.4s,baz=61,slow=37
HYB Hyderabad 60.03 270 *i* P **P 13 24 42.5 +1.5**
SPITS Spitsbergen Ar 60.41 349 P **P 13 24 44.5 +1.8**
comp=Z,5.6nm,1.0s,baz=59,slow=9.1,SNR=2.9
KIRV Kirov 60.96 323 P **P 13 24 47.6 +1.0**
comp=Z,17nm,0.9s,baz=40,slow=5.6,SNR=8.1
PRGR Permogore 61.36 327 *e*P **P 13 24 52.8 +3.5**
PRGR pmax pmax
comp=Z,31nm,0.9s
AS31 Alice Springs 61.54 190 *e*P **P 13 24 49.9 -1.0**
comp=Z,6.6nm,0.9s
ASAR Alice Springs 61.54 190 *e*P **P 13 24 48.5 -2.4**
ASAR ⇑*e* 13 54 13.8
ASAR Alice Springs 61.54 190 P **P 13 24 50.2 -0.7**
comp=Z,18nm,0.8s,baz=10,slow=6.1,SNR=147
ASAR LR LR 13 50 40.9
comp=Z,155nm,21.9s,baz=36,slow=35
ASAR PKP2bc 13 54 13.8
comp=Z,0.7nm,1.0s,baz=163,slow=3.5,SNR=4.3
RES Resolute Bay 61.69 15 *e*P **P 13 24 51.7 +0.4**
comp=Z,17nm,1.1s
RES Resolute Bay 61.69 15 P **P 13 24 51.7 +0.4**
comp=Z,8.1nm,0.9s,baz=314,slow=6.7,SNR=29
YKW3 Yellowknife Ar 62.44 31 *e*P **P 13 24 56.9 +0.3**
comp=Z,9.3nm,1.1s
YKA Yellowknife Ar 62.48 31 *e*P **P 13 24 56.7 -0.1**
YKA ⇑*e* 13 54 08.7
YKA Yellowknife Ar 62.48 31 *e*P **P 13 24 56.7 -0.1**
YKA Yellowknife Ar 62.48 31 P **P 13 24 57.3 +0.5**
comp=Z,3.0nm,0.8s,baz=301,slow=6.6,SNR=32
YKA PKP2bc 13 54 08.7
comp=Z,0.2nm,0.7s,baz=119,slow=2.4,SNR=4.0
PSA00 Pilbara Seismi 62.91 205 *e*P **P 13 24 58.8 -1.3**
comp=Z,18nm,0.8s
APA Apatity 63.00 336⇓*i*P **P 13 25 01.6 +1.4**
APA pmax pmax
comp=Z,15nm,0.8s
APA MLR MLR
comp=Z,500nm,18.0s
DZM Mont Dzumac 63.01 156 *e*P **P 13 25 01.8 +0.9**
comp=Z,80nm,1.2s
DZM Mont Dzumac 63.01 156 *e*LR LR 13 43 31.4
comp=Z,511nm,22.6s
ARCES ARCESS Array B 64.19 340 P **P 13 25 08.7 +0.6**
comp=Z,3.9nm,0.8s,baz=50,slow=8.4,SNR=5.7
ARCES LR LR 13 57 33.4
comp=Z,250nm,18.0s,slow=40
TULEG Thule 64.39 8 *e*P **P 13 25 09.1 -0.1**
comp=Z,11nm,0.9s
GEYT Alibeck 65.19 300 LR LR 13 54 53.2
comp=Z,206nm,18.2s,baz=40,slow=37
D03D Eldon 65.44 48 P **P 13 25 17.0 +0.5**
baz=299
DAG Danmarks Havn 65.45 356 *i* P **P 13 25 16.4 +0.2**
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG Danmarks Havn 65.45 356 *i* P **P 13 25 16.4 +0.2**
comp=Z,7.3nm,1.0s
B08A Colville Reser 67.21 46 *e*P **P 13 25 28.4 +0.4**
comp=Z,16nm,1.5s
L02E Cave Junction 67.82 53 P **P 13 25 31.1 -0.8**
baz=301
MOS Moscow 67.95 324 *e*P P 13 25 45.9 +14
MOS pmax pmax
comp=Z,70nm,1.4s
I05D Terrebonne, OR 68.11 50 P **P 13 25 34.0 +0.3**
baz=301
J04D Umpqua Nationa 68.20 52 P **P 13 25 35.3 +0.8**
baz=301
VRH Novokhopyorsk 68.44 319 *e*P P 13 25 48.8 +13
VRH pmax pmax
comp=Z,20nm,0.6s
NEW Newport 68.52 45 P **P 13 25 36.8 +0.7**
baz=302
NEW Newport 68.52 45 P **P 13 25 36.7 +0.5**
comp=Z,1.6nm,0.7s,baz=352,slow=7.1,SNR=3.3
L04D Klamath Falls 68.61 53 P **P 13 25 38.3 +1.2**
baz=302
PINE Pine Mountain 68.64 51 *e*P **P 13 25 38.3 +1.1**
comp=Z,29nm,1.1s
M02C Callahan 68.70 54 P **P 13 25 38.1 +0.7**
baz=302
J05D Fort Rock, OR 68.72 51 P **P 13 25 38.1 +0.4**
baz=302
OBN Obninsk 68.80 324⇑*e*P **P 13 25 41.7 +4.0**
OBN *e* 13 26 02.5
OBN *e* 13 28 08.8
OBN *e*S S 13 35 01.3 +22
OBN *e*SS **SS 13 38 58.4 -5.3**
OBN pmax pmax
comp=Z,21nm,1.1s
OBN MLR MLR
comp=Z,302nm,15.0s
N02D Trinity Center 69.01 54 P **P 13 25 39.5 +0.1**
baz=302
STKA Stephens Creek 69.05 182 *e*P **P 13 25 38.6 -0.7**
comp=Z,3.0nm,0.6s
STKA Stephens Creek 69.05 182 *e*P **P 13 25 38.7 -0.7**
STKA pmax pmax
comp=Z,3.0nm,0.6s
STKA Stephens Creek 69.05 182 P **P 13 25 39.2 -0.2**
comp=Z,15nm,0.7s,baz=351,slow=7.0,SNR=47
STKA LR LR 13 56 24.3
comp=Z,95nm,20.4s,baz=22,slow=36
LPSR Galich'ya Gora 69.10 321 *e*P P 13 25 53.6 +14
LPSR pmax pmax
comp=Z,50nm,0.9s
M04C Macdoel 69.14 53 P **P 13 25 40.7 +0.5**
baz=302
K05A Summer Lake 69.23 52 *e*P **P 13 25 41.2 +0.3**
comp=Z,32nm,1.2s
FINES FINESS Array B 69.23 333 *e*P **P 13 25 39.8 -0.5**

FINES FINESS Array B 69.23 333 P **P 13 25 41.1 +0.8**
comp=Z,7.4nm,0.9s,baz=48,slow=5.9,SNR=11
FINES LR LR 13 58 25.5
comp=Z,520nm,18.4s,baz=50,slow=38
O02D Mt. Diablo Mer 69.38 55 P **P 13 25 42.9 +1.2**
baz=302
FORT Forrest 69.49 194 *e*P **P 13 25 41.8 -0.3**
comp=Z,56nm,0.6s
WALA Waterton Lakes 69.86 43 *e*P **P 13 25 45.2 +0.7**
comp=Z,14nm,1.5s
O03E Paynes Creek 69.95 54 P **P 13 25 46.4 +1.1**
baz=302
SUMG Summit 70.20 1 *e*P **P 13 25 47.2 +0.6**
comp=Z,24nm,1.3s
SUMG Summit 70.20 1⇓*i*P **P 13 25 48.2 +1.6**
SUMG pmax pmax
comp=Z,38nm,1.1s
SUMG Summit 70.20 1⇓*i*P **P 13 25 48.2 +1.6**
comp=Z,38nm,1.1s
BMO Blue Mountains 70.27 48 *e*P **P 13 25 46.9 -0.2**
comp=Z,9.9nm,1.5s
BMO Blue Mountains 70.27 48 *e*P **P 13 25 46.9 -0.2**
BMO pmax pmax
comp=Z,10.0nm,1.5s
J08A Circle Bar Ran 70.38 50 *e*P **P 13 25 47.6 -0.3**
comp=Z,13nm,1.3s
MSO Missoula 71.11 45 P **P 13 25 53.2 +1.0**
baz=305
BEKR Beckworth 71.11 54 *e*P **P 13 25 53.3 +0.8**
comp=Z,12nm,1.2s
MORW Morawa 71.12 205 *e*P **P 13 25 51.2 -1.0**
comp=Z,23nm,1.5s
ZEI Tsey 71.89 310 *e*P **P 13 25 56.0 -1.2**
ZEI pmax pmax
comp=Z,27nm,1.0s
KVAR Kislovodsk Arr 71.96 312 P **P 13 25 58.9 +1.5**
comp=Z,2.3nm,0.4s,baz=90,slow=20,SNR=6.1
KIV Kislovodsk 71.96 312 *e*P **P 13 25 58.6 +1.2**
KIV pmax pmax
comp=Z,66nm,1.1s
KIV Kislovodsk 71.96 312 P **P 13 25 59.0 +1.6**
SNR=43
KBZ Khabaz 71.97 312 P **P 13 25 58.7 +1.4**
comp=Z,8.2nm,0.9s,baz=70,slow=3.1,SNR=8.1
KBZ LR LR 13 59 54.6
comp=Z,172nm,18.7s,baz=38,slow=38
CMB Columbia Colle 72.11 56 *e*P **P 13 25 59.2 +0.8**
comp=Z,13nm,1.4s
CMB Columbia Colle 72.11 56 *e*P **P 13 25 59.2 +0.8**
CMB pmax pmax
comp=Z,13nm,1.4s
FFC Flin Flon 72.31 34 *e*P **P 13 25 59.6 +0.4**
comp=Z,11nm,1.0s
FFC Flin Flon 72.31 34 *e*P **P 13 25 59.6 +0.4**
FFC pmax pmax
comp=Z,11nm,1.0s
HRY Holter Researc 72.36 44 *e*P **P 13 26 00.3 +0.6**
WSAR Wadi Sarin 72.49 286 LR LR 14 01 38.9
comp=Z,94nm,18.3s,baz=84,slow=39
EGMT Eagleton 72.71 42 P **P 13 26 02.7 +0.9**
baz=307
HLID Hailey 72.71 48 P **P 13 26 02.8 +0.8**
baz=305
DLMT Dillon 72.72 46 *e*P **P 13 26 02.5 +0.5**
comp=Z,15nm,1.2s
GNI Garni 72.87 308 LR LR 14 00 30.7
comp=Z,254nm,19.8s,baz=71,slow=38
AKH Akhalkalaki 72.93 309⇑*i*P P 13 26 19.5 +16
KVN Kaiserville 73.02 54 *e*P **P 13 26 04.8 +0.9**
comp=Z,21nm,1.4s
KVN Kaiserville 73.02 54 *e*P **P 13 26 04.8 +0.9**
KVN pmax pmax
comp=Z,21nm,1.4s
BOZ Bozeman (W) 73.13 45 *e*P **P 13 26 05.0 +0.6**
comp=Z,6.9nm,1.0s
BOZ Bozeman (W) 73.13 45 *e*P **P 13 26 05.0 +0.6**
BOZ pmax pmax
comp=Z,7.0nm,1.0s
BOZ Bozeman (W) 73.13 45 P **P 13 26 05.0 +0.6**
baz=306
NVAR Mina Array Bea 73.24 54 *e*P **P 13 26 05.6 +0.3**
NVAR Mina Array Bea 73.24 54 P **P 13 26 06.6 +1.3**
comp=Z,2.7nm,0.9s,baz=285,slow=6.4,SNR=13
NVAR LR LR 13 50 52.6
comp=Z,53nm,20.9s,baz=326,slow=30
NACGM Naroch 73.32 327 *e* P 13 26 10.0 +4.9
NACGM *e*LR LR 13 59 20.0
NV11 Mina Array Sit 73.34 54 *e*P **P 13 26 06.2 +0.5**
comp=Z,0.8nm,1.3s
ASHO Ashiyiah 73.64 289 P P 13 26 22.5 +15
ASHO P P 13 26 22.5 +15
ELK Elko 73.85 51 *e*P **P 13 26 09.2 +0.4**
comp=Z,14nm,1.8s
ELK Elko 73.85 51 *e*P **P 13 26 09.2 +0.4**
ELK pmax pmax
comp=Z,14nm,1.8s
ELK Elko 73.85 51 P **P 13 26 10.2 +1.4**
comp=Z,0.4nm,0.4s,baz=354,slow=9.2,SNR=3.4
YHB Horse Butte 73.88 46 *e*P **P 13 26 09.0 0.0**
comp=Z,12nm,1.2s
BATM Batumi 73.92 310⇑*i*P P 13 26 24.7 +16
SOC Sochi 73.92 313 *e*P P 13 26 21.3 +12
SOC *e* 13 28 51.6
SOC *e*PPP PPP 13 30 34.5
SOC *e*SS SS 13 40 16.5 -6.3
SOC pmax pmax
comp=Z,40nm,0.9s
SOC MLR MLR
comp=Z,286nm,18.0s
YHH Holmes Hill 74.05 46 *e*P **P 13 26 11.1 +1.0**
comp=Z,5.3nm,1.2s
BCA Borcka 74.06 310⇑*i*P P 13 26 25.3 +16
MHTO MHTO 74.26 284 P P 13 26 26.1 +15
SNR=6.6
MHTO P P 13 26 26.1 +15
SNR=6.6
NWAO Narrogin (SRO) 74.29 203 *e*P **P 13 26 10.3 -0.6**
comp=Z,36nm,1.3s
NWAO Narrogin (SRO) 74.29 203 *e*P **P 13 26 10.3 -0.6**
NWAO pmax pmax
comp=Z,36nm,1.3s
YPP Pitchstone Pla 74.39 46 *e*P **P 13 26 11.9 -0.1**
comp=Z,6.2nm,1.1s
HFS Hagfors 74.39 337 P **P 13 26 12.3 +0.9**
comp=Z,1.6nm,0.4s,baz=57,slow=5.5,SNR=9.6
NB2 NORSAR Subarra 74.44 338 P **P 13 26 12.4 +0.8**
comp=Z,0.9nm,0.6s,baz=38,slow=5.9
NOA NORSAR Array B 74.44 338 P **P 13 26 12.5 +0.8**
comp=Z,0.0nm,0.8s,baz=38,slow=5.8,SNR=5.0
H17A Grant Village 74.45 46 *e*P **P 13 26 12.9 +0.6**
comp=Z,14nm,1.1s
H17A Grant Village 74.45 46 P **P 13 26 14.3 +2.0**
baz=307
ANN Anapa 74.50 315 *e*P **P 13 26 09.3 -2.9**
ANN pmax pmax
comp=Z,36nm,1.4s
ANN MLR MLR
comp=Z,330nm,14.0s
IMW Indian Meadow 74.54 46 *e*P **P 13 26 13.0 +0.1**
comp=Z,12nm,1.1s
FXWY Fox Creek 74.65 47 *e*P **P 13 26 14.6 +1.1**
comp=Z,8.8nm,1.1s
RLMT Red Lodge 74.74 45 *e*P **P 13 26 14.7 +0.8**
comp=Z,7.0nm,1.2s
MOOW Moose Ponds 74.74 46 *e*P **P 13 26 15.3 +1.3**
comp=Z,7.1nm,1.1s
TPAW Teton Pass 74.78 47 *e*P **P 13 26 14.4 +0.2**
comp=Z,12nm,1.3s
LOHW Long Hollow 74.91 46 *e*P **P 13 26 15.2 +0.3**
comp=Z,12nm,1.7s
REDW Red Top Meadow 74.92 47 *e*P **P 13 26 15.9 +0.9**
comp=Z,9.1nm,1.1s
AKASG Malin Array Be 75.03 323 *e*P **P 13 26 15.2 0.0**
comp=Z,12nm,1.0s
AKASG Malin Array Be 75.03 323 P **P 13 26 15.5 +0.4**
comp=Z,14nm,1.1s,baz=45,slow=6.0,SNR=14
AKASG LR LR 14 02 26.6
comp=Z,451nm,18.2s,baz=45,slow=38
AKBB Malin Array Si 75.03 323 *e*P **P 13 26 14.6 -0.6**
comp=Z,27nm,0.9s
R11A Troy Canyon, C 75.03 53 *e*P **P 13 26 15.5 -0.2**
comp=Z,14nm,1.4s
R11A Troy Canyon, C 75.03 53 P **P 13 26 16.7 +1.0**
baz=306
KIEV Kiev 75.04 323 *e*P **P 13 26 14.2 -1.0**
comp=Z,26nm,0.9s
KIEV Kiev 75.04 323⇓*i*P **P 13 26 15.7 +0.5**
KIEV pmax pmax
comp=Z,12nm,1.0s
MPMC Mineral Prospec 75.14 56 P **P 13 26 15.6 -0.7**
baz=306
FURC Furnace Creek, 75.31 55 P **P 13 26 17.7 +0.7**
baz=306
LAO LASA Array 75.42 42 P **P 13 26 18.0 +0.4**
baz=310
SUW Suwalki 75.46 328 *e*P P 13 26 32.6 +15
EDW2 Edwards Air Fo 75.49 57 P **P 13 26 18.7 +0.5**
baz=306
DUG Dugway, Tooele 75.66 50 P **P 13 26 19.0 -0.2**
baz=307
BW06 Boulder Array 76.03 47 P **P 13 26 21.9 +0.5**
baz=308
PDAR Pinedale Array 76.03 47 *e*P **P 13 26 20.7 -0.7**
PDAR Pinedale Array 76.03 47 P **P 13 26 22.1 +0.7**
comp=Z,1.7nm,0.8s,baz=282,slow=1.9,SNR=16
CCUT Cedar City 76.92 53 *e*P **P 13 26 26.5 0.0**
comp=Z,10nm,1.5s
MSU Marysvale 77.08 51 *e*P **P 13 26 28.7 +1.3**
MSU Marysvale 77.08 51 *e*P **P 13 26 28.7 +1.3**
PFO Pinyon Flats O 77.26 57 P **P 13 26 29.1 +0.7**
baz=307
LCMT Little Creek M 77.32 53 *e*P **P 13 26 29.8 +1.1**
comp=Z,12nm,1.3s
MTPU Mount Pierson 77.36 52 *e*P **P 13 26 30.5 +1.4**
comp=Z,17nm,1.5s
P17A Butcher Ranch, 77.37 50 *e*P **P 13 26 29.6 +0.7**
comp=Z,8.2nm,1.0s
Q16A Castle Valley 77.45 50 *e*P **P 13 26 30.2 +0.8**
comp=Z,14nm,1.3s
KNB Kanab 77.58 53 *e*P **P 13 26 31.2 +1.0**
comp=Z,21nm,1.3s
KNB Kanab 77.58 53 *e*P **P 13 26 31.2 +1.0**
KNB pmax pmax
comp=Z,21nm,1.3s
KIS Kishinev 77.70 321 *e*P P 13 26 45.0 +15
comp=Z,110nm,1.0s
KIS LRM MLR 14 03 25.0
comp=Z,300nm,17.0s
KIS Kishinev 77.70 321 *e*P P 13 26 45.0 +15
KIS *e* 13 29 28.0
KIS *e* 13 37 17.0
KIS pmax pmax
comp=Z,110nm,1.0s
KIS MLR MLR
comp=Z,500nm,16.0s
KIS MLR MLR
comp=N,300nm,17.0s
SRU San Rafael Swe 77.72 50 *e*P **P 13 26 31.4 +0.4**
comp=N,11nm,1.1s
SRU San Rafael Swe 77.72 50 *e*P **P 13 26 31.4 +0.4**
SRU pmax pmax
comp=Z,11nm,1.1s
K22A Casper 77.84 45 P **P 13 26 31.8 +0.3**
baz=310
LVV L'vov 78.06 325 *e*P P 13 26 46.9 +15
ULM Lac du Bonnet 78.10 34 *e*P **P 13 26 32.4 -0.2**
comp=Z,10.0nm,1.4s
ULM Lac du Bonnet 78.10 34 *e*P **P 13 26 32.4 -0.2**
ULM pmax pmax
comp=Z,10.0nm,1.4s
ULM Lac du Bonnet 78.10 34 P **P 13 26 32.1 -0.5**
comp=Z,1.7nm,0.7s,baz=334,slow=8.3,SNR=4.7
ULM LR LR 14 03 25.3
comp=Z,49nm,20.4s,baz=326,slow=38
RSSD Black Hills 78.26 43 P **P 13 26 34.3 +0.4**
baz=311
U15A North Rim 78.28 53 *e*P **P 13 26 35.3 +1.1**
comp=Z,8.0nm,1.2s
O20A White River Ci 78.45 48 P **P 13 26 34.0 -1.0**
baz=310
PRAR RASCA 78.74 322⇑*i*P P 13 26 41.3 +5.1
KWP Kalwaria Pacla 78.79 325 *e*P **P 13 26 38.3 +1.9**
KWP *e*pP **pwP 13 26 51.9 +0.2**
KWP Kalwaria Pacla 78.79 325 *e*P **P 13 26 37.2 +0.8**
comp=Z,745nm,1.2s
KWP Kalwaria Pacla 78.79 325 *e*P **P 13 26 38.3 +1.9**
KWP *e**PP **pwP 13 26 51.9 +0.2**
PV21 Cone Mtn., Par 79.01 50 *e*P **P 13 26 38.2 +0.1**
comp=Z,7.2nm,1.0s
BUR08 Bucovina Ar. S 79.04 323 *e*P **P 13 26 38.0 0.0**
comp=Z,14nm,0.9s
BURAR Bucovina Array 79.06 323 *e*P **P 13 26 37.7 -0.3**
comp=Z,134nm,0.9s
BURAR Bucovina Array 79.06 323⇑*i*P **P 13 26 39.5 +1.5**
BURAR Bucovina Array 79.06 323⇑P **P 13 26 39.6 +1.5**
PV10 Paradox Valley 79.09 50 *e*P **P 13 26 39.4 +0.9**
comp=Z,15nm,0.9s
BIZ Bicaz 79.09 322⇓*i*P **P 13 26 40.6 +2.5**
PV14 Lion Creek, Pa 79.10 50 *e*P **P 13 26 39.2 +0.6**
comp=Z,18nm,1.1s
TESR Tescani 79.12 321⇑*i*P **P 13 26 39.6 +1.3**
PV20 West Nyswonger 79.15 50 *e*P **P 13 26 39.2 +0.3**
comp=Z,16nm,1.1s
PV04 Paradox Valley 79.16 50 *e*P **P 13 26 39.4 +0.5**
comp=Z,14nm,1.1s
PV19 Morning Glory 79.17 50 *e*P **P 13 26 39.6 +0.6**
comp=Z,13nm,1.0s
PV17 East Wray Mesa 79.20 50 *e*P **P 13 26 39.4 +0.3**
comp=Z,24nm,1.2s
PV16 Nyswonger Mesa 79.20 50 *e*P **P 13 26 39.7 +0.5**
comp=Z,12nm,1.2s
PV05 Paradox Valley 79.24 50 *e*P **P 13 26 39.5 +0.1**
comp=Z,18nm,1.1s
PV03 Paradox Valley 79.28 50 *e*P **P 13 26 39.9 +0.3**
comp=Z,20nm,1.3s
CFR Carcaliu 79.29 320⇓*i*P **P 13 26 41.2 +2.0**
CFR Carcaliu 79.29 320⇓P **P 13 26 41.2 +2.0**
N23A Red Feather La 79.30 46 P **P 13 26 39.4 -0.3**
baz=311
PV13 Radium Mtn., P 79.36 50 *e*P **P 13 26 40.7 +0.7**
comp=Z,21nm,1.4s
PETR Petresti 79.38 320⇓*i*P **P 13 26 42.2 +2.6**
WUAZ Wupatki 79.43 53 P **P 13 26 40.2 -0.2**
baz=309
KOLS Kolonicke sedl 79.49 325 *e*P **P 13 26 42.0 +1.7**
KOLS *e* 13 26 55.8
KOLS pmax pmax
comp=Z,18nm,1.2s
KOLS Kolonicke sedl 79.49 325 *e*P **P 13 26 42.0 +1.7**
KOLS *e*PCP **pwP 13 26 55.8 +0.3**
AGMN Agassiz Nation 79.50 36 *e*P **P 13 26 39.8 -0.5**
comp=Z,9.4nm,1.2s
AGMN Agassiz Nation 79.50 36 P **P 13 26 40.2 -0.1**
baz=316
PV01 Paradox Valley 79.53 50 *e*P **P 13 26 40.2 -0.7**
comp=Z,8.2nm,1.1s
VRI Vrincioaia 79.53 321⇓*i*P P 13 26 46.1 +5.6
VRI Vrincioaia 79.53 321⇓P P 13 26 46.1 +5.6
PLOR Plostina 79.58 321⇓*i*P P 13 26 46.5 +5.7
PLOR Plostina 79.58 321⇓P P 13 26 46.5 +5.7
OJC Ojcow 79.65 327 *e*P **P 13 26 42.7 +1.6**
OJC *e*pP **pwP 13 26 56.7 +0.4**
OJC Ojcow 79.65 327 *e*P **P 13 26 41.8 +0.7**
comp=Z,68nm,1.2s
OJC Ojcow 79.65 327 *e*P **P 13 26 42.7 +1.6**
OJC *e**PP **pwP 13 26 56.7 +0.4**
UZH Uzhgorod 79.70 325 *e*P P 13 26 35.1 -6.3
UZH *e* 13 26 43.1
UZH *i* 13 26 56.6
SMCO Snowmass 79.82 48 *e*P **P 13 26 43.2 +0.5**
comp=Z,12nm,1.5s
ARCR ARCALIA 79.84 323⇑*i*P **P 13 26 42.3 +0.1**
BRTR Keskin Array B 79.89 313 *e*P **P 13 26 42.6 -0.1**
BRTR Keskin Array B 79.89 313 *e*P **P 13 26 42.6 -0.1**
BRTR Keskin Array B 79.89 313 P **P 13 26 43.7 +1.0**
comp=Z,1.1nm,0.8s,baz=91,slow=4.9,SNR=6.6
BRTR LR LR 14 06 44.9
comp=Z,107nm,18.6s,baz=46,slow=39
TRPA Tarpa 79.95 324⇑*i*P **P 13 26 44.8 +2.1**
TRPA Tarpa 79.95 324⇓*e*P P 13 26 57.1 +14
NIE Niedzica 80.02 326 *e*P **P 13 26 44.2 +1.0**
NIE *e*pP **pwP 13 26 58.8 +0.4**
NIE *e*PP PP 13 30 00.0 +16
NIE Niedzica 80.02 326 *e*P **P 13 26 44.2 +1.0**
NIE *e**PP **pwP 13 26 58.8 +0.4**
MVCO Mesa Verde 80.16 50 P **P 13 26 43.9 -0.5**
baz=310
MLR Muntele Rosu 80.19 321 P **P 13 26 45.3 +1.0**
comp=Z,0.8nm,0.3s,baz=354,slow=6.7,SNR=2.7
OKC Ostrava-Krasne 80.64 328 *e*P P 13 26 51.6 +5.2
OKC *e* 13 27 01.8
OKC MLR MLR
comp=Z,400nm,18.9s
OKC Ostrava-Krasne 80.64 328 *e*P P 13 26 51.6 +5.2
OKC *e*x x 13 27 01.8
OKC AMS AMS 14 04 40.0
comp=Z,400nm,18.9s
KSP Ksiaz 80.64 329 *e*P **P 13 26 48.2 +1.8**
KSP *e*pP **pwP 13 27 02.1 +0.5**
KSP *e*PP **PP 13 29 48.9 -0.7**
KSP *e*pPP 13 30 03.8
KSP Ksiaz 80.64 329 *e*P **P 13 26 48.2 +1.8**
KSP *e**PP **pwP 13 27 02.1 +0.5**
KSP *e* 13 29 48.9
S22A 4UR Ranch, Cre 80.83 49 *e*P **P 13 26 49.3 +1.2**
comp=Z,6.3nm,1.3s
S22A 4UR Ranch, Cre 80.83 49 P **P 13 26 48.7 +0.6**
baz=311
DRGR 80.84 323⇑*i*P **P 13 26 48.0 +0.3**
DRGR 80.84 323⇑P **P 13 26 48.0 +0.3**
MORC Moravsky Berou 80.94 328 *e*P **P 13 26 49.2 +1.1**
comp=Z,36nm,1.1s
MORC Moravsky Berou 80.94 328⇓*i*P **P 13 26 49.6 +1.5**
MORC Moravsky Berou 80.94 328⇓P **P 13 26 49.6 +1.5**
MORC Moravsky Berou 80.94 328 *e*P **P 13 26 49.3 +1.2**
MORC *e* 13 27 03.3
DPC Dobruska-Polom 81.01 329 *e*P **P 13 26 50.6 +2.1**
DPC *e* 13 27 04.5
DPC MLR MLR
comp=Z,500nm,17.8s
DPC Dobruska-Polom 81.01 329 *e*P **P 13 26 50.6 +2.1**
DPC *e*pP **pP 13 26 53.8 -1.1**
DPC *e*x x 13 27 04.5
DPC AMS AMS 14 05 30.0
comp=Z,500nm,17.8s
UPC Upice 81.02 329 *e*P **P 13 26 50.3 +1.9**
UPC *e* 13 27 04.1
UPC MLR MLR
comp=Z,500nm,19.4s
UPC Upice 81.02 329 *e*P **P 13 26 50.3 +1.9**
UPC *e*pP **pP 13 26 53.8 -1.1**
UPC *e*x x 13 27 04.1
UPC AMS AMS 14 05 20.0
comp=Z,500nm,19.4s
PSZ Piszkesteto 81.31 326 *e*P **P 13 26 50.9 +0.7**
comp=Z,64nm,1.3s
PSZ Piszkesteto 81.31 326⇓*i*P **P 13 26 51.3 +1.1**
PSZ Piszkesteto 81.31 326⇓P **P 13 26 51.3 +1.1**
PSZ Piszkesteto 81.31 326 *e*P P 13 27 05.0 +15
VYHS Vyhne 81.36 326 *e*P **P 13 26 52.0 +1.7**
VYHS *e* 13 27 06.0
VYHS pmax pmax
comp=Z,14nm,1.2s
VYHS Vyhne 81.36 326 *e*P **P 13 26 52.0 +1.7**
VYHS *e*PCP **pwP 13 27 06.0 +0.5**
BRG Berggiesshubel 81.56 330 *e*P **P 13 26 52.4 +1.1**
comp=Z,7.7nm,1.0s
BRG *e* 13 27 06.2
comp=Z,19nm,1.1s
BRG Berggiesshubel 81.56 330 *e*P **P 13 26 52.4 +1.1**
BRG *e* 13 27 06.2
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG MLR MLR
comp=N,345nm,17.3s
BRG MLR MLR
comp=E,323nm,15.7s
BRG MLR MLR
comp=Z,585nm,21.0s
CLL Collm 81.58 331 *e*P **P 13 26 51.9 +0.5**
comp=Z,38nm,1.1s
CLL Collm 81.58 331⇓*i*P **P 13 26 52.3 +0.9**
CLL *i* 13 27 06.1
CLL pmax pmax
comp=Z,12nm,0.9s
CLL Collm 81.58 331⇓*i*P **P 13 26 52.3 +0.9**
comp=Z,12nm,0.9s
CLL ⇓*i*pP **pP 13 26 55.5 -2.4**
comp=Z,24nm,1.2s
CLL ⇓*i* 13 27 06.1
comp=Z,36nm,1.1s
CLL *e* 13 30 13.0
CLL LmV 14 05 00.0
comp=Z,200nm,19.3s
PVCC Panska Ves 81.58 330 *e*P **P 13 26 53.2 +1.8**
PVCC *e* 13 27 07.3
PVCC MLR MLR
comp=Z,500nm,18.4s
PVCC Panska Ves 81.58 330 *e*P **P 13 26 53.2 +1.8**
PVCC *e*x x 13 27 07.3
PVCC AMS AMS 14 06 00.0
comp=Z,500nm,18.4s
JAVC Velka Javorina 81.58 327 *e*P **P 13 26 53.6 +2.0**
JAVC *e* 13 27 07.7
SDCO Great Sand Dun 81.62 49 *e*P **P 13 26 52.3 0.0**
comp=Z,7.4nm,1.4s
SDCO Great Sand Dun 81.62 49 P **P 13 26 52.7 +0.4**
baz=311
VRAC Vranov 81.70 328 *e*P **P 13 26 53.3 +1.2**
VRAC *e* 13 27 07.6
VRAC Vranov 81.70 328 P **P 13 26 53.0 +1.0**
comp=Z,7.9nm,0.8s,baz=59,slow=4.4,SNR=8.7
EYMN Ely 81.75 34 *e*P **P 13 26 52.1 -0.2**
comp=Z,15nm,1.4s
EYMN Ely 81.75 34 P **P 13 26 52.2 -0.2**
baz=319
KRUC Moravsky 81.97 328 *e*P **P 13 26 54.6 +1.1**
KRUC *e* 13 27 08.7
PRU Pruhonice 82.01 330 *e*P **P 13 26 55.3 +1.6**
PRU *e* 13 27 09.1
PRU MLR MLR
comp=Z,600nm,19.8s
PRU Pruhonice 82.01 330 *e*P **P 13 26 55.3 +1.6**
PRU *e*pP **pP 13 26 58.6 -1.6**
PRU *e*x x 13 27 09.1
PRU AMS AMS 14 06 00.0
comp=Z,600nm,19.8s
MODS Modra-Piesok 82.12 327 *e*P **P 13 26 55.7 +1.3**
MODS *e* 13 27 09.4
MODS pmax pmax
comp=Z,42nm,1.3s
MODS Modra-Piesok 82.12 327 *e*P **P 13 26 55.7 +1.3**
MODS *e*PCP **pwP 13 27 09.4 -0.2**
TREC Trest 82.17 329 *e*P **P 13 26 56.1 +1.5**
TREC *e* 13 27 10.1
TREC MLR MLR
comp=Z,500nm,19.1s
TREC Trest 82.17 329 *e*P **P 13 26 56.1 +1.5**
TREC *e*pP **pP 13 26 59.6 -1.5**
TREC *e*x x 13 27 10.1
TREC AMS AMS 14 06 50.0
comp=Z,500nm,19.1s
BZS Buzias 82.22 323⇑*i*P **P 13 26 55.0 +0.1**
BZS Buzias 82.22 323⇑P **P 13 26 55.0 +0.1**
ZST Bratislava 82.33 327 *e*sP sP 13 27 10.1 +5.7
ECSD EROS Data Cent 82.41 39 *e*P **P 13 26 55.6 -0.4**
comp=Z,7.3nm,1.1s
ECSD EROS Data Cent 82.41 39 P **P 13 26 56.0 +0.1**
baz=316
NKC Novy Kostel 82.65 331 AMS AMS 14 10 30.0
comp=Z,500nm,19.4s
T25A Trinidad 82.68 48 *e*P **P 13 26 58.3 +0.5**
comp=Z,7.4nm,1.0s
T25A Trinidad 82.68 48 P **P 13 26 58.2 +0.5**
baz=312
E38A The Farm, Brul 82.73 35 *e*P **P 13 26 57.2 -0.3**
comp=Z,7.0nm,1.0s
E38A The Farm, Brul 82.73 35 P **P 13 26 57.2 -0.3**
baz=319
C40A Isle Royale Na 82.79 33 P **P 13 26 58.0 +0.2**
baz=320
TASM ASL Pad, Albuq 82.88 51 P **P 13 26 58.9 +0.1**
baz=311
TASM ASL Pad, Albuq 82.88 51 P **P 13 26 59.6 +0.7**
baz=311
ANMO Albuquerque 82.88 51⇓*i*P **P 13 26 58.8 0.0**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
ANMO Albuquerque 82.88 51 P **P 13 26 59.3 +0.5**
baz=311
ANMO Albuquerque 82.88 51 P **P 13 26 59.3 +0.5**
comp=Z,1.7nm,0.8s,baz=307,slow=9.0,SNR=5.1
SOP Sopron 82.96 327⇓*e*P P 13 27 14.0 +15
F38A Pierce - Schro 83.07 35 P **P 13 26 59.2 0.0**
baz=319
CONA Conrad Observa 83.07 328 *e*pP **P 13 27 01.1 +1.7**
comp=Z,9.0nm,0.9s
CONA *i* S sP 13 27 15.2 +6.8

comp=Z,28nm,1.1s
KHC Kasperske Hory 83.08 330 *e*P **P 13 26 59.2 -0.1**
comp=Z,9.7nm,1.0s
KHC Kasperske Hory 83.08 330 *e*P **P 13 27 00.8 +1.5**
KHC *e* 13 27 14.7
KHC MLR MLR
comp=Z,500nm,17.9s
KHC Kasperske Hory 83.08 330 *e*P **P 13 27 00.8 +1.5**
KHC *e*pP **pP 13 27 04.2 -1.6**
KHC *e*x x 13 27 14.7
KHC AMS AMS 14 06 30.0
comp=Z,500nm,17.9s
MORH Mrgy, Hungar 83.16 325 *e*P P 13 27 13.0 +13
PPT Papeete 83.23 118 LR LR 14 02 27.8
comp=Z,124nm,18.6s,baz=322,slow=35
PPT2 Papeete2 83.25 118 *e*S **S 13 37 17.6 -1.9**
comp=Z,61nm,25.0s
PPT2 Papeete2 83.25 118 *e*LR LR 13 52 34.4
comp=Z,298nm,24.8s
GERES GERESS Array B 83.25 329 *e*P **P 13 27 00.1 -0.2**
GERES GERESS Array B 83.25 329 *e*P **P 13 27 00.1 -0.2**
GERES GERESS Array B 83.25 329 P **P 13 27 01.0 +0.7**
comp=Z,2.1nm,0.7s,baz=22,slow=4.9,SNR=13
GERES LR LR 14 07 07.6
comp=Z,468nm,18.5s,baz=42,slow=38
BGNE Belgrade 83.27 42 P **P 13 27 00.6 +0.1**
baz=315
EKA Eskdalemuir Ar 83.28 342 P **P 13 27 01.9 +1.7**
comp=Z,1.1nm,0.8s,baz=26,slow=5.5,SNR=3.2
E39A Mellen 83.35 34 P **P 13 27 00.2 -0.5**
baz=320
ALN Alexandroupoli 83.36 317 P **P 13 27 02.6 +1.7**
319A Douglas 83.40 55 *e*P **P 13 27 01.5 0.0**
comp=Z,9.0nm,1.1s
RDO Rodhopi 83.46 318 P P 13 27 16.1 +15
F39A Loretta 83.54 35 P **P 13 27 01.3 -0.4**
baz=319
E40A Wakefield 83.59 34 P **P 13 27 01.6 -0.4**
baz=320
VTS Vitosha 83.60 320 *e*P **P 13 27 01.7 -0.6**
comp=Z,25nm,1.1s
VTS Vitosha 83.60 320 P P 13 27 17.3 +15
VTS Vitosha 83.60 320 ⇓*i*P **P 13 27 04.1 +1.8**
VTS Vitosha 83.60 320 ⇓P **P 13 27 04.1 +1.8**
121A Cookes Peak, D 83.62 54 P **P 13 27 03.0 +0.3**
baz=311
ARSA Arzberg 83.74 327 *e*pP **P 13 27 03.9 +1.1**
comp=Z,8.7nm,1.2s
ARSA *e*S sP 13 27 18.0 +6.2
comp=Z,21nm,1.7s
MOA Molln 83.81 328 *e*pP **P 13 27 04.5 +1.4**
F40A Park Falls 83.90 35 P **P 13 27 03.3 -0.3**
baz=320
EZN Ezine 83.96 317 P P 13 27 19.2 +15
NVR Nevrokopi 84.19 319 P P 13 27 20.0 +15
G40A Rib Lake 84.36 35 P **P 13 27 05.7 -0.2**
baz=320
SCHQ Schefferville 84.37 17 P **P 13 27 06.2 +0.4**
comp=Z,5.9nm,0.6s,baz=270,slow=16,SNR=2.0
SCHQ LR LR 14 06 12.3
comp=Z,118nm,21.5s,baz=327,slow=37
PERS Pernice 84.40 327 *i*P **P 13 27 07.2 +1.0**
PERS *e* 13 27 21.2
SOKA Soboth 84.40 327 *e*PcP **P 13 27 07.1 +0.9**
comp=Z,8.9nm,1.0s,SNR=4.5
SOKA *i*S sP 13 27 21.2 +6.0
comp=Z,35nm,1.2s
E42A Champion 84.48 33 P **P 13 27 06.3 -0.2**
baz=321
F41A Three Lakes 84.49 34 P **P 13 27 06.4 -0.2**
baz=320
FETY Fethiye 84.62 313 P **P 13 27 11.1 +3.7**
MEM Membach 84.69 334 ⇑P **P 13 27 07.2 -0.3**
comp=Z,11nm,1.0s
MEM ⇑pP **pP 13 27 12.1 -1.9**
OBKA Obir 84.74 327 *i*S sP 13 27 22.6 +5.7
comp=Z,7.3nm,1.0s
H40A Chili 84.76 36 P **P 13 27 08.3 +0.4**
baz=320
KBA Koelnbreinsper 84.80 328 *e*PcP **P 13 27 09.5 +1.1**
comp=Z,10nm,1.0s
KBA *e*S sP 13 27 23.0 +6.2
comp=Z,11nm,0.9s
OUR Ouranopolis 84.86 318 P P 13 27 23.1 +15
VAY Valandovo 84.89 320 *i*P P 13 27 23.9 +15
E43A Lone Tree Farm 84.92 33 P **P 13 27 08.8 +0.1**
baz=322
MYKA Terra Mystica 85.03 328 *e*S sP 13 27 23.6 +5.8
comp=Z,13nm,1.0s
BCLA Clavier 85.09 335 ⇑P **P 13 27 09.9 +0.5**
comp=Z,15nm,1.2s
BOJS Bojanci 85.22 326 *i*P **P 13 27 09.7 -0.6**
BOJS *i* 13 27 24.1
ABTA Abfaltersbach 85.41 329 *e*PcP **P 13 27 12.2 +0.9**
comp=Z,6.4nm,0.9s
ABTA *e*S sP 13 27 25.7 +5.9
comp=Z,12nm,1.1s
JAVS Javornik 85.43 327 *i*P **P 13 27 11.5 0.0**
JAVS *e* 13 27 24.5
F44A Big Bay de Noc 85.48 32 P **P 13 27 11.3 -0.2**
baz=322
G43A Wallace 85.49 34 P **P 13 27 12.0 +0.4**
baz=322
MOTA Moosalm 85.50 330 *e*PcP **P 13 27 12.9 +1.1**
comp=Z,6.0nm,0.9s
MOTA *e*S sP 13 27 26.2 +5.9
comp=Z,12nm,0.9s
RETA Reutte 85.52 330 *e*PcP **P 13 27 12.8 +0.9**
comp=Z,9.5nm,0.8s
RETA *i*S sP 13 27 26.8 +6.5
comp=Z,30nm,1.0s
SQTA Sankt Quirin 85.56 330 *e*S sP 13 27 27.0 +6.4
comp=Z,8.0nm,0.9s
DOU Dourbes 85.60 335 ⇑P **P 13 27 12.4 +0.3**
DOU ⇑sP **sP 13 27 20.4 -0.2**
MNTX Cornudas Mount 85.70 53 *e*P **P 13 27 13.3 +0.3**
comp=Z,4.3nm,1.0s
MNTX Cornudas Mount 85.70 53 P **P 13 27 13.2 +0.3**
baz=312
PDG Podgorica 85.72 322 ⇑*i*P **P 13 27 13.7 +0.9**
TTG Podgorica 85.72 322 *e*P **P 13 27 13.0 +0.2**
comp=Z,70nm,1.4s
D46A Sault St. Mari 85.74 31 P **P 13 27 12.9 +0.1**
baz=324
MATQ Matagami 85.75 25 P **P 13 27 13.0 +0.2**
baz=328
BFO Black Forest 85.76 332 *e*P **P 13 27 12.6 -0.3**
comp=Z,25nm,0.9s
BFO Black Forest 85.76 332 *i*P **P 13 27 14.1 +1.2**
AMTX Amarillo 85.83 49 P **P 13 27 13.3 -0.3**
baz=314
K40A Colesburg 85.87 37 P **P 13 27 13.6 0.0**
baz=319
L39A Vinton 85.89 38 P **P 13 27 13.7 0.0**
baz=319
FNA Florina 85.89 320 P P 13 27 28.1 +14
J41A Loganville 85.90 36 P **P 13 27 13.2 -0.4**
baz=320
FETA Feichten 85.91 330 *e*PcP **P 13 27 14.7 +0.8**
comp=Z,5.3nm,0.8s
FETA *e*S sP 13 27 28.5 +6.2
comp=Z,15nm,1.0s
D47A Chapleau 85.98 30 P **P 13 27 13.4 -0.6**
baz=324
I42A Draeger Farm, 86.00 35 P **P 13 27 14.0 -0.2**
baz=321
DAVA Damuels 86.03 330 *e*PcP **P 13 27 15.4 +0.9**
comp=Z,10.0nm,0.8s
DAVA *i*S sP 13 27 29.4 +6.4
comp=Z,28nm,0.8s
E46A Sault Ste Mari 86.05 31 P **P 13 27 13.9 -0.4**
baz=324
M39A Webster 86.29 39 P **P 13 27 15.4 -0.2**
baz=319
ECH Echery 86.29 333 *e*P **P 13 27 15.9 +0.4**
comp=Z,15nm,0.8s
ECH Echery 86.29 333 *e*P **P 13 27 15.9 +0.4**
ECH pmax pmax
comp=Z,15nm,0.8s
L40A Anamosa 86.31 38 P **P 13 27 15.4 -0.3**
baz=319
K41A Shullsburg 86.34 37 P **P 13 27 15.7 -0.2**
baz=320
D48A Paudash Townsh 86.39 29 P **P 13 27 15.6 -0.5**
baz=325
E47A Iron Bridge 86.40 30 P **P 13 27 15.8 -0.2**
baz=324

FUORN Ofenpass-Fuorn 86.42 330 *e*P **P 13 27 17.0 +0.5**
comp=Z,34nm,1.0s
DAVOX Davos/Dischmat 86.44 330 P **P 13 27 16.7 +0.2**
comp=Z,2.1nm,0.5s,baz=300,slow=9.1,SNR=3.6
D49A Beulah Townshi 86.48 29 P **P 13 27 16.0 -0.5**
baz=326
LSQQ Lebel-sur-Quev 86.57 25 P **P 13 27 15.6 -1.2**
baz=329
L41A Preston 86.66 37 P **P 13 27 16.4 -1.0**
baz=320
CHGQ Chibougamau 86.69 24 P **P 13 27 17.0 -0.5**
baz=331
E48A Lockeyer 86.82 30 P **P 13 27 17.8 -0.4**
baz=325
F48A Evansville 87.17 30 P **P 13 27 19.6 -0.2**
baz=325
TBI Tubuai 87.22 122 *e*LR LR 13 54 46.6
comp=Z,333nm,41.2s
F49A Sandfield 87.46 30 P **P 13 27 20.9 -0.3**
baz=325
WMOK Wichita Mounta 87.64 47 P **P 13 27 22.4 0.0**
baz=315
E51A G1948 Merrick 87.81 28 P **P 13 27 22.8 -0.1**
baz=327
D52A ZEK Kipawa Sen 87.83 27 P **P 13 27 22.8 -0.3**
baz=328
M43A Waltham Townsh 87.88 37 P **P 13 27 23.1 -0.2**
baz=321
O41A Passleys Farm, 87.96 39 P **P 13 27 23.1 -0.7**
baz=320
I48A Sherman Twp 88.06 32 P **P 13 27 23.8 -0.3**
baz=324
N43A Stutzman Famil 88.16 37 P **P 13 27 24.5 -0.2**
baz=321
TX31 Lajitas Ar. Si 88.38 54 *e*P **P 13 27 26.5 +0.4**
comp=Z,4.0nm,1.0s
TXAR Lajitas Array 88.38 54 *e*P **P 13 27 26.2 +0.1**
TXAR PP **PP 13 30 57.8 +4.4**
TXAR Lajitas Array 88.38 54 *e*P **P 13 27 26.2 +0.1**
TXAR 13 30 57.8
TXAR Lajitas Array 88.38 54 P **P 13 27 26.8 +0.7**
comp=Z,1.9nm,0.8s,baz=299,slow=3.4,SNR=18
TXAR PP **PP 13 30 57.8 +4.4**
comp=Z,0.4nm,0.8s,baz=289,slow=5.6,SNR=3.0
TXAR LR LR 14 05 52.0
comp=Z,65nm,18.6s,baz=0.0,slow=35
HDIL Hopedale 88.40 37 P **P 13 27 25.6 -0.2**
baz=321
KLBO Killbear Provi 88.51 29 P **P 13 27 26.3 +0.1**
baz=327
E53A Dumoine, Ponti 88.61 27 P **P 13 27 25.3 -1.4**
baz=328
E54A Lac Daplat, Po 88.74 27 P **P 13 27 26.6 -0.7**
baz=329
BMRO Meriville Lake 88.75 30 P **P 13 27 27.1 -0.3**
baz=326
ALGO Algonquin Park 88.83 28 P **P 13 27 27.5 -0.3**
baz=328
J49A Marlette 88.97 32 P **P 13 27 27.6 -0.8**
baz=325
K48A Perry 89.00 33 P **P 13 27 27.7 -0.9**
baz=324
BASO Ashfield 89.05 31 P **P 13 27 28.4 -0.4**
baz=326
R41A Rosebud 89.09 40 P **P 13 27 29.8 +0.7**
baz=319
BWLO Walkerton 89.18 31 P **P 13 27 29.5 +0.1**
baz=326
CCM Cathedral Cave 89.34 40 P **P 13 27 30.4 +0.1**
baz=319
PEMO Pembroke 89.36 27 P **P 13 27 29.6 -0.6**
baz=329
O45A Potomac 89.39 37 P **P 13 27 29.8 -0.7**
baz=322
SFIN Lafayette 89.59 36 P **P 13 27 30.8 -0.6**
baz=322
U40A Yellville 89.77 42 P **P 13 27 32.6 +0.2**
baz=318
L50A Kingsville 90.19 33 P **P 13 27 33.8 -0.4**
baz=325
ALFO Alfred 90.25 26 P **P 13 27 34.2 -0.1**
baz=330
H55A Tweed 90.35 28 P **P 13 27 34.0 -0.8**
baz=329
WHTX Lake Whitney, 90.37 48 P **P 13 27 35.1 -0.1**
baz=316
MIAR Mount Ida 90.73 44 P **P 13 27 37.3 +0.4**
baz=318
PECO Prince Edward 90.94 28 P **P 13 27 37.7 +0.1**
baz=329
W41B Gary Mavity, V 90.98 43 P **P 13 27 38.0 0.0**
baz=319
O49A Covington 91.02 35 P **P 13 27 38.3 +0.3**
baz=324
K55A Perry 91.56 29 P **P 13 27 41.0 +0.4**
baz=328
R57A Stanardsville 95.12 32 P **P 13 27 56.2 -0.9**
baz=328
KEST Kesra 95.73 324 LR LR 14 16 15.0
comp=Z,94nm,18.1s,baz=318,slow=39
U59A Littleton 97.07 33 P Pdif 13 28 06.8 +0.8
baz=326
ESDC Sonseca Array 97.65 335 P Pdif 13 28 09.1 +0.5
comp=Z,0.2nm,0.3s,baz=355,slow=2.7,SNR=3.5
ESDC LR LR 14 17 09.8
comp=Z,278nm,18.5s,baz=40,slow=38
TORD Torodi Ar. Bea 118.26 317 PKP **PKPdf 13 33 20.8 -0.7**
comp=Z,0.5nm,0.6s,baz=356,slow=2.6,SNR=3.4
TORD PP **PP 13 34 39.6 +3.2**
comp=Z,1.6nm,1.0s,baz=16,slow=5.6,SNR=4.6
TORD PKKPbc **PKKPbc 13 43 40.4 +1.8**
comp=Z,1.3nm,0.9s,baz=243,slow=2.7,SNR=6.2
QSPA South Pole Qui 127.25 180 *e*PKPdf **PKPdf 13 33 36.5 -0.7**
SNAA Sanae 141.72 196 PKPdf **PKPdf 13 33 58.3 -5.8**
VNA2 Neumayer--Watz 143.27 195 PKPdf PKPab 13 34 03.3 +0.7
baz=128,slow=3.2
VNA3 Neumayer Olymp 143.48 194 PKPdf PKPab 13 34 03.4 -0.2
VNA1 Neumayer--Stat 143.66 195 PKPdf PKPab 13 34 04.7 +0.5
LPAZ La Paz 144.88 62 *e*PKPbc **PKPab 13 34 10.5 -0.6**
LPAZ La Paz 144.88 62 *e*PKIKP **PKPab 13 34 10.5 -0.6**
LPAZ La Paz 144.88 62 PKP **PKPab 13 34 11.3 +0.2**
comp=Z,3.5nm,0.6s,baz=24,slow=2.9,SNR=16
PB11 IPOC Station P 146.04 68 *e*PKPdf **PKPbc 13 34 14.4 +0.2**
GO01 Chusmiza 146.32 67 *e*PKPdf **PKPbc 13 34 15.5 +0.1**
LCO Las Campanas 150.15 84 *e*PKPbc **PKPbc 13 34 25.1 0.0**
LCO Las Campanas 150.15 84 *e*PKIKP **PKPbc 13 34 25.1 0.0**
GO04 Tololo Observa 150.55 86 *e*PKPbc **PKPbc 13 34 26.0 0.0**
YJA Yavi 150.57 67 *e*P **PKiKP 13 34 27.4 +0.2**
HJA Humahuaca 151.26 69 *e*P **PKiKP 13 34 29.4 +0.8**
VCA Vinchina 151.99 81 *e*P **PKiKP 13 34 30.3 +0.7**
AZAP Zapla 152.11 70 *e*P **PKiKP 13 34 30.4 +0.4**
FSA Cafayete 152.45 74 *e*P **PKiKP 13 34 31.2 +0.6**
ASAL Salagasta 153.00 89 *e*P **PKiKP 13 34 31.9 +0.4**
PLCA Paso Flores 153.34 108 PKPbc **PKPbc 13 34 31.9 +0.1**
comp=Z,3.4nm,1.1s,baz=270,slow=2.0,SNR=2.8
PLCA PKPab **PKPab 13 34 44.6 +0.7**
comp=Z,2.7nm,0.8s,baz=259,slow=8.8,SNR=5.6

*ISCJB **06** 13:16:08.4±0.6, 6°.85N±0°.03×73°.14W±0°.03, h156km±5km, mb3.4/1, Error ellipse: s-maj=5.6km s-min=4.3km az=25.3*
*RSNC **06** 13:16:10.1±1.0, 6°.79N×73°.13W, h147km±4km, ML3.2, Mw3.5*
*IDC **06** 13:16:13.4±5.3, 6°.65N×74°.02W, h188km±24km, mb3.0/1, mb1 3.4/1, mb1mx2.7/42, mbtmp3.5/1, Error ellipse: s-maj=310.7km s-min=40.1km az=93.0*
ISC 06 13:16:08.6±1.0, 6°.84N±0°.03×73°.14W±0°.04, h155km±6km, n26, σ0°97/48, 3C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.24**	**346**	*e*P	**Pn**	**13 16 29.9**	**+0.1**
GIRC				*e*S	**Sn**	**13 16 45.9**	**-0.1**
GIRC				*i*		13 16 48.2	
comp=Z,117nm,0.4s							
BARC	**Barichara**	**0.26**	**191**	⇓*i*P	**Pn**	**13 16 29.8**	**-0.1**
BARC				*e*S	**Sn**	**13 16 44.9**	**-1.3**
BARC				*i*		13 16 46.3	
comp=Z,567nm,0.2s							
BRRC	**Barranca, Sant**	**0.63**	**295**	*e*P	**Pn**	**13 16 31.9**	**+0.6**
BRRC				*e*S	**Sn**	**13 16 48.6**	**+0.2**
BRRC				*i*		13 16 49.7	
comp=Z,227nm,0.1s							
PAMC	**Pamplona, Colo**	**0.66**	**41**	⇓*i*P	**Pn**	**13 16 32.6**	**+0.6**
PAMC				*i*		13 16 33.0	
comp=Z,308nm,0.2s							
PAMC				*e*S	**Sn**	**13 16 49.8**	**+0.1**
RUSC	**La Rusia**	**0.95**	**177**	⇑*i*P	**Pn**	**13 16 33.7**	**-0.4**
RUSC				*i*		13 16 34.7	
comp=Z,132nm,0.1s							
RUSC				*e*S	**Sn**	**13 16 52.3**	**-1.1**
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	*e*P	**Pn**	**13 16 36.7**	**-0.3**
PTBC				*e*S	**Sn**	**13 16 57.6**	**-1.1**
PTBC				*i*		13 17 04.8	
comp=Z,184nm,0.2s							
TAMC	**Tame, Arauca**	**1.40**	**107**	⇓*i*P	**Pn**	**13 16 38.1**	**+0.6**
TAMC				*i*		13 16 38.3	
comp=Z,70nm,0.2s							
TAMC				*e*S	**Sn**	**13 16 59.8**	**+0.1**
OCAC	**Ocana**	**1.40**	**352**	*e*P	**Pn**	**13 16 39.1**	**+1.4**
OCAC				*e*S	**Sn**	**13 17 00.9**	**+0.9**
OCAC				*i*		13 17 03.1	
comp=Z,205nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*e*P	**Pn**	**13 16 42.8**	**+0.7**
ZARC				*e*S	**Sn**	**13 17 08.7**	**+0.8**
ZARC				*i*		13 17 14.1	
comp=Z,161nm,0.2s							
NORC	**Norcasia**	**2.14**	**234**	*e*P	**Pn**	**13 16 45.4**	**-0.4**
NORC				*e*S	**Sn**	**13 17 15.0**	**+0.6**
NORC				*i*		13 17 19.2	
comp=Z,227nm,0.7s							
SMLC	**San Martn de**	**2.15**	**335**	*e*P	**Pn**	**13 16 46.4**	**+0.5**
SMLC				*e*S	**Sn**	**13 17 15.8**	**+1.2**
SMLC				*i*		13 17 20.2	
comp=Z,122nm,0.3s							
ROSC	**El Rosal**	**2.31**	**211**	*e*P	**Pn**	**13 16 49.6**	**+1.5**
ROSC				*e*S	**Sn**	**13 17 21.1**	**+2.5**
ROSC				*i*		13 17 25.9	
comp=Z,132nm,0.4s							
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**13 16 49.6**	**+1.5**
comp=Z,16nm,0.3s,baz=107,slow=19,SNR=84							
ROSC				S	**Sn**	**13 17 18.0**	**-0.6**
comp=Z,19nm,0.3s,baz=102,slow=17,SNR=9.8							
HELC	**Santa Helena**	**2.47**	**255**	*e*P	**Pn**	**13 16 51.3**	**+1.4**
HELC				*e*S	**Sn**	**13 17 22.7**	**+0.9**
HELC				*i*		13 17 28.5	
comp=Z,70nm,0.2s							
UREC	**San Jos de Ur**	**2.54**	**291**	*e*P	**Pn**	**13 16 49.9**	**-0.7**
UREC				*e*S	**Sn**	**13 17 21.5**	**-1.4**
UREC				*i*		13 17 23.4	
comp=Z,102nm,0.3s							
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**	**13 16 53.6**	**+0.1**
VILC				*e*S	**Sn**	**13 17 28.1**	**-0.1**
RREF	**El Recreo**	**2.93**	**229**	*e*P	**Pn**	**13 16 56.8**	**+0.9**
RREF				*e*S	**Sn**	**13 17 33.0**	**+0.6**
DBBC	**Dabeiba**	**3.06**	**273**	⇑*e*P	**Pn**	**13 16 57.6**	**+0.6**
DBBC				*e*S	**Sn**	**13 17 33.8**	**-0.6**
CODC	**Agustn Codazz**	**3.09**	**354**	*e*P	**Pn**	**13 16 58.0**	**+0.7**
CODC				*e*S	**Sn**	**13 17 35.9**	**+0.9**
SDV	**Santo Domingo**	**3.20**	**51**	⇑*e*P	**Pn**	**13 16 59.5**	**+0.5**
SDV				*e*S	**Sn**	**13 17 37.3**	**-0.6**
PRAC	**Prado**	**3.57**	**209**	*e*P	**Pn**	**13 17 03.5**	**+0.1**
PRAC				*e*S	**Sn**	**13 17 46.1**	**+0.1**
PRAC				*i*		13 17 52.3	
comp=Z,96nm,0.5s							
SJCC	**San Jacinto, C**	**3.65**	**326**	*e*P	**Pn**	**13 17 04.3**	**-0.2**
SJCC				*e*S	**Sn**	**13 17 45.5**	**-2.5**
PLMC	**San Jos del P**	**3.68**	**239**	*e*P	**Pn**	**13 17 05.8**	**+0.9**
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P	**Pn**	**13 17 12.7**	**-0.1**
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**13 26 20.6**	**+0.4**
comp=Z,0.3nm,0.4s,baz=134,slow=6.2,SNR=6.3							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**13 35 40.9**	**-1.7**
comp=Z,0.2nm,0.8s,baz=114,slow=2.7,SNR=3.0							

*ISCJB **06** 13:18:07.3±0.6, 43°.11N±0°.02×126°.44W±0°.06, h10km, mb3.7/3, MS3.2/4, Error ellipse: s-maj=6.1km s-min=3.0km az=174.4*
*NEIC **06** 13:18:08.5±0.6, 43°.05N×126°.37W, h5km, ML3.3(SEA), Error ellipse: s-maj=7.6km s-min=3.2km az=82.0*
*ANF **06** 13:18:09.6±0.8, 43°.09N×126°.19W, ML3.4/21, Error ellipse: s-maj=9.2km s-min=3.7km az=84.0*
*IDC **06** 13:18:11.0±1.4, 43°.29N×125°.94W, h0km, mb3.5/4, mb1 3.8/10, mb1mx3.6/57, mbtmp3.6/10, ML3.2/6, MS3.4/10, Ms1 3.4/10, ms1mx3.1/32, Error ellipse: s-maj=25.7km s-min=12.2km az=53.0*
ISC 06 13:18:10.1±1.1, 43°.08N±0°.05×126°.30W±0°.09, h10km, n111, σ1°.02/113, mb3.8/3, MS3.2/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.46**	**97**	*e*Pn	**Pn**	**13 18 35.0**	**-1.5**
J01E	**Myrtle Point**	**1.74**	**86**	P	**Pn**	**13 18 39.0**	**-1.3**
baz=267,SNR=121							
J01E				S	**Sn**	**13 19 01.4**	**-1.0**
baz=267							
K02D	**Willamette Mer**	**1.97**	**100**	P	**Pn**	**13 18 42.5**	**-1.1**
baz=281,SNR=220							
K02D				S	**Sn**	**13 19 08.5**	**+0.1**
baz=281							
I02D	**Swisshome**	**2.06**	**59**	P	**Pn**	**13 18 43.5**	**-1.2**
baz=241,SNR=99							
I02D				S	**Sn**	**13 19 09.3**	**-1.1**
baz=241							
L02E	**Cave Junction**	**2.19**	**114**	P	**Pn**	**13 18 45.7**	**-0.9**
baz=294,SNR=13							
L02E				S	**Sn**	**13 19 14.5**	**+0.8**
baz=294							
I03D	**Drain, OR**	**2.24**	**73**	P	**Pn**	**13 18 46.1**	**-1.0**
baz=255,SNR=32							
I03D				S	**Sn**	**13 19 15.4**	**+0.5**
baz=255							
KRMB	**Red Mountain**	**2.36**	**130**	*e*Pn	**Pn**	**13 18 47.3**	**-1.6**
HUMO	**Hull Mountain**	**2.50**	**100**	*e*Pn	**Pn**	**13 18 50.1**	**-0.8**
COR	**Corvallis**	**2.64**	**54**	*e*Pn	**Pn**	**13 18 52.2**	**-0.5**
JCC	**Jacoby Creek,**	**2.82**	**142**	*e*Pn	**Pn**	**13 18 53.0**	**-2.2**
KHMM	**Horse Mountain**	**2.92**	**138**	*e*Pn	**Pn**	**13 18 54.0**	**-2.6**
I04A	**Tendick Farm,**	**2.92**	**74**	P	**Pn**	**13 18 56.7**	**+0.1**
baz=257							
H04D	**Lebanon**	**2.96**	**59**	P	**Pn**	**13 18 56.9**	**-0.1**
baz=242,SNR=22							
YBH	**Yreka Blue Hor**	**2.98**	**116**	*e*Pn	**Pn**	**13 18 57.0**	**-0.4**
YBH				Sn	**Sn**	**13 19 34.0**	**+0.7**
YBH	**Yreka Blue Hor**	**2.98**	**116**	Pn	**Pn**	**13 18 57.7**	**+0.3**
0.8nm,0.3s,baz=298,slow=15,SNR=51							
YBH				Sn	**Sn**	**13 19 34.0**	**+0.7**
0.7nm,0.3s,baz=354,slow=18,SNR=7.8							
G03D	**McMinnville, O**	**3.06**	**45**	P	**Pn**	**13 18 57.8**	**-0.6**
baz=227,SNR=8.9							
G03D				S	**Sn**	**13 19 36.2**	**+1.2**
baz=227							
M02C	**Callahan**	**3.06**	**122**	P	**Pn**	**13 18 58.4**	**-0.2**
baz=304							
L04D	**Klamath Falls**	**3.07**	**105**	P	**Pn**	**13 18 57.8**	**-1.0**
baz=287,SNR=21							
J04D	**Umpqua Nationa**	**3.07**	**85**	P	**Pn**	**13 18 59.9**	**+1.1**
baz=268,SNR=111							
H04A	**Detroit Lake**	**3.38**	**60**	*e*Pn	**Pn**	**13 19 03.0**	**+0.1**
N02D	**Trinity Center**	**3.40**	**127**	P	**Pn**	**13 19 03.8**	**+0.6**
baz=308							
KMRM	**Mail Ridge**	**3.45**	**145**	*e*Pn	**Pn**	**13 19 03.4**	**-0.5**
M04C	**Macdoel**	**3.55**	**110**	P	**Pn**	**13 19 05.8**	**+0.5**
baz=292							
J05D	**Fort Rock, OR**	**3.71**	**85**	P	**Pn**	**13 19 07.8**	**+0.3**
baz=268,SNR=24							
WDC	**Whiskeytown Da**	**3.76**	**130**	*e*Pn	**Pn**	**13 19 08.0**	**0.0**
I05D	**Terrebonne, OR**	**3.81**	**69**	P	**Pn**	**13 19 08.9**	**0.0**
baz=252,SNR=13							
F04D	**Rainier, OR**	**3.82**	**37**	P	**Pn**	**13 19 08.8**	**0.0**
baz=220							
F04D				S	**Sn**	**13 19 55.0**	**+1.2**
baz=220							
KCPM	**Cahto Peak**	**3.96**	**148**	*e*Pn	**Pn**	**13 19 09.9**	**-1.0**
PINE	**Pine Mountain**	**3.97**	**78**	*e*Pn	**Pn**	**13 19 11.3**	**+0.2**
E03A	**Lebam**	**3.98**	**28**	*e*Pn	**Pn**	**13 19 09.9**	**-1.1**
K05A	**Summer Lake**	**3.99**	**93**	*e*Pn	**Pn**	**13 19 11.2**	**-0.2**
G05D	**Wamic, OR**	**4.19**	**57**	P	**Pn**	**13 19 14.1**	**0.0**
baz=241,SNR=7.9							
E04D	**Cinebar**	**4.38**	**36**	P	**Pn**	**13 19 16.8**	**+0.3**
baz=219,SNR=9.3							
E04D				S	**Sn**	**13 20 08.1**	**+0.5**
baz=219							
F05D	**White Salmon**	**4.46**	**49**	P	**Pn**	**13 19 18.3**	**+0.6**
baz=233							
F05D				S	**Sn**	**13 20 12.0**	**+2.4**
baz=233							
MOD	**Modoc Plateau**	**4.59**	**103**	*e*Pn	**Pn**	**13 19 19.1**	**-0.5**
G06A	**Carlson Farm,**	**4.61**	**60**	*e*Pn	**Pn**	**13 19 19.9**	**0.0**
NLWA	**Neilton Lookou**	**4.65**	**21**	*e*Pn	**Pn**	**13 19 19.4**	**-0.8**

HOPS	**Hopland Field**	**4.75**	**148**	*e*Pn		**Pn**	**13 19 22.4**	**+0.7**
D04E	**Lakebay**	**4.80**	**30**	P		**Pn**	**13 19 22.5**	**+0.1**
	baz=213							
D04E				S		**Sn**	**13 20 18.9**	**+0.9**
	baz=213							
LON	**Longmire**	**4.87**	**39**	*e*Pn		**Pn**	**13 19 23.9**	**+0.6**
D03D	**Eldon**	**5.00**	**26**	S		**Sn**	**13 20 23.0**	**0.0**
	baz=208							
I07A	**Izee**	**5.04**	**76**	*e*Pn		**Pn**	**13 19 26.3**	**+0.5**
D05A	**Enumclaw**	**5.12**	**35**	*e*Pn		**Pn**	**13 19 27.1**	**+0.3**
F07A	**Phinny Hill Vi**	**5.36**	**56**	*e*Pn		**Pn**	**13 19 29.8**	**-0.3**
MCCM	**Marconi Confer**	**5.57**	**151**	*e*Pn		**Pn**	**13 19 33.0**	**+0.1**
WVOR	**Wild Horse Val**	**5.68**	**94**	*e*Pn		**Pn**	**13 19 34.2**	**-0.4**
G08A	**Pilot Rock**	**5.72**	**65**	*e*Pn		**Pn**	**13 19 35.4**	**+0.2**
J08A	**Circle Bar Ran**	**5.73**	**84**	*e*Pn		**Pn**	**13 19 35.1**	**-0.1**
E07A	**Sunnyside**	**5.76**	**51**	*e*Pn		**Pn**	**13 19 35.1**	**-0.5**
AFDM	**Forest Hills D**	**5.76**	**134**	*e*Pn		**Pn**	**13 19 36.3**	**+0.7**
LTY	**Liberty**	**5.77**	**42**	*e*Pn		**Pn**	**13 19 36.6**	**+0.8**
HAWA	**Hanford**	**5.85**	**53**	*e*Pn		**Pn**	**13 19 37.1**	**+0.3**
PGC	**Sidney**	**5.92**	**19**	*e*Pn		**Pn**	**13 19 36.5**	**-1.2**
B05A	**Bryant**	**5.97**	**28**	P		**Pn**	**13 19 37.8**	**-0.6**
	baz=211							
B05A				S		**Sn**	**13 20 45.9**	**-0.9**
	baz=211							
A04D	**Lummi Island**	**6.18**	**23**	S		**Sn**	**13 20 52.3**	**+0.4**
	baz=206							
E08A	**Dider Farm, El**	**6.18**	**54**	*e*Pn		**Pn**	**13 19 41.0**	**-0.4**
VCNR	**Virginia City**	**6.28**	**125**	*e*Pn		**Pn**	**13 19 42.3**	**-0.6**
B06A	**Marblemount**	**6.40**	**30**	*e*Pn		**Pn**	**13 19 44.2**	**-0.1**
D08A	**Wollman Farm,**	**6.57**	**50**	*e*Pn		**Pn**	**13 19 46.6**	**-0.1**
BMO	**Blue Mountains**	**6.73**	**72**	*e*Pn		**Pn**	**13 19 49.4**	**+0.4**
E09A	**Wood Farm, Sta**	**6.74**	**57**	*e*Pn		**Pn**	**13 19 48.3**	**-0.7**
F10A	**Beach Ranch, E**	**7.10**	**63**	*e*Pn		**Pn**	**13 19 54.3**	**+0.2**
B08A	**Colville Reser**	**7.19**	**40**	*e*Pn		**Pn**	**13 19 55.4**	**+0.2**
C09A	**Chrisman Ranch**	**7.36**	**47**	*e*Pn		**Pn**	**13 19 57.8**	**+0.2**
NVAR	**Mina Array Bea**	**7.64**	**125**	Pn		**Pn**	**13 20 04.4**	**+2.8**
	0.2nm,0.3s,baz=299,slow=14,SNR=8.1							
NVAR				LR		LR	13 22 41.8	
	comp=Z,14nm,19.5s,baz=210,slow=36							
LLLB	**Lillooet**	**8.12**	**20**	*e*Pn		**Pn**	**13 20 06.8**	**-1.1**
NEW	**Newport**	**8.26**	**48**	*e*Pn		**Pn**	**13 20 09.3**	**-0.6**
NEW	**Newport**	**8.26**	**48**	Pn		**Pn**	**13 20 09.6**	**-0.3**
	0.4nm,0.3s,baz=227,slow=19,SNR=3.0							
NEW				LR		LR	13 23 36.4	
	comp=Z,330nm,18.6s,baz=236,slow=41							
ELK	**Elko**	**8.57**	**102**	Pn		Pn	13 20 18.5	+4.1
	0.1nm,0.3s,baz=289,slow=16,SNR=4.7							
ELK				LR		LR	13 23 55.8	
	comp=Z,128nm,19.5s,baz=281,slow=41							
HLID	**Hailey**	**8.68**	**83**	P		**Pn**	**13 20 18.1**	**+2.3**
	baz=271							
BBB	**Bella Bella**	**9.20**	**353**	*e*Pn		**Pn**	**13 20 22.7**	**+0.1**
BBB	**Bella Bella**	**9.20**	**353**	Pn		**Pn**	**13 20 22.2**	**-0.4**
	0.3nm,0.3s,baz=162,slow=9.6,SNR=3.0							
BBB				LR		LR	13 23 11.9	
	comp=Z,193nm,19.1s,baz=135,slow=33							
MSO	**Missoula**	**9.53**	**63**	*e*Pn		**Pn**	**13 20 27.1**	**-0.3**
MSO	**Missoula**	**9.53**	**63**	P		**Pn**	**13 20 27.5**	**+0.1**
	baz=251							
ISA	**Isabella, Lake**	**9.56**	**138**	P		**Pn**	**13 20 29.8**	**+1.9**
	baz=323							
BOZ	**Bozeman (W)**	**10.81**	**71**	*e*Pn		**Pn**	**13 20 45.3**	**+0.4**
BOZ	**Bozeman (W)**	**10.81**	**71**	P		**Pn**	**13 20 46.5**	**+1.6**
	baz=261,SNR=11							
QLMT	**Earthquake Lak**	**10.87**	**76**	*e*Pn		**Pn**	**13 20 45.1**	**-0.7**
H17A	**Grant Village**	**11.46**	**78**	P		**Pn**	**13 20 56.4**	**+2.5**
	baz=269							
PFO	**Pinyon Flats O**	**12.20**	**138**	LR		LR	13 26 06.2	
	comp=Z,190nm,18.1s,baz=314,slow=39							
BW06	**Boulder Array**	**12.28**	**86**	P		**Pn**	**13 21 07.6**	**+2.5**
	baz=277							
PDAR	**Pinedale Array**	**12.28**	**86**	Pn		**Pn**	**13 21 07.3**	**+2.1**
	0.0nm,0.3s,baz=278,slow=12,SNR=11							
PDAR				LR		LR	13 26 19.5	
	comp=Z,302nm,18.5s,baz=280,slow=41							
RLMT	**Red Lodge**	**12.42**	**75**	P		**Pn**	**13 21 07.9**	**+0.9**
	baz=266							
EGMT	**Eagleton**	**12.60**	**61**	P		**Pn**	**13 21 09.6**	**+0.2**
	baz=253							
BC3	**Big Chuckawall**	**12.67**	**134**	P		**Pn**	**13 21 13.1**	**+2.6**
	baz=321							
LAO	**LASA Array**	**14.68**	**69**	P		**Pn**	**13 21 37.6**	**-0.2**
	baz=263							
W18A	**Petrified Fore**	**15.10**	**116**	P		**P**	**13 21 46.1**	**-2.8**
	baz=307							
DLBC	**Dease Lake**	**15.56**	**353**	Pn		**P**	**13 21 55.0**	**+1.3**
	0.1nm,0.3s,baz=180,slow=12,SNR=7.9							
S22A	**4UR Ranch, Cre**	**15.75**	**103**	P		**Pn**	**13 21 53.0**	**+0.8**
	baz=296							
RSSD	**Black Hills**	**16.16**	**79**	P		**Pn**	**13 21 56.2**	**-1.2**
	baz=274							
DGMT	**Dagmar**	**16.32**	**63**	P		**Pn**	**13 21 59.4**	**+0.2**
	baz=259							
ANMO	**Albuquerque**	**17.40**	**111**	Pn		**P**	**13 22 14.2**	**-0.1**
	0.2nm,0.3s,baz=310,slow=11,SNR=7.5							
ANMO				LR		LR	13 29 34.4	
	comp=Z,86nm,19.3s,baz=285,slow=40							
YKA	**Yellowknife Ar**	**20.63**	**15**	P		**P**	**13 22 49.0**	**-0.4**
YKA	**Yellowknife Ar**	**20.63**	**15**	P		**P**	**13 22 49.0**	**-0.4**
	1.0nm,0.7s,baz=204,slow=11,SNR=10							
ECSD	**EROS Data Cent**	**21.53**	**78**	P		**P**	**13 22 58.4**	**-0.9**
	baz=279							
AGMN	**Agassiz Nation**	**21.81**	**66**	P		**P**	**13 23 02.8**	**+0.5**
	baz=268							
ULM	**Lac du Bonnet**	**21.97**	**60**	P		**P**	**13 23 03.5**	**-0.3**
	2.8nm,0.7s,baz=267,slow=8.5,SNR=6.4							
ULM				LR		LR	13 31 32.7	
	comp=Z,75nm,18.7s,baz=306,slow=37							
LPIG	**La Paz**	**23.07**	**140**	LR		LR	13 32 00.6	
	comp=Z,66nm,21.4s,baz=325,slow=36							
EYMN	**Ely**	**24.73**	**67**	P		**P**	**13 23 31.2**	**-0.3**
	baz=272							
L39A	**Vinton**	**25.17**	**80**	P		**P**	**13 23 35.3**	**-0.1**
	baz=284							
G39A	**Holcombe**	**25.17**	**73**	P		**P**	**13 23 35.9**	**+0.5**
	baz=278							
INK	**Inuvik**	**25.58**	**354**	P		**P**	**13 23 37.8**	**-1.0**
	0.9nm,0.9s,baz=168,slow=9.3,SNR=4.0							
INK				LR		LR	13 32 44.9	
	comp=Z,83nm,18.4s,baz=176,slow=34							
C40A	**Isle Royale Na**	**26.31**	**66**	P		**P**	**13 23 44.5**	**-1.2**
	baz=273							
PETK	**Petropavlovsk-**	**49.47**	**310**	P		P	13 27 03.8	+3.6
	1.4nm,0.6s,baz=76,slow=12,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**59.98**	**270**	T		T	14 32 56.5	
	baz=51,slow=75,SNR=72							
H11N2	**WAKE ISLAND Hy**	**59.98**	**270**	T		T	14 32 50.4	
	baz=51,slow=75,SNR=61							
H11N1	**WAKE ISLAND Hy**	**60.00**	**270**	T		T	14 32 47.9	
	baz=51,slow=75,SNR=53							
H11S1	**WAKE ISLAND Hy**	**60.90**	**269**	T		T	14 34 03.8	
	baz=50,slow=75,SNR=290							
H11S2	**WAKE ISLAND Hy**	**60.90**	**269**	T		T	14 34 08.6	
	baz=50,slow=75,SNR=135							
H11S3	**WAKE ISLAND Hy**	**60.91**	**269**	T		T	14 34 05.1	
	baz=50,slow=75,SNR=234							
ASAJ	**Asahikawa**	**62.49**	**306**	LR		LR	13 54 44.4	
	comp=Z,33nm,18.5s,baz=152,slow=35							

ISCJB ***06*** *13:20:55.2±0.6, 44°.05N±0°.06×146°.96E±0°.09, h94km±4km, mb3.5/10, Error ellipse: s-maj=13.1km s-min=6.0km az=135.2*

MOS ***06*** *13:20:55.6±1.5, 44°.11N×146°.89E, h98km, mb4.0/5, Error ellipse: s-maj=14.6km s-min=11.4km az=99.1*

JMA ***06*** *13:20:56.7±0.2, 43°.81N×147°.03E, h75km±4km, M3.4*

SKHL ***06*** *13:20:56.5±0.3, 44°.07N×146°.89E, h95km±2km, mb4.3/6, msh5.4/4*

IDC ***06*** *13:20:58.9±3.6, 43°.95N×147°.02E, h110km±34km, mb3.1/6, mb1 3.3/7, mb1mx3.0/50, mbtmp3.4/7, Error ellipse: s-maj=34.5km s-min=20.0km az=131.0*

ISC 06 13:20:55.2±1.0, 44°.01N±0°.06×147°.07E±0°.06, h81km±8km, n48, σ1°58/58, mb3.5/10, 3C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.87**	**272**	*c* iPN	**Pn**	**13 21 13.3**	**+0.5**
YUK				*i* S	**Sn**	**13 21 25.8**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.87**	**272**	*i* P	**Pn**	**13 21 13.0**	**+0.2**
YUK				AMB	AMB	13 21 13.0	
	50nm,0.3s						
YUK				AMB	AMB	13 21 13.0	
	160nm,0.3s						
YUK				*i* S	**Sn**	**13 21 25.7**	**-0.1**
YUK				A	A	13 21 26.2	
	340nm,0.2s						
YUK				A	A	13 21 26.2	
	290nm,0.2s						
LAGR	**Lagunnoye**	**0.93**	**274**	⇑*i* PN	**Pn**	**13 21 14.2**	**+0.8**
LAGR				*i* S	**Sn**	**13 21 27.3**	**+0.3**
LAGR				pmax	pmax		
	comp=N,159nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,414nm,0.1s						
LAGR				smax	smax		
	comp=N,3μm,0.2s						
LAGR				smax	smax		
	comp=E,3μm,0.2s						
LAGR	**Lagunnoye**	**0.93**	**274**	*i* P	**Pn**	**13 21 14.0**	**+0.6**
LAGR				AMB	AMB	13 21 15.0	
	comp=E,20nm,0.3s						
LAGR				AMB	AMB	13 21 15.0	
	comp=E,140nm,0.3s						
LAGR				*i* S	**Sn**	**13 21 27.0**	**0.0**
LAGR				A	A	13 21 27.0	
	comp=E,330nm,0.2s						
LAGR				A	A	13 21 27.0	
	comp=E,270nm,0.2s						
GRPR	**Tuman**	**0.94**	**270**	⇑*i* PN	**Pn**	**13 21 14.0**	**+0.5**
GRPR				*i* S	**Sn**	**13 21 27.2**	**0.0**
GRPR				pmax	pmax		
	comp=Z,283nm,0.1s						
GRPR				smax	smax		
	comp=N,2μm,0.1s						
GRPR				smax	smax		
	comp=E,2μm,0.1s						
GRPR	**Tuman**	**0.94**	**270**	*i* P	**Pn**	**13 21 14.0**	**+0.5**
GRPR				AMB	AMB	13 21 15.0	
	comp=E,130nm,0.2s						
GRPR				*i* S	**Sn**	**13 21 27.0**	**-0.2**
GRPR				A	A	13 21 28.0	
	comp=E,550nm,0.2s						
GRPR				A	A	13 21 28.0	
	comp=E,460nm,0.2s						
NEM2	**Nemuro 2**	**1.16**	**237**	P	**Pn**	**13 21 16.0**	**-0.2**
NEM2				*e*S	**Sn**	**13 21 30.6**	**-1.3**
KUR	**Kuril'sk**	**1.35**	**25**	*d* iPN	**Pn**	**13 21 20.1**	**+1.4**
KUR	**Kuril'sk**	**1.35**	**25**	*i* P	**Pn**	**13 21 20.0**	**+1.4**
KUR				AMB	AMB	13 21 20.0	
	comp=E,80nm,0.3s						
KUR				*i* S	**Sn**	**13 21 37.6**	**+1.3**
KUR				A	A	13 21 39.8	
	comp=E,610nm,0.3s						
KUR				A	A	13 21 39.8	
	comp=E,520nm,0.3s						
JRA	**Rausu**	**1.41**	**268**	P	**Pn**	**13 21 20.7**	**+1.4**
JRA				*e*S	**Sn**	**13 21 38.5**	**+1.0**
JKHN	**Kushirohamanak**	**1.67**	**237**	P	**Pn**	**13 21 22.9**	**+0.2**
JNK	**Nakash**	**1.75**	**257**	P	**Pn**	**13 21 24.5**	**+0.7**
JNK				*e*S	**Sn**	**13 21 45.2**	**-0.4**
JAK	**Akkeshi**	**2.00**	**241**	P	**Pn**	**13 21 27.2**	**+0.1**
JAK				*e*S	**Sn**	**13 21 50.0**	**-1.4**
JTKR	**Abashiri--Toko**	**2.28**	**270**	P	**Pn**	**13 21 32.2**	**+1.4**
JAR	**Ashorobuto**	**2.50**	**255**	P	**Pn**	**13 21 35.3**	**+1.5**
JAR				*e*S	**Sn**	**13 22 04.0**	**+0.7**
JOB	**Onbets**	**2.60**	**246**	P	**Pn**	**13 21 36.1**	**+1.0**
JMP	**Maruseppu**	**2.68**	**271**	P	**Pn**	**13 21 37.9**	**+1.7**
JCH	**Churui**	**3.04**	**244**	P	**Pn**	**13 21 41.7**	**+0.6**
JCH				*e*S	**Sn**	**13 22 15.3**	**-1.2**
JKK2	**Kamakawa 2**	**3.13**	**269**	P	**Pn**	**13 21 44.3**	**+2.1**
ASAJ	**Asahikawa**	**3.23**	**274**	P	**Pn**	**13 21 46.7**	**+3.1**
ASAJ	**Asahikawa**	**3.23**	**274**	P	**Pn**	**13 21 46.1**	**+2.5**
	comp=E,2.1nm,0.3s,baz=99,slow=7.9,SNR=7.8						
ASAJ				S	**Sn**	**13 22 25.9**	**+5.0**
	comp=E,0.4nm,0.3s,baz=115,slow=19,SNR=2.7						
ERM	**Erimo**	**3.49**	**237**	*i* PN	**Pn**	**13 21 49.4**	**+2.2**
JNBK	**Urakawa-nobuka**	**3.60**	**243**	P	**Pn**	**13 21 49.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**4.23**	**316**	*e*PN	**Pn**	**13 21 59.7**	**+2.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.23**	**316**	*e*P	**Pn**	**13 21 59.7**	**+2.5**
YSS				AMB	AMB	13 22 00.3	
	comp=Z,10.0nm,0.6s						
TYV	**Tymovskoe**	**7.49**	**338**	*e*PN	**Pn**	**13 22 39.9**	**-1.6**
TYV				*e*S	**Sn**	**13 24 02.1**	**-2.7**
TYV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TYV				smax	smax		
	comp=E,4.0nm,1.5s						
TYV	**Tymovskoe**	**7.49**	**338**	*e*P	**Pn**	**13 22 39.9**	**-1.6**
TYV				AMB	AMB	13 22 40.4	
	comp=E,6.0nm,0.9s						
TYV				*e*S	**Sn**	**13 24 02.1**	**-2.7**
TYV				A	A	13 24 05.3	
	comp=E,40nm,1.0s						
KLR	**Kul'dur**	**11.76**	**302**	*e*PN	**Pn**	**13 23 38.2**	**-1.5**
KLR	**Kul'dur**	**11.76**	**302**	*e*P	**Pn**	**13 23 38.2**	**-1.5**
TIK	**Tiksi**	**29.09**	**348**	*e*P	**P**	**13 26 46.0**	**-1.6**
TIXI	**Tiksi**	**29.10**	**348**	*e*P	**P**	**13 26 46.0**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s						
H11N2	**WAKE ISLAND Hy**	**29.33**	**139**	T	T	13 57 42.3	
	baz=330,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**29.34**	**139**	T	T	13 57 44.1	
	baz=330,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**29.35**	**139**	T	T	13 57 49.8	
	baz=330,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**30.30**	**141**	T	T	13 58 58.0	
	baz=332,slow=76,SNR=64						
H11S3	**WAKE ISLAND Hy**	**30.30**	**141**	T	T	13 58 58.6	
	baz=332,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy**	**30.32**	**141**	T	T	13 58 59.5	
	baz=332,slow=76,SNR=43						
ILAR	**Eielson Array**	**41.32**	**36**	P	**P**	**13 28 34.0**	**+1.6**
ILAR	**Eielson Array**	**41.32**	**36**	P	**P**	**13 28 34.0**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=270,slow=6.2,SNR=4.5						
MKAR	**Makanchi Array**	**44.42**	**297**	P	**P**	**13 28 58.0**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=72,slow=7.7,SNR=2.9						
KURK	**Kurchatov**	**45.34**	**304**	*e*P	**P**	**13 29 03.0**	**-1.9**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
INK	**Inuvik**	**46.21**	**30**	P	**P**	**13 29 12.3**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=280,slow=5.6,SNR=9.1						
AAK	**Ala-Archa**	**51.20**	**295**	*e*P	**P**	**13 29 47.7**	**-2.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
YKA	**Yellowknife Ar**	**55.62**	**34**	P	**P**	**13 30 23.3**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=303,slow=7.1,SNR=3.7						
WRA	**Warramunga Arr**	**64.69**	**193**	P	**P**	**13 31 24.8**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=7.1,slow=7.3,SNR=3.0						
CLL	**Collm**	**77.06**	**332**	*e*P	**P**	**13 32 39.0**	**-0.2**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CLL	**Collm**	**77.06**	**332**	*e*P	**P**	**13 32 39.0**	**-0.2**
	comp=Z,4.0nm,0.6s						
TXAR	**Lajitas Array**	**82.56**	**56**	P	**P**	**13 33 10.4**	**+1.0**
	comp=Z,0.1nm,0.6s,baz=316,slow=3.8,SNR=2.5						

DDA ***06*** *13:27:49.3, 39°.77N×32°.65E, h7km±2km, ML2.5*

ISK 06 13:27:47.3, 39°.66N×32°.61E, h5km, ML1.9/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.25**	**35**	PG	Pg	13 27 52.9	+0.7
ANTO				SG	Sg	13 27 56.9	+1.4
LOD	**Lodumlu**	**0.25**	**28**	PG	Pg	13 27 52.9	+0.6
LOD				SG	Sg	13 27 57.0	+1.3
KKUL	**Konya-Kulu**	**0.55**	**154**	IAML_P			
	comp=Z,338nm,0.3s						
KKUL				*i* P	Pn	13 28 01.9	0.0
KKUL				*i* S	Sn	13 28 12.4	+0.9
CMDR	**Camlidere-ANKA**	**0.83**	**353**	IAML_P			
	comp=Z,775nm,0.3s						
CMDR				*i* P	Pg	13 28 02.7	-0.7
CMDR				*i* S	Sg	13 28 14.6	+0.4
AUSIV	**SIVRIHISAR**	**0.86**	**255**	PG	Pg	13 28 04.2	+0.5
SVRH	**Sivrihisar-ESK**	**0.87**	**256**	PG	Pb	13 28 05.0	+0.1
AUMIH	**MIHALICIK**	**0.89**	**284**	PG	Pb	13 28 04.9	-0.5
AUMIH	**MIHALICIK**	**0.89**	**284**	*e*P	Pg	13 28 02.8	-1.6
AUMIH				*i* S	Sn	13 28 19.4	-0.6
KIBS	**BOLU**	**0.95**	**323**	IAML_P			
	comp=Z,510nm,0.2s						
KIBS				*e*P	Pn	13 28 08.6	+1.1
KIBS				*i* S	Sn	13 28 24.4	+2.8
ELDT	**Eldivan**	**1.04**	**37**	*i* P	Pg	13 28 07.1	-0.1
ELDT				*i* S	Sn	13 28 23.8	+0.2
DELI	**KIRIKKALE**	**1.06**	**71**	IAML_P			
	comp=Z,607nm,0.2s						
DELI				*i* P	Pn	13 28 09.5	+0.5
DELI				*i* S	Sn	13 28 25.1	+0.9
KIRS	**Kırehir-Merke**	**1.14**	**117**	IAML_P			
	comp=Z,322nm,0.2s						
KIRS				*i* P	Pn	13 28 12.3	+2.2
KIRS				*i* S	Sn	13 28 28.2	+2.0
YAYX	**Yaylak**	**1.18**	**127**	PN	Pb	13 28 10.3	0.0
BCAM	**Yenicaga**	**1.22**	**340**	IAML_P			
	comp=Z,486nm,0.2s						
BCAM				*e*P	Pn	13 28 11.4	+0.2
BCAM				*i* S	Sn	13 28 31.1	+2.9
CIFT	**Cifteler, Eski**	**1.23**	**256**	PN	Pn	13 28 11.3	0.0
CDAG	**Cicekdag**	**1.36**	**91**	IAML_P			
	comp=Z,366nm,0.2s						
CDAG				*i* P	Pg	13 28 15.0	+1.6
CDAG				*i* S	Sn	13 28 35.0	+3.4
CORM	**Corum**	**1.64**	**71**	PN	Pb	13 28 17.9	-0.2
KHAL	**Karahalli**	**2.75**	**243**	*i* P	Pb	13 28 38.2	+1.2
KHAL				*i* S	Pg	13 28 42.5	+2.5
USAK	**Uak-Merkez**	**2.95**	**252**	*i* P	Pn	13 28 35.9	+1.1
USAK				*i* S	Pg	13 28 41.8	-2.0
MANT	**Manisa**	**3.36**	**251**	IAML_P			
	comp=Z,1μm,0.1s						
MANT				*i* P	Pn	13 28 41.3	+0.6
MANT				*i* S	Pg	13 28 49.0	-2.8

MAN 06 13:29:02.5, 10°.12N×125°.95E, h89km, mb4.1, ML2.9, MS2.5, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.57**	**234**	⇓*i* P	Pn	13 29 22.5	+4.8
SCPH				*i* S	Sn	13 29 32.3	+3.2
MSLP	**Maasin**	**1.08**	**271**	*e*P	Pn	13 29 23.8	+0.7
MSLP				*e*S	Sn	13 29 39.2	+0.8
BESP	**Borongan**	**1.56**	**341**	*e*P	Pn	13 29 29.3	+0.3
BESP				*e*S	Sn	13 29 49.8	+0.9
OCLP	**Ormoc**	**1.61**	**305**	*e*P	Pn	13 29 30.9	+1.3
BUKP	**Musuan**	**2.40**	**202**	*e*P	Pn	13 29 40.8	+0.7
BUKP				*e*S	Sn	13 30 01.5	-7.2
CNP	**Catarman**	**2.69**	**332**	*e*P	Pn	13 29 44.9	+1.0
CNP				*e*S	Sn	13 30 16.7	+1.0

IDC ***06*** *13:34:20.2±1.8, 9°.42S×107°.51E, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.6/44, mbtmp3.8/7, ML3.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/42, Error ellipse: s-maj=63.9km s-min=18.7km az=50.0*

ISCJB ***06*** *13:34:22.0±0.6, 9°.31S±0°.08×107°.74E±0°.07, h23km, mb3.8/7, Error ellipse: s-maj=12.3km s-min=9.7km az=35.0*

NEIC ***06*** *13:34:23.5±3.3, 9°.30S×107°.73E, h19km±21km, mb4.1/2, Error ellipse: s-maj=10.7km s-min=8.2km az=222.0*

ISC 06 13:34:23.9±0.8, 9°.32S±0°.07×107°.76E±0°.07, h23km, n22, σ0°82/20, mb4.0/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.75**	**2**	*e*Pn	**Pn**	**13 34 52.2**	**-0.8**
XMIS	**Christmas Isla**	**2.38**	**241**	*e*Pn	**Pn**	**13 35 01.0**	**-0.5**
LEM	**Lembang**	**2.48**	**357**	Pn	**Pn**	**13 35 04.8**	**+1.7**
	12nm,0.3s,baz=159,slow=23,SNR=6.0						
LEM				Sn	**Sb**	**13 35 36.7**	**-1.5**
	10nm,0.3s,baz=315,slow=19,SNR=4.1						
LEM				LR	LR	13 36 32.1	
	comp=Z,232nm,19.4s,baz=91,slow=51						
UGM	**Wanagama**	**3.07**	**63**	*e*Pn	**Pn**	**13 35 11.1**	**0.0**
JAGI	**Jajag, Banyuwa**	**6.37**	**83**	*e*Pn	**Pn**	**13 35 55.2**	**-1.3**
BATI	**Baumata**	**15.70**	**95**	Pn	**P**	**13 38 08.2**	**+0.4**
	3.5nm,0.3s,baz=7.3,slow=5.7,SNR=9.1						
FITZ	**Fitzroy Crossi**	**19.42**	**119**	P	**Pn**	**13 38 50.5**	**+0.5**
	0.0nm,0.3s,baz=304,slow=11,SNR=2.0						
WR1	**Warramunga Arr**	**27.76**	**115**	*e*P	**P**	**13 40 11.9**	**+0.7**
WRA	**Warramunga Arr**	**27.76**	**115**	P	**P**	**13 40 11.9**	**+0.7**
	0.4nm,0.8s,baz=288,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**28.77**	**123**	P	**P**	**13 40 20.9**	**+0.7**
	0.5nm,1.0s,baz=306,slow=10,SNR=4.2						
H08S2	**Diego Garcia H**	**34.91**	**270**	T	T	14 18 11.4	
	baz=94,slow=74,SNR=4.6						
H08S3	**Diego Garcia H**	**34.92**	**270**	T	T	14 18 14.6	
	baz=94,slow=74,SNR=4.0						
H08S1	**Diego Carcia H**	**34.93**	**270**	T	T	14 18 12.1	
	baz=94,slow=74,SNR=3.5						
SONA0	**Songino Array**	**56.92**	**359**	*e*P	**P**	**13 44 07.7**	**+0.4**
SONM	**Songino Array**	**56.92**	**359**	P	**P**	**13 44 07.7**	**+0.4**
	0.5nm,0.4s,baz=168,slow=7.4,SNR=3.1						
MK31	**Makanchi Array**	**60.31**	**340**	*e*P	**P**	**13 44 30.1**	**-0.8**
	1.6nm,1.0s						
MK32	**Makanchi Array**	**60.31

KURK	Kurchatov	58.49	8	eP	P	13 57 53.7	0.0
	2.9nm,0.8s						
ZALV	Zalesovo Beam	62.62	11	P	P	13 58 21.0	-0.8
	0.4nm,0.3s,baz=177,slow=5.9,SNR=4.2						
ZALV				LR	LR	14 23 22.7	
	comp=Z,51nm,20.5s,baz=250,slow=34						
ZAA1	Zalesovo Array	62.62	11	eP	P	13 58 21.0	-0.8
SONA0	Songino Array	64.41	28	eP	P	13 58 35.3	+1.3
SONM	Songino Array	64.41	28	eP	P	13 58 34.8	+0.8
SONM	Songino Array	64.41	28	P	P	13 58 35.3	+1.3
	1.5nm,0.7s,baz=223,slow=5.4,SNR=8.2						
SONM				LR	LR	14 26 19.8	
	comp=Z,55nm,20.7s,baz=244,slow=36						
ASAR	Alice Springs	64.86	113	eP	P	13 58 37.6	+0.3
ASAR	Alice Springs	64.86	113	P	P	13 58 38.5	+1.1
	2.1nm,1.0s,baz=277,slow=5.9,SNR=14						
AS31	Alice Springs	64.86	113	eP	P	13 58 37.7	+0.4
	1.3nm,1.3s						
WR1	Warramunga Arr	65.13	109	eP	P	13 58 40.2	+1.1
WRA	Warramunga Arr	65.13	109	P	P	13 58 40.2	+1.1
	3.8nm,1.0s,baz=282,slow=6.0,SNR=14						
AKASG	Malin Array Be	66.87	334	P	P	13 58 48.9	-0.7
	0.1nm,0.2s,baz=142,slow=5.3,SNR=4.6						
AKBB	Malin Array Si	66.87	334	eP	P	13 58 48.8	-0.9
	12nm,1.8s						
KSRS	Korea Array	71.24	47	LR	LR	14 30 42.6	
	comp=Z,67nm,19.8s,baz=264,slow=36						
NRIK	Noril'sk	77.64	7	LR	LR	14 34 28.9	
	comp=Z,37nm,18.5s,baz=193,slow=36						
MJAR	Matsushiro Arr	78.56	51	LR	LR	14 33 24.0	
	comp=Z,10nm,21.9s,baz=55,slow=35						
PETK	Petropavlovsk-	95.48	37	LR	LR	14 49 01.8	
	comp=Z,25nm,18.2s,baz=261,slow=38						
YKA	Yellowknife Ar	124.89	2	ePKPdf	PKPdf	14 06 57.0	-0.4
YKA	Yellowknife Ar	124.89	2	PKP	PKPdf	14 06 56.9	-0.5
	0.6nm,0.8s,baz=354,slow=2.4,SNR=9.6						
YKB5	Yellowknife Ar	124.89	2	ePKPdf	PKPdf	14 06 56.9	-0.5
PDAR	Pinedale Array	144.63	357	PKP	PKPdf	14 07 34.6	-0.4
	0.3nm,0.6s,baz=225,slow=1.9,SNR=4.3						
WDC	Whiskeytown Da	145.50	15	ePKPdf	PKPab	14 07 36.9	+0.4
SMCO	Snowmass	147.98	353	ePKPbc	PKPbc	14 07 43.5	-0.6
NV01	Mina Array Sit	148.46	10	ePKPbc	PKiKP	14 07 46.5	-0.3
NVAR	Mina Array Bea	148.46	10	ePKPbc	PKiKP	14 07 46.3	-0.4
NVAR	Mina Array Bea	148.46	10	PKPbc	PKiKP	14 07 46.5	-0.3
	3.0nm,1.0s,baz=302,slow=1.0,SNR=12						
PV12	Saucer Basin,	149.01	355	ePKPbc	PKiKP	14 07 47.3	-0.6
PV03	Paradox Valley	149.08	355	ePKPbc	PKPbc	14 07 46.8	+0.1
PV13	Radium Mtn., P	149.17	355	ePKPbc	PKPbc	14 07 47.4	+0.4
WMOK	Wichita Mounta	150.19	338	ePKPbc	PKPbc	14 07 49.4	+0.1
TXAR	Lajitas Array	156.79	342	PKPab	PKPab	14 08 23.8	+0.5
	0.4nm,0.8s,baz=15,slow=3.7,SNR=4.7						

MEX 06 13:49:05.4±0.4, 16°.77N×94°.91W, h106km±3km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.32	4	eP	Pn	13 49 19.7	-1.1
CMIG				i S	Sn	13 49 30.3	-2.1
HUIG	Huatulco	1.52	229	eP	Pn	13 49 31.0	-1.2
HUIG				eS	Sn	13 49 50.9	-1.7
TGIG		1.71	89	i P	Pn	13 49 33.4	-1.3
TGIG				i S	Sn	13 49 54.6	-2.2
PCIG		1.94	123	eP	Pn	13 49 36.1	-1.3
PCIG				i S	Sn	13 50 00.5	-1.3
PNIG	Pinotepa	3.11	264	eP	Pn	13 49 51.6	-1.2
PNIG				i S	Sn	13 50 27.3	-2.1

IDC 06 14:04:20.1±59.0, 16°.84S×179°.33W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, MS3.6/3, Ms1 3.6/3, ms1mx3.0/22, Error ellipse: s-maj=1069.0km s-min=152.9km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.39	240	P	P	14 11 44.1	+0.8
	0.5nm,0.3s,baz=93,slow=11,SNR=6.1						
WRA	Warramunga Arr	43.97	259	P	P	14 12 28.7	-0.8
	0.4nm,0.9s,baz=96,slow=7.7,SNR=7.6						
WRA				LR	LR	14 30 33.6	
	comp=Z,77nm,18.6s,baz=150,slow=36						
ASAR	Alice Springs	44.25	253	P	P	14 12 31.4	-0.3
	2.2nm,0.6s,baz=89,slow=7.8,SNR=73						
YBH	Yreka Blue Hor	78.26	40	LR	LR	14 46 07.1	
	comp=Z,20nm,19.1s,baz=340,slow=32						
LPIG	La Paz	78.67	60	LR	LR	14 44 08.5	
	comp=Z,34nm,18.1s,baz=13,slow=30						

*IDC **06** 14:12:28.0±2.2, 44°.66N×112°.60W, h0km, mb1 2.9/2, mb1mx2.9/48, mbtmp2.5/2, ML3.1/2, Error ellipse: s-maj=35.3km s-min=16.1km az=42.0*
*ISCJB **06** 14:12:28.6±0.3, 44°.61N±0°.03×112°.75W±0°.04, h10km, Error ellipse: s-maj=5.0km s-min=4.1km az=25.5*
*NEIC **06** 14:12:28.0±0.0, 44°.57N×112°.73W, h11km, ML2.8(BUT), After BUT.*

ISC 06 14:12:28.3±0.9, 44°.58N±0°.04×112°.69W±0°.03, h10km, n34, σ1°.15/36, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCMT	McKenzie Canyo	0.27	335	ePg	Pg	14 12 34.2	+0.4
DLMT	Dillon	0.78	5	ePg	Pg	14 12 43.6	+0.2
QLMT	Earthquake Lak	0.93	74	ePg	Pg	14 12 46.4	+0.1
BOZ	Bozeman (W)	1.26	36	ePn	Pn	14 12 52.0	-0.1
IMW	Indian Meadow	1.44	118	ePn	Pn	14 12 54.8	+0.2
FLWY	Flagg Ranch	1.52	109	ePn	Pn	14 12 56.0	+0.3
H17A	Grant Village	1.53	96	ePn	Pn	14 12 56.3	+0.4
FXWY	Fox Creek	1.53	128	ePn	Pb	14 12 56.2	-0.6
HLID	Hailey	1.61	231	ePn	Pb	14 12 57.5	-0.6
HLID				eSn	Sb	14 13 17.4	-1.1
MOOW	Moose Ponds	1.63	120	ePn	Pb	14 12 58.1	-0.4
MOOW				eSn	Sb	14 13 19.6	+0.4
LKWY	Lake	1.64	90	ePn	Pb	14 12 59.0	+0.3
TPAW	Teton Pass	1.67	130	ePn	Pb	14 12 58.5	-0.7
LOHW	Long Hollow	1.79	122	ePn	Pb	14 13 00.7	-0.6
SNOW	Snow King Moun	1.79	128	ePn	Pb	14 13 01.2	-0.1
REDW	Red Top Meadow	1.81	132	ePn	Pb	14 13 01.1	-0.4
AHID	Auburn Hatcher	2.15	147	ePn	Pb	14 13 05.8	-1.6
HRY	Holter Researc	2.21	16	ePn	Pn	14 13 06.0	+0.9
MSO	Missoula	2.41	339	ePn	Pn	14 13 09.0	+1.2
GCMT	Greycliff	2.46	59	ePn	Pb	14 13 11.1	-1.5
RLMT	Red Lodge	2.50	76	ePn	Pb	14 13 12.0	-1.3
PDAR	Pinedale Array	2.91	128	ePn	Pn	14 13 17.0	+2.2
PDAR				Lg	Lg	14 13 58.5	
PDAR	Pinedale Array	2.91	128	Pn	Pb	14 13 19.2	-1.1
	0.7nm,0.3s,baz=315,slow=13,SNR=12						
PDAR				Lg	Lg	14 13 58.5	
	0.9nm,0.3s,baz=315,slow=32,SNR=8.7						
HWUT	Hardware Ranch	3.09	164	ePn	Pn	14 13 19.9	+2.7
BMO	Blue Mountains	3.30	276	ePn	Pn	14 13 20.2	+0.2
F10A	Beach Ranch, E	3.49	295	ePn	Pn	14 13 23.8	+1.1
EGMT	Eagleton	4.00	30	ePn	Pn	14 13 31.2	+1.5
ELK	Elko	4.27	207	ePn	Pn	14 13 34.4	+0.8
J08A	Circle Bar Ran	4.35	256	ePn	Pn	14 13 35.8	+1.3
G08A	Pilot Rock	4.51	281	ePn	Pn	14 13 37.8	+1.2
WALA	Waterton Lakes	4.55	350	ePn	Pn	14 13 39.2	+1.9
NEW	Newport	4.79	322	ePn	Pn	14 13 41.1	+0.7
I07A	Izee	4.91	267	ePn	Pn	14 13 44.1	+1.8
NVAR	Mina Array Bea	7.45	216	Pg	Pb	14 14 36.4	-1.3
	0.1nm,0.3s,baz=43,slow=15,SNR=2.9						
NVAR				Lg	Lg	14 16 21.0	
	0.1nm,0.3s,baz=32,slow=28,SNR=2.4						
YKA	Yellowknife Ar	17.98	357	P	Pn	14 16 36.7	-1.3
	0.0nm,0.3s,baz=176,slow=10,SNR=3.0						

IDC 06 14:32:35.7±2.1, 16°.40S×178°.46W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/26, mbtmp3.7/5, Error ellipse: s-maj=126.4km s-min=23.3km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.33	240	P	P	14 40 06.6	-0.3
	0.7nm,0.5s,baz=79,slow=10,SNR=5.0						
WRA	Warramunga Arr	44.88	258	P	P	14 40 52.9	+0.6
	0.3nm,0.5s,baz=92,slow=8.3,SNR=8.4						
ASAR	Alice Springs	45.17	253	P	P	14 40 54.1	-0.5
	2.8nm,0.6s,baz=88,slow=8.6,SNR=69						
NVAR	Mina Array Bea	78.38	44	P	P	14 44 38.9	+0.4
	0.2nm,0.6s,baz=220,slow=8.3,SNR=2.5						
ILAR	Eielson Array	84.44	13	P	P	14 45 09.2	-0.5
	0.2nm,0.5s,baz=224,slow=3.8,SNR=3.1						

*ISK **06** 14:36:40.5, 37°.32N×37°.12E, h8km, ML1.8/6*
*DDA **06** 14:36:40.3, 37°.29N×37°.12E, h7km±5km, ML2.6*
*ISCJB **06** 14:36:41.1±0.6, 37°.29N±0°.03×37°.11E±0°.04, h2km±8km, Error ellipse: s-maj=5.8km s-min=4.3km az=39.4*

ISC 06 14:36:40.9±0.9, 37°.31N±0°.03×37°.11E±0°.03, h11km±7km, n15, σ0°.56/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.15	149	PG	Pg	14 36 44.3	-0.1
HCB	Kahramanmara	0.17	284	IAML_P			
	comp=Z,10μm,0.2s						
HCB				i P	Pg	14 36 44.8	+0.2
HCB				i S	Sg	14 36 47.1	-0.1
KMRS	Kahramanmaras	0.26	320	PG	Pg	14 36 46.4	+0.1
KMRS				SG	Sg	14 36 50.1	+0.2
AYKD	Aykdinkavak	0.27	294	IAML_P			
	comp=Z,4μm,0.1s						
AYKD				i P	Pb	14 36 47.1	-0.7
AYKD				i S	Sg	14 36 50.4	+0.3
GZT	Gaziantep	0.36	82	IAML_P			
	comp=Z,2μm,0.1s						
GZT				i P	Pb	14 36 48.8	-0.7
GZT				i S	Sg	14 36 52.9	-0.1
KAMA	Osmaniye	0.38	252	IAML_P			
	comp=Z,2μm,0.1s						
KAMA				i P	Pg	14 36 48.1	-0.3
KAMA				i S	Sg	14 36 53.3	-0.1
KUZU	Kuzuini	0.53	183	IAML_P			
	comp=Z,1μm,0.2s						
KUZU				i P	Pb	14 36 52.4	+0.1
KUZU				i S	Sb	14 36 59.6	-0.4
ANDN	Andirin	0.67	294	IAML_P			
	comp=Z,315nm,0.1s						
ANDN				i P	Pg	14 36 52.4	-1.5
ANDN				i S	Sg	14 37 02.4	-0.3
ELBS	KAHRAMANMARAS	1.02	1	i P	Pn	14 37 01.7	+0.4
ELBS				i S	Sn	14 37 16.8	+1.2
KOZT	Kozan	1.04	280	PG	Pb	14 37 01.0	+0.1
AKCD	Akcadag	1.18	33	i P	Pn	14 37 04.0	+0.5
AKCD				i S	Sn	14 37 20.2	+0.6
TAHT	Tahtakopru-Hat	1.19	219	PN	Pn	14 37 03.8	+0.3
SURC	SANLIURFA_SURC	1.27	109	IAML_P			
	comp=Z,200nm,0.1s						
SURC				i P	Pg	14 37 04.8	-0.5
SURC				i S	Sn	14 37 22.1	+0.4
DARE	Darende-Malaty	1.30	13	PN	Pg	14 37 05.3	-0.5
URFA	Urfa	1.37	84	PN	Pb	14 37 06.4	-0.2

*ISCJB **06** 14:48:34.6±0.7, 7°.70S±0°.05×128°.48E±0°.07, h150km, mb3.7/2, Error ellipse: s-maj=10.1km s-min=6.3km az=8.7*
*IDC **06** 14:48:38.1±2.1, 7°.59S×128°.42E, h162km±23km, mb3.5/2, mb1 3.6/6, mb1mx3.3/36, mbtmp4.1/6, Error ellipse: s-maj=32.4km s-min=22.6km az=95.0*

ISC 06 14:48:36.5±0.9, 7.71S±0°.08×128°.5E±0°.1, h150km, n7, σ2°.65/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.37	242	P	Pn	14 49 56.7	+1.9
	23nm,0.3s,baz=104,slow=3.4,SNR=25						
BATI				S	Sn	14 50 54.5	-1.5
	12nm,0.3s,baz=132,slow=22,SNR=10						
SIJI	Sorong	7.34	22	P	Pn	14 50 21.9	+0.8
	3.0nm,0.3s,baz=218,slow=19,SNR=12						
SIJI				S	Sn	14 51 40.9	-2.5
	0.7nm,0.3s,baz=221,slow=19,SNR=4.6						
FITZ	Fitzroy Crossi	10.69	195	P	Pn	14 51 05.6	0.0
	1.7nm,0.3s,baz=11,slow=11,SNR=37						
FITZ				S	Sn	14 52 59.4	-4.5
	1.7nm,0.3s,baz=109,slow=20,SNR=5.1						
WRA	Warramunga Arr	13.42	156	P	Pn	14 51 42.2	+1.1
	0.7nm,0.3s,baz=334,slow=13,SNR=53						
WRA				S	Sn	14 54 04.9	-4.8
	2.2nm,0.3s,baz=330,slow=24,SNR=15						
ASAR	Alice Springs	16.69	162	P	Pn	14 52 25.5	+3.8
	0.5nm,0.3s,baz=342,slow=11,SNR=72						
ASAR				S	S	14 55 20.8	-6.7
	0.2nm,0.3s,baz=346,slow=26,SNR=3.6						
MKAR	Makanchi Array	68.01	328	P	P	14 59 19.3	-0.2
	0.5nm,0.4s,baz=122,slow=7.9,SNR=12						
ZALV	Zalesovo Beam	71.56	335	P	P	14 59 40.0	-1.1
	0.9nm,0.4s,baz=141,slow=7.4,SNR=4.8						

*ISK **06** 15:15:45.8, 37°.32N×37°.15E, h5km, ML3.2/12*
*DDA **06** 15:15:46.1, 37°.33N×37°.12E, h6km±1km, ML3.8*
*NSSC **06** 15:15:59.9±1.1, 29°.73N×35°.78E, h0km±999km, ML2.7*
*GII **06** 15:16:00.0±0.0, 37°.33N×37°.37E, h3km*

ISC 06 15:15:46.5±0.9, 37°.30N±0°.02×37°.14E±0°.02, h12km±6km, n36, σ1°.49/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.14	156	PG	Pg	15 15 49.9	-0.1
GAZ				SG	Sg	15 15 52.4	0.0
HCB	Kahramanmara	0.19	283	IAML_P			
	comp=Z,67μm,0.1s						
HCB				i P	Pg	15 15 50.9	+0.2
HCB				i S	Sg	15 15 52.5	-1.1
KMRS	Kahramanmaras	0.28	317	PG	Pg	15 15 51.5	-0.8
AYKD	Aykdinkavak	0.29	293	IAML_P			
	comp=Z,63μm,0.1s						
AYKD				i P	Pg	15 15 52.9	+0.4
AYKD				i S	Sg	15 15 56.3	-0.1
GZT	Gaziantep	0.34	81	IAML_P			
	comp=Z,30μm,0.2s						
GZT				i P	Pb	15 15 53.9	-0.8
GZT				i S	Sg	15 15 58.8	+0.6
KAMA	Osmaniye	0.39	253	IAML_P			
	comp=Z,41μm,0.2s						
KAMA				i P	Pg	15 15 54.3	0.0
KAMA				i S	Sg	15 15 58.0	-1.6
KUZU	Kuzuini	0.53	186	i P	Pb	15 15 58.1	+0.4
KUZU				i S	Sb	15 16 05.5	+0.2
ANDN	Andirin	0.69	294	IAML_P			
	comp=Z,18μm,0.2s						
ANDN				i P	Pg	15 15 59.5	-0.4
ANDN				i S	Sg	15 16 08.3	-0.8
ATAB	Bozova	0.94	79	i P	Pn	15 16 05.5	0.0
ATAB				i S	Sn	15 16 18.2	-0.7
ELBS	KAHRAMANMARAS	1.02	360	i P	Pn	15 16 06.7	-0.1
ELBS				i S	Sb	15 16 20.1	+0.5
KOZT	Kozan	1.06	280	PG	Pg	15 16 06.2	-0.7
SAIM	ADANA	1.08	309	IAML_P			
	comp=Z,16μm,0.2s						
SAIM				i P	Pg	15 16 06.3	-0.9
CEYT	Ceyhan	1.15	256	PN	Pn	15 16 08.6	+0.2
AKCD	Akcadag	1.17	32	i P	Pg	15 16 08.8	-0.3
TAHT	Tahtakopru-Hat	1.20	220	PN	Pn	15 16 09.1	0.0
TAHT				SN	Sn	15 16 26.7	+1.4
SURC	SANLIURFA_SURC	1.25	109	i P	Pg	15 16 10.8	+0.2
YURE	YUREGIR	1.29	249	PN	Pg	15 16 11.4	0.0
YURE	YUREGIR	1.29	249	i P	Pg	15 16 11.5	+0.1
DARE	Darende-Malaty	1.30	12	PN	Pg	15 16 11.2	-0.3
URFA	Urfa	1.35	84	PN	Pn	15 16 10.9	-0.3
CUGUR	Gurin_SVAS	1.43	4	i P	Pg	15 16 14.2	+0.3
KRTS	Karatas	1.59	243	PN	Pb	15 16 15.7	-0.1
KARA	Karaisali	1.66	269	PN	Pb	15 16 16.9	-0.2
BNN	Bunyan	1.85	327	PN	Pn	15 16 19.0	+0.7
SVRC	Sivrice-ELAZID	2.03	57	PN	Pn	15 16 20.9	+0.2
MERS	Mersin	2.14	259	PN	Pn	15 16 23.4	+1.3
DYBB	Diyarbakir	2.47	74	PN	Pn	15 16 27.8	+1.1
KIZK	Mersin	2.54	252	PN	Pn	15 16 29.4	+1.9
SVSK	Karacayir	2.62	358	PN	Pn	15 16 30.0	+1.4
QASN	Qassioun	3.83	191	eP	Pg	15 17 00.5	+0.7
QASN				eS	Sb	15 17 44.0	+3.7
QASN				AML	AML	15 17 54.0	
	comp=E,148nm,0.4s						
QASN				AML	AML	15 17 56.6	
	comp=N,50nm,0.7s						
TOTH	TOTAH	3.97	189	eP	Pb	15 16 58.3	+1.8
TOTH				eS	Sb	15 17 40.9	-3.6
TOTH				AML	AML	15 17 58.9	
	comp=E,37nm,0.5s						
TOTH				AML	AML	15 18 13.3	
	comp=N,24nm,0.6s						
BRBR	Barbar	4.00	194	eP	Pb	15 16 59.0	+1.9
BRBR				eS	Sb	15 17 40.7	-4.8
BRBR				AML	AML	15 17 53.9	
	comp=E,36nm,0.6s						
BRBR				AML	AML	15 18 04.6	
	comp=N,44nm,0.6s						
NATI	Neve Ativ	4.19	196	Pn	Pg	15 17 06.0	-0.8
NATI				Sn	Sg	15 17 57.1	-3.9
GEM	Giv'at Ha'Em	4.26	197	Pn	Pg	15 17 06.9	-1.1
KSDI	Kefar Szold	4.27	197	Pn	Pg	15 17 07.7	-0.7
HMDT	Nahal Hemdat	5.21	195	Pn	Pb	15 17 20.0	+2.5

IDC 06 15:20:56.0±1.7, 9°.41S×125°.27E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.4/29, mbtmp3.5/4, ML3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/18, Error ellipse: s-maj=37.9km s-min=26.7km az=68.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	1.77	243	Pn	Pn	15 21 28.0	0.0
	9.0nm,0.3s,baz=83,slow=3.8,SNR=11						
BATI				Sn	Sn	15 21 48.8	-2.4
	25nm,0.3s,baz=52,slow=20,SNR=10						
FITZ	Fitzroy Crossi	8.64	178	Pn	Pn	15 23 02.9	+0.4
	0.5nm,0.3s,baz=4.7,slow=11,SNR=20						
FITZ				Sn	Sn	15 24 31.6	-9.1
	0.3nm,0.3s,baz=317,slow=19,SNR=4.0						
WRA	Warramunga Arr	13.65	141	Pn	Pn	15 24 11.0	-0.1
	0.3nm,0.3s,baz=318,slow=15,SNR=21						
WRA				Sn	Sn	15 26 36.4	-7.2
	0.2nm,0.3s,baz=321,slow=24,SNR=6.1						
ASAR	Alice Springs	16.40	151	Pn	Pn	15 24 47.5	-0.4
	0.2nm,0.3s,baz=322,slow=11,SNR=23						
ASAR				Sn	Sn	15 27 41.9	-8.8
	0.1nm,0.3s,baz=311,slow=20,SNR=5.5						
NWAO	Narrogin (SRO)	24.55	196	LR	LR	15 37 38.2	
	comp=Z,40nm,20.1s,baz=326,slow=41						
MKAR	Makanchi Array	67.79	330	P	P	15 31 55.8	0.0
	0.2nm,0.6s,baz=126,slow=6.7,SNR=3.2						

*ISK **06** 15:32:55.6, 37°.32N×37°.13E, h7km, ML3.2/18*
*DDA **06** 15:32:55.9, 37°.32N×37°.12E, h8km±2km, ML3.9*
*ISCJB **06** 15:32:56.2±0.5, 37°.31N±0°.03×37°.12E±0°.03, h7km±4km, Error ellipse: s-maj=4.5km s-min=4.0km az=26.2*

ISC 06 15:32:56.1±0.9, 37°.32N±0°.03×37°.13E±0°.02, h9km±7km, n38, σ0°.62/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.16	158	PG	Pg	15 32 59.6	-0.1
GAZ				SG	Sg	15 33 02.3	+0.1
HCB	Kahramanmara	0.18	276	IAML_P			
	comp=Z,99μm,0.1s						
HCB				i P	Pg	15 33 00.4	+0.4
HCB				i S	Sg	15 33 02.0	-0.6
KMRS	Kahramanmaras	0.26	314	PG	Pg	15 33 01.2	-0.2
KMRS				SG	Sg	15 33 05.4	+0.5
AYKD	Aykdinkavak	0.28	289	IAML_P			
	comp=Z,85μm,0.1s						
AYKD				i P	Pb	15 33 02.5	-0.8
AYKD				i S	Sg	15 33 05.5	+0.1
GZT	Gaziantep	0.34	85	IAML_P			
	comp=Z,57μm,0.1s						
GZT				i P	Pg	15 33 03.4	+0.4
KAMA	Osmaniye	0.40	250	IAML_P			
	comp=Z,71μm,0.2s						
KAMA				i P	Pg	15 33 03.9	-0.1
KUZU	Kuzuini	0.55	185	IAML_P			
	comp=Z,61μm,0.3s						
KUZU				i P	Pb	15 33 07.5	-0.5
KUZU				i S	Sb	15 33 15.6	-0.3
ANDN	Andirin	0.68	292	i P	Pg	15 33 09.3	0.0
ATAB	Bozova	0.94	81	i P	Pb	15 33 14.9	+0.4
ATAB				i S	Sb	15 33 27.5	+0.4
ELBS	KAHRAMANMARAS	1.00	360	i P	Pn	15 33 16.3	-0.1
ELBS				i S	Sn	15 33 30.3	-0.4
KOZT	Kozan	1.05	279	PG	Pg	15 33 15.9	-0.4
SAIM	ADANA	1.06	308	IAML_P			
	comp=Z,15μm,0.2s						
SAIM				i P	Pn	15 33 16.9	-0.3
CEYT	Ceyhan	1.15	255	PN	Pn	15 33 18.0	-0.3
AKCD	Akcadag	1.15	33	IAML_P			
	comp=Z,15μm,0.1s						
AKCD				i P	Pn	15 33 18.7	+0.2
AKCD				i S	Sg	15 33 33.3	0.0
TAHT	Tahtakopru-Hat	1.21	219	PN	Pb	15 33 18.9	-0.3
SURC	SANLIURFA_SURC	1.26	110	IAML_P			
	comp=Z,3μm,0.1s						
SURC				i P	Pg	15 33 20.1	-0.3
DARE	Darende-Malaty	1.28	12	PN	Pg	15 33 20.9	+0.3
YURE	YUREGIR	1.30	248	PN	Pg	15 33 20.9	-0.2
YURE	YUREGIR	1.30	248	i P	Pg	15 33 21.8	+0.8
URFA	Urfa	1.35	85	PN	Pn	15 33 20.7	-0.5
CUGUR	Gurin_SVAS	1.40	4	i P	Pg	15 33 23.1	+0.1
SANL	SANLIURFA_Merk	1.49	95	i P	Pn	15 33 22.3	-0.7
KRTS	Karatas	1.59	243	PN	Pn	15 33 24.6	+0.2
YAHY	KAYSERI_Yahyal	1.60	299	IAML_P			
	comp=Z,2μm,0.2s						
YAHY				i P	Pb	15 33 25.5	-0.4
KARA	Karaisali	1.66	268	PN	Pn	15 33 25.8	+0.4
HEKM	Malatya_Hekimh	1.68	23	IAML_P			
	comp=Z,2μm,0.2s						
HEKM				i P	Pg	15 33 28.3	-0.1
BNN	Bunyan	1.83	327	PN	Pb	15 33 28.8	-1.1
ELZG	Elazig	1.88	51	i P	Pb	15 33 29.7	-0.9
SVRC	Sivrice-ELAZID	2.02	58	PN	Pn	15 33 31.0	+0.6
MERS	Mersin	2.14	258	PN	Pn	15 33 32.7	+0.7
DYBB	Diyarbakir	2.47	74	PN	Pn	15 33 37.3	+0.8
KIZK	Mersin	2.54	252	PN	Pn	15 33 38.3	+0.9
SVSK	Karacayir	2.59	358	PN	Pn	15 33 39.3	+1.2
MAZI	Mazidag	2.64	86	PN	Pn	15 33 39.4	+0.4
YOZ	Yozgat	2.71	329	PN	Pn	15 33 41.5

ELBS	KAHRAMANMARAS	0.99	1	*i* P		Pn	15 39 08.6 +0.6
KOZT	Kozan	1.04	279	PG		Pn	15 39 08.4 -0.1
CEYT	Ceyhan	1.14	254	PN		Pg	15 39 09.8 +0.1
TAHT	Tahtakopru-Hat	1.21	219	PN		Pg	15 39 11.2 +0.2
DARE	Darende-Malaty	1.27	13	PN		Pg	15 39 12.7 +0.5
YURE	YUREGIR	1.29	248	PN		Pg	15 39 12.8 +0.3
URFA	Urfa	1.36	85	PN		Pg	15 39 14.1 +0.3
SVRC	Sivrice-ELAZID	2.02	58	PN		Pb	15 39 23.5 -1.3

MEX 06 15:54:47.6±0.8, 18°.15N×103°.48W, h5km±161km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.19	42	*e*P	Pg	15 54 51.1	-0.3
MMIG				*i* S	Sg	15 54 53.9	-0.1
EZ5V		1.33	355	*e*P	Pn	15 55 09.7	-3.5
EZ5V				*i* S	Sg	15 55 26.5	-4.0
CJM	Chamela	2.00	313	*i* P	Pn	15 55 19.4	-2.7
CJM				*i* S	Sn	15 55 43.7	-3.8

BER 06 15:59:37.7±1.8, 58°.94N×9°.59E, h0km, ML1.4, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONO	Kongsberg	0.71	0	*e*P	Pg	15 59 49.9	-1.4
KONO				*e*S	Sg	15 59 58.8	-1.7
KONO				IAML		16 00 02.1	
	comp=Z,2.8nm,0.3s						
STRU	Stroemstad	0.83	83	*e*P	Pg	15 59 51.8	-1.8
STRU				*e*S	Sg	16 00 03.7	-0.6
NAO01	NORSAR Array S	2.02	18	*e*P	Pn	16 00 12.3	-0.7
NAO01				*e*S	Sn	16 00 36.1	-2.9
NAO01				IAML		16 00 38.1	
	comp=Z,3.7nm,0.3s						
NC602	NORSAR Array S	2.05	28	*e*P	Pn	16 00 11.1	-2.4
NC602				*e*S	Sn	16 00 36.0	-3.7
NC602				IAML		16 00 39.5	
	comp=Z,56nm,0.2s						
NBO00	NORSAR Array S	2.18	15	*e*P	Pn	16 00 13.4	-1.9
NBO00				*e*S	Sn	16 00 41.2	-1.8
NC204	NORSAR Array S	2.42	14	*e*P	Pn	16 00 19.0	+0.5
NC204				*e*S	Sn	16 00 46.9	-1.9
NC204				IAML		16 00 49.9	
	comp=Z,3.9nm,0.5s						

PRU 06 16:00:35.9±0.0, 51°.55N×16°.22E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPC	Upice	1.05	187	*e*PG	Pg	16 00 55.3	-0.7
UPC				*e*SG	Sg	16 01 09.1	-0.6
DPC	Dobruska-Polom	1.20	177	*e*PG	Pg	16 00 58.1	-0.8
DPC				*e*SG	Sg	16 01 13.9	-0.6
	comp=Z,2.6nm,0.7s						
KRLC	Kraliky	1.52	166	*e*PG	Pn	16 01 04.0	-0.4
KRLC				*e*SG	Sg	16 01 24.0	-0.7
BRG	Berggiesshubel	1.58	246	PG	Pn	16 01 04.3	-0.9
BRG				SG	Sn	16 01 25.3	-1.1
	5.6nm,0.4s						
NKC	Novy Kostel	2.73	243	*e*SG	Sg	16 02 03.0	-0.5
	comp=Z,4.1nm,0.4s						
KHC	Kasperske Hory	2.96	216	*e*SG	Sg	16 02 10.0	-0.8

IDC 06 16:04:41.0±2.8, 6°.51S×130°.29E, h104km±37km, mb3.0/1, mb1 3.1/5, mb1mx3.0/25, mbtmp3.4/5, Error ellipse: s-maj=71.8km s-min=21.7km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.69	10	P	Pn	16 06 03.5	+0.3
	2.0nm,0.3s,baz=189,slow=19,SNR=26						
SIJI				S	Sn	16 07 01.3	-6.0
	baz=127,slow=20						
FITZ	Fitzroy Crossi	12.37	201	P	Pn	16 07 33.1	-0.5
	0.2nm,0.3s,baz=30,slow=11,SNR=14						
FITZ				S	Sn	16 09 43.9	-5.8
	0.3nm,0.3s,baz=72,slow=20,SNR=5.9						
WRA	Warramunga Arr	13.92	164	P	Pn	16 07 52.8	-1.1
	0.1nm,0.3s,baz=348,slow=13,SNR=12						
WRA				S	Sn	16 10 18.8	-8.5
	0.4nm,0.3s,baz=349,slow=22,SNR=8.3						
ASAR	Alice Springs	17.41	169	P	Pn	16 08 38.8	+1.3
	0.0nm,0.3s,baz=343,slow=8.6,SNR=4.8						
ASAR				S	Sn	16 11 43.3	-8.1
	0.1nm,0.3s,baz=345,slow=23,SNR=3.8						
MKAR	Makanchi Array	67.98	327	P	P	16 15 28.9	-0.1
	0.1nm,0.4s,baz=115,slow=7.2,SNR=2.5						

MEX 06 16:15:05.4±0.6, 14°.52N×91°.88W, h85km±6km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.53	316	*e*P	Pn	16 15 18.2	-1.7
THIG				*i* S	Sn	16 15 29.2	-1.6
PCIG		1.75	312	*e*P	Pn	16 15 33.3	-0.8
PCIG				*e*S	Sn	16 15 54.1	-1.8
TGIG		2.54	332	*i* P	Pn	16 15 43.9	-0.8
TGIG				*i* S	Sn	16 16 13.5	-1.4
CMIG	Matias Romero	3.86	312	*i* P	Pn	16 16 02.4	-0.1
CMIG				*i* S	Sn	16 16 45.2	-1.5

*ISCJB **06** 16:34:53.9±0.5, 37°.33N±0°.04×37°.11E±0°.03, h4km±7km, Error ellipse: s-maj=6.2km s-min=4.4km az=14.4*
*DDA **06** 16:34:53.3, 37°.34N×37°.12E, h8km±1km, ML2.8*
*ISK **06** 16:34:53.4, 37°.31N×37°.11E, h5km, ML2.4/9*
ISC 06 16:34:53.8±1.0, 37°.32N±0°.03×37°.12E±0°.02, h8km±10km, n18, σ0°.56/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.17	153	PG	Pg	16 34 57.2	0.0
GAZ				SG	Sg	16 34 59.9	+0.3
HCB	Kahramanmara	0.17	278	*i* P	Pg	16 34 57.2	0.0
KMRS	Kahramanmaras	0.25	317	PG	Pg	16 34 58.8	0.0
AYKD	Aykdinkavak	0.26	291	IAML_P			
	comp=Z,12μm,0.2s						
AYKD				*i* P	Pg	16 34 59.0	0.0
AYKD				*i* S	Sg	16 35 02.6	+0.1
GZT	Gaziantep	0.36	84	*i* P	Pg	16 35 00.9	0.0
GZT				*i* S	Sg	16 35 05.3	-0.3
KAMA	Osmaniye	0.38	250	*i* P	Pg	16 35 01.6	+0.4
KAMA				*i* S	Sg	16 35 06.3	0.0
KUZU	Kuzuini	0.55	183	*i* P	Pb	16 35 05.4	-0.3
KUZU				*i* S	Sb	16 35 13.1	-0.6
ANDN	Andirin	0.67	293	IAML_P			
	comp=Z,2μm,0.2s						
ANDN				*i* P	Pg	16 35 06.6	0.0
ATAB	Bozova	0.95	81	*i* P	Pb	16 35 12.4	-0.1
ELBS	KAHRAMANMARAS	1.00	1	*i* P	Pn	16 35 14.8	+0.5
KOZT	Kozan	1.04	279	PG	Pb	16 35 13.6	-0.4
CEYT	Ceyhan	1.14	255	PN	Pb	16 35 15.4	-0.2
TAHT	Tahtakopru-Hat	1.20	219	PN	Pn	16 35 16.8	-0.1
SURC	SANLIURFA_SURC	1.28	110	*i* P	Pg	16 35 18.0	-0.2
DARE	Darende-Malaty	1.28	13	PN	Pg	16 35 18.5	+0.1
URFA	Urfa	1.36	84	PN	Pg	16 35 19.8	-0.1
SVRC	Sivrice-ELAZID	2.03	58	PN	Pb	16 35 29.8	-1.2
MAZI	Mazidag	2.66	86	PN	Pn	16 35 38.8	+1.8

*IDC **06** 16:35:36.5±2.5, 17°.69S×178°.86W, h516km±28km, mb3.5/11, mb1 3.7/12, mb1mx3.4/24, mbtmp4.3/12, Error ellipse: s-maj=21.6km s-min=15.6km az=129.0*
*ISCJB **06** 16:35:37.2±0.7, 17°.85±0°.1×178°.9W±0°.1, h539km, mb3.9/10, Error ellipse: s-maj=21.4km s-min=12.6km az=40.6*
ISC 06 16:35:38.3±0.8, 17°.7S±0°.2×178°.9W±0°.2, h539km, n15, σ1°.04/18, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.42	250	P	P	16 38 42.9	+0.8
	0.9nm,0.3s,baz=132,slow=21,SNR=8.3						
URZ	Urewera	20.77	189	P	P	16 39 40.3	-1.4
	5.6nm,0.6s,baz=38,slow=12,SNR=7.6						
RPZ	Rata Peaks	27.28	196	P	P	16 40 39.1	-0.4
	8.8nm,0.7s,baz=346,slow=5.4,SNR=3.4						
STKA	Stephens Creek	38.29	241	P	P	16 42 14.1	+1.2
	6.7nm,0.4s,baz=83,slow=7.7,SNR=51						
WRA	Warramunga Arr	44.18	259	P	P	16 42 58.9	-0.8
	0.9nm,0.3s,baz=84,slow=7.7,SNR=65						
ASAR	Alice Springs	44.37	254	P	P	16 43 01.4	+0.2
	17nm,0.4s,baz=89,slow=7.9,SNR=837						
ASAR				PcP	PcP	16 44 33.8	+0.3
	0.3nm,0.4s,baz=91,slow=4.6,SNR=3.2						
ASAR				ScP	ScP	16 47 36.5	+2.2
	0.3nm,0.6s,baz=95,slow=4.8,SNR=5.0						
ASAR				S	S	16 48 54.6	-2.0
	0.9nm,1.0s,baz=83,slow=16,SNR=5.9						
MJAR	Matsushiro Arr	67.45	324	P	P	16 45 40.5	-0.1
	2.5nm,0.7s,baz=164,slow=5.9,SNR=5.8						
PETK	Petropavlovsk-	73.36	346	P	P	16 46 15.0	-0.1
	3.5nm,0.7s,baz=137,slow=8.4,SNR=6.1						
NVAR	Mina Array Bea	79.63	44	P	P	16 46 51.1	+1.0
	0.4nm,0.6s,baz=221,slow=9.5,SNR=3.7						
ILAR	Eielson Array	85.80	13	P	P	16 47 19.5	-0.8
	0.6nm,0.4s,baz=223,slow=5.3,SNR=9.6						
PDAR	Pinedale Array	87.55	44	P	P	16 47 29.7	+0.3
	0.3nm,0.5s,baz=214,slow=3.1,SNR=4.6						
YKA	Yellowknife Ar	94.36	25	P	P	16 47 59.2	-0.8
	0.2nm,0.6s,baz=244,slow=4.7,SNR=3.9						
ARCES	ARCESS Array B	126.03	350	PKP	PKiKP	16 53 39.3	+0.2
	3.4nm,1.0s,baz=36,slow=0.9,SNR=3.0						
BRTR	Keskin Array B	144.28	315	PKP	PKPdf	16 54 13.4	-0.1
	0.4nm,0.5s,baz=85,slow=2.3,SNR=3.5						
GERES	GERESS Array B	147.28	344	PKPbc	PKPbc	16 54 21.6	+0.1
	0.8nm,0.6s,baz=32,slow=3.3,SNR=5.9						

DJA 06 16:37:21.9±0.8, 8°.5S±4°.×10°.8E±°, h14km±5km, M3.7/8, MLv3.7/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.70	357	P	Pb	16 37 36.0	0.0
CISI				S	Sb	16 37 45.9	+0.4
LEM	Lembang	1.44	351	P	Pn	16 37 48.0	+0.2
SKJI	Sukabumi	1.79	314	P	Pn	16 37 52.0	-0.4
SKJI				S	Sn	16 38 13.5	-1.4
UGM	Wanagama	2.67	83	P	Pn	16 38 03.9	-0.6
CGJI	Cibinong	2.69	307	P	Pn	16 38 04.1	-0.7
PCJI	Pacitan	3.29	89	P	Pn	16 38 12.9	-0.2
PWJI	Pagerwojo	3.92	87	P	Pn	16 38 21.3	-0.4

*ISK **06** 17:13:32.3, 38°.90N×43°.57E, h5km, ML2.4/6*
*DDA **06** 17:13:33.0, 38°.89N×43°.57E, h7km±3km, ML2.8*
*ISCJB **06** 17:13:34.1±0.9, 38°.92N±0°.07×43°.54E±0°.06, h10km±6km, Error ellipse: s-maj=12.3km s-min=6.1km az=151.5*
ISC 06 17:13:33.3±1.1, 38°.89N±0°.06×43°.59E±0°.04, h14km±7km, n13, σ0°.41/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.10	353	IAML_P			
	comp=Z,10μm,0.1s						
VMUR				*i* P	Pg	17 13 36.4	-0.2
VMUR				*i* S	Sg	17 13 39.0	+0.1
VANB	Van	0.33	208	PG	Pb	17 13 41.6	+0.5
CLDR	Caldiran	0.36	45	PG	Pg	17 13 40.4	-0.3
CLDR				SG	Sb	17 13 46.8	-0.5
CLDR	Caldiran	0.36	45	IAML_P			
	comp=Z,7μm,0.1s						
CLDR				*i* P	Pg	17 13 40.6	-0.1
CLDR				*i* S	Sb	17 13 46.6	-0.7
TVAN	Van	0.39	202	IAML_P			
	comp=Z,4μm,0.1s						
TVAN				*i* P	Pb	17 13 42.2	+0.2
ADCV	BITLIS_Adilcev	0.68	263	IAML_P			
	comp=Z,399nm,0.1s						
ADCV				*i* P	Pb	17 13 47.1	+0.1
ADCV				*i* S	Sg	17 13 55.8	+0.2
TUTA	Tutak	0.79	311	*i* P	Pg	17 13 48.4	-0.3
AGRB	Hanur-Agry	0.83	326	PG	Pg	17 13 49.1	-0.2
MLAZ	Malazgirt-MUS	0.85	288	PG	Pg	17 13 49.3	-0.4
BLIS	Bitlis-Merkez	1.25	248	IAML_P			
	comp=Z,579nm,0.3s						
BLIS				*i* P	Pn	17 13 56.5	0.0
GURO	Guroymak-BITLI	1.26	255	PN	Pb	17 13 57.3	+0.3
EATA	Eleskirt	1.29	319	*i* P	Pg	17 13 58.5	+0.3
GNI	Garni	1.54	35	PN	Pb	17 14 02.4	+0.6

*IDC **06** 17:28:23.7±1.9, 0°.30S×125°.35E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.1/38, mbtmp3.3/3, Error ellipse: s-maj=177.6km s-min=26.7km az=64.0*
*DJA **06** 17:28:27.3±0.5, 0°.N±4°.×12°.6E±°, h10km, M3.1/6, MLv3.1/6*
*ISCJB **06** 17:28:28.4±0.9, 0°.1S±0°.1×125°.69E±0°.08, h49km, mb3.2/3, Error ellipse: s-maj=17.0km s-min=9.5km az=29.4*
ISC 06 17:28:29.8±1.1, 0°.02S±0°.09×125°.66E±0°.08, h49km, n6, σ1°.50/7, mb3.2/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.79	289	P	Pn	17 28 57.4	-0.8
KMSI				S	Sn	17 29 20.6	+0.9
TNTI	Ternate	1.88	65	P	Pn	17 28 59.4	0.0
SANI	Sanana	2.04	171	P	Pn	17 29 02.4	+0.7
WRA	Warramunga Arr	21.55	157	P	P	17 33 12.9	-2.2
	0.3nm,0.3s,baz=334,slow=11,SNR=15						
ASAR	Alice Springs	24.83	162	P	P	17 33 46.9	-0.8
	0.3nm,0.5s,baz=343,slow=8.0,SNR=16						
MKAR	Makanchi Array	60.06	327	P	P	17 38 33.0	+1.2
	0.2nm,0.5s,baz=122,slow=7.4,SNR=4.2						

SJA 06 17:36:13.0±0.3, 29°.31S×67°.89W, h107km±2km, ML3.4, MW3.8, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	GUANDACOL	0.55	252	*e*P	Pn	17 36 30.7	+0.7
AGUA				*e*S	Sn	17 36 43.8	+1.0
VCA	Vinchina	0.64	334	*e*P	Pn	17 36 31.4	+0.6
VCA				*e*S	Sn	17 36 45.2	+1.1
VCA				IAML		17 36 48.0	
	comp=Z,34nm,0.2s						
ACLC	CERRO LA CRUZ	0.83	98	*e*P	Pn	17 36 33.3	+0.8
ACLC				IAML		17 36 34.8	
	comp=Z,17μm,0.1s						
ACLC				*e*S	Sn	17 36 48.2	+1.1
TCA	Tanti	3.49	126	*e*P	Pn	17 37 06.9	+1.3

IDC 06 17:36:39.6±6.1, 23°.31S×178°.85W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/29, mbtmp3.5/2, Error ellipse: s-maj=289.5km s-min=49.6km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.17	260	P	P	17 44 42.6	+0.1
	0.3nm,0.6s,baz=96,slow=7.1,SNR=14						
WRA	Warramunga Arr	43.50	265	P	P	17 44 45.1	0.0
	1.1nm,0.8s,baz=104,slow=8.4,SNR=13						
AKASG	Malin Array Be	145.03	329	PKPbc	PKPbc	17 56 14.9	-3.1
	0.6nm,0.6s,baz=43,slow=4.1,SNR=4.1						
BRTR	Keskin Array B	148.05	308	PKPbc	PKPbc	17 56 28.1	+0.6
	0.3nm,0.6s,baz=72,slow=4.7,SNR=3.0						

*NIED **06** 17:37:00, 38°.00N×140°.60E, h125km, Mw3.7 Best double couple: M0:3.70000×10^14 NP1:φ=310.00000°, δ7.00000°, λ-131.00000°. NP2:φ=171.00000°, δ84.00000°, λ-85.00000°.*
*ISCJB **06** 17:37:45.3±0.4, 38°.00N±0°.04×140°.54E±0°.06, h136km±2km, mb3.4/9, Error ellipse: s-maj=8.6km s-min=5.2km az=38.9*
*IDC **06** 17:37:46.0±1.4, 38°.04N×140°.46E, h125km±13km, mb3.3/9, mb1 3.4/13, mb1mx3.2/50, mbtmp3.7/13, MS1.7/1, Ms1 1.7/1, ms1mx1.6/25, Error ellipse: s-maj=18.2km s-min=13.5km az=114.0*
*JMA **06** 17:37:46.5±0.1, 37°.99N×140°.57E, h133km±1km, M3.6*
JMA Felt I J1.
ISC 06 17:37:46.4±0.7, 38°.00N±0°.04×140°.53E±0°.05, h133km±5km, n36, σ1°.42/47, mb3.5/9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	Marumori	0.25	122	P	Pn	17 38 04.8	+0.1
JMM				S	Sn	17 38 18.3	-0.2
JYAR	Yonezawaarcadi	0.31	254	P	Pn	17 38 05.2	+0.3
JYAR				S	Sn	17 38 19.4	+0.5
JOU	Okura	0.38	17	P	Pn	17 38 05.7	+0.5
JOU				S	Sn	17 38 20.1	+0.6
JYS	Shirataka	0.42	302	P	Pn	17 38 05.9	+0.5
JYS				S	Sn	17 38 20.5	+0.7
JFT	Otama	0.50	197	P	Pn	17 38 06.0	+0.2
JFT				S	Sn	17 38 20.5	0.0
JFK	Kawauchi	0.69	156	P	Pn	17 38 07.0	-0.1
JFK				*e*S	Sn	17 38 21.7	-0.9
JIO	Ouri	0.79	55	P	Pn	17 38 07.8	+0.1
JIO				S	Sn	17 38 23.2	-0.7
JYA	Atsumi	0.87	313	P	Pn	17 38 08.8	+0.4
JYA				*e*S	Sn	17 38 25.7	+0.6
JFY	Yanaizu	0.88	228	P	Pn	17 38 08.9	+0.4
JFY				S	Sn	17 38 25.7	+0.4
JYK	Kaneyama	0.93	352	P	Pn	17 38 09.2	+0.3
JYK				S	Sn	17 38 26.0	0.0
JNS	Sasagawa	0.97	260	P	Pn	17 38 09.6	+0.3
JMK	Ichinoseki	1.10	30	P	Pn	17 38 10.5	+0.1
JMK				*e*S	Sn	17 38 29.0	+0.3
JAW	Awa shima	1.10	295	P	Pn	17 38 10.9	+0.4
JOM	Ohasama	1.59	22	P	Pn	17 38 15.9	+0.2
JOM				S	Sn	17 38 37.7	-0.3
JAG	Ashikaga	1.79	209	P	Pn	17 38 18.2	+0.2
JSD	Sado	1.79	272	P	Pn	17 38 17.9	-0.1
JSD				S	Sn	17 38 41.2	-0.9
MAT	Matsushiro	2.35	233	P	Pn	17 38 25.4	+0.5
MAT				S	Sn	17 38 54.9	+0.5
MJAR	Matsushiro Arr	2.35	232	P	Pn	17 38 25.1	+0.2
	0.6nm,0.3s,baz=40,slow=11,SNR=39						
MJAR				S	Sn	17 38 53.0	-1.4
	0.3nm,0.3s,baz=48,slow=13,SNR=6.0						
MJAR				LR	LR	17 39 02.9	
	comp=Z,18nm,20.4s,baz=0.0,slow=33						
JHJ	Hachijo jima 2	4.91	187	P	Pn	17 38 58.9	+0.6
	9.2nm,0.3s,baz=71,slow=18,SNR=4.9						
JHJ				S	Sn	17 39 47.8	-6.4
	9.6nm,0.3s,baz=86,slow=10,SNR=4.0						
ASAJ	Asahikawa	6.31	14	P	Pn	17 39 14.8	-2.2
	0.9nm,0.3s,baz=204,slow=12,SNR=16						
ASAJ				S	Sn	17 40 22.7	-5.1
	0.9nm,0.3s,baz=186,slow=18,SNR=3.3						
KSRS	Korea Array	10.00	271	P	Pn	17 40 06.5	-0.1
	0.1nm,0.3s,baz=90,slow=14,SNR=3.4						
SONM	Songino Array	26.67	303	P	P	17 43 11.5	-1.4
	0.7nm,0.4s,baz=105,slow=9.0,SNR=5.3						
H11N2	WAKE ISLAND Hy	29.25	121	T	T	18 14 13.7	
	baz=315,slow=75,SNR=13						
H11N1	WAKE ISLAND Hy	29.26	121	T	T	18 14 10.0	
	baz=315,slow=75,SNR=29						
H11N3	WAKE ISLAND Hy	29.27	121	T	T	18 14 11.7	
	baz=315,slow=75,SNR=23						
H11S1	WAKE ISLAND Hy	29.98	123	T	T	18 15 04.4	
	baz=317,slow=76,SNR=16						
H11S3	WAKE ISLAND Hy	29.98	123	T	T	18 15 06.4	
	baz=317,slow=76,SNR=24						
H11S2	WAKE ISLAND Hy	29.99	123	T	T	18 15 09.4	
	baz=317,slow=76,SNR=14						
ZALV	Zalesovo Beam	40.74	312	P	P	17 45 13.0	-1.0
	1.5nm,0.5s,baz=77,slow=6.5,SNR=7.2						
CMAR	Chiang Mai Arr	41.08	253	P	P	17 45 18.0	+0.9
	0.3nm,0.5s,baz=49,slow=7.1,SNR=2.8						
MKAR	Makanchi Array	43.01	301	P	P	17 45 32.7	+0.1
	1.6nm,0.7s,baz=89,slow=9.9,SNR=16						
ILAR	Eielson Array	49.06	33	P	P	17 46 20.1	+0.4
	0.4nm,0.6s,baz=278,slow=6.2,SNR=4.5						
INK	Inuvik	53.85	27	P	P	17 46 55.2	+0.1
	0.7nm,0.6s,baz=300,slow=4.8,SNR=3.9						
WRA	Warramunga Arr	57.92	187	P	P	17 47 24.5	-0.2
	0.2nm,0.6s,baz=3.6,slow=7.3,SNR=4.7						
ASAR	Alice Springs	61.65	187	P	P	17 47 50.1	0.0
	0.3nm,0.8s,baz=12,slow=11,SNR=3.8						
NVAR	Mina Array Bea	74.97	53	P	P	17 49 14.8	+1.5
	0.6nm,0.7s,baz=288,slow=6.8,SNR=3.9						

MEX 06 17:44:06.8±0.6, 16°.22N×94°.54W, h95km±9km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.93	339	*e*P	Pn	17 44 25.0	-1.1
CMIG				*i* S	Sn	17 44 39.2	-1.4
PCIG		1.37	112	*e*P	Pn	17 44 30.1	-1.0
PCIG				*i* S	Sn	17 44 48.0	-1.6
TGIG		1.47	67	*e*P	Pn	17 44 31.2	-1.3
TGIG				*i* S	Sn	17 44 49.5	-2.5
HUIG	Huatulco	1.57	254	*e*P	Pn	17 44 32.2	-1.5
HUIG				*i* S	Sn	17 44 52.4	-1.7
CCIG	Comitan	2.31	88	*i* P	Pn	17 44 41.4	-2.1
CCIG				*i* S	Sn	17 45 09.7	-1.7

*ISCJB **06** 17:58:48.2±0.8, 6°.4N±0°.1×124°.1E±0°.3, h550km, mb3.4/8, Error ellipse: s-maj=36.8km s-min=10.6km az=159.2*
*IDC **06** 17:58:52.3±2.6, 6°.28N×123°.87E, h580km±34km, mb2.8/8, mb1 2.9/9, mb1mx2.6/43, mbtmp3.9/9, Error ellipse: s-maj=59.4km s-min=10.0km az=69.0*
ISC 06 17:58:49.6±0.9, 6°.4N±0°.1×124°.1E±0°.3, h550km, n10, σ0°.95/13, mb3.5/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	10.12	135	P	P	18 01 08.2	-0.7
	0.2nm,0.3s,baz=289,slow=18,SNR=4.2						
BATI	Baumata	16.46	182	P	P	18 02 12.4	-1.2
	0.8nm,0.3s,baz=333,slow=2.3,SNR=3.1						
FITZ	Fitzroy Crossi	24.35	176	P	P	18 03 24.8	+0.1
	0.5nm,0.4s,baz=358,slow=7.8,SNR=3.6						
WRA	Warramunga Arr	28.00	159	P	P	18 03 57.9	+1.1
	0.7nm,0.3s,baz=338,slow=9.4,SNR=15						
WRA				S	S	18 08 01.9	-1.1
	0.3nm,0.8s,baz=338,slow=27,SNR=2.9						
ASAR	Alice Springs	31.34	163	P	P	18 04 27.4	+1.8
	0.9nm,0.5s,baz=335,slow=7.3,SNR=31						
ASAR				PcP	PcP	18 07 03.5	+0.9
	0.2nm,0.3s,baz=343,slow=2.6,SNR=6.3						
ASAR				S	S	18 08 53.6	-0.8
	1.1nm,0.8s,baz=337,slow=11,SNR=7.8						
NWAO	Narrogin (SRO)	39.62	189	P	P	18 05 34.0	-0.1
	3.4nm,0.5s,baz=26,slow=9.0,SNR=6.0						
STKA	Stephens Creek	41.52	157	P	P	18 05 49.6	+0.4
	0.5nm,0.4s,baz=338,slow=11,SNR=2.5						
SONM	Songino Array	44.01	343	P	P	18 06 08.3	-0.4
	0.2nm,0.4s,baz=146,slow=7.2,SNR=1.8						
MKAR	Makanchi Array	53.93	325	P	P	18 07 21.8	-0.1
	0.7nm,0.6s,baz=121,slow=7.8,SNR=11						
ZALV	Zalesovo Beam	57.09	334	P	P	18 07

2.8nm,0.3s,baz=286,slow=9.1,SNR=7.0
RAR Sn Sn 18 07 08.1 -23
baz=324,slow=19,SNR=2.7
RAR LR LR 18 11 29.0
comp=Z,34nm,18.5s,baz=282,slow=41
DZM Mont Dzumac 16.50 268 Pn **P 18 05 10.7 -0.7**
0.2nm,0.3s,baz=18,slow=20,SNR=1.8
URZ Urewera 16.94 200 Pn **Pn 18 05 11.1 -3.2**
0.5nm,0.3s,baz=301,slow=19,SNR=3.1
URZ Sn Sn 18 08 02.6 -19
0.3nm,0.3s,baz=107,slow=17,SNR=2.8
TBI Tubuai 24.21 97 *e*T T 18 31 14.8
12nm,0.4s
PAE Paea 25.01 84 *e*T T 18 32 08.3
28nm,0.3s
PPT2 Papeete2 25.03 84 *e*LR LR 18 12 41.0
comp=Z,157nm,26.2s
PPT2 Papeete2 25.03 84 *e*T T 18 32 10.8
19nm,0.3s
PPT Papeete 25.04 84 LR LR 18 16 26.7
comp=Z,30nm,18.1s,baz=246,slow=36
TVO Taravao 25.28 84 *e*T T 18 32 23.5
2.9nm,0.3s
MEH Mehetia 26.35 85 *e*T T 18 33 49.9
22nm,0.2s
CTA Charters Tower 35.44 267 P **P 18 08 13.9 +0.7**
10nm,0.6s,baz=99,slow=10,0,SNR=15
STKA Stephens Creek 38.91 247 *e*P **P 18 08 42.9 +0.3**
4.9nm,1.9s
STKA Stephens Creek 38.91 247 P **P 18 08 42.4 -0.2**
1.3nm,0.5s,baz=100,slow=12,SNR=8.4
STKA LR LR 18 23 42.7
comp=Z,60nm,18.3s,baz=26,slow=35
AS31 Alice Springs 46.16 258 *e*P **P 18 09 41.3 -0.4**
0.9nm,0.8s
ASAR Alice Springs 46.16 258 P **P 18 09 40.8 -0.9**
2.2nm,0.6s,baz=97,slow=6.9,SNR=41
ASAR PcP **PcP 18 11 17.6 +0.3**
0.3nm,0.6s,baz=111,slow=3.8,SNR=2.7
ASAR ScP **ScP 18 15 11.9 +3.9**
0.2nm,0.7s,baz=101,slow=4.9,SNR=3.6
ASAR LR LR 18 27 41.9
comp=Z,32nm,20.1s,baz=101,slow=34
WR1 Warramunga Arr 46.45 263 *e*P **P 18 09 42.9 -1.1**
WRA Warramunga Arr 46.45 263 P **P 18 09 42.9 -1.1**
1.6nm,0.6s,baz=93,slow=8.4,SNR=43
JAY Jayapura 46.65 289 LR LR 18 28 13.4
comp=Z,38nm,18.1s,baz=80,slow=35
FORT Forrest 50.50 248 *e*P **P 18 10 14.9 -0.1**
25nm,1.0s
FITZ Fitzroy Crossi 54.88 263 P **P 18 10 47.5 0.0**
baz=115,slow=8.5
QSPA South Pole Qui 67.66 180 *e*P **P 18 12 14.6 +1.1**
19nm,1.5s
MWC Mount Wilson 78.60 46 *e*P **P 18 13 18.4 -0.2**
140nm,1.8s
NVAR Mina Array Bea 81.00 42 P **P 18 13 33.8 +2.3**
0.3nm,0.3s,baz=222,slow=4.9,SNR=3.0
NV01 Mina Array Sit 81.00 42 *e*P **P 18 13 33.8 +2.3**
LTX Lajitas 86.33 56 *e*P **P 18 13 59.7 +0.8**
TXAR Lajitas Array 86.33 56 P **P 18 13 59.7 +0.8**
0.5nm,0.8s,baz=213,slow=9.0,SNR=5.2
PLCA Paso Flores 86.43 133 LR LR 18 42 05.7
comp=Z,19nm,21.5s,baz=206,slow=28
CM31 Chiang Mai Arr 92.74 289 *e*P **P 18 14 29.4 +0.2**
CMAR Chiang Mai Arr 92.74 289 P **P 18 14 29.8 +0.5**
0.6nm,0.9s,baz=123,slow=3.3,SNR=3.7
MNMC Minye Minye 96.87 114 *e*P **P 18 14 51.4 +2.8**
YKA Yellowknife Ar 97.38 24 P **P 18 14 48.7 -0.7**
0.1nm,0.4s,baz=250,slow=3.7,SNR=3.2
YKB5 Yellowknife Ar 97.38 24 *e*P **P 18 14 48.7 -0.7**
AKASG Malin Array Be 145.70 332 PKPbc **PKPdf 18 20 53.1 -1.5**
0.8nm,0.4s,baz=40,slow=4.6,SNR=8.1
AKBB Malin Array Si 145.70 332 *e*PKPdf **PKPdf 18 20 53.0 -1.7**
BR101 Keskin Array S 149.69 311 *e*PKPbc **PKPbc 18 21 04.4 -2.1**
BRTR Keskin Array B 149.69 311 PKPbc **PKPbc 18 21 04.4 -2.1**
0.5nm,0.7s,baz=129,slow=3.9,SNR=3.6
CLL Collm 150.38 349 *e*PKPab **PKPab 18 21 15.0 +1.1**
CLL *e*pPKPab **pPKPab 18 21 25.0 +0.1**

ISCJB ***06*** *18:02:53.6±0.7,37°.32N±0°.04×37°.10E±0°.05,h9km±6km, Error ellipse: s-maj=8.2km s-min=5.3km az=140.5*
DDA ***06*** *18:02:53.2,37°.30N×37°.08E,h7km,3km,ML2.9*
ISK ***06*** *18:02:53.0,37°.33N×37°.14E,h7km,ML2.0/7*
ISC 06 18:02:53.5±0.9,37°.30N±0°.04×37°.11E±0°.03,h11km±7km, n16,σ0°51/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**146**	PG	**Pg**	**18 02 56.9**	**-0.1**
GAZ				SG	**Sg**	**18 02 59.9**	**+0.3**
HCB	**Kahramanmara**	**0.16**	**286**	IAML_P			
HCB	comp=Z,12μm,0.1s			*i* P	**Pg**	**18 02 57.3**	**+0.1**
HCB				*i* S	**Sg**	**18 02 59.8**	**0.0**
KMRS	**Kahramanmaras**	**0.26**	**322**	PG	**Pg**	**18 02 58.8**	**-0.1**
KMRS				SG	**Sg**	**18 03 02.4**	**-0.2**
KAMA	**Osmaniye**	**0.37**	**252**	IAML_P			
KAMA	comp=Z,5μm,0.1s			*i* P	**Pb**	**18 03 01.9**	**-0.1**
KAMA				*i* S	**Sg**	**18 03 05.2**	**-0.6**
GZT	**Gaziantep**	**0.37**	**81**	IAML_P			
GZT	comp=Z,2μm,0.1s			*i* P	**Pb**	**18 03 01.5**	**-0.6**
KUZU	**Kuzuini**	**0.53**	**183**	IAML_P			
KUZU	comp=Z,2μm,0.1s			*i* P	**Pn**	**18 03 06.3**	**-0.6**
KUZU				*i* S	**Sb**	**18 03 12.8**	**+0.4**
ANDN	**Andirin**	**0.67**	**295**	IAML_P			
ANDN	comp=Z,2μm,0.1s			*i* P	**Pb**	**18 03 06.7**	**-0.5**
ATAB	**Bozova**	**0.96**	**79**	IAML_P			
ATAB	comp=Z,5μm,0.2s			*i* P	**Pb**	**18 03 12.4**	**+0.2**
ELBS	**KAHRAMANMARAS**	**1.02**	**1**	IAML_P			
ELBS	comp=Z,671nm,0.2s			*i* P	**Pn**	**18 03 14.9**	**+1.0**
KOZT	**Kozan**	**1.03**	**280**	PG	**Pn**	**18 03 13.9**	**0.0**
SAIM	**ADANA**	**1.06**	**310**	IAML_P			
SAIM	comp=Z,850nm,0.2s			*i* P	**Pb**	**18 03 13.5**	**-0.3**
CEYT	**Ceyhan**	**1.12**	**255**	PN	**Pn**	**18 03 15.5**	**+0.4**
TAHT	**Tahtakopru-Hat**	**1.18**	**219**	PN	**Pn**	**18 03 16.9**	**+1.0**
SURC	**SANLIURFA_SURC**	**1.28**	**109**	IAML_P			
SURC	comp=Z,280nm,0.1s			*i* P	**Pg**	**18 03 18.0**	**-0.1**
DARE	**Darende-Malaty**	**1.30**	**13**	PN	**Pg**	**18 03 18.1**	**-0.5**
URFA	**Urfa**	**1.38**	**84**	PN	**Pn**	**18 03 18.7**	**0.0**

MEX 06 18:09:49.8±0.5,16°.86N×94°.16W,h138km±5km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.74**	**289**	*e*P	Pn	18 10 09.9	-1.3
CMIG				*i* S	Sn	18 10 25.7	-1.8
TGIG		**0.99**	**94**	*e*P	Pn	18 10 12.0	-1.3
TGIG				*i* S	Sn	18 10 29.0	-2.3
PCIG		**1.46**	**142**	*e*P	Pn	18 10 16.9	-1.1
PCIG				*i* S	Sn	18 10 38.0	-1.4
CCIG	**Comitan**	**2.02**	**106**	*e*P	Pn	18 10 23.2	-1.4
CCIG				*i* S	Sn	18 10 49.4	-1.9
HUIG	**Huatulco**	**2.17**	**240**	*e*P	Pn	18 10 22.9	-3.3
HUIG				*i* S	Sn	18 10 51.8	-2.4

ISCJB ***06*** *18:20:46.7±1.9,4°.3S±0°.6×152°.6E±0°.7,h43km,mb3.6/4, MS3.9/1, Error ellipse: s-maj=136.0km s-min=14.0km az=41.8*
IDC ***06*** *18:20:50.5±6.1,4°.79S×153°.10E,h75km±49km,mb3.5/4, mb1 3.8/5,mb1mx3.4/47,mbtmp3.8/5,ML1.9/1,MS3.9/1, Ms1 3.9/1,ms1mx2.6/26, Error ellipse: s-maj=102.2km s-min=30.1km az=130.0*
ISC 06 18:20:48.2±2.3,4°.2S±0°.7×152°.7E±0°.8,h43km,n7,σ1°62/7, mb3.7/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.54**	**226**	P	**Pn**	**18 22 37.9**	**+2.2**
PMG	1.1nm,0.3s,baz=33,slow=13,SNR=6.1			S	**Sn**	**18 23 58.9**	**-1.0**
WRA	**Warramunga Arr**	**23.76**	**227**	P	**P**	**18 25 56.2**	**-0.7**
	1.6nm,0.3s,baz=58,slow=9.8,SNR=22						
ASAR	**Alice Springs**	**26.52**	**221**	P	**P**	**18 26 20.2**	**-1.8**
	0.6nm,0.4s,baz=55,slow=9.1,SNR=16						
FITZ	**Fitzroy Crossi**	**29.85**	**240**	P	**P**	**18 26 51.3**	**-0.4**
	1.0nm,0.5s,baz=73,slow=11,SNR=2.6						
JNU	**Nakatsue**	**42.47**	**333**	LR	LR	18 45 36.4	
	comp=Z,141nm,20.0s,baz=37,slow=34						
ILAR	**Eielson Array**	**81.64**	**22**	P	**P**	**18 33 01.9**	**+0.4**
	0.2nm,0.6s,baz=255,slow=5.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**150.00**	**289**	PKPbc	**PKPbc**	**18 40 34.4**	**-0.7**
	0.2nm,0.3s,baz=83,slow=2.4,SNR=5.6						

KRSC ***06*** *18:23:34.0±10.0,60°.13N×163°.41E,h20km±10km,ML5.7, FELT [IV] at Ilpyrskiy, Karaga, Vivenka; [III-IV] at Tymlat, Ossora.*
IDC ***06*** *18:23:34.5±0.5,60°.11N×163°.50E,h0km,mb4.4/36, mb1 4.6/40,mb1mx4.5/71,mbtmp4.5/40,ML4.8/2,MS4.0/27, Ms1 4.0/27,ms1mx3.8/47, Error ellipse: s-maj=12.9km s-min=7.9km az=163.0*
ISCJB ***06*** *18:23:34.4±1.0,60°.10N±0°.02×163°.58E±0°.03,h9km±6km, mb4.8/236,MS4.2/40, Error ellipse: s-maj=4.1km s-min=2.4km az=150.4*
BJI ***06*** *18:23:34.6±0.0,60°.17N×163°.25E,h7km,mb4.7/53, mB4.8/38,Ms4.9/41,Ms7 4.5/37*
MOS ***06*** *18:23:35.5±1.2,60°.10N×163°.50E,h16km,mb5.0/70, MS4.2/20, Error ellipse: s-maj=7.2km s-min=3.2km az=85.8*
NEIC ***06*** *18:23:36.0±0.1,60°.12N×163°.55E,h10km,mb4.9/158, Error ellipse: s-maj=3.6km s-min=1.9km az=169.0*
GCMT ***06*** *18:23:36.0±0.3,60°.19N±0°.02×163°.54E±0°.03,h12km, MW4.8/76,Moment Tensor Solution. s22,c25; s76,c103; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.07±.06; $M_{\theta\theta}$0.52±.07; $M_{\phi\phi}$-0.45±.06; $M_{r\theta}$0.78±.17; $M_{\theta\phi}$1.50±.04; $M_{\phi r}$-0.18±.15; Best double couple: $M_0$1.76900×10^16 NP1:ϕ_s278.00000°,δ87.00000°,λ-27.00000°. NP2: ϕ_s10.00000°,δ63.00000°,λ-177.00000°. Principal axes: T 1.7710, Plg17.0000°, Azm327.0000°; N -0.0040, Plg63.0000°, Azm93.0000°; P -1.7680, Plg21.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 18:23:36.6±1.5,60°.09N±0°.04×163°.54E±0°.04,h12km±9km, n547,σ1°39/548,mb4.8/240,MS4.1/40,41C-16D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.88**	**196**	*e*P	Pb	18 23 50.5	-3.2
OSSR				*e*S	**Sb**	**18 24 02.0**	**-3.3**
OSSR	**Ossora**	**0.88**	**196**	PN	Pb	18 23 50.5	-3.2
OSSR				S	**Sb**	**18 24 02.0**	**-3.3**
TILK	**Tilichiki**	**1.34**	**73**	*e*P	**Pn**	**18 24 00.3**	**-0.8**
TILK				*e*S	**Sn**	**18 24 19.8**	**+0.9**
TILK	**Tilichiki**	**1.34**	**73**	PN	**Pn**	**18 24 00.3**	**-0.8**
TILK				S	**Sn**	**18 24 19.8**	**+0.9**
PALN	**Palana**	**2.08**	**243**	*e*P	Pn	18 24 08.7	-2.5
PALN				*e*S	**Sn**	**18 24 33.9**	**-3.0**
PALN	**Palana**	**2.08**	**243**	PN	Pn	18 24 08.7	-2.5
PALN				S	**Sn**	**18 24 33.9**	**-3.0**
KMSK	**Kamenskaya**	**2.71**	**27**	*e*P	Pn	18 24 17.5	-2.4
KMSK				*e*S	**Sn**	**18 24 49.4**	**-3.1**
KMSK	**Kamenskaya**	**2.71**	**27**	PN	Pn	18 24 17.5	-2.4
SRKR	**Sorokina**	**3.67**	**201**	*e*P	**Pn**	**18 24 33.7**	**+0.6**
SRKR	**Sorokina**	**3.67**	**201**	PN	**Pn**	**18 24 33.7**	**+0.6**
SMKR	**Semkarok**	**3.69**	**198**	*e*P	**Pn**	**18 24 33.5**	**+0.1**
SMKR	**Semkarok**	**3.69**	**198**	PN	**Pn**	**18 24 33.5**	**+0.1**
BDR	**Baidarnaya**	**3.74**	**200**	*e*P	**Pn**	**18 24 35.0**	**+0.9**
BDR	**Baidarnaya**	**3.74**	**200**	PN	**Pn**	**18 24 35.0**	**+0.9**
KBG	**Krutoberegovo**	**3.87**	**187**	*e*P	**Pn**	**18 24 35.4**	**-0.4**
KBG	**Krutoberegovo**	**3.87**	**187**	PN	**Pn**	**18 24 35.4**	**-0.4**
KBTR	**Krutoberegovo**	**3.91**	**186**	*e*P	Pn	18 24 35.6	-0.8
KBTR	**Krutoberegovo**	**3.91**	**186**	PN	Pn	18 24 35.6	-0.8
KLY	**Klyuchi**	**4.08**	**203**	*e*P	**Pn**	**18 24 38.6**	**-0.2**
KLY	**Klyuchi**	**4.08**	**203**	PN	**Pn**	**18 24 38.6**	**-0.2**
LGNR	**Loginova**	**4.29**	**202**	*e*P	**Pn**	**18 24 43.6**	**+1.7**
LGNR	**Loginova**	**4.29**	**202**	PN	**Pn**	**18 24 43.6**	**+1.7**
KOZ	**Kozyrevsk**	**4.49**	**207**	*e*P	**Pn**	**18 24 45.4**	**+1.1**
KOZ	**Kozyrevsk**	**4.49**	**207**	PN	**Pn**	**18 24 45.4**	**+1.1**
BKI	**Bering**	**5.07**	**164**	*e*P	Pn	18 24 51.0	-1.3
BKI	**Bering**	**5.07**	**164**	PN	Pn	18 24 51.0	-1.3
TUMR	**Tumrok**	**5.15**	**202**	PN	**Pn**	**18 24 56.5**	**+2.9**
TUMD	**Tumrok D**	**5.18**	**200**	*e*P	**Pn**	**18 24 56.5**	**+2.6**
KZV	**Kizimen**	**5.29**	**201**	*e*P	**Pn**	**18 24 57.6**	**+2.2**
KZV	**Kizimen**	**5.29**	**201**	PN	**Pn**	**18 24 57.6**	**+2.2**
MKZ	**Mys Kozlova**	**5.63**	**191**	*e*P	**Pn**	**18 24 59.5**	**-0.5**
MKZ	**Mys Kozlova**	**5.63**	**191**	PN	**Pn**	**18 24 59.5**	**-0.5**
SEY	**Seymchan**	**6.05**	**303**	Pn	Pn	18 25 04.3	-1.5
	5.2nm,0.3s,baz=114,slow=13,SNR=34						
SEY				Lg	Lg	18 26 41.6	
	5.4nm,0.3s,baz=39,slow=19,SNR=3.4						
SEY				LR	LR	18 27 39.9	
	comp=Z,2μm,20.4s,baz=46,slow=41						
MA2	**Magadan**	**6.46**	**271**	*ce*PN	Pn	18 25 09.5	-1.9
MA2				pmax	pmax		
	comp=Z,42nm,0.8s						
MA2	**Magadan**	**6.46**	**271**	Pn	Pn	18 25 09.8	-1.6
	comp=Z,4.2nm,0.3s,baz=60,slow=15,SNR=17						
MA2				Sn	**Sn**	**18 26 22.0**	**-2.9**
	baz=144,slow=8.7,SNR=3.5						
MA2				Lg	Lg	18 26 54.5	
	comp=Z,5.4nm,0.3s,baz=6.9,slow=18,SNR=3.5						
SDLR	**Sedlovina**	**7.29**	**203**	*e*P	**Pn**	**18 25 26.1**	**+3.2**
SDLR	**Sedlovina**	**7.29**	**203**	PN	**Pn**	**18 25 26.1**	**+3.2**
KRER	**Koryakskii**	**7.29**	**203**	*e*P	**Pn**	**18 25 25.7**	**+2.7**
KRER	**Koryakskii**	**7.29**	**203**	PN	**Pn**	**18 25 25.7**	**+2.7**
SMAR	**Somma**	**7.32**	**203**	*e*P	**Pn**	**18 25 25.5**	**+2.1**
SMAR	**Somma**	**7.32**	**203**	PN	**Pn**	**18 25 25.5**	**+2.1**
AVH	**Avacha**	**7.33**	**203**	*e*P	**Pn**	**18 25 25.8**	**+2.3**
AVH	**Avacha**	**7.33**	**203**	PN	**Pn**	**18 25 25.8**	**+2.3**
UGLR	**Uglovaya**	**7.37**	**203**	*e*P	**Pn**	**18 25 27.3**	**+3.3**
UGLR	**Uglovaya**	**7.37**	**203**	PN	**Pn**	**18 25 27.3**	**+3.3**
PET	**Petropavlovsk**	**7.58**	**203**	*e*Pn	**Pn**	**18 25 25.9**	**-0.8**
PET	**Petropavlovsk**	**7.58**	**203**	*e*PN	**Pn**	**18 25 26.0**	**-0.7**
PET				MLR	MLR		
	comp=Z,2μm,13.0s						
PET				MLR	MLR		
	comp=Z,2μm,13.0s						
PEA1	**Petropavlovsk-**	**7.70**	**207**	*e*Pn	**Pn**	**18 25 29.9**	**+1.5**
PETK	**Petropavlovsk-**	**7.70**	**207**	*e*Pn	**Pn**	**18 25 29.3**	**+0.9**
PETK	**Petropavlovsk-**	**7.70**	**207**	Pn	**Pn**	**18 25 29.9**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=46,slow=12,SNR=6.7						
PETK				LR	LR	18 28 59.7	
	comp=Z,825nm,19.2s,baz=357,slow=42						
KRMR	**Karymshinskiy**	**7.87**	**205**	*e*P	**Pn**	**18 25 34.2**	**+3.5**
KRMR	**Karymshinskiy**	**7.87**	**205**	PN	**Pn**	**18 25 34.2**	**+3.5**
APC	**Apacha**	**8.00**	**209**	*e*P	Pn	18 25 37.5	+5.0
APC	**Apacha**	**8.00**	**209**	PN	Pn	18 25 37.5	+5.0
BILL	**Bilibino**	**8.07**	**7**	*e*Pn	Pn	18 25 28.4	-5.0
BILL	**Bilibino**	**8.07**	**7**	*i*ePN	Pn	18 25 32.2	-1.2
BILL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BILL				MLR	MLR		
	comp=Z,2μm,13.0s						
SMY	**Shemya**	**9.40**	**137**	*e*Pn	Pn	18 25 50.0	-1.7
SMY	**Shemya**	**9.40**	**137**	*e*PN	Pn	18 25 50.0	-1.7
OKH	**Okha**	**13.01**	**249**	*de*PN	**Pn**	**18 26 44.8**	**+3.8**
OKH				pmax	pmax		
	comp=Z,100nm,14.3s						
OKH				MLR	MLR		
	comp=Z,1μm,14.0s						
ADK	**Adak**	**13.74**	**118**	*e*Pn	Pn	18 26 47.3	-3.6
ADK	**Adak**	**13.74**	**118**	*e*P	Pn	18 26 47.3	-3.6
NKL	**Nikolayevsk**	**14.32**	**251**	*e*P	**Pn**	**18 26 58.0**	**-0.9**
NKL				pmax	pmax		
	comp=Z,22nm,1.0s						
NKL				MLR	MLR		
	comp=N,1μm,15.0s						
NKL				MLR	MLR		
	comp=E,1μm,15.0s						
NKL				MLR	MLR		
	comp=Z,3μm,15.0s						
TYV	**Tymovskoe**	**14.96**	**241**	*e*P	**Pn**	**18 27 07.1**	**-0.4**
TYV				pmax	pmax		
	comp=Z,8.0nm,2.0s						
YAK	**Yakutsk**	**16.39**	**291**	*e*P	**Pn**	**18 27 28.1**	**+2.0**
YAK				*e*S	**Sn**	**18 30 25.6**	**-2.1**
YAK				pmax	pmax		
	comp=Z,300nm,1.0s						
YAK				pmax	pmax		
	comp=N,36nm,1.0s						
YAK				pmax	pmax		
	comp=E,118nm,1.0s						
YAK				pmax	pmax		
	comp=Z,426nm,1.1s						
YAK				pmax	pmax		
	comp=N,117nm,1.1s						
YAK				pmax	pmax		
	comp=E,371nm,1.0s						
YAK				smax	smax		
	comp=N,133nm,2.7s						
YAK				smax	smax		
	comp=E,157nm,3.1s						
YAK				MLR	MLR		
	comp=Z,3μm,17.0s						
YAK				MLR	MLR		
	comp=N,1μm,16.0s						
YAK				MLR	MLR		
	comp=E,3μm,16.0s						
UGL	**Uglegorsk**	**16.54**	**238**	*e*P	**Pn**	**18 27 28.1**	**0.0**
UGL				pmax	pmax		
	comp=Z,39nm,1.1s						
UGL				MLR	MLR		
	comp=Z,1μm,13.0s						
UGL				MLR	MLR		
	comp=N,1μm,14.0s						
UGL				MLR	MLR		
	comp=E,900nm,11.0s						
KUR	**Kuril'sk**	**17.58**	**219**	*e*P	**Pn**	**18 27 42.9**	**+1.7**
KUR				MLR	MLR		
	comp=Z,688nm,13.0s						
KUR				MLR	MLR		
	comp=E,212nm,11.0s						
GRNR	**Gornyy**	**17.87**	**251**	*e*P	**Pn**	**18 27 44.1**	**-0.7**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**17.94**	**232**	*e*P	**P**	**18 27 49.0**	**+2.9**
YSS				*e*S	**Sn**	**18 31 08.6**	**+3.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
TIXI	**Tiksi**	**17.95**	**324**	*e*Pn	**Pn**	**18 27 44.6**	**-0.9**
TIXI	comp=E,36nm,1.3s			Lg	Lg	18 32 57.7	
TIXI	**Tiksi**	**17.95**	**324**	*ce*P	**Pn**	**18 27 45.2**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,28nm,1.2s						
TIXI	**Tiksi**	**17.95**	**324**	P	**Pn**	**18 27 45.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=122,slow=12,SNR=24						
TIXI				Lg	Lg	18 32 57.7	
	comp=Z,0.2nm,0.3s,baz=42,slow=16,SNR=4.4						
TIXI				LR	LR	18 34 51.5	
	comp=Z,293nm,19.0s,baz=90,slow=38						
SDPT	**Sand Point**	**19.62**	**88**	*e*P	**P**	**18 28 04.5**	**+0.1**
	comp=Z,54nm,1.1s						
IMAR	**Indian Mountai**	**19.90**	**55**	*e*P	**P**	**18 28 08.0**	**+0.5**
CHGN	**Chignik**	**20.21**	**84**	*e*P	**P**	**18 28 10.5**	**-0.4**
	comp=Z,50nm,0.8s						
ASAJ	**Asahikawa**	**20.38**	**228**	P	**P**	**18 28 13.8**	**+1.0**
	comp=Z,20nm,0.8s,baz=32,slow=7.8,SNR=8.4						
ASAJ				LR	LR	18 37 54.5	
	comp=Z,401nm,18.4s,baz=69,slow=42						
ZEA	**Zeya**	**20.60**	**268**	*e*P	**P**	**18 28 14.0**	**-1.2**
ZEA				pmax	pmax		
	comp=Z,28nm,1.2s						
ZEA				MLR	MLR		
	comp=E,700nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,800nm,14.0s						
CAST	**Castle Rocks**	**20.93**	**62**	*e*P	**P**	**18 28 18.8**	**+0.1**
	comp=Z,30nm,0.8s						
PPLA	**Purkeypile**	**20.99**	**63**	*e*P	**P**	**18 28 19.9**	**+0.3**
	comp=Z,36nm,1.0s						
KLR	**Kul'dur**	**21.14**	**253**	*i* P	**P**	**18 28 20.2**	**-0.8**
KLR	**Kul'dur**	**21.14**	**253**	P	**P**	**18 28 20.4**	**-0.7**
	comp=Z,7.2nm,0.7s,baz=39,slow=12,SNR=23						
KLR				LR	LR	18 37 06.1	
	comp=Z,603nm,18.0s,baz=44,slow=38						
MLY	**Manley**	**21.24**	**57**	*e*P	**P**	**18 28 22.5**	**+0.3**
	comp=Z,26nm,0.8s						
BPAW	**Bear Paw Mtn.**	**21.29**	**60**	*e*P	**P**	**18 28 22.7**	**+0.2**
	comp=Z,38nm,1.1s						
RSO	**Redoubt South**	**21.38**	**70**	*e*P	**P**	**18 28 23.8**	**0.0**
TOLK	**Toolik Lake Re**	**21.46**	**47**	*e*P	**P**	**18 28 24.4**	**0.0**
	comp=Z,65nm,1.0s						
BWN	**Browne**	**21.93**	**59**	*e*P	**P**	**18 28 30.4**	**+1.0**
	comp=Z,154nm,1.0s						
SUA	**Susitna One**	**22.01**	**67**	*e*P	**P**	**18 28 30.4**	**-0.1**
	comp=Z,43nm,1.2s						
TEY	**Ternei**	**22.03**	**239**	*i*eP	**P**	**18 28 29.8**	**-0.8**
TEY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MCK	**McKinley**	**22.25**	**60**	*e*P	**P**	**18 28 32.8**	**-0.1**
	comp=Z,74nm,1.1s						
MCK	**McKinley**	**22.25**	**60**	*e*P	**P**	**18 28 32.8**	**-0.1**
MCK				pmax	pmax		
	comp=Z,74nm,1.1s						
MDM	**Murphy Dome**	**22.31**	**57**	*e*P	**P**	**18 28 31.9**	**-1.6**
	comp=Z,36nm,0.9s						
OHAK	**Old Harbor**	**22.34**	**78**	*e*P	**P**	**18 28 33.4**	**-0.4**
	comp=Z,16nm,0.9s						
RND	**Reindeer**	**22.36**	**61**	*e*P	**P**	**18 28 33.5**	**-0.6**
	comp=Z,19nm,0.9s						
RND	**Reindeer**	**22.36**	**61**	*e*P	**P**	**18 28 33.5**	**-0.6**
RND				pmax	pmax		
	comp=Z,19nm,0.9s						
KDAK	**Kodiak Island**	**22.45**	**77**	*i* P	**P**	**18 28 35.1**	**+0.1**
KDAK	**Kodiak Island**	**22.45**	**77**	P	**P**	**18 28 33.5**	**-1.4**
	comp=Z,2.7nm,0.4s,baz=275,slow=4.6,SNR=4.3						
KDAK				LR	LR	18 38 59.4	
	comp=Z,569nm,18.3s,baz=287,slow=41						
WRH	**Wood River Hil**	**22.46**	**58**	*e*P	**P**	**18 28 34.8**	**-0.3**
	comp=Z,54nm,1.0s						
COLA	**College**	**22.48**	**57**	*e*P	**P**	**18 28 35.3**	**+0.1**
	comp=Z,57nm,0.3s						
COLA	**College**	**22.48**	**57**	*i* P	**P**	**18 28 35.4**	**+0.1**
COLA				pmax	pmax		
	comp=Z,30nm,0.9s						
CCB	**Clear Creek Bu**	**22.54**	**57**	*e*P	**P**	**18 28 35.2**	**-0.8**
	comp=Z,38nm,1.2s						
PMR	**Palmer**	**22.71**	**66**	*e*P	**P**	**18 28 37.7**	**-0.1**
	comp=Z,12nm,1.2s						
PMR	**Palmer**	**22.71**	**66**	*e*P	**P**	**18 28 37.7**	**-0.1**
PMR				pmax	pmax		
	comp=Z,12nm,1.2s						
GHO	**Glory Hole Cre**	**22.75**	**65**	*e*P	**P**	**18 28 37.5**	**-0.9**
	comp=Z,20nm,1.1s						
ILAR	**Eielson Array**	**22.91**	**57**	*e*P	**P**	**18 28 38.3**	**-1.6**
ILAR	**Eielson Array**	**22.91**	**57**	P	**P**	**18 28 39.5**	**-0.4**
	comp=Z,11nm,0.9s,baz=247,slow=5.5,SNR=48						
ILAR				LR	LR	18 38 10.0	
	comp=Z,193nm,19.0s,baz=309,slow=38						
ILB	**Eielson Array**	**22.91**	**57**	*e*P	**P**	**18 28 38.8**	**

comp=Z,30nm,0.9s
KLU Klutina 24.20 65 *e*P **P 18 28 52.0 -0.7**
comp=Z,48nm,1.0s
HARP HAARP 24.26 62 *e*P **P 18 28 53.3 +0.2**
comp=Z,32nm,0.9s
SCRK Sand Creek 24.32 58 *e*P **P 18 28 51.5 -2.2**
comp=Z,25nm,1.0s
DOT Dot Lake 24.37 59 *e*P **P 18 28 51.8 -2.3**
comp=Z,25nm,0.9s
DIV Divide 24.40 65 *e*P **P 18 28 53.8 -0.6**
comp=Z,31nm,1.2s
EYAK Cordova Ski Ar 24.61 67 *e*P **P 18 28 55.9 -0.4**
comp=Z,42nm,0.9s
USA0B Ussuriysk Arra 24.72 244 *e*P **P 18 28 58.2 +0.8**
comp=Z,52nm,1.6s
USA0B Ussuriysk Arra 24.72 244 P **P 18 28 58.2 +0.8**
USA0B pmax pmax
comp=Z,52nm,1.7s
USRK Ussuriysk Ar. 24.72 244 *e*P **P 18 28 56.6 -0.8**
USRK Ussuriysk Ar. 24.72 244 P **P 18 28 56.3 -1.1**
comp=Z,8.5nm,0.9s,baz=40,slow=7.8,SNR=13
USRK LR LR 18 39 24.8
comp=Z,324nm,19.3s,baz=32,slow=38
MENT Mentasta 24.73 60 *e*P **P 18 28 56.5 -0.8**
comp=Z,24nm,0.9s
BOD Bodaibo 25.17 287⇑ *i*P **P 18 29 00.1 -1.2**
BOD pmax pmax
comp=Z,27nm,1.6s
EGAK Eagle 25.29 56 *e*P **P 18 29 00.7 -1.7**
comp=Z,28nm,0.8s
HMT Hamilton 25.38 66 *e*P **P 18 29 02.8 -0.5**
comp=Z,92nm,1.6s
BCAR Beaver Creek A 25.53 60 *e*P **P 18 29 03.4 -1.2**
BALM Baldy 25.98 64 *e*P **P 18 29 08.8 0.0**
comp=Z,20nm,1.0s
BALM Baldy 25.98 64 *e*P **P 18 29 08.8 0.0**
BALM pmax pmax
comp=Z,20nm,1.0s
DAWY Dawson 26.23 57 *e*P **P 18 29 09.7 -1.3**
comp=Z,16nm,0.9s
CTGM Chitina Glacie 26.47 64 *e*P **P 18 29 13.4 +0.1**
comp=Z,40nm,1.1s
INK Inuvik 27.36 46 *e*P **P 18 29 20.3 -0.8**
comp=Z,11nm,1.0s
INK PcP **PcP 18 32 39.8 +0.3**
INK Inuvik 27.36 46 P **P 18 29 20.2 -0.8**
comp=Z,4.3nm,0.8s,baz=289,slow=8.4,SNR=11
INK PcP **PcP 18 32 39.8 +0.3**
comp=Z,1.0nm,0.5s,baz=299,slow=3.3,SNR=5.6
INK LR LR 18 41 41.9
comp=Z,444nm,18.2s,baz=294,slow=40
CN2 Changchun 28.06 252 *e*P **P 18 29 27.6 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,790nm,19.0s
CN2 LR LR
comp=Z,780nm,19.0s
CN2 LR LR
comp=Z,600nm,20.0s
HYT Haines Junctio 28.24 63 *e*P **P 18 29 29.0 -0.1**
MAJO Matsushiro 28.62 226 *e*P **P 18 29 33.4 +0.8**
MAJO Matsushiro 28.62 226 *i* P **P 18 29 32.4 -0.2**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 28.62 226 P **P 18 29 33.4 +0.8**
comp=Z,1.7nm,0.7s,baz=17,slow=9.4,SNR=4.6
MJAR LR LR 18 41 15.2
comp=Z,439nm,20.7s,baz=40,slow=37
WHY Whitehorse 29.47 62 *e*P **P 18 29 39.7 -0.3**
comp=Z,9.8nm,1.3s
NRIK Noril'sk 31.56 319 P **P 18 29 56.6 -1.6**
comp=Z,7.1nm,0.8s,baz=88,slow=8.6,SNR=11
NRIK LR LR 18 43 27.0
comp=Z,296nm,19.8s,baz=60,slow=38
KSRS Korea Array 31.98 241 P **P 18 30 02.0 -0.2**
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS Korea Array 31.98 241 P **P 18 30 02.0 -0.2**
comp=Z,1.5nm,0.8s,baz=27,slow=10.0,SNR=3.5
KS15 Wonju Array Si 32.01 241 *e*P **P 18 30 02.0 -0.5**
comp=Z,68nm,1.9s
KSAR Wonju Array Be 32.01 241 P **P 18 30 02.0 -0.5**
KSAR Wonju Array Be 32.01 241 P **P 18 30 02.0 -0.5**
DLBC Dease Lake 32.71 63 *e*P **P 18 30 09.4 +0.8**
comp=Z,15nm,0.9s
TLY Talaya 33.52 283 *e*P **P 18 30 15.6 0.0**
comp=Z,8.0nm,0.8s
TLY Talaya 33.52 283 *e*P **P 18 30 15.6 0.0**
TLY pmax pmax
comp=Z,8.0nm,0.8s
DL2 Dalian 33.67 250 P **P 18 30 16.9 -0.1**
DL2 *e*S **S 18 35 38.1 -1.3**
DL2 pmax pmax
comp=Z,17nm,1.1s
DL2 pmax pmax
comp=Z,61nm,5.5s
DL2 LR LR
comp=Z,440nm,17.7s
DL2 LR LR
comp=Z,470nm,16.2s
DL2 LR LR
comp=Z,450nm,15.6s
ULN Ulaanbaatar 34.30 275 *e*P **P 18 30 22.9 +0.3**
comp=Z,5.1nm,1.0s
ULN Ulaanbaatar 34.30 275 *ce*P **P 18 30 22.6 0.0**
ULN pmax pmax
comp=Z,7.0nm,1.3s
JNU Nakatsue 34.45 233 *e*P **P 18 30 25.5 +1.7**
comp=Z,81nm,1.9s
JNU Nakatsue 34.45 233 P **P 18 30 25.5 +1.7**
comp=Z,11nm,1.0s,baz=20,slow=6.9,SNR=4.4
ZAK Zakamensk 34.52 281 *e*P **P 18 30 23.2 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
SONA0 Songino Array 34.65 275 *e*P **P 18 30 26.2 +0.6**
SONA0 *e*PcP **PcP 18 32 57.4 -2.1**
SONM Songino Array 34.65 275 *e*P **P 18 30 25.7 +0.1**
SONM PcP **PcP 18 32 57.4 -2.1**
SONM Songino Array 34.65 275 *e*P **P 18 30 25.7 +0.1**
SONM 18 32 57.4
SONM Songino Array 34.65 275 P **P 18 30 26.2 +0.6**
comp=Z,2.7nm,0.6s,baz=57,slow=8.4,SNR=13
SONM PcP **PcP 18 32 57.4 -2.1**
comp=Z,2.1nm,0.7s,baz=14,slow=3.1,SNR=9.4
SONM LR LR 18 44 04.6
comp=Z,139nm,18.0s,baz=44,slow=36
MOY Mondy 34.82 285 *e*P **P 18 30 29.6 +2.6**
RES Resolute Bay 36.14 26 *e*P **P 18 30 36.9 -1.0**
comp=Z,4.7nm,0.9s
RES Resolute Bay 36.14 26 *e*P **P 18 30 36.9 -1.0**
RES pmax pmax
comp=Z,5.0nm,0.9s
YKW3 Yellowknife Ar 36.88 50 *e*P **P 18 30 43.0 -1.4**
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 36.93 50 *e*P **P 18 30 42.9 -1.8**
YKA PcP **PcP 18 33 05.8 +0.1**
YKA Yellowknife Ar 36.93 50 *e*P **P 18 30 42.9 -1.8**
YKA 18 33 05.9
YKA Yellowknife Ar 36.93 50 P **P 18 30 44.0 -0.7**
comp=Z,4.3nm,0.7s,baz=302,slow=8.3,SNR=33
YKA PcP **PcP 18 33 05.8 +0.1**
comp=Z,0.8nm,0.6s,baz=317,slow=3.8,SNR=8.6
YKB5 Yellowknife Ar 36.93 50 *e*P **P 18 30 44.0 -0.7**
YKB5 *e*PcP **PcP 18 33 05.8 +0.2**
HHC Hu-ho-hao-te 37.06 263 *e*P **P 18 30 45.3 -1.0**
HHC S **S 18 36 33.9 +2.2**
HHC SS **SnSn 18 38 56.8 -8.3**
HHC pmax pmax
comp=Z,84nm,1.0s
HHC pmax pmax
comp=Z,280nm,5.1s
HHC LR LR
comp=Z,700nm,12.8s
HHC LR LR
comp=Z,650nm,13.6s
HHC LR LR
comp=Z,590nm,13.8s
TIA Tai'an 37.96 252 P **P 18 30 55.8 +2.0**
TIA pmax pmax
comp=Z,8.0nm,0.6s
KBS Kingsbay 40.20 352 *ce*P **P 18 31 14.7 +2.7**
KBS pmax pmax
comp=Z,147nm,1.7s
H11N2 WAKE ISLAND Hy 40.39 175 T T 19 12 51.7
baz=358,slow=76,SNR=157
H11N3 WAKE ISLAND Hy 40.40 175 T T 19 12 52.0
baz=358,slow=76,SNR=143
H11N1 WAKE ISLAND Hy 40.40 175 T T 19 12 53.1
baz=358,slow=76,SNR=133
SPA0 Spitsbergen Ar 40.54 350 *e*P **P 18 31 15.1 +0.1**
comp=Z,50nm,0.9s
NJ2 Nanjing 40.57 247 *e*P **P 18 31 17.5 +1.9**
NJ2 S **S 18 37 25.5 +1.0**
NJ2 pmax pmax
comp=Z,3.0nm,0.7s
NJ2 LR LR
comp=Z,550nm,13.6s
NJ2 LR LR
comp=Z,400nm,10.3s
NJ2 LR LR
comp=Z,430nm,14.6s
ZAA1 Zalesovo Array 40.89 298 *e*P **P 18 31 17.1 -1.0**
ZAA1 *e*PcP **PcP 18 33 19.7 +1.4**
ZAA0 Zalesovo Array 40.89 298 *e*P **P 18 31 17.3 -0.7**
comp=Z,2.3nm,0.8s
ZALV Zalesovo Beam 40.89 298 P **P 18 31 17.1 -1.0**
comp=Z,1.8nm,0.7s,baz=27,slow=7.5,SNR=8.2
ZALV PcP **PcP 18 33 19.7 +1.4**
comp=Z,2.6nm,0.7s,baz=47,slow=5.3,SNR=6.3
ZALV LR LR 18 49 09.5
comp=Z,232nm,20.2s,baz=70,slow=38
NVS Novosibirsk 41.00 300 *e*P **P 18 31 18.2 -0.7**
NVS pmax pmax
comp=Z,9.0nm,0.7s
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,6.0nm,0.7s
H11S1 WAKE ISLAND Hy 41.59 175 T T 19 14 22.9
baz=7.4,slow=75,SNR=5.2
H11S3 WAKE ISLAND Hy 41.61 176 T T 19 14 25.4
baz=7.4,slow=75,SNR=3.3
H11S2 WAKE ISLAND Hy 41.61 175 T T 19 14 25.3
baz=7.4,slow=75,SNR=3.5
DGZ Jazzator, Alta 42.59 291 *d i*P **P 18 31 32.2 0.0**
DGZ pmax pmax
comp=Z,11nm,0.8s
DAG Danmarks Havn 43.38 1 *i* P **P 18 31 39.1 +1.0**
DAG pmax pmax
comp=Z,16nm,1.0s
DAG Danmarks Havn 43.38 1 *i* P **P 18 31 39.1 +1.0**
comp=Z,16nm,1.0s
WHN Wuhan 43.93 250 P **P 18 31 43.5 +0.5**
WHN S **S 18 38 14.3 +0.2**
WHN LR LR
comp=Z,920nm,16.9s
WHN LR LR
comp=Z,1μm,17.2s
WHN LR LR
comp=Z,760nm,11.1s
B08A Colville Reser 44.01 69 *e*P **P 18 31 43.7 +0.2**
comp=Z,5.2nm,0.9s
GTA Gaotai 44.02 272 *e*P **P 18 31 44.6 +0.7**
GTA pP pP 18 31 47.6 -0.2
GTA sP sP 18 31 50.6 +1.3
GTA S **S 18 38 16.1 +0.5**
GTA sS pS 18 38 22.8 +2.6
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,49nm,7.3s
GTA LR LR
comp=Z,380nm,18.1s
GTA LR LR
comp=Z,510nm,15.9s
GTA LR LR
comp=Z,840nm,15.9s
LZH Lanzhou 44.58 265 *e*P **P 18 31 49.9 +1.5**
LZH pP pP 18 31 53.3 +1.0
LZH sP sP 18 31 55.9 +2.1
LZH PP **PP 18 33 36.1 +3.9**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,89nm,4.0s
LZH LR LR
comp=Z,690nm,11.9s
LZH LR LR
comp=Z,830nm,13.6s
LZH LR LR
comp=Z,870nm,14.3s
KURK Kurchatov 45.88 298 *e*P **P 18 31 57.4 -0.8**
comp=Z,23nm,0.8s
KURK Kurchatov 45.88 298 *d i*P **P 18 31 57.5 -0.8**
KURK pmax pmax
comp=Z,25nm,0.8s
WALA Waterton Lakes 46.01 65 *e*P **P 18 31 58.9 -0.6**
comp=Z,9.5nm,0.9s
ENH Enshi 46.48 255 *e*P **P 18 32 02.5 -0.8**
comp=Z,38nm,1.8s
PINE Pine Mountain 46.56 75 *e*P **P 18 32 04.6 +0.6**
comp=Z,8.2nm,0.9s
WMQ Urumqi 46.70 285 *e*P **P 18 32 07.8 +2.8**
WMQ pP pP 18 32 11.6 +2.7
WMQ sP sP 18 32 14.0 +3.6
WMQ pmax pmax
comp=Z,35nm,0.9s
WMQ pmax pmax
comp=Z,88nm,4.3s
WMQ LR LR
comp=Z,2μm,18.5s
WMQ LR LR
comp=Z,2μm,19.5s
WMQ LR LR
comp=Z,1μm,17.3s
F10A Beach Ranch, E 46.73 70 *e*P **P 18 32 05.3 +0.2**
comp=Z,7.3nm,1.0s
SUMG Summit 46.75 9 *e*P **P 18 32 05.0 -0.4**
comp=Z,18nm,0.9s
SUMG Summit 46.75 9 *e*P **P 18 32 05.0 -0.4**
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 46.75 9 *i* P **P 18 32 05.8 +0.4**
comp=Z,52nm,1.0s
FFC Flin Flon 46.99 52 *e*P **P 18 32 05.8 -1.1**
comp=Z,5.2nm,0.8s
FFC Flin Flon 46.99 52 *i* P **P 18 32 07.0 +0.1**
MK31 Makanchi Array 47.07 292 *e*P **P 18 32 06.0 -1.7**
comp=Z,5.8nm,0.6s
MK31 Makanchi Array 47.07 292 *e*P **P 18 32 06.0 -1.7**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MK32 Makanchi Array 47.07 292 *e*P **P 18 32 06.5 -1.3**
MKAR Makanchi Array 47.07 292 *e*P **P 18 32 06.0 -1.8**
MKAR Makanchi Array 47.07 292 *e*P **P 18 32 06.0 -1.8**
MKAR Makanchi Array 47.07 292 P **P 18 32 06.5 -1.3**
comp=Z,7.6nm,0.6s,baz=52,slow=6.7,SNR=41
MKAR LR LR 18 51 18.2
comp=Z,298nm,18.8s,baz=34,slow=35
MAKZ Makanchi 47.20 292 *e*P **P 18 32 06.7 -2.1**
comp=Z,21nm,1.6s
MAKZ Makanchi 47.20 292 *e*P **P 18 32 06.7 -2.1**
MAKZ pmax pmax
comp=Z,21nm,1.6s
ARA0 ARCESS Array S 47.23 341 *e*P **P 18 32 07.8 -0.9**
ARCES ARCESS Array B 47.23 341 P **P 18 32 07.8 -0.9**
comp=Z,11nm,0.8s,baz=35,slow=7.6,SNR=18
YBH Yreka Blue Hor 47.25 78 *e*P **P 18 32 09.4 +0.1**
comp=Z,6.3nm,0.9s
YBH Yreka Blue Hor 47.25 78 *e*P **P 18 32 09.4 +0.1**
YBH pmax pmax
comp=Z,6.0nm,0.9s
BMO Blue Mountains 47.52 71 *e*P **P 18 32 11.0 -0.3**
comp=Z,5.3nm,1.1s
BMO Blue Mountains 47.52 71 *e*P **P 18 32 11.0 -0.3**
BMO pmax pmax
comp=Z,5.0nm,1.1s
BVAR Borovoye Array 47.70 305 PcP **PcP 18 33 42.7 +1.1**
comp=Z,2.1nm,0.5s,baz=59,slow=2.5,SNR=6.0
BRVK Borovoye 47.72 305 *e*P **P 18 32 11.7 -1.0**
comp=Z,12nm,0.7s
BRVK Borovoye 47.72 305 *ce*P **P 18 32 12.5 -0.2**
BRVK pmax pmax
comp=Z,12nm,0.7s
WDC Whiskeytown Da 48.20 79 *e*P **P 18 32 16.9 +0.3**
comp=Z,37nm,2.0s
WDC Whiskeytown Da 48.20 79 *e*P **P 18 32 16.9 +0.3**
WDC pmax pmax
comp=Z,37nm,2.0s
MOD Modoc Plateau 48.29 76 *e*P **P 18 32 17.0 -0.5**
comp=Z,5.2nm,0.7s
SVE Sverdlovsk 48.60 314⇓ *e*P **P 18 32 22.3 +2.9**
SVE pmax pmax
comp=Z,18nm,0.9s
SVE MLR MLR
comp=Z,425nm,16.0s
WVOR Wild Horse Val 48.70 74 *e*P **P 18 32 20.7 +0.2**
comp=Z,5.2nm,0.9s
WVOR Wild Horse Val 48.70 74 *e*P **P 18 32 20.7 +0.2**
WVOR pmax pmax
comp=Z,5.0nm,0.9s
CD2 Chengdu 48.77 261 *e*P **P 18 32 20.0 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
TMCR Tamitsa 49.43 332 *e*P **P 18 32 26.9 +1.2**
TMCR pmax pmax
comp=Z,23nm,0.6s
PRGR Permogore 49.59 326 *e*P **P 18 32 27.1 +0.2**
PRGR pmax pmax
comp=Z,21nm,0.8s
ARU Arti 49.64 315 *e*P **P 18 32 26.8 -0.6**
comp=Z,11nm,0.9s
ARU Arti 49.64 315 *c i*P **P 18 32 29.3 +1.9**
ARU 18 33 50.0
ARU 18 34 20.6
ARU S S 18 39 39.5 +4.4
ARU SS **SS 18 43 06.6 0.0**
ARU pmax pmax
comp=Z,11nm,0.8s
ARU MLR MLR
comp=Z,262nm,16.0s
SCO Scoresbysund 49.66 2 *e*P **P 18 32 26.9 -0.4**
comp=Z,15nm,1.1s
SCO Scoresbysund 49.66 2 *e*P **P 18 32 26.9 -0.4**
SCO pmax pmax
comp=Z,15nm,1.1s
SCO Scoresbysund 49.66 2 *i* P **P 18 32 29.6 +2.3**
comp=Z,13nm,1.1s
HLID Hailey 49.86 70 *e*P **P 18 32 29.8 +0.3**
comp=Z,1.7nm,0.8s
PNTR Pine Nut 50.80 78 *e*P **P 18 32 36.8 +0.1**
comp=Z,7.7nm,0.8s
PDGK Podgornoye 50.98 291 P **P 18 32 37.8 -0.1**
PDGK pmax pmax
comp=Z,11nm,0.8s
H17A Grant Village 51.01 67 *e*P **P 18 32 39.5 +1.2**
comp=Z,4.2nm,0.9s
GYA Guiyang 51.03 255⇑ *i*P **P 18 32 38.7 +0.3**
GYA pP sP 18 32 45.8 +2.0
GYA PP **PP 18 34 32.9 -1.8**
GYA S **S 18 39 55.2 -0.1**
GYA SS **SS 18 43 24.5 -5.5**
GYA pmax pmax
comp=Z,10.0nm,0.6s
GYA pmax pmax
comp=Z,70nm,5.0s
GYA LR LR
comp=Z,370nm,18.7s
GYA LR LR
comp=Z,400nm,15.3s
GYA LR LR
comp=Z,240nm,15.3s
RLMT Red Lodge 51.06 65 *e*P **P 18 32 38.6 0.0**
comp=Z,8.9nm,1.0s
FLWY Flagg Ranch 51.20 67 *e*P **P 18 32 40.4 +0.8**
comp=Z,12nm,1.1s
KVN Kaiserville 51.56 77 *e*P **P 18 32 42.8 +0.5**
comp=Z,13nm,1.5s
KVN Kaiserville 51.56 77 *e*P **P 18 32 42.8 +0.5**
KVN pmax pmax
comp=Z,13nm,1.5s
ELK Elko 51.63 73 *e*P **P 18 32 43.0 +0.1**
comp=Z,5.7nm,1.2s
ELK Elko 51.63 73 *e*P **P 18 32 43.0 +0.1**
ELK pmax pmax
comp=Z,6.0nm,1.2s
RYN Ryan 51.68 77 *e*P **P 18 32 43.4 +0.2**
comp=Z,4.1nm,1.0s
KLMR Klimovskoe 51.88 329 *e*P **P 18 32 44.5 +0.3**
KLMR pmax pmax
comp=Z,16nm,0.9s
NV01 Mina Array Sit 51.94 77 *e*P **P 18 32 45.8 +0.6**
NVAR Mina Array Bea 51.94 77 *e*P **P 18 32 45.2 0.0**
NVAR Mina Array Bea 51.94 77 P **P 18 32 45.8 +0.5**
comp=Z,4.0nm,0.9s,baz=306,slow=7.7,SNR=13
PRZ Przheval'sk 52.14 291 *e*P **P 18 32 45.5 -1.2**
comp=Z,9.8nm,0.7s
PRZ Przheval'sk 52.14 291 *e*P **P 18 32 45.5 -1.2**
PRZ pmax pmax
comp=Z,10.0nm,0.7s
MDPB Devils Postpil 52.19 79 *e*P **P 18 32 46.1 -1.0**
comp=Z,6.6nm,0.9s
OMMB Old Mammoth Mi 52.24 79 *e*P **P 18 32 46.9 -0.7**
comp=Z,4.0nm,1.0s
PD31 Pinedale Array 52.74 67 *e*P **P 18 32 51.0 -0.2**
comp=Z,3.5nm,0.8s
PDAR Pinedale Array 52.74 67 *e*P **P 18 32 50.7 -0.5**
PDAR Pinedale Array 52.74 67 P **P 18 32 51.0 -0.2**
comp=Z,3.3nm,0.8s,baz=346,slow=2.6,SNR=9.1
PDAR LR LR 18 56 34.5
comp=Z,111nm,18.1s,baz=348,slow=38
ULM Lac du Bonnet 52.81 52 *e*P **P 18 32 51.0 -0.3**
comp=Z,7.7nm,0.9s
ULM Lac du Bonnet 52.81 52 *e*P **P 18 32 51.0 -0.3**
ULM pmax pmax
comp=Z,8.0nm,0.9s
ULM Lac du Bonnet 52.81 52 P **P 18 32 50.5 -0.8**
comp=Z,5.8nm,0.8s,baz=325,slow=7.8,SNR=9.4
ULM LR LR 18 58 46.5
comp=Z,83nm,20.4s,baz=82,slow=40
KDJ Kajisay 52.99 292 *e*P **P 18 32 52.5 -0.4**
comp=Z,8.6nm,0.7s
KDJ Kajisay 52.99 292 *e*P **P 18 32 52.5 -0.4**
KDJ pmax pmax
comp=Z,9.0nm,0.7s
TARG Taragay, Kyrgy 53.01 291 *e*P **P 18 32 54.4 +1.1**
comp=Z,4.7nm,0.8s
TKM2 Tokmak 2 53.10 293 P **P 18 32 56.1 +2.3**
SNR=9.2
MDND Maddock 53.18 57 *e*P **P 18 32 51.9 -2.1**
comp=Z,17nm,0.8s
BOOM Boomskoye usch 53.28 293 *e*P **P 18 32 55.0 0.0**
BOOM Boomskoye usch 53.28 293 *e*P **P 18 32 55.1 0.0**
ULHL Ulahol 53.33 292 P **P 18 32 55.4 -0.1**
SNR=8.9
CHMS Chumysh 53.43 294 P **P 18 32 58.6 +2.7**
SNR=6.8
KBK Karagaybulak 53.61 294 P **P 18 33 00.2 +2.8**
SNR=7.7
FRU1 Bishkek 53.63 294 *e*P **P 18 32 56.8 -0.7**
comp=Z,19nm,0.7s
FRU1 Bishkek 53.63 294 *e*P **P 18 32 56.8 -0.7**
FRU1 pmax pmax
comp=Z,19nm,0.7s
AAK Ala-Archa 53.83 294 P **P 18 32 59.2 +0.2**
SNR=19
AAK Ala-Archa 53.83 294 *e*P **P 18 32 58.8 -0.2**
comp=Z,16nm,0.6s
AAK Ala-Archa 53.83 294 *de*P **P 18 32 59.1 0.0**
AAK pmax pmax
comp=Z,17nm,0.7s
KZA Kyzart 53.92 293 P **P 18 33 00.3 +0.2**
SNR=9.3
ISA Isabella, Lake 54.04 80 *e*P **P 18 33 00.4 -0.1**
comp=Z,4.3nm,1.0s
ISA Isabella, Lake 54.04 80 *e*P **P 18 33 00.4 -0.1**
ISA pmax pmax
comp=Z,4.0nm,1.0s
KMI Kunming 54.06 258 P **P 18 33 02.4 +1.4**
KMI pP pP 18 33 06.1 +1.2
KMI sP sP 18 33 08.3 +1.8
KMI pmax pmax
comp=Z,11nm,0.5s
KMI pmax pmax
comp=Z,76nm,4.4s
KMI LR LR
comp=Z,360nm,14.5s
KMI LR LR
comp=Z,290nm,15.9s
KMI LR LR
comp=Z,320nm,15.5s
NRN Naryn 54.08 292 *e*P **P 18 33 01.2 +0.1**
NRN Naryn 54.08 292 *e*P **P 18 33 01.2 +0.1**
EKS2 Erkin-Say 54.14 294 P **P 18 33 04.1 +2.9**
SNR=22
RSSD Black Hills 54.19 63 *e*P **P 18 33 02.0 +0.3**
comp=Z,6.8nm,0.9s

RSSD	**Black Hills**	54.19	63	eP	P	18 33 02.0	+0.3
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AGMN	**Agassiz Nation**	54.36	54	eP	P	18 33 02.5	-0.2
	comp=Z,8.9nm,0.9s						
FIA1	**FINESS Array S**	54.45	336	eP	P	18 33 03.6	+0.5
	comp=Z,12nm,0.9s						
FIA0	**FINESS Array S**	54.45	336	eP	P	18 33 03.5	+0.4
FIA0	**FINESS Array S**	54.45	336	eP	P	18 33 03.5	+0.4
FINES	**FINESS Array B**	54.45	336	eP	P	18 33 02.2	-0.8
FINES	**FINESS Array B**	54.45	336	eP	P	18 33 02.2	-0.8
FINES	**FINESS Array B**	54.45	336	P	P	18 33 03.5	+0.4
	comp=Z,7.5nm,0.9s,baz=28,slow=8.6,SNR=14						
FINES				LR	LR	18 59 33.9	
	comp=Z,148nm,18.6s,baz=42,slow=40						
AKTO	**Aktyubinsk**	54.59	311	P	P	18 33 04.0	-0.2
	comp=Z,6.7nm,0.9s,baz=39,slow=9.2,SNR=12						
AML	**Almayashu**	54.59	294	P	P	18 33 07.9	+3.0
	SNR=10						
ABKAR	**Akbulak array**	54.79	309	eP	P	18 33 04.5	-1.3
PUL	**Pulkovo**	55.06	333	ceP	P	18 33 07.5	0.0
PUL				pmax	pmax		
	comp=Z,67nm,0.7s						
GSC	**Goldstone, Bar**	55.15	79	eP	P	18 33 09.3	+0.6
	comp=Z,11nm,0.9s						
KK31	**Karatay Array**	55.27	297	eP	P	18 33 08.4	-0.9
	comp=Z,15nm,0.9s						
KK31	**Karatay Array**	55.27	297	eP	P	18 33 08.4	-0.9
KK31				pmax	pmax		
	comp=Z,15nm,0.9s						
KKAR	**Karatay Array**	55.27	297	eP	P	18 33 08.3	-1.0
	comp=Z,15nm,0.9s						
KKAR	**Karatay Array**	55.27	297	eP	P	18 33 08.3	-1.0
KKAR				pmax	pmax		
	comp=Z,15nm,0.9s						
ARSB	**Arslanbob**	55.56	294	eP	P	18 33 11.3	-0.3
	comp=Z,9.7nm,0.8s						
KSH	**Kashi**	55.61	291	P	P	18 33 16.4	+4.5
KSH				sP	sP	18 33 23.3	+5.9
KSH				S	S	18 41 02.6	+5.3
KSH				ScS	**ScS**	**18 43 01.5**	**+0.8**
KSH				pmax	pmax		
	comp=Z,21nm,0.5s						
KSH				LR	LR		
	comp=Z,270nm,7.3s						
KSH				LR	LR		
	comp=Z,250nm,8.4s						
KSH				LR	LR		
	comp=Z,280nm,7.7s						
QIZ	**Qiongzhong**	55.87	247	P	**P**	**18 33 14.5**	**+0.7**
QIZ				S	**S**	**18 41 01.6**	**+0.7**
QIZ				LR	LR		
	comp=Z,280nm,15.1s						
QIZ				LR	LR		
	comp=Z,300nm,16.1s						
QIZ				LR	LR		
	comp=Z,250nm,16.2s						
LSA	**Lhasa**	56.05	271	eP	P	18 33 15.3	-0.3
	comp=Z,9.3nm,0.8s						
LSA	**Lhasa**	56.05	271	eP	P	18 33 15.3	-0.3
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
EYMN	**Ely**	56.38	51	eP	P	18 33 16.4	-0.8
	comp=Z,7.2nm,1.0s						
U15A	**North Rim**	56.45	74	eP	P	18 33 17.9	-0.3
	comp=Z,14nm,1.2s						
PV17	**East Wray Mesa**	56.56	70	eP	P	18 33 17.2	-1.7
	comp=Z,8.7nm,0.8s						
VSU	**Vasula**	57.03	335	ceP	P	18 33 23.6	+2.0
VSU				pmax	pmax		
	comp=Z,35nm,0.8s						
NC303	**NORSAR Array S**	57.12	344	eP	P	18 33 22.9	+0.6
	comp=Z,52nm,1.5s						
NC204	**NORSAR Array S**	57.15	345	eP	P	18 33 21.3	-1.2
	comp=Z,31nm,0.9s						
NC405	**NORSAR Array S**	57.18	344	eP	P	18 33 22.1	-0.6
	comp=Z,26nm,0.8s						
NB201	**NORSAR Array S**	57.30	344	eP	P	18 33 23.6	+0.1
	comp=Z,44nm,0.9s						
NB2	**NORSAR Subarra**	57.32	344	P	P	18 33 24.1	+0.4
	comp=Z,24nm,1.1s,baz=16,slow=7.4						
NB2	**NORSAR Subarra**	57.32	344	P	P	18 33 24.1	+0.4
	baz=16,slow=7.4						
NB200	**NORSAR Array S**	57.32	344	eP	P	18 33 22.8	-1.0
NOA	**NORSAR Array B**	57.32	344	P	P	18 33 22.8	-1.0
	comp=Z,7.1nm,0.6s,baz=16,slow=7.1,SNR=26						
NOA				LR	LR	18 59 11.3	
	comp=Z,50nm,18.8s,baz=10.0,slow=37						
NBO00	**NORSAR Array S**	57.39	345	eP	P	18 33 24.3	+0.2
	comp=Z,167nm,1.8s						
E38A	**The Farm, Brul**	57.46	52	eP	P	18 33 23.7	-1.1
	comp=Z,14nm,0.6s						
BTK	**Batken**	57.56	295	eP	P	18 33 25.4	-0.4
	comp=Z,20nm,0.7s						
BTK	**Batken**	57.56	295	eP	P	18 33 25.4	-0.4
BTK				pmax	pmax		
	comp=Z,20nm,0.7s						
NC602	**NORSAR Array S**	57.57	344	eP	P	18 33 25.6	+0.2
	comp=Z,71nm,1.5s						
OBN	**Obninsk**	57.65	327⇑	eP	P	18 33 26.3	+0.3
OBN				e		18 35 34.3	
OBN				eS	S	**18 41 26.3**	**+2.7**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,188nm,18.0s						
ECSD	**EROS Data Cent**	57.72	58	eP	P	18 33 26.5	-0.3
	comp=Z,36nm,1.9s						
HFS	**Hagfors**	57.84	343	P	P	18 33 26.8	-0.5
	comp=Z,9.2nm,0.7s,baz=52,slow=5.7,SNR=7.1						
S22A	**4UR Ranch, Cre**	57.99	69	eP	P	18 33 28.9	-0.2
	comp=Z,3.9nm,0.9s						
SPMN	**Marine on St.**	58.09	54	eP	P	18 33 29.3	0.0
	comp=Z,39nm,0.1s						
SCHQ	**Schefferville**	58.61	31	LR	LR	19 03 24.9	
	comp=Z,134nm,18.3s,baz=315,slow=41						
GAR	**Garm**	58.64	294	eP	P	18 33 32.8	-0.6
	comp=Z,33nm,0.7s						
GAR	**Garm**	58.64	294	eP	P	18 33 32.8	-0.6
GAR				pmax	pmax		
	comp=Z,33nm,0.7s						
KONO	**Kongsberg**	58.88	345	eP	P	18 33 34.3	-0.3
	comp=Z,18nm,0.8s						
KONO	**Kongsberg**	58.88	345	ceP	P	18 33 36.1	+1.5
KONO				pmax	pmax		
	comp=Z,15nm,0.8s						
G40A	**Rib Lake**	59.09	52	eP	P	18 33 35.4	-0.9
	comp=Z,8.2nm,1.0s						
X18A	**Snowflake**	59.10	74	eP	P	18 33 36.3	-0.5
	comp=Z,7.6nm,0.9s						
F41A	**Three Lakes**	59.13	51	eP	P	18 33 35.7	-0.9
	comp=Z,3.9nm,0.7s						
LPSR	**Galich'ya Gora**	59.20	324	eP	P	18 33 37.9	+1.1
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CHGR	**Chuyangaron**	59.45	295	eP	P	18 33 38.8	-0.2
	comp=Z,14nm,0.9s						
VRH	**Novokhopyorsk**	59.58	322	eP	P	18 33 40.3	+0.8
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
H41A	**Junction City**	59.85	52	eP	P	18 33 40.8	-0.8
	comp=Z,10nm,0.6s						
JIRN	**Jiri**	60.20	274	eP	P	18 33 43.3	-1.3
VSR	**Storozhevoye**	60.34	323	eP	P	18 33 45.3	+0.5
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VORD	**Divnogorie**	60.52	323	eP	P	18 33 46.0	0.0
VORD				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KKN	**Kakani**	60.55	275	eP	P	18 33 44.8	-2.0
	comp=Z,8.2nm,0.6s						
RAMN	**Ramite**	60.58	273	eP	P	18 33 45.3	-1.8
	comp=Z,32nm,0.9s						
PKI	**Pulchoki**	60.67	275	eP	P	18 33 46.5	-1.2
	comp=Z,14nm,1.0s						
PKIN	**Phulchoki**	60.67	275	eP	P	18 33 46.4	-1.3
	comp=Z,10nm,0.8s						
GKN	**Gorkha**	60.70	276	eP	P	18 33 46.4	-1.3
I42A	**Draeger Farm,**	60.75	52	eP	P	18 33 47.2	-0.5
	comp=Z,9.3nm,0.8s						
DMN	**Daman**	60.79	275	eP	P	18 33 46.6	-1.9
DANN	**Dangsing**	60.85	277	eP	P	18 33 47.7	-1.2
	comp=Z,28nm,0.7s						
PHRA	**Phrae**	60.89	256	P	P	18 33 53.6	+4.7
	comp=Z,0.8nm,0.9s						
LAMP	**Lampang**	61.16	257	P	P	18 33 53.1	+2.3
	comp=Z,13μm,0.7s						
CHTO	**Chiang Mai**	61.25	257	eP	P	18 33 50.6	-0.8
	comp=Z,2.7nm,0.8s						
CHTO	**Chiang Mai**	61.25	257	eP	P	18 33 50.6	-0.8
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VLDQ	**Val d'Or**	61.35	42	eP	P	18 33 49.6	-2.1
	comp=Z,7.1nm,0.7s						
KOLN	**Koldanda**	61.40	276	eP	P	18 33 51.6	-1.0
	comp=Z,9.3nm,0.5s						
PYUN	**Piuthan**	61.44	277	eP	P	18 33 52.0	-0.8
	comp=Z,38nm,0.9s						
CM31	**Chiang Mai Arr**	61.55	257	eP	P	18 33 52.9	-0.5
	comp=Z,6.0nm,1.1s						
CMAR	**Chiang Mai Arr**	61.55	257	eP	P	18 33 53.0	-0.5
CMAR	**Chiang Mai Arr**	61.55	257	P	P	18 33 52.9	-0.5
	comp=Z,0.9nm,0.6s,baz=18,slow=7.1,SNR=11						
CMAR				LR	LR	19 02 46.0	
	comp=Z,112nm,18.5s,baz=52,slow=38						
NIL	**Nilore**	61.63	289	eP	P	18 33 54.1	+0.2
	comp=Z,27nm,1.0s						
NIL	**Nilore**	61.63	289	eP	P	18 33 54.1	+0.2
NIL				pmax	pmax		
	comp=Z,27nm,1.0s						
SUW	**Suwalki**	61.91	335	eP	P	18 33 54.9	-0.5
SUW	**Suwalki**	61.91	335	eP	P	18 33 54.9	-0.5
AMTX	**Amarillo**	62.72	67	eP	P	18 33 60.0	-1.2
	comp=Z,8.2nm,0.6s						
KBL	**Kabul**	62.87	292	eP	P	18 34 00.9	-1.5
	comp=Z,16nm,0.6s						
KBL	**Kabul**	62.87	292	eP	P	18 34 00.9	-1.5
KBL				pmax	pmax		
	comp=Z,16nm,0.6s						
MSTX	**Muleshoe**	62.97	69	eP	P	18 34 02.3	-0.6
	comp=Z,7.7nm,0.7s						
AKASG	**Malin Array Be**	63.56	329	eP	P	18 34 05.9	-0.5
AKASG	**Malin Array Be**	63.56	329	P	P	18 34 05.6	-0.8
	comp=Z,6.7nm,0.7s,baz=27,slow=6.7,SNR=32						
AKASG				LR	LR	19 05 25.2	
	comp=Z,236nm,18.8s,baz=30,slow=40						
AKBB	**Malin Array Si**	63.56	329	eP	P	18 34 06.6	+0.2
	comp=Z,9.1nm,0.9s						
KIEV	**Kiev**	63.57	329	eP	P	18 34 06.6	+0.1
	comp=Z,7.8nm,0.8s						
KIEV	**Kiev**	63.57	329	iP	P	18 34 07.3	+0.8
KIEV	**Kiev**	63.57	329	⇓P	P	18 34 07.3	+0.8
MNTX	**Cornudas Mount**	63.61	72	eP	P	18 34 06.9	-0.2
	comp=Z,8.1nm,1.4s						
WMOK	**Wichita Mounta**	64.17	65	eP	P	18 34 10.4	-0.3
	comp=Z,7.8nm,1.1s						
WMOK	**Wichita Mounta**	64.17	65	eP	P	18 34 10.4	-0.3
WMOK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ESK	**Eskdalemuir**	64.46	352	iP	P	18 34 15.4	+3.2
GEYT	**Alibeck**	64.89	303	P	P	18 34 15.4	0.0
	comp=Z,909nm,0.5s,baz=2.9,slow=3.0,SNR=13						
GEYT				LR	LR	19 05 40.6	
	comp=Z,310nm,18.5s,baz=10.0,slow=39						
GYA0B	**ALIBECK ARRAY**	64.89	303	eP	P	18 34 15.3	-0.1
	comp=Z,11nm,0.9s						
HHAR	**Hobbs**	65.03	60	eP	P	18 34 15.0	-1.3
	comp=Z,6.1nm,0.6s						
BTLR	**Botlikh**	65.50	314	iP	P	18 34 20.8	+1.5
KIV	**Kislovodsk**	65.61	317	eP	P	18 34 25.1	+5.0
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
LVV	**L'vov**	65.64	333	eP	P	18 34 21.4	+1.4
KBZ	**Khabaz**	65.74	317	P	P	18 34 20.4	-0.3
	comp=Z,6.7nm,0.8s,baz=49,slow=4.1,SNR=16						
SHA1	**Shidzhatmaz**	65.81	317	iP	P	18 34 21.2	-0.3
AKT	**Akhty**	65.98	312	iP	P	18 34 23.2	+0.7
KWP	**Kalwaria Pacla**	66.12	333	eP	P	18 34 24.8	+1.7
KWP	**Kalwaria Pacla**	66.12	333	eP	P	18 34 23.0	-0.1
	comp=Z,358nm,0.9s						
KWP	**Kalwaria Pacla**	66.12	333	eP	P	18 34 23.0	-0.1
OJC	**Ojcow**	66.20	335	eP	P	18 34 25.9	+2.3
OJC	**Ojcow**	66.20	335	eP	P	18 34 24.3	+0.7
	comp=Z,21nm,1.0s						
OJC	**Ojcow**	66.20	335	eP	P	18 34 25.9	+2.3
ZEI	**Tsey**	66.22	316	eP	P	18 34 23.4	-0.7
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KSP	**Ksiaz**	66.30	338	eP	P	18 34 25.3	+1.1
KSP	**Ksiaz**	66.30	338	eP	P	18 34 25.3	+1.1
M54A	**Oil Creek Stat**	66.32	47	eP	P	18 34 22.5	-2.0
	comp=Z,21nm,1.3s						
LTX	**Lajitas**	66.39	72	eP	P	18 34 25.7	+0.4
TX31	**Lajitas Ar. Si**	66.39	72	eP	P	18 34 25.4	+0.1
	comp=Z,4.4nm,1.1s						
TXAR	**Lajitas Array**	66.39	72	eP	P	18 34 25.2	-0.1
TXAR	**Lajitas Array**	66.39	72	P	P	18 34 25.7	+0.4
	comp=Z,1.7nm,0.9s,baz=293,slow=6.4,SNR=9.8						
CLL	**Collm**	66.44	340	eP	P	18 34 24.3	-0.8
	comp=Z,9.9nm,0.9s						
CLL	**Collm**	66.44	340	eP	P	18 34 24.3	-0.8
CLL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLL	**Collm**	66.44	340	iP	P	18 34 24.9	-0.2
	comp=Z,12nm,0.9s						
CLL				e		18 34 36.0	
CLL				ePP	**PP**	**18 36 51.0**	**+0.3**
LBNH	**Lisbon**	66.58	40	eP	P	18 34 26.0	-0.2
	comp=Z,10nm,1.0s						
LBNH	**Lisbon**	66.58	40	eP	P	18 34 26.0	-0.2
LBNH				pmax	pmax		
	comp=Z,11nm,1.0s						
UPC	**Upice**	66.67	338	eP	P	18 34 28.8	+2.2
UPC	**Upice**	66.67	338	eP	P	18 34 28.8	+2.2
BRG	**Berggiesshubel**	66.69	340	eP	P	18 34 28.4	+1.6
	comp=Z,6.8nm,1.1s						
BRG	**Berggiesshubel**	66.69	340	eP	P	18 34 28.4	+1.6
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
DPC	**Dobruska-Polom**	66.76	338	eP	P	18 34 28.8	+1.5
DPC				e		18 34 40.4	
DPC	**Dobruska-Polom**	66.76	338	eP	P	18 34 28.8	+1.5
DPC				ex	x	18 34 40.4	
NIE	**Niedzica**	66.85	335	eP	P	18 34 30.6	+2.8
NIE	**Niedzica**	66.85	335	eP	P	18 34 30.6	+2.8
TBLG	**Delisi**	66.85	314	eP	P	18 34 27.8	-0.2
	comp=Z,15nm,1.0s						
TBLG	**Delisi**	66.85	314	eP	P	18 34 27.8	-0.2
TBLG				pmax	pmax		
	comp=Z,15nm,1.0s						
KOLS	**Kolonicke sedl**	66.88	333	eP	P	18 34 29.7	+1.7
KOLS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KOLS	**Kolonicke sedl**	66.88	333	eP	P	18 34 29.7	+1.7
OKC	**Ostrava-Krasne**	66.90	336	eP	P	18 34 29.9	+1.8
OKC	**Ostrava-Krasne**	66.90	336	eP	P	18 34 29.9	+1.8
WHTX	**Lake Whitney,**	67.07	66	eP	P	18 34 30.4	+0.9
	comp=Z,7.7nm,0.6s						
MORC	**Moravsky Berou**	67.08	337	eP	P	18 34 29.5	+0.2
	comp=Z,8.7nm,0.9s						
MORC	**Moravsky Berou**	67.08	337	iP	P	18 34 30.8	+1.5
MORC	**Moravsky Berou**	67.08	337	⇓P	P	18 34 30.8	+1.5
MORC	**Moravsky Berou**	67.08	337	eP	P	18 34 30.4	+1.1
KIS	**Kishinev**	67.08	328	eP	P	18 34 30.0	+0.8
KIS				LRM	MLR	19 07 20.0	
	comp=Z,400nm,20.0s						
KIS	**Kishinev**	67.08	328	eP	P	18 34 30.0	+0.8
UZH	**Uzhgorod**	67.16	333	⇑iP	P	18 34 31.3	+1.6
UZH				e		18 34 35.3	
UZH				eS	S	**18 43 23.8**	**+0.4**
UZH				e		18 43 42.3	
N55A	**Marion Center**	67.20	47	eP	P	18 34 30.1	-0.1
	comp=Z,15nm,0.9s						
LANS	**Liptovska Anna**	67.28	335	eP	P	18 34 32.8	+2.2
LANS	**Liptovska Anna**	67.28	335	eP	P	18 34 32.8	+2.2
BUR08	**Bucovina Ar. S**	67.40	331	eP	P	18 34 32.1	+0.7
	comp=Z,6.8nm,0.8s						
BURAR	**Bucovina Array**	67.42	331	eP	P	18 34 31.4	-0.2
BURAR	**Bucovina Array**	67.42	331	⇑iP	P	18 34 33.3	+1.7
BURAR	**Bucovina Array**	67.42	331	⇑P	P	18 34 33.3	+1.7
PRU	**Pruhonice**	67.44	339	eP	P	18 34 33.7	+2.2
PRU	**Pruhonice**	67.44	339	eP	P	18 34 33.7	+2.2
NKC	**Novy Kostel**	67.57	340	eP	P	18 34 33.8	+1.4
NKC	**Novy Kostel**	67.57	340	eP	P	18 34 33.8	+1.4
TRPA	**Tarpa**	67.57	333	⇑iP	P	18 34 32.3	0.0
TRPA	**Tarpa**	67.57	333	eP	P	18 34 34.0	+1.7
VRAC	**Vranov**	67.71	337	⇑iP	P	18 34 34.2	+1.0
VRAC	**Vranov**	67.71	337	⇑P	P	18 34 34.2	+1.0
VRAC	**Vranov**	67.71	337	eP	P	18 34 34.4	+1.2
VRAC	**Vranov**	67.71	337	P	P	18 34 33.0	-0.2
	comp=Z,7.3nm,0.8s,baz=23,slow=7.3,SNR=8.3						
BIZ	**Bicaz**	67.83	330	⇑iP	P	18 34 36.0	+2.0
JAVC	**Velka Javorina**	67.92	336	eP	P	18 34 36.9	+2.2
TREC	**Trest**	67.93	338	eP	P	18 34 36.1	+1.4
TREC	**Trest**	67.93	338	eP	P	18 34 36.1	+1.4
KRUC	**Moravsky**	67.98	337	eP	P	18 34 36.2	+1.3
VYHS	**Vyhne**	68.03	336	eP	P	18 34 36.7	+1.4
VYHS				pmax	pmax		
	comp=Z,8.0nm,1.5s						
VYHS	**Vyhne**	68.03	336	eP	P	18 34 36.7	+1.4
KOLL	**Kolacno**	68.04	336	eP	P	18 34 38.2	+2.9
TESR	**Tescani**	68.09	329	⇑iP	P	18 34 36.1	+0.4
ARCR	**ARCALIA**	68.12	331	⇑iP	P	18 34 39.0	+3.1
MEM	**Membach**	68.17	345	⇑P	P	18 34 36.1	0.0
	comp=Z,18nm,1.0s						
GNI	**Garni**	68.24	314	eP	P	18 34 37.5	+0.6
	comp=Z,19nm,1.1s						
PSZ	**Piszkesteto**	68.36	335	eP	P	18 34 37.1	-0.3
	comp=Z,10nm,1.0s						
PSZ	**Piszkesteto**	68.36	335	⇑iP	P	18 34 39.8	+2.4
PSZ	**Piszkesteto**	68.36	335	⇑P	P	18 34 39.8	+2.4
PSZ	**Piszkesteto**	68.36	335	⇑eP	P	18 34 40.0	+2.6
LTVH	**Ltavrtes, Hu**	68.42	333	eP	P	18 34 36.1	-1.6
KHC	**Kasperske Hory**	68.44	339	eP	P	18 34 38.0	+0.2
	comp=Z,2.9nm,1.0s						
KHC	**Kasperske Hory**	68.44	339	eP	P	18 34 38.0	+0.2
KHC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KHC	**Kasperske Hory**	68.44	339	eP	P	18 34 39.1	+1.2
BCLA	**Clavier**	68.44	345	⇑P	P	18 34 39.7	+1.9
MODS	**Modra-Piesok**	68.47	337	eP	P	18 34 40.0	+2.0
MODS				pmax	pmax		
	comp=Z,11nm,1.0s						
MODS	**Modra-Piesok**	68.47	337	eP	P	18 34 40.0	+2.0
CJR	**Cluj-Napoca**	68.66	332	⇓iP	P	18 34 41.8	+2.5
CJR	**Cluj-Napoca**	68.66	332	⇓P	P	18 34 41.8	+2.5
ZST	**Bratislava**	68.67	337	eP	P	18 34 40.9	+1.6
ZST	**Bratislava**	68.67	337	eP	P	18 34 40.9	+1.6
GEC2	**GERESS Array S**	68.69	339	eP	P	18 34 39.3	-0.2
	comp=Z,6.4nm,0.9s						
GEC2	**GERESS Array S**	68.69	339	eP	P	18 34 39.3	-0.2
GEC2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GERES	**GERESS Array B**	68.69	339	P	P	18 34 39.3	-0.2
	comp=Z,3.8nm,0.8s,baz=35,slow=4.9,SNR=28						
GERES				LR	LR	19 08 31.8	
	comp=Z,110nm,19.0s,baz=24,slow=39						
DRGR		68.79	332	⇑iP	P	18 34 42.3	+2.2
DRGR		68.79	332	⇑P	P	18 34 42.3	+2.2
DOU	**Dourbes**	68.85	346	⇑P	P	18 34 40.8	+0.4
DOPR	**Dopca**	68.92	330	⇑iP	P	18 34 41.4	+0.5
CFR	**Carcaliu**	68.94	328	⇑iP	P	18 34 42.8	+1.8
CFR	**Carcaliu**	68.94	328	⇑P	P	18 34 42.8	+1.8
CONA	**Conrad Observa**	69.17	337	epP	P	18 34 44.0	+1.5
	comp=Z,7.5nm,0.8s,SNR=7.3						
MLR	**Muntele Rosu**	69.22	330	eP	P	18 34 42.9	0.0
	comp=Z,8.2nm,1.0s						
MLR	**Muntele Rosu**	69.22	330	⇑iP	P	18 34 45.8	+2.9
MLR	**Muntele Rosu**	69.22	330	⇑P	P	18 34 45.8	+2.9
MLR	**Muntele Rosu**	69.22	330	P	P	18 34 42.5	-0.4
	comp=Z,4.3nm,0.8s,baz=152,slow=7.2,SNR=13						
TLB	**Topalu**	69.51	328	⇓iP	P	18 34 44.1	-0.4
TLB	**Topalu**	69.51	328	⇓P	P	18 34 44.1	-0.4
SIRR	**Siria**	69.53	333	⇓iP	P	18 34 46.5	+1.9
SBUM	**Sibu**	69.53	236	eP	P	18 34 44.8	-0.2
	comp=Z,4.1nm,1.0s						
MOA	**Molln**	69.55	338	eP	P	18 34 46.9	+2.2
	comp=Z,7.7nm,1.2s						
BFO	**Black Forest**	70.07	343	iP	P	18 34 49.6	+1.6
GZR	**Gura Zlata**	70.09	332	⇑iP	P	18 34 49.0	+0.8
GZR	**Gura Zlata**	70.09	332	⇑P	P	18 34 49.0	+0.8
BZS	**Buzias**	70.15	333	⇓iP	P	18 34 49.9	+1.4
BZS	**Buzias**	70.15	333	⇓P	P	18 34 49.9	+1.4
MORH	**Mrgy, Hungar**	70.24	335	eP	P	18 34 50.1	+1.1
ECH	**Echery**	70.35	343	eP	P	18 34 49.9	+0.2
	comp=Z,10.0nm,1.2s						
ECH	**Echery**	70.35	343	eP	P	18 34 49.9	+0.2
ECH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KBA	**Koelnbreinsper**	70.46	339	eP	P	18 34 53.5	+3.0
	comp=Z,14nm,1.3s,SNR=7.1						
WATA	**Walderalm**	70.52	340	eP	P	18 34 52.7	+1.8
	comp=Z,5.7nm,0.8s						
WTTA	**Wattenberg**	70.58	340	epP	P	18 34 52.6	+1.3
	comp=Z,11nm,1.4s						
MOTA	**Moosalm**	70.59	341	epP	P	18 34 52.8	+1.4
	comp=Z,7.4nm,1.0s						
HERR	**Herculane**	70.66	332	⇑iP	P	18 34 52.2	+0.6
SQTA	**Sankt Quirin**	70.69	340	eP	P	18 34 54.0	+2.1
	comp=Z,12nm,0.9s,SNR=5.1						
OBKA	**Obir**	70.78	338	eP	P	18 34 55.0	+2.5
	comp=Z,21nm,0.9s,SNR=5.5						
ABTA	**Abfaltersbach**	70.93	339	eP	P	18 34 55.5	+2.2
	comp=Z,16nm,1.3s,SNR=5.7						
FETA	**Feichten**	70.97	341	epP	P	18 34 54.7	+1.1
	comp=Z,8.9nm,0.9s						
DAVOX	**Davos/Dischmat**	71.34	341	P	P	18 34 57.2	+1.2
	comp=Z,4.0nm,0.8s,baz=356,slow=12,SNR=6.1						
BRTR	**Keskin Array B**	72.37

PB15 *i* S S 18 29 26.7 -1.3
PB06 IPOC Station P 2.47 297⇑*i*P Pn 18 28 55.6 +0.2
PB06 *i* S S 18 29 31.6 -1.2
PB06 IAML 18 29 33.4
comp=E,164nm,0.2s
GO02 Mina Guanaco 2.56 238⇑*i*P Pn 18 28 55.5 -0.9
GO02 *i* S S 18 29 32.6 -2.1
GO02 IAML 18 29 32.9
comp=N,342nm,0.3s
PB09 IPOC Station P 2.78 317⇑*i*P Pn 18 28 58.9 +0.3
PB09 IAML 18 29 43.7
comp=E,42nm,0.5s
PB05 IPOC Station P 2.94 289 *i*P Pn 18 29 00.5 +0.3
PB05 *i* S S 18 29 40.1 -1.4
PB05 IAML 18 29 42.5
comp=E,45nm,0.2s
PB03 IPOC Station P 2.96 306⇑*i*P Pn 18 29 00.7 +0.3
PB03 *i* S S 18 29 40.6 -1.4
PB03 IAML 18 29 43.8
comp=E,112nm,0.2s
PB14 IPOC Station P 3.04 254⇓*i*P Pn 18 29 01.5 +0.1
PB14 *i* S S 18 29 41.7 -2.1
PB14 IAML 18 29 44.6
comp=E,141nm,0.4s
PB04 IPOC Station P 3.11 298⇑*e*P Pn 18 29 02.7 +0.6
PB04 *i* S S 18 29 43.7 -1.2
PB04 IAML 18 29 49.6
comp=N,102nm,0.2s
PB07 IPOC Station P 3.26 310⇑*i*P Pn 18 29 04.0 +0.3
PB07 *i* S S 18 29 46.4 -1.5
PB07 IAML 18 29 47.8
comp=N,101nm,0.3s
PB01 IPOC Station P 3.50 322⇓*i*P Pn 18 29 06.4 +0.1
PB01 *i* S S 18 29 51.2 -1.5
PB01 IAML 18 29 54.4
comp=E,60nm,0.2s
PB02 IPOC Station P 3.54 314⇑*i*P Pn 18 29 06.8 0.0
PB02 *i* S S 18 29 51.8 -1.7
PB02 IAML 18 29 58.8
comp=E,103nm,0.3s
PB08 IPOC Station P 4.11 333⇓*e*P Pn 18 29 14.4 +0.8
PB08 *i* S S 18 30 05.4 -0.4
PB08 IAML 18 30 07.7
comp=E,29nm,0.2s
MNMC Minye Minye 5.19 334⇑*i*P Pn 18 29 26.7 +0.1
MNMC *e*S S 18 30 28.1 -1.2

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*ISCJB **06** 18:29:13.6±0.5, 4°.81N±0°.05×75°.35W±0°.05, h163km±4km, mb3.2/5, Error ellipse: s-maj=8.8km s-min=6.7km az=40.9*
*RSNC **06** 18:29:15.2±1.1, 4°.79N×75°.31W, h151km±7km, ML3.7*
*IDC **06** 18:29:15.5±0.7, 4°.89N×75°.13W, h167km±9km, mb3.0/5, mb1 3.4/6, mb1mx3.1/37, mbtmp3.6/6, Error ellipse: s-maj=26.4km s-min=16.6km az=93.0*
ISC 06 18:29:14.3±0.8, **4°.81N**±0°.05×**75°.31W**±0°.05, **h157**km±6km, **n20**, σ1§**17**/28, **mb3.1**/5, **1C, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RREF	**El Recreo**	**0.10**	**337**	*e*P	**Pn**	**18 29 35.6**	**-0.5**
RREF				*e*S	**Sn**	**18 29 51.4**	**-1.3**
PLMC	**San Jos del P**	**0.97**	**276**	*e*P	**Pn**	**18 29 39.2**	**-0.4**
PLMC				*e*S	**Sn**	**18 29 59.1**	**+0.1**
ROSC	**El Rosal**	**0.99**	**88**	*e*P	**Pn**	**18 29 40.6**	**+0.6**
ROSC	**El Rosal**	**0.99**	**88**	P	**Pn**	**18 29 40.6**	**+0.6**
	82nm,0.3s,baz=263,slow=1.0,SNR=157						
ROSC				S	**Sn**	**18 30 01.6**	**+1.9**
	28nm,0.3s,baz=211,slow=21,SNR=5.6						
VILC	**Villavicencio,**	**1.75**	**113**	*e*P	**Pn**	**18 29 48.1**	**+0.8**
VILC				*i*		18 29 49.6	
	comp=Z,910nm,0.6s						
VILC				*e*S	**Sn**	**18 30 12.2**	**-0.3**
MARP	**Paez Belalcaza**	**2.06**	**198**	*e*P	**Pn**	**18 29 49.9**	**-0.9**
MARP				*i*		18 29 50.5	
	comp=Z,119nm,0.2s						
MARP				*e*S	**Sn**	**18 30 17.9**	**-1.1**
MALC	**Bahia Malaga**	**2.17**	**249**⇑	*e*P	**Pn**	**18 29 52.0**	**+0.2**
MALC				*e*S	**Sn**	**18 30 21.0**	**+0.3**
MALC				*i*		18 30 23.0	
	comp=N,772nm,0.3s						
ZARC	**Zaragoza, Cauc**	**2.70**	**10**	*e*P	**Pn**	**18 29 58.5**	**+0.2**
UREC	**San Jos de Ur**	**2.93**	**356**	*e*P	**Pn**	**18 30 01.2**	**+0.1**
SOTA	**Rioblanco**	**2.96**	**206**	*e*P	**Pn**	**18 30 01.8**	**-0.1**
SOTA				*e*S	**Sn**	**18 30 38.4**	**-0.4**
SOTA				*i*		18 30 47.9	
	comp=Z,199nm,0.7s						
FLOC	**Florencia**	**3.23**	**186**	*e*P	**Pn**	**18 30 04.0**	**-0.8**
FLOC				*i*		18 30 05.0	
	comp=Z,107nm,0.4s						
CRUC	**La Cruz**	**3.62**	**207**	*e*P	**Pn**	**18 30 10.1**	**0.0**
CRUC				*i*		18 30 12.7	
	comp=Z,153nm,0.2s						
SDV	**Santo Domingo**	**6.16**	**49**	P	**Pn**	**18 30 43.8**	**+0.4**
	comp=Z,7.1nm,0.3s,baz=150,slow=6.1,SNR=12						
SDV				S	**Sn**	**18 31 48.9**	**-4.2**
	comp=Z,1.3nm,0.3s,baz=209,slow=7.8,SNR=3.4						
LPAZ	**La Paz**	**22.13**	**161**	P	**P**	**18 33 57.2**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=328,slow=9.5,SNR=2.8						
TXAR	**Lajitas Array**	**36.26**	**315**	P	**P**	**18 36 01.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=113,slow=11,SNR=4.0						
PDAR	**Pinedale Array**	**48.47**	**326**	P	**P**	**18 37 42.1**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=150,slow=4.1,SNR=2.1						
YKA	**Yellowknife Ar**	**64.41**	**341**	P	**P**	**18 39 33.9**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=135,slow=6.2,SNR=13						
ILAR	**Eielson Array**	**77.86**	**335**	P	**P**	**18 40 53.9**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=95,slow=4.5,SNR=3.8						
ASAR	**Alice Springs**	**146.18**	**234**	PKPbc	**PKPdf**	**18 48 37.1**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=126,slow=3.5,SNR=37						
WRA	**Warramunga Arr**	**147.46**	**240**	PKPbc	**PKPbc**	**18 48 41.5**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=106,slow=3.2,SNR=36						

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*NSSC **06** 18:33:07.7±0.8, 37°.79N×38°.54E, h0km±999km, ML3.7*
*ISK **06** 18:33:17.7, 37°.31N×37°.15E, h8km, ML4.0/34*
*NEIC **06** 18:33:17.7±0.0, 37°.31N×37°.15E, h7km, mb3.6/1, ML4.0(ISK), After ISK.*
*ISCJB **06** 18:33:18.6±0.5, 37°.31N±0°.02×37°.14E±0°.02, h6km±3km, mb3.4/5, Error ellipse: s-maj=2.7km s-min=2.6km az=140.0*
*DDA **06** 18:33:18.2, 37°.30N×37°.13E, h12km±1km, ML4.3*
*IDC **06** 18:33:18.7±1.1, 37°.29N×37°.06E, h0km, mb3.5/6, mb1 3.5/11, mb1mx3.4/52, mbtmp3.4/11, ML3.6/5, MS2.7/2, Ms1 2.6/2, ms1mx2.3/38, Error ellipse: s-maj=22.2km s-min=12.5km az=82.0*
*GII **06** 18:33:19.6±0.0, 37°.31N×37°.15E, h1km*
ISC 06 18:33:19.0±1.0, **37°.30N**±0°.02×**37°.15E**±0°.02, **h5**km±7km, **n133**, σ1§**21**/157, **mb3.4**/5, **16C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.14**	**160**	PG	**Pg**	**18 33 21.3**	**-0.5**
HCB	**Kahramanmara**	**0.20**	**282**	IAML_P			
	comp=Z,222µm,0.1s						
HCB				⇑*i*P	**Pg**	**18 33 23.1**	**+0.2**
HCB				*i* S	**Sg**	**18 33 25.5**	**-0.1**
KMRS	**Kahramanmaras**	**0.28**	**316**	PG	**Pg**	**18 33 24.1**	**-0.5**
KMRS				SG	**Sg**	**18 33 27.6**	**-0.8**
AYKD	**Aykdinkavak**	**0.30**	**292**	IAML_P			
	comp=Z,174µm,0.1s						
AYKD				⇑*i*P	**Pg**	**18 33 24.9**	**+0.1**
AYKD				*i* S	**Sg**	**18 33 28.9**	**+0.2**
GZT	**Gaziantep**	**0.33**	**81**	IAML_P			
	comp=Z,188µm,0.1s						
GZT				⇑*i*P	**Pb**	**18 33 26.8**	**-0.7**
GZT				*i* S	**Sb**	**18 33 34.2**	**+0.9**
KAMA	**Osmaniye**	**0.40**	**254**⇑	*i*P	**Pg**	**18 33 26.3**	**-0.5**
KAMA				*i* S	**Sg**	**18 33 32.5**	**+0.5**
KUZU	**Kuzuini**	**0.53**	**187**⇓	*i*P	**Pb**	**18 33 30.8**	**-0.1**
KUZU				*i* S	**Sg**	**18 33 37.6**	**+1.5**
ANDN	**Andirin**	**0.70**	**294**	IAML_P			
	comp=Z,52µm,0.2s						
ANDN				⇓*i*P	**Pg**	**18 33 32.7**	**+0.3**
ANDN				*i* S	**Sn**	**18 33 44.9**	**-2.1**
ATAB	**Bozova**	**0.93**	**79**⇑	*i*P	**Pb**	**18 33 37.4**	**-0.2**
ATAB				*i* S	**Sb**	**18 33 49.9**	**-0.4**
ELBS	**KAHRAMANMARAS**	**1.02**	**359**⇓	*i*P	**Pg**	**18 33 38.4**	**-0.2**
ELBS				*i* S	**Sn**	**18 33 55.3**	**+0.4**
KOZT	**Kozan**	**1.07**	**280**	PG	**Pg**	**18 33 38.5**	**-1.0**
SAIM	**ADANA**	**1.08**	**309**	IAML_P			
	comp=Z,67µm,0.3s						
SAIM				⇓*i*P	**Pg**	**18 33 39.4**	**-0.4**
SAIM				*i* S	**Sn**	**18 33 55.7**	**-0.8**
CEYT	**Ceyhan**	**1.16**	**256**	PN	**Pg**	**18 33 40.4**	**-0.8**
AKCD	**Akcadag**	**1.17**	**31**	IAML_P			
	comp=Z,49µm,0.2s						
AKCD				⇑*i*P	**Pn**	**18 33 41.6**	**-0.5**
AKCD				*i* S	**Sn**	**18 33 58.8**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.21**	**220**	PN	**Pb**	**18 33 41.3**	**-1.0**
SURC	**SANLIURFA_SURC**	**1.24**	**109**	IAML_P			
	comp=Z,10µm,0.2s						
SURC				⇑*i*P	**Pn**	**18 33 42.0**	**-1.1**
SURC				*i* S	**Sn**	**18 34 00.5**	**+0.2**
DARE	**Darende-Malaty**	**1.29**	**12**	PN	**Pn**	**18 33 42.9**	**-1.0**
YURE	**YUREGIR**	**1.30**	**249**	PN	**Pn**	**18 33 42.9**	**-1.0**
YURE	**YUREGIR**	**1.30**	**249**⇑	*i*P	**Pn**	**18 33 43.9**	**0.0**
YURE				*i* S	**Sn**	**18 34 04.0**	**+2.2**
URFA	**Urfa**	**1.34**	**84**	PN	**Pn**	**18 33 43.3**	**-1.2**
AKO	**Adana**	**1.37**	**277**	IAML_P			
	comp=Z,10µm,0.2s						
AKO				⇑*i*P	**Pn**	**18 33 43.2**	**-1.6**
AKO				*i* S	**Sg**	**18 34 04.4**	**+1.4**
CUGUR	**Gurin_SVAS**	**1.42**	**4**	*i* P	**Pg**	**18 33 46.2**	**-0.1**
CUGUR				*i* S	**Sg**	**18 34 07.5**	**+2.7**
SANL	**SANLIURFA_Merk**	**1.47**	**95**	IAML_P			
	comp=Z,27µm,0.2s						
SANL				⇑*i*P	**Pn**	**18 33 45.2**	**-1.1**
SANL				*i* S	**Sg**	**18 34 07.0**	**+0.7**
KRTD	**Karatas-Adana**	**1.56**	**244**	PN	**Pn**	**18 33 46.7**	**-0.7**
KRTS	**Karatas**	**1.60**	**243**	PN	**Pn**	**18 33 47.0**	**-0.9**
YAHY	**KAYSERI_Yahyal**	**1.62**	**300**	IAML_P			
	comp=Z,10µm,0.3s						
YAHY				⇓*i*P	**Pn**	**18 33 48.1**	**-0.3**
YAHY				*i* S	**Sb**	**18 34 10.1**	**-0.3**
KARA	**Karaisali**	**1.67**	**269**	PN	**Pn**	**18 33 48.1**	**-0.9**
HEKM	**Malatya_Hekimh**	**1.70**	**22**	IAML_P			
	comp=Z,17µm,0.3s						
HEKM				*i* P	**Pb**	**18 33 50.4**	**-0.5**
HEKM				*i* S	**Sg**	**18 34 14.4**	**+0.8**
BNN	**Bunyan**	**1.86**	**327**	PN	**Pn**	**18 33 50.7**	**-1.0**
GULE	**Gulek**	**1.89**	**270**⇑	*i*P	**Pn**	**18 33 51.1**	**-1.1**
GULE				*i* S	**Sn**	**18 34 16.4**	**-0.1**
DED	**Mersin**	**1.91**	**260**⇑	*i*P	**Pn**	**18 33 51.8**	**-0.4**
DED				*i* S	**Sn**	**18 34 17.1**	**+0.4**
CUALT	**Altinyayla-SIV**	**1.99**	**351**⇓	*i*P	**Pb**	**18 33 54.3**	**-1.6**
CUALT				*i* S	**Sg**	**18 34 21.6**	**-1.4**
SVRC	**Sivrice-ELAZID**	**2.02**	**57**	PN	**Pn**	**18 33 53.2**	**-0.7**
CUKAN	**kangal_SIVAS**	**2.03**	**7**	*i* P	**Pb**	**18 33 55.0**	**-1.4**
CUKAN				*i* S	**Sg**	**18 34 23.6**	**-0.5**
MERS	**Mersin**	**2.15**	**259**	PN	**Pn**	**18 33 54.8**	**-0.8**
NIG	**Nigde**	**2.17**	**293**	PN	**Pn**	**18 33 55.2**	**-0.9**
KEMA	**Kemaliye**	**2.23**	**28**	*i* P	**Pn**	**18 33 56.9**	**+0.1**
CUSAR	**Sarkisla-SIVAS**	**2.23**	**342**	*i* P	**Pn**	**18 33 57.5**	**+0.6**
CUSAR				*i* S	**Sg**	**18 34 30.1**	**-0.6**
AVNS	**Nevsehir-Avano**	**2.36**	**310**	*i* P	**Pn**	**18 33 59.0**	**+0.4**
KERG	**Konya-Eregli**	**2.41**	**274**	*i* P	**Pn**	**18 34 00.0**	**+0.7**
ILIC	**ilic-Erzincan**	**2.42**	**27**	**Pn**	**Pn**	**18 33 58.8**	**-0.6**
DIYA	**Diyarbakir**	**2.44**	**74**	*i* P	**Pn**	**18 33 59.5**	**0.0**
DYBB	**Diyarbakir**	**2.46**	**74**	PN	**Pn**	**18 33 59.4**	**-0.5**
KIZK	**Mersin**	**2.55**	**252**	PN	**Pn**	**18 34 00.8**	**-0.2**
SIRC	**Yozgat**	**2.57**	**323**	*i* P	**Pn**	**18 34 01.4**	**-0.1**
TNCL	**Tunceli-Merkez**	**2.61**	**45**	*i* P	**Pn**	**18 34 02.8**	**+0.8**
SVSK	**Karacayir**	**2.61**	**357**	PN	**Pn**	**18 34 01.4**	**-0.5**
CUZAR	**Zara_SIVAS**	**2.63**	**10**	*i* P	**Pb**	**18 34 06.5**	**-0.2**
MAZI	**Mazidag**	**2.63**	**86**	PN	**Pn**	**18 34 01.3**	**-1.0**
YOZ	**Yozgat**	**2.74**	**329**	PN	**Pn**	**18 34 03.4**	**-0.4**
SILI	**Silifke-Mersin**	**2.75**	**251**	PN	**Pn**	**18 34 03.7**	**-0.1**
HANI	**Diyarbakir_Han**	**2.80**	**66**	*i* P	**Pn**	**18 34 04.5**	**-0.1**
KEBE	**Keben-Mersin**	**2.89**	**254**	PN	**Pn**	**18 34 05.4**	**-0.3**
MARD	**Mardin**	**2.89**	**89**	*i* P	**Pn**	**18 34 05.3**	**-0.6**
IKL	**Isikli**	**2.98**	**250**	PN	**Pn**	**18 34 06.7**	**-0.2**
EREN	**Erenkoy**	**2.98**	**235**	PN	**Pn**	**18 34 06.7**	**-0.3**
AKSY	**AKSARAY - Alti**	**3.00**	**298**	*i* P	**Pn**	**18 34 07.2**	**-0.1**
ERZN	**Erzincan**	**3.05**	**41**	PN	**Pn**	**18 34 07.7**	**-0.3**
TOKT	**Tokat**	**3.05**	**351**	PN	**Pn**	**18 34 07.7**	**-0.3**
TOKA	**Tokat**	**3.06**	**350**	*i* P	**Pn**	**18 34 08.2**	**+0.1**
RSDY	**Resadiye-TOKAT**	**3.09**	**2**	PN	**Pn**	**18 34 08.5**	**-0.1**
TEVE	**Tevekalti-Mers**	**3.10**	**255**	PN	**Pn**	**18 34 08.4**	**-0.2**
GULN	**MERSIN_Gulnar**	**3.10**	**250**	*i* P	**Pn**	**18 34 08.0**	**-0.7**
AKKU	**Akkuyu-Mersin**	**3.11**	**250**	PN	**Pn**	**18 34 08.7**	**0.0**
HWQ	**Hawqa**	**3.17**	**198**	*e*P	**Pb**	**18 34 16.1**	**+0.2**
CDAG	**Cicekdag**	**3.18**	**318**	*i* P	**Pn**	**18 34 10.5**	**+0.6**
BNGB	**Bingl**	**3.25**	**58**	PN	**Pn**	**18 34 10.6**	**-0.2**
SERE	**Sereflikochisa**	**3.27**	**301**	PN	**Pn**	**18 34 11.0**	**-0.1**
KELT	**Kelkit**	**3.29**	**29**	*i* P	**Pn**	**18 34 11.9**	**+0.6**
BERE	**Bereket-Mersin**	**3.29**	**254**	PN	**Pn**	**18 34 11.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**3.32**	**74**	PN	**Pn**	**18 34 11.6**	**-0.1**
ERBA	**Erbaa**	**3.39**	**355**	*i* P	**Pn**	**18 34 13.7**	**+1.1**
COAL	**Corum-Alaca**	**3.40**	**331**	*i* P	**Pn**	**18 34 12.6**	**-0.3**
PHNC	**Paralimni**	**3.41**	**229**	P	**Pn**	**18 34 12.3**	**-0.6**
YEDI	**Yedisu-Bingol**	**3.42**	**50**	PN	**Pn**	**18 34 13.1**	**0.0**
TEKE	**Tekeli-Mersin**	**3.44**	**252**	PN	**Pn**	**18 34 12.8**	**-0.5**
CORM	**Corum**	**3.48**	**326**	PN	**Pn**	**18 34 13.9**	**-0.1**
LFK	**Lefkose**	**3.55**	**236**	PN	**Pn**	**18 34 14.9**	**0.0**
BHL	**Bhannes**	**3.60**	**200**	*e*P	**Pn**	**18 34 16.7**	**+1.1**
CHBY	**Cihanbeyli**	**3.60**	**292**	PN	**Pn**	**18 34 15.4**	**-0.2**
BR131	**Keskin Array S**	**3.67**	**312**	*e*Pn	**Pn**	**18 34 16.6**	**0.0**
BRTR	**Keskin Array B**	**3.67**	**312**	*e*Pn	**Pn**	**18 34 16.1**	**-0.4**
BRTR	**Keskin Array B**	**3.67**	**312**	Pn	**Pn**	**18 34 16.6**	**0.0**
	comp=Z,1.9nm,0.3s,baz=130,slow=18,SNR=52						
BRTR				Pg	**Pb**	**18 34 25.9**	**+1.5**
	comp=Z,4.7nm,0.3s,baz=136,slow=18,SNR=32						
DQRL	**Deir Qamar**	**3.81**	**200**	*e*P	**Pn**	**18 34 20.6**	**+2.1**
MAMC	**Mammari**	**3.83**	**237**	P	**Pn**	**18 34 18.7**	**+0.1**
QASN	**Qassioun**	**3.83**	**191**	*e*P	**Pn**	**18 34 20.1**	**+1.4**
QASN				*e*S	**Sb**	**18 35 10.9**	**-2.9**
QASN				AML	AML	18 35 18.2	
	comp=N,1µm,0.6s						
QASN				AML	AML	18 35 25.1	
	comp=E,299nm,0.6s						
RCY	**Rachaya**	**3.95**	**196**	*e*P	**Pn**	**18 34 22.3**	**+1.9**
TOTH	**TOTAH**	**3.98**	**189**	*e*P	**Pn**	**18 34 21.5**	**+0.8**
TOTH				*e*S	**Sb**	**18 35 14.1**	**-3.9**
TOTH				AML	AML	18 35 25.8	
	comp=N,227nm,0.6s						
TOTH				AML	AML	18 35 45.8	
	comp=E,145nm,0.6s						
BRBR	**Barbar**	**4.00**	**195**	*e*P	**Pn**	**18 34 22.1**	**+0.9**
BRBR				*e*S	**Sb**	**18 35 17.2**	**-1.8**
BRBR				AML	AML	18 35 37.4	
	comp=N,298nm,0.7s						
BRBR				AML	AML	18 35 42.0	
	comp=E,234nm,0.6s						
LEF	**Lefka**	**4.08**	**239**⇑	*i*P	**Pn**	**18 34 19.4**	**-2.6**
SHBL	**Chebaa**	**4.11**	**197**	*e*P	**Pn**	**18 34 24.4**	**+1.7**
NATI	**Neve Ativ**	**4.19**	**196**	Pn	**Pn**	**18 34 25.3**	**+1.7**
KTUT	**Trabzon**	**4.20**	**28**⇑	*i*P	**Pb**	**18 34 35.5**	**+2.0**
SIRT	**Sirnak**	**4.21**	**86**	*e*Pn	**Pn**	**18 34 21.6**	**-2.4**
ALFC	**Alefka**	**4.26**	**241**	P	**Pn**	**18 34 21.2**	**-3.4**
GEM	**Giv'at Ha'Em**	**4.26**	**197**	Pn	**Pn**	**18 34 26.3**	**+1.7**
BR231	**Keskin MP Arra**	**4.26**	**308**	*e*Pn	**Pn**	**18 34 22.4**	**-2.3**
ANTO	**Ankara**	**4.27**	**308**	*e*Pn	**Pn**	**18 34 24.0**	**-0.7**
ANTO	**Ankara**	**4.27**	**308**⇑	*i*P	**Pb**	**18 34 37.2**	**+2.6**
KSDI	**Kefar Szold**	**4.28**	**197**	Pn	**Pn**	**18 34 26.8**	**+2.0**
SZAC	**Souni**	**4.29**	**235**	P	**Pn**	**18 34 26.8**	**+1.8**
KSHT	**Keshet**	**4.45**	**195**	Pn	**Pn**	**18 34 28.6**	**+1.4**
MMAI	**Mount Meron Ar**	**4.51**	**199**	Pn	**Pn**	**18 34 28.8**	**+0.8**
	comp=E,2.0nm,0.3s,baz=21,slow=12,SNR=9.6						
MMAI				Lg	Lg	18 35 39.4	
	comp=E,14nm,0.3s,baz=21,slow=30,SNR=6.3						
PPCY	**Paphos**	**4.58**	**240**	P	**Pn**	**18 34 30.1**	**+1.2**
DIKM	**Dikmen**	**4.58**	**342**⇓	*i*P	**Pn**	**18 34 29.8**	**+0.8**
ILGA	**Ilgaz**	**4.60**	**326**	*e*Pn	**Pn**	**18 34 29.6**	**+0.1**
SNOP	**Sinop**	**4.95**	**343**	*e*Pn	**Pn**	**18 34 31.9**	**-2.1**
OFRI	**`Ofer**	**5.00**	**201**	Pn	**Pn**	**18 34 36.0**	**+1.3**
MMLI	**Mount Malkishu**	**5.06**	**197**	Pn	**Pn**	**18 34 37.2**	**+1.7**
ASF	**Jabal al Asfar**	**5.12**	**182**	Pn	**Pn**	**18 34 37.9**	**+1.4**
	comp=E,0.4nm,0.3s,baz=136,slow=20,SNR=4.4						
ASF				Lg	Lg	18 35 58.8	
	comp=E,7.0nm,0.3s,baz=34,slow=18,SNR=10						
HMDT	**Nahal Hemdat**	**5.21**	**195**	Pn	**Pn**	**18 34 39.2**	**+1.6**
SLTI	**Sal'it**	**5.34**	**200**	Pn	**Pn**	**18 34 41.6**	**+2.2**
BCA	**Borcka**	**5.40**	**39**⇑	*i*P	**Pn**	**18 34 38.5**	**-1.7**
GHAJ	**Ghor Haditha**	**6.12**	**193**	Pn	**Pn**	**18 34 51.7**	**+1.5**
YTIR	**Yattir**	**6.16**	**196**	Pn	**Pn**	**18 34 52.9**	**+2.2**
GNI	**Garni**	**6.58**	**62**	LR	LR	18 38 08.6	
	comp=E,36nm,21.0s,baz=259,slow=44						
ZFRI	**Zfri**	**6.93**	**194**	Pn	**Pn**	**18 35 02.8**	**+1.6**
PRNI	**Paran**	**7.16**	**195**	Pn	**Pn**	**18 35 06.6**	**+2.2**
MBRI	**Mt Berech**	**7.72**	**195**	Pn	**Pn**	**18 35 14.7**	**+2.6**
KBZ	**Khabaz**	**7.77**	**32**	LR	LR	18 38 25.2	
	comp=E,93nm,20.0s,baz=210,slow=39						
EIL	**Elat**	**7.83**	**194**	Lg	Lg	18 37 22.6	
	comp=E,0.5nm,0.3s,baz=15,slow=19,SNR=2.8						
AKASG	**Malin Array Be**	**14.55**	**340**	Pn	**Pn**	**18 36 45.3**	**-0.1**
	comp=E,0.2nm,0.3s,baz=157,slow=11,SNR=2.7						
LANS	**Liptovska Anna**	**17.45**	**318**	*e*P	**P**	**18 37 26.3**	**+1.9**
VRAC	**Vranov**	**19.11**	**315**	P	**Pn**	**18 37 43.2**	**-0.2**
	comp=E,0.2nm,0.3s,baz=170,slow=11,SNR=1.8						
GERES	**GERESS Array B**	**20.56**	**312**	P	**P**	**18 37 59.2**	**+0.7**
	comp=E,1.2nm,0.7s,baz=111,slow=9.2,SNR=8.2						
KHC	**Kasperske Hory**	**20.76**	**312**	*e*P	**P**	**18 38 00.3**	**-0.3**
ECH	**Echery**	**24.42**	**306**	*e*P	**P**	**18 38 40.5**	**+2.0**
FINES	**FINESS Array B**	**25.15**	**347**	P	**P**	**18 38 46.7**	**+2.0**
	comp=E,1.0nm,0.7s,baz=166,slow=17,SNR=3.1						
KBL	**Kabul**	**25.91**	**86**	*e*P	**P**	**18 38 50.0**	**-2.2**
HFS	**Hagfors**	**27.31**	**334**	P	**P**	**18 39 04.1**	**-0.3**
	comp=E,1.7nm,0.9s,baz=116,slow=13,SNR=2.6						
MKAR	**Makanchi Array**	**34.42**	**59**	P	**P**	**18 40 07.8**	**+0.6**
	comp=E,0.5nm,1.0s,baz=252,slow=7.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**39.73**	**242**	P	**P**	**18 40 53.5**	**+0.9**
	comp=E,0.9nm,0.9s,baz=26,slow=9.2,SNR=5.0						
YKA	**Yellowknife Ar**	**77.98**	**347**	P	**P**	**18 45 16.8**	**-1.1**
	comp=E,0.1nm,0.6s,baz=28,slow=5.6,SNR=3.0						

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*IDC **06** 18:34:17.4±1.1, 3°.31N×126°.73E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.6/50, mbtmp4.0/7, ML4.3/1, Error ellipse: s-maj=49.2km s-min=18.4km az=73.0*
*ISCJB **06** 18:34:21.8±0.7, 3°.39N±0°.08×127°.0E±0°.1, h48km, mb3.9/8, Error ellipse: s-maj=20.0km s-min=8.8km az=153.1*
*NEIC **06** 18:34:26.0±1.4, 3°.28N×126°.87E, h71km±13km, mb4.1/4, Error ellipse: s-maj=25.1km s-min=8.6km az=79.0*
ISC 06 18:34:24.0±1.0, **3°.4N**±0°.1×**127°.0E**±0°.2, **h48**km, **n15**, σ0§**74**/16, **mb4.1**/8, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.60**	**171**	*e*Pn	**Pn**	**18 35 05.0**	**+1.3**
SIJI	**Sorong**	**6.01**	**134**	Pn	**Pn**	**18 35 51.5**	**+1.0**
	7.8nm,0.3s,baz=332,slow=20,SNR=64						
SIJI				Sn	**Sn**	**18 36 57.4**	**-0.7**
	baz=283,slow=10.0,SNR=4.3						
FITZ	**Fitzroy Crossi**	**21.36**	**183**	*e*P	**P**	**18 39 06.8**	**-0.6**
	18nm,1.8s						
FITZ	**Fitzroy Crossi**	**21.36**	**183**	P	**P**	**18 39 07.4**	**0.0**
	0.9nm,0.6s,baz=3.9,slow=11,SNR=1.7						
WR1	**Warramunga Arr**	**24.27**	**163**	*e*P	**P**	**18 39 36.4**	**-0.5**
WRA	**Warramunga Arr**	**24.27**	**163**	P	**P**	**18 39 36.4**	**-0.5**
	2.7nm,0.5s,baz=339,slow=11,SNR=54						
WB2	**Warramunga Arr**	**24.27**	**163**	*e*P	**P**	**18 39 35.6**	**-1.2**
	32nm,2.0s						
AS31	**Alice Springs**	**27.70**	**166**	*e*P	**P**	**18 40 07.4**	**-0.5**
	1.3nm,1.3s						
ASAR	**Alice Springs**	**27.70**	**166**	P	**P**	**18 40 07.2**	**-0.7**
	0.3nm,0.3s,baz=348,slow=7.6,SNR=23						
STKA	**Stephens Creek**	**37.71**	**159**	*e*P	**P**	**18 41 34.6**	**-0.4**
	4.6nm,1.9s						
STKA	**Stephens Creek**	**37.71**	**159**	P	**P**	**18 41 34.7**	**-0.4**
	2.0nm,0.8s,baz=329,slow=9.0,SNR=5.7						
PETK	**Petropavlovsk-**	**55.68**	**22**	P	**P**	**18 43 55.8**	**+0.5**
	1.9nm,1.0s,baz=179,slow=5.8,SNR=4.0						
PEA1	**Petropavlovsk-**	**55.69**	**22**	*e*P	**P**	**18 43 55.8**	**+0.4**
MK32	**Makanchi Array**	**57.99**	**325**	*e*P	**P**	**18 44 11.5**	**-0.3**
MKAR	**Makanchi Array**	**57.99**	**325**	P	**P**	**18 44 11.5**	**-0.3**
	0.8nm,0.5s,baz=117,slow=7.7,

baz=282
YM11 YM11 1.15 298 *e*P **Pn 18 36 33.5 -0.5**
YM11 baz=281 *e*S **Sn 18 36 49.3 -0.2**
HATJ Hateruma jima 1.16 119 S **Sg 18 36 49.9 -0.2**
YM10 YM10 1.16 298 *e*P **Pn 18 36 34.1 0.0**
YM10 baz=281 *e*S **Sb 18 36 49.2 +0.1**
ETLH Xiulin Townshi 1.18 250 *e*S **Sg 18 36 51.8 +1.0**
baz=262
TWY Chenhua 1.19 304 *e*S **Sg 18 36 50.9 -0.3**
baz=303
YHNB Yeheng 1.20 273 *i*P **Pn 18 36 34.7 0.0**
YHNB baz=273 S **Sb 18 36 50.5 +0.3**
NNS Nan Shan 1.22 262 *i*P **Pn 18 36 35.0 0.0**
NNS baz=272 S **Sb 18 36 50.1 -0.7**
NNS Nan Shan 1.22 262 *i*S **Pn 18 36 34.9 0.0**
baz=340
JKRS Kuro-shima 1.26 107 P **Pn 18 36 35.4 0.0**
JKRS *e*S **Sb 18 36 51.5 -0.2**
JIJ Ishigaki jima 1.34 101 P **Pn 18 36 36.7 +0.1**
JIJ S **Sn 18 36 53.6 -0.5**
WHF Hehuan Shan 1.39 250 *e*P **Pn 18 36 37.5 -0.1**
baz=251
WHF S **Sg 18 36 56.8 -0.7**
baz=251
ESL Shilin 1.40 235 *e*P **Pn 18 36 37.3 -0.1**
baz=236
ESL *e*S **Sb 18 36 56.0 0.0**
baz=236
JISG Ishigakijimahi 1.47 91 P **Pb 18 36 39.4 -0.1**
JISG *e*S **Sb 18 36 57.9 0.0**
CHGB Renai 1.50 248 *e*P **Pb 18 36 39.8 -0.3**
baz=249
CHGB *e*S **Sb 18 36 59.3 +0.4**
baz=249
CHGB Renai 1.50 248 *e*S **Pb 18 36 39.3 -0.8**
baz=233
OWD Renai 1.54 245 *e*P **Pn 18 36 39.8 +0.4**
baz=245
OWD *e*S **Sn 18 36 58.9 -0.1**
baz=245
NSTT Nanjuang 1.54 271 *e*P **Pb 18 36 40.5 -0.2**
baz=287
NSTT *e*S **Sb 18 36 59.7 -0.3**
baz=287
HGSD Ruisui 1.62 226 *e*P **Pn 18 36 39.9 -0.4**
baz=227
HGSD S **Sn 18 37 00.0 -0.7**
baz=227
WHP Taichung City 1.63 258 *e*P **Pb 18 36 41.6 -0.7**
baz=259
WHP *e*S **Sb 18 37 03.4 +0.7**
baz=259
VWDT VWDT 1.66 239 *e*P **Pn 18 36 41.0 +0.1**
baz=240
VWDT *e*S **Sn 18 37 01.9 +0.1**
baz=240
EHY Hungye 1.68 229 *e*P **Pn 18 36 40.5 -0.7**
baz=217
EHY S **Sn 18 37 02.6 +0.4**
baz=217
DPDB Guoxing 1.72 250 *e*P **Pn 18 36 42.5 +0.7**
baz=251
DPDB *e*S **Sb 18 37 04.9 -0.2**
baz=251
YULB Yu-li 1.77 227 P **Pn 18 36 42.0 -0.4**
baz=245
YULB S **Sn 18 37 04.0 -0.6**
baz=245
SSLB Suanglung 1.79 243 *e*P **Pn 18 36 43.0 +0.2**
baz=243
SSLB *e*S **Sn 18 37 05.7 +0.5**
baz=243
SMLT Sun Moon Lake 1.79 246 *e*P **Pb 18 36 44.8 -0.3**
baz=247
SMLT *e*S **Sb 18 37 06.5 -0.9**
baz=247
TWF1 Yuli 1.80 226 *e*P **Pn 18 36 42.2 -0.7**
baz=244
TWF1 *e*S **Sn 18 37 04.8 -0.5**
baz=244
TYC Yuchr 1.82 247 *e*P **Pb 18 36 45.4 -0.1**
baz=248
TYC *e*S **Sb 18 37 07.2 -0.9**
baz=248
WHYT Xinyi Township 1.92 242 *e*P **Pn 18 36 45.4 +0.8**
baz=242
WHYT S **Sb 18 37 10.2 -0.6**
baz=242
WJS Zhushan 1.96 247 *e*P **Pb 18 36 47.6 -0.3**
baz=235
WJS *e*S **Sb 18 37 12.7 +0.5**
baz=235
ALS Alishan 2.05 238 *e*P **Pn 18 36 47.2 +0.7**
baz=238
ALS *e*S **Sn 18 37 13.1 +1.2**
baz=238
ELDTW Lidau 2.10 228 *e*P **Pn 18 36 46.9 -0.2**
baz=228
ELDTW S **Sn 18 37 12.1 -0.7**
baz=228
STYT Tauyuan 2.29 231 *e*S **Sn 18 37 19.0 +1.5**
baz=222
WTP Ta-pu 2.34 235 *e*P **Pb 18 36 52.6 -1.9**
baz=236
WTP *e*S **Sn 18 37 19.7 +0.8**
baz=236
TWK Hsinying 2.43 237 *e*P **Pn 18 36 53.7 +2.1**
baz=238
TWK *e*S **Sn 18 37 22.5 +1.6**
baz=238
CHN1 Nanshi 2.44 235 *e*P **Pn 18 36 54.0 +2.2**
baz=236
CHN1 *e*S **Sn 18 37 22.4 +1.1**
baz=236
SGST Jiashian 2.47 232 *e*S **Sb 18 37 25.3 -1.3**
baz=233
SLGT Liugui 2.48 230 P **Pn 18 36 54.0 +1.8**
baz=230
SLGT S **Sb 18 37 24.8 -2.2**
baz=230
MASBT Mashibuluo 2.75 224 *e*P **Pn 18 36 57.8 +1.8**
baz=218
MASBT *e*S **Sn 18 37 29.8 +1.0**
baz=218

TAP 06 18:36:27.5, 24°.25N×121°.45E, h6km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.05**	**146**	*i* P	Pg	18 36 29.6	+0.5
ETLH	baz=146			S	Sg	18 36 30.7	+0.6
NACB	**Ninganchiao**	**0.15**	**120**	*e*P	Pg	18 36 31.0	+0.3
NACB	baz=120			S	Sg	18 36 33.7	+1.0
WHF	**Hehuan Shan**	**0.20**	**238**	*i* P	Pg	18 36 32.3	+0.7
WHF	baz=237			S	Sg	18 36 35.1	+0.8
NNS	**Nan Shan**	**0.20**	**340**	*i* P	Pg	18 36 32.3	+0.7
TWD	baz=340 **Chiawan**	**0.21**	**142**	*e*P	Pg	18 36 32.8	+1.0
TWD	baz=141			S	Sg	18 36 35.8	+1.2
CHGB	**Renai**	**0.32**	**233**	*e*P	Pg	18 36 34.5	+0.7
OWD	baz=233 **Renai**	**0.39**	**220**	*e*P	Pg	18 36 35.4	+0.3
OWD	baz=221			S	Sg	18 36 40.4	+0.3
DPDB	baz=221 **Guoxing**	**0.53**	**246**	*e*P	Pb	18 36 38.8	-0.4
DPDB	baz=246			*e*S	Sg	18 36 45.0	+0.5
	baz=246						

IDC ***06*** *18:43:51.6±0.8, 25°.08N×126°.68E, h0km, mb3.8/13, mb1 3.9/14, mb1mx3.7/41, mbtmp3.8/14, ML2.7/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/42, Error ellipse: s-maj=23.5km s-min=17.3km az=77.0*
NEIC ***06*** *18:43:53.5±5.2, 25°.07N×126°.66E, h11km±33km, mb4.1/4, Error ellipse: s-maj=13.0km s-min=8.0km az=69.0*
ISCJB ***06*** *18:43:56.0±0.6, 25°.13N±0°.05×126°.98E±0°.04, h46km±4km, mb3.8/18, MS3.4/4, Error ellipse: s-maj=9.4km s-min=4.0km az=140.3*
JMA ***06*** *18:43:56.3±0.1, 25°.16N×126°.95E, h66km±5km, M3.3*
ISC 06 18:43:54.6±1.4, 24°.99N±0°.06×126°.97E±0°.04, h27km±10km, n61, σ1°63/67, mb3.8/18, MS3.1/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.34**	**353**	P	**Pn**	**18 44 17.1**	**-0.4**
JKE				S	**Sn**	**18 44 32.7**	**-1.8**
JJT3	**Tamagusuku3**	**1.36**	**32**	P	**Pn**	**18 44 17.8**	**0.0**
JJT3				*e*S	**Sn**	**18 44 34.4**	**-0.6**
JOGS	**Gusukube**	**1.44**	**261**	P	**Pb**	**18 44 21.2**	**+0.4**
JOGS				*e*S	**Sb**	**18 44 38.9**	**+0.2**
JMJ2	**Miyako jima3**	**1.52**	**261**	P	**Pb**	**18 44 22.1**	**+0.1**
JMJ2				*e*S	**Sb**	**18 44 41.1**	**+0.3**
JIKM	**Ikemajima**	**1.57**	**268**	P	**Pb**	**18 44 22.7**	**-0.2**
JAGN	**Aguni-jima**	**1.61**	**9**	P	**Pn**	**18 44 21.1**	**-0.1**
JAGN				S	**Sn**	**18 44 38.8**	**-2.3**
JIRB	**Irabujima**	**1.64**	**265**	P	**Pb**	**18 44 23.4**	**-0.8**
JIRB				*e*S	**Sb**	**18 44 43.5**	**-1.0**
JNTH	**Nagotoyohara**	**1.79**	**32**	P	**Pn**	**18 44 23.8**	**+0.1**
JNTH				*e*S	**Sn**	**18 44 43.1**	**-2.5**
JTJ	**Tarama**	**2.09**	**261**	P	**Pb**	**18 44 29.6**	**-2.3**
JOW	**Kunigami**	**2.18**	**32**	*e*Pn	**Pb**	**18 44 31.6**	**-1.7**
JOW				Sn	**Sb**	**18 45 03.4**	**+3.5**
JOW	**Kunigami**	**2.18**	**32**	P	**Pn**	**18 44 29.3**	**+0.3**
JOW	**Kunigami**	**2.18**	**32**	Pn	**Pn**	**18 44 30.1**	**+1.1**
	0.5nm,0.3s,baz=144,slow=12,SNR=17						
JOW				Sn	**Sb**	**18 45 03.4**	**+3.5**
	4.0nm,0.3s,baz=229,slow=26,SNR=5.6						
JIH	**Iheya**	**2.22**	**23**	P	**Pn**	**18 44 29.3**	**-0.4**
JYRO	**Yoronjima**	**2.42**	**33**	P	**Pn**	**18 44 32.7**	**+0.3**
JISG	**Ishigakijimahi**	**2.45**	**261**	P	**Pn**	**18 44 34.0**	**+1.2**
JIJ	**Ishigaki jima**	**2.65**	**257**	P	**Pn**	**18 44 37.1**	**+1.6**
JOKE	**Okinoerabujima**	**2.76**	**31**	P	**Pn**	**18 44 37.1**	**0.0**
JKRS	**Kuro-shima**	**2.80**	**255**	P	**Pn**	**18 44 40.3**	**+2.7**
IRIF	**Iriomote-Funau**	**3.02**	**258**	P	**Pn**	**18 44 40.6**	**0.0**
JTK	**Tokunoshima**	**3.30**	**32**	P	**Pn**	**18 44 44.0**	**-0.5**
JMZ	**Minamidaito 2**	**3.93**	**77**	P	**Pn**	**18 44 51.6**	**-1.5**
JMZ				*e*S	**Sn**	**18 45 32.9**	**-5.4**
JNU	**Nakatsue**	**8.79**	**22**	Pn	**Pn**	**18 46 00.8**	**+0.8**
	0.5nm,0.3s,baz=204,slow=12,SNR=6.1						
KSRS	**Korea Array**	**12.45**	**4**	LR	LR	18 51 51.6	
	comp=Z,68nm,19.8s,baz=80,slow=39						
KLR	**Kul'dur**	**24.48**	**8**	LR	LR	18 59 34.2	
	comp=Z,46nm,20.8s,baz=120,slow=39						
CMAR	**Chiang Mai Arr**	**26.81**	**262**	P	**P**	**18 49 30.6**	**-2.2**
	0.3nm,0.9s,baz=68,slow=7.3,SNR=3.2						
SONA0	**Songino Array**	**28.01**	**330**	*e*P	**P**	**18 49 41.7**	**-1.7**
SONM	**Songino Array**	**28.01**	**330**	*e*P	**P**	**18 49 41.4**	**-1.9**
SONM	**Songino Array**	**28.01**	**330**	P	**P**	**18 49 41.7**	**-1.7**
	1.0nm,0.5s,baz=133,slow=6.5,SNR=4.9						
SONM				LR	LR	19 01 24.6	
	comp=Z,57nm,18.4s,baz=66,slow=38						
PETK	**Petropavlovsk-**	**36.34**	**31**	LR	LR	19 07 54.1	
	comp=Z,31nm,18.6s,baz=230,slow=40						
PKI	**Pulchoki**	**37.24**	**283**	*e*P	**P**	**18 51 05.8**	**+1.4**
	4.9nm,0.5s						
PKIN	**Phulchoki**	**37.25**	**283**	*e*P	**P**	**18 51 05.7**	**+1.3**
	6.2nm,0.6s						
KKN	**Kakani**	**37.33**	**284**	*e*P	**P**	**18 51 06.7**	**+1.6**
	7.9nm,0.7s						
DMN	**Daman**	**37.50**	**283**	*e*P	**P**	**18 51 08.0**	**+1.4**
	7.2nm,0.8s						
DANN	**Dangsing**	**38.61**	**285**	*e*P	**P**	**18 51 18.1**	**+2.1**
	14nm,0.6s						
KOLN	**Koldanda**	**38.81**	**284**	*e*P	**P**	**18 51 19.6**	**+2.0**
	6.1nm,0.8s						
PYUN	**Piuthan**	**39.31**	**284**	*e*P	**P**	**18 51 23.7**	**+1.9**
	16nm,0.8s						
MK31	**Makanchi Array**	**41.53**	**313**	*e*P	**P**	**18 51 39.0**	**-0.7**
	2.4nm,0.6s						
MK32	**Makanchi Array**	**41.53**	**313**	*e*P	**P**	**18 51 39.5**	**-0.2**
MKAR	**Makanchi Array**	**41.53**	**313**	*e*P	**P**	**18 51 39.1**	**-0.5**
MKAR	**Makanchi Array**	**41.53**	**313**	P	**P**	**18 51 39.5**	**-0.2**
	3.3nm,0.6s,baz=99,slow=10,SNR=42						
ZALV	**Zalesovo Beam**	**42.56**	**324**	P	**P**	**18 51 46.4**	**-1.6**
	1.0nm,0.6s,baz=103,slow=8.0,SNR=4.0						
ZAA1	**Zalesovo Array**	**42.57**	**324**	*e*P	**P**	**18 51 46.4**	**-1.6**
KURBB	**Kurchatov Arra**	**44.98**	**318**	P	**P**	**18 52 07.2**	**-0.2**
	1.0nm,0.5s,baz=107,slow=9.0,SNR=9.2						
NRN	**Naryn**	**45.04**	**304**	*e*P	**P**	**18 52 08.4**	**0.0**
	4.1nm,1.3s						
WR1	**Warramunga Arr**	**45.23**	**170**	*e*P	**P**	**18 52 12.5**	**+2.8**
WRA	**Warramunga Arr**	**45.23**	**170**	P	**P**	**18 52 12.5**	**+2.8**
	1.3nm,0.8s,baz=349,slow=8.3,SNR=7.6						
AS31	**Alice Springs**	**48.83**	**172**	*e*P	**P**	**18 52 39.1**	**+1.4**
	0.5nm,0.8s						
ASAR	**Alice Springs**	**48.83**	**172**	P	**P**	**18 52 39.3**	**+1.6**
	0.5nm,0.6s,baz=356,slow=7.4,SNR=11						
BVAR	**Borovoye Array**	**50.45**	**319**	P	**P**	**18 52 50.0**	**+0.2**
	0.6nm,0.6s,baz=90,slow=9.0,SNR=6.4						
ABKAR	**Akbulak array**	**56.67**	**314**	*e*P	**P**	**18 53 36.1**	**+0.6**
	2.9nm,0.6s						
GEYT	**Alibeck**	**58.94**	**301**	P	**P**	**18 53 50.4**	**-1.2**
	0.9nm,0.5s,baz=93,slow=3.0,SNR=4.0						
FIA0	**FINESS Array S**	**73.38**	**331**	*e*P	**P**	**18 55 23.8**	**0.0**
FINES	**FINESS Array B**	**73.38**	**331**	P	**P**	**18 55 23.8**	**0.0**
	1.1nm,0.7s,baz=50,slow=6.0,SNR=4.7						
AKASG	**Malin Array Be**	**75.73**	**319**	P	**P**	**18 55 36.8**	**-0.9**
	0.4nm,0.5s,baz=59,slow=6.3,SNR=2.8						
BR101	**Keskin Array S**	**76.90**	**308**	*e*P	**P**	**18 55 45.8**	**+1.1**
BRTR	**Keskin Array B**	**76.90**	**308**	P	**P**	**18 55 45.8**	**+1.1**
	0.2nm,0.4s,baz=64,slow=3.4,SNR=3.5						
RPZ	**Rata Peaks**	**79.43**	**149**	LR	LR	19 24 27.8	
	comp=Z,121nm,21.8s,baz=320,slow=31						
NB200	**NORSAR Array S**	**79.92**	**334**	*e*P	**P**	**18 56 00.4**	**-0.5**
NOA	**NORSAR Array B**	**79.92**	**334**	P	**P**	**18 56 00.4**	**-0.5**
	0.8nm,0.8s,baz=56,slow=5.2,SNR=3.7						
YKA	**Yellowknife Ar**	**80.12**	**24**	P	**P**	**18 56 03.4**	**+1.5**
	0.4nm,0.7s,baz=298,slow=5.3,SNR=7.2						
YKB5	**Yellowknife Ar**	**80.12**	**24**	*e*P	**P**	**18 56 03.4**	**+1.5**

TAP 06 18:44:52.1, 24°.20N×122°.09E, h118km, ML2.2, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.35**	**6**	*e*P	Pn	18 45 08.8	-0.2
	baz=15						
NANB	**Nanao**	**0.38**	**306**	*e*P	Pn	18 45 08.5	-0.7
	baz=306						
NANB				*e*S	Sn	18 45 21.6	-0.5
	baz=306						
ENA	**Nanau**	**0.39**	**306**	*e*P	Pn	18 45 09.1	-0.1
	baz=306						
NACB	**Ninganchiao**	**0.45**	**267**	*e*P	Pn	18 45 07.8	-1.8
	baz=268						
NACB				*e*S	Sn	18 45 22.3	-0.4
	baz=268						
ETLH	**Xiulin Townshi**	**0.55**	**271**	*e*P	Pn	18 45 09.9	-0.4
	baz=265						
ENTT	**Nioudou**	**0.65**	**313**	*e*P	Pn	18 45 11.0	+0.1
	baz=308						
NDT	**Datong Townshi**	**0.66**	**307**	*e*P	Pn	18 45 11.5	+0.6
	baz=307						
NNS	**Nan Shan**	**0.69**	**290**	*e*P	Pn	18 45 11.4	+0.1
	baz=294						
NNS				*e*S	Sn	18 45 25.3	-0.6
	baz=294						
ESL	**Shilin**	**0.71**	**237**	*e*P	Pn	18 45 11.3	-0.1
	baz=244						
WHF	**Hehuan Shan**	**0.76**	**266**	*e*P	Pn	18 45 11.9	-0.3
	baz=265						
WHF				*e*S	Sn	18 45 26.6	-0.7
	baz=265						
NWLT	**Wulai**	**0.78**	**317**	*e*P	Pn	18 45 11.4	-0.5
	baz=317						
NWLT				*e*S	Sn	18 45 26.0	-1.0
	baz=317						
YHNB	**Yeheng**	**0.80**	**306**	*e*P	Pn	18 45 11.7	-0.5
	baz=314						
YHNB				*e*S	Sn	18 45 26.1	-1.3
	baz=314						
TIPB	**Shuangxi**	**0.80**	**343**	*e*P	Pn	18 45 11.9	-0.3
	baz=349						
CHGB	**Renai**	**0.85**	**261**	*e*P	Pn	18 45 12.9	+0.1
	baz=258						
CHGB				*e*S	Sn	18 45 27.3	-1.0
	baz=258						
OWD	**Renai**	**0.87**	**254**	*e*P	Pn	18 45 12.5	-0.4
	baz=251						
OWD				*e*S	Sn	18 45 27.4	-1.1
	baz=251						
HGSD	**Ruisui**	**0.93**	**221**	*e*P	Pn	18 45 12.7	-0.6
	baz=220						
HGSD				*e*S	Sn	18 45 29.8	+0.5
	baz=220						
VWDT	**VWDT**	**0.97**	**243**	P	Pn	18 45 14.0	+0.3
	baz=241						
EHY	**Hungye**	**0.99**	**226**	*e*P	Pn	18 45 13.9	+0.1
	baz=231						
WHP	**Taichung City**	**1.05**	**274**	*e*P	Pn	18 45 14.8	+0.3
	baz=265						
DPDB	**Guoxing**	**1.07**	**261**	*e*P	Pn	18 45 15.5	+0.7
	baz=262						
YULB	**Yu-li**	**1.08**	**222**	P	Pn	18 45 12.8	-2.0
	baz=229						
YULB				*e*S	Sn	18 45 30.1	-1.9
	baz=229						
TWF1	**Yuli**	**1.11**	**221**	*e*P	Pn	18 45 14.7	-0.5
	baz=228						
SSLB	**Suanglung**	**1.12**	**249**	*e*P	Pn	18 45 16.0	+0.8
	baz=247						
SMLT	**Sun Moon Lake**	**1.13**	**254**	*e*P	Pn	18 45 16.4	+1.0
	baz=252						
TYC	**Yuchr**	**1.16**	**256**	P	Pn	18 45 16.9	+1.2
	baz=248						
WHYT	**Xinyi Township**	**1.24**	**246**	*e*P	Pn	18 45 17.2	+0.8
	baz=241						
ALS	**Alishan**	**1.36**	**240**	*e*P	Pn	18 45 18.7	+0.5
	baz=241						
ELDTW	**Lidau**	**1.41**	**225**	*e*P	Pn	18 45 18.3	-0.2
	baz=226						
WTP	**Ta-pu**	**1.65**	**235**	*e*P	Pn	18 45 22.1	+0.9
	baz=243						
TWK	**Hsinying**	**1.74**	**238**	*e*P	Pn	18 45 23.2	+0.9
	baz=247						
CHN1	**Nanshi**	**1.75**	**235**	*e*P	Pn	18 45 22.7	+0.2
	baz=242						
SLGT	**Liugui**	**1.79**	**228**	P	Pn	18 45 24.1	+1.2
	baz=236						
SSD	**Sandimen**	**1.97**	**223**	*e*P	Pn	18 45 25.1	0.0
	baz=224						
MASBT	**Mashibuluo**	**2.07**	**221**	*e*P	Pn	18 45 27.2	+0.9
	baz=221						
EAST	**Anshuo**	**2.14**	**212**	*e*P	Pn	18 45 25.4	-1.9
	baz=211						
SCZT	**Fangliau**	**2.27**	**217**	*e*P	Pn	18 45 29.7	+0.9
	baz=217						

TAP 06 18:45:16.5, 24°.38N×121°.45E, h7km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan**	**0.10**	**310**	*i* P	Pg	18 45 19.0	+0.2
	baz=314						
NNS				*i* S	Sg	18 45 20.7	+0.3
	baz=314						
ETLH	**Xiulin Townshi**	**0.17**	**171**	*e*P	Pg	18 45 20.8	+0.8
	baz=170						
ETLH				S	Sg	18 45 23.8	+1.4
	baz=170						
ETLH	**Xiulin Townshi**	**0.17**	**171**	*e*S	Sg	18 45 23.6	+1.2
	baz=265						
NDT	**Datong Townshi**	**0.23**	**14**	*e*P	Pg	18 45 21.5	+0.4
	baz=14						
NDT				*e*S	Sg	18 45 25.2	+1.0
	baz=14						
NDT	**Datong Townshi**	**0.23**	**14**	*e*S	Sg	18 45 25.2	+1.0
	baz=307						
ENA	**Nanau**	**0.27**	**79**	*e*S	Sg	18 45 26.3	+0.9
	baz=80						
NANB	**Nanao**	**0.28**	**80**	P	Pg	18 45 22.5	+0.6
	baz=79						
NANB				S	Sg	18 45 26.2	+0.7
	baz=79						
ENTT	**Nioudou**	**0.28**	**22**	*e*P	Pg	18 45 22.6	+0.6
	baz=23						
YHNB	**Yeheng**	**0.30**	**346**	*e*P	Pg	18 45 23.0	+0.6
	baz=335						
YHNB				*e*S	Sg	18 45 26.6	+0.2
	baz=335						

ISCJB ***06*** *18:47:22.8±0.7, 38°.38N±0°.04×30°.46E±0°.05, h5km±9km, Error ellipse: s-maj=7.5km s-min=6.0km az=30.1*
ISK ***06*** *18:47:22.7, 38°.40N×30°.44E, h7km, ML1.6/4*
DDA ***06*** *18:47:22.0, 38°.38N×30°.47E, h7km±3km, ML2.5*
ISC 06 18:47:22.7±1.0, 38°.37N±0°.04×30°.46E±0°.03, h9km±12km, n9, σ0°52/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.20**	**23**	PG	**Pg**	**18 47 26.9**	**+0.1**
SHUT				SG	**Sg**	**18 47 29.8**	**+0.1**
KZIL	**AFYON_Kizioren**	**0.27**	**245**	IAML_P			
	comp=Z,2μm,0.1s						
KZIL				*i* P	**Pb**	**18 47 29.1**	**-0.7**
KZIL				*i* S	**Sg**	**18 47 32.1**	**+0.2**
BAGO	**Egridir - ISPA**	**0.46**	**145**	*i* P	**Pg**	**18 47 31.1**	**-0.6**
BAGO				*i* S	**Sg**	**18 47 38.8**	**+1.0**
BOLV	**Bolvadin**	**0.52**	**48**	IAML_P			
	comp=Z,2μm,0.1s						
BOLV				*i* P	**Pg**	**18 47 32.4**	**-0.4**
BOLV				*i* S	**Sg**	**18 47 39.2**	**-0.4**
KHAL	**Karahalli**	**0.76**	**270**	IAML_P			
	comp=Z,872nm,0.2s						
KHAL				*i* P	**Pg**	**18 47 37.2**	**-0.1**
USAK	**Uak-Merkez**	**1.18**	**287**	IAML_P			
	comp=Z,519nm,0.2s						
USAK				*i* P	**Pn**	**18 47 45.8**	**+0.5**
TVSB	**Tavsanli**	**1.32**	**325**	PN	**Pg**	**18 47 47.9**	**-0.2**
KULA	**Kula-Manisa**	**1.42**	**276**	PN	**Pb**	**18 47 49.2**	**-0.1**
KONT	**Konya--Tatoy**	**1.56**	**105**	PN	**Pb**	**18 47 51.8**	**+0.1**

IDC ***06*** *18:51:30.5±2.2, 38°.90N×142°.50E, h44km±21km, mb3.3/7, mb1 3.6/10, mb1mx3.4/38, mbtmp3.6/10, ML3.2/3, Error ellipse: s-maj=31.7km s-min=13.2km az=104.0*
JMA ***06*** *18:51:30.2±0.1, 38°.88N×142°.50E, h39km±1km, M3.9*
ISC 06 18:51:27.6±2.1, 38°.82N±0°.04×142°.63E±0°.08, h23km±14km, n29, σ1°56/35, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.79**	**289**	P	**Pb**	**18 51 43.5**	**+0.8**
OFUJ				S	**Sb**	**18 51 52.7**	**-0.2**
JKMT	**Kesennumamotoy**	**0.90**	**270**	P	**Pb**	**18 51 45.0**	**+0.5**
JKMT				S	**Sb**	**18 51 55.7**	**-0.4**
MIYJ	**Miyakonagasawa**	**0.98**	**320**	P	**Pb**	**18 51 45.9**	**0.0**
MIYJ				S	**Sb**	**18 51 57.3**	**-1.1**
JIO	**Ouri**	**1.07**	**250**	P	**Pn**	**18 51 47.6**	**+0.5**
JIO				*e*S	**Sb**	**18 52 00.0**	**-0.9**
JMK	**Ichinoseki**	**1.11**	**277**	P	**Pn**	**18 51 48.1**	**+0.5**
JMK				S	**Sb**	**18 52 00.9**	**-1.1**
JOM	**Ohasama**	**1.22**	**302**	P	**Pn**	**18 51 49.8**	**+0.5**
JOM				*e*S	**Sn**	**18 52 04.2**	**-0.9**
JTH	**Tanohata**	**1.26**	**332**	P	**Pn**	**18 51 50.3**	**+0.5**
JTH				*e*S	**Sn**	**18 52 05.6**	**-0.4**
JOU	**Okura**	**1.60**	**254**	P	**Pn**	**18 51 55.7**	**+1.2**
JOU				*e*S	**Sn**	**18 52 14.6**	**+0.1**
JRG	**Rokugo**	**1.65**	**291**	P	**Pn**	**18 51 56.3**	**+1.1**
JMM	**Marumori**	**1.73**	**237**	P	**Pn**	**18 51 57.2**	**+1.0**
JMM				S	**Sn**	**18 52 16.9**	**-0.7**
JANG	**Nango**	**1.77**	**331**	P	**Pn**	**18 51 57.6**	**+0.8**
JYK	**Kaneyama**	**1.77**	**274**	P	**Pn**	**18 51 58.1**	**+1.3**
MJAR	**Matsushiro Arr**	**4.18**	**238**	P	**Pn**	**18 52 32.8**	**+2.8**
	0.5nm,0.3s,baz=82,slow=16,SNR=29						
MAT	**Matsushiro**	**4.18**	**238**	P	**Pn**	**18 52 33.6**	**+3.6**
MAT				*e*S	**Sb**	**18 53 27.5**	**-3.0**
ASAJ	**Asahikawa**	**5.29**	**360**	P	**Pn**	**18 52 46.0**	**+0.8**
	0.6nm,0.3s,baz=190,slow=17,SNR=13						
ASAJ				S	**Sn**	**18 53 43.9**	**-1.4**
	0.7nm,0.3s,baz=120,slow=20,SNR=3.9						
JHJ	**Hachijo jima 2**	**6.14**	**203**	P	**Pn**	**18 52 58.4**	**+1.5**
	8.7nm,0.3s,baz=75,slow=20,SNR=4.5						
JHJ				S	**Sn**	**18 54 01.4**	**-5.0**
	4.1nm,0.3s,baz=66,slow=19,SNR=2.0						

H11N2 WAKE ISLAND Hy 28.32 125 T T 19 27 49.5
baz=317,slow=75,SNR=128
H11N1 WAKE ISLAND Hy 28.33 125 T T 19 27 51.4
baz=317,slow=75,SNR=125
H11N3 WAKE ISLAND Hy 28.34 125 T T 19 27 48.7
baz=317,slow=75,SNR=125
H11S1 WAKE ISLAND Hy 29.10 127 T T 19 28 45.3
baz=319,slow=76,SNR=14
H11S3 WAKE ISLAND Hy 29.10 127 T T 19 28 44.3
baz=319,slow=76,SNR=21
H11S2 WAKE ISLAND Hy 29.12 127 T T 19 28 45.4
baz=319,slow=76,SNR=13
MKAR Makanchi Array 44.01 301 P **P** **18 59 32.9 -0.3**
0.5nm,0.7s,baz=93,slow=7.5,SNR=4.7
ILAR Eielson Array 47.47 33 P **P** **19 00 01.4 +1.2**
0.8nm,0.7s,baz=263,slow=7.4,SNR=9.6
WRA Warramunga Arr 58.97 189 P **P** **19 01 25.2 0.0**
0.5nm,0.3s,baz=6.7,slow=7.1,SNR=20
YKA Yellowknife Ar 61.78 31 P **P** **19 01 43.9 -0.1**
0.1nm,0.4s,baz=298,slow=5.8,SNR=3.8
ASAR Alice Springs 62.70 189 P **P** **19 01 50.9 +0.3**
0.2nm,0.7s,baz=18,slow=10,SNR=6.6
AKASG Malin Array Be 73.47 322 P **P** **19 02 57.1 -0.8**
0.4nm,0.3s,baz=44,slow=6.3,SNR=8.8
TXAR Lajitas Array 88.28 53 P **P** **19 04 18.2 +0.8**
0.2nm,0.6s,baz=270,slow=3.6,SNR=2.9

*DDA **06** 18:54:41.9, 37°.32N×37°.12E, h7km±4km, ML2.6*
*ISCJB **06** 18:54:42.6±0.6, 37°.32N±0°.04×37°.09E±0°.04, h9km±5km,*
Error ellipse: s-maj=6.9km s-min=4.5km az=30.2
*ISK **06** 18:54:42.1, 37°.30N×37°.09E, h5km, ML1.9/5*
ISC 06 18:54:42.4±0.9, 37°.31N±0°.04×37°.11E±0°.03, h12km±7km, n15, σ0s49/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.16**	**150**	PG	**Pg**	**18 54 45.9**	**-0.3**
GAZ				SG	**Sg**	**18 54 48.8**	**0.0**
HCB	**Kahramanmara**	**0.17**	**281**	IAML_P			
HCB	comp=Z,4μm,0.1s			*i* P	**Pg**	**18 54 47.0**	**+0.8**
HCB				*i* S	**Sg**	**18 54 48.6**	**-0.4**
KMRS	**Kahramanmaras**	**0.26**	**319**	PG	**Pg**	**18 54 47.6**	**-0.2**
AYKD	**Aykdinkavak**	**0.26**	**293**	IAML_P			
AYKD	comp=Z,5μm,0.1s			*i* P	**Pb**	**18 54 48.3**	**-0.8**
AYKD				*i* S	**Sg**	**18 54 52.1**	**+0.4**
GZT	**Gaziantep**	**0.36**	**83**	IAML_P			
GZT	comp=Z,2μm,0.1s			*i* P	**Pg**	**18 54 50.0**	**+0.3**
KAMA	**Osmaniye**	**0.38**	**251**	*i* P	**Pb**	**18 54 50.7**	**-0.4**
KUZU	**Kuzuini**	**0.54**	**183**	*i* P	**Pb**	**18 54 53.6**	**-0.1**
KUZU				*i* S	**Sb**	**18 55 01.6**	**+0.1**
ANDN	**Andirin**	**0.67**	**294**	*i* P	**Pb**	**18 54 55.5**	**-0.5**
ANDN				*i* S	**Sg**	**18 55 03.7**	**-0.5**
ATAB	**Bozova**	**0.95**	**80**	*i* P	**Pb**	**18 55 01.4**	**+0.5**
ATAB				*i* S	**Sg**	**18 55 13.2**	**-0.1**
KOZT	**Kozan**	**1.04**	**280**	PG	**Pb**	**18 55 02.3**	**0.0**
SAIM	**ADANA**	**1.05**	**309**	IAML_P			
SAIM	comp=Z,572nm,0.2s			*i* P	**Pn**	**18 55 03.4**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.19**	**219**	PN	**Pb**	**18 55 04.9**	**0.0**
TAHT				SN	**Sn**	**18 55 21.9**	**+0.9**
SURC	**SANLIURFA_SURC**	**1.27**	**109**	IAML_P			
SURC	comp=Z,129nm,0.1s			*i* P	**Pn**	**18 55 05.5**	**-0.6**
URFA	**Urfa**	**1.37**	**84**	PN	**Pg**	**18 55 08.9**	**+0.2**
SANL	**SANLIURFA_Merk**	**1.50**	**95**	*i* P	**Pg**	**18 55 10.7**	**-0.6**

PRU 06 18:58:01.0±0.0, 50°.26N×18°.94E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.05**	**47**	*e*Pg	Pg	18 58 02.2	+0.3
CHZP				*e*Sg	Sg	18 58 03.6	+1.2
OJC	**Ojcow**	**0.55**	**94**	*e*Pg	Pg	18 58 11.2	-0.3
OJC				*e*Sg	Sg	18 58 18.7	0.0
MORC	**Moravsky Berou**	**1.02**	**242**	*e*PG	Pg	18 58 20.9	+0.3
MORC				*e*SG	Sg	18 58 34.4	+0.6
KRLC	**Kraliky**	**1.40**	**263**	*e*PG	Pg	18 58 25.9	-1.9
DPC	**Dobruska-Polom**	**1.68**	**274**	*e*PG	Pn	18 58 31.3	-0.4
DPC				*e*SG	Sn	18 58 54.1	+0.1
	comp=Z,2.5nm,0.5s						

IDC 06 19:10:12.1±605.0, 30°.76N×130°.98E, h0km, Error ellipse: s-maj=275.0km s-min=155.7km az=25.0, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**9.05**	**57**	*i*		20 07 50.0	
	baz=242,slow=312,SNR=1.8						
I45RU	**USSURIYSK INFR**	**13.44**	**3**	*i*		20 32 30.0	
	baz=184,slow=324,SNR=3.6						
I34MN	**SONGINO INFRAS**	**25.35**	**319**	*i*		21 45 35.0	
	baz=124,slow=326,SNR=6.7						

*BJI **06** 19:11:09.2±0.0, 21°.96S×179°.03W, h597km, mb4.5/19, mB5.0/11*
*ISCJB **06** 19:11:10.3±0.3, 22°.09S±0°.08×179°.54W±0°.06, h592km, mb4.5/57, Error ellipse: s-maj=10.3km s-min=6.1km az=159.2*
*NEIC **06** 19:11:11.2±0.6, 22°.08S×179°.48W, h596km±7km, mb4.6/31, Error ellipse: s-maj=10.4km s-min=5.7km az=163.0*
*IDC **06** 19:11:12.5±1.7, 22°.00S×179°.60W, h601km±19km, mb3.9/22, mb1 4.0/22, mb1mx3.9/32, mbtmp4.8/22, Error ellipse: s-maj=12.7km s-min=12.0km az=163.0*
ISC 06 19:11:11.1±0.4, 22°.18S±0°.08×179°.46W±0°.07, h592km, n149, σ1s16/158, mb4.6/57, 22C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.18**	**169**	*e*P	**P**	**19 13 02.1**	**-0.2**
NIUE	**Niue**	**9.44**	**73**	*e*P	**P**	**19 13 23.4**	**-0.8**
MARNC	**Mare, Loyalty**	**11.64**	**271**	*e*P	**P**	**19 13 46.1**	**-0.1**
DZM	**Mont Dzumac**	**13.07**	**268**	*e*P	**P**	**19 14 03.4**	**+2.6**
DZM	**Mont Dzumac**	**13.07**	**268**	P	**P**	**19 14 03.7**	**+2.9**
	2.4nm,0.3s,baz=92,slow=20,SNR=14						
URZ	**Urewera**	**16.30**	**190**	S	**S**	**19 17 08.4**	**-5.9**
	0.8nm,0.3s,baz=46,slow=21,SNR=8.4						
CAN	**Canberra**	**30.46**	**238**	*e*P	**P**	**19 16 38.5**	**+1.4**
	30nm,1.2s						
CTA	**Charters Tower**	**32.01**	**267**	P	**P**	**19 16 50.6**	**+0.1**
	25nm,0.5s,baz=93,slow=11,SNR=51						
TOO	**Toolangi**	**33.82**	**235**	*e*P	**P**	**19 17 06.7**	**+1.1**
	14nm,0.7s						
PMG	**Port Moresby**	**34.45**	**286**	*e*P	**P**	**19 17 10.4**	**-0.7**
	52nm,0.8s						
PMG	**Port Moresby**	**34.45**	**286**	P	**P**	**19 17 10.6**	**-0.4**
	52nm,0.8s,baz=77,slow=6.5,SNR=11						
STKA	**Stephens Creek**	**35.85**	**246**	*e*P	**P**	**19 17 22.9**	**+0.5**
STKA	**Stephens Creek**	**35.85**	**246**	P	**P**	**19 17 23.2**	**+0.7**
	13nm,0.6s,baz=92,slow=10,SNR=51						
COEN	**Coen**	**36.38**	**277**	*e*P	**P**	**19 17 26.6**	**-0.3**
	21nm,0.9s						
BBOO	**Buckleboo**	**40.60**	**245**	*e*P	**P**	**19 18 00.4**	**-0.4**
	19nm,0.8s						
AS31	**Alice Springs**	**42.83**	**259**	*e*P	**P**	**19 18 18.1**	**-0.4**
AS31				*e*PcP	**PcP**	**19 19 55.8**	**-0.1**
AS31				*e*S	**S**	**19 23 59.2**	**-2.1**
ASAR	**Alice Springs**	**42.84**	**259**	P	**P**	**19 18 18.2**	**-0.3**
	34nm,0.8s,baz=94,slow=8.2,SNR=208						
ASAR				PcP	**PcP**	**19 19 55.8**	**-0.1**
	1.7nm,0.7s,baz=125,slow=4.2,SNR=4.7						
ASAR				S	**S**	**19 23 59.2**	**-2.1**
	2.4nm,0.9s,baz=93,slow=16,SNR=8.4						
WB2	**Warramunga Arr**	**43.04**	**264**	*e*P	**P**	**19 18 19.1**	**-1.0**
	38nm,0.8s						
WRAB	**Tennant Creek**	**43.04**	**264**	*e*P	**P**	**19 18 19.3**	**-0.9**
	32nm,0.8s						
WR1	**Warramunga Arr**	**43.05**	**264**	*e*P	**P**	**19 18 19.2**	**-1.0**
WRA	**Warramunga Arr**	**43.05**	**264**	P	**P**	**19 18 19.2**	**-1.0**
	28nm,0.8s,baz=97,slow=7.9,SNR=76						
JAY	**Jayapura**	**43.33**	**291**	P	**P**	**19 18 21.7**	**-0.8**
	36nm,0.7s,baz=157,slow=5.6,SNR=8.9						
FORT	**Forrest**	**47.40**	**248**	*e*P	**P**	**19 18 52.7**	**-0.5**
	42nm,0.7s						
SIJI	**Sorong**	**52.39**	**287**	P	**P**	**19 19 29.3**	**-0.6**
	94nm,0.7s,baz=92,slow=5.3,SNR=53						
SOEI	**Soe**	**55.22**	**273**	*e*P	**P**	**19 19 49.8**	**-0.1**
	83nm,0.8s						
BATI	**Baumata**	**55.62**	**273**	P	**P**	**19 19 53.4**	**+0.8**
	46nm,0.6s,baz=163,slow=3.1,SNR=12						
PSA00	**Pilbara Seismi**	**55.98**	**258**	*e*P	**P**	**19 19 54.1**	**-0.8**
	24nm,0.9s						
VNDA	**Vanda**	**56.13**	**185**	*e*P	**P**	**19 19 56.7**	**+1.7**
VNDA	**Vanda**	**56.13**	**185**	P	**P**	**19 19 57.5**	**+2.6**
	1.4nm,0.7s,baz=354,slow=6.7,SNR=8.8						
NWAO	**Narrogin (SRO)**	**56.41**	**244**	P	**P**	**19 19 57.7**	**0.0**
	5.6nm,0.6s,baz=92,slow=5.9,SNR=4.0						
TNTI	**Ternate**	**56.60**	**287**	*e*P	**P**	**19 19 58.5**	**-0.8**
	28nm,0.9s						
MORW	**Morawa**	**57.95**	**249**	*e*P	**P**	**19 20 07.9**	**-0.3**
	15nm,1.0s						
QSPA	**South Pole Qui**	**67.90**	**180**	P	**P**	**19 21 12.9**	**+1.5**
	8.7nm,0.8s,baz=31,slow=1.4,SNR=28						
MJAR	**Matsushiro Arr**	**70.77**	**325**	P	**P**	**19 21 27.7**	**-1.1**
	5.7nm,0.7s,baz=167,slow=6.4,SNR=14						
MAJO	**Matsushiro**	**70.78**	**325**	*e*P	**P**	**19 21 27.7**	**-1.1**
MAT	**Matsushiro**	**70.78**	**325**	P	**P**	**19 21 27.9**	**-0.9**
LEM	**Lembang**	**71.67**	**270**	P	**P**	**19 21 34.5**	**-0.3**
	34nm,0.7s,baz=87,slow=5.7,SNR=12						
KSM	**Kuching**	**72.32**	**279**	*e*P	**P**	**19 21 38.1**	**-0.2**
	20nm,0.7s						
KSRS	**Korea Array**	**77.26**	**320**	P	**P**	**19 22 05.3**	**0.0**
	1.9nm,0.9s,baz=143,slow=5.6,SNR=7.7						
KS15	**Wonju Array Si**	**77.28**	**320**	*e*P	**P**	**19 22 04.8**	**-0.6**
	82nm,2.0s						
KSAR	**Wonju Array Be**	**77.28**	**320**	*e*P	**P**	**19 22 05.2**	**-0.2**
PETK	**Petropavlovsk-**	**77.55**	**346**	P	**P**	**19 22 06.1**	**-0.5**
	11nm,0.8s,baz=124,slow=7.6,SNR=19						
PEA1	**Petropavlovsk-**	**77.56**	**346**	*e*P	**P**	**19 22 06.1**	**-0.5**
USRK	**Ussuriysk Ar.**	**79.60**	**327**	*e*P	**P**	**19 22 17.8**	**+0.2**
USRK	**Ussuriysk Ar.**	**79.60**	**327**	P	**P**	**19 22 17.9**	**+0.3**
	5.5nm,1.0s,baz=115,slow=7.2,SNR=7.8						
NJ2	**Nanjing**	**79.92**	**311**	*e*P	**P**	**19 22 19.6**	**0.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
IPM	**Ipoh**	**82.01**	**278**	*e*P	**P**	**19 22 30.9**	**0.0**
	14nm,0.7s						
PNTR	**Pine Nut**	**82.73**	**43**	*e*P	**P**	**19 22 34.7**	**+0.6**
	7.1nm,0.9s						
NVAR	**Mina Array Bea**	**83.17**	**44**	*e*P	**P**	**19 22 35.9**	**-0.4**
NVAR	**Mina Array Bea**	**83.17**	**44**	P	**P**	**19 22 36.9**	**+0.6**
	1.5nm,0.8s,baz=225,slow=8.4,SNR=8.6						
NV01	**Mina Array Sit**	**83.17**	**44**	*e*P	**P**	**19 22 36.9**	**+0.6**
TIA	**Tai'an**	**83.42**	**313**	P	**P**	**19 22 37.6**	**+0.3**
TIA				pmax	pmax		
	comp=Z,12nm,1.0s						
PANO	**Nakornpanom**	**83.95**	**291**	P	**P**	**19 22 41.3**	**+1.0**
SKNT	**Sakolnakorn**	**84.42**	**291**	P	**P**	**19 22 43.4**	**0.7**
TUC	**Tucson**	**85.08**	**52**	*e*P	**P**	**19 22 46.2**	**+0.6**
	3.0nm,0.8s						
KHON	**Khomkaen**	**85.16**	**290**	P	**P**	**19 22 47.8**	**+1.6**
NONG	**Nongkai**	**85.60**	**291**	P	**P**	**19 22 49.7**	**+1.4**
319A	**Douglas**	**85.73**	**54**	*e*P	**P**	**19 22 48.2**	**-0.6**
	7.4nm,0.8s						
ENH	**Enshi**	**85.87**	**305**	*e*P	**P**	**19 22 49.4**	**0.0**
	17nm,1.0s						
U15A	**North Rim**	**86.09**	**48**	*e*P	**P**	**19 22 50.8**	**+0.2**
	3.9nm,0.8s						
PHET	**Kaeng Krachan**	**86.59**	**285**	P	**P**	**19 22 55.3**	**+2.2**
GHO	**Glory Hole Cre**	**87.17**	**14**	*e*P	**P**	**19 22 54.1**	**-0.7**
	5.4nm,0.8s						
SRDT	**SRDT**	**87.62**	**286**	P	**P**	**19 23 00.8**	**+2.9**
SRDT	**SRDT**	**87.62**	**286**	P	**P**	**19 23 00.8**	**+2.9**
CAST	**Castle Rocks**	**87.99**	**12**	*e*P	**P**	**19 22 56.5**	**-2.0**
	3.3nm,0.8s						
NANT	**Nan**	**88.02**	**291**	P	**P**	**19 23 01.6**	**+1.9**
XAN	**Xi'an**	**88.08**	**308**	P	**P**	**19 23 00.3**	**+0.6**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,64nm,5.0s						
PHRA	**Phrae**	**88.30**	**291**	P	**P**	**19 23 03.0**	**+2.0**
PHRA	**Phrae**	**88.30**	**291**	P	**P**	**19 23 03.0**	**+2.0**
RND	**Reindeer**	**88.63**	**13**	*e*P	**P**	**19 23 01.0**	**-0.6**
	5.5nm,0.9s						
MNTX	**Cornudas Mount**	**88.82**	**55**	*e*P	**P**	**19 23 03.6**	**+0.4**
	3.2nm,0.8s						
LAMP	**Lampang**	**88.83**	**290**	P	**P**	**19 23 05.2**	**+1.7**
	32μm,0.8s,292μm						
LAMP	**Lampang**	**88.83**	**290**	P	**P**	**19 23 05.2**	**+1.7**
KMI	**Kunming**	**88.91**	**298**	P	**P**	**19 23 03.8**	**-0.2**
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
KMI				pmax	pmax		
	comp=Z,99nm,4.2s						
LTX	**Lajitas**	**89.10**	**58**	*e*P	**P**	**19 23 05.4**	**+0.8**
PLCA	**Paso Flores**	**89.10**	**134**	P	**P**	**19 23 06.0**	**+1.4**
	2.5nm,0.9s,baz=212,slow=21,SNR=4.6						
TX31	**Lajitas Ar. Si**	**89.10**	**58**	*e*P	**P**	**19 23 04.3**	**-0.4**
	3.0nm,1.0s						
TXAR	**Lajitas Array**	**89.10**	**58**	*e*P	**P**	**19 23 04.8**	**+0.2**
TXAR	**Lajitas Array**	**89.10**	**58**	P	**P**	**19 23 05.4**	**+0.8**
	2.0nm,0.9s,baz=218,slow=5.9,SNR=14						
CM31	**Chiang Mai Arr**	**89.40**	**290**	*e*P	**P**	**19 23 05.5**	**-0.7**
	14nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.40**	**290**	*e*P	**P**	**19 23 06.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**89.40**	**290**	P	**P**	**19 23 07.4**	**+1.3**
	6.7nm,0.8s,baz=136,slow=3.2,SNR=52						
CMMT	**Chiang Mai**	**89.54**	**290**	P	**P**	**19 23 07.9**	**+1.1**
	7.0nm,0.9s						
CMMT	**Chiang Mai**	**89.54**	**290**	P	**P**	**19 23 07.9**	**+1.1**
	7.0nm,0.9s,0.0nm						
CHTO	**Chiang Mai**	**89.54**	**290**	*e*P	**P**	**19 23 06.8**	**0.0**
	9.4nm,0.8s						
HHC	**Hu-ho-hao-te**	**89.56**	**315**	*e*P	**P**	**19 23 08.3**	**+1.8**
HHC				pmax	pmax		
	comp=Z,23nm,1.2s						
HHC				pmax	pmax		
	comp=Z,150nm,6.9s						
ILAR	**Eielson Array**	**90.25**	**13**	P	**P**	**19 23 07.6**	**-1.4**
	0.4nm,0.8s,baz=242,slow=5.5,SNR=4.3						
CD2	**Chengdu**	**90.56**	**303**	*e*P	**P**	**19 23 11.0**	**-0.3**
LNIG	**Linares**	**90.62**	**63**	*e*P	**P**	**19 23 11.0**	**-0.6**
	3.4nm,0.8s						
PD31	**Pinedale Array**	**91.11**	**44**	*e*P	**P**	**19 23 13.2**	**-0.6**
	6.3nm,1.7s						
PDAR	**Pinedale Array**	**91.11**	**44**	P	**P**	**19 23 13.2**	**-0.6**
	0.6nm,0.8s,baz=199,slow=4.1,SNR=4.2						
TOLK	**Toolik Lake Re**	**93.14**	**11**	*e*P	**P**	**19 23 21.8**	**-0.5**
	5.0nm,0.6s						
GTA	**Gaotai**	**96.99**	**310**	*e*P	P	19 23 48.3	+7.9
GTA				pP	pP	19 25 45.5	-2.6
GTA				sP	sP	19 26 39.6	-6.9
KSH	**Kashi**	**114.72**	**304**	PKP	PKPdf	19 28 43.2	-2.2
KSH				PP	**PP**	**19 29 59.3**	**+4.3**
KSH				sPKP		19 31 59.3	
KSH				SKS	**SKSdf**	**19 34 59.6**	**-2.5**
CHGR	**Chuyangaron**	**119.88**	**303**	*e*PKPdf	**PKiKP**	**19 28 57.5**	**+2.1**
MBAR	**Mbarara**	**142.86**	**236**	*e*PKPdf	**PKPdf**	**19 29 37.8**	**-1.4**
AKASG	**Malin Array Be**	**143.78**	**329**	PKP	PKPbc	19 29 37.2	-1.5
	3.9nm,0.5s,baz=41,slow=4.5,SNR=61						
AKASG				SKPbc	**SKPbc**	**19 32 23.0**	**+0.1**
	1.2nm,0.7s,baz=46,slow=3.0,SNR=8.3						
AKBB	**Malin Array Si**	**143.78**	**329**	*e*PKPbc	PKPbc	19 29 37.4	-1.3
KIEV	**Kiev**	**143.79**	**329**	*e*PKPbc	PKPbc	19 29 37.2	-1.5
KIEV	**Kiev**	**143.79**	**329** ⇑	*i*P	PKPbc	19 29 37.6	-1.1
SUW	**Suwalki**	**143.89**	**337**	*e*PKP	PKPbc	19 29 38.3	-0.6
SUW	**Suwalki**	**143.89**	**337**	*e*PKPbc	PKPbc	19 29 38.4	-0.5
BR101	**Keskin Array S**	**146.91**	**310**	*e*PKPbc	**PKPbc**	**19 29 47.4**	**-0.9**
BR131	**Keskin Array S**	**146.91**	**310**	*e*PKPbc	**PKPbc**	**19 29 47.2**	**-1.1**
BRTR	**Keskin Array B**	**146.91**	**310**	PKPbc	**PKPbc**	**19 29 47.4**	**-0.9**
	2.1nm,0.7s,baz=128,slow=4.2,SNR=17						
KWP	**Kalwaria Pacla**	**147.49**	**333**	*e*PKPbc	**PKPbc**	**19 29 48.6**	**-0.7**
BUR08	**Bucovina Ar. S**	**147.79**	**328**	*e*PKPbc	**PKPbc**	**19 29 49.7**	**-0.6**
BURAR	**Bucovina Array**	**147.81**	**328**	*e*PKPbc	**PKPbc**	**19 29 49.7**	**-0.6**
BURAR	**Bucovina Array**	**147.81**	**328** ⇑	*i*P	**PKPbc**	**19 29 50.3**	**0.0**
TESR	**Tescani**	**147.81**	**325** ⇑	*i*P	**PKPbc**	**19 29 49.2**	**-1.0**
BIZ	**Bicaz**	**147.81**	**326** ⇑	*i*P	**PKPbc**	**19 29 50.6**	**+0.4**
VRI	**Vrincioaia**	**148.18**	**324** ⇑	*i*P	**PKPbc**	**19 29 50.4**	**-0.8**
KOLS	**Kolonicke sedl**	**148.21**	**332**	*e*PKP	**PKPbc**	**19 29 51.5**	**+0.4**
TLB	**Topalu**	**148.22**	**321** ⇑	*i*P	**PKPbc**	**19 29 50.9**	**-0.3**
PLOR	**Plostina**	**148.23**	**324** ⇑	*i*P	**PKPab**	**19 29 56.4**	**-0.3**
NIE	**Niedzica**	**148.64**	**335**	*e*PKP	**PKiKP**	**19 29 52.7**	**-0.6**
TRPA	**Tarpa**	**148.69**	**331** ⇑	*i*P	**PKPbc**	**19 29 52.2**	**-0.1**
DOPR	**Dopca**	**148.83**	**326** ⇓	*i*P	**PKPbc**	**19 29 52.5**	**-0.3**
MLR	**Muntele Rosu**	**148.84**	**324**	*e*PKPbc	**PKPbc**	**19 29 52.0**	**-1.0**
MLR	**Muntele Rosu**	**148.84**	**324** ⇑	*i*P	**PKPbc**	**19 29 52.4**	**-0.6**
KSP	**Ksiaz**	**148.85**	**341**	*e*PKP	**PKPbc**	**19 29 52.0**	**-0.6**
OKC	**Ostrava-Krasne**	**149.10**	**338** ⇑	*e*PKP	**PKPbc**	**19 29 53.1**	**-0.2**
LANS	**Liptovska Anna**	**149.18**	**335**	*e*PKP	**PKiKP**	**19 29 54.3**	**-0.1**
UPC	**Upice**	**149.23**	**341** ⇑	*e*PKP	**PKPbc**	**19 29 53.6**	**0.0**
UPC				*e*PKPAB	**PKPab**	**19 30 00.4**	**-0.2**
DPC	**Dobruska-Polom**	**149.27**	**340** ⇑	*e*PKP	**PKPbc**	**19 29 53.9**	**+0.2**
CLL	**Collm**	**149.35**	**345**	*e*PKPbc	**PKPbc**	**19 29 53.6**	**-0.2**
CLL	**Collm**	**149.35**	**345** ⇓	*i*PKPbc	**PKPbc**	**19 29 53.4**	**-0.4**
	comp=Z,10.0nm,0.9s						
CLL				⇑ *i*PKPab	**PKPab**	**19 30 00.4**	**-0.6**
	comp=Z,7.0nm,0.8s						
MORC	**Moravsky Berou**	**149.36**	**338** ⇓	*i*P	**PKPbc**	**19 29 53.6**	**-0.4**
MORC	**Moravsky Berou**	**149.36**	**338**	*e*PKP	**PKPbc**	**19 29 53.8**	**-0.2**
KRLC	**Kraliky**	**149.36**	**339** ⇑	*e*PKP	**PKPbc**	**19 29 54.0**	**0.0**
BRG	**Berggiesshubel**	**149.50**	**343**	*i*PKP	**PKPbc**	**19 29 54.2**	**0.0**
	comp=Z,7.4nm,0.9s						
BRG				*e*		19 30 01.8	
	comp=Z,13nm,1.6s						
YLV	**Yalova**	**149.51**	**314** ⇑	*i*P	**PKPbc**	**19 29 53.2**	**-1.5**
PVCC	**Panska Ves**	**149.64**	**342** ⇑	*e*PKP	**PKiKP**	**19 29 54.8**	**-0.4**
PVCC				*e*PKPAB	**PKPab**	**19 30 02.5**	**+0.2**
VYHS	**Vyhne**	**149.96**	**335**	*e*PKP	**PKPbc**	**19 29 55.2**	**-0.2**
VYHS				*e*		19 30 03.6	
HUMR	**Humele**	**149.98**	**324** ⇑	*i*P	**PKPbc**	**19 29 54.8**	**-0.7**
VRAC	**Vranov**	**150.09**	**339**	*e*PKP	**PKPbc**	**19 29 55.1**	**-0.5**
JAVC	**Velka Javorina**	**150.09**	**337**	*e*PKP	**PKiKP**	**19 29 56.5**	**+0.2**
PRU	**Pruhonice**	**150.13**	**342** ⇑	*e*PKP	**PKPbc**	**19 29 55.5**	**-0.2**
PRU				*e*PKPAB	**PKPab**	**19 30 04.1**	**-0.3**
KRUC	**Moravsky**	**150.37**	**339**	*e*PKP	**PKPbc**	**19 29 55.8**	**-0.5**
BZS	**Buzias**	**150.97**	**329** ⇑	*i*P	**PKPbc**	**19 29 56.2**	**-1.6**
HERR	**Herculane**	**151.10**	**327** ⇑	*i*P	**PKPbc**	**19 29 56.6**	**-1.5**
KHC	**Kasperske Hory**	**151.18**	**342**	*e*PKPbc	**PKPbc**	**19 29 58.0**	**-0.2**
KHC				*e*PKPab	**PKPab**	**19 30 08.8**	**-0.1**
KHC	**Kasperske Hory**	**151.18**	**342** ⇑	*e*PKP	**PKPbc**	**19 29 57.4**	**-0.8**
KHC				*e*PKPAB	**PKPab**	**19 30 08.7**	**-0.1**
GEC2	**GERESS Array S**	**151.40**	**342**	*e*PKPbc	**PKPbc**	**19 29 57.6**	**-1.2**
GEC2				*e*PKPab	**PKPab**	**19 30 09.0**	**-0.9**
GERES	**GERESS Array B**	**151.40**	**342**	*e*PKPbc	**PKPbc**	**19 29 58.3**	**-0.5**
GERES				*e*PKPab	**PKPab**	**19 30 09.5**	**-0.4**
GERES	**GERESS Array B**	**151.40**	**342**	PKPbc	**PKPbc**	**19 29 58.1**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=79,slow=2.9,SNR=7.0						
GERES				PKPab	**PKPab**	**19 30 09.7**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=28,slow=6.0,SNR=5.1						
VTS	**Vitosha**	**152.18**	**322**	*e*PKPbc	**PKPbc**	**19 30 00.6**	**-0.2**
VTS				*e*PKPab	**PKPab**	**19 30 13.5**	**0.0**
VTS	**Vitosha**	**152.18**	**322** ⇑	*i*P	**PKPbc**	**19 30 00.4**	**-0.4**
LIT	**Litokhoron**	**154.19**	**319**	*e*PKPab	**PKPab**	**19 30 21.2**	**-0.8**

*ISCJB **06** 19:14:04.4±0.9, 6°.19S±0°.06×130°.25E±0°.08, h146km, mb3.3/1, Error ellipse: s-maj=11.9km s-min=9.1km az=176.9*
*IDC **06** 19:14:05.9±2.1, 6°.16S×130°.19E, h148km±25km, mb3.2/1, mb1 3.6/6, mb1mx3.2/34, mbtmp4.0/6, Error ellipse: s-maj=29.3km s-min=18.2km az=108.0*
ISC 06 19:14:04.2±0.9, 6°.26S±0°.06×130°.4E±0°.1, h146km, n6, σ3s32/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.43**	**10**	P	**Pn**	**19 15 24.3**	**+1.0**
	3.6nm,0.3s,baz=281,slow=22,SNR=33						
SIJI				S	**Sn**	**19 16 20.9**	**-4.2**
	28nm,0.3s,baz=231,slow=23,SNR=24						
BATI	**Baumata**	**7.70**	**239**	P	**Pn**	**19 15 55.2**	**+1.5**
	3.5nm,0.3s,baz=94,slow=4.4,SNR=6.4						
BATI				S	**Sn**	**19 17 18.9**	**-0.7**
	9.7nm,0.3s,baz=360,slow=23,SNR=10						
FITZ	**Fitzroy Crossi**	**12.64**	**201**	P	**Pn**	**19 17 00.4**	**+1.5**
	0.4nm,0.3s,baz=32,slow=13,SNR=28						
FITZ				S	**Sn**

GRRZ	Galatos Road	0.81	40	P	Pb	19 18 10.0	0.0
BKZ	Black Stump Fm	0.83	104	P	Pg	19 18 10.3	-0.1
WAZ	Wanganui	0.86	205	P	Pg	19 18 11.0	0.0
KWHZ	Kaweka Forest	0.88	121	P	Pb	19 18 11.4	+0.1
MHEZ	Mangahewa	0.89	263	P	Pn	19 18 12.3	0.0
HSRZ	Hossack Road	0.90	43	P	Pg	19 18 11.9	+0.1
LREZ	Lake Rotokare	0.95	239	P	Pn	19 18 13.1	-0.1
KRHZ	Kereru	0.97	134	P	Pn	19 18 13.6	0.0
UTU	Utuhina	0.98	36	P	Pb	19 18 12.9	-0.1
DREZ	Durham Road	1.00	257	P	Pn	19 18 13.9	0.0
HLRZ	Highlands Stat	1.00	45	P	Pn	19 18 14.2	+0.3
RRRZ	Republican Roa	1.04	53	P	Pb	19 18 13.9	-0.2
MCHZ	McNeill Hill	1.07	116	P	Pg	19 18 16.1	+1.1
PREZ	Palmer Road	1.07	250	P	Pg	19 18 15.2	+0.2
MTHZ	Maungataniwha	1.09	84	P	Pb	19 18 14.6	-0.2
PNHZ	Pukenui	1.10	149	P	Pg	19 18 16.0	+0.4
MUGZ	Murupara	1.14	65	P	Pb	19 18 15.6	-0.2
TSZ	Takapari Road	1.15	160	P	Pg	19 18 16.7	+0.2
PKE	Pukeiti	1.17	259	P	Pg	19 18 16.7	0.0
KHEZ	Kahui Hut	1.17	254	P	Pg	19 18 16.8	0.0
KMRZ	Kaimai	1.19	19	P	Pn	19 18 16.1	-0.4
ARHZ	Aropaoanui	1.23	104	P	Pg	19 18 19.8	+1.8
OHWZ	Ohakea	1.24	185	P	Pb	19 18 17.7	+0.3
TOZ	Tahuroa Road	1.24	2	P	Pn	19 18 16.5	-0.7
NBEZ	Newall Road No	1.27	256	P	Pg	19 18 18.4	-0.4
RAHZ	Arahi	1.27	88	P	Pb	19 18 17.9	-0.1
WPHZ	Waipukurau	1.33	145	P	Pg	19 18 20.2	+0.3
KAHZ	Kahuranaki	1.37	127	P	Pg	19 18 20.8	+0.1
TGRZ	Tauranga	1.39	27	P	Pb	19 18 20.1	0.0
DVHZ	Dannevirke	1.43	158	P	Pb	19 18 22.1	+0.3
POWZ	Post Office Ro	1.44	170	P	Pb	19 18 21.3	+0.5
URZ	Urewera	1.48	62	P	Pb	19 18 21.1	-0.4
PRHZ	Porangahau	1.58	145	P	Pg	19 18 24.0	-0.7
MRZ	Mangatainoka R	1.69	177	P	Pb	19 18 24.9	-0.1
MWZ	Matawai	1.74	69	P	Pb	19 18 26.2	+0.2
BFZ	Birch Farm	1.81	161	P	Pg	19 18 28.4	-0.6
TIWZ	Tintock	1.83	170	P	Pb	19 18 27.4	-0.1
OGWZ	Otaki Gorge	1.85	187	P	Pb	19 18 27.8	-0.1
MKAZ	Moumakai	1.88	353	P	Pn	19 18 26.0	+0.1
MHGZ	Mahia Peninsul	1.92	96	P	Pn	19 18 27.3	+0.9
HOWZ	Holdsworth Sta	1.92	179	P	Pb	19 18 27.9	-1.2
KBAZ	Karaka Road Bo	1.93	346	P	Pn	19 18 26.7	+0.1
KIWZ	Kapiti Island	1.93	192	P	Pb	19 18 28.7	-0.6
AWAZ	Awhitu Peninsu	2.01	341	P	Pb	19 18 30.4	-0.2
CAWZ	Cannon Point	2.15	188	P	Pb	19 18 31.6	-1.4
WTAZ	Waiatarua	2.15	341	P	Pb	19 18 33.5	+0.5
TMWZ	Te Maipa	2.16	171	P	Pb	19 18 33.4	+0.3
DUWZ	D'Urville Isla	2.17	212	P	Pn	19 18 31.6	+1.6
MTWZ	Mount Morrison	2.18	179	P	Pn	19 18 30.9	+0.8
WIAZ	Waiheke Island	2.19	352	P	Pn	19 18 30.5	+0.3
KUZ	Kuaotunu	2.23	5	P	Pn	19 18 32.5	+1.7
MBAZ	Motutapu North	2.24	348	P	Pn	19 18 31.4	+0.5
PAWZ	Paruwai Farm	2.41	181	P	Pb	19 18 37.8	+0.5
TCWZ	Tory Channel	2.41	202	P	Pb	19 18 35.6	-1.8
PLWZ	Palliser	2.60	183	P	Pb	19 18 41.0	+0.4
TUWZ	Tuamarina	2.71	205	P	Pb	19 18 40.1	-2.4
GRZ	Great Barrier	2.72	0	P	Pb	19 18 41.4	-1.2
NNZ	Nelson	2.75	215	P	Pn	19 18 39.9	+2.0
QRZ	Quartz Range	2.92	230	P	Pn	19 18 40.4	+0.2
THZ	Tophouse	3.40	214	P	Pn	19 18 49.5	+2.6

*ISK **06** 19:19:51.3, 37.°33N×37.°12E, h6km, ML2.0/8*
*DDA **06** 19:19:51.7, 37.°34N×37.°11E, h7km±1km, ML2.9*
*ISCJB **06** 19:19:52.1±0.5, 37.°31N±0.°04×37.°10E±0.°05, h8km±6km, Error ellipse: s-maj=8.5km s-min=4.8km az=41.0*
ISC 06 19:19:52.3±1.0, 37.°32N±0.°04×37.°11E±0.°03, h8km±10km, n18, σ0°41/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.17	152	PG	Pg	19 19 55.3	-0.5
GAZ				SG	Sg	19 19 57.8	-0.3
HCB	Kahramanmara	0.17	279	IAML_P			
	comp=Z,9μm,0.1s						
HCB				*i* P	Pg	19 19 55.6	-0.1
HCB				*i* S	Sg	19 19 58.7	+0.6
KMRS	Kahramanmaras	0.25	318	PG	Pg	19 19 56.9	-0.5
KMRS				SG	Sg	19 20 00.3	-0.5
AYKD	Aykdinkavak	0.26	292	IAML_P			
	comp=Z,7μm,0.1s						
AYKD				*i* P	Pg	19 19 58.0	+0.4
AYKD				*i* S	Sg	19 20 01.5	+0.4
GZT	Gaziantep	0.36	84	IAML_P			
	comp=Z,5μm,0.1s						
GZT				*i* P	Pg	19 19 59.7	+0.2
KAMA	Osmaniye	0.38	250	*i* P	Pg	19 19 59.7	0.0
KUZU	Kuzuini	0.54	183	*i* P	Pg	19 20 03.3	+0.5
ANDN	Andirin	0.67	293	*i* P	Pg	19 20 05.4	+0.3
ATAB	Bozova	0.95	80	*i* P	Pg	19 20 10.4	-0.1
ELBS	KAHRAMANMARAS	1.00	1	*i* P	Pn	19 20 12.8	0.0
KOZT	Kozan	1.04	279	PG	Pg	19 20 11.7	-0.5
SAIM	ADANA	1.05	309	IAML_P			
	comp=Z,674nm,0.2s						
SAIM				*i* P	Pb	19 20 13.0	+0.2
CEYT	Ceyhan	1.13	255	PN	Pg	19 20 13.5	-0.5
TAHT	Tahtakopru-Hat	1.20	219	PN	Pg	19 20 15.0	-0.3
SURC	SANLIURFA_SURC	1.28	110	*i* P	Pn	19 20 16.4	0.0
DARE	Darende-Malaty	1.28	13	PN	Pn	19 20 16.1	-0.5
URFA	Urfa	1.36	84	PN	Pn	19 20 17.6	-0.1
SVRC	Sivrice-ELAZID	2.03	58	PN	Pn	19 20 27.3	+0.3

*IDC **06** 19:22:55.0±1.8, 42.°09S×173.°81E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.7/27, mbtmp3.8/4, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=43.3km s-min=30.1km az=140.0*
*WEL **06** 19:22:57.8, 42.°1S±0.°8×17.°4E±.°, h25km±2km, ML4.5/11*
*ISCJB **06** 19:22:58.2±0.5, 42.°16S±0.°03×173.°77E±0.°05, h26km±4km, mb3.4/2, Error ellipse: s-maj=7.4km s-min=3.8km az=39.4*
ISC 06 19:22:56.8±1.4, 42.°13S±0.°03×173.°78E±0.°03, h13km±11km, n36, σ0°63/42, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.34	212	P	Pb	19 23 05.3	+0.6
KHZ				S	Sb	19 23 10.9	+0.9
BSWZ	Blackbirch Sta	0.42	10	P	Pb	19 23 07.0	+0.9
BSWZ				S	Sb	19 23 13.4	+1.0
CMWZ	Cape Campbell	0.50	41	P	Pn	19 23 09.6	-0.1
TUWZ	Tuamarina	0.71	10	P	Pn	19 23 12.3	-0.3
TUWZ				S	Sn	19 23 22.7	-0.6
THZ	Tophouse	0.75	299	P	Pb	19 23 12.1	+0.4
THZ				S	Sb	19 23 22.0	+0.2
NNZ	Nelson	0.96	342	P	Pn	19 23 16.0	+0.1
TCWZ	Tory Channel	0.99	22	P	Pn	19 23 17.0	+0.6
BHWZ	Baring Head	1.09	49	P	Pn	19 23 19.2	+1.4
PLWZ	Palliser	1.24	64	P	Pg	19 23 20.6	0.0
LTZ	Lake Taylor	1.29	239	P	Pg	19 23 21.4	-0.3
MSWZ	Moikau Station	1.31	58	P	Pg	19 23 21.8	-0.3
DUWZ	D'Urville Isla	1.33	5	P	Pg	19 23 22.6	+0.2
AMCZ	Amberley	1.34	218	P	Pb	19 23 21.8	0.0
CAWZ	Cannon Point	1.41	44	P	Pb	19 23 23.5	-0.3
PAWZ	Paruwai Farm	1.44	59	P	Pb	19 23 23.2	-0.3
DSZ	Denniston Nort	1.52	284	P	Pg	19 23 25.9	-0.1
KIWZ	Kapiti Island	1.53	34	P	Pg	19 23 25.5	-0.7
QRZ	Quartz Range	1.60	324	P	Pg	19 23 27.0	-0.7
TRWZ	Traveller	1.60	64	P	Pn	19 23 25.2	+0.3
MTWZ	Mount Morrison	1.62	54	P	Pn	19 23 25.5	+0.5
CRLZ	Canterbury Las	1.68	210	P	Pn	19 23 25.5	-0.3
OGWZ	Otaki Gorge	1.68	39	P	Pb	19 23 27.2	-0.4
OKCZ	Okains Bay	1.68	198	P	Pn	19 23 26.0	+0.1
OXZ	Oxford	1.75	226	P	Pn	19 23 26.8	-0.1
MQZ	McQueen's Vall	1.78	207	P	Pn	19 23 26.8	-0.5
HOWZ	Holdsworth Sta	1.79	47	P	Pn	19 23 28.2	+0.7
AKCZ	Akaroa Harbour	1.85	200	P	Pn	19 23 28.2	-0.1
TMWZ	Te Maipa	1.89	58	P	Pn	19 23 29.0	+0.3
TIWZ	Tintock	2.08	50	P	Pn	19 23 32.1	+0.6
PRWZ	Pori Road	2.28	47	P	Pn	19 23 34.7	+0.5
POWZ	Post Office Ro	2.29	42	P	Pn	19 23 35.1	+0.7
RPZ	Rata Peaks	2.55	231	Pn	Pn	19 23 37.8	-0.1
	105nm,0.3s,baz=63,slow=1.0,SNR=437						
RPZ				Sn	Sn	19 24 08.5	-0.3
	81nm,0.3s,baz=339,slow=23,SNR=28						
URZ	Urewera	4.63	35	Pn	Pn	19 24 05.5	-1.0
	1.7nm,0.3s,baz=261,slow=5.0,SNR=12						
URZ				Sn	Sn	19 24 58.1	-2.0
	11nm,0.3s,baz=89,slow=14,SNR=6.6						
URZ				LR	LR	19 26 13.3	
	comp=Z,400nm,18.1s,baz=211,slow=43						
ASAR	Alice Springs	37.80	286	P	P	19 30 13.3	+0.4
	1.1nm,1.2s,baz=123,slow=6.9,SNR=7.0						
WRA	Warramunga Arr	39.91	291	P	P	19 30 30.7	+0.1
	0.6nm,0.8s,baz=130,slow=7.6,SNR=12						
TORD	Torodi Ar. Bea	150.32	196	PKPbc	PKPbc	19 42 48.3	+0.2
	0.4nm,0.4s,baz=150,slow=1.2,SNR=10						

*ISCJB **06** 19:29:40.2±1.8, 13.°1N±0.°1×89.°70W±0.°06, h27km±9km, Error ellipse: s-maj=18.7km s-min=7.1km az=24.2*
*SNET **06** 19:29:41.0±0.6, 13.°19N×89.°70W, h32km±2km, ML3.6*
*UCR **06** 19:29:41.4±1.0, 13.°19N×89.°68W, h31km±3km, MD3.5, ML3.6*
ISC 06 19:29:41.5±2.1, 13.°2N±0.°1×89.°68W±0.°05, h27km±14km, n35, σ0°42/42, 19D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	Cerro Verde	0.61	5	‖ *i* P	Pn	19 29 54.3	-0.3
CEVE				IAML		19 30 09.7	
	comp=Z,4μm,0.2s						
CEVE	Cerro Verde	0.61	5	‖ *i* P	Pn	19 29 54.3	-0.3
CEVE				IAML		19 30 09.7	
	comp=Z,4μm,0.2s						
SBLS	San Blas	0.62	5	‖ *i* P	Pb	19 29 54.4	+0.4
SBLS	San Blas	0.62	5	‖ *i* P	Pb	19 29 54.4	+0.4
SNET	Serv Nac Est T	0.64	43	*i* P	Pb	19 29 54.3	+0.1
SNET				*e*S	Sn	19 30 04.5	+0.3
SNET				IAML		19 30 10.4	
	comp=Z,2μm,0.2s						
SNET	Serv Nac Est T	0.64	43	*i* P	Pb	19 29 54.3	+0.1
SNET				*e*S	Sn	19 30 04.5	+0.3
SNET				IAML		19 30 10.4	
	comp=Z,2μm,0.2s						
BOQS	Boqueron	0.65	37	‖ *i* P	Pn	19 29 54.8	-0.3
SNJE	San Jose	0.65	7	‖ *i* P	Pb	19 29 54.7	+0.2
SNJE	San Jose	0.65	7	‖ *i* P	Pb	19 29 54.7	+0.2
RTR	El Retiro	0.68	3	‖ *i* P	Pb	19 29 55.2	+0.3
RTR	El Retiro	0.68	3	‖ *i* P	Pb	19 29 55.2	+0.3
OPAM	San Salvador	0.68	43	*e*P	Pn	19 29 54.9	-0.6
OPAM				IAML		19 30 09.5	
	comp=Z,3μm,0.2s						
OPAM	San Salvador	0.68	43	*e*P	Pn	19 29 54.9	-0.6
OPAM				IAML		19 30 09.5	
	comp=Z,3μm,0.2s						
CUSC	San Salvador	0.70	43	*i* P	Pn	19 29 55.3	-0.4
CUSC	San Salvador	0.70	43	*i* P	Pn	19 29 55.3	-0.4
LFRS	El Faro	0.73	56	‖ *i* P	Pn	19 29 55.6	-0.5
LFU	La Fuente	0.77	46	‖ *i* P	Pb	19 29 56.5	+0.1
LFU				*e*S	Sn	19 30 08.1	+0.8
LFU	La Fuente	0.77	46	‖ *i* P	Pb	19 29 56.5	+0.1
LFU				*e*S	Sn	19 30 08.1	+0.8
LBRS	Las Brisas	0.81	50	‖ *i* P	Pn	19 29 57.0	-0.2
PAVA	Las Pavas	0.88	56	‖ *e*P	Pn	19 29 58.1	-0.1
PAVA	Las Pavas	0.88	56	‖ *e*P	Pn	19 29 58.1	-0.1
IXG	Ixpaco	1.21	322	*e*P	Pn	19 30 02.7	-0.1
IXG				*e*S	Sb	19 30 19.0	-0.3
MTO3	Montecristo	1.22	15	‖ *i* P	Pn	19 30 02.5	-0.4
MTO3	Montecristo	1.22	15	‖ *i* P	Pn	19 30 02.5	-0.4
VICT	Victoria	1.26	54	‖ *i* P	Pn	19 30 02.9	-0.4
VICT	Victoria	1.26	54	‖ *i* P	Pn	19 30 02.9	-0.4
PACA	Pacayal	1.35	79	*e*P	Pn	19 30 04.3	-0.4
PACA	Pacayal	1.35	79	*e*P	Pn	19 30 04.3	-0.4
LCY	Lacayo	1.37	81	*e*P	Pn	19 30 04.9	0.0
LCY	Lacayo	1.37	81	*e*P	Pn	19 30 04.9	0.0
PCG	Pacaya	1.48	323	*e*P	Pn	19 30 07.2	+0.6
PCG				*e*S	Sb	19 30 26.7	-0.2
NBG	Las Nubes	1.51	335	*e*P	Pb	19 30 08.1	-1.0
CAHU	Cacacuatique	1.53	69	*e*P	Pn	19 30 06.9	-0.4
CAHU	Cacacuatique	1.53	69	*e*P	Pn	19 30 06.9	-0.4
FUG	Fuego 3	1.66	318	*e*P	Pn	19 30 09.1	+0.1
FUG				*e*S	Sn	19 30 30.0	+0.3

SJA 06 19:32:38.7±0.3, 29.°38S×68.°28W, h100km±2km, ML3.8, MW3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	GUANDACOL	0.21	239	*e*P	Pn	19 32 53.7	+0.6
AGUA				*e*S	Sn	19 33 04.7	+0.9
VCA	Vinchina	0.64	6	*e*P	Pn	19 32 56.8	+1.0
VCA				*e*S	Sn	19 33 09.6	+1.0
VCA				IAML		19 33 13.2	
	comp=Z,813nm,0.2s						
ACLC	CERRO LA CRUZ	1.16	93	*e*P	Pn	19 33 02.0	+1.0
ACLC				IAML		19 33 02.9	
	comp=Z,117μm,0.3s						
ACLC				*e*S	Sn	19 33 19.4	+1.4
AROD	Rodeo	1.30	233	*e*P	Pn	19 33 04.3	+1.4
ACCO	Cerro Coronel	1.39	209	*e*P	Pn	19 33 05.5	+1.6
ACCO				*e*S	Sn	19 33 25.2	+2.3
CYA	Choya	2.36	67	*e*P	Pn	19 33 17.1	+1.1
CYA				IAML		19 33 17.4	
	comp=Z,15nm,0.7s						
RTCV	Cerro Valdivia	2.49	185	*e*P	Pn	19 33 18.9	+1.2
RTLS	Leoncito	2.57	200	*e*P	Pn	19 33 20.8	+1.8

*IDC **06** 19:45:00.9±0.8, 28.°34N×104.°99E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.5/46, mbtmp3.7/9, ML3.7/1, MS4.4/1, Ms1 4.4/1, ms1mx2.7/45, Error ellipse: s-maj=32.3km s-min=16.7km az=53.0*
*ISCJB **06** 19:45:02.2±0.3, 28.°45N±0.°04×105.°04E±0.°05, h19km, mb4.0/15, MS4.5/1, Error ellipse: s-maj=6.3km s-min=5.1km az=33.9*
*BJI **06** 19:45:03.7±0.0, 28.°35N×104.°87E, h9km, mb4.1/6, mB3.9/1, ML4.0/22, Ms3.7/9, Ms7 3.4/9*
*NEIC **06** 19:45:06.1±1.9, 28.°42N×105.°09E, h35km±15km, mb4.1/6, Error ellipse: s-maj=7.8km s-min=5.5km az=108.0*
ISC 06 19:45:04.5±0.5, 28.°49N±0.°03×105.°00E±0.°05, h19km, n47, σ1°43/54, mb3.8/15, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	Guiyang	2.51	143	‖ *i* Pn	Pn	19 45 44.8	+0.4
GYA				Sn	Sn	19 46 16.6	+2.1
GYA				Sg	Sg	19 46 24.1	-1.1
GYA				smax	smax		
	comp=N,790nm,0.6s						
GYA				smax	smax		
	comp=E,690nm,0.5s						
CD2	Chengdu	2.64	336	Pn	Pn	19 45 48.2	+2.1
CD2				Pg	Pb	19 45 52.4	+1.2
CD2				Sn	Sn	19 46 17.1	-0.5
CD2				Sg	Sg	19 46 28.5	-0.9
CD2				smax	smax		
	comp=N,1μm,0.6s						
CD2				smax	smax		
	comp=E,1μm,0.6s						
KMI	Kunming	3.92	212	Pn	Pn	19 46 04.3	+0.5
KMI				Pg	Pb	19 46 13.8	+0.7
KMI				Sn	Sn	19 46 38.8	-11
KMI				Sg	Sb	19 47 01.1	+0.9
KMI				smax	smax		
	comp=N,44nm,0.9s						
KMI				smax	smax		
	comp=E,48nm,0.9s						
KMI				LR	LR		
	comp=N,780nm,7.8s						
KMI				LR	LR		
	comp=E,800nm,9.2s						
KMI				LR	LR		
	comp=Z,390nm,7.1s						
KMI	Kunming	3.92	212	Pn	Pn	19 46 04.1	+0.3
ENH	Enshi	4.30	65	*e*Pn	Pn	19 46 07.4	-1.5
XAN	Xi'an	6.47	30	Pg	Pb	19 47 02.8	+6.4
XAN				Sn	Sn	19 47 51.8	-0.2
XAN				Sg	Sg	19 48 29.8	-2.2
XAN				smax	smax		
	comp=N,200nm,1.2s						
XAN				smax	smax		
	comp=E,180nm,1.3s						
XAN				LR	LR		
	comp=N,510nm,10.0s						
XAN				LR	LR		
	comp=E,500nm,11.6s						
XAN				LR	LR		
	comp=Z,87nm,7.7s						
XAN	Xi'an	6.47	30	*e*Pn	Pn	19 46 38.5	-0.2
LZH	Lanzhou	7.63	353	*e*Pn	Pn	19 46 59.2	+4.4
LZH				LR	LR		
	comp=N,170nm,8.2s						
LZH				LR	LR		
	comp=E,200nm,9.5s						
LZH				LR	LR		
	comp=Z,220nm,10.2s						
WHN	Wuhan	8.40	74	P	Pn	19 47 07.0	+1.8
WHN				smax	smax		
	comp=N,250nm,1.3s						
WHN				smax	smax		
	comp=E,96nm,0.7s						
CMMT	Chiang Mai	11.12	211	P	Pn	19 47 44.1	+1.6
	2.9nm,1.1s						
CHTO	Chiang Mai	11.12	211	*e*Pn	Pn	19 47 41.5	-1.0
CM31	Chiang Mai Arr	11.43	210	*e*Pn	Pn	19 47 47.8	+1.0
CMAR	Chiang Mai Arr	11.43	210	*e*Pn	Pn	19 47 47.4	+0.7
CMAR	Chiang Mai Arr	11.43	210	Pn	Pn	19 47 47.5	+0.8
	0.1nm,0.3s,baz=19,slow=11,SNR=42						
RAMN	Ramite	16.37	269	*e*P	Pn	19 48 53.1	-0.4
	6.6nm,0.5s						
JIRN	Jiri	16.62	272	*e*P	Pn	19 48 57.9	+1.0
	6.7nm,0.4s						
PKI	Pulchoki	17.32	272	*e*P	Pn	19 49 04.6	-1.0
	13nm,1.0s						
PKIN	Phulchoki	17.33	272	*e*P	Pn	19 49 04.6	-1.1
	3.2nm,0.4s						
KKN	Kakani	17.41	272	*e*P	Pn	19 49 06.0	-0.6
	15nm,0.9s						
DANN	Dangsing	18.68	275	*e*P	P	19 49 19.7	-2.2
	7.8nm,0.6s						
SONA0	Songino Array	19.34	3	*e*P	Pn	19 49 30.8	+0.9
SONM	Songino Array	19.34	3	P	Pn	19 49 30.8	+0.9
	0.2nm,0.3s,baz=180,slow=11,SNR=6.1						
PYUN	Piuthan	19.39	274	*e*P	P	19 49 25.6	-3.9
	7.8nm,0.7s						
WMQ	Urumqi	20.65	322	*e*P	Pn	19 49 45.0	-0.4
KSAR	Wonju Array Be	21.13	59	P	P	19 49 48.8	+0.6
KSRS	Korea Array	21.17	59	P	P	19 49 48.8	+0.2
	1.9nm,0.7s,baz=247,slow=9.6,SNR=7.8						
MK31	Makanchi Array	25.48	322	*e*P	P	19 50 31.5	+0.1
	2.1nm,0.8s						
MK32	Makanchi Array	25.48	322	*e*P	P	19 50 31.1	-0.3
MKAR	Makanchi Array	25.48	322	*e*P	P	19 50 31.3	-0.1
MKAR	Makanchi Array	25.48	322	P	P	19 50 31.1	-0.3
	1.9nm,0.8s,baz=123,slow=9.7,SNR=22						
MAKZ	Makanchi	25.66	322	*e*P	P	19 50 29.1	-4.0
	1.9nm,0.8s						
ZALV	Zalesovo Beam	29.41	335	P	P	19 51 06.6	+0.2
	0.7nm,0.5s,baz=142,slow=5.3,SNR=3.7						
ZAA1	Zalesovo Array	29.41	335	*e*P	P	19 51 06.6	+0.1
KURBB	Kurchatov Arra	29.80	325	P	P	19 51 10.3	+0.3
	0.9nm,0.7s,baz=133,slow=9.5,SNR=10						
KURBB				PcP	PcP	19 54 12.8	-0.3
	0.5nm,0.7s,baz=98,slow=2.8,SNR=4.4						
KURK	Kurchatov	29.81	325	*e*P	P	19 51 10.6	+0.5
	9.3nm,1.8s						
GEYT	Alibeck	39.98	296	P	P	19 52 38.7	+0.7
	396nm,0.5s,baz=111,slow=8.1,SNR=7.6						
ABKAR	Akbulak array	40.01	314	*e*P	P	19 52 38.0	0.0
	1.7nm,0.9s						
TIXI	Tiksi	45.16	10	*e*P	P	19 53 19.2	-0.3
	9.7nm,1.9s						
PMG	Port Moresby	55.48	126	LR	LR	20 17 07.1	
	comp=Z,412nm,21.4s,baz=319,slow=35						
WRA	Warramunga Arr	55.88	146	P	P	19 54 39.6	-1.5
	1.1nm,0.8s,baz=315,slow=12,SNR=18						
WR1	Warramunga Arr	55.88	146	*e*P	P	19 54 39.6	-1.4
AS31	Alice Springs	58.86	149	*e*P	P	19 55 00.2	-2.0
	5.2nm,1.1s						
ASAR	Alice Springs	58.86	149	P	P	19 55 00.6	-1.6
	0.8nm,0.8s,baz=331,slow=6.9,SNR=11						
GERES	GERESS Array B	69.93	315	P	P	19 56 14.7	+0.2
	0.2nm,0.4s,baz=65,slow=6.3,SNR=4.0						
BMAR	Burnt Mountain	71.38	22	*e*P	P	19 56 23.8	+0.9
YKA	Yellowknife Ar	83.95	17	P	P	19 57 32.9	-0.1
	0.2nm,0.6s,baz=322,slow=3.9,SNR=3.8						
YKB5	Yellowknife Ar	83.95	17	*e*P	P	19 57 32.9	-0.1

*IDC **06** 19:50:19.2±0.4, 9.°12S×107.°98E, h0km, mb4.8/26, mb1 4.8/28, mb1mx4.8/37, mbtmp4.8/28, ML4.2/2, MS4.1/18, Ms1 4.1/18, ms1mx3.9/47, Error ellipse: s-maj=14.9km s-min=10.7km az=70.0*
*BJI **06** 19:50:22.0±0.0, 9.°20S×107.°90E, h32km, mb4.9/66, mB5.1/48, Ms4.9/53, Ms7 4.7/49*
*DJA **06** 19:50:22.2±1.3, 9.°S±3.°×10.°8E±.°, h12km±9km, M4.8/36, mb5.0/36, mB5.3/21, MLv5.2/16, Mw(mB)4.7/21*
*MOS **06** 19:50:22.3±1.1, 9.°08S×108.°01E, h33km, mb5.2/56, MS4.6/5, Error ellipse: s-maj=10.6km s-min=5.3km az=111.6*
*NEIC **06** 19:50:22.4±1.4, 9.°16S×107.°91E, h24km±9km, mb5.1/66, Error ellipse: s-maj=5.4km s-min=3.1km az=53.0*
*ISCJB **06** 19:50:23.4±0.6, 9.°17S±0.°03×107.°96E±0.°03, h45km±4km, mb5.0/129, MS4.5/39, Error ellipse: s-maj=5.9km s-min=3.7km az=44.5*
*GCMT **06** 19:50:24.4±0.4, 9.°57S±0.°02×107.°75E±0.°03, h17km, MW4.9/53, Moment Tensor Solution. s22,c29; s53,c75; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}1.68±.09; $M_{\theta\theta}$-1.29±.06; $M_{\phi\phi}$-0.38±.09; $M_{r\theta}$2.21±.18; $M_{\theta\phi}$0.64±.05; $M_{\phi r}$-1.63±.24; Best double couple: $M_0$3.20400×10^16 NP1:ϕ_s125.00000°, δ16.00000°, λ76.00000°. Principal axes: T 3.2470, Plg60.0000°, Azm41.0

5.3nm,0.3s,baz=288,slow=2.8,SNR=10
APSI Ampana 15.93 60 P **P 19 54 08.5 -0.9**
KULM Kulim 16.11 333 *e*Pn **Pn 19 54 03.7 -5.1**
14nm,1.0s
SOEI Soe 16.12 93 *e*Pn **Pn 19 54 06.6 -2.4**
202nm,1.0s
SOEI Soe 16.12 93 P **Pn 19 54 06.6 -2.4**
MBWA Marble Bar 16.45 138 P **Pn 19 54 07.9 -5.2**
PSA00 Pilbara Seismi 16.82 138 *e*Pn **Pn 19 54 14.1 -3.5**
84nm,1.3s
LUWI Luwuk 16.83 62 *e*Pn **Pn 19 54 16.9 -0.9**
279nm,1.3s
LUWI Luwuk 16.83 62 P **P 19 54 18.4 -1.0**
MRSI Marisa 16.93 56 P **P 19 54 19.6 -0.9**
KKM Kota Kinabalu 17.23 29 *e*Pn **Pn 19 54 20.5 -2.5**
72nm,1.2s
KMSI Cibinong 18.69 60 P **Pn 19 54 40.9 +0.2**
SANI Sanana 19.30 70 P **P 19 54 46.3 -0.3**
FITZ Fitzroy Crossi 19.33 119 *e*P **P 19 54 46.8 -0.2**
55nm,1.3s
FITZ Fitzroy Crossi 19.33 119 P **Pn 19 54 47.6 -0.7**
baz=19,SNR=14
FITZ Fitzroy Crossi 19.33 119 P **Pn 19 54 47.1 -1.2**
0.2nm,0.3s,baz=297,slow=8.2,SNR=17
KRAB Krabi 19.36 333 P **P 19 54 44.3 -3.0**
175μm,0.6s
MEEK Meekatharra 20.09 151 P **P 19 54 54.9 -0.2**
baz=20,SNR=13
MORW Morawa 21.19 160 *e*P **P 19 55 06.3 -0.7**
78nm,1.4s
MORW Morawa 21.19 160 P **P 19 55 06.4 -0.7**
baz=21,SNR=7.6
KNRA Kununurra 21.32 110 P **P 19 55 08.6 +0.1**
baz=21,SNR=16
TNTI Ternate 21.73 64 *e*P **P 19 55 11.9 -1.1**
92nm,1.2s
TNTI Ternate 21.73 64 P **P 19 55 12.8 -0.2**
MTN Manton Dam 23.05 101 *e*P **P 19 55 27.9 +0.9**
94nm,1.3s
MTN Manton Dam 23.05 101 P **P 19 55 28.1 +1.2**
baz=23,SNR=3.7
PHET Kaeng Krachan 23.45 339 P **P 19 55 34.2 +3.4**
34μm,0.9s
SRAK Srakaew 23.78 346 P P 19 55 44.4 +11
DAV Davao City (W) 23.87 48 *e*P **P 19 55 36.1 +1.3**
476nm,0.3s
DAV Davao City (W) 23.87 48 P **P 19 55 36.3 +1.5**
192nm,0.4s,baz=77,slow=1.0,SNR=8.2
DAV LR LR 20 07 19.8
comp=Z,471nm,18.1s,baz=280,slow=43
MUN Mundaring 23.94 162 P **P 19 55 36.6 +1.4**
baz=24,SNR=4.3
KLBR Kellerberrin 24.09 159 P **P 19 55 37.5 +0.9**
baz=24,SNR=4.2
KDU Kakadu 24.33 100 P **P 19 55 40.5 +1.5**
baz=24,SNR=4.2
SIJI Sorong 24.64 72 P **P 19 55 41.7 -0.1**
18nm,1.0s,baz=309,slow=6.3,SNR=5.9
WRKA Warakurna 24.98 132 P **P 19 55 45.9 +1.1**
baz=25,SNR=11
NWAO Narrogin (SRO) 25.14 161 *e*P **P 19 55 45.2 -1.0**
71nm,1.5s
NWAO Narrogin (SRO) 25.14 161 P **P 19 55 45.4 -0.8**
baz=25,SNR=3.8
NWAO Narrogin (SRO) 25.14 161 *e*P **P 19 55 45.2 -1.0**
NWAO pmax pmax
comp=Z,71nm,1.5s
NWAO Narrogin (SRO) 25.14 161 P **P 19 55 46.4 +0.2**
comp=Z,10nm,1.0s,baz=344,slow=9.8,SNR=6.0
NWAO LR LR 20 04 40.7
comp=Z,370nm,21.6s,baz=326,slow=34
CHAI Chaiyaphum 25.61 347 P **P 19 55 50.1 -0.5**
comp=Z,62μm,0.6s,comp=Z,607μm
SKNT Sakolnakorn 26.29 351 P **P 19 56 00.1 +3.4**
comp=Z,14nm,1.2s
PANO Nakornpanom 26.37 353 P **P 19 56 00.7 +3.3**
comp=Z,0.3nm,1.4s,comp=Z,178nm
NONG Nongkai 27.49 350 P **P 19 56 08.9 +1.4**
comp=Z,0.3nm,0.9s,comp=Z,268nm
WR1 Warramunga Arr 27.65 116 *e*P **P 19 56 08.7 -0.4**
WRA Warramunga Arr 27.65 116 P **P 19 56 08.7 -0.4**
comp=Z,13nm,0.9s,baz=287,slow=11,SNR=31
WRAB Tennant Creek 27.66 116 *e*P **P 19 56 09.1 0.0**
comp=Z,20nm,1.0s
WRAB Tennant Creek 27.66 116 *ce*P **P 19 56 09.1 0.0**
WRAB pmax pmax
comp=Z,20nm,1.0s
WB2 Warramunga Arr 27.66 116 *e*P **P 19 56 08.6 -0.6**
comp=Z,16nm,1.0s
UTTA Uttaradit 27.74 345 P **P 19 56 11.6 +1.9**
comp=Z,24μm,0.9s,comp=Z,202μm
QIZ Qiongzhong 28.10 4 P **P 19 56 13.6 +0.7**
QIZ pP **pP 19 56 22.4 -2.0**
QIZ S **S 20 00 58.0 +3.1**
QIZ sS **sS 20 01 14.1 0.0**
QIZ LR LR
comp=Z,970nm,14.1s
QIZ LR LR
comp=Z,920nm,16.9s
QIZ LR LR
comp=Z,1μm,13.7s
PHRA Phrae 28.54 345 P **P 19 56 17.3 +0.4**
comp=Z,2.9nm,1.0s
AS31 Alice Springs 28.69 123 *e*P **P 19 56 18.4 +0.1**
comp=Z,5.2nm,1.1s
AS31 *e*PcP **PcP 19 59 29.2 +1.0**
ASAR Alice Springs 28.69 123 P **P 19 56 17.9 -0.4**
comp=Z,14nm,1.1s,baz=295,slow=7.8,SNR=47
ASAR PcP **PcP 19 59 29.2 +1.0**
comp=Z,4.5nm,1.0s,baz=286,slow=3.2,SNR=9.9
ASAR LR LR 20 07 41.1
comp=Z,521nm,21.5s,baz=301,slow=36
LAMP Lampang 28.73 343 P **P 19 56 19.0 +0.5**
comp=Z,35μm,0.9s,comp=Z,315μm
CM31 Chiang Mai Arr 28.87 342 *e*P **P 19 56 19.2 -0.6**
comp=Z,17nm,1.1s
CM31 *e*PcP **PcP 19 59 31.2 +2.7**
CMAR Chiang Mai Arr 28.87 342 *e*P **P 19 56 18.9 -0.9**
CMAR PcP **PcP 19 59 31.2 +2.7**
CMAR Chiang Mai Arr 28.87 342 *e*P **P 19 56 18.9 -0.9**
CMAR 19 59 31.2
CMAR Chiang Mai Arr 28.87 342 P **P 19 56 18.6 -1.2**
comp=Z,4.8nm,0.9s,baz=178,slow=8.5,SNR=23
CMAR PcP **PcP 19 59 31.2 +2.7**
comp=Z,1.5nm,1.0s,baz=192,slow=3.0,SNR=4.5
CMMT Chiang Mai 29.20 342 P **P 19 56 22.9 +0.1**
comp=Z,5.8nm,1.1s
CHTO Chiang Mai 29.20 342 *e*P **P 19 56 22.0 -0.8**
comp=Z,11nm,1.0s
CHTO Chiang Mai 29.20 342 *e*P **P 19 56 22.0 -0.8**
CHTO pmax pmax
comp=Z,11nm,1.0s
CHTO Chiang Mai 29.20 342 P **P 19 56 21.2 -1.6**
SNR=6.3
QIS Mount Isa 32.56 114 P **P 19 56 53.9 +1.4**
baz=33,SNR=6.3
KMI Kunming 34.48 352 P **P 19 57 12.0 +2.8**
KMI pP pwP 19 57 21.7 -2.0
KMI sP sP 19 57 25.1 -0.9
KMI PP **PP 19 58 26.7 -1.4**
KMI S **S 20 02 36.8 +1.9**
KMI sS sS 20 02 49.9 -4.3
KMI SS **SnSn 20 04 51.7 +2.6**
KMI pmax pmax
comp=Z,15nm,0.8s
KMI pmax pmax
comp=Z,100nm,4.8s
KMI LR LR
comp=Z,3μm,14.1s
KMI LR LR
comp=Z,1μm,15.0s
KMI LR LR
comp=Z,3μm,14.4s
COEN Coen 34.82 101 *e*P **P 19 57 11.4 -0.8**
comp=Z,52nm,1.2s
COEN Coen 34.82 101 P **P 19 57 12.5 +0.4**
baz=35,SNR=5.8
BBOO Buckleboo 35.03 136 *e*P **P 19 57 13.6 -0.1**
comp=Z,46nm,1.3s
BBOO Buckleboo 35.03 136 P **P 19 57 13.2 -0.5**
baz=35,SNR=5.1
H08S2 Diego Garcia H 35.09 270 T T 20 34 19.1
baz=94,slow=74,SNR=37
H08S3 Diego Garcia H 35.10 270 T T 20 34 12.5
baz=94,slow=74,SNR=30
H08S1 Diego Carcia H 35.11 270 T T 20 34 13.1
baz=94,slow=74,SNR=25

SSLB Suanglung 35.16 21 *e*P **P 19 57 15.1 +0.2**
comp=Z,18nm,0.8s
GYA Guiyang 35.45 358 ⇑*i*P **P 19 57 19.9 +2.4**
GYA pP pwP 19 57 31.8 -0.2
GYA sP sP 19 57 36.3 +2.0
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=Z,600nm,16.9s
GYA LR LR
comp=Z,620nm,15.7s
GYA LR LR
comp=Z,960nm,13.9s
QZH Quanzhou 35.48 17 *e*P **P 19 57 20.4 +2.8**
QZH S **S 20 02 53.8 +4.0**
QZH LR LR
comp=Z,420nm,14.2s
QZH LR LR
comp=Z,360nm,13.3s
QZH LR LR
comp=Z,390nm,16.1s
HTT Hallett 37.36 135 P **P 19 57 34.0 +0.3**
baz=38,SNR=3.5
SHL Shillong 37.92 336 *e*P **P 19 57 38.0 -0.6**
comp=Z,24nm,0.8s
SHL Shillong 37.92 336 *e*P **P 19 57 38.0 -0.6**
SHL pmax pmax
comp=Z,24nm,0.8s
STKA Stephens Creek 38.50 131 *e*P **P 19 57 43.3 0.0**
comp=Z,7.8nm,1.0s
STKA *e*PcP **PcP 19 59 57.9 +2.2**
STKA Stephens Creek 38.50 131 P **P 19 57 43.7 +0.3**
baz=39,SNR=23
STKA Stephens Creek 38.50 131 *e*P **P 19 57 43.3 0.0**
STKA *e* 19 59 57.9
STKA pmax pmax
comp=Z,8.0nm,1.0s
STKA Stephens Creek 38.50 131 P **P 19 57 43.6 +0.3**
comp=Z,24nm,0.9s,baz=304,slow=8.7,SNR=31
STKA PcP **PcP 19 59 57.9 +2.2**
comp=Z,13nm,1.1s,baz=294,slow=1.7,SNR=4.0
ENH Enshi 39.26 2 *e*P **P 19 57 49.5 -0.1**
comp=Z,8.4nm,0.8s
HYB Hyderabad 39.27 312 *i*P **P 19 57 51.5 +1.6**
WHN Wuhan 39.98 9 P P 19 58 02.1 +6.6
WHN S S 20 04 06.8 +8.9
CD2 Chengdu 40.07 354 P **P 19 57 56.5 +0.1**
CD2 pP pP 19 58 06.8 -1.3
CD2 PcP **PcP 20 00 05.9 +5.3**
CD2 S S 20 04 08.0 +8.6
CD2 sS sS 20 04 19.2 +0.3
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,190nm,5.5s
CD2 LR LR
comp=Z,1μm,18.6s
CD2 LR LR
comp=Z,2μm,19.1s
CD2 LR LR
comp=Z,1μm,16.2s
JOW Kunigami 40.88 28 *e*P **P 19 58 02.5 -0.6**
comp=Z,22nm,0.8s
JOW Kunigami 40.88 28 P **P 19 58 03.8 +0.7**
comp=Z,3.2nm,0.9s,baz=194,slow=15,SNR=6.8
ARPS Mount Arapiles 41.18 137 P **P 19 58 05.5 -0.1**
baz=41,SNR=5.3
RAMN Ramite 41.46 331 *e*P **P 19 58 08.4 +0.2**
comp=Z,28nm,0.7s
CMSA Cobar Meteorol 41.48 128 P **P 19 58 09.0 +0.9**
baz=42,SNR=9.0
LSA Lhasa 41.91 338 *e*P **P 19 58 11.6 -0.4**
comp=Z,21nm,0.7s
LSA Lhasa 41.91 338 *e*P **P 19 58 11.6 -0.4**
LSA pmax pmax
comp=Z,21nm,0.7s
SSE Sheshan 42.02 17 P **P 19 58 14.3 +2.0**
SSE S **S 20 04 34.3 +6.1**
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,140nm,3.5s
SSE LR LR
comp=Z,150nm,14.6s
SSE LR LR
comp=Z,170nm,12.8s
JIRN Jiri 42.25 331 *e*P **P 19 58 14.9 +0.1**
comp=Z,193nm,1.0s
NJ2 Nanjing 42.31 14 *e*P **P 19 58 14.6 -0.1**
NJ2 pP **pP 19 58 23.7 -2.8**
NJ2 sP **pwP 19 58 27.8 -1.6**
NJ2 S **S 20 04 33.5 +1.0**
NJ2 pmax pmax
comp=Z,19nm,1.1s
NJ2 pmax pmax
comp=Z,190nm,7.0s
NJ2 LR LR
comp=Z,500nm,11.9s
NJ2 LR LR
comp=Z,450nm,9.8s
NJ2 LR LR
comp=Z,740nm,14.6s
PKI Pulchoki 42.56 330 *e*P **P 19 58 16.9 -0.3**
comp=Z,52nm,1.0s
PKIN Phulchoki 42.57 330 *e*P **P 19 58 16.9 -0.4**
comp=Z,44nm,1.0s
DMN Daman 42.74 330 *e*P **P 19 58 18.5 -0.1**
comp=Z,124nm,0.9s
KKN Kakani 42.81 330 *e*P **P 19 58 19.0 -0.1**
comp=Z,117nm,0.9s
XAN Xi'an 43.00 1 P **P 19 58 20.4 +0.1**
XAN pP pP 19 58 30.1 -2.0
XAN PP **PP 20 00 02.6 +1.7**
XAN PcP **PcP 20 00 10.5 +0.4**
XAN S **S 20 04 42.6 -0.1**
XAN SS **SS 20 07 50.2 -6.0**
XAN ScS **ScS 20 08 14.7 -2.5**
XAN pmax pmax
comp=Z,18nm,1.0s
XAN pmax pmax
comp=Z,71nm,3.7s
XAN LR LR
comp=Z,890nm,14.7s
XAN LR LR
comp=Z,310nm,16.3s
XAN LR LR
comp=Z,740nm,15.5s
XAN Xi'an 43.00 1 *e*P **P 19 58 20.0 -0.3**
comp=Z,36nm,1.1s
XAN Xi'an 43.00 1 *e*P **P 19 58 20.0 -0.3**
XAN pmax pmax
comp=Z,36nm,1.1s
GKN Gorkha 43.30 329 *e*P **P 19 58 23.0 0.0**
comp=Z,91nm,0.8s
KOLN Koldanda 43.65 328 *e*P **P 19 58 26.0 +0.1**
comp=Z,168nm,0.8s
DANN Dangsing 44.03 329 *e*P **P 19 58 29.0 -0.1**
comp=Z,221nm,0.9s
TOO Toolangi 44.09 136 *e*P **P 19 58 29.2 +0.1**
comp=Z,48nm,1.4s
TOO Toolangi 44.09 136 P **P 19 58 29.5 +0.3**
baz=44,SNR=4.9
TOO Toolangi 44.09 136 *e*P **P 19 58 29.2 +0.1**
TOO pmax pmax
comp=Z,48nm,1.4s
PYUN Piuthan 44.23 328 *e*P **P 19 58 30.3 -0.3**
comp=Z,136nm,0.9s
YNG Young 44.69 130 P **P 19 58 34.2 +0.2**
baz=45,SNR=7.3
LZH Lanzhou 45.20 355 *e*P **P 19 58 39.0 +1.0**
LZH pP pP 19 58 49.2 -0.7
LZH sP pwP 19 58 53.0 +0.1
LZH S **S 20 05 18.4 +3.5**
LZH sS sS 20 05 32.4 -2.2
LZH pmax pmax
comp=Z,36nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,800nm,14.6s
LZH LR LR
comp=Z,940nm,14.5s
LZH LR LR
comp=Z,870nm,16.2s

CAN Canberra 45.56 131 *e*P **P 19 58 41.0 +0.1**
comp=Z,21nm,1.0s
CAN Canberra 45.56 131 *e*P **P 19 58 41.0 +0.1**
CAN pmax pmax
comp=Z,21nm,1.0s
TIA Tai'an 45.98 10 P **P 19 58 43.4 -0.6**
TIA pmax pmax
comp=Z,9.0nm,0.6s
TIY Taiyuan 46.84 5 *e*P **P 19 58 51.2 +0.3**
TIY pmax pmax
comp=Z,33nm,0.7s
TIY LR LR
comp=Z,970nm,16.9s
TIY LR LR
comp=Z,460nm,15.1s
TIY LR LR
comp=Z,560nm,17.3s
TJN Taejon 48.87 21 *ce*P **P 19 59 06.6 +0.1**
GTA Gaotai 48.94 352 ⇑P **P 19 59 07.7 +0.6**
GTA pP pP 19 59 18.1 -1.0
GTA sP pwP 19 59 22.4 +0.3
GTA S **S 20 06 12.1 +4.1**
GTA sS sS 20 06 28.2 +0.2
GTA SS **SS 20 09 37.8 -1.8**
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,130nm,7.6s
GTA LR LR
comp=Z,570nm,15.2s
GTA LR LR
comp=Z,660nm,15.6s
GTA LR LR
comp=Z,800nm,14.9s
DL2 Dalian 49.51 14 P P 19 59 06.4 -5.0
DL2 *e*S **S 20 06 11.4 -4.4**
BJT Baijiatuau 49.55 8 *e*P **P 19 59 10.8 -0.8**
comp=Z,35nm,1.2s
BJT Baijiatuau 49.55 8 *e*P **P 19 59 10.8 -0.8**
BJT pmax pmax
comp=Z,35nm,1.2s
BJI Beijing 49.57 8 P **P 19 59 11.4 -0.3**
BJI S S 20 06 26.2 +10
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI LR LR
comp=Z,330nm,15.1s
BJI LR LR
comp=Z,270nm,16.7s
BJI LR LR
comp=Z,240nm,36.5s
BTO Baotou 49.58 2 *e*P **P 19 59 12.3 +0.3**
HHC Hu-ho-hao-te 49.90 4 *e*P **P 19 59 14.0 -0.4**
HHC pP pP 19 59 24.1 -2.3
HHC S **S 20 06 22.3 +0.9**
HHC ScS **ScS 20 09 01.9 -0.2**
HHC pmax pmax
comp=Z,100nm,1.0s
HHC pmax pmax
comp=Z,350nm,5.8s
HHC LR LR
comp=Z,920nm,15.5s
HHC LR LR
comp=Z,540nm,14.4s
HHC LR LR
comp=Z,950nm,14.9s
KS15 Wonju Array Si 50.01 21 *e*P **P 19 59 14.7 -0.4**
comp=Z,61nm,1.8s
KS15 *e*PcP **PcP 20 00 36.8 +2.2**
KSAR Wonju Array Be 50.01 21 *e*P **P 19 59 14.6 -0.5**
KSAR PcP **PcP 20 00 36.8 +2.2**
KSAR Wonju Array Be 50.01 21 *e*P **P 19 59 14.6 -0.5**
KSAR 20 00 36.8
KSRS Korea Array 50.03 21 P **P 19 59 14.7 -0.6**
comp=Z,5.5nm,0.9s,baz=200,slow=7.9,SNR=17
KSRS PcP **PcP 20 00 36.8 +2.1**
comp=Z,0.5nm,0.5s,baz=197,slow=4.1,SNR=4.6
HNR Honiara 51.28 95 LR LR 20 24 40.8
comp=Z,109nm,20.7s,baz=242,slow=40
MAJO Matsushiro 53.65 30 *e*P **P 19 59 40.7 -1.7**
MAJO Matsushiro 53.65 30 *e*P **P 19 59 40.7 -1.7**
MAT Matsushiro 53.65 30 P **P 19 59 40.6 -1.8**
MJAR Matsushiro Arr 53.65 30 *e*P **P 19 59 41.4 -1.0**
MJAR Matsushiro Arr 53.65 30 *e*P **P 19 59 41.4 -1.0**
MJAR Matsushiro Arr 53.65 30 P **P 19 59 40.7 -1.7**
comp=Z,8.3nm,1.0s,baz=206,slow=8.0,SNR=11
MJAR LR LR 20 23 35.0
comp=Z,271nm,19.4s,baz=160,slow=37
NIL Nilore 53.86 324 *e*P **P 19 59 42.3 -1.7**
comp=Z,21nm,0.7s
NIL Nilore 53.86 324 *e*P **P 19 59 42.3 -1.7**
NIL pmax pmax
comp=Z,21nm,0.7s
CN2 Changchun 55.08 15 *e*P **P 19 59 51.0 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,350nm,14.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,470nm,16.0s
WMQ Urumqi 55.87 342 P **P 19 59 59.0 +0.6**
WMQ pP pP 20 00 09.6 -0.9
WMQ sP pwP 20 00 13.6 0.0
WMQ pmax pmax
comp=Z,130nm,1.3s
WMQ pmax pmax
comp=Z,340nm,3.7s
WMQ LR LR
comp=Z,1μm,19.3s
WMQ LR LR
comp=Z,1μm,24.5s
WMQ LR LR
comp=Z,1μm,24.5s
WMQ Urumqi 55.87 342 *e*P **P 19 59 58.8 +0.4**
comp=Z,62nm,1.2s
WMQ Urumqi 55.87 342 *e*P **P 19 59 58.8 +0.4**
WMQ pmax pmax
comp=Z,62nm,1.2s
SONA0 Songino Array 56.79 359 *e*P **P 20 00 05.0 +0.1**
SONM Songino Array 56.79 359 *e*P **P 20 00 04.7 -0.2**
SONM Songino Array 56.79 359 P **P 20 00 05.0 +0.1**
comp=Z,17nm,0.6s,baz=174,slow=8.0,SNR=98
ULN Ulaanbaatar 56.81 359 *e*P **P 20 00 04.5 -0.5**
comp=Z,24nm,0.8s
ULN Ulaanbaatar 56.81 359 *ce*P **P 20 00 05.4 +0.3**
ULN pmax pmax
comp=Z,23nm,0.7s
ULN Ulaanbaatar 56.81 359 P **P 20 00 05.2 +0.1**
SNR=12
ULN P **P 20 00 05.2 +0.1**
SNR=12
KSH Kashi 56.81 331 P **P 20 00 03.8 -1.4**
KSH pP pP 20 00 14.6 -2.9
KSH PP **PP 20 02 12.0 -0.1**
KSH S **S 20 07 49.7 -5.7**
KSH pmax pmax
comp=Z,15nm,0.7s
KSH pmax pmax
comp=Z,140nm,3.3s
KSH LR LR
comp=Z,160nm,6.3s
KSH LR LR
comp=Z,190nm,7.6s
KSH LR LR
comp=Z,560nm,12.5s
KBL Kabul 56.99 322 *e*P **P 20 00 06.8 +0.1**
comp=Z,7.8nm,0.6s
KBL Kabul 56.99 322 *e*P **P 20 00 06.8 +0.1**
KBL pmax pmax
comp=Z,8.0nm,0.6s
MDJ Mudanjiang 57.02 18 P **P 20 00 06.7 +0.2**
comp=Z,34nm,0.6s
USA0B Ussuriysk Arra 57.43 20 *e*P **P 20 00 08.6 -0.8**
comp=Z,78nm,1.8s
USRK Ussuriysk Ar. 57.43 20 P **P 20 00 08.2 -1.1**
comp=Z,6.2nm,0.7s,baz=194,slow=7.3,SNR=13
DZM Mont Dzumac 57.47 110 *e*LR LR 20 17 02.6
comp=Z,582nm,24.1s
MHTO MHTO 57.53 302 P **P 20 00 11.3 +0.8**
MHTO P **P 20 00 11.3 +0.8**
TARG Taragay, Kyrgy 57.73 334 *e*P **P 20 00 11.2 -0.8**
comp=Z,12nm,0.8s

WSAR Wadi Sarin 58.00 305 LR LR 20 23 18.4
comp=Z,38nm,21.5s,baz=146,slow=34
PRZ Przheval'sk 58.08 335 *e*P **P** **20 00 13.9 -0.3**
comp=Z,32nm,0.9s
PRZ Przheval'sk 58.08 335 *e*P **P** **20 00 13.9 -0.3**
PRZ pmax pmax
comp=Z,32nm,0.9s
NRN Naryn 58.30 332 *e*P **P** **20 00 15.1 -0.9**
comp=Z,18nm,1.0s
NRN Naryn 58.30 332 *e*P **P** **20 00 15.1 -0.9**
NRN pmax pmax
comp=Z,18nm,1.0s
KDJ Kajisay 58.33 333 *e*P **P** **20 00 15.5 -0.4**
comp=Z,31nm,0.9s
KDJ Kajisay 58.33 333 *e*P **P** **20 00 15.5 -0.4**
KDJ pmax pmax
comp=Z,31nm,0.9s
ULHL Ulahol 58.84 333 P **P** **20 00 21.4 +1.9**
SNR=11
KZA Kyzart 59.16 332 P **P** **20 00 23.5 +1.5**
SNR=24
GAR Garm 59.34 326 *e*P **P** **20 00 21.5 -1.5**
comp=Z,27nm,0.7s
GAR Garm 59.34 326 *e*P **P** **20 00 21.5 -1.5**
GAR pmax pmax
comp=Z,27nm,0.7s
ZAK Zakamensk 59.46 357 *e*P **P** **20 00 22.9 -0.6**
ZAK pmax pmax
comp=Z,11nm,1.2s
OPO Ambohidratompo 59.48 254 P **P** **20 00 25.5 +1.1**
comp=Z,7.1nm,0.9s,baz=77,slow=8.7,SNR=4.5
UCH Uchtor 59.62 332 P **P** **20 00 26.3 +1.1**
SNR=5.5
ARSB Arslanbob 59.66 330 *e*P **P** **20 00 24.7 -0.5**
comp=Z,27nm,1.0s
TKM2 Tokmak 2 59.66 333 P **P** **20 00 24.9 -0.3**
SNR=14
KBK Karagaybulak 59.75 332 P **P** **20 00 25.8 0.0**
SNR=17
BTK Batken 59.83 328 *e*P **P** **20 00 25.4 -0.9**
comp=Z,28nm,1.1s
BTK Batken 59.83 328 *e*P **P** **20 00 25.4 -0.9**
BTK pmax pmax
comp=Z,28nm,1.1s
AML Almayashu 59.93 331 P **P** **20 00 27.0 -0.3**
SNR=15
AAK Ala-Archa 59.94 332 P **P** **20 00 28.3 +1.2**
SNR=7.4
AAK Ala-Archa 59.94 332 *e*P **P** **20 00 26.6 -0.5**
comp=Z,8.4nm,1.0s
AAK Ala-Archa 59.94 332 *ce*P **P** **20 00 27.4 +0.3**
AAK pmax pmax
comp=Z,13nm,1.3s
AAK Ala-Archa 59.94 332 P **P** **20 00 27.0 -0.1**
SNR=8.4
AAK P **P** **20 00 27.0 -0.1**
SNR=8.4
FRU1 Bishkek 60.01 332 *e*P **P** **20 00 27.2 -0.3**
comp=Z,28nm,1.3s
FRU1 Bishkek 60.01 332 *e*P **P** **20 00 27.2 -0.3**
FRU1 pmax pmax
comp=Z,28nm,1.3s
MK31 Makanchi Array 60.25 340 *e*P **P** **20 00 28.1 -0.8**
comp=Z,19nm,0.8s
MK31 Makanchi Array 60.25 340 *e*P **P** **20 00 28.1 -0.8**
MK31 pmax pmax
comp=Z,19nm,0.8s
MK32 Makanchi Array 60.25 340 *e*P **P** **20 00 28.8 -0.1**
MKAR Makanchi Array 60.25 340 *e*P **P** **20 00 28.5 -0.4**
MKAR Makanchi Array 60.25 340 P **P** **20 00 28.8 -0.1**
comp=Z,20nm,0.6s,baz=143,slow=7.7,SNR=239
MKAR LR LR 20 28 47.0
comp=Z,262nm,21.1s,baz=148,slow=38
EKS2 Erkin-Say 60.30 332 P **P** **20 00 29.4 0.0**
SNR=15
MAKZ Makanchi 60.37 340 *e*P **P** **20 00 29.2 -0.5**
comp=Z,20nm,1.1s
MAKZ Makanchi 60.37 340 *e*P **P** **20 00 29.2 -0.5**
MAKZ pmax pmax
comp=Z,20nm,1.1s
TLY Talaya 60.73 357 *i*P **P** **20 00 33.3 +1.2**
TLY Talaya 60.73 357 P **P** **20 00 32.8 +0.7**
SNR=6.1
ASHO Ashiyiah 60.76 305 P **P** **20 00 31.8 -1.0**
ASHO P **P** **20 00 31.8 -1.0**
MOY Mondy 60.90 355 *e*P **P** **20 00 34.4 +1.0**
MOY pmax pmax
comp=Z,36nm,1.7s
FAQ Al Faqa, Dubai 61.16 305 P **P** **20 00 36.6 +1.0**
IRK Irkutsk 61.27 357 *e*P **P** **20 00 31.7 -4.0**
IRK pmax pmax
comp=Z,25nm,2.8s
ASUD Al Ashush, Dub 61.32 304 P **P** **20 00 38.1 +1.5**
DGZ Jazzator, Alta 61.33 345 *i*P **P** **20 00 36.7 +0.4**
DGZ pmax pmax
comp=Z,47nm,0.8s
ASAJ Asahikawa 61.65 28 P **P** **20 00 38.0 -0.4**
comp=Z,9.6nm,0.7s,baz=181,slow=5.2,SNR=7.8
KLR Kul'dur 61.81 17 P **P** **20 00 38.8 -0.6**
comp=Z,13nm,0.9s,baz=196,slow=5.3,SNR=35
KK31 Karatay Array 62.21 330 *e*P **P** **20 00 41.9 -0.4**
comp=Z,21nm,1.6s
KK31 Karatay Array 62.21 330 *e*P **P** **20 00 41.9 -0.4**
KK31 pmax pmax
comp=Z,21nm,1.6s
KKAR Karatay Array 62.21 330 *e*P **P** **20 00 41.8 -0.5**
KKAR Karatay Array 62.21 330 *e*P **P** **20 00 41.8 -0.5**
YSS Yuzh-Sakhalins 63.91 26 *e*P **P** **20 00 52.6 -0.8**
YSS *e* 20 01 01.2
YSS *e* 20 01 35.1
YSS *e*S **S** **20 09 24.5 -1.3**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,200nm,15.0s
GRNR Gornyy 64.62 20 *e*P **P** **20 00 57.8 -0.3**
GRNR pmax pmax
comp=Z,13nm,1.0s
ZEA Zeya 64.79 13 *e*P **P** **20 00 58.8 -0.2**
ZEA pmax pmax
comp=Z,37nm,1.4s
KURBB Kurchatov Arra 64.81 340 P **P** **20 00 59.1 -0.1**
comp=Z,22nm,0.8s,baz=156,slow=5.4,SNR=8.0
KURBB S **S** **20 09 34.2 -2.6**
comp=Z,1.3nm,1.2s,baz=151,slow=14,SNR=4.7
KURK Kurchatov 64.86 340 *e*P **P** **20 00 59.3 -0.2**
comp=Z,37nm,0.8s
KURK Kurchatov 64.86 340 *ce*P **P** **20 00 59.3 -0.2**
KURK pmax pmax
comp=Z,40nm,0.8s
KURK Kurchatov 64.86 340 P **P** **20 00 59.5 -0.1**
SNR=16
KURK P **P** **20 00 59.5 -0.1**
SNR=16
MAW Mawson 65.56 197 *e*P **P** **20 01 03.7 -0.2**
comp=Z,3.7nm,0.9s
MAW Mawson 65.56 197 P **P** **20 01 04.6 +0.7**
baz=66,SNR=7.8
MAW Mawson 65.56 197 *e*P **P** **20 01 03.7 -0.2**
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW Mawson 65.56 197 P **P** **20 01 03.4 -0.5**
baz=61,slow=6.0,SNR=12
ZAA0 Zalesovo Array 65.87 345 *e*P **P** **20 01 05.5 -0.6**
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 65.87 345 *e*P **P** **20 01 05.1 -0.9**
ZALV Zalesovo Beam 65.87 345 *i*P **P** **20 01 05.1 -0.9**
ZALV pmax pmax
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 65.87 345 P **P** **20 01 05.2 -0.8**
comp=Z,14nm,0.8s,baz=156,slow=3.9,SNR=38
ZALV LR LR 20 33 18.2
comp=Z,370nm,18.1s,baz=75,slow=39
ZAA1 Zalesovo Array 65.88 345 *e*P **P** **20 01 05.2 -0.8**
GEYT Alibeck 66.01 319 P **P** **20 01 07.8 +0.4**
comp=Z,15nm,0.8s,baz=150,slow=6.8,SNR=16
GEYT LR LR 20 32 03.9
comp=Z,224nm,21.3s,baz=145,slow=38
GYA0B ALIBECK ARRAY 66.01 319 *e*P **P** **20 01 06.2 -1.1**
comp=Z,23nm,0.9s
TYV Tymovskoe 66.94 23 *e*P **P** **20 01 12.6 -0.3**
TYV pmax pmax
comp=Z,9.0nm,1.3s
TYV MLR MLR
comp=Z,300nm,22.0s
BOD Bodaibo 66.96 4 *e*P **P** **20 01 11.8 -1.1**

BOD pmax pmax
comp=Z,24nm,1.4s
NVS Novosibirsk 67.08 345 *e*P **P** **20 01 12.1 -1.6**
NVS *e*S **S** **20 10 00.2 -4.0**
NVS pmax pmax
comp=Z,13nm,1.6s
NVS pmax pmax
comp=N,15nm,1.8s
NVS pmax pmax
comp=E,8.0nm,1.8s
NVS smax smax
comp=N,15nm,2.1s
NVS smax smax
comp=E,16nm,1.8s
BRVK Borovoye 69.80 337 *e*P **P** **20 01 30.3 -0.5**
comp=E,18nm,0.9s
BRVK Borovoye 69.80 337 *ce*P **P** **20 01 31.0 +0.2**
BRVK pmax pmax
comp=Z,26nm,1.3s
KMBO Kilima Mbogo 70.76 272 LR LR 20 26 58.0
comp=Z,129nm,21.6s,baz=92,slow=31
ABKAR Akbulak array 71.76 329 *e*P **P** **20 01 42.2 -0.6**
comp=Z,24nm,0.7s
SKR Severo-Kuril's 72.75 30 *e*P P 20 01 59.9 +11
SKR *e*S **S** **20 11 03.8 -7.1**
SKR MLR MLR
comp=Z,200nm,20.0s
SKR MLR MLR
comp=Z,400nm,20.0s
YAK Yakutsk 72.99 11 *e*P **P** **20 01 48.5 -1.3**
YAK *e* 20 01 59.3
YAK *e**PP **sP** **20 02 08.1 +0.7**
YAK *e* 20 04 35.5
YAK *e*PPP PPP 20 06 14.8
YAK *e*S **S** **20 11 10.8 -2.3**
YAK *e**SS **sS** **20 11 38.4 +4.6**
YAK *e* 20 11 51.4
YAK *e*SS **SS** **20 15 55.9 +1.1**
YAK *e*SSS SSS 20 19 08.6
YAK pmax pmax
comp=Z,106nm,0.7s
YAK pmax pmax
comp=N,42nm,0.8s
YAK pmax pmax
comp=E,29nm,0.7s
YAK pmax pmax
comp=Z,172nm,2.8s
YAK pmax pmax
comp=N,96nm,2.9s
YAK pmax pmax
comp=E,193nm,2.8s
YAK smax smax
comp=N,188nm,2.2s
YAK smax smax
comp=E,233nm,2.3s
AKTO Aktyubinsk 73.47 329 LR LR 20 40 30.8
comp=E,138nm,18.0s,baz=133,slow=41
VNDA Vanda 73.66 169 *e*P **P** **20 01 54.0 +0.3**
comp=E,12nm,1.1s
VNDA Vanda 73.66 169 *e*P **P** **20 01 54.0 +0.3**
VNDA pmax pmax
comp=Z,12nm,1.1s
VNDA Vanda 73.66 169 P **P** **20 01 53.9 +0.2**
comp=Z,6.3nm,0.9s,baz=291,slow=7.2,SNR=17
SYO Syowa Base 73.79 200⇓ *e*P **P** **20 01 53.4 -1.1**
SYO Syowa Base 73.79 200⇑ *e*pP pP 20 02 04.6 -2.2
SBA Scott Base 74.73 169 *e*P **P** **20 02 00.5 +0.6**
comp=Z,18nm,1.2s
SBA Scott Base 74.73 169 *e*P **P** **20 02 00.5 +0.6**
SBA pmax pmax
comp=Z,19nm,1.2s
PETK Petropavlovsk- 75.05 28 *e*P **P** **20 02 01.8 -0.3**
PETK Petropavlovsk- 75.05 28 *e*P **P** **20 02 01.8 -0.3**
PETK Petropavlovsk- 75.05 28 P **P** **20 02 02.1 0.0**
comp=Z,11nm,1.0s,baz=175,slow=1.0,SNR=11
PEA1 Petropavlovsk- 75.05 28 *e*P **P** **20 02 02.1 0.0**
PET Petropavlovsk 75.45 29 *e*P **P** **20 02 08.4 +4.1**
PET *e*S **S** **20 11 44.2 +3.2**
PET pmax pmax
comp=Z,100nm,17.3s
PET MLR MLR
comp=Z,200nm,14.0s
GNI Garni 76.15 315 LR LR 20 39 54.5
comp=Z,51nm,18.8s,baz=115,slow=39
BTLR Botlin 76.23 318 *i*P **P** **20 02 10.3 +1.1**
SVE Sverdlovsk 76.38 335⇓ *e*P **P** **20 02 11.4 +1.9**
SVE pmax pmax
comp=Z,28nm,1.1s
MA2 Magadan 76.59 21 *e*P **P** **20 02 10.9 +0.2**
comp=Z,16nm,1.0s
MA2 Magadan 76.59 21 *ce*P **P** **20 02 10.7 0.0**
MA2 pmax pmax
comp=Z,12nm,1.3s
MA2 Magadan 76.59 21 P **P** **20 02 11.4 +0.8**
comp=Z,8.4nm,0.7s,baz=198,slow=7.6,SNR=5.7
GROC Groznyy 76.75 318 *e*P **P** **20 02 10.5 -1.5**
GROC *e* 20 02 21.1
GROC *e*S **S** **20 11 51.4 -4.4**
GROC pmax pmax
comp=Z,36nm,1.2s
TBLG Delisi 76.82 317 *e*P **P** **20 02 12.8 +0.3**
comp=Z,20nm,0.8s
TBLG Delisi 76.82 317 *i*P **P** **20 02 12.8 +0.3**
ARU Arti 76.98 334 *e*P **P** **20 02 12.4 -0.6**
comp=Z,15nm,0.9s
ARU Arti 76.98 334 *c i*P **P** **20 02 13.7 +0.7**
ARU 20 02 23.6
ARU PPP PPP 20 06 55.4
ARU S **S** **20 12 02.7 +4.9**
ARU SS **SS** **20 16 52.1 -3.6**
ARU pmax pmax
comp=Z,16nm,1.1s
MBAR Mbarara 77.27 271 *e*P **P** **20 02 18.8 +3.0**
comp=Z,9.3nm,0.9s
KARS Kars 77.50 315 *e*P **P** **20 02 15.6 -0.9**
KARS Kars 77.50 315 *e*P **P** **20 02 15.6 -0.9**
ZEI Tsey 77.83 317 *e*P **P** **20 02 19.2 +0.9**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
NEY Neytrino 78.81 317 *i*P **P** **20 02 25.3 +1.6**
NEY pmax pmax
comp=Z,1.0nm,0.8s
BATM Batumi 78.85 316⇑ *i*P P 20 02 29.7 +6.0
KBZ Khabaz 78.89 318 P **P** **20 02 25.6 +1.8**
comp=Z,7.5nm,0.9s,baz=178,slow=5.4,SNR=12
SHA1 Shidzhatmaz 79.05 318 *i*P **P** **20 02 26.0 +0.9**
KVAR Kislovodsk Arr 79.11 318 LR LR 20 42 26.9
comp=Z,58nm,18.1s,baz=152,slow=40
KIV Kislovodsk 79.12 318 *e*P **P** **20 02 25.1 -0.2**
KIV pmax pmax
comp=Z,36nm,1.0s
BOSA Boshof 79.27 243 P **P** **20 02 28.0 +1.4**
comp=Z,5.6nm,1.1s,baz=116,slow=6.9,SNR=3.6
BOSA LR LR 20 33 10.3
comp=Z,124nm,18.4s,baz=80,slow=32
SEY Seymchan 79.55 19 *ce*P **P** **20 02 27.7 +0.7**
SEY Seymchan 79.55 19 P **P** **20 02 27.6 +0.5**
comp=Z,6.2nm,0.7s,baz=229,slow=3.7,SNR=15
NRIK Noril'sk 79.62 353 P **P** **20 02 28.3 +1.0**
comp=Z,9.4nm,0.9s,baz=157,slow=4.1,SNR=18
QSPA South Pole Qui 80.81 180 *e*P **P** **20 02 33.9 -0.2**
comp=Z,98nm,1.9s
TIXI Tiksi 81.86 7 *e*P **P** **20 02 38.5 -0.7**
comp=Z,14nm,1.0s
TIXI Tiksi 81.86 7 *c i*P **P** **20 02 37.8 -1.4**
TIXI pmax pmax
comp=Z,14nm,0.9s
TIXI Tiksi 81.86 7 P **P** **20 02 38.5 -0.7**
comp=Z,8.7nm,0.7s,baz=170,slow=3.4,SNR=36
VRH Novokhopyorsk 82.69 325 *e*P **P** **20 02 44.7 +0.7**
VRH pmax pmax
comp=Z,30nm,2.0s
BR101 Keskin Array S 83.97 312 *e*P **P** **20 02 51.3 +0.3**
BR131 Keskin Array S 83.97 312 *e*P **P** **20 02 50.4 -0.7**
comp=Z,10nm,1.0s
BRTR Keskin Array B 83.97 312 *e*P **P** **20 02 50.9 -0.2**
BRTR Keskin Array B 83.97 312 *e*P **P** **20 02 50.9 -0.2**
BRTR Keskin Array B 83.97 312 P **P** **20 02 51.3 +0.3**
comp=Z,7.0nm,1.0s,baz=124,slow=6.6,SNR=37
BRTR LR LR 20 42 40.4
comp=Z,155nm,20.9s,baz=98,slow=37
VORD Divnogorie 84.00 324 *e*P **P** **20 02 51.3 +0.5**
VORD pmax pmax
comp=Z,10.0nm,1.4s
VSR Storozhevoye 84.17 324 *e*P **P** **20 02 51.1 -0.5**

VSR pmax pmax
comp=Z,10.0nm,1.2s
LPSR Galich'ya Gora 84.84 325 *e*P **P** **20 02 55.5 +0.6**
LPSR pmax pmax
comp=Z,20nm,1.4s
MOS Moscow 86.72 328 *e*P **P** **20 03 03.0 -1.2**
OBN Obninsk 87.06 327⇓ *i*P **P** **20 03 06.7 +0.9**
OBN *e* 20 06 31.4
OBN pmax pmax
comp=Z,11nm,1.1s
BILL Bilibino 87.25 19⇓ *e*P **P** **20 03 07.3 +0.8**
BILL *e* 20 06 33.4
BILL pmax pmax
comp=Z,2.0nm,0.7s
SNAA Sanae 87.73 197 P **P** **20 03 11.8 +2.8**
SNAA Sanae 87.73 197 *e*P **P** **20 03 08.9 -0.1**
comp=Z,12nm,1.3s
SNAA Sanae 87.73 197 *e*P **P** **20 03 08.9 -0.1**
SNAA pmax pmax
comp=Z,13nm,1.3s
KLMR Klimovskoe 87.74 333 *e*P **P** **20 03 07.6 -1.4**
KLMR pmax pmax
comp=Z,36nm,1.5s
PHSR Pinarhisar 88.95 312⇑ *i*P **P** **20 03 16.5 +1.3**
TLB Topalu 89.27 315⇑ *i*P **P** **20 03 17.3 +0.7**
TLB Topalu 89.27 315⇑ P **P** **20 03 17.3 +0.7**
CFR Carcaliu 89.34 316⇑ *i*P **P** **20 03 15.5 -1.4**
CFR Carcaliu 89.34 316⇑ P **P** **20 03 15.5 -1.4**
VNA1 Neumayer--Stat 89.76 197 P **P** **20 03 21.1 +2.7**
VNA3 Neumayer Olymp 89.88 197 P **P** **20 03 21.4 +2.3**
AKASG Malin Array Be 89.97 321 P **P** **20 03 20.2 +0.5**
comp=Z,1.3nm,0.8s,baz=84,slow=4.6,SNR=10.0
AKASG PP **PP** **20 06 52.0 -1.3**
comp=Z,2.8nm,1.1s,baz=92,slow=6.3,SNR=10.0
AKBB Malin Array Si 89.97 321 *e*P **P** **20 03 20.2 +0.4**
comp=Z,3.9nm,0.9s
AKBB *e*PP **PP** **20 06 52.0 -1.3**
AKBB Malin Array Si 89.97 321 *e*P **P** **20 03 20.2 +0.4**
AKBB *e* 20 06 52.0
AKBB pmax pmax
comp=Z,4.0nm,0.9s
KIEV Kiev 89.98 321 *i*P **P** **20 03 20.0 +0.2**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
VRI Vrincioaia 90.46 316⇑ *i*P **P** **20 03 23.1 +0.9**
VRI Vrincioaia 90.46 316⇑ P **P** **20 03 23.1 +0.9**
PLOR Plostina 90.51 316⇑ *i*P **P** **20 03 21.8 -0.7**
PLOR Plostina 90.51 316⇑ P **P** **20 03 21.8 -0.7**
TESR Tescani 90.66 317⇑ *i*P **P** **20 03 23.3 +0.2**
MLR Muntele Rosu 90.92 316 *e*P **P** **20 03 23.7 -0.8**
comp=Z,17nm,1.3s
MLR Muntele Rosu 90.92 316⇑ *i*P **P** **20 03 25.8 +1.3**
MLR Muntele Rosu 90.92 316⇑ P **P** **20 03 25.8 +1.3**
BIZ Bicaz 91.11 317⇑ *i*P P 20 03 18.5 -6.7
DOPR Dopca 91.40 316⇓ *i*P **P** **20 03 27.8 +1.2**
BURAR Bucovina Array 91.84 318 *e*P **P** **20 03 28.7 0.0**
BURAR Bucovina Array 91.84 318⇑ *i*P **P** **20 03 29.8 +1.1**
BURAR Bucovina Array 91.84 318⇑ P **P** **20 03 29.8 +1.1**
BUR08 Bucovina Ar. S 91.86 318 *e*P **P** **20 03 28.2 -0.6**
comp=Z,8.9nm,1.5s
LIT Litokhoron 92.39 310 *e*P **P** **20 03 30.6 -0.7**
comp=Z,7.7nm,0.8s
LIT Litokhoron 92.39 310 *e*P **P** **20 03 30.6 -0.7**
LIT pmax pmax
comp=Z,8.0nm,0.8s
APA Apatity 92.61 338⇑ *i*P P 20 03 36.4 +4.8
APA pmax pmax
comp=Z,4.0nm,1.3s
APA MLR MLR
comp=Z,500nm,20.0s
DEV Deva 93.09 316⇑ *i*P **P** **20 03 36.3 +2.0**
DEV Deva 93.09 316⇑ P **P** **20 03 36.3 +2.0**
KOLS Kolonicke sedl 94.02 319 *e*P **P** **20 03 40.8 +2.2**
KOLS Kolonicke sedl 94.02 319 *e*P **P** **20 03 40.8 +2.2**
FINES FINESS Array B 94.13 332 LR LR 20 51 39.0
comp=Z,152nm,18.7s,baz=96,slow=39
VYHS Vyhne 96.21 318 *e*P **P** **20 03 48.0 -0.6**
VYHS Vyhne 96.21 318 *e*P **P** **20 03 48.0 -0.6**
PPT2 Papeete2 98.97 109 *e*LR LR 20 36 19.4
comp=Z,176nm,22.8s
PPT Papeete 98.97 109 LR LR 20 43 47.7
comp=Z,181nm,19.5s,baz=195,slow=32
CLL Collm 100.19 321 *e*Pdif **Pdif** **20 04 09.0 +2.6**
CLL LmV 20 58 00.0
comp=Z,100nm,18.0s
ILAR Eielson Array 104.72 25 PP **PKiKP** **20 08 47.5 +6.0**
comp=Z,0.3nm,0.7s,baz=277,slow=7.0,SNR=4.1
ILB Eielson Array 104.72 25 *e*PP **PKiKP** **20 08 47.5 +6.0**
YKA Yellowknife Ar 118.57 21 *e*PKPdf **PKiKP** **20 09 08.5 +0.7**
YKA PKKPbc **PKKPab** **20 19 26.7 -0.3**
YKA Yellowknife Ar 118.57 21 *e*PKIKP **PKiKP** **20 09 08.5 +0.7**
YKA Yellowknife Ar 118.57 21 PKP **PKiKP** **20 09 09.1 +1.3**
comp=Z,0.7nm,0.7s,baz=297,slow=1.7,SNR=11
YKA PKKPbc **PKKPab** **20 19 26.7 -0.3**
comp=Z,0.1nm,0.3s,baz=99,slow=2.9,SNR=4.1
YKB5 Yellowknife Ar 118.57 21 *e*PKPdf **PKiKP** **20 09 09.1 +1.3**
YKB5 *e*PKKPbc **PKKPab** **20 19 26.7 -0.3**
I03D Drain, OR 123.85 43 P **PKPdf** **20 09 18.0 -0.6**
baz=292
I04A Tendick Farm, 124.44 43 P **PKiKP** **20 09 20.0 -0.1**
baz=293
M02C Callahan 125.03 45 P **PKiKP** **20 09 22.5 +1.2**
baz=291
L04D Klamath Falls 125.12 44 P **PKiKP** **20 09 22.8 +1.2**
baz=292
J05D Fort Rock, OR 125.43 43 P **PKiKP** **20 09 23.5 +1.3**
baz=294
O02D Mt. Diablo Mer 125.51 47 P **PKiKP** **20 09 23.2 +0.8**
baz=290
O03E Paynes Creek 126.17 46 P **PKiKP** **20 09 24.9 +1.2**
baz=291
MSO Missoula 128.32 36 *e*PKPdf **PKiKP** **20 09 27.9 +0.2**
MSO Missoula 128.32 36 P **PKiKP** **20 09 28.3 +0.5**
baz=303
SCZ2 Santa Cruz Isl 129.92 53 P **PKiKP** **20 09 31.8 +0.5**
baz=288
EGMT Eagleton 129.94 32 P **PKiKP** **20 09 31.2 +0.3**
baz=308
ELK Elko 130.55 43 *e*PKPdf **PKiKP** **20 09 32.2 -0.4**
GSC Goldstone, Bar 131.67 50 *e*PKPpre PKPpre 20 09 22.4
GSC Goldstone, Bar 131.67 50 *e*PKHKP PKPpre 20 09 22.4
IRM Iron Mountain 133.36 51 P **PKiKP** **20 09 37.1 -1.2**
baz=292
RSSD Black Hills 135.50 33 *e*PKPdf **PKPdf** **20 09 37.0 -3.9**
RSSD Black Hills 135.50 33 *e*PKIKP **PKPdf** **20 09 37.0 -3.9**
EYMN Ely 138.02 20 P **PKiKP** **20 09 46.6 -0.6**
baz=331
TASM ASL Pad, Albuq 139.44 46 P **PKiKP** **20 09 50.0 -0.8**
baz=301
TASM ASL Pad, Albuq 139.44 46 P **PKiKP** **20 09 49.8 -1.0**
baz=301
ANMO Albuquerque 139.44 46 P **PKiKP** **20 09 50.0 -0.8**
baz=301
E39A Mellen 139.70 20 P **PKiKP** **20 09 50.3 -0.4**
baz=331
F48A Evansville 142.38 12 P **PKiKP** **20 09 54.5 -1.7**
baz=343
MSTX Muleshoe 142.53 44 P **PKiKP** **20 09 55.3 -1.8**
baz=304
L40A Anamosa 143.16 24 *e*PKPdf PKPbc 20 09 52.2 +0.6
I48A Sherman Twp 143.69 14 P **PKPdf** **20 09 54.2 -1.3**
baz=340
N40A Mertquake, Sal 144.00 26 P **PKPdf** **20 09 54.6 -1.5**
baz=326
L43A Garden Prairie 144.00 21 P PKPbc 20 09 54.5 +0.5
baz=331
M41A Milan 144.02 24 P **PKPdf** **20 09 54.9 -1.3**
baz=328
I49A Point Hope 144.13 13 P **PKPdf** **20 09 55.1 -1.1**
baz=342
TX31 Lajitas Ar. Si 144.25 52 *e*PKPdf **PKPdf** **20 09 56.3 -0.8**
LTX Lajitas 144.25 52 *e*PKPdf **PKPdf** **20 09 57.4 +0.3**
TXAR Lajitas Array 144.25 52 *e*PKPdf **PKPdf** **20 09 56.6 -0.5**
TXAR Lajitas Array 144.25 52 *e*PKIKP **PKPdf** **20 09 56.6 -0.5**
TXAR Lajitas Array 144.25 52 PKP **PKPdf** **20 09 57.4 +0.3**
comp=Z,0.9nm,0.6s,baz=260,slow=2.2,SNR=8.5
N41A Harden Midland 144.45 25 *e*PKPdf **PKPdf** **20 09 55.8 -1.2**
N41A Harden Midland 144.45 25 P **PKPdf** **20 09 56.3 -0.6**
baz=327
H55A Tweed 144.49 6 P PKPbc 20 09 55.6 +0.2
baz=351
J48A Bridge Port 144.51 15 P PKPbc 20 09 55.3 -0.3
baz=340
K46A Dorr 144.53 18 P **PKPdf** **20 09 55.8 -1.2**
baz=336

H56A	Elgin	144.54	5	P	PKPdf	20 09 56.4	-0.6
	baz=353,SNR=5.9						
M43A	Waltham Townsh	144.58	22	P	PKPdf	20 09 56.6	-0.5
	baz=330						
J49A	Marlette	144.61	14	P	PKPdf	20 09 56.8	-0.4
	baz=341						
LONY	Lake Ozonia	144.63	3	*e*PKPdf	PKPdf	20 09 56.4	-0.7
LONY	Lake Ozonia	144.63	3	P	PKPdf	20 09 56.5	-0.6
	baz=356						
WMOK	Wichita Mounta	144.71	40	*e*PKPdf	PKPdf	20 09 57.1	-0.6
WMOK	Wichita Mounta	144.71	40	*e*PKIKP	PKPdf	20 09 57.1	-0.6
WMOK	Wichita Mounta	144.71	40	P	PKPdf	20 09 57.4	-0.3
	baz=310,SNR=42						
K47A	Vermontville	144.77	17	P	PKPdf	20 09 56.5	-0.9
	baz=338						
K48A	Perry	144.88	16	P	PKPdf	20 09 57.3	-0.4
	baz=339						
N43A	Stutzman Famil	144.93	23	P	PKPdf	20 09 58.1	+0.4
	baz=330						
O41A	Passleys Farm,	144.93	26	P	PKPdf	20 09 57.4	-0.4
	baz=326						
M44A	Midewin, Midew	144.95	21	*e*PKPdf	PKPdf	20 09 59.1	+1.4
M44A	Midewin, Midew	144.95	21	P	PKPdf	20 09 57.4	-0.4
	baz=332						
WLVO	Wesleyville	144.96	8	P	PKPdf	20 09 57.6	-0.1
	baz=349,SNR=8.6						
DRCO	St. Marys Ceme	144.96	8	P	PKPdf	20 09 57.6	-0.1
	baz=349						
DRWO	Darlington Wes	144.96	8	P	PKPdf	20 09 57.1	-0.6
	baz=349						
ACTO	Acton	145.01	10	P	PKPdf	20 09 58.0	+0.1
	baz=346						
LBNH	Lisbon	145.08	360	P	PKPdf	20 09 58.5	+0.5
	baz=0.3						
PECO	Prince Edward	145.12	6	P	PKPdf	20 09 58.3	+0.3
	baz=352,SNR=10.0						
HDIL	Hopedale	145.21	23	*e*PKPbc	PKPbc	20 09 57.4	-0.5
HDIL	Hopedale	145.21	23	P	PKPdf	20 09 58.5	+0.2
	baz=329						
J52A	Paris	145.29	11	P	PKPdf	20 09 59.2	+0.9
	baz=345,SNR=7.3						
NCB	Newcomb	145.30	3	*e*PKPbc	PKPdf	20 09 58.3	0.0
L47A	Sherwood	145.35	17	P	PKPab	20 09 59.4	+0.9
	baz=337						
O43A	Sugar Creek Fa	145.43	24	P	PKiKP	20 10 00.3	-2.4
	baz=329						
N44A	Piper City	145.44	22	P	PKPab	20 10 00.0	+1.2
	baz=331						
ABTX	Abilene, Hawle	145.45	44	P	PKiKP	20 10 01.4	-1.5
	baz=306						
AAM	Ann Arbor	145.47	15	P	PKiKP	20 10 00.4	-2.2
	baz=340						
M46A	Old House Fiel	145.51	19	P	PKPab	20 10 00.3	+1.2
	baz=335						
TYNO	Tyneside	145.54	10	P	PKPab	20 10 00.0	+0.9
	baz=346,SNR=7.1						
STCO	Saint Catharin	145.54	9	P	PKPab	20 10 00.3	+1.1
	baz=348						
J54A	Appleton	145.56	9	*e*PKPdf	PKiKP	20 10 01.0	-1.8
J54A	Appleton	145.56	9	P	PKPab	20 10 00.1	+0.9
	baz=349						
K51A	Iona Station	145.58	12	P	PKPab	20 10 00.5	+1.2
	baz=343						
N45A	Kentland	145.62	21	P	PKiKP	20 10 00.9	-2.1
	baz=332						
L49A	Milan	145.63	16	P	PKPab	20 10 00.7	+1.2
	baz=339						
J55A	Hilton	145.68	7	*e*PKPdf	PKPbc	20 09 58.7	-0.6
J55A	Hilton	145.68	7	P	PKPab	20 10 00.8	+1.1
	baz=350,SNR=5.3						
K52A	Tillsonburg	145.69	11	P	PKiKP	20 10 01.0	-2.1
	baz=345						
MEDO	Medina	145.69	8	*e*PKPdf	PKiKP	20 10 01.5	-1.6
MEDO	Medina	145.69	8	P	PKPab	20 10 00.7	+1.0
	baz=349,SNR=8.1						
BDFB	Brasilia	145.71	224	PKPbc	PKiKP	20 10 01.9	-2.2
	comp=Z,7.1nm,0.5s,baz=63,slow=4.6,SNR=8.0						
TUL1	Leonard	145.73	35	*e*PKPdf	PKiKP	20 10 02.1	-1.3
TUL1	Leonard	145.73	35	P	PKiKP	20 10 01.5	-1.9
	baz=315,SNR=6.0						
GO02	Mina Guanaco	145.77	184	*e*PKPdf	PKPdf	20 09 59.3	-0.8
M47A	Cromwell	145.79	18	P	PKiKP	20 10 01.3	-2.0
	baz=336						
N46A	Monticello	145.84	20	P	PKiKP	20 10 01.7	-1.7
	baz=334						
O44A	Mansfield	145.88	23	P	PKiKP	20 10 01.6	-2.0
	baz=330						
P43A	Skaggs, Pawnee	145.90	24	P	PKPab	20 10 01.3	+0.7
	baz=328						
ACCN	Adirondack Com	145.91	2	*e*PKPdf	PKPbc	20 09 59.2	-0.9
L50A	Kingsville	145.93	14	P	PKPab	20 10 01.5	+0.9
	baz=341						
O45A	Potomac	146.07	22	P	PKiKP	20 10 02.2	-1.7
	baz=332						
Q42A	Golden Eagle	146.08	26	P	PKiKP	20 10 02.6	-1.4
	baz=326						
M49A	Liberty Center	146.16	16	P	PKiKP	20 10 02.6	-1.5
	baz=339						
K55A	Perry	146.18	8	P	PKPab	20 10 02.0	+0.4
	baz=349,SNR=5.1						
SFIN	Lafayette	146.18	21	P	PKPab	20 10 02.3	+0.7
	baz=333						
N47A	Urbana	146.20	19	P	PKPab	20 10 02.2	+0.5
	baz=335						
R41A	Rosebud	146.20	28	P	PKiKP	20 10 02.8	-1.5
	baz=324						
PLIO	Pelee Island,	146.25	14	P	PKiKP	20 10 02.5	-1.7
	baz=341						
N48A	Decatur	146.43	18	P	PKiKP	20 10 03.2	-1.5
	baz=336						
CCM	Cathedral Cave	146.46	28	*e*PKPdf	PKPbc	20 10 01.3	-0.6
CCM	Cathedral Cave	146.46	28	*e*PKP2	PKPbc	20 10 01.3	-0.6
CCM	Cathedral Cave	146.46	28	P	PKiKP	20 10 03.5	-1.3
	baz=324						
ERPA	Erie	146.47	11	P	PKPab	20 10 03.0	+0.3
	baz=346						
L54A	Sinclairville	146.47	10	P	PKPab	20 10 02.9	+0.1
	baz=347,SNR=7.0						
M50A	Fremont	146.48	15	P	PKPab	20 10 02.9	+0.2
	baz=340						
HHAR	Hobbs	146.49	33	*e*PKPdf	PKPab	20 10 03.2	+0.2
JCT	Junction City	146.56	47	P	PKiKP	20 10 04.0	-1.3
	baz=304						
L53A	Girard	146.57	11	P	PKiKP	20 10 03.5	-1.5
	baz=345						
S41A	Jillco Farms,	146.60	29	P	PKiKP	20 10 03.8	-1.3
	baz=323						
N49A	Columbus Grove	146.62	17	P	PKiKP	20 10 03.7	-1.4
	baz=338						
O47A	Sheridan	146.62	20	P	PKPab	20 10 03.6	+0.3
	baz=334						
L55A	Hinsdale	146.66	9	P	PKiKP	20 10 03.9	-1.3
	baz=349						
P45A	Graceland, Par	146.69	22	P	PKiKP	20 10 04.2	-1.1
	baz=331						
M52A	Chesterland	146.75	13	P	PKPab	20 10 03.7	-0.1
	baz=343						
M51A	Elyria	146.76	14	P	PKPab	20 10 03.6	-0.2
	baz=342						
HRV	Adam Dziewonsk	146.81	359	P	PKiKP	20 10 04.2	-1.2
	baz=0.9						
P46A	Rosedale	146.81	22	P	PKiKP	20 10 04.5	-1.0
	baz=332						
O48A	Farmland	146.94	19	P	PKPab	20 10 04.5	-0.1
	baz=336						
BINY	Binghamton	146.94	5	P	PKiKP	20 10 04.7	-1.1
	baz=353						
M53A	WI Miller and	146.99	12	P	PKPab	20 10 04.6	-0.2
	baz=344,SNR=5.1						
U40A	Yellville	147.01	32	P	PKPab	20 10 04.7	-0.3
	baz=320,SNR=15						
N50A	Nevada	147.04	16	P	PKiKP	20 10 05.1	-0.9
	baz=340,SNR=5.2						
Q45A	Warren Harvey,	147.08	23	P	PKiKP	20 10 05.6	-0.4
	baz=330						
N51A	Ashland	147.10	14	P	PKPab	20 10 05.1	-0.1
	baz=341						
M54A	Oil Creek Stat	147.12	11	P	PKPab	20 10 04.8	-0.4
	baz=346,SNR=7.5						
O49A	Covington	147.25	18	P	PKiKP	20 10 05.5	-0.8
	baz=337						
P47A	Martinsville	147.26	21	P	PKPab	20 10 05.6	-0.3
	baz=334						
WHTX	Lake Whitney,	147.30	42	P	PKiKP	20 10 06.6	-0.2
	baz=309						
M55A	Ridgway	147.31	9	P	PKiKP	20 10 05.7	-0.8
	baz=348,SNR=6.3						
N52A	McGinn's Farm,	147.37	14	P	PKPab	20 10 05.5	-0.7
	baz=342						
W39A	Magazine	147.38	34	P	PKiKP	20 10 06.4	-0.4
	baz=318						
U41A	Viola	147.49	31	P	PKPab	20 10 06.4	-0.5
	baz=322,SNR=7.0						
O50A	Cable	147.49	17	P	PKPab	20 10 06.0	-0.8
	baz=338						
R45A	Skylar, Fairfi	147.55	24	P	PKPab	20 10 06.2	-0.8
	baz=329						
N53A	Lisbon	147.56	12	P	PKPab	20 10 06.3	-0.7
	baz=344						
P48A	Milroy	147.57	19	P	PKiKP	20 10 06.3	-0.8
	baz=335						
N54A	Moraine State	147.58	11	P	PKiKP	20 10 06.2	-0.9
	baz=345						
ACSO	Alum Creek Sta	147.59	16	P	PKiKP	20 10 06.4	-0.7
	baz=340,SNR=5.0						
S44A	Carbondale	147.65	26	P	PKPab	20 10 06.9	-0.5
	baz=327						
Q47A	Bedord North L	147.70	21	P	PKPab	20 10 07.0	-0.6
	baz=333						
P49A	Miami Univ. Ec	147.73	19	P	PKiKP	20 10 05.9	-1.5
	baz=336						
O51A	Pataskala	147.77	15	P	PKiKP	20 10 07.0	-0.5
	baz=340,SNR=7.6						
PBMO	Poplar Bluff	147.87	28	*e*PKPbc	PKPbc	20 10 05.8	-0.1
R46A	Gibon Southern	147.93	23	P	PKiKP	20 10 06.7	-1.1
	baz=330						
N55A	Marion Center	147.94	10	*e*PKPbc	PKPbc	20 10 05.8	-0.2
N55A	Marion Center	147.94	10	P	PKPbc	20 10 06.3	+0.4
	baz=347,SNR=6.6						
P50A	Jamestown	147.94	17	P	PKiKP	20 10 07.4	-0.5
	baz=338,SNR=5.9						
Q48A	North Vernon	147.95	20	P	PKiKP	20 10 07.5	-0.3
	baz=334						
S45A	Carrier Mills	147.95	25	P	PKiKP	20 10 07.0	-0.9
	baz=328						
MIAR	Mount Ida	147.97	35	P	PKPab	20 10 08.2	-0.7
	baz=317,SNR=12						
O52A	Adamsville	147.99	14	*e*PKPdf	PKPdf	20 10 01.7	-1.3
O52A				*e*PKPbc	PKPbc	20 10 05.3	-0.8
O52A	Adamsville	147.99	14	P	PKiKP	20 10 07.6	-0.4
	baz=342						
833A	Chaparral WMA,	148.01	50	P	PKiKP	20 10 07.6	-0.7
	baz=301						
O53A	New Philadelph	148.01	13	P	PKiKP	20 10 07.7	-0.3
	baz=343						
Q49A	Aurora	148.16	19	P	PKiKP	20 10 08.2	-0.1
	baz=336						
W41B	Gary Mavity, V	148.22	32	P	PKiKP	20 10 08.0	-0.5
	baz=320						
R47A	Wooly Knot Far	148.23	22	P	PKiKP	20 10 08.5	+0.1
	baz=332,SNR=7.5						
N59A	State Game Lan	148.23	5	P	PKPbc	20 10 07.0	+0.3
	baz=353						
SSPA	Standing Stone	148.26	8	P	PKiKP	20 10 08.1	-0.4
	baz=349						
O54A	Avella	148.26	12	P	PKiKP	20 10 08.5	+0.1
	baz=344						
P51A	Williamsport	148.27	16	*e*PKPdf	PKPdf	20 10 01.6	-1.9
P51A				*e*PKPbc	PKiKP	20 10 08.4	-0.1
P51A	Williamsport	148.27	16	P	PKiKP	20 10 07.3	-1.2
	baz=339,SNR=5.7						
PAL	Palisades	148.27	3	P	PKiKP	20 10 07.9	-0.6
	baz=357						
S46A	Don Dixon Farm	148.30	24	P	PKiKP	20 10 08.0	-0.6
	baz=330						
R48A	Northridge Ran	148.37	21	P	PKiKP	20 10 08.9	+0.1
	baz=333						
WCI	Wyandotte Cave	148.37	22	*e*PKPbc	PKPbc	20 10 07.3	+0.2
WCI	Wyandotte Cave	148.37	22	*e*PKP2	PKPbc	20 10 07.4	+0.2
WCI	Wyandotte Cave	148.37	22	P	PKiKP	20 10 08.7	-0.1
	baz=333						
P52A	Corning	148.37	15	P	PKiKP	20 10 08.4	-0.3
	baz=341,SNR=6.3						
X40A	Basin Creek Fa	148.42	34	P	PKiKP	20 10 09.3	+0.3
	baz=318						
O55A	Ligonier	148.44	11	P	PKiKP	20 10 08.8	0.0
	baz=346						
O56A	Blue Knob Stat	148.51	10	P	PKiKP	20 10 09.1	0.0
	baz=348						
Q51A	Peebles	148.61	17	*e*PKPbc	PKPbc	20 10 07.7	-0.1
Q51A	Peebles	148.61	17	P	PKiKP	20 10 09.0	-0.2
	baz=338						
P53A	Whipple	148.70	14	P	PKiKP	20 10 09.6	+0.2
	baz=342						
S47A	Hartford	148.71	23	P	PKiKP	20 10 09.7	+0.2
	baz=331						
R49A	Shelbyville	148.71	20	P	PKiKP	20 10 09.0	-0.5
	baz=335						
T46A	Princeton	148.78	25	P	PKiKP	20 10 09.8	+0.2
	baz=329,SNR=5.1						
O59A	Robesonia	148.79	6	P	PKiKP	20 10 09.6	0.0
	baz=352						
P54A	Burton	148.79	13	P	PKiKP	20 10 09.9	+0.2
	baz=344						
O60A	Telford	148.86	5	P	PKiKP	20 10 09.9	+0.3
	baz=354						
MCWV	Mont Chateau	148.87	12	P	PKiKP	20 10 09.9	+0.1
	baz=345						
S48A	Wiedeman Farm,	148.96	22	P	PKiKP	20 10 10.4	+0.4
	baz=333,SNR=5.8						
Q52A	Bidwell	148.97	16	P	PKiKP	20 10 10.2	+0.2
	baz=340						
R50A	Paris	149.00	19	P	PKiKP	20 10 10.0	-0.1
	baz=336						
P55A	Reedsville	149.02	12	P	PKiKP	20 10 10.0	-0.1
	baz=345						
S49A	Springfield	149.13	21	P	PKiKP	20 10 10.0	-0.3
	baz=334						
T47A	Sharon Grove	149.15	24	P	PKiKP	20 10 10.6	+0.2
	baz=330						
R51A	Hillsboro	149.21	18	P	PKiKP	20 10 10.4	0.0
	baz=338						
Q53A	Leroy	149.26	15	P	PKiKP	20 10 10.7	+0.2
	baz=342						
Q54A	Coxs Mills	149.31	13	P	PKiKP	20 10 11.1	+0.5
	baz=343						
T48A	Bowling Green	149.32	23	P	PKiKP	20 10 11.1	+0.3
	baz=332,SNR=5.0						
P60A	Greenville	149.34	5	P	PKiKP	20 10 11.3	+0.6
	baz=353						
X43A	Marvell	149.45	32	P	PKiKP	20 10 11.2	+0.2
	baz=321						
R52A	Catlettsburg	149.45	17	P	PKiKP	20 10 10.9	-0.1
	baz=339						
P59A	Jarrettsville	149.46	7	P	PKiKP	20 10 11.5	+0.5
	baz=352						
Q55A	Buckhannon	149.46	12	P	PKiKP	20 10 11.3	+0.2
	baz=344						
S50A	Richmond	149.52	20	P	PKiKP	20 10 11.5	+0.4
	baz=336						
U47A	Clarksville	149.54	25	P	PKiKP	20 10 12.1	+0.9
	baz=329,SNR=7.0						
WVT	Waverly	149.58	26	*e*PKPbc	PKiKP	20 10 10.7	-0.6
WVT	Waverly	149.58	26	*e*PKP2	PKiKP	20 10 10.7	-0.6
WVT	Waverly	149.58	26	P	PKiKP	20 10 12.0	+0.7
	baz=328						
LNIG	Linares	149.59	56	*e*PKPbc	PKiKP	20 10 12.6	+0.9
T49A	Edmonton	149.65	22	P	PKiKP	20 10 12.1	+0.6
	baz=333						
R53A	Hurricane	149.65	16	P	PKiKP	20 10 11.9	+0.5
	baz=340						
V46A	Holladay	149.73	26	P	PKiKP	20 10 12.1	+0.5
	baz=327,SNR=5.3						
Q57A	Strasburg	149.74	10	P	PKiKP	20 10 11.9	+0.4
	baz=348						
U48A	Cassie Pea, Po	149.79	24	P	PKiKP	20 10 12.3	+0.6
	baz=331,SNR=7.1						
S51A	Beattyville	149.82	18	P	PKiKP	20 10 12.3	+0.5
	baz=337						
S52A	Salyersville	149.94	18	P	PKiKP	20 10 12.7	+0.7
	baz=338						
T50A	Nancy	149.97	21	P	PKiKP	20 10 12.7	+0.6
	baz=334,SNR=5.2						
V47A	Nunnelly	149.97	26	P	PKiKP	20 10 12.6	+0.5
	baz=328						
R54A	Victor	150.03	14	P	PKiKP	20 10 12.8	+0.5
	baz=342						
U49A	Red Boiling Sp	150.08	23	P	PKiKP	20 10 13.4	+1.0
	baz=332,SNR=6.6						
OXF	Oxford	150.19	30	P	PKiKP	20 10 13.2	+0.6
	baz=324						
S53A	Williamson	150.21	16	P	PKiKP	20 10 13.4	+0.8
	baz=340						
T51A	Gray	150.32	19	P	PKiKP	20 10 13.7	+0.8
	baz=336						
V48A	Smith Brothers	150.34	25	*e*PKPbc	PKiKP	20 10 12.7	-0.2
	baz=330						
V48A	Smith Brothers	150.34	25	P	PKiKP	20 10 13.3	+0.4
	baz=330						
W47A	Westpoint	150.43	26	P	PKiKP	20 10 13.8	+0.7
	baz=328						
PLAL	Pickwick Lake	150.44	27	*e*PKPbc	PKiKP	20 10 13.3	+0.2
R57A	Stanardsville	150.44	10	P	PKiKP	20 10 14.5	+1.5
	baz=347						
T52A	Hallie	150.50	18	P	PKiKP	20 10 14.1	+0.8
	baz=338						
U50A	Jamestown	150.51	21	P	PKiKP	20 10 14.2	+0.9
	baz=334						
R58A	Rapidan	150.53	10	P	PKiKP	20 10 14.2	+1.0
	baz=348						
V49A	McMinnville	150.69	23	P	PKiKP	20 10 14.5	+0.9
	baz=331						
T53A	Wise	150.75	17	P	PKiKP	20 10 14.6	+0.8
	baz=339						
W48A	Pulaski	150.81	26	P	PKiKP	20 10 14.8	+0.9
	baz=329						
U51A	La Follette	150.83	20	P	PKiKP	20 10 14.6	+0.7
	baz=335						
TZTN	Tazewell	150.84	19	P	PKiKP	20 10 15.0	+1.1
	baz=336						
R58B	Mineral	150.87	9	P	PKiKP	20 10 15.1	+1.2
	baz=348						
S57A	Dark Hollow, R	150.88	11	P	PKiKP	20 10 15.1	+1.1
	baz=346						
X47A	Russelville	150.92	28	P	PKiKP	20 10 14.6	+0.5
	baz=327						
T54A	Tazewell	150.94	16	P	PKiKP	20 10 14.6	+0.4
	baz=340						
U52A	Thorn Hill	151.03	19	P	PKiKP	20 10 15.5	+1.1
	baz=337						
V50A	Pikevile	151.08	22	P	PKiKP	20 10 15.7	+1.2
	baz=333						
BLA	Blacksburg	151.09	14	P	PKiKP	20 10 15.5	+1.1
	baz=343						
T55A	Pulaski	151.09	15	P	PKiKP	20 10 15.5	+1.1
	baz=342						
W49A	Belvidere	151.10	25	P	PKiKP	20 10 15.7	+1.2
	baz=330						
PB11	IPOC Station P	151.14	185	*e*PKPdf	PKPbc	20 10 11.3	-3.3
SWET	Sewanee	151.15	24	*e*PKPbc	PKiKP	20 10 14.7	+0.1
S58A	Poland Farm, P	151.19	10	P	PKiKP	20 10 15.9	+1.3
	baz=348						
V51A	Loudon	151.23	21	*e*PKPbc	PKiKP	20 10 15.2	+0.5
V51A	Loudon	151.23	21	P	PKiKP	20 10 16.0	+1.3
	baz=334						
U53A	Fall Branch	151.31	18	P	PKiKP	20 10 16.1	+1.2
	baz=338						
X48A	Hartselle	151.34	26	*e*PKPbc	PKiKP	20 10 14.5	-0.5
X48A	Hartselle	151.34	26	P	PKiKP	20 10 16.0	+1.0
	baz=328						
T56A	Rocky Mt	151.36	13	P	PKiKP	20 10 16.0	+1.1
	baz=344						
W50A	Signal Mountai	151.41	23	P	PKiKP	20 10 16.1	+0.9
	baz=332						
V52A	Sevierville	151.46	20	*e*PKPbc	PKiKP	20 10 16.0	+0.8
V52A	Sevierville	151.46	20	P	PKiKP	20 10 16.7	+1.5
	baz=336						
CPCT	Cooper Cave	151.49	22	*e*PKPbc	PKiKP	20 10 15.0	-0.3
X49A	Woodville	151.60	25	P	PKiKP	20 10 16.6	+1.1
	baz=329						
U55A	TA2, Sparta	151.61	15	P	PKiKP	20 10 17.7	+2.1
	baz=341						
W51A	Cleveland	151.66	22	P	PKiKP	20 10 17.4	+1.8
	baz=333						
Y48A	Jasper	151.74	27	P	PKiKP	20 10 16.8	+1.0
	baz=327						
T58A	Grand View Acr	151.75	11	P	PKiKP	20 10 17.1	+1.3
	baz=346						
MNMC	Minye Minye	151.76	185	*e*PKPbc	PKiKP	20 10 16.3	-0.3
T60A	Surry	151.85	8	P	PKiKP	20 10 16.9	+1.0
	baz=350						
V53A	Saluda	151.87	19	*e*PKPbc	PKiKP	20 10 18.1	+2.0
V53A	Saluda	151.87	19	P	PKiKP	20 10 17.4	+1.3
	baz=337						
T59A	Double "B" Far	151.90	9	P	PKiKP	20 10 17.4	+1.4
	baz=348						
X50B	Fort Payne	151.92	24	P	PKiKP	20 10 17.5	+1.3
	baz=331						
W52A	Murphy	152.02	21	*e*PKPbc	PKiKP	20 10 17.3	+0.9
W52A	Murphy	152.02	21	P	PKiKP	20 10 18.0	+1.6
	baz=334						
V54A	Nebo	152.04	17	P	PKiKP	20 10 17.8	+1.3
	baz=339						
U57A	Blanch	152.08	13	P	PKiKP	20 10 17.1	+0.7
	baz=345						
Y49A	Blount Mountai	152.12	26	*e*PKPbc	PKiKP	20 10 17.4	+0.7
Y49A	Blount Mountai	152.12	26	P	PKiKP	20 10 18.0	+1.4
	baz=329						
X51A	Calhoun	152.15	23	P	PKiKP	20 10 18.1	+1.4
	baz=332						
W53A	Cullowhee	152.22	20	P	PKiKP	20 10 18.5	+1.6
	baz=336						
147A	Livingston	152.23	30	P	PKiKP	20 10 18.3	+1.5
	baz=324						
Y50A	Piedmont	152.38	25	P	PKiKP	20 10 18.3	+1.1
	baz=330						
X52A	Dahlonega	152.47	21	P	PKiKP	20 10 19.1	+1.7
	baz=334						
LRAL	Lakeview Retre	152.55	28	P	PKiKP	20 10 19.1	+1.6
	baz=327						
W54A	Cherokee Point	152.61	18	P	PKiKP	20 10 18.6	+1.0
	baz=338						
Z49A	Columbiana	152.63	27	P	PKiKP	20 10 18.6	+0.9
	baz=328						
X53A	Estanollee	152.77	21	P	PKiKP	20 10 19.6	+1.6
	baz=335						
KMSC	Kings Mountain	152.81	17	P	PKiKP	20 10 19.6	+1.6
	baz=340						
Z50A	Ashland	152.85	26	*e*PKPbc	PKiKP	20 10 19.7	+1.5
Z50A	Ashland	152.85	26	P	PKiKP	20 10 19.2	+1.1
	baz=329						
X54A	Belton	153.04	19	P	PKiKP	20 10 20.3	+1.8
	baz=337						
Y52A	Lilburn	153.07	22	P	PKiKP	20 10 20.5	+1.9
	baz=333						
Z51A	Franklin	153.11	25	P	PKiKP	20 10 20.5	+1.8
	baz=330						
Z52A	Williamson	153.53	24	P	PKiKP	20 10 23.1	+3.5
	baz=332						
Y54A	Tignall	153.57	20	P	PKiKP	20 10 23.2	+3.6
	baz=336						
GOGA	Godfrey	153.70	22	P	PKiKP	20 10 23.0	+3.1
	baz=334						
LPAZ	La Paz	154.39	189	*e*PKPbc	PKPbc	20 10 19.4	-3.1
LPAZ	La Paz	154.39	189	*e*PKIKP	PKPbc	20 10 19.4	-3.1

NIC **06** *20:01:08.7±0.3,34°.74N×31°.39E,h36km,ML3.0*
ISK **06** *20:01:15.3,35°.26N×32°.07E,h6km,ML2.2/9*
DDA **06** *20:01:21.9,35°.60N×32°.34E,h7km±4km,ML2.5*
ISC 06 20:01:08.1±3.8,**34°.8N**±0°.2×**31°.3E**±0°.2,**h37**km,**n20,**
σ0°.96/23,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.85	80	P	Pn	20 01 23.2	-0.3
	baz=260						
ALFC	Alefka	1.12	68	P	Pn	20 01 26.9	-0.

KIZK	**Mersin**	**2.87**	**52**	PN	**Pn**	**20 01 52.3**	**+1.0**
KERG	**Konya-Eregli**	**3.50**	**40**	*i* P	**Pn**	**20 02 02.4**	**+2.3**
KARA	**Karaisali**	**3.93**	**49**	PN	**Pn**	**20 02 06.8**	**+1.0**

IDC 06 20:09:32.7±1.8,0.′90N×92.′49E,h0km,mb3.7/5,mb1 3.9/7, mb1mx3.5/47,mbtmp3.7/7,ML3.8/2,Error ellipse: s-maj=64.2km s-min=19.9km az=53.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.34**	**299**	Pn	Pn	20 12 43.6	0.0
	1.3nm,0.3s,baz=117,slow=11,SNR=10						
PALK				Sn	Sn	20 14 59.8	-13
	2.4nm,0.3s,baz=114,slow=3.6,SNR=7.1						
CMAR	**Chiang Mai Arr**	**18.56**	**20**	Pn	Pn	20 13 52.7	+1.2
	0.1nm,0.3s,baz=211,slow=13,SNR=7.6						
FITZ	**Fitzroy Crossi**	**37.69**	**122**	P	P	20 16 50.2	0.0
	1.3nm,0.8s,baz=307,slow=5.1,SNR=4.5						
WRA	**Warramunga Arr**	**45.95**	**119**	P	P	20 17 57.7	-0.2
	1.5nm,0.8s,baz=296,slow=8.4,SNR=9.9						
MKAR	**Makanchi Array**	**46.57**	**350**	P	P	20 18 02.6	+0.3
	0.5nm,0.7s,baz=156,slow=9.3,SNR=5.4						
ASAR	**Alice Springs**	**47.06**	**124**	P	P	20 18 06.3	-0.3
	0.2nm,0.5s,baz=300,slow=7.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**53.25**	**354**	P	P	20 18 52.3	-0.6
	0.5nm,0.5s,baz=153,slow=4.4,SNR=3.0						

NIED ***06*** *20:13:00,29.′50N×142.′80E,h5km,Mw4.6 Best double couple: M0:8.59000×10^15 NP1:φs182.00000°,δ15.00000°, λ109.00000°. NP2:φs342.00000°,δ76.00000°,λ85.00000°.*
MOS ***06*** *20:13:22.4±0.9,29.′39N×142.′37E,h9km,mb4.9/50,Error ellipse: s-maj=9.7km s-min=4.8km az=107.9*
JMA ***06*** *20:13:22.4±0.3,29.′54N×142.′82E,h37km,M4.7*
IDC ***06*** *20:13:23.0±0.4,29.′42N×142.′42E,h0km,mb4.6/23, mb1 4.7/26,mb1mx4.6/44,mbtmp4.5/26,ML3.3/3,MS3.7/8, Ms1 3.8/8,ms1mx3.3/46,Error ellipse: s-maj=16.9km s-min=10.8km az=87.0*
BJI ***06*** *20:13:25.8±0.0,29.′35N×142.′30E,h36km,mb4.6/35, mB4.8/17,Ms4.9/7,Ms7 4.7/7*
ISCJB ***06*** *20:13:25.1±0.2,29.′50N±0.′02×142.′32E±0.′03,h24km, mb4.7/161,MS3.8/8,Error ellipse: s-maj=4.2km s-min=3.1km az=148.8*
NEIC ***06*** *20:13:28.0±0.1,29.′42N×142.′40E,h35km,mb4.8/120, Error ellipse: s-maj=3.4km s-min=2.9km az=183.0*
ISC 06 20:13:26.5±0.3,29.′43N±0.′05×142.′35E±0.′07,h24km,n325, σ0.99/329,mb4.8/161,MS3.8/8,23C-4D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.33**	**184**	P	**Pn**	**20 14 01.7**	**-1.6**
JHH2	**Haha-jima-NKT2**	**2.79**	**183**	P	**Pn**	**20 14 08.7**	**-0.9**
JHJ2	**Mitsune**	**4.26**	**330**	S	**Sn**	**20 15 18.7**	**-0.2**
JHJ	**Hachijo jima 2**	**4.29**	**330**	Pn	**Pn**	**20 14 29.5**	**-0.7**
	20nm,0.3s,baz=108,slow=23,SNR=6.6						
JHJ				Sn	**Sn**	**20 15 17.1**	**-2.4**
	64nm,0.3s,baz=69,slow=21,SNR=7.1						
BSO1	**Boso 1**	**5.34**	**348**	P	**Pn**	**20 14 42.0**	**-2.2**
BSO1				S	**Sn**	**20 15 42.1**	**-2.6**
BSO3	**Boso 3**	**5.58**	**344**	P	**Pn**	**20 14 45.4**	**-2.4**
BSO3				S	**Sn**	**20 15 49.2**	**-1.8**
BSO4	**Boso 4**	**5.80**	**343**	S	**Sn**	**20 15 55.0**	**-1.7**
JOD2	**Odawara 2**	**6.44**	**336**	P	**Pn**	**20 14 59.0**	**-0.8**
JHU	**Hanno**	**6.91**	**339**	P	**Pn**	**20 15 05.1**	**-1.2**
JHU				S	**Sn**	**20 16 23.1**	**-1.0**
JYT	**Yasato**	**7.02**	**346**	P	**Pn**	**20 15 06.4**	**-1.4**
JRY	**Ryogami san**	**7.18**	**337**	P	**Pn**	**20 15 08.9**	**-1.2**
JRY				S	**Sn**	**20 16 30.0**	**-0.9**
JHO	**Hitachi**	**7.32**	**349**	P	**Pn**	**20 15 09.3**	**-2.6**
JAG	**Ashikaga**	**7.39**	**342**	P	**Pn**	**20 15 11.6**	**-1.3**
JAG				S	**Sn**	**20 16 31.3**	**-4.7**
INU	**Inuyama**	**7.43**	**324**	*e*Pn	**Pn**	**20 15 13.3**	**-0.1**
MJAR	**Matsushiro Arr**	**7.90**	**335**	*e*Pn	**Pn**	**20 15 19.4**	**-0.5**
MJAR	**Matsushiro Arr**	**7.90**	**335**	*e*P	**Pn**	**20 15 19.4**	**-0.5**
MJAR	**Matsushiro Arr**	**7.90**	**335**	Pn	**Pn**	**20 15 19.7**	**-0.2**
	1.2nm,0.3s,baz=156,slow=10.0,SNR=98						
MAJO	**Matsushiro**	**7.90**	**335**	*e*Pn	**Pn**	**20 15 20.2**	**+0.3**
MAJO	**Matsushiro**	**7.90**	**335**	*i* P	**Pn**	**20 15 18.8**	**-1.1**
MAT	**Matsushiro**	**7.90**	**335**	P	**Pn**	**20 15 20.5**	**+0.6**
MAT				*e*S	**Sn**	**20 16 46.7**	**-1.9**
MJB9	**Matsu-Tunnel**	**7.91**	**335**	*e*Pn	**Pn**	**20 15 20.2**	**+0.2**
JNU	**Nakatsue**	**10.48**	**293**	LR	LR	20 20 36.3	
	comp=Z,397nm,18.1s,baz=134,slow=41						
ERM	**Erimo**	**12.58**	**3**	*i* P	**Pn**	**20 16 23.2**	**-0.7**
KSRS	**Korea Array**	**14.45**	**307**	Pn	**P**	**20 16 54.4**	**-1.6**
	0.4nm,0.3s,baz=116,slow=12,SNR=31						
KSRS				LR	LR	20 21 49.4	
	comp=Z,235nm,21.5s,baz=181,slow=35						
KS15	**Wonju Array Si**	**14.47**	**307**	*e*Pn	**Pn**	**20 16 50.1**	**+0.3**
KSAR	**Wonju Array Be**	**14.47**	**307**	Pn	**P**	**20 16 54.4**	**-1.9**
KSAR	**Wonju Array Pt**	**14.47**	**307**	P	**P**	**20 16 54.4**	**-1.9**
ASAJ	**Asahikawa**	**14.66**	**1**	Pn	**Pn**	**20 16 48.4**	**-4.0**
	0.8nm,0.3s,baz=194,slow=12,SNR=8.9						
ASAJ				LR	LR	20 24 08.7	
	comp=Z,374nm,20.9s,baz=182,slow=44						
USA0B	**Ussuriysk Arra**	**16.89**	**334**	*e*Pn	**Pn**	**20 17 20.1**	**-1.1**
	9.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**16.89**	**334**	Pn	**Pn**	**20 17 20.2**	**-1.0**
	0.1nm,0.3s,baz=134,slow=11,SNR=7.3						
YSS	**Yuzh-Sakhalins**	**17.50**	**1**	*e*Pn	**Pn**	**20 17 28.9**	**+0.1**
	42nm,1.1s						
YSS	**Yuzh-Sakhalins**	**17.50**	**1**	*e*P	**Pn**	**20 17 29.1**	**+0.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
MDJ	**Mudanjiang**	**18.23**	**330**	P	**P**	**20 17 38.1**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,17nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,62nm,3.1s						
MDJ	**Mudanjiang**	**18.23**	**330**	*e*P	**Pn**	**20 17 37.1**	**-0.7**
	comp=Z,3.9nm,0.8s						
YHNB	**Yeheng**	**19.26**	**261**	*e*P	**Pn**	**20 17 50.2**	**-0.4**
	comp=Z,188nm,1.7s						
CN2	**Changchun**	**19.69**	**321**	*e*P	**P**	**20 17 54.0**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,320nm,12.0s						
CN2				LR	LR		
	comp=Z,540nm,12.0s						
CN2				LR	LR		
	comp=Z,850nm,12.0s						
YULB	**Yu-li**	**19.77**	**257**	*e*P	**Pn**	**20 17 56.1**	**-0.6**
	comp=Z,153nm,1.7s						
SSLB	**Suanglung**	**19.92**	**259**	*e*P	**Pn**	**20 17 58.6**	**+0.2**
	comp=Z,56nm,0.9s						
KLR	**Kul'dur**	**21.37**	**341**	*i* P	**P**	**20 18 13.3**	**+1.3**
KLR	**Kul'dur**	**21.37**	**341**	P	**P**	**20 18 13.1**	**+1.1**
	comp=Z,10nm,0.9s,baz=137,slow=11,SNR=16						
TYV	**Tymovskoe**	**21.41**	**1**	*e*P	**P**	**20 18 14.7**	**+2.2**
TYV				pmax	pmax		
	comp=Z,100nm,2.5s						
TYV				pmax	pmax		
	comp=Z,7.0nm,1.4s						
TYV				MLR	MLR		
	comp=Z,300nm,21.0s						
GRNR	**Gornyy**	**21.78**	**350**	*e*P	**P**	**20 18 17.9**	**+1.4**
GRNR				pmax	pmax		
	comp=Z,16nm,1.0s						
NKL	**Nikolayevsk**	**23.73**	**358**	*e*P	**P**	**20 18 35.2**	**-1.4**
NKL				pmax	pmax		
	comp=Z,53nm,1.4s						
BJT	**Baijiatuau**	**23.89**	**303**	*e*P	**P**	**20 18 38.1**	**-0.1**
	comp=Z,10nm,0.6s						
BJT	**Baijiatuau**	**23.89**	**303**	*e*P	**P**	**20 18 38.2**	**-0.1**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WHN	**Wuhan**	**24.25**	**280**	P	**P**	**20 18 41.5**	**-0.2**
PET	**Petropavlovsk**	**26.45**	**22⇑**	*e*P	**P**	**20 19 03.3**	**+1.9**
PET				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ZEA	**Zeya**	**26.67**	**340**	*e*P	**P**	**20 19 03.7**	**+0.3**
ZEA				pmax	pmax		
	comp=Z,14nm,0.9s						
DAV	**Davao City (W)**	**27.28**	**219**	LR	LR	20 30 55.9	
	comp=Z,115nm,19.3s,baz=80,slow=39						
ENH	**Enshi**	**28.46**	**280**	*e*P	**P**	**20 19 18.2**	**-1.6**
	comp=Z,1.9nm,0.7s						
XAN	**Xi'an**	**28.72**	**288**	P	**P**	**20 19 21.6**	**-0.5**
XAN				pP	pP	20 19 28.5	+0.8
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
XAN	**Xi'an**	**28.72**	**288**	*e*P	**P**	**20 19 19.8**	**-2.3**
	comp=Z,23nm,1.3s						
XAN	**Xi'an**	**28.72**	**288**	*e*P	**P**	**20 19 19.8**	**-2.3**
XAN				pmax	pmax		
	comp=Z,23nm,1.3s						
ULN	**Ulaanbaatar**	**32.77**	**314**	*e*P	**P**	**20 19 58.1**	**+0.4**
	comp=Z,14nm,0.6s						
ULN	**Ulaanbaatar**	**32.77**	**314**	*ce*P	**P**	**20 19 58.6**	**+0.8**
ULN				pmax	pmax		
	comp=Z,26nm,1.3s						
SONA0	**Songino Array**	**33.17**	**314**	*e*P	**P**	**20 20 02.0**	**+0.8**
SONM	**Songino Array**	**33.17**	**314**	*e*P	**P**	**20 20 01.9**	**+0.6**
SONM	**Songino Array**	**33.17**	**314**	*e*P	**P**	**20 20 01.9**	**+0.6**
SONM	**Songino Array**	**33.17**	**314**	P	**P**	**20 20 02.0**	**+0.7**
	comp=Z,9.2nm,0.7s,baz=114,slow=8.4,SNR=64						
SEY	**Seymchan**	**34.14**	**8**	P	**P**	**20 20 09.6**	**+0.3**
	comp=Z,6.6nm,0.3s,baz=194,slow=3.3,SNR=23						
BOD	**Bodaibo**	**34.53**	**333**	*e*P	**P**	**20 20 12.9**	**+0.2**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ZAK	**Zakamensk**	**35.99**	**317**	*e*P	**P**	**20 20 25.2**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,15nm,1.3s						
GTA	**Gaotai**	**36.18**	**297**	*e*P	**P**	**20 20 27.1**	**-0.3**
GTA				pP	pP	20 20 32.6	-0.5
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TLY	**Talaya**	**36.26**	**319**	*e*P	**P**	**20 20 29.3**	**+1.5**
	comp=Z,14nm,1.0s						
TLY	**Talaya**	**36.26**	**319**	*c i*P	**P**	**20 20 29.2**	**+1.5**
MOY	**Mondy**	**37.79**	**318**	*e*P	**P**	**20 20 42.6**	**+1.8**
MOY				pmax	pmax		
	comp=Z,14nm,1.2s						
CMAR	**Chiang Mai Arr**	**40.94**	**265**	LR	LR	20 39 24.8	
	comp=Z,103nm,19.2s,baz=119,slow=38						
BILL	**Bilibino**	**41.16**	**13⇓**	*i*P	**P**	**20 21 08.4**	**-0.2**
BILL				*e*		20 22 42.3	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,142nm,21.0s						
TIXI	**Tiksi**	**42.92**	**354**	*e*P	**P**	**20 21 22.5**	**-0.3**
	comp=Z,4.3nm,1.1s						
TIXI	**Tiksi**	**42.92**	**354**	*ce*P	**P**	**20 21 22.2**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MTN	**Manton Dam**	**43.39**	**196**	*e*P	**P**	**20 21 26.5**	**-0.8**
	comp=Z,63nm,1.2s						
DGZ	**Jazzator, Alta**	**45.78**	**312**	*c i*P	**P**	**20 21 47.8**	**+1.5**
DGZ				pmax	pmax		
	comp=Z,25nm,1.1s						
ZAA0	**Zalesovo Array**	**47.84**	**318**	*e*P	**P**	**20 22 02.7**	**+0.6**
	comp=Z,11nm,1.3s						
ZAA1	**Zalesovo Array**	**47.84**	**318**	*e*P	**P**	**20 22 02.5**	**+0.4**
ZALV	**Zalesovo Beam**	**47.84**	**318**	*e*P	**P**	**20 22 02.4**	**+0.2**
ZALV	**Zalesovo Beam**	**47.84**	**318**	*e*P	**P**	**20 22 02.4**	**+0.2**
ZALV	**Zalesovo Beam**	**47.84**	**318**	P	**P**	**20 22 02.5**	**+0.4**
	comp=Z,3.6nm,0.4s,baz=88,slow=8.4,SNR=19						
NVS	**Novosibirsk**	**48.87**	**319**	*e*P	**P**	**20 22 11.0**	**+1.0**
NVS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.8s						
MK31	**Makanchi Array**	**49.13**	**308**	*e*P	**P**	**20 22 12.9**	**+0.7**
	comp=E,7.4nm,0.8s						
MK31	**Makanchi Array**	**49.13**	**308**	*e*P	**P**	**20 22 12.9**	**+0.7**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MK32	**Makanchi Array**	**49.13**	**308**	*e*P	**P**	**20 22 12.8**	**+0.6**
MKAR	**Makanchi Array**	**49.13**	**308**	P	**P**	**20 22 12.8**	**+0.6**
	comp=Z,8.5nm,0.7s,baz=91,slow=9.5,SNR=96						
LEM	**Lembang**	**49.14**	**228**	P	**P**	**20 22 12.8**	**0.0**
	comp=Z,36nm,0.7s,baz=33,slow=4.7,SNR=12						
MAKZ	**Makanchi**	**49.34**	**308**	*e*P	**P**	**20 22 14.5**	**+0.6**
	comp=Z,6.6nm,0.6s						
MAKZ	**Makanchi**	**49.34**	**308**	*e*P	**P**	**20 22 14.5**	**+0.6**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CTA	**Charters Tower**	**49.37**	**175**	P	**P**	**20 22 14.9**	**+0.7**
	comp=Z,3.2nm,0.5s,baz=358,slow=9.4,SNR=7.0						
WRAB	**Tennant Creek**	**49.67**	**190**	*e*P	**P**	**20 22 15.6**	**-1.0**
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**49.67**	**190**	*ce*P	**P**	**20 22 16.3**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,40nm,1.3s						
WB2	**Warramunga Arr**	**49.68**	**190**	*e*P	**P**	**20 22 16.1**	**-0.5**
	comp=Z,24nm,0.8s						
WR1	**Warramunga Arr**	**49.69**	**190**	*e*P	**P**	**20 22 16.0**	**-0.6**
WR1				*e*PcP	**PcP**	**20 23 38.9**	**+1.2**
WRA	**Warramunga Arr**	**49.69**	**190**	P	**P**	**20 22 16.0**	**-0.6**
	comp=Z,20nm,0.8s,baz=9.0,slow=8.0,SNR=178						
WRA				PcP	**PcP**	**20 23 38.9**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=2.0,slow=3.9,SNR=5.5						
WRA				LR	LR	20 41 48.8	
	comp=Z,114nm,21.3s,baz=295,slow=34						
FITZ	**Fitzroy Crossi**	**49.92**	**201**	*e*P	**P**	**20 22 18.4**	**0.0**
	comp=Z,7.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**49.92**	**201**	P	**P**	**20 22 18.6**	**+0.2**
	comp=Z,6.8nm,0.9s,baz=23,slow=9.5,SNR=12						
RDOG	**Red Dog Mine**	**50.04**	**24**	*e*P	**P**	**20 22 19.6**	**+0.8**
	comp=Z,6.8nm,1.1s						
GSI	**Gunungsitoli**	**50.93**	**245**	*e*P	**P**	**20 22 25.9**	**-0.4**
	comp=Z,123nm,1.4s						
PDGK	**Podgornoye**	**51.34**	**304**	P	**P**	**20 22 29.3**	**+0.1**
KURK	**Kurchatov**	**51.48**	**313**	*e*P	**P**	**20 22 30.4**	**+0.6**
	comp=Z,43nm,1.0s						
KURK	**Kurchatov**	**51.48**	**313**	*ce*P	**P**	**20 22 30.9**	**+1.0**
KURK				pmax	pmax		
	comp=Z,59nm,1.3s						
KDAK	**Kodiak Island**	**52.43**	**38**	*i* P	**P**	**20 22 36.1**	**-0.7**
RSO	**Redoubt South**	**52.56**	**34**	*e*P	**P**	**20 22 38.9**	**+0.9**
TARG	**Taragay, Kyrgy**	**52.78**	**302**	*e*P	**P**	**20 22 40.4**	**+0.1**
	comp=Z,24nm,0.9s						
IMAR	**Indian Mountai**	**52.91**	**27**	*e*P	**P**	**20 22 40.4**	**+0.1**
PPLA	**Purkeypile**	**53.10**	**31**	*e*P	**P**	**20 22 41.8**	**-0.2**
	comp=Z,17nm,1.5s						
KDJ	**Kajisay**	**53.18**	**303**	*e*P	**P**	**20 22 43.7**	**+0.8**
	comp=Z,20nm,0.8s						
CAST	**Castle Rocks**	**53.21**	**31**	*e*P	**P**	**20 22 42.8**	**+0.2**
	comp=Z,8.2nm,1.2s						
AS31	**Alice Springs**	**53.41**	**190**	*e*P	**P**	**20 22 43.5**	**-1.0**
	comp=Z,1.6nm,0.8s						
ASAR	**Alice Springs**	**53.41**	**190**	P	**P**	**20 22 43.6**	**-0.8**
	comp=Z,3.9nm,0.9s,baz=5.3,slow=5.8,SNR=47						
ASAR				PcP	**PcP**	**20 23 52.8**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=17,slow=3.8,SNR=4.4						
SUA	**Susitna One**	**53.63**	**33**	*e*P	**P**	**20 22 44.8**	**-0.9**
	comp=Z,4.0nm,0.8s						
ULHL	**Ulahol**	**53.86**	**303**	P	**P**	**20 22 49.0**	**+1.1**
	SNR=11						
MLY	**Manley**	**54.00**	**29**	*e*P	**P**	**20 22 48.5**	**+0.2**
	comp=Z,7.1nm,1.4s						
NRN	**Naryn**	**54.17**	**302**	*e*P	**P**	**20 22 51.2**	**+0.9**
	comp=Z,26nm,1.6s						
NRN	**Naryn**	**54.17**	**302**	*e*P	**P**	**20 22 51.2**	**+0.9**
NRN				pmax	pmax		
	comp=Z,26nm,1.6s						
KZA	**Kyzart**	**54.61**	**303**	P	**P**	**20 22 55.0**	**+1.4**
	SNR=13						
MCK	**McKinley**	**54.65**	**31**	*e*P	**P**	**20 22 53.2**	**+0.1**
	comp=Z,14nm,1.4s						
RND	**Reindeer**	**54.66**	**31**	*e*P	**P**	**20 22 52.4**	**-0.8**
	comp=Z,5.5nm,1.1s						
RND	**Reindeer**	**54.66**	**31**	*e*P	**P**	**20 22 52.4**	**-0.8**
RND				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KBK	**Karagaybulak**	**54.73**	**303**	P	**P**	**20 22 55.5**	**+1.3**
	SNR=6.5						
TOLK	**Toolik Lake Re**	**54.96**	**25**	*e*P	**P**	**20 22 56.1**	**+0.8**
	comp=Z,8.3nm,1.3s						
MDM	**Murphy Dome**	**55.05**	**29**	*e*P	**P**	**20 22 55.6**	**-0.4**
	comp=Z,8.0nm,1.4s						
AAK	**Ala-Archa**	**55.07**	**304**	P	**P**	**20 22 57.9**	**+1.2**
	SNR=8.5						
AAK	**Ala-Archa**	**55.07**	**304**	*e*P	**P**	**20 22 57.3**	**+0.7**
	comp=Z,55nm,1.4s						
AAK	**Ala-Archa**	**55.07**	**304**	*ce*P	**P**	**20 22 57.6**	**+1.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
UCH	**Uchtor**	**55.12**	**303**	P	**P**	**20 22 59.0**	**+1.5**
	SNR=12						
HDA	**Harding Lake**	**55.56**	**30**	*e*P	**P**	**20 22 58.5**	**-1.2**
	comp=Z,3.6nm,0.8s						
EKS2	**Erkin-Say**	**55.59**	**304**	P	**P**	**20 23 01.3**	**+1.0**
	SNR=5.4						
ILAR	**Eielson Array**	**55.61**	**29**	*e*P	**P**	**20 22 59.4**	**-0.6**
ILAR	**Eielson Array**	**55.61**	**29**	*e*P	**P**	**20 22 59.4**	**-0.6**
ILAR	**Eielson Array**	**55.61**	**29**	P	**P**	**20 22 58.8**	**-1.2**
	comp=Z,3.1nm,1.0s,baz=269,slow=6.1,SNR=15						
ILB	**Eielson Array**	**55.61**	**29**	*e*P	**P**	**20 22 58.8**	**-1.2**
	comp=Z,6.5nm,1.3s						
AML	**Almayashu**	**55.74**	**303**	P	**P**	**20 23 03.3**	**+1.6**
	SNR=30						
PAX	**Paxson**	**56.17**	**32**	*e*P	**P**	**20 23 04.0**	**-0.1**
PAX	**Paxson**	**56.17**	**32**	*e*P	**P**	**20 23 04.1**	**-0.1**
ARSB	**Arslanbob**	**56.42**	**302**	*e*P	**P**	**20 23 06.9**	**+0.6**
	comp=Z,21nm,1.3s						
BRVK	**Borovoye**	**56.50**	**316**	*e*P	**P**	**20 23 07.5**	**+0.9**
	comp=Z,21nm,0.8s						
BRVK	**Borovoye**	**56.50**	**316**	*ce*P	**P**	**20 23 07.7**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,30nm,1.0s						
DOT	**Dot Lake**	**56.81**	**31**	*e*P	**P**	**20 23 08.2**	**-0.4**
SCRK	**Sand Creek**	**56.85**	**30**	*e*P	**P**	**20 23 08.6**	**-0.4**
	comp=Z,12nm,1.4s						
BCAR	**Beaver Creek A**	**57.85**	**31**	*e*P	**P**	**20 23 15.6**	**-0.4**
KK31	**Karatay Array**	**57.86**	**305**	*e*P	**P**	**20 23 17.2**	**+0.9**
	comp=Z,30nm,1.0s						
KK31	**Karatay Array**	**57.86**	**305**	*e*P	**P**	**20 23 17.2**	**+0.9**
KK31				pmax	pmax		
	comp=Z,30nm,1.0s						
KKAR	**Karatay Array**	**57.86**	**305**	*e*P	**P**	**20 23 17.0**	**+0.7**
KKAR	**Karatay Array**	**57.86**	**305**	*e*P	**P**	**20 23 17.0**	**+0.7**
NIL	**Nilore**	**58.04**	**293**	*e*P	**P**	**20 23 18.0**	**+0.2**
	comp=Z,43nm,0.8s						
NIL	**Nilore**	**58.04**	**293**	*e*P	**P**	**20 23 18.0**	**+0.2**
NIL				pmax	pmax		
	comp=Z,43nm,0.8s						
EGAK	**Eagle**	**58.07**	**29**	*e*P	**P**	**20 23 16.9**	**-0.5**
	comp=Z,2.7nm,0.8s						
DAWY	**Dawson**	**58.87**	**30**	*e*P	**P**	**20 23 23.3**	**+0.3**
	comp=Z,5.2nm,1.0s						
GAR	**Garm**	**58.93**	**300**	*e*P	**P**	**20 23 24.4**	**+0.5**
	comp=Z,52nm,1.0s						
GAR	**Garm**	**58.93**	**300**	*e*P	**P**	**20 23 24.5**	**+0.5**
GAR				pmax	pmax		
	comp=Z,52nm,1.0s						
HYT	**Haines Junctio**	**60.05**	**34**	*e*P	**P**	**20 23 31.4**	**0.0**
	comp=Z,6.8nm,1.1s						
INK	**Inuvik**	**60.86**	**25**	*e*P	**P**	**20 23 36.5**	**0.0**
	comp=Z,13nm,1.6s						
INK	**Inuvik**	**60.86**	**25**	*e*P	**P**	**20 23 36.6**	**0.0**
INK				pmax	pmax		
	comp=Z,13nm,1.6s						
INK	**Inuvik**	**60.86**	**25**	P	**P**	**20 23 36.6**	**0.0**
	comp=Z,1.5nm,0.5s,baz=302,slow=4.2,SNR=8.5						
STKA	**Stephens Creek**	**60.97**	**181**	*e*P	**P**	**20 23 38.1**	**+0.4**
	comp=Z,2.6nm,1.4s						
STKA	**Stephens Creek**	**60.97**	**181**	P	**P**	**20 23 37.5**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=344,slow=9.1,SNR=16						
FORT	**Forrest**	**61.40**	**194**	*e*P	**P**	**20 23 40.2**	**-0.4**
	comp=Z,27nm,0.7s						
SVE	**Sverdlovsk**	**61.48**	**322⇑**	*i*P	**P**	**20 23 42.5**	**+1.5**
SVE				pmax	pmax		
	comp=Z,20nm,1.3s						
ARU	**Arti**	**62.68**	**322**	*e*P	**P**	**20 23 49.8**	**+0.7**
	comp=Z,24nm,0.7s						
ARU	**Arti**	**62.68**	**322**	*c i*P	**P**	**20 23 49.6**	**+0.5**
ARU						20 24 22.6	
ARU				S	**S**	**20 32 19.2**	**+3.2**
ARU				pmax	pmax		
	comp=Z,19nm,0.6s						
ABKAR	**Akbulak array**	**63.59**	**314**	*e*P	**P**	**20 23 55.7**	**+0.5**
NWAO	**Narrogin (SRO)**	**66.43**	**203**	*e*P	**P**	**20 24 12.8**	**-0.9**
	comp=Z,17nm,0.8s						
NWAO	**Narrogin (SRO)**	**66.43**	**203**	*e*P	**P**	**20 24 12.8**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,17nm,0.8s						
PRGR	**Permogore**	**67.62**	**329**	*e*P	**P**	**20 24 19.7**	**-1.3**
PRGR				pmax	pmax		
	comp=Z,12nm,0.7s						
GEYT	**Alibeck**	**68.37**	**302**	P	**P**	**20 24 27.3**	**+1.1**
	comp=Z,432nm,0.4s,baz=35,slow=5.4,SNR=15						
GYA0B	**ALIBECK ARRAY**	**68.37**	**302**	*e*P	**P**	**20 24 27.2**	**+0.9**
	comp=Z,13nm,0.8s						
RES	**Resolute Bay**	**69.77**	**14**	*e*P	**P**	**20 24 34.5**	**+0.3**
	comp=Z,4.7nm,1.1s						
RES	**Resolute Bay**	**69.77**

NEY Neytrino 76.87 312 *i* P **P 20 25 18.1 +1.2**
NEY pmax pmax
comp=Z,1.0nm,1.0s
BEKR Beckworth 76.89 52 *e*P **P 20 25 16.2 -0.9**
comp=Z,6.8nm,0.9s
VSU Vasula 77.43 331 *c e*P **P 20 25 19.8 +0.4**
VSU pmax pmax
comp=Z,21nm,1.0s
PAHR Pah Rah Range 77.63 51 *e*P **P 20 25 20.8 -0.4**
comp=Z,7.0nm,1.1s
CMB Columbia Colle 77.72 53 *e*P **P 20 25 21.6 0.0**
comp=Z,4.8nm,0.9s
CMB Columbia Colle 77.72 53 *e*P **P 20 25 21.6 0.0**
CMB pmax pmax
comp=Z,5.0nm,0.9s
PNTR Pine Nut 77.77 52 *e*P **P 20 25 21.9 -0.1**
comp=Z,6.6nm,0.8s
YERR Yerington 78.07 52 *e*P **P 20 25 23.6 -0.1**
comp=Z,7.2nm,1.0s
WAKR Walker 78.16 53 *e*P **P 20 25 24.9 +0.7**
comp=Z,3.9nm,0.9s
SUMG Summit 78.27 0 *i* P **P 20 25 25.5 +1.1**
SUMG pmax pmax
comp=Z,17nm,0.8s
SUMG Summit 78.27 0 *i* P **P 20 25 25.5 +1.1**
comp=Z,17nm,0.8s
BCA Borcka 78.45 311 ⇑*i*P **P 20 25 26.6 +1.1**
SOC Sochi 78.63 314 *e*P **P 20 25 25.9 -0.5**
SOC *e* 20 28 25.3
SOC *e*PPP PPP 20 30 11.4
SOC *e*S **S 20 35 21.1 -0.8**
SOC pmax pmax
comp=Z,9.0nm,0.5s
RYN Ryan 78.73 52 *e*P **P 20 25 27.2 -0.1**
comp=Z,5.2nm,0.8s
KVN Kaiserville 78.82 52 *e*P **P 20 25 27.8 0.0**
comp=Z,6.8nm,1.0s
KVN Kaiserville 78.82 52 *e*P **P 20 25 27.8 0.0**
KVN pmax pmax
comp=Z,7.0nm,1.0s
OMMB Old Mammoth Mi 78.88 53 *e*P **P 20 25 26.9 -1.5**
comp=Z,9.3nm,1.5s
NV01 Mina Array Sit 78.97 52 *e*P **P 20 25 29.1 +0.4**
NVAR Mina Array Bea 78.97 52 *e*P **P 20 25 26.9 -1.8**
NVAR Mina Array Bea 78.97 52 P **P 20 25 29.1 +0.4**
comp=Z,5.7nm,0.9s,baz=284,slow=5.6,SNR=14
NVAR LR LR 20 54 15.8
comp=Z,64nm,21.6s,baz=288,slow=31
HLID Hailey 79.02 46 *e*P **P 20 25 26.9 -2.0**
comp=Z,2.9nm,1.0s
NV11 Mina Array Sit 79.08 52 *e*P **P 20 25 28.7 -0.5**
comp=Z,0.3nm,1.0s
LRM Limekiln Ridge 79.08 43 *e*P **P 20 25 27.2 -2.1**
ANN Anapa 79.43 316 *e*P **P 20 25 31.4 +0.6**
ANN pmax pmax
comp=Z,19nm,1.3s
FFC Flin Flon 79.69 32 *e*P **P 20 25 32.1 +0.1**
comp=Z,20nm,1.7s
FFC Flin Flon 79.69 32 *e*P **P 20 25 32.1 +0.1**
FFC pmax pmax
comp=Z,20nm,1.7s
ELK Elko 79.90 49 *e*P **P 20 25 33.1 -0.7**
comp=Z,3.5nm,1.2s
ELK Elko 79.90 49 *e*P **P 20 25 33.1 -0.7**
ELK pmax pmax
comp=Z,4.0nm,1.2s
AKASG Malin Array Be 80.83 324 P **P 20 25 38.4 +0.2**
comp=Z,0.5nm,0.4s,baz=50,slow=5.7,SNR=11
AKBB Malin Array Si 80.83 324 *e*P **P 20 25 38.9 +0.7**
comp=Z,8.2nm,0.8s
AKBB Malin Array Si 80.83 324 *e*P **P 20 25 38.9 +0.7**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 80.84 324 ⇑*i*P **P 20 25 37.7 -0.6**
KIEV Kiev 80.84 324 ⇑P **P 20 25 37.7 -0.6**
R11A Troy Canyon, C 80.88 51 *e*P **P 20 25 38.9 -0.1**
comp=Z,6.8nm,1.3s
H17A Grant Village 80.96 44 *e*P **P 20 25 39.2 -0.2**
comp=Z,5.8nm,1.0s
IMW Indian Meadow 81.01 45 *e*P **P 20 25 39.4 -0.3**
comp=Z,5.0nm,1.1s
FXWY Fox Creek 81.09 45 *e*P **P 20 25 40.7 +0.6**
comp=Z,6.2nm,1.3s
MOOW Moose Ponds 81.20 45 *e*P **P 20 25 40.2 -0.4**
comp=Z,7.7nm,1.6s
TPAW Teton Pass 81.22 45 *e*P **P 20 25 40.6 -0.2**
comp=Z,4.4nm,1.0s
NC405 NORSAR Array S 81.29 338 *e*P **P 20 25 41.2 +0.7**
comp=Z,116nm,1.8s
RLMT Red Lodge 81.35 43 *e*P **P 20 25 40.5 -0.9**
comp=Z,12nm,1.4s
NC204 NORSAR Array S 81.47 339 *e*P **P 20 25 41.8 +0.2**
comp=Z,108nm,1.8s
NB2 NORSAR Subarra 81.50 338 P **P 20 25 41.3 -0.4**
comp=Z,1.4nm,0.7s,baz=41,slow=5.3
NB200 NORSAR Array S 81.50 338 *e*P **P 20 25 41.8 +0.1**
NOA NORSAR Array B 81.50 338 P **P 20 25 41.8 +0.1**
comp=Z,2.2nm,0.7s,baz=41,slow=5.2,SNR=10.0
GSC Goldstone, Bar 81.55 54 *e*P **P 20 25 42.6 +0.1**
comp=Z,6.2nm,1.1s
DUG Dugway, Tooele 81.78 48 *e*P **P 20 25 43.2 -0.5**
comp=Z,9.2nm,1.4s
DUG Dugway, Tooele 81.78 48 *e*P **P 20 25 43.2 -0.5**
DUG pmax pmax
comp=Z,9.0nm,1.4s
SHPR Sheep Range 82.10 53 *e*P **P 20 25 43.9 -1.5**
comp=Z,6.1nm,0.7s
BW06 Boulder Array 82.46 45 *e*P **P 20 25 46.7 -0.7**
comp=Z,3.6nm,1.1s
PD31 Pinedale Array 82.46 45 *e*P **P 20 25 47.0 -0.3**
comp=Z,3.3nm,1.1s
PDAR Pinedale Array 82.46 45 *e*P **P 20 25 46.9 -0.5**
PDAR Pinedale Array 82.46 45 P **P 20 25 47.2 -0.2**
comp=Z,2.1nm,0.9s,baz=276,slow=2.8,SNR=11
PFO Pinyon Flats O 82.65 56 LR LR 20 58 23.5
comp=Z,55nm,19.2s,baz=348,slow=33
U15A North Rim 84.11 51 *e*P **P 20 25 54.8 -1.2**
comp=Z,6.1nm,1.3s
BR101 Keskin Array S 84.53 313 *e*P **P 20 25 58.6 +0.7**
BR131 Keskin Array S 84.53 313 *e*P **P 20 25 58.2 +0.3**
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 84.53 313 *e*P **P 20 25 58.0 +0.1**
BRTR Keskin Array B 84.53 313 *e*P **P 20 25 58.0 +0.1**
BRTR Keskin Array B 84.53 313 P **P 20 25 58.6 +0.7**
comp=Z,3.4nm,0.7s,baz=100,slow=4.7,SNR=25
TESR Tescani 84.71 321 ⇑*i*P **P 20 25 58.6 +0.1**
BIZ Bicaz 84.74 322 ⇑*i*P **P 20 25 59.2 +0.6**
BUR08 Bucovina Ar. S 84.78 323 *e*P **P 20 25 59.1 +0.1**
comp=Z,8.5nm,1.2s
KWP Kalwaria Pacla 84.79 325 *e*P **P 20 25 59.2 +0.4**
comp=Z,456nm,1.2s
KWP Kalwaria Pacla 84.79 325 *e*P **P 20 25 59.3 +0.4**
KWP pmax pmax
comp=Z,456nm,1.2s
BURAR Bucovina Array 84.79 323 *e*P **P 20 25 59.4 +0.3**
BURAR Bucovina Array 84.79 323 ⇑*i*P **P 20 25 59.3 +0.3**
BURAR Bucovina Array 84.79 323 ⇑P **P 20 25 59.3 +0.3**
Y14A Wickenburg 84.94 54 *e*P **P 20 26 00.2 +0.2**
comp=Z,5.3nm,1.0s
VRI Vrincioaia 85.06 321 ⇑*i*P P 20 25 50.8 -9.5
VRI Vrincioaia 85.06 321 ⇑P P 20 25 50.8 -9.5
PV09 Paradox Valley 85.09 48 *e*P **P 20 26 01.3 +0.4**
TLB Topalu 85.10 319 ⇑*i*P **P 20 25 57.0 -3.5**
TLB Topalu 85.10 319 ⇑P **P 20 25 57.0 -3.5**
PV21 Cone Mtn., Par 85.16 48 *e*P **P 20 26 01.4 +0.2**
comp=Z,8.3nm,0.9s
PV23 Carpenter Ridg 85.20 48 *e*P **P 20 26 01.1 -0.3**
comp=Z,13nm,0.9s
PV10 Paradox Valley 85.22 48 *e*P **P 20 26 01.6 +0.1**
comp=Z,21nm,1.1s
WUAZ Wupatki 85.23 52 *e*P **P 20 26 01.4 -0.2**
comp=Z,6.3nm,1.0s
PV14 Lion Creek, Pa 85.23 48 *e*P **P 20 26 01.6 0.0**
comp=Z,10.0nm,0.8s
PV20 West Nyswonger 85.29 48 *e*P **P 20 26 02.1 +0.3**
comp=Z,18nm,1.2s
PV19 Morning Glory 85.29 48 *e*P **P 20 26 01.7 -0.2**
comp=Z,10nm,0.8s
PV04 Paradox Valley 85.30 48 *e*P **P 20 26 02.2 +0.3**
comp=Z,7.2nm,0.9s
PV17 East Wray Mesa 85.33 48 *e*P **P 20 26 02.1 0.0**
comp=Z,13nm,1.0s
PV16 Nyswonger Mesa 85.34 48 *e*P **P 20 26 01.3 -0.8**
comp=Z,9.8nm,1.1s
PV05 Paradox Valley 85.35 49 *e*P **P 20 26 02.1 -0.1**
comp=Z,9.1nm,0.9s
PV11 David Mesa, Pa 85.37 48 *e*P **P 20 26 01.2 -1.0**
comp=Z,13nm,1.1s
PV12 Saucer Basin, 85.41 48 *e*P **P 20 26 03.0 +0.5**
comp=Z,11nm,0.9s
PV03 Paradox Valley 85.41 48 *e*P **P 20 26 00.8 -1.7**
comp=Z,6.3nm,0.9s
KOLS Kolonicke sedl 85.46 325 *e*P **P 20 26 02.9 +0.7**
KOLS Kolonicke sedl 85.46 325 *e*P **P 20 26 02.9 +0.7**
PV13 Radium Mtn., P 85.48 48 *e*P **P 20 26 00.6 -2.3**
comp=Z,5.5nm,0.9s
N23A Red Feather La 85.75 45 *e*P **P 20 26 03.1 -1.1**
comp=Z,9.1nm,1.0s
X16A Lo Mia Camp, P 85.78 53 *e*P **P 20 26 03.9 -0.4**
comp=Z,3.0nm,1.0s
SMCO Snowmass 86.10 47 *e*P **P 20 26 05.6 -0.5**
comp=Z,5.1nm,1.0s
AGMN Agassiz Nation 86.73 35 *e*P **P 20 26 08.9 +0.4**
comp=Z,13nm,1.7s
S22A 4UR Ranch, Cre 87.01 48 *e*P **P 20 26 10.2 -0.3**
comp=Z,3.3nm,1.1s
VYHS Vyhne 87.44 326 *e*P **P 20 26 13.1 +1.1**
VYHS Vyhne 87.44 326 *e*P **P 20 26 13.0 +1.1**
CLL Collm 88.09 331 *e*P **P 20 26 15.0 +0.1**
CLL Collm 88.09 331 *e*P **P 20 26 15.0 +0.1**
EYMN Ely 89.10 33 *e*P **P 20 26 18.8 -1.0**
comp=Z,6.1nm,1.1s
E38A The Farm, Brul 90.02 34 *e*P **P 20 26 24.1 -0.1**
comp=Z,9.0nm,1.0s
D41A Chassel 91.11 32 *e*P **P 20 26 29.4 +0.2**
comp=Z,12nm,1.1s
MNTX Cornudas Mount 91.50 52 *e*P **P 20 26 31.3 -0.1**
comp=Z,3.0nm,1.1s
BFO Black Forest 92.32 331 *i* P **P 20 26 35.9 +1.1**
WMOK Wichita Mounta 94.00 46 *e*P **P 20 26 42.8 0.0**
comp=Z,3.7nm,0.8s
WMOK Wichita Mounta 94.00 46 *e*P **P 20 26 42.8 0.0**
WMOK pmax pmax
comp=Z,4.0nm,0.8s
TX31 Lajitas Ar. Si 94.10 53 *e*P **P 20 26 43.1 -0.4**
comp=Z,4.6nm,0.9s
LTX Lajitas 94.10 53 *e*P **P 20 26 44.2 +0.7**
LTX Lajitas 94.10 53 *e*P **P 20 26 44.2 +0.7**
TXAR Lajitas Array 94.10 53 *e*P **P 20 26 43.8 +0.3**
TXAR Lajitas Array 94.10 53 *e*P **P 20 26 43.8 +0.3**
TXAR Lajitas Array 94.10 53 P **P 20 26 44.2 +0.7**
comp=Z,4.7nm,0.9s,baz=304,slow=2.9,SNR=24
HHAR Hobbs 95.93 43 *e*P **P 20 26 50.9 -0.7**
comp=Z,5.8nm,0.9s
LRAL Lakeview Retre 102.25 41 *e*Pdif **Pdif 20 27 20.0 0.0**
TOA1 Torodi Ar. Sit 123.14 312 *e*PP PP 20 34 01.5 +0.7
TORD Torodi Ar. Bea 123.14 312 PP PP 20 34 01.5 +0.7
comp=Z,0.7nm,0.9s,baz=47,slow=7.1,SNR=4.1
LPAZ La Paz 149.13 72 *e*PKPbc **PKPbc 20 33 13.2 -1.1**
LPAZ La Paz 149.13 72 PKP2 **PKiKP 20 33 15.0 -0.5**
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 149.13 72 PKPbc **PKiKP 20 33 14.9 -0.5**
comp=Z,2.9nm,0.8s,baz=262,slow=4.3,SNR=10.0
MNMC Minye Minye 149.22 78 *e*PKPbc **PKPbc 20 33 13.4 -0.6**
PLCA Paso Flores 150.97 122 *e*PKPbc **PKiKP 20 33 18.0 0.0**
PLCA Paso Flores 150.97 122 *e*PKIKP **PKiKP 20 33 18.0 0.0**
PLCA Paso Flores 150.97 122 PKPbc **PKiKP 20 33 18.8 +0.8**
comp=Z,7.3nm,1.0s,baz=272,slow=3.4,SNR=11

DJA 06 20:17:12.4±1.1, 1°S±3°×12°1E±°, h23km±10km, M4.0/13, mb4.1/2, MLv4.0/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.87**	**84**	P	Pb	20 17 28.6	-0.3
MRSI	**Marisa**	**1.87**	**38**	P	Pn	20 17 40.1	-2.9
LUWI	**Luwuk**	**1.99**	**91**	P	Pn	20 17 44.7	0.0
LUWI				S	Sn	20 18 10.2	+1.3
TTSI	**Tana Toraja**	**2.25**	**205**	P	Pn	20 17 47.9	-0.3
SPSI	**Sidrap Palu**	**3.11**	**199**	P	Pn	20 18 00.1	0.0
BNSI	**Bone**	**3.44**	**191**	P	Pn	20 18 04.9	+0.2
KMSI	**Cibinong**	**3.56**	**64**	P	Pn	20 18 07.7	+1.4
BKB	**Balikpapan**	**3.89**	**266**	P	Pn	20 18 11.8	+1.0
BKSI	**Bulukumba**	**4.34**	**189**	P	Pn	20 18 16.3	-0.8
BBSI	**Bau Bau**	**4.80**	**158**	P	Pn	20 18 23.0	-0.4
BSSI	**Bau Bau, Buton**	**5.12**	**183**	P	Pn	20 18 26.6	-1.1
SANI	**Sanana**	**5.31**	**101**	P	Pn	20 18 29.1	-1.2

*ISCJB **06** 20:18:00.6±0.8, 20°.70N±0°.02×99°.83E±0°.02, h20km±6km, mb4.8/166, MS4.1/11, Error ellipse: s-maj=3.9km s-min=3.5km az=148.8*
*MOS **06** 20:18:00.0±0.9, 20°.67N×99°.82E, h17km, mb5.2/64, Error ellipse: s-maj=7.3km s-min=4.1km az=110.0*
*BJI **06** 20:18:01.7±0.0, 20°.63N×99°.93E, h28km, mb4.7/57, mB5.1/27, ML5.0/4, Ms4.7/51, Ms7 4.6/46*
*IDC **06** 20:18:02.1±2.9, 20°.63N×99°.85E, h19km±19km, mb4.6/30, mb1 4.6/31, mb1mx4.5/44, mbtmp4.7/31, ML4.8/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/44, Error ellipse: s-maj=13.2km s-min=10.8km az=61.0*
*NEIC **06** 20:18:04.3±0.5, 20°.67N×99°.85E, h36km±4km, mb4.9/94, Error ellipse: s-maj=3.7km s-min=2.7km az=70.0*
ISC 06 20:18:02.5±0.7, 20°.68N±0°.03×99°.78E±0°.04, h19km±3km, n436, σ1°43/471, mb4.9/166, MS4.0/12, 43C-11D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAI	**Chiangrai**	**0.71**	**129**	P	Pg	20 18 12.4	-4.2
PAYA	**Payao**	**1.31**	**176**	P	Pn	20 18 23.7	-2.2
CHTO	**Chiang Mai**	**2.02**	**203**	*e*Pn	**Pn**	**20 18 34.7**	**-0.9**
CHTO	**Chiang Mai**	**2.02**	**203**	*e*P	**Pn**	**20 18 34.7**	**-0.9**
CHTO	**Chiang Mai**	**2.02**	**203**	P	**Pn**	**20 18 34.8**	**-0.8**
SNR=621							
CMMT	**Chiang Mai**	**2.02**	**203**	P	**Pn**	**20 18 34.2**	**-1.4**
LAMP	**Lampang**	**2.15**	**184**	P	**Pn**	**20 18 36.0**	**-1.4**
PHRA	**Phrae**	**2.21**	**169**	P	**Pn**	**20 18 36.5**	**-1.7**
CM31	**Chiang Mai Arr**	**2.35**	**200**	*e*Pn	**Pn**	**20 18 39.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**2.35**	**200**	Pn	**Pn**	**20 18 39.3**	**-0.8**
60nm,0.3s,baz=14,slow=13,SNR=2351							
CMAR				Pg	**Pb**	**20 18 44.9**	**+0.7**
324nm,0.3s,baz=16,slow=17,SNR=175							
CMAR				Lg	Lg	20 19 14.9	
520nm,0.3s,baz=15,slow=28,SNR=12							
UMPA	**Umpang Tak**	**4.54**	**191**	P	**Pn**	**20 19 12.8**	**+2.6**
UTHA	**Uthaitani**	**5.10**	**184**	P	**Pn**	**20 19 17.3**	**-0.7**
CHAI	**Chaiyaphum**	**5.19**	**156**	P	**Pn**	**20 19 18.6**	**-0.7**
535μm,0.7s,4μm							
KHON	**Khomkaen**	**5.19**	**146**	P	**Pn**	**20 19 20.1**	**+0.8**
442μm,0.7s,5μm							
KMI	**Kunming**	**5.20**	**31**	Pn	**Pn**	**20 19 23.6**	**+4.1**
KMI				Pg	**Pg**	**20 19 43.1**	**+1.0**
KMI				Sn	**Sn**	**20 20 26.4**	**+7.3**
KMI				Sg	**Sg**	**20 20 52.3**	**+2.9**
SKNT	**Sakolnakorn**	**5.42**	**132**	P	**Pn**	**20 19 24.0**	**+1.6**
238nm,0.8s,2μm3.5nm							
PANO	**Nakornpanom**	**5.77**	**127**	P	**Pn**	**20 19 30.7**	**+3.5**
2.4nm,0.7s,169nm0.0nm							
SRDT	**SRDT**	**6.33**	**186**	P	**Pn**	**20 19 34.5**	**-0.3**
120nm,1.0s,2μm2.0nm							
PHET	**Kaeng Krachan**	**7.73**	**181**	P	Pn	20 19 59.6	+5.5
GYA	**Guiyang**	**8.54**	**46**	⇑*i*P	**Pn**	**20 20 04.5**	**-0.8**
GYA				S	**Sn**	**20 21 39.6**	**-1.7**
GYA				smax	smax		
comp=N,360nm,1.0s							
GYA				smax	smax		
comp=E,230nm,1.0s							
GYA				LR	LR		
comp=N,2μm,6.4s							
GYA				LR	LR		
comp=E,2μm,9.1s							
GYA				LR	LR		
comp=Z,2μm,9.4s							
QIZ	**Qiongzhong**	**9.61**	**98**	P	**Pn**	**20 20 21.0**	**+1.0**
QIZ				S	**Sn**	**20 22 07.6**	**+0.1**
QIZ				pmax	pmax		
comp=Z,350nm,12.3s							
QIZ				LR	LR		
comp=N,1μm,6.7s							
QIZ				LR	LR		
comp=E,1μm,8.2s							
QIZ				LR	LR		
comp=Z,880nm,7.6s							
CD2	**Chengdu**	**10.80**	**19**	*e*P	**Pn**	**20 20 36.5**	**+0.3**
CD2				S	**Sn**	**20 22 36.7**	**+0.1**
CD2				LR	LR		
comp=N,2μm,5.7s							
CD2				LR	LR		
comp=E,4μm,7.9s							
CD2				LR	LR		
comp=Z,4μm,10.4s							
LSA Lhasa 11.90 321 *e*Pn **Pn 20 20 54.1 +2.4**							
LSA Lhasa 11.90 321 *e*P **Pn 20 20 54.1 +2.4**							
KRAB Krabi 12.40 183 P Pn 20 21 02.7 +4.6							
TRTT Trang 12.77 180 P Pn 20 21 09.0 +5.8							
ENH Enshi 12.96 41 *e*Pn **Pn 20 21 04.8 -0.9**							
SKLT Songkhla 13.46 176 P **P 20 21 23.8 +2.0**							
RAMN Ramite 13.58 300 *e*P **Pn 20 21 14.5 +0.1**							
52nm,0.6s							
JIRN Jiri 14.21 302 *e*P **Pn 20 21 23.1 -0.1**							
117nm,0.6s							
PKI Pulchoki 14.80 300 *e*P **Pn 20 21 30.4 -0.8**							
76nm,0.6s							
PKIN Phulchoki 14.81 300 *e*P **Pn 20 21 30.6 -0.7**							
54nm,0.5s							
KKN Kakani 14.99 301 *e*P **Pn 20 21 33.1 -0.6**							
122nm,0.9s							
DMN Daman 15.06 300 *e*P **Pn 20 21 34.4 -0.2**							
139nm,1.0s							
KULM Kulim 15.32 177 *e*Pn **Pn 20 21 38.4 +0.5**							
63nm,0.9s							
XAN Xi'an 15.58 29 P **Pn 20 21 39.0 -2.2**							
XAN pP P 20 21 45.7 +0.3							
XAN PP **PnPn 20 21 50.5 +0.8**							
XAN S **Sn 20 24 24.1 -9.3**							
XAN SS **SnSn 20 24 46.0 -0.5**							
XAN pmax pmax							
comp=Z,21nm,1.0s							
XAN pmax pmax							
comp=Z,320nm,13.4s							
XAN LR LR							
comp=N,2μm,12.0s							
XAN LR LR							
comp=E,2μm,11.1s							
XAN LR LR							
comp=Z,2μm,11.4s							
XAN Xi'an 15.58 29 *e*Pn **Pn 20 21 40.5 -0.7**							
59nm,1.1s							
XAN Xi'an 15.58 29 *e*P **Pn 20 21 40.5 -0.7**							
XAN pmax pmax							
comp=Z,59nm,1.1s							
GKN Gorkha 15.60 301 *e*P **Pn 20 21 40.4 -1.2**							
comp=Z,354nm,1.1s							
LZH Lanzhou 15.76 12 *e*P **Pn 20 21 45.2 +1.6**							
LZH pP P 20 21 49.5 +2.0							
LZH sP pP 20 21 51.6 -1.3							
LZH PP **sP 20 21 52.8 -2.9**							
LZH pmax pmax							
comp=Z,40nm,1.2s							
LZH pmax pmax							
comp=Z,110nm,6.0s							
LZH LR LR							
comp=Z,1μm,9.8s							
LZH LR LR							
comp=Z,960nm,8.7s							
LZH LR LR							
comp=Z,2μm,11.6s							
IPM Ipoh 16.15 176 *e*Pn **Pn 20 21 48.1 -0.5**							
comp=Z,113nm,1.6s							
IPM Ipoh 16.15 176 P **Pn 20 21 53.0 +4.4**							
KOLN Koldanda 16.35 299 *e*P **Pn 20 21 50.3 -1.0**							
comp=Z,100nm,0.8s							
WHN Wuhan 16.39 50 P **P 20 21 54.2 -0.1**							
WHN S **Sn 20 24 59.9 +6.8**							
WHN LR LR							
comp=Z,3μm,11.3s							
WHN LR LR							
comp=Z,3μm,7.2s							
WHN LR LR							
comp=Z,4μm,7.4s							
DANN Dangsing 16.45 301 *e*P **Pn 20 21 51.5 -1.2**							
comp=Z,166nm,0.8s							
PYUN Piuthan 16.97 299 *e*P **Pn 20 21 58.3 -0.9**							
comp=Z,340nm,1.2s							
PSI Prapat 17.79 183 *e*Pn **Pn 20 22 10.2 +0.8**							
comp=Z,104nm,1.1s							
PSI Prapat 17.79 183 *e*P **Pn 20 22 10.2 +0.8**							
PSI pmax pmax							
comp=Z,104nm,1.1s							
GTA Gaotai 18.67 0 ⇑P **P 20 22 20.9 +1.3**							
GTA pP sP 20 22 26.6 -1.0							
GTA sP pP 20 22 29.5 +4.4							
GTA pmax pmax							
comp=Z,15nm,1.2s							
GTA pmax pmax							
comp=Z,320nm,6.2s							
GTA LR LR							
comp=Z,1μm,10.5s							
GTA LR LR							
comp=Z,1μm,10.5s							
GTA LR LR							
comp=Z,1μm,10.5s							
MYKOM Kota Tinggi 19.19 168 *e*P **P 20 22 24.4 -0.9**							
comp=Z,84nm,1.7s							
MYKOM Kota Tinggi 19.19 168 P **P 20 22 28.0 +2.7**							
GSI Gunungsitoli 19.38 187 P **P 20 22 27.6 +0.2**							
TWG Pinlang 19.89 80 *e*P **P 20 22 32.7 -0.3**							
comp=Z,280nm,1.6s							
TPRI Tanjung Pinang 20.18 166 P **P 20 22 36.7 +0.6**							
TIY Taiyuan 20.22 30 *e*P **P 20 22 37.6 +1.1**							
TIY S S 20 26 11.9 -11							
TIY pmax pmax							
comp=Z,66nm,0.9s							
TIY LR LR							
comp=Z,2μm,9.7s							
TIY LR LR							
comp=Z,1μm,9.4s							
TIY LR LR							
comp=Z,2μm,11.4s							
BKNI Bangkinang 20.27 176 *e*P **P 20 22 37.1 0.0**							
comp=Z,230nm,1.3s							
BKNI Bangkinang 20.27 176 P **P 20 22 38.1 +1.0**							
HYB Hyderabad 20.32 264 *i* P **P 20 22 40.5 +2.7**							
NJ2 Nanjing 20.47 53 *e*P **P 20 22 37.1 -2.1**							
NJ2 pP **sP 20 22 44.7 -2.6**							
NJ2 sP pP 20 22 50.6 +6.0							
NJ2 S **S 20 26 29.8 +2.2**							
NJ2 pmax pmax							
comp=Z,20nm,1.1s							
NJ2 pmax pmax							
comp=Z,160nm,4.9s							
NJ2 LR LR							
comp=Z,1μm,6.5s							
NJ2 LR LR							
comp=Z,770nm,9.2s							
NJ2 LR LR							
comp=Z,900nm,11.4s							
DSRI Dabo 21.55 167 P **P 20 22 52.5 +1.6**							
KKM Kota Kinabalu 21.58 130 P **P 20 22 55.0 +3.6**							
TIA Tai'an 21.67 41 P **P 20 22 52.1 0.0**							
TIA pmax pmax							
comp=Z,39nm,1.0s							
KSM Kuching 21.68 150 *e*P **P 20 22 52.6 +0.3**							
comp=Z,62nm,1.1s							
KSM Kuching 21.68 150 P **P 20 22 54.0 +1.6**							
BTO Baotou 21.70 21 *e*P **P 20 22 52.8 +0.3**							
SBUM Sibu 21.81 145 *e*P **P 20 22 54.3 +0.6**							
comp=Z,27nm,1.2s							
SBUM Sibu 21.81 145 P **P 20 22 57.0 +3.3**							
SISI Saibi 21.88 182 P **P 20 22 57.7 +3.2**							
HHC Hu-ho-hao-te 22.47 24 *e*P **P 20 23 01.1 +0.3**							
HHC pP sP 20 23 11.6 +2.6							
HHC PP **PnPn 20 23 28.1 +4.0**							
HHC S **S 20 27 08.2 +1.5**							
HHC pmax pmax							
comp=Z,87nm,0.9s							
HHC pmax pmax							
comp=Z,350nm,4.1s							
HHC LR LR							
comp=Z,1μm,10.9s							
HHC LR LR							
comp=Z,880nm,12.1s							
HHC LR LR							
comp=Z,1μm,11.6s							
PALK Pallekele 22.77 237 LR LR 20 32 06.5							
comp=Z,189nm,19.1s,baz=122,slow=37							
BJT Baijiatuau 23.83 32 *e*P **P 20 23 14.8 +0.4**							
comp=Z,1μm,1.8s							
BJT Baijiatuau 23.83 32 *e*P **P 20 23 14.9 +0.4**							
BJT pmax pmax							
comp=Z,1μm,1.8s							
BJI Beijing 23.85 32 P **P 20 23 14.6 -0.1**							
BJI pmax pmax							

comp=Z,18nm,1.6s
WMQ Urumqi 25.18 339 *e*P P 20 23 29.5 +2.6
WMQ pP sP 20 23 38.2 +3.0
WMQ pmax pmax
comp=Z,95nm,1.5s
WMQ pmax pmax
comp=Z,890nm,5.1s
WMQ LR LR
comp=Z,690nm,17.1s
WMQ LR LR
comp=Z,620nm,27.9s
WMQ LR LR
comp=Z,580nm,26.5s
DL2 Dalian 26.14 41 P **P 20 23 35.3 -0.3**
DL2 *e*S **S 20 28 05.1 -1.3**
DL2 pmax pmax
comp=Z,26nm,0.6s
DL2 LR LR
comp=Z,480nm,13.6s
DL2 LR LR
comp=Z,340nm,10.2s
DL2 LR LR
comp=Z,620nm,11.9s
JOW Kunigami 26.75 71 P **P 20 23 41.5 +0.2**
comp=Z,0.9nm,0.6s,baz=205,slow=15,SNR=4.9
NIL Nilore 26.82 304 *e*P **P 20 23 41.3 -0.5**
comp=Z,43nm,0.8s
NIL Nilore 26.82 304 *e*P **P 20 23 41.3 -0.5**
NIL pmax pmax
comp=Z,43nm,0.8s
SONA0 Songino Array 27.61 10 *e*P **P 20 23 49.6 +0.7**
SONM Songino Array 27.61 10 *e*P **P 20 23 49.2 +0.3**
SONM Songino Array 27.61 10 P **P 20 23 49.6 +0.7**
comp=Z,16nm,0.9s,baz=187,slow=9.0,SNR=21
KSH Kashi 27.73 318 P **P 20 23 51.4 +1.4**
KSH sP sP 20 24 05.5 +7.3
KSH PP **PnPn 20 24 42.3 +6.3**
KSH S **S 20 28 28.9 -2.8**
KSH SS **SnSn 20 29 51.7 +7.4**
KSH pmax pmax
comp=Z,25nm,0.8s
KSH pmax pmax
comp=Z,180nm,2.7s
KSH LR LR
comp=Z,250nm,7.2s
KSH LR LR
comp=Z,280nm,6.7s
KSH LR LR
comp=Z,590nm,11.6s
ULN Ulaanbaatar 27.75 11 *e*P **P 20 23 50.8 +0.6**
comp=Z,28nm,1.2s
ULN Ulaanbaatar 27.75 11*ce*P **P 20 23 50.9 +0.8**
ULN pmax pmax
comp=Z,36nm,1.7s
ULN Ulaanbaatar 27.75 11 P **P 20 23 50.8 +0.6**
SNR=13
ULN P **P 20 23 50.8 +0.6**
SNR=13
TARG Taragay, Kyrgy 28.02 323 *e*P **P 20 23 54.7 +1.7**
comp=Z,24nm,0.9s
LEM Lembang 28.40 163 LR LR 20 35 43.6
comp=Z,161nm,18.5s,baz=334,slow=38
KDJ Kajisay 28.64 323 *e*P **P 20 23 58.5 +0.3**
comp=Z,20nm,0.8s
KDJ Kajisay 28.64 323 *e*P **P 20 23 58.5 +0.3**
KDJ pmax pmax
comp=Z,20nm,0.8s
KSRS Korea Array 29.58 49 LR LR 20 38 01.4
comp=Z,294nm,19.0s,baz=238,slow=41
MK32 Makanchi Array 29.69 335 *e*P **P 20 24 08.4 +1.1**
MK32 *e*PcP **PcP 20 27 11.1 -0.1**
MKAR Makanchi Array 29.69 335 P **P 20 24 08.4 +1.1**
comp=Z,12nm,0.7s,baz=144,slow=9.8,SNR=34
MKAR PcP **PcP 20 27 11.1 -0.1**
comp=Z,1.5nm,0.8s,baz=132,slow=5.9,SNR=3.8
ZAK Zakamensk 29.77 5 *e*P **P 20 24 07.5 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
MAKZ Makanchi 29.83 335 *e*P **P 20 24 08.6 +0.1**
comp=Z,8.7nm,1.1s
MAKZ Makanchi 29.83 335 *e*P **P 20 24 08.6 +0.1**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
TKM2 Tokmak 2 30.04 323 P **P 20 24 12.3 +1.6**
SNR=11
AAK Ala-Archa 30.49 322*ce*P **P 20 24 16.0 +1.4**
AAK pmax pmax
comp=Z,50nm,1.7s
AAK Ala-Archa 30.49 322 P **P 20 24 16.5 +1.9**
SNR=12
AAK P **P 20 24 16.5 +1.9**
SNR=12
AAK Ala-Archa 30.49 322 P **P 20 24 16.6 +2.0**
comp=Z,10nm,0.6s,baz=126,slow=5.5,SNR=15
FRU1 Bishkek 30.52 322 *e*P **P 20 24 15.5 +0.8**
comp=Z,69nm,1.6s
FRU1 Bishkek 30.52 322 *e*P **P 20 24 15.5 +0.8**
FRU1 pmax pmax
comp=Z,69nm,1.6s
DGZ Jazzator, Alta 30.58 344*c i*P **P 20 24 16.2 +1.0**
DGZ pmax pmax
comp=Z,9.0nm,0.8s
TTSI Tana Toraja 30.69 138 P **P 20 24 20.6 +4.2**
USP Ospenovka 30.88 323 P **P 20 24 19.3 +1.5**
SNR=9.3
MOY Mondy 30.94 1 *e*P **P 20 24 22.0 +3.7**
TLY Talaya 31.09 5 *e*P **P 20 24 19.8 +0.2**
comp=Z,17nm,1.5s
TLY Talaya 31.09 5*ce*P **P 20 24 21.4 +1.9**
TLY pmax pmax
comp=Z,35nm,1.7s
TLY Talaya 31.09 5 P **P 20 24 21.1 +1.6**
SNR=7.9
LUWI Luwuk 31.19 131 *e*P **P 20 24 21.3 +0.5**
comp=Z,65nm,1.1s
BTK Batken 31.37 314 *e*P **P 20 24 22.5 +0.3**
comp=Z,20nm,1.0s
BTK Batken 31.37 314 *e*P **P 20 24 22.5 +0.3**
BTK pmax pmax
comp=Z,20nm,1.0s
HIA Hailar 32.67 24 *e*P **P 20 24 33.0 -0.5**
comp=Z,26nm,1.0s
HIA Hailar 32.67 24*c i*P **P 20 24 33.5 0.0**
HIA pmax pmax
comp=Z,16nm,0.9s
KURBB Kurchatov Arra 34.26 336 P **P 20 24 48.0 +0.7**
comp=Z,7.3nm,0.6s,baz=143,slow=9.3,SNR=18
KURBB PcP **PcP 20 27 23.2 -0.2**
comp=Z,1.8nm,0.9s,baz=137,slow=2.2,SNR=4.1
KURK Kurchatov 34.30 336*ce*P **P 20 24 48.1 +0.5**
KURK pmax pmax
comp=Z,34nm,1.7s
KURK Kurchatov 34.30 336 P **P 20 24 48.3 +0.7**
SNR=7.2
KURK P **P 20 24 48.3 +0.7**
SNR=7.2
ZAA0 Zalesovo Array 35.13 345 *e*P **P 20 24 55.0 +0.3**
comp=Z,46nm,1.1s
ZALV Zalesovo Beam 35.13 345 *e*P **P 20 24 54.9 +0.2**
ZALV Zalesovo Beam 35.13 345 P **P 20 24 55.3 +0.6**
comp=Z,24nm,0.7s,baz=154,slow=9.5,SNR=44
ZAA1 Zalesovo Array 35.13 345 *e*P **P 20 24 55.3 +0.5**
USA0B Ussuriysk Arra 35.54 41 *e*P **P 20 24 57.0 -1.3**
comp=Z,51nm,1.8s
USA0B Ussuriysk Arra 35.54 41 *e*P **P 20 24 57.1 -1.3**
USA0B pmax pmax
comp=Z,51nm,1.8s
USRK Ussuriysk Ar. 35.54 41 *e*P **P 20 24 56.5 -1.8**
USRK Ussuriysk Ar. 35.54 41 P **P 20 24 57.2 -1.1**
comp=Z,3.7nm,0.6s,baz=259,slow=6.6,SNR=16
INU Inuyama 35.75 58 *e*P **P 20 24 59.4 -0.9**
comp=Z,29nm,0.9s
NVS Novosibirsk 36.34 344 *e*P **P 20 25 05.2 +0.2**
NVS *e* 20 26 31.5
NVS pmax pmax
comp=Z,45nm,1.6s
NVS pmax pmax
comp=N,32nm,1.5s
NVS pmax pmax
comp=E,42nm,1.8s
MAJO Matsushiro 36.98 56 *e*P **P 20 25 09.3 -1.6**
comp=E,26nm,0.8s
MAJO Matsushiro 36.98 56 *e*P **P 20 25 09.3 -1.6**
MAJO pmax pmax
comp=Z,26nm,0.8s
MAT Matsushiro 36.98 56 P **P 20 25 09.8 -1.1**
MJAR Matsushiro Arr 36.98 56 *e*P **P 20 25 09.8 -1.1**
MJAR Matsushiro Arr 36.98 56 P **P 20 25 10.5 -0.3**
comp=Z,15nm,0.9s,baz=264,slow=11,SNR=29
KLR Kul'dur 38.20 34 P **P 20 25 20.2 -0.8**
comp=Z,6.7nm,0.8s,baz=254,slow=7.8,SNR=18
BOD Bodaibo 38.53 12 *e*P **P 20 25 22.7 -0.9**
BOD pmax pmax
comp=Z,15nm,1.4s
ZEA Zeya 39.11 26 *e*P **P 20 25 28.2 -0.3**
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=N,37nm,1.4s
ZEA pmax pmax
comp=Z,41nm,1.4s
BVAR Borovoye Array 39.41 332 P **P 20 25 31.9 +0.7**
comp=Z,12nm,0.7s,baz=133,slow=9.5,SNR=14
BRVK Borovoye 39.48 332 *e*P **P 20 25 32.2 +0.5**
comp=Z,20nm,0.8s
BRVK Borovoye 39.48 332*ce*P **P 20 25 32.6 +0.9**
BRVK pmax pmax
comp=Z,26nm,1.0s
BRVK Borovoye 39.48 332 P **P 20 25 32.4 +0.7**
SNR=9.8
GEYT Alibeck 39.82 305 P **P 20 25 35.7 +0.9**
comp=Z,7.8nm,0.8s,baz=153,slow=8.2,SNR=6.3
ASAJ Asahikawa 42.42 47 P **P 20 25 55.2 -0.8**
comp=Z,15nm,0.7s,baz=241,slow=3.2,SNR=10
ABKAR Akbulak array 42.58 322 *e*P **P 20 25 57.6 +0.4**
MBWA Marble Bar 45.93 154 *e*P **P 20 26 23.5 -0.8**
comp=Z,39nm,0.9s
FITZ Fitzroy Crossi 46.13 145 *e*P **P 20 26 25.5 -0.5**
comp=Z,8.5nm,1.1s
SVE Sverdlovsk 46.17 331*de*P **P 20 26 27.0 +1.1**
SVE pmax pmax
comp=Z,63nm,1.1s
YAK Yakutsk 46.19 19 *e*P **P 20 26 25.2 -0.7**
YAK *e* 20 27 57.8
YAK *e* 20 28 14.1
YAK *e*PPP PPP 20 29 01.9
YAK *e*S **S 20 33 04.8 -6.3**
YAK *e*SS **SS 20 36 32.1 -4.2**
YAK *e*SSS SSS 20 37 33.7
YAK pmax pmax
comp=Z,74nm,0.6s
YAK pmax pmax
comp=N,16nm,0.7s
YAK pmax pmax
comp=E,28nm,0.9s
YAK pmax pmax
comp=Z,276nm,3.3s
YAK pmax pmax
comp=N,192nm,3.0s
YAK pmax pmax
comp=E,132nm,3.2s
YAK smax smax
comp=N,79nm,2.8s
YAK smax smax
comp=E,100nm,2.6s
PSA00 Pilbara Seismi 46.34 154 *e*P **P 20 26 27.6 0.0**
comp=E,32nm,0.9s
ARU Arti 46.91 330 *e*P **P 20 26 31.9 +0.3**
comp=E,52nm,1.2s
ARU Arti 46.91 330*c i*P **P 20 26 32.0 +0.4**
ARU 20 27 58.2
ARU 20 28 24.0
ARU S **S 20 33 24.5 +3.0**
ARU pmax pmax
comp=Z,55nm,1.3s
NRIK Noril'sk 49.23 354 P **P 20 26 49.4 0.0**
comp=Z,22nm,1.0s,baz=161,slow=7.0,SNR=16
GROC Groznyy 50.05 310 *e*P **P 20 26 55.6 -0.5**
GROC *e* 20 28 15.4
GROC *e*S **S 20 34 03.9 -2.5**
GROC pmax pmax
comp=Z,28nm,1.4s
ZEI Tsey 51.37 309 *e*P **P 20 27 05.8 -0.5**
ZEI pmax pmax
comp=Z,10.0nm,0.8s
AKH Akhalkalaki 51.52 307 *e*P **P 20 27 06.9 -0.5**
comp=Z,12nm,0.8s
AKH Akhalkalaki 51.52 307⇑ *i*P **P 20 27 07.7 +0.3**
AKH Akhalkalaki 51.52 307 *e*P **P 20 27 06.9 -0.5**
AKH pmax pmax
comp=Z,12nm,0.8s
MORW Morawa 51.89 162 *e*P **P 20 27 10.3 +0.4**
comp=Z,28nm,1.0s
NEY Neytrino 52.28 309 *i* P **P 20 27 13.4 +0.3**
NEY pmax pmax
comp=Z,2.0nm,0.8s
SHA1 Shidzhatmaz 52.39 310 *i* P **P 20 27 14.1 +0.2**
KIV Kislovodsk 52.40 310 *e*P **P 20 27 13.8 0.0**
comp=Z,20nm,0.8s
KIV Kislovodsk 52.40 310 *e*P **P 20 27 13.9 0.0**
KIV pmax pmax
comp=Z,20nm,0.8s
KIV Kislovodsk 52.40 310 P **P 20 27 13.8 0.0**
SNR=6.6
KIV P **P 20 27 13.8 0.0**
SNR=6.6
WRA Warramunga Arr 52.67 138 *e*P **P 20 27 15.6 -0.4**
WRA Warramunga Arr 52.67 138 *i* P **P 20 27 14.6 -1.3**
WRA pmax pmax
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 52.67 138 P **P 20 27 14.7 -1.2**
comp=Z,8.3nm,0.9s,baz=327,slow=8.2,SNR=22
WRAB Tennant Creek 52.67 138 *e*P **P 20 27 15.6 -0.4**
comp=Z,9.9nm,0.9s
WRAB Tennant Creek 52.67 138*ce*P **P 20 27 16.3 +0.4**
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WR1 Warramunga Arr 52.67 138 *e*P **P 20 27 14.7 -1.2**
WB2 Warramunga Arr 52.68 138 *e*P **P 20 27 15.5 -0.5**
comp=Z,11nm,1.0s
BATM Batumi 52.88 307⇑ *i*P **P 20 27 16.5 -0.8**
BCA Borcka 52.92 307⇑ *i*P **P 20 27 17.3 -0.4**
MA2 Magadan 52.97 30 *e*P **P 20 27 17.2 -0.5**
comp=Z,28nm,1.0s
MA2 Magadan 52.97 30*ce*P **P 20 27 17.9 +0.2**
MA2 pmax pmax
comp=Z,52nm,1.7s
MA2 Magadan 52.97 30 LR LR 20 51 45.6
comp=Z,123nm,20.2s,baz=272,slow=38
TIXI Tiksi 53.69 11 *e*P **P 20 27 21.3 -1.5**
comp=Z,18nm,1.1s
TIXI Tiksi 53.69 11*c i*P **P 20 27 21.2 -1.5**
TIXI pmax pmax
comp=Z,20nm,1.1s
TIXI Tiksi 53.69 11 P **P 20 27 21.5 -1.2**
comp=Z,6.9nm,0.5s,baz=211,slow=4.3,SNR=37
VRH Novokhopyorsk 54.23 319 *e*P **P 20 27 26.2 -0.8**
VRH pmax pmax
comp=Z,20nm,1.0s
SOC Sochi 54.50 309 *e*P **P 20 27 27.1 -2.0**
SOC *e* 20 29 25.7
SOC *e*PPP PPP 20 30 38.5
SOC *e*S **S 20 35 03.8 -3.5**
SOC pmax pmax
comp=Z,23nm,1.3s
SOC MLR MLR
comp=Z,78nm,13.0s
SEY Seymchan 55.09 26*ce*P **P 20 27 33.6 +0.6**
PET Petropavlovsk 55.10 39 *i* P **P 20 27 34.4 +1.1**
PET pmax pmax
comp=Z,11nm,1.2s
AS31 Alice Springs 55.21 141 *e*P **P 20 27 33.4 -1.1**
comp=Z,2.0nm,0.9s
ASAR Alice Springs 55.21 141 *e*P **P 20 27 34.1 -0.4**
ASAR PcP **PcP 20 28 35.7 +0.3**
ASAR Alice Springs 55.21 141 *e*P **P 20 27 34.1 -0.4**
ASAR 20 28 35.7
ASAR Alice Springs 55.21 141 P **P 20 27 33.7 -0.8**
comp=Z,5.9nm,0.8s,baz=321,slow=6.7,SNR=32
ASAR PcP **PcP 20 28 35.7 +0.3**
comp=Z,1.9nm,0.8s,baz=321,slow=4.0,SNR=5.7
PRGR Permogore 55.23 332 *e*P **P 20 27 32.7 -1.4**
PRGR pmax pmax
comp=Z,19nm,0.6s
VSR Storozhevoye 55.81 319 *e*P **P 20 27 36.9 -1.5**
VSR pmax pmax
comp=Z,5.0nm,1.0s
NWAO Narrogin (SRO) 55.85 162 *e*P **P 20 27 37.8 -1.1**
comp=Z,25nm,0.7s
NWAO Narrogin (SRO) 55.85 162 *e*P **P 20 27 37.8 -1.1**
NWAO pmax pmax
comp=Z,25nm,0.7s
LPSR Galich'ya Gora 56.19 320 *e*P **P 20 27 40.4 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
MOS Moscow 57.53 324 *e*P **P 20 27 49.1 -1.5**
MOS pmax pmax
comp=Z,54nm,1.1s
KLMR Klimovskoe 57.76 330 *e*P **P 20 27 50.8 -1.3**
KLMR *e* 20 29 58.1
KLMR pmax pmax
comp=Z,41nm,1.4s
OBN Obninsk 58.01 323⇑ *e*P **P 20 27 53.0 -0.9**
OBN *e* 20 30 00.3
OBN pmax pmax
comp=Z,58nm,1.7s
OBN Obninsk 58.01 323 *e* **P 20 27 52.7 -1.2**
BR101 Keskin Array S 58.96 305 *e*P **P 20 28 00.2 -0.9**
BRTR Keskin Array B 58.96 305 P **P 20 28 00.2 -0.9**
comp=Z,1.3nm,0.7s,baz=107,slow=8.5,SNR=4.0
TMCR Tamitsa 59.35 333 *e*P **P 20 28 02.9 -0.2**
TMCR pmax pmax
comp=Z,49nm,1.3s
AKASG Malin Array Be 62.02 317 *e*P **P 20 28 19.9 -1.7**
AKASG PcP **PcP 20 29 01.2 -0.8**
AKASG Malin Array Be 62.02 317 P **P 20 28 20.6 -0.9**
comp=Z,3.2nm,0.6s,baz=76,slow=6.7,SNR=24
AKASG PcP **PcP 20 29 01.2 -0.8**
comp=Z,2.0nm,0.7s,baz=70,slow=4.1,SNR=6.2
AKBB Malin Array Si 62.02 317 *e*P **P 20 28 20.2 -1.4**
comp=Z,8.2nm,0.8s
AKBB Malin Array Si 62.02 317 *e*P **P 20 28 20.2 -1.4**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 62.03 317 *e*P **P 20 28 20.2 -1.5**
comp=Z,8.3nm,0.9s
KIEV Kiev 62.03 317⇑ *i*P **P 20 28 20.1 -1.5**
KIEV Kiev 62.03 317 *e*P **P 20 28 20.2 -1.5**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
BILL Bilibino 62.24 23 *e*P **P 20 28 21.3 -1.4**
comp=Z,15nm,1.0s
BILL Bilibino 62.24 23*c i*P **P 20 28 21.6 -1.2**
BILL *e*PP **PcP 20 28 59.5 -3.1**
BILL *e* 20 30 37.1
BILL *e*S S 20 37 17.9 +30
BILL pmax pmax
comp=Z,19nm,1.1s
TLCR 62.34 311⇑ *i*P **P 20 28 22.8 -1.0**
TLCR 62.34 311⇑P **P 20 28 22.8 -1.0**
CFR Carcaliu 62.82 311⇓ *i*P **P 20 28 26.7 -0.3**
CFR Carcaliu 62.82 311⇓P **P 20 28 26.7 -0.3**
TLB Topalu 62.92 310⇑ *i*P **P 20 28 27.3 -0.4**
TLB Topalu 62.92 310⇑P **P 20 28 27.3 -0.4**
BBOO Buckleboo 63.49 146 *e*P **P 20 28 31.1 -0.4**
comp=Z,19nm,1.2s
PHSR Pinarhisar 63.49 307⇑ *i*P **P 20 28 30.9 -0.7**
VSU Vasula 63.76 326*ce*P **P 20 28 31.8 -1.2**
VSU pmax pmax
comp=Z,52nm,1.7s
VRI Vrincioaia 63.78 312⇑ *i*P **P 20 28 34.2 +0.8**
VRI Vrincioaia 63.78 312⇑P **P 20 28 34.2 +0.8**
TESR Tescani 63.80 313⇑ *i*P **P 20 28 32.9 -0.6**
PLOR Plostina 63.83 312⇓ *i*P **P 20 28 34.7 +0.9**
PLOR Plostina 63.83 312⇓P **P 20 28 34.7 +0.9**
BIZ Bicaz 64.15 313⇑ *i*P **P 20 28 35.7 -0.1**
FIA1 FINESS Array S 64.27 329 *e*P **P 20 28 36.0 -0.3**
comp=Z,74nm,2.0s
FIA0 FINESS Array S 64.27 329 *e*P **P 20 28 36.2 -0.1**
FIA0 FINESS Array S 64.27 329 *e*P **P 20 28 36.2 -0.1**
FINES FINESS Array B 64.27 329 *e*P **P 20 28 35.9 -0.4**
FINES FINESS Array B 64.27 329 P **P 20 28 36.2 -0.1**
comp=Z,6.1nm,0.7s,baz=88,slow=5.9,SNR=18
MLR Muntele Rosu 64.35 311 *e*P **P 20 28 37.0 -0.3**
comp=Z,17nm,1.1s
MLR Muntele Rosu 64.35 311⇓ *i*P **P 20 28 37.6 +0.3**
MLR Muntele Rosu 64.35 311⇓P **P 20 28 37.6 +0.3**
ALN Alexandroupoli 64.67 306 *e*P **P 20 28 39.3 -0.1**
comp=Z,6.6nm,1.0s
ALN Alexandroupoli 64.67 306 *e*P **P 20 28 39.3 -0.1**
ALN pmax pmax
comp=Z,7.0nm,1.0s
BURAR Bucovina Array 64.71 314 *e*P **P 20 28 39.0 -0.5**
BURAR Bucovina Array 64.71 314⇑ *i*P **P 20 28 39.1 -0.5**
BURAR Bucovina Array 64.71 314⇑P **P 20 28 39.1 -0.5**
BURAR *e* 20 28 44.2
BUR08 Bucovina Ar. S 64.72 314 *e*P **P 20 28 39.3 -0.4**
comp=Z,8.5nm,1.2s
KMBO Kilima Mbogo 64.85 259 *i* P **P 20 28 44.0 +2.8**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
ABPO Ambohimpanom 64.85 236 *i* P **P 20 28 44.2 +3.2**
ARA0 ARCESS Array S 65.30 338 *e*P **P 20 28 42.5 -0.4**
ARCES ARCESS Array B 65.30 338 P **P 20 28 42.5 -0.4**
comp=Z,3.1nm,0.5s,baz=89,slow=7.2,SNR=22
ARE0 ARCESS Array S 65.30 338 *e*P **P 20 28 43.0 0.0**
LVV L'vov 65.37 316 *e*P **P 20 28 43.5 -0.2**
SUW Suwalki 65.70 321 *e*P **P 20 28 45.6 -0.2**
SUW Suwalki 65.70 321 *e*P **P 20 28 45.4 -0.4**
comp=Z,54nm,1.1s
SUW Suwalki 65.70 321 *e*P **P 20 28 45.6 -0.2**
STKA Stephens Creek 65.84 142 *e*P **P 20 28 46.4 -0.6**
comp=Z,2.2nm,1.0s
STKA *e*PP **PP 20 31 10.3 -1.9**
STKA Stephens Creek 65.84 142 P **P 20 28 46.6 -0.3**
comp=Z,7.8nm,0.9s,baz=323,slow=7.3,SNR=13
STKA PP **PP 20 31 10.4 -1.9**
comp=Z,0.6nm,0.4s,baz=328,slow=13,SNR=3.1
HAMF Hammerfest 66.05 339 *e*P **P 20 28 47.4 -0.3**
KTK1 Kautokeino 66.05 337 *e*P **P 20 28 47.5 -0.3**
KWP Kalwaria Pacla 66.24 316 *e*P **P 20 28 49.6 +0.3**
KWP Kalwaria Pacla 66.24 316 *e*P **P 20 28 48.9 -0.5**
comp=Z,456nm,1.2s
KWP Kalwaria Pacla 66.24 316 *e*P **P 20 28 49.6 +0.3**
DEV Deva 66.44 312⇑ *i*P **P 20 28 51.2 +0.5**
DEV Deva 66.44 312⇑P **P 20 28 51.2 +0.5**
TRPA Tarpa 66.47 315⇓ *i*P **P 20 28 51.3 +0.5**
TRPA Tarpa 66.47 315 *e*P **P 20 28 50.0 -0.8**
VTS Vitosha 66.57 309 *e*P **P 20 28 50.8 -1.0**
comp=Z,7.5nm,1.3s
VTS Vitosha 66.57 309⇓ *i*P **P 20 28 51.3 -0.5**
VTS Vitosha 66.57 309⇓P **P 20 28 51.3 -0.5**
KOLS Kolonicke sedl 66.58 315 *e*P **P 20 28 52.2 +0.7**
KOLS Kolonicke sedl 66.58 315 *e*P **P 20 28 52.2 +0.7**
UZH Uzhgorod 66.59 315 *e*P **P 20 28 51.3 -0.3**
UZH *i* 20 28 54.7
UZH *i* 20 28 58.4
MDVR Moldovita 67.40 311⇑ *i*P **P 20 28 56.4 -0.5**
TRO Tromso 67.61 338 *e*P **P 20 28 57.2 -0.4**
NIE Niedzica 67.82 316 *e*P **P 20 29 00.4 +1.0**
NIE Niedzica 67.82 316 *e*P **P 20 29 00.4 +1.0**
OJC Ojcow 68.06 317 *e*P **P 20 29 00.8 -0.1**
OJC Ojcow 68.06 317 *e*P **P 20 29 01.1 +0.2**
comp=Z,22nm,1.3s
OJC Ojcow 68.06 317 *e*P **P 20 29 01.1 +0.2**
OJC pmax pmax
comp=Z,22nm,1.3s
PSZ Piszkesteto 68.26 315 *e*P P 20 29 00.1 -2.2
SPA0 Spitsbergen Ar 68.55 347 *e*P **P 20 29 03.4 -0.2**
SPITS Spitsbergen Ar 68.55 347 P **P 20 29 02.7 -0.8**
comp=Z,8.9nm,0.9s,baz=108,slow=8.1,SNR=5.2
VYHS Vyhne 68.89 315 *e*P **P 20 29 06.2 +0.1**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 68.89 315 *e*P **P 20 29 06.2 +0.1**
STEI Steigen 68.98 336 *e*P **P 20 29 05.9 -0.4**
OKC Ostrava-Krasne 69.16 317 *e*P **P 20 29 08.4 +0.7**
OKC Ostrava-Krasne 69.16 317 *e*P **P 20 29 08.4 +0.7**
MORH Mrgy, Hungar 69.34 313 *e*P **P 20 29 08.1 -0.8**
KBS Kingsbay 69.44 348 *e*P **P 20 29 08.8 -0.2**
MORC Moravsky Berou 69.56 317 *e*P **P 20 29 10.5 +0.2**
comp=Z,8.7nm,1.1s
MORC Moravsky Berou 69.56 317⇑ *i*P **P 20 29 10.6 +0.3**
MORC Moravsky Berou 69.56 317⇑P **P 20 29 10.6 +0.3**
MORC *e* 20 29 14.5
MORC Moravsky Berou 69.56 317 *e*P **P 20 29 10.5 +0.2**
LOF Lofoten 69.60 336 *e*P **P 20 29 09.4 -0.7**
JAVC Velka Javorina 69.60 316 *e*P **P 20 29 11.5 +0.9**
MODS Modra-Piesok 69.93 315 *e*P **P 20 29 12.2 -0.4**
MODS pmax pmax
comp=Z,12nm,1.2s
MODS Modra-Piesok 69.93 315 *e*P **P 20 29 12.2 -0.4**
KSP Ksiaz 70.19 318 *e*P **P 20 29 14.6 +0.5**
KSP Ksiaz 70.19 318 *e*P **P 20 29 14.6 +0.5**
VRAC Vranov 70.24 316⇑ *i*P **P 20 29 15.3 +0.9**

VRAC	Vranov	70.24 316	⇑P		P	20 29 15.3	+0.9
VRAC			e			20 29 16.4	
VRAC	Vranov	70.24 316	eP		P	20 29 15.1	+0.7
DPC	Dobruska-Polom	70.25 317	eP		P	20 29 15.2	+0.7
DPC	Dobruska-Polom	70.25 317	eP		P	20 29 15.2	+0.7
HFS	Hagfors	70.37 328	P		P	20 29 14.7	-0.3
	comp=Z,5.6nm,0.7s,baz=82,slow=3.3,SNR=14						
KRUC	Moravsky	70.40 316	eP		P	20 29 15.7	+0.3
UPC	Upice	70.42 318	eP		P	20 29 16.1	+0.6
UPC	Upice	70.42 318	eP		P	20 29 16.1	+0.6
SOP	Sopron	70.52 315	eP		P	20 29 15.0	-1.1
CONA	Conrad Observa	70.94 315	eP		P	20 29 18.9	+0.1
	comp=Z,13nm,1.2s,SNR=8.2						
TREC	Trest	70.95 316	eP		P	20 29 19.5	+0.7
TREC	Trest	70.95 316	eP		P	20 29 19.5	+0.7
NC405	NORSAR Array S	71.20 329	eP		P	20 29 19.6	-0.5
	comp=Z,22nm,0.8s						
ARSA	Arzberg	71.29 314	eP		P	20 29 20.9	+0.1
	comp=Z,6.3nm,1.1s						
GOPC	GO Pecny, Ondr	71.30 317	eP		P	20 29 21.2	+0.3
GOPC	GO Pecny, Ondr	71.30 317	eP		P	20 29 21.2	+0.3
PVCC	Panska Ves	71.33 318	eP		P	20 29 21.8	+0.8
PVCC	Panska Ves	71.33 318	eP		P	20 29 21.8	+0.8
NC602	NORSAR Array S	71.34 329	eP		P	20 29 20.3	-0.6
	comp=Z,94nm,1.8s						
NC602	NORSAR Array S	71.34 329	eP		P	20 29 20.3	-0.6
NC303	NORSAR Array S	71.35 329	eP		P	20 29 20.2	-0.7
	comp=Z,16nm,0.8s						
PRU	Pruhonice	71.44 317	eP		P	20 29 22.5	+0.8
PRU	Pruhonice	71.44 317	eP		P	20 29 22.5	+0.8
NB2	NORSAR Subarra	71.45 329	P		P	20 29 20.6	-1.0
	comp=Z,3.6nm,0.6s,baz=80,slow=6.2						
NB2	NORSAR Subarra	71.45 329	P		P	20 29 20.6	-1.0
	baz=80,slow=6.2						
NB200	NORSAR Array S	71.45 329	eP		P	20 29 20.9	-0.8
NOA	NORSAR Array B	71.45 329	P		P	20 29 20.9	-0.8
	comp=Z,5.7nm,0.7s,baz=81,slow=6.1,SNR=25						
NC204	NORSAR Array S	71.63 329	eP		P	20 29 22.4	-0.4
	comp=Z,44nm,1.3s						
BRG	Berggiesshubel	71.66 318	eP		P	20 29 23.3	+0.3
	comp=Z,8.6nm,0.8s						
BRG	Berggiesshubel	71.66 318	eP		P	20 29 23.3	+0.3
PERS	Pernice	71.67 314	iP		P	20 29 23.1	-0.1
SOKA	Soboth	71.72 314	eP		P	20 29 23.4	-0.2
	comp=Z,6.7nm,0.9s						
BOJS	Bojanci	71.80 313	iP		P	20 29 24.1	+0.2
MOA	Molln	72.01 315	iP		P	20 29 25.3	+0.1
	comp=Z,10nm,0.9s,SNR=6.3						
VISS	Visnje	72.02 313	eP		P	20 29 25.7	+0.4
OBKA	Obir	72.08 314	eP		P	20 29 25.2	-0.5
	comp=Z,7.1nm,1.1s						
CLL	Collm	72.16 319	eP		P	20 29 25.5	-0.5
	comp=Z,13nm,1.3s						
CLL	Collm	72.16 319	iP		P	20 29 25.8	-0.2
CLL			e			20 29 42.0	
CLL			pmax	pmax			
	comp=Z,8.0nm,0.9s						
CLL	Collm	72.16 319	iP		P	20 29 25.8	-0.2
	comp=Z,8.0nm,0.9s						
CLL			ePcP		PcP	20 29 42.0	-2.3
GEC2	GERESS Array S	72.19 316	eP		P	20 29 26.7	+0.4
	comp=Z,21nm,1.4s						
GERES	GERESS Array B	72.19 316	eP		P	20 29 26.3	-0.1
GERES	GERESS Array B	72.19 316	P		P	20 29 26.8	+0.4
	comp=Z,3.9nm,0.7s,baz=70,slow=5.8,SNR=30						
KHC	Kasperske Hory	72.21 317	eP		P	20 29 26.1	-0.3
	comp=Z,4.1nm,1.4s						
KHC	Kasperske Hory	72.21 317	eP		P	20 29 26.7	+0.3
KHC	Kasperske Hory	72.21 317	eP		P	20 29 26.7	+0.3
JAVS	Javornik	72.53 313	iP		P	20 29 28.1	-0.4
KBA	Koelnbreinsper	72.78 314	eP		P	20 29 29.5	-0.5
	comp=Z,14nm,1.1s						
SKAR	Skarslia	72.92 329	eP		P	20 29 30.1	-0.4
MOX	Moxa	73.15 318	P		P	20 29 33.6	+1.7
MOX			pmax	pmax			
	comp=Z,8.0nm,1.2s						
ABTA	Abfaltersbach	73.41 314	eP		P	20 29 32.4	-1.2
	comp=Z,7.6nm,1.3s						
WTTA	Wattenberg	73.88 315	iP		P	20 29 35.9	-0.6
	comp=Z,14nm,1.0s						
WATA	Walderalm	73.90 315	iP		P	20 29 35.8	-0.8
	comp=Z,4.4nm,0.7s						
BLS5	Blasjo	74.10 328	eP		P	20 29 37.1	-0.2
SQTA	Sankt Quirin	74.17 315	iP		P	20 29 37.5	-0.6
	comp=Z,10.0nm,0.7s,SNR=6.8						
MOTA	Moosalm	74.21 315	iP		P	20 29 37.6	-0.8
	comp=Z,13nm,0.9s,SNR=11						
RETA	Reutte	74.40 315	iP		P	20 29 39.2	-0.2
	comp=Z,12nm,0.7s,SNR=9.1						
FETA	Feichten	74.53 315	iP		P	20 29 39.9	-0.4
	comp=Z,11nm,1.1s,SNR=6.6						
FUORN	Ofenpass-Fuorn	74.94 314	eP		P	20 29 42.3	-0.5
	comp=Z,13nm,1.4s						
DAVA	Damuels	75.03 315	iP		P	20 29 42.9	-0.3
	comp=Z,11nm,1.1s						
TUE	Stuetta	75.59 314	eP		P	20 29 46.3	-0.2
	comp=Z,22nm,1.6s						
BFO	Black Forest	75.78 317	eP		P	20 29 46.7	-0.6
	comp=Z,17nm,1.8s						
BFO	Black Forest	75.78 317	iP		P	20 29 49.3	+2.0
DAG	Danmarks Havn	76.17 348	⇑iP		P	20 29 47.4	-1.6
DAG			pmax	pmax			
	comp=Z,35nm,1.4s						
DAG	Danmarks Havn	76.17 348	⇑iP		P	20 29 47.4	-1.6
	comp=Z,15nm,1.4s						
MEM	Membach	76.62 319	⇓iP		P	20 29 51.7	-0.3
WLF	Walferdange	76.80 318	eP		P	20 29 53.5	+0.5
	comp=Z,124nm,1.3s						
WLF	Walferdange	76.80 318	eP		P	20 29 53.5	+0.5
WLF			pmax	pmax			
	comp=Z,124nm,1.3s						
WLF	Walferdange	76.80 318	⇑P		P	20 29 54.2	+1.2
	comp=Z,14nm,1.4s						
SENIN	Lac Senin/Sane	76.98 315	eP		P	20 29 53.8	-0.6
	comp=Z,5.3nm,0.8s						
DOU	Dourbes	77.64 319	⇑PcP		P	20 30 04.5	+6.8
BNI	Bardonecchia	77.78 314	eP		P	20 29 58.0	-0.8
	comp=Z,15nm,1.1s						
BNI	Bardonecchia	77.78 314	eP		P	20 29 58.0	-0.8
BNI			pmax	pmax			
	comp=Z,15nm,1.1s						
IMAR	Indian Mountai	77.78 24	eP		P	20 29 57.1	-1.1
TOLK	Toolik Lake Re	78.13 21	eP		P	20 29 59.5	-0.7
	comp=Z,12nm,0.6s						
KEST	Kesra	78.56 304	P		P	20 30 03.7	+0.4
	comp=Z,7.8nm,1.0s,baz=357,slow=4.3,SNR=3.5						
LSZ	Lusaka	78.85 249	eP		P	20 30 05.5	+0.4
	comp=Z,13nm,0.8s						
LSZ	Lusaka	78.85 249	eP		P	20 30 05.5	+0.4
LSZ			pmax	pmax			
	comp=Z,13nm,0.8s						
MLY	Manley	79.32 24	eP		P	20 30 06.1	-0.7
	comp=Z,13nm,0.9s						
CAST	Castle Rocks	79.49 26	eP		P	20 30 07.4	-0.3
	comp=Z,23nm,0.8s						
BPAW	Bear Paw Mtn.	79.63 25	eP		P	20 30 07.9	-0.6
	comp=Z,19nm,1.2s						
MDM	Murphy Dome	80.30 24	eP		P	20 30 11.4	-0.7
	comp=Z,19nm,1.0s						
EKA	Eskdalemuir Ar	80.31 326	PP		PP	20 33 16.0	+1.4
	comp=Z,1.2nm,0.9s,baz=57,slow=10,SNR=4.0						
RSO	Redoubt South	80.46 29	eP		P	20 30 13.2	0.0
SCO	Scoresbysund	80.49 343	iP		P	20 30 12.7	-0.2
SCO			pmax	pmax			
	comp=Z,9.0nm,1.1s						
SCO	Scoresbysund	80.49 343	iP		P	20 30 12.7	-0.2
	comp=Z,9.4nm,1.1s						
MCK	McKinley	80.61 25	eP		P	20 30 13.0	-0.8
	comp=Z,7.9nm,0.8s						
CCB	Clear Creek Bu	80.61 24	eP		P	20 30 12.1	-1.6
	comp=Z,2.9nm,1.0s						
RND	Reindeer	80.80 25	eP		P	20 30 13.2	-1.6
	comp=Z,17nm,1.1s						
ILAR	Eielson Array	80.89 23	eP		P	20 30 12.7	-2.5
ILAR			PP		PP	20 33 19.5	+0.3
ILAR	Eielson Array	80.89 23	P		P	20 30 13.2	-2.1
	comp=Z,1.4nm,0.8s,baz=313,slow=4.8,SNR=16						
ILAR			PP		PP	20 33 19.5	+0.3
	comp=Z,1.1nm,1.1s,baz=291,slow=7.2,SNR=6.3						
ILB	Eielson Array	80.89 23	eP		P	20 30 13.1	-2.1
	comp=Z,11nm,1.4s						
SUA	Susitna One	80.91 27	eP		P	20 30 13.9	-1.6
	comp=Z,16nm,0.9s						
PRP	Porcupine Dome	81.02 23	eP		P	20 30 15.0	-1.1
	comp=Z,11nm,0.8s						
RC01	Rabbit Creek A	81.51 27	eP		P	20 30 17.2	-1.4
	comp=Z,15nm,0.9s						
PMR	Palmer	81.53 27	eP		P	20 30 17.4	-1.2
PMR	Palmer	81.53 27	eP		P	20 30 17.4	-1.2
GHO	Glory Hole Cre	81.54 27	eP		P	20 30 17.9	-0.9
	comp=Z,17nm,1.2s						
DHY	Denali Highway	81.54 25	eP		P	20 30 17.2	-1.7
	comp=Z,4.1nm,1.0s						
OHAK	Old Harbor	81.59 32	eP		P	20 30 17.9	-1.1
KDAK	Kodiak Island	81.69 31	iP		P	20 30 18.6	-0.9
SML	Sawmill	81.77 26	eP		P	20 30 19.2	-0.8
	comp=Z,16nm,1.1s						
SML	Sawmill	81.77 26	eP		P	20 30 19.2	-0.8
SML			pmax	pmax			
	comp=Z,17nm,1.1s						
KNK	Knik Glacier	81.90 27	eP		P	20 30 19.5	-1.2
	comp=Z,10nm,1.0s						
RIDG	Independent Ri	82.19 24	eP		P	20 30 20.6	-1.6
	comp=Z,13nm,1.3s						
PAX	Paxson	82.35 25	eP		P	20 30 21.1	-2.0
PAX	Paxson	82.35 25	eP		P	20 30 21.1	-2.0
SCRK	Sand Creek	82.39 24	eP		P	20 30 22.1	-1.2
	comp=Z,19nm,1.8s						
DOT	Dot Lake	82.53 24	eP		P	20 30 22.5	-1.4
TULEG	Thule	82.75 357	eP		P	20 30 23.3	-1.5
	comp=Z,12nm,1.1s						
SUMG	Summit	82.86 348	eP		P	20 30 24.8	-1.1
	comp=Z,24nm,1.2s						
SUMG	Summit	82.86 348	iP		P	20 30 24.9	-1.0
SUMG			pmax	pmax			
	comp=Z,27nm,0.9s						
SUMG	Summit	82.86 348	iP		P	20 30 24.9	-1.0
	comp=Z,27nm,0.9s						
KLU	Klutina	82.92 26	eP		P	20 30 25.6	-0.5
	comp=Z,11nm,1.0s						
EGAK	Eagle	82.97 22	eP		P	20 30 24.9	-1.2
	comp=Z,5.6nm,1.1s						
INK	Inuvik	83.23 17	eP		P	20 30 26.8	-0.5
	comp=Z,22nm,1.0s						
INK	Inuvik	83.23 17	P		P	20 30 26.9	-0.5
	comp=Z,14nm,0.8s,baz=329,slow=5.7,SNR=65						
EYAK	Cordova Ski Ar	83.48 27	eP		P	20 30 28.7	-0.1
BCAR	Beaver Creek A	83.71 24	eP		P	20 30 29.7	-0.4
DAWY	Dawson	84.01 22	eP		P	20 30 30.7	-0.9
	comp=Z,9.8nm,1.3s						
RES	Resolute Bay	84.39 4	eP		P	20 30 32.0	-1.1
	comp=Z,7.2nm,0.9s						
RES	Resolute Bay	84.39 4	eP		P	20 30 32.1	-1.1
RES			pmax	pmax			
	comp=Z,7.0nm,0.9s						
BALM	Baldy	84.63 26	eP		P	20 30 34.4	-0.5
	comp=Z,9.6nm,1.2s						
BALM	Baldy	84.63 26	eP		P	20 30 34.4	-0.5
BALM			pmax	pmax			
	comp=Z,10.0nm,1.2s						
LBTB	Lobatse	85.19 241	eP		P	20 30 38.0	-0.2
	comp=Z,15nm,0.8s						
LBTB	Lobatse	85.19 241	eP		P	20 30 38.0	-0.2
LBTB			pmax	pmax			
	comp=Z,15nm,0.8s						
BOSA	Boshof	87.00 238	P		P	20 30 46.4	-0.7
	comp=Z,6.5nm,0.8s,baz=90,slow=4.6,SNR=9.1						
BOSA			LR	LR		21 08 58.9	
	comp=Z,36nm,19.2s,baz=60,slow=35						
ESDC	Sonseca Array	87.05 311	eP		P	20 30 45.9	-1.3
ESDC	Sonseca Array	87.05 311	P		P	20 30 47.4	+0.2
	comp=Z,2.2nm,0.8s,baz=53,slow=4.8,SNR=11						
CASY	Casey	87.07 176	eP		P	20 30 47.4	+1.0
	comp=Z,21nm,1.1s						
WHY	Whitehorse	87.78 24	eP		P	20 30 49.9	-0.5
	comp=Z,10.0nm,1.2s						
MVO	Moncorvo	88.52 314	eP		P	20 30 54.8	+0.5
PMRV	Marv??o	89.54 312	eP		P	20 30 59.8	+0.8
	comp=Z,12nm,1.7s						
PTOM	Tomar	90.16 313	eP		P	20 31 03.0	+1.1
PMTG	Montargil	90.28 312	eP		P	20 31 02.5	+0.1
PNCL	Nicolau / Gran	90.93 311	eP		P	20 31 05.7	+0.2
PTEO	Sao Teotonio	91.33 311	eP		P	20 31 08.2	+0.9
	comp=Z,20nm,1.2s						
YKW3	Yellowknife Ar	92.68 15	eP		P	20 31 12.2	-0.8
	comp=Z,4.4nm,1.1s						
YKA	Yellowknife Ar	92.74 15	P		P	20 31 12.1	-1.2
	comp=Z,1.4nm,0.8s,baz=328,slow=4.4,SNR=24						
YKA			PP		PP	20 34 53.6	-0.9
	comp=Z,0.6nm,0.9s,baz=322,slow=7.8,SNR=5.6						
YKA			PKKPbc		PKKPdf	20 48 24.3	+1.3
	comp=Z,0.4nm,0.8s,baz=133,slow=1.8,SNR=5.5						
YKB5	Yellowknife Ar	92.74 15	eP		P	20 31 12.1	-1.2
YKB5			ePP		PP	20 34 53.6	-0.9
YKB5			ePKKPdf		PKKPdf	20 48 24.3	+1.3
TORD	Torodi Ar. Bea	92.81 285	P		P	20 31 14.2	-0.4
	comp=Z,0.9nm,0.8s,baz=64,slow=3.4,SNR=5.5						
TORD			PP		PP	20 34 54.6	-2.2
	comp=Z,1.1nm,1.0s,baz=20,slow=4.9,SNR=3.7						
TOA1	Torodi Ar. Sit	92.81 285	eP		P	20 31 14.2	-0.4
TOA1			ePP		PP	20 34 54.6	-2.2
URZ	Urewera	93.14 130	PKKPbc		PKKPbc	20 48 24.5	-0.6
	comp=Z,18nm,1.0s,baz=350,slow=6.4,SNR=3.9						
LTX	Lajitas	125.38 25	ePKPdf		PKPdf	20 37 02.6	-0.4
LTX	Lajitas	125.38 25	ePKIKP		PKPdf	20 37 02.6	-0.4
TXAR	Lajitas Array	125.38 25	PKP		PKPdf	20 37 02.6	-0.4
	comp=Z,0.6nm,0.6s,baz=169,slow=1.3,SNR=4.9						
JCT	Junction City	125.76 21	ePKPdf		PKPdf	20 37 03.2	-0.4
JCT	Junction City	125.76 21	ePKIKP		PKPdf	20 37 03.2	-0.4
ACON	Acoyapa	147.19 9	ePKPbc		PKPdf	20 37 44.4	+1.2
SDV	Santo Domingo	149.14 341	ePKPbc		PKPdf	20 37 48.9	+2.1

MAN 06 20:46:56.3, 10°.35N×122°.17E, h33km, mb4.2, ML3.0, MS2.7, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	Jordan	0.49	56	eP	Pn	20 47 07.9	+0.9
GUIM				eS	Sn	20 47 15.8	+1.4
CUYO	Cuyo Island	1.24	294	eP	Pn	20 47 17.4	+0.1
CUYO				eS	Sn	20 47 32.7	-0.2
RCP	Roxas	1.32	25	⇑eP	Pb	20 47 19.9	-0.7
RCP				eS	Sn	20 47 32.6	-2.4
LLP	Lapu-Lapu	1.77	91	eP	Pb	20 47 32.9	+4.8
LLP				eS	Sb	20 47 58.2	+8.3
SJMP	San Jose	2.34	334	eP	Pn	20 47 33.5	+1.1
SJMP				eS	Sn	20 48 00.8	+0.8

IDC 06 20:47:18.2±4.1, 16°.59S×175°.25W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/34, mbtmp4.2/4, Error ellipse: s-maj=180.0km s-min=32.2km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	41.91	241	P	P	20 55 11.0	+0.4
	3.5nm,0.5s,baz=83,slow=9.6,SNR=23						
WRA	Warramunga Arr	47.85	258	P	P	20 55 58.0	-0.2
	0.5nm,0.3s,baz=96,slow=7.1,SNR=18						
ASAR	Alice Springs	48.06	253	P	P	20 55 59.4	-0.4
	10.0nm,0.5s,baz=88,slow=8.4,SNR=232						
ILAR	Eielson Array	83.95	12	P	P	20 59 50.4	+0.6
	0.2nm,0.4s,baz=216,slow=5.5,SNR=4.7						
BRTR	Keskin Array B	145.90	318	PKPbc	PKPdf	21 06 58.2	-1.3
	0.3nm,0.7s,baz=157,slow=3.7,SNR=4.2						

*IDC **06** 20:53:50.7±0.9, 13°.06N×92°.21E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/36, mbtmp3.5/8, ML3.5/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/46, Error ellipse: s-maj=35.5km s-min=18.1km az=49.0*

*ISCJB **06** 20:53:54.4±0.4, 13°.21N±0°.05×92°.14E±0°.05, h33km, mb4.2/15, Error ellipse: s-maj=8.5km s-min=4.8km az=140.7*

*NEIC **06** 20:53:55.9±3.8, 13°.15N×92°.24E, h33km±31km, mb4.4/7, Error ellipse: s-maj=19.2km s-min=11.0km az=84.0*

*NDI **06** 20:53:56.0±2.9, 13°.18N×92°.24E, h34km±31km, mb4.3, ML4.3, mb4.4(NEIC)*

ISC 06 20:53:56.6±0.8, 13°.33N±0°.09×92°.16E±0°.06, h35km, n44, σ1§80/40, mb4.3/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGPR	DIGLIPUR	0.76	101	eP	Pn	20 54 10.7	-0.2
DGPR				eS	Sn	20 54 20.2	-0.9
DGPR				IAML		20 54 22.9	
	comp=N,8μm,0.6s						
DGPR				IAML		20 54 23.2	
	comp=E,6μm,0.3s						
PBA	Port Blair	1.75	161	ePn	Pn	20 54 21.4	-3.1
PBA	Port Blair	1.75	161	eP	Pn	20 54 22.1	-2.5
PBA				eS	Sn	20 54 41.5	-4.2
CM31	Chiang Mai Arr	8.28	51	ePn	Pn	20 55 47.3	-7.0
CMAR	Chiang Mai Arr	8.28	51	ePn	Pn	20 55 53.9	-0.4
CMAR	Chiang Mai Arr	8.28	51	Pn	Pn	20 55 55.3	+1.0
	comp=E,0.2nm,0.3s,baz=239,slow=16,SNR=3.7						
CMAR				Sn	Sn	20 57 23.9	-2.8
	comp=E,0.6nm,0.3s,baz=240,slow=28,SNR=8.4						
CMAR				LR	LR	20 59 54.2	
	comp=E,61nm,18.8s,baz=250,slow=43						
CMMT	Chiang Mai	8.50	49	P	Sn	20 57 29.3	-2.8
BWNR	Bhubaneshwar	9.22	320	ex	Pn	20 56 04.6	-2.6
VIS	Vishakhapatnam	9.57	298	iP	Pn	20 56 11.7	-0.3
VIS				iS	Sn	20 57 51.3	-7.0
VIS				iS		20 57 51.8	
VIS				ex	x	20 57 52.9	
	comp=E,189nm,0.6s						
VIS				ex	x	20 57 54.6	
	comp=N,170nm,0.5s						
SHL	Shillong	12.18	359	ePn	Pn	20 56 49.4	+1.5
PALK	Pallekele	12.78	243	LR	LR	21 01 16.2	
	comp=N,83nm,18.6s,baz=319,slow=35						
RAMN	Ramite	14.52	340	eP	Pn	20 57 20.0	+0.1
	comp=N,15nm,0.4s						
NGP	Nagpur	14.74	304	eP	Pn	20 57 23.2	+0.6
JIRN	Jiri	15.31	340	eP	Pn	20 57 29.5	-1.1
	comp=N,20nm,0.5s						
PKI	Pulchoki	15.52	337	eP	Pn	20 57 32.9	-0.3
	comp=N,6.5nm,0.3s						
PKIN	Phulchoki	15.53	337	eP	Pn	20 57 33.0	-0.3
	comp=N,6.6nm,0.4s						
LSA	Lhasa	16.32	357	ePn	P	20 57 46.0	-0.4
	comp=N,9.9nm,1.4s						
KOLN	Koldanda	16.45	332	eP	Pn	20 57 45.2	+0.2
	comp=N,12nm,0.5s						
DANN	Dangsing	16.88	334	eP	Pn	20 57 51.0	+0.5
	comp=N,21nm,0.6s						
PYUN	Piuthan	17.01	331	eP	Pn	20 57 52.2	+0.1
	comp=N,11nm,0.5s						
BHPL	Bhopal	17.11	307	eP	P	20 57 56.6	+2.0
POO	Poona	18.35	289	eP	P	20 58 09.1	+0.7
DDI	Dehra Dun	21.35	325	eP	P	20 58 41.1	+0.1
SMLA	Simla	22.46	324	eP	P	20 58 54.4	+1.5
ENH	Enshi	23.25	41	eP	P	20 59 02.8	+1.7
	comp=N,18nm,1.1s						
DHRM	DHARAMSHALA	23.79	325	eP	P	20 59 07.8	+1.3
DHRM				IAmb	IAmb	20 59 09.8	
	comp=Z,7.8nm,0.8s						
H08S3	Diego Garcia H	28.55	224	T	T	21 29 34.2	
	baz=43,slow=76,SNR=23						
H08S2	Diego Garcia H	28.56	224	T	T	21 29 32.4	
	baz=43,slow=76,SNR=18						
H08S1	Diego Garcia H	28.57	224	T	T	21 29 42.5	
	baz=43,slow=76,SNR=17						
GAR	Garm	32.05	327	eP	P	21 00 21.6	+1.3
	comp=Z,5.2nm,0.9s						
BTK	Batken	32.58	329	eP	P	21 00 26.4	+1.6
	comp=Z,4.6nm,0.9s						
MK31	Makanchi Array	34.38	348	eP	P	21 00 40.2	-0.2
	comp=Z,8.7nm,2.0s						
MKAR	Makanchi Array	34.38	348	eP	P	21 00 41.8	+1.4
MKAR	Makanchi Array	34.38	348	P	P	21 00 42.1	+1.7
	comp=Z,0.5nm,0.8s,baz=157,slow=7.8,SNR=3.2						
KURBB	Kurchatov Arra	38.82	346	P	P	21 01 19.8	+1.7
	comp=Z,0.4nm,0.8s,baz=165,slow=7.8,SNR=3.7						
GEYT	Alibeck	38.92	315	P	P	21 01 21.4	+2.1
	comp=Z,1μm,0.6s,baz=130,slow=13,SNR=2.5						
ZALV	Zalesovo Beam	40.94	353	P	P	21 01 35.3	-0.3
	comp=Z,0.3nm,0.4s,baz=186,slow=11,SNR=2.8						
ABKAR	Akbulak array	44.55	330	eP	P	21 02 06.3	+1.3
	comp=Z,8.3nm,1.9s						
WRA	Warramunga Arr	53.06	128	P	P	21 03 08.4	-2.3
	comp=Z,8.0nm,0.4s,baz=305,slow=8.2,SNR=4.2						
ASAR	Alice Springs	54.93	132	P	P	21 03 22.2	-2.2
	comp=Z,0.9nm,0.7s,baz=310,slow=6.4,SNR=11						
BRTR	Keskin Array B	57.47	309	P	P	21 03 42.4	-0.1
	comp=Z,0.5nm,0.8s,baz=134,slow=4.7,SNR=3.7						
TIXI	Tiksi	62.33	12	eP	P	21 04 15.0	-0.1
	comp=Z,4.5nm,1.4s						
GERES	GERESS Array B	72.51	317	P	P	21 05 20.6	+0.5
	comp=Z,0.3nm,0.6s,baz=74,slow=7.2,SNR=3.5						
TORD	Torodi Ar. Bea	87.48	283	P	P	21 06 41.9	+0.5
	comp=Z,0.9nm,1.0s,baz=57,slow=5.5,SNR=3.7						

*ISCJB **06** 21:07:00.7±0.3, 25°.13N±0°.04×96°.54E±0°.03, h10km, mb4.2/40, MS3.2/9, Error ellipse: s-maj=5.6km s-min=3.8km az=22.7*

*BJI **06** 21:07:03.1±0.0, 25°.03N×96°.41E, h29km, mb4.4/20, mB4.6/13, ML4.4/2, Ms4.1/19, Ms7 3.8/16*

*IDC **06** 21:07:04.7±5.9, 25°.19N×96°.55E, h24km±41km, mb3.8/13, mb1 4.0/14, mb1mx3.7/43, mbtmp4.0/14, ML4.2/1, MS3.2/9, Ms1 3.2/9, ms1mx3.0/46, Error ellipse: s-maj=35.5km s-min=14.6km az=57.0*

*NEIC **06** 21:07:06.7±2.4, 25°.05N×96°.54E, h53km±8km, mb4.2/33, Error ellipse: s-maj=16.4km s-min=11.2km az=208.0*

ISC 06 21:07:02.0±0.4, 25°.07N±0°.05×96°.58E±0°.04, h10km, n108, σ1§87/110, mb4.3/40, MS3.1/9, 4C-1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	Shillong	4.28	278	ePn	Pn	21 08 09.1	+1.7
SHL				eSn	Sn	21 08 41.7	-16
SHL	Shillong	4.28	278	eP	Pn	21 08 12.0	+4.6
SHL				eS	Sg	21 09 43.0	+23
KMI	Kunming	5.58	88	Pn	Pn	21 08 29.8	+4.4
KMI				Pg	Pg	21 08 48.9	-0.1
KMI				Sn	Sn	21 09 33

	41nm,0.3s				
DANN	Dangsing	11.92 289	eP	Pn	21 09 50.9 -1.4
	27nm,0.5s				
KOLN	Koldanda	11.94 286	eP	Pn	21 09 51.7 -0.9
	17nm,0.4s				
PYUN	Piuthan	12.53 287	eP	Pn	21 09 59.5 -1.1
	32nm,0.7s				
ENH	Enshi	12.55 63	ePn	Pn	21 10 01.9 +1.1
QIZ	Qiongzhong	13.68 113	ePn	Pn	21 10 17.7 +1.5
GTA	Gaotai	14.56 10	eP	P	21 10 35.0 +0.2
GTA			pP	Pn	21 10 39.0 +11
GTA			sP		21 10 42.0
GTA			pmax	pmax	
	comp=Z,2.0nm,0.6s				
DLV	T Lat	17.24 137	ePn	Pn	21 11 00.4 -2.9
	9.5nm,1.1s				
HYB	Hyderabad	18.44 249	i P	Pn	21 11 20.0 +2.1
WMQ	Urumqi	20.07 341	P	Pn	21 11 37.3 0.0
WMQ			pP	sP	21 11 46.7 +6.8
WMQ			sP	pP	21 11 53.3 +15
WMQ			pmax	pmax	
	comp=Z,36nm,0.9s				
WMQ			pmax	pmax	
	comp=Z,240nm,4.1s				
WMQ	Urumqi	20.07 341	eP	P	21 11 35.1 -0.4
	3.3nm,1.0s				
HHC	Hu-ho-hao-te	20.09 35	eP	Pn	21 11 38.3 +0.6
HHC			SS	Sn	21 15 46.3 +22
HHC			pmax	pmax	
	comp=Z,46nm,0.9s				
HHC			pmax	pmax	
	comp=Z,160nm,4.1s				
HHC			LR	LR	
	comp=E,640nm,11.0s				
HHC			LR	LR	
	comp=Z,630nm,10.1s				
IPM	Ipoh	20.91 168	eP	P	21 11 43.1 -1.7
	6.2nm,1.0s				
NIL	Nilore	22.02 298	eP	P	21 11 56.5 -0.2
	15nm,0.6s				
KSH	Kashi	22.53 315	P	P	21 12 03.3 +1.1
KSH			sP	sP	21 12 16.9 +10
KSH			PP	PnPn	21 12 32.2 +6.7
KSH			S	S	21 16 03.1 -6.3
KSH			SS	SnSn	21 16 45.8 +7.6
KSH			pmax	pmax	
	comp=Z,25nm,0.6s				
KSH			pmax	pmax	
	comp=Z,120nm,3.4s				
KSH			LR	LR	
	comp=E,200nm,6.5s				
KSH			LR	LR	
	comp=Z,380nm,5.2s				
TARG	Taragay, Kyrgy	22.76 321	eP	P	21 12 04.3 -0.6
	7.4nm,0.7s				
PALK	Pallekele	23.32 223	eP	P	21 12 09.4 -1.1
	6.8nm,1.0s				
PALK	Pallekele	23.32 223	LR	LR	21 23 05.7
	comp=Z,60nm,19.6s,baz=116,slow=41				
KDJ	Kajisay	23.38 321	eP	P	21 12 11.6 +0.6
	29nm,0.9s				
NRN	Naryn	23.62 319	eP	P	21 12 11.6 -2.1
	3.0nm,0.9s				
GSI	Gunungsitoli	23.65 178	eP	P	21 12 14.3 +0.6
	24nm,1.0s				
ULHL	Ulahol	23.99 321	P	P	21 12 18.3 +1.3
	SNR=7.0				
YOJ	Yonaguni jima	24.00 86	eP	P	21 12 15.9 -1.1
	60nm,1.0s				
SONA0	Songino Array	24.01 16	eP	P	21 12 16.5 -0.6
SONM	Songino Array	24.01 16	eP	P	21 12 16.7 -0.3
SONM	Songino Array	24.01 16	P	P	21 12 16.5 -0.6
	1.2nm,0.8s,baz=192,slow=8.8,SNR=9.6				
SONM			LR	LR	21 23 26.2
	comp=Z,15nm,20.7s,baz=201,slow=41				
BOOM	Boomskoye usch	24.31 321	eP	P	21 12 21.1 +1.1
	8.4nm,0.9s				
MK31	Makanchi Array	24.50 336	eP	P	21 12 22.1 +0.7
	5.5nm,0.8s				
MK32	Makanchi Array	24.50 336	eP	P	21 12 21.6 +0.2
MKAR	Makanchi Array	24.50 336	eP	P	21 12 21.2 -0.2
MKAR	Makanchi Array	24.50 336	P	P	21 12 21.7 +0.2
	6.6nm,0.8s,baz=143,slow=10.0,SNR=50				
MKAR			LR	LR	21 21 48.7
	comp=Z,38nm,18.4s,baz=124,slow=36				
MAKZ	Makanchi	24.62 335	eP	P	21 12 22.0 -0.6
	6.6nm,0.9s				
MAKZ			ePcP	PcP	21 15 50.5 -10
TKM2	Tokmak 2	24.78 321	P	P	21 12 25.3 +1.0
	SNR=8.0				
UCH	Uchtor	24.99 319	P	P	21 12 27.5 +1.1
	SNR=13				
KBK	Karagaybulak	24.99 320	P	P	21 12 27.6 +1.5
	SNR=20				
AAK	Ala-Archa	25.25 319	P	P	21 12 30.0 +1.6
	SNR=10				
AAK	Ala-Archa	25.25 319	eP	P	21 12 28.2 -0.1
	7.3nm,0.9s				
AAK	Ala-Archa	25.25 319	P	P	21 12 29.0 +0.6
	7.0nm,0.8s,baz=128,slow=5.4,SNR=33				
AAK			LR	LR	21 23 47.1
	comp=Z,71nm,20.7s,baz=134,slow=40				
FRU1	Bishkek	25.27 320	eP	P	21 12 29.1 +0.5
	13nm,0.8s				
CHMS	Chumysh	25.32 320	P	P	21 12 30.2 +1.3
	SNR=7.8				
ARSB	Arslanbob	25.43 315	eP	P	21 12 30.4 +0.4
	3.6nm,0.8s				
AML	Almayashu	25.43 318	P	P	21 12 31.6 +1.3
	SNR=10				
KBL	Kabul	25.62 298	eP	P	21 12 31.2 -0.7
	9.3nm,0.6s				
EKS2	Erkin-Say	25.69 319	P	P	21 12 33.6 +1.2
	SNR=20				
GAR	Garm	26.13 308	eP	P	21 12 36.5 0.0
	27nm,0.9s				
BTK	Batken	26.24 311	eP	P	21 12 38.4 +1.0
	13nm,0.8s				
CHGR	Chuyangaron	26.82 307	eP	P	21 12 40.8 -1.9
	4.2nm,1.1s				
KKAR	Karatay Array	27.93 317	eP	P	21 12 51.1 -1.3
KKAR			eP	P	21 12 51.9 -0.6
KURBB	Kurchatov Arra	29.07 336	P	P	21 13 02.2 -0.2
	0.9nm,0.6s,baz=148,slow=9.3,SNR=7.9				
KURK	Kurchatov	29.11 336	eP	P	21 13 02.0 -0.8
	3.3nm,0.7s				
KSRS	Korea Array	29.36 58	LR	LR	21 25 10.8
	comp=Z,43nm,18.5s,baz=225,slow=37				
ZALV	Zalesovo Beam	30.15 346	eP	P	21 13 10.7 -1.3
ZALV	Zalesovo Beam	30.15 346	P	P	21 13 11.7 -0.3
	1.3nm,0.5s,baz=168,slow=8.7,SNR=8.8				
ZALV			LR	LR	21 25 59.5
	comp=Z,48nm,19.1s,baz=76,slow=38				
ZAA1	Zalesovo Array	30.16 346	eP	P	21 13 11.7 -0.3
BRVK	Borovoye	34.24 332	eP	P	21 13 45.7 -2.2
	2.6nm,0.8s				
GEYT	Alibeck	34.97 301	P	P	21 13 55.6 +1.2
	2.2nm,0.8s,baz=86,slow=7.6,SNR=3.8				
INU	Inuyama	36.20 64	eP	P	21 14 03.2 -1.8
	3.2nm,0.8s				
ABKAR	Akbulak array	37.33 320	eP	P	21 14 14.4 0.0
ABKAR			eP	P	21 14 14.8 +0.4
ARU	Arti	41.64 329	eP	P	21 14 49.4 -0.9
	3.4nm,0.7s				
BR101	Keskin Array S	54.10 302	eP	P	21 16 27.0 -0.3
BRTR	Keskin Array B	54.10 302	P	P	21 16 27.0 -0.3
	0.6nm,0.6s,baz=119,slow=8.6,SNR=4.7				
AKASG	Malin Array Be	56.82 315	P	P	21 16 44.7 -1.8
	0.4nm,0.4s,baz=80,slow=6.6,SNR=5.7				
AKBB	Malin Array Si	56.82 315	eP	P	21 16 44.7 -1.8
	3.0nm,0.9s				
WR1	Warramunga Arr	57.88 137	eP	P	21 16 55.4 +1.0
WRA	Warramunga Arr	57.88 137	P	P	21 16 55.4 +1.0
	5.3nm,0.4s,baz=354,slow=33,SNR=6.1				
VRI	Vrincioaia	58.69 310 ⇓	iP	P	21 16 59.2 -0.6
PLOR	Plostina	58.74 310 ⇑	iP	P	21 17 00.7 +0.5
FIA1	FINESS Array S	59.00 328	eP	P	21 17 01.2 -0.4
	3.3nm,1.0s				
FIA0	FINESS Array S	59.00 328	eP	P	21 17 01.2 -0.5
FINES	FINESS Array B	59.00 328	P	P	21 17 01.2 -0.5
	0.9nm,0.7s,baz=103,slow=4.1,SNR=3.7				
BIZ	Bicaz	59.03 311 ⇑	iP	P	21 17 01.4 -0.7
MLR	Muntele Rosu	59.27 309	eP	P	21 17 03.1 -0.9
	3.1nm,0.7s				
MLR	Muntele Rosu	59.27 309 ⇑	iP	P	21 17 04.4 +0.4
BURAR	Bucovina Array	59.58 312 ⇑	iP	P	21 17 05.6 -0.4
ARA0	ARCESS Array S	60.14 337	eP	P	21 17 09.6 +0.2
ARCES	ARCESS Array B	60.14 337	P	P	21 17 09.6 +0.2
	2.4nm,0.9s,baz=76,slow=5.1,SNR=3.8				
AS31	Alice Springs	60.46 140	eP	P	21 17 14.1 +1.8
	0.5nm,0.7s				
ASAR	Alice Springs	60.46 140	eP	P	21 17 14.5 +2.3
ASAR	Alice Springs	60.46 140	P	P	21 17 14.0 +1.8
	2.0nm,0.9s,baz=313,slow=6.6,SNR=9.1				
ASAR			LR	LR	21 48 15.1
	comp=Z,26nm,18.5s,baz=335,slow=41				
KWP	Kalwaria Pacla	61.06 314	eP	P	21 17 14.9 -1.1
	48nm,0.6s				
KOLS	Kolonicke sedl	61.41 314	eP	P	21 17 18.8 +0.4
VYHS	Vyhne	63.72 314	eP	P	21 17 33.9 0.0
NB200	NORSAR Array S	66.19 328	eP	P	21 17 48.4 -1.3
NOA	NORSAR Array B	66.19 328	P	P	21 17 48.4 -1.3
	0.5nm,0.7s,baz=82,slow=6.5,SNR=3.5				
NOA			LR	LR	21 48 12.9
	comp=Z,21nm,18.6s,baz=0.0,slow=37				
GEC2	GERESS Array S	67.01 315	eP	P	21 17 54.7 -0.5
	2.1nm,0.8s				
GERES	GERESS Array B	67.01 315	eP	P	21 17 53.4 -1.8
GERES	GERESS Array B	67.01 315	P	P	21 17 54.7 -0.5
	1.0nm,0.7s,baz=52,slow=8.6,SNR=10				
BMAR	Burnt Mountain	77.30 20	eP	P	21 18 53.5 -2.9

IDC ***06*** *21:18:35.2±1.0, 15°.95N×147°.26E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.6/37, mbtmp3.7/8, MS3.0/1, Ms1 3.0/1, ms1mx2.4/39, Error ellipse: s-maj=34.6km s-min=21.0km az=105.0*

ISCJB ***06*** *21:18:39.0±0.9, 15°.9N±0°.1×147°.2E±0°.2, h38km, mb3.8/8, MS2.9/1, Error ellipse: s-maj=32.1km s-min=18.8km az=10.2*

ISC 06 21:18:40.7±1.1, 15°.9N±0°.2×147°.3E±0°.2, h38km, n9, σ1 19°.10/8, mb3.7/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	27.43	325	LR	LR	21 35 32.3	
	comp=Z,28nm,18.3s,baz=155,slow=37						
WRA	Warramunga Arr	37.83	200	P	P	21 25 54.1	+0.3
	2.8nm,0.3s,baz=24,slow=9.2,SNR=3.2						
ASAR	Alice Springs	41.45	199	P	P	21 26 24.1	+0.1
	0.4nm,0.7s,baz=17,slow=9.7,SNR=3.2						
CMAR	Chiang Mai Arr	46.12	280	P	P	21 27 01.9	+0.2
	1.3nm,0.7s,baz=74,slow=6.6,SNR=12						
SONM	Songino Array	46.24	322	P	P	21 27 03.7	+1.3
	0.6nm,0.6s,baz=131,slow=7.1,SNR=3.6						
MKAR	Makanchi Array	61.46	315	P	P	21 28 52.7	-0.8
	0.4nm,0.6s,baz=93,slow=9.7,SNR=4.7						
ILAR	Eielson Array	65.49	25	P	P	21 29 20.8	+1.0
	0.6nm,0.8s,baz=253,slow=6.2,SNR=3.8						
YKA	Yellowknife Ar	79.74	28	P	P	21 30 44.0	-0.5
	0.5nm,0.7s,baz=285,slow=5.2,SNR=6.1						
FINES	FINESS Array B	90.02	336	P	P	21 31 34.6	-1.5
	0.7nm,0.6s,baz=61,slow=9.1,SNR=3.9						

ISK ***06*** *21:20:51.6, 37°.29N×37°.09E, h18km, ML1.7/6*

ISCJB ***06*** *21:20:52.3±0.7, 37°.31N±0°.05×37°.12E±0°.06, h14km±4km, Error ellipse: s-maj=10.1km s-min=6.0km az=137.0*

DDA ***06*** *21:20:52.4, 37°.29N×37°.11E, h3km±2km, ML2.8*

ISC 06 21:20:52.4±0.9, 37°.27N±0°.04×37°.08E±0°.03, h15km±8km, n16, σ0 19°.57/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.14	132	PG	Pb	21 20 56.5	-0.3
GAZ				SG	Sg	21 20 59.2	+0.5
HCB	Kahramanmara	0.16	299	i P	Pb	21 20 57.0	-0.2
HCB				i S	Sg	21 20 59.6	+0.4
AYKD	Aykdinkavak	0.27	304	IAML_P			
	comp=Z,2μm,0.1s						
AYKD				i P	Pb	21 20 59.2	+0.2
AYKD				i S	Sg	21 21 02.0	-0.1
KMRS	Kahramanmaras	0.28	329	PG	Pg	21 20 57.9	-0.5
KAMA	Osmaniye	0.34	257	IAML_P			
	comp=Z,6μm,0.1s						
KAMA				i P	Pb	21 21 00.8	+0.6
GZT	Gaziantep	0.39	77	IAML_P			
	comp=Z,2μm,0.1s						
GZT				i P	Pg	21 21 00.1	-0.3
KUZU	Kuzuini	0.49	181	IAML_P			
	comp=Z,3μm,0.1s						
KUZU				i P	Pn	21 21 04.6	-0.4
KUZU				i S	Sb	21 21 10.6	+0.8
ANDN	Andirin	0.67	298	i P	Pn	21 21 06.9	-0.6
ATAB	Bozova	0.99	78	IAML_P			
	comp=Z,5μm,0.2s						
ATAB				i P	Pn	21 21 12.0	+0.2
KOZT	Kozan	1.02	283	PG	Pg	21 21 11.6	-0.6
SAIM	ADANA	1.07	312	IAML_P			
	comp=Z,397nm,0.2s						
SAIM				i P	Pn	21 21 13.8	+0.9
TAHT	Tahtakopru-Hat	1.14	219	PN	Pb	21 21 13.6	-0.3
AKCD	Akcadag	1.23	33	IAML_P			
	comp=Z,632nm,0.1s						
AKCD				i P	Pg	21 21 16.5	+0.5
SURC	SANLIURFA_SURC	1.28	107	IAML_P			
	comp=Z,119nm,0.1s						
SURC				i P	Pg	21 21 17.1	0.0
DARE	Darende-Malaty	1.34	14	PN	Pn	21 21 15.8	-0.9
URFA	Urfa	1.40	82	PN	Pn	21 21 16.8	-0.7

IDC 06 21:30:35.9±26.0, 19°.63S×172°.46W, h0km, mb4.5/4, mb1 4.7/4, mb1mx3.8/38, mbtmp4.5/4, Error ellipse: s-maj=490.1km s-min=148.1km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	38.76	262	P	P	21 38 02.9	+0.5
	3.1nm,0.4s,baz=99,slow=11,SNR=6.0						
STKA	Stephens Creek	42.85	244	P	P	21 38 35.6	-0.4
	2.6nm,0.5s,baz=97,slow=11,SNR=16						
ASAR	Alice Springs	49.78	255	P	P	21 39 30.4	-0.3
	6.0nm,0.5s,baz=94,slow=8.2,SNR=63						
WRA	Warramunga Arr	49.88	260	P	P	21 39 31.4	-0.1
	3.2nm,0.3s,baz=94,slow=8.2,SNR=91						

IDC ***06*** *21:32:56.7±1.8, 53°.72N×162°.42E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.7/42, mbtmp3.9/10, ML3.6/2, MS2.4/2, Ms1 2.4/2, ms1mx2.2/52, Error ellipse: s-maj=45.3km s-min=20.2km az=132.0*

KRSC ***06*** *21:32:58.7±10.0, 53°.60N×162°.17E, h41km±10km, ML4.1*

ISCJB ***06*** *21:32:59.6±0.6, 53°.62N±0°.03×162°.10E±0°.06, h20km, mb3.8/9, Error ellipse: s-maj=6.2km s-min=2.7km az=38.9*

ISC 06 21:32:58.2±0.8, 53°.60N±0°.04×162°.19E±0°.04, h20km, n46, σ2 29°.41/67, mb3.9/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.99	344	eP	Pn	21 33 18.1	+1.2
MKZ				eS	Sn	21 33 30.5	+0.1
SPN	Mys Shipunski	1.39	250	eP	Pb	21 33 23.6	+0.1
SPN				eS	Sb	21 33 40.3	-0.5
NLC	Nalytchevo	1.76	257	eP	Pb	21 33 28.9	-0.8
NLC				eS	Sb	21 33 49.6	-1.6
KZV	Kizimen	1.88	325	eP	Pb	21 33 31.1	-0.7
KZV				eS	Sb	21 33 53.6	-1.3
TUMD	Tumrok D	1.91	328	eP	Pb	21 33 30.8	-1.6
TUMD				eS	Sb	21 33 53.0	-2.9
SDLR	Sedlovina	2.00	262	eP	Pb	21 33 32.6	-1.4
SDLR				eS	Sb	21 33 56.4	-2.1
UGLR	Uglovaya	2.05	260	eP	Pb	21 33 33.5	-1.3
UGLR				eS	Sb	21 33 58.0	-1.9
SMAR	Somma	2.05	262	eP	Pb	21 33 33.4	-1.5
KRER	Koryakskii	2.08	263	eP	Pb	21 33 34.1	-1.2
KRER				eS	Sb	21 33 58.6	-2.1
AVH	Avacha	2.09	262	eP	Pb	21 33 34.3	-1.1
AVH				eS	Sb	21 33 58.9	-2.1
KRX	Arik	2.13	265	eP	Pb	21 33 34.4	-1.7
KRX				eS	Sb	21 33 59.3	-2.8
DALK	Dalny	2.14	256	eP	Pb	21 33 34.3	-1.9
DALK				eS	Sb	21 33 58.8	-3.4
KOK	Koryaka	2.15	263	eP	Pb	21 33 34.8	-1.6
KOK				eS	Sb	21 33 58.9	-3.7
PET	Petropavlovsk	2.20	256	eP	Pb	21 33 35.4	-1.8
PET				eS	Sb	21 34 00.7	-3.2
BZGR	Bezymyannyi-Gr	2.50	340	eP	Pb	21 33 40.5	-1.9
RUS	Russkaya	2.51	244	eP	Pb	21 33 39.9	-2.6
RUS				eS	Sn	21 34 08.3	+0.6
KRMR	Karymshinskiy	2.56	254	eP	Pb	21 33 40.7	-2.7
KRMR				eS	Sn	21 34 09.7	+0.7
LGNR	Loginova	2.63	341	eP	Pb	21 33 42.9	-1.9
KBTR	Krutoberegovo	2.64	8	eP	Pb	21 33 41.7	-3.0
KBTR				eS	Sn	21 34 11.9	+1.0
CIRR	Tsirk	2.65	342	eP	Pb	21 33 42.9	-2.1
MTVR	Mutnovka	2.67	247	eP	Pb	21 33 42.6	-2.6
MTVR				eS	Sb	21 34 12.8	-4.7
KBG	Krutoberegovo	2.67	6	eP	Pb	21 33 42.8	-2.5
KBG				eS	Sb	21 34 13.6	-4.1
BKI	Bering	2.73	53	eP	Pb	21 33 43.4	-2.9
BKI				eS	Sn	21 34 13.0	-0.2
PETK	Petropavlovsk-	2.73	261	Pn	Pb	21 33 43.7	-2.6
	12nm,0.3s,baz=264,slow=25,SNR=125						
PETK				Sn	Sb	21 34 15.6	-3.9
	15nm,0.3s,baz=270,slow=19,SNR=13						
PETK				LR	LR	21 34 37.0	
	comp=Z,33nm,19.5s,baz=335,slow=35						
KLY	Klyuchi	2.86	343	eP	Pb	21 33 44.9	-3.5
KLY				eS	Sn	21 34 17.4	+1.1
ASAK	Asacha	2.86	246	eP	Pb	21 33 46.1	-2.5
SMKR	Semkarok	3.02	352	eP	Pb	21 33 48.4	-2.8
BDR	Baidarnaya	3.02	350	eP	Pb	21 33 48.4	-3.0
KDTR	Khodutka, Kamc	3.08	236	eP	Pb	21 33 47.6	-4.6
KDTR				eS	Sn	21 34 20.9	-0.9
ESO	Esso	3.08	320	eP	Pb	21 33 48.2	-4.1
ESO				eS	Sn	21 34 23.6	+1.7
APC	Apacha	3.10	259	eP	Pb	21 33 49.6	-2.9
APC				eS	Sb	21 34 25.0	-4.8
SRKR	Sorokina	3.11	350	eP	Pb	21 33 49.4	-3.5
ASAJ	Asahikawa	15.96	241	Pn	P	21 36 43.2	-1.6
	0.8nm,0.3s,baz=74,slow=15,SNR=5.8						
ASAJ				LR	LR	21 42 54.4	
	comp=Z,27nm,20.3s,baz=157,slow=37						
TIXI	Tiksi	23.16	334	P	P	21 38 03.1	+0.3
	3.1nm,0.9s,baz=119,slow=10,SNR=9.0						
MJAR	Matsushiro Arr	23.85	234	P	P	21 38 13.2	+3.2
	2.1nm,1.0s,baz=18,slow=11,SNR=3.5						
ILAR	Eielson Array	27.56	46	P	P	21 38 42.9	-0.5
	0.4nm,0.8s,baz=270,slow=8.2,SNR=5.1						
H11N2	WAKE ISLAND Hy	34.00	172	T	T	22 17 07.4	
	baz=355,slow=76,SNR=4.1						
H11N3	WAKE ISLAND Hy	34.02	172	T	T	22 17 13.6	
	baz=355,slow=76,SNR=4.0						
H11N1	WAKE ISLAND Hy	34.02	172	T	T	22 17 14.4	
	baz=355,slow=76,SNR=5.3						
MKAR	Makanchi Array	49.06	296	P	P	21 41 42.1	-1.5
	0.4nm,0.5s,baz=55,slow=6.5,SNR=7.1						
ARCES	ARCESS Array B	53.19	342	P	P	21 42 15.2	+1.0
	2.2nm,0.9s,baz=26,slow=8.5,SNR=3.7						
CMAR	Chiang Mai Arr	59.51	260	P	P	21 43 03.0	+3.1
	0.7nm,0.6s,baz=26,slow=7.1,SNR=4.2						
FINES	FINESS Array B	60.14	337	P	P	21 43 05.2	+1.5
	1.6nm,0.4s,baz=34,slow=7.8,SNR=23						
NB2	NORSAR Subarra	63.39	345	P	P	21 43 26.7	+1.1
	comp=Z,0.9nm,0.5s,baz=22,slow=6.9						
NOA	NORSAR Array B	63.39	345	P	P	21 43 26.8	+1.1
	comp=Z,1.1nm,0.6s,baz=20,slow=6.7,SNR=10						
GERES	GERESS Array B	74.50	339	P	P	21 44 36.9	+2.0
	comp=Z,0.2nm,0.3s,baz=31,slow=5.9,SNR=3.7						

MAN 06 21:42:57.3, 11°.38N×125°.81E, h9km, mb4.0, ML2.8, MS2.4, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.43	301	eP	Pb	21 43 06.8	-0.3
BESP				eS	Sb	21 43 12.9	-0.7
PLP	Palo	0.85	255 ⇓	eP	Pg	21 43 12.9	-0.7
PLP				eS	Sg	21 43 20.8	-3.8
OCLP	Ormoc	1.23	255	eP	Pn	21 43 19.4	-1.3
OCLP				eS	Sn	21 43 39.4	+2.1
MSLP	Maasin	1.55	217	eP	Pb	21 43 25.8	-0.5
MSLP				eS	Sb	21 43 45.8	-0.2
CNP	Catarman	1.59	315	eP	Pn	21 43 25.2	-0.5
CNP				eS	Sn	21 43 46.4	+0.1

MAN 06 21:46:27.3, 8°.61N×126°.17E, h1km, mb4.1, ML2.9, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.47	156 ⇓	iP	Pg	21 46 34.7	-1.5
BIPH				i S	Sg	21 46 41.2	-1.0
BUTP	Butuan	0.65	303	eP	Pg	21 46 39.7	0.0
BUTP				eS	Sb	21 46 50.6	-0.3
BUKP	Musuan	1.31	236	eP	Pg	21 46 51.8	-0.7
BUKP				eS	Sn	21 47 11.9	+0.9
CGP	Cagayan de Oro	1.47	264 ⇑	eP	Pb	21 46 55.3	0.0
CGP				eS	Sn	21 47 15.0	+0.3

MEX 06 21:50:49.9±0.7, 18°.31N×103°.27W, h5km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.08	256	eP	Pg	21 50 50.7	-0.9
MMIG				i S	Sg	21 50 53.1	+0.3
ZIIG	Zihuatanejo	1.85	112	i P	Pn	21 51 19.6	-2.7
ZIIG				i S	Sn	21 51 42.0	-4.1
CJM	Chamela	2.06	305	i P	Pn	21 51 22.4	-2.8
CJM				i S	Sn	21 51 47.2	-4.1

TRN 06 21:51:57.8, 18°.13N×61°.58W, h20km, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.49	203	eP	Pn	21 52 09.4	-0.3
ANWB				eS	Sn	21 52 18.4	+0.6
BPA	Boggy Peak	1.11	194	eP	Pg	21 52 20.2	+1.0
BPA				eS	Sg	21 52 36.1	+2.3
NEV	Hard Times	1.36	224	eP	Pg	21 52 24.3	+0.1
NEV				eS	Sg	21 52 42.8	+0.8
SMRT	St. Maarten	1.42	267	eP	Pb	21 52 23.8	+0.1
SMRT				eS	Sg	21 52 43.6	-0.3
SEUS	St. Eustatius	1.48	245	eP	Pb	21 52 25.1	+0.5
SEUS				eS	Sg	21 52 44.6	-0.9
MLYT	Lee's Yard	1.51	203	eP	Pb	21 52 25.5	+0.3
MLYT				eS	Sg	21 52 46.1	-0.7
TBG	Guadaloupe-3	2.26	182	eP	Pb	21 52 36.9	-1.1
TBG				eS	Sb	21 53 03.9	-1.6
MDPV	Dominica, Penn	2.49	176	eP	Pn	21 52 39.2	+2.0
MDPV				eS	Sn	21 53 09.0	+1.9
MDPO	Dominica; Chan	2.54	177	eP	Pn	21 52 39.6	+1.7
MDPO				eS	Sn	21 53 10.0	+1.8
DWS	Wesley	2.56	174	eP	Pn	21 52 40.5	+2.4
DWS				eS	Sb	21 53 11.6	-2.4
BBL	Barber's Block	2.59	178	eP	Pn	21 52 40.8	+2.2
BBL				eS	Sn	21 53 11.5	+2.0

NNC ***06*** *21:55:13.5±3.8, 36°.29N×70°.48E, h114km±69km, mb3.1, mpv3.7, Error ellipse: s-maj=28.7km s-min=24.6km az=35.0*

ISC 06 21:55:18.4±3.4, 36°.5N±0°.2×70°.7E±0°.1, h200km, n11, σ1 9°.38/16, 7C-3D, Hindu Kush region

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

AAK				⇓S		Sn	21 58 13.1	+0.5
	3.7nm,0.7s							
CHMS	Chumysh	7.17	25	P		Pn	21 57 00.3	-0.5
	SNR=7.8							
TKM2	Tokmak 2	7.41	29	⇑P		Pn	21 57 02.9	-1.2
	1.8nm,0.3s							
TKM2				⇑S		Sn	21 58 28.8	+0.8
	2.1nm,0.7s							
AB31	Akbulak array	14.93	332	⇑P		Pn	21 58 39.4	-0.2
	0.8nm,0.4s,baz=159,slow=13,SNR=24							
AB31				⇑S		S	22 01 24.4	-0.9
	0.5nm,0.5s,baz=150,slow=24,SNR=3.7							
AKTO	Aktyubinsk	16.62	331	⇓P		Pn	21 59 03.3	+3.3
	1.0nm,1.1s							
AKTO				⇓S		Sn	22 02 06.6	-0.3
	0.7nm,0.7s							

IDC 06 21:56:39.7±4.8,3°.04N×90°.15E,h0km,mb3.4/4,mb1 3.5/4, mb1mx3.2/31,mbtmp3.4/4,Error ellipse: s-maj=169.0km s-min=29.5km az=60.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	20.56	239	T	T	22 21 35.2	
	baz=58,slow=75,SNR=10.0						
H08S2	Diego Garcia H	20.56	239	T	T	22 21 30.3	
	baz=58,slow=75,SNR=10						
H08S1	Diego Garcia H	20.58	239	T	T	22 21 32.5	
	baz=58,slow=75,SNR=13						
MKAR	Makanchi Array	44.11	352	P	P	22 04 49.0	-0.8
	0.2nm,0.5s,baz=170,slow=8.8,SNR=3.7						
SONM	Songino Array	46.77	15	P	P	22 05 11.3	+0.3
	0.2nm,0.5s,baz=197,slow=9.0,SNR=2.3						
WRA	Warramunga Arr	49.03	120	P	P	22 05 28.6	-0.2
	0.2nm,0.5s,baz=300,slow=8.4,SNR=2.9						
ZALV	Zalesovo Beam	50.93	356	P	P	22 05 43.1	+0.4
	0.5nm,0.4s,baz=171,slow=6.8,SNR=3.9						

MAN 06 22:03:21.4,11°.42N×125°.59E,h18km,mb4.1,ML2.9, MS2.6,1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.23	320	eP	Pb	22 03 27.9	+1.0
BESP				eS	Sb	22 03 35.0	+4.4
PLP	Palo	0.65	247	⇓eP	Pb	22 03 34.1	-0.2
PLP				eS	Sb	22 03 42.4	-0.6
OCLP	Ormoc	1.03	249	eP	Pb	22 03 40.5	-0.2
OCLP				eS	Sg	22 03 55.5	+0.4
CNP	Cataman	1.41	320	eP	Pn	22 03 46.3	+0.1
CNP				eS	Sb	22 04 05.0	+0.1
MSLP	Maasin	1.47	209	eP	Pn	22 03 46.7	-0.4
MSLP				eS	Sb	22 04 07.0	+0.4

*ISCJB **06** 22:24:32.9±0.3,3°.41S±0°.04×138°.53E±0°.04,h71km, mb4.5/26,Error ellipse: s-maj=7.1km s-min=4.6km az=145.5*
*NEIC **06** 22:24:33.9±1.1,3°.40S×138°.53E,h63km±14km,mb4.7/30, Error ellipse: s-maj=20.8km s-min=8.8km az=168.0*
*IDC **06** 22:24:34.1±1.8,3°.35S×138°.63E,h68km±20km,mb4.0/6, mb1 4.3/10,mb1mx3.9/29,mbtmp4.4/10,MS2.7/4, Ms1 2.7/4,ms1mx2.5/28,Error ellipse: s-maj=18.0km s-min=14.1km az=139.0*
*DJA **06** 22:24:34.6±0.4,3°.5±7°×13°.9E±°,h76km±17km,M4.9/5, mb4.8/5,mB5.2/2,MLv4.9/3,Mw(mB)4.5/2*
ISC 06 22:24:34.3±0.6,3°.48S±0°.06×138°.50E±0°.04,h71km,n57, σ2$09/63,mb4.7/26,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.88	62	P	Pn	22 25 04.2	-0.2
GENI				S	Sn	22 25 25.5	-1.7
JAY	Jayapura	2.40	66	P	Pn	22 25 10.2	-1.2
JAY				S	Sn	22 25 35.7	-4.1
JAY	Jayapura	2.40	66	P	Pn	22 25 10.1	-1.3
	83nm,0.3s,baz=227,slow=12,SNR=89						
JAY				S	Sn	22 25 36.0	-3.8
	130nm,0.3s,baz=51,slow=6.2,SNR=14						
JAY				LR	LR	22 26 20.4	
	comp=Z,296nm,21.3s,baz=296,slow=48						
FAKI	Fak Fak	6.27	275	ePn	Pn	22 26 04.6	+0.4
FAKI				eSn	Sn	22 27 10.0	-4.5
FAKI	Fak Fak	6.27	275	P	Pn	22 26 05.8	+1.6
SIJI	Sorong	7.68	290	P	Pn	22 26 23.7	+0.1
	2.4nm,0.3s,baz=74,slow=8.7,SNR=14						
PMG	Port Moresby	10.42	125	LR	LR	22 31 42.5	
	comp=Z,67nm,20.4s,baz=237,slow=41						
COEN	Coen	11.39	156	ePn	Pn	22 27 15.7	+1.5
COEN				eSn	Sn	22 29 18.3	-1.4
MTN	Manton Dam	11.82	218	ePn	Pn	22 27 21.6	+1.5
MTN				eSn	Sn	22 29 26.3	-4.0
SGSI	Sangihe	14.79	299	P	P	22 28 10.2	+6.3
SOEI	Soe	15.45	246	ePn	Pn	22 28 08.9	+0.6
	40nm,0.8s						
SOEI				eSn	Sn	22 30 57.4	-1.3
SOEI	Soe	15.45	246	P	P	22 28 14.6	+3.2
BATI	Baumata	16.17	245	P	P	22 28 21.8	+2.5
DAV	Davao City (W)	16.62	309	LR	LR	22 35 00.5	
	comp=Z,23nm,20.5s,baz=124,slow=38						
WRAB	Tennant Creek	16.85	194	ePn	Pn	22 28 27.0	+1.3
	34nm,0.6s						
WRAB				eSn	Sn	22 31 24.4	-8.0
WB2	Warramunga Arr	16.86	194	ePn	Pn	22 28 27.2	+1.4
	42nm,0.5s						
WB2				eSn	Sn	22 31 24.9	-7.7
WR1	Warramunga Arr	16.86	194	ePn	Pn	22 28 26.3	+0.5
WRA	Warramunga Arr	16.86	194	P	Pn	22 28 26.3	+0.5
	5.9nm,0.3s,baz=16,slow=12,SNR=11						
WC3	Warramunga Arr	16.87	194	ePn	Pn	22 28 27.0	+1.1
	48nm,0.5s						
CTAO	Charters Tower	18.16	156	eP	P	22 28 42.0	+0.9
	10nm,1.1s						
FITZ	Fitzroy Crossi	19.23	220	eP	P	22 28 55.0	+2.1
	9.3nm,0.8s						
FITZ				eS	S	22 32 20.2	-7.0
FITZ	Fitzroy Crossi	19.23	220	P	P	22 28 55.0	+2.1
	1.1nm,0.3s,baz=33,slow=11,SNR=42						
FITZ				S	S	22 32 20.2	-7.0
	1.9nm,0.3s,baz=194,slow=12,SNR=9.9						
AS31	Alice Springs	20.55	192	eP	P	22 29 09.5	+2.2
	22nm,0.5s						
ASAR	Alice Springs	20.55	192	eP	P	22 29 08.8	+1.5
ASAR	Alice Springs	20.55	192	P	P	22 29 09.4	+2.1
	36nm,0.6s,baz=19,slow=11,SNR=299						
ASAR				S	S	22 32 52.7	-0.7
	2.6nm,0.7s,baz=6.7,slow=27,SNR=5.0						
MBWA	Marble Bar	25.34	225	eP	P	22 29 56.0	+1.2
	23nm,0.8s						
PSAD1	Pilbara Seismi	25.47	224	eP	P	22 29 56.9	+1.0
	21nm,0.8s						
PSAD2	Pilbara Seismi	25.49	223	eP	P	22 29 57.1	+1.0
	19nm,0.6s						
PSAC2	Pilbara Seismi	25.49	224	eP	P	22 29 56.9	+0.8
	19nm,0.6s						
PSAB2	Pilbara Seismi	25.51	224	eP	P	22 29 57.4	+1.0
	22nm,0.6s						
PSAA2	Pilbara Seismi	25.53	224	eP	P	22 29 57.4	+0.9
	25nm,0.8s						
PSAA3	Pilbara Seismi	25.53	224	eP	P	22 29 57.8	+1.2
	25nm,0.6s						
PSAC1	Pilbara Seismi	25.54	224	eP	P	22 29 57.5	+1.0
	25nm,0.6s						
PSA00	Pilbara Seismi	25.54	224	eP	P	22 29 58.0	+1.5
	28nm,0.9s						
PSAB3	Pilbara Seismi	25.54	224	eP	P	22 29 58.1	+1.5
	20nm,0.6s						
PSAA1	Pilbara Seismi	25.55	224	eP	P	22 29 57.9	+1.2
	25nm,0.8s						
PSAB1	Pilbara Seismi	25.55	224	eP	P	22 29 57.6	+0.9
	21nm,0.8s						
PSAC3	Pilbara Seismi	25.58	224	eP	P	22 29 58.2	+1.2
	18nm,0.6s						
PSAD3	Pilbara Seismi	25.63	224	eP	P	22 29 58.5	+1.1
	20nm,0.6s						
PCJI	Pacitan	27.58	259	P	P	22 30 12.9	-2.1
STKA	Stephens Creek	28.40	174	P	P	22 30 23.2	+1.1
	0.9nm,0.4s,baz=354,slow=6.4,SNR=5.9						
FORT	Forrest	28.89	199	eP	P	22 30 27.4	+0.9
	14nm,0.8s						
BBOO	Buckleboo	29.27	184	eP	P	22 30 29.6	-0.2
	4.6nm,1.0s						
GIRL	Giralia	30.26	229	eP	P	22 30 40.7	+2.0
	52nm,1.1s						
MORW	Morawa	33.21	218	eP	P	22 31 05.3	+0.7
	7.1nm,1.1s						
IPM	Ipoh	38.27	282	eP	P	22 31 48.8	+0.7
	7.2nm,0.4s						
KSRS	Korea Array	41.90	347	LR	LR	22 49 38.3	
	comp=Z,6.0nm,20.0s,baz=120,slow=36						
CMAR	Chiang Mai Arr	44.65	301	P	P	22 32 40.7	+0.4
	1.3nm,0.3s,baz=117,slow=6.4,SNR=8.8						
MK31	Makanchi Array	70.27	323	eP	P	22 35 40.6	+0.5
	2.2nm,1.1s						
MK32	Makanchi Array	70.27	323	eP	P	22 35 40.5	+0.3
MKAR	Makanchi Array	70.27	323	P	P	22 35 40.5	+0.3
	2.7nm,0.8s,baz=115,slow=8.2,SNR=22						
MAKZ	Makanchi	70.47	323	eP	P	22 35 41.4	+0.1
	3.2nm,0.7s						
VNDA	Vanda	75.04	175	eP	P	22 36 08.3	+0.5
VNDA	Vanda	75.04	175	P	P	22 36 09.0	+1.2
	1.1nm,0.5s,baz=327,slow=6.4,SNR=8.1						
ILAR	Eielson Array	86.61	24	P	P	22 37 08.1	-1.6
	0.5nm,0.7s,baz=269,slow=4.6,SNR=4.8						
WCI	Wyandotte Cave	126.51	44	ePKPdf	PKPdf	22 43 29.6	-0.1
MNMC	Minye Minye	144.38	130	ePKPdf	PKPdf	22 44 04.7	+1.0

WEL 06 22:33:34.6±1.2,34°.S±7°×17°.9E±1°.3,h12km,ML4.7/19, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.52	195	P	Pn	22 34 29.2	+0.2
MXZ				S	Sn	22 35 13.2	+2.6
WMGZ	Waiomatatini S	3.74	193	P	Pn	22 34 32.4	+0.2
HAZ	Te Kaha	3.83	200	P	Pn	22 34 34.3	+0.9
HAZ				S	Sn	22 35 20.4	+2.1
PKGZ	Pakihiroa	3.88	196	P	Pn	22 34 34.0	-0.1
KUZ	Kuaotunu	3.99	229	P	Pn	22 34 36.3	+0.8
PUZ	Puketiti	4.02	194	P	Pn	22 34 35.1	-0.8
PUZ				S	Sn	22 35 24.6	+1.6
RUGZ	Raukumara Rang	4.06	200	P	Pn	22 34 37.2	+0.6
RUGZ				S	Sn	22 35 23.6	-0.5
TWGZ	Tauwhareparae	4.18	196	P	Pn	22 34 39.8	+1.6
TWGZ				S	Sn	22 35 29.5	+2.5
WHRZ	Whale Island	4.20	208	P	Pn	22 34 39.9	+1.5
OPRZ	Ohinepanea	4.36	212	P	Pn	22 34 41.8	+1.2
CNGZ	Carnagh Statio	4.43	193	P	Pn	22 34 40.9	-0.7
MWZ	Matawai	4.44	200	P	Pn	22 34 40.6	-1.3
MWZ				S	Sn	22 35 32.4	-1.1
URZ	Urewera	4.50	204	P	Pn	22 34 41.8	-0.8
URZ				S	Sn	22 35 33.9	-1.0
WCZ	Waipu Caves	4.55	246	P	Pn	22 34 42.8	-0.5
MKAZ	Moumakai	4.56	229	P	Pn	22 34 44.1	+0.6
RAGZ	Rawiri	4.62	200	P	Pn	22 34 44.3	-0.1
RIGZ	Rimuhau	4.73	196	P	Pn	22 34 44.9	-0.9
TOZ	Tahuroa Road	4.79	221	P	Pn	22 34 47.2	+0.6
RRRZ	Republican Roa	4.80	209	P	Pn	22 34 45.6	-1.1
MUGZ	Murupara	4.82	206	P	Pn	22 34 46.6	-0.4
RTZ	Ruatahuna	4.87	204	P	Pn	22 34 47.2	-0.5
SNGZ	Shannon Statio	4.91	200	P	Pn	22 34 47.2	-1.0
PRGZ	Paritu Road	4.91	194	P	Pn	22 34 47.1	-1.1
HRRZ	Handcock Road	4.93	210	P	Pn	22 34 48.7	+0.2
PRRZ	Plateau Road	4.98	209	P	Pn	22 34 48.6	-0.6
KNZ	Kokohu	5.05	196	P	Pn	22 34 49.1	-1.1
ALRZ	Allen Road	5.06	209	P	Pn	22 34 49.4	-0.8
WPRZ	Whakapapatarin	5.09	211	P	Pn	22 34 51.1	+0.3
RAHZ	Arahi	5.11	201	P	Pn	22 34 49.4	-1.6
MHGZ	Mahia Peninsul	5.13	194	P	Pn	22 34 50.2	-1.1
MTHZ	Maungataniwha	5.13	204	P	Pn	22 34 49.8	-1.5
KUTZ	Kaahu Road	5.22	213	P	Pn	22 34 54.1	+1.7
WHHZ	Waihua	5.22	199	P	Pn	22 34 50.5	-1.9
TLZ	Tolley Road	5.22	216	P	Pn	22 34 54.5	+1.9
NMHZ	Naumai	5.36	203	P	Pn	22 34 53.2	-1.3
ARHZ	Aropaoanui	5.46	201	P	Pn	22 34 54.4	-1.4
BKZ	Black Stump Fm	5.53	205	P	Pn	22 34 54.5	-2.2
RITZ	Rihia Road	5.61	210	P	Pn	22 34 56.5	-1.4
KATZ	Kakaramea	5.67	211	P	Pn	22 34 58.1	-0.8
HIZ	Hauiti	5.71	219	P	Pn	22 35 00.0	+0.8
MCHZ	McNeill Hill	5.71	202	P	Pn	22 34 57.1	-2.2
KWHZ	Kaweka Forest	5.79	204	P	Pn	22 34 57.5	-2.8
KRVZ	Karewarewa	5.80	211	P	Pn	22 34 58.8	-1.7
CKHZ	Cape Kidnapper	5.80	198	P	Pn	22 34 58.7	-1.8
WTVZ	West Tongariro	5.84	211	P	Pn	22 34 58.9	-2.2
TWVZ	Taurewa	5.87	212	P	Pn	22 34 59.7	-1.8
NGZ	Ngauruhoe	5.88	211	P	Pn	22 34 59.6	-2.1
COVZ	Chateau Observ	5.93	211	P	Sn	22 36 14.0	+3.8
TUVZ	Tukino	5.94	210	P	Pn	22 35 00.0	-2.5
FWVZ	Far West T-bar	5.97	211	P	Pn	22 35 00.4	-2.6
BHHZ	Black Hill Sta	5.97	206	P	Pn	22 34 59.5	-3.4
KAHZ	Kahuranaki	5.99	199	P	Pn	22 35 00.3	-2.7
KRHZ	Kereru	6.00	203	P	Pn	22 34 59.4	-3.8
MOVZ	Moawhango	6.02	209	P	Pn	22 34 59.8	-3.7
PXZ	Pawanui	6.21	199	P	Sn	22 36 11.9	-5.0
VRZ	Vera Road	6.22	216	P	Pn	22 35 05.6	-0.7
PNHZ	Pukenui	6.30	203	P	Pn	22 35 02.8	-4.5
WPHZ	Waipukurau	6.36	201	P	Pn	22 35 05.6	-2.6
PRHZ	Porangahau	6.49	199	P	Pn	22 35 05.9	-4.1
TSZ	Takapari Road	6.51	204	P	Pn	22 35 05.3	-5.0
WAZ	Wanganui	6.63	211	P	Pn	22 35 08.6	-3.2
DVHZ	Dannevirke	6.66	202	P	Pn	22 35 07.4	-4.9
ANWZ	Angora Road	6.72	200	P	Pn	22 35 10.1	-2.9
KHEZ	Kahui Hut	6.73	219	P	Pn	22 35 12.5	-0.8
POWZ	Post Office Ro	6.87	204	P	Pn	22 35 10.8	-4.4
PRWZ	Pori Road	6.96	203	P	Pn	22 35 11.6	-4.7
BFZ	Birch Farm	6.99	201	P	Pn	22 35 11.5	-5.3
MRZ	Mangatainoka R	7.18	204	P	Pn	22 35 13.1	-6.3
TIWZ	Tintock	7.18	202	P	Pn	22 35 13.9	-5.5
DUWZ	D'Urville Isla	7.95	212	P	Pn	22 35 23.4	-6.6
NNZ	Nelson	8.53	213	P	Pn	22 35 29.9	-8.0
THZ	Tophouse	9.18	212	P	Pn	22 35 38.6	-8.2
KHZ	Kahutara	9.46	208	P	Pn	22 35 41.4	-9.1
DSZ	Dennistoon Nort	9.68	216	P	Pn	22 35 46.6	-7.1
LTZ	Lake Taylor	10.28	211	P	Pn	22 35 51.9	-10
INZ	Inchbonnie	10.60	214	P	Pn	22 35 57.3	-9.0
OXZ	Oxford	10.82	210	P	Pn	22 35 59.3	-10
MQZ	McQueen's Vall	10.89	207	P	Pn	22 35 59.0	-11

*PAS **06** 22:40:07.9±0.0,32°.18N×115°.20W,h16km*
*NEIC **06** 22:40:08.9±0.0,32°.19N×115°.21W,h8km,ML2.7(ECX), ML3.1(PAS),After ECX.*
ECX 06 22:40:08.9±0.4,32°.19N×115°.21W,h8km,MD2.7,ML3.0, 3C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.24	341	⇓eP	Pg	22 40 13.5	-0.3
CPBX				eS	Sg	22 40 17.0	-0.1
CPBX				⇑e		22 40 19.4	
CPBX				IAML		22 40 19.4	
	comp=N,8μm,0.2s						
RMX	La Rumorosa	0.84	300	eP	Pg	22 40 23.0	-2.1
RMX				eS	Sg	22 40 33.5	-2.6
RMX				IAML		22 40 34.1	
	comp=E,594nm,0.2s						
RMX				⇑e		22 40 34.1	
IKP	In-Ko-Pah, Jac	0.89	301	⇑eP	Pg	22 40 24.4	-1.6
GLA	Glamis	0.92	20	ePg	Pg	22 40 25.1	-1.5
GLA				eSg	Sg	22 40 35.7	-2.9
SPIG	San Pedro Mart	1.16	191	⇓eP	Pg	22 40 29.3	-1.9
MONP2	Monument Peak	1.24	305	i P	Pb	22 40 30.7	-2.0
BAR	Barrett	1.33	292	ePn	Pn	22 40 31.6	-2.3
BAR				eSn	Sb	22 40 48.5	-2.9
BAR	Barrett	1.33	292	eP	Pn	22 40 31.6	-2.3
113A	Mohawk Valley,	1.35	64	ePn	Pn	22 40 31.2	-2.8
113A				eSn	Sb	22 40 47.6	-4.3
SDRC	San Diego Road	1.56	291	eP	Pn	22 40 35.5	-1.5
Y12C	Blythe	1.66	20	ePn	Pn	22 40 39.0	+0.6
Y12C				eSn	Sn	22 40 54.4	-5.5
CPE	Camp Elliot	1.75	294	ePn	Pn	22 40 37.8	-1.7
CPE				eSn	Sn	22 40 58.2	-3.7
PFO	Pinyon Flats O	1.77	324	ePn	Pn	22 40 36.3	-3.6
W13A	Hualapai Mount	3.11	20	ePn	Pn	22 40 57.4	-1.0
MWC	Mount Wilson	3.13	311	ePn	Pn	22 40 59.0	+0.2
MWC				eSn	Sn	22 41 37.9	+1.4
X16A	Lo Mia Camp, P	3.86	54	ePn	Pn	22 41 08.0	-0.8
SHPR	Sheep Range	4.31	1	ePn	Pn	22 41 12.3	-2.6
X18A	Snowflake	4.98	61	ePn	Pn	22 41 23.2	-1.0
W18A	Petrified Fore	5.42	56	ePn	Pn	22 41 29.9	-0.3

*ISCJB **06** 22:47:43.7±0.6,3°.59S±0°.07×68°.30E±0°.10,h12km, mb4.0/14,MS3.2/4,Error ellipse: s-maj=15.8km s-min=6.8km az=147.6*
*IDC **06** 22:47:44.4±1.2,3°.56S×68°.32E,h0km,mb3.8/10, mb1 4.0/10,mb1mx3.7/37,mbtmp3.8/10,MS3.2/5, Ms1 3.2/5,ms1mx2.8/38,Error ellipse: s-maj=37.2km s-min=17.6km az=50.0*
*NEIC **06** 22:47:46.6±2.5,3°.45S×68°.24E,h13km±5km,mb4.2/5, Error ellipse: s-maj=26.0km s-min=20.4km az=172.0*
ISC 06 22:47:45.6±0.8,3°.6S±0°.1×68°.3E±0°.1,h12km,n31, σ1$04/27,mb4.1/14,MS3.2/4,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	3.83	135	Pn	Pn	22 48 43.6	-0.6
H08N2				T	T	22 52 33.7	
	baz=316,slow=75,SNR=638						
H08N3	Diego Garcia H	3.84	135	Pn	Pn	22 48 43.7	-0.5
H08N3				T	T	22 52 46.8	
	baz=316,slow=75,SNR=828						
H08N1	Diego Garcia H	3.85	135	Pn	Pn	22 48 43.9	-0.6
H08N1				T	T	22 52 40.9	
	baz=316,slow=75,SNR=766						
H08S3	Diego Garcia H	5.79	134	Pn	Pn	22 49 11.0	-0.1
H08S3				T	T	22 55 09.8	
	baz=307,slow=75,SNR=9.4						
H08S1	Diego Garcia H	5.79	134	Pn	Pn	22 49 11.2	0.0
H08S1				T	T	22 55 12.8	
	baz=307,slow=75,SNR=15						
H08S2	Diego Garcia H	5.81	134	Pn	Pn	22 49 11.6	+0.3
H08S2				T	T	22 55 09.9	
	baz=307,slow=75,SNR=8.8						
PALK	Pallekele	16.44	49	ePn	Pn	22 51 33.6	-2.8
	8.3nm,0.9s						
PALK	Pallekele	16.44	49	LR	LR	22 56 16.9	
	comp=Z,131nm,21.8s,baz=296,slow=31						
WSAR	Wadi Sarin	28.29	341	LR	LR	23 02 56.1	
	comp=Z,40nm,18.2s,baz=194,slow=32						
CM31	Chiang Mai Arr	37.32	53	eP	P	22 54 59.5	+1.4
	3.7nm,0.9s						
CMAR	Chiang Mai Arr	37.32	53	eP	P	22 54 57.2	-0.9
CMAR	Chiang Mai Arr	37.32	53	P	P	22 54 59.5	+1.4
	0.7nm,0.4s,baz=224,slow=7.6,SNR=3.8						
CMAR				LR	LR	23 09 59.5	
	comp=Z,23nm,18.8s,baz=204,slow=36						
NIL	Nilore	37.34	7	eP	P	22 54 57.8	-0.3
	4.1nm,1.0s						
MBAR	Mbarara	37.63	274	eP	P	22 54 59.0	-2.0
	6.0nm,1.1s						
LSA	Lhasa	39.70	32	eP	P	22 55 18.9	+0.4
	3.0nm,0.6s						
GEYT	Alibeck	42.38	348	LR	LR	23 12 15.6	
	comp=Z,36nm,18.9s,baz=20,slow=35						
BOSA	Boshof	47.84	234	LR	LR	23 13 54.3	
	comp=Z,31nm,19.6s,baz=107,slow=33						
MK32	Makanchi Array	51.68	12	eP	P	22 56 51.6	-0.8
MKAR	Makanchi Array	51.68	12	P	P	22 56 51.6	-0.8
	0.5nm,0.8s,baz=201,slow=6.5,SNR=5.0						
KBZ	Khabaz	52.36	337	P	P	22 56 58.5	+1.1
	2.0nm,0.9s,baz=189,slow=6.2,SNR=6.7						
BRTR	Keskin Array B	53.59	327	P	P	22 57 07.4	+0.5
	0.6nm,0.8s,baz=134,slow=11,SNR=4.6						
BR101	Keskin Array S	53.59	327	eP	P	22 57 07.4	+0.5
KURBB	Kurchatov Arra	54.72	8	P	P	22 57 14.2	-0.5
	0.5nm,0.5s,baz=204,slow=7.3,SNR=3.9						
ZALV	Zalesovo Beam	58.98	11	P	P	22 57 44.4	-0.5
	1.1nm,0.6s,baz=221,slow=6.9,SNR=5.8						
ZAA1	Zalesovo Array	58.99	11	eP	P	22 57 44.4	-0.6
SONA0	Songino Array	61.12	28	eP	P	22 58 00.7	+0.8
SONM	Songino Array	61.12	28	P	P	22 58 00.7	+0.8
	2.3nm,0.8s,baz=219,slow=7.4,SNR=15						
ASAR	Alice Springs	66.26	114	P	P	22 58 34.9	+0.7
	0.4nm,0.7s,baz=304,slow=2.3,SNR=4.5						
WRA	Warramunga Arr	66.29	110	P	P	22 58 35.0	+0.6
	1.3nm,0.9s,baz=287,slow=6.1,SNR=1.7						
WR1	Warramunga Arr	66.29	110	eP	P	22 58 35.0	+0.6
ESDC	Sonseca Array	78.74	311	P	P	22 59 49.8	+1.4
	1.0nm,0.8s,baz=94,slow=5.1,SNR=6.3						

*IDC **06** 22:57:56.1±1.6,44°.27N×81°.13E,h0km,mb3.8/3, mb1 3.7/8,mb1mx3.4/54,mbtmp3.6/8,ML3.2/5,MS3.2/2, Ms1 3.2/2,ms1mx2.4/43,Error ellipse: s-maj=23.2km s-min=10.0km az=130.0*
*NNC **06** 22:57:59.1±0.9,44°.35N×80°.96E,h0km,mb4.2,mpv4.0, Error ellipse: s-maj=7.9km s-min=4.5km az=117.0*
*SOME **06** 22:58:05.4,44°.42N×80°.55E,h10km*
ISC 06 22:57:58.7±1.3,44°.34N±0°.04×80°.97E±0°.04,h5km±9km, n68,σ1$69/95,mb3.6/3,15C-10D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.85	270	P	Pg	22 58 14.6	-0.4
	231nm,0.6s						
DJR				S	Sg	22 58 25.4	-0.5
	224nm,0.2s						
DJR	Jarkent	0.85	270	eP	Pb	22 58 16.8	+0.9
	139nm,0.4s						
DJR				eS	Sg	22 58 25.0	-1.0
	222nm,0.2s						
PDGK	Podgornoye	1.47	227	P	Pn	22 58 27.1	+1.1
	35nm,0.3s						
PDGK				S	Sg	22 58 46.2	+0.2
	65nm,0.9s						
PDGK	Podgornoye	1.47	227	⇑P	Pn	22 58 25.5	-0.5
	51nm,0.5s						
PDGK				⇓S	Sb	22 58 46.8	+1.1

300nm,0.7s
ARXS Arharly 2.26 268 *e*P **Pg 22 58 43.1 +1.1**
46nm,0.4s
ARXS *e*S **Sb 22 59 10.0 +1.7**
364nm,0.7s
MAKZ Makanchi 2.57 16 ⇑Pn **Pn 22 58 41.4 +0.5**
9.1nm,0.5s
MAKZ ⇑Lg Lg 22 59 19.2
25nm,0.5s
MK31 Makanchi Array 2.62 20 ⇑Pn **Pn 22 58 42.3 +0.6**
5.5nm,0.3s,baz=200,slow=13,SNR=234
MK31 ⇑Lg Lg 22 59 19.7
13nm,0.3s,baz=200,slow=28,SNR=17
MKAR Makanchi Array 2.62 20 Pn **Pn 22 58 42.3 +0.6**
9.7nm,0.3s,baz=201,slow=14,SNR=261
MKAR Lg Lg 22 59 17.9
21nm,0.3s,baz=201,slow=29,SNR=7.2
CHKK Chushkaly 2.91 262 *e*P **Pg 22 58 54.1 -0.3**
23nm,0.3s
CHKK *e*S **Sb 22 59 29.0 +2.0**
155nm,0.5s
KOTS Kotyrbulak 3.01 250 Pg **Pn 22 58 49.1 +2.0**
KOTS Lg Lg 22 59 23.9
KOTS Kotyrbulak 3.01 250 *e*P **Pg 22 58 56.2 0.0**
36nm,0.3s
KOTS *e*S **Sb 22 59 32.7 +2.8**
134nm,0.5s
MDOK Medeo 3.08 249 ⇑Pn **Pn 22 58 49.2 +1.1**
MDOK ⇓Pg **Pb 22 58 56.0 +2.0**
MDOK ⇑Lg Lg 22 59 41.3
MDOK Medeo 3.08 249 Pg **Pb 22 58 54.9 +0.9**
68nm,0.5s
MDOK Lg Lg 22 59 33.9
43nm,0.7s
MDOK Medeo 3.08 249 *e*P **Pg 22 58 57.0 -0.6**
48nm,0.5s
MDOK *e*S **Sb 22 59 34.1 +2.3**
74nm,0.6s
KNDC Almaty 3.11 250 ⇓Pn **Pn 22 58 50.9 +2.4**
KNDC ⇓Pg **Pg 22 58 56.9 -1.3**
KNDC ⇓Sn **Sb 22 59 32.0 -0.8**
KNDC ⇑Lg Lg 22 59 44.2
AAA Alma-Ata 3.15 250 Pg **Pg 22 58 57.9 -1.1**
63nm,0.4s
AAA Lg Lg 22 59 38.9
36nm,0.6s
KTBS Karatobe 3.16 260 *e*P **Pg 22 58 58.4 -0.7**
25nm,0.6s
KTBS *e*S **Sb 22 59 36.5 +2.4**
258nm,0.8s
TNSS Tian-Shan 3.20 247 Pg **Pb 22 58 54.3 -1.9**
15nm,0.8s
TNSS Lg Lg 22 59 32.8
18nm,0.6s
TNSS Tian-Shan 3.20 247 *e*P **Pg 22 58 59.8 -0.1**
64nm,0.5s
TNSS *e*S **Sb 22 59 38.7 +3.2**
73nm,0.5s
KUU Kurty 3.37 264 Pg **Pb 22 58 59.2 +0.3**
30nm,0.6s
KUU Lg Lg 22 59 41.3
63nm,0.6s
KUU Kurty 3.37 264 *e*P **Pg 22 59 01.8 -1.4**
55nm,0.5s
KUU *e*S **Sb 22 59 42.3 +2.3**
94nm,0.8s
MTBS Maitube 3.51 251 Pg **Pb 22 59 03.5 +2.3**
42nm,0.3s
MTBS Lg Lg 22 59 46.4
57nm,0.4s
MTBS Maitube 3.51 251 *e*P **Pb 22 59 03.5 +2.3**
42nm,0.3s
MTBS *e*S **Sb 22 59 45.8 +1.6**
57nm,0.4s
KST Kastek 3.86 252 Pg **Pb 22 59 09.3 +2.0**
58nm,0.8s
KST Lg Lg 22 59 58.8
67nm,1.1s
KST Kastek 3.86 252 *e*P **Pg 22 59 11.3 -1.2**
48nm,0.5s
KST *e*S **Sb 22 59 58.2 +3.9**
67nm,0.8s
DGS Degeres 3.92 256 Pg **Pb 22 59 11.1 +2.7**
57nm,0.6s
DGS Lg Lg 22 59 58.4
41nm,0.6s
DGS Degeres 3.92 256 *e*P **Pb 22 59 11.1 +2.7**
57nm,0.6s
DGS *e*S **Sb 22 59 58.4 +2.3**
99nm,0.5s
ULHL Ulahol 4.04 240 P **Pn 22 59 03.5 +2.2**
SNR=22
ZSN Zaisan 4.13 40 Pg **Pg 22 59 17.4 -0.4**
2.7nm,1.0s
ZSN Lg Lg 23 00 09.3
13nm,0.8s
ZSN Zaisan 4.13 40 *e*P **Pg 22 59 19.1 +1.3**
3.0nm,0.4s
ZSN *e*S **Sg 23 00 12.3 +1.0**
18nm,0.9s
TKM2 Tokmak 2 4.15 252 P **Pb 22 59 13.7 +1.3**
SNR=24
TKM2 Tokmak 2 4.15 252 ⇓Pg **Pb 22 59 13.6 +1.3**
27nm,0.5s
TKM2 ⇑Lg Lg 23 00 14.1
64nm,0.8s
KBK Karagaybulak 4.69 251 P **Pn 22 59 12.2 +1.9**
SNR=21
CHMS Chumysh 4.71 256 P **Pn 22 59 11.4 +1.0**
SNR=7.4
KZA Kyzart 4.75 244 P **Pn 22 59 15.2 +3.9**
SNR=7.9
USP Ospenovka 4.81 259 P **Pb 22 59 24.0 +0.7**
SNR=8.0
AAK Ala-Archa 5.01 252 ⇑Pg **Pb 22 59 28.0 +1.0**
11nm,0.6s
AAK ⇓Lg Lg 23 00 42.0
28nm,0.7s
AAK Ala-Archa 5.01 252 Pn **Pn 22 59 16.4 +1.7**
0.4nm,0.3s,baz=83,slow=9.8,SNR=4.5
AAK Pg **Pb 22 59 28.9 +1.9**
2.4nm,0.3s,baz=93,slow=5.8,SNR=11
AAK Lg Lg 23 00 38.8
2.6nm,0.3s,baz=288,slow=21,SNR=9.1
UCH Uchtor 5.17 248 P **Pb 22 59 30.6 +0.9**
SNR=13
EKS2 Erkin-Say 5.50 255 P **Pn 22 59 22.8 +1.5**
SNR=8.4
MRKS Merke 5.85 257 Pg **Pg 22 59 48.0 -2.7**
9.4nm,0.5s
MRKS Lg Lg 23 01 02.2
9.4nm,0.7s
MRKS Merke 5.85 257 *e*P **Pg 22 59 48.0 -2.7**
9.4nm,0.5s
MRKS *e*S **Sg 23 01 02.2 -4.3**
9.4nm,0.7s
KURBB Kurchatov Arra 6.50 346 ⇑Pn **Pn 22 59 35.6 +0.7**
1.6nm,0.3s
KURBB ⇓Lg Lg 23 01 29.9
50nm,0.8s
KURBB Kurchatov Arra 6.50 346 Pn **Pn 22 59 34.5 -0.4**
0.3nm,0.3s,baz=171,slow=12,SNR=13
KURBB Lg Lg 23 01 26.0
0.3nm,0.3s,baz=165,slow=30,SNR=8.2
KURK Kurchatov 6.57 347 ⇑Pn **Pn 22 59 34.4 -1.5**
1.8nm,0.5s
KURK ⇑Lg Lg 23 01 28.9
25nm,0.8s
KK31 Karatay Array 7.68 264 ⇑Pg Pg 23 00 20.4 -5.2
2.0nm,0.6s,baz=73,slow=17,SNR=3.6
KK31 ⇑Lg Lg 23 02 00.3
5.0nm,0.6s,baz=77,slow=27,SNR=8.5
ZALV Zalesovo Beam 9.94 13 Pn **Pn 23 00 21.1 -1.0**
1.0nm,0.3s,baz=194,slow=13,SNR=16
ZALV Lg Lg 23 03 12.0
0.1nm,0.3s,baz=200,slow=25,SNR=4.1
ZALV LR LR 23 04 22.7
comp=Z,33nm,18.0s,baz=68,slow=39
BVAR Borovoye Array 11.14 325 Pn **Pn 23 00 38.3 -0.2**
0.4nm,0.3s,baz=142,slow=13,SNR=12
BVAR Lg Lg 23 03 53.8
0.3nm,0.3s,baz=136,slow=29,SNR=6.8
BRVK Borovoye 11.21 325 ⇓Pn **Pn 23 00 39.2 -0.3**
1.1nm,0.5s
BRVK ⇓Lg Lg 23 03 53.7
18nm,1.2s
NRIK Noril'sk 25.29 5 P **P 23 03 24.8 -0.8**
1.6nm,0.4s,baz=178,slow=4.7,SNR=6.5

NB2 NORSAR Subarra 43.17 318 P **P 23 05 59.2 -0.8**
comp=Z,0.5nm,0.5s,baz=79,slow=8.6
NOA NORSAR Array B 43.17 318 P **P 23 05 59.6 -0.5**
comp=Z,0.4nm,0.5s,baz=80,slow=8.1,SNR=3.5
LEM Lembang 56.32 148 LR LR 23 34 48.0
comp=Z,80nm,18.6s,baz=154,slow=39
TORD Torodi Ar. Bea 73.29 272 P **P 23 09 29.7 -1.7**
comp=Z,0.3nm,0.5s,baz=37,slow=6.0,SNR=8.1

*ISCJB **06** 23:06:33.1±0.3, 44°.49N±0°.02×21°.68E±0°.03, h9km±3km,*
Error ellipse: s-maj=3.2km s-min=2.8km az=169.4
*BUC **06** 23:06:33.6±0.7, 44°.53N×21°.71E, h13km±4km, MD2.6/3,*
Error ellipse: s-maj=6.6km s-min=4.1km az=56.0
*BEO **06** 23:06:34.4±0.3, 44°.51N×21°.72E, h0km, ML2.0/10*

ISC 06 23:06:33.6±0.9, 44°.52N±0°.02×21°.69E±0°.02, h9km±6km, n46, σ0°63/73, 20C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUBS	**Kucevo**	**0.10**	**187**	*e*Pg	**Pg**	**23 06 35.9**	**-0.3**
KUBS				*e*Sg	**Sg**	**23 06 38.0**	**0.0**
MDVR	**Moldovita**	**0.27**	**3**	⇑*i*P	**Pg**	**23 06 39.2**	**+0.2**
MDVR				*i* S	**Sg**	**23 06 43.4**	**+0.8**
MDVR	**Moldovita**	**0.27**	**3**	⇑*i*P	**Pg**	**23 06 39.2**	**+0.2**
MDVR				*i* S	**Sg**	**23 06 43.4**	**+0.8**
SVIS	**Svilajnac**	**0.42**	**234**	*e*Pg	**Pg**	**23 06 41.1**	**-0.8**
SVIS				*e*Sg	**Sg**	**23 06 47.4**	**-0.1**
HERR	**Herculane**	**0.63**	**54**	⇓*i*P	**Pg**	**23 06 46.2**	**+0.3**
HERR				*i* S	**Sg**	**23 06 54.3**	**+0.2**
HERR	**Herculane**	**0.63**	**54**	⇓*i*P	**Pg**	**23 06 46.2**	**+0.3**
ZAGS	**Zajecar**	**0.80**	**151**	*e*Pg	**Pg**	**23 06 48.8**	**-0.3**
ZAGS				*e*Sg	**Sg**	**23 06 59.8**	**+0.2**
BOVS	**Bovan**	**0.88**	**179**	*e*Pg	**Pg**	**23 06 50.4**	**-0.2**
BOVS				*e*Sg	**Sg**	**23 07 02.1**	**+0.1**
PUNG	**Punghina**	**0.92**	**105**	⇓*i*P	**Pg**	**23 06 51.6**	**+0.3**
PUNG				*i* S	**Sb**	**23 07 03.9**	**-0.1**
PUNG	**Punghina**	**0.92**	**105**	⇓*i*P	**Pg**	**23 06 51.6**	**+0.3**
GRUS	**Gruza**	**0.94**	**229**	*e*Pg	**Pg**	**23 06 51.8**	**+0.1**
GRUS				*e*Sg	**Sb**	**23 07 05.3**	**+0.6**
BANR	**Banloc**	**0.95**	**336**	⇑*i*P	**Pg**	**23 06 52.1**	**+0.1**
BANR				*i* S	**Sb**	**23 07 06.1**	**+1.1**
BANR	**Banloc**	**0.95**	**336**	⇑*i*P	**Pg**	**23 06 52.1**	**+0.1**
TRUS	**Trudelj**	**0.97**	**253**	*e*Pg	**Pg**	**23 06 52.4**	**+0.2**
TRUS				*e*Sg	**Sb**	**23 07 06.0**	**+0.6**
SRE	**Strehaia**	**1.09**	**82**	⇓*i*P	**Pn**	**23 06 55.2**	**+0.1**
SRE				*i* S	**Sg**	**23 07 08.7**	**0.0**
SRE	**Strehaia**	**1.09**	**82**	⇓*i*P	**Pn**	**23 06 55.2**	**+0.1**
BZS	**Buzias**	**1.10**	**357**	*e*Pg	**Pg**	**23 06 53.8**	**-1.0**
BZS				*e*Sg	**Sg**	**23 07 09.3**	**+0.2**
BZS	**Buzias**	**1.10**	**357**	⇑*i*P	**Pg**	**23 06 53.8**	**-1.0**
BZS				*i* S	**Sg**	**23 07 08.8**	**-0.3**
BZS	**Buzias**	**1.10**	**357**	⇑*i*P	**Pg**	**23 06 53.8**	**-1.0**
GZR	**Gura Zlata**	**1.17**	**41**	⇑*i*P	**Pg**	**23 06 55.3**	**-0.8**
GZR				*i* S	**Sg**	**23 07 10.6**	**-0.6**
GZR	**Gura Zlata**	**1.17**	**41**	⇑*i*P	**Pg**	**23 06 55.3**	**-0.8**
TIM	**Timisoara**	**1.27**	**345**	⇑*i*P	**Pg**	**23 06 58.5**	**+0.6**
TIM	**Timisoara**	**1.27**	**345**	⇑*i*P	**Pg**	**23 06 58.5**	**+0.6**
DIVS	**Divibare**	**1.29**	**252**	*e*Pg	**Pb**	**23 06 58.5**	**+0.4**
DIVS				*e*Sg	**Sn**	**23 07 15.7**	**+0.4**
SELS	**Selova**	**1.36**	**198**	*e*Pg	**Pn**	**23 06 59.0**	**+0.2**
SELS				*e*Sg	**Sb**	**23 07 16.2**	**-0.6**
ZAPS	**Zavoj**	**1.42**	**151**	*e*Pg	**Pn**	**23 07 00.0**	**+0.4**
ZAPS				*e*Sg	**Sg**	**23 07 19.8**	**+0.6**
IVAS	**Ivanjica**	**1.46**	**230**	*e*Pg	**Pb**	**23 07 01.0**	**+0.1**
IVAS				*e*Sg	**Sb**	**23 07 19.9**	**+0.4**
FRGS	**Fruska Gora**	**1.48**	**296**	*e*Pg	**Pg**	**23 07 02.0**	**-0.1**
FRGS				*e*Sg	**Sg**	**23 07 22.6**	**+1.2**
DEV	**Deva**	**1.61**	**32**	⇑*i*P	**Pb**	**23 07 03.2**	**-0.4**
DEV				*i* S	**Sb**	**23 07 24.3**	**+0.3**
DEV	**Deva**	**1.61**	**32**	⇑*i*P	**Pb**	**23 07 03.2**	**-0.4**
DEV				S	**Sb**	**23 07 24.3**	**+0.3**
BARS	**Barje**	**1.70**	**177**	*e*Pg	**Pb**	**23 07 04.7**	**-0.4**
BARS				*e*Sg	**Sg**	**23 07 27.8**	**-0.5**
LOT	**Lotru**	**1.74**	**57**	⇓*i*P	**Pn**	**23 07 04.5**	**+0.3**
LOT				*i* S	**Sn**	**23 07 27.0**	**+0.4**
LOT	**Lotru**	**1.74**	**57**	⇓*i*P	**Pn**	**23 07 04.5**	**+0.3**
SIRR	**Siria**	**1.75**	**359**	⇓*i*P	**Pn**	**23 07 03.5**	**-0.7**
SIRR				*i* S	**Sn**	**23 07 26.8**	**+0.7**
SIRR	**Siria**	**1.75**	**359**	⇓*i*P	**Pn**	**23 07 03.5**	**-0.7**
VLAD	**Vladila**	**2.02**	**104**	⇓*i*P	**Pn**	**23 07 08.7**	**+0.9**
VLAD				*i* S	**Sn**	**23 07 33.8**	**+0.7**
VLAD	**Vladila**	**2.02**	**104**	⇓*i*P	**Pn**	**23 07 08.7**	**+0.9**
VTS	**Vitosha**	**2.20**	**149**	⇑*i*P	**Pn**	**23 07 11.0**	**+0.5**
VTS	**Vitosha**	**2.20**	**149**	⇑*i*P	**Pn**	**23 07 11.0**	**+0.5**
DRGR		**2.38**	**17**	⇑*i*P	**Pn**	**23 07 11.9**	**-1.0**
DRGR		**2.38**	**17**	⇑*i*P	**Pn**	**23 07 11.9**	**-1.0**
CJR	**Cluj-Napoca**	**2.57**	**31**	⇑*i*P	**Pn**	**23 07 15.3**	**-0.2**
CJR				*i* S	**Sn**	**23 07 45.3**	**-1.6**
CJR	**Cluj-Napoca**	**2.57**	**31**	⇑*i*P	**Pn**	**23 07 15.3**	**-0.2**
STIP	**Stip**	**2.84**	**173**	*e*Pn	**Pn**	**23 07 17.0**	**-2.2**
MLR	**Muntele Rosu**	**3.17**	**71**	⇑*i*P	**Pn**	**23 07 24.0**	**+0.2**
MLR	**Muntele Rosu**	**3.17**	**71**	⇑*i*P	**Pn**	**23 07 24.0**	**+0.2**

*NEIC **06** 23:15:10.0±0.7, 56°.10S×27°.40W, h79km±15km, mb4.4/4,*
Error ellipse: s-maj=26.0km s-min=16.9km az=197.0
*ISCJB **06** 23:15:12.6±0.7, 56°.25S±0°.1×27°.9W±0°.2, h121km, Error*
ellipse: s-maj=18.9km s-min=9.4km az=38.5
*IDC **06** 23:15:12.8±8.8, 56°.12S×27°.39W, h106km±82km, mb3.7/2,*
mb1 4.0/3, mb1mx3.5/22, mbtmp4.2/3, ML4.4/1, MS3.0/1,
Ms1 3.0/1, ms1mx2.5/20, Error ellipse: s-maj=49.2km
s-min=30.9km az=38.0

ISC 06 23:15:14.1±0.8, 56°.25S±0°.1×28°.0W±0°.1, h121km, n22, σ1°48/23, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.23**	**287**	*e*Pn	**Pn**	**23 16 29.7**	**-0.3**
HOPE				*e*Sn	**Sn**	**23 17 27.6**	**-1.6**
VNA1	**Neumayer--Stat**	**16.86**	**157**	P	**P**	**23 19 05.3**	**+2.9**
VNA3	**Neumayer Olymp**	**17.04**	**160**	P	**P**	**23 19 03.1**	**-1.3**
SNAA	**Sanae**	**18.82**	**155**	P	**P**	**23 19 22.7**	**-1.3**
SNAA	**Sanae**	**18.82**	**155**	*e*P	**P**	**23 19 22.8**	**-1.3**
	9.9nm,0.6s						
SNAA	**Sanae**	**18.82**	**155**	P	**P**	**23 19 22.8**	**-1.3**
	1.3nm,0.3s,baz=292,slow=11,SNR=20						
QSPA	**South Pole Qui**	**34.09**	**180**	*e*P	**P**	**23 21 47.2**	**+0.5**
	1.4nm,0.8s						
LVC	**Limon Verde**	**44.98**	**301**	LR	LR	23 43 39.1	
	comp=Z,17nm,18.1s,baz=206,slow=38						
GO01	**Chusmiza**	**47.64**	**303**	*e*P	**P**	**23 23 40.5**	**+2.0**
	4.4nm,0.7s						
MNMC	**Minye Minye**	**48.29**	**303**	*e*P	**P**	**23 23 45.3**	**+2.1**
LPAZ	**La Paz**	**50.09**	**306**	*e*P	**P**	**23 23 59.5**	**+2.1**
	3.0nm,0.3s						
LPAZ	**La Paz**	**50.09**	**306**	P	**P**	**23 23 59.4**	**+2.1**
	2.4nm,0.4s,baz=113,slow=5.2,SNR=25						
TORD	**Torodi Ar. Bea**	**73.36**	**30**	P	**P**	**23 26 31.7**	**-0.8**
	0.2nm,0.4s,baz=208,slow=5.8,SNR=6.5						
TOA1	**Torodi Ar. Sit**	**73.37**	**30**	*e*P	**P**	**23 26 31.7**	**-0.8**
FIA0	**FINESS Array S**	**124.68**	**28**	*e*PKPdf	**PKiKP**	**23 33 58.1**	**0.0**
FINES	**FINESS Array B**	**124.68**	**28**	PKP	**PKiKP**	**23 33 58.1**	**0.0**
	0.4nm,0.6s,baz=282,slow=1.3,SNR=3.7						
YKA	**Yellowknife Ar**	**135.96**	**318**	PKP	**PKPdf**	**23 34 19.4**	**+0.3**
	0.2nm,0.4s,baz=130,slow=2.4,SNR=5.8						
YKB5	**Yellowknife Ar**	**135.96**	**318**	*e*PKPdf	**PKPdf**	**23 34 19.4**	**+0.3**
RIDG	**Independent Ri**	**148.74**	**310**	*e*PKPbc	**PKiKP**	**23 34 47.4**	**+0.3**
BMAR	**Burnt Mountain**	**149.47**	**317**	*e*PKPbc	**PKiKP**	**23 34 48.6**	**+0.2**
ILAR	**Eielson Array**	**149.86**	**312**	PKPbc	**PKiKP**	**23 34 48.9**	**-0.3**
	1.7nm,0.6s,baz=124,slow=2.5,SNR=18						
TOLK	**Toolik Lake Re**	**151.48**	**319**	*e*PKPdf	**PKPbc**	**23 34 49.6**	**-2.6**
TOLK				*e*PKPbc	**PKiKP**	**23 34 53.3**	**+0.7**

*IDC **06** 23:16:08.9±3.0, 4°.90S×133°.85E, h0km, mb3.9/2,*
mb1 4.2/6, mb1mx3.8/25, mbtmp4.0/6, ML4.0/4, MS3.4/5,
Ms1 3.5/5, ms1mx3.0/29, Error ellipse: s-maj=98.4km
s-min=24.5km az=77.0

ISC 06 23:16:12.3±1.5, 5°.05S±0°.07×133°.7E±0°.2, h28km, n10, σ2°65/10, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.79**	**330**	Pn	**Pn**	**23 17 22.0**	**-0.6**
	2.9nm,0.3s,baz=153,slow=16,SNR=14						
SIJI				Sn	**Sn**	**23 18 13.7**	**-3.6**
	3.6nm,0.3s,baz=316,slow=20,SNR=9.1						
PMG	**Port Moresby**	**14.07**	**109**	LR	LR	23 25 03.1	
	comp=Z,132nm,21.6s,baz=278,slow=38						
DAV	**Davao City (W)**	**14.49**	**326**	LR	LR	23 26 07.3	
	comp=Z,49nm,20.1s,baz=252,slow=41						
WRA	**Warramunga Arr**	**14.82**	**178**	Pn	**Pn**	**23 19 40.6**	**+0.5**
	0.6nm,0.3s,baz=356,slow=14,SNR=4.5						
WRA				Sn	**Sn**	**23 22 19.5**	**-4.0**
	0.5nm,0.3s,baz=356,slow=24,SNR=5.8						
FITZ	**Fitzroy Crossi**	**15.16**	**211**	Pn	**Pn**	**23 19 46.0**	**+1.4**
	0.7nm,0.3s,baz=26,slow=9.3,SNR=27						
FITZ				Sn	**Sn**	**23 22 30.8**	**-0.9**
	1.5nm,0.3s,baz=184,slow=15,SNR=14						
ASAR	**Alice Springs**	**18.52**	**179**	P	**Pn**	**23 20 29.6**	**+2.7**
	0.5nm,0.3s,baz=6.3,slow=11,SNR=16						
ASAR				S	**Sn**	**23 23 50.9**	**-2.2**
	0.2nm,0.3s,baz=359,slow=26,SNR=5.3						
ASAR				LR	LR	23 28 30.2	
	comp=Z,152nm,18.8s,baz=3.0,slow=40						
STKA	**Stephens Creek**	**27.71**	**165**	LR	LR	23 34 12.8	
	comp=Z,130nm,18.0s,baz=4.7,slow=39						
CMAR	**Chiang Mai Arr**	**41.44**	**305**	P	**P**	**23 23 58.9**	**+2.0**
	0.8nm,0.3s,baz=134,slow=6.4,SNR=4.5						
MKAR	**Makanchi Array**	**68.67**	**325**	P	**P**	**23 27 13.7**	**+0.6**
	0.6nm,0.5s,baz=114,slow=8.3,SNR=5.7						
VNDA	**Vanda**	**73.96**	**174**	LR	LR	23 59 07.8	
	comp=Z,57nm,19.1s,baz=310,slow=35						

*NEIC **06** 23:19:31.3±0.0, 63°.11N×151°.38W, h2km, ML3.1(AEIC),*
After AEIC.
*IDC **06** 23:19:32.7±2.9, 63°.11N×151°.26W, h0km, mb3.1/1,*
mb1 3.3/3, mb1mx3.1/31, mbtmp2.9/3, ML2.6/2, MS2.8/2,
Ms1 2.8/2, ms1mx2.5/13, Error ellipse: s-maj=36.4km
s-min=22.7km az=101.0

ISC 06 23:19:31.3±1.2, 63°.10N±0°.02×151°.40W±0°.03, h5km±10km, n53, σ1°27/71, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.41**	**241**	P	**Pg**	**23 19 38.6**	**-0.7**
CAST	**Castle Rocks**	**0.44**	**316**	P	**Pg**	**23 19 39.8**	**-0.1**
CAST				S	**Sg**	**23 19 46.6**	**+0.9**
HUR	**Hurricane**	**0.81**	**98**	P	**Pg**	**23 19 46.5**	**-0.4**
CHUM	**Lake Minchumin**	**0.89**	**333**	P	**Pg**	**23 19 48.6**	**+0.3**
CHUM				S	**Sb**	**23 20 00.5**	**-0.8**
BPAW	**Bear Paw Mtn.**	**1.02**	**10**	P	**Pg**	**23 19 50.7**	**-0.1**
RND	**Reindeer**	**1.19**	**74**	P	**Pb**	**23 19 53.3**	**-1.2**
RND				S	**Sg**	**23 20 09.6**	**0.0**
MCK	**McKinley**	**1.28**	**59**	P	**Pn**	**23 19 55.2**	**-0.6**
MCK				S	**Sn**	**23 20 13.3**	**-0.1**
BWN	**Browne**	**1.38**	**38**	P	**Pb**	**23 19 57.4**	**-0.2**
BWN				S	**Sg**	**23 20 19.4**	**+3.7**
SUA	**Susitna One**	**1.67**	**169**	P	**Pn**	**23 20 01.2**	**-0.1**
SUA				S	**Sb**	**23 20 23.9**	**0.0**
GHO	**Glory Hole Cre**	**1.76**	**138**	P	**Pn**	**23 20 02.4**	**-0.1**
GHO				S	**Sn**	**23 20 25.3**	**0.0**
NEA	**Nenana**	**1.81**	**34**	P	**Pn**	**23 20 02.2**	**-0.8**
DHY	**Denali Highway**	**1.83**	**89**	P	**Pn**	**23 20 03.8**	**+0.3**
DHY				S	**Sb**	**23 20 28.4**	**-0.2**
PMR	**Palmer**	**1.85**	**144**	P	**Pn**	**23 20 03.7**	**+0.1**
PMR				S	**Sb**	**23 20 28.2**	**-0.7**
SPWE	**Spurr West**	**1.91**	**197**	P	**Pb**	**23 20 05.5**	**-1.1**
SML	**Sawmill**	**1.93**	**131**	P	**Pn**	**23 20 04.4**	**-0.4**
MLY	**Manley**	**1.96**	**8**	P	**Pn**	**23 20 05.0**	**-0.2**
MLY				S	**Sg**	**23 20 32.8**	**-1.4**
WRH	**Wood River Hil**	**2.01**	**45**	P	**Pn**	**23 20 05.2**	**-0.7**
FIB	**Fire Island**	**2.03**	**163**	P	**Pb**	**23 20 07.3**	**-1.2**
FIB				S	**Sb**	**23 20 34.5**	**+0.5**
TT01	**Tatalina**	**2.12**	**267**	P	**Pn**	**23 20 06.5**	**-0.8**
RC01	**Rabbit Creek A**	**2.17**	**158**	P	**Pn**	**23 20 08.5**	**+0.5**
RC01				S	**Sb**	**23 20 37.0**	**-1.0**
KNK	**Knik Glacier**	**2.18**	**140**	P	**Pn**	**23 20 08.8**	**+0.5**
KNK				S	**Sb**	**23 20 37.2**	**-1.4**
SCM	**Sheep Creek Mo**	**2.28**	**122**	P	**Pn**	**23 20 10.1**	**+0.4**
MDM	**Murphy Dome**	**2.33**	**35**	P	**Pn**	**23 20 09.5**	**-0.8**
COLA	**College**	**2.37**	**40**	*e*Pn	**Pn**	**23 20 11.5**	**+0.8**
COLA				*e*S	**Sn**	**23 20 39.7**	**-0.5**
ILAR	**Eielson Array**	**2.60**	**48**	Pn	**Pn**	**23 20 13.3**	**-0.7**
	0.6nm,0.3s,baz=230,slow=14,SNR=21						
ILAR				Lg	Lg	23 20 52.0	
	6.3nm,0.3s,baz=232,slow=30,SNR=10						
ILAR				LR	LR	23 21 32.4	
	comp=Z,46nm,18.8s,baz=323,slow=47						
SLKM	**Skilak Lake**	**2.66**	**167**	P	**Pn**	**23 20 15.9**	**+1.1**
SLKM				S	**Sb**	**23 20 50.9**	**-1.4**
PWL	**Port Wells**	**2.67**	**146**	P	**Pn**	**23 20 15.9**	**+0.9**
PWL				S	**Sb**	**23 20 50.4**	**-2.4**
PAX	**Paxson**	**2.71**	**90**	P	**Pn**	**23 20 16.2**	**+0.7**
RDWB	**Redoubt West**	**2.71**	**195**	P	**Pn**	**23 20 16.9**	**+1.3**
RED	**Redoubt Volcan**	**2.77**	**194**	P	**Pn**	**23 20 18.1**	**+1.7**
SVW2	**Sparrevohn**	**2.81**	**226**	P	**Pn**	**23 20 17.2**	**+0.4**
PS06	**TAPS Pump Stn6**	**2.86**	**14**	P	**Pn**	**23 20 18.0**	**+0.5**
GCSA	**Galena City Sc**	**2.93**	**307**	P	**Pn**	**23 20 19.4**	**+0.9**
HARP	**HAARP**	**2.96**	**101**	P	**Pn**	**23 20 20.2**	**+1.3**
GLI	**Glacier Island**	**3.02**	**136**	P	**Pn**	**23 20 20.9**	**+1.2**
RIDG	**Independent Ri**	**3.02**	**75**	P	**Pn**	**23 20 21.6**	**+1.8**
KLU	**Klutina**	**3.03**	**120**	P	**Pn**	**23 20 21.5**	**+1.6**
KLU				S	**Sb**	**23 20 59.3**	**-3.5**
JPK	**Jack Peak**	**3.05**	**130**	P	**Pn**	**23 20 21.5**	**+1.3**
IM3	**Indian Mountai**	**3.07**	**342**	P	**Pn**	**23 20 20.7**	**+0.3**
DIV	**Divide**	**3.30**	**124**	P	**Pn**	**23 20 24.8**	**+1.1**
DOT	**Dot Lake**	**3.35**	**77**	P	**Pn**	**23 20 26.6**	**+2.3**
BRLK	**Bradley Lake**	**3.36**	**176**	P	**Pn**	**23 20 26.2**	**+1.8**
SCRK	**Sand Creek**	**3.44**	**72**	P	**Pn**	**23 20 25.9**	**+0.3**
BCA3	**Beaver Creek A**	**4.37**	**86**	P	**Pn**	**23 20 39.7**	**+1.4**
KIAG	**Kiagna River**	**4.79**	**113**	P	**Pn**	**23 20 46.1**	**+1.9**
EGAK	**Eagle**	**4.82**	**65**	*e*Pn	**Pn**	**23 20 45.8**	**+1.4**
EGAK				*e*S	**Sb**	**23 21 53.1**	**-1.3**
YUK2	**White River**	**5.08**	**100**	P	**Pn**	**23 20 50.3**	**+2.2**
KDAK	**Kodiak Island**	**5.37**	**187**	*e*Pn	**Pn**	**23 20 53.9**	**+2.0**
DAWY	**Dawson**	**5.45**	**74**	*e*Pn	**Pn**	**23 20 54.0**	**+0.9**
	2.4nm,0.5s						
DAWY				*e*S	**Sb**	**23 22 10.8**	**-1.7**
TOLK	**Toolik Lake Re**	**5.62**	**7**	P	**Pn**	**23 20 57.6**	**+2.2**
YKA	**Yellowknife Ar**	**16.69**	**76**	Pn	**Pn**	**23 23 26.1**	**+0.5**
	0.0nm,0.3s,baz=287,slow=9.6,SNR=3.2						
SCHQ	**Schefferville**	**41.30**	**61**	LR	LR	23 42 57.8	
	comp=Z,39nm,18.1s,baz=52,slow=34						
TXAR	**Lajitas Array**	**45.48**	**115**	P	**P**	**23 27 52.2**	**+0.9**
	0.2nm,0.7s,baz=3.3,slow=6.3,SNR=2.8						

**SJA 06 23:22:40.2±1.2, 23°

comp=Z,268nm,0.2s
RUSC La Rusia 0.89 48⇓ *i*P Pn 23 30 54.1 +0.2
RUSC *e*S Sn 23 31 12.2 +0.4
RUSC *i* 23 31 13.6
comp=N,567nm,0.3s
NORC Norcasia 1.15 283⇑ *e*P Pn 23 30 55.3 -0.4
NORC *e*S Sn 23 31 14.7 -0.3
NORC *i* 23 31 16.7
comp=N,948nm,0.1s
VILC Villavicencio, 1.18 177⇓ *e*P Pn 23 30 55.3 -0.9
VILC *e*S Sn 23 31 14.7 -1.1
VILC *i* 23 31 17.3
comp=Z,820nm,0.4s
YOPC Yopal, Colombi 1.32 87⇓ *e*P Pn 23 30 57.5 0.0
YOPC *e*S Sn 23 31 17.7 -0.5
YOPC *i* 23 31 25.0
comp=N,424nm,0.8s
BARC Barichara 1.41 24 *e*P Pn 23 30 58.0 -0.6
BARC *e*S Sn 23 31 19.3 -0.7
BARC *i* 23 31 21.1
comp=Z,209nm,0.3s
PTBC PUERTO BERRIO, 1.42 330⇑ *e*P Pn 23 30 57.5 -1.0
PTBC *e*S Sn 23 31 19.3 -0.7
PTBC *i* 23 31 34.1
comp=Z,191nm,0.4s
BRRC Barranca, Sant 1.80 1⇑ *e*P Pn 23 31 02.4 -0.2
BRRC *e*S Sn 23 31 26.7 -0.7
BRRC *i* 23 31 30.1
comp=N,415nm,0.2s
GIRC Giron, Santand 1.86 17 *e*P Pn 23 31 03.4 0.0
GIRC *e*S Sn 23 31 28.5 -0.3
GIRC *i* 23 31 32.0
comp=Z,235nm,0.4s
PRAC Prado 1.94 216⇑ *i*P Pn 23 31 03.6 -0.7
PRAC *e*S Sn 23 31 29.6 -0.7
PRAC *i* 23 31 31.6
comp=N,221nm,0.2s
HELC Santa Helena 1.98 297 *e*P Pn 23 31 04.5 -0.6
HELC *e*S Sn 23 31 31.2 -0.5
HELC *i* 23 31 33.6
comp=N,165nm,0.4s
TAMC Tame, Arauca 2.25 60⇓ *e*P Pn 23 31 07.6 -0.5
TAMC *e*S Sn 23 31 35.6 -1.5
TAMC *i* 23 31 39.3
comp=Z,72nm,0.4s
PAMC Pamplona, Colo 2.28 27 *e*P Pn 23 31 09.1 +0.2
PAMC *e*S Sn 23 31 37.9 -0.6
PAMC *i* 23 31 41.4
comp=N,152nm,0.7s
OCAC Ocana 2.96 8 *e*P Pn 23 31 16.5 -0.5
OCAC *e*S Sn 23 31 52.0 -1.0
OCAC *i* 23 31 57.3
comp=N,581nm,0.4s
UREC San Jos de Ur 3.02 324 *e*P Pn 23 31 15.1 -2.6
UREC *e*S Sn 23 31 50.9 -3.2
UREC *i* 23 32 04.9
comp=N,114nm,0.3s
SMLC San Martn de 3.50 355 *e*P Pn 23 31 21.5 -2.4
SMLC *e*S Sn 23 32 02.5 -2.8
SMLC *i* 23 32 09.6
comp=N,210nm,0.1s
SJCC San Jacinto, C 4.79 343 *e*P Pn 23 31 37.4 -3.5
SJCC *e*S Sn 23 32 29.9 -6.0
SJCC *i* 23 32 33.4
comp=N,90nm,0.4s

MEX 06 23:31:22.2±0.7, 16°.26N×98°.18W, h12km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**19**	*e*P	Pg	23 31 24.9	-0.7
PNIG				*e*S	Sg	23 31 27.6	-0.5
TLIG	**Tlapa**	**1.35**	**344**	*e*P	Pn	23 31 43.4	-3.6
TLIG				*i* S	Sb	23 31 59.1	-5.6

*BJI **06** 23:36:48.8±0.0, 51°.26N×176°.35W, h42km, mb4.9/18, mB4.9/13, Ms4.7/6, Ms7 4.5/2*
*MOS **06** 23:36:51.2±1.1, 51°.62N×176°.82W, h33km, mb4.6/26, Error ellipse: s-maj=8.6km s-min=7.1km az=60.9*
*IDC **06** 23:36:53.5±0.7, 51°.73N×176°.84W, h40km±6km, mb4.0/23, mb1 4.2/24, mb1mx4.1/36, mbtmp4.3/24, ML4.2/1, MS3.3/27, Ms1 3.3/27, ms1mx3.2/42, Error ellipse: s-maj=17.4km s-min=9.9km az=166.0*
*AEIC **06** 23:36:53.8±0.0, 51°.45N×176°.68W, h31km*
*ISCJB **06** 23:36:54.6±0.3, 51°.79N±0°.04×176°.80W±0°.03, h68km±2km, mb4.4/118, Error ellipse: s-maj=7.5km s-min=3.1km az=174.4*
*NEIC **06** 23:36:55.5±0.3, 51°.73N×176°.90W, h56km±2km, mb4.5/115, ML4.6(AEIC), Error ellipse: s-maj=6.5km s-min=2.9km az=172.0*
NEIC Felt on Adak.

ISC 06 23:36:53.5±0.6, 51°.52N±0°.07×176°.77W±0°.03, h43km±4km, n628, σ1°.14/644, mb4.5/122, MS3.3/29, 11C-3D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.37**	**8**	*e*Pg	**Pn**	**23 37 03.5**	**+0.7**
ADK				*e*S	**Sn**	**23 37 10.1**	**+0.8**
ADK	**Adak**	**0.37**	**8**	*e*P	**Pn**	**23 37 03.5**	**+0.7**
ADK				*e*S	**Sn**	**23 37 10.1**	**+0.8**
KIMD	**Kanaga Island**	**0.38**	**310**	P	**Pn**	**23 37 03.9**	**+1.1**
KIWB	**Kanaga Island**	**0.41**	**325**	*e*Pn	**Pn**	**23 37 04.4**	**+1.2**
ETKA	**Kagalaska Isla**	**0.41**	**33**	P	**Pn**	**23 37 03.6**	**+0.4**
KIRH	**Kanaga Island**	**0.43**	**332**	P	**Pn**	**23 37 04.8**	**+1.2**
KIKV	**Kanaga Island**	**0.44**	**326**	P	**Pn**	**23 37 04.8**	**+1.2**
ADAG	**Mount Adagdak**	**0.47**	**13**	P	**Pn**	**23 37 05.1**	**+1.0**
GSTD	**Great Sitkin T**	**0.67**	**36**	P	**Pn**	**23 37 07.2**	**+0.6**
GSMY	**Great Sitkin M**	**0.69**	**40**	P	**Pn**	**23 37 07.3**	**+0.5**
GSTR	**Great Sitkin T**	**0.73**	**37**	*e*Pn	**Pn**	**23 37 08.1**	**+0.8**
TAFP	**Tanaga Falls P**	**0.85**	**297**	P	**Pn**	**23 37 10.4**	**+1.4**
TASE	**Tanaga Southea**	**0.85**	**292**	P	**Pn**	**23 37 10.8**	**+1.7**
GAEA	**Gareloi East**	**1.26**	**283**	P	**Pn**	**23 37 16.5**	**+1.9**
ATKA	**Atka Island**	**1.74**	**66**	P	**Pn**	**23 37 21.5**	**+0.4**
ATKA				S	**Sn**	**23 37 42.0**	**0.0**
KOWE	**Korovin West**	**1.78**	**60**	P	**Pn**	**23 37 22.8**	**+1.1**
KOKI	**Mount Kliuchef**	**1.79**	**62**	P	**Pn**	**23 37 23.1**	**+1.3**
KOFP	**Korovin Flat P**	**1.82**	**64**	P	**Pn**	**23 37 23.5**	**+1.2**
NIKH	**Nikolski High**	**5.08**	**70**	P	**Pn**	**23 38 09.4**	**+2.5**
NIKH				S	**Sn**	**23 39 09.2**	**+4.9**
OKAK	**Okmok**	**5.53**	**65**	P	**Pn**	**23 38 15.9**	**+2.8**
OKWE	**Okmok W'ng Wal**	**5.57**	**66**	P	**Pn**	**23 38 16.8**	**+3.1**
SMY	**Shemya**	**5.75**	**286**	*e*Pn	**Pn**	**23 38 15.5**	**-0.7**
SMY	**Shemya**	**5.75**	**286**	*e*P	**Pn**	**23 38 15.5**	**-0.7**
MREP	**Makushin Rep't**	**6.52**	**65**	P	**Pn**	**23 38 29.8**	**+3.0**
MTBL	**Makushin Table**	**6.60**	**64**	P	**Pn**	**23 38 32.2**	**+4.3**
UNV	**Unalaska Valle**	**6.67**	**66**	P	**Pn**	**23 38 31.0**	**+2.3**
SPIA	**Saint Paul Isl**	**6.83**	**31**	P	**Pn**	**23 38 32.4**	**+1.5**
AKUT	**Akutan**	**7.16**	**64**	*e*Pn	**Pn**	**23 38 39.8**	**+4.3**
SDPT	**Sand Point**	**10.45**	**62**	*e*Pn	**Pn**	**23 39 20.4**	**-0.1**
CHGN	**Chignik**	**11.82**	**59**	*e*Pn	**Pn**	**23 39 40.0**	**+0.7**
GAMB	**Gambell**	**12.58**	**10**	*e*Pn	P	23 39 53.9	-6.2
OHAK	**Old Harbor**	**14.79**	**58**	*e*Pn	**Pn**	**23 40 17.2**	**-2.2**
OHAK				*e*S	**S**	**23 43 16.8**	**-1.9**
SVW2	**Sparrevohn**	**15.10**	**42**	*e*Pn	**P**	**23 40 28.7**	**+0.5**
KDAK	**Kodiak Island** 63nm,0.4s	**15.29**	**56**	*e*Pn	**Pn**	**23 40 25.6**	**-0.4**
KDAK				*e*S	**Sn**	**23 43 16.9**	**+2.9**
KDAK	**Kodiak Island**	**15.29**	**56**	*c*eP	**Pn**	**23 40 23.6**	**-2.4**
KDAK	**Kodiak Island** 0.9nm,0.3s,baz=202,slow=1.5,SNR=32	**15.29**	**56**	P	**Pn**	**23 40 23.2**	**-2.8**
KDAK	0.5nm,0.3s,baz=250,slow=23,SNR=8.1			S	**Sn**	**23 43 16.4**	**+2.4**
PEA0B	**Petropavlovsk-** 16nm,1.0s	**15.67**	**286**	*e*Pn	**Pn**	**23 40 30.7**	**-0.3**
PEA0B	**Petropavlovsk-**	**15.67**	**286**	*e*P	**Pn**	**23 40 30.7**	**-0.3**
PEA0B	comp=Z,16nm,1.0s			pmax	pmax		
PETK	**Petropavlovsk-**	**15.67**	**286**	*e*Pn	**Pn**	**23 40 29.7**	**-1.4**
PETK	**Petropavlovsk-**	**15.67**	**286**	*e*P	**Pn**	**23 40 29.7**	**-1.4**
PETK	**Petropavlovsk-** comp=Z,0.6nm,0.3s,baz=89,slow=16,SNR=16	**15.67**	**286**	P	**P**	**23 40 32.8**	**-1.7**
PETK	comp=Z,111nm,20.5s,baz=96,slow=36			LR	LR	23 46 13.0	
RSO	**Redoubt South**	**16.06**	**47**	*e*Pn	**Pn**	**23 40 33.9**	**-2.2**
BRLK	**Bradley Lake** comp=Z,11nm,0.7s	**16.69**	**50**	*e*Pn	**Pn**	**23 40 44.1**	**+0.2**
PPLA	**Purkeypile**	**17.39**	**40**	*e*Pn	**P**	**23 40 54.3**	**+0.7**
SEW	**Seward** comp=Z,18nm,0.6s	**17.48**	**50**	*e*Pn	**Pn**	**23 40 52.5**	**-1.2**
SEW				*e*Sn	**S**	**23 44 11.6**	**-2.0**
CAST	**Castle Rocks** comp=Z,22nm,0.5s	**17.69**	**38**	*e*Pn	**P**	**23 40 58.6**	**+1.7**
RDOG	**Red Dog Mine** comp=Z,13nm,0.7s	**17.91**	**17**	*e*Pn	**P**	**23 41 02.0**	**+2.8**
KNK	**Knik Glacier** comp=Z,7.5nm,0.7s	**18.36**	**46**	*e*P	**Pn**	**23 41 04.3**	**-0.2**
BPAW	**Bear Paw Mtn.** comp=Z,19nm,0.8s	**18.46**	**37**	*e*P	**Pn**	**23 41 06.7**	**+0.9**
BILL	**Bilibino** comp=Z,17nm,0.8s	**18.52**	**340**	*e*P	**Pn**	**23 41 06.9**	**+0.6**
BILL	**Bilibino**	**18.52**	**340**	*d i*P	**Pn**	**23 41 07.4**	**+1.1**
BILL	comp=Z,21nm,1.0s			pmax	pmax		
BILL	comp=Z,175nm,22.0s			MLR	MLR		
SML	**Sawmill** comp=Z,8.5nm,0.9s	**18.55**	**45**	*e*P	**Pn**	**23 41 07.1**	**+0.2**
SML	**Sawmill**	**18.55**	**45**	*e*P	**Pn**	**23 41 07.1**	**+0.2**
SML	comp=Z,9.0nm,0.9s			pmax	pmax		
IMAR	**Indian Mountai**	**18.61**	**30**	*e*P	**Pn**	**23 41 07.5**	**+0.1**
RND	**Reindeer** comp=Z,52nm,0.6s	**18.97**	**40**	*e*P	**P**	**23 41 10.5**	**-0.4**
RND	**Reindeer**	**18.97**	**40**	*e*P	**P**	**23 41 10.5**	**-0.4**
RND	comp=Z,52nm,0.6s			pmax	pmax		
SCM	**Sheep Creek Mo** comp=Z,12nm,0.6s	**19.01**	**46**	*e*P	**Pn**	**23 41 12.0**	**-0.4**
MLY	**Manley** comp=Z,18nm,0.7s	**19.05**	**35**	*e*P	**Pn**	**23 41 12.8**	**0.0**
BWN	**Browne** comp=Z,24nm,0.6s	**19.08**	**38**	*e*P	**Pn**	**23 41 13.1**	**0.0**
MCK	**McKinley** comp=Z,39nm,0.7s	**19.08**	**39**	*e*P	**P**	**23 41 11.9**	**-0.2**
MCK	**McKinley**	**19.08**	**39**	*e*P	**P**	**23 41 11.9**	**-0.2**
MCK	comp=Z,39nm,0.7s			pmax	pmax		
DHY	**Denali Highway** comp=Z,49nm,0.6s	**19.44**	**42**	*e*P	**P**	**23 41 16.0**	**-0.2**
DIV	**Divide**	**19.51**	**48**	*e*P	**P**	**23 41 16.5**	**-0.3**
KLU	**Klutina** comp=Z,10nm,0.7s	**19.54**	**47**	*e*P	**Pn**	**23 41 18.0**	**-0.7**
WRH	**Wood River Hil** comp=Z,10nm,0.6s	**19.75**	**38**	*e*P	**P**	**23 41 18.1**	**-1.2**
MDM	**Murphy Dome** comp=Z,16nm,0.6s	**19.93**	**37**	*e*P	**P**	**23 41 21.1**	**-0.2**
CCB	**Clear Creek Bu** comp=Z,12nm,0.6s	**19.94**	**38**	*e*P	**P**	**23 41 19.7**	**-1.7**
SEY	**Seymchan**	**20.00**	**317**	*c*eP	**Pn**	**23 41 23.9**	**-0.2**
SEY	**Seymchan** comp=Z,0.1nm,0.3s,baz=60,slow=1.5,SNR=4.1	**20.00**	**317**	PcP	**PcP**	**23 45 36.4**	**0.0**
COLA	**College** comp=Z,15nm,0.8s	**20.03**	**37**	*e*P	**Pn**	**23 41 23.1**	**-1.2**
COLA	**College**	**20.03**	**37**	*e*P	**Pn**	**23 41 23.1**	**-1.2**
COLA	comp=Z,15nm,0.8s			pmax	pmax		
HMT	**Hamilton** comp=Z,10nm,0.9s	**20.05**	**51**	*e*P	Pn	23 41 24.4	-0.2
HARP	**HAARP** comp=Z,22nm,0.8s	**20.16**	**45**	*e*P	**P**	**23 41 24.0**	**+0.1**
HDA	**Harding Lake** baz=245,SNR=37	**20.16**	**39**	P	**P**	**23 41 22.9**	**-0.9**
PAX	**Paxson**	**20.21**	**43**	*e*P	**P**	**23 41 25.1**	**+0.6**
PAX				*e*S	Sn	23 45 14.0	+0.9
POKR	**Poker Plat Res** baz=242	**20.30**	**37**	P	**P**	**23 41 23.7**	**-1.6**
ILAR	**Eielson Array**	**20.35**	**38**	*e*P	**P**	**23 41 24.1**	**-1.7**
ILAR				PcP	**PcP**	**23 45 36.2**	**-0.9**
ILAR				ScP	**ScP**	**23 49 09.3**	**-0.4**
ILAR	**Eielson Array**	**20.35**	**38**	*e*P	**P**	**23 41 24.1**	**-1.7**
ILAR						23 45 36.2	
ILAR	**Eielson Array**	**20.35**	**38**	P	**P**	**23 41 23.6**	**-2.2**
ILAR	comp=Z,1.9nm,0.6s,baz=222,slow=9.0,SNR=33			PcP	**PcP**	**23 45 36.2**	**-0.9**
ILAR	comp=Z,1.2nm,0.5s,baz=276,slow=3.1,SNR=9.0			ScP	**ScP**	**23 49 09.3**	**-0.4**
ILAR	comp=Z,0.5nm,0.6s,baz=281,slow=3.6,SNR=5.7			LR	LR	23 50 21.6	
ILB	**Eielson Array**	**20.35**	**38**	*e*P	**P**	**23 41 24.1**	**-1.7**
RIDG	**Independent Ri** comp=Z,16nm,0.7s	**20.75**	**42**	*e*P	**P**	**23 41 29.7**	**-0.5**
DOT	**Dot Lake** comp=Z,22nm,0.6s	**21.04**	**42**	*e*P	**P**	**23 41 32.4**	**-1.0**
BALM	**Baldy** comp=Z,2.4nm,0.7s	**21.11**	**50**	*e*P	**P**	**23 41 33.4**	**-0.8**
BALM	**Baldy**	**21.11**	**50**	*e*P	**P**	**23 41 33.4**	**-0.8**
BALM	comp=Z,2.0nm,0.7s			pmax	pmax		
SCRK	**Sand Creek** comp=Z,21nm,0.6s	**21.19**	**41**	*e*P	**P**	**23 41 34.1**	**-0.9**
PRP	**Porcupine Dome** comp=Z,2.7nm,0.6s	**21.20**	**37**	*e*P	**P**	**23 41 33.0**	**-2.1**
TOLK	**Toolik Lake Re** comp=Z,11nm,0.6s	**21.55**	**27**	*e*P	**P**	**23 41 39.5**	**+0.7**
TOLK	**Toolik Lake Re** baz=232,SNR=23	**21.55**	**27**	P	**P**	**23 41 38.2**	**-0.6**
BCAR	**Beaver Creek A**	**21.84**	**45**	*e*P	**P**	**23 41 41.4**	**-0.5**
EGAK	**Eagle** comp=Z,16nm,0.6s	**22.61**	**40**	*e*P	**P**	**23 41 49.3**	**-0.9**
DAWY	**Dawson** comp=Z,9.3nm,0.6s	**23.14**	**43**	*e*P	**P**	**23 41 55.4**	**-0.2**
DAWY				*e*PcP	**PcP**	**23 45 42.9**	**+0.3**
HYT	**Haines Junctio** comp=Z,2.5nm,0.9s	**23.42**	**51**	*e*P	**P**	**23 41 58.8**	**+0.4**
YSS	**Yuzh-Sakhalins**	**26.57**	**276**	*e*P	**P**	**23 42 26.7**	**-0.5**
YSS	comp=Z,20nm,1.0s			pmax	pmax		
INK	**Inuvik** comp=Z,2.2nm,0.6s	**26.62**	**35**	*e*P	**P**	**23 42 26.2**	**-1.2**
INK				*e*PcP	**PcP**	**23 45 50.0**	**-0.2**
INK				PcP	PcP	23 45 50.2	0.0
INK				ScP	**ScP**	**23 49 26.8**	**+0.4**
INK	**Inuvik** comp=Z,2.4nm,0.3s,baz=238,slow=7.9,SNR=13	**26.62**	**35**	P	**P**	**23 42 26.5**	**-0.9**
INK	comp=Z,5.1nm,0.8s,baz=243,slow=1.6,SNR=12			PcP	**PcP**	**23 45 50.2**	**0.0**
INK	comp=Z,0.6nm,0.5s,baz=289,slow=5.4,SNR=3.2			ScP	**ScP**	**23 49 26.8**	**+0.4**
INK	comp=Z,67nm,18.8s,baz=6.5,slow=39			LR	LR	23 54 08.6	
ASAJ	**Asahikawa** comp=Z,35nm,21.0s,baz=10.0,slow=33	**27.98**	**271**	LR	LR	23 52 13.4	
ERM	**Erimo**	**28.72**	**267**	*e*P	**P**	**23 42 48.5**	**+2.0**
ERM	**Erimo**	**28.72**	**267**	*e*P	**P**	**23 42 48.5**	**+2.0**
TIXI	**Tiksi**	**31.14**	**330**	*i* P	**P**	**23 43 08.4**	**+0.9**
TIXI	comp=Z,3.0nm,1.8s			pmax	pmax		
TIXI	**Tiksi** comp=Z,4.2nm,0.6s,baz=86,slow=1.4,SNR=10	**31.14**	**330**	PcP	**PcP**	**23 46 00.6**	**-0.9**
TIXI	comp=Z,55nm,19.3s,baz=88,slow=38			LR	LR	23 56 24.5	
KLR	**Kul'dur**	**32.36**	**287**	*i* P	**P**	**23 43 18.2**	**-0.3**
KLR	**Kul'dur** comp=Z,2.9nm,0.5s,baz=71,slow=7.6,SNR=14	**32.36**	**287**	P	**P**	**23 43 18.1**	**-0.4**
KLR	comp=Z,55nm,21.7s,baz=74,slow=36			LR	LR	23 56 02.5	
LLLB	**Lillooet** comp=Z,9.2nm,0.8s	**33.83**	**69**	*e*P	**P**	**23 43 33.3**	**+2.0**
A04D	**Lummi Island** baz=296	**34.12**	**73**	P	**P**	**23 43 32.7**	**-1.1**
YKA	**Yellowknife Ar** comp=Z,2.8nm,0.7s,baz=284,slow=8.1,SNR=28	**34.21**	**47**	P	**P**	**23 43 33.1**	**-1.4**
YKA				PcP	**PcP**	**23 46 10.4**	**+0.3**
YKA	comp=Z,4.4nm,0.8s,baz=288,slow=2.8,SNR=38			ScP	**ScP**	**23 49 50.3**	**-1.1**
YKA	comp=Z,0.7nm,0.7s,baz=289,slow=3.1,SNR=9.6			LR	LR	23 58 52.2	
H11N2	**WAKE ISLAND Hy** baz=17,slow=76,SNR=1480	**34.22**	**208**	T	T	00 19 51.7	
H11N3	**WAKE ISLAND Hy** baz=17,slow=76,SNR=1901	**34.23**	**208**	T	T	00 20 12.4	
H11N1	**WAKE ISLAND Hy** baz=17,slow=76,SNR=1590	**34.24**	**208**	T	T	00 19 53.8	
D03D	**Eldon** baz=298	**34.42**	**75**	P	**P**	**23 43 35.5**	**-0.9**
USRK	**Ussuriysk Ar.** comp=Z,3.6nm,0.6s,baz=56,slow=7.0,SNR=12	**34.53**	**278**	P	**P**	**23 43 37.0**	**-0.4**
USRK	comp=Z,1.6nm,0.9s,baz=77,slow=5.4,SNR=4.5			PcP	**PcP**	**23 46 11.8**	**+0.4**
B05A	**Bryant** baz=297	**34.69**	**73**	P	**P**	**23 43 38.6**	**-0.1**
MJA0	**Matsu Arr-Jizo**	**35.04**	**263**	*e*P	**P**	**23 43 42.7**	**+0.8**
MJA0	comp=Z,6.0nm,0.7s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,6.2nm,0.7s,baz=50,slow=6.4,SNR=12	**35.06**	**263**	P	**P**	**23 43 42.8**	**+0.7**
MJAR	comp=Z,28nm,21.9s,baz=80,slow=32			LR	LR	23 55 51.8	
MAT	**Matsushiro**	**35.06**	**263**	P	**P**	**23 43 43.1**	**+1.0**
E04D	**Cinebar** baz=299	**35.19**	**76**	P	**P**	**23 43 42.2**	**-0.9**
H11S1	**WAKE ISLAND Hy** baz=17,slow=76,SNR=947	**35.44**	**208**	T	T	00 21 25.8	
H11S2	**WAKE ISLAND Hy** baz=17,slow=76,SNR=541	**35.45**	**208**	T	T	00 21 35.4	
H11S3	**WAKE ISLAND Hy** baz=17,slow=76,SNR=460	**35.45**	**208**	T	T	00 21 29.9	
LON	**Longmire** comp=Z,5.8nm,0.6s	**35.55**	**76**	*e*P	**P**	**23 43 48.4**	**+2.1**
LON	**Longmire**	**35.55**	**76**	*e*P	**P**	**23 43 48.4**	**+2.1**
LON	comp=Z,6.0nm,0.6s			pmax	pmax		
LTY	**Liberty** comp=Z,4.4nm,0.6s	**36.00**	**74**	*e*P	**P**	**23 43 51.5**	**+1.3**
H04D	**Lebanon** baz=301	**36.09**	**79**	P	**P**	**23 43 51.7**	**+0.9**
B08A	**Colville Reser** comp=Z,5.7nm,0.6s	**36.29**	**72**	*e*P	**P**	**23 43 53.9**	**+1.3**
K02D	**Willamette Mer** baz=303	**36.48**	**83**	P	**P**	**23 43 55.3**	**+1.0**
G05D	**Wamic, OR**	**36.59**	**77**	P	**P**	**23 43 55.1**	**-0.1**
I04A	**Tendick Farm,** baz=302,SNR=5.3	**36.67**	**80**	P	**P**	**23 43 55.9**	**0.0**
L02E	**Cave Junction** baz=304	**36.81**	**83**	P	**P**	**23 43 58.0**	**+1.0**
HAWA	**Hanford** comp=Z,7.4nm,0.6s	**37.10**	**75**	*e*P	**P**	**23 44 01.2**	**+1.7**
D08A	**Wollman Farm,** comp=Z,5.7nm,0.7s	**37.15**	**73**	*e*P	**P**	**23 44 01.1**	**+1.3**
J04D	**Umpqua Nationa** baz=303	**37.15**	**81**	P	**P**	**23 44 01.1**	**+0.9**
C09A	**Chrisman Ranch** comp=Z,9.0nm,1.1s	**37.18**	**72**	*e*P	**P**	**23 44 01.3**	**+1.2**
PINE	**Pine Mountain** comp=Z,4.4nm,1.0s	**37.57**	**79**	*e*P	**P**	**23 44 06.0**	**+2.3**
L04D	**Klamath Falls** baz=304	**37.59**	**82**	P	**P**	**23 44 04.5**	**+0.8**
YBH	**Yreka Blue Hor**	**37.60**	**83**	*e*P	**P**	**23 44 06.9**	**+3.1**
YBH	**Yreka Blue Hor**	**37.60**	**83**	*e*P	**P**	**23 44 06.9**	**+3.1**
NEW	**Newport** comp=Z,7.7nm,0.6s	**37.64**	**71**	*e*P	**P**	**23 44 04.6**	**+0.6**
NEW	**Newport**	**37.64**	**71**	*e*P	**P**	**23 44 04.6**	**+0.6**
NEW	comp=Z,8.0nm,0.6s			pmax	pmax		
NEW	**Newport** baz=298,SNR=9.9	**37.64**	**71**	P	**P**	**23 44 04.5**	**+0.4**
J05D	**Fort Rock, OR** baz=303	**37.66**	**80**	P	**P**	**23 44 05.1**	**+0.7**
M04C	**Macdoel** baz=304	**38.12**	**83**	P	**P**	**23 44 09.6**	**+1.4**
K05A	**Summer Lake** comp=Z,4.1nm,0.6s	**38.18**	**81**	*e*P	**P**	**23 44 11.4**	**+2.6**
I07A	**Izee** comp=Z,5.8nm,0.8s	**38.30**	**78**	*e*P	**P**	**23 44 11.2**	**+1.5**
O02D	**Mt. Diablo Mer** baz=306	**38.44**	**85**	P	**P**	**23 44 11.7**	**+0.8**
F10A	**Beach Ranch, E** comp=Z,5.5nm,1.0s	**38.70**	**74**	*e*P	**P**	**23 44 14.2**	**+1.2**
O03E	**Paynes Creek** baz=306	**38.99**	**85**	P	**P**	**23 44 15.9**	**+0.4**
MOD	**Modoc Plateau** comp=Z,5.0nm,0.7s	**39.00**	**81**	*e*P	**P**	**23 44 17.2**	**+1.5**
WALA	**Waterton Lakes** comp=Z,16nm,1.0s	**39.14**	**68**	*e*P	**P**	**23 44 17.0**	**+0.2**
WALA				*e*PcP	**PcP**	**23 46 26.5**	**+1.0**
BMO	**Blue Mountains** comp=Z,2.6nm,0.6s	**39.23**	**76**	*e*P	**P**	**23 44 18.5**	**+1.0**
BMO	**Blue Mountains**	**39.23**	**76**	*e*P	**P**	**23 44 18.5**	**+1.0**
BMO	comp=Z,3.0nm,0.6s			pmax	pmax		
J08A	**Circle Bar Ran** comp=Z,6.9nm,0.9s	**39.32**	**78**	*e*P	**P**	**23 44 20.0**	**+1.8**
WVOR	**Wild Horse Val** comp=Z,5.7nm,0.9s	**39.73**	**80**	*e*P	**P**	**23 44 22.8**	**+1.1**
WVOR	**Wild Horse Val**	**39.73**	**80**	*e*P	**P**	**23 44 22.8**	**+1.1**
WVOR	comp=Z,6.0nm,0.9s			pmax	pmax		
BEKR	**Beckworth** comp=Z,2.5nm,0.7s	**40.13**	**84**	*e*P	**P**	**23 44 27.1**	**+1.9**
MSO	**Missoula** comp=Z,8.3nm,0.6s	**40.22**	**71**	*e*P	**P**	**23 44 26.5**	**+0.7**
MSO	**Missoula** baz=301,SNR=9.6	**40.22**	**71**	P	**P**	**23 44 25.4**	**-0.3**
PAHR	**Pah Rah Range** comp=Z,4.6nm,0.8s	**40.84**	**84**	*e*P	**P**	**23 44 32.7**	**+1.8**
KSRS	**Korea Array** comp=Z,3.6nm,0.7s,baz=66,slow=7.5,SNR=13	**40.90**	**272**	P	**P**	**23 44 32.2**	**+1.0**
KSRS				LR	LR	00 02 36.1	
KSAR	**Wonju Array Be** comp=Z,11nm,18.2s,baz=43,slow=38	**40.94**	**272**	*e*P	**P**	**23 44 31.3**	**-0.2**
KSAR	**Wonju Array Be**	**40.94**	**272**	*e*P	**P**	**23 44 31.3**	**-0.2**
PNTR	**Pine Nut** comp=Z,9.5nm,0.7s	**41.07**	**84**	*e*P	**P**	**23 44 35.3**	**+2.4**
WAKR	**Walker** comp=Z,4.4nm,0.9s	**41.52**	**85**	*e*P	**P**	**23 44 38.8**	**+2.1**
HRY	**Holter Researc**	**41.53**	**70**	*e*P	**P**	**23 44 37.1**	**+0.6**
HLID	**Hailey** comp=Z,3.6nm,0.9s	**41.68**	**76**	*e*P	**P**	**23 44 39.0**	**+1.2**
HLID	**Hailey** baz=304,SNR=7.6	**41.68**	**76**	P	**P**	**23 44 38.3**	**+0.5**
MCMT	**McKenzie Canyo**	**41.93**	**73**	*e*P	**P**	**23 44 40.5**	**+0.6**
EGMT	**Eagleton** comp=Z,15nm,0.8s	**42.06**	**67**	*e*P	**P**	**23 44 40.5**	**-0.2**
EGMT	**Eagleton** baz=301,SNR=16	**42.06**	**67**	P	**P**	**23 44 40.1**	**-0.6**
BOZ	**Bozeman (W)** comp=Z,4.9nm,0.6s	**42.24**	**71**	*e*P	**P**	**23 44 42.8**	**+0.5**
BOZ	**Bozeman (W)**	**42.24**	**71**	*e*P	**P**	**23 44 42.8**	**+0.5**
BOZ	comp=Z,5.0nm,0.6s			pmax	pmax		
BOZ	**Bozeman (W)** baz=303,SNR=14	**42.24**	**71**	P	**P**	**23 44 42.2**	**-0.1**
NVAR	**Mina Array Bea**	**42.27**	**84**	*e*P	**P**	**23 44 43.7**	**+0.9**
NVAR				PcP	**PcP**	**23 46 36.9**	**+1.0**
NVAR	**Mina Array Bea** comp=Z,2.7nm,0.8s,baz=292,slow=8.7,SNR=15	**42.27**	**84**	P	**P**	**23 44 44.1**	**+1.4**
NVAR	comp=Z,1.9nm,0.7s,baz=282,slow=2.9,SNR=8.2			PcP	**PcP**	**23 46 36.9**	**+1.0**
NVAR	comp=Z,37nm,21.3s,baz=264,slow=31			LR	LR	23 58 28.4	
ELK	**Elko** comp=Z,2.6nm,0.8s	**42.78**	**80**	*e*P	**P**	**23 44 48.1**	**+1.2**
ELK	**Elko**	**42.78**	**80**	*e*P	**P**	**23 44 48.1**	**+1.2**
ELK	comp=Z,3.0nm,0.8s			pmax	pmax		
ELK	**Elko** comp=Z,46nm,21.5s,baz=316,slow=30	**42.78**	**80**	LR	LR	23 58 40.5	
YMR	**Madison River** comp=Z,9.0nm,1.0s	**43.14**	**72**	*e*P	**P**	**23 44 51.2**	**+1.5**
YHH	**Holmes Hill** comp=Z,13nm,1.2s	**43.14**	**72**	*e*P	**P**	**23 44 50.4**	**+0.6**
YNR	**Norris Junctio** comp=Z,7.8nm,1.0s	**43.28**	**72**	*e*P	**P**	**23 44 52.9**	**+2.0**
YNR				*e*pP	**pP**	**23 44 59.4**	**-

comp=Z,28nm,1.1s
RLMT Red Lodge 43.89 71 P **P 23 44 55.9 +0.1**
baz=304,SNR=24
LOHW Long Hollow 43.94 73 *e*P **P 23 44 58.5 +2.3**
comp=Z,1.7nm,0.7s
R11A Troy Canyon, C 44.01 83 *e*P **P 23 44 57.6 +0.8**
comp=Z,4.4nm,1.0s
R11A Troy Canyon, C 44.01 83 P **P 23 44 57.2 +0.4**
baz=308,SNR=9.7
BGU Big Grassy Mou 44.03 78 *e*P **P 23 44 58.6 +1.8**
comp=Z,2.6nm,0.8s
MPMC Manual Prospec 44.26 86 P **P 23 44 59.1 +0.3**
baz=310
DUG Dugway, Tooele 44.60 79 *e*P **P 23 45 02.4 +1.0**
comp=Z,5.0nm,0.7s
DUG Dugway, Tooele 44.60 79 *e*P **P 23 45 02.4 +1.0**
DUG pmax pmax
comp=Z,5.0nm,0.7s
DUG Dugway, Tooele 44.60 79 P **P 23 45 01.6 +0.2**
baz=307
EDW2 Edwards Air Fo 44.70 88 P **P 23 45 02.1 0.0**
baz=311
LAO LASA Array 44.80 67 *e*P **P 23 45 02.8 0.0**
LAO *e*PcP **PcP 23 46 45.0 +0.8**
LAO LASA Array 44.80 67 P **P 23 45 03.1 +0.3**
baz=304,SNR=13
NRIK Noril'sk 44.93 330 P **P 23 45 02.6 -0.9**
comp=Z,1.1nm,0.4s,baz=89,slow=9.3,SNR=5.7
PSUT Pine Spring 44.97 81 *e*P **P 23 45 05.7 +1.3**
comp=Z,4.2nm,0.7s
BW06 Boulder Array 45.05 74 *e*P **P 23 45 05.5 +0.4**
comp=Z,12nm,1.0s
BW06 Boulder Array 45.05 74 P **P 23 45 04.9 -0.2**
baz=306,SNR=12
PD31 Pinedale Array 45.05 74 *e*P **P 23 45 05.8 +0.6**
comp=Z,11nm,1.0s
PDAR Pinedale Array 45.05 74 *e*P **P 23 45 04.2 -0.9**
PDAR pP **pP 23 45 16.6 -0.1**
PDAR Pinedale Array 45.05 74 P **P 23 45 05.7 +0.6**
comp=Z,8.3nm,0.7s,baz=316,slow=3.2,SNR=88
PDAR pP **pP 23 45 16.6 -0.1**
comp=Z,5.8nm,0.7s,baz=312,slow=3.9,SNR=12
PDAR LR LR 00 00 37.2
comp=Z,29nm,20.1s,baz=292,slow=32
GSC Goldstone, Bar 45.17 87 *e*P **P 23 45 07.1 +1.2**
comp=Z,7.1nm,0.9s
GSC Goldstone, Bar 45.17 87 *e*P **P 23 45 07.1 +1.2**
GSC pmax pmax
comp=Z,7.0nm,0.9s
GSC Goldstone, Bar 45.17 87 P **P 23 45 06.2 +0.2**
baz=311,SNR=5.2
NLU North Lily Min 45.20 78 *e*P **P 23 45 07.5 +1.3**
comp=Z,4.1nm,0.9s
BFSC Mount Baldy Ra 45.33 89 P **P 23 45 07.8 +0.6**
baz=312
SCI2 San Clemente I 45.61 91 P **P 23 45 09.8 +0.5**
baz=312
MSU Marysvale 46.02 80 *e*P **P 23 45 14.4 +1.7**
MSU Marysvale 46.02 80 *e*P **P 23 45 14.5 +1.7**
TMUT Trail Mountain 46.13 79 *e*P **P 23 45 15.2 +1.5**
comp=Z,8.2nm,0.9s
GMRC Granite Mounta 46.22 86 P **P 23 45 14.1 -0.2**
baz=311
LCMT Little Creek M 46.30 82 *e*P **P 23 45 16.5 +1.7**
comp=Z,5.1nm,0.9s
MTPU Mount Pierson 46.30 81 *e*P **P 23 45 17.1 +1.9**
comp=Z,3.0nm,0.8s
BELC Belle Mtn. Jos 46.52 88 P **P 23 45 16.3 -0.4**
baz=312
KNB Kanab 46.55 82 *e*P **P 23 45 18.7 +1.8**
comp=Z,4.3nm,0.8s
KNB Kanab 46.55 82 *e*P **P 23 45 18.7 +1.8**
KNB pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 46.66 78 *e*P **P 23 45 19.0 +1.3**
comp=Z,6.6nm,0.8s
SRU San Rafael Swe 46.66 78 *e*P **P 23 45 19.0 +1.3**
SRU pmax pmax
comp=Z,7.0nm,0.8s
K22A Casper 46.93 72 P **P 23 45 19.4 -0.4**
baz=307
RWWY Rawlins 47.10 73 *e*P **P 23 45 21.5 +0.3**
comp=Z,10nm,1.1s
ULN Ulaanbaatar 47.33 297 *e*P **P 23 45 23.2 +0.4**
comp=Z,4.9nm,1.1s
ULN Ulaanbaatar 47.33 297 *ce*P **P 23 45 23.4 +0.6**
ULN pmax pmax
comp=Z,4.0nm,1.0s
O20A White River Ci 47.42 76 P **P 23 45 23.9 +0.2**
baz=308,SNR=12
PDMCI Parker Dam,Lak 47.48 86 P **P 23 45 23.8 -0.2**
baz=312
RSSD Black Hills 47.53 69 *e*P **P 23 45 23.9 -0.6**
comp=Z,7.9nm,0.7s
RSSD *e*PcP **PcP 23 46 53.6 -0.3**
RSSD Black Hills 47.53 69 *e*P **P 23 45 23.9 -0.6**
RSSD *e* 23 46 53.6
RSSD pmax pmax
comp=Z,8.0nm,0.7s
RSSD Black Hills 47.53 69 P **P 23 45 24.3 -0.2**
baz=306
SONM Songino Array 47.71 298 P **P 23 45 24.7 -1.1**
comp=Z,2.1nm,0.9s,baz=46,slow=10,SNR=9.7
SONM PcP **PcP 23 46 54.4 0.0**
comp=Z,5.6nm,0.8s,baz=66,slow=1.9,SNR=17
SONM ScP **ScP 23 50 43.9 -1.0**
comp=Z,0.4nm,0.6s,baz=50,slow=2.5,SNR=4.2
SONM LR LR 00 06 45.0
comp=Z,47nm,18.5s,baz=80,slow=38
PV09 Paradox Valley 47.89 78 *e*P **P 23 45 28.3 +0.8**
PV21 Cone Mtn., Par 47.95 78 *e*P **P 23 45 28.6 +0.8**
comp=Z,5.5nm,0.6s
PV23 Carpenter Ridg 47.99 78 *e*P **P 23 45 28.9 +0.7**
comp=Z,5.6nm,0.5s
PV14 Lion Creek, Pa 48.04 78 *e*P **P 23 45 29.2 +0.7**
comp=Z,4.4nm,0.8s
PV20 West Nyswonger 48.09 78 *e*P **P 23 45 30.0 +1.1**
comp=Z,5.2nm,0.6s
PV04 Paradox Valley 48.10 78 *e*P **P 23 45 29.8 +0.9**
comp=Z,8.6nm,0.9s
PV19 Morning Glory 48.10 78 *e*P **P 23 45 29.8 +0.8**
comp=Z,4.8nm,0.6s
PV17 East Wray Mesa 48.13 78 *e*P **P 23 45 30.0 +0.8**
comp=Z,12nm,0.6s
PV16 Nyswonger Mesa 48.14 78 *e*P **P 23 45 29.9 +0.6**
comp=Z,6.8nm,0.6s
PV05 Paradox Valley 48.17 78 *e*P **P 23 45 31.8 +2.2**
comp=Z,6.2nm,0.8s
PV11 David Mesa, Pa 48.17 78 *e*P **P 23 45 30.4 +0.9**
comp=Z,16nm,0.6s
PV12 Saucer Basin, 48.21 78 *e*P **P 23 45 31.0 +1.2**
comp=Z,10.0nm,1.1s
PV03 Paradox Valley 48.22 78 *e*P **P 23 45 30.7 +0.8**
comp=Z,11nm,1.1s
PV07 Paradox Valley 48.23 78 *e*P **P 23 45 31.4 +1.4**
comp=Z,3.8nm,0.8s
PV13 Radium Mtn., P 48.30 78 *e*P **P 23 45 31.1 +0.6**
comp=Z,14nm,0.7s
PV02 Paradox Valley 48.31 78 *e*P **P 23 45 31.6 +0.9**
comp=Z,14nm,1.0s
N23A Red Feather La 48.34 73 P **P 23 45 30.7 -0.1**
baz=308
TIA Tai'an 48.40 279 P **P 23 45 31.3 +0.2**
TIA pmax pmax
comp=Z,17nm,0.7s
WUAZ Wupatki 48.41 83 P **P 23 45 30.7 -0.7**
baz=311
PV01 Paradox Valley 48.46 78 *e*P **P 23 45 32.6 +0.8**
comp=Z,7.8nm,0.9s
ULM Lac du Bonnet 48.54 58 *e*P **P 23 45 32.8 +0.9**
ULM pmax pmax
comp=Z,1.0nm,0.4s
ULM Lac du Bonnet 48.54 58 P **P 23 45 30.6 -1.4**
comp=Z,0.9nm,0.5s,baz=314,slow=9.9,SNR=3.2
HHC Hu-ho-hao-te 48.87 287 *e*P **P 23 45 34.3 -0.4**
HHC pmax pmax
comp=Z,160nm,6.0s
ISCO Idaho Springs 49.21 74 P **P 23 45 37.5 -0.1**
baz=309
S22A 4UR Ranch, Cre 49.77 77 P **P 23 45 42.6 +0.7**
baz=310,SNR=5.1
214A Organ Pipe Nat 49.88 87 P **P 23 45 42.6 +0.1**
baz=313
SDCO Great Sand Dun 50.58 76 *e*P **P 23 45 48.0 0.0**
comp=Z,1.5nm,0.6s
SDCO Great Sand Dun 50.58 76 P **P 23 45 48.5 +0.5**
baz=310,SNR=6.2

OGNE Ogallala 50.63 71 P **P 23 45 48.5 +0.4**
baz=309
TUC Tucson 50.90 85 *e*P **P 23 45 51.1 +0.9**
comp=Z,6.0nm,1.1s
TUC Tucson 50.90 85 *e*P **P 23 45 51.1 +0.9**
TUC pmax pmax
comp=Z,6.0nm,1.1s
TUC Tucson 50.90 85 P **P 23 45 50.8 +0.6**
baz=313
KSCO Kaye Shedlock' 51.50 73 P **P 23 45 55.3 +0.6**
baz=310
T25A Trinidad 51.63 76 P **P 23 45 56.5 +0.7**
baz=311
TASM ASL Pad, Albuq 51.82 80 P **P 23 45 57.5 +0.3**
baz=312
TASM ASL Pad, Albuq 51.82 80 P **P 23 45 56.9 -0.3**
baz=312
ANMO Albuquerque 51.82 80 *ce*P **P 23 45 58.7 +1.5**
ANMO pmax pmax
comp=Z,2.0nm,1.3s
ANMO Albuquerque 51.82 80 P **P 23 45 55.9 -1.3**
baz=312
ANMO Albuquerque 51.82 80 LR LR 00 04 59.0
comp=Z,33nm,18.1s,baz=283,slow=32
ECSD EROS Data Cent 52.03 65 *e*P **P 23 45 57.1 -1.4**
comp=Z,4.9nm,0.8s
ECSD EROS Data Cent 52.03 65 P **P 23 45 57.0 -1.4**
baz=309
EYMN Ely 52.22 58 P **P 23 45 58.0 -1.8**
baz=308
BGNE Belgrade 52.61 68 P **P 23 46 02.6 -0.2**
baz=310
121A Cookes Peak, D 52.62 83 P **P 23 46 03.3 +0.1**
baz=313
E38A The Farm, Brul 53.03 59 P **P 23 46 04.2 -1.6**
baz=309
SPMN Marine on St. 53.22 61 P **P 23 46 06.2 -1.0**
baz=310
F38A Pierce - Schro 53.26 60 P **P 23 46 06.2 -1.2**
baz=309,SNR=7.0
CBKS Cedar Bluff 53.35 72 *e*P **P 23 46 07.6 -0.7**
comp=Z,12nm,0.7s
CBKS Cedar Bluff 53.35 72 *e*P **P 23 46 07.6 -0.7**
CBKS pmax pmax
comp=Z,12nm,0.7s
CBKS Cedar Bluff 53.35 72 P **P 23 46 08.0 -0.3**
baz=311
E39A Mellen 53.70 59 P **P 23 46 09.2 -1.6**
baz=310
G38A Ridgeland 53.77 61 P **P 23 46 09.9 -1.3**
baz=310
F39A Loretta 53.80 60 P **P 23 46 10.0 -1.5**
baz=310
WHN Wuhan 53.91 275 P **P 23 46 09.4 -3.0**
E40A Wakefield 54.01 59 P **P 23 46 11.9 -1.1**
baz=310
G39A Holcombe 54.07 60 P **P 23 46 11.9 -1.5**
baz=310
D41A Chassel 54.33 57 P **P 23 46 13.9 -1.3**
baz=310
E41A Kenton 54.50 58 P **P 23 46 15.1 -1.4**
baz=310
COWI Conover 54.64 58 *e*P **P 23 46 16.1 -1.5**
comp=Z,2.5nm,0.6s
MNTX Cornudas Mount 54.67 82 *e*P **P 23 46 18.9 +0.9**
comp=Z,5.5nm,0.8s
MNTX Cornudas Mount 54.67 82 P **P 23 46 18.4 +0.4**
baz=314,SNR=5.8
MSTX Muleshoe 54.73 78 P **P 23 46 18.1 -0.4**
baz=313
AMTX Amarillo 54.78 77 P **P 23 46 18.5 -0.3**
baz=313
ZALV Zalesovo Beam 54.85 314 PcP **PcP 23 47 20.0 -0.7**
comp=Z,1.4nm,0.5s,baz=61,slow=3.5,SNR=5.7
ZALV LR LR 00 11 16.8
comp=Z,48nm,20.1s,baz=70,slow=38
XAN Xi'an 54.88 282 P **P 23 46 19.3 -0.2**
XAN pP pP 23 46 31.8 +0.3
XAN pmax pmax
comp=Z,12nm,1.0s
XAN pmax pmax
comp=Z,42nm,3.4s
XAN Xi'an 54.88 282 *e*P **P 23 46 19.0 -0.5**
comp=Z,108nm,0.9s
XAN Xi'an 54.88 282 *e*P **P 23 46 19.0 -0.5**
XAN pmax pmax
comp=Z,108nm,0.9s
H40A Chili 54.92 61 P **P 23 46 18.7 -0.9**
baz=311
KSU1 Kansas State U 55.01 69 *e*P **P 23 46 19.7 -0.6**
comp=Z,23nm,0.9s
KSU1 Kansas State U 55.01 69 P **P 23 46 19.3 -0.9**
baz=312
J39A Decorah 55.03 63 P **P 23 46 19.2 -1.2**
baz=311
E42A Champion 55.08 58 P **P 23 46 19.5 -1.2**
baz=311
G42A Mountain 55.58 59 P **P 23 46 23.1 -1.2**
baz=311
E43A Lone Tree Farm 55.59 57 P **P 23 46 23.2 -1.2**
baz=311,SNR=8.4
L39A Vinton 55.66 64 P **P 23 46 23.7 -1.2**
baz=312
F43A Flat Rock, Esc 55.86 58 P **P 23 46 25.1 -1.2**
baz=311
J41A Loganville 55.95 62 P **P 23 46 25.7 -1.2**
baz=312
G43A Wallace 55.96 58 P **P 23 46 25.5 -1.6**
baz=311
M39A Webster 55.99 64 P **P 23 46 26.2 -1.1**
baz=312,SNR=7.4
L40A Anamosa 56.13 63 P **P 23 46 27.0 -1.3**
baz=312
F44A Big Bay de Noc 56.16 57 P **P 23 46 26.7 -1.7**
baz=312,SNR=5.4
I42A Draeger Farm, 56.20 60 P **P 23 46 27.4 -1.3**
baz=312
K41A Shullsburg 56.28 62 P **P 23 46 28.0 -1.4**
baz=312
H43A Windswept, Lux 56.44 59 P **P 23 46 28.9 -1.6**
baz=312
L41A Preston 56.53 63 P **P 23 46 29.6 -1.5**
baz=312
LZH Lanzhou 56.56 287 *e*P **P 23 46 33.2 +1.6**
LZH pP pP 23 46 45.2 +1.6
LZH sP sP 23 46 51.8 +3.3
LZH pmax pmax
comp=Z,14nm,1.1s
I43A Langenfeld Bro 56.62 60 P **P 23 46 30.8 -1.0**
baz=312
WMOK Wichita Mounta 56.64 75 *e*P **P 23 46 32.3 +0.2**
comp=Z,3.2nm,0.8s
WMOK Wichita Mounta 56.64 75 *e*P **P 23 46 32.3 +0.2**
WMOK pmax pmax
comp=Z,3.0nm,0.8s
WMOK Wichita Mounta 56.64 75 P **P 23 46 31.9 -0.1**
baz=313,SNR=5.5
D46A Sault St. Mari 56.79 55 P **P 23 46 31.5 -1.4**
baz=312
F45A CMU Biological 56.83 57 P **P 23 46 31.7 -1.5**
baz=312
LPIG La Paz 56.97 92 LR LR 00 04 55.9
comp=Z,25nm,20.7s,baz=153,slow=30
M41A Milan 56.97 64 P **P 23 46 33.3 -1.0**
baz=312
E46A Sault Ste Mari 57.00 56 P **P 23 46 33.3 -1.1**
baz=312
ENH Enshi 57.12 279 *e*P **P 23 46 34.8 -0.7**
comp=Z,2.5nm,0.5s
D47A Chapleau 57.15 54 P **P 23 46 34.3 -1.2**
baz=312
K43A Burlington 57.31 61 P **P 23 46 35.0 -1.7**
baz=312
TXAR Lajitas Array 57.38 83 P **P 23 46 37.7 +0.3**
comp=Z,3.2nm,0.6s,baz=302,slow=5.3,SNR=38
TXAR PcP **PcP 23 47 31.6 +0.6**
comp=Z,1.0nm,0.6s,baz=290,slow=2.1,SNR=4.6
TXAR LR LR 00 07 55.7
comp=Z,18nm,21.8s,baz=0.0,slow=32
L43A Garden Prairie 57.43 62 P **P 23 46 36.1 -1.4**
baz=313
E47A Iron Bridge 57.47 55 P **P 23 46 36.3 -1.4**
baz=313
ABTX Abilene, Hawle 57.56 77 P **P 23 46 38.2 -0.4**
baz=314
O41A Passleys Farm, 57.63 65 P **P 23 46 37.9 -1.1**
baz=313,SNR=8.0
TUL1 Leonard 57.63 72 P **P 23 46 37.5 -1.5**

baz=314
D48A Paudash Townsh 57.73 54 P **P 23 46 38.0 -1.5**
baz=313
M43A Waltham Townsh 57.81 63 P **P 23 46 38.9 -1.3**
baz=313
D49A Beulah Townshi 57.89 53 P **P 23 46 39.3 -1.4**
baz=313
I46A Reed City 58.03 58 P **P 23 46 40.9 -0.8**
baz=313
ARCES ARCESS Array B 58.16 351 *e*P **P 23 46 42.2 -0.1**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 58.16 351 P **P 23 46 42.0 -0.3**
comp=Z,1.5nm,0.6s,baz=28,slow=7.9,SNR=12
HDIL Hopedale 58.22 64 P **P 23 46 42.1 -1.0**
baz=313
F48A Evansville 58.23 55 P **P 23 46 41.7 -1.4**
baz=313
M44A Midewin, Midew 58.35 62 P **P 23 46 42.9 -1.1**
baz=313
F49A Sandfield 58.57 55 P **P 23 46 44.1 -1.4**
baz=314
R41A Rosebud 58.58 67 P **P 23 46 44.2 -1.4**
baz=314,SNR=14
Q42A Golden Eagle 58.64 66 P **P 23 46 45.0 -1.0**
baz=314,SNR=6.9
P43A Skaggs, Pawnee 58.72 64 P **P 23 46 45.6 -0.9**
baz=314,SNR=6.9
E50A Wahnapitae 58.78 54 P **P 23 46 45.4 -1.5**
baz=314,SNR=5.8
I48A Sherman Twp 58.78 57 P **P 23 46 46.1 -0.9**
baz=314
LSQQ Lebel-sur-Quev 58.79 49 P **P 23 46 44.6 -2.3**
baz=314
CCM Cathedral Cave 58.82 67 *e*P **P 23 46 45.8 -1.5**
comp=Z,28nm,0.6s
CCM Cathedral Cave 58.82 67 *e*P **P 23 46 45.8 -1.5**
CCM pmax pmax
comp=Z,28nm,0.6s
CCM Cathedral Cave 58.82 67 P **P 23 46 46.1 -1.2**
baz=314
S41A Jillco Farms, 58.85 68 P **P 23 46 45.8 -1.7**
baz=314,SNR=29
O44A Mansfield 58.96 63 P **P 23 46 47.3 -1.0**
baz=314
N45A Kentland 59.01 62 P **P 23 46 47.5 -1.1**
baz=314
U40A Yellville 59.05 69 P **P 23 46 47.6 -1.4**
baz=314,SNR=15
TOBO Tobermory, Bru 59.20 55 P **P 23 46 48.9 -0.9**
baz=314,SNR=7.5
W39A Magazine 59.30 71 P **P 23 46 49.9 -0.8**
baz=314
O45A Potomac 59.31 63 P **P 23 46 49.5 -1.1**
baz=314
E51A G1948 Merrick 59.32 53 P **P 23 46 49.0 -1.6**
baz=314
CHGQ Chibougamau 59.41 47 P **P 23 46 49.0 -2.2**
baz=315
F51A Arnstein 59.53 54 P **P 23 46 50.5 -1.6**
baz=314
D52A ZEK Kipawa Sen 59.55 52 P **P 23 46 50.8 -1.4**
baz=314
SFIN Lafayette 59.57 62 P **P 23 46 51.8 -0.6**
baz=314
U41A Viola 59.60 69 P **P 23 46 51.6 -1.1**
baz=314
KLBO Killbear Provi 59.78 54 P **P 23 46 53.1 -0.7**
baz=314
P45A Graceland, Par 59.79 63 P **P 23 46 52.6 -1.4**
baz=314
BMRO Meriville Lake 59.80 55 P **P 23 46 52.8 -1.1**
baz=314
KURK Kurchatov 59.84 315 *e*P **P 23 46 52.4 -1.7**
comp=Z,27nm,0.8s
KURK Kurchatov 59.84 315 *ce*P **P 23 46 53.6 -0.5**
KURK pmax pmax
comp=Z,3.0nm,1.0s
MIAR Mount Ida 59.88 71 *e*P **P 23 46 54.6 -0.1**
comp=Z,14nm,0.8s
MIAR Mount Ida 59.88 71 *e*P **P 23 46 54.6 -0.1**
MIAR pmax pmax
comp=Z,14nm,0.8s
MIAR Mount Ida 59.88 71 P **P 23 46 54.5 -0.2**
baz=315,SNR=12
F52A Sundridge 59.92 53 P **P 23 46 53.5 -1.3**
baz=315
BASO Ashfield 59.97 56 P **P 23 46 54.4 -0.7**
baz=314
N47A Urbana 59.99 61 P **P 23 46 54.5 -0.9**
baz=314
Q45A Warren Harvey, 60.00 64 P **P 23 46 54.7 -0.7**
baz=314,SNR=9.1
P46A Rosedale 60.03 63 P **P 23 46 54.8 -0.8**
baz=314
BUKO Buck Lake 60.13 54 P **P 23 46 55.3 -0.9**
baz=315
BWLO Walkerton 60.17 56 P **P 23 46 55.8 -0.7**
baz=315
S44A Carbondale 60.21 66 P **P 23 46 55.6 -1.3**
baz=314,SNR=5.7
W41B Gary Mavity, V 60.23 70 P **P 23 46 56.0 -1.0**
baz=315,SNR=7.9
WMQ Urumqi 60.32 304 *e*P **P 23 46 59.7 +2.0**
WMQ sP sP 23 47 16.4 +1.4
WMQ LR LR
comp=Z,500nm,39.0s
R45A Skylar, Fairfi 60.34 65 P **P 23 46 56.4 -1.4**
baz=314,SNR=8.2
Q46A CEJHS Indians, 60.36 64 P **P 23 46 56.1 -1.7**
baz=314
X40A Basin Creek Fa 60.36 71 P **P 23 46 57.4 -0.5**
baz=315
N48A Decatur 60.37 61 P **P 23 46 56.8 -1.1**
baz=314
I51A Listowel 60.45 56 P **P 23 46 57.8 -0.6**
baz=315
E54A Lac Daplat, Po 60.53 52 P **P 23 46 57.4 -1.5**
baz=315
S45A Carrier Mills 60.60 66 P **P 23 46 58.4 -1.1**
baz=315,SNR=5.2
P47A Martinsville 60.64 63 P **P 23 46 58.5 -1.3**
baz=315,SNR=9.8
O48A Farmland 60.72 61 P **P 23 46 59.0 -1.3**
baz=315
SADO Sadowa 60.73 54 LR LR 00 15 19.6
comp=Z,25nm,18.4s,baz=344,slow=38
G53A Haliburton 60.74 53 P **P 23 46 59.1 -1.3**
baz=315
MKAR Makanchi Array 60.93 309 *e*P **P 23 46 59.8 -1.9**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 60.93 309 P **P 23 46 59.5 -2.3**
comp=Z,0.6nm,0.4s,baz=48,slow=6.6,SNR=10
MKAR PcP **PcP 23 47 44.3 -0.5**
comp=Z,0.4nm,0.4s,baz=55,slow=4.7,SNR=4.8
MKAR LR LR 00 14 15.9
comp=Z,24nm,19.8s,baz=54,slow=37
Q47A Bedord North L 60.94 63 P **P 23 47 00.9 -1.0**
baz=315
S46A Don Dixon Farm 61.09 65 P **P 23 47 01.6 -1.3**
baz=315
J52A Paris 61.12 56 P **P 23 47 01.8 -1.2**
baz=315
P48A Milroy 61.13 62 P **P 23 47 01.7 -1.4**
baz=315,SNR=7.9
BANO Bancroft 61.16 53 P **P 23 47 02.2 -1.0**
baz=316
R47A Wooly Knot Far 61.33 64 P **P 23 47 03.4 -1.0**
baz=315
T46A Princeton 61.44 66 P **P 23 47 04.5 -0.7**
baz=315,SNR=5.4
P49A Miami Univ. Ec 61.47 62 P **P 23 47 04.4 -1.0**
baz=315
WCI Wyandotte Cave 61.51 64 *e*P **P 23 47 05.3 -0.4**
comp=Z,45nm,0.8s
WCI Wyandotte Cave 61.51 64 *e*P **P 23 47 05.3 -0.4**
WCI pmax pmax
comp=Z,45nm,0.8s
WCI Wyandotte Cave 61.51 64 P **P 23 47 04.7 -0.9**
baz=315
BRVK Borovoye 61.61 321 *ce*P **P 23 47 06.3 +0.2**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
S47A Hartford 61.62 65 P **P 23 47 05.8 -0.7**
baz=315
O50A Cable 61.63 60 P **P 23 47 05.8 -0.8**
baz=315

DELO	Deloro Mine baz=316	61.68	53	P	P	23 47 05.9	-0.8
WLVO	Wesleyville baz=316	61.71	54	P	P	23 47 06.0	-0.9
Q49A	Aurora baz=315	61.74	62	P	P	23 47 06.2	-1.1
I55A	Frankford baz=316	61.86	54	P	P	23 47 06.9	-1.0
M52A	Chesterland baz=316	61.87	58	P	P	23 47 07.0	-1.0
H55A	Tweed baz=316	61.87	53	P	P	23 47 06.8	-1.2
P50A	Jamestown baz=315,SNR=8.5	61.92	61	P	P	23 47 07.5	-1.0
T47A	Sharon Grove baz=315,SNR=9.5	61.92	65	P	P	23 47 07.9	-0.6
S48A	Wiedeman Farm, baz=315	62.04	64	P	P	23 47 08.8	-0.5
WVT	Waverly baz=315	62.12	66	P	P	23 47 09.2	-0.6
ERPA	Erie baz=316	62.17	57	P	P	23 47 09.0	-1.1
O51A	Pataskala baz=316	62.18	60	P	P	23 47 09.5	-0.8
V46A	Holladay baz=316	62.18	67	P	P	23 47 09.5	-0.8
U47A	Clarksville baz=315	62.20	66	P	P	23 47 09.8	-0.6
MEDO	Medina baz=316	62.22	55	P	P	23 47 09.6	-0.8
T48A	Bowling Green baz=316	62.24	65	P	P	23 47 10.0	-0.6
M53A	WI Miller and baz=316	62.30	58	P	P	23 47 10.4	-0.6
H56A	Elgin baz=316	62.30	53	P	P	23 47 10.6	-0.3
OXF	Oxford baz=316,SNR=7.2	62.35	69	P	P	23 47 10.7	-0.6
Q50A	Georgetown baz=316	62.36	62	P	P	23 47 11.0	-0.4
S49A	Springfield baz=316,SNR=5.4	62.38	63	P	P	23 47 11.0	-0.6
PECO	Prince Edward baz=316	62.41	53	P	P	23 47 10.7	-0.9
L54A	Sinclairville baz=316	62.44	56	P	P	23 47 10.9	-1.0
J55A	Hilton baz=316	62.47	54	P	P	23 47 11.3	-0.8
V47A	Nunnelly baz=316	62.51	66	P	P	23 47 11.5	-0.9
R50A	Paris baz=316,SNR=6.1	62.57	62	P	P	23 47 12.3	-0.5
Q51A	Peebles baz=316	62.58	61	P	P	23 47 12.2	-0.6
U48A	Cassie Pea, Po baz=316,SNR=9.0	62.58	65	P	P	23 47 12.4	-0.5
O52A	Adamsville baz=316	62.62	59	P	P	23 47 12.3	-0.9
N53A	Lisbon baz=316	62.66	58	P	P	23 47 12.1	-1.3
T49A	Edmonton baz=316	62.73	64	P	P	23 47 13.3	-0.6
K55A	Perry baz=316	62.73	55	P	P	23 47 12.9	-0.9
M54A	Oil Creek Stat baz=316	62.78	57	P	P	23 47 13.2	-1.0
X46A	Booneville baz=316	62.80	68	P	P	23 47 13.9	-0.4
W47A	Westpoint baz=316	62.87	67	P	P	23 47 13.9	-1.0
L55A	Hinsdale baz=316	62.93	56	P	P	23 47 14.2	-1.1
S50A	Richmond baz=316	62.95	63	P	P	23 47 14.9	-0.5
R51A	Hillsboro baz=316,SNR=14	62.96	62	P	P	23 47 14.9	-0.5
V48A	Smith Brothers baz=316	62.97	66	P	P	23 47 14.5	-1.0
N54A	Moraine State baz=316	63.00	58	P	P	23 47 14.5	-1.1
U49A	Red Boiling Sp baz=316,SNR=5.2	63.01	65	P	P	23 47 15.0	-0.8
ARU	Arti	63.15	329	*d*P	P	23 47 16.1	-0.2
ARU						23 47 47.3	
ARU						23 49 34.0	
ARU				S	S	23 55 46.9	+2.9
ARU				SS	SS	23 59 54.1	+4.7
ARU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
T50A	Nancy baz=316,SNR=6.7	63.18	64	P	P	23 47 16.2	-0.7
Q52A	Bidwell baz=316	63.21	61	P	P	23 47 15.4	-1.6
X47A	Russelville baz=316	63.24	68	P	P	23 47 16.1	-1.2
M55A	Ridgway baz=316	63.28	56	P	P	23 47 16.7	-0.8
P53A	Whipple baz=316	63.31	60	P	P	23 47 17.1	-0.6
W48A	Pulaski baz=316,SNR=6.0	63.33	67	P	P	23 47 17.3	-0.7
O54A	Avella baz=316	63.35	58	P	P	23 47 17.0	-1.0
S51A	Beattyville baz=316	63.43	62	P	P	23 47 17.8	-0.7
R52A	Catlettsburg baz=316	63.45	61	P	P	23 47 17.9	-0.7
V49A	McMinnville baz=316,SNR=5.3	63.47	65	P	P	23 47 18.2	-0.7
U50A	Jamestown baz=316	63.61	64	P	P	23 47 19.1	-0.6
Q53A	Leroy baz=316,SNR=5.9	63.69	60	P	P	23 47 19.7	-0.5
T51A	Gray baz=316	63.72	63	P	P	23 47 20.0	-0.5
W49A	Belvidere baz=316	63.73	66	P	P	23 47 19.6	-0.9
X48A	Hartselle baz=316	63.76	67	P	P	23 47 19.6	-1.1
R53A	Hurricane baz=316	63.84	61	P	P	23 47 21.0	-0.2
Q54A	Coxs Mills baz=317	63.97	60	P	P	23 47 21.5	-0.6
V50A	Pikevile baz=316	64.00	65	P	P	23 47 21.6	-0.7
Y48A	Jasper baz=316	64.07	68	P	P	23 47 21.5	-1.3
U51A	La Follette baz=316,SNR=6.5	64.10	64	P	P	23 47 22.6	-0.4
X49A	Woodville baz=316	64.13	67	P	P	23 47 22.4	-0.8
T52A	Hallie baz=316	64.15	62	P	P	23 47 22.9	-0.4
BINY	Binghamton baz=317	64.17	54	P	P	23 47 23.0	-0.4
S53A	Williamson baz=317	64.21	61	P	P	23 47 22.1	-1.6
W50A	Signal Mountai baz=316	64.21	65	P	P	23 47 22.9	-0.8
TZTN	Tazewell baz=316	64.24	63	P	P	23 47 23.0	-0.9
147A	Livingston baz=316	64.32	69	P	P	23 47 23.7	-0.7
V51A	Loudon baz=316	64.32	64	P	P	23 47 23.4	-1.0
Q55A	Buckhannon baz=317	64.37	59	P	P	23 47 24.2	-0.6
U52A	Thorn Hill baz=317	64.45	63	P	P	23 47 24.8	-0.5
R54A	Victor baz=317,SNR=5.7	64.47	60	P	P	23 47 25.0	-0.4
T53A	Wise baz=317	64.49	62	P	P	23 47 25.0	-0.6
Y49A	Blount Mountai baz=317	64.55	67	P	P	23 47 24.6	-1.3
X50B	Fort Payne baz=317,SNR=7.9	64.55	66	P	P	23 47 25.2	-0.8
W51A	Cleveland baz=317	64.56	65	P	P	23 47 25.1	-0.9
V52A	Sevierville baz=317	64.72	64	P	P	23 47 26.6	-0.5
LRAL	Lakeview Retre baz=317	64.81	68	P	P	23 47 26.6	-1.0
R55A	Marlinton baz=317	64.86	60	P	P	23 47 27.8	-0.3
U53A	Fall Branch baz=317	64.91	63	P	P	23 47 27.3	-1.0
Y50A	Piedmont baz=317,SNR=5.6	64.92	67	P	P	23 47 27.4	-0.9
X51A	Calhoun baz=317	64.93	66	P	P	23 47 27.9	-0.5
T54A	Tazewell baz=317,SNR=7.6	64.96	62	P	P	23 47 28.3	-0.3
Z49A	Columbiana baz=317,SNR=7.2	64.96	68	P	P	23 47 27.5	-1.1
S55A	Lewisburg baz=317	65.03	60	P	P	23 47 29.2	+0.1
W52A	Murphy baz=317	65.08	65	P	P	23 47 28.6	-0.8
U54A	Nelsons Funny baz=317	65.22	62	P	P	23 47 30.1	-0.2
N59A	State Game Lan baz=318	65.23	55	P	P	23 47 30.1	-0.1
149A	Jones baz=317,SNR=7.9	65.24	68	P	P	23 47 29.4	-1.1
Z50A	Ashland baz=317,SNR=12	65.27	67	P	P	23 47 29.8	-0.9
V53A	Saluda baz=317	65.28	63	P	P	23 47 30.2	-0.5
Y51A	Rockmart baz=317,SNR=5.7	65.29	66	P	P	23 47 29.6	-1.2
T55A	Pulaski baz=317	65.35	61	P	P	23 47 31.0	-0.2
X52A	Dahlonega baz=317,SNR=9.8	65.45	65	P	P	23 47 31.3	-0.5
W53A	Cullowhee baz=317	65.45	64	P	P	23 47 31.3	-0.6
BLA	Blacksburg	65.48	61	*e*P	P	23 47 32.2	+0.2
BLA	Blacksburg	65.48	61	*e*P	P	23 47 32.2	+0.2
BLA	Blacksburg baz=317	65.48	61	P	P	23 47 31.7	-0.3
249A	Camden baz=317	65.50	69	P	P	23 47 31.6	-0.5
S56A	Natural Bridge baz=318	65.61	60	P	P	23 47 32.1	-0.6
Z51A	Franklin baz=317	65.65	67	P	P	23 47 32.1	-1.0
U55A	TA2, Sparta baz=317,SNR=5.7	65.66	62	P	P	23 47 32.8	-0.3
150A	Eclectic baz=317	65.68	68	P	P	23 47 32.6	-0.7
V54A	Nebo baz=317,SNR=5.6	65.69	63	P	P	23 47 32.8	-0.5
T56A	Rocky Mt baz=318	65.83	61	P	P	23 47 33.7	-0.5
X53A	Estanollee baz=317	65.86	65	P	P	23 47 33.3	-1.1
S57A	Dark Hollow, R baz=318	65.87	59	P	P	23 47 33.4	-1.1
Y52A	Lilburn baz=317,SNR=5.1	65.89	66	P	P	23 47 33.6	-1.0
FINES	FINESS Array B	65.92	348	*e*P	P	23 47 34.4	+0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	65.92	348	P	P	23 47 34.1	-0.2
	comp=Z,0.9nm,0.6s,baz=32,slow=5.4,SNR=5.7						
FINES				LR	LR	00 17 07.8	
	comp=Z,28nm,21.6s,baz=4.5,slow=37						
250A	Grady baz=317	66.00	68	P	P	23 47 34.9	-0.4
V55A	Taylorsville baz=318	66.04	62	P	P	23 47 35.1	-0.5
W54A	Cherokee Point baz=317	66.06	63	P	P	23 47 35.5	-0.2
U56A	King baz=318	66.13	61	P	P	23 47 36.0	-0.2
151A	Opelika baz=317	66.14	67	P	P	23 47 35.2	-1.1
Y53A	Monroe baz=317,SNR=7.3	66.17	65	P	P	23 47 35.8	-0.7
Z52A	Williamson baz=317	66.18	66	P	P	23 47 35.7	-0.8
X54A	Belton baz=318,SNR=10.0	66.35	64	P	P	23 47 37.0	-0.5
152A	Waverly Hall baz=317	66.39	67	P	P	23 47 37.0	-0.8
251A	Midway baz=317	66.41	68	P	P	23 47 37.4	-0.6
V56A	Mocksville baz=318	66.47	62	P	P	23 47 37.7	-0.6
KMSC	Kings Mountain baz=318,SNR=10	66.49	63	P	P	23 47 38.0	-0.5
R59A	King George, V baz=318	66.53	58	P	P	23 47 38.4	-0.2
GOGA	Godfrey baz=318	66.56	66	P	P	23 47 38.5	-0.4
Z53A	Monticello baz=318,SNR=11	66.60	66	P	P	23 47 38.3	-0.9
U57A	Blanch baz=318	66.64	61	P	P	23 47 38.9	-0.5
Y54A	Tignall baz=318,SNR=6.9	66.67	65	P	P	23 47 39.2	-0.4
T58A	Grand View Acr baz=318	66.70	60	P	P	23 47 39.3	-0.5
V57A	Coltrane Farms baz=318	66.81	61	P	P	23 47 40.0	-0.5
X55A	Gracelyn & Ava baz=318,SNR=8.7	66.82	64	P	P	23 47 40.1	-0.4
252A	Lumpkin baz=318	66.87	67	P	P	23 47 40.3	-0.6
351A	Pinckard baz=318	66.89	69	P	P	23 47 40.5	-0.6
W56A	Indian Trail baz=318	66.91	62	P	P	23 47 40.6	-0.6
Z54A	Sparta baz=318,SNR=8.6	67.04	65	P	P	23 47 41.0	-1.0
Y55A	Saluda baz=318,SNR=6.4	67.08	64	P	P	23 47 42.0	-0.2
352A	Blakely baz=318	67.14	68	P	P	23 47 42.1	-0.5
X56A	White Oak baz=318,SNR=6.2	67.14	63	P	P	23 47 42.4	-0.2
W57A	Gilead baz=318	67.23	62	P	P	23 47 43.0	-0.1
V58A	Windy Hill, Pi baz=318	67.23	61	P	P	23 47 43.5	+0.3
154A	Montrose baz=319	67.35	66	P	P	23 47 43.6	-0.4
Z55A	Blythe baz=318	67.45	65	P	P	23 47 44.6	+0.1
NB2	NORSAR Subarra	67.61	356	P	P	23 47 44.4	-0.8
	comp=Z,1.3nm,0.8s,baz=7.4,slow=6.9						
NOA	NORSAR Array B	67.61	356	P	P	23 47 44.3	-0.9
	comp=Z,0.4nm,0.5s,baz=4.7,slow=6.3,SNR=3.6						
NOA				LR	LR	00 15 26.8	
	comp=Z,20nm,21.7s,baz=0.0,slow=34						
X57A	Johnson Farm, baz=318	67.68	63	P	P	23 47 46.0	0.0
155A	Kite baz=318	67.71	65	P	P	23 47 45.8	-0.4
V59A	Middlesex baz=318	67.73	60	P	P	23 47 45.9	-0.4
254A	Abbeville baz=318	67.74	66	P	P	23 47 45.2	-1.2
AAK	Ala-Archa	67.74	311	*ce*P	P	23 47 47.6	+1.1
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
W58A	Raeford baz=318	67.74	62	P	P	23 47 45.7	-0.7
Z56A	Williston baz=318	67.81	64	P	P	23 47 46.4	-0.4
Y57A	Sumter baz=318	67.84	63	P	P	23 47 46.5	-0.5
Z57A	Bowman baz=318,SNR=6.2	68.20	64	P	P	23 47 49.2	-0.1
255A	Hazlehurst baz=318	68.22	66	P	P	23 47 48.3	-1.0
156A	Sylvania baz=318	68.23	65	P	P	23 47 48.8	-0.7
553A	Crawfordville baz=318	68.37	69	P	P	23 47 49.5	-0.9
X59A	McDuffie Farm, baz=319	68.42	61	P	P	23 47 50.0	-0.6
355A	Pearson baz=318	68.43	67	P	P	23 47 50.2	-0.6
157A	Early Branch baz=318	68.50	64	P	P	23 47 51.1	0.0
NHSC	New Hope baz=319	68.64	64	P	P	23 47 52.1	+0.1
Z58A	St. Stephen baz=319	68.67	63	P	P	23 47 52.3	+0.1
X60A	Albert Glenn T baz=319	68.76	61	P	P	23 47 52.8	0.0
455A	Stateville baz=318	68.78	67	P	P	23 47 52.9	0.0
356A	Blackshear baz=318	68.86	66	P	P	23 47 52.8	-0.6
V62A	Hyde County Ai baz=319	69.12	59	P	P	23 47 53.0	-1.9
555A	McAlpin baz=319	69.27	68	P	P	23 47 55.5	-0.4
456A	Hilliard baz=319	69.37	66	P	P	23 47 56.2	-0.3
KSH	Kashi	69.42	308	P	P	23 47 59.5	+2.5
655A	Horseshoe Beac baz=319	69.56	68	P	P	23 47 57.6	-0.2
556A	Lake Butler baz=319	69.69	67	P	P	23 47 58.3	-0.2
557A	Orange Park baz=319	70.06	67	P	P	23 48 00.8	-0.1
656A	Willston baz=319	70.08	68	P	P	23 48 00.8	-0.2
OBN	Obninsk	70.18	340⇑	*e*P	P	23 48 02.6	+1.5
OBN				*e*		23 48 24.4	
OBN				*e*		23 50 39.4	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,43nm,15.0s						
PMOR	Pomariorio Ree	70.86	150	*e*T	T	01 05 32.2	
	comp=Z,5.9nm,0.3s						
CHTO	Chiang Mai	71.99	278	*e*P	P	23 48 12.8	+0.1
	comp=Z,2.1nm,0.8s						
CHTO	Chiang Mai	71.99	278	*e*P	P	23 48 12.8	+0.1
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
058A	Arcadia baz=320	72.24	69	P	P	23 48 13.9	-0.1
CMAR	Chiang Mai Arr	72.26	277	*e*P	P	23 48 14.5	+0.2
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	Chiang Mai Arr	72.26	277	P	P	23 48 14.3	0.0
	comp=Z,5.1nm,0.8s,baz=26,slow=7.0,SNR=21						
CMAR				LR	LR	00 20 12.4	
	comp=Z,8.4nm,21.8s,baz=15,slow=36						
959A	Okeechobee baz=320	72.43	68	P	P	23 48 15.2	+0.1
PPT2	Papeete2 comp=Z,49nm,23.5s	72.81	153	*e*LR	LR	00 10 34.8	
PPT2	Papeete2 comp=Z,3.5nm,0.3s	72.81	153	*e*T	T	01 07 58.3	
JIRN	Jiri comp=Z,25nm,0.7s	72.98	293	*e*P	P	23 48 19.0	0.0
RAMN	Ramite comp=Z,22nm,0.5s	73.29	292	*e*P	P	23 48 20.4	-0.2
KKN	Kakani comp=Z,13nm,0.6s	73.41	294	*e*P	P	23 48 21.2	-0.1
PKI	Pulchoki comp=Z,6.0nm,0.5s	73.50	293	*e*P	P	23 48 21.5	-0.5
PKIN	Phulchoki comp=Z,7.5nm,0.5s	73.50	293	*e*P	P	23 48 21.4	-0.5
GKN	Gorkha comp=Z,7.5nm,0.3s	73.61	294	*e*P	P	23 48 22.0	-0.4
DANN	Dangsing comp=Z,14nm,0.6s	73.85	295	*e*P	P	23 48 23.4	-0.6
KOLN	Koldanda comp=Z,5.2nm,0.5s	74.38	295	*e*P	P	23 48 26.5	-0.5
PYUN	Piuthan comp=Z,22nm,1.0s	74.47	296	*e*P	P	23 48 27.0	-0.5
AKASG	Malin Array Be	75.79	343	*e*P	P	23 48 34.6	+0.2
AKASG	Malin Array Be	75.79	343	P	P	23 48 32.0	-2.4
	comp=Z,0.4nm,0.3s,baz=16,slow=5.9,SNR=4.0						
GEYT	Alibeck	78.83	319	P	P	23 48 52.5	+0.8
	comp=Z,2.0nm,0.9s,baz=90,slow=4.7,SNR=4.9						
GEYT				LR	LR	00 26 37.7	
	comp=Z,62nm,19.8s,baz=15,slow=38						
KBZ	Khabaz	79.10	332	LR	LR	00 29 46.8	
	comp=Z,22nm,18.4s,baz=12,slow=40						
BURAR	Bucovina Array	79.46	345⇑	*i*P	P	23 48 53.9	-1.2
BURAR	Bucovina Array	79.46	345	⇑P	P	23 48 53.9	-1.2
BIZ	Bicaz	79.97	344⇑	*i*P	P	23 48 56.2	-1.5
CFR	Carcaliu	81.31	342	P	P	23 49 05.4	+0.5
MLR	Muntele Rosu	81.40	344	⇓P	P	23 49 05.7	+0.1
GNI	Garni comp=Z,38nm,20.3s,baz=34,slow=39	81.79	329	LR	LR	00 30 19.3	
RKT	Rikitea comp=Z,4.3nm,0.3s	82.88	142	*e*T	T	01 20 32.2	
WRA	Warramunga Arr comp=Z,2.5nm,0.5s,baz=35,slow=6.1,SNR=14	83.01	226	P	P	23 49 13.9	-0.1
BRTR	Keskin Array B comp=Z,2.7nm,0.8s,baz=59,slow=2.4,SNR=22	85.33	337	P	P	23 49 24.4	-1.5
BRTR				LR	LR	00 34 28.5	
	comp=Z,10nm,18.1s,baz=79,slow=41						
HYB	Hyderabad	85.35	292	*i*P	P	23 49 25.5	-0.7
ASAR	Alice Springs comp=Z,4.3nm,0.7s,baz=28,slow=4.8,SNR=34	86.46	224	P	P	23 49 31.9	+0.6
ASAR				pP	pP	23 49 44.2	+0.2
	comp=Z,2.4nm,0.8s,baz=25,slow=4.7,SNR=8.7						
STKA	Stephens Creek comp=Z,2.8nm,0.6s,baz=322,slow=6.2,SNR=8.6	90.75	214	P	P	23 49 52.7	+1.3
STKA				pP	pP	23 50 04.9	+0.7
	comp=Z,3.2nm,0.7s,baz=326,slow=8.0,SNR=2.3						
WSAR	Wadi Sarin comp=Z,24nm,20.6s,baz=86,slow=38	91.15	311	LR	LR	00 33 43.4	
TORD	Torodi Ar. Bea comp=Z,0.9nm,0.4s,baz=346,slow=3.2,SNR=27	115.59	2	PKP	PKiKP	23 55 29.8	-1.2
DBIC	Dimbokro comp=Z,2.5nm,0.4s,baz=1.7,slow=2.5,SNR=8.0	121.63	9	PKP	PKPdf	23 55 41.6	-1.0
BOSA	Boshof comp=Z,19nm,0.6s,baz=22,slow=2.1,SNR=58	151.79	316	PKPbc	PKPbc	23 56 42.8	-0.5

IDC ***07*** *00:20:37.9±6.2, 35°.69N×71°.25E, h73km±41km, mb3.3/3, mb1 3.3/7, mb1mx3.0/40, mbtmp3.6/7, ML3.4/5, Error ellipse: s-maj=76.1km s-min=27.9km az=143.0*
ISCJB ***07*** *00:20:39.3±0.6, 35°.92N±0°.06×71°.09E±0°.09, h100km, mb3.5/2, Error ellipse: s-maj=11.7km s-min=6.3km az=146.5*
NNC ***07*** *00:20:46.1±4.6, 36°.81N×70°.61E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=36.3km s-min=27.5km az=166.0*
ISC 07 00:20:39.0±1.0, 35°.83N±0°.09×71°.33E±0°.09, h100km, n24, σ1§95/26, 3C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu SNR=14	6.56	16	P	Pn	00 22 13.9	+0.8
UCH	Uchtor SNR=9.8	6.85	20	P	Pn	00 22 18.6	+1.4
EKS2	Erkin-Say SNR=5.7	7.08	15	P	Pn	00 22 21.8	+1.8
AAK	Ala-Archa SNR=6.8	7.23	19	P	Pn	00 22 23.6	+1.6
AAK	Ala-Archa 1.9nm,0.3s	7.23	19	⇑P	Pn	00 22 23.3	+1.3
AAK				⇑S	Sn	00 23 38.9	-3.6
	5.6nm,0.5s						
AAK	Ala-Archa 2.2nm,0.3s,baz=174,slow=7.0,SNR=23	7.23	19	P	Pn	00 22 23.5	+1.5
AAK				S	Sn	00 23 39.3	-3.3
	0.6nm,0.3s,baz=141,slow=22,SNR=11						
KK31	Karatay Array 0.9nm,0.3s,baz=185,slow=14,SNR=29	7.29	355	P	Pn	00 22 21.7	-1.1
KK31				⇑S	Sn	00 23 35.1	-8.8
	5.5nm,0.4s,baz=185,slow=20,SNR=15						
CHMS	Chumysh SNR=8.3	7.63	19	P	Pn	00 22 28.9	+1.5
GEYT	Alibeck 0.3nm,0.3s,baz=110,slow=11,SNR=4.1	10.79	285	P	Pn	00 23 08.3	-2.1
PYUN	Piuthan 4.4nm,0.3s	12.53	125	*e*P	P	00 23 38.9	-2.6
DANN	Dangsing 4.7nm,0.2s	12.90	122	*e*P	P	00 23 44.3	-1.4
KOLN	Koldanda 3.4nm,0.3s	13.16	124	*e*P	P	00 23 47.1	-1.4
GKN	Gorkha 6.0nm,0.2s	13.72	121	*e*P	P	00 23 53.0	-1.7
PKIN	Phulchoki 4.5nm,0.4s	14.51	121	*e*P	P	00 24 02.7	-0.9
PKI	Pulchoki 2.8nm,0.2s	14.53	121	*e*P	P	00 24 02.6	-1.2
JIRN	Jiri 7.3nm,0.2s	15.02	119	*e*P	P	00 24 07.4	-1.9
KURBB	Kurchatov Arra 0.0nm,0.3s,baz=207,slow=10,SNR=5.3	15.68	17	P	P	00 24 17.1	+1.1
AB31	Akbulak array 0.3nm,0.3s,baz=163,slow=11,SNR=20	15.80	332	P	Pn	00 24 13.0	-2.6
AB31				⇓S	Sn	00 26 57.0	-13
	0.5nm,0.4s						
BVAR	Borovoye Array 0.1nm,0.3s,baz=179,slow=14,SNR=4.3	17.21	358	P	Pn	00 24 34.2	+1.3
AKTO	Aktyubinsk 2.3nm,0.9s	17.50	331	⇓P	Pn	00 24 37.0	+0.6

AKTO ⇓S Sn 00 27 38.0 -13
1.2nm,0.7s
AKTO Aktyubinsk 17.50 331 P **Pn 00 24 38.1 +1.7**
0.3nm,0.3s,baz=156,slow=9.0,SNR=6.4
ZALV Zalesovo Beam 20.42 23 P **P 00 25 09.7 +1.9**
0.6nm,0.3s,baz=217,slow=11,SNR=4.1
ARCES ARCESS Array B 41.87 338 P **P 00 28 21.2 +2.4**
1.2nm,0.9s,baz=114,slow=8.5,SNR=5.3
TORD Torodi Ar. Bea 65.97 269 P **P 00 31 16.6 +1.7**
0.7nm,0.9s,baz=38,slow=6.3,SNR=4.8

IDC 07 00:47:36.5±2.8, 6.74S×129.65E, h125km±37km, mb3.7/1, mb1 3.7/5, mb1mx3.3/38, mbtmp4.1/5, Error ellipse: s-maj=65.8km s-min=20.7km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.05**	**16**	P	Pn	00 49 03.9	+0.1
	4.7nm,0.3s,baz=246,slow=23,SNR=36						
SIJI				S	Sn	00 50 07.7	-4.2
	1.6nm,0.3s,baz=240,slow=23,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.95**	**199**	P	Pn	00 50 23.3	+0.4
	0.7nm,0.3s,baz=29,slow=12,SNR=26						
FITZ				S	Sn	00 52 30.6	-3.9
	0.8nm,0.3s,baz=0.9,slow=16,SNR=6.4						
WRA	**Warramunga Arr**	**13.89**	**161**	P	Pn	00 50 46.2	-2.0
	0.8nm,0.3s,baz=339,slow=13,SNR=13						
WRA				S	Sn	00 53 14.8	-6.7
	0.9nm,0.3s,baz=328,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**17.32**	**167**	P	Pn	00 51 31.3	+0.6
	0.4nm,0.3s,baz=341,slow=9.2,SNR=17						
ASAR				S	Sn	00 54 38.0	-6.1
	0.2nm,0.3s,baz=356,slow=23,SNR=4.4						
MKAR	**Makanchi Array**	**67.82**	**327**	P	P	00 58 21.1	0.0
	1.2nm,0.6s,baz=120,slow=7.7,SNR=11						

*NEIC **07** 00:51:56.9±2.4, 25°.27S×179°.91E, h485km±8km, mb4.5/29, Error ellipse: s-maj=19.4km s-min=14.3km az=138.0*
*ISCJB **07** 00:51:57.5±0.3, 25°.25S±0°.04×179°.86E±0°.06, h501km, mb4.2/28, Error ellipse: s-maj=7.5km s-min=5.4km az=24.7*
*BJI **07** 00:51:57.5±0.0, 24°.85S×179°.96E, h486km, mb4.5/6, mB4.9/2*
*IDC **07** 00:52:00.1±2.5, 25°.30S×179°.82E, h517km±25km, mb3.7/11, mb1 3.9/12, mb1mx3.5/34, mbtmp4.6/12, Error ellipse: s-maj=40.8km s-min=14.5km az=158.0*
ISC 07 00:51:58.2±0.5, 25°.26S±0°.07×179°.92E±0°.08, h501km, n60, σ1§21/68, mb4.4/28, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.42**	**155**	*e*P	P	00 53 13.7	-6.3
NIUE	**Niue**	**11.23**	**59**	*e*P	**P**	**00 54 27.5**	**-1.3**
NIUE				*e*S	**S**	**00 56 30.9**	**-1.8**
MARNC	**Mare, Loyalty**	**11.55**	**287**	*e*P	**P**	**00 54 30.1**	**-2.0**
PINNC	**Pines Island,**	**11.71**	**280**	*e*P	**P**	**00 54 33.6**	**-0.2**
DZM	**Mont Dzumac**	**12.75**	**282**	*e*P	**P**	**00 54 43.4**	**-1.5**
DZM	**Mont Dzumac**	**12.75**	**282**	P	**P**	**00 54 47.2**	**+2.3**
	1.0nm,0.3s,baz=96,slow=16,SNR=9.6						
URZ	**Urewera**	**13.18**	**190**	*e*P	**P**	**00 54 48.4**	**-0.7**
URZ				*e*S	**S**	**00 57 12.8**	**+2.9**
BKZ	**Black Stump Fm**	**14.16**	**191**	*e*P	**P**	**00 55 01.1**	**+1.6**
BKZ				*e*S	**S**	**00 57 26.9**	**-2.2**
BFZ	**Birch Farm**	**15.68**	**190**	*e*P	**P**	**00 55 12.5**	**-2.8**
	72nm,1.1s						
BFZ				*e*S	**S**	**00 57 58.7**	**+0.7**
SNZO	**South Karori**	**16.59**	**194**	*e*P	**P**	**00 55 24.4**	**-0.3**
	99nm,1.0s						
THZ	**Tophouse**	**17.46**	**198**	*e*P	**P**	**00 55 32.9**	**-0.5**
	23nm,0.9s						
THZ				*e*S	**S**	**00 58 27.0**	**-2.3**
KHZ	**Kahutara**	**17.91**	**196**	*e*P	**P**	**00 55 36.4**	**-1.0**
	37nm,1.2s						
LTZ	**Lake Taylor**	**18.58**	**198**	*e*P	**P**	**00 55 43.3**	**-0.4**
	27nm,1.0s						
OXZ	**Oxford**	**19.15**	**198**	*e*P	**P**	**00 55 47.1**	**-1.7**
	9.1nm,0.6s						
OXZ				*e*S	**S**	**00 58 57.8**	**+1.2**
RPZ	**Rata Peaks**	**19.79**	**199**	*e*P	**P**	**00 55 54.1**	**-0.6**
FOZ	**Fox Glacier**	**20.02**	**202**	*e*P	**P**	**00 55 55.3**	**-1.5**
	8.7nm,0.9s						
LBZ	**Lake Benmore**	**20.66**	**200**	*e*P	**P**	**00 56 01.2**	**-1.5**
	11nm,1.0s						
MLZ	**Mavora Lakes**	**22.21**	**202**	*e*P	**P**	**00 56 16.8**	**+0.1**
	0.6nm,0.4s						
DCZ	**Deep Cove**	**22.64**	**204**	*e*P	**P**	**00 56 19.9**	**-0.5**
	18nm,1.2s						
ARMA	**Armidale**	**25.51**	**252**	*e*P	**P**	**00 56 47.4**	**+1.1**
	20nm,0.7s						
EIDS	**Eidsvold**	**26.05**	**264**	*e*P	**P**	**00 56 51.6**	**+0.5**
	33nm,0.9s						
CTA	**Charters Tower**	**31.44**	**273**	P	**P**	**00 57 38.3**	**+0.2**
	52nm,0.5s,baz=96,slow=11,SNR=75						
CTAO	**Charters Tower**	**31.44**	**273**	*e*P	**P**	**00 57 37.9**	**-0.2**
	48nm,0.6s						
TOO	**Toolangi**	**31.67**	**239**	*e*P	**P**	**00 57 40.4**	**+0.5**
	9.3nm,0.7s						
STKA	**Stephens Creek**	**34.17**	**250**	*e*P	**P**	**00 58 01.7**	**+0.5**
	1.5nm,0.6s						
STKA	**Stephens Creek**	**34.17**	**250**	P	**P**	**00 58 01.7**	**+0.5**
	3.9nm,0.4s,baz=96,slow=11,SNR=20						
PMG	**Port Moresby**	**34.89**	**291**	P	**P**	**00 58 06.9**	**-0.5**
	18nm,0.6s,baz=310,slow=22,SNR=4.0						
COEN	**Coen**	**36.28**	**281**	*e*P	**P**	**00 58 19.3**	**+0.3**
	20nm,0.8s						
BBOO	**Buckleboo**	**38.87**	**248**	*e*P	**P**	**00 58 38.6**	**-1.3**
	8.6nm,0.9s						
AS31	**Alice Springs**	**41.76**	**262**	*e*P	**P**	**00 59 02.8**	**-0.6**
	10.0nm,1.1s						
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**00 59 02.8**	**-0.6**
	22nm,0.9s,baz=102,slow=8.4,SNR=108						
ASAR				S	**S**	**01 04 43.5**	**-0.7**
	1.2nm,0.7s,baz=97,slow=15,SNR=10						
WB2	**Warramunga Arr**	**42.25**	**268**	*e*P	**P**	**00 59 06.3**	**-1.0**
	32nm,1.1s						
WRA	**Warramunga Arr**	**42.26**	**268**	P	**P**	**00 59 05.9**	**-1.4**
	13nm,0.7s,baz=103,slow=8.0,SNR=16						
FORT	**Forrest**	**45.79**	**251**	*e*P	**P**	**00 59 33.4**	**-1.1**
	18nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.67**	**267**	*e*P	**P**	**01 00 11.0**	**-0.1**
	11nm,0.7s						
KSRS	**Korea Array**	**79.24**	**320**	P	**P**	**01 03 11.5**	**+0.5**
	1.2nm,0.7s,baz=134,slow=5.6,SNR=4.1						
PETK	**Petropavlovsk-**	**80.40**	**347**	P	**P**	**01 03 17.3**	**+0.5**
	1.5nm,0.6s,baz=114,slow=5.5,SNR=3.7						
NJ2	**Nanjing**	**81.50**	**311**	*e*P	**P**	**01 03 23.1**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KCPM	**Cahto Peak**	**83.35**	**40**	*e*P	**P**	**01 03 32.4**	**0.0**
	30nm,1.2s						
VNA3	**Neumayer Olymp**	**83.53**	**177**	P	**P**	**01 03 32.6**	**0.0**
WHN	**Wuhan**	**83.78**	**308**	*e*P	**P**	**01 03 36.6**	**+2.2**
ISA	**Isabella, Lake**	**84.01**	**46**	*e*P	**P**	**01 03 36.8**	**+1.1**
	4.4nm,0.8s						
AFDM	**Forest Hills D**	**84.44**	**42**	*e*P	**P**	**01 03 37.9**	**+0.3**
	3.6nm,1.1s						
CN2	**Changchun**	**84.94**	**324**	*e*P	**P**	**01 03 40.6**	**+0.7**
KLR	**Kul'dur**	**85.68**	**331**	P	**P**	**01 03 44.4**	**+1.1**
	0.3nm,0.3s,baz=88,slow=4.4,SNR=3.7						
NVAR	**Mina Array Bea**	**85.77**	**44**	P	**P**	**01 03 45.1**	**+0.8**
	1.2nm,0.8s,baz=231,slow=7.1,SNR=7.6						
I07A	**Izee**	**88.49**	**39**	*e*P	**P**	**01 03 55.9**	**-1.0**
	4.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.93**	**290**	P	**P**	**01 04 05.2**	**+1.2**
	0.7nm,0.3s,baz=132,slow=3.7,SNR=7.7						
TXAR	**Lajitas Array**	**91.21**	**58**	P	**P**	**01 04 11.3**	**+1.5**
	1.4nm,0.9s,baz=212,slow=6.4,SNR=15						
LZH	**Lanzhou**	**94.15**	**308**	*e*P	**P**	**01 04 23.1**	**-0.1**
LZH				pP	pwP	01 06 18.3	-1.1
LZH				sP	sP	01 07 06.0	+2.1
LZH				PP	**PP**	**01 08 16.3**	**-2.4**
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
LZH				pmax	pmax		
	comp=Z,62nm,4.9s						
KSH	**Kashi**	**115.97**	**303**	PKP	**PKiKP**	**01 09 46.6**	**+2.6**
KURBB	**Kurchatov Arra**	**116.17**	**316**	PKP	**PKPdf**	**01 09 43.0**	**-0.9**
	0.3nm,0.6s,baz=91,slow=2.2,SNR=6.1						
NB2	**NORSAR Subarra**	**143.41**	**351**	PKP	PKPab	01 10 32.3	-0.6
	comp=Z,0.4nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.41**	**351**	PKP	PKPab	01 10 32.5	-0.4
	comp=Z,0.4nm,0.7s,baz=16,slow=4.9,SNR=4.3						
AKASG	**Malin Array Be**	**146.06**	**326**	PKPbc	**PKPdf**	**01 10 40.6**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=40,slow=4.4,SNR=9.8						
BR131	**Keskin Array S**	**148.32**	**305**	*e*PKPbc	**PKPbc**	**01 10 47.9**	**-0.2**
BRTR	**Keskin Array B**	**148.32**	**305**	PKPbc	**PKPbc**	**01 10 47.3**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=133,slow=3.3,SNR=6.8						
BRTR				PKPab	**PKPab**	**01 10 52.7**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=94,slow=3.7,SNR=12						
BURAR	**Bucovina Array**	**150.04**	**325**	*e*PKPdf	**PKPdf**	**01 10 46.2**	**-0.1**
BURAR				*e*PKPbc	**PKiKP**	**01 10 52.6**	**+0.1**
BURAR				*e*PKPab	**PKPab**	**01 10 59.8**	**0.0**
KOLS	**Kolonicke sedl**	**150.61**	**329**	*e*PKP	**PKiKP**	**01 10 54.0**	**+0.5**
CLL	**Collm**	**152.13**	**342**	*i* PKPbc	**PKPbc**	**01 10 56.4**	**+0.1**
	comp=Z,4.0nm,1.0s						

*NIED **07** 01:04:00, 37°.50N×141°.90E, h50km, Mw4.4 Best double couple: M0=4.86000×10^15 NP1:φs=33.00000°, δ35.00000°, λ105.00000°. NP2:φs=195.00000°, δ57.00000°, λ80.00000°.*
*MOS **07** 01:04:13.3±1.2, 37°.48N×142°.00E, h23km, mb4.9/30, Error ellipse: s-maj=7.9km s-min=5.0km az=100.5*
*BJI **07** 01:04:15.0±0.0, 37°.54N×142°.08E, h56km, mb4.8/46, mB4.9/24, Ms4.6/14, Ms7 4.3/8*
*JMA **07** 01:04:17.7±0.1, 37°.49N×141°.84E, h50km±2km, M4.5*
JMA Felt III J1.
*ISCJB **07** 01:04:17.6±0.4, 37°.50N±0°.03×141°.82E±0°.03, h52km±3km, mb4.7/213, MS3.8/19, Error ellipse: s-maj=4.6km s-min=3.1km az=148.9*
*IDC **07** 01:04:19.2±1.8, 37°.49N×141°.75E, h58km±16km, mb4.3/26, mb1 4.4/33, mb1mx4.3/53, mbtmp4.5/33, MS3.5/17, Ms1 3.5/17, ms1mx3.3/44, Error ellipse: s-maj=13.8km s-min=10.5km az=109.0*
*NEIC **07** 01:04:19.6±1.9, 37°.53N×141°.82E, h54km±5km, mb4.7/178, Error ellipse: s-maj=14.4km s-min=9.4km az=129.0*
NEIC Recorded [3 JMA] in Fukushima.
ISC 07 01:04:17.9±0.5, 37°.52N±0°.04×141°.94E±0°.04, h46km±3km, h46km:pP-P, n572, σ1§49/603, mb4.7/215, MS3.9/19, 30C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.86**	**260**	P	**Pn**	**01 04 32.4**	**-1.3**
JFK				S	**Sn**	**01 04 42.8**	**-2.4**
JIKH	**Ishinomakikobu**	**0.88**	**335**	P	**Pn**	**01 04 33.8**	**0.0**
JIKH				S	**Sn**	**01 04 45.3**	**-0.2**
JMM	**Marumori**	**0.97**	**291**	P	**Pn**	**01 04 34.4**	**-0.8**
JMM				S	**Sn**	**01 04 46.5**	**-1.3**
ONAJ	**Iwakimizuishiy**	**1.00**	**246**	P	**Pn**	**01 04 34.2**	**-1.4**
ONAJ				S	**Sn**	**01 04 46.5**	**-2.1**
JIO	**Ouri**	**1.04**	**334**	P	**Pn**	**01 04 36.1**	**0.0**
JIO				S	**Sn**	**01 04 49.4**	**-0.2**
JFT	**Otama**	**1.27**	**270**	P	**Pn**	**01 04 39.0**	**-0.3**
JFT				S	**Sn**	**01 04 53.9**	**-1.3**
JOU	**Okura**	**1.32**	**310**	P	**Pn**	**01 04 39.6**	**-0.3**
JOU				S	**Sn**	**01 04 55.4**	**-0.9**
JMK	**Ichinoseki**	**1.54**	**339**	P	**Pn**	**01 04 43.4**	**+0.5**
JMK				S	**Sn**	**01 05 01.8**	**+0.1**
JYS	**Shirataka**	**1.64**	**296**	P	**Pn**	**01 04 44.1**	**-0.2**
JYS				S	**Sn**	**01 05 03.3**	**-0.9**
JFY	**Yanaizu**	**1.78**	**267**	P	**Pn**	**01 04 45.8**	**-0.4**
JFY				S	**Sn**	**01 05 06.9**	**-0.8**
JYK	**Kaneyama**	**1.87**	**319**	P	**Pn**	**01 04 47.7**	**+0.3**
JYK				S	**Sn**	**01 05 10.5**	**+0.6**
JOM	**Ohasama**	**2.02**	**346**	P	**Pn**	**01 04 50.0**	**+0.6**
JYA	**Atsumi**	**2.06**	**302**	P	**Pn**	**01 04 50.1**	**+0.1**
JYA				S	**Sn**	**01 05 15.5**	**+1.0**
JNS	**Sasagawa**	**2.10**	**279**	P	**Pn**	**01 04 50.3**	**-0.3**
MJA0	**Matsu Arr-Jizo**	**3.11**	**253**	*e*P	**Pn**	**01 05 04.9**	**+0.4**
MJA0				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MJAR	**Matsushiro Arr**	**3.14**	**253**	*e*Sn	**Sn**	**01 05 40.1**	**-1.1**
MJAR	**Matsushiro Arr**	**3.14**	**253**	P	**Pn**	**01 05 04.9**	**0.0**
	comp=Z,9.5nm,0.3s,baz=69,slow=14,SNR=126						
MJAR				LR	LR	01 06 36.4	
	comp=Z,830nm,20.6s,baz=80,slow=46						
MAJO	**Matsushiro**	**3.14**	**253**	*e*Pn	**Pn**	**01 05 05.3**	**+0.3**
MAJO				*e*Sn	**Sn**	**01 05 37.0**	**-4.2**
MAJO	**Matsushiro**	**3.14**	**253**	*d i*P	**Pn**	**01 05 05.2**	**+0.3**
MAT	**Matsushiro**	**3.14**	**253**	P	**Pn**	**01 05 05.3**	**+0.4**
MAT				S	**Sn**	**01 05 43.8**	**+2.6**
MJB9	**Matsu-Tunnel**	**3.14**	**253**	*e*Pn	**Pn**	**01 05 05.3**	**+0.4**
MJB9				*e*Sn	**Sn**	**01 05 36.5**	**-4.7**
INU	**Inuyama**	**4.52**	**243**	*e*Pn	**Pn**	**01 05 23.9**	**+0.1**
INU				*e*Sn	**Sn**	**01 06 13.8**	**-1.3**
ERM	**Erimo**	**4.59**	**11**	*e*Pn	**Pn**	**01 05 24.4**	**-0.3**
ERM				*e*Sn	**Sn**	**01 06 14.2**	**-2.5**
ERM	**Erimo**	**4.59**	**11**	*ce*P	**Pn**	**01 05 24.6**	**-0.1**
ERM				pmax	pmax		
	comp=Z,137nm,1.7s						
JHJ2	**Mitsune**	**4.73**	**202**	*e*Pn	**Pn**	**01 05 25.4**	**-1.2**
JHJ2				*e*Sn	**Sn**	**01 06 15.7**	**-4.5**
JHJ	**Hachijo jima 2**	**4.73**	**203**	P	**Pn**	**01 05 25.4**	**-1.3**
	comp=Z,112nm,0.3s,baz=122,slow=3.1,SNR=11						
JHJ				S	**Sn**	**01 06 16.5**	**-3.8**
	comp=Z,212nm,0.3s,baz=80,slow=23,SNR=5.3						
ASAJ	**Asahikawa**	**6.61**	**4**	P	**Pn**	**01 05 52.4**	**-0.1**
	comp=Z,8.0nm,0.3s,baz=243,slow=10,SNR=11						
ASAJ				S	**Sn**	**01 07 04.8**	**-1.7**
	comp=Z,5.4nm,0.3s,baz=41,slow=30,SNR=6.8						
GRPR	**Tuman**	**7.09**	**23**	*e*P	**Pn**	**01 05 57.4**	**-1.6**
GRPR				*e*S	**Sn**	**01 07 12.1**	**-6.1**
GRPR				pmax	pmax		
	comp=Z,108nm,0.3s						
LAGR	**Lagunnoye**	**7.15**	**23**	*e*P	**Pn**	**01 05 59.3**	**-0.6**
LAGR				*e*S	**Sn**	**01 07 15.3**	**-4.4**
LAGR				pmax	pmax		
	comp=Z,320nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**7.16**	**23**	*e*P	**Pn**	**01 05 59.2**	**-0.7**
YUK				*e*S	**Sn**	**01 07 15.2**	**-4.6**
TEY	**Ternei**	**8.52**	**334⇑**	*e*P	Pn	01 06 26.2	+7.7
TEY				pmax	pmax		
	comp=N,50nm,1.0s						
TEY				pmax	pmax		
	comp=E,20nm,1.0s						
TEY				pmax	pmax		
	comp=Z,50nm,0.9s						
KUR	**Kuril'sk**	**8.90**	**28**	P	**Pn**	**01 06 25.7**	**+1.9**
KUR				*e*S	**Sn**	**01 07 57.9**	**-4.7**
KUR				pmax	pmax		
	comp=Z,71nm,1.0s						
KUR				smax	smax		
	comp=E,146nm,0.4s						
KUR				smax	smax		
	comp=N,65nm,0.2s						
YSS	**Yuzh-Sakhalins**	**9.45**	**3**	*e*Pn	**Pn**	**01 06 31.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**9.45**	**3**	*e*P	**Pn**	**01 06 31.2**	**-0.1**
YSS				*e*S	**Sn**	**01 08 11.0**	**-5.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
MSHR	**Mys Shultsa**	**9.69**	**305**	*i* P	**Pn**	**01 06 35.6**	**+1.0**
JNU	**Nakatsue**	**10.04**	**247**	*e*Pn	**Pn**	**01 06 39.1**	**-0.4**
JNU	**Nakatsue**	**10.04**	**247**	P	**Pn**	**01 06 40.3**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=37,slow=0.7,SNR=4.1						
USA0B	**Ussuriysk Arra**	**10.06**	**315**	*e*Pn	**Pn**	**01 06 40.9**	**+1.2**
USA0B	**Ussuriysk Arra**	**10.06**	**315**	P	**Pn**	**01 06 40.9**	**+1.2**
USRK	**Ussuriysk Ar.**	**10.06**	**315**	P	**Pn**	**01 06 40.6**	**+0.9**
	comp=Z,3.6nm,0.3s,baz=122,slow=14,SNR=42						
USRK				LR	LR	01 10 14.1	
	comp=Z,230nm,20.9s,baz=103,slow=36						
KSRS	**Korea Array**	**11.14**	**274**	P	**Pn**	**01 06 57.1**	**+2.6**
	comp=Z,1.1nm,0.3s,baz=93,slow=12,SNR=14						
KSRS				LR	LR	01 10 56.8	
	comp=Z,173nm,20.3s,baz=61,slow=36						
KS15	**Wonju Array Si**	**11.17**	**274**	*e*Pn	**Pn**	**01 06 54.7**	**-0.2**
KSAR	**Wonju Array Be**	**11.17**	**274**	*e*Pn	**Pn**	**01 06 53.2**	**-1.7**
TYV	**Tymovskoe**	**13.35**	**2**	*e*P	**P**	**01 07 30.9**	**-2.2**
TYV				pmax	pmax		
	comp=Z,100nm,3.0s						
TYV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KLR	**Kul'dur**	**13.84**	**331**	*i* P	**Pn**	**01 07 32.5**	**+1.2**
KLR	**Kul'dur**	**13.84**	**331**	P	**Pn**	**01 07 30.4**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=140,slow=11,SNR=11						
KLR				LR	LR	01 12 26.6	
	comp=Z,155nm,21.6s,baz=154,slow=35						
CN2	**Changchun**	**13.99**	**302**	*e*P	**P**	**01 07 40.1**	**-0.2**
CN2				*e*S	**Sn**	**01 10 14.5**	**+7.3**
NKL	**Nikolayevsk**	**15.66**	**357**	*e*P	**Pn**	**01 07 50.6**	**-4.6**
DL2	**Dalian**	**16.03**	**281**	P	**P**	**01 08 01.4**	**-1.5**
DL2				sP	**sP**	**01 08 18.3**	**-1.0**
DL2				*e*S	**S**	**01 11 00.8**	**-7.8**
DL2				pmax	pmax		
	comp=Z,29nm,0.6s						
PETK	**Petropavlovsk-**	**19.06**	**30**	*e*P	**P**	**01 08 36.5**	**+0.3**
PETK	**Petropavlovsk-**	**19.06**	**30**	P	**Pn**	**01 08 37.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=208,slow=9.0,SNR=6.5						
PETK				LR	LR	01 15 57.0	
	comp=Z,46nm,20.8s,baz=214,slow=36						
PEA1	**Petropavlovsk-**	**19.06**	**30**	*e*P	**Pn**	**01 08 37.6**	**+0.2**
PET	**Petropavlovsk**	**19.39**	**32**	*e*P	**P**	**01 08 37.6**	**-2.1**
	comp=Z,8.0nm,0.7s						
NJ2	**Nanjing**	**19.71**	**261**	*e*P	**Pn**	**01 08 45.6**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
BJI	**Beijing**	**20.22**	**285**	P	**P**	**01 08 44.9**	**-4.1**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MA2	**Magadan**	**22.79**	**12**	*e*P	**P**	**01 09 16.2**	**-0.2**
	comp=Z,7.9nm,0.7s						
MA2	**Magadan**	**22.79**	**12**	*ce*P	**P**	**01 09 18.1**	**+1.7**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MA2	**Magadan**	**22.79**	**12**	P	**P**	**01 09 17.6**	**+1.2**
	comp=Z,3.1nm,0.5s,baz=213,slow=13,SNR=4.6						
MA2				LR	LR	01 17 53.1	
	comp=Z,42nm,22.0s,baz=254,slow=36						
HHC	**Hu-ho-hao-te**	**23.72**	**288**	*e*P	**P**	**01 09 24.9**	**-0.9**
HHC				S	**S**	**01 13 30.4**	**-7.4**
HHC				SS	**SnSn**	**01 14 26.7**	**+8.1**
HHC				pmax	pmax		
	comp=Z,69nm,0.8s						
HHC				pmax	pmax		
	comp=Z,250nm,4.0s						
HHC				LR	LR		
	comp=Z,820nm,11.7s						
HHC				LR	LR		
	comp=Z,730nm,11.5s						
HHC				LR	LR		
	comp=Z,950nm,12.0s						
WHN	**Wuhan**	**23.85**	**261**	P	**P**	**01 09 26.9**	**0.0**
WHN				S	S	01 13 26.1	-14
WHN				LR	LR		
	comp=Z,330nm,11.3s						
YAK	**Yakutsk**	**25.69**	**347**	*e*P	**P**	**01 09 42.2**	**-1.2**
YAK				*e*PPP	PPP	01 10 21.1	
YAK				*e*		01 13 21.3	
YAK				*e*S	**S**	**01 14 03.7**	**-4.9**
YAK				*e*SSS	SSS	01 15 13.7	
YAK				pmax	pmax		
	comp=Z,120nm,1.1s						
YAK				pmax	pmax		
	comp=N,74nm,1.3s						
YAK				pmax	pmax		
	comp=E,22nm,1.1s						
YAK				pmax	pmax		
	comp=Z,172nm,14.6s						
YAK				pmax	pmax		
	comp=N,46nm,11.6s						
YAK				pmax	pmax		
	comp=E,168nm,14.1s						
YAK				smax	smax		
	comp=E,307nm,17.9s						
YAK				smax	smax		
	comp=N,47nm,9.6s						
YAK				MLR	MLR		
	comp=Z,955nm,22.0s						
YAK				MLR	MLR		
	comp=E,863nm,22.0s						
YAK				MLR	MLR		
	comp=N,460nm,18.0s						
SEY	**Seymchan**	**26.24**	**11**	*ce*P	**P**	**01 09 50.4**	**+2.1**
SEY	**Seymchan**	**26.24**	**11**	P	**P**	**01 09 49.7**	**+1.4**
	comp=N,5.2nm,0.5s,baz=203,slow=10,SNR=14						
XAN	**Xi'an**	**26.93**	**273**	P	**P**	**01 09 53.0**	**-1.9**
XAN				pP	pP	01 10 06.8	-0.1
XAN				pmax	pmax		
	comp=N,14nm,0.7s						
XAN				pmax	pmax		
	comp=N,64nm,4.5s						
XAN	**Xi'an**	**26.93**	**273**	*e*P	**P**	**01 09 53.1**	**-1.9**
	comp=N,16nm,0.7s						
BOD	**Bodaibo**	**27.35**	**327**	*e*P	**P**	**01 09 57.6**	**-0.8**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	**Ulaanbaatar**	**27.43**	**303**	*e*P	**P**	**01 09 58.2**	**-1.3**
	comp=Z,6.9nm,0.6s						
ULN	**Ulaanbaatar**	**27.43**	**303**	*ce*P	**P**	**01 09 59.5**	**0.0**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ENH	**Enshi**	**27.79**	**265**	*e*P	**P**	**01 10 01.2**	**-1.5**
	comp=Z,13nm,1.0s						
SONA0	**Songino Array**	**27.87**	**303**	*e*P	**P**	**01 10 02.2**	**-1.1**
SONM	**Songino Array**	**27.87**	**303**	*e*P	**P**	**01 10 02.9**	**-0.4**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.4s						
SONM	**Songino Array**	**27.87**	**303**	P	**P**	**01 10 02.2**	**-1.1**
	comp=Z,4.5nm,0.4s,baz=98,slow=8.6,SNR=34						
SONM				LR	LR	01 21 35.8	
	comp=Z,50nm,19.4s,baz=83,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.04**	**122**	T	T	01 39 35.0	
	baz=318,slow=74,SNR=365						
H11N1	**WAKE ISLAND Hy**	**28.05**	**122**	T	T	01 39 35.7	
	baz=318,slow=74,SNR=528						
H11N3	**WAKE ISLAND Hy**	**28.06**	**122**	T	T	01 39 37.8	
	baz=318						
H11S1	**WAKE ISLAND Hy**	**28.78**	**124**	T	T	01 40 41.4	
	baz=316,slow=75,SNR=597						
H11S3	**WAKE ISLAND H

KMI LR LR
comp=Z,150nm,14.0s
KMI LR LR
comp=Z,130nm,16.2s
NONG Nongkai 39.06 251 P **P** **01 11 41.9 +1.3**
comp=Z,0.2nm,0.7s
SKNT Sakolnakorn 39.11 249 P P 01 11 55.3 +14
DGZ Jazzator, Alta 40.45 305*d iP* **P** **01 11 52.3 +0.3**
DGZ pmax pmax
comp=Z,26nm,0.7s
WMQ Urumqi 41.00 296 *e*P **P** **01 11 57.0 +0.5**
WMQ pP pP 01 12 07.3 -1.4
WMQ sP sP 01 12 15.6 +1.6
WMQ pmax pmax
comp=Z,80nm,1.1s
WMQ pmax pmax
comp=Z,150nm,3.6s
WMQ LR LR
comp=Z,1μm,39.2s
WMQ LR LR
comp=Z,2μm,39.0s
WMQ LR LR
comp=Z,340nm,26.3s
WMQ Urumqi 41.00 296 *e*P **P** **01 11 57.5 +1.1**
comp=Z,6.6nm,0.8s
CHAI Chaiyaphum 41.27 250 P P 01 12 13.3 +14
ZAA1 Zalesovo Array 41.90 312 *e*P **P** **01 12 03.1 -0.5**
ZAA1 *e*PcP **PcP** **01 13 57.6 -0.8**
ZAA0 Zalesovo Array 41.90 312 *e*P **P** **01 12 03.2 -0.4**
comp=Z,6.9nm,1.0s
ZALV Zalesovo Beam 41.90 312 P **P** **01 12 03.1 -0.5**
comp=Z,4.3nm,0.5s,baz=94,slow=6.9,SNR=21
ZALV PcP **PcP** **01 13 57.6 -0.8**
comp=Z,2.1nm,0.5s,baz=129,slow=3.5,SNR=4.1
ZALV LR LR 01 30 05.1
comp=Z,58nm,18.5s,baz=68,slow=37
CMAR Chiang Mai Arr 42.02 255 LR LR 01 30 24.8
comp=Z,43nm,18.5s,baz=64,slow=37
LSA Lhasa 42.58 275 *e*P **P** **01 12 12.8 +2.8**
comp=Z,8.2nm,0.6s
NVS Novosibirsk 42.81 313 *e*P **P** **01 12 10.0 -1.0**
NRIK Noril'sk 43.01 335 P **P** **01 12 12.0 -0.3**
comp=Z,1.3nm,0.3s,baz=103,slow=9.9,SNR=4.1
NRIK LR LR 01 31 33.2
comp=Z,56nm,18.9s,baz=52,slow=38
MK31 Makanchi Array 44.22 302 *e*P **P** **01 12 21.7 -0.8**
comp=Z,12nm,0.8s
MK31 Makanchi Array 44.22 302 P **P** **01 12 21.7 -0.8**
MK31 pmax pmax
comp=Z,12nm,0.8s
MK32 Makanchi Array 44.22 302 *e*P **P** **01 12 21.8 -0.8**
MKAR Makanchi Array 44.22 302 P **P** **01 12 21.8 -0.8**
comp=Z,11nm,0.6s,baz=86,slow=8.8,SNR=87
MKAR LR LR 01 31 55.1
comp=Z,36nm,19.4s,baz=70,slow=38
MAKZ Makanchi 44.43 302 *e*P **P** **01 12 23.5 -0.7**
comp=Z,13nm,0.8s
SVW2 Sparrevohn 44.88 38 *e*P **P** **01 12 29.8 +2.2**
comp=Z,7.7nm,0.8s
PHET Kaeng Krachan 44.93 248 P P 01 12 43.2 +15
KURK Kurchatov 45.97 308 *e*P **P** **01 12 35.3 -1.0**
comp=Z,47nm,0.6s
KURK Kurchatov 45.97 308*ce*P **P** **01 12 35.4 -0.8**
KURK pmax pmax
comp=Z,37nm,0.6s
KURBB Kurchatov Arra 46.04 308 P **P** **01 12 36.0 -0.8**
comp=Z,41nm,0.6s,baz=81,slow=7.9,SNR=198
RSO Redoubt South 46.26 39 *e*P **P** **01 12 38.6 -0.1**
KDAK Kodiak Island 46.46 42 *e*P **P** **01 12 41.0 +0.9**
comp=Z,20nm,0.7s
KDAK Kodiak Island 46.46 42*ce*P **P** **01 12 40.5 +0.5**
KDAK Kodiak Island 46.46 42 P **P** **01 12 40.9 +0.9**
comp=Z,21nm,0.7s,baz=271,slow=5.8,SNR=28
CAST Castle Rocks 46.59 34 *e*P **P** **01 12 43.0 +2.0**
comp=Z,4.9nm,0.6s
PDGK Podgornoye 46.92 298 P **P** **01 12 44.0 0.0**
PDGK pmax pmax
comp=Z,15nm,0.9s
BPAW Bear Paw Mtn. 47.09 34 *e*P **P** **01 12 46.8 +1.9**
comp=Z,3.3nm,0.5s
KAPI Kappang 47.09 211 *e*P **P** **01 12 47.1 +1.7**
comp=Z,11nm,1.0s
MLY Manley 47.22 32 *e*P **P** **01 12 47.7 +1.8**
comp=Z,4.4nm,0.6s
MLY *e*PcP **PcP** **01 14 17.8 +1.2**
RAMN Ramite 47.39 274 *e*P **P** **01 12 47.4 -0.6**
comp=Z,22nm,0.5s
JIRN Jiri 47.39 275 *e*P **P** **01 12 47.9 -0.3**
comp=Z,17nm,0.3s
BWN Browne 47.76 33 *e*P **P** **01 12 52.7 +2.7**
comp=Z,23nm,1.1s
TOLK Toolik Lake Re 47.85 27 *e*P **P** **01 12 52.7 +1.9**
comp=Z,5.4nm,0.9s
TOLK Toolik Lake Re 47.85 27 P **P** **01 12 52.2 +1.5**
baz=266
PMR Palmer 47.99 37 *e*P **P** **01 12 52.8 +1.0**
comp=Z,7.4nm,0.9s
MCK McKinley 48.00 34 *e*P **P** **01 12 53.2 +1.3**
comp=Z,5.6nm,0.8s
RND Reindeer 48.04 34 *e*P **P** **01 12 53.1 +0.7**
comp=Z,7.8nm,0.7s
PKI Pulchoki 48.05 275 *e*P **P** **01 12 52.2 -1.0**
comp=Z,10.0nm,0.4s
KKN Kakani 48.05 276 *e*P **P** **01 12 52.6 -0.5**
comp=Z,42nm,0.6s
GHO Glory Hole Cre 48.08 37 *e*P **P** **01 12 53.8 +1.1**
comp=Z,12nm,0.8s
MDM Murphy Dome 48.28 32 *e*P **P** **01 12 55.8 +1.7**
comp=Z,10nm,0.9s
KNK Knik Glacier 48.32 37 *e*P **P** **01 12 55.7 +1.2**
comp=Z,7.1nm,0.7s
WRH Wood River Hil 48.35 33 *e*P **P** **01 12 54.7 +0.1**
comp=Z,3.7nm,0.7s
WRH *e*PcP **PcP** **01 14 17.6 -3.0**
SML Sawmill 48.35 37 *e*P **P** **01 12 56.2 +1.4**
comp=Z,11nm,0.8s
KRAB Krabi 48.38 244 P P 01 13 01.4 +5.9
comp=Z,167μm,0.7s
GKN Gorkha 48.47 276 *e*P **P** **01 12 55.6 -0.6**
comp=Z,54nm,0.6s
CCB Clear Creek Bu 48.47 33 *e*P **P** **01 12 56.7 +1.1**
comp=Z,2.1nm,0.6s
TARG Taragay, Kyrgy 48.56 296 *e*P **P** **01 12 57.3 +0.2**
comp=Z,10nm,0.7s
POKR Poker Plat Res 48.62 32 P **P** **01 12 58.5 +1.8**
baz=272
DHY Denali Highway 48.73 35 *e*P **P** **01 12 58.9 +1.1**
comp=Z,3.3nm,0.7s
DHY *e*PcP **PcP** **01 14 23.6 +1.4**
SCM Sheep Creek Mo 48.83 37 *e*P **P** **01 13 00.0 +1.6**
comp=Z,12nm,0.9s
HDA Harding Lake 48.85 33 *e*P **P** **01 12 59.4 +0.9**
comp=Z,7.1nm,0.7s
HDA Harding Lake 48.85 33 P **P** **01 12 59.0 +0.5**
baz=272
ILAR Eielson Array 48.86 33 *e*P **P** **01 12 59.2 +0.6**
ILAR pmax pmax
comp=Z,7.0nm,0.7s
ILAR Eielson Array 48.86 33 P **P** **01 12 58.9 +0.4**
comp=Z,6.6nm,0.7s,baz=268,slow=6.5,SNR=92
ILB Eielson Array 48.86 33 *e*P **P** **01 12 59.0 +0.4**
comp=Z,8.9nm,0.8s
KDJ Kajisay 48.89 297 *e*P **P** **01 12 59.4 +0.1**
comp=Z,5.9nm,0.6s
DANN Dangsing 49.01 277 *e*P **P** **01 13 00.2 -0.3**
comp=Z,70nm,0.4s
GLI Glacier Island 49.02 38 *e*P **P** **01 13 01.0 +1.1**
comp=Z,6.0nm,0.9s
GLI *e*PcP **PcP** **01 14 23.2 +0.1**
KOLN Koldanda 49.39 277 *e*P **P** **01 13 02.9 -0.5**
comp=Z,8.5nm,0.3s
PAX Paxson 49.60 35 *e*PcP **PcP** **01 14 26.6 +1.3**
DIV Divide 49.64 37 *e*P **P** **01 13 06.5 +1.9**
comp=Z,6.5nm,0.8s
BOOM Boomskoye usch 49.66 298 *e*P **P** **01 13 05.8 +0.6**
comp=Z,9.9nm,0.6s
PYUN Piuthan 49.72 277 *e*P **P** **01 13 05.5 -0.4**
comp=Z,100nm,0.9s
TKM2 Tokmak 2 49.77 298 P **P** **01 13 06.0 -0.1**
SNR=19
HARP HAARP 49.80 36 *e*P **P** **01 13 07.9 +2.1**
comp=Z,13nm,0.8s
RIDG Independent Ri 49.81 34 *e*P **P** **01 13 06.7 +0.8**
comp=Z,4.9nm,1.1s
NRN Naryn 49.94 296 *e*P **P** **01 13 09.4 +1.9**
comp=Z,3.4nm,0.6s
NRN Naryn 49.94 296 P **P** **01 13 09.5 +1.9**
NRN pmax pmax
comp=Z,3.0nm,0.6s
DOT Dot Lake 50.17 34 *e*P **P** **01 13 09.5 +0.9**
comp=Z,4.2nm,0.7s
SCRK Sand Creek 50.17 34 *e*P **P** **01 13 09.7 +1.0**
comp=Z,7.7nm,0.8s
KZA Kyzart 50.27 297 P **P** **01 13 13.1 +3.0**
SNR=13
KBK Karagaybulak 50.30 298 P **P** **01 13 12.4 +2.3**
SNR=23
CHMS Chumysh 50.34 299 P **P** **01 13 11.9 +1.7**
SNR=5.3
MENT Mentasta 50.40 35 *e*P **P** **01 13 12.7 +2.3**
comp=Z,4.5nm,0.7s
USP Ospenovka 50.43 299 P **P** **01 13 12.8 +1.9**
SNR=6.7
KSH Kashi 50.59 294 P P 01 13 17.2 +4.9
KSH pP sP 01 13 32.8 +2.7
KSH S **S** **01 20 28.5 +4.9**
KSH ScS **ScS** **01 23 00.7 +1.3**
KSH pmax pmax
comp=Z,18nm,0.9s
KSH pmax pmax
comp=Z,130nm,3.8s
KSH LR LR
comp=Z,240nm,6.8s
KSH LR LR
comp=Z,200nm,8.0s
KSH LR LR
comp=Z,330nm,5.3s
BRVK Borovoye 50.61 312 *e*P **P** **01 13 11.5 -0.6**
comp=Z,3.9nm,0.6s
AAK Ala-Archa 50.63 298 P **P** **01 13 14.5 +2.0**
SNR=9.5
AAK Ala-Archa 50.63 298 *e*P **P** **01 13 14.5 +2.0**
comp=Z,9.7nm,0.6s
AAK Ala-Archa 50.63 298*ce*P **P** **01 13 14.2 +1.7**
AAK pmax pmax
comp=Z,11nm,0.8s
UCH Uchtor 50.74 298 P **P** **01 13 16.2 +2.4**
SNR=6.1
EKS2 Erkin-Say 51.12 298 P **P** **01 13 18.2 +2.0**
SNR=10
BALM Baldy 51.30 37 *e*P **P** **01 13 18.5 +1.3**
comp=Z,4.3nm,0.6s
EGAK Eagle 51.31 32 *e*P **P** **01 13 18.1 +1.0**
comp=Z,2.6nm,0.6s
AML Almayashu 51.35 298 P **P** **01 13 21.0 +2.7**
SNR=43
CTGM Chitina Glacie 51.80 37 *e*P **P** **01 13 22.5 +1.5**
comp=Z,6.8nm,0.6s
ARSB Arslanbob 52.12 297 *e*P **P** **01 13 26.6 +2.8**
comp=Z,18nm,0.7s
DAWY Dawson 52.17 33 *e*P **P** **01 13 24.8 +1.2**
comp=Z,1.6nm,0.7s
KK31 Karatay Array 53.25 300 *e*P **P** **01 13 34.0 +2.2**
comp=Z,8.9nm,0.5s
KK31 Karatay Array 53.25 300 P **P** **01 13 34.0 +2.2**
KK31 pmax pmax
comp=Z,9.0nm,0.5s
KKAR Karatay Array 53.25 300 *e*P **P** **01 13 34.0 +2.1**
comp=Z,8.9nm,0.5s
HYT Haines Junctio 53.66 37 *e*P **P** **01 13 37.5 +2.8**
comp=Z,15nm,1.2s
INK Inuvik 53.77 27 *e*P **P** **01 13 36.4 +1.2**
comp=Z,7.7nm,1.1s
INK Inuvik 53.77 27 P **P** **01 13 36.3 +1.2**
comp=Z,3.3nm,0.6s,baz=289,slow=6.4,SNR=21
BTK Batken 54.11 296 *e*P **P** **01 13 39.8 +1.5**
comp=Z,5.7nm,0.5s
NIL Nilore 54.86 288 *e*P **P** **01 13 46.7 +3.0**
comp=Z,8.8nm,0.9s
GAR Garm 54.87 295 *e*P **P** **01 13 45.7 +1.8**
comp=Z,17nm,1.2s
WHY Whitehorse 54.95 37 *e*P **P** **01 13 46.5 +2.4**
comp=Z,4.2nm,0.8s
WHY *e*PcP **PcP** **01 14 46.8 +1.3**
SVE Sverdlovsk 55.06 318 *e*P **P** **01 13 46.6 +1.8**
SVE pmax pmax
comp=Z,13nm,0.6s
KHLH Kahului Airpor 55.37 89 *e*P **P** **01 13 48.5 +1.0**
comp=Z,241nm,0.7s
ARU Arti 56.28 318 *e*P **P** **01 13 53.1 -0.4**
comp=Z,14nm,0.5s
ARU Arti 56.28 318*c iP* **P** **01 13 52.8 -0.7**
ARU *PP **pP** **01 14 06.4 +0.2**
ARU 01 14 47.4
ARU 01 15 58.7
ARU S **S** **01 21 39.8 -0.1**
ARU pmax pmax
comp=Z,8.0nm,0.5s
FITZ Fitzroy Crossi 57.41 198 P **P** **01 14 02.0 +0.2**
comp=Z,0.8nm,0.4s,baz=17,slow=6.7,SNR=6.4
WRAB Tennant Creek 57.59 188 *e*P **P** **01 14 01.3 -1.8**
comp=Z,17nm,0.7s
WRAB Tennant Creek 57.59 188*ce*P **P** **01 14 02.7 -0.4**
WRAB pmax pmax
comp=Z,17nm,2.5s
WB2 Warramunga Arr 57.60 188 *e*P **P** **01 14 02.0 -1.2**
comp=Z,5.8nm,0.9s
WR1 Warramunga Arr 57.60 188 *e*P **P** **01 14 02.0 -1.2**
WRA Warramunga Arr 57.60 188 *e*P **P** **01 14 03.0 -0.2**
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 57.60 188 P **P** **01 14 02.0 -1.2**
comp=Z,4.4nm,0.7s,baz=11,slow=7.3,SNR=4.9
ABKAR Akbulak array 57.95 310 *e*P **P** **01 14 04.5 -0.9**
comp=Z,5.2nm,0.5s
AS31 Alice Springs 61.33 188 *e*P **P** **01 14 27.1 -1.7**
comp=Z,1.8nm,0.6s
ASAR Alice Springs 61.33 188 P **P** **01 14 27.9 -1.0**
comp=Z,5.9nm,0.8s,baz=11,slow=6.6,SNR=47
RES Resolute Bay 62.03 15 *e*P **P** **01 14 33.1 +0.2**
comp=Z,8.2nm,1.1s
YKW3 Yellowknife Ar 63.14 30 *e*P **P** **01 14 40.9 +0.4**
comp=Z,2.5nm,0.7s
YKA Yellowknife Ar 63.18 30 P **P** **01 14 41.1 +0.3**
comp=Z,2.3nm,0.6s,baz=303,slow=6.6,SNR=61
YKB5 Yellowknife Ar 63.18 30 *e*P **P** **01 14 41.1 +0.3**
KLMR Klimovskoe 63.57 328 *e*P **P** **01 14 44.8 +1.4**
KLMR pmax pmax
comp=Z,6.0nm,0.8s
ARA0 ARCESS Array S 63.69 339 *e*P **P** **01 14 44.0 -0.1**
ARCES ARCESS Array B 63.69 339 P **P** **01 14 44.0 -0.1**
comp=Z,3.5nm,0.9s,baz=61,slow=7.5,SNR=7.7
GYA0B ALIBECK ARRAY 63.97 299 *e*P **P** **01 14 49.5 +3.0**
comp=Z,3.0nm,0.6s
TULEG Thule 64.56 8 *e*P **P** **01 14 49.6 -0.1**
comp=Z,6.6nm,1.0s
D03D Eldon 66.47 47 P **P** **01 15 03.7 +1.2**
baz=300
E04D Cinebar 67.27 48 P **P** **01 15 08.9 +1.3**
baz=301
OBN Obninsk 67.96 323 *e*P **P** **01 15 12.5 +0.7**
OBN *e* 01 15 25.2
OBN *e* 01 17 42.1
OBN pmax pmax
comp=Z,4.0nm,1.0s
LPSR Galich'ya Gora 68.20 320 *e*P **P** **01 15 13.2 -0.1**
LPSR *e*SP **pP** **01 15 27.2 +0.9**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
I03D Drain, OR 68.28 51 P **P** **01 15 15.7 +1.7**
baz=302
H04A Detroit Lake 68.47 50 *e*P **P** **01 15 17.1 +1.9**
comp=Z,11nm,0.9s
FIA0 FINESS Array S 68.58 332 *e*P **P** **01 15 14.9 -0.7**
FINES FINESS Array B 68.58 332 *e*P **P** **01 15 15.1 -0.5**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 68.58 332 P **P** **01 15 14.9 -0.7**
comp=Z,8.1nm,0.8s,baz=36,slow=9.7,SNR=18
FINES LR LR 01 49 59.8
comp=Z,61nm,18.2s,baz=59,slow=40
K02D Willamette Mer 68.60 52 P **P** **01 15 17.5 +1.3**
baz=302
I04A Tendick Farm, 68.81 51 P **P** **01 15 18.6 +1.2**
baz=302,SNR=6.7
VSR Storozhevoye 68.84 319 *e*P **P** **01 15 16.8 -0.6**
VSR *e*SP **pP** **01 15 30.3 -0.1**
VSR pmax pmax
comp=Z,3.0nm,0.5s
L02E Cave Junction 68.93 53 P **P** **01 15 19.6 +1.5**
baz=302
STKA Stephens Creek 69.04 180 *e*P **P** **01 15 18.6 -0.1**
comp=Z,1.2nm,1.1s
STKA Stephens Creek 69.04 180 P **P** **01 15 18.6 -0.1**
comp=Z,3.0nm,0.7s,baz=327,slow=7.3,SNR=9.1
C09A Chrisman Ranch 69.10 45 *e*P **P** **01 15 20.0 +0.9**
comp=Z,5.2nm,0.6s
I05D Terrebonne, OR 69.17 50 P **P** **01 15 20.9 +1.2**
baz=302
NEW Newport 69.49 44 *e*P **P** **01 15 22.9 +1.4**
comp=Z,3.7nm,0.6s
NEW Newport 69.49 44 P **P** **01 15 22.4 +0.9**
baz=304
PINE Pine Mountain 69.71 50 *e*P **P** **01 15 25.2 +2.1**
comp=Z,21nm,0.8s
L04D Klamath Falls 69.71 52 P **P** **01 15 24.7 +1.6**
baz=303,SNR=10.0
YBH Yreka Blue Hor 69.72 53 *e*P **P** **01 15 25.3 +2.2**
comp=Z,4.0nm,0.8s
J05D Fort Rock, OR 69.80 51 P **P** **01 15 25.5 +1.9**
baz=303,SNR=5.1
M02C Callahan 69.81 53 P **P** **01 15 25.6 +1.9**
baz=303
N02D Trinity Center 70.13 53 P **P** **01 15 27.5 +1.9**
baz=303
M04C Macdoel 70.24 52 P **P** **01 15 27.9 +1.6**
baz=303
K05A Summer Lake 70.31 51 *e*P **P** **01 15 28.3 +1.4**
comp=Z,16nm,0.9s
I07A Izee 70.42 49 *e*P **P** **01 15 29.2 +1.8**
comp=Z,2.3nm,0.8s
WDC Whiskeytown Da 70.44 54 *e*P **P** **01 15 28.8 +1.3**
comp=Z,6.0nm,1.0s
O02D Mt. Diablo Mer 70.50 54 P **P** **01 15 29.6 +1.7**
baz=303
WALA Waterton Lakes 70.80 42 *e*P **P** **01 15 30.9 +1.2**
comp=Z,8.0nm,0.6s
KIV Kislovodsk 70.91 311 *e*P **P** **01 15 30.0 -0.3**
KIV pmax pmax
comp=Z,20nm,1.0s
O03E Paynes Creek 71.07 53 P **P** **01 15 32.3 +0.9**
baz=304
MOD Modoc Plateau 71.13 51 *e*P **P** **01 15 33.6 +1.8**
comp=Z,4.9nm,0.8s
BMO Blue Mountains 71.29 48 *e*P **P** **01 15 33.4 +0.7**
comp=Z,5.9nm,0.8s
J08A Circle Bar Ran 71.44 49 *e*P **P** **01 15 35.4 +1.8**
comp=Z,6.3nm,0.6s
WVOR Wild Horse Val 71.86 50 *e*P **P** **01 15 38.0 +1.8**
comp=Z,3.8nm,0.8s
MSO Missoula 72.08 44 P **P** **01 15 37.6 +0.2**
baz=306
BCA Borcka 72.97 309⇑*i iP* **P** **01 15 45.8 +3.1**
FFC Flin Flon 73.07 33 *e*P **P** **01 15 43.4 +0.4**
comp=Z,7.1nm,0.8s
FFC Flin Flon 73.07 33*ce*P **P** **01 15 43.7 +0.7**
CMB Columbia Colle 73.25 55 *e*P **P** **01 15 46.0 +1.6**
comp=Z,4.3nm,0.8s
HRY Holter Researc 73.31 44 *e*P **P** **01 15 46.0 +1.2**
FCC Fort Churchill 73.38 27 *e*P **P** **01 15 45.2 +0.5**
comp=Z,10.0nm,1.1s
LRM Limekiln Ridge 73.51 45 *e*P **P** **01 15 47.2 +1.2**
WAKR Walker 73.59 54 *e*P **P** **01 15 48.6 +1.9**
comp=Z,4.1nm,1.0s
EGMT Eagleton 73.63 42 *e*P **P** **01 15 47.6 +1.1**
comp=Z,7.7nm,0.7s
EGMT Eagleton 73.63 42 P **P** **01 15 47.4 +0.9**
baz=308
DLMT Dillon 73.70 45 *e*P **P** **01 15 48.4 +1.3**
comp=Z,9.9nm,0.8s
HLID Hailey 73.73 47 *e*P **P** **01 15 48.8 +1.4**
comp=Z,4.6nm,1.0s
HLID Hailey 73.73 47 P **P** **01 15 48.7 +1.4**
baz=307,SNR=8.6
NC204 NORSAR Array S 73.85 338 *e*P **P** **01 15 47.6 +0.1**
comp=Z,15nm,0.7s
NB2 NORSAR Subarra 73.90 337 P **P** **01 15 47.0 -0.8**
comp=Z,2.8nm,0.6s,baz=39,slow=6.2
NB200 NORSAR Array S 73.90 337 *e*P **P** **01 15 47.4 -0.4**
NOA NORSAR Array B 73.90 337 P **P** **01 15 47.4 -0.4**
comp=Z,3.5nm,0.6s,baz=39,slow=5.9,SNR=13
NOA LR LR 01 51 55.1
comp=Z,36nm,20.4s,baz=45,slow=39
BOZ Bozeman (W) 74.10 44 *e*P **P** **01 15 50.5 +1.1**
comp=Z,8.2nm,0.8s
BOZ Bozeman (W) 74.10 44 P **P** **01 15 50.5 +1.1**
baz=308
KVN Kaiserville 74.13 53 *e*P **P** **01 15 51.2 +1.5**
comp=Z,9.8nm,1.1s
AKASG Malin Array Be 74.17 322 P **P** **01 15 48.6 -0.9**
comp=Z,4.1nm,0.5s,baz=46,slow=6.0,SNR=18
AKBB Malin Array Si 74.17 322 *e*P **P** **01 15 48.6 -0.9**
comp=Z,4.2nm,0.6s
KIEV Kiev 74.18 322 *e*P **P** **01 15 48.6 -0.9**
comp=Z,4.1nm,0.6s
KIEV Kiev 74.18 322⇑*i iP* **P** **01 15 48.7 -0.9**
KIEV Kiev 74.18 322⇑P **P** **01 15 48.7 -0.9**
NV01 Mina Array Sit 74.36 53 *e*P **P** **01 15 52.6 +1.5**
NVAR Mina Array Bea 74.36 53 P **P** **01 15 52.6 +1.5**
comp=Z,6.0nm,0.8s,baz=286,slow=5.7,SNR=36
NV11 Mina Array Sit 74.46 53 *e*P **P** **01 15 53.1 +1.5**
comp=Z,0.3nm,1.1s
MLAC Mammoth, Mammo 74.48 54 P **P** **01 15 53.6 +1.7**
baz=306
ELK Elko 74.92 50 *e*P **P** **01 15 55.9 +1.6**
comp=Z,2.0nm,0.6s
GCMT Greycliff 75.06 43 *e*P **P** **01 15 55.8 +0.9**
TIN Tinemaha, Big 75.21 55 P **P** **01 15 58.0 +2.1**
baz=306
VES Vestal, Richgr 75.36 56 P **P** **01 15 57.5 +0.9**
baz=306
LKWY Lake 75.42 45 *e*P **P** **01 16 00.4 +3.2**
comp=Z,4.5nm,0.8s
H17A Grant Village 75.43 45 *e*P **P** **01 16 00.4 +3.1**
comp=Z,13nm,0.8s
H17A *e*PcP **pP** **01 16 10.7 +0.3**
H17A Grant Village 75.43 45 P **P** **01 16 00.2 +2.9**
baz=309
IMW Indian Meadow 75.53 46 *e*P **P** **01 15 59.9 +2.0**
comp=Z,9.5nm,0.8s
FXWY Fox Creek 75.64 46 *e*P **P** **01 16 00.4 +1.9**
comp=Z,5.5nm,0.9s
CWC Cottonwood Cre 75.67 55 P **P** **01 15 59.6 +1.0**
baz=306
RLMT Red Lodge 75.70 44 *e*P **P** **01 16 00.1 +1.4**
comp=Z,3.8nm,0.6s
RLMT Red Lodge 75.70 44 P **P** **01 16 00.1 +1.4**
baz=309
MOOW Moose Ponds 75.74 46 *e*P **P** **01 16 00.8 +1.9**
comp=Z,6.1nm,1.0s
TPAW Teton Pass 75.78 46 *e*P **P** **01 16 01.2 +1.9**
comp=Z,6.5nm,0.7s
GRAC Grapevine Rang 75.80 54 P **P** **01 16 01.0 +1.8**
baz=306
ISA Isabella, Lake 75.87 56 P **P** **01 15 60.0 +0.3**
baz=306
LOHW Long Hollow 75.90 46 *e*P **P** **01 16 01.9 +1.9**
comp=Z,2.4nm,0.8s
SNOW Snow King Moun 75.91 46 *e*P **P** **01 16 02.3 +2.3**
comp=Z,6.0nm,0.8s
REDW Red Top Meadow 75.92 46 *e*P **P** **01 16 01.9 +1.9**
comp=Z,4.7nm,0.8s
DAC Darwin (Calif) 76.08 55 *e*P **P** **01 16 04.5 +3.4**
comp=Z,3.9nm,0.8s
R11A Troy Canyon, C 76.13 52 *e*P **P** **01 16 02.7 +1.4**
comp=Z,4.5nm,0.7s
R11A Troy Canyon, C 76.13 52 P **P** **01 16 02.4 +1.1**
baz=307
DGMT Dagmar 76.20 39 P **P** **01 16 01.9 +0.7**
baz=312
MPMC Manual Prospec 76.28 55 P **P** **01 16 03.3 +1.2**
baz=307
LAO LASA Array 76.33 41 *e*P **P** **01 16 03.5 +1.4**
LAO LASA Array 76.33 41 P **P** **01 16 03.3 +1.2**
baz=311
FURC Furnace Creek, 76.44 54 P **P** **01 16 04.6 +1.8**
baz=307
EDW2 Edwards Air Fo 76.64 56 P **P** **01 16 05.3 +1.2**
baz=307
DUG Dugway, Tooele 76.72 49 *e*P **P** **01 16 06.2 +1.6**
comp=Z,6.7nm,0.6s
DUG Dugway, Tooele 76.72 49 P **P** **01 16 06.1 +1.5**
baz=308,SNR=9.1
BW06 Boulder Array 77.03 46 *e*P **P** **01 16 07.0 +0.7**
comp=Z,3.8nm,0.6s
BW06 Boulder Array 77.03 46 P **P** **01 16 07.0 +0.7**
baz=310,SNR=7.6
PD31 Pinedale Array 77.03 46 *e*P **P** **01 16 07.0 +0.7**
comp=Z,3.4nm,0.6s
PDAR Pinedale Array 77.03 46 P **P** **01 16 07.0 +0.7**
comp=Z,3.8nm,0.6s,baz=277,slow=1.7,SNR=52
PDAR LR LR 01 46 21.0

comp=Z,9.9nm,20.9s,baz=318,slow=33
GSC Goldstone, Bar 77.18 55 P P 01 16 08.2 +1.1
baz=307
LEOM Leova 77.44 320⇓ iP P 01 16 08.2 0.0
LEOM Leova 77.44 320 ⇓P P 01 16 08.2 0.0
SHPR Sheep Range 77.52 54 eP P 01 16 11.1 +2.0
comp=Z,4.2nm,0.9s
TUQ Turquoise Moun 77.67 55 P P 01 16 11.1 +1.2
baz=308
HEC Hector,Ludlow 77.77 56 P P 01 16 11.3 +0.8
baz=307
BUR08 Bucovina Ar. S 78.18 322 eP P 01 16 12.5 0.0
comp=Z,2.2nm,0.8s
BURAR Bucovina Array 78.19 322⇓ iP P 01 16 12.8 +0.3
BURAR Bucovina Array 78.19 322 ⇓P P 01 16 12.8 +0.3
BIZ Bicaz 78.21 321⇓ iP P 01 16 13.1 +0.5
TESR Tescani 78.23 320⇑ iP P 01 16 12.1 -0.6
GMRC Granite Mounta 78.24 55 P P 01 16 14.0 +0.9
baz=308
CFR Carcaliu 78.36 319⇑ iP P 01 16 14.5 +1.1
CFR Carcaliu 78.36 319 ⇑P P 01 16 14.5 +1.1
VRI Vrincioaia 78.63 320⇑ iP P 01 16 14.6 -0.3
VRI Vrincioaia 78.63 320 ⇑P P 01 16 14.6 -0.3
KOLS Kolonicke sedl 78.67 324 eP P 01 16 19.6 +4.5
TLB Topalu 78.81 318⇑ iP P 01 16 17.2 +1.4
TLB Topalu 78.81 318 ⇑P P 01 16 17.2 +1.4
K22A Casper 78.81 44 P P 01 16 16.5 +0.4
baz=311
BR101 Keskin Array S 78.84 312 eP P 01 16 16.1 -0.3
BR131 Keskin Array S 78.84 312 eP P 01 16 19.1 +2.8
comp=Z,1.3nm,0.8s
BRTR Keskin Array B 78.84 312 eP P 01 16 19.1 +2.8
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 78.84 312 P P 01 16 16.1 -0.3
comp=Z,0.9nm,0.8s,baz=97,slow=5.0,SNR=6.7
ULM Lac du Bonnet 78.87 34 eP P 01 16 16.1 +0.1
comp=Z,4.9nm,0.7s
ULM Lac du Bonnet 78.87 34 P P 01 16 16.2 +0.1
comp=Z,3.2nm,0.6s,baz=301,slow=5.1,SNR=12
MDND Maddock 78.87 37 P P 01 16 16.7 +0.6
baz=315
TRPA Tarpa 79.12 324⇑ iP P 01 16 17.3 -0.2
RSSD Black Hills 79.19 42 eP P 01 16 18.9 +0.7
comp=Z,7.1nm,1.1s
RSSD Black Hills 79.19 42 P P 01 16 18.4 +0.2
baz=312
MLR Muntele Rosu 79.29 320⇓ iP P 01 16 19.1 +0.5
MLR Muntele Rosu 79.29 320 ⇓P P 01 16 19.1 +0.5
U15A North Rim 79.38 52 eP P 01 16 21.1 +1.6
comp=Z,4.1nm,0.8s
O20A White River Ci 79.47 47 P P 01 16 20.3 +0.5
baz=311
PDMCI Parker Dam,Lak 79.52 55 P P 01 16 20.5 +0.6
baz=308
Y12C Blythe 79.61 55 P P 01 16 21.2 +0.7
baz=308
LANS Liptovska Anna 79.80 326 eP P 01 16 26.5 +5.3
GLA Glamis 79.84 56 P P 01 16 22.3 +0.5
baz=308
PV09 Paradox Valley 80.00 49 eP P 01 16 24.6 +1.7
PV21 Cone Mtn., Par 80.06 49 eP P 01 16 24.9 +1.7
comp=Z,8.3nm,0.7s
PV23 Carpenter Ridg 80.11 49 eP P 01 16 25.0 +1.6
comp=Z,8.3nm,0.7s
PV10 Paradox Valley 80.14 49 eP P 01 16 25.6 +2.0
comp=Z,22nm,0.8s
PV14 Lion Creek, Pa 80.15 49 eP P 01 16 25.1 +1.4
comp=Z,20nm,1.2s
MORC Moravsky Berou 80.18 327⇑ iP P 01 16 21.9 -1.4
MORC Moravsky Berou 80.18 327 ⇑P P 01 16 21.9 -1.4
PV20 West Nyswonger 80.20 49 eP P 01 16 25.5 +1.7
comp=Z,9.5nm,0.8s
PV04 Paradox Valley 80.21 49 eP P 01 16 25.6 +1.7
comp=Z,7.6nm,0.9s
PV19 Morning Glory 80.22 49 eP P 01 16 25.6 +1.7
comp=Z,13nm,0.7s
PV17 East Wray Mesa 80.25 49 eP P 01 16 25.8 +1.7
comp=Z,14nm,0.9s
PV16 Nyswonger Mesa 80.25 49 eP P 01 16 25.8 +1.7
comp=Z,6.6nm,0.7s
DPC Dobruska-Polom 80.27 328 eP P 01 16 25.5 +1.7
DPC e 01 16 39.6
DPC Dobruska-Polom 80.27 328 eP P 01 16 25.5 +1.7
DPC epP pP 01 16 39.6 +2.6
PV11 David Mesa, Pa 80.29 49 eP P 01 16 26.0 +1.7
comp=Z,11nm,0.7s
N23A Red Feather La 80.30 45 eP P 01 16 26.1 +1.8
comp=Z,5.5nm,0.8s
N23A Red Feather La 80.30 45 P P 01 16 25.4 +1.0
baz=312,SNR=5.9
PV05 Paradox Valley 80.30 49 eP P 01 16 26.2 +1.8
comp=Z,14nm,0.8s
AGMN Agassiz Nation 80.30 35 eP P 01 16 24.0 +0.1
comp=Z,4.9nm,0.8s
AGMN Agassiz Nation 80.30 35 P P 01 16 23.8 -0.1
baz=317
PV12 Saucer Basin, 80.32 49 eP P 01 16 26.4 +1.9
comp=Z,5.0nm,0.9s
PV03 Paradox Valley 80.33 49 eP P 01 16 26.1 +1.5
comp=Z,5.5nm,0.8s
PV13 Radium Mtn., P 80.41 49 eP P 01 16 26.6 +1.6
comp=Z,9.4nm,0.8s
LOT Lotru 80.42 321⇓ iP P 01 16 24.4 -0.3
HUMR Humele 80.44 320⇑ iP P 01 16 25.1 +0.4
Y14A Wickenburg 80.49 54 eP P 01 16 26.4 +1.2
comp=Z,6.0nm,0.8s
Y14A epP sP 01 16 42.5 -1.0
WUAZ Wupatki 80.53 52 eP P 01 16 27.6 +2.0
comp=Z,9.9nm,1.0s
WUAZ Wupatki 80.53 52 P P 01 16 26.4 +0.8
baz=310
VYHS Vyhne 80.56 326 eP P 01 16 29.3 +4.0
PV01 Paradox Valley 80.58 49 eP P 01 16 27.2 +1.3
comp=Z,6.0nm,1.0s
SMCO Snowmass 80.84 47 eP P 01 16 28.7 +1.2
comp=Z,2.4nm,0.8s
BRG Berggiesshubel 80.85 330 eP P 01 16 41.5 +15
comp=Z,3.8nm,1.1s
CLL Collm 80.89 330 eP P 01 16 26.0 -0.9
CLL e*PP pP 01 16 40.0 -0.2
CLL Collm 80.89 330 eP P 01 16 26.0 -0.9
CLL epP pP 01 16 41.5 +1.3
comp=Z,8.0nm,1.2s
X16A Lo Mia Camp, P 81.19 53 eP P 01 16 31.0 +1.9
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 81.21 46 eP P 01 16 30.5 +1.2
ISCO Idaho Springs 81.21 46 P P 01 16 30.6 +1.2
baz=312,SNR=6.3
MVCO Mesa Verde 81.22 50 eP P 01 16 30.8 +1.5
comp=Z,4.7nm,0.8s
MVCO Mesa Verde 81.22 50 P P 01 16 30.7 +1.3
baz=311
214A Organ Pipe Nat 81.86 56 P P 01 16 33.4 +0.9
baz=309
S22A 4UR Ranch, Cre 81.87 48 eP P 01 16 34.8 +1.9
comp=Z,4.2nm,0.9s
S22A 4UR Ranch, Cre 81.87 48 P P 01 16 33.5 +0.7
baz=312
KHC Kasperske Hory 82.35 329 eP P 01 16 35.0 +0.2
comp=Z,1.1nm,0.7s
KHC Kasperske Hory 82.35 329 eP P 01 16 34.7 -0.1
KHC Kasperske Hory 82.35 329 eP P 01 16 34.7 -0.1
EYMN Ely 82.50 33 eP P 01 16 35.6 0.0
comp=Z,6.8nm,0.9s
EYMN Ely 82.50 33 P P 01 16 35.6 0.0
baz=320,SNR=6.2
GEC2 GERESS Array S 82.52 328 eP P 01 16 35.1 -0.6
comp=Z,2.0nm,0.9s
GERES GERESS Array B 82.52 328 eP P 01 16 36.1 +0.3
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 82.52 328 P P 01 16 35.2 -0.6
comp=Z,0.9nm,0.5s,baz=33,slow=6.9,SNR=8.1
SDCO Great Sand Dun 82.65 48 eP P 01 16 38.2 +1.2
comp=Z,2.5nm,0.9s
SDCO Great Sand Dun 82.65 48 P P 01 16 37.9 +1.0
baz=312
VTS Vitosha 82.69 319 eP P 01 16 37.4 +0.5
comp=Z,2.5nm,0.8s
VTS Vitosha 82.69 319⇑ iP P 01 16 36.7 -0.1
VTS Vitosha 82.69 319 ⇑P P 01 16 36.7 -0.1
TUC Tucson 82.96 55 P P 01 16 38.8 +0.4
baz=310
ECSD EROS Data Cent 83.28 39 eP P 01 16 40.2 +0.5
comp=Z,5.7nm,0.8s
ECSD EROS Data Cent 83.28 39 P P 01 16 39.8 +0.1
baz=317
E38A The Farm, Brul 83.50 34 eP P 01 16 40.7 -0.1
comp=Z,11nm,0.7s
E38A The Farm, Brul 83.50 34 P P 01 16 40.5 -0.3
baz=320,SNR=7.6
SOKA Soboth 83.62 326 eP P 01 16 40.9 -0.6
comp=Z,3.6nm,1.1s
T25A Trinidad 83.70 47 eP P 01 16 43.7 +1.4
comp=Z,7.4nm,0.8s
T25A Trinidad 83.70 47 P P 01 16 43.2 +1.0
baz=313
F38A Pierce - Schro 83.85 34 P P 01 16 42.8 +0.2
baz=320,SNR=8.3
TASM ASL Pad, Albuq 83.95 50 P P 01 16 44.8 +1.3
baz=312
TASM ASL Pad, Albuq 83.95 50 P P 01 16 44.6 +1.0
baz=312
ANMO Albuquerque 83.95 50 eP P 01 16 45.1 +1.6
comp=Z,6.1nm,1.1s
ANMO Albuquerque 83.95 50 P P 01 16 44.6 +1.0
baz=312
E39A Mellen 84.12 34 P P 01 16 43.8 -0.2
baz=321,SNR=6.8
E40A Wakefield 84.36 33 P P 01 16 45.6 +0.5
baz=321,SNR=9.7
BNM Barren Site 84.38 51 eP P 01 16 47.2 +1.4
D41A Chassel 84.44 32 eP P 01 16 46.2 +0.6
comp=Z,8.2nm,0.9s
D41A Chassel 84.44 32 P P 01 16 45.7 +0.1
baz=322
EIL Elat 84.46 303 LR LR 01 56 37.7
comp=Z,104nm,18.2s,baz=86,slow=37
G38A Ridgeland 84.47 35 P P 01 16 45.5 -0.2
baz=320
BCLA Clavier 84.47 334 ⇑P P 01 16 46.8 +1.2
WTTA Wattenberg 84.62 329 eP P 01 16 46.9 +0.2
comp=Z,6.9nm,1.8s
121A Cookes Peak, D 84.73 53 P P 01 16 48.7 +1.2
baz=312
E41A Kenton 84.74 33 P P 01 16 47.1 0.0
baz=322
SCHQ Schefferville 84.76 16 P P 01 16 47.5 +0.5
comp=Z,5.2nm,0.7s,baz=223,slow=11,SNR=3.9
RETA Reutte 84.80 329 i P P 01 16 47.8 +0.3
comp=Z,4.4nm,1.1s
COWI Conover 84.95 33 eP P 01 16 48.4 +0.2
comp=Z,6.7nm,1.1s
BFO Black Forest 85.08 331 i P P 01 16 49.5 +0.7
FETA Feichten 85.19 329 eP P 01 16 49.4 -0.1
comp=Z,4.7nm,1.3s
E42A Champion 85.22 32 P P 01 16 49.6 +0.1
baz=323
DAVA Damuels 85.32 330 i PcP P 01 16 50.4 +0.3
comp=Z,4.5nm,0.8s
H40A Chili 85.55 35 P P 01 16 51.4 +0.2
baz=321
ECH Echery 85.63 332 eP P 01 16 50.3 -1.2
comp=Z,3.0nm,1.1s
I39A Houston 85.63 36 eP P 01 16 51.5 -0.1
comp=Z,9.1nm,0.6s
I39A Houston 85.63 36 P P 01 16 51.4 -0.1
baz=320
E43A Lone Tree Farm 85.64 32 eP P 01 16 51.7 +0.1
comp=Z,6.3nm,0.6s
E43A Lone Tree Farm 85.64 32 P P 01 16 51.5 0.0
baz=323,SNR=6.8
FUORN Ofenpass-Fuorn 85.70 329 eP P 01 16 52.2 0.0
comp=Z,6.3nm,1.1s
H41A Junction City 85.89 34 P P 01 16 52.6 -0.2
baz=322
E44A Grand Marais A 85.89 31 eP P 01 16 53.5 +0.7
comp=Z,15nm,0.8s
E44A Grand Marais A 85.89 31 P P 01 16 53.0 +0.2
baz=324
G42A Mountain 85.94 33 eP P 01 16 53.4 +0.3
comp=Z,5.8nm,0.8s
G42A Mountain 85.94 33 P P 01 16 52.9 -0.1
baz=322,SNR=5.2
J39A Decorah 85.94 36 P P 01 16 52.7 -0.5
baz=320
F43A Flat Rock, Esc 86.01 32 P P 01 16 53.5 +0.1
baz=323
I40A Norwalk 86.02 35 P P 01 16 53.5 0.0
baz=321
F44A Big Bay de Noc 86.20 31 P P 01 16 54.3 0.0
baz=324,SNR=8.0
I41A Arkdale 86.23 35 P P 01 16 54.4 -0.1
baz=321
G43A Wallace 86.24 33 eP P 01 16 55.0 +0.4
comp=Z,8.7nm,0.9s
G43A Wallace 86.24 33 P P 01 16 54.7 +0.1
baz=323,SNR=5.6
MATQ Matagami 86.32 24 P P 01 16 54.5 -0.4
baz=330
K39A Oelwein 86.34 37 P P 01 16 54.4 -0.7
baz=320
J40A Soldiers Grove 86.34 36 P P 01 16 54.5 -0.6
baz=321
D46A Sault St. Mari 86.42 30 P P 01 16 54.9 -0.5
baz=325
D47A Chapleau 86.65 29 P P 01 16 55.5 -1.1
baz=326,SNR=6.0
KSU1 Kansas State U 86.67 42 P P 01 16 56.4 -0.4
baz=317
K40A Colesburg 86.69 36 P P 01 16 56.5 -0.3
baz=321
J41A Loganville 86.70 35 P P 01 16 56.6 -0.2
baz=321
L39A Vinton 86.73 37 P P 01 16 57.1 +0.1
baz=320
E46A Sault Ste Mari 86.75 30 P P 01 16 56.8 -0.3
baz=325
I42A Draeger Farm, 86.79 34 eP P 01 16 57.6 +0.3
comp=Z,8.0nm,0.9s
I42A Draeger Farm, 86.79 34 P P 01 16 57.5 +0.2
baz=322
MNTX Cornudas Mount 86.80 52 P P 01 16 57.8 +0.2
baz=313
F45A CMU Biological 86.81 31 P P 01 16 57.7 +0.3
baz=324
H43A Windswept, Lux 86.83 33 eP P 01 16 58.3 +0.9
comp=Z,13nm,0.9s
H43A Windswept, Lux 86.83 33 P P 01 16 57.9 +0.4
baz=323
AMTX Amarillo 86.86 48 eP P 01 16 59.2 +1.3
comp=Z,8.6nm,0.8s
AMTX Amarillo 86.86 48 P P 01 16 58.8 +0.9
baz=315
JFWS Jewell Farm 86.94 36 P P 01 16 58.2 +0.1
baz=321
D48A Paudash Townsh 87.05 28 P P 01 16 57.4 -1.1
baz=327
E47A Iron Bridge 87.08 29 P P 01 16 58.1 -0.5
baz=326
D49A Beulah Townshi 87.13 28 P P 01 16 58.3 -0.6
baz=327
I43A Langenfeld Bro 87.13 34 P P 01 16 58.9 0.0
baz=323
M39A Webster 87.14 38 P P 01 16 59.0 0.0
baz=320
J42A Columbus 87.14 35 P P 01 16 58.8 -0.2
baz=322
LSQQ Lebel-sur-Quev 87.14 24 P P 01 16 58.7 -0.2
baz=330
L40A Anamosa 87.15 37 P P 01 16 58.8 -0.2
baz=321
K41A Shullsburg 87.16 36 P P 01 16 58.8 -0.2
baz=321
CHGQ Chibougamau 87.22 23 P P 01 16 59.1 -0.2
baz=332
G46A Petoskey 87.38 31 P P 01 16 60.0 -0.1
baz=325
J43A Natural Harves 87.41 34 P P 01 16 59.9 -0.4
baz=322
H45A Beulah 87.45 32 P P 01 17 00.7 +0.2
baz=324
K42A Prairie Point, 87.46 35 P P 01 17 00.1 -0.5
baz=322
E48A Lockeyer 87.49 29 P P 01 17 00.3 -0.3
baz=326
VLDQ Val d'Or 87.80 25 eP P 01 17 01.3 -0.8
comp=Z,6.4nm,0.9s
F48A Evansville 87.86 29 P P 01 17 02.3 0.0
baz=326
N40A Mertquake, Sal 87.88 38 P P 01 17 02.9 +0.4
baz=320
G47A Hillman 87.91 30 P P 01 17 02.8 +0.2
baz=325
M41A Milan 88.00 37 P P 01 17 03.0 -0.1
baz=321
D51A Lot 18 Range I 88.01 27 P P 01 17 02.8 -0.3
baz=328
F49A Sandfield 88.14 29 P P 01 17 03.6 0.0
baz=327
H47A Mio 88.23 31 P P 01 17 04.6 +0.4
baz=325
E51A G1948 Merrick 88.44 27 P P 01 17 04.6 -0.5
baz=328
D52A ZEK Kipawa Sen 88.45 26 P P 01 17 04.7 -0.4
baz=329
H48A Harrisville 88.51 30 P P 01 17 06.0 +0.5
baz=326
WMOK Wichita Mounta 88.64 46 eP P 01 17 07.0 +0.7
comp=Z,2.6nm,0.9s
WMOK Wichita Mounta 88.64 46 P P 01 17 07.0 +0.7
baz=316
M43A Waltham Townsh 88.70 36 P P 01 17 06.4 0.0
baz=322
I48A Sherman Twp 88.78 31 P P 01 17 06.7 0.0
baz=326
TOBO Tobermory, Bru 88.78 29 P P 01 17 06.9 +0.2
baz=327
F51A Arnstein 88.80 28 P P 01 17 06.6 -0.2
baz=328
O41A Passleys Farm, 88.81 38 P P 01 17 07.0 0.0
baz=321
D54A Lac Fusel, La 88.91 25 P P 01 17 06.9 -0.5
baz=330
F52A Sundridge 89.13 27 P P 01 17 08.2 -0.2
baz=328
KLBO Killbear Provi 89.17 28 P P 01 17 08.3 -0.3
baz=328
HDIL Hopedale 89.23 36 P P 01 17 09.3 +0.3
baz=322
I49A Point Hope 89.34 31 P P 01 17 09.9 +0.5
baz=326
E54A Lac Daplat, Po 89.35 26 P P 01 17 09.3 -0.1
baz=330
BUKO Buck Lake 89.41 28 P P 01 17 09.7 0.0
baz=328
BMRO Meriville Lake 89.43 29 P P 01 17 10.3 +0.5
baz=327
TUL1 Leonard 89.46 43 eP P 01 17 10.9 +0.8
comp=Z,6.8nm,0.7s
TUL1 Leonard 89.46 43 P P 01 17 10.4 +0.3
baz=318
J48A Bridge Port 89.48 32 P P 01 17 11.1 +1.1
baz=326
TX31 Lajitas Ar. Si 89.49 53 eP P 01 17 11.2 +0.7
comp=Z,3.1nm,0.8s
LTX Lajitas 89.49 53 eP P 01 17 11.2 +0.7
TXAR Lajitas Array 89.49 53 P P 01 17 11.2 +0.6
comp=Z,2.9nm,0.7s,baz=301,slow=3.1,SNR=49
ABTX Abilene, Hawle 89.65 48 P P 01 17 11.6 +0.5
baz=316
J49A Marlette 89.69 31 P P 01 17 11.6 +0.5
baz=326
K48A Perry 89.74 32 P P 01 17 11.4 0.0
baz=325
BASO Ashfield 89.74 30 P P 01 17 11.2 -0.1
baz=327
N45A Kentland 89.83 35 P P 01 17 12.0 +0.3
baz=323
P43A Skaggs, Pawnee 89.84 37 P P 01 17 11.4 -0.4
baz=322
BWLO Walkerton 89.86 29 P P 01 17 12.1 +0.3
baz=327
L47A Sherwood 89.95 33 P P 01 17 12.1 -0.2
baz=324
G53A Haliburton 89.96 27 P P 01 17 12.3 0.0
baz=329
R41A Rosebud 89.97 39 P P 01 17 12.5 +0.1
baz=321
PEMO Pembroke 89.98 26 P P 01 17 11.9 -0.4
baz=330
ATD Arta Tunnel 90.16 285 LR LR 01 59 51.5
comp=Z,163nm,20.4s,baz=6.0,slow=37
I51A Listowel 90.17 30 P P 01 17 13.9 +0.6
baz=327
HHAR Hobbs 90.18 42 eP P 01 17 13.7 +0.2
comp=Z,4.1nm,0.6s
CCM Cathedral Cave 90.22 39 eP P 01 17 14.1 +0.5
comp=Z,5.7nm,1.0s
CCM Cathedral Cave 90.22 39 P P 01 17 13.8 +0.2
baz=321
BANO Bancroft 90.30 27 P P 01 17 13.7 -0.2
baz=330
S41A Jillco Farms, 90.33 40 P P 01 17 13.9 -0.3
baz=320
PLVO Plevna 90.59 27 P P 01 17 15.0 -0.2
baz=330
N47A Urbana 90.62 34 P P 01 17 15.5 0.0
baz=324
U40A Yellville 90.69 41 P P 01 17 15.9 0.0
baz=320
ALFO Alfred 90.83 25 P P 01 17 16.1 -0.2
baz=332
N48A Decatur 90.94 34 P P 01 17 16.7 -0.2
baz=325
H55A Tweed 90.98 27 P P 01 17 16.9 -0.1
baz=330
W39A Magazine 91.08 43 P P 01 17 17.6 -0.1
baz=319
JCT Junction City 91.08 50 P P 01 17 18.2 +0.3
baz=316
I55A Frankford 91.09 27 P P 01 17 17.5 0.0
baz=330
H56A Elgin 91.27 26 P P 01 17 18.6 +0.2
baz=331
WHTX Lake Whitney, 91.39 47 eP P 01 17 20.2 +1.1
comp=Z,12nm,0.8s
WHTX Lake Whitney, 91.39 47 P P 01 17 19.7 +0.5
baz=317
MIAR Mount Ida 91.68 43 eP P 01 17 21.4 +0.9
comp=Z,8.7nm,0.8s
MIAR Mount Ida 91.68 43 P P 01 17 20.9 +0.4
baz=319
WHAR Wooly Hollow 91.80 42 eP P 01 17 21.8 +0.8
comp=Z,9.6nm,0.8s
W41B Gary Mavity, V 91.91 42 P P 01 17 21.1 -0.5
baz=320
P49A Miami Univ. Ec 92.15 34 P P 01 17 22.0 -0.6
baz=325
N53A Lisbon 92.77 31 P P 01 17 25.5 +0.1
baz=328
N54A Moraine State 92.98 30 P P 01 17 26.0 -0.4
baz=328
Q51A Peebles 93.18 34 P P 01 17 27.2 -0.1
baz=326
S50A Richmond 93.81 35 P P 01 17 30.0 -0.3
baz=325
V47A Nunnelly 93.82 38 P P 01 17 30.1 -0.2
baz=323
Q53A Leroy 94.11 33 P P 01 17 31.9 +0.3
baz=327
U49A Red Boiling Sp 94.11 37 P P 01 17 31.9 +0.2
baz=324
T50A Nancy 94.14 36 P P 01 17 31.6 -0.1
baz=325
Q54A Coxs Mills 94.30 32 P P 01 17 32.6 +0.2
baz=327
TOA1 Torodi Ar. Sit 117.28 316 ePKPdf PKPdf 01 22 57.3 -1.5
TORD Torodi Ar. Bea 117.28 315 PKP PKPdf 01 22 57.3 -1.5
comp=Z,0.7nm,0.6s,baz=13,slow=2.6,SNR=6.7
DBIC Dimbokro 126.22 318 PKP PKPdf 01 23 15.3 -0.6
comp=Z,6.4nm,1.1s,baz=288,slow=2.6,SNR=4.0
VNA3 Neumayer Olymp 143.14 195 PKPdf PKPbc 01 23 41.1 -1.6
VNA1 Neumayer--Stat 143.30 196 PKPdf PKPbc 01 23 42.3 -0.8
LPAZ La Paz 146.09 60 PKPbc PKPab 01 23 54.2 -0.6
comp=Z,7.5nm,0.7s,baz=336,slow=3.3,SNR=41

ISCJB ***07*** *01:10:23.3±0.9, 12°.01S±0°.07×166°.5E±0°.2, h250km, mb4.0/8, Error ellipse: s-maj=23.3km s-min=10.2km az=177.6*

IDC ***07*** *01:10:23.7±4.8, 12°.09S×166°.56E, h239km±51km, mb3.7/8, mb1 3.9/9, mb1mx3.5/37, mbtmp4.3/9, Error ellipse: s-maj=36.7km s-min=21.2km az=156.0*

ISC 07 01:10:24.5±0.9, 12°.13S±0°.09×166°.6E±0°.2, h250km, n11, σ0°63/13, mb4.0/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.89	181	P	Pn	01 12 42.5	+0.6

5.0nm,0.3s,baz=122,slow=24,SNR=27
DZM S **S** **01 14 32.6 -0.6**
1.3nm,0.3s,baz=135,slow=19,SNR=5.7
CTA Charters Tower 21.07 245 P **P** **01 14 50.0 +0.1**
10.0nm,0.9s,baz=82,slow=8.8,SNR=5.8
WRA Warramunga Arr 31.91 252 P **P** **01 16 26.6 -0.5**
6.9nm,0.4s,baz=8.0,slow=21,SNR=12
ASAR Alice Springs 33.07 245 P **P** **01 16 36.6 -0.6**
1.8nm,0.7s,baz=73,slow=9.6,SNR=14
FITZ Fitzroy Crossi 39.91 256 P **P** **01 17 34.9 +0.1**
2.5nm,0.9s,baz=54,slow=5.3,SNR=7.2
USRK Ussuriysk Ar. 64.28 333 P **P** **01 20 33.6 +0.3**
1.4nm,0.8s,baz=143,slow=8.1,SNR=3.7
SEY Seymchan 75.63 353 P **P** **01 21 41.4 -0.3**
1.2nm,0.4s,baz=108,slow=7.7,SNR=5.4
ILAR Eielson Array 84.27 18 P **P** **01 22 26.8 -1.1**
1.9nm,0.7s,baz=230,slow=5.7,SNR=13
MKAR Makanchi Array 94.87 317 P **P** **01 23 18.3 +0.1**
1.5nm,0.7s,baz=92,slow=5.9,SNR=11
ARCES ARCESS Array B 117.58 346 PKP **PKiKP** **01 28 40.5 +0.3**
0.5nm,0.3s,baz=64,slow=2.2,SNR=20
ESDC Sonseca Array 151.31 345 PKPbc **PKiKP** **01 29 49.8 +0.5**
0.1nm,0.3s,baz=19,slow=2.0,SNR=5.7
ESDC PKPab **PKPab** **01 29 58.8 +1.0**
0.3nm,0.5s,baz=6.4,slow=3.7,SNR=5.4

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*IDC **07** 01:37:44.6±15.0, 20.°47S×176.°55W, h318km±118km, mb3.3/4, mb1 3.6/5, mb1mx3.2/25, mbtmp4.1/5, Error ellipse: s-maj=152.1km s-min=42.1km az=134.0*
ISC 07 01:37:43.1±2.4, 20.°5S±0.°7×176.°5W±0.°4, h300km, n7,
σ2º02/7, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.00**	**261**	P	**P**	**01 41 13.0**	**+1.7**
	1.6nm,0.3s,baz=94,slow=18,SNR=15						
STKA	**Stephens Creek**	**39.07**	**244**	P	**P**	**01 44 41.1**	**-0.8**
	0.7nm,0.3s,baz=102,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**45.91**	**257**	P	**P**	**01 45 35.7**	**-1.1**
	2.8nm,0.7s,baz=86,slow=8.2,SNR=26						
ASAR				PcP	**PcP**	**01 47 08.7**	**+0.3**
	0.4nm,0.4s,baz=101,slow=4.0,SNR=5.5						
WRA	**Warramunga Arr**	**46.02**	**262**	P	**P**	**01 45 36.5**	**-1.1**
	1.1nm,0.4s,baz=96,slow=8.5,SNR=112						
ILAR	**Eielson Array**	**88.02**	**12**	P	**P**	**01 49 58.0**	**-1.1**
	0.2nm,0.5s,baz=211,slow=5.1,SNR=5.5						
AKASG	**Malin Array Be**	**143.71**	**332**	PKP	PKPab	01 56 39.6	-0.3
	0.5nm,0.4s,baz=43,slow=4.6,SNR=7.1						
BRTR	**Keskin Array B**	**147.91**	**313**	PKPbc	**PKPdf**	**01 56 53.0**	**+3.0**
	0.9nm,0.6s,baz=134,slow=5.0,SNR=6.3						

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*NEIC **07** 01:46:59.8±0.0, 28.°38N×51.°62E, h10km, mb4.4/27, ML4.3(THR), MN4.3(TEH), After TEH.*
*IDC **07** 01:47:00.2±1.0, 28.°39N×51.°66E, h0km, mb4.0/14, mb1 4.1/18, mb1mx3.9/47, mbtmp4.0/18, ML3.6/5, MS3.6/14, Ms1 3.6/14, ms1mx3.3/53, Error ellipse: s-maj=21.1km s-min=17.6km az=171.0*
*THR **07** 01:47:01.8, 28.°38N×51.°51E, h34km, ML4.3*
*ISCJB **07** 01:47:02.1±0.2, 28.°41N±0.°02×51.°65E±0.°03, h24km, mb4.2/45, MS3.6/10, Error ellipse: s-maj=4.2km s-min=2.2km az=139.6*
*MOS **07** 01:47:02.3±1.2, 28.°43N×51.°69E, h27km, mb4.5/21, Error ellipse: s-maj=8.9km s-min=5.3km az=97.2*
*TEH **07** 01:47:03.1, 28.°48N×51.°68E, h20km, ML4.3*
*DSN **07** 01:47:05.8±1.1, 28.°52N×52.°02E, h10km, ML4.1/8, Error ellipse: s-maj=22.4km s-min=5.6km az=16.0*
*GII **07** 01:47:06.4±0.0, 28.°49N×51.°60E, h1km*
*OMAN **07** 01:47:07.9±0.4, 28.°65N×52.°50E, h10km, ml4.4/6, ms2.9/1, Error ellipse: s-maj=19.2km s-min=8.0km az=38.0*
ISC 07 01:47:03.6±0.4, 28.°42N±0.°05×51.°63E±0.°04, h24km, n239,
σ1º62/250, mb4.2/45, MS3.6/10, 10C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.20**	**96**	*e*Pn	**Pb**	**01 47 25.7**	**-0.1**
GHIR				*e*Sn	**Sb**	**01 47 43.2**	**+2.2**
GHIR	**Ghir-Karzin**	**1.20**	**96**	*e*Sg	**Sb**	**01 47 43.2**	**+2.2**
GHIR				*e*Pg	**Pb**	**01 47 25.8**	**-0.1**
IKAZ	**Kazeroun**	**1.36**	**8**	*e*Pn	**Pb**	**01 47 28.9**	**+0.2**
IKAZ	**Kazeroun**	**1.36**	**8**	*e*Pg	**Pn**	**01 47 27.3**	**-0.2**
IKAZ				IAMB	IAmb	01 47 53.1	
	comp=Z,2μm,1.2s						
SHI	**Shiraz**	**1.44**	**32**	*e*Pg	**Pn**	**01 47 28.8**	**+0.4**
SHI				IAMB	IAmb	01 47 50.5	
	comp=Z,44μm,0.7s						
JHRM	**Jahrom**	**1.72**	**87**	*e*Pn	**Pb**	**01 47 33.8**	**-0.7**
JHRM				IAMB	IAmb	01 48 10.8	
	comp=E,0.0nm,0.5s						
KLNJ	**Kolanjah**	**2.58**	**359**	*e*Pn	**Pn**	**01 47 45.2**	**+1.0**
IRAM	**Ramesheh**	**3.44**	**11**	*e*Pn	**Pn**	**01 47 56.7**	**+0.8**
IRAM	**Ramesheh**	**3.44**	**11**	*e*Pn	**Pn**	**01 47 56.7**	**+0.8**
IRAM				IAMB	IAmb	01 49 04.6	
	comp=Z,5μm,1.1s						
ZNGN	**Zangian**	**3.74**	**350**	*e*Pn	**Pn**	**01 48 00.9**	**+0.7**
JHBN	**Jahan bin**	**3.89**	**348**	*e*Pn	**Pn**	**01 48 03.2**	**+1.1**
ISAD	**Sadrabad**	**3.91**	**27**	*e*Pn	**Pn**	**01 48 04.2**	**+1.8**
ISAD	**Sadrabad**	**3.91**	**27**	*e*Pn	**Pn**	**01 48 04.0**	**+1.6**
ISAD				IAMB	IAmb	01 49 16.6	
	comp=Z,2μm,0.8s						
IMEH	**Mehriz**	**3.93**	**40**	*e*Pn	**Pn**	**01 48 04.4**	**+1.7**
IMEH	**Mehriz**	**3.93**	**40**	IAMB	IAmb	01 48 06.2	
	comp=Z,6μm,0.4s						
IMEH				*e*Pn	**Pn**	**01 48 04.3**	**+1.6**
ROKH	**ROKH**	**3.94**	**353**	*e*Pn	**Pn**	**01 48 03.3**	**+0.5**
IGAR	**Gharneh**	**3.98**	**5**	*e*Pn	**Pn**	**01 48 04.3**	**+0.9**
IGAR				IAMB	IAmb	01 49 27.7	
	comp=Z,2μm,1.0s						
GENO	**Geno**	**4.15**	**103**	*e*Pn	**Pn**	**01 48 05.1**	**-0.5**
IPIR	**Pirpir**	**4.30**	**352**	*e*Pn	**Pn**	**01 48 08.5**	**+0.8**
IPIR	**Pirpir**	**4.30**	**352**	*e*Pn	**Pn**	**01 48 08.6**	**+0.8**
IPIR				IAMB	IAmb	01 49 06.1	
	comp=Z,2μm,0.5s						
IZEF	**Zefreh**	**4.50**	**8**	*e*Pn	**Pn**	**01 48 11.5**	**+1.0**
IZEF	**Zefreh**	**4.50**	**8**	*e*Pn	**Pn**	**01 48 11.6**	**+1.0**
IZEF				IAMB	IAmb	01 48 12.6	
	comp=Z,2μm,0.3s						
ICHK	**Chekchek**	**4.50**	**32**	*e*Pn	**Pn**	**01 48 12.0**	**+1.5**
ICHK	**Chekchek**	**4.50**	**32**	*e*Pn	**Pn**	**01 48 11.7**	**+1.2**
ICHK				IAMB	IAmb	01 49 09.4	
	comp=Z,1μm,0.6s						
NGRK	**Negar Kerman**	**4.63**	**74**	*e*Pn	**Pn**	**01 48 12.8**	**+0.4**
NGRK	**Negar Kerman**	**4.63**	**74**	*e*Pn	**Pn**	**01 48 12.7**	**+0.4**
KHGB	**Koh Gabri**	**4.66**	**64**	*e*Pn	**Pn**	**01 48 13.5**	**+0.9**
SHME	**Shamm**	**4.66**	**119**	*i* P	**Pn**	**01 48 12.8**	**+0.3**
	SNR=15						
SHME				S	**Sn**	**01 49 05.4**	**-0.5**
SHME	**Shamm**	**4.66**	**119**	*e*Pn	**Pn**	**01 48 12.9**	**+0.3**
NIAN	**Nian**	**4.68**	**99**	*e*Pn	**Pn**	**01 48 12.3**	**-0.5**
YZKH	**Yazd**	**4.71**	**32**	*e*Pn	**Pn**	**01 48 14.5**	**+1.2**
YZKH	**Yazd**	**4.71**	**32**	*e*Pn	**Pn**	**01 48 14.5**	**+1.2**
TVBK	**TV Kerman**	**4.75**	**70**	*e*Pn	**Pn**	**01 48 15.2**	**+1.2**
IKLH	**Kolahrood**	**4.88**	**360**	*e*Pn	**Pn**	**01 48 16.6**	**+0.8**
IKLH	**Kolahrood**	**4.88**	**360**	*e*Pn	**Pn**	**01 48 16.5**	**+0.8**
IKLH				IAMB	IAmb	01 49 59.5	
	comp=Z,1μm,1.2s						
NAZ	**Nazwa, Dubai**	**4.97**	**133**	*i* P	**Pn**	**01 48 18.6**	**+1.9**
	SNR=28						
NAZ	**Nazwa, Dubai**	**4.97**	**133**	P	**Pn**	**01 48 18.6**	**+1.9**
	SNR=28						
NAZ				S	**Sn**	**01 49 13.7**	**+0.3**
NAZ	**Nazwa, Dubai**	**4.97**	**133**	*e*Pn	**Pn**	**01 48 18.5**	**+1.8**
ASUD	**Al Ashush, Dub**	**5.03**	**138**	*i* P	**Pn**	**01 48 19.5**	**+2.0**
	SNR=43						
ASUD	**Al Ashush, Dub**	**5.03**	**138**	P	**Pn**	**01 48 19.5**	**+2.0**
	SNR=43						
ASUD				S	**Sn**	**01 49 16.0**	**+1.2**
ASUD	**Al Ashush, Dub**	**5.03**	**138**	*e*Pn	**Pn**	**01 48 19.6**	**+2.0**
MSFE	**Esma-Masafi**	**5.07**	**126**	*i* P	**Pn**	**01 48 19.0**	**+0.9**
	SNR=8.0						
MSFE	**Esma-Masafi**	**5.07**	**126**	*e*Pn	**Pn**	**01 48 19.2**	**+1.1**
ANAR	**Anarak**	**5.08**	**20**	*e*Pn	**Pn**	**01 48 19.3**	**+0.9**
FAQ	**Al Faqa, Dubai**	**5.10**	**135**	*i* P	**Pn**	**01 48 20.0**	**+1.5**
	SNR=6.5						
FAQ	**Al Faqa, Dubai**	**5.10**	**135**	P	**Pn**	**01 48 20.1**	**+1.5**
	SNR=6.9						
FAQ				S	**Sn**	**01 49 16.3**	**-0.3**
FAQ	**Al Faqa, Dubai**	**5.10**	**135**	*e*Pn	**Pn**	**01 48 19.9**	**+1.4**
CHMN	**Cheshme madani**	**5.37**	**73**	*e*Pn	**Pn**	**01 48 23.5**	**+1.0**
CHMN	**Cheshme madani**	**5.37**	**73**	*e*Pn	**Pn**	**01 48 23.4**	**+1.0**
HATD	**Hatta, Dubai**	**5.39**	**131**	*i* P	**Pn**	**01 48 23.7**	**+1.2**
	SNR=17						
HATD	**Hatta, Dubai**	**5.39**	**131**	*e*Pn	**Pn**	**01 48 23.7**	**+1.2**
ASHO	**Ashiyiah**	**5.44**	**132**	*i* P	**Pn**	**01 48 24.2**	**+1.0**
	SNR=9.6						
ASHO	**Ashiyiah**	**5.44**	**132**	P	**Pn**	**01 48 24.3**	**+1.0**
	SNR=44						
ASHO				S	**Sn**	**01 49 24.9**	**-0.2**
ASHO	**Ashiyiah**	**5.44**	**132**	*e*Pn	**Pn**	**01 48 24.2**	**+1.0**
KRSH	**Karshahi**	**5.55**	**4**	*e*Pn	**Pn**	**01 48 25.1**	**+0.3**
ALNE	**Al Ain**	**5.71**	**139**	*i* P	**Pn**	**01 48 28.6**	**+1.6**
	SNR=17						
ALNE	**Al Ain**	**5.71**	**139**	*e*Pn	**Pn**	**01 48 28.5**	**+1.6**
IKMR	**Kamar-syah**	**5.79**	**332**	*e*Pn	**Pn**	**01 48 29.4**	**+1.4**
ISFB	**Sefidab**	**5.94**	**5**	*e*Pn	**Pn**	**01 48 30.0**	**-0.1**
IDOB	**Doab**	**6.11**	**332**	*e*Pn	**Pn**	**01 48 32.8**	**+0.2**
SOHO	**SOHO**	**6.13**	**133**	P	**Pn**	**01 48 33.3**	**+0.6**
	SNR=12						
SOHO				S	**Sn**	**01 49 41.9**	**-0.2**
TPRV	**Parvadeh(Tabas**	**6.33**	**42**	*e*Pn	**Pn**	**01 48 36.5**	**+1.1**
IVRN	**Varamin**	**6.55**	**1**	*e*Pn	**Pn**	**01 48 38.6**	**0.0**
HAGD	**Aghdareh**	**6.72**	**342**	*e*Pn	**Pn**	**01 48 42.3**	**+1.3**
IKOM	**Komasi**	**6.73**	**329**	*e*Pn	**Pn**	**01 48 43.0**	**+1.9**
IBZA	**Bozab**	**6.83**	**333**	*e*Pn	**Pn**	**01 48 43.3**	**+0.7**
TNSJ	**Nastanj**	**6.98**	**36**	*e*Pn	**Pn**	**01 48 45.5**	**+1.1**
TKDS	**Koohdasht(Taba**	**7.00**	**41**	*e*Pn	**Pn**	**01 48 45.6**	**+0.9**
TABS	**Tabas**	**7.02**	**41**	*e*Pn	**Pn**	**01 48 45.9**	**+0.9**
TABS	**Tabas**	**7.02**	**41**	*e*Pn	**Pn**	**01 48 45.9**	**+0.9**
TABS	**Tabas**	**7.02**	**41**	*e*Pn	**Pn**	**01 48 45.9**	**+0.9**
HOQ	**Hoqain**	**7.02**	**132**	P	**Pn**	**01 48 45.6**	**+0.6**
HOQ				S	**Sn**	**01 50 00.8**	**-3.3**
HOQ	**Hoqain**	**7.02**	**132**	*e*Pn	**Pn**	**01 48 46.4**	**+1.4**
KCHF	**Cheshme Sefid,**	**7.03**	**327**	*e*Pn	**Pn**	**01 48 46.6**	**+1.4**
IRAZ	**Razeghan**	**7.11**	**349**	*e*Pn	**Pn**	**01 48 47.1**	**+0.8**
IDMV	**Damavand**	**7.14**	**3**	*e*Pn	**Pn**	**01 48 46.8**	**0.0**
IFIR	**Firoozkooh**	**7.26**	**7**	*e*Pn	**Pn**	**01 48 48.9**	**+0.5**
IGHG	**Ghaleghazi**	**7.31**	**325**	*e*Pn	**Pn**	**01 48 50.9**	**+1.9**
IVIS	**Veis**	**7.33**	**327**	*e*Pn	**Pn**	**01 48 50.1**	**+0.9**
QABG	**Abgarm-Qazvin**	**7.47**	**347**	*e*Pn	**Pn**	**01 48 52.0**	**+0.7**
ISHM	**Shahmirzad**	**7.50**	**10**	*e*Pn	**Pn**	**01 48 52.0**	**+0.3**
IKOO	**Kooshah**	**7.51**	**56**	*e*Pn	**Pn**	**01 48 53.7**	**+1.8**
BSY	**Bisya**	**7.56**	**137**	P	**Pn**	**01 48 53.7**	**+1.3**
	SNR=12						
ITEG	**Tejag**	**7.58**	**52**	*e*Pn	**Pn**	**01 48 53.2**	**+0.4**
ILIN	**Lien**	**7.60**	**330**	*e*Pn	**Pn**	**01 48 53.6**	**+0.5**
BIDO	**Bidbid**	**7.62**	**128**	P	**Pn**	**01 48 53.7**	**+0.6**
BIDO				S	**Sn**	**01 50 15.8**	**-2.8**
IDHR	**Dehrash**	**7.69**	**326**	*e*Pn	**Pn**	**01 48 55.4**	**+1.1**
IPRN	**Peran**	**7.82**	**4**	*e*Pn	**Pn**	**01 48 57.7**	**+1.7**
WSAR	**Wadi Sarin**	**8.15**	**128**	Pn	**Pn**	**01 49 00.2**	**-0.2**
	comp=Z,4.5nm,0.3s,baz=317,slow=6.9,SNR=68						
WSAR				Sn	**Sn**	**01 50 28.8**	**-3.0**
	comp=Z,1.7nm,0.3s,baz=160,slow=18,SNR=6.7						
WSAR				LR	LR	01 52 28.5	
	comp=Z,258nm,18.4s,baz=324,slow=40						
WBK	**Wadi Bani Khal**	**8.80**	**129**	P	**Pn**	**01 49 09.5**	**+0.2**
WBK				S	**Sn**	**01 50 45.9**	**-1.9**
JLN	**Jalan Bani Buh**	**9.41**	**130**	P	**Pn**	**01 49 16.8**	**-0.9**
	SNR=15						
JLN				S	**Sn**	**01 50 59.3**	**-3.5**
SBZV	**Sabzevar**	**9.41**	**31**	*e*Pn	**Pn**	**01 49 18.9**	**+1.0**
ISFR	**Sfrayin**	**10.14**	**30**	*e*Pn	**Pn**	**01 49 28.7**	**+0.8**
IKRD	**Kardeh**	**10.15**	**33**	*e*Pn	Pn	01 49 37.0	+9.0
GEYT	**Alibeck**	**10.93**	**28**	Pn	**Pn**	**01 49 39.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=198,slow=12,SNR=7.4						
GYA0B	**ALIBECK ARRAY**	**10.93**	**28**	*e*Pn	**Pn**	**01 49 37.1**	**-1.4**
SIRT	**Sirnak**	**11.89**	**322**	*e*Pn	**Pn**	**01 49 51.2**	**-0.5**
SIRT				*e*Sn	**Sn**	**01 51 58.2**	**-5.4**
GNI	**Garni**	**13.00**	**336**	*e*Pn	**Pn**	**01 50 05.5**	**-1.5**
GNI	**Garni**	**13.00**	**336**	*c e*P	**Pn**	**01 50 04.7**	**-2.3**
GNI				pmax	pmax		
	comp=Z,63nm,2.5s						
GNI	**Garni**	**13.00**	**336**	LR	LR	01 56 09.4	
	comp=Z,114nm,20.1s,baz=148,slow=42						
ASF	**Jabal al Asfar**	**13.27**	**290**	LR	LR	01 56 39.3	
	comp=Z,320nm,18.1s,baz=31,slow=44						
NATI	**Neve Ativ**	**14.48**	**293**	Pn	**P**	**01 50 33.4**	**0.0**
HRFI	**Mount Harif**	**14.58**	**280**	Pn	**P**	**01 50 33.8**	**-0.9**
PRNI	**Paran**	**14.62**	**282**	Pn	**P**	**01 50 34.3**	**-0.8**
EIL	**Elat**	**14.64**	**279**	Pn	**P**	**01 50 34.5**	**-0.9**
MBRI	**Mt Berech**	**14.68**	**279**	Pn	**P**	**01 50 34.8**	**-1.0**
MMAI	**Mount Meron Ar**	**14.69**	**292**	Pn	**Pn**	**01 50 28.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=93,slow=18,SNR=3.9						
KRMI	**Paran Flat**	**14.85**	**281**	Pn	**P**	**01 50 37.2**	**-0.5**
DAMY	**Dhamar**	**15.33**	**207**	*e*Pn	**Pn**	**01 50 38.9**	**+0.1**
	comp=Z,8.2nm,0.7s						
ZEI	**Tsey**	**15.64**	**338**	*e*P	**Pn**	**01 50 41.7**	**-0.9**
ZEI				pmax	pmax		
	comp=Z,19nm,1.1s						
NEY	**Neytrino**	**16.45**	**336**	*i* P	**Pn**	**01 50 52.1**	**-0.8**
KBZ	**Khabaz**	**16.81**	**338**	Pn	**P**	**01 50 59.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=157,slow=6.8,SNR=8.8						
SHA1	**Shidzhatmaz**	**16.90**	**337**	*i* P	**Pn**	**01 50 59.1**	**+0.4**
KIV	**Kislovodsk**	**17.08**	**338**	*e*Pn	**Pn**	**01 51 01.0**	**+0.2**
	comp=Z,11nm,1.0s						
KIV	**Kislovodsk**	**17.08**	**338**	*e*P	**P**	**01 51 01.9**	**-0.5**
KIV				pmax	pmax		
	comp=Z,25nm,1.0s						
CHGR	**Chuyangaron**	**17.80**	**50**	*e*Pn	**Pn**	**01 51 03.4**	**-6.3**
	comp=Z,76nm,1.6s						
SOC	**Sochi**	**17.91**	**331**	*e*P	**P**	**01 51 12.0**	**+0.6**
SOC				*e*		01 54 30.8	
SOC				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,123nm,12.0s						
BR101	**Keskin Array S**	**18.65**	**312**	*e*P	**Pn**	**01 51 21.1**	**+0.9**
BR131	**Keskin Array S**	**18.65**	**312**	*e*P	**Pn**	**01 51 21.6**	**+1.3**
	comp=Z,3.2nm,0.8s						
BRTR	**Keskin Array B**	**18.65**	**312**	*e*P	**Pn**	**01 51 20.2**	**0.0**
BRTR	**Keskin Array B**	**18.65**	**312**	*e*P	**Pn**	**01 51 20.2**	**0.0**
BRTR	**Keskin Array B**	**18.65**	**312**	P	**Pn**	**01 51 21.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=132,slow=12,SNR=16						
GAR	**Garm**	**18.75**	**51**	*e*P	**Pn**	**01 51 21.4**	**-0.1**
	comp=Z,14nm,0.7s						
GAR	**Garm**	**18.75**	**51**	*e*P	**Pn**	**01 51 21.4**	**-0.1**
GAR				pmax	pmax		
	comp=Z,14nm,0.7s						
NIL	**Nilore**	**19.24**	**69**	*e*P	**P**	**01 51 25.0**	**-1.2**
	comp=Z,22nm,1.5s						
NIL	**Nilore**	**19.24**	**69**	*e*P	**P**	**01 51 25.0**	**-1.2**
NIL				pmax	pmax		
	comp=Z,23nm,1.5s						
BTK	**Batken**	**19.61**	**49**	*e*P	**Pn**	**01 51 31.4**	**-0.4**
	comp=Z,12nm,0.9s						
BTK	**Batken**	**19.61**	**49**	*e*P	**Pn**	**01 51 31.4**	**-0.4**
BTK				pmax	pmax		
	comp=Z,12nm,0.9s						
MDUB	**Mudurnu**	**20.64**	**311**	*e*P	Pn	01 51 42.9	-1.0
	comp=Z,50nm,1.0s						
KK31	**Karatay Array**	**21.13**	**41**	*e*P	**P**	**01 51 46.8**	**+0.1**
	comp=Z,13nm,0.8s						
KK31	**Karatay Array**	**21.13**	**41**	*e*P	**P**	**01 51 46.8**	**+0.1**
KK31				pmax	pmax		
	comp=Z,13nm,0.8s						
KKAR	**Karatay Array**	**21.13**	**41**	*e*P	**P**	**01 51 46.1**	**-0.5**
KKAR	**Karatay Array**	**21.13**	**41**	*e*P	**P**	**01 51 46.1**	**-0.5**
ARSB	**Arslanbob**	**21.67**	**48**	*e*P	**P**	**01 51 52.8**	**+0.1**
ARSB				*e*S	**S**	**01 55 52.7**	**+1.2**
ABKAR	**Akbulak array**	**21.76**	**15**	*e*P	**P**	**01 51 53.0**	**-0.4**
AKTO	**Aktyubinsk**	**22.51**	**11**	P	**P**	**01 52 02.2**	**+0.8**
	comp=Z,2.8nm,0.5s,baz=201,slow=9.7,SNR=11						
AKTO				LR	LR	02 03 07.7	
	comp=Z,148nm,18.0s,baz=178,slow=43						
KSH	**Kashi**	**22.95**	**55**	P	**P**	**01 52 04.1**	**-2.2**
KSH				pP	pP	01 52 08.8	-4.4
KSH				S	S	01 56 03.6	-12
KSH				SS	**SnSn**	**01 56 44.3**	**-3.3**
AAK	**Ala-Archa**	**23.30**	**46**	*e*P	**P**	**01 52 10.5**	**+0.7**
	comp=Z,17nm,1.6s						
AAK	**Ala-Archa**	**23.30**	**46**	*c e*P	**P**	**01 52 08.2**	**-1.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
AAK	**Ala-Archa**	**23.30**	**46**	P	**P**	**01 52 12.7**	**+2.9**
	comp=Z,2.4nm,0.6s,baz=209,slow=8.5,SNR=7.3						
IDI	**Anoyia**	**23.68**	**294**	P	**P**	**01 52 16.4**	**+2.9**
	comp=Z,5.2nm,0.8s,baz=103,slow=9.2,SNR=6.6						
VRH	**Novokhopyorsk**	**23.95**	**345**	*e*P	**P**	**01 52 15.2**	**-0.6**
VRH				pmax	pmax		
	comp=Z,30nm,1.2s						
BOOM	**Boomskoye usch**	**24.16**	**48**	*e*P	**P**	**01 52 19.8**	**+1.7**
	comp=Z,64nm,1.8s						
BOOM	**Boomskoye usch**	**24.16**	**48**	*e*P	**P**	**01 52 19.8**	**+1.7**
BOOM				pmax	pmax		
	comp=Z,64nm,1.8s						
VSR	**Storozhevoye**	**24.63**	**341**	*e*P	**P**	**01 52 18.0**	**-4.0**
VSR				*e*S	**S**	**01 56 38.2**	**-3.6**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.9s						
VSR				smax	smax		
	comp=N,220nm,3.5s						
KDJ	**Kajisay**	**24.83**	**50**	*e*P	**P**	**01 52 25.2**	**+1.1**
	comp=N,5.2nm,0.8s						
KDJ	**Kajisay**	**24.83**	**50**	*e*P	**P**	**01 52 25.3**	**+1.1**
KDJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CFR	**Carcaliu**	**25.03**	**318**	⇓*i*P	**P**	**01 52 24.3**	**-1.4**
CFR	**Carcaliu**	**25.03**	**318**	⇓P	**P**	**01 52 24.3**	**-1.4**
TARG	**Taragay, Kyrgy**	**25.09**	**51**	*e*P	**P**	**01 52 24.6**	**-2.2**
	comp=Z,14nm,1.4s						
PRZ	**Przheval'sk**	**25.80**	**50**	*e*P	**P**	**01 52 30.8**	**-2.2**
	comp=Z,26nm,1.2s						
PRZ	**Przheval'sk**	**25.80**	**50**	*e*P	**P**	**01 52 30.8**	**-2.2**
PRZ				pmax	pmax		
	comp=Z,26nm,1.2s						
LPSR	**Galich'ya Gora**	**25.93**	**342**	*e*P	**P**	**01 52 32.8**	**-1.0**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VRI	**Vrincioaia**	**26.24**	**318**	⇓*i*P	**P**	**01 52 42.1**	**+5.4**
VRI	**Vrincioaia**	**26.24**	**318**	⇓P	**P**	**01 52 42.1**	**+5.4**
PLOR	**Plostina**	**26.28**	**318**	⇑*i*P	**P**	**01 52 37.5**	**+0.4**
PLOR	**Plostina**	**26.28**	**318**	⇑P	**P**	**01 52 37.5**	**+0.4**
MLR	**Muntele Rosu**	**26.50**	**317**	⇑*i*P	P	01 52 48.4	+9.1
TESR	**Tescani**	**26.64**	**319**	⇓*i*P	**P**	**01 52 41.7**	**+1.4**
DOPR	**Dopca**	**27.09**	**317**	⇑*i*P	**P**	**01 52 50.5**	**+6.2**
BIZ	**Bicaz**	**27.19**	**320**	⇑*i*P	**P**	**01 52 47.3**	**+2.0**
AKASG	**Malin Array Be**	**27.96**	**329**	*i* P	**P**	**01 52 51.5**	**-0.6**
AKASG	**Malin Array Be**	**27.96**	**329**	P	**P**	**01 52 52.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=130,slow=8.7,SNR=5.4						
AKBB	**Malin Array Si**	**27.96**	**329**	*e*P	**P**	**01 52 52.0**	**-0.1**
	comp=Z,22nm,1.9s						
AKBB	**Malin Array Si**	**27.96**	**329**	*e*P	**P**	**01 52 52.0**	**-0.1**
AKBB				pmax	pmax		
	comp=Z,22nm,1.9s						
KIEV	**Kiev**	**27.97**	**329**	*i* P	**P**	**01 52 53.8**	**+1.7**
KIEV				pmax	pmax		
	comp=Z,21nm,4.4s						
BURAR	**Bucovina Array**	**28.07**	**320**	*e*P	**P**	**01 52 54.2**	**+1.0**
BURAR	**Bucovina Array**	**28.07**	**320**	⇑*i*P	**P**	**01 52 51.6**	**-1.6**
BURAR	**Bucovina Array**	**28.07**	**320**	⇑P	**P**	**01 52 51.6**	**-1.6**
BUR08	**Bucovina Ar. S**	**28.09**	**320**	*e*P	**P**	**01 52 54.7**	**+1.3**
	comp=Z,5.2nm,1.3s						
BRVK	**Borovoye**	**28.21**	**24**	*i* P	**P**	**01 52 54.8**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**28.22**	**24**	P	**P**	**01 52 55.1**	**+0.7**
	comp=Z,2.0nm,0.4s,baz=224,slow=6.2,SNR=18						
ARU	**Arti**	**28.42**	**8**	*d i* P	**P**	**01 52 56.5**	**+0.4**
ARU						01 53 41.1	
ARU				S	**S**	**01 57 42.0**	**+0.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.3s						
OBN	**Obninsk**	**28.81**	**342**	*e*P

comp=Z,69nm,20.1s,baz=30,slow=39
KLR **Kul'dur** 62.83 47 *i* P P 01 57 25.0 -2.3
KSRS **Korea Array** 63.08 60 LR LR 02 27 56.6
comp=Z,67nm,18.7s,baz=294,slow=39
JNU **Nakatsue** 66.71 64 LR LR 02 30 20.6
comp=Z,36nm,20.1s,baz=220,slow=39
NRS **Narsarsuaq** 68.80 329 *e*P P 01 58 07.5 +2.1
comp=Z,31nm,0.8s
NRS **Narsarsuaq** 68.80 329 *e*P P 01 58 07.5 +2.1
NRS pmax pmax
comp=Z,31nm,0.8s
BILL **Bilibino** 72.51 21 *e*P P 01 58 28.1 +0.1
BILL pmax pmax
comp=Z,2.0nm,1.0s
ILAR **Eielson Array** 86.00 8 P P 01 59 41.5 -0.1
comp=Z,0.4nm,0.8s,baz=350,slow=3.3,SNR=4.3
ILB **Eielson Array** 86.00 8 *e*P P 01 59 41.5 -0.1
comp=Z,9.1nm,1.8s
BPAW **Bear Paw Mtn.** 86.08 10 *e*P P 01 59 43.0 +0.9
comp=Z,4.2nm,1.1s
YKA **Yellowknife Ar** 88.73 354 P P 01 59 55.5 +0.7
comp=Z,1.0nm,0.8s,baz=7.2,slow=5.0,SNR=16
YKB5 **Yellowknife Ar** 88.73 354 *e*P P 01 59 55.5 +0.7
AS31 **Alice Springs** 94.61 114 *e*P P 02 00 22.2 -0.6
comp=Z,1.0nm,0.9s
ASAR **Alice Springs** 94.61 114 P P 02 00 22.2 -0.6
comp=Z,0.8nm,0.6s,baz=302,slow=4.8,SNR=12

MEX 07 01:52:36.7±0.6, 14°.91N×93°.59W, h17km±9km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.87**	**24**	*e*P	Pb	01 52 50.5	-2.8
PCIG				*e*S	Sb	01 53 00.9	-3.8
TGIG		**1.91**	**14**	*i* P	Pn	01 53 06.1	-2.5
TGIG				*i* S	Sn	01 53 27.3	-5.0
CCIG	**Comitan**	**1.96**	**46**	*i* P	Pn	01 53 06.9	-2.3
CCIG				*e*S	Sn	01 53 29.7	-3.8
CMIG	**Matias Romero**	**2.50**	**330**	*i* P	Pn	01 53 14.2	-2.4
CMIG				*i* S	Sn	01 53 42.5	-4.3
HUIG	**Huatulco**	**2.58**	**290**	*e*P	Pn	01 53 15.2	-2.4
HUIG				*i* S	Sn	01 53 44.0	-4.6

*IDC **07** 01:53:26.6±0.9, 20°.52N×120°.05E, h0km, mb4.0/10, mb1 4.2/11, mb1mx3.9/41, mbtmp4.0/11, ML3.9/1, MS3.1/6, Ms1 3.2/6, ms1mx2.8/49, Error ellipse: s-maj=31.6km s-min=15.6km az=87.0*
*NEIC **07** 01:53:27.6±2.8, 20°.59N×119°.98E, h15km±5km, mb4.2/9, Error ellipse: s-maj=20.2km s-min=5.2km az=99.0*
*ISCJB **07** 01:53:28.5±0.4, 20°.66N±0°.03×120°.26E±0°.06, h25km, mb4.1/14, MS3.0/3, Error ellipse: s-maj=7.7km s-min=3.6km az=14.9*
*JMA **07** 01:53:29.5±0.3, 20°.87N×120°.39E, h0km, M4.3*
ISC 07 01:53:30.2±0.6, 20°.68N±0°.04×120°.09E±0°.07, h25km, n44, σ1°.74/54, mb4.2/14, MS3.0/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**2.31**	**23**	*e*Pn	**Pn**	**01 54 05.8**	**-0.9**
TWG				*e*Sn	**Sn**	**01 54 33.2**	**-1.2**
YULB	**Yu-li**	**2.92**	**22**	*e*Pn	**Pn**	**01 54 14.4**	**-0.7**
YULB				*e*Sn	**Sn**	**01 54 47.9**	**-1.5**
SSLB	**Suanglung**	**3.19**	**14**	*e*Pn	**Pn**	**01 54 18.0**	**-0.9**
SSLB				*e*Sn	**Sn**	**01 54 54.3**	**-1.8**
CVP	**Callao Caves**	**3.39**	**151**	||*i*P	**Pn**	**01 54 21.0**	**-0.5**
CVP				*i* S	**Sn**	**01 54 59.3**	**-1.6**
NACB	**Ninganchiao**	**3.74**	**22**	*e*Pn	**Pn**	**01 54 26.4**	**+0.1**
KNMB	**Chin-men Tao**	**4.08**	**338**	*e*Pn	**Pn**	**01 54 29.1**	**-1.8**
KNMB				*e*Sn	**Sn**	**01 55 13.5**	**-4.4**
YHNB	**Yeheng**	**4.14**	**16**	*e*Pn	**Pn**	**01 54 32.1**	**+0.1**
YHNB				*e*Sn	**Sn**	**01 55 21.2**	**+1.6**
JYNG	**Yonagunijimaku**	**4.58**	**35**	P	**Pn**	**01 54 39.3**	**+1.4**
JYNG				*e*S	**Sn**	**01 55 29.1**	**-1.3**
YOJ	**Yonaguni jima**	**4.63**	**35**	P	**Pn**	**01 54 39.0**	**+0.5**
YOJ				*e*S	**Sn**	**01 55 30.1**	**-1.4**
HATJ	**Hateruma jima**	**4.81**	**45**	P	**Pn**	**01 54 41.2**	**+0.2**
HATJ				*e*S	**Sn**	**01 55 33.0**	**-2.9**
IRIF	**Iriomote-Funau**	**4.95**	**42**	P	**Pn**	**01 54 43.0**	**0.0**
IRIF				*e*S	**Sn**	**01 55 37.5**	**-2.0**
JKRS	**Kuro-shima**	**5.07**	**45**	P	**Pn**	**01 54 44.8**	**+0.3**
JKRS				*e*S	**Sn**	**01 55 39.3**	**-3.0**
JIJ	**Ishigaki jima**	**5.24**	**45**	P	**Pn**	**01 54 46.9**	**0.0**
JIJ				S	**Sn**	**01 55 43.0**	**-3.6**
JISG	**Ishigakijimahi**	**5.50**	**44**	P	**Pn**	**01 54 49.7**	**-0.9**
JISG				*e*S	**Sn**	**01 55 49.1**	**-4.0**
JTJ	**Tarama**	**5.80**	**46**	P	**Pn**	**01 54 54.4**	**-0.3**
JTJ				*e*S	**Sn**	**01 55 56.8**	**-3.6**
DAV	**Davao City (W)**	**14.54**	**158**	LR	LR	02 02 28.9	
	comp=Z,78nm,18.5s,baz=339,slow=38						
KKM	**Kota Kinabalu**	**15.03**	**195**	*e*Pn	Pn	01 56 53.7	-7.5
JNU	**Nakatsue**	**15.67**	**36**	LR	LR	02 03 26.2	
	comp=Z,57nm,19.5s,baz=224,slow=38						
KS15	**Wonju Array Si**	**18.02**	**20**	*e*Pn	**P**	**01 57 39.9**	**+0.7**
	11nm,1.2s						
KSRS	**Korea Array**	**18.05**	**20**	P	**P**	**01 57 39.9**	**+0.4**
	0.4nm,0.3s,baz=200,slow=11,SNR=10.0						
KSRS				LR	LR	02 05 26.6	
	comp=Z,54nm,19.0s,baz=184,slow=40						
CMAR	**Chiang Mai Arr**	**20.05**	**267**	P	**P**	**01 58 02.4**	**+0.8**
	0.9nm,0.3s,baz=80,slow=11,SNR=4.1						
CMAR				LR	LR	02 05 48.8	
	comp=Z,59nm,18.4s,baz=105,slow=37						
MAJO	**Matsushiro**	**22.36**	**41**	*e*P	**P**	**01 58 29.0**	**+2.6**
MJAR	**Matsushiro Arr**	**22.36**	**41**	P	**P**	**01 58 29.0**	**+2.6**
	6.3nm,0.7s,baz=241,slow=12,SNR=6.8						
MJAR				LR	LR	02 07 05.4	
	comp=Z,29nm,21.9s,baz=95,slow=36						
SIJI	**Sorong**	**24.05**	**152**	P	**P**	**01 58 43.4**	**-0.2**
	11nm,0.7s,baz=336,slow=11,SNR=7.0						
MDJ	**Mudanjiang**	**25.14**	**16**	*e*P	**P**	**01 58 51.7**	**-1.4**
	13nm,0.9s						
USRK	**Ussuriysk Ar.**	**25.45**	**20**	*e*P	**P**	**01 58 56.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**25.45**	**20**	P	**P**	**01 58 58.8**	**+2.8**
	1.6nm,0.6s,baz=198,slow=8.4,SNR=6.9						
SONA0	**Songino Array**	**29.26**	**341**	*e*P	**P**	**01 59 30.8**	**+0.5**
SONM	**Songino Array**	**29.26**	**341**	*e*P	**P**	**01 59 30.1**	**-0.2**
SONM	**Songino Array**	**29.26**	**341**	P	**P**	**01 59 30.8**	**+0.5**
	0.5nm,0.8s,baz=161,slow=11,SNR=2.4						
WRAB	**Tennant Creek**	**42.71**	**160**	*e*P	**P**	**02 01 24.0**	**-1.4**
	8.6nm,0.8s						
WR1	**Warramunga Arr**	**42.72**	**160**	*e*P	**P**	**02 01 23.6**	**-1.8**
WRA	**Warramunga Arr**	**42.72**	**160**	P	**P**	**02 01 23.6**	**-1.8**
	5.9nm,0.6s,baz=343,slow=9.1,SNR=4.6						
WB2	**Warramunga Arr**	**42.72**	**160**	*e*P	**P**	**02 01 24.1**	**-1.4**
	12nm,0.8s						
AS31	**Alice Springs**	**46.09**	**162**	*e*P	**P**	**02 01 51.0**	**-1.4**
	1.0nm,0.9s						
ASAR	**Alice Springs**	**46.09**	**162**	P	**P**	**02 01 51.0**	**-1.4**
	0.9nm,0.4s,baz=344,slow=6.9,SNR=18						
STKA	**Stephens Creek**	**56.18**	**158**	*e*P	**P**	**02 03 07.5**	**-0.5**
	0.7nm,1.0s						
STKA	**Stephens Creek**	**56.18**	**158**	P	**P**	**02 03 07.5**	**-0.5**
	2.0nm,0.7s,baz=333,slow=12,SNR=5.3						
ILAR	**Eielson Array**	**72.78**	**27**	P	**P**	**02 04 56.4**	**+0.2**
	0.4nm,0.7s,baz=282,slow=6.1,SNR=5.7						
ILB	**Eielson Array**	**72.78**	**27**	*e*P	**P**	**02 04 56.4**	**+0.2**
	2.7nm,1.2s						
MLR	**Muntele Rosu**	**78.35**	**314**	*e*P	**P**	**02 05 30.0**	**+1.4**
	2.5nm,1.2s						
NOA	**NORSAR Array B**	**80.83**	**332**	LR	LR	02 43 47.5	
	comp=Z,15nm,18.2s,baz=55,slow=37						
YKA	**Yellowknife Ar**	**86.57**	**22**	P	**P**	**02 06 12.8**	**+1.8**
	1.0nm,0.7s,baz=313,slow=4.7,SNR=26						
YKB5	**Yellowknife Ar**	**86.57**	**22**	*e*P	**P**	**02 06 12.8**	**+1.8**

*ISCJB **07** 02:17:49.7±0.9, 11°.47S±0°.03×166°.31E±0°.02, h85km±8km, mb5.0/256, Error ellipse: s-maj=4.4km s-min=4.0km az=177.5*
*BJI **07** 02:17:50.1±0.0, 11°.13S×166°.64E, h92km, mb4.9/50, mB5.0/30*
*IDC **07** 02:17:50.8±0.6, 11°.47S×166°.46E, h84km±5km, mb4.6/30, mb1 4.7/32, mb1mx4.7/44, mbtmp4.9/32, MS3.6/20, Ms1 3.7/20, ms1mx3.6/23, Error ellipse: s-maj=11.5km s-min=10.2km az=110.0*
*NEIC **07** 02:17:51.5±0.1, 11°.43S×166°.34E, mb5.1/215, Error ellipse: s-maj=3.0km s-min=2.2km az=124.0*
*MOS **07** 02:17:51.7±0.9, 11°.38S×166°.30E, h100km, mb5.1/57, Error ellipse: s-maj=8.4km s-min=6.9km az=146.2*
*GCMT **07** 02:17:52.5±0.2, 11°.42S±0°.02×166°.29E±0°.01, h91km±2km, MW5.1/85, Moment Tensor Solution. s61,c73; s85,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.99±.15; $M_{\theta\theta}$=-1.55±.15; $M_{\phi\phi}$3.54±.16; $M_{r\theta}$0.47±.09; $M_{r\phi}$=-1.07±.16; $M_{\theta\phi}$3.99±.09; Best double couple: $M_0$5.04200×10^{16} NP1:ϕ_s189.00000°,δ75.00000°,λ-70.00000°. NP2: ϕ_s316.00000°,δ25.00000°,λ-140.00000°. Principal axes: T 5.7040, Plg27.0000°, Azm263.0000°; N -1.3240, Plg19.0000°, Azm3.0000°; P -4.3790, Plg56.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 02:17:51.4±0.4, 11°.46S±0°.04×166°.39E±0°.04, h90km±3km, h90km:pP-P, n563, σ1°.07/600, mb5.1/257, 10C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.65**	**287**	*e*P	**Pn**	**02 19 27.0**	**+0.4**
HNR				*e*S	**Sn**	**02 20 38.0**	**-3.0**
HNR	**Honiara**	**6.65**	**287**	*e*Pn	**Pn**	**02 19 24.1**	**-2.5**
HNR				*e*Sn	**Sn**	**02 20 40.9**	**-0.1**
HNR	**Honiara**	**6.65**	**287**	P	**Pn**	**02 19 28.0**	**+1.4**
HNR				pmax	pmax		
	comp=Z,68nm,0.3s						
HNR				MLR	MLR		
	comp=Z,811nm,19.8s						
HNR	**Honiara**	**6.65**	**287**	P	**Pn**	**02 19 28.0**	**+1.4**
	comp=Z,68nm,0.3s,baz=144,slow=2.1,SNR=14						
HNR				LR	LR	02 22 23.4	
	comp=Z,811nm,19.8s,baz=122,slow=41						
MARNC	**Mare, Loyalty**	**10.09**	**171**	*e*Pn	**Pn**	**02 20 13.0**	**-0.5**
MARNC				*e*Sn	**Sn**	**02 22 04.2**	**-0.6**
DZM	**Mont Dzumac**	**10.55**	**180**	*e*Pn	**Pn**	**02 20 21.3**	**+1.4**
	comp=Z,17nm,0.2s						
DZM				*e*Sn	**Sn**	**02 22 12.6**	**-3.7**
	comp=Z,10nm,0.3s						
DZM				*e*LR	LR	02 22 47.6	
	comp=Z,593nm,27.0s						
DZM	**Mont Dzumac**	**10.55**	**180**	*e*Pn	**Pn**	**02 20 21.1**	**+1.2**
DZM				*e*Sn	**Sn**	**02 22 13.2**	**-3.0**
DZM	**Mont Dzumac**	**10.55**	**180**	P	**Pn**	**02 20 21.3**	**+1.4**
	comp=Z,2.4nm,0.3s,baz=302,slow=8.9,SNR=14						
OUENC	**Ouen Island, N**	**10.91**	**178**	*e*Pn	**Pn**	**02 20 25.6**	**+1.0**
OUENC				*e*Sn	**Sn**	**02 22 24.2**	**-0.5**
PINNC	**Pines Island,**	**11.14**	**175**	*e*Pn	**Pn**	**02 20 29.1**	**+1.4**
PINNC				*e*Sn	**Sn**	**02 22 27.0**	**-3.3**
TARA	**Tarawa**	**14.29**	**27**	*e*Pn	**Pn**	**02 21 10.0**	**+0.4**
PMG	**Port Moresby**	**19.02**	**274**	*e*P	**P**	**02 22 06.8**	**+0.4**
	comp=Z,120nm,1.2s						
PMG	**Port Moresby**	**19.02**	**274**	*ce*P	**Pn**	**02 22 07.4**	**-0.7**
PMG				pmax	pmax		
	comp=Z,766nm,2.0s						
PMG	**Port Moresby**	**19.02**	**274**	P	**Pn**	**02 22 08.1**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=72,slow=3.2,SNR=11						
PMG				LR	LR	02 28 35.8	
	comp=Z,764nm,21.1s,baz=109,slow=34						
PATS	**Pohnpei**	**19.87**	**336**	*e*P	**P**	**02 22 15.2**	**-0.4**
	comp=Z,199nm,1.1s						
EIDS	**Eidsvold**	**20.03**	**224**	*e*P	Pn	02 22 19.6	-0.2
	comp=Z,128nm,0.8s						
EIDS	**Eidsvold**	**20.03**	**224**	P	Pn	02 22 19.5	-0.3
	baz=20,SNR=21						
MANU	**Manus Island**	**21.06**	**295**	*e*P	**P**	**02 22 29.6**	**+1.1**
	comp=Z,143nm,0.9s						
CTA	**Charters Tower**	**21.18**	**244**	P	**P**	**02 22 30.7**	**+1.1**
	comp=Z,63nm,0.8s,baz=69,slow=12,SNR=41						
CTAO	**Charters Tower**	**21.18**	**244**	*e*P	**P**	**02 22 31.1**	**+1.4**
	comp=Z,84nm,0.8s						
CTAO	**Charters Tower**	**21.18**	**244**	*e*P	**P**	**02 22 31.1**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,83nm,0.8s						
RMQ	**Roma**	**22.35**	**226**	P	**P**	**02 22 43.7**	**+1.5**
	baz=22,SNR=21						
COEN	**Coen**	**22.78**	**261**	*e*P	**P**	**02 22 46.8**	**+0.1**
	comp=Z,80nm,0.9s						
COEN	**Coen**	**22.78**	**261**	P	**P**	**02 22 46.8**	**+0.1**
	baz=23,SNR=22						
ARMA	**Armidale**	**23.32**	**214**	*e*P	**P**	**02 22 53.3**	**+1.5**
	comp=Z,68nm,1.0s						
ARMA	**Armidale**	**23.32**	**214**	P	**P**	**02 22 53.1**	**+1.3**
	baz=23,SNR=10						
KNTN	**Kanton**	**23.35**	**70**	*e*P	**P**	**02 22 52.8**	**+0.7**
	comp=Z,121nm,1.1s						
NIUE	**Niue**	**24.05**	**111**	*e*P	**P**	**02 22 60.0**	**+1.6**
	comp=Z,471nm,1.4s						
NIUE	**Niue**	**24.05**	**111**	P	**P**	**02 22 59.2**	**+0.8**
	baz=24,SNR=3.7						
OUZ	**Omahuta**	**24.54**	**166**	*e*P	**P**	**02 23 04.4**	**+1.7**
	comp=Z,302nm,1.9s						
JAY	**Jayapura**	**26.98**	**287**	P	**P**	**02 23 25.4**	**+0.4**
JAY	**Jayapura**	**26.98**	**287**	P	**P**	**02 23 26.5**	**+1.5**
	comp=Z,34nm,0.9s,baz=223,slow=1.5,SNR=8.1						
JAY				LR	LR	02 34 18.8	
	comp=Z,259nm,21.8s,baz=70,slow=36						
QIS	**Mount Isa**	**27.26**	**247**	P	**P**	**02 23 27.5**	**+0.1**
	baz=27,SNR=7.1						
CMSA	**Cobar Meteorol**	**27.66**	**221**	P	**P**	**02 23 31.2**	**+0.4**
	baz=28,SNR=13						
HIZ	**Hauiti**	**27.98**	**166**	*e*P	**P**	**02 23 34.5**	**+0.8**
	comp=Z,67nm,1.0s						
CNB	**Canberra Magne**	**28.34**	**210**	P	**P**	**02 23 37.4**	**+0.4**
	baz=28,SNR=6.8						
URZ	**Urewera**	**28.36**	**162**	*e*P	**P**	**02 23 38.0**	**+1.0**
	comp=Z,57nm,1.2s						
URZ	**Urewera**	**28.36**	**162**	P	**P**	**02 23 37.7**	**+0.7**
	comp=Z,16nm,0.6s,baz=316,slow=0.9,SNR=8.0						
URZ				LR	LR	02 32 34.9	
	comp=Z,264nm,20.8s,baz=345,slow=31						
CAN	**Canberra**	**28.52**	**211**	*e*P	**P**	**02 23 39.9**	**+1.3**
	comp=Z,16nm,1.1s						
CAN	**Canberra**	**28.52**	**211**	*e*P	**P**	**02 23 39.9**	**+1.3**
CAN				pmax	pmax		
	comp=Z,16nm,1.1s						
BKZ	**Black Stump Fm**	**29.02**	**164**	*e*P	**P**	**02 23 43.5**	**+0.5**
	comp=Z,47nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**29.76**	**1**	T	T	02 54 25.6	
	baz=181,slow=76,SNR=69						
H11S3	**WAKE ISLAND Hy**	**29.77**	**1**	T	T	02 54 25.9	
	baz=181,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**29.78**	**1**	T	T	02 54 27.2	
	baz=181,slow=76,SNR=38						
BFZ	**Birch Farm**	**30.38**	**165**	*e*P	**P**	**02 23 53.8**	**-1.1**
	comp=Z,149nm,1.4s						
STKA	**Stephens Creek**	**30.59**	**225**	*e*P	**P**	**02 23 57.0**	**+0.2**
	comp=Z,3.8nm,0.8s						
STKA				*e*PcP	**PcP**	**02 26 54.8**	**+1.2**
STKA	**Stephens Creek**	**30.59**	**225**	P	**P**	**02 23 57.7**	**+0.8**
	baz=31,SNR=28						
STKA	**Stephens Creek**	**30.59**	**225**	*e*P	**P**	**02 23 58.0**	**+1.1**
STKA				pmax	pmax		
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**30.59**	**225**	P	**P**	**02 23 57.6**	**+0.8**
	comp=Z,16nm,0.8s,baz=39,slow=8.4,SNR=45						
STKA				PcP	**PcP**	**02 26 54.8**	**+1.2**
	comp=Z,4.7nm,0.7s,baz=78,slow=3.5,SNR=3.1						
STKA				LR	LR	02 36 10.8	
	comp=Z,257nm,18.1s,baz=42,slow=36						
SNZO	**South Karori**	**30.62**	**168**	*e*P	**P**	**02 23 56.3**	**-0.6**
	comp=Z,378nm,1.6s						
THZ	**Tophouse**	**30.72**	**170**	*e*P	**P**	**02 23 58.3**	**+0.3**
	comp=Z,50nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**30.98**	**1**	T	T	02 55 59.0	
	baz=182,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**30.98**	**1**	T	T	02 55 57.5	
	baz=182,slow=76,SNR=34						
H11N2	**WAKE ISLAND Hy**	**31.00**	**1**	T	T	02 55 58.5	
	baz=182,slow=76,SNR=29						
KHZ	**Kahutara**	**31.46**	**170**	*e*P	**P**	**02 24 02.9**	**-1.5**
	comp=Z,66nm,1.2s						
LTZ	**Lake Taylor**	**31.62**	**172**	*e*P	**P**	**02 24 06.3**	**+0.4**
	comp=Z,118nm,0.8s						
WC3	**Warramunga Arr**	**31.91**	**251**	*e*P	**P**	**02 24 08.2**	**-0.5**
	comp=Z,45nm,0.9s						
WRAB	**Tennant Creek**	**31.93**	**251**	*e*P	**P**	**02 24 08.5**	**-0.4**
	comp=Z,44nm,0.9s						
WRAB	**Tennant Creek**	**31.93**	**251**	*ce*P	**P**	**02 24 08.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,86nm,1.7s						
WB2	**Warramunga Arr**	**31.93**	**251**	*e*P	**P**	**02 24 08.5**	**-0.3**
	comp=Z,48nm,0.9s						
WR1	**Warramunga Arr**	**31.94**	**251**	*e*P	**P**	**02 24 08.4**	**-0.5**
WR1				*e*ScP	**ScP**	**02 30 34.8**	**+1.9**
WRA	**Warramunga Arr**	**31.94**	**251**	*e*P	**P**	**02 24 07.5**	**-1.5**
WRA	**Warramunga Arr**	**31.94**	**251**	*e*P	**P**	**02 24 08.3**	**-0.6**
WRA				pmax	pmax		
	comp=Z,34nm,0.8s						
WRA	**Warramunga Arr**	**31.94**	**251**	P	**P**	**02 24 08.4**	**-0.5**
	comp=Z,34nm,0.8s,baz=81,slow=9.0,SNR=85						
WRA				ScP	**ScP**	**02 30 34.8**	**+1.9**
	comp=Z,7.8nm,1.0s,baz=80,slow=3.7,SNR=14						
WRA				LR	LR	02 35 23.2	
	comp=Z,200nm,21.9s,baz=60,slow=33						
TOO	**Toolangi**	**32.06**	**212**	*e*P	**P**	**02 24 11.3**	**+1.5**
	comp=Z,13nm,0.8s						
TOO				*e*S	**S**	**02 29 15.1**	**-0.2**
TOO	**Toolangi**	**32.06**	**212**	P	**P**	**02 24 10.3**	**+0.5**
	baz=32,SNR=5.4						
TOO	**Toolangi**	**32.06**	**212**	*e*P	**P**	**02 24 11.3**	**+1.5**
TOO				*e*S	**S**	**02 29 15.1**	**-0.2**
TOO				pmax	pmax		
	comp=Z,13nm,0.8s						
FOZ	**Fox Glacier**	**32.09**	**175**	*e*P	**P**	**02 24 11.2**	**+1.3**
	comp=Z,105nm,1.0s						
OXZ	**Oxford**	**32.13**	**172**	*e*P	**P**	**02 24 10.5**	**+0.2**
	comp=Z,100nm,0.9s						
RPZ	**Rata Peaks**	**32.39**	**174**	*e*P	**P**	**02 24 12.8**	**+0.3**
	comp=Z,63nm,0.7s						
RPZ	**Rata Peaks**	**32.39**	**174**	P	**P**	**02 24 12.2**	**-0.3**
	comp=Z,58nm,0.7s,baz=315,slow=2.0,SNR=31						
LBZ	**Lake Benmore**	**32.97**	**175**	*e*P	**P**	**02 24 17.7**	**+0.1**
	comp=Z,186nm,2.0s						
AS31	**Alice Springs**	**33.18**	**244**	*e*P	**P**	**02 24 18.9**	**-0.8**
	comp=Z,10nm,0.7s						
AS31				*e*PcP	**PcP**	**02 27 01.6**	**+0.8**
AS31				*e*ScP	**ScP**	**02 30 39.2**	**+2.1**
ASAR	**Alice Springs**	**33.18**	**244**	*e*P	**P**	**02 24 18.6**	**-1.1**
ASAR	**Alice Springs**	**33.18**	**244**	P	**P**	**02 24 18.9**	**-0.9**
	comp=Z,33nm,0.7s,baz=73,slow=9.4,SNR=266						
ASAR				PcP	**PcP**	**02 27 01.6**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=75,slow=2.7,SNR=5.4						
ASAR				ScP	**ScP**	**02 30 38.8**	**+1.6**
	comp=Z,16nm,1.1s,baz=79,slow=3.4,SNR=27						
KDU	**Kakadu**	**33.18**	**264**	P	**P**	**02 24 19.6**	**-0.2**
	baz=33,SNR=12						
HTT	**Hallett**	**33.32**	**225**	P	**P**	**02 24 21.6**	**+0.8**
	baz=33,SNR=7.8						
WKZ	**Wanaka**	**33.33**	**177**	*e*P	**P**	**02 24 21.3**	**+0.6**
	comp=Z,318nm,1.8s						
ARPS	**Mount Arapiles**	**33.53**	**217**	P	**P**	**02 24 23.6**	**+1.1**
	baz=34,SNR=5.0						
ODZ	**Otahua Downs**	**33.67**	**175**	*e*P	**P**	**02 24 23.0**	**-0.6**
	comp=Z,178nm,2.0s						
RAR	**Rarotonga**	**33.82**	**111**	*e*P	**P**	**02 24 25.6**	**+0.3**
	comp=Z,92nm,1.2s						
RAR	**Rarotonga**	**33.82**	**111**	*e*P	**P**	**02 24 25.6**	**+0.3**
RAR				pmax	pmax		
	comp=Z,92nm,1.2s						
RAR	**Rarotonga**	**33.82**	**111**	LR	LR	02 35 48.2	
	comp=Z,124nm,19.8s,baz=282,slow=32						
MLZ	**Mavora Lakes**	**33.82**	**178**	*e*P	**P**	**02 24 24.7**	**-0.3**
	comp=Z,178nm,1.9s						
DCZ	**Deep Cove**	**33.90**	**179**	*e*P	**P**	**02 24 25.7**	**+0.1**
	comp=Z,32nm,0.8s						
WHZ	**Wether Hill Ro**	**34.34**	**178**	*e*P	**P**	**02 24 29.9**	**+0.5**
	comp=Z,106nm,1.8s						
MTN	**Manton Dam**	**34.48**	**264**	*e*P	**P**	**02 24 31.3**	**+0.2**
	comp=Z,27nm,0.8s						
MTN	**Manton Dam**	**34.48**	**264**	P	**P**	**02 24 31.3**	**+0.2**
	baz=34,SNR=8.0						
BBOO	**Buckleboo**	**35.02**	**228**	*e*P	**P**	**02 24 35.8**	**+0.3**
	comp=Z,22nm,0.9s						
BBOO	**Buckleboo**	**35.02**	**228**	P	**P**	**02 24 35.8**	**+0.3**
	baz=35,SNR=16						
SIJI	**Sorong**	**36.42**	**284**	P	**P**	**02 24 47.7**	**0.0**
	comp=Z,19nm,0.6s,baz=89,slow=6.8,SNR=17						
KNRA	**Kununurra**	**36.79**	**259**	P	**P**	**02 24 50.8**	**+0.1**
	baz=37,SNR=7.5						
WRKA	**Warakurna**	**38.47**	**244**	P	**P**	**02 25 04.5**	**-0.5**
	baz=38,SNR=25						
FITZ	**Fitzroy Crossi**	**39.89**	**256**	*e*P	**P**	**02 25 16.7**	**-0.1**
	comp=Z,30nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.89**	**256**	P	**P**	**02 25 16.7**	**-0.1**
	baz=40,SNR=29						
FITZ	**Fitzroy Crossi**	**39.89**	**256**	P	**P**	**02 25 16.7**	**-0.1**
	comp=Z,24nm,0.8s,baz=80,slow=7.3,SNR=46						
FORT	**Forrest**	**40.33**	**236**	*e*P	**P**	**02 25 20.9**	**+0.6**
	comp=Z,61nm,0.8s						
FORT	**Forrest**	**40.33**	**236**	P	**P**	**02 25 20.6**	**+0.3**
	baz=40,SNR=8.8						
SANI	**Sanana**	**41.15**	**280**	P	**P**	**02 25 27.2**	**0.0**
PPT2	**Papeete2**	**42.98**	**103**	*e*S	**S**	**02 31 58.0**	**-3.3**
	comp=Z,66nm,25.2s						
PPT2				*e*LQ	LQ	02 35 33.7	
	comp=Z,390nm,32.2s						
PPT2				*e*LR	LR	02 37 42.2	
	comp=Z,1μm,31.5s						
TVO	**Taravao**	**43.30**	**104**	*e*P	**P**	**02 25 44.6**	**-0.1**
	comp=Z,19nm,0.8s						
MMRI	**Maumere**	**

KSM	Kuching	57.20	279	*e*PcP	PcP	02 28 19.5 -3.9
LEM	Lembang	58.13	269	P	P	02 27 36.6 +0.1
LEM	Lembang	58.13	269	P	P	02 27 36.8 +0.3
	comp=Z,60nm,0.7s,baz=58,slow=6.5,SNR=5.2					
ASAJ	Asahikawa	59.39	340	P	P	02 27 45.6 +1.2
ASAJ				pmax	pmax	
	comp=Z,9.0nm,0.5s					
ASAJ	Asahikawa	59.39	340	P	P	02 27 45.6 +1.2
	comp=Z,11nm,0.6s,baz=223,slow=7.4,SNR=5.1					
CGJI	Cibinong	60.05	269	P	P	02 27 49.3 -0.2
	comp=Z,91nm,0.9s					
KSRS	Korea Array	60.58	325	P	P	02 27 52.2 -0.4
	comp=Z,1.2nm,0.4s,baz=138,slow=7.3,SNR=7.2					
KSRS				pP	pP	02 28 14.7 +0.1
	comp=Z,2.0nm,0.7s,baz=138,slow=6.4,SNR=3.3					
KSRS				LR	LR	02 53 34.0
	comp=Z,18nm,18.2s,baz=140,slow=35					
KS15	Wonju Array Si	60.59	325	*e*P	P	02 27 52.2 -0.5
KS15				*e*pP	pP	02 28 14.7 0.0
NJ2	Nanjing	62.76	315	*e*P	P	02 28 07.6 +0.2
NJ2				pmax	pmax	
	comp=Z,20nm,0.5s					
MYKOM	Kota Tinggi	63.53	278	P	P	02 28 14.0 +1.1
USRK	Ussuriysk Ar.	63.60	333	P	P	02 28 13.4 +0.7
	comp=Z,1.2nm,0.5s,baz=123,slow=7.0,SNR=6.6					
USRK				LR	LR	02 52 57.2
	comp=Z,22nm,21.9s,baz=147,slow=33					
PETK	Petropavlovsk-	64.74	354	P	P	02 28 20.7 +0.7
	comp=Z,4.3nm,0.8s,baz=136,slow=7.6,SNR=9.3					
PETK				LR	LR	02 51 37.7
	comp=Z,19nm,21.4s,baz=164,slow=31					
PEA1	Petropavlovsk-	64.74	354	*e*P	P	02 28 20.7 +0.7
WHN	Wuhan	65.14	311	⇑P	P	02 28 25.1 +2.1
WHN				pP	pwP	02 28 50.7 +3.1
WHN				S	S	02 36 52.7 -6.4
WHN				pmax	pmax	
	comp=Z,28nm,0.5s					
WHN				LR	LR	
	comp=Z,520nm,22.0s					
VNDA	Vanda	66.09	181	*e*P	P	02 28 28.1 -0.3
	comp=Z,16nm,1.3s					
VNDA	Vanda	66.09	181	*e*P	P	02 28 28.1 -0.3
VNDA				pmax	pmax	
	comp=Z,16nm,1.3s					
VNDA	Vanda	66.09	181	P	P	02 28 27.9 -0.5
	comp=Z,5.6nm,0.8s,baz=325,slow=5.6,SNR=21					
VNDA				LR	LR	02 53 32.0
	comp=Z,30nm,19.9s,baz=336,slow=32					
CASY	Casey	66.23	201	*e*P	P	02 28 28.8 -0.6
	comp=Z,13nm,1.1s					
SBA	Scott Base	66.39	180	*e*P	P	02 28 30.9 +0.6
	comp=Z,18nm,0.8s					
SBA	Scott Base	66.39	180	*e*P	P	02 28 30.9 +0.6
SBA				pmax	pmax	
	comp=Z,18nm,0.8s					
CN2	Changchun	66.42	329	*e*P	P	02 28 30.4 -0.6
CN2				*e*pP	pP	02 28 53.3 -0.2
CN2				*e*S	S	02 37 11.6 -2.6
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
IPM	Ipoh	66.92	280	*e*P	P	02 28 35.4 +0.5
	comp=Z,25nm,0.9s					
IPM	Ipoh	66.92	280	P	P	02 28 35.0 +0.2
GRNR	Gornyy	67.25	340	*e*P	P	02 28 36.8 +0.7
KLR	Kul'dur	67.69	336	*i* P	P	02 28 38.2 -0.7
KLR				pmax	pmax	
	comp=Z,4.0nm,0.6s					
NKL	Nikolayevsk	68.01	344	*e*P	P	02 28 40.0 -0.8
NKL				pmax	pmax	
	comp=Z,18nm,0.9s					
PSI	Prapat	68.55	278	*e*P	P	02 28 44.4 -0.9
PSI				*e*pP	pP	02 29 07.8 +0.4
PSI	Prapat	68.55	278	*e*P	P	02 28 44.4 -0.9
PSI				*e**PP	pP	02 29 07.8 +0.4
ENH	Enshi	68.65	309	*e*P	P	02 28 45.0 -0.4
	comp=Z,7.1nm,0.9s					
GYA	Guiyang	69.17	304⇑	*i*P	P	02 28 48.8 0.0
GYA				PP	PP	02 31 24.8 +1.9
GYA				S	S	02 37 43.4 -4.6
GYA				sS	sS	02 38 26.0 -0.6
GYA				pmax	pmax	
	comp=Z,20nm,0.7s					
GYA				pmax	pmax	
	comp=Z,120nm,6.3s					
BJI	Beijing	69.20	321	P	P	02 28 48.8 +0.3
BJI				pmax	pmax	
	comp=Z,4.0nm,0.6s					
CHAI	Chaiyaphum	69.28	292	P	P	02 28 52.5 +3.0
	comp=Z,13μm,0.9s					
GSI	Gunungsitoli	69.53	276	*e*P	P	02 28 49.4 -1.8
	comp=Z,40nm,0.8s					
XAN	Xi'an	70.87	312	P	P	02 28 58.7 -0.3
XAN				pmax	pmax	
	comp=Z,13nm,0.7s					
XAN	Xi'an	70.87	312	*e*P	P	02 28 59.2 +0.2
	comp=Z,17nm,0.8s					
XAN	Xi'an	70.87	312	*e*P	P	02 28 59.2 +0.2
XAN				pmax	pmax	
	comp=Z,17nm,0.8s					
KMI	Kunming	71.88	301	P	P	02 29 06.7 +1.3
KMI				pP	pwP	02 29 30.8 -1.2
KMI				S	S	02 38 23.1 +3.4
KMI				sS	ScS	02 39 03.1 -0.6
KMI				pmax	pmax	
	comp=Z,15nm,1.4s					
KMI				pmax	pmax	
	comp=Z,36nm,3.4s					
KMI				LR	LR	
	comp=Z,91nm,21.4s					
KMI				LR	LR	
	comp=Z,120nm,26.3s					
MA2	Magadan	71.91	352	LR	LR	02 54 42.8
	comp=Z,33nm,21.6s,baz=142,slow=31					
HHC	Hu-ho-hao-te	72.56	319	*e*P	P	02 29 07.6 -1.4
HHC				S	S	02 38 28.5 +1.9
HHC				sS	SKSac	02 39 03.9 -2.1
HHC				SS	SS	02 43 04.0 -3.7
HHC				pmax	pmax	
	comp=Z,66nm,1.2s					
HHC				pmax	pmax	
	comp=Z,280nm,6.9s					
HHC				LR	LR	
	comp=Z,890nm,16.9s					
HHC				LR	LR	
	comp=Z,1μm,17.3s					
HHC				LR	LR	
	comp=Z,1μm,17.0s					
CM31	Chiang Mai Arr	72.86	293	*e*P	P	02 29 11.5 +0.4
	comp=Z,13nm,0.9s					
CM31				*e*pP	pP	02 29 33.7 +0.2
CMAR	Chiang Mai Arr	72.86	293	P	P	02 29 11.5 +0.4
	comp=Z,8.8nm,0.8s,baz=121,slow=4.2,SNR=24					
CMAR				pP	pP	02 29 33.7 +0.3
	comp=Z,7.4nm,0.8s,baz=124,slow=4.6,SNR=5.0					
CMAR				LR	LR	02 59 04.5
	comp=Z,18nm,21.7s,baz=139,slow=34					
ZEA	Zeya	72.97	337	*e*P	P	02 29 10.8 -0.2
ZEA				pmax	pmax	
	comp=Z,20nm,0.8s					
CHTO	Chiang Mai	72.97	294	*e*P	P	02 29 12.6 +0.8
	comp=Z,18nm,1.4s					
CHTO	Chiang Mai	72.97	294	*e*P	P	02 29 12.6 +0.8
CHTO				pmax	pmax	
	comp=Z,18nm,1.4s					
HIA	Hailar	73.04	330	*i* P	P	02 29 11.5 -0.1
HIA				pmax	pmax	
	comp=Z,6.0nm,1.0s					
CD2	Chengdu	73.36	307	*e*P	P	02 29 14.5 +0.6
CD2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
LZH	Lanzhou	75.50	312	⇑P	P	02 29 26.7 +0.3
LZH				pP	pwP	02 29 51.6 -0.1
LZH				sP	sP	02 29 58.8 0.0
LZH				PP	PP	02 32 16.7 -0.2
LZH				*e*S	S	02 39 02.6 +2.6
LZH				sS	sS	02 39 36.6 -3.5
LZH				pmax	pmax	
	comp=Z,22nm,1.5s					
LZH				pmax	pmax	
	comp=Z,100nm,6.5s					
LZH				LR	LR	
	comp=Z,270nm,17.3s					
LZH				LR	LR	
	comp=Z,260nm,17.5s					
LZH				LR	LR	
	comp=Z,380nm,18.2s					
OHAK	Old Harbor	76.06	21	*e*P	P	02 29 28.1 -0.7
KDAK	Kodiak Island	76.73	21	*e*P	P	02 29 33.1 +0.5
	comp=Z,18nm,1.0s					
KDAK	Kodiak Island	76.73	21	*e*P	P	02 29 33.1 +0.5
KDAK				pmax	pmax	
	comp=Z,18nm,1.0s					
KDAK	Kodiak Island	76.73	21	P	P	02 29 33.0 +0.4
	comp=Z,9.7nm,0.9s,baz=103,slow=5.0,SNR=6.9					
GAMB	Gambell	76.86	10	*e*P	P	02 29 33.3 +0.1
SVW2	Sparrevohn	78.31	18	*e*P	P	02 29 40.0 -1.4
QSPA	South Pole Qui	78.55	180	*e*P	P	02 29 42.1 -0.9
	comp=Z,29nm,0.9s					
QSPA	South Pole Qui	78.55	180	P	P	02 29 42.0 -0.9
	comp=Z,25nm,1.0s,baz=359,slow=0.9,SNR=49					
RSO	Redoubt South	78.70	19	*e*P	P	02 29 43.4 -0.3
BRLK	Bradley Lake	78.80	20	*e*P	P	02 29 43.1 -1.0
	comp=Z,35nm,0.8s					
ULN	Ulaanbaatar	79.01	324	*e*P	P	02 29 45.7 0.0
	comp=Z,9.1nm,0.7s					
ULN	Ulaanbaatar	79.01	324	*ce*P	P	02 29 45.9 +0.2
ULN				pmax	pmax	
	comp=Z,10.0nm,0.7s					
BILL	Bilibino	79.29	360	*e*P	P	02 29 46.1 -0.5
	comp=Z,21nm,1.0s					
BILL	Bilibino	79.29	360	*e*P	P	02 29 47.2 +0.6
BILL				*e*		02 32 51.9
BILL				pmax	pmax	
	comp=Z,23nm,1.0s					
SONA0	Songino Array	79.37	324	*e*P	P	02 29 47.8 +0.1
SONM	Songino Array	79.37	324	P	P	02 29 47.8 +0.1
	comp=Z,3.8nm,0.6s,baz=139,slow=4.0,SNR=20					
SONM				LR	LR	03 04 37.4
	comp=Z,26nm,19.1s,baz=137,slow=35					
GTA	Gaotai	79.80	314	*e*P	P	02 29 50.8 +0.6
GTA				pP	pP	02 30 14.3 +1.1
GTA				sP	sP	02 30 25.6 +2.9
GTA				S	S	02 39 46.7 +0.5
GTA				sS	sS	02 40 30.3 +3.9
GTA				pmax	pmax	
	comp=Z,7.0nm,0.8s					
GTA				pmax	pmax	
	comp=Z,39nm,6.7s					
GTA				LR	LR	
	comp=Z,77nm,17.1s					
GTA				LR	LR	
	comp=Z,75nm,18.7s					
GTA				LR	LR	
	comp=Z,110nm,19.0s					
SUA	Susitna One	80.10	19	*e*P	P	02 29 50.9 -0.4
	comp=Z,11nm,0.9s					
RC01	Rabbit Creek A	80.16	20	*e*P	P	02 29 51.9 +0.4
	comp=Z,12nm,0.9s					
KNK	Knik Glacier	80.82	20	*e*P	P	02 29 55.4 +0.3
	comp=Z,11nm,0.8s					
GLI	Glacier Island	80.92	21	*e*P	P	02 29 55.6 +0.1
	comp=Z,19nm,0.8s					
GHO	Glory Hole Cre	80.92	20	*e*P	P	02 29 55.6 0.0
	comp=Z,10.0nm,0.9s					
CAST	Castle Rocks	81.15	18	*e*P	P	02 29 56.0 -0.7
	comp=Z,14nm,0.8s					
SML	Sawmill	81.15	20	*e*P	P	02 29 56.9 +0.2
	comp=Z,19nm,0.9s					
SML	Sawmill	81.15	20	*e*P	P	02 29 56.9 +0.2
SML				pmax	pmax	
	comp=Z,19nm,0.9s					
BOD	Bodaibo	81.17	335	*e*P	P	02 29 55.4 -1.5
BOD				pmax	pmax	
	comp=Z,5.0nm,1.4s					
SCM	Sheep Creek Mo	81.50	20	*e*P	P	02 29 59.1 +0.4
	comp=Z,34nm,0.8s					
SCM	Sheep Creek Mo	81.50	20	*e*P	P	02 29 59.1 +0.4
SCM				pmax	pmax	
	comp=Z,34nm,0.8s					
DIV	Divide	81.56	21	*e*P	P	02 29 59.3 +0.3
	comp=Z,22nm,0.8s					
HMT	Hamilton	81.58	22	*e*P	P	02 29 59.1 +0.1
	comp=Z,16nm,0.8s					
BPAW	Bear Paw Mtn.	81.98	17	*e*P	P	02 30 00.1 -1.0
	comp=Z,4.6nm,1.0s					
RND	Reindeer	82.12	19	*e*P	P	02 30 01.7 -0.2
	comp=Z,12nm,0.8s					
RND	Reindeer	82.12	19	*e*P	P	02 30 01.7 -0.2
RND				pmax	pmax	
	comp=Z,12nm,0.8s					
CRQM	Cirque	82.27	22	*e*P	P	02 30 03.3 +0.4
RDOG	Red Dog Mine	82.30	11	*e*P	P	02 30 03.8 +1.1
	comp=Z,17nm,1.0s					
MCCM	Marconi Confer	82.32	49	*e*P	P	02 30 03.1 -0.2
	comp=Z,48nm,0.8s					
MCK	McKinley	82.33	18	*e*P	P	02 30 02.9 0.0
	comp=Z,13nm,1.0s					
MCK	McKinley	82.33	18	*e*P	P	02 30 02.9 0.0
MCK				pmax	pmax	
	comp=Z,13nm,1.0s					
DHY	Denali Highway	82.36	19	*e*P	P	02 30 03.3 +0.1
	comp=Z,9.3nm,0.9s					
KCPM	Cahto Peak	82.36	47	*e*P	P	02 30 05.0 +1.2
	comp=Z,57nm,0.8s					
TGL	Tana Glacier	82.39	23	*e*P	P	02 30 03.7 +0.3
ZAK	Zakamensk	82.40	325	*e*P	P	02 30 03.2 -0.5
ZAK				pmax	pmax	
	comp=Z,5.0nm,1.1s					
KMRM	Mail Ridge	82.47	46	*e*P	P	02 30 04.9 +0.7
	comp=Z,51nm,0.8s					
HOPS	Hopland Field	82.48	48	*e*P	P	02 30 03.8 -0.4
	comp=Z,27nm,0.8s					
BWN	Browne	82.49	18	*e*P	P	02 30 03.8 +0.2
	comp=Z,36nm,1.0s					
GDXM	Geysers	82.61	48	*e*P	P	02 30 05.4 +0.3
	comp=Z,20nm,0.8s					
HARP	HAARP	82.64	21	*e*P	P	02 30 05.1 +0.6
	comp=Z,25nm,0.9s					
KHMM	Horse Mountain	82.70	46	*e*P	P	02 30 06.1 +0.6
	comp=Z,31nm,0.8s					
MLY	Manley	82.75	17	*e*P	P	02 30 05.4 +0.3
	comp=Z,8.0nm,1.0s					
BALM	Baldy	82.75	23	*e*P	P	02 30 05.6 +0.4
	comp=Z,12nm,0.8s					
KRMB	Red Mountain	82.82	45	*e*P	P	02 30 06.8 +0.8
TLY	Talaya	82.82	326	*e*P	P	02 30 05.4 -0.3
	comp=Z,6.9nm,0.7s					
TLY	Talaya	82.82	326	*ce*P	P	02 30 05.7 0.0
TLY				pmax	pmax	
	comp=Z,17nm,0.7s					
SAO	San Andreas Ge	82.90	50	*e*P	P	02 30 06.8 +0.3
	comp=Z,17nm,0.8s					
SAO	San Andreas Ge	82.90	50	*e*P	P	02 30 06.8 +0.3
SAO				pmax	pmax	
	comp=Z,17nm,0.8s					
PAX	Paxson	82.92	20	*e*P	P	02 30 05.9 -0.2
PAX	Paxson	82.92	20	*e*P	P	02 30 05.9 -0.2
CTGM	Chitina Glacie	83.09	23	*e*P	P	02 30 07.6 +0.5
	comp=Z,29nm,0.9s					
O02D	Mt. Diablo Mer	83.11	47	P	P	02 30 08.6 +1.1
	baz=249,SNR=40					
WRH	Wood River Hil	83.12	18	*e*P	P	02 30 06.5 -0.4
	comp=Z,21nm,0.9s					
SNCC	San Nicolas Is	83.25	54	P	P	02 30 09.0 +0.7
	baz=252					
L02E	Cave Junction	83.27	45	P	P	02 30 09.1 +0.9
	baz=248,SNR=8.5					
CCB	Clear Creek Bu	83.33	18	*e*P	P	02 30 07.5 -0.5
	comp=Z,17nm,0.8s					
J01E	Myrtle Point	83.42	44	P	P	02 30 09.6 +0.6
	baz=248,SNR=7.4					
K02D	Willamette Mer	83.42	44	P	P	02 30 09.7 +0.6
	baz=248,SNR=17					
MDM	Murphy Dome	83.43	18	*e*P	P	02 30 07.8 -0.7
	comp=Z,15nm,0.8s					
HDA	Harding Lake	83.43	19	*e*P	P	02 30 08.1 -0.4
	comp=Z,47nm,0.8s					
HDA	Harding Lake	83.43	19	P	P	02 30 08.1 -0.4
	baz=226					
WDC	Whiskeytown Da	83.43	46	*e*P	P	02 30 10.0 +0.9
	comp=Z,11nm,0.8s					
N02D	Trinity Center	83.46	46	P	P	02 30 10.3 +0.9
	baz=249,SNR=24					
PAGB	Antelope Grade	83.47	52	*e*P	P	02 30 10.6 +1.1
	comp=Z,26nm,1.3s					
TCOL	CIGO, UAF Yank	83.48	18	P	P	02 30 08.0 -0.8
	baz=225					
COLA	College	83.48	18	*e*P	P	02 30 08.5 -0.3
	comp=Z,29nm,0.8s					
COLA	College	83.48	18	*e*P	P	02 30 08.5 -0.3
COLA				pmax	pmax	
	comp=Z,29nm,0.8s					
M02C	Callahan	83.50	46	P	P	02 30 10.3 +0.7
	baz=249,SNR=28					
PKM	Mcpherson Peak	83.54	53	P	P	02 30 10.5 +0.5
	baz=251					
RIDG	Independent Ri	83.65	20	*e*P	P	02 30 10.0 +0.3
	comp=Z,36nm,0.9s					
ILAR	Eielson Array	83.70	18	P	P	02 30 08.7 -1.2
	comp=Z,10nm,0.8s,baz=223,slow=6.4,SNR=91					
ILAR				pP	pP	02 30 31.9 -1.8
	comp=Z,2.3nm,0.6s,baz=244,slow=5.1,SNR=3.0					
ILAR				PKKPbc	PKKPdf	02 48 25.5 +4.3
	comp=Z,0.2nm,0.5s,baz=337,slow=1.5,SNR=4.5					
ILAR				LR	LR	03 00 43.7
	comp=Z,34nm,21.8s,baz=216,slow=31					
ILB	Eielson Array	83.70	18	*e*P	P	02 30 08.9 -1.0
	comp=Z,10nm,0.8s					
ILB				*e*pP	pP	02 30 31.9 -1.8
YBH	Yreka Blue Hor	83.73	45	*e*P	P	02 30 11.5 +0.8
	comp=Z,25nm,0.8s					
YBH	Yreka Blue Hor	83.73	45	*e*P	P	02 30 11.5 +0.8
YBH				pmax	pmax	
	comp=Z,25nm,0.8s					
POKR	Poker Plat Res	83.78	18	P	P	02 30 09.2 -1.1
	baz=225					
ORV	Oroville	83.82	48	*e*P	P	02 30 11.7 +0.6
	comp=Z,18nm,0.9s					
ORV	Oroville	83.82	48	*e*P	P	02 30 11.7 +0.6
ORV				pmax	pmax	
	comp=Z,18nm,0.9s					
I02D	Swisshome	83.83	43	P	P	02 30 11.8 +0.8
	baz=248					
DOT	Dot Lake	83.84	20	*e*P	P	02 30 11.2 +0.5
O03E	Paynes Creek	83.86	47	P	P	02 30 11.3 -0.1
	baz=250,SNR=24					
HUMO	Hull Mountain	83.88	44	*e*P	P	02 30 12.6 +1.2
	comp=Z,26nm,0.9s					
BLG	Laguna Peak, P	83.88	54	P	P	02 30 11.4 -0.2
	baz=252					
SCI2	San Clemente I	83.94	55	P	P	02 30 12.0 +0.1
	baz=252					
AFDM	Forest Hills D	84.00	48	*e*P	P	02 30 12.7 +0.7
	comp=Z,26nm,0.8s					
I03D	Drain, OR	84.01	43	P	P	02 30 12.3 +0.4
	baz=248,SNR=8.1					
SCRK	Sand Creek	84.09	20	*e*P	P	02 30 12.2 +0.1
	comp=Z,36nm,0.8s					
CMB	Columbia Colle	84.12	49	*e*P	P	02 30 12.8 0.0
	comp=Z,20nm,0.8s					
CMB	Columbia Colle	84.12	49	*e*P	P	02 30 12.8 0.0
CMB				pmax	pmax	
	comp=Z,20nm,0.8s					
CIS	Catalina Islan	84.18	54	P	P	02 30 13.7 +0.6
	baz=252					
L04D	Klamath Falls	84.19	45	P	P	02 30 13.3 +0.2
	baz=249,SNR=15					
M04C	Macdoel	84.36	46	P	P	02 30 14.5 +0.6
	baz=249,SNR=20					
WRAK	Wrangell Islan	84.39	29	*e*P	P	02 30 14.3 +0.8
	comp=Z,13nm,0.9s					
VES	Vestal, Richgr	84.41	52	P	P	02 30 14.0 -0.1
	baz=252					
HYT	Haines Junctio	84.50	24	*e*P	P	02 30 14.4 +0.2
	comp=Z,12nm,0.8s					
PASC	Pasadena Art C	84.59	54	*e*P	P	02 30 15.6 +0.4
	comp=Z,12nm,0.8s					
RUBR	Rubicon Trail	84.63	49	*e*P	P	02 30 16.8 +1.2
	comp=Z,30nm,0.7s					
G03D	McMinnville, O	84.64	42	P	P	02 30 15.6 +0.5
	baz=248					
I04A	Tendick Farm,	84.68	44	P	P	02 30 15.4 -0.1
	baz=249,SNR=11					
J04D	Umpqua Nationa	84.69	44	P	P	02 30 15.7 0.0
	baz=249,SNR=11					
MWC	Mount Wilson	84.71	54	*e*P	P	02 30 16.4 +0.4
	comp=Z,28nm,1.0s					
MWC	Mount Wilson	84.71	54	*e*P	P	02 30 16.4 +0.4
MWC				pmax	pmax	
	comp=Z,28nm,1.0s					
K04D	Chiloquin, OR	84.71	45	P	P	02 30 15.7 0.0
	baz=249					
H04D	Lebanon	84.73	43	P	P	02 30 16.0 +0.4
	baz=248,SNR=5.7					
BEKR	Beckworth	84.75	48	*e*P	P	02 30 16.7 +0.7
	comp=Z,23nm,0.7s					
ISA	Isabella, Lake	84.82	52	*e*P	P	02 30 17.0 +0.6
	comp=Z,15nm,0.9s					
ISA	Isabella, Lake	84.82	52	*e*P	P	02 30 17.0 +0.6
ISA				pmax	pmax	
	comp=Z,15nm,0.9s					
ISA	Isabella, Lake	84.82	52	P	P	02 30 16.6 +0.2
	baz=252,SNR=15					
EDW2	Edwards Air Fo	84.96	53	P	P	02 30 17.4 +0.4
	baz=252,SNR=11					
MDPB	Devils Postpil	84.97	50	*e*P	P	02 30 18.1 +0.7
	comp=Z,32nm,0.8s					
WAKR	Walker	84.98	49	*e*P	P	02 30 18.1 +0.8
	comp=Z,24nm,1.0s					
OMMB	Old Mammoth Mi	85.03	50	*e*P	P	02 30 18.4 +0.7
	comp=Z,12nm,0.8s					
BFSC	Mount Baldy Ra	85.03	54	P	P	02 30 17.4 -0.1
	baz=253,SNR=9.2					
PNTR	Pine Nut	85.05	49	*e*P	P	02 30 18.6 +0.9
	comp=Z,23nm,0.9s					
109C	Camp Elliot, M	85.08	55	P	P	02 30 17.6 0.0
	baz=253					
CPE	Camp Elliot	85.08	55	*e*P	P	02 30 18.7 +1.1
	comp=Z,40nm,1.4s					
VCNR	Virginia City	85.08	48	*e*P	P	02 30 18.6 +0.9
	comp=Z,10nm,0.8s					
H04A	Detroit Lake	85.15	43	*e*P	P	02 30 18.0 +0.2
	comp=Z,12nm,0.8s					
MLAC	Mammoth, Mammo	85.16	50	P	P	02 30 18.3 +0.1
	baz=252					
MURC	Murrieta	85.21	54	P	P	02 30 18.4 +0.1
	baz=253					
YERR	Yerington	85.28	49	*e*P	P	02 30 19.4 +0.6
	comp=Z,8.9nm,0.7s					
J05D	Fort Rock, OR	85.30	44	P	P	02 30 19.2 +0.5
	baz=250,SNR=20					
K05A	Summer Lake	85.34	45	*e*P	P	02 30 19.7 +0.8
	comp=Z,25nm,0.8s					
CWC	Cottonwood Cre	85.36	52	P	P	02 30 19.1 -0.1
	baz=252					
BAR	Barrett	85.36	56	*e*P	P	02 30 19.5 +0.4
	comp=Z,8.9nm,0.8s					
LRMC	Laurel Mtn Rad	85.38	53	P	P	02 30 19.5 +0.2
	baz=252					
PAHR	Pah Rah Range	85.41	48	*e*P	P	02 30 20.1 +0.8
	comp=Z,19nm,0.8s					
TIN	Tinemaha, Big	85.44	51	P	P	02 30 20.0 +0.6
	baz=252					
MOD	Modoc Plateau	85.47	46	*e*P	P	02 30 20.2 +0.6
	comp=Z,17nm,0.8s					
EGAK	Eagle	85.55	20	*e*P	P	02 30 19.5 +0.3
	comp=Z,24nm,0.8s					
E04D	Cinebar	85.59	41	P	P	02 30 20.6 +0.8
	baz=248					
I05D	Terrebonne, OR	85.60	43	P	P	02 30 20.4 +0.4
	baz=250,SNR=8.9					
D03D	Eldon	85.62	40	P	P	02 30 20.5 +0.6
	baz=248					
BBRC	Big Bear Solar	85.62	54	P	P	02 30 20.7 +0.1
	baz=253					
MONP2	Monument Peak	85.63	55	P	P	02 30 20.8 +0.2
	baz=253,SNR=8.0					
PINE	Pine Mountain	85.68	44	*e*P	P	02 30 21.3 +0.7
	comp=Z,22nm,0.8s					
DAC	Darwin (Calif)	85.69	52	*e*P	P	02 30 23.4 +2.5
	comp=Z,15nm,0.9s					
RYN	Ryan	85.70	49	*e*P	P	02 30 21.5 +0.7
	comp=Z,17nm,0.8s					
MPMC	Manual Prospec	85.70	52	P	P	02 30 21.1 +0.2
	baz=253,SNR=32					
DAWY	Dawson	85.71	21	*e*P	P	02 30 20.1 0.0
	comp=Z,9.2nm,0.8s					
TOLK	Toolik Lake Re	85.73	15	*e*P	P	02 30 21.1 +1.0
	comp=Z,6.9nm,0.9s					
TOLK	Toolik Lake Re	85.73	15	P	P	02 30 20.5 +0.4
	baz=223					
RRX	Edison Barstow	85.74	53	P	P	02 30 21.0 +0.1
	baz=253					
PFO	Pinyon Flats O	85.80	55	*e*P	P	02 30 21.9 +0.5
	comp=Z,11nm,0.7s					
PFO	Pinyon Flats O	85.80	55	*e*P	P	02 30 21.9 +0.5

NVAR	Mina Array Bea	85.81	50	P		P	02 30 21.6 +0.2
	comp=Z,18nm,0.8s,baz=231,slow=8.5,SNR=86						
NVAR				LR		LR	03 00 34.6
	comp=Z,98nm,21.5s,baz=231,slow=30						
IKP	In-Ko-Pah, Jac	85.81	56	P		P	02 30 21.7 +0.4
	baz=254						
NV11	Mina Array Sit	85.92	50	eP		P	02 30 22.5 +0.7
	comp=Z,1.6nm,0.9s						
G05D	Wamic, OR	85.93	42	P		P	02 30 21.8 +0.2
	baz=249						
GSC	Goldstone, Bar	86.01	53	eP		P	02 30 22.9 +0.5
	comp=Z,8.8nm,0.9s						
GSC	Goldstone, Bar	86.01	53	P		P	02 30 22.5 +0.2
	baz=253,SNR=8.4						
F05D	White Salmon	86.06	42	P		P	02 30 22.4 +0.2
	baz=249						
GRAC	Grapevine Rang	86.08	51	P		P	02 30 23.0 +0.4
	baz=253,SNR=5.9						
LON	Longmire	86.14	41	eP		P	02 30 22.8 +0.1
	comp=Z,6.1nm,0.8s						
LON	Longmire	86.14	41	eP		P	02 30 22.8 +0.1
LON				pmax		pmax	
	comp=Z,6.0nm,0.8s						
SWSC	Sam W. Stewart	86.14	55	P		P	02 30 23.0 +0.1
	baz=254						
KVN	Kaiserville	86.15	49	eP		P	02 30 22.9 -0.1
	comp=Z,15nm,0.8s						
KVN	Kaiserville	86.15	49	eP		P	02 30 22.9 -0.1
KVN				pmax		pmax	
	comp=Z,15nm,0.8s						
D05A	Enumclaw	86.19	40	eP		P	02 30 23.8 +1.0
	comp=Z,32nm,1.1s						
HEC	Hector,Ludlow	86.25	54	P		P	02 30 23.6 +0.1
	baz=253,SNR=10						
BELC	Belle Mtn. Jos	86.28	54	P		P	02 30 24.0 +0.3
	baz=254,SNR=13						
A04D	Lummi Island	86.30	39	P		P	02 30 23.9 +0.7
	baz=246						
FURC	Furnace Creek,	86.31	52	P		P	02 30 23.9 +0.3
	baz=253,SNR=13						
DLBC	Dease Lake	86.47	28	eP		P	02 30 24.4 +0.4
	comp=Z,7.3nm,1.0s						
B05A	Bryant	86.51	39	P		P	02 30 24.5 +0.2
	baz=249,SNR=5.4						
SHOC	Shoshone, Teco	86.60	53	P		P	02 30 25.0 -0.1
	baz=253						
TIXI	Tiksi	86.61	349	eP		P	02 30 23.7 -0.6
TIXI				pmax		pmax	
	comp=Z,6.0nm,1.5s						
TIXI	Tiksi	86.61	349	P		P	02 30 24.5 +0.2
	comp=Z,1.1nm,0.3s,baz=128,slow=12,SNR=7.9						
BC3	Big Chuckawall	86.62	55	P		P	02 30 25.8 +0.5
	baz=254,SNR=6.9						
TUQ	Turquoise Moun	86.74	53	P		P	02 30 25.8 -0.1
	baz=254						
I07A	Izee	86.75	44	eP		P	02 30 26.2 +0.4
	comp=Z,15nm,0.8s						
GMRC	Granite Mounta	86.77	54	P		P	02 30 26.2 +0.1
	baz=254,SNR=16						
WVOR	Wild Horse Val	86.82	46	eP		P	02 30 26.8 +0.6
	comp=Z,12nm,0.9s						
WVOR	Wild Horse Val	86.82	46	eP		P	02 30 26.8 +0.6
WVOR				pmax		pmax	
	comp=Z,12nm,0.9s						
GLA	Glamis	86.96	56	eP		P	02 30 28.3 +1.3
	comp=Z,30nm,0.8s						
GLA	Glamis	86.96	56	eP		P	02 30 28.3 +1.3
GLA				pmax		pmax	
	comp=Z,30nm,0.8s						
GLA	Glamis	86.96	56	P		P	02 30 27.8 +0.8
	baz=254,SNR=7.2						
IRM	Iron Mountain	87.00	54	P		P	02 30 27.6 +0.5
	baz=254,SNR=6.8						
LTY	Liberty	87.05	41	eP		P	02 30 27.4 +0.3
	comp=Z,11nm,0.8s						
F07A	Phinny Hill Vi	87.07	42	eP		P	02 30 27.8 +0.7
	comp=Z,10nm,0.7s						
J08A	Circle Bar Ran	87.22	45	eP		P	02 30 28.8 +0.7
	comp=Z,16nm,0.8s						
E07A	Sunnyside	87.34	42	eP		P	02 30 29.2 +0.8
	comp=Z,22nm,0.8s						
Y12C	Blythe	87.39	55	eP		P	02 30 30.0 +1.0
	comp=Z,22nm,0.9s						
Y12C	Blythe	87.39	55	P		P	02 30 29.4 +0.5
	baz=254,SNR=12						
HAWA	Hanford	87.50	42	eP		P	02 30 29.9 +0.8
	comp=Z,16nm,0.8s						
G08A	Pilot Rock	87.51	43	eP		P	02 30 29.9 +0.5
	comp=Z,11nm,0.8s						
NEE2	Needles Airpor	87.59	54	P		P	02 30 30.3 +0.4
	baz=254						
SHPR	Sheep Range	87.64	52	eP		P	02 30 31.2 +1.0
	comp=Z,16nm,1.1s						
113A	Mohawk Valley,	87.74	56	eP		P	02 30 31.4 +0.7
	comp=Z,11nm,0.8s						
R11A	Troy Canyon, C	87.82	50	eP		P	02 30 31.5 +0.4
	comp=Z,9.3nm,1.1s						
R11A	Troy Canyon, C	87.82	50	P		P	02 30 30.8 -0.4
	baz=254,SNR=23						
E08A	Dider Farm, El	87.84	42	eP		P	02 30 31.2 +0.5
	comp=Z,17nm,0.9s						
PDMCI	Parker Dam,Lak	87.84	55	P		P	02 30 31.6 +0.5
	baz=255,SNR=10						
D08A	Wollman Farm,	88.11	41	eP		P	02 30 32.2 +0.2
	comp=Z,9.5nm,0.8s						
W13A	Hualapai Mount	88.26	54	eP		P	02 30 33.9 +0.6
	comp=Z,15nm,1.0s						
B08A	Colville Reser	88.27	40	eP		P	02 30 33.0 +0.1
	comp=Z,7.7nm,0.8s						
214A	Organ Pipe Nat	88.32	57	P		P	02 30 34.1 +0.7
	baz=256						
BMO	Blue Mountains	88.49	44	eP		P	02 30 34.4 +0.3
	comp=Z,5.4nm,0.8s						
BMO	Blue Mountains	88.49	44	eP		P	02 30 34.4 +0.3
BMO				pmax		pmax	
	comp=Z,5.0nm,0.8s						
Y14A	Wickenburg	88.66	55	eP		P	02 30 35.7 +0.6
	comp=Z,9.7nm,1.1s						
ELK	Elko	88.75	48	eP		P	02 30 35.9 +0.4
	comp=Z,13nm,1.2s						
ELK	Elko	88.75	48	eP		P	02 30 35.9 +0.4
ELK				pmax		pmax	
	comp=Z,13nm,1.2s						
C09A	Chrisman Ranch	88.76	41	eP		P	02 30 35.5 +0.3
	comp=Z,5.7nm,0.6s						
SLBS	Sierra La Lagu	88.83	66	eP		P	02 30 37.0 +0.9
	comp=Z,15nm,0.8s						
F10A	Beach Ranch, E	88.88	43	eP		P	02 30 36.2 +0.3
	comp=Z,10nm,0.6s						
PLID	Pearl Lake	89.44	44	eP		P	02 30 38.7 0.0
	comp=Z,8.8nm,0.8s						
NEW	Newport	89.64	41	eP		P	02 30 39.3 0.0
	comp=Z,8.7nm,0.8s						
NEW	Newport	89.64	41	eP		P	02 30 39.3 0.0
NEW				pmax		pmax	
	comp=Z,9.0nm,0.8s						
NEW	Newport	89.64	41	P		P	02 30 39.1 -0.2
	baz=252,SNR=12						
WMQ	Urumqi	89.83	315	eP		P	02 30 39.5 -0.8
WMQ				pP		sP	02 31 09.7 -3.6
WMQ				sP		pwP	02 31 16.5 +11
WMQ				pmax		pmax	
	comp=Z,38nm,0.7s						
WMQ				pmax		pmax	
	comp=Z,250nm,4.1s						
WMQ				LR		LR	
	comp=Z,1μm,33.3s						
WMQ				LR		LR	
	comp=Z,2μm,35.9s						
WMQ				LR		LR	
	comp=Z,440nm,28.3s						
U15A	North Rim	89.85	53	eP		P	02 30 41.9 +1.0
	comp=Z,32nm,0.8s						
X16A	Lo Mia Camp, P	90.03	55	eP		P	02 30 43.0 +1.3
	comp=Z,15nm,0.8s						
TUC	Tucson	90.07	57	eP		P	02 30 42.7 +1.0
	comp=Z,11nm,0.8s						
TUC	Tucson	90.07	57	eP		P	02 30 42.7 +1.0
TUC				pmax		pmax	
	comp=Z,11nm,0.8s						
TUC	Tucson	90.07	57	P		P	02 30 42.5 +0.8
	baz=257						
HLID	Hailey	90.11	46	eP		P	02 30 42.6 +0.8
	comp=Z,12nm,0.8s						
HLID	Hailey	90.11	46	P		P	02 30 42.4 +0.6
	baz=254						
WUAZ	Wupatki	90.35	54	eP		P	02 30 43.6 +0.5
	comp=Z,16nm,0.8s						
WUAZ	Wupatki	90.35	54	P		P	02 30 43.6 +0.5
	baz=256						
DUG	Dugway, Tooele	90.39	49	eP		P	02 30 43.8 +0.7
	comp=Z,10nm,0.8s						
DUG	Dugway, Tooele	90.39	49	eP		P	02 30 43.8 +0.7
DUG				pmax		pmax	
	comp=Z,10.0nm,0.8s						
DUG	Dugway, Tooele	90.39	49	P		P	02 30 43.3 +0.2
	baz=255						
319A	Doglas	91.11	58	eP		P	02 30 47.9 +1.3
	comp=Z,18nm,0.8s						
X18A	Snowflake	91.26	55	eP		P	02 30 48.2 +0.9
	comp=Z,11nm,0.9s						
MSO	Missoula	91.30	43	eP		P	02 30 46.9 -0.3
	comp=Z,3.8nm,0.7s						
MSO	Missoula	91.30	43	P		P	02 30 46.5 -0.7
	baz=255,SNR=5.8						
MCMT	McKenzie Canyo	91.53	45	eP		P	02 30 49.2 +0.8
W18A	Petrified Fore	91.56	55	P		P	02 30 49.2 +0.5
	baz=257						
DGZ	Jazzator, Alta	91.62	320	*i* P		P	02 30 48.7 +0.1
DGZ				pmax		pmax	
	comp=Z,3.0nm,0.9s						
HWUT	Hardware Ranch	91.65	48	eP		P	02 30 49.7 +0.7
	comp=Z,5.7nm,0.8s						
DLMT	Dillon	91.83	44	eP		P	02 30 50.7 +1.0
	comp=Z,18nm,0.8s						
WALA	Waterton Lakes	91.91	40	eP		P	02 30 50.5 +0.6
	comp=Z,11nm,0.9s						
LRM	Limekiln Ridge	92.05	44	eP		P	02 30 51.1 +0.3
QLMT	Earthquake Lak	92.51	45	eP		P	02 30 54.1 +1.2
FXWY	Fox Creek	92.51	46	eP		P	02 30 53.7 +0.7
	comp=Z,7.6nm,0.7s						
TPAW	Teton Pass	92.53	46	eP		P	02 30 53.9 +0.8
	comp=Z,5.1nm,0.8s						
BOZ	Bozeman (W)	92.55	44	eP		P	02 30 53.7 +0.7
	comp=Z,8.9nm,1.0s						
BOZ	Bozeman (W)	92.55	44	eP		P	02 30 53.7 +0.7
BOZ				pmax		pmax	
	comp=Z,9.0nm,1.0s						
BOZ	Bozeman (W)	92.55	44	P		P	02 30 53.3 +0.3
	baz=256,SNR=18						
REDW	Red Top Meadow	92.57	46	eP		P	02 30 54.2 +1.0
	comp=Z,4.9nm,0.8s						
121A	Cookes Peak, D	92.60	57	P		P	02 30 54.2 +0.6
	baz=258,SNR=12						
IMW	Indian Meadow	92.63	46	eP		P	02 30 54.4 +0.8
	comp=Z,6.2nm,0.8s						
SNOW	Snow King Moun	92.66	46	eP		P	02 30 54.9 +1.2
	comp=Z,6.7nm,0.7s						
HRY	Holter Researc	92.68	43	eP		P	02 30 53.8 +0.3
MOOW	Moose Ponds	92.74	46	eP		P	02 30 54.9 +0.9
	comp=Z,3.3nm,0.8s						
PV09	Paradox Valley	92.77	51	eP		P	02 30 55.0 +0.7
LOHW	Long Hollow	92.81	46	eP		P	02 30 55.2 +0.8
	comp=Z,3.4nm,0.9s						
PV14	Lion Creek, Pa	92.83	52	eP		P	02 30 55.0 +0.4
	comp=Z,10nm,0.7s						
PV19	Morning Glory	92.84	52	eP		P	02 30 56.5 +1.9
	comp=Z,7.1nm,0.7s						
FLWY	Flagg Ranch	92.84	46	eP		P	02 30 55.8 +1.4
	comp=Z,7.4nm,0.9s						
PV23	Carpenter Ridg	92.85	52	eP		P	02 30 55.4 +0.7
	comp=Z,16nm,0.7s						
PV17	East Wray Mesa	92.86	52	eP		P	02 30 55.1 +0.4
	comp=Z,7.0nm,0.8s						
PV20	West Nyswonger	92.86	52	eP		P	02 30 55.6 +0.9
	comp=Z,6.4nm,0.6s						
PV16	Nyswonger Mesa	92.89	52	eP		P	02 30 51.6 -3.3
	comp=Z,3.9nm,0.7s						
PV21	Cone Mtn., Par	92.90	51	eP		P	02 30 55.6 +0.7
	comp=Z,8.8nm,0.7s						
PV04	Paradox Valley	92.92	52	eP		P	02 30 55.9 +1.0
	comp=Z,8.5nm,0.8s						
PV11	David Mesa, Pa	92.93	52	eP		P	02 30 55.8 +0.9
	comp=Z,5.5nm,0.7s						
PV03	Paradox Valley	92.94	52	eP		P	02 30 55.7 +0.7
	comp=Z,4.1nm,0.7s						
PV13	Radium Mtn., P	92.94	52	eP		P	02 30 55.7 +0.6
	comp=Z,19nm,1.9s						
PV12	Saucer Basin,	92.98	52	eP		P	02 30 55.9 +0.7
	comp=Z,12nm,0.9s						
MVCO	Mesa Verde	92.99	53	eP		P	02 30 55.8 +0.5
	comp=Z,3.7nm,0.7s						
MVCO	Mesa Verde	92.99	53	P		P	02 30 55.3 -0.1
	baz=258						
H17A	Grant Village	93.00	45	eP		P	02 30 57.0 +1.8
	comp=Z,8.7nm,0.9s						
H17A	Grant Village	93.00	45	P		P	02 30 56.4 +1.1
	baz=257,SNR=12						
PV01	Paradox Valley	93.12	52	eP		P	02 30 56.2 +0.3
	comp=Z,5.8nm,0.8s						
PV07	Paradox Valley	93.13	52	eP		P	02 30 56.4 +0.5
	comp=Z,7.9nm,0.7s						
BW06	Boulder Array	93.36	47	eP		P	02 30 56.7 -0.2
	comp=Z,3.7nm,0.8s						
BW06	Boulder Array	93.36	47	P		P	02 30 57.3 +0.3
	baz=258,SNR=6.7						
PD31	Pinedale Array	93.36	47	eP		P	02 30 57.2 +0.3
	comp=Z,3.5nm,0.8s						
PDAR	Pinedale Array	93.36	47	P		P	02 30 57.0 0.0
	comp=Z,3.6nm,0.8s,baz=252,slow=2.3,SNR=25						
O20A	White River Ci	93.78	50	eP		P	02 30 59.4 +0.5
	comp=Z,5.4nm,0.8s						
O20A	White River Ci	93.78	50	P		P	02 30 58.8 -0.1
	baz=258,SNR=6.5						
RLMT	Red Lodge	94.07	45	eP		P	02 31 01.4 +1.3
RLMT				*e*PcP		PcP	02 31 04.8 +4.2
RLMT	Red Lodge	94.07	45	P		P	02 31 00.4 +0.3
	baz=258						
TASM	ASL Pad, Albuq	94.16	55	P		P	02 30 60.0 -0.8
	baz=259,SNR=8.3						
TASM	ASL Pad, Albuq	94.16	55	P		P	02 31 00.2 -0.6
	baz=259,SNR=7.2						
ANMO	Albuquerque	94.16	55	eP		P	02 31 00.9 +0.2
	comp=Z,2.4nm,0.8s						
ANMO	Albuquerque	94.16	55	*c*eP		P	02 31 01.2 +0.5
ANMO				pmax		pmax	
	comp=Z,2.0nm,0.8s						
ANMO	Albuquerque	94.16	55	P		P	02 30 59.9 -0.8
	baz=259						
MK31	Makanchi Array	94.26	317	eP		P	02 31 00.3 -0.4
	comp=Z,7.1nm,0.8s						
MK31	Makanchi Array	94.26	317	eP		P	02 31 00.3 -0.4
MK31				pmax		pmax	
	comp=Z,7.0nm,0.8s						
MK32	Makanchi Array	94.26	317	eP		P	02 30 59.7 -1.0
MK32				*e*pP		pP	02 31 23.9 -0.3
MKAR	Makanchi Array	94.26	317	P		P	02 30 59.7 -1.0
	comp=Z,9.5nm,0.7s,baz=92,slow=5.6,SNR=63						
MKAR				pP		pP	02 31 23.9 -0.3
	comp=Z,4.6nm,0.9s,baz=101,slow=6.3,SNR=4.2						
MKAR				PKKPbc		PKKPdf	02 47 59.6 -2.5
	comp=Z,1.1nm,0.6s,baz=281,slow=3.0,SNR=10						
MKAR				LR		LR	03 15 38.9
	comp=Z,14nm,19.2s,baz=97,slow=37						
ZAA0	Zalesovo Array	94.26	324	eP		P	02 31 00.7 +0.3
	comp=Z,4.1nm,0.9s						
ZAA1	Zalesovo Array	94.26	324	eP		P	02 30 59.2 -1.2
ZAA1				*e*pP		pP	02 31 23.0 -1.1
ZALV	Zalesovo Beam	94.26	324	P		P	02 30 59.2 -1.2
ZALV				*PP		pP	02 31 23.0 -1.1
ZALV				pmax		pmax	
	comp=Z,3.0nm,0.7s						
ZALV				pmax		pmax	
	comp=Z,1.0nm,0.4s						
ZALV				pmax		pmax	
	comp=Z,1.0nm,0.5s						
ZALV				MLR		MLR	
	comp=Z,20nm,21.4s						
ZALV	Zalesovo Beam	94.26	324	P		P	02 30 59.2 -1.2
	comp=Z,2.8nm,0.7s,baz=95,slow=3.2,SNR=11						
ZALV				pP		pP	02 31 23.0 -1.1
	comp=Z,0.8nm,0.4s,baz=117,slow=5.2,SNR=2.4						
ZALV				PKKPbc		PKKPdf	02 47 59.6 -2.6
	comp=Z,0.8nm,0.5s,baz=267,slow=3.0,SNR=3.9						
ZALV				LR		LR	03 11 32.1
	comp=Z,20nm,21.4s,baz=48,slow=34						
EGMT	Eagleton	94.35	42	eP		P	02 31 01.5 +0.3
	comp=Z,12nm,0.9s						
EGMT	Eagleton	94.35	42	P		P	02 31 00.8 -0.4
	baz=258						
S22A	4UR Ranch, Cre	94.40	53	eP		P	02 31 02.7 +0.8
	comp=Z,3.3nm,0.6s						
S22A	4UR Ranch, Cre	94.40	53	P		P	02 31 02.0 +0.2
	baz=259,SNR=7.4						
MNTX	Cornudas Mount	94.44	59	eP		P	02 31 01.9 +0.1
	comp=Z,2.8nm,0.8s						
MNTX	Cornudas Mount	94.44	59	P		P	02 31 01.5 -0.3
	baz=259,SNR=6.8						
SMCO	Snowmass	94.56	51	eP		P	02 31 03.4 +0.7
	comp=Z,3.3nm,0.8s						
YKA	Yellowknife Ar	95.05	27	P		P	02 31 02.2 -1.7
	comp=Z,1.8nm,0.6s,baz=256,slow=4.6,SNR=49						
YKA				PKKPbc		PKKPdf	02 47 55.5 -5.5
	comp=Z,0.1nm,0.5s,baz=73,slow=2.9,SNR=3.9						
YKB5	Yellowknife Ar	95.05	27	eP		P	02 31 02.2 -1.7
SDCO	Great Sand Dun	95.43	53	P		P	02 31 06.1 -0.5
	baz=260						
LTX	Lajitas	95.47	61	eP		P	02 31 06.8 +0.1
LTX	Lajitas	95.47	61	eP		P	02 31 06.8 +0.1
TX31	Lajitas Ar. Si	95.47	61	eP		P	02 31 05.9 -0.9
	comp=Z,5.2nm,1.1s						
TXAR	Lajitas Array	95.47	61	P		P	02 31 06.8 +0.1
	comp=Z,2.8nm,0.7s,baz=233,slow=4.9,SNR=35						
TXAR				PP		PP	02 34 58.3 -0.5
	comp=Z,0.8nm,0.9s,baz=236,slow=8.9,SNR=5.9						
TXAR				LR		LR	03 09 42.1
	comp=Z,65nm,18.5s,baz=0.0,slow=33						
N23A	Red Feather La	95.65	50	P		P	02 31 07.3 -0.2
	baz=260						
ISCO	Idaho Springs	95.70	51	eP		P	02 31 07.1 -0.7
	comp=Z,2.7nm,0.8s						
ISCO	Idaho Springs	95.70	51	eP		P	02 31 07.1 -0.7
ISCO				pmax		pmax	
	comp=Z,3.0nm,0.8s						
ISCO	Idaho Springs	95.70	51	P		P	02 31 08.1 +0.3
	baz=260,SNR=6.7						
Q24A	Divide	95.92	52	P		P	02 31 08.9 +0.1
	baz=260						
NRIK	Noril'sk	96.73	339	LR		LR	03 14 17.5
	comp=Z,23nm,20.4s,baz=60,slow=35						
KURK	Kurchatov	97.36	320	*c*eP		Pdif	02 31 16.5 +1.8
KURK				pmax		pmax	
	comp=Z,3.0nm,1.3s						
KURBB	Kurchatov Arra	97.40	320	PKKPbc		PKKPbc	02 47 52.1 -2.3
	comp=Z,0.2nm,0.4s,baz=277,slow=3.1,SNR=4.7						
KSH	Kashi	97.51	309	P		Pdif	02 31 18.5 +2.7
KSH				pP		sP	02 31 44.8 -4.1
KSH				S		S	02 42 31.4 -1.9
KSH				LR		LR	
	comp=Z,540nm,14.2s						
KSH				LR		LR	
	comp=Z,240nm,8.0s						
AMTX	Amarillo	98.02	56	eP		P	02 31 17.4 -0.8
	comp=Z,5.1nm,0.9s						
AMTX	Amarillo	98.02	56	P		P	02 31 17.3 -0.9
	baz=262						
DGMT	Dagmar	98.08	42	P		P	02 31 18.0 0.0
	baz=262						
ABTX	Abilene, Hawle	99.39	59	P		Pdif	02 31 23.4 -0.9
	baz=262						
FFC	Flin Flon	100.19	36	*i* P		Pdif	02 31 27.1 -0.1
ARA0	ARCESS Array S	116.89	346	*e*PKPdf		PKPdf	02 36 25.0 -0.1
ARCES	ARCESS Array B	116.89	346	PKP		PKPdf	02 36 25.0 -0.1
	comp=Z,3.8nm,0.7s,baz=75,slow=1.7,SNR=19						
LPAZ	La Paz	119.43	116	PKP		PKPdf	02 36 32.0 -0.2
	comp=Z,3.3nm,0.6s,baz=325,slow=2.3,SNR=26						
OBN	Obninsk	121.48	329	*e*PKIKP		PKiKP	02 36 34.6 +0.2
OBN				pmax		pmax	
	comp=Z,18nm,1.6s						
KIV	Kislovodsk	121.97	315	*i* PKIKP		PKPdf	02 36 35.5 -0.2
KIV				pmax		pmax	
	comp=Z,8.0nm,1.0s						
KIV				MLR		MLR	
	comp=Z,70nm,22.0s						
FIA0	FINESS Array S	122.39	339	*e*PKPdf		PKPdf	02 36 35.7 -0.1
FIA0	FINESS Array S	122.39	339	*e*PKIKP		PKPdf	02 36 35.7 -0.1
FINES	FINESS Array B	122.39	339	PKP		PKPdf	02 36 35.7 -0.1
	comp=Z,2.9nm,0.8s,baz=43,slow=2.2,SNR=13						
CPUP	Villa Florida	123.28	132	PKP		PKPdf	02 36 37.9 -0.8
	comp=Z,4.0nm,0.7s,baz=213,slow=1.2,SNR=11						
SDV	Santo Domingo	123.89	87	*e*PKPdf		PKPdf	02 36 39.5 -0.8
BOSA	Boshof	125.25	222	PKIKP		PKiKP	02 36 43.0 +0.1
BOSA				pmax		pmax	
	comp=Z,7.0nm,0.8s						
BOSA	Boshof	125.25	222	PKP		PKiKP	02 36 43.0 +0.1
	comp=Z,6.5nm,0.8s,baz=93,slow=2.4,SNR=10						
ANN	Anapa	125.27	317	*i* PKIKP		PKiKP	02 36 48.4 +6.2
ANN				pmax		pmax	
	comp=Z,26nm,0.8s						
SUR	Sutherland	125.39	216	*e*PKPdf		PKiKP	02 36 44.2 +1.0
SIV	San Ignacio	125.69	119	PKP		PKPdf	02 36 42.9 -0.6
	comp=Z,5.3nm,0.6s,baz=270,slow=2.6,SNR=33						
NB2	NORSAR Subarra	127.26	345	PKPdf		PKPdf	02 36 44.7 -0.5
	comp=Z,0.6nm,0.8s,baz=39,slow=1.9						
NB200	NORSAR Array S	127.26	345	*e*PKPdf		PKPdf	02 36 45.2 0.0
NB200				*ep*PKPdf		pPKPdf	02 37 08.8 -1.2
NOA	NORSAR Array B	127.26	345	PKP		PKPdf	02 36 45.2 0.0
	comp=Z,1.9nm,0.8s,baz=33,slow=1.9,SNR=7.3						
NOA				pPKP		pPKPdf	02 37 08.8 -1.2
	comp=Z,0.6nm,0.7s,baz=31,slow=1.9,SNR=2.5						
SJG	San Juan	128.90	76	*e*PKPdf		PKPdf	02 36 49.5 0.0
SJG	San Juan	128.90	76	PKP		PKPdf	02 36 49.4 -0.1
	comp=Z,15nm,0.9s,baz=307,slow=0.2,SNR=7.5						
HUMP	Col San Antoni	129.19	76	*e*PKPdf		PKPdf	02 36 49.8 -0.2
BR101	Keskin Array S	129.71	313	*e*SKPdf		SKPbc	02 40 06.9 +1.9
BRTR	Keskin Array B	129.71	313	SKPbc		SKPbc	02 40 06.9 +1.9
	comp=Z,1.3nm,0.9s,baz=103,slow=2.7,SNR=5.3						
PTGA	Pitinga	132.38	102	PKP		PKPdf	02 36 56.0 -0.4
	comp=Z,4.3nm,0.5s,baz=288,slow=5.1,SNR=11						
PTGA				SKPbc		SKPab	02 40 16.4 -0.1
	comp=Z,4.2nm,0.8s,baz=260,slow=1.9,SNR=6.5						
LANS	Liptovska Anna	133.49	330	*e*PKIKP		PKiKP	02 37 00.0 +1.3
LANS	Liptovska Anna	133.49	330	*e*PKP		PKiKP	02 37 00.0 +1.3
VYHS	Vyhne	134.24	330	*e*PKIKP		PKiKP	02 36 59.8 -0.4
VYHS	Vyhne	134.24	330	*e*PKP		PKiKP	02 36 59.8 -0.4
CLL	Collm	134.73	337	*e*PKIKP		PKPdf	02 36 59.0 -0.6
CLL	Collm	134.73	337	*e*PKPdf		PKPdf	02 36 59.0 -0.6
CLL				*e*			02 40 14.0
CLL				*e*SKPdf		SKPab	02 40 24.0 -1.4
GEC2	GERESS Array S	136.35	334	*e*PKPdf		PKPdf	02 37 03.4 +0.5
GEC2				*e*SKPbc		SKPbc	02 40 29.1 +2.0
GEC2	GERESS

IDC 07 02:34:22.9±999.0, 3°33S×77°67W, h0km, Error ellipse: s-maj=1334.0km s-min=258.8km az=138.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	**LAS PENAS INFR**	**15.69**	**145**	*i*		04 08 10.0	
	baz=325,slow=325,SNR=9.0						
I41PY	**VILLA FLORIDA**	**30.08**	**141**	*i*		05 38 30.0	
	baz=315,slow=318,SNR=2.8						
I09BR	**BRASILIA INFRA**	**31.65**	**115**	*i*		05 49 20.0	
	baz=291,slow=320,SNR=1.8						

*DDA **07** 02:45:52.8, 37°31N×37°12E, h3km±2km, ML2.5*
*ISK **07** 02:45:52.8, 37°32N×37°12E, h5km, ML1.8/8*
*ISCJB **07** 02:45:53.4±0.6, 37°31N±0°04×37°11E±0°05, h7km±5km, Error ellipse: s-maj=7.4km s-min=5.3km az=39.4*

ISC 07 02:45:53.4±1.0, 37°31N±0°04×37°13E±0°03, h8km±9km, n18, σ0s54/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**154**	PG	**Pg**	**02 45 56.7**	**0.0**
GAZ				SG	**Sg**	**02 45 59.2**	**+0.2**
HCB	**Kahramanmara**	**0.18**	**281**	IAML_P			
	comp=Z,5μm,0.1s						
HCB				*i* P	**Pg**	**02 45 57.3**	**+0.2**
HCB				*i* S	**Sg**	**02 45 59.9**	**+0.4**
KMRS	**Kahramanmaras**	**0.26**	**317**	PG	**Pg**	**02 45 58.6**	**-0.1**
KMRS				SG	**Sg**	**02 46 02.1**	**-0.2**
AYKD	**Aykdinkavak**	**0.27**	**292**	IAML_P			
	comp=Z,3μm,0.1s						
AYKD				*i* P	**Pb**	**02 45 59.8**	**-0.8**
GZT	**Gaziantep**	**0.35**	**83**	IAML_P			
	comp=Z,2μm,0.1s						
GZT				*i* P	**Pg**	**02 46 00.1**	**-0.3**
KAMA	**Osmaniye**	**0.39**	**251**	*i* P	**Pb**	**02 46 01.3**	**-1.3**
KUZU	**Kuzuini**	**0.54**	**184**	IAML_P			
	comp=Z,3μm,0.3s						
KUZU				*i* P	**Pb**	**02 46 04.8**	**-0.4**
ANDN	**Andirin**	**0.68**	**294**	*i* P	**Pg**	**02 46 06.3**	**-0.1**
KOZT	**Kozan**	**1.05**	**280**	PG	**Pb**	**02 46 13.8**	**0.0**
SAIM	**ADANA**	**1.06**	**309**	IAML_P			
	comp=Z,625nm,0.2s						
SAIM				*i* P	**Pb**	**02 46 14.1**	**0.0**
CEYT	**Ceyhan**	**1.14**	**255**	PN	**Pg**	**02 46 14.7**	**-0.6**
AKCD	**Akcadag**	**1.17**	**32**	IAML_P			
	comp=Z,220nm,0.2s						
AKCD				*i* P	**Pn**	**02 46 16.3**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.20**	**219**	PN	**Pb**	**02 46 16.0**	**-0.4**
TAHT				SN	**Sn**	**02 46 33.8**	**+0.8**
SURC	**SANLIURFA_SURC**	**1.27**	**109**	*i* P	**Pn**	**02 46 17.9**	**+0.4**
DARE	**Darende-Malaty**	**1.29**	**13**	PN	**Pn**	**02 46 17.9**	**0.0**
URFA	**Urfa**	**1.36**	**84**	PN	**Pg**	**02 46 19.0**	**-0.5**
BNN	**Bunyan**	**1.84**	**327**	PN	**Pn**	**02 46 25.9**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.03**	**58**	PN	**Pn**	**02 46 28.9**	**+0.8**

WEL 07 02:46:51.4±1.1, 37°S±8°×17°9E±1°0, h12km, ML3.6/18, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.09**	**229**	P	Pb	02 47 11.3	-0.9
MXZ				S	Sb	02 47 25.6	-0.8
WMGZ	**Waiomatatini S**	**1.22**	**217**	P	Pg	02 47 14.6	-0.2
PKGZ	**Pakihiroa**	**1.45**	**224**	P	Pn	02 47 17.5	0.0
PKGZ				S	Sn	02 47 36.1	-0.2
PUZ	**Puketiti**	**1.49**	**215**	P	Pn	02 47 18.1	0.0
PUZ				S	Sb	02 47 37.9	-0.1
HAZ	**Te Kaha**	**1.54**	**234**	P	Pn	02 47 19.0	+0.4
HAZ				S	Sb	02 47 39.5	+0.3
TWGZ	**Tauwhareparae**	**1.71**	**219**	P	Pn	02 47 21.3	+0.2
TWGZ				S	Sn	02 47 43.0	+0.1
RUGZ	**Raukumara Rang**	**1.73**	**230**	P	Pn	02 47 22.1	+0.7
CNGZ	**Carnagh Statio**	**1.86**	**209**	P	Pn	02 47 23.3	+0.2
TKGZ	**Te Karaka**	**1.98**	**216**	P	Pn	02 47 25.6	+0.9
MWZ	**Matawai**	**2.07**	**224**	P	Pn	02 47 25.7	-0.3
URZ	**Urewera**	**2.26**	**231**	P	Pn	02 47 28.9	+0.3
MUGZ	**Murupara**	**2.61**	**231**	P	Pn	02 47 33.2	-0.2
RAHZ	**Arahi**	**2.73**	**220**	P	Pn	02 47 36.3	+1.3
MTHZ	**Maungataniwha**	**2.81**	**224**	P	Pn	02 47 36.5	+0.2
KUZ	**Kuaotunu**	**2.91**	**271**	P	Pn	02 47 37.4	-0.1
TOZ	**Tahuroa Road**	**3.19**	**253**	P	Pn	02 47 40.7	-0.6
BKZ	**Black Stump Fm**	**3.23**	**223**	P	Pn	02 47 41.7	-0.3
MCHZ	**McNeill Hill**	**3.33**	**218**	P	Pn	02 47 41.8	-1.4
MKAZ	**Moumakai**	**3.36**	**264**	P	Pn	02 47 43.9	+0.2
KWHZ	**Kaweka Forest**	**3.45**	**221**	P	Pn	02 47 44.1	-0.9
KAHZ	**Kahuranaki**	**3.52**	**213**	P	Pn	02 47 43.6	-2.4
OTVZ	**Oturere**	**3.71**	**230**	P	Pn	02 47 47.7	-0.9

MEX 07 02:49:46.4±0.6, 17°60N×102°75W, h5km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.89**	**320**	*e*P	Pg	02 50 01.6	-1.9
MMIG				*i* S	Sg	02 50 12.9	-2.0
ZIIG	**Zihuatanejo**	**1.23**	**90**	*i* P	Pg	02 50 06.1	-3.8
ZIIG				*i* S	Sg	02 50 22.6	-3.3
CJM	**Chamela**	**2.88**	**311**	*e*P	Pn	02 50 29.5	-3.5
CJM				*i* S	Sn	02 51 04.9	-3.1

*ISCJB **07** 02:55:00.1±1.2, 5°60S±0°09×147°6E±0°2, h200km, mb3.9/4, Error ellipse: s-maj=26.0km s-min=11.8km az=11.1*
*IDC **07** 02:55:02.1±1.6, 5°72S×147°53E, h208km±18km, mb3.6/4, mb1 3.8/6, mb1mx3.4/33, mbtmp4.1/6, Error ellipse: s-maj=41.7km s-min=12.0km az=117.0*

ISC 07 02:55:01.4±1.2, 5°6S±0°1×147°4E±0°2, h200km, n7, σ1s25/10, mb4.0/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.76**	**184**	P	**Pn**	**02 56 01.0**	**+0.7**
	12nm,0.3s,baz=7.2,slow=9.4,SNR=12						
PMG				S	**Sn**	**02 56 45.6**	**-0.9**
	39nm,0.3s,baz=198,slow=23,SNR=14						
WRA	**Warramunga Arr**	**19.10**	**221**	P	**P**	**02 59 09.4**	**+0.1**
	1.3nm,0.3s,baz=46,slow=12,SNR=55						
WRA				S	**S**	**03 02 33.0**	**-2.2**
	0.1nm,0.3s,baz=40,slow=21,SNR=3.8						
ASAR	**Alice Springs**	**22.17**	**215**	P	**P**	**02 59 42.1**	**+0.8**
	8.2nm,0.7s,baz=50,slow=8.4,SNR=45						
ASAR				S	**S**	**03 03 31.7**	**+0.9**
	0.8nm,0.8s,baz=32,slow=18,SNR=5.0						
FITZ	**Fitzroy Crossi**	**24.64**	**238**	P	**P**	**03 00 05.0**	**+1.3**
	4.9nm,0.6s,baz=55,slow=8.4,SNR=30						
MKAR	**Makanchi Array**	**77.50**	**320**	P	**P**	**03 06 34.9**	**0.0**
	0.3nm,0.4s,baz=91,slow=9.9,SNR=4.4						
ILAR	**Eielson Array**	**84.97**	**23**	P	**P**	**03 07 13.5**	**-0.3**
	0.9nm,0.6s,baz=255,slow=5.0,SNR=18						
TORD	**Torodi Ar. Bea**	**145.43**	**285**	PKPbc	**PKPdf**	**03 14 15.3**	**-1.2**
	0.5nm,0.5s,baz=105,slow=4.1,SNR=10						

MEX 07 03:14:33.7±0.5, 16°25N×93°45W, h139km±4km, MD3.5, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.59**	**158**	*i* P	Pn	03 14 53.0	-1.4
PCIG				*e*S	Sn	03 15 07.8	-2.2
TGIG		**0.61**	**31**	*i* P	Pn	03 14 52.9	-1.7
TGIG				*e*S	Sn	03 15 08.3	-2.1
CCIG	**Comitan**	**1.26**	**88**	*i* P	Pn	03 14 59.3	-0.9
CCIG				*i* S	Sn	03 15 18.8	-1.5
CMIG	**Matias Romero**	**1.61**	**301**	*i* P	Pn	03 15 02.6	-1.1
CMIG				*e*S	Sn	03 15 24.4	-2.2

*IDC **07** 03:16:48.2±1.0, 5°89S×122°96E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/28, mbtmp4.1/6, ML4.0/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/28, Error ellipse: s-maj=120.6km s-min=18.5km az=66.0*
*DJA **07** 03:16:48.9±0.7, 6°S±3°×12°3E±°, h17km±7km, M4.0/8, mb4.3/1, MLv3.8/8*
*ISCJB **07** 03:16:50.7±0.7, 6°07S±0°06×122°78E±0°05, h33km, mb4.2/4, MS3.0/1, Error ellipse: s-maj=9.5km s-min=6.6km az=37.8*

ISC 07 03:16:52.4±0.8, 6°02S±0°06×122°77E±0°07, h35km, n14, σ1s85/17, mb4.3/4, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**0.57**	**339**	P	**Pn**	**03 17 01.9**	**-2.1**
BBSI				S	**Sn**	**03 17 14.2**	**+2.0**
KDI	**Kendari**	**2.06**	**356**	P	**Pn**	**03 17 23.3**	**-1.2**
BSSI	**Bau Bau, Buton**	**2.27**	**267**	P	**Pn**	**03 17 26.0**	**-1.5**
BSSI				S	**Sn**	**03 17 53.8**	**-0.5**
BKSI	**Bulukumba**	**2.73**	**285**	P	**Pn**	**03 17 32.6**	**-1.1**
BKSI				S	**Sn**	**03 18 06.0**	**+0.5**
BNSI	**Bone**	**3.10**	**301**	P	**Pn**	**03 17 38.4**	**-0.5**
BNSI				S	**Sn**	**03 18 16.5**	**+1.7**
SPSI	**Sidrap Palu**	**3.62**	**304**	P	**Pn**	**03 17 46.2**	**+0.1**
BATI	**Baumata**	**4.25**	**168**	Pn	**Pn**	**03 17 55.7**	**+0.9**
	8.3nm,0.3s,baz=0.0,slow=5.1,SNR=5.3						
BATI				LR	LR	03 19 56.8	
	comp=Z,138nm,19.4s,baz=121,slow=43						
WRA	**Warramunga Arr**	**17.83**	**142**	P	**Pn**	**03 20 53.0**	**-4.9**
	0.2nm,0.3s,baz=318,slow=13,SNR=11						
ASAR	**Alice Springs**	**20.56**	**150**	P	**P**	**03 21 27.9**	**-0.3**
	1.6nm,0.7s,baz=339,slow=14,SNR=16						
STKA	**Stephens Creek**	**31.17**	**148**	P	**P**	**03 23 09.8**	**+1.6**
	1.4nm,0.3s,baz=312,slow=15,SNR=5.5						
SONM	**Songino Array**	**55.54**	**347**	P	**P**	**03 26 25.6**	**+1.3**
	1.1nm,0.6s,baz=156,slow=8.5,SNR=5.8						
MKAR	**Makanchi Array**	**63.64**	**330**	P	**P**	**03 27 21.2**	**+1.1**
	1.8nm,0.6s,baz=133,slow=7.6,SNR=17						
ZALV	**Zalesovo Beam**	**67.70**	**337**	P	**P**	**03 27 46.1**	**+0.1**
	1.8nm,0.5s,baz=147,slow=3.9,SNR=10						
GNI	**Garni**	**84.77**	**311**	LR	LR	04 14 21.6	
	comp=Z,7.1nm,21.0s,baz=118,slow=41						

TRN 07 03:55:41.5, 18°67N×63°02W, h7km, MD4.0, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.62**	**185**	*e*P	Pn	03 55 56.5	-0.2
SMRT				*e*S	Sn	03 56 06.9	+0.1
SEUS	**St. Eustatius**	**1.17**	**178**	*e*P	Pn	03 56 05.5	+1.2
SEUS				*e*S	Sn	03 56 23.8	+3.4
ANWB	**Willy Bob**	**1.54**	**130**	*e*P	Pb	03 56 10.6	+0.3
ANWB				*e*S	Sg	03 56 32.6	+1.6
NEV	**Hard Times**	**1.58**	**164**	*e*P	Pg	03 56 11.8	-0.1
NEV				*e*S	Sg	03 56 34.6	+2.2
BPA	**Boggy Peak**	**1.96**	**145**	*e*P	Pb	03 56 17.9	+0.4
MLYT	**Lee's Yard**	**2.09**	**158**	*e*P	Pb	03 56 19.4	-0.3
MLYT				*e*S	Sb	03 56 46.4	+0.4
ABD	**La Joyeuse, An**	**2.63**	**146**	*e*P	Pn	03 56 25.4	+1.1
CBE	**Ff, Capester**	**2.92**	**152**	*e*P	Pn	03 56 30.7	+2.3
DEG	**La Desirade**	**3.00**	**141**	*e*P	Pn	03 56 32.0	+2.5
DEG				*e*S	Sn	03 57 08.7	+3.1
TBG	**Guadaloupe-3**	**3.09**	**155**	*e*P	Pn	03 56 33.5	+2.7
TBG				*e*S	Sn	03 57 10.3	+2.4
TDBA	**Terre de Bas,**	**3.10**	**155**	*e*P	Pn	03 56 33.0	+2.2
MAGL	**Barre de l'ile**	**3.17**	**148**	*e*P	Pn	03 56 33.7	+1.9
MDPV	**Dominica, Penn**	**3.39**	**153**	*e*P	Pn	03 56 37.4	+2.6
MDPV				*e*S	Sn	03 57 18.9	+3.6
MDPO	**Dominica; Chan**	**3.42**	**154**	*e*P	Pn	03 56 37.9	+2.7
MDPO				*e*S	Sn	03 57 18.5	+2.4
BBL	**Barber's Block**	**3.46**	**154**	*e*P	Pn	03 56 38.2	+2.4
BBL				*e*S	Sn	03 57 19.8	+2.8
DWS	**Wesley**	**3.49**	**152**	*e*P	Pn	03 56 39.2	+3.0
DWS				*e*S	Sn	03 57 21.2	+3.5
PCM	**Pelee Case Pet**	**4.21**	**155**	*e*P	Pn	03 56 48.7	+2.6
CXM	**Morne La Croix**	**4.23**	**155**	*e*P	Pn	03 56 49.0	+2.5
BAMF	**Morne Balai**	**4.23**	**155**	*e*P	Pn	03 56 48.9	+2.4
GBMF	**Grand Be**	**4.24**	**155**	*e*P	Pn	03 56 49.0	+2.4
PML	**Morne Lenard**	**4.25**	**155**	*e*P	Pn	03 56 49.4	+2.7
FDF	**Fort de France**	**4.30**	**155**	*e*P	Pn	03 56 49.8	+2.3
ZAM	**Aeronautique**	**4.50**	**155**	*e*P	Pn	03 56 52.9	+2.8
LPMF	**Morne Lapointe**	**4.52**	**154**	*e*P	Pn	03 56 52.4	+2.0
TRMF	**Trois Ilets**	**4.52**	**155**	*e*P	Pn	03 56 54.1	+3.7
BIM	**Bigot**	**4.53**	**155**	*e*P	Pn	03 56 54.2	+3.6
MPOM	**Morne Pois Mar**	**4.68**	**153**	*e*P	Pn	03 56 54.6	+2.0
SLBI	**Saint Lucia, B**	**5.02**	**157**	*e*P	Pn	03 56 59.3	+2.1
SLBI	**Saint Lucia, B**	**5.02**	**157**	*e*S	Sn	03 57 57.0	+1.5
SLW	**Petit Monier**	**5.04**	**156**	*e*P	Pn	03 56 59.6	+2.1
SLW	**Petit Monier**	**5.04**	**156**	*e*S	Sn	03 57 57.9	+1.9
SLB	**Belfond**	**5.17**	**158**	*e*P	Pn	03 57 02.7	+3.3
SLB	**Belfond**	**5.17**	**158**	*e*S	Sn	03 58 01.3	+1.8
SLDE	**Delcer**	**5.19**	**158**	*e*P	Pn	03 57 01.9	+2.2
SLDE	**Delcer**	**5.19**	**158**	*e*S	Sn	03 58 01.6	+1.8
SLPA	**Patience**	**5.20**	**157**	*e*P	Pn	03 57 02.3	+2.6
MCLT	**Moule a Chique**	**5.32**	**158**	*e*P	Pn	03 57 04.4	+3.0
MCLT	**Moule a Chique**	**5.32**	**158**	*e*S	Sn	03 58 04.3	+1.4
SFAN	**Fancy Village**	**5.55**	**161**	*e*P	Pn	03 57 06.8	+2.3
SFAN	**Fancy Village**	**5.55**	**161**	*e*S	Sn	03 58 10.5	+1.9
SSV	**Crater Summit**	**5.59**	**161**	*e*P	Pn	03 57 07.1	+1.9
SVV	**Soufriere Volc**	**5.60**	**162**	*e*P	Pn	03 57 07.8	+2.6
SVV	**Soufriere Volc**	**5.60**	**162**	*e*S	Sn	03 58 10.3	+0.6
SVB	**Belmont**	**5.63**	**162**	*e*P	Pn	03 57 09.1	+3.5
SVB	**Belmont**	**5.63**	**162**	*e*S	Sn	03 58 11.6	+1.0
SVCV	**St. Vincent, C**	**5.66**	**161**	*e*P	Pn	03 57 09.4	+3.4
FCV	**Fort Charlotte**	**5.74**	**162**	*e*P	Pn	03 57 10.9	+3.7
BBGH	**Gun Hill**	**6.42**	**148**	*e*P	Pn	03 57 19.9	+3.3
GRSS	**Sisters**	**6.48**	**168**	*e*P	Pn	03 57 20.1	+2.8
GRGR	**Grenville**	**6.63**	**168**	*e*P	Pn	03 57 22.4	+3.0
TOSP	**Speyside**	**7.71**	**162**	*e*P	Pn	03 57 37.4	+3.2
TRN	**Trinidad (W)**	**8.13**	**169**	*e*P	Pn	03 57 42.3	+2.4

*ISCJB **07** 03:56:24.0±0.6, 51°45N±0°03×16°13E±0°03, h0km, Error ellipse: s-maj=4.1km s-min=2.7km az=18.1*
*PRU **07** 03:56:26.2±0.0, 51°49N×16°10E, h0km*
*VIE **07** 03:56:27.6±0.8, 51°32N×16°15E, h0km, mb2.3/5, ml2.8/5, Error ellipse: s-maj=6.6km s-min=5.5km az=84.0, Suspected Mining induced.*

ISC 07 03:56:24.2±0.9, 51°54N±0°04×16°13E±0°03, h0km, n27, σ0s83/59, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**172**	*i* Pg	**Pg**	**03 56 38.4**	**+0.7**
KSP				*e*Sg	**Sg**	**03 56 47.9**	**+1.0**
UPC	**Upice**	**1.04**	**184**	*e*PG	**Pb**	**03 56 44.5**	**-0.5**
UPC				*e*SG	**Sb**	**03 56 58.6**	**-0.6**
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG	**Pg**	**03 56 47.3**	**+0.2**
DPC				*e*SG	**Sg**	**03 57 02.6**	**-0.1**
	comp=Z,45nm,0.4s						
PVCC	**Panska Ves**	**1.41**	**225**	*e*PG	**Pn**	**03 56 51.2**	**0.0**
PVCC				*e*SG	**Sn**	**03 57 10.3**	**-0.2**
	comp=Z,204nm,0.2s						
KRLC	**Kraliky**	**1.52**	**164**	*e*SG	**Sn**	**03 57 13.3**	**0.0**
	comp=Z,9.0nm,0.3s						
BRG	**Berggiesshubel**	**1.53**	**245**	PN	**Pb**	**03 56 53.6**	**+0.2**
BRG				PG	**Pg**	**03 56 54.4**	**+0.9**
BRG				SG	**Sn**	**03 57 14.1**	**+0.8**
	96nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	*e*PG	**Pb**	**03 56 58.4**	**-0.3**
GOPC				*e*SG	**Sb**	**03 57 22.4**	**+0.2**
	29nm,0.4s						
PRU	**Pruhonice**	**1.85**	**214**	*e*SG	**Sg**	**03 57 23.1**	**-0.6**
CLL	**Collm**	**1.97**	**264**	*e*Pg	**Pg**	**03 57 03.0**	**+1.0**
CLL				*i*		03 57 06.4	
CLL				*e*Sg	**Sg**	**03 57 28.0**	**+0.5**
	comp=Z,58nm,0.6s						
MORC	**Moravsky Berou**	**1.98**	**152**	*e*PN	**Pn**	**03 56 59.1**	**+0.1**
MORC				*e*SG	**Sb**	**03 57 26.2**	**-0.2**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	**Pg**	**03 57 05.0**	**-0.1**
OKC				*e*SG	**Sg**	**03 57 32.3**	**-0.4**
	comp=Z,35nm,0.5s						
VRAC	**Vranov**	**2.25**	**172**	*e*PN	**Pn**	**03 57 03.2**	**+0.5**
VRAC				*e*SG	**Sg**	**03 57 36.0**	**-0.6**
TREC	**Trest**	**2.29**	**191**	*e*PN	**Pn**	**03 57 04.5**	**+1.3**
TREC				*e*PG	**Pg**	**03 57 07.5**	**-0.5**
TREC				*e*SG	**Sg**	**03 57 37.1**	**-0.5**
	comp=Z,26nm,0.2s						
KRUC	**Moravsky**	**2.49**	**176**	*e*PN	**Pn**	**03 57 06.4**	**+0.5**
KRUC				*e*PG	**Pb**	**03 57 10.0**	**+0.3**
KRUC				*e*SG	**Sg**	**03 57 43.5**	**-0.6**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**03 57 09.0**	**+0.5**
NKC				*e*PG	**Pg**	**03 57 15.7**	**+0.3**
NKC				*e*SG	**Sg**	**03 57 50.5**	**+0.5**
	comp=Z,86nm,0.3s						
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**03 57 16.6**	**+1.2**
OJC				*e*Sg	**Sg**	**03 57 50.8**	**+0.8**
JAVC	**Velka Javorina**	**2.86**	**159**	*e*PN	**Pn**	**03 57 11.8**	**+0.7**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**03 57 12.1**	**+0.3**
KHC				*e*PG	**Pg**	**03 57 18.9**	**-1.1**
KHC				*e*SN	**Sn**	**03 57 47.0**	**-0.6**
KHC				*e*SG	**Sg**	**03 57 57.9**	**+0.1**
	comp=Z,16nm,0.5s						
LANS	**Liptovska Anna**	**3.21**	**137**	*e*PN	**Pn**	**03 57 16.5**	**+0.6**
LANS				*e*SG	**Sg**	**03 58 06.8**	**-0.4**
MODS	**Modra-Piesok**	**3.26**	**166**	*e*PG	**Pg**	**03 57 25.5**	**-1.1**
MODS				*e*SG	**Sg**	**03 58 08.1**	**-0.7**
MODS				*e*LG	Lg	03 58 14.6	
KOLL	**Kolacno**	**3.31**	**153**	*e*PG	**Pg**	**03 57 27.3**	**-0.2**
KOLL				*e*SG	**Sg**	**03 58 09.5**	**-0.9**
NIE	**Niedzica**	**3.41**	**127**	*e*P	**Pg**	**03 57 29.7**	**+0.2**
NIE				*e*S	**Sg**	**03 58 14.2**	**+0.6**
VYHS	**Vyhne**	**3.51**	**149**	*e*PN	**Pn**	**03 57 21.0**	**+0.9**
VYHS				*e*PG	**Pg**	**03 57 32.2**	**+0.7**
VYHS				*e*SG	**Sg**	**03 58 18.2**	**+1.2**
CONA	**Conrad Observa**	**3.62**	**183**	*i* Pn	**Pn**	**03 57 22.8**	**+1.2**
	comp=Z,0.6nm,0.1s						
CONA				*e*Pg	**Pg**	**03 57 32.4**	**-1.1**
	comp=Z,3.4nm,0.3s						
CONA				Sg	**Sg**	**03 58 19.7**	**-0.7**
	comp=Z,16nm,0.4s						
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**	**03 57 21.8**	**-0.1**
BSD				*e*S	**Sn**	**03 58 02.7**	**-2.9**
MOA	**Molln**	**3.89**	**199**	*e*Pn	**Pn**	**03 57 26.0**	**+0.8**
	comp=Z,2.2nm,0.2s						
MOA				*e*Sg	**Sg**	**03 58 28.6**	**-0.4**
	comp=Z,8.4nm,0.3s						
ARSA	**Arzberg**	**4.31**	**185**	*e*Pn	**Pn**	**03 57 30.4**	**-0.7**
	comp=Z,1.3nm,0.3s						
ARSA				Sg	**Sg**	**03 58 45.0**	**+2.3**
	comp=Z,12nm,0.5s						

MEX 07 04:30:32.9±0.6, 17°92N×100°62W, h46km±14km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.44**	**36**	*e*P	Pn	04 30 41.3	-1.9
ARIG				*i* S	Sn	04 30 48.9	-1.7
ZIIG	**Zihuatanejo**	**0.87**	**249**	*i* P	Pn	04 30 47.5	-1.2
ZIIG				*i* S	Sn	04 30 58.0	-2.3
MEIG	**Mezcala**	**0.95**	**90**	*e*P	Pn	04 30 48.0	-2.0
MEIG				*e*S	Sn	04 31 00.3	-2.1
PLIG	**Platanillo**	**1.16**	**66**	*e*P	Pn	04 30 51.0	-1.8
PLIG				*e*S	Sn	04 31 05.6	-2.0
TLIG	**Tlapa**	**1.99**	**100**	*i* P	Pn	04 31 03.6	-0.6
TLIG				*e*S	Sn	04 31 25.6	-2.4

IDC 07 04:38:27.1±2.0, 15°45S×175°63W, h0km, mb4.1/4, mb1 4.5/4, mb1mx3.8/30, mbtmp4.1/4, Error ellipse: s-maj=118.6km s-min=26.2km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.74**	**257**	P	P	04 47 06.3	0.0
	0.4nm,0.3s,baz=90,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**48.05**	**252**	P	P	04 47 08.4	-0.3
	3.2nm,0.5s,baz=88,slow=8.1,SNR=46						
TXAR	**Lajitas Array**	**82.43**	**57**	P	P	04 50 52.0	+0.2
	5.3nm,1.4s,baz=216,slow=2.9,SNR=3.0						
ILAR	**Eielson Array**	**82.93**	**12**	P	P	04 50 53.3	-0.2
	0.5nm,0.6s,baz=222,slow=5.8,SNR=8.7						

MEX 07 05:37:10.0±1.4, 16°09N×98°61W, h10km±32km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.55**	**57**	*i* P	Pg	05 37 19.1	-1.6
PNIG				*e*S	Sg	05 37 26.8	-1.2
CAIG	**El Cayaco**	**1.85**	**301**	*e*P	Pn	05 37 38.4	-3.4
CAIG				*e*S	Sn	05 38 01.5	-3.9

IDC 07 05:38:06.2±13.0, 15°93S×166°12E, h0km, mb4.5/3, mb1 4.7/4, mb1mx3.9/28, mbtmp4.5/4, ML4.3/1, Error ellipse: s-maj=231.8km s-min=36.2km az=58.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.12**	**177**	Pn	Pn	05 39 38.9	+1.0
	6.6nm,0.3s,baz=60,slow=18,SNR=36						
DZM				Sn	Sn	05 40 49.3	+0.5
	0.8nm,0.3s,baz=309,slow=20,SNR=4.2						
STKA	**Stephens Creek**	**27.38**	**230**	P	P	05 43 51.8	-1.6
	1.2nm,0.3s,baz=79,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**30.48**	**258**	P	P	05 44 21.6	+0.5
	1.9nm,0.5s,baz=84,slow=8.3,SNR=1.7						
ASAR	**Alice Springs**	**31.22**	**251**	P	P	05 44 28.2	+0.6
	11nm,0.5s,baz=77,slow=8.8,SNR=118						

*IDC **07** 05:49:36.8±2.7, 35°25S×179°14E, h0km, mb

South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.71	195	P	Pn	06 00 13.3	+0.9
WMGZ	Waiomatatini S	4.93	194	P	Pn	06 00 15.6	+0.2
HAZ	Te Kaha	5.02	199	P	Pn	06 00 17.5	+0.8
PKGZ	Pakihiroa	5.07	196	P	Pn	06 00 18.5	+1.0
PUZ	Puketiti	5.21	194	P	Pn	06 00 19.8	+0.6
RUGZ	Raukumara Rang	5.24	199	P	Pn	06 00 20.5	+0.6
TWGZ	Tauwhareparae	5.37	196	P	Pn	06 00 24.2	+2.7
TWGZ				S	Sn	06 01 25.5	+3.3
WCZ	Waipu Caves	5.41	236	P	Pn	06 00 22.6	+0.5
OPRZ	Ohinepanea	5.52	208	P	Pn	06 00 23.8	+0.3
CNGZ	Carnagh Statio	5.61	193	P	Pn	06 00 23.6	-1.2
MWZ	Matawai	5.63	199	P	Pn	06 00 25.0	-0.2
OUZ	Omahuta	5.64	245	P	Pn	06 00 24.5	-0.8
TKGZ	Te Karaka	5.65	196	P	Pn	06 00 24.9	-0.4
URZ	Urewera	5.69	202	P	Pn	06 00 25.0	-0.9
TOZ	Tahuroa Road	5.90	216	P	Pn	06 00 31.7	+3.0
RIGZ	Rimuhau	5.92	196	P	Pn	06 00 29.1	0.0
RIGZ				S	Sn	06 01 36.2	+0.4
RTZ	Ruatahuna	6.05	202	P	Pn	06 00 31.2	+0.2
RTZ				S	Sn	06 01 37.6	-1.5
SNGZ	Shannon Statio	6.10	199	P	Pn	06 00 30.3	-1.3
SNGZ				S	Sn	06 01 41.0	+0.7
PRGZ	Paritu Road	6.10	195	P	Pn	06 00 30.8	-0.8
ALRZ	Allen Road	6.22	206	P	Pn	06 00 32.5	-0.8
KNZ	Kokohu	6.24	196	P	Pn	06 00 32.5	-1.0
RAHZ	Arahi	6.30	200	P	Pn	06 00 32.8	-1.5
MTHZ	Maungataniwha	6.31	202	P	Pn	06 00 34.0	-0.6
MHGZ	Mahia Peninsul	6.32	194	P	Pn	06 00 33.4	-1.1
TLZ	Tolley Road	6.36	212	P	Pn	06 00 36.0	+0.9
BKZ	Black Stump Fm	6.71	203	P	Pn	06 00 37.2	-2.8
HIZ	Hauiti	6.83	215	P	Pn	06 00 42.7	+1.2
MCHZ	McNeill Hill	6.90	201	P	Pn	06 00 39.5	-3.0
KWHZ	Kaweka Forest	6.97	203	P	Pn	06 00 40.3	-3.2
NGZ	Ngauruhoe	7.04	208	P	Pn	06 00 42.1	-2.5
TUVZ	Tukino	7.10	207	P	Pn	06 00 42.9	-2.5
FWVZ	Far West T-bar	7.13	208	P	Pn	06 00 42.9	-3.0
BHHZ	Black Hill Sta	7.15	204	P	Pn	06 00 43.2	-2.8
KAHZ	Kahuranaki	7.17	199	P	Pn	06 00 42.9	-3.5
KRHZ	Kereru	7.18	202	P	Pn	06 00 42.1	-4.4
PNHZ	Pukenui	7.48	202	P	Pn	06 00 46.6	-4.0
PRHZ	Porangahau	7.68	199	P	Pn	06 00 48.5	-4.7
PKE	Pukeiti	7.78	216	P	Pn	06 00 53.7	-0.9
DVHZ	Dannevirke	7.84	201	P	Pn	06 00 50.5	-5.0
PRWZ	Pori Road	8.14	201	P	Pn	06 00 54.4	-5.2
BFZ	Birch Farm	8.18	200	P	Pn	06 00 55.8	-4.2
MRZ	Mangatainoka R	8.36	203	P	Pn	06 00 56.8	-5.8
TIWZ	Tintock	8.37	201	P	Pn	06 00 57.6	-5.0
HOWZ	Holdsworth Sta	8.60	203	P	Pn	06 00 59.7	-6.1
OGWZ	Otaki Gorge	8.64	204	P	Pn	06 01 00.2	-6.1
TMWZ	Te Maipa	8.67	200	P	Pn	06 01 01.2	-5.7
KIW	Kapiti Island	8.77	205	P	Pn	06 01 01.7	-6.5
MTW	Mount Morrison	8.84	202	P	Pn	06 01 02.4	-6.7
PAWZ	Paruwai Farm	9.06	202	P	Pn	06 01 05.9	-6.3
MSWZ	Moikau Station	9.15	202	P	Pn	06 01 06.4	-6.9

MEX 07 06:28:14.3±0.9, 16°.18N×95°.79W, h76km±15km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.51	217	eP	Pn	06 28 25.9	-1.9
HUIG				eS	Sn	06 28 36.1	-1.6
PCIG		2.52	100	i P	Pn	06 28 52.5	-0.6
PCIG				eS	Sn	06 29 21.9	-0.9
TPIG	Tehuac#an	2.69	326	eP	Pn	06 28 55.0	-0.6
TPIG				i S	Sn	06 29 26.5	-0.7

*ISK **07** 06:58:19.9, 39°.40N×41°.17E, h12km, ML2.1/7*
*DDA **07** 06:58:19.8, 39°.37N×41°.19E, h7km±4km, ML2.7*
*ISCJB **07** 06:58:21.1±0.5, 39°.38N±0°.03×41°.14E±0°.05, h10km±5km, Error ellipse: s-maj=6.3km s-min=4.4km az=165.4*
ISC 07 06:58:20.2±0.9, 39°.39N±0°.03×41°.19E±0°.03, h11km±7km, n16, σ0°.74/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARO	Karliova-Bingo	0.14	231	PG	Pg	06 58 23.6	0.0
KARO				SG	Sg	06 58 26.3	+0.2
ECAT	Cat-ERZURUM	0.27	322	i P	Pg	06 58 26.1	+0.3
ECAT				i S	Sb	06 58 30.9	-0.9
BNGL	BINGOL	0.44	184	i P	Pb	06 58 29.8	-0.3
BNGL				i S	Sb	06 58 37.6	+0.7
YEDI	Yedisu-Bingol	0.50	275	PG	Pg	06 58 29.7	-0.3
YEDI				SG	Sb	06 58 37.3	-1.1
BNGB	Bingl	0.56	225	PG	Pg	06 58 31.2	0.0
MUSM	Mu-Merkez	0.72	159	IAML_P			
	comp=Z,569nm,0.2s						
MUSM				i P	Pb	06 58 34.1	-0.7
MUSM				i S	Sb	06 58 45.0	+0.4
KOPR	Koprukoy-ERZUR	0.79	41	PG	Pb	06 58 35.7	-0.3
HOMI	Horasan	0.85	40	IAML_P			
	comp=Z,734nm,0.1s						
HOMI				i P	Pb	06 58 37.0	-0.2
HOMI				i S	Sb	06 58 49.8	+1.1
KRIK	Erzurum-spir	0.96	348	IAML_P			
	comp=Z,407nm,0.2s						
KRIK				i P	Pn	06 58 39.4	-0.5
KRIK				i S	Sn	06 58 54.1	+0.5
GURO	Guroymak-BITLI	1.07	142	PN	Pb	06 58 40.5	-0.3
EATA	Eleskirt	1.11	65	IAML_P			
	comp=Z,165nm,0.1s						
EATA				i P	Pg	06 58 41.3	-0.3
EATA				i S	Sn	06 58 58.8	+1.4
ERZN	Erzincan	1.15	280	PN	Pn	06 58 42.2	-0.1
SVAN	Silvan-Diyarba	1.24	180	PN	Pg	06 58 43.8	-0.3
TUTA	Tutak	1.26	89	IAML_P			
	comp=Z,546nm,0.1s						
TUTA				i P	Pn	06 58 43.4	-0.6
TUTA				i S	Sn	06 59 01.4	+0.4
DBAD	Bademkaya	1.67	13	IAML_P			
	comp=Z,115nm,0.3s						
DBAD				i P	Pg	06 58 52.1	-0.1
DBAD				i S	Sg	06 59 13.1	-0.8
KELT	Kelkit	1.67	297	i P	Pn	06 58 49.4	-0.1
KELT				i S	Sg	06 59 15.8	+1.9

MEX 07 06:58:38.0±0.5, 18°.11N×103°.22W, h5km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.21	326	eP	Pg	06 58 41.5	-0.7
MMIG				eS	Sg	06 58 44.8	-0.3
ZIIG	Zihuatanejo	1.74	106	i P	Pn	06 59 05.1	-3.8
ZIIG				i S	Sn	06 59 27.2	-4.4
CJM	Chamela	2.21	309	eP	Pn	06 59 12.3	-3.1
CJM				eS	Sn	06 59 39.5	-3.7
MOIG	Morelia	2.48	51	i P	Pn	06 59 16.6	-2.7
MOIG				i S	Sn	06 59 46.0	-4.0
ANIG	Ahuacatlan	3.18	337	i P	Pn	06 59 25.7	-3.1
ANIG				eS	Sn	07 00 03.1	-4.0

NNC 07 07:07:52.0±4.4, 37°.10N×71°.27E, h0km, mb3.8, mpv3.6, 4C-3D, Error ellipse: s-maj=34.5km s-min=27.4km az=165.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.03	355	⇑P	Pn	07 09 23.7	+1.2
	4.4nm,0.4s,baz=183,slow=15,SNR=60						
KK31				⇑S	Sn	07 10 33.9	+1.7
	1.9nm,0.3s,baz=34,slow=83,SNR=2.7						
AAK	Ala-Archa	6.07	23	⇓P	Pn	07 09 23.4	+0.3
	1.7nm,0.3s						
AAK				⇓S	Sn	07 10 33.3	0.0
	12nm,0.8s						
TKM2	Tokmak 2	6.70	28	⇓P	Pn	07 09 31.0	-0.9
	1.5nm,0.6s						
TKM2				⇑S	Sn	07 10 51.1	+2.1
	1.5nm,0.6s						
AB31	Akbulak array	14.67	329	P	Pn	07 11 19.7	-1.0
	0.2nm,0.3s,baz=157,slow=12,SNR=8.9						
AB31				⇑S	Sn	07 14 03.1	-0.9
	0.4nm,0.4s,baz=163,slow=22,SNR=3.3						

IDC 07 07:24:24.9±3.4, 53°.74N×88°.20E, h0km, mb1 2.6/3, mb1mx2.6/46, mbtmp2.6/3, ML2.2/3, Error ellipse: s-maj=31.8km s-min=20.6km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.02	277	i		07 37 21.7	
	baz=93,slow=336,SNR=21						
ZALV	Zalesovo Beam	2.02	277	Pn	Pn	07 25 00.9	+0.8
	1.4nm,0.3s,baz=86,slow=12,SNR=10						
ZALV				Lg	Lg	07 25 28.7	
	3.5nm,0.3s,baz=96,slow=24,SNR=18						
KURBB	Kurchatov Arra	6.72	246	Pn	Pn	07 26 04.8	+0.2
	0.1nm,0.3s,baz=62,slow=14,SNR=7.0						
KURBB				Lg	Lg	07 27 58.4	
	0.0nm,0.3s,baz=60,slow=30,SNR=4.2						
MKAR	Makanchi Array	7.92	211	Pn	Pn	07 26 22.4	+1.2
	0.1nm,0.3s,baz=33,slow=11,SNR=2.3						

*KRNET **07** 07:33:40.3±0.1, 41°.32N×71°.22E, h3km, mb2.3*
*NNC **07** 07:33:40.9±3.2, 41°.32N×71°.01E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=30.0km s-min=15.8km az=13.0*
ISC 07 07:33:39.9±1.4, 41°.35N±0°.05×71°.18E±0°.06, h0km±13km, n10, σ1°.78/17, 14C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	Arkit	0.74	53	⇓iP	Pg	07 33 54.3	+0.3
	baz=51						
ARK				⇓iS	Sg	07 34 05.1	+1.6
	baz=51						
BTK	Batken	1.32	192	⇑eP	Pg	07 34 05.0	-0.2
	baz=94						
BTK				⇑iS	Sg	07 34 23.4	+1.1
	baz=94						
ARSB	Arslanbob	1.36	91	⇑iP	Pn	07 34 06.2	0.0
	baz=89						
ARSB				⇑iS	Sn	07 34 23.9	-1.0
	baz=89						
KK31	Karatay Array	1.82	344	⇑Pn	Pb	07 34 12.6	-1.4
	2.3nm,0.4s,baz=163,slow=15,SNR=36						
KK31				⇓Lg	Lg	07 34 40.1	
	4.6nm,0.6s,baz=167,slow=26,SNR=12						
AML	Almayashu	2.04	67	⇑eP	Pb	07 34 17.7	-0.2
	baz=66						
AML				⇑eS	Sg	07 34 46.0	+0.7
	baz=66						
UCH	Uchtor	2.64	70	⇑iP	Pb	07 34 26.3	-2.0
	baz=69						
UCH				⇑iS	Sb	07 35 00.5	-0.9
	baz=69						
AAK	Ala-Archa	2.78	61	⇑Pn	Pb	07 34 30.2	-0.4
	1.2nm,0.5s						
AAK				⇓Lg	Lg	07 35 11.4	
	2.5nm,1.0s						
KZA	Kyzart	3.13	75	⇑eP	Pb	07 34 33.7	-2.9
	baz=75						
KZA				⇑eS	Sb	07 35 13.1	-2.4
	baz=75						
NRN	Naryn	3.63	87	⇑iP	Pn	07 34 40.4	+2.9
	baz=87						
NRN				⇑iS	Sn	07 35 23.7	+2.5
	baz=87						
TKM2	Tokmak 2	3.64	63	⇓Pg	Pg	07 34 49.1	-0.4
	2.3nm,1.1s						
TKM2				⇓Lg	Lg	07 35 40.6	
	1.2nm,0.8s						

*NNC **07** 07:36:28.9±1.9, 53°.72N×90°.30E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=15.6km s-min=13.1km az=179.0, Suspected Mining explosion.*
ASRS 07 07:36:20.9, 53°.75N×91°.00E, M2.7, 5C-4D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	8.18	253	⇑Pn	Pn	07 38 23.6	+2.7
	4.3nm,1.3s						
KURK				⇓Sn	Sn	07 39 53.6	-0.3
	7.5nm,0.9s						
KURK				⇑Lg	Lg	07 40 36.3	
	18nm,0.9s						
KURBB	Kurchatov Arra	8.28	253	⇓Pn	Pn	07 38 24.9	+2.8
	1.3nm,0.5s						
KURBB				⇑Sn	Sn	07 39 54.9	-1.3
	24nm,0.8s						
KURBB				⇑Lg	Lg	07 40 40.8	
	37nm,1.1s						
MK31	Makanchi Array	8.91	222	⇓Pn	Pn	07 38 34.2	+3.3
	1.5nm,0.8s,baz=32,slow=15,SNR=2.5						
MK31				⇑Sn	Sn	07 40 14.4	+2.4
	2.9nm,0.9s,baz=38,slow=25,SNR=3.9						
MK31				⇓Lg	Lg	07 41 01.8	
	10nm,1.1s,baz=30,slow=32,SNR=3.5						

*MAN **07** 07:40:24.0, 10°.97N×124°.61E, h3km, MS2.8*
*ISCJB **07** 07:40:24.1±0.7, 10°.98N±0°.05×124°.63E±0°.04, h9km±5km, mb3.4/3, Error ellipse: s-maj=8.8km s-min=6.0km az=152.9*
*IDC **07** 07:40:25.2±4.7, 10°.48N×123°.44E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.4/3, Error ellipse: s-maj=509.2km s-min=28.1km az=63.0*
ISC 07 07:40:24.4±0.9, 11°.04N±0°.04×124°.57E±0°.04, h7km±6km, n11, σ0°.93/17, mb3.3/3, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.04	78	eP	Pg	07 40 26.1	+0.2
OCLP				eS	Sg	07 40 27.3	+0.3
PLP	Palo	0.42	73	⇓eP	Pb	07 40 33.0	-1.2
LLP	Lapu-Lapu	0.93	219	⇑eP	Pg	07 40 41.0	-1.3
LLP				eS	Sg	07 40 54.4	0.0
MSLP	Maasin	0.95	162	eP	Pg	07 40 41.5	-1.1
MSLP				eS	Sn	07 40 59.6	+1.8
BESP	Borongan	1.02	57	eP	Pg	07 40 43.4	-0.6
BESP				eS	Sg	07 40 56.7	-0.5
CNP	Cataman	1.46	4	eP	Pg	07 40 51.7	-0.8
CNP				eS	Sn	07 41 21.7	+11
RCP	Roxas	1.86	286	⇓eP	Pb	07 40 57.9	-0.8
RCP				eS	Sb	07 41 22.4	+0.2
GUIM	Jordan	1.99	258	eP	Pn	07 40 59.4	+1.0
GUIM				eS	Sb	07 41 25.8	0.0
WRA	Warramunga Arr	32.26	163	P	P	07 46 54.5	+0.8
	0.3nm,0.8s,baz=343,slow=7.8,SNR=4.0						
ASAR	Alice Springs	35.68	165	P	P	07 47 23.0	-0.5
	0.2nm,0.4s,baz=342,slow=7.1,SNR=5.1						
MKAR	Makanchi Array	50.41	323	P	P	07 49 22.8	+0.3
	0.4nm,0.6s,baz=120,slow=8.4,SNR=4.4						

*ISK **07** 07:40:29.2, 37°.33N×37°.12E, h5km, ML1.4/3*
*DDA **07** 07:40:29.4, 37°.32N×37°.10E, h7km±1km, ML2.5*
*ISCJB **07** 07:40:30.2±0.7, 37°.32N±0°.05×37°.11E±0°.05, h8km±8km, Error ellipse: s-maj=9.3km s-min=5.4km az=24.6*
ISC 07 07:40:29.8±1.8, 37°.31N±0°.06×37°.11E±0°.03, h13km±14km, n6, σ0°.40/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.16	148	PG	Pg	07 40 33.2	-0.4
GAZ				SG	Sg	07 40 36.3	+0.1
HCB	Kahramanmara	0.16	283	IAML_P			
	comp=Z,2μm,0.0s						
HCB				i P	Pg	07 40 33.7	+0.1
HCB				i S	Sg	07 40 36.5	+0.2
KMRS	Kahramanmaras	0.26	320	PG	Pg	07 40 34.9	-0.3
KMRS				SG	Sg	07 40 38.7	-0.2
GZT	Gaziantep	0.37	82	IAML_P			
	comp=Z,722nm,0.1s						
GZT				i P	Pg	07 40 37.0	-0.2
GZT				i S	Sg	07 40 42.9	+0.7
KAMA	Osmaniye	0.37	251	IAML_P			
	comp=Z,2μm,0.1s						
KAMA				i P	Pg	07 40 37.0	-0.3
KAMA				i S	Sg	07 40 42.8	+0.5
URFA	Urfa	1.37	84	PN	Pg	07 40 55.9	-0.2
URFA				SN	Sg	07 41 14.3	+0.3

MEX 07 07:45:18.0±0.5, 15°.40N×93°.27W, h104km±6km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.31	9	eP	Pn	07 45 32.0	-1.1
PCIG				eS	Sn	07 45 42.2	-2.2
CMIG	Matias Romero	2.29	317	eP	Pn	07 45 53.8	-0.7
CMIG				i S	Sn	07 46 21.0	-1.5
HUIG	Huatulco	2.76	278	eP	Pn	07 45 59.7	-1.0
HUIG				i S	Sn	07 46 32.1	-1.5

MEX 07 07:52:11.2±0.5, 16°.94N×100°.20W, h25km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.13	329	eP	Pb	07 52 15.0	-1.2
CAIG				i S	Sb	07 52 18.0	-1.6
MEIG	Mezcala	1.13	29	eP	Pn	07 52 28.4	-3.1
MEIG				eS	Sn	07 52 42.5	-3.8
ARIG	Puente Sto Nin	1.35	354	eP	Pn	07 52 31.7	-2.7
ARIG				i S	Sn	07 52 47.5	-4.0

*ISCJB **07** 07:57:34.3±0.7, 6°.6S±0°.1×148°.46E±0°.10, h46km, mb4.3/11, MS3.0/3, Error ellipse: s-maj=17.9km s-min=8.6km az=138.0*
*IDC **07** 07:57:34.3±7.6, 6°.40S×148°.57E, h38km±63km, mb4.0/4, mb1 4.3/6, mb1mx3.7/28, mbtmp4.3/6, ML4.5/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/26, Error ellipse: s-maj=54.1km s-min=37.0km az=126.0*
*NEIC **07** 07:57:37.1±1.4, 6°.60S×148°.57E, h60km±13km, mb4.3/14, Error ellipse: s-maj=20.1km s-min=18.2km az=217.0*
ISC 07 07:57:35.8±0.8, 6°.5S±0°.1×148°.6E±0°.1, h46km, n27, σ1°.18/28, mb4.2/11, MS3.1/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.18	206	ePn	Pn	07 58 24.2	+0.9
PMG				eSn	Sn	07 59 01.7	+1.6
PMG	Port Moresby	3.18	206	Pn	Pn	07 58 24.8	+1.4
	51nm,0.3s,baz=23,slow=7.7,SNR=43						
PMG				Sn	Sn	07 59 02.5	+2.4
	67nm,0.3s,baz=194,slow=24,SNR=21						
RABL	Rabaul	4.28	57	ePn	Pn	07 58 40.1	+1.7
COEN	Coen	9.09	215	ePn	Pn	07 59 43.5	-0.9
COEN				eSn	Sn	08 01 23.0	-2.4
SAUI	Saumlaki	17.17	264	ePn	P	08 01 35.9	+2.2
	467nm,1.2s						
EIDS	Eidsvold	18.90	173	eP	P	08 01 52.1	-0.6
	14nm,1.1s						
WB2	Warramunga Arr	19.19	225	eP	P	08 01 55.0	-0.8
	9.4nm,0.5s						
WR1	Warramunga Arr	19.20	225	eP	P	08 01 55.3	-0.6
WRA	Warramunga Arr	19.20	225	eP	P	08 01 54.7	-1.3
WRA	Warramunga Arr	19.20	225	P	P	08 01 55.3	-0.6
	1.4nm,0.3s,baz=51,slow=11,SNR=50						
WRA				LR	LR	08 10 17.2	
	comp=Z,133nm,19.5s,baz=190,slow=40						
AS31	Alice Springs	22.11	218	eP	P	08 02 27.1	-0.4
	3.7nm,0.6s						
ASAR	Alice Springs	22.11	218	eP	P	08 02 26.3	-1.1
ASAR	Alice Springs	22.11	218	P	P	08 02 27.0	-0.5
	5.8nm,0.6s,baz=53,slow=9.5,SNR=92						
ASAR				LR	LR	08 12 31.3	
	comp=Z,27nm,20.5s,baz=2.0,slow=40						
DZM	Mont Dzumac	23.19	134	eP	P	08 02 38.4	-0.4
	19nm,1.2s						
ARMA	Armidale	23.95	173	eP	P	08 02 44.8	-1.2
	10nm,1.3s						
FITZ	Fitzroy Crossi	25.13	241	eP	P	08 02 56.8	+0.1
	20nm,0.8s						
FITZ	Fitzroy Crossi	25.13	241	P	P	08 02 56.9	+0.2
	26nm,0.9s,baz=62,slow=7.3,SNR=47						
STKA	Stephens Creek	26.05	194	eP	P	08 03 05.1	+0.2
	3.3nm,1.4s						
STKA	Stephens Creek	26.05	194	P	P	08 03 05.8	+0.9
	1.3nm,0.5s,baz=22,slow=13,SNR=8.5						
FORT	Forrest	30.85	216	eP	P	08 03 47.2	-0.5
	14nm,0.8s						
TOO	Toolangi	31.04	185	eP	P	08 03 48.7	-0.6
	4.1nm,0.8s						
MBWA	Marble Bar	31.46	240	eP	P	08 03 53.0	-0.2
	5.4nm,1.0s						
NWAO	Narrogin (SRO)	39.20	224	eP	P	08 04 59.2	-0.4
	16nm,1.1s						
MJAR	Matsushiro Arr	43.92	348	LR	LR	08 23 30.0	
	comp=Z,24nm,18.1s,baz=180,slow=36						
ZALV	Zalesovo Beam	80.27	327	LR	LR	08 44 00.4	
	comp=Z,9.5nm,20.6s,baz=70,slow=35						
ILAR	Eielson Array	85.35	23	P	P	08 10 06.9	-0.9
	0.3nm,0.7s,baz=254,slow=4.6,SNR=4.1						
TORD	Torodi Ar. Bea	146.71	284	PKPbc	PKPdf	08 17 12.1	+0.1
	0.5nm,0.3s,baz=47,slow=2.6,SNR=22						

MEX 07 08:12:17.5±0.6, 16°.44N×98°.45W, h17km±10km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	Tlapa	1.12	354	i P	Pb	08 12 34.5	-4.0
TLIG				eS	Sb	08 12 48.2	-4.6
CAIG	El Cayaco	1.84	289	i P	Pn	08 12 45.7	-2.7
CAIG				i S	Sn	08 13 06.3	-5.0

IDC 07 08:21:32.8±2.1, 6°.41S×129°.22E, h0km, mb4.0/1, mb1 3.6/3, mb1mx3.4/32, mbtmp3.5/3, ML3.1/2, Error ellipse: s-maj=144.0km s-min=31.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.13	196	Sn	Sn	08 26 43.3	+0.1
	0.1nm,0.3s,baz=222,slow=21,SNR=3.8						
WRA	Warramunga Arr	14.35	160	Pn	Pn	08 24 56.0	-1.3
	0.1nm,0.3s,baz=339,slow=13,SNR=4.5						
WRA				Sn	Sn	08 27 24.2	-13
	0.3nm,0.3s,baz=332,slow=23,SNR=7.5						
ASAR	Alice Springs	17.74	166	P	P	08 25 42.3	-0.1
	0.1nm,0.3s,baz=343,slow=8.7,SNR=7.7						
MKAR	Makanchi Array	67.31	327	P	P	08 32 29.5	0.0
	0.8nm,0.5s,baz=117,slow=8.2,SNR=8.0						

IDC 07 08:23:06.4±27.0, 20°.70S×173°.13W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/29, mbtmp4.1/4, Error ellipse: s-maj=510.7km s-min=164.8km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	38.01	264	P	P	08 30 27.2	+0.7
	2.3nm,0.3s,baz=101,slow=10.0,SNR=6.6						
STKA	Stephens Creek	41.83	245	P	P	08 30 56.5	-1.7
	1.2nm,0.4s,baz=98,slow=10,SNR=3.5						
ASAR	Alice Springs	48.91	256	P	P	08 31 54.1	-0.4
	1.2nm,0.8s,baz=97,slow=7.7,SNR=7.3						
WRA	Warramunga Arr	49.09	261	P	P	08 31 56.3	+0.4
	0.4nm,0.3s,baz=92,slow=8.2,SNR=20						

*SOME **07** 08:36:16.6, 44°.60N×82°.42E, h20km*
*NNC **07** 08:36:18.9±1.4, 44°.72N×82°.17E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=15.3km s-min=6.1km az=124.0*
ISC 07 08:36:19.8±2.6, 44°.52N±0°.09×82°.8E±0°.1, h35km, n13, σ3°.61/18, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	2.19	266	Pg	Pn	08 36

4.0nm,0.5s
MAKZ ⇑Lg Lg 08 37 23.5
7.0nm,0.4s
KAPS Kapalarasan 2.59 288 Pg **Pn 08 36 57.0 -2.3**
2.4nm,0.3s
KAPS Lg Lg 08 37 26.3
13nm,0.2s
KAPS Kapalarasan 2.59 288 *e*P **Pn 08 36 57.0 -2.3**
2.4nm,0.3s
KAPS *e*S **Sn 08 37 26.3 -3.3**
13nm,0.2s
PDGK Podgornoye 2.70 245 Pg **Pn 08 37 01.2 +0.4**
1.7nm,0.3s
PDGK Lg Lg 08 37 33.4
7.2nm,0.5s
PDGK Podgornoye 2.70 245 ⇑Pn **Pn 08 36 60.0 -0.9**
2.1nm,0.4s
PDGK ⇓Lg Lg 08 37 33.9
17nm,0.5s
SHLS Shalkode 2.80 242 Pg **Pn 08 36 59.9 -2.3**
12nm,0.3s
SHLS Lg Lg 08 37 31.1
27nm,0.4s
SHLS Shalkode 2.80 242 *e*P **Pn 08 36 59.9 -2.3**
12nm,0.3s
SHLS *e*S **Sn 08 37 31.1 -3.7**
27nm,0.4s
KPKS Kokpek 3.18 252 *e*P **Pn 08 37 08.0 +0.6**
12nm,0.2s
KPKS *e*S **Sn 08 37 45.1 +0.9**
27nm,0.6s
CHKK Chushkaly 4.26 263 *e*P **Pn 08 37 26.9 +4.7**
0.9nm,0.3s
CHKK *e*S **Sn 08 38 17.4 +6.7**
3.5nm,0.3s
KTBS Karatobe 4.51 262 *e*P Pn 08 37 30.7 +5.1
1.0nm,0.3s
KTBS *e*S **Sn 08 38 23.9 +7.1**
5.2nm,0.5s

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*DDA **07** 08:43:20.4, 38.°45N×34.°03E, h7km±1km, ML2.6*
*ISK **07** 08:43:21.0, 38.°52N×33.°95E, h5km, ML1.7/3*
ISC 07 08:43:21.7±1.3, 38.°48N±0.°04×34.°01E±0.°04, h10km±11km, n9, σ0§68/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSY	**AKSARAY - Alti**	**0.25**	**311**	IAML_P			
AKSY	comp=Z,812nm,0.1s			*i* P	**Pg**	**08 43 26.8**	**-0.1**
AKSY				*i* S	**Sb**	**08 43 31.7**	**-1.2**
SULT	**Sultanhani-AKS**	**0.48**	**234**	PG	**Pg**	**08 43 31.2**	**+0.2**
SULT				SG	**Sb**	**08 43 39.3**	**0.0**
YAYX	**Yaylak**	**0.48**	**342**	PG	**Pg**	**08 43 30.7**	**-0.4**
YAYX				SG	**Sg**	**08 43 37.9**	**+0.4**
SERE	**Sereflikochisa**	**0.58**	**323**	PG	**Pg**	**08 43 32.2**	**-0.7**
SERE				SG	**Sg**	**08 43 40.5**	**-0.1**
KIRS	**Kırehir-Merke**	**0.65**	**354**	IAML_P			
KIRS	comp=Z,552nm,0.1s			*i* P	**Pb**	**08 43 34.8**	**-0.4**
KIRS				*i* S	**Sb**	**08 43 44.7**	**+0.3**
AVNS	**Nevsehir-Avano**	**0.73**	**64**	IAML_P			
AVNS	comp=Z,1μm,0.2s			*i* P	**Pg**	**08 43 35.2**	**-0.7**
AVNS				*i* S	**Sg**	**08 43 45.9**	**+0.4**
CDAG	**Cicekdag**	**1.18**	**14**	IAML_P			
CDAG	comp=Z,326nm,0.1s			*i* P	**Pg**	**08 43 44.3**	**0.0**
CDAG				*i* S	**Sn**	**08 44 01.0**	**+0.6**
SIRC	**Yozgat**	**1.23**	**46**	IAML_P			
SIRC	comp=Z,540nm,0.2s			*i* P	**Pb**	**08 43 44.8**	**-0.3**
SIRC				*i* S	**Sb**	**08 44 01.1**	**-0.1**
DELI	**KIRIKKALE**	**1.51**	**358**	IAML_P			
DELI	comp=Z,344nm,0.2s			*i* P	**Pb**	**08 43 50.0**	**+0.1**
DELI				*i* S	**Sg**	**08 44 12.1**	**+1.7**

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*NEIC **07** 08:59:02.1±1.1, 10.°92S×163.°77E, h10km, mb4.7/61, Error ellipse: s-maj=17.7km s-min=13.8km az=72.0*
*ISCJB **07** 08:59:03.3±0.2, 11.°00S±0.°04×163.°72E±0.°04, h29km, mb4.7/68, MS4.2/28, Error ellipse: s-maj=6.3km s-min=5.1km az=41.0*
*BJI **07** 08:59:03.2±0.0, 10.°65S×163.°33E, h8km, mb4.6/17, mB5.1/17, Ms4.8/12, Ms7 4.5/12*
*IDC **07** 08:59:07.2±3.0, 11.°07S×163.°75E, h49km±29km, mb4.2/14, mb1 4.5/16, mb1mx4.2/39, mbtmp4.5/16, ML4.7/2, MS4.1/25, Ms1 4.1/25, ms1mx3.9/43, Error ellipse: s-maj=24.3km s-min=18.0km az=123.0*
*GCMT **07** 08:59:07.1±0.2, 10.°85S±0.°01×163.°72E±0.°01, h20km±1km, MW5.0/80, Moment Tensor Solution. s40,c50; s80,c116; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.02±.14; Mθθ-0.95±.11; Mφφ 1.96±.11; Mrθ 1.02±.24; Mθφ 2.80±.09; Mφr-2.32±.30; Best double couple: M=4.14200×10^16 NP1:φs=351.00000°, δ79.00000°, λ-140.00000°. NP2: φs=252.00000°, δ51.00000°, λ-15.00000°. Principal axes: T 4.1290, Plg18.0000°, Azm116.0000°; N 0.0170, Plg49.0000°, Azm4.0000°; P -4.1550, Plg36.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 08:59:05.1±0.4, 11.°01S±0.°05×163.°78E±0.°06, h29km, n121, σ1§39/119, mb4.7/68, MS4.1/28, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.09**	**292**	*e*P	**Pn**	**09 00 05.0**	**-0.8**
HNR				*e*S	**Sn**	**09 00 54.0**	**+1.3**
HNR	**Honiara**	**4.09**	**292**	*e*Pn	**Pn**	**09 00 04.3**	**-1.5**
HNR				*e*Sn	**Sn**	**09 00 54.2**	**+1.5**
HNR	**Honiara**	**4.09**	**292**	P	**Pn**	**09 00 06.0**	**+0.2**
HNR	134nm,0.3s,baz=146,slow=6.6,SNR=24			S	**Sn**	**09 00 56.6**	**+4.0**
HNR	189nm,0.3s,baz=46,slow=23,SNR=4.6			LR	LR	09 01 51.5	
MARNC	**Mare, Loyalty**	**11.18**	**159**	*e*Pn	**Pn**	**09 01 43.5**	**+0.4**
DZM	**Mont Dzumac**	**11.29**	**167**	*e*Pn	**Pn**	**09 01 46.6**	**+1.9**
DZM	8.5nm,0.3s			*e*Sn	**Sn**	**09 03 45.8**	**-4.2**
DZM	3.9nm,0.3s			*e*LR	LR	09 04 22.5	
DZM	**Mont Dzumac**	**11.29**	**167**	*e*Pn	**Pn**	**09 01 45.7**	**+1.0**
DZM				*e*Sn	**Sn**	**09 03 48.0**	**-2.0**
DZM	**Mont Dzumac**	**11.29**	**167**	P	**Pn**	**09 01 46.5**	**+1.9**
DZM	2.2nm,0.3s,baz=30,slow=7.7,SNR=21			S	**Sn**	**09 03 46.7**	**-3.3**
DZM	0.8nm,0.3s,baz=317,slow=21,SNR=7.4			LR	LR	09 06 14.6	
PINNC	**Pines Island,**	**12.06**	**164**	*e*Pn	**Pn**	**09 01 56.6**	**+1.5**
RABL	**Rabaul**	**13.36**	**300**	*e*Pn	**Pn**	**09 02 11.5**	**-1.4**
TARA	**Tarawa**	**15.28**	**37**	*e*Pn	**Pn**	**09 02 37.1**	**-1.9**
PMG	**Port Moresby**	**16.44**	**274**	LR	LR	09 08 47.3	
PATS	**Pohnpei**	**18.55**	**343**	*e*P	**P**	**09 03 18.5**	**-1.2**
MANU	**Manus Island**	**18.57**	**298**	*e*P	**P**	**09 03 19.3**	**-0.7**
EIDS	**Eidsvold**	**18.68**	**218**	*e*P	**P**	**09 03 21.8**	**+0.7**
CTA	**Charters Tower**	**19.13**	**240**	P	**Pn**	**09 03 28.6**	**+1.5**
CTA	comp=Z,782nm,22.0s,baz=64,slow=34			LR	LR	09 09 56.7	
CTAO	**Charters Tower**	**19.13**	**240**	*e*P	**Pn**	**09 03 27.4**	**+0.2**
COEN	**Coen**	**20.33**	**260**	*e*P	**P**	**09 03 39.3**	**0.0**
ARMA	**Armidale**	**22.38**	**209**	*e*P	**P**	**09 04 01.7**	**+0.5**
JAY	**Jayapura**	**24.40**	**289**	LR	LR	09 15 12.2	
STKA	**Stephens Creek**	**29.17**	**221**	*e*P	**P**	**09 05 04.0**	**-0.1**
STKA	**Stephens Creek**	**29.17**	**221**	P	**P**	**09 05 05.3**	**+1.2**
STKA	13nm,0.8s,baz=39,slow=9.6,SNR=34			LR	LR	09 16 03.4	
WC3	**Warramunga Arr**	**29.67**	**249**	*e*P	**P**	**09 05 07.3**	**-1.3**
WRAB	**Tennant Creek**	**29.68**	**249**	*e*P	**P**	**09 05 07.5**	**-1.3**
WR1	**Warramunga Arr**	**29.69**	**249**	*e*P	**P**	**09 05 07.7**	**-1.2**
WRA	**Warramunga Arr**	**29.69**	**249**	*e*P	**P**	**09 05 07.2**	**-1.7**
WRA	**Warramunga Arr**	**29.69**	**249**	P	**P**	**09 05 07.7**	**-1.2**
WRA	comp=Z,857nm,20.0s,baz=65,slow=36			LR	LR	09 16 49.2	
AS31	**Alice Springs**	**31.09**	**242**	*e*P	**P**	**09 05 20.3**	**-1.0**
ASAR	**Alice Springs**	**31.10**	**242**	*e*P	**P**	**09 05 19.9**	**-1.4**
ASAR	**Alice Springs**	**31.10**	**242**	P	**P**	**09 05 19.7**	**-1.6**
ASAR	4.7nm,0.6s,baz=62,slow=10,SNR=106			LR	LR	09 17 30.9	
TOO	**Toolangi**	**31.14**	**209**	*e*P	**P**	**09 05 21.8**	**+0.3**
RPZ	**Rata Peaks**	**33.19**	**170**	LR	LR	09 18 33.2	
BBOO	**Buckleboo**	**33.47**	**225**	*e*P	**P**	**09 05 41.7**	**-0.2**
SIJI	**Sorong**	**33.83**	**285**	LR	LR	09 20 40.1	
FITZ	**Fitzroy Crossi**	**37.53**	**255**	P	**P**	**09 06 15.3**	**-1.7**
FORT	**Forrest**	**38.50**	**234**	*e*P	**P**	**09 06 25.0**	**0.0**
DAV	**Davao City (W)**	**42.05**	**294**	LR	LR	09 25 23.5	
PSA00	**Pilbara Seismi**	**43.33**	**250**	*e*P	**P**	**09 07 04.1**	**-0.8**
MBWA	**Marble Bar**	**43.39**	**251**	*e*P	**P**	**09 07 04.5**	**-1.0**
PPT	**Papeete**	**45.57**	**104**	LR	LR	09 23 10.8	
PPT2	**Papeete2**	**45.58**	**104**	*e*S	**S**	**09 14 11.2**	**+7.2**
PPT2	648nm,27.0s			*e*LQ	LQ	09 18 22.4	
PPT2	comp=Z,393nm,22.0s			*e*LR	LR	09 20 15.6	
TBI	**Tubuai**	**46.13**	**112**	*e*LR	LR	09 20 33.3	
KHU	**Kahuku**	**50.05**	**53**	*e*P	**P**	**09 07 57.0**	**-0.9**
MJAR	**Matsushiro Arr**	**53.08**	**334**	P	**P**	**09 08 20.6**	**+0.6**
MAJO	**Matsushiro**	**53.08**	**334**	*e*P	**P**	**09 08 20.6**	**+0.6**
JNU	**Nakatsue**	**53.95**	**326**	LR	LR	09 29 11.5	
KSRS	**Korea Array**	**58.78**	**327**	P	**P**	**09 09 01.4**	**+0.7**
KSRS				LR	LR	09 31 29.0	
KS15	**Wonju Array Si**	**58.79**	**327**	*e*P	**P**	**09 09 00.2**	**-0.6**
NJ2	**Nanjing**	**60.66**	**317**	*e*P	**P**	**09 09 13.2**	**-0.6**
NJ2				pmax	pmax		
USA0B	**Ussuriysk Arra**	**62.07**	**335**	*e*P	**P**	**09 09 22.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**62.07**	**335**	*e*P	**P**	**09 09 22.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**62.07**	**335**	P	**P**	**09 09 24.0**	**+0.9**
WHN	**Wuhan**	**62.94**	**313**	⇑P	**P**	**09 09 30.1**	**+0.9**
MDJ	**Mudanjiang**	**63.44**	**333**	*e*P	**P**	**09 09 31.3**	**-0.9**
PETK	**Petropavlovsk-**	**64.07**	**356**	*e*P	**P**	**09 09 35.6**	**-0.6**
PETK	**Petropavlovsk-**	**64.07**	**356**	P	**P**	**09 09 36.6**	**+0.3**
PETK				LR	LR	09 31 53.2	
PEA1	**Petropavlovsk-**	**64.08**	**356**	*e*P	**P**	**09 09 36.6**	**+0.3**
CN2	**Changchun**	**64.74**	**330**	*e*P	**P**	**09 09 37.4**	**-3.4**
CASY	**Casey**	**65.72**	**201**	*e*P	**P**	**09 09 47.5**	**+0.6**
ENH	**Enshi**	**66.39**	**310**	*e*P	**P**	**09 09 50.1**	**-1.7**
VNDA	**Vanda**	**66.51**	**180**	*e*P	**P**	**09 09 52.2**	**+0.5**
VNDA	**Vanda**	**66.51**	**180**	LR	LR	09 36 36.4	
KMI	**Kunming**	**69.47**	**302**	P	**P**	**09 10 11.8**	**+0.3**
KMI				pmax	pmax		
HHC	**Hu-ho-hao-te**	**70.57**	**321**	*e*P	**P**	**09 10 19.6**	**+1.8**
HHC				S	**S**	**09 19 28.2**	**-1.6**
HHC				pmax	pmax		
HHC				pmax	pmax		
HHC				LR	LR		
HHC				LR	LR		
HHC				LR	LR		
LZH	**Lanzhou**	**73.32**	**313**	*e*P	**P**	**09 10 36.4**	**+1.9**
LZH				pP	pP	09 10 41.0	-0.9
LZH				sP	sP	09 10 44.2	-0.5
LZH				*e*PP	**PP**	**09 13 20.9**	**+2.7**
LZH				pmax	pmax		
LZH				pmax	pmax		
LZH				LR	LR		
LZH				LR	LR		
KDAK	**Kodiak Island**	**77.26**	**22**	*e*P	**P**	**09 10 56.0**	**-0.5**
KDAK	**Kodiak Island**	**77.26**	**22**	LR	LR	09 44 39.8	
SONM	**Songino Array**	**77.51**	**324**	*e*P	**P**	**09 10 57.5**	**-0.8**
SONM	**Songino Array**	**77.51**	**324**	P	**P**	**09 10 58.5**	**+0.2**
SONM				LR	LR	09 44 23.9	
GTA	**Gaotai**	**77.65**	**315**	*e*P	**P**	**09 11 00.1**	**+0.8**
GTA				pP	pP	09 11 05.2	-1.5
GTA				sP	PcP	09 11 08.7	-0.6
GTA				S	**S**	**09 20 48.9**	**-0.6**
GTA				pmax	pmax		
GTA				pmax	pmax		
GTA				LR	LR		
GTA				LR	LR		
GTA				LR	LR		
BILL	**Bilibino**	**78.86**	**1**	*e*P	**P**	**09 11 04.7**	**-0.4**
QSPA	**South Pole Qui**	**78.99**	**180**	*e*P	**P**	**09 11 07.0**	**+0.7**
IMAR	**Indian Mountai**	**82.92**	**16**	*e*P	**P**	**09 11 26.2**	**-0.6**
MLY	**Manley**	**83.08**	**18**	*e*P	**P**	**09 11 26.6**	**-1.2**
BALM	**Baldy**	**83.34**	**23**	*e*P	**P**	**09 11 29.0**	**-0.2**
WRH	**Wood River Hil**	**83.51**	**19**	*e*P	**P**	**09 11 28.9**	**-1.0**
CTGM	**Chitina Glacie**	**83.69**	**24**	*e*P	**P**	**09 11 31.0**	**-0.1**
CCB	**Clear Creek Bu**	**83.72**	**19**	*e*P	**P**	**09 11 30.1**	**-0.9**
MDM	**Murphy Dome**	**83.80**	**19**	*e*P	**P**	**09 11 31.6**	**+0.2**
HDA	**Harding Lake**	**83.84**	**19**	*e*P	**P**	**09 11 32.1**	**+0.4**
ILAR	**Eielson Array**	**84.10**	**19**	P	**P**	**09 11 31.9**	**-1.1**
ILAR				LR	LR	09 49 02.9	
ILB	**Eielson Array**	**84.10**	**19**	*e*P	**P**	**09 11 32.2**	**-0.8**
RIDG	**Independent Ri**	**84.11**	**20**	*e*P	**P**	**09 11 32.6**	**-0.5**
KHMM	**Horse Mountain**	**84.24**	**47**	*e*P	**P**	**09 11 34.5**	**+0.1**
SCRK	**Sand Creek**	**84.55**	**21**	*e*P	**P**	**09 11 35.4**	**0.0**
BCAR	**Beaver Creek A**	**84.77**	**22**	*e*P	**P**	**09 11 36.2**	**-0.3**
YBH	**Yreka Blue Hor**	**85.25**	**46**	*e*P	**P**	**09 11 39.5**	**+0.1**
AFDM	**Forest Hills D**	**85.63**	**49**	*e*P	**P**	**09 11 40.9**	**-0.3**
TIXI	**Tiksi**	**85.70**	**350**	*e*P	**P**	**09 11 41.0**	**+0.2**
CMB	**Columbia Colle**	**85.79**	**50**	*e*P	**P**	**09 11 41.8**	**-0.4**
TOLK	**Toolik Lake Re**	**85.96**	**15**	*e*P	**P**	**09 11 42.2**	**0.0**
EGAK	**Eagle**	**86.01**	**21**	*e*P	**P**	**09 11 43.2**	**+0.7**
DAWY	**Dawson**	**86.22**	**22**	*e*P	**P**	**09 11 43.7**	**0.0**
BMAR	**Burnt Mountain**	**86.55**	**18**	*e*P	**P**	**09 11 45.4**	**+0.2**
MOD	**Modoc Plateau**	**87.01**	**46**	*e*P	**P**	**09 11 47.8**	**-0.3**
PINE	**Pine Mountain**	**87.14**	**45**	*e*P	**P**	**09 11 48.7**	**-0.1**
NV01	**Mina Array Sit**	**87.48**	**50**	*e*P	**P**	**09 11 49.8**	**-0.8**
NVAR	**Mina Array Bea**	**87.48**	**50**	*e*P	**P**	**09 11 49.9**	**-0.7**
NVAR	**Mina Array Bea**	**87.48**	**50**	P	**P**	**09 11 49.8**	**-0.8**
NVAR	1.8nm,0.7s,baz=232,slow=7.1,SNR=7.6			LR	LR	09 45 18.9	
NV11	**Mina Array Sit**	**87.59**	**50**	*e*P	**P**	**09 11 50.6**	**-0.4**
WMQ	**Urumqi**	**87.71**	**315**	*e*P	**P**	**09 11 53.3**	**+1.9**
WMQ	comp=Z,390nm,25.9s			LR	LR		
I07A	**Izee**	**88.22**	**45**	*e*P	**P**	**09 11 53.7**	**-0.1**
J08A	**Circle Bar Ran**	**88.72**	**45**	*e*P	**P**	**09 11 56.4**	**+0.1**
BMN	**Battle Mountai**	**88.83**	**49**	*e*P	**P**	**09 11 56.8**	**-0.1**
G08A	**Pilot Rock**	**88.94**	**44**	*e*P	**P**	**09 11 57.0**	**-0.2**
LDFC	**Landfair**	**89.09**	**54**	*e*P	**P**	**09 11 57.9**	**-0.2**
R11A	**Troy Canyon, C**	**89.52**	**51**	*e*P	**P**	**09 11 59.9**	**-0.3**
BMO	**Blue Mountains**	**89.94**	**44**	*e*P	**P**	**09 12 01.8**	**-0.2**
F10A	**Beach Ranch, E**	**90.30**	**43**	*e*P	**P**	**09 12 03.3**	**-0.3**
HLID	**Hailey**	**91.63**	**46**	*e*P	**P**	**09 12 09.7**	**-0.2**
MK32	**Makanchi Array**	**92.18**	**317**	*e*P	**P**	**09 12 11.8**	**-0.4**
MKAR	**Makanchi Array**	**92.18**	**317**	P	**P**	**09 12 11.8**	**-0.4**
MKAR	0.9nm,0.7s,baz=86,slow=6.4,SNR=6.1			LR	LR	09 53 10.9	
ZALV	**Zalesovo Beam**	**92.40**	**325**	LR	LR	09 55 36.5	
DLMT	**Dillon**	**93.30**	**45**	*e*P	**P**	**09 12 17.9**	**+0.3**
PD31	**Pinedale Array**	**94.95**	**48**	*e*P	**P**	**09 12 24.6**	**-0.7**
PDAR	**Pinedale Array**	**94.95**	**48**	P	**P**	**09 12 25.0**	**-0.3**
PDAR	0.5nm,0.8s,baz=243,slow=4.8,SNR=4.7			LR	LR	09 49 46.8	
KSH	**Kashi**	**95.23**	**309**	P	**P**	**09 12 28.3**	**+1.8**
KSH				pP	pP	09 12 34.4	+0.2
KSH				S	**S**	**09 23 38.4**	**-2.0**
KSH				SS	**SS**	**09 30 10.4**	**+2.7**
KSH				pmax	pmax		
KSH				LR	LR		
KSH				LR	LR		
NRIK	**Noril'sk**	**95.42**	**340**	LR	LR	09 55 02.4	
YKA	**Yellowknife Ar**	**95.83**	**27**	*e*P	**P**	**09 12 27.4**	**-1.1**
YKA	**Yellowknife Ar**	**95.83**	**27**	P	**P**	**09 12 27.3**	**-1.2**
YKA	0.7nm,0.9s,baz=255,slow=4.4,SNR=8.6			LR	LR	09 53 27.7	
YKB5	**Yellowknife Ar**	**95.83**	**27**	*e*P	**P**	**09 12 27.3**	**-1.2**
TXAR	**Lajitas Array**	**97.50**	**62**	LR	LR	09 50 48.3	

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*IDC **07** 08:59:28.3±1.2, 15.°13N×96.°17E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/48, mbtmp4.0/9, ML4.7/1, MS3.7/16, Ms1 3.7/16, ms1mx3.4/68, Error ellipse: s-maj=24.4km s-min=23.1km az=136.0*
*ISCJB **07** 08:59:30.3±0.4, 15.°19N±0.°05×96.°21E±0.°05, h28km, mb4.1/19, MS3.8/14, Error ellipse: s-maj=7.1km s-min=7.0km az=20.8*
*NEIC **07** 08:59:30.1±1.4, 15.°22N×96.°24E, h10km, mb4.2/14, Error ellipse: s-maj=17.7km s-min=12.2km az=233.0*
ISC 07 08:59:32.4±0.7, 15.°26N±0.°08×96.°20E±0.°08, h28km, n57, σ2§07/47, mb4.2/19, MS3.7/14, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**4.12**	**39**	*e*Pn	**Pn**	**09 00 33.7**	**+0.2**
CM31				*e*Sn	**Sn**	**09 01 24.1**	**+3.2**
CMAR	**Chiang Mai Arr**	**4.12**	**39**	Pn	**Pn**	**09 00 33.3**	**-0.3**
CMAR	11nm,0.3s,baz=226,slow=15,SNR=315			Lg	Lg	09 01 44.3	
CMAR	11nm,0.3s,baz=223,slow=29,SNR=6.1			LR	LR	09 02 27.4	
CHTO	**Chiang Mai**	**4.40**	**36**	*e*Pn	**Pn**	**09 00 37.8**	**+0.4**
PBA	**Port Blair**	**4.92**	**224**	*e*Pn	Pn	09 00 44.2	-0.3
BRDH	**Bariadhala**	**8.54**	**330**	LR	LR	09 06 26.9	
SLVN	**Son La**	**9.48**	**49**	*e*Pn	**Pn**	**09 01 47.6**	**+0.3**
SHL	**Shillong**	**11.02**	**339**	*e*Pn	**Pn**	**09 02 08.7**	**+0.3**
SHL	**Shillong**	**11.02**	**339**	*e*P	**Pn**	**09 02 07.0**	**-1.4**
SHL				*e*S	**Sn**	**09 04 05.0**	**-5.8**
RAMN	**Ramite**	**14.67**	**324**	*e*P	**Pn**	**09 03 00.1**	**+1.8**
LSA	**Lhasa**	**15.10**	**343**	*e*Pn	**Pn**	**09 03 04.4**	**+0.1**
MYKOM	**Kota Tinggi**	**15.37**	**150**	*e*Pn	**Pn**	**09 03 05.5**	**-2.0**
JIRN	**Jiri**	**15.45**	**325**	*e*P	**Pn**	**09 03 05.0**	**-3.8**
PKI	**Pulchoki**	**15.83**	**322**	*e*P	**Pn**	**09 03 12.8**	**-0.9**
PKIN	**Phulchoki**	**15.84**	**322**	*e*P	**Pn**	**09 03 12.1**	**-1.7**
DMN	**Daman**	**16.04**	**322**	*e*P	**Pn**	**09 03 15.1**	**-1.2**
KOLN	**Koldanda**	**17.08**	**319**	*e*P	**Pn**	**09 03 29.0**	**-0.4**
PALK	**Pallekele**	**17.14**	**244**	LR	LR	09 09 58.8	
DANN	**Dangsing**	**17.39**	**321**	*e*P	**Pn**	**09 03 27.3**	**-6.1**
PYUN	**Piuthan**	**17.70**	**318**	*e*P	**Pn**	**09 03 34.6**	**-2.5**
ENH	**Enshi**	**19.29**	**37**	*e*P	**P**	**09 03 48.7**	**-6.4**
SBUM	**Sibu**	**20.29**	**127**	*e*P	**P**	**09 04 05.3**	**-0.8**
XAN	**Xi'an**	**21.94**	**29**	*e*P	**P**	**09 04 22.7**	**-1.2**
LEM	**Lembang**	**24.69**	**152**	LR	LR	09 15 37.3	
NIL	**Nilore**	**27.67**	**316**	*e*P	**P**	**09 05 19.6**	**+1.5**
TARG	**Taragay, Kyrgy**	**30.79**	**333**	*e*P	**P**	**09 05 46.9**	**+0.7**
AAK	**Ala-Archa**	**33.04**	**330**	*e*P	**P**	**09 06 07.2**	**+1.6**
AAK	**Ala-Archa**	**33.04**	**330**	LR	LR	09 23 49.4	
BTK	**Batken**	**33.18**	**323**	*e*P	**P**	**09 06 08.6**	**+1.8**
MK31	**Makanchi Array**	**33.51**	**343**	*e*P	**P**	**09 06 10.7**	**+1.2**
MK32	**Makanchi Array**	**33.51**	**343**	*e*P	**P**	**09 06 10.8**	**+1.3**
MKAR	**Makanchi Array**	**33.51**	**343**	*e*P	**P**	**09 06 10.4**	**+0.9**
MKAR	**Makanchi Array**	**33.51**	**343**	P	**P**	**09 06 10.8**	**+1.3**
MKAR	1.6nm,0.6s,baz=159,slow=8.8,SNR=17			LR	LR	09 23 24.1	
SONA0	**Songino Array**	**33.56**	**12**	*e*P	**P**	**09 06 10.8**	**+0.8**

SONM	Songino Array	33.56	12	P		P	09 06 10.8	+0.8
	0.6nm,0.6s,baz=198,slow=8.9,SNR=3.9							
KK31	Karatay Array	35.40	327	*e*P		P	09 06 26.2	+0.3
	1.0nm,0.8s							
KKAR	Karatay Array	35.40	327	*e*P		P	09 06 26.3	+0.4
	1.0nm,0.8s							
KURK	Kurchatov	38.11	342	*e*P		P	09 06 49.4	+0.6
	4.8nm,0.8s							
ZALV	Zalesovo Beam	39.62	349	*e*P		P	09 07 01.9	+0.5
ZALV	Zalesovo Beam	39.62	349	P		P	09 07 02.9	+1.5
	2.0nm,0.4s,baz=187,slow=10,SNR=7.3							
ZALV				LR		LR	09 25 01.1	
	comp=Z,60nm,18.6s,baz=274,slow=39							
ZAA1	Zalesovo Array	39.62	349	*e*P		P	09 07 02.9	+1.5
GEYT	Alibeck	40.46	311	P		P	09 07 11.1	+2.4
	2.1nm,0.4s,baz=183,slow=5.9,SNR=4.8							
GEYT				LR		LR	09 27 49.5	
	comp=Z,84nm,18.3s,baz=170,slow=42							
JHJ	Hachijo jima 2	43.20	58	LR		LR	09 26 49.4	
	comp=Z,114nm,20.2s,baz=244,slow=38							
ABKAR	Akbulak array	44.96	327	*e*P		P	09 07 46.1	+1.1
	2.8nm,1.0s							
AKTO	Aktyubinsk	46.66	327	LR		LR	09 33 01.9	
	comp=Z,79nm,18.2s,baz=139,slow=43							
WR1	Warramunga Arr	51.28	132	*e*P		P	09 08 34.2	-0.1
WRA	Warramunga Arr	51.28	132	P		P	09 08 34.2	-0.1
	0.7nm,0.8s,baz=319,slow=7.8,SNR=4.0							
KIRV	Kirov	55.32	332	LR		LR	09 36 23.0	
	comp=Z,84nm,19.2s,baz=157,slow=40							
MA2	Magadan	59.34	29	LR		LR	09 36 20.8	
	comp=Z,77nm,20.1s,baz=132,slow=37							
BR101	Keskin Array S	59.37	307	*e*P		P	09 09 32.4	-0.1
BRTR	Keskin Array B	59.37	307	P		P	09 09 32.4	-0.1
	0.6nm,0.8s,baz=118,slow=7.1,SNR=3.5							
BRTR				LR		LR	09 39 21.3	
	comp=Z,16nm,18.1s,baz=96,slow=40							
FIA0	FINESS Array S	67.22	331	*e*P		P	09 10 24.6	+0.7
FINES	FINESS Array B	67.22	331	P		P	09 10 24.6	+0.7
	1.4nm,0.7s,baz=76,slow=7.3,SNR=4.6							
SPITS	Spitsbergen Ar	73.07	348	LR		LR	09 49 29.0	
	comp=Z,1μm,19.4s,baz=305,slow=41							
HFS	Hagfors	73.17	329	LR		LR	09 45 27.4	
	comp=Z,108nm,19.5s,baz=351,slow=38							
GERES	GERESS Array B	73.76	317	P		P	09 11 05.0	+0.7
	1.5nm,0.7s,baz=76,slow=5.6,SNR=11							
NOA	NORSAR Array B	74.36	330	P		P	09 11 07.3	-0.1
	0.7nm,0.7s,baz=89,slow=5.8,SNR=3.6							
NOA				LR		LR	09 45 35.1	
	comp=Z,33nm,20.8s,baz=70,slow=37							
RES	Resolute Bay	89.97	3	LR		LR	09 56 22.3	
	comp=Z,75nm,19.8s,baz=66,slow=38							

*ANF **07** 09:06:08.3±0.1,34°.46N×119°.32W,h22km±1km,ML3.7/41,*
Error ellipse: s-maj=1.3km s-min=1.0km az=76.0
*PAS **07** 09:06:09.1,34°.48N×119°.31W,h13km,ML3.6*
*SCEDC **07** 09:06:09.3,34°.49N×119°.30W,h12km*
*NEIC **07** 09:06:09.1±0.0,34°.48N×119°.31W,h13km,ML3.6(PAS),*
After PAS.
NEIC Felt [III] at Carpinteria, Ojai and Ventura; [II] at Oak View.
Also felt at Camarillo, Culver City, Encino, Long Beach,
Malibu, Marina del Rey, Oxnard, Santa Barbara, Santa
Monica, Santa Paula and Woodland Hills.

ISC 07 09:06:08.7±1.0,34°.45N±0°.02×119°.30W±0°.02,h18km±6km,
n93,σ1§13/151,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBC	Santa Barbara	0.35	269	P	Pg	09 06 16.0	0.0
	baz=82,SNR=65						
SBC				S	Sb	09 06 21.6	+0.1
	baz=82						
BLG	Laguna Peak, P	0.39	151	P	Pg	09 06 17.1	+0.4
	baz=333,SNR=141						
BLG				S	Sg	09 06 23.3	+1.1
	baz=333						
OSI	Osito Audit: C	0.50	71	*e*Pg	Pg	09 06 18.4	-0.4
OSI				*e*Sg	Sg	09 06 24.9	-0.7
OSI	Osito Audit: C	0.50	71	P	Pg	09 06 18.3	-0.4
	baz=256,SNR=31						
OSI				S	Sg	09 06 25.7	+0.1
	baz=256						
SCZ2	Santa Cruz Isl	0.53	212	P	Pg	09 06 19.2	-0.1
	baz=29,SNR=122						
SCZ2				S	Sg	09 06 27.1	+0.6
	baz=29						
PKM	Mcpherson Peak	0.61	316	P	Pg	09 06 20.0	-0.9
	baz=134,SNR=98						
PKM				S	Sg	09 06 28.0	-1.1
	baz=134						
ARVC	Arvin	0.78	29	P	Pg	09 06 22.8	-1.0
	baz=212,SNR=105						
DECC	Green Verdugo	0.82	104	P	Pg	09 06 24.1	-0.5
	baz=287,SNR=39						
DECC				S	Sg	09 06 36.0	+0.5
	baz=287						
PASC	Pasadena Art C	0.96	106	*e*Pg	Pb	09 06 26.1	-0.7
PASC				*e*Sg	Sb	09 06 39.3	+0.1
SMMC	Simmler	1.04	326	P	Pb	09 06 27.5	-0.6
	baz=145,SNR=135						
SMMC				S	Sb	09 06 41.2	-0.3
	baz=145						
MWC	Mount Wilson	1.05	102	*e*Pg	Pb	09 06 27.7	-0.7
MWC				*e*Sg	Sb	09 06 42.0	+0.1
FMP	Fort Macarthur	1.11	131	P	Pb	09 06 28.9	-0.4
	baz=313,SNR=21						
FMP				S	Sb	09 06 44.2	+0.8
	baz=313						
EDW2	Edwards Air Fo	1.16	68	P	Pb	09 06 29.6	-0.6
	baz=250,SNR=270						
EDW2				S	Sb	09 06 45.0	+0.2
	baz=250						
SNCC	San Nicolas Is	1.21	189	*e*Pn	Pn	09 06 29.6	-1.1
SNCC				*e*Sg	Sb	09 06 46.3	-0.2
SNCC	San Nicolas Is	1.21	189	P	Pn	09 06 29.7	-1.1
	baz=8.3,SNR=44						
SNCC				S	Sb	09 06 46.1	-0.3
	baz=8.3						
CIS	Catalina Islan	1.27	145	P	Pn	09 06 30.6	-1.0
	baz=326,SNR=65						
CIS				S	Sb	09 06 47.3	-0.9
	baz=326						
BFSC	Mount Baldy Ra	1.37	98	P	Pn	09 06 33.1	0.0
	baz=281,SNR=179						
BFSC				S	Sn	09 06 51.0	+0.1
	baz=281						
ISA	Isabella, Lake	1.39	29	*e*Pn	Pn	09 06 32.7	-0.6
ISA				*e*Sn	Sn	09 06 49.9	-1.2
ISA				*e*Sg	Sb	09 06 50.5	-1.1
ISA	Isabella, Lake	1.39	29	P	Pn	09 06 32.7	-0.6
	baz=210,SNR=118						
ISA				S	Sn	09 06 50.7	-0.4
	baz=210						
VES	Vestal, Richgr	1.40	7	P	Pn	09 06 32.8	-0.5
	baz=188,SNR=409						
VES				S	Sn	09 06 50.8	-0.5
	baz=188						
PAGB	Antelope Grade	1.50	329	*e*Pn	Pn	09 06 34.2	-0.6
SCI2	San Clemente I	1.59	157	P	Pn	09 06 35.5	-0.5
	baz=338,SNR=19						
SCI2				S	Sn	09 06 56.2	0.0
	baz=338						
VOG	Valley Oaks Go	1.87	358	P	Pn	09 06 39.4	-0.4
	baz=178,SNR=22						
VOG				S	Sn	09 07 02.8	-0.1
	baz=178						
MURC	Murrieta	1.94	115	P	Pn	09 06 40.1	-0.7
	baz=298,SNR=27						
MURC				S	Sn	09 07 04.6	-0.2
	baz=298						
RRX	Edison Barstow	1.94	77	P	Pn	09 06 40.6	-0.2
	baz=259,SNR=20						
RRX				S	Sn	09 07 04.9	+0.2
	baz=259						
BBRC	Big Bear Solar	1.97	95	P	Pn	09 06 41.8	+0.4
	baz=277,SNR=22						
BBRC				Sb	Sb	09 07 09.1	+0.6
	baz=277						
MPMC	Manual Prospec	2.18	42	P	Pn	09 06 44.2	-0.1
	baz=224,SNR=110						
MPMC				Sb	Sb	09 07 15.6	+1.1
	baz=224						
GSC	Goldstone, Bar	2.22	67	*e*Pn	Pn	09 06 44.6	-0.1
GSC				*e*Sn	Sn	09 07 11.3	-0.4
GSC	Goldstone, Bar	2.22	67	P	Pn	09 06 44.4	-0.3
	baz=249,SNR=23						
GSC				S	Sn	09 07 11.5	-0.2
	baz=249						
CWC	Cottonwood Cre	2.22	26	Pb	Pb	09 06 47.2	-1.2
	baz=207						
CWC				Sb	Sb	09 07 16.0	+0.3
	baz=207						
DAC	Darwin (Calif)	2.29	37	*e*Pn	Pn	09 06 48.2	+2.4
DAC				*e*Sn	Sn	09 07 12.3	-1.4
109C	Camp Elliot, M	2.40	130	P	Pn	09 06 46.4	-0.7
	baz=312,SNR=14						
109C				S	Sn	09 07 14.0	-2.0
	baz=312						
CPE	Camp Elliot	2.40	130	*e*Pn	Pn	09 06 47.0	0.0
CPE				*e*Sn	Sn	09 07 14.7	-1.3
HEC	Hector,Ludlow	2.47	80	P	Pn	09 06 47.7	-0.4
	baz=263,SNR=22						
HEC				S	Sn	09 07 17.8	-0.1
	baz=263						
PFO	Pinyon Flats O	2.50	109	*e*Pn	Pn	09 06 48.9	+0.3
PFO				*e*Sn	Sn	09 07 19.2	+0.6
PFO	Pinyon Flats O	2.50	109	P	Pn	09 06 48.7	+0.1
	baz=291,SNR=7.4						
PFO				S	Sn	09 07 19.3	+0.6
	baz=291						
TIN	Tinemaha, Big	2.74	18	Pb	Pb	09 06 55.9	-1.3
	baz=199						
TIN				Sb	Sb	09 07 32.1	+1.6
	baz=199						
BELC	Belle Mtn. Jos	2.77	98	P	Pn	09 06 52.6	+0.3
	baz=281,SNR=22						
BELC				S	Sn	09 07 25.2	-0.1
	baz=281						
BAR	Barrett	2.81	128	*e*Pn	Pn	09 06 52.6	-0.2
BAR				*e*Sn	Sn	09 07 24.9	-1.3
FURC	Furnace Creek,	2.83	44	Sb	Sb	09 07 36.1	+3.2
	baz=226						
MONP2	Monument Peak	2.85	122	P	Pn	09 06 53.7	+0.2
	baz=304,SNR=13						
MONP2				S	Sn	09 07 28.1	+0.5
	baz=304						
SHOC	Shoshone, Teco	2.87	59	S	Sn	09 07 27.2	-0.4
	baz=241						
SAO	San Andreas Ge	2.90	323	*e*Pn	Pn	09 06 53.1	-0.9
SAO				*e*Sn	Sn	09 07 27.1	-1.3
TUQ	Turquoise Moun	2.94	69	P	Pn	09 06 54.2	-0.5
	baz=252,SNR=16						
TUQ				S	Sn	09 07 29.2	-0.3
	baz=252						
GRAC	Grapevine Rang	2.99	31	Pb	Pb	09 07 01.6	+0.2
	baz=213						
GMRC	Granite Mounta	3.02	83	P	Pn	09 06 54.9	-0.8
	baz=265,SNR=25						
GMRC				S	Sn	09 07 30.3	-1.1
	baz=265						
MDPB	Devils Postpil	3.18	3	*e*Pn	Pn	09 06 59.6	+1.5
MDPB				*e*Sn	Sn	09 07 34.3	-1.4
MLAC	Mammoth, Mammo	3.20	7	Sb	Sb	09 07 44.0	+0.2
	baz=187						
IKP	In-Ko-Pah, Jac	3.21	123	P	Pn	09 06 58.4	+0.1
	baz=306						
IKP				S	Sn	09 07 36.6	+0.4
	baz=306						
SWSC	Sam W. Stewart	3.28	116	Sb	Sb	09 07 48.4	+2.5
	baz=299						
IRM	Iron Mountain	3.45	94	P	Pn	09 07 01.1	-0.5
	baz=277,SNR=9.3						
IRM				S	Sn	09 07 41.0	-1.0
	baz=277						
LDFC	Landfair	3.50	78	*e*Pn	Pn	09 07 01.5	-0.9
LDFC				*e*Sn	Sn	09 07 42.0	-1.4
TPNV	Topopah Spring	3.52	44	*e*Pn	Pn	09 07 03.5	+0.8
CMB	Columbia Colle	3.69	346	*e*Pn	Pn	09 07 05.8	+1.0
CMB				*e*Sn	Sn	09 07 49.3	+1.4
NEE2	Needles Airpor	3.87	84	P	Pn	09 07 07.3	0.0
	baz=267						
SHPR	Sheep Range	3.95	58	*e*Pn	Pn	09 07 10.1	+1.5
SHPR				*e*Sn	Sn	09 07 54.8	+0.2
GLA	Glamis	3.97	109	*e*Pn	Pn	09 07 09.5	+0.7
GLA				*e*Sn	Sn	09 07 56.4	+1.4
Y12C	Blythe	4.02	99	*e*Pn	Pn	09 07 09.0	-0.4
Y12C				*e*Sn	Sn	09 07 56.2	+0.2
Y12C	Blythe	4.02	99	P	Pn	09 07 09.0	-0.4
	baz=282						
Y12C				S	Sn	09 07 55.6	-0.4
	baz=282						
WAKR	Walker	4.05	358	*e*Pn	Pn	09 07 11.6	+1.6
WAKR				*e*Sn	Sn	09 07 56.0	-1.0
NVAR	Mina Array Bea	4.05	11	*e*Pn	Pn	09 07 11.5	+1.5
NV11	Mina Array Sit	4.08	13	*e*Pn	Pn	09 07 13.4	+3.0
RYN	Ryan	4.22	8	*e*Pn	Pn	09 07 15.3	+3.1
PDMCI	Parker Dam,Lak	4.26	91	P	Pn	09 07 12.4	-0.4
	baz=274						
W13A	Hualapai Mount	4.50	80	*e*Pn	Pn	09 07 16.2	+0.1
W13A				*e*Sn	Sn	09 08 06.4	-1.8
YERR	Yerington	4.53	1	*e*Pn	Pn	09 07 17.9	+1.4
PNTR	Pine Nut	4.64	357	*e*Pn	Pn	09 07 20.0	+1.9
RUBR	Rubicon Trail	4.64	352	*e*Pn	Pn	09 07 18.9	+0.7
RUBR				*e*Sn	Sn	09 08 11.6	-0.1
AFDM	Forest Hills D	4.69	344	*e*Pn	Pn	09 07 19.4	+0.8
AFDM				*e*Sn	Sn	09 08 11.0	-1.6
MCCM	Marconi Confer	4.69	323	*e*Pn	Pn	09 07 18.1	-0.4
KVN	Kaiserville	4.69	11	*e*Pn	Pn	09 07 21.4	+2.6
VCNR	Virginia City	4.85	357	*e*Pn	Pn	09 07 22.1	+1.2
113A	Mohawk Valley,	4.91	108	*e*Pn	Pn	09 07 22.1	+0.5
R11A	Troy Canyon, C	4.91	36	*e*Pn	Pn	09 07 23.8	+2.0
Y14A	Wickenburg	5.24	94	*e*Pn	Pn	09 07 26.4	+0.3
Y14A				*e*Sn	Sn	09 08 25.7	-0.5
PAHR	Pah Rah Range	5.25	359	*e*Pn	Pn	09 07 27.4	+1.0
HOPS	Hopland Field	5.46	327	*e*Pn	Pn	09 07 29.1	0.0
BEKR	Beckworth	5.47	351	*e*Pn	Pn	09 07 30.4	+0.9
U15A	North Rim	6.05	69	*e*Pn	Pn	09 07 38.9	+1.4
U15A				*e*Sn	Sn	09 08 47.1	+0.6
O03E	Paynes Creek	6.17	342	Sb	Sb	09 09 13.8	+4.7
	baz=160						
X16A	Lo Mia Camp, P	6.49	88	*e*Pn	Pn	09 07 44.4	+0.9
WUAZ	Wupatki	6.59	78	*e*Pn	Pn	09 07 44.7	-0.1
KMRM	Mail Ridge	6.75	330	*e*Pn	Pn	09 07 46.6	-0.3
ELK	Elko	7.06	26	*e*Pn	Pn	09 07 51.9	+0.5
ELK				*e*Sg	Sg	09 09 52.5	-2.7
KHMM	Horse Mountain	7.31	333	*e*Pn	Pn	09 07 55.7	+0.9
TUC	Tucson	7.43	104	*e*Pn	Pn	09 07 57.3	+0.9
X18A	Snowflake	7.72	87	*e*Pn	Pn	09 08 02.2	+1.8
YBH	Yreka Blue Hor	7.75	341	*e*Pn	Pn	09 08 03.0	+2.3
W18A	Petrified Fore	7.89	82	*e*Pn	Pn	09 08 05.2	+2.5
PV20	West Nyswonger	9.19	62	*e*Pn	Pn	09 08 21.2	+0.7
MVCO	Mesa Verde	9.19	69	*e*Pn	Pn	09 08 21.0	+0.4
PV11	David Mesa, Pa	9.24	62	*e*Pn	Pn	09 08 20.9	-0.3
PV01	Paradox Valley	9.40	64	*e*Pn	Pn	09 08 25.3	+1.7

IDC 07 09:19:56.6±3.1,53°.60N×87°.87E,h0km,mb1 2.8/2,
mb1mx2.7/59,mbtmp2.8/2,ML2.6/2,Error ellipse:
s-maj=28.4km s-min=18.2km az=53.0,Southwestern
Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.85	282	*i*		09 32 40.0	
	baz=100,slow=336,SNR=4.0						
ZALV	Zalesovo Beam	1.85	282	Pn	Pn	09 20 29.3	-0.2
	2.1nm,0.3s,baz=97,slow=14,SNR=16						
ZALV				Lg	Lg	09 20 55.1	
	3.5nm,0.3s,baz=100,slow=26,SNR=15						
KURBB	Kurchatov Arra	6.48	246	Pn	Pn	09 21 33.7	+0.5
	0.1nm,0.3s,baz=63,slow=13,SNR=4.1						
KURBB				Lg	Lg	09 23 22.1	
	0.0nm,0.3s,baz=64,slow=32,SNR=5.1						
MKAR	Makanchi Array	7.69	210	Pn	Pn	09 21 51.1	+1.3
	0.1nm,0.3s,baz=26,slow=13,SNR=4.2						

*IDC **07** 09:25:25.9±1.4,3°.76S×150°.28E,h0km,mb4.1/6,*
mb1 4.4/6,mb1mx3.8/41,mbtmp4.1/6,Error ellipse:
s-maj=57.9km s-min=22.5km az=125.0
*ISCJB **07** 09:25:26.9±0.7,3°.05S±0°.09×149°.1E±0°.1,h10km,mb4.0/9,*
Error ellipse: s-maj=17.2km s-min=12.2km az=28.6
*NEIC **07** 09:25:28.5±1.7,3°.04S×149°.08E,h10km±2km,mb4.2/5,*
Error ellipse: s-maj=24.5km s-min=20.3km az=101.0

ISC 07 09:25:28.4±0.9,3°.0S±0°.1×149°.1E±0°.1,h10km,n19,
σ1§70/18,mb4.0/9,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	1.95	298	*e*Pn	Pn	09 25 60.0	-1.6
WRAB	Tennant Creek	22.16	219	*e*P	P	09 30 24.1	-0.6
	12nm,1.4s						
WB2	Warramunga Arr	22.17	219	*e*P	P	09 30 25.0	+0.2
WR1	Warramunga Arr	22.18	219	*e*P	P	09 30 24.6	-0.2
WRA	Warramunga Arr	22.18	219	P	P	09 30 24.7	-0.2
	3.0nm,0.7s,baz=46,slow=10.0,SNR=7.4						
AS31	Alice Springs	25.27	214	*e*P	P	09 30 54.6	-0.4
	1.2nm,0.9s						
ASAR	Alice Springs	25.27	214	*e*P	P	09 30 53.8	-1.3
ASAR	Alice Springs	25.27	214	P	P	09 30 54.3	-0.8
	2.2nm,0.7s,baz=48,slow=8.5,SNR=28						
ONTNC	Ouen Toro	25.56	140	*e*P	P	09 30 55.9	-1.7
	46nm,1.1s						
FITZ	Fitzroy Crossi	27.46	235	*e*P	P	09 31 16.2	+1.4
	4.3nm,0.8s						
FITZ	Fitzroy Crossi	27.46	235	P	P	09 31 20.3	+5.5
	3.3nm,0.5s,baz=55,slow=11,SNR=17						
CMAR	Chiang Mai Arr	53.75	295	P	P	09 35 00.1	+8.8
	1.5nm,0.3s,baz=113,slow=6.9,SNR=6.7						
IMAR	Indian Mountai	79.94	20	*e*P	P	09 37 38.3	+1.0
ILAR	Eielson Array	81.90	23	P	P	09 37 47.9	+0.1
	0.5nm,0.8s,baz=258,slow=5.2,SNR=6.4						
ILB	Eielson Array	81.90	23	*e*P	P	09 37 48.2	+0.4
	3.0nm,1.5s						
YKA	Yellowknife Ar	95.54	28	P	P	09 38 54.0	+0.5
	0.4nm,0.8s,baz=272,slow=4.6,SNR=6.1						
YKB5	Yellowknife Ar	95.54	28	*e*P	P	09 38 54.0	+0.5
TORD	Torodi Ar. Bea	146.22	289	PKPbc	PKiKP	09 45 12.6	-0.8
	0.5nm,0.9s,baz=37,slow=4.1,SNR=4.7						
TOA1	Torodi Ar. Sit	146.22	289	*e*PKPdf	PKiKP	09 45 12.6	-0.8

*IDC **07** 09:32:07.0±0.8,12°.52N×144°.91E,h0km,mb4.0/13,*
mb1 4.1/13,mb1mx3.8/54,mbtmp4.0/13,MS3.3/2,
Ms1 3.3/2,ms1mx2.8/54,Error ellipse: s-maj=31.5km
s-min=17.9km az=103.0
*ISCJB **07** 09:32:10.7±0.3,12°.43N±0°.05×144°.91E±0°.08,h38km,*
mb4.3/33,MS3.1/2,Error ellipse: s-maj=11.8km
s-min=6.8km az=14.7
*NEIC **07** 09:32:10.5±1.5,12°.45N×144°.92E,h22km±6km,mb4.6/25,*
Error ellipse: s-maj=21.8km s-min=13.1km az=91.0

ISC 07 09:32:12.4±0.5,12°.49N±0°.07×145°.0E±0°.1,h38km,n56,
σ1§21/55,mb4.3/33,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.10	355	*e*Pn	Pn	09 32 31.2	-0.1
GUMO				*e*Sn	Sn	09 32 40.3	-4.8
SARN	Sarigan	4.26	11	*e*Pn	Pn	09 33 17.5	+2.7
PATS	Pohnpei	14.30	112	*e*Pn	Pn	09 35 30.1	-2.3
JHJ	Hachijo jima 2	21.08	348	LR	LR	09 44 11.3	
	comp=Z,86nm,21.8s,baz=286,slow=34						
MJAR	Matsushiro Arr	24.71	347	P	P	09 37 28.8	-1.2
	2.3nm,0.7s,baz=168,slow=9.5,SNR=4.9						
MJAR				LR	LR	09 46 54.6	
	comp=Z,66nm,18.8s,baz=160,slow=36						
MAJO	Matsushiro	24.71	347	*e*P	P	09 37 28.7	-1.3
YULB	Yu-li	24.95	299	*e*P	P	09 37 31.8	-0.6
	64nm,1.9s						
SSLB	Suanglung	25.39	300	*e*P	P	09 37 37.5	+1.1
	40nm,1.6s						
WRAB	Tennant Creek	33.87	198	*e*P	P	09 38 50.5	-1.1
	16nm,1.6s						
WB2	Warramunga Arr	33.88	198	*e*P	P	09 38 51.9	+0.2
	6.0nm,0.9s						
WR1	Warramunga Arr	33.88	198	*e*P	P	09 38 51.5	-0.2
WRA	Warramunga Arr	33.88	198	*e*P	P	09 38 50.6	-1.1
WRA	Warramunga Arr	33.88	198	P	P	09 38 51.5	-0.2
	1.2nm,0.6s,baz=22,slow=9.9,SNR=21						
AS31	Alice Springs	37.53	197	*e*P	P	09 39 22.9	0.0
	1.7nm,1.4s						
ASAR	Alice Springs	37.53	197	*e*P	P	09 39 22.8	-0.2
ASAR	Alice Springs	37.53	197	P	P	09 39 23.1	+0.1
	0.3nm,0.5s,baz=20,slow=9.8,SNR=9.2						
MBWA	Marble Bar	41.63	217	*e*P	P	09 39 56.6	-0.5
	35nm,1.8s						
PSA00	Pilbara Seismi	41.88	216	*e*P	P	09 39 59.4	+0.2
	7.8nm,0.9s						
KULM	Kulim	44.31	265	*e*P	P	09 40 19.1	0.0
	14nm,1.0s						
CMAR	Chiang Mai Arr	44.66	284	P	P	09 40 21.9	+0.2
	0.8nm,0.3s,baz=93,slow=5.9,SNR=4.2						
BBOO	Buckleboo	45.84	190	*e*P	P	09 40 30.3	-0.5
	43nm,2.0s						
TIXI	Tiksi	59.93	354	P	P	09 42 14.7	+0.5
	1.5nm,0.7s,baz=158,slow=2.5,SNR=3.6						
MK31	Makanchi Array	62.35	316	*e*P	P	09 42 32.6	+1.5
	3.7nm,1.5s						
MK32	Makanchi Array	62.35	316	*e*P	P	09 42 31.8	+0.7
MKAR	Makanchi Array	62.35	316	P	P	09 42 31.8	+0.7
	0.5nm,0.5s,baz=92,slow=8.7,SNR=4.1						
KURBB	Kurchatov Arra	65.52	320	P	P	09 42 50.6	-1.2
	0.8nm,0.5s,baz=103,slow=6.8,SNR=9.8						
CAST	Castle Rocks	66.94	26	*e*P	P	09 43 01.7	+1.0
	2.2nm,0.7s						
RC01	Rabbit Creek A	67.28	29	*e*P	P	09 43 03.5	+0.6
	5.8nm,1.0s						
MLY	Manley	68.01	24	*e*P	P	09 43 07.7	+0.2
	7.6nm,1.6s						
SML	Sawmill	68.13	28	*e*P	P	09 43 08.8	+0.5
	6.0nm,1.1s						
MDM	Murphy Dome	69.01	25	*e*P	P	09 43 14.8	+1.0
	10nm,1.9s						
ILAR	Eielson Array	69.52	25	*e*P	P	09 43 16.6	-0.3
ILAR	Eielson Array	69.52	25	P	P	09 43 16.1	-0.8
	0.8nm,0.4s,baz=251,slow=5.6,SNR=27						
ILB	Eielson Array	69.52	25	*e*P	P	09 43 16.3	-0.6
	5.7nm,1.6s						
KK31	Karatay Array	70.25	311	*e*P	P	09 43 21.1	-0.7
	2.8nm,1.3s						
KKAR	Karatay Array	70.25	311	*e*P	P	09 43 20.8	-1.1
BVAR	Borovoye Array	70.85	322	P	P	09 43 24.8	-0.5
	0.7nm,0.4s,baz=111,slow=8.5,SNR=4.6						
BRVK	Borovoye	70.91	322	*e*P	P	09 43 24.8	-0.8
	3.3nm,0.6s					

s-min=13.9km az=79.0
*ISCJB **07** 09:39:48.4±0.2, 7°.73S±0°.02×130°.58E±0°.03, h33km, mb4.7/76, MS4.1/10, Error ellipse: s-maj=4.3km s-min=3.4km az=15.8*
*DJA **07** 09:39:50.9±0.6, 8°S±2°×13°1E±°, h31km±7km, M4.9/12, mB5.1/4, mb4.9/12, MLv5.0/7, Mw(mB)4.5/4*
*NEIC **07** 09:39:50.2±2.7, 7°.61S×130°.58E, h31km±6km, mb4.7/60, Error ellipse: s-maj=12.3km s-min=5.2km az=155.0*
ISC 07 09:39:50.4±0.3, 7°.77S±0°.04×130°.58E±0°.04, h35km, n173, σ2°S31/181, mb4.7/76, MS3.9/10, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.75**	**107**	*e*Pn	Pn	09 40 10.4	+5.8
SAUI				*e*Sn	Sn	09 40 24.1	+9.5
SAUI	**Saumlaki**	**0.75**	**107**	P	**Pn**	**09 40 07.9**	**+3.4**
MTN	**Manton Dam**	**5.08**	**174**	*e*Pn	**Pn**	**09 41 08.0**	**+3.9**
MTN				*e*Sn	**Sn**	**09 42 05.2**	**+3.7**
FAKI	**Fak Fak**	**5.09**	**19**	*e*Pn	**Pn**	**09 41 04.1**	**-0.2**
FAKI				*e*Sn	**Sn**	**09 42 00.7**	**-1.4**
FAKI	**Fak Fak**	**5.09**	**19**	P	**Pn**	**09 41 04.0**	**-0.3**
KMPI	**Kaimana, Papua**	**5.13**	**38**	P	**Pn**	**09 41 05.7**	**+0.9**
SOEI	**Soe**	**6.54**	**252**	*e*Pn	**Pn**	**09 41 27.1**	**+2.7**
SOEI				*e*Sn	**Sn**	**09 42 36.3**	**-1.6**
SOEI	**Soe**	**6.54**	**252**	P	**Pn**	**09 41 26.2**	**+1.9**
SIJI	**Sorong**	**6.89**	**6**	Pn	**Pn**	**09 41 28.5**	**-0.5**
	11nm,0.3s,baz=172,slow=10,SNR=11						
SIJI				Sn	**Sn**	**09 42 40.2**	**-5.9**
	19nm,0.3s,baz=268,slow=23,SNR=8.3						
SIJI				LR	LR	09 44 25.2	
	comp=Z,444nm,21.2s,baz=212,slow=42						
SWI	**Sorong**	**6.89**	**6**	P	**Pn**	**09 41 27.3**	**-1.7**
BATI	**Baumata**	**7.25**	**250**	P	**Pn**	**09 41 36.1**	**+2.2**
BATI				S	**Sn**	**09 42 55.5**	**+0.5**
BATI	**Baumata**	**7.25**	**250**	Pn	**Pn**	**09 41 37.5**	**+3.5**
	4.9nm,0.3s,baz=99,slow=1.9,SNR=6.7						
BATI				Sn	**Sn**	**09 42 56.1**	**+1.1**
	11nm,0.3s,baz=94,slow=16,SNR=3.4						
SANI	**Sanana**	**7.29**	**321**	P	**Pn**	**09 41 34.8**	**+0.3**
BBSI	**Bau Bau**	**8.27**	**285**	P	Pn	09 41 56.7	+8.8
MMRI	**Maumere**	**8.30**	**263**	*e*Pn	**Pn**	**09 41 49.6**	**+1.2**
MMRI				*e*Sn	Sn	09 43 06.6	-14
TNTI	**Ternate**	**9.06**	**339**	*e*Pn	**Pn**	**09 41 55.2**	**-3.7**
TNTI				*e*Sn	**Sn**	**09 43 36.0**	**-3.8**
BSSI	**Bau Bau, Buton**	**10.14**	**279**	P	Pn	09 42 30.8	+17
BKSI	**Bulukumba**	**10.66**	**283**	P	**Pn**	**09 42 24.2**	**+3.4**
BNSI	**Bone**	**10.93**	**287**	P	Pn	09 42 33.8	+9.3
KAPI	**Kappang**	**11.10**	**284**	*e*Pn	**Pn**	**09 42 28.7**	**+1.9**
APSI	**Ampana**	**11.20**	**307**	P	Pn	09 42 35.3	+7.1
FITZ	**Fitzroy Crossi**	**11.34**	**205**	*e*Pn	**Pn**	**09 42 30.6**	**+0.5**
FITZ				*e*Sn	**Sn**	**09 44 30.1**	**-5.4**
FITZ	**Fitzroy Crossi**	**11.34**	**205**	Pn	**Pn**	**09 42 30.0**	**0.0**
	3.2nm,0.3s,baz=25,slow=8.5,SNR=58						
FITZ				Sn	**Sn**	**09 44 30.2**	**-5.4**
	5.2nm,0.3s,baz=220,slow=23,SNR=9.8						
FITZ				LR	LR	09 47 37.0	
	comp=Z,539nm,19.4s,baz=18,slow=41						
JAY	**Jayapura**	**11.36**	**63**	LR	LR	09 46 31.6	
	comp=Z,128nm,21.8s,baz=252,slow=36						
SPSI	**Sidrap Palu**	**11.39**	**289**	P	Pn	09 42 40.6	+10
TTSI	**Tana Toraja**	**11.69**	**293**	P	Pn	09 42 51.2	+16
MRSI	**Marisa**	**11.88**	**313**	P	Pn	09 42 42.2	+4.7
WRAB	**Tennant Creek**	**12.64**	**164**	*e*Pn	**Pn**	**09 42 47.5**	**-0.3**
WRAB				*e*Sn	**Sn**	**09 45 02.2**	**-5.2**
WR1	**Warramunga Arr**	**12.64**	**164**	*e*Pn	**Pn**	**09 42 47.8**	**-0.1**
WR1				*e*Sn	**Sn**	**09 45 02.0**	**-5.5**
WRA	**Warramunga Arr**	**12.64**	**164**	*e*Pn	**Pn**	**09 42 47.0**	**-0.9**
WRA				*e*Sn	**Sn**	**09 44 59.8**	**-7.7**
WRA	**Warramunga Arr**	**12.64**	**164**	Pn	**Pn**	**09 42 47.8**	**-0.1**
	2.0nm,0.3s,baz=337,slow=13,SNR=116						
WRA				Sn	**Sn**	**09 45 02.0**	**-5.5**
	2.7nm,0.3s,baz=345,slow=22,SNR=11						
WRA				LR	LR	09 48 40.9	
	comp=Z,612nm,19.4s,baz=340,slow=41						
WB2	**Warramunga Arr**	**12.65**	**164**	*e*Pn	**Pn**	**09 42 47.6**	**-0.3**
WB2				*e*Sn	**Sn**	**09 45 02.6**	**-5.0**
WC3	**Warramunga Arr**	**12.67**	**163**	*e*Pn	**Pn**	**09 42 47.9**	**-0.3**
WC3				*e*Sn	**Sn**	**09 45 00.2**	**-7.8**
PLAI	**Plampang**	**12.71**	**264**	P	**Pn**	**09 42 48.4**	**-0.4**
	73nm,0.8s						
MPSI	**Mapaga**	**13.35**	**307**	P	**P**	**09 43 02.5**	**-4.1**
COEN	**Coen**	**13.81**	**118**	*e*Pn	**Pn**	**09 43 02.5**	**-1.4**
COEN				*e*Sn	**Sn**	**09 45 29.8**	**-6.4**
DAV	**Davao City (W)**	**15.56**	**341**	LR	LR	09 50 21.4	
	comp=Z,322nm,20.1s,baz=170,slow=42						
AS31	**Alice Springs**	**16.13**	**169**	*e*Pn	**Pn**	**09 43 35.7**	**+1.0**
	6.5nm,0.8s						
AS31				*e*Sn	**Sn**	**09 46 26.8**	**-5.7**
ASAR	**Alice Springs**	**16.13**	**169**	*e*Pn	**Pn**	**09 43 34.0**	**-0.6**
ASAR				*e*Sn	Sn	09 46 20.3	-12
ASAR	**Alice Springs**	**16.13**	**169**	Pn	**Pn**	**09 43 34.1**	**-0.5**
	1.1nm,0.3s,baz=330,slow=8.3,SNR=58						
ASAR				Sn	**Sn**	**09 46 26.8**	**-5.7**
	0.4nm,0.3s,baz=354,slow=25,SNR=10.0						
ASAR				LR	LR	09 50 47.1	
	comp=Z,623nm,19.0s,baz=338,slow=40						
JAGI	**Jajag, Banyuwa**	**16.27**	**266**	*e*Pn	**Pn**	**09 43 36.1**	**-0.3**
PMG	**Port Moresby**	**16.48**	**97**	*e*Pn	**Pn**	**09 43 37.0**	**-2.0**
	22nm,0.9s						
PMG	**Port Moresby**	**16.48**	**97**	LR	LR	09 51 30.2	
	comp=Z,340nm,19.6s,baz=258,slow=42						
MBWA	**Marble Bar**	**16.94**	**217**	*e*Pn	**Pn**	**09 43 44.1**	**-0.8**
	26nm,1.1s						
PSA00	**Pilbara Seismi**	**17.19**	**216**	*e*Pn	**P**	**09 43 49.5**	**+0.2**
	20nm,0.8s						
PSA00				*e*Sn	**Sn**	**09 46 49.2**	**-9.1**
CTA	**Charters Tower**	**19.51**	**130**	LR	LR	09 53 29.3	
	comp=Z,474nm,20.8s,baz=280,slow=41						
SBUM	**Sibu**	**20.94**	**298**	*e*P	**P**	**09 44 30.5**	**+0.2**
	19nm,0.7s						
GIRL	**Giralia**	**21.58**	**225**	*e*P	**P**	**09 44 41.5**	**+4.3**
	56nm,1.1s						
KSM	**Kuching**	**22.20**	**294**	*e*P	**P**	**09 44 42.2**	**-1.8**
	8.2nm,0.7s						
CISI	**Cisompet, Garu**	**22.56**	**269**	*e*P	**P**	**09 44 46.8**	**-1.1**
	30nm,0.9s						
LEM	**Lembang**	**22.79**	**271**	LR	LR	09 55 09.6	
	comp=Z,282nm,19.4s,baz=69,slow=41						
FORT	**Forrest**	**23.02**	**186**	*e*P	**P**	**09 44 54.4**	**+2.0**
	23nm,0.8s						
MORW	**Morawa**	**25.23**	**211**	*e*P	**P**	**09 45 15.8**	**+2.6**
	17nm,0.9s						
BBOO	**Buckleboo**	**25.43**	**169**	*e*P	**P**	**09 45 18.8**	**+3.8**
	20nm,0.8s						
STKA	**Stephens Creek**	**26.09**	**158**	*e*P	**P**	**09 45 23.7**	**+2.7**
	1.2nm,0.8s						
STKA	**Stephens Creek**	**26.09**	**158**	P	**P**	**09 45 25.2**	**+4.2**
	4.6nm,0.7s,baz=336,slow=7.5,SNR=11						
STKA				LR	LR	09 56 57.2	
	comp=Z,416nm,20.4s,baz=334,slow=39						
MNAI	**Manna**	**27.67**	**275**	*e*P	**P**	**09 45 35.1**	**-0.2**
	210nm,1.1s						
NWAO	**Narrogin (SRO)**	**27.93**	**204**	*e*P	**P**	**09 45 39.6**	**+2.2**
	14nm,1.1s						
NWAO	**Narrogin (SRO)**	**27.93**	**204**	LR	LR	09 56 58.4	
	comp=Z,318nm,18.3s,baz=7.0,slow=37						
CAN	**Canberra**	**32.21**	**151**	*e*P	**P**	**09 46 16.4**	**+1.0**
	14nm,1.1s						
PSI	**Prapat**	**33.28**	**287**	*e*P	**P**	**09 46 24.2**	**-0.9**
	6.0nm,0.8s						
JOW	**Kunigami**	**34.47**	**356**	P	**P**	**09 46 35.2**	**+0.2**
	0.8nm,0.5s,baz=193,slow=12,SNR=5.2						
LHMI	**Lhok Sumawe**	**35.95**	**290**	*e*P	**P**	**09 46 48.0**	**0.0**
	55nm,0.8s						
CHAI	**Chaiyaphum**	**36.80**	**310**	P	**P**	**09 46 55.2**	**-0.1**
	15μm,0.6s						
DZM	**Mont Dzumac**	**37.34**	**116**	*e*P	**P**	**09 47 00.9**	**+0.9**
	14nm,1.1s						
CM31	**Chiang Mai Arr**	**40.66**	**310**	*e*P	**P**	**09 47 26.3**	**-1.3**
	6.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.66**	**310**	*e*P	**P**	**09 47 26.1**	**-1.5**
CMAR	**Chiang Mai Arr**	**40.66**	**310**	P	**P**	**09 47 26.6**	**-1.0**
	4.3nm,0.7s,baz=137,slow=7.2,SNR=17						
CMAR				PcP	**PcP**	**09 49 32.3**	**+3.2**
	1.3nm,0.4s,baz=168,slow=5.2,SNR=4.3						
CMAR				LR	LR	10 05 01.1	
	comp=Z,150nm,20.6s,baz=182,slow=38						
CMMT	**Chiang Mai**	**40.87**	**311**	P	**P**	**09 47 28.3**	**-1.1**
	6.7nm,0.8s						
CHTO	**Chiang Mai**	**40.87**	**311**	*e*P	**P**	**09 47 28.0**	**-1.4**
	7.8nm,0.8s						
NJ2	**Nanjing**	**41.15**	**345**	*e*P	**P**	**09 47 31.5**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WHN	**Wuhan**	**41.15**	**339**	*e*P	**P**	**09 47 34.2**	**+2.8**
KMI	**Kunming**	**42.47**	**321**	P	**P**	**09 47 42.6**	**0.0**
KMI				pmax	pmax		
	comp=Z,25nm,0.9s						
KMI	**Kunming**	**42.47**	**321**	*e*P	**P**	**09 47 42.6**	**0.0**
	21nm,0.5s						
MJAR	**Matsushiro Arr**	**44.65**	**9**	*e*P	**P**	**09 47 58.3**	**-1.5**
MJAR	**Matsushiro Arr**	**44.65**	**9**	P	**P**	**09 47 58.5**	**-1.3**
	11nm,0.8s,baz=194,slow=11,SNR=27						
MAJO	**Matsushiro**	**44.65**	**9**	*e*P	**P**	**09 47 58.5**	**-1.3**
	20nm,0.8s						
MAT	**Matsushiro**	**44.65**	**9**	P	**P**	**09 47 58.6**	**-1.2**
MJB9	**Matsu-Tunnel**	**44.66**	**9**	*e*P	**P**	**09 47 58.9**	**-0.9**
	21nm,0.8s						
KS15	**Wonju Array Si**	**45.04**	**357**	*e*P	**P**	**09 48 02.9**	**+0.1**
	5.8nm,1.0s						
KSAR	**Wonju Array Be**	**45.04**	**357**	*e*P	**P**	**09 48 02.0**	**-0.8**
KSRS	**Korea Array**	**45.05**	**357**	P	**P**	**09 48 02.6**	**-0.3**
	1.3nm,0.6s,baz=175,slow=9.0,SNR=7.2						
CD2	**Chengdu**	**46.25**	**328**	*e*P	**P**	**09 48 13.0**	**+0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**46.37**	**335**	P	**P**	**09 48 11.3**	**-2.1**
XAN				pP	pP	09 48 18.4	-5.0
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,43nm,4.8s						
XAN	**Xi'an**	**46.37**	**335**	*e*P	**P**	**09 48 11.4**	**-2.1**
	8.4nm,0.9s						
BRDH	**Bariadhala**	**48.66**	**309**	LR	LR	10 11 46.8	
	comp=Z,88nm,18.3s,baz=163,slow=40						
WHZ	**Wether Hill Ro**	**49.75**	**146**	*e*P	**P**	**09 48 39.9**	**+0.5**
	14nm,1.2s						
LZH	**Lanzhou**	**50.34**	**332**	*e*P	**P**	**09 48 47.9**	**+3.7**
LZH				pP	pP	09 48 53.7	-0.5
LZH				sP	sP	09 48 59.6	+1.4
LZH				*e*PP	**PP**	**09 50 41.8**	**+1.7**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,78nm,5.4s						
LZH				LR	LR		
	comp=N,230nm,16.7s						
LZH				LR	LR		
	comp=E,230nm,16.2s						
LZH				LR	LR		
	comp=Z,360nm,17.3s						
HHC	**Hu-ho-hao-te**	**51.45**	**342**	*e*P	**P**	**09 48 52.9**	**+0.6**
HHC				S	**S**	**09 56 08.2**	**-1.8**
HHC				pmax	pmax		
	comp=Z,61nm,1.1s						
HHC				pmax	pmax		
	comp=Z,220nm,6.2s						
HHC				LR	LR		
	comp=N,640nm,15.1s						
HHC				LR	LR		
	comp=E,520nm,14.3s						
HHC				LR	LR		
	comp=Z,560nm,15.0s						
USA0B	**Ussuriysk Arra**	**51.74**	**1**	*e*P	**P**	**09 48 54.1**	**-0.2**
	5.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**51.74**	**1**	*e*P	**P**	**09 48 54.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**51.74**	**1**	P	**P**	**09 48 54.2**	**-0.1**
	1.7nm,0.5s,baz=193,slow=9.0,SNR=10.0						
PALK	**Pallekele**	**51.92**	**286**	LR	LR	10 11 08.9	
	comp=Z,108nm,21.3s,baz=137,slow=36						
ASAJ	**Asahikawa**	**52.77**	**11**	P	**P**	**09 49 02.4**	**+0.4**
	10nm,0.8s,baz=212,slow=10,SNR=5.9						
RAMN	**Ramite**	**54.83**	**311**	*e*P	**P**	**09 49 16.5**	**-1.2**
	26nm,0.6s						
GTA	**Gaotai**	**54.91**	**331**	*e*P	**P**	**09 49 17.4**	**-0.6**
GTA				pP	pP	09 49 23.1	-4.9
GTA				sP	pwP	09 49 26.2	-3.9
GTA				pmax	pmax		
	comp=Z,11nm,1.1s						
GTA				pmax	pmax		
	comp=Z,71nm,8.9s						
GTA				LR	LR		
	comp=N,80nm,19.0s						
GTA				LR	LR		
	comp=E,63nm,19.0s						
JIRN	**Jiri**	**55.52**	**311**	*e*P	**P**	**09 49 20.8**	**-2.0**
PKIN	**Phulchoki**	**56.07**	**311**	*e*P	**P**	**09 49 24.7**	**-1.9**
	9.5nm,0.7s						
KOLN	**Koldanda**	**57.53**	**310**	*e*P	**P**	**09 49 35.7**	**-1.2**
	21nm,0.7s						
DANN	**Dangsing**	**57.70**	**311**	*e*P	**P**	**09 49 36.5**	**-1.8**
	12nm,0.7s						
PYUN	**Piuthan**	**58.16**	**310**	*e*P	**P**	**09 49 40.1**	**-1.3**
	34nm,0.8s						
ULN	**Ulaanbaatar**	**59.16**	**342**	*e*P	**P**	**09 49 48.3**	**+0.4**
	4.1nm,0.7s						
SONA0	**Songino Array**	**59.34**	**341**	*e*P	**P**	**09 49 49.1**	**0.0**
SONM	**Songino Array**	**59.34**	**341**	*e*P	**P**	**09 49 48.7**	**-0.4**
SONM	**Songino Array**	**59.34**	**341**	P	**P**	**09 49 49.1**	**0.0**
	1.4nm,0.7s,baz=169,slow=6.2,SNR=6.1						
WMQ	**Urumqi**	**64.34**	**327**	*e*P	**P**	**09 50 23.4**	**+0.6**
WMQ				pP	pP	09 50 31.9	-1.1
WMQ				sP	sP	09 50 38.3	+1.4
WMQ				PcP	**PcP**	**09 50 58.4**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,51nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,300nm,4.7s						
WMQ				LR	LR		
	comp=Z,370nm,33.1s						
PEA0B	**Petropavlovsk-**	**64.87**	**18**	*e*P	**P**	**09 50 27.1**	**+1.2**
	11nm,1.0s						
PETK	**Petropavlovsk-**	**64.87**	**18**	*e*P	**P**	**09 50 26.0**	**+0.1**
PETK	**Petropavlovsk-**	**64.87**	**18**	P	**P**	**09 50 27.2**	**+1.3**
	2.8nm,0.6s,baz=166,slow=2.7,SNR=14						
PEA1	**Petropavlovsk-**	**64.88**	**18**	*e*P	**P**	**09 50 27.2**	**+1.2**
TARG	**Taragay, Kyrgy**	**68.92**	**320**	*e*P	**P**	**09 50 50.3**	**-2.1**
	6.8nm,0.8s						
PRZ	**Przheval'sk**	**68.95**	**321**	*e*P	**P**	**09 50 52.6**	**+0.3**
	16nm,0.6s						
KSH	**Kashi**	**68.97**	**318**	P	**P**	**09 50 54.5**	**+2.1**
KSH				sP	sP	09 51 06.8	+0.3
KSH				PP	**PP**	**09 53 29.6**	**+4.4**
KSH				S	**S**	**09 59 55.3**	**+0.4**
KSH				SS	**SS**	**10 04 23.7**	**+2.5**
KSH				pmax	pmax		
	comp=Z,23nm,0.7s						
KSH				pmax	pmax		
	comp=Z,170nm,4.0s						
MK31	**Makanchi Array**	**69.17**	**327**	*e*P	**P**	**09 50 53.4**	**-0.1**
	17nm,0.8s						
MK32	**Makanchi Array**	**69.17**	**327**	*e*P	**P**	**09 50 53.5**	**0.0**
MKAR	**Makanchi Array**	**69.17**	**327**	*e*P	**P**	**09 50 53.2**	**-0.2**
MKAR	**Makanchi Array**	**69.17**	**327**	P	**P**	**09 50 53.5**	**0.0**
	32nm,0.9s,baz=128,slow=7.5,SNR=179						
MAKZ	**Makanchi**	**69.36**	**327**	*e*P	**P**	**09 50 54.4**	**-0.2**
	17nm,0.8s						
KDJ	**Kajisay**	**69.52**	**320**	*e*P	**P**	**09 50 56.6**	**+0.7**
	12nm,0.8s						
NRN	**Naryn**	**69.92**	**319**	*e*P	**P**	**09 50 58.8**	**+0.3**
	6.3nm,0.8s						
BOOM	**Boomskoye usch**	**70.50**	**320**	*e*P	**P**	**09 51 02.4**	**+0.6**
	13nm,0.8s						
KZA	**Kyzart**	**70.73**	**320**	P	**P**	**09 51 04.7**	**+1.2**
	SNR=14						
TKM2	**Tokmak 2**	**70.93**	**320**	P	**P**	**09 51 05.2**	**+0.6**
	SNR=14						
UCH	**Uchtor**	**71.28**	**319**	P	**P**	**09 51 08.0**	**+1.0**
	SNR=16						
AAK	**Ala-Archa**	**71.49**	**320**	P	**P**	**09 51 08.6**	**+0.7**
	SNR=9.9						
AAK	**Ala-Archa**	**71.49**	**320**	*e*P	**P**	**09 51 08.6**	**+0.7**
	10.0nm,0.8s						
AAK	**Ala-Archa**	**71.49**	**320**	P	**P**	**09 51 08.9**	**+1.0**
	8.8nm,0.8s,baz=119,slow=4.0,SNR=20						
VNDA	**Vanda**	**71.62**	**173**	*e*P	**P**	**09 51 09.6**	**+1.7**
VNDA	**Vanda**	**71.62**	**173**	P	**P**	**09 51 11.4**	**+3.5**
	1.2nm,0.8s,baz=314,slow=9.1,SNR=5.8						
KBL	**Kabul**	**71.69**	**310**	*e*P	**P**	**09 51 09.2**	**-0.2**
	9.3nm,1.1s						
AML	**Almayashu**	**71.76**	**319**	P	**P**	**09 51 10.8**	**+1.0**
	SNR=23						
USP	**Ospenovka**	**71.80**	**320**	P	**P**	**09 51 10.3**	**+0.7**
	SNR=5.1						
ARSB	**Arslanbob**	**71.84**	**318**	*e*P	**P**	**09 51 08.4**	**-1.6**
	20nm,0.8s						
EKS2	**Erkin-Say**	**71.96**	**320**	P	**P**	**09 51 11.6**	**+0.9**
	SNR=11						
ZAA0	**Zalesovo Array**	**72.52**	**334**	*e*P	**P**	**09 51 12.5**	**-1.0**
	4.7nm,1.0s						
ZALV	**Zalesovo Beam**	**72.52**	**334**	*e*P	**P**	**09 51 12.6**	**-1.0**
ZALV	**Zalesovo Beam**	**72.52**	**334**	P	**P**	**09 51 12.8**	**-0.7**
	2.5nm,0.7s,baz=116,slow=5.1,SNR=10						
ZAA1	**Zalesovo Array**	**72.52**	**334**	*e*P	**P**	**09 51 12.8**	**-0.7**
GAR	**Garm**	**72.61**	**315**	*e*P	**P**	**09 51 14.7**	**+0.1**
	26nm,0.8s						
BTK	**Batken**	**72.72**	**316**	*e*P	**P**	**09 51 15.4**	**+0.2**
	3.8nm,0.6s						
KURBB	**Kurchatov Arra**	**73.46**	**328**	P	**P**	**09 51 19.0**	**-0.2**
	2.9nm,0.5s,baz=127,slow=5.1,SNR=49						
KURK	**Kurchatov**	**73.47**	**329**	*e*P	**P**	**09 51 19.4**	**+0.2**
	5.5nm,0.8s						
KK31	**Karatay Array**	**74.29**	**319**	*e*P	**P**	**09 51 24.6**	**+0.3**
	4.4nm,0.9s						
KKAR	**Karatay Array**	**74.29**	**319**	*e*P	**P**	**09 51 24.2**	**-0.1**
	4.4nm,0.9s						
MAW	**Mawson**	**74.45**	**202**	*e*P	**P**	**09 51 28.8**	**+4.0**
	1.6nm,0.9s						
MAW	**Mawson**	**74.45**	**202**	P	**P**	**09 51 28.8**	**+4.0**
	4.6nm,0.8s,baz=83,slow=7.5,SNR=7.1						
BVAR	**Borovoye Array**	**79.01**	**328**	P	**P**	**09 51 50.9**	**+0.1**
	5.9nm,1.0s,baz=141,slow=5.7,SNR=14						
BRVK	**Borovoye**	**79.08**	**328**	*e*P	**P**	**09 51 51.3**	**+0.2**
	8.0nm,1.0s						
TIXI	**Tiksi**	**79.26**	**359**	*e*P	**P**	**09 51 51.1**	**-0.5**
	4.7nm,1.0s						
NRIK	**Noril'sk**	**82.44**	**346**	P	**P**	**09 52 09.3**	**+0.6**
	11nm,0.9s,baz=136,slow=4.5,SNR=13						
ABKAR	**Akbulak array**	**83.46**	**322**	*e*P	**P**	**09 52 14.6**	**+0.1**
	4.7nm,0.8s						
AKTO	**Aktyubinsk**	**85.02**	**322**	P	**P**	**09 52 22.8**	**+0.5**
	3.6nm,0.8s,baz=132,slow=5.5,SNR=12						
ARU	**Arti**	**86.65**	**328**	*e*P	**P**	**09 52 30.2**	**-0.1**
	9.5nm,0.9s						
MLY	**Manley**	**92.24**	**25**	*e*P	**P**	**09 52 56.8**	**+0.4**
	2.3nm,1.1s						
RND	**Reindeer**	**92.68**	**26**	*e*P	**P**	**09 52 57.1**	**-1.5**
	2.4nm,0.8s						
WRH	**Wood River Hil**	**93.23**	**25**	*e*P	**P**	**09 53 00.9**	**-0.1**
	3.7nm,1.1s						
CCB	**Clear Creek Bu**	**93.38**	**25**	*e*P	**P**	**09 53 01.2**	**-0.5**
	2.8nm,1.0s						
HDA	**Harding Lake**	**93.70**	**26**	*e*P	**P**	**09 53 02.6**	**-0.5**
	4.3nm,1.1s						
ILAR	**Eielson Array**	**93.79**	**25**	*e*P	**P**	**09 53 03.3**	**-0.3**
ILAR	**Eielson Array**	**93.79**	**25**	P	**P**	**09 53 02.7**	**-0.9**
	1.1nm,0.9s,baz=274,slow=4.8,SNR=8.6						
ILB	**Eielson Array**	**93.79**	**25**	*e*P	**P**	**09 53 03.3**	**-0.3**
	1.4nm,0.8s						
BMAR	**Burnt Mountain**	**95.13**	**23**	*e*P	**P**	**09 53 10.9**	**+1.2**
BCAR	**Beaver Creek A**	**95.79**	**27**	*e*P	**P**	**09 53 14.2**	**+1.3**
EGAK	**Eagle**	**96.23**	**26**	*e*P	**P**	**09 53 15.2**	**+0.5**
	4.4nm,1.1s						
YKA	**Yellowknife Ar**	**108.18**	**26**	PKKPbc	PKKPbc	10 09 28.4	-0.1
	0.1nm,0.4s,baz=111,slow=3.6,SNR=3.9						
TXAR	**Lajitas Array**	**124.82**	**60**	PKP	**PKiKP**	**09 58 50.1**	**+2.3**
	0.3nm,0.7s,baz=306,slow=2.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**129.51**	**281**	PKP	**PKiKP**	**09 58 58.5**	**+1.1**
	1.3nm,0.8s,baz=104,slow=1.8,SNR=9.0						
TOA1	**Torodi Ar. Sit**	**129.52**	**281**	*e*PKPdf	**PKiKP**	**09 58 58.5**	**+1.1**
LVC	**Limon Verde**	**144.28**	**148**	*e*PKPdf	PKPbc	09 59 22.4	0.0
CPUP	**Villa Florida**	**145.25**	**167**	*e*PKPbc	**PKiKP**	**09 59 27.6**	**-1.6**
CPUP	**Villa Florida**	**145.25**	**167**	PKPbc	**PKiKP**	**09 59 28.5**	**-0.7**
	8.8nm,1.0s,baz=208,slow=2.2,SNR=10.0						
LPAZ	**La Paz**	**149.77**	**142**	*e*PKPbc	**PKiKP**	**09 59 39.6**	**+0.1**
LPAZ	**La Paz**	**149.77**	**142**	PKPbc	**PKPab**	**09 59 42.4**	**-1.4**
	12nm,1.0s,baz=158,slow=1.3,SNR=26						

NEIC 07 09:42:45.4±0.0, 52°.42N×173°.39W, h117km, mb3.5/18, ML3.2(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.46**	**252**	*e*Pn	Pn	09 43 03.5	+0.8
KOKL	**Mount Kliuchef**	**0.51**	**259**	*e*Pn	Pn	09 43 04.1	+1.0
KOWE	**Korovin West**	**0.53**	**265**	*e*Pn	Pn	09 43 04.1	+0.9
ATKA	**Atka Island**	**0.54**	**247**	*e*Pn	Pn	09 43 03.4	+0.2
GSTR	**Great Sitkin T**	**1.67**	**260**	*e*Pn	Pn	09 43 15.7	+1.0
GSTR				*e*Sn	Sn	09 43 40.3	+3.3
GSMY	**Great S

PCJI	Pacitan	0.22	208	P	Pn	09 48 56.4	-0.7
PCJI				S	Sn	09 49 10.3	-2.6
WOJI	Wonogiri, Jawa	0.39	294	P	Pn	09 48 57.0	-0.6
WOJI				S	Sn	09 49 12.9	-0.8
PWJI	Pagerwojo	0.52	93	S	Sn	09 49 12.3	-2.3
NGJI	Ngawi	0.65	16	P	Pn	09 49 00.6	+1.6
SMRI	Semarang	1.26	318	*e*Pn	Pn	09 49 05.7	+1.9
SMRI				*e*Sn	Sn	09 49 23.8	-1.0
SMRI	Semarang	1.26	318	P	Pn	09 49 05.8	+1.9
SMRI				S	Sn	09 49 27.6	+2.8
GMJI	Gumukmas	2.16	97	P	Pn	09 49 12.8	-0.8
GMJI				S	Sn	09 49 40.0	-2.1
KMMI	Kalianget	2.82	71	P	Pn	09 49 22.6	+0.9
JAGI	Jajag, Banyuwa	2.88	100	*e*Pn	Pn	09 49 21.2	-1.2
JAGI				*e*Sn	Sn	09 49 55.4	-2.5
JAGI	Jajag, Banyuwa	2.88	100	P	Pn	09 49 21.2	-1.2
CISI	Cisompet, Garu	3.46	277	*e*Pn	Pn	09 49 31.2	+1.2
CISI				*e*Sn	Sn	09 50 05.7	-5.7
CISI	Cisompet, Garu	3.46	277	P	Pn	09 49 30.7	+0.8
SRBI	Singaraja	3.89	92	P	Pn	09 49 35.4	0.0
IGBI	Denpasar	3.91	102	P	Pn	09 49 34.4	-1.2
TNG	Tangerang	4.95	291	P	Pn	09 49 43.2	-6.1
CGJI	Cibinong	5.71	284	P	Pn	09 50 01.3	+1.9
XMIS	Christmas Isla	6.08	246	*e*Pn	Pn	09 50 02.2	-2.1
PLAI	Plampang	6.48	98	P	Pn	09 50 09.4	-0.2
KAPI	Kappang	8.92	71	*e*Pn	Pn	09 50 39.9	-2.3
KAPI				*e*Sn	Sn	09 52 16.0	-5.4
MNAI	Manna	9.03	293	*e*Pn	Pn	09 50 42.2	-1.5
MNAI				*e*Sn	Sn	09 52 21.0	-3.1
MPSI	Mapaga	11.93	46	P	P	09 51 32.3	+3.8
MRSI	Marisa	13.56	52	P	P	09 51 49.0	+2.4
GIRL	Giralia	14.84	169	*e*Pn	Pn	09 51 59.1	+0.3
MBWA	Marble Bar	15.42	149	*e*Pn	Pn	09 52 04.2	-1.9
	14nm,0.4s						
PSA00	Pilbara Seismi	15.82	149	*e*Pn	Pn	09 52 09.7	-1.4
	56nm,1.8s						
FITZ	Fitzroy Crossi	17.20	127	*e*P	Pn	09 52 27.4	-0.3
	6.6nm,0.8s						
FITZ	Fitzroy Crossi	17.20	127	P	Pn	09 52 28.0	+0.2
	0.3nm,0.3s,baz=300,slow=5.0,SNR=7.4						
MTN	Manton Dam	20.10	106	*e*P	P	09 52 58.5	-0.1
	24nm,1.3s						
MORW	Morawa	21.43	169	*e*P	P	09 53 13.2	+0.5
	26nm,1.3s						
FAKI	Fak Fak	21.47	78	*e*P	P	09 53 12.6	-0.6
	33nm,1.2s						
WRA	Warramunga Arr	25.29	120	*e*P	P	09 53 47.9	-1.2
WRA	Warramunga Arr	25.29	120	P	P	09 53 49.3	+0.2
	3.8nm,0.5s,baz=294,slow=11,SNR=22						
WRA				ScP	ScP	10 00 42.8	-0.7
	1.6nm,0.9s,baz=303,slow=2.6,SNR=6.6						
WR1	Warramunga Arr	25.29	120	*e*P	P	09 53 49.3	+0.2
WR1				*e*ScP	ScP	10 00 42.8	-0.6
WRAB	Tennant Creek	25.29	120	*e*P	P	09 53 49.6	+0.5
	9.2nm,0.8s						
WB2	Warramunga Arr	25.30	120	*e*P	P	09 53 49.5	+0.3
	8.3nm,0.5s						
AS31	Alice Springs	26.70	128	*e*P	P	09 54 02.4	+0.6
	2.7nm,0.6s						
ASAR	Alice Springs	26.70	128	*e*P	P	09 54 01.4	-0.3
ASAR	Alice Springs	26.70	128	P	P	09 54 02.0	+0.3
	5.6nm,0.6s,baz=304,slow=8.5,SNR=31						
ASAR				PcP	PcP	09 57 22.2	+0.7
	0.6nm,0.5s,baz=314,slow=2.5,SNR=5.2						
ASAR				ScP	ScP	10 00 47.1	-0.4
	1.0nm,0.6s,baz=321,slow=2.7,SNR=6.7						
FORT	Forrest	27.57	148	*e*P	P	09 54 10.0	+0.7
	59nm,1.4s						
CMAR	Chiang Mai Arr	28.97	335	P	P	09 54 23.1	+1.2
	1.1nm,0.4s,baz=171,slow=8.4,SNR=7.7						
COEN	Coen	31.84	104	*e*P	P	09 54 47.0	-0.3
	24nm,1.4s						
YULB	Yu-li	32.70	17	*e*P	P	09 54 54.7	+0.1
	30nm,1.5s						
SSLB	Suanglung	32.97	16	*e*P	P	09 54 58.1	+1.1
	16nm,0.8s						
BBOO	Buckleboo	33.72	141	*e*P	P	09 55 03.1	-0.2
	8.8nm,0.7s						
YHNB	Yeheng	33.93	17	*e*P	P	09 55 04.2	-1.1
	158nm,1.8s						
KMI	Kunming	33.95	346	P	P	09 55 10.9	+5.2
KMI				pmax	pmax		
	comp=Z,12nm,1.4s						
STKA	Stephens Creek	36.87	134	*e*P	P	09 55 31.5	+1.2
	2.1nm,0.6s						
STKA	Stephens Creek	36.87	134	P	P	09 55 31.4	+1.1
	9.1nm,0.5s,baz=308,slow=8.6,SNR=21						
SHL	Shillong	38.33	331	*e*P	P	09 55 41.5	-1.4
	9.5nm,0.7s						
WHN	Wuhan	38.43	4	⇓P	P	09 55 39.0	-4.4
CD2	Chengdu	39.35	350	*e*P	P	09 55 52.5	+1.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LSA	Lhasa	42.19	334	*e*P	P	09 56 13.9	-1.0
	6.0nm,0.5s						
TOO	Toolangi	42.72	139	*e*P	P	09 56 21.1	+2.5
	33nm,1.7s						
CAN	Canberra	43.93	134	*e*P	P	09 56 30.1	+1.7
	62nm,1.9s						
LZH	Lanzhou	44.40	351	*e*P	P	09 56 34.8	+2.6
LZH				pP	pP	09 57 08.9	+2.7
LZH				sP	sP	09 57 22.5	-0.8
LZH				PP	PP	09 58 18.1	-0.9
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,100nm,5.4s						
KS15	Wonju Array Si	47.80	18	*e*P	P	09 57 00.1	+1.5
	41nm,1.8s						
KSAR	Wonju Array Be	47.80	18	*e*P	P	09 56 59.3	+0.8
KSRS	Korea Array	47.82	18	P	P	09 56 59.4	+0.7
	3.4nm,0.7s,baz=202,slow=9.0,SNR=16						
BJT	Baijiatuau	47.99	5	*e*P	P	09 57 01.0	+1.1
	7.1nm,0.8s						
BJI	Beijing	48.01	5	P	P	09 57 00.9	+0.8
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA	Gaotai	48.35	348	⇑P	P	09 57 04.6	+1.7
GTA				pP	pP	09 57 37.9	+0.5
GTA				sP	sP	09 57 54.0	-0.4
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,63nm,6.0s						
GTA				LR	LR		
	comp=N,61nm,16.2s						
GTA				LR	LR		
	comp=E,100nm,17.8s						
GTA				LR	LR		
	comp=Z,77nm,16.8s						
HHC	Hu-ho-hao-te	48.60	0	*e*P	P	09 57 06.5	+1.7
HHC				pmax	pmax		
	comp=Z,62nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,6.2s						
MAJO	Matsushiro	51.01	28	*e*P	P	09 57 21.7	-1.2
MJAR	Matsushiro Arr	51.01	28	*e*P	P	09 57 22.5	-0.4
MJAR	Matsushiro Arr	51.01	28	P	P	09 57 21.7	-1.3
	1.8nm,0.7s,baz=198,slow=8.8,SNR=5.8						
CN2	Changchun	53.13	13	*e*P	P	09 57 41.8	+3.4
USA0B	Ussuriysk Arra	55.23	18	*e*P	P	09 57 52.3	-1.3
	7.7nm,1.0s						
USRK	Ussuriysk Ar.	55.23	18	*e*P	P	09 57 54.0	+0.3
USRK	Ussuriysk Ar.	55.23	18	P	P	09 57 53.9	+0.3
	7.2nm,0.9s,baz=193,slow=3.0,SNR=14						
SONA0	Songino Array	55.76	356	*e*P	P	09 57 58.3	+0.8
SONM	Songino Array	55.76	356	*e*P	P	09 57 58.4	+0.9
SONM	Songino Array	55.76	356	P	P	09 57 58.3	+0.8
	5.7nm,0.6s,baz=174,slow=8.4,SNR=22						
WMQ	Urumqi	55.83	340	*e*P	P	09 57 59.7	+1.6
WMQ	Urumqi	55.83	340	*e*P	P	09 57 56.5	-1.6
	14nm,0.4s						
KSH	Kashi	57.48	328	P	P	09 58 09.6	-0.3
KSH				pP	pP	09 58 47.1	+1.6
KSH				PcP	sP	09 59 02.1	-0.1
KSH				S	S	10 05 51.8	-3.6
KSH				ScS	ScS	10 07 37.2	-7.2
KSH				pmax	pmax		
	comp=Z,150nm,4.3s						
KSH				LR	LR		
	comp=N,260nm,5.6s						
KSH				LR	LR		
	comp=E,150nm,6.1s						
KSH				LR	LR		
	comp=Z,570nm,6.9s						

KBL	Kabul	58.18	319	*e*P	P	09 58 13.9	-1.0
	5.4nm,0.5s						
TARG	Taragay, Kyrgy	58.22	331	*e*P	P	09 58 15.9	+0.6
	2.6nm,0.8s						
KDJ	Kajisay	58.82	331	*e*P	P	09 58 19.4	+0.2
	3.6nm,0.8s						
NRN	Naryn	58.88	330	*e*P	P	09 58 19.7	-0.1
	3.4nm,1.0s						
BOOM	Boomskoye usch	59.70	330	*e*P	P	09 58 24.7	-0.5
	2.7nm,0.6s						
KLR	Kul'dur	59.74	15	P	P	09 58 24.6	-0.5
	2.5nm,0.5s,baz=203,slow=6.4,SNR=18						
GAR	Garm	60.26	324	*e*P	P	09 58 28.0	-1.0
	9.4nm,1.2s						
MK31	Makanchi Array	60.34	337	*e*P	P	09 58 29.6	+0.3
	6.3nm,0.8s						
MK32	Makanchi Array	60.34	337	*e*P	P	09 58 29.6	+0.2
MKAR	Makanchi Array	60.34	337	P	P	09 58 29.6	+0.2
	9.1nm,0.3s,baz=152,slow=7.2,SNR=128						
MAKZ	Makanchi	60.48	337	*e*P	P	09 58 29.9	-0.3
	2.8nm,0.6s						
AAK	Ala-Archa	60.53	329	*e*P	P	09 58 29.3	-1.5
	7.8nm,1.5s						
KKAR	Karatay Array	62.92	328	*e*P	P	09 58 46.3	-0.3
KURBB	Kurchatov Arra	64.91	338	P	P	09 58 59.4	-0.1
	2.9nm,0.6s,baz=156,slow=5.3,SNR=20						
KURK	Kurchatov	64.95	338	*e*P	P	09 58 59.7	-0.1
	6.1nm,0.8s						
ZAA0	Zalesovo Array	65.63	343	*e*P	P	09 59 03.7	-0.4
	28nm,1.3s						
ZALV	Zalesovo Beam	65.63	343	*e*P	P	09 59 03.9	-0.1
ZALV	Zalesovo Beam	65.63	343	P	P	09 59 03.8	-0.3
	6.8nm,0.3s,baz=162,slow=4.7,SNR=18						
ZAA1	Zalesovo Array	65.64	343	*e*P	P	09 59 03.8	-0.3
BKZ	Black Stump Fm	65.81	129	*e*P	P	09 59 05.8	+0.1
	68nm,1.7s						
MAW	Mawson	67.69	198	*e*P	P	09 59 19.0	+2.0
	8.0nm,1.8s						
MAW	Mawson	67.69	198	P	P	09 59 18.9	+2.0
	3.7nm,0.5s,baz=51,slow=6.8,SNR=21						
BVAR	Borovoye Array	70.00	335	P	P	09 59 31.0	-0.4
	3.4nm,0.7s,baz=140,slow=9.4,SNR=16						
BRVK	Borovoye	70.06	335	*e*P	P	09 59 31.1	-0.6
	2.9nm,0.9s						
PEA0B	Petropavlovsk-	72.46	27	*e*P	P	09 59 45.8	-0.4
	44nm,1.4s						
PETK	Petropavlovsk-	72.46	27	*e*P	P	09 59 45.8	-0.4
PETK	Petropavlovsk-	72.46	27	P	P	09 59 46.4	+0.2
	2.9nm,0.6s,baz=186,slow=1.0,SNR=10						
PEA1	Petropavlovsk-	72.46	27	*e*P	P	09 59 46.4	+0.2
ABKAR	Abkulak array	72.48	328	*e*P	P	09 59 46.4	-0.1
AKTO	Aktyubinsk	74.18	328	P	P	09 59 56.4	+0.1
	3.5nm,0.5s,baz=94,slow=3.5,SNR=16						
VNDA	Vanda	74.23	170	*e*P	P	09 59 57.2	+1.0
	12nm,1.9s						
VNDA	Vanda	74.23	170	P	P	09 59 57.8	+1.6
	0.9nm,0.5s,baz=312,slow=6.7,SNR=12						
SEY	Seymchan	77.38	18	P	P	10 00 14.6	+0.4
	2.1nm,0.5s,baz=179,slow=4.7,SNR=12						
TBLG	Delisi	78.26	315	*e*P	P	10 00 20.9	+1.3
	9.7nm,0.5s						
KBZ	Khabaz	80.25	317	P	P	10 00 30.6	+0.3
	3.6nm,0.9s,baz=124,slow=4.2,SNR=7.6						
TIXI	Tiksi	80.33	6	*e*P	P	10 00 29.8	-0.3
TIXI	Tiksi	80.33	6	P	P	10 00 29.4	-0.7
	5.3nm,0.8s,baz=165,slow=3.7,SNR=13						
QSPA	South Pole Qui	82.00	180	*e*P	P	10 00 40.8	+1.5
	16nm,1.6s						
BR101	Keskin Array S	85.67	311	*e*P	P	10 00 58.7	+0.2
BRTR	Keskin Array B	85.67	311	P	P	10 00 58.7	+0.2
	2.0nm,0.9s,baz=132,slow=7.3,SNR=10						
SNAA	Sanae	89.83	197	P	P	10 01 19.1	+1.4
SNAA	Sanae	89.83	197	*e*P	P	10 01 16.6	-1.0
	14nm,1.6s						
AKASG	Malin Array Be	91.13	321	P	P	10 01 23.4	-0.5
	0.7nm,0.5s,baz=84,slow=4.5,SNR=6.2						
AKBB	Malin Array Si	91.13	321	*e*P	P	10 01 23.8	-0.1
	6.3nm,1.3s						
VNA3	Neumayer Olymp	91.95	196	P	P	10 01 29.4	+2.0
PDAR	Pinedale Array	130.19	39	SKPbc	SKPab	10 10 37.5	-0.5
	0.5nm,0.8s,baz=0.0,slow=1.5,SNR=5.1						
ULM	Lac du Bonnet	132.20	23	SKPbc	SKPbc	10 10 44.8	-0.1
	2.0nm,0.7s,baz=323,slow=5.1,SNR=6.2						
TXAR	Lajitas Array	140.91	53	SKPbc	SKPbc	10 11 12.4	+0.5
	0.4nm,0.8s,baz=238,slow=1.5,SNR=5.6						
CPUP	Villa Florida	144.13	198	*e*PKPdf	PKPbc	10 07 53.8	+0.5
CPUP	Villa Florida	144.13	198	PKP	PKPdf	10 07 55.0	+0.1
	0.9nm,0.4s,baz=180,slow=5.7,SNR=3.2						

*DDA **07** 09:49:18.5,37.°19N×30.°48E,h7km,3km,MD2.6*
*ISCJB **07** 09:49:21.6±0.6,37.°10N±0.°05×30.°44E±0.°05,h10km, Error ellipse: s-maj=6.9km s-min=5.8km az=143.8*
*ISK **07** 09:49:21.2,37.°16N×30.°34E,h6km,ML2.1/5*
ISC 07 09:49:21.9±0.9,37.°13N±0.°04×30.°47E±0.°04,h10km,n9,
σ2§83/13,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORT	Korkueli	0.16	215	*i* P	Pg	09 49 22.8	-2.8
KORT				*i* S	Sg	09 49 27.1	-1.0
BCK	Bucak	0.34	16	PG	Pg	09 49 28.7	0.0
ELL	Elmali	0.59	230	PG	Pg	09 49 32.1	-1.3
BRDR	BURDUR-Merkez	0.65	330	*i* P	Pg	09 49 31.2	-3.3
BRDR				*i* S	Sb	09 49 44.5	0.0
KEPZ	Antalya-Kepez	0.94	104	*i* P	Pg	09 49 37.7	-2.3
KEPZ				*i* S	Sg	09 49 52.3	+0.2
AKAS	Kas	1.14	218	PN	Pb	09 49 42.5	-1.2
AKAS	Kas	1.14	218	*i* P	Pn	09 49 45.1	+1.1
AKAS				*i* S	Sn	09 50 06.6	+6.9
KONT	Konya--Tatoy	1.71	61	PN	Pb	09 49 53.4	0.0
BERE	Bereket-Mersin	2.35	109	PN	Pb	09 50 02.9	-1.5

*NNC **07** 09:53:21.4±4.5,37.°81N×71.°93E,h0km,mb4.2,mpv3.8, Error ellipse: s-maj=35.4km s-min=29.0km az=6.0*
ISC 07 09:53:22.4±3.5,37.°6N±0.°2×71.°8E±0.°1,h113km,n10,
σ1§56/13,3C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.72	17	P	Pn	09 54 32.8	+0.9
	SNR=86						
UCH	Uchtor	5.04	23	P	Pn	09 54 36.5	+0.3
	SNR=14						
KZA	Kyzart	5.17	29	P	Pn	09 54 37.6	-0.2
	SNR=7.5						
EKS2	Erkin-Say	5.25	16	P	Pn	09 54 40.2	+1.6
	SNR=14						
AAK	Ala-Archa	5.41	21	P	Pn	09 54 41.6	+0.8
	SNR=18						
AAK	Ala-Archa	5.41	21	⇓P	Pn	09 54 40.9	+0.1
	7.5nm,0.4s						
AAK				⇓S	Sn	09 55 42.5	+0.6
	11nm,0.6s						
KK31	Karatay Array	5.57	350	⇓P	Pn	09 54 44.7	+1.8
	3.7nm,0.5s,baz=163,slow=13,SNR=51						
KK31				⇑S	Sn	09 55 47.2	+1.5
	11nm,0.5s,baz=174,slow=25,SNR=10.0						
TKM2	Tokmak 2	6.02	27	P	Pn	09 54 49.1	-0.1
	SNR=10						
TKM2	Tokmak 2	6.02	27	⇑P	Pn	09 54 48.4	-0.8
	7.8nm,0.7s						
AB31	Abkulak array	14.47	327	⇓P	Pn	09 56 41.7	+0.1
	1.8nm,0.7s,baz=134,slow=11,SNR=20						
AB31				⇑S	Sn	09 59 17.4	-3.7
	0.7nm,0.5s,baz=147,slow=26,SNR=6.1						

*ISCJB **07** 10:09:48.4±0.3,3.°99N±0.°04×95.°68E±0.°05,h51km, mb4.5/43,MS4.0/1, Error ellipse: s-maj=7.8km s-min=4.3km az=138.1*
*BJI **07** 10:09:48.3±0.0,4.°01N×96.°22E,h43km,mb4.7/18, mB4.9/11,Ms4.9/2,Ms7 4.6/2*
*NEIC **07** 10:09:49.9±2.3,3.°98N×95.°66E,h50km±8km,mb4.5/39, Error ellipse: s-maj=21.2km s-min=3.9km az=71.0*
*KLM **07** 10:09:49.0,3.°90N×95.°60E,h40km,mb4.7*
*IDC **07** 10:09:54.2±3.7,4.°15N×95.°81E,h80km±34km,mb3.8/9, mb1 3.9/10,mb1mx3.6/55,mbtmp4.1/10,MS3.5/2, Ms1 3.6/2,ms1mx3.0/64, Error ellipse: s-maj=38.8km s-min=19.1km az=55.0*
ISC 07 10:09:50.2±0.5,4.°01N±0.°05×95.°67E±0.°07,h51km,n87,
σ1§44/92,mb4.4/43,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	1.75	46	*e*Pn	Pn	10 10 19.6	+1.5
LHMI				*e*Sn	Sn	10 10 40.6	+1.3
GSI	Gunungsitoli	3.30	145	*e*Pn	Pn	10 10 39.9	+0.6
GSI				*e*Sn	Sn	10 11 14.7	-2.6
PSI	Prapat	3.46	110	*e*Pn	Pn	10 10 42.9	+1.2
PSI				*e*Sn	Sn	10 11 24.0	+2.4
PSI	Prapat	3.46	110	P	Pn	10 10 44.8	+3.1
	2μm,0.3s,baz=294,slow=0.0,SNR=26						
PSI				S	Sn	10 11 25.9	+4.3
	4μm,0.3s,baz=171,slow=0.0,SNR=9.8						
KULM	Kulim	5.12	75	*e*Pn	Pn	10 11 04.8	+0.4
KULM				*e*Sn	Sn	10 11 58.7	-3.5
KULM	Kulim	5.12	75	P	Pn	10 11 05.0	+0.6
IPM	Ipoh	5.36	85	P	Pn	10 11 08.0	+0.3
KTGM	Kuala Trenggan	7.55	80	P	Pn	10 11 38.0	+0.3
MYKOM	Kota Tinggi	8.46	105	*e*Pn	Pn	10 11 50.5	+0.3
MYKOM				*e*Sn	Sn	10 13 21.2	-3.2
MNAI	Manna	11.05	139	*e*Pn	Pn	10 12 24.4	-1.2
CMAR	Chiang Mai Arr	14.71	12	*e*Pn	Pn	10 13 15.3	0.0
CMAR	Chiang Mai Arr	14.71	12	P	Pn	10 13 17.6	+2.3
	0.9nm,0.3s,baz=206,slow=12,SNR=15						
CMAR				LR	LR	10 18 43.0	
	comp=Z,80nm,19.6s,baz=188,slow=36						
CHTO	Chiang Mai	15.05	12	*e*Pn	Pn	10 13 20.0	+0.2
	6.2nm,0.9s						
CMMT	Chiang Mai	15.05	12	P	P	10 13 22.4	-1.8
NONG	Nongkai	15.76	27	P	P	10 13 33.4	+1.4
SLVN	Son La	18.98	24	*e*P	Pn	10 14 08.7	-0.1
	7.7nm,1.3s						
KMI	Kunming	22.06	17	P	P	10 14 38.1	-3.0
RAMN	Ramite	24.40	340	*e*P	P	10 15 05.4	+1.2
	8.0nm,0.4s						
JIRN	Jiri	25.19	340	*e*P	P	10 15 12.2	+0.7
	13nm,0.4s						
H08S2	Diego Garcia H	25.86	243	T	T	10 42 32.3	
	baz=63,slow=76,SNR=82						
H08S3	Diego Garcia H	25.87	243	T	T	10 42 35.6	
	baz=63,slow=76,SNR=65						
H08S1	Diego Carcia H	25.88	243	T	T	10 42 31.7	
	baz=63,slow=76,SNR=99						
KOLN	Koldanda	26.28	335	*e*P	P	10 15 22.1	+0.9
	13nm,0.5s						
DANN	Dangsing	26.73	336	*e*P	P	10 15 25.9	+0.6
	19nm,0.6s						
PYUN	Piuthan	26.83	335	*e*P	P	10 15 27.1	+1.0
	22nm,0.9s						
LUWI	Luwuk	27.54	100	*e*P	P	10 15 33.0	+0.5
	50nm,1.0s						
CD2	Chengdu	27.82	15	*e*P	P	10 15 34.0	-0.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ENH	Enshi	29.20	25	*e*P	P	10 15 46.4	-0.6
	6.3nm,0.4s						
MMRI	Maumere	29.32	115	*e*P	P	10 15 47.8	-0.5
	38nm,0.4s						
SSLB	Suanglung	31.33	49	*e*P	P	10 16 06.7	+0.7
	6.3nm,0.8s						
WHN	Wuhan	31.74	32	P	P	10 16 02.0	-7.4
XAN	Xi'an	32.32	21	*e*P	P	10 16 13.8	-0.8
	5.1nm,0.8s						
TATO	Taipei	32.41	48	*e*P	P	10 16 13.4	-2.0
	100nm,1.4s						
LZH	Lanzhou	32.80	12	*e*P	P	10 16 19.0	+0.2
LZH				pP	pP	10 16 30.2	-1.8
LZH				sP	sP	10 16 37.1	-0.9
LZH				PP	PnPn	10 17 30.8	+2.0
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				pmax	pmax		
	comp=Z,120nm,4.3s						
PSA00	Pilbara Seismi	34.74	138	*e*P	P	10 16 35.5	-0.3
	2.6nm,0.9s						
NJ2	Nanjing	35.37	35	*e*P	P	10 16 38.8	-2.2
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
GTA	Gaotai	35.44	6	*e*P	P	10 16 41.2	-0.4
GTA				pP	pP	10 16 51.2	-3.7
GTA				sP	sP	10 16 55.1	-5.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NIL	Nilore	36.14	327	*e*P	P	10 16 47.5	-0.2
	13nm,0.8s						
FITZ	Fitzroy Crossi	36.82	128	*e*P	P	10 16 53.1	-0.5
	4.0nm,0.9s						
FAKI	Fak Fak	37.20	100	*e*P	P	10 16 56.3	-0.6
	24nm,1.2s						
HHC	Hu-ho-hao-te	39.36	19	*e*P	P	10 17 14.3	-0.6
HHC				pmax	pmax		
	comp=Z,40nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.0s						
KSH	Kashi	39.59	336	P	P	10 17 18.1	+1.3
KSH				sP	sP	10 17 34.7	-1.5
KSH				PcP	PcP	10 19 22.7	-0.6
KSH				S	S	10 23 16.4	+0.1
KSH				SS	SS	10 26 07.5	-5.5
KSH				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KSH				pmax	pmax		
	comp=Z,47nm,3.0s						
KSH				LR	LR		
	comp=N,450nm,9.0s						
KSH				LR	LR		
	comp=E,560nm,8.3s						
KSH				LR	LR		
	comp=Z,660nm,7.8s						
WMQ	Urumqi	40.27	351	*e*P	P	10 17 21.0	-1.3
WMQ				pmax	pmax		
	comp=Z,220nm,5.1s						
KDJ	Kajisay	41.39	339	*e*P	P	10 17 30.9	-0.8
	3.0nm,1.0s						
GAR	Garm	41.75	330	*e*P	P	10 17 34.4	-0.3
	21nm,1.1s						
CHGR	Chuyangaron	42.08	329	*e*P	P	10 17 36.5	-0.8
	18nm,1.1s						
BTK	Batken	42.33	331	*e*P	P	10 17 39.4	+0.1
	7.7nm,1.1s						
ARSB	Arslanbob	42.36	334	*e*P	P	10 17 38.5	-1.1
	4.3nm,0.8s						
MK

5.3nm,1.2s
MLR Muntele Rosu 72.99 316 *e*P **P 10 21 16.5 +1.7**
4.4nm,0.9s
BURAR Bucovina Array 73.92 318 *e*P **P 10 21 22.1 +2.0**
SUW Suwalki 76.51 325 *e*P **P 10 21 36.1 +1.4**
22nm,0.5s
FIA0 FINESS Array S 76.81 332 *e*P **P 10 21 36.5 +0.2**
FINES FINESS Array B 76.81 332 P **P 10 21 36.5 +0.2**
1.5nm,0.8s,baz=86,slow=7.1,SNR=5.2
ARA0 ARCESS Array S 79.39 340 *e*P **P 10 21 51.1 +0.6**
ARCES ARCESS Array B 79.39 340 P **P 10 21 51.1 +0.6**
1.3nm,0.4s,baz=94,slow=6.6,SNR=22
GEC2 GERESS Array S 81.71 319 *e*P **P 10 22 05.2 +1.7**
8.5nm,1.4s
GERES GERESS Array B 81.71 319 *e*P **P 10 22 05.1 +1.7**
GERES GERESS Array B 81.71 319 P **P 10 22 05.9 +2.5**
0.5nm,0.7s,baz=116,slow=6.1,SNR=6.2
IMAR Indian Mountai 94.59 23 *e*P **P 10 23 05.8 +0.6**

JMA 07 10:10:16.9±0.1,37°.92N×143°.99E,h41km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.03**	**282**	P	Pn	10 10 49.8	+1.2
JIKH				*e*S	Sn	10 11 13.9	+1.2
JIO	**Ouri**	**2.15**	**285**	P	Pn	10 10 51.5	+1.3
JIO				S	Sn	10 11 16.8	+1.2
OFUJ	**Ofunato**	**2.16**	**303**	P	Pn	10 10 51.7	+1.3
OFUJ				S	Sn	10 11 17.5	+1.6
JKMT	**Kesennumamotoy**	**2.17**	**295**	P	Pn	10 10 51.7	+1.2
JKMT				S	Sn	10 11 17.5	+1.4
JMK	**Ichinoseki**	**2.41**	**296**	P	Pn	10 10 55.3	+1.5
JMK				S	Sn	10 11 24.2	+2.2
JOM	**Ohasama**	**2.62**	**307**	P	Pn	10 10 58.5	+1.8
JOM				S	Sn	10 11 29.9	+2.7
JFT	**Otama**	**2.92**	**263**	P	Pn	10 11 03.1	+2.2
JFT				*e*S	Sn	10 11 38.2	+3.4
JYK	**Kaneyama**	**3.02**	**290**	P	Pn	10 11 04.7	+2.5
JYK				*e*S	Sn	10 11 40.2	+3.1
JRY	**Ryogami san**	**4.50**	**247**	P	Pn	10 11 23.5	+1.0
JRY				S	Sn	10 12 13.0	-0.6
JCH	**Churui**	**4.71**	**354**	P	Pn	10 11 25.1	-0.3
JCH				S	Sn	10 12 15.6	-3.2

NEIC ***07*** *10:10:48.7±1.7, 19°.62S×175°.05E, h11km, mb5.6/304, MS5.7/712, MW5.9, MW6.0, Error ellipse: s-maj=14.6km s-min=12.9km az=135.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^{17}Nm; M_{rr}0.59; $M_{\theta\theta}$-7.48; $M_{\phi\phi}$6.90; $M_{r\theta}$-1.81; $M_{\theta\phi}$-2.22; $M_{\phi r}$0.55; Best double couple: $M_0$7.80000×10^{17} NP1:ϕ_s127.00000°, δ87.00000°, λ-167.00000°. NP2:ϕ_s36.00000°, δ77.00000°, λ-3.00000°. Principal axes: T 7.3400, Plg7.0000°, Azm261.0000°; N 0.8200, Plg77.0000°, Azm139.0000°; P -8.1600, Plg11.0000°, Azm352.0000°;*

ISCJB ***07*** *10:10:49.0±1.6, 19°.48S±0°.03×175°.00E±0°.02, h19km±11km, mb5.5/344, MS5.7/740 Error ellipse: s-maj=4.3km s-min=3.3km az=0.1*

GCMT ***07*** *10:10:52.7±0.1, 19°.62S×175°.08E, h12km, MW5.9/135, Moment Tensor Solution. s129, c285; s135, c465; Duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.13±.01; $M_{\theta\theta}$-0.98±.01; $M_{\phi\phi}$0.85±.01; $M_{r\theta}$0.05±.01; $M_{\theta\phi}$-0.40±.01; $M_{\phi r}$0.13±.01; Best double couple: $M_0$1.00700×10^{18} NP1:ϕ_s34.00000°, δ87.00000°, λ8.00000°. NP2:ϕ_s303.00000°, δ82.00000°, λ177.00000°. Principal axes: T 0.9510, Plg8.0000°, Azm259.0000°; N 0.1130, Plg81.0000°, Azm55.0000°; P -1.0640, Plg4.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BJI ***07*** *10:10:53.9±0.0, 19°.63S×175°.45E, h70km, mb5.1/33, mB5.5/59, Ms5.8/77, Ms7 5.6/71*

MOS ***07*** *10:10:53.7±1.2, 19°.61S×174°.95E, h59km, mb5.4/36, MS5.7/31, Error ellipse: s-maj=8.7km s-min=7.6km az=126.2*

NEIC ***07*** *10:10:55.0±0.0, 19°.64S×175°.06E, h21km, Moment Tensor Solution. s46 Moment tensor: Scale 10^{18}Nm; M_{rr}0.13; $M_{\theta\theta}$-1.03; $M_{\phi\phi}$0.90; $M_{r\theta}$-0.29; $M_{\theta\phi}$-0.35; $M_{\phi r}$0.42; Best double couple: $M_0$1.10000×10^{18} NP1:ϕ_s303.00000°, δ80.00000°, λ155.00000°. NP2:ϕ_s37.00000°, δ65.00000°, λ10.00000°. Principal axes: T 1.1700, Plg24.0000°, Azm257.0000°; N -0.0400, Plg63.0000°, Azm103.0000°; P -1.1300, Plg10.0000°, Azm352.0000°;*

IDC ***07*** *10:10:56.2±2.9, 19°.70S×175°.01E, h72km±25km, mb5.0/35, mb1 5.1/38, mb1mx5.0/46, mbtmp5.3/38, MS5.6/36, Ms1 5.6/36, ms1mx5.4/44 Error ellipse: s-maj=11.8km s-min=11.0km az=1.0*

ISC 07 10:10:51.7±0.7,19°.65S±0°.04×175°.21E±0°.04,h33km±2km, n1636,σ1980/1214,mb5.6/339,MS5.7/753,69C-48D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**6.97**	**254**	*e*Pn	**Pn**	**10 12 29.4**	**-2.1**
PINNC	**Pines Island,**	**7.82**	**246**	*e*Pn	**Pn**	**10 12 41.9**	**-1.2**
DZM	**Mont Dzumac**	**8.54**	**252**	*e*Pn	**Pn**	**10 12 55.3**	**+2.1**
1μm,1.4s
DZM *e*LR LR 10 14 55.0
comp=Z,177μm,25.1s
DZM Mont Dzumac 8.54 252 *e*Pn **Pn 10 12 52.2 -1.0**
DZM Mont Dzumac 8.54 252 P **Pn 10 12 53.1 -0.1**
3.8nm,0.3s,baz=81,slow=12,SNR=29
DZM LR LR 10 15 48.7
comp=Z,133μm,20.0s,baz=45,slow=35
ONTNC Ouen Toro 8.60 251 *e*Pn **Pn 10 12 54.0 +0.2**
RAO Raoul Island 11.42 148 LR LR 10 17 07.0
comp=Z,64μm,18.7s,baz=3.0,slow=32
NFK Norfolk Island 11.46 214 P **Pn 10 13 33.3 +0.3**
baz=12,SNR=4.1
FUNA Funafuti 11.71 20 *e*Pn **Pn 10 13 36.2 -0.3**
NIUE Niue 14.04 90 *e*Pn **Pn 10 14 06.9 -1.4**
OUZ Omahuta 15.58 185 *e*Pn **P 10 14 32.1 -0.6**
494nm,1.2s
OUZ Omahuta 15.58 185 P **Pn 10 14 30.3 +1.5**
WCZ Waipu Caves 16.25 183 P **P 10 14 44.3 +4.2**
GRZ Great Barrier 16.54 179 P **P 10 14 43.3 0.0**
KUZ Kuaotunu 17.04 179 P **P 10 14 52.3 +3.4**
MKAZ Moumakai 17.39 180 P **P 10 14 54.4 +1.6**
HNR Honiara 17.91 302 *e*P **P 10 15 02.0 +3.3**
HNR Honiara 17.91 302 *e*Pn **Pn 10 14 58.2 -0.2**
410nm,1.1s
HNR Honiara 17.91 302 *e*P **Pn 10 14 58.2 -0.2**
HNR pmax pmax
comp=Z,410nm,1.1s
HNR Honiara 17.91 302 P **P 10 14 59.8 +1.1**
comp=Z,3.3nm,0.3s,baz=189,slow=5.4,SNR=5.4
HNR LR LR 10 20 33.4
comp=Z,10μm,20.8s,baz=140,slow=32
TOZ Tahuroa Road 18.02 179 P **P 10 15 03.8 +4.1**
MXZ Matakaoa Point 18.05 172 *e*Pn **P 10 15 03.2 +3.1**
comp=Z,303nm,1.0s
MXZ Matakaoa Point 18.05 172 P **P 10 15 02.2 +2.1**
OPRZ Ohinepanea 18.17 177 P **P 10 15 07.2 +5.9**
HAZ Te Kaha 18.18 173 P **P 10 15 03.9 +2.4**
WMGZ Waiomatatini S 18.32 172 P **Pn 10 15 05.3 +2.2**
KARZ Kaharoa 18.33 177 P Pn 10 15 13.0 +10
PKGZ Pakihiroa 18.34 173 P **Pn 10 15 07.7 +4.1**
RUGZ Raukumara Rang 18.38 174 P **Pn 10 15 10.2 +6.2**
OMRZ Omania 18.42 177 P **Pn 10 15 09.3 +4.9**
PUZ Puketiti 18.55 172 P **Pn 10 15 07.8 +1.8**
TARZ Mount Tarawera 18.56 177 P Pn 10 15 14.5 +8.3
HLRZ Highlands Stat 18.56 177 P Pn 10 15 16.2 +10
HSRZ Hossack Road 18.62 177 P **Pn 10 15 12.9 +6.1**
TWGZ Tauwhareparae 18.62 173 P **Pn 10 15 08.2 +1.4**
URZ Urewera 18.62 175 *e*P **Pn 10 15 08.2 +1.5**
comp=Z,982nm,1.1s
URZ Urewera 18.62 175 P **Pn 10 15 08.5 +1.7**
comp=Z,3.2nm,0.3s,baz=358,slow=7.3,SNR=65
URZ LR LR 10 20 31.7
comp=Z,37μm,20.7s,baz=16,slow=31
URZ Urewera 18.62 175 P **Pn 10 15 09.9 +3.1**
GRRZ Galatos Road 18.65 178 P Pn 10 15 14.5 +7.3
RRRZ Republican Roa 18.66 177 P Pn 10 15 15.3 +8.0
HRRZ Handcock Road 18.70 177 P **Pn 10 15 13.9 +6.1**
MWZ Matawai 18.73 174 P **Pn 10 15 10.6 +2.5**
LHI Lord Howe Isla 18.73 228 *e*P **Pn 10 15 10.3 +2.1**
comp=Z,176nm,1.1s
LHI Lord Howe Isla 18.73 228 P **Pn 10 15 10.2 +2.1**
baz=19
HIZ Hauiti 18.80 181 *e*P **Pn 10 15 11.6 +2.6**
comp=Z,1μm,1.5s
PRRZ Plateau Road 18.81 177 P **Pn 10 15 14.4 +5.3**
WPRZ Whakapapatarin 18.82 178 P Pn 10 15 18.4 +9.1
TKGZ Te Karaka 18.86 174 P **Pn 10 15 11.9 +2.1**
RAGZ Rawiri 18.88 175 P **Pn 10 15 14.5 +4.5**
CNGZ Carnagh Statio 18.95 173 P **Pn 10 15 13.3 +2.6**
RTZ Ruatahuna 18.96 176 P **Pn 10 15 14.6 +3.6**
RIGZ Rimuhau 19.12 174 P **Pn 10 15 15.0 +2.1**
MRHZ Matea Rd 19.15 177 P **Pn 10 15 16.5 +3.3**
SNGZ Shannon Statio 19.16 175 P **Pn 10 15 15.9 +2.6**
RATZ Rangitukua 19.16 179 P **Pn 10 15 17.9 +4.5**
KATZ Kakaramea 19.26 179 P **Pn 10 15 18.6 +3.9**
RAHZ Arahi 19.27 176 P **Pn 10 15 17.6 +2.9**
TWVZ Taurewa 19.36 179 P **Pn 10 15 19.2 +3.4**
WTVZ West Tongariro 19.40 179 P **Pn 10 15 19.6 +3.3**
VRZ Vera Road 19.41 181 P **Pn 10 15 20.1 +3.8**
NMHZ Naumai 19.43 176 P **Pn 10 15 20.0 +3.4**
NGZ Ngauruhoe 19.46 179 P **Pn 10 15 21.6 +4.5**
BKZ Black Stump Fm 19.48 177 *e*P **Pn 10 15 17.9 +0.6**
comp=Z,647nm,1.4s
BKZ Black Stump Fm 19.48 177 P **Pn 10 15 19.3 +2.1**
PKE Pukeiti 19.51 183 P Pn 10 15 31.7 +14
FWVZ Far West T-bar 19.54 179 P **Pn 10 15 21.5 +3.3**
TUVZ Tukino 19.56 179 P **Pn 10 15 22.8 +4.6**
PKVZ Pokaka 19.57 180 P **Pn 10 15 22.2 +3.9**
TRVZ Turoa 19.59 179 P **Pn 10 15 23.5 +4.9**
KHEZ Kahui Hut 19.61 183 P Pn 10 15 30.7 +12
MOVZ Moawhango 19.70 179 P **Pn 10 15 22.6 +2.8**
KWHZ Kaweka Forest 19.74 177 P **Pn 10 15 21.6 +1.4**
MCHZ McNeill Hill 19.77 177 P **Pn 10 15 21.7 +1.1**
KRHZ Kereru 19.95 177 P **Pn 10 15 22.9 +0.1**
WAZ Wanganui 20.04 181 P Pn 10 15 27.1 +3.3
KAHZ Kahuranaki 20.13 176 P Pn 10 15 24.9 +0.1
PNHZ Pukenui 20.21 178 P Pn 10 15 26.6 +0.7
TSZ Takapari Road 20.35 178 P Pn 10 15 30.6 +3.2
PXZ Pawanui 20.36 176 P Pn 10 15 31.2 +3.6
OHWZ Ohakea 20.49 180 P Pn 10 15 32.9 +3.9
PRHZ Porangahau 20.59 177 P Pn 10 15 33.7 +3.5
DVHZ Dannevirke 20.60 178 P Pn 10 15 29.4 -0.9
POWZ Post Office Ro 20.68 179 P Pn 10 15 30.9 -0.4
ANWZ Angora Road 20.77 177 P **P 10 15 30.9 +1.1**
PRWZ Pori Road 20.85 178 P Pn 10 15 33.0 -0.2
BFZ Birch Farm 20.98 178 *e*P **P 10 15 32.5 +0.4**
comp=Z,520nm,1.0s
BFZ LR LR
comp=Z,31μm,21.0s
BFZ Birch Farm 20.98 178 P Pn 10 15 33.6 -1.2
TARA Tarawa 20.99 354 *e*P **P 10 15 31.3 -1.0**
comp=Z,2μm,1.5s
TARA LR LR
comp=Z,17μm,20.0s
TIWZ Tintock 21.07 179 P **P 10 15 34.4 +1.4**
KNTN Kanton 21.08 39 *e*P **P 10 15 33.1 -0.2**
comp=Z,247nm,1.1s
KIW Kapiti Island 21.14 181 P **P 10 15 40.0 +6.2**
HOWZ Holdsworth Sta 21.18 179 P **P 10 15 36.6 +2.4**
CAW Cannon Point 21.39 180 P **P 10 15 41.4 +5.0**
TMWZ Te Maipa 21.40 179 P **P 10 15 41.0 +4.5**
MTW Mount Morrison 21.44 179 P **P 10 15 41.5 +4.5**
SNZO South Karori 21.60 181 *e*P **P 10 15 38.1 -0.5**
comp=Z,347nm,0.8s
SNZO LR LR
comp=Z,24μm,20.0s
PAWZ Paruwai Farm 21.66 180 P **P 10 15 43.3 +3.9**
TRWZ Traveller 21.68 179 P **P 10 15 44.0 +4.4**
BHW Baring Head 21.69 181 P **P 10 15 43.7 +4.0**
MSWZ Moikau Station 21.70 180 P **P 10 15 45.0 +5.3**
PLWZ Palliser 21.85 180 P **P 10 15 44.9 +3.5**
CMWZ Cape Campbell 22.05 182 P P 10 15 53.0 +10
THZ Tophouse 22.13 185 *e*P **P 10 15 45.8 +1.3**
comp=Z,243nm,0.9s
THZ LR LR
comp=Z,33μm,22.0s
KHZ Kahutara 22.74 183 *e*P **P 10 15 51.3 +0.5**
comp=Z,152nm,0.8s
KHZ LR LR
comp=Z,38μm,20.0s
EIDS Eidsvold 22.99 251 *e*P **P 10 15 53.4 -0.2**
comp=Z,186nm,1.2s
EIDS LR LR
comp=Z,35μm,20.0s
EIDS Eidsvold 22.99 251 P **P 10 15 53.6 -0.1**
baz=23,SNR=12
LTZ Lake Taylor 23.20 186 *e*P **P 10 15 56.6 +1.0**
comp=Z,292nm,0.8s
LTZ LR LR
comp=Z,25μm,20.0s
LTZ Lake Taylor 23.20 186 P **P 10 15 58.2 +2.6**
INZ Inchbonnie 23.23 187 P **P 10 15 58.5 +2.7**
RAR Rarotonga 23.49 98 *e*P **P 10 16 02.0 +3.4**
comp=Z,348nm,1.5s
RAR LR LR
comp=Z,8μm,18.0s
RAR Rarotonga 23.49 98 *e*P **P 10 16 02.0 +3.4**
RAR pmax pmax
comp=Z,348nm,1.5s
RAR MLR MLR
comp=Z,8μm,18.0s
RAR Rarotonga 23.49 98 P **P 10 16 02.1 +3.5**
comp=Z,75nm,1.1s,baz=276,slow=2.2,SNR=5.4
RAR LR LR 10 23 12.0
comp=Z,8μm,21.2s,baz=268,slow=31
AMCZ Amberley 23.56 185 P P 10 16 08.3 +9.3
WVZ Waitaha Valley 23.66 188 P **P 10 16 02.0 +2.0**
OXZ Oxford 23.76 186 *e*P **P 10 16 02.0 +1.0**
comp=Z,309nm,0.9s
OXZ LR LR
comp=Z,18μm,19.0s
OXZ Oxford 23.76 186 P **P 10 16 02.2 +1.2**
ARMA Armidale 23.86 239 *e*P **P 10 16 02.7 +0.5**
comp=Z,161nm,1.3s
ARMA LR LR
comp=Z,15μm,19.0s
ARMA Armidale 23.86 239 P **P 10 16 02.8 +0.6**
baz=24,SNR=12
CRLZ Canterbury Las 23.95 185 *e*P **P 10 16 03.6 +0.8**
comp=Z,92nm,1.0s
CRLZ LR LR
comp=Z,26μm,22.0s
MQZ McQueen's Vall 24.08 185 *e*P **P 10 16 04.0 0.0**
comp=Z,68nm,1.0s
MQZ LR LR
comp=Z,25μm,21.0s
MQZ McQueen's Vall 24.08 185 P **P 10 16 10.5 +6.5**
FOZ Fox Glacier 24.24 190 *e*P **P 10 16 07.7 +2.3**
comp=Z,444nm,1.3s
FOZ LR LR
comp=Z,21μm,19.0s
FOZ Fox Glacier 24.24 190 P **P 10 16 08.3 +2.9**
RPZ Rata Peaks 24.25 187 *e*P **P 10 16 06.6 +1.1**
comp=Z,141nm,0.9s
RPZ LR LR
comp=Z,33μm,19.0s
RPZ Rata Peaks 24.25 187 P **P 10 16 06.2 +0.7**
comp=Z,93nm,0.9s,baz=163,slow=1.9,SNR=20
RPZ LR LR 10 24 58.4
comp=Z,32μm,18.3s,baz=20,slow=35
RPZ Rata Peaks 24.25 187 P **P 10 16 08.1 +2.5**
JCZ Jackson Bay 24.94 191 P **P 10 16 15.1 +3.1**
LBZ Lake Benmore 25.02 189 *e*P **P 10 16 13.6 +1.0**
comp=Z,141nm,1.1s
LBZ LR LR
comp=Z,30μm,20.0s
LBZ Lake Benmore 25.02 189 P **P 10 16 14.5 +2.0**
RMQ Roma 25.24 249 P **P 10 16 15.1 +0.3**
baz=25,SNR=43
MGCD Mangrove Creek 25.38 233 P **P 10 16 16.9 +0.9**
baz=25,SNR=9.3
ODZ Otahua Downs 25.61 188 *e*P **P 10 16 18.7 +0.8**
comp=Z,180nm,1.1s
ODZ LR LR
comp=Z,21μm,19.0s
ODZ Otahua Downs 25.61 188 P **P 10 16 20.0 +2.1**
RIV Riverview 25.62 232 P **P 10 16 17.9 -0.2**
baz=26,SNR=3.9
WKZ Wanaka 25.63 190 *e*P **P 10 16 20.9 +2.8**
comp=Z,208nm,1.1s
WKZ LR LR
comp=Z,22μm,20.0s
WKZ Wanaka 25.63 190 P **P 10 16 24.5 +6.4**
MSZ Milford Sound 25.68 192 P P 10 16 29.0 +11
EAZ Earnscleugh 25.98 190 P **P 10 16 24.0 +2.8**
MLZ Mavora Lakes 26.31 191 *e*P **P 10 16 26.1 +1.9**
comp=Z,414nm,1.1s
MLZ LR LR
comp=Z,23μm,19.0s
DCZ Deep Cove 26.60 193 *e*P **P 10 16 27.6 +0.9**
comp=Z,89nm,1.1s
DCZ LR LR
comp=Z,18μm,22.0s
TUZ Tuapeka 26.64 189 P **P 10 16 32.0 +4.8**
WHZ Wether Hill Ro 26.85 191 *e*P **P 10 16 31.2 +2.1**
comp=Z,335nm,1.4s
WHZ LR LR
comp=Z,20μm,19.0s
RABL Rabaul 27.22 301 *e*P **P 10 16 33.0 +0.2**
comp=Z,71nm,1.0s
RABL LR LR
comp=Z,10μm,21.0s
CTA Charters Tower 27.22 264 P **P 10 16 32.5 -0.3**
comp=Z,52nm,1.1s,baz=74,slow=12,SNR=13
CTA LR LR 10 26 07.1
comp=Z,14μm,20.9s,baz=93,slow=34
CTAO Charters Tower 27.22 264 *e*P **P 10 16 31.6 -1.2**
comp=Z,121nm,1.3s
CTAO LR LR
comp=Z,14μm,20.0s
CTAO Charters Tower 27.22 264 *e*P **P 10 16 31.6 -1.2**
CTAO pmax pmax
comp=Z,121nm,1.3s
CTAO MLR MLR
comp=Z,14μm,20.0s
CNB Canberra Magne 27.62 230 P **P 10 16 36.7 +0.5**
baz=28,SNR=9.7
CAN Canberra 27.89 231 *e*P **P 10 16 39.1 +0.5**
comp=Z,29nm,1.0s
CAN LR LR
comp=Z,6μm,20.0s
CAN Canberra 27.89 231 *e*P **P 10 16 39.1 +0.5**
CAN pmax pmax
comp=Z,29nm,1.0s
CAN MLR MLR
comp=Z,6μm,20.0s
YNG Young 27.89 233 P **P 10 16 39.1 +0.5**
baz=28,SNR=9.2
MILA Mila 28.61 227 P **P 10 16 45.5 +0.5**
baz=29,SNR=11
PMG Port Moresby 28.96 287 *e*P **P 10 16 47.5 -0.7**
comp=Z,180nm,0.9s
PMG LR LR
comp=Z,14μm,19.0s
PMG Port Moresby 28.96 287 *de*P **P 10 16 47.1 -1.1**
PMG pmax pmax
comp=Z,631nm,0.9s
PMG Port Moresby 28.96 287 P **P 10 16 47.4 -0.8**
comp=Z,153nm,0.9s,baz=107,slow=5.6,SNR=21
PMG LR LR 10 26 20.9
comp=Z,13μm,19.6s,baz=92,slow=32
CMSA Cobar Meteorol 29.04 240 P **P 10 16 48.1 -0.7**
baz=29,SNR=32
KWAJ Kwajalein Atol 29.25 344 PFAKE 10 17 00.0 +9.3
KWAJ LR LR
comp=Z,19μm,21.0s
PATS Pohnpei 31.14 326 PFAKE 10 17 20.0 +13
PATS LR LR
comp=Z,16μm,18.0s
COEN Coen 31.15 275 *e*P **P 10 17 06.3 -1.4**
comp=Z,86nm,1.0s
COEN LR LR
comp=Z,12μm,20.0s
COEN Coen 31.15 275 P **P 10 17 07.5 -0.2**
baz=31,SNR=15
TOO Toolangi 31.43 229 *e*P **P 10 17 10.1 +0.2**
comp=Z,138nm,1.0s
TOO LR LR
comp=Z,9μm,19.0s
TOO Toolangi 31.43 229 P **P 10 17 10.2 +0.2**
baz=31,SNR=13
TOO Toolangi 31.43 229 *e*P **P 10 17 10.1 +0.2**
TOO pmax pmax
comp=Z,139nm,1.0s
TOO MLR MLR
comp=Z,9μm,19.0s
MANU Manus Island 32.36 299 PFAKE 10 17 30.0 +12
MANU LR LR
comp=Z,5μm,20.0s
STKA Stephens Creek 32.50 241 *e*P **P 10 17 19.0 -0.3**
comp=Z,16nm,0.9s
STKA LR LR
comp=Z,3μm,21.0s
STKA Stephens Creek 32.50 241 P **P 10 17 19.2 -0.1**
baz=32,SNR=101
STKA Stephens Creek 32.50 241 P **P 10 17 18.9 -0.4**
comp=Z,73nm,0.9s,baz=90,slow=10,SNR=86
STKA LR LR 10 28 54.1
comp=Z,13μm,21.6s,baz=73,slow=33
MOO Moorlands 32.80 220 P **P 10 17 23.0 +1.1**
baz=33,SNR=3.7
TAU Tasmania Unive 32.99 219 *e*P **P 10 17 24.8 +1.3**
comp=Z,41nm,0.9s
TAU LR LR
comp=Z,5μm,18.0s
TAU Tasmania Unive 32.99 219 *e*P **P 10 17 24.8 +1.3**
TAU pmax pmax
comp=Z,41nm,0.9s
TAU MLR MLR
comp=Z,5μm,18.0s
TBI Tubuai 33.02 103 *e*S **S 10 22 37.8 -2.9**
comp=Z,2μm,27.2s
TBI *e*LR LR 10 26 09.0
comp=Z,21μm,28.2s
PAE Paea 33.38 92 *e*P **P 10 17 28.0 +0.8**
comp=Z,22nm,1.3s
PPT2 Papeete2 33.40 92 *e*P **P 10 17 28.7 +1.3**
comp=Z,167nm,1.4s
PPT2 *e*S **S 10 22 43.5 -3.2**
comp=Z,3μm,24.5s
PPT2 *e*LQ LQ 10 24 48.5
comp=Z,26μm,32.0s
PPT2 *e*LR LR 10 26 20.9
comp=Z,37μm,27.8s
PPT Papeete 33.40 92 P **P 10 17 29.6 +2.2**
PPT pmax pmax
comp=Z,71nm,1.1s
PPT Papeete 33.40 92 P **P 10 17 29.6 +2.2**
comp=Z,51nm,0.9s,baz=183,slow=3.3,SNR=3.6
PPT LR LR 10 27 36.9
comp=Z,7μm,21.5s,baz=256,slow=30
QIS Mount Isa 33.41 262 P **P 10 17 26.5 -1.0**
baz=33,SNR=13
TVO Taravao 33.67 93 *e*P **P 10 17 31.0 +1.2**
comp=Z,24nm,0.9s
ARPS Mount Arapiles 33.78 233 P **P 10 17 30.3 -0.2**
baz=34,SNR=10
XMAS Kiritimati 34.43 54 *e*P **P 10 17 37.8 +1.5**
comp=Z,230nm,1.0s
XMAS LR LR
comp=Z,13μm,20.0s
HTT Hallett 35.06 240 P **P 10 17 41.1 -0.6**
baz=35,SNR=32
PMOR Pomariorio Ree 35.48 88 *e*P **P 10 17 46.3 +1.0**
comp=Z,367nm,1.4s
VAH Vaihoa 35.68 89 *e*P **P 10 17 47.8 +0.7**
comp=Z,179nm,1.3s
BBOO Buckleboo 37.27 241 *e*P **P 10 17 59.7 -0.9**
comp=Z,164nm,1.0s
BBOO LR LR
comp=Z,14μm,19.0s
BBOO Buckleboo 37.27 241 P **P 10 17 59.8 -0.8**
baz=37,SNR=76
JAY Jayapura 37.77 292 P **P 10 18 04.2 -0.8**
comp=Z,22nm,0.7s,baz=193,slow=11,SNR=6.4
JAY LR LR 10 32 59.7
comp=Z,6μm,19.2s,baz=116,slow=35
GENI Genyem 38.20 292 P **P 10 18 09.2 +0.6**
comp=Z,880nm,0.8s,comp=Z,9μm
WR0 Warramunga Arr 38.20 262 PFAKE 10 18 20.0 +11
WR0 LR LR
comp=Z,10μm,22.0s
WR9 Warramunga Arr 38.23 262 PFAKE 10 18 20.0 +11
WR9 LR LR
comp=Z,8μm,20.0s
WR7 Warramunga Arr 38.26 262 PFAKE 10 18 20.0 +11
WR7 LR LR
comp=Z,9μm,20.0s
WR6 Warramunga Arr 38.28 262 PFAKE 10 18 20.0 +11
WR6 LR LR
comp=Z,8μm,20.0s
WR5 Warramunga Arr 38.30 262 PFAKE 10 18 20.0 +11

WR5 LR LR
comp=Z,9μm,21.0s
WR4 Warramunga Arr 38.33 262 PFAKE 10 18 20.0 +10
WR4 LR LR
comp=Z,9μm,22.0s
WR3 Warramunga Arr 38.34 262 PFAKE 10 18 20.0 +10
WR3 LR LR
comp=Z,8μm,20.0s
WC3 Warramunga Arr 38.36 262 PFAKE 10 18 20.0 +10
WC3 LR LR
comp=Z,9μm,21.0s
WB9 Warramunga Arr 38.37 263 PFAKE 10 18 20.0 +10
WB9 LR LR
comp=Z,14μm,19.0s
WC2 Warramunga Arr 38.37 262 PFAKE 10 18 20.0 +10
WC2 LR LR
comp=Z,11μm,22.0s
WB5 Warramunga Arr 38.37 263 PFAKE 10 18 20.0 +10
WB5 LR LR
comp=Z,8μm,20.0s
WB6 Warramunga Arr 38.38 263 PFAKE 10 18 20.0 +10
WB6 LR LR
comp=Z,7μm,19.0s
WB4 Warramunga Arr 38.38 262 PFAKE 10 18 20.0 +10
WB4 LR LR
comp=Z,8μm,20.0s
WB3 Warramunga Arr 38.38 262 PFAKE 10 18 20.0 +10
WB3 LR LR
comp=Z,8μm,20.0s
WB2 Warramunga Arr 38.38 262 *e*P **P** **10 18 07.9 -2.2**
WB2 LR LR
comp=Z,11μm,22.0s
WRAB Tennant Creek 38.38 262 *e*P **P** **10 18 07.8 -2.3**
WRAB LR LR
comp=Z,76nm,1.0s
comp=Z,10μm,22.0s
WRAB Tennant Creek 38.38 262*c i*P **P** **10 18 08.1 -2.0**
WRAB pmax pmax
comp=Z,71nm,1.1s
WC4 Warramunga Arr 38.39 262 PFAKE 10 18 20.0 +10
WC4 LR LR
comp=Z,10μm,22.0s
WR1 Warramunga Arr 38.39 262 *e*P **P** **10 18 07.8 -2.3**
WRA Warramunga Arr 38.39 262 *e*P **P** **10 18 07.4 -2.8**
WRA Warramunga Arr 38.39 262 *e*P **P** **10 18 07.4 -2.8**
WRA Warramunga Arr 38.39 262 P **P** **10 18 07.8 -2.3**
comp=Z,67nm,1.1s,baz=93,slow=8.6,SNR=66
WRA LR LR 10 32 46.0
comp=Z,10μm,21.1s,baz=100,slow=34
WC1 Warramunga Arr 38.39 262 PFAKE 10 18 20.0 +10
WC1 LR LR
comp=Z,7μm,22.0s
AS31 Alice Springs 38.50 256 *e*P **P** **10 18 09.6 -1.5**
comp=Z,60nm,0.8s
ASAR Alice Springs 38.51 256 *e*P **P** **10 18 09.2 -1.9**
ASAR Alice Springs 38.51 256 *e*P **P** **10 18 09.7 -1.4**
ASAR Alice Springs 38.51 256 P **P** **10 18 08.8 -2.3**
comp=Z,213nm,0.9s,baz=88,slow=7.1,SNR=352
ASAR PcP **PcP** **10 20 22.9 -0.8**
comp=Z,5.6nm,0.8s,baz=77,slow=4.1,SNR=2.5
ASAR LR LR 10 33 07.4
comp=Z,20μm,21.4s,baz=96,slow=35
JOHN Johnston Islan 39.14 24 PFAKE 10 18 30.0 +14
JOHN LR LR
comp=Z,6μm,18.0s
WAKE Wake Island 39.59 347 PFAKE 10 18 30.0 +10
WAKE LR LR
comp=Z,4μm,21.0s
KDU Kakadu 41.54 273 P **P** **10 18 35.1 -1.3**
baz=41,SNR=4.9
MTN Manton Dam 42.76 272 *e*P **P** **10 18 44.9 -1.4**
comp=Z,63nm,1.2s
MTN Manton Dam 42.76 272 P **P** **10 18 44.8 -1.5**
baz=43,SNR=6.3
WRKA Warakurna 43.56 254 P **P** **10 18 51.3 -1.4**
baz=44,SNR=108
FORT Forrest 43.80 246 *e*P **P** **10 18 53.3 -1.1**
comp=Z,397nm,0.8s
FORT LR LR
comp=Z,12μm,22.0s
FORT Forrest 43.80 246 P **P** **10 18 53.5 -1.0**
baz=44,SNR=34
KNRA Kununurra 44.33 267 P **P** **10 18 57.7 -1.3**
baz=44,SNR=9.5
TAOE Nuku Hiva Isla 44.45 83 *e*P **P** **10 19 01.4 +1.4**
TAOE LR LR
comp=Z,7μm,20.0s
GUMO Guam 44.53 316 *e*P **P** **10 18 59.3 -1.2**
comp=Z,226nm,1.3s
GUMO LR LR
comp=Z,6μm,22.0s
FAKI Fak Fak 45.11 286 *e*P **P** **10 19 04.0 -1.2**
comp=Z,116nm,1.1s
FAKI LR LR
comp=Z,5μm,21.0s
FAKI Fak Fak 45.11 286 P **P** **10 19 06.8 +1.6**
comp=Z,105nm,1.1s,comp=Z,2μm
ANA2 Anatahan 46.04 319 PFAKE 10 19 20.0 +7.5
ANA2 LR LR
comp=Z,4μm,21.0s
RKT Rikitea 46.34 104 *e*LQ LQ 10 29 41.2
comp=Z,7μm,35.0s
RKT *e*LR LR 10 32 17.4
comp=Z,9μm,28.0s
FITZ Fitzroy Crossi 46.80 263 *e*P **P** **10 19 17.9 -0.5**
comp=Z,110nm,1.1s
FITZ LR LR
comp=Z,7μm,19.0s
FITZ Fitzroy Crossi 46.80 263 P **P** **10 19 17.8 -0.7**
baz=47,SNR=68
FITZ Fitzroy Crossi 46.80 263 P **P** **10 19 17.8 -0.7**
comp=Z,78nm,1.0s,baz=119,slow=6.4,SNR=49
FITZ LR LR 10 39 06.6
comp=Z,7μm,18.2s,baz=98,slow=36
SIJI Sorong 46.88 288 P **P** **10 19 18.1 -1.1**
comp=Z,279nm,1.0s,baz=84,slow=6.4,SNR=36
SIJI LR LR 10 37 51.1
comp=Z,6μm,21.6s,baz=111,slow=35
KHU Kahuku 48.09 38 *e*P **P** **10 19 30.6 +2.0**
comp=Z,90nm,1.1s
KHU LR LR
comp=Z,5μm,19.0s
KEKH Kekaha 48.09 32 *e*P **P** **10 19 29.3 +1.0**
comp=Z,183nm,1.2s
KEKH LR LR
comp=Z,6μm,22.0s
MIDW Midway 48.12 9 *e*P **P** **10 19 29.0 +0.6**
comp=Z,94nm,1.1s
MIDW LR LR
comp=Z,5μm,20.0s
KHLU Kahalu`u 48.20 38 *e*P **P** **10 19 30.6 +1.3**
comp=Z,52nm,1.0s
KHLU LR LR
comp=Z,5μm,20.0s
AIN Ainahou 48.28 38 PFAKE 10 19 40.0 +10
AIN LR LR
comp=Z,6μm,19.0s
MWH Moku'aweowe 48.29 38 *e*P **P** **10 19 31.4 +0.9**
comp=Z,165nm,1.4s
MWH LR LR
comp=Z,5μm,20.0s
HUH Hualalai 48.30 38 PFAKE 10 19 40.0 +10
HUH LR LR
comp=Z,6μm,20.0s
HLP Hilina Pali 48.31 38 *e*P **P** **10 19 32.4 +2.3**
comp=Z,118nm,1.2s
HLP LR LR
comp=Z,5μm,21.0s
MLOA Mauna Loa Obse 48.34 38 PFAKE 10 19 40.0 +9.2
MLOA LR LR
comp=Z,5μm,20.0s
SDHHI Sand Hill 48.39 38 PFAKE 10 19 40.0 +9.2
SDHHI LR LR
comp=Z,6μm,20.0s
WRMHI West Rim 48.40 38 PFAKE 10 19 40.0 +9.1
WRMHI LR LR
comp=Z,6μm,21.0s
RIM Rim 48.41 38 PFAKE 10 19 40.0 +9.1
RIM LR LR
comp=Z,5μm,20.0s
KKO Keanakako`i 48.41 38 PFAKE 10 19 40.0 +9.0
KKO LR LR
comp=Z,6μm,22.0s
NPH North Pit 48.41 38 PFAKE 10 19 40.0 +9.0
NPH LR LR
comp=Z,7μm,22.0s
UWE Uwekahuna 48.41 38 PFAKE 10 19 40.0 +9.0
UWE LR LR
comp=Z,5μm,19.0s
MLH Mauna Loa 48.42 38 PFAKE 10 19 40.0 +8.8
MLH LR LR
comp=Z,6μm,20.0s
OBL Observatory Le 48.42 38 PFAKE 10 19 40.0 +9.0
OBL LR LR
comp=Z,7μm,21.0s
PUH Pauahi 48.42 39 PFAKE 10 19 40.0 +8.9
PUH LR LR
comp=Z,5μm,20.0s
BYL Byron's Ledge 48.43 38 PFAKE 10 19 40.0 +8.9
BYL LR LR
comp=Z,5μm,20.0s
SBLHI Steaming Bluff 48.43 38 PFAKE 10 19 40.0 +8.8
SBLHI LR LR
comp=Z,6μm,20.0s
HMH Humu`ula Sheep 48.45 38 *e*P **P** **10 19 31.9 +0.4**
comp=Z,159nm,1.1s
HMH LR LR
comp=Z,6μm,20.0s
KIP Kipapa 48.50 34↑ *e*P **P** **10 19 31.9 +0.4**
KIP pmax pmax
comp=Z,165nm,2.5s
POHA Pohakuloa 48.54 38 *e*P **P** **10 19 30.9 -1.2**
comp=Z,43nm,0.9s
POHA LR LR
comp=Z,6μm,20.0s
HPAH Hawaii Prepara 48.66 38 *e*P **P** **10 19 31.8 -1.0**
comp=Z,66nm,0.9s
HPAH LR LR
comp=Z,5μm,20.0s
MHA Mahukona 48.66 37 *e*P **P** **10 19 30.2 -2.5**
OPA Opana 48.72 34 *e*P **P** **10 19 34.7 +1.5**
comp=Z,67nm,0.9s
HLK Haleakala 48.92 36 *e*P **P** **10 19 36.4 +1.3**
comp=Z,76nm,1.0s
HLK LR LR
comp=Z,5μm,20.0s
KHLH Kahului Airpor 48.93 36 *e*P **P** **10 19 35.7 +0.9**
comp=Z,59nm,1.0s
KHLH LR LR
comp=Z,6μm,21.0s
KMBL Kambalda 49.11 245 P **P** **10 19 35.1 -1.1**
baz=49,SNR=22
SOEI Soe 50.09 274 *e*P **P** **10 19 40.0 -4.0**
comp=Z,148nm,1.3s
SOEI LR LR
comp=Z,6μm,20.0s
SOEI Soe 50.09 274 P **P** **10 19 45.0 +1.0**
comp=Z,120nm,1.4s,comp=Z,3μm
BATI Baumata 50.52 273 P **P** **10 19 46.7 -0.5**
comp=Z,28nm,0.3s,baz=102,slow=9.3,SNR=4.7
TNTI Ternate 51.10 288 *e*P **P** **10 19 52.4 +0.9**
comp=Z,173nm,1.4s
TNTI LR LR
comp=Z,2μm,21.0s
PSAD2 Pilbara Seismi 51.51 258 PFAKE 10 20 10.0 +15
PSAD2 LR LR
comp=Z,20μm,18.0s
PSAC2 Pilbara Seismi 51.58 258 PFAKE 10 20 10.0 +15
PSAC2 LR LR
comp=Z,22μm,18.0s
PSAB2 Pilbara Seismi 51.62 258 PFAKE 10 20 10.0 +15
PSAB2 LR LR
comp=Z,21μm,18.0s
PSAB3 Pilbara Seismi 51.62 258 PFAKE 10 20 10.0 +15
PSAB3 LR LR
comp=Z,20μm,18.0s
PSAA3 Pilbara Seismi 51.62 258 PFAKE 10 20 10.0 +15
PSAA3 LR LR
comp=Z,20μm,18.0s
PSA00 Pilbara Seismi 51.63 258 *e*P **P** **10 19 53.8 -1.6**
comp=Z,187nm,0.8s
PSA00 LR LR
comp=Z,20μm,18.0s
PSAA2 Pilbara Seismi 51.63 258 PFAKE 10 20 10.0 +15
PSAA2 LR LR
comp=Z,20μm,18.0s
PSAA1 Pilbara Seismi 51.64 258 PFAKE 10 20 10.0 +15
PSAA1 LR LR
comp=Z,20μm,18.0s
PSAC3 Pilbara Seismi 51.64 258 PFAKE 10 20 10.0 +15
PSAC3 LR LR
comp=Z,18μm,18.0s
PSAB1 Pilbara Seismi 51.65 258 PFAKE 10 20 10.0 +14
PSAB1 LR LR
comp=Z,19μm,18.0s
PSAD1 Pilbara Seismi 51.66 258 PFAKE 10 20 10.0 +14
PSAD1 LR LR
comp=Z,25μm,18.0s
PSAC1 Pilbara Seismi 51.67 258 PFAKE 10 20 10.0 +14
PSAC1 LR LR
comp=Z,22μm,18.0s
PSAD3 Pilbara Seismi 51.68 258 PFAKE 10 20 10.0 +14
PSAD3 LR LR
comp=Z,16μm,18.0s
MBWA Marble Bar 51.80 258 *e*P **P** **10 19 55.7 -1.0**
comp=Z,270nm,0.9s
MBWA LR LR
comp=Z,27μm,18.0s
MEEK Meekatharra 52.16 251 P **P** **10 19 57.7 -1.7**
baz=52,SNR=56
MMRI Maumere 52.33 274 *e*P **P** **10 19 59.3 -1.4**
comp=Z,71nm,0.9s
MMRI LR LR
comp=Z,2μm,19.0s
KLBR Kellerberrin 52.63 245 P **P** **10 20 01.7 -1.1**
baz=52,SNR=17
NWAO Narrogin (SRO) 53.05 243 *e*P **P** **10 20 05.0 -0.8**
NWAO LR LR
comp=Z,12μm,19.0s
NWAO Narrogin (SRO) 53.05 243 P **P** **10 20 05.1 -0.7**
baz=53,SNR=9.1
NWAO Narrogin (SRO) 53.05 243 P **P** **10 20 04.5 -1.3**
comp=Z,114nm,1.0s,baz=86,slow=7.2,SNR=21
NWAO LR LR 10 42 29.7
comp=Z,13μm,18.9s,baz=98,slow=36
BBSI Bau Bau 53.05 278 P **P** **10 20 10.1 +4.0**
BLDU Ballidu 53.57 246 P **P** **10 20 08.4 -1.3**
baz=54,SNR=12
MUN Mundaring 53.94 244 P **P** **10 20 12.4 +0.1**
baz=54,SNR=9.2
SGSI Sangihe 54.04 290 P P 10 20 21.4 +8.1
KMSI Cibinong 54.07 286 P P 10 20 20.5 +7.0
MORW Morawa 54.24 248 *e*P **P** **10 20 13.4 -1.2**
comp=Z,190nm,1.1s
MORW LR LR
comp=Z,12μm,19.0s
MORW Morawa 54.24 248 P **P** **10 20 13.7 -0.9**
baz=54,SNR=14
LUWI Luwuk 54.52 283 *e*P **P** **10 20 17.0 +0.3**
comp=Z,330nm,1.4s
BKSI Bulukumba 55.40 277 P **P** **10 20 23.8 +0.7**
comp=Z,21nm,1.1s,comp=Z,575nm
APSI Ampana 55.60 283 P **P** **10 20 26.1 +1.5**
comp=Z,90nm,1.1s,comp=Z,1μm
DAV Davao City (W) 55.60 294‖ *e*P **P** **10 20 23.1 -1.5**
DAV Davao City (W) 55.60 294 LR LR 10 43 27.5
comp=Z,2μm,18.6s,baz=100,slow=35
BNSI Bone 55.73 278 P **P** **10 20 27.5 +2.0**
comp=Z,55nm,1.8s,comp=Z,2μm
KAPI Kappang 55.85 277 *e*P **P** **10 20 24.5 -1.9**
comp=Z,36nm,1.0s
KAPI LR LR
comp=Z,2μm,20.0s
MRSI Marisa 55.88 285 P **P** **10 20 27.8 +1.2**
comp=Z,23nm,1.4s
SPSI Sidrap Palu 56.20 279 P **P** **10 20 28.7 -0.2**
comp=Z,36nm,1.4s,comp=Z,546nm
PLAI Plampang 56.47 272 P **P** **10 20 33.3 +2.5**
comp=Z,54nm,1.3s,comp=Z,1μm
TTSI Tana Toraja 56.48 280 P **P** **10 20 32.4 +1.5**
comp=Z,58nm,1.6s
GIRL Giralia 56.61 255 *e*P **P** **10 20 31.8 +0.1**
comp=Z,220nm,1.1s
GIRL LR LR
comp=Z,17μm,19.0s
GIRL Giralia 56.61 255 P **P** **10 20 32.1 +0.4**
baz=56,SNR=5.7
MPSI Mapaga 57.70 283 P **P** **10 20 38.9 -0.6**
comp=Z,27nm,1.0s,comp=Z,503nm
VNDA Vanda 58.28 183 *e*P **P** **10 20 43.0 +0.4**
VNDA Vanda 58.28 183 P **P** **10 20 42.5 -0.1**
comp=Z,2.2nm,0.9s,baz=0.3,slow=6.6,SNR=13
VNDA LR LR 10 41 15.9
comp=Z,7μm,21.7s,baz=24,slow=31
SBA Scott Base 58.39 182 *e*P **P** **10 20 45.2 +1.8**
comp=Z,74nm,1.0s
SBA LR LR
comp=Z,5μm,19.0s
IGBI Denpasar 58.95 271 P P 10 20 56.6 +8.3
SMKI Samarinda 59.87 281 P P 10 20 59.6 +5.0
JAGI Jajag, Banyuwa 59.99 271 PFAKE 10 21 10.0 +15
JAGI LR LR
comp=Z,4μm,22.0s
CASY Casey 62.05 204 *e*P **P** **10 21 07.8 -0.8**
comp=Z,87nm,1.0s
CASY LR LR
comp=Z,3μm,21.0s
JHJ Hachijo jima 2 62.44 327 LR LR 10 44 18.0
comp=Z,3μm,21.0s,baz=146,slow=32
WOJI Wonogiri, Jawa 63.23 271 P **P** **10 21 18.6 +1.3**
comp=Z,71nm,1.4s
SMRI Semarang 63.93 272 *e*P **P** **10 21 22.8 +0.9**
comp=Z,171nm,1.3s
JOW Kunigami 64.85 314 *e*P **P** **10 21 29.4 +1.8**
comp=Z,25nm,1.2s
SBUM Sibu 65.58 282 *e*P **P** **10 21 31.7 -1.0**
comp=Z,35nm,1.5s
SBUM LR LR
comp=Z,800nm,20.0s
SBUM Sibu 65.58 282 P **P** **10 21 33.0 +0.3**
INU Inuyama 65.61 326 *e*P **P** **10 21 33.1 +0.8**
comp=Z,38nm,1.0s
INU LR LR
comp=Z,5μm,20.0s
MJAR Matsushiro Arr 65.92 328 *e*P **P** **10 21 35.9 +1.5**
MJAR Matsushiro Arr 65.92 328 P **P** **10 21 33.9 -0.5**
comp=Z,26nm,1.0s,baz=166,slow=6.6,SNR=24
MJAR LR LR 10 45 59.1
comp=Z,4μm,22.0s,baz=140,slow=32
MAJO Matsushiro 65.92 328 *e*P **P** **10 21 34.2 -0.2**
comp=Z,126nm,1.2s
MAJO LR LR
comp=Z,4μm,22.0s
MAJO Matsushiro 65.92 328↑ *e*P **P** **10 21 33.5 -0.9**
MAJO pmax pmax
comp=Z,20nm,0.9s
MAT Matsushiro 65.92 328 P **P** **10 21 33.8 -0.6**
MAT S **S** **10 30 25.0 +5.4**
MJB9 Matsu-Tunnel 65.93 328 *e*P **P** **10 21 34.2 -0.2**
comp=Z,123nm,1.2s
MJB9 LR LR
comp=Z,4μm,21.0s
CISI Cisompet, Garu 66.25 270 *e*P **P** **10 21 36.0 -1.1**
comp=Z,97nm,0.9s
CISI LR LR
comp=Z,4μm,22.0s
CISI Cisompet, Garu 66.25 270 P P 10 21 47.6 +11
LEM Lembang 66.66 271 P **P** **10 21 39.4 -0.5**
comp=Z,80nm,0.8s,baz=98,slow=7.3,SNR=11
KSM Kuching 66.98 280 *e*P **P** **10 21 39.7 -2.0**
comp=Z,59nm,0.9s
KSM Kuching 66.98 280 P **P** **10 21 41.0 -0.7**
YOJ Yonaguni jima 67.12 309 PFAKE 10 21 50.0 +7.7
YOJ LR LR
comp=Z,3μm,20.0s
XMIS Christmas Isla 67.41 267 *e*P **P** **10 21 43.2 -1.3**
comp=Z,80nm,0.9s
XMIS LR LR
comp=Z,6μm,18.0s
JNU Nakatsue 67.42 321 *e*P **P** **10 21 44.6 +0.5**
comp=Z,50nm,1.2s
JNU Nakatsue 67.42 321 P **P** **10 21 45.7 +1.6**
comp=Z,10nm,0.9s,baz=142,slow=8.4,SNR=4.4
JNU LR LR 10 46 25.8
comp=Z,2μm,21.2s,baz=134,slow=32
CBJI Citeko 67.51 271 P **P** **10 21 45.1 +0.1**
comp=Z,156nm,0.6s,comp=Z,14μm
TPI Tanjungpandan 67.95 275 P **P** **10 21 49.9 +2.1**
comp=Z,25nm,1.3s
NACB Ninganchiao 68.01 308 PFAKE 10 22 00.0 +12
NACB LR LR
comp=Z,2μm,19.0s
ERM Erimo 68.14 335 PFAKE 10 22 00.0 +12
ERM LR LR
comp=Z,7μm,22.0s
YHNB Yeheng 68.45 308 PFAKE 10 22 00.0 +9.2
YHNB LR LR
comp=Z,3μm,22.0s
TATO Taipei 68.55 308 PFAKE 10 22 00.0 +8.8
TATO LR LR
comp=Z,3μm,20.0s
RPN Rapa Nui 68.74 112 LR LR 10 44 17.0
comp=Z,1μm,21.2s,baz=266,slow=29
KUR Kuril'sk 69.20 340*d i*P **P** **10 21 57.1 +2.2**
KUR MLR MLR
comp=Z,3μm,17.0s
KUR MLR MLR
comp=N,3μm,19.0s
PPBI Pangkal Pinang 69.58 275 P **P** **10 21 59.6 +1.6**
ASAJ Asahikawa 70.13 336 P **P** **10 22 01.1 +0.5**
comp=N,14nm,0.9s,baz=219,slow=6.5,SNR=4.2
QSPA South Pole Qui 70.41 180 *e*P **P** **10 22 01.6 -0.8**
comp=N,212nm,1.1s
QSPA LR LR
comp=Z,7μm,22.0s
QSPA South Pole Qui 70.41 180 LR LR 10 48 00.4
comp=Z,6μm,21.1s,baz=34,slow=32
QZH Quanzhou 70.70 307‖ *i*P **P** **10 22 05.5 +1.0**
QZH sP PcP 10 22 34.0 +8.7
QZH S **S** **10 31 21.7 +4.9**
QZH pmax pmax
comp=Z,320nm,7.1s
QZH LR LR
comp=Z,740nm,16.1s
QZH LR LR
comp=Z,1μm,17.5s
QZH LR LR
comp=Z,1μm,24.2s
ADK Adak 71.58 5 PFAKE 10 22 20.0 +11
ADK LR LR
comp=Z,6μm,22.0s
TJN Taejon 71.76 321*ce*P **P** **10 22 11.5 +0.8**
MNAI Manna 71.84 272 PFAKE 10 22 20.0 +8.2
MNAI LR LR
comp=Z,3μm,20.0s
SKR Severo-Kuril's 72.02 347 *e*P **P** **10 22 09.8 -2.1**
SKR *e**PP **PcP** **10 22 27.5 -2.8**
SKR *e* 10 24 48.1
SKR *e**SS SKiKP 10 32 11.6 +25
SKR pmax pmax
comp=Z,400nm,5.0s
SKR pmax pmax
comp=Z,900nm,4.4s
SKR pmax pmax
comp=Z,102nm,1.1s
SKR pmax pmax
comp=Z,700nm,6.4s
SKR pmax pmax
comp=Z,400nm,5.9s
SKR MLR MLR
comp=Z,4μm,18.0s
SKR MLR MLR
comp=Z,4μm,16.0s
KSRS Korea Array 72.16 322 P **P** **10 22 13.0 -0.1**
comp=Z,5.0nm,1.0s,baz=143,slow=5.8,SNR=11
KSRS PKPPKP **P'P'df** **10 49 54.8 -2.8**
comp=Z,0.4nm,0.4s,baz=320,slow=3.2,SNR=4.3
KSRS LR LR 10 52 07.5
comp=Z,2μm,18.4s,baz=130,slow=34
KS15 Wonju Array Si 72.17 322 *e*P **P** **10 22 12.2 -1.0**
comp=Z,43nm,1.4s
KSAR Wonju Array Be 72.17 322 *e*P **P** **10 22 13.1 -0.1**
SSE Sheshan 72.35 313 P **P** **10 22 13.9 -0.5**
SSE S **S** **10 31 32.6 -3.1**
SSE pmax pmax
comp=Z,20nm,0.7s
SSE pmax pmax
comp=Z,120nm,5.1s
SSE LR LR
comp=Z,690nm,23.8s
SSE LR LR
comp=Z,1μm,24.2s
SSE Sheshan 72.35 313 PFAKE 10 22 30.0 +16
SSE LR LR
comp=Z,3μm,21.0s
YSS Yuzh-Sakhalins 72.47 337 *e*P **P** **10 22 14.3 -0.4**
comp=Z,89nm,1.3s
YSS LR LR
comp=Z,4μm,20.0s

YSS	**Yuzh-Sakhalins**	**72.47 337**⇑	*e*P	**P**	**10 22 15.3 +0.6**
YSS			*e*		10 22 31.3
YSS			*i* *SP	PcP	10 22 40.4 +8.1
YSS			*e*S	**S**	**10 31 33.4 -2.9**
YSS			*e*PPS	PPS	10 32 06.2
YSS			*e*SS	**SS**	**10 36 15.0 -1.0**
YSS			pmax	pmax	
	comp=Z,30nm,1.2s				
YSS			pmax	pmax	
	comp=Z,800nm,4.1s				
YSS			pmax	pmax	
	comp=N,300nm,3.8s				
YSS			pmax	pmax	
	comp=Z,700nm,4.7s				
YSS			pmax	pmax	
	comp=N,300nm,5.5s				
DLV	**T Lat**	**72.80 290**	*e*P	**P**	**10 22 18.1 +0.5**
	comp=N,68nm,1.2s				
MYKOM	**Kota Tinggi**	**73.10 278**	*e*P	**P**	**10 22 17.9 -1.4**
	comp=N,53nm,1.2s				
MYKOM			LR	LR	
	comp=Z,3μm,22.0s				
MYKOM	**Kota Tinggi**	**73.10 278**	P	**P**	**10 22 21.0 +1.8**
TEY	**Ternei**	**73.35 332**⇑	*e*P	P	10 22 25.2 +5.2
TEY			pmax	pmax	
	comp=Z,20nm,1.4s				
TEY			pmax	pmax	
	comp=N,10.0nm,1.4s				
NIKH	**Nikolski High**	**73.63 10**	*e*P	**P**	**10 22 21.4 0.0**
PET	**Petropavlovsk**	**73.78 350**	*e*P	**P**	**10 22 22.3 0.0**
	comp=N,28nm,0.9s				
PET			LR	LR	
	comp=Z,3μm,19.0s				
PET	**Petropavlovsk**	**73.78 350**	*d i*P	**P**	**10 22 22.7 +0.4**
PET			*i* *PP	**PcP**	**10 22 41.9 +4.1**
PET			*i* S	**S**	**10 31 52.3 +1.3**
PET			*e*PS		10 32 33.7
PET			*e*PS	PnS	10 32 46.2 +19
PET			pmax	pmax	
	comp=Z,500nm,16.0s				
PET			pmax	pmax	
	comp=Z,500nm,16.2s				
PET			pmax	pmax	
	comp=Z,37nm,0.9s				
PET			MLR	MLR	
	comp=Z,3μm,20.0s				
PET			MLR	MLR	
	comp=Z,3μm,20.0s				
PEA0B	**Petropavlovsk-**	**74.03 349**	*e*P	**P**	**10 22 23.7 -0.1**
	comp=Z,126nm,1.4s				
PEA0B			LR	LR	
	comp=Z,4μm,21.0s				
PETK	**Petropavlovsk-**	**74.03 349**	*e*P	**P**	**10 22 22.3 -1.5**
PETK	**Petropavlovsk-**	**74.03 349**	P	**P**	**10 22 24.0 +0.2**
PETK			pmax	pmax	
	comp=Z,20nm,1.0s				
PETK	**Petropavlovsk-**	**74.03 349**	P	**P**	**10 22 23.9 +0.2**
	comp=Z,20nm,1.0s,baz=127,slow=6.8,SNR=19				
PETK			LR	LR	10 49 05.5
	comp=Z,2μm,21.7s,baz=171,slow=31				
PEA1	**Petropavlovsk-**	**74.03 349**	*e*P	**P**	**10 22 23.9 +0.1**
MSHR	**Mys Shultsa**	**74.04 328**⇑	*e*P	**P**	**10 22 22.1 -2.0**
NJ2	**Nanjing**	**74.52 313**	*e*P	**P**	**10 22 28.0 +0.9**
NJ2			S	**S**	**10 32 05.2 +5.0**
NJ2			pmax	pmax	
	comp=Z,15nm,0.6s				
NJ2			pmax	pmax	
	comp=Z,250nm,4.3s				
NJ2			LR	LR	
	comp=Z,2μm,24.9s				
NJ2			LR	LR	
	comp=Z,2μm,22.8s				
NJ2			LR	LR	
	comp=Z,3μm,24.9s				
QIZ	**Qiongzhong**	**74.73 297**	P	**P**	**10 22 29.0 +0.3**
QIZ			sP	PcP	10 22 54.3 +12
QIZ			S	**S**	**10 32 00.6 -2.5**
QIZ			sS	**SKSac**	**10 32 32.7 -2.5**
QIZ			LR	LR	
	comp=Z,1μm,27.0s				
QIZ			LR	LR	
	comp=Z,760nm,23.5s				
QIZ			LR	LR	
	comp=Z,1μm,20.6s				
USA0B	**Ussuriysk Arra**	**74.83 329**	*e*P	**P**	**10 22 30.1 +1.5**
	comp=Z,40nm,1.4s				
USA0B			LR	LR	
	comp=Z,4μm,21.0s				
USRK	**Ussuriysk Ar.**	**74.83 329**	*e*P	**P**	**10 22 29.8 +1.2**
USRK	**Ussuriysk Ar.**	**74.83 329**	P	**P**	**10 22 29.6 +1.0**
	comp=Z,5.5nm,0.9s,baz=144,slow=5.2,SNR=12				
USRK			LR	LR	10 51 07.5
	comp=Z,4μm,20.2s,baz=129,slow=32				
COCO	**West Island**	**75.18 262**	*e*P	**P**	**10 22 32.8 +1.5**
	comp=Z,234nm,1.4s				
COCO			LR	LR	
	comp=Z,5μm,20.0s				
BKNI	**Bangkinang**	**75.22 276**	*e*P	**P**	**10 22 32.0 +0.4**
	comp=Z,204nm,1.2s				
BKNI			LR	LR	
	comp=Z,3μm,20.0s				
TYV	**Tymovskoe**	**75.83 339**	*e*P	**P**	**10 22 36.6 +2.4**
TYV			*e*S	**S**	**10 32 15.5 +1.6**
TYV			pmax	pmax	
	comp=Z,900nm,5.5s				
TYV			smax	smax	
	comp=N,800nm,8.5s				
MDJ	**Mudanjiang**	**76.30 328**	P	**P**	**10 22 38.9 +1.8**
MDJ			pP	pwP	10 22 57.8 +7.2
MDJ			sP	PcP	10 23 05.8 +17
MDJ			pmax	pmax	
	comp=N,760nm,4.7s				
MDJ			LR	LR	
	comp=N,3μm,21.9s				
MDJ			LR	LR	
	comp=N,2μm,21.9s				
MDJ			LR	LR	
	comp=N,5μm,20.9s				
MDJ	**Mudanjiang**	**76.30 328**	*e*P	**P**	**10 22 38.3 +1.2**
	comp=N,32nm,1.2s				
MDJ			LR	LR	
	comp=Z,4μm,21.0s				
IPM	**Ipoh**	**76.69 280**	*e*P	**P**	**10 22 37.8 -2.2**
	comp=Z,72nm,1.1s				
IPM			LR	LR	
	comp=Z,2μm,20.0s				
IPM	**Ipoh**	**76.69 280**	P	**P**	**10 22 39.0 -1.1**
DL2	**Dalian**	**76.85 320**⇓	*i*P	**P**	**10 22 41.3 +1.0**
DL2			S	**S**	**10 32 29.3 +3.6**
DL2			sS	**ScS**	**10 33 00.5 +5.9**
DL2			SS	**SS**	**10 37 18.4 -4.6**
DL2			pmax	pmax	
	comp=Z,43nm,1.4s				
DL2			pmax	pmax	
	comp=Z,430nm,4.0s				
DL2			LR	LR	
	comp=Z,720nm,21.9s				
DL2			LR	LR	
	comp=Z,2μm,20.9s				
DL2			LR	LR	
	comp=Z,3μm,19.9s				
WHN	**Wuhan**	**76.89 309**	⇓P	**P**	**10 22 43.7 +3.0**
WHN			sP	pwP	10 23 12.4 +18
WHN			S	**S**	**10 32 30.9 +4.5**
WHN			sS	**ScS**	**10 33 02.2 +7.0**
WHN			LR	LR	
	comp=Z,3μm,16.9s				
WHN			LR	LR	
	comp=Z,5μm,19.9s				
WHN			LR	LR	
	comp=Z,11μm,22.3s				
KULM	**Kulim**	**77.34 280**	*e*P	**P**	**10 22 42.5 -1.1**
	comp=Z,38nm,1.1s				
KULM			LR	LR	
	comp=Z,2μm,21.0s				
SNY	**Shenyang**	**77.58 323**	⇓P	**P**	**10 22 48.0 +3.7**
SNY			pmax	pmax	
	comp=Z,450nm,7.5s				
SNY			LR	LR	
	comp=Z,2μm,25.3s				
SNY			LR	LR	
	comp=Z,3μm,22.6s				
SNY			LR	LR	
	comp=Z,6μm,26.5s				
CN2	**Changchun**	**77.86 326**	⇓P	**P**	**10 22 46.4 +0.5**
CN2			*e*pP	pwP	10 23 08.0 +8.6
CN2			*e*S	**S**	**10 32 32.8 -3.7**
CN2			pmax	pmax	
	comp=Z,40nm,1.2s				
CN2			pmax	pmax	
	comp=Z,200nm,5.0s				
CN2			LR	LR	
	comp=Z,2μm,20.0s				
CN2			LR	LR	
	comp=Z,2μm,20.0s				
CN2			LR	LR	
	comp=Z,4μm,20.0s				
GRNR	**Gornyy**	**77.98 336**	*e*P	**P**	**10 22 46.8 +0.4**
GRNR			pmax	pmax	
	comp=Z,13nm,1.0s				
SKLT	**Songkhla**	**78.05 282**	P	**P**	**10 22 48.6 +1.0**
PSI	**Prapat**	**78.06 277**	*e*P	**P**	**10 22 45.7 -2.1**
TIA	**Tai'an**	**78.09 315**	P	**P**	**10 22 47.6 +0.2**
TIA			pmax	pmax	
	comp=Z,250nm,4.8s				
TIA			LR	LR	
	comp=Z,1μm,26.4s				
TIA			LR	LR	
	comp=Z,2μm,23.7s				
TIA			LR	LR	
	comp=Z,3μm,27.5s				
NKL	**Nikolayevsk**	**78.42 340**	*e*P	**P**	**10 22 48.0 -0.7**
NKL			*e*S	S	10 32 53.0 +11
NKL			pmax	pmax	
	comp=Z,1μm,5.0s				
NKL			pmax	pmax	
	comp=Z,110nm,1.8s				
NKL			smax	smax	
	comp=N,1μm,10.0s				
NKL			smax	smax	
	comp=E,2μm,10.0s				
NKL			MLR	MLR	
	comp=E,800nm,17.0s				
NKL			MLR	MLR	
	comp=Z,2μm,17.0s				
KLR	**Kul'dur**	**78.69 333**⇓	*e*P	**P**	**10 22 50.7 +0.3**
KLR	**Kul'dur**	**78.69 333**	P	**P**	**10 22 50.9 +0.5**
	comp=Z,3.3nm,0.8s,baz=136,slow=2.5				
KLR			LR	LR	10 52 09.1
	comp=Z,4μm,21.9s,baz=154,slow=31				
GSI	**Gunungsitoli**	**78.80 275**	*e*P	**P**	**10 22 51.3 -0.5**
	comp=Z,61nm,1.0s				
GSI			LR	LR	
	comp=Z,5μm,22.0s				
SKNT	**Sakolnakorn**	**78.86 293**	P	**P**	**10 22 51.3 -0.7**
TRTT	**Trang**	**79.15 282**	P	**P**	**10 22 55.0 +1.3**
KHON	**Khomkaen**	**79.61 292**	P	**P**	**10 22 58.9 +2.8**
NONG	**Nongkai**	**80.03 293**	P	**P**	**10 22 59.3 +1.0**
MAW	**Mawson**	**80.13 201**	*e*P	**P**	**10 22 58.2 +0.2**
	comp=Z,16nm,1.2s				
MAW	**Mawson**	**80.13 201**	P	**P**	**10 22 58.6 +0.6**
	baz=80,SNR=23				
MAW	**Mawson**	**80.13 201**	P	**P**	**10 22 57.5 -0.4**
	comp=Z,12nm,1.0s,baz=117,slow=7.7,SNR=10				
MAW			LR	LR	10 55 56.6
	comp=Z,3μm,18.2s,baz=98,slow=34				
SII	**Sitkinak Islan**	**80.17 17**	*e*P	**P**	**10 22 58.3 +0.1**
	comp=Z,42nm,0.8s				
SII			LR	LR	
	comp=Z,3μm,21.0s				
CHAI	**Chaiyaphum**	**80.17 291**	P	**P**	**10 22 59.8 +0.7**
ENH	**Enshi**	**80.35 307**	*e*P	**P**	**10 22 58.6 -1.2**
	comp=Z,86nm,1.5s				
ENH			LR	LR	
	comp=Z,10μm,22.0s				
PKDT	**Phuket**	**80.42 282**	P	P	10 23 14.8 +14
GYA	**Guiyang**	**80.74 302**⇑	*i*P	**P**	**10 23 03.4 +1.2**
GYA			pP	pwP	10 23 24.0 +8.3
GYA			sP	sP	10 23 32.9 +18
GYA			S	**S**	**10 33 11.1 +3.0**
GYA			pmax	pmax	
	comp=Z,30nm,0.8s				
GYA			pmax	pmax	
	comp=Z,140nm,6.2s				
GYA			LR	LR	
	comp=Z,1μm,21.3s				
GYA			LR	LR	
	comp=Z,790nm,22.5s				
GYA			LR	LR	
	comp=Z,1μm,20.8s				
SLVN	**Son La**	**80.75 297**	*e*P	**P**	**10 23 02.7 +0.5**
	comp=Z,35nm,1.2s				
BJT	**Baijiatuau**	**80.90 318**	*e*P	**P**	**10 23 02.6 +0.1**
	comp=Z,30nm,1.3s				
BJT			LR	LR	
	comp=Z,3μm,22.0s				
OHAK	**Old Harbor**	**80.99 17**	*e*P	**P**	**10 23 02.4 -0.1**
PHET	**Kaeng Krachan**	**81.11 287**	P	**P**	**10 23 06.5 +2.3**
MA2	**Magadan**	**81.43 348**	*e*P	**P**	**10 23 04.4 -0.5**
	comp=Z,16nm,0.9s				
MA2			LR	LR	
	comp=Z,4μm,22.0s				
MA2	**Magadan**	**81.43 348**	*de*P	**P**	**10 23 04.6 -0.3**
MA2			pmax	pmax	
	comp=Z,20nm,1.0s				
MA2	**Magadan**	**81.43 348**	LR	LR	10 52 33.7
	comp=Z,3μm,21.7s,baz=168,slow=31				
SNCC	**San Nicolas Is**	**81.48 50**	*e*P	**P**	**10 23 06.9 +1.1**
	comp=Z,135nm,1.4s				
SNCC			LR	LR	
	comp=Z,2μm,19.0s				
SNCC	**San Nicolas Is**	**81.48 50**	P	**P**	**10 23 05.9 +0.1**
	baz=240				
KDAK	**Kodiak Island**	**81.67 17**	*e*P	**P**	**10 23 06.8 +0.7**
	comp=Z,31nm,1.0s				
KDAK			LR	LR	
	comp=Z,4μm,21.0s				
KDAK	**Kodiak Island**	**81.67 17**	P	**P**	**10 23 06.6 +0.5**
KDAK			pmax	pmax	
	comp=Z,20nm,0.9s				
KDAK	**Kodiak Island**	**81.67 17**	P	**P**	**10 23 06.6 +0.5**
	comp=Z,19nm,0.8s,baz=166,slow=3.8,SNR=12				
MCCM	**Marconi Confer**	**81.70 45**	*e*P	**P**	**10 23 08.0 +1.2**
	comp=Z,96nm,1.4s				
MCCM			LR	LR	
	comp=Z,3μm,20.0s				
SCZ2	**Santa Cruz Isl**	**81.78 50**	P	**P**	**10 23 08.4 +1.0**
	baz=240,SNR=6.4				
SAO	**San Andreas Ge**	**81.93 46**	*e*P	**P**	**10 23 10.4 +2.3**
	comp=Z,60nm,1.0s				
SAO			LR	LR	
	comp=Z,3μm,20.0s				
SBC	**Santa Barbara**	**81.95 49**	P	**P**	**10 23 08.8 +0.6**
	baz=240				
HOPS	**Hopland Field**	**82.04 44**	*e*P	**P**	**10 23 10.6 +2.0**
	comp=Z,89nm,1.1s				
HOPS			LR	LR	
	comp=Z,4μm,20.0s				
TIY	**Taiyuan**	**82.05 315**	*e*P	**P**	**10 23 09.7 +0.9**
TIY			pmax	pmax	
	comp=Z,280nm,5.4s				
TIY			LR	LR	
	comp=Z,1μm,19.9s				
TIY			LR	LR	
	comp=Z,640nm,13.7s				
TIY			LR	LR	
	comp=Z,2μm,22.6s				
SCI2	**San Clemente I**	**82.06 51**	P	**P**	**10 23 09.3 +0.4**
	baz=241				
KCPM	**Cahto Peak**	**82.08 43**	*e*P	**P**	**10 23 11.1 +2.1**
	comp=Z,86nm,1.0s				
KCPM			LR	LR	
	comp=Z,3μm,19.0s				
PKM	**Mcpherson Peak**	**82.10 49**	P	**P**	**10 23 10.6 +1.3**
	baz=240,SNR=18				
SRDT	**SRDT**	**82.11 288**	P	**P**	**10 23 11.7 +2.2**
GDXM	**Geysers**	**82.12 44**	*e*P	**P**	**10 23 10.7 +1.6**
	comp=Z,32nm,1.1s				
GDXM			LR	LR	
	comp=Z,6μm,20.0s				
SMMC	**Simmler**	**82.19 48**	P	**P**	**10 23 10.8 +1.3**
	baz=239,SNR=14				
PAGB	**Antelope Grade**	**82.22 48**	*e*P	**P**	**10 23 12.1 +2.4**
	comp=Z,62nm,1.2s				
PAGB			LR	LR	
	comp=Z,2μm,19.0s				
BLG	**Laguna Peak, P**	**82.24 50**	P	**P**	**10 23 10.9 +1.1**
	baz=240				
UTHA	**Uthaitani**	**82.28 289**	P	**P**	**10 23 10.9 +0.5**
KMRM	**Mail Ridge**	**82.30 43**	*e*P	**P**	**10 23 12.1 +2.0**
	comp=Z,119nm,1.0s				
KMRM			LR	LR	
	comp=Z,3μm,20.0s				
CIS	**Catalina Islan**	**82.37 51**	P	**P**	**10 23 11.4 +0.9**
	baz=241				
JCC	**Jacoby Creek,**	**82.43 42**	*e*P	**P**	**10 23 13.0 +2.4**
	comp=Z,93nm,1.3s				
JCC			LR	LR	
	comp=Z,2μm,19.0s				
NANT	**Nan**	**82.45 293**	P	**P**	**10 23 12.4 +1.2**
FMP	**Fort Macarthur**	**82.61 50**	P	**P**	**10 23 12.5 +0.9**
	baz=241				
XAN	**Xi'an**	**82.62 310**	P	**P**	**10 23 12.5 +0.7**
XAN			pP	pwP	10 23 33.5 +8.1
XAN			PP	**PP**	**10 26 20.8 -1.2**
XAN			S	**S**	**10 33 27.0 0.0**
XAN			SS	**SS**	**10 38 54.3 +4.5**
XAN			pmax	pmax	
	comp=Z,210nm,5.7s				
XAN			LR	LR	
	comp=Z,2μm,21.4s				
XAN			LR	LR	
	comp=Z,3μm,22.2s				
XAN			LR	LR	
	comp=Z,3μm,21.6s				
XAN	**Xi'an**	**82.62 310**	*e*P	**P**	**10 23 12.2 +0.4**
	comp=Z,31nm,1.2s				
XAN			LR	LR	
	comp=Z,5μm,22.0s				
KHMM	**Horse Mountain**	**82.65 42**	*e*P	**P**	**10 23 13.7 +1.8**
	comp=Z,67nm,1.1s				
KHMM			LR	LR	
	comp=Z,3μm,20.0s				
OSI	**Osito Audit: C**	**82.74 49**	PFAKE		10 23 20.0 +7.5
OSI			LR	LR	
	comp=Z,2μm,19.0s				
OSI	**Osito Audit: C**	**82.74 49**	P	**P**	**10 23 13.3 +0.9**
	baz=240				
DECC	**Green Verdugo**	**82.84 50**	P	**P**	**10 23 13.5 +0.6**
	baz=241				
O02D	**Mt. Diablo Mer**	**82.86 43**	P	**P**	**10 23 14.5 +1.5**
	baz=237,SNR=59				
PASC	**Pasadena Art C**	**82.91 50**	*e*P	**P**	**10 23 13.7 +0.4**
	comp=Z,36nm,1.0s				
PASC			LR	LR	
	comp=Z,2μm,20.0s				
ARVC	**Arvin**	**82.92 49**	P	**P**	**10 23 14.3 +1.0**
	baz=240,SNR=17				
MWC	**Mount Wilson**	**83.03 50**	*e*P	**P**	**10 23 15.0 +0.9**
	comp=Z,75nm,1.3s				
MWC			LR	LR	
	comp=Z,2μm,19.0s				
UMPA	**Umpang Tak**	**83.05 290**	P	**P**	**10 23 17.0 +2.6**
109C	**Camp Elliot, M**	**83.08 52**	P	**P**	**10 23 14.7 +0.6**
	baz=241,SNR=6.9				
CPE	**Camp Elliot**	**83.08 52**	*e*P	**P**	**10 23 15.9 +1.7**
	comp=Z,41nm,1.1s				
CPE			LR	LR	
	comp=Z,2μm,18.0s				
VES	**Vestal, Richgr**	**83.09 48**	P	**P**	**10 23 14.5 +0.3**
	baz=240,SNR=31				
VOG	**Valley Oaks Go**	**83.13 48**	P	**P**	**10 23 14.8 +0.5**
	baz=240				
WDC	**Whiskeytown Da**	**83.24 43**	*e*P	**P**	**10 23 16.3 +1.5**
	comp=Z,73nm,1.3s				
WDC			LR	LR	
	comp=Z,3μm,20.0s				
LAMP	**Lampang**	**83.27 292**	P	**P**	**10 23 16.0 +0.5**
BAR	**Barrett**	**83.30 52**	*e*P	**P**	**10 23 17.0 +1.6**
	comp=Z,31nm,1.3s				
BAR			LR	LR	
	comp=Z,2μm,19.0s				
CMB	**Columbia Colle**	**83.31 46**	*e*P	**P**	**10 23 16.2 +0.9**
	comp=Z,58nm,1.0s				
CMB			LR	LR	
	comp=Z,3μm,19.0s				
BFSC	**Mount Baldy Ra**	**83.32 50**	P	**P**	**10 23 16.3 +0.7**
	baz=241,SNR=17				
KMI	**Kunming**	**83.33 300**	P	**P**	**10 23 16.2 +0.3**
KMI			pP	pwP	10 23 31.4 +1.9
KMI			PP	**PP**	**10 26 27.8 -0.4**
KMI			S	**S**	**10 33 35.0 0.0**
KMI			sS	sS	10 34 03.2 +12
KMI			SS	**SS**	**10 39 01.9 +0.9**
KMI			pmax	pmax	
	comp=Z,25nm,1.4s				
KMI			pmax	pmax	
	comp=Z,320nm,4.9s				
KMI			LR	LR	
	comp=Z,2μm,23.5s				
KMI			LR	LR	
	comp=Z,810nm,26.1s				
KMI			LR	LR	
	comp=Z,2μm,26.1s				
KMI	**Kunming**	**83.33 300**	*e*P	**P**	**10 23 14.8 -1.1**
	comp=Z,26nm,0.6s				
N02D	**Trinity Center**	**83.35 42**	P	**P**	**10 23 16.7 +1.2**
	baz=237,SNR=48				
MURC	**Murrieta**	**83.35 51**	P	**P**	**10 23 16.5 +0.8**
	baz=241,SNR=10				
ORV	**Oroville**	**83.37 44**	*e*P	**P**	**10 23 17.1 +1.6**
	comp=Z,57nm,1.1s				
ORV			LR	LR	
	comp=Z,3μm,20.0s				
KEBM	**Edson Butte**	**83.39 40**	PFAKE		10 23 30.0 +14
KEBM			LR	LR	
	comp=Z,3μm,20.0s				
AFDM	**Forest Hills D**	**83.39 45**	*e*P	**P**	**10 23 16.4 +0.7**
	comp=Z,68nm,1.1s				
AFDM			LR	LR	
	comp=Z,3μm,21.0s				
EDW2	**Edwards Air Fo**	**83.39 50**	P	**P**	**10 23 16.6 +0.7**
	baz=241,SNR=49				
ISA	**Isabella, Lake**	**83.44 49**	*e*P	**P**	**10 23 17.6 +1.6**
	comp=Z,156nm,1.4s				
ISA			LR	LR	
	comp=Z,2μm,21.0s				
ISA	**Isabella, Lake**	**83.44 49**	P	**P**	**10 23 17.0 +1.0**
	baz=240,SNR=65				
L02E	**Cave Junction**	**83.44 41**	P	**P**	**10 23 17.1 +1.3**
	baz=236,SNR=12				
M02C	**Callahan**	**83.48 42**	P	**P**	**10 23 17.8 +1.6**
	baz=237,SNR=52				
HOM	**Homer**	**83.53 16**	PFAKE		10 23 30.0 +14
HOM			LR	LR	
	comp=Z,3μm,22.0s				
O03E	**Paynes Creek**	**83.56 43**	P	**P**	**10 23 17.5 +0.9**
	baz=238,SNR=73				
MONP2	**Monument Peak**	**83.59 52**	P	**P**	**10 23 18.3 +1.3**
	baz=242,SNR=16				
K02D	**Willamette Mer**	**83.70 41**	P	**P**	**10 23 18.3 +1.1**
	baz=236,SNR=17				
IKP	**In-Ko-Pah, Jac**	**83.71 52**	P	**P**	**10 23 18.7 +1.2**
	baz=242,SNR=14				
YBH	**Yreka Blue Hor**	**83.76 42**	*e*P	**P**	**10 23 18.2 +0.6**
	comp=Z,69nm,1.2s				
YBH			LR	LR	
	comp=Z,2μm,21.0s				
J01E	**Myrtle Point**	**83.80 40**	P	**P**	**10 23 17.9 +0.3**
	baz=236,SNR=9.1				
BRLK	**Bradley Lake**	**83.82 16**	*e*P	**P**	**10 23 17.7 +0.4**
	comp=Z,46nm,1.0s				
BRLK			LR	LR	
	comp=Z,3μm,20.0s				
CM31	**Chiang Mai Arr**	**83.85 292**	*e*P	**P**	**10 23 19.1 +0.6**
	comp=Z,78nm,1.1s				
CMAR	**Chiang Mai Arr**	**83.85 292**	*e*P	**P**	**10 23 18.2 -0.2**
BBRC	**Big Bear Solar**	**83.87 50**	P	**P**	**10 23 19.0 +0.5**
	baz=241				
PFO	**Pinyon Flats O**	**83.90 51**	*e*P	**P**	**10 23 20.4 +1.9**
	comp=Z,24nm,1.3s				
PFO			LR	LR	
	comp=Z,2μm,21.0s				
PFO	**Pinyon Flats O**	**83.90 51**	P	**P**	**10 23 19.1 +0.6**
	baz=242,SNR=12				
PFO	**Pinyon Flats O**	**83.90 51**	P	**P**	**10 23 19.7 +1.1**
	comp=Z,16nm,1.1s,baz=265,slow=2.6,SNR=17				
LRMC	**Laurel Mtn Rad**	**83.91 49**	P	**P**	**10 23 19.4 +0.9**
	baz=241				
ZEA	**Zeya**	**83.91 334**	*e*P	**P**	**10 23 18.6 +0.7**
ZEA			*e*PS	**PnS**	**10 34 37.0 +1.7**
ZEA			*e*SS	SS	10 39 04.0 -4.1
ZEA			pmax	pmax	
	comp=Z,500nm,5.0s				
ZEA			pmax	pmax	
	comp=N,29nm,1.2s				
ZEA			pmax	pmax	
	comp=Z,43nm,1.2s				
ZEA			pmax	pmax	
	comp=Z,400nm,6.0s				

ZEA				pmax	pmax		
	comp=N,200nm,5.0s						
RSO	**Redoubt South**	**83.94**	**15**	*eP*	**P**	**10 23 18.2**	**0.0**
CMMT	**Chiang Mai**	**83.98**	**292**	P	**P**	**10 23 19.1**	**0.0**
CHTO	**Chiang Mai**	**83.98**	**292**	*eP*	**P**	**10 23 18.5**	**-0.7**
	comp=N,54nm,1.2s						
CHTO				LR	LR		
	comp=Z,1μm,20.0s						
RUBR	**Rubicon Trail**	**83.99**	**45**	*eP*	**P**	**10 23 21.1**	**+2.1**
	comp=Z,146nm,1.3s						
MDPB	**Devils Postpil**	**84.00**	**47**	*eP*	**P**	**10 23 20.2**	**+1.1**
	comp=Z,156nm,1.4s						
SWSC	**Sam W. Stewart**	**84.08**	**52**	P	**P**	**10 23 20.1**	**+0.8**
	baz=242,SNR=10.0						
HUMO	**Hull Mountain**	**84.09**	**41**	*eP*	**P**	**10 23 20.8**	**+1.7**
	comp=Z,62nm,1.1s						
HUMO				LR	LR		
	comp=Z,3μm,20.0s						
CWC	**Cottonwood Cre**	**84.10**	**48**	P	**P**	**10 23 20.5**	**+1.0**
	baz=240						
RRX	**Edison Barstow**	**84.11**	**50**	P	**P**	**10 23 20.2**	**+0.8**
	baz=241						
MLAC	**Mammoth, Mammo**	**84.16**	**47**	P	**P**	**10 23 21.2**	**+1.2**
	baz=240,SNR=37						
WAKR	**Walker**	**84.19**	**46**	*eP*	**P**	**10 23 21.5**	**+1.4**
WAKR				LR	LR		
	comp=Z,3μm,20.0s						
SEY	**Seymchan**	**84.25**	**350⇑**	*eP*	**P**	**10 23 19.8**	**+0.4**
SEY	**Seymchan**	**84.25**	**350**	P	**P**	**10 23 19.6**	**+0.2**
	comp=Z,27nm,0.8s,baz=146,slow=7.5,SNR=4.3						
SEY				LR	LR	10 54 41.8	
	comp=Z,3μm,21.9s,baz=154,slow=31						
BEKR	**Beckworth**	**84.28**	**44**	*eP*	**P**	**10 23 21.3**	**+0.9**
	comp=Z,99nm,1.3s						
BEKR				LR	LR		
	comp=Z,3μm,21.0s						
L04D	**Klamath Falls**	**84.28**	**41**	P	**P**	**10 23 21.2**	**+1.0**
	baz=237,SNR=37						
HHC	**Hu-ho-hao-te**	**84.28**	**317**	*eP*	**P**	**10 23 21.0**	**+0.7**
HHC				pP	pwP	10 23 36.2	+2.3
HHC				PP	**PP**	**10 26 36.0**	**+0.5**
HHC				S	**S**	**10 33 39.3**	**-4.4**
HHC				SS	**SS**	**10 39 13.3**	**-1.0**
HHC				pmax	pmax		
	comp=Z,2μm,7.3s						
HHC				LR	LR		
	comp=Z,1μm,17.0s						
HHC				LR	LR		
	comp=Z,2μm,17.7s						
HHC				LR	LR		
	comp=Z,2μm,16.6s						
TIN	**Tinemaha, Big**	**84.30**	**48**	P	**P**	**10 23 21.7**	**+1.3**
	baz=240,SNR=5.9						
SRIG	**Santa Rosalia**	**84.32**	**59**	*eP*	**P**	**10 23 22.8**	**+2.2**
	comp=Z,106nm,1.3s						
SRIG				LR	LR		
	comp=Z,5μm,18.0s						
MPMC	**Manual Prospec**	**84.33**	**49**	P	**P**	**10 23 21.6**	**+0.9**
	baz=241,SNR=51						
M04C	**Macdoel**	**84.34**	**42**	P	**P**	**10 23 21.6**	**+1.1**
	baz=238,SNR=39						
DAC	**Darwin (Calif)**	**84.36**	**48**	*eP*	**P**	**10 23 23.0**	**+2.1**
	comp=Z,74nm,1.5s						
DAC				LR	LR		
	comp=Z,2μm,21.0s						
I02D	**Swisshome**	**84.38**	**39**	P	**P**	**10 23 22.0**	**+1.5**
	baz=236						
PNTR	**Pine Nut**	**84.38**	**45**	*eP*	**P**	**10 23 22.1**	**+1.1**
	comp=Z,102nm,1.0s						
PNTR				LR	LR		
	comp=Z,4μm,22.0s						
HIA	**Hailar**	**84.41**	**327**	PFAKE		10 23 30.0	+9.4
HIA				LR	LR		
	comp=Z,3μm,20.0s						
BELC	**Belle Mtn. Jos**	**84.42**	**51**	P	**P**	**10 23 22.2**	**+1.0**
	baz=242,SNR=22						
I03D	**Drain, OR**	**84.45**	**40**	P	**P**	**10 23 21.8**	**+0.9**
	baz=236,SNR=15						
GSC	**Goldstone, Bar**	**84.45**	**50**	*eP*	**P**	**10 23 22.6**	**+1.3**
	comp=Z,59nm,1.3s						
GSC				LR	LR		
	comp=Z,2μm,20.0s						
GSC	**Goldstone, Bar**	**84.45**	**50**	P	**P**	**10 23 21.8**	**+0.5**
	baz=241,SNR=30						
VCNR	**Virginia City**	**84.45**	**45**	*eP*	**P**	**10 23 22.6**	**+1.3**
	comp=Z,66nm,1.3s						
VCNR				LR	LR		
	comp=Z,3μm,22.0s						
LPIG	**La Paz**	**84.56**	**62**	P	**P**	**10 23 23.2**	**+1.3**
	comp=Z,62nm,1.0s,baz=7.4,slow=1.8,SNR=15						
HEC	**Hector,Ludlow**	**84.57**	**50**	P	**P**	**10 23 22.7**	**+0.9**
	baz=242,SNR=48						
YERR	**Yerington**	**84.57**	**45**	*eP*	**P**	**10 23 23.1**	**+1.2**
	comp=Z,89nm,1.2s						
YERR				LR	LR		
	comp=Z,3μm,20.0s						
BC3	**Big Chuckawall**	**84.66**	**52**	P	**P**	**10 23 23.4**	**+1.0**
	baz=242,SNR=9.6						
SLBS	**Sierra La Lagu**	**84.70**	**63**	*eP*	**P**	**10 23 25.0**	**+2.2**
	comp=Z,163nm,1.3s						
SLBS				LR	LR		
	comp=Z,4μm,20.0s						
PAHR	**Pah Rah Range**	**84.84**	**45**	*eP*	**P**	**10 23 24.2**	**+1.0**
	comp=Z,85nm,1.3s						
PAHR				LR	LR		
	comp=Z,3μm,20.0s						
K04D	**Chiloquin, OR**	**84.84**	**41**	P	**P**	**10 23 24.1**	**+1.0**
	baz=238,SNR=14						
GLA	**Glamis**	**84.85**	**52**	*eP*	**P**	**10 23 25.0**	**+1.7**
	comp=Z,104nm,1.3s						
GLA				LR	LR		
	comp=Z,2μm,19.0s						
GLA	**Glamis**	**84.85**	**52**	P	**P**	**10 23 24.7**	**+1.4**
	baz=243,SNR=13						
GRAC	**Grapevine Rang**	**84.87**	**48**	P	**P**	**10 23 24.5**	**+1.2**
	baz=241,SNR=50						
RYN	**Ryan**	**84.88**	**46**	*eP*	**P**	**10 23 25.2**	**+1.8**
	comp=Z,51nm,1.1s						
RYN				LR	LR		
	comp=Z,3μm,20.0s						
NV01	**Mina Array Sit**	**84.93**	**46**	*eP*	**P**	**10 23 24.8**	**+1.0**
NVAR	**Mina Array Bea**	**84.93**	**46**	*eP*	**P**	**10 23 24.1**	**+0.3**
NVAR	**Mina Array Bea**	**84.93**	**46**	P	**P**	**10 23 24.8**	**+1.0**
	comp=Z,24nm,0.8s,baz=226,slow=8.3,SNR=114						
J04D	**Umpqua Nationa**	**84.95**	**41**	P	**P**	**10 23 24.8**	**+1.1**
	baz=237,SNR=35						
FURC	**Furnace Creek,**	**84.97**	**49**	P	**P**	**10 23 24.8**	**+1.2**
	baz=241,SNR=20						
COR	**Corvallis**	**84.97**	**39**	*eP*	**P**	**10 23 24.6**	**+1.1**
	comp=Z,72nm,1.1s						
COR				LR	LR		
	comp=Z,2μm,22.0s						
CD2	**Chengdu**	**85.02**	**305**	P	**P**	**10 23 24.0**	**-0.2**
CD2				pP	pwP	10 23 43.0	+5.2
CD2				S	**S**	**10 33 50.1**	**-1.2**
CD2				SS	**SS**	**10 39 27.4**	**+1.9**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,290nm,4.9s						
CD2				LR	LR		
	comp=Z,2μm,21.6s						
CD2				LR	LR		
	comp=Z,3μm,25.5s						
CD2				LR	LR		
	comp=Z,3μm,24.5s						
NV11	**Mina Array Sit**	**85.03**	**46**	*eP*	**P**	**10 23 24.9**	**+0.7**
	comp=Z,5.5nm,1.2s						
GMRC	**Granite Mounta**	**85.03**	**51**	P	**P**	**10 23 25.2**	**+0.9**
	baz=242,SNR=42						
I04A	**Tendick Farm,**	**85.07**	**40**	P	**P**	**10 23 24.9**	**+0.7**
	baz=237,SNR=23						
SHOC	**Shoshone, Teco**	**85.11**	**49**	P	**P**	**10 23 24.9**	**+0.4**
	baz=242,SNR=7.0						
IRM	**Iron Mountain**	**85.12**	**51**	P	**P**	**10 23 25.9**	**+1.3**
	baz=242,SNR=64						
TUQ	**Turquoise Moun**	**85.15**	**50**	P	**P**	**10 23 25.8**	**+1.0**
	baz=242,SNR=39						
BTO	**Baotou**	**85.16**	**316**	*eP*	**P**	**10 23 25.9**	**+1.2**
RC01	**Rabbit Creek A**	**85.25**	**16**	*eP*	**P**	**10 23 24.7**	**+0.2**
	comp=Z,44nm,1.2s						
RC01				LR	LR		
	comp=Z,2μm,20.0s						
H04D	**Lebanon**	**85.27**	**39**	P	**P**	**10 23 26.1**	**+1.1**
	baz=237,SNR=19						
ANM	**Nome**	**85.27**	**8**	PFAKE		10 23 40.0	+15
ANM				LR	LR		
	comp=Z,4μm,21.0s						
SUA	**Susitna One**	**85.31**	**16**	*eP*	**P**	**10 23 25.1**	**+0.1**
	comp=Z,18nm,0.8s						
SUA				LR	LR		
	comp=Z,4μm,22.0s						
G03D	**McMinnville, O**	**85.34**	**39**	P	**P**	**10 23 26.3**	**+1.0**
	baz=236,SNR=14						
KVN	**Kaiserville**	**85.37**	**46**	*eP*	**P**	**10 23 26.6**	**+0.7**
	comp=Z,76nm,1.3s						
KVN				LR	LR		
	comp=Z,3μm,20.0s						
MOD	**Modoc Plateau**	**85.37**	**43**	*eP*	**P**	**10 23 26.7**	**+0.8**
	comp=Z,62nm,1.0s						
MOD				LR	LR		
	comp=Z,2μm,20.0s						
Y12C	**Blythe**	**85.39**	**52**	*eP*	**P**	**10 23 27.2**	**+1.3**
	comp=Z,114nm,1.4s						
Y12C				LR	LR		
	comp=Z,2μm,19.0s						
Y12C	**Blythe**	**85.39**	**52**	P	**P**	**10 23 27.3**	**+1.3**
	baz=243,SNR=25						
DIB	**Dawson Inlet,**	**85.43**	**29**	*eP*	**P**	**10 23 27.2**	**+1.6**
	comp=Z,38nm,0.9s						
DIB				LR	LR		
	comp=Z,3μm,19.0s						
K05A	**Summer Lake**	**85.43**	**42**	*eP*	**P**	**10 23 27.4**	**+1.2**
	comp=Z,111nm,1.1s						
K05A				LR	LR		
	comp=Z,3μm,20.0s						
113A	**Mohawk Valley,**	**85.52**	**53**	*eP*	**P**	**10 23 28.3**	**+1.8**
	comp=Z,72nm,1.3s						
113A				LR	LR		
	comp=Z,2μm,18.0s						
J05D	**Fort Rock, OR**	**85.52**	**41**	P	**P**	**10 23 27.6**	**+1.1**
	baz=238,SNR=101						
LDFC	**Landfair**	**85.57**	**50**	*eP*	**P**	**10 23 27.7**	**+0.8**
	comp=Z,143nm,1.0s						
LDFC				LR	LR		
	comp=Z,2μm,18.0s						
TPNV	**Topopah Spring**	**85.63**	**48**	PFAKE		10 23 40.0	+13
TPNV				LR	LR		
	comp=Z,2μm,19.0s						
H04A	**Detroit Lake**	**85.69**	**39**	*eP*	**P**	**10 23 27.3**	**+0.2**
	comp=Z,92nm,1.2s						
H04A				LR	LR		
	comp=Z,3μm,20.0s						
NEE2	**Needles Airpor**	**85.79**	**51**	P	**P**	**10 23 29.1**	**+1.3**
	baz=243,SNR=11						
GLI	**Glacier Island**	**85.80**	**17**	*eP*	**P**	**10 23 27.5**	**+0.3**
	comp=Z,38nm,1.0s						
GLI				LR	LR		
	comp=Z,3μm,22.0s						
KNK	**Knik Glacier**	**85.86**	**17**	*eP*	**P**	**10 23 28.0**	**+0.4**
	comp=Z,12nm,1.0s						
KNK				LR	LR		
	comp=Z,3μm,21.0s						
214A	**Organ Pipe Nat**	**85.88**	**54**	P	**P**	**10 23 29.9**	**+1.4**
	baz=244,SNR=17						
E03A	**Lebam**	**85.91**	**37**	PFAKE		10 23 40.0	+12
E03A				LR	LR		
	comp=Z,3μm,20.0s						
PDMCI	**Parker Dam,Lak**	**85.93**	**52**	P	**P**	**10 23 29.7**	**+1.1**
	baz=243,SNR=22						
PINE	**Pine Mountain**	**85.97**	**41**	*eP*	**P**	**10 23 30.1**	**+1.3**
	comp=Z,93nm,1.0s						
PINE				LR	LR		
	comp=Z,2μm,20.0s						
F04D	**Rainier, OR**	**85.97**	**38**	P	**P**	**10 23 29.7**	**+1.2**
	baz=236						
I05D	**Terrebonne, OR**	**86.02**	**40**	P	**P**	**10 23 29.6**	**+0.8**
	baz=238,SNR=32						
GHO	**Glory Hole Cre**	**86.04**	**16**	*eP*	**P**	**10 23 28.8**	**+0.2**
	comp=Z,27nm,1.0s						
SYO	**Syowa Base**	**86.04**	**195⇓**	*iP*	P	10 23 36.0	+7.5
SYO	**Syowa Base**	**86.04**	**195⇑**	*iP*	P	10 23 41.6	+13
HSIG		**86.08**	**57**	*eP*	**P**	**10 23 30.9**	**+1.5**
	comp=Z,104nm,1.3s						
HSIG				LR	LR		
	comp=Z,4μm,20.0s						
HMT	**Hamilton**	**86.19**	**19**	*eP*	**P**	**10 23 29.9**	**+0.6**
	comp=Z,33nm,1.1s						
HMT				LR	LR		
	comp=Z,2μm,18.0s						
SHPR	**Sheep Range**	**86.19**	**49**	*eP*	**P**	**10 23 31.7**	**+1.6**
	comp=Z,59nm,1.3s						
SHPR				LR	LR		
	comp=Z,2μm,20.0s						
NLWA	**Neilton Lookou**	**86.22**	**37**	*eP*	**P**	**10 23 31.4**	**+1.7**
	comp=Z,37nm,1.1s						
NLWA				LR	LR		
	comp=Z,4μm,21.0s						
SML	**Sawmill**	**86.22**	**16**	*eP*	**P**	**10 23 30.0**	**+0.6**
	comp=Z,16nm,1.1s						
SML				LR	LR		
	comp=Z,2μm,20.0s						
W13A	**Hualapai Mount**	**86.47**	**51**	*eP*	**P**	**10 23 32.8**	**+1.3**
	comp=Z,54nm,1.4s						
W13A				LR	LR		
	comp=Z,2μm,18.0s						
E04D	**Cinebar**	**86.49**	**38**	P	**P**	**10 23 32.0**	**+0.9**
	baz=237,SNR=26						
G05D	**Wamic, OR**	**86.51**	**39**	P	**P**	**10 23 31.7**	**+0.5**
	baz=238,SNR=10.0						
SCM	**Sheep Creek Mo**	**86.52**	**17**	*eP*	**P**	**10 23 31.1**	**+0.2**
	comp=Z,17nm,1.0s						
SCM				LR	LR		
	comp=Z,3μm,22.0s						
Y14A	**Wickenburg**	**86.61**	**52**	*eP*	**P**	**10 23 33.6**	**+1.6**
	comp=Z,33nm,1.1s						
Y14A				LR	LR		
	comp=Z,2μm,20.0s						
BMN	**Battle Mountai**	**86.64**	**45**	*eP*	**P**	**10 23 33.1**	**+0.9**
	comp=Z,77nm,1.3s						
BMN				LR	LR		
	comp=Z,3μm,21.0s						
CAST	**Castle Rocks**	**86.66**	**14**	PFAKE		10 23 40.0	+8.5
CAST				LR	LR		
	comp=Z,3μm,20.0s						
WVOR	**Wild Horse Val**	**86.71**	**43**	*eP*	**P**	**10 23 33.7**	**+1.3**
	comp=Z,68nm,1.2s						
WVOR				LR	LR		
	comp=Z,3μm,20.0s						
D04E	**Lakebay**	**86.72**	**37**	P	**P**	**10 23 32.0**	**0.0**
	baz=236						
D03D	**Eldon**	**86.73**	**37**	P	**P**	**10 23 33.2**	**+1.1**
	baz=236,SNR=9.3						
R11A	**Troy Canyon, C**	**86.76**	**47**	*eP*	**P**	**10 23 33.8**	**+1.0**
	comp=Z,23nm,1.3s						
R11A				LR	LR		
	comp=Z,2μm,19.0s						
R11A	**Troy Canyon, C**	**86.76**	**47**	P	**P**	**10 23 33.5**	**+0.7**
	baz=242,SNR=24						
F05D	**White Salmon**	**86.77**	**39**	P	**P**	**10 23 32.6**	**+0.2**
	baz=238,SNR=8.8						
CRQM	**Cirque**	**86.87**	**19**	*eP*	**P**	**10 23 33.4**	**+0.6**
	comp=Z,36nm,1.1s						
PBA	**Port Blair**	**86.91**	**283**	PFAKE		10 23 40.0	+6.2
PBA				LR	LR		
	comp=Z,3μm,22.0s						
G06A	**Carlson Farm,**	**86.92**	**40**	*eP*	**P**	**10 23 34.5**	**+1.3**
	comp=Z,70nm,1.4s						
G06A				LR	LR		
	comp=Z,3μm,20.0s						
TGL	**Tana Glacier**	**86.96**	**19**	*eP*	**P**	**10 23 33.7**	**+0.6**
	comp=Z,35nm,1.2s						
TGL				LR	LR		
	comp=Z,2μm,22.0s						
I07A	**Izee**	**87.00**	**41**	*eP*	**P**	**10 23 34.6**	**+0.9**
	comp=Z,53nm,1.1s						
I07A				LR	LR		
	comp=Z,3μm,20.0s						
LON	**Longmire**	**87.03**	**38**	*eP*	**P**	**10 23 34.9**	**+1.2**
	comp=Z,35nm,1.4s						
LON				LR	LR		
	comp=Z,3μm,20.0s						
PGC	**Sidney**	**87.16**	**36**	*eP*	**P**	**10 23 35.8**	**+1.7**
	comp=Z,46nm,1.1s						
PGC				LR	LR		
	comp=Z,4μm,22.0s						
D05A	**Enumclaw**	**87.17**	**37**	*eP*	**P**	**10 23 35.4**	**+1.1**
	comp=Z,183nm,1.3s						
D05A				LR	LR		
	comp=Z,2μm,21.0s						
LZH	**Lanzhou**	**87.25**	**310**	⇓P	**P**	**10 23 36.8**	**+1.6**
LZH				pP	pwP	10 23 52.5	+3.6
LZH				sP	sP	10 24 04.6	+16
LZH				PP	**PP**	**10 27 06.5**	**+6.7**
LZH				SS	SS	10 40 01.1	+2.8
LZH				pmax	pmax		
	comp=Z,33nm,1.4s						
LZH				pmax	pmax		
	comp=Z,290nm,5.8s						
LZH				LR	LR		
	comp=Z,2μm,18.4s						
LZH				LR	LR		
	comp=Z,2μm,18.1s						
LZH				LR	LR		
	comp=Z,4μm,19.8s						
J08A	**Circle Bar Ran**	**87.28**	**42**	*eP*	**P**	**10 23 36.0**	**+0.9**
	comp=Z,72nm,1.1s						
J08A				LR	LR		
	comp=Z,2μm,20.0s						
BALM	**Baldy**	**87.33**	**19**	*eP*	**P**	**10 23 35.3**	**+0.4**
	comp=Z,26nm,1.0s						
BALM				LR	LR		
	comp=Z,2μm,22.0s						
BCPM	**Bancas Point**	**87.39**	**21**	PFAKE		10 23 50.0	+15
BCPM				LR	LR		
	comp=Z,2μm,18.0s						
RND	**Reindeer**	**87.42**	**15**	PFAKE		10 23 50.0	+15
RND				LR	LR		
	comp=Z,4μm,22.0s						
BPAW	**Bear Paw Mtn.**	**87.50**	**14**	PFAKE		10 23 50.0	+14
BPAW				LR	LR		
	comp=Z,3μm,21.0s						
DHY	**Denali Highway**	**87.53**	**16**	*eP*	**P**	**10 23 35.6**	**-0.2**
	comp=Z,6.0nm,0.9s						
DHY				LR	LR		
	comp=Z,2μm,22.0s						
HARP	**HAARP**	**87.58**	**17**	*eP*	**P**	**10 23 36.2**	**+0.2**
	comp=Z,18nm,0.9s						
HARP				LR	LR		
	comp=Z,3μm,22.0s						
TUC	**Tucson**	**87.58**	**55**	*eP*	**P**	**10 23 38.3**	**+1.5**
	comp=Z,37nm,1.1s						
TUC				LR	LR		
	comp=Z,3μm,20.0s						
TUC	**Tucson**	**87.58**	**55**	P	**P**	**10 23 38.3**	**+1.5**
	baz=245						
CTGM	**Chitina Glacie**	**87.59**	**20**	*eP*	**P**	**10 23 36.5**	**+0.2**
	comp=Z,30nm,1.2s						
CTGM				LR	LR		
	comp=Z,2μm,22.0s						
A04D	**Lummi Island**	**87.61**	**36**	P	**P**	**10 23 37.4**	**+1.1**
	baz=236,SNR=7.2						
WRAK	**Wrangell Islan**	**87.63**	**26**	*eP*	**P**	**10 23 37.6**	**+1.4**
	comp=Z,24nm,1.0s						
WRAK				LR	LR		
	comp=Z,2μm,19.0s						
MCK	**McKinley**	**87.67**	**15**	PFAKE		10 23 50.0	+14
MCK				LR	LR		
	comp=Z,6μm,22.0s						
BILL	**Bilibino**	**87.68**	**357**	*eP*	**P**	**10 23 36.2**	**-0.1**
	comp=Z,32nm,1.2s						
BILL				LR	LR		
	comp=Z,3μm,20.0s						
BILL	**Bilibino**	**87.68**	**357**	*c iP*	**P**	**10 23 36.4**	**+0.1**
BILL				*i* *PP	**pwP**	**10 23 55.1**	**+5.2**
BILL				*eS*	**S**	**10 34 08.6**	**-6.9**
BILL				pmax	pmax		
	comp=Z,42nm,1.5s						
BILL				MLR	MLR		
	comp=Z,2μm,19.0s						
F07A	**Phinny Hill Vi**	**87.69**	**39**	*eP*	**P**	**10 23 37.6**	**+0.8**
	comp=Z,32nm,0.9s						
F07A				LR	LR		
	comp=Z,2μm,19.0s						
B05A	**Bryant**	**87.69**	**36**	P	**P**	**10 23 37.0**	**+0.2**
	baz=237,SNR=17						
BWN	**Browne**	**87.92**	**15**	*eP*	**P**	**10 23 36.8**	**-0.7**
	comp=Z,40nm,1.2s						
BWN				LR	LR		
	comp=Z,4μm,21.0s						
PAX	**Paxson**	**87.95**	**17**	*eP*	**P**	**10 23 37.3**	**-0.5**
	comp=Z,11nm,1.3s						
G08A	**Pilot Rock**	**87.96**	**40**	*eP*	**P**	**10 23 38.6**	**+0.3**
	comp=Z,55nm,0.9s						
LTY	**Liberty**	**87.97**	**38**	*eP*	**P**	**10 23 38.5**	**+0.3**
	comp=Z,48nm,1.1s						
LTY				LR	LR		
	comp=Z,2μm,20.0s						
X16A	**Lo Mia Camp, P**	**87.98**	**52**	*eP*	**P**	**10 23 39.0**	**+0.2**
	comp=Z,44nm,1.1s						
X16A				LR	LR		
	comp=Z,2μm,19.0s						
E07A	**Sunnyside**	**88.07**	**39**	*eP*	**P**	**10 23 40.3**	**+1.6**
	comp=Z,68nm,1.1s						
E07A				LR	LR		
	comp=Z,2μm,19.0s						
JIS	**Juneau Island**	**88.07**	**24**	*eP*	**P**	**10 23 38.7**	**+0.4**
	comp=Z,20nm,1.1s						
JIS				LR	LR		
	comp=Z,3μm,20.0s						
ELK	**Elko**	**88.12**	**45**	*eP*	**P**	**10 23 39.9**	**+0.6**
	comp=Z,45nm,1.2s						
ELK				LR	LR		
	comp=Z,2μm,20.0s						
B06A	**Marblemount**	**88.17**	**36**	*eP*	**P**	**10 23 39.8**	**+0.8**
	comp=Z,37nm,1.1s						
B06A				LR	LR		
	comp=Z,3μm,20.0s						
HAWA	**Hanford**	**88.18**	**39**	*eP*	**P**	**10 23 39.6**	**+0.4**
	comp=Z,79nm,1.0s						
HAWA				LR	LR		
	comp=Z,2μm,19.0s						
C06D	**Leavenworth**	**88.19**	**37**	P	**P**	**10 23 39.3**	**+0.1**
	baz=238						
U15A	**North Rim**	**88.22**	**50**	*eP*	**P**	**10 23 41.2**	**+1.2**
	comp=Z,43nm,0.9s						
U15A				LR	LR		
	comp=Z,2μm,18.0s						
MLY	**Manley**	**88.35**	**14**	*eP*	**P**	**10 23 38.5**	**-1.2**
	comp=Z,14nm,1.4s						
MLY				LR	LR		
	comp=Z,3μm,22.0s						
319A	**Douglas**	**88.36**	**56**	*eP*	**P**	**10 23 39.8**	**-0.7**
	comp=Z,50nm,0.9s						
319A				LR	LR		
	comp=Z,3μm,19.0s						
WRH	**Wood River Hil**	**88.50**	**15**	*eP*	**P**	**10 23 38.4**	**-1.9**
	comp=Z,18nm,1.2s						
WRH				LR	LR		
	comp=Z,5μm,22.0s						
WUAZ	**Wupatki**	**88.50**	**51**	*eP*	**P**	**10 23 41.4**	**+0.2**
	comp=Z,53nm,1.1s						
WUAZ				LR	LR		
	comp=Z,2μm,22.0s						
WUAZ	**Wupatki**	**88.50**	**51**	P	**P**	**10 23 42.5**	**+1.4**
	baz=245						
E08A	**Dider Farm, El**	**88.51**	**39**	*eP*	**P**	**10 23 42.1**	**+1.4**
	comp=Z,186nm,1.5s						
E08A				LR	LR		
	comp=Z,2μm,20.0s						
CCB	**Clear Creek Bu**	**88.71**	**15**	*eP*	**P**	**10 23 39.5**	**-1.7**
	comp=Z,11nm,1.0s						
CCB				LR	LR		
	comp=Z,4μm,22.0s						
HDA	**Harding Lake**	**88.73**	**15**	*eP*	**P**	**10 23 40.4**	**-0.9**
	comp=Z,12nm,1.0s						
HDA				LR	LR		
	comp=Z,4μm,22.0s						
HDA	**Harding Lake**	**88.73**	**15**	P	**P**	**10 23 40.1**	**-1.2**
	baz=215,SNR=12						
RIDG	**Independent Ri**	**88.74**	**17**	PFAKE		10 23 50.0	+8.5
RIDG				LR	LR		
	comp=Z,2μm,21.0s						
HYT	**Haines Junctio**	**88.75**	**21**	*eP*	**P**	**10 23 42.4**	**+0.7**
	comp=Z,21nm,1.5s						
HYT				LR	LR		
	comp=Z,2μm,20.0s						
BMO	**Blue Mountains**	**88.75**	**41**	*eP*	**P**	**10 23 42.5**	**+0.4**
	comp=Z,60nm,1.4s						
BMO				LR	LR		
	comp=Z,4μm,20.0s						
MDM	**Murphy Dome**	**88.87**	**15**	*eP*	**P**	**10 23 40.1**	**-1.9**
	comp=Z,18nm,1.1s						
MDM				LR	LR		
	comp=Z,3μm,20.0s						
D08A	**Wollman Farm,**	**88.88**	**39**	*eP*	**P**	**10 23 43.4**	**+0.9**
	comp=Z,67nm,1.0s						
D08A				LR	LR		
	comp=Z,2μm,19.0s						
TCOL	**CIGO, UAF Yank**	**88.89**	**15**	P	**P**	**10 23 40.9**	**-1.2**
	baz=215,SNR=8.9						
COLA	**College**	**88.89**	**15**	*eP*	**P**	**10 23 41.8**	**-0.3**
	comp=Z,22nm,1.0s						

COLA LR LR
comp=Z,4μm,21.0s
COLA College 88.89 15 *c*P **P 10 23 40.4 -1.6**
COLA pmax pmax
comp=Z,15nm,1.0s
SNAA Sanae 88.91 181 P **P 10 23 41.4 -1.1**
SNAA Sanae 88.91 181 *e*P **P 10 23 40.1 -2.3**
comp=Z,65nm,1.1s
SNAA LR LR
comp=Z,4μm,22.0s
SNAA Sanae 88.91 181 *d i*P **P 10 23 41.3 -1.1**
RDOG Red Dog Mine 88.91 8 PFAKE 10 23 50.0 +7.9
RDOG LR LR
comp=Z,4μm,22.0s
ILAR Eielson Array 89.04 15 P **P 10 23 41.4 -1.5**
comp=Z,8.1nm,0.8s,baz=226,slow=4.8,SNR=58
ILAR LR LR 10 56 08.6
comp=Z,3μm,21.9s,baz=228,slow=30
ILB Eielson Array 89.04 15 *e*P **P 10 23 41.6 -1.2**
comp=Z,11nm,0.8s
YAK Yakutsk 89.06 340 *e*P **P 10 23 42.5 -0.4**
YAK *e* 10 27 14.8
YAK *e*S **SKSac 10 34 08.9 -0.8**
YAK *e**SS **SKKSac 10 34 23.2 +1.7**
YAK *e*SS **SS 10 40 27.9 +4.9**
YAK *e*SSS SSS 10 43 52.6
YAK pmax pmax
comp=Z,108nm,1.0s
YAK pmax pmax
comp=E,27nm,1.2s
YAK pmax pmax
comp=N,30nm,0.9s
YAK pmax pmax
comp=Z,528nm,2.4s
YAK pmax pmax
comp=N,156nm,1.6s
YAK pmax pmax
comp=E,193nm,1.9s
YAK smax smax
comp=N,884nm,3.7s
YAK smax smax
comp=E,589nm,4.8s
YAK MLR MLR
comp=Z,10μm,18.0s
YAK MLR MLR
comp=N,10μm,18.0s
YAK MLR MLR
comp=E,4μm,18.0s
E09A Wood Farm, Sta 89.06 39 *e*P **P 10 23 44.2 +0.9**
comp=E,82nm,1.3s
E09A LR LR
comp=Z,3μm,20.0s
BCAR Beaver Creek A 89.07 18 *e*P **P 10 23 42.2 -0.9**
X18A Snowflake 89.15 53 *e*P **P 10 23 45.1 +0.8**
comp=Z,48nm,1.1s
X18A LR LR
comp=Z,2μm,19.0s
SCRK Sand Creek 89.16 17 PFAKE 10 24 00.0 +16
SCRK LR LR
comp=Z,2μm,22.0s
POKR Poker Plat Res 89.19 15 P **P 10 23 41.0 -2.5**
baz=215
VNA3 Neumayer Olymp 89.28 178 P **P 10 23 43.1 -1.0**
B08A Colville Reser 89.31 37 *e*P **P 10 23 45.0 +0.4**
comp=Z,43nm,1.0s
B08A LR LR
comp=Z,2μm,21.0s
F10A Beach Ranch, E 89.35 40 *e*P **P 10 23 45.1 +0.3**
comp=Z,75nm,1.0s
F10A LR LR
comp=Z,3μm,20.0s
DUG Dugway, Tooele 89.51 47 *e*P **P 10 23 47.0 +1.2**
comp=Z,26nm,0.9s
DUG LR LR
comp=Z,2μm,20.0s
DUG Dugway, Tooele 89.51 47 P **P 10 23 46.7 +0.9**
baz=244
HPIG 89.53 61 *e*P **P 10 23 47.2 +1.0**
comp=Z,45nm,1.1s
HPIG LR LR
comp=Z,4μm,19.0s
WHY Whitehorse 89.54 22 *e*P **P 10 23 45.3 -0.1**
comp=Z,25nm,1.5s
WHY LR LR
comp=Z,3μm,19.0s
W18A Petrified Fore 89.55 52 *e*P **P 10 23 48.3 +2.1**
comp=Z,92nm,1.3s
W18A LR LR
comp=Z,2μm,19.0s
W18A Petrified Fore 89.55 52 P **P 10 23 47.1 +0.9**
baz=246
C09A Chrisman Ranch 89.64 38 *e*P **P 10 23 47.0 +0.9**
comp=Z,45nm,1.1s
PLID Pearl Lake 89.68 41 *e*P **P 10 23 46.6 +0.1**
comp=Z,39nm,1.1s
DLBC Dease Lake 89.90 25 *e*P **P 10 23 47.6 +0.5**
comp=Z,30nm,1.1s
VNA1 Neumayer--Stat 89.91 179 P **P 10 23 46.0 -1.0**
HLID Hailey 89.97 43 *e*P **P 10 23 49.0 +1.1**
comp=Z,23nm,0.9s
HLID LR LR
comp=Z,2μm,20.0s
HLID Hailey 89.97 43 P **P 10 23 48.8 +0.9**
baz=243,SNR=45
PRP Porcupine Dome 89.99 15 *e*P **P 10 23 47.9 +0.5**
comp=Z,5.5nm,0.9s
PRP LR LR
comp=Z,4μm,22.0s
121A Cookes Peak, D 89.99 55 P **P 10 23 49.9 +1.6**
baz=247,SNR=28
DAWY Dawson 90.53 18 *e*P **P 10 23 49.2 -0.6**
comp=Z,15nm,0.9s
DAWY LR LR
comp=Z,2μm,20.0s
NEW Newport 90.54 38 *e*P **P 10 23 50.8 +0.5**
comp=Z,27nm,1.2s
NEW LR LR
comp=Z,2μm,19.0s
NEW Newport 90.54 38 P **P 10 23 50.4 +0.2**
baz=241
NEW Newport 90.54 38 P **P 10 23 50.5 +0.2**
comp=Z,18nm,1.1s,baz=244,slow=4.9,SNR=20
EGAK Eagle 90.56 17 *e*P **P 10 23 49.0 -0.9**
comp=Z,20nm,0.9s
EGAK LR LR
comp=Z,3μm,22.0s
ZAIG Zacatecas 90.62 66 *e*P **P 10 23 52.5 +0.9**
comp=Z,133nm,1.5s
ZAIG LR LR
comp=Z,5μm,22.0s
ULN Ulaanbaatar 90.63 321 *e*P **P 10 23 49.8 -1.1**
comp=Z,18nm,1.1s
ULN LR LR
comp=Z,2μm,21.0s
ULN Ulaanbaatar 90.63 321 *c i*P **P 10 23 49.7 -1.1**
ULN pmax pmax
comp=Z,31nm,2.0s
EPT El Paso 90.69 57 PFAKE 10 24 00.0 +8.5
EPT LR LR
comp=Z,3μm,19.0s
MOIG Morelia 90.74 69 PFAKE 10 24 00.0 +7.9
MOIG LR LR
comp=Z,4μm,22.0s
FYU Fort Yukon 90.90 15 PFAKE 10 24 00.0 +8.6
FYU LR LR
comp=Z,3μm,22.0s
HWUT Hardware Ranch 90.98 46 *e*P **P 10 23 52.9 +0.2**
comp=Z,11nm,0.9s
HWUT LR LR
comp=Z,2μm,20.0s
SONA0 Songino Array 91.00 321 *e*P **P 10 23 52.6 +0.1**
SONM Songino Array 91.00 321 P **P 10 23 52.6 +0.1**
comp=Z,7.7nm,1.0s,baz=134,slow=4.2,SNR=13
SONM LR LR 11 03 59.3
comp=Z,2μm,19.2s,baz=112,slow=35
LAZ Ladron 91.22 54 *e*P **P 10 23 55.6 +1.6**
PV05 Paradox Valley 91.23 50 *e*P **P 10 23 55.3 +1.3**
comp=Z,126nm,1.3s
LENM Lemitar 91.25 54 *e*P **P 10 23 55.1 +1.0**
Y22D IRIS PASSCAL I 91.26 54 *e*P **P 10 23 54.1 0.0**
comp=Z,79nm,1.1s
Y22D LR LR
comp=Z,3μm,19.0s
Y22D IRIS PASSCAL I 91.26 54 P **P 10 23 55.3 +1.2**
baz=247
MVCO Mesa Verde 91.31 51 *e*P **P 10 23 55.3 +0.9**
comp=Z,46nm,1.3s
MVCO Mesa Verde 91.31 51 P **P 10 23 55.1 +0.7**
baz=246
PV09 Paradox Valley 91.38 50 *e*P **P 10 23 56.2 +1.5**
PV10 Paradox Valley 91.39 50 *e*P **P 10 23 55.3 +0.6**
comp=Z,71nm,0.9s
PV14 Lion Creek, Pa 91.40 50 *e*P **P 10 23 55.9 +1.1**
comp=Z,68nm,1.0s
PV19 Morning Glory 91.41 50 *e*P **P 10 23 56.2 +1.5**
comp=Z,60nm,1.0s
PV19 LR LR
comp=Z,2μm,18.0s
PV17 East Wray Mesa 91.41 50 *e*P **P 10 23 55.8 +1.0**
comp=Z,70nm,1.2s
PV20 West Nyswonger 91.43 50 *e*P **P 10 23 56.0 +1.1**
comp=Z,53nm,1.0s
PV20 LR LR
comp=Z,2μm,18.0s
PV23 Carpenter Ridg 91.44 50 *e*P **P 10 23 56.0 +1.0**
comp=Z,67nm,0.9s
PV16 Nyswonger Mesa 91.45 50 *e*P **P 10 23 56.5 +1.5**
comp=Z,65nm,1.3s
PV16 LR LR
comp=Z,2μm,18.0s
PV13 Radium Mtn., P 91.46 50 *e*P **P 10 23 56.1 +1.1**
comp=Z,66nm,1.3s
PV13 LR LR
comp=Z,2μm,18.0s
PV03 Paradox Valley 91.48 50 *e*P **P 10 23 56.4 +1.3**
comp=Z,44nm,1.1s
PV03 LR LR
comp=Z,3μm,19.0s
PV11 David Mesa, Pa 91.48 50 *e*P **P 10 23 55.8 +0.7**
comp=Z,73nm,1.2s
PV04 Paradox Valley 91.50 50 *e*P **P 10 23 56.6 +1.5**
comp=Z,52nm,0.9s
BNM Barren Site 91.51 54 *e*P **P 10 23 56.7 +1.3**
PV21 Cone Mtn., Par 91.51 49 *e*P **P 10 23 56.7 +1.4**
comp=Z,195nm,1.5s
PV12 Saucer Basin, 91.54 50 *e*P **P 10 23 56.3 +0.9**
comp=Z,67nm,1.0s
PV02 Paradox Valley 91.54 50 *e*P **P 10 23 56.2 +0.7**
comp=Z,50nm,1.1s
PV02 LR LR
comp=Z,3μm,19.0s
MCMT McKenzie Canyo 91.54 43 *e*P **P 10 23 56.4 +1.1**
MNTX Cornudas Mount 91.55 57 *e*P **P 10 23 56.6 +1.2**
comp=Z,44nm,1.0s
MNTX Cornudas Mount 91.55 57 P **P 10 23 56.1 +0.8**
baz=248
GTA Gaotai 91.56 311 *e*P **P 10 23 55.7 +0.3**
GTA pP pwP 10 24 13.6 +4.5
GTA sP sP 10 24 22.8 +14
GTA SKS **SKSac 10 34 21.6 -4.1**
GTA S **SKKSac 10 34 46.0 +4.3**
GTA sS sS 10 35 23.2 +14
GTA SS **SS 10 40 57.3 -3.4**
GTA pmax pmax
comp=Z,110nm,7.0s
GTA LR LR
comp=Z,1μm,18.7s
GTA LR LR
comp=Z,2μm,20.9s
GTA LR LR
comp=Z,4μm,23.2s
LPM Los Pinos Moun 91.57 54 *e*P **P 10 23 56.8 +1.2**
PV01 Paradox Valley 91.63 50 *e*P **P 10 23 57.1 +1.2**
comp=Z,42nm,1.0s
TOLK Toolik Lake Re 91.66 12 *e*P **P 10 23 55.7 +0.7**
comp=Z,14nm,1.5s
TOLK LR LR
comp=Z,4μm,22.0s
TOLK Toolik Lake Re 91.66 12 P **P 10 23 54.3 -0.7**
baz=213
PV07 Paradox Valley 91.70 50 *e*P **P 10 23 57.0 +0.9**
comp=Z,103nm,1.5s
PV07 LR LR
comp=Z,2μm,19.0s
MSO Missoula 91.76 40 *e*P **P 10 23 56.6 +0.6**
comp=Z,9.6nm,1.1s
MSO LR LR
comp=Z,2μm,20.0s
MSO Missoula 91.76 40 P **P 10 23 55.8 -0.3**
baz=243
AHID Auburn Hatcher 91.79 45 *e*P **P 10 23 57.8 +1.3**
comp=Z,20nm,1.0s
AHID LR LR
comp=Z,2μm,21.0s
DLMT Dillon 91.94 42 *e*P **P 10 23 58.0 +1.0**
comp=Z,16nm,1.0s
DLMT LR LR
comp=Z,3μm,21.0s
TASM ASL Pad, Albuq 91.95 54 P **P 10 23 58.1 +0.7**
baz=248,SNR=69
TASM ASL Pad, Albuq 91.95 54 P **P 10 23 57.9 +0.6**
baz=248,SNR=71
ANMO Albuquerque 91.95 54 *e*P **P 10 23 58.4 +1.1**
comp=Z,39nm,0.9s
ANMO LR LR
comp=Z,3μm,19.0s
ANMO Albuquerque 91.95 54 *c i*P **P 10 23 58.3 +1.0**
ANMO pmax pmax
comp=Z,35nm,1.0s
ANMO Albuquerque 91.95 54 P **P 10 23 58.1 +0.7**
baz=248
LTX Lajitas 92.06 60 *e*P **P 10 23 59.4 +1.6**
TX31 Lajitas Ar. Si 92.06 60 *e*P **P 10 23 59.4 +1.6**
comp=Z,45nm,1.0s
TXAR Lajitas Array 92.06 60 P **P 10 23 59.4 +1.6**
comp=Z,20nm,0.8s,baz=224,slow=4.6,SNR=205
TXAR PKKPbc **PKKPdf 10 41 13.6 +0.9**
comp=Z,0.6nm,0.7s,baz=108,slow=2.9,SNR=7.1
TXAR LR LR 10 58 00.4
comp=Z,4μm,19.3s,baz=0.0,slow=31
TPAW Teton Pass 92.19 44 *e*P **P 10 23 59.6 +1.2**
comp=Z,25nm,1.3s
TPAW LR LR
comp=Z,2μm,21.0s
REDW Red Top Meadow 92.21 45 *e*P **P 10 23 59.4 +1.1**
comp=Z,54nm,1.3s
REDW LR LR
comp=Z,2μm,21.0s
FXWY Fox Creek 92.21 44 *e*P **P 10 23 59.5 +1.1**
comp=Z,12nm,1.0s
LRM Limekiln Ridge 92.23 42 *e*P **P 10 23 59.2 +0.7**
BOD Bodaibo 92.26 332 *e*P **P 10 23 57.2 -0.7**
BOD pmax pmax
comp=Z,15nm,1.7s
SNOW Snow King Moun 92.31 44 *e*P **P 10 23 60.0 +1.1**
comp=Z,27nm,1.1s
SNOW LR LR
comp=Z,2μm,20.0s
TLIG Tlapa 92.35 72 *e*P **P 10 24 01.2 +1.7**
comp=Z,23nm,1.0s
TLIG LR LR
comp=Z,4μm,22.0s
IMW Indian Meadow 92.37 44 *e*P **P 10 24 00.2 +1.0**
comp=Z,33nm,1.1s
IMW LR LR
comp=Z,1μm,20.0s
MOOW Moose Ponds 92.44 44 *e*P **P 10 24 00.4 +1.0**
comp=Z,15nm,1.1s
MOOW LR LR
comp=Z,2μm,21.0s
QLMT Earthquake Lak 92.45 43 *e*P **P 10 24 00.8 +1.3**
LOHW Long Hollow 92.47 44 *e*P **P 10 24 00.7 +1.1**
comp=Z,14nm,1.0s
LOHW LR LR
comp=Z,2μm,22.0s
SHL Shillong 92.55 296 *e*P **P 10 24 00.0 -0.3**
SHL *e*S **S 10 35 06.0 +3.2**
FLWY Flagg Ranch 92.61 44 *e*P **P 10 24 01.4 +1.1**
comp=Z,25nm,1.1s
BOZ Bozeman (W) 92.65 42 *e*P **P 10 24 01.6 +1.3**
comp=Z,17nm,1.2s
BOZ LR LR
comp=Z,4μm,20.0s
BOZ Bozeman (W) 92.65 42 P **P 10 24 00.9 +0.6**
baz=245
O20A White River Ci 92.67 48 *e*P **P 10 24 01.8 +1.3**
comp=Z,27nm,1.0s
O20A LR LR
comp=Z,2μm,21.0s
O20A White River Ci 92.67 48 P **P 10 24 01.3 +0.7**
baz=247
S22A 4UR Ranch, Cre 92.75 51 *e*P **P 10 24 01.9 +0.8**
comp=Z,116nm,1.4s
S22A LR LR
comp=Z,2μm,22.0s
S22A 4UR Ranch, Cre 92.75 51 P **P 10 24 02.1 +1.0**
baz=247
WALA Waterton Lakes 92.79 38 *e*P **P 10 24 01.8 +1.0**
comp=Z,17nm,1.3s
WALA LR LR
comp=Z,2μm,19.0s
BW06 Boulder Array 92.82 45 *e*P **P 10 24 02.0 +0.8**
comp=Z,31nm,1.5s
BW06 LR LR
comp=Z,2μm,20.0s
BW06 Boulder Array 92.82 45 P **P 10 24 01.4 +0.2**
baz=246,SNR=18
H17A Grant Village 92.82 44 *e*P **P 10 24 02.9 +1.7**
comp=Z,13nm,0.8s
H17A Grant Village 92.82 44 P **P 10 24 02.7 +1.5**
baz=245,SNR=18
PD31 Pinedale Array 92.82 45 *e*P **P 10 24 01.2 0.0**
comp=Z,28nm,1.5s
PDAR Pinedale Array 92.82 45 P **P 10 24 01.6 +0.4**
comp=Z,4.6nm,0.7s,baz=222,slow=2.0,SNR=40
PDAR PKKPbc **PKKPdf 10 41 12.8 +0.6**
comp=Z,0.3nm,0.6s,baz=72,slow=5.8,SNR=3.6
HRY Holter Researc 93.01 41 *e*P **P 10 24 02.3 +0.5**
LKWY Lake 93.01 44 *e*P **P 10 24 03.1 +1.0**
comp=Z,12nm,0.9s
SMCO Snowmass 93.19 50 *e*P **P 10 24 04.1 +0.9**
comp=Z,48nm,1.4s
SMCO LR LR
comp=Z,1μm,20.0s
CPRX Cap Rock 93.23 56 *e*P **P 10 24 03.9 +0.6**
SDCO Great Sand Dun 93.72 51 *e*P **P 10 24 06.4 +0.8**
comp=Z,29nm,1.3s
SDCO LR LR
comp=Z,2μm,19.0s
SDCO Great Sand Dun 93.72 51 P **P 10 24 06.3 +0.8**
baz=248,SNR=32
RLMT Red Lodge 93.97 43 *e*P **P 10 24 07.7 +1.2**
comp=Z,22nm,1.2s
RLMT LR LR
comp=Z,3μm,22.0s
RLMT Red Lodge 93.97 43 P **P 10 24 06.8 +0.4**
baz=246
GCMT Greycliff 93.98 43 *e*P **P 10 24 07.7 +1.3**
ZAK Zakamensk 93.99 322 *e*P **P 10 24 05.7 -0.6**
ZAK pmax pmax
comp=Z,7.0nm,1.6s
ZAK pmax pmax
comp=Z,5.0nm,1.4s
RWWY Rawlins 93.99 47 *e*P **P 10 24 07.2 +0.5**
comp=Z,9.6nm,1.0s
RWWY LR LR
comp=Z,2μm,18.0s
PAYG Puerto Ayora 94.02 92 PFAKE 10 24 20.0 +13
PAYG LR LR
comp=Z,2μm,20.0s
LNIG Linares 94.02 65 *e*P **P 10 24 07.9 +1.0**
comp=Z,40nm,1.0s
LNIG LR LR
comp=Z,3μm,20.0s
T25A Trinidad 94.30 52 *e*P **P 10 24 09.3 +1.1**
comp=Z,19nm,1.4s
T25A LR LR
comp=Z,1μm,20.0s
T25A Trinidad 94.30 52 P **P 10 24 08.5 +0.3**
baz=249
TLY Talaya 94.36 324 PFAKE 10 24 20.0 +12
TLY LR LR
comp=Z,2μm,19.0s
TLY Talaya 94.36 324 ‖ *i*P **P 10 24 07.2 -0.6**
GO06 Curarrehue 94.37 135 PFAKE 10 24 20.0 +12
GO06 LR LR
comp=Z,2μm,20.0s
ISCO Idaho Springs 94.40 49 *e*P **P 10 24 10.2 +1.6**
comp=Z,6.4nm,1.1s
ISCO Idaho Springs 94.40 49 P **P 10 24 09.2 +0.5**
baz=248,SNR=8.4
PLCA Paso Flores 94.40 136 *e*P **P 10 24 08.8 +0.3**
comp=Z,16nm,1.2s
PLCA Paso Flores 94.40 136 P **P 10 24 08.8 +0.3**
comp=Z,4.2nm,1.1s,baz=182,slow=4.2,SNR=4.5
PLCA LR LR 10 59 30.2
comp=Z,849nm,19.9s,baz=268,slow=31
MSTX Muleshoe 94.42 56 *e*P **P 10 24 09.2 +0.6**
comp=Z,52nm,0.9s
MSTX LR LR
comp=Z,3μm,20.0s
MSTX Muleshoe 94.42 56 P **P 10 24 08.8 +0.1**
baz=249
Q24A Divide 94.43 50 *e*P **P 10 24 09.7 +0.8**
comp=Z,26nm,1.1s
Q24A LR LR
comp=Z,2μm,18.0s
Q24A Divide 94.43 50 P **P 10 24 09.4 +0.6**
baz=248,SNR=11
N23A Red Feather La 94.57 48 *e*P **P 10 24 10.5 +1.1**
comp=Z,18nm,1.3s
N23A LR LR
comp=Z,2μm,20.0s
N23A Red Feather La 94.57 48 P **P 10 24 09.7 +0.3**
baz=248,SNR=6.9
LSA Lhasa 94.58 300 PFAKE 10 24 20.0 +10
LSA LR LR
comp=Z,800nm,20.0s
K22A Casper 94.83 46 *e*P **P 10 24 11.2 +0.8**
comp=Z,14nm,1.1s
K22A LR LR
comp=Z,2μm,20.0s
K22A Casper 94.83 46 P **P 10 24 09.9 -0.5**
baz=248,SNR=5.9
EGMT Eagleton 94.84 41 *e*P **P 10 24 10.8 +0.6**
comp=Z,11nm,1.1s
EGMT LR LR
comp=Z,2μm,20.0s
EGMT Eagleton 94.84 41 P **P 10 24 10.6 +0.5**
baz=246
LVIG Laguna Verde 94.98 71 PFAKE 10 24 20.0 +8.6
LVIG LR LR
comp=Z,4μm,20.0s
PHWY Pilot Hill 95.07 48 *e*P **P 10 24 12.3 +0.6**
comp=Z,4.7nm,0.9s
PHWY LR LR
comp=Z,2μm,18.0s
EFI East Falkland 95.13 150 PFAKE 10 24 20.0 +8.5
EFI LR LR
comp=Z,5μm,20.0s
833A Chaparral WMA, 95.22 62 *e*P **P 10 24 14.0 +1.7**
comp=Z,15nm,1.0s
833A LR LR
comp=Z,3μm,20.0s
833A Chaparral WMA, 95.22 62 P **P 10 24 13.0 +0.7**
baz=251
INK Inuvik 95.22 17 *e*P **P 10 24 11.0 -0.4**
comp=Z,25nm,1.3s
INK LR LR
comp=Z,3μm,22.0s
INK Inuvik 95.22 17 P **P 10 24 10.6 -0.7**
comp=Z,16nm,1.2s,baz=213,slow=5.5,SNR=22
INK PKKPbc **PKKPbc 10 41 04.7 -3.1**
comp=Z,1.5nm,1.1s,baz=19,slow=3.8,SNR=3.7
INK LR LR 10 59 55.5
comp=Z,2μm,21.6s,baz=236,slow=31
AMTX Amarillo 95.58 55 *e*P **P 10 24 15.3 +1.4**
comp=Z,88nm,1.4s
AMTX LR LR
comp=Z,3μm,22.0s
AMTX Amarillo 95.58 55 P **P 10 24 14.4 +0.5**
baz=250
JCT Junction City 95.60 60 *e*P **P 10 24 15.1 +1.1**
comp=Z,12nm,1.2s
JCT LR LR
comp=Z,3μm,18.0s
JCT Junction City 95.60 60 P **P 10 24 14.2 +0.2**
baz=251
KVTX Kingsville 96.23 63 PFAKE 10 24 30.0 +13
KVTX LR LR
comp=Z,1μm,18.0s
KSCO Kaye Shedlock' 96.28 51 *e*P **P 10 24 18.2 +1.1**
comp=Z,39nm,1.3s
KSCO LR LR
comp=Z,2μm,19.0s
KSCO Kaye Shedlock' 96.28 51 P **P 10 24 17.8 +0.7**
baz=250
GO05 Huala 96.29 130 PFAKE 10 24 30.0 +13
GO05 LR LR
comp=Z,2μm,19.0s
TIXI Tiksi 96.37 347 *e*P **P 10 24 15.5 -1.0**
comp=Z,11nm,1.3s

TIXI LR LR
comp=Z,4μm,21.0s
TIXI Tiksi 96.37 347 ⇓*iP* **P 10 24 15.8 -0.7**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
TIXI Tiksi 96.37 347 LR LR 11 09 14.9
comp=Z,1μm,18.0s,baz=67,slow=36
ABTX Abilene, Hawle 96.43 58 *eP* **P 10 24 18.6 +0.9**
comp=Z,34nm,1.4s
ABTX Abilene, Hawle 96.43 58 P **P 10 24 18.3 +0.6**
baz=251
LAO LASA Array 96.53 43 *eP* **P 10 24 19.3 +1.4**
comp=Z,32nm,1.3s
LAO LR LR
comp=Z,4μm,20.0s
LAO LASA Array 96.53 43 P **P 10 24 18.0 +0.1**
baz=248
RSSD Black Hills 97.06 46 *eP* Pdif 10 24 21.1 +0.4
comp=Z,14nm,1.0s
RSSD LR LR
comp=Z,2μm,18.0s
RSSD Black Hills 97.06 46 P Pdif 10 24 20.7 +0.1
baz=250
OGNE Ogallala 97.36 49 PFAKE 10 24 30.0 +8.1
OGNE LR LR
comp=Z,1μm,20.0s
435B Jarrell 97.51 60 PFAKE 10 24 30.0 +7.3
435B LR LR
comp=Z,3μm,18.0s
CCIG Comitan 97.76 76 PFAKE 10 24 40.0 +16
CCIG LR LR
comp=Z,3μm,22.0s
WMOK Wichita Mounta 97.79 56 *eP* Pdif 10 24 24.3 +0.4
comp=Z,9.2nm,1.4s
WMOK LR LR
comp=Z,3μm,20.0s
WMOK Wichita Mounta 97.79 56 P **P 10 24 23.8 0.0**
baz=252
WHTX Lake Whitney, 97.99 59 PFAKE 10 24 40.0 +15
WHTX LR LR
comp=Z,6μm,20.0s
WHTX Lake Whitney, 97.99 59 P Pdif 10 24 25.1 +0.3
baz=252
PEL Peldehue 98.11 129 PFAKE 10 24 40.0 +14
PEL LR LR
comp=Z,2μm,21.0s
CBKS Cedar Bluff 98.34 52 *eP* Pdif 10 24 27.4 +1.1
comp=Z,19nm,1.2s
CBKS LR LR
comp=Z,2μm,20.0s
CBKS Cedar Bluff 98.34 52 P Pdif 10 24 27.0 +0.7
baz=252
DGMT Dagmar 98.45 42 PFAKE 10 24 40.0 +13
DGMT LR LR
comp=Z,1μm,18.0s
DGMT Dagmar 98.45 42 P Pdif 10 24 26.8 +0.3
baz=250
YKA Yellowknife Ar 98.49 26 P **P 10 24 25.6 -0.7**
comp=Z,3.3nm,1.1s,baz=249,slow=4.3,SNR=26
YKA PP **PP 10 28 24.4 -2.8**
comp=Z,1.2nm,1.1s,baz=245,slow=7.4,SNR=4.8
YKA PKKPbc **PKKPbc 10 40 53.7 -4.8**
comp=Z,0.3nm,0.8s,baz=56,slow=2.3,SNR=3.2
YKA LR LR 11 03 55.3
comp=Z,133nm,19.1s,baz=252,slow=32
YKB5 Yellowknife Ar 98.49 26 *eP* **P 10 24 25.6 -0.7**
YKB5 *e*PP **PP 10 28 24.4 -2.8**
YKB5 *e*PKKPbc **PKKPbc 10 40 53.7 -4.9**
YKW3 Yellowknife Ar 98.52 26 *eP* Pdif 10 24 26.7 +0.4
comp=Z,5.3nm,1.2s
YKW3 LR LR
comp=Z,1μm,20.0s
HKT Hockley 98.69 61 PFAKE 10 24 40.0 +12
HKT LR LR
comp=Z,3μm,20.0s
HKT Hockley 98.69 61⇓*eP* **P 10 24 26.6 -1.3**
HKT pmax pmax
comp=Z,1.0nm,1.4s
OK023 East Waterloo 99.35 55 PFAKE 10 24 40.0 +9.2
OK023 LR LR
comp=Z,3μm,20.0s
DGAR Diego Garcia 99.42 259 PFAKE 10 24 40.0 +8.4
DGAR LR LR
comp=Z,7μm,22.0s
OK024 West corner E0 99.44 56 PFAKE 10 24 40.0 +8.8
OK024 LR LR
comp=Z,3μm,20.0s
NATX Nacogdoches 100.19 60 PFAKE 10 24 50.0 +15
NATX LR LR
comp=Z,3μm,20.0s
NATX Nacogdoches 100.19 60 P **Pdif 10 24 34.7 +0.1**
baz=253
BGNE Belgrade 100.29 50 PFAKE 10 24 50.0 +15
BGNE LR LR
comp=Z,2μm,18.0s
BGNE Belgrade 100.29 50 P **Pdif 10 24 35.2 +0.3**
baz=253
X37A Clayton 100.43 57 PFAKE 10 24 50.0 +14
X37A LR LR
comp=Z,3μm,19.0s
TUL1 Leonard 100.47 56 PFAKE 10 24 50.0 +14
TUL1 LR LR
comp=Z,3μm,18.0s
TUL1 Leonard 100.47 56 P **Pdif 10 24 35.7 -0.1**
baz=253
KSU1 Kansas State U 100.76 52 PFAKE 10 24 50.0 +13
KSU1 LR LR
comp=Z,3μm,20.0s
MYIG Mrida 101.33 72 PFAKE 10 24 50.0 +10
MYIG LR LR
comp=Z,3μm,21.0s
HOPE Hope Point 101.50 162 PFAKE 10 24 50.0 +10
HOPE LR LR
comp=Z,4μm,21.0s
TGUH Tegucigalpa,Un 101.56 79 PFAKE 10 24 50.0 +9.0
TGUH LR LR
comp=Z,2μm,22.0s
WMQ Urumqi 101.60 312 *eP* **Pdif 10 24 41.3 +0.6**
WMQ LR LR
comp=Z,3μm,21.9s
WMQ LR LR
comp=Z,5μm,27.1s
WMQ LR LR
comp=Z,13μm,24.5s
WMQ Urumqi 101.60 312 PFAKE 10 24 50.0 +9.3
WMQ LR LR
comp=Z,11μm,21.0s
FFC Flin Flon 101.76 36 PFAKE 10 24 50.0 +9.0
FFC LR LR
comp=Z,2μm,20.0s
MIAR Mount Ida 101.84 57 PFAKE 10 24 50.0 +8.1
MIAR LR LR
comp=Z,3μm,19.0s
W39A Magazine 101.85 57 PFAKE 10 24 50.0 +8.1
W39A LR LR
comp=Z,3μm,18.0s
WLAR White Oak Lake 101.98 58 PFAKE 10 24 50.0 +7.5
WLAR LR LR
comp=Z,7μm,19.0s
HHAR Hobbs 102.02 56 PFAKE 10 25 00.0 +17
HHAR LR LR
comp=Z,2μm,20.0s
ECSD EROS Data Cent 102.03 48 PFAKE 10 24 50.0 +7.5
ECSD LR LR
comp=Z,2μm,20.0s
ESTN Estel 102.11 80 PFAKE 10 25 00.0 +16
ESTN LR LR
comp=Z,1μm,21.0s
Z41A Richland Creek 102.11 59 PFAKE 10 25 00.0 +17
Z41A LR LR
comp=Z,4μm,20.0s
X40A Basin Creek Fa 102.41 58 PFAKE 10 25 00.0 +16
X40A LR LR
comp=Z,3μm,20.0s
NNA Nana 102.43 108 PFAKE 10 25 00.0 +15
NNA LR LR
comp=Z,2μm,18.0s
TEIG Tepich 102.43 73 PFAKE 10 25 00.0 +15
TEIG LR LR
comp=Z,2μm,22.0s
JTS Las Juntas de 102.58 83 PFAKE 10 25 00.0 +14
JTS LR LR
comp=Z,2μm,20.0s
UALR University of 102.88 58 PFAKE 10 25 00.0 +14
UALR LR LR
comp=Z,3μm,20.0s

ACON Acoyapa 102.88 82 PFAKE 10 25 00.0 +13
ACON LR LR
comp=Z,300nm,18.0s
W41B Gary Mavity, V 103.06 57 PFAKE 10 25 00.0 +13
W41B LR LR
comp=Z,4μm,20.0s
CCAR Cane Creek 103.11 59 PFAKE 10 25 00.0 +12
CCAR LR LR
comp=Z,6μm,20.0s
HDC Heredia 103.28 84 PFAKE 10 25 00.0 +11
HDC LR LR
comp=Z,2μm,20.0s
VBMS Vicksburg 103.70 60 PFAKE 10 25 00.0 +10
VBMS LR LR
comp=Z,3μm,22.0s
AGMN Agassiz Nation 103.71 43 PFAKE 10 25 00.0 +10
AGMN LR LR
comp=Z,3μm,20.0s
ESPN Las Esperanzas 103.76 82 PFAKE 10 25 00.0 +9.2
ESPN LR LR
comp=Z,2μm,21.0s
X43A Marvell 103.98 58 PFAKE 10 25 00.0 +8.6
X43A LR LR
comp=Z,3μm,20.0s
S41A Jillco Farms, 104.05 55 P **Pdif 10 24 52.1 +0.5**
baz=256
MNCI Minicoy 104.13 274 PFAKE 10 25 00.0 +7.5
MNCI LR LR
comp=Z,3μm,19.0s
ULM Lac du Bonnet 104.17 41 PFAKE 10 25 00.0 +8.2
ULM LR LR
comp=Z,2μm,20.0s
HBAR Harrisburg 104.41 57 PFAKE 10 25 10.0 +17
HBAR LR LR
comp=Z,3μm,20.0s
CCM Cathedral Cave 104.55 54 PFAKE 10 25 10.0 +16
CCM LR LR
comp=Z,4μm,18.0s
PBMO Poplar Bluff 104.88 56 PFAKE 10 25 10.0 +15
PBMO LR LR
comp=Z,2μm,19.0s
MET Memphis--Engin 104.88 58 PFAKE 10 29 20.0 +10
MET LR LR
comp=Z,3μm,20.0s
GNAR Gosnell 105.01 57 PFAKE 10 29 20.0 +9.3
GNAR LR LR
comp=Z,3μm,20.0s
SPMN Marine on St. 105.04 47 PFAKE 10 29 20.0 +10
SPMN LR LR
comp=Z,2μm,20.0s
OXF Oxford 105.16 58 PFAKE 10 29 20.0 +9.0
OXF LR LR
comp=Z,3μm,20.0s
PARMO Parma 105.38 56 PFAKE 10 29 20.0 +8.7
PARMO LR LR
comp=Z,2μm,21.0s
N41A Harden Midland 105.44 52 PFAKE 10 29 20.0 +8.7
N41A LR LR
comp=Z,3μm,18.0s
SLM Saint Louis 105.45 54 PFAKE 10 29 20.0 +8.6
SLM LR LR
comp=Z,3μm,18.0s
OTAV Otavalo 105.46 95 PFAKE 10 29 30.0 +17
OTAV LR LR
comp=Z,2μm,22.0s
L40A Anamosa 105.47 50 PFAKE 10 29 20.0 +8.7
L40A LR LR
comp=Z,3μm,20.0s
HALT Halls 105.54 57 PFAKE 10 29 20.0 +8.4
HALT LR LR
comp=Z,3μm,20.0s
I39A Houston 105.64 49 PFAKE 10 29 20.0 +8.4
I39A LR LR
comp=Z,2μm,18.0s
147A Livingston 105.65 60 PFAKE 10 29 20.0 +8.1
147A LR LR
comp=Z,2μm,20.0s
GLAT Glass 105.66 57 PFAKE 10 29 20.0 +8.1
GLAT LR LR
comp=Z,3μm,20.0s
ZAA0 Zalesovo Array 105.87 322 PFAKE 10 29 20.0 +8.3
ZAA0 LR LR
comp=Z,2μm,20.0s
ZALV Zalesovo Beam 105.87 322 Pdiff **Pdif 10 24 58.7 -0.5**
comp=Z,0.6nm,0.3s,baz=76,slow=6.1,SNR=2.6
ZAA1 Zalesovo Array 105.87 322 *e*Pdif **Pdif 10 24 58.7 -0.6**
MK32 Makanchi Array 106.01 314 *e*Pdif **Pdif 10 25 00.4 +0.2**
MK32 *e*PKKPbc **PKKPbc 10 40 33.6 -2.3**
MKAR Makanchi Array 106.01 314 Pdiff **Pdif 10 25 00.4 +0.2**
comp=Z,1.2nm,0.8s,baz=100,slow=6.0,SNR=7.2
MKAR PKKPbc **PKKPbc 10 40 33.6 -2.3**
comp=Z,2.2nm,1.1s,baz=290,slow=4.2,SNR=7.9
MKAR PKPPKP **P'P'df 10 48 56.6 +0.3**
comp=Z,0.7nm,1.0s,baz=54,slow=2.5,SNR=3.8
SIUC Southern Illin 106.03 55 PFAKE 10 29 20.0 +7.5
SIUC LR LR
comp=Z,4μm,18.0s
E38A The Farm, Brul 106.19 46 PFAKE 10 29 20.0 +7.5
E38A LR LR
comp=Z,2μm,20.0s
MAKZ Makanchi 106.23 314 PFAKE 10 29 20.0 +7.4
MAKZ LR LR
comp=Z,2μm,22.0s
BRAL Brewton 106.31 62 PFAKE 10 29 30.0 +17
BRAL LR LR
comp=Z,1μm,22.0s
T45A Paducah 106.33 56 PFAKE 10 29 30.0 +17
T45A LR LR
comp=Z,2μm,21.0s
PLAL Pickwick Lake 106.33 58 PFAKE 10 29 30.0 +17
PLAL LR LR
comp=Z,3μm,19.0s
JFWS Jewell Farm 106.36 50 PFAKE 10 29 30.0 +17
JFWS LR LR
comp=Z,2μm,18.0s
F39A Loretta 106.48 47 P **PKiKP 10 29 12.5 -0.6**
baz=259
EYMN Ely 106.49 44 PFAKE 10 29 30.0 +17
EYMN LR LR
comp=Z,2μm,21.0s
HDIL Hopedale 106.57 52 PFAKE 10 29 30.0 +17
HDIL LR LR
comp=Z,2μm,21.0s
L42A Oliver, Polo 106.59 51 PFAKE 10 29 30.0 +17
L42A LR LR
comp=Z,3μm,19.0s
WVT Waverly 106.78 57 PFAKE 10 29 30.0 +16
WVT LR LR
comp=Z,3μm,20.0s
LRAL Lakeview Retre 106.78 60 PFAKE 10 29 30.0 +16
LRAL LR LR
comp=Z,2μm,19.0s
I41A Arkdale 106.85 49 PFAKE 10 29 30.0 +16
I41A LR LR
comp=Z,2μm,18.0s
FCC Fort Churchill 106.94 33 PFAKE 10 29 30.0 +17
FCC LR LR
comp=Z,4μm,19.0s
350A Dozier 106.97 62 P **PKiKP 10 29 14.4 -0.1**
baz=257
BCIP Isla Barro Col 107.04 86 PFAKE 10 29 30.0 +15
BCIP LR LR
comp=Z,900nm,22.0s
X48A Hartselle 107.05 59 PFAKE 10 29 30.0 +16
X48A LR LR
comp=Z,3μm,20.0s
OLIL Olney 107.11 54 PFAKE 10 29 30.0 +16
OLIL LR LR
comp=Z,4μm,19.0s
H41A Junction City 107.11 48 PFAKE 10 29 30.0 +16
H41A LR LR
comp=Z,2μm,20.0s
250A Grady 107.15 62 PFAKE 10 29 30.0 +15
250A LR LR
comp=Z,1μm,21.0s
451A Vernon 107.28 63 PFAKE 10 29 30.0 +15
451A LR LR
comp=Z,1μm,21.0s
USIN University of 107.28 55 PFAKE 10 29 30.0 +15
USIN LR LR
comp=Z,2μm,19.0s
Y49A Blount Mountai 107.43 60 PFAKE 10 29 30.0 +15
Y49A LR LR
comp=Z,4μm,19.0s
V48A Smith Brothers 107.50 58 PFAKE 10 29 30.0 +15

V48A LR LR
comp=Z,4μm,18.0s
I42A Draeger Farm, 107.50 49 PFAKE 10 29 30.0 +15
I42A LR LR
comp=Z,1μm,18.0s
T47A Sharon Grove 107.53 56 PFAKE 10 29 30.0 +15
T47A LR LR
comp=Z,2μm,20.0s
P45A Graceland, Par 107.53 54 PFAKE 10 29 30.0 +15
P45A LR LR
comp=Z,2μm,18.0s
M44A Midewin, Midew 107.67 52 PFAKE 10 29 30.0 +15
M44A LR LR
comp=Z,2μm,18.0s
F41A Three Lakes 107.70 47 PFAKE 10 29 30.0 +15
F41A LR LR
comp=Z,2μm,18.0s
K43A Burlington 107.70 50 PFAKE 10 29 30.0 +15
K43A LR LR
comp=Z,2μm,20.0s
Z50A Ashland 107.71 60 PFAKE 10 29 30.0 +14
Z50A LR LR
comp=Z,3μm,21.0s
H42A Shiocton 107.88 48 PFAKE 10 29 30.0 +14
H42A LR LR
comp=Z,2μm,18.0s
PRZ Przheval'sk 107.92 309 PFAKE 10 29 30.0 +14
PRZ LR LR
comp=Z,1μm,21.0s
CLTN Cedars of Leba 107.96 57 PFAKE 10 29 30.0 +14
CLTN LR LR
comp=Z,2μm,19.0s
C40A Isle Royale Na 108.03 45 PFAKE 10 29 30.0 +14
C40A LR LR
comp=Z,1μm,20.0s
G42A Mountain 108.08 48 PFAKE 10 29 30.0 +14
G42A LR LR
comp=Z,3μm,19.0s
SWET Sewanee 108.10 58 PFAKE 10 29 30.0 +13
SWET LR LR
comp=Z,4μm,20.0s
352A Blakely 108.16 62 PFAKE 10 29 30.0 +13
352A LR LR
comp=Z,1μm,22.0s
SFIN Lafayette 108.18 53 PFAKE 10 29 30.0 +14
SFIN LR LR
comp=Z,2μm,19.0s
TARG Taragay, Kyrgy 108.22 309 PFAKE 10 29 30.0 +13
TARG LR LR
comp=Z,900nm,21.0s
D41A Chassel 108.29 46 PFAKE 10 29 30.0 +14
D41A LR LR
comp=Z,3μm,20.0s
BLO Bloomington 108.40 54 PFAKE 10 29 30.0 +13
BLO LR LR
comp=Z,4μm,19.0s
WCI Wyandotte Cave 108.40 55 PFAKE 10 29 30.0 +13
WCI LR LR
comp=Z,2μm,19.0s
H43A Windswept, Lux 108.41 48 PFAKE 10 29 30.0 +13
H43A LR LR
comp=Z,2μm,22.0s
453A Whigham 108.53 63 PFAKE 10 29 30.0 +13
453A LR LR
comp=Z,1μm,20.0s
152A Waverly Hall 108.58 61 PFAKE 10 29 30.0 +13
152A LR LR
comp=Z,2μm,18.0s
W50A Signal Mountai 108.60 58 PFAKE 10 29 30.0 +13
W50A LR LR
comp=Z,4μm,20.0s
G43A Wallace 108.60 48 PFAKE 10 29 30.0 +13
G43A LR LR
comp=Z,2μm,19.0s
T49A Edmonton 108.78 56 PFAKE 10 29 30.0 +12
T49A LR LR
comp=Z,3μm,20.0s
X51A Calhoun 108.84 59 PFAKE 10 29 30.0 +12
X51A LR LR
comp=Z,2μm,20.0s
M46A Old House Fiel 108.92 52 PFAKE 10 29 30.0 +12
M46A LR LR
comp=Z,2μm,18.0s
253A Americus 108.94 62 PFAKE 10 29 30.0 +12
253A LR LR
comp=Z,2μm,20.0s
L46A Eue Claire 109.06 51 PFAKE 10 29 30.0 +12
L46A LR LR
comp=Z,2μm,19.0s
KURK Kurchatov 109.07 318 PFAKE 10 29 30.0 +12
KURK LR LR
comp=Z,3μm,22.0s
KURBB Kurchatov Arra 109.12 318 PKiKP **PKiKP 10 29 16.0 -1.8**
comp=Z,1.9nm,1.0s,baz=110,slow=1.9,SNR=8.2
KURBB PKKPbc **PKKPbc 10 40 25.0 -1.2**
comp=Z,2.5nm,0.8s,baz=281,slow=3.9,SNR=9.1
KSH Kashi 109.20 306 Pdif **Pdif 10 25 11.7 -3.0**
KSH PP **PP 10 29 49.6 +1.8**
KSH LR LR
comp=Z,740nm,13.9s
KSH LR LR
comp=Z,850nm,13.5s
J45A Montague 109.22 50 PFAKE 10 29 30.0 +12
J45A LR LR
comp=Z,2μm,20.0s
E43A Lone Tree Farm 109.25 47 PFAKE 10 29 30.0 +12
E43A LR LR
comp=Z,2μm,18.0s
TIGA Tifton 109.27 63 PFAKE 10 29 30.0 +11
TIGA LR LR
comp=Z,2μm,21.0s
CPCT Cooper Cave 109.28 58 PFAKE 10 29 30.0 +11
CPCT LR LR
comp=Z,3μm,19.0s
Y52A Lilburn 109.35 60 PFAKE 10 29 30.0 +11
Y52A LR LR
comp=Z,4μm,21.0s
I45A Fountain 109.43 49 PFAKE 10 29 30.0 +11
I45A LR LR
comp=Z,2μm,18.0s
V51A Loudon 109.48 58 PFAKE 10 29 30.0 +11
V51A LR LR
comp=Z,4μm,19.0s
NRN Naryn 109.50 308 PFAKE 10 29 30.0 +11
NRN LR LR
comp=Z,2μm,20.0s
555A McAlpin 109.52 64 PFAKE 10 29 30.0 +11
555A LR LR
comp=Z,1μm,22.0s
957A Wimauma 109.64 67 PFAKE 10 29 30.0 +10
957A LR LR
comp=Z,1μm,18.0s
W52A Murphy 109.69 59 PFAKE 10 29 30.0 +11
W52A LR LR
comp=Z,3μm,19.0s
BOOM Boomskoye usch 109.71 309 PFAKE 10 29 30.0 +11
BOOM LR LR
comp=Z,2μm,21.0s
656A Willston 109.74 65 PFAKE 10 29 30.0 +10
656A LR LR
comp=Z,2μm,21.0s
GOGA Godfrey 109.75 61 PFAKE 10 29 30.0 +10
GOGA LR LR
comp=Z,3μm,21.0s
154A Montrose 109.90 62 PFAKE 10 29 30.0 +10
154A LR LR
comp=Z,3μm,19.0s
G45A Suttons Bay 109.98 48 PFAKE 10 29 30.0 +10
G45A LR LR
comp=Z,2μm,22.0s
E44A Grand Marais A 110.02 46 PFAKE 10 29 30.0 +10
E44A LR LR
comp=Z,1μm,18.0s
V52A Sevierville 110.09 58 PFAKE 10 29 30.0 +10
V52A LR LR
comp=Z,4μm,19.0s
M48A Edgerton 110.15 52 PFAKE 10 29 30.0 +10
M48A LR LR
comp=Z,2μm,20.0s
O49A Covington 110.23 53 PFAKE 10 29 30.0 +10
O49A LR LR
comp=Z,3μm,19.0s
TZTN Tazewell 110.25 57 PFAKE 10 29 30.0 +10
TZTN LR LR
comp=Z,4μm,20.0s

255A	**Hazlehurst**	**110.29**	**62**	PFAKE		10 29 30.0	+9.4
255A				LR	LR		
	comp=Z,2μm,21.0s						
NIL	**Nilore**	**110.32**	**300**	PFAKE		10 29 30.0	+9.3
NIL				LR	LR		
	comp=Z,1μm,21.0s						
J47A	**Sunmer**	**110.33**	**50**	PFAKE		10 29 30.0	+10
J47A				LR	LR		
	comp=Z,2μm,19.0s						
S51A	**Beattyville**	**110.40**	**56**	PFAKE		10 29 30.0	+9.3
S51A				LR	LR		
	comp=Z,3μm,20.0s						
061Z	**Ochoppi**	**110.41**	**69**	PFAKE		10 29 30.0	+9.0
061Z				LR	LR		
	comp=Z,1μm,20.0s						
DWPF	**Disney Wildern**	**110.42**	**67**	PFAKE		10 29 30.0	+9.0
DWPF				LR	LR		
	comp=Z,800nm,20.0s						
059A	**Moore Haven**	**110.44**	**68**	PFAKE		10 29 30.0	+9.0
059A				LR	LR		
	comp=Z,2μm,22.0s						
456A	**Hilliard**	**110.44**	**64**	PFAKE		10 29 30.0	+9.1
456A				LR	LR		
	comp=Z,1μm,20.0s						
N49A	**Columbus Grove**	**110.46**	**53**	PFAKE		10 29 30.0	+9.3
N49A				LR	LR		
	comp=Z,1μm,20.0s						
BG3	**Lake Jocassee**	**110.48**	**59**	PFAKE		10 29 30.0	+9.1
BG3				LR	LR		
	comp=Z,3μm,20.0s						
I47A	**Gladwin**	**110.66**	**49**	PFAKE		10 29 30.0	+9.0
I47A				LR	LR		
	comp=Z,3μm,20.0s						
GLMI	**Grayling**	**110.69**	**48**	PFAKE		10 29 30.0	+9.0
GLMI				LR	LR		
	comp=Z,3μm,20.0s						
V53A	**Saluda**	**110.69**	**58**	PFAKE		10 29 30.0	+8.6
V53A				LR	LR		
	comp=Z,4μm,19.0s						
FRU1	**Bishkek**	**110.71**	**309**	PFAKE		10 29 30.0	+8.8
FRU1				LR	LR		
	comp=Z,1μm,18.0s						
AAK	**Ala-Archa**	**110.79**	**309**	PFAKE		10 29 30.0	+8.5
AAK				LR	LR		
	comp=Z,2μm,20.0s						
AAK	**Ala-Archa**	**110.79**	**309**	PKKPbc	PKKPbc	10 40 19.4	-1.3
	comp=Z,6.1nm,1.2s,baz=214,slow=5.4,SNR=7.7						
T52A	**Hallie**	**110.79**	**57**	PFAKE		10 29 30.0	+8.5
T52A				LR	LR		
	comp=Z,3μm,20.0s						
Q51A	**Peebles**	**110.81**	**55**	PFAKE		10 29 30.0	+8.6
Q51A				LR	LR		
	comp=Z,2μm,22.0s						
658A	**Bunnell**	**110.84**	**65**	PFAKE		10 29 30.0	+8.3
658A				LR	LR		
	comp=Z,1μm,20.0s						
ROSC	**El Rosal**	**110.88**	**92**	PFAKE		10 29 40.0	+17
ROSC				LR	LR		
	comp=Z,600nm,22.0s						
HODGE	**Hodges**	**110.89**	**60**	PFAKE		10 29 30.0	+8.3
HODGE				LR	LR		
	comp=Z,3μm,20.0s						
AAM	**Ann Arbor**	**111.05**	**51**	PFAKE		10 29 30.0	+8.3
AAM				LR	LR		
	comp=Z,2μm,19.0s						
J48A	**Bridge Port**	**111.08**	**50**	PFAKE		10 29 40.0	+18
J48A				LR	LR		
	comp=Z,2μm,21.0s						
E46A	**Sault Ste Mari**	**111.09**	**47**	PFAKE		10 29 30.0	+8.3
E46A				LR	LR		
	comp=Z,3μm,20.0s						
E46A	**Sault Ste Mari**	**111.09**	**47**	P	**PKiKP**	**10 29 21.2**	**-0.5**
	baz=264						
P51A	**Williamsport**	**111.10**	**54**	PFAKE		10 29 30.0	+8.1
P51A				LR	LR		
	comp=Z,3μm,18.0s						
060A	**Indiantown**	**111.14**	**68**	PFAKE		10 29 30.0	+7.6
060A				LR	LR		
	comp=Z,2μm,21.0s						
ACSO	**Alum Creek Sta**	**111.26**	**54**	PFAKE		10 29 30.0	+7.8
ACSO				LR	LR		
	comp=Z,3μm,20.0s						
PAULI	**Pauline**	**111.35**	**59**	PFAKE		10 29 40.0	+17
PAULI				LR	LR		
	comp=Z,3μm,20.0s						
M50A	**Fremont**	**111.38**	**52**	PFAKE		10 29 30.0	+7.6
M50A				LR	LR		
	comp=Z,2μm,18.0s						
Z56A	**Williston**	**111.46**	**61**	PFAKE		10 29 40.0	+17
Z56A				LR	LR		
	comp=Z,2μm,20.0s						
257A	**Skidaway Islan**	**111.51**	**63**	PFAKE		10 29 40.0	+17
257A				LR	LR		
	comp=Z,2μm,19.0s						
H48A	**Harrisville**	**111.59**	**49**	PFAKE		10 29 40.0	+17
H48A				LR	LR		
	comp=Z,2μm,20.0s						
U54A	**Nelsons Funny**	**111.62**	**58**	PFAKE		10 29 40.0	+17
U54A				LR	LR		
	comp=Z,4μm,19.0s						
MTDJ	**Mount Denham**	**111.69**	**78**	PFAKE		10 29 40.0	+16
MTDJ				LR	LR		
	comp=Z,2μm,22.0s						
R53A	**Hurricane**	**111.79**	**56**	PFAKE		10 29 40.0	+17
R53A				LR	LR		
	comp=Z,3μm,22.0s						
KMSC	**Kings Mountain**	**111.79**	**59**	PFAKE		10 29 40.0	+17
KMSC				LR	LR		
	comp=Z,4μm,20.0s						
N51A	**Ashland**	**111.82**	**53**	PFAKE		10 29 40.0	+17
N51A				LR	LR		
	comp=Z,2μm,20.0s						
I49A	**Point Hope**	**111.86**	**50**	PFAKE		10 29 40.0	+17
I49A				LR	LR		
	comp=Z,2μm,19.0s						
O52A	**Adamsville**	**112.12**	**54**	PFAKE		10 29 40.0	+16
O52A				LR	LR		
	comp=Z,4μm,18.0s						
Q53A	**Leroy**	**112.19**	**55**	P	**PKiKP**	**10 29 23.3**	**-0.8**
	baz=262						
F48A	**Evansville**	**112.20**	**48**	P	**PKiKP**	**10 29 23.5**	**-0.3**
	baz=264						
U55A	**TA2, Sparta**	**112.23**	**58**	P	**PKiKP**	**10 29 23.5**	**-0.8**
	baz=262						
P53A	**Whipple**	**112.38**	**54**	PFAKE		10 29 40.0	+16
P53A				LR	LR		
	comp=Z,2μm,19.0s						
Y57A	**Sumter**	**112.38**	**60**	PFAKE		10 29 40.0	+15
Y57A				LR	LR		
	comp=Z,4μm,20.0s						
NHSC	**New Hope**	**112.41**	**61**	PFAKE		10 29 40.0	+15
NHSC				LR	LR		
	comp=Z,3μm,22.0s						
BIRD	**Birdtown, Kers**	**112.42**	**60**	PFAKE		10 29 40.0	+15
BIRD				LR	LR		
	comp=Z,2μm,20.0s						
V56A	**Mocksville**	**112.57**	**59**	PFAKE		10 29 40.0	+15
V56A				LR	LR		
	comp=Z,4μm,19.0s						
F49A	**Sandfield**	**112.60**	**48**	P	**PKiKP**	**10 29 24.4**	**-0.2**
	baz=265						
O53A	**New Philadelph**	**112.61**	**54**	P	**PKiKP**	**10 29 24.1**	**-0.8**
	baz=263						
M52A	**Chesterland**	**112.65**	**52**	PFAKE		10 29 40.0	+15
M52A				LR	LR		
	comp=Z,2μm,19.0s						
Q54A	**Coxs Mills**	**112.74**	**55**	PFAKE		10 29 40.0	+15
Q54A				LR	LR		
	comp=Z,2μm,22.0s						
BLA	**Blacksburg**	**112.83**	**57**	PFAKE		10 29 40.0	+15
BLA				LR	LR		
	comp=Z,3μm,20.0s						
BLA	**Blacksburg**	**112.83**	**57**	P	**PKiKP**	**10 29 24.6**	**-0.8**
	baz=262						
D48A	**Paudash Townsh**	**112.88**	**46**	P	**PKiKP**	**10 29 24.6**	**-0.6**
	baz=266						
W57A	**Gilead**	**112.88**	**59**	PFAKE		10 29 40.0	+15
W57A				LR	LR		
	comp=Z,3μm,20.0s						
TOBO	**Tobermory, Bru**	**112.91**	**48**	P	**PKiKP**	**10 29 24.4**	**-0.8**
	baz=265						
N53A	**Lisbon**	**112.96**	**53**	PFAKE		10 29 40.0	+15
N53A				LR	LR		
	comp=Z,3μm,18.0s						
N53A	**Lisbon**	**112.96**	**53**	P	**PKiKP**	**10 29 24.2**	**-1.3**
	baz=264						
Y58A	**Scranton**	**112.96**	**61**	PFAKE		10 29 40.0	+14
Y58A				LR	LR		
	comp=Z,3μm,20.0s						
T56A	**Rocky Mt**	**113.11**	**57**	P	**PKiKP**	**10 29 24.9**	**-1.0**
	baz=262						
I51A	**Listowel**	**113.14**	**50**	P	**PKiKP**	**10 29 24.7**	**-1.0**
	baz=265						
M53A	**Wt Miller and**	**113.15**	**52**	P	**PKiKP**	**10 29 25.1**	**-0.7**
	baz=264						
R55A	**Marlinton**	**113.21**	**56**	PFAKE		10 29 40.0	+14
R55A				LR	LR		
	comp=Z,3μm,20.0s						
BTK	**Batken**	**113.21**	**306**	PFAKE		10 29 40.0	+14
BTK				LR	LR		
	comp=Z,1μm,19.0s						
O54A	**Avella**	**113.24**	**54**	P	**PKiKP**	**10 29 25.7**	**-0.3**
	baz=264						
X58A	**Rowland**	**113.33**	**60**	PFAKE		10 29 40.0	+14
X58A				LR	LR		
	comp=Z,3μm,20.0s						
GAR	**Garm**	**113.47**	**305**	PFAKE		10 29 40.0	+13
GAR				LR	LR		
	comp=Z,3μm,21.0s						
L53A	**Girard**	**113.52**	**52**	P	**PKiKP**	**10 29 26.7**	**+0.2**
	baz=264						
E50A	**Wahnapitae**	**113.56**	**47**	P	**PKiKP**	**10 29 25.9**	**-0.6**
	baz=266						
ALLY	**Alegheny Colle**	**113.57**	**52**	PFAKE		10 29 40.0	+13
ALLY				LR	LR		
	comp=Z,1μm,20.0s						
MCWV	**Mont Chateau**	**113.58**	**54**	PFAKE		10 29 40.0	+13
MCWV				LR	LR		
	comp=Z,1μm,20.0s						
N54A	**Moraine State**	**113.62**	**53**	PFAKE		10 29 40.0	+13
N54A				LR	LR		
	comp=Z,3μm,19.0s						
T57A	**Hurt**	**113.73**	**57**	PFAKE		10 29 40.0	+13
T57A				LR	LR		
	comp=Z,3μm,19.0s						
ERPA	**Erie**	**113.73**	**52**	PFAKE		10 29 40.0	+13
ERPA				LR	LR		
	comp=Z,2μm,20.0s						
KBL	**Kabul**	**113.91**	**300**	PFAKE		10 29 40.0	+12
KBL				LR	LR		
	comp=Z,1μm,21.0s						
M54A	**Oil Creek Stat**	**113.91**	**52**	PFAKE		10 29 40.0	+13
M54A				LR	LR		
	comp=Z,2μm,18.0s						
M54A	**Oil Creek Stat**	**113.91**	**52**	P	**PKiKP**	**10 29 26.9**	**-0.4**
	baz=264						
S57A	**Dark Hollow, R**	**114.06**	**57**	PFAKE		10 29 40.0	+12
S57A				LR	LR		
	comp=Z,3μm,20.0s						
F51A	**Arnstein**	**114.09**	**48**	P	PKPdf	10 29 26.9	-0.6
	baz=266						
Y60A	**Bolivia**	**114.17**	**61**	PFAKE		10 29 40.0	+12
Y60A				LR	LR		
	comp=Z,3μm,19.0s						
T58A	**Grand View Acr**	**114.29**	**58**	P	PKPdf	10 29 27.3	-0.8
	baz=263						
GTBY	**Guantanamo Bay**	**114.32**	**76**	PFAKE		10 29 40.0	+11
GTBY				LR	LR		
	comp=Z,1μm,21.0s						
CHGR	**Chuyangaron**	**114.33**	**304**	PFAKE		10 29 40.0	+12
CHGR				LR	LR		
	comp=Z,3μm,22.0s						
BVAR	**Borovoye Array**	**114.33**	**320**	PKIKP	PKPdf	10 29 26.0	-1.7
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**114.33**	**320**	PKP	PKPdf	10 29 26.0	-1.7
	comp=Z,1.4nm,0.6s,baz=130,slow=2.3,SNR=7.7						
N55A	**Marion Center**	**114.35**	**53**	PFAKE		10 29 40.0	+12
N55A				LR	LR		
	comp=Z,4μm,18.0s						
BRVK	**Borovoye**	**114.40**	**320**	PFAKE		10 29 40.0	+12
BRVK				LR	LR		
	comp=Z,2μm,20.0s						
M55A	**Ridgway**	**114.58**	**53**	P	PKPdf	10 29 27.8	-0.8
	baz=265						
CNNC	**Cliffs of the**	**114.60**	**59**	PFAKE		10 29 40.0	+11
CNNC				LR	LR		
	comp=Z,4μm,20.0s						
O56A	**Blue Knob Stat**	**114.62**	**54**	PFAKE		10 29 40.0	+11
O56A				LR	LR		
	comp=Z,3μm,19.0s						
O56A	**Blue Knob Stat**	**114.62**	**54**	P	PKPdf	10 29 28.7	0.0
	baz=265						
S58A	**Poland Farm, P**	**114.75**	**57**	PFAKE		10 29 40.0	+11
S58A				LR	LR		
	comp=Z,4μm,21.0s						
S58A	**Poland Farm, P**	**114.75**	**57**	P	PKPdf	10 29 28.7	-0.2
	baz=264						
U59A	**Littleton**	**114.81**	**58**	PFAKE		10 29 40.0	+11
U59A				LR	LR		
	comp=Z,4μm,20.0s						
J54A	**Appleton**	**114.82**	**51**	PFAKE		10 29 40.0	+11
J54A				LR	LR		
	comp=Z,2μm,20.0s						
L55A	**Hinsdale**	**114.89**	**52**	P	PKPdf	10 29 29.0	-0.2
	baz=266						
R58B	**Mineral**	**114.92**	**57**	PFAKE		10 29 40.0	+11
R58B				LR	LR		
	comp=Z,3μm,19.0s						
TULEG	**Thule**	**114.94**	**13**	PFAKE		10 29 40.0	+12
TULEG				LR	LR		
	comp=Z,2μm,22.0s						
MEDO	**Medina**	**114.95**	**51**	PFAKE		10 29 40.0	+11
MEDO				LR	LR		
	comp=Z,2μm,18.0s						
G53A	**Haliburton**	**114.95**	**49**	P	PKPdf	10 29 27.9	-1.2
	baz=267						
WLVO	**Wesleyville**	**115.04**	**50**	P	**PKPdf**	**10 29 29.0**	**-0.3**
	baz=266						
T59A	**Double "B" Far**	**115.08**	**58**	PFAKE		10 29 40.0	+10
T59A				LR	LR		
	comp=Z,3μm,19.0s						
T59A	**Double "B" Far**	**115.08**	**58**	P	**PKPdf**	**10 29 29.0**	**-0.6**
	baz=264						
V60A	**Jim Taylor Roa**	**115.17**	**59**	PFAKE		10 29 40.0	+10
V60A				LR	LR		
	comp=Z,4μm,20.0s						
SSPA	**Standing Stone**	**115.17**	**54**	PFAKE		10 29 40.0	+10
SSPA				LR	LR		
	comp=Z,4μm,19.0s						
D52A	**ZEK Kipawa Sen**	**115.19**	**47**	P	**PKiKP**	**10 29 29.1**	**-0.5**
	baz=268						
K55A	**Perry**	**115.20**	**51**	P	**PKPdf**	**10 29 29.5**	**-0.3**
	baz=266						
MMNY	**Mt. Morris Dam**	**115.32**	**51**	PFAKE		10 29 40.0	+10
MMNY				LR	LR		
	comp=Z,2μm,20.0s						
CBN	**Corbin Frederi**	**115.35**	**56**	PFAKE		10 29 40.0	+10
CBN				LR	LR		
	comp=Z,4μm,20.0s						
ALGO	**Algonquin Park**	**115.39**	**48**	P	**PKPdf**	**10 29 29.1**	**-0.8**
	baz=268						
J55A	**Hilton**	**115.42**	**51**	PFAKE		10 29 40.0	+10
J55A				LR	LR		
	comp=Z,2μm,20.0s						
J55A	**Hilton**	**115.42**	**51**	P	**PKPdf**	**10 29 29.2**	**-0.9**
	baz=266						
BANO	**Bancroft**	**115.44**	**49**	P	**PKPdf**	**10 29 29.4**	**-0.6**
	baz=267						
I55A	**Frankford**	**115.57**	**50**	P	**PKPdf**	**10 29 29.8**	**-0.5**
	baz=267						
SDV	**Santo Domingo**	**115.62**	**89**	PFAKE		10 29 40.0	+8.4
SDV				LR	LR		
	comp=Z,2μm,22.0s						
DELO	**Deloro Mine**	**115.63**	**49**	P	**PKPdf**	**10 29 29.5**	**-1.0**
	baz=267						
E53A	**Dumoine, Ponti**	**115.68**	**47**	P	**PKPdf**	**10 29 29.7**	**-0.8**
	baz=268						
V61A	**Roper**	**115.73**	**59**	PFAKE		10 29 40.0	+9.1
V61A				LR	LR		
	comp=Z,4μm,19.0s						
T60A	**Surry**	**115.74**	**58**	PFAKE		10 29 40.0	+9.1
T60A				LR	LR		
	comp=Z,4μm,19.0s						
SDMD	**Soldier's Deli**	**115.87**	**55**	PFAKE		10 29 40.0	+8.9
SDMD				LR	LR		
	comp=Z,1μm,21.0s						
U61A	**Possum Corner**	**115.89**	**58**	PFAKE		10 29 40.0	+8.8
U61A				LR	LR		
	comp=Z,3μm,20.0s						
H55A	**Tweed**	**115.94**	**49**	P	**PKPdf**	**10 29 30.1**	**-1.0**
	baz=268						
E54A	**Lac Daplat, Po**	**116.01**	**47**	P	**PKPdf**	**10 29 30.4**	**-0.7**
	baz=268						
PAGS	**Pennsylvania G**	**116.03**	**54**	PFAKE		10 29 40.0	+8.7
PAGS				LR	LR		
	comp=Z,3μm,19.0s						
MSEY	**Mahe Island**	**116.03**	**254**	PFAKE		10 29 40.0	+7.8
MSEY				LR	LR		
	comp=Z,4μm,20.0s						
PLVO	**Plevna**	**116.04**	**49**	PFAKE		10 29 40.0	+8.8
PLVO				LR	LR		
	comp=Z,2μm,20.0s						
PLVO	**Plevna**	**116.04**	**49**	P	**PKPdf**	**10 29 30.5**	**-0.7**
	baz=268						
PECO	**Prince Edward**	**116.05**	**50**	P	**PKPdf**	**10 29 30.3**	**-1.0**
	baz=267						
ABPO	**Ambohimpanom**	**116.14**	**236**	PFAKE		10 29 40.0	+7.5
ABPO				LR	LR		
	comp=Z,4μm,21.0s						
LSQQ	**Lebel-sur-Quev**	**116.19**	**44**	P	**PKPdf**	**10 29 30.6**	**-0.7**
	baz=270						
D54A	**Lac Fusel, La**	**116.39**	**46**	P	**PKPdf**	**10 29 30.7**	**-1.2**
	baz=269						
H56A	**Elgin**	**116.61**	**49**	P	**PKPdf**	**10 29 31.9**	**-0.4**
	baz=268						
BINY	**Binghamton**	**116.71**	**52**	PFAKE		10 29 50.0	+17
BINY				LR	LR		
	comp=Z,2μm,19.0s						
N59A	**State Game Lan**	**116.80**	**53**	PFAKE		10 29 50.0	+17
N59A				LR	LR		
	comp=Z,3μm,18.0s						
KSPA	**Keystone Colle**	**116.83**	**53**	PFAKE		10 29 50.0	+17
KSPA				LR	LR		
	comp=Z,3μm,20.0s						
O60A	**Telford**	**117.04**	**54**	P	**PKPdf**	**10 29 32.7**	**-0.5**
	baz=267						
LUPA	**Lehigh Univers**	**117.08**	**54**	PFAKE		10 29 50.0	+17
LUPA				LR	LR		
	comp=Z,300nm,19.0s						
ORIO	**Orleans, Innes**	**117.16**	**48**	P	**PKPdf**	**10 29 32.4**	**-0.9**
	baz=269						
ALFO	**Alfred**	**117.60**	**48**	P	**PKPdf**	**10 29 33.3**	**-0.8**
	baz=270						
SDDR	**Presa de Saban**	**117.63**	**78**	PFAKE		10 29 50.0	+15
SDDR				LR	LR		
	comp=Z,2μm,21.0s						
BRNJ	**Basking Ridge**	**117.70**	**54**	PFAKE		10 29 50.0	+15
BRNJ				LR	LR		
	comp=Z,4μm,20.0s						
LONY	**Lake Ozonia**	**117.80**	**49**	PFAKE		10 29 50.0	+15
LONY				LR	LR		
	comp=Z,2μm,20.0s						
LONY	**Lake Ozonia**	**117.80**	**49**	P	**PKPdf**	**10 29 34.3**	**-0.4**
	baz=269						
NCB	**Newcomb**	**118.05**	**50**	PFAKE		10 29 50.0	+15
NCB				LR	LR		
	comp=Z,3μm,20.0s						
CPNY	**Central Park**	**118.16**	**54**	PFAKE		10 29 50.0	+15
CPNY				LR	LR		
	comp=Z,4μm,21.0s						
PAL	**Palisades**	**118.21**	**53**	PFAKE		10 29 50.0	+14
PAL				LR	LR		
	comp=Z,3μm,20.0s						
GRTK	**Grand Turk**	**118.29**	**76**	PFAKE		10 29 50.0	+14
GRTK				LR	LR		
	comp=Z,2μm,22.0s						
TRY	**Troy**	**118.44**	**51**	PFAKE		10 29 50.0	+14
TRY				LR	LR		
	comp=Z,2μm,21.0s						
ACCN	**Adirondack Com**	**118.45**	**51**	PFAKE		10 29 50.0	+14
ACCN				LR	LR		
	comp=Z,2μm,20.0s						
FRNY	**Flat Rock**	**118.51**	**49**	PFAKE		10 29 50.0	+14
FRNY				LR	LR		
	comp=Z,3μm,20.0s						
KSCT	**Kent School, K**	**118.55**	**53**	PFAKE		10 29 50.0	+14
KSCT				LR	LR		
	comp=Z,3μm,19.0s						
SDD	**Santo Domingo**	**118.78**	**79**	PFAKE		10 29 50.0	+13
SDD				LR	LR		
	comp=Z,400nm,18.0s						
YLE	**Yale**	**118.95**	**53**	PFAKE		10 29 50.0	+13
YLE				LR	LR		
	comp=Z,4μm,21.0s						
VT1	**Waterbury**	**119.11**	**50**	PFAKE		10 29 50.0	+13
VT1				LR	LR		
	comp=Z,2μm,20.0s						
QUA2	**Belchertown**	**119.41**	**52**	PFAKE		10 29 50.0	+12
QUA2				LR	LR		
	comp=Z,2μm,21.0s						
HNH	**Hanover**	**119.45**	**50**	PFAKE		10 29 50.0	+12
HNH				LR	LR		
	comp=Z,3μm,19.0s						
SVE	**Sverdlovsk**	**119.65**	**325**	*i* PKIKP	**PKPdf**	**10 29 36.3**	**-1.5**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SVE				MLR	MLR		
	comp=Z,2μm,22.0s						
LBNH	**Lisbon**	**119.71**	**50**	PFAKE		10 29 50.0	+12
LBNH				LR	LR		
	comp=Z,3μm,21.0s						
FFD	**Franklin Falls**	**119.92**	**51**	PFAKE		10 29 50.0	+11
FFD				LR	LR		
	comp=Z,3μm,20.0s						
HRV	**Adam Dziewonsk**	**119.99**	**52**	PFAKE		10 29 50.0	+11
HRV				LR	LR		
	comp=Z,3μm,20.0s						
HRV	**Adam Dziewonsk**	**119.99**	**52**	P	**PKPdf**	**10 29 38.7**	**-0.2**
	baz=270						
BRYW	**Bryant College**	**120.01**	**52**	*e*PKPdf	**PKPdf**	**10 29 38.9**	**-0.1**
BRYW				LR	LR		
	comp=Z,3μm,18.0s						
KBS	**Kingsbay**	**120.16**	**356**	PFAKE		10 29 50.0	+12
KBS				LR	LR		
	comp=Z,2μm,22.0s						
WES	**Weston**	**120.17**	**52**	PFAKE		10 29 50.0	+11
WES				LR	LR		
	comp=Z,3μm,20.0s						
SPB	**Sao Paulo**	**120.20**	**134**	PFAKE		10 29 50.0	+10
SPB				LR	LR		
	comp=Z,2μm,19.0s						
ARU	**Arti**	**120.85**	**325**	*e*PKPdf	**PKPdf**	**10 29 38.6**	**-1.5**
ARU				LR	LR		
	comp=Z,3μm,22.0s						
ARU	**Arti**	**120.85**	**325**	*i* PKIKP	**PKPdf**	**10 29 38.7**	**-1.4**
ARU						10 31 07.9	
ARU						10 36 42.2	
ARU				SP	SP	10 40 48.3	-7.7
ABKAR	**Akbulak array**	**121.07**	**316**	*e*PKPdf	**PKPdf**	**10 29 39.6**	**-1.2**
CRPR	**Cabo Rojo, PR**	**121.29**	**80**	PFAKE		10 29 50.0	+7.8
CRPR				LR	LR		
	comp=Z,2μm,21.0s						
MPR	**Mayaguez**	**121.30**	**80**	PFAKE		10 29 50.0	+7.8
MPR				LR	LR		
	comp=Z,1μm,20.0s						
WVL	**Waterville**	**121.32**	**49**	PFAKE		10 29 50.0	+8.5
WVL				LR	LR		
	comp=Z,4μm,19.0s						
PKME	**Peaks-Kenny Pk**	**121.55**	**48**	PFAKE		10 29 50.0	+8.1
PKME				LR	LR		
	comp=Z,3μm,20.0s						
AKTO	**Aktyubinsk**	**122.17**	**318**	PKP	**PKPdf**	**10 29 41.8**	**-1.0**
	comp=Z,4.8nm,0.8s,baz=92,slow=2.3,SNR=16						
AKTO				PKKPbc	**PKKPab**	**10 39 39.0**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=297,slow=2.3,SNR=3.7						
SJG	**San Juan**	**122.20**	**81**	*e*PKPdf	**PKPdf**	**10 29 43.6**	**-0.3**
SJG				LR	LR		
	comp=Z,800nm,19.0s						
PTGA	**Pitinga**	**122.27**	**104**	*e*PKPdf	**PKPdf**	**10 29 44.1**	**0.0**
PTGA				LR	LR		
	comp=Z,2μm,21.0s						
PTGA	**Pitinga**	**122.27**	**104**	PKP	**PKPdf**	**10 29 43.3**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=274,slow=2.1,SNR=5.5						
PQI	**Presque Isle**	**122.32**	**47**	*e*PKPdf	**PKPdf**	**10 29 42.8**	**-0.5**
PQI				LR	LR		
	comp=Z,3μm,21.0s						
DAG	**Danmarks Havn**	**122.41**	**4**	*i* PKIKP	**PKPdf**	**10 29 41.2**	**-1.4**
DAG				MLR	MLR		
	comp=Z,5μm,23.0s						
DAG	**Danmarks Havn**	**122.41**	**4**	*i* P	**PKPdf**	**10 29 41.2**	**-1.4**
HUMP	**Col San Antoni**	**122.49**	**81**	*e*PKPdf	**PKPdf**	**10 29 43.9**	**-0.5**
HUMP				LR	LR		
	comp=Z,1μm,21.0s						
MTP	**Monte Pirata**	**122.75**	**81**	PFAKE		10 30 00.0	+15
MTP				LR	LR		
	comp=Z,2μm,21.0s						
SUR	**Sutherland**	**122.75**	**206**	PFAKE		10 30 00.0	+15

SUR				LR	LR			
	comp=Z,3µm,20.0s							
EMMW	**East Machias**	**122.88**	**49**	PFAKE			10 30 00.0	+15
EMMW				LR	LR			
	comp=Z,4µm,18.0s							
GEYT	**Alibeck**	**122.96**	**303**	PKP	**PKPdf**		**10 29 43.8**	**-1.0**
	comp=Z,19nm,0.5s,baz=255,slow=3.9,SNR=7.4							
GYA0B	**ALIBECK ARRAY**	**122.96**	**303**	PFAKE			10 30 00.0	+15
GYA0B				LR	LR			
	comp=Z,2µm,22.0s							
ILULI	**Ilulissat**	**123.00**	**18**	PFAKE			10 30 00.0	+16
ILULI				LR	LR			
	comp=Z,3µm,22.0s							
CUPR	**Culebra, Puert**	**123.05**	**81**	PFAKE			10 30 00.0	+14
CUPR				LR	LR			
	comp=Z,1µm,22.0s							
STVI	**Saint Thomas**	**123.36**	**81**	PFAKE			10 30 00.0	+14
STVI				LR	LR			
	comp=Z,1µm,22.0s							
BATG	**Bathurst New B**	**123.59**	**46**	*e*PKPdf	**PKiKP**		**10 29 45.9**	**0.0**
SUMG	**Summit**	**123.71**	**12**	*e*PKPdf	**PKiKP**		**10 29 45.8**	**-0.1**
SUMG				LR	LR			
	comp=Z,1µm,20.0s							
SUMG	**Summit**	**123.71**	**12**	*i* PKIKP	**PKPdf**		**10 29 45.5**	**-0.2**
SUMG				MLR	MLR			
	comp=Z,7µm,27.0s							
SUMG	**Summit**	**123.71**	**12**	*i* P	**PKPdf**		**10 29 45.5**	**-0.2**
BOSA	**Boshof**	**123.92**	**212**	PKP	**PKPdf**		**10 29 46.4**	**-0.7**
	comp=Z,3.7nm,1.0s,baz=225,slow=1.4,SNR=4.0							
ABVI	**Anegada Island**	**124.02**	**80**	PFAKE			10 30 00.0	+12
ABVI				LR	LR			
	comp=Z,1µm,21.0s							
SFJD	**Kangerlussuaq**	**124.43**	**20**	PFAKE			10 30 00.0	+13
SFJD				LR	LR			
	comp=Z,3µm,20.0s							
LMN	**Caledonia Moun**	**124.63**	**47**	*e*PKPdf	**PKPdf**		**10 29 47.2**	**-0.5**
BDFB	**Brasilia**	**124.90**	**126**	*e*PKPdf	**PKPdf**		**10 29 49.0**	**-0.3**
BDFB				LR	LR			
	comp=Z,2µm,18.0s							
BDFB	**Brasilia**	**124.90**	**126**	PKIKP	**PKPdf**		**10 29 49.0**	**-0.3**
BDFB				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BDFB	**Brasilia**	**124.90**	**126**	PKP	**PKPdf**		**10 29 49.0**	**-0.3**
	comp=Z,5.3nm,0.8s,baz=207,slow=2.3,SNR=5.3							
KIRV	**Kirov**	**124.99**	**329**	PKP	**PKPdf**		**10 29 45.8**	**-2.2**
	comp=Z,16nm,0.7s,baz=207,slow=2.3,SNR=5.3							
GRGR	**Grenville**	**125.00**	**89**	PFAKE			10 30 00.0	+10
GRGR				LR	LR			
	comp=Z,800nm,22.0s							
SEUS	**St. Eustatius**	**125.02**	**82**	PFAKE			10 30 00.0	+10
SEUS				LR	LR			
	comp=Z,1µm,22.0s							
SMRT	**St. Maarten**	**125.05**	**81**	PFAKE			10 30 00.0	+10
SMRT				LR	LR			
	comp=Z,900nm,19.0s							
PRGR	**Permogore**	**125.48**	**333**	*e*PKIKP	PKPpre		10 29 45.7	
PRGR				pmax	pmax			
	comp=Z,16nm,1.0s							
HAL	**Halifax**	**125.63**	**49**	*e*PKPdf	**PKPdf**		**10 29 49.7**	**0.0**
HAL				LR	LR			
	comp=Z,3µm,19.0s							
LVZ	**Lovozero**	**125.79**	**343**	PFAKE			10 30 00.0	+10
LVZ				LR	LR			
	comp=Z,4µm,22.0s							
FDF	**Fort de France**	**126.13**	**86**	PFAKE			10 30 00.0	+8.1
FDF				LR	LR			
	comp=Z,800nm,21.0s							
ANWB	**Willy Bob**	**126.18**	**82**	PFAKE			10 30 00.0	+8.1
ANWB				LR	LR			
	comp=Z,1µm,21.0s							
KEV	**Kevo**	**126.31**	**347**	PFAKE			10 30 00.0	+9.4
KEV				LR	LR			
	comp=Z,4µm,22.0s							
APA	**Apatity**	**126.36**	**343**	⇓*i*PKIKP	**PKPdf**		**10 29 49.0**	**-1.4**
APA				pmax	pmax			
	comp=Z,12nm,1.0s							
ARA0	**ARCESS Array S**	**126.81**	**347**	*e*PKPdf	**PKPdf**		**10 29 50.0**	**-1.2**
ARCES	**ARCESS Array B**	**126.81**	**347**	PKP	**PKPdf**		**10 29 50.0**	**-1.2**
	comp=Z,7.3nm,0.7s,baz=42,slow=2.0,SNR=20							
ARE0	**ARCESS Array S**	**126.81**	**347**	PFAKE			10 30 00.0	+8.3
ARE0				LR	LR			
	comp=Z,200nm,22.0s							
GBN	**Guysborough**	**126.98**	**47**	*e*PKPdf	**PKiKP**		**10 29 52.5**	**-0.2**
BBGH	**Gun Hill**	**127.24**	**88**	PFAKE			10 30 10.0	+16
BBGH				LR	LR			
	comp=Z,2µm,20.0s							
SCO	**Scoresbysund**	**128.13**	**7**	*e*PKPdf	**PKiKP**		**10 29 54.6**	**+0.4**
SCO				LR	LR			
	comp=Z,1µm,20.0s							
SCO	**Scoresbysund**	**128.13**	**7**	*e*PKIKP	PKPpre		10 29 47.1	
SCO	**Scoresbysund**	**128.13**	**7**	*i* P	PKPpre		10 29 47.1	
KLMR	**Klimovskoe**	**128.44**	**334**	*e*PKIKP	**PKPdf**		**10 29 52.4**	**-2.1**
KLMR				pmax	pmax			
	comp=Z,49nm,1.5s							
MATP	**Matopo**	**128.53**	**221**	PKP	**PKPdf**		**10 29 55.1**	**-1.0**
	comp=Z,4.6nm,0.9s,baz=123,slow=1.9,SNR=6.6							
IVI	**Ivigtut**	**128.62**	**25**	PFAKE			10 30 10.0	+15
IVI				LR	LR			
	comp=Z,2µm,20.0s							
ANGG	**Ammassalik, Gr**	**129.26**	**17**	PFAKE			10 30 10.0	+13
ANGG				LR	LR			
	comp=Z,2µm,20.0s							
NRS	**Narsarsuaq**	**129.73**	**24**	PFAKE			10 30 10.0	+12
NRS				LR	LR			
	comp=Z,2µm,20.0s							
MAK	**Makhachkala**	**130.55**	**310**	*i* P	**Pdif**		**10 26 47.7**	**-1.6**
MAK				*i*			10 29 58.4	
MAK				*e*			10 30 16.8	
MAK				*e*			10 32 13.2	
MAK				*e*PPP	PPP		10 35 05.6	
MAK				*e*			10 36 59.9	
MAK				*e*SS	SS		10 49 37.4	-3.0
MAK				*e*SSS	SSS		10 54 28.4	
MAK				pmax	pmax			
	comp=Z,114nm,1.1s							
GROC	**Groznyy**	**131.73**	**311**	*i* PKIKP	**PKPdf**		**10 30 00.5**	**-0.8**
GROC				*e*			10 32 19.1	
GROC				*e*PS	PS		10 42 28.7	-8.3
GROC				pmax	pmax			
	comp=Z,19nm,0.5s							
VRH	**Novokhopyorsk**	**131.91**	**322**	*e*PKIKP	**PKPdf**		**10 29 59.7**	**-1.7**
VRH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
VRH				MLR	MLR			
	comp=Z,4µm,24.0s							
MOS	**Moscow**	**132.00**	**329**	*e*PKIKP	**PKPdf**		**10 29 59.3**	**-2.1**
MOS				*e*			10 32 21.0	
MOS				*e*PS	PS		10 42 37.6	-1.1
MOS				*e*PPS	PPS		10 44 12.0	
MOS				MLR	MLR			
	comp=Z,2µm,21.0s							
LSZ	**Lusaka**	**132.50**	**225**	PFAKE			10 30 20.0	+15
LSZ				LR	LR			
	comp=Z,2µm,21.0s							
LSZ	**Lusaka**	**132.50**	**225**	PKIKP	**PKPdf**		**10 30 03.0**	**-0.8**
LSZ				pmax	pmax			
	comp=Z,5.0nm,0.8s							
LSZ	**Lusaka**	**132.50**	**225**	PKP	**PKPdf**		**10 30 03.0**	**-0.8**
	comp=Z,5.1nm,0.8s,baz=82,slow=3.0,SNR=6.2							
OBN	**Obninsk**	**132.84**	**329**	PFAKE			10 30 20.0	+16
OBN				LR	LR			
	comp=Z,3µm,21.0s							
OBN	**Obninsk**	**132.84**	**329**	⇑*i*PKIKP	**PKiKP**		**10 30 04.4**	**+0.2**
OBN				*i*			10 44 22.9	
OBN				pmax	pmax			
	comp=Z,38nm,1.5s							
DAMY	**Dhamar**	**132.85**	**272**	PFAKE			10 30 20.0	+14
DAMY				LR	LR			
	comp=Z,2µm,18.0s							
FIA0	**FINESS Array S**	**132.99**	**340**	*e*PKPdf	**PKPdf**		**10 30 02.9**	**-0.2**
FINES	**FINESS Array B**	**132.99**	**340**	PKP	**PKPdf**		**10 30 02.9**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=18,slow=5.0,SNR=5.4							
GNI	**Garni**	**133.12**	**307**	PFAKE			10 30 20.0	+15
GNI				LR	LR			
	comp=Z,1µm,21.0s							
GNI	**Garni**	**133.12**	**307**	⇓*i*PKIKP	**PKPdf**		**10 30 01.8**	**-2.5**
ZEI	**Tsey**	**133.18**	**311**	*i* PKIKP	**PKPdf**		**10 30 02.9**	**-1.5**
ZEI				pmax	pmax			
	comp=Z,10.0nm,1.5s							
VSR	**Storozhevoye**	**133.36**	**323**	*e*PKIKP	**PKPdf**		**10 30 01.3**	**-2.8**
VSR				pmax	pmax			
	comp=Z,20nm,1.3s							
VSR				MLR	MLR			
	comp=Z,2µm,21.0s							
ATD	**Arta Tunnel**	**133.54**	**267**	PFAKE			10 30 20.0	+13
ATD				LR	LR			
	comp=Z,2µm,20.0s							
KBZ	**Khabaz**	**133.65**	**312**	PKP	**PKPdf**		**10 30 03.6**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=203,slow=1.4,SNR=2.3							
KIV	**Kislovodsk**	**133.73**	**313**	PFAKE			10 30 20.0	+14
KIV				LR	LR			
	comp=Z,2µm,21.0s							
KIV	**Kislovodsk**	**133.73**	**313**	*i* PKIKP	**PKiKP**		**10 30 06.4**	**-0.1**
KIV				pmax	pmax			
	comp=Z,19nm,1.1s							
KIV				MLR	MLR			
	comp=Z,5µm,24.0s							
AKH	**Akhalkalaki**	**133.79**	**309**	PFAKE			10 30 20.0	+13
AKH				LR	LR			
	comp=Z,2µm,22.0s							
KMBO	**Kilima Mbogo**	**133.89**	**248**	PFAKE			10 30 20.0	+12
KMBO				LR	LR			
	comp=Z,2µm,21.0s							
NAI	**Nairobi**	**134.21**	**248**	PFAKE			10 30 20.0	+11
NAI				LR	LR			
	comp=Z,3µm,20.0s							
BCA	**Borcka**	**135.15**	**309**	⇑*i*P	**PKPdf**		**10 30 08.1**	**+0.2**
SIRT	**Sirnak**	**135.37**	**304**	PFAKE			10 30 20.0	+10
SIRT				LR	LR			
	comp=Z,4µm,21.0s							
TSUM	**Tsumeb**	**135.59**	**211**	*e*PKPdf	**PKPdf**		**10 30 09.2**	**-0.3**
TSUM				LR	LR			
	comp=Z,4µm,20.0s							
TSUM	**Tsumeb**	**135.59**	**211**	PKP	**PKPdf**		**10 30 09.3**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=107,slow=5.2,SNR=6.2							
SOC	**Sochi**	**135.90**	**313**	*i* PKIKP	**PKPdf**		**10 30 09.6**	**+0.5**
SOC				*e*			10 32 45.1	
SOC				*e*PPP	PPP		10 35 43.6	
SOC				pmax	pmax			
	comp=Z,9.0nm,0.4s							
SOC				MLR	MLR			
	comp=Z,2µm,22.0s							
FURI	**Furi**	**136.66**	**262**	PFAKE			10 30 20.0	+6.4
FURI				LR	LR			
	comp=Z,3µm,19.0s							
NB2	**NORSAR Subarra**	**137.13**	**349**	PKPdf	**PKPdf**		**10 30 10.2**	**-0.8**
	comp=Z,15nm,1.7s,baz=27,slow=1.9							
NB2	**NORSAR Subarra**	**137.13**	**349**	PKPdf	**PKPdf**		**10 30 10.2**	**-0.8**
	baz=27,slow=1.9							
NB200	**NORSAR Array S**	**137.13**	**349**	*e*PKPdf	**PKPdf**		**10 30 10.7**	**-0.2**
NOA	**NORSAR Array B**	**137.13**	**349**	PKP	**PKPdf**		**10 30 10.7**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=28,slow=3.0,SNR=4.5							
IDID	**Didziasalis**	**137.18**	**334**	*e*P	**Pdif**		**10 27 03.3**	**-15**
ISAL	**Salakas**	**137.25**	**335**	*e*P	**Pdif**		**10 27 09.7**	**-9.1**
IIGN	**Ignalina**	**137.37**	**334**	*e*P	**Pdif**		**10 27 06.8**	**-13**
RSDY	**Resadiye-TOKAT**	**138.56**	**309**	*e*P	PKiKP		10 30 27.1	+11
KONO	**Kongsberg**	**138.72**	**349**	PFAKE			10 30 30.0	+14
KONO				LR	LR			
	comp=Z,2µm,20.0s							
AKASG	**Malin Array Be**	**139.00**	**327**	PKP	**PKPdf**		**10 30 14.3**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=41,slow=3.0,SNR=11							
AKASG				PP	**PP**		**10 33 10.9**	**+3.9**
	comp=Z,0.2nm,0.3s,baz=47,slow=7.6,SNR=5.0							
AKBB	**Malin Array Si**	**139.00**	**327**	*e*PKPdf	**PKPdf**		**10 30 14.8**	**+0.1**
AKBB				LR	LR			
	comp=Z,3µm,20.0s							
KIEV	**Kiev**	**139.02**	**327**	PFAKE			10 30 30.0	+13
KIEV				LR	LR			
	comp=Z,2µm,20.0s							
KIEV	**Kiev**	**139.02**	**327**	⇓*i*PKIKP	**PKPdf**		**10 30 14.3**	**-0.3**
KVT	**Kavak**	**139.28**	**311**	*e*P	**PKiKP**		**10 30 18.1**	**+0.3**
SUW	**Suwalki**	**139.56**	**335**	PFAKE			10 30 30.0	+12
SUW				LR	LR			
	comp=Z,2µm,20.0s							
MBAR	**Mbarara**	**139.77**	**244**	PFAKE			10 30 30.0	+10
MBAR				LR	LR			
	comp=Z,2µm,21.0s							
RCBR	**Riachuelo**	**140.27**	**126**	PFAKE			10 30 30.0	+9.3
RCBR				LR	LR			
	comp=Z,1µm,19.0s							
CORM	**Corum**	**140.59**	**310**	*e*P	**PKPdf**		**10 30 14.8**	**-3.3**
ASF	**Jabal al Asfar**	**140.72**	**297**	PKhKP	PKPpre		10 30 10.6	
	comp=Z,0.7nm,0.3s,baz=63,slow=2.3,SNR=2.8							
ILGA	**Ilgaz**	**140.94**	**312**	PFAKE			10 30 30.0	+8.5
ILGA				LR	LR			
	comp=Z,1µm,22.0s							
KIS	**Kishinev**	**141.35**	**323**	*e*PKP	**PKiKP**		**10 30 27.0**	**+5.2**
KIS	**Kishinev**	**141.35**	**323**	*e*PP	PP		10 33 40.0	+18
KIS				*e*SKS	**SKSdf**		**10 37 37.0**	**+10**
KIS				*e*SKKS	**SKKSac**		**10 40 20.0**	**+7.3**
KIS				*e*SKSP			10 44 06.0	
KIS	**Kishinev**	**141.35**	**323**	*e*PKIKP	**PKiKP**		**10 30 27.0**	**+5.2**
KIS				MLR	MLR			
	comp=Z,3µm,22.0s							
KIS				MLR	MLR			
	comp=N,3µm,21.0s							
BR101	**Keskin Array S**	**141.46**	**310**	*e*PKPpre	PKPpre		10 30 12.0	
BR101				*e*PKPdf	**PKPdf**		**10 30 19.0**	**-0.7**
BRTR	**Keskin Array B**	**141.46**	**310**	PKHKP	PKPpre		10 30 12.0	
BRTR							10 30 19.0	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BRTR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BRTR	**Keskin Array B**	**141.46**	**310**	PKhKP	PKPpre		10 30 12.0	
	comp=Z,0.6nm,0.8s,baz=49,slow=4.4,SNR=2.7							
BRTR				PKP	**PKPdf**		**10 30 19.0**	**-0.7**
	comp=Z,1.8nm,1.0s,baz=111,slow=2.8,SNR=6.9							
SAFT	**Safranbolu**	**141.59**	**312**	*e*P	**PKiKP**		**10 30 26.1**	**+3.6**
MMAI	**Mount Meron Ar**	**141.83**	**299**	PKhKP	PKPpre		10 30 16.5	
	comp=Z,1.0nm,0.4s,baz=104,slow=6.1,SNR=5.1							
ANTO	**Ankara**	**142.02**	**310**	PFAKE			10 30 30.0	+6.5
ANTO				LR	LR			
	comp=Z,1µm,20.0s							
LVV	**L'vov**	**142.14**	**329**	*e*PKIKP	**PKiKP**		**10 30 23.0**	**-0.3**
LVV				MLR	MLR			
	comp=E,300nm,21.0s							
LVV				MLR	MLR			
	comp=N,1µm,23.0s							
LVV				MLR	MLR			
	comp=Z,2µm,24.0s							
KEBE	**Keben-Mersin**	**142.41**	**305**	*e*P	**PKPdf**		**10 30 20.0**	**-1.4**
RGN	**Rugen**	**142.52**	**343**	PFAKE			10 30 30.0	+6.1
RGN				LR	LR			
	comp=Z,2µm,19.0s							
EIL	**Elat**	**142.69**	**293**	PKhKP	PKPpre		10 30 17.6	
	comp=Z,2.7nm,0.4s,baz=59,slow=3.5,SNR=4.4							
CFR	**Carcaliu**	**142.73**	**321**	⇑*i*P	**PKPdf**		**10 30 14.3**	**-7.2**
BERE	**Bereket-Mersin**	**142.82**	**305**	*e*P	**PKPdf**		**10 30 19.1**	**-3.1**
LFK	**Lefkose**	**142.86**	**303**	*e*P	**PKPdf**		**10 30 19.5**	**-2.7**
KWP	**Kalwaria Pacla**	**142.90**	**330**	*e*PKP	**PKPdf**		**10 30 20.9**	**-0.9**
KWP	**Kalwaria Pacla**	**142.90**	**330**	*e*PKPdf	**PKPdf**		**10 30 21.9**	**+0.2**
KWP				LR	LR			
	comp=Z,12µm,22.0s							
KWP	**Kalwaria Pacla**	**142.90**	**330**	*e*PKIKP	**PKPdf**		**10 30 20.8**	**-0.9**
BIZ	**Bicaz**	**142.91**	**324**	⇑*i*P	**PKPdf**		**10 30 19.7**	**-2.1**
LADK	**Ladik-KONYA**	**142.91**	**308**	*e*P	**PKPdf**		**10 30 19.5**	**-2.8**
MDUB	**Mudurnu**	**142.93**	**312**	*e*P	**PKPdf**		**10 30 18.5**	**-3.7**
MDUB	**Mudurnu**	**142.93**	**312**	PFAKE			10 30 30.0	+4.6
MDUB				LR	LR			
	comp=Z,4µm,21.0s							
TEKE	**Tekeli-Mersin**	**142.96**	**304**	*e*P	PKPdf		10 30 14.2	-8.0
BUR08	**Bucovina Ar. S**	**142.96**	**326**	*e*PKPdf	**PKPdf**		**10 30 21.1**	**-0.9**
KONT	**Konya--Tatoy**	**143.00**	**308**	*e*P	**PKPdf**		**10 30 20.4**	**-1.9**
HARR	**Harsova**	**143.12**	**320**	⇑*i*P	PKPbc		10 30 19.3	+0.1
HARR	**Harsova**	**143.12**	**320**	⇑PKIKP	PKPbc		10 30 19.3	+0.1
VRI	**Vrincioaia**	**143.18**	**322**	*e*P	PKPab		10 30 16.5	-1.5
VRI	**Vrincioaia**	**143.18**	**322**	⇑*i*P	PKPbc		10 30 19.1	-0.2
VRI	**Vrincioaia**	**143.18**	**322**	⇑PKIKP	PKPbc		10 30 19.1	-0.2
PLOR	**Plostina**	**143.23**	**322**	⇑*i*P	PKPbc		10 30 19.1	-0.4
PLOR	**Plostina**	**143.23**	**322**	⇑PKIKP	PKPbc		10 30 19.1	-0.4
PSN	**Preselentsi**	**143.48**	**318**	*e*P	**PKiKP**		**10 30 25.7**	**-0.6**
SRCK	**Saricakaya, Es**	**143.50**	**312**	*e*P	PKPab		10 30 19.3	-0.1
KOLS	**Kolonicke sedl**	**143.59**	**330**	*e*PKIKP	PKPbc		10 30 20.8	+0.4
KOLS	**Kolonicke sedl**	**143.59**	**330**	*e*PKP	PKPbc		10 30 20.8	+0.4
BORA	**Eskisehir**	**143.69**	**311**	*e*P	PKPab		10 30 15.9	-4.4
ARCR	**ARCALIA**	**143.76**	**326**	⇑*i*P	PKPbc		10 30 21.5	+0.6
OJC	**Ojcow**	**143.78**	**333**	*e*PKP	PKPbc		10 30 20.5	-0.3
OJC	**Ojcow**	**143.78**	**333**	*e*PKPpre	PKPab		10 30 20.6	+0.4
OJC	**Ojcow**	**143.78**	**333**	*e*PKIKP	PKPbc		10 30 20.5	-0.4
UZH	**Uzhgorod**	**143.78**	**329**	*e*PKIKP	PKPbc		10 30 21.8	+0.9
UZH				*e*			10 30 44.7	
UZH				*e*			10 36 51.2	
UZH				MLR	MLR			
	comp=N,180nm,20.0s							
UZH				MLR	MLR			
	comp=E,340nm,20.0s							
UZH				MLR	MLR			
	comp=Z,390nm,20.0s							
BMR	**Baia Mare**	**143.83**	**327**	⇑*i*P	PKPab		10 30 20.3	-0.1
BMR	**Baia Mare**	**143.83**	**327**	⇑PKIKP	PKPab		10 30 20.3	-0.1
MLR	**Muntele Rosu**	**143.84**	**322**	*e*PKPpre	PKPbc		10 30 20.8	-0.6
MLR				LR	LR			
	comp=Z,3µm,20.0s							
MLR	**Muntele Rosu**	**143.84**	**322**	⇓*i*P	PKPbc		10 30 21.7	+0.3
MLR	**Muntele Rosu**	**143.84**	**322**	⇓PKIKP	PKPbc		10 30 21.7	+0.3
MLR	**Muntele Rosu**	**143.84**	**322**	PKP	PKPbc		10 30 21.3	-0.1
	comp=Z,20nm,1.0s,baz=30,slow=1.8,SNR=18							
ADVT	**Abdulvahap**	**143.96**	**313**	*e*P	PKPab		10 30 21.4	+0.2
AUBOZ	**BOZOYUK**	**143.97**	**312**	*e*P	PKPab		10 30 18.5	-2.8
TRPA	**Tarpa**	**144.01**	**328**	*e*P	PKPab		10 30 15.1	-6.0
SECR		**144.03**	**322**	⇑*i*P	**PKPab**		**10 30 21.5**	**+0.2**
SHUT	**Suhut-Afyon**	**144.12**	**309**	*e*P	**PKPab**		**10 30 21.8**	**-0.2**
SULR		**144.13**	**321**	⇑*i*P	**PKPab**		**10 30 21.1**	**-0.5**
NIE	**Niedzica**	**144.15**	**332**	*e*PKP	PKPbc		10 30 22.6	+0.5
NIE	**Niedzica**	**144.15**	**332**	*e*PKIKP	PKPbc		10 30 22.6	+0.5
ISK	**Istanbul-Kandi**	**144.16**	**314**	*e*P	**PKPab**		**10 30 20.0**	**-1.9**
YLV	**Yalova**	**144.16**	**313**	*e*P	**PKPdf**		**10 30 23.8**	**-0.5**
BUY	**Buyukada**	**144.21**	**314**	*e*P	**PKPab**		**10 30 18.5**	**-3.6**
PRD	**Provadia**	**144.22**	**318**	P	**PKPdf**		**10 30 23.3**	**-0.9**
BGKT	**Bogazkoy**	**144.30**	**314**	*e*P	**PKiKP**		**10 30 27.7**	**-0.3**
MDB	**Medias**	**144.34**	**324**	⇓*i*P	PKPbc		10 30 23.0	+0.3
MDB	**Medias**	**144.34**	**324**	⇓PKIKP	PKPbc		10 30 23.0	+0.3
EKA	**Eskdalemuir Ar**	**144.35**	**358**	PKP	**PKPab**		**10 30 21.4**	**-0.7**
	comp=Z,4.8nm,0.7s,baz=354,slow=2.9,SNR=19							
ESK	**Eskdalemuir**	**144.37**	**358**	*e*PKPdf	**PKPab**		**10 30 22.1**	**-0.1**
ESK				LR	LR			
	comp=Z,1µm,20.0s							
VOIR		**144.39**	**323**	⇑*i*P	PKPbc		10 30 23.0	0.0
VOIR		**144.39**	**323**	⇑PKIKP	PKPbc		10 30 23.0	0.0
CJR	**Cluj-Napoca**	**144.40**	**326**	⇑*i*P	PKPbc		10 30 23.5	+0.5
CJR	**Cluj-Napoca**	**144.40**	**326**	⇑PKIKP	PKPbc		10 30 23.5	+0.5
ISP	**Isparta**	**144.41**	**308**	*e*P	**PKPab**		**10 30 19.3**	**-3.8**
ISP	**Isparta**	**144.41**	**308**	PFAKE			10 30 40.0	+11
ISP				LR	LR			
	comp=Z,1µm,20.0s							
CTKS	**Kestanelik-??a**	**144.45**	**315**	*e*P	**PKPab**		**10 30 22.9**	**-0.1**
ARMT	**Armutlu**	**144.51**	**313**	*e*P	**PKPab**		**10 30 23.0**	**-0.3**
TVSB	**Tavsanli**	**144.56**	**311**	*e*P	PKPbc		10 30 23.8	0.0
IDGL	**Inch Island, C**	**144.57**	**3**	*e*PKP	**PKPab**		**10 30 19.2**	**-3.7**
MDNY	**Mudanya-Bursa**	**144.58**	**313**	*e*P	**PKPab**		**10 30 22.9**	**-0.6**
SHEL	**Horse Pasture**	**144.60**	**178**	PFAKE			10 30 40.0	+11
SHEL				LR	LR			
	comp=Z,2µm,22.0s							
SLVT	**Silivri**	**144.65**	**315**	*e*P	**PKPab**		**10 30 19.7**	**-4.0**
KSP	**Ksiaz**	**144.69**	**337**	*e*PKP	**PKPab**		**10 30 23.3**	**-0.2**
KSP	**Ksiaz**	**144.69**	**337**	*e*PKIKP	**PKPab**		**10 30 23.3**	**-0.2**
LANS	**Liptovska Anna**	**144.72**	**332**	*e*PKIKP	**PKPdf**		**10 30 24.6**	**-0.4**
LANS	**Liptovska Anna**	**144.72**	**332**	*e*PKP	**PKPdf**		**10 30 24.6**	**-0.4**
KECS	**Kecovo**	**144.74**	**331**	*e*PKIKP	PKPbc		10 30 24.4	+0.5
KECS	**Kecovo**	**144.74**	**331**	*e*PKP	PKPbc		10 30 24.4	+0.5
OKC	**Ostrava-Krasne**	**144.76**	**334**	*e*PKIKP	**PKPab**		**10 30 23.8**	**0.0**
OKC				MLR	MLR			
	comp=Z,3µm,21.5s							
OKC	**Ostrava-Krasne**	**144.76**	**334**	*e*PKP	**PKPab**		**10 30 23.8**	**0.0**
OKC				*ex*	x		10 30 35.2	
OKC				AMS	AMS		11 33 50.0	
	comp=Z,3µm,21.5s							
EDMD	**Edmundbyers**	**144.81**	**357**	*e*P	**PKPab**		**10 30 23.2**	**-0.6**
EDMD				IAMs_20	IAMs_20		11 21 44.1	
	comp=Z,2µm,39.5s							
KORT	**Korkueli**	**144.82**	**307**	*e*P	**PKPab**		**10 30 23.9**	**-0.8**
LTVH	**Ltavrtes, Hu**	**144.83**	**328**	⇓*e*P	**PKPdf**		**10 30 25.0**	**-0.1**
GAL1	**Galloway**	**144.84**	**360**	*e*P	**PKPab**		**10 30 23.4**	**-0.5**
GAL1				IAMs_20	IAMs_20		11 21 58.3	
	comp=Z,2µm,41.8s							
PHSR	**Pinarhisar**	**144.92**	**316**	*e*P	**PKPab**		**10 30

MANT LR LR
comp=Z,3μm,20.0s
RKY Sarkoy-Tekirda 145.60 315 *eP* **PKPdf 10 30 25.7 -1.1**
VLAD Vladila 145.60 321⇑*iP* **PKPbc 10 30 26.9 +0.1**
KOLL Kolacno 145.61 332 *e*PKP **PKPab 10 30 27.2 +0.2**
AKAS Kas 145.64 306 *eP* **PKPdf 10 30 26.5 -0.6**
KRBG Karabiga-Canak 145.65 314 *eP* **PKPdf 10 30 26.9 +0.1**
HPK Haverah Park 145.67 357 *eP* **PKPdf 10 30 25.0 -1.4**
HPK IAMs_20 IAMs_20 11 20 43.4
comp=Z,4μm,51.7s
GZR Gura Zlata 145.68 325⇑*iP* **PKPdf 10 30 26.6 -0.2**
GZR Gura Zlata 145.68 325⇑PKIKP **PKPdf 10 30 26.7 -0.1**
SIRR Siria 145.70 327⇑*iP* **PKPab 10 30 28.1 +0.6**
JAVC Velka Javorina 145.71 333 *e*PKP **PKPab 10 30 28.3 +0.8**
VRAC Vranov 145.80 335⇑*iP* **PKPab 10 30 27.6 -0.1**
VRAC Vranov 145.80 335⇑PKP2 **PKPab 10 30 27.6 -0.1**
VRAC Vranov 145.80 335 *e*PKP **PKPab 10 30 27.9 +0.2**
VRAC Vranov 145.80 335 PKPbc **PKPbc 10 30 27.2 -0.1**
comp=Z,13nm,0.9s,baz=52,slow=3.7,SNR=22
FETY Fethiye 145.90 307 *eP* **PKPbc 10 30 27.9 -0.1**
FETY Fethiye 145.90 307 *e*PKPdf **PKPdf 10 30 25.0 -2.4**
FETY Fethiye 145.90 307 P **PKPdf 10 30 25.0 -2.4**
PRU Pruhonice 146.03 338 *e*PKP2 **PKPbc 10 30 27.9 -0.1**
PRU Pruhonice 146.03 338 *e*PKP **PKPbc 10 30 27.9 -0.1**
KRUC Moravsky 146.08 335 *e*PKP **PKPdf 10 30 27.4 +0.1**
SMOL Smolenice 146.08 333 *e*PKP2 **PKPbc 10 30 28.2 0.0**
SMOL Smolenice 146.08 333 *e*PKP **PKPbc 10 30 28.2 0.0**
IGLA Glengowla, Co 146.11 5 *e*PKP **PKPdf 10 30 23.8 -3.3**
DALY Dalyan (Mula) 146.16 307 *eP* **PKPbc 10 30 28.5 -0.2**
BZS Buzias 146.16 326⇑*iP* **PKPdf 10 30 26.7 -0.8**
BZS Buzias 146.16 326⇑PKP2 **PKPdf 10 30 26.7 -0.8**
TURN Turunc 146.17 308 *eP* **PKPdf 10 30 24.9 -2.9**
HERR Herculane 146.20 324⇓*iP* **PKPdf 10 30 27.9 +0.3**
GELI Tayfur-Gelibol 146.21 315 *eP* **PKPdf 10 30 27.7 0.0**
LBWR Ladybower, Pea 146.23 357 *eP* **PKPbc 10 30 26.0 -1.3**
LBWR IAMs_20 IAMs_20 11 21 20.4
comp=Z,2μm,38.4s
TREC Trest 146.25 336 *e*PKP2 **PKPbc 10 30 28.6 -0.1**
TREC Trest 146.25 336 *e*PKP **PKPbc 10 30 28.6 -0.1**
ALN Alexandroupoli 146.25 316 *eP* **PKPdf 10 30 26.1 -1.7**
ALN Alexandroupoli 146.25 316 PFAKE 10 30 40.0 +8.0
ALN LR LR
comp=Z,900nm,22.0s
MODS Modra-Piesok 146.25 333 *e*PKP2 **PKPbc 10 30 28.3 -0.4**
MODS Modra-Piesok 146.25 333 *e*PKP **PKPbc 10 30 28.3 -0.4**
KDZ Kurdzhali 146.28 317 *eP* **PKiKP 10 30 31.6 -0.5**
KDZ Kurdzhali 146.28 317 P **PKiKP 10 30 33.1 +1.0**
AYDB Zeytinkoy-Aydi 146.29 310 *eP* **PKPab 10 30 29.7 -0.4**
WME Myndd Eilian 146.31 359 *eP* **PKPbc 10 30 28.5 -0.2**
WLF1 Llynfaes 146.42 360 *eP* **PKPbc 10 30 28.6 -0.4**
WLF1 IAMs_20 IAMs_20 11 31 06.5
comp=Z,4μm,25.5s
DSB Dublin 146.44 2 *e*PKP **PKPdf 10 30 25.0 -2.7**
DSB Dublin 146.44 2 *e*PKPdf **PKPdf 10 30 28.1 +0.4**
DSB LR LR
comp=Z,1μm,20.0s
RDO Rodhopi 146.46 316 *eP* **PKPdf 10 30 27.7 -0.4**
RDO Rodhopi 146.46 316 *e*PKPdf **PKPdf 10 30 28.5 +0.4**
RDO Rodhopi 146.46 316 P **PKPdf 10 30 28.5 +0.4**
ZST Bratislava 146.46 333 *e*PKP2 **PKPdf 10 30 28.4 +0.5**
ZST Bratislava 146.46 333 *e*PKP **PKPdf 10 30 28.4 +0.5**
PLD Plovdiv 146.49 318 *eP* **PKPdf 10 30 28.7 +0.5**
NKC Novy Kostel 146.54 340 *e*PKP2 **PKPbc 10 30 29.2 -0.3**
NKC MLR MLR
comp=Z,2μm,22.9s
NKC Novy Kostel 146.54 340 *e*PKP **PKPbc 10 30 29.2 -0.3**
NKC AMS AMS 11 32 00.0
comp=Z,2μm,22.9s
BANR Banloc 146.57 326⇑*iP* **PKPbc 10 30 29.5 -0.2**
YLL Llanberis 146.57 359 *eP* **PKPdf 10 30 27.9 0.0**
EZN Ezine 146.58 314 *eP* **PKPdf 10 30 26.1 -2.3**
EZN Ezine 146.58 314⇑*iP* **PKPdf 10 30 28.8 +0.4**
EZN Ezine 146.58 314⇑PKP2 **PKPdf 10 30 28.8 +0.4**
CSKK Cskako 146.58 331 *eP* **PKPbc 10 30 29.0 -0.7**
MDVR Moldovita 146.65 325⇑*iP* **PKPbc 10 30 30.3 +0.2**
RZN Rozhen 146.70 318 P **PKPdf 10 30 29.2 +0.4**
WACR West Acre 146.72 354 *eP* **PKPdf 10 30 28.2 +0.1**
WACR IAMs_20 IAMs_20 11 35 18.0
comp=Z,2μm,22.8s
ARG Arkhangelos 146.77 307 *eP* **PKPdf 10 30 27.1 -1.7**
FOEL Foel Wylfa 146.80 358 *eP* **PKPdf 10 30 28.1 -0.2**
FOEL IAMs_20 IAMs_20 11 23 46.4
comp=Z,2μm,30.7s
LLW Llanuwychllyn 146.85 359 *eP* **PKPdf 10 30 29.2 +0.8**
CWF Charnwood Fore 146.86 356 *eP* **PKPdf 10 30 28.5 0.0**
CWF IAMs_20 IAMs_20 11 22 38.0
comp=Z,4μm,40.7s
GCAM G?zelcaml? 146.86 310 *eP* **PKPdf 10 30 27.1 -1.8**
DAT Datca 146.99 308 *eP* **PKPdf 10 30 28.1 -1.2**
URLA Izmir 147.05 311 *eP* **PKPdf 10 30 27.7 -1.6**
BODT Bodrum 147.06 309 *eP* **PKPdf 10 30 29.3 0.0**
SOP Sopron 147.09 333⇑*eP* **PKPbc 10 30 31.0 -0.1**
KHC Kasperske Hory 147.09 338 *e*PKPbc **PKPbc 10 30 31.2 0.0**
KHC LR LR
comp=Z,1μm,21.0s
KHC Kasperske Hory 147.09 338 *e*PKP2 **PKPbc 10 30 30.6 -0.6**
KHC MLR MLR
comp=Z,3μm,20.6s
KHC Kasperske Hory 147.09 338 *e*PKP **PKPbc 10 30 30.6 -0.6**
KHC *ex* x 10 30 42.1
KHC AMS AMS 11 36 10.0
comp=Z,3μm,20.6s
TIH Tihany 147.10 331 *eP* **PKPbc 10 30 31.0 -0.1**
VTS Vitosha 147.10 320 *e*PKPdf **PKPbc 10 30 30.9 -0.7**
VTS LR LR
comp=Z,2μm,19.0s
VTS Vitosha 147.10 320 P **PKPbc 10 30 31.1 -0.4**
VTS Vitosha 147.10 320⇑*iP* **PKPbc 10 30 31.3 -0.2**
VTS Vitosha 147.10 320⇑PKP2 **PKPbc 10 30 31.3 -0.2**
VTS Vitosha 147.10 320 P **PKPab 10 30 33.1 0.0**
HLM1 Long Mynd 147.16 358 *eP* **PKPdf 10 30 28.4 -0.6**
CONA Conrad Observa 147.19 334 *i* PKPab **PKPbc 10 30 31.9 +0.3**
comp=Z,70nm,1.4s,SNR=34
KAVA Kavala 147.20 317 *e*PKPdf **PKPbc 10 30 31.2 -0.4**
KAVA Kavala 147.20 317 P **PKPbc 10 30 31.2 -0.4**
GEC2 GERESS Array S 147.29 337 *e*PKPbc **PKPbc 10 30 31.4 -0.3**
GEC2 LR LR
comp=Z,3μm,20.0s
GERES GERESS Array B 147.29 337 PKPbc **PKPbc 10 30 31.5 -0.3**
comp=Z,22nm,0.8s,baz=35,slow=3.6,SNR=99
MMB Musomiste 147.38 318 P **PKPbc 10 30 31.8 -0.4**
GRA1 Grafenberg Arr 147.41 341 *e*PKPbc **PKPbc 10 30 32.4 +0.4**
GRA1 *e*PKPab **PKiKP 10 30 35.0 +0.8**
GRA1 LR LR
comp=Z,2μm,20.0s
GRFO Grafenberg 147.41 341 *e*PKPbc **PKPbc 10 30 32.1 +0.1**
GRFO LR LR
comp=Z,2μm,20.0s
FRGS Fruska Gora 147.41 327⇑*iP* **PKPbc 10 30 31.8 -0.3**
CHOS Chios island 147.42 312 *eP* **PKPdf 10 30 30.5 +0.5**
NVR Nevrokopi 147.43 318 P **PKPbc 10 30 31.6 -0.7**
MCH1 Michaelchurch 147.69 358 *eP* **PKPdf 10 30 29.8 -0.1**
MCH1 IAMs_20 IAMs_20 11 32 15.4
comp=Z,2μm,26.3s
SRS Serrai 147.72 318 P **PKPdf 10 30 30.4 +0.1**
MONM Monmouth 147.84 358 *eP* **PKPdf 10 30 30.4 +0.3**
MONM IAMs_20 IAMs_20 11 33 06.1
comp=Z,2μm,24.7s
ARSA Arzberg 147.87 334 *i* pPKPdf **PKPbc 10 30 33.6 +0.3**
comp=Z,20nm,1.6s
OUR Ouranopolis 147.89 316 *eP* **PKPdf 10 30 24.9 -5.6**
MOA Molln 147.90 336 *i* PKPbc **PKPbc 10 30 33.2 -0.2**
comp=Z,23nm,0.9s,SNR=15
BEHE Becsehely 147.93 331 *eP* **PKPdf 10 30 30.1 -0.4**
MEM Membach 147.94 347⇓PKP **PKPbc 10 30 33.7 +0.3**
MEM ⇑pPKP **sPKPab 10 30 48.5 -0.6**
MEM ⇓X x 10 31 06.8
DIVS Divibare 148.03 325 *eP* **PKPbc 10 30 32.8 -1.1**
UCC Uccle 148.08 349 PFAKE 10 30 40.0 +3.5
UCC LR LR
comp=Z,2μm,21.0s
UCC Uccle 148.08 349⇑PKP **PKPbc 10 30 33.4 -0.3**
KNT Kendrikon 148.13 318 *eP* **PKPbc 10 30 33.0 -1.2**
KNT Kendrikon 148.13 318 P **PKPbc 10 30 32.6 -1.6**
VAY Valandovo 148.25 319 *i* PKP **PKPbc 10 30 33.5 -0.9**
BCLA Clavier 148.26 348⇓PKP **PKPbc 10 30 34.2 0.0**
HORT Hortiatis 148.32 317 *eP* **PKPdf 10 30 29.3 -2.1**
APE Apeiranthos 148.36 310 *eP* **PKPdf 10 30 28.7 -2.8**
SNF Seneffe 148.38 349⇑PKP **PKPbc 10 30 34.5 +0.1**
BBLS Lazići 148.50 325 *eP* **PKPbc 10 30 33.8 -1.4**
SOKA Soboth 148.53 333 *i* PKPbc **PKPbc 10 30 34.5 -0.7**
comp=Z,20nm,1.1s,SNR=16
SKO Skopje 148.56 321 *i* PKP **PKPbc 10 30 35.2 -0.1**
HAPS Han Pijesak,Bl 148.59 326 *eP* **PKPbc 10 30 34.1 -1.3**
ZKR Zakros 148.61 306 *eP* **PKPdf 10 30 32.3 +0.4**
SANT Santorini 148.70 309 *eP* **PKPdf 10 30 28.7 -3.4**
SANT Santorini 148.70 309 *e*PKPdf **PKPdf 10 30 33.8 +1.7**
SANT LR LR
comp=Z,900nm,20.0s
SANT Santorini 148.70 309⇑*iP* **PKPdf 10 30 33.6 +1.5**
DOU Dourbes 148.71 348⇓PKP **PKPbc 10 30 35.0 -0.4**
WLF Walferdange 148.80 346 *e*PKPbc **PKPbc 10 30 35.9 +0.3**
WLF LR LR
comp=Z,6μm,19.0s
WLF Walferdange 148.80 346⇑PKP **PKPbc 10 30 35.8 +0.2**
STU Stuttgart 148.84 342 *e*PKPbc **PKPbc 10 30 36.2 +0.4**
STU LR LR
comp=Z,1μm,21.0s
OBKA Obir 148.86 334 *i* pPKPdf **PKPbc 10 30 35.3 -0.8**
comp=Z,11nm,0.9s
KBA Koelnbreinsper 148.89 336 *i* pPKPdf **PKPbc 10 30 35.2 -1.0**
comp=Z,26nm,0.9s,SNR=17
IVA Berane 148.89 324⇓*iP* **PKPbc 10 30 35.8 -0.4**
LIT Litokhoron 148.98 317 *e*PKPdf **PKPbc 10 30 34.5 -1.9**
LIT LR LR
comp=Z,2μm,21.0s
LIT Litokhoron 148.98 317 P **PKPdf 10 30 33.9 +1.5**
CRES Cresnjev 149.01 332⇑*iP* **PKPbc 10 30 35.8 -0.5**
BLY Banja Luka 149.02 329 *e*pPKPdf **PKPbc 10 30 35.6 -0.7**
BLY LR LR
comp=Z,2μm,20.0s
BLY Banja Luka 149.02 329⇓*iP* **PKPbc 10 30 36.2 -0.1**
BLY Banja Luka 149.02 329⇑*iP* **PKPbc 10 30 35.5 -0.8**
NPS Neapolis 149.02 306 P **PKPbc 10 30 35.1 -1.6**
PDKS Podkum 149.03 333 *i* PKPbc **PKPbc 10 30 36.0 -0.4**
PVY Plav 149.03 323⇓*iP* **PKPbc 10 30 36.0 -0.6**
PTL Penteli 149.10 312 *e*PKPdf **PKPbc 10 30 35.2 -1.6**
PTL Penteli 149.10 312 P **PKPbc 10 30 35.2 -1.6**
KOME Kolasin 149.11 324⇓*iP* **PKPbc 10 30 36.1 -0.7**
MYKA Terra Mystica 149.14 335 *i* pPKPdf **PKPbc 10 30 35.6 -1.1**
comp=Z,19nm,0.7s,SNR=12
LAST Lasithi 149.16 306 *e*pPKPdf **PKPbc 10 30 36.1 -1.0**
LAST Lasithi 149.16 306 P **PKPbc 10 30 36.1 -1.0**
OZLJ Ozalj 149.17 332 P **PKPdf 10 30 28.8 -3.6**
UPM Unac-Piva 149.21 325⇓*iP* **PKPdf 10 30 34.6 +1.7**
LJU Ljubljana 149.24 333 *i* PKPbc **PKPbc 10 30 36.7 -0.2**
LJU Ljubljana 149.24 333⇑*iP* **PKPbc 10 30 36.3 -0.6**
FNA Florina 149.30 319 *eP* **PKPdf 10 30 34.3 +1.4**
FNA Florina 149.30 319 *e*PKPdf **PKPbc 10 30 35.9 -1.4**
FNA LR LR
comp=Z,2μm,19.0s
FNA Florina 149.30 319 P **PKPbc 10 30 35.9 -1.4**
MGRS Mrkonjic Grad 149.31 328 *eP* **PKPbc 10 30 36.8 -0.3**
WATA Walderalm 149.33 338 *i* P **PKPbc 10 30 37.3 +0.1**
comp=Z,10nm,0.6s,SNR=6.7
BOJS Bojanci 149.35 332 *i* PKPbc **PKPbc 10 30 37.2 0.0**
WTTA Wattenberg 149.37 338 *e*PKPbc **PKPbc 10 30 37.1 -0.3**
comp=Z,33nm,0.8s
ATAL Atalanti 149.37 314 *e*PKPdf **PKPbc 10 30 36.0 -1.4**
ATAL Atalanti 149.37 314 P **PKPbc 10 30 36.0 -1.4**
LKR Lokris 149.40 314 P **PKPbc 10 30 35.8 -1.7**
NKY Niksic 149.43 324⇓*iP* **PKPbc 10 30 36.6 -1.0**
OHR Ohrid 149.46 320 *i* PKP **PKPbc 10 30 37.2 -0.4**
RETA Reutte 149.48 339 *i* PKPbc **PKPbc 10 30 37.2 -0.3**
comp=Z,14nm,0.7s,SNR=11
NKME Niksic 149.48 324⇓*iP* **PKPbc 10 30 36.8 -0.8**
ABTA Abfaltersbach 149.48 336 *i* pPKPdf **PKPbc 10 30 36.5 -1.0**
comp=Z,54nm,1.4s,SNR=12
BFO Black Forest 149.48 343 *e*pPKPdf **PKPbc 10 30 36.6 -0.8**
BFO LR LR
comp=Z,2μm,22.0s
BFO Black Forest 149.48 343 *i* PKP2 **PKPbc 10 30 37.0 -0.4**
MOTA Moosalm 149.49 338 *i* pPKPdf **PKPbc 10 30 36.4 -1.3**
comp=Z,43nm,1.0s,SNR=19
CEY Cerknica 149.53 333⇑*iP* **PKPbc 10 30 37.1 -0.5**
PDG Podgorica 149.53 323⇑*iP* **PKPbc 10 30 36.9 -0.8**
PDG Podgorica 149.53 323 *eP* **PKPbc 10 30 36.6 -1.1**
TTG Podgorica 149.53 323⇓*iP* **PKPbc 10 30 37.1 -0.6**
TTG Podgorica 149.53 323 *e*pPKPdf **PKPbc 10 30 36.5 -1.2**
TTG LR LR
comp=Z,2μm,22.0s
IDI Anoyia 149.55 307 PKPbc **PKPbc 10 30 36.3 -1.7**
comp=Z,32nm,0.8s,baz=90,slow=1.0,SNR=13
SQTA Sankt Quirin 149.56 338 *i* PKPbc **PKPbc 10 30 37.6 -0.2**
comp=Z,67nm,1.4s,SNR=16
BRY Bratogost 149.62 325⇓*iP* **PKPbc 10 30 36.2 -1.9**
BRY Bratogost 149.62 325 *eP* **PKPbc 10 30 36.7 -1.4**
CEME Cevo 149.64 324⇓*iP* **PKPbc 10 30 37.2 -0.9**
AGG Agios Georgios 149.66 315 *eP* **PKPdf 10 30 34.5 +1.0**
AGG Agios Georgios 149.66 315 *e*pPKPdf **PKPbc 10 30 36.9 -1.3**
AGG LR LR
comp=Z,2μm,21.0s
NEST Nestorio 149.71 319 P **PKPbc 10 30 36.5 -1.9**
SIVA Sivas 149.72 306 P **PKPbc 10 30 37.7 -0.7**
DRME Dracevica, Mon 149.73 323⇓*iP* **PKPbc 10 30 37.3 -0.9**
DRME Dracevica, Mon 149.73 323 *eP* **PKPbc 10 30 36.8 -1.4**
LOUT Loutraki 149.75 313 P **PKPbc 10 30 36.4 -2.0**
DID Didima 149.80 312 *e*PKPdf **PKPbc 10 30 36.4 -2.2**
DID Didima 149.80 312 P **PKPbc 10 30 36.4 -2.2**
BUM Brajici-Budva 149.82 324⇓*iP* **PKPbc 10 30 38.2 -0.3**
RIY Rijeka 149.83 332 *eP* **PKPbc 10 30 36.6 -1.7**
TRI Trieste 149.83 334 *e*pPKPdf **PKPbc 10 30 37.4 -1.0**
TRI LR LR
comp=Z,2μm,21.0s
ULC Ulcinj 149.84 323⇓*iP* **PKPbc 10 30 37.4 -1.1**
TREB Trebinje 149.84 325 *eP* **PKPbc 10 30 37.5 -1.0**
DSF Desfina 149.84 314 P **PKPbc 10 30 37.0 -1.7**
UDBI Udbina 149.86 330 P **PKPbc 10 30 36.8 -1.7**
TIR Tirane 149.87 321 *e*PKPbc **PKPbc 10 30 38.9 +0.3**
TIR LR LR
comp=Z,3μm,20.0s
TIR Tirane 149.87 321⇑*iP* **PKPbc 10 30 38.6 0.0**
TIR Tirane 149.87 321⇑PKP2 **PKPbc 10 30 38.6 0.0**
FETA Feichten 149.89 339 *i* P **PKPbc 10 30 38.6 -0.1**
comp=Z,59nm,1.1s,SNR=20
ECH Echery 149.90 344 *e*PKPbc **PKPbc 10 30 38.3 -0.2**
ECH LR LR
comp=Z,2μm,20.0s
KRND KRANIDI 149.92 312 P **PKPbc 10 30 36.8 -2.0**
HCY Herceg Novi 149.94 324⇓*iP* **PKPbc 10 30 37.1 -1.6**
HCY Herceg Novi 149.94 324 *eP* **PKPbc 10 30 37.4 -1.3**
DAVA Damuels 149.95 340 *i* P **PKPbc 10 30 38.6 -0.2**
comp=Z,49nm,1.1s,SNR=14
VAM Vamos 150.03 308 P **PKPbc 10 30 38.0 -1.1**
EVR Evrytania 150.06 316 P **PKPbc 10 30 38.7 -0.6**
STON Ston 150.09 326 P **PKPbc 10 30 36.8 -2.2**
STON Ston 150.09 326 *eP* **PKPbc 10 30 37.1 -1.9**
ANX Ano Chora 150.16 315 P **PKPbc 10 30 39.1 -0.4**
SERG Sergoula 150.16 315 P **PKPbc 10 30 38.4 -1.0**
TRIZ Trizonia 150.17 314 P **PKPbc 10 30 38.5 -0.9**
GUR Goura 150.21 313 *e*pPKPdf **PKPbc 10 30 38.4 -1.3**
GUR Goura 150.21 313 P **PKPbc 10 30 38.4 -1.3**
NVLJ Novalja 150.25 331 P **PKPbc 10 30 37.6 -1.7**
EFP Efpalio 150.25 315 P **PKPbc 10 30 39.4 -0.2**
JAN Janina 150.27 318 *e*PKPbc **PKPbc 10 30 38.9 -0.8**
JAN Janina 150.27 318 P **PKPbc 10 30 38.9 -0.8**
KLV Kalavryta, Ach 150.29 314 P **PKPbc 10 30 38.0 -1.8**
LAKA Lakka 150.30 314 *e*pPKPdf **PKPbc 10 30 38.3 -1.5**
LAKA Lakka 150.30 314 P **PKPbc 10 30 38.3 -1.5**
GVD Gavdhos 150.34 307 *eP* **PKPbc 10 30 39.3 -0.6**
VLI Veliai 150.38 311 *e*PKPdf **PKPbc 10 30 38.1 -1.9**
VLI Veliai 150.38 311 P **PKPbc 10 30 38.1 -1.9**
DAVOX Davos/Dischmat 150.39 339 PKPbc **PKPbc 10 30 39.5 -0.4**
comp=Z,64nm,0.7s,baz=32,slow=2.9,SNR=8.9
FUORN Ofenpass-Fuorn 150.40 339 *e*PKPbc **PKPbc 10 30 39.8 -0.2**
FUORN LR LR
comp=Z,3μm,22.0s
PVO Paravola 150.41 315 P **PKPbc 10 30 39.6 -0.3**
JSA Saint Aubin 150.45 357 *eP* **PKPdf 10 30 34.6 +0.2**
JSA IAMs_20 IAMs_20 11 37 00.5
comp=Z,2μm,22.4s
TRIP Tripoli 150.46 313 P **PKPbc 10 30 39.7 -0.5**
IGT Igoumenitsa 150.67 318 *e*PKPbc **PKPbc 10 30 39.8 -0.8**
IGT Igoumenitsa 150.67 318 P **PKPbc 10 30 39.8 -0.8**
RLS Riolos of Patr 150.74 314 P **PKPbc 10 30 40.4 -0.3**
TUE Stuetta 150.84 340 *e*PKPbc **PKPbc 10 30 40.8 -0.2**
TUE LR LR
comp=Z,3μm,21.0s
ITM Ithomi 150.87 312 *eP* **PKPbc 10 30 38.5 -2.6**
ITM Ithomi 150.87 312 *e*pPKPdf **PKPbc 10 30 39.8 -1.3**
ITM LR LR
comp=Z,900nm,20.0s
ITM Ithomi 150.87 312 P **PKPbc 10 30 39.8 -1.3**
LKD2 Lefkada island 150.88 316 P **PKPbc 10 30 40.4 -0.7**
ASCN Ascension 151.02 160 PFAKE 10 30 50.0 +0.5
ASCN LR LR
comp=Z,99μm,18.0s
PYL PYLOS 151.14 312 P **PKPbc 10 30 39.8 -1.9**
SENIN Lac Senin/Sane 151.56 342 *e*PKPbc **PKPbc 10 30 42.0 -0.7**
SENIN LR LR
comp=Z,2μm,22.0s
MATE Matera 152.15 323⇑*iP* **PKPbc 10 30 43.0 -0.9**
VLC Villacollemand 152.47 336 PFAKE 10 30 50.0 -4.8
VLC LR LR
comp=Z,2μm,22.0s
AQU L'Aquila 152.63 330 *e*PKPbc **PKPbc 10 30 44.7 -0.3**
AQU LR LR
comp=Z,3μm,20.0s
AQU L'Aquila 152.63 330⇑*iP* **PKPbc 10 30 43.6 -1.4**
BNI Bardonecchia 152.94 342 *e*PKPbc **PKPbc 10 30 45.6 -0.1**
BNI LR LR
comp=Z,2μm,19.0s
TIP Timpagrande 153.08 321 *e*PKPbc **PKPbc 10 30 44.9 -1.2**
TIP LR LR
comp=Z,3μm,20.0s
TIP Timpagrande 153.08 321⇑*iP* **PKPbc 10 30 45.8 -0.4**
SSB Saint Sauveur 153.29 345 *e*PKPbc **PKiKP 10 30 46.6 +0.1**
SSB LR LR
comp=Z,2μm,22.0s
CEL Celeste 154.19 320 PFAKE 10 30 50.0 +1.4
CEL LR LR
comp=Z,3μm,20.0s
CLTB Caltabellotta 156.22 322 PFAKE 10 30 50.0 +6.8
CLTB LR LR
comp=Z,2μm,21.0s
WDD Wied Dalam 156.57 317 PFAKE 10 31 00.0 -13
WDD LR LR
comp=Z,2μm,20.0s
PCAB Cabril 157.84 6 *e*PKiKP **PKPdf 10 30 47.8 +2.7**
POLO Lamas de Olo 158.19 6 *e*PKiKP **PKPdf 10 30 45.9 +0.3**
MVO Moncorvo 158.47 5 *e*PKiKP **PKPdf 10 30 45.6 -0.3**
MTE Manteigas 159.18 6 PFAKE 10 31 00.0 +13
MTE LR LR
comp=Z,2μm,21.0s
COI Coimbra 159.27 8 PFAKE 10 31 00.0 +13
COI LR LR
comp=Z,2μm,20.0s
KEST Kesra 159.71 325 PFAKE 10 31 00.0 +12
KEST LR LR
comp=Z,3μm,22.0s
ESDC Sonseca Array 160.03 358 PKP **PKPdf 10 30 47.9 +0.2**
comp=Z,0.7nm,0.6s,baz=348,slow=3.5,SNR=10
ESDC PKPab **PKPab 10 31 27.1 -0.2**
comp=Z,6.0nm,0.7s,baz=349,slow=3.9,SNR=15
ESLA Sonseca Array 160.03 358 *e*PKPab **PKPab 10 31 28.3 +1.0**
PAB San Pablo 160.17 359 *e*PKPdf **PKPdf 10 30 48.8 +0.8**
PAB *e*PKPab **PKPab 10 31 28.8 +0.8**
PAB San Pablo 160.17 359 *e*PKIKP **PKPdf 10 30 48.8 +0.8**
PAB *e* 10 31 28.8
PNCL Nicolau / Gran 161.32 9 *e*PKiKP **PKPdf 10 30 49.1 0.0**
LIC Lamto 166.65 179 *eP* **PKPab 10 31 54.9 -2.0**
comp=Z,97nm,1.2s
KIC Kosan Boka 166.79 180 *eP* **PKPab 10 31 55.9 -1.6**
comp=Z,108nm,1.3s
MDT Midelt 166.89 359 PKP **PKPdf 10 30 54.9 +0.5**
comp=Z,3.9nm,1.0s,baz=189,slow=3.4,SNR=9.2
MDT PKPab **PKPab 10 31 58.6 +1.0**
comp=Z,14nm,1.1s,baz=26,slow=3.3,SNR=8.4
TIC Toumodi 167.07 179 *eP* **PKPab 10 31 52.4 -6.3**
TOA0 Torodi Ar. Sit 171.03 225 *e*PKPdf **PKPdf 10 30 57.5 +0.1**
TORD Torodi Ar. Bea 171.03 225 PKP **PKPdf 10 30 55.7 -1.7**
comp=Z,7.6nm,1.1s,baz=343,slow=1.5,SNR=28
TORD PKPab **PKPab 10 32 15.9 -0.5**
comp=Z,5.6nm,0.8s,baz=108,slow=3.4,SNR=5.2
TOA1 Torodi Ar. Sit 171.04 225 *e*PKPdf **PKPdf 10 30 55.7 -1.7**
TOA1 *e*PKPab **PKPab 10 32 15.9 -0.5**

IDC ***07*** *10:25:00.9±0.7,37°.53N×142°.02E,h0km,mb3.8/13, mb1 4.0/17,mb1mx3.8/70,mbtmp3.8/17,ML3.7/4,MS4.3/1, Ms1 4.3/1,ms1mx2.8/49,Error ellipse: s-maj=19.9km s-min=15.9km az=125.0*
NIED ***07*** *10:25:00,37°.60N×141°.90E,h20km,Mw3.8 Best double couple: M0=5.06000×10^14 NP1:φs=304.00000°,δ13.00000°, λ-126.00000°. NP2:φs=161.00000°,δ80.00000°, λ-82.00000°.*
ISCJB ***07*** *10:25:01.5±0.8,37°.62N±0°.03×141°.97E±0°.04,h15km±5km, mb4.1/28,MS4.1/1,Error ellipse: s-maj=6.3km s-min=4.0km az=26.0*
JMA ***07*** *10:25:03.3±0.1,37°.63N×141°.87E,h31km±2km,M4.2*
NEIC ***07*** *10:25:06.6±1.9,37°.58N×141°.97E,h39km±7km,mb4.3/18, Error ellipse: s-maj=12.3km s-min=5.0km az=57.0*
ISC 07 10:25:02.5±1.8,37°.65N±0°.04×141°.91E±0°.06,h9km±10km, n79,σ1962/91,mb4.2/28,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.75**	**332**	P	**Pg**	**10 25 17.4**	**+0.5**
JIKH				S	**Sg**	**10 25 27.2**	**+0.5**
JFK	**Kawauchi**	**0.87**	**252**	P	**Pb**	**10 25 18.7**	**-1.1**
JFK				*e*S	**Sb**	**10 25 29.5**	**-2.1**
JMM	**Marumori**	**0.91**	**284**	P	**Pb**	**10 25 19.6**	**-0.9**
JMM				S	**Sb**	**10 25 30.8**	**-2.0**
JIO	**Ouri**	**0.92**	**331**	P	**Pb**	**10 25 20.1**	**-0.5**
JIO				S	**Sb**	**10 25 31.3**	**-1.7**
ONAJ	**Iwakimizuishiy**	**1.04**	**239**	P	**Pb**	**10 25 21.1**	**-1.6**
ONAJ				S	**Sb**	**10 25 34.2**	**-2.3**
JKMT	**Kesennumamotoy**	**1.21**	**344**	P	**Pn**	**10 25 24.5**	**-1.1**
JKMT				*e*S	**Sb**	**10 25 38.8**	**-2.6**
JOU	**Okura**	**1.22**	**306**	P	**Pn**	**10 25 24.9**	**-0.9**
JOU				S	**Sb**	**10 25 40.4**	**-1.2**
JFT	**Otama**	**1.26**	**265**	P	**Pn**	**10 25 25.4**	**-0.9**
JFT				*e*S	**Sb**	**10 25 41.2**	**-1.5**
JMK	**Ichinoseki**	**1.41**	**338**	P	**Pn**	**10 25 27.8**	**-0.6**
JMK				*e*S	**Sn**	**10 25 45.0**	**-2.1**
JYS	**Shirataka**	**1.57**	**292**	P	**Pn**	**10 25 30.2**	**-0.3**
JYS				S	**Sn**	**10 25 50.7**	**-0.3**
JYK	**Kaneyama**	**1.76**	**317**	P	**Pn**	**10 25 32.6**	**-0.6**
JYK				*e*S	**Sn**	**10 25 53.2**	**-2.6**
JFY	**Yanaizu**	**1.77**	**263**	P	**Pn**	**10 25 32.9**	**-0.4**
JFY				S	**Sn**	**10 25 55.5**	**-0.5**
MJAR	**Matsushiro Arr**	**3.16**	**251**	*e*Pn	**Pn**	**10 25 56.1**	**+3.6**
MJAR	**Matsushiro Arr**	**3.16**	**251**	Pn	**Pn**	**10 25 52.4**	**0.0**
	2.5nm,0.3s,baz=80,slow=16,SNR=104						
MJAR				Sn	**Sn**	**10 26 34.7**	**+4.4**
	baz=160,slow=20,SNR=4.0						
MAJO	**Matsushiro**	**3.16**	**251**	*e*Pn	**Pn**	**10 25 53.1**	**+0.7**
MAJO				*e*Sn	**Sn**	**10 26 34.7**	**+4.4**
MAT	**Matsushiro**	**3.16**	**251**	P	**Pn**	**10 25 53.2**	**+0.7**
MAT				S	**Sn**	**10 26 33.3**	**+3.0**
MJB9	**Matsu-Tunnel**	**3.16**	**251**	*e*Pn	**Pn**	**10 25 53.0**	**+0.5**
ERM	**Erimo**	**4.47**	**12**	*e*Pn	**Pn**	**10 26 14.2**	**+3.9**
ERM				*e*Sn	**Sn**	**10 27 02.2**	**-0.2**
INU	**Inuyama**	**4.56**	**241**	*e*Pn	**Pn**	**10 26 12.9**	**+1.2**
JHJ2	**Mitsune**	**4.84**	**201**	*e*Pn	**Pn**	**10 26 14.9**	**-0.6**
JHJ2				*e*Sn	**Sn**	**10 27 07.4**	**-4.2**
JHJ	**Hachijo jima 2**	**4.84**	**202**	Pn	**Pn**	**10 26 14.0**	**-1.5**
	46nm,0.3s,baz=111,slow=23,SNR=23						
JHJ				Sn	**Sn**	**10 27 06.9**	**-4.8**
	29nm,0.3s,baz=53,slow=20,SNR=3.6						

ZAA1	Zalesovo Array	41.80	312	eP	P	10 32 53.4	+1.2
ZALV	Zalesovo Beam	41.80	312	P	P	10 32 53.4	+1.2
	0.6nm,0.3s,baz=111,slow=7.9,SNR=2.7						
MK32	Makanchi Array	44.13	302	eP	P	10 33 11.6	+0.4
MKAR	Makanchi Array	44.13	302	eP	P	10 33 09.5	-1.7
MKAR	Makanchi Array	44.13	302	P	P	10 33 11.6	+0.4
	0.5nm,0.6s,baz=81,slow=8.9,SNR=3.8						
MAKZ	Makanchi	44.34	302	eP	P	10 33 13.4	+0.5
	3.5nm,1.1s						
IMAR	Indian Mountai	45.92	31	eP	P	10 33 25.6	+0.5
KURBB	Kurchatov Arra	45.94	308	P	P	10 33 25.4	-0.1
	1.7nm,0.5s,baz=82,slow=8.1,SNR=10						
SML	Sawmill	48.26	37	eP	P	10 33 43.4	-0.2
	2.7nm,1.0s						
SCM	Sheep Creek Mo	48.74	37	eP	P	10 33 47.1	-0.2
	5.8nm,1.2s						
ILAR	Eielson Array	48.76	33	eP	P	10 33 47.4	+0.1
ILAR	Eielson Array	48.76	33	P	P	10 33 47.3	0.0
	0.5nm,0.6s,baz=260,slow=5.7,SNR=5.9						
SCRK	Sand Creek	50.08	34	eP	P	10 33 57.9	+0.4
	3.7nm,1.5s						
BCAR	Beaver Creek A	51.16	35	eP	P	10 34 06.8	+1.2
INK	Inuvik	53.66	27	eP	P	10 34 25.2	+1.2
	2.1nm,1.4s						
INK	Inuvik	53.66	27	P	P	10 34 24.0	0.0
	0.5nm,0.6s,baz=283,slow=3.8,SNR=4.5						
FITZ	Fitzroy Crossi	57.52	198	eP	P	10 34 50.9	-1.4
	2.9nm,1.1s						
WRAB	Tennant Creek	57.71	188	eP	P	10 34 53.6	0.0
	14nm,1.4s						
WB2	Warramunga Arr	57.72	188	eP	P	10 34 50.9	-2.7
	9.8nm,1.4s						
WR1	Warramunga Arr	57.72	188	eP	P	10 34 51.9	-1.8
WRA	Warramunga Arr	57.72	188	eP	P	10 34 52.4	-1.3
WRA	Warramunga Arr	57.72	188	P	P	10 34 51.9	-1.8
	0.6nm,0.5s,baz=6.5,slow=7.3,SNR=8.7						
ABKAR	Akbulak array	57.85	310	eP	P	10 34 54.4	0.0
	3.6nm,1.3s						
ASAR	Alice Springs	61.45	188	eP	P	10 35 19.9	+0.5
ASAR	Alice Springs	61.45	188	P	P	10 35 18.7	-0.6
	0.7nm,0.8s,baz=11,slow=6.7,SNR=6.7						
MBWA	Marble Bar	62.11	203	eP	P	10 35 23.6	-0.2
	2.7nm,0.9s						
YKA	Yellowknife Ar	63.08	30	P	P	10 35 29.9	+0.1
	0.3nm,0.6s,baz=303,slow=6.5,SNR=7.7						
YKB5	Yellowknife Ar	63.08	30	eP	P	10 35 29.9	+0.1
FIA0	FINESS Array S	68.46	332	eP	P	10 36 05.2	+0.7
FINES	FINESS Array B	68.46	332	eP	P	10 36 05.0	+0.5
FINES	FINESS Array B	68.46	332	P	P	10 36 05.2	+0.7
	2.1nm,0.9s,baz=46,slow=12,SNR=3.0						
HRY	Holter Researc	73.24	44	eP	P	10 36 33.9	-0.1
AKASG	Malin Array Be	74.06	322	P	P	10 36 41.3	+2.7
	0.7nm,0.5s,baz=41,slow=6.5,SNR=1.9						
NV01	Mina Array Sit	74.30	54	eP	P	10 36 41.0	+0.5
NVAR	Mina Array Bea	74.30	54	eP	P	10 36 41.4	+0.8
NVAR	Mina Array Bea	74.30	54	P	P	10 36 41.0	+0.5
	0.7nm,0.7s,baz=307,slow=6.5,SNR=4.3						
LKWY	Lake	75.35	45	eP	P	10 36 46.9	+0.3
	2.9nm,1.1s						
FLWY	Flagg Ranch	75.48	45	eP	P	10 36 46.6	-0.6
	8.4nm,1.4s						
TPAW	Teton Pass	75.71	46	eP	P	10 36 46.2	-2.5
	0.5nm,0.7s						
TPNV	Topopah Spring	76.49	54	eP	P	10 36 52.9	-0.2
	2.3nm,1.1s						
PD31	Pinedale Array	76.95	46	eP	P	10 36 55.8	+0.1
	1.0nm,0.7s						
PDAR	Pinedale Array	76.95	46	eP	P	10 36 56.0	+0.3
PDAR	Pinedale Array	76.95	46	P	P	10 36 55.7	+0.1
	0.5nm,0.6s,baz=246,slow=2.2,SNR=7.4						
TXAR	Lajitas Array	89.43	53	P	P	10 37 59.7	-0.4
	0.4nm,0.7s,baz=291,slow=3.5,SNR=6.9						
LPAZ	La Paz	146.04	59	ePKPdf	PKPdf	10 44 42.8	-0.4
LPAZ	La Paz	146.04	59	PKPbc	PKPbc	10 44 43.7	-0.3
	1.3nm,0.5s,baz=32,slow=2.1,SNR=6.8						

*ATH **07** 10:27:33.0, 39.°27N×23.°15E, h3km±1km, ML1.8/5, Error ellipse: s-maj=1.8km s-min=0.7km az=50.0*

THE 07 10:27:33.2, 39.°28N×23.°15E, h5km±2km, ML2.0/3, Error ellipse: s-maj=2.5km s-min=0.4km az=39.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.06	64	P	Pg	10 27 34.6	-0.2
NEO				S	Sg	10 27 35.7	-0.2
NEO	Neokhori	0.06	64	P	Pg	10 27 34.7	-0.1
NEO				S	Sg	10 27 35.7	-0.2
NEO				AML	AML	10 27 36.0	
	comp=N,8791μm,0.2s						
NEO				AML	AML	10 27 36.5	
	comp=E,6247μm,0.3s						
XOR	Xorichti	0.09	21	P	Pg	10 27 35.2	0.0
XOR				S	Sg	10 27 36.8	+0.2
XOR	Xorichti	0.09	21	P	Pg	10 27 35.2	0.0
XOR				S	Sg	10 27 36.6	0.0
XOR				AML	AML	10 27 37.1	
	comp=N,2161μm,0.2s						
XOR				AML	AML	10 27 37.7	
	comp=E,1306μm,0.2s						
FYTO	Fytoko, Volos	0.21	309	P	Pg	10 27 37.3	0.0
FYTO				S	Sg	10 27 40.2	+0.2
FYTO	Fytoko, Volos	0.21	309	P	Pg	10 27 37.3	0.0
FYTO				S	Sg	10 27 40.3	+0.3
FYTO				AML	AML	10 27 40.8	
	comp=E,194μm,0.1s						
FYTO				AML	AML	10 27 41.3	
	comp=N,239μm,0.2s						
SKIA	Skiathos	0.27	114	P	Pg	10 27 38.2	-0.3
SKIA				S	Sg	10 27 42.1	+0.1
SKIA	Skiathos	0.27	114	P	Pg	10 27 38.2	-0.3
SKIA				S	Sg	10 27 42.1	0.0
SMIA	Simia	0.40	173	P	Pg	10 27 41.3	+0.3
SMIA				S	Sg	10 27 46.9	+0.7
SMIA	Simia	0.40	173	P	Pg	10 27 39.7	-1.3
SMIA				S	Sg	10 27 46.8	+0.6
SMIA				AML	AML	10 27 47.2	
	comp=E,568μm,0.5s						
SMIA				AML	AML	10 27 47.4	
	comp=N,857μm,0.4s						
ALNA	Alonissos	0.57	103	P	Pg	10 27 43.6	-0.6
AOS	Alonnisos	0.58	101	P	Pg	10 27 44.6	+0.3
AOS	Alonnisos	0.58	101	P	Pg	10 27 44.2	-0.1
AOS				S	Sg	10 27 52.0	+0.2
ATAL	Atalanti	0.59	190	P	Pg	10 27 44.5	-0.1
ATAL				S	Sg	10 27 52.8	+0.5
ATAL	Atalanti	0.59	190	P	Pg	10 27 44.0	-0.6
ATAL				S	Sg	10 27 52.5	+0.2
LKR	Lokris	0.64	191	P	Pg	10 27 45.7	+0.3
MRKA	Markates	0.67	149	P	Pg	10 27 45.6	-0.4
MRKA	Markates	0.67	149	P	Pg	10 27 45.5	-0.4
MRKA				S	Sg	10 27 54.0	-0.6
AGG	Agios Georgios	0.69	248	P	Pg	10 27 45.6	-0.8
AGG				S	Sg	10 27 56.2	+0.9
AGG	Agios Georgios	0.69	248	P	Pg	10 27 45.7	-0.6
AGG				S	Sg	10 27 56.1	+0.8
PAIG	Paliouri	0.77	32	P	Pb	10 27 48.6	-0.4
PAIG				S	Sb	10 27 59.5	-0.3
THL	Klokotos Trika	0.92	288	P	Pg	10 27 50.1	-0.9
THL				S	Sg	10 28 02.6	-0.3
LIT	Litokhoron	0.97	328	P	Pg	10 27 51.8	+0.1
LIT				S	Sb	10 28 05.4	-0.1
LIT				AML	AML	10 28 07.9	
	comp=E,68μm,0.2s						
LIT				AML	AML	10 28 08.3	
	comp=N,70μm,0.3s						
DSF	Desfina	0.99	209	P	Pg	10 27 51.5	-0.8
VIL2	Platees	1.07	175	P	Pn	10 27 54.7	-0.2
PLG	Polygyros	1.12	12	P	Pg	10 27 54.2	-0.5
ANX	Ano Chora	1.18	235	P	Pb	10 27 56.0	-0.1
DION	Dionisos Attik	1.35	153	P	Pn	10 27 57.8	-0.9

*IDC **07** 10:30:49.3±5.7, 8.°58N×126.°59E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/62, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=98.3km s-min=20.4km az=142.0*
*MAN **07** 10:30:57.2, 8.°23N×126.°69E, h27km, MS3.2*
*ISCJB **07** 10:30:58.1±0.7, 8.°21N±0.°03×126.°64E±0.°06, h73km±7km, mb3.8/8, Error ellipse: s-maj=10.6km s-min=4.5km az=171.4*
*NEIC **07** 10:31:01.4±1.2, 8.°21N×126.°47E, h84km±12km, mb4.1/7, Error ellipse: s-maj=31.9km s-min=19.7km az=86.0*
NEIC Felt [II PIVS] at Bislig.

ISC 07 10:30:58.9±1.3, 8.°19N±0.°03×126.°67E±0.°08, h54km±14km, n34, σ1§56/44, mb3.9/8, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.30	307	eP	Pn	10 31 19.0	-1.7
BUTP				eS	Sn	10 31 34.7	-2.3
MATI	Mati	1.30	199	eP	Pn	10 31 19.5	-1.3
MATI				eS	Sn	10 31 35.6	-1.7
DAV	Davao City (W)	1.56	224	ePn	Pn	10 31 25.8	+1.5
DAV				eSn	Sn	10 31 42.2	-1.2
DAV	Davao City (W)	1.56	224	Pg	Pn	10 31 24.1	-0.2
	71nm,0.3s,baz=41,slow=3.6,SNR=7.2						
DAV				Lg	Lg	10 31 45.4	
	68nm,0.3s,baz=90,slow=19,SNR=3.8						
DMPH	Davao City--Mi	1.60	226⇑	eP	Pn	10 31 26.5	+1.6
DMPH				eS	Sn	10 31 47.8	+3.4
BUKP	Musuan	1.63	259	eP	Pn	10 31 24.7	-0.6
BUKP				eS	Sn	10 31 45.5	+0.4
SCPH	Surigao	1.97	324⇓	iP	Pn	10 31 37.0	+7.2
SCPH				i S	Sn	10 32 10.8	+17
CGP	Cagayan de Oro	1.98	278⇑	iP	Pn	10 31 29.9	-0.1
CGP				i S	Sn	10 31 53.3	-0.3
DDMP	Don Marcelino,	2.28	205	eP	Pn	10 31 34.8	+0.6
DDMP				eS	Sn	10 32 02.5	+1.3
CTBH	Cotabato--PC H	2.59	248⇑	eP	Pn	10 31 37.9	-0.6
CTBH				i S	Sn	10 32 07.7	-1.0
MSLP	Maasin	2.63	317	eP	Pn	10 31 40.8	+1.8
MSLP				eS	Sn	10 32 13.9	+4.1
PAGZ	Pagadian	3.28	264	eP	Pn	10 31 50.0	+2.1
DCPH	Dipolog City	3.31	277⇑	eP	Pn	10 31 50.4	+2.1
PLP	Palo	3.39	331⇓	eP	Pn	10 31 49.0	-0.5
PLP				eS	Sn	10 32 29.3	+0.8
LLP	Lapu-Lapu	3.41	309	eP	Pn	10 31 47.5	-2.1
LLP				eS	Sn	10 32 27.9	-0.9
BESP	Borongan	3.60	340	eP	Pn	10 31 54.7	+2.5
BESP				eS	Sn	10 32 33.9	+0.4
CNP	Catarman	4.72	335	eP	Pn	10 32 09.7	+2.0
CNP				eS	Sn	10 33 00.3	-0.9
SIJI	Sorong	10.10	153	Pn	Pn	10 33 22.1	+0.8
	2.1nm,0.3s,baz=330,slow=17,SNR=4.9						
KKM	Kota Kinabalu	10.60	259	ePn	Pn	10 33 28.2	-0.1
FITZ	Fitzroy Crossi	26.14	182	eP	P	10 36 28.3	+0.1
	3.9nm,1.0s						
FITZ	Fitzroy Crossi	26.14	182	P	P	10 36 30.1	+2.0
	0.9nm,0.5s,baz=14,slow=4.2,SNR=1.9						
WR1	Warramunga Arr	28.96	165	eP	P	10 36 52.5	-0.9
WRA	Warramunga Arr	28.96	165	eP	P	10 36 52.4	-1.0
WRA	Warramunga Arr	28.96	165	P	P	10 36 52.5	-0.9
	0.4nm,0.6s,baz=338,slow=11,SNR=2.9						
ASAR	Alice Springs	32.44	168	eP	P	10 37 24.7	+0.5
ASAR	Alice Springs	32.44	168	P	P	10 37 23.8	-0.4
	0.3nm,0.3s,baz=344,slow=7.1,SNR=5.2						
STKA	Stephens Creek	42.32	161	P	P	10 38 48.1	+0.5
	0.5nm,0.5s,baz=335,slow=10,SNR=3.1						
MKAR	Makanchi Array	53.92	324	eP	P	10 40 12.9	-4.1
NRN	Naryn	55.59	315	eP	P	10 40 25.1	-4.5
	7.4nm,1.1s						
ZAA0	Zalesovo Array	56.63	332	eP	P	10 40 34.9	-1.4
	3.8nm,1.4s						
ZALV	Zalesovo Beam	56.63	332	eP	P	10 40 36.7	+0.3
KK31	Karatay Array	59.99	315	eP	P	10 40 58.3	-1.7
	1.0nm,0.6s						
KKAR	Karatay Array	59.99	315	eP	P	10 40 58.2	-1.9
ABKAR	Akbulak array	68.70	320	eP	P	10 41 56.6	-0.3
	3.0nm,1.4s						

*NORS **07** 10:46:24.1±0.0, 41.°77N×48.°25E, h21km, MPVA4.3*
*DRS **07** 10:46:25.0±0.0, 41.°85N×48.°06E, h6km, ML2.8/4*

ISC 07 10:46:23.8±2.2, 41.°68N±0.°07×48.°4E±0.°1, h26km±8km, n11, σ1§48/19, 5C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	Kasumkent	0.24	251	i Pg	Pn	10 46 31.5	-0.2
KSMR				eSg	Sn	10 46 36.5	+2.0
DRN	Derbent	0.36	348	i Pg	Pb	10 46 31.4	-0.4
	918nm,0.6s						
DRN				⇑eSg	Sb	10 46 36.5	-0.7
	2μm,0.6s						
AKT	Akhty	0.56	249	i Pg	Pn	10 46 36.0	-0.2
	680nm,0.1s						
AKT				⇑eSg	Sn	10 46 43.8	-0.9
	5μm,0.4s						
URKR	Urkarakh	0.77	310	ePg	Pb	10 46 36.5	-2.1
URKR				eSg	Sb	10 46 46.1	-2.6
KMKR	Kumukh	1.09	295	ePg	Pn	10 46 43.0	-0.6
	27nm,0.1s						
KMKR				eSg	Sb	10 46 57.0	-1.1
	228nm,0.2s						
GNBR	Gunib	1.30	303⇑	ePg	Pn	10 46 46.6	+0.3
	45nm,0.6s						
GNBR				⇑eSg	Sn	10 47 03.2	+0.3
	127nm,0.6s						
LGD	Lagodekhi	1.64	276	P	Pb	10 46 52.9	-0.5
LGD	Lagodekhi	1.64	276	ePg	Pb	10 46 52.9	-0.5
DDFL	Dedoflistskaro	1.75	263	P	Pn	10 46 53.0	+0.6
BTLR	Botlikh	1.91	302⇑	ePg	Pb	10 46 58.5	+0.4
	30nm,0.6s						
BTLR				⇓eSg	Sb	10 47 22.3	+0.7
	19nm,0.5s						
LACR	Lac	3.27	292	ePn	Pn	10 47 16.3	+2.8
LACR				eSn	Sn	10 47 53.9	+2.2

IDC 07 10:57:18.2±2.0, 8.°13S×129.°51E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=105.5km s-min=31.6km az=67.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.64	159	Pn	Pn	11 00 19.1	-0.3
	0.3nm,0.3s,baz=337,slow=13,SNR=26						
WRA				Sn	Sn	11 02 35.6	-5.4
	0.7nm,0.3s,baz=356,slow=23,SNR=9.9						
ASAR	Alice Springs	16.01	165	Pn	Pn	11 01 05.4	+0.4
	0.2nm,0.3s,baz=350,slow=10,SNR=21						
ASAR				Sn	Sn	11 04 00.0	-3.3
	0.2nm,0.3s,baz=357,slow=28,SNR=5.4						
MKAR	Makanchi Array	68.91	327	P	P	11 08 25.1	0.0
	0.6nm,0.7s,baz=126,slow=7.9,SNR=7.1						

IDC 07 11:09:28.9±4.1, 49.°24S×116.°47E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/34, mbtmp3.8/2, Error ellipse: s-maj=416.2km s-min=68.4km az=119.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.44	352	T	T	11 28 11.7	
	baz=170,slow=74,SNR=23						
H01W1	Cape Leeuwin H	14.44	352	T	T	11 28 18.1	
	baz=170,slow=74,SNR=21						
H01W3	Cape Leeuwin H	14.45	352	T	T	11 28 11.4	
	baz=170,slow=74,SNR=21						
ASAR	Alice Springs	28.98	35	P	P	11 15 30.1	-0.1
	0.7nm,0.7s,baz=204,slow=8.0,SNR=14						
WRA	Warramunga Arr	32.55	32	P	P	11 16 01.7	0.0
	1.0nm,0.6s,baz=200,slow=9.5,SNR=9.5						
YKA	Yellowknife Ar	149.33	45	PKPbc	PKPbc	11 29 17.9	-0.4
	0.2nm,0.6s,baz=279,slow=2.1,SNR=5.4						

*IDC **07** 11:12:47.1±4.6, 8.°53S×118.°12E, h93km±40km, mb3.7/8, mb1 4.0/12, mb1mx3.8/37, mbtmp4.2/12, Error ellipse: s-maj=44.1km s-min=15.4km az=77.0*
*ISCJB **07** 11:12:50.9±0.2, 8.°70S±0.°02×118.°34E±0.°02, h150km, mb4.2/18, Error ellipse: s-maj=3.6km s-min=3.1km az=138.5*
*NEIC **07** 11:12:51.3±2.9, 8.°75S×118.°42E, h120km±21km, mb4.3/17, Error ellipse: s-maj=23.4km s-min=14.2km az=191.0*
*DJA **07** 11:12:51.2±0.3, 9.°S±3.°×11.°8E±.°, h134km±5km, M4.5/13, mb4.6/6, mB4.9/3, MLv4.5/13, Mw(mB)4.2/3*

ISC 07 11:12:51.4±0.4, 8.°83S±0.°04×118.°35E±0.°04, h150km, n83, σ2§74/105, mb4.2/16, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.56	270	P	Pn	11 13 11.9	-1.2
PLAI				S	Sn	11 13 26.8	-2.8
BASI	Baing, Sumba	2.60	122	P	Pn	11 13 34.8	+1.0
BASI				S	Sn	11 14 07.2	+0.7
SRBI	Singaraja	3.19	283	P	Pn	11 13 40.7	-0.5
BSSI	Bau Bau, Buton	3.41	39	P	Pn	11 13 42.0	-2.1
MMRI	Maumere	3.85	87	ePn	Pn	11 13 49.4	-0.3
MMRI				eSn	Sn	11 14 34.8	-0.3
BKSI	Bulukumba	3.90	27	P	Pn	11 13 48.6	-1.8
KAPI	Kappang	4.04	20	ePn	Pn	11 13 50.4	-1.8
KAPI				eSn	Sn	11 14 38.0	-1.5
JAGI	Jajag, Banyuwa	4.16	275	ePn	Pn	11 13 52.9	-1.0
JAGI				eSn	Sn	11 14 42.2	-0.1
KMMI	Kalianget	4.68	292	P	Pn	11 14 01.2	+0.5
BNSI	Bone	4.73	22	P	Pn	11 14 00.3	-1.0
GMJI	Gumukmas	4.88	276	P	Pn	11 14 02.4	-0.9
SPSI	Sidrap Palu	5.03	16	P	Pn	11 14 03.7	-1.6
BBSI	Bau Bau	5.34	52	P	Pn	11 14 08.8	-0.7
BATI	Baumata	5.42	105	P	Pn	11 14 10.6	+0.1
BATI	Baumata	5.42	105	P	Pn	11 14 11.2	+0.7
	45nm,0.3s,baz=275,slow=2.4,SNR=24						
BATI				S	Sn	11 15 09.0	-3.2
	53nm,0.3s,baz=32,slow=24,SNR=13						
SOEI	Soe	5.92	99	ePn	Pn	11 14 17.5	+0.3
SOEI				eSn	Sn	11 15 21.4	-2.8
SOEI	Soe	5.92	99	P	Pn	11 14 17.0	-0.2
TTSI	Tana Toraja	5.93	14	P	Pn	11 14 17.3	+0.1
PCJI	Pacitan	7.12	275	P	Pn	11 14 33.2	+0.1
UGM	Wanagama	7.79	276	ePn	Pn	11 14 45.2	+3.0
UGM				eSn	Sn	11 16 07.7	-1.5
APSI	Ampana	8.52	23	P	Pn	11 14 50.5	-1.4
LUWI	Luwuk	8.90	30	ePn	Pn	11 14 55.8	-1.1
CISI	Cisompet, Garu	10.50	276	ePn	Pn	11 15 15.2	-3.0
CISI				eSn	Sn	11 17 12.4	-2.1
FITZ	Fitzroy Crossi	11.63	143	ePn	Pn	11 15 34.3	+1.4
FITZ				eSn	Sn	11 17 41.0	-0.5
FITZ	Fitzroy Crossi	11.63	143	P	Pn	11 15 34.4	+1.5
	1.0nm,0.3s,baz=325,slow=7.2,SNR=41						
FITZ				S	Sn	11 17 35.6	-5.9
	3.2nm,0.3s,baz=192,slow=19,SNR=13						
MBWA	Marble Bar	12.34	174	ePn	P	11 15 44.5	-3.6
MBWA				eSn	Sn	11 17 50.8	-7.8
PSAD1	Pilbara Seismi	12.64	174	ePn	P	11 15 48.5	-3.0
PSAD1				eSn	Sn	11 17 58.1	-7.8
PSAC1	Pilbara Seismi	12.71	174	ePn	P	11 15 49.5	-2.8
PSAB2	Pilbara Seismi	12.74	174	ePn	P	11 15 49.8	-2.9
PSAB2				eSn	Sn	11 18 04.5	-3.8
PSAA2	Pilbara Seismi	12.75	174	ePn	P	11 15 49.6	-3.0
PSAA2				eSn	Sn	11 18 04.5	-3.9
PSAB1	Pilbara Seismi	12.75	174	ePn	P	11 15 50.0	-2.7
PSAB1				eSn	Sn	11 18 05.6	-2.9
PSAC2	Pilbara Seismi	12.75	173	ePn	P	11 15 50.1	-2.6
PSAC2				eSn	Sn	11 18 04.1	-4.5
PSA00	Pilbara Seismi	12.76	174	ePn	P	11 15 49.7	-3.0
PSA00				eSn	Sn	11 18 04.7	-4.0
PSAA1	Pilbara Seismi	12.76	174	ePn	P	11 15 49.7	-3.1
PSAA1				eSn	Sn	11 18 05.3	-3.5
PSAA3	Pilbara Seismi	12.76	174	ePn	P	11 15 49.8	-3.1
PSAA3				eSn	Sn	11 18 05.4	-3.5
PSAB3	Pilbara Seismi	12.78	174	ePn	P	11 15 50.1	-2.9
PSAB3				eSn	Sn	11 18 05.7	-3.5
PSAC3	Pilbara Seismi	12.80	174	ePn	P	11 15 50.5	-2.8
PSAC3				eSn	Sn	11 18 04.7	-5.6
PSAD2	Pilbara Seismi	12.81	173	ePn	P	11 15 50.5	-3.0
PSAD2				eSn	Sn	11 18 05.3	-4.8
PSAD3	Pilbara Seismi	12.82	174	ePn	P	11 15 50.8	-2.7
PSAD3				eSn	Sn	11 18 05.6	-4.6
KSM	Kuching	12.99	322	ePn	P	11 15 51.9	-3.5
MTN	Manton Dam	13.18	109	ePn	Pn	11 15 52.6	-0.4
MTN				eSn	Sn	11 18 11.7	-7.2
GIRL	Giralia	14.29	196	ePn	P	11 16 09.4	-0.5
KKM	Kota Kinabalu	14.92	352	ePn	P	11 16 15.8	-1.2
FAKI	Fak Fak	15.02	68	ePn	Pn	11 16 13.9	-2.3
FAKI	Fak Fak	15.02	68	P	Pn	11 16 14.1	-2.1
SIJI	Sorong	15.10	59	P	Pn	11 16 15.8	-1.4
	1.8nm,0.3s,baz=292,slow=7.5,SNR=6.6						
WRA	Warramunga Arr	19.01	127	eP	Pn	11 17 03.9	-0.3
WRA				eS	S	11 20 31.0	+1.2
WRA	Warramunga Arr	19.01	127	P	Pn	11 17 04.1	-0.2
	1.3nm,0.3s,baz=303,slow=12,SNR=96						
WRA				S	S	11 20 30.0	+0.2
	0.9nm,0.3s,baz=301,slow=24,SNR=5.7						
WRAB	Tennant Creek	19.01	127	eP	Pn	11 17 03.5	-0.8
	7.5nm,0.6s						
WRAB				eS	S	11 20 28.8	-1.1
WB2	Warramunga Arr	19.02	127	eP	Pn	11 17 04.7	+0.3
	8.3nm,0.7s						
WB2				eS	S	11 20 30.7	+0.7
WC3	Warramunga Arr	19.04	127	eP	Pn	11 17 05.0	+0.4
	11nm,0.5s						
WC3				eS	S	11 20 28.9	-1.7
MORW	Morawa	20.25	186	eP	Pn	11 17 18.6	-0.1
	19nm,1.1s						
MORW				eS	S	11 20 59.0	+4.8
AS31	Alice Springs	20.96	137	eP	P	11 17 25.4	+2.5
	2.1nm,0.5s						
ASAR	Alice Springs	20.96	137	P	P	11 17 26.2	+3.4
	4.2nm,0.4s,baz=311,slow=9.1,SNR=161						
ASAR				S	S	11 21 11.2	+3.0
	2.0nm,0.9s,baz=305,slow=17,SNR=7.5						
FORT	Forrest	23.65	159	eP	P	11 17 52.7	+3.5
	16nm,0.8s						
NWAO	Narrogin (SRO)	24.01	182	eP	P	11 17 56.1	+3.8
	20nm,1.0s						
COEN	Coen	24.86	104	eP	P	11 18 02.7	+2.4
	17nm,0.6s						
BBOO	Buckleboo	28.95	148	eP	P	11 18 39.7	+2.9
	4.7nm,1.0s						
CTAO	Charters Tower	29.20	116	eP	P	11 18 42.1	+2.9
	13nm,1.1s				

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	Yamagatataniai	0.71	215	P	Pn	12 20 00.8	+1.0
MJAR	Matsushiro Arr	0.87	65	P	Pn	12 20 01.8	+1.3
	0.2nm,0.3s,baz=141,slow=10,SNR=8.2						
JHU	Hanno	1.69	100	eS	S	12 20 39.8	+2.5
JWT	Wachi	1.74	240	P	Pn	12 20 06.8	+0.4
JWT				eS	S	12 20 39.1	+1.1
JAG	Ashikaga	1.81	81	P	Pn	12 20 07.5	+0.6
JSD	Sado	2.03	24	P	Pn	12 20 09.1	+0.3
JYT	Yasato	2.40	88	S	S	12 20 48.3	-0.4
JHO	Hitachi	2.73	80	P	Pn	12 20 15.6	-0.1
BSO1	Boso 1	3.41	115	P	Pn	12 20 23.3	+0.7
WRA	Warramunga Arr	55.88	183	P	P	12 28 36.8	-1.3
	0.6nm,0.3s,baz=0.2,slow=7.7,SNR=32						
ASAR	Alice Springs	59.60	184	P	P	12 29 02.1	-1.8
	0.6nm,1.1s,baz=18,slow=13,SNR=3.7						

*IDC **07** 12:42:07.7±6.3, 36°.21N×70°.84E, h160km±56km, mb3.4/7, mb1 3.4/11, mb1mx3.2/58, mbtmp3.8/11, MS3.7/1, Ms1 3.7/1, ms1mx2.7/39, Error ellipse: s-maj=32.7km s-min=19.5km az=30.0*
*ISCJB **07** 12:42:11.8±0.7, 36°.55N±0°.04×70°.76E±0°.09, h188km, mb3.5/7, Error ellipse: s-maj=11.0km s-min=5.1km az=164.0*
*NNC **07** 12:42:16.4±3.9, 37°.07N×70°.77E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=32.3km s-min=24.9km az=148.0*

ISC 07 12:42:13.0±0.7, 36°.65N±0°.06×70°.77E±0°.10, h188km, n39, σ1§87/40, mb3.6/7, 8C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.97	161	P	Pn	12 43 05.7	+3.8
CEP				S	Sn	12 43 43.0	+3.0
CHCP	Chirah Chowk	3.62	145	P	Pn	12 43 13.2	+3.5
THW	Thamme Wali	3.93	168	P	Pn	12 43 16.5	+2.9
SARP	Sargodha	4.97	161	P	Pn	12 43 28.9	+2.1
AML	Almayashu	5.93	22	P	Pn	12 43 41.7	+2.2
	SNR=93						
UCH	Uchtor	6.28	26	P	Pn	12 43 46.3	+2.1
	SNR=38						
KZA	Kyzart	6.44	31	P	Pn	12 43 47.6	+1.5
	SNR=12						
KK31	Karatay Array	6.45	358	⇑Pn	Pn	12 43 48.5	+2.6
	1.5nm,0.2s,baz=199,slow=14,SNR=68						
KK31				⇓Pg		12 44 07.3	
	4.1nm,0.5s,baz=178,slow=13,SNR=5.6						
KK31				⇓Sn	Sn	12 44 57.8	-1.6
	3.0nm,0.3s,baz=189,slow=20,SNR=7.5						
KK31				⇑Lg	Lg	12 45 25.6	
	3.6nm,0.4s						
AAK	Ala-Archa	6.64	25	P	Pn	12 43 50.9	+2.4
	SNR=19						
AAK	Ala-Archa	6.64	25	⇑Pn	Pn	12 43 50.2	+1.7
	12nm,0.5s						
AAK				Sn	Sn	12 45 04.4	+0.4
	17nm,0.6s						
AAK	Ala-Archa	6.64	25	P	Pn	12 43 50.9	+2.4
	5.0nm,0.3s,baz=190,slow=5.2,SNR=51						
AAK				S	Sn	12 45 04.8	+0.8
	1.1nm,0.3s,baz=206,slow=3.8,SNR=5.2						
ULHL	Ulahol	7.01	35	P	Pn	12 43 55.3	+1.8
	SNR=6.0						
USP	Ospenovka	7.21	22	P	Pn	12 43 57.2	+1.3
	SNR=5.1						
TKM2	Tokmak 2	7.28	29	P	Pn	12 43 58.6	+1.6
	SNR=17						
TKM2	Tokmak 2	7.28	29	⇑Pn	Pn	12 43 58.2	+1.2
	7.8nm,0.8s						
TKM2				⇑Sn	Sn	12 45 19.1	-0.3
	4.6nm,0.8s						
TKM2				⇑Lg	Lg	12 45 52.4	
	5.9nm,1.1s						
MKAR	Makanchi Array	13.28	37	P	Pn	12 45 13.7	-0.6
	0.1nm,0.3s,baz=220,slow=14,SNR=4.7						
PYUN	Piuthan	13.38	126	eP	Pn	12 45 14.6	-1.4
	11nm,0.4s						
DANN	Dangsing	13.73	123	eP	Pn	12 45 19.3	-1.0
	14nm,0.4s						
KOLN	Koldanda	14.00	126	eP	Pn	12 45 22.6	-1.1
	5.2nm,0.4s						
GKN	Gorkha	14.54	122	eP	Pn	12 45 29.1	-1.2
	17nm,0.3s						
AB31	Akbulak array	14.86	331	⇑Pn	P	12 45 42.2	+7.2
	0.5nm,0.3s,baz=146,slow=12,SNR=26						
KURBB	Kurchatov Arra	15.04	19	P	Pn	12 45 35.4	-0.7
	0.0nm,0.3s,baz=207,slow=10,SNR=2.9						
KKN	Kakani	15.11	122	eP	Pn	12 45 36.0	-1.4
	14nm,0.5s						
PKIN	Phulchoki	15.33	122	eP	Pn	12 45 38.7	-1.4
	9.9nm,0.4s						
PKI	Pulchoki	15.34	122	eP	Pn	12 45 38.6	-1.7
	8.6nm,0.4s						
JIRN	Jiri	15.82	120	eP	Pn	12 45 45.0	-1.2
	20nm,0.4s						
BVAR	Borovoye Array	16.38	359	P	Pn	12 45 53.8	+1.5
	0.2nm,0.3s,baz=165,slow=13,SNR=3.7						
RAMN	Ramite	16.55	121	eP	P	12 45 53.4	-0.7
	6.7nm,0.3s						
AKTO	Aktyubinsk	16.56	330	⇑Pn	Pn	12 46 02.6	+8.1
	2.4nm,0.5s						
AKTO	Aktyubinsk	16.56	330	P	Pn	12 45 55.7	+1.3
	1.4nm,0.3s,baz=145,slow=8.7,SNR=11						
FINES	FINESS Array B	37.26	326	P	P	12 49 07.2	+0.9
	1.3nm,0.4s,baz=119,slow=9.2,SNR=11						
ARCES	ARCESS Array B	40.94	338	P	P	12 49 37.7	+1.0
	1.7nm,0.6s,baz=113,slow=8.5,SNR=16						
NB2	NORSAR Subarra	44.15	323	P	P	12 50 02.6	-0.1
	comp=Z,0.4nm,0.5s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.15	323	P	P	12 50 02.5	-0.1
	comp=Z,0.5nm,0.5s,baz=96,slow=7.6,SNR=3.8						
LEM	Lembang	55.33	134	LR	LR	13 17 31.8	
	comp=Z,70nm,18.0s,baz=240,slow=39						
TORD	Torodi Ar. Bea	65.53	268	P	P	12 52 34.1	-2.5
	comp=Z,0.5nm,0.4s,baz=52,slow=5.8,SNR=8.2						
INK	Inuvik	73.79	9	P	P	12 53 25.9	-0.2
	comp=Z,0.8nm,0.5s,baz=344,slow=6.7,SNR=11						
WRA	Warramunga Arr	82.23	122	P	P	12 54 09.9	-3.5
	comp=Z,0.8nm,1.0s,baz=322,slow=4.8,SNR=3.3						
ASAR	Alice Springs	84.49	125	P	P	12 54 21.6	-3.3
	comp=Z,0.2nm,0.6s,baz=325,slow=4.3,SNR=3.6						

*IDC **07** 12:43:01.1±1.0, 5°.05S×102°.04E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.1/54, mbtmp4.2/17, ML4.0/1, Error ellipse: s-maj=33.8km s-min=13.6km az=50.0*
*ISCJB **07** 12:43:02.2±0.3, 5°.31S±0°.03×101°.92E±0°.03, h29km, mb4.4/38, Error ellipse: s-maj=5.3km s-min=4.1km az=43.4*
*DJA **07** 12:43:04.4±0.4, 5°.S±4°×10°.2E±°, h10km, M5.0/11, mb5.2/6, mB5.7/3, MLv4.9/11, Mw(mB)5.2/3*
*NEIC **07** 12:43:04.4±2.2, 5°.23S×101°.98E, h30km±5km, mb4.3/26, Error ellipse: s-maj=13.2km s-min=6.0km az=111.0*

ISC 07 12:43:04.0±0.5, 5°.29S±0°.05×101°.96E±0°.05, h29km, n105, σ2§09/107, mb4.3/38, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.36	47	ePn	Pn	12 43 27.5	+0.4
MNAI				eSn	Sn	12 43 43.1	-1.0
MNAI	Manna	1.36	47	P	Pn	12 43 27.5	+0.4
MNAI				S	Sn	12 43 44.1	0.0
PPSI	Pulau Pagai	3.17	322	P	Pn	12 43 53.3	+1.3
CGJI	Cibinong	3.94	110	P	Pn	12 44 04.2	+1.6
CGJI				S	Sn	12 44 45.3	-2.7
PDSI	Padang	4.59	341	P	Pn	12 44 11.7	+0.1
SISI	Saibi	4.86	324	P	Pn	12 44 15.8	+0.5
SISI				S	Sn	12 45 10.7	0.0
CBJI	Citeko	5.00	103	P	Pn	12 44 22.7	+5.6
PPBI	Pangkal Pinang	5.20	53	P	Pn	12 44 21.6	+1.7
	20nm,0.7s,3μm0.8nm						
DSRI	Dabo	5.45	29	P	Pn	12 44 24.8	+1.5
	164nm,0.6s,0.7nm						
BKNI	Bangkinang	5.65	351	ePn	Pn	12 44 25.9	-0.2
BKNI				eSn	Sn	12 45 26.1	-4.1
LEM	Lembang	5.83	105	P	Pn	12 44 32.9	+4.1
LEM				S	Sn	12 45 36.6	+1.7
LEM	Lembang	5.83	105	Pn	Pn	12 44 28.8	0.0
	4.0nm,0.3s,baz=349,slow=18,SNR=2.1						
LEM				Sn	Sn	12 45 35.3	+0.4
	5.9nm,0.3s,baz=163,slow=19,SNR=3.7						
CISI	Cisompet, Garu	6.24	111	ePn	Pn	12 44 34.9	+0.6
CISI				eSn	Sn	12 45 38.2	-6.6
CISI	Cisompet, Garu	6.24	111	P	Pn	12 44 35.7	+1.4
	284nm,0.8s,11μm1.6nm						
XMIS	Christmas Isla	6.33	145	ePn	Pn	12 44 32.5	-3.0
XMIS				eSn	Sn	12 45 40.3	-6.5
MYKOM	Kota Tinggi	7.28	15	ePn	Pn	12 44 48.9	+0.4
MYKOM				eSn	Sn	12 46 02.8	-7.5
GSI	Gunungsitoli	7.87	326	ePn	Pn	12 44 55.7	-1.0
GSI				eSn	Sn	12 46 20.4	-4.5
GSI	Gunungsitoli	7.87	326	P	Pn	12 44 56.5	-0.2
COCO	West Island	8.52	216	ePn	Pn	12 45 06.2	+0.7
COCO				eSn	Sn	12 46 40.6	-0.2
PSI	Prapat	8.59	339	ePn	Pn	12 45 03.7	-2.9
UGM	Wanagama	8.90	107	ePn	Pn	12 45 12.2	+1.3
IPM	Ipoh	9.75	355	ePn	Pn	12 45 22.6	+0.2
KULM	Kulim	10.59	353	ePn	Pn	12 45 33.8	-0.2
JAGI	Jajag, Banyuwa	12.51	105	ePn	Pn	12 45 56.6	-3.7
JAGI	Jajag, Banyuwa	12.51	105	P	Pn	12 45 56.9	-3.4
SBUM	Sibu	12.81	53	ePn	Pn	12 46 05.1	+0.7
KKM	Kota Kinabalu	18.15	52	ePn	Pn	12 47 12.9	-1.3
	24nm,1.0s						
UTHA	Uthaitani	20.86	353	P	Pn	12 47 46.5	+0.1
	12μm,0.8s						
CHAI	Chaiyaphum	21.05	0	P	P	12 47 47.6	+1.7
	14μm,0.8s						
UTTA	Uttaradit	22.93	357	P	P	12 48 08.9	+3.0
	8μm,0.8s						
NONG	Nongkai	23.23	3	P	P	12 48 09.5	+0.5
	0.2nm,0.8s						
CM31	Chiang Mai Arr	23.78	353	eP	P	12 48 14.6	+0.2
	11nm,0.8s						
CMAR	Chiang Mai Arr	23.78	353	eP	P	12 48 13.5	-0.9
CMAR	Chiang Mai Arr	23.78	353	P	P	12 48 13.8	-0.6
	7.4nm,0.8s,baz=184,slow=8.8,SNR=46						
CMMT	Chiang Mai	24.13	353	P	P	12 48 20.1	+2.4
	3.2nm,1.8s						
CHTO	Chiang Mai	24.13	353	eP	P	12 48 17.8	+0.1
	7.7nm,1.1s						
FITZ	Fitzroy Crossi	26.41	121	eP	P	12 48 40.6	+2.2
	5.6nm,1.1s						
FITZ	Fitzroy Crossi	26.41	121	P	P	12 48 39.8	+1.4
	3.0nm,0.9s,baz=354,slow=9.2,SNR=4.8						
SLVN	Son La	26.52	4	eP	P	12 48 38.8	-0.6
	3.9nm,1.0s						
SAUI	Saumlaki	29.27	97	eP	P	12 49 03.9	-0.1
	583nm,1.1s						
H08S2	Diego Garcia H	29.36	264	T	T	13 19 49.3	
	baz=87,slow=76,SNR=126						
H08S3	Diego Garcia H	29.37	264	T	T	13 19 56.6	
	baz=87,slow=76,SNR=249						
H08S1	Diego Garcia H	29.38	264	T	T	13 19 49.9	
	baz=87,slow=76,SNR=89						
KMI	Kunming	30.24	1	P	P	12 49 18.6	+5.9
H08N1	Diego Garcia H	30.80	267	T	T	13 22 12.1	
	baz=159,slow=78,SNR=9.2						
H08N2	Diego Garcia H	30.81	267	T	T	13 22 11.8	
	baz=159,slow=78,SNR=11						
H08N3	Diego Garcia H	30.82	266	T	T	13 22 12.0	
	baz=159,slow=78,SNR=18						
H01W3	Cape Leeuwin H	31.53	161	T	T	13 22 23.4	
	baz=341,slow=74,SNR=9.7						
H01W2	Cape Leeuwin H	31.55	161	T	T	13 22 24.7	
	baz=33,slow=74,SNR=9.3						
H01W1	Cape Leeuwin H	31.55	161	T	T	13 22 22.7	
	SNR=8.9						
WRA	Warramunga Arr	34.70	118	eP	P	12 49 51.0	-0.7
WRA	Warramunga Arr	34.70	118	P	P	12 49 53.0	+1.3
	1.8nm,0.9s,baz=314,slow=9.2,SNR=13						
WR1	Warramunga Arr	34.70	118	eP	P	12 49 53.0	+1.3
WRAB	Tennant Creek	34.70	118	eP	P	12 49 52.8	+1.1
	4.5nm,1.0s						
WB2	Warramunga Arr	34.71	118	eP	P	12 49 51.9	+0.2
	5.4nm,1.0s						
AS31	Alice Springs	35.78	124	eP	P	12 50 01.2	+0.2
	1.6nm,1.0s						
ASAR	Alice Springs	35.78	124	eP	P	12 50 00.8	-0.2
ASAR	Alice Springs	35.78	124	P	P	12 50 02.8	+1.9
	2.1nm,0.7s,baz=298,slow=7.7,SNR=16						
XAN	Xi'an	39.66	9	eP	P	12 50 33.1	-0.5
	4.7nm,0.4s						
LZH	Lanzhou	41.19	2	eP	P	12 50 50.3	+3.9
LZH				pP	sP	12 51 03.0	+4.7
LZH				sP	pP	12 51 08.9	+14
LZH				PP	PP	12 52 23.0	+1.1
GTA	Gaotai	44.52	358	eP	P	12 51 15.3	+2.1
GTA				pP	sP	12 51 24.8	-0.4
GTA				sP	pP	12 51 29.1	+7.4
STKA	Stephens Creek	45.53	130	eP	P	12 51 23.9	+2.5
	1.2nm,0.9s						
STKA	Stephens Creek	45.53	130	P	P	12 51 23.9	+2.5
	1.5nm,0.6s,baz=324,slow=7.6,SNR=6.9						
MRIV	Mauritius Mete	45.67	247	eP	P	12 51 20.5	-2.2
HHC	Hu-ho-hao-te	46.75	10	eP	P	12 51 32.7	+1.8
NIL	Nilore	47.31	327	eP	P	12 51 35.6	+0.3
	7.3nm,0.8s						
KSRS	Korea Array	48.93	28	P	P	12 51 47.3	-0.3
	0.7nm,0.4s,baz=208,slow=7.1,SNR=5.5						
WMQ	Urumqi	50.55	347	eP	P	12 52 02.3	+2.3
KSH	Kashi	50.62	334	P	P	12 52 03.5	+2.8
KSH				pP	sP	12 52 12.3	-0.2
KSH				S	S	12 59 12.1	-1.7
KSH	Kashi	50.62	334	SS	SS	13 02 41.7	-6.8
NRN	Naryn	52.20	335	eP	P	12 52 14.0	+1.3
	2.6nm,1.0s						
KDJ	Kajisay	52.31	337	eP	P	12 52 14.4	+1.0
	5.5nm,0.8s						
SONA0	Songino Array	53.04	4	eP	P	12 52 20.0	+1.4
SONM	Songino Array	53.04	4	eP	P	12 52 21.8	+3.3
SONM	Songino Array	53.04	4	P	P	12 52 20.0	+1.4
	6.5nm,0.6s,baz=166,slow=7.6,SNR=5.1						
MAJO	Matsushiro	53.67	36	eP	P	12 52 21.6	-1.6
MJAR	Matsushiro Arr	53.67	36	eP	P	12 52 25.6	+2.3
MJAR	Matsushiro Arr	53.67	36	P	P	12 52 21.6	-1.6
	1.7nm,0.7s,baz=213,slow=9.6,SNR=4.2						
MK31	Makanchi Array	54.71	344	eP	P	12 52 30.4	-0.2
	1.9nm,0.7s						
MK32	Makanchi Array	54.71	344	eP	P	12 52 30.8	+0.1
MKAR	Makanchi Array	54.71	344	eP	P	12 52 30.4	-0.2
MKAR	Makanchi Array	54.71	344	P	P	12 52 30.8	+0.1
	3.3nm,0.7s,baz=147,slow=8.2,SNR=32						
KKAR	Karatay Array	55.95	333	eP	P	12 52 39.0	-0.6
USA0B	Ussuriysk Arra	56.19	26	eP	P	12 52 39.5	-1.8
	11nm,0.8s						
USRK	Ussuriysk Ar.	56.19	26	eP	P	12 52 40.6	-0.7
USRK	Ussuriysk Ar.	56.19	26	P	P	12 52 40.7	-0.6
	9.4nm,0.8s,baz=228,slow=5.9,SNR=21						
KURBB	Kurchatov Arra	59.24	343	P	P	12 53 03.0	+0.3
	1.3nm,0.7s,baz=160,slow=6.6,SNR=8.3						
KURK	Kurchatov	59.30	343	eP	P	12 53 02.9	-0.2
	4.5nm,0.9s						
KLR	Kul'dur	60.17	22	P	P	12 53 08.3	-0.8
	2.3nm,0.7s,baz=272,slow=6.4,SNR=7.5						
ZAA0	Zalesovo Array	60.75	348	eP	P	12 53 12.6	-0.3
	7.0nm,0.8s						
ZALV	Zalesovo Beam	60.75	348	eP	P	12 53 12.6	-0.3
ZALV	Zalesovo Beam	60.75	348	P	P	12 53 12.9	0.0
	7.4nm,0.8s,baz=164,slow=6.3,SNR=12						
ZAA1	Zalesovo Array	60.75	348	eP	P	12 53 12.9	0.0
BVAR	Borovoye Array	63.92	339	P	P	12 53 33.2	-1.0
	0.8nm,0.5s,baz=126,slow=7.7,SNR=5.6						
ABKAR	Akbulak array	65.44	331	eP	P	12 53 44.1	-0.1
	6.1nm,0.9s						
KBZ	Khabaz	72.05	319	P	P	12 54 26.7	+1.2
	1.6nm,0.7s,baz=133,slow=2.1,SNR=4.6						
BR101	Keskin Array S	76.97	313	eP	P	12 54 55.0	+0.6
BR131	Keskin Array S	76.97	313	eP	P	12 54 54.6	+0.2
	1.4nm,0.6s						
BRTR	Keskin Array B	76.97	313	eP	P	12 54 54.5	+0.1
BRTR	Keskin Array B	76.97	313	P	P	12 54 55.0	+0.6
	1.1nm,0.8s,baz=94,slow=5.6,SNR=6.0						
TIXI	Tiksi	78.79	8	eP	P	12 55 03.3	-0.3
	3.7nm,1.2s						
BURAR	Bucovina Array	85.00	319	eP	P	12 55 39.0	+2.0
BUR08	Bucovina Ar. S	85.02	319	eP	P	12 55 39.1	+2.0
	0.9nm,0.8s						
TXAR	Lajitas Array	145.96	42	ePKPdf	PKPab	13 02 42.6	+0.3
TXAR	Lajitas Array	145.96	42	PKPbc	PKPab	13 02 43.2	+0.9
	1.5nm,0.9s,baz=318,slow=0.8,SNR=11						

*IDC **07** 12:45:06.0±3.4, 10°.37S×116°.23E, h0km, mb3.7/5, mb1 3.6/7, mb1mx3.5/47, mbtmp3.6/7, ML3.0/2, Error ellipse: s-maj=240.6km s-min=19.5km az=47.0*
*ISCJB **07** 12:45:08.2±2.9, 10°.6S±0°.9×11°.6E±°, h33km, mb3.5/5, Error ellipse: s-maj=198.3km s-min=13.8km az=136.8*

ISC 07 12:45:10.5±2.6, 10°.6S±0°.8×116°.2E±0°.9, h35km, n7, σ1§10/7, mb3.6/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.81	130	Pn	Pn	12 47 55.5	-1.2
	0.1nm,0.3s,baz=328,slow=14,SNR=8.0						
FITZ				Sn	Sn	12 49 56.4	-11
	0.1nm,0.3s,baz=174,slow=10,SNR=3.3						
WRA	Warramunga Arr	19.81	120	P	Pn	12 49 40.0	0.0
	0.1nm,0.3s,baz=298,slow=14,SNR=3.2						
ASAR	Alice Springs	21.32	130	P	P	12 49 56.2	+1.7
	1.2nm,0.9s,baz=303,slow=10,SNR=18						
MKAR	Makanchi Array	64.64	335	P	P	12 55 44.4	-0.2
	0.3nm,0.5s,baz=156,slow=7.4,SNR=3.2						
KURBB	Kurchatov Arra	69.19	335	P	P	12 56 13.9	+0.5
	0.2nm,0.2s,baz=145,slow=5.2,SNR=5.7						
ZALV	Zalesovo Beam	69.56	341	P	P	12 56 15.1	-0.6
	0.5nm,0.4s,baz=132,slow=5.8,SNR=2.3						
BVAR	Borovoye Array	74.41	333	P	P	12 56 44.8	0.0
	0.4nm,0.6s,baz=146,slow=8.3,SNR=3.7						

MEX 07 13:12:21.6±0.5, 16°.40N×97°.48W, h8km±2km, MD3.7, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.63	269	eP	Pg	13 12 32.7	-1.0
PNIG				eS	Sg	13 12 41.2	-0.7
HUIG	Huatulco	1.46	115	eP	Pn	13 12 45.3	-2.9
HUIG				i S	Sn	13 13 02.8	-4.7
TLIG	Tlapa	1.56	318	i P	Pn	13 12 45.5	-4.1
TLIG				i S	Sn	13 13 04.9	-5.2
CMIG	Matias Romero	2.58	74	⇓iP	Pn	13 13 00.8	-2.8
CMIG				i S	Sn	13 13 30.9	-4.2

*SOME **07** 13:33:12.2, 39°.90N×75°.52E, h10km*
*KRNET **07** 13:33:14.7±0.1, 39°.99N×75°.53E, mb3.5*
*NNC **07** 13:33:17.0±3.5, 40°.12N×75°.43E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=26.9km s-min=16.5km az=163.0*

ISC 07 13:33:11.9±2.4, 39.7N±0°.1×75°.65E±0°.05, h4km±17km, n44, σ1§53/66, 28C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.74	9	⇓iP	Pn	13 33 42.5	-0.8
	baz=13						
NRN				⇓iS	Sn	13 34 02.8	-3.3
	baz=13						
ARLS	Aral	2.37	335	⇑iP	Pn	13 33 53.2	+1.4
	baz=35						
ARLS				⇑iS	Sn	13 34 20.7	-0.8
	baz=35						
KZA	Kyzart	2.38	353	P	Pn	13 33 53.2	+0.9
	SNR=44						
KZA	Kyzart	2.38	353	⇑iP	Pn	13 33 53.1	+0.9
	baz=54						
KZA				⇑iS	Sn	13 34 21.4	-0.7
	baz=54						
ULHL	Ulahol	2.57	10	P	Pb	13 33 57.7	-1.0
	SNR=28						
ULHL	Ulahol	2.57	10	⇓iP	Pn	13 33 55.8	+1.2
	baz=13						
ULHL				⇓iS	Sn	13 34 26.1	-0.4
	baz=13						
ARSB	Arslanbob	2.60	309	⇑iP	Pn	13 33 56.5	+1.6
	baz=5.0						
ARSB				⇑iS	Sn	13 34 27.0	0.0
	baz=5.0						
UCH	Uchtor	2.66	341	P	Pn	13 33 57.4	+1.4
	SNR=21						
UCH	Uchtor	2.66	341	⇑iP	Pn	13 33 56.8	+0.8
	baz=41						
UCH				⇑iS	Sn	13 34 27.6	-1.3
	baz=41						
KDJ	Kajisay	2.68	25	⇑iP	Pn	13 33 58.0	+1.9
	baz=30						
KDJ				⇑iS	Sn	13 34 29.9	+0.8
	baz=30						
BOOM	Boomskoye usch	2.79	4	⇑iP	Pn	13 33 58.7	+1.2
	baz=7.0						
BOOM				⇑iS	Sn	13 34 31.1	-0.6
	baz=7.0						
AML	Almayashu	2.84	329	P	Pn	13 33 59.9	+1.4
	SNR=22						
AML	Almayashu	2.84	329	⇓iP	Pn	13 33 59.3	+0.9
	baz=28						
AML				⇓iS	Sn	13 34 32.1	-1.2
	baz=28						
KBK	Karagaybulak	2.99	350	P	Pb	13 34 05.7	-0.3
	SNR=25						
KBK	Karagaybulak	2.99	350	⇑iP	Pn	13 34 01.4	+1.1
	baz=51						
KBK				⇑iS	Sn	13 34 35.3	-1.5
	baz=51						
AAK	Ala-Archa	3.05	344	P	Pn	13 34 03.3	+2.1
	SNR=8.2						
AAK	Ala-Archa	3.05	344	Pn	Pn	13 34 03.0	+1.8
	6.6nm,0.4s						
AAK				Lg	Lg	13 34 39.0	
	20nm,0.6s						
AAK	Ala-Archa	3.05	344	⇑iP	Pn	13 34 02.1	+0.9
	baz=44						
AAK				⇑eS	Sn	13 34 37.0	-1.2
	baz=44						
FRU1	Bishkek	3.19	346	⇑iP	Pn	13 34 03.8	+0.8
	baz=47						
FRU1				⇑iS	Sn	13 34 40.4	-1.1
	baz=47						
TKM2	Tokmak 2	3.21	359	P	Pn	13 34 05.6	+2.3
	SNR=14						
TKM2	Tokmak 2	3.21	359	⇑Pn	Pn	13 34 05.2	+1.9
	9.7nm,0.5s						
TKM2				⇑Lg	Lg	13 34 47.1	
	40nm,0.6s						
EKS2	Erkin-Say	3.27	335	P	Pb	13 34 10.4	-0.2
	SNR=12						
EKS2	Erkin-Say	3.27	335	⇓iP	Pn

39nm,0.8s
KNDC Almaty 3.64 15 ⇑Pg Pb 13 34 17.9 +1.0
12nm,0.4s
KNDC ⇑Lg Lg 13 35 03.3
97nm,0.6s
USP Ospenovka 3.66 347 P Pn 13 34 11.1 +1.8
SNR=6.5
KUU Kurty 4.21 7 eP Pb 13 34 26.4 -0.2
0.9nm,0.3s
KUU eS Sb 13 35 19.5 +1.7
16nm,0.7s
CHKK Chushkaly 4.26 13 eP Pb 13 34 27.7 +0.3
6.1nm,0.7s
CHKK eS Sb 13 35 21.5 +2.3
27nm,0.3s
PDGK Podgornoye 4.62 37 ⇓Pg Pg 13 34 39.9 -0.6
2.3nm,0.6s
PDGK ⇑Lg Lg 13 35 36.2
18nm,1.0s
KK31 Karatay Array 5.14 313 ⇓Pn Pn 13 34 29.6 -0.2
0.3nm,0.4s,baz=127,slow=12,SNR=7.9
KK31 ⇓Pg Pb 13 34 44.0 +1.6
0.8nm,0.5s,baz=131,slow=17,SNR=7.9
KK31 ⇓Sn Sn 13 35 25.7 -3.8
1.4nm,0.5s
KK31 ⇑Lg Lg 13 35 48.5
4.3nm,0.7s,baz=123,slow=27,SNR=6.5
BTLS Baital 5.46 348 eP Pb 13 34 47.9 +0.1
2.6nm,0.8s
BTLS eS Sb 13 35 56.1 +2.5
2.8nm,1.0s
MAKZ Makanchi 8.46 31 ⇑P Pb 13 35 35.6 -3.3
0.6nm,0.2s
MAKZ ⇓S 13 35 47.2
3.9nm,0.4s
MK31 Makanchi Array 8.57 32 ⇑P Pn 13 35 31.7 +15
0.7nm,0.2s,baz=91,slow=18,SNR=68
MK31 ⇑S 13 35 40.4
2.6nm,0.3s,baz=100,slow=24,SNR=8.1

IDC 07 13:35:01.5±1.6, 43°.42N×136°.41E, h345km±19km, mb2.7/2, mb1 2.8/5, mb1mx2.6/41, mbtmp3.3/5, Error ellipse: s-maj=42.8km s-min=29.5km az=9.0, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**3.29**	**285**	P	Pn	13 36 03.1	+0.1
0.7nm,0.3s,baz=96,slow=7.9,SNR=11							
ASAJ	**Asahikawa**	**4.53**	**79**	P	Pn	13 36 15.6	-0.1
2.3nm,0.3s,baz=248,slow=7.0,SNR=22							
MJAR	**Matsushiro Arr**	**7.01**	**168**	P	Pn	13 36 44.3	+0.4
0.0nm,0.3s,baz=357,slow=13,SNR=3.2							
WRA	**Warramunga Arr**	**63.08**	**182**	P	P	13 44 52.7	-0.3
0.3nm,0.8s,baz=345,slow=7.7,SNR=5.3							
ASAR	**Alice Springs**	**66.79**	**183**	P	P	13 45 16.9	+0.2
0.3nm,1.0s,baz=0.4,slow=6.3,SNR=4.2							

IDC 07 13:37:52.4±2.8, 6°.58S×68°.31E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/40, mbtmp3.7/4, MS3.5/12, Ms1 3.5/12, ms1mx3.2/41, Error ellipse: s-maj=81.1km s-min=34.0km az=65.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**2.67**	**85**	Pn	Pn	13 38 35.9	-0.6
H08N3				T	T	13 41 37.4	
baz=275,slow=75,SNR=5927							
H08N2	**Diego Garcia H**	**2.68**	**85**	Pn	Pn	13 38 35.6	-0.9
H08N2				T	T	13 41 42.0	
baz=275,slow=75,SNR=7560							
H08N1	**Diego Garcia H**	**2.69**	**85**	Pn	Pn	13 38 36.1	-0.7
H08N1				T	T	13 41 39.0	
baz=275,slow=75,SNR=5746							
H08S1	**Diego Garcia H**	**4.26**	**105**	Pn	Pn	13 39 00.8	+2.4
baz=310,slow=17,SNR=42							
H08S1				T	T	13 44 03.1	
baz=317,slow=75,SNR=18							
H08S3	**Diego Garcia H**	**4.27**	**104**	Pn	Pn	13 39 01.0	+2.5
baz=310,slow=17,SNR=36							
H08S3				T	T	13 44 03.0	
baz=317,slow=75,SNR=9.5							
H08S2	**Diego Garcia H**	**4.28**	**105**	Pn	Pn	13 39 01.3	+2.6
baz=310,slow=17,SNR=46							
H08S2				T	T	13 44 00.6	
baz=317,slow=75,SNR=12							
PALK	**Pallekele**	**18.49**	**42**	LR	LR	13 47 29.8	
comp=Z,333nm,20.4s,baz=297,slow=31							
KMBO	**Kilima Mbogo**	**31.45**	**279**	LR	LR	13 54 32.5	
comp=Z,97nm,18.4s,baz=86,slow=32							
LEM	**Lembang**	**39.03**	**93**	LR	LR	13 58 38.6	
comp=Z,123nm,18.3s,baz=236,slow=32							
CMAR	**Chiang Mai Arr**	**39.13**	**50**	P	P	13 45 21.4	-0.6
0.7nm,0.4s,baz=229,slow=8.2,SNR=4.9							
CMAR				LR	LR	13 58 46.1	
comp=Z,48nm,22.0s,baz=191,slow=32							
GEYT	**Alibeck**	**45.29**	**349**	LR	LR	14 03 38.8	
comp=Z,27nm,19.4s,baz=205,slow=34							
BOSA	**Boshof**	**46.18**	**236**	LR	LR	14 03 59.5	
comp=Z,99nm,18.4s,baz=68,slow=34							
MKAR	**Makanchi Array**	**54.57**	**12**	P	P	13 47 23.0	+0.5
0.2nm,0.4s,baz=178,slow=6.8,SNR=2.1							
MKAR				LR	LR	14 11 10.7	
comp=Z,43nm,18.1s,baz=150,slow=37							
DAV	**Davao City (W)**	**58.71**	**78**	LR	LR	14 12 58.2	
comp=Z,28nm,18.8s,baz=197,slow=36							
ASAR	**Alice Springs**	**65.05**	**113**	P	P	13 48 35.2	+0.1
0.6nm,0.9s,baz=278,slow=6.8,SNR=5.5							
WRA	**Warramunga Arr**	**65.27**	**109**	P	P	13 48 36.9	+0.3
0.7nm,0.8s,baz=281,slow=6.3,SNR=3.4							
TORD	**Torodi Ar. Bea**	**69.00**	**287**	LR	LR	14 17 55.8	
comp=Z,17nm,18.9s,baz=325,slow=35							
KSRS	**Korea Array**	**70.67**	**47**	LR	LR	14 20 47.2	
comp=Z,46nm,18.8s,baz=227,slow=36							
MJAR	**Matsushiro Arr**	**78.02**	**51**	LR	LR	14 25 09.4	
comp=Z,23nm,18.6s,baz=0.0,slow=36							
NOA	**NORSAR Array B**	**80.60**	**336**	LR	LR	14 25 59.0	
comp=Z,15nm,20.3s,baz=5.0,slow=36							
NVAR	**Mina Array Bea**	**147.73**	**10**	PKPbc	PKPdf	13 57 38.3	+1.2
0.6nm,0.7s,baz=345,slow=1.4,SNR=3.7							

IDC 07 13:38:04.1±6.7, 1°.93N×98°.18E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/37, mbtmp3.6/4, Error ellipse: s-maj=337.1km s-min=24.0km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.33**	**249**	T	T	14 10 28.8	
baz=71,slow=75,SNR=22							
H08S3	**Diego Garcia H**	**27.33**	**249**	T	T	14 10 25.5	
baz=71,slow=75,SNR=20							
H08S1	**Diego Garcia H**	**27.35**	**249**	T	T	14 10 28.7	
baz=71,slow=75,SNR=32							
WRA	**Warramunga Arr**	**41.61**	**123**	P	P	13 45 54.4	+0.1
0.6nm,0.9s,baz=303,slow=9.2,SNR=3.0							
ASAR	**Alice Springs**	**43.07**	**128**	P	P	13 46 05.8	-0.4
0.4nm,0.9s,baz=295,slow=7.9,SNR=5.0							
MKAR	**Makanchi Array**	**46.78**	**345**	P	P	13 46 35.4	0.0
0.5nm,0.5s,baz=161,slow=8.6,SNR=5.3							
ZALV	**Zalesovo Beam**	**53.00**	**350**	P	P	13 47 22.4	-0.2
1.0nm,0.4s,baz=178,slow=6.6,SNR=5.2							

*ISCJB **07** 13:41:35.6±0.5, 18°.42S±0°.04×69°.55W±0°.08, h119km±4km, mb3.4/4, Error ellipse: s-maj=12.1km s-min=5.9km az=176.1*
*GUC **07** 13:41:36.4±0.6, 18°.39S×69°.58W, h109km±2km, ML3.6*
*IDC **07** 13:41:37.2±1.3, 18°.49S×69°.25W, h126km±14km, mb3.3/4, mb1 3.7/9, mb1mx3.4/33, mbtmp3.9/9, Error ellipse: s-maj=23.3km s-min=13.1km az=94.0*
ISC 07 13:41:36.4±0.8, 18°.41S±0°.04×69°.55W±0°.08, h110km±6km, n23, σ1°17/35, mb3.5/4, 2C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.08**	**26**	⇓*i*P	P	13 41 52.1	-0.1
PB16				*i* S	Sn	13 42 04.1	-0.1
PB16				IAML		13 42 05.2	
comp=N,2μm,0.4s							
MNMC	**Minye Minye**	**0.72**	**184**	⇓*e*P	Pn	13 41 55.4	+0.2
MNMC				*e*S	Sn	13 42 09.9	+0.5
PB12	**IPOC Station P**	**0.77**	**255**	⇑*i*P	Pn	13 41 54.5	-0.9
PB12				*i* S	Sn	13 42 08.7	-1.1
PB12				IAML		13 42 12.6	
comp=E,1μm,0.3s							
GO01	**Chusmiza**	**1.29**	**165**	⇓*e*P	Pn	13 42 02.1	+0.8
GO01				*e*S	Sn	13 42 21.5	+1.4
GO01				IAML		13 42 25.0	
comp=E,1μm,0.1s							
PSGC	**Pisagua**	**1.30**	**205**	⇑*e*P	Pn	13 42 00.5	-0.5
PSGC				*e*S	Sn	13 42 19.0	-0.6
PSGC				IAML		13 42 19.9	
comp=N,787nm,0.3s							
PB11	**IPOC Station P**	**1.35**	**184**	*e*P	Pn	13 42 01.5	0.0
PB11				*e*S	Sn	13 42 20.8	+0.1
PB11				IAML		13 42 23.4	
comp=E,713nm,0.5s							
PB08	**IPOC Station P**	**1.76**	**168**	*e*P	Pn	13 42 07.6	+0.8
PB08				*i* S	Sn	13 42 31.0	+1.1
PB08				IAML		13 42 33.7	
comp=N,676nm,0.4s							
LPAZ	**La Paz**	**2.51**	**33**	*i* P	Pn	13 42 18.0	+1.6
LPAZ	**La Paz**	**2.51**	**33**	P	Pn	13 42 18.1	+1.6
comp=N,8.4nm,0.3s,baz=233,slow=6.7,SNR=113							
PB01	**IPOC Station P**	**2.62**	**179**	*e*P	Pn	13 42 17.5	0.0
PB01				*i* S	Sn	13 42 48.9	-0.2
PB01				IAML		13 42 51.2	
comp=N,207nm,0.2s							
PB02	**IPOC Station P**	**2.91**	**186**	*e*P	Pn	13 42 22.0	+0.7
PB02				*e*S	Sn	13 42 56.4	+0.5
PB02				IAML		13 43 05.3	
comp=E,441nm,0.4s							
PB07	**IPOC Station P**	**3.31**	**185**	*e*P	Pn	13 42 27.1	+0.3
PB07				*e*S	Sn	13 43 06.3	+0.7
PB07				IAML		13 43 14.8	
comp=E,240nm,0.6s							
PB09	**IPOC Station P**	**3.38**	**175**	*e*P	Pn	13 42 28.5	+0.9
PB09				*e*S	Sn	13 43 07.5	+0.3
PB03	**IPOC Station P**	**3.62**	**183**	*e*P	Pn	13 42 30.9	0.0
LVC	**Limon Verde**	**4.22**	**172**	P	Pn	13 42 40.0	+1.0
comp=E,2.1nm,0.3s,baz=19,slow=5.1,SNR=10							
LVC				S	Sn	13 43 26.3	-1.3
comp=E,7.8nm,0.3s,baz=227,slow=20,SNR=18							
SIV	**San Ignacio**	**8.45**	**75**	P	Pn	13 43 33.8	-2.2
comp=E,2.4nm,0.3s,baz=280,slow=11,SNR=25							
NNA	**Nana**	**9.51**	**311**	P	Pn	13 43 53.0	+2.7
comp=E,6.9nm,0.3s,baz=329,slow=12,SNR=8.5							
PTGA	**Pitinga**	**19.93**	**29**	P	P	13 45 57.5	-2.2
comp=E,0.3nm,0.3s,baz=195,slow=13,SNR=5.9							
PDAR	**Pinedale Array**	**71.15**	**330**	P	P	13 52 43.5	+0.2
comp=E,0.1nm,0.5s,baz=114,slow=9.0,SNR=2.7							
NVAR	**Mina Array Bea**	**72.70**	**322**	P	P	13 52 53.9	+1.2
comp=E,0.5nm,0.8s,baz=116,slow=6.1,SNR=2.8							
TORD	**Torodi Ar. Bea**	**76.91**	**71**	P	P	13 53 14.6	-2.6
comp=E,0.4nm,0.5s,baz=262,slow=5.0,SNR=5.5							
YKA	**Yellowknife Ar**	**88.09**	**341**	P	P	13 54 13.8	-0.3
comp=E,0.7nm,0.5s,baz=134,slow=4.8,SNR=18							
WRA	**Warramunga Arr**	**135.26**	**213**	PKP	PKPdf	14 00 44.1	+0.1
comp=E,0.5nm,1.0s,baz=149,slow=2.0,SNR=3.7							

STR 07 13:43:03.7±0.8, 50°.7N±4°.7×°.7±°.7, h18km±3km, M2.2/7, MLv2.2/7, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTD	**Kalmit**	**0.35**	**173**	Pg	Pg	13 43 10.7	-0.3
KTD				Sg	Sg	13 43 16.3	+0.3
ABH	**Alteburg**	**0.37**	**306**	Pg	Pg	13 43 11.2	-0.2
ABH				Sg	Sg	13 43 16.8	0.0
ECH	**Echery**	**1.56**	**202**	Pn	Pn	13 43 29.6	-0.9
ECH				Sg	Sg	13 43 53.1	-0.8
THEF	**They Montfort**	**1.96**	**224**	Pn	Pn	13 43 35.2	-1.0

*BJI **07** 14:13:49.9±0.0, 5°.76S×148°.88E, h262km, mb4.3/18, mB4.7/9*
*ISCJB **07** 14:13:51.9±0.3, 5°.55S±0°.04×148°.36E±0°.06, h250km, mb4.2/29, Error ellipse: s-maj=8.3km s-min=5.3km az=0.6*
*IDC **07** 14:13:54.0±1.2, 5°.63S×148°.27E, h250km±11km, mb3.8/14, mb1 4.0/20, mb1mx3.9/36, mbtmp4.5/20, Error ellipse: s-maj=12.7km s-min=8.2km az=90.0*
*NEIC **07** 14:13:53.0±0.4, 5°.51S×148°.37E, h253km±4km, mb4.7/15, Error ellipse: s-maj=7.4km s-min=5.4km az=97.0*
ISC 07 14:13:53.2±0.4, 5°.55S±0°.05×148°.38E±0°.07, h250km, n61, σ1°39/70, mb4.2/30, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.62**	**344**	*e*Pn	Pn	14 14 52.6	-0.1
RABL	**Rabaul**	**4.00**	**71**	*e*Pn	Pn	14 14 56.6	-0.5
PMG	**Port Moresby**	**4.02**	**197**	P	Pn	14 14 57.0	-0.3
8.8nm,0.3s,baz=54,slow=5.8,SNR=26							
PMG				S	S	14 15 45.7	-2.5
11nm,0.3s,baz=32,slow=7.0,SNR=3.0							
JAY	**Jayapura**	**8.23**	**291**	P	Pn	14 15 49.0	-0.5
1.0nm,0.3s,baz=163,slow=4.9,SNR=8.8							
COEN	**Coen**	**9.80**	**211**	*e*Pn	Pn	14 16 10.8	+1.5
HNR	**Honiara**	**12.10**	**109**	*e*P	Pn	14 16 38.0	-0.1
HNR	**Honiara**	**12.10**	**109**	*e*Pn	Pn	14 16 37.8	-0.3
HNR	**Honiara**	**12.10**	**109**	P	Pn	14 16 38.6	+0.5
8.7nm,0.3s,baz=27,slow=0.2,SNR=7.3							
CTA	**Charters Tower**	**14.60**	**188**	P	P	14 17 08.9	+0.3
0.6nm,0.3s,baz=11,slow=11,SNR=9.8							
CTAO	**Charters Tower**	**14.60**	**188**	*e*P	Pn	14 17 08.3	-0.3
SIJI	**Sorong**	**17.70**	**285**	P	P	14 17 43.2	+0.5
0.6nm,0.3s,baz=94,slow=10,SNR=8.3							
MTN	**Manton Dam**	**18.49**	**246**	*e*P	P	14 17 50.3	-0.9
12nm,0.6s							
WRAB	**Tennant Creek**	**19.77**	**222**	*e*P	P	14 18 04.4	-0.4
50nm,0.9s							
WB2	**Warramunga Arr**	**19.77**	**222**	*e*P	P	14 18 04.7	-0.2
48nm,1.0s							
WRA	**Warramunga Arr**	**19.78**	**222**	*e*P	P	14 18 03.6	-1.4
7.8nm,0.9s							
WRA				S	S	14 21 32.7	-1.5
WRA	**Warramunga Arr**	**19.78**	**222**	P	P	14 18 05.0	+0.1
3.8nm,0.3s,baz=49,slow=9.9,SNR=150							
WRA				S	S	14 21 32.7	-1.5
1.1nm,0.3s,baz=44,slow=21,SNR=18							
EIDS	**Eidsvold**	**19.88**	**173**	*e*P	P	14 18 06.0	+0.1
19nm,0.8s							
AS31	**Alice Springs**	**22.78**	**216**	*e*P	P	14 18 34.7	+0.3
8.4nm,0.6s							
ASAR	**Alice Springs**	**22.78**	**216**	*e*P	P	14 18 34.4	0.0
ASAR				S	S	14 22 28.9	+4.4
ASAR	**Alice Springs**	**22.78**	**216**	P	P	14 18 35.0	+0.6
20nm,0.6s,baz=53,slow=8.8,SNR=278							
ASAR				S	S	14 22 28.9	+4.4
3.6nm,0.9s,baz=36,slow=17,SNR=6.8							
ARMA	**Armidale**	**24.93**	**173**	*e*P	P	14 18 54.8	+0.9
25nm,0.8s							
FITZ	**Fitzroy Crossi**	**25.47**	**239**	*e*P	P	14 18 58.6	-0.2
20nm,0.7s							
FITZ	**Fitzroy Crossi**	**25.47**	**239**	P	P	14 18 58.8	-0.1
22nm,0.8s,baz=62,slow=8.8,SNR=52							
STKA	**Stephens Creek**	**26.95**	**193**	*e*P	P	14 19 11.1	-0.8
1.2nm,0.9s							
STKA	**Stephens Creek**	**26.95**	**193**	P	P	14 19 11.5	-0.4
2.9nm,0.5s,baz=353,slow=6.7,SNR=16							
BBOO	**Buckleboo**	**29.46**	**201**	*e*P	P	14 19 33.6	-0.4
6.6nm,0.6s							
CAN	**Canberra**	**29.63**	**179**	*e*P	P	14 19 36.1	+0.5
17nm,0.7s							
PSA00	**Pilbara Seismi**	**31.89**	**237**	*e*P	P	14 19 55.3	-0.3
15nm,0.8s							
URZ	**Urewera**	**41.73**	**145**	P	P	14 21 18.7	+0.7
11nm,1.0s,baz=284,slow=8.3,SNR=4.0							
RPZ	**Rata Peaks**	**42.94**	**156**	P	P	14 21 28.2	+0.6
9.6nm,0.7s,baz=300,slow=4.1,SNR=8.4							
MJAR	**Matsushiro Arr**	**42.94**	**348**	P	P	14 21 28.2	+0.5
4.2nm,0.9s,baz=177,slow=8.4,SNR=8.4							
NJ2	**Nanjing**	**46.78**	**325**	*e*P	P	14 21 57.4	-0.6
NJ2				pmax	pmax		
comp=Z,11nm,0.5s							
KSRS	**Korea Array**	**46.84**	**338**	P	P	14 21 59.8	+1.5
3.3nm,0.6s,baz=153,slow=8.2,SNR=16							
KSAR	**Wonju Array Be**	**46.84**	**338**	*e*P	P	14 21 58.5	+0.2
WHN	**Wuhan**	**48.46**	**320**	P	P	14 22 12.4	+1.5
USRK	**Ussuriysk Ar.**	**51.68**	**345**	P	P	14 22 36.0	+1.4
2.8nm,0.7s,baz=188,slow=7.3,SNR=7.4							
XAN	**Xi'an**	**54.22**	**319**	P	P	14 22 53.8	+0.3
XAN				pP	pwP	14 23 50.2	-0.1
XAN				pmax	pmax		
comp=Z,4.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**54.26**	**297**	P	P	14 22 54.5	+0.5
1.0nm,0.9s,baz=128,slow=6.1,SNR=7.4							
HHC	**Hu-ho-hao-te**	**57.18**	**327**	*e*P	P	14 23 14.6	+0.1
HHC				pmax	pmax		
comp=Z,51nm,1.1s							
HHC				pmax	pmax		
comp=Z,160nm,6.2s							
LZH	**Lanzhou**	**58.77**	**318**	*e*P	P	14 23 26.7	+1.1
LZH				pP	pwP	14 24 26.4	+3.2
LZH				sP	sP	14 24 58.0	+10
LZH				PP	PP	14 25 41.6	+2.8
LZH				pmax	pmax		
comp=Z,33nm,1.3s							
LZH				pmax	pmax		
comp=Z,120nm,5.5s							
PETK	**Petropavlovsk-**	**58.97**	**7**	P	P	14 23 29.1	+2.7
1.8nm,0.8s,baz=185,slow=10.0,SNR=3.2							
GTA	**Gaotai**	**63.28**	**319**	⇑P	P	14 23 56.9	+1.1
GTA				pP	pwP	14 24 54.0	-0.3
GTA				sP	sP	14 25 22.0	+3.5
GTA				pmax	pmax		
comp=Z,3.0nm,0.9s							
VNDA	**Vanda**	**72.28**	**177**	*e*P	P	14 24 51.4	+0.5
3.2nm,0.8s							
VNDA	**Vanda**	**72.28**	**177**	P	P	14 24 51.8	+0.8
4.4nm,0.9s,baz=335,slow=7.5,SNR=20							
WMQ	**Urumqi**	**73.35**	**319**	*e*P	P	14 24 58.3	+0.4
MKAR	**Makanchi Array**	**78.03**	**320**	*e*P	P	14 25 23.5	-0.7
MKAR	**Makanchi Array**	**78.03**	**320**	P	P	14 25 24.2	-0.1
1.1nm,0.7s,baz=93,slow=6.1,SNR=8.1							
MAKZ	**Makanchi**	**78.23**	**320**	*e*P	P	14 25 24.6	-0.7
4.6nm,1.4s							
ZALV	**Zalesovo Beam**	**79.37**	**327**	*e*P	P	14 25 29.9	-1.4
ZALV				pP	pP	14 26 28.9	-1.0
ZALV	**Zalesovo Beam**	**79.37**	**327**	P	P	14 25 30.3	-0.9
1.8nm,0.6s,baz=119,slow=4.8,SNR=7.1							
ZALV				pP	pP	14 26 28.9	-1.0
0.6nm,0.5s,baz=95,slow=1.8,SNR=2.3							
KSH	**Kashi**	**80.10**	**312**	P	P	14 25 36.8	+1.1
KSH				S	S	14 35 15.7	-3.6
KSH				pmax	pmax		
comp=Z,12nm,0.4s							
KSH				LR	LR		
comp=N,220nm,6.6s							
KSH				LR	LR		
comp=E,170nm,6.8s							
KSH				LR	LR		
comp=Z,460nm,5.6s							
MAW	**Mawson**	**83.19**	**203**	P	P	14 25 51.0	0.0
1.9nm,0.9s,baz=109,slow=10,SNR=6.6							
BWN	**Browne**	**83.26**	**23**	*e*P	P	14 25 49.3	-2.2
20nm,0.9s							
QSPA	**South Pole Qui**	**84.42**	**180**	*e*P	P	14 25 56.5	-1.0
8.8nm,0.7s							
ILAR	**Eielson Array**	**84.53**	**23**	*e*P	P	14 25 55.9	-2.0
ILAR	**Eielson Array**	**84.53**	**23**	P	P	14 25 56.3	-1.6
1.4nm,0.8s,baz=252,slow=5.1,SNR=13							
KKAR	**Karatay Array**	**84.96**	**314**	*e*P	P	14 25 57.9	-2.6
BCAR	**Beaver Creek A**	**85.94**	**25**	*e*P	P	14 26 03.9	-1.0
YKA	**Yellowknife Ar**	**98.14**	**28**	pP	pP	14 28 02.3	+0.7
0.3nm,0.8s,baz=275,slow=4.8,SNR=3.2							
TORD	**Torodi Ar. Bea**	**146.30**	**285**	PKP	PKPdf	14 33 02.2	-1.6
1.1nm,0.6s,baz=58,slow=2.0,SNR=8.3							
TORD				PKPbc	PKPbc	14 33 04.5	-1.0
1.2nm,0.7s,baz=32,slow=1.8,SNR=8.3							
TORD				pPKPbc	pPKPbc	14 34 09.7	+1.9
0.5nm,0.7s,baz=67,slow=4.8,SNR=2.1							
BDFB	**Brasilia**	**153.41**	**143**	PKPab	PKPab	14 33 36.1	+0.1
5.3nm,0.7s,baz=174,slow=4.9,SNR=6.4							

*NSSC **07** 14:14:12.5±1.2, 33°.84N×35°.71E, h4km±28km, ML1.7*
*ISCJB **07** 14:14:13.3±1.6, 33°.79N±0°.04×35°.77E±0°.1, h18km±14km, Error ellipse: s-maj=15.4km s-min=7.0km az=0.8*
*GRAL **07** 14:14:14.6±0.3, 33°.78N×35°.77E, h0km±45km, MD2.8*
ISC 07 14:14:13.0±1.0, 33°.79N±0°.04×35°.76E±0°.06, h17km±8km, n9, σ0°33/14, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.14**	**324**	*e*P	Pb	14 14 17.4	0.0
BHL				*e*S	Sg	14 14 19.6	-0.3
DQRL	**Deir Qamar**	**0.17**	**242**	*e*P	Pb	14 14 17.9	0.0
DQRL				*e*S	Sg	14 14 20.3	-0.2
QRWL	**Qaraoun**	**0.25**	**194**	*e*P	Pg	14 14 18.8	+0.2
QRWL				*e*S	Sg	14 14 22.0	-0.4
RCY	**Rachaya**	**0.30**	**167**	*e*P	Pg	14 14 19.7	+0.2
BRBR	**Barbar**	**0.41**	**156**	*e*P	Pb	14 14 22.1	+0.2
BRBR				*e*S	Sb	14 14 28.2	+0.3
BRBR				AML	AML	14 14 31.4	
comp=N,76nm,0.3s							
BRBR				AML	AML	14 14 35.3	
comp=E,87nm,0.5s							
SHBL	**Chebaa**	**0.44**	**181**	*e*P	Pg	14 14 22.2	+0.3
QASN	**Qassioun**	**0.50**	**120**	*e*P	Pg	14 14 23.1	0.0
HWQ	**Hawqa**	**0.51**	**18**	*e*P	Pb	14 14 23.9	+0.3
TOTH	**TOTAH**	**0.70**	**127**	*e*P	Pn	14 14 28.3	0.0
TOTH				*e*S	Sn	14 14 38.1	-0.7
TOTH				AMB	AMB	14 14 45.4	
TOTH				AML	AML	14 14 46.0	
comp=N,24nm,0.8s							
TOTH				AML	AML	14 14 47.9	
comp=E,20nm,0.5s							

*ISCJB **07** 14:18:49.4±0.5, 37°.73N±0°.04×27°.12E±0°.03, h6km±6km, Error ellipse: s-maj=6.2km s-min=4.2km az=18.2*
*DDA **07** 14:18:49.6, 37°.81N×27°.22E, h4km±2km, ML2.4*
*THE **07** 14:18:49.8, 37°.69N×27°.04E, h9km±5km, ML2.0/2, Error ellipse: s-maj=7.7km s-min=0.7km az=232.0*
*ISK **07** 14:18:49.6, 37°.75N×27°.15E, h8km, ML2.5/7*
ISC 07 14:18:49.7±0.9, 37°.75N±0°.03×27°.12E±0°.03, h8km±7km, n17, σ0°77/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.10**	**121**	PG	Pg	14 18 51.9	-0.2
GCAM				SG	Sg	14 18 53.9	0.0
GCAM	**G?zelcaml?**	**0.10**	**121**	*i* P	Pg	14 18 52.7	+0.6
GCAM				*i* S	Sg	14 18 54.1	+0.3
SMG	**Samos**	**0.23**	**259**	P	Pg	14 18 53.4	-0.9
SMG				S	Sg	14 18 56.1	-1.3
AYDN	**Tasoluk**	**0.61**	**98**	*i* P	Pb	14 19 01.9	-0.7
AYDN				*i* S	Sg	14 19 08.6	-0.8
AYDB	**Zeytinkoy-Aydi**	**0.64**	**72**	PG	Pg

Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.43**	**252**	P	P	14 47 16.8	-0.3
	0.4nm,0.4s,baz=83,slow=8.9,SNR=9.4						
ASAR	**Alice Springs**	**33.56**	**246**	P	P	14 47 26.4	-0.4
	0.6nm,0.6s,baz=70,slow=9.7,SNR=15						
FITZ	**Fitzroy Crossi**	**40.45**	**256**	P	P	14 48 25.5	+0.5
	0.6nm,0.3s,baz=56,slow=8.4,SNR=9.6						
ILAR	**Eielson Array**	**84.19**	**18**	P	P	14 53 14.7	+0.2
	1.1nm,0.6s,baz=239,slow=5.3,SNR=14						
ARCES	**ARCESS Array B**	**117.82**	**346**	PKP	PKPdf	14 59 27.6	-0.7
	2.4nm,0.8s,baz=90,slow=1.8,SNR=4.3						

*IDC **07** 15:01:41.4±0.8, 13°.78N×92°.82E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.8/48, mbtmp4.0/10, ML3.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/35, Error ellipse: s-maj=38.4km s-min=15.1km az=52.0*
*ISCJB **07** 15:01:44.5±0.4, 13°.95N±0°.06×92°.92E±0°.08, h32km, mb4.1/14, MS2.9/1, Error ellipse: s-maj=12.4km s-min=6.6km az=151.3*
*NEIC **07** 15:01:45.8±2.4, 13°.82N×92°.91E, h30km±18km, mb4.3/4, Error ellipse: s-maj=10.3km s-min=6.0km az=68.0*
*NDI **07** 15:01:49.1±3.0, 13°.69N×92°.42E, h39km±51km, mb4.2, ML4.2, mb4.3(NEIC)*

ISC 07 15:01:46.5±0.5, 13°.94N±0°.05×92°.97E±0°.07, h32km, n47, σ1°36/45, mb4.2/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.76**	**183**	*e*P	**Pb**	**15 02 02.0**	**+0.6**
DGPR				*e*S	**Sn**	**15 02 13.4**	**+1.9**
DGPR				IAML		15 02 14.1	
	comp=N,14μm,0.9s						
DGPR				IAML		15 02 14.3	
	comp=E,8μm,0.6s						
PBA	**Port Blair**	**2.28**	**186**	*e*Pn	Pn	15 02 20.4	-1.7
PBA	**Port Blair**	**2.28**	**186**	*e*P	Pn	15 02 22.0	0.0
PBA				*e*S	Sn	15 02 43.6	-5.5
PBA				IAML		15 03 11.5	
	comp=N,16μm,1.3s						
PBA				IAML		15 03 14.1	
	comp=E,466nm,0.2s						
CMAR	**Chiang Mai Arr**	**7.29**	**51**	*e*Pn	**Pn**	**15 03 32.4**	**+1.5**
CMAR				Sn	**Sn**	**15 04 51.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**7.29**	**51**	Pn	**Pn**	**15 03 32.9**	**+2.0**
	comp=E,0.1nm,0.3s,baz=240,slow=15,SNR=2.8						
CMAR				Sn	**Sn**	**15 04 51.8**	**-0.8**
	comp=E,0.3nm,0.3s,baz=239,slow=28,SNR=8.0						
CMMT	**Chiang Mai**	**7.51**	**49**	P	**Sn**	**15 04 57.1**	**-0.9**
	comp=E,5.2nm,0.7s						
BRDH	**Bariadhala**	**8.78**	**352**	LR	LR	15 08 02.9	
	comp=E,149nm,18.8s,baz=223,slow=43						
SHL	**Shillong**	**11.61**	**355**	*e*P	**Pn**	**15 04 34.1**	**+3.8**
BOK	**Bokaro**	**11.87**	**327**	*e*P	**Pn**	**15 04 32.7**	**-1.0**
IPM	**Ipoh**	**12.31**	**139**	*e*Pn	**Pn**	**15 04 37.2**	**-2.6**
PALK	**Pallekele**	**13.75**	**242**	Sn	Sn	15 07 15.7	-16
	comp=E,1.1nm,0.3s,baz=113,slow=4.0,SNR=6.2						
RAMN	**Ramite**	**14.24**	**336**	*e*P	**Pn**	**15 05 03.8**	**-2.5**
	comp=E,13nm,0.5s						
JIRN	**Jiri**	**15.04**	**336**	*e*P	**Pn**	**15 05 15.3**	**-1.9**
	comp=E,12nm,0.3s						
PKI	**Pulchoki**	**15.28**	**334**	*e*P	**Pn**	**15 05 17.8**	**-2.6**
	comp=E,5.8nm,0.3s						
PKIN	**Phulchoki**	**15.29**	**334**	*e*P	**Pn**	**15 05 17.8**	**-2.7**
	comp=E,8.9nm,0.4s						
KOLN	**Koldanda**	**16.29**	**329**	*e*P	**Pn**	**15 05 31.7**	**-1.6**
	comp=E,9.9nm,0.5s						
DANN	**Dangsing**	**16.70**	**331**	*e*P	**Pn**	**15 05 36.6**	**-1.9**
	comp=E,6.1nm,0.4s						
PYUN	**Piuthan**	**16.87**	**328**	*e*P	**Pn**	**15 05 39.0**	**-1.6**
	comp=E,11nm,0.7s						
BHPL	**Bhopal**	**17.38**	**304**	*e*P	**Pn**	**15 05 45.9**	**-0.9**
BHPL				IAmb	IAmb	15 05 49.0	
	comp=Z,7.6nm,0.5s						
SMLA	**Simla**	**22.44**	**322**	*e*P	**P**	**15 06 43.8**	**+1.0**
SMLA				IAmb	IAmb	15 06 45.5	
	comp=Z,8.3nm,0.9s						
DHRM	**DHARAMSHALA**	**23.75**	**323**	*e*P	**P**	**15 06 57.0**	**+0.6**
DHRM				IAmb	IAmb	15 06 57.4	
	comp=Z,11nm,0.8s						
H08S3	**Diego Garcia H**	**29.54**	**225**	T	T	15 38 03.7	
	baz=43,slow=76,SNR=7.7						
H08S2	**Diego Garcia H**	**29.55**	**225**	T	T	15 37 51.5	
	baz=43,slow=76,SNR=5.1						
H08S1	**Diego Garcia H**	**29.56**	**225**	T	T	15 38 04.0	
	baz=43,slow=76,SNR=5.5						
MK31	**Makanchi Array**	**33.95**	**347**	*e*P	**P**	**15 08 27.1**	**+0.1**
	comp=Z,2.2nm,0.8s						
MK32	**Makanchi Array**	**33.95**	**347**	*e*P	**P**	**15 08 27.9**	**+1.0**
MKAR	**Makanchi Array**	**33.95**	**347**	*e*P	**P**	**15 08 27.4**	**+0.4**
MKAR	**Makanchi Array**	**33.95**	**347**	P	**P**	**15 08 27.9**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=161,slow=9.1,SNR=23						
MKAR				LR	LR	15 27 23.8	
	comp=Z,22nm,18.4s,baz=162,slow=45						
GEYT	**Alibeck**	**39.05**	**314**	P	**P**	**15 09 11.5**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=132,slow=6.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**40.43**	**353**	*e*P	**P**	**15 09 22.5**	**+0.7**
ZALV	**Zalesovo Beam**	**40.43**	**353**	P	**P**	**15 09 22.1**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=179,slow=9.4,SNR=10						
ZAA1	**Zalesovo Array**	**40.43**	**353**	*e*P	**P**	**15 09 22.1**	**+0.3**
BVAR	**Borovoye Array**	**42.92**	**340**	P	**P**	**15 09 42.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=106,slow=11,SNR=4.0						
ABKAR	**Akbulak array**	**44.42**	**329**	*e*P	**P**	**15 09 54.1**	**-0.1**
	comp=Z,3.2nm,1.2s						
FITZ	**Fitzroy Crossi**	**45.30**	**134**	*e*P	**P**	**15 10 00.1**	**-1.6**
	comp=Z,23nm,2.0s						
FITZ	**Fitzroy Crossi**	**45.30**	**134**	P	**P**	**15 10 01.0**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=343,slow=7.1,SNR=8.0						
WR1	**Warramunga Arr**	**52.82**	**129**	*e*P	**P**	**15 10 59.0**	**-0.3**
WR1				*e*PcP	**PcP**	**15 12 08.7**	**+0.2**
WRA	**Warramunga Arr**	**52.82**	**129**	P	**P**	**15 10 59.0**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=308,slow=8.2,SNR=4.6						
WRA				PcP	**PcP**	**15 12 08.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=307,slow=3.4,SNR=3.4						
ASAR	**Alice Springs**	**54.77**	**133**	P	**P**	**15 11 13.3**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=313,slow=7.9,SNR=16						
BR101	**Keskin Array S**	**57.70**	**308**	*e*P	**P**	**15 11 34.0**	**-0.5**
BRTR	**Keskin Array B**	**57.70**	**308**	P	**P**	**15 11 34.0**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=120,slow=8.1,SNR=6.3						
FIA0	**FINESS Array S**	**66.85**	**331**	*e*P	**P**	**15 12 34.9**	**-0.3**
FINES	**FINESS Array B**	**66.85**	**331**	P	**P**	**15 12 34.9**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=108,slow=10,SNR=4.8						
ARA0	**ARCESS Array S**	**69.20**	**340**	*e*P	**P**	**15 12 50.0**	**+0.2**
ARCES	**ARCESS Array B**	**69.20**	**340**	P	**P**	**15 12 50.0**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=84,slow=8.3,SNR=4.6						
ESDC	**Sonseca Array**	**86.45**	**310**	P	**P**	**15 14 26.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=103,slow=5.6,SNR=3.1						
CAST	**Castle Rocks**	**88.30**	**24**	*e*P	**P**	**15 14 35.3**	**+0.5**
	comp=Z,1.9nm,0.7s						

*IDC **07** 15:01:52.9±2.5, 15°.07S×173°.79W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.8/37, mbtmp3.9/6, MS3.5/19, Ms1 3.5/19, ms1mx3.4/33, Error ellipse: s-maj=149.5km s-min=21.6km az=149.0*
*NEIC **07** 15:01:53.7±0.4, 15°.14S×173°.70W, h10km, mb4.4/5, Error ellipse: s-maj=12.1km s-min=9.5km az=131.0*
*ISCJB **07** 15:01:54.7±0.5, 15°.3S±0°.1×173°.7W±0°.1, h30km, mb3.9/12, MS3.5/18, Error ellipse: s-maj=16.8km s-min=13.2km az=152.6*

ISC 07 15:01:56.5±0.8, 15°.1S±0°.1×173°.6W±0°.2, h30km, n37, σ0°97/22, mb4.1/12, MS3.6/19, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.28**	**138**	*e*Pn	**Pn**	**15 03 12.6**	**-0.7**
KNTN	**Kanton**	**12.43**	**9**	*e*Pn	**Pn**	**15 04 49.9**	**-1.6**
DZM	**Mont Dzumac**	**20.09**	**247**	LR	LR	15 13 06.2	
	comp=Z,186nm,19.5s,baz=70,slow=34						
URZ	**Urewera**	**24.44**	**198**	LR	LR	15 15 12.5	
	comp=Z,188nm,19.5s,baz=36,slow=33						
HNR	**Honiara**	**26.42**	**279**	LR	LR	15 15 42.1	
	comp=Z,133nm,18.2s,baz=136,slow=32						
RPZ	**Rata Peaks**	**31.34**	**202**	LR	LR	15 19 28.1	
	comp=Z,242nm,19.0s,baz=18,slow=34						
WR1	**Warramunga Arr**	**49.69**	**257**	*e*P	**P**	**15 10 45.8**	**-0.4**
WRA	**Warramunga Arr**	**49.69**	**257**	P	**P**	**15 10 45.8**	**-0.4**
	0.8nm,0.7s,baz=96,slow=7.8,SNR=15						
AS31	**Alice Springs**	**49.98**	**252**	*e*P	**P**	**15 10 47.7**	**-0.7**
	1.4nm,0.8s						
ASAR	**Alice Springs**	**49.98**	**252**	*e*P	**P**	**15 10 47.2**	**-1.2**
ASAR	**Alice Springs**	**49.98**	**252**	P	**P**	**15 10 48.0**	**-0.4**
	4.4nm,0.7s,baz=86,slow=8.2,SNR=73						
MJAR	**Matsushiro Arr**	**68.60**	**320**	LR	LR	15 36 42.4	
	comp=Z,21nm,21.8s,baz=145,slow=30						
PETK	**Petropavlovsk-**	**72.32**	**342**	LR	LR	15 41 30.3	
	comp=Z,9.8nm,20.5s,baz=184,slow=33						
YBH	**Yreka Blue Hor**	**73.57**	**37**	P	**P**	**15 13 28.7**	**+2.0**
	2.0nm,0.9s,baz=170,slow=6.1,SNR=5.6						
YBH				LR	LR	15 37 01.9	
	comp=Z,44nm,21.6s,baz=242,slow=29						
NV01	**Mina Array Sit**	**74.28**	**42**	*e*P	**P**	**15 13 32.5**	**+1.2**
NVAR	**Mina Array Bea**	**74.28**	**42**	*e*P	**P**	**15 13 31.8**	**+0.5**
NVAR	**Mina Array Bea**	**74.28**	**42**	P	**P**	**15 13 32.5**	**+1.2**
	1.2nm,0.8s,baz=228,slow=11,SNR=8.9						
NVAR				LR	LR	15 39 38.7	
	comp=Z,39nm,18.7s,baz=278,slow=30						
NV11	**Mina Array Sit**	**74.38**	**42**	*e*P	**P**	**15 13 31.4**	**-0.4**
	0.4nm,1.4s						
KDAK	**Kodiak Island**	**74.71**	**12**	LR	LR	15 39 38.4	
	comp=Z,36nm,19.2s,baz=190,slow=30						
KSRS	**Korea Array**	**75.82**	**316**	LR	LR	15 41 04.5	
	comp=Z,10nm,19.8s,baz=105,slow=31						
PINE	**Pine Mountain**	**75.82**	**36**	*e*P	**P**	**15 13 40.6**	**+0.5**
	7.7nm,1.1s						
ELK	**Elko**	**77.53**	**42**	LR	LR	15 43 59.4	
	comp=Z,39nm,18.9s,baz=242,slow=33						
BBB	**Bella Bella**	**77.75**	**27**	LR	LR	15 43 43.2	
	comp=Z,27nm,18.4s,baz=24,slow=32						
NEW	**Newport**	**80.62**	**34**	LR	LR	15 44 59.8	
	comp=Z,24nm,18.4s,baz=228,slow=32						
ANMO	**Albuquerque**	**80.80**	**50**	LR	LR	15 41 55.5	
	comp=Z,32nm,21.0s,baz=250,slow=30						
DLBC	**Dease Lake**	**81.54**	**22**	LR	LR	15 45 29.7	
	comp=Z,17nm,19.1s,baz=47,slow=32						
WRH	**Wood River Hil**	**81.74**	**11**	*e*P	**P**	**15 14 12.4**	**+0.6**
	5.6nm,1.3s						
HDA	**Harding Lake**	**81.89**	**11**	*e*P	**P**	**15 14 12.6**	**-0.1**
	3.0nm,1.0s						
CCB	**Clear Creek Bu**	**81.95**	**11**	*e*P	**P**	**15 14 13.2**	**+0.3**
	2.3nm,0.9s						
PDAR	**Pinedale Array**	**82.22**	**42**	P	**P**	**15 14 16.4**	**+1.2**
	0.1nm,0.5s,baz=183,slow=5.2,SNR=3.0						
PDAR				LR	LR	15 41 57.5	
	comp=Z,26nm,20.4s,baz=304,slow=29						
ILAR	**Eielson Array**	**82.23**	**11**	P	**P**	**15 14 14.7**	**+0.2**
	0.4nm,0.7s,baz=230,slow=6.5,SNR=7.3						
ILAR				LR	LR	15 44 01.8	
	comp=Z,23nm,19.4s,baz=152,slow=31						
BMAR	**Burnt Mountain**	**85.04**	**11**	*e*P	**P**	**15 14 28.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**92.33**	**288**	LR	LR	15 51 59.8	
	comp=Z,4.7nm,21.7s,baz=225,slow=33						
ULM	**Lac du Bonnet**	**93.87**	**39**	LR	LR	15 50 15.2	
	comp=Z,46nm,20.9s,baz=246,slow=31						
CLL	**Collm**	**143.53**	**353**	*e*PKiKP	**PKiKP**	**15 21 33.0**	**+1.4**
BR101	**Keskin Array S**	**145.82**	**321**	*e*PKPdf	**PKPab**	**15 21 34.5**	**+0.8**
BRTR	**Keskin Array B**	**145.82**	**321**	PKPbc	**PKPab**	**15 21 34.5**	**+0.8**
	0.8nm,0.8s,baz=101,slow=2.5,SNR=5.3						

*ISCJB **07** 15:09:52.7±0.5, 39°.81N±0°.04×36°.47E±0°.04, h9km, Error ellipse: s-maj=5.8km s-min=3.7km az=154.9*
*ISK **07** 15:09:52.2, 39°.84N×36°.46E, h8km, ML2.0/5*
*DDA **07** 15:09:52.5, 39°.79N×36°.45E, h7km±3km, ML2.5*

ISC 07 15:09:52.4±0.9, 39°.81N±0°.03×36°.45E±0°.02, h9km, n19, σ0°70/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSAR	**Sarkisla-SIVAS**	**0.42**	**202**	*i* P	**Pb**	**15 10 01.6**	**-0.4**
SVSK	**Karacayir**	**0.44**	**75**	PG	**Pg**	**15 10 00.5**	**-0.4**
SVSK				SG	**Sg**	**15 10 07.4**	**+0.8**
TOKT	**Tokat**	**0.52**	**8**	PG	**Pg**	**15 10 02.1**	**-0.3**
TOKT				SG	**Sg**	**15 10 09.3**	**0.0**
CUALT	**Altinyayla-SIV**	**0.58**	**156**	*i* P	**Pg**	**15 10 04.2**	**+0.6**
YOZ	**Yozgat**	**0.89**	**259**	PG	**Pb**	**15 10 09.9**	**-0.1**
YOZ				SG	**Sb**	**15 10 22.9**	**+0.9**
RSDY	**Resadiye-TOKAT**	**0.90**	**49**	PG	**Pg**	**15 10 08.9**	**-0.7**
RSDY				SG	**Sb**	**15 10 22.8**	**+0.6**
CUKAN	**kangal_SIVAS**	**0.93**	**122**	*i* P	**Pb**	**15 10 10.9**	**+0.2**
CUZAR	**Zara_SIVAS**	**1.02**	**85**	*i* P	**Pb**	**15 10 12.3**	**0.0**
SIRC	**Yozgat**	**1.11**	**245**	IAML_P			
	comp=Z,968nm,0.2s						
SIRC				*i* P	**Pg**	**15 10 13.5**	**-0.2**
COAL	**Corum-Alaca**	**1.21**	**292**	*i* P	**Pg**	**15 10 16.5**	**+0.9**
HAVZ	**Havza**	**1.38**	**336**	*i* P	**Pg**	**15 10 19.3**	**+0.4**
CORM	**Corum**	**1.45**	**285**	PN	**Pb**	**15 10 19.4**	**-0.1**
HEKM	**Malatya_Hekimh**	**1.49**	**128**	IAML_P			
	comp=Z,751nm,0.3s						
HEKM				*i* P	**Pg**	**15 10 21.3**	**+0.2**
AVNS	**Nevsehir-Avano**	**1.59**	**232**	*i* P	**Pn**	**15 10 18.9**	**-1.9**
CDAG	**Cicekdag**	**1.61**	**264**	*i* P	**Pg**	**15 10 23.1**	**-0.2**
KEMA	**Kemaliye**	**1.67**	**108**	IAML_P			
	comp=Z,345nm,0.2s						
KEMA				*i* P	**Pg**	**15 10 24.0**	**-0.4**
DELI	**KIRIKKALE**	**1.95**	**276**	IAML_P			
	comp=Z,271nm,0.3s						
DELI				*i* P	**Pg**	**15 10 29.3**	**-0.5**
KIRS	**Kırehir-Merke**	**2.07**	**252**	IAML_P			
	comp=Z,152nm,0.3s						
KIRS				*i* P	**Pb**	**15 10 29.5**	**-0.7**
YAYX	**Yaylak**	**2.22**	**248**	PN	**Pn**	**15 10 30.5**	**+1.0**

TAP 07 15:18:44.7, 24°.42N×121°.41E, h13km, ML1.1, 1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan**	**0.04**	**298**	‖ *i* P	Pg	15 18 47.6	+0.4
	baz=300						
NNS				S	Sg	15 18 49.1	+0.1
	baz=300						
NDT	**Datong Townshi**	**0.20**	**27**	P	Pb	15 18 50.0	-0.3
	baz=26						
NDT				*e*S	Sb	15 18 53.5	-0.5
	baz=26						
YHNB	**Yeheng**	**0.25**	**352**	*e*P	Pb	15 18 51.5	+0.4
	baz=352						
YHNB				S	Sb	15 18 55.0	-0.5
	baz=352						
ENTT	**Nioudou**	**0.26**	**33**	P	Pb	15 18 51.1	-0.1
	baz=34						
ENTT				S	Sb	15 18 55.3	-0.4
	baz=34						
TDCB	**Techi**	**0.28**	**234**	*e*P	Pg	15 18 51.1	+0.4
	baz=234						
NACB	**Ninganchiao**	**0.30**	**146**	*e*P	Pg	15 18 50.9	+0.1
	baz=145						
WHF	**Hehuan Shan**	**0.31**	**206**	*e*P	Pg	15 18 51.2	0.0
	baz=204						
WHF				*e*S	Sb	15 18 57.9	+0.5
	baz=204						
NANB	**Nanao**	**0.31**	**89**	*e*P	Pb	15 18 51.7	-0.4
	baz=88						
TWE	**Neicheng**	**0.38**	**38**	P	Pb	15 18 53.1	-0.2
	baz=39						
TWD	**Chiawan**	**0.38**	**154**	*e*P	Pb	15 18 52.9	-0.4
	baz=152						
SLBB	**Yuanshan**	**0.39**	**32**	*e*P	Pb	15 18 53.6	+0.1
	baz=31						
CHGB	**Renai**	**0.42**	**211**	*e*P	Pg	15 18 53.0	-0.1
	baz=211						
OWD	**Renai**	**0.51**	**205**	P	Pb	15 18 55.5	-0.1
	baz=204						
ENLB	**Shoufeng**	**0.54**	**161**	P	Pb	15 18 56.0	-0.1
	baz=161						

*IDC **07** 15:19:17.9±7.3, 24°.87N×123°.03E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.1/33, mbtmp3.3/3, Error ellipse: s-maj=474.3km s-min=27.7km az=60.0*
*ISCJB **07** 15:19:18.5±1.5, 25°.07N±0°.09×123°.55E±0°.04, h23km±11km, mb3.3/3, Error ellipse: s-maj=14.9km s-min=6.8km az=1.8*
*JMA **07** 15:19:19.2±0.1, 25°.03N×123°.56E, h19km, M2.9*

ISC 07 15:19:18.3±2.1, 25°.1N±0°.1×123°.56E±0°.04, h10km±14km, n11, σ0°48/18, mb3.4/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.74**	**168**	P	**Pg**	**15 19 32.7**	**+0.2**
IRIF				S	**Sg**	**15 19 42.3**	**+0.2**
YOJ	**Yonaguni jima**	**0.77**	**220**	P	**Pg**	**15 19 33.5**	**+0.2**
YOJ				*e*S	**Sg**	**15 19 43.3**	**-0.1**
JYNG	**Yonagunijimaku**	**0.82**	**223**	P	**Pg**	**15 19 34.2**	**0.0**
JYNG				*e*S	**Sg**	**15 19 44.9**	**0.0**
JISG	**Ishigakijimahi**	**0.83**	**124**	P	**Pg**	**15 19 34.5**	**+0.2**
JISG				S	**Sg**	**15 19 46.0**	**+0.9**
JIJ	**Ishigaki jima**	**0.87**	**142**	P	**Pg**	**15 19 34.7**	**-0.4**
JIJ				S	**Sg**	**15 19 45.6**	**-0.8**
JKRS	**Kuro-shima**	**0.91**	**153**	P	**Pg**	**15 19 35.7**	**-0.2**
JKRS				S	**Sg**	**15 19 47.8**	**0.0**
HATJ	**Hateruma jima**	**1.02**	**167**	P	**Pg**	**15 19 37.5**	**-0.4**
HATJ				S	**Sg**	**15 19 51.1**	**-0.1**
JTJ	**Tarama**	**1.12**	**112**	P	**Pg**	**15 19 39.7**	**-0.1**
MKAR	**Makanchi Array**	**39.25**	**314**	P	**P**	**15 26 46.2**	**-0.7**
	0.4nm,0.5s,baz=103,slow=10.0,SNR=5.3						
WRA	**Warramunga Arr**	**45.94**	**166**	P	**P**	**15 27 41.9**	**+0.5**
	0.4nm,0.8s,baz=347,slow=8.6,SNR=2.9						
ASAR	**Alice Springs**	**49.46**	**167**	P	**P**	**15 28 09.4**	**+0.6**
	0.2nm,0.8s,baz=352,slow=8.7,SNR=4.1						

*GUC **07** 15:20:42.6±0.7, 34°.34S×72°.54W, h34km±4km, ML3.7*

ISC 07 15:20:42.2±2.3, 34°.32S±0°.06×72°.5W±0°.1, h8km±13km, n18, σ0°78/27, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.40**	**101**	*e*P	**Pb**	**15 20 51.9**	**+0.6**
CHPI				*i* S	**Sb**	**15 20 58.2**	**+0.6**
GO05	**Huala**	**0.82**	**147**	‖ *e*P	**Pg**	**15 20 57.6**	**-0.4**
GO05				*i* S	**Sg**	**15 21 08.7**	**-0.1**
GO05				IAML		15 21 10.7	
	comp=E,3μm,0.4s						
ANTU	**Antumapu**	**1.70**	**64**	*e*P	**Pn**	**15 21 11.8**	**-0.4**
ANTU				*e*S	**Sn**	**15 21 33.8**	**-0.3**
ANTU				IAML		15 21 44.7	
	comp=N,1μm,0.4s						
ROC1	**El Roble**	**1.81**	**43**	*e*P	**Pn**	**15 21 13.9**	**0.0**
ROCH	**El Roble**	**1.81**	**43**	↑ *e*P	**Pn**	**15 21 12.7**	**-1.2**
ROCH				*e*S	**Sn**	**15 21 36.6**	**-0.6**
ROCH				IAML		15 21 51.3	
	comp=N,1μm,0.5s						
CLCH	**Cerro Calan**	**1.85**	**61**	*i* P	**Pn**	**15 21 13.6**	**-0.7**
CLCH				*e*S	**Sn**	**15 21 37.4**	**-0.6**
CLCH				IAML		15 21 47.8	
	comp=E,1μm,0.7s						
PEL	**Peldehue**	**1.90**	**52**	*e*P	**Pn**	**15 21 14.3**	**-0.6**
PEL				IAML		15 21 51.4	
	comp=E,1μm,0.4s						
LMEL	**Las Melosas**	**1.94**	**77**	*e*P	**Pn**	**15 21 15.4**	**-0.2**
LMEL				*e*S	**Sb**	**15 21 41.9**	**-0.4**
LMEL				IAML		15 21 50.9	
	comp=N,843nm,0.4s						
FCH	**Farellones**	**2.07**	**62**	*e*P	**Pn**	**15 21 16.9**	**-0.6**
FCH				*e*S	**Sn**	**15 21 43.6**	**+0.1**
FCH				IAML		15 21 53.5	
	comp=E,535nm,0.5s						
AUSP	**Uspallata**	**3.32**	**52**	*e*P	**Pn**	**15 21 35.9**	**+1.2**
AUSP				*e*S	**Sg**	**15 22 30.3**	**+1.4**
RTLS	**Leoncito**	**3.66**	**48**	*e*P	**Pn**	**15 21 40.8**	**+1.4**
RTLS				*e*S	**Sg**	**15 22 38.6**	**-1.3**
RTLS				IAML		15 22 45.8	
	comp=Z,89nm,0.6s						
RTCV	**Cerro Valdivia**	**4.11**	**55**	*e*P	**Pn**	**15 21 46.1**	**+0.8**
ACCO	**Cerro Coronel**	**4.70**	**39**	*e*P	**Pn**	**15 21 54.8**	**+1.1**
AMOG	**MOGNA**	**4.76**	**46**	*e*P	**Pn**	**15 21 54.7**	**+0.5**
AROD	**Rodeo**	**4.86**	**32**	*e*P	**Pn**	**15 21 56.2**	**+0.4**
AGUA	**GUANDACOL**	**5.89**	**36**	*e*P	**Pn**	**15 22 09.9**	**+0.1**
VCA	**Vinchina**	**6.65**	**34**	*e*P	**Pn**	**15 22 20.2**	**-0.2**
VCA				IAML		15 24 10.7	
	comp=Z,49nm,0.6s						
ACLC	**CERRO LA CRUZ**	**6.77**	**45**	*e*P	**Pn**	**15 22 21.9**	**-0.1**

PGC 07 15:34:55.1±0.1, 52°.32N×132°.09W, h1km, ML3.5/16, 104km Ssw of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.33**	**39**	P	Pg	15 35 01.1	-0.3
BNB				S	Sg	15 35 05.7	0.0
HG3B	**Hotspring**	**0.47**	**57**	P	Pg	15 35 03.3	-0.8
HG3B				S	Sg	15 35 09.6	-0.6
HG4B	**Hotspring**	**0.55**	**93**	P	Pg	15 35 04.9	-0.7
HG4B				S	Sg	15 35 12.0	-0.7
HG1B	**Mitchell Dam**	**0.61**	**357**	P	Pg	15 35 06.3	-0.6
HG1B				S	Sg	15 35 13.9	-1.0
MOBC	**Moresby Island**	**0.83**	**5**	P	Pg	15 35 09.9	-1.1
MOBC				S	Sg	15 35 20.9	-0.8
DIB	**Dawson Inlet,**	**0.91**	**345**	P	Pg	15 35 11.0	-1.6
DIB				S	Sg	15 35 22.8	-1.7
MASB	**Masset**	**1.70**	**1**	Pn	Pn	15 35 25.9	+0.1
MASB				Sn	Sn	15 35 47.6	-0.5
NDB	**Naden**	**1.71**	**343**	Pn	Pn	15 35 26.5	+0.4
RUBB	**Prince Rupert**	**2.29**	**

YKA	**Yellowknife Ar**	**13.58**	**36**	Pn	**Pn**	**15 39 51.2**	**+0.5**
	baz=227,slow=12,SNR=4.2						
YKA				Sn	**Sn**	**15 42 15.4**	**-5.5**
	0.0nm,0.3s,baz=221,slow=26,SNR=4.0						
PDAR	**Pinedale Array**	**17.80**	**114**	P	**P**	**15 40 48.0**	**+1.2**
	0.1nm,0.3s,baz=309,slow=9.4,SNR=5.5						
RES	**Resolute Bay**	**26.78**	**21**	LR	LR	15 53 38.3	
	comp=Z,33nm,20.2s,baz=328,slow=38						
TXAR	**Lajitas Array**	**31.07**	**127**	P	**P**	**15 42 58.3**	**+2.1**
	0.3nm,0.7s,baz=339,slow=5.6,SNR=4.1						
JMIC	**Jan Mayen**	**50.39**	**21**	LR	LR	16 05 05.4	
	comp=Z,22nm,18.5s,baz=71,slow=34						
BORG	**Borgarnes**	**51.46**	**31**	LR	LR	16 05 44.5	
	comp=Z,32nm,18.1s,baz=321,slow=34						

*IDC **07** 15:39:31.7±2.5,28°.52N×52°.38E,h0km,mb3.5/3,*
mb1 3.5/4,mb1mx3.2/35,mbtmp3.5/4,ML3.3/1,MS3.0/1,
Ms1 3.0/1,ms1mx2.3/28,Error ellipse: s-maj=59.2km
s-min=30.5km az=155.0
*ISCJB **07** 15:39:33.1±0.8,28°.55N±0°.05×52°.35E±0°.06,h16km,*
mb3.4/3,MS2.9/1,Error ellipse: s-maj=9.3km s-min=5.2km
az=41.0
*THR **07** 15:39:33.4,28°.79N×52°.60E,h14km,ML3.3*
*TEH **07** 15:39:34.2,28°.66N×52°.50E,h8km,ML3.3*

ISC 07 15:39:34.3±0.9,28°.60N±0°.07×52°.43E±0°.06,h16km,n29,
σ1°35/31,mb3.4/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.58**	**123**	*e*AML	AML	15 40 05.0	
	2μm,0.4s						
GHIR				*e*Pg	**Pg**	**15 39 45.2**	**-0.7**
GHIR				*e*S	**Sg**	**15 39 54.0**	**+0.2**
GHIR				*e*AML	AML	15 40 06.0	
	2μm,0.4s						
ISRV	**Sarvestan**	**0.98**	**38**	*e*Pg	**Pb**	**15 39 51.9**	**-1.3**
ISRV				IAMB	IAmb	15 40 16.5	
	comp=N,16μm,0.4s						
JHRM	**Jahrom**	**1.02**	**95**	*e*Pg	**Pb**	**15 39 53.0**	**-0.6**
JHRM				IAMB	IAmb	15 40 14.6	
	comp=Z,0.0nm,0.5s						
SHI	**Shiraz**	**1.04**	**4**	*e*Pg	**Pb**	**15 39 52.6**	**-1.4**
SHI				*e*Sg	**Sb**	**15 40 06.9**	**-0.6**
SHI				IAMB	IAmb	15 40 14.4	
	comp=Z,5μm,0.8s						
IKAZ	**Kazeroun**	**1.28**	**336**	*e*Pg	**Pg**	**15 39 59.3**	**+0.2**
IKAZ				IAMB	IAmb	15 40 24.7	
	comp=Z,12μm,0.4s						
IPAR	**Pars**	**1.35**	**24**	*e*Pg	**Pb**	**15 39 59.1**	**-0.3**
IPAR				IAMB	IAmb	15 40 25.4	
	comp=Z,4μm,0.7s						
KLNJ	**Kolanjah**	**2.50**	**343**	*e*Pn	**Pn**	**15 40 16.0**	**+1.3**
IRAM	**Ramesheh**	**3.20**	**359**	*e*Pn	**Pn**	**15 40 25.3**	**+1.2**
IMEH	**Mehriz**	**3.36**	**34**	*e*Pn	**Pn**	**15 40 29.0**	**+2.6**
ISAD	**Sadrabad**	**3.47**	**18**	*e*Pn	**Pn**	**15 40 29.8**	**+1.8**
NGRK	**Negar Kerman**	**3.91**	**74**	*e*Pn	**Pn**	**15 40 35.8**	**+1.8**
JHBN	**Jahan bin**	**3.92**	**338**	*e*Pn	**Pn**	**15 40 35.9**	**+1.7**
KHGB	**Koh Gabri**	**3.95**	**62**	*e*Pn	**Pn**	**15 40 36.4**	**+1.9**
ICHK	**Chekchek**	**4.01**	**25**	*e*Pn	**Pn**	**15 40 37.6**	**+2.3**
YZKH	**Yazd**	**4.21**	**26**	*e*Pn	**Pn**	**15 40 36.4**	**-1.6**
YZKH	**Yazd**	**4.21**	**26**	*e*Pn	**Pn**	**15 40 36.4**	**-1.6**
IPIR	**Pirpir**	**4.28**	**342**	*e*Pn	**Pn**	**15 40 41.1**	**+2.0**
ANAR	**Anarak**	**4.71**	**13**	*e*Pn	**Pn**	**15 40 45.9**	**+1.1**
IKLH	**Kolahrood**	**4.76**	**351**	*e*Pn	**Pn**	**15 40 46.5**	**+0.9**
KRSH	**Karshahi**	**5.36**	**357**	*e*Pn	**Pn**	**15 40 54.0**	**+0.2**
TPRV	**Parvadeh(Tabas**	**5.73**	**39**	*e*Pn	**Pn**	**15 40 59.1**	**+0.2**
ISFB	**Sefidab**	**5.73**	**358**	*e*Pn	**Pn**	**15 40 59.7**	**+0.8**
TKDS	**Koohdasht(Taba**	**6.41**	**38**	*e*Pn	**Pn**	**15 41 09.2**	**+0.9**
TNSJ	**Nastanj**	**6.43**	**33**	*e*Pn	**Pn**	**15 41 10.3**	**+1.8**
IKOM	**Komasi**	**6.96**	**324**	*e*Pn	**Pn**	**15 41 16.8**	**+0.9**
BRTR	**Keskin Array B**	**19.06**	**310**	P	**Pn**	**15 43 56.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=138,slow=16,SNR=6.5						
MKAR	**Makanchi Array**	**29.55**	**44**	P	**P**	**15 45 38.9**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=227,slow=9.6,SNR=3.3						
MKAR				LR	LR	15 59 34.7	
	comp=Z,32nm,20.2s,baz=52,slow=41						
FINES	**FINESS Array B**	**37.22**	**339**	P	**P**	**15 46 44.6**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=138,slow=13,SNR=3.3						
TORD	**Torodi Ar. Bea**	**49.48**	**263**	P	**P**	**15 48 23.6**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=59,slow=8.6,SNR=2.8						

*SJA **07** 15:55:08.5±0.3,33°.04S×72°.02W,h64km±5km,ML3.6,*
MW3.2
*GUC **07** 15:55:13.7±0.6,32°.51S×71°.59W,h35km±3km,ML3.0*

ISC 07 15:55:10.5±2.6,32°.60S±0°.05×71°.8W±0°.1,h5km±16km,n17,
σ1°33/24,1C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.75**	**120**	*e*P	**Pb**	**15 55 26.1**	**-0.2**
ROCH	**El Roble**	**0.75**	**120**	⇓*i*P	**Pb**	**15 55 26.6**	**+0.4**
ROCH				*i* S	**Sb**	**15 55 36.5**	**-0.4**
ROCH				IAML		15 55 37.1	
	comp=N,1μm,0.1s						
PEL	**Peldehue**	**1.07**	**121**	*e*S	**Sb**	**15 55 45.4**	**-0.7**
PEL				IAML		15 55 47.3	
	comp=Z,53μm,0.2s						
PEL	**Peldehue**	**1.07**	**121**	⇓⇓*i*P	**Pb**	**15 55 31.8**	**+0.1**
PEL				*i* S	**Sg**	**15 55 45.2**	**+0.1**
PEL				IAML		15 55 48.0	
	comp=N,788nm,0.2s						
CLCH	**Cerro Calan**	**1.32**	**128**	⇓*i*P	**Pn**	**15 55 35.6**	**-0.1**
CLCH				*i* S	**Sb**	**15 55 52.4**	**-0.7**
CLCH				IAML		15 55 54.1	
	comp=E,420nm,0.2s						
FSR	**Penalolen**	**1.37**	**130**	*e*P	**Pg**	**15 55 37.5**	**+0.5**
FSR				*i* S	**Sg**	**15 55 54.8**	**+0.1**
FCH	**Farellones**	**1.45**	**120**	⇑*i*P	**Pn**	**15 55 37.6**	**-0.2**
FCH				*i* S	**Sb**	**15 55 56.4**	**-0.9**
FCH				IAML		15 55 57.7	
	comp=E,470nm,0.2s						
LMEL	**Las Melosas**	**1.82**	**134**	⇓*i*P	**Pb**	**15 55 43.5**	**-0.9**
LMEL				*i* S	**Sb**	**15 56 06.9**	**-0.8**
LMEL				IAML		15 56 10.8	
	comp=N,395nm,0.1s						
AUSP	**Uspallata**	**2.06**	**80**	*e*P	**Pb**	**15 55 47.6**	**-1.0**
AUSP				*e*S	**Sg**	**15 56 16.5**	**-0.3**
RTLS	**Leoncito**	**2.26**	**70**	*e*P	**Pb**	**15 55 51.0**	**-0.9**
RTLS				IAML		15 56 27.1	
	comp=Z,35nm,0.4s						
GO04	**Tololo Observa**	**2.56**	**20**	*e*P	**Pn**	**15 55 53.2**	**+0.3**
RTCV	**Cerro Valdivia**	**2.85**	**76**	*e*P	**Pn**	**15 55 58.4**	**+1.7**
ACCO	**Cerro Coronel**	**3.07**	**50**	*e*P	**Pb**	**15 56 03.8**	**-2.1**
AROD	**Rodeo**	**3.13**	**40**	*e*P	**Pb**	**15 56 05.0**	**-1.9**
AMOG	**MOGNA**	**3.26**	**60**	*e*P	**Pn**	**15 56 05.0**	**+2.6**
ACDV	**Cuesta del Vie**	**3.32**	**44**	*e*P	**Pn**	**15 56 06.8**	**+3.4**
ACDV				IAML		15 57 00.0	
	comp=Z,15nm,0.5s						
ACAN	**Cantantal**	**3.90**	**86**	*e*P	**Pn**	**15 56 11.7**	**+0.5**

MEX 07 16:24:12.9±0.9,17°.23N×94°.53W,h151km±8km,MD3.7,
Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.37**	**248**	*e*P	Pn	16 24 33.0	-0.9
CMIG				*i* S	Sn	16 24 47.6	-2.1
TGIG		**1.42**	**108**	*i* P	Pn	16 24 40.6	-1.2
TGIG				*i* S	Sn	16 25 00.9	-2.9
PCIG		**1.97**	**140**	*e*P	Pn	16 24 47.3	-0.5
PCIG				*e*S	Sn	16 25 12.9	-1.6
HUIG	**Huatulco**	**2.10**	**226**	*i* P	Pn	16 24 47.3	-2.0
HUIG				*e*S	Sn	16 25 15.8	-1.5
CCIG	**Comitan**	**2.48**	**112**	*e*P	Pn	16 24 52.3	-1.7
CCIG				*i* S	Sn	16 25 24.3	-1.2

*IDC **07** 16:24:31.5±1.0,29°.44N×67°.77E,h0km,mb3.3/8,*
mb1 3.6/10,mb1mx3.4/48,mbtmp3.4/10,ML3.7/2,MS2.9/3,
Ms1 2.9/3,ms1mx2.3/33,Error ellipse: s-maj=25.3km
s-min=20.5km az=117.0
*ISCJB **07** 16:24:34.5±0.8,29°.50N±0°.10×67°.7E±0°.2,h33km,mb3.4/7,*
MS2.8/3,Error ellipse: s-maj=21.5km s-min=9.8km
az=30.1

ISC 07 16:24:36.1±1.0,29°.4N±0°.1×67°.5E±0°.1,h35km,n13,
σ2°24/12,mb3.5/7,MS2.8/3,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**10.09**	**234**	Pn	**Pn**	**16 26 59.5**	**+1.0**
	1.1nm,0.3s,baz=66,slow=13,SNR=13						
WSAR				Sn	**Sn**	**16 28 45.3**	**-5.2**
	1.0nm,0.3s,baz=232,slow=18,SNR=7.3						
AAK	**Ala-Archa**	**14.31**	**21**	Pn	**Pn**	**16 27 55.1**	**-1.2**
	0.2nm,0.3s,baz=222,slow=7.7,SNR=3.6						
AAK				Sn	**Sn**	**16 30 31.8**	**-2.1**
	0.1nm,0.3s,baz=338,slow=19,SNR=2.4						
MKAR	**Makanchi Array**	**20.80**	**30**	P	**P**	**16 29 13.2**	**-1.0**
	0.4nm,0.6s,baz=219,slow=9.4,SNR=4.8						
AKTO	**Aktyubinsk**	**22.17**	**344**	LR	LR	16 38 01.5	
	comp=Z,16nm,19.9s,baz=66,slow=36						
KURBB	**Kurchatov Arra**	**22.72**	**18**	P	**P**	**16 29 33.6**	**-1.2**
	0.5nm,0.5s,baz=212,slow=9.9,SNR=3.8						
BVAR	**Borovoye Array**	**23.66**	**4**	P	**P**	**16 29 45.2**	**+1.1**
	0.2nm,0.3s,baz=182,slow=11,SNR=3.3						
AKASG	**Malin Array Be**	**35.64**	**317**	P	**P**	**16 31 32.5**	**+2.0**
	0.2nm,0.3s,baz=105,slow=7.0,SNR=2.4						
KSRS	**Korea Array**	**50.28**	**64**	LR	LR	16 56 18.3	
	comp=Z,8.8nm,19.4s,baz=135,slow=38						
TIXI	**Tiksi**	**53.39**	**20**	LR	LR	17 00 41.1	
	comp=Z,25nm,18.2s,baz=114,slow=41						
TORD	**Torodi Ar. Bea**	**62.72**	**270**	P	**P**	**16 34 59.9**	**+2.0**
	0.3nm,0.6s,baz=64,slow=6.9,SNR=2.8						
WRA	**Warramunga Arr**	**80.95**	**119**	P	**P**	**16 36 47.3**	**+0.1**
	0.7nm,1.1s,baz=317,slow=5.0,SNR=3.2						
ILAR	**Eielson Array**	**82.33**	**14**	P	**P**	**16 36 54.0**	**+0.1**
	0.2nm,0.7s,baz=316,slow=5.0,SNR=3.0						
ASAR	**Alice Springs**	**82.80**	**122**	P	**P**	**16 36 57.2**	**+0.3**
	0.5nm,0.9s,baz=303,slow=5.5,SNR=4.4						

SJA 07 16:53:57.5±0.3,31°.34S×68°.57W,h100km±1km,ML3.2,
MW3.5,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMOG	**MOGNA**	**0.40**	**10**	*e*P	Pn	16 54 13.4	+0.6
AMOG				*e*S	Sn	16 54 25.1	+0.9
RTCV	**Cerro Valdivia**	**0.53**	**177**	*e*P	Pn	16 54 14.2	+0.6
RTCV				*e*S	Sn	16 54 26.7	+1.1
RTLS	**Leoncito**	**0.77**	**233**	*e*P	Pn	16 54 17.2	+1.2
RTLS				IAML		16 54 32.8	
	comp=Z,10nm,0.2s						
ACCO	**Cerro Coronel**	**0.86**	**330**	*e*P	Pn	16 54 18.1	+1.3
ACCO				IAML		16 54 18.2	
	comp=Z,36μm,0.2s						
AUSP	**Uspallata**	**1.12**	**218**	*e*P	Pn	16 54 20.9	+1.2
AUSP				IAML		16 54 39.0	
	comp=Z,234nm,0.2s						
ACDV	**Cuesta del Vie**	**1.25**	**338**	*e*P	Pn	16 54 22.2	+1.2
AROD	**Rodeo**	**1.40**	**326**	*e*P	Pn	16 54 24.3	+1.4
APLL	**PUNTA DE LOS L**	**1.99**	**62**	*e*P	Pn	16 54 31.2	+1.2

MEX 07 16:58:43.5±0.5,16°.27N×98°.02W,h5km,MD3.7,Near
coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**320**	*e*P	Pg	16 58 46.0	-0.6
PNIG				*e*S	Sg	16 58 48.8	0.0
TLIG	**Tlapa**	**1.39**	**338**	*i* P	Pn	16 59 06.5	-3.1
TLIG				*i* S	Sb	16 59 24.0	-4.1
HUIG	**Huatulco**	**1.91**	**105**	*i* P	Pn	16 59 13.3	-3.4
HUIG				*i* S	Sn	16 59 36.7	-4.5

*ISCJB **07** 17:00:38.5±0.3,67°.09N±0°.02×21°.04E±0°.06,h0km,Error*
ellipse: s-maj=3.4km s-min=2.8km az=20.0
*UPP **07** 17:00:38.8±0.1,67°.07N×20°.92E,h0km,ML2.0,Explosion*
*HEL **07** 17:00:39.7±0.1,67°.08N×20°.92E,h0km,ML2.3,*
ML2.0(UPP),Explosion
*NAO **07** 17:00:40.4±0.9,67°.08N×21°.31E,ML2.5*
*IDC **07** 17:00:41.5±1.0,67°.17N×21°.25E,h0km,mb1 2.8/3,*
mb1mx2.7/37,mbtmp2.7/3,ML1.9/3,Error ellipse:
s-maj=18.3km s-min=8.7km az=113.0
*BER **07** 17:00:42.4±2.7,67°.11N×20°.90E,h0km,ML1.7,*
ML2.5(NAO),Suspected explosion

ISC 07 17:00:39.2±0.7,67°.08N±0°.02×20°.91E±0°.02,h0km,n61,
σ1°40/82,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.57**	**48**	P	**Pg**	**17 00 49.8**	**-0.3**
MASU	**Masugnsbyn**	**0.57**	**48**	*i* P	**Pg**	**17 00 49.8**	**-0.3**
ERTU	**Ertsjaerv**	**0.73**	**136**	P	**Pg**	**17 00 52.4**	**-0.8**
ERTU	**Ertsjaerv**	**0.73**	**136**	*e*P	**Pg**	**17 00 52.6**	**-0.6**
	baz=314						
PAJU	**Pajala**	**0.87**	**93**	P	**Pg**	**17 00 54.9**	**-0.9**
PAJU	**Pajala**	**0.87**	**93**	*i* P	**Pg**	**17 00 54.9**	**-0.9**
RATU	**Laukkuluspa**	**0.90**	**326**	P	**Pg**	**17 00 55.7**	**-0.8**
RATU	**Laukkuluspa**	**0.90**	**326**	*e*P	**Pg**	**17 00 55.7**	**-0.8**
KUA	**Kurravaara**	**0.91**	**346**	P	**Pg**	**17 00 56.0**	**-0.5**
KUA				S	**Sb**	**17 01 10.4**	**+0.1**
KUA	**Kurravaara**	**0.91**	**346**	*e*P	**Pg**	**17 00 56.0**	**-0.5**
KUA				*e*S	**Sb**	**17 01 10.4**	**+0.1**
HARU	**Harads**	**0.92**	**178**	P	**Pg**	**17 00 55.8**	**-1.0**
HARU	**Harads**	**0.92**	**178**	*e*P	**Pg**	**17 00 55.8**	**-1.0**
SALU	**Saltoluokta**	**0.98**	**289**	P	**Pg**	**17 00 57.3**	**-0.6**
SALU	**Saltoluokta**	**0.98**	**289**	*e*P	**Pg**	**17 00 57.4**	**-0.5**
SALU				*e*S	**Sb**	**17 01 11.5**	**-1.0**
SALU	**Saltoluokta**	**0.98**	**289**	*e*P	**Pg**	**17 00 57.3**	**-0.6**
LANU	**Lannavaara**	**1.06**	**23**	P	**Pg**	**17 00 58.4**	**-1.1**
LANU	**Lannavaara**	**1.06**	**23**	*e*P	**Pg**	**17 00 58.2**	**-1.2**
NIKU	**Nikkaluokta**	**1.07**	**319**	P	**Pg**	**17 00 59.2**	**-0.4**
NIKU	**Nikkaluokta**	**1.07**	**319**	*e*P	**Pg**	**17 00 59.2**	**-0.4**
SJUU	**Sjulsmark**	**1.60**	**170**	P	**Pn**	**17 01 08.5**	**-0.2**
SJUU	**Sjulsmark**	**1.60**	**170**	*e*P	**Pn**	**17 01 08.5**	**-0.2**
HEF	**Hetta**	**1.70**	**37**	Pg	**Pn**	**17 01 09.5**	**-0.5**
HEF				Lg	Lg	17 01 33.0	
HEF	**Hetta**	**1.70**	**37**	*e*P	**Pn**	**17 01 09.7**	**-0.4**
HEF				*e*Sg	**Sb**	**17 01 32.5**	**-0.6**
HEF	**Hetta**	**1.70**	**37**	*e*P	**Pn**	**17 01 09.6**	**-0.4**
	baz=221						
HEF				MSG		17 01 30.3	
	comp=Z,19nm,0.2s						
HEF				*e*SN	**Sg**	**17 01 33.6**	**0.0**
LILU	**Lilltraesk**	**1.85**	**194**	P	**Pn**	**17 01 12.6**	**+0.4**
LILU	**Lilltraesk**	**1.85**	**194**	*e*P	**Pn**	**17 01 12.6**	**+0.4**
KIF	**Kilpisjarvi**	**1.93**	**359**	Pn	**Pb**	**17 01 14.6**	**-0.6**
KIF				Sn	**Sg**	**17 01 41.4**	**+0.2**
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*P	**Pb**	**17 01 14.7**	**-0.5**
KIF				*e*Sg	**Sg**	**17 01 41.7**	**+0.5**
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*P	**Pb**	**17 01 14.1**	**-1.1**
KIF				MSG		17 01 38.9	
	comp=Z,28nm,0.2s						
KIF				*e*SG	**Sg**	**17 01 43.0**	**+1.8**
KTK1	**Kautokeino**	**2.13**	**23**	*e*P	**Pb**	**17 01 18.3**	**-0.3**
KTK1				*e*Sg	**Sg**	**17 01 46.1**	**-1.4**
KTK1				IAML		17 01 52.6	
	comp=Z,10nm,0.2s						
SGF	**Sodankyl**	**2.21**	**78**	*e*PB	Pn	**17 01 18.2**	**+1.1**
	baz=261						
SGF				*e*SG	**Sb**	**17 01 48.4**	**+0.5**
STEI	**Steigen**	**2.34**	**294**	*e*P	**Pb**	**17 01 20.4**	**-1.7**
BURU	**Burvik**	**2.52**	**175**	P	Pn	**17 01 22.2**	**+1.0**
BURU	**Burvik**	**2.52**	**175**	*e*P	Pn	**17 01 22.2**	**+1.0**
TRO	**Tromso**	**2.67**	**345**	*e*Pg	**Pg**	**17 01 28.8**	**-1.4**
OUL	**Oulu**	**2.85**	**132**	*e*PB	**Pb**	**17 01 29.7**	**-1.2**
ARA0	**ARCESS Array S**	**3.00**	**33**	Pn	**Pn**	**17 01 28.0**	**+0.1**
	baz=209,slow=14						
ARA0				Sn	**Sn**	**17 02 04.3**	**-0.2**
	baz=213,slow=22						
ARA0	**ARCESS Array S**	**3.00**	**33**	Pn	**Pn**	**17 01 28.0**	**+0.1**
	baz=209,slow=14						
ARA0				Sn	**Sn**	**17 02 04.3**	**-0.2**
	baz=213,slow=22						
ARCES	**ARCESS Array B**	**3.00**	**33**	Pn	**Pn**	**17 01 27.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=212,slow=14,SNR=29						
ARCES				Sn	**Sn**	**17 02 05.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=218,slow=20,SNR=6.8						
ARE0	**ARCESS Array S**	**3.00**	**33**	*e*P	**Pn**	**17 01 29.4**	**+1.5**
LOF	**Lofoten**	**3.01**	**294**	*e*P	**Pn**	**17 01 30.2**	**+2.2**
KONS	**Konsvik**	**3.14**	**263**	*e*P	**Pb**	**17 01 33.4**	**-2.3**
KONS				IAML		17 02 27.2	
	comp=Z,5.3nm,0.2s						
VRF	**Varrio**	**3.42**	**75**	*e*P	**Pn**	**17 01 35.9**	**+2.2**
MSF	**Maaselka**	**3.46**	**106**	*e*PB	**Pn**	**17 01 38.1**	**+3.8**
	baz=293						
KEV	**Kevo**	**3.51**	**37**	Pn	**Pn**	**17 01 35.6**	**+0.8**
KEV				Sn	**Sn**	**17 02 16.7**	**-0.3**
KEV	**Kevo**	**3.51**	**37**	Pn	**Pn**	**17 01 35.6**	**+0.8**
KEV				Sn	**Sn**	**17 02 16.7**	**-0.3**
KEV	**Kevo**	**3.51**	**37**	*e*P	**Pn**	**17 01 36.1**	**+1.3**
	baz=225						
KU6	**Riekki**	**3.75**	**102**	*e*P	**Pn**	**17 01 39.8**	**+1.6**
VAF	**Ylistaro**	**4.12**	**169**	*e*P	**Pn**	**17 01 45.7**	**+2.4**
APA0	**Apatity Array**	**4.71**	**78**	Pn	**Pn**	**17 01 51.3**	**0.0**
APA0				Sn	**Sn**	**17 02 44.9**	**-1.6**
APA0	**Apatity Array**	**4.71**	**78**	Pn	**Pn**	**17 01 51.3**	**0.0**
APA0				Sn	**Sn**	**17 02 44.9**	**-1.6**
FIA0	**FINESS Array S**	**6.09**	**156**	Pn	**Pn**	**17 02 11.5**	**+1.2**
	baz=348,slow=16						
FIA0				Sn	**Sn**	**17 03 19.0**	**-1.6**
FIA0	**FINESS Array S**	**6.09**	**156**	Pn	**Pn**	**17 02 11.5**	**+1.2**
	baz=348,slow=16						
FIA0				Sn	**Sn**	**17 03 19.0**	**-1.6**
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**17 02 13.8**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=350,slow=14,SNR=8.2						
FINES				Sn	**Sn**	**17 03 23.0**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=349,slow=22,SNR=7.1						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**17 02 32.0**	**+3.7**
	baz=33,slow=18						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**17 02 32.0**	**+3.7**
	baz=33,slow=18						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**17 02 31.4**	**+3.1**
	comp=Z,0.0nm,0.3s,baz=22,slow=14,SNR=5.9						
NOA				Sn	**Sn**	**17 03 54.8**	**+2.0**
	comp=Z,0.0nm,0.3s,baz=65,slow=21,SNR=2.1						
NRA0	**NORESS Array S**	**7.58**	**217**	Pn	**Pn**	**17 02 32.8**	**+2.0**
	baz=27,slow=16						
NRA0	**NORESS Array S**	**7.58**	**217**	Pn	**Pn**	**17 02 32.8**	**+2.0**
	baz=27,slow=16						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**17 02 32.4**	**+0.4**
	baz=20,slow=14						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**17 02 32.4**	**+0.4**
	baz=20,slow=14						

*NEIC **07** 17:20:20.8±0.0,52°.22N×174°.88W,h114km,ML2.7(AEIC),*
After AEIC.
*IDC **07** 17:20:25.1±21.0,52°.63N×174°.95W,h170km±153km,*
mb2.9/3,mb1 3.3/5,mb1mx2.8/55,mbtmp3.4/5,ML3.7/1,
Error ellipse: s-maj=144.4km s-min=78.7km az=50.0

ISC 07 17:20:19.5±0.9,52°.3N±0°.2×174°.93W±0°.09,h120km±7km,
n21,σ1°03/29,mb3.2/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	**0.43**	**75**	*e*Pn	**Pn**	**17 20 37.1**	**+0.1**
KOWE				*e*Sn	**Sn**	**17 20 49.8**	**-0.4**
KOKL	**Mount Kliuchef**	**0.45**	**81**	*e*Pn	**Pn**	**17 20 37.4**	**+0.2**
ATKA	**Atka Island**	**0.45**	**97**	*e*Pn	**Pn**	**17 20 36.5**	**-0.6**
ATKA				*e*Sn	**Sn**	**17 20 49.7**	**-0.7**
KOFP	**Korovin Flat P**	**0.51**	**88**	*e*Pn	**Pn**	**17 20 37.5**	**+0.1**
GSTR	**Great Sitkin T**	**0.72**	**257**	*e*Pn	**Pn**	**17 20 39.2**	**+0.2**
GSTR				*e*Sn	**Sn**	**17 20 53.0**	**-0.6**
GSMY	**Great Sitkin M**	**0.73**	**253**	*e*Pn	**Pn**	**17 20 39.0**	**0.0**
GSTD	**Great Sitkin T**	**0.78**	**255**	*e*Pn	**Pn**	**17 20 39.5**	**0.0**
GSTD				*e*Sn	**Sn**	**17 20 54.3**	**-0.3**
ETKA	**Kagalaska Isla**	**1.00**	**247**	*e*Pn	**Pn**	**17 20 41.6**	**+0.2**
ADAG	**Mount Adagdak**	**1.07**	**256**	*e*Pn	**Pn**	**17 20 42.6**	**+0.4**
ADK	**Adak**	**1.15**	**252**	*e*Pn	**Pn**	**17 20 43.1**	**+0.2**
ADK				*e*Sn	**Sn**	**17 21 00.8**	**+0.1**
KINC	**Kanaga Island**	**1.40**	**257**	*e*Pn	**Pn**	**17 20 46.1**	**+0.5**
KIWB	**Kanaga Island**	**1.43**	**254**	*e*Pn	**Pn**	**17 20 46.5**	**+0.5**
KIWB				*e*Sn	**Sn**	**17 21 07.2**	**+1.0**
KIKV	**Kanaga Island**	**1.44**	**256**	*e*Pn	**Pn**	**17 20 46.7**	**+0.6**
KIKV				*e*Sn	**Sn**	**17 21 06.9**	**+0.6**
KICM	**Kanaga Island**	**1.44**	**257**	*e*Pn	**Pn**	**17 20 46.7**	**+0.6**
TAFP	**Tanaga Falls P**	**1.92**	**260**	*e*Pn	**Pn**	**17 20 52.5**	**+0.7**
SDPT	**Sand Point**	**9.09**	**64**	*e*Pn	**Pn**	**17 22 31.2**	**+3.7**
KDAK	**Kodiak Island**	**13.93**	**58**	P	**P**	**17 23 33.3**	**-2.2**
	0.4nm,0.3s,baz=280,slow=1.1,SNR=16						
KDAK				S	**Sn**	**17 26 05.6**	**+0.9**
	0.1nm,0.3s,baz=270,slow=18,SNR=2.7						
ILAR	**Eielson Array**	**19.06**	**38**	P	**P**	**17 24 30.6**	**-1.4**
	ba

NIL	Nilore	5.11	162	*e*PN		Pn	17 27 06.5	+2.6
CHMS	Chumysh	5.15	29	P		Pn	17 27 04.8	+0.4
SNR=15								
ULHL	Ulahol	5.25	44	P		Pn	17 27 04.8	-1.3
SNR=9.8								
BOOM	Boomskoye usch	5.27	40	*e*Pn		Pn	17 27 05.3	-0.9
BOOM	Boomskoye usch	5.27	40	*e*PN		Pn	17 27 05.3	-0.9
USP	Ospenovka	5.29	26	P		Pn	17 27 05.9	-0.5
SNR=6.6								
TKM2	Tokmak 2	5.43	35	P		Pn	17 27 08.8	+0.3
SNR=14								
TKM2	Tokmak 2	5.43	35	⇓Pn		Pn	17 27 08.6	+0.1
18nm,1.2s								
TKM2				⇓Lg		Lg	17 28 23.8	
50nm,0.8s								
TKM2	Tokmak 2	5.43	35	PN		Pn	17 27 08.6	+0.1
KDJ	Kajisay	5.71	49	*e*Pn		Pn	17 27 12.0	-0.3
KDJ	Kajisay	5.71	49	*e*PN		Pn	17 27 12.0	-0.3
THW	Thamme Wali	5.74	177	P		Pn	17 27 15.3	+2.8
TARG	Taragay, Kyrgy	5.88	55	*e*Pn		Pn	17 27 13.6	-1.2
KNDC	Almaty	6.32	40	⇑Pg		Pn	17 27 39.8	+19
22nm,0.6s								
KNDC				⇓Lg		Lg	17 28 53.1	
138nm,0.9s								
MDOK	Medeo	6.32	41	⇓Pn		Pn	17 27 21.6	+1.0
7.4nm,0.7s								
MDOK				Pg			17 27 37.6	
12nm,0.8s								
MDOK				⇑Lg		Lg	17 28 50.8	
66nm,1.0s								
MDOK	Medeo	6.32	41	PN		Pn	17 27 21.6	+1.0
MDOK				*e*P			17 27 37.6	
PRZ	Przheval'sk	6.66	51	*e*Pn		Pn	17 27 22.7	-2.5
PRZ	Przheval'sk	6.66	51	*e*PN		Pn	17 27 22.7	-2.5
DHRM	DHARAMSHALA	7.45	146	*e*P		Pn	17 27 34.9	-1.3
DHRM				*e*S		Sn	17 28 59.7	+0.1
DHRM				IAML			17 29 04.2	
comp=N,69nm,0.2s								
DHRM				IAML			17 29 05.1	
comp=E,96nm,0.8s								
PDGK	Podgornoye	7.80	50	⇓Pn		Pn	17 27 41.0	+0.1
comp=E,8.7nm,1.0s								
PDGK				⇓Lg		Lg	17 29 41.1	
comp=E,36nm,1.2s								
PDGK	Podgornoye	7.80	50	P		Pn	17 27 40.9	+0.1
SMLA	Simla	8.79	145	*e*P		Pn	17 27 53.9	-0.4
SMLA				*e*S		Sn	17 29 29.5	-2.6
SMLA				IAML			17 29 33.7	
comp=E,65nm,0.6s								
SMLA				IAML			17 29 34.6	
comp=N,44nm,0.1s								
GEYT	Alibeck	10.44	271	Pn		Pn	17 28 17.5	+0.6
comp=N,4.3nm,0.3s,baz=104,slow=9.4,SNR=6.0								
GEYT				Sn		Sn	17 30 10.2	-2.2
comp=N,4.8nm,0.3s,baz=84,slow=21,SNR=5.3								
GEYT				LR		LR	17 32 47.8	
comp=N,25nm,19.2s,baz=185,slow=40								
GYA0B	ALIBECK ARRAY	10.44	271	*e*Pn		Pn	17 28 17.6	+0.7
MAKZ	Makanchi	11.37	40	*e*Pn		Pn	17 28 23.8	-5.7
MAKZ	Makanchi	11.37	40	*e*P		Pn	17 28 23.8	-5.7
MK31	Makanchi Array	11.52	41	*e*Pn		Pn	17 28 30.0	-1.6
MK31	Makanchi Array	11.52	41	*e*P		Pn	17 28 30.0	-1.6
MKAR	Makanchi Array	11.52	41	*e*Pn		Pn	17 28 29.5	-2.0
MKAR	Makanchi Array	11.52	41	*i* P		Pn	17 28 31.0	-0.6
MKAR				pmax		pmax		
comp=Z,3.0nm,0.7s								
MKAR	Makanchi Array	11.52	41	Pn		Pn	17 28 29.3	-2.3
comp=Z,0.2nm,0.3s,baz=223,slow=14,SNR=30								
MKAR				Lg		Lg	17 31 47.2	
comp=Z,0.1nm,0.3s,baz=226,slow=23,SNR=3.0								
MKAR				LR		LR	17 32 59.7	
comp=Z,65nm,21.8s,slow=38								
KURBB	Kurchatov Arra	13.11	21	Pn		Pn	17 28 48.2	-5.1
comp=Z,0.0nm,0.3s,baz=213,slow=12,SNR=3.3								
KURBB				Lg		Lg	17 32 37.5	
comp=Z,0.0nm,0.3s,baz=209,slow=27,SNR=5.8								
KURK	Kurchatov	13.22	21	*e*Pn		Pn	17 28 53.3	-1.5
KURK	Kurchatov	13.22	21⇑	*e*P		Pn	17 28 53.6	-1.2
KURK				pmax		pmax		
comp=Z,3.0nm,1.3s								
WMQ	Urumqi	13.38	62	*e*P		Pn	17 28 59.6	+2.5
AB31	Akbulak array	13.50	326	⇑Pn		P	17 29 04.3	-2.2
comp=Z,1.8nm,0.5s,baz=134,slow=14,SNR=64								
AB31				⇑Sn		Sn	17 31 36.6	+10
comp=Z,2.5nm,0.5s								
AB31	Akbulak array	13.50	326	P		P	17 29 04.3	-2.2
AB31				S		Sn	17 31 36.6	+10
AB31				pmax		pmax		
comp=Z,2.0nm,0.5s								
AB31				pmax		pmax		
comp=Z,3.0nm,0.5s								
ABKAR	Akbulak array	13.50	326	*e*Pn		Pn	17 28 54.8	-3.8
ABKAR				*e*Pn		Pn	17 28 55.2	-3.4
PYUN	Piuthan	14.23	134	*e*P		Pn	17 28 59.9	-8.9
comp=Z,11nm,0.5s								
DANN	Dangsing	14.49	131	*e*P		Pn	17 29 06.0	-6.3
comp=Z,7.8nm,0.4s								
BVAR	Borovoye Array	14.51	358	Pn		Pn	17 29 08.3	-3.8
comp=Z,0.2nm,0.3s,baz=166,slow=13,SNR=11								
BRVK	Borovoye	14.54	357	*e*Pn		Pn	17 29 09.3	-3.4
BRVK	Borovoye	14.54	357⇑	*e*P		Pn	17 29 10.6	-2.0
AKTO	Aktyubinsk	15.21	326	⇑Pn		P	17 29 30.6	+5.0
comp=Z,9.7nm,0.8s								
AKTO				⇓Sn		S	17 32 17.5	-6.1
comp=Z,14nm,1.4s								
AKTO	Aktyubinsk	15.21	326	Pn		Pn	17 29 17.9	-3.5
comp=Z,0.1nm,0.3s,baz=122,slow=16,SNR=2.3								
AKTO				LR		LR	17 35 56.1	
comp=Z,48nm,20.6s,baz=146,slow=40								
GKN	Gorkha	15.27	130	*e*P		Pn	17 29 16.5	-5.9
comp=Z,7.0nm,0.3s								
DMN	Daman	15.84	129	*e*P		Pn	17 29 23.3	-6.6
DGZ	Jazzator, Alta	16.02	41⇑	*e*P		Pn	17 29 28.5	-3.4
PKIN	Phulchoki	16.04	129	*e*P		Pn	17 29 27.5	-4.9
comp=Z,6.8nm,0.6s								
PKI	Pulchoki	16.05	129	*e*P		Pn	17 29 27.4	-5.3
comp=Z,4.1nm,0.4s								
JIRN	Jiri	16.47	127	*e*P		Pn	17 29 33.2	-4.8
comp=Z,13nm,0.4s								
RAMN	Ramite	17.23	128	*e*P		Pn	17 29 42.3	-5.1
comp=Z,6.7nm,0.4s								
ZAA0	Zalesovo Array	17.96	26	*e*Pn		Pn	17 29 53.4	-2.5
comp=Z,4.3nm,0.7s								
ZALV	Zalesovo Beam	17.96	26	*e*Pn		Pn	17 29 53.5	-2.4
ZALV	Zalesovo Beam	17.96	26	*i* P		P	17 29 56.0	+0.1
ZALV				pmax		pmax		
comp=Z,3.0nm,0.6s								
ZALV	Zalesovo Beam	17.96	26	P		Pn	17 29 53.2	-2.7
comp=Z,0.4nm,0.3s,baz=331,slow=11,SNR=12								
ZALV				LR		LR	17 37 10.3	
comp=Z,31nm,20.2s,baz=70,slow=38								
LSA	Lhasa	18.58	112	*e*P		P	17 30 03.7	+0.2
comp=Z,4.3nm,1.2s								
LSA	Lhasa	18.58	112	*e*P		P	17 30 03.7	+0.2
LSA				pmax		pmax		
comp=Z,4.0nm,1.2s								
ARU	Arti	19.82	339	*e*P		Pn	17 30 18.6	+0.4
comp=Z,4.9nm,1.0s								
ARU	Arti	19.82	339	*d* iP		P	17 30 16.6	+0.2
ARU				S		S	17 33 58.0	+1.1
ARU				pmax		pmax		
comp=Z,3.0nm,1.0s								
GROC	Groznyy	19.86	292	*e*P		P	17 30 17.5	+0.7
GROC				*e*S		S	17 33 56.9	-0.9
GROC				pmax		pmax		
comp=Z,15nm,0.6s								
TBLG	Delisi	20.57	287	*e*P		Pn	17 30 26.1	-1.2
comp=Z,5.7nm,0.5s								
TBLG	Delisi	20.57	287	*e*P		Pn	17 30 26.1	-1.2
TBLG				pmax		pmax		
comp=Z,6.0nm,0.5s								
GNI	Garni	20.63	283	*e*P		Pn	17 30 26.7	-1.4
comp=Z,11nm,1.0s								
GNI	Garni	20.63	283⇑	*e*P		Pn	17 30 29.3	+1.2
GNI				pmax		pmax		
comp=Z,8.0nm,0.8s								
ZEI	Tsey	21.22	290	*e*P		P	17 30 39.1	+7.3
ZEI				pmax		pmax		
comp=Z,5.0nm,0.6s								
NCK	Nalchik	21.48	292⇑	*e*P		P	17 30 35.6	+1.2
NCK				pmax		pmax		
comp=Z,21nm,0.8s								
AKH	Akhalkalaki	21.51	287	*e*P		P	17 30 38.0	+3.1
comp=Z,8.2nm,1.0s								
AKH	Akhalkalaki	21.51	287	*e*P		P	17 30 38.0	+3.1
AKH				pmax		pmax		
comp=Z,8.0nm,1.0s								
KBZ	Khabaz	22.00	293	P		P	17 30 39.0	-0.9
comp=Z,1.9nm,0.8s,baz=124,slow=4.5,SNR=5.8								
NEY	Neytrino	22.10	291⇑	*e*P		P	17 30 43.5	+2.3
NEY				pmax		pmax		
comp=Z,2.0nm,0.7s								
GTA	Gaotai	22.11	79	*e*P		P	17 30 39.6	-1.7
GTA				pP		pP	17 30 47.2	-6.4
GTA				pmax		pmax		
comp=Z,1.0nm,1.1s								
GTA				pmax		pmax		
comp=Z,57nm,5.9s								
GTA				LR		LR		
comp=Z,66nm,14.9s								
GTA				LR		LR		
comp=Z,52nm,16.2s								
GTA				LR		LR		
comp=Z,87nm,15.6s								
KVAR	Kislovodsk Arr	22.16	293	P		P	17 30 42.2	+0.4
comp=Z,1.1nm,0.4s,baz=266,slow=19,SNR=3.0								
KIV	Kislovodsk	22.17	293	*e*P		P	17 30 42.8	+0.9
comp=Z,6.8nm,0.9s								
KIV	Kislovodsk	22.17	293	*e*P		P	17 30 42.8	+0.9
KIV				pmax		pmax		
comp=Z,7.0nm,0.9s								
SIRT	Sirnak	22.77	276	*e*P		P	17 30 50.2	+1.9
comp=Z,14nm,0.7s								
LZH	Lanzhou	25.88	85	*e*P		P	17 31 20.0	+2.6
LZH				pP		pP	17 31 28.8	-1.8
LZH				sP		sP	17 31 35.6	-1.0
LZH				PP		PnPn	17 32 01.0	+4.7
LZH				pmax		pmax		
comp=Z,20nm,1.2s								
LZH				pmax		pmax		
comp=Z,75nm,4.9s								
TLY	Talaya	26.06	49	*e*P		P	17 31 19.2	+0.5
comp=Z,4.8nm,0.8s								
TLY	Talaya	26.06	49	*e*P		P	17 31 19.2	+0.5
TLY				pmax		pmax		
comp=Z,5.0nm,0.8s								
BRTR	Keskin Array B	29.15	284	*e*P		P	17 31 48.9	+2.3
BRTR	Keskin Array B	29.15	284	*e*P		P	17 31 48.9	+2.3
BRTR	Keskin Array B	29.15	284	P		P	17 31 49.7	+3.1
comp=Z,0.7nm,0.7s,baz=102,slow=9.2,SNR=4.0								
XAN	Xi'an	30.46	87	*e*P		P	17 32 00.3	+2.1
comp=Z,4.3nm,0.4s								
MDUB	Mudurnu	30.87	286	*e*P		P	17 32 04.6	+2.8
comp=Z,66nm,1.4s								
CHTO	Chiang Mai	30.98	122	*e*P		P	17 32 05.8	+3.0
comp=Z,10nm,1.9s								
KIEV	Kiev	31.94	306	*e*P		P	17 32 12.4	+1.4
comp=Z,16nm,1.9s								
BURAR	Bucovina Array	34.46	300	*e*P		P	17 32 33.5	+0.4
FINES	FINESS Array B	35.98	324	*e*P		P	17 32 48.3	+2.5
FINES	FINESS Array B	35.98	324	P		P	17 32 46.4	+0.6
comp=Z,0.4nm,0.3s,baz=104,slow=8.0,SNR=5.6								
FINES				LR		LR	17 49 57.0	
comp=Z,24nm,19.5s,baz=74,slow=40								
ARCES	ARCESS Array B	39.38	337	*e*P		P	17 33 15.4	+0.9
ARCES	ARCESS Array B	39.38	337	*e*P		P	17 33 15.4	+0.9
ARCES	ARCESS Array B	39.38	337	P		P	17 33 14.9	+0.4
comp=Z,1.7nm,0.8s,baz=108,slow=7.1,SNR=11								
GERES	GERESS Array B	42.02	304	P		P	17 33 38.6	+2.0
comp=Z,0.4nm,0.5s,baz=80,slow=7.1,SNR=3.1								
NOA	NORSAR Array B	42.95	322	LR		LR	17 52 25.7	
comp=Z,15nm,21.0s,baz=15,slow=37								
TIXI	Tiksi	43.79	23	*e*P		P	17 33 49.2	-1.2
comp=Z,2.1nm,0.8s								
TIXI	Tiksi	43.79	23⇑	*e*P		P	17 33 49.2	-1.2
TIXI				pmax		pmax		
comp=Z,2.0nm,1.8s								
TIXI	Tiksi	43.79	23	P		P	17 33 49.5	-0.9
comp=Z,0.6nm,0.5s,baz=286,slow=7.1,SNR=4.9								
TORD	Torodi Ar. Bea	66.06	268	P		P	17 36 32.1	-0.1
comp=Z,0.4nm,0.7s,baz=57,slow=5.3,SNR=3.2								
YKA	Yellowknife Ar	79.20	3	P		P	17 37 49.5	+0.1
comp=Z,0.2nm,0.6s,baz=350,slow=5.9,SNR=3.5								
WRA	Warramunga Arr	82.83	122	P		P	17 38 08.2	-1.1
comp=Z,0.9nm,0.9s,baz=324,slow=5.0,SNR=5.8								
ASAR	Alice Springs	85.19	125	P		P	17 38 22.4	+1.0
comp=Z,0.4nm,0.9s,baz=318,slow=6.6,SNR=2.6								

IDC 07 17:32:15.0±4.3, 6°.10S×67°.76E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/42, mbtmp3.5/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/37, Error ellipse: s-maj=117.2km s-min=35.0km az=71.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	Diego Garcia H	3.23	95	T	T	17 36 05.0	
baz=275,slow=75,SNR=121							
H08N2	Diego Garcia H	3.23	94	T	T	17 36 05.5	
baz=275,slow=75,SNR=729							
H08N1	Diego Carcia H	3.25	94	T	T	17 36 06.6	
baz=275,slow=75,SNR=660							
ATD	Arta Tunnel	30.35	305	LR	LR	17 48 56.4	
comp=Z,34nm,19.7s,baz=80,slow=33							
CMAR	Chiang Mai Arr	39.26	51	P	P	17 39 45.5	-0.2
0.4nm,0.7s,baz=241,slow=9.6,SNR=4.4							
MKAR	Makanchi Array	54.22	12	P	P	17 41 42.5	-0.1
0.3nm,0.6s,baz=196,slow=10,SNR=3.1							
ASAR	Alice Springs	65.74	113	P	P	17 43 02.4	0.0
0.5nm,0.7s,baz=272,slow=6.4,SNR=10							
WRA	Warramunga Arr	65.95	109	P	P	17 43 03.7	0.0
0.9nm,0.9s,baz=274,slow=6.2,SNR=4.7							

IDC 07 17:46:16.9±2.3, 7°.00S×130°.01E, h108km±27km, mb3.5/1, mb1 3.5/6, mb1mx3.3/33, mbtmp3.9/6, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=40.2km s-min=21.3km az=94.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.22	12	P	Pn	17 47 46.1	-0.2
2.8nm,0.3s,baz=198,slow=19,SNR=26							
SIJI				S	Sn	17 48 50.7	-5.3
1.7nm,0.3s,baz=255,slow=23,SNR=7.3							
BATI	Baumata	7.04	243	P	Pn	17 47 58.5	+1.1
1.4nm,0.3s,baz=131,slow=0.6,SNR=5.0							
BATI				S	Sn	17 49 13.1	-2.9
3.4nm,0.3s,baz=8.7,slow=23,SNR=4.3							
FITZ	Fitzroy Crossi	11.82	201	P	Pn	17 49 00.3	-1.8
0.4nm,0.3s,baz=29,slow=11,SNR=25							
FITZ				S	Sn	17 51 01.9	-10
0.3nm,0.3s,baz=45,slow=20,SNR=4.3							
WRA	Warramunga Arr	13.53	162	P	Pn	17 49 24.2	-0.3
0.8nm,0.3s,baz=334,slow=12,SNR=54							
WRA				S	Sn	17 51 47.9	-5.7
1.3nm,0.3s,baz=336,slow=22,SNR=10							
ASAR	Alice Springs	16.99	168	P	P	17 50 09.3	+1.1
0.3nm,0.3s,baz=345,slow=11,SNR=30							
ASAR				S	Sn	17 53 08.5	-8.5
0.2nm,0.3s,baz=347,slow=26,SNR=6.6							
LEM	Lembang	22.23	269	LR	LR	18 01 35.8	
comp=Z,35nm,19.2s,baz=202,slow=41							
MKAR	Makanchi Array	68.23	327	P	P	17 57 06.0	0.0
0.4nm,0.3s,baz=116,slow=8.0,SNR=9.3							

*ISCJB **07** 18:04:06.1±0.4, 43°.69N±0°.03×105°.24W±0°.05, h0km, Error ellipse: s-maj=4.8km s-min=3.9km az=161.9*
*IDC **07** 18:04:07.8±1.3, 43°.91N×105°.60W, h0km, mb1 3.5/4, mb1mx3.2/40, mbtmp3.3/4, ML3.3/4, Error ellipse: s-maj=32.9km s-min=8.4km az=147.0*
*NEIC **07** 18:04:07.6±0.3, 43°.71N×105°.24W, h0km, ML3.6, Error ellipse: s-maj=3.6km s-min=3.0km az=77.0, Suspected Mining explosion.*
NEIC 68 km [42 miles] SSE of Gillette.
ISC 07 18:04:08.2±0.9, 43°.74N±0°.05×105°.38W±0°.05, h0km, n69, σ1§40/67, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.04	68	*e*Pg	Pg	18 04 26.3	-1.8
K22A	Casper	1.38	218	*e*Pn	Pg	18 04 31.7	-2.8
PHWY	Pilot Hill	2.44	181	*e*Pn	Pn	18 04 48.3	-1.3
RWWY	Rawlins	2.46	214	*e*Pn	Pn	18 04 49.3	-0.4
N23A	Red Feather La	2.88	189	*e*Pn	Pn	18 04 54.1	-1.5
LAO	LASA Array	3.00	349	*e*Pn	Pn	18 04 57.3	+0.2
RLMT	Red Lodge	3.11	298	*e*Pn	Pn	18 04 58.8	+0.1
PD31	Pinedale Array	3.21	254	*e*Pn	Pn	18 04 59.8	-0.2
PDAR	Pinedale Array	3.21	254	*e*Pn	Pn	18 05 00.3	+0.3
PDAR				Lg	Lg	18 05 44.8	
PDAR	Pinedale Array	3.21	254	Pn	Pn	18 05 01.6	+1.6
4.4nm,0.3s,baz=77,slow=17,SNR=36							
PDAR				Lg	Lg	18 05 44.8	
36nm,0.3s,baz=68,slow=22,SNR=16							
BW06	Boulder Array	3.21	254	*e*Pn	Pn	18 05 00.2	+0.1
GCMT	Greycliff	3.68	305	*e*Pn	Pn	18 05 07.6	+1.2
LKWY	Lake	3.71	285	*e*Pn	Pn	18 05 08.1	+1.2
OGNE	Ogallala	3.74	137	*e*Pn	Pn	18 05 05.2	-1.9
LOHW	Long Hollow	3.79	270	*e*Pn	Pn	18 05 08.9	+0.8
H17A	Grant Village	3.80	282	*e*Pn	Pn	18 05 09.0	+0.7
FLWY	Flagg Ranch	3.86	277	*e*Pn	Pn	18 05 10.3	+1.3
MOOW	Moose Ponds	3.89	272	*e*Pn	Pn	18 05 10.5	+1.0
SNOW	Snow King Moun	3.92	268	*e*Pn	Pn	18 05 10.6	+0.8
ISCO	Idaho Springs	3.94	183	*e*Pn	Pn	18 05 09.7	-0.6
REDW	Red Top Meadow	4.00	266	*e*Pn	Pn	18 05 12.2	+1.3
IMW	Indian Meadow	4.03	274	*e*Pn	Pn	18 05 13.5	+2.1
TPAW	Teton Pass	4.05	268	*e*Pn	Pn	18 05 12.8	+1.1
FXWY	Fox Creek	4.10	270	*e*Pn	Pn	18 05 13.1	+0.8
O20A	White River Ci	4.19	212	*e*Pn	Pn	18 05 12.9	-0.6
AHID	Auburn Hatcher	4.29	259	*e*Pn	Pn	18 05 14.9	-0.1
QLMT	Earthquake Lak	4.48	286	*e*Pn	Pn	18 05 18.4	+0.9
SMCO	Snowmass	4.72	195	*e*Pn	Pn	18 05 20.2	-0.7
Q24A	Divide	4.78	178	*e*Pn	Pn	18 05 20.4	-1.3
DGMT	Dagmar	4.80	9	*e*Pn	Pn	18 05 22.8	+1.0
BOZ	Bozeman (W)	4.83	295	*e*Pn	Pn	18 05 22.5	+0.2
HWUT	Hardware Ranch	5.04	247	*e*Pn	Pn	18 05 24.5	-0.6
KSCO	Kaye Shedlock'	5.16	155	*e*Pn	Pn	18 05 24.6	-2.2
EGMT	Eagleton	5.26	326	*e*Pn	Pn	18 05 28.9	+0.8
DLMT	Dillon	5.41	290	*e*Pn	Pn	18 05 30.1	-0.1
HRY	Holter Researc	5.44	305	*e*Pn	Pn	18 05 30.6	0.0
LRM	Linekiln Ridge	5.45	295	*e*Pn	Pn	18 05 32.9	+2.0
MCMT	McKenzie Canyo	5.47	284	*e*Pn	Pn	18 05 32.5	+1.3
MDND	Maddock	5.76	43	*e*Pn	Pn	18 05 32.9	-1.9
BGNE	Belgrade	5.82	111	*e*Pg	Pg	18 05 58.3	-1.5
PV21	Cone Mtn., Par	5.85	209	*e*Pn	Pn	18 05 35.7	-0.6
PV23	Carpenter Ridg	5.96	209	*e*Pn	Pn	18 05 37.6	-0.3
PV09	Paradox Valley	5.96	210	*e*Pn	Pn	18 05 37.1	-0.8
PV04	Paradox Valley	5.97	208	*e*Pn	Pn	18 05 37.6	-0.4
SDCO	Great Sand Dun	5.99	181	*e*Pn	Pn	18 05 37.9	-0.5
PV12	Saucer Basin,	6.01	207	*e*Pn	Pn	18 05 38.2	-0.3
PV14	Lion Creek, Pa	6.03	208	*e*Pn	Pn	18 05 37.8	-1.0
PV10	Paradox Valley	6.03	209	*e*Pn	Pn	18 05 39.8	+0.9
PV20	West Nyswonger	6.04	208	*e*Pn	Pn	18 05 38.5	-0.5
PV11	David Mesa, Pa	6.05	207	*e*Pn	Pn	18 05 38.6	-0.5
PV16	Nyswonger Mesa	6.05	207	*e*Pn	Pn	18 05 38.4	-0.7
PV19	Morning Glory	6.07	208	*e*Pn	Pn	18 05 38.6	-0.9
PV03	Paradox Valley	6.08	207	*e*Pn	Pn	18 05 39.6	+0.1
PV02	Paradox Valley	6.09	206	*e*Pn	Pn	18 05 39.4	-0.2
S22A	4UR Ranch, Cre	6.09	191	*e*Pn	Pn	18 05 40.7	+1.0
PV17	East Wray Mesa	6.09	208	*e*Pn	Pn	18 05 39.5	-0.2
PV01	Paradox Valley	6.10	204	*e*Pn	Pn	18 05 39.8	-0.1
PV05	Paradox Valley	6.32	208	*e*Pn	Pn	18 05 40.4	-2.5
ECSD	EROS Data Cent	6.35	87	*e*Pn	Pn	18 05 45.5	+2.5
CBKS	Cedar Bluff	6.50	137	*e*Pn	Pn	18 05 48.1	+2.9
HLID	Hailey	6.56	272	*e*Pn	Pn	18 05 48.0	+1.9
T25A	Trinidad	6.64	173	*e*Pb	Pb	18 06 08.5	+3.9
ELK	Elko	7.91	251	Pn	Pn	18 06 04.5	0.0
0.1nm,0.3s,baz=40,slow=17,SNR=2.2							
ELK				Lg	Lg	18 08 12.6	
0.1nm,0.3s,baz=18,slow=20,SNR=2.0							
AGMN	Agassiz Nation	8.04	52	*e*Pn	Pn	18 06 09.0	+2.9
ULM	Lac du Bonnet	9.19	42	Pn	Pn	18 06 18.9	-3.0
1.5nm,0.3s,baz=232,slow=12,SNR=8.9							
ULM				Lg	Lg	18 08 50.6	
0.2nm,0.3s,baz=131,slow=19,SNR=2.5							
TXAR	Lajitas Array	14.45	174	Pg	Pg	18 08 36.4	
0.1nm,0.3s,baz=3.7,slow=15,SNR=4.8							
TXAR				Lg	Lg	18 11 45.7	
0.0nm,0.3s,baz=7.2,slow=29,SNR=5.3							
N53A	Lisbon	18.38	91	*e*Pn	Pn	18 08 16.6	-7.8
YKA	Yellowknife Ar	19.54	347	P	P	18 08 35.8	-1.3
0.1nm,0.3s,baz=155,slow=10,SNR=4.2							
YKB5	Yellowknife Ar	19.54	347	*e*P	P	18 08 35.8	-1.3

MEX 07 18:06:58.6±0.6, 15°.33N×94°.40W, h31km±10km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.20	72	*i* P	Pn	18 07 17.3	-2.0
PCIG				*e*S	Sn	18 07 31.3	-3.1
CMIG	Matias Romero	1.81	345	*i* P	Pn	18 07 26.0	-1.7
CMIG				*e*S	Sn	18 07 46.8	-3.0
CCIG

MEX 07 18:26:08.6±0.5, 15°30N×93°17W, h84km±19km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.41**	**353**	*e*P	Pn	18 26 20.9	-1.2
PCIG				*e*S	Sn	18 26 30.2	-1.9

*IDC **07** 18:48:39.5±1.6, 6°70N×126°67E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/38, mbtmp3.4/4, Error ellipse: s-maj=39.3km s-min=12.3km az=36.0*
*ISCJB **07** 18:48:41.9±1.5, 6°46N±0°04×126°47E±0°06, h14km±10km, mb3.3/4, Error ellipse: s-maj=10.1km s-min=7.0km az=162.5*
*MAN **07** 18:48:45.0, 6°53N×126°22E, h10km, MS2.9*
ISC 07 18:48:40.3±2.5, 6°54N±0°05×126°49E±0°08, h1km±15km, n12, σ0°98/19, mb3.5/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.47**	**330**	*e*P	**Pn**	**18 48 53.4**	**-0.7**
MATI				*e*S	**Sb**	**18 49 00.3**	**+1.6**
DDMP	**Don Marcelino,**	**0.89**	**241**	*e*P	**Pb**	**18 48 58.3**	**-0.2**
DDMP				*e*S	**Sg**	**18 49 09.0**	**+0.2**
DAV	**Davao City (W)**	**1.05**	**300**	Pg	**Pn**	**18 49 02.1**	**-0.1**
	99nm,0.3s,baz=122,slow=1.2,SNR=9.0						
DAV				Lg	Lg	18 49 16.9	
	95nm,0.3s,baz=90,slow=20,SNR=14						
DMPH	**Davao City--Mi**	**1.11**	**299**	↑*i*P	**Pn**	**18 49 03.8**	**+0.8**
DMPH				*i*S	**Sb**	**18 49 17.8**	**+0.3**
SKMP	**Bagumbayan, Su**	**1.93**	**270**	*e*P	**Pn**	**18 49 13.5**	**-0.8**
SKMP				*e*S	**Sn**	**18 49 39.0**	**-0.3**
BUKP	**Musuan**	**1.94**	**313**	*e*P	**Pn**	**18 49 14.6**	**+0.1**
BUKP				*e*S	**Sn**	**18 49 38.3**	**-1.3**
BUTP	**Butuan**	**2.56**	**340**	*e*P	**Pb**	**18 49 26.9**	**-0.3**
BUTP				*e*S	**Sg**	**18 50 02.2**	**-0.6**
CGP	**Cagayan de Oro**	**2.61**	**317**	↓↓*e*P	**Pn**	**18 49 25.3**	**+1.7**
CGP				*e*S	**Sn**	**18 49 56.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.49**	**182**	P	**P**	**18 54 02.3**	**+1.1**
	0.9nm,0.6s,baz=356,slow=7.7,SNR=7.7						
WRA	**Warramunga Arr**	**27.42**	**164**	P	**P**	**18 54 28.6**	**+0.8**
	0.3nm,0.5s,baz=342,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**30.88**	**167**	P	**P**	**18 54 58.3**	**-0.2**
	0.2nm,0.6s,baz=343,slow=7.4,SNR=7.9						
MKAR	**Makanchi Array**	**55.14**	**324**	P	**P**	**18 58 13.1**	**-1.3**
	0.3nm,0.5s,baz=136,slow=8.1,SNR=3.0						

IDC 07 19:03:58.8±4.5, 7°89S×112°80E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/25, mbtmp3.2/3, Error ellipse: s-maj=299.3km s-min=26.4km az=49.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.05**	**122**	P	P	19 09 15.5	-0.6
	0.2nm,0.4s,baz=304,slow=7.7,SNR=6.6						
ASAR	**Alice Springs**	**25.60**	**130**	P	P	19 09 30.4	+0.4
	0.2nm,0.6s,baz=306,slow=8.8,SNR=5.0						
H08S2	**Diego Garcia H**	**39.93**	**268**	T	T	19 52 30.5	
	baz=94,slow=74						
H08S3	**Diego Garcia H**	**39.94**	**268**	T	T	19 52 30.9	
	baz=94,slow=74						
H08S1	**Diego Carcia H**	**39.95**	**268**	T	T	19 52 33.0	
	baz=94						
MKAR	**Makanchi Array**	**60.84**	**336**	P	P	19 14 13.1	+0.1
	0.3nm,0.5s,baz=147,slow=8.2,SNR=4.4						

MEX 07 19:05:44.9±0.7, 16°46N×98°62W, h10km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.47**	**99**	*e*P	Pg	19 05 53.5	-0.7
PNIG				*e*S	Sg	19 06 00.0	-0.4
TLIG	**Tlapa**	**1.09**	**2**	*e*P	Pg	19 06 02.4	-3.6
TLIG				*i*S	Sg	19 06 15.5	-4.7

*ATH **07** 19:15:34.9, 39°78N×26°09E, h24km±1km, ML1.9/2, Error ellipse: s-maj=2.4km s-min=1.0km az=256.0*
*ISK **07** 19:15:34.5, 39°77N×26°14E, h6km, ML2.2/11*
*ISCJB **07** 19:15:35.0±0.4, 39°79N±0°02×26°12E±0°03, h9km±3km, Error ellipse: s-maj=4.1km s-min=2.9km az=167.5*
*DDA **07** 19:15:35.0, 39°78N×26°16E, h8km±2km, ML2.7*
ISC 07 19:15:35.0±0.8, 39°78N±0°02×26°14E±0°02, h11km±5km, n29, σ0°40/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.09**	**314**	PG	**Pg**	**19 15 37.2**	**-0.3**
BOZC				SG	**Sg**	**19 15 38.9**	**-0.5**
BOZC	**Bozcaada**	**0.09**	**314**	*i*P	**Pg**	**19 15 37.5**	**0.0**
BOZC				*i*S	**Sg**	**19 15 39.8**	**+0.5**
EZN	**Ezine**	**0.15**	**72**	PG	**Pg**	**19 15 38.2**	**-0.2**
EZN				SG	**Sg**	**19 15 40.8**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.32**	**97**	IAML_P			
	comp=Z,5μm,0.2s						
BAYC				*i*P	**Pg**	**19 15 41.3**	**-0.1**
BAYC				*i*S	**Sb**	**19 15 47.0**	**-0.9**
PRK	**Paraskevi**	**0.54**	**169**	P	**Pb**	**19 15 46.5**	**0.0**
PRK				S	**Sb**	**19 15 54.1**	**-0.2**
PRK				AML	AML	19 15 54.8	
	comp=N,404μm,0.3s						
PRK				AML	AML	19 15 55.8	
	comp=E,237μm,0.4s						
SIGR	**SIGRI**	**0.61**	**201**	PG	**Pg**	**19 15 46.5**	**-0.3**
SIGR				SG	**Sg**	**19 15 55.2**	**+0.5**
SIGR	**SIGRI**	**0.61**	**201**	P	**Pg**	**19 15 46.5**	**-0.3**
SIGR				S	**Sg**	**19 15 55.2**	**+0.5**
SIGR				AML	AML	19 15 56.0	
	comp=N,392μm,0.4s						
SIGR				AML	AML	19 15 56.6	
	comp=E,242μm,0.3s						
AYVA	**Ayvalik**	**0.64**	**138**	*i*P	**Pb**	**19 15 48.3**	**+0.2**
AYVA				*i*S	**Sb**	**19 15 57.1**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.67**	**23**	PG	**Pg**	**19 15 47.9**	**-0.1**
GELI				SG	**Sb**	**19 15 57.7**	**-0.4**
LIA	**Limnos Island**	**0.74**	**280**	P	**Pg**	**19 15 48.8**	**-0.5**
LIA				S	**Sg**	**19 15 59.1**	**0.0**
SMTH	**Samothraki Isl**	**0.83**	**326**	P	**Pg**	**19 15 50.8**	**-0.2**
SMTH				S	**Sg**	**19 16 02.0**	**0.0**
ERIK	**Erikli-Kesan**	**0.94**	**18**	PG	**Pg**	**19 15 52.7**	**-0.3**
ERIK				SG	**Sb**	**19 16 06.3**	**+0.6**
ENEZ	**Enez**	**0.96**	**1**	PG	**Pg**	**19 15 53.2**	**-0.2**
ENEZ				SG	**Sn**	**19 16 07.5**	**-0.5**
ZEDA	**zmir-Bergama**	**1.09**	**138**	IAML_P			
	comp=Z,394nm,0.1s						
ZEDA				*i*P	**Pb**	**19 15 56.3**	**+0.4**
ZEDA				*i*S	**Sg**	**19 16 10.2**	**+0.1**
ALN	**Alexandroupoli**	**1.12**	**356**	PN	**Pb**	**19 15 56.4**	**0.0**
ALN				SN	**Sb**	**19 16 11.7**	**+0.7**
ALN	**Alexandroupoli**	**1.12**	**356**	P	**Pg**	**19 15 55.7**	**-0.8**
ALN				S	**Sb**	**19 16 11.7**	**+0.7**
KESN	**Edirne-Kesan**	**1.12**	**21**	IAML_P			
	comp=Z,251nm,0.2s						
KESN				*i*P	**Pn**	**19 15 57.7**	**+0.6**
KESN				*i*S	**Sg**	**19 16 11.2**	**-0.1**
BALY	**Balya**	**1.14**	**91**	IAML_P			
	comp=Z,744nm,0.1s						
BALY				*i*P	**Pg**	**19 15 56.5**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.21**	**41**	PN	**Pn**	**19 15 58.1**	**+0.2**
GONE	**Gonen-Balikesi**	**1.22**	**77**	PN	**Pg**	**19 15 58.5**	**+0.1**
BALB	**Balikesir**	**1.35**	**95**	PN	**Pn**	**19 16 00.1**	**+0.3**
THAS	**Thassos island**	**1.37**	**308**	P	**Pb**	**19 16 00.6**	**+0.1**
CHOS	**Chios island**	**1.39**	**183**	PN	**Pb**	**19 16 01.1**	**+0.1**
CHOS	**Chios island**	**1.39**	**183**	P	**Pn**	**19 16 00.4**	**0.0**
CHOS				S	**Sg**	**19 16 20.7**	**+0.9**
RDO	**Rodhopi**	**1.44**	**342**	PN	**Pn**	**19 16 01.4**	**+0.3**
RDO	**Rodhopi**	**1.44**	**342**	P	**Pn**	**19 16 01.2**	**+0.1**
URLA	**Izmir**	**1.46**	**166**	PN	**Pn**	**19 16 01.1**	**-0.3**
URLA	**Izmir**	**1.46**	**166**	IAML_P			
	comp=Z,249nm,0.2s						
URLA				*i*P	**Pn**	**19 16 01.4**	**+0.1**
DURS	**Dursunbey**	**1.81**	**95**	*i*P	**Pn**	**19 16 06.1**	**-0.2**
DURS				*i*S	**Sb**	**19 16 30.6**	**-0.4**

*ISCJB **07** 19:21:58.2±0.4, 0°91N±0°07×123°90E±0°05, h274km±4km, mb3.5/11, Error ellipse: s-maj=11.6km s-min=8.7km az=4.0*

*DJA **07** 19:22:00.5±0.6, 1°N±4°×12°4E±°, h257km±5km, M3.5/9, MLv3.5/9*
*IDC **07** 19:22:05.3±4.3, 0°84N×123°80E, h335km±51km, mb3.2/11, mb1 3.4/13, mb1mx3.1/37, mbtmp4.0/13, Error ellipse: s-maj=35.0km s-min=12.9km az=63.0*
ISC 07 19:21:59.2±0.7, 0°82N±0°07×123°94E±0°06, h268km±7km, n20, σ1°73/26, mb3.5/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.24**	**171**	P	**Pn**	**19 22 34.9**	**+1.2**
KMSI				S	**S**	**19 23 01.9**	**+1.0**
MRSI	**Marisa**	**2.03**	**260**	P	**Pn**	**19 22 44.0**	**+0.6**
MRSI				S	**S**	**19 23 16.9**	**-1.5**
LUWI	**Luwuk**	**2.19**	**212**	P	**Pn**	**19 22 45.3**	**+0.5**
LUWI				S	**S**	**19 23 18.6**	**-2.4**
APSI	**Ampana**	**2.86**	**233**	P	**Pn**	**19 22 52.4**	**+1.0**
APSI				S	**S**	**19 23 31.8**	**-1.1**
TNTI	**Ternate**	**3.43**	**91**	P	**Pn**	**19 22 58.3**	**+0.9**
TNTI				S	**S**	**19 23 42.6**	**-1.1**
SANI	**Sanana**	**3.51**	**144**	P	**Pn**	**19 22 58.2**	**-0.1**
SANI				S	**S**	**19 23 41.5**	**-3.9**
MPSI	**Mapaga**	**4.07**	**263**	P	**Pn**	**19 23 05.5**	**+0.8**
BATI	**Baumata**	**10.95**	**181**	P	**P**	**19 24 36.4**	**+3.1**
	4.9nm,0.3s,baz=348,slow=1.7,SNR=9.5						
FITZ	**Fitzroy Crossi**	**18.87**	**175**	P	**Pn**	**19 26 01.0**	**-3.2**
	0.6nm,0.3s,baz=1.3,slow=7.9,SNR=22						
WRA	**Warramunga Arr**	**23.01**	**154**	P	**P**	**19 26 42.2**	**+1.1**
	7.5nm,0.8s,baz=338,slow=10,SNR=103						
ASAR	**Alice Springs**	**26.19**	**159**	P	**P**	**19 27 11.4**	**+1.6**
	0.9nm,0.6s,baz=337,slow=7.0,SNR=34						
CMAR	**Chiang Mai Arr**	**30.16**	**307**	P	**P**	**19 27 44.6**	**-0.4**
	0.4nm,0.9s,baz=147,slow=6.3,SNR=4.5						
STKA	**Stephens Creek**	**36.56**	**154**	P	**P**	**19 28 41.8**	**+1.9**
	1.9nm,0.5s,baz=324,slow=9.5,SNR=8.4						
USRK	**Ussuriysk Ar.**	**43.79**	**8**	P	**P**	**19 29 38.9**	**+0.1**
	1.1nm,0.4s,baz=201,slow=5.7,SNR=5.7						
KLR	**Kul'dur**	**48.69**	**7**	P	**P**	**19 30 15.9**	**-0.8**
	0.9nm,0.5s,baz=272,slow=4.0,SNR=5.1						
SONM	**Songino Array**	**49.25**	**344**	P	**P**	**19 30 20.7**	**-0.4**
	1.2nm,0.8s,baz=158,slow=9.0,SNR=5.7						
MKAR	**Makanchi Array**	**58.42**	**328**	P	**P**	**19 31 26.5**	**-0.7**
	0.9nm,0.4s,baz=120,slow=8.9,SNR=19						
ZALV	**Zalesovo Beam**	**61.97**	**335**	P	**P**	**19 31 50.0**	**-0.9**
	0.7nm,0.3s,baz=122,slow=5.4,SNR=3.0						
KURBB	**Kurchatov Arra**	**62.74**	**329**	P	**P**	**19 31 55.0**	**-1.1**
	1.1nm,0.7s,baz=125,slow=6.2,SNR=10						
BVAR	**Borovoye Array**	**68.28**	**328**	P	**P**	**19 32 29.4**	**-2.0**
	0.4nm,0.5s,baz=120,slow=5.5,SNR=3.1						

*BJI **07** 19:25:41.9±0.0, 56°80S×26°90W, h135km, mB5.3/2*
*NEIC **07** 19:25:42.7±1.9, 56°82S×26°83W, h135km±5km, mb4.8/36, Error ellipse: s-maj=16.1km s-min=13.3km az=217.0*
*ISCJB **07** 19:25:43.0±0.3, 56°78S±0°05×26°91W±0°10, h150km, mb4.6/34, Error ellipse: s-maj=8.6km s-min=4.9km az=144.3*
*IDC **07** 19:25:45.1±2.1, 56°73S×26°94W, h151km±19km, mb4.0/12, mb1 4.1/14, mb1mx4.0/21, mbtmp4.4/14, Error ellipse: s-maj=14.0km s-min=11.9km az=20.0*
ISC 07 19:25:44.0±0.3, 56°93S±0°06×26°93W±0°07, h150km, n94, σ1°75/103, mb4.7/33, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.03**	**292**	*e*Pn	**Pn**	**19 27 09.9**	**-1.1**
VNA1	**Neumayer--Stat**	**15.92**	**157**	P	**P**	**19 29 21.2**	**+1.2**
VNA1				S	**Sn**	**19 32 14.9**	**-1.5**
VNA3	**Neumayer Olymp**	**16.11**	**160**	P	**P**	**19 29 24.1**	**+2.0**
VNA3				S	**S**	**19 32 13.3**	**-7.2**
VNA2	**Neumayer--Watz**	**16.32**	**157**	P	**P**	**19 29 26.5**	**+2.1**
	baz=316,slow=13						
VNA2				S	**S**	**19 32 20.7**	**-4.5**
	baz=325,slow=22						
SNAA	**Sanae**	**17.88**	**155**	P	**Pn**	**19 29 43.2**	**+0.2**
SNAA				S	**S**	**19 32 57.9**	**-0.9**
SNAA	**Sanae**	**17.88**	**155**	*e*P	**Pn**	**19 29 43.0**	**0.0**
	22nm,1.8s						
SNAA				*e*S	**S**	**19 32 55.0**	**-3.8**
SNAA	**Sanae**	**17.88**	**155**	P	**Pn**	**19 29 43.0**	**0.0**
	0.3nm,0.3s,baz=314,slow=9.4,SNR=19						
SNAA				S	**S**	**19 32 55.0**	**-3.8**
	0.1nm,0.3s,baz=332,slow=18,SNR=3.1						
EFI	**East Falkland**	**18.81**	**273**	*e*P	**Pn**	**19 29 52.8**	**-1.2**
	430nm,1.9s						
PMSA	**Palmer Station**	**19.44**	**231**	*e*P	**Pn**	**19 30 02.0**	**+0.8**
	568nm,1.9s						
PMSA	**Palmer Station**	**19.44**	**231**	P	**Pn**	**19 30 01.6**	**+0.4**
	1.9nm,0.3s,baz=72,slow=8.2,SNR=5.6						
USHA	**Ushuaia**	**23.12**	**258**	P	**P**	**19 30 37.2**	**+0.8**
	11nm,0.7s,baz=85,slow=11,SNR=5.2						
TRQA	**Tornquist**	**29.81**	**294**	*e*P	**P**	**19 31 35.4**	**-1.2**
	86nm,2.0s						
PLCA	**Paso Flores**	**32.30**	**281**	*e*P	**P**	**19 31 57.8**	**-0.7**
	48nm,2.0s						
PLCA	**Paso Flores**	**32.30**	**281**	P	**P**	**19 31 58.0**	**-0.5**
	1.9nm,0.9s,baz=153,slow=6.8,SNR=3.3						
QSPA	**South Pole Qui**	**33.31**	**180**	*e*P	**P**	**19 32 09.5**	**+2.3**
	25nm,1.7s						
CPUP	**Villa Florida**	**37.51**	**312**	*e*P	**P**	**19 32 43.4**	**+0.3**
	6.6nm,0.8s						
CPUP	**Villa Florida**	**37.51**	**312**	P	**P**	**19 32 43.0**	**-0.1**
	6.1nm,0.8s,baz=155,slow=7.9,SNR=9.3						
MAW	**Mawson**	**39.35**	**143**	*e*P	**P**	**19 32 59.8**	**+1.7**
	7.5nm,1.9s						
MAW	**Mawson**	**39.35**	**143**	P	**P**	**19 32 59.6**	**+1.6**
	2.8nm,0.9s,baz=228,slow=5.1,SNR=9.8						
SUR	**Sutherland**	**40.74**	**74**	*e*P	**P**	**19 33 11.4**	**+1.2**
	65nm,1.9s						
SUR	**Sutherland**	**40.74**	**74**	P	**P**	**19 33 11.5**	**+1.3**
	6.3nm,0.7s,baz=212,slow=9.0,SNR=11						
GO02	**Mina Guanaco**	**44.03**	**298**	*e*P	**P**	**19 33 35.9**	**-1.0**
	5.8nm,0.6s						
BDFB	**Brasilia**	**44.20**	**330**	*e*P	**P**	**19 33 37.8**	**-0.3**
	12nm,1.3s						
BDFB				*e*P	**P**	**19 33 38.4**	**+0.3**
BDFB	**Brasilia**	**44.20**	**330**	P	**P**	**19 33 38.4**	**+0.3**
	2.7nm,0.5s,baz=104,slow=10,SNR=3.8						
SBA	**Scott Base**	**45.20**	**184**	*e*P	**P**	**19 33 46.1**	**+0.9**
	11nm,1.5s						
VNDA	**Vanda**	**45.69**	**183**	*e*P	**P**	**19 33 51.3**	**+2.2**
	3.7nm,1.0s						
VNDA	**Vanda**	**45.69**	**183**	P	**P**	**19 33 52.1**	**+3.0**
	1.9nm,0.8s,baz=187,slow=7.8,SNR=14						
LVC	**Limon Verde**	**45.87**	**301**	*e*P	**P**	**19 33 51.4**	**-0.2**
	5.2nm,0.8s						
PB10	**IPOC Station P**	**45.89**	**298**	*e*P	**P**	**19 33 50.5**	**-0.7**
	22nm,0.9s						
BOSA	**Boshof**	**46.06**	**75**	*e*P	**P**	**19 33 52.8**	**+0.1**
	5.4nm,0.8s						
BOSA	**Boshof**	**46.06**	**75**	P	**P**	**19 33 53.2**	**+0.5**
	4.8nm,0.8s,baz=197,slow=6.4,SNR=14						
CRZF	**Crozet Islands**	**47.33**	**113**	*e*P	**P**	**19 34 00.8**	**-1.4**
	88nm,1.0s						
PB01	**IPOC Station P**	**47.49**	**301**	*e*P	**P**	**19 34 03.7**	**-0.1**
	7.4nm,0.6s						
GO01	**Chusmiza**	**48.54**	**302**	*e*P	**P**	**19 34 12.1**	**-0.3**
	8.3nm,0.4s						
PB11	**IPOC Station P**	**48.67**	**302**	*e*P	**P**	**19 34 12.3**	**-0.7**
	24nm,1.6s						
LBTB	**Lobatse**	**49.13**	**72**	*e*P	**P**	**19 34 16.5**	**+0.1**
	14nm,0.7s						
MNMC	**Minye Minye**	**49.19**	**302**	*e*P	**P**	**19 34 16.9**	**-0.2**
	15nm,0.4s						
TSUM	**Tsumeb**	**50.00**	**60**	*e*P	**P**	**19 34 22.1**	**-0.9**
	4.7nm,1.0s						
LPAZ	**La Paz**	**51.01**	**306**	*e*P	**P**	**19 34 31.5**	**+0.4**
	6.3nm,0.6s						
LPAZ	**La Paz**	**51.01**	**306**	P	**P**	**19 34 31.5**	**+0.4**
	6.6nm,0.4s,baz=105,slow=4.4,SNR=45						
LSZ	**Lusaka**	**58.56**	**68**	*e*P	**P**	**19 35 24.9**	**-0.1**
	6.6nm,0.8s						
DBIC	**Dimbokro**	**65.92**	**24**	*e*P	**P**	**19 36 13.7**	**+0.1**
	33nm,1.6s						
DBIC	**Dimbokro**	**65.92**	**24**	P	**P**	**19 36 13.8**	**+0.1**
	5.0nm,0.5s,baz=171,slow=7.2,SNR=11						
TOA0	**Torodi Ar. Sit**	**73.76**	**29**	*e*P	**P**	**19 37 01.7**	**+0.2**
	7.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**73.76**	**29**	P	**P**	**19 37 00.3**	**-1.2**
	2.8nm,0.6s,baz=199,slow=5.8,SNR=19						
GRGR	**Grenville**	**74.58**	**325**	*e*P	**P**	**19 37 07.0**	**+0.7**
	112nm,1.0s						
NAI	**Nairobi**	**74.87**	**68**	*e*P	**P**	**19 37 11.0**	**+2.7**
	15nm,0.6s						
PAYG	**Puerto Ayora**	**75.19**	**292**	*e*P	**P**	**19 37 10.8**	**+0.9**
	55nm,1.2s						
THZ	**Tophouse**	**80.26**	**195**	*e*P	**P**	**19 37 40.6**	**+2.9**
	95nm,1.7s						
BKZ	**Black Stump Fm**	**82.24**	**198**	*e*P	**P**	**19 37 49.9**	**+1.7**
	86nm,1.8s						
HIZ	**Hauiti**	**83.15**	**197**	*e*P	**P**	**19 37 53.0**	**+0.1**
	175nm,1.4s						
BBOO	**Buckleboo**	**89.45**	**166**	*e*P	**P**	**19 38 24.9**	**+1.2**
	39nm,1.7s						
ASAR	**Alice Springs**	**98.10**	**162**	P	Pdif	19 39 06.3	+2.8
	0.5nm,0.5s,baz=178,slow=4.0,SNR=14						
WR1	**Warramunga Arr**	**101.82**	**162**	*e*Pdif	**Pdif**	**19 39 23.0**	**+2.9**
WRA	**Warramunga Arr**	**101.82**	**162**	P	**Pdif**	**19 39 23.0**	**+2.9**
	0.3nm,0.8s,baz=195,slow=4.4,SNR=2.6						
KOLS	**Kolonicke sedl**	**113.11**	**33**	*e*PDIF	**Pdif**	**19 40 17.5**	**+8.1**
PV09	**Paradox Valley**	**117.39**	**299**	*e*PKPdf	**PKiKP**	**19 44 10.9**	**-0.4**
PDAR	**Pinedale Array**	**120.93**	**302**	PKP	**PKiKP**	**19 44 17.9**	**-0.1**
	0.2nm,0.5s,baz=163,slow=4.7,SNR=3.8						
NV01	**Mina Array Sit**	**121.87**	**292**	*e*PKPdf	**PKiKP**	**19 44 20.6**	**+0.7**
NVAR	**Mina Array Bea**	**121.87**	**292**	PKP	**PKiKP**	**19 44 20.7**	**+0.7**
	0.3nm,0.6s,baz=140,slow=4.6,SNR=2.6						
FIA0	**FINESS Array S**	**125.10**	**28**	*e*PKPdf	**PKiKP**	**19 44 24.8**	**-0.5**
FINES	**FINESS Array B**	**125.10**	**28**	PKP	**PKiKP**	**19 44 24.8**	**-0.5**
	2.2nm,0.9s,baz=163,slow=2.0,SNR=6.3						
FINES				PP	**PP**	**19 46 17.2**	**0.0**
	0.6nm,0.4s,baz=49,slow=2.8,SNR=6.1						
KSH	**Kashi**	**128.66**	**75**	PKP	**PKiKP**	**19 44 33.7**	**+0.4**
ARA0	**ARCESS Array S**	**131.71**	**22**	*e*PKPdf	**PKiKP**	**19 44 37.4**	**-0.9**
ARCES	**ARCESS Array B**	**131.71**	**22**	PKP	**PKiKP**	**19 44 37.4**	**-0.9**
	2.6nm,0.8s,baz=253,slow=2.0,SNR=3.6						
YKA	**Yellowknife Ar**	**136.92**	**317**	PKP	**PKiKP**	**19 44 47.6**	**-1.5**
	0.4nm,0.4s,baz=129,slow=2.3,SNR=10.0						
YKA				SKPbc	**SKPbc**	**19 48 05.0**	**-0.8**
	0.5nm,0.7s,baz=128,slow=3.1,SNR=8.1						
YKB5	**Yellowknife Ar**	**136.92**	**317**	*e*PKPdf	**PKiKP**	**19 44 47.6**	**-1.5**
CD2	**Chengdu**	**137.28**	**106**	PKP	**PKiKP**	**19 44 49.0**	**-1.9**
WMQ	**Urumqi**	**137.94**	**79**	*e*PKP	**PKiKP**	**19 44 51.1**	**-0.8**
LZH	**Lanzhou**	**141.30**	**101**	*e*PKP	**PKPdf**	**19 44 55.4**	**-0.9**
ZALV	**Zalesovo Beam**	**142.63**	**65**	PKP	**PKiKP**	**19 44 58.5**	**-2.5**
	0.9nm,0.5s,baz=239,slow=4.8,SNR=3.5						
ZAA1	**Zalesovo Array**	**142.63**	**65**	*e*PKPdf	**PKiKP**	**19 44 58.5**	**-2.5**
WHY	**Whitehorse**	**144.20**	**307**	*e*PKPdf	**PKPdf**	**19 44 59.6**	**-0.9**
NJ2	**Nanjing**	**145.75**	**122**	*e*PKPbc	**PKPab**	**19 45 05.3**	**-0.1**
EPYK	**Eagle Plains**	**147.16**	**316**	*e*PKPdf	**PKPab**	**19 45 08.0**	**-2.0**
CTGM	**Chitina Glacie**	**147.20**	**305**	*e*PKPdf	**PKiKP**	**19 45 08.7**	**-1.7**
DAWY	**Dawson**	**147.49**	**311**	*e*PKPdf	**PKPbc**	**19 45 08.4**	**-0.4**
BCAR	**Beaver Creek A**	**148.16**	**308**	*e*PKPbc	**PKiKP**	**19 45 10.3**	**-1.9**
HMT	**Hamilton**	**148.29**	**303**	*e*PKPbc	**PKiKP**	**19 45 11.5**	**-1.0**
HHC	**Hu-ho-hao-te**	**148.91**	**103**	*e*PKPbc	**PKPdf**	**19 45 08.5**	**-0.7**
DOT	**Dot Lake**	**149.32**	**309**	*e*PKPbc	**PKiKP**	**19 45 13.8**	**-0.7**
SCRK	**Sand Creek**	**149.38**	**310**	*e*PKPbc	**PKiKP**	**19 45 13.9**	**-0.9**
RIDG	**Independent Ri**	**149.68**	**309**	*e*PKPbc	**PKiKP**	**19 45 14.6**	**-0.8**
BMAR	**Burnt Mountain**	**150.43**	**316**	*e*PKPbc	**PKiKP**	**19 45 16.4**	**-0.4**
DHY	**Denali Highway**	**150.59**	**307**	*e*PKPbc	**PKiKP**	**19 45 17.4**	**0.0**
SONA0	**Songino Array**	**150.63**	**88**	*e*PKPbc	**PKiKP**	**19 45 17.5**	**-0.4**
SONM	**Songino Array**	**150.63**	**88**	*e*PKPbc	**PKiKP**	**19 45 16.8**	**-1.2**
SONM	**Songino Array**	**150.63**	**88**	PKPbc	**PKiKP**	**19 45 17.5**	**-0.4**
	0.8nm,0.4s,baz=212,slow=3.3,SNR=5.5						
ILAR	**Eielson Array**	**150.81**	**310**	*e*PKPbc	**PKiKP**	**19 45 16.9**	**-0.7**
ILAR	**Eielson Array**	**150.81**	**310**	PKPbc	**PKiKP**	**19 45 17.1**	**-0.5**
	2.7nm,0.7s,baz=128,slow=1.7,SNR=30						
ILAR				PKPab	**PKPab**	**19 45 25.4**	**+0.5**
	0.8nm,0.4s,baz=119,slow=0.9,SNR=7.1						
ILB	**Eielson Array**	**150.81**	**310**	*e*PKPbc	**PKiKP**	**19 45 16.7**	**-0.8**
KDAK	**Kodiak Island**	**151.33**	**295**	*e*PKPbc	**PKiKP**	**19 45 18.7**	**-0.1**
KDAK	**Kodiak Island**	**151.33**	**295**	PKPbc	**PKiKP**	**19 45 19.0**	**+0.2**
	baz=118,slow=5.8						
TOLK	**Toolik Lake Re**	**152.44**	**318**	*e*PKPbc	**PKiKP**	**19 45 20.8**	**-0.1**

MEX 07 19:32:05.0±0.6, 18°44N×102°96W, h32km±10km, MD3.6, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.

YHNB eS Sb 20 10 16.6 -0.4
baz=312
EOS1 EOS1 0.42 68 eP Pb 20 10 10.6 -0.1
baz=67
WHF Hehuan Shan 0.47 239 eP Pb 20 10 11.4 -0.4
baz=238
WHF S Sb 20 10 18.4 -0.5
baz=238
TDCB Techi 0.52 255 eP Pb 20 10 12.0 -0.3
baz=254
TDCB eS Sb 20 10 19.3 -0.5
baz=254
TDCB Techi 0.52 255 eS Pb 20 10 12.0 -0.3
baz=257
CHGB Renai 0.59 236 eS Sb 20 10 21.8 0.0
baz=235
TIPB Shuangxi 0.59 11 eP Pb 20 10 13.2 -0.2
baz=10.0
TIPB eS Sb 20 10 21.5 -0.2
baz=10.0
ESL Shilin 0.62 204 eS Sb 20 10 21.9 -0.7
baz=202
VWDT VWDT 0.82 219 eS Sn 20 10 27.7 0.0
baz=219

*IDC **07** 20:22:58.5±1.2, 34°.10N×54°.43E, h0km, mb3.6/11, mb1 3.8/13, mb1mx3.7/44, mbtmp3.7/13, ML3.4/2, MS2.8/3, Ms1 2.8/3, ms1mx2.3/41, Error ellipse: s-maj=26.2km s-min=15.1km az=159.0*
*ISCJB **07** 20:23:00.8±0.2, 34°.36N±0°.03×54°.51E±0°.03, h10km, mb3.7/16, MS2.9/1, Error ellipse: s-maj=3.7km s-min=3.4km az=174.5*
*THR **07** 20:23:00.3, 34°.32N×54°.51E, h14km, ML4.0*
*TEH **07** 20:23:00.7, 34°.33N×54°.48E, h17km, ML4.1*
*NEIC **07** 20:23:00.7±0.0, 34°.33N×54°.48E, h17km, mb4.1/7, MN4.1(TEH), After TEH.*

ISC 07 20:23:01.1±0.6, 34°.34N±0°.04×54°.49E±0°.03, h10km, n92, σ1°.27/83, mb3.7/16, 2C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjilo**	**1.22**	**337**	ePn	**Pb**	**20 23 24.4**	**0.0**
IANJ	**Anjilo**	**1.22**	**337**	ePg	**Pb**	**20 23 24.5**	**0.0**
IANJ				IAMB	IAmb	20 23 43.6	
	comp=Z,53μm,0.4s						
ANAR	**Anarak**	**1.31**	**209**	ePg	**Pn**	**20 23 24.8**	**-0.8**
ILAS	**Lasjerd**	**1.63**	**310**	ePn	**Pn**	**20 23 30.4**	**+0.2**
ILAS				IAMB	IAmb	20 23 57.5	
	comp=Z,58μm,0.3s						
ISHM	**Shahmirzad**	**1.76**	**326**	ePn	**Pn**	**20 23 32.7**	**+0.7**
ISHM				IAMB	IAmb	20 24 01.0	
	comp=Z,69μm,0.3s						
TNSJ	**Nastanj**	**1.80**	**101**	ePn	**Pn**	**20 23 32.2**	**-0.1**
ISFB	**Sefidab**	**1.86**	**271**	ePn	**Pn**	**20 23 33.6**	**+0.5**
YZKH	**Yazd**	**1.95**	**177**	ePn	**Pn**	**20 23 35.3**	**+1.0**
YZKH	**Yazd**	**1.95**	**177**	ePg	**Pn**	**20 23 35.3**	**+1.0**
IKIA	**Kiasar**	**1.98**	**341**	ePn	**Pn**	**20 23 35.8**	**+0.9**
IKIA				IAMB	IAmb	20 24 07.2	
	comp=Z,16μm,0.4s						
KRSH	**Karshahi**	**1.99**	**260**	ePn	**Pn**	**20 23 34.9**	**-0.1**
SHRO	**Shahrood**	**2.06**	**37**	ePn	**Pn**	**20 23 36.7**	**+0.7**
SHRO	**Shahrood**	**2.06**	**37**	ePn	**Pn**	**20 23 36.7**	**+0.7**
SHRO				eAML	AML	20 24 10.8	
	comp=N,934nm,0.6s						
ICHK	**Chekchek**	**2.09**	**182**	ePn	**Pn**	**20 23 37.0**	**+0.6**
ICHK				IAMB	IAmb	20 24 25.4	
	comp=Z,4μm,0.2s						
TPRV	**Parvadeh(Tabas**	**2.25**	**125**	ePn	**Pn**	**20 23 38.9**	**+0.4**
TABS	**Tabas**	**2.29**	**107**	ePn	**Pn**	**20 23 39.5**	**+0.4**
TABS	**Tabas**	**2.29**	**107**	ePn	**Pn**	**20 23 39.5**	**+0.4**
TKDS	**Koohdasht(Taba**	**2.30**	**108**	ePn	**Pn**	**20 23 39.7**	**+0.4**
IZEF	**Zefreh**	**2.31**	**232**	ePn	**Pn**	**20 23 39.4**	**0.0**
IZEF	**Zefreh**	**2.31**	**232**	ePn	**Pn**	**20 23 39.5**	**0.0**
IZEF				IAMB	IAmb	20 24 17.1	
	comp=Z,5μm,0.2s						
IVRN	**Varamin**	**2.37**	**287**	ePn	**Pn**	**20 23 40.1**	**0.0**
ISAD	**Sadrabad**	**2.51**	**196**	ePn	**Pn**	**20 23 42.4**	**+0.1**
ISAD				IAMB	IAmb	20 24 24.1	
	comp=Z,6μm,0.4s						
IPRN	**Peran**	**2.59**	**318**	ePn	**Pn**	**20 23 44.3**	**+1.1**
IPRN				IAMB	IAmb	20 24 26.2	
	comp=Z,11μm,0.5s						
IKLH	**Kolahrood**	**2.63**	**248**	ePn	**Pn**	**20 23 44.3**	**+0.4**
IKLH				IAMB	IAmb	20 24 29.1	
	comp=Z,5μm,0.4s						
GHVR	**GHOM**	**2.65**	**274**	ePn	**Pn**	**20 23 45.4**	**+1.5**
GHVR	**GHOM**	**2.65**	**274**	eAML	AML	20 24 28.1	
	comp=E,552nm,0.5s						
GHVR	**GHOM**	**2.65**	**274**	ePn	**Pn**	**20 23 45.4**	**+1.5**
IMEH	**Mehriz**	**2.94**	**178**	ePn	**Pn**	**20 23 49.4**	**+1.3**
IMEH	**Mehriz**	**2.94**	**178**	ePn	**Pn**	**20 23 49.5**	**+1.3**
IMEH				IAMB	IAmb	20 24 48.2	
	comp=Z,3μm,0.6s						
IMND	**Minoodasht**	**3.00**	**14**	ePn	**Pn**	**20 23 49.8**	**+1.0**
IRAM	**Ramesheh**	**3.08**	**216**	ePn	**Pn**	**20 23 50.3**	**+0.2**
IRAM				IAMB	IAmb	20 24 00.5	
	comp=Z,2μm,0.6s						
CHTH	**Charan**	**3.17**	**301**	ePn	**Pn**	**20 23 52.5**	**+1.2**
CHTH	**Charan**	**3.17**	**301**	ePn	**Pn**	**20 23 52.5**	**+1.2**
SBZV	**Sabzevar**	**3.27**	**50**	ePn	**Pn**	**20 23 53.2**	**+0.6**
IMHD	**Mahdasht**	**3.41**	**294**	ePn	Pn	20 24 00.6	+6.1
IPIR	**Pirpir**	**3.43**	**242**	IAMB	IAmb	20 24 53.3	
	comp=Z,2μm,0.6s						
ROKH	**ROKH**	**3.51**	**236**	ePn	**Pn**	**20 23 57.8**	**+1.9**
ZNGN	**Zangian**	**3.77**	**235**	ePn	**Pn**	**20 24 01.7**	**+2.1**
QALM	**Alamut, Qazvin**	**3.77**	**305**	ePn	**Pn**	**20 24 01.6**	**+2.1**
JHBN	**Jahan bin**	**3.83**	**238**	ePn	**Pn**	**20 24 03.2**	**+2.7**
ITEG	**Tejag**	**3.83**	**111**	ePn	**Pn**	**20 24 01.3**	**+0.9**
IRAZ	**Razeghan**	**3.90**	**287**	ePn	**Pn**	**20 24 01.9**	**+0.7**
IRAZ	**Razeghan**	**3.90**	**287**	ePn	**Pn**	**20 24 02.0**	**+0.7**
IRAZ				IAMB	IAmb	20 25 11.1	
	comp=Z,3μm,0.6s						
ISFR	**Sfrayin**	**3.94**	**46**	ePn	**Pn**	**20 24 03.0**	**+1.2**
IKRD	**Kardeh**	**4.08**	**52**	ePn	**Pb**	**20 24 14.0**	**+0.8**
KLNJ	**Kolanjah**	**4.12**	**217**	ePn	**Pn**	**20 24 05.5**	**+1.0**
IAKL	**Akhelmad**	**4.15**	**56**	ePn	**Pn**	**20 24 05.5**	**+0.7**
IKOO	**Kooshah**	**4.23**	**116**	ePn	**Pn**	**20 24 05.3**	**-0.6**
IPAY	**Payeh**	**4.24**	**59**	ePn	**Pn**	**20 24 07.0**	**+1.0**
QABG	**Abgarm-Qazvin**	**4.25**	**290**	ePn	**Pn**	**20 24 07.2**	**+1.0**
KHGB	**Koh Gabri**	**4.30**	**156**	ePn	**Pn**	**20 24 08.0**	**+1.2**
IMON	**Monand**	**4.46**	**103**	ePn	**Pn**	**20 24 10.3**	**+1.3**
GEYT	**Alibeck**	**4.63**	**38**	Pn	**Pn**	**20 24 12.6**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=219,slow=12,SNR=20						
GEYT				Pg	**Pg**	**20 24 28.9**	**-0.8**
	comp=Z,2.7nm,0.3s,baz=227,slow=17,SNR=11						
GEYT				Lg	Lg	20 25 32.0	
	comp=Z,1.5nm,0.3s,baz=220,slow=38,SNR=2.9						
GYA0B	**ALIBECK ARRAY**	**4.63**	**38**	ePn	**Pn**	**20 24 11.9**	**+0.8**
TVBK	**TV Kerman**	**4.75**	**155**	ePn	**Pn**	**20 24 17.1**	**+4.0**
IMYA	**Miami**	**5.00**	**65**	ePn	**Pn**	**20 24 17.0**	**+0.6**
JRKH	**Jarkhoshk**	**5.05**	**70**	ePn	**Pn**	**20 24 16.8**	**-0.2**
NGRK	**Negar Kerman**	**5.05**	**157**	ePn	**Pn**	**20 24 18.3**	**+1.0**
IKAZ	**Kazeroun**	**5.07**	**207**	ePn	Pn	20 24 25.0	+7.5
IKAZ	**Kazeroun**	**5.07**	**207**	ePn	Pn	20 24 25.0	+7.5
IKMR	**Kamar-syah**	**5.15**	**263**	ePn	Pn	20 24 26.0	+7.8
CHMN	**Cheshme madani**	**5.16**	**149**	ePn	**Pn**	**20 24 20.3**	**+1.5**
IKFM	**Kafar-mosalman**	**5.58**	**263**	ePn	**Pn**	**20 24 26.1**	**+1.9**
IKOM	**Komasi**	**5.78**	**270**	ePn	**Pn**	**20 24 28.8**	**+1.7**
GNI	**Garni**	**9.69**	**310**	LR	LR	20 29 31.8	
	comp=Z,35nm,21.1s,baz=100,slow=40						
KKAR	**Karatay Array**	**15.24**	**50**	ePn	**Pn**	**20 26 32.9**	**-3.5**
KKAR				ePn	P	20 26 33.8	-7.5
AB31	**Akbulak array**	**15.44**	**14**	⇓P	**P**	**20 26 44.6**	**+1.2**
	comp=Z,2.0nm,0.9s,baz=211,slow=13,SNR=7.2						
AB31				⇓S	Sn	20 29 18.9	-11
	comp=Z,0.4nm,0.5s,baz=211,slow=23,SNR=5.7						
ABKAR	**Akbulak array**	**15.44**	**14**	ePn	**Pn**	**20 26 40.7**	**+1.8**
	comp=Z,2.1nm,0.9s						
ABKAR				ePn	**P**	**20 26 41.0**	**-2.5**
AKTO	**Aktyubinsk**	**16.29**	**8**	⇑P	**Pn**	**20 26 53.4**	**+3.5**
	comp=Z,5.5nm,0.8s						
AKTO				⇑S	Sn	20 29 31.2	-19
	comp=Z,1.7nm,1.1s						
AKTO	**Aktyubinsk**	**16.29**	**8**	Pn	**Pn**	**20 26 51.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=186,slow=14,SNR=8.9						
AKTO				LR	LR	20 34 25.3	
	comp=Z,41nm,19.3s,baz=166,slow=42						
BRTR	**Keskin Array B**	**17.48**	**294**	P	**Pn**	**20 27 04.6**	**-0.5**
	baz=133,slow=12,SNR=5.6						
BVAR	**Borovoye Array**	**21.84**	**26**	P	**P**	**20 27 53.9**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=216,slow=7.3,SNR=16						
ARU	**Arti**	**22.27**	**6**	eP	**P**	**20 27 58.9**	**+0.8**
	comp=Z,10nm,1.4s						
KURBB	**Kurchatov Arra**	**23.90**	**40**	P	**P**	**20 28 15.8**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=240,slow=10,SNR=12						
KURK	**Kurchatov**	**24.00**	**40**	eP	**P**	**20 28 16.7**	**+0.9**
	comp=Z,4.6nm,1.0s						
MKAR	**Makanchi Array**	**24.37**	**51**	P	**P**	**20 28 20.7**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=246,slow=9.0,SNR=4.2						
MLR	**Muntele Rosu**	**24.44**	**306**	P	**P**	**20 28 21.4**	**+1.3**
	comp=Z,3.3nm,0.9s,baz=162,slow=3.0,SNR=6.8						
KIRV	**Kirov**	**24.49**	**354**	LR	LR	20 40 48.5	
	comp=Z,33nm,18.8s,baz=138,slow=43						
AKASG	**Malin Array Be**	**24.60**	**319**	P	**P**	**20 28 21.5**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=121,slow=9.0,SNR=8.2						
AKBB	**Malin Array Si**	**24.60**	**319**	eP	**P**	**20 28 21.1**	**-0.2**
	comp=Z,8.4nm,1.3s						
KIEV	**Kiev**	**24.61**	**319**	eP	**P**	**20 28 20.9**	**-0.5**
	comp=Z,7.5nm,1.2s						
BURAR	**Bucovina Array**	**25.60**	**310**	eP	**P**	**20 28 30.4**	**-0.1**
BUR08	**Bucovina Ar. S**	**25.62**	**310**	eP	**P**	**20 28 30.7**	**0.0**
	comp=Z,17nm,1.9s						
WMQ	**Urumqi**	**27.30**	**60**	eP	**P**	20 28 38.5	-7.4
ZALV	**Zalesovo Beam**	**28.94**	**38**	P	**P**	**20 29 01.0**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=263,slow=9.6,SNR=3.1						
GERES	**GERESS Array B**	**33.34**	**308**	P	**P**	**20 29 38.5**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=101,slow=7.1,SNR=8.3						
LZH	**Lanzhou**	**40.01**	**73**	eP	P	20 30 28.2	-8.2
LZH				pP	pP	20 30 38.3	-1.4
LZH				sP	sP	20 30 43.1	+2.1
LZH				PP	PP	20 31 58.3	-10
CMAR	**Chiang Mai Arr**	**42.49**	**100**	P	**P**	**20 30 56.0**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=300,slow=8.2,SNR=7.0						
HHC	**Hu-ho-hao-te**	**45.00**	**64**	eP	P	20 31 07.6	-9.2
TORD	**Torodi Ar. Bea**	**52.10**	**260**	P	**P**	**20 32 09.8**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=74,slow=11,SNR=3.3						
ILAR	**Eielson Array**	**79.80**	**9**	P	**P**	**20 35 09.2**	**0.0**
	comp=Z,0.2nm,0.7s,baz=359,slow=3.8,SNR=3.3						
YKA	**Yellowknife Ar**	**83.10**	**355**	P	**P**	**20 35 26.3**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=6.3,slow=5.6,SNR=5.5						

IGQ 07 20:23:47.3±0.3, 2°.5S±3°.3×8°.0W±°, h5km, MLv4.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MILO	**Milagro-Astudi**	**0.28**	**77**	P	Pn	20 23 56.8	-1.3
MILO				S	Sb	20 24 05.8	+6.0
COHC	**Cochancay**	**0.58**	**102**	P	Pg	20 23 58.6	+0.1
MORR	**Playas El Morr**	**0.59**	**240**	P	Pn	20 24 01.4	-1.0
MORR				S	Sn	20 24 13.5	+1.0
SALI	**Salinas**	**1.18**	**278**	P	Pg	20 24 06.8	-3.1
PISA	**Pisayambo**	**1.93**	**48**	P	Pn	20 24 18.0	-3.2
ILLI	**Illinizas Sur**	**1.96**	**34**	P	Pn	20 24 17.4	-4.3
MCRA	**Macar, Loja**	**2.02**	**184**	P	Pn	20 24 16.7	-5.4
PAST	**Pastocalle**	**2.02**	**36**	P	Pn	20 24 19.3	-3.2
BMOR	**Cotopaxi Volca**	**2.11**	**40**	P	Pn	20 24 20.4	-3.3
BREF	**Cotopaxi Volca**	**2.16**	**40**	P	Pn	20 24 21.9	-2.7
NAS2	**Nasa**	**2.17**	**39**	P	Pn	20 24 22.1	-2.5
BTAM	**Cotopaxi Volca**	**2.19**	**41**	P	Pn	20 24 21.7	-3.3
BVC2	**Cotopaxi Volca**	**2.19**	**40**	P	Pn	20 24 21.8	-3.2
VC1	**Cotopaxi 1**	**2.21**	**40**	P	Pn	20 24 22.3	-2.9
COV1	**Cotopaxi Volc**	**2.23**	**42**	P	Pn	20 24 21.9	-3.7
PITA	**Cotopaxi Volc**	**2.25**	**38**	P	Pn	20 24 23.2	-2.6
MAG1	**Magdalena**	**2.26**	**1**	P	Pn	20 24 20.3	-5.1
NINA	**Atacazo Ninahu**	**2.29**	**32**	P	Pn	20 24 22.4	-3.8
ANTS	**Antisana-Sarah**	**2.47**	**42**	P	Pn	20 24 25.4	-3.4
GGPC	**Guagua Pichinc**	**2.48**	**30**	P	Pn	20 24 25.2	-3.7
TERV	**Terraza Guagua**	**2.48**	**30**	P	Pn	20 24 25.3	-3.6
PULU	**Pululahua**	**2.70**	**29**	P	Pn	20 24 28.4	-3.4
PAC1	**Pacto, Paraso**	**2.79**	**22**	P	Pn	20 24 27.5	-5.3
CUSE	**Cuicocha Este**	**2.99**	**28**	P	Pn	20 24 31.7	-4.2
URCU	**Urcuqui**	**3.18**	**30**	P	Pn	20 24 35.3	-3.1

IDC 07 20:30:30.9±2.0, 5°.96S×130°.56E, h0km, mb3.8/1, mb1 3.7/5, mb1mx3.5/45, mbtmp3.6/5, ML3.3/4, Error ellipse: s-maj=52.9km s-min=27.8km az=84.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**8.03**	**238**	Pn	Pn	20 32 27.9	-1.0
	0.7nm,0.3s,baz=35,slow=12,SNR=1.7						
BATI				Sn	Sn	20 33 49.7	-11
	3.2nm,0.3s,baz=84,slow=23,SNR=7.2						
FITZ	**Fitzroy Crossi**	**12.98**	**201**	Pn	Pn	20 33 35.3	-1.5
	0.2nm,0.3s,baz=37,slow=8.9,SNR=15						
FITZ				Sn	Sn	20 35 41.0	-21
	0.1nm,0.3s,baz=159,slow=19,SNR=1.2						
WRA	**Warramunga Arr**	**14.37**	**166**	Pn	Pn	20 33 56.9	+1.1
	0.1nm,0.3s,baz=348,slow=12,SNR=1.8						
WRA				Sn	Sn	20 36 26.3	-10
	0.3nm,0.3s,baz=318,slow=8.5,SNR=1.9						
ASAR	**Alice Springs**	**17.89**	**170**	P	P	20 34 42.1	0.0
	0.1nm,0.3s,baz=350,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**67.67**	**326**	P	P	20 41 30.1	+0.2
	0.4nm,0.4s,baz=118,slow=7.8,SNR=8.0						

*IDC **07** 20:33:24.6±0.5, 25°.27S×70°.17E, h0km, mb4.3/28, mb1 4.5/28, mb1mx4.3/55, mbtmp4.4/28, MS4.2/23, Ms1 4.2/23, ms1mx4.1/29, Error ellipse: s-maj=17.6km s-min=13.5km az=42.0*
*MOS **07** 20:33:25.0±1.4, 25°.29S×70°.13E, h10km, mb4.8/30, Error ellipse: s-maj=13.2km s-min=6.8km az=105.6*
*NEIC **07** 20:33:26.1±2.1, 25°.27S×70°.05E, h11km±3km, mb5.0/85, Error ellipse: s-maj=16.1km s-min=13.5km az=204.0*
*ISCJB **07** 20:33:26.5±0.3, 25°.32S±0°.06×70°.10E±0°.05, h21km, mb4.8/121, MS4.3/32, Error ellipse: s-maj=8.6km s-min=5.5km az=23.4*
*BJI **07** 20:33:27.0±0.0, 25°.02S×70°.11E, h10km, mb4.6/35, mB5.0/22, Ms4.9/19, Ms7 4.8/12*
*GCMT **07** 20:33:29.1±0.2, 25°.01S±0°.02×69°.89E±0°.01, h12km, MW5.0/103, Moment Tensor Solution. s40,c44; s103,c155; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=3.73±.09; Mθθ0.89±.08; Mφφ2.84±.07; Mrθ1.60±.31; Mθφ-1.43±.07; Mφr2.37±.26; Best double couple: Mo=4.52200×1016 NP1:φs180.00000°, δ62.00000°, λ-64.00000°. NP2:φs313.00000°, δ38.00000°, λ-129.00000°. Principal axes: T 3.9010, Plg13.0000°, Azm251.0000°; N 1.2400, Plg23.0000°, Azm346.0000°; P -5.1430, Plg63.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 20:33:28.1±0.3, 25°.37S±0°.07×69°.94E±0°.06, h21km, n287, σ1°.62/285, mb4.8/13, MS4.3/32, 30C-6D, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.79**	**8**	T	T	20 55 53.9	
	baz=189,slow=76,SNR=52						
H08S2	**Diego Garcia H**	**17.80**	**8**	T	T	20 55 52.7	
	baz=189,slow=76,SNR=102						
H08S3	**Diego Garcia H**	**17.81**	**8**	T	T	20 55 47.5	
	baz=189,slow=76,SNR=53						
H08N3	**Diego Garcia H**	**18.95**	**3**	T	T	20 57 19.0	
	SNR=4.7						
H08N1	**Diego Carcia H**	**18.95**	**3**	T	T	20 57 17.7	
	SNR=5.0						
H08N2	**Diego Garcia H**	**18.97**	**3**	T	T	20 57 18.2	
	SNR=4.2						
OPO	**Ambohidratompo**	**22.14**	**283**	P	**P**	**20 38 25.2**	**+2.5**
	9.0nm,1.0s,baz=166,slow=6.3,SNR=4.2						
MSEY	**Mahe Island**	**24.82**	**324**	eP	**P**	**20 38 47.5**	**-1.6**
	16nm,0.9s						
MSEY	**Mahe Island**	**24.82**	**324**	eP	**P**	**20 38 47.5**	**-1.6**
MSEY				pmax	pmax		
	comp=Z,16nm,0.9s						
SISI	**Saibi**	**36.90**	**54**	P	**P**	**20 40 38.5**	**+3.0**
GSI	**Gunungsitoli**	**37.66**	**49**	P	**P**	**20 40 43.8**	**+1.8**
PDSI	**Padang**	**38.19**	**55**	P	**P**	**20 40 48.4**	**+1.9**
CGJI	**Cibinong**	**38.91**	**68**	P	**P**	**20 40 53.5**	**+1.0**
KLSI		**39.18**	**64**	P	**P**	**20 40 57.3**	**+2.5**
KMBO	**Kilima Mbogo**	**39.69**	**302**	LR	LR	20 53 37.0	
	comp=Z,165nm,20.9s,baz=107,slow=30						
BOSA	**Boshof**	**39.78**	**255**	eP	**P**	**20 40 59.9**	**0.0**
	comp=Z,33nm,1.7s						
BOSA	**Boshof**	**39.78**	**255**	eP	**P**	**20 40 59.9**	**0.0**
BOSA				pmax	pmax		
	comp=Z,33nm,1.7s						
BOSA	**Boshof**	**39.78**	**255**	P	**P**	**20 41 01.2**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=96,slow=7.0,SNR=3.6						
BOSA				LR	LR	20 54 43.0	
	comp=Z,634nm,19.1s,baz=102,slow=32						
CISI	**Cisompet, Garu**	**40.21**	**71**	eP	**P**	**20 41 02.3**	**-1.2**
	comp=Z,61nm,1.2s						
LSZ	**Lusaka**	**40.28**	**276**	eP	**P**	**20 41 04.2**	**+0.2**
LSZ				epP	**P**	**20 41 04.7**	**+0.6**
LSZ	**Lusaka**	**40.28**	**276**	eP	**P**	**20 41 04.3**	**+0.2**
LSZ				ePP	**P**	**20 41 04.7**	**+0.6**
LSZ	**Lusaka**	**40.28**	**276**	P	**P**	**20 41 04.9**	**+0.8**
	comp=Z,0.9nm,0.2s,baz=135,slow=7.6,SNR=1.5						
NWAO	**Narrogin (SRO)**	**41.70**	**112**	eP	**P**	**20 41 15.8**	**+0.3**
	comp=Z,185nm,2.0s						
NWAO	**Narrogin (SRO)**	**41.70**	**112**	eP	**P**	**20 41 15.8**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,185nm,2.0s						
MAW	**Mawson**	**42.47**	**184**	LR	LR	20 54 52.7	
	comp=Z,359nm,21.4s,baz=5.5,slow=30						
NGJI	**Ngawi**	**43.44**	**73**	P	**P**	**20 41 34.0**	**+4.2**
PSA00	**Pilbara Seismi**	**45.72**	**96**	eP	**P**	**20 41 46.2**	**-1.8**
	comp=Z,96nm,1.9s						
SBUM	**Sibu**	**49.41**	**62**	eP	**P**	**20 42 16.9**	**+0.2**
	comp=Z,11nm,1.2s						
CM31	**Chiang Mai Arr**	**51.91**	**36**	eP	**P**	**20 42 36.0**	**+0.6**
	comp=Z,15nm,1.1s						
CMAR	**Chiang Mai Arr**	**51.91**	**36**	eP	**P**	**20 42 36.4**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**51.91**	**36**	P	**P**	**20 42 34.1**	**-1.3**
	comp=Z,7.9nm,1.1s,baz=227,slow=6.7,SNR=26						
CMAR				LR	LR	21 00 46.2	
	comp=Z,193nm,21.8s,baz=212,slow=32						
FITZ	**Fitzroy Crossi**	**51.94**	**94**	eP	**P**	**20 42 35.1**	**-0.7**
	comp=Z,22nm,1.1s						
UTTA	**Uttaradit**	**52.20**	**38**	P	**P**	**20 42 40.5**	**+2.9**
CHTO	**Chiang Mai**	**52.20**	**36**	eP	**P**	**20 42 36.4**	**-1.2**
	comp=Z,10nm,1.2s						
CHTO	**Chiang Mai**	**52.20**	**36**	eP	**P**	**20 42 36.4**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CMMT	**Chiang Mai**	**52.20**	**36**	P	**P**	**20 42 38.4**	**+0.7**
CMMT	**Chiang Mai**	**52.20**	**36**	P	**P**	**20 42 38.4**	**+0.7**
	comp=Z,4.0nm,1.2s						
MMRI	**Maumere**	**52.36**	**81**	eP	**P**	**20 42 36.8**	**-2.2**
	comp=Z,45nm,1.1s						
BNSI	**Bone**	**52.39**	**75**	P	**P**	**20 42 40.7**	**+1.5**
NANT	**Nan**	**53.13**	**37**	P	P	20 42 50.2	+5.7
SOEI	**Soe**	**53.72**	**83**	eP	**P**	**20 42 47.1**	**-2.0**
	comp=Z,38nm,1.1s						
PCI	**Palu**	**53.89**	**71**	P	**P**	**20 42 49.1**	**-1.1**
	comp=Z,36nm,0.8s,comp=Z,3μm						
MPSI	**Mapaga**	**54.58**	**70**	P	**P**	**20 42 56.7**	**+1.4**
SHL	**Shillong**	**54.90**	**24**	eP	**P**	**20 42 55.9**	**-1.6**
	comp=Z,25nm,1.2s						
SHL	**Shillong**	**54.90**	**24**	P	**P**	**20 42 56.4**	**-1.1**
LUWI	**Luwuk**	**56.34**	**73**	eP	**P**	**20 43 07.6**	**-0.4**
	comp=Z,44nm,1.2s						
SLVN	**Son La**	**56.95**	**38**	eP	**P**	**20 43 12.7**	**+0.6**
	comp=Z,29nm,1.9s						
BBOO	**Buckleboo**	**57.43**	**114**	eP	**P**	**20 43 16.8**	**+1.2**
	comp=Z,66nm,1.8s						
ASAR	**Alice Springs**	**57.71**	**103**	eP	**P**	**20 43 16.6**	**-1.1**
ASAR	**Alice Springs**	**57.71**	**103**	eP	**P**	**20 43 16.6**	**-1.1**
ASAR	**Alice Springs**	**57.71**	**103**	P	**P**	**20 43 16.1**	**-1.5**
	comp=Z,2.2nm,0.9s,baz=249,slow=6.5,SNR=14						
ASAR				LR	LR	21 05 29.9	
	comp=Z,214nm,19.6s,baz=270,slow=34						
AS31	**Alice Springs**	**57.71**	**103**	eP	**P**	**20 43 17.1**	**-0.6**
	comp=Z,1.0nm,0.8s						
LSA	**Lhasa**	**58.42**	**22**	eP	**P**	**20 43 23.4**	**+0.5**
	comp=Z,8.5nm,1.3s						
MTN	**Manton Dam**	**58.71**	**90**	eP	**P**	**20 43 23.6**	**-1.1**
	comp=Z,22nm,1.0s						
NIL	**Nilore**	**58.78**	**3**	eP	**P**	**20 43 23.3**	**-1.4**
	comp=Z,7.4nm,1.2s						
NIL	**Nilore**	**58.78**	**3**	eP	**P**	**20 43 23.3**	**-1.4**
NIL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WRA	**Warramunga Arr**	**59.19**	**99**	eP	**P**	**20 43 25.9**	**-2.1**
WRA	**Warramunga Arr**	**59.19**	**99**	P	**P**	**20 43 27.2**	**-0.8**
	comp=Z,9.0nm,1.0s,baz=254,slow=7.0,SNR=18						
WRA				LR	LR	21 06 38.7	
	comp=Z,437nm,19.2s,baz=260,slow=34						
WB2	**Warramunga Arr**	**59.20**	**99**	eP	**P**	**20 43 27.9**	**-0.2**
	comp=

comp=Z,3.5nm,1.0s,baz=276,slow=6.8,SNR=11
VNDA LR LR 21 10 09.7
comp=Z,113nm,18.3s,baz=252,slow=34
ARSB Arslanbob 66.42 2 *eP* **P 20 44 15.9 +0.2**
comp=Z,27nm,1.6s
NRN Naryn 66.70 5 *eP* **P 20 44 16.7 -1.1**
comp=Z,6.5nm,1.3s
MMAI Mount Meron Ar 66.73 329 P **P 20 44 18.5 +0.7**
comp=Z,4.7nm,0.9s,baz=116,slow=7.5,SNR=12
ENH Enshi 67.06 37 *eP* **P 20 44 19.0 -0.9**
comp=Z,6.0nm,1.6s
CAN Canberra 67.31 120 *eP* **P 20 44 20.5 -1.2**
comp=Z,49nm,1.9s
KDJ Kajisay 67.50 6 *eP* **P 20 44 20.9 -1.7**
comp=Z,19nm,1.8s
SIRT Sirnak 67.68 337 *eP* **P 20 44 23.5 -0.2**
comp=Z,40nm,1.2s
AAK Ala-Archa 67.80 4 *eP* **P 20 44 24.0 -0.5**
comp=Z,15nm,1.8s
AAK Ala-Archa 67.80 4⇑ *eP* **P 20 44 24.4 -0.1**
AAK pmax pmax
comp=Z,4.0nm,1.4s
AAK Ala-Archa 67.80 4 LR LR 21 11 41.0
comp=Z,229nm,19.5s,baz=170,slow=34
KK31 Karatay Array 68.14 0 *eP* **P 20 44 26.0 -0.5**
comp=Z,16nm,1.4s
KKAR Karatay Array 68.14 0 *eP* **P 20 44 25.3 -1.1**
KKAR *eP* **P 20 44 25.8 -0.6**
LZH Lanzhou 69.00 29 ⇑P **P 20 44 33.0 +0.8**
LZH pP sP 20 44 39.8 -0.2
LZH sP pwP 20 44 43.5 +0.8
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,97nm,5.4s
LZH LR LR
comp=Z,330nm,12.5s
LZH LR LR
comp=Z,390nm,14.6s
LZH LR LR
comp=Z,360nm,11.9s
MCQ Macquarie Isla 69.19 141 *eP* **P 20 44 33.4 +0.4**
comp=Z,578nm,1.8s
GNI Garni 69.29 340 *eP* **P 20 44 33.9 +0.1**
comp=Z,9.9nm,0.9s
GNI Garni 69.29 340 *deP* **P 20 44 32.5 -1.3**
GNI pmax pmax
comp=Z,21nm,0.8s
GNI Garni 69.29 340 P **P 20 44 34.5 +0.7**
comp=Z,5.7nm,0.8s,baz=192,slow=17,SNR=5.2
H09N1 TRISTAN DA CUN 69.31 238 T T 21 59 55.5
SNR=8.3
SSLB Suanglung 69.48 49 *eP* **P 20 44 35.2 -0.1**
comp=Z,58nm,1.7s
XAN Xi'an 69.72 34 P **P 20 44 36.2 -0.3**
XAN pP pP 20 44 42.9 +0.7
XAN pmax pmax
comp=Z,5.0nm,1.2s
XAN pmax pmax
comp=Z,64nm,4.4s
XAN Xi'an 69.72 34 *eP* **P 20 44 35.1 -1.4**
comp=Z,9.5nm,1.1s
WHN Wuhan 70.00 40 P **P 20 44 35.5 -2.7**
GTA Gaotai 70.23 24 *eP* **P 20 44 38.4 -1.2**
GTA pP sP 20 44 46.7 -0.8
GTA sP pwP 20 44 50.8 +0.7
GTA S **S 20 53 52.6 +2.3**
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,49nm,7.5s
GTA LR LR
comp=Z,150nm,19.0s
GTA LR LR
comp=Z,120nm,20.3s
TBLG Delisi 70.73 340 *eP* **P 20 44 42.2 -0.3**
comp=Z,4.5nm,0.5s
TBLG Delisi 70.73 340 P **P 20 44 42.2 -0.3**
TBLG pmax pmax
comp=Z,5.0nm,0.5s
WMQ Urumqi 70.76 14 *eP* **P 20 44 44.4 +1.7**
WMQ pP sP 20 44 49.7 -0.8
WMQ PcP **PcP 20 45 03.9 +0.5**
WMQ pmax pmax
comp=Z,340nm,4.7s
WMQ LR LR
comp=Z,500nm,17.9s
WMQ LR LR
comp=Z,500nm,20.3s
WMQ LR LR
comp=Z,770nm,22.7s
WMQ Urumqi 70.76 14 *eP* **P 20 44 43.3 +0.6**
comp=Z,18nm,1.8s
AKH Akhalkalaki 70.83 339 *eP* **P 20 44 43.4 +0.1**
comp=Z,6.3nm,1.1s
GENI Genyem 71.04 84 P **P 20 44 48.3 +3.3**
GROC Groznyy 71.76 342 *eP* **P 20 44 46.4 -2.3**
GROC *e* 20 45 07.0
GROC pmax pmax
comp=Z,35nm,1.3s
ZEI Tsey 71.95 340 *eP* **P 20 44 51.2 +1.1**
ZEI pmax pmax
comp=Z,11nm,1.4s
NCK Nalchik 72.68 340⇓ *eP* **P 20 44 54.3 +0.1**
NCK pmax pmax
comp=Z,7.0nm,1.0s
MK31 Makanchi Array 72.69 9 *eP* **P 20 44 53.9 -0.3**
comp=Z,4.7nm,1.0s
MK31 Makanchi Array 72.69 9 *eP* **P 20 44 53.9 -0.3**
MK31 pmax pmax
comp=Z,5.0nm,1.0s
MKAR Makanchi Array 72.69 9 *eP* **P 20 44 53.2 -0.9**
MKAR Makanchi Array 72.69 9 *ceP* **P 20 44 53.7 -0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 72.69 9 P **P 20 44 52.0 -2.2**
comp=Z,2.3nm,0.8s,baz=197,slow=6.5,SNR=11
MKAR LR LR 21 15 40.3
comp=Z,116nm,18.3s,baz=174,slow=35
NEY Neytrino 72.73 340⇓ *eP* **P 20 44 55.7 +1.0**
NEY pmax pmax
comp=Z,1.0nm,0.9s
BR131 Keskin Array S 73.08 331 *eP* **P 20 44 56.7 -0.1**
comp=Z,11nm,1.1s
BRTR Keskin Array B 73.08 331 *eP* **P 20 44 55.4 -1.5**
BRTR Keskin Array B 73.08 331 *ceP* **P 20 44 58.5 +1.7**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 73.08 331 P **P 20 44 56.1 -0.7**
comp=Z,4.5nm,1.0s,baz=157,slow=6.7,SNR=16
BRTR LR LR 21 14 15.5
comp=Z,50nm,21.1s,baz=98,slow=34
KBZ Khabaz 73.11 340 P **P 20 44 58.4 +1.7**
comp=Z,5.2nm,1.1s,baz=140,slow=3.9,SNR=6.6
KBZ LR LR 21 14 42.8
comp=Z,62nm,20.5s,baz=161,slow=34
KIV Kislovodsk 73.38 340 *eP* **P 20 44 57.5 -0.9**
comp=Z,12nm,1.1s
KIV Kislovodsk 73.38 340⇑ *iP* **P 20 44 58.4 0.0**
KIV Kislovodsk 73.38 340⇑ P **P 20 44 58.4 0.0**
NJ2 Nanjing 73.75 42 *eP* **P 20 45 00.6 -0.1**
NJ2 pmax pmax
comp=Z,12nm,0.5s
IDI Anoyia 73.87 323 P **P 20 45 01.5 0.0**
comp=Z,8.5nm,1.1s,baz=147,slow=8.4,SNR=3.4
ILGA Ilgaz 74.15 332 *eP* **P 20 45 03.1 -0.1**
comp=Z,16nm,1.1s
MANT Manisa 74.42 327 *eP* **P 20 45 05.3 +0.5**
comp=Z,41nm,1.0s
MDUB Mudurnu 74.77 330 *eP* **P 20 45 05.6 -1.0**
comp=Z,92nm,1.2s
ABKAR Akbulak array 74.82 353 *eP* **P 20 45 04.4 -2.2**
ABKAR *eP* **P 20 45 04.4 -2.2**
BTO Baotou 75.48 30 *eP* **P 20 45 11.7 +1.0**
BALB Balikesir 75.65 328 *eP* **P 20 45 11.2 -0.4**
comp=Z,179nm,1.8s
ANN Anapa 75.89 337 *eP* P 20 45 05.1 -7.7
ANN pmax pmax
comp=Z,48nm,1.4s
KURK Kurchatov 76.14 6 *eP* **P 20 45 14.3 +0.2**
comp=Z,13nm,1.3s
KURK Kurchatov 76.14 6 *ceP* **P 20 45 14.7 +0.6**
KURK pmax pmax
comp=Z,11nm,1.7s
AKTO Aktyubinsk 76.21 352 P **P 20 45 13.7 -0.8**
comp=Z,3.8nm,1.0s,baz=209,slow=3.5,SNR=6.9

DGZ Jazzator, Alta 76.34 12 *deP* **P 20 45 16.5 +1.0**
DGZ pmax pmax
comp=Z,4.0nm,1.7s
HHC Hu-ho-hao-te 76.39 31 *eP* **P 20 45 17.1 +1.2**
HHC S **S 20 55 02.6 +2.6**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.6s
HHC LR LR
comp=Z,390nm,17.7s
HHC LR LR
comp=Z,200nm,16.1s
HHC LR LR
comp=Z,340nm,16.9s
LHI Lord Howe Isla 76.49 119 *eP* **P 20 45 15.9 -0.9**
comp=Z,167nm,1.6s
TOA0 Torodi Ar. Sit 76.69 292 *eP* **P 20 45 18.8 +0.7**
comp=Z,11nm,1.3s
TORD Torodi Ar. Bea 76.69 292 *eP* **P 20 45 18.1 +0.1**
TORD Torodi Ar. Bea 76.69 292 P **P 20 45 18.6 +0.5**
comp=Z,3.3nm,1.1s,baz=109,slow=3.6,SNR=12
TORD LR LR 21 17 35.0
comp=Z,165nm,20.5s,baz=30,slow=34
AGG Agios Georgios 78.00 324 *eP* **P 20 45 25.6 +0.6**
comp=Z,42nm,1.9s
BVAR Borovoye Array 78.06 0 P **P 20 45 23.8 -1.1**
comp=Z,0.9nm,0.7s,baz=157,slow=7.9,SNR=5.0
BRVK Borovoye 78.10 0⇑ *eP* **P 20 45 23.6 -1.5**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
TAM Tamanrasset 78.68 302 *eP* **P 20 45 26.0 -3.2**
comp=Z,8.2nm,1.5s
TAM Tamanrasset 78.68 302 *eP* **P 20 45 26.0 -3.2**
TAM pmax pmax
comp=Z,8.0nm,1.5s
LIT Litokhoron 78.71 325 *eP* P 20 45 23.5 -5.3
comp=Z,13nm,1.2s
LIT Litokhoron 78.71 325 *eP* P 20 45 23.5 -5.3
LIT pmax pmax
comp=Z,13nm,1.2s
DBIC Dimbokro 79.25 283 LR LR 21 18 44.4
comp=Z,222nm,18.7s,baz=104,slow=34
FNA Florina 79.79 325 *eP* **P 20 45 32.3 -2.4**
comp=Z,13nm,1.4s
FNA Florina 79.79 325 *eP* **P 20 45 32.3 -2.4**
FNA pmax pmax
comp=Z,13nm,1.4s
CFR Carcaliu 79.88 331⇑ *iP* **P 20 45 36.3 +1.3**
CFR Carcaliu 79.88 331⇑ P **P 20 45 36.3 +1.3**
SONM Songino Array 79.90 24 *eP* **P 20 45 33.4 -1.9**
SONM Songino Array 79.90 24 P **P 20 45 33.8 -1.5**
comp=Z,4.3nm,1.1s,baz=210,slow=4.0,SNR=14
SONM LR LR 21 19 32.4
comp=Z,159nm,21.8s,baz=240,slow=35
ZAA0 Zalesovo Array 80.03 9 *eP* **P 20 45 34.6 -1.0**
comp=Z,3.8nm,0.9s
ZALV Zalesovo Beam 80.03 9 *eP* **P 20 45 33.3 -2.3**
ZALV Zalesovo Beam 80.03 9 *i P* **P 20 45 36.5 +0.9**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 80.03 9 P **P 20 45 34.7 -1.0**
comp=Z,1.1nm,0.6s,baz=196,slow=4.2,SNR=6.8
ULN Ulaanbaatar 80.17 24 *eP* **P 20 45 35.4 -1.4**
comp=Z,11nm,1.2s
ULN Ulaanbaatar 80.17 24 *ceP* **P 20 45 36.5 -0.2**
ULN pmax pmax
comp=Z,15nm,1.7s
VTS Vitosha 80.19 327 *eP* **P 20 45 36.5 -0.5**
comp=Z,8.2nm,1.4s
VTS Vitosha 80.19 327 *eP* **P 20 45 36.5 -0.5**
VTS pmax pmax
comp=Z,8.0nm,1.4s
NVS Novosibirsk 80.70 8 *eP* **P 20 45 40.2 +1.0**
VSR Storozhevoye 80.94 341 *eP* **P 20 45 40.5 0.0**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VRI Vrincioaia 81.04 331⇑ *iP* **P 20 45 41.7 +0.4**
VRI Vrincioaia 81.04 331⇑ P **P 20 45 41.7 +0.4**
PLOR Plostina 81.06 331⇑ *iP* **P 20 45 40.7 -0.7**
PLOR Plostina 81.06 331⇑ P **P 20 45 40.7 -0.7**
MLR Muntele Rosu 81.09 330 *eP* **P 20 45 40.9 -0.8**
comp=Z,27nm,1.3s
MLR Muntele Rosu 81.09 330⇑ *iP* **P 20 45 43.3 +1.6**
MLR Muntele Rosu 81.09 330⇑ P **P 20 45 43.4 +1.7**
MLR Muntele Rosu 81.09 330 P **P 20 45 40.8 -0.9**
comp=Z,7.4nm,0.9s,baz=97,slow=3.5,SNR=9.8
VOIR 81.45 330⇑ *iP* **P 20 45 44.6 +1.0**
VOIR 81.45 330⇑ P **P 20 45 44.6 +1.0**
ARU Arti 82.05 354 *eP* **P 20 45 46.4 +0.1**
comp=Z,14nm,1.2s
ARU Arti 82.05 354 *d iP* **P 20 45 45.3 -1.0**
ARU 20 48 52.6
ARU S **S 20 56 02.2 +3.0**
ARU SS **SS 21 01 21.7 +2.3**
ARU pmax pmax
comp=Z,14nm,1.2s
LPSR Galich'ya Gora 82.23 342 *eP* **P 20 45 49.0 +1.7**
LPSR pmax pmax
comp=Z,7.0nm,1.0s
SVE Sverdlovsk 82.25 355 *eP* **P 20 45 47.2 -0.2**
SVE pmax pmax
comp=Z,20nm,1.4s
KSAR Wonju Array Be 82.87 43 *eP* **P 20 45 49.2 -1.8**
KSAR Wonju Array Be 82.87 43 *eP* **P 20 45 49.3 -1.8**
KSRS Korea Array 82.90 43 P **P 20 45 49.8 -1.4**
comp=Z,2.4nm,1.0s,baz=226,slow=4.9,SNR=4.2
KSRS LR LR 21 21 41.5
comp=Z,109nm,18.9s,baz=233,slow=35
BURAR Bucovina Array 83.05 331 *eP* **P 20 45 52.3 +0.4**
BURAR Bucovina Array 83.05 331⇑ *iP* **P 20 45 53.8 +1.9**
BURAR Bucovina Array 83.05 331⇑ P **P 20 45 53.8 +1.9**
BUR08 Bucovina Ar. S 83.08 331 *eP* **P 20 45 52.9 +0.8**
comp=Z,11nm,1.4s
BZS Buzias 83.19 328⇑ *iP* **P 20 45 54.1 +1.6**
BZS Buzias 83.19 328⇑ P **P 20 45 54.1 +1.6**
KEST Kesra 83.48 314 *eP* **P 20 45 55.0 +0.6**
comp=Z,7.3nm,1.1s
KEST Kesra 83.48 314 P **P 20 45 56.6 +2.3**
comp=Z,3.1nm,0.9s,baz=89,slow=14,SNR=4.2
KEST LR LR 21 20 43.2
comp=Z,102nm,21.9s,baz=252,slow=34
AKASG Malin Array Be 83.85 335 *eP* **P 20 45 54.2 -1.6**
AKASG Malin Array Be 83.85 335 *ceP* **P 20 45 57.2 +1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 83.85 335 P **P 20 45 54.6 -1.2**
comp=Z,0.7nm,0.5s,baz=132,slow=4.5,SNR=13
AKBB Malin Array Si 83.85 335 *eP* **P 20 45 53.5 -2.3**
comp=Z,10.0nm,1.2s
AKBB Malin Array Si 83.85 335 *eP* **P 20 45 53.5 -2.3**
AKBB pmax pmax
comp=Z,10.0nm,1.2s
KIEV Kiev 83.85 335⇓ *eP* **P 20 45 57.1 +1.3**
KIEV pmax pmax
comp=Z,6.0nm,1.1s
TRPA Tarpa 84.62 330⇑ *iP* **P 20 45 59.4 -0.3**
UZH Uzhgorod 85.10 331 *eP* **P 20 46 00.2 -2.0**
UZH *e* 20 46 03.9
OBN Obninsk 85.11 342⇓ *eP* **P 20 46 02.5 +0.5**
OBN *e* 20 49 20.8
OBN *eS* **S 20 56 34.1 +4.0**
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,67nm,18.0s
KOLS Kolonicke sedl 85.33 331 *eP* **P 20 46 06.0 +2.6**
KOLS pmax pmax
comp=Z,9.0nm,1.5s
KOLS Kolonicke sedl 85.33 331 *eP* **P 20 46 06.0 +2.6**
MOS Moscow 85.36 342 *eP* **P 20 46 03.8 +0.5**
KIRV Kirov 85.37 349 P **P 20 46 03.6 +0.4**
comp=Z,2.8nm,0.5s,baz=164,slow=5.2,SNR=4.4
CN2 Changchun 85.58 37 *eP* **P 20 46 05.6 +0.9**
CN2 *eS* **S 20 56 35.2 -0.2**
CN2 LR LR
comp=Z,130nm,18.0s
CN2 LR LR
comp=Z,140nm,18.0s
CN2 LR LR
comp=Z,140nm,22.0s
KWP Kalwaria Pacla 85.66 331 *eP* **P 20 46 05.3 +0.4**
KWP Kalwaria Pacla 85.66 331 *eP* **P 20 46 04.9 -0.1**
comp=Z,232nm,1.6s
KWP Kalwaria Pacla 85.66 331 *eP* **P 20 46 04.9 -0.1**

KWP pmax pmax
comp=Z,232nm,1.6s
NIE Niedzica 86.57 330 *eP* **P 20 46 12.1 +2.6**
NIE Niedzica 86.57 330 *eP* **P 20 46 12.1 +2.6**
VYHS Vyhne 86.58 329 *eP* **P 20 46 11.9 +2.3**
VYHS pmax pmax
comp=Z,7.0nm,1.5s
VYHS Vyhne 86.58 329 *eP* **P 20 46 11.9 +2.3**
SOKA Soboth 87.19 326 *ePcP* **P 20 46 15.2 +2.5**
comp=Z,3.8nm,1.1s
OBKA Obir 87.33 325 *ePcP* **P 20 46 16.1 +2.8**
comp=Z,6.1nm,1.2s
ARSA Arzberg 87.33 326 *ePcP* **P 20 46 15.9 +2.7**
comp=Z,7.1nm,1.4s
OJC Ojcow 87.37 330 *eP* **P 20 46 15.5 +2.2**
OJC Ojcow 87.37 330 *eP* **P 20 46 12.3 -1.0**
comp=Z,12nm,1.2s
OJC Ojcow 87.37 330 *eP* **P 20 46 15.5 +2.2**
JAVC Velka Javorina 87.39 328 *eP* **P 20 46 16.3 +2.8**
CONA Conrad Observa 87.62 327 *eP* **P 20 46 14.7 0.0**
comp=Z,9.8nm,1.3s
OKC Ostrava-Krasne 87.85 329 *eP* **P 20 46 17.2 +1.6**
OKC Ostrava-Krasne 87.85 329 *eP* **P 20 46 17.2 +1.6**
MYKA Terra Mystica 87.87 325 *ePcP* **P 20 46 19.3 +3.3**
comp=Z,3.3nm,1.1s
MORC Moravsky Berou 88.09 329 *eP* **P 20 46 17.5 +0.7**
comp=Z,9.3nm,1.3s
MORC Moravsky Berou 88.09 329 *eP* **P 20 46 17.5 +0.7**
MORC pmax pmax
comp=Z,9.0nm,1.3s
MORC Moravsky Berou 88.09 329 *eP* **P 20 46 18.6 +1.8**
KRUC Moravsky 88.14 328 *eP* **P 20 46 18.4 +1.4**
VRAC Vranov 88.21 328 *eP* **P 20 46 18.7 +1.3**
KBA Koelnbreinsper 88.32 325 *ePcP* **P 20 46 20.1 +1.9**
comp=Z,1.4nm,0.8s
MOA Molln 88.36 326 *eP* **P 20 46 19.7 +1.5**
comp=Z,10nm,1.5s
ABTA Abfaltersbach 88.54 325 *ePcP* **P 20 46 21.8 +2.7**
comp=Z,11nm,1.4s
SUW Suwalki 88.75 335 *eP* **P 20 46 22.8 +3.0**
SUW Suwalki 88.75 335 *eP* **P 20 46 20.2 +0.5**
comp=Z,17nm,0.9s
SUW Suwalki 88.75 335 *eP* **P 20 46 22.8 +3.0**
MJAR Matsushiro Arr 89.02 48 LR LR 21 26 23.4
comp=Z,90nm,18.6s,baz=270,slow=36
DPC Dobruska-Polom 89.05 329 *eP* **P 20 46 23.2 +1.8**
DPC Dobruska-Polom 89.05 329 *eP* **P 20 46 23.2 +1.8**
GERES GERESS Array B 89.30 327 P **P 20 46 21.7 -0.9**
comp=Z,0.4nm,0.8s,baz=145,slow=11,SNR=4.2
WTTA Wattenberg 89.33 325 *ePcP* **P 20 46 24.3 +1.3**
comp=Z,2.4nm,0.7s
KSP Ksiaz 89.41 329 *eP* **P 20 46 25.9 +3.0**
KSP Ksiaz 89.41 329 *eP* **P 20 46 25.9 +3.0**
KLMR Klimovskoe 89.41 346 *eP* **P 20 46 21.6 -1.1**
KLMR pmax pmax
comp=Z,22nm,1.3s
SQTA Sankt Quirin 89.53 324 *ePcP* **P 20 46 26.2 +2.4**
comp=Z,7.1nm,1.1s
KHC Kasperske Hory 89.55 327 *eP* **P 20 46 22.8 -0.9**
comp=Z,2.6nm,1.3s
KHC Kasperske Hory 89.55 327 *eP* **P 20 46 22.8 -0.9**
KHC pmax pmax
comp=Z,3.0nm,1.3s
KHC Kasperske Hory 89.55 327 *eP* **P 20 46 22.6 -1.1**
KHC *ex* x 20 46 30.3
FUORN Ofenpass-Fuorn 89.65 323 *eP* **P 20 46 24.6 0.0**
comp=Z,26nm,1.7s
FETA Feichten 89.66 324 *ePcP* **P 20 46 27.2 +2.8**
comp=Z,6.5nm,1.1s
MOTA Moosalm 89.66 324 *ePcP* **P 20 46 26.4 +2.0**
comp=Z,5.0nm,1.2s
RETA Reutte 89.93 324 *ePcP* **P 20 46 28.2 +2.5**
comp=Z,7.2nm,1.3s
DAVOX Davos/Dischmat 89.96 323 P **P 20 46 26.4 +0.5**
comp=Z,2.8nm,0.9s,baz=252,slow=13,SNR=3.8
DAVA Damuels 90.28 324 *ePcP* **P 20 46 29.7 +2.4**
comp=Z,9.4nm,1.3s
NKC Novy Kostel 90.83 327 *eP* **P 20 46 32.6 +2.9**
NKC Novy Kostel 90.83 327 *eP* **P 20 46 32.6 +2.9**
CLL Collm 91.26 328 *eP* **P 20 46 29.0 -2.6**
CLL Collm 91.26 328 *eP* **P 20 46 29.0 -2.6**
CLL *ePPS* PPS 20 59 12.0
KLR Kul'dur 92.39 35⇑ *eP* **P 20 46 37.6 +0.7**
FINES FINESS Array B 93.46 341 LR LR 21 28 42.3
comp=Z,45nm,19.8s,baz=119,slow=36
NRIK Noril'sk 95.30 6 LR LR 21 30 47.1
comp=Z,107nm,18.4s,baz=210,slow=36
ARCES ARCESS Array B 99.89 346 LR LR 21 32 51.5
comp=Z,164nm,19.3s,baz=96,slow=36
PPT2 Papeete2 122.52 134 *e*LR LR 20 52 09.1
comp=Z,116nm,25.8s
YKA Yellowknife Ar 142.76 3 PKP **PKPdf 20 52 58.8 -0.4**
comp=Z,0.4nm,0.8s,baz=339,slow=2.9,SNR=5.1
YKB5 Yellowknife Ar 142.76 3 *ePKPdf* **PKPdf 20 52 58.8 -0.4**
FRNY Flat Rock 144.79 313 *ePKPdf* **PKPab 20 53 01.5 -0.8**
TRQ Mont Tremblant 144.89 315 *ePKPdf* **PKPab 20 53 00.8 -1.9**
LSQQ Lebel-sur-Quev 145.05 321 P **PKPbc 20 53 02.2 -0.9**
baz=59
MATQ Matagami 145.05 323 P **PKPbc 20 53 02.1 -1.0**
baz=58
ACCN Adirondack Com 145.35 310 *ePKPbc* **PKPbc 20 53 03.5 -0.7**
NCB Newcomb 145.53 312 *ePKPdf* **PKPdf 20 53 02.1 -2.6**
LONY Lake Ozonia 145.53 313 *ePKPdf* **PKPdf 20 53 03.2 -1.5**
LONY Lake Ozonia 145.53 313 P **PKPdf 20 53 03.7 -0.9**
baz=68
D54A Lac Fusel, La 145.78 318 P **PKPdf 20 53 03.9 -1.1**
baz=62
VLDQ Val d'Or 145.79 320 *ePKPdf* **PKPdf 20 53 04.0 -1.0**
E51A G1948 Merrick 147.79 319 P **PKiKP 20 53 12.2 -1.1**
baz=59
F52A Sundridge 148.05 317 P **PKPbc 20 53 12.1 +0.1**
baz=60
FFC Flin Flon 150.08 351 *ep*PKPdf **PKPbc 20 53 14.9 -1.9**
FFC Flin Flon 150.08 351 *ePKIKP* **PKPbc 20 53 14.9 -1.9**
ULM Lac du Bonnet 152.85 340 *ePKPdf* **PKPdf 20 53 17.2 +1.1**
ULM *ePKPab* **PKPab 20 53 34.1 -0.2**
ULM Lac du Bonnet 152.85 340 *ePKIKP* **PKPdf 20 53 17.3 +1.1**
ULM *e* 20 53 34.1
COWI Conover 153.39 326 *ePKPdf* **PKPdf 20 53 17.6 +0.5**
COWI *ePKPab* **PKPab 20 53 37.3 +0.5**
V51A Loudon 155.62 301 P **PKPdf 20 53 20.2 -0.3**
baz=72
TXAR Lajitas Array 173.08 306 PKPab **PKPab 20 55 06.1 +2.5**
comp=Z,0.4nm,0.8s,baz=48,slow=1.9,SNR=3.4

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*IDC **07** 20:37:06.9±1.2, 38°.39N×33°.35E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.3/33, mbtmp3.6/5, ML3.5/1, MS2.7/3, Ms1 2.7/3, ms1mx2.3/43, Error ellipse: s-maj=26.9km s-min=13.5km az=104.0*
*DDA **07** 20:37:07.6, 38°.38N×33°.47E, h7km±4km, ML3.6*
*ISK **07** 20:37:07.4, 38°.40N×33°.41E, h2km, ML3.6/30*
*ISCJB **07** 20:37:08.4±0.5, 38°.38N±0°.02×33°.41E±0.03, h5km±4km, mb3.7/4, Error ellipse: s-maj=4.2km s-min=3.4km az=153.5*
ISC 07 20:37:08.1±1.0, **38°.36N**±0°.02×**33°.40E**±0°.02, **h10**km±8km, **n56**, σ1°**01**/63, **mb3.6**/4, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULT	**Sultanhani-AKS**	**0.18**	**150**	PG	**Pb**	**20 37 12.8**	**-0.8**
SULT				SG	**Sg**	**20 37 16.9**	**+2.1**
AKSY	**AKSARAY - Alti**	**0.41**	**44**	IAML_P			
	comp=Z,30μm,0.1s						
AKSY				*i* P	**Pg**	**20 37 16.3**	**+0.2**
CHBY	**Cihanbeyli**	**0.46**	**299**	PG	**Pg**	**20 37 16.9**	**-0.2**
CHBY				SG	**Sb**	**20 37 24.5**	**-0.8**
SERE	**Sereflikochisa**	**0.60**	**12**	PG	**Pg**	**20 37 19.3**	**-0.5**
YAYX	**Yaylak**	**0.66**	**29**	PG	**Pg**	**20 37 19.9**	**-1.1**
LADK	**Ladik-KONYA**	**0.83**	**259**	PG	**Pb**	**20 37 24.1**	**-0.6**
KIRS	**Kırehir-Merke**	**0.87**	**27**	IAML_P			
	comp=Z,11μm,0.2s						
KIRS				*i* P	**Pg**	**20 37 24.0**	**-1.0**
KKUL	**Konya-Kulu**	**0.90**	**335**	IAML_P			
	comp=Z,5μm,0.2s						
KKUL				*i* P	**Pn**	**20 37 25.8**	**-1.0**
KKUL				*i* S	**Sn**	**20 37 40.1**	**+0.2**
KONT	**Konya--Tatoy**	**0.92**	**244**	PG	**Pn**	**20 37 25.9**	**-1.2**
KONT				SG	**Sn**	**20 37 40.3**	**0.0**
KONT	**Konya--Tatoy**	**0.92**	**244**	IAML_P			
	comp=Z,4μm,0.2s						
KONT				*i* P	**Pn**	**20 37 26.0**	**-1.0**
NIG	**Nigde**	**0.98**	**104**	PG	**Pn**	**20 37 27.2**	**-1.0**
NIG				SG	**Sn**	**20 37 41.9**	**-0.4**

KMER Konya-Meram 1.00 234 IAML_P
comp=Z,4μm,0.3s
KMER *i* P Pn 20 37 28.4 +0.1
KERG Konya-Eregli 1.10 148 IAML_P
comp=Z,956nm,0.3s
KERG *i* P Pn 20 37 29.2 -0.5
KERG *i* S Sn 20 37 45.2 +0.2
BBAL Bala 1.20 350 IAML_P
comp=Z,7μm,0.2s
BBAL *i* P Pg 20 37 31.8 +0.6
AVNS Nevsehir-Avano 1.22 68 IAML_P
comp=Z,6μm,0.2s
AVNS *i* P Pn 20 37 30.0 -1.3
AVNS *i* S Sn 20 37 50.5 +2.6
BRTR Keskin Array B 1.38 8 Pn Pn 20 37 32.5 -1.0
comp=Z,94nm,0.3s,baz=189,slow=14,SNR=714
BRTR Pg Pg 20 37 36.0 +1.5
comp=Z,105nm,0.3s,baz=189,slow=16,SNR=151
BRTR Lg Lg 20 37 52.9
comp=Z,70nm,0.3s,baz=179,slow=22,SNR=17
DOGA KONYA_Doganhis 1.39 260 IAML_P
comp=Z,6μm,0.3s
DOGA *i* P Pg 20 37 34.9 +0.2
CDAG Cicekdag 1.47 31 IAML_P
comp=Z,15μm,0.5s
CDAG *i* P Pb 20 37 34.8 -0.8
CDAG *i* S Sg 20 37 55.1 -0.4
GULE Gulek 1.53 134 IAML_P
comp=Z,2μm,0.3s
GULE *i* P Pg 20 37 36.6 -0.9
YAHY KAYSERI_Yahyal 1.57 99 IAML_P
comp=Z,11μm,0.3s
YAHY *i* P Pb 20 37 36.3 -1.0
ANTO Ankara 1.58 343 PN Pg 20 37 37.9 -0.6
LOD Lodumlu 1.61 342 PN Pg 20 37 38.3 -0.7
SIRC Yozgat 1.68 54 IAML_P
comp=Z,6μm,0.3s
SIRC *i* P Pb 20 37 38.6 -0.5
DELI KIRIKKALE 1.69 14 IAML_P
comp=Z,4μm,0.3s
DELI *i* P Pb 20 37 38.4 -0.9
DELI *i* S Sg 20 38 01.8 -0.6
KARA Karaisali 1.71 129 PN Pb 20 37 38.7 -0.9
MERS Mersin 1.73 149 PN Pb 20 37 39.5 -0.6
AUSIV SIVRIHISAR 1.81 307 PN Pb 20 37 41.3 -0.1
SVRH Sivrihisar-ESK 1.82 307 PN Pb 20 37 40.9 -0.7
AKO Adana 1.85 118 IAML_P
comp=Z,2μm,0.5s
AKO *i* P Pb 20 37 41.5 -0.5
TEVE Tevekalti-Mers 1.92 179 PN Pb 20 37 42.9 -0.3
KEBE Keben-Mersin 1.92 172 PN Pb 20 37 42.2 -1.1
KIZK Mersin 1.97 162 PN Pb 20 37 43.4 -0.6
YOZ Yozgat 1.97 49 PN Pn 20 37 41.8 +0.1
BNN Bunyan 1.98 75 PN Pb 20 37 43.0 -1.3
BERE Bereket-Mersin 2.01 184 PN Pb 20 37 43.6 -1.3
SILI Silifke-Mersin 2.03 168 PN Pb 20 37 44.9 -0.2
CORM Corum 2.05 27 PN Pn 20 37 43.4 +0.6
KOZT Kozan 2.11 114 PN Pb 20 37 44.7 -1.7
IKL Isikli 2.13 174 PN Pb 20 37 45.4 -1.3
AKKU Akkuyu-Mersin 2.20 177 PN Pb 20 37 46.9 -1.0
TEKE Tekeli-Mersin 2.22 186 PN Pb 20 37 46.5 -1.9
SHUT Suhut-Afyon 2.25 276 PN Pb 20 37 47.9 -0.9
CANT Cankiri 2.25 4 PN Pn 20 37 46.2 +0.7
GAZI Gazipasa 2.29 203 PN Pb 20 37 48.9 -0.6
CEYT Ceyhan 2.30 125 PN Pb 20 37 48.1 -1.5
ISP Isparta 2.33 258 PN Pb 20 37 48.7 -1.6
YURE YUREGIR 2.34 130 PN Pb 20 37 49.2 -1.2
KRTS Karatas 2.38 138 PN Pb 20 37 49.6 -1.4
MMAI Mount Meron Ar 5.58 162 Pn Pn 20 38 32.6 +1.5
comp=Z,1.4nm,0.3s,baz=343,slow=12,SNR=6.6
GNI Garni 8.98 75 LR LR 20 42 50.3
comp=Z,22nm,21.8s,baz=280,slow=38
GERES GERESS Array B 17.65 313 LR LR 20 49 15.5
comp=Z,29nm,18.1s,baz=265,slow=41
DAVOX Davos/Dischmat 19.21 304 LR LR 20 48 51.1
comp=Z,34nm,20.6s,baz=81,slow=37
FINES FINESS Array B 23.56 351 P P 20 42 18.7 +0.4
comp=Z,1.6nm,0.9s,baz=139,slow=13,SNR=2.7
ARCES ARCESS Array B 31.53 355 P P 20 43 30.1 +0.1
comp=Z,6.4nm,1.1s,baz=172,slow=7.3,SNR=4.0
MKAR Makanchi Array 36.47 61 P P 20 44 14.2 +1.0
comp=Z,0.5nm,0.7s,baz=289,slow=7.3,SNR=3.6
TORD Torodi Ar. Bea 37.70 237 P P 20 44 24.4 +0.5
comp=Z,0.9nm,0.9s,baz=31,slow=9.6,SNR=7.0

IDC 07 20:39:28.2±1.7, 18°76S×171°15W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/27, mbtmp3.9/3, Error ellipse: s-maj=53.9km s-min=36.4km az=11.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	51.21	254	P	P	20 48 31.8	-2.0
	1.2nm,0.5s,baz=92,slow=6.9,SNR=15						
WRA	Warramunga Arr	51.26	259	P	P	20 48 35.6	+1.4
	0.3nm,0.3s,baz=100,slow=7.0,SNR=25						
VNDA	Vanda	60.28	187	P	P	20 49 38.7	+0.6
	1.1nm,1.1s,baz=1.5,slow=6.1,SNR=5.3						
GERES	GERESS Array B	149.73	354	PKPbc	PKPbc	20 59 19.8	-0.3
	0.1nm,0.2s,baz=302,slow=4.5,SNR=2.0						
TORD	Torodi Ar. Bea	171.14	128	PKPab	PKPab	21 00 58.0	-0.8
	0.8nm,1.1s,baz=228,slow=3.7,SNR=3.5						

*IDC **07** 21:04:50.1±1.1, 15°12N×96°21E, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.8/41, mbtmp3.9/14, ML4.3/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/45, Error ellipse: s-maj=23.2km s-min=21.3km az=150.0*
*ISCJB **07** 21:04:51.1±0.3, 15°14N±0°04×96°28E±0°04, h16km, mb4.0/20, MS3.4/3, Error ellipse: s-maj=6.6km s-min=5.3km az=29.1*
*NEIC **07** 21:04:54.0±2.0, 15°20N×96°28E, h24km±4km, mb4.3/9, Error ellipse: s-maj=16.5km s-min=13.3km az=96.0*
ISC 07 21:04:52.7±0.6, 15°26N±0°06×96°37E±0°07, h16km, n66, σ1°63/63, mb4.0/20, MS3.5/3, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMPA	Umpang Tak	2.58	68	P	Pn	21 05 35.0	+1.2
SRDT	SRDT	2.81	108	P	Pn	21 05 37.4	+0.4
UTHA	Uthaitani	2.98	84	P	Pn	21 05 41.0	+1.7
PHET	Kaeng Krachan	3.93	126	P	Pn	21 05 53.2	+0.8
CM31	Chiang Mai Arr	4.02	37	*e*Pn	Pn	21 05 55.8	+2.1
CM31				*e*Sn	Sn	21 06 35.5	-5.0
CMAR	Chiang Mai Arr	4.02	37	*e*Pn	Pn	21 05 55.9	+2.2
CMAR	Chiang Mai Arr	4.02	37	Pn	Pn	21 05 55.8	+2.1
	4.6nm,0.3s,baz=226,slow=15,SNR=358						
CMAR				Lg	Lg	21 07 03.8	
	7.0nm,0.3s,baz=224,slow=33,SNR=8.1						
CHTO	Chiang Mai	4.31	35	*e*Pn	Pn	21 05 59.5	+1.9
CMMT	Chiang Mai	4.31	35	P	Pn	21 05 59.7	+2.1
LAMP	Lampang	4.50	43	P	Pn	21 06 02.8	+2.5
UTTA	Uttaradit	4.71	58	P	Pb	21 06 14.3	-0.7
PBA	Port Blair	5.03	225	*e*Pn	Pn	21 06 05.8	-1.7
CHAI	Chaiyaphum	5.45	83	P	Pn	21 06 17.3	+4.0
	35μm,1.2s,360μm701nm						
BRDH	Bariadhala	8.63	330	LR	LR	21 10 53.7	
	comp=Z,276nm,18.4s,baz=88,slow=42						
SLVN	Son La	9.36	49	*e*Pn	Pn	21 07 10.8	+3.7
KULM	Kulim	10.76	157	*e*Pn	Pn	21 07 26.0	-0.3
SHL	Shillong	11.08	338	*e*Pn	Pn	21 07 29.5	-1.3
SHL	Shillong	11.08	338	*e*P	Pn	21 07 31.0	+0.2
SHL				*ex*	x	21 09 30.0	
IPM	Ipoh	11.65	156	*e*Pn	Pn	21 07 35.3	-3.2
PSI	Prapat	12.63	168	*e*Pn	Pn	21 07 52.8	+0.8
RAMN	Ramite	14.77	324	*e*P	P	21 08 26.3	-0.9
	10.0nm,0.5s						
LSA	Lhasa	15.15	342	*e*Pn	Pn	21 08 22.8	-3.8
	1.6nm,0.8s						
JIRN	Jiri	15.54	324	*e*P	Pn	21 08 33.6	+1.9
	29nm,0.7s						
PKI	Pulchoki	15.93	322	*e*P	P	21 08 39.0	-1.2
	9.4nm,0.6s						
PKIN	Phulchoki	15.94	322	*e*P	P	21 08 39.1	-1.2
	16nm,0.6s						
DMN	Daman	16.14	321	*e*P	P	21 08 42.0	-0.4
	18nm,0.6s						
KOLN	Koldanda	17.19	318	*e*P	P	21 08 54.1	+0.1
	12nm,0.7s						
DANN	Dangsing	17.49	320	*e*P	Pn	21 08 56.2	-0.2
	17nm,0.9s						
PYUN	Piuthan	17.81	318	*e*P	P	21 09 00.5	-0.4
	14nm,0.7s						
HKPS	Hong Kong Po S	18.21	65	*e*P	P	21 09 04.5	-0.6
	34nm,0.9s						
XAN	Xi'an	21.86	29	*e*P	P	21 09 45.5	+0.6
	5.2nm,0.6s						
LEM	Lembang	24.61	152	LR	LR	21 21 09.6	
	comp=Z,177nm,20.4s,baz=20,slow=40						
AAK	Ala-Archa	33.13	330	P	P	21 11 28.0	-0.3
	0.8nm,0.6s,baz=157,slow=12,SNR=3.4						
SONA0	Songino Array	33.52	12	*e*P	P	21 11 33.4	+1.7
SONM	Songino Array	33.52	12	P	P	21 11 33.4	+1.7
	0.3nm,0.4s,baz=197,slow=18,SNR=3.4						
MK32	Makanchi Array	33.56	342	*e*P	P	21 11 33.3	+1.4
MKAR	Makanchi Array	33.56	342	*e*P	P	21 11 31.4	-0.5
MKAR	Makanchi Array	33.56	342	P	P	21 11 33.3	+1.4
	1.0nm,0.6s,baz=149,slow=8.8,SNR=9.0						
KURK	Kurchatov	38.16	342	*e*P	P	21 12 12.3	+1.1
	4.3nm,0.8s						
ZAA0	Zalesovo Array	39.65	349	*e*P	P	21 12 25.4	+1.7
	3.0nm,0.7s						
ZALV	Zalesovo Beam	39.65	349	*e*P	P	21 12 24.8	+1.1
ZALV	Zalesovo Beam	39.65	349	P	P	21 12 24.6	+0.9
	2.0nm,0.6s,baz=174,slow=8.5,SNR=11						
ZAA1	Zalesovo Array	39.66	349	*e*P	P	21 12 24.6	+0.9
GEYT	Alibeck	40.58	311	P	P	21 12 32.7	+0.9
	3.6nm,0.7s,baz=169,slow=8.5,SNR=9.1						
GYA0B	ALIBECK ARRAY	40.58	311	*e*P	P	21 12 33.5	+1.8
	5.0nm,0.9s						
ABKAR	Akbuura array	45.05	327	*e*P	P	21 13 06.3	-1.5
ASAJ	Asahikawa	48.52	44	LR	LR	21 34 27.7	
	comp=Z,42nm,18.2s,baz=283,slow=36						
WR1	Warramunga Arr	51.16	132	*e*P	P	21 13 55.7	+0.3
WRA	Warramunga Arr	51.16	132	P	P	21 13 55.7	+0.3
	1.8nm,0.9s,baz=320,slow=7.9,SNR=7.3						
BR101	Keskin Array S	59.50	307	*e*P	P	21 14 54.5	-1.0
BRTR	Keskin Array B	59.50	307	P	P	21 14 54.5	-1.0
	0.7nm,0.8s,baz=77,slow=7.7,SNR=3.9						
BRTR				LR	LR	21 42 47.9	
	comp=Z,21nm,21.9s,baz=96,slow=38						
AKASG	Malin Array Be	63.88	319	P	P	21 15 22.9	-1.7
	0.2nm,0.4s,baz=82,slow=5.8,SNR=6.2						
AKBB	Malin Array Si	63.88	319	*e*P	P	21 15 22.9	-1.7
	4.3nm,1.1s						
FIA0	FINESS Array S	67.31	331	*e*P	P	21 15 46.8	+0.2
FINES	FINESS Array B	67.31	331	P	P	21 15 46.8	+0.2
	1.0nm,0.7s,baz=58,slow=5.2,SNR=3.3						
ARA0	ARCESS Array S	69.14	339	*e*P	P	21 15 59.3	+1.4
ARCES	ARCESS Array B	69.14	339	P	P	21 15 59.3	+1.4
	2.3nm,0.8s,baz=87,slow=4.8,SNR=2.7						
GEC2	GERESS Array S	73.88	317	*e*P	P	21 16 27.1	+0.1
	3.0nm,0.9s						
GERES	GERESS Array B	73.88	317	P	P	21 16 27.1	+0.1
	1.6nm,0.7s,baz=77,slow=5.9,SNR=15						
NB200	NORSAR Array S	74.44	330	*e*P	P	21 16 29.3	-0.7
NOA	NORSAR Array B	74.44	330	P	P	21 16 29.3	-0.7
	0.4nm,0.7s,baz=122,slow=3.2,SNR=3.5						
MDM	Murphy Dome	86.53	23	*e*P	P	21 17 35.0	+0.2
	2.8nm,0.9s						
ILAR	Eielson Array	87.12	23	P	P	21 17 37.8	+0.1
	0.5nm,0.8s,baz=300,slow=3.6,SNR=6.0						
ILB	Eielson Array	87.12	23	*e*P	P	21 17 37.8	+0.1
TORD	Torodi Ar. Bea	91.00	284	P	P	21 17 56.9	0.0
	0.5nm,1.0s,baz=108,slow=4.7,SNR=2.9						
TOA1	Torodi Ar. Sit	91.00	284	*e*P	P	21 17 56.9	0.0

*IDC **07** 21:07:57.9±1.3, 15°15N×96°28E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.6/37, mbtmp3.7/9, ML4.6/1, Error ellipse: s-maj=28.1km s-min=24.3km az=140.0*
*ISCJB **07** 21:07:59.0±1.0, 15°3N±0°1×96°5E±0°1, h15km, mb3.7/9, Error ellipse: s-maj=21.0km s-min=17.0km az=143.6*
ISC 07 21:08:00.7±1.2, 15°3N±0°1×96°4E±0°1, h15km, n10, σ0°91/11, mb3.8/9, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	4.03	37	Pn	Pn	21 09 03.8	+1.8
	8.4nm,0.3s,baz=230,slow=15,SNR=9.5						
CMAR				Pg	Pg	21 09 16.9	-1.1
	6.8nm,0.3s,baz=226,slow=20,SNR=6.8						
CMAR				Lg	Lg	21 10 10.9	
	2.1nm,0.3s,baz=223,slow=32,SNR=3.5						
SONM	Songino Array	33.54	12	P	P	21 14 39.8	-0.1
	0.2nm,0.4s,baz=172,slow=12,SNR=1.9						
MKAR	Makanchi Array	33.58	342	P	P	21 14 39.6	-0.5
	0.9nm,0.7s,baz=157,slow=10,SNR=5.4						
ZALV	Zalesovo Beam	39.67	349	P	P	21 15 32.4	+0.4
	1.5nm,0.7s,baz=172,slow=9.1,SNR=6.2						
GEYT	Alibeck	40.59	311	P	P	21 15 40.8	+0.9
	1.8nm,0.6s,baz=134,slow=6.4,SNR=5.4						
WRA	Warramunga Arr	51.15	132	P	P	21 17 03.4	0.0
	0.6nm,1.0s,baz=314,slow=8.3,SNR=2.1						
FINES	FINESS Array B	67.32	331	P	P	21 18 54.4	-0.4
	1.2nm,0.9s,baz=67,slow=6.4,SNR=4.7						
GERES	GERESS Array B	73.89	317	P	P	21 19 35.0	-0.2
	1.1nm,0.8s,baz=64,slow=6.1,SNR=7.9						
NOA	NORSAR Array B	74.46	330	P	P	21 19 37.7	-0.6
	0.6nm,0.8s,baz=86,slow=5.8,SNR=2.8						
ILAR	Eielson Array	87.14	23	P	P	21 20 45.3	-0.6
	0.4nm,0.8s,baz=264,slow=5.0,SNR=4.8						

IDC 07 21:36:41.5±11.0, 11°48S×113°60W, h0km, mb3.2/4, mb1 3.7/4, mb1mx3.5/40, mbtmp3.2/4, MS3.4/1, Ms1 3.4/1, ms1mx2.9/13, Error ellipse: s-maj=286.7km s-min=172.0km az=134.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	41.69	13	P	P	21 44 32.8	+0.6
	0.1nm,0.5s,baz=190,slow=10.0,SNR=1.6						
NVAR	Mina Array Bea	49.84	355	P	P	21 45 37.1	+0.4
	0.2nm,0.4s,baz=184,slow=11,SNR=2.2						
PDAR	Pinedale Array	54.10	4	P	P	21 46 06.4	-2.1
	0.1nm,0.5s,baz=152,slow=7.9,SNR=2.2						
PTGA	Pitinga	54.29	83	LR	LR	22 06 01.8	
	comp=Z,35nm,18.0s,baz=271,slow=32						
YKA	Yellowknife Ar	73.74	360	P	P	21 48 17.6	+0.5
	0.3nm,0.6s,baz=176,slow=4.8,SNR=7.6						

IDC 07 21:47:23.6±1.4, 16°96S×172°79W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/43, mbtmp4.0/5, MS3.2/2, Ms1 3.2/2, ms1mx2.8/28, Error ellipse: s-maj=59.5km s-min=26.2km az=126.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.01	111	LR	LR	21 53 44.2	
	comp=Z,108nm,19.4s,baz=318,slow=29						
PPT	Papeete	22.17	95	LR	LR	22 00 06.2	
	comp=Z,47nm,18.1s,baz=175,slow=34						
URZ	Urura	23.00	201	P	P	21 52 29.9	-0.1
	11nm,0.8s,baz=265,slow=1.9,SNR=8.4						
URZ				S	S	21 56 30.3	-11
	6.1nm,1.0s,baz=174,slow=22,SNR=1.2						
WRA	Warramunga Arr	50.08	258	P	P	21 56 20.1	-0.7
	1.6nm,0.4s,baz=95,slow=7.7,SNR=6.5						
ASAR	Alice Springs	50.21	253	P	P	21 56 22.0	+0.3
	3.0nm,0.7s,baz=88,slow=8.4,SNR=37						
ILAR	Eielson Array	83.86	11	P	P	21 59 54.1	-0.6
	0.2nm,0.7s,baz=223,slow=5.7,SNR=5.1						
YKA	Yellowknife Ar	91.29	23	P	P	22 00 30.9	+0.2
	0.1nm,0.5s,baz=226,slow=5.1,SNR=1.5						
BRTR	Keskin Array B	147.73	320	PKPbc	PKPbc	22 07 11.1	+0.3
	0.2nm,0.4s,baz=39,slow=5.5,SNR=2.2						
GERES	GERESS Array B	147.76	352	PKPbc	PKPbc	22 07 09.8	-0.8
	0.1nm,0.3s,baz=14,slow=4.4,SNR=4.7						

*IDC **07** 21:53:01.9±1.9, 11°30S×163°92E, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.9/33, mbtmp4.1/7, ML5.0/1, MS3.7/4, Ms1 3.7/4, ms1mx3.1/24, Error ellipse: s-maj=53.6km s-min=28.1km az=126.0*
*ISCJB **07** 21:53:05.6±1.1, 11°2S±0°1×163°8E±0°1, h33km, mb3.9/6, MS3.8/2, Error ellipse: s-maj=19.6km s-min=12.7km az=34.7*
ISC 07 21:53:07.2±1.2, 11°3S±0°1×163°9E±0°1, h35km, n12, σ1°88/11, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.28	295	*e*P	Pn	21 54 08.0	-2.0
HNR				*e*S	Sn	21 55 02.0	+3.2
HNR	Honiara	4.28	295	Pn	Pn	21 54 08.0	-2.0
	85nm,0.3s,baz=112,slow=4.6,SNR=12						
HNR				Sn	Sn	21 54 57.7	-1.1
	90nm,0.3s,baz=221,slow=18,SNR=6.1						
HNR				LR	LR	21 55 43.8	
	comp=Z,566nm,18.9s,baz=112,slow=37						
PMG	Port Moresby	16.57	275	LR	LR	22 02 37.8	
	comp=Z,216nm,19.2s,baz=117,slow=35						
CTA	Charters Tower	19.11	240	P	Pn	21 57 29.6	+1.3
	1.3nm,0.3s,baz=76,slow=10,SNR=7.3						
RAO	Raoul Island	24.67	139	LR	LR	22 06 05.8	
	comp=Z,844nm,20.1s,baz=327,slow=32						
STKA	Stephens Creek	29.07	222	P	P	21 59 04.2	-0.2
	2.0nm,0.7s,baz=35,slow=13,SNR=2.5						
WRA	Warramunga Arr	29.71	249	P	P	21 59 10.0	-0.3
	2.5nm,0.3s,baz=78,slow=8.8,SNR=20						
ASAR	Alice Springs	31.08	243	P	P	21 59 21.8	-0.6
	2.2nm,0.4s,baz=62,slow=10,SNR=34						
PPT	Papeete	45.41	104	LR	LR	22 17 36.0	
	comp=Z,52nm,21.2s,baz=42,slow=32						
SONM	Songino Array	77.77	324	P	P	22 05 03.3	+2.4
	0.6nm,0.6s,baz=142,slow=5.4,SNR=2.7						
ILAR	Eielson Array	84.29	19	P	P	22 05 34.7	-0.4
	0.2nm,0.5s,baz=227,slow=3.6,SNR=3.3						
MKAR	Makanchi Array	92.43	317	P	P	22 06 13.8	-0.7
	0.3nm,0.7s,baz=89,slow=6.4,SNR=1.7						

*ISCJB **07** 21:53:42.6±0.3, 6°86N±0°02×73°11W±0°03, h160km±3km, mb3.6/7, Error ellipse: s-maj=5.1km s-min=3.3km az=17.3*
*IDC **07** 21:53:43.6±0.7, 6°78N×72°94W, h162km±7km, mb3.4/7, mb1 3.8/12, mb1mx3.4/34, mbtmp4.1/12, Error ellipse: s-maj=19.0km s-min=7.6km az=133.0*
*RSNC **07** 21:53:44.2±1.2, 6°82N×73°11W, h153km±5km, ML4.3, Mw4.1*
ISC 07 21:53:43.5±0.7, 6°86N±0°03×73°10W±0°04, h157km±5km, n49, σ1°38/80, mb3.4/7, 7C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	Giron, Santand	0.23	337	⇓*i*P	Pn	21 54 05.0	+0.1
GIRC				*e*S	Sn	21 54 20.2	-1.2
GIRC				*i*		21 54 25.2	
	comp=Z,1μm,0.3s						
BARC	Barichara	0.28	196	⇓*i*P	Pn	21 54 05.1	-0.1
BARC				*e*S	Sn	21 54 20.6	-1.2
PAMC	Pamplona, Colo	0.62	40	⇓*i*P	Pn	21 54 07.7	+0.8
PAMC				*e*S	Sn	21 54 24.7	-0.1
PAMC				*i*		21 54 25.8	
	comp=N,7μm,0.5s						
BRRC	Barranca, Sant	0.65	292	⇓*i*P	Pn	21 54 06.8	+0.3
BRRC				*e*S	Sn	21 54 24.0	-0.1
RUSC	La Rusia	0.96	179	⇑*i*P	Pn	21 54 09.1	-0.2
RUSC				*e*S	Sn	21 54 27.5	-1.5
RUSC				*i*		21 54 29.5	
	comp=N,5μm,0.3s						
TAMC	Tame, Arauca	1.37	108	⇓*i*P	Pn	21 54 13.4	+1.0
TAMC				*i*		21 54 35.7	
	comp=N,2μm,0.3s						
PTBC	PUERTO BERRIO,	1.38	257	⇑*i*P	Pn	21 54 11.6	-0.9
PTBC				*e*S	Sn	21 54 33.0	-1.6
PTBC				*i*		21 54 35.9	
	comp=Z,2μm,0.2s						
OCAC	Ocana	1.39	351	*e*P	Pn	21 54 13.0	+0.3
OCAC				*e*S	Sn	21 54 35.8	+0.7
OCAC				*i*		21 54 40.1	
	comp=Z,1μm,0.3s						
YOPC	Yopal, Colombi	1.64	156	⇑*e*P	Pn	21 54 15.9	+0.6
YOPC				*e*S	Sn	21 54 38.9	-0.8
YOPC				*i*		21 54 43.0	
	comp=N,4μm,0.7s						
ZARC	Zaragoza, Cauc	1.85	290	*e*P	Pn	21 54 17.3	-0.1
ZARC				*e*S	Sn	21 54 43.2	-0.3
ZARC				*i*		21 54 48.1	
	comp=N,5μm,0.4s						
SMLC	San Martn de	2.15	334	*e*P	Pn	21 54 21.1	+0.3
SMLC				*e*S	Sn	21 54 49.5	-0.3
SMLC				*i*		21 54 57.9	
	comp=N,2μm,0.1s						
NORC	Norcasia	2.18	234	⇑*e*P	Pn	21 54 20.8	-0.4
NORC				*e*S	Sn	21 54 48.5	-1.8
NORC				*i*		21 54 53.7	
	comp=N,2μm,0.2s						
CHIC	Chingaza	2.30	196	⇑*e*P	Pn	21 54 23.2	+0.2
CHIC				*e*S	Sn	21 54 52.8	-0.8
CHIC				*i*		21 54 57.5	
	comp=N,2μm,0.3s						
ROSC	El Rosal	2.34	211	⇑*e*P	Pn	21 54 24.9	+1.4
ROSC				*e*S	Sn	21 54 56.1	+1.7
ROSC				*i*		21 55 01.6	
	comp=Z,1μm,0.3s						
ROSC	El Rosal	2.34	211	P	Pn	21 54 25.1	+1.6
	comp=Z,271nm,0.3s,baz=304,slow=16,SNR=550						
ROSC				S	Sn	21 54 55.5	+1.1
	comp=Z,182nm,0.3s,baz=200,slow=20,SNR=8.6						
HELC	Santa Helena	2.50	255	*e*P	Pn	21 54 25.0	-0.3
HELC				*e*S	Sn	21 54 56.6	-1.0
HELC				*i*		21 55 04.8	
	comp=N,1μm,0.3s						
UREC	San Jos de Ur	2.57	290	*e*P	Pn	21 54 24.6	-1.2
UREC				*e*S	Sn	21 54 55.6	-2.9
UREC				*i*		21 55 08.7	
	comp=E,2μm,0.3s						
VILC	Villavicencio,	2.79	192	*e*P	Pn	21 54 28.4	-0.3
VILC				*e*S	Sn	21 55 02.7	-1.1
VILC				*i*		21 55 10.5	
	comp=N,3μm,0.5s						
RREF	El Recreo	2.96	229	*e*P	Pn	21 54 33.1	+1.8
RREF				*e*S	Sn	21 55 09.7	+1.4
CODC	Agustn Codazz	3.07	354	⇑*i*P	Pn	21 54 32.0	0.0
CODC				*e*S	Sn	21 55 08.5	-1.3
CODC				*i*		21 55 16.8	
	comp=N,353nm,0.3s						
SDV	Santo Domingo	3.17	50	*e*P	Pn	21 54 34.4	+1.0
SDV				*e*S	Sn	21 55 10.5	-1.7
SDV	Santo Domingo	3.17	50	P	Pn	21 54 34.2	+0.7
	comp=N,76nm,0.3s,baz=233,slow=10,SNR=76						
SDV				S	Sn	21 55 11.2	-0.9
	comp=N,139nm,0.3s,baz=35,slow=19,SNR=36						
ARGC	Ariguani, Magd	3.19	339	*e*P	Pn	21 54 34.9	+1.4
ARGC				*i*		21 55 21.3	
	comp=Z,302nm,0.3s						
PRAC	Prado	3.60	210	*e*P	Pn	21 54 38.2	-0.6
PRAC				*e*S	Sn	21 55 20.9	-0.9
PRAC				*i*		21 55 27.7	
	comp=Z,966nm,0.4s						
SJCC	San Jacinto, C	3.65	326	*e*P	Pn	21 54 39.0	-0.5
SJCC				*e*S	Sn	21 55 19.5	-3.5
SJCC				*i*		21 55 27.8	
	comp=Z,206nm,0.5s						
PLMC	San Jos del P	3.71	239	*e*P	Pn	21

PTGA	**Pitinga**	**15.12 119**	P		**Pn**	**21 57 07.7**	**-1.5**
	baz=300,slow=20,SNR=1.1						
APG	**El Apazote**	**18.86 297**	P		**P**	**21 57 52.9**	**+1.0**
	comp=N,0.3nm,0.3s,baz=77,slow=18,SNR=3.2						
TXAR	**Lajitas Array**	**36.45 312**	P		**P**	**22 00 34.5**	**+1.1**
	comp=N,0.5nm,0.7s,baz=124,slow=9.8,SNR=6.9						
ULM	**Lac du Bonnet**	**47.25 340**	P		**P**	**22 02 00.9**	**+0.3**
	comp=N,2.6nm,0.4s,baz=144,slow=7.3,SNR=10						
PDAR	**Pinedale Array**	**48.06 324**	P		**P**	**22 02 09.1**	**+1.8**
	comp=N,0.1nm,0.3s,baz=109,slow=8.0,SNR=3.8						
SCHQ	**Schefferville**	**48.10 5**	P		**P**	**22 02 08.3**	**+1.2**
	comp=N,5.7nm,0.5s,baz=198,slow=5.2,SNR=6.8						
NVAR	**Mina Array Bea**	**51.47 315**	P		**P**	**22 02 32.5**	**-0.7**
	comp=N,0.5nm,0.8s,baz=128,slow=8.2,SNR=2.2						
YKA	**Yellowknife Ar**	**63.23 340**	P		**P**	**22 03 55.3**	**+0.5**
	comp=N,1.5nm,0.5s,baz=132,slow=6.7,SNR=37						
TORD	**Torodi Ar. Bea**	**73.71 78**	P		**P**	**22 04 58.9**	**-2.0**
	comp=N,0.6nm,1.1s,baz=291,slow=6.5,SNR=4.7						
MKAR	**Makanchi Array**	**122.28 20**	PKP		**PKPdf**	**22 12 19.6**	**-0.4**
	comp=N,0.3nm,0.4s,baz=336,slow=2.6,SNR=7.1						
ASAR	**Alice Springs**	**149.15 234**	PKPbc		**PKPbc**	**22 13 13.6**	**-0.6**
	comp=N,0.6nm,0.7s,baz=119,slow=3.4,SNR=7.4						
WRA	**Warramunga Arr**	**150.37 241**	PKPbc		**PKPbc**	**22 13 16.4**	**-0.8**
	comp=N,0.5nm,0.4s,baz=108,slow=2.9,SNR=3.0						

MEX 07 21:55:29.2±0.7, 16°.01N×98°.31W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.42**	**24**	*e*P	Pg	21 55 36.3	-1.0
PNIG				*e*S	Sg	21 55 42.8	0.0
TLIG	**Tlapa**	**1.56**	**351**	*i* P	Pn	21 55 54.0	-3.8
TLIG				*i* S	Sn	21 56 14.3	-4.3

IDC 07 22:04:40.5±2.5, 7°.37S×127°.91E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/28, mbtmp3.3/3, ML3.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/22, Error ellipse: s-maj=298.7km s-min=32.1km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.97**	**154**	Pn	Pn	22 07 57.6	-2.2
	0.3nm,0.3s,baz=330,slow=13,SNR=14						
ASAR	**Alice Springs**	**17.20**	**161**	P	P	22 08 44.1	+0.1
	0.2nm,0.3s,baz=338,slow=8.6,SNR=9.1						
KLR	**Kul'dur**	**56.46**	**3**	LR	LR	22 37 40.7	
	comp=Z,39nm,18.5s,baz=100,slow=35						
MKAR	**Makanchi Array**	**67.42**	**328**	P	P	22 15 37.9	0.0
	0.2nm,0.4s,baz=111,slow=7.7,SNR=5.0						

SJA 07 22:16:30.4±0.3, 30°.22S×67°.74W, h10km±827km, ML3.3, MW4.2, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**0.98**	**318**	*e*P	Pg	22 16 49.3	0.0
AGUA				*e*S	Sg	22 17 03.3	+0.8
ACLC	**CERRO LA CRUZ**	**1.05**	**41**	*e*P	Pb	22 16 50.7	0.0
ACLC				*e*S	Sn	22 17 05.5	-0.6
ACLC				IAML		22 17 06.0	
	comp=Z,20μm,0.2s						
APLL	**PUNTA DE LOS L**	**1.06**	**100**	*e*P	Pg	22 16 50.8	-0.1
VCA	**Vinchina**	**1.54**	**345**	*e*P	Pb	22 16 59.3	+0.3
VCA				IAML		22 17 23.4	
	comp=Z,11nm,0.2s						

IDC 07 22:18:43.4±49.0, 15°.54S×172°.74W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/39, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=942.7km s-min=203.2km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**27.33**	**280**	LR	LR	22 34 51.7	
	comp=Z,82nm,19.0s,baz=132,slow=35						
STKA	**Stephens Creek**	**44.52**	**240**	P	P	22 26 57.6	+0.6
	0.6nm,0.4s,baz=55,slow=7.6,SNR=3.1						
WRA	**Warramunga Arr**	**50.43**	**257**	P	P	22 27 42.0	-1.3
	0.6nm,0.9s,baz=95,slow=8.0,SNR=2.4						
ASAR	**Alice Springs**	**50.67**	**252**	P	P	22 27 45.2	+0.1
	1.8nm,0.5s,baz=88,slow=8.0,SNR=28						

*NIED **07** 22:25:00, 24°.40N×122°.80E, h62km, Mw3.7 Best double couple: M0:4.73000×10^14 NP1:φ1=147.00000°, δ66.00000°, λ0.00000°. NP2:φ2=237.00000°, δ90.00000°, λ-156.00000°.*
*ISCJB **07** 22:25:26.4±0.2, 24°.36N±0°.02×122°.82E±0°.01, h56km±4km, Error ellipse: s-maj=3.0km s-min=1.8km az=172.3*
*TAP **07** 22:25:26.1, 24°.40N×122°.83E, h60km, ML4.1, C*
*JMA **07** 22:25:26.2±0.1, 24°.39N×122°.80E, h60km±1km, M3.5*
*IDC **07** 22:25:40.6±1.4, 21°.73N×123°.34E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.5/42, mbtmp3.8/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/36, Error ellipse: s-maj=116.8km s-min=25.5km az=77.0*

ISC 07 22:25:26.9±1.0, 24°.36N±0°.03×122°.81E±0°.02, h52km±6km, n120, σ1§12/216, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.16**	**54**	P	**Pn**	**22 25 35.4**	**+0.1**
JYNG				S	**Sn**	**22 25 42.0**	**+0.8**
YOJ	**Yonaguni jima**	**0.21**	**61**	P	**Pn**	**22 25 35.6**	**0.0**
	baz=59						
YOJ				S	**Sn**	**22 25 42.4**	**+0.6**
	baz=59						
YOJ	**Yonaguni jima**	**0.21**	**61**	P	**Pn**	**22 25 35.7**	**+0.1**
YOJ				S	**Sn**	**22 25 42.2**	**+0.4**
EOS1	**EOS1**	**0.65**	**287**	P	**Pn**	**22 25 39.9**	**-0.2**
	baz=291						
EOS1				S	**Sn**	**22 25 50.4**	**+0.8**
	baz=291						
IRIF	**Iriomote-Funau**	**0.84**	**91**	P	**Pn**	**22 25 42.3**	**-0.3**
IRIF				*e*S	**Sn**	**22 25 54.4**	**+0.3**
TWC	**Suao**	**0.91**	**286**	*e*P	**Pn**	**22 25 42.8**	**-0.6**
	baz=283						
TWC				S	**Sn**	**22 25 54.3**	**-1.2**
	baz=283						
EGS		**0.93**	**301**	P	**Pn**	**22 25 43.1**	**-0.6**
	baz=299						
EGS				*e*S	**Sn**	**22 25 55.9**	**-0.2**
	baz=299						
HATJ	**Hateruma jima**	**0.96**	**108**	P	**Pn**	**22 25 44.6**	**+0.4**
HATJ				*e*S	**Sn**	**22 25 57.1**	**+0.2**
ENA	**Nanau**	**0.97**	**274**	P	**Pn**	**22 25 44.3**	**0.0**
	baz=279						
ENA				*e*S	**Sn**	**22 25 57.6**	**+0.5**
	baz=279						
TWB1	**Santiao Chiao**	**0.98**	**311**	P	**Pn**	**22 25 44.1**	**-0.4**
	baz=315						
TWB1				*e*S	**Sn**	**22 25 55.9**	**-1.5**
	baz=315						
NTC	**Toucheng**	**1.02**	**299**	P	**Pn**	**22 25 44.5**	**-0.4**
	baz=297						
NTC				S	**Sn**	**22 25 57.1**	**-1.1**
	baz=297						
ILA	**Ilan**	**1.04**	**293**	*e*P	**Pn**	**22 25 44.5**	**-0.8**
	baz=291						
ILA				S	**Sn**	**22 25 58.8**	**0.0**
	baz=291						
TIPB	**Shuangxi**	**1.08**	**305**	*e*P	**Pn**	**22 25 45.2**	**-0.6**
	baz=302						
TIPB				S	**Sn**	**22 25 58.2**	**-1.6**
	baz=302						
TWE	**Neicheng**	**1.10**	**289**	*e*P	**Pn**	**22 25 45.6**	**-0.4**
	baz=293						
TWE				*e*S	**Sn**	**22 25 59.9**	**-0.3**
	baz=293						
JKRS	**Kuro-shima**	**1.10**	**96**	P	**Pn**	**22 25 46.2**	**+0.1**
JKRS				S	**Sn**	**22 26 01.0**	**+0.7**
NACB	**Ninganchiao**	**1.12**	**261**	*e*P	**Pn**	**22 25 46.9**	**+0.6**
	baz=259						
NACB				S	**Sn**	**22 26 00.4**	**-0.3**
	baz=259						
TWD	**Chiawan**	**1.14**	**256**	*e*P	**Pn**	**22 25 46.1**	**-0.5**
	baz=244						
TWD				S	**Sn**	**22 26 00.9**	**-0.2**
	baz=244						
HWA	**Hwalien**	**1.16**	**251**	P	**Pn**	**22 25 46.8**	**0.0**
	baz=250						
HWA				*e*S	**Sn**	**22 26 02.3**	**+0.7**
	baz=250						
ENTT	**Nioudou**	**1.16**	**284**	P	**Pn**	**22 25 47.3**	**+0.4**
	baz=290						
ENTT				*e*S	**Sn**	**22 26 02.7**	**+0.9**
	baz=290						
NWF	**Wu-fen Shan**	**1.17**	**307**	*e*P	**Pn**	**22 25 46.6**	**-0.4**
	baz=305						
NWF				*e*S	**Sn**	**22 26 01.9**	**-0.1**
	baz=305						
WFSB	**Wu-fen Shan**	**1.17**	**307**	*e*P	**Pn**	**22 25 46.7**	**-0.3**
	baz=305						
WFSB				*e*S	**Sn**	**22 26 02.7**	**+0.7**
	baz=305						
ENLB	**Shoufeng**	**1.19**	**248**	*e*P	**Pn**	**22 25 46.8**	**-0.5**
	baz=238						
ENLB				*e*S	**Sn**	**22 26 02.7**	**+0.3**
	baz=238						
NDT	**Datong Townshi**	**1.20**	**282**	P	**Pn**	**22 25 48.0**	**+0.6**
	baz=287						
NDT				*e*S	**Sn**	**22 26 04.1**	**+1.3**
	baz=287						
JIJ	**Ishigaki jima**	**1.22**	**90**	P	**Pn**	**22 25 47.0**	**-0.7**
JIJ				S	**Sn**	**22 26 02.4**	**-0.7**
NWLT	**Wulai**	**1.26**	**290**	P	**Pn**	**22 25 48.4**	**+0.2**
	baz=288						
NWLT				S	**Sn**	**22 26 03.6**	**-0.5**
	baz=288						
NNS	**Nan Shan**	**1.31**	**274**	P	**Pn**	**22 25 49.0**	**0.0**
	baz=272						
NNS				*e*S	**Sn**	**22 26 05.8**	**+0.3**
	baz=272						
NHDH	**Xindian Distri**	**1.31**	**298**	P	**Pn**	**22 25 49.1**	**+0.3**
	baz=296						
NHDH				S	**Sn**	**22 26 04.6**	**-0.7**
	baz=296						
YHNB	**Yeheng**	**1.34**	**284**	P	**Pn**	**22 25 49.7**	**+0.3**
	baz=288						
YHNB				*e*S	**Sn**	**22 26 08.0**	**+1.8**
	baz=288						
YM07	**YM07**	**1.35**	**307**	*e*P	**Pn**	**22 25 49.1**	**-0.4**
	baz=305						
YM07				*e*S	**Sn**	**22 26 06.6**	**+0.2**
	baz=305						
ESL	**Shilin**	**1.37**	**247**	P	**Pn**	**22 25 48.9**	**-0.8**
	baz=238						
ESL				S	**Sn**	**22 26 06.4**	**-0.3**
	baz=238						
YM11	**YM11**	**1.38**	**306**	P	**Pn**	**22 25 49.5**	**-0.4**
	baz=304						
YM11				*e*S	**Sn**	**22 26 08.2**	**+1.1**
	baz=304						
YM08	**YM08**	**1.38**	**307**	*e*P	**Pn**	**22 25 48.8**	**-1.1**
	baz=305						
YM08				*e*S	**Sn**	**22 26 07.2**	**+0.1**
	baz=305						
YM10	**YM10**	**1.38**	**305**	*e*P	**Pn**	**22 25 49.6**	**-0.4**
	baz=303						
YM10				*e*S	**Sn**	**22 26 07.9**	**+0.8**
	baz=303						
JISG	**Ishigakijimahi**	**1.39**	**80**	P	**Pn**	**22 25 49.3**	**-0.7**
JISG				*e*S	**Sn**	**22 26 06.7**	**-0.5**
WHF	**Hehuan Shan**	**1.42**	**262**	P	**Pn**	**22 25 50.4**	**-0.4**
	baz=260						
WHF				*e*S	**Sn**	**22 26 08.2**	**-0.4**
	baz=260						
TWY	**Chenhua**	**1.43**	**310**	P	**Pn**	**22 25 50.7**	**+0.2**
	baz=299						
TWY				*e*S	**Sn**	**22 26 09.1**	**+1.0**
	baz=299						
ANP	**Anpu**	**1.43**	**305**	*e*P	**Pn**	**22 25 50.7**	**+0.1**
	baz=304						
ANP				*e*S	**Sn**	**22 26 08.5**	**+0.2**
	baz=304						
PCYT	**Pengchaiyu**	**1.43**	**332**	P	**Pn**	**22 25 50.3**	**-0.2**
	baz=322						
EGFH	**Guangfu**	**1.44**	**242**	P	**Pn**	**22 25 50.0**	**-0.5**
	baz=241						
EGFH				*e*S	**Sn**	**22 26 07.6**	**-0.7**
	baz=241						
TWS1	**Kuangyinshan**	**1.46**	**301**	P	**Pn**	**22 25 51.2**	**+0.3**
	baz=299						
TWS1				S	**Sn**	**22 26 10.8**	**+1.8**
	baz=299						
TWT	**Tachien**	**1.49**	**266**	P	**Pn**	**22 25 52.1**	**+0.6**
	baz=265						
TWT				*e*S	**Sn**	**22 26 11.0**	**+1.1**
	baz=265						
WLTB	**Daxi**	**1.50**	**289**	*e*S	**Sn**	**22 26 10.4**	**+0.6**
	baz=297						
TDCB	**Techi**	**1.51**	**266**	P	**Pn**	**22 25 52.0**	**+0.3**
	baz=265						
TDCB				S	**Sn**	**22 26 10.1**	**-0.2**
	baz=265						
CHGB	**Renai**	**1.52**	**259**	P	**Pn**	**22 25 51.9**	**-0.1**
	baz=248						
CHGB				*e*S	**Sn**	**22 26 11.2**	**+0.5**
	baz=248						
HGSD	**Ruisui**	**1.53**	**236**	*e*P	**Pn**	**22 25 50.7**	**-1.2**
	baz=235						
HGSD				*e*S	**Sn**	**22 26 10.8**	**+0.2**
	baz=235						
OWD	**Renai**	**1.54**	**255**	P	**Pn**	**22 25 51.7**	**-0.5**
	baz=254						
OWD				S	**Sn**	**22 26 10.2**	**-0.9**
	baz=254						
NCUH	**Zhongli**	**1.59**	**293**	*e*P	**Pn**	**22 25 53.8**	**+1.0**
	baz=299						
EHY	**Hungye**	**1.60**	**238**	P	**Pn**	**22 25 52.1**	**-0.8**
	baz=248						
EHY				*e*S	**Sn**	**22 26 12.3**	**-0.1**
	baz=248						
VWDT	**VWDT**	**1.64**	**249**	*e*P	**Pn**	**22 25 53.3**	**0.0**
	baz=248						
VWDT				*e*S	**Sn**	**22 26 13.4**	**+0.1**
	baz=248						
NSTT	**Nanjuang**	**1.67**	**280**	P	**Pn**	**22 25 54.0**	**+0.3**
	baz=288						
NSTT				S	**Sn**	**22 26 15.7**	**+1.7**
	baz=288						
YULB	**Yu-li**	**1.68**	**235**	P	**Pn**	**22 25 53.7**	**-0.3**
	baz=247						
YULB				S	**Sn**	**22 26 13.4**	**-1.0**
	baz=247						
WHP	**Taichung City**	**1.70**	**268**	P	**Pn**	**22 25 55.2**	**+1.0**
	baz=259						
WHP				*e*S	**Sn**	**22 26 16.4**	**+1.5**
	baz=259						
TWF1	**Yuli**	**1.71**	**234**	*e*P	**Pn**	**22 25 54.0**	**-0.3**
	baz=227						
TWF1				S	**Sn**	**22 26 14.3**	**-0.7**
	baz=227						
DPDB	**Guoxing**	**1.75**	**260**	*e*P	**Pn**	**22 25 55.1**	**+0.2**
	baz=252						
DPDB				*e*S	**Sn**	**22 26 15.7**	**-0.4**
	baz=252						
JTJ	**Tarama**	**1.75**	**80**	P	**Pn**	**22 25 54.9**	**0.0**
JTJ				S	**Sn**	**22 26 15.7**	**-0.3**
SSLB	**Suanglung**	**1.79**	**252**	*e*P	**Pn**	**22 25 55.5**	**+0.1**
	baz=251						
SSLB				*e*S	**Sn**	**22 26 16.7**	**-0.3**
	baz=251						
SMLT	**Sun Moon Lake**	**1.80**	**255**	P	**Pn**	**22 25 56.2**	**+0.5**
	baz=254						
SMLT				S	**Sn**	**22 26 17.6**	**+0.1**
	baz=254						
CHKT	**Chengkung**	**1.82**	**227**	*e*P	**Pn**	**22 25 54.6**	**-1.3**
	baz=226						
CHKT				*e*S	**Sn**	**22 26 16.3**	**-1.5**
	baz=226						
TYC	**Yuchr**	**1.84**	**256**	P	**Pn**	**22 25 56.6**	**+0.5**
	baz=248						
TYC				*e*S	**Sn**	**22 26 18.6**	**+0.4**
	baz=248						
TWQ1	**Liyutan**	**1.85**	**270**	P	**Pn**	**22 25 57.1**	**+0.8**
	baz=269						
TWQ1				S	**Sn**	**22 26 20.1**	**+1.5**
	baz=269						
NSY	**Sanyi**	**1.86**	**272**	*e*P	**Pn**	**22 25 57.1**	**+0.6**
	baz=271						
NSY				S	**Sn**	**22 26 20.7**	**+1.8**
	baz=271						
WHYT	**Xinyi Township**	**1.90**	**250**	*e*P	**Pn**	**22 25 57.7**	**+0.7**
	baz=243						
WHYT				*e*S	**Sn**	**22 26 20.3**	**+0.5**
	baz=243						
TCU	**Taichung**	**1.96**	**264**	*e*P	**Pn**	**22 25 59.4**	**+1.7**
	baz=276						
TCU				*e*S	**Sn**	**22 26 23.0**	**+2.0**
	baz=276						
WJS	**Zhushan**	**1.97**	**255**	*e*P	**Pn**	**22 25 59.5**	**+1.6**
	baz=248						
WJS				*e*S	**Sn**	**22 26 23.6**	**+2.1**
	baz=248						
WDJ	**Dajia District**	**1.98**	**270**	*e*S	**Sn**	**22 26 22.8**	**+1.3**
	baz=269						
WNT	**Mingjian**	**2.00**	**257**	P	**Pn**	**22 26 00.0**	**+1.8**
	baz=256						
WNT				S	**Sn**	**22 26 24.4**	**+2.3**
	baz=256						
ELDTW	**Lidau**	**2.01**	**235**	*e*P	**Pn**	**22 25 58.0**	**-0.5**
	baz=234						
ALS	**Alishan**	**2.02**	**246**	P	**Pn**	**22 25 59.8**	**+1.0**
	baz=237						
ALS				*e*S	**Sn**	**22 26 23.8**	**+0.8**
	baz=237						
WCHH	**Zhanghua**	**2.07**	**263**	*e*P	**Pn**	**22 25 59.8**	**+0.6**
	baz=272						
WCHH				*e*S	**Sn**	**22 26 26.1**	**+2.2**
	baz=272						
CHN5	**Tsauling**	**2.09**	**249**	P	**Pn**	**22 26 00.9**	**+1.3**
	baz=249						
CHN5				*e*S	**Sn**	**22 26 26.5**	**+2.0**
	baz=249						
WGK	**Gukeng**	**2.16**	**252**	P	**Pn**	**22 26 01.5**	**+1.1**
	baz=242						
WGK				S	**Sn**	**22 26 28.6**	**+2.6**
	baz=242						
WDLH	**Douliu**	**2.18**	**253**	P	**Pn**	**22 26 01.9**	**+1.2**
	baz=243						
WDLH				S	**Sn**	**22 26 29.6**	**+3.1**
	baz=243						
JIRB	**Irabujima**	**2.21**	**77**	P	**Pn**	**22 26 01.4**	**+0.3**
JIRB				S	**Sn**	**22 26 28.6**	**+1.4**
TWGBT	**Beinan**	**2.21**	**226**	*e*P	**Pn**	**22 26 00.4**	**-0.7**
	baz=236						
TWGBT				*e*S	**Sn**	**22 26 26.5**	**-0.7**
	baz=236						
TTN	**Taitung**	**2.21**	**224**	S	**Sn**	**22 26 26.9**	**-0.3**
	baz=217						
TWG	**Pinlang**	**2.21**	**226**	*e*P	**Pn**	**22 26 00.8**	**-0.4**
	baz=236						
TWG				S	**Sn**	**22 26 26.1**	**-1.2**
	baz=236						
STYT	**Tauyuan**	**2.22**	**238**	*e*P	**Pn**	**22 26 02.1**	**+0.7**
	baz=238						
STYT				S	**Sn**	**22 26 29.1**	**+1.4**
	baz=238						
TPUB	**Ta-pu**	**2.25**	**243**	P	**Pn**	**22 26 03.3**	**+1.5**
	baz=242						
TPUB				S	**Sn**	**22 26 30.6**	**+2.1**
	baz=242						
CHN4	**Tsaushan**	**2.26**	**244**	*e*P	**Pn**	**22 26 02.7**	**+0.8**
	baz=244						
CHN4				*e*S	**Sn**	**22 26 32.1**	**+3.5**
	baz=244						
RLNB	**Erlin**	**2.28**	**259**	P	**Pn**	**22 26 03.4**	**+1.2**
	baz=258						
RLNB				*e*S	**Sn**	**22 26 31.0**	**+1.9**
	baz=258						
JIKM	**Ikemajima**	**2.29**	**75**	P	**Pn**	**22 26 02.6**	**+0.3**
JIKM				*e*S	**Sn**	**22 26 30.4**	**+1.1**
WTP	**Ta-pu**	**2.29**	**242**	P	**Pn**	**22 26 03.9**	**+1.5**
	baz=241						
WTP				*e*S	**Sn**	**22 26 31.0**	**+1.5**
	baz=241						
JMJ	**Miyako jima 2**	**2.31**	**78**	*e*P	**Pn**	**22 26 02.5**	**0.0**
	baz=78						
JMJ				*e*S	**Sn**	**22 26 28.8**	**-0.9**
	baz=78						
JMJ2	**Miyako jima3**	**2.33**	**80**	P	**Pn**	**22 26 03.6**	**+0.8**
JMJ2				*e*S	**Sn**	**22 26 32.6**	**+2.4**
CHY	**Chiayi**	**2.34**	**249**	P	**Pn**	**22 26 04.6**	**+1.6**
	baz=249						
CHY				S	**Sn**	**22 26 32.3**	**+1.8**
	baz=249						
WTCT	**Ta-ch'eng**	**2.36**	**258**	*e*S	**Sn**	**22 26 31.9**	**+1.0**
	baz=258						
TWK	**Hsinying**	**2.38**	**243**	P	**Pn**	**22 26 04.8**	**+1.2**
	baz=243						
TWK				S	**Sn**	**22 26 33.5**	**+1.8**
	baz=243						
CHN1	**Nanshi**	**2.39**	**241**	*e*P	**Pn**	**22 26 05.2**	**+1.5**
	baz=241						
CHN1				*e*S	**Sn**	**22 26 34.8**	**+3.0**
	baz=241						
SNST	**Tainan City**	**2.40**	**242**	P	**Pn**	**22 26 06.2**	**+2.4**
	baz=242						
SNST				*e*S	**Sn**	**22 26 33.7**	**+1.7**
	baz=242						
SGST	**Jiashian**	**2.40**	**238**	*e*P	**Pn**	**22 26 05.2**	**+1.4**
	baz=238						
SGST				*e*S	**Sn**	**22 26 33.7**	**+1.6**
	baz=238						
SLGT	**Liugui**	**2.40**	**236**	P	**Pn**	**22 26 04.8**	**+1.0**
	baz=231						
SLGT				*e*S	**Sn**	**22 26 33.7**	**+1.6**
	baz=231						
JOGS	**Gusukube**	**2.40**	**80**	P	**Pn**	**22 26 05.0**	**+1.2**
ECL	**Taimali**	**2.44**	**224**	P	**Pn**	**22 26 03.1**	**-1.3**
	baz=233						
ECL				*e*S	**Sn**	**22 26 31.7**	**-1.3**
	baz=233						
WSF	**Szhu**	**2.47**	**254**	*e*P	**Pn**	**22 26 04.8**	**+0.1**
	baz=265						
WSF				*e*S	**Sn**	**22 26 35.4**	**+1.7**
	baz=265						
SSD	**Sandimen**	**2.56**	**232**	*e*P	**Pn**	**22 26 06.6**	**+0.6**
	baz=229						
SSD				*e*S	**Sn**	**22 26 37.2**	**+1.3**
	baz=229						
CHN8	**Yiju**	**2.58**	**248**	*e*P	**Pn**	**22 26 06.8**	**+0.5**
	baz=248						
CHN8				S	**Sn**	**22 26 37.9**	**+1.5**
	baz=248						
LAY	**Lan-yu**	**2.58**	**207**	*e*P	**Pn**	**22 26 05.2**	**-1.1**
	baz=207						
LAY				*e*S	**Sn**	**22 26 34.2**	**-2.3**
	baz=207						
MASBT	**Mashibuluo**	**2.65**	**229**	*e*P	**Pn**	**22 26 07.7**	**+0.5**
	baz=227						
MASBT				*e*S	**Sn**	**22 26 38.7**	**+0.6**
	baz=227						
EAST	**Anshuo**	**2.67**	**223**	*e*P	**Pn**	**22 26 06.4**	**-1.1**
	baz=229						
EAST				*e*S	**Sn**	**22 26 36.6**	**-2.0**
	baz=229						
SSPT	**Xinbi**	**2.78**	**228**	*e*S	**Sn**	**22 26 43.4**	**+2.1**
	baz=223						
SCZT	**Fangliau**	**2.82**	**226**	P	**Pn**	**22 26 11.2**	**+1.7**
	baz=222						
SCZT				*e*S	**Sn**	**22 26 42.8**	**+0.5**
	baz=222						
PTTC	**Pingtan**	**2.98**	**293**	*e*P	**Pn**	**22 26 11.4**	**-0.3**
	baz=282						
WLCH	**Liuqiu**	**3.00**	**229**	*e*P	**Pn**	**22 26 14.5**	**+2.6**
	baz=242						
TSEB	**Hengchuen, Pin**	**3.01**	**216**	*e*S	**Sn**	**22 26 49.2**	**+2.2**
	baz=223						
HEN	**Hengchun**	**3.02**	**219**	*e*S	**Sn**	**22 26 48.0**	**+0.8**
	baz=219						
TWKBT	**Hengchun**	**3.03**	**218**	*e*P	**Pn**	**22 26 13.0**	**+0.6**
	baz=223						
TWKBT				*e*S	**Sn**	**22 26 47.0**	**-0.4**
	baz=223						
TWK1	**Hengchun**	**3.03**	**218**	*e*P	**Pn**	**22 26 12.8**	**+0.4**
	baz=223						
TWK1				*e*S	**Sn**	**22 26 48.2**	**+0.8**
	baz=223						
PHUB	**P'eng-hu**	**3.08**	**255**	*e*P	**Pn**	**22 26 12.4**	**-0.6**
	baz=255						
PHUB				*e*S	**Sn**	**22 26 47.0**	**-1.6**
	baz=255						
PNG	**Penghu**	**3.08**	**256**	*e*P	**Pn**	**22 26 12.4**	**-0.6**
	baz=256						
PNG				*e*S	**Sn**	**22 26 48.2**	**-0.4**
	baz=256						
WDGT	**Dungji**	**3.08**	**250**	*e*P	**Pn**	**22 26 13.5**	**+0.4**
	baz=250						
WDGT				*e*S	**Sn**	**22 26 47.6**	**-1.1**
	baz=250						
VCHM	**Qimei**	**3.30**	**250**	*e*P	**Pn**	**22 26 16.1**	**0.0**
	baz=251						
VCHM				*e*S	**Sn**	**22 26 53.0**	**-1.0**

	baz=270							
AXDP	**Jialang**	4.43	278	*e*P		Pn	22 26 30.4	-1.3
	baz=276							
AXDP				*e*S		Sn	22 27 19.0	-3.0
	baz=276							
ZPLA	**Ao Xicun**	4.64	266	*e*P		Pn	22 26 33.5	-1.0
	baz=257							
JNU	**Nakatsue**	11.24	37	LR		LR	22 34 19.5	
	comp=Z,34nm,19.1s,baz=218,slow=39							
SONM	**Songino Array**	26.81	335	P		P	22 31 45.7	+43
	0.3nm,0.4s,baz=140,slow=7.4,SNR=1.5							
WRA	**Warramunga Arr**	45.45	165	P		P	22 33 40.2	-0.7
	1.5nm,0.3s,baz=347,slow=8.6,SNR=6.2							
ASAR	**Alice Springs**	48.94	166	P		P	22 34 07.9	-0.2
	0.9nm,0.6s,baz=346,slow=7.8,SNR=13							
YKA	**Yellowknife Ar**	82.23	23	P		P	22 38 14.8	+33
	0.1nm,0.5s,baz=326,slow=3.2,SNR=2.2							

*KLM **07** 22:35:34.0, 1°.15N×97°.89E, h50km, mb4.6*
*ISCJB **07** 22:35:37.1±0.3, 1°.34N±0°.04×98°.28E±0°.04, h63km, mb4.4/40, Error ellipse: s-maj=6.3km s-min=4.4km az=148.1*
*IDC **07** 22:35:39.0±2.0, 1°.31N×98°.43E, h75km±15km, mb4.0/21, mb1 4.1/22, mb1mx3.9/46, mbtmp4.3/22, MS3.0/3, Ms1 3.0/3, ms1mx2.7/31, Error ellipse: s-maj=20.2km s-min=11.8km az=59.0*
*NEIC **07** 22:35:39.3±0.6, 1°.32N×98°.34E, h78km±5km, mb4.4/18, Error ellipse: s-maj=8.1km s-min=5.2km az=52.0*
*DJA **07** 22:35:40.2±0.4, 1°N±3°×9°8E±°, h54km±10km, M4.8/7, mb5.4/1, MLv4.6/7*

ISC 07 22:35:38.4±0.4, 1°.37N±0°.05×98°.37E±0°.04, h63km, n114, σ1§37/107, mb4.4/41, 10C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	0.80	265	*e*Pn	Pn	22 35 55.2	+1.3
GSI	**Gunungsitoli**	0.80	265	P	Pn	22 35 55.7	+1.7
GSI				S	Sn	22 36 08.0	+2.6
PSI	**Prapat**	1.53	21	P	Pn	22 36 04.2	+0.6
	1μm,0.3s,SNR=1.2						
PSI				S	Sn	22 36 22.4	-0.2
	5μm,0.3s,baz=126,slow=0.1,SNR=7.9						
SISI	**Saibi**	2.77	165	P	Pn	22 36 22.2	+1.8
BKNI	**Bangkinang**	2.87	111	*e*Pn	Pn	22 36 24.3	+2.6
BKNI	**Bangkinang**	2.87	111	P	Pn	22 36 23.9	+2.2
PDSI	**Padang**	3.08	137	P	Pn	22 36 27.2	+2.5
IPM	**Ipoh**	4.07	41	*e*Pn	Pn	22 36 41.1	+2.9
LHMI	**Lhok Sumawe**	4.09	340	*e*Pn	Pn	22 36 39.8	+1.4
LHMI	**Lhok Sumawe**	4.09	340	P	Pn	22 36 39.9	+1.5
LHMI				S	Sn	22 37 27.3	+2.3
KULM	**Kulim**	4.51	30	*e*Pn	Pn	22 36 46.1	+1.8
KULM	**Kulim**	4.51	30	P	Pn	22 36 46.0	+1.8
MYKOM	**Kota Tinggi**	5.50	86	*e*Pn	Pn	22 36 59.5	+1.8
MYKOM	**Kota Tinggi**	5.50	86	P	Pn	22 37 00.0	+2.3
TPRI	**Tanjung Pinang**	6.17	94	P	Pn	22 37 09.7	+2.7
SKLT	**Songkhla**	6.18	21	P	Pn	22 37 09.8	+2.7
	28nm,0.6s,333nm0.1nm						
PKDT	**Phuket**	6.48	360	P	Pn	22 37 17.3	+6.1
	20nm,0.8s,10μm0.8nm						
TRTT	**Trang**	6.56	12	P	Pn	22 37 13.4	+1.2
	61nm,1.0s,0.2nm						
KRAB	**Krabi**	6.86	7	P	Pn	22 37 18.1	+1.8
	247μm,0.8s,788nm						
MNAI	**Manna**	7.31	141	*e*Pn	Pn	22 37 23.3	+0.7
MNAI	**Manna**	7.31	141	P	Pn	22 37 23.8	+1.2
LEM	**Lembang**	12.31	132	LR	LR	22 43 07.7	
	comp=Z,116nm,21.8s,baz=273,slow=37						
SBUM	**Sibu**	13.88	85	*e*Pn	P	22 38 56.1	-2.4
UTHA	**Uthaitani**	14.14	4	P	P	22 39 14.2	+13
DLV	**T Lat**	14.53	43	*e*Pn	P	22 39 06.9	+1.0
SMRI	**Semarang**	14.66	125	*e*Pn	Pn	22 39 01.8	-0.7
CHAI	**Chaiyaphum**	14.87	14	P	P	22 39 22.5	+13
SKNT	**Sakolnakorn**	16.46	19	P	P	22 39 34.8	+7.7
PANO	**Nakornpanom**	16.84	21	P	P	22 39 31.7	+0.4
	0.2nm,0.8s						
CM31	**Chiang Mai Arr**	16.99	2	*e*Pn	Pn	22 39 29.2	-2.7
	3.3nm,0.9s						
CMAR	**Chiang Mai Arr**	16.99	2	P	Pn	22 39 30.9	-1.1
	0.3nm,0.3s,baz=193,slow=12,SNR=14						
CMAR				LR	LR	22 45 18.9	
	comp=Z,26nm,21.5s,baz=155,slow=34						
CMMT	**Chiang Mai**	17.34	2	P	P	22 39 37.5	+0.6
	1.7nm,0.8s						
CHTO	**Chiang Mai**	17.34	2	Pn	Pn	22 39 36.0	-0.3
	1.8nm,0.8s						
SLVN	**Son La**	20.56	15	*e*P	P	22 40 11.6	-0.6
	5.4nm,0.7s						
MPSI	**Mapaga**	21.55	93	P	P	22 40 24.3	+1.5
APSI	**Ampana**	23.39	95	P	P	22 40 43.3	+1.4
MRSI	**Marisa**	23.59	92	P	P	22 40 47.1	+3.4
LUWI	**Luwuk**	24.52	95	*e*P	P	22 40 53.8	+1.6
	38nm,0.5s						
SHL	**Shillong**	24.86	346	*e*P	P	22 40 53.6	-1.7
	7.4nm,0.6s						
H08S2	**Diego Garcia H**	27.32	250	T	T	23 08 38.2	
	baz=71,slow=75,SNR=72						
H08S3	**Diego Garcia H**	27.32	251	T	T	23 08 53.6	
	baz=71,slow=75,SNR=38						
H08S1	**Diego Garcia H**	27.34	250	T	T	23 08 28.7	
	baz=71,slow=75,SNR=43						
H08N1	**Diego Garcia H**	28.36	254	T	T	23 10 36.2	
	baz=315,slow=26,SNR=4.9						
H08N2	**Diego Garcia H**	28.37	254	T	T	23 10 32.1	
	baz=315,slow=26,SNR=2.7						
H08N3	**Diego Garcia H**	28.38	254	T	T	23 10 36.2	
	baz=315,slow=26,SNR=6.2						
LSA	**Lhasa**	29.00	347	P	P	22 41 33.2	+0.4
	114nm,1.1s						
CD2	**Chengdu**	29.82	9	*e*P	P	22 41 41.0	+1.4
FITZ	**Fitzroy Crossi**	33.09	127	P	P	22 42 06.0	-2.4
	0.7nm,0.6s,baz=288,slow=3.2,SNR=1.6						
XAN	**Xi'an**	33.97	16	P	P	22 42 14.2	-1.8
XAN				sP	pP	22 42 24.6	-6.9
XAN	**Xi'an**	33.97	16	*e*P	P	22 42 13.9	-2.1
	6.4nm,0.7s						
LZH	**Lanzhou**	34.91	8	*e*P	P	22 42 26.1	+1.8
LZH				pP	sP	22 42 45.5	-1.8
LZH				sP	pP	22 42 53.4	+14
LZH				PP	PnPn	22 43 42.7	-0.2
NWAO	**Narrogin (SRO)**	38.48	154	P	P	22 42 52.6	-1.9
	20nm,1.2s,baz=263,slow=8.1,SNR=2.4						
HHC	**Hu-ho-hao-te**	41.08	15	*e*P	P	22 43 17.7	+1.7
WRA	**Warramunga Arr**	41.14	123	P	P	22 43 15.5	-1.3
	6.3nm,0.5s,baz=302,slow=9.1,SNR=2.4						
WRAB	**Tennant Creek**	41.15	123	*e*P	P	22 43 15.3	-1.5
	8.7nm,0.8s						
WB2	**Warramunga Arr**	41.15	123	*e*P	P	22 43 20.1	+3.2
	8.2nm,0.6s						
ASAR	**Alice Springs**	42.57	128	P	P	22 43 26.6	-1.9
	0.6nm,0.5s,baz=295,slow=7.5,SNR=6.8						
WMQ	**Urumqi**	43.32	349	*e*P	P	22 43 35.3	+1.1
NRN	**Naryn**	44.70	336	*e*P	P	22 43 46.2	+0.6
	3.0nm,0.6s						
KDJ	**Kajisay**	44.83	338	*e*P	P	22 43 47.6	+1.2
	4.9nm,0.9s						
KSAR	**Wonju Array Be**	45.02	34	P	P	22 43 47.7	-0.1
KSRS	**Korea Array**	45.05	34	P	P	22 43 47.7	-0.4
	2.4nm,0.6s,baz=221,slow=8.9,SNR=9.0						
KSRS				LR	LR	23 03 47.5	
	comp=Z,21nm,18.6s,baz=190,slow=38						
ARSB	**Arslanbob**	45.90	333	*e*P	P	22 43 55.7	+0.8
	4.4nm,0.8s						
SONM	**Songino Array**	46.80	7	P	P	22 44 02.0	+0.1
	1.0nm,0.4s,baz=191,slow=9.2,SNR=5.2						
MK31	**Makanchi Array**	47.37	345	*e*P	P	22 44 06.3	+0.2
	3.7nm,1.1s						
MKAR	**Makanchi Array**	47.37	345	*e*P	P	22 44 06.0	-0.2
MKAR	**Makanchi Array**	47.37	345	P	P	22 44 06.1	0.0
	5.5nm,0.9s,baz=154,slow=7.9,SNR=18						
MJAR	**Matsushiro Arr**	50.78	42	P	P	22 44 31.9	-0.5
	2.3nm,0.8s,baz=223,slow=6.1,SNR=7.5						
USRK	**Ussuriysk Ar.**	52.03	30	*e*P	P	22 44 41.9	+0.4
USRK	**Ussuriysk Ar.**	52.03	30	P	P	22 44 40.2	-1.3
	9.3nm,1.0s,baz=223,slow=3.9,SNR=11						
STKA	**Stephens Creek**	52.61	133	P	P	22 44 45.5	-0.6
	2.8nm,0.6s,baz=294,slow=8.4,SNR=12						
ZAA0	**Zalesovo Array**	53.58	350	*e*P	P	22 44 52.8	0.0
	5.0nm,0.6s						
ZALV	**Zalesovo Beam**	53.58	350	*e*P	P	22 44 52.5	-0.3
ZALV	**Zalesovo Beam**	53.58	350	P	P	22 44 52.2	-0.7
	5.7nm,0.5s,baz=175,slow=6.9,SNR=23						
KLR	**Kul'dur**	55.59	26	P	P	22 45 08.0	+0.5
	6.4nm,0.8s,baz=244,slow=7.4,SNR=22						
ABKAR	**Akbulak array**	57.92	331	*e*P	P	22 45 23.0	-1.0
ABKAR				*e*S	S	22 53 19.4	0.0
KBZ	**Khabaz**	64.71	319	P	P	22 46 10.3	+0.3
	2.2nm,0.7s,baz=144,slow=5.7,SNR=8.3						
KIV	**Kislovodsk**	64.94	319	*e*P	P	22 46 11.8	+0.1
	5.0nm,1.0s						
BR131	**Keskin Array S**	69.86	312	*e*P	P	22 46 42.2	-0.7
	2.3nm,0.7s						
BRTR	**Keskin Array B**	69.86	312	*e*P	P	22 46 41.9	-1.0
BRTR	**Keskin Array B**	69.86	312	P	P	22 46 42.0	-0.9
	2.1nm,0.7s,baz=131,slow=6.9,SNR=14						
AKASG	**Malin Array Be**	75.84	322	P	P	22 47 16.7	-1.1
	1.5nm,0.5s,baz=88,slow=4.7,SNR=9.1						
BOSA	**Boshof**	75.88	240	P	P	22 47 19.1	+0.3
	2.0nm,0.8s,baz=56,slow=2.5,SNR=4.9						
VRI	**Vrincioaia**	76.29	317	⇑*i*P	P	22 47 21.2	+0.6
PLOR	**Plostina**	76.34	317	⇑*i*P	P	22 47 21.5	+0.6
TESR	**Tescani**	76.48	318	⇑*i*P	P	22 47 22.0	+0.4
MLR	**Muntele Rosu**	76.75	316	⇑*i*P	P	22 47 23.5	+0.2
BURAR	**Bucovina Array**	77.67	318	*e*P	P	22 47 29.0	+0.6
BURAR	**Bucovina Array**	77.67	318	⇑*i*P	P	22 47 29.0	+0.6
BUR08	**Bucovina Ar. S**	77.69	319	*e*P	P	22 47 29.0	+0.5
	2.4nm,0.7s						
VTS	**Vitosha**	78.15	313	*e*P	P	22 47 30.4	-0.8
	3.3nm,0.7s						
VTS	**Vitosha**	78.15	313	⇑*i*P	P	22 47 30.8	-0.4
DRGR		79.20	317	⇑*i*P	P	22 47 37.4	+0.6
TRPA	**Tarpa**	79.54	319	⇑*i*P	P	22 47 39.1	+0.6
SIRR	**Siria**	79.83	317	⇑*i*P	P	22 47 40.8	+0.6
KOLS	**Kolonicke sedl**	79.85	319	*e*P	P	22 47 41.8	+1.6
FINES	**FINESS Array B**	80.39	332	P	P	22 47 42.7	-0.1
	3.2nm,0.6s,baz=106,slow=6.2,SNR=23						
PDG	**Podgorica**	81.04	313	⇑*i*P	P	22 47 46.3	-0.4
TTG	**Podgorica**	81.04	313	*e*P	P	22 47 45.8	-0.9
	10nm,0.6s						
VYHS	**Vyhne**	82.04	319	*e*P	P	22 47 54.2	+2.3
ARCES	**ARCESS Array B**	82.77	340	P	P	22 47 55.0	-0.3
	4.1nm,1.0s,baz=102,slow=4.2,SNR=11						
ARSA	**Arzberg**	84.13	317	*e*P	P	22 48 03.7	+0.9
	3.9nm,0.9s						
SOKA	**Soboth**	84.43	317	*e*P	P	22 48 04.9	+0.6
	4.5nm,1.0s						
GERES	**GERESS Array B**	85.46	319	*e*P	P	22 48 09.5	0.0
GERES	**GERESS Array B**	85.46	319	P	P	22 48 09.8	+0.3
	1.7nm,1.0s,baz=96,slow=5.4,SNR=7.2						
WATA	**Walderalm**	86.82	317	*e*PcP	P	22 48 17.0	+0.7
	1.3nm,0.4s						
SQTA	**Sankt Quirin**	87.07	317	*e*P	P	22 48 16.8	-0.7
	0.8nm,0.5s						
MOTA	**Moosalm**	87.14	317	*e*P	P	22 48 17.5	-0.4
	1.0nm,0.5s						
NB2	**NORSAR Subarra**	87.43	331	P	P	22 48 17.9	-0.9
	comp=Z,0.5nm,0.6s,baz=97,slow=4.6						
NOA	**NORSAR Array B**	87.43	331	P	P	22 48 18.7	-0.1
	comp=Z,1.3nm,0.9s,baz=96,slow=4.9,SNR=5.5						
KEST	**Kesra**	88.41	306	P	P	22 48 24.1	0.0
	comp=Z,2.3nm,0.7s,baz=25,slow=4.3,SNR=4.2						
TXAR	**Lajitas Array**	142.90	33	PKP	PKPdf	22 55 05.1	-0.6
	comp=Z,0.1nm,0.3s,baz=29,slow=2.9,SNR=3.5						
BDFB	**Brasilia**	143.94	245	PKP	PKPbc	22 55 06.3	+0.5
	comp=Z,1.7nm,0.6s,baz=49,slow=1.0,SNR=3.1						
CPUP	**Villa Florida**	145.91	221	PKPbc	PKPdf	22 55 10.9	+0.1
	comp=Z,2.2nm,1.0s,baz=36,slow=14,SNR=4.1						

MEX 07 22:35:49.9±0.6, 18°.70N×102°.77W, h3km±6km, MD3.5, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	0.69	233	*e*P	Pg	22 36 02.3	-0.8
MMIG				*e*S	Sg	22 36 12.1	+0.1
ZIIG	**Zihuatanejo**	1.65	131	*i*P	Pn	22 36 16.3	-3.5
ZIIG				*e*S	Sn	22 36 36.1	-5.3
MOIG	**Morelia**	1.78	57	*i*P	Pn	22 36 17.9	-3.9
MOIG				*e*S	Sn	22 36 40.5	-4.5
CJM	**Chamela**	2.29	291	*e*P	Pn	22 36 26.1	-2.5
CJM				*e*S	Sn	22 36 53.6	-3.8

*TAP **07** 22:49:59.8, 24°.82N×122°.67E, h128km, ML3.3, C*
*JMA **07** 22:50:00.6±0.1, 24°.66N×122°.65E, h126km±2km, M2.4*
*ISCJB **07** 22:50:01.0±0.6, 24°.75N±0°.04×122°.66E±0°.02, h117km±5km, Error ellipse: s-maj=5.9km s-min=2.7km az=175.6*

ISC 07 22:50:01.6±1.5, 24°.75N±0°.05×122°.65E±0°.03, h116km±9km, n54, σ0§66/93, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	0.40	138	P	Pn	22 50 18.6	0.0
YOJ	**Yonaguni jima**	0.43	131	P	Pn	22 50 18.4	-0.3
	baz=147						
YOJ				S	Sn	22 50 32.6	+1.0
	baz=147						
YOJ	**Yonaguni jima**	0.43	131	P	Pn	22 50 18.7	0.0
YOJ				*e*S	Sn	22 50 32.6	+1.0
EOS1	**EOS1**	0.52	248	P	Pn	22 50 19.1	-0.1
	baz=234						
EOS1				*e*S	Sn	22 50 34.3	+1.9
	baz=234						
TWB1	**Santiao Chiao**	0.66	293	*e*P	Pn	22 50 20.0	-0.2
	baz=286						
TWB1				*e*S	Sn	22 50 35.0	+0.7
	baz=286						
TWC	**Suao**	0.74	260	*e*P	Pn	22 50 20.5	-0.4
	baz=248						
TWC				*e*S	Sn	22 50 34.4	-1.1
	baz=248						
TIPB	**Shuangxi**	0.78	287	P	Pn	22 50 21.1	-0.2
	baz=277						
TIPB				*e*S	Sn	22 50 35.6	-0.6
	baz=277						
ENA	**Nanau**	0.89	249	P	Pn	22 50 21.7	-0.5
	baz=241						
ENA				*e*S	Sn	22 50 38.1	+0.3
	baz=241						
TWE	**Neicheng**	0.90	269	P	Pn	22 50 22.1	-0.2
	baz=258						
TWE				*e*S	Sn	22 50 38.2	+0.3
	baz=258						
ENTT	**Nioudou**	0.99	264	P	Pn	22 50 23.3	+0.1
	baz=259						
ENTT				*e*S	Sn	22 50 39.0	-0.6
	baz=259						
YM07	**YM07**	1.03	295	*e*S	Sn	22 50 40.1	-0.2
	baz=290						
NWLT	**Wulai**	1.04	272	*e*P	Pn	22 50 22.8	-1.0
	baz=267						
NWLT				S	Sn	22 50 40.1	-0.5
	baz=267						
NDT	**Datong Townshi**	1.05	262	P	Pn	22 50 24.2	+0.4
	baz=255						
NDT				S	Sn	22 50 41.3	+0.7
	baz=255						
YM01	**YM01**	1.06	292	*e*P	Pn	22 50 23.6	-0.3
	baz=279						
YM01				S	Sn	22 50 40.7	-0.2
	baz=279						
YM08	**YM08**	1.06	295	*e*P	Pn	22 50 23.4	-0.6
	baz=290						
YM08				*e*S	Sn	22 50 40.0	-0.8
	baz=290						
IRIF	**Iriomote-Funau**	1.06	112	P	Pn	22 50 23.8	-0.1
IRIF				S	Sn	22 50 41.1	+0.3
YM10	**YM10**	1.07	293	*e*P	Pn	22 50 23.6	-0.5
	baz=288						
YM10				*e*S	Sn	22 50 41.0	-0.1
	baz=288						
NACB	**Ninganchiao**	1.12	240	*e*P	Pn	22 50 24.2	-0.3
	baz=232						
NACB				*e*S	Sn	22 50 41.4	-0.5
	baz=232						
YHNB	**Yeheng**	1.16	266	P	Pn	22 50 25.0	0.0
	baz=268						
YHNB				*e*S	Sn	22 50 42.6	-0.3
	baz=268						
TWD	**Chiawan**	1.17	236	P	Pn	22 50 25.0	0.0
	baz=230						
TWD				*e*S	Sn	22 50 42.3	-0.5
	baz=230						
TWS1	**Kuangyinshan**	1.18	288	*e*P	Pn	22 50 25.2	+0.1
	baz=277						
TWS1				S	Sn	22 50 43.1	+0.2
	baz=277						
NNS	**Nan Shan**	1.20	256	P	Pn	22 50 25.4	-0.2
	baz=247						
NNS				*e*S	Sn	22 50 43.2	-0.5
	baz=247						
HATJ	**Hateruma jima**	1.26	123	S	Sn	22 50 44.4	-0.1
ENLB	**Shoufeng**	1.27	229	*e*P	Pn	22 50 25.9	-0.3
	baz=224						
ENLB				*e*S	Sn	22 50 45.7	+0.8
	baz=224						
WLTB	**Daxi**	1.28	275	*e*S	Sn	22 50 45.5	+0.7
	baz=271						
JKRS	**Kuro-shima**	1.34	112	P	Pn	22 50 27.2	+0.3
JKRS				S	Sn	22 50 46.4	+0.3
NCU	**National Centr**	1.35	280	*e*P	Pn	22 50 27.2	+0.2
	baz=276						
NCU				*e*S	Sn	22 50 46.7	+0.3
	baz=276						
WHF	**Hehuan Shan**	1.40	245	P	Pn	22 50 27.8	-0.3
	baz=242						
WHF				S	Sn	22 50 48.1	0.0
	baz=242						
JIJ	**Ishigaki jima**	1.41	105	P	Pn	22 50 27.4	-0.3
JIJ				S	Sn	22 50 46.9	-0.7
TWT	**Tachien**	1.43	250	P	Pn	22 50 28.8	+0.6
	baz=241						
TWT				S	Sn	22 50 49.0	+0.7
	baz=241						
TDCB	**Techi**	1.45	250	P	Pn	22 50 28.5	+0.2
	baz=242						
TDCB				*e*S	Sn	22 50 48.4	-0.2
	baz=242						
ESL	**Shilin**	1.45	230	S	Sn	22 50 47.7	-0.7
	baz=223						
NSTT	**Nanjuang**	1.51	266	S	Sn	22 50 48.8	-0.8
	baz=262						
CHGB	**Renai**	1.51	243	P	Pn	22 50 29.4	+0.3
	baz=240						
CHGB				*e*S	Sn	22 50 49.6	-0.4
	baz=240						
JISG	**Ishigakijimahi**	1.52	96	P	Pn	22 50 28.6	-0.4
JISG				S	Sn	22 50 49.3	-0.5
EGFH	**Guangfu**	1.55	226	*e*S	Sn	22 50 49.8	-0.7
	baz=220						
OWD	**Renai**	1.56	240	P	Pn	22 50 29.3	-0.4
	baz=233						
OWD				S	Sn	22 50 49.7	-1.3
	baz=233						
WHP	**Taichung City**	1.62	254	*e*S	Sn	22 50 53.0	+0.8
	baz=258						
HGSD	**Ruisui**	1.68	222	*e*S	Sn	22 50 53.7	+0.4
	baz=220						
VWDT	**VWDT**	1.70	235	P	Pn	22 50 30.4	-0.7
	baz=229						
VWDT				S	Sn	22 50 53.4	-0.2
	baz=229						
NSY	**Sanyi**	1.75	260	S	Sn	22 50 55.6	+0.7
	baz=256						
TWQ1	**Liyutan**	1.76	257	S	Sn	22 50 54.7	-0.2
	baz=254						
SMLT	**Sun Moon Lake**	1.81	242	*e*P	Pn	22 50 32.8	+0.1
	baz=236						
SMLT				*e*S	Sn	22 50 57.5	+1.1
	baz=236						
SSLB	**Suanglung**	1.82	239	*e*P	Pn	22 50 32.8	+0.1
	baz=234						
SSLB				S	Sn	22 50 57.5	+1.1
	baz=234						
YULB	**Yu-li**	1.83	223	*e*P	Pn	22 50 31.4	-1.5
	baz=228						
YULB				*e*S	Sn	22 50 55.1	-1.5
	baz=228						
TYC	**Yuchr**	1.84	243	P	Pn	22 50 33.8	+0.9
	baz=243						
TYC				S	Sn	22 50 57.5	+0.8
	baz=243						
JTJ	**Tarama**	1.87	93	P	Pn	22 50 33.1	-0.1
JTJ				S	Sn	22 50 56.7	-0.6
WHYT	**Xinyi Township**	1.95	238	*e*S	Sn	22 51 01.0	+1.8
	baz=232						
CHKT	**Chengkung**	2.02	216	*e*S	Sn	22 50 59.6	-1.1
	baz=208						
ALS	**Alishan**	2.09	234	*e*P	Pn	22 50 36.8	+0.5
	baz=227						
ALS				*e*S	Sn	22 51 03.7	+1.0
	baz=227						
CHN5	**Tsauling**	2.14	238	S	Sn	22 51 04.6	+1.1
	baz=245						
JIRB	**Irabujima**	2.29	87	*e*S	Sn	22 51 06.5	-0.4
JMJ2	**Miyako jima3**	2.43	90	P	Pn	22 50 40.7	+0.3
JMJ2				*e*S	Sn	22 51 10.4	+0.3
JOGS	**Gusukube**	2.50	89	P	Pn	22 50 41.6	+0.3
JOGS				*e*S	Sn	22 51 12.3	+0.5

DJA 07 23:12:39.6±0.3, 7°S±3°×10°8E±°, h10km, M3.5/7, MLv3.5/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	0.30	131	P	Pb	23 12 46.5	-0.6
CISI				S	Sg	23 12 50.8	+1.2
LEM	**Lembang**	0.53	3	P	Pb	23 12 50.6	-0.5
LEM				S	Sb	23 12 58.3	-0.6
SKJI	**Sukabumi**	1.08	289	P	Pb	23 12 59.6	-0.9
SKJI				S	Sb	23 13 14.7	0.0
CGJI	**Cibinong**	2.02	291	P	Pb	23 13 15.2	-1.3
CGJI				S	Sn	23 13 39.8	+0.6
PWJI	**Pagerwojo**	4.23	99	P	Pn	23 13 45.4	+1.3

*IDC **08** 00:08:48.2±1.6, 12°.13N×86°.76W, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.5/33, mbtmp3.4/6, ML3.0/2, Error ellipse: s-maj=72.4km s-min=19.6km az=46.0*
*ISCJB **08** 00:08:50.0±0.7, 11°.46N±0°.05×87°.38W±0°.05, h35km, mb3.4/4, Error ellipse: s-maj=8.7km s-min=4.3km az=43.5*
*UCR **08** 00:08:52.7±3.0, 11°.59N×87°.16W, h22km±15km, MD4.2, ML3.7*

ISC 08 00:08:51.4±0.9, 11°.54N±0°.06×87°.27W±0°.08, h35km, n29, σ1§39/33, mb3.3/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	0.92	46	*e*P	Pn	00 09 08.6	+0.7
CNGN	**Cerro Negro**	1.11	30	*e*P	Pn	00 09 09.9	-0.5
MOMN	**Momotombo**	1.12	40	*e*P	Pn	00 09 11.0	+0.3
TELN	**Telica

comp=N,2.1nm,0.8s,baz=167,slow=7.3,SNR=5.5
YKA Yellowknife Ar 54.53 345 P P 00 18 14.0 -1.6
comp=N,0.2nm,0.7s,baz=144,slow=7.2,SNR=7.0
YKA PcP **PcP 00 19 18.7 +0.2**
comp=N,0.2nm,0.6s,baz=145,slow=3.9,SNR=4.6

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*IDC **08** 00:10:38.3±1.7,24°.27S×179°.95E, h506km±17km, mb3.5/10, mb1 3.8/11, mb1mx3.6/27, mbtmp4.3/11, Error ellipse: s-maj=24.0km s-min=15.1km az=145.0*
*NEIC **08** 00:10:41.5±0.7,24°.50S×179°.82E, h552km±13km, mb4.4/31, Error ellipse: s-maj=35.3km s-min=23.7km az=146.0*
ISC 08 00:10:38.0±0.6,24°.43S±0°.09×179°.9W±0°.1, h505km, n60, σ1°65/63, mb4.2/33, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.77**	**278**	P	**P**	**00 13 27.1**	**+2.2**
1.8nm,0.3s,baz=166,slow=7.7,SNR=9.3							
URZ	**Urewera**	**14.02**	**190**	*eP*	**P**	**00 13 40.2**	**+2.5**
URZ	**Urewera**	**14.02**	**190**	P	**P**	**00 13 39.7**	**+2.0**
3.4nm,0.3s,baz=278,slow=3.0,SNR=16							
URZ				S	**S**	**00 16 05.1**	**-0.8**
1.0nm,0.3s,baz=27,slow=22,SNR=10.0							
BKZ	**Black Stump Fm**	**15.01**	**191**	*eP*	**P**	**00 13 49.2**	**+1.0**
THZ	**Tophouse**	**18.30**	**197**	*eP*	**P**	**00 14 20.6**	**-0.1**
72nm,1.7s							
LTZ	**Lake Taylor**	**19.41**	**198**	*eP*	**P**	**00 14 31.1**	**+0.1**
20nm,1.0s							
OXZ	**Oxford**	**19.98**	**197**	*eP*	**P**	**00 14 35.3**	**-0.8**
30nm,0.7s							
RPZ	**Rata Peaks**	**20.62**	**199**	*eP*	**P**	**00 14 41.7**	**-0.2**
46nm,1.6s							
RPZ	**Rata Peaks**	**20.62**	**199**	P	**P**	**00 14 42.5**	**+0.6**
10nm,0.6s,baz=67,slow=2.2,SNR=11							
STKA	**Stephens Creek**	**34.61**	**249**	P	**P**	**00 16 44.5**	**+0.1**
2.0nm,0.4s,baz=92,slow=12,SNR=12							
AS31	**Alice Springs**	**42.03**	**261**	*eP*	**P**	**00 17 43.9**	**-1.2**
2.2nm,0.3s							
ASAR	**Alice Springs**	**42.04**	**261**	*eP*	**P**	**00 17 43.2**	**-1.8**
ASAR	**Alice Springs**	**42.04**	**261**	P	**P**	**00 17 44.1**	**-0.9**
2.4nm,0.4s,baz=92,slow=6.6,SNR=36							
ASAR				ScP	**ScP**	**00 22 29.7**	**-0.9**
1.3nm,0.9s,baz=129,slow=4.5,SNR=6.1							
WB2	**Warramunga Arr**	**42.45**	**267**	*eP*	**P**	**00 17 46.6**	**-1.6**
12nm,0.6s							
WRA	**Warramunga Arr**	**42.46**	**267**	*eP*	**P**	**00 17 45.8**	**-2.6**
4.4nm,0.6s							
WRA	**Warramunga Arr**	**42.46**	**267**	P	**P**	**00 17 47.0**	**-1.3**
7.0nm,0.3s,baz=100,slow=8.1,SNR=41							
WRA				ScP	**ScP**	**00 22 32.5**	**+0.1**
3.6nm,1.0s,baz=100,slow=4.2,SNR=8.5							
PETK	**Petropavlovsk-**	**79.63**	**346**	P	**P**	**00 21 51.5**	**-0.6**
0.8nm,0.5s,baz=108,slow=5.6,SNR=2.0							
USRK	**Ussuriysk Ar.**	**81.25**	**327**	P	**P**	**00 22 00.1**	**-0.6**
1.2nm,0.6s,baz=129,slow=6.8,SNR=3.2							
SLBS	**Sierra La Lagu**	**82.99**	**60**	*eP*	**P**	**00 22 10.6**	**+0.3**
70nm,1.9s							
ISA	**Isabella, Lake**	**83.32**	**46**	*eP*	**P**	**00 22 12.1**	**+0.4**
4.8nm,0.8s							
CMB	**Columbia Colle**	**83.52**	**43**	*eP*	**P**	**00 22 12.7**	**+0.2**
3.7nm,0.9s							
AFDM	**Forest Hills D**	**83.72**	**42**	*eP*	**P**	**00 22 14.4**	**+0.9**
4.2nm,1.0s							
WDC	**Whiskeytown Da**	**83.80**	**40**	*eP*	**P**	**00 22 14.4**	**+0.6**
6.5nm,1.1s							
SNAA	**Sanae**	**84.14**	**179**	P	**P**	**00 22 14.9**	**-0.3**
VNA3	**Neumayer Olymp**	**84.35**	**177**	P	**P**	**00 22 16.3**	**+0.2**
WAKR	**Walker**	**84.40**	**43**	*eP*	**P**	**00 22 18.0**	**+0.9**
14nm,1.8s							
VNA1	**Neumayer--Stat**	**85.00**	**177**	P	**P**	**00 22 17.2**	**-2.1**
NVAR	**Mina Array Bea**	**85.07**	**44**	*eP*	**P**	**00 22 20.3**	**-0.1**
NVAR	**Mina Array Bea**	**85.07**	**44**	P	**P**	**00 22 20.7**	**+0.3**
1.2nm,0.7s,baz=224,slow=8.9,SNR=10							
PINE	**Pine Mountain**	**86.75**	**38**	*eP*	**P**	**00 22 28.4**	**+0.2**
6.9nm,1.0s							
TUC	**Tucson**	**86.77**	**52**	*eP*	**P**	**00 22 28.9**	**+0.4**
7.7nm,0.9s							
319A	**Douglas**	**87.39**	**54**	*eP*	**P**	**00 22 32.1**	**+0.7**
14nm,1.1s							
LCMT	**Little Creek M**	**87.56**	**47**	*eP*	**P**	**00 22 32.5**	**+0.4**
14nm,1.8s							
I07A	**Izee**	**87.74**	**39**	*eP*	**P**	**00 22 33.4**	**+0.5**
6.7nm,0.9s							
CCUT	**Cedar City**	**87.78**	**47**	*eP*	**P**	**00 22 33.4**	**+0.1**
2.2nm,0.9s							
U15A	**North Rim**	**87.89**	**48**	*eP*	**P**	**00 22 34.1**	**+0.2**
6.8nm,1.2s							
SUA	**Susitna One**	**88.77**	**14**	*eP*	**P**	**00 22 36.1**	**-1.1**
4.9nm,0.7s							
G08A	**Pilot Rock**	**88.78**	**38**	*eP*	**P**	**00 22 38.3**	**+0.6**
7.1nm,1.2s							
MTPU	**Mount Pierson**	**88.83**	**47**	*eP*	**P**	**00 22 38.7**	**+0.4**
3.4nm,0.8s							
HLID	**Hailey**	**90.43**	**41**	*eP*	**P**	**00 22 45.6**	**+0.2**
2.6nm,1.1s							
MNTX	**Cornudas Mount**	**90.44**	**55**	*eP*	**P**	**00 22 46.4**	**+0.9**
2.5nm,0.9s							
HVU	**Hansel Valley**	**90.46**	**44**	*eP*	**P**	**00 22 46.1**	**+0.5**
3.3nm,0.7s							
SRU	**San Rafael Swe**	**90.50**	**47**	*eP*	**P**	**00 22 46.0**	**+0.1**
3.7nm,0.8s							
TX31	**Lajitas Ar. Si**	**90.64**	**58**	*eP*	**P**	**00 22 47.0**	**+0.5**
2.9nm,0.8s							
TXAR	**Lajitas Array**	**90.64**	**58**	*eP*	**P**	**00 22 47.1**	**+0.6**
TXAR	**Lajitas Array**	**90.64**	**58**	P	**P**	**00 22 47.5**	**+0.9**
2.5nm,0.8s,baz=213,slow=6.4,SNR=36							
HHC	**Hu-ho-hao-te**	**90.85**	**315**	*eP*	**P**	**00 22 47.9**	**+0.6**
ILAR	**Eielson Array**	**92.52**	**14**	P	**P**	**00 22 52.9**	**-1.4**
0.3nm,0.6s,baz=211,slow=6.1,SNR=5.8							
SMCO	**Snowmass**	**92.91**	**48**	*eP*	**P**	**00 22 56.8**	**-0.5**
6.3nm,1.6s							
PDAR	**Pinedale Array**	**93.01**	**44**	*eP*	**P**	**00 22 56.5**	**-0.8**
PDAR	**Pinedale Array**	**93.01**	**44**	P	**P**	**00 22 57.0**	**-0.4**
0.7nm,0.8s,baz=205,slow=3.1,SNR=8.6							
ARCES	**ARCESS Array B**	**132.42**	**348**	PKP	**PKPdf**	**00 28 53.4**	**-0.4**
2.8nm,0.8s,baz=57,slow=3.3,SNR=4.1							
FINES	**FINESS Array B**	**138.97**	**341**	PKhKP	PKPpre	00 28 55.0	
0.4nm,0.3s,baz=29,slow=4.4,SNR=5.7							
FINES				PKP	**PKPdf**	**00 29 06.0**	**-0.1**
1.4nm,0.7s,baz=82,slow=2.9,SNR=5.3							
FINES				SKPbc	**SKPbc**	**00 31 51.5**	**-1.9**
1.2nm,0.5s,baz=19,slow=4.6,SNR=10							
NB2	**NORSAR Subarra**	**142.61**	**351**	PKP	PKPpre	00 29 07.4	
comp=Z,0.3nm,0.6s,baz=12,slow=3.0							
NOA	**NORSAR Array B**	**142.61**	**351**	PKhKP	PKPpre	00 29 07.9	
comp=Z,0.9nm,0.8s,baz=16,slow=4.7,SNR=5.4							
AKASG	**Malin Array Be**	**145.46**	**327**	PKPbc	**PKPdf**	**00 29 17.6**	**-0.3**
comp=Z,0.5nm,0.3s,baz=39,slow=3.7,SNR=7.8							
BRTR	**Keskin Array B**	**147.96**	**307**	PKPbc	**PKPbc**	**00 29 25.3**	**-1.2**
comp=Z,0.6nm,0.6s,baz=144,slow=4.5,SNR=5.0							
KOLS	**Kolonicke sedl**	**149.97**	**330**	*e*PKP	**PKPbc**	**00 29 30.4**	**-0.5**
CLL	**Collm**	**151.38**	**343**	*e*PKPbc	**PKPbc**	**00 29 32.9**	**-1.2**
CLL	**Collm**	**151.38**	**343**	⇓*i*PKPbc	**PKPbc**	**00 29 33.3**	**-0.8**
comp=Z,5.0nm,0.7s							
CLL				*e*PKPab	**pPKPab**	**00 31 48.0**	**+10**

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*IDC **08** 00:27:49.0±0.9,19°.41S×174°.87E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.3/24, mbtmp4.2/10, ML4.1/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/26, Error ellipse: s-maj=35.0km s-min=21.3km az=153.0*
*ISCJB **08** 00:27:52.8±0.3,19°.58S±0°.08×174°.77E±0°.08, h33km, mb4.8/68, MS3.7/7, Error ellipse: s-maj=13.2km s-min=9.0km az=143.1*
*BJI **08** 00:27:53.1±0.0,20°.20S×174°.42E, h42km, mb4.8/11, mB4.9/5, Ms5.2/3, Ms7 4.9/2*
*NEIC **08** 00:27:59.8±3.1,19°.63S×174°.73E, h85km±28km, mb4.8/54, Error ellipse: s-maj=12.3km s-min=6.4km az=165.0*
ISC 08 00:27:53.8±0.5,19°.6S±0°.1×174°.9E±0°.1, h35km, n138, σ0°95/130, mb4.9/68, MS3.6/8, 13C-6D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**17.62**	**303**	LR	LR	00 37 09.1	
comp=Z,116nm,20.3s,baz=138,slow=32							
URZ	**Urewera**	**18.68**	**174**	P	**Pn**	**00 32 11.7**	**+2.3**
0.6nm,0.3s,baz=327,slow=11,SNR=4.0							
URZ				LR	LR	00 37 20.6	
comp=Z,290nm,20.5s,baz=9.0,slow=30							
LTZ	**Lake Taylor**	**23.20**	**185**	*eP*	**P**	**00 32 57.8**	**+0.2**
72nm,1.6s							
RPZ	**Rata Peaks**	**24.24**	**187**	LR	LR	00 41 20.2	
comp=Z,248nm,18.3s,baz=342,slow=33							
STKA	**Stephens Creek**	**32.23**	**241**	LR	LR	00 46 04.5	
comp=Z,92nm,19.1s,baz=195,slow=34							
WRA	**Warramunga Arr**	**38.07**	**262**	P	**P**	**00 35 09.3**	**-0.1**
1.7nm,0.3s,baz=84,slow=8.5,SNR=4.0							
AS31	**Alice Springs**	**38.20**	**256**	*eP*	**P**	**00 35 10.8**	**+0.4**
3.0nm,0.9s							
ASAR	**Alice Springs**	**38.20**	**256**	*eP*	**P**	**00 35 10.0**	**-0.4**
ASAR	**Alice Springs**	**38.20**	**256**	P	**P**	**00 35 10.6**	**+0.2**
7.0nm,0.9s,baz=86,slow=8.8,SNR=34							
VNDA	**Vanda**	**58.30**	**183**	LR	LR	00 58 16.9	
comp=Z,46nm,21.9s,baz=356,slow=31							
MJAR	**Matsushiro Arr**	**65.72**	**328**	P	**P**	**00 38 35.0**	**0.0**
1.0nm,0.3s,baz=167,slow=7.4,SNR=5.7							
MJAR				LR	LR	01 03 09.6	
comp=Z,17nm,21.9s,baz=15,slow=32							
QSPA	**South Pole Qui**	**70.44**	**180**	*eP*	**P**	**00 39 04.4**	**0.0**
23nm,1.5s							
KSRS	**Korea Array**	**71.94**	**322**	LR	LR	01 06 06.2	
comp=Z,9.8nm,21.1s,baz=145,slow=32							
NJ2	**Nanjing**	**74.26**	**313**	*eP*	**P**	**00 39 28.0**	**+0.5**
NJ2				pmax	pmax		
comp=Z,9.0nm,0.5s							
KMRM	**Mail Ridge**	**82.50**	**43**	*eP*	**P**	**00 40 14.5**	**+1.6**
40nm,1.5s							
WDC	**Whiskeytown Da**	**83.44**	**43**	*eP*	**P**	**00 40 18.6**	**+0.9**
8.2nm,1.3s							
CMB	**Columbia Colle**	**83.52**	**46**	*eP*	**P**	**00 40 18.7**	**+0.4**
12nm,1.4s							
CMAR	**Chiang Mai Arr**	**83.53**	**292**	*eP*	**P**	**00 40 19.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**83.53**	**292**	P	**P**	**00 40 20.3**	**+1.6**
2.1nm,0.8s,baz=118,slow=3.8,SNR=15							
AFDM	**Forest Hills D**	**83.60**	**45**	*eP*	**P**	**00 40 18.9**	**+0.2**
7.6nm,1.2s							
ISA	**Isabella, Lake**	**83.66**	**49**	*eP*	**P**	**00 40 19.7**	**+0.6**
15nm,1.5s							
CMMT	**Chiang Mai**	**83.67**	**292**	P	**P**	**00 40 21.4**	**+2.0**
1.4nm,0.5s							
CHTO	**Chiang Mai**	**83.67**	**292**	*eP*	**P**	**00 40 20.7**	**+1.3**
13nm,1.5s							
YBH	**Yreka Blue Hor**	**83.95**	**42**	*eP*	**P**	**00 40 21.4**	**+0.9**
17nm,1.6s							
HHC	**Hu-ho-hao-te**	**84.04**	**317**	*eP*	**P**	**00 40 22.3**	**+1.4**
HHC				S	**S**	**00 50 41.5**	**-1.5**
HHC				pmax	pmax		
comp=Z,55nm,1.3s							
HHC				pmax	pmax		
comp=Z,220nm,7.1s							
HHC				LR	LR		
comp=N,590nm,17.1s							
HHC				LR	LR		
comp=E,690nm,16.7s							
HHC				LR	LR		
comp=Z,600nm,17.2s							
MDPB	**Devils Postpil**	**84.21**	**47**	*eP*	**P**	**00 40 22.1**	**0.0**
13nm,1.2s							
OMMB	**Old Mammoth Mi**	**84.26**	**47**	*eP*	**P**	**00 40 23.1**	**+0.7**
10nm,1.3s							
HUMO	**Hull Mountain**	**84.28**	**41**	*eP*	**P**	**00 40 23.0**	**+1.1**
10nm,1.3s							
WAKR	**Walker**	**84.41**	**46**	*eP*	**P**	**00 40 23.6**	**+0.6**
22nm,1.5s							
BEKR	**Beckworth**	**84.48**	**44**	*eP*	**P**	**00 40 23.8**	**+0.5**
17nm,1.6s							
PNTR	**Pine Nut**	**84.59**	**45**	*eP*	**P**	**00 40 25.1**	**+1.2**
8.8nm,0.9s							
CD2	**Chengdu**	**84.74**	**305**	*eP*	**P**	**00 40 24.5**	**-0.1**
CD2				pmax	pmax		
comp=Z,10.0nm,0.5s							
PAHR	**Pah Rah Range**	**85.05**	**45**	*eP*	**P**	**00 40 26.7**	**+0.6**
17nm,1.6s							
NVAR	**Mina Array Bea**	**85.14**	**46**	*eP*	**P**	**00 40 26.1**	**-0.6**
NVAR	**Mina Array Bea**	**85.14**	**46**	P	**P**	**00 40 26.9**	**+0.2**
1.6nm,0.7s,baz=229,slow=8.2,SNR=9.8							
NV11	**Mina Array Sit**	**85.24**	**46**	*eP*	**P**	**00 40 27.6**	**+0.5**
1.2nm,1.6s							
MOD	**Modoc Plateau**	**85.57**	**43**	*eP*	**P**	**00 40 29.3**	**+0.6**
20nm,1.6s							
KVN	**Kaiserville**	**85.58**	**46**	*eP*	**P**	**00 40 29.2**	**+0.4**
10nm,1.5s							
K05A	**Summer Lake**	**85.63**	**42**	*eP*	**P**	**00 40 29.7**	**+0.7**
31nm,1.5s							
113A	**Mohawk Valley,**	**85.76**	**53**	*eP*	**P**	**00 40 30.9**	**+1.3**
9.7nm,1.4s							
LDFC	**Landfair**	**85.80**	**51**	*eP*	**P**	**00 40 31.0**	**+1.1**
17nm,0.4s							
PINE	**Pine Mountain**	**86.16**	**41**	*eP*	**P**	**00 40 32.5**	**+0.9**
24nm,1.5s							
SHPR	**Sheep Range**	**86.42**	**49**	*eP*	**P**	**00 40 33.9**	**+0.9**
9.1nm,1.6s							
W13A	**Hualapai Mount**	**86.71**	**51**	*eP*	**P**	**00 40 35.1**	**+0.6**
2.5nm,1.0s							
CAST	**Castle Rocks**	**86.71**	**14**	*eP*	**P**	**00 40 32.7**	**-0.9**
1.7nm,1.4s							
BMN	**Battle Mountai**	**86.85**	**45**	*eP*	**P**	**00 40 35.7**	**+0.6**
15nm,1.6s							
WVOR	**Wild Horse Val**	**86.91**	**43**	*eP*	**P**	**00 40 36.5**	**+1.3**
11nm,1.5s							
I07A	**Izee**	**87.19**	**41**	*eP*	**P**	**00 40 37.3**	**+0.7**
14nm,1.6s							
LCMT	**Little Creek M**	**88.02**	**50**	*eP*	**P**	**00 40 41.5**	**+0.8**
2.6nm,0.9s							
G08A	**Pilot Rock**	**88.14**	**40**	*eP*	**P**	**00 40 41.2**	**+0.1**
19nm,1.6s							
X16A	**Lo Mia Camp, P**	**88.22**	**53**	*eP*	**P**	**00 40 43.0**	**+1.2**
6.0nm,1.1s							
ELK	**Elko**	**88.33**	**46**	*eP*	**P**	**00 40 42.7**	**+0.5**
2.2nm,1.0s							
U15A	**North Rim**	**88.45**	**50**	*eP*	**P**	**00 40 43.6**	**+0.6**
24nm,2.0s							
PKCU	**Pink Cliffs**	**88.88**	**50**	*eP*	**P**	**00 40 47.2**	**+2.2**
37nm,1.8s							
BMO	**Blue Mountains**	**88.94**	**41**	*eP*	**P**	**00 40 45.0**	**+0.2**
14nm,1.8s							
ILAR	**Eielson Array**	**89.10**	**15**	P	**P**	**00 40 43.1**	**-1.8**
0.7nm,0.7s,baz=230,slow=4.7,SNR=9.3							
ILAR				LR	LR	01 13 53.2	
comp=Z,41nm,20.9s,baz=7.0,slow=31							
BCAR	**Beaver Creek A**	**89.14**	**18**	*eP*	**P**	**00 40 43.7**	**-1.5**
MTPU	**Mount Pierson**	**89.23**	**49**	*eP*	**P**	**00 40 48.2**	**+1.5**
21nm,1.8s							
VNA3	**Neumayer Olymp**	**89.32**	**179**	P	**P**	**00 40 43.5**	**-2.7**
B08A	**Colville Reser**	**89.48**	**37**	*eP*	**P**	**00 40 47.2**	**0.0**
7.4nm,1.3s							
VNA1	**Neumayer--Stat**	**89.95**	**179**	P	**P**	**00 40 45.8**	**-3.2**
HLID	**Hailey**	**90.17**	**43**	*eP*	**P**	**00 40 51.1**	**+0.4**
1.7nm,0.9s							
Q16A	**Castle Valley**	**90.32**	**49**	*eP*	**P**	**00 40 53.0**	**+1.5**
27nm,1.6s							
HVU	**Hansel Valley**	**90.45**	**45**	*eP*	**P**	**00 40 52.9**	**+0.8**
7.1nm,1.1s							
TMUT	**Trail Mountain**	**90.46**	**48**	*eP*	**P**	**00 40 53.4**	**+1.1**
8.9nm,0.6s							
SPUT	**South Promonto**	**90.46**	**46**	*eP*	**P**	**00 40 52.8**	**+0.7**
6.0nm,1.2s							
EGAK	**Eagle**	**90.62**	**17**	*eP*	**P**	**00 40 51.7**	**-0.4**
17nm,1.7s							
SRU	**San Rafael Swe**	**90.86**	**49**	*eP*	**P**	**00 40 54.7**	**+0.7**
7.6nm,1.1s							
PV09	**Paradox Valley**	**91.60**	**50**	*eP*	**P**	**00 40 58.4**	**+0.7**
PV14	**Lion Creek, Pa**	**91.63**	**50**	*eP*	**P**	**00 40 58.4**	**+0.6**
8.8nm,1.2s							
PV03	**Paradox Valley**	**91.71**	**50**	*eP*	**P**	**00 40 58.5**	**+0.4**
3.9nm,1.1s							
PV21	**Cone Mtn., Par**	**91.74**	**50**	*eP*	**P**	**00 40 59.1**	**+0.9**
8.8nm,1.1s							
MNTX	**Cornudas Mount**	**91.81**	**57**	*eP*	**P**	**00 40 59.0**	**+0.6**
12nm,1.8s							
ANMO	**Albuquerque**	**92.19**	**54**	*eP*	**P**	**00 41 00.5**	**+0.1**
4.1nm,1.0s							
TXAR	**Laas Array**	**92.32**	**60**	P	**P**	**00 41 01.8**	**+0.9**
1.5nm,0.8s,baz=224,slow=5.2,SNR=12							
REDW	**Red Top Meadow**	**92.41**	**45**	*eP*	**P**	**00 41 02.0**	**+0.8**
5.4nm,1.2s							
IMW	**Indian Meadow**	**92.58**	**44**	*eP*	**P**	**00 41 02.9**	**+0.9**
9.4nm,1.6s							
S22A	**4UR Ranch, Cre**	**92.98**	**51**	*eP*	**P**	**00 41 04.8**	**+0.8**
11nm,1.5s							
PDAR	**Pinedale Array**	**93.03**	**46**	P	**P**	**00 41 03.7**	**-0.4**
0.4nm,0.6s,baz=223,slow=3.3,SNR=6.8							
INK	**Inuvik**	**95.29**	**17**	*eP*	**P**	**00 41 13.8**	**+0.3**
9.6nm,1.5s							
YKA	**Yellowknife Ar**	**98.61**	**26**	P	**P**	**00 41 28.4**	**-0.2**
0.1nm,0.5s,baz=251,slow=4.8,SNR=4.6							
WMQ	**Urumqi**	**101.34**	**312**	*eP*	**Pdif**	**00 41 41.7**	**+0.3**
WMQ				LR	LR		
comp=N,910nm,39.2s							
WMQ				LR	LR		
comp=Z,370nm,25.1s							
BIZ	**Bicaz**	**142.69**	**324**	⇑*i*P	**PKPdf**	**00 47 20.5**	**-2.8**
BURAR	**Bucovina Array**	**142.76**	**326**	⇑*i*P	**PKPdf**	**00 47 25.0**	**+1.5**
MLR	**Muntele Rosu**	**143.62**	**322**	*e*PKPdf	PKPbc	00 47 23.5	+0.8
MLR	**Muntele Rosu**	**143.62**	**322**	⇑*i*P	PKPbc	00 47 23.4	+0.8
DOPR	**Dopca**	**143.66**	**323**	⇓*i*P	PKPbc	00 47 23.6	+1.0
VOIR		**144.17**	**323**	⇓*i*P	PKPbc	00 47 24.7	+0.5
CJR	**Cluj-Napoca**	**144.19**	**326**	⇑*i*P	PKPbc	00 47 24.7	+0.5
DRGR		**144.61**	**326**	⇑*i*P	PKPbc	00 47 25.5	0.0
PHSR	**Pinarhisar**	**144.67**	**316**	⇑*i*P	PKPbc	00 47 26.0	+0.2
HUMR	**Humele**	**144.73**	**322**	⇓*i*P	**PKPab**	**00 47 24.8**	**-1.0**
LOT	**Lotru**	**144.88**	**324**	⇑*i*P	**PKPab**	**00 47 26.1**	**-0.4**
PSZ	**Piszkesteto**	**145.24**	**330**	*e*PKPbc	**PKPbc**	**00 47 27.4**	**-0.1**
CLL	**Collm**	**145.30**	**340**	*e*PKPbc	**PKPbc**	**00 47 27.0**	**-0.5**
CLL	**Collm**	**145.30**	**340**	⇑*i*PKPdf	**PKPbc**	**00 47 27.5**	**0.0**
comp=Z,51nm,1.7s							
CLL				*i* PKiKP	**PKiKP**	**00 47 32.7**	**+1.1**
comp=Z,13nm,0.8s							
VYHS	**Vyhne**	**145.30**	**332**	*e*PKP	**PKPdf**	**00 47 28.0**	**+0.2**
BZS	**Buzias**	**145.95**	**326**	⇓*i*P	**PKPdf**	**00 47 26.2**	**-2.8**
BZS	**Buzias**	**145.95**	**326**	⇓*i*P	**PKPbc**	**00 47 29.5**	**-0.2**
MODS	**Modra-Piesok**	**146.08**	**333**	*e*PKP	**PKPbc**	**00 47 30.3**	**+0.2**
VTS	**Vitosha**	**146.87**	**320**	*e*PKPbc	**PKPab**	**00 47 34.0**	**-0.1**
KHC	**Kasperske Hory**	**146.94**	**337**	*e*PKPbc	**PKPbc**	**00 47 32.3**	**-0.3**
CONA	**Conrad Observa**	**147.02**	**334**	*e*PKPab	**PKPbc**	**00 47 33.2**	**+0.3**
comp=Z,16nm,1.7s,SNR=6.3							
GEC2	**GERESS Array S**	**147.13**	**337**	*e*PKPbc	**PKPbc**	**00 47 32.9**	**-0.3**
GERES	**GERESS Array B**	**147.13**	**337**	*e*PKPbc	**PKPbc**	**00 47 32.9**	**-0.3**
GERES	**GERESS Array B**	**147.13**	**337**	PKPbc	**PKPbc**	**00 47 32.4**	**-0.8**
comp=Z,2.4nm,0.6s,baz=36,slow=2.5,SNR=23							
ARSA	**Arzberg**	**147.69**	**333**	*e*PKPbc	**PKPbc**	**00 47 34.1**	**-0.6**
comp=Z,1.4nm,0.7s							
MOA	**Molln**	**147.73**	**335**	*e*PKPbc	**PKPbc**	**00 47 34.8**	**0.0**
comp=Z,5.7nm,1.3s							
MEM	**Membach**	**147.84**	**347**	⇓PKPbc	**PKPbc**	**00 47 34.9**	**-0.1**
PERS	**Pernice**	**148.35**	**333**	*i* PKPdf	**PKPbc**	**00 47 35.6**	**-1.0**
SOKA	**Soboth**	**148.35**	**333**	*i* PKPbc	**PKPbc**	**00 47 35.7**	**-0.9**
DOU	**Dourbes**	**148.62**	**348**	⇑PKPbc	**PKPbc**	**00 47 36.6**	**-0.3**
DOU				⇑pKPKPbc	**pPKPbc**	**00 47 47.8**	**+0.5**
WLF	**Walferdange**	**148.69**	**346**	⇑PKPbc	**PKPbc**	**00 47 37.8**	**+0.6**
OBKA	**Obir**	**148.69**	**333**	*e*PKPbc	**PKPbc**	**00 47 36.4**	**-1.0**
comp=Z,4.3nm,0.9s							
KBA	**Koelnbreinsper**	**148.72**	**335**	*e*PKPbc	**PKPbc**	**00 47 36.5**	**-1.2**
comp=Z,1.6nm,0.6s							
BLY	**Banja Luka**	**148.82**	**328**	*e*PKPbc	**PKPbc**	**00 47 37.4**	**-0.3**
BLY	**Banja Luka**	**148.82**	**328**	⇑*i*P	**PKPbc**	**00 47 37.9**	**+0.2**
MYKA	**Terra Mystica**	**148.97**	**335**	*i* PKPbc	**PKPbc**	**00 47 37.1**	**-1.0**
comp=Z,4.3nm,0.9s							
FNA	**Florina**	**149.06**	**319**	*e*PKPbc	**PKPbc**	**00 47 37.8**	**-0.7**
VISS	**Visnje**	**149.12**	**332**	*i* PKPdf	**PKPbc**	**00 47 38.2**	**-0.3**
BOJS	**Bojanci**	**149.17**	**331**	*i* PKPdf	**PKPbc**	**00 47 38.3**	**-0.3**
WATA	**Walderalm**	**149.18**	**338**	*e*PKiKP	**PKPbc**	**00 47 38.6**	**-0.1**
comp=Z,1.8nm,0.5s							
WTTA	**Wattenberg**	**149.22**	**337**	*i* PKiKP	**PKPbc**	**00 47 38.6**	**-0.2**
comp=Z,14nm,1.5s							
PDG	**Podgorica**	**149.31**	**323**	⇑*i*P	**PKPbc**	**00 47 38.4**	**-0.6**
TTG	**Podgorica**	**149.31**	**323**	*e*PKPbc	**PKPbc**	**00 47 38.2**	**-0.8**
ABTA	**Abfaltersbach**	**149.32**	**336**	*e*PKPbc	**PKPbc**	**00 47 38.0**	**-1.0**
comp=Z,1.9nm,0.6s							
RETA	**Reutte**	**149.33**	**339**	*e*PKPbc	**PKPbc**	**00 47 38.6**	**-0.5**
comp=Z,1.4nm,0.6s							
MOTA	**Moosalm**	**149.34**	**338**	*i* PKPbc

MURB				AML	AML		
	comp=E,42μm,1.4s						
MURB	**Monte Urbino**	**0.19**	**161**	P	Pg	00 45 14.5	+0.8
NARO	**Abbazia di Nar**	**0.20**	**31**	P	Pg	00 45 13.9	+0.1
NARO	**Abbazia di Nar**	**0.20**	**31**	P	Pg	00 45 14.0	+0.2
NARO				S	Sg	00 45 17.3	+0.8
NARO	**Abbazia di Nar**	**0.20**	**31**	S	Sg	00 45 17.6	+1.2
PE3	**Peglio**	**0.26**	**9**	P	Pb	00 45 16.4	-0.4
PE3				S	Sb	00 45 20.7	-0.7
PE3	**Peglio**	**0.26**	**9**	P	Pb	00 45 16.4	-0.4
MPAG	**Monte Paganucc**	**0.30**	**51**	P	Pg	00 45 15.9	+0.2
MPAG	**Monte Paganucc**	**0.30**	**51**	P	Pg	00 45 16.0	+0.3
MPAG				S	Sg	00 45 21.1	+1.5
MPAG	**Monte Paganucc**	**0.30**	**51**	P	Pg	00 45 16.1	+0.4

*SKHL **08** 00:46:01.2±0.5, 48°.29N×141°.06E, h10km, mb4.5/10*
SKHL Felt (II-III) at Uglegorsk.
*MOS **08** 00:46:02.4±3.1, 48°.22N×141°.44E, h12km, mb4.0/9, Error ellipse: s-maj=11.5km s-min=6.4km az=91.6*
MOS Felt (II-III) at Uglegorsk.
*IDC **08** 00:46:03.9±0.8, 47°.78N×141°.33E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.6/49, mbtmp3.7/12, ML1.9/1, MS2.5/3, Ms1 2.5/3, ms1mx2.3/36, Error ellipse: s-maj=24.7km s-min=16.4km az=140.0*
*NEIC **08** 00:46:06.2±0.4, 47°.96N×141°.36E, h10km, mb4.2/4, Error ellipse: s-maj=12.5km s-min=7.8km az=90.0*

ISC 08 00:46:05.0±0.5, 47°.85N±0°.04×141°.38E±0°.04, h10km, n58, σ2°66/54, mb3.9/17, 9C-5D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.29**	**133**	*e*Pn	**Pg**	**00 46 30.9**	**+1.2**
YSS	**Yuzh-Sakhalins**	**1.29**	**133**	⇑*i*PN	**Pg**	**00 46 31.8**	**+2.0**
YSS				*e*		00 46 53.2	
YSS				pmax	pmax		
	comp=Z,150nm,0.3s						
YSS				smax	smax		
	comp=N,610nm,0.8s						
YSS				smax	smax		
	comp=E,400nm,0.4s						
YSS	**Yuzh-Sakhalins**	**1.29**	**133**	⇑*i*P	**Pg**	**00 46 31.7**	**+2.0**
YSS				AMB	AMB	00 46 31.9	
	comp=E,180nm,0.4s						
YSS				*e*Pg	Pb	00 46 35.3	+5.9
YSS				AMB	AMB	00 46 36.3	
	comp=E,90nm,0.5s						
YSS				*e*Sb	**Sn**	**00 46 53.8**	**+7.4**
YSS				A	A	00 46 54.6	
	comp=E,450nm,0.4s						
YSS				A	A	00 46 54.6	
	comp=E,400nm,0.4s						
YSS				AMS	AMS	00 47 23.6	
	comp=E,500nm,15.0s						
UGL	**Uglegorsk**	**1.31**	**20**	⇓*i*PN	Pn	00 46 21.7	-7.7
UGL				*i* S	Sb	00 46 35.3	-11
UGL				pmax	pmax		
	comp=Z,2μm,0.4s						
UGL				smax	smax		
	comp=E,15μm,0.6s						
UGL				smax	smax		
	comp=E,18μm,0.4s						
UGL	**Uglegorsk**	**1.31**	**20**	⇓*i*Pg	Pn	00 46 21.6	-7.8
UGL				AMB	AMB	00 46 21.8	
	comp=E,1μm,0.2s						
UGL				*i* Sg	Sb	00 46 35.5	-11
UGL				A	A	00 46 35.7	
	comp=E,29μm,0.5s						
UGL				A	A	00 46 35.7	
	comp=E,18μm,0.5s						
UGL				A	A	00 46 36.5	
	comp=E,15μm,0.6s						
TYV	**Tymovskoe**	**3.13**	**15**	*e*PN	**Pn**	**00 46 52.5**	**-1.9**
TYV				pmax	pmax		
	comp=Z,68nm,0.4s						
TYV	**Tymovskoe**	**3.13**	**15**	*e*P	Pn	00 46 47.3	-7.1
TYV				AMB	AMB	00 46 52.6	
	comp=Z,68nm,0.4s						
TYV				*e*Pg	**Pb**	**00 46 57.0**	**-3.7**
TYV				AMB	AMB	00 47 01.2	
	comp=Z,140nm,0.6s						
TYV				*e*S	Sn	00 47 19.4	-12
TYV				*e*Sg	**Sb**	**00 47 36.4**	**-2.5**
TYV				A	A	00 47 42.0	
	comp=Z,400nm,0.7s						
ASAJ	**Asahikawa**	**3.83**	**167**	Pn	**Pb**	**00 47 08.7**	**-3.9**
	comp=Z,3.0nm,0.3s,baz=28,slow=17,SNR=5.4						
ASAJ				Lg	Lg	00 48 09.1	
	baz=102,slow=20,SNR=4.3						
TEY	**Ternei**	**4.33**	**231**	⇑*e*PN	**Pn**	**00 47 11.4**	**+0.5**
TEY				*e*S	**Sb**	**00 48 08.7**	**-4.8**
TEY				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TEY				smax	smax		
	comp=E,60nm,0.6s						
TEY				smax	smax		
	comp=N,30nm,0.5s						
TEY	**Ternei**	**4.33**	**231**	⇑*e*P	**Pn**	**00 47 11.4**	**+0.5**
TEY				AMB	AMB	00 47 11.6	
	comp=N,10.0nm,0.9s						
TEY				*e*Pg	**Pg**	**00 47 29.7**	**+1.7**
TEY				AMB	AMB	00 47 31.4	
	comp=N,40nm,0.7s						
TEY				*e*S	**Sn**	**00 48 01.9**	**+0.5**
TEY				A	A	00 48 09.1	
	comp=N,30nm,0.6s						
TEY				A	A	00 48 09.1	
	comp=N,60nm,0.6s						
TEY				*e*Sg	**Sg**	**00 48 29.7**	**+5.6**
TEY				A	A	00 48 34.7	
	comp=N,100nm,0.5s						
GRNR	**Gornyy**	**4.37**	**314**	*e*PN	Pn	00 47 03.1	-8.2
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
GRNR	**Gornyy**	**4.37**	**314**	*e*P	Pn	00 47 03.2	-8.1
GRNR				AMB	AMB	00 47 03.8	
	comp=Z,42nm,1.0s						
GRNR				*e*Pg	**Pb**	**00 47 18.0**	**-3.7**
GRNR				*e*Sg	**Sn**	**00 48 05.3**	**+3.1**
YUK	**Yuzh-Kuril'sk**	**4.93**	**139**	⇓*e*PN	**Pn**	**00 47 18.5**	**-0.5**
KUR	**Kuril'sk**	**5.18**	**118**	⇑*e*PN	**Pn**	**00 47 21.0**	**-1.5**
NKL	**Nikolayevsk**	**5.33**	**355**	*e*PN	Pn	00 47 15.0	-9.5
NKL				*e*S	**Sn**	**00 48 27.4**	**+1.5**
NKL				pmax	pmax		
	comp=N,9.0nm,0.7s						
NKL				pmax	pmax		
	comp=Z,27nm,0.7s						
NKL				smax	smax		
	comp=N,94nm,0.5s						
NKL				smax	smax		
	comp=E,39nm,0.5s						
NKL	**Nikolayevsk**	**5.33**	**355**	*e*P	Pn	00 47 16.5	-8.0
NKL				AMB	AMB	00 47 17.0	
	comp=E,27nm,0.7s						
NKL				*e*Pg	**Pb**	**00 47 37.8**	**-0.3**
NKL				AMB	AMB	00 47 39.0	
	comp=E,50nm,0.7s						
KLR	**Kul'dur**	**6.54**	**286**	⇓*e*PN	Pn	00 47 35.2	-6.0
KLR	**Kul'dur**	**6.54**	**286**	Pn	Pn	00 47 35.8	-5.4
	comp=E,0.5nm,0.3s,baz=108,slow=14,SNR=5.8						
KLR				Lg	Lg	00 49 19.7	
	comp=E,4.6nm,0.3s,baz=183,slow=23,SNR=7.4						
KLR				LR	LR	00 49 46.2	
	comp=E,34nm,18.8s,baz=56,slow=34						
USRK	**Ussuriysk Ar.**	**7.48**	**244**	Pn	**Pn**	**00 47 52.5**	**-1.6**
	comp=E,0.2nm,0.3s,baz=50,slow=14,SNR=2.8						
USRK				Lg	Lg	00 49 58.4	
	comp=E,1.0nm,0.3s,baz=58,slow=36,SNR=4.4						
USRK				LR	LR	00 50 57.8	
	comp=E,58nm,20.7s,baz=43,slow=40						
EKMR	**Ekimchan**	**7.50**	**317**	*e*P	Pn	00 47 47.0	-7.3
EKMR				*e*Pg	**Pb**	**00 48 18.0**	**+2.9**
EKMR				AMB	AMB	00 48 18.9	
	comp=E,7.0nm,0.5s						
EKMR				*e*Sg	**Sb**	**00 49 53.0**	**+8.5**
EKMR				A	A	00 49 58.4	
	comp=E,55nm,0.7s						
EKMR				A	A	00 49 58.4	
	comp=E,32nm,0.7s						
EKMR				A	A	00 49 58.4	
	comp=E,31nm,0.7s						
MSHR	**Mys Shultsa**	**8.93**	**238**	⇑*e*PN	**Pn**	**00 48 13.1**	**-0.8**
BMKR	**Bomnak**	**10.43**	**316**	*e*P	Pn	00 48 26.7	-7.7
BMKR				*e*Sg	Sn	00 51 22.8	+52
BMKR				A	A	00 51 29.6	
	comp=E,10.0nm,0.5s						
ZEA	**Zeya**	**10.70**	**309**	*e*Sg	Sn	00 51 35.0	+57
ZEA				A	A	00 51 37.0	
	comp=E,90nm,1.0s						
MAJO	**Matsushiro**	**11.54**	**193**	*e*Pn	Pn	00 48 54.0	+4.3
MAJO	**Matsushiro**	**11.54**	**193**	*e*PN	Pn	00 48 54.0	+4.3
MJAR	**Matsushiro Arr**	**11.54**	**193**	PN	Pn	00 48 54.0	+4.3
MJAR	**Matsushiro Arr**	**11.54**	**193**	Pn	Pn	00 48 54.0	+4.3
	comp=E,0.1nm,0.3s,baz=9,4,slow=13,SNR=2.9						
KSRS	**Korea Array**	**14.33**	**228**	LR	LR	00 54 12.5	
	comp=E,13nm,19.6s,baz=30,slow=34						
HIA	**Hailar**	**14.39**	**284**	⇓*e*P	**Pn**	**00 49 25.6**	**-3.1**
BILL	**Bilibino**	**23.84**	**23**	⇑*e*P	**P**	**00 51 17.4**	**-0.5**
BILL				*e*		00 51 24.6	
BILL				*e*		00 51 42.1	
BILL				*e*PPP	PPP	00 51 51.9	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TIXI	**Tiksi**	**24.59**	**351**	⇑*e*P	**P**	**00 51 20.1**	**-4.6**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAK	**Zakamensk**	**24.89**	**290**	*e*P	**P**	**00 51 27.1**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
DGZ	**Jazzator, Alta**	**34.96**	**294**	⇑*e*P	**P**	**00 52 52.5**	**-4.7**
MK32	**Makanchi Array**	**39.22**	**291**	*e*P	**P**	**00 53 34.3**	**+1.1**
MKAR	**Makanchi Array**	**39.22**	**291**	P	**P**	**00 53 34.3**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=74,slow=7.5,SNR=4.7						
ILAR	**Eielson Array**	**40.69**	**39**	P	**P**	**00 53 45.9**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=271,slow=8.0,SNR=7.8						
ILB	**Eielson Array**	**40.69**	**39**	*e*P	**P**	**00 53 45.9**	**+0.8**
	comp=Z,3.3nm,0.9s						
INK	**Inuvik**	**44.97**	**32**	*e*P	**P**	**00 54 21.1**	**+1.4**
	comp=Z,8.1nm,1.8s						
INK	**Inuvik**	**44.97**	**32**	P	**P**	**00 54 21.1**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=300,slow=6.0,SNR=6.2						
YKA	**Yellowknife Ar**	**54.63**	**34**	P	**P**	**00 55 34.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=306,slow=7.0,SNR=12						
YKB5	**Yellowknife Ar**	**54.63**	**34**	*e*P	**P**	**00 55 34.1**	**+0.9**
GEYT	**Alibeck**	**59.01**	**294**	P	**P**	**00 56 07.2**	**+2.4**
	comp=Z,634nm,0.4s,baz=39,slow=9.3,SNR=3.4						
FIA0	**FINESS Array S**	**59.34**	**330**	*e*P	**P**	**00 56 07.2**	**+0.5**
FIA0	**FINESS Array S**	**59.34**	**330**	*e*P	**P**	**00 56 07.2**	**+0.5**
FINES	**FINESS Array B**	**59.34**	**330**	P	**P**	**00 56 07.2**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=76,slow=8.0,SNR=8.0						
KIV	**Kislovodsk**	**64.04**	**307**	*e*P	**P**	**00 56 35.0**	**-3.8**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NB2	**NORSAR Subarra**	**64.27**	**336**	P	**P**	**00 56 40.2**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=32,slow=6.2						
NB200	**NORSAR Array S**	**64.27**	**336**	*e*P	**P**	**00 56 39.9**	**0.0**
NOA	**NORSAR Array B**	**64.27**	**336**	P	**P**	**00 56 39.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=33,slow=6.3,SNR=4.5						
HFS	**Hagfors**	**64.29**	**334**	P	**P**	**00 56 40.0**	**0.0**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**64.29**	**334**	P	**P**	**00 56 40.0**	**0.0**
	comp=Z,1.2nm,0.6s,baz=45,slow=4.3,SNR=4.5						
WR1	**Warramunga Arr**	**67.77**	**187**	*e*P	**P**	**00 57 02.8**	**0.0**
WRA	**Warramunga Arr**	**67.77**	**187**	P	**P**	**00 57 02.8**	**0.0**
	comp=Z,0.5nm,0.9s,baz=6.2,slow=7.4,SNR=2.4						
PD31	**Pinedale Array**	**70.24**	**48**	*e*P	**P**	**00 57 19.7**	**+1.3**
	comp=Z,5.8nm,1.8s						
PDAR	**Pinedale Array**	**70.24**	**48**	P	**P**	**00 57 19.7**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=305,slow=6.3,SNR=8.0						
ULM	**Lac du Bonnet**	**70.56**	**35**	P	**P**	**00 57 20.8**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=0.0,slow=2.0,SNR=3.6						
AS31	**Alice Springs**	**71.50**	**187**	*e*P	**P**	**00 57 25.9**	**+0.1**
	comp=Z,2.3nm,1.4s						
ASAR	**Alice Springs**	**71.50**	**187**	P	**P**	**00 57 25.9**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=1.7,slow=4.8,SNR=6.1						

*IPEC **08** 00:46:12.3±0.2, 50°.25N×18°.85E, h1km±1km, ML2.0/3, Error ellipse: s-maj=2.3km s-min=1.1km az=170.0*

PRU 08 00:46:12.4±0.0, 50°.28N×18°.81E, h0km, 4C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.12**	**85**	*e*Pg	Pg	00 46 14.8	+0.2
CHZP				*e*Sg	Sg	00 46 16.5	+0.3
OKC	**Ostrava-Krasne**	**0.61**	**224**	*e*PG	Pg	00 46 24.0	-0.2
OKC				*e*SG	Sg	00 46 32.6	+0.5
	comp=Z,20nm,0.4s						
OJC	**Ojcow**	**0.64**	**95**	*e*Pg	Pg	00 46 24.1	-0.5
OJC				*e*Sg	Sg	00 46 32.6	-0.3
ANAC	**Anensky vrch**	**0.94**	**258**	*e*Pg	Pg	00 46 30.8	+0.4
	baz=79						
ANAC				*e*Sg	Sg	00 46 42.6	-0.1
	baz=79						
MORC	**Moravsky Berou**	**0.96**	**239**	⇑*i*P	Pg	00 46 30.4	-0.4
MORC	**Moravsky Berou**	**0.96**	**239**	S	Sb	00 46 44.4	-0.8
MORC	**Moravsky Berou**	**0.96**	**239**	*e*PG	Pg	00 46 30.7	-0.1
MORC				*e*SG	Sg	00 46 42.5	-0.7
MORC	**Moravsky Berou**	**0.96**	**239**	*e*Pg	Pg	00 46 30.7	-0.1
	baz=60						
MORC				*e*Sg	Sg	00 46 42.5	-0.7
	28nm,0.3s,baz=60						
LANS	**Liptovska Anna**	**1.21**	**159**	*e*PG	Pg	00 46 35.1	-0.4
LANS				*e*SG	Sg	00 46 51.0	-0.2
NIE	**Niedzica**	**1.29**	**131**	*e*Pg	Pg	00 46 36.3	-0.9
NIE				*e*Sg	Sb	00 46 54.8	0.0
KRLC	**Kraliky**	**1.32**	**262**	*e*PG	Pg	00 46 36.9	-0.8
KRLC				*e*SG	Sg	00 46 54.3	-0.5
	comp=Z,3.6nm,0.6s						
DPC	**Dobruska-Polom**	**1.60**	**273**	*e*PG	Pn	00 46 41.6	-0.3
DPC				*e*SG	Sn	00 47 03.1	-0.2
	comp=Z,13nm,0.5s						
KSP	**Ksiaz**	**1.70**	**290**	*e*Pg	Pg	00 46 45.2	+0.2
KSP				*e*Sg	Sg	00 47 08.2	+1.1
VRAC	**Vranov**	**1.73**	**237**	⇑*i*P	Pn	00 46 40.4	-3.4
VRAC	**Vranov**	**1.73**	**237**	S	Sn	00 47 05.5	-1.1
VRAC	**Vranov**	**1.73**	**237**	*e*PN	Pn	00 46 43.8	0.0
VRAC				*e*SG	Sn	00 47 06.7	+0.1
VRAC	**Vranov**	**1.73**	**237**	*e*Pn	Pn	00 46 43.7	-0.1
	baz=56						
VRAC				*e*Sg	Sn	00 47 06.6	0.0
	14nm,0.5s,baz=56						
VYHS	**Vyhne**	**1.79**	**179**	*e*PN	Pn	00 46 43.8	-0.7
VYHS				*e*SN	Sn	00 47 05.9	-2.0
STHS	**Stebnicka Huta**	**1.80**	**118**	*e*PN	Pn	00 46 44.9	+0.2
STHS				*e*SN	Sb	00 47 08.8	-0.4
UPC	**Upice**	**1.81**	**278**	*e*PG	Pn	00 46 45.4	+0.6
UPC				*e*SG	Sg	00 47 10.6	+0.2
	comp=Z,8.0nm,0.4s						
SMOL	**Smolenice**	**1.98**	**208**	*e*SN	Sn	00 47 11.1	-1.7
KRUC	**Moravsky**	**1.99**	**233**	*e*PN	Pn	00 46 47.2	0.0
KRUC				*e*SG	Sb	00 47 14.4	-0.3
KRUC	**Moravsky**	**1.99**	**233**	*e*Pn	Pn	00 46 47.2	0.0
	baz=52						
KRUC				*e*Sg	Sb	00 47 14.3	-0.4
	7.1nm,0.4s,baz=52						
MODS	**Modra-Piesok**	**2.16**	**208**	*e*SN	Sn	00 47 15.7	-1.3
TREC	**Trest**	**2.37**	**247**	*e*SG	Sg	00 47 27.2	-1.2
	comp=Z,9.2nm,0.5s						
PSZ	**Piszkesteto**	**2.47**	**163**	⇑*i*P	Pn	00 46 51.7	-2.2
PSZ	**Piszkesteto**	**2.47**	**163**	S	Sn	00 47 26.0	+1.2
GOPC	**GO Pecny, Ondr**	**2.62**	**263**	*e*SG	Sg	00 47 35.4	-1.0
	comp=Z,4.5nm,0.4s						
KOLS	**Kolonicke sedl**	**2.62**	**120**	*e*PG	Pb	00 47 00.5	+0.2
KOLS				*e*SN	Sn	00 47 26.8	-1.8
PVCC	**Panska Ves**	**2.73**	**277**	*e*SG	Sg	00 47 38.6	-1.3
	comp=Z,8.6nm,0.4s						
TRPA	**Tarpa**	**3.26**	**130**	⇑*i*P	Pn	00 47 02.0	-2.7
KHC	**Kaperske Hory**	**3.58**	**253**	*e*SG	Sg	00 48 06.7	-0.8
	comp=Z,5.1nm,0.4s						
CLL	**Collm**	**3.83**	**288**	*e*Sg	Sg	00 48 15.0	-0.2

MAN 08 00:48:56.0, 8°.00N×126°.84E, h5km, mb4.0, ML2.8, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.51**	**292**	⇑*i*P	Pb	00 49 08.3	+0.9
BIPH				*i* S	Sg	00 49 12.4	0.0
MATI	**Mati**	**1.19**	**209**	*e*P	Pg	00 49 17.8	-1.0
MATI				*e*S	Sn	00 49 43.3	+7.4
BUTP	**Butuan**	**1.54**	**309**	*e*P	Pn	00 49 22.9	-1.3
BUTP				*e*S	Sn	00 49 39.3	-5.3
BUKP	**Musuan**	**1.76**	**266**	*e*P	Pn	00 49 27.8	+0.6
BUKP				*e*S	Sn	00 49 50.1	+0.1
CGP	**Cagayan de Oro**	**2.17**	**282**	⇓*e*P	Pb	00 49 34.5	-1.2
CGP				*e*S	Sn	00 49 58.0	-2.1

*BEO **08** 00:52:08.1±5.8, 43°.47N×10°.58E, h120km, ML3.7/3*
*IDC **08** 00:52:16.7±0.9, 43°.41N×12°.42E, h0km, mb3.6/7, mb1 3.7/15, mb1mx3.6/46, mbtmp3.5/15, ML3.3/8, MS3.1/14, Ms1 3.1/14, ms1mx2.8/50, Error ellipse: s-maj=17.0km s-min=12.2km az=94.0*
*ROM **08** 00:52:16.9±0.1, 43°.451N±0°.003×12°.303E±0°.004, h8km, ML3.7/86, Mw3.6, Error ellipse: s-maj=0.3km s-min=0.2km az=201.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=-2.40; $M_{\theta\theta}$2.17; $M_{\phi\phi}$0.22; $M_{r\theta}$0.95; $M_{r\phi}$-1.85; $M_{\theta\phi}$0.50; Fault plane solution: $M_0$3.11238×10^{14} NP1:φs145.00000°, δ45.00000°, λ-54.00000°. NP2:φs279.00000°, δ55.00000°, λ-120.00000°.*
*ISCJB **08** 00:52:17.3±0.2, 43°.46N±0°.01×12°.26E±0°.01, h11km±1km, mb3.6/8, MS3.5/6 Error ellipse: s-maj=1.9km s-min=1.4km az=20.6*
*PDG **08** 00:52:17.8±0.5, 43°.44N×12°.22E, h10km±1km, ML3.7/14, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*LDG **08** 00:52:19.5±0.2, 43°.51N×12°.43E, h10km, Ml3.2/31, Error ellipse: s-maj=5.0km s-min=2.9km az=11.0*
*PRU **08** 00:52:19.2±0.0, 43°.55N×12°.63E, h0km*

ISC 08 00:52:17.9±0.7, 43°.45N±0°.01×12°.27E±0°.01, h8km±4km, n367, σ1°74/424, mb3.7/8, MS3.2/6, 16C-8D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.10**	**90**	P	**Pg**	**00 52 19.1**	**-1.1**
ATPI	**Pietralunga -**	**0.10**	**90**	P	**Pg**	**00 52 19.4**	**-0.8**
ATPI	**Pietralunga -**	**0.10**	**90**	P	**Pg**	**00 52 19.4**	**-0.8**
ATPI				S	**Sg**	**00 52 20.9**	**-0.9**
ATPI				AML	AML		
	comp=E,82750μm,1.1s						
ATPI				AML	AML		
ATPI				AML	AML		
	comp=E,82700μm,1.1s						
ATPI				AML	AML		
ATPI	**Pietralunga -**	**0.10**	**90**	S	**Sg**	**00 52 20.9**	**-0.9**
ATMI	**Monte Miggiano**	**0.12**	**182**	P	**Pg**	**00 52 20.3**	**-0.2**
ATMI	**Monte Miggiano**	**0.12**	**182**	*e*P	**Pg**	**00 52 20.3**	**-0.2**
ATMI				S	**Sg**	**00 52 22.7**	**+0.4**
ATMI				AML	AML		
ATMI				AML	AML		
ATMI				AML	AML		
ATMI				AML	AML		
ATMI				AML	AML		
ATMI				AML	AML		
ATMI				AML	AML		
ATMI				AML	AML		
ATMI	**Monte Miggiano**	**0.12**	**182**	S	**Sg**	**00 52 22.8**	**+0.4**
ATVO	**AVT- Monte Val**	**0.12**	**125**	P	**Pg**	**00 52 19.9**	**-0.7**
ATVO	**AVT- Monte Val**	**0.12**	**125**	P	**Pg**	**00 52 20.0**	**-0.5**
ATVO				S	**Sg**	**00 52 22.1**	**-0.3**
ATVO				AML	AML		
ATVO				AML	AML		
ATVO				AML	AML		
ATVO				AML	AML		
ATVO	**AVT- Monte Val**	**0.12**	**125**	S	**Sg**	**00 52 22.2**	**-0.3**
SSP9	**Sansepolcro**	**0.16**	**320**	P	**Pg**	**00 52 21.2**	**0.0**
SSP9	**Sansepolcro**	**0.16**	**320**	*e*P	**Pg**	**00 52 21.2**	**0.0**
SSP9				S	**Sg**	**00 52 24.6**	**+1.1**
SSP9				AML	AML		
	comp=E,29400μm,1.3s						
SSP9				AML	AML		
	comp=N,29450μm,0.7s						
SSP9				AML	AML		
	comp=E,29450μm,1.3s						
SSP9				AML	AML		
	comp=N,29450μm,0.7s						
SSP9				AML	AML		
	comp=E,29450μm,1.3s						
SSP9				AML	AML		
	comp=N,29450μm,0.7s						
SSP9	**Sansepolcro**	**0.16**	**320**	P	**Pg**	**00 52 21.3**	**0.0**
SSP9	**Sansepolcro**	**0.16**	**320**	S	**Sg**	**00 52 24.3**	**+0.8**
PARC	**Parchiule**	**0.20**	**353**	P	**Pg**	**00 52 21.6**	**-0.3**
PARC	**Parchiule**	**0.20**	**353**	*e*P	**Pg**	**00 52 21.7**	**-0.3**
PARC				S	**Sg**	**00 52 25.1**	**+0.4**
PARC				AML	AML		
	comp=E,77500μm,0.6s						
PARC				AML	AML		
	comp=N,88450μm,0.9s						
PARC				AML	AML		
	comp=E,77500μm,0.6s						
PARC				AML	AML		
	comp=N,88450μm,0.9s						
PARC				AML	AML		
	comp=E,77500μm,0.6s						
PARC				AML	AML		
	comp=N,88450μm,0.9s						
PARC				AML	AML		
	comp=E,77500μm,0.6s						
PARC	**Parchiule**	**0.20**	**353**	S	**Sg**	**00 52 25.2**	**+0.5**
PIEI	**Pieia**	**0.21**	**66**	P	**Pg**	**00 52 21.4**	**-0.7**
PIEI	**Pieia**	**0.21**	**66**	*e*P	**Pg**	**00 52 21.4**	**-0.7**
PIEI				S	**Sg**	**00 52 25.0**	**0.0**
PIEI				AML	AML		
	comp=E,78350μm,0.9s						
PIEI				AML	AML		
	comp=N,42750μm,1.4s						
PIEI				AML	AML		
	comp=E,78350μm,0.9s						
PIEI				AML	AML		
	comp=N,42750μm,1.4s						
PIEI				AML	AML		
	comp=E,78350μm,0.9s						
PIEI				AML	AML		
	comp=N,42750μm,1.4s						
PIEI	**Pieia**	**0.21**	**66**	P	**Pg**	**00 52 21.5**	**-0.7**
PIEI	**Pieia**	**0.21**	**66**	S	**Sg**	**00 52 25.1**	**0.0**
ATFO	**Monte Foce - G**	**0.23**	**111**	P	**Pg**	**00 52 21.8**	**-0.7**
ATFO	**Monte Foce - G**	**0.23**	**111**	*e*P	**Pg**	**00 52 21.9**	**-0.7**
ATFO				S	**Sg**	**00 52 25.4**	**-0.4**
ATFO				AML	AML		
	comp=E,42300μm,1.1s						
ATFO				AML	AML		
	comp=N,40200μm,0.4s						
ATFO				AML	AML		
	comp=E,42300μm,1.1s						
ATFO				AML	AML		
	comp=N,40200μm,0.4s						
ATFO				AML	AML		
	comp=E,42300μm,1.1s						
ATFO				AML	AML		
	comp=N,40200μm,0.4s						
ATFO				AML	AML		
	comp=E,42300μm,1.1s						
ATFO	**Monte Foce - G**	**0.23**	**111**	S	**

	comp=N,18900µm,0.4s					
CAFI	**Castiglion Fio**	**0.25**	**241**	S	**Sg**	**00 52 27.5 +1.1**
ATTE	**AVT- Monte Tez**	**0.26**	**167**	*e*P	**Pg**	**00 52 22.6 -0.4**
ATTE				S	**Sg**	**00 52 26.6 0.0**
ATTE	**AVT- Monte Tez**	**0.26**	**167**	P	**Pg**	**00 52 22.7 -0.4**
ATTE	**AVT- Monte Tez**	**0.26**	**167**	S	**Sg**	**00 52 26.6 0.0**
ATTE	**AVT- Monte Tez**	**0.26**	**167**	S	**Sg**	**00 52 27.0 +0.4**
MURB	**Monte Urbino**	**0.26**	**136**	P	**Pg**	**00 52 22.6 -0.5**
MURB	**Monte Urbino**	**0.26**	**136**	P	**Pg**	**00 52 22.6 -0.5**
MURB				AML	AML	
	comp=E,99850µm,0.3s					
MURB				AML	AML	
	comp=N,99500µm,0.3s					
MURB				AML	AML	
MURB				AML	AML	
MURB				AML	AML	
	comp=E,99850µm,0.3s					
MURB				AML	AML	
	comp=N,99550µm,0.3s					
MURB				AML	AML	
MURB				AML	AML	
MURB				AML	AML	
	comp=E,99900µm,0.3s					
MURB				AML	AML	
	comp=N,99550µm,0.3s					
MURB				AML	AML	
MURB				AML	AML	
MURB				AML	AML	
MURB				AML	AML	
	comp=E,99900µm,0.3s					
MURB				AML	AML	
	comp=N,99550µm,0.3s					
MURB				AML	AML	
MURB	**Monte Urbino**	**0.26**	**136**	S	**Sg**	**00 52 27.2 +0.6**
NARO	**Abbazia di Nar**	**0.28**	**54**	P	**Pg**	**00 52 22.5 -0.9**
NARO				S	**Sg**	**00 52 26.8 -0.2**
NARO				AML	AML	
	comp=E,13950µm,0.9s					
NARO				AML	AML	
	comp=N,17650µm,0.7s					
NARO				AML	AML	
	comp=E,13950µm,0.9s					
NARO				AML	AML	
	comp=N,17650µm,0.7s					
NARO				AML	AML	
	comp=N,17650µm,0.7s					
NARO				AML	AML	
	comp=E,13950µm,0.9s					
NARO	**Abbazia di Nar**	**0.28**	**54**	P	**Pg**	**00 52 22.5 -0.9**
NARO	**Abbazia di Nar**	**0.28**	**54**	S	**Sg**	**00 52 26.9 -0.2**
CRE	**Caprese Michel**	**0.29**	**306**	P	**Pg**	**00 52 23.4 -0.3**
CRE	**Caprese Michel**	**0.29**	**306**	P	**Pg**	**00 52 23.4 -0.3**
CRE				AML	AML	
	comp=E,6900µm,1.3s					
CRE				AML	AML	
	comp=N,11200µm,1.3s					
CRE				AML	AML	
	comp=E,6900µm,1.3s					
CRE				AML	AML	
	comp=N,11200µm,1.3s					
CRE				AML	AML	
	comp=E,6900µm,1.3s					
CRE				AML	AML	
	comp=N,11200µm,1.3s					
CRE				AML	AML	
	comp=E,6900µm,1.3s					
CRE				AML	AML	
	comp=N,11200µm,1.3s					
CRE	**Caprese Michel**	**0.29**	**306**	S	**Sg**	**00 52 28.4 +0.9**
PE3	**Peglio**	**0.29**	**34**	P	**Pg**	**00 52 23.3 -0.4**
PE3	**Peglio**	**0.29**	**34**	P	**Pg**	**00 52 23.3 -0.4**
PE3				S	**Sg**	**00 52 28.9 +1.3**
PE3				AML	AML	
	comp=E,65350µm,0.7s					
PE3				AML	AML	
	comp=N,74550µm,0.5s					
PE3				AML	AML	
	comp=E,65350µm,0.7s					
PE3				AML	AML	
	comp=N,74550µm,0.5s					
PE3				AML	AML	
	comp=N,74550µm,0.5s					
PE3				AML	AML	
	comp=E,65350µm,0.7s					
PE3	**Peglio**	**0.29**	**34**	S	**Sg**	**00 52 29.1 +1.4**
FRON	**Frontone**	**0.34**	**78**	P	**Pg**	**00 52 23.6 -0.9**
FRON	**Frontone**	**0.34**	**78**	P	**Pg**	**00 52 23.6 -0.9**
FRON				S	**Sg**	**00 52 28.9 0.0**
FRON				AML	AML	
	comp=E,15350µm,0.8s					
FRON				AML	AML	
	comp=N,24450µm,0.5s					
FRON				AML	AML	
	comp=E,15300µm,0.8s					
FRON				AML	AML	
	comp=N,24450µm,0.5s					
FRON				AML	AML	
	comp=E,15300µm,0.8s					
FRON				AML	AML	
	comp=N,24450µm,0.5s					
FRON	**Frontone**	**0.34**	**78**	S	**Sg**	**00 52 28.9 0.0**
CPGN	**Carpegna, Ital**	**0.35**	**6**	P	**Pg**	**00 52 25.1 +0.3**
CPGN				AML	AML	
	comp=E,22400µm,0.5s					
CPGN				AML	AML	
	comp=N,29650µm,1.1s					
CPGN				AML	AML	
	comp=E,21700µm,0.6s					
CPGN				AML	AML	
	comp=N,29350µm,0.4s					
CPGN				AML	AML	
	comp=E,22350µm,0.5s					
CPGN				AML	AML	
	comp=N,29650µm,1.1s					
CPGN				AML	AML	
	comp=E,21650µm,0.6s					
CPGN				AML	AML	
	comp=N,29350µm,0.4s					
CPGN				AML	AML	
	comp=E,22350µm,0.5s					
CPGN				AML	AML	
	comp=N,29350µm,0.4s					
CPGN				AML	AML	
	comp=N,29650µm,1.1s					
CPGN				AML	AML	
	comp=E,21650µm,0.6s					
CPGN	**Carpegna, Ital**	**0.35**	**6**	P	**Pg**	**00 52 25.2 +0.3**
SSFR	**Montelago di S**	**0.37**	**92**	P	**Pg**	**00 52 24.5 -0.7**
SSFR	**Montelago di S**	**0.37**	**92**	P	**Pg**	**00 52 24.5 -0.7**
SSFR				S	**Sg**	**00 52 30.4 +0.3**
SSFR				AML	AML	
	comp=E,43800µm,0.4s					
SSFR				AML	AML	
	comp=N,44450µm,0.2s					
SSFR				AML	AML	
	comp=E,43250µm,0.4s					
SSFR				AML	AML	
	comp=N,46400µm,0.2s					
SSFR				AML	AML	
	comp=E,43800µm,0.4s					
SSFR				AML	AML	
	comp=N,44400µm,0.2s					
SSFR				AML	AML	
	comp=E,43250µm,0.4s					
SSFR				AML	AML	
	comp=N,46400µm,0.2s					
SSFR				AML	AML	
	comp=E,43800µm,0.4s					
SSFR				AML	AML	
	comp=N,44400µm,0.2s					
SSFR				AML	AML	
	comp=N,46400µm,0.2s					
SSFR				AML	AML	
	comp=E,43250µm,0.4s					
SSFR	**Montelago di S**	**0.37**	**92**	P	**Pg**	**00 52 24.6 -0.6**
SSFR	**Montelago di S**	**0.37**	**92**	S	**Sg**	**00 52 30.4 +0.3**
ATCC	**AVT- Casa Cast**	**0.38**	**135**	*e*P	**Pg**	**00 52 24.7 -0.6**
ATCC				S	**Sg**	**00 52 30.9 +0.7**
ATCC				AML	AML	
	comp=E,27300µm,0.6s					
ATCC				AML	AML	
	comp=N,21100µm,1.1s					
ATCC				AML	AML	
	comp=E,27300µm,0.6s					
ATCC				AML	AML	
	comp=N,21100µm,1.1s					
ATCC	**AVT- Casa Cast**	**0.38**	**135**	S	**Sg**	**00 52 31.3 +1.0**
FOSV	**Fossato di Vic**	**0.39**	**114**	P	**Pg**	**00 52 24.6 -0.8**
FOSV	**Fossato di Vic**	**0.39**	**114**	*e*P	**Pg**	**00 52 24.7 -0.8**
FOSV				S	**Sg**	**00 52 31.0 +0.4**
FOSV				AML	AML	
	comp=E,9355µm,0.3s					
FOSV				AML	AML	
	comp=N,10045µm,0.8s					
FOSV				AML	AML	
	comp=E,9390µm,0.3s					
FOSV				AML	AML	
	comp=N,10045µm,0.8s					
FOSV				AML	AML	
	comp=N,10045µm,0.8s					
FOSV				AML	AML	
	comp=E,9390µm,0.3s					
MPAG	**Monte Paganucc**	**0.40**	**63**	P	**Pg**	**00 52 24.8 -0.9**
MPAG	**Monte Paganucc**	**0.40**	**63**	*e*P	**Pg**	**00 52 24.9 -0.9**
MPAG				S	**Sg**	**00 52 31.1 +0.2**
MPAG				AML	AML	
	comp=E,11900µm,0.3s					
MPAG				AML	AML	
	comp=N,20100µm,0.5s					
MPAG				AML	AML	
	comp=E,12750µm,0.4s					
MPAG				AML	AML	
	comp=N,20150µm,0.5s					
MPAG				AML	AML	
	comp=E,11900µm,0.3s					
MPAG				AML	AML	
	comp=N,20100µm,0.5s					
MPAG				AML	AML	
	comp=E,12750µm,0.4s					
MPAG				AML	AML	
	comp=N,20150µm,0.5s					
MPAG				AML	AML	
	comp=E,12750µm,0.4s					
MPAG				AML	AML	
	comp=N,20150µm,0.5s					
MPAG				AML	AML	
	comp=N,20100µm,0.5s					
MPAG				AML	AML	
	comp=E,11900µm,0.3s					
MPAG	**Monte Paganucc**	**0.40**	**63**	S	**Sg**	**00 52 31.1 +0.2**
FSSB	**Fossombrone**	**0.44**	**57**	P	**Pg**	**00 52 25.6 -0.8**
FSSB	**Fossombrone**	**0.44**	**57**	*e*P	**Pg**	**00 52 25.7 -0.8**
FSSB				S	**Sg**	**00 52 32.7 +0.5**
FSSB				AML	AML	
	comp=E,43400µm,0.4s					
FSSB				AML	AML	
	comp=N,28200µm,0.4s					
FSSB				AML	AML	
	comp=E,43400µm,0.4s					
FSSB				AML	AML	
	comp=N,28200µm,0.4s					
FSSB				AML	AML	
	comp=N,28200µm,0.4s					
FSSB				AML	AML	
	comp=E,43400µm,0.4s					
FSSB	**Fossombrone**	**0.44**	**57**	S	**Sg**	**00 52 32.7 +0.5**
ARVD	**Arcevia**	**0.49**	**84**	P	**Pg**	**00 52 26.4 -0.9**
ARVD	**Arcevia**	**0.49**	**84**	P	**Pg**	**00 52 26.5 -0.9**
ARVD				S	**Sg**	**00 52 34.1 +0.3**
ARVD				AML	AML	
	comp=E,5615µm,0.8s					
ARVD				AML	AML	
	comp=N,12150µm,0.4s					
ARVD				AML	AML	
	comp=E,5615µm,0.8s					
ARVD				AML	AML	
	comp=N,12150µm,0.4s					
ARVD				AML	AML	
	comp=N,12150µm,0.4s					
ARVD				AML	AML	
	comp=E,5615µm,0.8s					
ARVD	**Arcevia**	**0.49**	**84**	S	**Sb**	**00 52 35.0 -1.1**
ARVD	**Arcevia**	**0.49**	**84**	S	**Sb**	**00 52 35.0 -1.1**
ASQU	**Asqua**	**0.49**	**315**	*e*P	**Pg**	**00 52 27.0 -0.4**
ASQU				AML	AML	
	comp=E,3430µm,0.5s					
ASQU				AML	AML	
	comp=N,4625µm,0.7s					
ASQU				AML	AML	
	comp=E,3430µm,0.5s					
ASQU				AML	AML	
	comp=N,4625µm,0.7s					
ASQU				AML	AML	
	comp=N,4625µm,0.7s					
ASQU				AML	AML	
	comp=E,3430µm,0.5s					
ASQU	**Asqua**	**0.49**	**315**	P	**Pg**	**00 52 27.0 -0.4**
ASSB	**Assisi San Ben**	**0.50**	**145**	P	**Pg**	**00 52 26.6 -0.9**
ASSB	**Assisi San Ben**	**0.50**	**145**	*e*P	**Pg**	**00 52 26.6 -0.9**
ASSB				S	**Sg**	**00 52 34.4 +0.4**
ASSB				AML	AML	
	comp=E,9635µm,1.0s					
ASSB				AML	AML	
	comp=N,10850µm,1.2s					
ASSB				AML	AML	
	comp=E,9635µm,1.0s					
ASSB				AML	AML	
	comp=N,10850µm,1.2s					
ASSB				AML	AML	
	comp=E,9635µm,1.0s					
ASSB				AML	AML	
	comp=N,10850µm,1.2s					
ASSB	**Assisi San Ben**	**0.50**	**145**	S	**Sg**	**00 52 34.4 +0.4**
ASSB	**Assisi San Ben**	**0.50**	**145**	S	**Sb**	**00 52 36.0 -0.4**
RSM	**Repubblica di**	**0.50**	**15**	*e*P	**Pg**	**00 52 28.1 +0.6**
RSM				AML	AML	
	comp=E,14550µm,1.6s					
RSM				AML	AML	
	comp=N,20500µm,1.5s					
RSM				AML	AML	
	comp=E,14550µm,1.6s					
RSM				AML	AML	
	comp=N,20500µm,1.5s					
RSM				AML	AML	
	comp=N,20500µm,1.5s					
RSM				AML	AML	
	comp=E,14550µm,1.6s					
SNTG	**Esanatoglia**	**0.53**	**112**	P	**Pg**	**00 52 27.1 -0.9**
SNTG	**Esanatoglia**	**0.53**	**112**	*e*P	**Pg**	**00 52 27.1 -0.9**
SNTG				S	**Sg**	**00 52 35.5 +0.5**
SNTG				AML	AML	
	comp=E,1470µm,0.2s					
SNTG				AML	AML	
	comp=N,1930µm,1.2s					
SNTG				AML	AML	
	comp=E,12100µm,0.3s					
SNTG				AML	AML	
	comp=N,15600µm,1.2s					
SNTG				AML	AML	
	comp=E,1465µm,0.3s					
SNTG				AML	AML	
	comp=N,1930µm,1.2s					
SNTG				AML	AML	
	comp=E,12100µm,0.3s					
SNTG				AML	AML	
	comp=N,15600µm,1.2s					
SNTG				AML	AML	
	comp=E,12100µm,0.3s					
SNTG				AML	AML	
	comp=N,15600µm,1.2s					
SNTG				AML	AML	
	comp=N,1930µm,1.2s					
SNTG				AML	AML	
	comp=E,1465µm,0.3s					
SNTG	**Esanatoglia**	**0.53**	**112**	S	**Sb**	**00 52 36.0 -1.2**
SNTG	**Esanatoglia**	**0.53**	**112**	S	**Sb**	**00 52 36.0 -1.2**
SFI	**Santa Sofia**	**0.55**	**326**	P	**Pg**	**00 52 28.0 -0.5**
SFI	**Santa Sofia**	**0.55**	**326**	P	**Pg**	**00 52 28.0 -0.5**
SFI				AML	AML	
	comp=E,3965µm,0.7s					
SFI				AML	AML	
	comp=N,3955µm,1.0s					
SFI				AML	AML	
	comp=E,3485µm,0.9s					
SFI				AML	AML	
	comp=N,4080µm,0.9s					
SFI				AML	AML	
	comp=E,3965µm,0.7s					
SFI				AML	AML	
	comp=N,3955µm,1.0s					
SFI				AML	AML	
	comp=E,3485µm,0.9s					
SFI				AML	AML	
	comp=N,4085µm,0.9s					
SFI				AML	AML	
	comp=N,3955µm,1.0s					
SFI				AML	AML	
	comp=E,3965µm,0.7s					
SFI				AML	AML	
	comp=E,3485µm,0.9s					
SFI				AML	AML	
	comp=N,4085µm,0.9s					
MGAB	**Montegabbione**	**0.55**	**192**	P	**Pg**	**00 52 28.2 -0.3**
MGAB				S	**Sb**	**00 52 37.3 -0.6**
MGAB				AML	AML	
	comp=E,25150µm,0.5s					
MGAB				AML	AML	
	comp=N,29450µm,0.6s					
MGAB				AML	AML	
	comp=E,28750µm,0.6s					
MGAB				AML	AML	
	comp=N,27150µm,0.6s					
MGAB				AML	AML	
	comp=E,25150µm,0.5s					
MGAB				AML	AML	
	comp=N,27150µm,0.6s					
MGAB				AML	AML	
	comp=N,29450µm,0.6s					
MGAB				AML	AML	
	comp=E,28750µm,0.6s					
MGAB	**Montegabbione**	**0.55**	**192**	P	**Pg**	**00 52 28.2 -0.3**
COR1	**Corinaldo**	**0.56**	**71**	P	**Pg**	**00 52 28.3 -0.3**
COR1				AML	AML	
	comp=E,23400µm,1.1s					
COR1				AML	AML	
	comp=N,24600µm,1.0s					
COR1				AML	AML	
	comp=E,12750µm,1.1s					
COR1				AML	AML	
	comp=N,23250µm,1.0s					
COR1				AML	AML	
	comp=E,23400µm,1.1s					
COR1				AML	AML	
	comp=N,24550µm,1.0s					
COR1				AML	AML	
	comp=E,12700µm,1.1s					
COR1				AML	AML	
	comp=N,23250µm,1.0s					
COR1				AML	AML	
	comp=E,23400µm,1.1s					
COR1				AML	AML	
	comp=E,12700µm,1.1s					
COR1				AML	AML	
	comp=N,24550µm,1.0s					
COR1				AML	AML	
	comp=N,23250µm,1.0s					
COR1	**Corinaldo**	**0.56**	**71**	P	**Pg**	**00 52 28.4 -0.3**
EL6	**Elcito**	**0.62**	**101**	P	**Pg**	**00 52 28.8 -1.0**
EL6	**Elcito**	**0.62**	**101**	*e*P	**Pg**	**00 52 28.8 -1.0**
EL6				S	**Sg**	**00 52 38.5 +0.6**
EL6				AML	AML	
	comp=E,6535µm,0.6s					
EL6				AML	AML	
	comp=N,10900µm,0.9s					
EL6				AML	AML	
	comp=E,6525µm,0.6s					
EL6				AML	AML	
	comp=N,10915µm,0.9s					
EL6				AML	AML	
	comp=E,6525µm,0.6s					
EL6				AML	AML	
	comp=N,10915µm,0.9s					
EL6	**Elcito**	**0.62**	**101**	S	**Sb**	**00 52 39.0 -0.9**
EL6	**Elcito**	**0.62**	**101**	S	**Sb**	**00 52 39.0 -0.9**
PESA	**Pesaro**	**0.64**	**40**	P	**Pg**	**00 52 29.6 -0.6**
PESA				AML	AML	
	comp=E,11290µm,0.5s					
PESA				AML	AML	
	comp=N,10805µm,0.5s					
PESA				AML	AML	
	comp=E,11290µm,0.5s					
PESA				AML	AML	
	comp=N,10805µm,0.5s					
PESA				AML	AML	
	comp=E,11290µm,0.5s					
PESA				AML	AML	
	comp=N,10805µm,0.5s					
PESA	**Pesaro**	**0.64**	**40**	S	**Sb**	**00 52 41.0 +0.5**
CESI	**CESI - Serrava**	**0.64**	**134**	*e*P	**Pg**	**00 52 29.2 -1.1**
CESI				S	**Sg**	**00 52 39.0 +0.3**
CESI				AML	AML	
	comp=E,1028µm,1.0s					
CESI				AML	AML	
	comp=N,2890µm,0.4s					
CESI				AML	AML	
	comp=E,1028µm,1.0s					
CESI				AML	AML	
	comp=N,2890µm,0.4s					
CESI				AML	AML	
	comp=E,1028µm,1.0s					
CESI				AML	AML	
	comp=N,2890µm,0.4s					
CESI	**CESI - Serrava**	**0.64**	**134**	P	**Pg**	**00 52 29.2 -1.1**
SACS	**San Casciano d**	**0.66**	**204**	*e*P	**Pg**	**00 52 30.0 -0.5**
SACS				AML	AML	
	comp=E,7715µm,0.6s					
SACS				AML	AML	
	comp=N,17400µm,0.6s					
SACS				AML	AML	
	comp=E,7630µm,0.6s					
SACS				AML	AML	
	comp=N,17450µm,0.6s					
SACS				AML	AML	
	comp=E,7715µm,0.6s					
SACS				AML	AML	
	comp=N,17400µm,0.6s					
SACS				AML	AML	
	comp=E,7630µm,0.6s					
SACS				AML	AML	
	comp=N,17450µm,0.6s					
SACS				AML	AML	
	comp=E,7715µm,0.6s					
SACS				AML	AML	
	comp=E,7630µm,0.6s					
SACS				AML	AML	
	comp=N,17450µm,0.6s					
SACS				AML	AML	
	comp=N,17400µm,0.6s					
SACS	**San Casciano d**	**0.66**	**204**	P	**Pg**	**00 52 30.1 -0.5**
CING	**Cingoli**	**0.68**	**96**	P	**Pg**	**00 52 29.9 -1.0**
CING	**Cingoli**	**0.68**	**96**	P	**Pg**	**00 52 30.0 -1.0**
CING				S	**Sg**	**00 52 40.1 +0.4**
CING				AML	AML	
	comp=E,3145µm,0.7s					
CING				AML	AML	
	comp=N,6465µm,0.8s					
CING				AML	AML	
	comp=E,3145µm,0.7s					
CING				AML	AML	
	comp=N,6465µm,0.8s					
CING				AML	AML	
	comp=N,6465µm,0.8s					
CING				AML	AML	
	comp=E,3145µm,0.7s					
MOMA	**Monte Martano**	**0.68**	**161**	P	**Pg**	**00 52 30.2 -0.8**
MOMA	**Monte Martano**	**0.68**	**161**	P	**Pg**	**00 52 30.2 -0.8**
MOMA				AML	AML	
	comp=E,12450µm,0.7s					
MOMA				AML	AML	
	comp=N,9385µm,0.5s					
MOMA				AML	AML	
	comp=E,13150µm,0.7s					
MOMA				AML	AML	
	comp=N,9560µm,0.4s					
MOMA				AML	AML	
	comp=E,12400µm,0.7s					
MOMA				AML	AML	
	comp=N,9385µm,0.4s					
MOMA				AML	AML	
	comp=E,13150µm,0.7s					
MOMA				AML	AML	
	comp=N,9560µm,0.4s					
MOMA				AML	AML	
	comp=N,9560µm,0.4s					
MOMA				AML	AML	
	comp=N,9385µm,0.4s					

MOMA				AML	AML	
	comp=E,13150µm,0.7s					
MOMA				AML	AML	
	comp=E,12400µm,0.7s					
MOMA	**Monte Martano**	**0.68 161**	S	**Sb**	**00 52 42.0**	**+0.2**
CSNT	**Castellina Chi**	**0.71 272**	P	**Pg**	**00 52 31.3**	**-0.3**
CSNT				AML	AML	
	comp=E,2690µm,0.4s					
CSNT				AML	AML	
	comp=N,4095µm,0.6s					
CSNT				AML	AML	
	comp=E,2690µm,0.4s					
CSNT				AML	AML	
	comp=N,4095µm,0.6s					
CSNT				AML	AML	
	comp=E,2690µm,0.4s					
CSNT				AML	AML	
	comp=N,4095µm,0.6s					
CSNT	**Castellina Chi**	**0.71 272**	P	**Pg**	**00 52 31.3**	**-0.3**
FDMO	**Fiordimonte**	**0.73 125**	P	**Pg**	**00 52 30.6**	**-1.3**
FDMO	**Fiordimonte**	**0.73 125**	*e*P	**Pg**	**00 52 30.6**	**-1.3**
FDMO			S	**Sg**	**00 52 41.9**	**+0.6**
FDMO				AML	AML	
	comp=E,3885µm,1.1s					
FDMO				AML	AML	
	comp=N,2555µm,1.3s					
FDMO				AML	AML	
	comp=E,3885µm,1.1s					
FDMO				AML	AML	
	comp=N,2555µm,1.3s					
FDMO				AML	AML	
	comp=N,2555µm,1.3s					
FDMO				AML	AML	
	comp=E,3885µm,1.1s					
SENI	**Senigallia**	**0.74 70**	P	**Pg**	**00 52 31.9**	**-0.2**
SENI	**Senigallia**	**0.74 70**	P	**Pg**	**00 52 32.0**	**-0.2**
SENI				AML	AML	
	comp=E,26850µm,0.4s					
SENI				AML	AML	
	comp=N,30000µm,0.4s					
SENI				AML	AML	
	comp=E,5815µm,0.9s					
SENI				AML	AML	
	comp=N,9645µm,0.9s					
SENI				AML	AML	
	comp=E,26900µm,0.4s					
SENI				AML	AML	
	comp=N,30000µm,0.4s					
SENI				AML	AML	
	comp=E,5820µm,0.9s					
SENI				AML	AML	
	comp=N,9685µm,0.9s					
SENI				AML	AML	
	comp=N,30000µm,0.4s					
SENI				AML	AML	
	comp=E,26900µm,0.4s					
SENI				AML	AML	
	comp=N,9685µm,0.9s					
SENI				AML	AML	
	comp=E,5820µm,0.9s					
CSP1	**Cessapalombo**	**0.77 117**	P	**Pg**	**00 52 31.4**	**-1.3**
CSP1	**Cessapalombo**	**0.77 117**	P	**Pg**	**00 52 31.5**	**-1.3**
MCIV	**Monte Civitell**	**0.80 213**	P	**Pg**	**00 52 32.4**	**-0.8**
MCIV				AML	AML	
	comp=E,2410µm,1.0s					
MCIV				AML	AML	
	comp=N,2270µm,0.8s					
MCIV				AML	AML	
	comp=E,2410µm,1.0s					
MCIV				AML	AML	
	comp=N,2270µm,0.8s					
MCIV				AML	AML	
	comp=E,2410µm,1.0s					
MCIV				AML	AML	
	comp=N,2270µm,0.8s					
MCIV	**Monte Civitell**	**0.80 213**	P	**Pg**	**00 52 32.5**	**-0.8**
ARCI	**Arcidosso**	**0.84 225**	P	**Pg**	**00 52 33.1**	**-0.9**
ARCI				AML	AML	
	comp=E,1840µm,1.1s					
ARCI				AML	AML	
	comp=N,3485µm,1.0s					
ARCI				AML	AML	
	comp=E,1840µm,1.1s					
ARCI				AML	AML	
	comp=N,3485µm,1.0s					
ARCI	**Arcidosso**	**0.84 225**	P	**Pg**	**00 52 33.2**	**-0.8**
FROS	**Frosini**	**0.85 254**	P	**Pg**	**00 52 33.7**	**-0.4**
FROS				AML	AML	
	comp=E,7680µm,0.6s					
FROS				AML	AML	
	comp=N,3935µm,0.6s					
FROS				AML	AML	
	comp=N,3935µm,0.6s					
FROS				AML	AML	
	comp=E,7680µm,0.6s					
FROS	**Frosini**	**0.85 254**	P	**Pg**	**00 52 33.8**	**-0.4**
CESX	**Cesi**	**0.87 165**	P	**Pg**	**00 52 34.0**	**-0.6**
CESX				AML	AML	
	comp=E,7590µm,0.5s					
CESX				AML	AML	
	comp=N,7365µm,0.7s					
CESX				AML	AML	
	comp=E,7590µm,0.5s					
CESX				AML	AML	
	comp=N,7365µm,0.7s					
CESX	**Cesi**	**0.87 165**	P	**Pg**	**00 52 34.2**	**-0.4**
NRCA	**Norcia**	**0.87 135**	P	**Pg**	**00 52 33.2**	**-1.4**
NRCA				AML	AML	
	comp=E,2965µm,0.6s					
NRCA				AML	AML	
	comp=N,3285µm,0.5s					
NRCA				AML	AML	
	comp=E,3115µm,0.6s					
NRCA				AML	AML	
	comp=N,3440µm,0.5s					
NRCA				AML	AML	
	comp=E,3115µm,0.6s					
NRCA				AML	AML	
	comp=E,2965µm,0.6s					
NRCA				AML	AML	
	comp=N,3440µm,0.5s					
NRCA				AML	AML	
	comp=N,3285µm,0.5s					
NRCA	**Norcia**	**0.87 135**	P	**Pg**	**00 52 33.3**	**-1.4**
ARRO	**Arrone**	**0.94 157**	P	**Pg**	**00 52 35.5**	**-0.5**
ARRO				AML	AML	
	comp=E,4135µm,0.8s					
ARRO				AML	AML	
	comp=N,2755µm,1.1s					
ARRO				AML	AML	
	comp=E,4135µm,0.8s					
ARRO				AML	AML	
	comp=N,2755µm,1.1s					
ARRO	**Arrone**	**0.94 157**	P	**Pg**	**00 52 36.0**	**+0.1**
CRMI	**Carmignano**	**1.00 290**	P	**Pg**	**00 52 36.5**	**-0.6**
CRMI				AML	AML	
	comp=E,436µm,0.8s					
CRMI				AML	AML	
	comp=N,504µm,0.5s					
CRMI				AML	AML	
	comp=E,436µm,0.8s					
CRMI				AML	AML	
	comp=N,504µm,0.5s					
CRMI	**Carmignano**	**1.00 290**	P	**Pg**	**00 52 36.9**	**-0.3**
PTF	**Prato**	**1.01 301**	P	**Pg**	**00 52 36.9**	**-0.3**
PTF	**Prato**	**1.01 301**	P	**Pg**	**00 52 37.0**	**-0.3**
LNSS	**Leonessa**	**1.02 146**	P	**Pg**	**00 52 36.0**	**-1.4**
LNSS				AML	AML	
	comp=E,4285µm,1.6s					
LNSS				AML	AML	
	comp=N,4685µm,0.7s					
LNSS				AML	AML	
	comp=E,4285µm,1.6s					
LNSS				AML	AML	
	comp=N,4685µm,0.7s					
LNSS	**Leonessa**	**1.02 146**	P	**Pg**	**00 52 36.0**	**-1.4**
TRIF	**Trifonti**	**1.05 252**	P	**Pg**	**00 52 37.3**	**-0.8**
TRIF				AML	AML	
	comp=E,1325µm,0.9s					
TRIF				AML	AML	
	comp=N,2130µm,0.8s					
TRIF				AML	AML	
	comp=N,2130µm,0.8s					
TRIF				AML	AML	
	comp=E,1325µm,0.9s					
TRIF	**Trifonti**	**1.05 252**	P	**Pg**	**00 52 37.5**	**-0.6**
MTCR	**Monte La Croce**	**1.09 302**	P	**Pg**	**00 52 38.2**	**-0.5**
MTCR	**Monte La Croce**	**1.09 302**	P	**Pg**	**00 52 38.3**	**-0.5**
FNVD	**Fontana Vidola**	**1.10 311**	P	**Pg**	**00 52 37.7**	**-1.3**
OFFI	**Offida**	**1.16 116**	P	**Pg**	**00 52 39.4**	**-0.6**
OFFI	**Offida**	**1.16 116**	AML	AML		
	comp=N,8265µm,0.7s					
OFFI				AML	AML	
	comp=E,6285µm,0.6s					
OFFI				AML	AML	
	comp=N,8265µm,0.7s					
OFFI				AML	AML	
	comp=E,6285µm,0.6s					
CASP	**Castiglione de**	**1.22 238**	P	**Pg**	**00 52 39.4**	**-2.0**
CASP				AML	AML	
	comp=E,558µm,0.4s					
CASP				AML	AML	
	comp=N,544µm,0.8s					
CASP				AML	AML	
	comp=N,544µm,0.8s					
CASP				AML	AML	
	comp=E,558µm,0.4s					
CASP	**Castiglione de**	**1.22 238**	P	**Pg**	**00 52 39.5**	**-1.9**
GUMA	**Gualdo di Mace**	**1.27 107**	P	Pn	00 52 33.5	-8.6
GUMA				AML	AML	
	comp=E,12000µm,0.5s					
GUMA				AML	AML	
	comp=N,10670µm,0.5s					
GUMA				AML	AML	
	comp=E,12950µm,0.6s					
GUMA				AML	AML	
	comp=N,11950µm,0.7s					
GUMA				AML	AML	
	comp=E,12000µm,0.5s					
GUMA				AML	AML	
	comp=N,11950µm,0.7s					
GUMA				AML	AML	
	comp=N,10670µm,0.5s					
GUMA				AML	AML	
	comp=E,12950µm,0.6s					
GUMA	**Gualdo di Mace**	**1.27 107**	P	Pn	00 52 33.6	-8.5
FIAM	**Fiamignano**	**1.34 152**	P	**Pn**	**00 52 41.5**	**-1.4**
FIAM				AML	AML	
	comp=E,2390µm,0.9s					
FIAM				AML	AML	
	comp=N,1970µm,0.8s					
FIAM				AML	AML	
	comp=E,2390µm,0.9s					
FIAM				AML	AML	
	comp=N,1970µm,0.8s					
FIAM	**Fiamignano**	**1.34 152**	P	**Pn**	**00 52 41.6**	**-1.4**
BDI	**Bagni Di Lucca**	**1.36 297**	P	**Pn**	**00 52 43.1**	**-0.2**
BDI	**Bagni Di Lucca**	**1.36 297**	AML	AML		
	comp=N,799µm,0.7s					
BDI				AML	AML	
	comp=E,844µm,1.2s					
BDI				AML	AML	
	comp=E,778µm,0.9s					
BDI				AML	AML	
	comp=N,932µm,0.5s					
BDI				AML	AML	
	comp=N,799µm,0.7s					
BDI				AML	AML	
	comp=E,844µm,1.2s					
BDI				AML	AML	
	comp=N,932µm,0.5s					
BDI				AML	AML	
	comp=E,778µm,0.9s					
MAIM	**Mastiano**	**1.37 290**	P	**Pg**	**00 52 44.1**	**-0.1**
MAIM	**Mastiano**	**1.37 290**	AML	AML		
	comp=E,666µm,0.6s					
MAIM				AML	AML	
	comp=N,522µm,1.5s					
MAIM				AML	AML	
	comp=N,522µm,1.5s					
MAIM				AML	AML	
	comp=E,666µm,0.6s					
AQU	**L'Aquila**	**1.38 142**	*e*Pn	**Pn**	**00 52 42.1**	**-1.4**
AQU	**L'Aquila**	**1.38 142**	P	**Pg**	**00 52 44.1**	**-0.2**
AQU	**L'Aquila**	**1.38 142**	AML	AML		
	comp=N,2725µm,1.0s					
AQU				AML	AML	
	comp=E,2340µm,0.7s					
AQU				AML	AML	
	comp=N,2675µm,1.1s					
AQU				AML	AML	
	comp=E,2385µm,0.8s					
AQU				AML	AML	
	comp=N,2675µm,1.1s					
AQU				AML	AML	
	comp=N,2725µm,1.0s					
AQU				AML	AML	
	comp=E,2385µm,0.8s					
AQU				AML	AML	
	comp=E,2340µm,0.7s					
TOLF	**Tolfa**	**1.40 188**	P	**Pn**	**00 52 42.7**	**-1.0**
TOLF				AML	AML	
	comp=E,1063µm,1.5s					
TOLF				AML	AML	
	comp=N,1132µm,0.7s					
TOLF				AML	AML	
	comp=E,1063µm,1.5s					
TOLF				AML	AML	
	comp=N,1132µm,0.7s					
TOLF	**Tolfa**	**1.40 188**	P	**Pn**	**00 52 42.7**	**-1.0**
CARD	**Cardoso**	**1.42 295**	P	**Pn**	**00 52 43.6**	**-0.4**
CARD	**Cardoso**	**1.42 295**	AML	AML		
	comp=E,674µm,0.8s					
CARD				AML	AML	
	comp=N,558µm,1.5s					
CARD				AML	AML	
	comp=E,674µm,0.8s					
CARD				AML	AML	
	comp=N,558µm,1.5s					
MTCE	**Montecelio**	**1.47 166**	P	**Pn**	**00 52 43.7**	**-1.0**
MTCE	**Montecelio**	**1.47 166**	AML	AML		
	comp=N,812µm,0.9s					
MTCE				AML	AML	
	comp=E,1700µm,0.7s					
MTCE				AML	AML	
	comp=N,812µm,0.9s					
MTCE				AML	AML	
	comp=E,1700µm,0.7s					
FAGN	**Fagnano**	**1.53 140**	P	**Pg**	**00 52 46.8**	**-0.4**
FAGN	**Fagnano**	**1.53 140**	AML	AML		
	comp=E,4595µm,0.5s					
FAGN				AML	AML	
	comp=N,4695µm,0.5s					
FAGN				AML	AML	
	comp=E,4595µm,0.5s					
FAGN				AML	AML	
	comp=N,4695µm,0.5s					
VLC	**Villacollemand**	**1.54 298**	P	**Pg**	**00 52 47.8**	**+0.4**
VLC	**Villacollemand**	**1.54 298**	AML	AML		
	comp=N,589µm,1.0s					
VLC				AML	AML	
	comp=E,394µm,1.5s					
VLC				AML	AML	
	comp=N,588µm,1.1s					
VLC				AML	AML	
	comp=E,369µm,1.5s					
VLC				AML	AML	
	comp=N,589µm,1.0s					
VLC				AML	AML	
	comp=N,588µm,1.1s					
VLC				AML	AML	
	comp=E,369µm,1.5s					
VLC				AML	AML	
	comp=E,394µm,1.5s					
CAVE	**Cavezzo**	**1.68 328**	P	**Pg**	**00 52 50.8**	**+0.7**
CAVE	**Cavezzo**	**1.68 328**	AML	AML		
	comp=N,1435µm,1.0s					
CAVE				AML	AML	
	comp=E,1805µm,1.0s					
CAVE				AML	AML	
	comp=N,1435µm,1.0s					
CAVE				AML	AML	
	comp=E,1805µm,1.0s					
PLMA	**Palmaria, Port**	**1.85 290**	P	**Pn**	**00 52 50.0**	**0.0**
PLMA	**Palmaria, Port**	**1.85 290**	AML	AML		
	comp=N,276µm,0.3s					
PLMA				AML	AML	
	comp=E,240µm,0.7s					
PLMA				AML	AML	
	comp=N,276µm,0.3s					
PLMA				AML	AML	
	comp=E,240µm,0.7s					
INTR	**Introdacqua**	**1.88 140**	P	**Pb**	**00 52 52.8**	**+0.3**
INTR	**Introdacqua**	**1.88 140**	AML	AML		
	comp=E,2005µm,0.9s					
INTR				AML	AML	
	comp=E,2005µm,0.9s					
INTR				AML	AML	
	comp=N,2165µm,0.8s					
INTR				AML	AML	
	comp=N,2165µm,0.8s					
GRAM	**Graiana**	**1.90 304**	P	**Pb**	**00 52 52.4**	**-0.5**
GRAM	**Graiana**	**1.90 304**	AML	AML		
	comp=N,796µm,0.5s					
GRAM				AML	AML	
	comp=E,716µm,0.7s					
GRAM				AML	AML	
	comp=N,796µm,0.5s					
GRAM				AML	AML	
	comp=E,716µm,0.7s					
CAFR	**Castel Frentan**	**1.96 128**	P	**Pg**	**00 52 54.5**	**-0.9**
CAFR	**Castel Frentan**	**1.96 128**	AML	AML		
	comp=E,1690µm,1.3s					
CAFR				AML	AML	
	comp=E,1690µm,1.3s					
CAFR				AML	AML	
	comp=N,1785µm,0.7s					
CAFR				AML	AML	
	comp=N,1785µm,0.7s					
TEOL	**Teolo**	**1.96 347**	P	**Pg**	**00 52 55.8**	**+0.4**
LPEL	**Lama dei Pelig**	**1.99 134**	P	**Pg**	**00 52 55.7**	**-0.2**
GIUL	**Giuliano Di Ro**	**2.03 159**	P	**Pb**	**00 52 53.7**	**-1.3**
GIUL	**Giuliano Di Ro**	**2.03 159**	AML	AML		
	comp=N,612µm,0.8s					
GIUL				AML	AML	
	comp=E,480µm,0.7s					
GIUL				AML	AML	
	comp=N,612µm,0.8s					
GIUL				AML	AML	
	comp=E,480µm,0.7s					
MSSA	**Maissana**	**2.17 294**	P	**Pn**	**00 52 54.2**	**-0.2**
MSSA	**Maissana**	**2.17 294**	AML	AML		
	comp=E,275µm,0.7s					
MSSA				AML	AML	
	comp=N,316µm,1.0s					
MSSA				AML	AML	
	comp=E,275µm,0.7s					
MSSA				AML	AML	
	comp=N,316µm,1.0s					
NVLJ	**Novalja**	**2.18 58**	*i* Pn	**Pn**	**00 52 54.6**	**+0.2**
NVLJ			Sn	**Sn**	**00 53 20.7**	**-0.9**
ROVR	**Rover Verones**	**2.36 339**	P	**Pb**	**00 52 59.2**	**-1.5**
SKDS	**Skadanscina**	**2.44 30**	*i* Pn	**Pn**	**00 52 57.0**	**-1.0**
SKDS			*e*Sn	**Sn**	**00 53 28.9**	**+0.8**
CGRP	**Cima Grappa**	**2.45 352**	P	**Pn**	**00 52 58.9**	**+0.5**
CGRP	**Cima Grappa**	**2.45 352**	AML	AML		
	comp=N,998µm,0.7s					
CGRP				AML	AML	
	comp=E,853µm,0.8s					
CGRP				AML	AML	
	comp=N,998µm,0.7s					
CGRP				AML	AML	
	comp=E,853µm,0.8s					
RIY	**Rijeka**	**2.45 39**	⇑*i* Pn	**Pn**	**00 52 57.6**	**-0.6**
TRI	**Trieste**	**2.50 25**	P	**Pn**	**00 52 58.6**	**-0.3**
TRI	**Trieste**	**2.50 25**	AML	AML		
	comp=N,454µm,0.9s					
TRI				AML	AML	
	comp=E,430µm,0.7s					
TRI				AML	AML	
	comp=N,454µm,0.9s					
TRI				AML	AML	
	comp=E,430µm,0.7s					
PGF	**Pioggiola**	**2.56 251**	*e*Pn	**Pn**	**00 53 00.8**	**+0.9**
	SNR=1.0					
PGF			*e*Sn	**Sn**	**00 53 31.0**	**-0.3**
	comp=E,32nm,0.6s,SNR=1.0					
KNDS	**Knezji Dol**	**2.57 35**	*e*Pn	**Pn**	**00 52 59.3**	**-0.6**
KNDS			*e*Sn	**Sn**	**00 53 32.3**	**+1.0**
POLC	**Polcenigo**	**2.58 4**	P	**Pn**	**00 53 00.5**	**+0.6**
POLC	**Polcenigo**	**2.58 4**	AML	AML		
	comp=E,1084µm,0.7s					
POLC				AML	AML	
	comp=N,1212µm,0.6s					
POLC				AML	AML	
	comp=N,1212µm,0.6s					
POLC				AML	AML	
	comp=E,1084µm,0.7s					
SMPL	**Sampolo**	**2.58 239**	P	**Pn**	**00 53 01.0**	**+0.9**
SMPL	**Sampolo**	**2.58 239**	AML	AML		
	comp=E,3765µm,0.7s					
SMPL				AML	AML	
	comp=E,3765µm,0.7s					
SMPL				AML	AML	
	comp=N,3530µm,1.6s					
SMPL				AML	AML	
	comp=N,3530µm,1.6s					
MAGA	**Magasa**	**2.60 334**	P	**Pn**	**00 53 01.6**	**+1.1**
MAGA	**Magasa**	**2.60 334**	AML	AML		
	comp=N,812µm,0.9s					
MAGA				AML	AML	
	comp=E,1900µm,0.7s					
MAGA				AML	AML	
	comp=N,812µm,0.9s					
MAGA				AML	AML	
	comp=E,1900µm,0.7s					
CTI	**Castel Tesino**	**2.63 351**	P	**Pn**	**00 53 02.6**	**+1.8**
CTI	**Castel Tesino**	**2.63 351**	AML	AML		
	comp=N,344µm,0.4s					
CTI				AML	AML	
	comp=E,370µm,0.7s					
CTI				AML	AML	
	comp=E,370µm,0.7s					
CTI				AML	AML	
	comp=N,344µm,0.4s					
SABO	**M.te Sabotino**	**2.70 20**	P	**Pn**	**00 53 01.1**	**-0.5**
SABO	**M.te Sabotino**	**2.70 20**	AML	AML		
	comp=N,1025µm,0.6s					
SABO				AML	AML	
	comp=E,973µm,0.6s					
SABO				AML	AML	
	comp=N,1025µm,0.6s					
SABO				AML	AML	
	comp=E,973µm,0.6s					
MELA	**Melanico ??? S**	**2.74 129**	P	**Pn**	**00 53 04.2**	**+2.1**
MELA	**Melanico ??? S**	**2.74 129**	AML	AML		
	comp=E,508µm,0.8s					
MELA				AML	AML	
	comp=E,508µm,0.8s					
MELA				AML	AML	
	comp=N,534µm,0.9s					
MELA				AML	AML	
	comp=E,487µm,0.9s					
MELA				AML	AML	
	comp=N,510µm,0.9s					
MELA				AML	AML	
	comp=E,487µm,0.9s					
MELA				AML	AML	
	comp=N,510µm,0.9s					
MELA				AML	AML	
	comp=N,534µm,0.9s					
UDBI	**Udbina**	**2.74 66**	*e*Pn	**Pn**	**00 53 03.5**	**+1.3**
CEY	**Cerknica**	**2.76 33**	*i* Pn	**Pn**	**00 53 01.7**	**-0.8**
CEY			*e*Sn	**Sn**	**00 53 36.4**	**+0.5**
CEY	**Cerknica**	**2.76 33**	⇑*i* Pn	**Pn**	**00 53 01.6**	**-0.8**
STAL	**STALIGIAL**	**2.83 6**	P	**Pn**	**00 53 03.4**	**0.0**
STAL	**STALIGIAL**	**2.83 6**	AML	AML		
	comp=N,490µm,0.7s					
STAL				AML	AML	
	comp=E,421µm,1.2s					
STAL				AML	AML	
	comp=E,501µm,0.7s					
STAL				AML	AML	
	comp=N,502µm,0.8s					
STAL				AML	AML	
	comp=E,421µm,1.2s					
STAL				AML	AML	
	comp=N,490µm,0.7s					
STAL				AML	AML	
	comp=N,502µm,0.8s					
STAL				AML	AML	
	comp=E,501µm,0.7s					
VINO	**Villanova**	**2.90 14**	P	**Pn**	**00 53 03.9**	**-0.5**
BOJS	**Bojanci**	**2.96 45**	P	**Pb**	**00 53 10.5**	**-0.3**
LJU	**Ljubljana**	**3.05 31**	⇑*i* Pn	**Pn**	**00 53 06.2**	**-0.2**
LJU	**Ljubljana**	**3.05 31**	P	**Pn**	**00 53 06.0**	**-0.4**
LJU	**Ljubljana**	**3.05 31**	AML	AML		
	comp=N,914µm,0.5s					
LJU				AML	AML	
	comp=E,764µm,0.8s					
LJU				AML	AML	

comp=E,764µm,0.8s
LJU AML AML
PTCC Patocco-Chiusa 3.05 14 P **Pn 00 53 06.0 -0.5**
PTCC Patocco-Chiusa 3.05 14 AML AML
comp=N,185µm,1.5s
PTCC AML AML
comp=E,316µm,0.9s
PTCC AML AML
comp=N,185µm,1.5s
PTCC AML AML
comp=E,316µm,0.9s
MRB1 Monte Rocchett 3.07 138 P **Pb 00 53 10.6 -2.2**
SGRT San Giovanni R 3.07 122 P **Pn 00 53 08.2 +1.4**
SGRT San Giovanni R 3.07 122 AML AML
comp=N,281µm,0.8s
SGRT AML AML
comp=E,248µm,0.8s
SGRT AML AML
comp=N,281µm,0.8s
SGRT AML AML
comp=E,248µm,0.8s
KOSI Kohlern 3.08 348 P **Pn 00 53 08.5 +1.5**
KOSI Kohlern 3.08 348 AML AML
comp=N,476µm,0.9s
KOSI AML AML
comp=E,493µm,0.6s
KOSI AML AML
comp=N,476µm,0.9s
KOSI AML AML
comp=E,493µm,0.6s
APPI Appiano 3.12 347 P **Pn 00 53 09.1 +1.7**
APPI Appiano 3.12 347 AML AML
comp=E,218µm,1.4s
APPI AML AML
comp=E,218µm,1.4s
APPI AML AML
comp=N,266µm,1.2s
APPI AML AML
comp=N,266µm,1.2s
OZLJ Ozalj 3.15 45 *e*Pn **Pn 00 53 09.0 +1.3**
OZLJ Sn **Sn 00 53 47.1 +1.6**
MSAG Monte S. Angel 3.20 122 P **Pn 00 53 09.8 +1.2**
MSAG Monte S. Angel 3.20 122 AML AML
comp=E,327µm,1.1s
MSAG AML AML
comp=E,327µm,1.1s
MSAG AML AML
comp=N,369µm,0.5s
MSAG AML AML
comp=N,369µm,0.5s
ACOM Acomizza, Ital 3.22 15 P **Pn 00 53 09.2 +0.2**
ACOM Acomizza, Ital 3.22 15 AML AML
comp=E,635µm,0.8s
ACOM AML AML
comp=E,635µm,0.8s
ACOM AML AML
comp=N,556µm,0.7s
ACOM AML AML
comp=N,556µm,0.7s
CRES Cresnjev 3.29 43 *e*Pn **Pn 00 53 09.3 -0.4**
ABTA Abfaltersbach 3.30 3 *i* Pn **Pn 00 53 10.9 +0.9**
comp=N,23nm,0.4s,SNR=26
ABTA *e*Sn **Sn 00 53 51.8 +2.4**
comp=N,105nm,0.7s
MYKA Terra Mystica 3.32 17 *e*Pn **Pn 00 53 10.7 +0.4**
comp=N,4.8nm,0.5s,SNR=8.5
ABSI Aberstueckl 3.35 349 P **Pn 00 53 12.5 +1.8**
ABSI Aberstueckl 3.35 349 AML AML
comp=E,530µm,0.7s
ABSI AML AML
comp=N,543µm,0.6s
ABSI AML AML
comp=E,530µm,0.7s
ABSI AML AML
comp=N,543µm,0.6s
MUGIO Muggio 3.38 318 P **Pn 00 53 11.3 +0.3**
MUGIO Muggio 3.38 318 AML AML
comp=E,90µm,0.7s
MUGIO AML AML
comp=N,112µm,1.3s
MUGIO AML AML
comp=E,90µm,0.7s
MUGIO AML AML
comp=N,112µm,1.3s
MOSI Grossmontoni 3.39 340 P **Pb 00 53 15.4 -2.9**
OBKA Obir 3.46 27 *e*Pn **Pn 00 53 12.8 +0.7**
comp=N,17nm,0.5s,SNR=8.7
FUORN Ofenpass-Fuorn 3.47 337 P **Pn 00 53 15.5 +3.0**
FUORN Ofenpass-Fuorn 3.47 337 AML AML
comp=N,140µm,0.7s
FUORN AML AML
comp=E,139µm,1.1s
FUORN AML AML
comp=N,140µm,0.7s
FUORN AML AML
comp=E,139µm,1.1s
ROSI Rosskopf 3.53 350 P **Pn 00 53 15.5 +2.2**
ROSI Rosskopf 3.53 350 AML AML
comp=E,398µm,0.8s
ROSI AML AML
comp=N,428µm,1.2s
ROSI AML AML
comp=N,428µm,1.2s
ROSI AML AML
comp=E,398µm,0.8s
SBF Sospel 3.53 278 *e*Pn **Pn 00 53 14.1 +0.9**
SNR=1.0
SBF *e*Sn **Sn 00 53 54.1 -1.1**
comp=E,71nm,0.5s,SNR=1.0
ZAG Zagreb 3.56 47 *e*Pn **Pb 00 53 22.5 +1.4**
MGRS Mrkonjic Grad 3.61 73 *e*Pn **Pn 00 53 16.2 +2.1**
KBA Koelnbreinsper 3.71 11 *e*Pn **Pn 00 53 16.3 +0.7**
comp=E,25nm,0.5s,SNR=28
KBA *e*Sn **Sn 00 54 04.0 +4.5**
comp=E,38nm,0.5s
FETA Feichten 3.73 344 *i* Pn **Pn 00 53 18.4 +2.4**
comp=E,61nm,0.9s,SNR=44
DAVOX Davos/Dischmat 3.73 334 Pn **Pn 00 53 18.7 +2.7**
comp=E,7.4nm,0.3s,baz=156,slow=14,SNR=110
DAVOX Sn **Sn 00 54 04.1 +3.8**
comp=E,2.6nm,0.3s,baz=102,slow=18,SNR=2.8
DAVOX LR LR 00 55 20.5
comp=E,133nm,19.6s,baz=110,slow=48
DAVOX Davos/Dischmat 3.73 334 P **Pn 00 53 19.6 +3.6**
BLY Banja Luka 3.77 68 *e*Pn **Pn 00 53 16.7 +0.4**
SOKA Soboth 3.77 30 *e*Pn **Pn 00 53 16.5 0.0**
comp=E,0.9nm,0.3s
TRAV Traversella 3.84 304 P **Pn 00 53 18.1 +0.8**
TRAV Traversella 3.84 304 AML AML
comp=N,96µm,0.6s
TRAV AML AML
comp=E,74µm,0.8s
TRAV AML AML
comp=E,74µm,0.8s
TRAV AML AML
comp=N,96µm,0.6s
WTTA Wattenberg 3.84 354 *e*Pn **Pn 00 53 19.9 +2.4**
comp=N,4.2nm,0.2s
WTTA Sn **Sn 00 54 06.5 +3.6**
comp=N,77nm,0.5s
SQTA Sankt Quirin 3.84 349 *e*Pn **Pn 00 53 20.0 +2.5**
comp=N,46nm,0.5s,SNR=28
SQTA Sn **Sn 00 54 07.5 +4.7**
comp=N,20nm,0.4s
WATA Walderalm 3.92 353 *e*Pn **Pn 00 53 21.2 +2.8**
comp=N,6.6nm,0.2s,SNR=24
MOTA Moosalm 3.98 348 *i* Pn **Pn 00 53 21.5 +2.2**
comp=N,5.0nm,0.4s,SNR=75
STON Ston 4.01 96 *e*Pn **Pn 00 53 20.6 +0.9**
STON *e*Sn **Sn 00 54 06.7 -0.1**
STON Ston 4.01 96 *i* Pn **Pn 00 53 20.5 +0.9**
STON Sn **Sn 00 54 07.2 +0.3**
STON Ston 4.01 96 *e*Pn **Pn 00 53 20.4 +0.8**
FRF La Foret Royal 4.09 273 *e*Pn **Pn 00 53 21.3 +0.5**
SNR=1.0
FRF *e*Sn **Sn 00 54 07.5 -1.4**
comp=N,24nm,0.6s,SNR=1.0
KOGS Kog 4.12 42 P **Pn 00 53 20.4 -0.7**
KOGS Kog 4.12 42 AML AML
comp=E,626µm,1.4s
KOGS AML AML
comp=E,626µm,1.4s
KOGS AML AML
comp=N,678µm,1.3s
KOGS AML AML
comp=N,678µm,1.3s

MBDF Montbardon 4.16 290 *e*Pn **Pn 00 53 21.9 0.0**
SNR=1.0
MBDF *e*Sn **Sn 00 54 09.6 -1.2**
comp=N,36nm,0.8s
RETA Reutte 4.17 346 *i* Pn **Pn 00 53 24.8 +2.9**
comp=N,19nm,0.4s,SNR=16
RETA *e*Sn **Sn 00 54 14.8 +3.8**
comp=N,40nm,0.7s
DAVA Damuels 4.19 337 *e*Pn **Pn 00 53 25.3 +3.0**
comp=N,56nm,0.5s,SNR=40
DAVA Sn **Sn 00 54 15.2 +3.7**
comp=N,54nm,0.6s
LMR La Mourre 4.20 270 *e*Pn **Pn 00 53 22.8 +0.5**
SNR=1.0
LMR *e*Sn **Sn 00 54 11.7 +0.2**
comp=N,5.3nm,0.3s
BEHE Becsehely 4.40 45 *e*Pn **Pn 00 53 25.7 +0.8**
BEHE Becsehely 4.40 45 *e*Pn **Pn 00 53 24.1 -0.9**
BEHE *e*Pg **Pg 00 53 40.1 -2.0**
BEHE Sn **Sn 00 54 22.0 +5.7**
BEHE *e*Sg **Sg 00 54 38.1 -0.9**
ARSA Arzberg 4.44 30 *e*Pn **Pn 00 53 25.3 -0.2**
comp=N,6.5nm,0.5s
ARSA *e*Sn **Sn 00 54 18.2 +0.8**
comp=N,13nm,0.6s
NOCI Noci 4.45 125 P **Pn 00 53 27.0 +1.3**
NOCI Noci 4.45 125 AML AML
comp=N,86µm,0.8s
NOCI AML AML
comp=E,59µm,0.7s
NOCI AML AML
comp=N,86µm,0.8s
NOCI AML AML
comp=E,59µm,0.7s
LPG La Plagne 4.45 299 *e*Pn **Pn 00 53 26.4 +0.5**
SNR=1.0
LPG *e*Sn **Sn 00 54 15.0 -3.1**
LPG *e*Sg **Sg 00 54 39.2 -1.5**
comp=E,14nm,0.6s,SNR=1.0
LPL La Plagne 4.47 299 *e*Pn **Pn 00 53 26.7 +0.5**
SNR=1.0
LPL *e*Sn **Sn 00 54 16.0 -2.5**
comp=E,14nm,0.4s,SNR=1.0
TREB Trebinje 4.51 97 *e*Pn **Pn 00 53 27.6 +1.1**
TREB *e*Sn **Sn 00 54 20.0 +0.8**
TREB Trebinje 4.51 97 *e*Pn **Pn 00 53 27.6 +1.1**
FASA Fasano 4.61 123 *e*P **Pn 00 53 28.9 +1.1**
MOA Molln 4.62 17 *e*Pn **Pn 00 53 28.7 +0.7**
comp=E,2.2nm,0.2s,SNR=12
MOA *e*Sn **Sn 00 54 22.6 +0.8**
comp=E,36nm,0.6s
BRY Bratogost 4.62 95⇓ *i*Pn **Pn 00 53 29.3 +1.2**
BRY *e*Sn **Sn 00 54 23.6 +1.6**
BRY Bratogost 4.62 95 *e*Pn **Pn 00 53 29.6 +1.5**
HCY Herceg Novi 4.68 100⇑ *i*Pn **Pn 00 53 30.2 +1.4**
HCY *e*Sn **Sn 00 54 25.5 +2.3**
HCY Herceg Novi 4.68 100 *e*Pn **Pn 00 53 30.1 +1.3**
TAR1 Taranto 4.74 126 *e*P **Pn 00 53 31.2 +1.5**
ORIF Oris-en-Rattie 4.83 290 *e*Pn **Pn 00 53 32.6 +1.7**
SNR=1.0
ORIF *e*Sn **Sn 00 54 25.3 -1.8**
comp=E,17nm,0.6s,SNR=1.0
UPM Unac-Piva 4.84 91⇑ *i*Pn **Pn 00 53 33.4 +2.1**
UPM *e*Sn **Sn 00 54 29.6 +1.9**
UPM Unac-Piva 4.84 91 *e*Pn **Pn 00 53 34.1 +2.8**
HAPS Han Pijesak,Bl 4.88 80 *e*Pn **Pn 00 53 32.2 +0.5**
SMRF Simiane la Rot 4.88 278 *e*Pn **Pn 00 53 31.9 +0.2**
SNR=1.0
SMRF *e*Sn **Sn 00 54 26.8 -1.6**
comp=E,7.3nm,0.5s
NKME Niksic 4.94 96⇓ *i*Pn **Pn 00 53 33.9 +1.5**
NKME *e*Sn **Sn 00 54 31.3 +1.5**
CEME Cevo 4.96 98⇑ *i*Pn **Pn 00 53 33.9 +1.2**
CEME *e*Sn **Sn 00 54 32.4 +2.1**
NKY Niksic 4.96 95⇑ *i*Pn **Pn 00 53 33.9 +1.1**
NKY *e*Sn **Sn 00 54 32.1 +1.7**
BUM Brajici-Budva 5.00 101⇑ *i*Pn **Pn 00 53 35.0 +1.7**
BUM *e*Sn **Sn 00 54 33.9 +2.6**
CONA Conrad Observa 5.13 28 *e*Pn **Pn 00 53 34.4 -0.7**
comp=E,6.8nm,0.5s
CONA *e*Sn **Sn 00 54 34.4 -0.3**
comp=E,9.6nm,0.6s
PLE Pljevlja 5.19 89⇑ *i*Pn **Pn 00 53 37.7 +1.8**
PLE *e*Sn **Sn 00 54 38.1 +2.1**
SOP Sopron 5.19 34 *e*Pn **Pn 00 53 33.1 -2.8**
SOP Sn **Sn 00 54 33.1 -2.9**
PDG Podgorica 5.23 99 *e*Pn **Pn 00 53 38.3 +2.0**
PDG *e*Sn **Sn 00 54 38.6 +1.8**
PDG Podgorica 5.23 99⇑ *i*Pn **Pn 00 53 37.8 +1.5**
TTG Podgorica 5.23 99⇑ *i*Pn **Pn 00 53 38.3 +2.0**
TTG *e*Sn **Sn 00 54 38.8 +2.0**
DRME Dracevica, Mon 5.24 102⇑ *i*Pn **Pn 00 53 37.9 +1.4**
DRME *e*Sn **Sn 00 54 39.1 +2.0**
DRME Dracevica, Mon 5.24 102 *e*Pn **Pn 00 53 37.5 +1.0**
TIH Tihany 5.26 47 *e*Pn **Pn 00 53 36.0 -0.7**
TIH *e*Pg **Pg 00 53 56.1 -2.5**
TIH Sn **Sn 00 54 36.0 -1.6**
KOME Kolasin 5.33 94⇓ *i*Pn **Pn 00 53 40.3 +2.4**
KOME *e*Sn **Sn 00 54 42.6 +3.0**
ULC Ulcinj 5.35 104⇑ *i*Pn **Pn 00 53 39.2 +1.2**
ULC *e*Sn **Sn 00 54 41.8 +2.0**
CABF La Chapelle 5.40 308 *e*Pn **Pn 00 53 39.0 +0.1**
SNR=1.0
CABF *e*Sn **Sn 00 54 38.1 -3.2**
comp=E,17nm,0.6s,SNR=1.0
GERES GERESS Array B 5.49 10 Pn **Pn 00 53 39.6 -0.3**
comp=E,0.9nm,0.3s,baz=185,slow=12,SNR=26
GERES Sn **Sn 00 54 44.2 +0.9**
comp=E,2.1nm,0.3s,baz=190,slow=22,SNR=7.2
GERES Lg Lg 00 55 12.1
comp=E,0.6nm,0.3s,baz=185,slow=22,SNR=3.1
GERES LR LR 00 56 24.7
comp=E,193nm,18.3s,baz=183,slow=45
IVA Berane 5.60 93⇓ *i*Pn **Pn 00 53 43.5 +1.9**
IVA *e*Sn **Sn 00 54 47.8 +1.6**
SJES Sjenica 5.62 89 *e*Pn **Pn 00 53 44.2 +2.4**
DIVS Divibare 5.63 81 *e*Pn **Pn 00 53 43.8 +1.9**
DIVS Divibare 5.63 81 *e*Pn **Pn 00 53 43.1 +1.2**
VIVF Saint-Julien-I 5.64 287 *e*Pn **Pn 00 53 42.6 +0.5**
VIVF *e*Sn **Sn 00 54 44.1 -3.1**
comp=E,1.7nm,0.3s
FRGS Fruska Gora 5.67 70 *e*Pn **Pn 00 53 42.8 +0.3**
PVY Plav 5.70 96⇓ *i*Pn **Pn 00 53 45.2 +2.2**
PVY *e*Sn **Sn 00 54 49.9 +1.3**
IVAS Ivanjica 5.73 86 *e*Pn **Pn 00 53 44.2 +0.8**
KHC Kasperske Hory 5.75 9 *e*Pn **Pn 00 53 43.1 -0.5**
KHC *e*SN **Sn 00 54 47.1 -2.7**
KHC AMS AMS 00 56 30.0
comp=E,400nm,11.1s
HINF Hinteralfeld 5.79 321 *e*Pn **Pn 00 53 43.7 -0.4**
SNR=1.0
HINF *e*Sn **Sn 00 54 46.2 -4.5**
comp=E,13nm,0.4s
ZST Bratislava 5.82 34 *e*PN **Pn 00 53 45.2 +0.7**
TIR Tirane 6.00 108 *e*Pn **Pn 00 53 47.7 +0.7**
MODS Modra-Piesok 6.03 34 *e*Pn **Pn 00 53 47.7 +0.2**
MODS *e*SN **Sn 00 54 55.5 -1.2**
CDF Champ du Feu 6.06 327 *e*Pn **Pn 00 53 47.5 -0.4**
SNR=1.0
CDF *e*Sn **Sn 00 54 52.3 -5.2**
comp=E,12nm,0.3s
LASF Ste Croix 6.13 279 *e*Pn **Pn 00 53 49.5 +0.8**
SNR=1.0
LASF *e*Sn **Sn 00 54 56.9 -2.1**
comp=E,0.9nm,0.2s
GRUS Gruza 6.14 83 *e*Pn **Pn 00 53 50.0 +1.1**
HAU Haudompre 6.16 320 *e*Pn **Pn 00 53 49.0 -0.2**
SNR=1.0
HAU *e*Sn **Sn 00 54 55.3 -4.5**
comp=E,20nm,0.4s
VAE Valguarnera 6.18 164 Pg **Pb 00 54 07.8 +2.0**
comp=E,0.4nm,0.3s,baz=276,slow=19,SNR=4.4
SMOL Smolenice 6.21 34 *e*PN **Pn 00 53 52.5 +2.7**
SMOL *e*SN **Sn 00 54 59.5 -1.4**
TREC Trest 6.25 20 AMS AMS 00 56 30.0
comp=E,200nm,15.0s
KRUC Moravsky 6.30 26 *e*Pn **Pn 00 53 50.6 -0.4**
SELS Selova 6.46 89 *e*Pn **Pn 00 53 53.8 +0.5**
VRAC Vranov 6.58 26 *e*Pn **Pn 00 53 53.8 -1.1**
VRAC Vranov 6.58 26 Pn **Pn 00 53 54.6 -0.3**
comp=E,0.5nm,0.3s,baz=210,slow=9.7,SNR=3.7
VRAC Sn **Sn 00 55 05.6 -4.4**
comp=E,0.7nm,0.3s,baz=176,slow=16,SNR=3.2
VRAC Lg Lg 00 55 50.5
baz=169,slow=16,SNR=2.0
VRAC LR LR 00 57 05.2
comp=E,107nm,19.1s,baz=174,slow=44
KOLL Kolacno 6.67 38 *e*SN Sn 00 54 53.6 -19
GOPC GO Pecny, Ondr 6.69 14 *e*PN **Pn 00 53 55.5 -1.0**
GOPC *e*SN **Sn 00 55 09.2 -3.7**
GOPC AMS AMS 00 56 50.0
comp=E,200nm,16.9s
PRU Pruhonice 6.72 13 *e*PN **Pn 00 53 56.3 -0.6**
PRU *e*SN **Sn 00 55 09.0 -4.6**
PRU AMS AMS 00 57 00.0
comp=E,200nm,14.2s
SMF Signal de Mont 6.77 301 *e*Pn **Pn 00 53 57.4 -0.2**
SNR=1.0
SMF *e*Sn **Sn 00 55 11.4 -3.5**
comp=E,5.6nm,0.4s,SNR=1.0
NKC Novy Kostel 6.79 1 *e*PN **Pn 00 53 57.7 -0.1**
NKC *e*SN **Sn 00 55 11.7 -3.5**
NKC AMS AMS 00 57 10.0
comp=E,200nm,12.9s
VYHS Vyhne 6.81 40 *e*PN **Pn 00 53 59.8 +1.8**
PAGF Fort de Pagny 6.84 321 *e*Pn **Pn 00 53 58.8 +0.3**
PAGF *e*Sn **Sn 00 55 11.3 -5.3**
comp=E,10nm,0.5s
BOVS Bovan 6.86 85 *e*Pn **Pn 00 54 00.3 +1.6**
SKO Skopje 6.91 99 *i* Pn **Pn 00 54 00.9 +1.4**
SFTF Sexfontaines 6.94 316 *e*Pn **Pn 00 54 00.1 +0.3**
baz=133
SFTF *e*Sn **Sn 00 55 13.5 -5.4**
comp=E,4.8nm,0.3s,baz=121
BARS Barje 7.01 92 *e*Pn **Pn 00 54 02.2 +1.3**
LOR Lormes 7.05 306 *e*Pn **Pn 00 54 01.3 -0.1**
baz=125,SNR=1.0
LOR *e*Sn **Sn 00 55 16.5 -5.2**
comp=E,7.7nm,0.4s,baz=125,SNR=1.0
MEZF Maizieres J'vi 7.13 318 *e*Pn **Pn 00 54 02.1 -0.3**
baz=135,SNR=1.0
MEZF *e*Sn **Sn 00 55 18.3 -5.2**
comp=E,6.4nm,0.4s
AVF Avril sur Loir 7.14 301 *e*Pn **Pn 00 54 02.6 0.0**
SNR=1.0
AVF *e*Sn **Sn 00 55 19.5 -4.3**
comp=E,1.7nm,0.5s
SSF Saint Saulge 7.16 303 *e*Pn **Pn 00 54 02.9 0.0**
SNR=1.0
SSF *e*Sn **Sn 00 55 18.8 -5.6**
comp=E,4.0nm,0.5s
PVCC Panska Ves 7.25 12 AMS AMS 00 57 10.0
comp=E,200nm,18.6s
MTLF Montolieu 7.33 273 *e*Pn **Pn 00 54 06.0 +0.8**
SNR=1.0
MTLF *e*Sn **Sn 00 55 25.5 -3.0**
comp=E,1.3nm,0.3s
BGF Bois d'Agland 7.37 298 *e*Pn **Pn 00 54 06.2 +0.5**
SNR=1.0
BGF *e*Sn **Sn 00 55 25.1 -4.4**
comp=E,7.3nm,0.4s,SNR=1.0
DPC Dobruska-Polom 7.44 20 *e*PN **Pn 00 54 05.6 -1.1**
DPC *e*SN **Sn 00 55 24.9 -6.4**
CAF Calviac 7.49 285 *e*Pn **Pn 00 54 07.6 +0.2**
SNR=1.0
CAF *e*Sn **Sn 00 55 28.8 -3.6**
comp=E,1.9nm,0.5s,SNR=1.0
UPC Upice 7.51 19 *e*PN **Pn 00 54 06.5 -1.1**
UPC *e*SN **Sn 00 55 27.1 -5.8**
UPC AMS AMS 00 57 50.0
comp=E,300nm,6.2s
WLF Walferdange 7.51 328⇓ Pn **Pn 00 54 09.9 +2.3**
WLF ⇓ Sn **Sn 00 55 34.0 +1.1**
comp=N,18nm,0.0s
STIP Stip 7.53 100 *i* Pn **Pn 00 54 10.8 +2.9**
ZAPS Zavoj 7.55 88 *e*Pn **Pn 00 54 09.4 +1.1**
TCF Toulx Ste Croi 7.69 295 *e*Pn **Pn 00 54 10.0 -0.2**
TCF *e*Sn **Sn 00 55 33.4 -4.1**
comp=N,1.0nm,0.3s
CLL Collm 7.88 3 *i* Pn **Pn 00 54 13.7 +1.0**
comp=Z,5.0nm,0.6s
CLL *e* 00 54 21.0
CLL *e* 00 55 41.0
CLL *e* 00 55 52.0
CLL *i* 00 56 04.4
CLL *e*Sg **Sg 00 56 22.0 -8.5**
CLL Lmax 00 58 00.0
RJF Les Rejaudoux 7.93 287 *e*Pn **Pn 00 54 14.1 +0.7**
RJF *e*Sn **Sn 00 55 39.2 -4.1**
comp=Z,0.1nm,0.2s
KEST Kesra 8.03 197 Pn Pn 00 54 19.9 +5.0
comp=Z,0.5nm,0.3s,baz=323,slow=5.4,SNR=11
KEST Sn **Sn 00 55 43.1 -2.9**
baz=58,slow=15,SNR=1.9
KEST LR LR 00 57 30.5
comp=Z,96nm,18.2s,baz=340,slow=39
VTS Vitosha 8.07 92 *e*Pn **Pn 00 54 17.0 +1.4**
MEM Membach 8.34 331⇑ Pn **Pn 00 54 21.2 +2.2**
MEM ⇓ Sn **Sn 00 55 49.7 -3.6**
comp=E,11nm,0.0s
BCLA Clavier 8.44 328⇑ Pn **Pn 00 54 24.1 +3.6**
BCLA ⇑ Sn **Sn 00 55 55.0 -0.9**
comp=E,16nm,0.0s
MLR Muntele Rosu 9.99 74 Pn **Pn 00 54 43.6 +1.9**
comp=E,0.0nm,0.3s,baz=269,slow=13,SNR=2.8
MLR LR LR 00 59 56.8
comp=E,86nm,18.3s,baz=291,slow=46
ESDC Sonseca Array 12.73 258 Pn Pn 00 55 26.6 +7.4
comp=E,0.0nm,0.3s,baz=57,slow=13,SNR=2.3
EKA Eskdalemuir Ar 15.52 325 Pn **Pn 00 55 58.3 +1.4**
baz=133,slow=15,SNR=4.6
BRTR Keskin Array B 16.41 96 Pn **Pn 00 56 06.5 -2.1**
comp=E,0.0nm,0.3s,baz=300,slow=12,SNR=2.7
HFS Hagfors 16.73 2 Pn **P 00 56 16.5 +1.7**
comp=E,0.1nm,0.3s,baz=180,slow=13,SNR=4.1
HFS LR LR 01 03 40.7
comp=E,50nm,19.6s,baz=176,slow=41
MDT Midelt 16.97 237 LR LR 01 03 22.6
comp=E,13nm,18.3s,baz=80,slow=39
NOA NORSAR Array B 17.63 358 Pn **Pn 00 56 23.5 -0.2**
comp=E,0.0nm,0.3s,baz=176,slow=13,SNR=2.8
NOA LR LR 01 04 08.8
comp=E,25nm,18.7s,baz=315,slow=40
FINES FINESS Array B 19.81 20 Pn **Pn 00 56 50.2 +0.1**
comp=E,0.1nm,0.3s,baz=201,slow=7.3,SNR=3.1
FINES LR LR 01 05 34.5
comp=E,58nm,20.4s,baz=184,slow=40
KVAR Kislovodsk Arr 21.95 78 LR LR 01 06 59.0
comp=E,147nm,21.4s,baz=84,slow=40
KBZ Khabaz 22.13 79 P **P 00 57 16.0 +2.3**
comp=E,2.5nm,0.9s,baz=308,slow=3.1,SNR=5.1
KIRV Kirov 27.40 43 LR LR 01 11 03.9
comp=E,25nm,18.7s,baz=166,slow=41
TORD Torodi Ar. Bea 31.54 200 P **P 00 58 40.4 -0.3**
comp=E,0.7nm,0.6s,baz=19,slow=9.2,SNR=9.0
TORD LR LR 01 11 26.5
comp=E,36nm,20.1s,baz=340,slow=36
ZALV Zalesovo Beam 47.01 50 P **P 01 00 48.5 -0.8**
comp=E,0.3nm,0.3s,baz=316,slow=12,SNR=2.9
ZALV LR LR 01 23 45.8
comp=E,20nm,18.0s,baz=66,slow=40
MKAR Makanchi Array 48.02 60 P **P 01 00 57.1 -0.2**
comp=E,1.1nm,0.9s,baz=276,slow=5.7,SNR=3.6
YKA Yellowknife Ar 66.17 336 P **P 01 03 05.9 +0.4**
comp=E,0.4nm,0.7s,baz=41,slow=5.9,SNR=11
ULM Lac du Bonnet 67.68 319 P **P 01 03 15.5 +0.2**
comp=E,1.3nm,0.7s,baz=66,slow=6.5,SNR=3.6
ILAR Eielson Array 70.88 351 P **P 01 03 36.6 +1.7**
comp=E,0.2nm,0.7s,baz=0.8,slow=6.3,SNR=2.9
TXAR Lajitas Array 86.80 308 P **P 01 05 04.5 +1.4**
comp=E,0.4nm,0.9s,baz=60,slow=4.9,SNR=4.2
JHJ Hachijo jima 2 89.97 42 LR LR 01 47 36.2
comp=E,66nm,20.4s,baz=123,slow=37
TGY Tagaytay City 93.45 67 LR LR 01 51 55.7
comp=E,128nm,20.1s,baz=136,slow=38

SKO 08 01:03:21.3,41°32N×21°00E,h15km,M1.3,ML1.6, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.26**	**216**	*e*Pg	Pb	01 03 27.3	-0.3
OHR				*e*Sg	Sb	01 03 31.4	-0.5
OHR				*e*Lg	Lg	01 03 31.4	
	comp=N,180nm,0.3s						
OHR				*e*Lg	Lg	01 03 31.5	
	comp=E,132nm,0.3s						
BIA	**Bitola**	**0.39**	**141**	*i* Pg	Pb	01 03 29.5	-0.3
BIA				*e*Lg	Lg	01 03 35.3	
	comp=E,60nm,0.2s						

BIA			*i* Sg	Sb	01 03 35.4	-0.3
BIA			*e*Lg	Lg	01 03 35.4	
	comp=N,48nm,0.4s					
FNA	**Florina**	**0.61 152**	*i* Pg	Pg	01 03 32.9	-0.3
FNA			*i* Sg	Sg	01 03 41.1	-0.2
STIP	**Stip**	**0.97 67**	*i* Pg	Pn	01 03 44.3	+4.0
STIP			*i* Sg	Sn	01 04 00.0	+6.3
VAY	**Valandovo**	**1.18 89**	*i* Pg	Pg	01 03 44.2	+0.2
VAY			*i* Sg	Sg	01 04 00.4	+0.9
VAY			*e*Lg	Lg	01 04 00.8	
	comp=E,6.6nm,0.4s					
VAY			*e*Lg	Lg	01 04 02.1	
	comp=N,6.4nm,0.5s					
KNT	**Kendrikon**	**1.44 96**	*e*Pn	Pg	01 03 48.8	-0.1
KNT			*e*Sg	Sg	01 04 07.9	+0.2

ROM 08 01:05:15.9±0.1, 43°.447N±0°.004×12°.292E±0°.006, h10km, ML0.6/5, Error ellipse: s-maj=0.5km s-min=0.3km az=112.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.04**	**285**	P	Pg	01 05 18.1	+0.2
CDCA				S	Sg	01 05 19.3	0.0
CDCA				AML	AML		
	comp=E,836μm,1.5s						
CDCA				AML	AML		
	comp=N,550μm,0.5s						
CDCA	**Citt' di Caste**	**0.04**	**285**	P	Pg	01 05 18.1	+0.2
CDCA	**Citt' di Caste**	**0.04**	**285**	S	Sg	01 05 19.4	+0.1
ATPI	**Pietralunga -**	**0.08**	**87**	P	Pg	01 05 18.6	+0.2
ATPI	**Pietralunga -**	**0.08**	**87**	S	Sg	01 05 19.9	-0.1
ATVO	**AVT- Monte Val**	**0.11**	**128**	P	Pg	01 05 19.2	+0.5
ATVO				S	Sg	01 05 21.3	+0.7
ATVO				AML	AML		
	comp=E,50μm,0.5s						
ATVO				AML	AML		
	comp=N,45μm,0.7s						
ATVO				AML	AML		
	comp=E,50μm,0.5s						
ATVO				AML	AML		
	comp=N,45μm,0.7s						
ATVO				AML	AML		
	comp=N,45μm,0.7s						
ATVO				AML	AML		
	comp=E,50μm,0.5s						
ATVO	**AVT- Monte Val**	**0.11**	**128**	P	Pg	01 05 19.2	+0.5
ATVO	**AVT- Monte Val**	**0.11**	**128**	P	Pg	01 05 19.2	+0.6
ATVO	**AVT- Monte Val**	**0.11**	**128**	S	Sg	01 05 21.3	+0.7
ATMI	**Monte Miggiano**	**0.11**	**189**	P	Pg	01 05 19.6	+0.8
ATMI	**Monte Miggiano**	**0.11**	**189**	P	Pg	01 05 19.6	+0.8
ATMI				S	Sg	01 05 21.5	+0.8
ATMI				AML	AML		
	comp=E,42μm,1.6s						
ATMI				AML	AML		
	comp=N,53μm,0.7s						
ATMI				AML	AML		
	comp=E,42μm,1.6s						
ATMI				AML	AML		
	comp=N,53μm,0.7s						
ATMI				AML	AML		
	comp=N,53μm,0.7s						
ATMI				AML	AML		
	comp=E,42μm,1.6s						
ATMI	**Monte Miggiano**	**0.11**	**189**	P	Pg	01 05 19.6	+0.8
ATMI	**Monte Miggiano**	**0.11**	**189**	S	Sg	01 05 21.4	+0.6
PIEI	**Pieia**	**0.20**	**63**	P	Pg	01 05 20.8	+0.7
PIEI	**Pieia**	**0.20**	**63**	P	Pg	01 05 20.8	+0.7
PIEI				S	Sg	01 05 24.4	+1.4
PIEI				AML	AML		
	comp=E,45μm,0.3s						
PIEI				AML	AML		
	comp=N,29μm,0.8s						
PIEI				AML	AML		
	comp=E,45μm,0.3s						
PIEI				AML	AML		
	comp=N,29μm,0.8s						
PIEI				AML	AML		
	comp=N,29μm,0.8s						
PIEI				AML	AML		
	comp=E,45μm,0.3s						
PIEI	**Pieia**	**0.20**	**63**	P	Pg	01 05 20.9	+0.7
PIEI	**Pieia**	**0.20**	**63**	S	Sg	01 05 24.4	+1.3
PARC	**Parchiule**	**0.20**	**349**	P	Pg	01 05 20.9	+0.6
PARC				S	Sg	01 05 24.8	+1.6
PARC				AML	AML		
	comp=E,22μm,1.6s						
PARC				AML	AML		
	comp=N,19μm,1.5s						
PARC				AML	AML		
	comp=E,22μm,1.6s						
PARC				AML	AML		
	comp=N,18μm,1.5s						
PARC				AML	AML		
	comp=E,22μm,1.6s						
PARC				AML	AML		
	comp=N,18μm,1.5s						
PARC	**Parchiule**	**0.20**	**349**	P	Pg	01 05 20.9	+0.7
PARC	**Parchiule**	**0.20**	**349**	P	Pg	01 05 21.0	+0.7
PARC	**Parchiule**	**0.20**	**349**	S	Sg	01 05 24.5	+1.3
ATTE	**AVT- Monte Tez**	**0.25**	**170**	P	Pb	01 05 22.0	-0.7
ATTE	**AVT- Monte Tez**	**0.25**	**170**	P	Pb	01 05 22.0	-0.6
ATTE				S	Sg	01 05 25.8	+1.2
ATTE	**AVT- Monte Tez**	**0.25**	**170**	P	Pb	01 05 22.1	-0.5
ATTE	**AVT- Monte Tez**	**0.25**	**170**	S	Sb	01 05 26.0	-1.2
CAFI	**Castiglion Fio**	**0.27**	**244**	P	Pb	01 05 22.2	-0.6
CAFI	**Castiglion Fio**	**0.27**	**244**	P	Pb	01 05 22.2	-0.6
CAFI				S	Sb	01 05 26.5	-0.9
CAFI	**Castiglion Fio**	**0.27**	**244**	P	Pb	01 05 22.3	-0.6
CAFI	**Castiglion Fio**	**0.27**	**244**	S	Sb	01 05 26.6	-0.8
NARO	**Abbazia di Nar**	**0.27**	**52**	P	Pg	01 05 21.8	+0.5
NARO				S	Sb	01 05 26.4	-1.1
NARO				AML	AML		
	comp=E,12μm,1.2s						
NARO				AML	AML		
	comp=N,18μm,0.3s						
NARO				AML	AML		
	comp=E,12μm,1.2s						
NARO				AML	AML		
	comp=N,18μm,0.3s						
NARO				AML	AML		
	comp=N,18μm,0.3s						
NARO				AML	AML		
	comp=E,12μm,1.2s						
NARO	**Abbazia di Nar**	**0.27**	**52**	P	Pg	01 05 21.9	+0.5
NARO	**Abbazia di Nar**	**0.27**	**52**	P	Pg	01 05 21.9	+0.5
NARO	**Abbazia di Nar**	**0.27**	**52**	S	Sb	01 05 26.4	-1.1

*THE **08** 01:08:30.0, 39°.10N×23°.23E, h16km±1km, ML1.4/9, Error ellipse: s-maj=1.5km s-min=0.5km az=84.0*

ATH 08 01:08:29.9, 39°.10N×23°.23E, h17km±2km, ML1.6/6, Error ellipse: s-maj=2.4km s-min=0.7km az=37.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKIA	**Skiathos**	**0.20**	**69**	P	Pg	01 08 34.8	0.0
SKIA				S	Sb	01 08 38.6	0.0
SKIA	**Skiathos**	**0.20**	**69**	P	Pg	01 08 34.7	-0.1
SKIA				S	Sg	01 08 37.9	-0.2
SKIA				AML	AML	01 08 38.6	
	comp=E,640μm,0.3s						
SKIA				AML	AML	01 08 38.7	
	comp=N,383μm,0.2s						
NEO	**Neokhori**	**0.21**	**359**	P	Pg	01 08 34.9	-0.1
NEO				S	Sg	01 08 38.4	-0.1
NEO	**Neokhori**	**0.21**	**359**	P	Pg	01 08 34.9	-0.1
NEO				S	Sg	01 08 38.4	0.0
NEO				AML	AML	01 08 39.2	
	comp=E,627μm,0.1s						
NEO				AML	AML	01 08 41.4	
	comp=N,849μm,0.2s						
SMIA	**Simia**	**0.22**	**184**	P	Pg	01 08 35.1	0.0
SMIA				S	Sb	01 08 38.9	-0.2
SMIA	**Simia**	**0.22**	**184**	P	Pg	01 08 35.2	+0.1
SMIA				S	Sg	01 08 38.4	-0.1
SMIA				AML	AML	01 08 40.5	
	comp=E,671μm,0.1s						
SMIA				AML	AML	01 08 41.4	
	comp=N,1155μm,0.2s						
XOR	**Xorichti**	**0.27**	**354**	P	Pg	01 08 35.9	-0.1
XOR	**Xorichti**	**0.27**	**354**	P	Pg	01 08 35.9	0.0
XOR				S	Sg	01 08 40.1	0.0
XOR				AML	AML	01 08 40.9	
	comp=N,418μm,0.1s						
XOR				AML	AML	01 08 41.1	
	comp=E,300μm,0.2s						
FYTO	**Fytoko, Volos**	**0.38**	**325**	P	Pg	01 08 37.9	0.0
FYTO				S	Sg	01 08 43.1	-0.2
FYTO	**Fytoko, Volos**	**0.38**	**325**	P	Pg	01 08 38.0	+0.1
FYTO				S	Sg	01 08 43.1	-0.2
ATAL	**Atalanti**	**0.43**	**202**	P	Pg	01 08 38.9	+0.2
ATAL				S	Sb	01 08 45.0	-0.3
ATAL	**Atalanti**	**0.43**	**202**	P	Pg	01 08 38.8	+0.1
ATAL				S	Sg	01 08 44.9	+0.2
ATAL				AML	AML	01 08 46.5	
	comp=E,111μm,0.1s						
ATAL				AML	AML	01 08 46.7	
	comp=N,94μm,0.2s						
LKR	**Lokris**	**0.48**	**202**	P	Pg	01 08 39.4	-0.2
LKR				S	Sg	01 08 46.3	+0.3
LKR	**Lokris**	**0.48**	**202**	P	Pg	01 08 39.6	0.0
MRKA	**Markates**	**0.48**	**144**	P	Pg	01 08 39.5	-0.1
MRKA				S	Sb	01 08 46.9	+0.2
MRKA	**Markates**	**0.48**	**144**	P	Pg	01 08 39.6	0.0
MRKA				S	Sb	01 08 46.6	-0.1
MRKA				AML	AML	01 08 48.0	
	comp=E,135μm,0.3s						
MRKA				AML	AML	01 08 48.9	
	comp=N,97μm,0.2s						
AOS	**Alonnisos**	**0.51**	**81**	P	Pg	01 08 40.0	-0.2
AOS				S	Sg	01 08 46.7	-0.4
AOS	**Alonnisos**	**0.51**	**81**	P	Pg	01 08 40.0	-0.2
AOS				S	Sg	01 08 47.1	0.0
AGG	**Agios Georgios**	**0.70**	**264**	P	Pb	01 08 43.0	-0.7
AGG				S	Sn	01 08 54.5	-1.1
AGG	**Agios Georgios**	**0.70**	**264**	P	Pb	01 08 43.4	-0.3
EREA	**Eretria**	**0.87**	**141**	P	Pg	01 08 46.8	-0.1
PROD	**Prodromos**	**0.87**	**197**	P	Pb	01 08 46.2	-0.4
DSF	**Desfina**	**0.88**	**219**	P	Pb	01 08 46.6	-0.1
PAIG	**Paliouri**	**0.90**	**23**	P	Pn	01 08 47.7	-0.1
THL	**Klokotos Trika**	**1.05**	**297**	P	Pn	01 08 50.0	+0.1
ANX	**Ano Chora**	**1.14**	**244**	P	Pg	01 08 51.9	0.0
DION	**Dionisos Attik**	**1.16**	**151**	P	Pb	01 08 51.8	+0.4
PTL	**Penteli**	**1.16**	**154**	P	Pg	01 08 52.2	-0.2
PLG	**Polygyros**	**1.29**	**7**	P	Pb	01 08 54.0	+0.2
GUR	**Goura**	**1.35**	**211**	P	Pb	01 08 54.8	0.0
DID	**Didima**	**1.59**	**180**	P	Pb	01 08 58.1	-0.7

ROM 08 01:10:40.1±0.1, 43°.455N±0°.003×12°.297E±0°.005, h8km, ML1.4/16, Error ellipse: s-maj=0.3km s-min=0.3km az=8.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.05**	**275**	P	Pg	01 10 42.0	+0.2
CDCA				S	Sg	01 10 43.4	+0.3
CDCA				AML	AML		
	comp=E,2440μm,0.3s						
CDCA				AML	AML		
	comp=N,3560μm,0.2s						
CDCA				AML	AML		
	comp=E,2440μm,0.3s						
CDCA				AML	AML		
	comp=N,3560μm,0.2s						
CDCA	**Citt' di Caste**	**0.05**	**275**	P	Pg	01 10 42.1	+0.3
CDCA	**Citt' di Caste**	**0.05**	**275**	S	Sg	01 10 43.5	+0.4
ATPI	**Pietralunga -**	**0.08**	**93**	P	Pg	01 10 42.5	+0.2
ATPI	**Pietralunga -**	**0.08**	**93**	P	Pg	01 10 42.6	+0.3
ATPI	**Pietralunga -**	**0.08**	**93**	P	Pg	01 10 42.6	+0.3
ATPI				S	Sg	01 10 44.2	+0.4
ATPI				AML	AML		
	comp=E,354μm,0.7s						
ATPI				AML	AML		
	comp=N,299μm,1.2s						
ATPI				AML	AML		
	comp=E,354μm,0.7s						
ATPI				AML	AML		
	comp=N,298μm,1.2s						
ATPI				AML	AML		
	comp=E,354μm,0.7s						
ATPI				AML	AML		
	comp=N,298μm,1.2s						
ATPI	**Pietralunga -**	**0.08**	**93**	S	Sg	01 10 44.2	+0.4
ATVO	**AVT- Monte Val**	**0.11**	**132**	P	Pg	01 10 43.2	+0.5
ATVO	**AVT- Monte Val**	**0.11**	**132**	P	Pg	01 10 43.3	+0.6
ATVO				S	Sg	01 10 45.4	+0.9
ATVO				AML	AML		
	comp=E,316μm,0.2s						
ATVO				AML	AML		
	comp=N,246μm,0.3s						
ATVO				AML	AML		
	comp=E,316μm,0.2s						
ATVO				AML	AML		
	comp=N,246μm,0.3s						
ATVO				AML	AML		
	comp=E,316μm,0.2s						
ATVO				AML	AML		
	comp=N,246μm,0.3s						
ATVO	**AVT- Monte Val**	**0.11**	**132**	S	Sg	01 10 45.4	+1.0
ATMI	**Monte Miggiano**	**0.12**	**190**	P	Pg	01 10 43.5	+0.6
ATMI				S	Sg	01 10 45.9	+1.1
ATMI				AML	AML		
	comp=E,478μm,0.4s						
ATMI				AML	AML		
	comp=N,550μm,0.7s						
ATMI				AML	AML		
	comp=E,478μm,0.4s						
ATMI				AML	AML		
	comp=N,549μm,0.7s						
ATMI				AML	AML		
	comp=E,478μm,0.4s						
ATMI				AML	AML		
	comp=N,549μm,0.7s						
ATMI	**Monte Miggiano**	**0.12**	**190**	P	Pg	01 10 43.5	+0.6
ATMI	**Monte Miggiano**	**0.12**	**190**	S	Sg	01 10 46.0	+1.1
SSP9	**Sansepolcro**	**0.17**	**315**	P	Pg	01 10 44.6	+0.9
SSP9				S	Sg	01 10 48.0	+1.9
SSP9	**Sansepolcro**	**0.17**	**315**	P	Pg	01 10 44.7	+1.0
PIEI	**Pieia**	**0.19**	**65**	P	Pg	01 10 44.6	+0.6
PIEI				S	Sg	01 10 48.4	+1.6
PIEI				AML	AML		
	comp=E,186μm,1.0s						
PIEI				AML	AML		
	comp=N,139μm,0.4s						
PIEI				AML	AML		
	comp=E,186μm,1.0s						
PIEI				AML	AML		
	comp=N,139μm,0.4s						
PIEI				AML	AML		
	comp=E,186μm,1.0s						
PIEI				AML	AML		
	comp=N,139μm,0.4s						
PIEI	**Pieia**	**0.19**	**65**	P	Pg	01 10 44.6	+0.6
PIEI	**Pieia**	**0.19**	**65**	S	Sg	01 10 48.4	+1.6
PARC	**Parchiule**	**0.20**	**348**	P	Pg	01 10 44.8	+0.5
PARC	**Parchiule**	**0.20**	**348**	P	Pg	01 10 44.8	+0.6
PARC				S	Sg	01 10 48.5	+1.5
PARC				AML	AML		
	comp=E,178μm,0.4s						
PARC				AML	AML		
	comp=N,224μm,0.8s						
PARC				AML	AML		
	comp=E,179μm,0.4s						
PARC				AML	AML		
	comp=N,224μm,0.8s						
PARC				AML	AML		
	comp=E,179μm,0.4s						
PARC				AML	AML		
	comp=N,224μm,0.8s						
PARC	**Parchiule**	**0.20**	**348**	S	Sg	01 10 48.4	+1.4
ATFO	**Monte Foce - G**	**0.22**	**114**	P	Pg	01 10 45.2	+0.6
ATFO				S	Sg	01 10 49.0	+1.4
ATFO				AML	AML		
	comp=E,206μm,0.2s						
ATFO				AML	AML		
	comp=N,194μm,0.4s						
ATFO				AML	AML		
	comp=E,206μm,0.2s						
ATFO				AML	AML		
	comp=N,194μm,0.4s						
ATFO				AML	AML		
	comp=E,206μm,0.2s						
ATFO				AML	AML		
	comp=N,194μm,0.4s						
ATFO	**Monte Foce - G**	**0.22**	**114**	P	Pg	01 10 45.2	+0.7
ATFO	**Monte Foce - G**	**0.22**	**114**	S	Sg	01 10 49.2	+1.6
MURB	**Monte Urbino**	**0.25**	**139**	P	Pg	01 10 45.9	+0.6
MURB	**Monte Urbino**	**0.25**	**139**	P	Pg	01 10 45.9	+0.7
MURB				S	Sb	01 10 50.6	-0.9
MURB				AML	AML		
	comp=E,249μm,1.6s						
MURB				AML	AML		
	comp=N,216μm,0.6s						
MURB				AML	AML		
	comp=N,216μm,0.6s						
MURB				AML	AML		
	comp=E,249μm,1.6s						
MURB	**Monte Urbino**	**0.25**	**139**	S	Sb	01 10 50.7	-0.8
NARO	**Abbazia di Nar**	**0.26**	**53**	P	Pg	01 10 45.7	+0.4
NARO				S	Sb	01 10 50.4	-1.2
NARO				AML	AML		
	comp=E,70μm,0.1s						
NARO				AML	AML		
	comp=N,96μm,1.4s						
NARO				AML	AML		
	comp=N,96μm,1.4s						
NARO				AML	AML		
	comp=E,70μm,0.1s						
NARO	**Abbazia di Nar**	**0.26**	**53**	P	Pg	01 10 45.7	+0.4
NARO	**Abbazia di Nar**	**0.26**	**53**	P	Pg	01 10 45.8	+0.5
NARO	**Abbazia di Nar**	**0.26**	**53**	S	Sb	01 10 50.4	-1.2
ATTE	**AVT- Monte Tez**	**0.26**	**171**	P	Pg	01 10 46.0	+0.7
ATTE				S	Sg	01 10 49.7	+0.9
ATTE				AML	AML		
	comp=E,192μm,0.6s						
ATTE				AML	AML		
	comp=N,217μm,0.1s						
ATTE				AML	AML		
	comp=E,192μm,0.6s						
ATTE				AML	AML		
	comp=N,217μm,0.1s						
ATTE	**AVT- Monte Tez**	**0.26**	**171**	P	Pg	01 10 46.0	+0.7
ATTE	**AVT- Monte Tez**	**0.26**	**171**	S	Sg	01 10 49.9	+1.0
CAFI	**Castiglion Fio**	**0.27**	**243**	P	Pg	01 10 46.1	+0.6
CAFI				S	Sg	01 10 50.6	+1.4
CAFI				AML	AML		
	comp=E,75μm,0.3s						
CAFI				AML	AML		
	comp=N,75μm,0.1s						
CAFI				AML	AML		
	comp=E,75μm,0.3s						
CAFI				AML	AML		
	comp=N,75μm,0.1s						
CAFI	**Castiglion Fio**	**0.27**	**243**	P	Pg	01 10 46.1	+0.6
CAFI	**Castiglion Fio**	**0.27**	**243**	S	Sg	01 10 50.6	+1.4
PE3	**Peglio**	**0.28**	**31**	P	Pg	01 10 46.5	+0.7
PE3				AML	AML		
	comp=E,118μm,0.5s						
PE3				AML	AML		
	comp=N,120μm,0.3s						
PE3				AML	AML		
	comp=N,120μm,0.3s						
PE3				AML	AML		
	comp=E,118μm,0.5s						
PE3	**Peglio**	**0.28**	**31**	P	Pg	01 10 46.5	+0.7
CRE	**Caprese Michel**	**0.30**	**303**	P	Pg	01 10 46.5	+0.4
CRE	**Caprese Michel**	**0.30**	**303**	P	Pg	01 10 46.5	+0.4
CRE				AML	AML		
	comp=E,20μm,1.2s						
CRE				AML	AML		
	comp=N,37μm,0.6s						
CRE				AML	AML		
	comp=N,37μm,0.6s						
CRE				AML	AML		
	comp=E,20μm,1.2s						
CRE	**Caprese Michel**	**0.30**	**303**	S	Sb	01 10 51.9	-1.1
FRON	**Frontone**	**0.32**	**78**	P	Pg	01 10 46.8	+0.4
FRON				S	Sb	01 10 52.3	-1.1
FRON				AML	AML		
	comp=E,52μm,0.7s						
FRON				AML	AML		
	comp=N,86μm,1.0s						
FRON				AML	AML		
	comp=N,86μm,1.0s						
FRON				AML	AML		
	comp=E,52μm,0.7s						
FRON	**Frontone**	**0.32**	**78**	P	Pb	01 10 47.4	-0.7
CPGN	**Carpegna, Ital**	**0.35**	**3**	P	Pb	01 10 48.1	-0.5
CPGN	**Carpegna, Ital**	**0.35**	**3**	P	Pb	01 10 48.2	-0.5
CPGN	**Carpegna, Ital**	**0.35**	**3**	P	Pb	01 10 48.2	-0.4
ATCC	**AVT- Casa Cast**	**0.37**	**137**	P	Pg	01 10 48.0	+0.7
ATCC				S	Sb	01 10 54.9	+0.1
ATCC	**AVT- Casa Cast**	**0.37**	**137**	P	Pg	01 10 48.1	+0.7
FOSV	**Fossato di Vic**	**0.37**	**115**	P	Pb	01 10 48.4	-0.6
FOSV				S	Sb	01 10 54.4	-0.6
FOSV	**Fossato di Vic**	**0.37**	**115**	S	Sb	01 10 55.0	0.0
FOSV	**Fossato di Vic**	**0.37**	**115**	S	Sb	01 10 55.0	0.0
MPAG	**Monte Paganucc**	**0.38**	**62**	P	Pg	01 10 47.9	+0.4
MPAG				S	Sb	01 10 54.3	-0.9
MPAG	**Monte Paganucc**	**0.38**	**62**	P	Pg	01 10 48.0	+0.5
ARVD	**Arcevia**	**0.47**	**84**	P	Pg	01 10 49.7	+0.5
ARVD				S	Sb	01 10 57.3	-0.4
ARVD				AML	AML		
	comp=E,27μm,0.5s						
ARVD				AML	AML		
	comp=N,28μm,1.5s						
ARVD				AML	AML		
	comp=N,28μm,1.5s						
ARVD				AML	AML		
	comp=E,27μm,0.5s						
ARVD	**Arcevia**	**0.47**	**84**	P	Pg	01 10 49.8	+0.5
ASSB	**Assisi San Ben**	**0.49**	**147**	P	Pg	01 10 50.1	+0.5
ASSB				S	Sb	01 10 58.0	-0.3
ASSB				AML	AML		
	comp=E,30μm,1.3s						
ASSB				AML	AML		
	comp=N,34μm,0.8s						
ASSB				AML	AML		
	comp=N,34μm,0.8s						
ASSB				AML	AML		
	comp=E,30μm,1.3s						
ASSB	**Assisi San Ben**	**0.49**	**147**	P	Pg	01 10 50.2	+0.6
ASQU	**Asqua**	**0.50**	**313**	P	Pg	01 10 50.5	+0.6
ASQU	**Asqua**	**0.50**	**313**	P	Pb	01 10 50.7	-0.5
MGAB	**Montegabbione**	**0.56**	**194**	P	Pb	01 10 51.6	-0.6
MGAB				AML	AML		
	comp=E,63μm,1.5s						
MGAB				AML	AML		
	comp=N,82μm,0.9s						
MGAB				AML	AML		
	comp=E,63μm,1.5s						
MGAB				AML	AML		
	comp=N,82μm,0.9s						
MGAB	**Montegabbione**	**0.56**	**194**	P	Pb	01 10 51.6	-0.5
EL6	**Elcito**	**0.60**	**102**	S	Sb	01 11 02.0	+0.5

*IDC **08** 01:23:38.5±0.7, 1°.37N×101°.24W, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.2/28, mbtmp4.1/15, ML3.2/1, MS3.5/12, Ms1 3.5/12, ms1mx3.4/19, Error ellipse: s-maj=31.3km s-min=12.4km az=54.0*

*ISCJB **08** 01:23:39.6±0.5, 1°.49N±0°.07×100°.89W±0°.07, h10km, mb4.4/86, MS3.6/12, Error ellipse: s-maj=13.6km s-min=6.2km az=136.6*

*NEIC **08** 01:23:40.9±2.6, 1°.37N×100°.98W, h13km±4km, mb4.6/80, Error ellipse: s-maj=25.3km s-min=15.1km az=52.0*

ISC 08 01:23:39.5±1.6, 1°.41N±0°.10×101°.00W±0°.1, h4km±8km, n125, σ1.27/121, mb4.6/86, MS3.7/12, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**10.90**	**101**	*e*Pn	**Pn**	**01 26 15.4**	**-1.0**
CMIG	**Matias Romero**	**16.70**	**21**	LR	LR	01 32 21.0	
	comp=Z,197nm,20.6s,baz=197,slow=31						
APG	**El Apazote**	**17.05**	**37**	P	**P**	**01 27 42.1**	**+1.1**
	0.1nm,0.3s,baz=254,slow=7.4,SNR=2.3						
CCIG	**Comitan**	**17.16**	**30**	*e*Pn	**Pn**	**01 27 39.4**	**-1.2**
	5.7nm,1.0s						
JTS	**Las Juntas de**	**18.22**	**60**	LR	LR	01 32 40.1	
	comp=Z,112nm,21.6s,baz=200,slow=29						
H06E1	**SOCORRO T-PHASE**	**19.83**	**331**	T	T	01 48 32.0	
	SNR=2.3						
OTAV	**Otavalo**	**22.56**	**93**	*e*P	**P**	**01 28 40.5**	**-1.0**
	45nm,1.4s						
ATAH	**Atahualpa**	**24.09**	**111**	P	**P**	**01 28 55.7**	**-1.2**
	3.6nm,0.7s,baz=285,slow=14,SNR=2.8						
KVTX	**Kingsville**	**26.16**	**6**	*e*P	**P**	**01 29 12.0**	**-3.0**
	33nm,0.6s						
833A	**Chaparral WMA,**	**26.81**	**3**	*e*P	**P**	**01 29 19.0**	**-1.9**

8.5nm,0.6s
ROSC El Rosal 26.84 82 LR LR 01 37 29.4
comp=Z,83nm,19.7s,baz=280,slow=31
LTX Lajitas 27.89 355 *eP* **P 01 29 31.0 +0.3**
LTX *ePcP* **PcP 01 32 46.4 -0.3**
TXAR Lajitas Array 27.89 355 *eP* **P 01 29 30.5 -0.2**
TXAR *ePcP* **PcP 01 32 45.9 -0.7**
TXAR Lajitas Array 27.89 355 P **P 01 29 31.0 +0.3**
1.7nm,0.9s,baz=178,slow=11,SNR=13
TXAR PcP **PcP 01 32 46.4 -0.3**
0.7nm,0.8s,baz=170,slow=5.5,SNR=6.1
TX31 Lajitas Ar. Si 27.89 355 *eP* **P 01 29 31.1 +0.4**
3.0nm,1.0s
HKT Hockley 28.81 9 *eP* **P 01 29 37.7 -1.0**
22nm,1.8s
JCT Junction City 28.94 2 *eP* **P 01 29 40.8 +0.8**
6.1nm,1.1s
MNTX Cornudas Mount 30.41 353 *eP* **P 01 29 52.7 -0.4**
3.8nm,1.3s
NATX Nacogdoches 30.78 11 *eP* **P 01 29 56.6 +0.4**
31nm,1.2s
061Z Ochoppi 31.07 37 *eP* **P 01 29 59.4 +0.5**
100nm,1.1s
ABTX Abilene, Hawle 31.08 2 *eP* **P 01 29 59.3 +0.4**
13nm,1.5s
SDV Santo Domingo 31.11 75 *eP* **P 01 29 58.2 -1.4**
4.9nm,1.0s
059A Moore Haven 31.76 35 *eP* **P 01 30 04.5 -0.4**
70nm,1.3s
TUC Tucson 32.10 344 *eP* **P 01 30 08.3 +0.3**
2.2nm,0.8s
MSTX Muleshoe 32.44 357 *eP* **P 01 30 12.7 +1.8**
5.5nm,0.9s
WLAR White Oak Lake 32.95 12 *eP* **P 01 30 14.6 -0.7**
8.1nm,0.9s
X37A Clayton 33.43 8 *eP* **P 01 30 21.1 +1.6**
10nm,1.1s
250A Grady 33.43 23 *eP* **P 01 30 20.8 +1.2**
43nm,1.5s
113A Mohawk Valley, 33.43 340 *eP* **P 01 30 18.0 -1.5**
20nm,1.9s
MIAR Mount Ida 33.69 11 *eP* **P 01 30 23.8 +2.0**
9.6nm,1.0s
ANMO Albuquerque 33.76 352 *eP* **P 01 30 23.4 +0.8**
3.0nm,1.1s
W39A Magazine 34.28 11 *eP* **P 01 30 29.4 +2.5**
11nm,1.2s
BAR Barrett 34.43 336 *eP* **P 01 30 27.4 -0.9**
11nm,1.2s
TUL1 Leonard 34.67 7 *eP* **P 01 30 31.2 +1.0**
12nm,1.1s
WUAZ Wupatki 35.29 345 *eP* **P 01 30 36.9 +1.1**
8.1nm,1.1s
HHAR Hobbs 35.31 10 *eP* **P 01 30 37.4 +1.6**
10.0nm,1.3s
W13A Hualapai Mount 35.61 342 *eP* **P 01 30 40.0 +1.4**
3.4nm,1.3s
T25A Trinidad 35.70 355 *eP* **P 01 30 38.5 -0.9**
10nm,1.4s
WVT Waverly 36.64 18 *eP* **P 01 30 49.3 +2.1**
5.3nm,1.0s
GSC Goldstone, Bar 36.80 338 *eP* **P 01 30 49.5 +0.9**
6.2nm,1.1s
LPAZ La Paz 36.90 120 *eP* **P 01 30 48.0 -2.4**
LPAZ *ePcP* **PcP 01 33 12.2 0.0**
LPAZ La Paz 36.90 120 P **P 01 30 51.9 +1.6**
3.6nm,1.0s,baz=298,slow=5.5,SNR=10
LPAZ PcP **PcP 01 33 12.2 0.0**
2.6nm,1.0s,baz=202,slow=5.4,SNR=6.0
ISCO Idaho Springs 38.45 354 *eP* **P 01 31 03.3 +0.5**
3.8nm,1.1s
LVC Limon Verde 39.34 129 P **P 01 31 12.2 +1.6**
3.9nm,1.0s,baz=308,slow=10,SNR=2.3
N23A Red Feather La 39.56 354 *eP* **P 01 31 14.7 +2.6**
6.0nm,1.0s
NV01 Mina Array Sit 40.12 339 *eP* **P 01 31 17.3 +0.5**
NVAR Mina Array Bea 40.12 339 P **P 01 31 17.3 +0.5**
0.9nm,0.8s,baz=158,slow=11,SNR=5.3
NVAR LR LR 01 44 44.4
comp=Z,104nm,21.2s,baz=144,slow=32
TAOE Nuku Hiva Isla 40.33 255 *e*LR LR 01 41 58.7
comp=Z,162nm,26.9s
WAKR Walker 40.61 338 *eP* **P 01 31 21.9 +1.1**
10nm,1.6s
PTGA Pitinga 41.07 93 *eP* **P 01 31 26.2 +1.5**
28nm,1.1s
PTGA Pitinga 41.07 93 P **P 01 31 25.9 +1.2**
13nm,1.0s,baz=276,slow=8.8,SNR=14
RKT Rikitea 41.09 232 *eT* T 02 14 40.7
5.6nm,0.4s
L40A Anamosa 41.42 11 *eP* **P 01 31 28.9 +1.8**
5.7nm,0.9s
PAHR Pah Rah Range 41.64 339 *eP* **P 01 31 30.3 +1.1**
21nm,1.8s
PD31 Pinedale Array 41.89 351 *eP* **P 01 31 29.2 -2.1**
PD31 *e*pP **pP 01 31 31.5 0.0**
PD31 *e*PcP **PcP 01 33 26.3 -0.8**
PDAR Pinedale Array 41.89 351 P **P 01 31 30.6 -0.7**
2.1nm,0.8s,baz=152,slow=6.7,SNR=11
PDAR PcP **PcP 01 33 26.3 -0.8**
0.3nm,0.6s,baz=172,slow=2.5,SNR=3.3
PDAR LR LR 01 47 26.2
comp=Z,105nm,20.1s,baz=194,slow=34
BW06 Boulder Array 41.89 351 *eP* **P 01 31 31.6 +0.3**
5.1nm,1.0s
BEKR Beckworth 42.15 338 *eP* **P 01 31 34.3 +0.9**
6.3nm,1.5s
ECSD EROS Data Cent 42.33 5 *eP* **P 01 31 35.8 +1.3**
21nm,1.8s
M48A Edgerton 42.51 18 *eP* **P 01 31 36.2 +0.1**
9.7nm,0.3s
RSSD Black Hills 42.62 357 *eP* **P 01 31 36.1 -1.0**
8.5nm,1.3s
REDW Red Top Meadow 42.69 349 *eP* **P 01 31 40.2 +2.3**
7.4nm,1.4s
LOHW Long Hollow 42.89 350 *eP* **P 01 31 39.7 +0.3**
4.9nm,1.2s
FXWY Fox Creek 42.99 349 *eP* **P 01 31 40.0 -0.3**
3.6nm,1.1s
MOOW Moose Ponds 43.05 350 *eP* **P 01 31 42.2 +1.5**
4.4nm,1.3s
SIV San Ignacio 43.05 115 P **P 01 31 40.9 +0.1**
1.4nm,0.8s,baz=300,slow=14,SNR=5.9
IMW Indian Meadow 43.23 349 *eP* **P 01 31 44.4 +2.2**
5.2nm,1.1s
HLID Hailey 43.65 346 *eP* **P 01 31 45.9 +0.4**
5.3nm,1.4s
WVOR Wild Horse Val 43.81 341 *eP* **P 01 31 47.1 +0.3**
7.4nm,1.3s
MCMT McKenzie Canyo 44.49 348 *eP* **P 01 31 52.6 +0.2**
YBH Yreka Blue Hor 44.66 337 P **P 01 31 52.1 -1.4**
1.3nm,0.6s,baz=116,slow=3.9,SNR=6.9
K05A Summer Lake 44.84 339 *eP* **P 01 31 55.9 +0.8**
9.3nm,1.1s
G42A Mountain 45.04 13 *eP* **P 01 31 56.2 -0.2**
14nm,1.1s
CFA Coronel Fontan 45.20 139 P **P 01 31 59.6 +1.7**
1.7nm,0.5s,baz=229,slow=11,SNR=3.5
I07A Izee 45.57 341 *eP* **P 01 31 60.0 -0.8**
7.8nm,1.4s
COWI Conover 45.71 12 *eP* **P 01 32 00.2 -1.5**
11nm,1.4s
PINE Pine Mountain 45.79 340 *eP* **P 01 32 03.3 +0.7**
4.9nm,0.8s
G08A Pilot Rock 46.49 343 *eP* **P 01 32 07.2 -0.7**
15nm,1.7s
AGMN Agassiz Nation 46.92 5 *eP* **P 01 32 12.3 +1.1**
25nm,1.9s
EYMN Ely 47.08 9 *eP* **P 01 32 12.4 0.0**
9.9nm,1.1s
ACCN Adirondack Com 48.38 27 *eP* **P 01 32 23.7 +1.1**
13nm,1.3s
NEW Newport 48.72 346 *eP* **P 01 32 24.9 -0.3**
5.3nm,1.1s
ULM Lac du Bonnet 48.86 4 *eP* **P 01 32 26.4 +0.3**
15nm,1.4s
ULM Lac du Bonnet 48.86 4 P **P 01 32 25.8 -0.4**
3.9nm,1.0s,baz=196,slow=11,SNR=6.5
ULM PcP **PcP 01 33 49.2 -1.5**
2.1nm,0.8s,baz=175,slow=4.6,SNR=3.9
ULM LR LR 01 53 00.1
comp=Z,62nm,18.3s,baz=154,slow=36
PLCA Paso Flores 50.27 150 LR LR 01 49 13.7
comp=Z,172nm,18.2s,baz=349,slow=30
CPUP Villa Florida 50.33 126 *eP* **P 01 32 38.6 +0.8**
32nm,1.8s
CPUP Villa Florida 50.33 126 P **P 01 32 38.6 +0.8**
5.2nm,1.0s,baz=314,slow=6.8,SNR=4.9

PPT Papeete 51.43 246 LR LR 01 50 09.6
comp=Z,42nm,19.0s,baz=10,slow=31
PPT2 Papeete2 51.43 246 *e*LR LR 01 47 11.9
comp=Z,107nm,30.5s
BDFB Brasilia 55.01 110 P **P 01 33 13.5 +0.8**
5.5nm,1.0s,baz=282,slow=8.6,SNR=4.9
YKA Yellowknife Ar 61.79 353 P **P 01 33 58.1 -1.0**
2.7nm,1.1s,baz=161,slow=6.6,SNR=24
YKA LR LR 01 58 56.6
comp=Z,10nm,22.0s,baz=186,slow=34
YKB5 Yellowknife Ar 61.79 353 *eP* **P 01 33 58.1 -1.0**
YKW3 Yellowknife Ar 61.86 353 *eP* **P 01 34 00.5 +0.9**
7.1nm,1.3s
DAWY Dawson 68.51 343 *eP* **P 01 34 44.4 +1.5**
7.0nm,1.3s
KDAK Kodiak Island 69.31 333 LR LR 01 57 35.5
comp=Z,55nm,20.0s,baz=135,slow=29
EPYK Eagle Plains 69.55 345 *eP* **P 01 34 51.3 +2.0**
7.8nm,1.2s
EGAK Eagle 69.55 343 *eP* **P 01 34 50.8 +1.5**
2.9nm,1.0s
PAX Paxson 69.66 340 *eP* **P 01 34 51.9 +1.7**
11nm,1.8s
KNK Knik Glacier 69.73 338 *eP* **P 01 34 52.4 +1.9**
21nm,1.5s
SML Sawmill 69.93 338 *eP* **P 01 34 51.4 -0.4**
17nm,1.2s
PMR Palmer 70.10 338 *eP* **P 01 34 54.8 +2.1**
INK Inuvik 70.37 348 *eP* **P 01 34 53.7 -0.5**
9.4nm,1.3s
DHY Denali Highway 70.39 340 *eP* **P 01 34 53.7 -1.0**
14nm,1.6s
RND Reindeer 71.12 339 *eP* **P 01 34 59.0 0.0**
16nm,1.2s
ILAR Eielson Array 71.33 341 P **P 01 34 58.9 -1.3**
1.8nm,0.9s,baz=146,slow=4.6,SNR=16
ILAR LR LR 02 05 09.7
comp=Z,40nm,18.7s,baz=47,slow=35
ILB Eielson Array 71.33 341 *eP* **P 01 34 59.3 -0.8**
2.6nm,0.8s
PRP Porcupine Dome 71.39 342 *eP* **P 01 35 02.7 +2.0**
13nm,1.4s
WRH Wood River Hil 71.53 340 *eP* **P 01 35 03.1 +1.7**
7.5nm,1.3s
MDM Murphy Dome 71.89 341 *eP* **P 01 35 05.4 +1.8**
6.3nm,1.3s
CAST Castle Rocks 72.29 338 *eP* **P 01 35 05.1 -0.9**
12nm,1.2s
MLY Manley 72.77 340 *eP* **P 01 35 08.9 +0.1**
11nm,1.2s
H11S2 WAKE ISLAND Hy 91.75 288 T T 03 18 16.0
baz=89,slow=75,SNR=26
H11S1 WAKE ISLAND Hy 91.75 288 T T 03 18 19.6
baz=89,slow=75,SNR=20
H11S3 WAKE ISLAND Hy 91.77 288 T T 03 18 17.3
baz=89,slow=75,SNR=17
NOA NORSAR Array B 99.36 27 LR LR 02 21 53.8
comp=Z,6.7nm,18.3s,baz=310,slow=35
BR101 Keskin Array S 121.74 40 *e*PKPdf **PKPdf 01 42 34.8 -0.6**
BRTR Keskin Array B 121.74 40 PKP **PKPdf 01 42 34.8 -0.6**
0.4nm,0.8s,baz=29,slow=3.3,SNR=3.0
AS31 Alice Springs 122.47 243 *e*PKPdf **PKPdf 01 42 35.0 -2.1**
ASAR Alice Springs 122.47 243 PKP **PKPdf 01 42 35.0 -2.1**
0.9nm,0.9s,baz=104,slow=2.1,SNR=5.3
WR1 Warramunga Arr 122.91 247 *e*PKPdf **PKPdf 01 42 35.4 -2.7**
WRA Warramunga Arr 122.91 247 PKP **PKPdf 01 42 35.4 -2.7**
0.9nm,0.8s,baz=104,slow=1.9,SNR=3.2
ZAA1 Zalesovo Array 124.62 356 *e*PKPdf **PKiKP 01 42 41.4 +0.7**
ZALV Zalesovo Beam 124.63 356 PKP **PKiKP 01 42 41.4 +0.7**
0.5nm,0.4s,baz=46,slow=4.2,SNR=2.5
GEYT Alibeck 136.35 24 PKP **PKPdf 01 43 03.3 +0.1**
1μm,0.7s,baz=274,slow=6.6,SNR=3.3
CMAR Chiang Mai Arr 152.18 316 PKP **PKPdf 01 43 31.1 +0.3**
1.1nm,0.4s,baz=63,slow=0.7,SNR=4.3
CMAR PKPbc **PKiKP 01 43 37.6 -0.2**
1.1nm,0.3s,baz=347,slow=1.1,SNR=10

MEX 08 01:26:59.5±0.9, 17°.06N×94°.08W, h181km±11km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.77**	**272**	*eP*		Pn		01 27 24.7	-1.0
CMIG				*e*S		Sn		01 27 43.8	-2.1
TGIG		**0.96**	**107**	*i* P		Pn		01 27 25.3	-1.7
TGIG				*i* S		Sn		01 27 45.4	-2.9
PCIG		**1.58**	**148**	*eP*		Pn		01 27 31.1	-1.2
PCIG				*i* S		Sn		01 27 56.5	-1.3
HUIG	**Huatulco**	**2.33**	**237**	*eP*		Pn		01 27 38.4	-2.0
HUIG				*i* S		Sn		01 28 10.7	-1.3

MEX 08 01:36:07.1±0.7, 18°.07N×103°.30W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.22**	**348**	*eP*		Pg		01 36 10.5	-0.9
MMIG				*i* S		Sg		01 36 13.8	-0.5
ZIIG	**Zihuatanejo**	**1.81**	**105**	*i* P		Pn		01 36 35.3	-3.6
ZIIG				*i* S		Sn		01 36 57.5	-4.7
CJM	**Chamela**	**2.18**	**311**	*i* P		Pn		01 36 40.4	-3.6
CJM				*i* S		Sn		01 37 07.3	-4.1

IDC 08 01:37:37.4±1.1, 10°.98N×139°.43E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/37, mbtmp3.8/8, MS2.8/2, Ms1 2.8/2, ms1mx2.4/38, Error ellipse: s-maj=32.8km s-min=26.8km az=101.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**14.22**	**255**	LR		LR		01 45 00.6	
	comp=Z,35nm,21.1s,baz=128,slow=31								
JNU	**Nakatsue**	**23.40**	**342**	LR		LR		01 51 07.7	
	comp=Z,22nm,18.4s,baz=81,slow=35								
H11S3	**WAKE ISLAND Hy 27.37**	**71**		T		T		02 12 22.3	
	baz=248,slow=74								
H11S1	**WAKE ISLAND Hy 27.38**	**71**		T		T		02 11 48.4	
	baz=248								
H11S2	**WAKE ISLAND Hy 27.39**	**71**		T		T		02 12 23.5	
	baz=248,slow=74								
H11N1	**WAKE ISLAND Hy 27.83**	**69**		T		T		02 12 20.2	
	baz=254,slow=75,SNR=17								
H11N2	**WAKE ISLAND Hy 27.84**	**68**		T		T		02 12 22.3	
	baz=254,slow=75,SNR=11								
H11N3	**WAKE ISLAND Hy 27.85**	**69**		T		T		02 12 21.6	
	baz=254,slow=75,SNR=17								
ASAR	**Alice Springs**	**34.85**	**189**	P		P		01 44 30.6	+0.1
	0.4nm,0.5s,baz=16,slow=13,SNR=5.2								
KLR	**Kul'dur**	**38.67**	**352**	P		P		01 45 04.0	+1.4
	2.0nm,0.7s,baz=150,slow=6.5,SNR=10								
CMAR	**Chiang Mai Arr**	**39.79**	**286**	P		P		01 45 12.4	-0.2
	1.6nm,0.6s,baz=91,slow=7.1,SNR=8.7								
MKAR	**Makanchi Array**	**59.77**	**318**	P		P		01 47 43.8	-0.5
	0.9nm,0.8s,baz=108,slow=10,SNR=4.8								
ZALV	**Zalesovo Beam**	**60.74**	**326**	P		P		01 47 50.2	-0.6
	0.5nm,0.3s,baz=115,slow=9.7,SNR=2.8								
ILAR	**Eielson Array**	**73.19**	**25**	P		P		01 49 08.2	-1.6
	0.5nm,0.7s,baz=252,slow=4.6,SNR=6.3								
YKA	**Yellowknife Ar**	**87.58**	**27**	P		P		01 50 28.1	+0.9
	0.4nm,0.7s,baz=291,slow=5.1,SNR=7.5								
NVAR	**Mina Array Bea**	**92.67**	**50**	P		P		01 50 52.3	+0.3
	0.3nm,0.5s,baz=266,slow=6.8,SNR=2.6								

*IDC **08** 01:44:40.0±1.4, 35°.29N×139°.45E, h128km±7km, mb3.5/7, mb1 3.6/10, mb1mx3.3/38, mbtmp3.9/10, Error ellipse: s-maj=47.4km s-min=6.4km az=69.0*
*JMA **08** 01:44:40.9±0.1, 35°.27N×139°.32E, h126km±1km, M3.2*
ISC 08 01:44:40.5±0.8, 35°.27N±0°.04×139°.32E±0°.08, h130km±6km, n29, σ0°58/34, mb3.7/7, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.19**	**267**	P		Pn		01 44 58.3	0.0
JOD2				S		Sn		01 45 11.4	-0.3
JFNN	**Fujinakano**	**0.53**	**262**	P		Pn		01 44 59.7	0.0
JFNN				S		Sn		01 45 14.0	-0.2
JIM2	**Oshima 3**	**0.56**	**171**	P		Pn		01 44 59.7	-0.3
JIM2				*e*S		Sn		01 45 15.0	+0.4
JIZS	**Izushimoda**	**0.66**	**213**	P		Pn		01 45 00.6	0.0
JIZS				S		Sn		01 45 15.5	-0.2
JYN	**Shimob**	**0.67**	**290**	P		Pn		01 45 00.7	0.0
JRY	**Ryogami san**	**0.82**	**335**	P		Pn		01 45 02.4	+0.6
JRY				S		Sn		01 45 18.4	+0.4
SHZ3	**Shizuoka 3**	**0.93**	**258**	P		Pn		01 45 03.1	+0.3
SHZ3				S		Sn		01 45 20.0	+0.3
JAG	**Ashikaga**	**1.16**	**5**	P		Pn		01 45 05.1	+0.2
JAG				S		Sn		01 45 23.5	0.0
BSO1	**Boso 1**	**1.49**	**114**	P		Pn		01 45 08.6	+0.7
MJAR	**Matsushiro Arr**	**1.56**	**325**	P		Pn		01 45 09.1	-0.1
	2.5nm,0.3s,baz=160,slow=11,SNR=79								
MJAR				S		Sn		01 45 30.6	-0.5
	2.5nm,0.3s,baz=173,slow=21,SNR=16								
MAT	**Matsushiro**	**1.56**	**325**	P		Pn		01 45 09.7	+0.5
MAT				S		Sn		01 45 30.9	-0.3
MAT	**Matsushiro**	**1.56**	**325**	P		Pn		01 45 09.7	+0.5
MAT				S		Sn		01 45 30.9	-0.3
TK02	**Tokai 2**	**1.85**	**225**	P		Pn		01 45 12.6	+0.2
JHJ	**Hachijo jima 2**	**2.18**	**170**	P		Pn		01 45 17.6	+0.9
	81nm,0.3s,baz=333,slow=23,SNR=10								
JHJ				S		Sn		01 45 44.3	-0.1
	48nm,0.3s,baz=73,slow=19,SNR=4.8								
KSRS	**Korea Array**	**9.45**	**287**	P		Pn		01 46 55.8	+2.4
	0.2nm,0.3s,baz=99,slow=15,SNR=6.6								
KLR	**Kul'dur**	**15.02**	**341**	P		Pn		01 48 06.0	+0.1
	0.4nm,0.3s,baz=141,slow=9.0,SNR=9.4								
H11N2	**WAKE ISLAND Hy 28.82**	**115**		T		T		02 20 13.0	
	baz=308,slow=75,SNR=14								
H11N1	**WAKE ISLAND Hy 28.82**	**115**		T		T		02 20 15.4	
	baz=308,slow=75,SNR=14								
H11N3	**WAKE ISLAND Hy 28.84**	**115**		T		T		02 20 14.4	
	baz=308,slow=75,SNR=14								
H11S1	**WAKE ISLAND Hy 29.44**	**117**		T		T		02 21 01.0	
	baz=310,slow=76,SNR=7.1								
H11S3	**WAKE ISLAND Hy 29.44**	**117**		T		T		02 21 00.6	
	baz=310,slow=76,SNR=7.3								
H11S2	**WAKE ISLAND Hy 29.46**	**117**		T		T		02 21 01.8	
	baz=310,slow=76,SNR=7.8								
ZALV	**Zalesovo Beam**	**41.88**	**314**	P		P		**01 52 18.0**	**+0.3**
	1.5nm,0.5s,baz=89,slow=6.0,SNR=6.6								
MKAR	**Makanchi Array**	**43.65**	**303**	P		P		**01 52 32.2**	**+0.1**
	0.9nm,0.6s,baz=87,slow=10,SNR=7.2								
WRA	**Warramunga Arr**	**55.11**	**186**	P		P		**01 53 58.4**	**-0.9**
	2.7nm,0.7s,baz=1.3,slow=8.0,SNR=18								
ASAR	**Alice Springs**	**58.84**	**186**	P		P		**01 54 25.2**	**-0.4**
	0.7nm,0.8s,baz=21,slow=10.0,SNR=8.3								
FINES	**FINESS Array B**	**69.57**	**332**	P		P		**01 55 35.0**	**0.0**
	0.6nm,0.3s,baz=56,slow=7.0,SNR=12								
AKASG	**Malin Array Be**	**74.64**	**322**	P		P		**01 56 05.0**	**-0.4**
	0.3nm,0.3s,baz=48,slow=6.3,SNR=5.6								
NOA	**NORSAR Array B**	**75.14**	**337**	P		P		**01 56 07.9**	**-0.3**
	0.3nm,0.5s,baz=43,slow=5.7,SNR=3.2								

MEX 08 01:58:21.0±0.7, 16°.03N×98°.32W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**27**	*eP*		Pg		01 58 27.8	-1.1
PNIG				*i* S		Sg		01 58 34.3	0.0
TLIG	**Tlapa**	**1.54**	**351**	*eP*		Pn		01 58 46.3	-3.0
TLIG				*e*S		Sn		01 59 05.6	-4.2

MEX 08 02:16:12.6±0.6, 17°.25N×101°.28W, h24km±24km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.40**	**333**	*i* P		Pb		02 16 20.0	-1.1
ZIIG				*e*S		Sb		02 16 25.1	-1.8
CAIG	**El Cayaco**	**0.98**	**102**	*i* P		Pn		02 16 27.5	-3.4
CAIG				*i* S		Sb		02 16 40.2	-3.3
ARIG	**Puente Sto Nin**	**1.35**	**41**	*eP*		Pn		02 16 33.1	-3.0
ARIG				*e*S		Sn		02 16 49.1	-4.3
PLIG	**Platanillo**	**2.04**	**56**	*i* P		Pn		02 16 43.9	-1.6
PLIG				*e*S		Sn		02 17 07.7	-2.6

*KRSC **08** 02:33:12.2±10.0, 50°.77N×160°.20E, h84km±10km, ML3.8*
*IDC **08** 02:33:20.6±1.5, 54°.10N×160°.96E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.2/56, mbtmp3.4/3, ML1.8/1, MS3.1/1, Ms1 3.3/1, ms1mx2.2/28, Error ellipse: s-maj=74.4km s-min=25.2km az=166.0*
ISC 08 02:33:11.8±3.3, 50°.6N±0°.2×160°.3E±0°.1, h84km, n26, σ1°38/34, mb3.5/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.84**	**310**	*eP*		**Pn**		**02 33 41.3**	**-0.3**
KDTR				*e*S		**Sn**		**02 34 02.7**	**-1.6**
RUS	**Russkaya**	**2.13**	**328**	*eP*		**Pn**		**02 33 45.2**	**-0.2**
RUS				*e*S		**Sn**		**02 34 09.4**	**-1.7**
MTVR	**Mutnovka**	**2.28**	**325**	*eP*		**Pn**		**02 33 47.7**	**+0.1**
MTVR				*e*S		**Sn**		**02 34 13.7**	**-1.4**
ASAK	**Asacha**	**2.32**	**320**	*eP*		**Pn**		**02 33 48.5**	**+0.5**
ASAK				*e*S		**Sn**		**02 34 15.3**	**-0.5**
PAU	**Pauzhetka**	**2.38**	**292**	*eP*		**Pn**		**02 33 49.0**	**+0.3**
PAU				*e*S		**Sn**		**02 34 15.8**	**-1.2**
SPN	**Mys Shipunski**	**2.47**	**356**	*eP*		**Pn**		**02 33 49.0**	**-1.0**
SPN				*e*S		**Sn**		**02 34 17.3**	**-1.9**
KRMR	**Karymshinskiy**	**2.59**	**329**	*eP*		**Pn**		**02 33 52.1**	**+0.6**
KRMR				*e*S		**Sn**		**02 34 21.3**	**-0.8**
DALK	**Dalny**	**2.59**	**338**	*e*S		**Sn**		**02 34 20.8**	**-1.3**
NLC	**Nalytchevo**	**2.61**	**347**	*eP*		**Pn**		**02 33 52.7**	**+0.9**
NLC				*e*S		**Sn**		**02 34 22.2**	**-0.4**
UGLR	**Uglovaya**	**2.74**	**341**	*eP*		**Pn**		**02 33 56.1**	**+2.4**
SDLR	**Sedlovina**	**2.79**	**342**	*eP*		**Pn**		**02 33 54.9**	**+0.5**
SMAR	**Somma**	**2.79**	**341**	*eP*		**Pn**		**02 33 56.5**	**+2.0**
AVH	**Avacha**	**2.81**	**340**	*eP*		**Pn**		**02 33 55.8**	**+1.2**
AVH				*e*S		**Sn**		**02 34 26.1**	**-1.5**
KRER	**Koryakskii**	**2.84**	**340**	*eP*		**Pn**		**02 33 56.5**	**+1.3**
KOK	**Koryaka**	**2.86**	**339**	*eP*		**Pn**		**02 33 57.1**	**+1.8**
KRX	**Arik**	**2.92**	**340**	*eP*		**Pn**		**02 33 58.1**	**+2.0**
PETK	**Petropavlovsk-**	**2.96**	**327**	Pn		**Pn**		**02 33 58.2**	**+1.6**
	1.5nm,0.3s,baz=119,slow=18,SNR=26								
PETK				Sn		**Sn**		**02 34 32.8**	**+1.6**
	3.1nm,0.3s,baz=122,slow=18,SNR=12								
APC	**Apacha**	**3.02**	**320**	*eP*		**Pn**		**02 33 58.9**	**+1.5**
APC				*e*S		**Sn**		**02 34 33.6**	**+1.0**
MKZ	**Mys Kozlova**	**4.01**	**12**	*e*S		**Sn**		**02 34 54.8**	**-1.7**
KZV	**Kizimen**	**4.48**	**360**	*eP*		**Pn**		**02 34 19.3**	**+2.0**
TUMD	**Tumrok D**	**4.57**	**0**	*eP*		**Pn**		**02 34 19.6**	**+1.2**
TUMD				*e*S		**Sn**		**02 35 09.0**	**-1.2**
KBTR	**Krutoberegovo**	**5.77**	**14**	*eP*		**Pn**		**02 34 35.5**	**+0.8**
KURBB	**Kurchatov Arra**	**49.29**	**304**	P		P		02 41 58.8	+7.0
	0.2nm,0.4s,baz=60,slow=7.4,SNR=1.7								
NVAR	**Mina Array Bea**	**56.46**	**69**	P		P		02 42 53.5	+8.5
	0.4nm,0.6s,baz=281,slow=9.1,SNR=2.1								
CMAR	**Chiang Mai Arr**	**57.86**	**260**	LR		LR		03 09 15.8	
	comp=Z,16nm,20.0s,baz=195,slow=37								
TXAR	**Lajitas Array**	**71.47**	**66**	P		P		02 44 32.4	+9.1
	0.2nm,0.4s,baz=304,slow=4.8,SNR=5.9								

*ISCJB **08** 02:38:02.9±0.6, 75°.92N±0°.05×7°.1E±0°.2, h10km, mb3.1/2, MS2.6/2, Error ellipse: s-maj=8.8km s-min=6.1km az=135.1*
*IDC **08** 02:38:05.5±1.2, 75°.79N×7°.11E, h0km, mb3.0/2, mb1 3.6/6, mb1mx3.2/50, mbtmp3.5/6, ML3.1/4, MS2.8/4, Ms1 2.8/4, ms1mx2.4/20, Error ellipse: s-maj=22.8km s-min=16.6km az=55.0*
*BER **08** 02:38:10.1±1.4, 75°.98N×7°.86E, h10km, ML2.2, Confirmed Earthquake*
*IEPN **08** 02:38:10.0, 75°.97N×7°.59E, h15km*
ISC 08 02:38:05.8±0.8, 75°.93N±0°.07×7°.49E±0°.07, h10km, n20, σ1°91/24, 1C-1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.18**	**56**	*eP*		**Pn**		**02 38 42.7**	**+0.7**
HSPB				*e*S		**Sn**		**02 39 06.4**	**-2.5**
SPA0	**Spitsbergen Ar**	**3.01**	**37⇓**	*i* P		**Pn**		**02 38 55.2**	**+1.8**
SPA0				*e*S		**Sn**		**02 39 28.4**	**-1.2**
**SPA0

KBS	**Kingsbay**	**3.17**	**16**	*e*P	**Pn**	**02 38 56.7**	**+1.2**
BJO	**Bjornoya**	**3.32**	**110**	*e*P	**Pn**	**02 38 59.1**	**+1.4**
HOPEN	**Hopen**	**4.22**	**74**	*e*P	**Pn**	**02 39 11.1**	**+1.0**
HOPEN				*e*S	**Sn**	**02 39 57.0**	**-2.3**
HOPEN				IAML		02 39 59.5	
	comp=Z,33nm,0.5s						
DAG	**Danmarks Havn**	**6.21**	**290**	*i* P	**Pn**	**02 39 34.6**	**-2.8**
DAG				*i* S	Sn	02 40 37.9	-10
JMIC	**Jan Mayen**	**6.72**	**231**	Pn	**Pn**	**02 39 41.6**	**-2.7**
	comp=Z,1.9nm,0.3s,baz=108,slow=3.2,SNR=1.7						
ARCES	**ARCESS Array B**	**8.31**	**131**	Pn	**Pn**	**02 40 05.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=333,slow=12,SNR=11						
ARCES				Sn	Sn	02 41 30.8	-9.2
	comp=Z,0.8nm,0.3s,baz=332,slow=19,SNR=9.2						
ZFI2	**Zemlya Franca-**	**9.23**	**40**	*e*P	**Pn**	**02 40 20.1**	**+1.5**
ZFI2				*e*S	**Sn**	**02 41 57.9**	**-4.4**
	comp=Z,2.0nm,1.2s						
SCO	**Scoresbysund**	**10.00**	**252**	*i* P	**Pn**	**02 40 27.5**	**-1.7**
SCO				*i* S	Sn	02 42 05.6	-16
BORG	**Borgarnes**	**14.57**	**235**	LR	LR	02 45 17.2	
	comp=Z,30nm,18.5s,baz=347,slow=30						
FINES	**FINESS Array B**	**15.89**	**146**	Pn	**Pn**	**02 41 48.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=319,slow=17,SNR=2.6						
FINES				LR	LR	02 47 38.0	
	comp=Z,43nm,18.4s,baz=8.5,slow=36						
HFS	**Hagfors**	**16.02**	**169**	Pn	**P**	**02 41 55.3**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=11,slow=8.1,SNR=2.9						
NRIK	**Noril'sk**	**22.86**	**64**	LR	LR	02 54 45.4	
	comp=Z,19nm,19.0s,baz=190,slow=44						
GERES	**GERESS Array B**	**27.30**	**171**	LR	LR	02 55 51.1	
	comp=Z,15nm,18.2s,baz=358,slow=39						
YKA	**Yellowknife Ar**	**37.02**	**319**	P	**P**	**02 45 15.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=19,slow=7.9,SNR=2.2						
TXAR	**Lajitas Array**	**66.70**	**298**	P	**P**	**02 48 59.0**	**+2.4**
	comp=Z,0.1nm,0.5s,baz=64,slow=6.1,SNR=2.4						

MEX 08 02:50:23.6±0.6, 15°.82N×94°.04W, h84km±13km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.80**	**98**	*e*P	Pn	02 50 39.2	-1.3
PCIG				*e*S	Sn	02 50 51.8	-1.5
TGIG		**1.30**	**43**	*i* P	Pn	02 50 45.1	-1.5
TGIG				*e*S	Sn	02 51 01.3	-2.5
CMIG	**Matias Romero**	**1.50**	**327**	*e*P	Pn	02 50 48.4	-0.7
CMIG				*e*S	Sn	02 51 07.0	-1.4
CCIG	**Comitan**	**1.89**	**76**	*i* P	Pn	02 50 53.4	-0.8
CCIG				*i* S	Sn	02 51 15.3	-2.3
HUIG	**Huatulco**	**1.99**	**269**	*i* P	Pn	02 50 54.3	-1.2
HUIG				*i* S	Sn	02 51 17.7	-2.1

PRU 08 03:00:44.7±0.0, 50°.08N×18°.51E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.34**	**224**	*e*PG	Pg	03 00 51.1	0.0
OKC				*e*SG	Sg	03 00 56.1	+0.6
	comp=Z,5.7nm,0.7s						
MORC	**Moravsky Berou**	**0.69**	**244**	*e*PG	Pg	03 00 57.5	-0.5
MORC				*e*SG	Sg	03 01 06.0	-1.0
KRLC	**Kraliky**	**1.11**	**270**	*e*PG	Pg	03 01 05.5	-0.5
KRLC				*e*SG	Sg	03 01 20.1	-0.3
DPC	**Dobruska-Polom**	**1.43**	**282**	*e*PG	Pn	03 01 10.5	-1.5
DPC				*e*SG	Sg	03 01 30.3	-0.4
	comp=Z,2.9nm,0.7s						

ROM 08 03:03:12.3±0.1, 43°.456N±0°.003×12°.290E±0°.004, h8km, ML1.8/22, Error ellipse: s-maj=0.3km s-min=0.3km az=15.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.04**	**274**	P	Pg	03 03 14.1	+0.2
CDCA	**Citt' di Caste**	**0.04**	**274**	P	Pg	03 03 14.2	+0.3
CDCA				S	Sg	03 03 15.1	+0.1
CDCA				AML	AML		
	comp=E,7435μm,0.3s						
CDCA				AML	AML		
	comp=N,11350μm,0.4s						
CDCA				AML	AML		
	comp=E,2525μm,0.3s						
CDCA				AML	AML		
	comp=N,2225μm,0.5s						
CDCA				AML	AML		
	comp=E,7435μm,0.2s						
CDCA				AML	AML		
	comp=N,11400μm,0.4s						
CDCA				AML	AML		
	comp=E,2524μm,0.3s						
CDCA				AML	AML		
	comp=N,2230μm,0.5s						
CDCA				AML	AML		
	comp=E,7435μm,0.2s						
CDCA				AML	AML		
	comp=N,2230μm,0.5s						
CDCA				AML	AML		
	comp=N,11400μm,0.4s						
CDCA				AML	AML		
	comp=E,2524μm,0.3s						
CDCA	**Citt' di Caste**	**0.04**	**274**	P	Pg	03 03 14.2	+0.3
CDCA	**Citt' di Caste**	**0.04**	**274**	S	Sg	03 03 15.2	+0.2
ATPI	**Pietralunga -**	**0.08**	**93**	P	Pg	03 03 14.8	+0.4
ATPI				S	Sg	03 03 16.5	+0.5
ATPI				AML	AML		
	comp=E,586μm,0.6s						
ATPI				AML	AML		
	comp=N,864μm,0.5s						
ATPI				AML	AML		
	comp=E,586μm,0.6s						
ATPI				AML	AML		
	comp=N,864μm,0.5s						
ATPI				AML	AML		
	comp=N,864μm,0.5s						
ATPI				AML	AML		
	comp=E,586μm,0.6s						
ATPI	**Pietralunga -**	**0.08**	**93**	P	Pg	03 03 14.8	+0.4
ATPI	**Pietralunga -**	**0.08**	**93**	S	Sg	03 03 16.5	+0.5
ATVO	**AVT- Monte Val**	**0.11**	**131**	P	Pg	03 03 15.5	+0.6
ATVO				S	Sg	03 03 17.7	+1.0
ATVO				AML	AML		
	comp=E,762μm,0.9s						
ATVO				AML	AML		
	comp=N,788μm,1.4s						
ATVO				AML	AML		
	comp=E,762μm,0.9s						
ATVO				AML	AML		
	comp=N,788μm,1.4s						
ATVO				AML	AML		
	comp=N,788μm,1.4s						
ATVO				AML	AML		
	comp=E,762μm,0.9s						
ATVO	**AVT- Monte Val**	**0.11**	**131**	P	Pg	03 03 15.5	+0.6
ATVO	**AVT- Monte Val**	**0.11**	**131**	S	Sg	03 03 17.7	+1.1
ATMI	**Monte Miggiano**	**0.12**	**188**	P	Pg	03 03 15.3	+0.3
ATMI	**Monte Miggiano**	**0.12**	**188**	P	Pg	03 03 15.8	+0.7
ATMI				S	Sg	03 03 18.2	+1.3
ATMI				AML	AML		
	comp=E,1380μm,0.7s						
ATMI				AML	AML		
	comp=N,1420μm,0.6s						
ATMI				AML	AML		
	comp=E,1380μm,0.7s						
ATMI				AML	AML		
	comp=N,1420μm,0.6s						
ATMI				AML	AML		
	comp=N,1420μm,0.6s						
ATMI				AML	AML		
	comp=E,1380μm,0.7s						
ATMI	**Monte Miggiano**	**0.12**	**188**	S	Sg	03 03 18.2	+1.3
SSP9	**Sansepolcro**	**0.17**	**316**	P	Pg	03 03 16.7	+1.0
SSP9				S	Sg	03 03 19.8	+1.7
SSP9	**Sansepolcro**	**0.17**	**316**	P	Pg	03 03 16.7	+1.0
SSP9	**Sansepolcro**	**0.17**	**316**	S	Sg	03 03 19.6	+1.5
PIEI	**Pieia**	**0.20**	**66**	P	Pg	03 03 16.9	+0.6
PIEI				S	Sg	03 03 20.6	+1.6
PIEI				AML	AML		
	comp=E,552μm,0.2s						
PIEI				AML	AML		
	comp=N,368μm,0.5s						
PIEI				AML	AML		
	comp=E,552μm,0.2s						
PIEI				AML	AML		
	comp=N,368μm,0.5s						
PIEI	**Pieia**	**0.20**	**66**	P	Pg	03 03 16.9	+0.6
PIEI	**Pieia**	**0.20**	**66**	P	Pg	03 03 16.9	+0.6
PIEI	**Pieia**	**0.20**	**66**	S	Sg	03 03 20.7	+1.7
PARC	**Parchiule**	**0.20**	**349**	P	Pg	03 03 17.0	+0.6
PARC				S	Sg	03 03 20.6	+1.6
PARC				AML	AML		
	comp=E,664μm,0.1s						
PARC				AML	AML		
	comp=N,770μm,0.5s						
PARC				AML	AML		
	comp=E,664μm,0.1s						
PARC				AML	AML		
	comp=N,769μm,0.5s						
PARC				AML	AML		
	comp=E,664μm,0.1s						
PARC				AML	AML		
	comp=N,769μm,0.5s						
PARC	**Parchiule**	**0.20**	**349**	S	Sg	03 03 20.7	+1.6
ATFO	**Monte Foce - G**	**0.22**	**113**	P	Pg	03 03 17.4	+0.6
ATFO				S	Sg	03 03 21.1	+1.3
ATFO				AML	AML		
	comp=E,537μm,1.1s						
ATFO				AML	AML		
	comp=N,537μm,0.2s						
ATFO				AML	AML		
	comp=E,537μm,1.1s						
ATFO				AML	AML		
	comp=N,537μm,0.2s						
ATFO	**Monte Foce - G**	**0.22**	**113**	P	Pg	03 03 17.4	+0.6
ATFO	**Monte Foce - G**	**0.22**	**113**	P	Pg	03 03 17.4	+0.6
ATFO	**Monte Foce - G**	**0.22**	**113**	S	Sg	03 03 21.2	+1.4
MURB	**Monte Urbino**	**0.26**	**138**	P	Pg	03 03 18.1	+0.7
MURB	**Monte Urbino**	**0.26**	**138**	P	Pg	03 03 18.2	+0.7
MURB				S	Sb	03 03 22.8	-1.1
MURB				AML	AML		
	comp=E,834μm,1.0s						
MURB				AML	AML		
	comp=N,691μm,0.3s						
MURB				AML	AML		
	comp=E,952μm,1.0s						
MURB				AML	AML		
	comp=N,807μm,0.2s						
MURB				AML	AML		
	comp=E,952μm,1.0s						
MURB				AML	AML		
	comp=E,834μm,1.0s						
MURB				AML	AML		
	comp=N,807μm,0.2s						
MURB				AML	AML		
	comp=N,691μm,0.3s						
MURB	**Monte Urbino**	**0.26**	**138**	S	Sb	03 03 22.7	-1.1
ATTE	**AVT- Monte Tez**	**0.26**	**170**	P	Pg	03 03 18.2	+0.7
ATTE	**AVT- Monte Tez**	**0.26**	**170**	P	Pg	03 03 18.2	+0.7
ATTE				S	Sg	03 03 21.9	+0.9
ATTE				AML	AML		
	comp=E,489μm,1.2s						
ATTE				AML	AML		
	comp=N,573μm,0.3s						
ATTE				AML	AML		
	comp=E,489μm,1.2s						
ATTE				AML	AML		
	comp=N,573μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.26**	**170**	S	Sg	03 03 22.0	+0.9
NARO	**Abbazia di Nar**	**0.26**	**54**	P	Pg	03 03 17.9	+0.4
NARO				S	Sg	03 03 22.4	+1.4
NARO				AML	AML		
	comp=E,142μm,0.3s						
NARO				AML	AML		
	comp=N,232μm,0.9s						
NARO				AML	AML		
	comp=E,142μm,0.3s						
NARO				AML	AML		
	comp=N,232μm,0.9s						
NARO				AML	AML		
	comp=N,232μm,0.9s						
NARO				AML	AML		
	comp=E,142μm,0.3s						
NARO	**Abbazia di Nar**	**0.26**	**54**	P	Pg	03 03 18.0	+0.5
NARO	**Abbazia di Nar**	**0.26**	**54**	S	Sg	03 03 22.4	+1.4
CAFI	**Castiglion Fio**	**0.27**	**242**	P	Pg	03 03 18.4	+0.7
CAFI				S	Sb	03 03 22.7	-1.4
CAFI				AML	AML		
	comp=E,215μm,0.9s						
CAFI				AML	AML		
	comp=N,206μm,0.2s						
CAFI				AML	AML		
	comp=E,215μm,0.9s						
CAFI				AML	AML		
	comp=N,206μm,0.2s						
CAFI	**Castiglion Fio**	**0.27**	**242**	P	Pg	03 03 18.4	+0.8
PE3	**Peglio**	**0.28**	**32**	P	Pg	03 03 18.7	+0.7
PE3				S	Sb	03 03 24.5	-0.1
PE3				AML	AML		
	comp=E,372μm,0.5s						
PE3				AML	AML		
	comp=N,374μm,0.8s						
PE3				AML	AML		
	comp=E,372μm,0.5s						
PE3				AML	AML		
	comp=N,374μm,0.8s						
PE3	**Peglio**	**0.28**	**32**	P	Pg	03 03 18.7	+0.8
CRE	**Caprese Michel**	**0.30**	**304**	P	Pg	03 03 18.7	+0.5
CRE	**Caprese Michel**	**0.30**	**304**	P	Pg	03 03 18.7	+0.5
CRE				S	Sg	03 03 23.5	+1.4
CRE				AML	AML		
	comp=E,54μm,0.6s						
CRE				AML	AML		
	comp=N,109μm,0.2s						
CRE				AML	AML		
	comp=E,54μm,0.6s						
CRE				AML	AML		
	comp=N,109μm,0.2s						
CPGN	**Carpegna, Ital**	**0.35**	**4**	P	Pb	03 03 20.3	-0.4
CPGN	**Carpegna, Ital**	**0.35**	**4**	P	Pb	03 03 20.4	-0.4
SSFR	**Montelago di S**	**0.36**	**93**	P	Pg	03 03 19.9	+0.5
SSFR				S	Sb	03 03 25.5	-1.2
SSFR				AML	AML		
	comp=E,426μm,0.8s						
SSFR				AML	AML		
	comp=N,503μm,0.2s						
SSFR				AML	AML		
	comp=E,408μm,1.2s						
SSFR				AML	AML		
	comp=N,562μm,1.1s						
SSFR				AML	AML		
	comp=E,408μm,1.2s						
SSFR				AML	AML		
	comp=N,562μm,1.1s						
SSFR				AML	AML		
	comp=N,503μm,0.2s						
SSFR				AML	AML		
	comp=E,426μm,0.8s						
SSFR	**Montelago di S**	**0.36**	**93**	P	Pg	03 03 20.0	+0.7
ATCC	**AVT- Casa Cast**	**0.37**	**137**	P	Pg	03 03 20.3	+0.7
ATCC				S	Sb	03 03 26.7	-0.4
ATCC				AML	AML		
	comp=E,201μm,0.6s						
ATCC				AML	AML		
	comp=N,166μm,0.9s						
ATCC				AML	AML		
	comp=N,166μm,0.9s						
ATCC				AML	AML		
	comp=E,201μm,0.6s						
ATCC	**AVT- Casa Cast**	**0.37**	**137**	P	Pg	03 03 20.3	+0.7
FOSV	**Fossato di Vic**	**0.38**	**115**	P	Pg	03 03 20.1	+0.4
FOSV				S	Sb	03 03 26.8	-0.5
FOSV				AML	AML		
	comp=E,52μm,1.0s						
FOSV				AML	AML		
	comp=N,60μm,1.5s						
FOSV				AML	AML		
	comp=E,52μm,1.0s						
FOSV				AML	AML		
	comp=N,60μm,1.5s						
FOSV	**Fossato di Vic**	**0.38**	**115**	P	Pg	03 03 20.4	+0.8
MPAG	**Monte Paganucc**	**0.38**	**63**	P	Pg	03 03 20.2	+0.4
MPAG				S	Sb	03 03 26.6	-0.9
MPAG				AML	AML		
	comp=E,94μm,0.2s						
MPAG				AML	AML		
	comp=N,282μm,0.3s						
MPAG				AML	AML		
	comp=N,282μm,0.3s						
MPAG				AML	AML		
	comp=E,94μm,0.2s						
MPAG	**Monte Paganucc**	**0.38**	**63**	P	Pg	03 03 20.3	+0.5
FSSB	**Fossombrone**	**0.43**	**56**	P	Pg	03 03 21.0	+0.4
FSSB				S	Sb	03 03 28.1	-0.6
FSSB				AML	AML		
	comp=E,490μm,0.4s						
FSSB				AML	AML		
	comp=N,409μm,0.3s						
FSSB				AML	AML		
	comp=N,409μm,0.3s						
FSSB				AML	AML		
	comp=E,490μm,0.4s						
FSSB	**Fossombrone**	**0.43**	**56**	P	Pg	03 03 21.2	+0.6
ARVD	**Arcevia**	**0.48**	**85**	P	Pg	03 03 22.1	+0.6
ARVD				S	Sb	03 03 29.6	-0.4
ARVD				AML	AML		
	comp=E,65μm,0.5s						
ARVD				AML	AML		
	comp=N,74μm,0.3s						
ARVD				AML	AML		
	comp=N,74μm,0.3s						
ARVD				AML	AML		
	comp=E,65μm,0.5s						
ARVD	**Arcevia**	**0.48**	**85**	P	Pb	03 03 22.3	-0.6
ASSB	**Assisi San Ben**	**0.49**	**147**	P	Pg	03 03 22.2	+0.3
ASSB				S	Sb	03 03 30.4	-0.2
ASSB				AML	AML		
	comp=E,62μm,1.4s						
ASSB				AML	AML		
	comp=N,72μm,0.3s						
ASSB				AML	AML		
	comp=E,62μm,1.4s						
ASSB				AML	AML		
	comp=N,72μm,0.3s						
ASSB	**Assisi San Ben**	**0.49**	**147**	P	Pg	03 03 22.3	+0.4
ASQU	**Asqua**	**0.50**	**313**	P	Pb	03 03 22.7	-0.6
ASQU				AML	AML		
	comp=E,26μm,0.9s						
ASQU				AML	AML		
	comp=N,41μm,0.2s						
ASQU				AML	AML		
	comp=N,41μm,0.2s						
ASQU				AML	AML		
	comp=E,26μm,0.9s						
MGAB	**Montegabbione**	**0.56**	**194**	P	Pb	03 03 23.8	-0.6
MGAB				S	Sb	03 03 32.8	+0.4
MGAB				AML	AML		
	comp=E,158μm,1.2s						
MGAB				AML	AML		
	comp=N,223μm,0.4s						
MGAB				AML	AML		
	comp=E,158μm,1.2s						
MGAB				AML	AML		
	comp=N,223μm,0.4s						
MGAB	**Montegabbione**	**0.56**	**194**	P	Pb	03 03 23.8	-0.5
EL6	**Elcito**	**0.60**	**102**	P	Pg	03 03 24.2	+0.3
EL6				S	Sb	03 03 33.5	-0.3
EL6	**Elcito**	**0.60**	**102**	P	Pg	03 03 24.3	+0.4
EL6	**Elcito**	**0.60**	**102**	S	Sb	03 03 35.0	+1.1
FDMO	**Fiordimonte**	**0.72**	**125**	P	Pg	03 03 26.2	+0.1
FDMO				AML	AML		
	comp=E,25μm,0.2s						
FDMO				AML	AML		
	comp=N,23μm,0.8s						
FDMO				AML	AML		
	comp=N,23μm,0.8s						
FDMO				AML	AML		
	comp=E,25μm,0.2s						
FDMO	**Fiordimonte**	**0.72**	**125**	P	Pg	03 03 26.3	+0.2

MEX 08 03:27:43.3±0.6, 16°.31N×97°.95W, h10km±6km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**296**	*e*P	Pg	03 27 46.6	-0.8
PNIG				*e*S	Sg	03 27 50.0	-0.3
TLIG	**Tlapa**	**1.38**	**335**	*e*P	Pn	03 28 05.9	-3.0
TLIG				*i* S	Sb	03 28 22.6	-4.5
HUIG	**Huatulco**	**1.85**	**107**	*i* P	Pn	03 28 12.3	-2.8
HUIG				*i* S	Sn	03 28 34.3	-4.2
CAIG	**El Cayaco**	**2.34**	**289**	*i* P	Pn	03 28 17.9	-4.0
CAIG				*i* S	Sn	03 28 46.3	-4.5
CMIG	**Matias Romero**	**3.04**	**75**	*i* P	Pn	03 28 28.7	-2.8
CMIG				*i* S	Sn	03 29 04.0	-3.8

*IDC **08** 03:45:18.3±1.5, 14°.01N×60°.48W, h0km, mb3.4/5, mb1 3.9/8, mb1mx3.5/59, mbtmp3.7/8, ML4.1/2, Error ellipse: s-maj=35.0km s-min=29.3km az=12.0*
*TRN **08** 03:45:20.6, 14°.03N×60°.58W, h15km, MD4.0*
*ISCJB **08** 03:45:21.1±0.6, 14°.04N±0°.02×60°.45W±0°.04, h21km±4km, mb3.4/5, Error ellipse: s-maj=6.1km s-min=2.7km az=0.2*

ISC 08 03:45:21.3±1.0, 14°.05N±0°.02×60°.49W±0°.03, h17km±7km, n70, σ0°.84/96, mb3.4/5, 4C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLW	**Petit Monier**	**0.43**	**266**	⇑*i*P	**Pb**	**03 45 30.7**	**+0.1**
SLW				*e*S	**Sg**	**03 45 36.4**	**+0.3**
SLPA	**Patience**	**0.46**	**245**	*e*P	**Pg**	**03 45 30.5**	**0.0**
SLPA				*e*S	**Sg**	**03 45 37.1**	**+0.3**
SLBI	**Saint Lucia, B**	**0.47**	**267**	⇑*i*P	**Pg**	**03 45 30.9**	**+0.1**
SLBI				*e*S	**Sg**	**03 45 37.1**	**0.0**
H05S1	**Guadeloupe/Mar**	**0.50**	**318**	Pn	**Pb**	**03 45 31.8**	**0.0**
H05S1				Sn	**Sb**	**03 45 38.8**	**-0.1**
MPOM	**Morne Pois Mar**	**0.53**	**318**	*e*P	**Pb**	**03 45 32.1**	**-0.2**
MCLT	**Moule a Chique**	**0.55**	**232**	⇑*i*P	**Pg**	**03 45 32.3**	**+0.1**
MCLT				*e*S	**Sg**	**03 45 40.1**	**+0.5**
SLB	**Belfond**	**0.58**	**248**	*e*P	**Pb**	**03 45 33.5**	**+0.5**
SLB				*e*S	**Sg**	**03 45 40.8**	**+0.3**
SLDE	**Delcer**	**0.60**	**246**	*e*P	**Pb**	**03 45 33.6**	**+0.1**
MVM	**Montagne Vaucl**	**0.64**	**322**	*e*P	**Pg**	**03 45 33.5**	**-0.4**
LPMF	**Morne Lapointe**	**0.70**	**319**	*e*P	**Pg**	**03 45 34.5**	**-0.5**
TRMF	**Trois Ilets**	**0.73**	**312**	*e*P	**Pg**	**03 45 35.3**	**-0.3**
BIM	**Bigot**	**0.73**	**310**	*e*P	**Pg**	**03 45 35.2**	**-0.4**
ZAM	**Aeronautique**	**0.74**	**315**	*e*P	**Pg**	**03 45 35.1**	**-0.6**
ILAM	**Ilet Lapin Mar**	**0.81**	**333**	*e*P	**Pg**	**03 45 36.7**	**-0.5**
FDF	**Fort de France**	**0.93**	**317**	*e*P	**Pn**	**03 45 40.1**	**+0.3**
FDF				*e*S	**Sn**	**03 45 54.1**	**+1.3**
SFAN	**Fancy Village**	**0.93**	**225**	⇑*i*P	**Pb**	**03 45 39.4**	**+0.3**
SFAN				*e*S	**Sb**	**03 45 52.0**	**+0.8**
SSV	**Crater Summit**	**0.99**	**224**	*e*P	**Pg**	**03 45 39.9**	**-0.7**
SSV				*e*S	**Sb**	**03 45 54.0**	**+1.1**
GBMF	**Grand Be**	**0.99**	**319**	*e*P	**Pg**	**03 45 39.2**	**-1.3**
PML	**Morne Lenard**	**0.99**	**317**	*e*P	**Pg**	**03 45 40.1**	**-0.5**
BAMF	**Morne Balai**	**0.99**	**320**	*e*P	**Pg**	**03 45 39.7**	**-0.9**
SVCV	**St. Vincent, C**	**1.00**	**220**	*e*P	**Pg**	**03 45 39.3**	**-1.4**
SVCV				*e*S	**Sb**	**03 45 53.9**	**+0.7**
CXM	**Morne La Croix**	**1.00**	**319**	*e*P	**Pg**	**03 45 40.3**	**-0.5**
SVV	**Soufriere Volc**	**1.01**	**224**	*e*P	**Pg**	**03 45 40.6**	**-0.3**
SVV				*e*S	**Sb**	**03 45 54.8**	**+1.3**
PCM	**Pelee Case Pet**	**1.03**	**318**	*e*P	**Pb**	**03 45 40.5**	**-0.3**
SVB	**Belmont**	**1.07**	**224**	*e*P	**Pb**	**03 45 40.4**	**-1.0**
SVB				*e*S	**Sb**	**03 45 54.7**	**-0.4**
FCV	**Fort Charlotte**	**1.15**	**220**	*e*P	**Pb**	**03 45 42.4**	**-0.4**
FCV				*e*S	**Sb**	**03 45 57.5**	**+0.1**
BBGH	**Gun Hill**	**1.28**	**135**	*e*P	**Pg**	**03 45 46.4**	**+0.5**
BBGH				*e*S	**Sg**	**03 46 04.3**	**+1.6**
BBSP	**Saint Philip**	**1.38**	**133**	*e*P	**Pg**	**03 45 47.3**	**-0.5**
DSTT	**Stowe**	**1.43**	**327**	*e*P	**Pb**	**03 45 47.9**	**+0.4**
DSTT				*e*S	**Sb**	**03 46 06.5**	**+1.0**
DSHT	**Scott's Head**	**1.44**	**324**	*e*P	**Pb**	**03 45 47.9**	**+0.1**
DSHT				*e*S	**Sb**	**03 46 06.9**	**+1.1**
DBCT	**Belle View Cho**	**1.47**	**326**	*e*P	**Pb**	**03 45 48.4**	**+0.1**
DBCT				*e*S	**Sb**	**03 46 07.7**	**+1.0**
DLPL	**La Plaine**	**1.47**	**330**	*e*P	**Pb**	**03 45 47.9**	**-0.4**
DLPL				*e*S	**Sb**	**03 46 07.2**	**+0.4**
DPMT	**Pointe Michel**	**1.48**	**325**	*e*P	**Pn**	**03 45 47.9**	**+0.6**
DPMT				*e*S	**Sb**	**03 46 07.8**	**+0.8**
MDN	**Morne-Daniel**	**1.53**	**326**	*e*P	**Pb**	**03 45 48.8**	**-0.5**
MDN				*e*S	**Sn**	**03 46 08.7**	**+1.1**
DWS	**Wesley**	**1.71**	**332**	*e*P	**Pn**	**03 45 50.6**	**+0.2**
BBL	**Barber's Block**	**1.75**	**327**	*e*P	**Pn**	**03 45 51.0**	**+0.1**
BBL				*e*S	**Sn**	**03 46 13.9**	**+1.0**
MDPO	**Dominica; Chan**	**1.78**	**329**	*e*P	**Pb**	**03 45 52.7**	**-0.8**
MDPO				*e*S	**Sb**	**03 46 15.4**	**-0.2**
MDPV	**Dominica, Penn**	**1.81**	**330**	*e*P	**Pn**	**03 45 52.1**	**+0.3**

MDPV				eS	Sn	03 46 15.3	+0.9
MAGL	**Barre de l'ile**	**2.04**	**338**	eP	**Pn**	**03 45 54.7**	**-0.2**
GRSS	**Sisters**	**2.05**	**212**	eP	**Pn**	**03 45 55.2**	**+0.1**
GRSS				eS	Sn	03 46 20.5	+0.1
TDBA	**Terre de Bas,**	**2.10**	**328**	eP	**Pn**	**03 45 56.8**	**+1.0**
TBG	**Guadaloupe-3**	**2.11**	**328**	eP	**Pn**	**03 45 56.8**	**+0.9**
TBG				eS	Sn	03 46 22.7	+0.8
GRHS	**Sauteurs**	**2.13**	**212**	eP	**Pn**	**03 45 57.0**	**+0.8**
GRHS				eS	Sn	03 46 22.5	+0.2
GRGR	**Grenville**	**2.21**	**211**	eP	**Pn**	**03 45 57.7**	**+0.3**
GRGR				eS	Sn	03 46 23.8	-0.6
CBE	**Ff, Capester**	**2.28**	**332**	eP	**Pn**	**03 45 59.7**	**+1.4**
DEG	**La Desirade**	**2.32**	**346**	eP	**Pn**	**03 46 00.2**	**+1.4**
DEG				eS	Sn	03 46 27.9	+0.9
H05N1	**Guadeloupe/Mar**	**2.32**	**346**	Pn	**Pn**	**03 45 58.0**	**-0.9**
H05N1				Sn	Sn	03 46 25.9	-1.1
ABD	**La Joyeuse, An**	**2.60**	**338**	eP	**Pn**	**03 46 02.9**	**+0.2**
TOSP	**Speyside**	**2.73**	**181**	eP	**Pn**	**03 46 05.5**	**+1.0**
MLYT	**Lee's Yard**	**3.12**	**329**	eP	**Pn**	**03 46 11.4**	**+1.5**
MLYT				eS	Sn	03 46 47.3	+0.5
BPA	**Boggy Peak**	**3.26**	**336**	eP	**Pn**	**03 46 13.2**	**+1.4**
BPA				eS	Sn	03 46 49.8	-0.5
TRN	**Trinidad (W)**	**3.50**	**195**	eP	**Pn**	**03 46 16.2**	**+1.3**
NEV	**Hard Times**	**3.67**	**327**	eP	**Pn**	**03 46 18.2**	**+0.9**
ANWB	**Willy Bob**	**3.81**	**341**	eP	**Pn**	**03 46 19.9**	**+0.6**
ANWB				eS	Sn	03 47 04.4	+0.7
SMRT	**St. Maarten**	**4.69**	**328**	eP	**Pn**	**03 46 32.3**	**+0.9**
SJG	**San Juan**	**6.78**	**307**	Pn	**Pn**	**03 47 00.6**	**+0.6**
	5.4nm,0.3s,baz=146,slow=17,SNR=12						
SJG				Sn	**Sn**	**03 48 20.4**	**+3.5**
	1.0nm,0.3s,baz=0.0,slow=17,SNR=1.6						
SDV	**Santo Domingo**	**11.18**	**244**	Pn	**Pn**	**03 47 59.6**	**-1.2**
	0.3nm,0.3s,baz=10.0,slow=17,SNR=2.8						
MDP	**Montagnes des**	**11.78**	**138**	Pn	Pn	03 48 03.4	-5.4
	0.1nm,0.3s,baz=3.4,slow=17,SNR=3.4						
MDP				Sn	Sn	03 50 06.8	-13
	0.8nm,0.3s,baz=252,slow=20,SNR=11						
PTGA	**Pitinga**	**14.69**	**178**	Pn	**Pn**	**03 48 47.4**	**-1.2**
	0.5nm,0.3s,baz=328,slow=20,SNR=5.5						
PTGA				Sn	Sn	03 51 13.8	-17
	0.4nm,0.3s,baz=306,slow=19,SNR=2.1						
H10N3	**ASCENSION HYDR**	**50.55**	**113**	T	T	04 49 19.3	
	baz=295,slow=75,SNR=3.7						
H10N2	**ASCENSION HYDR**	**50.56**	**113**	T	T	04 49 14.1	
	baz=295,slow=75,SNR=4.1						
H10N1	**ASCENSION HYDR**	**50.58**	**113**	T	T	04 49 14.7	
	baz=295,slow=75,SNR=3.2						
PDAR	**Pinedale Array**	**50.84**	**314**	P	**P**	**03 54 21.6**	**0.0**
	0.1nm,0.5s,baz=85,slow=10.0,SNR=2.2						
H10S3	**ASCENSION HYDR**	**50.89**	**114**	T	T	04 49 55.6	
	baz=294						
H10S1	**ASCENSION HYDR**	**50.90**	**114**	T	T	04 50 20.1	
	baz=294						
H10S2	**ASCENSION HYDR**	**50.91**	**114**	T	T	04 49 58.5	
	baz=294						
ESDC	**Sonseca Array**	**55.50**	**51**	P	**P**	**03 54 56.0**	**+0.4**
	0.1nm,0.3s,baz=252,slow=5.6,SNR=4.2						
YKA	**Yellowknife Ar**	**61.46**	**335**	P	**P**	**03 55 36.8**	**0.0**
	0.3nm,0.5s,baz=106,slow=7.3,SNR=8.8						
INK	**Inuvik**	**70.78**	**338**	P	**P**	**03 56 34.9**	**-1.6**
	0.7nm,0.8s,baz=221,slow=4.4,SNR=4.5						
ILAR	**Eielson Array**	**75.87**	**334**	P	**P**	**03 57 06.8**	**+0.2**
	0.2nm,0.6s,baz=104,slow=7.5,SNR=3.5						

*ISCJB **08** 03:58:18.3±0.4, 51°.50N±0°.02×16°.08E±0°.02, h0km, mb3.1/1, Error ellipse: s-maj=3.0km s-min=1.8km az=23.3*
*IPEC **08** 03:58:19.3±3.4, 51°.57N×16°.27E, h0km±19km, ML2.3/3, Error ellipse: s-maj=30.6km s-min=17.7km az=62.0*
*IDC **08** 03:58:20.6±0.8, 51°.54N×16°.03E, h0km, mb3.2/1, mb1 3.3/7, mb1mx3.2/45, mbtmp3.2/7, ML2.8/6, Error ellipse: s-maj=12.4km s-min=7.3km az=105.0*
*BGR **08** 03:58:21.0±0.3, 51°.52N×16°.10E, h1km, ML3.2/14, Error ellipse: s-maj=3.3km s-min=2.2km az=24.0*

ISC 08 03:58:19.4±0.7, 51°.57N±0°.03×16°.11E±0°.02, h0km, n59, σ0.91/117, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**171**	i Pg	**Pg**	**03 58 33.8**	**+0.4**
KSP				eSg	**Sg**	**03 58 43.1**	**+0.2**
KSP	**Ksiaz**	**0.74**	**171**	ePg	**Pg**	**03 58 33.9**	**+0.4**
KSP				eSg	**Sg**	**03 58 43.4**	**+0.5**
UPC	**Upice**	**1.06**	**183**	ePG	**Pg**	**03 58 39.7**	**0.0**
UPC				eSG	**Sg**	**03 58 53.4**	**-0.1**
	comp=Z,116nm,0.4s						
DPC	**Dobruska-Polom**	**1.23**	**174**	ePg	**Pg**	**03 58 42.7**	**-0.2**
DPC				eSg	**Sg**	**03 58 58.7**	**-0.1**
DPC	**Dobruska-Polom**	**1.23**	**174**	ePG	**Pg**	**03 58 42.6**	**-0.2**
DPC				eSG	**Sg**	**03 58 58.1**	**-0.6**
	comp=Z,60nm,0.5s						
PVCC	**Panska Ves**	**1.43**	**224**	ePG	**Pn**	**03 58 46.3**	**-0.2**
PVCC				eSG	**Sb**	**03 59 05.7**	**+0.2**
	comp=Z,132nm,0.5s						
KRLC	**Kraliky**	**1.55**	**164**	ePG	**Pn**	**03 58 48.0**	**-0.3**
KRLC				eSG	**Sn**	**03 59 08.8**	**-0.4**
	comp=Z,15nm,0.6s						
RUE	**Ruedersdorf**	**1.71**	**303**	eSg	**Sg**	**03 59 15.9**	**+1.8**
FBE	**Freiberg**	**1.85**	**251**	ePg	**Pg**	**03 58 54.9**	**+0.1**
FBE				eSg	**Sg**	**03 59 18.9**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.86**	**207**	ePN	**Pn**	**03 58 52.6**	**+0.2**
GOPC				ePG	**Pb**	**03 58 53.8**	**-0.4**
GOPC				eSG	**Sb**	**03 59 18.3**	**+0.4**
	comp=Z,38nm,0.6s						
PRU	**Pruhonice**	**1.87**	**213**	ePG	**Pb**	**03 58 54.3**	**0.0**
PRU				eSG	**Sb**	**03 59 18.2**	**-0.1**
	comp=Z,38nm,0.4s						
CLL	**Collm**	**1.96**	**264**	ePn	**Pn**	**03 58 53.0**	**-0.9**
CLL				ePg	**Pb**	**03 58 56.0**	**+0.1**
CLL				i		03 58 57.4	
CLL				i		03 59 00.3	
CLL				i Sg	**Sg**	**03 59 22.6**	**+0.2**
	comp=Z,29nm,0.4s						
CLL				i		03 59 29.2	
CLL	**Collm**	**1.96**	**264**	ePn	**Pn**	**03 58 53.4**	**-0.5**
CLL				eSg	**Sg**	**03 59 22.8**	**+0.4**
MORC	**Moravsky Berou**	**2.01**	**153**	ePN	**Pn**	**03 58 53.9**	**-0.7**
MORC				eSG	**Sn**	**03 59 21.3**	**+0.8**
MORC	**Moravsky Berou**	**2.01**	**153**	ePn	**Pn**	**03 58 53.8**	**-0.8**
	baz=336						
MORC				eSg	**Sn**	**03 59 21.3**	**+0.8**
	comp=Z,22nm,0.3s,baz=336						
MORC	**Moravsky Berou**	**2.01**	**153**	ePn	**Pn**	**03 58 54.1**	**-0.5**
MORC				eSg	**Sb**	**03 59 22.2**	**-0.2**
OKC	**Ostrava-Krasne**	**2.16**	**142**	eSg	**Sg**	**03 59 28.9**	**+0.1**
OKC	**Ostrava-Krasne**	**2.16**	**142**	ePG	**Pb**	**03 58 59.8**	**+0.4**
OKC				eSG	**Sg**	**03 59 28.2**	**-0.6**
	comp=Z,40nm,0.5s						
CHZP	**Chorzow**	**2.23**	**124**	ePg	**Pg**	**03 59 03.4**	**+1.4**
CHZP				eSg	**Sg**	**03 59 31.8**	**+1.0**
VRAC	**Vranov**	**2.28**	**172**	ePN	**Pn**	**03 58 58.4**	**+0.1**
VRAC				eSG	**Sb**	**03 59 30.7**	**+0.5**
VRAC	**Vranov**	**2.28**	**172**	ePn	**Pn**	**03 58 58.3**	**0.0**
	baz=355						
VRAC				eSg	**Sb**	**03 59 30.7**	**+0.5**
	comp=Z,18nm,0.3s,baz=355						
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**03 58 58.8**	**+0.6**
	comp=Z,3.3nm,0.3s,baz=353,slow=18,SNR=7.5						
VRAC				Pg	**Pg**	**03 59 02.7**	**-0.4**
	comp=Z,3.2nm,0.3s,baz=350,slow=16,SNR=7.2						
VRAC				Sn	**Sn**	**03 59 28.5**	**+1.4**
	comp=Z,4.3nm,0.3s,baz=258,slow=19,SNR=12						
TREC	**Trest**	**2.31**	**190**	ePG	**Pb**	**03 59 02.2**	**+0.3**
TREC				eSG	**Sg**	**03 59 32.9**	**-0.6**
	comp=Z,37nm,0.7s						
KRUC	**Moravsky**	**2.52**	**176**	ePN	**Pn**	**03 59 01.4**	**-0.1**
KRUC				eSG	**Sb**	**03 59 37.9**	**+1.0**
KRUC	**Moravsky**	**2.52**	**176**	ePn	**Pn**	**03 59 01.3**	**-0.2**
	baz=358						
KRUC				eSg	**Sb**	**03 59 37.8**	**+0.9**
	comp=Z,10nm,0.3s,baz=358						
TANN	**Tannenbergstha**	**2.58**	**245**	ePn	**Pn**	**03 59 02.5**	**+0.1**
TANN				eSg	**Sg**	**03 59 41.8**	**-0.3**
GUNZ	**Gunzen**	**2.68**	**245**	ePg	**Pg**	**03 59 11.0**	**+0.4**
GUNZ				eSg	**Sg**	**03 59 45.4**	**+0.1**
NKC	**Novy Kostel**	**2.68**	**241**	ePN	**Pn**	**03 59 04.2**	**+0.5**
NKC				ePG	**Pg**	**03 59 09.9**	**-0.7**
NKC				eSG	**Sg**	**03 59 46.2**	**+0.9**
	comp=Z,96nm,0.4s						
WERN	**Wernitzgruen**	**2.69**	**243**	ePg	**Pg**	**03 59 11.5**	**+0.6**
WERN				eSg	**Sg**	**03 59 45.0**	**-0.7**
OJC	**Ojcow**	**2.70**	**119**	ePg	**Pg**	**03 59 11.0**	**0.0**
OJC				eSg	**Sg**	**03 59 46.1**	**+0.2**
OJC	**Ojcow**	**2.70**	**119**	ePg	**Pg**	**03 59 11.0**	**0.0**
OJC				eSg	**Sg**	**03 59 46.2**	**+0.3**
PLN	**Plauen**	**2.72**	**248**	ePg	**Pg**	**03 59 12.1**	**+0.7**
PLN				eSg	**Sg**	**03 59 46.4**	**-0.4**
NEUB	**Neuenburg**	**2.74**	**264**	ePg	**Pg**	**03 59 12.2**	**+0.4**
NEUB				eSg	**Sg**	**03 59 48.1**	**+0.8**
JAVC	**Velka Javorina**	**2.89**	**159**	ePN	**Pn**	**03 59 07.8**	**+1.1**
JAVC				eSG	**Sg**	**03 59 51.5**	**-0.7**
KHC	**Kasperske Hory**	**2.93**	**215**	ePN	**Pn**	**03 59 07.5**	**+0.3**
KHC				ePG	**Pb**	**03 59 13.5**	**+1.0**
KHC				eSN	**Sn**	**03 59 42.8**	**-0.3**
KHC				eSG	**Sg**	**03 59 51.9**	**-1.5**
	comp=Z,11nm,0.4s						
MOX	**Moxa**	**2.98**	**254**	ePg	**Pg**	**03 59 16.1**	**-0.4**
MOX				eSg	**Sg**	**03 59 54.3**	**-0.7**
GEC2	**GERESS Array S**	**3.13**	**211**	ePn	**Pn**	**03 59 10.8**	**+0.7**
GEC2				ePg	**Pg**	**03 59 18.5**	**-0.9**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**03 59 10.8**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=32,slow=13,SNR=41						
GERES				Pg	**Pb**	**03 59 17.1**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=26,slow=16,SNR=30						
GERES				Sn	**Sn**	**03 59 46.5**	**-1.7**
	comp=Z,1.5nm,0.3s,baz=28,slow=26,SNR=4.4						
GERES				Lg	Lg	03 59 58.1	
	comp=Z,4.2nm,0.3s,baz=30,slow=27,SNR=12						
SMOL	**Smolenice**	**3.17**	**164**	eSG	**Sg**	**03 59 59.8**	**-1.4**
WET	**Wettzell**	**3.19**	**222**	ePn	**Pn**	**03 59 11.2**	**+0.4**
LANS	**Liptovska Anna**	**3.24**	**137**	ePN	**Pn**	**03 59 12.5**	**+1.1**
LANS				ePG	**Pg**	**03 59 20.6**	**-0.8**
LANS				eSG	**Sg**	**04 00 02.6**	**-0.7**
MODS	**Modra-Piesok**	**3.29**	**166**	ePG	**Pg**	**03 59 21.0**	**-1.3**
MODS				eSG	**Sg**	**04 00 02.1**	**-2.7**
KOLL	**Kolacno**	**3.34**	**153**	ePN	**Pn**	**03 59 13.1**	**+0.4**
KOLL				ePG	**Pg**	**03 59 25.0**	**+1.7**
KOLL				eSG	**Sg**	**04 00 06.3**	**-0.2**
ASSE	**Asse, Remlinge**	**3.42**	**282**	ePg	**Pg**	**03 59 24.3**	**-0.5**
VYHS	**Vyhne**	**3.54**	**149**	ePN	**Pn**	**03 59 15.2**	**-0.4**
VYHS				ePG	**Pg**	**03 59 27.4**	**+0.2**
VYHS				eSG	**Sg**	**04 00 10.4**	**-2.7**
CLZ	**Clausthal**	**3.58**	**277**	eSg	**Sg**	**04 00 14.6**	**+0.3**
BSD	**Bornholm Skovb**	**3.62**	**349**	i P	**Pn**	**03 59 16.1**	**-0.6**
BSD				i S	**Sn**	**03 59 58.1**	**-2.0**
GRF	**Grafenberg Arr**	**3.64**	**241**	ePn	**Pn**	**03 59 17.5**	**+0.6**
GRF				eSg	**Sg**	**04 00 16.3**	**+0.3**
CONA	**Conrad Observa**	**3.65**	**183**	ePn	**Pn**	**03 59 17.6**	**+0.5**
	comp=Z,0.6nm,0.2s						
CONA				Sg	**Sg**	**04 00 16.2**	**-0.3**
	comp=Z,14nm,0.4s						
MOA	**Molln**	**3.91**	**199**	ePn	**Pn**	**03 59 21.1**	**+0.4**
	comp=Z,2.3nm,0.3s						
MOA				Sg	**Sg**	**04 00 24.8**	**-0.1**
	comp=Z,11nm,0.5s						
STHS	**Stebnicka Huta**	**3.92**	**121**	ePG	**Pg**	**03 59 35.9**	**+1.4**
STHS				eSG	**Sg**	**04 00 25.0**	**-0.3**
RETH	**Rethem/Aller,**	**4.32**	**288**	ePn	**Pn**	**03 59 27.1**	**+0.9**
ARSA	**Arzberg**	**4.34**	**185**	ePn	**Pn**	**03 59 28.8**	**+2.3**
	comp=Z,0.8nm,0.3s						
ARSA				Pg	**Pg**	**03 59 41.3**	**-1.2**
	comp=Z,0.8nm,0.3s						
ARSA				Sg	**Sg**	**04 00 40.0**	**+1.3**
	comp=Z,7.9nm,0.6s						
KBA	**Koelnbreinsper**	**4.84**	**203**	ePn	**Pn**	**03 59 34.3**	**+0.7**
	comp=Z,5.4nm,0.6s						
KBA				Sg	**Sg**	**04 00 56.9**	**+2.0**
	comp=Z,6.7nm,0.5s						
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**03 59 55.4**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=3.6,slow=16,SNR=2.7						
DAVOX				Lg	Lg	04 01 39.5	
	comp=Z,0.3nm,0.3s,baz=0.0,slow=20,SNR=3.1						
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**04 00 19.2**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=279,slow=12,SNR=4.8						
HFS	**Hagfors**	**8.69**	**352**	Pn	**Pn**	**04 00 25.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=172,slow=13,SNR=3.6						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**04 00 59.4**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=212,slow=7.7,SNR=2.7						
YKA	**Yellowknife Ar**	**59.80**	**336**	P	**P**	**04 08 26.8**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=30,slow=6.9,SNR=3.7						

KRSC 08 04:18:58.6±10.0, 50°.60N×157°.43E, h81km±10km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.84**	**276**	eP	Pn	04 19 17.0	+1.2
SKR				eS	Sn	04 19 29.9	+1.3
PAU	**Pauzhetka**	**0.95**	**336**	eS	Sn	04 19 33.2	+2.3
ALID	**Alaid**	**1.22**	**283**	eP	Pn	04 19 22.0	+1.4
ALID				eS	Sn	04 19 38.3	+1.3
KDTR	**Khodutka, Kamc**	**1.28**	**18**	eP	Pn	04 19 22.7	+1.6
KDTR				eS	Sn	04 19 39.9	+1.9
ASAK	**Asacha**	**1.81**	**9**	eP	Pn	04 19 29.6	+1.5
MTVR	**Mutnovka**	**1.94**	**14**	eS	Sn	04 19 56.1	+2.4
KRMR	**Karymshinskiy**	**2.27**	**11**	eP	Pn	04 19 37.6	+3.4
KRMR				eS	Sn	04 20 05.4	+4.1
APC	**Apacha**	**2.33**	**356**	P	Pn	04 19 36.3	+1.4
DALK	**Dalny**	**2.57**	**18**	eP	Pn	04 19 40.2	+2.1
DALK				eS	Sn	04 20 09.6	+1.2
UGLR	**Uglovaya**	**2.75**	**18**	eP	Pn	04 19 43.4	+2.7
AVH	**Avacha**	**2.79**	**16**	eP	Pn	04 19 44.1	+2.9
AVH				eS	Sn	04 20 16.8	+3.0
SMAR	**Somma**	**2.80**	**17**	eP	Pn	04 19 43.7	+2.3
KRER	**Koryakskii**	**2.83**	**16**	eS	Sn	04 20 17.6	+2.6
SDLR	**Sedlovina**	**2.83**	**18**	eP	Pn	04 19 43.8	+2.1
NLC	**Nalytchevo**	**2.83**	**24**	eS	Sn	04 20 14.5	-0.3
KRX	**Arik**	**2.86**	**15**	eP	Pn	04 19 44.8	+2.6
SPN	**Mys Shipunski**	**2.97**	**32**	eS	Sn	04 20 19.4	+1.2

*IDC **08** 04:29:03.9±1.6, 43°.33N×12°.86E, h0km, mb3.2/2, mb1 3.4/5, mb1mx3.2/50, mbtmp3.3/5, ML2.9/3, Error ellipse: s-maj=48.3km s-min=15.9km az=100.0*
*ROM **08** 04:29:05.8±0.1, 43°.455N±0°.003×12°.305E±0°.004, h8km, ML3.2/53, Error ellipse: s-maj=0.3km s-min=0.2km az=18.0*
*BEO **08** 04:29:05.9±1.9, 43°.51N×11°.66E, h61km±4km, ML3.4/3*
*LDG **08** 04:29:05.7±0.1, 43°.46N×12°.29E, h14km, Ml2.7/13, Error ellipse: s-maj=2.2km s-min=2.1km az=120.0*
*PDG **08** 04:29:06.7±0.2, 43°.47N×12°.40E, h2km, ML3.3/13, Error ellipse: s-maj=0.6km s-min=2.1km az=0.0*
*ISCJB **08** 04:29:06.3±0.2, 43°.44N±0°.01×12°.30E±0°.01, h10km±1km, mb3.2/2, Error ellipse: s-maj=2.2km s-min=1.6km az=33.0*
*PRU **08** 04:29:09.1±0.0, 43°.51N×12°.74E, h0km*

ISC 08 04:29:06.1±0.7, 43°.45N±0°.01×12°.26E±0°.01, h10km±3km, n227, σ1.94/286, 5C-9D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.02**	**310**	P	**Pg**	**04 29 07.8**	**-0.1**
CDCA	**Citt' di Caste**	**0.02**	**310**	P	**Pg**	**04 29 07.9**	**-0.1**
CDCA				S	**Sg**	**04 29 09.4**	**+0.2**
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,55700μm,0.4s						
CDCA				AML	AML		
	comp=N,44600μm,0.7s						
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,55700μm,0.4s						
CDCA				AML	AML		
	comp=N,44550μm,0.7s						
CDCA				AML	AML		
	comp=E,55700μm,0.4s						
CDCA				AML	AML		
	comp=N,44550μm,0.7s						
CDCA				AML	AML		
CDCA				AML	AML		
CDCA	**Citt' di Caste**	**0.02**	**310**	S	**Sg**	**04 29 09.5**	**+0.2**
ATPI	**Pietralunga -**	**0.11**	**87**	P	**Pg**	**04 29 08.0**	**-0.9**
ATPI	**Pietralunga -**	**0.11**	**87**	P	**Pg**	**04 29 08.1**	**-0.7**
ATPI	**Pietralunga -**	**0.11**	**87**	P	**Pg**	**04 29 08.2**	**-0.7**
ATPI				S	**Sg**	**04 29 09.6**	**-1.2**
ATPI				AML	AML		
	comp=E,50950μm,0.4s						
ATPI				AML	AML		
	comp=N,72700μm,0.9s						
ATPI				AML	AML		
	comp=E,50950μm,0.4s						
ATPI				AML	AML		
	comp=N,72750μm,0.9s						
ATPI				AML	AML		
	comp=E,50950μm,0.4s						
ATPI				AML	AML		
	comp=N,72750μm,0.9s						
ATPI	**Pietralunga -**	**0.11**	**87**	S	**Sg**	**04 29 09.6**	**-1.2**
ATMI	**Monte Miggiano**	**0.11**	**175**	P	**Pg**	**04 29 08.8**	**-0.1**
ATMI	**Monte Miggiano**	**0.11**	**175**	P	**Pg**	**04 29 09.1**	**+0.2**
ATMI	**Monte Miggiano**	**0.11**	**175**	P	**Pg**	**04 29 09.2**	**+0.2**
ATMI				S	**Sg**	**04 29 11.4**	**+0.5**
ATMI				AML	AML		
	comp=E,90000μm,0.4s						
ATMI				AML	AML		
	comp=N,80600μm,0.6s						
ATMI				AML	AML		
	comp=E,90000μm,0.4s						
ATMI				AML	AML		
	comp=N,80600μm,0.6s						
ATMI				AML	AML		
	comp=E,90000μm,0.4s						
ATMI				AML	AML		
	comp=N,80600μm,0.6s						
ATMI	**Monte Miggiano**	**0.11**	**175**	S	**Sg**	**04 29 11.6**	**+0.6**
ATVO	**AVT- Monte Val**	**0.13**	**120**	P	**Pg**	**04 29 08.8**	**-0.4**
ATVO	**AVT- Monte Val**	**0.13**	**120**	P	**Pg**	**04 29 08.8**	**-0.4**
ATVO				S	**Sg**	**04 29 10.9**	**-0.4**
ATVO				AML	AML		
	comp=E,57500μm,0.2s						
ATVO				AML	AML		
	comp=N,50650μm,0.3s						
ATVO				AML	AML		
	comp=E,57500μm,0.2s						
ATVO				AML	AML		
	comp=N,50650μm,0.3s						
ATVO				AML	AML		
	comp=E,57500μm,0.2s						
ATVO				AML	AML		
	comp=N,50650μm,0.3s						
ATVO				AML	AML		
	comp=E,57500μm,0.2s						
ATVO	**AVT- Monte Val**	**0.13**	**120**	P	**Pg**	**04 29 08.8**	**-0.4**
ATVO	**AVT- Monte Val**	**0.13**	**120**	S	**Sg**	**04 29 10.9**	**-0.4**
SSP9	**Sansepolcro**	**0.16**	**325**	P	**Pg**	**04 29 10.1**	**+0.5**
SSP9				S	**Sg**	**04 29 13.5**	**+1.4**
SSP9				AML	AML		
	comp=E,6320μm,1.2s						
SSP9				AML	AML		
	comp=N,5535μm,0.6s						
SSP9				AML	AML		
	comp=E,6345μm,1.2s						
SSP9				AML	AML		
	comp=N,5530μm,0.6s						
SSP9				AML	AML		
	comp=E,6345μm,1.2s						
SSP9				AML	AML		
	comp=N,5530μm,0.6s						
SSP9				AML	AML		
	comp=N,5530μm,0.6s						
SSP9				AML	AML		
	comp=E,6345μm,1.2s						
SSP9	**Sansepolcro**	**0.16**	**325**	S	**Sg**	**04 29 13.4**	**+1.4**
PARC	**Parchiule**	**0.20**	**357**	eP	**Pg**	**04 29 10.5**	**+0.1**
PARC				S	**Sg**	**04 29 14.2**	**+0.8**
PARC				AML	AML		
	comp=E,15750μm,0.9s						
PARC				AML	AML		
	comp=N,20200μm,0.9s						
PARC				AML	AML		
	comp=E,15750μm,0.9s						
PARC				AML	AML		
	comp=N,20200μm,0.9s						
PARC				AML	AML		
	comp=E,15750μm,0.9s						
PARC				AML	AML		
	comp=N,20200μm,0.9s						
PARC				AML	AML		
	comp=E,15750μm,0.9s						
PARC	**Parchiule**	**0.20**	**357**	S	**Sg**	**04 29 14.1**	**+0.7**
PIEI	**Pieia**	**0.22**	**66**	eP	**Pg**	**04 29 10.2**	**-0.5**
PIEI				S	**Sg**	**04 29 13.8**	**-0.1**
PIEI				AML	AML		
	comp=E,26100μm,1.5s						
PIEI				AML	AML		
	comp=N,19500μm,0.7s						
PIEI				AML	AML		
	comp=E,26100μm,1.5s						
PIEI				AML	AML		
	comp=N,19500μm,0.7s						
PIEI				AML	AML		
	comp=E,26100μm,1.5s						
PIEI				AML	AML		
	comp=N,19500μm,0.7s						
PIEI	**Pieia**	**0.22**	**66**	S	**Sg**	**04 29 13.8**	**-0.1**
CAFI	**Castiglion Fio**	**0.24**	**241**	i P	**Pb**	**04 29 11.9**	**-0.6**
CAFI				S	**Sg**	**04 29 16.4**	**+2.0**
CAFI				AML	AML		
	comp=E,3620μm,0.8s						
CAFI				AML	AML		
	comp=N,3835μm,0.5s						
CAFI				AML	AML		
	comp=E,3760μm,0.8s						
CAFI				AML	AML		
	comp=N,4010μm,0.6s						
CAFI				AML	AML		
	comp=E,3620μm,0.8s						
CAFI				AML	AML		
	comp=N,3835μm,0.5s						
CAFI				AML	AML		
	comp=E,3760μm,0.8s						
CAFI				AML	AML		
	comp=N,4010μm,0.6s						
CAFI				AML	AML		
	comp=N,4010μm,0.6s						
CAFI				AML	AML		
	comp=N,3835μm,0.5s						
CAFI				AML	AML		
	comp=E,3620μm,0.8s						
CAFI				AML	AML		
	comp=E,3760μm,0.8s						
CAFI	**Castiglion Fio**	**0.24**	**241**	P	**Pb**	**04 29 11.9**	**-0.6**
CAFI	**Castiglion Fio**	**0.24**	**241**	S	**Sg**	**04 29 16.3**	**+2.0**
ATFO	**Monte Foce - G**	**0.24**	**109**	P	**Pg**	**04 29 10.7**	**-0.4**
ATFO	**Monte Foce - G**	**0

	comp=N,34350µm,0.2s						
MURB					AML	AML	
	comp=E,40900µm,0.3s						
MURB					AML	AML	
	comp=N,35300µm,0.3s						
MURB					AML	AML	
	comp=E,36350µm,0.3s						
MURB					AML	AML	
	comp=N,34350µm,0.2s						
MURB					AML	AML	
	comp=E,40900µm,0.3s						
MURB					AML	AML	
	comp=N,35300µm,0.3s						
MURB					AML	AML	
	comp=E,36400µm,0.3s						
MURB					AML	AML	
	comp=N,34350µm,0.2s						
MURB					AML	AML	
	comp=E,40900µm,0.3s						
MURB					AML	AML	
	comp=N,35300µm,0.3s						
MURB					AML	AML	
	comp=N,34350µm,0.2s						
MURB					AML	AML	
	comp=E,40900µm,0.3s						
MURB					AML	AML	
	comp=E,36400µm,0.3s						
MURB					AML	AML	
	comp=N,35300µm,0.3s						
MURB	**Monte Urbino**	**0.27**	**133**	P	**Pg**	**04 29 11.6**	**-0.1**
MURB	**Monte Urbino**	**0.27**	**133**	S	**Sg**	**04 29 15.6**	**+0.4**
CRE	**Caprese Michel**	**0.28**	**308**	P	**Pg**	**04 29 12.2**	**+0.4**
CRE					AML	AML	
	comp=E,2070µm,0.5s						
CRE					AML	AML	
	comp=N,2975µm,0.2s						
CRE					AML	AML	
	comp=E,2070µm,0.5s						
CRE					AML	AML	
	comp=N,2975µm,0.2s						
CRE					AML	AML	
	comp=N,2975µm,0.2s						
CRE					AML	AML	
	comp=E,2070µm,0.5s						
CRE	**Caprese Michel**	**0.28**	**308**	P	**Pg**	**04 29 12.2**	**+0.4**
NARO	**Abbazia di Nar**	**0.29**	**55**	P	**Pg**	**04 29 11.3**	**-0.6**
NARO				S	**Sg**	**04 29 16.1**	**+0.2**
NARO					AML	AML	
	comp=E,4730µm,0.3s						
NARO					AML	AML	
	comp=N,4945µm,0.6s						
NARO					AML	AML	
	comp=E,4730µm,0.3s						
NARO					AML	AML	
	comp=N,4945µm,0.6s						
NARO					AML	AML	
	comp=E,4730µm,0.3s						
NARO					AML	AML	
	comp=N,4945µm,0.6s						
NARO					AML	AML	
	comp=E,4730µm,0.3s						
NARO					AML	AML	
	comp=N,4945µm,0.6s						
NARO	**Abbazia di Nar**	**0.29**	**55**	S	**Sg**	**04 29 16.1**	**+0.2**
PE3	**Peglio**	**0.31**	**35**	P	**Pg**	**04 29 12.1**	**-0.2**
PE3	**Peglio**	**0.31**	**35**	*i* P	**Pg**	**04 29 12.1**	**-0.2**
PE3					AML	AML	
	comp=E,21300µm,0.8s						
PE3					AML	AML	
	comp=N,18350µm,0.6s						
PE3					AML	AML	
	comp=E,21300µm,0.8s						
PE3					AML	AML	
	comp=N,18350µm,0.6s						
PE3					AML	AML	
	comp=N,18350µm,0.6s						
PE3					AML	AML	
	comp=E,21300µm,0.8s						
FRON	**Frontone**	**0.35**	**78**	*i* P	**Pg**	**04 29 12.4**	**-0.7**
FRON				S	**Sg**	**04 29 17.6**	**-0.1**
FRON					AML	AML	
	comp=E,6360µm,0.7s						
FRON					AML	AML	
	comp=N,12560µm,0.3s						
FRON					AML	AML	
	comp=E,6360µm,0.7s						
FRON					AML	AML	
	comp=N,12570µm,0.3s						
FRON					AML	AML	
	comp=E,6360µm,0.7s						
FRON					AML	AML	
	comp=N,12570µm,0.3s						
FRON	**Frontone**	**0.35**	**78**	S	**Sg**	**04 29 17.7**	**-0.1**
CPGN	**Carpegna, Ital**	**0.36**	**8**	P	**Pg**	**04 29 13.9**	**+0.6**
CPGN					AML	AML	
	comp=E,6535µm,0.7s						
CPGN					AML	AML	
	comp=N,6370µm,1.0s						
CPGN					AML	AML	
	comp=E,6530µm,0.6s						
CPGN					AML	AML	
	comp=N,6145µm,1.0s						
CPGN					AML	AML	
	comp=E,6535µm,0.7s						
CPGN					AML	AML	
	comp=N,6375µm,1.0s						
CPGN					AML	AML	
	comp=E,6525µm,0.6s						
CPGN					AML	AML	
	comp=N,6145µm,1.0s						
CPGN					AML	AML	
	comp=E,6535µm,0.7s						
CPGN					AML	AML	
	comp=E,6525µm,0.6s						
CPGN					AML	AML	
	comp=N,6145µm,1.0s						
CPGN					AML	AML	
	comp=N,6375µm,1.0s						
CPGN	**Carpegna, Ital**	**0.36**	**8**	P	**Pb**	**04 29 14.0**	**-0.7**
ATCC	**AVT- Casa Cast**	**0.38**	**133**	P	**Pg**	**04 29 13.5**	**-0.1**
ATCC	**AVT- Casa Cast**	**0.38**	**133**	*e*P	**Pg**	**04 29 13.5**	**-0.1**
ATCC				S	**Sb**	**04 29 20.1**	**-0.8**
ATCC					AML	AML	
	comp=E,12150µm,0.4s						
ATCC					AML	AML	
	comp=N,8905µm,0.2s						
ATCC					AML	AML	
	comp=E,12150µm,0.4s						
ATCC					AML	AML	
	comp=N,8905µm,0.2s						
ATCC					AML	AML	
	comp=N,8905µm,0.2s						
ATCC					AML	AML	
	comp=E,12150µm,0.4s						
SSFR	**Montelago di S**	**0.38**	**91**	P	**Pg**	**04 29 13.0**	**-0.7**
SSFR				S	**Sg**	**04 29 18.9**	**+0.1**
SSFR					AML	AML	
	comp=E,40500µm,0.2s						
SSFR					AML	AML	
	comp=N,47700µm,1.1s						
SSFR					AML	AML	
	comp=E,45700µm,0.2s						
SSFR					AML	AML	
	comp=N,47000µm,1.1s						
SSFR					AML	AML	
	comp=N,47000µm,1.1s						
SSFR					AML	AML	
	comp=E,40500µm,0.2s						
SSFR					AML	AML	
	comp=E,45700µm,0.2s						
SSFR					AML	AML	
	comp=N,47700µm,1.1s						
SSFR	**Montelago di S**	**0.38**	**91**	P	**Pg**	**04 29 13.1**	**-0.7**
FOSV	**Fossato di Vic**	**0.40**	**112**	*e*P	**Pg**	**04 29 13.4**	**-0.5**
FOSV				S	**Sg**	**04 29 19.8**	**+0.5**
FOSV					AML	AML	
	comp=E,4055µm,0.4s						
FOSV					AML	AML	
	comp=N,4510µm,0.8s						
FOSV					AML	AML	
	comp=E,4060µm,0.4s						
FOSV					AML	AML	
	comp=N,4515µm,0.8s						
FOSV					AML	AML	
	comp=E,4060µm,0.4s						
FOSV					AML	AML	
	comp=N,4515µm,0.8s						
FOSV	**Fossato di Vic**	**0.40**	**112**	P	**Pg**	**04 29 13.5**	**-0.5**
MPAG	**Monte Paganucc**	**0.41**	**63**	*i* P	**Pg**	**04 29 13.6**	**-0.6**
MPAG				S	**Sg**	**04 29 19.6**	**0.0**
MPAG					AML	AML	
	comp=E,4015µm,0.3s						
MPAG					AML	AML	
	comp=N,8660µm,0.4s						
MPAG					AML	AML	
	comp=E,4245µm,0.3s						
MPAG					AML	AML	
	comp=N,8675µm,0.4s						
MPAG					AML	AML	
	comp=E,4010µm,0.3s						
MPAG					AML	AML	
	comp=N,8625µm,0.4s						
MPAG					AML	AML	
	comp=E,4245µm,0.3s						
MPAG					AML	AML	
	comp=N,8710µm,0.4s						
MPAG					AML	AML	
	comp=N,8625µm,0.4s						
MPAG					AML	AML	
	comp=E,4010µm,0.3s						
MPAG					AML	AML	
	comp=E,4245µm,0.3s						
MPAG					AML	AML	
	comp=N,8710µm,0.4s						
MPAG	**Monte Paganucc**	**0.41**	**63**	P	**Pg**	**04 29 13.6**	**-0.6**
FSSB	**Fossombrone**	**0.45**	**57**	*i* P	**Pg**	**04 29 14.4**	**-0.6**
FSSB				S	**Sg**	**04 29 21.4**	**+0.4**
FSSB					AML	AML	
	comp=E,14000µm,0.4s						
FSSB					AML	AML	
	comp=N,9315µm,0.5s						
FSSB					AML	AML	
	comp=E,14000µm,0.4s						
FSSB					AML	AML	
	comp=N,9315µm,0.5s						
FSSB					AML	AML	
	comp=N,9315µm,0.5s						
FSSB					AML	AML	
	comp=E,14000µm,0.4s						
FSSB	**Fossombrone**	**0.45**	**57**	P	**Pg**	**04 29 14.4**	**-0.6**
ASQU	**Asqua**	**0.49**	**316**	P	**Pg**	**04 29 15.9**	**+0.3**
ASQU					AML	AML	
	comp=E,841µm,0.4s						
ASQU					AML	AML	
	comp=N,948µm,0.3s						
ASQU					AML	AML	
	comp=E,841µm,0.4s						
ASQU					AML	AML	
	comp=N,948µm,0.3s						
ASQU					AML	AML	
	comp=N,948µm,0.3s						
ASQU					AML	AML	
	comp=E,841µm,0.4s						
ASQU	**Asqua**	**0.49**	**316**	P	**Pg**	**04 29 15.9**	**+0.3**
ASSB	**Assisi San Ben**	**0.50**	**144**	*e*P	**Pg**	**04 29 15.4**	**-0.4**
ASSB				S	**Sb**	**04 29 23.4**	**-0.9**
ASSB					AML	AML	
	comp=E,3490µm,1.2s						
ASSB					AML	AML	
	comp=N,4190µm,0.4s						
ASSB					AML	AML	
	comp=E,3490µm,1.2s						
ASSB					AML	AML	
	comp=N,4190µm,0.4s						
ASSB					AML	AML	
	comp=N,4190µm,0.4s						
ASSB					AML	AML	
	comp=E,3490µm,1.2s						
ASSB	**Assisi San Ben**	**0.50**	**144**	P	**Pg**	**04 29 15.4**	**-0.4**
ASSB	**Assisi San Ben**	**0.50**	**144**	S	**Sb**	**04 29 24.0**	**-0.3**
ASSB	**Assisi San Ben**	**0.50**	**144**	S	**Sb**	**04 29 24.0**	**-0.3**
ARVD	**Arcevia**	**0.50**	**84**	P	**Pg**	**04 29 15.2**	**-0.6**
ARVD				S	**Sg**	**04 29 22.7**	**+0.2**
ARVD					AML	AML	
	comp=E,2940µm,0.5s						
ARVD					AML	AML	
	comp=N,5510µm,0.4s						
ARVD					AML	AML	
	comp=E,2940µm,0.5s						
ARVD					AML	AML	
	comp=N,5510µm,0.4s						
ARVD					AML	AML	
	comp=N,5510µm,0.4s						
ARVD					AML	AML	
	comp=E,2940µm,0.5s						
ARVD	**Arcevia**	**0.50**	**84**	P	**Pg**	**04 29 15.3**	**-0.6**
RSM	**Repubblica di**	**0.51**	**16**	*i* P	**Pb**	**04 29 16.8**	**-0.2**
RSM					AML	AML	
	comp=E,3390µm,1.5s						
RSM					AML	AML	
	comp=N,5355µm,0.7s						
RSM					AML	AML	
	comp=E,3390µm,1.5s						
RSM					AML	AML	
	comp=N,5355µm,0.7s						
RSM					AML	AML	
	comp=E,3390µm,1.5s						
RSM					AML	AML	
	comp=N,5355µm,0.7s						
RSM	**Repubblica di**	**0.51**	**16**	P	**Pb**	**04 29 16.9**	**-0.2**
SNTG	**Esanatoglia**	**0.54**	**111**	P	**Pg**	**04 29 15.9**	**-0.6**
SNTG	**Esanatoglia**	**0.54**	**111**	P	**Pg**	**04 29 15.9**	**-0.6**
SNTG				S	**Sg**	**04 29 24.1**	**+0.5**
SNTG					AML	AML	
	comp=E,598µm,0.4s						
SNTG					AML	AML	
	comp=N,1125µm,0.3s						
SNTG					AML	AML	
	comp=E,4960µm,0.4s						
SNTG					AML	AML	
	comp=N,8910µm,0.3s						
SNTG					AML	AML	
	comp=E,598µm,0.4s						
SNTG					AML	AML	
	comp=N,1125µm,0.3s						
SNTG					AML	AML	
	comp=E,4960µm,0.4s						
SNTG					AML	AML	
	comp=N,8910µm,0.3s						
SNTG					AML	AML	
	comp=N,1125µm,0.3s						
MGAB	**Montegabbione**	**0.54**	**191**	P	**Pb**	**04 29 17.1**	**-0.6**
MGAB					AML	AML	
	comp=E,8805µm,0.5s						
MGAB					AML	AML	
	comp=N,8090µm,0.6s						
MGAB					AML	AML	
	comp=E,9415µm,0.5s						
MGAB					AML	AML	
	comp=N,7390µm,1.4s						
MGAB					AML	AML	
	comp=E,9415µm,0.5s						
MGAB					AML	AML	
	comp=E,8805µm,0.5s						
MGAB					AML	AML	
	comp=N,7390µm,1.4s						
MGAB					AML	AML	
	comp=N,8090µm,0.6s						
MGAB	**Montegabbione**	**0.54**	**191**	P	**Pb**	**04 29 17.1**	**-0.6**
SFI	**Santa Sofia**	**0.55**	**327**	P	**Pg**	**04 29 16.8**	**+0.1**
SFI					AML	AML	
	comp=E,1015µm,0.9s						
SFI					AML	AML	
	comp=N,709µm,0.7s						
SFI					AML	AML	
	comp=E,892µm,1.0s						
SFI					AML	AML	
	comp=N,916µm,1.2s						
SFI					AML	AML	
	comp=E,1015µm,0.9s						
SFI					AML	AML	
	comp=N,709µm,0.7s						
SFI					AML	AML	
	comp=E,894µm,1.0s						
SFI					AML	AML	
	comp=N,913µm,1.2s						
SFI					AML	AML	
	comp=N,709µm,0.7s						
SFI					AML	AML	
	comp=E,894µm,1.0s						
SFI					AML	AML	
	comp=E,1015µm,0.9s						
SFI					AML	AML	
	comp=N,913µm,1.2s						
SFI	**Santa Sofia**	**0.55**	**327**	P	**Pg**	**04 29 17.0**	**+0.2**
COR1	**Corinaldo**	**0.57**	**71**	P	**Pg**	**04 29 17.1**	**-0.1**
COR1					AML	AML	
	comp=E,10695µm,0.3s						
COR1					AML	AML	
	comp=N,8940µm,0.3s						
COR1					AML	AML	
	comp=E,5515µm,0.3s						
COR1					AML	AML	
	comp=N,8825µm,0.3s						
COR1					AML	AML	
	comp=E,10675µm,0.3s						
COR1					AML	AML	
	comp=N,8970µm,0.3s						
COR1					AML	AML	
	comp=E,5515µm,0.3s						
COR1					AML	AML	
	comp=N,8850µm,0.3s						
COR1					AML	AML	
	comp=N,8850µm,0.3s						
COR1					AML	AML	
	comp=E,5515µm,0.3s						
COR1					AML	AML	
	comp=E,10675µm,0.3s						
COR1					AML	AML	
	comp=N,8970µm,0.3s						
COR1	**Corinaldo**	**0.57**	**71**	P	**Pg**	**04 29 17.1**	**-0.1**
EL6	**Elcito**	**0.63**	**100**	P	**Pg**	**04 29 17.6**	**-0.7**
EL6	**Elcito**	**0.63**	**100**	P	**Pg**	**04 29 17.6**	**-0.7**
EL6				S	**Sb**	**04 29 27.1**	**-0.9**
EL6					AML	AML	
	comp=E,4235µm,0.2s						
EL6					AML	AML	
	comp=N,6940µm,0.6s						
EL6					AML	AML	
	comp=E,4235µm,0.2s						
EL6					AML	AML	
	comp=N,6940µm,0.6s						
EL6					AML	AML	
	comp=N,6940µm,0.6s						
EL6					AML	AML	
	comp=E,4235µm,0.2s						
EL6	**Elcito**	**0.63**	**100**	S	**Sb**	**04 29 28.0**	**-0.1**
EL6	**Elcito**	**0.63**	**100**	S	**Sb**	**04 29 28.0**	**-0.1**
CESI	**CESI - Serrava**	**0.65**	**133**	*e*P	**Pg**	**04 29 18.0**	**-0.6**
CESI				S	**Sb**	**04 29 27.7**	**-0.8**
CESI					AML	AML	
	comp=E,356µm,0.6s						
CESI					AML	AML	
	comp=N,800µm,0.3s						
CESI					AML	AML	
	comp=E,356µm,0.6s						
CESI					AML	AML	
	comp=N,800µm,0.3s						
CESI					AML	AML	
	comp=N,800µm,0.3s						
CESI					AML	AML	
	comp=E,356µm,0.6s						
CESI	**CESI - Serrava**	**0.65**	**133**	P	**Pg**	**04 29 18.0**	**-0.6**
CESI	**CESI - Serrava**	**0.65**	**133**	S	**Sb**	**04 29 29.0**	**+0.4**
SACS	**San Casciano d**	**0.65**	**203**	P	**Pb**	**04 29 18.9**	**-0.6**
SACS					AML	AML	
	comp=E,2270µm,0.5s						
SACS					AML	AML	
	comp=N,4445µm,0.6s						
SACS					AML	AML	
	comp=E,2280µm,0.5s						
SACS					AML	AML	
	comp=N,4485µm,0.6s						
SACS					AML	AML	
	comp=E,2270µm,0.5s						
SACS					AML	AML	
	comp=N,4440µm,0.6s						
SACS					AML	AML	
	comp=E,2280µm,0.5s						
SACS					AML	AML	
	comp=N,4485µm,0.6s						
SACS					AML	AML	
	comp=E,2280µm,0.5s						
SACS					AML	AML	
	comp=E,2270µm,0.5s						
SACS					AML	AML	
	comp=N,4485µm,0.6s						
SACS					AML	AML	
	comp=N,4440µm,0.6s						
SACS	**San Casciano d**	**0.65**	**203**	P	**Pb**	**04 29 19.1**	**-0.4**
PESA	**Pesaro**	**0.65**	**40**	*i* P	**Pg**	**04 29 18.4**	**-0.3**
PESA					AML	AML	
	comp=E,3090µm,0.3s						
PESA					AML	AML	
	comp=N,3900µm,0.5s						
PESA					AML	AML	
	comp=E,3090µm,0.3s						
PESA					AML	AML	
	comp=N,3900µm,0.5s						
PESA					AML	AML	
	comp=N,3900µm,0.5s						
PESA					AML	AML	
	comp=E,3090µm,0.3s						
PESA	**Pesaro**	**0.65**	**40**	P	**Pg**	**04 29 18.4**	**-0.3**
PESA	**Pesaro**	**0.65**	**40**	S	**Sb**	**04 29 30.0**	**+1.3**
RUFI	**Rufina**	**0.67**	**306**	P	**Pg**	**04 29 19.4**	**+0.3**
RUFI					AML	AML	
	comp=E,818µm,0.6s						
RUFI					AML	AML	
	comp=N,988µm,0.6s						
RUFI					AML	AML	
	comp=E,822µm,0.6s						
RUFI					AML	AML	
	comp=N,991µm,0.6s						
RUFI					AML	AML	
	comp=N,991µm,0.6s						
RUFI					AML	AML	
	comp=E,822µm,0.6s						
RUFI	**Rufina**	**0.67**	**306**	P	**Pb**	**04 29 19.6**	**-0.3**
MOMA	**Monte Martano**	**0.68**	**160**	P	**Pg**	**04 29 18.9**	**-0.4**
MOMA				S	**Sb**	**04 29 30.0**	**+0.4**
MOMA					AML	AML	
	comp=E,4010µm,0.6s						
MOMA					AML	AML	
	comp=N,2710µm,0.8s						
MOMA					AML	AML	
	comp=E,4115µm,0.6s						
MOMA					AML	AML	
	comp=N,2600µm,0.4s						
MOMA					AML	AML	
	comp=E,4010µm,0.6s						
MOMA					AML	AML	
	comp=N,2710µm,0.8s						
MOMA					AML	AML	
	comp=E,4115µm,0.6s						
MOMA					AML	AML	
	comp=N,2600µm,0.4s						
MOMA					AML	AML	
	comp=N,2710µm,0.8s						
MOMA					AML	AML	
	comp=N,2600µm,0.4s						
MOMA					AML	AML	
	comp=E,4010µm,0.6s						
MOMA					AML	AML	
	comp=E,4115µm,0.6s						
MOMA	**Monte Martano**	**0.68**	**160**	P	**Pg**	**04 29 19.0**	**-0.3**
MOMA	**Monte Martano**	**0.68**	**160**	S	**Sn**	**04 29 31.0**	**-1.5**
CING	**Cingoli**	**0.69**	**95**	P	**Pg**	**04 29 18.7**	**-0.7**
CING				S	**Sb**	**04 29 29.2**	**-0.6**
CING					AML	AML	
	comp=E,1515µm,1.2s						
CING					AML	AML	
	comp=N,2675µm,0.2s						
CING					AML	AML	
	comp=E,1515µm,1.2s						
CING					AML	AML	
	comp=N,2675µm,0.2s						
CING					AML	AML	
	comp=N,2675µm,0.2s						
CING					AML	AML	
	comp=E,1515µm,1.2s						
CING	**Cingoli**	**0.69**	**95**	P	**Pg**	**04 29 18.7**	**-0.7**
CSNT	**Castellina Chi**	**0.70**	**273**	P	**Pb**	**04 29 20.4**	**0.0**
CSNT					AML	AML	
	comp=E,616µm,1.4s						

CSNT AML AML
comp=N,980μm,0.7s
CSNT AML AML
comp=E,616μm,1.4s
CSNT AML AML
comp=N,980μm,0.7s
CSNT AML AML
comp=E,616μm,1.4s
CSNT AML AML
comp=N,980μm,0.7s
CSNT Castellina Chi 0.70 273 P **Pb 04 29 20.5 0.0**
BLLA Bellaria 0.71 13 P **Pb 04 29 21.0 +0.4**
BLLA Bellaria 0.71 13 AML AML
comp=E,1930μm,1.6s
BLLA AML AML
comp=N,2915μm,1.6s
BLLA AML AML
comp=N,2915μm,1.6s
BLLA AML AML
comp=E,1930μm,1.6s
FDMO Fiordimonte 0.73 124 P **Pg 04 29 19.4 -0.8**
FDMO Fiordimonte 0.73 124 P **Pg 04 29 19.5 -0.8**
FDMO S **Sb 04 29 30.7 -0.3**
FDMO AML AML
comp=E,1405μm,0.2s
FDMO AML AML
comp=N,1350μm,0.2s
FDMO AML AML
comp=E,1405μm,0.2s
FDMO AML AML
comp=N,1350μm,0.2s
FDMO AML AML
comp=E,1405μm,0.2s
FDMO AML AML
comp=N,1350μm,0.2s
FDMO Fiordimonte 0.73 124 S **Sb 04 29 31.0 0.0**
FDMO Fiordimonte 0.73 124 S **Sb 04 29 31.0 0.0**
CSP1 Cessapalombo 0.78 117 P **Pg 04 29 20.3 -0.8**
CSP1 Cessapalombo 0.78 117 P **Pg 04 29 20.3 -0.8**
MCIV Monte Civitell 0.79 213 P **Pb 04 29 21.6 -0.2**
MCIV AML AML
comp=E,679μm,0.7s
MCIV AML AML
comp=N,450μm,0.7s
MCIV AML AML
comp=E,680μm,0.7s
MCIV AML AML
comp=N,450μm,0.7s
MCIV AML AML
comp=E,680μm,0.7s
MCIV AML AML
comp=N,450μm,0.7s
MCIV Monte Civitell 0.79 213 P **Pb 04 29 21.8 -0.2**
ARCI Arcidosso 0.82 224 P **Pb 04 29 22.4 -0.2**
ARCI AML AML
comp=E,582μm,1.0s
ARCI AML AML
comp=N,838μm,1.0s
ARCI AML AML
comp=N,838μm,1.0s
ARCI AML AML
comp=E,582μm,1.0s
ARCI Arcidosso 0.82 224 P **Pb 04 29 22.6 0.0**
FROS Frosini 0.84 254 P **Pb 04 29 22.6 0.0**
FROS AML AML
comp=E,1515μm,0.6s
FROS AML AML
comp=N,1195μm,0.8s
FROS AML AML
comp=N,1195μm,0.8s
FROS AML AML
comp=E,1515μm,0.6s
FROS Frosini 0.84 254 P **Pb 04 29 23.1 +0.5**
CESX Cesi 0.87 164 P **Pb 04 29 23.2 0.0**
CESX AML AML
comp=E,2135μm,0.5s
CESX AML AML
comp=N,1720μm,0.4s
CESX AML AML
comp=N,1720μm,0.4s
CESX AML AML
comp=E,2135μm,0.5s
CESX Cesi 0.87 164 P **Pb 04 29 23.3 0.0**
NRCA Norcia 0.88 134 P **Pg 04 29 22.0 -1.0**
NRCA AML AML
comp=E,1120μm,0.2s
NRCA AML AML
comp=N,1039μm,0.4s
NRCA AML AML
comp=E,1165μm,0.2s
NRCA AML AML
comp=N,1140μm,0.4s
NRCA AML AML
comp=N,1039μm,0.4s
NRCA AML AML
comp=E,1165μm,0.2s
NRCA AML AML
comp=E,1120μm,0.2s
NRCA AML AML
comp=N,1140μm,0.4s
NRCA Norcia 0.88 134 P **Pg 04 29 22.0 -1.0**
ARRO Arrone 0.94 156 P **Pg 04 29 24.0 -0.2**
ARRO Arrone 0.94 156 P **Pn 04 29 26.2 +0.9**
CRMI Carmignano 0.99 291 P **Pn 04 29 26.6 +0.5**
CRMI Carmignano 0.99 291 AML AML
comp=E,136μm,0.8s
CRMI AML AML
comp=E,136μm,0.8s
CRMI AML AML
comp=N,95μm,0.6s
CRMI AML AML
comp=N,95μm,0.6s
PTF Prato 1.00 301 P **Pn 04 29 26.0 -0.2**
LNSS Leonessa 1.02 145 P **Pg 04 29 24.9 -0.8**
LNSS Leonessa 1.02 145 P **Pg 04 29 24.9 -0.8**
LNSS AML AML
comp=E,1325μm,1.5s
LNSS AML AML
comp=N,1895μm,0.7s
LNSS AML AML
comp=E,1325μm,1.5s
LNSS AML AML
comp=N,1895μm,0.7s
TRIF Trifonti 1.04 252 P **Pn 04 29 27.2 +0.5**
TRIF Trifonti 1.04 252 AML AML
comp=N,471μm,0.7s
TRIF AML AML
comp=E,354μm,0.7s
TRIF AML AML
comp=N,471μm,0.7s
TRIF AML AML
comp=E,354μm,0.7s
MTCR Monte La Croce 1.08 303 P **Pn 04 29 28.8 +1.4**
OFFI Offida 1.16 115 P **Pn 04 29 29.3 +0.9**
CASP Castiglione de 1.21 238 P **Pn 04 29 28.5 -0.6**
CASP AML AML
comp=E,152μm,1.6s
CASP AML AML
comp=N,143μm,0.9s
CASP AML AML
comp=N,143μm,0.9s
CASP AML AML
comp=E,152μm,1.6s
CASP Castiglione de 1.21 238 P **Pn 04 29 28.9 -0.1**
POPM Popiglio 1.24 299 P **Pg 04 29 30.6 +0.7**
POPM Popiglio 1.24 299 AML AML
comp=E,187μm,0.7s
POPM AML AML
comp=N,187μm,0.8s
POPM AML AML
comp=N,187μm,0.8s
POPM AML AML
comp=E,187μm,0.7s
GUMA Gualdo di Mace 1.29 107 P Pn 04 29 22.4 -7.7
GUMA AML AML
comp=E,3860μm,0.5s
GUMA AML AML
comp=N,4850μm,0.5s
GUMA AML AML
comp=E,3985μm,0.5s
GUMA AML AML
comp=N,4150μm,0.7s
GUMA AML AML
comp=N,4850μm,0.5s
GUMA AML AML
comp=N,4150μm,0.7s
GUMA AML AML
comp=E,3860μm,0.5s
GUMA AML AML
comp=E,3985μm,0.5s
GUMA Gualdo di Mace 1.29 107 P Pn 04 29 22.5 -7.6
FIAM Fiamignano 1.34 151 P **Pg 04 29 32.0 +0.3**
MAIM Mastiano 1.36 291 P **Pg 04 29 33.1 +0.9**
NVLJ Novalja 2.19 58 *e*Pn **Pn 04 29 43.0 +0.4**
NVLJ Sn **Sn 04 30 09.8 +0.1**
MARN Marana (Italy) 2.32 342 *e*Pn **Pb 04 29 47.1 -0.8**
CGRP Cima Grappa 2.46 353⇑ *e*Pn **Pn 04 29 47.8 +1.4**
CGRP *e*Sn **Sb 04 30 19.4 -1.3**
CGRP Cima Grappa 2.46 353 P **Pn 04 29 47.7 +1.4**
VAGA Valle Agricola 2.50 143 P **Pb 04 29 52.0 +0.8**
TRI Trieste 2.51 25 P **Pn 04 29 46.7 -0.2**
TRI Trieste 2.51 25 AML AML
comp=N,125μm,0.9s
TRI AML AML
comp=E,98μm,1.5s
TRI AML AML
comp=N,125μm,0.9s
TRI AML AML
comp=E,98μm,1.5s
PGF Pioggiola 2.55 251 *e*Pn **Pn 04 29 45.2 -2.4**
PGF *e*Sn **Sn 04 30 15.3 -3.4**
comp=E,3.8nm,0.4s
POLC Polcenigo 2.59 4 P **Pn 04 29 49.3 +1.3**
MAGA Magasa 2.60 334 P **Pn 04 29 50.3 +2.0**
SABO M.te Sabotino 2.71 20 P **Pn 04 29 50.2 +0.5**
SABO M.te Sabotino 2.71 20 AML AML
comp=E,224μm,0.6s
SABO AML AML
comp=E,224μm,0.6s
SABO AML AML
comp=N,272μm,0.6s
SABO AML AML
comp=N,272μm,0.6s
UDBI Udbina 2.75 66 *e*Pn **Pn 04 29 51.9 +1.6**
UDBI Sn **Sb 04 30 26.6 -2.7**
STAL STALIGIAL 2.83 6 P **Pn 04 29 52.1 +0.8**
STAL STALIGIAL 2.83 6 AML AML
comp=E,122μm,0.9s
STAL AML AML
comp=N,110μm,0.6s
STAL AML AML
comp=N,110μm,0.6s
STAL AML AML
comp=E,122μm,0.9s
MPRI Monte Prat 2.84 10 *e*Pn **Pn 04 29 52.6 +1.0**
VINO Villanova 2.90 14 *e*Pn **Pn 04 29 52.6 +0.2**
VINO Villanova 2.90 14 P **Pn 04 29 52.6 +0.2**
ROBS Robic 2.94 17 *i* Pn **Pn 04 29 53.0 +0.2**
ROBS *e*Sn **Sn 04 30 29.5 +1.4**
BOJS Bojanci 2.97 45 P **Pb 04 29 59.9 +0.8**
LJU Ljubljana 3.06 31 P **Pn 04 29 54.6 +0.1**
LJU Ljubljana 3.06 31 AML AML
comp=E,220μm,0.7s
LJU AML AML
comp=N,257μm,0.8s
LJU AML AML
comp=N,257μm,0.8s
LJU AML AML
comp=E,220μm,0.7s
OZOL Ozolo 3.08 344 *e*Pn **Pb 04 29 58.1 -2.9**
SGRT San Giovanni R 3.08 122 P **Pn 04 29 57.2 +2.3**
KOSI Kohlern 3.08 349 P **Pn 04 29 57.7 +2.8**
OZLJ Ozalj 3.16 46 *e*Pn **Pn 04 29 58.2 +2.4**
ACOM Acomizza, Ital 3.23 16 *e*Pn **Pn 04 29 59.2 +2.2**
ACOM Acomizza, Ital 3.23 16 P **Pn 04 29 58.3 +1.3**
ABTA Abfaltersbach 3.31 3 *e*Pn **Pn 04 29 59.9 +2.0**
comp=E,0.4nm,0.1s
ABTA *e*Sn **Sn 04 30 40.5 +3.2**
comp=E,26nm,0.8s
MYKA Terra Mystica 3.33 17 *e*Pn **Pn 04 29 59.6 +1.3**
comp=E,1.5nm,0.2s
OBKA Obir 3.47 27 *e*Pn **Pn 04 30 01.6 +1.4**
comp=E,3.7nm,0.4s
OBKA *e*Sn **Sn 04 30 43.8 +2.4**
comp=E,20nm,0.5s
VARE Varese 3.47 315 P **Pn 04 30 03.8 +3.6**
SBF Sospel 3.52 278 *e*P **Pn 04 30 01.9 +1.0**
SBF *e*Sn **Sn 04 30 37.9 -4.7**
comp=E,5.6nm,0.3s
KBA Koelnbreinsper 3.71 12 *e*Pn **Pn 04 30 05.1 +1.4**
comp=E,1.5nm,0.2s
KBA *e*Sn **Sn 04 30 51.5 +4.1**
comp=E,5.5nm,0.4s
DAVOX Davos/Dischmat 3.73 334 Pn **Pb 04 30 08.3 -3.9**
comp=E,2.6nm,0.3s,baz=153,slow=12,SNR=23
DAVOX Sn **Sb 04 30 54.2 -3.4**
comp=E,0.8nm,0.3s,baz=0.4,slow=15,SNR=4.5
DAVOX Davos/Dischmat 3.73 334 P **Pb 04 30 09.4 -2.8**
FETA Feichten 3.73 344 *e*Pn **Pn 04 30 07.4 +3.5**
comp=E,8.5nm,0.6s,SNR=8.2
FETA Sn **Sn 04 30 46.8 -1.2**
comp=E,2.9nm,0.4s
WTTA Wattenberg 3.84 354 *e*Pn **Pb 04 30 10.4 -3.7**
comp=E,1.5nm,0.2s
WTTA *e*Sn **Sn 04 30 55.7 +5.0**
comp=E,26nm,0.8s
SQTA Sankt Quirin 3.85 349 *e*Pn **Pn 04 30 09.6 +4.2**
comp=E,2.9nm,0.2s
WATA Walderalm 3.92 353 *e*Pn **Pn 04 30 10.6 +4.2**
comp=E,3.1nm,0.2s
SLCN Sala Consilina 3.96 139 P **Pn 04 30 07.5 +0.6**
MOTA Moosalm 3.98 349 *e*Pn **Pn 04 30 11.8 +4.5**
comp=E,9.2nm,0.5s,SNR=14
STON Ston 4.02 96 *e*Pn **Pn 04 30 08.7 +1.0**
STON Sn **Sn 04 30 54.4 -0.4**
STON Ston 4.02 96 P **Pn 04 30 08.7 +1.0**
FRF La Foret Royal 4.08 274 *e*P **Pn 04 30 09.8 +1.3**
FRF *e*Sn **Sn 04 30 51.4 -4.9**
comp=E,5.7nm,0.5s
MBDF Montbardon 4.15 290 *e*P **Pn 04 30 10.6 +1.0**
MBDF Montbardon 4.15 290 *e*Pg **Pb 04 30 22.3 +3.0**
MBDF *e*Sn **Sn 04 30 53.2 -5.1**
comp=E,1.6nm,0.2s
RETA Reutte 4.18 346 *e*Pn **Pn 04 30 13.8 +3.9**
comp=E,5.8nm,0.4s
RETA *e*Sn **Sn 04 31 02.9 +4.1**
comp=E,8.0nm,0.6s
DAVA Damuels 4.19 337 *e*Pn **Pn 04 30 13.6 +3.5**
comp=E,14nm,0.5s,SNR=8.7
LMR La Mourre 4.19 270 *e*P **Pn 04 30 11.1 +1.1**
LMR *e*Sn **Sn 04 30 54.1 -4.8**
comp=E,1.0nm,0.2s
LPG La Plagne 4.44 299 *e*Pn **Pn 04 30 11.4 -2.3**
LPG La Plagne 4.44 299 *e*P **Pn 04 30 14.9 +1.2**
LPG *e*Sn **Sn 04 31 00.2 -5.4**
comp=E,1.5nm,0.3s
ARSA Arzberg 4.45 30 *e*Pn **Pn 04 30 14.0 +0.4**
comp=E,0.6nm,0.2s
ARSA *e*Sn **Sn 04 31 07.3 +2.0**
comp=E,3.2nm,0.4s
LPL La Plagne 4.46 300 *e*P **Pn 04 30 15.4 +1.5**
LPL *e*Sn **Sn 04 31 00.6 -5.4**
comp=E,3.7nm,0.5s
TREB Trebinje 4.52 97 *e*Pn **Pn 04 30 17.2 +2.6**
TREB *e*Sn **Sn 04 31 08.2 +1.0**
MOA Molln 4.62 17 *e*Pn **Pn 04 30 17.2 +1.2**
comp=E,4.9nm,0.6s
MOA *e*Sn **Sn 04 31 11.5 +1.8**
comp=E,7.4nm,0.6s
BRY Bratogost 4.63 95⇑ *i*Pn **Pn 04 30 17.4 +1.3**
BRY *e*Sn **Sn 04 31 11.6 +1.6**
HCY Herceg Novi 4.69 100⇑ *i*Pn **Pn 04 30 18.4 +1.6**
HCY *e*Sn **Sn 04 31 13.7 +2.5**
T0702 Acquaformosa (4.70 141 P **Pb 04 30 31.7 +3.1**
ORIF Oris-en-Rattie 4.82 290 *e*P **Pn 04 30 19.7 +1.0**
ORIF *e*Sn **Sn 04 31 08.7 -5.8**
comp=E,2.1nm,0.3s
UPM Unac-Piva 4.86 91⇓ *i*Pn **Pn 04 30 21.0 +1.7**
UPM *e*Sn **Sn 04 31 16.9 +1.2**
SMRF Simiane la Rot 4.87 279 *e*Sn **Sn 04 31 10.2 -5.6**
comp=E,0.6nm,0.3s
NKME Niksic 4.95 96⇓ *i*Pn **Pn 04 30 22.5 +2.0**
NKME *e*Sn **Sn 04 31 19.1 +1.3**
CEME Cevo 4.97 98⇓ *i*Pn **Pn 04 30 22.7 +1.9**
CEME *e*Sn **Sn 04 31 20.1 +1.8**
NKY Niksic 4.97 95⇑ *i*Pn **Pn 04 30 23.1 +2.3**
NKY *e*Sn **Sn 04 31 19.5 +1.1**
BUM Brajici-Budva 5.01 101⇓ *i*Pn **Pn 04 30 23.3 +2.0**
BUM *e*Sn **Sn 04 31 21.4 +2.1**
CONA Conrad Observa 5.15 28 *e*Pn **Pn 04 30 22.3 -0.9**
comp=E,0.7nm,0.3s
PDG Podgorica 5.24 99 *e*Pn **Pn 04 30 27.4 +3.0**
PDG *e*Sn **Sn 04 31 25.0 +0.2**
TTG Podgorica 5.24 99⇓ *i*Pn **Pn 04 30 25.9 +1.5**
TTG *e*Sn **Sn 04 31 26.3 +1.5**
DRME Dracevica, Mon 5.25 101⇓ *i*Pn **Pn 04 30 26.6 +2.0**
DRME *e*Sn **Sn 04 31 26.3 +1.2**
KOME Kolasin 5.34 94⇓ *i*Pn **Pn 04 30 28.1 +2.1**
KOME *e*Sn **Sn 04 31 29.0 +1.4**
ULC Ulcinj 5.36 104⇑ *i*Pn **Pn 04 30 27.8 +1.7**
ULC *e*Sn **Sn 04 31 29.4 +1.6**
CABF La Chapelle 5.40 308 *e*P **Pn 04 30 28.5 +1.8**
CABF *e*Sn **Sn 04 31 22.7 -6.1**
GERES GERESS Array B 5.49 10 Pn **Pn 04 30 27.4 -0.6**
comp=E,0.3nm,0.3s,baz=180,slow=13,SNR=7.0
GERES Sn **Sn 04 31 33.0 +1.8**
comp=E,0.5nm,0.3s,baz=184,slow=20,SNR=4.3
IVA Berane 5.62 93⇓ *i*Pn **Pn 04 30 31.3 +1.6**
IVA *e*Sn **Sn 04 31 35.6 +1.3**
SJES Sjenica 5.63 89 *e*Pn **Pn 04 30 31.0 +1.1**
SJES *e*Sn **Sn 04 31 34.6 0.0**
DIVS Divibare 5.64 81 *e*Pn **Pn 04 30 31.9 +1.9**
PVY Plav 5.71 96⇓ *i*Pn **Pn 04 30 33.4 +2.4**
PVY *e*Sn **Sn 04 31 38.1 +1.4**
IVAS Ivanjica 5.75 86 *e*Pn **Pn 04 30 32.9 +1.5**
KHC Kasperske Hory 5.76 9 *e*SN **Sn 04 31 37.1 -0.6**
HINF Hinteralfeld 5.78 321 *e*Pn **Pn 04 30 28.5 -3.4**
HINF Hinteralfeld 5.78 321 *e*P **Pn 04 30 33.6 +1.7**
HINF *e*Sn **Sn 04 31 31.7 -6.6**
comp=E,6.0nm,0.5s
TIR Tirane 6.01 108 *e*Pn **Pn 04 30 36.6 +1.6**
CDF Champ du Feu 6.06 327 *e*Pn **Pn 04 30 32.6 -3.2**
CDF Champ du Feu 6.06 327 *e*P **Pn 04 30 37.3 +1.5**
CDF *e*Sn **Sn 04 31 38.3 -6.9**
comp=E,2.5nm,0.3s
HAU Haudompre 6.16 320 *e*Pn **Pn 04 30 34.0 -3.0**
HAU Haudompre 6.16 320 *e*P **Pn 04 30 38.8 +1.8**
HAU *e*Sn **Sn 04 31 40.4 -7.0**
comp=E,7.4nm,0.4s
GOPC GO Pecny, Ondr 6.70 14 *e*SN **Sn 04 31 59.1 -1.7**
PRU Pruhonice 6.73 13 *e*SN **Sn 04 31 59.4 -2.1**
PAGF Fort de Pagny 6.84 321 *e*Pn **Pn 04 30 49.5 +3.1**
SFTF Sexfontaines 6.93 316 *e*P **Pn 04 30 50.2 +2.6**
LOR Lormes 7.04 306 *e*Pn **Pn 04 30 45.9 -3.3**
LOR Lormes 7.04 306 *e*P **Pn 04 30 51.2 +2.0**
LOR *e*Sn **Sn 04 32 01.9 -7.3**
comp=E,0.9nm,0.3s
CLL Collm 7.88 3 *e*Sg Sg 04 33 28.0 +9.1
FINES FINESS Array B 19.82 20 P **P 04 33 37.0 +0.5**
comp=E,0.1nm,0.3s,baz=202,slow=7.2,SNR=2.2
TORD Torodi Ar. Bea 31.53 200 P **P 04 35 28.5 +0.1**
comp=E,0.5nm,0.9s,baz=20,slow=8.9,SNR=2.8
YKA Yellowknife Ar 66.17 336 P **P 04 39 54.3 +1.0**
comp=E,0.1nm,0.5s,baz=36,slow=5.7,SNR=2.8

MEX 08 04:31:02.1±0.6, 16°.52N×98°.52W, h4km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.40**	**109**	*e*P	Pg	04 31 09.4	-0.4
PNIG				*i* S	Sg	04 31 15.2	+0.1
TLIG	**Tlapa**	**1.03**	**358**	*e*P	Pg	04 31 19.5	-2.5
TLIG				*e*S	Sg	04 31 32.5	-2.9
CAIG	**El Cayaco**	**1.75**	**288**	*e*P	Pn	04 31 29.6	-3.7
CAIG				*i* S	Sn	04 31 51.1	-5.0

*RSNC **08** 04:36:01.6±0.9, 5°.71N×77°.15W, h0km±6km, ML3.1, Mw3.6*
*IDC **08** 04:36:05.7±3.9, 5°.64N×77°.26W, h44km±37km, mb3.4/6, mb1 3.7/8, mb1mx3.4/27, mbtmp3.7/8, ML2.5/2, MS2.9/10, Ms1 2.9/10, ms1mx2.8/24, Error ellipse: s-maj=31.4km s-min=19.9km az=72.0*

ISC 08 04:35:59.7±1.3, 5°.62N±0°.03×77°.31W±0°.04, h5km±9km, n40, σ1§56/44, mb3.6/6, MS2.9/3, 2C-2D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.61**	**350**⇓	*i*P	**Pg**	**04 36 11.9**	**+0.5**
SOLC				*e*S	**Sg**	**04 36 20.9**	**+1.5**
SOLC				*i*		04 36 27.1	
comp=Z,2μm,0.6s							
PLMC	**San Jos del P**	**1.24**	**125**	*e*P	**Pg**	**04 36 22.7**	**-0.8**
PLMC				*e*S	**Sg**	**04 36 39.2**	**-0.4**
PLMC				*i*		04 36 41.0	
comp=Z,561nm,0.5s							
MALC	**Bahia Malaga**	**1.59**	**181**	*e*P	**Pg**	**04 36 31.9**	**+1.6**
PTAC	**Punta Ardita,**	**1.60**	**342**	*e*P	**Pn**	**04 36 27.1**	**-1.5**
HELC	**Santa Helena**	**1.86**	**72**⇑	*i*P	**Pn**	**04 36 31.3**	**-1.2**
HELC				*e*S	**Sn**	**04 36 54.4**	**-2.2**
YOTC	**Yotoco, Valle**	**1.89**	**149**⇑	*i*P	**Pn**	**04 36 33.1**	**+0.4**
YOTC				*e*S	**Sg**	**04 36 59.6**	**-0.7**
RREF	**El Recreo**	**2.08**	**110**	*e*P	**Pn**	**04 36 35.6**	**-0.2**
RREF				*e*S	**Sn**	**04 37 03.2**	**+0.8**
RREF				*i*		04 37 10.4	
comp=Z,118nm,0.5s							
NORC	**Norcasia**	**2.43**	**91**	*e*P	**Pn**	**04 36 41.0**	**+1.0**
NORC				*e*S	**Sn**	**04 37 09.3**	**-1.0**
NORC				*i*		04 37 14.0	
comp=Z,98nm,0.4s							
UREC	**San Jos de Ur**	**2.76**	**40**	*e*P	**Pn**	**04 36 44.8**	**+0.2**
UREC				*e*S	**Sn**	**04 37 16.1**	**-2.2**
UREC				*i*		04 37 28.4	
comp=Z,109nm,0.6s							
PTBC	**PUERTO BERRIO,**	**2.98**	**72**	*e*P	**Pn**	**04 36 48.4**	**+0.8**
PTBC				*e*S	**Sn**	**04 37 21.5**	**-2.3**
PTBC				*i*		04 37 35.6	
comp=Z,67nm,0.8s							
UPD2	**Meteti**	**2.99**	**346**	*e*P	**Pn**	**04 36 47.9**	**+0.1**
UPD2				*e*S	**Sn**	**04 37 25.5**	**+1.4**
UPD2				*i*		04 37 44.5	
comp=Z,76nm,0.7s							
ZARC	**Zaragoza, Cauc**	**3.06**	**52**	*e*P	**Pn**	**04 36 48.9**	**+0.1**
ZARC				*i*		04 37 29.0	
comp=Z,50nm,0.3s							
PRAC	**Prado**	**3.07**	**128**	*e*P	**Pb**	**04 36 53.0**	**-1.8**
ROSC	**El Rosal**	**3.07**	**104**	*e*P	**Pb**	**04 36 55.8**	**+0.7**
ROSC	**El Rosal**	**3.07**	**104**	P	**Pb**	**04 36 52.5**	**-2.6**
comp=Z,5.1nm,0.3s,baz=114,slow=8.3,SNR=11							
ROSC				LR	LR	04 38 34.1	
comp=Z,54nm,18.0s,baz=322,slow=49							
POPC	**Popayan, Colom**	**3.12**	**168**	*e*P	**Pb**	**04 36 52.7**	**-3.1**
PCON	**Cinco Dias**	**3.39**	**164**	*e*P	**Pb**	**04 37 00.6**	**0.0**
SOTA	**Rioblanco**	**3.53**	**169**	*e*P	**Pb**	**04 36 59.4**	**-3.6**
AZU	**Azuero**	**3.65**	**306**⇓	*i*P	**Pn**	**04 36 55.9**	**-1.0**
AZU				*e*S	**Sn**	**04 37 39.4**	**-1.1**
CHIC	**Chingaza**	**3.69**	**105**	*e*P	**Pn**	**04 37 01.2**	**+3.3**
RUSC	**La Rusia**	**4.21**	**86**	*e*P	**Pn**	**04 37 08.3**	**+3.2**
FLOC	**Florencia**	**4.33**	**158**	*e*P	**Pn**	**04 37 08.0**	**+1.6**
SMLC	**San Martn de**	**4.51**	**45**	*e*P	**Pn**	**04 37 09.5**	**+0.8**
SMLC				*i*		04 38 27.4	
comp=Z,21nm,0.6s							
SJCC	**San Jacinto, C**	**4.75**	**26**	*e*P	**Pn**	**04 37 13.6**	**+1.5**
SDV	**Santo Domingo**	**7.37**	**63**	P	**Pn**	**04 37 49.9**	**+1.6**
comp=Z,2.6nm,0.3s,baz=287,slow=13,SNR=13							
SDV				S	**Sn**	**04 39 12.9**	**+0.4**
comp=Z,0.8nm,0.3s,baz=225,slow=20,SNR=2.3							
SDV				LR	LR	04 40 52.1	
comp=Z,162nm,19.6s,baz=253,slow=39							
JTS	**Las Juntas de**	**8.88**	**302**	LR	LR	04 41 29.1	
comp=Z,131nm,18.1s,baz=181,slow=36							
ATAH	**Atahualpa**	**12.71**	**185**	LR	LR	04 45 27.3	
comp=Z,28nm,20.2s,baz=12,slow=44							
APG	**El Apazote**	**15.94**	**307**	LR	LR	04 46 47.3	
comp=Z,30nm,21.2s,baz=212,slow=40							
NNA	**Nana**	**17.50**	**178**	LR	LR	04 47 47.1	
comp=Z,47nm,20.1s,baz=5.5,slow=40							
PTGA	**Pitinga**	**18.43**	**109**	LR	LR	04 47 46.3	
comp=Z,49nm,20.7s,baz=300,slow=38							
LPAZ	**La Paz**	**23.58**	**157**	P	**P**	**04 41 13.1**	**+0.9**
comp=Z,0.9nm,0.7s,baz=357,slow=15,SNR=3.7							
MDP	**Montagnes des**	**24.56**	**90**	LR	LR	04 53 03.0	
comp=Z,28nm,19.3s,baz=154,slow=42							
SIV	**San Ignacio**	**26.82**	**143**	P	**P**	**04 41 41.3**	**+0.1**
comp=Z,0.7nm,0.5s,baz=309,slow=6.5,SNR=5.7							
SIV				LR	LR	04 53 02.9	
comp=Z,50nm,21.1s,baz=309,slow=38							
NVAR	**Mina Array Bea**	**49.45**	**317**	P	**P**	**04 44 51.5**	**+0.2**
comp=Z,0.4nm,0.6s,baz=126,slow=5.0,SNR=4.0							
YKA	**Yellowknife Ar**	**63.02**	**342**	P	**P**	**04 46 27.7**	**+0.2**
comp=Z,0.9nm,0.6s,baz=132,slow=6.7,SNR=41							
ILAR	**Eielson Array**	**76.31**	**336**	P	**P**	**04 47 50.0**	**+0.5**
comp=Z,0.4nm,0.8s,baz=130,slow=6.3,SNR=4.9							

TORD	**Torodi Ar. Bea**	**78.06**	**78**	P	**P**	**04 48 00.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=266,slow=5.1,SNR=3.1						
NOA	**NORSAR Array B**	**84.41**	**29**	LR	LR	05 22 21.6	
	comp=Z,4.8nm,20.7s,baz=245,slow=33						
ASAR	**Alice Springs**	**145.01**	**236**	PKPbc	**PKPab**	**04 55 38.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=130,slow=3.2,SNR=4.4						
WRA	**Warramunga Arr**	**146.10**	**242**	PKPbc	**PKPbc**	**04 55 42.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=97,slow=3.5,SNR=5.0						

MEX 08 04:38:54.9±1.0, 16°.81N×95°.09W, h104km±8km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.34**	**35**	*e*P	Pn	04 39 08.8	-1.3
CMIG				*e*S	Sn	04 39 19.5	-2.1
HUIG	**Huatulco**	**1.42**	**224**	*e*P	Pn	04 39 18.6	-1.8
HUIG				*e*S	Sn	04 39 38.9	-0.9
TGIG		**1.88**	**91**	*e*P	Pn	04 39 25.1	-1.1
TGIG				*e*S	Sn	04 39 47.7	-2.4
PCIG		**2.10**	**121**	*e*P	Pn	04 39 28.1	-0.9
PCIG				*i* S	Sn	04 39 54.3	-0.8
TPIG	**Tehuac#an**	**2.70**	**307**	*i* P	Pn	04 39 36.3	-0.6
TPIG				*e*S	Sn	04 40 08.5	-0.6
CCIG	**Comitan**	**2.88**	**100**	*i* P	Pn	04 39 38.9	-0.4
CCIG				*e*S	Sn	04 40 12.2	-1.3
PNIG	**Pinotepa**	**2.94**	**262**	*i* P	Pn	04 39 38.3	-1.7
PNIG				*i* S	Sn	04 40 12.7	-2.1

WEL 08 04:58:00.9, 44°.S±5°×16°.8E±°, h5km, ML3.8/18, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.36**	**227**	P	Pg	04 58 08.6	+0.7
MSZ				S	Sg	04 58 13.6	+0.9
JCZ	**Jackson Bay**	**0.50**	**45**	P	Pb	04 58 11.9	-0.3
WKZ	**Wanaka**	**0.65**	**128**	P	Pb	04 58 14.9	+0.1
WKZ				S	Sb	04 58 23.3	-0.9
MLZ	**Mavora Lakes**	**0.95**	**188**	P	Pg	04 58 19.2	0.0
MLZ				S	Sb	04 58 33.7	+0.9
EAZ	**Earnscleugh**	**1.08**	**139**	P	Pn	04 58 22.4	-0.3
DCZ	**Deep Cove**	**1.32**	**218**	P	Pn	04 58 24.9	-1.1
DCZ				S	Sg	04 58 42.2	-1.1
LBZ	**Lake Benmore**	**1.35**	**89**	P	Pg	04 58 28.2	+1.4
LBZ				S	Sn	04 58 46.5	+1.7
FOZ	**Fox Glacier**	**1.41**	**51**	P	Pg	04 58 28.0	0.0
WHZ	**Wether Hill Ro**	**1.49**	**189**	P	Pn	04 58 28.2	-0.1
ODZ	**Otahua Downs**	**1.78**	**111**	P	Pb	04 58 34.3	+0.2
TUZ	**Tuapeka**	**1.80**	**149**	P	Pb	04 58 33.9	-0.4
TUZ				S	Sb	04 58 57.3	+0.2
GCSZ	**Gaunt Creek Bo**	**1.84**	**54**	P	Pn	04 58 33.6	+0.5
RPZ	**Rata Peaks**	**2.11**	**71**	P	Pb	04 58 38.8	-0.8
HHSZ	**Highcliff Hill**	**2.19**	**133**	P	Pb	04 58 39.6	-1.4
SYZ	**Scrubby Hill**	**2.19**	**165**	P	Pn	04 58 39.5	+1.5
WVZ	**Waitaha Valley**	**2.22**	**53**	P	Pn	04 58 38.7	+0.3
INZ	**Inchbonnie**	**2.85**	**54**	P	Pn	04 58 47.6	+0.6
INZ				S	Sn	04 59 20.0	-1.6
MQZ	**McQueen's Vall**	**3.22**	**79**	P	Pn	04 58 53.4	+1.3
LTZ	**Lake Taylor**	**3.32**	**62**	P	Pn	04 58 54.7	+1.2
DSZ	**Denniston Nort**	**3.71**	**45**	P	Pn	04 58 59.9	+0.9
THZ	**Tophouse**	**4.30**	**53**	P	Pn	04 59 08.3	+1.3
QRZ	**Quartz Range**	**4.76**	**42**	P	Pn	04 59 14.1	+0.7
NNZ	**Nelson**	**4.92**	**51**	P	Pn	04 59 16.9	+1.4
TCW	**Tory Channel**	**5.45**	**56**	P	Pn	04 59 24.8	+2.2
DUWZ	**D'Urville Isla**	**5.51**	**51**	P	Pn	04 59 24.9	+1.3
KHEZ	**Kahui Hut**	**6.67**	**42**	P	Pn	04 59 40.7	+1.1

*SJA **08** 04:59:15.6±1.2, 31°.70S×70°.38W, h103km±10km, ML2.6, MW3.1*
*GUC **08** 04:59:15.5±0.5, 31°.67S×70°.41W, h29km±7km, ML2.7*
*ISCJB **08** 04:59:16.0±0.9, 31°.69S±0°.04×70°.38W±0°.06, h113km±10km, Error ellipse: s-maj=9.1km s-min=4.6km az=27.1*

ISC 08 04:59:17.2±1.9, 31°.68S±0°.04×70°.40W±0°.05, h99km±20km, n18, σ0s92/31, 1C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.94**	**98**	*e*P	**Pn**	**04 59 37.2**	**-0.1**
RTLS				*e*S	**Sn**	**04 59 53.1**	**+0.8**
RTLS				IAML		04 59 55.0	
	comp=Z,98nm,0.2s						
AUSP	**Uspallata**	**1.01**	**123**	*e*P	**Pn**	**04 59 37.9**	**-0.1**
ROCH	**El Roble**	**1.39**	**202**	*e*P	**Pn**	**04 59 41.4**	**-0.9**
ROCH				*e*S	**Sn**	**05 00 01.0**	**-0.2**
ROCH				IAML		05 00 03.4	
	comp=N,169nm,0.2s						
ROC1	**El Roble**	**1.39**	**202**	*e*P	**Pn**	**04 59 41.5**	**-0.9**
ROC1				*e*S	**Sn**	**05 00 01.4**	**0.0**
PEL	**Peldehue**	**1.48**	**189⇑**	*e*P	**Pn**	**04 59 42.3**	**-0.9**
PEL				*e*S	**Sn**	**05 00 02.7**	**-0.2**
PEL				IAML		05 00 04.4	
	comp=N,116nm,0.4s						
GO04	**Tololo Observa**	**1.54**	**347⇓**	*e*P	**Pn**	**04 59 43.7**	**-0.5**
GO04				*e*S	**Sn**	**05 00 04.8**	**+0.2**
GO04	**Tololo Observa**	**1.54**	**347**	*e*P	**Pn**	**04 59 43.5**	**-0.7**
GO04				*e*S	**Sn**	**05 00 04.4**	**-0.2**
GO04				IAML		05 00 10.6	
	comp=E,294nm,0.5s						
ACCO	**Cerro Coronel**	**1.58**	**47⇓**	*e*P	**Pn**	**04 59 44.7**	**0.0**
ACCO				*e*S	**Sn**	**05 00 06.7**	**+1.1**
RTCV	**Cerro Valdivia**	**1.59**	**97**	*e*P	**Pn**	**04 59 44.2**	**-0.4**
RTCV				*e*S	**Sn**	**05 00 04.9**	**-0.5**
FCH	**Farellones**	**1.65**	**177**	*e*P	**Pn**	**04 59 45.8**	**+0.2**
FCH				*e*S	**Sn**	**05 00 08.3**	**+1.3**
FCH				IAML		05 00 09.2	
	comp=E,164nm,0.3s						
RTLL	**Cerro Villicun**	**1.68**	**78⇓**	*e*P	**Pn**	**04 59 44.9**	**-0.8**
RTLL				*e*S	**Sn**	**05 00 06.5**	**-0.9**
RTLL				IAML		05 00 08.7	
	comp=Z,45nm,0.7s						
AROD	**Rodeo**	**1.70**	**28⇓**	*e*P	**Pn**	**04 59 47.0**	**+0.7**
AROD				*e*S	**Sn**	**05 00 10.4**	**+2.1**
AMOG	**MOGNA**	**1.79**	**66**	*e*P	**Pn**	**04 59 46.5**	**-0.6**
AMOG				*e*S	**Sn**	**05 00 08.8**	**-1.1**
ACDV	**Cuesta del Vie**	**1.86**	**36⇓**	*e*P	**Pn**	**04 59 48.4**	**+0.2**
LMEL	**Las Melosas**	**2.17**	**176**	*e*P	**Pn**	**04 59 52.5**	**+0.5**
LMEL				*e*S	**Sn**	**05 00 21.0**	**+2.2**
LMEL				IAML		05 00 25.8	
	comp=N,84nm,0.2s						
AGUA	**GUANDACOL**	**2.73**	**37**	*e*P	**Pn**	**05 00 00.0**	**+0.5**
VCA	**Vinchina**	**3.49**	**33**	*e*P	**Pn**	**05 00 09.8**	**+0.1**
VCA				IAML		05 00 13.0	
	comp=Z,15nm,0.2s						
ACLC	**CERRO LA CRUZ**	**3.73**	**54⇓**	*e*P	**Pn**	**05 00 11.3**	**-1.5**

*ISK **08** 05:19:47.8, 39°.79N×26°.13E, h14km, ML2.1/11*
*ISCJB **08** 05:19:48.4±0.4, 39°.79N±0°.02×26°.15E±0°.04, h12km±3km, Error ellipse: s-maj=5.0km s-min=3.3km az=5.6*
*ATH **08** 05:19:48.3, 39°.77N×26°.10E, h27km±2km, ML1.9/1, Error ellipse: s-maj=3.9km s-min=0.9km az=251.0*
*DDA **08** 05:19:49.3, 39°.81N×26°.14E, h7km±5km, ML2.5*

ISC 08 05:19:48.5±0.8, 39°.79N±0°.02×26°.12E±0°.03, h14km±6km, n24, σ0s51/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.07**	**313**	*i* P	**Pg**	**05 19 51.5**	**+0.2**
BOZC				*i* S	**Sg**	**05 19 53.8**	**+0.5**
EZN	**Ezine**	**0.16**	**77**	PG	**Pg**	**05 19 52.1**	**-0.3**
EZN				SG	**Sg**	**05 19 54.6**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.33**	**99**	IAML_P			
	comp=Z,2μm,0.1s						
BAYC				*i* P	**Pg**	**05 19 55.5**	**+0.2**
BAYC				*i* S	**Sg**	**05 20 00.0**	**+0.2**
GPNR	**Gulpinar-Canak**	**0.34**	**179**	PG	**Pg**	**05 19 55.1**	**-0.2**
GPNR				SG	**Sg**	**05 20 00.1**	**+0.2**
PRK	**Paraskevi**	**0.56**	**168**	P	**Pb**	**05 20 00.3**	**+0.3**
PRK				S	**Sb**	**05 20 07.5**	**-0.3**
SIGR	**SIGRI**	**0.61**	**200**	PG	**Pg**	**05 20 00.4**	**-0.2**
SIGR				SG	**Sb**	**05 20 09.7**	**+0.1**
SIGR	**SIGRI**	**0.61**	**200**	P	**Pg**	**05 20 00.3**	**-0.2**
SIGR				S	**Sg**	**05 20 09.0**	**+0.3**
SIGR				AML	AML	05 20 12.5	
	comp=N,285μm,0.3s						
SIGR				AML	AML	05 20 12.5	
	comp=E,192μm,0.2s						

AYVA	**Ayvalik**	**0.65**	**138**	*i* P	**Pn**	**05 20 03.6**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.66**	**24**	PG	**Pg**	**05 20 01.5**	**0.0**
GELI				SG	**Sb**	**05 20 10.9**	**-0.1**
LIA	**Limnos Island**	**0.73**	**279**	P	**Pg**	**05 20 02.9**	**+0.2**
LIA				S	**Sb**	**05 20 12.8**	**-0.1**
LPK	**Lapseki**	**0.76**	**40**	PG	**Pg**	**05 20 02.6**	**-0.7**
SMTH	**Samothraki Isl**	**0.82**	**326**	P	**Pb**	**05 20 04.5**	**0.0**
SMTH				S	**Sb**	**05 20 15.9**	**+0.4**
ERIK	**Erikli-Kesan**	**0.93**	**19**	PG	**Pb**	**05 20 05.7**	**-0.7**
ENEZ	**Enez**	**0.94**	**1**	PG	**Pb**	**05 20 05.9**	**-0.8**
KRBG	**Karabiga-Canak**	**1.08**	**56**	PG	**Pn**	**05 20 09.1**	**-0.2**
ALN	**Alexandroupoli**	**1.11**	**357**	PN	**Pb**	**05 20 09.2**	**-0.3**
ALN	**Alexandroupoli**	**1.11**	**357**	P	**Pg**	**05 20 09.9**	**+0.1**
ALN				S	**Sn**	**05 20 25.0**	**+0.3**
KESN	**Edirne-Kesan**	**1.12**	**22**	IAML_P			
	comp=Z,127nm,0.1s						
KESN				*i* P	**Pn**	**05 20 11.8**	**+1.7**
BALY	**Balya**	**1.15**	**92**	IAML_P			
	comp=Z,300nm,0.1s						
BALY				*i* P	**Pg**	**05 20 11.8**	**+1.0**
GONE	**Gonen-Balikesi**	**1.23**	**78**	PN	**Pn**	**05 20 10.9**	**-0.4**
CHOS	**Chios island**	**1.40**	**182**	PN	**Pn**	**05 20 13.6**	**-0.2**
CHOS	**Chios island**	**1.40**	**182**	P	**Pn**	**05 20 13.6**	**-0.2**
RDO	**Rodhopi**	**1.43**	**342**	PN	**Pn**	**05 20 13.3**	**-0.7**
URLA	**Izmir**	**1.48**	**165**	PN	**Pn**	**05 20 14.2**	**-0.5**

IDC 08 05:21:09.3±7.9, 10°.60S×124°.30E, h75km±90km, mb3.6/1, mb1 3.6/4, mb1mx3.3/34, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=61.5km s-min=46.8km az=38.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.56**	**170**	P	Pn	05 22 57.3	+0.4
	0.9nm,0.3s,baz=348,slow=7.8,SNR=78						
FITZ				S	Sn	05 24 21.6	+0.4
	1.6nm,0.3s,baz=258,slow=22,SNR=9.2						
WRA	**Warramunga Arr**	**13.41**	**135**	P	Pn	05 24 16.4	-0.2
	0.2nm,0.3s,baz=311,slow=15,SNR=11						
WRA				S	Sn	05 26 43.5	-0.5
	0.8nm,0.3s,baz=313,slow=24,SNR=10						
ASAR	**Alice Springs**	**15.90**	**146**	P	P	05 24 50.0	-0.9
	0.1nm,0.3s,baz=319,slow=12,SNR=7.0						
ASAR				S	Sn	05 27 44.2	-0.1
	0.2nm,0.3s,baz=322,slow=24,SNR=4.8						
MKAR	**Makanchi Array**	**68.34**	**330**	P	P	05 32 02.6	-0.1
	0.9nm,0.8s,baz=143,slow=8.2,SNR=3.7						

*SOME **08** 05:24:28.9, 42°.60N×73°.08E, h10km*
*KRNET **08** 05:24:28.2±0.1, 42°.61N×73°.04E, h18km, mb2.1*
*NNC **08** 05:24:28.9±0.5, 42°.72N×73°.09E, h12km±3km, mb2.7, mpv2.5, Error ellipse: s-maj=7.1km s-min=3.1km az=7.0*

ISC 08 05:24:28.1±1.0, 42°.60N±0°.03×73°.03E±0°.03, h13km±7km, n25, σ0s77/44, 23C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.20**	**46**	P	**Pg**	**05 24 33.1**	**+0.3**
	111nm,0.1s						
MRKS				S	**Sg**	**05 24 35.6**	**-0.3**
	116nm,0.2s						
MRKS	**Merke**	**0.20**	**46⇑**	*i*P	**Pg**	**05 24 33.1**	**+0.3**
	baz=44						
MRKS				⇑*e*S	**Sg**	**05 24 35.6**	**-0.3**
	baz=44						
MRKS	**Merke**	**0.20**	**46⇑**	*i*P	**Pg**	**05 24 33.1**	**+0.3**
	111nm,0.1s						
MRKS				*e*S	**Sg**	**05 24 35.6**	**-0.3**
	116nm,0.2s						
EKS2	**Erkin-Say**	**0.56**	**84⇑**	*e*P	**Pg**	**05 24 38.9**	**-0.2**
	baz=84						
EKS2				⇑*i*S	**Sg**	**05 24 46.2**	**-0.4**
	baz=84						
AML	**Almayashu**	**0.69**	**133⇓**	*i*P	**Pg**	**05 24 41.3**	**-0.3**
	baz=34						
AML				⇓*i*S	**Sg**	**05 24 50.3**	**-0.4**
	baz=34						
AAK	**Ala-Archa**	**1.08**	**88**	⇓P	**Pg**	**05 24 49.1**	**0.0**
	0.7nm,0.5s						
AAK				⇓S	**Sb**	**05 25 03.1**	**+0.1**
	1.3nm,0.5s						
AAK	**Ala-Archa**	**1.08**	**88⇑**	*i*P	**Pb**	**05 24 48.3**	**-0.6**
	baz=88						
AAK				⇑*i*S	**Sg**	**05 25 02.6**	**-0.6**
	baz=88						
ARK	**Arkit**	**1.13**	**225⇑**	*i*P	**Pb**	**05 24 49.3**	**-0.3**
	baz=24						
ARK				⇑*i*S	**Sb**	**05 25 04.4**	**+0.2**
	baz=24						
UCH	**Uchtor**	**1.17**	**108⇑**	*i*P	**Pb**	**05 24 49.7**	**-0.7**
	baz=9.0						
UCH				⇑*i*S	**Sg**	**05 25 05.0**	**-0.9**
	baz=9.0						
ARLS	**Aral**	**1.22**	**127⇑**	*i*P	**Pb**	**05 24 50.6**	**-0.5**
	baz=27						
ARLS				⇑*i*S	**Sb**	**05 25 06.8**	**0.0**
	baz=27						
USP	**Ospenovka**	**1.27**	**58⇑**	*e*P	**Pn**	**05 24 51.7**	**+0.1**
	baz=58						
USP				⇑*i*S	**Sb**	**05 25 08.1**	**-0.1**
	baz=58						
ARSB	**Arslanbob**	**1.28**	**181⇑**	*i*P	**Pn**	**05 24 51.8**	**0.0**
	baz=82						
ARSB				⇑*i*S	**Sb**	**05 25 09.5**	**+0.9**
	baz=82						
CHMS	**Chumysh**	**1.33**	**72⇑**	*i*P	**Pn**	**05 24 52.5**	**+0.1**
	baz=72						
CHMS				⇑*i*S	**Sb**	**05 25 09.8**	**-0.1**
	baz=72						
KZA	**Kyzart**	**1.73**	**107⇑**	*i*P	**Pb**	**05 24 59.7**	**-0.3**
	baz=7.0						
KZA				⇑*i*S	**Sb**	**05 25 22.4**	**+0.6**
	baz=7.0						
KK31	**Karatay Array**	**1.91**	**286**	⇑Pg	**Pb**	**05 25 03.8**	**+0.9**
	0.2nm,0.2s,baz=102,slow=16,SNR=4.1						
KK31				Lg	Lg	05 25 31.1	
	0.5nm,0.2s,baz=103,slow=25,SNR=13						
TKM2	**Tokmak 2**	**1.92**	**80**	⇑Lg	Lg	05 25 28.6	
	1.0nm,0.2s						
DGS	**Degeres**	**2.12**	**72**	Pg	**Pb**	**05 25 07.0**	**+0.6**
	1.6nm,0.4s						
DGS				Lg	Lg	05 25 33.6	
	4.2nm,0.2s						
DGS	**Degeres**	**2.12**	**72**	*e*P	**Pb**	**05 25 07.0**	**+0.6**
	baz=71						
DGS				*e*S	**Sb**	**05 25 33.9**	**+1.3**
	baz=71						
DGS	**Degeres**	**2.12**	**72**	*e*P	**Pb**	**05 25 07.0**	**+0.6**
	1.6nm,0.4s						
DGS				*e*S	**Sb**	**05 25 33.9**	**+1.3**
	4.2nm,0.2s						
BTLS	**Baital**	**2.54**	**17**	Pg	**Pb**	**05 25 12.8**	**-0.9**
	0.6nm,0.1s						
BTLS				Lg	Lg	05 25 43.7	
	2.0nm,0.2s						
BTLS	**Baital**	**2.54**	**17**	*e*P	**Pb**	**05 25 12.5**	**-1.1**
	baz=16						
BTLS				*e*S	**Sb**	**05 25 43.7**	**-1.2**
	baz=16						
BTLS	**Baital**	**2.54**	**17**	*e*P	**Pb**	**05 25 12.5**	**-1.1**
	0.6nm,0.3s						
BTLS				*e*S	**Sb**	**05 25 43.7**	**-1.2**
	2.0nm,0.2s						
KUU	**Kurty**	**2.74**	**61**	Pg	**Pb**	**05 25 17.6**	**+0.6**
	0.7nm,0.3s						
KUU				Lg	Lg	05 25 52.4	
	4.8nm,0.2s						
KUU	**Kurty**	**2.74**	**61**	*e*P	**Pb**	**05 25 17.6**	**+0.6**
	baz=61						
KUU				*e*S	**Sb**	**05 25 52.4**	**+1.8**
	baz=61						
KUU	**Kurty**	**2.74**	**61**	*e*P	**Pb**	**05 25 17.6**	**+0.6**
	0.7nm,0.3s						
KUU				*e*S	**Sb**	**05 25 52.4**	**+1.8**
	4.8nm,0.2s						

MEX 08 05:44:58.4±0.6, 16°.29N×97°.98W, h5km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.18**	**306**	*e*P	Pg	05 45 01.4	-0.6
PNIG				*e*S	Sg	05 45 04.4	0.0
TLIG	**Tlapa**	**1.39**	**336**	*e*P	Pn	05 45 20.8	-3.7
TLIG				*e*S	Sb	05 45 38.8	-4.2
HUIG	**Huatulco**	**1.87**	**106**	*i* P	Pn	05 45 27.8	-3.3
HUIG				*e*S	Sn	05 45 50.9	-4.2
CAIG	**El Cayaco**	**2.32**	**289**	*i* P	Pn	05 45 35.0	-2.3
CAIG				*e*S	Sn	05 46 02.3	-4.0
CMIG	**Matias Romero**	**3.07**	**74**	*e*P	Pn	05 45 44.3	-3.3
CMIG				*i* S	Sn	05 46 21.6	-3.1

*BJI **08** 05:53:37.6±0.0, 35°.71N×99°.16E, h6km, mb4.4/9, mB4.4/4, ML4.2/15, Ms3.9/14, Ms7 3.7/9*
*MOS **08** 05:53:38.6±1.4, 35°.90N×99°.32E, h10km, mb4.1/12, Error ellipse: s-maj=13.9km s-min=7.8km az=114.0*
*IDC **08** 05:53:39.6±0.7, 35°.91N×99°.29E, h0km, mb3.8/14, mb1 4.0/17, mb1mx3.8/44, mbtmp3.8/17, ML3.9/3, MS3.2/9, Ms1 3.2/9, ms1mx2.9/38, Error ellipse: s-maj=20.1km s-min=15.3km az=47.0*
*NEIC **08** 05:53:41.1±2.5, 36°.04N×99°.34E, h10km±1km, mb4.3/11, Error ellipse: s-maj=25.8km s-min=16.3km az=220.0*

ISC 08 05:53:40.2±0.5, 35°.81N±0°.05×99°.30E±0°.05, h10km, n77, σ1s89/75, mb4.1/29, MS3.0/9, 6C-1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.62**	**6**	Pn	**Pn**	**05 54 37.3**	**+0.8**
GTA				Pg	**Pb**	**05 54 44.5**	**+0.1**
GTA				Sn	**Sn**	**05 55 21.8**	**+2.4**
GTA				Sg	**Sb**	**05 55 32.3**	**+3.8**
GTA				smax	smax		
	comp=N,140nm,1.0s						
GTA				smax	smax		
	comp=E,310nm,1.0s						
GTA				LR	LR		
	comp=N,380nm,9.5s						
GTA				LR	LR		
	comp=E,2μm,11.4s						
LZH	**Lanzhou**	**3.70**	**84**	*e*Pn	**Pn**	**05 54 38.9**	**+1.3**
LZH				Pg	**Pb**	**05 54 44.6**	**-1.1**
LZH				Sn	**Sn**	**05 55 24.7**	**+3.4**
LZH				Sg	**Sb**	**05 55 32.1**	**+1.4**
LZH				smax	smax		
	comp=N,920nm,1.0s						
LZH				smax	smax		
	comp=E,2μm,0.9s						
LZH				LR	LR		
	comp=Z,590nm,7.1s						
XAN	**Xi'an**	**8.10**	**100**	P	**Pn**	**05 55 36.3**	**-1.6**
XAN				smax	smax		
	comp=N,54nm,1.2s						
XAN				smax	smax		
	comp=E,58nm,1.2s						
XAN	**Xi'an**	**8.10**	**100**	*e*Pn	**Pn**	**05 55 36.8**	**-1.1**
XAN	**Xi'an**	**8.10**	**100**	*e*P	**Pn**	**05 55 36.8**	**-1.1**
HHC	**Hu-ho-hao-te**	**10.87**	**59**	*e*P	**Pn**	**05 56 14.6**	**-1.3**
HHC				S	**Sn**	**05 58 14.4**	**-3.2**
KMI	**Kunming**	**11.05**	**164**	P	Pn	05 56 28.7	+10
KMI				S	Sn	05 58 38.1	+16
WMQ	**Urumqi**	**11.98**	**315**	*e*P	**Pn**	**05 56 30.1**	**-1.0**
WMQ				pP		05 56 34.7	
WMQ				sP		05 56 38.5	
WMQ				S	**Sn**	**05 58 42.9**	**-1.9**
WMQ	**Urumqi**	**11.98**	**315**	*e*Pn	Pn	05 56 25.8	-5.3
WMQ	**Urumqi**	**11.98**	**315**	*e*P	Pn	05 56 25.8	-5.3
SONA0	**Songino Array**	**13.12**	**21**	*e*Pn	**Pn**	**05 56 44.9**	**-1.9**
SONM	**Songino Array**	**13.12**	**21**	*e*Pn	**Pn**	**05 56 43.4**	**-3.3**
SONM	**Songino Array**	**13.12**	**21**	Pn	**Pn**	**05 56 44.9**	**-1.9**
	0.6nm,0.3s,baz=203,slow=15,SNR=12						
SONM				Lg	Lg	06 00 34.9	
	0.1nm,0.3s,baz=199,slow=30,SNR=2.4						
ULN	**Ulaanbaatar**	**13.35**	**23**	*e*Pn	**Pn**	**05 56 46.9**	**-3.0**
ULN	**Ulaanbaatar**	**13.35**	**23**	*ce*P	**Pn**	**05 56 49.6**	**-0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
WHN	**Wuhan**	**13.65**	**108**	P	**Pn**	**05 56 51.4**	**-2.5**
WHN				S	**Sn**	**05 59 22.9**	**-2.7**
WHN				LR	LR		
	comp=Z,380nm,8.7s						
WHN				LR	LR		
	comp=Z,620nm,6.2s						
WHN				LR	LR		
	comp=Z,630nm,11.1s						
DGZ	**Jazzator, Alta**	**16.36**	**332**	*i* P	**P**	**05 57 32.2**	**-0.8**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**16.81**	**316**	*e*Pn	**P**	**05 57 34.0**	**-3.8**
	comp=Z,15nm,1.0s						
MK31	**Makanchi Array**	**16.81**	**316**	*e*P	**P**	**05 57 34.0**	**-3.8**
MK31				pmax	pmax		
	comp=Z,15nm,1.0s						
MK32	**Makanchi Array**	**16.81**	**316**	*e*Pn	**Pn**	**05 57 31.5**	**-4.2**
MKAR	**Makanchi Array**	**16.81**	**316**	*e*Pn	**P**	**05 57 34.8**	**-3.0**
MKAR	**Makanchi Array**	**16.81**	**316**	*e*P	**P**	**05 57 34.8**	**-3.0**
MKAR	**Makanchi Array**	**16.81**	**316**	Pn	**Pn**	**05 57 31.5**	**-4.2**
	comp=Z,1.2nm,0.3s,baz=123,slow=14,SNR=27						
MKAR				LR	LR	06 04 43.7	
	comp=Z,79nm,20.0s,baz=134,slow=40						
CMAR	**Chiang Mai Arr**	**17.28**	**181**	*ce*P	**P**	**05 57 42.5**	**-0.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.28**	**181**	P	**P**	**05 57 42.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=355,slow=11,SNR=12						
TARG	**Taragay, Kyrgy**	**17.76**	**296**	*e*Pn	**P**	**05 57 46.7**	**-2.1**
	comp=Z,5.8nm,0.8s						
KDJ	**Kajisay**	**18.30**	**297**	P	**P**	**05 57 53.0**	**-1.5**
KDJ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**20.35**	**297**	*ce*P	Pn	05 58 17.8	-1.2
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
AAK	**Ala-Archa**	**20.35**	**297**	LR	LR	06 08 00.9	
	comp=Z,58nm,18.3s,baz=93,slow=42						
ZAA0	**Zalesovo Array**	**20.77**	**335**	*e*P	**P**	**05 58 18.3**	**-2.8**
	comp=Z,9.5nm,0.8s						
ZALV	**Zalesovo Beam**	**20.77**	**335**	*e*P	**P**	**05 58 18.7**	**-2.4**
ZALV	**Zalesovo Beam**	**20.77**	**335**	P	**P**	**05 58 19.1**	**-2.0**

comp=Z,76nm,1.3s
NB200 NORSAR Array S 58.53 325 *e*P **P 06 03 37.5 +0.9**
NOA NORSAR Array B 58.53 325 P **P 06 03 37.5 +0.9**
comp=Z,0.8nm,0.8s,baz=74,slow=9.2,SNR=2.6
NOA LR LR 06 28 01.8
comp=Z,14nm,18.4s,baz=320,slow=35
KONO Kongsberg 59.74 324 *ce*P P 06 03 49.1 +4.2
KONO pmax pmax
comp=Z,8.0nm,1.3s
GERES GERESS Array B 61.41 311 P **P 06 03 56.5 -0.1**
comp=Z,0.2nm,0.3s,baz=53,slow=5.0,SNR=4.9
GERES LR LR 06 31 41.8
comp=Z,26nm,19.4s,baz=108,slow=37
WR1 Warramunga Arr 64.62 143 *e*P **P 06 04 18.4 +0.3**
WRA Warramunga Arr 64.62 143 P **P 06 04 18.4 +0.3**
comp=Z,0.3nm,0.6s,baz=337,slow=6.8,SNR=3.2
BMAR Burnt Mountain 66.47 22 *e*P **P 06 04 29.3 -0.3**
ILAR Eielson Array 67.32 25 P **P 06 04 35.2 +0.3**
comp=Z,1.0nm,0.9s,baz=285,slow=5.2,SNR=11
ASAR Alice Springs 67.61 146 P P 06 04 40.2 +2.9
comp=Z,0.3nm,0.5s,baz=325,slow=6.1,SNR=3.1
DHY Denali Highway 68.16 27 *e*P **P 06 04 41.3 +0.9**
comp=Z,0.9nm,0.5s
SML Sawmill 68.55 28 *e*P **P 06 04 43.1 +0.3**
comp=Z,2.6nm,0.9s
RIDG Independent Ri 68.66 25 *e*P **P 06 04 42.8 -0.6**
comp=Z,2.5nm,0.8s
BRLK Bradley Lake 68.72 31 *e*P **P 06 04 44.0 +0.2**
comp=Z,2.5nm,0.8s
SCM Sheep Creek Mo 68.92 28 *e*P **P 06 04 45.8 +0.7**
comp=Z,2.5nm,0.7s
DOT Dot Lake 68.99 25 *e*P **P 06 04 43.9 -1.5**
comp=Z,0.7nm,0.8s
INK Inuvik 69.02 18 P **P 06 04 46.5 +1.1**
comp=Z,1.5nm,0.9s,baz=297,slow=6.9,SNR=7.9
BCAR Beaver Creek A 70.15 25 *e*P **P 06 04 52.5 -0.2**
BCPM Bancas Point 73.01 27 *e*P **P 06 05 09.2 -0.7**
comp=Z,36nm,0.6s
ESDC Sonseca Array 76.91 310 P **P 06 05 33.6 +0.7**
comp=Z,0.2nm,0.3s,baz=43,slow=7.0,SNR=4.1
YKA Yellowknife Ar 78.31 15 P **P 06 05 41.4 +1.3**
comp=Z,0.5nm,0.7s,baz=328,slow=5.1,SNR=12
YKB5 Yellowknife Ar 78.31 15 *e*P **P 06 05 41.4 +1.3**
TOA1 Torodi Ar. Sit 88.46 285 *e*P **P 06 06 34.8 +1.6**
TORD Torodi Ar. Bea 88.46 285 P **P 06 06 34.8 +1.6**
comp=Z,0.4nm,0.8s,baz=72,slow=4.6,SNR=2.5
SCHQ Schefferville 88.94 352 LR LR 06 47 53.0
comp=Z,44nm,18.2s,baz=4.5,slow=37

*ISK **08** 06:01:21.9, 38°.69N×30°.94E, h25km, ML1.9/7*
*ISCJB **08** 06:01:22.4±0.5, 38°.66N±0°.03×31°.00E±0°.06, h22km±5km, Error ellipse: s-maj=8.5km s-min=4.9km az=25.5*
*DDA **08** 06:01:22.1, 38°.62N×31°.03E, h7km±2km, ML2.6*
ISC 08 06:01:21.8±0.9, 38°.65N±0°.03×30°.99E±0°.04, h18km±6km, n19, σ0§63/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLV	**Bolvadin**	**0.07**	**337**	*i* P	**Pg**	**06 01 25.7**	**+0.3**
BOLV				*i* S	**Sg**	**06 01 27.3**	**-0.5**
SHUT	**Suhut-Afyon**	**0.35**	**254**	PG	**Pb**	**06 01 30.0**	**+0.3**
SHUT				SG	**Sb**	**06 01 35.4**	**+0.4**
AFYO	**Afyonkarahisar**	**0.55**	**284**	IAML_P			
AFYO	comp=Z,3μm,0.2s			*i* P	**Pn**	**06 01 34.9**	**-0.1**
AFYO				*i* S	**Sn**	**06 01 43.0**	**-0.9**
BAGO	**Egridir - ISPA**	**0.68**	**193**	*i* P	**Pb**	**06 01 35.6**	**+0.4**
BAGO				*i* S	**Sb**	**06 01 45.0**	**+0.7**
CIFT	**Cifteler, Eski**	**0.71**	**5**	PG	**Pg**	**06 01 35.7**	**-0.1**
CIFT				SG	**Sb**	**06 01 46.1**	**+0.8**
CIFT	**Cifteler, Eski**	**0.71**	**5**	*i* P	**Pn**	**06 01 36.8**	**-0.3**
CIFT				*i* S	**Sg**	**06 01 45.0**	**-0.3**
DOGA	**KONYA_Doganhis**	**0.77**	**135**	IAML_P			
DOGA	comp=Z,692nm,0.2s			*i* P	**Pg**	**06 01 36.0**	**-0.8**
KZIL	**AFYON_Kizioren**	**0.77**	**240**	*i* P	**Pn**	**06 01 37.8**	**-0.2**
AUSIV	**SIVRIHISAR**	**0.90**	**29**	PG	**Pg**	**06 01 39.4**	**+0.1**
AUSIV				SG	**Sg**	**06 01 51.2**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.90**	**28**	PG	**Pg**	**06 01 39.6**	**+0.3**
ISP	**Isparta**	**0.91**	**204**	PG	**Pg**	**06 01 39.9**	**+0.5**
KHAL	**Karahalli**	**1.21**	**257**	IAML_P			
KHAL	comp=Z,456nm,0.3s			*i* P	**Pg**	**06 01 45.3**	**+0.2**
AUMIH	**MIHALICIK**	**1.27**	**17**	PN	**Pn**	**06 01 44.4**	**-0.5**
AUMIH	**MIHALICIK**	**1.27**	**17**	*i* P	**Pg**	**06 01 47.7**	**+1.2**
KONT	**Konya--Tatoy**	**1.29**	**123**	PN	**Pn**	**06 01 45.2**	**+0.1**
BORA	**Eskisehir**	**1.29**	**342**	PN	**Pn**	**06 01 44.5**	**-0.7**
BORA	**Eskisehir**	**1.29**	**342**	IAML_P			
BORA	comp=Z,600nm,0.1s			*i* P	**Pg**	**06 01 47.4**	**+0.5**
SRCK	**Saricakaya, Es**	**1.42**	**349**	PN	**Pn**	**06 01 45.7**	**-1.0**
TVSB	**Tavsanli**	**1.43**	**304**	PN	**Pn**	**06 01 45.9**	**-1.1**

*IDC **08** 06:05:48.6±5.2, 21°.71N×143°.13E, h274km±51km, mb3.3/13, mb1 3.5/13, mb1mx3.3/37, mbtmp4.0/13, Error ellipse: s-maj=26.7km s-min=11.6km az=89.0*
*ISCJB **08** 06:05:50.5±0.6, 21°.65N±0°.10×143°.2E±0°.2, h311km, mb3.6/12, Error ellipse: s-maj=25.0km s-min=13.4km az=178.3*
ISC 08 06:05:52.0±0.7, 21°.7N±0°.1×143°.1E±0°.2, h311km, n15, σ0§50/15, mb3.6/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.51**	**323**	P	**P**	**06 10 07.0**	**-0.2**
	1.0nm,0.6s,baz=137,slow=8.8,SNR=4.9						
KLR	**Kul'dur**	**28.95**	**344**	P	**P**	**06 11 22.6**	**-0.6**
	2.2nm,0.5s,baz=157,slow=6.5,SNR=7.8						
WRA	**Warramunga Arr**	**42.25**	**192**	P	**P**	**06 13 15.3**	**-0.3**
	2.5nm,0.6s,baz=17,slow=8.6,SNR=22						
ASAR	**Alice Springs**	**45.95**	**192**	P	**P**	**06 13 45.1**	**+0.3**
	0.3nm,0.5s,baz=16,slow=13,SNR=8.3						
STKA	**Stephens Creek**	**53.27**	**182**	P	**P**	**06 14 39.0**	**-0.4**
	0.8nm,0.4s,baz=0.6,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**54.68**	**313**	P	**P**	**06 14 50.1**	**+0.5**
	0.7nm,0.7s,baz=96,slow=8.9,SNR=4.7						
ILAR	**Eielson Array**	**62.08**	**27**	P	**P**	**06 15 39.6**	**-0.3**
	0.6nm,0.7s,baz=252,slow=5.2,SNR=6.5						
INK	**Inuvik**	**67.61**	**24**	P	**P**	**06 16 15.6**	**+0.3**
	0.3nm,0.5s,baz=236,slow=3.2,SNR=3.3						
YKA	**Yellowknife Ar**	**76.50**	**28**	P	**P**	**06 17 08.3**	**+0.5**
	0.9nm,0.6s,baz=291,slow=5.6,SNR=14						
ARCES	**ARCESS Array B**	**78.93**	**341**	P	**P**	**06 17 21.1**	**+0.1**
	1.9nm,0.6s,baz=60,slow=8.5,SNR=8.9						
KBZ	**Khabaz**	**82.36**	**314**	P	**P**	**06 17 39.9**	**+0.4**
	2.3nm,0.8s,baz=62,slow=5.1,SNR=5.4						
FINES	**FINESS Array B**	**83.19**	**334**	P	**P**	**06 17 42.7**	**-0.7**
	1.5nm,0.5s,baz=66,slow=4.9,SNR=15						
NVAR	**Mina Array Bea**	**83.19**	**51**	P	**P**	**06 17 43.8**	**-0.5**
	0.6nm,0.7s,baz=290,slow=4.2,SNR=5.1						
PLCA	**Paso Flores**	**145.77**	**131**	PKPbc	**PKPab**	**06 24 56.4**	**+0.4**
	3.7nm,0.9s,baz=194,slow=4.6,SNR=5.6						
LPAZ	**La Paz**	**149.98**	**85**	PKPbc	**PKiKP**	**06 25 08.7**	**+0.6**
	1.2nm,0.6s,baz=261,slow=0.6,SNR=11						

IDC 08 06:30:28.3±2.3, 2°.67N×128°.06E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/34, mbtmp3.4/3, Error ellipse: s-maj=157.1km s-min=26.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.30**	**165**	P	P	06 35 38.4	+0.3
	0.3nm,0.4s,baz=344,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**26.79**	**168**	P	P	06 36 09.8	-0.5
	0.3nm,0.5s,baz=357,slow=8.5,SNR=7.0						
MKAR	**Makanchi Array**	**59.18**	**325**	P	P	06 40 31.4	+0.1
	0.2nm,0.3s,baz=117,slow=8.7,SNR=4.6						

*ISCJB **08** 06:33:24.9±0.7, 15°.62S±0°.04×70°.2W±0°.1, h250km, mb3.1/2, Error ellipse: s-maj=14.2km s-min=6.2km az=0.3*
*IDC **08** 06:33:25.0±1.7, 15°.60S×69°.82W, h255km±29km, mb2.8/2, mb1 3.4/4, mb1mx3.0/24, mbtmp3.8/4, Error ellipse: s-maj=57.3km s-min=19.3km az=105.0*
ISC 08 06:33:24.8±1.0, 15°.63S±0°.06×69°.96W±0°.10, h250km, n24, σ2§10/44, 5D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.88**	**111**	⇓*e*P	**Pn**	**06 34 08.2**	**+1.2**
LPAZ				*e*S	**S**	**06 34 39.9**	**-0.1**
LPAZ	**La Paz**	**1.88**	**111**	P	**Pn**	**06 34 08.1**	**+1.2**
	11nm,0.3s,baz=293,slow=8.6,SNR=568						
LPAZ				S	**S**	**06 34 39.4**	**-0.6**
	4.6nm,0.3s,baz=90,slow=18,SNR=20						
PB16	**IPOC Station P**	**2.72**	**171**	⇓*e*P	**Pn**	**06 34 17.0**	**+2.0**
PB16				⇓*e*S	**S**	**06 34 58.6**	**+4.0**
PB12	**IPOC Station P**	**2.98**	**187**	*e*P	**Pn**	**06 34 17.0**	**-0.2**
PB12				*e*S	**S**	**06 34 57.2**	**-1.5**
MNMCX	**Minye Minye**	**3.50**	**174**	*e*P	**Pn**	**06 34 24.2**	**+1.2**
MNMCX				*e*S	**S**	**06 35 10.7**	**+1.4**
PSGCX	**Pisagua**	**3.94**	**182**	⇓*e*P	**Pn**	**06 34 28.6**	**+0.5**
PSGCX				⇓*e*S	**S**	**06 35 17.4**	**-1.0**
PB11	**IPOC Station P**	**4.12**	**176**	*e*P	**Pn**	**06 34 31.0**	**+0.9**
PB11				*e*S	**S**	**06 35 23.1**	**+1.1**
PB08	**IPOC Station P**	**4.55**	**170**	*e*P	**Pn**	**06 34 37.5**	**+2.0**
PB08				*e*S	**S**	**06 35 33.0**	**+1.3**
PB02	**IPOC Station P**	**5.66**	**179**	*e*P	**Pn**	**06 34 50.0**	**+1.2**
PB02				*e*S	**S**	**06 35 54.6**	**-1.2**
PB07	**IPOC Station P**	**6.06**	**179**	*e*P	**Pn**	**06 34 55.3**	**+1.4**
PB07				*e*S	**S**	**06 36 04.5**	**-0.7**
PB09	**IPOC Station P**	**6.17**	**174**	*e*P	**Pn**	**06 34 57.1**	**+1.9**
PB09				*e*S	**S**	**06 36 07.6**	**0.0**
PB03	**IPOC Station P**	**6.38**	**178**	*e*P	**Pn**	**06 34 59.1**	**+1.2**
PB03				*e*S	**S**	**06 36 09.6**	**-2.8**
PB04	**IPOC Station P**	**6.67**	**181**	*e*P	**Pn**	**06 35 02.9**	**+1.5**
PB04				*e*S	**S**	**06 36 18.1**	**-0.8**
LVC	**Limon Verde**	**7.01**	**172**	*e*P	**Pn**	**06 35 08.1**	**+2.2**
LVC				IAML		06 35 10.7	
	comp=Z,11nm,0.1s						
LVC				*e*S	**S**	**06 36 26.6**	**-0.5**
LVC	**Limon Verde**	**7.01**	**172**	P	**Pn**	**06 35 08.2**	**+2.2**
	comp=Z,2.3nm,0.3s,baz=3.5,slow=5.8,SNR=63						
LVC				S	**S**	**06 36 26.3**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=109,slow=20,SNR=9.8						
PB06	**IPOC Station P**	**7.04**	**177**	*e*P	**Pn**	**06 35 07.9**	**+1.7**
PB06				*e*S	**S**	**06 36 25.1**	**-2.4**
PB05	**IPOC Station P**	**7.18**	**182**	*e*P	**Pn**	**06 35 08.3**	**+0.4**
PB05				*e*S	**S**	**06 36 27.8**	**-3.0**
PB15	**IPOC Station P**	**7.55**	**177**	*e*P	**Pn**	**06 35 14.8**	**+2.2**
PB15				*e*S	**S**	**06 36 40.5**	**+1.2**
PB10	**IPOC Station P**	**7.86**	**184**	*e*P	**Pn**	**06 35 17.9**	**+1.6**
HJA	**Humahuaca**	**8.67**	**151**	*e*P	**Pn**	**06 35 30.1**	**+3.1**
HJA				IAML		06 35 30.6	
	comp=Z,9.7nm,0.3s						
HJA				*e*S	**S**	**06 36 57.3**	**-8.3**
PB14	**IPOC Station P**	**8.96**	**183**	*e*P	**Pn**	**06 35 32.2**	**+1.7**
PB14				*e*S	**S**	**06 37 10.5**	**-1.6**
PTGA	**Pitinga**	**17.79**	**35**	P	**P**	**06 37 14.2**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=151,slow=19,SNR=4.7						
TXAR	**Lajitas Array**	**55.29**	**324**	P	**P**	**06 42 32.4**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=148,slow=8.6,SNR=2.8						
YKA	**Yellowknife Ar**	**85.35**	**341**	P	**P**	**06 45 33.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=133,slow=4.9,SNR=13						

*SOME **08** 07:12:47.9, 40°.88N×78°.98E, h5km*
*KRNET **08** 07:12:47.7±0.1, 40°.85N×78°.95E, h18km, mb3.4*
*NNC **08** 07:12:50.0±0.7, 40°.95N×78°.95E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=4.9km s-min=3.6km az=160.0*
ISC 08 07:12:51.3±1.7, 41°.00N±0°.07×78°.91E±0°.04, h10km, n73, σ1§34/106, 22C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.11**	**311**	⇓*i*P	**Pg**	**07 13 11.1**	**-1.5**
	baz=16						
TARG				⇓*i*S	**Sn**	**07 13 28.4**	**-0.4**
	baz=16						
PRZ	**Przheval'sk**	**1.53**	**346**	⇑*i*P	**Pn**	**07 13 18.8**	**0.0**
	baz=46						
PRZ				⇑*i*S	**Sg**	**07 13 41.6**	**+1.1**
	baz=46						
KDJ	**Kajisay**	**1.72**	**311**	⇑*i*P	**Pn**	**07 13 21.9**	**+0.4**
	baz=15						
KDJ				⇑*i*S	**Sg**	**07 13 47.0**	**+0.4**
	baz=15						
SATY	**Saty**	**2.09**	**350**	Pg	**Pb**	**07 13 29.9**	**+0.5**
	36nm,0.2s						
SATY				Lg	Lg	07 14 00.4	
	168nm,0.3s						
SATY	**Saty**	**2.09**	**350**	*e*P	**Pb**	**07 13 29.9**	**+0.5**
	23nm,0.2s						
SATY				*e*S	**Sg**	**07 14 00.4**	**+1.9**
	166nm,0.4s						
UZB	**Uzynbulak**	**2.15**	**2**	Pg	**Pb**	**07 13 30.1**	**-0.2**
	12nm,0.3s						
UZB				Lg	Lg	07 14 00.3	
	131nm,0.3s						
UZB	**Uzynbulak**	**2.15**	**2**	*e*P	**Pb**	**07 13 30.1**	**-0.2**
	12nm,0.3s						
UZB				*e*S	**Sg**	**07 14 00.3**	**+0.1**
	131nm,0.3s						
SHLS	**Shalkode**	**2.19**	**11**	Pg	**Pg**	**07 13 32.3**	**-1.1**
	42nm,0.3s						
SHLS				Lg	Lg	07 14 04.0	
	159nm,0.5s						
SHLS	**Shalkode**	**2.19**	**11**	*e*P	**Pg**	**07 13 32.3**	**-1.1**
	42nm,0.3s						
SHLS				*e*S	**Sg**	**07 14 04.0**	**+2.2**
	159nm,0.5s						
ZHN	**Zhinishke**	**2.19**	**351**	Pg	**Pb**	**07 13 31.2**	**0.0**
	21nm,0.1s						
ZHN				Lg	Lg	07 14 02.2	
	142nm,0.3s						
ZHN	**Zhinishke**	**2.19**	**351**	*e*P	**Pb**	**07 13 31.2**	**0.0**
	21nm,0.1s						
ZHN				*e*S	**Sg**	**07 14 02.1**	**+0.4**
	142nm,0.3s						
NRN	**Naryn**	**2.24**	**282**	⇑*i*P	**Pn**	**07 13 29.2**	**+0.5**
	baz=85						
NRN				⇑*i*S	**Sb**	**07 13 58.9**	**-1.0**
	baz=85						
ULHL	**Ulahol**	**2.36**	**303**	P	**Pb**	**07 13 32.5**	**-1.5**
	SNR=40						
ULHL	**Ulahol**	**2.36**	**303**	⇑*i*P	**Pn**	**07 13 31.2**	**+1.0**
	baz=5.0						
ULHL				⇑*i*S	**Sb**	**07 14 02.4**	**-0.8**
	baz=5.0						
PDGK	**Podgornoye**	**2.37**	**10**	Pg	**Pb**	**07 13 33.8**	**-0.3**
	11nm,0.6s						
PDGK				Lg	Lg	07 14 06.5	
	36nm,0.5s						
PDGK	**Podgornoye**	**2.37**	**10**	⇓Pn	**Pn**	**07 13 31.6**	**+1.4**
	8.6nm,0.4s						
PDGK				⇑Lg	Lg	07 14 05.6	
	79nm,0.6s						
PDGK	**Podgornoye**	**2.37**	**10**	⇓*i*P	**Pn**	**07 13 31.7**	**+1.4**
	baz=9.0						
PDGK				⇓*i*S	**Sb**	**07 14 04.1**	**+0.8**
	baz=9.0						
KPKS	**Kokpek**	**2.47**	**356**	*e*P	**Pb**	**07 13 35.7**	**-0.1**
	30nm,0.3s						
KPKS				*e*S	**Sg**	**07 14 10.1**	**-0.5**
	462nm,0.5s						
TNSS	**Tian-Shan**	**2.51**	**325**	Pg	**Pb**	**07 13 37.0**	**+0.4**
	63nm,0.5s						
TNSS				Lg	Lg	07 14 12.3	
	95nm,0.6s						
TNSS	**Tian-Shan**	**2.51**	**325**	*e*P	**Pb**	**07 13 37.0**	**+0.4**
	63nm,0.5s						
TNSS				*e*S	**Sg**	**07 14 12.3**	**+0.5**
	95nm,0.6s						
KURS	**Kuram**	**2.54**	**348**	Pg	**Pb**	**07 13 37.8**	**+0.7**
	9.4nm,0.5s						
KURS				Lg	Lg	07 14 13.5	
	51nm,0.7s						
KURS	**Kuram**	**2.54**	**348**	*e*P	**Pb**	**07 13 37.8**	**+0.7**
	9.4nm,0.5s						
KURS				⇑*i*S	**Sg**	**07 14 13.5**	**+0.5**
	51nm,0.7s						
MDOK	**Medeo**	**2.57**	**328**	⇑Pg	**Pb**	**07 13 37.2**	**-0.3**
	25nm,0.5s						
MDOK				⇑Lg	Lg	07 14 12.6	
	78nm,0.6s						
MDOK	**Medeo**	**2.57**	**328**	Pg	**Pb**	**07 13 37.7**	**+0.2**
	32nm,0.7s						
MDOK				Lg	Lg	07 14 13.8	
	81nm,1.0s						
MDOK	**Medeo**	**2.57**	**328**	*e*P	**Pb**	**07 13 37.7**	**+0.2**
	32nm,0.7s						
MDOK				*e*S	**Sg**	**07 14 13.8**	**0.0**
	81nm,1.0s						
KOTS	**Kotyrbulak**	**2.60**	**330**	Pg	**Pb**	**07 13 38.8**	**+0.7**
	27nm,0.2s						
KOTS				Lg	Lg	07 14 15.2	
	75nm,0.7s						
KOTS	**Kotyrbulak**	**2.60**	**330**	*e*P	**Pb**	**07 13 38.8**	**+0.7**
	27nm,0.2s						
KOTS				*e*S	**Sg**	**07 14 15.2**	**+0.3**
	75nm,0.7s						
KNDC	**Almaty**	**2.65**	**327**	⇓Pg	**Pb**	**07 13 39.7**	**+0.9**
	25nm,0.4s						
KNDC				⇑Lg	Lg	07 14 17.6	
	78nm,0.5s						
AAA	**Alma-Ata**	**2.66**	**327**	Pg	**Pb**	**07 13 39.5**	**+0.5**
	93nm,0.2s						
AAA				Lg	Lg	07 14 16.9	
	125nm,0.3s						
KTMS	**Ketmen**	**2.67**	**23**	Pg	**Pb**	**07 13 38.3**	**-0.9**
	12nm,0.3s						
KTMS				Lg	Lg	07 14 14.5	
	73nm,0.5s						
KTMS	**Ketmen**	**2.67**	**23**	*e*P	**Pb**	**07 13 38.3**	**-0.9**
	12nm,0.3s						
KTMS				*e*S	**Sg**	**07 14 14.5**	**-2.4**
	73nm,0.5s						
BOOM	**Boomskoye usch**	**2.67**	**305**	⇓*e*P	**Pn**	**07 13 35.6**	**+1.0**
	baz=7.0						
BOOM				⇓*i*S	**Sb**	**07 14 10.1**	**-2.2**
	baz=7.0						
MTBS	**Maitube**	**2.82**	**320**	Pg	**Pb**	**07 13 42.0**	**+0.3**
	12nm,0.5s						
MTBS				Lg	Lg	07 14 21.5	
	34nm,0.2s						
MTBS	**Maitube**	**2.82**	**320**	⇓*i*P	**Pb**	**07 13 42.0**	**+0.3**
	12nm,0.5s						
MTBS				*e*S	**Sg**	**07 14 21.5**	**-0.3**
	34nm,0.2s						
KZA	**Kyzart**	**2.95**	**293**	P	**Pb**	**07 13 44.1**	**-0.1**
	SNR=23						
KZA	**Kyzart**	**2.95**	**293**	⇑*i*P	**Pn**	**07 13 39.3**	**+0.7**
	baz=95						
KZA				⇑*i*S	**Sn**	**07 14 16.8**	**+2.5**
	baz=95						
KST	**Kastek**	**3.00**	**314**	Pg	**Pb**	**07 13 45.3**	**+0.5**
	18nm,0.5s						
KST				Lg	Lg	07 14 26.9	
	55nm,0.6s						
KST	**Kastek**	**3.00**	**314**	*e*P	**Pb**	**07 13 45.3**	**+0.5**
	18nm,0.5s						
KST				*e*S	**Sg**	**07 14 26.9**	**-0.7**
	55nm,0.6s						
MNBS	**Baschi**	**3.10**	**353**	Pg	**Pb**	**07 13 46.6**	**+0.1**
	9.9nm,0.2s						
MNBS				Lg	Lg	07 14 28.9	
	68nm,0.4s						
MNBS	**Baschi**	**3.10**	**353**	*e*P	**Pb**	**07 13 46.6**	**+0.1**
	9.9nm,0.2s						
MNBS				*e*S	**Sg**	**07 14 28.9**	**-1.9**
	68nm,0.4s						
TKM2	**Tokmak 2**	**3.13**	**309**	P	**Pn**	**07 13 43.0**	**+2.2**
	SNR=12						
TKM2	**Tokmak 2**	**3.13**	**309**	⇑Pn	**Pn**	**07 13 42.9**	**+2.0**
	3.7nm,0.3s						
TKM2				⇓Lg	Lg	07 14 30.8	
	32nm,0.6s						
TKM2	**Tokmak 2**	**3.13**	**309**	⇓*i*P	**Pn**	**07 13 41.8**	**+0.9**
	baz=11						
TKM2				⇓*i*S	**Sn**	**07 14 21.6**	**+3.2**
	baz=11						
KTBS	**Karatobe**	**3.17**	**329**	Pg	**Pb**	**07 13 48.3**	**+0.5**
	10nm,0.3s						
KTBS				Lg	Lg	07 14 31.5	
	30nm,0.6s						
KTBS	**Karatobe**	**3.17**	**329**	*e*P	**Pb**	**07 13 48.3**	**+0.5**
	10nm,0.3s						
KTBS				*e*S	**Sg**	**07 14 31.4**	**-1.7**
	30nm,0.6s						
CHKK	**Chushkaly**	**3.19**	**334**	Pg	**Pb**	**07 13 48.6**	**+0.6**
	10nm,0.5s						
CHKK				Lg	Lg	07 14 32.4	
	58nm,0.2s						
CHKK	**Chushkaly**	**3.19**	**334**	*e*P	**Pb**	**07 13 48.6**	**+0.6**
	10nm,0.5s						
CHKK				*e*S	**Sg**	**07 14 32.4**	**-1.2**
	58nm,0.2s						
DGS	**Degeres**	**3.23**	**315**	Pg	**Pb**	**07 13 49.4**	**+0.5**
	12nm,0.5s						
DGS				Lg	Lg	07 14 33.4	
	41nm,0.6s						
DGS	**Degeres**	**3.23**	**315**	*e*P	**Pb**	**07 13 49.4**	**+0.5**
	12nm,0.5s						
DGS				*e*S	**Sg**	**07 14 33.4**	**-1.8**
	41nm,0.6s						
ARXS	**Arharly**	**3.31**	**346**	Pg	**Pb**	**07 13 51.0**	**+0.9**
	7.0nm,0.4s						
ARXS				Lg	Lg	07 14 36.2	
	41nm,0.4s						
ARXS	**Arharly**	**3.31**	**346**	*e*P	**Pb**	**07 13 51.0**	**+0.9**
	7.0nm,0.4s						
ARXS				*e*S	**Sg**	**07 14 36.2**	**-1.3**
	41nm,0.4s						
DJR	**Jarkent**	**3.39**	**11**	Pg	**Pb**	**07 13 51.7**	**+0.2**
	4.4nm,0.3s						
DJR				Lg	Lg	07 14 37.2	
	34nm,0.5s						
DJR	**Jarkent**	**3.39**	**11**	*e*P	**Pb**	**07 13 51.7**	**+0.2**
	4.4nm,0.3s						
DJR				*e*S	**Sg**	**07 14 37.2**	**-2.9**
	34nm,0.5s						
KBK	**Karagaybulak**	**3.39**	**300**	P	**Pb**	**07 13 52.0**	**+0.4**
	SNR=7.8						
KBK	**Karagaybulak**	**3.39**	**300**	⇓*i*P	**Pn**	**07 13 45.3**	**+0.9**
	baz=2.0						
KBK				⇓*i*S	**Sn**	**07 14 27.4**	**+2.6**
	baz=2.0						
KUU	**Kurty**	**3.46**	**327**	Pg	**Pb**	**07 13 53.8**	**+1.2**
	7.0nm,0.2s						
KUU				Lg	Lg	07 14 41.0	
	46nm,0.7s						
KUU	**Kurty**	**3.46**	**327**	*e*P	**Pb**	**07 13 53.8**	**+1.2**
	7.0nm,0.2s						
KUU				*e*S	**Sg**	**07 14 41.0**	**-1.3**
	46nm,0.7s						
UCH	**Uchtor**	**3.52**	**292**	P	**Pb**	**07 13 53.9**	**0.0**
	SNR=10						
UCH	**Uchtor**	**3.52**	**292**	⇑*i*P	**Pn**	**07 13 47.0**	**+0.6**
	baz=94						
UCH				⇑*i*S	**Sn**	**07 14 30.5**	**+2.2**
	baz=94						
ARLS	**Aral**	**3.56**	**285**	⇓*e*P	**Pn**	**07 13 47.3**	**+0.6**
	baz=88						
ARLS				⇓*i*S	**Sn**	**07 14 30.4**

KK31 Karatay Array 6.60 291 ⇑Pg Pb 07 14 50.8 +4.7
1.3nm,0.6s,baz=114,slow=14,SNR=6.1
KK31 ⇓Lg Lg 07 16 20.2
2.3nm,0.7s,baz=108,slow=29,SNR=6.3

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*ISCJB **08** 07:28:34.6±0.3, 19°.09N±0°.04×145°.38E±0°.08, h214km, mb4.1/36, Error ellipse: s-maj=11.3km s-min=6.0km az=10.3*
*IDC **08** 07:28:35.8±0.9, 19°.06N×145°.55E, h214km±8km, mb3.8/18, mb1 3.9/19, mb1mx3.6/50, mbtmp4.3/19, Error ellipse: s-maj=17.7km s-min=8.6km az=97.0*
*NEIC **08** 07:28:36.6±1.2, 19°.02N×145°.40E, h220km±7km, mb4.2/26, Error ellipse: s-maj=18.7km s-min=4.1km az=59.0*
ISC 08 07:28:35.9±0.5, 19°.03N±0°.07×145°.5E±0°.1, h214km, n60, σ0983/61, mb4.1/36, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.33**	**173**	*e*Pn	**Pn**	**07 29 19.0**	**0.0**
ANA2	**Anatahan**	**2.68**	**176**	*e*Pn	**Pn**	**07 29 23.8**	**+1.0**
GUMO	**Guam**	**5.44**	**186**	*e*Pn	**Pn**	**07 29 57.7**	**+1.3**
MJAR	**Matsushiro Arr**	**18.59**	**341**	P	**P**	**07 32 37.3**	**+0.2**
	0.1nm,0.3s,baz=166,slow=10,SNR=5.8						
MAJO	**Matsushiro**	**18.59**	**341**	*e*P	**P**	**07 32 37.3**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**20.07**	**88**	T	T	07 54 13.3	
	baz=275,slow=74,SNR=3.3						
H11S1	**WAKE ISLAND Hy**	**20.09**	**88**	T	T	07 54 24.8	
	baz=275,slow=74,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**20.09**	**88**	T	T	07 54 25.7	
	baz=275,slow=74,SNR=5.0						
JAY	**Jayapura**	**21.92**	**193**	P	**P**	**07 33 13.5**	**+1.1**
	9.2nm,0.3s,baz=343,slow=18,SNR=11						
LUWI	**Luwuk**	**29.94**	**231**	*e*P	**P**	**07 34 23.5**	**-0.8**
	619nm,0.4s						
KLR	**Kul'dur**	**32.10**	**343**	P	**P**	**07 34 43.4**	**+0.6**
	1.3nm,0.3s,baz=161,slow=9.2,SNR=7.7						
HHC	**Hu-ho-hao-te**	**36.23**	**314**	*e*P	**P**	**07 35 18.0**	**-0.7**
WB2	**Warramunga Arr**	**40.24**	**196**	*e*P	**P**	**07 35 51.5**	**-0.6**
	10nm,0.5s						
WR1	**Warramunga Arr**	**40.25**	**196**	*e*P	**P**	**07 35 52.3**	**+0.2**
WRA	**Warramunga Arr**	**40.25**	**196**	*e*P	**P**	**07 35 51.6**	**-0.5**
WRA	**Warramunga Arr**	**40.25**	**196**	P	**P**	**07 35 52.3**	**+0.2**
	4.6nm,0.4s,baz=23,slow=8.9,SNR=61						
WRA				PcP	**PcP**	**07 37 50.3**	**-1.4**
	0.5nm,0.4s,baz=17,slow=3.6,SNR=5.1						
FITZ	**Fitzroy Crossi**	**41.74**	**209**	*e*P	**P**	**07 36 04.8**	**+0.6**
	7.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**41.74**	**209**	P	**P**	**07 36 04.7**	**+0.4**
	5.1nm,0.3s,baz=26,slow=6.8,SNR=55						
AS31	**Alice Springs**	**43.92**	**195**	*e*P	**P**	**07 36 21.9**	**+0.1**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**43.92**	**195**	P	**P**	**07 36 21.4**	**-0.4**
	1.3nm,0.6s,baz=18,slow=7.5,SNR=18						
CMAR	**Chiang Mai Arr**	**43.99**	**277**	P	**P**	**07 36 23.7**	**+1.2**
	1.1nm,0.4s,baz=66,slow=7.1,SNR=5.4						
STKA	**Stephens Creek**	**50.76**	**184**	*e*P	**P**	**07 37 13.0**	**-1.2**
	0.7nm,0.9s						
STKA	**Stephens Creek**	**50.76**	**184**	P	**P**	**07 37 13.0**	**-1.2**
	1.6nm,0.5s,baz=6.3,slow=7.5,SNR=5.1						
WMQ	**Urumqi**	**53.95**	**311**	*e*P	**P**	**07 37 36.9**	**-0.8**
MK32	**Makanchi Array**	**58.10**	**314**	*e*P	**P**	**07 38 06.3**	**-0.7**
MKAR	**Makanchi Array**	**58.10**	**314**	P	**P**	**07 38 06.3**	**-0.7**
	0.7nm,0.7s,baz=97,slow=7.4,SNR=3.3						
MKAR				pP	**pP**	**07 38 56.2**	**+2.0**
	0.6nm,0.7s,baz=88,slow=10,SNR=2.6						
NWAO	**Narrogin (SRO)**	**58.30**	**208**	P	**P**	**07 38 08.7**	**+0.2**
	16nm,1.1s,baz=115,slow=8.7,SNR=3.9						
SVW2	**Sparrevohn**	**58.63**	**29**	*e*P	**P**	**07 38 11.6**	**+1.2**
	2.6nm,0.7s						
CAST	**Castle Rocks**	**60.89**	**27**	*e*P	**P**	**07 38 26.8**	**+1.0**
	6.0nm,0.7s						
KURBB	**Kurchatov Arra**	**60.95**	**318**	P	**P**	**07 38 25.9**	**-0.4**
	0.5nm,0.4s,baz=95,slow=7.3,SNR=8.7						
KURBB				pP	**pP**	**07 39 14.2**	**+0.3**
	1.1nm,0.6s,baz=95,slow=7.6,SNR=2.5						
NRIK	**Noril'sk**	**61.23**	**340**	P	**P**	**07 38 27.9**	**-0.1**
	1.5nm,0.6s,baz=112,slow=8.6,SNR=4.1						
RC01	**Rabbit Creek A**	**61.36**	**30**	*e*P	**P**	**07 38 29.2**	**+0.2**
	5.4nm,0.6s						
BPAW	**Bear Paw Mtn.**	**61.55**	**27**	*e*P	**P**	**07 38 30.9**	**+0.8**
	5.8nm,0.7s						
PMR	**Palmer**	**61.76**	**30**	*e*P	**P**	**07 38 31.4**	**-0.2**
	3.3nm,0.8s						
GHO	**Glory Hole Cre**	**61.90**	**29**	*e*P	**P**	**07 38 32.9**	**+0.4**
	4.6nm,0.8s						
MLY	**Manley**	**61.90**	**26**	*e*P	**P**	**07 38 33.2**	**+0.7**
	3.8nm,0.8s						
WRH	**Wood River Hil**	**62.86**	**27**	*e*P	**P**	**07 38 38.6**	**-0.2**
	2.3nm,0.6s						
ILAR	**Eielson Array**	**63.43**	**26**	P	**P**	**07 38 41.6**	**-1.0**
	2.2nm,0.6s,baz=255,slow=5.3,SNR=21						
BMAR	**Burnt Mountain**	**64.89**	**24**	*e*P	**P**	**07 38 53.5**	**+1.4**
BCAR	**Beaver Creek A**	**65.38**	**29**	*e*P	**P**	**07 38 55.6**	**+0.3**
BVAR	**Borovoye Array**	**66.10**	**320**	P	**P**	**07 38 59.8**	**-0.2**
	1.1nm,0.5s,baz=94,slow=6.3,SNR=6.0						
BVAR				pP	**pP**	**07 39 49.0**	**+0.6**
	2.0nm,1.0s,baz=77,slow=6.7,SNR=2.9						
HYT	**Haines Junctio**	**67.24**	**31**	*e*P	**P**	**07 39 07.8**	**+0.6**
	3.4nm,0.8s						
INK	**Inuvik**	**69.14**	**23**	*e*P	**P**	**07 39 18.7**	**0.0**
	2.9nm,0.8s						
YKA	**Yellowknife Ar**	**77.79**	**28**	*e*P	**P**	**07 40 09.0**	**-0.2**
YKA	**Yellowknife Ar**	**77.79**	**28**	P	**P**	**07 40 09.0**	**-0.2**
	2.3nm,0.6s,baz=290,slow=5.4,SNR=46						
KHMM	**Horse Mountain**	**78.37**	**51**	*e*P	**P**	**07 40 13.8**	**+0.8**
	2.8nm,0.8s						
YBH	**Yreka Blue Hor**	**78.89**	**50**	*e*P	**P**	**07 40 15.4**	**-0.3**
	2.9nm,0.9s						
RES	**Resolute Bay**	**79.15**	**14**	*e*P	**P**	**07 40 16.4**	**+0.1**
	1.5nm,0.8s						
BEKR	**Beckworth**	**81.12**	**51**	*e*P	**P**	**07 40 28.5**	**+0.6**
	5.4nm,0.7s						
ARA0	**ARCESS Array S**	**82.12**	**342**	*e*P	**P**	**07 40 32.4**	**+0.2**
ARCES	**ARCESS Array B**	**82.12**	**342**	P	**P**	**07 40 32.4**	**+0.2**
	9.9nm,1.0s,baz=52,slow=7.9,SNR=5.0						
WAKR	**Walker**	**82.22**	**52**	*e*P	**P**	**07 40 33.9**	**+0.3**
	3.6nm,0.7s						
NVAR	**Mina Array Bea**	**83.09**	**52**	*e*P	**P**	**07 40 38.4**	**+0.2**
NVAR	**Mina Array Bea**	**83.09**	**52**	P	**P**	**07 40 38.8**	**+0.6**
	6.8nm,0.7s,baz=267,slow=5.8,SNR=69						
LRM	**Limekiln Ridge**	**84.63**	**43**	*e*P	**P**	**07 40 45.5**	**-0.4**
FIA0	**FINESS Array S**	**86.50**	**335**	*e*P	**P**	**07 40 52.3**	**-2.1**
FINES	**FINESS Array B**	**86.50**	**335**	P	**P**	**07 40 52.3**	**-2.1**
	0.5nm,0.3s,baz=83,slow=4.4,SNR=8.4						
PDAR	**Pinedale Array**	**87.73**	**45**	P	**P**	**07 40 59.5**	**-1.5**
	0.5nm,0.5s,baz=173,slow=0.3,SNR=7.1						
LPAZ	**La Paz**	**147.87**	**90**	*e*PKPbc	**PKPbc**	**07 47 57.7**	**+0.3**
LPAZ	**La Paz**	**147.87**	**90**	PKPbc	**PKPbc**	**07 47 57.3**	**0.0**
	1.9nm,0.6s,baz=270,slow=4.8,SNR=12						

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*IDC **08** 07:30:13.6±2.4, 53°.42N×87°.60E, h0km, mb1 3.2/3, mb1mx3.1/49, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=22.6km s-min=12.6km az=65.0*
NNC 08 07:30:12.0±2.0, 53°.48N×87°.62E, h0km, mb3.2, mpv2.9, 3C-4D, Error ellipse: s-maj=17.5km s-min=9.6km az=65.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**287**	*i*		07 41 50.0	
	baz=106,slow=342,SNR=4.5						
ZAA0	**Zalesovo Array**	**1.73**	**287**	⇓Pn	Pn	07 30 42.9	-0.4
	0.7nm,0.3s						
ZAA0				⇓Sn	Sg	07 31 07.3	-0.3
	6.2nm,0.6s						
ZALV	**Zalesovo Beam**	**1.73**	**287**	Pn	Pn	07 30 43.1	-0.3
	6.7nm,0.3s,baz=103,slow=13,SNR=43						
ZALV				Lg	Lg	07 31 07.7	
	6.7nm,0.3s,baz=106,slow=24,SNR=14						
KURBB	**Kurchatov Arra**	**6.29**	**247**	⇓Pn	Pn	07 31 46.8	+0.8
	1.2nm,0.3s						
KURBB				⇑Sn	Sn	07 32 59.7	+1.1
	3.3nm,0.5s						
KURBB				⇑Lg	Lg	07 33 30.8	
	13nm,0.8s						
KURBB	**Kurchatov Arra**	**6.29**	**247**	Pn	Pn	07 31 47.0	+1.0
	0.2nm,0.3s,baz=62,slow=14,SNR=14						
KURBB				Lg	Lg	07 33 31.2	
	0.1nm,0.3s,baz=65,slow=33,SNR=7.6						
MK31	**Makanchi Array**	**7.51**	**209**	Pn	Pn	07 32 04.7	+1.9
	0.7nm,0.6s,baz=29,slow=13,SNR=15						
MK31				⇑Sn	Sn	07 33 28.6	-0.1
	0.9nm,0.6s						
MK31				⇓Lg	Lg	07 34 10.7	
	8.5nm,1.2s,baz=25,slow=29,SNR=3.8						
MKAR	**Makanchi Array**	**7.51**	**209**	Pn	Pn	07 32 04.9	+2.1
	0.4nm,0.3s,baz=29,slow=13,SNR=14						
MKAR				Sn	Sn	07 33 28.5	-0.2
	0.2nm,0.3s,baz=28,slow=26,SNR=5.8						
MKAR				Lg	Lg	07 34 10.8	
	0.2nm,0.3s,baz=30,slow=32,SNR=5.1						
BVAR	**Borovoye Array**	**10.34**	**274**	Pn	Pn	07 32 43.0	+1.5
	0.2nm,0.3s,baz=76,slow=14,SNR=4.2						
BVAR				Sn	Sn	07 34 34.9	-3.1
	0.2nm,0.3s,baz=71,slow=24,SNR=4.2						

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*IDC **08** 07:33:44.2±1.2, 1°.68S×124°.76E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/42, mbtmp3.7/5, MS3.8/3, Ms1 3.8/3, ms1mx2.8/42, Error ellipse: s-maj=83.5km s-min=21.4km az=69.0*
*ISCJB **08** 07:33:47.3±0.5, 1°.79S±0°.06×124°.64E±0°.05, h33km, mb3.6/4, MS3.8/3, Error ellipse: s-maj=9.6km s-min=6.1km az=26.0*
*DJA **08** 07:33:47.7±1.4, 2°.S±4°.×12°.5E±°., h23km±14km, M4.3/10, mb4.4/4, mB4.8/2, MLv4.3/10, Mw(mB)4.1/2*
ISC 08 07:33:49.0±0.9, 1°.80S±0°.07×124°.72E±0°.05, h35km, n17, σ1936/17, mb3.7/4, MS3.7/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.30**	**101**	P	**Pn**	**07 34 10.5**	**-0.1**
SANI				S	**Sn**	**07 34 27.2**	**+0.4**
LUWI	**Luwuk**	**2.08**	**291**	P	**Pn**	**07 34 23.0**	**+1.5**
LUWI				S	**Sn**	**07 34 49.0**	**+2.8**
KMSI	**Cibinong**	**2.47**	**343**	P	**Pn**	**07 34 26.8**	**0.0**
APSI	**Ampana**	**3.19**	**286**	P	**Pn**	**07 34 36.3**	**-0.4**
MRSI	**Marisa**	**3.58**	**309**	P	**Pn**	**07 34 41.9**	**-0.2**
MRSI				S	**Sn**	**07 35 20.2**	**-2.9**
BBSI	**Bau Bau**	**4.24**	**210**	P	**Pn**	**07 34 49.9**	**-1.3**
MPSI	**Mapaga**	**5.26**	**294**	P	**Pn**	**07 35 04.4**	**-0.8**
SPSI	**Sidrap Palu**	**5.39**	**246**	P	**Pn**	**07 35 06.3**	**-0.6**
	108nm,0.6s,2μm0.5nm						
BKSI	**Bulukumba**	**5.77**	**233**	P	**Pn**	**07 35 12.6**	**+0.5**
WRA	**Warramunga Arr**	**20.34**	**153**	P	**P**	**07 38 22.4**	**-0.1**
	3.0nm,0.8s,baz=334,slow=12,SNR=9.2						
ASAR	**Alice Springs**	**23.49**	**158**	P	**P**	**07 38 57.5**	**+1.6**
	2.1nm,0.9s,baz=334,slow=9.0,SNR=7.1						
NWAO	**Narrogin (SRO)**	**31.75**	**192**	LR	LR	07 55 01.3	
	comp=Z,124nm,18.3s,baz=288,slow=40						
KSRS	**Korea Array**	**39.17**	**4**	P	**P**	**07 41 13.5**	**0.0**
	0.7nm,0.5s,baz=181,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**61.04**	**328**	P	**P**	**07 43 58.2**	**-1.0**
	0.3nm,0.5s,baz=125,slow=7.4,SNR=3.5						
KURBB	**Kurchatov Arra**	**65.37**	**330**	P	**P**	**07 44 28.1**	**+0.3**
	0.3nm,0.6s,baz=132,slow=6.0,SNR=4.5						
KVAR	**Kislovodsk Arr**	**85.49**	**314**	LR	LR	08 30 49.0	
	comp=Z,77nm,18.3s,baz=91,slow=40						
KDAK	**Kodiak Island**	**87.61**	**32**	LR	LR	08 18 17.5	
	comp=Z,32nm,21.1s,baz=241,slow=31						

IDC 08 07:39:24.3±2.3, 54°.63N×83°.47E, h0km, mb1 2.6/2, mb1mx2.6/47, mbtmp2.6/2, ML2.2/2, 1C-3D, Error ellipse: s-maj=19.2km s-min=11.3km az=164.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**130**	*i*		07 45 08.1	
	baz=310,slow=317,SNR=4.7						
ZAA0	**Zalesovo Array**	**1.05**	**130**	⇓P	Pg	07 39 43.4	-0.9
	0.8nm,0.6s						
ZAA0				⇑S	Sg	07 39 58.1	+0.2
	9.9nm,0.8s						
ZALV	**Zalesovo Beam**	**1.05**	**130**	Pg	Pg	07 39 43.9	-0.4
	2.1nm,0.3s,baz=312,slow=16,SNR=13						
ZALV				Lg	Lg	07 39 58.9	
	5.0nm,0.3s,baz=309,slow=28,SNR=27						
KURBB	**Kurchatov Arra**	**5.02**	**219**	⇓Pn	Pn	07 40 37.5	-3.3
	3.2nm,1.1s						
KURBB				⇓Lg	Lg	07 41 59.5	
	12nm,0.7s,baz=39,slow=31						
KURBB	**Kurchatov Arra**	**5.02**	**219**	Pn	Pn	07 40 40.5	-0.3
	0.0nm,0.3s,baz=42,slow=14,SNR=5.0						
KURBB				Lg	Lg	07 42 04.4	
	0.1nm,0.3s,baz=27,slow=26,SNR=7.9						
MKAR	**Makanchi Array**	**7.88**	**186**	Pn	Pn	07 41 20.3	+0.1
	0.1nm,0.3s,baz=7.0,slow=13,SNR=3.6						
MKAR				Sn	Sn	07 42 50.2	+0.1
	0.1nm,0.3s,baz=0.8,slow=22,SNR=3.3						

VIE 08 07:53:02.6±0.6, 47°.54N×14°.93E, h0km, ml1.0/3, Error ellipse: s-maj=5.9km s-min=4.1km az=62.0, Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.50**	**125**	*e*Pg	Pg	07 53 12.0	-0.1
MOA	**Molln**	**0.55**	**305**	*e*Pg	Pg	07 53 13.4	+0.3
	0.8nm,0.1s						
CONA	**Conrad Observa**	**0.74**	**58**	*e*Pg	Pg	07 53 17.4	+0.6
	0.3nm,0.1s						

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*LDG **08** 07:53:06.3±0.2, 42°.98N×1°.21W, h2km, Md1.1/2, Ml1.4/1, Error ellipse: s-maj=5.2km s-min=1.2km az=43.0*
MDD 08 07:53:06.3±0.6, 43°.20N×1°.12W, h10km, mbLg0.9/3, Error ellipse: s-maj=8.7km s-min=2.9km az=5.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.12**	**221**	*e*Pg	Pg	07 53 09.1	0.0
SJPF				*e*Sg	Sg	07 53 11.2	0.0
	10nm,0.2s						
SJPF	**Ste Jean**	**0.12**	**221**	Pg	Pg	07 53 09.1	0.0
SJPF				Lg	Lg	07 53 11.2	
	5.2nm,0.2s						
EALK	**Alkurruntz**	**0.28**	**274**	Pg	Pg	07 53 11.7	-0.3
	4.5nm,0.3s,SNR=6.1						
EALK				Lg	Lg	07 53 15.8	
	1.9nm,0.1s,SNR=11						
ATE	**Arette**	**0.33**	**110**	Pg	Pg	07 53 11.6	-1.2
	SNR=7.9						
ATE				Lg	Lg	07 53 17.3	
	4.2nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.51**	**126**	*e*Pg	Pg	07 53 15.7	-0.5
ETSF				*e*Sg	Sg	07 53 22.3	-0.7
	1.1nm,0.2s						
ETSF	**Etsaut**	**0.51**	**126**	Pg	Pg	07 53 15.7	-0.5
ETSF				Lg	Lg	07 53 22.3	
	0.6nm,0.2s						
EPF	**Esparros**	**1.08**	**99**	*e*Pg	Pn	07 53 27.7	+0.1
EPF				*e*Sg	Sn	07 53 42.2	-0.4
	0.7nm,0.2s						
EPF	**Esparros**	**1.08**	**99**	Pg	Pn	07 53 27.7	+0.1
EPF				Lg	Lg	07 53 42.2	
	0.3nm,0.2s						

ROM 08 07:55:14.1±0.1, 43°.453N±0°.003×12°.296E±0°.004, h8km, ML1.5/17, Error ellipse: s-maj=0.3km s-min=0.3km az=13.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.05**	**277**	P	Pg	07 55 16.2	+0.5
CDCA				S	Sg	07 55 17.8	+0.8
CDCA				AML	AML		
	comp=E,802μm,0.5s						
CDCA				AML	AML		
	comp=N,742μm,0.2s						
CDCA				AML	AML		
	comp=E,798μm,0.5s						
CDCA				AML	AML		
	comp=N,740μm,0.2s						
CDCA				AML	AML		
	comp=E,798μm,0.5s						
CDCA				AML	AML		
	comp=N,740μm,0.2s						
CDCA	**Citt' di Caste**	**0.05**	**277**	P	Pg	07 55 16.2	+0.5
BADI	**Badiali**	**0.07**	**326**	P	Pg	07 55 16.3	+0.2
BADI	**Badiali**	**0.07**	**326**	P	Pg	07 55 16.4	+0.4
BADI	**Badiali**	**0.07**	**326**	P	Pg	07 55 16.4	+0.4
BADI				S	Sg	07 55 17.9	+0.4
BADI				AML	AML		
	comp=E,1415μm,0.5s						
BADI				AML	AML		
	comp=N,954μm,1.0s						
BADI				AML	AML		
	comp=E,1415μm,0.5s						
BADI				AML	AML		
	comp=N,955μm,1.0s						
BADI				AML	AML		
	comp=E,1415μm,0.5s						
BADI				AML	AML		
	comp=N,955μm,1.0s						
BADI	**Badiali**	**0.07**	**326**	S	Sg	07 55 17.9	+0.5
ATPI	**Pietralunga -**	**0.08**	**92**	P	Pg	07 55 16.4	+0.3
ATPI	**Pietralunga -**	**0.08**	**92**	P	Pg	07 55 16.5	+0.3
ATPI				S	Sg	07 55 17.9	+0.3
ATPI				AML	AML		
	comp=E,330μm,0.9s						
ATPI				AML	AML		
	comp=N,458μm,1.0s						
ATPI				AML	AML		
	comp=E,331μm,0.9s						
ATPI				AML	AML		
	comp=N,458μm,1.0s						
ATPI				AML	AML		
	comp=E,331μm,0.9s						
ATPI				AML	AML		
	comp=N,458μm,1.0s						
ATPI	**Pietralunga -**	**0.08**	**92**	S	Sg	07 55 18.0	+0.3
ATVO	**AVT- Monte Val**	**0.11**	**131**	P	Pg	07 55 17.1	+0.6
ATVO	**AVT- Monte Val**	**0.11**	**131**	P	Pg	07 55 17.2	+0.6
ATVO				S	Sg	07 55 19.2	+0.8
ATVO				AML	AML		
	comp=E,473μm,0.4s						
ATVO				AML	AML		
	comp=N,505μm,0.7s						
ATVO				AML	AML		
	comp=E,473μm,0.4s						
ATVO				AML	AML		
	comp=N,504μm,0.7s						
ATVO				AML	AML		
	comp=E,473μm,0.4s						
ATVO				AML	AML		
	comp=N,504μm,0.7s						
ATVO	**AVT- Monte Val**	**0.11**	**131**	S	Sg	07 55 19.3	+1.0
ATMI	**Monte Miggiano**	**0.12**	**190**	P	Pg	07 55 17.5	+0.7
ATMI				S	Sg	07 55 19.4	+0.7
ATMI				AML	AML		
	comp=E,751μm,0.4s						
ATMI				AML	AML		
	comp=N,710μm,0.6s						
ATMI				AML	AML		
	comp=E,751μm,0.4s						
ATMI				AML	AML		
	comp=N,710μm,0.6s						
ATMI				AML	AML		
	comp=E,751μm,0.4s						
ATMI				AML	AML		
	comp=N,710μm,0.6s						
ATMI	**Monte Miggiano**	**0.12**	**190**	P	Pg	07 55 17.5	+0.7
ATMI	**Monte Miggiano**	**0.12**	**190**	S	Sg	07 55 20.0	+1.3
PIEI	**Pieia**	**0.19**	**64**	P	Pg	07 55 18.6	+0.6
PIEI	**Pieia**	**0.19**	**64**	P	Pg	07 55 18.6	+0.6
PIEI				S	Sg	07 55 22.3	+1.5
PIEI				AML	AML		
	comp=E,379μm,0.1s						
PIEI				AML	AML		
	comp=N,262μm,0.2s						
PIEI				AML	AML		
	comp=E,379μm,0.1s						
PIEI				AML	AML		
	comp=N,262μm,0.2s						
PIEI				AML	AML		
	comp=N,262μm,0.2s						
PIEI				AML	AML		
	comp=E,379μm,0.1s						
PARC	**Parchiule**	**0.20**	**348**	P	Pg	07 55 18.8	+0.7
PARC				S	Sg	07 55 22.5	+1.5
PARC				AML	AML		
	comp=E,231μm,0.4s						
PARC				AML	AML		
	comp=N,225μm,1.4s						
PARC				AML	AML		
	comp=E,231μm,0.4s						
PARC				AML	AML		
	comp=N,225μm,1.4s						
PARC	**Parchiule**	**0.20**	**348**	P	Pg	07 55 18.9	+0.7
PARC	**Parchiule**	**0.20**	**348**	S	Sg	07 55 22.4	+1.5
ATFO	**Monte Foce - G**	**0.22**	**113**	P	Pg	07 55 19.1	+0.6
ATFO				S	Sg	07 55 22.6	+1.1
ATFO				AML	AML		
	comp=E,172μm,0.9s						
ATFO				AML	AML		
	comp=N,130μm,0.6s						
ATFO				AML	AML		
	comp=E,172μm,0.9s						
ATFO				AML	AML		
	comp=N,130μm,0.6s						
ATFO				AML	AML		
	comp=N,130μm,0.6s						
ATFO				AML	AML		
	comp=E,172μm,0.9s						
ATFO	**Monte Foce - G**	**0.22**	**113**	P	Pg	07 55 19.1	+0.6
ATFO	**Monte Foce - G**	**0.22**	**113**	S	Sg	07 55 23.0	+1.4
MURB	**Monte Urbino**	**0.25**	**139**	P	Pg	07 55 19.9	+0.8
MURB	**Monte Urbino**	**0.25**	**139**	P	Pb	07 55 20.1	-0.9
MURB				S	Sb	07 55 24.4	-1.1
MURB				AML	AML		
	comp=E,431μm,0.2s						
MURB				AML	AML		
	comp=N,407μm,0.3s						
MURB				AML	AML		
	comp=N,407μm,0.3s						
MURB				AML	AML		
	comp=E,431μm,0.2s						
MURB	**Monte Urbino**	**0.25**	**139**	S	Sb	07 55 24.4	-1.0
ATTE	**AVT- Monte Tez**	**0.26**	**171**	P	Pg	07 55 20.0	+0.8
ATTE				S	Sg	07 55 23.8	+1.1
ATTE				AML	AML		
	comp=E,214μm,1.1s						
ATTE				AML	AML		
	comp=N,203μm,1.1s						
ATTE				AML	AML		
	comp=N,203μm,1.1s						
ATTE				AML	AML		
	comp=E,214μm,1.1s						
ATTE	**AVT- Monte Tez**	**0.26**	**171**	P	Pg	07 55 20.0	+0.8
ATTE	**AVT- Monte Tez**	**0.26**	**171**	S	Sg	07 55 23.9	+1.2
NARO	**Abbazia di Nar**	**0.26**	**53**	P	Pg	07 55 19.7	+0.4
NARO				S	Sg	07 55 24.0	+1.2
NARO				AML	AML		
	comp=E,81μm,0.2s						
NARO				AML	AML		
	comp=N,98μm,0.9s						
NARO				AML	AML		
	comp=N,98μm,0.9s						
NARO				AML	AML		
	comp=E,81μm,0.2s						
NARO	**Abbazia di Nar**	**0.26**	**53**	P	Pg	07 55 19.7	+0.5
NARO	**Abbazia di Nar**	**0.26**	**53**	S	Sb	07 55 24.2	-1.4
CAFI	**Castiglion Fio**	**0.27**	**243**	P	Pg	07 55 20.2	+0.7
CAFI	**Castiglion Fio**	**0.27**	**243**	P	Pg	07 55 20.2	+0.8
CAFI				S	Sb

```
CPGN                                AML   AML
      comp=N,80µm,0.5s
CPGN                                AML   AML
      comp=E,78µm,1.6s
CPGN  Carpegna, Ital   0.35   3  P     Pb    07 55 22.3 -0.3
CPGN  Carpegna, Ital   0.35   3  S     Sb    07 55 29.1 +0.8
ATCC  AVT- Casa Cast   0.37 137  P     Pg    07 55 21.9 +0.7
ATCC                             S     Sb    07 55 28.6 -0.1
ATCC                                AML   AML
      comp=E,98µm,0.5s
ATCC                                AML   AML
      comp=N,77µm,1.1s
ATCC                                AML   AML
      comp=N,77µm,1.1s
ATCC                                AML   AML
      comp=E,98µm,0.5s
ATCC  AVT- Casa Cast   0.37 137  P     Pg    07 55 22.0 +0.7
ATCC  AVT- Casa Cast   0.37 137  S     Sb    07 55 28.7  0.0
MPAG  Monte Paganucc   0.38  62  P     Pg    07 55 22.0 +0.5
MPAG                             S     Sb    07 55 28.2 -1.0
MPAG                                AML   AML
      comp=E,68µm,0.4s
MPAG                                AML   AML
      comp=N,90µm,0.3s
MPAG                                AML   AML
      comp=N,90µm,0.3s
MPAG                                AML   AML
      comp=E,68µm,0.4s
MPAG  Monte Paganucc   0.38  62  P     Pg    07 55 22.1 +0.5
MPAG  Monte Paganucc   0.38  62  S     Sb    07 55 28.2 -1.0
FSSB  Fossombrone      0.42  55  P     Pg    07 55 23.0 +0.7
FSSB                             S     Sb    07 55 29.9 -0.5
FSSB                                AML   AML
      comp=E,174µm,0.4s
FSSB                                AML   AML
      comp=N,145µm,0.3s
FSSB                                AML   AML
      comp=N,145µm,0.3s
FSSB                                AML   AML
      comp=E,174µm,0.4s
FSSB  Fossombrone      0.42  55  P     Pg    07 55 23.0 +0.7
FSSB  Fossombrone      0.42  55  S     Sb    07 55 29.9 -0.5
ASSB  Assisi San Ben   0.49 147  P     Pb    07 55 24.4 -0.5
ASSB  Assisi San Ben   0.49 147  P     Pb    07 55 24.6 -0.4
ASSB  Assisi San Ben   0.49 147  P     Pb    07 55 24.8 -0.1
ASSB                             S     Sb    07 55 31.6 -0.6
ASSB                                AML   AML
      comp=E,35µm,0.9s
ASSB                                AML   AML
      comp=N,42µm,1.4s
ASSB                                AML   AML
      comp=N,42µm,1.4s
ASSB                                AML   AML
      comp=E,35µm,0.9s
ASSB  Assisi San Ben   0.49 147  S     Sb    07 55 31.8 -0.4
RSM   Repubblica di    0.49  13  S     Sb    07 55 34.0 +1.6
MGAB  Montegabbione    0.56 194  P     Pb    07 55 25.6 -0.5
MGAB                             S     Sb    07 55 33.3 -0.9
MGAB                                AML   AML
      comp=E,78µm,1.2s
MGAB                                AML   AML
      comp=N,77µm,0.6s
MGAB                                AML   AML
      comp=N,77µm,0.6s
MGAB                                AML   AML
      comp=E,78µm,1.2s
MGAB  Montegabbione    0.56 194  P     Pb    07 55 25.6 -0.5
MGAB  Montegabbione    0.56 194  S     Sb    07 55 35.4 +1.2
EL6   Elcito           0.60 102  P     Pg    07 55 26.1 +0.4
EL6                              S     Sb    07 55 35.5  0.0
EL6   Elcito           0.60 102  S     Sb    07 55 36.0 +0.5
EL6   Elcito           0.60 102  S     Sb    07 55 36.0 +0.5
ARRO  Arrone           0.94 158  P     Pg    07 55 30.7 -1.4
MTCE  Montecelio       1.47 167  S     Sn    07 55 60.0 -0.2
NDIM  Novi di Modena   1.75 325  P     Pn    07 55 45.4 +0.7
```

*IDC **08** 07:59:51.1±3.4, 52°.36N×35°.21E, h0km, mb1 3.7/2, mb1mx3.1/49, mbtmp3.7/2, ML3.0/3, Error ellipse: s-maj=38.1km s-min=14.0km az=119.0*

VLA 08 07:59:44.0, 52°.32N×35°.40E, M2.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Baltic States-Belarus-Northwestern Russia

```
Code  Station Name        Δ°   AZ°  Phase ID          Time     Res
                                    Op    ISC         h m s    ISC
OBN   Obninsk             2.88  13  Lg    Lg          08 01 21.7
      6.9nm,0.3s,baz=115,slow=23,SNR=5.4
AKASG Malin Array Be      4.18 250  Pn    Pn          08 00 52.8 +3.8
      0.5nm,0.3s,baz=55,slow=12,SNR=2.4
AKASG                               Sn    Sn          08 01 42.1 +3.6
      2.0nm,0.3s,baz=68,slow=26,SNR=4.3
AKASG                               Lg    Lg          08 02 01.3
      2.8nm,0.3s,baz=65,slow=29,SNR=5.6
FINES FINESS Array B     10.46 335  Pn    Pn          08 02 16.3 +1.3
      0.2nm,0.3s,baz=143,slow=12,SNR=4.2
FINES                               Sn    Sn          08 04 06.5 -6.3
      0.2nm,0.3s,baz=158,slow=23,SNR=2.8
I26DE FREYUNG INFRAS14.20 264  i                      09 20 10.0
      baz=69,slow=321,SNR=3.1
ARCES ARCESS Array B     17.88 349  Pn    P           08 03 55.5 +1.0
      0.2nm,0.3s,baz=163,slow=9.4,SNR=3.6
```

*IGQ **08** 08:03:53.8±0.8, 1°.S±3°.×7°.7W±°, h25km, MLv3.7*

ISC 08 08:03:54.6±1.2, 0°.50S±0°.03×77°.44W±0°.03, h11km±12km, n63, σ0°.90/70, 2C-2D, Ecuador

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Code  Station Name        Δ°   AZ°  Phase ID          Time     Res
                                    Op    ISC         h m s    ISC
REVS  Reventador Sur      0.43 335  P     Pg          08 04 03.1  0.0
REVS                             S     Sg          08 04 09.2 +0.3
LAV4  Lava4-Reventad      0.45 335  P     Pg          08 04 03.3 -0.1
ARDO  Archidona, Ten      0.61 216  P     Pg          08 04 06.2 -0.3
ARDO                             S     Sb          08 04 14.8 -1.2
CASC  Dorado de Casc      0.64   9  P     Pg          08 04 07.1 +0.1
CASC                             S     Sg          08 04 16.1 +0.7
ANTI  Antisana            0.72 274  P     Pg          08 04 08.7  0.0
ANTS  Antisana-Sarah      0.73 270  P     Pg          08 04 08.8  0.0
ANTM  Antisana-La Mi      0.78 267  P     Pg          08 04 09.6 -0.3
CAYA  Cayambe             0.79 316  P     Pg          08 04 09.8 -0.1
ANTG  Antisana-Guama      0.81 270  P     Pg          08 04 10.2 -0.2
COV1  Cotopaxi Volc       0.92 260  P     Pn          08 04 14.5 +0.5
BTAM  Cotopaxi Volca      0.97 260  P     Pb          08 04 13.8  0.0
VC1   Cotopaxi 1          0.97 262  P     Pb          08 04 13.6 -0.2
PITA  Cotopaxi Volc       0.99 267  P     Pb          08 04 13.7 -0.4
NAS2  Nasa                1.04 262  P     Pn          08 04 14.8 -0.7
BMOR  Cotopaxi Volca      1.04 257  P     Pb          08 04 14.6 -0.4
AIB2  Ibarra (Univer      1.07 321  P     Pb          08 04 15.1 -0.1
YAHU  Yahuarcocha         1.07 324  P     Pb          08 04 14.8 -0.5
IMBA  Imbabura, San       1.08 315  P     Pn          08 04 15.9 -0.1
PISA  Pisayambo           1.10 239  P     Pb          08 04 15.6 -0.2
PIS1  Pisayambo           1.10 239  P     Pb          08 04 15.6 -0.3
ACOT  Cotacachi (Cas      1.15 313  P     Pn          08 04 19.1 +2.3
PUYO  Puyo, Santa Ro      1.15 211  P     Pg          08 04 16.6 -0.1
PULU  Pululahua           1.18 296  P     Pg          08 04 17.3 -0.1
NINA  Atacazo Ninahu      1.18 275  P     Pn          08 04 17.4 -0.1
YANA  Yana                1.19 288  P     Pg          08 04 17.5 -0.1
CUSW  Cuicocha Oeste      1.20 311  P     Pg          08 04 18.4 +0.7
GGPC  Guagua Pichinc      1.20 285  P     Pg          08 04 17.8 +0.1
TERV  Terraza Guagua      1.21 285  P     Pg          08 04 18.2 +0.3
CUIC  Cuicocha-Domo       1.22 311  P     Pg          08 04 18.0  0.0
COTA  Cotacachi           1.22 313  P     Pg          08 04 18.7 +0.5
URCU  Urcuqui             1.24 319  P     Pg          08 04 18.5 +0.1
OTAV  Otavalo             1.25 306 ⇓iP    Pn          08 04 18.1 -0.3
OTAV                             eS    Sb          08 04 34.5 -0.2
OTAV                             i                   08 04 35.9
      comp=Z,132nm,0.5s
OTAV  Otavalo             1.25 306 ⇓iP    Pn          08 04 18.1 -0.3
OTAV                             eS    Sb          08 04 34.5 -0.2
OTAV                             i                   08 04 35.9
      comp=Z,132nm,0.5s
ATUL  Tulcn               1.29 347  P     Pn          08 04 18.8  0.0
ILLI  Illinizas Sur       1.31 260  P     Pg          08 04 20.0 +0.2
PAC1  Pacto, Paraso       1.55 299  P     Pb          08 04 22.9 -0.5
IGUA  Igualata            1.55 231  P     Pg          08 04 25.5 +1.0
GCUF  Volcan Galeras      1.71   3⇑eP    Pb          08 04 26.1 -0.3
GCUF                             eS    Sg          08 04 49.5 -0.3
GCUF                             i                   08 04 52.9
      comp=Z,263nm,0.3s
GCUF  Volcan Galeras      1.71   3⇑eP    Pb          08 04 26.1 -0.3
GCUF                             eS    Sg          08 04 49.5 -0.3
GCUF                             i                   08 04 52.9
      comp=Z,263nm,0.3s
CPAS2 Pasto               1.72   6  eP    Pb          08 04 27.1 +0.8
CPAS2                            eS    Sg          08 04 50.1 +0.2
CPAS2                            i                   08 04 52.3
      comp=Z,514nm,0.2s
CPAS2 Pasto               1.72   6  eP    Pb          08 04 27.1 +0.8
CPAS2                            eS    Sg          08 04 50.1 +0.2
CPAS2                            i                   08 04 52.3
      comp=Z,514nm,0.2s
CRUC  La Cruz             2.11  13  eP    Pb          08 04 32.1 -1.0
CRUC  La Cruz             2.11  13  eP    Pb          08 04 32.1 -1.0
MAG1  Magdalena           2.37 280  P     Pg          08 04 39.5 -0.5
BBAC  Balboa, Cauca       2.51   4  eP    Pb          08 04 38.9 -0.9
BBAC  Balboa, Cauca       2.51   4  eP    Pb          08 04 38.9 -0.9
COHC  Cochancay           2.67 223  P     Pb          08 04 42.3  0.0
PTLC  Puerto Leguiza      2.73  76  iP    Pn          08 04 38.6 +0.3
PTLC  Puerto Leguiza      2.73  76  iP    Pn          08 04 38.6 +0.3
FLOC  Florencia           2.73  41  eP    Pn          08 04 38.5 +0.1
FLOC  Florencia           2.73  41  eP    Pn          08 04 38.5 +0.1
SOTA  Rioblanco           2.74  18  iP    Pn          08 04 41.2 +2.2
SOTA  Rioblanco           2.74  18  iP    Pn          08 04 41.2 +2.2
MILO  Milagro-Astudi      2.76 230  P     Pb          08 04 45.2 +1.3
PCON  Cinco Dias          2.99  20  eP    Pn          08 04 44.4 +1.9
PCON  Cinco Dias          2.99  20  eP    Pn          08 04 44.4 +1.9
POPC  Popayan, Colom      3.11  14  eP    Pb          08 04 47.5 -2.6
POPC  Popayan, Colom      3.11  14  eP    Pb          08 04 47.5 -2.6
YOTC  Yotoco, Valle       4.58  14  eP    Pn          08 05 09.5 +5.6
YOTC  Yotoco, Valle       4.58  14  eP    Pn          08 05 09.5 +5.6
MCRA  Macar, Loja         4.59 213  P     Pn          08 05 04.1 +0.1
PRAC  Prado               4.90  31  eP    Pn          08 05 09.6 +1.3
PRAC  Prado               4.90  31  eP    Pn          08 05 09.6 +1.3
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*NORS **08** 08:06:39.7±0.0, 41°.51N×47°.59E, h1km, MPVA4.4*
*DRS **08** 08:06:41.8±0.0, 41°.60N×47°.72E, h16km, ML2.7/4*

ISC 08 08:06:39.7±1.0, 41°.51N±0°.05×47°.66E±0°.04, h11km±7km, n15, σ1°.11/28, 1C-3D, Eastern Caucasus

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Code  Station Name        Δ°   AZ°  Phase ID          Time     Res
                                    Op    ISC         h m s    ISC
AKT   Akhty               0.06 117  iPg   Pg          08 06 42.1  0.0
      3µm,0.2s
AKT                                ⇓iSg  Sg          08 06 43.9  0.0
      25µm,0.3s
KSMR  Kasumkent           0.37  75  ePg   Pg          08 06 47.0  0.0
      118nm,0.1s
KSMR                               iSg   Sg          08 06 53.0 +1.1
      1µm,0.2s
URKR  Urkarakh            0.66 359  iPg   Pg          08 06 52.0 -0.5
URKR                               eSg   Sg          08 07 00.3 -0.9
DRN   Derbent             0.72  44  ePg   Pg          08 06 54.2 +0.5
      257nm,0.4s
DRN                                ⇓eSg  Sb          08 07 04.5 +0.2
      152nm,0.7s
KMKR  Kumukh              0.75 326  iPg   Pg          08 06 54.0 -0.2
KMKR                               eSg   Sb          08 07 05.0 -0.3
GNBR  Gunib               1.02 330  iPg   Pb          08 06 59.1 -0.4
      81nm,0.5s
GNBR                               ⇑eSg  Sn          08 07 13.7 -0.8
      212nm,0.7s
LGD   Lagodekhi           1.11 288  P     Pb          08 07 00.4 -0.5
LGD                                S     Sn          08 07 17.1 +0.5
LGD   Lagodekhi           1.11 288  ePg   Pb          08 07 00.4 -0.5
LGD                                eSg   Sn          08 07 17.1 +0.5
DDFL  Dedoflistskaro      1.16 267  P     Pb          08 07 00.6 -1.3
DDFL                               S     Sn          08 07 20.3 +2.5
ARKR  Arakani             1.20 336  ePg   Pn          08 07 02.0 -0.6
ARKR                               eSg   Sn          08 07 18.0 -0.9
XNZR  Khunzakh            1.25 326  iPg   Pb          08 07 03.2 -0.3
XNZR                               eSg   Sg          08 07 21.3 +1.2
UNCR  Uncukul             1.36 332  ePg   Pb          08 07 05.0 -0.3
UNCR                               eSg   Sg          08 07 27.0 +3.3
      128nm,0.3s
KRNR  Karanay             1.43 337  ePg   Pn          08 07 05.5 -0.3
KRNR                               eSg   Sg          08 07 27.5 +1.7
BTLR  Botlikh             1.57 318  ePg   Pg          08 07 09.8 -0.1
      45nm,0.7s
BTLR                               ⇓eSg  Sg          08 07 29.9 -0.4
      18nm,0.6s
DVE   Vedeno              1.84 322  ePg   Pg          08 07 30.9 +16
DVE                                eSg   Sg          08 07 54.0 +15
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*SJA **08** 08:07:54.8±1.2, 21°.86S×68°.74W, h124km±7km, ML3.2, MW3.0*
*ISCJB **08** 08:07:55.2±0.3, 21°.86S±0°.03×68°.78W±0°.04, h126km±4km, mb3.8/6, Error ellipse: s-maj=6.6km s-min=4.3km az=169.3*
*IDC **08** 08:07:56.2±0.5, 22°.04S×68°.48W, h113km±5km, mb3.7/7, mb1 3.7/11, mb1mx3.6/30, mbtmp4.0/11, MS2.6/2, Ms1 2.6/2, ms1mx2.4/25, Error ellipse: s-maj=19.5km s-min=13.4km az=112.0*
*GUC **08** 08:07:56.0±0.6, 21°.85S×68°.73W, h119km±3km, ML4.0*

ISC 08 08:07:55.7±0.6, 21°.84S±0°.03×68°.70W±0°.05, h111km±5km, n49, σ1°.78/74, mb3.9/6, 9C-10D, Chile-Bolivia border region

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Code  Station Name        Δ°   AZ°  Phase ID          Time     Res
                                    Op    ISC         h m s    ISC
PB09  IPOC Station P      0.51 275  eP    Pn          08 08 13.5 +0.5
PB09                               ⇓eS   Sn          08 08 27.3 +1.3
PB09  IPOC Station P      0.51 275 ⇑iP    Pn          08 08 13.5 +0.5
PB09                               eS    Sn          08 08 26.6 +0.7
LVC   Limon Verde         0.79 194  eP    Pn          08 08 15.3 -0.2
LVC                                eS    Sn          08 08 30.3  0.0
LVC   Limon Verde         0.79 194  P     Pn          08 08 15.5 +0.1
      baz=20,slow=8.1
LVC                                S     Sn          08 08 30.2  0.0
      325nm,0.3s,baz=107,slow=19,SNR=131
PB03  IPOC Station P      1.00 258⇓eP     Pn          08 08 17.8 +0.5
PB03  IPOC Station P      1.00 258 ⇑iP    Pn          08 08 17.6 +0.4
PB03                               eS    Sn          08 08 33.9 +0.5
PB03                               IAML                08 08 34.5
      comp=E,5µm,0.2s
PB01  IPOC Station P      1.08 317 ⇑iP    Pn          08 08 18.3 +0.3
PB01                               eS    Sn          08 08 36.5 +1.7
PB01                               IAML                08 08 37.6
      comp=E,5µm,0.4s
PB07  IPOC Station P      1.11 276  eP    Pn          08 08 19.0 +0.6
PB07                               ⇓eS   Sn          08 08 36.6 +1.1
PB07  IPOC Station P      1.11 276 ⇑iP    Pn          08 08 18.8 +0.5
PB07                               eS    Sn          08 08 36.1 +0.6
PB07                               IAML                08 08 37.8
      comp=N,6µm,0.2s
PB06  IPOC Station P      1.19 223  eP    Pn          08 08 19.5 +0.3
PB06                               ⇓eS   Sn          08 08 37.7 +0.8
PB06  IPOC Station P      1.19 223 ⇑iP    Pn          08 08 19.7 +0.5
PB06                               eS    Sn          08 08 37.7 +0.8
PB06                               IAML                08 08 39.0
      comp=E,4µm,0.4s
PB02  IPOC Station P      1.23 295⇓eP     Pn          08 08 20.3 +0.6
PB02                               eS    Sn          08 08 39.2 +1.6
PB02  IPOC Station P      1.23 295 ⇑iP    Pn          08 08 19.9 +0.3
PB02                               eS    Sn          08 08 38.4 +0.8
PB02                               IAML                08 08 40.8
      comp=E,5µm,0.2s
PB04  IPOC Station P      1.44 250  eP    Pn          08 08 22.1 +0.1
PB04                               eS    Sn          08 08 33.9 -8.1
PB04  IPOC Station P      1.44 250⇓iP     Pn          08 08 22.2 +0.2
PB04                               eS    Sn          08 08 42.4 +0.4
PB04                               IAML                08 08 48.9
      comp=E,2µm,0.3s
PB15  IPOC Station P      1.54 208⇓eP     Pn          08 08 24.2 +0.8
PB15  IPOC Station P      1.54 208  eP    Pn          08 08 23.8 +0.4
PB15                               eS    Sn          08 08 45.3 +1.0
PB05  IPOC Station P      1.72 234⇓eP     Pn          08 08 26.0 +0.6
PB05  IPOC Station P      1.72 234  iP    Pn          08 08 25.3 -0.1
PB05                               eS    Sn          08 08 47.9 -0.1
PB05                               IAML                08 08 49.5
      comp=E,1µm,0.3s
PB08  IPOC Station P      1.74 346  eP    Pn          08 08 27.6 +1.6
PB08  IPOC Station P      1.74 346 ⇑iP    Pn          08 08 27.0 +1.1
PB08                               eS    Sn          08 08 50.8 +1.9
PB08                               IAML                08 08 53.8
      comp=E,2µm,0.2s
PB11  IPOC Station P      2.25 336⇓eP     Pn          08 08 32.3 +0.1
PB11  IPOC Station P      2.25 336 ⇑iP    Pn          08 08 32.5 +0.2
PB11                               eS    Sn          08 09 00.7 +0.6
PB10  IPOC Station P      2.39 225 ⇑iP    Pn          08 08 34.0 +0.1
PB10                               i S   Sn          08 09 01.8 -1.2
PB10                               IAML                08 09 11.8
      comp=N,316nm,0.4s
PSGC  Pisagua             2.60 329⇓eP     Pn          08 08 35.8 -0.8
PSGC                               eS    Sn          08 08 06.9 -1.1
PSGCX Pisagua             2.60 329  eP    Pn          08 08 36.2 -0.4
MNMCX Minye Minye         2.82 342  eP    Pn          08 08 40.6 +0.9
YJA   Yavi                2.97  97  eP    Pn          08 08 43.5 +1.7
YJA                                IAML                08 08 46.0
      comp=Z,18nm,0.5s
YJA                                eS    Sn          08 09 20.3 +3.0
PB14  IPOC Station P      3.19 209  eP    Pn          08 08 48.1 +3.5
PB14                               eS    Sn          08 09 27.8 +5.6
HJA   Humahuaca           3.33 115  eP    Pn          08 08 48.1 +1.6
HJA                                IAML                08 08 50.0
      comp=Z,39nm,0.4s
PB12  IPOC Station P      3.56 334  eP    Pn          08 08 48.1 -1.2
PB12                               eS    Sn          08 09 29.5 -1.2
PB16  IPOC Station P      3.57 348  eP    Pn          08 08 52.2 +2.3
AZAP  Zapla               4.10 126  eP    Pn          08 08 57.4 +0.7
FSA   Cafayete            4.93 150  eP    Pn          08 09 08.1 +0.3
FSA                                IAML                08 09 12.9
      comp=Z,7.4nm,0.7s
LPAZ  La Paz              5.55   6  P     Pn          08 09 18.0 +1.4
      comp=Z,2.7nm,0.3s,baz=182,slow=5.3,SNR=73
AHML  Horco Molle         5.80 149  eP    Pn          08 09 19.4  0.0
AHML                               IAML                08 09 22.2
      comp=Z,13nm,0.5s
VCA   Vinchina            6.88 176  eP    Pn          08 09 33.4 -0.8
VCA                                IAML                08 09 39.8
      comp=Z,17nm,0.3s
SIV   San Ignacio         9.27  52  P     Pn          08 10 03.1 -3.4
      comp=Z,0.9nm,0.3s,baz=243,slow=12,SNR=22
SIV                                LR    LR          08 14 43.2
      comp=Z,51nm,19.2s,baz=292,slow=44
CFA   Coronel Fontan      9.74 178  P     Pn          08 10 08.8 -4.0
      comp=Z,1.4nm,0.3s,baz=9.0,slow=15,SNR=26
CFA                                S     Sn          08 11 49.9 -10
      baz=143,slow=20,SNR=2.4
CPUP  Villa Florida      11.30 116  P     Pn          08 10 29.8 -4.2
      comp=Z,0.1nm,0.3s,baz=283,slow=12,SNR=5.7
CPUP                               LR    LR          08 15 14.6
      comp=Z,25nm,21.5s,baz=216,slow=40
PLCA  Paso Flores         18.90 184  P     P           08 12 07.8 +0.1
      comp=Z,0.1nm,0.3s,baz=46,slow=18,SNR=3.8
BDFB  Brasília            20.52  76  P     P           08 12 23.0 -2.4
      comp=Z,2.4nm,0.7s,baz=226,slow=12,SNR=3.5
PTGA  Pitinga             22.64  23  P     P           08 12 47.9 +0.3
      comp=Z,1.1nm,0.3s,baz=343,slow=19,SNR=3.0
DBIC  Dimbokro            68.64  73  P     P           08 18 46.3 -1.2
      comp=Z,4.4nm,0.7s,baz=241,slow=4.0,SNR=5.8
NVAR  Mina Array Bea      75.88 322  P     P           08 19 32.6 +2.3
      comp=Z,0.5nm,0.8s,baz=141,slow=5.8,SNR=2.5
TORD  Torodi Ar. Bea      77.28  70  P     P           08 19 37.6 -0.8
      comp=Z,0.9nm,0.5s,baz=251,slow=5.6,SNR=21
TORD                               pP    pP          08 20 07.9 -0.2
      comp=Z,0.8nm,0.7s,baz=252,slow=5.4,SNR=2.8
BOSA  Boshof              83.11 118  P     P           08 20 09.5 -0.3
      comp=Z,1.4nm,0.5s,baz=212,slow=9.5,SNR=3.3
YKA   Yellowknife Ar      91.57 341  P     P           08 20 50.5 +1.1
      comp=Z,0.4nm,0.6s,baz=134,slow=4.5,SNR=9.0
YKA                                pP    pP          08 21 19.9 +0.1
      comp=Z,0.5nm,0.7s,baz=137,slow=4.2,SNR=5.1
MKAR  Makanchi Array     145.79  36  PKPbc PKPab       08 27 22.6 +0.1
      comp=Z,0.5nm,0.6s,baz=341,slow=4.0,SNR=3.5
MKAR                               pPKPbc pPKPab       08 27 53.6 +0.3
      comp=Z,0.6nm,0.6s,baz=325,slow=4.5,SNR=4.0
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*MOS **08** 08:08:06.8±1.1, 52°.64N×169°.57W, h10km, mb4.6/8, Error ellipse: s-maj=11.3km s-min=7.8km az=73.0*
*IDC **08** 08:08:07.0±0.5, 52°.56N×169°.72W, h0km, mb4.1/29, mb1 4.3/31, mb1mx4.2/54, mbtmp4.1/31, ML3.7/2, MS3.3/17, Ms1 3.3/17, ms1mx3.1/43, Error ellipse: s-maj=16.4km s-min=9.9km az=1.0*
*AEIC **08** 08:08:08.7, 52°.70N×169°.60W, h5km, ML4.4, MB4.5(NEIC)*
*NEIC **08** 08:08:08.7±0.0, 52°.70N×169°.60W, h5km, mb4.5/170, ML4.4(AEIC), After AEIC.*
*BJI **08** 08:08:09.5±0.0, 52°.80N×169°.50W, h36km, mb4.8/11, mB5.1/8, Ms4.9/4, Ms7 4.6/1*

ISC 08 08:08:10.1±1.1, 52°.64N±0°.07×169°.50W±0°.04, h20km±4km, n474, σ1°.17/480, mb4.2/54, MS3.3/19, 1C, Fox Islands

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Code  Station Name        Δ°   AZ°  Phase ID          Time     Res
                                    Op    ISC         h m s    ISC
NIKH  Nikolski High       0.52  49  ePg   Pg          08 08 20.1 -0.5
NIKH                               eSg   Sg          08 08 27.7  0.0
OKWE  Okmok W'ng Wal      1.13  42  ePg   Pn          08 08 30.2 -0.7
OKAK  Okmok               1.17  36  ePg   Pn          08 08 28.7 -2.7
MREP  Makushin Rep't      2.03  54  ePn   Pn          08 08 43.2 -0.1
MCIR  Makushin Cirqu      2.05  49  ePn   Pn          08 08 44.1 +0.6
UNV   Unalaska Valle      2.17  55  ePn   Pn          08 08 46.8 +1.7
UNV                               eSn   Sn          08 09 13.0 +1.5
AKRB  Akutan Reef Bi      2.54  53  ePn   Pn          08 08 51.5 +1.2
AKRB                               eSn   Sb          08 09 24.2 -1.8
AKMO  Akutan Morgan       2.55  54  ePn   Pn          08 08 52.0 +1.6
ZRO   Akutan Zero         2.57  54  ePn   Pn          08 08 52.1 +1.5
AHB   Akutan Harbor       2.66  55  ePn   Pn          08 08 53.5 +1.6
AKUT  Akutan              2.69  55  ePn   Pn          08 08 53.8 +1.5
AKSA  Akutan Strait       2.73  55  ePn   Pn          08 08 53.5 +0.7
KOFP  Korovin Flat P      2.83 264  ePn   Pn          08 08 54.6 +0.3
KOKL  Mount Kliuchef      2.89 266  ePn   Pn          08 08 54.8 -0.3
ATKA  Atka Island         2.91 263  ePn   Pn          08 08 54.8 -0.5
KOWE  Korovin West        2.92 267  ePn   Pn          08 08 55.4  0.0
WESP  Westdahl Peak       3.40  55  ePn   Pn          08 09 03.9 +1.7
GSTR  Great Sitkin T      4.06 265  ePn   Pn          08 09 12.9 +1.8
GSMY  Great Sitkin M      4.06 264  ePn   Pn          08 09 11.7 +0.5
GSTD  Great Sitkin T      4.11 265  ePn   Pn          08 09 12.0 +0.1
FALS  False Pass          4.24  56  ePn   Pn          08 09 15.7 +2.1
ETKA  Kagalaska Isla      4.31 262  ePn   Pn          08 09 15.2 +0.6
ADAG  Mount Adagdak       4.41 264  ePn   Pn          08 09 16.5 +0.7
ADK   Adak                4.48 263  ePn   Pn          08 09 18.0 +1.2
ADK                               eSn   Sn          08 10 09.8 +1.5
ADK   Adak                4.48 263  eP    Pn          08 09 18.0 +1.2
ADK                               e                   08 10 09.8
SPIA  Saint Paul Isl      4.57 355  ePn   Pn          08 09 18.8 +0.7
KIWB  Kanaga Island       4.76 264  ePn   Pn          08 09 20.5 -0.3
KIKV  Kanaga Island       4.77 264  ePn   Pn          08 09 21.9 +0.9
DT1   Dutton Round H      4.94  57  ePn   Pn          08 09 24.3 +1.2
SDPT  Sand Point          5.98  59  ePn   Pn          08 09 39.7 +2.4
CHGN  Chignik             7.43  56  ePn   Pn          08 10 00.8 +3.5
SMY   Shemya              9.96 277  ePn   Pn          08 10 31.5 -0.5
SMY   Shemya              9.96 277  eP    Pn          08 10 31.5 -0.5
OHAK  Old Harbor         10.39  57  ePn   Pn          08 10 37.3 -0.6
KDAK  Kodiak Island      10.94  55  ePn   Pn          08 10 44.9 -0.5
KDAK  Kodiak Island      10.94  55  eP    Pn          08 10 44.9 -0.5
KDAK  Kodiak Island      10.94  55  Pn    Pn          08 10 45.8 +0.4
      1.0nm,0.3s,baz=231,slow=16,SNR=16
KDAK                               Sn    Sn          08 12 41.3 -5.8
      0.4nm,0.3s,baz=42,slow=16,SNR=2.4
GAMB  Gambell            11.23 355  ePn   Pn          08 10 50.6 +1.2
SVW2  Sparrevohn         11.37  36  ePn   Pn          08 10 52.6 +1.2
RSO   Redoubt South      12.09  43  ePn   Pn          08 11 03.8 +2.5
ANM   Nome               12.15   8  ePn   Pn          08 11 04.4 +2.5
ANM   Nome               12.15   8  eP    Pn          08 11 04.4 +2.5
BRLK  Bradley Lake       12.55  48  ePn   Pn          08 11 08.9 +1.4
RC01  Rabbit Creek A     13.68  44  ePn   Pn          08 11 24.3 +1.5
CAST  Castle Rocks       14.15  33  ePn   Pn          08 11 31.1 +2.0
PMR   Palmer             14.18  43  ePn   Pn          08 11 30.1 +0.4
PMR   Palmer             14.18  43  eP    Pn          08 11 30.1 +0.4
SCM   Sheep Creek Mo     15.05  44  ePn   Pn          08 11 41.2 -0.3
      24nm,0.8s
SCM   Sheep Creek Mo     15.05  44  eP    Pn          08 11 41.2 -0.3
SCM                               pmax  pmax
      comp=Z,24nm,0.8s
EYAK  Cordova Ski Ar     15.22  49  ePn   Pn          08 11 42.6 -1.0
      comp=Z,6.0nm,0.8s
TCOL  CIGO, UAF Yank     16.50  34  P     Pn          08 11 59.8 -0.4
      baz=233
COLA  College            16.51  34  ePn   Pn          08 12 01.2 +1.1
      comp=Z,18nm,0.9s
COLA  College            16.51  34  eP    Pn          08 12 01.3 +1.1
COLA                              pmax  pmax
      comp=Z,18nm,0.9s
HDA   Harding Lake       16.55  36  P     Pn          08 12 00.6 -0.1
      baz=235
ILAR  Eielson Array      16.78  35  Pn    Pn          08 12 03.4 -0.3
      comp=Z,0.3nm,0.3s,baz=230,slow=11,SNR=14
ILAR                               PcP   PcP         08 16 50.8 -0.2
      comp=Z,0.1nm,0.3s,baz=295,slow=4.1,SNR=5.7
BCAR  Beaver Creek A     17.91  44  ePn   Pn          08 12 17.1 -0.7
FYU   Fort Yukon         18.40  31  eP    Pn          08 12 24.3 +0.6
      comp=Z,38nm,1.2s
TOLK  Toolik Lake Re     18.63  23  P     P           08 12 25.9 -0.3
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baz=221,SNR=14
BMAR Burnt Mountain 19.14 30 eP P 08 12 32.2 +0.5
BILL Bilibino 19.32 332 ⇑iP Pn 08 12 35.6 +0.7
BILL S S 08 16 16.0 +4.6
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,99nm,15.0s
PEA1 Petropavlovsk- 19.71 285 eP P 08 12 38.1 0.0
PETK Petropavlovsk- 19.71 284 P P 08 12 38.1 0.0
comp=Z,1.2nm,0.3s,baz=84,slow=14,SNR=36
PETK LR LR 08 20 53.2
comp=Z,42nm,18.4s,baz=118,slow=39
WHY Whitehorse 20.45 53 eP P 08 12 47.2 +1.1
comp=Z,14nm,0.7s
EPYK Eagle Plains 21.24 37 eP P 08 12 53.8 -0.8
comp=Z,22nm,0.8s
EPYK Eagle Plains 21.24 37 P P 08 12 53.3 -1.3
baz=246,SNR=23
H02S1 DAWSON INLET T 22.18 74 T T 08 36 07.0
SNR=17
SEY Seymchan 22.43 312 P P 08 13 06.9 -0.4
comp=Z,2.2nm,0.5s,baz=74,slow=7.0,SNR=5.1
DLBC Dease Lake 22.82 60 P P 08 13 13.7 +2.1
comp=Z,7.1nm,0.6s,baz=210,slow=7.2,SNR=10
DLBC LR LR 08 21 24.9
comp=Z,93nm,19.1s,baz=308,slow=35
MA2 Magadan 22.93 303 LR LR 08 21 52.3
comp=Z,32nm,18.8s,baz=110,slow=36
INK Inuvik 23.17 34 eP P 08 13 12.9 -2.1
comp=Z,6.9nm,0.8s
INK Inuvik 23.17 34 eP P 08 13 12.9 -2.1
INK pmax pmax
comp=Z,7.0nm,0.8s
INK Inuvik 23.17 34 P P 08 13 13.4 -1.6
comp=Z,3.3nm,0.5s,baz=238,slow=8.5,SNR=28
INK PcP PcP 08 17 02.8 +0.3
comp=Z,1.8nm,0.5s,baz=302,slow=0.6,SNR=6.2
INK LR LR 08 22 15.8
comp=Z,114nm,19.7s,baz=278,slow=36
YKA Yellowknife Ar 30.13 49 P P 08 14 19.0 +0.9
comp=Z,1.7nm,0.6s,baz=273,slow=7.7,SNR=40
YKA PcP PcP 08 17 19.4 +0.4
comp=Z,1.1nm,0.7s,baz=288,slow=2.4,SNR=10
YKA ScP ScP 08 21 01.2 +1.4
comp=Z,0.3nm,0.7s,baz=284,slow=3.2,SNR=5.4
YKA LR LR 08 27 30.7
comp=Z,19nm,18.7s,baz=274,slow=38
E04D Cinebar 30.57 82 P P 08 14 22.2 0.0
baz=299
H04D Lebanon 31.50 86 P P 08 14 31.9 +1.4
baz=302
I03D Drain, OR 31.57 88 P P 08 14 30.9 -0.1
baz=303
G05D Wamic, OR 31.99 84 P P 08 14 35.9 +1.2
baz=301
I04A Tendick Farm, 32.09 87 P P 08 14 37.6 +1.9
baz=303
I05D Terrebonne, OR 32.45 85 P P 08 14 40.5 +1.7
baz=302
TIXI Tiksi 32.46 329 P P 08 14 39.9 +1.3
comp=Z,0.5nm,0.3s,baz=301,slow=18,SNR=1.8
TIXI PcP PcP 08 17 24.5 -0.5
comp=Z,1.7nm,0.4s,baz=62,slow=1.6,SNR=8.7
TIXI LR LR 08 28 02.0
comp=Z,38nm,19.4s,baz=114,slow=37
J04D Umpqua Nationa 32.57 87 P P 08 14 40.3 +0.2
baz=304
NEW Newport 33.02 76 P P 08 14 44.8 +1.0
baz=298,SNR=7.7
NEW Newport 33.02 76 P P 08 14 45.2 +1.3
comp=Z,4.2nm,0.6s,baz=299,slow=7.2,SNR=13
NEW PcP PcP 08 17 27.5 +0.4
comp=Z,1.1nm,0.5s,baz=333,slow=4.5,SNR=3.4
J05D Fort Rock, OR 33.08 87 P P 08 14 45.6 +1.0
baz=304,SNR=6.6
M02C Callahan 33.17 91 P P 08 14 46.6 +1.3
baz=306
M04C Macdoel 33.56 89 P P 08 14 49.6 +0.9
baz=306
K05A Summer Lake 33.60 87 eP P 08 14 51.4 +2.3
comp=Z,6.9nm,0.8s
O02D Mt. Diablo Mer 33.94 93 P P 08 14 53.0 +1.1
baz=308
O03E Paynes Creek 34.47 92 P P 08 14 57.7 +1.2
baz=307
MSO Missoula 35.61 77 P P 08 15 06.8 +0.5
baz=300
RES Resolute Bay 36.16 26 eP P 08 15 09.5 -1.1
comp=Z,2.2nm,1.1s
RES Resolute Bay 36.16 26 P P 08 15 10.9 +0.3
comp=Z,0.3nm,0.3s,baz=256,slow=16,SNR=3.2
RES PcP PcP 08 17 35.8 +0.2
comp=Z,3.4nm,0.8s,baz=302,slow=1.2,SNR=12
KLR Kul'dur 36.29 289 P P 08 15 09.6 -2.4
comp=Z,1.2nm,0.5s,baz=70,slow=10,SNR=6.7
KLR LR LR 08 31 24.0
comp=Z,43nm,18.4s,baz=97,slow=39
WAKR Walker 37.01 92 eP P 08 15 19.5 +1.0
comp=Z,2.9nm,0.9s
HLID Hailey 37.06 82 P P 08 15 19.5 +0.7
baz=304
EGMT Eagleton 37.46 72 P P 08 15 22.5 +0.4
baz=300,SNR=20
RYN Ryan 37.49 91 eP P 08 15 25.0 +2.5
comp=Z,6.4nm,1.2s
H11N2 WAKE ISLAND Hy 37.61 218 T T 08 55 07.5
baz=26,slow=74
BOZ Bozeman (W) 37.62 77 P P 08 15 23.8 +0.3
baz=302,SNR=11
H11N3 WAKE ISLAND Hy 37.62 218 T T 08 55 07.1
baz=26,slow=74
H11N1 WAKE ISLAND Hy 37.63 218 T T 08 55 08.9
baz=26
NVAR Mina Array Bea 37.75 91 P P 08 15 26.0 +1.2
comp=Z,2.5nm,0.9s,baz=297,slow=7.9,SNR=17
NVAR PcP PcP 08 17 42.5 +1.1
comp=Z,1.8nm,0.6s,baz=296,slow=2.6,SNR=9.3
FFC Flin Flon 38.65 59 eP P 08 15 32.5 +0.6
comp=Z,2.7nm,0.7s
FFC Flin Flon 38.65 59 eP P 08 15 32.5 +0.6
FFC pmax pmax
comp=Z,3.0nm,0.7s
H11S1 WAKE ISLAND Hy 38.80 218 T T 08 56 40.5
baz=23,slow=76,SNR=1010
H11S2 WAKE ISLAND Hy 38.82 218 T T 08 56 39.4
baz=23,slow=76,SNR=920
H11S3 WAKE ISLAND Hy 38.82 218 T T 08 56 36.4
baz=23,slow=76,SNR=1173
H17A Grant Village 38.90 78 P P 08 15 36.6 +2.2
baz=304
VES Vestal, Richgr 38.95 95 P P 08 15 35.5 +0.9
baz=312
FXWY Fox Creek 39.05 79 eP P 08 15 37.0 +1.3
comp=Z,1.4nm,1.0s
PKM Mcpherson Peak 39.15 97 P P 08 15 37.8 +1.3
baz=313
CWC Cottonwood Cre 39.16 93 P P 08 15 37.5 +0.9
baz=311
GRAC Grapevine Rang 39.24 92 P P 08 15 38.7 +1.6
baz=311
RLMT Red Lodge 39.27 76 P P 08 15 38.3 +0.7
baz=304,SNR=8.3
ISA Isabella, Lake 39.44 95 P P 08 15 39.6 +0.8
baz=312
R11A Troy Canyon, C 39.46 89 P P 08 15 40.3 +1.2
baz=309,SNR=11
MAJO Matsushiro 39.63 267 eP P 08 15 40.1 -0.2
MAJO Matsushiro 39.63 267 eP P 08 15 40.1 -0.2
MAT Matsushiro 39.63 267 P P 08 15 40.1 -0.2
MJAR Matsushiro Arr 39.63 267 P P 08 15 40.1 -0.2
comp=Z,1.8nm,0.4s,baz=38,slow=6.7,SNR=6.7
MJAR LR LR 08 29 56.2
comp=Z,32nm,21.6s,baz=60,slow=33
MPMC Manual Prospec 39.78 93 P P 08 15 42.3 +0.6
baz=312
FURC Furnace Creek, 39.89 92 P P 08 15 44.5 +2.1
baz=311,SNR=8.1
DUG Dugway, Tooele 40.00 85 P P 08 15 43.8 +0.2
baz=308,SNR=5.5
BW06 Boulder Array 40.43 79 eP P 08 15 48.1 +0.9
comp=Z,6.1nm,1.0s
BW06 Boulder Array 40.43 79 P P 08 15 47.9 +0.7
baz=306,SNR=14
PDAR Pinedale Array 40.43 79 P P 08 15 48.1 +1.0
comp=Z,2.9nm,0.6s,baz=302,slow=4.3,SNR=41
PDAR LR LR 08 29 31.3
comp=Z,28nm,20.8s,baz=346,slow=32
SHOC Shoshone, Teco 40.62 93 P P 08 15 49.0 +0.4
baz=312
GSC Goldstone, Bar 40.69 94 P P 08 15 50.4 +1.2
baz=312,SNR=8.4
BFSC Mount Baldy Ra 40.89 96 P P 08 15 52.0 +1.0
baz=313
MURC Murrieta 41.61 96 P P 08 15 58.2 +1.5
baz=314
GMRC Granite Mounta 41.74 93 P P 08 15 59.1 +1.3
baz=313,SNR=6.8
BOD Bodaibo 41.76 309 eP P 08 15 55.7 -1.9
BOD pmax pmax
comp=Z,1.0nm,1.4s
PFO Pinyon Flats O 42.05 95 P P 08 16 00.4 0.0
baz=314
BELC Belle Mtn. Jos 42.06 94 P P 08 16 01.5 +1.0
baz=313
K22A Casper 42.31 78 P P 08 16 02.4 -0.1
baz=306
IRM Iron Mountain 42.47 94 P P 08 16 04.5 +0.7
baz=313
MONP2 Monument Peak 42.56 96 P P 08 16 06.0 +1.2
baz=314
BC3 Big Chuckawall 42.63 94 P P 08 16 05.5 +0.4
baz=314
O20A White River Ci 42.80 82 P P 08 16 07.2 +0.6
baz=308,SNR=11
CN2 Changchun 42.86 285 eP P 08 16 05.1 -1.7
IKP In-Ko-Pah, Jac 42.92 96 P P 08 16 08.6 +1.1
baz=314
RSSD Black Hills 42.92 74 eP P 08 16 07.0 -0.5
comp=Z,3.4nm,0.6s
RSSD Black Hills 42.92 74 eP P 08 16 07.0 -0.5
RSSD pmax pmax
comp=Z,3.0nm,0.6s
RSSD Black Hills 42.92 74 P P 08 16 07.2 -0.3
baz=306
PDMCI Parker Dam,Lak 42.98 93 P P 08 16 09.2 +1.4
baz=313
Y12C Blythe 43.13 94 P P 08 16 10.4 +1.4
baz=313
GLA Glamis 43.42 95 P P 08 16 13.1 +1.7
baz=314
N23A Red Feather La 43.72 79 P P 08 16 14.4 +0.4
baz=308
WUAZ Wupatki 43.86 89 P P 08 16 16.7 +1.6
baz=312,SNR=10
ULM Lac du Bonnet 44.10 62 P P 08 16 16.7 +0.1
comp=Z,5.1nm,0.8s,baz=290,slow=8.5,SNR=6.1
ULM PcP PcP 08 18 01.3 -0.2
comp=Z,2.3nm,0.4s,baz=319,slow=5.2,SNR=6.3
ULM LR LR 08 34 41.7
comp=Z,42nm,18.8s,baz=340,slow=36
MVCO Mesa Verde 44.50 85 P P 08 16 20.7 +0.4
baz=311
ISCO Idaho Springs 44.59 80 P P 08 16 22.1 +1.0
baz=309
W18A Petrified Fore 45.12 88 P P 08 16 26.5 +1.3
baz=312,SNR=5.9
S22A 4UR Ranch, Cre 45.16 83 P P 08 16 26.5 +0.8
baz=310
AGMN Agassiz Nation 45.19 65 P P 08 16 24.7 -0.7
baz=305,SNR=9.8
KSRS Korea Array 45.29 276 P P 08 16 26.3 0.0
comp=Z,1.2nm,0.6s,baz=51,slow=9.6,SNR=4.3
KSRS LR LR 08 35 27.3
comp=Z,23nm,18.4s,baz=142,slow=36
214A Organ Pipe Nat 45.41 94 P P 08 16 28.7 +1.3
baz=315
SDCO Great Sand Dun 45.97 82 P P 08 16 32.5 +0.5
baz=311
OGNE Ogallala 46.02 77 P P 08 16 32.9 +0.8
baz=309
NRIK Norikk 46.15 331 LR LR 08 38 15.5
comp=Z,38nm,19.3s,baz=96,slow=39
JNU Nakatsue 46.38 270 eP P 08 16 34.7 -0.4
comp=Z,7.7nm,0.8s
JNU Nakatsue 46.38 270 P P 08 16 34.7 -0.4
comp=Z,4.7nm,0.7s,baz=27,slow=10,SNR=4.5
TUC Tucson 46.39 92 eP P 08 16 37.1 +1.9
comp=Z,5.6nm,0.9s
TUC Tucson 46.39 92 eP P 08 16 37.1 +1.9
TUC pmax pmax
comp=Z,6.0nm,0.9s
TUC Tucson 46.39 92 P P 08 16 36.4 +1.2
baz=314
KSCO Kaye Shedlock' 46.88 79 P P 08 16 39.9 +0.9
baz=310,SNR=5.1
T25A Trinidad 47.02 82 P P 08 16 41.5 +1.3
baz=311,SNR=19
TASM ASL Pad, Albuq 47.23 86 P P 08 16 43.5 +1.6
baz=312
TASM ASL Pad, Albuq 47.23 86 P P 08 16 42.9 +1.1
baz=312
ANMO Albuquerque 47.23 86 eP P 08 16 43.2 +1.3
comp=Z,4.2nm,1.1s
ANMO Albuquerque 47.23 86 P P 08 16 43.8 +2.0
baz=312
ANMO Albuquerque 47.23 86 P P 08 16 43.4 +1.6
comp=Z,3.7nm,1.0s,baz=298,slow=4.3,SNR=5.2
ANMO PcP PcP 08 18 14.2 +1.3
comp=Z,2.7nm,0.7s,baz=307,slow=3.1,SNR=11
EYMN Ely 47.77 63 P P 08 16 45.2 -0.5
baz=307,SNR=8.7
BGNE Belgrade 48.01 74 P P 08 16 47.7 +0.1
baz=309
121A Cookes Peak, D 48.07 89 P P 08 16 49.5 +1.2
baz=314,SNR=6.0
F37A Hinrichs Farm, 48.49 66 P P 08 16 50.6 -0.6
baz=308,SNR=7.8
E38A The Farm, Brul 48.55 64 P P 08 16 50.8 -0.8
baz=308,SNR=8.9
SPMN Marine on St. 48.70 66 P P 08 16 52.4 -0.4
baz=308
CBKS Cedar Bluff 48.73 77 P P 08 16 53.5 +0.3
baz=311
F38A Pierce - Schro 48.76 65 P P 08 16 53.2 -0.1
baz=308,SNR=12
C40A Isle Royale Na 49.05 61 P P 08 16 55.0 -0.5
baz=308
E39A Mellen 49.23 64 P P 08 16 55.5 -1.4
baz=308
G38A Ridgeland 49.26 66 P P 08 16 55.8 -1.3
baz=308
F39A Loretta 49.32 64 P P 08 16 56.5 -1.1
baz=308
H38A Maiden Rock 49.33 67 P P 08 16 57.3 -0.4
baz=309
E40A Wakefield 49.55 63 P P 08 16 59.3 -0.1
baz=308,SNR=7.6
G39A Holcombe 49.57 65 P P 08 16 58.2 -1.3
baz=309
F40A Park Falls 49.75 64 P P 08 17 00.3 -0.6
baz=308,SNR=13
H39A Augusta 49.88 66 P P 08 17 01.5 -0.4
baz=309
D41A Chassel 49.89 62 P P 08 17 02.3 +0.4
baz=308
E41A Kenton 50.05 63 P P 08 17 02.0 -1.1
baz=309
MNTX Cornudas Mount 50.11 88 P P 08 17 04.9 +1.1
baz=315,SNR=14
G40A Rib Lake 50.12 65 P P 08 17 03.2 -0.5
baz=309
MSTX Muleshoe 50.13 84 P P 08 17 03.9 -0.1
baz=313
I39A Houston 50.27 67 P P 08 17 03.7 -1.2
baz=309,SNR=11
H40A Chili 50.42 65 P P 08 17 05.5 -0.4
baz=309
F41A Three Lakes 50.42 64 P P 08 17 05.3 -0.7
baz=309,SNR=12
J39A Decorah 50.49 68 P P 08 17 05.5 -1.1
baz=310,SNR=6.5
G41A Antigo 50.71 64 P P 08 17 07.4 -0.8
baz=309
I40A Norwalk 50.75 66 P P 08 17 07.5 -1.0
baz=310
K39A Oelwein 50.79 68 P P 08 17 07.5 -1.3
baz=310,SNR=9.3
J40A Soldiers Grove 51.00 67 P P 08 17 09.7 -0.7
baz=310
I41A Arkdale 51.06 66 P P 08 17 10.4 -0.4
baz=310
SONA0 Songino Array 51.09 301 eP P 08 17 10.9 -0.2
SONM Songino Array 51.09 301 P P 08 17 10.9 -0.2
comp=Z,0.5nm,0.4s,baz=46,slow=8.3,SNR=2.6
SONM PcP PcP 08 18 26.1 -0.6
comp=Z,0.9nm,0.4s,baz=47,slow=2.0,SNR=4.8
L39A Vinton 51.10 69 P P 08 17 10.2 -0.9
baz=310,SNR=7.1
G42A Mountain 51.10 64 P P 08 17 10.5 -0.6
baz=310,SNR=6.3
E43A Lone Tree Farm 51.16 62 P P 08 17 10.7 -0.8
baz=309,SNR=8.4
K40A Colesburg 51.22 68 P P 08 17 11.1 -0.9
baz=310
M39A Webster 51.42 70 P P 08 17 13.0 -0.5
baz=311,SNR=15
J41A Loganville 51.42 67 P P 08 17 12.5 -1.0
baz=310
G43A Wallace 51.50 63 P P 08 17 13.3 -0.8
baz=310
H42A Shiocton 51.51 65 P P 08 17 14.0 -0.1
baz=310
JFWS Jewell Farm 51.58 67 P P 08 17 14.4 -0.4
baz=310
L40A Anamosa 51.58 69 P P 08 17 13.7 -1.1
baz=311
I42A Draeger Farm, 51.70 65 P P 08 17 14.8 -0.8
baz=310,SNR=7.5
F44A Big Bay de Noc 51.73 62 P P 08 17 14.8 -0.9
baz=310,SNR=6.4
K41A Shullsburg 51.75 67 P P 08 17 14.7 -1.2
baz=310
M40A Post Highland 51.85 69 P P 08 17 15.6 -1.1
baz=311
J42A Columbus 51.95 66 P P 08 17 16.5 -1.0
baz=310
H43A Windswept, Lux 51.96 64 P P 08 17 16.9 -0.6
baz=310,SNR=7.9
L41A Preston 51.99 68 P P 08 17 16.8 -0.9
baz=311
WMOK Wichita Mounta 52.02 80 P P 08 17 18.5 +0.4
baz=313
I43A Langenfeld Bro 52.13 65 P P 08 17 18.1 -0.7
baz=310,SNR=7.9
N40A Mertquake, Sal 52.15 70 P P 08 17 17.8 -1.1
baz=311
K42A Prairie Point, 52.18 67 P P 08 17 17.7 -1.4
baz=311,SNR=6.9
M41A Milan 52.42 69 P P 08 17 20.1 -0.9
baz=311
L42A Oliver, Polo 52.50 68 P P 08 17 20.9 -0.6
baz=311
E46A Sault Ste Mari 52.60 60 P P 08 17 21.4 -0.9
baz=310
HHC Hu-ho-hao-te 52.75 291 eP P 08 17 25.0 +1.5
HHC pmax pmax
comp=Z,39nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.7s
D47A Chapleau 52.79 59 P P 08 17 23.0 -0.7
baz=310
K43A Burlington 52.79 66 P P 08 17 22.4 -1.3
baz=311
TXAR Lajitas Array 52.82 89 P P 08 17 25.2 +1.0
comp=Z,8.7nm,0.7s,baz=298,slow=5.4,SNR=142
TXAR PcP PcP 08 18 34.1 +0.8
comp=Z,1.4nm,0.6s,baz=294,slow=1.2,SNR=4.7
ABTX Abilene, Hawle 52.95 83 P P 08 17 25.0 0.0
baz=314
TUL1 Leonard 53.01 77 P P 08 17 25.1 -0.3
baz=313
M43A Waltham Townsh 53.27 68 P P 08 17 26.3 -0.9
baz=312
H46A Fife Lake 53.31 63 P P 08 17 27.3 -0.2
baz=311
D48A Paudash Townsh 53.39 58 P P 08 17 27.4 -0.7
baz=311
D49A Beulah Townshi 53.56 58 P P 08 17 28.9 -0.4
baz=311
HDIL Hopedale 53.67 69 P P 08 17 29.0 -1.2
baz=312
MATQ Matagami 53.80 53 P P 08 17 29.3 -1.7
baz=311
H47A Mio 53.81 62 P P 08 17 30.0 -1.2
baz=311
M44A Midewin, Midew 53.82 67 P P 08 17 30.3 -0.9
baz=312
F48A Evansville 53.85 60 P P 08 17 29.9 -1.5
baz=311
R41A Rosebud 53.98 72 P P 08 17 31.2 -1.4
baz=313
Q42A Golden Eagle 54.06 71 P P 08 17 32.2 -0.8
baz=313
P43A Skaggs, Pawnee 54.15 70 P P 08 17 32.3 -1.4
baz=312
N44A Piper City 54.17 68 P P 08 17 32.3 -1.5
baz=312
F49A Sandfield 54.19 60 P P 08 17 33.6 -0.3
baz=312
H48A Harrisville 54.21 61 P P 08 17 32.3 -1.8
baz=312
K46A Dorr 54.22 65 P P 08 17 32.5 -1.6
baz=312
CCM Cathedral Cave 54.23 72 P P 08 17 32.9 -1.3
baz=313
S41A Jillco Farms, 54.25 73 P P 08 17 32.6 -1.9
baz=313,SNR=12
I48A Sherman Twp 54.35 62 P P 08 17 34.3 -0.8
baz=312
JCT Junction City 54.36 85 P P 08 17 35.5 0.0
baz=316
L46A Eue Claire 54.38 66 P P 08 17 34.9 -0.4
baz=312
NJ2 Nanjing 54.43 278 eP P 08 17 36.2 +0.4
NJ2 pmax pmax
comp=Z,15nm,0.5s
E50A Wahnapitae 54.44 58 P P 08 17 35.0 -0.7
baz=312
U40A Yellville 54.44 75 P P 08 17 34.3 -1.6
baz=313,SNR=5.7
N45A Kentland 54.48 67 P P 08 17 35.7 -0.3
baz=312
LSQQ Lebel-sur-Quev 54.58 54 P P 08 17 35.3 -1.4
baz=312
K47A Vermontville 54.66 64 P P 08 17 36.6 -0.8
baz=312
W39A Magazine 54.69 77 P P 08 17 36.8 -0.9
baz=314
WHTX Lake Whitney, 54.72 82 P P 08 17 38.0 +0.1
baz=315,SNR=6.6
M46A Old House Fiel 54.75 66 P P 08 17 37.4 -0.7
baz=312
TOBO Tobermory, Bru 54.82 60 P P 08 17 37.6 -0.9
baz=312
N46A Monticello 54.88 67 P P 08 17 36.9 -2.1
baz=313
U41A Viola 55.00 74 P P 08 17 38.6 -1.3
baz=314
E51A G1948 Merrick 55.01 57 P P 08 17 38.7 -1.1
baz=312,SNR=8.4
F51A Arnstein 55.19 58 P P 08 17 39.4 -1.7
baz=312
MIAR Mount Ida 55.26 77 P P 08 17 41.7 -0.1
baz=314,SNR=5.2
D52A ZEK Kipawa Sen 55.26 56 P P 08 17 41.2 -0.4
baz=312
CHGQ Chibougamau 55.27 52 P P 08 17 40.6 -1.2
baz=313
BMRO Meriville Lake 55.41 60 P P 08 17 41.8 -0.9
baz=312
KLBO Killbear Provi 55.42 59 P P 08 17 41.6 -1.2
baz=312
Q45A Warren Harvey, 55.44 70 P P 08 17 41.6 -1.4
baz=313
N47A Urbana 55.48 66 P P 08 17 42.0 -1.3
baz=313
F52A Sundridge 55.59 58 P P 08 17 43.4 -0.6
baz=313
W41B Gary Mavity, V 55.61 76 P P 08 17 44.0 -0.3
baz=314
Q47A Sheridan 55.65 67 P P 08 17 43.3 -1.3
baz=313
L49A Milan 55.71 64 P P 08 17 44.5 -0.5
baz=313
BWLO Walkerton 55.77 61 P P 08 17 45.4 0.0
baz=313
R45A Skylar, Fairfi 55.77 70 P P 08 17 44.6 -0.8
baz=314
BUKO Buck Lake 55.79 58 P P 08 17 44.9 -0.5
baz=313,SNR=6.7
I51A Listowel 56.04 61 P P 08 17 46.7 -0.6
baz=313
E53A Dumoine, Ponti 56.04 57 P P 08 17 46.6 -0.7

	baz=313							
H52A	Wyevale	56.07	59	P	P	08 17 47.2	-0.3
	baz=313							
P47A	Martinsville	56.10	68	P	P	08 17 46.8	-1.0
	baz=313,SNR=5.0							
ALGO	Algonquin Park	56.13	57	P	P	08 17 47.5	-0.4
	baz=313							
H06N1	SOCORRO T-PHAS	56.21	104	T	T	09 18 45.2	
	SNR=55							
E54A	Lac Daplat, Po	56.25	56	P	P	08 17 47.4	-1.3
	baz=313							
N49A	Columbus Grove	56.29	65	P	P	08 17 47.8	-1.3
	baz=313							
H06E1	SOCORRO T-PHAS	56.31	104	T	T	09 18 48.1	
	SNR=60							
Q47A	Bedord North L	56.39	68	P	P	08 17 49.0	-0.9
	baz=314							
G53A	Haliburton	56.41	58	P	P	08 17 49.4	-0.5
	baz=313,SNR=8.0							
P48A	Milroy	56.59	67	P	P	08 17 49.2	-2.1
	baz=314							
R47A	Wooly Knot Far	56.77	69	P	P	08 17 52.0	-0.6
	baz=314							
BANO	Bancroft	56.84	58	P	P	08 17 53.2	+0.2
	baz=314							
X43A	Marvell	56.87	75	P	P	08 17 51.8	-1.5
	baz=315							
P49A	Miami Univ. Ec	56.94	67	P	P	08 17 52.2	-1.6
	baz=314							
N50A	Nevada	56.96	65	P	P	08 17 53.2	-0.7
	baz=314							
S47A	Hartford	57.06	70	P	P	08 17 53.5	-1.1
	baz=314							
O50A	Cable	57.13	66	P	P	08 17 54.4	-0.7
	baz=314							
HKT	Hockley	57.14	83	eP	P	08 17 55.5	+0.3
	comp=Z,4.5nm,1.0s							
HKT	Hockley	57.14	83	eP	P	08 17 55.5	+0.3
HKT				pmax	pmax		
	comp=Z,5.0nm,1.0s							
U46A	Springville	57.17	72	P	P	08 17 55.6	+0.2
	baz=314							
PLVO	Plevna	57.26	57	P	P	08 17 55.3	-0.7
	baz=314							
N51A	Ashland	57.29	64	P	P	08 17 55.4	-0.8
	baz=314							
G55A	Calabogie	57.30	57	P	P	08 17 55.8	-0.4
	baz=314							
DELO	Deloro Mine	57.34	58	P	P	08 17 56.5	0.0
	baz=314							
WLVO	Wesleyville	57.35	59	P	P	08 17 55.6	-0.9
	baz=314							
T47A	Sharon Grove	57.35	70	P	P	08 17 56.2	-0.5
	baz=314							
P50A	Jamestown	57.40	66	P	P	08 17 56.1	-1.0
	baz=314							
M52A	Chesterland	57.41	63	P	P	08 17 56.3	-0.8
	baz=314							
S48A	Wiedeman Farm,	57.48	69	P	P	08 17 56.8	-0.9
	baz=314							
I55A	Frankford	57.52	58	P	P	08 17 57.4	-0.3
	baz=314							
WVT	Waverly	57.53	72	eP	P	08 17 58.0	0.0
	comp=Z,4.0nm,1.0s							
WVT	Waverly	57.53	72	eP	P	08 17 58.0	0.0
WVT				pmax	pmax		
	comp=Z,4.0nm,1.0s							
H55A	Tweed	57.54	58	P	P	08 17 57.6	-0.3
	baz=314							
R49A	Shelbyville	57.55	68	P	P	08 17 56.6	-1.5
	baz=314							
V46A	Holladay	57.59	72	P	P	08 17 57.7	-0.7
	baz=315							
U47A	Clarksville	57.62	71	P	P	08 17 58.2	-0.5
	baz=315							
O51A	Pataskala	57.69	65	P	P	08 17 58.4	-0.7
	baz=314							
OXF	Oxford	57.74	74	P	P	08 17 58.5	-0.9
	baz=315							
S49A	Springfield	57.83	69	P	P	08 17 58.9	-1.2
	baz=314							
V47A	Nunnelly	57.92	72	P	P	08 18 00.3	-0.5
	baz=315							
H56A	Elgin	57.99	57	P	P	08 18 00.1	-1.0
	baz=314							
U48A	Cassie Pea, Po	58.01	71	P	P	08 18 00.8	-0.5
	baz=315							
R50A	Paris	58.03	68	P	P	08 18 00.5	-0.9
	baz=314							
L54A	Sinclairville	58.03	61	P	P	08 18 00.6	-0.9
	baz=314							
Q51A	Peebles	58.06	66	P	P	08 18 01.3	-0.4
	baz=314							
PECO	Prince Edward	58.07	58	P	P	08 18 00.4	-1.2
	baz=314							
J55A	Hilton	58.11	59	P	P	08 18 01.0	-0.9
	baz=314							
O52A	Adamsville	58.14	64	P	P	08 18 01.2	-1.0
	baz=314							
T49A	Edmonton	58.17	69	P	P	08 18 01.6	-0.9
	baz=315							
X46A	Booneville	58.19	74	P	P	08 18 02.0	-0.7
	baz=315							
N53A	Lisbon	58.20	63	P	P	08 18 01.6	-1.1
	baz=314							
W47A	Westpoint	58.28	72	P	P	08 18 02.2	-1.0
	baz=315							
M54A	Oil Creek Stat	58.35	62	P	P	08 18 01.9	-1.7
	baz=314							
O53A	New Philadelph	58.39	64	P	P	08 18 02.6	-1.4
	baz=314							
R51A	Hillsboro	58.44	67	P	P	08 18 04.0	-0.3
	baz=315,SNR=11							
U49A	Red Boiling Sp	58.44	70	P	P	08 18 03.5	-0.8
	baz=315							
T50A	Nancy	58.62	69	P	P	08 18 04.2	-1.5
	baz=315							
Q52A	Bidwell	58.71	66	P	P	08 18 04.3	-1.9
	baz=315							
W48A	Pulaski	58.74	72	P	P	08 18 05.2	-1.3
	baz=315							
LONY	Lake Ozonia	58.83	56	P	P	08 18 04.4	-2.5
	baz=315							
M55A	Ridgway	58.86	61	P	P	08 18 06.4	-0.9
	baz=315							
O54A	Avella	58.89	63	P	P	08 18 06.4	-1.1
	baz=315							
S51A	Beattyville	58.89	68	P	P	08 18 06.3	-1.2
	baz=315							
V49A	McMinnville	58.90	71	P	P	08 18 06.2	-1.4
	baz=315							
U50A	Jamestown	59.05	69	P	P	08 18 07.4	-1.2
	baz=315							
SSLB	Suanglung	59.13	269	eP	P	08 18 07.3	-2.0
	comp=Z,14nm,0.8s							
W49A	Belvidere	59.14	71	P	P	08 18 08.5	-0.7
	baz=315							
T51A	Gray	59.17	68	P	P	08 18 09.1	-0.3
	baz=315							
N55A	Marion Center	59.22	62	P	P	08 18 08.6	-1.2
	baz=315							
P54A	Burton	59.24	64	P	P	08 18 09.7	-0.2
	baz=315							
R53A	Hurricane	59.33	66	P	P	08 18 10.4	-0.1
	baz=315							
V50A	Pikevile	59.42	70	P	P	08 18 10.1	-1.1
	baz=315							
Y48A	Jasper	59.48	73	P	P	08 18 10.3	-1.3
	baz=316							
Q54A	Coxs Mills	59.48	65	P	P	08 18 10.6	-1.0
	baz=315							
U51A	La Follette	59.54	69	P	P	08 18 11.2	-0.8
	baz=315							
T52A	Hallie	59.61	68	P	P	08 18 11.9	-0.6
	baz=315							
W50A	Signal Mountai	59.64	71	P	P	08 18 12.2	-0.5
	baz=316							
P55A	Reedsville	59.67	64	P	P	08 18 11.8	-1.1
	baz=315							
S53A	Williamson	59.69	67	P	P	08 18 12.3	-0.7
	baz=315							
TZTN	Tazewell	59.69	69	P	P	08 18 12.8	-0.3
	baz=316							
147A	Livingston	59.71	75	P	P	08 18 12.9	-0.3
	baz=316							
BINY	Binghamton	59.81	59	P	P	08 18 14.1	+0.3
	baz=316							
Q55A	Buckhannon	59.89	64	P	P	08 18 13.9	-0.5
	baz=315							
U52A	Thorn Hill	59.90	69	P	P	08 18 14.2	-0.3
	baz=316							
SSPA	Standing Stone	59.92	62	eP	P	08 18 13.5	-1.0
	comp=Z,13nm,0.9s							
SSPA	Standing Stone	59.92	62	P	P	08 18 14.0	-0.5
	baz=316							
T53A	Wise	59.95	67	P	P	08 18 13.3	-1.6
	baz=316							
Y49A	Blount Mountai	59.95	73	P	P	08 18 13.6	-1.3
	baz=316							
R54A	Victor	59.97	66	P	P	08 18 14.2	-0.7
	baz=316							
X50B	Fort Payne	59.97	72	P	P	08 18 13.3	-1.7
	baz=316							
W51A	Cleveland	59.98	70	P	P	08 18 13.7	-1.4
	baz=316							
148A	Greensboro	60.14	74	P	P	08 18 15.3	-0.8
	baz=316							
LRAL	Lakeview Retre	60.20	74	eP	P	08 18 14.6	-2.0
	comp=Z,5.3nm,0.7s							
LRAL	Lakeview Retre	60.20	74	P	P	08 18 15.1	-1.5
	baz=316							
Y50A	Piedmont	60.33	72	P	P	08 18 17.1	-0.3
	baz=316							
Z49A	Columbiana	60.36	73	P	P	08 18 16.6	-1.0
	baz=316							
U53A	Fall Branch	60.37	68	P	P	08 18 16.5	-1.2
	baz=316							
LZH	Lanzhou	60.41	292	eP	P	08 18 20.5	+2.3
LZH				pP	pP	08 18 23.4	-1.1
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
LZH				pmax	pmax		
	comp=Z,79nm,4.3s						
LZH				LR	LR		
	comp=Z,230nm,16.7s						
LZH				LR	LR		
	comp=Z,240nm,16.2s						
LZH				LR	LR		
	comp=Z,360nm,17.3s						
T54A	Tazewell	60.44	67	P	P	08 18 17.8	-0.4
	baz=316						
W52A	Murphy	60.51	70	P	P	08 18 18.4	-0.2
	baz=316						
S55A	Lewisburg	60.53	66	P	P	08 18 18.1	-0.7
	baz=316						
149A	Jones	60.63	74	P	P	08 18 18.4	-1.1
	baz=316,SNR=6.4						
Z50A	Ashland	60.67	73	eP	P	08 18 18.5	-1.3
	comp=Z,8.7nm,0.6s						
Z50A	Ashland	60.67	73	P	P	08 18 18.1	-1.7
	baz=316,SNR=5.9						
Y51A	Rockmart	60.71	72	P	P	08 18 18.7	-1.3
	baz=316						
V53A	Saluda	60.73	69	P	P	08 18 19.6	-0.6
	baz=316						
T55A	Pulaski	60.84	66	P	P	08 18 21.1	+0.2
	baz=316						
X52A	Dahlonega	60.88	70	P	P	08 18 20.4	-0.8
	baz=316						
249A	Camden	60.89	75	P	P	08 18 20.7	-0.6
	baz=316						
BLA	Blacksburg	60.97	66	eP	P	08 18 20.4	-1.5
	comp=Z,9.1nm,0.8s						
BLA	Blacksburg	60.97	66	eP	P	08 18 20.4	-1.5
BLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BLA	Blacksburg	60.97	66	P	P	08 18 20.8	-1.0
	baz=316						
O59A	Robesonia	61.06	61	P	P	08 18 21.8	-0.5
	baz=316						
150A	Eclectic	61.08	73	P	P	08 18 21.9	-0.6
	baz=316						
S56A	Natural Bridge	61.11	65	P	P	08 18 22.0	-0.7
	baz=316						
U55A	TA2, Sparta	61.13	67	P	P	08 18 22.9	-0.1
	baz=316						
R57A	Stanardsville	61.24	64	P	P	08 18 23.5	-0.1
	baz=316						
T56A	Rocky Mt	61.32	66	P	P	08 18 24.1	-0.1
	baz=316						
250A	Gradyville	61.39	74	P	P	08 18 23.8	-0.9
	baz=317						
P59A	Jarrettsville	61.43	61	P	P	08 18 24.0	-0.8
	baz=316						
V55A	Taylorsville	61.50	68	P	P	08 18 24.5	-0.9
	baz=316						
BRAL	Brewton	61.51	75	P	P	08 18 24.7	-0.8
	baz=317						
Z52A	Williamson	61.59	72	P	P	08 18 24.1	-1.9
	baz=317						
Y53A	Monroe	61.59	71	P	P	08 18 24.4	-1.6
	baz=316						
U56A	King	61.61	67	P	P	08 18 24.6	-1.5
	baz=316						
T57A	Hurt	61.77	65	P	P	08 18 25.4	-1.8
	baz=316						
X54A	Belton	61.79	69	P	P	08 18 25.9	-1.4
	baz=316						
152A	Waverly Hall	61.79	72	P	P	08 18 25.5	-1.9
	baz=317						
HRV	Adam Dziewonsk	61.87	56	P	P	08 18 25.9	-1.9
	baz=317						
V56A	Mocksville	61.94	67	P	P	08 18 27.4	-0.9
	baz=317						
KMSC	Kings Mountain	61.95	68	P	P	08 18 27.9	-0.5
	baz=317						
GOGA	Godfrey	61.98	71	P	P	08 18 27.0	-1.6
	baz=317						
Z53A	Monticello	62.02	71	P	P	08 18 27.6	-1.3
	baz=317						
450A	Crestview	62.05	75	P	P	08 18 28.3	-0.8
	baz=317						
R59A	King George, V	62.08	63	P	P	08 18 28.8	-0.4
	baz=317						
Y54A	Tignall	62.10	70	P	P	08 18 28.1	-1.3
	baz=317						
KURK	Kurchatov	62.12	318	P	P	08 18 28.5	-0.8
U57A	Blanch	62.14	66	P	P	08 18 28.7	-0.9
	baz=317						
T58A	Grand View Acr	62.21	65	P	P	08 18 29.2	-0.9
	baz=317						
KURBB	Kurchatov Arra	62.23	318	P	P	08 18 28.5	-1.5
	comp=Z,0.3nm,0.3s,baz=43,slow=7.9,SNR=5.5						
X55A	Gracelyn & Ava	62.26	69	P	P	08 18 29.7	-0.8
	baz=317						
Z54A	Sparta	62.47	71	P	P	08 18 31.5	-0.4
	baz=317						
Y55A	Saluda	62.52	69	P	P	08 18 31.6	-0.6
	baz=317						
352A	Blakely	62.53	73	P	P	08 18 31.5	-0.9
	baz=317						
V58A	Windy Hill, Pi	62.72	66	P	P	08 18 33.6	0.0
	baz=317						
154A	Montrose	62.77	71	P	P	08 18 33.5	-0.4
	baz=317						
W58A	Raeford	63.22	67	P	P	08 18 36.6	-0.3
	baz=317						
WMQ	Urumqi	63.30	308	eP	P	08 18 39.9	+2.5
WMQ				LR	LR		
	comp=Z,2μm,39.2s						
WMQ				LR	LR		
	comp=Z,2μm,39.1s						
BVAR	Borovoye Array	63.44	324	P	P	08 18 36.9	-1.2
	comp=Z,0.8nm,0.4s,baz=63,slow=6.0,SNR=6.1						
MK32	Makanchi Array	63.56	313	eP	P	08 18 38.3	-0.8
MKAR	Makanchi Array	63.56	313	P	P	08 18 38.3	-0.8
	comp=Z,0.4nm,0.8s,baz=47,slow=6.3,SNR=3.0						
Z57A	Bowman	63.65	69	P	P	08 18 38.7	-1.0
	baz=317						
157A	Early Branch	63.93	70	P	P	08 18 40.6	-1.0
	baz=318						
NHSC	New Hope	64.08	69	P	P	08 18 42.7	+0.2
	baz=318						
CD2	Chengdu	64.21	288	eP	P	08 18 43.0	-0.5
FINES	FINESS Array B	65.59	352	P	P	08 18 51.4	-0.6
	comp=Z,0.8nm,0.6s,baz=353,slow=7.3,SNR=4.9						
FINES				LR	LR	08 50 00.7	
	comp=Z,59nm,18.9s,baz=282,slow=38						
NOA	NORSAR Array B	66.67	360	P	P	08 19 00.3	+1.3
	comp=Z,0.6nm,0.8s,baz=359,slow=6.2,SNR=2.6						
NOA				LR	LR	08 47 23.9	
	comp=Z,19nm,21.8s,baz=330,slow=35						
JAY	Jayapura	68.99	235	LR	LR	08 47 07.9	
	comp=Z,26nm,19.4s,baz=352,slow=34						
BOOM	Boomskoye usch	69.74	314	eP	P	08 19 17.0	-1.7
	comp=Z,4.1nm,0.6s						
BOOM	Boomskoye usch	69.74	314	eP	P	08 19 17.0	-1.7
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ABKAR	Akbulak array	70.16	328	eP	P	08 19 19.4	-1.5
ABKAR				eP	pP	08 19 19.7	-7.6
KSH	Kashi	72.14	312	P	P	08 19 37.3	+4.1
KSH				sP	PcP	08 19 52.1	+0.6
KSH				PcP	sP	08 19 55.4	+14
KSH				S	S	08 28 54.0	-0.3
KSH				ScS	ScS	08 29 38.7	+0.4
KSH				pmax	pmax		
	comp=Z,10.0nm,0.3s						
KSH				pmax	pmax		
	comp=Z,140nm,3.6s						
KSH				LR	LR		
	comp=Z,250nm,10.6s						
KSH				LR	LR		
	comp=Z,230nm,9.8s						
AKASG	Malin Array Be	75.83	348	P	P	08 19 55.9	+1.5
	comp=Z,0.7nm,0.4s,baz=16,slow=5.6,SNR=5.0						
CMAR	Chiang Mai Arr	76.48	283	P	P	08 19 57.5	-1.2
	comp=Z,0.9nm,0.4s,baz=28,slow=7.8,SNR=6.0						
CMAR				LR	LR	08 57 16.7	
	comp=Z,17nm,19.0s,baz=165,slow=39						
GERES	GERESS Array B	78.86	358	P	P	08 20 12.0	+0.4
GERES	GERESS Array B	78.86	358	P	P	08 20 12.0	+0.4
	comp=Z,0.4nm,0.2s,baz=50,slow=6.5,SNR=3.7						
KBZ	Khabaz	80.03	337	P	P	08 20 18.6	+0.7
	comp=Z,1.5nm,0.6s,baz=273,slow=2.6,SNR=4.5						
BR101	Keskin Array S	85.84	342	eP	P	08 20 49.4	+1.1
BRTR	Keskin Array B	85.84	342	P	P	08 20 49.4	+1.1
	comp=Z,0.4nm,0.6s,baz=40,slow=7.5,SNR=2.4						
BRTR				LR	LR	09 02 41.7	
	comp=Z,23nm,21.9s,baz=68,slow=38						
WR1	Warramunga Arr	87.11	231	eP	P	08 20 53.3	-1.1
WRA	Warramunga Arr	87.11	231	P	P	08 20 53.3	-1.1
	comp=Z,2.4nm,0.7s,baz=34,slow=6.0,SNR=11						
ESDC	Sonseca Array	87.21	11	P	P	08 20 54.5	-0.4
	comp=Z,0.2nm,0.3s,baz=323,slow=5.9,SNR=3.2						
PSI	Prapat	88.75	273	eP	P	08 21 01.6	-1.1
	comp=Z,18nm,0.8s						
PSI	Prapat	88.75	273	eP	P	08 21 01.6	-1.1
PSI				pmax	pmax		
	comp=Z,18nm,0.8s						
AS31	Alice Springs	90.50	230	eP	P	08 21 09.7	-0.7
	comp=Z,1.6nm,0.8s						
ASAR	Alice Springs	90.50	230	P	P	08 21 10.2	-0.3
	comp=Z,5.6nm,0.8s,baz=32,slow=4.4,SNR=38						
TORD	Torodi Ar. Bea	114.05	9	PKKPbc	PKKPbc	08 37 27.2	+0.2
	comp=Z,0.3nm,0.7s,baz=184,slow=3.9,SNR=4.6						
CPUP	Villa Florida	123.79	90	PKP	PKPdf	08 27 04.8	-1.4
	comp=Z,1.7nm,1.0s,baz=35,slow=2.4,SNR=3.4						
PLCA	Paso Flores	125.97	112	PKP	PKPdf	08 27 10.0	-0.1
	comp=Z,2.6nm,0.6s,baz=282,slow=4.3,SNR=6.6						
TSUM	Tsumeb	146.18	348	PKPbc	PKPbc	08 27 48.8	-0.2
	comp=Z,4.0nm,0.6s,baz=346,slow=5.5,SNR=10						
MAW	Mawson	151.03	219	ePKPbc	PKiKP	08 28 00.4	-0.2
MAW	Mawson	151.03	219	PKPbc	PKPbc	08 27 59.9	-0.1
	comp=Z,6.2nm,0.9s,baz=86,slow=6.7,SNR=6.2						
BOSA	Boshof	153.62	330	PKPbc	PKPbc	08 28 06.8	-0.5
	comp=Z,1.5nm,0.3s,baz=351,slow=2.0,SNR=12						
VNA3	Neumayer Olymp	159.27	162	PKPab	PKPab	08 28 46.0	+3.1
VNA2	Neumayer--Watz	159.96	163	PKPab	PKPab	08 28 50.3	+4.4
SNAA	Sanae	160.00	168	PKPab	PKPab	08 28 43.7	-2.4
SNAA	Sanae	160.00	168	PKPab	PKPab	08 28 45.2	-1.0
	comp=Z,1.1nm,0.7s,baz=266,slow=15,SNR=4.3						
VNA1	Neumayer--Stat	160.02	162	PKPab	PKPab	08 28 49.6	+3.4

*JMA **08** 08:13:52.7±0.4, 45°.16N×137°.23E, h352km±4km, M3.9*
*SKHL **08** 08:13:52.7±1.4, 45°.31N×137°.09E, h337km±9km, mb4.1/8, msh4.3/3*
*BJI **08** 08:13:52.6±0.0, 45°.47N×137°.19E, h371km, mb4.4/8, mB4.4/3*
*ISCJB **08** 08:13:52.1±0.2, 45°.20N±0°.03×137°.19E±0°.03, h350km, mb3.7/25, Error ellipse: s-maj=4.1km s-min=3.0km az=27.9*
*MOS **08** 08:13:52.3±0.8, 45°.32N×137°.11E, h350km, mb3.7/18, Error ellipse: s-maj=10.4km s-min=7.5km az=90.7*
*IDC **08** 08:13:53.2±1.0, 45°.35N×137°.06E, h340km±11km, mb3.3/19, mb1 3.4/26, mb1mx3.3/48, mbtmp4.1/26, Error ellipse: s-maj=14.1km s-min=9.5km az=171.0*
ISC 08 08:13:52.7±0.4, 45°.15N±0°.05×137°.19E±0°.04, h350km, n100, σ1°33/120, mb3.7/25, 7C-3D, Primorye

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TEY	Ternei	0.43	254	⇓iP	Pn	08 14 36.2	-0.6
TEY				eS	S	08 15 09.1	-3.1
TEY				pmax	pmax		
	comp=E,10.0nm,0.4s						
TEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
TEY				pmax	pmax		
	comp=Z,40nm,0.7s						
TEY				smax	smax		
	comp=E,150nm,1.2s						
TEY				smax	smax		
	comp=N,100nm,0.6s						
TEY	Ternei	0.43	254	⇓iP	Pn	08 14 36.2	-0.6
TEY				AMB	AMB	08 14 36.6	
	comp=N,10.0nm,0.7s						
TEY				AMB	AMB	08 14 36.6	
	comp=N,400nm,0.7s						
TEY				AMB	AMB	08 14 36.6	
	comp=N,44nm,0.7s						
TEY				i S	S	08 15 09.2	-3.0
TEY				A	A	08 15 09.9	
	comp=N,100nm,1.2s						
TEY				A	A	08 15 09.9	
	comp=N,153nm,1.2s						
JRR	Rishiri	2.92	89	P	Pn	08 14 51.5	+0.2
JRR				S	S	08 15 37.3	-1.1
JSK	Shakotan	2.97	126	P	Pn	08 14 52.0	+0.2
JYG	Yagishiri	3.10	102	S	S	08 15 40.5	-1.0
JSH	Shimam	3.25	140	P	Pn	08 14 54.5	+0.1
JSH				eS	S	08 15 43.3	-0.7
JWK2	Keihoku	3.33	86	P	Pn	08 14 55.9	+0.8
JOSM	Okushiri--Mats	3.49	151	P	Pn	08 14 57.0	+0.3
JOSM				eS	S	08 15 47.4	-0.8
JHR	Hokuryu	3.54	112	P	Pn	08 14 57.6	+0.4
USRK	Ussuriysk Ar.	3.83	257	P	Pn	08 15 00.1	+0.2
	comp=N,2.6nm,0.3s,baz=65,slow=12,SNR=37						
JSE	Soyaes	3.83	91	P	Pn	08 15 00.5	+0.6
JSE				S	S	08 15 53.7	-0.4
JEW	Eniwo	3.85	125	P	Pn	08 15 00.7	+0.5
GRTR	Gornotajezhnoj	3.88	250	⇑iP	Pn	08 15 00.5	0.0
ASAJ	Asahikawa	4.00	103	P	Pn	08 15 02.4	+0.7
	comp=N,20nm,0.3s,baz=269,slow=6.1,SNR=87						
JKK2	Kamakawa 2	4.18	106	P	Pn	08 15 03.9	+0.3
YSS	Yuzh-Sakhalins	4.28	63	eP	Pn	08 15 04.8	+0.4
YSS				eS	S	08 16 01.3	-1.1
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax	smax		
	comp=N,40nm,1.3s						
YSS				smax	smax		
	comp=E,30nm,1.1s						
YSS	Yuzh-Sakhalins	4.28	63	eP	Pn	08 15 04.2	-0.2
YSS				AMB	AMB	08 15 05.0	
	comp=E,20nm,0.8s						
YSS				eS	S	08 16 01.2	-1.1
YSS				A	A	08 16 02.0	
	comp=E,40nm,1.0s						
YSS				A	A	08 16 02.0	
	comp=E,30nm,1.0s						
VLA	Vladivostok	4.32	244	i P	Pn	08 15 05.7	+0.6
VLA				pmax	pmax		
	comp=Z,18nm,0.2s						
VLA	Vladivostok	4.32	244	eP	Pn	08 15 05.7	+0.6
VLA				AMB	AMB	08 15 14.3	
	comp=Z,23nm,1.1s						
JFR	Furan	4.37	115	P	Pn	08 15 05.5	-0.1
JOT	Ohata	4.71	142	P	Pn	08 15 09.7	+0.5
JTKR	Abashiri--Toko	4.95	101	P	Pn	08 15 11.9	+0.2
JNBK	Urakawa-nobuka	4.95	123	P	Pn	08 15 12.3	+0.5
JNBK				eS	S	08 16 14.8	-0.9
JAR	Ashorobuto	5.08	109	P	Pn	08 15 13.3	+0.1
JAR				S	S	08 16 17.0	-1.3
JCH	Churui	5.13	117	P	Pn	08 15 12.5	-1.3
JCH				S	S	08 16 17.5	-1.9
KLR	Kul'dur	5.51	320	i P	Pn	08 15 15.6	-2.2
KLR				pmax	pmax		

comp=Z,2.0nm,1.0s
KLR Kul'dur 5.51 320 P **Pn 08 15 15.7 -2.1**
comp=Z,0.4nm,0.3s,baz=161,slow=4.8,SNR=6.0
KLR Kul'dur 5.51 320 *e*P **Pn 08 15 15.6 -2.2**
GRNR Gornyy 5.64 355 *e*P **Pn 08 15 18.9 -0.4**
GRNR AMB AMB 08 15 19.8
comp=Z,37nm,0.9s
YUK Yuzh-Kuril'sk 6.29 97 *i* P **Pn 08 15 28.1 +1.3**
YUK Yuzh-Kuril'sk 6.29 97 *e*P **Pn 08 15 28.1 +1.3**
NEM2 Nemuro 2 6.40 103 P **Pn 08 15 26.6 -1.5**
NEM2 *e*S **S 08 16 42.7 -2.8**
TYV Tymovskoe 6.79 31 *e*P **Pn 08 15 33.4 +1.0**
TYV *e*S **S 08 16 51.1 -2.4**
TYV pmax pmax
comp=Z,100nm,1.3s
TYV pmax pmax
comp=Z,54nm,0.5s
TYV smax smax
comp=N,9.0nm,1.1s
TYV Tymovskoe 6.79 31⇑ *i*P **Pn 08 15 33.1 +0.7**
TYV AMB AMB 08 15 33.8
comp=N,53nm,0.5s
TYV *e*S **S 08 16 51.1 -2.4**
TYV A A 08 16 52.6
comp=N,9.0nm,1.0s
JMK Ichinoseki 6.88 153 P **Pn 08 15 33.2 -0.6**
JMK S **S 08 16 53.1 -2.8**
NKL Nikolayevsk 8.32 15 *e*P **Pn 08 15 48.7 -1.8**
NKL pmax pmax
comp=N,13nm,1.3s
NKL pmax pmax
comp=Z,51nm,1.3s
NKL Nikolayevsk 8.32 15 *e*P **Pn 08 15 49.7 -0.8**
NKL AMB AMB 08 15 50.2
comp=Z,15nm,0.8s
MJAR Matsushiro Arr 8.64 175 P **P 08 15 55.9 -1.2**
comp=Z,0.4nm,0.3s,baz=358,slow=12,SNR=14
MJA0 Matsu Arr-Jizo 8.64 174 *e*P **P 08 15 55.9 -1.3**
JRY Ryogami san 9.22 171 P **Pn 08 16 01.3 -0.2**
JOD2 Odawara 2 9.98 171 P **Pn 08 16 09.2 -1.4**
JOD2 S **S 08 17 58.8 -4.8**
KSRS Korea Array 10.37 225 P **P 08 16 17.4 +1.1**
comp=Z,0.7nm,0.3s,baz=40,slow=11,SNR=11
JIE Ise 10.75 182 P **P 08 16 20.3 -0.3**
BMKR Bomnak 10.97 334 *e*P **Pn 08 16 21.0 -1.0**
BMKR AMB AMB 08 16 22.9
comp=Z,8.0nm,0.8s
TJN Taejon 11.49 224 *i* P **P 08 16 30.5 +1.8**
PETK Petropavlovsk- 15.57 52 P **Pn 08 17 15.5 -0.4**
comp=Z,0.2nm,0.3s,baz=216,slow=8.2,SNR=6.4
MA2 Magadan 16.60 25*ce*P **P 08 17 24.4 0.0**
MA2 pmax pmax
comp=Z,15nm,1.1s
MA2 Magadan 16.60 25 P **P 08 17 24.7 +0.3**
comp=Z,1.2nm,0.3s,baz=190,slow=6.9,SNR=4.9
MA2 Magadan 16.60 25 *e*P **P 08 17 24.4 0.0**
SEY Seymchan 19.83 21*ce*P **P 08 17 57.9 -0.6**
SEY Seymchan 19.83 21 P **P 08 17 58.2 -0.4**
comp=Z,0.9nm,0.3s,baz=199,slow=8.0,SNR=9.7
SEY Seymchan 19.83 21 *e*P **P 08 17 57.9 -0.6**
ULN Ulaanbaatar 20.85 288*ce*P **P 08 18 07.9 -0.6**
ULN pmax pmax
comp=Z,3.0nm,1.1s
ULN Ulaanbaatar 20.85 288 *e*P **P 08 18 07.9 -0.6**
SONM Songino Array 21.30 288 P **P 08 18 12.2 -0.3**
comp=Z,6.6nm,0.8s,baz=79,slow=8.1,SNR=20
TLY Talaya 23.05 299 *i* P **P 08 18 28.1 -0.2**
TLY pmax pmax
comp=Z,13nm,0.9s
TLY Talaya 23.05 299 *e*P **P 08 18 28.1 -0.2**
DGZ Jazzator, Alta 33.46 296 *i* P **P 08 20 01.0 +0.9**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 34.38 304 P **P 08 20 07.5 -0.2**
comp=Z,5.8nm,0.5s,baz=86,slow=7.8,SNR=17
ZALV PcP **PcP 08 22 35.7 +1.5**
comp=Z,1.2nm,0.5s,baz=31,slow=3.5,SNR=4.5
NRIK Noril'sk 34.59 332 P **P 08 20 07.3 -1.9**
comp=Z,1.1nm,0.3s,baz=143,slow=10,SNR=3.3
MKAR Makanchi Array 37.53 293 P **P 08 20 34.5 +0.2**
comp=Z,2.1nm,0.7s,baz=84,slow=9.3,SNR=11
KURK Kurchatov 38.73 300*ce*P **P 08 20 44.0 -0.1**
KURK pmax pmax
comp=Z,3.0nm,0.3s
KURK Kurchatov 38.73 300 *e*P **P 08 20 44.0 -0.1**
BVAR Borovoye Array 42.98 305 P **P 08 21 18.7 +0.3**
comp=Z,1.3nm,0.4s,baz=80,slow=9.6,SNR=8.6
KDAK Kodiak Island 43.54 47 P **P 08 21 23.2 +0.5**
KDAK pmax pmax
comp=Z,3.0nm,0.8s
KDAK Kodiak Island 43.54 47 P **P 08 21 23.2 +0.5**
comp=Z,2.3nm,0.7s,baz=239,slow=12,SNR=4.5
JIRN Jiri 43.84 264 *e*P **P 08 21 27.5 +1.6**
RAMN Ramite 43.98 263 *e*P **P 08 21 28.2 +1.3**
comp=Z,20nm,0.3s
AAK Ala-Archa 44.24 290*ce*P **P 08 21 29.4 +0.7**
AAK pmax pmax
comp=Z,2.0nm,0.3s
AAK Ala-Archa 44.24 290 P **P 08 21 28.9 +0.2**
comp=Z,2.4nm,0.4s,baz=55,slow=4.8,SNR=5.1
AAK Ala-Archa 44.24 290 *e*P **P 08 21 29.4 +0.7**
KKN Kakani 44.40 265 *e*P **P 08 21 31.5 +1.3**
comp=Z,8.0nm,0.2s
PKI Pulchoki 44.44 265 *e*P **P 08 21 31.9 +1.3**
comp=Z,10.0nm,0.3s
PKIN Phulchoki 44.45 265 *e*P **P 08 21 31.7 +1.1**
comp=Z,11nm,0.5s
ILAR Eielson Array 44.59 36 P **P 08 21 30.7 -0.2**
comp=Z,0.5nm,0.5s,baz=255,slow=4.9,SNR=6.6
GKN Gorkha 44.73 266 *e*P **P 08 21 33.9 +1.3**
comp=Z,29nm,0.3s
DANN Dangsing 45.14 267 *e*P **P 08 21 37.8 +1.8**
comp=Z,44nm,0.4s
KOLN Koldanda 45.60 266 *e*P **P 08 21 41.1 +1.6**
comp=Z,8.0nm,0.2s
PYUN Piuthan 45.83 267 *e*P **P 08 21 43.2 +1.9**
ARU Arti 48.31 313 *d i*P **P 08 21 58.4 -1.1**
ARU 08 23 52.4
ARU S **S 08 28 32.1 +0.1**
ARU SS **SS 08 32 01.3 -4.7**
ARU pmax pmax
comp=Z,8.0nm,1.5s
ARU Arti 48.31 313 *e*P **P 08 21 58.5 -1.1**
INK Inuvik 48.76 30 P **P 08 22 03.0 +0.2**
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 48.76 30 P **P 08 22 03.0 +0.2**
comp=Z,1.2nm,0.3s,baz=281,slow=6.9,SNR=19
AKTO Aktyubinsk 51.08 306 P **P 08 22 20.3 0.0**
comp=Z,2.0nm,0.5s,baz=82,slow=9.3,SNR=9.2
ARCES ARCESS Array B 55.28 337 P **P 08 22 50.1 -0.2**
comp=Z,4.2nm,0.9s,baz=42,slow=8.7,SNR=2.4
YKA Yellowknife Ar 58.45 31 P **P 08 23 12.5 0.0**
comp=Z,0.2nm,0.6s,baz=309,slow=6.0,SNR=5.4
FINES FINESS Array B 60.18 329 P **P 08 23 24.0 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 60.18 329 P **P 08 23 24.0 -0.2**
comp=Z,1.9nm,0.5s,baz=55,slow=7.6,SNR=18
KIV Kislovodsk 63.34 306 *e*P **P 08 23 47.2 +1.7**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV Kislovodsk 63.34 306 *e*P **P 08 23 47.2 +1.7**
NB2 NORSAR Subarra 65.48 334 P **P 08 23 58.4 -0.5**
comp=Z,0.4nm,0.5s,baz=37,slow=6.5
NOA NORSAR Array B 65.48 334 P **P 08 23 58.7 -0.2**
comp=Z,0.5nm,0.5s,baz=39,slow=6.3,SNR=4.2
ANN Anapa 65.74 310 *e*P **P 08 23 59.5 -1.2**
ANN *e**PP **pP 08 25 20.1 +2.9**
ANN pmax pmax
comp=Z,37nm,1.1s
AKASG Malin Array Be 66.01 319 P **P 08 24 02.5 +0.2**
comp=Z,1.4nm,0.4s,baz=43,slow=6.9,SNR=8.1
ASAR Alice Springs 68.55 183 P **P 08 24 21.1 +2.7**
comp=Z,0.7nm,0.5s,baz=355,slow=5.9,SNR=4.5
BRTR Keskin Array B 71.22 308 P **P 08 24 34.0 -0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 71.22 308 P **P 08 24 34.0 -0.6**
comp=Z,0.7nm,0.7s,baz=20,slow=4.6,SNR=3.3
NVAR Mina Array Bea 72.65 53 P **P 08 24 44.9 +1.7**
comp=Z,0.2nm,0.5s,baz=293,slow=4.8,SNR=2.9
PDAR Pinedale Array 74.20 45 P **P 08 24 53.5 +1.5**
comp=Z,0.1nm,0.3s,baz=350,slow=1.7,SNR=4.5
SIV San Ignacio 147.12 34 PKPbc **PKPbc 08 32 55.7 +0.6**
comp=Z,0.4nm,0.5s,baz=315,slow=17,SNR=3.1

ROM 08 08:17:35.6±0.1, 43°.444N±0°.003×12°.296E±0°.004, h7km, ML1.1/10, Error ellipse: s-maj=0.4km s-min=0.1km az=227.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.05**	**288**	P	Pg	08 17 37.5	+0.3
CDCA				S	Sg	08 17 38.7	+0.4
CDCA				AML	AML		
	comp=E,1394μm,0.7s						
CDCA				AML	AML		
	comp=N,1675μm,0.3s						
CDCA				AML	AML		
	comp=E,407μm,1.6s						
CDCA				AML	AML		
	comp=N,308μm,0.4s						
CDCA				AML	AML		
	comp=N,308μm,0.4s						
CDCA				AML	AML		
	comp=N,1675μm,0.3s						
CDCA				AML	AML		
	comp=E,1394μm,0.7s						
CDCA				AML	AML		
	comp=E,407μm,1.6s						
CDCA	**Citt' di Caste**	**0.05**	**288**	P	Pg	08 17 37.5	+0.3
CDCA	**Citt' di Caste**	**0.05**	**288**	S	Sg	08 17 38.7	+0.4
BADI	**Badiali**	**0.08**	**330**	P	Pg	08 17 37.9	+0.3
BADI				S	Sg	08 17 39.4	+0.4
BADI				AML	AML		
	comp=E,480μm,0.2s						
BADI				AML	AML		
	comp=N,412μm,0.2s						
BADI				AML	AML		
	comp=E,480μm,0.2s						
BADI				AML	AML		
	comp=N,412μm,0.2s						
BADI				AML	AML		
	comp=N,412μm,0.2s						
BADI				AML	AML		
	comp=E,480μm,0.2s						
BADI	**Badiali**	**0.08**	**330**	P	Pg	08 17 37.9	+0.3
BADI	**Badiali**	**0.08**	**330**	S	Sg	08 17 39.4	+0.4
ATPI	**Pietralunga -**	**0.08**	**85**	P	Pg	08 17 37.8	+0.1
ATPI	**Pietralunga -**	**0.08**	**85**	P	Pg	08 17 37.8	+0.2
ATPI				S	Sg	08 17 39.2	+0.1
ATPI				AML	AML		
	comp=E,169μm,0.9s						
ATPI				AML	AML		
	comp=N,250μm,0.4s						
ATPI				AML	AML		
	comp=E,169μm,0.9s						
ATPI				AML	AML		
	comp=N,250μm,0.4s						
ATPI				AML	AML		
	comp=N,250μm,0.4s						
ATPI				AML	AML		
	comp=E,169μm,0.9s						
ATPI	**Pietralunga -**	**0.08**	**85**	P	Pg	08 17 37.8	+0.2
ATPI	**Pietralunga -**	**0.08**	**85**	S	Sg	08 17 39.2	+0.1
ATVO	**AVT- Monte Val**	**0.10**	**127**	P	Pg	08 17 38.5	+0.5
ATVO	**AVT- Monte Val**	**0.10**	**127**	P	Pg	08 17 38.5	+0.5
ATVO	**AVT- Monte Val**	**0.10**	**127**	P	Pg	08 17 38.5	+0.6
ATVO				S	Sg	08 17 40.4	+0.9
ATVO				AML	AML		
	comp=E,138μm,1.3s						
ATVO				AML	AML		
	comp=N,136μm,1.3s						
ATVO				AML	AML		
	comp=E,138μm,1.3s						
ATVO				AML	AML		
	comp=N,136μm,1.3s						
ATVO				AML	AML		
	comp=E,138μm,1.3s						
ATVO				AML	AML		
	comp=N,136μm,1.3s						
ATVO	**AVT- Monte Val**	**0.10**	**127**	S	Sg	08 17 40.5	+0.9
ATMI	**Monte Miggiano**	**0.11**	**191**	P	Pg	08 17 38.9	+0.8
ATMI	**Monte Miggiano**	**0.11**	**191**	P	Pg	08 17 38.9	+0.8
ATMI				AML	AML		
	comp=E,240μm,0.6s						
ATMI				AML	AML		
	comp=N,233μm,1.4s						
ATMI				AML	AML		
	comp=E,240μm,0.6s						
ATMI				AML	AML		
	comp=N,233μm,1.4s						
ATMI				AML	AML		
	comp=E,240μm,0.6s						
ATMI				AML	AML		
	comp=N,233μm,1.4s						
PIEI	**Pieia**	**0.20**	**62**	P	Pg	08 17 40.0	+0.4
PIEI	**Pieia**	**0.20**	**62**	P	Pg	08 17 40.0	+0.5
PIEI				S	Sg	08 17 43.4	+1.1
PIEI				AML	AML		
	comp=E,108μm,0.3s						
PIEI				AML	AML		
	comp=N,76μm,0.1s						
PIEI				AML	AML		
	comp=N,76μm,0.1s						
PIEI				AML	AML		
	comp=E,108μm,0.3s						
PIEI	**Pieia**	**0.20**	**62**	P	Pg	08 17 40.1	+0.5
PIEI	**Pieia**	**0.20**	**62**	S	Sg	08 17 43.6	+1.3
PARC	**Parchiule**	**0.21**	**348**	P	Pg	08 17 40.3	+0.4
PARC	**Parchiule**	**0.21**	**348**	P	Pg	08 17 40.3	+0.5
PARC				S	Sg	08 17 44.2	+1.5
PARC				AML	AML		
	comp=E,82μm,0.6s						
PARC				AML	AML		
	comp=N,66μm,0.6s						
PARC				AML	AML		
	comp=E,82μm,0.6s						
PARC				AML	AML		
	comp=N,66μm,0.6s						
PARC				AML	AML		
	comp=N,66μm,0.6s						
PARC				AML	AML		
	comp=E,82μm,0.6s						
PARC	**Parchiule**	**0.21**	**348**	P	Pg	08 17 40.3	+0.5
PARC	**Parchiule**	**0.21**	**348**	S	Sg	08 17 43.9	+1.2
MURB	**Monte Urbino**	**0.25**	**137**	P	Pg	08 17 41.3	+0.8
MURB	**Monte Urbino**	**0.25**	**137**	P	Pg	08 17 41.4	+0.9
MURB				S	Sg	08 17 45.7	+1.9
MURB				AML	AML		
	comp=E,116μm,1.1s						
MURB				AML	AML		
	comp=N,84μm,0.3s						
MURB				AML	AML		
	comp=E,116μm,1.1s						
MURB				AML	AML		
	comp=N,84μm,0.3s						
MURB	**Monte Urbino**	**0.25**	**137**	P	Pg	08 17 41.4	+0.9
MURB	**Monte Urbino**	**0.25**	**137**	S	Sg	08 17 45.7	+1.9
ATTE	**AVT- Monte Tez**	**0.25**	**170**	P	Pg	08 17 41.2	+0.7
ATTE				S	Sg	08 17 45.4	+1.5
ATTE				AML	AML		
	comp=E,38μm,0.2s						
ATTE				AML	AML		
	comp=N,42μm,0.6s						
ATTE				AML	AML		
	comp=E,38μm,0.2s						
ATTE				AML	AML		
	comp=N,42μm,0.6s						
ATTE				AML	AML		
	comp=N,42μm,0.6s						
ATTE				AML	AML		
	comp=E,38μm,0.2s						
ATTE	**AVT- Monte Tez**	**0.25**	**170**	P	Pg	08 17 41.3	+0.8
ATTE	**AVT- Monte Tez**	**0.25**	**170**	P	Pg	08 17 41.4	+0.8
ATTE	**AVT- Monte Tez**	**0.25**	**170**	S	Sg	08 17 45.2	+1.3
CAFI	**Castiglion Fio**	**0.27**	**245**	P	Pg	08 17 41.6	+0.8
CAFI				S	Sb	08 17 46.0	-1.4
CAFI				AML	AML		
	comp=E,27μm,0.1s						
CAFI				AML	AML		
	comp=N,26μm,0.4s						
CAFI				AML	AML		
	comp=E,27μm,0.1s						
CAFI				AML	AML		
	comp=N,26μm,0.4s						
CAFI	**Castiglion Fio**	**0.27**	**245**	P	Pg	08 17 41.7	+0.8
CAFI	**Castiglion Fio**	**0.27**	**245**	P	Pg	08 17 41.7	+0.8
CAFI	**Castiglion Fio**	**0.27**	**245**	S	Sb	08 17 46.2	-1.3
PE3	**Peglio**	**0.29**	**30**	P	Pg	08 17 41.6	+0.3
PE3	**Peglio**	**0.29**	**30**	AML	AML		
	comp=E,153μm,0.5s						
PE3				AML	AML		
	comp=E,153μm,0.5s						
PE3				AML	AML		
	comp=N,137μm,0.5s						
PE3				AML	AML		
	comp=N,137μm,0.5s						
CRE	**Caprese Michel**	**0.31**	**305**	P	Pg	08 17 42.5	+0.8
CRE	**Caprese Michel**	**0.31**	**305**	P	Pg	08 17 42.5	+0.8
CRE				S	Sb	08 17 47.5	-1.2
CRE	**Caprese Michel**	**0.31**	**305**	P	Pg	08 17 42.5	+0.9
CPGN	**Carpegna, Ital**	**0.36**	**3**	P	Pb	08 17 43.7	-0.7
CPGN				S	Sb	08 17 50.6	+0.4
CPGN	**Carpegna, Ital**	**0.36**	**3**	P	Pb	08 17 43.7	-0.6
CPGN	**Carpegna, Ital**	**0.36**	**3**	P	Pb	08 17 43.8	-0.6
FOSV	**Fossato di Vic**	**0.37**	**114**	P	Pg	08 17 43.6	+0.7
FOSV	**Fossato di Vic**	**0.37**	**114**	P	Pg	08 17 43.6	+0.8
BRIS	**BRISIGHELLA**	**0.91**	**321**	P	Pg	08 17 52.9	-0.1

IDC 08 08:17:40.9±2.1, 6°.98S×129°.23E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.6/34, mbtmp3.7/3, ML4.0/2, Error ellipse: s-maj=124.6km s-min=31.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.80**	**159**	Pn	Pn	08 20 58.1	0.0
	0.8nm,0.3s,baz=338,slow=13,SNR=13						
WRA				Sn	Sn	08 23 18.2	-14
	2.1nm,0.3s,baz=335,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.18**	**165**	P	Pn	08 21 42.6	0.0
	0.4nm,0.3s,baz=342,slow=10,SNR=15						
ASAR				S	Sn	08 24 40.0	-15
	0.4nm,0.3s,baz=346,slow=24,SNR=7.1						
MKAR	**Makanchi Array**	**67.80**	**327**	P	P	08 28 40.8	0.0
	0.2nm,0.4s,baz=117,slow=7.0,SNR=3.8						

*ROM **08** 08:18:39.1±0.3, 46°.08N±0°.04×7°.48E±0°.02, h9km±1km, ML1.4/1, Error ellipse: s-maj=4.3km s-min=1.2km az=344.0*
*GEN **08** 08:18:39.4, 46°.10N×7°.47E, h6km±2km, Ml0.7*
ZUR 08 08:18:39.9, 46°.11N×7°.46E, h2km±1km, MLh1.0/6, 3C-1D, Error ellipse: s-maj=3.5km s-min=1.1km az=213.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIX	**Grande Dixence**	**0.05**	**228**	⇓Pg	Pg	08 18 41.4	+0.4
DIX				Sg	Sg	08 18 42.2	+0.4
DIX	**Grande Dixence**	**0.05**	**228**	P	Pg	08 18 41.4	+0.4
DIX	**Grande Dixence**	**0.05**	**228**	P	Pg	08 18 41.4	+0.4
DIX				S	Sg	08 18 42.3	+0.5
DIX				AML	AML		
	comp=E,498μm,0.2s						
DIX				AML	AML		
	comp=N,350μm,0.1s						
DIX				AML	AML		
	comp=E,498μm,0.2s						
DIX				AML	AML		
	comp=N,350μm,0.1s						
DIX	**Grande Dixence**	**0.05**	**228**	S	Sg	08 18 42.3	+0.5
VANNI	**Vissoie, Val d**	**0.14**	**44**	⇑Pg	Pg	08 18 42.9	+0.3
VANNI				Sg	Sg	08 18 44.8	+0.3
SIOV	**Sion-Valere**	**0.14**	**332**	⇑Pg	Pg	08 18 42.7	+0.1
SENIN	**Lac Senin/Sane**	**0.28**	**336**	Pg	Pg	08 18 45.3	+0.1
EMBD	**Embd, Matterta**	**0.28**	**68**	⇑Pg	Pg	08 18 45.4	+0.2
REMY	**Saint-Rhmy-en**	**0.35**	**218**	P	Pg	08 18 46.6	0.0
REMY				S	Sg	08 18 50.9	-0.2
REMY	**Saint-Rhmy-en**	**0.35**	**218**	P	Pg	08 18 46.6	+0.1
REMY	**Saint-Rhmy-en**	**0.35**	**218**	P	Pg	08 18 46.6	+0.1
REMY	**Saint-Rhmy-en**	**0.35**	**218**	S	Sg	08 18 51.7	+0.6
MMK	**Mattmark**	**0.36**	**100**	P	Pg	08 18 46.8	0.0
MMK				S	Sg	08 18 51.3	-0.1
MMK	**Mattmark**	**0.36**	**100**	P	Pg	08 18 46.8	0.0
MMK	**Mattmark**	**0.36**	**100**	S	Sg	08 18 51.7	+0.3
SATI	**Passo dei Sala**	**0.37**	**130**	P	Pg	08 18 47.0	-0.1
SATI				S	Sg	08 18 51.7	-0.2
SATI	**Passo dei Sala**	**0.37**	**130**	Pg	Pg	08 18 47.0	0.0
SATI				Sg	Sg	08 18 51.9	0.0
SATI	**Passo dei Sala**	**0.37**	**130**	P	Pg	08 18 46.9	-0.1
SATI	**Passo dei Sala**	**0.37**	**130**	P	Pg	08 18 47.0	-0.1
SATI				S	Sg	08 18 52.0	+0.1
SATI	**Passo dei Sala**	**0.37**	**130**	S	Sg	08 18 52.0	+0.1
MRGE	**Morge**	**0.44**	**219**	P	Pg	08 18 48.3	0.0
MRGE				S	Sg	08 18 53.9	-0.2
MRGE	**Morge**	**0.44**	**219**	P	Pg	08 18 48.4	0.0
MRGE	**Morge**	**0.44**	**219**	S	Sg	08 18 54.5	+0.5
CIRO	**Champorcher**	**0.52**	**171**	P	Pg	08 18 48.9	-0.9
CIRO				S	Sg	08 18 56.2	-0.2
CIRO	**Champorcher**	**0.52**	**171**	P	Pg	08 18 49.4	-0.4
CIRO	**Champorcher**	**0.52**	**171**	P	Pg	08 18 49.7	0.0
CIRO	**Champorcher**	**0.52**	**171**	S	Sg	08 18 57.2	+0.7
LSD	**Lago del Serru**	**0.69**	**199**	P	Pg	08 18 52.4	-0.7
LSD				S	Sg	08 19 01.0	-1.0

*IDC **08** 08:24:17.3±2.2, 0°.20N×97°.87E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/43, mbtmp4.0/7, ML4.4/1, MS3.5/2, Ms1 3.4/2, ms1mx2.7/48, Error ellipse: s-maj=75.8km s-min=19.6km az=60.0*
*ISCJB **08** 08:24:20.3±1.9, 0°.3N±0°.2×98°.0E±0°.4, h30km, mb4.0/6, MS3.5/2, Error ellipse: s-maj=60.9km s-min=16.0km az=154.1*
ISC 08 08:24:21.7±2.1, 0°.2N±0°.2×97°.9E±0°.4, h30km, n13, σ0 81/8, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.15**	**3**	P	**Pn**	**08 28 31.2**	**-0.4**
	0.5nm,0.3s,baz=195,slow=11,SNR=5.7						
H08S2	**Diego Garcia H**	**26.52**	**252**	T	T	08 57 22.4	
	baz=73,slow=75,SNR=464						
H08S3	**Diego Garcia H**	**26.52**	**252**	T	T	08 57 15.9	
	baz=73,slow=75,SNR=388						
H08S1	**Diego Garcia H**	**26.52**	**252**	T	T	08 57 17.6	
	baz=73,slow=75,SNR=525						
WRA	**Warramunga Arr**	**40.92**	**121**	P	**P**	**08 32 01.6**	**-0.1**
	0.9nm,0.6s,baz=303,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**42.24**	**127**	P	**P**	**08 32 13.2**	**+0.6**
	1.3nm,0.7s,baz=299,slow=7.7,SNR=14						
KSRS	**Korea Array**	**46.26**	**33**	P	**P**	**08 32 44.2**	**-0.2**
	1.1nm,0.6s,baz=230,slow=6.9,SNR=5.3						
SONM	**Songino Array**	**47.99**	**8**	P	**P**	**08 32 58.7**	**+0.7**
	0.9nm,0.4s,baz=186,slow=11,SNR=6.0						
MKAR	**Makanchi Array**	**48.36**	**346**	P	**P**	**08 33 01.0**	**+0.3**
	1.9nm,0.5s,baz=160,slow=8.6,SNR=16						
STKA	**Stephens Creek**	**52.18**	**132**	LR	LR	08 58 19.3	
	comp=Z,64nm,19.8s,baz=191,slow=39						
ZALV	**Zalesovo Beam**	**54.63**	**351**	P	**P**	**08 33 47.6**	**+0.2**
	3.7nm,0.7s,baz=186,slow=6.9,SNR=14						
VRAC	**Vranov**	**84.16**	**319**	LR	LR	09 19 03.4	
	comp=Z,14nm,18.4s,baz=96,slow=39						
TXAR	**Lajitas Array**	**144.11**	**33**	PKP	**PKPdf**	**08 43 54.0**	**-1.4**
	0.1nm,0.6s,baz=274,slow=2.4,SNR=3.3						

*ISK **08** 08:25:45.4, 39°.65N×29°.46E, h17km, ML2.1/8, Suspected Mining explosion.*
*DDA **08** 08:25:45.5, 39°.67N×29°.48E, h7km±1km, ML2.5*
*ISCJB **08** 08:25:46.2±0.5, 39°.68N±0°.02×29°.48E±0°.04, h0km, Error ellipse: s-maj=4.6km s-min=3.3km az=16.4*
ISC 08 08:25:45.2±0.9, 39°.72N±0°.04×29°.48E±0°.03, h0km, n13, σ0 44/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.27**	**182**	PG	**Pg**	**08 25 50.5**	**+0.1**
TVSB				SG	**Sg**	**08 25 54.4**	**+0.5**
AUBOZ	**BOZOYUK**	**0.47**	**66**	PG	**Pb**	**08 25 56.3**	**-0.1**
AUBOZ				SG	**Sb**	**08 26 03.9**	**0.0**
ULDT	**Uludag**	**0.49**	**328**	*i* P	**Pb**	**08 25 56.5**	**-0.5**
ULDT				*i* S	**Sb**	**08 26 05.3**	**+0.5**
CAVI	**Cavuskoy**	**0.56**	**30**	PG	**Pb**	**08 25 57.8**	**-0.1**
CAVI				SG	**Sb**	**08 26 06.7**	**+0.3**
GDZ	**Gediz**	**0.63**	**180**	*i* P	**Pg**	**08 25 57.8**	**+0.4**
GDZ				*i* S	**Sg**	**08 26 06.3**	**+0.8**
BORA	**Eskisehir**	**0.77**	**78**	PG	**Pb**	**08 26 00.9**	**-0.6**
DURS	**Dursunbey**	**0.78**	**261**	IAML_P			
	comp=Z,439nm,0.1s						
DURS				*i* P	**Pg**	**08 26 00.1**	**-0.1**

DURS			*i* S	**Sb**	**08 26 12.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.79 325**	PG	**Pb**	**08 26 02.5**	**+0.7**
SRCK	**Saricakaya, Es**	**0.94 70**	PG	**Pb**	**08 26 04.6**	**+0.2**
ARMT	**Armutlu**	**0.96 331**	PG	**Pn**	**08 26 05.6**	**-0.5**
KCTX	**Karacabey (Bur**	**1.02 303**	PG	**Pb**	**08 26 05.8**	**+0.1**
GULT	**Gulveren**	**1.07 48**	PN	**Pb**	**08 26 06.7**	**+0.1**
USAK	**Uak-Merkez**	**1.07 200**	IAML_P			
	comp=Z,594nm,0.2s					
USAK			*i* P	**Pg**	**08 26 05.0**	**-0.6**
USAK			*i* S	**Sb**	**08 26 20.9**	**-0.2**

IDC 08 08:30:45.2±3.1, 14°.95S×166°.44E, h0km, mb4.0/4, mb1 4.0/5, mb1mx3.7/26, mbtmp3.9/5, ML3.2/1, Error ellipse: s-maj=62.6km s-min=32.4km az=82.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.08**	**180**	Pn	Pn	08 32 29.3	-0.9
	0.4nm,0.3s,baz=50,slow=16,SNR=4.6						
DZM				Sn	Sn	08 33 51.9	+0.3
	0.3nm,0.3s,baz=342,slow=20,SNR=1.9						
STKA	**Stephens Creek**	**28.24**	**229**	P	P	08 36 41.1	+1.1
	3.2nm,0.6s,baz=39,slow=9.6,SNR=8.6						
WRA	**Warramunga Arr**	**30.99**	**256**	P	P	08 37 03.8	-0.8
	0.5nm,0.9s,baz=86,slow=9.2,SNR=3.9						
ASAR	**Alice Springs**	**31.84**	**249**	P	P	08 37 11.9	-0.1
	1.3nm,1.1s,baz=76,slow=9.1,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**33.23**	**0**	T	T	09 13 20.2	
	baz=174,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**33.24**	**0**	T	T	09 13 20.7	
	baz=174,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**33.25**	**0**	T	T	09 13 20.6	
	baz=174,slow=76,SNR=6.7						
MKAR	**Makanchi Array**	**96.81**	**317**	P	P	08 44 18.0	-0.1
	0.5nm,0.8s,baz=108,slow=4.7,SNR=2.8						

*THE **08** 08:55:43.5, 38°.88N×21°.21E, h15km, ML2.0/12, Error ellipse: s-maj=0.8km s-min=0.4km az=199.0*

ATH 08 08:55:42.7, 38°.87N×21°.22E, h28km±2km, ML2.1/8, Error ellipse: s-maj=2.4km s-min=0.8km az=253.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVO	**Paravola**	**0.34**	**137**	P	Pb	08 55 50.5	-0.1
PVO				S	Sb	08 55 56.7	+0.7
PVO	**Paravola**	**0.34**	**137**	P	Pb	08 55 50.5	-0.1
PVO				S	Sb	08 55 56.4	+0.4
PVO				AML	AML	08 55 57.0	
	comp=E,1393μm,0.3s						
PVO				AML	AML	08 55 57.5	
	comp=N,1321μm,0.3s						
MGNA	**Meganis**	**0.40**	**238**	P	Pb	08 55 51.9	+0.5
MGNA				S	Sn	08 55 58.5	-0.6
LKD2	**Lefkada island**	**0.45**	**260**	P	Pb	08 55 52.3	+0.1
LKD2				S	Sb	08 55 58.6	-0.1
LKD2	**Lefkada island**	**0.45**	**260**	P	Pb	08 55 52.3	0.0
LKD2				S	Sn	08 55 59.8	-0.6
LKD2				AML	AML	08 56 01.6	
	comp=E,1287μm,0.2s						
LKD2				AML	AML	08 56 02.3	
	comp=N,1177μm,0.2s						
EVR	**Evrytania**	**0.46**	**84**	P	Pb	08 55 52.6	+0.1
EVR				S	Sn	08 56 00.1	-0.7
EVR	**Evrytania**	**0.46**	**84**	P	Pb	08 55 52.3	-0.1
EVR				S	Sb	08 55 59.8	+0.6
EVR				AML	AML	08 56 01.5	
	comp=N,306μm,0.3s						
EVR				AML	AML	08 56 01.7	
	comp=E,347μm,0.3s						
EVGI	**Lefkada island**	**0.51**	**241**	P	Pb	08 55 53.0	-0.1
EVGI				S	Sn	08 56 01.3	-0.5
EVGI	**Lefkada island**	**0.51**	**241**	P	Pb	08 55 52.9	-0.2
EVGI				S	Sb	08 56 00.9	+0.6
ANX	**Ano Chora**	**0.61**	**116**	P	Pb	08 55 55.2	+0.3
ANX				S	Sn	08 56 04.7	+0.2
ANX	**Ano Chora**	**0.61**	**116**	P	Pb	08 55 54.9	0.0
ANX				S	Sn	08 56 04.5	0.0
ANX				AML	AML	08 56 07.5	
	comp=N,440μm,0.4s						
ANX				AML	AML	08 56 07.7	
	comp=E,386μm,0.5s						
EFP	**Efpalio**	**0.69**	**129**	P	Pn	08 55 56.9	+0.3
EFP				S	Sn	08 56 08.0	+1.7
EFP	**Efpalio**	**0.69**	**129**	P	Pn	08 55 56.7	+0.1
EFP				S	Sn	08 56 07.5	+1.2
EFP				AML	AML	08 56 09.2	
	comp=E,497μm,0.4s						
EFP				AML	AML	08 56 10.1	
	comp=N,317μm,0.2s						
SERG	**Sergoula**	**0.79**	**125**	P	Pn	08 55 58.4	+0.4
SERG				S	Sn	08 56 10.7	+1.8
SERG	**Sergoula**	**0.79**	**125**	P	Pn	08 55 58.3	+0.3
SERG				S	Sn	08 56 09.5	+0.5
SERG				AML	AML	08 56 13.1	
	comp=N,315μm,0.3s						
SERG				AML	AML	08 56 14.5	
	comp=E,250μm,0.4s						
KFL	**Anninata**	**0.83**	**204**	P	Pb	08 55 59.1	+0.6
KFL				S	Sn	08 56 11.8	+2.0
KFL	**Anninata**	**0.83**	**204**	P	Pn	08 55 58.2	-0.3
TRIZ	**Trizonia**	**0.83**	**127**	P	Pb	08 55 59.1	+0.5
TRIZ				S	Sn	08 56 11.4	+1.6
TRIZ	**Trizonia**	**0.83**	**127**	P	Pb	08 55 58.7	+0.1
VLS	**Valsamata**	**0.85**	**216**	P	Pn	08 55 58.3	-0.4
LAKA	**Lakka**	**0.86**	**136**	P	Pb	08 55 59.9	+0.8
LAKA				S	Sn	08 56 12.9	+2.3
LAKA	**Lakka**	**0.86**	**136**	P	Pb	08 55 59.7	+0.6
AGG	**Agios Georgios**	**0.88**	**79**	P	Pb	08 56 00.2	+0.9
AGG				S	Sn	08 56 13.2	+2.2
AGG	**Agios Georgios**	**0.88**	**79**	P	Pb	08 55 59.7	+0.4
AGG				S	Sn	08 56 12.1	+1.1
AGG				AML	AML	08 56 15.7	
	comp=N,144μm,0.4s						
AGG				AML	AML	08 56 17.8	
	comp=E,157μm,0.4s						
THL	**Klokotos Trika**	**0.93**	**41**	P	Pb	08 56 01.3	+1.1
THL				S	Sn	08 56 13.8	+1.6
THL				AML	AML	08 56 19.5	
	comp=E,123μm,0.7s						
THL				AML	AML	08 56 19.9	
	comp=N,104μm,0.6s						
IGT	**Igoumenitsa**	**0.96**	**314**	P	Pb	08 56 01.6	+0.9
IGT				S	Sb	08 56 14.6	+1.5
KLV	**Kalavryta, Ach**	**1.10**	**138**	P	Pb	08 56 03.8	+0.8
GUR	**Goura**	**1.28**	**136**	P	Pb	08 56 06.8	+0.6

ROM 08 08:59:08.0±0.1, 43°.461N±0°.003×12°.307E±0°.004, h6km, Md1.1/3, Error ellipse: s-maj=0.4km s-min=0.0km az=227.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BADI	**Badiali**	**0.07**	**317**	P	Pg	08 59 09.9	+0.2
BADI				S	Sg	08 59 11.3	+0.4
BADI				AML	AML		
	comp=E,100μm,0.2s						
BADI				AML	AML		
	comp=N,87μm,0.1s						
BADI				AML	AML		
	comp=E,100μm,0.2s						
BADI				AML	AML		
	comp=N,87μm,0.1s						
BADI				AML	AML		
	comp=E,99μm,0.2s						
BADI				AML	AML		
	comp=N,87μm,0.1s						
BADI				END			
BADI	**Badiali**	**0.07**	**317**	P	Pg	08 59 09.9	+0.2
BADI	**Badiali**	**0.07**	**317**	S	Sg	08 59 11.3	+0.4
ATPI	**Pietralunga -**	**0.07**	**98**	P	Pg	08 59 09.9	+0.1
ATPI				S	Sg	08 59 11.4	+0.4
ATPI				END			
ATPI	**Pietralunga -**	**0.07**	**98**	P	Pg	08 59 09.9	+0.2
ATPI	**Pietralunga -**	**0.07**	**98**	P	Pg	08 59 10.0	+0.2
ATPI	**Pietralunga -**	**0.07**	**98**	S	Sg	08 59 11.4	+0.4
ATVO	**AVT- Monte Val**	**0.11**	**137**	P	Pg	08 59 10.6	+0.3
ATVO				S	Sg	08 59 12.7	+0.8
ATVO				END			
ATVO	**AVT- Monte Val**	**0.11**	**137**	P	Pg	08 59 10.7	+0.3
ATVO	**AVT- Monte Val**	**0.11**	**137**	P	Pg	08 59 10.7	+0.4
ATVO	**AVT- Monte Val**	**0.11**	**137**	S	Sg	08 59 12.7	+0.8
PARC	**Parchiule**	**0.19**	**345**	P	Pg	08 59 12.3	+0.4
PARC	**Parchiule**	**0.19**	**345**	P	Pg	08 59 12.6	+0.7
PARC				S	Sg	08 59 15.8	+1.3
PARC	**Parchiule**	**0.19**	**345**	S	Sg	08 59 15.7	+1.2
FOSV	**Fossato di Vic**	**0.37**	**116**	P	Pg	08 59 14.4	-0.9
IMOL	**Imola, Italy**	**0.99**	**336**	AML	AML		
	comp=N,1800μm,0.1s						
IMOL				AML	AML		
	comp=E,1372μm,0.4s						
IMOL				AML	AML		
	comp=E,1370μm,0.4s						
IMOL				AML	AML		
	comp=N,2005μm,0.1s						
IMOL				AML	AML		
	comp=E,1370μm,0.4s						
IMOL				AML	AML		
	comp=N,2005μm,0.1s						
LATB	**Latina**	**2.02**	**166**	S	Sg	09 00 20.0	+7.0
VENT	**Ventotene**	**2.79**	**162**	S	Sn	09 00 20.0	-7.2
BOJS	**Bojanci**	**2.94**	**45**	S	Sb	09 00 36.0	-0.9
BOJS	**Bojanci**	**2.94**	**45**	AML	AML		
	comp=N,30μm,0.9s						
BOJS				AML	AML		
	comp=E,17μm,0.3s						
BOJS				AML	AML		
	comp=N,30μm,0.9s						
BOJS				AML	AML		
	comp=E,17μm,0.3s						
DOI	**San Damiano**	**3.80**	**288**	AML	AML		
	comp=E,48μm,1.1s						
DOI				AML	AML		
	comp=N,38μm,1.6s						
DOI				AML	AML		
	comp=E,48μm,1.1s						
DOI				AML	AML		
	comp=N,38μm,1.6s						
SCTE	**Santa Cesarea**	**5.72**	**124**	P	Pb	09 00 52.5	+4.4
CLTB	**Caltabellotta**	**5.92**	**173**	P	Pn	09 00 29.5	-6.8

*BUL **08** 09:04:09.2±1.4, 25°.83S×30°.81E, h0km±55km, MD3.7*
*EAF **08** 09:04:20.3±7.9, 25°.41S×29°.53E, h0km±79km, MD3.5, ML3.2*

ISC 08 09:04:17.4±1.2, 25°.49S±0°.06×29°.77E±0°.09, h10km, n9, σ1°80/18, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBTN	**Chibotane**	**2.74**	**54**	*e*P	**Pg**	**09 05 10.2**	**+0.3**
CBTN				*e*		09 05 10.3	
	baz=12,slow=22						
CBTN				*e*S	**Sb**	**09 05 42.3**	**+2.2**
CBTN				IAML		09 05 55.2	
	comp=Z,136nm,0.3s						
MSNA	**Messina**	**3.13**	**4**	*i* P	**Pn**	**09 05 04.6**	**-2.3**
MSNA				*i* S	**Sn**	**09 05 43.9**	**-0.6**
MSNA	**Messina**	**3.13**	**4**	*i* P	**Pn**	**09 05 04.6**	**-2.3**
MSNA				*i* S	**Sn**	**09 05 43.9**	**-0.6**
BOSA	**Boshof**	**5.09**	**231**	*i* P	**Pn**	**09 05 31.9**	**-2.0**
BOSA				*i* S	**Sn**	**09 06 34.7**	**+1.8**
BOSA	**Boshof**	**5.09**	**231**	*i* P	**Pn**	**09 05 31.9**	**-2.0**
BOSA				*i* S	**Sn**	**09 06 34.7**	**+1.8**
MATP	**Matopo**	**5.17**	**347**	*i* P	**Pn**	**09 05 34.3**	**-0.7**
MATP				*i* S	**Sn**	**09 06 36.4**	**+1.6**
MATP	**Matopo**	**5.17**	**347**	*i* P	**Pn**	**09 05 34.3**	**-0.7**
MATP				*i* S	**Sn**	**09 06 36.4**	**+1.6**
BLWY	**Bulawayo**	**5.43**	**348**	*i* P	**Pn**	**09 05 36.7**	**-1.8**
BLWY				*i* S	**Sn**	**09 06 42.9**	**+1.7**
BLWY	**Bulawayo**	**5.43**	**348**	*i* P	**Pn**	**09 05 36.7**	**-1.8**
BLWY				*i* S	**Sn**	**09 06 42.9**	**+1.7**

*IDC **08** 09:04:32.5±1.8, 6°.14S×151°.73E, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.6/41, mbtmp3.9/5, ML2.5/1, Error ellipse: s-maj=97.8km s-min=22.7km az=132.0*

ISC 08 09:04:38.7±2.1, 6°.1S±0°.7×151°.6E±0°.7, h41km, n6, σ0°55/7, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.50**	**233**	Pn	**Pn**	**09 05 58.6**	**+0.5**
	9.6nm,0.3s,baz=52,slow=7.2,SNR=17						
PMG				Sn	**Sn**	**09 07 00.1**	**-0.1**
	6.2nm,0.3s,baz=29,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**21.70**	**229**	P	**P**	**09 09 26.2**	**-0.2**
	1.1nm,0.8s,baz=56,slow=10,SNR=9.0						
ASAR	**Alice Springs**	**24.40**	**222**	P	**P**	**09 09 53.3**	**-0.1**
	1.3nm,0.6s,baz=56,slow=8.7,SNR=24						
FITZ	**Fitzroy Crossi**	**28.00**	**243**	P	**P**	**09 10 25.9**	**-0.1**
	1.2nm,0.8s,baz=52,slow=4.7,SNR=3.9						
ILAR	**Eielson Array**	**83.81**	**22**	P	**P**	**09 17 03.9**	**+0.4**
	1.0nm,0.8s,baz=249,slow=4.8,SNR=9.2						
TORD	**Torodi Ar. Bea**	**149.55**	**286**	PKPbc	**PKPbc**	**09 24 23.9**	**-0.9**
	0.9nm,0.6s,baz=85,slow=3.0,SNR=6.7						

NNC 08 09:07:30.4±1.0, 41°.81N×78°.26E, h0km, mb3.5, mpv3.2, 1C-2D, Error ellipse: s-maj=7.0km s-min=3.4km az=170.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**1.46**	**23**	P	Pn	09 07 56.3	-1.8
	1.1nm,0.4s						
UZB				S	Sg	09 08 15.6	-1.5
	3.6nm,0.2s						
TNSS	**Tian-Shan**	**1.57**	**322**	P	Pn	09 07 59.4	-0.5
	3.5nm,0.1s						
TNSS				S	Sn	09 08 21.2	+0.1
	5.9nm,0.2s						
SHLS	**Shalkode**	**1.62**	**33**	P	Pg	09 08 03.4	+2.0
	6.4nm,0.3s						
SHLS				S	Sg	09 08 28.2	+5.8
	16nm,0.5s						
MDOK	**Medeo**	**1.62**	**327**	Pg	Pn	09 08 00.4	0.0
	3.2nm,0.1s						
MDOK				Lg	Lg	09 08 22.7	
	8.1nm,0.3s						
KURS	**Kuram**	**1.68**	**358**	P	Pb	09 08 01.8	-0.5
	3.1nm,0.1s						
KURS				S	Sg	09 08 25.1	+0.7
	5.4nm,0.2s						
PDGK	**Podgornoye**	**1.77**	**30**	P	Pn	09 08 01.9	-0.6
	1.4nm,0.2s						
PDGK				S	Sn	09 08 25.3	-0.4
	2.9nm,0.4s						
PDGK	**Podgornoye**	**1.77**	**30**	⇑Lg	Lg	09 08 27.5	
	6.5nm,0.8s						
KST	**Kastek**	**2.10**	**307**	Pg	Pb	09 08 09.1	-0.4
	8.4nm,0.2s						
KST				Lg	Lg	09 08 37.5	
	6.1nm,0.3s						
KTBS	**Karatobe**	**2.23**	**329**	Pg	Pb	09 08 11.1	-0.5
	5.0nm,0.3s						
KTBS				Lg	Lg	09 08 41.2	
	20nm,0.5s						
CHKK	**Chushkaly**	**2.25**	**336**	Pg	Pb	09 08 11.0	-0.9
	11nm,0.5s						
CHKK				Lg	Lg	09 08 41.2	
	16nm,0.3s						
KTMS	**Ketmen**	**2.25**	**43**	Pg	Pb	09 08 12.3	+0.2
	2.9nm,0.2s						
KTMS				Lg	Lg	09 08 43.3	
	4.1nm,0.2s						
TKM2	**Tokmak 2**	**2.27**	**300**	⇓Pg	Pb	09 08 11.2	-1.0
	2.4nm,0.4s						
TKM2				⇓Lg	Lg	09 08 41.6	
	8.6nm,0.9s						
MNBS	**Baschi**	**2.27**	**3**	Pg	Pb	09 08 11.9	-0.5
	3.2nm,0.2s						
MNBS				Lg	Lg	09 08 42.5	
	12nm,0.3s						
DGS	**Degeres**	**2.33**	**309**	Pg	Pb	09 08 13.1	-0.2
	7.7nm,0.4s						
DGS				Lg	Lg	09 08 44.8	
	9.1nm,0.7s						
ARXS	**Arharly**	**2.43**	**353**	Pg	Pb	09 08 14.2	-0.7
	5.6nm,0.2s						
ARXS				Lg	Lg	09 08 46.6	
	10.0nm,0.3s						
KUU	**Kurty**	**2.52**	**327**	Pg	Pb	09 08 15.4	-1.0
	4.3nm,0.4s						
KUU				Lg	Lg	09 08 48.7	
	8.0nm,0.5s						
DJR	**Jarkent**	**2.76**	**23**	Pg	Pb	09 08 20.0	-0.7
	6.0nm,0.3s						
DJR				Lg	Lg	09 08 56.6	
	7.4nm,0.3s						
AAK	**Ala-Archa**	**2.92**	**288**	Lg	Lg	09 09 01.4	
	9.1nm,1.1s						
KAPS	**Kapalarasan**	**3.57**	**13**	Pg	Pb	09 08 35.2	+0.8
	0.5nm,0.1s						
KAPS				Lg	Lg	09 09 22.7	
	1.9nm,0.0s						

MEX 08 09:13:12.1±0.6, 17°.05N×95°.16W, h116km±4km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.26**	**81**	*e*P	Pn	09 13 27.1	-1.3
CMIG				*e*S	Sn	09 13 38.4	-2.2
HUIG	**Huatulco**	**1.57**	**216**	*i* P	Pn	09 13 38.3	-1.8
HUIG				*i* S	Sn	09 13 60.0	-1.4
TGIG		**1.97**	**98**	*i* P	Pn	09 13 43.6	-1.3
TGIG				*i* S	Sn	09 14 08.5	-1.6
PCIG		**2.29**	**125**	*i* P	Pn	09 13 47.8	-1.3
PCIG				*i* S	Sn	09 14 15.8	-1.5
TPIG	**Tehuac#an**	**2.50**	**303**	*i* P	Pn	09 13 51.2	-0.7
TPIG				*i* S	Sn	09 14 21.6	-1.0
PNIG	**Pinotepa**	**2.92**	**257**	*e*P	Pn	09 13 55.9	-1.4
PNIG				*i* S	Sn	09 14 30.8	-1.2
CCIG	**Comitan**	**2.99**	**104**	*i* P	Pn	09 13 58.1	-0.2
CCIG				*i* S	Sn	09 14 33.3	-0.7

*ISCJB **08** 09:45:58.1±0.6, 36°.17N±0°.06×71°.17E±0°.09, h100km, mb3.5/2, Error ellipse: s-maj=11.2km s-min=6.7km az=149.1*
*IDC **08** 09:45:59.8±6.8, 36°.24N×71°.05E, h87km±44km, mb3.3/3, mb1 3.4/8, mb1mx3.1/42, mbtmp3.7/8, Error ellipse: s-maj=85.1km s-min=21.7km az=142.0*
*NNC **08** 09:46:06.2±5.6, 36°.72N×70°.77E, h76km±135km, mb3.5, mpv3.6, Error ellipse: s-maj=50.3km s-min=40.4km az=77.0*

ISC 08 09:45:59.9±0.9, 36°.29N±0°.08×71°.07E±0°.09, h100km, n19, σ3°06/23, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.82**	**357**	P	**Pn**	**09 47 38.2**	**+0.9**
	3.0nm,0.4s,baz=170,slow=12,SNR=25						
KK31				S	**Sn**	**09 48 50.5**	**-2.8**
	3.1nm,0.5s,baz=185,slow=19,SNR=6.6						
AAK	**Ala-Archa**	**6.87**	**22**	⇓P	**Pn**	**09 47 39.8**	**+1.7**
	3.3nm,0.9s						
AAK				⇑S	**Sn**	**09 48 54.4**	**-0.4**
	6.5nm,0.8s						
AAK	**Ala-Archa**	**6.87**	**22**	P	**Pn**	**09 47 40.2**	**+2.1**
	0.8nm,0.3s,baz=167,slow=7.9,SNR=5.8						
AAK				S	**Sn**	**09 48 54.2**	**-0.6**
	0.4nm,0.3s,baz=324,slow=21,SNR=6.4						
TKM2	**Tokmak 2**	**7.49**	**26**	⇑P	**Pn**	**09 47 48.8**	**+2.2**
	3.2nm,1.1s						
GEYT	**Alibeck**	**10.47**	**283**	P	**Pn**	**09 48 27.1**	**+0.1**
	1.8nm,0.3s,baz=102,slow=13,SNR=4.9						
PYUN	**Piuthan**	**12.97**	**126**	*e*P	**Pn**	**09 48 58.3**	**-2.4**
	17nm,0.3s						
DANN	**Dangsing**	**13.33**	**123**	*e*P	**Pn**	**09 49 02.6**	**-2.7**
	5.8nm,0.2s						
DMN	**Daman**	**14.71**	**122**	*e*P	**Pn**	**09 49 20.9**	**-2.3**
	6.5nm,0.3s						
KKN	**Kakani**	**14.72**	**121**	*e*P	**Pn**	**09 49 20.6**	**-2.7**
AB31	**Akbulak array**	**15.29**	**331**	P	**Pn**	**09 49 30.1**	**-0.1**
	0.4nm,0.3s,baz=162,slow=11,SNR=37						
AB31				S	**Sn**	**09 52 10.0**	**-8.9**
	1.1nm,0.7s,baz=155,slow=22,SNR=4.7						
KURBB	**Kurchatov Arra**	**15.30**	**18**	P	**P**	**09 49 33.2**	**+0.4**
	0.0nm,0.3s,baz=205,slow=11,SNR=3.0						
JIRN	**Jiri**	**15.43**	**120**	*e*P	**Pn**	**09 49 29.2**	**-3.3**
	15nm,0.3s						
RAMN	**Ramite**	**16.16**	**121**	*e*P	**Pn**	**09 49 36.9**	**-4.5**
BVAR	**Borovoye Array**	**16.74**	**359**	P	**Pn**	**09 49 48.7**	**+0.6**
	0.2nm,0.3s,baz=179,slow=14,SNR=2.8						
AKTO	**Aktyubinsk**	**16.99**	**330**	⇓P	**P**	**09 49 55.8**	**+4.3**
	5.0nm,1.1s						
AKTO	**Aktyubinsk**	**16.99**	**330**	P	**P**	**09 49 53.2**	**+1.7**
	0.4nm,0.3s,baz=160,slow=12,SNR=8.1						
ZALV	**Zalesovo Beam**	**20.08**	**24**	P	**P**	**09 50 26.3**	**+1.1**
	0.9nm,0.3s,baz=220,slow=9.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**09 56 35.4**	**+0.8**
	0.6nm,0.5s,baz=44,slow=6.2,SNR=5.9						
YKA	**Yellowknife Ar**	**81.45**	**3**	P	**P**	**09 58 07.6**	**+2.1**
	0.2nm,0.5s,baz=353,slow=5.3,SNR=5.7						

*IDC **08** 09:56:20.5±2.5, 14°.40N×93°.31W, h0km, mb3.4/4, mb1 3.7/8, mb1mx3.6/35, mbtmp3.4/8, ML3.3/4, Error ellipse: s-maj=69.1km s-min=22.8km az=31.0*
*MEX **08** 09:56:21.9±0.7, 14°.15N×93°.54W, h18km±30km, MD3.8*
*ISCJB **08** 09:56:22.5±0.9, 14°.25N±0°.06×93°.39W±0°.06, h36km, mb3.3/4, Error ellipse: s-maj=9.3km s-min=8.1km az=23.7*

ISC 08 09:56:24.4±1.3, 14°.3N±0°.1×93°.44W±0°.07, h36km, n14, σ1°52/20, mb3.3/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.29**	**62**	*e*P	**Pn**	**09 56 44.1**	**-1.7**
THIG				*i* S	**Sn**	**09 57 00.1**	**-1.7**
PCIG		**1.40**	**9**	*e*P	**Pn**	**09 56 45.8**	**-1.6**
PCIG				*i* S	**Sn**	**09 57 04.3**	**-0.4**
CCIG	**Comitan**	**2.33**	**33**	*i* P	**Pn**	**09 56 59.7**	**-0.7**
CCIG				*i* S	**Sn**	**09 57 28.2**	**+0.3**
TGIG		**2.47**	**7**	*e*P	**Pn**	**09 57 01.3**	**-0.9**
TGIG				*e*S	**Sn**	**09 57 32.6**	**+1.4**
APG	**El Apazote**	**2.96**	**76**	Pn	**Pn**	**09 57 08.3**	**-0.8**
	2.2nm,0.3s,baz=199,slow=13,SNR=31						
CMIG	**Matias Romero**	**3.09**	**334**	*e*P	**Pn**	**09 57 08.4**	**-2.3**
CMIG				*i* S	**Sn**	**09 57 45.3**	**-1.1**
CMIG	**Matias Romero**	**3.09**	**334**	Pn	**Pn**	**09 57 09.4**	**-1.3**
	2.4nm,0.3s,baz=170,slow=9.7,SNR=36						
CMIG				Sn	**Sn**	**09 57 43.8**	**-2.6**
	6.1nm,0.3s,baz=170,slow=19,SNR=6.2						
JTS	**Las Juntas de**	**9.21**	**115**	Pn	**Pn**	**09 58 33.7**	**-1.0**
	0.2nm,0.3s,baz=353,slow=19,SNR=3.7						
TXAR	**Lajitas Array**	**17.69**	**329**	P	**P**	**10 00 29.7**	**+1.0**
	0.1nm,0.3s,baz=150,slow=14,SNR=5.7						
ANMO	**Albuquerque**	**23.66**	**333**	P	**P**	**10 01 33.3**	**+0.5**
	0.3nm,0.3s,baz=127,slow=10,SNR=3.7						
PDAR	**Pinedale Array**	**31.57**	**337**	P	**P**	**10 02 45.5**	**+1.8**
	0.1nm,0.6s,baz=120,slow=10,SNR=2.5						
NVAR	**Mina Array Bea**	**32.56**	**322**	P	**P**	**10 02 54.9**	**+2.4**
	0.4nm,0.7s,baz=140,slow=8.3,SNR=5.1						
YKA	**Yellowknife Ar**	**50.41**	**347**	P	**P**	**10 05 18.4**	**+0.4**
	0.7nm,0.7s,baz=151,slow=7.5,SNR=14						
CMAR	**Chiang Mai Arr**	**145.23**	**339**	PKPbc	**PKPdf**	**10 15 58.6**	**-0.6**
	0.5nm,0.3s,baz=350,slow=4.6,SNR=3.7						

*NNC **08** 09:56:42.9±0.6, 43°.38N×70°.20E, h0km, mb3.5, mpv2.9, Error ellipse: s-maj=5.4km s-min=3.1km az=46.0, Suspected Mining explosion.*
*SOME **08** 09:56:43.0, 43°.38

KK31 ⇑Rg Rg 09 56 57.3
126nm,0.8s,baz=306,slow=38,SNR=4.2
KK07 Karatay Array 0.47 148 ⇑P **Pg 09 56 50.2 +0.8**
KK07 ⇑S **Sg 09 56 54.8 -0.6**
KK06 Karatay Array 0.47 146 ⇓P **Pg 09 56 50.3 +0.9**
KK06 ⇑S **Sg 09 56 55.3 -0.3**
IUG Iuzhnay 1.34 184 P **Pb 09 57 06.6 +0.1**
8.7nm,0.1s
IUG S **Sb 09 57 23.7 -0.6**
17nm,0.3s
IUG Iuzhnay 1.34 184 *e*P **Pb 09 57 06.6 +0.1**
8.7nm,0.1s
IUG *e*S **Sb 09 57 23.7 -0.6**
17nm,0.3s
MRKS Merke 2.36 107 Pg **Pg 09 57 25.7 0.0**
2.7nm,0.2s
MRKS Lg Lg 09 57 56.7
4.0nm,0.3s
MRKS Merke 2.36 107 *e*P **Pg 09 57 25.7 0.0**
2.7nm,0.2s
MRKS *e*S **Sg 09 57 56.7 +0.5**
4.0nm,0.3s
DGS Degeres 4.09 92 Pg **Pg 09 57 58.6 -0.3**
1.8nm,0.4s
DGS Lg Lg 09 58 53.0
5.3nm,0.3s
DGS Degeres 4.09 92 *e*P **Pg 09 57 58.6 -0.3**
1.8nm,0.4s
DGS *e*S **Sg 09 58 53.0 +1.1**
5.3nm,0.3s

VIE 08 10:00:13.3±0.2, 48°.14N×16°.94E, h0km, mb1.5/2, ml1.5/4, Error ellipse: s-maj=5.2km s-min=1.4km az=157.0, Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZST	**Bratislava**	**0.12**	**61**	*e*PG	Pg	10 00 15.5	-0.2
ZST				*e*SG	Sg	10 00 17.4	+0.1
MODS	**Modra-Piesok**	**0.33**	**43**	*e*PG	Pg	10 00 19.0	-0.6
MODS				*e*SG	Sg	10 00 23.5	-0.3
MODS				*e*LG	Lg	10 00 26.8	
CONA	**Conrad Observa**	**0.75**	**254**	Pg	Pg	10 00 28.2	+0.6
0.2nm,0.1s							
CONA				Sg	Sb	10 00 39.1	-1.1
3.5nm,0.3s							
JAVC	**Velka Javorina**	**0.87**	**34**	*e*PG	Pn	10 00 33.2	+0.3
KRUC	**Moravsky**	**1.00**	**339**	*e*PG	Pb	10 00 33.1	-0.3
KRUC				*e*SG	Sb	10 00 46.2	-0.9
VRAC	**Vranov**	**1.20**	**349**	*e*PG	Pg	10 00 36.5	+0.3
ARSA	**Arzberg**	**1.30**	**228**	Pg	Pn	10 00 38.9	+0.1
1.6nm,0.2s							
ARSA				Sg	Sn	10 00 57.0	+0.1
6.5nm,0.6s							
VYHS	**Vyhne**	**1.32**	**73**	*e*PG	Pb	10 00 38.9	0.0
VYHS				*e*SG	Sg	10 00 55.5	0.0
MOA	**Molln**	**1.82**	**262**	*i* Sn	Sb	10 01 10.3	-0.4
2.7nm,0.5s							

LJU 08 10:01:42.0, 45°.28N×14°.97E, h6km, ML0.8, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.30**	**42**	*i* Pg	Pg	10 01 48.0	+0.1
BOJS				*i* Sg	Sg	10 01 52.1	+0.2
comp=Z,18nm,0.2s							
KNDS	**Knezji Dol**	**0.48**	**301**	*i* Pg	Pg	10 01 51.4	0.0
KNDS				*i* Sg	Sg	10 01 58.1	+0.5
comp=Z,3.0nm,0.2s							
OZLJ	**Ozalj**	**0.48**	**46**	*e*Pg	Pg	10 01 51.7	+0.4
OZLJ				Sg	Sg	10 01 58.2	+0.5
VISS	**Visnje**	**0.53**	**350**	*i* Pg	Pg	10 01 51.9	-0.3
VISS				*i* Sg	Sg	10 02 00.4	+1.2
comp=Z,3.0nm,0.1s							
CRES	**Cresnjev**	**0.65**	**32**	*i* Pg	Pg	10 01 54.7	+0.3
CRES				*i* Sg	Sg	10 02 03.4	+0.5
NVLJ	**Novalja**	**0.72**	**186**	*e*Pg	Pg	10 01 56.0	+0.2
NVLJ				Sg	Sb	10 02 07.4	+0.4
PDKS	**Podkum**	**0.78**	**1**	*i* Pg	Pg	10 01 57.5	+0.4
PDKS				*i* Sg	Sb	10 02 10.2	+1.3

ROM 08 10:03:03.0±0.1, 43°.450N±0°.003×12°.303E±0°.005, h7km±1km, ML0.8/7, Error ellipse: s-maj=0.4km s-min=0.1km az=55.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.05**	**280**	P	Pg	10 03 04.8	+0.3
CDCA				S	Sg	10 03 06.0	+0.3
CDCA	**Citt' di Caste**	**0.05**	**280**	S	Sg	10 03 05.9	+0.3
ATPI	**Pietralunga -**	**0.07**	**89**	P	Pg	10 03 05.0	+0.1
ATPI				S	Sg	10 03 06.4	+0.2
ATPI				AML	AML		
comp=E,83μm,0.9s							
ATPI				AML	AML		
comp=N,133μm,0.5s							
ATPI				AML	AML		
comp=E,83μm,0.9s							
ATPI				AML	AML		
comp=N,133μm,0.5s							
ATPI				AML	AML		
comp=N,133μm,0.5s							
ATPI				AML	AML		
comp=E,83μm,0.9s							
ATPI	**Pietralunga -**	**0.07**	**89**	P	Pg	10 03 05.0	+0.1
ATPI	**Pietralunga -**	**0.07**	**89**	S	Sg	10 03 06.5	+0.2
BADI	**Badiali**	**0.07**	**325**	P	Pg	10 03 05.1	+0.2
BADI				S	Sg	10 03 06.7	+0.4
BADI				AML	AML		
comp=E,194μm,0.5s							
BADI				AML	AML		
comp=N,175μm,0.3s							
BADI				AML	AML		
comp=E,194μm,0.5s							
BADI				AML	AML		
comp=N,175μm,0.3s							
BADI				AML	AML		
comp=N,175μm,0.3s							
BADI				AML	AML		
comp=E,194μm,0.5s							
BADI	**Badiali**	**0.07**	**325**	P	Pg	10 03 05.1	+0.2
BADI	**Badiali**	**0.07**	**325**	S	Sg	10 03 06.7	+0.5
ATVO	**AVT- Monte Val**	**0.10**	**132**	P	Pg	10 03 05.7	+0.4
ATVO	**AVT- Monte Val**	**0.10**	**132**	P	Pg	10 03 05.8	+0.5
ATVO				S	Sg	10 03 07.7	+0.8
ATVO				AML	AML		
comp=E,82μm,0.2s							
ATVO				AML	AML		
comp=N,74μm,1.1s							
ATVO				AML	AML		
comp=E,82μm,0.2s							
ATVO				AML	AML		
comp=N,74μm,1.1s							
ATVO				AML	AML		
comp=N,74μm,1.1s							
ATVO				AML	AML		
comp=E,82μm,0.2s							
ATVO	**AVT- Monte Val**	**0.10**	**132**	S	Sg	10 03 07.8	+0.8
ATMI	**Monte Miggiano**	**0.12**	**192**	P	Pg	10 03 06.4	+0.8
ATMI				S	Sg	10 03 08.5	+1.1
ATMI				AML	AML		
comp=E,120μm,0.5s							
ATMI				AML	AML		
comp=N,126μm,0.6s							
ATMI				AML	AML		
comp=E,120μm,0.5s							
ATMI				AML	AML		
comp=N,126μm,0.6s							
ATMI				AML	AML		
comp=N,126μm,0.6s							
ATMI				AML	AML		
comp=E,120μm,0.5s							
ATMI	**Monte Miggiano**	**0.12**	**192**	P	Pg	10 03 06.4	+0.8
ATMI	**Monte Miggiano**	**0.12**	**192**	S	Sg	10 03 08.5	+1.2
PIEI	**Pieia**	**0.19**	**63**	P	Pg	10 03 07.3	+0.5
PIEI				S	Sg	10 03 10.9	+1.4
PIEI				AML	AML		
comp=E,50μm,0.3s							
PIEI				AML	AML		
comp=N,33μm,0.9s							
PIEI				AML	AML		
comp=E,50μm,0.3s							
PIEI				AML	AML		
comp=N,33μm,0.9s							
PIEI	**Pieia**	**0.19**	**63**	P	Pg	10 03 07.3	+0.5
PIEI	**Pieia**	**0.19**	**63**	S	Sg	10 03 10.9	+1.5
PARC	**Parchiule**	**0.20**	**347**	P	Pg	10 03 07.5	+0.4
PARC				S	Sg	10 03 11.4	+1.5
PARC				AML	AML		
comp=E,47μm,0.6s							
PARC				AML	AML		
comp=N,35μm,0.3s							
PARC				AML	AML		
comp=N,35μm,0.3s							
PARC				AML	AML		
comp=E,47μm,0.6s							
PARC	**Parchiule**	**0.20**	**347**	P	Pg	10 03 07.6	+0.5
PARC	**Parchiule**	**0.20**	**347**	S	Sg	10 03 11.5	+1.6
ATFO	**Monte Foce - G**	**0.21**	**113**	P	Pg	10 03 08.0	+0.8
ATFO				S	Sg	10 03 11.5	+1.4
ATFO				AML	AML		
comp=E,38μm,1.1s							
ATFO				AML	AML		
comp=N,33μm,1.5s							
ATFO				AML	AML		
comp=E,37μm,1.1s							
ATFO				AML	AML		
comp=N,33μm,1.5s							
ATFO				AML	AML		
comp=N,33μm,1.5s							
ATFO				AML	AML		
comp=E,37μm,1.1s							
ATFO	**Monte Foce - G**	**0.21**	**113**	P	Pg	10 03 08.1	+0.9
ATFO	**Monte Foce - G**	**0.21**	**113**	S	Sg	10 03 11.6	+1.4
ATTE	**AVT- Monte Tez**	**0.25**	**172**	P	Pg	10 03 08.6	+0.6
ATTE				S	Sg	10 03 12.6	+1.2
ATTE	**AVT- Monte Tez**	**0.25**	**172**	P	Pg	10 03 08.6	+0.6
ATTE	**AVT- Monte Tez**	**0.25**	**172**	S	Sg	10 03 12.6	+1.2

*IDC **08** 10:07:11.4±1.6, 0°.35N×123°.80E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, Error ellipse: s-maj=234.5km s-min=26.6km az=62.0*
*ISCJB **08** 10:07:24.8±0.7, 0°.28S±0°.06×123°.20E±0°.06, h100km, mb3.2/3, Error ellipse: s-maj=9.1km s-min=7.9km az=25.1*
*DJA **08** 10:07:27.2±0.4, 0°.5±2°.×12°.3E±°, h76km±7km, M4.1/12, mb4.3/4, MLv3.9/12*
ISC 08 10:07:24.7±1.0, 0°.25S±0°.06×123°.21E±0°.06, h100km, n14, σ1°.49/18, mb3.0/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.90**	**209**	P	**Pn**	**10 07 44.2**	**+0.2**
LUWI				S	**Sn**	**10 07 58.2**	**-0.4**
KMSI	**Cibinong**	**1.12**	**43**	P	**Pn**	**10 07 48.8**	**+2.3**
MRSI	**Marisa**	**1.46**	**300**	P	**Pn**	**10 07 50.5**	**+0.1**
MRSI				S	**Sn**	**10 08 09.5**	**-0.5**
APSI	**Ampana**	**1.69**	**247**	P	**Pn**	**10 07 53.4**	**+0.1**
APSI				S	**Sn**	**10 08 14.3**	**-0.8**
SANI	**Sanana**	**3.30**	**123**	P	**Pn**	**10 08 13.7**	**-0.8**
MPSI	**Mapaga**	**3.36**	**280**	P	**Pn**	**10 08 17.9**	**+2.6**
TTSI	**Tana Toraja**	**4.38**	**231**	P	**Pn**	**10 08 29.4**	**+0.4**
SPSI	**Sidrap Palu**	**5.04**	**223**	P	**Pn**	**10 08 39.2**	**+1.2**
BNSI	**Bone**	**5.16**	**217**	P	**Pn**	**10 08 40.8**	**+1.2**
BBSI	**Bau Bau**	**5.24**	**187**	P	**Pn**	**10 08 43.2**	**+2.5**
BSSI	**Bau Bau, Buton**	**6.45**	**205**	P	**Pn**	**10 08 59.4**	**+2.3**
WRA	**Warramunga Arr**	**22.40**	**152**	P	**P**	**10 12 14.8**	**-0.3**
0.3nm,0.4s,baz=331,slow=11,SNR=9.6							
ASAR	**Alice Springs**	**25.49**	**157**	P	**P**	**10 12 45.0**	**+1.3**
0.2nm,0.4s,baz=327,slow=8.8,SNR=4.7							
ASAR				PcP	**PcP**	**10 16 12.7**	**-0.6**
0.5nm,0.6s,baz=347,slow=2.4,SNR=9.1							
MKAR	**Makanchi Array**	**58.94**	**328**	P	**P**	**10 17 11.8**	**-1.7**
0.3nm,0.3s,baz=123,slow=8.6,SNR=4.4							

*ISCJB **08** 10:16:50.7±0.7, 32°.00N±0°.04×36°.06E±0°.10, h10km, Error ellipse: s-maj=12.3km s-min=5.4km az=16.8*
*JSO **08** 10:16:50.5±0.4, 32°.N±3°.×3°.6E±°, h10km, M2.1/6, Mjma2.1/6, ML1.5/4, MLv2.3/6*
*NSSC **08** 10:16:51.5±1.2, 34°.80N×36°.12E, h20km±11km, ML2.0*
ISC 08 10:16:49.7±1.0, 32°.04N±0°.05×36°.00E±0°.08, h10km, n9, σ2°.54/12, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSUJ	**Al Zarqa**	**0.18**	**69**	P	**Pg**	**10 16 54.6**	**+1.0**
WALJ	**Wala**	**0.50**	**198**	P	**Pg**	**10 16 59.5**	**0.0**
SHMJ	**Saham**	**0.71**	**344**	P	**Pb**	**10 17 05.8**	**+1.5**
ASF	**Jabal al Asfar**	**0.78**	**88**	P	**Pg**	**10 17 04.7**	**0.0**
GHAJ	**Ghor Haditha**	**0.82**	**207**	P	**Pb**	**10 17 06.6**	**+0.5**
LISJ	**El Lisan**	**0.91**	**209**	P	**Pn**	**10 17 09.1**	**+0.5**
TOTH	**TOTAH**	**1.37**	**15**	*e*P	**Pb**	**10 17 16.7**	**+1.2**
TOTH				*e*S	**Sg**	**10 17 35.7**	**+2.0**
TOTH				AML	AML	10 17 37.9	
comp=N,51nm,0.5s							
TOTH				AML	AML	10 17 38.8	
comp=E,19nm,0.4s							
BRBR	**Barbar**	**1.37**	**358**	*e*P	**Pn**	**10 17 16.4**	**+1.3**
BRBR				*e*S	**Sb**	**10 17 33.8**	**+0.6**
BRBR				AML	AML	10 17 43.6	
comp=N,33nm,0.4s							
QASN	**Qassioun**	**1.51**	**9**	*e*P	**Pn**	**10 17 15.0**	**-1.9**
QASN				*e*S	**Sn**	**10 17 30.1**	**-6.6**
QASN				AML	AML	10 17 37.1	
comp=N,74nm,0.3s							
QASN				AML	AML	10 17 38.6	
comp=E,31nm,0.3s							

*SKO **08** 10:24:02.0, 40°.75N×21°.42E, h11km, M2.3, ML2.7*
*ISCJB **08** 10:24:02.5±0.4, 40°.75N±0°.02×21°.41E±0°.03, h0km±3km, Error ellipse: s-maj=3.5km s-min=2.5km az=12.5*
*ATH **08** 10:24:02.2, 40°.76N×21°.39E, h10km±1km, ML2.6/9, Error ellipse: s-maj=2.0km s-min=0.9km az=323.0*
*THE **08** 10:24:02.9, 40°.74N×21°.38E, h4km±1km, ML2.7/6, Error ellipse: s-maj=1.3km s-min=0.4km az=312.0*
*BEO **08** 10:24:03.8±0.3, 40°.83N×21°.38E, h0km, ML2.6/4*
ISC 08 10:24:02.7±0.8, 40°.76N±0°.02×21°.40E±0°.02, h5km±4km, n56, σ0°.92/84, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.03**	**325**	*e*Pg	**Pg**	**10 24 04.0**	**+0.1**
FNA				*e*Sg	**Sg**	**10 24 05.0**	**+0.2**
FNA	**Florina**	**0.03**	**325**	P	**Pg**	**10 24 04.0**	**+0.1**
FNA				S	**Sg**	**10 24 05.0**	**+0.2**
FNA	**Florina**	**0.03**	**325**	⇓*i*Pg	**Pg**	**10 24 04.1**	**+0.1**
FNA				*i* Sg	**Sg**	**10 24 05.0**	**+0.2**
FNA	**Florina**	**0.03**	**325**	P	**Pg**	**10 24 04.1**	**+0.1**
FNA				S	**Sg**	**10 24 05.0**	**+0.2**
FNA				AML	AML	10 24 05.2	
comp=N,96798μm,0.1s							
FNA				AML	AML	10 24 05.2	
BIA	**Bitola**	**0.27**	**347**	P	**Pg**	**10 24 08.2**	**+0.2**
BIA	**Bitola**	**0.27**	**347**	⇑*i*Pg	**Pg**	**10 24 08.3**	**+0.2**
BIA				*i* Sg	**Sb**	**10 24 13.7**	**-1.4**
BIA				*e*Lg	Lg	10 24 13.9	
comp=N,740nm,0.3s							
BIA				*e*Lg	Lg	10 24 14.0	
comp=E,896nm,0.2s							
NEST	**Nestorio**	**0.43**	**218**	P	**Pg**	**10 24 10.6**	**-0.5**
NEST				S	**Sg**	**10 24 16.9**	**+0.1**
NEST	**Nestorio**	**0.43**	**218**	P	**Pg**	**10 24 10.6**	**-0.5**
NEST				S	**Sg**	**10 24 17.1**	**+0.3**
NEST				AML	AML	10 24 18.3	
comp=E,4470μm,0.2s							
NEST				AML	AML	10 24 20.9	
comp=N,2799μm,0.2s							
KZN	**Kozani**	**0.53**	**148**	P	**Pg**	**10 24 13.3**	**+0.3**
KZN				S	**Sg**	**10 24 20.5**	**+0.6**
KZN	**Kozani**	**0.53**	**148**	P	**Pg**	**10 24 13.0**	**0.0**
KZN				S	**Sg**	**10 24 20.8**	**+0.9**
KZN				AML	AML	10 24 24.1	
comp=N,2190μm,0.5s							
KZN				AML	AML	10 24 24.9	
comp=E,2460μm,0.4s							
OHR	**Ohrid**	**0.58**	**308**	*i* Pg	**Pg**	**10 24 13.2**	**-0.7**
OHR				*i* Sg	**Sb**	**10 24 22.7**	**-1.2**
OHR				*e*Lg	Lg	10 24 23.0	
comp=E,284nm,0.5s							
OHR				*e*Lg	Lg	10 24 23.5	
comp=N,313nm,0.5s							
PENT	**Pentalofos**	**0.59**	**200**	P	**Pg**	**10 24 14.0**	**-0.2**
PENT				S	**Sg**	**10 24 22.2**	**+0.3**
PENT	**Pentalofos**	**0.59**	**200**	P	**Pg**	**10 24 14.0**	**-0.2**
PENT				S	**Sg**	**10 24 22.4**	**+0.4**
PENT				AML	AML	10 24 26.6	
comp=E,1036μm,0.4s							
PENT				AML	AML	10 24 27.4	
comp=N,1243μm,0.2s							
KPRO	**Kipourio**	**0.80**	**182**	P	**Pg**	**10 24 17.1**	**-1.0**
KPRO				S	**Sg**	**10 24 29.2**	**+0.7**
KPRO	**Kipourio**	**0.80**	**182**	P	**Pg**	**10 24 17.2**	**-1.0**
KPRO				S	**Sg**	**10 24 28.8**	**+0.3**
KPRO				AML	AML	10 24 35.0	
comp=E,878μm,0.4s							
KPRO				AML	AML	10 24 36.7	
comp=N,1057μm,0.3s							
VAY	**Valandovo**	**1.05**	**57**	P	**Pg**	**10 24 22.6**	**-0.3**
VAY				S	**Sn**	**10 24 39.0**	**-0.1**
VAY	**Valandovo**	**1.05**	**57**	*i* Pg	**Pg**	**10 24 22.8**	**-0.1**
VAY				*i* Sg	**Sb**	**10 24 37.6**	**+0.2**
VAY				*e*Lg	Lg	10 24 40.2	
comp=N,165nm,0.7s							
VAY				*e*Lg	Lg	10 24 40.5	
comp=E,196nm,0.6s							
STIP	**Stip**	**1.11**	**32**	*i* Pg	**Pn**	**10 24 26.2**	**+1.3**
STIP				*i* Sg	**Sn**	**10 24 44.5**	**+3.9**
JAN	**Janina**	**1.18**	**201**	P	**Pg**	**10 24 24.4**	**-0.9**
THE	**Thessaloniki**	**1.20**	**95**	*i* Pg	**Pn**	**10 24 25.9**	**-0.2**
KNT	**Kendrikon**	**1.20**	**70**	P	**Pg**	**10 24 25.7**	**-0.1**
KNT				S	**Sn**	**10 24 43.7**	**+0.8**
KNT	**Kendrikon**	**1.20**	**70**	*i* Pg	**Pb**	**10 24 25.9**	**-0.1**
KNT				*i* Sg	**Sn**	**10 24 42.4**	**-0.5**
KNT	**Kendrikon**	**1.20**	**70**	P	**Pg**	**10 24 25.4**	**-0.4**
KNT				S	**Sb**	**10 24 41.6**	**-0.3**
KNT				AML	AML	10 24 47.4	
comp=E,188μm,0.4s							
KNT				AML	AML	10 24 47.7	
comp=N,397μm,0.5s							
SKO	**Skopje**	**1.22**	**1**	*i* Pg	**Pg**	**10 24 25.3**	**-0.7**
SKO				*i* Sg	**Sn**	**10 24 43.0**	**-0.2**
THL	**Klokotos Trika**	**1.28**	**158**	P	**Pn**	**10 24 26.1**	**-1.1**
THL				S	**Sn**	**10 24 45.1**	**+0.4**
THL	**Klokotos Trika**	**1.28**	**158**	P	**Pn**	**10 24 26.1**	**-1.1**
THL				S	**Sg**	**10 24 43.9**	**0.0**
THL				AML	AML	10 24 51.4	
comp=N,332μm,0.4s							
THL				AML	AML	10 24 51.4	
comp=E,510μm,0.8s							
HORT	**Hortiatis**	**1.30**	**96**	P	**Pn**	**10 24 27.2**	**-0.4**
IGT	**Igoumenitsa**	**1.47**	**214**	*e*Pn	**Pg**	**10 24 32.2**	**+1.3**
IGT				*e*Sn	**Sg**	**10 24 53.9**	**+3.9**
IGT	**Igoumenitsa**	**1.47**	**214**	*i* Pn	**Pg**	**10 24 31.5**	**+0.6**
IGT	**Igoumenitsa**	**1.47**	**214**	P	**Pb**	**10 24 30.2**	**-0.3**
IGT				S	**Sg**	**10 24 49.8**	**-0.2**
IGT				AML	AML	10 24 56.3	
comp=N,398μm,0.5s							
IGT				AML	AML	10 24 59.1	
comp=E,354μm,0.7s							
SOH	**Sokhos**	**1.48**	**87**	*i* Pn	**Pn**	**10 24 30.2**	**+0.1**
SOH	**Sokhos**	**1.48**	**87**	P	**Pn**	**10 24 30.1**	**0.0**
PLG	**Polygyros**	**1.60**	**103**	P	**Pb**	**10 24 32.8**	**-0.1**
KEK	**Kerkira**	**1.61**	**230**	P	**Pb**	**10 24 32.8**	**-0.1**
SRS	**Serrai**	**1.70**	**77**	*e*Pn	**Pb**	**10 24 33.8**	**-0.7**
SRS				*e*Sn	**Sg**	**10 24 56.7**	**-0.6**
SRS	**Serrai**	**1.70**	**77**	*i* Pn	**Pn**	**10 24 32.8**	**-0.3**
EVR	**Evrytania**	**1.86**	**170**	P	**Pb**	**10 24 36.3**	**-1.0**
EVR				S	**Sb**	**10 25 01.4**	**+0.4**
EVR				AML	AML	10 25 11.0	
comp=E,154μm,0.3s							
EVR				AML	AML	10 25 11.5	
comp=N,185μm,0.5s							
AGG	**Agios Georgios**	**1.87**	**157**	P	**Pn**	**10 24 36.1**	**+0.7**
BOSS	**Bosilegrad**	**1.92**	**25**	*e*Pn	**Pn**	**10 24 36.5**	**+0.5**
PAIG	**Paliouri**	**1.93**	**115**	P	**Pn**	**10 24 36.3**	**+0.2**
XOR	**Xorichti**	**1.95**	**135**	P	**Pn**	**10 24 36.8**	**+0.3**
ULC	**Ulcinj**	**2.02**	**307**	*i* Pn	**Pb**	**10 24 39.0**	**-0.9**
LKD2	**Lefkada island**	**2.05**	**196**	P	**Pb**	**10 24 39.5**	**-0.9**
BARS	**Barje**	**2.08**	**8**	*e*Pn	**Pn**	**10 24 38.7**	**+0.4**
EVGI	**Lefkada island**	**2.21**	**195**	P	**Pb**	**10 24 41.6**	**-1.5**
VTS	**Vitosha**	**2.31**	**36**	*e*Pn	**Pb**	**10 24 43.3**	**-1.7**
VTS				*e*Sn	**Sn**	**10 25 11.2**	**+0.7**
VTS	**Vitosha**	**2.31**	**36**	*i* Pn	**Pn**	**10 24 42.8**	**+1.2**
SELS	**Selova**	**2.47**	**355**	*e*Pn	**Pn**	**10 24 43.3**	**-0.4**
ZAPS	**Zavoj**	**2.68**	**20**	*e*Pn	**Pn**	**10 24 48.2**	**+1.7**
SJES	**Sjenica**	**2.72**	**337**	*e*Pn	**Pn**	**10 24 48.7**	**+1.5**
KLV	**Kalavryta, Ach**	**2.77**	**168**	P	**Pn**	**10 24 48.7**	**+0.9**
BOVS	**Bovan**	**2.88**	**4**	*e*Pn	**Pn**	**10 24 49.4**	**+0.1**
IVAS	**Ivanjica**	**2.97**	**342**	*e*Pn	**Pn**	**10 24 50.0**	**-0.5**
ZAGS	**Zajecar**	**3.12**	**11**	*e*Pn	**Pn**	**10 24 52.7**	**+0.2**
GRUS	**Gruza**	**3.17**	**351**	*e*Pn	**Pn**	**10 24 53.9**	**+0.6**
DIVS	**Divibare**	**3.50**	**343**	*e*Pn	**Pn**	**10 24 57.8**	**0.0**

*NSSC **08** 10:27:57.5±1.6, 33°.99N×35°.96E, h6km±36km, ML1.7*
*GRAL **08** 10:28:00.5±0.3, 33°.90N×35°.82E, h4km±8km, MD2.8*
ISC 08 10:27:57.1±1.7, 34°.00N±0°.08×35°.94E±0°.07, h9km±17km, n8, σ0°.74/13, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.26**	**249**	*e*P	**Pg**	**10 28 03.1**	**+0.8**
BHL				*e*S	**Sg**	**10 28 05.0**	**-0.8**
HWQ	**Hawqa**	**0.28**	**1**	*e*P	**Pn**	**10 28 07.5**	**0.0**
DQRL	**Deir Qamar**	**0.42**	**227**	*e*P	**Pg**	**10 28 05.7**	**+0.3**
DQRL				*e*S	**Sg**	**10 28 09.6**	**-1.5**
QRWL	**Qaraoun**	**0.50**	**206**	*e*P	**Pg**	**10 28 07.2**	**+0.4**
RCY	**Rachaya**	**0.51**	**190**	*e*P	**Pg**	**10 28 07.9**	**+0.9**
RCY				*e*S	**Sg**	**10 28 13.3**	**-0.4**
QASN	**Qassioun**	**0.54**	**149**	*e*P	**Pg**	**10 28 07.4**	**-0.2**
BRBR	**Barbar**	**0.58**	**179**	*e*P	**Pb**	**10 28 09.7**	**+0.1**
BRBR				*e*S	**Sg**	**10 28 16.6**	**+0.4**
BRBR				AML	AML	10 28 20.6	
comp=E,55nm,0.5s							
BRBR				AML	AML	10 28 22.6	
comp=N,59nm,0.5s							
TOTH	**TOTAH**	**0.75**	**147**	*e*P	**Pb**	**10 28 12.4**	**0.0**
TOTH				*e*S	**Sb**	**10 28 22.6**	**-0.2**
TOTH				AML	AML	10 28 30.7	
comp=N,24nm,0.7s							
TOTH				AML	AML	10 28 40.5	
comp=E,23nm,0.7s							

*NAO **08** 10:31:10.8±1.3, 67°.60N×34°.14E, ML2.4*
KOLA 08 10:31:12.0, 67°.68N×34°.00E, h0km, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.25**	**244**	P	Pg	10 31 16.5	-0.3
APA				S	Sg	10 31 19.8	-0.3
APZ9	**Apatity**	**0.25**	**244**	Pg	Pg	10 31 16.5	-0.3
APZ9				Lg	Lg	10 31 20.3	
APA0	**Apatity Array**	**0.39**	**260**	Pg	Pg	10 31 19.1	-0.4
APA0				Lg	Lg	10 31 24.6	
APA0				Rg	Rg	10 31 27.6	
APA0	**Apatity Array**	**0.39**	**260**	P	Pg	10 31 19.0	-0.5
APA0				S	Sg	10 31 24.1	-0.5
KEV	**Kevo**	**3.29**	**312**	Pn	Pn	10 32 05.5	+0.8
KEV				Sn	Sn	10 32 45.7	+1.2
KEV				Lg	Lg	10 32 53.9	
ARA0	**ARCESS Array S**	**3.63**	**305**	Pn	Pn	10 32 09.3	0.0
baz=122,slow=16							
ARA0				Sn	Sn	10 32 51.2	-1.6
baz=121,slow=28							
ARA0				Lg	Lg	10 33 05.5	
baz=116,slow=28							
HEF	**Hetta**	**3

Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALU	**Saltoluokta**	**0.97**	**254**	*e*P	Pg	10 31 32.0	-2.0
SALU				*e*S	Sg	10 31 45.7	-0.8
HEF	**Hetta**	**1.27**	**53**	*e*P	Pg	10 31 37.3	-2.2
KIF	**Kilpisjarvi**	**1.34**	**358**	*e*P	Pg	10 31 38.6	-2.4
KIF				*e*S	Sg	10 31 56.5	-1.7
KTK1	**Kautokeino**	**1.59**	**31**	*e*P	Pn	10 31 43.2	-1.6
KTK1				*e*S	Sn	10 32 03.7	-2.3
KTK1				IAML		10 32 09.6	
	comp=Z,6.8nm,0.4s						
STEI	**Steigen**	**2.17**	**279**	*e*P	Pn	10 31 51.8	-0.9

PRU 08 10:51:35.9±0.0, 50°.64N×18°.92E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.70**	**127**	*e*Pg	Pg	10 51 49.5	+0.2
OJC				*e*Sg	Sg	10 51 58.5	+0.1
OKC	**Ostrava-Krasne**	**0.94**	**212**	*e*PG	Pg	10 51 53.9	-0.1
OKC				*e*SG	Sg	10 52 06.5	+0.3
	comp=Z,4.7nm,0.5s						
MORC	**Moravsky Berou**	**1.24**	**226**	*e*PG	Pg	10 51 58.5	-1.1
MORC				*e*SG	Sg	10 52 14.9	-0.7
LANS	**Liptovska Anna**	**1.53**	**166**	*e*SG	Sg	10 52 23.8	-1.3
DPC	**Dobruska-Polom**	**1.68**	**261**	*e*PG	Pn	10 52 06.6	0.0
DPC				*e*SG	Sg	10 52 30.4	+0.4
	comp=Z,2.4nm,0.4s						

ROM 08 10:53:54.3±0.1, 43°.455N±0°.003×12°.309E±0°.004, h8km, ML2.7/37, Error ellipse: s-maj=0.3km s-min=0.2km az=29.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.06**	**274**	P	Pg	10 53 56.5	+0.5
CDCA				S	Sg	10 53 58.1	+0.9
CDCA				AML	AML		
	comp=E,52750μm,0.8s						
CDCA				AML	AML		
	comp=N,89600μm,0.4s						
CDCA				AML	AML		
	comp=E,19650μm,0.4s						
CDCA				AML	AML		
	comp=N,17600μm,0.3s						
CDCA				AML	AML		
	comp=E,52700μm,0.8s						
CDCA				AML	AML		
	comp=N,89600μm,0.4s						
CDCA				AML	AML		
	comp=E,19600μm,0.4s						
CDCA				AML	AML		
	comp=N,17600μm,0.3s						
CDCA				AML	AML		
	comp=E,52750μm,0.8s						
CDCA				AML	AML		
	comp=N,90000μm,0.4s						
CDCA				AML	AML		
	comp=E,19600μm,0.4s						
CDCA				AML	AML		
	comp=N,17600μm,0.3s						
CDCA				AML	AML		
	comp=N,90000μm,0.4s						
CDCA				AML	AML		
	comp=N,17600μm,0.3s						
CDCA				AML	AML		
	comp=E,19600μm,0.4s						
CDCA				AML	AML		
	comp=E,52750μm,0.8s						
CDCA	**Citt' di Caste**	**0.06**	**274**	P	Pg	10 53 56.5	+0.5
CDCA	**Citt' di Caste**	**0.06**	**274**	S	Sg	10 53 58.1	+0.8
ATPI	**Pietralunga -**	**0.07**	**93**	P	Pg	10 53 56.6	+0.3
ATPI	**Pietralunga -**	**0.07**	**93**	P	Pg	10 53 56.6	+0.3
ATPI	**Pietralunga -**	**0.07**	**93**	P	Pg	10 53 56.6	+0.4
ATPI				S	Sg	10 53 58.0	+0.4
ATPI				AML	AML		
	comp=E,8875μm,0.2s						
ATPI				AML	AML		
	comp=N,22650μm,0.4s						
ATPI				AML	AML		
	comp=E,8875μm,0.2s						
ATPI				AML	AML		
	comp=N,22700μm,0.4s						
ATPI				AML	AML		
	comp=E,8905μm,0.2s						
ATPI				AML	AML		
	comp=N,22700μm,0.4s						
ATPI				AML	AML		
	comp=E,8905μm,0.2s						
ATPI				AML	AML		
	comp=N,22700μm,0.4s						
ATPI	**Pietralunga -**	**0.07**	**93**	S	Sg	10 53 57.9	+0.3
BADI	**Badiali**	**0.07**	**320**	P	Pg	10 53 56.7	+0.4
BADI	**Badiali**	**0.07**	**320**	P	Pg	10 53 56.7	+0.4
BADI				S	Sg	10 53 58.2	+0.6
BADI				AML	AML		
	comp=E,23650μm,0.5s						
BADI				AML	AML		
	comp=N,14700μm,0.2s						
BADI				AML	AML		
	comp=E,23650μm,0.5s						
BADI				AML	AML		
	comp=N,14700μm,0.2s						
BADI				AML	AML		
	comp=E,23650μm,0.5s						
BADI				AML	AML		
	comp=N,14650μm,0.2s						
BADI				AML	AML		
	comp=E,23650μm,0.5s						
BADI				AML	AML		
	comp=N,14650μm,0.2s						
BADI	**Badiali**	**0.07**	**320**	S	Sg	10 53 58.3	+0.6
ATVO	**AVT- Monte Val**	**0.10**	**135**	P	Pg	10 53 57.2	+0.5
ATVO				S	Sg	10 53 59.2	+0.9
ATVO				AML	AML		
	comp=E,17450μm,0.6s						
ATVO				AML	AML		
	comp=N,18000μm,0.7s						
ATVO				AML	AML		
	comp=E,17450μm,0.6s						
ATVO				AML	AML		
	comp=N,18000μm,0.7s						
ATVO				AML	AML		
	comp=E,17450μm,0.6s						
ATVO				AML	AML		
	comp=N,18000μm,0.7s						
ATVO				AML	AML		
	comp=N,18000μm,0.7s						
ATVO				AML	AML		
	comp=E,17450μm,0.6s						
ATVO	**AVT- Monte Val**	**0.10**	**135**	P	Pg	10 53 57.3	+0.6
ATVO	**AVT- Monte Val**	**0.10**	**135**	S	Sg	10 53 59.4	+1.0
ATMI	**Monte Miggiano**	**0.12**	**194**	P	Pg	10 53 57.6	+0.6
ATMI				S	Sg	10 54 00.1	+1.1
ATMI				AML	AML		
	comp=E,17000μm,0.4s						
ATMI				AML	AML		
	comp=N,14750μm,0.6s						
ATMI				AML	AML		
	comp=E,17000μm,0.4s						
ATMI				AML	AML		
	comp=N,14750μm,0.6s						
ATMI				AML	AML		
	comp=E,17000μm,0.4s						
ATMI				AML	AML		
	comp=N,14750μm,0.6s						
ATMI				AML	AML		
	comp=N,14750μm,0.6s						
ATMI				AML	AML		
	comp=E,17000μm,0.4s						
ATMI	**Monte Miggiano**	**0.12**	**194**	P	Pg	10 53 57.6	+0.6
ATMI	**Monte Miggiano**	**0.12**	**194**	P	Pg	10 53 57.7	+0.6
ATMI	**Monte Miggiano**	**0.12**	**194**	S	Sg	10 54 00.1	+1.1
SSP9	**Sansepolcro**	**0.18**	**313**	P	Pg	10 53 58.8	+0.8
SSP9	**Sansepolcro**	**0.18**	**313**	P	Pg	10 53 58.8	+0.8
SSP9	**Sansepolcro**	**0.18**	**313**	P	Pg	10 53 58.8	+0.8
SSP9				S	Sg	10 54 01.9	+1.4
SSP9				AML	AML		
	comp=E,2685μm,0.6s						
SSP9				AML	AML		
	comp=N,1890μm,0.8s						
SSP9				AML	AML		
	comp=E,2680μm,0.6s						
SSP9				AML	AML		
	comp=N,1877μm,0.8s						
SSP9				AML	AML		
	comp=E,2680μm,0.6s						
SSP9				AML	AML		
	comp=N,1877μm,0.8s						
SSP9	**Sansepolcro**	**0.18**	**313**	S	Sg	10 54 04.0	+3.5
PIEI	**Pieia**	**0.18**	**64**	P	Pg	10 53 58.8	+0.6
PIEI	**Pieia**	**0.18**	**64**	P	Pg	10 53 58.8	+0.7
PIEI				S	Sg	10 54 02.3	+1.6
PIEI				AML	AML		
	comp=E,9720μm,0.3s						
PIEI				AML	AML		
	comp=N,5455μm,0.2s						
PIEI				AML	AML		
	comp=E,9720μm,0.3s						
PIEI				AML	AML		
	comp=N,5455μm,0.2s						
PIEI				AML	AML		
	comp=E,9720μm,0.3s						
PIEI				AML	AML		
	comp=N,5455μm,0.2s						
PIEI	**Pieia**	**0.18**	**64**	S	Sg	10 54 02.3	+1.6
PARC	**Parchiule**	**0.20**	**345**	P	Pg	10 53 59.1	+0.7
PARC				S	Sg	10 54 02.8	+1.6
PARC				AML	AML		
	comp=E,6520μm,0.4s						
PARC				AML	AML		
	comp=N,5050μm,0.4s						
PARC				AML	AML		
	comp=E,6525μm,0.4s						
PARC				AML	AML		
	comp=N,5050μm,0.4s						
PARC				AML	AML		
	comp=E,6525μm,0.4s						
PARC				AML	AML		
	comp=N,5050μm,0.4s						
PARC	**Parchiule**	**0.20**	**345**	P	Pg	10 53 59.1	+0.7
PARC	**Parchiule**	**0.20**	**345**	P	Pg	10 53 59.1	+0.7
PARC	**Parchiule**	**0.20**	**345**	S	Sg	10 54 02.8	+1.6
ATFO	**Monte Foce - G**	**0.21**	**115**	P	Pg	10 53 59.1	+0.5
ATFO				S	Sg	10 54 02.9	+1.4
ATFO				AML	AML		
	comp=E,5230μm,0.7s						
ATFO				AML	AML		
	comp=N,5810μm,0.3s						
ATFO				AML	AML		
	comp=E,5230μm,0.7s						
ATFO				AML	AML		
	comp=N,5810μm,0.3s						
ATFO				AML	AML		
	comp=E,5230μm,0.7s						
ATFO				AML	AML		
	comp=N,5810μm,0.3s						
ATFO				AML	AML		
	comp=E,5230μm,0.7s						
ATFO				AML	AML		
	comp=N,5810μm,0.3s						
ATFO	**Monte Foce - G**	**0.21**	**115**	P	Pg	10 53 59.1	+0.5
ATFO	**Monte Foce - G**	**0.21**	**115**	P	Pg	10 53 59.1	+0.5
ATFO	**Monte Foce - G**	**0.21**	**115**	S	Sg	10 54 02.9	+1.4
MURB	**Monte Urbino**	**0.25**	**141**	P	Pg	10 53 59.9	+0.6
MURB	**Monte Urbino**	**0.25**	**141**	P	Pg	10 53 60.0	+0.7
MURB				S	Sg	10 54 04.5	+1.8
MURB				AML	AML		
	comp=E,13500μm,0.2s						
MURB				AML	AML		
	comp=N,13400μm,0.2s						
MURB				AML	AML		
	comp=E,14200μm,0.2s						
MURB				AML	AML		
	comp=N,14500μm,0.2s						
MURB				AML	AML		
	comp=E,13500μm,0.2s						
MURB				AML	AML		
	comp=N,13400μm,0.2s						
MURB				AML	AML		
	comp=E,14200μm,0.2s						
MURB				AML	AML		
	comp=N,14500μm,0.2s						
MURB				AML	AML		
	comp=E,13550μm,0.2s						
MURB				AML	AML		
	comp=N,13400μm,0.2s						
MURB				AML	AML		
	comp=E,14200μm,0.2s						
MURB				AML	AML		
	comp=N,14500μm,0.2s						
MURB				AML	AML		
	comp=E,14200μm,0.2s						
MURB				AML	AML		
	comp=E,13550μm,0.2s						
MURB				AML	AML		
	comp=N,13400μm,0.2s						
MURB				AML	AML		
	comp=N,14500μm,0.2s						
MURB	**Monte Urbino**	**0.25**	**141**	S	Sg	10 54 04.3	+1.7
NARO	**Abbazia di Nar**	**0.25**	**52**	P	Pg	10 53 59.9	+0.5
NARO	**Abbazia di Nar**	**0.25**	**52**	P	Pg	10 53 59.9	+0.5
NARO	**Abbazia di Nar**	**0.25**	**52**	P	Pg	10 53 59.9	+0.5
NARO				S	Sb	10 54 04.4	-1.3
NARO				AML	AML		
	comp=E,1605μm,0.3s						
NARO				AML	AML		
	comp=N,2370μm,0.3s						
NARO				AML	AML		
	comp=E,1610μm,0.3s						
NARO				AML	AML		
	comp=N,2365μm,0.3s						
NARO				AML	AML		
	comp=E,1610μm,0.3s						
NARO				AML	AML		
	comp=N,2365μm,0.3s						
NARO	**Abbazia di Nar**	**0.25**	**52**	S	Sb	10 54 04.5	-1.3
ATTE	**AVT- Monte Tez**	**0.26**	**173**	P	Pg	10 53 59.9	+0.4
ATTE	**AVT- Monte Tez**	**0.26**	**173**	P	Pg	10 54 00.0	+0.6
ATTE				S	Sg	10 54 04.1	+1.1
ATTE				AML	AML		
	comp=E,3850μm,0.3s						
ATTE				AML	AML		
	comp=N,4060μm,1.2s						
ATTE				AML	AML		
	comp=E,3850μm,0.3s						
ATTE				AML	AML		
	comp=N,4060μm,1.2s						
ATTE				AML	AML		
	comp=E,3850μm,0.3s						
ATTE				AML	AML		
	comp=N,4060μm,1.2s						
ATTE	**AVT- Monte Tez**	**0.26**	**173**	P	Pg	10 54 00.1	+0.6
ATTE	**AVT- Monte Tez**	**0.26**	**173**	S	Sg	10 54 04.1	+1.2
PE3	**Peglio**	**0.28**	**29**	P	Pg	10 54 00.6	+0.7
PE3				S	Sb	10 54 05.2	-1.4
PE3				AML	AML		
	comp=E,6990μm,0.4s						
PE3				AML	AML		
	comp=N,6150μm,0.3s						
PE3				AML	AML		
	comp=E,6990μm,0.4s						
PE3				AML	AML		
	comp=N,6150μm,0.3s						
PE3				AML	AML		
	comp=E,6990μm,0.4s						
PE3				AML	AML		
	comp=N,6150μm,0.3s						
PE3	**Peglio**	**0.28**	**29**	P	Pg	10 54 00.7	+0.9
PE3	**Peglio**	**0.28**	**29**	P	Pg	10 54 00.7	+0.9
PE3	**Peglio**	**0.28**	**29**	S	Sb	10 54 06.5	0.0
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pg	10 54 00.4	+0.5
CAFI				S	Sg	10 54 05.0	+1.4
CAFI				AML	AML		
	comp=E,1020μm,0.4s						
CAFI				AML	AML		
	comp=N,1115μm,0.5s						
CAFI				AML	AML		
	comp=E,1020μm,0.4s						
CAFI				AML	AML		
	comp=N,1115μm,0.5s						
CAFI				AML	AML		
	comp=E,1020μm,0.4s						
CAFI				AML	AML		
	comp=N,1115μm,0.5s						
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pg	10 54 00.5	+0.6
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pg	10 54 00.5	+0.6
CAFI	**Castiglion Fio**	**0.28**	**243**	S	Sg	10 54 05.0	+1.4
CRE	**Caprese Michel**	**0.31**	**302**	P	Pg	10 54 00.9	+0.4
CRE				S	Sg	10 54 06.0	+1.4
CRE				AML	AML		
	comp=E,511μm,0.6s						
CRE				AML	AML		
	comp=N,624μm,0.7s						
CRE				AML	AML		
	comp=E,511μm,0.6s						
CRE				AML	AML		
	comp=N,625μm,0.7s						
CRE				AML	AML		
	comp=E,511μm,0.6s						
CRE				AML	AML		
	comp=N,625μm,0.7s						
CRE	**Caprese Michel**	**0.31**	**302**	P	Pg	10 54 00.9	+0.4
FRON	**Frontone**	**0.31**	**78**	P	Pg	10 54 00.9	+0.5
FRON				S	Sb	10 54 06.3	-1.2
FRON				AML	AML		
	comp=E,1320μm,0.7s						
FRON				AML	AML		
	comp=N,2670μm,0.4s						
FRON				AML	AML		
	comp=E,1320μm,0.7s						
FRON				AML	AML		
	comp=N,2670μm,0.4s						
FRON				AML	AML		
	comp=N,2670μm,0.4s						
FRON				AML	AML		
	comp=E,1320μm,0.7s						
FRON	**Frontone**	**0.31**	**78**	P	Pg	10 54 00.9	+0.5
FRON	**Frontone**	**0.31**	**78**	P	Pg	10 54 00.9	+0.5
FRON	**Frontone**	**0.31**	**78**	S	Sb	10 54 06.1	-1.4
SSFR	**Montelago di S**	**0.34**	**93**	P	Pg	10 54 01.6	+0.4
SSFR				S	Sb	10 54 07.4	-1.1
SSFR				AML	AML		
	comp=E,5910μm,0.3s						
SSFR				AML	AML		
	comp=N,5070μm,0.2s						
SSFR				AML	AML		
	comp=E,6365μm,0.3s						
SSFR				AML	AML		
	comp=N,5270μm,0.2s						
SSFR				AML	AML		
	comp=N,5270μm,0.2s						
SSFR				AML	AML		
	comp=E,5910μm,0.3s						
SSFR				AML	AML		
	comp=N,5070μm,0.2s						
SSFR				AML	AML		
	comp=E,6365μm,0.3s						
SSFR	**Montelago di S**	**0.34**	**93**	P	Pg	10 54 01.6	+0.5
CPGN	**Carpegna, Ital**	**0.35**	**1**	P	Pb	10 54 02.4	-0.5
CPGN				S	Sb	10 54 08.3	-0.4
CPGN				AML	AML		
	comp=E,1314μm,0.6s						
CPGN				AML	AML		
	comp=N,1580μm,0.4s						
CPGN				AML	AML		
	comp=E,1220μm,0.6s						
CPGN				AML	AML		
	comp=N,1475μm,0.4s						
CPGN				AML	AML		
	comp=E,1315μm,0.6s						
CPGN				AML	AML		
	comp=N,1580μm,0.4s						
CPGN				AML	AML		
	comp=E,1219μm,0.6s						
CPGN				AML	AML		
	comp=N,1475μm,0.4s						
CPGN				AML	AML		
	comp=E,1315μm,0.6s						
CPGN				AML	AML		
	comp=E,1219μm,0.6s						
CPGN				AML	AML		
	comp=N,1580μm,0.4s						
CPGN				AML	AML		
	comp=N,1475μm,0.4s						
CPGN	**Carpegna, Ital**	**0.35**	**1**	P	Pb	10 54 02.5	-0.4
CPGN	**Carpegna, Ital**	**0.35**	**1**	P	Pb	10 54 02.5	-0.4
CPGN	**Carpegna, Ital**	**0.35**	**1**	S	Sb	10 54 09.2	+0.6
FOSV	**Fossato di Vic**	**0.37**	**116**	P	Pg	10 54 01.9	+0.4
FOSV				S	Sb	10 54 08.2	-0.9
FOSV				AML	AML		
	comp=E,897μm,0.3s						
FOSV				AML	AML		
	comp=N,851μm,0.4s						
FOSV				AML	AML		
	comp=E,898μm,0.3s						
FOSV				AML	AML		
	comp=N,852μm,0.4s						
FOSV				AML	AML		
	comp=E,898μm,0.3s						
FOSV				AML	AML		
	comp=N,852μm,0.4s						
FOSV	**Fossato di Vic**	**0.37**	**116**	P	Pg	10 54 02.0	+0.5
MPAG	**Monte Paganucc**	**0.37**	**62**	P	Pg	10 54 02.1	+0.5
MPAG	**Monte Paganucc**	**0.37**	**62**	P	Pg	10 54 02.2	+0.5
MPAG				S	Sb	10 54 08.3	-0.9
MPAG				AML	AML		
	comp=E,1440μm,0.3s						
MPAG				AML	AML		
	comp=N,1630μm,0.4s						
MPAG				AML	AML		
	comp=E,1445μm,0.3s						
MPAG				AML	AML		
	comp=N,1630μm,0.4s						
MPAG				AML	AML		
	comp=N,1630μm,0.4s						
MPAG				AML	AML		
	comp=E,1445μm,0.3s						
FSSB	**Fossombrone**	**0.41**	**55**	P	Pg	10 54 02.9	+0.5
FSSB				S	Sb	10 54 10.0	-0.5
FSSB				AML	AML		
	comp=E,4475μm,0.4s						
FSSB				AML	AML		
	comp=N,3780μm,0.4s						
FSSB				AML	AML		
	comp=E,4475μm,0.4s						
FSSB				AML	AML		
	comp=N,3780μm,0.4s						
FSSB				AML	AML		
	comp=N,3780μm,0.4s						
FSSB				AML	AML		
	comp=E,4475μm,0.4s						
FSSB	**Fossombrone**	**0.41**	**55**	P	Pg	10 54 03.0	+0.6
ARVD	**Arcevia**	**0.46**	**84**	P	Pg	10 54 03.8	+0.5
ARVD				S	Sb	10 54 11.3	-0.5
ARVD				AML	AML		
	comp=E,470μm,0.3s						
ARVD				AML	AML		
	comp=N,899μm,0.4s						
ARVD				AML	AML		
	comp=E,469μm,0.3s						
ARVD				AML	AML		
	comp=N,898μm,0.4s						
ARVD				AML	AML		
	comp=E,469μm,0.3s						
ARVD				AML	AML		
	comp=N,898μm,0.4s						
ASSB	**Assisi San Ben**	**0.48**	**148**	P	Pg	10 54 03.9	+0.2
ASSB	**Assisi San Ben**	**0.48**	**148**	P	Pg	10 54 03.9	+0.2
ASSB				S	Sb	10 54 11.6	-0.9
ASSB				AML	AML		
	comp=E,893μm,0.4s						
ASSB				AML	AML		
	comp=N,1180μm,1.2s						
ASSB				AML	AML		
	comp=E,893μm,0.4s						
ASSB				AML	AML		
	comp=N,1180μm,1.2s						
ASSB				AML	AML		
	comp=N,1180μm,1.2s						
ASSB				AML	AML		
	comp=E,893μm,0.4s						
ASSB	**Assisi San Ben**	**0.48**	**148**	S	Sb	10 54 13.0	+0.5
SNTG	**Esanatoglia**	**0.50**	**113**	P	Pg	10 54 04.4	+0.3
SNTG	**Esanatoglia**	**0.50**	**113**	P	Pg	10 54 04.4	+0.3
SNTG				S	Sb	10 54 12.8	-0.2
SNTG				AML	AML		
	comp=E,1140μm,0.3s						
SNTG				AML	AML		
	comp=N,1415μm,1.2s						
SNTG				AML	AML		

	comp=E,1140μm,0.3s					
SNTG				AML	AML	
	comp=N,1415μm,1.2s					
SNTG				AML	AML	
	comp=E,1140μm,0.3s					
SNTG				AML	AML	
	comp=N,1415μm,1.2s					
SNTG	**Esanatoglia**	**0.50 113**		S	Sb	10 54 13.0 0.0
SNTG	**Esanatoglia**	**0.50 113**		S	Sb	10 54 13.0 0.0
ASQU	**Asqua**	**0.51 312**		P	Pg	10 54 04.6 +0.4
ASQU				AML	AML	
	comp=E,286μm,1.3s					
ASQU				AML	AML	
	comp=N,317μm,0.5s					
ASQU				AML	AML	
	comp=E,286μm,1.3s					
ASQU				AML	AML	
	comp=N,317μm,0.5s					
ASQU	**Asqua**	**0.51 312**		P	Pg	10 54 04.7 +0.5
COR1	**Corinaldo**	**0.53 70**		P	Pb	10 54 05.7 -0.3
COR1	**Corinaldo**	**0.53 70**		P	Pb	10 54 05.8 -0.2
COR1				AML	AML	
	comp=E,2096μm,0.6s					
COR1				AML	AML	
	comp=N,5325μm,1.6s					
COR1				AML	AML	
	comp=N,5325μm,1.6s					
COR1				AML	AML	
	comp=E,2096μm,0.6s					
COR1	**Corinaldo**	**0.53 70**		S	Sn	10 54 16.0 -1.5
MGAB	**Montegabbione**	**0.56 195**		P	Pg	10 54 05.4 +0.2
MGAB				S	Sb	10 54 14.8 +0.1
MGAB				AML	AML	
	comp=E,1990μm,0.4s					
MGAB				AML	AML	
	comp=N,1780μm,1.0s					
MGAB				AML	AML	
	comp=E,2180μm,0.4s					
MGAB				AML	AML	
	comp=N,1660μm,1.0s					
MGAB				AML	AML	
	comp=E,2180μm,0.4s					
MGAB				AML	AML	
	comp=E,1990μm,0.4s					
MGAB				AML	AML	
	comp=N,1780μm,1.0s					
MGAB				AML	AML	
	comp=N,1660μm,1.0s					
MGAB	**Montegabbione**	**0.56 195**		P	Pg	10 54 05.6 +0.4
SFI	**Santa Sofia**	**0.56 323**		P	Pg	10 54 05.6 +0.4
SFI				AML	AML	
	comp=E,260μm,0.5s					
SFI				AML	AML	
	comp=N,272μm,0.5s					
SFI				AML	AML	
	comp=E,259μm,0.5s					
SFI				AML	AML	
	comp=N,272μm,0.5s					
SFI				AML	AML	
	comp=N,272μm,0.5s					
SFI				AML	AML	
	comp=E,259μm,0.5s					
SFI	**Santa Sofia**	**0.56 323**		P	Pg	10 54 05.8 +0.6
EL6	**Elcito**	**0.59 102**		P	Pg	10 54 06.0 +0.3
EL6	**Elcito**	**0.59 102**		P	Pg	10 54 06.1 +0.3
EL6				S	Sb	10 54 15.7 0.0
EL6				AML	AML	
	comp=E,664μm,0.3s					
EL6				AML	AML	
	comp=N,607μm,0.9s					
EL6	**Elcito**	**0.59 102**		S	Sb	10 54 16.0 +0.4
EL6	**Elcito**	**0.59 102**		S	Sb	10 54 16.0 +0.4
PESA	**Pesaro**	**0.62 38**		P	Pb	10 54 07.0 -0.5
PESA				AML	AML	
	comp=E,999μm,0.3s					
PESA				AML	AML	
	comp=N,944μm,0.3s					
PESA				AML	AML	
	comp=E,999μm,0.3s					
PESA				AML	AML	
	comp=N,944μm,0.3s					
PESA				AML	AML	
	comp=E,999μm,0.3s					
PESA				AML	AML	
	comp=N,944μm,0.3s					
PESA	**Pesaro**	**0.62 38**		P	Pb	10 54 07.0 -0.5
PESA	**Pesaro**	**0.62 38**		S	Sb	10 54 18.0 +1.6
CESI	**CESI - Serrava**	**0.63 136**		P	Pg	10 54 06.5 +0.1
CESI	**CESI - Serrava**	**0.63 136**		P	Pg	10 54 06.6 +0.2
CESI				S	Sb	10 54 16.4 -0.2
CESI				AML	AML	
	comp=E,82μm,0.7s					
CESI				AML	AML	
	comp=N,258μm,0.5s					
CESI				AML	AML	
	comp=E,82μm,0.7s					
CESI				AML	AML	
	comp=N,258μm,0.5s					
CESI				AML	AML	
	comp=E,82μm,0.7s					
CESI				AML	AML	
	comp=N,258μm,0.5s					
CESI	**CESI - Serrava**	**0.63 136**		S	Sb	10 54 16.0 -0.6
CING	**Cingoli**	**0.65 97**		P	Pg	10 54 07.2 +0.3
CING				S	Sb	10 54 17.8 +0.5
CING				AML	AML	
	comp=E,228μm,0.7s					
CING				AML	AML	
	comp=N,435μm,0.8s					
CING				AML	AML	
	comp=N,435μm,0.8s					
CING				AML	AML	
	comp=E,228μm,0.7s					
CING	**Cingoli**	**0.65 97**		P	Pg	10 54 07.3 +0.5
SACS	**San Casciano d**	**0.67 206**		P	Pg	10 54 07.6 +0.3
SACS	**San Casciano d**	**0.67 206**		P	Pg	10 54 07.7 +0.4
SACS				S	Sb	10 54 18.3 +0.4
SACS				AML	AML	
	comp=E,505μm,0.2s					
SACS				AML	AML	
	comp=N,1000μm,0.9s					
SACS				AML	AML	
	comp=E,526μm,0.3s					
SACS				AML	AML	
	comp=N,1002μm,0.9s					
SACS				AML	AML	
	comp=E,505μm,0.2s					
SACS				AML	AML	
	comp=N,1000μm,0.9s					
SACS				AML	AML	
	comp=E,526μm,0.3s					
SACS				AML	AML	
	comp=N,1002μm,0.9s					
SACS				AML	AML	
	comp=N,1000μm,0.9s					
SACS				AML	AML	
	comp=N,1002μm,0.9s					
SACS				AML	AML	
	comp=E,505μm,0.2s					
SACS				AML	AML	
	comp=E,526μm,0.3s					
MOMA	**Monte Martano**	**0.68 164**		P	Pg	10 54 07.8 +0.4
MOMA	**Monte Martano**	**0.68 164**		P	Pg	10 54 07.8 +0.4
MOMA				S	Sb	10 54 18.5 +0.4
MOMA				AML	AML	
	comp=E,830μm,0.9s					
MOMA				AML	AML	
	comp=N,862μm,0.3s					
MOMA				AML	AML	
	comp=E,830μm,0.9s					
MOMA				AML	AML	
	comp=N,862μm,0.3s					
MOMA				AML	AML	
	comp=E,830μm,0.9s					
MOMA				AML	AML	
	comp=N,862μm,0.3s					
RUFI	**Rufina**	**0.70 304**		P	Pg	10 54 08.1 +0.4
RUFI	**Rufina**	**0.70 304**		P	Pb	10 54 08.8 0.0
FDMO	**Fiordimonte**	**0.71 126**		P	Pg	10 54 07.6 -0.3
FDMO	**Fiordimonte**	**0.71 126**		P	Pg	10 54 07.9 0.0
FDMO				S	Sb	10 54 19.0 +0.1
FDMO				AML	AML	
	comp=E,258μm,0.3s					
FDMO				AML	AML	
	comp=N,261μm,1.3s					
FDMO				AML	AML	
	comp=E,258μm,0.3s					
FDMO				AML	AML	
	comp=N,261μm,1.3s					
CSNT	**Castellina Chi**	**0.74 272**		P	Pb	10 54 09.4 -0.1
CSNT	**Castellina Chi**	**0.74 272**		P	Pb	10 54 09.4 -0.1
CSNT				AML	AML	
	comp=E,150μm,0.7s					
CSNT				AML	AML	
	comp=N,221μm,0.5s					
CSNT				AML	AML	
	comp=E,150μm,0.7s					
CSNT				AML	AML	
	comp=N,221μm,0.5s					
CSP1	**Cessapalombo**	**0.75 119**		P	Pg	10 54 08.7 0.0
CSP1	**Cessapalombo**	**0.75 119**		P	Pg	10 54 08.8 0.0
CSP1				S	Sb	10 54 20.7 +0.5
MCIV	**Monte Civitell**	**0.82 215**		P	Pg	10 54 10.2 +0.1
MCIV				AML	AML	
	comp=E,126μm,1.0s					
MCIV				AML	AML	
	comp=N,128μm,0.7s					
MCIV				AML	AML	
	comp=E,126μm,0.9s					
MCIV				AML	AML	
	comp=N,128μm,0.7s					
MCIV				AML	AML	
	comp=E,126μm,0.9s					
MCIV				AML	AML	
	comp=N,128μm,0.7s					
MCIV	**Monte Civitell**	**0.82 215**		P	Pg	10 54 10.3 +0.2
NRCA	**Norcia**	**0.86 136**		P	Pg	10 54 10.4 -0.4
NRCA				AML	AML	
	comp=E,270μm,0.2s					
NRCA				AML	AML	
	comp=N,376μm,0.4s					
NRCA				AML	AML	
	comp=N,376μm,0.4s					
NRCA				AML	AML	
	comp=E,270μm,0.2s					
NRCA	**Norcia**	**0.86 136**		P	Pg	10 54 11.0 +0.2
CRMI	**Carmignano**	**1.03 289**		P	Pn	10 54 16.1 +1.0
CADA	**Capodarco di F**	**1.09 103**		P	Pg	10 54 13.1 -2.2
CASP	**Castiglione de**	**1.25 238**		P	Pn	10 54 17.4 -0.8
CASP	**Castiglione de**	**1.25 238**		AML	AML	
	comp=N,29μm,0.6s					
CASP				AML	AML	
	comp=E,35μm,1.1s					
CASP				AML	AML	
	comp=N,29μm,0.6s					
CASP				AML	AML	
	comp=E,35μm,1.1s					
NVLJ	**Novalja**	**2.16 58**		*e*Pn	Pn	10 54 32.0 +1.4
NVLJ				Sn	Sb	10 54 59.3 -1.2
ABTA	**Abfaltersbach**	**3.30 2**		Pn	Pb	10 54 50.4 -2.8
	comp=E,1.9nm,0.5s					
OBKA	**Obir**	**3.44 27**		Pg	Pb	10 54 57.8 +2.2
	comp=E,1.1nm,0.4s					
KBA	**Koelnbreinsper**	**3.70 11**		Pn	Pn	10 54 49.8 -2.2
	comp=E,1.8nm,0.6s					
FETA	**Feichten**	**3.74 343**		Pn	Pb	10 54 58.1 -2.6
	comp=E,1.7nm,0.6s					
SOKA	**Soboth**	**3.76 30**		*e*Pn	Pn	10 54 49.6 -3.1
	comp=E,1.1nm,0.3s					
DAVA	**Damuels**	**4.20 337**		Pn	Pb	10 55 05.1 -3.4
	comp=E,2.6nm,0.5s					

MEX 08 10:56:58.2±0.6, 17°.35N×101°.56W, h14km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.27**	**20**	*i* P	Pg	10 57 03.8	-0.2
ZIIG				*e*S	Sg	10 57 07.5	-0.4
CAIG	**El Cayaco**	**1.28**	**103**	*e*P	Pn	10 57 18.1	-3.5
CAIG				*e*S	Sb	10 57 32.9	-5.4
ARIG	**Puente Sto Nin**	**1.48**	**51**	*e*P	Pn	10 57 20.3	-4.2
ARIG				*e*S	Sn	10 57 38.3	-5.4
MEIG	**Mezcala**	**1.94**	**73**	*i* P	Pn	10 57 28.3	-2.5
MEIG				*i* S	Sn	10 57 51.0	-4.1
PLIG	**Platanillo**	**2.22**	**62**	*i* P	Pn	10 57 31.2	-3.4
PLIG				*i* S	Sn	10 57 58.4	-3.5
TLIG	**Tlapa**	**2.87**	**85**	*i* P	Pn	10 57 41.8	-1.8
TLIG				*i* S	Sn	10 58 14.7	-3.3

WEL 08 11:16:32.1±1.4, 33°.S±30°.×17°.9E±5°.0, h373km±28km, ML4.6/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.18**	**190**	P	Pn	11 17 43.4	-0.7
WMGZ	**Waiomatatini S**	**4.42**	**188**	P	Pn	11 17 46.3	-0.3
HAZ	**Te Kaha**	**4.46**	**195**	P	Pn	11 17 47.4	+0.3
PKGZ	**Pakihiroa**	**4.54**	**192**	P	Pn	11 17 47.9	+0.1
RUGZ	**Raukumara Rang**	**4.69**	**195**	P	Pn	11 17 48.6	-0.9
PUZ	**Puketiti**	**4.69**	**189**	P	Pn	11 17 50.1	+0.7
URZ	**Urewera**	**5.11**	**199**	P	Pn	11 17 53.9	+0.2
URZ				S	S	11 18 59.8	-0.2
RAGZ	**Rawiri**	**5.25**	**196**	P	Pn	11 17 56.4	+0.9
RIGZ	**Rimuhau**	**5.39**	**192**	P	Pn	11 17 57.2	+0.4
MUGZ	**Murupara**	**5.40**	**201**	P	Pn	11 17 58.0	+0.9
RAHZ	**Arahi**	**5.73**	**197**	P	Pn	11 18 01.2	+0.5
RAHZ				S	S	11 19 12.7	+0.1
NMHZ	**Naumai**	**5.97**	**198**	P	Pn	11 18 02.9	-0.5
KWHZ	**Kaweka Forest**	**6.38**	**200**	P	Pn	11 18 07.2	-0.8
BHHZ	**Black Hill Sta**	**6.55**	**202**	P	P	11 18 10.5	-0.5
BHHZ				S	S	11 19 30.9	+1.4
KAHZ	**Kahuranaki**	**6.62**	**196**	P	P	11 18 11.2	-0.5
PNHZ	**Pukenui**	**6.90**	**200**	P	Pn	11 18 13.5	-0.3
TSZ	**Takapari Road**	**7.10**	**201**	P	Pn	11 18 16.1	-0.1
BFZ	**Birch Farm**	**7.61**	**197**	P	Pn	11 18 22.1	+0.2
MRZ	**Mangatainoka R**	**7.77**	**201**	P	Pn	11 18 23.7	-0.1
OGWZ	**Otaki Gorge**	**8.04**	**203**	P	Pn	11 18 25.7	-1.2
DUWZ	**D'Urville Isla**	**8.48**	**208**	P	Pn	11 18 31.7	-0.4
TUWZ	**Tuamarina**	**9.01**	**206**	P	Pn	11 18 38.3	0.0
NNZ	**Nelson**	**9.05**	**209**	P	Pn	11 18 38.5	-0.2
QRZ	**Quartz Range**	**9.10**	**214**	P	Pn	11 18 38.9	-0.5
THZ	**Tophouse**	**9.70**	**209**	P	P	11 18 47.0	-0.1
KHZ	**Kahutara**	**10.02**	**205**	P	P	11 18 50.6	0.0

NIED ***08*** *11:18:00, 35°.70N×140°.80E, h47km, Mw4.5 Best double couple: M0 5.79000×10^15 NP1:*ϕ_s*184.00000°,*δ*20.00000°,* λ*82.00000°. NP2:*ϕ_s*12.00000°,*δ*70.00000°,*λ*93.00000°.*
JMA ***08*** *11:18:11.9±0.2, 35°.73N×140°.72E, h51km±2km, M4.3 Broadband fault plane solution: P waves. NP1:* ϕ_s*5.00000°,*δ*66.00000°,*λ*92.00000°. NP2:*ϕ_s*179.00000°,* δ*24.00000°,*λ*85.00000°. Principal axes: T Plg69.0000°, Azm279.0000°; N Plg2.0000°, Azm184.0000°; P Plg21.0000°, Azm93.0000°;*
JMA Felt II J1.
BJI ***08*** *11:18:11.2±0.0, 35°.68N×140°.65E, h59km, mb4.6/32, mB4.9/20, Ms4.0/14, Ms7 3.7/13*
MOS ***08*** *11:18:11.2±1.1, 35°.74N×140°.70E, h48km, mb4.5/28, Error ellipse: s-maj=9.9km s-min=5.6km az=107.9*
ISCJB ***08*** *11:18:12.2±0.2, 35°.70N±0°.02×140°.66E±0°.03, h57km±2km, mb4.5/81, MS3.5/20, Error ellipse: s-maj=4.4km s-min=3.9km az=6.1*
NEIC ***08*** *11:18:13.3±1.4, 35°.67N×140°.68E, h51km±6km, mb4.4/52, Error ellipse: s-maj=12.3km s-min=1.3km az=205.0*
NEIC Recorded [2 JMA] in Chiba.
IDC ***08*** *11:18:14.5±1.4, 35°.62N×140°.59E, h63km±13km, mb3.9/26, mb1 4.1/31, mb1mx4.1/38, mbtmp4.2/31, MS3.4/16, Ms1 3.4/16, ms1mx3.2/38, Error ellipse: s-maj=13.3km s-min=7.2km az=71.0*

ISC 08 11:18:13.0±0.4, 35.74N±0°.03×140°.69E±0°.04, h51km±3km, h51km:pP-P, n201, σ**1**$\frac{2}{3}$**49/219, mb4.5/81, MS3.5/22, 10C-6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.14**	**103**	⇑P	**Pn**	**11 18 19.8**	**-1.2**
CHOJ				S	**Sn**	**11 18 26.3**	**-0.5**
JSMT	**Sammumatsuo**	**0.22**	**245**	P	**Pn**	**11 18 21.0**	**-0.5**
JSMT				S	**Sn**	**11 18 27.9**	**+0.4**
JIHU	**Itakohorinouch**	**0.27**	**330**	P	**Pn**	**11 18 21.7**	**-0.2**
JIHU				S	**Sn**	**11 18 28.9**	**+0.7**
JCN	**Nagara**	**0.51**	**232**	⇓P	**Pn**	**11 18 24.3**	**-0.1**
JCN				S	**Sn**	**11 18 33.5**	**+1.0**
I30JP	**ISUMI INFRASON**	**0.53**	**216**	P	**Pn**	**11 18 23.9**	**-0.6**
	baz=42,slow=28						
I30JP				S	**Sn**	**11 18 34.2**	**+1.4**
	baz=60,slow=211						
I30JP				*i*		11 20 30.0	
	baz=19,slow=326,SNR=0.7						
JYT	**Yasato**	**0.64**	**321**	⇓P	**Pn**	**11 18 25.2**	**-0.7**
JYT				S	**Sn**	**11 18 34.9**	**-0.4**
BSO4	**Boso 4**	**0.80**	**201**	P	**Pn**	**11 18 27.6**	**-0.3**
JHO	**Hitachi**	**0.88**	**354**	⇓P	**Pn**	**11 18 28.8**	**-0.3**
BSO3	**Boso 3**	**0.94**	**189**	P	**Pn**	**11 18 29.2**	**-0.5**
BSO3				*e*S	**Sn**	**11 18 41.7**	**-0.3**
BSO1	**Boso 1**	**1.10**	**168**	P	**Pn**	**11 18 31.0**	**-0.6**
BSO1				S	**Sn**	**11 18 45.0**	**-0.5**
MJAR	**Matsushiro Arr**	**2.16**	**293**	*e*Pn	**Pn**	**11 18 46.7**	**+0.1**
MJAR	**Matsushiro Arr**	**2.16**	**293**	P	**Pn**	**11 18 47.2**	**+0.6**
	8.1nm,0.3s,baz=180,slow=7.3,SNR=282						
MJAR				S	**Sn**	**11 19 13.1**	**+0.8**
	9.1nm,0.3s,baz=148,slow=12,SNR=8.7						
MAJO	**Matsushiro**	**2.17**	**293**	*e*Pn	**Pn**	**11 18 47.9**	**+1.3**
MAJO				*e*Sn	**Sn**	**11 19 13.1**	**+0.8**
MAJO	**Matsushiro**	**2.17**	**293**	*d i* P	**Pn**	**11 18 47.7**	**+1.1**
MAT	**Matsushiro**	**2.17**	**293**	P	**Pn**	**11 18 47.7**	**+1.1**
MAT				*e*S	**Sn**	**11 19 15.9**	**+3.6**
MJB9	**Matsu-Tunnel**	**2.17**	**293**	*e*Pn	**Pn**	**11 18 47.9**	**+1.2**
JHJ2	**Mitsune**	**2.71**	**196**	*e*Pn	**Pn**	**11 18 53.6**	**-0.6**
JHJ	**Hachijo jima 2**	**2.71**	**196**	P	**Pn**	**11 18 53.5**	**-0.7**
	32nm,0.3s,baz=342,slow=22,SNR=14						
JHJ				S	**Sn**	**11 19 24.8**	**-1.0**
	149nm,0.3s,baz=139,slow=22,SNR=8.5						
INU	**Inuyama**	**3.02**	**264**	*e*Pn	**Pn**	**11 18 59.1**	**+0.8**
ERM	**Erimo**	**6.56**	**16**	*e*Pn	**Pn**	**11 19 46.4**	**-0.4**
ERM				*e*Sn	**Sn**	**11 20 59.4**	**-0.8**
ERM	**Erimo**	**6.56**	**16**	*i* P	**Pn**	**11 19 46.3**	**-0.5**
ASAJ	**Asahikawa**	**8.50**	**9**	P	**Pn**	**11 20 11.7**	**-1.7**
	3.4nm,0.3s,baz=212,slow=12,SNR=22						
ASAJ				S	**Sn**	**11 21 45.2**	**-2.7**
	1.3nm,0.3s,baz=153,slow=16,SNR=3.7						
ASAJ				LR	LR	11 24 42.0	
	comp=Z,88nm,20.1s,baz=177,slow=45						
JNU	**Nakatsue**	**8.51**	**255**	*e*Pn	**Pn**	**11 20 15.4**	**+1.7**
JNU	**Nakatsue**	**8.51**	**255**	P	**Pn**	**11 20 14.8**	**+1.1**
	0.4nm,0.3s,baz=38,slow=4.3,SNR=5.9						
TEY	**Ternei**	**9.80**	**343**	*e*P	**Pn**	**11 20 31.3**	**+0.2**
KSRS	**Korea Array**	**10.41**	**283**	P	**Pn**	**11 20 42.0**	**+2.5**
KSRS	**Korea Array**	**10.41**	**283**	P	**Pn**	**11 20 42.0**	**+2.5**
	0.2nm,0.3s,baz=100,slow=14,SNR=12						
KS15	**Wonju Array Si**	**10.44**	**283**	*e*Pn	**Pn**	**11 20 39.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**10.77**	**324**	*e*Pn	**Pn**	**11 20 46.4**	**+2.0**
USRK	**Ussuriysk Ar.**	**10.77**	**324**	P	**Pn**	**11 20 46.3**	**+1.9**
	0.5nm,0.3s,baz=129,slow=13,SNR=7.0						
KUR	**Kuril'sk**	**10.94**	**28**	⇑*i* P	**Pn**	**11 20 49.5**	**+2.7**
KUR				*e*S	**Sn**	**11 22 39.9**	**-7.8**
KUR				smax	smax		
	comp=N,41nm,0.7s						
KUR				smax	smax		
	comp=E,23nm,0.4s						
YSS	**Yuzh-Sakhalins**	**11.32**	**7**	*e*Pn	**Pn**	**11 20 53.2**	**+1.4**
YSS	**Yuzh-Sakhalins**	**11.32**	**7**	*e*P	**Pn**	**11 20 51.2**	**-0.7**
YSS				*e*S	**Sn**	**11 22 49.0**	**-7.8**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2	**Changchun**	**14.21**	**309**	*e*P	**Pn**	**11 21 30.6**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
KLR	**Kul'dur**	**15.00**	**337**	*i* P	**Pn**	**11 21 39.4**	**-2.2**
KLR	**Kul'dur**	**15.00**	**337**	P	**Pn**	**11 21 40.0**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=4.8						
TYV	**Tymovskoe**	**15.19**	**5**	*e*P	**P**	**11 21 47.4**	**-0.8**
TYV				*e*S	**Sn**	**11 24 35.4**	**+4.3**
TYV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TYV				smax	smax		
	comp=E,100nm,4.8s						
NJ2	**Nanjing**	**18.49**	**265**	*e*P	**Pn**	**11 22 25.7**	**+0.3**
NJ2				pmax	pmax		
	comp=E,8.0nm,0.5s						
BJI	**Beijing**	**19.80**	**290**	*e*P	**P**	**11 22 38.3**	**-0.8**
BJT	**Baijiatuau**	**19.80**	**290**	*e*P	**P**	**11 22 38.5**	**-0.6**
	comp=E,8.6nm,0.9s						
ZEA	**Zeya**	**20.31**	**337**	*e*P	**P**	**11 22 42.8**	**-1.8**
ZEA				pmax	pmax		
	comp=Z,15nm,0.8s						
PETK	**Petropavlovsk-**	**21.10**	**29**	*e*P	**P**	**11 22 54.0**	**+0.9**
PETK	**Petropavlovsk-**	**21.10**	**29**	P	**P**	**11 22 55.0**	**+1.9**
PETK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PETK				MLR	MLR		
	comp=Z,24nm,21.8s						
PETK	**Petropavlovsk-**	**21.10**	**29**	P	**P**	**11 22 55.0**	**+1.9**
	comp=Z,5.8nm,0.8s,baz=224,slow=8.2,SNR=6.0						
PETK				LR	LR	11 30 48.2	
	comp=Z,24nm,21.8s,baz=222,slow=36						
PEA1	**Petropavlovsk-**	**21.11**	**29**	*e*P	**P**	**11 22 55.0**	**+1.8**
PET	**Petropavlovsk**	**21.43**	**31**	*e*P	**P**	**11 22 56.9**	**+0.4**
	comp=Z,34nm,1.2s						
KNMB	**Chin-men Tao**	**22.27**	**246**	*e*P	**P**	**11 23 05.2**	**-0.7**
	comp=Z,30nm,0.8s						
WHN	**Wuhan**	**22.62**	**264**	⇑*i* P	**P**	**11 23 09.2**	**-0.4**
WHN				pP	**sP**	**11 23 25.4**	**-2.2**
WHN				S	**S**	**11 27 09.2**	**-4.7**
WHN				pmax	pmax		
	comp=Z,56nm,1.2s						
WHN				LR	LR		
	comp=Z,360nm,17.5s						
HHC	**Hu-ho-hao-te**	**23.37**	**291**	*e*P	**P**	**11 23 16.2**	**-0.9**
HHC				S	**S**	**11 27 19.6**	**-6.7**
HHC				pmax	pmax		
	comp=Z,50nm,0.8s						
HHC				pmax	pmax		
	comp=Z,250nm,4.2s						
HHC				LR	LR		
	comp=Z,790nm,9.1s						
HHC				LR	LR		
	comp=Z,690nm,10.7s						
HHC				LR	LR		
	comp=Z,700nm,9.2s						
MA2	**Magadan**	**24.74**	**12**	*e*P	**P**	**11 23 31.4**	**+1.9**
	comp=Z,13nm,0.9s						
MA2	**Magadan**	**24.74**	**12**	*ce*P	**P**	**11 23 31.4**	**+1.9**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MA2	**Magadan**	**24.74**	**12**	P	**P**	**11 23 30.8**	**+1.4**
	comp=Z,8.4nm,0.6s,baz=193,slow=13,SNR=7.9						
MA2				LR	LR	11 34 01.9	
	comp=Z,45nm,18.7s,baz=208,slow=38						
XAN	**Xi'an**	**26.06**	**276**	P	**P**	**11 23 40.4**	**-1.3**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
XAN				LR	LR		
	comp=Z,100nm,13.7s						
XAN				LR	LR		
	comp=Z,130nm,18.6s						
XAN				LR	LR		
	comp=Z,110nm,22.8s						
XAN	**Xi'an**	**26.06**	**276**	*e*P	**P**	**11 23 40.4**	**-1.3**
	comp=Z,8.5nm,0.5s						
ENH	**Enshi**	**26.66**	**267**	*e*P	**P**	**11 23 45.6**	**-1.6**
	comp=Z,27nm,0.6s						
HKPS	**Hong Kong Po S**	**26.71**	**247**	*e*P	**P**	**11 23 46.3**	**-1.3**
	comp=Z,59nm,1.1s						
ULN	**Ulaanbaatar**	**27.63**	**306**	*e*P	**P**	**11 23 55.6**	**-0.2**
	comp=Z,3.2nm,0.7s						
ULN	**Ulaanbaatar**	**27.63**	**306**	*ce*P	**P**	**11 23 56.7**	**+0.9**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.02**	**118**	T	T	11 53 24.5	
	baz=309,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**28.03**	**118**	T	T	11 53 19.4	
	baz=309,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**28.04**	**118**	T	T	11 53 20.2	
	baz=309,slow=75,SNR=52						
SONA0	**Songino Array**	**28.05**	**306**	*e*P	**P**	**11 23 59.0**	**-0.6**
SONM	**Songino Array**	**28.05**	**306**	*e*P	**P**	**11 23 59.2**	**-0.4**
SONM	**Songino Array**	**28.05**	**306**	P	**P**	**11 23 59.0**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=97,slow=8.6,SNR=13						

SONM					LR	LR	11 35 29.3	
	comp=Z,90nm,19.6s,baz=104,slow=37							
SEY	**Seymchan**	**28.18**	**11**	*i* P		**P**	**11 24 01.4**	**+1.1**
SEY	**Seymchan**	**28.18**	**11**	P		**P**	**11 24 01.8**	**+1.4**
	comp=Z,3.6nm,0.9s,baz=160,slow=5.7,SNR=6.4							
BOD	**Bodaibo**	**28.33**	**330**	*e*P		**P**	**11 24 00.3**	**-1.5**
H11S3	**WAKE ISLAND Hy**	**28.68**	**120**	T		T	11 54 06.8	
	baz=312,slow=75,SNR=56							
H11S1	**WAKE ISLAND Hy**	**28.68**	**120**	T		T	11 54 06.8	
	baz=312,slow=75,SNR=75							
H11S2	**WAKE ISLAND Hy**	**28.70**	**120**	T		T	11 54 08.3	
	baz=312,slow=75,SNR=48							
LZH	**Lanzhou**	**29.73**	**282**	*e*P		**P**	**11 24 14.7**	**0.0**
LZH				pP		sP	11 24 30.5	-3.2
LZH				sP		pP	11 24 37.2	+10
LZH				*e*PP		**PnPn**	**11 25 10.8**	**-0.9**
LZH				pmax		pmax		
	comp=Z,16nm,1.3s							
LZH				pmax		pmax		
	comp=Z,77nm,4.9s							
LZH				LR		LR		
	comp=Z,150nm,15.7s							
LZH				LR		LR		
	comp=Z,150nm,16.3s							
LZH				LR		LR		
	comp=Z,160nm,17.0s							
CD2	**Chengdu**	**31.11**	**272**	*e*P		**P**	**11 24 26.5**	**-0.2**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
GTA	**Gaotai**	**32.41**	**289**	*e*P		**P**	**11 24 39.1**	**+0.9**
GTA				pP		pP	11 24 53.1	+1.9
GTA				sP		sP	11 24 59.7	+2.5
GTA				PcP		**PcP**	**11 27 26.6**	**+2.0**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,65nm,7.0s							
GTA				LR		LR		
	comp=Z,100nm,16.2s							
GTA				LR		LR		
	comp=Z,110nm,15.2s							
GTA				LR		LR		
	comp=Z,96nm,17.1s							
BILL	**Bilibino**	**35.44**	**16⇓**	*e*P		**P**	**11 25 04.4**	**+0.5**
BILL				*e**PP		**pP**	**11 25 15.8**	**-1.2**
BILL				*e**SP		**sP**	**11 25 27.2**	**+4.2**
BILL							11 26 31.0	
BILL							11 27 35.0	
BILL				pmax		pmax		
	comp=Z,2.0nm,0.9s							
BILL				MLR		MLR		
	comp=Z,61nm,18.0s							
TIXI	**Tiksi**	**36.51**	**354**	*e*P		**P**	**11 25 13.4**	**+0.4**
TIXI				*e*P		**P**	**11 25 13.5**	**+0.4**
TIXI	**Tiksi**	**36.51**	**354**	*ce*P		**P**	**11 25 12.8**	**-0.2**
TIXI				pmax		pmax		
	comp=Z,6.0nm,1.7s							
TIXI	**Tiksi**	**36.51**	**354**	P		**P**	**11 25 13.4**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=142,slow=5.9,SNR=9.2							
NONG	**Nongkai**	**37.55**	**252**	P		**P**	**11 25 23.0**	**+0.6**
	comp=Z,0.3nm,0.5s							
JAY	**Jayapura**	**38.05**	**180**	LR		LR	11 38 07.5	
	comp=Z,45nm,21.3s,baz=350,slow=31							
CMAR	**Chiang Mai Arr**	**40.61**	**256**	LR		LR	11 42 53.0	
	comp=Z,87nm,19.8s,baz=158,slow=36							
DGZ	**Jazzator, Alta**	**40.69**	**307⇑**	*e*P		**P**	**11 25 50.1**	**+1.5**
DGZ				pmax		pmax		
	comp=Z,7.0nm,0.8s							
WMQ	**Urumqi**	**40.92**	**298**	*e*P		**P**	**11 25 48.8**	**-1.6**
WMQ				pmax		pmax		
	comp=Z,65nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,170nm,3.7s							
WMQ				LR		LR		
	comp=Z,390nm,25.7s							
WMQ				LR		LR		
	comp=Z,2μm,38.9s							
WMQ				LR		LR		
	comp=Z,440nm,39.2s							
ZAA0	**Zalesovo Array**	**42.37**	**313**	*e*P		**P**	**11 26 01.9**	**-0.1**
	comp=Z,6.6nm,0.9s							
ZAA1	**Zalesovo Array**	**42.37**	**313**	*e*P		**P**	**11 26 02.3**	**+0.3**
ZALV	**Zalesovo Beam**	**42.37**	**313**	P		**P**	**11 26 02.3**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=88,slow=7.1,SNR=16							
ZALV				LR		LR	11 45 02.9	
	comp=Z,22nm,18.2s,baz=54,slow=38							
NVS	**Novosibirsk**	**43.33**	**315**	*e*P		P	11 26 02.2	-7.5
NVS				pmax		pmax		
	comp=Z,10.0nm,1.1s							
NVS				pmax		pmax		
	comp=E,5.0nm,1.4s							
NRIK	**Noril'sk**	**44.21**	**336**	P		**P**	**11 26 17.5**	**+0.8**
	comp=E,2.1nm,0.4s,baz=131,slow=9.5,SNR=4.5							
NRIK				LR		LR	11 45 29.3	
	comp=E,46nm,18.9s,baz=118,slow=37							
MK31	**Makanchi Array**	**44.33**	**303**	*e*P		**P**	**11 26 18.6**	**+0.7**
	comp=E,6.3nm,1.0s							
MK31	**Makanchi Array**	**44.33**	**303**	P		**P**	**11 26 18.5**	**+0.5**
MK32	**Makanchi Array**	**44.33**	**303**	*e*P		**P**	**11 26 18.1**	**+0.1**
MKAR	**Makanchi Array**	**44.33**	**303**	P		**P**	**11 26 18.1**	**+0.1**
	comp=E,4.3nm,0.6s,baz=88,slow=9.8,SNR=24							
MKAR				LR		LR	11 45 23.9	
	comp=E,59nm,18.6s,baz=100,slow=37							
KURK	**Kurchatov**	**46.28**	**309**	*e*P		**P**	**11 26 33.2**	**-0.1**
	comp=E,15nm,0.8s							
KURK	**Kurchatov**	**46.28**	**309**	*ce*P		**P**	**11 26 33.1**	**-0.2**
KURK				pmax		pmax		
	comp=Z,18nm,0.9s							
RAMN	**Ramite**	**46.52**	**275**	*e*P		**P**	**11 26 35.6**	**-0.3**
	comp=Z,22nm,0.6s							
JIRN	**Jiri**	**46.56**	**276**	*e*P		**P**	**11 26 36.7**	**+0.4**
	comp=Z,18nm,0.4s							
PDGK	**Podgornoye**	**46.88**	**299**	P		**P**	**11 26 38.4**	**+0.1**
PKI	**Pulchoki**	**47.23**	**276**	*e*P		**P**	**11 26 41.1**	**-0.4**
	comp=Z,7.5nm,0.5s							
PKIN	**Phulchoki**	**47.24**	**276**	*e*P		**P**	**11 26 41.4**	**-0.1**
	comp=Z,7.8nm,0.5s							
DANN	**Dangsing**	**48.24**	**278**	*e*P		**P**	**11 26 49.5**	**+0.2**
	comp=Z,58nm,0.7s							
KDAK	**Kodiak Island**	**48.46**	**41**	*e*P		**P**	**11 26 50.8**	**+0.7**
	comp=Z,4.2nm,0.8s							
KDAK	**Kodiak Island**	**48.46**	**41**	*i* P		**P**	**11 26 51.2**	**+1.1**
KDAK	**Kodiak Island**	**48.46**	**41**	P		**P**	**11 26 51.0**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=202,slow=5.4							
HNR	**Honiara**	**48.46**	**154**	LR		LR	11 44 16.9	
	comp=Z,52nm,21.8s,baz=324,slow=32							
TARG	**Taragay, Kyrgy**	**48.46**	**297**	*e*P		**P**	**11 26 51.0**	**+0.1**
	comp=Z,6.7nm,0.7s							
KOLN	**Koldanda**	**48.61**	**277**	*e*P		**P**	**11 26 52.5**	**+0.5**
	comp=Z,7.9nm,0.5s							
KDJ	**Kajisay**	**48.81**	**298**	*e*P		**P**	**11 26 54.1**	**+0.8**
	comp=Z,3.7nm,0.6s							
KDJ	**Kajisay**	**48.81**	**298**	P		**P**	**11 26 54.2**	**+0.8**
PYUN	**Piuthan**	**48.97**	**278**	*e*P		**P**	**11 26 54.9**	**+0.2**
	comp=Z,66nm,1.0s							
MLY	**Manley**	**49.26**	**31**	*e*P		**P**	**11 26 57.5**	**+1.3**
	comp=Z,3.7nm,0.8s							
TOLK	**Toolik Lake Re**	**49.89**	**27**	*e*P		**P**	**11 27 02.2**	**+1.2**
	comp=Z,5.3nm,1.2s							
MDM	**Murphy Dome**	**50.33**	**32**	*e*P		**P**	**11 27 06.0**	**+1.7**
	comp=Z,7.1nm,0.7s							
SML	**Sawmill**	**50.38**	**36**	*e*P		**P**	**11 27 05.8**	**+1.0**
	comp=Z,4.1nm,0.8s							
WRH	**Wood River Hil**	**50.39**	**32**	*e*P		**P**	**11 27 06.0**	**+1.2**
	comp=Z,2.9nm,1.2s							
KSH	**Kashi**	**50.41**	**295**	P		**P**	**11 27 08.3**	**+2.8**
KSH				pP		sP	11 27 22.9	-2.1
KSH				S		**S**	**11 34 15.0**	**-0.3**
KSH				ScS		**ScS**	**11 36 50.2**	**-2.0**
KSH				pmax		pmax		
	comp=Z,150nm,4.6s							
KSH				LR		LR		
	comp=Z,220nm,8.2s							
KSH				LR		LR		
	comp=Z,190nm,7.8s							
COLA	**College**	**50.49**	**32**	*e*P		**P**	**11 27 06.4**	**+0.9**
	comp=Z,12nm,0.3s							
AAK	**Ala-Archa**	**50.60**	**299**	*ce*P		**P**	**11 27 07.2**	**+0.3**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
OTUK	**Ortayu**	**50.72**	**307**	P		**P**	**11 27 08.1**	**+0.5**
HDA	**Harding Lake**	**50.89**	**32**	*e*P		**P**	**11 27 09.3**	**+0.8**
	comp=Z,3.5nm,0.9s							
ILAR	**Eielson Array**	**50.90**	**32**	*e*P		**P**	**11 27 09.7**	**+1.0**
ILAR	**Eielson Array**	**50.90**	**32**	P		**P**	**11 27 09.8**	**+1.2**
	comp=Z,2.7nm,0.7s,baz=270,slow=6.3,SNR=32							
ILB	**Eielson Array**	**50.90**	**32**	*e*P		**P**	**11 27 09.4**	**+0.8**
	comp=Z,3.2nm,0.6s							
BRVK	**Borovoye**	**51.08**	**313**	*e*P		**P**	**11 27 10.5**	**+0.4**
	comp=Z,5.5nm,0.8s							
BRVK	**Borovoye**	**51.08**	**313**	*i* P		**P**	**11 27 10.6**	**+0.5**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.7s							
BMAR	**Burnt Mountain**	**51.75**	**28**	*e*P		**P**	**11 27 17.4**	**+2.4**
ARSB	**Arslanbob**	**52.05**	**298**	*e*P		**P**	**11 27 18.7**	**+0.9**
	comp=Z,7.7nm,0.9s							
SCRK	**Sand Creek**	**52.21**	**33**	*e*P		**P**	**11 27 19.6**	**+1.0**
	comp=Z,3.3nm,0.8s							
KK31	**Karatay Array**	**53.28**	**301**	*e*P		**P**	**11 27 26.7**	**+0.1**
	comp=Z,4.6nm,1.0s							
KK31	**Karatay Array**	**53.28**	**301**	P		**P**	**11 27 26.7**	**+0.1**
KKAR	**Karatay Array**	**53.28**	**301**	*e*P		**P**	**11 27 26.6**	**-0.1**
KKAR				*e*P		**P**	**11 27 26.8**	**+0.2**
BCAR	**Beaver Creek A**	**53.30**	**34**	*e*P		**P**	**11 27 26.5**	**0.0**
EPYK	**Eagle Plains**	**54.94**	**29**	*e*P		**P**	**11 27 40.5**	**+2.0**
	comp=Z,9.7nm,1.0s							
FITZ	**Fitzroy Crossi**	**55.41**	**197**	*e*P		**P**	**11 27 42.3**	**+0.1**
	comp=Z,6.5nm,0.7s							
WR1	**Warramunga Arr**	**55.70**	**187**	*e*P		**P**	**11 27 43.2**	**-1.1**
WRA	**Warramunga Arr**	**55.70**	**187**	*e*P		**P**	**11 27 43.0**	**-1.3**
WRA	**Warramunga Arr**	**55.70**	**187**	*e*P		**P**	**11 27 43.0**	**-1.3**
WRA	**Warramunga Arr**	**55.70**	**187**	P		**P**	**11 27 43.2**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=3.1,slow=7.8,SNR=42							
SVE	**Sverdlovsk**	**55.74**	**319**	*e*P		**P**	**11 27 44.6**	**+0.4**
SVE				pmax		pmax		
	comp=Z,9.0nm,0.9s							
INK	**Inuvik**	**55.81**	**27**	*e*P		**P**	**11 27 44.6**	**0.0**
	comp=Z,2.6nm,0.9s							
INK	**Inuvik**	**55.81**	**27**	P		**P**	**11 27 46.0**	**+1.5**
INK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**55.81**	**27**	P		**P**	**11 27 46.0**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=290,slow=5.1,SNR=4.3							
ARU	**Arti**	**56.95**	**319**	*d i* P		**P**	**11 27 52.8**	**-0.1**
ARU				S		**S**	**11 35 42.4**	**-0.6**
ARU				pmax		pmax		
	comp=Z,15nm,1.0s							
ABKAR	**Akbulak array**	**58.33**	**311**	*e*P		**P**	**11 28 02.8**	**+0.1**
	comp=Z,12nm,1.3s							
AS31	**Alice Springs**	**59.42**	**187**	*e*P		**P**	**11 28 11.0**	**+0.5**
	comp=Z,1.0nm,0.4s							
ASAR	**Alice Springs**	**59.43**	**187**	P		**P**	**11 28 09.7**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=16,slow=10.0,SNR=32							
RES	**Resolute Bay**	**64.00**	**14**	*e*P		**P**	**11 28 41.5**	**+0.8**
	comp=Z,5.2nm,1.1s							
ARA0	**ARCESS Array S**	**65.00**	**339**	*e*P		**P**	**11 28 48.3**	**+1.0**
ARCES	**ARCESS Array B**	**65.00**	**339**	P		**P**	**11 28 48.3**	**+1.0**
	comp=Z,4.7nm,1.0s,baz=48,slow=9.0,SNR=4.2							
YKA	**Yellowknife Ar**	**65.22**	**30**	P		**P**	**11 28 49.6**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=302,slow=6.6,SNR=15							
YKB5	**Yellowknife Ar**	**65.22**	**30**	*e*P		**P**	**11 28 49.6**	**+0.9**
STKA	**Stephens Creek**	**67.26**	**179**	P		**P**	**11 29 01.7**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=343,slow=13,SNR=3.2							
VRH	**Novokhopyorsk**	**68.15**	**318**	*e*P		P	11 29 13.9	+6.3
VRH				pmax		pmax		
	comp=Z,6.0nm,0.4s							
LPSR	**Galich'ya Gora**	**68.92**	**320**	*e*P		**P**	**11 29 12.3**	**-0.1**
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
VSR	**Storozhevoye**	**69.52**	**319**	*e*P		**P**	**11 29 15.3**	**-0.9**
VSR				pmax		pmax		
	comp=Z,8.0nm,0.7s							
FIA0	**FINESS Array S**	**69.69**	**332**	*e*P		**P**	**11 29 17.4**	**+0.4**
FINES	**FINESS Array B**	**69.69**	**332**	*i* P		**P**	**11 29 17.2**	**+0.2**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.8s							
FINES	**FINESS Array B**	**69.69**	**332**	P		**P**	**11 29 17.4**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=53,slow=6.4,SNR=12							
FINES				LR		LR	12 01 45.2	
	comp=Z,28nm,18.0s,baz=50,slow=37							
KBZ	**Khabaz**	**71.30**	**311**	P		**P**	**11 29 28.0**	**+0.9**
KBZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KBZ				MLR		MLR		
	comp=Z,25nm,19.6s							
KBZ	**Khabaz**	**71.30**	**311**	P		**P**	**11 29 28.0**	**+0.9**
	comp=Z,4.3nm,0.7s,baz=46,slow=4.1,SNR=11							
KBZ				LR		LR	12 02 42.6	
	comp=Z,25nm,19.6s,baz=59,slow=37							
KIV	**Kislovodsk**	**71.31**	**311**	*e*P		**P**	**11 29 28.9**	**+1.5**
KIV				pmax		pmax		
	comp=Z,34nm,1.0s							
ANN	**Anapa**	**74.01**	**314**	*e*P		P	11 29 38.5	-4.7
ANN				pmax		pmax		
	comp=Z,37nm,0.9s							
BEKR	**Beckworth**	**74.11**	**52**	*e*P		**P**	**11 29 44.9**	**+0.8**
	comp=Z,6.1nm,1.6s							
AKASG	**Malin Array Be**	**74.97**	**322**	P		**P**	**11 29 48.8**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=45,slow=6.1,SNR=15							
AKASG				LR		LR	12 05 45.9	
	comp=Z,58nm,18.9s,baz=70,slow=38							
AKBB	**Malin Array Si**	**74.97**	**322**	*e*P		**P**	**11 29 48.8**	**+0.2**
	comp=Z,4.8nm,1.2s							
KIEV	**Kiev**	**74.98**	**322**	*i* P		**P**	**11 29 48.4**	**-0.3**
KIEV				pmax		pmax		
	comp=Z,4.0nm,0.7s							
FFC	**Flin Flon**	**75.11**	**32**	*e*P		**P**	**11 29 50.6**	**+1.2**
	comp=Z,2.4nm,0.8s							
FFC	**Flin Flon**	**75.11**	**32**	*i* P		**P**	**11 29 51.0**	**+1.6**
NC204	**NORSAR Array S**	**75.12**	**337**	*e*P		**P**	**11 29 49.7**	**+0.2**
	comp=Z,13nm,0.7s							
NB2	**NORSAR Subarra**	**75.16**	**337**	P		**P**	**11 29 49.7**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=40,slow=6.2							
NB2	**NORSAR Subarra**	**75.16**	**337**	P		**P**	**11 29 49.7**	**+0.1**
NB200	**NORSAR Array S**	**75.16**	**337**	*e*P		**P**	**11 29 50.1**	**+0.5**
NOA	**NORSAR Array B**	**75.16**	**337**	P		**P**	**11 29 50.1**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=40,slow=5.8,SNR=13							
NOA				LR		LR	12 05 35.0	
	comp=Z,31nm,20.1s,baz=60,slow=38							
DLMT	**Dillon**	**75.68**	**44**	*e*P		**P**	**11 29 53.5**	**+0.5**
	comp=Z,3.7nm,1.0s							
BOZ	**Bozeman (W)**	**76.08**	**44**	*e*P		**P**	**11 29 57.2**	**+1.8**
	comp=Z,1.8nm,1.0s							
NV01	**Mina Array Sit**	**76.24**	**53**	*e*P		**P**	**11 29 58.0**	**+1.5**
NVAR	**Mina Array Bea**	**76.24**	**53**	*e*P		**P**	**11 29 56.2**	**-0.3**
NVAR	**Mina Array Bea**	**76.24**	**53**	P		**P**	**11 29 58.0**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=290,slow=5.5,SNR=14							
H17A	**Grant Village**	**77.41**	**44**	*e*P		**P**	**11 30 04.4**	**+1.4**
	comp=Z,6.3nm,1.2s							
BURAR	**Bucovina Array**	**78.96**	**322**	*e*P		**P**	**11 30 11.9**	**+0.6**
PD31	**Pinedale Array**	**78.99**	**45**	*e*P		**P**	**11 30 12.3**	**+0.5**
	comp=Z,1.0nm,0.7s							
PDAR	**Pinedale Array**	**78.99**	**45**	*e*P		**P**	**11 30 13.1**	**+1.3**
PDAR	**Pinedale Array**	**78.99**	**45**	P		**P**	**11 30 12.9**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=272,slow=3.4,SNR=9.3							
BR101	**Keskin Array S**	**79.27**	**311**	*e*P		**P**	**11 30 13.5**	**+0.3**
BRTR	**Keskin Array B**	**79.27**	**311**	*e*P		**P**	**11 30 13.2**	**0.0**
BRTR	**Keskin Array B**	**79.27**	**311**	*i* P		**P**	**11 30 13.8**	**+0.6**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BRTR	**Keskin Array B**	**79.27**	**311**	P		**P**	**11 30 13.5**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=81,slow=3.9,SNR=9.0							
BRTR				LR		LR	12 10 03.7	
	comp=Z,16nm,18.0s,baz=94,slow=39							
ULM	**Lac du Bonnet**	**80.91**	**33**	P		**P**	**11 30 22.2**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=306,slow=8.7,SNR=3.5							
VYHS	**Vyhne**	**81.46**	**325**	*e*P		**P**	**11 30 27.5**	**+2.9**
VYHS	**Vyhne**	**81.46**	**325**	*e*P		**P**	**11 30 27.5**	**+2.9**
CLL	**Collm**	**81.93**	**330**	*i* P		**P**	**11 30 27.2**	**+0.2**
CLL				pmax		pmax		
	comp=Z,6.0nm,1.0s							
CLL	**Collm**	**81.93**	**330**	*i* P		**P**	**11 30 27.2**	**+0.2**
	comp=Z,6.0nm,1.0s							
CLL				*e*pP		**pP**	**11 30 41.0**	**-0.6**
CLL				*e*sP		**sP**	**11 30 47.0**	**-0.2**
GEC2	**GERESS Array S**	**83.50**	**328**	*e*P		**P**	**11 30 34.8**	**-0.6**
	comp=Z,7.6nm,1.6s							
GERES	**GERESS Array B**	**83.50**	**328**	P		**P**	**11 30 35.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=43,slow=7.4,SNR=3.5							
ECSD	**EROS Data Cent**	**85.30**	**38**	*e*P		**P**	**11 30 45.1**	**+0.7**
	comp=Z,2.7nm,0.9s							
WLF	**Walferdange**	**85.92**	**332**	⇑P		**P**	**11 30 46.9**	**-0.5**
SCHQ	**Schefferville**	**86.74**	**16**	LR		LR	12 12 48.0	
	comp=Z,19nm,18.2s,baz=106,slow=38							
GDL2	**Guadalupe Moun**	**89.00**	**50**	*e*P		**P**	**11 31 00.5**	**-2.2**
LTX	**Lajitas**	**91.38**	**52**	*e*P		**P**	**11 31 14.5**	**+0.6**
TXAR	**Lajitas Array**	**91.38**	**52**	P		**P**	**11 31 14.5**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=306,slow=2.7,SNR=8.2							
LPAZ	**La Paz**	**147.85**	**60**	*e*PKPdf		**PKPdf**	**11 37 49.5**	**-1.2**
LPAZ	**La Paz**	**147.85**	**60**	*e*PKIKP		**PKPdf**	**11 37 49.5**	**-1.2**
LPAZ	**La Paz**	**147.85**	**60**	PKPbc		**PKPbc**	**11 37 54.1**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=314,slow=4.2,SNR=8.7							

BYKL 08 11:23:10.8±0.4, 52°.73N×99°.67E, 4C-3D, FELT I=II MSK
at Orlik, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
ORL	**Orlik**	**0.21**	**156**	*i*Pg	Pg		11 23 14.9	+0.1
ORL				*e*			11 23 16.2	
ORL				*e*Sg	Sg		11 23 18.2	+0.7
ORL				Pmax				
	321nm,0.1s							
ORL				Smax				
	9μm,0.2s							
MOY	**Mondy**	**1.34**	**142⇑**	*i*Pg	Pg		11 23 35.1	-1.4
MOY				*e*Sg	Sg		11 23 52.7	-1.1
MOY				*e*Sb	Sn		11 23 55.6	+0.1
MOY				Pmax				
	302nm,0.4s							
MOY				max				
	364nm,0.7s							
ARS	**Arshan**	**1.87**	**115⇑**	*i*Pg	Pn		11 23 44.1	-0.1
ARS				*e*Sg	Sn		11 24 09.1	+0.5
ARS				*e*			11 24 12.0	
ARS				Pmax				
	236nm,0.2s							
ARS				max				
	1μm,0.5s							
TDJR	**Todzha**	**2.20**	**263**	*e*Pg	Pn		11 23 50.1	+1.4
TDJR				*e*			11 23 51.5	
TDJR				*e*Sg	Sb		11 24 18.8	-0.6
TLY	**Talaya**	**2.66**	**112⇓**	*i*Pn	Pb		11 23 57.6	-1.7
TLY				*e*			11 24 02.1	
TLY				*e*Sg	Sb		11 24 32.9	+0.4
TLY				*e*			11 24 36.1	
TLY				max				
	52nm,0.5s							
TLY				max				
	177nm,0.5s							
IRK	**Irkutsk**	**2.85**	**98**	*e*		Sn	11 24 27.9	-4.8
IRK				*e*Sg		Sb	11 24 38.9	+0.8
IRK				Smax				
	400nm,0.3s							
IVK	**Ivanovka**	**3.06**	**106**	*e*Pn		Pn	11 24 01.9	+1.5
IVK				*e*Pg		Pb	11 24 04.7	-1.4
IVK				*e*Sg		Sb	11 24 44.8	+0.8
IVK				*e*			11 24 48.8	
IVK				Pmax				
	36nm,0.6s							
IVK				Smax				
	157nm,0.8s							
ZAK	**Zakamensk**	**3.26**	**135**	*e*		Pb	11 24 06.6	-2.9
ZAK				*e*			11 24 09.2	
ZAK				*e*Sg		Sb	11 24 52.2	+2.5
ZAK				*e*			11 24 55.9	
ZAK				max				
	40nm,0.3s							
ZAK				max				
	80nm,0.3s							
LSTR	**Listvyanka**	**3.29**	**103⇓**	*i*Pn		Pn	11 24 04.6	+1.1
LSTR				*e*Pg		Pb	11 24 08.6	-1.3
LSTR				*e*Sg		Sb	11 24 51.3	+0.9
LSTR				Pmax				
	28nm,0.5s							
LSTR				Smax				
	65nm,0.3s							
KZLR	**Kyzyl**	**3.37**	**254**	*e*Pg		Pb	11 24 10.1	-1.3
KZLR				*e*Sg		Sb	11 24 54.1	+1.2
TRG	**Tyrgan**	**4.06**	**87⇓**	*i*Pn		Pn	11 24 14.4	+0.2
TRG				*e*			11 24 16.5	
TRG				*e*			11 24 20.4	
TRG				*e*Sn		Sn	11 25 02.0	-0.4
TRG				*e*Sg		Sb	11 25 15.6	+2.9
TRG				max				
	17nm,0.2s							
TRG				Smax				
	131nm,0.7s							
TRG	**Tyrgan**	**4.06**	**87**	*e*P		Pn	11 24 14.3	+0.1
TRG				*e*			11 24 24.1	
TRG				*e*			11 25 15.2	
TRG				pmax		pmax		
	comp=Z,19nm,0.2s							
STDB	**Stepnoy Dvoret**	**4.13**	**95**	*e*Sg		Sb	11 25 19.0	+4.1
STDB				*e*			11 25 21.9	
FFNB	**Fofonovo**	**4.40**	**96**	*e*		Sn	11 25 12.5	+1.8
FFNB				*e*Sg		Sg	11 25 27.6	-4.4
ZRHB	**Zarechye**	**4.56**	**89**	*e*Pg		Pb	11 24 32.3	+0.6
ZRHB				*e*			11 25 19.0	
ZRHB				*e*Sg		Sb	11 25 31.5	+4.4
ZRHB				max				
	comp=Z,37nm,0.9s							
ZRHB				Smax				
	comp=Z,428nm,1.0s							
HRMR	**Khuramsha**	**4.62**	**101**	*e*Pn		Pn	11 24 22.9	+1.1
HRMR				*e*Pg		Pb	11 24 33.8	+1.2
HRMR				*e*Sn		Sn	11 25 16.9	+0.8
HRMR				*e*Sg		Sb	11 25 33.9	+5.1

comp=Z,29nm,1.6s
BOD Bodaibo 9.63 52 *e* 11 27 17.2
BOD *e*Sg Sn 11 28 09.5 +50
BOD Smax
comp=Z,15nm,1.0s
CRS Chara 11.50 61 *e* 11 28 45.6
CRS *e*Sg 11 29 08.0
CRS *e* 11 29 12.1
CRS max
comp=Z,20nm,1.3s
TUP Tupik 12.17 74 *e*Sg 11 29 27.2
TUP *e* 11 29 31.0
TUP max
comp=Z,24nm,1.4s

NIED ***08*** *11:23:00,35°.70N×140°.80E,h50km,Mw4.2 Best double couple: M0=2.51000×10^15 NP1:φs=186.00000°,δ23.00000°, λ88.00000°. NP2:φs=9.00000°,δ67.00000°,λ91.00000°.*
ISCJB ***08*** *11:23:35.9±0.4,35°.71N±0°.04×140°.73E±0°.06,h56km±3km, mb3.9/16,Error ellipse: s-maj=8.5km s-min=6.5km az=170.6*
JMA ***08*** *11:23:35.9±0.2,35°.73N×140°.73E,h51km±2km,M3.6 Broadband fault plane solution: P waves. NP1: φs=13.00000°,δ67.00000°,λ97.00000°. NP2:φs=176.00000°, δ24.00000°,λ74.00000°. Principal axes: T Plg67.0000°, Azm296.0000°; N Plg6.0000°, Azm191.0000°; P Plg22.0000°, Azm98.0000°;*
JMA Felt I J1.
IDC ***08*** *11:23:37.3±1.9,35°.58N×140°.63E,h53km±18km,mb3.7/16, mb1 3.8/21,mb1mx3.7/47,mbtmp3.9/21,ML3.3/4 Error ellipse: s-maj=19.0km s-min=7.6km az=69.0*
ISC 08 11:23:37.0±0.7,35°.72N±0°.04×140°.78E±0°.06,h50km±5km, n42,σ1§11/45,mb3.9/16,1C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.06**	**103**	⇑P	**Pn**	**11 23 43.8**	**-0.8**
CHOJ				*e*S	**Sn**	**11 23 50.2**	**+0.1**
JSMT	**Sammumatsuo**	**0.28**	**255**	P	**Pn**	**11 23 45.0**	**-0.9**
JSMT				*e*S	**Sn**	**11 23 52.3**	**+0.1**
JIHU	**Itakohorinouch**	**0.32**	**320**	P	**Pn**	**11 23 45.6**	**-0.7**
JIHU				*e*S	**Sn**	**11 23 52.8**	**-0.1**
I30JP	**ISUMI INFRASON**	**0.56**	**223**	P	**Pn**	**11 23 49.4**	**+0.4**
	baz=56,slow=29						
I30JP				S	**Sn**	**11 23 57.6**	**+0.1**
	baz=36,slow=122						
JCN	**Nagara**	**0.56**	**238**	⇓P	**Pn**	**11 23 48.3**	**-0.6**
JCN				*e*S	**Sn**	**11 23 57.5**	**0.0**
JYT	**Yasato**	**0.70**	**317**	⇓P	**Pn**	**11 23 49.1**	**-1.6**
BSO4	**Boso 4**	**0.81**	**207**	P	**Pn**	**11 23 51.6**	**-0.5**
JHO	**Hitachi**	**0.91**	**349**	⇓P	**Pn**	**11 23 52.8**	**-0.7**
BSO3	**Boso 3**	**0.94**	**194**	P	**Pn**	**11 23 53.2**	**-0.4**
BSO1	**Boso 1**	**1.07**	**171**	P	**Pn**	**11 23 54.8**	**-0.4**
JAG	**Ashikaga**	**1.29**	**304**	⇓P	**Pn**	**11 23 56.9**	**-1.7**
MJAR	**Matsushiro Arr**	**2.24**	**292**	P	**Pn**	**11 24 11.1**	**-0.5**
	4.1nm,0.3s,baz=96,slow=8.0,SNR=50						
MJAR				S	**Sn**	**11 24 36.8**	**-1.3**
	3.6nm,0.3s,baz=208,slow=20,SNR=7.8						
MAT	**Matsushiro**	**2.24**	**292**	P	**Pn**	**11 24 11.6**	**0.0**
MAT				*e*S	**Sn**	**11 24 41.0**	**+2.9**
JHJ	**Hachijo jima 2**	**2.72**	**198**	P	**Pn**	**11 24 16.7**	**-1.5**
	49nm,0.3s,baz=338,slow=23,SNR=11						
JHJ				S	**Sn**	**11 24 46.2**	**-3.6**
	155nm,0.3s,baz=56,slow=22,SNR=9.3						
ASAJ	**Asahikawa**	**8.50**	**9**	P	**Pn**	**11 25 35.9**	**-1.5**
	1.1nm,0.3s,baz=222,slow=12,SNR=11						
ASAJ				S	**Sn**	**11 27 09.8**	**-2.1**
	0.3nm,0.3s,baz=41,slow=20,SNR=2.5						
JNU	**Nakatsue**	**8.58**	**255**	P	**Pn**	**11 25 38.0**	**-0.6**
	0.3nm,0.3s,baz=32,slow=6.5,SNR=3.7						
KSRS	**Korea Array**	**10.49**	**283**	P	**Pn**	**11 26 04.7**	**+0.2**
	0.2nm,0.3s,baz=100,slow=15,SNR=6.4						
USRK	**Ussuriysk Ar.**	**10.82**	**324**	P	**Pn**	**11 26 09.3**	**+0.2**
	0.1nm,0.3s,baz=140,slow=11,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	11 58 48.2	
	baz=309,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**27.96**	**118**	T	T	11 58 48.7	
	baz=309,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**27.97**	**118**	T	T	11 58 49.5	
	baz=309,slow=75,SNR=32						
SONM	**Songino Array**	**28.12**	**306**	P	**P**	**11 29 23.5**	**-0.7**
	1.0nm,0.7s,baz=98,slow=8.9,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	11 59 30.4	
	baz=312,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	11 59 30.9	
	baz=312,slow=75,SNR=45						
H11S2	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	11 59 32.1	
	baz=312,slow=75,SNR=33						
ZALV	**Zalesovo Beam**	**42.44**	**313**	P	**P**	**11 31 26.4**	**-0.2**
	1.1nm,0.3s,baz=70,slow=4.9,SNR=6.8						
MKAR	**Makanchi Array**	**44.40**	**303**	P	**P**	**11 31 42.1**	**-0.4**
	2.0nm,0.7s,baz=89,slow=9.5,SNR=10						
ILAR	**Eielson Array**	**50.88**	**32**	P	**P**	**11 32 33.5**	**+1.0**
	0.8nm,0.7s,baz=268,slow=6.3,SNR=12						
WRA	**Warramunga Arr**	**55.69**	**187**	P	**P**	**11 33 07.3**	**-1.0**
	1.3nm,0.4s,baz=2.0,slow=8.1,SNR=33						
INK	**Inuvik**	**55.79**	**27**	P	**P**	**11 33 09.7**	**+1.2**
	0.8nm,0.6s,baz=293,slow=6.0,SNR=6.7						
ASAR	**Alice Springs**	**59.42**	**187**	P	**P**	**11 33 33.8**	**-0.7**
	0.6nm,0.5s,baz=20,slow=11,SNR=19						
YKA	**Yellowknife Ar**	**65.20**	**30**	P	**P**	**11 34 13.4**	**+0.8**
	0.4nm,0.7s,baz=302,slow=6.7,SNR=6.1						
FINES	**FINESS Array B**	**69.74**	**332**	P	**P**	**11 34 41.3**	**0.0**
	1.3nm,0.7s,baz=27,slow=9.6,SNR=4.4						
KBZ	**Khabaz**	**71.37**	**311**	P	**P**	**11 34 51.9**	**+0.3**
	2.5nm,0.9s,baz=0.0,slow=0.0,SNR=5.1						
AKASG	**Malin Array Be**	**75.03**	**322**	P	**P**	**11 35 12.4**	**-0.6**
	0.8nm,0.5s,baz=41,slow=6.0,SNR=4.2						
HFS	**Hagfors**	**75.08**	**336**	P	**P**	**11 35 13.1**	**-0.1**
	0.7nm,0.4s,baz=48,slow=2.2,SNR=7.5						
NB2	**NORSAR Subarra**	**75.20**	**337**	P	**P**	**11 35 13.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.20**	**337**	P	**P**	**11 35 14.0**	**0.0**
	comp=Z,1.3nm,0.6s,baz=40,slow=5.7,SNR=5.6						
NVAR	**Mina Array Bea**	**76.19**	**53**	P	**P**	**11 35 21.6**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=284,slow=6.0,SNR=4.4						
BRTR	**Keskin Array B**	**79.34**	**311**	P	**P**	**11 35 37.9**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=57,slow=4.6,SNR=4.1						
TXAR	**Lajitas Array**	**91.33**	**52**	P	**P**	**11 36 38.9**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=346,slow=1.4,SNR=3.9						
LPAZ	**La Paz**	**147.79**	**61**	PKPbc	**PKPbc**	**11 43 17.9**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=4.3,slow=5.4,SNR=4.5						

HLW ***08*** *11:28:05.2,29°.90N×36°.43E,h10km±9km,Ml3.5*
ISCJB ***08*** *11:28:06.2±1.4,29°.91N±0°.07×36°.2E±0°.1,h3km,Error ellipse: s-maj=18.9km s-min=6.2km az=29.3*
JSO ***08*** *11:28:09.9±1.1,30°.N±8°×3°.6E±°,h10km,M3.0/10, Mjma2.8/10,ML2.8/6,MLv3.1/10*
ISC 08 11:28:07.1±1.9,29°.93N±0°.08×36°.1E±0°.1,h3km,n14, σ0§73/15,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSNJ	**Maan**	**0.50**	**311**	P	**Pg**	**11 28 17.3**	**+0.6**
JDRJ	**Daraweish**	**0.89**	**334**	P	**Pg**	**11 28 23.4**	**-0.8**
AQBJ	**Aqaba**	**0.95**	**258**	P	**Pg**	**11 28 25.7**	**+0.3**
SWQJ	**Swaqa**	**1.31**	**358**	P	**Pb**	**11 28 32.9**	**+0.5**
HBST	**Basata**	**1.41**	**240**	P	**Pn**	**11 28 33.1**	**-0.6**
	baz=246						
HBST				S	**Sn**	**11 28 53.6**	**+0.8**
	baz=246						
HBST				AMP		11 29 00.0	
	baz=246						
LISJ	**El Lisan**	**1.42**	**337**	P	**Pn**	**11 28 33.1**	**-0.7**
GHAJ	**Ghor Haditha**	**1.45**	**341**	P	**Pn**	**11 28 33.3**	**-0.9**
NUB		**1.57**	**235**	P	**Pn**	**11 28 35.5**	**-0.4**
	baz=241						
WALJ	**Wala**	**1.65**	**351**	P	**Pn**	**11 28 36.4**	**-0.6**
HDHB	**Dhahab**	**1.78**	**228**	P	**Pn**	**11 28 37.9**	**-0.9**
	baz=234						
ASF	**Jabal al Asfar**	**2.33**	**16**	P	**Pn**	**11 28 47.3**	**+0.8**
HKAT	**Jabal Katrina**	**2.33**	**233**	P	**Pn**	**11 28 45.8**	**-0.8**
	baz=238						
SHMJ	**Saham**	**2.80**	**354**	P	**Pb**	**11 28 57.5**	**-0.4**
SUZ	**Suez**	**2.86**	**269**	P	**Pn**	**11 28 54.0**	**+0.3**
	baz=270						

CRAAG 08 11:45:35.0,36°.83N×7°.30E,Ml2.7,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAH	**Djebel Manchou**	**0.23**	**154**	P	Pg	11 45 40.8	+1.5
CAEH	**'Ain El Ouahch**	**0.36**	**263**	P	Pg	11 45 41.8	-0.2
ABSA	**Djebel Ababsia**	**0.57**	**165**	P	Pb	11 45 48.2	+0.2

ISK ***08*** *11:46:29.7,38°.51N×26°.62E,h8km,ML2.1/9*
DDA ***08*** *11:46:29.8,38°.53N×26°.57E,h7km±3km,ML2.6*
ISCJB ***08*** *11:46:30.4±0.4,38°.50N±0°.02×26°.61E±0°.04,h7km±4km, Error ellipse: s-maj=4.8km s-min=3.9km az=3.3*
ISC 08 11:46:29.9±0.8,38°.51N±0°.02×26°.58E±0°.03,h10km±6km, n16,σ0§56/28,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBN	**Karaburun**	**0.09**	**345**	PG	**Pg**	**11 46 31.9**	**-0.6**
KRBN				SG	**Sg**	**11 46 34.3**	**0.0**
URLA	**Izmir**	**0.15**	**176**	PG	**Pg**	**11 46 33.3**	**0.0**
URLA				SG	**Sg**	**11 46 35.8**	**+0.2**
URLA	**Izmir**	**0.15**	**176**	*i* P	**Pg**	**11 46 33.7**	**+0.4**
URLA				*i* S	**Sg**	**11 46 37.0**	**+1.4**
FOCM	**Foa**	**0.24**	**29**	PG	**Pg**	**11 46 34.7**	**-0.1**
FOCM				SG	**Sg**	**11 46 38.6**	**+0.5**
ZEY	**zmir**	**0.28**	**193**	IAML_P			
	comp=Z,6μm,0.2s						
ZEY				*i* P	**Pb**	**11 46 37.0**	**0.0**
ZEY				*i* S	**Sb**	**11 46 41.3**	**-0.3**
CESE	**eme**	**0.28**	**232**	PG	**Pg**	**11 46 35.6**	**-0.1**
BLCB	**Balcova**	**0.38**	**108**	PG	**Pg**	**11 46 37.0**	**-0.5**
BLCB				SG	**Sg**	**11 46 42.4**	**-0.1**
CHOS	**Chios island**	**0.43**	**254**	PG	**Pb**	**11 46 39.7**	**0.0**
CHOS				SG	**Sb**	**11 46 46.2**	**0.0**
ZEDA	**zmir-Bergama**	**0.60**	**40**	IAML_P			
	comp=Z,511nm,0.1s						
ZEDA				*i* P	**Pg**	**11 46 41.5**	**-0.1**
ZEDA				*i* S	**Sb**	**11 46 50.4**	**-0.7**
SIGR	**SIGRI**	**0.90**	**321**	PG	**Pb**	**11 46 48.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**118**	PN	**Pb**	**11 46 52.0**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.23**	**359**	*i* P	**Pg**	**11 46 53.6**	**0.0**
BAYC				*i* S	**Sn**	**11 47 10.3**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.24**	**45**	*i* P	**Pg**	**11 46 54.7**	**+0.9**
STEP				*i* S	**Sn**	**11 47 10.2**	**+0.1**
AYDN	**Tasoluk**	**1.33**	**129**	*i* P	**Pn**	**11 46 53.9**	**-0.6**
AYDN				*i* S	**Sb**	**11 47 10.9**	**-1.0**
EZN	**Ezine**	**1.33**	**351**	PN	**Pn**	**11 46 54.3**	**-0.3**
MANT	**Manisa**	**1.55**	**90**	IAML_P			
	comp=Z,166nm,0.1s						
MANT				*i* P	**Pg**	**11 47 00.8**	**+1.1**
MANT				*i* S	**Sb**	**11 47 18.9**	**+0.4**

ISCJB ***08*** *11:52:51.6±1.4,16°.98S±0°.08×69°.9W±0°.1,h184km±10km, Error ellipse: s-maj=23.7km s-min=12.2km az=12.5*
GUC ***08*** *11:52:51.3±0.7,16°.81S×69°.81W,h173km±6km,ML3.6*
ISC 08 11:52:49.9±3.0,16°.9S±0°.1×69°.9W±0°.1,h185km±15km,n18, σ1§28/29,5C-4D,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**1.51**	**166**	*e*P	**Pn**	**11 53 23.4**	**+0.4**
PB16				*e*S	**Sn**	**11 53 47.7**	**-1.1**
PB16	**IPOC Station P**	**1.51**	**166**	⇑*e*P	**Pn**	**11 53 24.4**	**+1.4**
PB16				*e*S	**Sn**	**11 53 48.9**	**+0.1**
LPAZ	**La Paz**	**1.77**	**71**	*e*P	**Pn**	**11 53 26.1**	**+0.5**
LPAZ	**La Paz**	**1.77**	**71**	*e*P	**Pn**	**11 53 25.9**	**+0.2**
PB12	**IPOC Station P**	**1.79**	**194**	*e*P	**Pn**	**11 53 25.9**	**+0.6**
PB12				*e*S	**Sn**	**11 53 52.0**	**-0.9**
PB12	**IPOC Station P**	**1.79**	**194**	⇓*i*P	**Pn**	**11 53 26.1**	**+0.8**
PB12				*e*S	**Sn**	**11 53 52.4**	**-0.5**
PB12				IAML		11 53 54.4	
	comp=E,145nm,0.2s						
MNMC	**Minye Minye**	**2.27**	**173**	⇑*e*P	**Pn**	**11 53 31.9**	**+1.2**
MNMC				*e*S	**Sn**	**11 54 02.6**	**+0.2**
MNMC				IAML		11 54 12.3	
	comp=E,271nm,0.2s						
MNMCX	**Minye Minye**	**2.27**	**173**	*e*P	**Pn**	**11 53 30.9**	**+0.3**
MNMCX				*e*S	**Sn**	**11 54 01.2**	**-1.2**
PSGC	**Pisagua**	**2.73**	**185**	*e*P	**Pn**	**11 53 36.4**	**+0.7**
PSGC				*e*S	**Sn**	**11 54 08.5**	**-3.0**
PSGC				IAML		11 54 15.3	
	comp=E,54nm,0.4s						
GO01	**Chusmiza**	**2.87**	**167**	⇓*i*P	**Pn**	**11 53 39.5**	**+1.8**
GO01				*e*S	**Sn**	**11 54 16.3**	**+1.3**
PB11	**IPOC Station P**	**2.89**	**176**	*e*P	**Pn**	**11 53 38.2**	**+0.5**
PB11	**IPOC Station P**	**2.89**	**176**	⇓*i*P	**Pn**	**11 53 38.9**	**+1.2**
PB11				*e*S	**Sn**	**11 54 13.3**	**-1.7**
PB11				IAML		11 54 14.1	
	comp=N,187nm,0.3s						
PB08	**IPOC Station P**	**3.33**	**168**	⇓*i*P	**Pn**	**11 53 44.9**	**+1.7**
PB08				*e*S	**Sn**	**11 54 23.5**	**-1.5**
PB08				IAML		11 54 25.7	
	comp=N,98nm,0.3s						
PB01	**IPOC Station P**	**4.17**	**175**	⇑*i*P	**Pn**	**11 53 54.5**	**+1.0**
PB02	**IPOC Station P**	**4.43**	**180**	⇑*i*P	**Pn**	**11 53 58.1**	**+1.3**
PB07	**IPOC Station P**	**4.84**	**180**	⇑*i*P	**Pn**	**11 54 03.4**	**+1.3**
PB07				*i* S	**Sn**	**11 54 57.0**	**-1.8**
HJA	**Humahuaca**	**7.58**	**147**	*e*P	**Pn**	**11 54 38.9**	**+0.8**
HJA				IAML		11 54 40.4	
	comp=Z,21nm,0.4s						
AZAP	**Zapla**	**8.60**	**149**	*e*P	**Pn**	**11 54 51.1**	**-0.3**
AZAP				IAML		11 54 52.2	
	comp=Z,3.3nm,0.3s						

ISCJB ***08*** *12:05:32.0±0.4,42°.68N±0°.03×75°.67E±0°.03,h0km,Error ellipse: s-maj=4.2km s-min=3.0km az=136.0*
SOME ***08*** *12:05:31.6,42°.65N×75°.68E*
NNC ***08*** *12:05:32.2±0.3,42°.68N×75°.67E,h0km,mb3.1,mpv2.9, Error ellipse: s-maj=1.8km s-min=1.2km az=145.0, Suspected Mining explosion.*
KNET ***08*** *12:05:32.1±0.2,42°.68N×75°.68E,h6km±4km,ml1.0,Error ellipse: s-maj=2.2km s-min=1.3km az=75.0*
ISC 08 12:05:32.6±0.9,42°.69N±0°.03×75°.68E±0°.03,h0km,n19, σ0§70/29,8C-7D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.24**	**346**	P	**Pg**	**12 05 37.2**	**0.0**
	8.6nm,0.1s,SNR=59						
TKM2				⇓S	**Sg**	**12 05 41.1**	**+0.7**
	38nm,0.2s						
TKM2	**Tokmak 2**	**0.24**	**346**	⇑P	**Pg**	**12 05 37.1**	**0.0**
	4.2nm,0.3s						
TKM2				⇓S	**Sg**	**12 05 40.5**	**+0.2**
	10nm,0.2s						
KST	**Kastek**	**0.41**	**31**	P	**Pg**	**12 05 40.3**	**-0.2**
	14nm,0.2s						
KST				S	**Sg**	**12 05 47.0**	**+1.1**
	17nm,0.2s						
DGS	**Degeres**	**0.56**	**7**	P	**Pg**	**12 05 42.8**	**-0.5**
	4.2nm,0.2s						
DGS				S	**Sg**	**12 05 51.1**	**+0.6**
	8.3nm,0.6s						
ULHL	**Ulahol**	**0.61**	**136**	⇑P	**Pg**	**12 05 43.8**	**-0.4**
	7.4nm,0.2s,SNR=28						
ULHL				⇑S	**Sg**	**12 05 52.7**	**+0.6**
	6.3nm,0.2s						
KZA	**Kyzart**	**0.69**	**207**	⇑P	**Pg**	**12 05 45.8**	**+0.1**
	5.0nm,0.2s,SNR=11						
KZA				⇓S	**Sg**	**12 05 55.8**	**+1.2**
	2.9nm,0.2s						
MTBS	**Maitube**	**0.71**	**51**	P	**Pg**	**12 05 45.8**	**-0.4**
	6.8nm,0.2s						
MTBS				S	**Sg**	**12 05 56.3**	**+0.9**
	15nm,0.3s						
AAK	**Ala-Archa**	**0.87**	**267**	⇑P	**Pg**	**12 05 48.8**	**-0.5**
	2.5nm,0.3s						
AAK	**Ala-Archa**	**0.87**	**267**	⇑P	**Pg**	**12 05 48.8**	**-0.5**
	0.6nm,0.2s						
AAK				⇑S	**Sg**	**12 06 01.1**	**+0.5**
	3.0nm,0.7s						
UCH	**Uchtor**	**0.97**	**242**	⇓P	**Pg**	**12 05 50.4**	**-0.9**
	1.6nm,0.3s						
TNSS	**Tian-Shan**	**1.00**	**69**	P	**Pg**	**12 05 51.2**	**-0.5**
	6.1nm,0.2s						
TNSS				S	**Sg**	**12 06 06.0**	**+1.4**
	6.2nm,0.6s						
MDOK	**Medeo**	**1.11**	**64**	Pg	**Pg**	**12 05 53.3**	**-0.7**
	4.8nm,0.3s						
MDOK				Lg	Lg	12 06 09.3	
	5.6nm,0.6s						
KTBS	**Karatobe**	**1.26**	**35**	P	**Pg**	**12 05 55.9**	**-0.8**
	4.1nm,0.2s						
KTBS				S	**Sg**	**12 06 13.8**	**+0.7**
	7.8nm,0.3s						
EKS2	**Erkin-Say**	**1.40**	**270**	⇓P	**Pb**	**12 05 59.4**	**-0.2**
	5.9nm,0.2s,SNR=10.0						
AML	**Almayashu**	**1.57**	**250**	⇑P	**Pn**	**12 06 01.7**	**-0.4**
	2.2nm,0.2s,SNR=6.3						
MRKS	**Merke**	**1.81**	**273**	Pg	**Pb**	**12 06 06.0**	**-0.6**
	7.6nm,0.2s						
MRKS				Lg	Lg	12 06 31.4	
	6.6nm,0.3s						
ARXS	**Arharly**	**2.19**	**45**	Pg	**Pb**	**12 06 12.6**	**-0.4**
	3.8nm,0.4s						
ARXS				Lg	Lg	12 06 42.8	
	6.8nm,0.4s						
BTLS	**Baital**	**2.63**	**334**	Pg	**Pb**	**12 06 20.7**	**+0.1**
	2.0nm,0.2s						
BTLS				Lg	Lg	12 06 57.1	
	2.2nm,0.5s						
KK31	**Karatay Array**	**3.82**	**278**	⇓Pg	**Pb**	**12 06 41.9**	**+1.1**
	0.3nm,0.3s,baz=95,slow=16,SNR=10.0						
KK31				⇓Lg	Lg	12 07 33.9	
	0.2nm,0.3s,baz=112,slow=28,SNR=3.5						

ROM 08 12:15:35.2±0.1,43°.478N±0°.003×12°.303E±0°.003, h8km,Md0.5/3,ML0.9/3,Error ellipse: s-maj=0.3km s-min=0.1km az=33.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BADI	**Badiali**	**0.05**	**307**	P	Pg	12 15 37.2	+0.2
BADI				S	Sg	12 15 38.6	+0.4
BADI				AML	AML		
	comp=E,516μm,0.3s						
BADI				AML	AML		
	comp=N,498μm,0.6s					

PIEI				AML	AML		
	comp=N,31μm,0.4s						
PIEI	**Pieia**	**0.20**	**66**	P	Pg	12 15 44.1	+0.2
PIEI	**Pieia**	**0.20**	**66**	P	Pg	12 15 44.1	+0.3
PIEI	**Pieia**	**0.20**	**66**	S	Sg	12 15 47.9	+1.4
MURB	**Monte Urbino**	**0.26**	**138**	S	Pg	12 15 46.0	+1.0
MURB	**Monte Urbino**	**0.26**	**138**	P	Pg	12 15 45.8	+0.7
MURB	**Monte Urbino**	**0.26**	**138**	P	Pg	12 15 45.8	+0.8
MURB	**Monte Urbino**	**0.26**	**138**	P	Pg	12 15 45.9	+0.9
MURB				S	Sb	12 15 50.4	-1.3
MURB				AML	AML		
	comp=E,67μm,1.3s						
MURB				AML	AML		
	comp=N,64μm,0.2s						
MURB				AML	AML		
	comp=E,67μm,1.3s						
MURB				AML	AML		
	comp=N,64μm,0.2s						
MURB				AML	AML		
	comp=N,64μm,0.2s						
MURB				AML	AML		
	comp=E,67μm,1.3s						
NARO	**Abbazia di Nar**	**0.26**	**54**	S	Sg	12 15 46.0	-2.6
NARO	**Abbazia di Nar**	**0.26**	**54**	P	Pg	12 15 45.5	+0.4
NARO				S	Sg	12 15 49.8	+1.3
NARO				AML	AML		
	comp=E,24μm,1.4s						
NARO				AML	AML		
	comp=N,29μm,1.2s						
NARO				AML	AML		
	comp=E,24μm,1.4s						
NARO				AML	AML		
	comp=N,29μm,1.2s						
NARO				AML	AML		
	comp=N,29μm,1.2s						
NARO				AML	AML		
	comp=E,24μm,1.4s						
NARO	**Abbazia di Nar**	**0.26**	**54**	P	Pg	12 15 45.5	+0.4
NARO	**Abbazia di Nar**	**0.26**	**54**	P	Pg	12 15 45.5	+0.5
ATTE	**AVT- Monte Tez**	**0.26**	**169**	P	Pg	12 15 44.0	-1.1
ATTE	**AVT- Monte Tez**	**0.26**	**169**	AML	AML		
	comp=N,60μm,0.7s						
ATTE				AML	AML		
	comp=E,63μm,1.1s						
ATTE				AML	AML		
	comp=N,60μm,0.7s						
ATTE				AML	AML		
	comp=E,63μm,1.1s						
ATTE				AML	AML		
	comp=N,60μm,0.7s						
ATTE				AML	AML		
	comp=E,63μm,1.1s						
CAFI	**Castiglion Fio**	**0.27**	**241**	S	Pg	12 15 46.0	+0.9
CAFI	**Castiglion Fio**	**0.27**	**241**	S	Sg	12 15 50.1	+1.4
CAFI	**Castiglion Fio**	**0.27**	**241**	P	Pg	12 15 45.8	+0.7
CAFI	**Castiglion Fio**	**0.27**	**241**	P	Pg	12 15 45.8	+0.7
CAFI				S	Sg	12 15 50.1	+1.4
CAFI	**Castiglion Fio**	**0.27**	**241**	P	Pg	12 15 45.9	+0.7
CAFI	**Castiglion Fio**	**0.27**	**241**	S	Sg	12 15 50.1	+1.4
CPGN	**Carpegna, Ital**	**0.34**	**4**	P	Pb	12 15 47.8	-0.6
CPGN				S	Sb	12 15 54.2	+0.1
CPGN	**Carpegna, Ital**	**0.34**	**4**	P	Pb	12 15 47.8	-0.6

IDC 08 12:22:02.5±17.0, 22°.93S×178°.48W, h507km±165km, mb3.2/4, mb1 3.3/5, mb1mx2.9/34, mbtmp4.2/5, Error ellipse: s-maj=277.3km s-min=82.9km az=63.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.74**	**193**	P	P	12 25 20.1	0.0
	0.8nm,0.3s,baz=304,slow=1.3,SNR=6.6						
CTA	**Charters Tower**	**32.89**	**268**	P	P	12 27 55.1	+0.7
	4.0nm,0.4s,baz=87,slow=9.8,SNR=8.7						
STKA	**Stephens Creek**	**36.38**	**247**	P	P	12 28 22.3	-1.2
	0.7nm,0.4s,baz=101,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**43.58**	**259**	P	P	12 29 21.4	-0.2
	1.1nm,0.4s,baz=96,slow=7.6,SNR=52						
WRA	**Warramunga Arr**	**43.88**	**265**	P	P	12 29 23.7	-0.1
	1.5nm,0.3s,baz=96,slow=8.4,SNR=28						

*ISCJB **08** 12:28:58.9±0.4, 10°.86S±0°.06×161°.86E±0°.07, h35km, mb4.2/19, MS3.6/11, Error ellipse: s-maj=10.1km s-min=7.8km az=152.8*
*NEIC **08** 12:29:01.9±1.7, 10°.74S×161°.69E, h44km±8km, mb4.5/15, Error ellipse: s-maj=22.9km s-min=18.3km az=73.0*
*IDC **08** 12:29:03.3±2.8, 10°.81S×161°.75E, h54km±23km, mb3.6/9, mb1 3.9/12, mb1mx3.7/31, mbtmp4.0/12, ML4.2/3, MS3.6/12, Ms1 3.6/12, ms1mx3.4/21, Error ellipse: s-maj=25.6km s-min=14.8km az=71.0*
ISC 08 12:29:00.6±0.6, 10°.83S±0°.08×161°.88E±0°.10, h35km, n38, σ1§80/36, mb4.4/19, MS3.6/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.36**	**306**	*e*P	**Pn**	**12 29 37.0**	**+0.1**
HNR				*e*S	**Sn**	**12 30 07.0**	**+2.4**
HNR	**Honiara**	**2.36**	**306**	*e*Pn	**Pn**	**12 29 34.2**	**-2.6**
HNR	**Honiara**	**2.36**	**306**	P	**Pn**	**12 29 37.5**	**+0.7**
	85nm,0.3s,baz=146,slow=6.7,SNR=21						
HNR				S	**Sn**	**12 30 05.4**	**+0.8**
	574nm,0.3s,baz=76,slow=15,SNR=10						
HNR				LR	LR	12 30 41.2	
	comp=Z,1μm,18.2s,baz=183,slow=44						
DZM	**Mont Dzumac**	**12.00**	**159**	*e*Pn	**Pn**	**12 31 52.4**	**+3.0**
	1.9nm,0.2s						
DZM				*e*Sn	**Sn**	**12 33 56.2**	**-5.9**
	1.9nm,0.3s						
DZM				*e*LR	LR	12 34 35.4	
	comp=Z,300nm,24.4s						
DZM	**Mont Dzumac**	**12.00**	**159**	*e*Pn	**Pn**	**12 31 52.2**	**+2.8**
DZM	**Mont Dzumac**	**12.00**	**159**	P	**Pn**	**12 31 52.6**	**+3.2**
	0.7nm,0.3s,baz=25,slow=10.0,SNR=15						
DZM				S	**Sn**	**12 34 02.8**	**+0.7**
	0.5nm,0.3s,baz=264,slow=18,SNR=4.0						
DZM				LR	LR	12 35 48.3	
	comp=Z,176nm,18.7s,baz=22,slow=34						
CTA	**Charters Tower**	**17.64**	**237**	P	**P**	**12 33 05.2**	**+0.8**
	0.8nm,0.3s,baz=66,slow=12,SNR=14						
WR1	**Warramunga Arr**	**28.02**	**248**	*e*P	**P**	**12 34 48.2**	**-0.5**
WRA	**Warramunga Arr**	**28.02**	**248**	P	**P**	**12 34 48.2**	**-0.5**
	2.6nm,1.0s,baz=76,slow=9.5,SNR=9.8						
STKA	**Stephens Creek**	**28.11**	**219**	*e*P	**P**	**12 34 48.0**	**-1.3**
	1.5nm,1.3s						
STKA	**Stephens Creek**	**28.11**	**219**	P	**P**	**12 34 50.1**	**+0.9**
	1.9nm,0.8s,baz=79,slow=16,SNR=1.6						
STKA				LR	LR	12 46 03.1	
	comp=Z,290nm,18.2s,baz=37,slow=36						
AS31	**Alice Springs**	**29.54**	**241**	*e*P	**P**	**12 34 59.4**	**-2.8**
	1.6nm,1.3s						
ASAR	**Alice Springs**	**29.54**	**241**	P	**P**	**12 35 01.0**	**-1.2**
	0.4nm,0.5s,baz=63,slow=9.9,SNR=6.2						
ASAR				LR	LR	12 46 35.4	
	comp=Z,160nm,19.6s,baz=116,slow=36						
FITZ	**Fitzroy Crossi**	**35.78**	**254**	*e*P	**P**	**12 35 56.0**	**-0.7**
	13nm,1.6s						
FITZ	**Fitzroy Crossi**	**35.78**	**254**	LR	LR	12 49 11.1	
	comp=Z,99nm,20.3s,baz=74,slow=34						
NWAO	**Narrogin (SRO)**	**46.47**	**235**	LR	LR	12 55 28.2	
	comp=Z,136nm,19.8s,baz=62,slow=34						
PPT	**Papeete**	**47.43**	**104**	LR	LR	12 55 01.7	
	comp=Z,58nm,18.8s,baz=174,slow=33						
PPT2	**Papeete2**	**47.43**	**104**	*e*LR	LR	12 51 02.9	
	comp=Z,113nm,25.0s						
KSRS	**Korea Array**	**57.63**	**328**	P	**P**	**12 38 48.1**	**+0.8**
	0.8nm,1.0s,baz=138,slow=6.5,SNR=2.7						
KSRS				LR	LR	13 01 38.4	
	comp=Z,20nm,21.0s,baz=194,slow=34						
KS15	**Wonju Array Si**	**57.64**	**328**	*e*P	**P**	**12 38 46.8**	**-0.6**
	18nm,1.4s						
PETK	**Petropavlovsk-**	**63.78**	**357**	LR	LR	13 02 20.8	
	comp=Z,18nm,21.8s,baz=211,slow=31						
VNDA	**Vanda**	**66.68**	**180**	*e*P	**P**	**12 39 49.1**	**+1.6**
	2.9nm,0.8s						
VNDA	**Vanda**	**66.68**	**180**	P	**P**	**12 39 48.6**	**+1.2**
	2.3nm,0.8s,baz=341,slow=7.2,SNR=14						
SBA	**Scott Base**	**67.06**	**179**	*e*P	**P**	**12 39 51.7**	**+1.8**
	8.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**68.56**	**295**	P	**P**	**12 40 00.5**	**+0.2**
	0.4nm,0.4s,baz=130,slow=4.8,SNR=2.4						
SONA0	**Songino Array**	**76.29**	**325**	*e*P	**P**	**12 40 45.8**	**-0.1**
SONM	**Songino Array**	**76.29**	**325**	P	**P**	**12 40 45.8**	**-0.1**
	0.5nm,0.6s,baz=139,slow=6.8,SNR=3.1						
SONM				LR	LR	13 14 04.0	
	comp=Z,25nm,20.4s,baz=174,slow=35						
MCK	**McKinley**	**83.19**	**20**	*e*P	**P**	**12 41 20.6**	**-2.3**
	12nm,1.3s						
MLY	**Manley**	**83.49**	**18**	*e*P	**P**	**12 41 23.5**	**-1.0**
	5.8nm,1.4s						
MDM	**Murphy Dome**	**84.23**	**19**	*e*P	**P**	**12 41 28.8**	**+0.5**
	4.4nm,1.2s						
HDA	**Harding Lake**	**84.30**	**20**	*e*P	**P**	**12 41 28.7**	**+0.2**
	4.4nm,1.1s						
ILAR	**Eielson Array**	**84.55**	**20**	P	**P**	**12 41 30.5**	**+0.7**
	0.2nm,0.5s,baz=248,slow=5.5,SNR=3.5						
ILAR				LR	LR	13 15 35.5	
	comp=Z,37nm,20.4s,baz=258,slow=33						
ILB	**Eielson Array**	**84.55**	**20**	*e*P	**P**	**12 41 30.0**	**+0.2**
	4.4nm,1.5s						
EGAK	**Eagle**	**86.51**	**21**	*e*P	**P**	**12 41 40.2**	**+0.7**
	7.0nm,1.2s						
RYN	**Ryan**	**88.68**	**50**	*e*P	**P**	**12 41 49.7**	**-1.1**
	3.0nm,0.6s						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**12 42 26.0**	**-0.2**
	0.2nm,0.6s,baz=255,slow=5.1,SNR=5.9						
YKB5	**Yellowknife Ar**	**96.53**	**28**	*e*P	**P**	**12 42 26.0**	**-0.2**
TXAR	**Lajitas Array**	**99.06**	**62**	LR	LR	13 17 53.2	
	comp=Z,19nm,22.0s,baz=0.0,slow=30						

*ISK **08** 12:31:03.8, 39°.48N×33°.52E, h5km, ML1.9/4*
*ISCJB **08** 12:31:04.7±0.6, 39°.47N±0°.03×33°.49E±0°.04, h8km±7km, Error ellipse: s-maj=5.7km s-min=4.9km az=143.0*
*DDA **08** 12:31:04.1, 39°.48N×33°.50E, h7km±3km, ML2.5*
ISC 08 12:31:04.7±1.1, 39°.47N±0°.03×33°.47E±0°.03, h12km±12km, n9, σ0§39/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIRS	**Kırehir-Merke**	**0.48**	**134**	*i* P	**Pb**	**12 31 14.8**	**-0.3**
KIRS				*i* S	**Sg**	**12 31 20.4**	**-0.1**
KKUL	**Konya-Kulu**	**0.52**	**236**	IAML_P			
	comp=Z,323nm,0.1s						
KKUL				*i* P	**Pb**	**12 31 15.7**	**-0.1**
KKUL				*i* S	**Sb**	**12 31 23.4**	**0.0**
SERE	**Sereflikochisa**	**0.53**	**172**	PG	**Pg**	**12 31 14.8**	**-0.2**
SERE				SG	**Sg**	**12 31 22.8**	**+0.8**
YAYX	**Yaylak**	**0.59**	**153**	PG	**Pg**	**12 31 15.6**	**-0.6**
YAYX				SG	**Sg**	**12 31 24.6**	**+0.6**
DELI	**KIRIKKALE**	**0.63**	**33**	IAML_P			
	comp=Z,494nm,0.1s						
DELI				*i* P	**Pg**	**12 31 16.7**	**-0.3**
DELI				*i* S	**Sg**	**12 31 25.2**	**-0.2**
ANTO	**Ankara**	**0.66**	**308**	PG	**Pg**	**12 31 17.4**	**-0.1**
ANTO				SG	**Sb**	**12 31 27.3**	**0.0**
CDAG	**Cicekdag**	**0.71**	**77**	IAML_P			
	comp=Z,636nm,0.1s						
CDAG				*i* P	**Pg**	**12 31 18.7**	**+0.2**
CDAG				*i* S	**Sb**	**12 31 29.0**	**+0.1**
SIRC	**Yozgat**	**1.31**	**95**	*i* P	**Pb**	**12 31 29.4**	**+0.2**
SIRC				*i* S	**Sb**	**12 31 45.4**	**-0.5**
YOZ	**Yozgat**	**1.44**	**83**	PN	**Pn**	**12 31 30.9**	**+0.2**
YOZ				SN	**Sb**	**12 31 50.1**	**+0.2**

IDC 08 12:44:37.6±3.3, 25°.06S×139°.99E, h0km, mb1 3.4/4, mb1mx3.3/21, mbtmp3.2/4, ML2.9/4, Error ellipse: s-maj=42.3km s-min=18.3km az=55.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**5.72**	**283**	Pn	Pn	12 46 04.1	+0.1
	0.3nm,0.3s,baz=108,slow=14,SNR=11						
ASAR				Pg	Pg	12 46 22.9	-4.4
	0.5nm,0.3s,baz=107,slow=16,SNR=9.4						
ASAR				Sn	Sn	12 47 05.0	-5.4
	2.3nm,0.3s,baz=105,slow=26,SNR=16						
ASAR				Lg	Lg	12 47 38.0	
	0.9nm,0.3s,baz=101,slow=28,SNR=6.3						
STKA	**Stephens Creek**	**6.93**	**169**	Pn	Pn	12 46 19.6	-0.9
	0.2nm,0.3s,baz=350,slow=18,SNR=3.8						
STKA				Sn	Sn	12 47 31.0	-9.1
	0.4nm,0.3s,baz=305,slow=14,SNR=4.1						
STKA				Lg	Lg	12 48 17.9	
	0.1nm,0.3s,baz=57,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**7.30**	**313**	Pn	Pn	12 46 26.7	+1.1
	0.1nm,0.3s,baz=138,slow=14,SNR=10.0						
WRA				Sn	Sn	12 47 46.0	-3.3
	0.4nm,0.3s,baz=142,slow=24,SNR=6.9						
WRA				Lg	Lg	12 48 28.9	
	0.7nm,0.3s,baz=135,slow=28,SNR=7.3						
CTA	**Charters Tower**	**7.61**	**51**	Sn	Sn	12 47 57.9	+1.0
	0.2nm,0.3s,baz=306,slow=3.4,SNR=2.1						
CTA				Lg	Lg	12 48 49.7	
	0.4nm,0.3s,baz=124,slow=23,SNR=3.1						
FITZ	**Fitzroy Crossi**	**15.04**	**295**	Pn	Pn	12 48 11.1	-0.4
	0.1nm,0.3s,baz=114,slow=12,SNR=5.7						
FITZ				Sn	Sn	12 50 47.6	-11
	0.1nm,0.3s,baz=267,slow=17,SNR=2.5						

*THE **08** 12:45:20.4, 38°.78N×23°.27E, h14km±1km, ML1.5/4, Error ellipse: s-maj=1.8km s-min=0.7km az=253.0*
ATH 08 12:45:20.0, 38°.77N×23°.27E, h17km±2km, ML1.9/5, Error ellipse: s-maj=2.4km s-min=0.8km az=300.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.12**	**337**	P	Pb	12 45 23.8	0.0
SMIA				S	Sg	12 45 26.2	0.0
SMIA	**Simia**	**0.12**	**337**	P	Pg	12 45 23.7	0.0
SMIA				S	Sg	12 45 26.2	0.0
SMIA				AML	AML	12 45 26.5	
	comp=N,2401μm,0.2s						
SMIA				AML	AML	12 45 29.2	
	comp=E,1645μm,0.4s						
ATAL	**Atalanti**	**0.21**	**247**	P	Pg	12 45 25.1	+0.2
ATAL				S	Sg	12 45 28.4	+0.1
ATAL	**Atalanti**	**0.21**	**247**	P	Pg	12 45 24.9	-0.1
ATAL				S	Sg	12 45 28.3	0.0
LKR	**Lokris**	**0.24**	**240**	P	Pg	12 45 25.6	+0.1
LKR	**Lokris**	**0.24**	**240**	P	Pg	12 45 25.6	+0.1
LKR				S	Sg	12 45 29.4	+0.2
MRKA	**Markates**	**0.26**	**105**	P	Pg	12 45 25.9	+0.1
MRKA				S	Sg	12 45 29.7	0.0
MRKA	**Markates**	**0.26**	**105**	P	Pg	12 45 25.9	+0.1
MRKA				S	Sg	12 45 29.7	0.0
MRKA				AML	AML	12 45 30.1	
	comp=E,500μm,0.2s						
MRKA				AML	AML	12 45 30.2	
	comp=N,490μm,0.2s						
SKIA	**Skiathos**	**0.42**	**22**	P	Pg	12 45 28.8	+0.1
SKIA				S	Sg	12 45 34.6	+0.2
SKIA				AML	AML	12 45 35.0	
	comp=E,822μm,0.2s						
SKIA				AML	AML	12 45 35.2	
	comp=N,387μm,0.2s						
VIL2	**Platees**	**0.56**	**180**	P	Pb	12 45 31.7	+0.3
PROD	**Prodromos**	**0.59**	**209**	P	Pg	12 45 31.4	-0.2
PROD				S	Sb	12 45 40.2	+0.3
PROD				AML	AML	12 45 44.1	
	comp=E,151μm,0.3s						
PROD				AML	AML	12 45 45.3	
	comp=N,135μm,0.3s						
XOR	**Xorichti**	**0.59**	**354**	P	Pb	12 45 32.0	0.0
XOR				S	Sb	12 45 40.1	-0.1
XOR	**Xorichti**	**0.59**	**354**	P	Pg	12 45 31.6	-0.2
XOR				S	Sb	12 45 40.3	+0.1
AOS	**Alonnisos**	**0.62**	**50**	P	Pg	12 45 31.9	-0.4
EREA	**Eretria**	**0.63**	**124**	P	Pg	12 45 32.3	-0.1
EREA				AML	AML	12 45 42.8	
	comp=E,496μm,0.5s						
EREA				AML	AML	12 45 43.1	
	comp=N,328μm,0.4s						
DSF	**Desfina**	**0.68**	**238**	P	Pg	12 45 32.9	-0.5
DSF				S	Sb	12 45 43.0	+0.3
FYTO	**Fytoko, Volos**	**0.68**	**338**	P	Pg	12 45 33.2	-0.3
DION	**Dionisos Attik**	**0.87**	**143**	P	Pg	12 45 36.9	0.0

*ISCJB **08** 12:46:08.7±0.3, 23°.91N±0°.02×122°.43E±0°.02, h22km±3km, Error ellipse: s-maj=3.2km s-min=2.2km az=158.5*
*JMA **08** 12:46:08.7±0.3, 23°.93N×122°.43E, h19km±5km, M2.3*
*TAP **08** 12:46:09.0, 23°.96N×122°.43E, h27km, ML2.8, D*
ISC 08 12:46:07.8±1.1, 23°.93N±0°.02×122°.45E±0°.02, h19km±3km, n66, σ0§47/118, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.68**	**335**	*e*P	**Pn**	**12 46 21.7**	**-0.7**
	baz=327						
EOS1				*e*S	**Sn**	**12 46 31.8**	**-0.6**
	baz=327						
JYNG	**Yonagunijimaku**	**0.69**	**41**	P	**Pn**	**12 46 22.1**	**-0.5**
JYNG				S	**Sb**	**12 46 30.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.74**	**44**	*e*P	**Pn**	**12 46 23.1**	**-0.1**
	baz=54						
YOJ				*e*S	**Sg**	**12 46 32.1**	**0.0**
	baz=54						
YOJ	**Yonaguni jima**	**0.74**	**44**	P	**Pn**	**12 46 23.0**	**-0.2**
YOJ				*e*S	**Sg**	**12 46 32.2**	**0.0**
HWA	**Hwalien**	**0.77**	**274**	*e*P	**Pg**	**12 46 22.8**	**-0.1**
	baz=259						
ENLB	**Shoufeng**	**0.77**	**268**	*e*P	**Pg**	**12 46 23.2**	**+0.3**
	baz=255						
ENLB				*e*S	**Sg**	**12 46 33.3**	**+0.1**
	baz=255						
TWD	**Chiawan**	**0.79**	**281**	P	**Pg**	**12 46 23.4**	**+0.2**
	baz=279						
TWD				S	**Sg**	**12 46 34.0**	**+0.1**
	baz=279						
ENA	**Nanau**	**0.81**	**308**	P	**Pg**	**12 46 23.9**	**+0.2**
	baz=306						
ENA				S	**Sg**	**12 46 34.9**	**+0.4**
	baz=306						
NACB	**Ninganchiao**	**0.81**	**287**	*e*P	**Pg**	**12 46 23.8**	**0.0**
	baz=271						
NACB				*e*S	**Sg**	**12 46 34.6**	**0.0**
	baz=271						
TWC	**Suao**	**0.87**	**321**	*i* P	**Pb**	**12 46 24.3**	**+0.1**
	baz=320						
TWC				S	**Sb**	**12 46 35.2**	**-0.3**
	baz=320						
ESL	**Shilin**	**0.93**	**263**	*e*P	**Pn**	**12 46 25.9**	**0.0**
	baz=260						
ESL				S	**Sb**	**12 46 37.6**	**+0.2**
	baz=260						
EGFH	**Guangfu**	**0.97**	**255**	*e*P	**Pg**	**12 46 27.0**	**+0.4**
	baz=252						
EGFH				*e*S	**Sg**	**12 46 39.5**	**+0.1**
	baz=252						
EGS		**1.02**	**333**	P	**Pg**	**12 46 27.9**	**+0.2**
	baz=320						
EGS				S	**Sg**	**12 46 42.2**	**+1.0**
	baz=320						
HGSD	**Ruisui**	**1.03**	**245**	*e*P	**Pn**	**12 46 27.6**	**+0.3**
	baz=243						
HGSD				*e*S	**Sb**	**12 46 38.7**	**-1.5**
	baz=243						
ILA	**Ilan**	**1.05**	**323**	*e*S	**Sg**	**12 46 42.4**	**+0.5**
	baz=322						
TWE	**Neicheng**	**1.06**	**318**	P	**Pg**	**12 46 28.3**	**-0.1**
	baz=317						
TWE				S	**Sg**	**12 46 42.3**	**0.0**
	baz=317						
ENTT	**Nioudou**	**1.07**	**312**	P	**Pg**	**12 46 28.2**	**-0.3**
	baz=296						
ENTT				S	**Sg**	**12 46 42.6**	**0.0**
	baz=296						
NTC	**Toucheng**	**1.08**	**329**	*e*P	**Pg**	**12 46 28.9**	**+0.2**
	baz=328						
NTC				*e*S	**Sg**	**12 46 43.2**	**+0.3**
	baz=328						
NDT	**Datong Townshi**	**1.08**	**308**	*e*P	**Pg**	**12 46 28.9**	**+0.1**
	baz=307						
NDT				*e*S	**Sg**	**12 46 43.0**	**-0.1**
	baz=307						
WHF	**Hehuan Shan**	**1.10**	**281**	P	**Pb**	**12 46 28.3**	**-0.2**
	baz=279						
WHF				*e*S	**Sn**	**12 46 43.2**	**-0.3**
	baz=279						
NNS	**Nan Shan**	**1.10**	**298**	*e*P	**Pn**	**12 46 28.4**	**+0.1**
	baz=284						
NNS				*e*S	**Sn**	**12 46 43.2**	**0.0**
	baz=284						
EHY	**Hungye**	**1.11**	**248**	*e*P	**Pn**	**12 46 28.1**	**-0.3**
	baz=261						
EHY				S	**Sb**	**12 46 42.6**	**0.0**
	baz=261						
TWB1	**Santiao Chiao**	**1.15**	**339**	*e*P	**Pg**	**12 46 29.8**	**-0.3**
	baz=355						
TWB1				S	**Sg**	**12 46 45.5**	**+0.3**
	baz=355						
OWD	**Renai**	**1.16**	**271**	*e*P	**Pn**	**12 46 29.0**	**-0.2**
	baz=269						
OWD				*e*S	**Sb**	**12 46 44.0**	**-0.1**
	baz=269						
CHGB	**Renai**	**1.17**	**277**	*e*P	**Pb**	**12 46 29.5**	**0.0**
	baz=263						
CHGB				*e*S	**Sn**	**12 46 45.0**	**+0.1**
	baz=263						
TIPB	**Shuangxi**	**1.18**	**332**	P	**Pb**	**12 46 29.9**	**+0.3**
	baz=331						
TIPB				*e*S	**Sg**	**12 46 45.5**	**-0.7**
	baz=331						
YULB	**Yu-li**	**1.18**	**243**	*e*P	**Pn**	**12 46 29.3**	**0.0**
	baz=241						
YULB				*e*S	**Sb**	**12 46 44.5**	**0.0**
	baz=241						
TWF1	**Yuli**	**1.20**	**242**	P	**Pb**	**12 46 30.1**	**+0.1**
	baz=240						
TWF1				S	**Sn**	**12 46 45.7**	**+0.3**
	baz=240						
NWLT	**Wulai**	**1.20**	**315**	*e*P	**Pg**	**12 46 30.7**	**-0.4**
	baz=313						
NWLT				*e*S	**Sg**	**12 46 46.9**	**-0.1**
	baz=313						
TWT	**Tachien**	**1.20**	**286**	P	**Pg**	**12 46 30.8**	**-0.3**
	baz=271						
TWT				S	**Sn**	**12 46 46.1**	**+0.4**
	baz=271						
VWDT	**VWDT**	**1.21**	**262**	*e*P	**Pb**	**12 46 30.2**	**+0.1**
	baz=260						
VWDT				*e*S	**Sn**	**12 46 45.5**	**0.0**
	baz=260						
TDCB	**Techi**	**1.22**	**286**	*e*P	**Pb**	**12 46 30.4**	**0.0**
	baz=272						
TDCB				*e*S	**Sn**	**12 46 46.0**	**-0.1**
	baz=272						
YHNB	**Yeheng**	**1.22**	**307**	*e*P	**Pb**	**12 46 30.6**	**+0.2**
	baz=292						
YHNB				*e*S	**Sn**	**12 46 46.5**	**+0.5**
	baz=292						
NSK	**Sanguang**	**1.24**	**307**	P	**Pb**	**12 46 30.9**	**+0.3**
	baz=305						
NSK				S	**Sg**	**12 46 47.1**	**-1.0**
	baz=305						
IRIF	**Iriomote-Funau**	**1.24**	**71**	P	**Pg**	**12 46 31.7**	**-0.1**
IRIF				*e*S	**Sg**	**12 46 47.8**	**-0.3**
HATJ	**Hateruma jima**	**1.25**	**84**	P	**Pg**	**12 46 31.8**	**-0.2**
HATJ				*e*S	**Sg**	**12 46 48.1**	**-0.2**
NWF	**Wu-fen Shan**	**1.29**	**332**	P	**Pb**	**12 46 31.5**	**0.0**
	baz=331						
NWF				S	**Sg**	**12 46 48.9**	**-0.6**
	baz=331						
WFSB	**Wu-fen Shan**	**1.29**	**332**	*e*P	**Pb**	**12 46 31.6**	**+0.2**
	baz=331						
WFSB				*e*S	**Sg**	**12 46 48.5**	**-1.0**
	baz=331						
CHKT	**Chengkung**	**1.29**	**230**	*e*P	**Pb**	**12 46 31.7**	**+0.2**
	baz=229						
CHKT				*e*S	**Sn**	**12 46 45

YM01	**YM01**	**1.45**	**327**	*e*P	**Pb**	**12 46 33.7**	**-0.5**
	baz=326						
YM07	**YM07**	**1.45**	**329**	*e*P	**Pb**	**12 46 34.4**	**+0.2**
	baz=328						
YM07				*e*S	**Sb**	**12 46 52.2**	**-0.1**
	baz=328						
TYC	**Yuchr**	**1.45**	**269**	*e*P	**Pb**	**12 46 33.8**	**-0.4**
	baz=267						
TYC				*e*S	**Sb**	**12 46 52.1**	**-0.3**
	baz=267						
YM10	**YM10**	**1.46**	**327**	*e*P	**Pb**	**12 46 34.1**	**-0.4**
	baz=326						
JKRS	**Kuro-shima**	**1.46**	**78**	P	**Pg**	**12 46 35.8**	**-0.2**
JKRS				*e*S	**Sg**	**12 46 54.3**	**-0.8**
YM11	**YM11**	**1.46**	**327**	*e*P	**Pb**	**12 46 34.7**	**+0.2**
	baz=326						
YM08	**YM08**	**1.47**	**328**	*e*P	**Pb**	**12 46 34.1**	**-0.6**
	baz=327						
YM08				*e*S	**Sb**	**12 46 53.4**	**+0.3**
	baz=327						
WHYT	**Xinyi Township**	**1.48**	**261**	*e*P	**Pb**	**12 46 34.7**	**0.0**
	baz=248						
WHYT				*e*S	**Sb**	**12 46 52.8**	**-0.3**
	baz=248						
NSTT	**Nanjuang**	**1.49**	**298**	*e*P	**Pb**	**12 46 34.7**	**-0.2**
	baz=297						
TWS1	**Kuangyinshan**	**1.49**	**321**	*e*S	**Sb**	**12 46 53.1**	**-0.4**
	baz=320						
NCUH	**Zhongli**	**1.54**	**312**	*e*P	**Pn**	**12 46 34.7**	**+0.4**
	baz=310						
NCUH				*e*S	**Sb**	**12 46 55.1**	**+0.1**
	baz=310						
TWY	**Chenhua**	**1.54**	**330**	*e*P	**Pn**	**12 46 34.7**	**+0.4**
	baz=329						
ALS	**Alishan**	**1.56**	**255**	*e*P	**Pb**	**12 46 36.0**	**-0.2**
	baz=253						
ALS				*e*S	**Sn**	**12 46 54.7**	**0.0**
	baz=253						
WJS	**Zhushan**	**1.58**	**266**	*e*P	**Pb**	**12 46 35.9**	**-0.4**
	baz=265						
TWQ1	**Liyutan**	**1.58**	**286**	*e*P	**Pb**	**12 46 35.9**	**-0.6**
	baz=284						
SBCB	**Hsinchu**	**1.58**	**303**	*e*P	**Pb**	**12 46 36.0**	**-0.5**
	baz=302						
JIJ	**Ishigaki jima**	**1.61**	**74**	P	**Pb**	**12 46 36.6**	**-0.3**
JIJ				*e*S	**Sn**	**12 46 56.3**	**+0.8**
NSY	**Sanyi**	**1.61**	**288**	*e*P	**Pn**	**12 46 35.7**	**+0.4**
	baz=286						
WNT	**Mingjian**	**1.61**	**268**	*e*P	**Pn**	**12 46 35.8**	**+0.5**
	baz=267						
STYT	**Tauyuan**	**1.73**	**244**	*e*P	**Pn**	**12 46 37.7**	**+0.9**
	baz=234						
STYT				*e*S	**Sn**	**12 46 59.1**	**+0.6**
	baz=234						
JISG	**Ishigakijimahi**	**1.82**	**69**	P	**Pn**	**12 46 39.4**	**+1.3**
JISG				*e*S	**Sn**	**12 47 01.8**	**+1.1**

ROM 08 12:47:31.4±0.1, 43°.457N±0°.003×12°.311E±0°.004, h8km, ML1.2/10, Error ellipse: s-maj=0.3km s-min=0.1km az=220.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.06**	**272**	P		Pg	12 47 33.6	+0.3
CDCA	**Citt' di Caste**	**0.06**	**272**	P		Pg	12 47 33.6	+0.4
CDCA	**Citt' di Caste**	**0.06**	**272**	P		Pg	12 47 33.7	+0.5
CDCA				S		Sg	12 47 35.0	+0.4
ATPI	**Pietralunga -**	**0.07**	**95**	P		Pg	12 47 33.7	+0.2
ATPI				S		Sg	12 47 35.1	+0.2
ATPI				AML		AML		
	comp=E,155μm,0.5s							
ATPI				AML		AML		
	comp=N,147μm,0.3s							
ATPI				AML		AML		
	comp=E,155μm,0.5s							
ATPI				AML		AML		
	comp=N,146μm,0.3s							
ATPI				AML		AML		
	comp=E,155μm,0.5s							
ATPI				AML		AML		
	comp=N,146μm,0.3s							
ATPI	**Pietralunga -**	**0.07**	**95**	P		Pg	12 47 33.8	+0.3
ATPI	**Pietralunga -**	**0.07**	**95**	P		Pg	12 47 33.8	+0.3
ATPI	**Pietralunga -**	**0.07**	**95**	S		Sg	12 47 35.1	+0.2
BADI	**Badiali**	**0.07**	**318**	P		Pg	12 47 34.0	+0.4
BADI				S		Sg	12 47 35.5	+0.5
BADI				AML		AML		
	comp=E,597μm,0.5s							
BADI				AML		AML		
	comp=N,376μm,0.6s							
BADI				AML		AML		
	comp=E,598μm,0.5s							
BADI				AML		AML		
	comp=N,376μm,0.6s							
BADI				AML		AML		
	comp=E,598μm,0.5s							
BADI				AML		AML		
	comp=N,376μm,0.6s							
BADI	**Badiali**	**0.07**	**318**	P		Pg	12 47 34.0	+0.4
BADI	**Badiali**	**0.07**	**318**	S		Sg	12 47 35.5	+0.5
ATVO	**AVT- Monte Val**	**0.10**	**137**	P		Pg	12 47 34.4	+0.4
ATVO				S		Sg	12 47 36.4	+0.7
ATVO				AML		AML		
	comp=E,290μm,0.4s							
ATVO				AML		AML		
	comp=N,208μm,0.6s							
ATVO				AML		AML		
	comp=E,290μm,0.4s							
ATVO				AML		AML		
	comp=N,208μm,0.6s							
ATVO				AML		AML		
	comp=E,290μm,0.4s							
ATVO				AML		AML		
	comp=N,208μm,0.6s							
ATVO	**AVT- Monte Val**	**0.10**	**137**	P		Pg	12 47 34.4	+0.5
ATVO	**AVT- Monte Val**	**0.10**	**137**	P		Pg	12 47 34.4	+0.5
ATVO	**AVT- Monte Val**	**0.10**	**137**	S		Sg	12 47 36.5	+0.8
ATMI	**Monte Miggiano**	**0.13**	**194**	P		Pg	12 47 35.1	+0.8
ATMI				S		Sg	12 47 37.2	+0.9
ATMI				AML		AML		
	comp=E,264μm,0.5s							
ATMI				AML		AML		
	comp=N,229μm,0.6s							
ATMI				AML		AML		
	comp=E,264μm,0.5s							
ATMI				AML		AML		
	comp=N,229μm,0.6s							
ATMI				AML		AML		
	comp=E,264μm,0.5s							
ATMI				AML		AML		
	comp=N,229μm,0.6s							
ATMI	**Monte Miggiano**	**0.13**	**194**	P		Pg	12 47 35.1	+0.8
ATMI	**Monte Miggiano**	**0.13**	**194**	P		Pg	12 47 35.1	+0.8
PARC	**Parchiule**	**0.20**	**345**	P		Pg	12 47 36.2	+0.6
PARC	**Parchiule**	**0.20**	**345**	P		Pg	12 47 36.3	+0.7
PARC	**Parchiule**	**0.20**	**345**	P		Pg	12 47 36.3	+0.8
PARC				S		Sg	12 47 40.0	+1.6
PARC				AML		AML		
	comp=E,130μm,0.2s							
PARC				AML		AML		
	comp=N,88μm,1.6s							
PARC				AML		AML		
	comp=N,88μm,1.6s							
PARC				AML		AML		
	comp=E,130μm,0.2s							
PARC	**Parchiule**	**0.20**	**345**	S		Sg	12 47 39.9	+1.6
ATFO	**Monte Foce - G**	**0.21**	**115**	P		Pg	12 47 36.4	+0.7
ATFO				S		Sg	12 47 39.5	+0.8
ATFO				AML		AML		
	comp=E,62μm,0.4s							
ATFO				AML		AML		
	comp=N,74μm,0.7s							
ATFO				AML		AML		
	comp=E,62μm,0.4s							
ATFO				AML		AML		
	comp=N,74μm,0.7s							
ATFO				AML		AML		
	comp=N,74μm,0.7s							
ATFO				AML		AML		
	comp=E,62μm,0.4s							
ATFO	**Monte Foce - G**	**0.21**	**115**	P		Pg	12 47 36.5	+0.7
ATFO	**Monte Foce - G**	**0.21**	**115**	P		Pg	12 47 36.5	+0.8
MURB	**Monte Urbino**	**0.25**	**141**	P		Pg	12 47 37.1	+0.7
MURB	**Monte Urbino**	**0.25**	**141**	P		Pg	12 47 37.2	+0.7
MURB	**Monte Urbino**	**0.25**	**141**	P		Pg	12 47 37.2	+0.8
MURB				S		Sg	12 47 41.5	+1.7
MURB				AML		AML		
	comp=E,164μm,0.3s							
MURB				AML		AML		
	comp=N,149μm,0.2s							
MURB				AML		AML		
	comp=E,164μm,0.3s							
MURB				AML		AML		
	comp=N,149μm,0.2s							
MURB				AML		AML		
	comp=N,149μm,0.2s							
MURB				AML		AML		
	comp=E,164μm,0.3s							
NARO	**Abbazia di Nar**	**0.25**	**52**	P		Pg	12 47 37.0	+0.6
NARO				S		Sg	12 47 41.4	+1.6
NARO	**Abbazia di Nar**	**0.25**	**52**	P		Pg	12 47 37.1	+0.6
NARO	**Abbazia di Nar**	**0.25**	**52**	P		Pg	12 47 37.1	+0.6
NARO	**Abbazia di Nar**	**0.25**	**52**	S		Sg	12 47 41.5	+1.7
PE3	**Peglio**	**0.28**	**29**	P		Pg	12 47 37.6	+0.7
PE3	**Peglio**	**0.28**	**29**	P		Pg	12 47 37.6	+0.7
CAFI	**Castiglion Fio**	**0.28**	**243**	P		Pg	12 47 37.7	+0.6
CAFI	**Castiglion Fio**	**0.28**	**243**	P		Pg	12 47 37.7	+0.6
CAFI				S		Sg	12 47 42.2	+1.4
CAFI				AML		AML		
	comp=E,30μm,1.1s							
CAFI				AML		AML		
	comp=N,35μm,0.8s							
CAFI				AML		AML		
	comp=E,30μm,1.1s							
CAFI				AML		AML		
	comp=N,35μm,0.8s							
CAFI				AML		AML		
	comp=N,35μm,0.8s							
CAFI				AML		AML		
	comp=E,30μm,1.1s							
CAFI	**Castiglion Fio**	**0.28**	**243**	P		Pg	12 47 37.7	+0.7
CAFI	**Castiglion Fio**	**0.28**	**243**	S		Sb	12 47 42.2	-1.4
CRE	**Caprese Michel**	**0.31**	**302**	P		Pg	12 47 38.2	+0.6
CRE				S		Sb	12 47 43.2	-1.3
CRE	**Caprese Michel**	**0.31**	**302**	P		Pg	12 47 38.2	+0.6
CRE	**Caprese Michel**	**0.31**	**302**	P		Pg	12 47 38.2	+0.6
CRE	**Caprese Michel**	**0.31**	**302**	S		Sb	12 47 43.4	-1.1
SSFR	**Montelago di S**	**0.34**	**93**	P		Pb	12 47 39.2	-0.6
SSFR				S		Sb	12 47 44.4	-1.0
SSFR				AML		AML		
	comp=E,119μm,0.2s							
SSFR				AML		AML		
	comp=N,116μm,1.1s							
SSFR				AML		AML		
	comp=N,116μm,1.1s							
SSFR				AML		AML		
	comp=E,119μm,0.2s							
SSFR	**Montelago di S**	**0.34**	**93**	P		Pb	12 47 39.3	-0.5
CPGN	**Carpegna, Ital**	**0.34**	**1**	P		Pb	12 47 39.6	-0.3
CPGN	**Carpegna, Ital**	**0.34**	**1**	P		Pb	12 47 39.8	-0.1
ATCC	**AVT- Casa Cast**	**0.36**	**138**	P		Pg	12 47 39.3	+0.8
ATCC				S		Sb	12 47 45.6	-0.3
ATCC	**AVT- Casa Cast**	**0.36**	**138**	P		Pb	12 47 39.3	-0.8
MGAB	**Montegabbione**	**0.56**	**195**	P		Pb	12 47 43.0	-0.5
MGAB				AML		AML		
	comp=E,39μm,0.5s							
MGAB				AML		AML		
	comp=N,28μm,1.6s							
MGAB				AML		AML		
	comp=N,28μm,1.6s							
MGAB				AML		AML		
	comp=E,39μm,0.5s							
MGAB	**Montegabbione**	**0.56**	**195**	P		Pb	12 47 43.0	-0.5
ARRO	**Arrone**	**0.94**	**159**	P		Pb	12 47 50.2	+0.3

*ISCJB **08** 12:48:02.9±0.9, 23°.88N±0°.02×122°.44E±0°.02, h15km±7km, Error ellipse: s-maj=3.5km s-min=2.3km az=162.0*
*TAP **08** 12:48:02.8, 23°.91N×122°.38E, h14km, ML2.7, D*
*JMA **08** 12:48:03.3±0.1, 23°.96N×122°.42E, h17km, M1.9*

ISC 08 12:48:02.1±1.1, 23°.90N±0°.03×122°.42E±0°.02, h11km±9km, n52, σ0s45/96, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.70**	**338**	*e*P		**Pb**	**12 48 16.4**	**0.0**
	baz=340							
EOS1				*e*S		**Sb**	**12 48 26.5**	**+0.5**
	baz=340							
JYNG	**Yonagunijimaku**	**0.73**	**41**	P		**Pg**	**12 48 16.2**	**0.0**
JYNG				S		**Sg**	**12 48 25.0**	**-0.8**
ENLB	**Shoufeng**	**0.75**	**271**	*e*P		**Pb**	**12 48 17.9**	**+0.8**
	baz=269							
ENLB				*e*S		**Sb**	**12 48 28.2**	**+0.8**
	baz=269							
TWD	**Chiawan**	**0.78**	**284**	P		**Pb**	**12 48 18.0**	**+0.4**
	baz=283							
TWD				S		**Sb**	**12 48 28.3**	**+0.1**
	baz=283							
YOJ	**Yonaguni jima**	**0.78**	**44**	*e*P		**Pg**	**12 48 17.6**	**+0.4**
	baz=45							
YOJ				*e*S		**Sb**	**12 48 29.4**	**+1.2**
	baz=45							
YOJ	**Yonaguni jima**	**0.78**	**44**	P		**Pb**	**12 48 17.7**	**+0.1**
YOJ				S		**Sg**	**12 48 26.5**	**-0.8**
NACB	**Ninganchiao**	**0.81**	**290**	*e*P		**Pg**	**12 48 18.0**	**+0.4**
	baz=289							
NACB				*e*S		**Sb**	**12 48 29.6**	**+0.6**
	baz=289							
ENA	**Nanau**	**0.82**	**311**	P		**Pg**	**12 48 18.1**	**+0.2**
	baz=311							
ENA				S		**Sb**	**12 48 29.0**	**-0.3**
	baz=311							
TWC	**Suao**	**0.88**	**324**	*i* P		**Pg**	**12 48 18.9**	**-0.2**
	baz=325							
TWC				S		**Sb**	**12 48 31.2**	**0.0**
	baz=325							
ESL	**Shilin**	**0.91**	**265**	P		**Pg**	**12 48 19.5**	**-0.1**
	baz=263							
ESL				*e*S		**Sb**	**12 48 32.1**	**+0.1**
	baz=263							
HGSD	**Ruisui**	**1.00**	**246**	*e*P		**Pg**	**12 48 21.7**	**+0.4**
	baz=244							
HGSD				*e*S		**Sb**	**12 48 35.1**	**+0.5**
	baz=244							
EGS		**1.04**	**335**	P		**Pb**	**12 48 22.6**	**+0.4**
	baz=336							
EGS				*e*S		**Sb**	**12 48 36.5**	**+0.6**
	baz=336							
ILA	**Ilan**	**1.06**	**325**	P		**Pg**	**12 48 22.7**	**+0.3**
	baz=326							
ILA				S		**Sg**	**12 48 36.2**	**-0.2**
	baz=326							
TWE	**Neicheng**	**1.07**	**320**	P		**Pg**	**12 48 22.7**	**-0.1**
	baz=321							
TWE				*e*S		**Sb**	**12 48 36.8**	**+0.2**
	baz=321							
ENTT	**Nioudou**	**1.08**	**314**	P		**Pn**	**12 48 23.3**	**+0.2**
	baz=314							
ENTT				S		**Sb**	**12 48 37.0**	**+0.2**
	baz=314							
EHY	**Hungye**	**1.08**	**249**	P		**Pg**	**12 48 22.4**	**-0.5**
	baz=247							
EHY				S		**Sg**	**12 48 36.8**	**-0.2**
	baz=247							
WHF	**Hehuan Shan**	**1.09**	**283**	P		**Pg**	**12 48 22.9**	**-0.2**
	baz=282							
WHF				S		**Sg**	**12 48 37.4**	**+0.1**
	baz=282							
NDT	**Datong Townshi**	**1.09**	**310**	*e*P		**Pb**	**12 48 23.2**	**+0.3**
	baz=310							
NDT				*e*S		**Sb**	**12 48 37.7**	**+0.5**
	baz=310							
NTC	**Toucheng**	**1.10**	**331**	*e*P		**Pg**	**12 48 23.2**	**0.0**
	baz=331							
NTC				*e*S		**Sb**	**12 48 37.4**	**0.0**
	baz=331							
NNS	**Nan Shan**	**1.10**	**300**	P		**Pg**	**12 48 23.2**	**-0.1**
	baz=299							
NNS				S		**Sb**	**12 48 37.9**	**+0.2**
	baz=299							
OWD	**Renai**	**1.14**	**273**	*e*P		**Pg**	**12 48 23.6**	**-0.4**
	baz=272							
OWD				*e*S		**Sg**	**12 48 38.2**	**-0.8**
	baz=272							
YULB	**Yu-li**	**1.15**	**244**	*e*P		**Pb**	**12 48 23.9**	**-0.1**
	baz=242							
YULB				*e*S		**Sb**	**12 48 39.1**	**+0.3**
	baz=242							
CHGB	**Renai**	**1.15**	**278**	*e*P		**Pg**	**12 48 23.8**	**-0.5**
	baz=277							
CHGB				*e*S		**Sb**	**12 48 39.7**	**+0.5**
	baz=277							
TWF1	**Yuli**	**1.17**	**243**	P		**Pb**	**12 48 24.4**	**+0.2**
	baz=240							
TWF1				S		**Sg**	**12 48 40.1**	**+0.5**
	baz=240							
VWDT	**VWDT**	**1.18**	**263**	*e*P		**Pb**	**12 48 24.6**	**+0.1**
	baz=262							
VWDT				*e*S		**Sb**	**12 48 39.8**	**0.0**
	baz=262							
TWT	**Tachien**	**1.19**	**288**	P		**Pn**	**12 48 25.3**	**+0.4**
	baz=286							
TWT				S		**Sb**	**12 48 40.7**	**+0.3**
	baz=286							
TIPB	**Shuangxi**	**1.20**	**333**	P		**Pn**	**12 48 25.2**	**+0.3**
	baz=334							
TIPB				*e*S		**Sb**	**12 48 40.1**	**-0.3**
	baz=334							
TDCB	**Techi**	**1.21**	**287**	*e*P		**Pb**	**12 48 25.0**	**0.0**
	baz=286							
TDCB				*e*S		**Sb**	**12 48 41.0**	**+0.2**
	baz=286							
NWLT	**Wulai**	**1.21**	**316**	*e*P		**Pg**	**12 48 25.6**	**+0.2**
	baz=317							
NWLT				*e*S		**Sg**	**12 48 41.2**	**0.0**
	baz=317							
YHNB	**Yeheng**	**1.23**	**309**	*e*P		**Pb**	**12 48 25.3**	**-0.1**
	baz=309							
YHNB				*e*S		**Sg**	**12 48 41.6**	**0.0**
	baz=309							
NSK	**Sanguang**	**1.24**	**309**	P		**Pn**	**12 48 25.2**	**-0.3**
	baz=309							
NSK				S		**Sg**	**12 48 42.3**	**+0.1**
	baz=309							
IRIF	**Iriomote-Funau**	**1.27**	**70**	P		**Pn**	**12 48 26.2**	**+0.4**
IRIF				*e*S		**Sb**	**12 48 42.0**	**-0.4**
HATJ	**Hateruma jima**	**1.27**	**83**	*e*S		**Sb**	**12 48 42.9**	**+0.4**
NWF	**Wu-fen Shan**	**1.31**	**334**	*e*P		**Pn**	**12 48 26.1**	**-0.3**
	baz=334							
NWF				S		**Sg**	**12 48 43.9**	**-0.3**
	baz=334							
WFSB	**Wu-fen Shan**	**1.31**	**334**	*e*S		**Sb**	**12 48 43.6**	**+0.1**
	baz=334							
TWA	**Mucha**	**1.32**	**325**	*e*P		**Pn**	**12 48 26.9**	**+0.4**
	baz=325							
TWA				*e*S		**Sg**	**12 48 44.5**	**-0.2**
	baz=325							
SSLB	**Suanglung**	**1.35**	**266**	*e*P		**Pn**	**12 48 27.4**	**+0.5**
	baz=264							
SSLB				*e*S		**Sb**	**12 48 43.4**	**-1.3**
	baz=264							
SMLT	**Sun Moon Lake**	**1.39**	**270**	*e*P		**Pn**	**12 48 28.2**	**+0.6**
	baz=268							
SMLT				*e*S		**Sb**	**12 48 45.7**	**-0.4**
	baz=268							
WHP	**Taichung City**	**1.40**	**286**	*e*P		**Pg**	**12 48 29.5**	**+0.5**
	baz=285							
TYC	**Yuchr**	**1.43**	**271**	*e*P		**Pn**	**12 48 28.3**	**+0.3**
	baz=269							
TYC				*e*S		**Sn**	**12 48 46.3**	**-0.5**
	baz=269							
WHYT	**Xinyi Township**	**1.45**	**262**	*e*P		**Pn**	**12 48 29.0**	**+0.7**
	baz=261							
WHYT				*e*S		**Sn**	**12 48 47.1**	**-0.3**
	baz=261							
YM01	**YM01**	**1.47**	**328**	*e*P		**Pb**	**12 48 29.6**	**+0.2**
	baz=328							
YM07	**YM07**	**1.47**	**330**	*e*P		**Pb**	**12 48 29.7**	**+0.3**
	baz=331							
ELDTW	**Lidau**	**1.47**	**242**	*e*P		**Pn**	**12 48 28.8**	**+0.1**
	baz=239							
ELDTW				*e*S		**Sn**	**12 48 47.2**	**-0.7**
	baz=239							
YM05	**YM05**	**1.48**	**328**	*e*P		**Pn**	**12 48 28.9**	**+0.1**
	baz=329							
JKRS	**Kuro-shima**	**1.49**	**76**	P		**Pb**	**12 48 29.9**	**+0.1**
JKRS				*e*S		**Sn**	**12 48 48.6**	**+0.4**
YM04	**YM04**	**1.49**	**327**	*e*P		**Pn**	**12 48 29.3**	**+0.5**
	baz=328							
YM08	**YM08**	**1.49**	**330**	*e*P		**Pg**	**12 48 30.5**	**-0.3**
	baz=330							
ALS	**Alishan**	**1.53**	**256**	*e*P		**Pb**	**12 48 30.7**	**0.0**
	baz=254							
ALS				*e*S		**Sn**	**12 48 49.1**	**-0.6**
	baz=254							
CHN5	**Tsauling**	**1.63**	**260**	*e*P		**Pb**	**12 48 31.9**	**-0.3**
	baz=258							
CHN5				*e*S		**Sn**	**12 48 51.4**	**-0.3**
	baz=258							
JIJ	**Ishigaki jima**	**1.64**	**73**	P		**Pn**	**12 48 31.1**	**+0.3**
JIJ				*e*S		**Sn**	**12 48 50.6**	**-1.3**
JISG	**Ishigakijimahi**	**1.86**	**68**	P		**Pn**	**12 48 34.4**	**+0.6**
JISG				*e*S		**Sn**	**12 48 56.5**	**-0.8**

ISC 08 12:59:57.6±1.5, 50°.23N±0°.08×19°.28E±0°.04, h0km, n6, σ0s59/11, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.34**	**91**	*e*Pg		**Pg**	**13 00 04.1**	**+0.1**
OJC				*e*Sg		**Sg**	**13 00 08.5**	**+0.1**
NIE	**Niedzica**	**1.05**	**140**	*e*Pg		**Pb**	**13 00 18.6**	**0.0**
NIE				*e*Sg		**Sb**	**13 00 32.9**	**0.0**
LANS	**Liptovska Anna**	**1.08**	**173**	*e*PG		**Pg**	**13 00 18.4**	**0.0**
LANS				*e*SG		**Sg**	**13 00 33.1**	**+0.7**
MORC	**Moravsky Berou**	**1.21**	**249**	*e*PG		**Pg**	**13 00 20.9**	**+0.2**
MORC				*e*SG		**Sg**	**13 00 36.9**	**+0.6**
STHS	**Stebnicka Huta**	**1.51**	**122**	*e*SN		**Sn**	**13 00 47.3**	**+1.0**
VYHS	**Vyhne**	**1.76**	**190**	*e*PN		**Pn**	**13 00 28.5**	**-0.8**
VYHS				*e*SN		**Sn**	**13 00 51.9**	**-0.5**

*IDC **08** 13:02:44.4±7.7, 14°.90N×99°.51W, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.5/37, mbtmp3.3/5, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/20, Error ellipse: s-maj=135.4km s-min=31.8km az=4.0*
*MEX **08** 13:03:00.2±0.7, 16°.54N×99°.24W, h5km, MD3.8*

ISC 08 13:02:58.0±1.3, 16°.62N±0°.06×99°.22W±0°.03, h5km±10km, n18, σ1s02/30, mb3.2/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.69**	**292**	*e*P		**Pb**	**13 03 13.0**	**+0.5**
ACP2				*e*S		**Sb**	**13 03 22.7**	**+0.4**
PNIG	**Pinotepa**	**1.07**	**102**	*i* P		**Pg**	**13 03 18.2**	**-0.4**
PNIG				*e*S		**Sg**	**13 03 32.2**	**-0.3**
CAIG	**El Cayaco**	**1.09**	**293**	*e*P		**Pg**	**13 03 18.7**	**-0.3**
CAIG				*e*S		**Sg**	**13 03 32.8**	**-0.4**
TLIG	**Tlapa**	**1.13**	**34**	*e*P		**Pb**	**13 03 20.0**	**-0.1**
TLIG				*i* S		**Sn**	**13 03 35.5**	**-1.1**
MEIG	**Mezcala**	**1.35**	**344**	*i* P		**Pb**	**13 03 23.9**	**0.0**
MEIG				*e*S		**Sb**	**13 03 40.8**	**-0.8**
PLIG	**Platanillo**	**1.78**	**351**	*e*P		**Pn**	**13 03 30.1**	**+0.5**
PLIG				*i* S		**Sn**	**13 03 52.8**	**0.0**
ARIG	**Puente Sto Nin**	**1.97**	**327**	*e*P		**Pn**	**13 03 32.2**	**0.0**
ARIG				*i* S		**Sn**	**13 03 55.9**	**-1.3**
YAIG	**Yautepec**	**2.23**	**4**	*e*P		**Pn**	**13 03 36.7**	**+0.8**
YAIG				*i* S		**Sn**	**13 04 03.5**	**-0.5**
ZIIG	**Zihuatanejo**	**2.36**	**295**	*e*P		**Pn**	**13 03 37.4**	**-0.1**
ZIIG				*i* S		**Sn**	**13 04 05.6**	**-1.2**
PPM	**Popocatepetl**	**2.50**	**13**	*i* P		**Pn**	**13 03 39.5**	**-0.3**
PPM				*i* S		**Sn**	**13 04 11.6**	**+0.6**
HUIG	**Huatulco**	**3.11**	**105**	*i* P		**Pn**	**13 03 47.9**	**+0.1**
HUIG				*i* S		**Sn**	**13 04 24.4**	**-0.8**
MOIG	**Morelia**	**3.57**	**329**	*i* P		**Pn**	**13 03 56.5**	**+2.2**
CMIG	**Matias Romero**	**4.18**	**83**	Pn		**Pn**	**13 04 00.5**	**-1.9**
	0.8nm,0.3s,baz=251,slow=16,SNR=6.2							
CMIG				Pg		**Pb**	**13 04 14.4**	**+2.4**
	3.7nm,0.3s,baz=248,slow=18,SNR=20							
CMIG				Sn		**Sn**	**13 04 52.1**	**+0.4**
	4.7nm,0.3s,baz=274,slow=9.4,SNR=6.8							
CMIG				Lg		Lg	13 05 09.8	
	16nm,0.3s,baz=12,slow=18,SNR=13							
TXAR	**

MEX 08 13:08:03.0±0.3, 18°.41N×100°.95W, h45km±6km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.59**	**102**	*e*P	Pn	13 08 13.5	-1.6
ARIG				*i* S	Sn	13 08 21.8	-2.0
ZIIG	**Zihuatanejo**	**0.94**	**212**	*i* P	Pn	13 08 18.0	-1.8
ZIIG				*i* S	Sn	13 08 30.1	-1.9
MEIG	**Mezcala**	**1.35**	**111**	*i* P	Pn	13 08 23.5	-2.0
MEIG				*i* S	Sn	13 08 40.1	-2.3
PLIG	**Platanillo**	**1.38**	**90**	*e*P	Pn	13 08 24.4	-1.4
PLIG				*i* S	Sn	13 08 40.7	-2.2
CAIG	**El Cayaco**	**1.50**	**154**	*e*P	Pn	13 08 25.5	-2.0
CAIG				*i* S	Sn	13 08 44.0	-1.9
TLIG	**Tlapa**	**2.42**	**110**	*i* P	Pn	13 08 39.1	-1.1
TLIG				*i* S	Sn	13 09 06.1	-2.5

*ISCJB **08** 13:24:32.5±1.3, 21°.89S±0°.09×177°.9W±0°.2, h300km, mb3.6/5, Error ellipse: s-maj=27.4km s-min=10.3km az=163.8*
*IDC **08** 13:24:58.3±26.0, 20°.93S×179°.12W, h510km±240km, mb3.2/5, mb1 3.4/5, mb1mx2.9/35, mbtmp4.1/5, Error ellipse: s-maj=263.8km s-min=58.8km az=134.0*

ISC 08 13:24:34.4±1.3, 22°.05S±0°.09×177°.9W±0°.2, h300km, n22, σ2§21/25, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**7.18**	**180**	P	**Pn**	**13 26 19.8**	**+2.0**
GLKZ				S	**S**	**13 27 43.1**	**+1.5**
OUZ	**Omahuta**	**15.07**	**208**	P	**Pn**	**13 27 55.9**	**+2.3**
HAZ	**Te Kaha**	**16.08**	**192**	P	**Pn**	**13 28 05.0**	**-0.3**
HAZ				S	**S**	**13 30 51.8**	**-4.8**
PKGZ	**Pakihiroa**	**16.16**	**191**	P	**Pn**	**13 28 05.8**	**-0.5**
PKGZ				S	**S**	**13 30 52.3**	**-5.9**
PUZ	**Puketiti**	**16.30**	**191**	P	**P**	**13 28 06.3**	**+0.7**
RUGZ	**Raukumara Rang**	**16.31**	**192**	P	**P**	**13 28 06.4**	**+0.6**
MWZ	**Matawai**	**16.69**	**193**	P	**P**	**13 28 10.6**	**+0.7**
URZ	**Urewera**	**16.71**	**194**	P	**P**	**13 28 09.7**	**-0.3**
NMHZ	**Naumai**	**17.58**	**194**	P	**P**	**13 28 20.1**	**+0.6**
BKZ	**Black Stump Fm**	**17.71**	**194**	P	**Pn**	**13 28 23.1**	**-1.4**
KWHZ	**Kaweka Forest**	**17.98**	**194**	P	**P**	**13 28 25.6**	**+1.8**
BHHZ	**Black Hill Sta**	**18.12**	**195**	P	**P**	**13 28 27.0**	**+1.6**
KRHZ	**Kereru**	**18.20**	**194**	P	**P**	**13 28 29.2**	**+3.1**
KAHZ	**Kahuranaki**	**18.23**	**193**	P	**P**	**13 28 29.4**	**+2.9**
ANWZ	**Angora Road**	**18.96**	**193**	P	**P**	**13 28 36.4**	**+2.3**
BFZ	**Birch Farm**	**19.22**	**194**	P	**P**	**13 28 38.0**	**+1.1**
CTA	**Charters Tower**	**33.43**	**267**	P	**P**	**13 30 46.8**	**+0.9**
	1.6nm,0.3s,baz=91,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**44.25**	**258**	P	**P**	**13 32 14.9**	**-0.1**
	3.8nm,0.7s,baz=96,slow=7.9,SNR=63						
WRA	**Warramunga Arr**	**44.47**	**264**	P	**P**	**13 32 16.1**	**-0.8**
	0.9nm,0.3s,baz=95,slow=8.3,SNR=39						
FITZ	**Fitzroy Crossi**	**52.90**	**264**	P	**P**	**13 33 20.3**	**-0.3**
	2.1nm,0.8s,baz=90,slow=7.1,SNR=3.4						
ILAR	**Eielson Array**	**89.81**	**13**	P	**P**	**13 36 57.6**	**-1.1**
	0.2nm,0.5s,baz=221,slow=4.9,SNR=3.5						
AKASG	**Malin Array Be**	**144.39**	**330**	PKP	**PKPab**	**13 43 33.1**	**-0.8**
	0.8nm,0.4s,baz=48,slow=4.2,SNR=5.0						

*PRU **08** 13:31:04.8±0.0, 47°.08N×11°.78E, h1km, Schwaz*
*BGR **08** 13:31:05.6±0.3, 47°.29N×11°.77E, h10km, ML2.8/9, Error ellipse: s-maj=4.4km s-min=2.2km az=175.0*
BGR Some reports about vibration of objects.
*VIE **08** 13:31:05.6±0.2, 47°.27N×11°.74E, h7km±2km, mb1.7/8, ml2.8/15, Error ellipse: s-maj=1.5km s-min=1.3km az=0.0, felt 3-4 ems98 at Schwaz / Tyrol*
*ROM **08** 13:31:06.3±0.1, 47°.208N±0°.007×11°.75E±0°.01, h5km, ML2.4/15, Error ellipse: s-maj=0.9km s-min=0.6km az=228.0*

ISC 08 13:31:05.6±0.8, 47°.30N±0°.02×11°.77E±0°.02, h11km±4km, n93, σ1§17/116, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTTA	**Wattenberg**	**0.10**	**249**	*i* Pg	**Pg**	**13 31 08.2**	**-0.2**
	381nm,0.1s						
WTTA				*e*Sg	**Sg**	**13 31 10.5**	**0.0**
	680nm,0.2s						
WTTA	**Wattenberg**	**0.10**	**249**	*e*Pg	**Pg**	**13 31 08.4**	**-0.1**
WTTA				*e*Sg	**Sg**	**13 31 10.8**	**+0.2**
WTTA	**Wattenberg**	**0.10**	**249**	*i* P	**Pg**	**13 31 08.3**	**-0.1**
WTTA				S	**Sg**	**13 31 10.5**	**0.0**
WTTA	**Wattenberg**	**0.10**	**249**	S	**Sg**	**13 31 09.0**	**-1.5**
WTTA	**Wattenberg**	**0.10**	**249**	S	**Sg**	**13 31 10.5**	**0.0**
WATA	**Walderalm**	**0.13**	**286**	*i* Pg	**Pg**	**13 31 08.2**	**-0.8**
	120nm,0.1s,SNR=981						
WATA				*e*Sg	**Sg**	**13 31 11.0**	**-0.4**
	998nm,0.1s						
SQTA	**Sankt Quirin**	**0.39**	**259**	*e*Pg	**Pg**	**13 31 12.6**	**-0.7**
	20nm,0.1s,SNR=36						
SQTA				*e*Sg	**Sg**	**13 31 18.7**	**+0.2**
	35nm,0.1s						
RISI	**Rein**	**0.41**	**149**	P	**Pg**	**13 31 13.5**	**-0.2**
RISI	**Rein**	**0.41**	**149**	P	**Pg**	**13 31 13.6**	**-0.2**
RISI				S	**Sg**	**13 31 19.0**	**-0.3**
RISI	**Rein**	**0.41**	**149**	S	**Sg**	**13 31 18.9**	**-0.3**
ROSI	**Rosskopf**	**0.44**	**213**	P	**Pg**	**13 31 13.9**	**-0.5**
ROSI	**Rosskopf**	**0.44**	**213**	P	**Pg**	**13 31 14.0**	**-0.3**
ROSI				S	**Sg**	**13 31 20.2**	**0.0**
ROSI				AML	AML		
	comp=E,829μm,1.3s						
ROSI				AML	AML		
	comp=N,1214μm,0.4s						
ROSI				AML	AML		
	comp=E,829μm,1.3s						
ROSI				AML	AML		
	comp=N,1214μm,0.4s						
ROSI				AML	AML		
	comp=N,1214μm,0.4s						
ROSI				AML	AML		
	comp=E,829μm,1.3s						
ROSI	**Rosskopf**	**0.44**	**213**	S	**Sg**	**13 31 20.3**	**+0.1**
MOTA	**Moosalm**	**0.45**	**276**	*e*Pg	**Pg**	**13 31 13.4**	**-1.1**
	comp=E,7.9nm,0.1s,SNR=22						
MOTA				*e*Sg	**Sg**	**13 31 20.9**	**+0.3**
	comp=E,29nm,0.1s						
PART	**Garmisch-Parte**	**0.49**	**294**	*e*Pg	**Pg**	**13 31 14.0**	**-1.2**
PART				*e*Sg	**Sg**	**13 31 21.8**	**+0.2**
BRES	**Bressanone**	**0.60**	**182**	P	**Pg**	**13 31 17.2**	**-0.1**
BRES				S	**Sb**	**13 31 25.9**	**-1.0**
BRES				AML	AML		
	comp=E,146μm,1.4s						
BRES				AML	AML		
	comp=N,375μm,0.4s						
BRES				AML	AML		
	comp=E,145μm,1.4s						
BRES				AML	AML		
	comp=N,375μm,0.4s						
BRES				AML	AML		
	comp=N,375μm,0.4s						
BRES				AML	AML		
	comp=E,145μm,1.4s						
BRES	**Bressanone**	**0.60**	**182**	P	**Pg**	**13 31 17.3**	**-0.1**
BRES	**Bressanone**	**0.60**	**182**	S	**Sb**	**13 31 26.0**	**-0.8**
ABSI	**Aberstueckl**	**0.65**	**208**	P	**Pg**	**13 31 17.2**	**-1.0**
ABSI	**Aberstueckl**	**0.65**	**208**	P	**Pg**	**13 31 17.7**	**-0.5**
ABSI				S	**Sg**	**13 31 26.2**	**-0.5**
ABSI				AML	AML		
	comp=E,308μm,0.5s						
ABSI				AML	AML		
	comp=N,418μm,1.1s						
ABSI				AML	AML		
	comp=E,308μm,0.5s						
ABSI				AML	AML		
	comp=N,418μm,1.1s						
ABSI				AML	AML		
	comp=E,308μm,0.5s						
ABSI				AML	AML		
	comp=N,418μm,1.1s						
ABSI	**Aberstueckl**	**0.65**	**208**	P	**Pg**	**13 31 17.7**	**-0.5**
ABSI	**Aberstueckl**	**0.65**	**208**	S	**Sg**	**13 31 26.4**	**-0.3**
RETA	**Reutte**	**0.71**	**286**	Pg	**Pg**	**13 31 19.1**	**-0.2**
	comp=N,1.5nm,0.1s						
RETA				Sg	**Sg**	**13 31 28.8**	**+0.2**
	comp=N,43nm,0.3s,SNR=10.0						
ABTA	**Abfaltersbach**	**0.75**	**137**	Pg	**Pg**	**13 31 19.5**	**-0.6**
	comp=N,2.2nm,0.1s						
ABTA				*e*Sg	**Sg**	**13 31 29.5**	**-0.5**
	comp=N,45nm,0.2s,SNR=20						
FETA	**Feichten**	**0.76**	**249**	Pg	**Pg**	**13 31 19.3**	**-1.0**
	comp=N,4.6nm,0.3s,SNR=11						
FETA				*e*Sg	**Sg**	**13 31 29.2**	**-1.0**
	comp=N,19nm,0.3s						
RJOB	**Jochberg**	**0.82**	**57**	*e*Sg	**Sg**	**13 31 33.0**	**+0.7**
KOSI	**Kohlern**	**0.88**	**198**	P	**Pg**	**13 31 22.0**	**-0.5**
KOSI				S	**Sb**	**13 31 33.9**	**-0.8**
KOSI				AML	AML		
	comp=E,228μm,0.4s						
KOSI				AML	AML		
	comp=N,219μm,0.6s						
KOSI				AML	AML		
	comp=E,228μm,0.4s						
KOSI				AML	AML		
	comp=N,219μm,0.6s						
KOSI				AML	AML		
	comp=N,219μm,0.6s						
KOSI				AML	AML		
	comp=E,228μm,0.4s						
KOSI	**Kohlern**	**0.88**	**198**	P	**Pg**	**13 31 22.0**	**-0.5**
KOSI	**Kohlern**	**0.88**	**198**	S	**Sg**	**13 31 33.7**	**-0.3**
APPI	**Appiano**	**0.90**	**204**	P	**Pg**	**13 31 22.3**	**-0.6**
APPI				AML	AML		
	comp=E,226μm,0.3s						
APPI				AML	AML		
	comp=N,232μm,1.5s						
APPI				AML	AML		
	comp=E,226μm,0.3s						
APPI				AML	AML		
	comp=N,232μm,1.5s						
APPI				AML	AML		
	comp=E,226μm,0.3s						
APPI				AML	AML		
	comp=N,232μm,1.5s						
APPI	**Appiano**	**0.90**	**204**	P	**Pg**	**13 31 22.5**	**-0.4**
KBA	**Koelnbreinsper**	**1.10**	**101**	*e*Pg	**Pg**	**13 31 25.6**	**-1.2**
	comp=N,1.5nm,0.1s						
KBA				Sg	**Sg**	**13 31 39.7**	**-1.4**
	comp=N,11nm,0.2s						
KBA	**Koelnbreinsper**	**1.10**	**101**	*e*Pg	**Pg**	**13 31 25.7**	**-1.0**
KBA				*e*Sg	**Sg**	**13 31 40.1**	**-1.0**
UBR	**Ueberruh**	**1.19**	**289**	*e*Pg	**Pg**	**13 31 27.9**	**-0.5**
UBR				*e*Sg	**Sb**	**13 31 44.3**	**+0.7**
STAL	**STALIGIAL**	**1.23**	**148**	P	**Pg**	**13 31 28.5**	**-0.6**
STAL	**STALIGIAL**	**1.23**	**148**	P	**Pg**	**13 31 28.6**	**-0.6**
STAL				AML	AML		
	comp=E,185μm,0.4s						
STAL				AML	AML		
	comp=N,208μm,0.3s						
STAL				AML	AML		
	comp=E,185μm,0.4s						
STAL				AML	AML		
	comp=N,208μm,0.3s						
STAL	**STALIGIAL**	**1.23**	**148**	P	**Pn**	**13 31 29.4**	**+0.7**
BRMO	**Bormio**	**1.26**	**230**	P	**Pg**	**13 31 28.8**	**-1.0**
BRMO				AML	AML		
	comp=E,90μm,1.4s						
BRMO				AML	AML		
	comp=N,78μm,0.7s						
BRMO				AML	AML		
	comp=N,78μm,0.7s						
BRMO				AML	AML		
	comp=E,90μm,1.4s						
BRMO	**Bormio**	**1.26**	**230**	P	**Pg**	**13 31 29.1**	**-0.8**
DAVA	**Damuels**	**1.28**	**270**	*e*Pg	**Pn**	**13 31 30.0**	**+0.4**
	comp=E,4.2nm,0.1s,SNR=13						
DAVA				Sg	**Sn**	**13 31 47.7**	**+0.8**
	comp=E,61nm,0.3s,SNR=8.6						
DAVA	**Damuels**	**1.28**	**270**	*e*Pg	**Pg**	**13 31 30.3**	**0.0**
POLC	**Polcenigo**	**1.37**	**158**	P	**Pg**	**13 31 32.6**	**+0.7**
POLC	**Polcenigo**	**1.37**	**158**	AML	AML		
	comp=E,397μm,0.4s						
POLC				AML	AML		
	comp=N,442μm,0.5s						
POLC				AML	AML		
	comp=N,442μm,0.5s						
POLC				AML	AML		
	comp=E,397μm,0.4s						
DAVOX	**Davos/Dischmat**	**1.39**	**249**	P	**Pg**	**13 31 32.0**	**-0.3**
DAVOX				AML	AML		
	comp=E,94μm,0.5s						
DAVOX				AML	AML		
	comp=N,140μm,0.3s						
DAVOX				AML	AML		
	comp=E,94μm,0.5s						
DAVOX				AML	AML		
	comp=N,140μm,0.3s						
DAVOX	**Davos/Dischmat**	**1.39**	**249**	P	**Pg**	**13 31 32.1**	**-0.2**
PTCC	**Patocco-Chiusa**	**1.41**	**129**	P	**Pn**	**13 31 31.1**	**-0.1**
PTCC	**Patocco-Chiusa**	**1.41**	**129**	P	**Pb**	**13 31 31.7**	**-0.2**
PTCC				AML	AML		
	comp=E,81μm,1.3s						
PTCC				AML	AML		
	comp=N,105μm,0.5s						
PTCC				AML	AML		
	comp=N,105μm,0.5s						
PTCC				AML	AML		
	comp=E,81μm,1.3s						
PTCC	**Patocco-Chiusa**	**1.41**	**129**	P	**Pg**	**13 31 33.2**	**+0.5**
ACOM	**Acomizza, Ital**	**1.41**	**121**	P	**Pg**	**13 31 32.5**	**-0.3**
ACOM				AML	AML		
	comp=E,303μm,0.5s						
ACOM				AML	AML		
	comp=N,178μm,0.4s						
ACOM				AML	AML		
	comp=E,303μm,0.5s						
ACOM				AML	AML		
	comp=N,178μm,0.4s						
ACOM	**Acomizza, Ital**	**1.41**	**121**	P	**Pg**	**13 31 32.7**	**0.0**
CGRP	**Cima Grappa**	**1.42**	**179**	P	**Pn**	**13 31 31.6**	**+0.1**
CGRP				AML	AML		
	comp=E,194μm,0.3s						
CGRP				AML	AML		
	comp=N,172μm,0.4s						
CGRP				AML	AML		
	comp=N,172μm,0.4s						
CGRP				AML	AML		
	comp=E,194μm,0.3s						
CGRP	**Cima Grappa**	**1.42**	**179**	P	**Pb**	**13 31 31.9**	**-0.2**
MYKA	**Terra Mystica**	**1.45**	**117**	*e*Pg	**Pg**	**13 31 33.6**	**+0.2**
	comp=E,16nm,0.4s,SNR=12						
MYKA				Sg	**Sg**	**13 31 52.1**	**-0.1**
	comp=E,6.6nm,0.2s						
VINO	**Villanova**	**1.47**	**134**	P	**Pg**	**13 31 33.2**	**-0.6**
VINO	**Villanova**	**1.47**	**134**	P	**Pg**	**13 31 34.0**	**+0.1**
NORI	**Noerdlinger Ri**	**1.62**	**332**	*e*Pg	**Pn**	**13 31 35.1**	**+1.1**
NORI				*e*Sg	**Sn**	**13 31 56.6**	**+1.7**
PLONS	**Plons/SG**	**1.65**	**262**	*e*Sg	**Sg**	**13 31 59.4**	**+0.9**
MAGA	**Magasa**	**1.71**	**208**	P	**Pb**	**13 31 36.7**	**-0.4**
MAGA				AML	AML		
	comp=E,364μm,0.3s						
MAGA				AML	AML		
	comp=N,295μm,0.3s						
MAGA				AML	AML		
	comp=E,364μm,0.3s						
MAGA				AML	AML		
	comp=N,295μm,0.3s						
MAGA	**Magasa**	**1.71**	**208**	P	**Pb**	**13 31 36.8**	**-0.4**
MOA	**Molln**	**1.78**	**71**	Pn	**Pb**	**13 31 37.9**	**-0.3**
	comp=N,3.0nm,0.2s,SNR=5.8						
MOA				Sn	**Sn**	**13 32 00.2**	**+1.2**
	comp=N,4.9nm,0.1s						
MOA	**Molln**	**1.78**	**71**	*e*Pg	**Pb**	**13 31 38.1**	**-0.1**
TUE	**Stuetta**	**1.85**	**244**	P	**Pb**	**13 31 40.3**	**+0.7**
TUE	**Stuetta**	**1.85**	**244**	AML	AML		
	comp=E,54μm,0.4s						
TUE				AML	AML		
	comp=N,34μm,1.4s						
TUE				AML	AML		
	comp=N,34μm,1.4s						
TUE				AML	AML		
	comp=E,54μm,0.4s						
WET	**Wettzell**	**1.99**	**22**	*e*Pn	**Pn**	**13 31 38.3**	**-1.0**
GEC2	**GERESS Array S**	**2.02**	**39**	*e*Sn	**Sn**	**13 32 04.1**	**-0.8**
OBKA	**Obir**	**2.06**	**111**	Pg	**Pb**	**13 31 43.5**	**+0.4**
OBKA				Sg	**Sb**	**13 32 09.6**	**+0.8**
	comp=E,4.6nm,0.3s						
	comp=E,2.0nm,0.2s						
OBKA	**Obir**	**2.06**	**111**	*e*Pg	**Pg**	**13 31 44.2**	**-1.0**
KHC	**Kasperske Hory**	**2.20**	**33**	*e*PN	**Pb**	**13 31 45.3**	**-0.1**
KHC				*e*SN	**Sb**	**13 32 13.7**	**+1.1**
MNTV	**Mantova**	**2.25**	**198**	S	**Sg**	**13 32 18.0**	**0.0**
SLE	**Schleitheim**	**2.27**	**283**	*e*Sg	**Sb**	**13 32 16.4**	**+1.8**
SOKA	**Soboth**	**2.32**	**104**	Pg	**Pg**	**13 31 49.6**	**-0.5**
	comp=E,1.5nm,0.2s						
SOKA				Sg	**Sb**	**13 32 18.0**	**+1.8**
GRF	**Grafenberg Arr**	**2.42**	**352**	*e*Pg	**Pb**	**13 31 50.8**	**+1.7**
ROTZ	**Rotzenmuhle**	**2.49**	**7**	*e*Pg	**Pb**	**13 31 51.3**	**+1.0**
BFO	**Black Forest**	**2.54**	**295**	*e*Pn	**Pn**	**13 31 47.1**	**+0.4**
CMPO	**Campotto Po**	**2.72**	**179**	S	**Sn**	**13 32 24.0**	**+2.0**
CONA	**Conrad Observa**	**2.84**	**76**	Pn	**Pn**	**13 31 51.9**	**+0.9**
	comp=E,0.5nm,0.2s						
CONA				Sn	**Sn**	**13 32 26.9**	**+1.7**
	comp=E,5.4nm,0.3s						
NKC	**Novy Kostel**	**2.97**	**8**	*e*SN	**Sb**	**13 32 34.6**	**-0.3**
WERN	**Wernitzgruen**	**3.02**	**7**	*e*Pg	**Pb**	**13 32 01.6**	**+2.2**
KOGS	**Kog**	**3.19**	**104**	P	**Pg**	**13 32 10.0**	**+3.3**
KOGS	**Kog**	**3.19**	**104**	S	Sg	13 32 57.0	+8.9
PLN	**Plauen**	**3.20**	**4**	*e*Sn	**Sn**	**13 32 30.4**	**-3.5**
MSSA	**Maissana**	**3.37**	**209**	S	**Sb**	**13 32 47.0**	**+0.6**
PE3	**Peglio**	**3.64**	**172**	S	**Sn**	**13 32 41.0**	**-3.8**
TNS	**Taunus Mts**	**3.66**	**324**	*e*Pn	**Pn**	**13 32 02.0**	**-0.2**
MURB	**Monte Urbino**	**4.07**	**172**	S	**Sn**	**13 32 51.0**	**-4.5**
EL6	**Elcito**	**4.08**	**166**	P	**Pn**	**13 32 09.3**	**+1.4**
CLL	**Collm**	**4.09**	**11**	*e*Pg	**Pg**	**13 32 22.0**	**-2.0**
CLL				*e*Sg	**Sg**	**13 33 14.0**	**-3.0**
	comp=Z,6.0nm,0.6s						
ATTE	**AVT- Monte Tez**	**4.12**	**174**	S	**Sb**	**13 33 07.0**	**-1.0**
ASSB	**Assisi San Ben**	**4.30**	**171**	P	**Pb**	**13 32 22.7**	**+1.5**
MOMA	**Monte Martano**	**4.53**	**172**	P	**Pn**	**13 32 13.9**	**-0.2**
MOMA	**Monte Martano**	**4.53**	**172**	AML	AML		
	comp=N,372μm,0.2s						
MOMA				AML	AML		
	comp=E,458μm,0.5s						
MOMA				AML	AML		
	comp=N,2179μm,1.1s						
MOMA				AML	AML		
	comp=E,431μm,0.5s						
MOMA				AML	AML		
	comp=N,372μm,0.2s						
MOMA				AML	AML		
	comp=N,2179μm,1.1s						
MOMA				AML	AML		
	comp=E,458μm,0.5s						
MOMA				AML	AML		
	comp=E,431μm,0.5s						
LAV9	**Lanuvio**	**5.66**	**173**	P	**Pn**	**13 32 33.2**	**+3.6**
CDRU	**Civita di Ruta**	**7.27**	**158**	P	**Pb**	**13 33 10.6**	**-1.2**

*ISCJB **08** 13:34:01.6±0.3, 4°.58S±0°.03×133°.84E±0°.03, h21km, mb4.4/31, MS3.9/8, Error ellipse: s-maj=5.0km s-min=4.6km az=163.4*
*IDC **08** 13:34:01.6±0.6, 4°.36S×133°.91E, h0km, mb3.9/14, mb1 4.2/18, mb1mx4.1/37, mbtmp4.1/18, ML4.2/3, MS3.6/9, Ms1 3.7/9, ms1mx3.3/32, Error ellipse: s-maj=26.9km s-min=13.9km az=70.0*
*NEIC **08** 13:34:02.6±0.3, 4°.41S×133°.89E, h10km, mb4.6/15, Error ellipse: s-maj=7.9km s-min=6.0km az=61.0*
NEIC Felt [III] at Kaimana.
*BJI **08** 13:34:03.5±0.0, 4°.63S×133°.16E, h9km, mb4.6/21, mB4.9/18, Ms4.6/8, Ms7 4.5/3*
*DJA **08** 13:34:04.4±0.3, 4°.S±3°×13°.4E±°, h90km±8km, M4.8/16, mB5.2/7, mb4.8/16, MLv5.1/6, Mw(mB)4.6/7*

ISC 08 13:34:03.5±0.4, 4°.63S±0°.05×133°.82E±0°.06, h21km, n80, σ2§25/80, mb4.2/31, MS3.7/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.31**	**317**	*e*Pn	Pn	13 34 37.1	-3.3
FAKI	**Fak Fak**	**2.31**	**317**	P	**Pn**	**13 34 37.7**	**-2.7**
BNDI	**Bandanaira**	**3.91**	**271**	P	**Pn**	**13 35 03.4**	**+1.0**
BNDI				S	**Sn**	**13 35 49.6**	**+2.0**
SWI	**Sorong**	**4.53**	**326**	P	**Pn**	**13 35 09.1**	**-1.8**
GENI	**Genyem**	**6.65**	**73**	P	**Pn**	**13 35 38.6**	**-1.4**
JAY	**Jayapura**	**7.18**	**73**	P	**Pn**	**13 35 45.9**	**-1.5**
JAY	**Jayapura**	**7.18**	**73**	Pn	**Pn**	**13 35 45.5**	**-1.9**
	2.2nm,0.3s,baz=237,slow=10,SNR=8.2						
JAY				LR	LR	13 39 03.0	
	comp=Z,476nm,20.9s,baz=268,slow=43						
SANI	**Sanana**	**8.23**	**288**	P	**Pn**	**13 36 00.0**	**-1.8**
TNTI	**Ternate**	**8.39**	**310**	*e*Pn	**Pn**	**13 36 02.3**	**-1.7**
TNTI	**Ternate**	**8.39**	**310**	P	Pn	13 36 13.5	+10
MTSI	**Manton Dam**	**8.59**	**198**	*e*Pn	**Pn**	**13 36 10.1**	**+3.5**
SOEI	**Soe**	**10.76**	**241**	*e*Pn	**Pn**	**13 36 39.9**	**+3.3**
SOEI	**Soe**	**10.76**	**241**	P	**Pn**	**13 36 37.6**	**+1.0**
SOEI				S	**Sn**	**13 38 38.2**	**+1.6**
KMSI	**Cibinong**	**11.11**	**297**	P	**Pn**	**13 36 42.1**	**+0.8**
BATI	**Baumata**	**11.50**	**241**	P	**Pn**	**13 36 49.0**	**+2.4**
	26nm,0.7s						
LUWI	**Luwuk**	**11.60**	**288**	P	Pn	13 36 44.5	-3.5
	54nm,0.8s,2μm						
MMRI	**Maumere**	**12.18**	**250**	*e*Pn	**Pn**	**13 36 59.0**	**+3.2**
APSI	**Ampana**	**12.71**	**287**	P	**Pn**	**13 37 01.8**	**-1.3**
MRSI	**Marisa**	**12.91**	**293**	P	**Pn**	**13 37 03.1**	**-2.8**
COEN	**Coen**	**13.07**	**136**	*e*Pn	**Pn**	**13 37 08.7**	**+0.5**
SPSI	**Sidrap Palu**	**14.03**	**272**	P	**Pn**	**13 37 20.9**	**-0.3**
PMG	**Port Moresby**	**14.06**	**110**	*e*Pn	**Pn**	**13 37 22.6**	**+1.0**
PMG	**Port Moresby**	**14.06**	**110**	Pn	**Pn**	**13 37 22.2**	**+0.6**
	1.0nm,0.3s,baz=0.6,slow=17,SNR=3.4						
PMG				LR	LR	13 44 31.5	
	comp=Z,512nm,18.7s,baz=334,slow=45						
MPSI	**Mapaga**	**14.76**	**289**	P	**Pn**	**13 37 31.0**	**-0.2**
WRAB	**Tennant Creek**	**15.22**	**178**	*e*Pn	**Pn**	**13 37 37.8**	**+0.5**
	41nm,1.0s						
WB2	**Warramunga Arr**	**15.23**	**178**	*e*Pn	**Pn**	**13 37 36.3**	**-1.2**
	45nm,1.0s						
WRA	**Warramunga Arr**	**15.23**	**178**	*e*Pn	**Pn**	**13 37 36.4**	**-1.1**
	11nm,0.6s						
WRA				Sn	**Sn**	**13 40 20.6**	**-5.1**
WRA	**Warramunga Arr**	**15.23**	**178**	Pn	**Pn**	**13 37 37.0**	**-0.5**
	1.0nm,0.3s,baz=358,slow=13,SNR=40						
WRA				Sn	**Sn**	**13 40 20.6**	**-5.1**
	0.6nm,0.3s,baz=358,slow=23,SNR=4.5						
FITZ	**Fitzroy Crossi**	**15.60**	**210**	*e*Pn	**Pn**	**13 37 41.6**	**-0.6**
	19nm,1.0s						
FITZ				Sn	**Sn**	**13 40 28.0**	**-6.6**
FITZ	**Fitzroy Crossi**	**15.60**	**210**	Pn	**Pn**	**13 37 41.3**	**-1.0**
	1.7nm,0.3s,baz=38,slow=11,SNR=52						
FITZ				Sn	**Sn**	**13 40 28.0**	**-6.6**
	1.2nm,0.3s,baz=187,slow=17,SNR=6.0						
FITZ				LR	LR	13 44 15.4	
	comp=Z,113nm,18.1s,baz=34,slow=39						
PLAI	**Plampang**	**16.47**	**254**	P	**Pn**	**13 37 51.8**	**-1.7**
	31nm,1.6s						
AS31	**Alice Springs**	**18.93**	**180**	*e*P	**Pn**	**13 38 25.6**	**+1.7**
	12nm,0.6s						
ASAR	**Alice Springs**	**18.93**	**180**	*e*P	**Pn**	**13 38 24.8**	**+0.8**
ASAR				S	**Sn**	**13 41 49.7**	**-5.6**
ASAR	**Alice Springs**	**18.93**	**180**	P	**Pn**	**13 38 26.5**	**+2.6**
	0.7nm,0.3s,baz=

comp=Z,63nm,20.4s,baz=183,slow=34
CD2 Chengdu 45.53 323 *e*P **P 13 42 22.5 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 49.28 328 *e*P **P 13 42 50.1 -1.1**
LZH pP pP 13 42 56.4 -0.9
LZH sP pwP 13 42 58.3 -1.2
LZH *e*PP **PP 13 44 47.7 +2.4**
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,82nm,4.3s
LZH LR LR
comp=N,250nm,14.8s
LZH LR LR
comp=E,250nm,15.0s
LZH LR LR
comp=Z,290nm,17.1s
HHC Hu-ho-hao-te 49.64 338 *e*P **P 13 42 54.7 +0.9**
HHC pmax pmax
comp=Z,50nm,0.9s
HHC pmax pmax
comp=Z,230nm,5.7s
KLR Kul'dur 53.67 358 P **P 13 43 21.8 -1.8**
1.3nm,0.5s,baz=170,slow=13,SNR=5.6
GTA Gaotai 53.88 328 *e*P P 13 43 30.8 +5.3
GTA pP pwP 13 43 35.3 +1.4
GTA sP sP 13 43 37.9 +3.8
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA pmax pmax
comp=Z,44nm,7.1s
GTA LR LR
comp=N,65nm,15.9s
GTA LR LR
comp=E,54nm,17.5s
SONM Songino Array 57.53 338 P **P 13 43 52.1 +0.5**
0.6nm,0.6s,baz=141,slow=5.5,SNR=2.5
PETK Petropavlovsk- 60.95 16 P **P 13 44 14.2 -0.8**
0.8nm,0.6s,baz=193,slow=5.9,SNR=3.6
WMQ Urumqi 63.59 324 *e*P **P 13 44 34.7 +1.7**
WMQ LR LR
comp=N,680nm,38.9s
WMQ LR LR
comp=E,1μm,39.1s
MK31 Makanchi Array 68.42 325 *e*P **P 13 45 05.3 +1.4**
3.8nm,1.1s
MKAR Makanchi Array 68.42 325 *e*P **P 13 45 02.6 -1.3**
MKAR Makanchi Array 68.42 325 P **P 13 45 02.8 -1.1**
0.9nm,0.6s,baz=112,slow=8.4,SNR=7.3
MAKZ Makanchi 68.61 325 *e*P **P 13 45 06.6 +1.5**
3.7nm,0.8s
SEY Seymchan 68.84 9 P **P 13 45 09.1 +3.0**
4.2nm,0.9s,baz=174,slow=5.6,SNR=4.7
KSH Kashi 68.93 315 P **P 13 45 06.9 -0.5**
KSH pP pP 13 45 12.9 -0.7
KSH S **S 13 54 08.5 -2.5**
KSH pmax pmax
comp=Z,5.0nm,0.3s
KSH pmax pmax
comp=Z,81nm,4.4s
KSH LR LR
comp=N,240nm,7.5s
KSH LR LR
comp=E,170nm,8.5s
KSH LR LR
comp=Z,230nm,6.1s
ZALV Zalesovo Beam 71.22 332 P **P 13 45 21.5 +0.5**
0.4nm,0.5s,baz=108,slow=4.7,SNR=2.6
KURK Kurchatov 72.56 327 *e*P **P 13 45 30.4 +1.4**
20nm,2.0s
KURBB Kurchatov Arra 72.56 327 P **P 13 45 29.8 +0.8**
0.9nm,0.7s,baz=121,slow=4.9,SNR=8.7
KKAR Karatay Array 74.14 317 *e*P **P 13 45 37.4 -1.1**
VNDA Vanda 74.36 174 P **P 13 45 42.3 +3.1**
0.5nm,0.9s,baz=318,slow=5.5,SNR=2.3
TIXI Tiksi 76.20 358 *e*P **P 13 45 49.4 -0.4**
2.5nm,0.6s
TIXI Tiksi 76.20 358 P **P 13 45 49.5 -0.3**
0.5nm,0.3s,baz=170,slow=4.7,SNR=3.6
BVAR Borovoye Array 78.15 326 P **P 13 46 01.4 +0.3**
0.9nm,0.6s,baz=111,slow=7.9,SNR=3.2
NRIK Noril'sk 80.23 345 LR LR 14 24 42.0
comp=Z,89nm,18.9s,baz=131,slow=38
ABKAR Akbulak array 83.06 321 *e*P **P 13 46 26.1 -1.5**
CAST Castle Rocks 87.06 26 *e*P **P 13 46 46.9 -0.4**
10nm,1.7s
SML Sawmill 88.33 28 *e*P **P 13 46 53.5 0.0**
10nm,1.2s
RND Reindeer 88.46 26 *e*P **P 13 46 53.6 -0.5**
4.9nm,0.9s
ILAR Eielson Array 89.60 25 P **P 13 46 58.6 -0.7**
0.3nm,0.5s,baz=239,slow=5.1,SNR=4.0
ILAR LR LR 14 28 04.3
comp=Z,19nm,18.4s,baz=246,slow=36
LPAZ La Paz 149.94 134 PKPbc **PKiKP 13 53 57.7 +2.6**
0.9nm,0.7s,baz=268,slow=4.2,SNR=3.5

MEX 08 13:37:21.8±27.0, 19°.12N×98°.50W, h5km±196km, MD3.5, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPM	**Popocatepetl**	**0.13**	**245**	*e*P	Pg	13 37 25.0	+0.3
	baz=201,slow=2.3						
PPM				*i* S	Sg	13 37 26.5	-0.2
AMVM	**AMECAMECA**	**0.27**	**272**	*i* P	Pg	13 37 26.9	-0.2
PHPU	**Puebla**	**0.32**	**104**	*i* S	Sg	13 37 32.1	-0.4
YAIG	**Yautepec**	**0.60**	**244**	*e*P	Pg	13 37 32.3	-1.0
YAIG				*i* S	Sg	13 37 39.7	-1.3

JMA ***08*** *13:39:00.9±0.3, 43°.24N×146°.93E, h51km±4km, M3.0*
SKHL ***08*** *13:39:00.1±0.8, 43°.22N×146°.97E, h38km±1km, mb3.9/4*
ISC 08 13:39:00.1±1.9, 43°.34N±0°.07×146°.92E±0°.08, h20km±11km, n17,σ0°83/31, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.86**	**272**	P	**Pn**	**13 39 17.0**	**0.0**
NEM2				*e*S	**Sn**	**13 39 28.9**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.04**	**312**	*i* P	**Pn**	**13 39 19.0**	**-0.5**
YUK				AMB	AMB	13 39 21.0	
	70nm,0.2s						
YUK				AMB	AMB	13 39 21.0	
	180nm,0.2s						
YUK				AMB	AMB	13 39 21.0	
	40nm,0.2s						
YUK				*i* S	**Sn**	**13 39 33.0**	**-0.3**
YUK				A	A	13 39 37.0	
	680nm,0.2s						
YUK				A	A	13 39 37.0	
	330nm,0.2s						
GRPR	**Tuman**	**1.06**	**308**	*e*P	**Pn**	**13 39 19.0**	**-0.8**
GRPR				AMB	AMB	13 39 20.0	
	50nm,0.2s						
GRPR				AMB	AMB	13 39 20.0	
	90nm,0.2s						
GRPR				AMB	AMB	13 39 20.0	
	20nm,0.2s						
GRPR				*e*S	**Sn**	**13 39 34.0**	**+0.1**
GRPR				A	A	13 39 35.0	
	520nm,0.3s						
GRPR				A	A	13 39 35.0	
	200nm,0.3s						
LAGR	**Lagunnoye**	**1.09**	**311**	*e*P	**Pn**	**13 39 20.0**	**-0.2**
LAGR				AMB	AMB	13 39 21.0	
	60nm,0.2s						
LAGR				AMB	AMB	13 39 21.0	
	90nm,0.2s						
LAGR				AMB	AMB	13 39 21.0	
	30nm,0.2s						
LAGR				*e*S	**Sn**	**13 39 35.0**	**+0.3**
LAGR				A	A	13 39 36.0	
	100nm,0.3s						
LAGR				A	A	13 39 36.0	
	900nm,0.3s						
JKHN	**Kushirohamanak**	**1.31**	**259**	P	**Pn**	**13 39 23.5**	**+0.2**
JKHN				*e*S	**Sn**	**13 39 40.3**	**+0.2**
JRA	**Rausu**	**1.44**	**295**	P	**Pn**	**13 39 25.6**	**+0.6**
JRA				*e*S	**Sb**	**13 39 44.0**	**0.0**
JNK	**Nakash**	**1.62**	**279**	P	**Pn**	**13 39 27.4**	**-0.1**
JNK				*e*S	**Sn**	**13 39 47.4**	**-0.4**
JAK	**Akkeshi**	**1.66**	**259**	P	**Pn**	**13 39 27.7**	**-0.4**
JAK				*e*S	**Sn**	**13 39 47.2**	**-1.6**
KUR	**Kuril'sk**	**2.01**	**19**	*e*P	**Pn**	**13 39 33.0**	**+0.1**
KUR				AMB	AMB	13 39 34.3	
	20nm,0.4s						
KUR				*i* S	**Sn**	**13 39 57.0**	**-0.4**
KUR				A	A	13 39 58.0	
	80nm,0.2s						
KUR				A	A	13 39 58.0	
	50nm,0.2s						
JTKR	**Abashiri--Toko**	**2.28**	**287**	P	**Pn**	**13 39 37.7**	**+1.2**
JAR	**Ashorobuto**	**2.30**	**270**	P	**Pn**	**13 39 37.3**	**+0.4**
JAR				*e*S	**Sn**	**13 40 05.2**	**+0.6**
JOB	**Onbets**	**2.30**	**260**	P	**Pn**	**13 39 36.9**	**0.0**
JOB				*e*S	**Sn**	**13 40 03.6**	**-1.0**
JMP	**Maruseppu**	**2.67**	**286**	P	**Pn**	**13 39 43.4**	**+1.4**
JCH	**Churui**	**2.71**	**256**	P	**Pn**	**13 39 43.0**	**+0.5**
JCH				*e*S	**Sn**	**13 40 13.1**	**-1.6**
JEM	**Erimo**	**3.07**	**246**	P	**Pn**	**13 39 49.5**	**+2.0**
JNBK	**Urakawa-nobuka**	**3.25**	**252**	P	**Pn**	**13 39 49.9**	**+0.1**
JNBK				*e*S	**Sn**	**13 40 26.4**	**-1.4**
JBT2	**Biratori 2**	**3.39**	**262**	P	**Pn**	**13 39 52.1**	**+0.3**
JBT2				*e*S	**Sn**	**13 40 31.4**	**+0.1**

ISK ***08*** *13:54:30.6, 37°.30N×37°.11E, h17km, ML1.7/4*
ISCJB ***08*** *13:54:31.4±0.7, 37°.29N±0°.05×37°.09E±0°.04, h12km±6km, Error ellipse: s-maj=8.8km s-min=5.3km az=17.7*
DDA ***08*** *13:54:31.4, 37°.29N×37°.06E, h4km±3km, ML2.5*
ISC 08 13:54:31.2±1.0, 37°.32N±0°.06×37°.09E±0°.03, h13km±8km, n8,σ0°68/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCB	**Kahramanmara**	**0.15**	**281**	IAML_P			
	comp=Z,5μm,0.2s						
HCB				*i* P	**Pb**	**13 54 35.9**	**0.0**
HCB				*i* S	**Sg**	**13 54 37.6**	**+0.2**
GAZ	**Gaziantep**	**0.17**	**146**	PG	**Pg**	**13 54 35.1**	**-0.1**
GAZ				SG	**Sg**	**13 54 38.0**	**-0.1**
KMRS	**Kahramanmaras**	**0.24**	**321**	PG	**Pb**	**13 54 37.2**	**-0.2**
KMRS				SG	**Sb**	**13 54 41.4**	**-0.3**
KAMA	**Osmaniye**	**0.36**	**249**	IAML_P			
	comp=Z,2μm,0.2s						
KAMA				*i* P	**Pb**	**13 54 39.8**	**+0.3**
KAMA				*i* S	**Sg**	**13 54 43.6**	**+0.1**
GZT	**Gaziantep**	**0.38**	**84**	IAML_P			
	comp=Z,2μm,0.1s						
GZT				*i* P	**Pb**	**13 54 39.5**	**-0.4**
GZT				*i* S	**Sg**	**13 54 43.6**	**-0.4**
TAHT	**Tahtakopru-Hat**	**1.19**	**218**	PN	**Pb**	**13 54 52.9**	**-0.6**
SURC	**SANLIURFA_SURC**	**1.29**	**109**	IAML_P			
	comp=Z,186nm,0.2s						
SURC				*i* P	**Pg**	**13 54 57.8**	**+1.8**
SURC				*i* S	**Sg**	**13 55 13.2**	**+0.3**
URFA	**Urfa**	**1.38**	**84**	PN	**Pn**	**13 54 55.6**	**-0.6**

SKHL ***08*** *13:59:05.9±0.8, 44°.70N×150°.30E, h104km±4km, mb4.1/2, msh5.3/4*
ISCJB ***08*** *13:59:07.2±0.5, 45°.8N±0°.1×149°.3E±0°.1, h150km, mb3.4/12, Error ellipse: s-maj=19.9km s-min=4.7km az=137.6*
JMA ***08*** *13:59:11.4±0.4, 45°.04N×149°.39E, h165km, M3.4*
IDC ***08*** *13:59:11.2±2.4, 45°.98N×149°.12E, h172km±22km, mb3.2/12, mb1 3.4/14, mb1mx3.3/33, mbtmp3.6/14, Error ellipse: s-maj=22.9km s-min=13.7km az=148.0*
ISC 08 13:59:07.9±0.7, 45°.7N±0°.1×149°.3E±0°.1, h150km, n35, σ2°06/36, mb3.4/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.10**	**248**	*i* P	**Pn**	**13 59 36.0**	**+2.4**
KUR				AMB	AMB	13 59 36.4	
	20nm,0.6s						
KUR				AMB	AMB	13 59 36.4	
	90nm,0.6s						
KUR				*i* S	**Sn**	**13 59 58.5**	**+5.4**
KUR				A	A	13 59 59.9	
	210nm,0.5s						
KUR				A	A	13 59 59.9	
	180nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.94**	**238**	*e*P	**Pn**	**13 59 56.0**	**+1.5**
YUK				*e*S	**Sn**	**14 00 32.8**	**+2.3**
YUK				A	A	14 00 36.1	
	480nm,1.0s						
YUK				A	A	14 00 36.1	
	360nm,1.0s						
LAGR	**Lagunnoye**	**2.98**	**239**	*e*P	**Pn**	**13 59 56.0**	**+1.0**
LAGR				*e*S	**Sn**	**14 00 34.0**	**+2.7**
LAGR				A	A	14 00 44.0	
	20nm,0.3s						
LAGR				A	A	14 00 44.0	
	150nm,0.3s						
GRPR	**Tuman**	**3.02**	**238**	*e*P	**Pn**	**13 59 56.0**	**+0.5**
GRPR				*e*S	**Sn**	**14 00 34.0**	**+1.7**
GRPR				A	A	14 00 39.0	
	160nm,0.4s						
GRPR				A	A	14 00 39.0	
	80nm,0.4s						
NEM2	**Nemuro 2**	**3.43**	**229**	P	**Pn**	**14 00 01.1**	**+0.3**
NEM2				*e*S	**Sn**	**14 00 39.7**	**-2.0**
JNK	**Nakash**	**3.88**	**239**	P	**Pn**	**14 00 08.6**	**+2.0**
JAK	**Akkeshi**	**4.25**	**233**	P	**Pn**	**14 00 11.8**	**+0.4**
JAK				*e*S	**Sn**	**14 00 58.8**	**-1.9**
JAR	**Ashorobuto**	**4.62**	**241**	P	**Pn**	**14 00 18.4**	**+2.1**
YSS	**Yuzh-Sakhalins**	**4.73**	**288**	*e*P	Pn	14 00 28.5	+11
YSS				AMB	AMB	14 00 28.8	
	4.0nm,0.3s						
JOB	**Onbets**	**4.80**	**237**	*e*S	**Sn**	**14 01 12.8**	**-1.0**
JKK2	**Kamakawa 2**	**5.01**	**251**	P	**Pn**	**14 00 24.1**	**+2.7**
ASAJ	**Asahikawa**	**5.02**	**255**	P	**Pn**	**14 00 24.8**	**+3.3**
	0.2nm,0.3s,baz=63,slow=14,SNR=3.5						
JCH	**Churui**	**5.25**	**237**	P	**Pn**	**14 00 25.3**	**+0.6**
JCH				*e*S	**Sn**	**14 01 22.1**	**-2.4**
JNBK	**Urakawa-nobuka**	**5.81**	**237**	P	**Pn**	**14 00 32.4**	**+0.3**
JNBK				*e*S	**Sn**	**14 01 35.2**	**-2.7**
JKB	**Kayabe**	**7.08**	**241**	*e*S	**Sn**	**14 02 04.3**	**-3.9**
PETK	**Petropavlovsk-**	**9.24**	**33**	P	**Pn**	**14 01 17.9**	**+0.2**
	0.2nm,0.3s,baz=160,slow=9.3,SNR=5.6						
SEY	**Seymchan**	**17.40**	**5**	P	**P**	**14 02 59.6**	**-0.7**
	0.1nm,0.3s,baz=168,slow=11,SNR=5.2						
TIXI	**Tiksi**	**27.84**	**346**	P	**P**	**14 04 39.7**	**-3.1**
	0.4nm,0.3s,baz=153,slow=9.3,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**29.65**	**145**	T	T	14 36 17.9	
	baz=335,slow=76,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**29.66**	**145**	T	T	14 36 16.7	
	baz=335,slow=76,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**29.67**	**145**	T	T	14 36 27.1	
	baz=335,slow=76,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**30.68**	**146**	T	T	14 37 35.6	
	baz=335,slow=76,SNR=8.8						
H11S3	**WAKE ISLAND Hy**	**30.68**	**146**	T	T	14 37 27.2	
	baz=335,slow=76,SNR=9.5						
H11S2	**WAKE ISLAND Hy**	**30.70**	**146**	T	T	14 37 38.1	
	baz=335,slow=76,SNR=7.3						
ILAR	**Eielson Array**	**39.04**	**38**	P	**P**	**14 06 19.5**	**0.0**
	0.4nm,0.6s,baz=284,slow=8.7,SNR=5.8						
INK	**Inuvik**	**43.98**	**31**	P	**P**	**14 06 59.3**	**-0.3**
	0.4nm,0.4s,baz=296,slow=8.1,SNR=5.3						
MKAR	**Makanchi Array**	**45.09**	**297**	P	**P**	**14 07 07.9**	**-0.9**
	0.4nm,0.6s,baz=72,slow=9.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**49.54**	**254**	P	**P**	**14 07 44.9**	**+1.4**
	0.4nm,0.4s,baz=35,slow=6.3,SNR=4.5						
YKA	**Yellowknife Ar**	**53.36**	**35**	P	**P**	**14 08 10.9**	**-0.4**
	0.4nm,0.7s,baz=298,slow=6.9,SNR=8.0						
FINES	**FINESS Array B**	**63.87**	**333**	P	**P**	**14 09 22.1**	**-1.9**
	1.5nm,0.8s,baz=25,slow=7.6,SNR=3.4						
NVAR	**Mina Array Bea**	**65.27**	**60**	P	**P**	**14 09 34.5**	**+0.8**
	0.3nm,0.5s,baz=300,slow=7.2,SNR=3.1						
PDAR	**Pinedale Array**	**67.51**	**51**	P	**P**	**14 09 48.2**	**+0.3**
	0.2nm,0.6s,baz=198,slow=3.9,SNR=4.0						
ASAR	**Alice Springs**	**70.40**	**195**	P	**P**	**14 10 07.4**	**+1.8**
	0.3nm,0.8s,baz=11,slow=6.0,SNR=4.2						
GERES	**GERESS Array B**	**78.23**	**332**	P	**P**	**14 10 50.0**	**-0.8**
	0.4nm,0.2s,baz=27,slow=6.8,SNR=4.4						
TXAR	**Lajitas Array**	**80.32**	**58**	P	**P**	**14 11 02.8**	**+0.4**
	0.6nm,0.6s,baz=297,slow=5.3,SNR=6.3						

NIED ***08*** *14:10:00, 43°.90N×147°.30E, h71km, Mw4.2 Best double couple: M0=2.49000×10^15 NP1:φs=51.00000°, δ=20.00000°, λ=99.00000°. NP2:φs=221.00000°, δ=71.00000°, λ=87.00000°.*
BJI ***08*** *14:10:46.6±0.0, 44°.10N×147°.20E, h56km, mb4.6/25, mB4.7/17, Ms4.4/8, Ms7 4.3/6*
MOS ***08*** *14:10:46.9±1.1, 44°.02N×147°.33E, h81km, mb4.4/27, Error ellipse: s-maj=7.1km s-min=5.8km az=97.7*
MOS Felt (II) at Lagunnoye, Malokuril'skoye, Yuzhno-Kuril'sk.
ISCJB ***08*** *14:10:47.3±0.4, 44°.05N±0°.03×147°.27E±0°.04, h78km±3km, mb4.3/83, Error ellipse: s-maj=5.8km s-min=3.4km az=140.3*
IDC ***08*** *14:10:48.2±0.7, 44°.13N×147°.15E, h70km±6km, mb4.0/19, mb1 4.1/25, mb1mx4.0/35, mbtmp4.2/25, MS3.0/12, Ms1 3.0/12, ms1mx2.8/40, Error ellipse: s-maj=15.6km s-min=11.0km az=151.0*
JMA ***08*** *14:10:48.3±0.2, 43°.90N×147°.32E, h59km, M4.6*
JMA Felt I J1.
SKHL ***08*** *14:10:48.4±0.5, 44°.01N×147°.28E, h84km, mb4.8/2*
SKHL Felt (II) at Yuzhno-kuril'sk, Lagunnoe, Malokuril'skoe.
NEIC ***08*** *14:10:49.0±0.5, 44°.10N×147°.18E, h80km±4km, mb4.4/56, Error ellipse: s-maj=5.9km s-min=3.3km az=153.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
ISC 08 14:10:47.7±0.5, 44°.04N±0°.05×147°.28E±0°.05, h71km±4km, h71km:pP-P, n260,σ1°25/287, mb4.4/84, 14C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.03**	**270**	*c i* PN	**Pn**	**14 11 06.8**	**+0.3**
YUK				*i* S	**Sn**	**14 11 20.3**	**-0.2**
YUK				pmax	pmax		
	comp=N,580nm,0.2s						
YUK				pmax	pmax		
	comp=E,2μm,0.2s						
YUK				pmax	pmax		
	comp=Z,4μm,0.2s						
YUK				smax	smax		
	comp=E,10μm,0.4s						
YUK				smax	smax		
	comp=N,19μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.03**	**270**	*i* P	**Pn**	**14 11 06.9**	**+0.4**
YUK				AMB	AMB	14 11 08.0	
	comp=N,170nm,0.2s						
YUK				AMB	AMB	14 11 08.0	
	comp=N,220nm,0.2s						
YUK				AMB	AMB	14 11 08.0	
	comp=N,440nm,0.2s						
YUK				*i* S	**Sn**	**14 11 20.4**	**-0.1**
YUK				A	A	14 11 24.0	
	comp=N,3μm,0.2s						
YUK				A	A	14 11 24.0	
	comp=N,2μm,0.2s						
LAGR	**Lagunnoye**	**1.08**	**271**	*c i* PN	**Pn**	**14 11 07.6**	**+0.4**
LAGR				*i* S	**Sn**	**14 11 21.8**	**+0.1**
LAGR				pmax	pmax		
	comp=N,551nm,0.1s						
LAGR				pmax	pmax		
	comp=E,142nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,3μm,0.1s						
LAGR				smax	smax		
	comp=N,36μm,0.2s						
LAGR				smax	smax		
	comp=E,31μm,0.2s						
LAGR	**Lagunnoye**	**1.08**	**271**	*i* P	**Pn**	**14 11 07.0**	**-0.2**
LAGR				AMB	AMB	14 11 07.0	
	comp=E,550nm,0.2s						
LAGR				AMB	AMB	14 11 07.0	
	comp=E,140nm,0.2s						
LAGR				AMB	AMB	14 11 07.0	
	comp=E,320nm,0.2s						
LAGR				*i* S	**Sn**	**14 11 21.0**	**-0.7**
LAGR				A	A	14 11 24.0	
	comp=E,4μm,0.3s						
LAGR				A	A	14 11 24.0	
	comp=E,3μm,0.3s						
GRPR	**Tuman**	**1.09**	**268**	*c i* PN	**Pn**	**14 11 07.7**	**+0.4**
GRPR				*i* S	**Sn**	**14 11 21.7**	**-0.3**
GRPR				pmax	pmax		
	comp=Z,2μm,0.2s						
GRPR				pmax	pmax		
	comp=N,120nm,0.1s						
GRPR				pmax	pmax		
	comp=E,160nm,0.1s						
GRPR				smax	smax		
	comp=N,31μm,0.4s						
GRPR				smax	smax		
	comp=E,13μm,0.2s						
GRPR	**Tuman**	**1.09**	**268**	*i* P	**Pn**	**14 11 07.0**	**-0.3**
GRPR				AMB	AMB	14 11 07.0	
	comp=E,120nm,0.2s						
GRPR				AMB	AMB	14 11 07.0	
	comp=E,160nm,0.2s						
GRPR				AMB	AMB	14 11 07.0	
	comp=E,250nm,0.2s						
GRPR				*i* S	**Sn**	**14 11 21.0**	**-1.0**
GRPR				A	A	14 11 22.0	
	comp=E,3μm,0.4s						
GRPR				A	A	14 11 22.0	
	comp=E,3μm,0.4s						
KUR	**Kuril'sk**	**1.26**	**19**	*c i* PN	**Pn**	**14 11 09.9**	**+0.4**
KUR				*i* S	**Sn**	**14 11 26.1**	**+0.2**
KUR				pmax	pmax		
	comp=N,35nm,0.1s						
KUR				pmax	pmax		
	comp=E,46nm,0.1s						
KUR				pmax	pmax		
	comp=Z,447nm,0.1s						
KUR				smax	smax		
	comp=N,5μm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.4s						
KUR	**Kuril'sk**	**1.26**	**19**	*i* P	**Pn**	**14 11 09.9**	**+0.4**
KUR				AMB	AMB	14 11 10.4	
	comp=E,120nm,0.2s						
KUR				AMB	AMB	14 11 10.4	
	comp=E,170nm,0.2s						
KUR				AMB	AMB	14 11 10.4	
	comp=E,210nm,0.2s						
KUR				*i* S	**Sn**	**14 11 26.2**	**+0.3**
KUR				A	A	14 11 27.9	
	comp=E,4μm,0.4s						
KUR				A	A	14 11 27.9	
	comp=E,4μm,0.4s						
NEM2	**Nemuro 2**	**1.30**	**239**	P	**Pn**	**14 11 10.0**	**-0.1**
NEM2				*e*S	**Sn**	**14 11 26.2**	**-0.7**
JRA	**Rausu**	**1.56**	**267**	P	**Pn**	**14 11 14.9**	**+1.5**
JRA				*e*S	**Sn**	**14 11 34.4**	**+1.5**
JKHN	**Kushirohamanak**	**1.82**	**239**	P	**Pn**	**14 11 17.3**	**+0.5**
JKHN				*e*S	**Sn**	**14 11 38.5**	**-0.4**
JNK	**Nakash**	**1.91**	**257**	P	**Pn**	**14 11 19.0**	**+0.9**
JNK				*e*S	**Sn**	**14 11 41.3**	**0.0**
JAK	**Akkeshi**	**2.15**	**242**	P	**Pn**	**14 11 21.6**	**+0.3**
JAK				*e*S	**Sn**	**14 11 46.8**	**-0.2**
JTKR	**Abashiri--Toko**	**2.44**	**270**	P	**Pn**	**14 11 26.6**	**+1.4**
JAR	**Ashorobuto**	**2.66**	**255**	P	**Pn**	**14 11 29.9**	**+1.7**
JAR				*e*S	**Sn**	**14 12 01.4**	**+2.1**
JOB	**Onbets**	**2.76**	**247**	P	**Pn**	**14 11 30.6**	**+1.1**
JOB				*e*S	**Sn**	**14 12 01.9**	**+0.2**
JMP	**Maruseppu**	**2.83**	**271**	P	**Pn**	**14 11 32.3**	**+1.7**
JCH	**Churui**	**3.20**	**245**	P	**Pn**	**14 11 36.0**	**+0.5**
JCH				*e*S	**Sn**	**14 12 12.1**	**-0.3**
JKK2	**Kamakawa 2**	**3.28**	**269**	P	**Pn**	**14 11 38.8**	**+2.1**
JKA	**Kamikawa-asahi**	**3.38**	**273**	*e*P	**Pn**	**14 11 40.3**	**+2.3**
ASAJ	**Asahikawa**	**3.38**	**273**	P	**Pn**	**14 11 40.2**	**+2.2**
ASAJ	**Asahikawa**	**3.38**	**273**	P	**Pn**	**14 11 40.3**	**+2.2**
	comp=E,28nm,0.3s,baz=78,slow=19,SNR=331						
ASAJ				S	Sn	14 12 27.4	+10
	comp=E,13nm,0.3s,baz=310,slow=6.7,SNR=3.9						
ASAJ				LR	LR	14 13 03.7	
	comp=E,277nm,20.9s,baz=98,slow=41						
JSE	**Soyaes**	**3.49**	**287**	P	**Pn**	**14 11 41.2**	**+1.8**
JFR	**Furan**	**3.52**	**257**	P	**Pn**	**14 11 42.4**	**+2.5**
JEM	**Erimo**	**3.64**	**238**	P	**Pn**	**14 11 44.0**	**+2.5**
ERM	**Erimo**	**3.64**	**238**	*e*Pn	**Pn**	**14 11 44.0**	**+2.4**
ERM	**Erimo**	**3.64**	**238**	*c i* PN	**Pn**	**14 11 44.0**	**+2.4**
JNBK	**Urakawa-nobuka**	**3.75**	**244**	P	**Pn**	**14 11 43.5**	**+0.4**
JHR	**Hokuryu**	**4.03**	**268**	P	**Pn**	**14 11 50.2**	**+3.3**
JWK2	**Keihoku**	**4.05**	**290**	P	**Pn**	**14 11 50.3**	**+3.2**
YSS	**Yuzh-Sakhalins**	**4.32**	**314**	*e*Pn	**Pn**	**14 11 52.2**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.32**	**314**	‖ *e*PN	**Pn**	**14 11 52.3**	**+1.6**
YSS				*e*S	**Sn**	**14 12 38.7**	**-1.1**
YSS				pmax	pmax		
	comp=Z,160nm,0.7s						
YSS				smax	smax		
	comp=N,170nm,0.9s						
YSS				smax	smax		

comp=E,140nm,1.0s
YSS MLR MLR
comp=Z,300nm,10.0s
YSS Yuzh-Sakhalins 4.32 314 *e*P **Pn 14 11 52.0 +1.2**
YSS AMB AMB 14 11 52.9
comp=Z,100nm,0.6s
YSS AMB AMB 14 11 52.9
comp=Z,130nm,0.6s
YSS *e*S **Sn 14 12 40.6 +0.8**
YSS A A 14 12 43.1
comp=Z,200nm,0.8s
YSS A A 14 12 43.1
comp=Z,260nm,0.8s
UGL Uglegorsk 6.19 326 PN **Pn 14 12 19.6 +3.3**
UGL *e*S **Sn 14 13 28.8 +3.2**
UGL pmax pmax
comp=Z,35nm,0.6s
UGL smax smax
comp=N,96nm,1.0s
UGL MLR MLR
comp=Z,2μm,23.0s
UGL MLR MLR
comp=E,600nm,16.0s
UGL Uglegorsk 6.19 326 *e*P **Pn 14 12 19.3 +3.0**
UGL AMB AMB 14 12 22.1
comp=E,40nm,0.5s
UGL *e*S **Sn 14 13 26.2 +0.6**
UGL A A 14 13 36.3
comp=E,40nm,0.7s
UGL A A 14 13 36.3
comp=E,80nm,0.7s
TYV Tymovskoe 7.51 337 *e*PN **Pn 14 12 37.0 +2.6**
TYV *e*S **Sn 14 13 58.6 +0.7**
TYV pmax pmax
comp=Z,10.0nm,0.9s
TYV pmax pmax
comp=Z,100nm,2.9s
TYV smax smax
comp=E,12nm,0.9s
TYV Tymovskoe 7.51 337 *e*P **Pn 14 12 37.0 +2.6**
TYV AMB AMB 14 12 37.7
comp=E,30nm,0.9s
TYV AMB AMB 14 12 40.0
comp=E,100nm,3.0s
TYV *e*S **Sn 14 13 58.6 +0.7**
TYV A A 14 14 01.3
comp=E,10.0nm,0.9s
TEY Ternei 7.70 281⇓ *e*PN **Pn 14 12 39.9 +3.0**
TEY pmax pmax
comp=Z,10.0nm,0.8s
TEY Ternei 7.70 281 *e*P **Pn 14 12 39.9 +3.0**
TEY AMB AMB 14 12 41.3
comp=Z,40nm,0.9s
SKR Severo-Kuril's 8.95 39 *e*PN **Pn 14 12 53.7 -0.2**
SKR pmax pmax
comp=Z,57nm,2.0s
SKR pmax pmax
comp=Z,200nm,5.5s
SKR MLR MLR
comp=Z,100nm,15.0s
SKR Severo-Kuril's 8.95 39 *e*P **Pn 14 12 54.2 +0.3**
SKR AMB AMB 14 12 58.4
comp=Z,200nm,6.0s
SKR *e*S **Sn 14 14 30.2 -2.8**
PAU Pauzhetka 9.81 37 *e*P **Pn 14 13 05.0 -0.7**
PAU *e*S **Sn 14 14 51.6 -2.5**
GRNR Gornyy 9.97 316 *e*PN **Pn 14 13 10.8 +2.8**
GRNR pmax pmax
comp=Z,8.0nm,0.8s
GRNR Gornyy 9.97 316 *e*P **Pn 14 13 10.8 +2.8**
GRNR AMB AMB 14 13 12.8
comp=Z,10.0nm,1.0s
NKL Nikolayevsk 10.11 337 *e*PN **Pn 14 13 12.0 +2.2**
NKL pmax pmax
comp=N,33nm,1.1s
NKL pmax pmax
comp=Z,66nm,1.1s
NKL Nikolayevsk 10.11 337 *e*P **Pn 14 13 12.0 +2.2**
NKL AMB AMB 14 13 13.5
comp=Z,20nm,1.0s
MAJO Matsushiro 10.20 226 *e*Pn **Pn 14 13 11.8 +0.6**
MAJO Matsushiro 10.20 226 *i* PN **Pn 14 13 13.5 +2.3**
MAJO pmax pmax
comp=Z,9.0nm,0.9s
MJAR Matsushiro Arr 10.20 226 *e*Pn **Pn 14 13 11.8 +0.7**
MJAR Matsushiro Arr 10.20 226 *e*PN **Pn 14 13 11.9 +0.7**
MJAR Matsushiro Arr 10.20 226 P **Pn 14 13 11.5 +0.3**
comp=Z,0.1nm,0.3s,baz=29,slow=12,SNR=10
MJAR LR LR 14 17 20.0
comp=Z,34nm,18.1s,baz=80,slow=38
MJB9 Matsu-Tunnel 10.20 226 *e*Pn **Pn 14 13 11.9 +0.7**
USA0B Ussuriysk Arra 11.00 276 *e*Pn **Pn 14 13 22.1 +0.1**
USRK Ussuriysk Ar. 11.00 276 P **Pn 14 13 22.5 +0.5**
comp=Z,0.3nm,0.3s,baz=85,slow=11,SNR=4.5
USRK LR LR 14 17 39.6
comp=Z,89nm,18.9s,baz=155,slow=38
PEA0B Petropavlovsk- 11.39 34 *e*Pn **Pn 14 13 27.1 -0.2**
PETK Petropavlovsk- 11.39 34 *e*Pn **Pn 14 13 26.6 -0.6**
PETK Petropavlovsk- 11.39 34 P **Pn 14 13 26.8 -0.4**
comp=Z,0.6nm,0.3s,baz=185,slow=9.1,SNR=16
PET Petropavlovsk 11.72 36 *e*Pn **Pn 14 13 30.1 -1.6**
PET Petropavlovsk 11.72 36 *e*PN **Pn 14 13 30.1 -1.6**
PET Petropavlovsk 11.72 36 *e*P **Pn 14 13 30.2 -1.5**
INU Inuyama 11.73 226 *e*Pn **Pn 14 13 30.6 -1.4**
KLR Kul'dur 11.87 301 P **Pn 14 13 36.4 +2.5**
comp=Z,0.4nm,0.3s,baz=106,slow=15,SNR=12
KLR LR LR 14 18 22.8
comp=Z,50nm,21.4s,baz=146,slow=39
KLR Kul'dur 11.87 301 *e*P **Pn 14 13 35.9 +2.1**
EKMR Ekimchan 13.09 319 *e*P **Pn 14 13 51.5 +1.1**
EKMR AMB AMB 14 13 54.0
comp=Z,10.0nm,0.8s
BMKR Bomnak 16.02 318 *e*P **Pn 14 14 28.4 +0.1**
BMKR AMB AMB 14 14 32.0
comp=Z,8.0nm,0.9s
KSRS Korea Array 16.06 252 P **Pn 14 14 28.2 -0.8**
comp=Z,0.2nm,0.3s,baz=59,slow=11,SNR=7.1
KSRS LR LR 14 20 08.6
comp=Z,31nm,20.8s,baz=55,slow=35
KS15 Wonju Array Si 16.10 252 *e*Pn **Pn 14 14 28.6 -0.8**
comp=Z,50nm,1.9s
KSAR Wonju Array Be 16.10 252 *e*Pn **Pn 14 14 27.7 -1.7**
KSAR Wonju Array Be 16.10 252 *e*P **Pn 14 14 27.7 -1.7**
ZEA Zeya 16.31 314 *e*P **P 14 14 33.8 0.0**
ZEA pmax pmax
comp=Z,14nm,1.2s
ZEA Zeya 16.31 314 *e*P **Pn 14 14 31.8 -0.2**
ZEA AMB AMB 14 14 39.6
comp=Z,10.0nm,1.0s
KROS Kirovskiy 16.79 315 *e*P **Pn 14 14 34.0 -4.0**
KROS AMB AMB 14 14 38.0
comp=Z,9.0nm,1.0s
JNU Nakatsue 16.80 235 *e*Pn **Pn 14 14 36.9 -1.4**
comp=Z,19nm,1.4s
JNU Nakatsue 16.80 235 P **Pn 14 14 38.9 +0.6**
comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=2.7
JNU LR LR 14 20 36.9
comp=Z,42nm,19.5s,baz=198,slow=35
SEY Seymchan 19.16 7 *i* P **Pn 14 15 06.3 -0.3**
SEY Seymchan 19.16 7 P **P 14 15 04.2 -0.8**
comp=Z,0.3nm,0.3s,baz=174,slow=9.5,SNR=6.5
SEY Seymchan 19.16 7 *e*P **Pn 14 15 06.3 -0.3**
HIA Hailar 19.56 295 *e*P **P 14 15 07.2 -2.3**
comp=Z,5.1nm,0.7s
HIA Hailar 19.56 295 *e*P **P 14 15 07.3 -2.3**
HIA pmax pmax
comp=Z,5.0nm,0.7s
HHC Hu-ho-hao-te 26.42 276 *e*P **P 14 16 18.3 +0.6**
HHC S **S 14 20 40.5 -5.6**
HHC pmax pmax
comp=Z,68nm,0.8s
HHC pmax pmax
comp=Z,160nm,4.0s
HHC LR LR
comp=Z,790nm,9.1s
HHC LR LR
comp=Z,690nm,10.7s
HHC LR LR
comp=Z,700nm,9.2s
ULN Ulaanbaatar 28.01 292 *i* P **P 14 16 33.5 +1.6**
ULN pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 28.01 292 *e*P **P 14 16 33.5 +1.6**
SONM Songino Array 28.45 292 P **P 14 16 35.0 -0.8**
comp=Z,2.3nm,0.6s,baz=69,slow=7.9,SNR=13
SONM LR LR 14 28 28.2
comp=Z,41nm,21.0s,baz=202,slow=37
WHN Wuhan 29.25 254 P P 14 16 55.3 +12
H11N2 WAKE ISLAND Hy 29.26 140 T T 14 47 29.8
baz=331,slow=75,SNR=964
H11N1 WAKE ISLAND Hy 29.27 140 T T 14 47 30.7
baz=331,slow=75,SNR=1267
H11N3 WAKE ISLAND Hy 29.27 140 T T 14 47 31.1
baz=331,slow=75,SNR=935
H11S1 WAKE ISLAND Hy 30.23 141 T T 14 48 41.3
baz=332,slow=76,SNR=1968
H11S3 WAKE ISLAND Hy 30.24 141 T T 14 48 39.8
baz=332,slow=76,SNR=1099
H11S2 WAKE ISLAND Hy 30.25 141 T T 14 48 42.3
baz=332,slow=76,SNR=1290
LZH Lanzhou 33.86 272 *e*P **P 14 17 24.6 +1.1**
LZH pP pP 14 17 41.8 +1.3
LZH sP sP 14 17 50.6 +1.9
LZH PP **PnPn 14 18 37.7 -0.5**
LZH pmax pmax
comp=Z,20nm,1.2s
LZH pmax pmax
comp=Z,64nm,4.8s
GTA Gaotai 35.34 279 *e*P **P 14 17 37.1 +0.9**
GTA pP pP 14 17 50.8 -2.5
GTA sP sP 14 17 55.9 -5.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
CD2 Chengdu 36.53 264 *e*P **P 14 17 45.0 -1.4**
IMAR Indian Mountai 38.35 34 *e*P **P 14 18 01.8 +0.5**
CAST Castle Rocks 38.94 39 *e*P **P 14 18 07.2 +0.9**
comp=Z,3.6nm,1.0s
KDAK Kodiak Island 38.98 48 *e*P **P 14 18 06.6 0.0**
comp=Z,13nm,0.6s
KDAK Kodiak Island 38.98 48 *e*P **P 14 18 06.6 0.0**
KDAK pmax pmax
comp=Z,13nm,0.6s
SUA Susitna One 39.61 42 *e*P **P 14 18 11.8 -0.2**
comp=Z,1.9nm,0.6s
RC01 Rabbit Creek A 40.12 42 *e*P **P 14 18 16.1 0.0**
comp=Z,5.0nm,0.8s
TOLK Toolik Lake Re 40.19 30 *e*P **P 14 18 16.2 -0.4**
comp=Z,10nm,1.8s
WRH Wood River Hil 40.69 37 *e*P **P 14 18 21.4 +0.7**
comp=Z,8.6nm,1.6s
KNK Knik Glacier 40.71 42 *e*P **P 14 18 21.4 +0.4**
comp=Z,6.9nm,1.3s
SML Sawmill 40.74 41 *e*P **P 14 18 21.4 +0.2**
comp=Z,8.8nm,0.7s
SML Sawmill 40.74 41 *e*P **P 14 18 21.4 +0.2**
SML pmax pmax
comp=Z,9.0nm,0.7s
ZALV Zalesovo Beam 40.90 307 P **P 14 18 22.3 -0.3**
ZALV 14 20 22.4
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV MLR MLR
comp=Z,17nm,19.3s
ZALV Zalesovo Beam 40.90 307 P **P 14 18 22.3 -0.3**
comp=Z,0.6nm,0.4s,baz=70,slow=4.7,SNR=2.8
ZALV PcP **PcP 14 20 22.4 +0.6**
comp=Z,0.6nm,0.3s,baz=90,slow=3.0,SNR=3.8
ZALV LR LR 14 37 48.7
comp=Z,17nm,19.3s,baz=66,slow=40
DHY Denali Highway 41.08 39 *e*P **P 14 18 24.4 +0.2**
comp=Z,7.5nm,1.4s
HDA Harding Lake 41.19 37 *e*P **P 14 18 24.7 -0.1**
comp=Z,2.3nm,0.9s
ILAR Eielson Array 41.20 36 *e*P **P 14 18 25.2 +0.3**
ILAR pP **pP 14 18 43.9 +1.6**
ILAR Eielson Array 41.20 36 P **P 14 18 25.5 +0.7**
comp=Z,0.9nm,0.5s,baz=268,slow=7.5,SNR=14
ILAR pP **pP 14 18 43.9 +1.6**
comp=Z,0.8nm,0.9s,baz=254,slow=6.5,SNR=2.8
WMQ Urumqi 42.08 291 *e*P **P 14 18 33.2 +0.8**
WMQ LR LR
comp=Z,510nm,39.1s
WMQ LR LR
comp=Z,270nm,27.1s
RIDG Independent Ri 42.16 38 *e*P **P 14 18 33.2 +0.4**
comp=Z,14nm,1.7s
SCRK Sand Creek 42.52 37 *e*P **P 14 18 35.7 -0.1**
comp=Z,2.8nm,0.9s
DOT Dot Lake 42.52 38 *e*P **P 14 18 35.8 +0.2**
BCAR Beaver Creek A 43.61 39 *e*P **P 14 18 45.1 +0.5**
BALM Baldy 43.69 42 *e*P **P 14 18 46.0 +0.7**
comp=Z,3.7nm,0.8s
BALM Baldy 43.69 42 *e*P **P 14 18 46.0 +0.7**
BALM pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 44.54 297 *e*P **P 14 18 51.2 -0.9**
comp=Z,2.4nm,0.6s
MK31 Makanchi Array 44.54 297 *e*P **P 14 18 51.2 -0.9**
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 44.54 297 *e*P **P 14 18 51.4 -0.8**
MKAR pP **pP 14 19 08.1 -1.6**
MKAR Makanchi Array 44.54 297 P **P 14 18 51.9 -0.3**
comp=Z,1.5nm,0.5s,baz=80,slow=9.2,SNR=20
MKAR pP **pP 14 19 08.1 -1.6**
comp=Z,0.6nm,0.5s,baz=81,slow=10,SNR=2.7
MKAR LR LR 14 38 25.6
comp=Z,33nm,18.1s,baz=106,slow=37
EPYK Eagle Plains 45.23 33 *e*P **P 14 18 58.2 +0.8**
comp=Z,7.5nm,1.0s
KURK Kurchatov 45.45 304 *e*P **P 14 18 58.1 -1.2**
comp=Z,2.4nm,0.6s
KURK Kurchatov 45.45 304 *i* P **P 14 19 02.5 +3.3**
KURK pmax pmax
comp=Z,2.0nm,0.4s
KURK Kurchatov 45.45 304 *e*P **P 14 19 02.5 +3.3**
HYT Haines Junctio 46.05 41 *e*P **P 14 19 04.9 +0.9**
comp=Z,5.8nm,0.8s
INK Inuvik 46.10 30 *e*P **P 14 19 04.4 +0.3**
comp=Z,3.3nm,0.4s
INK Inuvik 46.10 30 *e*P **P 14 19 04.4 +0.3**
INK pmax pmax
comp=Z,3.0nm,0.4s
CMMT Chiang Mai 47.45 254 P **P 14 19 16.6 +1.2**
comp=Z,2.9nm,0.7s
CHTO Chiang Mai 47.46 254 *e*P **P 14 19 15.9 +0.5**
comp=Z,3.6nm,0.6s
CHTO Chiang Mai 47.46 254 *e*P **P 14 19 15.9 +0.5**
CHTO pmax pmax
comp=Z,4.0nm,0.6s
CMAR Chiang Mai Arr 47.70 253 *e*P **P 14 19 17.9 +0.7**
CMAR Chiang Mai Arr 47.70 253 *e*P **P 14 19 18.0 +0.7**
CMAR Chiang Mai Arr 47.70 253 P **P 14 19 18.2 +1.0**
comp=Z,1.7nm,0.7s,baz=43,slow=7.2,SNR=15
CMAR LR LR 14 40 45.7
comp=Z,15nm,18.1s,baz=145,slow=38
BVAR Borovoye Array 49.40 309 LR LR 14 42 32.7
comp=Z,9.1nm,19.6s,baz=334,slow=39
OTUK Ortayu 50.18 303 P **P 14 19 35.9 0.0**
JIRN Jiri 51.02 273 *e*P **P 14 19 43.5 +0.6**
comp=Z,16nm,0.4s
RAMN Ramite 51.14 272 *e*P **P 14 19 43.9 +0.3**
comp=Z,16nm,0.3s
KKN Kakani 51.60 273 *e*P **P 14 19 47.6 +0.6**
PKI Pulchoki 51.63 273 *e*P **P 14 19 47.6 +0.2**
PKIN Phulchoki 51.64 273 *e*P **P 14 19 47.4 0.0**
KSH Kashi 51.85 291 P **P 14 19 51.7 +3.1**
KSH pP pP 14 20 11.6 +5.0
KSH S **S 14 27 08.3 +2.5**
KSH ScS **ScS 14 29 30.4 -1.7**
KSH pmax pmax
comp=Z,8.0nm,0.3s
KSH LR LR
comp=Z,120nm,9.8s
KSH LR LR
comp=Z,120nm,7.4s
KSH LR LR
comp=Z,200nm,6.4s
GKN Gorkha 51.94 274 *e*P **P 14 19 49.9 +0.4**
comp=Z,12nm,0.3s
DANN Dangsing 52.37 275 *e*P **P 14 19 53.7 +0.9**
comp=Z,45nm,0.7s
KOLN Koldanda 52.82 274 *e*P **P 14 19 56.7 +0.6**
comp=Z,10.0nm,0.3s
ARSB Arslanbob 52.94 295 *e*P **P 14 19 57.4 +0.6**
comp=Z,8.7nm,0.8s
PYUN Piuthan 53.06 275 *e*P **P 14 19 58.2 +0.3**
comp=Z,17nm,0.4s
KK31 Karatay Array 53.66 298 *e*P **P 14 20 01.6 -0.3**
comp=Z,4.7nm,1.2s
KK31 Karatay Array 53.66 298 *e*P **P 14 20 01.6 -0.3**
KK31 pmax pmax
comp=Z,5.0nm,1.2s
KKAR Karatay Array 53.66 298 *e*P **P 14 20 01.4 -0.5**
KKAR Karatay Array 53.66 298 *e*P **P 14 20 01.4 -0.5**
RES Resolute Bay 54.66 17 *e*P **P 14 20 07.1 -1.5**
comp=Z,2.7nm,0.9s
RES Resolute Bay 54.66 17 *e*P **P 14 20 07.1 -1.5**
RES pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 55.51 34 P **P 14 20 15.7 +0.9**
comp=Z,1.1nm,0.6s,baz=300,slow=6.9,SNR=19
YKA pP **pP 14 20 33.0 +0.1**
comp=Z,0.8nm,0.7s,baz=299,slow=6.8,SNR=4.6
GAR Garm 55.88 294 *e*P **P 14 20 17.9 -0.2**
comp=Z,24nm,1.2s
GAR Garm 55.88 294 *e*P **P 14 20 17.9 -0.2**
GAR pmax pmax
comp=Z,24nm,1.2s
NIL Nilore 56.80 287 *e*P **P 14 20 24.9 +0.3**
comp=Z,14nm,0.9s
NIL Nilore 56.80 287 *e*P **P 14 20 24.9 +0.3**
NIL pmax pmax
comp=Z,14nm,0.9s
ABKAR Akbulak array 56.96 309 *e*P **P 14 20 24.4 -0.9**
AKTO Aktyubinsk 57.42 311 LR LR 14 45 17.2
comp=Z,17nm,20.4s,baz=102,slow=36
ARCES ARCESS Array B 59.01 340 P **P 14 20 38.5 -0.9**
comp=Z,8.1nm,1.1s,baz=70,slow=4.0,SNR=3.7
GEYT Alibeck 64.39 299 P **P 14 21 15.6 -0.5**
comp=Z,2.8nm,0.4s,baz=82,slow=3.1,SNR=4.7
FINES FINESS Array B 64.66 333 P **P 14 21 16.5 -0.9**
comp=Z,2.5nm,0.6s,baz=24,slow=4.4,SNR=15
WRA Warramunga Arr 64.76 193 P **P 14 21 18.9 +0.3**
comp=Z,2.0nm,0.9s,baz=8.5,slow=6.8,SNR=9.9
BEKR Beckworth 65.20 58 *e*P **P 14 21 22.0 +0.4**
comp=Z,2.9nm,0.8s
HRY Holter Researc 65.86 48 *e*P **P 14 21 26.4 +0.8**
EGMT Eagleton 66.12 46 *e*P **P 14 21 27.7 +0.5**
comp=Z,4.5nm,0.8s
PNTR Pine Nut 66.14 58 *e*P **P 14 21 28.2 +0.5**
comp=Z,3.6nm,0.8s
YERR Yerington 66.42 58 *e*P **P 14 21 30.3 +0.8**
comp=Z,7.8nm,0.4s
BOZ Bozeman (W) 66.68 49 *e*P **P 14 21 31.7 +0.8**
comp=Z,4.4nm,0.7s
BOZ Bozeman (W) 66.68 49 *e*P **P 14 21 31.7 +0.8**
BOZ pmax pmax
comp=Z,4.0nm,0.7s
KVN Kaiserville 67.08 57 *e*P **P 14 21 34.6 +1.0**
comp=Z,4.5nm,0.9s
KVN Kaiserville 67.08 57 *e*P **P 14 21 34.6 +1.0**
KVN pmax pmax
comp=Z,5.0nm,0.9s
NVAR Mina Array Bea 67.34 58 *e*P **P 14 21 36.1 +0.7**
NVAR pP **pP 14 21 55.4 +1.4**
NVAR Mina Array Bea 67.34 58 P **P 14 21 36.5 +1.2**
comp=Z,2.6nm,0.6s,baz=294,slow=7.2,SNR=28
NVAR pP **pP 14 21 55.4 +1.4**
comp=Z,0.6nm,0.6s,baz=309,slow=6.0,SNR=2.8
YHH Holmes Hill 67.62 49 *e*P **P 14 21 37.9 +0.8**
comp=Z,2.5nm,1.0s
FXWY Fox Creek 68.27 50 *e*P **P 14 21 42.1 +1.0**
comp=Z,11nm,1.9s
MOOW Moose Ponds 68.35 50 *e*P **P 14 21 42.8 +1.2**
comp=Z,4.7nm,1.3s
TPAW Teton Pass 68.40 50 *e*P **P 14 21 43.2 +1.2**
comp=Z,4.6nm,0.9s
ASAR Alice Springs 68.48 193 P **P 14 21 43.2 +1.0**
comp=Z,1.0nm,0.8s,baz=11,slow=6.0,SNR=9.0
REDW Red Top Meadow 68.54 50 *e*P **P 14 21 43.9 +1.0**
comp=Z,3.0nm,0.9s
R11A Troy Canyon, C 69.04 57 *e*P **P 14 21 46.5 +0.6**
comp=Z,1.5nm,0.8s
NB2 NORSAR Subarra 69.37 339 P **P 14 21 46.3 -1.1**
comp=Z,0.7nm,0.3s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.37 339 P **P 14 21 46.2 -1.1**
NOA NORSAR Array B 69.37 339 P **P 14 21 46.6 -0.8**
comp=Z,0.7nm,0.4s,baz=31,slow=6.4,SNR=8.3
KIV Kislovodsk 69.64 312 *e*P **P 14 21 49.5 +0.1**
comp=Z,16nm,0.7s
KIV Kislovodsk 69.64 312⇑ *i*P **P 14 21 50.8 +1.4**
KIV Kislovodsk 69.64 312 *e*P **P 14 21 49.5 +0.1**
KIV pmax pmax
comp=Z,16nm,0.7s
KIV Kislovodsk 69.64 312 *e*P **P 14 21 49.5 +0.1**
BW06 Boulder Array 69.65 50 *e*P **P 14 21 49.0 -0.7**
comp=Z,17nm,2.0s
PD31 Pinedale Array 69.65 50 *e*P **P 14 21 50.0 +0.4**
comp=Z,2.9nm,1.0s
PDAR Pinedale Array 69.65 50 *e*P **P 14 21 49.9 +0.2**
PDAR Pinedale Array 69.65 50 P **P 14 21 50.2 +0.6**
comp=Z,1.3nm,0.5s,baz=277,slow=1.4,SNR=21
KBZ Khabaz 69.68 312 P **P 14 21 50.4 +0.9**
comp=Z,12nm,0.8s,baz=67,slow=4.6,SNR=31
ZEI Tsey 69.76 310 *e*P **P 14 21 48.9 -1.4**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
MTPU Mount Pierson 71.28 55 *e*P **P 14 22 00.9 +1.1**
comp=Z,1.9nm,0.6s
AKASG Malin Array Be 71.40 324 P **P 14 21 59.5 -0.4**
comp=Z,1.7nm,0.4s,baz=38,slow=6.3,SNR=2.9
SRU San Rafael Swe 71.53 53 *e*P **P 14 22 01.6 +0.5**
comp=Z,7.1nm,1.1s
SRU San Rafael Swe 71.53 53 *e*P **P 14 22 01.6 +0.5**
SRU pmax pmax
comp=Z,7.0nm,1.1s
BATM Batumi 71.77 310⇓ *i*P **P 14 22 02.5 +0.3**
BCA Borcka 71.92 310⇑ *i*P **P 14 22 03.3 +0.1**
U15A North Rim 72.28 56 *e*P **P 14 22 06.2 +0.5**
comp=Z,2.4nm,0.8s
PV17 East Wray Mesa 73.00 53 *e*P **P 14 22 10.6 +0.7**
comp=Z,6.5nm,0.6s
PV13 Radium Mtn., P 73.16 53 *e*P **P 14 22 11.7 +0.8**
comp=Z,20nm,1.7s
X16A Lo Mia Camp, P 74.14 57 *e*P **P 14 22 17.8 +1.1**
comp=Z,2.9nm,0.6s
BUR08 Bucovina Ar. S 75.44 324 *e*P **P 14 22 23.8 -0.1**
comp=Z,6.3nm,0.6s
BURAR Bucovina Array 75.46 324 *e*P **P 14 22 23.7 -0.2**
comp=Z,68nm,0.8s
BURAR Bucovina Array 75.46 324⇓ *i*P **P 14 22 24.1 +0.2**
BURAR Bucovina Array 75.46 324 *e*P **P 14 22 23.7 -0.2**
BURAR pmax pmax
comp=Z,68nm,0.8s
KOLS Kolonicke sedl 75.65 326 *e*P **P 14 22 25.2 +0.4**
KOLS pmax pmax
comp=Z,7.0nm,1.2s
KOLS Kolonicke sedl 75.65 326 *e*P **P 14 22 25.2 +0.4**
TESR Tescani 75.69 322⇑ *i*P **P 14 22 25.1 0.0**
TLCR 75.72 320⇑ *i*P **P 14 22 25.7 +0.4**
CFR Carcaliu 76.04 320⇑ *i*P **P 14 22 27.3 +0.2**
VRI Vrincioaia 76.15 322⇓ *i*P **P 14 22 28.6 +0.8**
TRPA Tarpa 76.17 325⇑ *i*P P 14 22 18.0 -10
LANS Liptovska Anna 76.58 328 *e*P **P 14 22 31.8 +1.7**
LANS Liptovska Anna 76.58 328 *e*P **P 14 22 31.8 +1.7**
DOPR Dopca 76.67 323⇑ *i*P P 14 22 40.5 +10
LAZ Ladron 76.73 55 *e*P **P 14 22 32.7 +1.2**
MLR Muntele Rosu 76.79 322⇓ *i*P **P 14 22 32.2 +0.7**
MORC Moravsky Berou 76.79 329 *e*P **P 14 22 31.3 -0.1**
comp=Z,5.4nm,0.9s
MORC Moravsky Berou 76.79 329⇓ *i*P **P 14 22 31.4 +0.1**
MORC Moravsky Berou 76.79 329 *e*P **P 14 22 31.3 -0.1**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 76.79 329 *e*P **P 14 22 31.4 +0.1**
CLL Collm 77.10 333 *e*P **P 14 22 32.5 -0.4**
comp=Z,9.2nm,0.5s
CLL Collm 77.10 333⇓ *i*P **P 14 22 32.6 -0.4**
CLL pmax pmax
comp=Z,8.0nm,0.6s
CLL Collm 77.10 333⇓ *i*P **P 14 22 32.6 -0.4**
comp=Z,8.0nm,0.6s
DRGR 77.17 325⇓ *i*P **P 14 22 34.1 +0.6**
VYHS Vyhne 77.35 328 *e*P **P 14 22 34.9 +0.4**
VYHS pmax pmax
comp=Z,5.0nm,1.5s
VYHS Vyhne 77.35 328 *e*P **P 14 22 34.9 +0.4**
BR131 Keskin Array S 77.42 314 *e*P **P 14 22 35.0 -0.2**
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 77.42 314 *e*P **P 14 22 34.9 -0.2**
BRTR Keskin Array B 77.42 314 *e*P **P 14 22 34.9 -0.2**
BRTR Keskin Array B 77.42 314 P **P 14 22 35.7 +0.5**
comp=Z,2.1nm,0.6s,baz=63,slow=4.0,SNR=13
JAVC Velka Javorina 77.50 329 *e*P **P 14 22 36.8 +1.5**
VRAC Vranov 77.53 329⇑ *i*P **P 14 22 36.2 +0.8**

VRAC	Vranov	77.53	329	eP	P	14 22 35.9 +0.5
KRUC	Moravsky	77.80	329	eP	P	14 22 37.4 +0.4
SIRR	Siria	78.02	325 ⇓	iP	P	14 22 39.0 +0.7
GZR	Gura Zlata	78.25	324 ⇓	iP	P	14 22 39.7 +0.1
KHC	Kasperske Hory	78.75	331	eP	P	14 22 41.7 -0.6
	comp=Z,3.1nm,0.7s					
KHC	Kasperske Hory	78.75	331	eP	P	14 22 42.0 -0.3
KHC	Kasperske Hory	78.75	331	eP	P	14 22 42.0 -0.3
CONA	Conrad Observa	78.94	329	i P	P	14 22 44.3 +0.9
	comp=Z,3.4nm,0.6s					
GERES	GERESS Array B	78.95	331	P	P	14 22 43.4 0.0
GERES				pmax	pmax	
	comp=Z,1.0nm,0.4s					
GERES	GERESS Array B	78.95	331	P	P	14 22 43.4 0.0
	comp=Z,1.6nm,0.5s,baz=19,slow=4.5,SNR=8.5					
MNTX	Cornudas Mount	79.68	56	eP	P	14 22 48.1 +0.5
	comp=Z,2.1nm,0.8s					
MEM	Membach	79.90	336	⇓P	P	14 22 48.1 -0.3
VTS	Vitosha	80.25	322	eP	P	14 22 50.1 -0.6
	comp=Z,5.4nm,0.8s					
VTS	Vitosha	80.25	322	⇓iP	P	14 22 51.1 +0.4
VTS	Vitosha	80.25	322	eP	P	14 22 50.1 -0.6
VTS				pmax	pmax	
	comp=Z,5.0nm,0.8s					
BCLA	Clavier	80.27	336	⇑P	P	14 22 49.7 -0.7
KBA	Koelnbreinsper	80.58	330	i P	P	14 22 53.2 +0.8
	comp=Z,6.5nm,0.7s					
WATA	Walderalm	80.98	331	i PcP	P	14 22 55.8 +1.3
	comp=Z,4.1nm,0.4s					
WTTA	Wattenberg	81.03	331	i P	P	14 22 55.2 +0.5
	comp=Z,7.8nm,0.4s					
PDG	Podgorica	82.14	324 ⇓	iP	P	14 23 00.1 -0.3
TX31	Lajitas Ar. Si	82.41	56	eP	P	14 23 02.4 +0.2
	comp=Z,4.4nm,0.8s					
TXAR	Lajitas Array	82.41	56	eP	P	14 23 02.5 +0.3
TXAR				pP	pP	14 23 21.3 -0.2
TXAR	Lajitas Array	82.41	56	P	P	14 23 03.2 +0.9
	comp=Z,2.6nm,0.5s,baz=300,slow=3.9,SNR=26					
TXAR				pP	pP	14 23 21.3 -0.2
	comp=Z,0.9nm,0.6s,baz=296,slow=4.1,SNR=2.9					

*ISK **08** 14:16:26.3, 36.°47N×33.°88E, h2km, ML1.9*
*DDA **08** 14:16:27.2, 36.°40N×33.°94E, h7km±1km, ML2.5*

ISC 08 14:16:27.3±0.8, 36.°42N±0.°04×33.°90E±0.°04, h12km±5km, n21, σ0.°59/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLFK	Silifke-Mersin	0.04	124	PG	Pg	14 16 28.5	-1.1
SILI	Silifke-Mersin	0.05	160	PG	Pg	14 16 29.1	-0.6
SILI				SG	Sg	14 16 30.8	-0.6
KIZK	Mersin	0.20	72	PG	Pg	14 16 31.7	-0.1
KIZK				SG	Sg	14 16 35.4	+0.5
KIZK	Mersin	0.20	72	i P	Pg	14 16 32.2	+0.4
KIZK				i S	Sg	14 16 35.0	+0.2
IKL	Isikli	0.25	224	PG	Pb	14 16 33.0	-0.8
IKL				SG	Sb	14 16 37.9	+1.8
KARG	Kargicak-Mersi	0.27	216	PG	Pg	14 16 33.2	+0.4
KARG				SG	Sb	14 16 38.3	-0.2
TISA	Tisan-Mersin	0.31	215	PG	Pg	14 16 33.8	+0.1
TISA				SG	Sb	14 16 39.7	-0.2
TEPE	Tepekoy-Mersin	0.34	234	PG	Pg	14 16 34.1	-0.1
TEVE	Tevekalti-Mers	0.37	273	PG	Pg	14 16 34.4	-0.4
GULN	MERSIN_Gulnar	0.37	231	i P	Pg	14 16 35.1	+0.4
GULN				i S	Sb	14 16 41.5	-0.1
AKKU	Akkuyu-Mersin	0.38	228	PG	Pb	14 16 35.6	-0.5
AKK2	Akkuyu-Mersin	0.40	226	PG	Pg	14 16 35.1	-0.2
AKK1	Akkuyu-Mersin	0.40	227	PG	Pg	14 16 35.2	-0.1
BERE	Bereket-Mersin	0.55	263	PG	Pg	14 16 37.8	-0.4
MERS	Mersin	0.67	48	PG	Pg	14 16 40.1	-0.3
TEKE	Tekeli-Mersin	0.69	247	PG	Pg	14 16 40.6	-0.2
EREN	Erenkoy	0.91	166	PG	Pb	14 16 45.3	+0.2
KERG	Konya-Eregli	1.01	10	IAML_P			
	comp=Z,162nm,0.2s						
KERG				i P	Pb	14 16 47.1	+0.2
KERG				i S	Sn	14 17 01.8	+0.1
GULE	Gulek	1.11	39	IAML_P			
	comp=Z,618nm,0.2s						
GULE				i P	Pn	14 16 48.8	-0.2
GULE				i S	Sb	14 17 03.9	+0.7
KARA	Karaisali	1.25	47	PN	Pg	14 16 50.5	-0.9
GAZI	Gazipasa	1.29	262	PN	Pn	14 16 51.6	+0.4

MAN 08 14:22:53.9, 8.°16N×123.°23E, h34km, mb3.5, ML2.1, MS1.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	0.34	154	eP	Pn	14 23 03.9	+1.4
PAGZ				eS	Sb	14 23 10.4	+2.4
DCPH	Dipolog City	0.44	16 ⇓	eP	Pn	14 23 04.8	+1.0
IPIL	Ipil	0.75	241	eP	Pb	14 23 08.9	+0.4
IPIL				eS	Sb	14 23 19.7	+1.2

IDC 08 14:31:05.7±42.0, 15.°21S×172.°99W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/30, mbtmp4.2/3, Error ellipse: s-maj=817.8km s-min=170.8km az=78.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.47	240	P	P	14 39 18.9	0.0
	1.6nm,0.5s,baz=88,slow=11,SNR=7.5						
WRA	Warramunga Arr	50.27	257	P	P	14 40 04.0	-0.3
	0.7nm,0.6s,baz=93,slow=7.1,SNR=12						
ASAR	Alice Springs	50.54	252	P	P	14 40 06.3	-0.1
	8.3nm,0.7s,baz=88,slow=8.2,SNR=103						

*CRAAG **08** 14:41:24.0, 36.°48N×1.°57E, Ml2.9*
*ISCJB **08** 14:41:25.6±2.6, 36.°8N±0.°1×1.°50E±0.°09, h10km, Error ellipse: s-maj=19.3km s-min=8.6km az=159.0*
*MDD **08** 14:41:28.8±1.3, 36.°89N×1.°72E, h0km, mb3.4/3, Error ellipse: s-maj=26.1km s-min=8.2km az=102.0, PRXIMO SIN SOLUCIN*

ISC 08 14:41:28.1±1.6, 36.°87N±0.°06×1.°53E±0.°09, h10km, n9, σ1.°03/11, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	Beni Rached	0.57	180	P	Pg	14 41 29.5	-10
EANR	'Ain N'Sour	0.98	201	P	Pn	14 41 48.4	+0.4
EANR	'Ain N'Sour	0.98	201	P	Pn	14 41 48.4	+0.4
EIBI	Ibiza	2.16	356	P	Pn	14 42 04.5	+0.3
	2.3nm,0.1s,SNR=9.4						
EIBI				S	Sn	14 42 32.0	+0.9
	6.2nm,0.2s,SNR=8.8						
ETOS	Mallorca	3.07	19	P	Pn	14 42 15.8	-0.9
	0.7nm,0.2s,SNR=7.9						
ETOS				S	Sn	14 42 52.7	-0.8
	0.5nm,0.1s,SNR=7.9						
ECHE	Chera	3.36	325	S	Sn	14 43 01.4	+0.8
	0.3nm,0.1s,SNR=4.0						
SESP	Santiago Espad	3.47	292	S	Sn	14 43 02.5	-1.2
	1.8nm,0.1s,SNR=4.0						
EQES	Quesada	3.78	286	S	Sn	14 43 09.6	-1.6
	0.6nm,0.2s,SNR=4.0						
EMOS	Mosqueruela	3.83	336	P	Pn	14 42 28.1	+0.8
	0.6nm,0.1s,SNR=9.1						
EMOS				S	Sn	14 43 13.0	+0.5
	3.8nm,0.3s,SNR=7.9						

*GRAL **08** 14:50:15.0±0.3, 33.°79N×35.°78E, h0km±32km, MD2.7*
*NSSC **08** 14:50:16.7±0.8, 33.°67N×35.°81E, h9km±10km, ML1.4*

ISC 08 14:50:13.5±1.5, 33.°78N±0.°03×35.°79E±0.°05, h18km±3km, n7, σ0.°51/13, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.17	318	eP	Pb	14 50 17.7	+0.3
BHL				eS	Sb	14 50 19.7	-0.2
DQRL	Deir Qamar	0.20	249	eP	Pb	14 50 18.5	+0.3
DQRL				eS	Sb	14 50 21.1	0.0
RCY	Rachaya	0.28	172	eP	Pb	14 50 20.3	+0.3
RCY				eS	Sb	14 50 24.3	-0.1
BRBR	Barbar	0.39	160	eP	Pb	14 50 22.5	+0.4
BRBR				eS	Sg	14 50 26.9	-0.4
BRBR				AML	AML	14 50 31.3	
	comp=E,51nm,0.3s						
BRBR				AML	AML	14 50 32.1	
	comp=N,41nm,0.3s						
QASN	Qassioun	0.47	121	eP	Pn	14 50 25.7	+0.3
QASN				eS	Sb	14 50 30.5	+0.4
QASN				AML	AML	14 50 34.2	
	comp=E,36nm,0.3s						
QASN				AML	AML	14 50 35.8	
	comp=N,93nm,0.3s						
HWQ	Hawqa	0.52	15	eP	Pg	14 50 24.0	0.0
TOTH	TOTAH	0.68	128	eP	Pn	14 50 28.6	+0.4
TOTH				AML	AML	14 50 29.1	
	comp=N,15nm,0.3s						
TOTH				eS	Sn	14 50 37.1	-1.2
TOTH				AML	AML	14 50 44.0	
	comp=E,14nm,0.3s						

MAN 08 14:58:00.5, 13.°61N×120.°30E, h34km, mb3.8, ML2.6, MS2.1, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.13	337	eP	Pb	14 58 07.5	+0.9
LUBP				eS	Sb	14 58 12.2	+1.3
PGP	Puerto Galera	0.65	100 ⇑	eP	Pn	14 58 10.0	-3.3
PGP				i S	Sn	14 58 17.1	-5.2
SJMP	San Jose	1.40	145	eP	Pn	14 58 23.7	+0.1
SJMP				eS	Sn	14 58 40.9	0.0
BOAC	Boac	1.51	96	eP	Pn	14 58 26.2	+1.0
BOAC				eS	Sb	14 58 51.0	+4.1
BUSP	Coron	1.60	183	eP	Pn	14 58 27.4	+0.9
BUSP				eS	Sn	14 58 46.2	+0.2
ENPP	El Nido	2.54	200	eP	Pn	14 58 40.7	+1.3
ENPP				eS	Sn	14 59 04.9	-4.2
CUYO	Cuyo Island	2.83	166	eP	Pn	14 58 44.1	+0.7

*IDC **08** 14:58:02.8±0.9, 15.°33N×144.°86E, h0km, mb3.8/12, mb1 4.0/12, mb1mx3.8/37, mbtmp3.8/12, MS3.7/28, Ms1 3.7/28, ms1mx3.7/33, Error ellipse: s-maj=27.6km s-min=19.5km az=93.0*
*NEIC **08** 14:58:04.0±0.4, 15.°34N×144.°88E, h10km, mb4.7/4, Error ellipse: s-maj=12.4km s-min=8.3km az=102.0*
*ISCJB **08** 14:58:05.8±0.5, 15.°33N±0.°06×144.°83E±0.°10, h33km, mb4.0/16, MS3.7/28, Error ellipse: s-maj=13.7km s-min=8.8km az=5.8*
*GCMT **08** 14:58:07.0±0.3, 15.°28N±0.°03×144.°52E±0.°02, h13km±1km, MW4.8/74, Moment Tensor Solution. s14,c16; s74,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.87±.12; $M_{\theta\theta}$0.21±.06; $M_{\phi\phi}$1.66±.09; $M_{r\theta}$0.31±.18; $M_{\phi\theta}$-0.08±.04; $M_{\phi r}$-0.03±.16; Best double couple: $M_0$1.79100×10^{16} NP1:ϕ_s349.00000°, δ46.00000°, λ-102.00000°. NP2: ϕ_s185.00000°, δ45.00000°, λ-78.00000°. Principal axes: T 1.6650, Plg1.0000°, Azm87.0000°; N 0.2560, Plg8.0000°, Azm357.0000°; P -1.9160, Plg82.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 14:58:07.7±0.7, 15.°31N±0.°08×144.°8E±0.°1, h35km, n58, σ0.°94/31, mb3.9/16, MS3.8/28, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	Anatahan	1.32	39	eP	Pn	14 58 25.5	-4.3
SARN	Sarigan	1.65	33	ePn	Pn	14 58 32.1	-2.2
GUMO	Guam	1.71	179	ePn	Pn	14 58 33.5	-1.6
JAY	Jayapura	18.18	193	LR	LR	15 07 50.7	
	comp=Z,204nm,21.9s,baz=35,slow=32						
JHJ	Hachijo jima 2	18.31	346	LR	LR	15 08 18.7	
	comp=Z,270nm,18.8s,baz=204,slow=34						
DAV	Davao City (W)	20.58	249	LR	LR	15 08 51.6	
	comp=Z,280nm,20.6s,baz=91,slow=32						
H11S3	WAKE ISLAND Hy 21.14	78		T	T	15 25 01.7	
	baz=265,slow=75,SNR=8.6						
H11S1	WAKE ISLAND Hy 21.15	78		T	T	15 24 56.3	
	baz=265,slow=75,SNR=9.4						
H11S2	WAKE ISLAND Hy 21.16	78		T	T	15 25 06.9	
	baz=265,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy 21.47	75		T	T	15 26 13.4	
	baz=265,slow=74,SNR=7.7						
H11N2	WAKE ISLAND Hy 21.48	75		T	T	15 26 10.4	
	baz=265,slow=74,SNR=6.0						
H11N3	WAKE ISLAND Hy 21.49	75		T	T	15 25 54.6	
	baz=265,slow=74,SNR=8.4						
JNU	Nakatsue	21.79	327	LR	LR	15 09 53.1	
	comp=Z,52nm,19.2s,baz=159,slow=33						
MJAR	Matsushiro Arr	21.96	346	LR	LR	15 11 31.6	
	comp=Z,60nm,18.3s,baz=190,slow=37						
TGY	Tagaytay City	23.15	270	LR	LR	15 10 10.4	
	comp=Z,365nm,20.0s,baz=96,slow=31						
PMG	Port Moresby	24.66	175	LR	LR	15 11 28.1	
	comp=Z,121nm,21.6s,baz=326,slow=33						
KSRS	Korea Array	26.67	329	P	P	15 03 44.1	+0.7
	3.1nm,0.9s,baz=146,slow=9.9,SNR=10						
KSRS				LR	LR	15 13 15.5	
	comp=Z,91nm,18.8s,baz=160,slow=34						
KS15	Wonju Array Si	26.68	329	eP	P	15 03 43.8	+0.3
	17nm,1.1s						
KSAR	Wonju Array Be	26.68	329	P	P	15 03 44.1	+0.6
ASAJ	Asahikawa	28.77	357	LR	LR	15 15 05.0	
	comp=Z,79nm,21.6s,baz=189,slow=36						
HNR	Honiara	28.78	148	LR	LR	15 14 30.4	
	comp=Z,213nm,21.3s,baz=310,slow=34						
USRK	Ussuriysk Ar.	30.80	342	LR	LR	15 15 38.8	
	comp=Z,128nm,19.8s,baz=143,slow=34						
WR1	Warramunga Arr	36.52	197	eP	P	15 05 10.2	+0.1
WRA	Warramunga Arr	36.52	197	P	P	15 05 10.2	+0.1
	1.8nm,1.0s,baz=17,slow=9.7,SNR=4.8						
PETK	Petropavlovsk-	39.06	12	LR	LR	15 19 24.8	
	comp=Z,65nm,20.6s,baz=207,slow=33						
ASAR	Alice Springs	40.19	196	P	P	15 05 41.3	+0.4
	0.8nm,1.0s,baz=18,slow=7.2,SNR=3.4						
ASAR				LR	LR	15 22 07.0	
	comp=Z,85nm,18.1s,baz=342,slow=36						
DZM	Mont Dzumac	42.76	150	eLR	LR	15 18 04.4	
	comp=Z,201nm,32.5s						
CMAR	Chiang Mai Arr	43.95	281	eP	P	15 06 10.7	-1.0
CMAR	Chiang Mai Arr	43.95	281	P	P	15 06 11.8	+0.1
	1.4nm,1.0s,baz=68,slow=6.7,SNR=10						
CMAR				LR	LR	15 21 44.3	
	comp=Z,129nm,21.1s,baz=154,slow=32						
SONA0	Songino Array	45.32	324	eP	P	15 06 22.6	+0.1
SONM	Songino Array	45.32	324	P	P	15 06 22.6	+0.1
	0.2nm,0.4s,baz=103,slow=6.2,SNR=2.8						
SONM				LR	LR	15 25 03.2	
	comp=Z,133nm,19.7s,baz=134,slow=36						
STKA	Stephens Creek	47.02	184	LR	LR	15 28 24.3	
	comp=Z,129nm,18.1s,baz=223,slow=39						
TIXI	Tiksi	57.13	354	eP	P	15 07 51.8	+1.4
	5.1nm,1.4s						
ZALV	Zalesovo Beam	60.22	324	eP	P	15 08 12.4	+0.2
ZALV	Zalesovo Beam	60.22	324	P	P	15 08 12.9	+0.6
	0.4nm,0.3s,baz=126,slow=6.2,SNR=3.5						
ZALV				LR	LR	15 34 47.3	
	comp=Z,67nm,19.2s,baz=66,slow=37						
ZAA1	Zalesovo Array	60.22	324	eP	P	15 08 12.8	+0.6
MK32	Makanchi Array	60.25	315	eP	P	15 08 12.9	+0.3
MKAR	Makanchi Array	60.25	315	eP	P	15 08 12.3	-0.3
MKAR	Makanchi Array	60.25	315	P	P	15 08 12.9	+0.3
	0.7nm,0.8s,baz=87,slow=8.7,SNR=4.5						
MKAR				LR	LR	15 35 22.4	
	comp=Z,73nm,18.1s,baz=100,slow=37						
KURK	Kurchatov	63.26	319	eP	P	15 08 32.9	+0.1
	8.4nm,1.0s						
NRIK	Noril'sk	64.51	341	P	P	15 08 41.1	+0.5
	1.7nm,0.6s,baz=104,slow=9.1,SNR=4.2						
NRIK				LR	LR	15 37 01.6	
	comp=Z,64nm,18.1s,baz=57,slow=36						
ILAR	Eielson Array	67.03	26	P	P	15 08 55.9	-1.2
	0.9nm,1.1s,baz=246,slow=5.9,SNR=5.6						
ILAR				LR	LR	15 34 50.0	
	comp=Z,38nm,21.8s,baz=290,slow=33						
KKAR	Karatay Array	68.31	311	eP	P	15 09 04.3	-1.2
BRVK	Borovoye	68.64	321	eP	P	15 09 06.8	-0.5
	11nm,1.3s						
PPT	Papeete	72.44	114	LR	LR	15 34 35.7	
	comp=Z,180nm,19.2s,baz=322,slow=30						
PPT2	Papeete2	72.44	114	eLR	LR	15 31 36.3	
	comp=Z,202nm,22.8s						
ABKAR	Akbulak array	75.26	318	eP	P	15 09 46.3	-0.8
GEYT	Alibeck	78.22	306	LR	LR	15 48 23.8	
	comp=Z,57nm,19.1s,baz=125,slow=39						
YKA	Yellowknife Ar	81.35	27	P	P	15 10 21.2	+0.7
	0.7nm,1.1s,baz=290,slow=5.2,SNR=6.0						
YKB5	Yellowknife Ar	81.35	27	eP	P	15 10 21.2	+0.7
NV01	Mina Array Sit	85.87	51	eP	P	15 10 46.4	+1.9
NVAR	Mina Array Bea	85.87	51	P	P	15 10 46.4	+1.9
	0.2nm,0.5s,baz=243,slow=6.0,SNR=2.7						
NVAR				LR	LR	15 42 53.7	
	comp=Z,56nm,19.3s,baz=265,slow=31						
FIA0	FINESS Array S	89.60	335	eP	P	15 11 01.4	-0.2
FINES	FINESS Array B	89.60	335	P	P	15 11 01.4	-0.2
	2.3nm,1.0s,baz=60,slow=8.5,SNR=2.6						
FINES				LR	LR	15 53 57.7	
	comp=Z,43nm,20.1s,baz=81,slow=38						
PDAR	Pinedale Array	90.78	45	LR	LR	15 43 41.5	
	comp=Z,41nm,21.5s,baz=292,slow=30						
AKASG	Malin Array Be	93.60	325	LR	LR	15 55 27.9	
	comp=Z,100nm,19.7s,baz=55,slow=37						
NOA	NORSAR Array B	95.44	339	LR	LR	15 56 05.9	
	comp=Z,33nm,19.5s,baz=15,slow=36						
ULM	Lac du Bonnet	95.84	34	LR	LR	15 50 57.5	
	comp=Z,60nm,19.4s,baz=66,slow=33						

IDC 08 15:38:29.3±4.8, 18.°88S×174.°30W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.4/29, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/11, Error ellipse: s-maj=346.4km s-min=38.1km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.71	199	LR	LR	15 50 02.3	
	comp=Z,71nm,18.8s,baz=271,slow=34						
ASAR	Alice Springs	48.30	255	P	P	15 47 12.0	-0.7
	0.4nm,0.9s,baz=97,slow=6.8,SNR=4.1						
WRA	Warramunga Arr	48.30	260	P	P	15 47 13.1	+0.3
	0.7nm,1.1s,baz=95,slow=8.0,SNR=8.5						
PDAR	Pinedale Array	85.42	42	P	P	15 51 09.1	0.0
	0.3nm,0.7s,baz=224,slow=3.8,SNR=2.3						

KRSC 08 15:49:36.5±10.0, 52.°42N×159.°76E, h50km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.70	13	eP	Pn	15 49 51.4	+1.2
SPN				eS	Sn	15 50 01.2	+1.0
RUS	Russkaya	0.76	272	eP	Pn	15 49 51.9	+0.9
RUS				eS	Sn	15 50 02.2	+0.6
NLC	Nalytchevo	0.79	342	eP	Pn	15 49 52.4	+0.9
NLC				eS	Sn	15 50 03.4	+1.0
DALK	Dalny	0.87	316	eP	Pn	15 49 53.4	+1.0
DALK				eS	Sn	15 50 04.8	+0.8
MTVR	Mutnovka	0.97	274	eP	Pn	15 49 55.2	+1.3
MTVR				eS	Sn	15 50 08.0	+1.3
UGLR	Uglovaya	0.97	325	eP	Pn	15 49 55.6	+1.6
SDLR	Sedlovina	1.01	329	eP	Pn	15 49 55.8	+1.3
SDLR				eS	Sn	15 50 08.6	+0.9
SMAR	Somma	1.03	326	eP	Pn	15 49 55.9	+1.1
AVH	Avacha	1.05	324	eP	Pn	15 49 56.8	+1.8
AVH				eS	Sn	15 50 11.3	+2.7
KRMR	Karymshinskiy	1.07	293	eP	Pn	15 49 56.4	+1.2
KRMR				eS	Sn	15 50 10.7	+1.7
KRER	Koryakskii	1.08	326	eP	Pn	15 49 57.1	+1.7
KOK	Koryaka	1.11	323	eP	Pn	15 49 57.5	+1.7
ASAK	Asacha	1.14	269	eP	Pn	15 49 57.9	+1.7
KDTR	Khodutka, Kamc	1.20	240	eP	Pn	15 49 58.1	+1.2
KDTR				eS	Sn	15 50 14.1	+2.0
APC	Apacha	1.66	289	eP	Pn	15 50 05.9	+2.7
PAU	Pauzhetka	2.06	244	eP	Pn	15 50 11.6	+3.0
MKZ	Mys Kozlova	2.44	28	eP	Pn	15 50 15.8	+1.9
MKZ				eS	Sn	15 50 44.4	+1.9
KZV	Kizimen	2.72	7	eP	Pn	15 50 21.4	+3.6
TUMD	Tumrok D	2.82	8	eP	Pn	15 50 22.6	+3.6
TUMD				eS	Sn	15 50 55.8	+4.1
SKR	Severo-Kuril's	2.86	234	eP	Pn	15 50 23.0	+3.4
SKR				eS	Sn	15 50 55.7	+3.0
ALID	Alaid	3.05	241	eP	Pn	15 50 24.7	+2.4
ESO	Esso	3.57	350	eP	Pn	15 50 33.5	+4.2
KLY	Klyuchi	3.94	7	eP	Pn	15 50 38.7	+4.4
KBTR	Krutoberegovo	4.20	24	eP	Pn	15 50 41.7	+3.8
BDR	Baidarnaya	4.24	11	eP	Pn	15 50 42.5	+3.9
SMKR	Semkarok	4.29	13	P	Pn	15 50 42.5	+3.3
SRKR	Sorokina	4.32	10	eP	Pn	15 50 43.3	+3.6

*SOME **08** 16:01:22.0, 42.°23N×81.°22E, h5km*
*NNC **08** 16:01:23.4±1.1, 42.°30N×81.°23E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=7.3km s-min=5.8km az=62.0*

ISC 08 16:01:24.0±1.9, 42.°31N±0.°07×81.°10E±0.°05, h5km±11km, n50, σ1.°92/74, 10C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.26	334	P	Pn	16 01 47.5	-1.0
	19nm,0.2s						
KTMS				S	Sn	16 02 05.6	-0.2
	62nm,0.3s						
KTMS	Ketmen	1.26	334	eP	Pn	16 01 47.5	-1.0
	19nm,0.2s						
KTMS				eS	Sn	16 02 05.6	-0.2
	62nm,0.3s						
SHLS	Shalkode	1.47	305	P	Pn	16 01 48.3	-3.1
	50nm,0.2s						
SHLS				S	Sn	16 02 07.0	-4.1
	124nm,0.4s						
SHLS	Shalkode	1.47	305	eP	Pn	16 01 48.3	-3.1
	50nm,0.2s						
SHLS				eS	Sn	16 02 07.0	-4.1
	124nm,0.4s						
PDGK	Podgornoye	1.56	311	P	Pb	16 01 53.6	+0.1
	6.6nm,0.5s						
PDGK				S	Sg	16 02 16.6	+2.4
	32nm,0.4s						
PDGK	Podgornoye	1.56	311	⇓P	Pb	16 01 53.3	-0.2
	6.6nm,0.3s						
PDGK				⇑S	Sg	16 02 16.7	+2.6
	24nm,0.3s						
UZB	Uzynbulak	1.74	299	P	Pg	16 01 57.6	+0.2
	7.6nm,0.3s						
UZB				S	Sg	16 02 23.0	+2.9
	51nm,0.3s						
UZB	Uzynbulak	1.74	299	eP	Pg	16 01 57.6	+0.2
	7.6nm,0.3s						
UZB				eS	Sg	16 02 22.9	+2.9
	51nm,0.3s						
KPKS	Kokpek	2.12	304	eP	Pg	16 02 03.7	-0.9
	41nm,0.2s						
KPKS				eS	Sg	16 02 33.6	+1.7
	311nm,0.4s						
SATY	Saty	2.12	291	Pg	Pg	16 02 04.8	+0.1
	25nm,0.4s						
SATY				Lg	Lg	16 02 35.3	
	113nm,0.2s

ARXS				*e*S		**Sg**	**16 03 01.0**	**-1.1**
	31nm,0.3s							
KOTS	**Kotyrbulak**	**3.08**	**289**	Pg		**Pb**	**16 02 20.3**	**+1.0**
	7.9nm,0.5s							
KOTS				Lg		Lg	16 03 02.4	
	37nm,0.5s							
KOTS	**Kotyrbulak**	**3.08**	**289**	*e*P		**Pb**	**16 02 20.3**	**+1.0**
	7.9nm,0.5s							
KOTS				*e*S		**Sg**	**16 03 02.4**	**-0.4**
	37nm,0.5s							
MDOK	**Medeo**	**3.10**	**287**	⇓Pg		**Pb**	**16 02 21.2**	**+1.4**
	4.1nm,0.6s							
MDOK				⇑Lg		Lg	16 03 04.8	
	16nm,0.6s							
MDOK	**Medeo**	**3.10**	**287**	Pg		**Pb**	**16 02 20.6**	**+0.8**
	4.0nm,0.9s							
MDOK				Lg		Lg	16 03 03.1	
	21nm,0.6s							
MDOK	**Medeo**	**3.10**	**287**	*e*P		**Pb**	**16 02 20.6**	**+0.8**
	4.0nm,0.9s							
MDOK				*e*S		**Sg**	**16 03 03.1**	**-0.6**
	21nm,0.6s							
TNSS	**Tian-Shan**	**3.15**	**285**	Pg		**Pg**	**16 02 22.5**	**-1.8**
	6.9nm,0.3s							
TNSS				Lg		Lg	16 03 06.1	
	27nm,0.4s							
TNSS	**Tian-Shan**	**3.15**	**285**	*e*P		**Pg**	**16 02 22.5**	**-1.8**
	6.9nm,0.3s							
TNSS				⇑*i*S		**Sg**	**16 03 06.1**	**+1.0**
	27nm,0.4s							
KAPS	**Kapalarasan**	**3.23**	**338**	Pg		**Pb**	**16 02 21.0**	**-0.9**
	4.4nm,0.3s							
KAPS				Lg		Lg	16 03 03.3	
	21nm,0.3s							
KAPS	**Kapalarasan**	**3.23**	**338**	*e*P		**Pb**	**16 02 21.0**	**-0.9**
	4.4nm,0.3s							
KAPS				*e*S		**Sb**	**16 03 03.3**	**+1.8**
	21nm,0.3s							
TDK	**Taldyqorghan**	**3.32**	**325**	Pg		**Pb**	**16 02 24.0**	**+0.5**
	25nm,0.1s							
TDK				Lg		Lg	16 03 08.6	
	47nm,0.3s							
TDK	**Taldyqorghan**	**3.32**	**325**	*e*P		**Pb**	**16 02 24.0**	**+0.5**
	25nm,0.1s							
TDK				*e*S		**Sb**	**16 03 08.6**	**+4.3**
	47nm,0.3s							
CHKK	**Chushkaly**	**3.38**	**298**	Pg		**Pb**	**16 02 25.3**	**+0.9**
	3.2nm,0.3s							
CHKK				Lg		Lg	16 03 11.0	
	22nm,0.3s							
CHKK	**Chushkaly**	**3.38**	**298**	*e*P		**Pb**	**16 02 25.3**	**+0.9**
	3.2nm,0.3s							
CHKK				*e*S		**Sg**	**16 03 11.0**	**-1.6**
	22nm,0.3s							
KTBS	**Karatobe**	**3.53**	**295**	Pg		**Pb**	**16 02 28.5**	**+1.6**
	3.6nm,0.5s							
KTBS				Lg		Lg	16 03 16.6	
	36nm,0.4s							
KTBS	**Karatobe**	**3.53**	**295**	*e*P		**Pb**	**16 02 28.5**	**+1.6**
	3.6nm,0.5s							
KTBS				*e*S		**Sg**	**16 03 16.6**	**-0.8**
	36nm,0.4s							
MTBS	**Maitube**	**3.54**	**285**	Pg		**Pb**	**16 02 28.1**	**+1.0**
	5.5nm,0.4s							
MTBS				Lg		Lg	16 03 15.4	
	21nm,0.4s							
MTBS	**Maitube**	**3.54**	**285**	⇑*i*P		**Pb**	**16 02 28.1**	**+1.0**
	5.5nm,0.4s							
MTBS				*e*S		**Sg**	**16 03 15.4**	**-2.2**
	21nm,0.4s							
KUU	**Kurty**	**3.83**	**296**	Pg		**Pb**	**16 02 33.7**	**+1.7**
	2.3nm,0.2s							
KUU				Lg		Lg	16 03 25.3	
	9.5nm,0.2s							
KUU	**Kurty**	**3.83**	**296**	*e*P		**Pb**	**16 02 33.7**	**+1.7**
	2.3nm,0.2s							
KUU				*e*S		**Sg**	**16 03 25.3**	**-1.6**
	9.5nm,0.2s							
KST	**Kastek**	**3.86**	**283**	Pg		**Pb**	**16 02 33.8**	**+1.2**
	4.2nm,0.5s							
KST				Lg		Lg	16 03 26.0	
	12nm,0.6s							
KST	**Kastek**	**3.86**	**283**	*e*P		**Pb**	**16 02 33.8**	**+1.2**
	4.2nm,0.5s							
KST				*e*S		**Sg**	**16 03 26.0**	**-1.9**
	12nm,0.6s							
DGS	**Degeres**	**4.03**	**285**	Pg		**Pg**	**16 02 38.2**	**-3.0**
	5.3nm,0.4s							
DGS				Lg		Lg	16 03 32.8	
	12nm,0.5s							
DGS	**Degeres**	**4.03**	**285**	*e*P		**Pg**	**16 02 38.2**	**-3.0**
	5.3nm,0.4s							
DGS				*e*S		**Sg**	**16 03 32.8**	**-0.6**
	12nm,0.5s							
TKM2	**Tokmak 2**	**4.11**	**280**	⇓Pn		**Pn**	**16 02 30.6**	**+2.9**
	3.1nm,0.8s							
TKM2				⇓Lg		Lg	16 03 38.7	
	8.9nm,0.7s							
MAKZ	**Makanchi**	**4.54**	**8**	⇑Lg		Lg	16 03 46.7	
	3.6nm,0.6s							
MK31	**Makanchi Array**	**4.56**	**10**	Pn		**Pn**	**16 02 34.7**	**+1.0**
	0.1nm,0.2s,baz=216,slow=8.5,SNR=24							
MK31				⇓Pg		**Pb**	**16 02 46.2**	**+1.7**
	0.3nm,0.2s,baz=187,slow=16,SNR=4.0							
MK31				⇑Sn		**Sn**	**16 03 28.9**	**+1.8**
	2.8nm,0.6s,baz=188,slow=27,SNR=6.7							
MK31				⇑Lg		Lg	16 03 49.8	
	9.1nm,0.8s,baz=204,slow=30,SNR=3.8							
AAK	**Ala-Archa**	**4.90**	**276**	⇓Lg		Lg	16 04 00.0	
	8.9nm,1.1s							
ZSN	**Zaisan**	**5.79**	**26**	Pg		**Pb**	**16 03 08.0**	**+2.5**
	0.6nm,0.2s							
ZSN				Lg		Lg	16 04 24.1	
	1.8nm,0.7s							
ZSN	**Zaisan**	**5.79**	**26**	*e*P		**Pb**	**16 03 08.0**	**+2.5**
	0.6nm,0.2s							
ZSN				*e*S		**Sg**	**16 04 24.1**	**-5.8**
	1.8nm,0.7s							
KURBB	**Kurchatov Arra**	**8.50**	**349**	⇓Lg		Lg	16 05 56.7	
	4.4nm,0.7s							
OTUK	**Ortayu**	**8.56**	**317**	⇑Lg		Lg	16 05 59.4	
	2.5nm,0.9s							

*ISCJB **08** 16:03:12.2±0.4, 58°.26N±0°.03×142°.70W±0°.04, h10km, Error ellipse: s-maj=3.8km s-min=3.2km az=20.5*
*PGC **08** 16:03:15.9±0.4, 58°.39N×142°.52W, h10km, ML3.1/10, 201km Wsw of Yakutat, Ak Gulf Of Alaska*
*NEIC **08** 16:03:17.3±0.0, 58°.26N×142°.75W, h1km, ML3.0(AEIC), ML3.1(OTT), After AEIC.*

ISC 08 16:03:13.3±1.1, 58°.28N±0°.06×142°.68W±0°.04, h10km, n92, σ1§42/117, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGLC	**Bering Glacier**	**1.87**	**351**	P	**Pn**	**16 03 46.3**	**+1.0**
BGLC				S	**Sn**	**16 04 08.4**	**-0.6**
SUCK	**Suckling Hills**	**1.88**	**343**	P	**Pn**	**16 03 46.5**	**+0.9**
SUCK				S	**Sn**	**16 04 09.3**	**-0.1**
MESA	**MESA**	**1.94**	**11**	P	**Pn**	**16 03 47.1**	**+0.6**
MESA				S	**Sn**	**16 04 10.6**	**-0.3**
MESA	**MESA**	**1.94**	**11**	Pn	**Pn**	**16 03 47.2**	**+0.8**
MESA				Sn	**Sn**	**16 04 10.2**	**-0.8**
KULT	**Kultieth River**	**1.97**	**359**	P	**Pn**	**16 03 47.4**	**+0.6**
YKU2	**Yakutat**	**1.99**	**50**	P	**Pn**	**16 03 48.2**	**+1.3**
YKU2				S	**Sn**	**16 04 11.9**	**+0.1**
NICHA	**Nichawak Mount**	**2.07**	**342**	P	**Pn**	**16 03 48.7**	**+0.6**
NICHA				S	**Sn**	**16 04 13.3**	**-0.6**
SAMH	**Samovar Hills**	**2.09**	**27**	P	**Pn**	**16 03 49.6**	**+1.1**
SAMH				S	**Sn**	**16 04 15.1**	**+0.4**
SAMH	**Samovar Hills**	**2.09**	**27**	Pn	**Pn**	**16 03 49.5**	**+1.0**
SAMH				Sn	**Sn**	**16 04 13.3**	**-1.3**
RKAV	**Rock Avalanche**	**2.13**	**18**	P	**Pn**	**16 03 50.2**	**+1.1**
RKAV				S	**Sn**	**16 04 14.5**	**-1.3**
RKAV	**Rock Avalanche**	**2.13**	**18**	Pn	**Pn**	**16 03 50.3**	**+1.1**
RKAV				Sn	**Sn**	**16 04 13.7**	**-2.0**
KHIT	**Khitrov Hills**	**2.19**	**353**	P	**Pn**	**16 03 50.2**	**+0.4**
PNL	**Peninsula**	**2.19**	**49**	P	**Pn**	**16 03 50.4**	**+0.6**
PNL	**Peninsula**	**2.19**	**49**	Pn	**Pn**	**16 03 50.2**	**+0.3**
PCA	**Pinnacle**	**2.20**	**33**	P	**Pn**	**16 03 50.9**	**+0.8**
PCA				S	**Sn**	**16 04 17.7**	**+0.3**
HMT	**Hamilton**	**2.21**	**339**	P	**Pn**	**16 03 50.5**	**+0.4**
HMT				S	**Sn**	**16 04 16.4**	**-1.1**
MID	**Middleton Isla**	**2.22**	**303**	P	**Pn**	**16 03 50.2**	**+0.1**
BCPM	**Bancas Point**	**2.29**	**42**	P	**Pn**	**16 03 52.0**	**+0.8**
KIAG	**Kiagna River**	**2.65**	**3**	P	**Pn**	**16 03 56.9**	**+0.5**
KIAG	**Kiagna River**	**2.65**	**3**	Pn	**Pn**	**16 03 56.8**	**+0.5**
KIAG				Sn	**Sn**	**16 04 25.9**	**-2.7**
EYAK	**Cordova Ski Ar**	**2.76**	**327**	P	**Pn**	**16 03 57.9**	**+0.3**
BALM	**Baldy**	**2.77**	**3**	P	**Pn**	**16 03 58.5**	**+0.7**
BALM	**Baldy**	**2.77**	**3**	Pn	**Pn**	**16 03 58.4**	**+0.7**
BALM				Sn	**Sn**	**16 04 29.1**	**-2.1**
CTGM	**Chitina Glacie**	**2.77**	**14**	P	**Pn**	**16 03 58.6**	**+0.6**
CTGM	**Chitina Glacie**	**2.77**	**14**	Pn	**Pn**	**16 03 58.6**	**+0.6**
CTGM				Sn	**Sn**	**16 04 29.4**	**-2.2**
MCARA	**McCarthy VSAT**	**3.12**	**357**	P	**Pn**	**16 04 03.3**	**+0.8**
YUK7	**Dusty Glacier**	**3.23**	**44**	P	**Pn**	**16 04 06.0**	**+1.7**
YUK7				S	**Sn**	**16 04 41.9**	**-1.0**
YUK7	**Dusty Glacier**	**3.23**	**44**	Pn	**Pn**	**16 04 05.1**	**+0.8**
YUK7				Sn	**Sn**	**16 04 41.2**	**-1.7**
DIV	**Divide**	**3.26**	**333**	P	**Pn**	**16 04 04.7**	**+0.2**
DIV	**Divide**	**3.26**	**333**	Pn	**Pn**	**16 04 04.8**	**+0.4**
DIV				Sn	**Sn**	**16 04 41.5**	**-1.7**
JPK	**Jack Peak**	**3.42**	**326**	P	**Pn**	**16 04 06.6**	**-0.1**
GLI	**Glacier Island**	**3.44**	**321**	P	**Pn**	**16 04 06.6**	**-0.3**
YUK6	**Outpost Mounta**	**3.45**	**38**	P	**Pn**	**16 04 09.2**	**+1.8**
YUK6	**Outpost Mounta**	**3.45**	**38**	Pn	**Pn**	**16 04 09.0**	**+1.7**
YUK6				Sn	**Sn**	**16 04 46.0**	**-2.4**
PLBC	**Pleasant Camp**	**3.48**	**68**	P	**Pn**	**16 04 08.5**	**+1.0**
PLBC	**Pleasant Camp**	**3.48**	**68**	Pn	**Pn**	**16 04 08.5**	**+1.0**
PLBC				Sn	**Sn**	**16 04 46.0**	**-2.8**
KLU	**Klutina**	**3.61**	**334**	P	**Pn**	**16 04 10.1**	**+0.7**
YUK2	**White River**	**3.63**	**14**	P	**Pn**	**16 04 11.5**	**+1.9**
YUK2	**White River**	**3.63**	**14**	Pn	**Pn**	**16 04 11.1**	**+1.5**
HYT	**Haines Junctio**	**3.66**	**44**	P	**Pn**	**16 04 11.7**	**+1.6**
HYT	**Haines Junctio**	**3.66**	**44**	Pn	**Pn**	**16 04 11.5**	**+1.4**
HYT				Sn	**Sn**	**16 04 50.5**	**-2.9**
YUK3	**Moose Creek**	**3.67**	**17**	P	**Pn**	**16 04 11.8**	**+1.4**
YUK3	**Moose Creek**	**3.67**	**17**	Pn	**Pn**	**16 04 12.1**	**+1.7**
YUK4	**Talbot Arm**	**3.68**	**32**	P	**Pn**	**16 04 14.1**	**+3.6**
YUK4	**Talbot Arm**	**3.68**	**32**	Pn	**Pn**	**16 04 14.1**	**+3.6**
YUK5	**Granite Creek**	**3.76**	**38**	P	**Pn**	**16 04 13.4**	**+1.9**
YUK5	**Granite Creek**	**3.76**	**38**	Pn	**Pn**	**16 04 13.3**	**+1.9**
PWL	**Port Wells**	**3.87**	**314**	P	**Pn**	**16 04 12.7**	**-0.1**
SEW	**Seward**	**3.93**	**301**	P	**Pn**	**16 04 13.5**	**-0.2**
YUK1	**Sand Pete Hill**	**4.03**	**15**	P	**Pn**	**16 04 17.1**	**+2.0**
YUK1	**Sand Pete Hill**	**4.03**	**15**	Pn	**Pn**	**16 04 17.1**	**+2.0**
YUK1				Sn	**Sn**	**16 04 59.3**	**-3.1**
BESE	**Bessie Mountai**	**4.12**	**83**	P	**Pn**	**16 04 17.0**	**+0.7**
BESE	**Bessie Mountai**	**4.12**	**83**	Pn	**Pn**	**16 04 17.0**	**+0.7**
BESE				Sn	**Sn**	**16 05 00.8**	**-3.8**
SIT	**Sitka**	**4.13**	**104**	P	**Pn**	**16 04 16.2**	**-0.2**
PTE	**Portage**	**4.14**	**311**	P	**Pn**	**16 04 16.5**	**0.0**
SCM	**Sheep Creek Mo**	**4.26**	**329**	P	**Pn**	**16 04 18.8**	**+0.6**
KNK	**Knik Glacier**	**4.28**	**320**	P	**Pn**	**16 04 19.5**	**+1.0**
HARP	**HAARP**	**4.32**	**344**	Pn	**Pn**	**16 04 20.2**	**+1.2**
HARP				Sn	**Sn**	**16 05 07.5**	**-1.8**
SLKM	**Skilak Lake**	**4.46**	**303**	P	**Pn**	**16 04 21.1**	**+0.2**
BRLK	**Bradley Lake**	**4.50**	**293**	P	**Pn**	**16 04 22.2**	**+0.8**
SML	**Sawmill**	**4.53**	**324**	P	**Pn**	**16 04 22.2**	**+0.2**
RC01	**Rabbit Creek A**	**4.55**	**311**	P	**Pn**	**16 04 22.2**	**+0.1**
WHY	**Whitehorse**	**4.63**	**56**	P	**Pn**	**16 04 24.6**	**+1.2**
WHY	**Whitehorse**	**4.63**	**56**	Pn	**Pn**	**16 04 24.4**	**+1.0**
WHY				Sn	**Sn**	**16 05 14.2**	**-3.1**
BCA3	**Beaver Creek A**	**4.82**	**5**	P	**Pn**	**16 04 26.9**	**+1.0**
PAX	**Paxson**	**4.90**	**345**	P	**Pn**	**16 04 27.3**	**+0.3**
PAX	**Paxson**	**4.90**	**345**	Pn	**Pn**	**16 04 28.1**	**+1.1**
PAX				Sn	**Sn**	**16 05 21.0**	**-2.8**
KDAK	**Kodiak Island**	**5.29**	**269**	P	**Pn**	**16 04 33.7**	**+1.4**
DHY	**Denali Highway**	**5.33**	**336**	P	**Pn**	**16 04 34.1**	**+1.0**
DOT	**Dot Lake**	**5.43**	**353**	Pn	**Pn**	**16 04 34.7**	**+0.5**
RED	**Redoubt Volcan**	**5.59**	**297**	P	**Pn**	**16 04 36.4**	**-0.1**
RDWB	**Redoubt West**	**5.64**	**297**	P	**Pn**	**16 04 36.9**	**-0.5**
AUL	**Augustine Lava**	**5.70**	**286**	P	**Pn**	**16 04 39.7**	**+1.8**
FONW	**Fourpeaked Sta**	**5.91**	**280**	P	**Pn**	**16 04 42.9**	**+2.0**
RND	**Reindeer**	**5.96**	**332**	P	**Pn**	**16 04 43.5**	**+1.9**
DAWY	**Dawson**	**6.01**	**14**	P	**Pn**	**16 04 44.3**	**+2.0**
DAWY	**Dawson**	**6.01**	**14**	Pn	**Pn**	**16 04 43.5**	**+1.1**
MCK	**McKinley**	**6.25**	**334**	P	**Pn**	**16 04 47.1**	**+1.6**
EGAK	**Eagle**	**6.56**	**6**	P	**Pn**	**16 04 51.3**	**+1.6**
PPLA	**Purkeypile**	**6.58**	**319**	P	Pn	16 04 47.7	-2.5
DLBC	**Dease Lake**	**6.66**	**83**	P	**Pn**	**16 04 52.9**	**+1.7**
DLBC	**Dease Lake**	**6.66**	**83**	Pn	**Pn**	**16 04 52.1**	**+0.9**
DLBC				Sn	Sn	16 06 02.2	-4.8
KELA	**Mount Kelaz**	**6.88**	**277**	P	**Pn**	**16 04 56.2**	**+2.0**
NDB	**Naden**	**6.96**	**124**	Pn	**Pn**	**16 04 55.1**	**-0.1**
BPAW	**Bear Paw Mtn.**	**7.08**	**329**	P	**Pn**	**16 04 57.6**	**+0.7**
DIB	**Dawson Inlet,**	**7.68**	**127**	Pn	**Pn**	**16 05 05.6**	**+0.5**
DIB				Sn	Sn	16 06 26.4	-5.7
MOBC	**Moresby Island**	**7.94**	**126**	Pn	**Pn**	**16 05 09.3**	**+0.6**
MOBC				Sn	Sn	16 06 33.7	-4.7
TT01	**Tatalina**	**8.03**	**311**	P	**Pn**	**16 05 10.3**	**+0.5**
BNB	**Barry Inlet**	**8.44**	**128**	Pn	**Pn**	**16 05 16.2**	**+0.7**
HG3B	**Hotspring**	**8.57**	**127**	Pn	**Pn**	**16 05 17.7**	**+0.5**
HG4B	**Hotspring**	**8.88**	**128**	Pn	**Pn**	**16 05 22.4**	**+0.9**
IM3	**Indian Mountai**	**9.29**	**331**	P	**Pn**	**16 05 28.1**	**+1.1**

*ISCJB **08** 16:08:58.3±0.8, 20°.4S±0°.2×178°.9W±0°.2, h645km, mb3.3/9, Error ellipse: s-maj=29.2km s-min=14.9km az=151.3*
*IDC **08** 16:08:59.0±4.0, 20°.32S×178°.89W, h637km±48km, mb2.8/9, mb1 3.1/10, mb1mx3.0/23, mbtmp3.9/10, Error ellipse: s-maj=31.6km s-min=22.9km az=152.0*

ISC 08 16:08:59.6±0.8, 20°.3S±0°.2×178°.9W±0°.2, h645km, n16, σ0§46/17, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.74**	**260**	P	**P**	**16 11 54.0**	**-0.6**
	0.4nm,0.3s,baz=90,slow=7.1,SNR=3.0						
STKA	**Stephens Creek**	**37.07**	**244**	P	**P**	**16 15 18.6**	**+0.6**
	1.4nm,0.9s,baz=99,slow=14,SNR=2.4						
ASAR	**Alice Springs**	**43.70**	**257**	P	**P**	**16 16 11.1**	**+0.6**
	1.2nm,0.7s,baz=91,slow=8.2,SNR=28						
ASAR				PcP	**PcP**	**16 17 43.0**	**+0.5**
	0.6nm,0.5s,baz=105,slow=4.0,SNR=9.9						
WRA	**Warramunga Arr**	**43.75**	**262**	P	**P**	**16 16 10.9**	**+0.1**
	0.5nm,0.3s,baz=96,slow=7.5,SNR=36						
WRA				PcP	**PcP**	**16 17 43.0**	**+0.3**
	0.6nm,0.9s,baz=92,slow=3.4,SNR=2.0						
VNDA	**Vanda**	**58.01**	**185**	P	**P**	**16 17 52.0**	**-0.4**
	0.2nm,0.4s,baz=360,slow=7.9,SNR=3.5						
PETK	**Petropavlovsk-**	**75.87**	**346**	P	**P**	**16 19 41.8**	**+0.2**
	1.5nm,0.8s,baz=197,slow=4.4,SNR=1.8						
NVAR	**Mina Array Bea**	**81.50**	**44**	P	**P**	**16 20 12.1**	**+0.1**
	0.8nm,0.7s,baz=220,slow=8.0,SNR=4.8						
TXAR	**Lajitas Array**	**87.71**	**58**	P	**P**	**16 20 42.5**	**+0.4**
	0.5nm,0.9s,baz=243,slow=5.5,SNR=4.9						
CMAR	**Chiang Mai Arr**	**89.22**	**290**	P	**P**	**16 20 48.8**	**-0.4**
	0.5nm,0.7s,baz=156,slow=4.7,SNR=1.9						
PDAR	**Pinedale Array**	**89.44**	**44**	P	**P**	**16 20 50.0**	**0.0**
	0.5nm,0.6s,baz=217,slow=3.7,SNR=5.3						
MKAR	**Makanchi Array**	**110.43**	**314**	PKiKP	**PKiKP**	**16 26 20.0**	**-0.2**
	0.2nm,0.4s,baz=115,slow=1.8,SNR=2.3						
ARCES	**ARCESS Array B**	**128.58**	**349**	PKP	**PKPdf**	**16 26 53.9**	**-0.5**
	5.3nm,1.0s,baz=48,slow=1.8,SNR=4.6						
FINES	**FINESS Array B**	**135.35**	**343**	PKP	**PKPdf**	**16 27 07.2**	**0.0**
	0.5nm,0.5s,baz=17,slow=1.5,SNR=3.7						
AKASG	**Malin Array Be**	**142.42**	**331**	PKhKP	PKPpre	16 27 17.6	
	1.5nm,0.4s,baz=44,slow=4.0,SNR=8.6						
BRTR	**Keskin Array B**	**146.06**	**312**	PKPbc	**PKPbc**	**16 27 29.6**	**+0.1**
	0.5nm,0.5s,baz=79,slow=3.1,SNR=3.0						
GERES	**GERESS Array B**	**149.78**	**343**	PKPbc	**PKPbc**	**16 27 37.7**	**-0.8**
	0.4nm,0.5s,baz=357,slow=2.9,SNR=4.1						

MEX 08 16:18:04.4±0.4, 14°.70N×93°.27W, h25km±12km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.00**	**3**	*i* P	Pn	16 18 20.2	-2.7
PCIG				*e*S	Sb	16 18 32.1	-3.8
CCIG	**Comitan**	**1.92**	**35**	*i* P	Pn	16 18 33.5	-2.2
CCIG				*i* S	Sn	16 18 55.9	-3.2
TGIG		**2.07**	**4**	*i* P	Pn	16 18 35.9	-1.8
TGIG				*i* S	Sn	16 18 60.0	-2.8
CMIG	**Matias Romero**	**2.84**	**327**	*i* P	Pn	16 18 45.7	-2.5
CMIG				*i* S	Sn	16 19 18.3	-3.3

*SJA **08** 16:38:35.9±0.5, 25°.13S×71°.15W, h7km±4km, ML3.7, MW3.2*
*GUC **08** 16:38:44.1±0.5, 25°.15S×70°.38W, h58km±4km, ML3.9*
*IDC **08** 16:38:45.9±1.5, 25°.24S×69°.83W, h62km±7km, mb3.8/1, mb1 3.7/4, mb1mx3.4/25, mbtmp3.7/4, MS2.7/3, Ms1 2.7/3, ms1mx2.4/31, Error ellipse: s-maj=55.5km s-min=11.2km az=96.0*

ISC 08 16:38:43.3±1.4, 25°.11S±0°.04×70°.55W±0°.09, h24km±10km, n26, σ1§97/31, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.50**	**15**	*e*P	**Pb**	**16 38 53.0**	**-0.6**
PB14				*e*S	**Sn**	**16 39 05.3**	**+2.1**
PB14	**IPOC Station P**	**0.50**	**15**	⇑*i*P	**Pn**	**16 38 56.7**	**+1.5**
PB14				*i* S	**Sn**	**16 39 05.6**	**+2.4**
PB14				IAML		16 39 06.4	
	comp=N,29μm,0.2s						
GO02	**Mina Guanaco**	**0.87**	**94**	⇓*e*P	**Pn**	**16 38 59.2**	**-1.1**
GO02				*i* S	**Sb**	**16 39 10.2**	**-0.9**
GO02				IAML		16 39 11.0	
	comp=N,13μm,0.1s						
PB10	**IPOC Station P**	**1.59**	**360**	*e*P	**Pn**	**16 39 08.0**	**-1.9**
PB10	**IPOC Station P**	**1.59**	**360**	⇑*i*P	**Pn**	**16 39 10.2**	**+0.3**
PB15	**IPOC Station P**	**2.13**	**28**	*e*P	**Pn**	**16 39 19.1**	**+1.5**
PB15	**IPOC Station P**	**2.13**	**28**	*e*P	**Pn**	**16 39 17.9**	**+0.3**
PB15				*e*S	**Sn**	**16 39 43.8**	**+0.4**
PB05	**IPOC Station P**	**2.27**	**8**	*e*P	**Pn**	**16 39 18.6**	**-0.8**
PB05	**IPOC Station P**	**2.27**	**8**	IAML		16 40 04.2	
	comp=E,250nm,0.3s						
GO03	**Copiap**	**2.49**	**174**	*e*P	**Pn**	**16 39 20.8**	**-1.6**
GO03	**Copiap**	**2.49**	**174**	⇑*i*P	**Pn**	**16 39 22.4**	**0.0**
PB04	**IPOC Station P**	**2.79**	**8**	*e*P	**Pn**	**16 39 25.5**	**-1.0**
LVC	**Limon Verde**	**2.90**	**31**	P	**Pn**	**16 39 28.3**	**0.0**
	comp=E,8.8nm,0.3s,baz=184,slow=11,SNR=24						
LVC				S	**Sn**	**16 40 01.0**	**-1.7**
	comp=E,16nm,0.3s,baz=350,slow=21,SNR=5.7						
LVC				LR	LR	16 40 39.8	
	comp=E,76nm,18.4s,baz=193,slow=42						
VCA	**Vinchina**	**4.17**	**150**	*e*P	**Pn**	**16 39 47.0**	**+1.4**
VCA				IAML		16 40 08.0	
	comp=Z,70nm,0.6s						
AGUA	**GUANDACOL**	**4.73**	**158**	*e*P	**Pn**	**16 39 54.5**	**+1.3**
AGUA				*e*S	**Sn**	**16 40 52.6**	**+5.2**
AROD	**Rodeo**	**5.13**	**170**	*e*P	**Pn**	**16 39 59.3**	**+0.4**
ACDV	**Cuesta del Vie**	**5.20**	**166**	*e*P	**Pn**	**16 40 00.5**	**+0.7**
ACCO	**Cerro Coronel**	**5.61**	**167**	*e*P	**Pn**	**16 40 06.1**	**+0.5**
ACCO				*e*S	**Sn**	**16 41 12.9**	**+3.4**
AMOG	**MOGNA**	**6.08**	**163**	*e*P	**Pn**	**16 40 11.8**	**0.0**
RTLS	**Leoncito**	**6.75**	**171**	IAML		16 42 25.9	
	comp=Z,12nm,0.6s						
CFA	**Coronel Fontan**	**6.78**	**163**	P	**Pn**	**16 40 19.8**	**-1.6**
	comp=Z,3.2nm,0.3s,baz=336,slow=14,SNR=31						
CFA				S	**Sn**	**16 41 33.3**	**-4.6**
	comp=Z,1.2nm,0.3s,baz=252,slow=21,SNR=1.6						
CFA				LR	LR	16 43 06.5	
	comp=Z,67nm,19.7s,baz=274,slow=40						
LPAZ	**La Paz**	**9.06**	**15**	P	**Pn**	**16 40 53.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=178,slow=5.5,SNR=3.8						
SIV	**San Ignacio**	**12.68**	**46**	LR	LR	16 46 34.0	
	comp=Z,43nm,20.2s,baz=207,slow=38						
TORD	**Torodi Ar. Bea**	**79.98**	**70**	P	P	16 50 45.1	-5.9
	comp=Z,1.0nm,0.6s,baz=258,slow=5.0,SNR=9.4						
TORD				pP	sP	16 51 02.9	+1.0
	comp=Z,0.6nm,0.5s,baz=257,slow=4.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**145.84**	**26**	**PKPbc**	**PKPdf**	**16 58 17.1**	**-2.5**
	comp=Z,1.2nm,0.5s,baz=290,slow=3.1,SNR=4.2						
ZALV				pPKPbc	sPKPab	16 58 34.1	+3.0
	comp=Z,1.2nm,0.6s,baz=324,slow=2.3,SNR=3.4						
MKAR	**Makanchi Array**	**149.41**	**38**	PKPbc	**PKPdf**	**16 58 26.6**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=317,slow=2.6,SNR=5.2						
MKAR				pPKPbc	**pPKPab**	**16 58

	8.9nm,1.0s					
KNK	Knik Glacier	67.55	28	eP	P	17 14 33.2 +1.0
	10nm,1.2s					
MLY	Manley	67.61	24	eP	P	17 14 32.8 +0.3
	9.8nm,1.0s					
SML	Sawmill	67.71	28	eP	P	17 14 33.2 -0.1
	12nm,1.0s					
BWN	Browne	67.86	25	eP	P	17 14 34.6 +0.4
	23nm,1.0s					
RND	Reindeer	67.91	26	eP	P	17 14 34.7 +0.2
	6.6nm,1.0s					
MCK	McKinley	67.96	26	eP	P	17 14 35.4 +0.6
	17nm,1.4s					
SCM	Sheep Creek Mo	68.18	28	eP	P	17 14 37.0 +0.8
	32nm,1.4s					
DHY	Denali Highway	68.47	27	eP	P	17 14 38.7 +0.6
	7.7nm,1.2s					
WRH	Wood River Hil	68.52	25	eP	P	17 14 38.0 -0.2
	8.2nm,1.0s					
MDM	Murphy Dome	68.60	25	eP	P	17 14 39.0 +0.2
	5.4nm,0.9s					
CCB	Clear Creek Bu	68.69	25	eP	P	17 14 39.0 -0.3
	17nm,1.5s					
HDA	Harding Lake	68.99	26	eP	P	17 14 41.1 0.0
	4.9nm,0.9s					
ILAR	Eielson Array	69.10	25	eP	P	17 14 40.3 -1.6
ILAR	Eielson Array	69.10	25	P	P	17 14 41.0 -0.8
	3.9nm,0.9s,baz=256,slow=4.3,SNR=28					
ILB	Eielson Array	69.10	25	eP	P	17 14 40.8 -1.1
	14nm,1.4s					
TOLK	Toolik Lake Re	69.20	21	eP	P	17 14 42.1 -0.4
	16nm,1.6s					
HARP	HAARP	69.30	28	eP	P	17 14 43.0 -0.2
	18nm,1.0s					
RIDG	Independent Ri	69.73	26	eP	P	17 14 46.2 +0.4
	17nm,1.3s					
SCRK	Sand Creek	70.15	26	eP	P	17 14 48.7 +0.2
	7.9nm,1.2s					
BMAR	Burnt Mountain	70.67	23	eP	P	17 14 52.7 +1.2
BCAR	Beaver Creek A	70.95	27	eP	P	17 14 53.8 +0.5
EGAK	Eagle	71.50	26	eP	P	17 14 57.9 +1.4
	15nm,1.4s					
DAWY	Dawson	72.16	27	eP	P	17 15 01.8 +1.2
	12nm,1.4s					
HYT	Haines Junctio	72.68	30	eP	P	17 15 04.6 +0.8
	5.6nm,1.0s					
EPYK	Eagle Plains	73.55	24	eP	P	17 15 08.0 -0.7
	5.4nm,0.9s					
WHY	Whitehorse	73.95	30	eP	P	17 15 11.2 -0.1
	15nm,1.8s					
INK	Inuvik	74.94	22	eP	P	17 15 17.1 +0.5
	7.7nm,0.9s					
INK	Inuvik	74.94	22	P	P	17 15 17.0 +0.3
	6.4nm,0.9s,baz=275,slow=5.9,SNR=24					
DLBC	Dease Lake	76.42	33	eP	P	17 15 27.4 +1.9
	11nm,1.2s					
DLBC	Dease Lake	76.42	33	P	P	17 15 26.4 +0.9
	2.2nm,0.8s,baz=221,slow=7.0,SNR=4.5					
AKTO	Aktyubinsk	78.53	319	LR	LR	17 51 43.5
	comp=Z,30nm,19.2s,baz=127,slow=37					
YBH	Yreka Blue Hor	83.08	49	P	P	17 16 03.5 +1.6
	1.6nm,0.9s,baz=237,slow=1.4,SNR=4.1					
YKA	Yellowknife Ar	83.37	27	P	P	17 16 03.0 +0.2
	1.6nm,0.9s,baz=287,slow=5.4,SNR=18					
PINE	Pine Mountain	83.95	47	eP	P	17 16 04.4 -2.1
	4.1nm,0.8s					
RES	Resolute Bay	85.22	13	eP	P	17 16 12.2 +0.2
	7.1nm,1.4s					
RES	Resolute Bay	85.22	13	P	P	17 16 12.8 +0.7
	2.1nm,0.9s,baz=326,slow=7.6,SNR=6.9					
NV01	Mina Array Sit	87.09	51	eP	P	17 16 23.1 +0.7
NVAR	Mina Array Bea	87.09	51	P	P	17 16 23.1 +0.7
	0.6nm,0.8s,baz=271,slow=5.9,SNR=4.2					
ARA0	ARCESS Array S	87.96	342	eP	P	17 16 25.4 -0.1
ARCES	ARCESS Array B	87.96	342	P	P	17 16 25.4 -0.1
	5.3nm,0.9s,baz=69,slow=4.9,SNR=3.5					
ELK	Elko	88.79	49	P	P	17 16 30.6 +0.2
	0.9nm,0.7s,baz=324,slow=2.6,SNR=3.6					
FIA0	FINESS Array S	92.05	335	eP	P	17 16 45.6 +0.9
FINES	FINESS Array B	92.05	335	P	P	17 16 45.6 +0.9
	0.5nm,0.4s,baz=58,slow=5.2,SNR=5.7					
FINES				LR	LR	17 59 18.4
	comp=Z,24nm,20.7s,baz=108,slow=36					
PDAR	Pinedale Array	92.23	45	P	P	17 16 46.9 +0.6
	0.1nm,0.3s,baz=256,slow=2.6,SNR=1.9					
AKASG	Malin Array Be	95.89	325	LR	LR	18 03 23.6
	comp=Z,32nm,18.4s,baz=60,slow=37					
NOA	NORSAR Array B	97.93	339	LR	LR	18 04 40.0
	comp=Z,10nm,18.9s,baz=40,slow=37					
DBIC	Dimbokro	144.59	301	PKP	PKPdf	17 23 13.1 -0.4
	3.6nm,0.7s,baz=57,slow=3.4,SNR=3.9					
LPAZ	La Paz	147.49	100	ePKPdf	PKPdf	17 23 17.3 -1.7
LPAZ	La Paz	147.49	100	PKPbc	PKPbc	17 23 21.8 +0.2
	0.8nm,0.5s,baz=278,slow=7.1,SNR=3.4					

*ISCJB **08** 17:08:52.6±1.1,52°.9S±0°.1×141°.1E±1°.0,h10km,mb3.4/4, MS3.6/7,Error ellipse: s-maj=85.8km s-min=17.5km az=171.6*
*IDC **08** 17:08:52.6±1.1,52°.93S×141°.00E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.7/23,mbtmp3.6/5,MS3.6/7,Ms1 3.6/7, ms1mx3.4/17,Error ellipse: s-maj=91.1km s-min=22.7km az=82.0*

ISC 08 17:08:54.1±1.3,53°.0S±0°.2×140°.8E±0°.6,h10km,n15, σ0°91/9,mb3.5/5,MS3.5/7,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.07	2	P	P	17 13 39.1	+0.8
	2.0nm,0.9s,baz=171,slow=13,SNR=3.0						
STKA				LR	LR	17 20 30.3	
	comp=Z,176nm,21.1s,baz=205,slow=33						
RPZ	Rata Peaks	21.97	77	LR	LR	17 20 26.5	
	comp=Z,199nm,21.2s,baz=197,slow=32						
VNDA	Vanda	25.84	170	P	P	17 14 25.5	+0.3
	0.9nm,0.6s,baz=324,slow=7.9,SNR=3.6						
VNDA				LR	LR	17 23 56.1	
	comp=Z,181nm,18.0s,baz=338,slow=35						
H01W1	Cape Leeuwin H	26.13	303	T	T	17 41 35.8	
	baz=142						
H01W2	Cape Leeuwin H	26.14	303	T	T	17 41 37.4	
	baz=142						
H01W3	Cape Leeuwin H	26.15	303	T	T	17 41 39.2	
	baz=142						
ASAR	Alice Springs	29.72	347	P	P	17 14 59.4	-1.0
	0.4nm,0.8s,baz=166,slow=10,SNR=5.9						
ASAR				PcP	PcP	17 18 03.8	-0.4
	0.2nm,0.7s,baz=169,slow=1.9,SNR=2.8						
WRA	Warramunga Arr	33.33	349	P	P	17 15 32.0	-0.2
	0.9nm,0.8s,baz=174,slow=7.7,SNR=4.6						
WRA				PcP	PcP	17 18 13.2	-0.7
	0.6nm,0.9s,baz=170,slow=2.2,SNR=2.8						
MAW	Mawson	38.39	217	LR	LR	17 30 22.4	
	comp=Z,102nm,19.7s,baz=94,slow=34						
CMAR	Chiang Mai Arr	79.81	320	P	P	17 21 03.7	+1.3
	0.1nm,0.3s,baz=176,slow=4.2,SNR=4.7						
BOSA	Boshof	81.39	233	LR	LR	17 49 43.1	
	comp=Z,52nm,19.7s,baz=142,slow=30						
MJAR	Matsushiro Arr	89.16	358	LR	LR	17 59 49.4	
	comp=Z,17nm,20.3s,baz=130,slow=34						
KSRS	Korea Array	90.74	350	LR	LR	18 01 59.5	
	comp=Z,14nm,20.7s,baz=220,slow=35						
FINES	FINESS Array B	145.09	310	PKPbc	PKPbc	17 28 29.2	-0.6
	1.4nm,0.7s,baz=116,slow=4.8,SNR=4.5						
GERES	GERESS Array B	147.03	285	PKPbc	PKPbc	17 28 35.6	-0.6
	0.1nm,0.3s,baz=94,slow=1.3,SNR=3.9						

*NIED **08** 17:09:00,37°.00N×139°.50E,h8km,Mw3.3 Best double couple: M0:9.16000×10^13 NP1:φs.8.00000°,δ77.00000°, λ-4.00000°. NP2:φs.99.00000°,δ86.00000°,λ-167.00000°.*

JMA 08 17:09:37.2,36°.97N×139°.46E,h8km±1km,M3.5,4C-2D Broadband fault plane solution: P waves. NP1: φs.97.00000°,δ86.00000°,λ-175.00000°. **NP2:**φs.7.00000°, δ85.00000°,λ-4.00000°. **Principal axes:** T Plg1.0000°, Azm232.0000°; N Plg84.0000°, Azm133.0000°; P Plg6.0000°, Azm322.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	Katashina	0.26	220	⇑P	Pg	17 09 42.7	+0.2
JKT				S	Sg	17 09 46.3	+0.3
JSB	Shiboa	0.37	90	⇑P	Pg	17 09 44.9	+0.5
JSB				S	Sg	17 09 50.3	+1.0
JHK	Hiroka	0.45	308	⇓P	Pg	17 09 46.0	0.0
JHK				S	Sg	17 09 51.9	0.0
JFY	Yanaizu	0.48	24	⇑P	Pg	17 09 46.6	+0.1
JFY				i S	Sg	17 09 52.6	-0.2
JAG	Ashikaga	0.54	181	⇓P	Pg	17 09 47.9	+0.2
JFT	Otama	0.89	52	⇑P	Pg	17 09 54.0	-0.3
MAT	Matsushiro	1.09	247	P	Pg	17 09 58.0	-0.2
MAT				eS	Sg	17 10 10.6	-1.8

*IDC **08** 17:17:42.9±1.2,52°.89S×141°.38E,h0km,mb3.5/5, mb1 3.8/5,mb1mx3.7/18,mbtmp3.5/5 Error ellipse: s-maj=92.2km s-min=22.7km az=82.0*

ISC 08 17:17:44.3±1.3,52°.9S±0°.2×141°.3E±0°.6,h10km,n10, σ0°78/9,mb3.5/5,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.01	1	P	P	17 22 27.8	0.0
	1.1nm,0.9s,baz=174,slow=10,SNR=1.8						
VNDA	Vanda	25.84	170	P	P	17 23 15.7	+0.4
	1.1nm,0.8s,baz=327,slow=8.2,SNR=7.4						
H01W1	Cape Leeuwin H	26.36	302	T	T	17 50 22.7	
	baz=142						
H01W2	Cape Leeuwin H	26.36	302	T	T	17 50 20.4	
	baz=142						
H01W3	Cape Leeuwin H	26.38	302	T	T	17 50 22.0	
	baz=142						
ASAR	Alice Springs	29.73	346	P	P	17 23 50.8	+0.2
	0.4nm,0.7s,baz=165,slow=10.0,SNR=10						
ASAR				PcP	PcP	17 26 54.1	-0.3
	0.4nm,0.8s,baz=155,slow=2.4,SNR=3.5						
WRA	Warramunga Arr	33.34	348	P	P	17 24 22.4	0.0
	0.6nm,0.7s,baz=171,slow=7.6,SNR=5.5						
WRA				PcP	PcP	17 27 04.3	+0.2
	0.4nm,0.8s,baz=172,slow=1.9,SNR=3.3						
CMAR	Chiang Mai Arr	79.96	319	P	P	17 29 54.4	+0.9
	0.3nm,0.5s,baz=162,slow=5.5,SNR=4.4						
FINES	FINESS Array B	145.28	310	PKPbc	PKPbc	17 37 19.0	-1.6
	1.6nm,0.8s,baz=132,slow=2.1,SNR=6.2						
GERES	GERESS Array B	147.32	284	PKPbc	PKPbc	17 37 26.9	-0.3
	0.5nm,0.8s,baz=113,slow=3.0,SNR=6.0						

IDC 08 17:33:08.2±3.4,3°.97N×95°.08E,h0km,mb3.6/2,mb1 3.8/3, mb1mx3.2/42,mbtmp3.5/3,ML3.8/1,Error ellipse: s-maj=68.0km s-min=46.2km az=56.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.01	107	Pn	Pn	17 34 11.7	+0.7
	3μm,0.3s,baz=308,slow=0.0,SNR=8.5						
PSI				Sn	Sn	17 35 01.0	+2.2
	2μm,0.3s,baz=162,slow=0.0,SNR=2.8						
CMAR	Chiang Mai Arr	14.89	14	Pn	Pn	17 36 39.7	-0.4
	0.1nm,0.3s,baz=200,slow=12,SNR=1.3						
WRA	Warramunga Arr	45.30	123	P	P	17 41 27.1	-1.0
	0.4nm,0.8s,baz=300,slow=9.4,SNR=1.6						
ASAR	Alice Springs	46.75	128	P	P	17 41 40.0	+0.4
	0.9nm,0.5s,baz=296,slow=7.9,SNR=14						
SPA0	Spitsbergen Ar	83.83	348	eP	P	17 45 44.8	+5.6

*ISCJB **08** 18:06:36.1±0.5,43°.79N±0°.05×105°.24W±0°.07,h0km, mb4.4/1,Error ellipse: s-maj=7.6km s-min=7.0km az=161.6*
*IDC **08** 18:06:36.6±1.9,43°.70N×105°.43W,h0km,mb4.2/1, mb1 3.8/4,mb1mx3.5/35,mbtmp3.6/4,ML2.7/2,Error ellipse: s-maj=46.4km s-min=9.0km az=150.0*
*NEIC **08** 18:06:37.7±0.4,43°.78N×105°.23W,h0km,ML3.4,Error ellipse: s-maj=6.4km s-min=5.7km az=155.0,Suspected Mining explosion.*
NEIC 61 km [38 miles] SSE of Gillette.

ISC 08 18:06:37.4±1.0,43°.76N±0°.07×105°.26W±0°.08,h0km,n19, σ1°22/19,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.96	67	ePn	Pb	18 06 56.7	-0.4
LAO	LASA Array	3.01	347	ePn	Pn	18 07 26.9	+0.5
RLMT	Red Lodge	3.18	297	ePn	Pn	18 07 29.0	+0.1
BW06	Boulder Array	3.29	254	ePn	Pn	18 07 30.5	+0.1
PDAR	Pinedale Array	3.29	254	Pn	Pn	18 07 30.6	+0.2
	5.6nm,0.3s,baz=76,slow=15,SNR=60						
PDAR				Lg	Lg	18 08 15.3	
	15nm,0.3s,baz=73,slow=31,SNR=9.8						
OGNE	Ogallala	3.69	139	ePn	Pn	18 07 36.6	+0.8
ISCO	Idaho Springs	3.96	184	ePn	Pn	18 07 40.3	+0.6
AHID	Auburn Hatcher	4.38	259	P	Pn	18 07 45.7	+0.3
DGMT	Dagmar	4.77	9	ePn	Pn	18 07 52.1	+1.5
BOZ	Bozeman (W)	4.90	294	ePn	Pn	18 07 52.0	-0.5
HWUT	Hardware Ranch	5.12	247	ePn	Pn	18 07 52.0	-3.6
	6.6nm,0.5s						
EGMT	Eagleton	5.30	325	ePn	Pn	18 07 57.3	-0.6
	16nm,0.7s						
SDCO	Great Sand Dun	6.01	182	ePn	Pn	18 08 08.6	+0.8
	3.2nm,0.6s						
ECSD	EROS Data Cent	6.26	87	ePn	Pn	18 08 11.3	+0.2
	6.9nm,0.4s						
HLID	Hailey	6.64	271	ePn	Pn	18 08 18.3	+1.9
	1.4nm,0.8s						
DUG	Dugway, Tooele	6.66	240	ePn	Pn	18 08 16.9	+0.3
	5.0nm,0.4s						
ULM	Lac du Bonnet	9.12	41	Pn	Pn	18 08 48.6	-1.6
	0.7nm,0.3s,baz=223,slow=12,SNR=5.7						
ULM				Lg	Lg	18 11 20.4	
	0.2nm,0.3s,baz=127,slow=20,SNR=1.9						
YKA	Yellowknife Ar	19.55	347	P	P	18 11 06.5	+0.2
	0.1nm,0.3s,baz=157,slow=12,SNR=5.1						
ARCES	ARCESS Array B	61.40	18	P	P	18 16 55.2	+0.4
	2.7nm,0.8s,baz=314,slow=8.1,SNR=2.5						

*IDC **08** 18:25:23.3±1.4,26°.67N×54°.47E,h0km,mb3.5/7, mb1 3.5/8,mb1mx3.4/36,mbtmp3.5/8,ML3.4/1,Error ellipse: s-maj=28.4km s-min=21.9km az=18.0*
*ISCJB **08** 18:25:25.9±0.4,26°.84N±0°.03×54°.58E±0°.07,h10km, mb3.5/7,Error ellipse: s-maj=9.1km s-min=3.6km az=156.0*
*TEH **08** 18:25:25.6,26°.83N×54°.62E,h10km,ML3.6*
*OMAN **08** 18:25:31.5±1.6,26°.79N×55°.00E,h21km±71km,ml3.1/8, Error ellipse: s-maj=93.4km s-min=12.8km az=332.0*

ISC 08 18:25:24.8±0.7,26°.67N±0°.04×54°.55E±0°.05,h10km,n39, σ1°03/44,mb3.5/7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	Shamm	1.56	113	ePn	Pg	18 25 54.0	-0.7
GENO	Geno	1.62	63	ePn	Pb	18 25 53.9	-1.0
GENO				IAMB	IAmb	18 26 23.5	
	comp=Z,0.0nm,0.4s						
MSFE	Esma-Masafi	1.95	132	ePn	Pg	18 26 01.7	-0.5
NAZ	Nazwa, Dubai	1.95	149	ePn	Pg	18 26 03.6	+1.4
JHRM	Jahrom	2.02	335	ePn	Pn	18 26 00.0	+0.9
JHRM				IAMB	IAmb	18 26 34.3	
	comp=Z,0.0nm,0.4s						
MDH	Madha	2.08	131	P	Pb	18 26 02.7	0.0
MDH				S	Sb	18 26 26.3	-2.3
MDH	Madha	2.08	131	ePn	Pb	18 26 02.7	0.0
FAQ	Al Faqa, Dubai	2.14	154	P	Pg	18 26 05.0	-0.7
FAQ	Al Faqa, Dubai	2.14	154	ePn	Pg	18 26 04.8	-1.0
ASUD	Al Ashush, Dub	2.15	161	P	Pg	18 26 06.2	+0.1
	SNR=15						
ASUD				S	Sg	18 26 33.9	-0.2
ASUD	Al Ashush, Dub	2.15	161	ePn	Pg	18 26 05.8	-0.3
NIAN	Nian	2.22	66	ePn	Pn	18 26 02.5	+0.8
NIAN				IAMB	IAmb	18 26 47.1	
	comp=Z,0.0nm,0.3s						
HATD	Hatta, Dubai	2.33	142	P	Pb	18 26 06.8	0.0
HATD				S	Sb	18 26 36.1	+0.4
HATD	Hatta, Dubai	2.33	142	ePn	Pg	18 26 09.5	+0.1
ASHO	Ashiyiah	2.40	145	P	Pb	18 26 08.3	+0.1
	SNR=13						
ASHO				S	Sn	18 26 35.0	+1.3
ASHO	Ashiyiah	2.40	145	ePn	Pb	18 26 07.8	-0.3
ALNE	Al Ain	2.82	157	ePn	Pb	18 26 14.4	-0.9
SOHO	SOHO	3.10	144	P	Pb	18 26 17.8	-2.2
IPAR	Pars	3.43	338	ePn	Pn	18 26 19.7	+1.1
NGRK	Negar Kerman	3.53	33	ePn	Pn	18 26 20.3	+0.2
NGRK				IAMB	IAmb	18 27 14.4	
	comp=Z,0.0nm,0.2s						
TVBK	TV Kerman	3.83	30	ePn	Pn	18 26 25.3	+1.1
TVBK				IAMB	IAmb	18 27 21.1	
	comp=Z,0.0nm,0.4s						
IKAZ	Kazeroun	3.91	323	ePn	Pn	18 26 27.0	+1.7
IKAZ				IAMB	IAmb	18 27 42.4	
	comp=Z,1μm,0.7s						
CHMN	Cheshme madani	4.13	39	ePn	Pn	18 26 30.6	+2.3
IMEH	Mehriz	4.70	1	ePn	Pn	18 26 36.8	+0.7
WSAR	Wadi Sarin	5.04	132	Pn	Pn	18 26 42.9	+2.5
	comp=Z,1.3nm,0.3s,baz=310,slow=7.9,SNR=19						
WSAR				Sn	Sn	18 27 39.5	+0.7
	comp=Z,0.8nm,0.3s,baz=357,slow=18,SNR=3.2						
KLNJ	Kolanjah	5.04	330	ePn	Pn	18 26 40.7	-0.1
ISAD	Sadrabad	5.28	352	ePn	Pn	18 26 45.0	+1.0
IRAM	Ramesheh	5.46	340	ePn	Pn	18 26 46.6	+0.2
IZEF	Zefreh	6.50	343	ePn	Pn	18 27 01.6	+0.9
IPIR	Pirpir	6.78	333	ePn	Pn	18 27 05.1	+0.4
IKOO	Kooshah	6.92	33	ePn	Pn	18 27 07.2	+0.6
KRSH	Karshahi	7.57	345	ePn	Pn	18 27 15.6	+0.3
BRTR	Keskin Array B	21.75	312	P	P	18 30 16.9	+0.3
	comp=Z,0.3nm,0.4s,baz=126,slow=12,SNR=2.8						
AKTO	Aktyubinsk	23.88	5	P	P	18 30 39.6	+1.2
	comp=Z,0.7nm,0.5s,baz=214,slow=7.3,SNR=3.4						
MKAR	Makanchi Array	29.71	40	P	P	18 31 31.4	+0.4
	comp=Z,0.4nm,0.9s,baz=219,slow=8.6,SNR=2.0						
ZALV	Zalesovo Beam	35.22	31	P	P	18 32 19.1	-0.1
	comp=Z,1.3nm,0.5s,baz=246,slow=9.1,SNR=7.1						
FINES	FINESS Array B	39.69	339	P	P	18 32 56.1	-0.8
	comp=Z,0.5nm,0.5s,baz=143,slow=12,SNR=3.5						
SONM	Songino Array	45.38	48	P	P	18 33 43.5	-0.1
	comp=Z,0.3nm,0.5s,baz=254,slow=10,SNR=3.3						
TORD	Torodi Ar. Bea	51.15	266	P	P	18 34 27.2	-1.2
	comp=Z,0.8nm,0.8s,baz=82,slow=6.7,SNR=5.0						

TRN 08 18:39:58.8,11°.03N×62°.15W,h26km,MD3.6,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.82	117	eP	Pn	18 40 14.9	+0.2
TRN				eS	Sn	18 40 26.5	+0.5
TPP	Pointe-a-Pierr	0.98	136	eP	Pb	18 40 17.7	+0.5
TPP				eS	Sn	18 40 30.9	+0.9
GRGR	Grenville	1.20	24	eP	Pn	18 40 20.3	+0.4
GRGR				eS	Sb	18 40 35.7	-0.3
GRHS	Sauteurs	1.29	23	eP	Pn	18 40 21.0	-0.1
GRHS				eS	Sn	18 40 37.2	-0.4
GRHS				eS	Sb	18 40 38.9	+0.3
GRSS	Sisters	1.37	22	eP	Pn	18 40 22.8	+0.6
GRSS				eS	Sn	18 40 39.5	0.0
TOSP	Speyside	1.60	80	eP	Pn	18 40 26.2	+0.8
TOSP				eS	Sn	18 40 45.0	-0.3
FCV	Fort Charlotte	2.29	23	eP	Pn	18 40 35.0	0.0
FCV				eS	Sn	18 41 02.9	+0.5
SVB	Belmont	2.40	21	eP	Pn	18 40 36.8	+0.4
SVB				eS	Sn	18 41 04.9	0.0
SVCV	St. Vincent, C	2.44	24	eP	Pn	18 40 37.3	+0.4
SVCV				eS	Sn	18 41 05.8	-0.1
SVV	Soufriere Volc	2.45	22	eP	Pn	18 40 37.6	+0.4
SVV	Soufriere Volc	2.45	22	eP	Pn	18 40 38.1	+0.9
SVV				eS	Sn	18 41 06.0	-0.3
SFAN	Fancy Village	2.53	22	eP	Pn	18 40 39.2	+1.0
SFAN				eS	Sn	18 41 08.0	-0.2
MCLT	Moule a Chique	2.92	24	eP	Pn	18 40 43.5	0.0
MCLT				eS	Sn	18 41 17.3	-0.4
SLDE	Delcer	2.96	21	eP	Pn	18 40 44.4	+0.3
SLDE				eS	Sn	18 41 18.8	0.0
SLB	Belfond	2.99	21	eP	Pn	18 40 44.7	+0.1
SLB				eS	Sn	18 41 18.6	-1.0
SLPA	Patience	3.06	23	eP	Pn	18 40 46.7	+1.3
SLPA				eS	Sn	18 41 20.8	-0.4
SLBI	Saint Lucia, B	3.19	21	eP	Pn	18 40 48.1	+0.8
SLBI				eS	Sn	18 41 24.4	-0.1
SLW	Petit Monier	3.20	22	eP	Pn	18 40 47.2	-0.3
SLW				eS	Sn	18 41 23.9	-1.0
FDF	Fort de France	3.81	15	eP	Pn	18 40 55.9	0.0
FDF				eS	Sn	18 41 38.1	-1.7

*JMA **08** 18:53:35.5±0.1,24°.10N×122°.10E,h49km±2km,M2.5*
*ISCJB **08** 18:53:36.4±0.2,24°.14N±0°.01×122°.15E±0°.01,h39km±9km, Error ellipse: s-maj=2.5km s-min=1.8km az=135.1*
*TAP **08** 18:53:36.2,24°.17N×122°.09E,h51km,ML3.3,C*

ISC 08 18:53:36.6±1.2,24°.14N±0°.02×122°.14E±0°.02,h33km±3km, n108,σ0°99/206,4C-4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.41	359	i P	Pb	18 53 46.3	+0.5
	baz=5.0						
EOS1				i S	Sn	18 53 53.8	+1.3
	baz=5.0						
ENA	Nanau	0.46	309	i P	Pb	18 53 46.6	0.0
	baz=315						
ENA				S	Sn	18 53 54.4	+0.4
	baz=315						
NACB	Ninganchiao	0.49	274	⇑i P	Pb	18 53 46.7	-0.4
	baz=264						
NACB				i S	Sb	18 53 54.7	+0.3
	baz=264						
TWD	Chiawan	0.50	263	⇑i P	Pb	18 53 46.8	-0.4
	baz=253						
TWD				i S	Sb	18 53 54.8	+0.4
	baz=253						
HWA	Hwalien	0.51	251	i P	Pb	18 53 47.5	+0.2
	baz=246						
HWA				S	Sn	18 53 56.3	+1.2
	baz=246						
TWC	Suao	0.53	331	i P	Pn	18 53 47.5	-0.4
	baz=339						
TWC				i S	Sb	18 53 55.0	-0.4
	baz=339						
ENLB	Shoufeng	0.54	244	⇑i P	Pn	18 53 47.5	-0.5
	baz=234						
ENLB				S	Sn	18 53 56.4	+0.5
	baz=234						
ILA	Ilan	0.71	330	P	Pn	18 53 50.0	-0.3
	baz=332						
ILA				S	Sb	18 54 01.0	+0.7
	baz=332						
ENTT	Nioudou	0.72	314	i P	Pn	18 53 49.9	-0.6
	baz=314						
ENTT				S	Sn	18 53 59.6	-0.7
	baz=314						
TWE	Neicheng	0.72	324	⇓i P	Pn	18 53 50.1	-0.3
	baz=325						
TWE				S	Sn	18 53 60.0	-0.3
	baz=325						
ESL	Shilin	0.72	243

YOJ			*e*S		Sn	18 54 04.1	+0.3
YHNB	**Yeheng**	**0.87 307**	⇓*i*P		Pn	18 53 52.0	-0.6
	baz=307						
YHNB			S		Sn	18 54 02.8	-1.3
	baz=307						
TWB1	**Santiao Chiao**	**0.87 351**	P		Pn	18 53 51.9	-0.7
	baz=353						
TWB1			S		Sn	18 54 02.1	-2.1
	baz=353						
TIPB	**Shuangxi**	**0.87 341**	*i* P		Pn	18 53 52.2	-0.4
	baz=349						
TIPB			S		Sn	18 54 04.0	-0.2
	baz=349						
CHGB	**Renai**	**0.88 265**	*i* P		Pn	18 53 52.4	-0.4
	baz=255						
CHGB			S		Sn	18 54 04.1	-0.5
	baz=255						
NSK	**Sanguang**	**0.89 307**	⇓*i*P		Pn	18 53 52.1	-0.7
	baz=299						
NSK			S		Sn	18 54 03.4	-1.2
	baz=299						
OWD	**Renai**	**0.90 258**	*i* P		Pn	18 53 52.4	-0.7
	baz=256						
OWD			S		Sn	18 54 03.5	-1.3
	baz=256						
TDCB	**Techi**	**0.90 277**	*i* P		Pn	18 53 52.9	-0.2
	baz=266						
TDCB			S		Sn	18 54 04.0	-0.9
	baz=266						
HGSD	**Ruisui**	**0.92 225**	*i* P		Pn	18 53 52.4	-0.7
	baz=219						
HGSD			S		Sn	18 54 05.2	0.0
	baz=219						
TWA	**Mucha**	**0.97 329**	⇓*i*P		Pn	18 53 54.1	+0.1
	baz=330						
TWA			S		Sn	18 54 07.0	+0.4
	baz=330						
EHY	**Hungye**	**0.98 230**	*i* P		Pn	18 53 53.0	-1.0
	baz=227						
EHY			*e*S		Sn	18 54 05.8	-0.9
	baz=227						
NWF	**Wu-fen Shan**	**0.98 341**	*i* P		Pn	18 53 53.8	-0.3
	baz=354						
NWF			S		Sn	18 54 06.2	-0.7
	baz=354						
WFSB	**Wu-fen Shan**	**0.98 341**	P		Pn	18 53 53.8	-0.3
	baz=354						
WFSB			S		Sn	18 54 05.9	-0.9
	baz=354						
VWDT	**VWDT**	**0.99 247**	⇑*i*P		Pn	18 53 53.9	-0.2
	baz=236						
VWDT			S		Sn	18 54 06.7	-0.3
	baz=236						
NHDH	**Xindian Distri**	**0.99 326**	*i* P		Pn	18 53 54.2	0.0
	baz=326						
NHDH			S		Sn	18 54 07.0	0.0
	baz=326						
TATO	**Taipei**	**1.02 325**	P		Pn	18 53 54.3	-0.3
	baz=325						
TATO			*e*S		Sn	18 54 07.8	+0.1
	baz=325						
YULB	**Yu-li**	**1.07 226**	*i* P		Pn	18 53 54.3	-1.0
	baz=235						
YULB			*e*S		Sn	18 54 07.7	-1.3
	baz=235						
WLTB	**Daxi**	**1.07 312**	P		Pn	18 53 55.5	+0.3
	baz=304						
WLTB			S		Sn	18 54 09.8	+0.8
	baz=304						
WHP	**Taichung City**	**1.09 277**	*i* P		Pn	18 53 56.2	+0.5
	baz=276						
WHP			S		Sn	18 54 09.8	+0.1
	baz=276						
TWF1	**Yuli**	**1.10 225**	*i* P		Pn	18 53 54.8	-0.9
	baz=233						
TWF1			*e*S		Sn	18 54 08.7	-1.0
	baz=233						
DPDB	**Guoxing**	**1.11 265**	*i* P		Pn	18 53 56.1	+0.2
	baz=259						
DPDB			*e*S		Sn	18 54 09.7	-0.4
	baz=259						
YM01	**YM01**	**1.12 333**	*i* P		Pn	18 53 55.6	-0.5
	baz=333						
YM01			*e*S		Sn	18 54 09.9	-0.5
	baz=333						
YM07	**YM07**	**1.13 336**	P		Pn	18 53 55.3	-0.9
	baz=336						
SSLB	**Suanglung**	**1.14 252**	P		Pn	18 53 56.2	-0.1
	baz=250						
SSLB			S		Sn	18 54 10.4	-0.3
	baz=250						
YM10	**YM10**	**1.14 333**	*i* P		Pn	18 53 55.8	-0.5
	baz=333						
YM10			*e*S		Sn	18 54 10.1	-0.7
	baz=333						
YM11	**YM11**	**1.14 334**	P		Pn	18 53 55.8	-0.6
	baz=334						
NSTT	**Nanjuang**	**1.14 295**	*i* P		Pn	18 53 56.7	+0.4
	baz=295						
NSTT			S		Sn	18 54 10.8	0.0
	baz=295						
YM08	**YM08**	**1.15 335**	P		Pn	18 53 55.7	-0.8
	baz=335						
YM08			*e*S		Sn	18 54 11.2	+0.1
	baz=335						
TWS1	**Kuangyinshan**	**1.16 326**	*i* P		Pn	18 53 56.3	-0.1
	baz=326						
TWS1			S		Sn	18 54 11.6	+0.5
	baz=326						
SMLT	**Sun Moon Lake**	**1.16 257**	*i* P		Pn	18 53 56.6	+0.1
	baz=249						
SMLT			S		Sn	18 54 10.9	-0.4
	baz=249						
ANP	**Anpu**	**1.18 332**	*e*P		Pn	18 53 56.5	-0.4
	baz=332						
TYC	**Yuchr**	**1.19 259**	*i* P		Pn	18 53 57.0	+0.1
	baz=251						
TYC			S		Sn	18 54 11.9	0.0
	baz=251						
NCU	**National Centr**	**1.19 314**	*e*P		Pn	18 53 56.7	-0.3
	baz=314						
NCU			*e*S		Sn	18 54 12.9	+0.8
	baz=314						
NCUH	**Zhongli**	**1.19 314**	P		Pn	18 53 57.2	+0.2
	baz=314						
NCUH			*e*S		Sn	18 54 13.0	+0.9
	baz=314						
NTST	**Danshui**	**1.20 329**	P		Pn	18 53 56.7	-0.3
	baz=339						
NTST			*e*S		Sn	18 54 12.2	+0.2
	baz=339						
TWY	**Chenhua**	**1.23 337**	P		Pn	18 53 57.6	+0.1
	baz=338						
TWY			S		Sn	18 54 12.9	0.0
	baz=338						
SBCB	**Hsinchu**	**1.23 302**	P		Pn	18 53 57.9	+0.3
	baz=302						
SBCB			S		Sn	18 54 14.1	+1.1
	baz=302						
WHYT	**Xinyi Township**	**1.25 250**	*i* P		Pn	18 53 58.3	+0.4
	baz=242						
WHYT			S		Sn	18 54 14.9	+1.3
	baz=242						
CHKT	**Chengkung**	**1.25 214**	P		Pn	18 53 56.7	-1.1
	baz=203						
CHKT			S		Sn	18 54 11.2	-2.3
	baz=203						
TWQ1	**Liyutan**	**1.26 280**	P		Pn	18 53 58.3	+0.4
	baz=279						
TWQ1			S		Sn	18 54 14.5	+0.8
	baz=279						
NSY	**Sanyi**	**1.28 283**	*e*P		Pn	18 53 58.8	+0.6
	baz=282						
NSY			*e*S		Sn	18 54 15.3	+1.0
	baz=282						
NMLH	**Miaoli**	**1.29 288**	P		Pn	18 53 58.8	+0.5
	baz=287						
NMLH			S		Sn	18 54 16.0	+1.6
	baz=287						
WJS	**Zhushan**	**1.33 256**	P		Pn	18 54 00.2	+1.4
	baz=251						
WJS			S		Sb	18 54 17.7	+0.1
	baz=251						
TCU	**Taichung**	**1.33 271**	P		Pn	18 53 59.9	+1.0
	baz=270						
TCU			S		Sn	18 54 16.8	+1.3
	baz=270						
WNT	**Mingjian**	**1.35 259**	P		Pn	18 54 00.5	+1.3
	baz=258						
WNT			S		Sn	18 54 17.6	+1.7
	baz=258						
ALS	**Alishan**	**1.37 243**	P		Pn	18 54 00.3	+0.6
	baz=234						
ALS			*e*S		Sn	18 54 16.9	0.0
	baz=234						
WDJ	**Dajia District**	**1.38 279**	P		Pn	18 54 00.0	+0.5
	baz=278						
WDJ			*e*S		Sn	18 54 17.1	+0.4
	baz=278						
ELDTW	**Lidau**	**1.40 227**	*i* P		Pn	18 53 58.9	-0.9
	baz=221						
ELDTW			S		Sn	18 54 15.8	-1.5
	baz=221						
CHN5	**Tsauling**	**1.44 248**	*i* P		Pn	18 54 01.5	+1.1
	baz=238						
CHN5			S		Sn	18 54 19.4	+1.1
	baz=238						
WCHH	**Zhanghua**	**1.44 268**	*e*P		Pn	18 54 00.2	-0.1
	baz=267						
WCHH			S		Sn	18 54 19.5	+1.4
	baz=267						
IRIF	**Iriomote-Funau**	**1.47 82**	P		Pn	18 54 00.5	-0.2
IRIF			S		Sn	18 54 19.3	+0.5
WGK	**Gukeng**	**1.51 253**	*e*P		Pn	18 54 02.8	+1.5
	baz=240						
WGK			*e*S		Sn	18 54 21.7	+1.9
	baz=240						
HATJ	**Hateruma jima**	**1.53 93**	S		Sn	18 54 21.4	+1.1
WDLH	**Douliu**	**1.53 253**	P		Pn	18 54 03.3	+1.7
	baz=242						
WDLH			S		Sb	18 54 22.5	-0.9
	baz=242						
STYT	**Tauyuan**	**1.59 233**	P		Pn	18 54 03.3	+0.7
	baz=224						
STYT			S		Sn	18 54 22.4	+0.3
	baz=224						
TPUB	**Ta-pu**	**1.61 239**	*i* P		Pn	18 54 04.0	+1.2
	baz=238						
TPUB			*e*S		Sn	18 54 23.9	+1.4
	baz=238						
CHN4	**Tsaushan**	**1.62 241**	P		Pn	18 54 04.3	+1.5
	baz=231						
CHN4			*e*S		Sn	18 54 23.6	+1.1
	baz=231						
TWGBT	**Beinan**	**1.64 217**	*e*P		Pn	18 54 02.2	-0.9
	baz=215						
TWGBT			S		Sn	18 54 21.7	-1.3
	baz=215						
CHN2	**Minshiung**	**1.64 249**	*e*S		Sn	18 54 24.3	+1.4
	baz=247						
TWG	**Pinlang**	**1.64 217**	*e*P		Pn	18 54 02.3	-0.8
	baz=215						
TWG			S		Sn	18 54 21.6	-1.4
	baz=215						
RLNB	**Erlin**	**1.64 262**	*e*P		Pn	18 54 03.0	-0.1
	baz=261						
RLNB			S		Sn	18 54 24.8	+1.7
	baz=261						
WTP	**Ta-pu**	**1.66 238**	P		Pn	18 54 04.8	+1.4
	baz=236						
WTP			S		Sn	18 54 25.0	+1.5
	baz=236						
CHY	**Chiayi**	**1.69 248**	*e*P		Pn	18 54 04.7	+0.9
	baz=247						
CHY			*e*S		Sn	18 54 25.7	+1.3
	baz=247						
JKRS	**Kuro-shima**	**1.71 86**	P		Pn	18 54 04.7	+0.6
JKRS			S		Sn	18 54 25.6	+0.7
WTCT	**Ta-ch'eng**	**1.72 261**	*e*P		Pn	18 54 04.8	+0.6
	baz=260						
WTCT			S		Sn	18 54 26.6	+1.7
	baz=260						
TWK	**Hsinying**	**1.74 240**	P		Pn	18 54 06.0	+1.4
	baz=239						
TWK			S		Sn	18 54 28.0	+2.3
	baz=239						
CHN1	**Nanshi**	**1.75 237**	*e*P		Pn	18 54 06.5	+1.7
	baz=236						
CHN1			S		Sn	18 54 28.2	+2.2
	baz=236						
SNST	**Tainan City**	**1.76 239**	*e*P		Pn	18 54 06.4	+1.6
	baz=238						
SNST			S		Sn	18 54 27.8	+1.7
	baz=238						
SGST	**Jiashian**	**1.77 234**	P		Pn	18 54 06.3	+1.4
	baz=232						
SGST			S		Sn	18 54 27.8	+1.5
	baz=232						
SLGT	**Liugui**	**1.78 230**	P		Pn	18 54 06.4	+1.3
	baz=237						
SLGT			S		Sn	18 54 28.4	+1.8
	baz=237						
WSF	**Szhu**	**1.82 254**	P		Pn	18 54 06.9	+1.3
	baz=266						
WSF			S		Sn	18 54 29.6	+2.0
	baz=266						
JIJ	**Ishigaki jima**	**1.85 83**	P		Pn	18 54 05.8	-0.1
JIJ			*e*S		Sn	18 54 27.2	-0.9
ECL	**Taimali**	**1.88 215**	*e*P		Pn	18 54 05.5	-0.9
	baz=214						
ECL			*e*S		Sn	18 54 26.6	-2.4
	baz=214						
SSD	**Sandimen**	**1.96 225**	P		Pn	18 54 08.7	+1.2
	baz=224						
SSD			*e*S		Sn	18 54 33.0	+2.0
	baz=224						
JISG	**Ishigakijimahi**	**2.03 77**	P		Pn	18 54 08.2	-0.3
MASBT	**Mashibuluo**	**2.06 223**	P		Pn	18 54 09.7	+0.8
	baz=221						
MASBT			S		Sn	18 54 34.6	+1.3
	baz=221						
EAST	**Anshuo**	**2.11 214**	*e*P		Pn	18 54 09.6	-0.1
	baz=206						
LAY	**Lan-yu**	**2.16 195**	P		Pn	18 54 08.6	-1.7
	baz=193						
LAY			S		Sn	18 54 33.6	-2.4
	baz=193						
SSPT	**Xinbi**	**2.19 221**	*e*P		Pn	18 54 12.8	+2.1
	baz=220						
SSPT			*e*S		Sn	18 54 37.8	+1.1
	baz=220						
SCZT	**Fangliau**	**2.25 219**	*e*P		Pn	18 54 12.1	+0.7
	baz=208						
SCZT			*e*S		Sn	18 54 40.3	+2.3
	baz=208						
JTJ	**Tarama**	**2.39 77**	P		Pn	18 54 13.9	+0.4
JTJ			*e*S		Sn	18 54 41.5	-0.1
PHUB	**P'eng-hu**	**2.43 256**	P		Pn	18 54 13.0	-0.9
	baz=255						
PHUB			S		Sn	18 54 41.5	-1.0
	baz=255						
PNG	**Penghu**	**2.43 257**	*e*P		Pn	18 54 13.2	-0.8
	baz=256						
PNG			*e*S		Sn	18 54 42.0	-0.6
	baz=256						
WDGT	**Dungji**	**2.43 249**	*e*P		Pn	18 54 14.2	+0.2
	baz=249						
WDGT			*e*S		Sn	18 54 42.1	-0.6
	baz=249						
HEN	**Hengchun**	**2.48 211**	*e*S		Sn	18 54 44.7	+0.8
	baz=201						
TWKBT	**Hengchun**	**2.51 209**	*e*S		Sn	18 54 44.4	-0.1
	baz=202						
PTTC	**Pingtan**	**2.54 303**	*e*P		Pn	18 54 14.1	-1.4
	baz=303						
PTTC			S		Sn	18 54 42.1	-3.2
	baz=303						
JIRB	**Irabujima**	**2.85 75**	*e*S		Sn	18 54 53.9	+1.0

MEX 08 18:54:35.9±0.6, 15°.94N×98°.33W, h5km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.48**	**23**	*e*P	Pg	18 54 44.6	-0.7
PNIG				*i* S	Sg	18 54 51.6	-0.1
TLIG	**Tlapa**	**1.63**	**352**	*e*P	Pn	18 55 01.5	-3.8
HUIG	**Huatulco**	**2.14**	**94**	*e*P	Pn	18 55 09.2	-3.2
HUIG				*i* S	Sn	18 55 34.9	-4.4
CAIG	**El Cayaco**	**2.16**	**301**	*e*P	Pn	18 55 09.6	-3.0
MEIG	**Mezcala**	**2.33**	**328**	*e*P	Pn	18 55 12.0	-3.0
PLIG	**Platanillo**	**2.68**	**335**	*e*P	Pn	18 55 16.9	-3.0
PLIG				*i* S	Sn	18 55 48.8	-4.0
ARIG	**Puente Sto Nin**	**3.02**	**321**	*e*P	Pn	18 55 21.9	-2.5
CMIG	**Matias Romero**	**3.49**	**70**	*e*P	Pn	18 55 28.3	-2.7

MEX 08 18:59:21.3±0.6, 15°.99N×98°.28W, h7km±3km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.42**	**20**	*e*P	Pg	18 59 28.7	-0.9
PNIG				*e*S	Sg	18 59 35.7	+0.6
TLIG	**Tlapa**	**1.59**	**350**	*e*P	Pn	18 59 46.3	-3.6
TLIG				*i* S	Sn	19 00 05.4	-5.4
HUIG	**Huatulco**	**2.10**	**96**	*e*P	Pn	18 59 53.8	-3.0
HUIG				*i* S	Sn	19 00 18.1	-5.2
CAIG	**El Cayaco**	**2.18**	**299**	*i* P	Pn	18 59 54.7	-3.2
CAIG				*i* S	Sn	19 00 20.0	-5.2
CMIG	**Matias Romero**	**3.43**	**71**	*i* P	Pn	19 00 12.1	-3.1
CMIG				*i* S	Sn	19 00 53.1	-3.1

ISC 08 19:01:09.6±1.3, 50°.14N±0°.06×19°.24E±0°.04, h0km, n5, σ0°79/10, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.37**	**77**	*e*Pg	**Pg**	**19 01 16.9**	**+0.2**
OJC				*e*Sg	**Sg**	**19 01 21.8**	**+0.3**
NIE	**Niedzica**	**1.00**	**136**	*e*Pg	**Pb**	**19 01 29.9**	**0.0**
NIE				*e*Sg	**Sb**	**19 01 44.4**	**+0.8**
LANS	**Liptovska Anna**	**1.00**	**171**	*e*PG	**Pg**	**19 01 29.3**	**+0.5**
LANS				*e*SG	**Sg**	**19 01 42.3**	**+0.5**
MORC	**Moravsky Berou**	**1.15**	**252**	*e*PG	**Pg**	**19 01 32.3**	**+0.6**
MORC				*e*SG	**Sb**	**19 01 48.3**	**+0.3**
VYHS	**Vyhne**	**1.67**	**189**	*e*PN	**Pn**	**19 01 39.4**	**-0.7**
VYHS				*e*SN	**Sn**	**19 02 00.8**	**-1.4**

*IDC **08** 19:01:12.2±0.5, 19°.94N×144°.21E, h0km, mb4.1/26, mb1 4.3/27, mb1mx4.2/53, mbtmp4.1/27, ML3.0/1, MS3.6/28, Ms1 3.6/28, ms1mx3.6/34, Error ellipse: s-maj=18.0km s-min=13.6km az=90.0*

*MOS **08** 19:01:12.4±1.0, 19°.88N×144°.09E, h16km, mb4.9/28, Error ellipse: s-maj=13.5km s-min=6.0km az=110.6*

*BJI **08** 19:01:13.0±0.0, 19°.96N×144°.75E, h36km, mb4.6/32, mB4.9/23, Ms4.1/7, Ms7 3.9/6*

*ISCJB **08** 19:01:17.1±2.2, 19°.97N±0°.06×144°.16E±0°.06, h47km±18km, mb4.5/74, MS3.7/31, Error ellipse: s-maj=11.0km s-min=8.9km az=151.9*

*NEIC **08** 19:01:19.4±1.8, 19°.92N×144°.19E, h55km±15km, mb4.7/35, Error ellipse: s-maj=8.3km s-min=7.2km az=142.0*

ISC 08 19:01:16.7±1.3, 19°.98N±0°.08×144°.43E±0°.09, h31km±8km, n160, σ1°43/157, mb4.5/74, MS3.8/31, 11C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.38**	**343**	*e*Pn	**P**	**19 05 17.4**	**-0.7**
MJAR	**Matsushiro Arr**	**17.38**	**343**	*e*P	**P**	**19 05 17.4**	**-0.7**
MJAR	**Matsushiro Arr**	**17.38**	**343**	P	**Pn**	**19 05 17.2**	**+0.1**
	0.1nm,0.3s,baz=171,slow=10,SNR=11						
MJAR				LR	LR	19 11 44.9	
	comp=Z,139nm,20.7s,baz=190,slow=36						
MAJO	**Matsushiro**	**17.38**	**343**	*e*Pn	**P**	**19 05 17.4**	**-0.7**
	17nm,1.1s						
MAJO	**Matsushiro**	**17.38**	**343**	*e*P	**P**	**19 05 17.4**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,17nm,1.1s						
MAT	**Matsushiro**	**17.38**	**343**	P	**P**	**19 05 17.8**	**-0.3**
MJB9	**Matsu-Tunnel**	**17.39**	**343**	*e*Pn	**Pn**	**19 05 16.2**	**-0.9**
	comp=Z,17nm,1.1s						
JNU	**Nakatsue**	**17.82**	**320**	P	**P**	**19 05 25.4**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=128,slow=5.0,SNR=8.1						
JNU				LR	LR	19 11 11.3	
	comp=Z,24nm,20.2s,baz=168,slow=34						
H11S3	**WAKE ISLAND Hy**	**21.07**	**90**	T	T	19 28 05.1	
	baz=276,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**21.08**	**90**	T	T	19 28 08.4	
	baz=276,slow=75,SNR=36						
H11S2	**WAKE ISLAND Hy**	**21.09**	**90**	T	T	19 28 13.2	
	baz=276,slow=75,SNR=50						
H11N1	**WAKE ISLAND Hy**	**21.13**	**87**	T	T	19 28 09.5	
	baz=274,slow=74,SNR=40						
H11N2	**WAKE ISLAND Hy**	**21.14**	**87**	T	T	19 28 08.3	
	baz=274,slow=74,SNR=37						
H11N3	**WAKE ISLAND Hy**	**21.15**	**87**	T	T	19 28 10.8	
	baz=274,slow=74,SNR=30						
DAV	**Davao City (W)**	**22.34**	**238**	LR	LR	19 12 53.8	
	comp=Z,355nm,20.5s,baz=68,slow=32						
KSRS	**Korea Array**	**22.58**	**324**	P	**P**	**19 06 12.4**	**-2.2**
	comp=Z,7.9nm,0.9s,baz=147,slow=8.6,SNR=22						
KSRS				LR	LR	19 14 50.8	
	comp=Z,69nm,18.1s,baz=150,slow=36						
KS15	**Wonju Array Si**	**22.60**	**324**	*e*P	**P**	**19 06 15.6**	**+0.8**
	comp=Z,44nm,1.6s						
KSAR	**Wonju Array Be**	**22.60**	**324**	P	**P**	**19 06 12.4**	**-2.4**
KSAR	**Wonju Array Be**	**22.60**	**324**	P	**P**	**19 06 12.4**	**-2.4**
JAY	**Jayapura**	**22.65**	**190**	LR	LR	19 13 55.0	
	comp=Z,84nm,19.4s,baz=28,slow=34						
TGY	**Tagaytay City**	**23.19**	**259**	LR	LR	19 13 24.0	
	comp=Z,351nm,20.8s,baz=51,slow=32						
ASAJ	**Asahikawa**	**24.12**	**357**	P	**P**	**19 06 31.1**	**+1.4**
	comp=Z,4.4nm,1.0s,baz=142,slow=13,SNR=4.9						
USRK	**Ussuriysk Ar.**	**26.29**	**340**	P	**P**	**19 06 49.5**	**0.0**
	comp=Z,2.7nm,0.7s,baz=139,slow=12,SNR=6.6						
USRK				LR	LR	19 16 47.5	
	comp=Z,41nm,19.1s,baz=151,slow=36						
WHN	**Wuhan**	**29.08**	**297**	P	**P**	**19 07 18.3**	**+3.7**
WHN				S	**S**	**19 12 11.1**	**+6.6**
WHN				LR	LR		
	comp=Z,450nm,13.5s						
PMG	**Port Moresby**	**29.32**	**174**	LR	LR	19 17 55.7	
	comp=Z,107nm,18.5s,baz=346,slow=34						
KLR	**Kul'dur**	**30.91**	**344**	*i* P	**P**	**19 07 29.5**	**-1.1**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GRNR	**Gornyy**	**31.38**	**350**	*e*P	**P**	**19 07 34.9**	**+0.2**
HNR	**Honiara**	**32.98**	**151**	LR	LR	19 22 14.7	
	comp=Z,54nm,18.1s,baz=318,slow=38						
NKL	**Nikolayevsk**	**33.24**	**356**	*e*P	**P**	**19 07 51.2**	**+0.3**
NKL				pmax	pmax		
	comp=Z,16nm,0.9s						
PETK	**Petropavlovsk-**	**34.63**	**14**	LR	LR	19 21 06.9	
	comp=Z,117nm,20.6s,baz=199,slow=34						
ZEA	**Zeya**	**36.20**	**343**	*e*P	**P**	**19 08 15.2**	**-1.3**
KMI	**Kunming**	**38.73**	**286**	P	**P**	**19 08 40.8**	**+2.2**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
WRAB	**Tennant Creek**	**40.87**	**195**	*ce*P	**P**	**19 08 58.7**	**+2.6**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WR1	**Warramunga Arr**	**40.88**	**195**	*e*P	**P**	**19 08 54.7**	**-1.5**
WR1				*e*PcP	**PcP**	**19 10 57.3**	**+0.7**
WRA	**Warramunga Arr**	**40.88**	**195**	P	**P**	**19 08 54.7**	**-1.5**
	comp=Z,3.6nm,1.1s,baz=6.8,slow=9.1,SNR=6.8						
WRA				PcP	**PcP**	**19 10 57.3**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=9.5,slow=3.1,SNR=6.5						
WRA				LR	LR	19 25 09.2	
	comp=Z,136nm,21.9s,baz=320,slow=35						
ULN	**Ulaanbaatar**	**41.03**	**321**	*i* P	**P**	**19 08 55.6**	**-1.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONA0	**Songino Array**	**41.40**	**321**	*e*P	**P**	**19 08 59.9**	**-0.5**
SONA0				*e*PcP	**PcP**	**19 10 58.9**	**+0.8**
SONM	**Songino Array**	**41.40**	**321**	P	**P**	**19 08 59.9**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=129,slow=8.8,SNR=11						
SONM				PcP	**PcP**	**19 10 58.9**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=129,slow=2.0,SNR=3.2						
SONM				LR	LR	19 26 43.7	
	comp=Z,64nm,20.4s,baz=161,slow=37						
FITZ	**Fitzroy Crossi**	**42.09**	**207**	PcP	**PcP**	**19 11 01.0**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=30,slow=4.7,SNR=3.9						
GTA	**Gaotai**	**42.82**	**307**	⇑P	**P**	**19 09 11.9**	**-0.2**
GTA				pP	pP	19 09 19.6	-0.3
GTA				sP	sP	19 09 23.7	+0.6
GTA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,120nm,7.1s						
GTA				LR	LR		
	comp=Z,92nm,16.5s						
GTA				LR	LR		
	comp=Z,61nm,19.0s						
GTA				LR	LR		
	comp=Z,110nm,18.1s						

CMAR	**Chiang Mai Arr**	**42.88**	**276**	*ce*P	**P**	**19 09 15.1**	**+2.4**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**42.88**	**276**	P	**P**	**19 09 12.3**	**-0.4**
comp=Z,0.8nm,0.8s,baz=70,slow=7.8,SNR=7.4							
CMAR				PcP	**PcP**	**19 11 04.0**	**+0.6**
comp=Z,1.2nm,0.8s,baz=67,slow=1.7,SNR=9.3							
CMAR				LR	LR	19 24 46.4	
comp=Z,66nm,20.8s,baz=166,slow=33							
SEY	**Seymchan**	**43.27**	**5**	*i* P	**P**	**19 09 18.0**	**+2.8**
SEY	**Seymchan**	**43.27**	**5**	P	**P**	**19 09 15.2**	**+0.1**
comp=Z,1.3nm,0.9s,baz=90,slow=20,SNR=2.6							
ZAK	**Zakamensk**	**44.41**	**323**	*e*P	**P**	**19 09 23.5**	**-1.2**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.4s							
ASAR	**Alice Springs**	**44.57**	**194**	P	**P**	**19 09 24.8**	**-1.4**
comp=Z,0.5nm,0.7s,baz=12,slow=8.0,SNR=6.0							
ASAR				PcP	**PcP**	**19 11 09.4**	**+0.5**
comp=Z,1.4nm,0.8s,baz=15,slow=2.5,SNR=9.2							
ASAR				LR	LR	19 27 04.8	
comp=Z,98nm,21.3s,baz=349,slow=35							
LSA	**Lhasa**	**48.95**	**292**	*e*P	**P**	**19 10 01.2**	**+0.2**
comp=Z,8.8nm,0.7s							
LSA	**Lhasa**	**48.95**	**292**	*e*P	**P**	**19 10 01.2**	**+0.2**
LSA				pmax	pmax		
comp=Z,9.0nm,0.7s							
BILL	**Bilibino**	**49.98**	**11**	*e*P	**P**	**19 10 08.8**	**+1.1**
comp=Z,11nm,1.0s							
BILL	**Bilibino**	**49.98**	**11**	*ce*P	**P**	**19 10 08.6**	**+0.9**
BILL				pmax	pmax		
comp=Z,4.0nm,0.8s							
STKA	**Stephens Creek**	**51.63**	**183**	P	**P**	**19 10 20.0**	**-0.5**
comp=Z,4.1nm,0.7s,baz=322,slow=8.3,SNR=6.4							
STKA				LR	LR	19 34 21.8	
comp=Z,110nm,18.8s,baz=257,slow=39							
TIXI	**Tiksi**	**52.48**	**354**	*ce*P	**P**	**19 10 25.3**	**-1.0**
TIXI				pmax	pmax		
comp=Z,1.0nm,0.9s							
RAMN	**Ramite**	**53.12**	**289**	*e*P	**P**	**19 10 31.1**	**-1.0**
JIRN	**Jiri**	**53.42**	**290**	*e*P	**P**	**19 10 34.2**	**-0.3**
comp=Z,35nm,1.2s							
GUN	**Gumba**	**53.67**	**290**	*e*P	**P**	**19 10 36.0**	**-0.3**
DGZ	**Jazzator, Alta**	**53.78**	**318**	⇑ *i* P	**P**	**19 10 36.7**	**+0.2**
DGZ				pmax	pmax		
comp=Z,3.0nm,0.8s							
KKN	**Kakani**	**54.21**	**290**	*e*P	**P**	**19 10 39.7**	**-0.4**
GKN	**Gorkha**	**54.75**	**291**	*e*P	**P**	**19 10 43.4**	**-0.6**
DANN	**Dangsing**	**55.49**	**291**	*e*P	**P**	**19 10 49.2**	**-0.3**
comp=Z,30nm,0.7s							
KOLN	**Koldanda**	**55.69**	**290**	*e*P	**P**	**19 10 50.2**	**-0.6**
comp=Z,12nm,0.9s							
PYUN	**Piuthan**	**56.19**	**291**	*e*P	**P**	**19 10 53.6**	**-0.8**
comp=Z,33nm,1.2s							
ZAA0	**Zalesovo Array**	**56.28**	**322**	*e*P	**P**	**19 10 53.1**	**-1.1**
comp=Z,3.1nm,0.8s							
ZALV	**Zalesovo Beam**	**56.28**	**322**	P	**P**	**19 10 53.3**	**-0.9**
comp=Z,2.9nm,0.7s,baz=102,slow=5.7,SNR=11							
ZALV				PcP	**PcP**	**19 11 50.4**	**-1.1**
comp=Z,2.2nm,0.9s,baz=106,slow=3.8,SNR=4.1							
ZALV				LR	LR	19 34 01.3	
comp=Z,45nm,21.9s,baz=138,slow=35							
ZAA1	**Zalesovo Array**	**56.28**	**322**	*e*P	**P**	**19 10 53.3**	**-0.9**
ZAA1				*e*PcP	**PcP**	**19 11 50.4**	**-1.1**
MK31	**Makanchi Array**	**56.72**	**313**	*e*P	**P**	**19 10 57.2**	**-0.3**
comp=Z,2.6nm,0.8s							
MK31	**Makanchi Array**	**56.72**	**313**	*e*P	**P**	**19 10 57.3**	**-0.3**
MK31				pmax	pmax		
comp=Z,3.0nm,0.8s							
MK32	**Makanchi Array**	**56.72**	**313**	*e*P	**P**	**19 10 57.4**	**-0.2**
MK32				*e*PcP	**PcP**	**19 11 53.1**	**-0.3**
MKAR	**Makanchi Array**	**56.72**	**313**	P	**P**	**19 10 57.4**	**-0.2**
comp=Z,3.9nm,0.9s,baz=92,slow=8.7,SNR=20							
MKAR				PcP	**PcP**	**19 11 53.1**	**-0.4**
comp=Z,2.5nm,0.9s,baz=76,slow=5.1,SNR=6.9							
MKAR				LR	LR	19 33 43.6	
comp=Z,27nm,21.6s,baz=119,slow=34							
KURK	**Kurchatov**	**59.52**	**318**	*e*P	**P**	**19 11 16.0**	**-1.1**
comp=Z,7.2nm,0.9s							
KURK	**Kurchatov**	**59.52**	**318**	*ce*P	**P**	**19 11 15.7**	**-1.4**
KURK				pmax	pmax		
comp=Z,10.0nm,1.3s							
NRIK	**Noril'sk**	**60.01**	**340**	P	**P**	**19 11 19.3**	**-0.8**
comp=Z,1.0nm,0.2s,baz=107,slow=5.8,SNR=4.4							
NRIK				LR	LR	19 38 00.9	
comp=Z,56nm,18.1s,baz=134,slow=37							
CAST	**Castle Rocks**	**60.52**	**28**	*e*P	**P**	**19 11 25.3**	**+1.6**
comp=Z,7.6nm,1.1s							
NRN	**Naryn**	**61.06**	**307**	*e*P	**P**	**19 11 26.4**	**-1.8**
NRN	**Naryn**	**61.06**	**307**	*e*P	**P**	**19 11 26.4**	**-1.8**
BOOM	**Boomskoye usch**	**61.08**	**308**	*e*P	**P**	**19 11 27.1**	**-1.0**
BOOM	**Boomskoye usch**	**61.08**	**308**	*e*P	**P**	**19 11 27.1**	**-1.0**
BPAW	**Bear Paw Mtn.**	**61.16**	**27**	*e*P	**P**	**19 11 29.4**	**+1.3**
comp=Z,6.6nm,1.2s							
SML	**Sawmill**	**61.86**	**30**	*e*P	**P**	**19 11 33.8**	**+0.9**
comp=Z,14nm,1.1s							
SML	**Sawmill**	**61.86**	**30**	*e*P	**P**	**19 11 33.8**	**+0.9**
SML				pmax	pmax		
comp=Z,14nm,1.1s							
MCK	**McKinley**	**61.96**	**28**	*e*P	**P**	**19 11 33.9**	**+0.4**
comp=Z,6.3nm,1.1s							
MCK	**McKinley**	**61.96**	**28**	*e*P	**P**	**19 11 33.9**	**+0.4**
MCK				pmax	pmax		
comp=Z,6.0nm,1.1s							
AAK	**Ala-Archa**	**62.14**	**308**	*i* P	**P**	**19 11 33.6**	**-1.7**
AAK				pmax	pmax		
comp=Z,2.0nm,1.0s							
TOLK	**Toolik Lake Re**	**62.86**	**22**	*e*P	**P**	**19 11 40.5**	**+1.0**
comp=Z,5.7nm,1.1s							
HDA	**Harding Lake**	**62.95**	**27**	*e*P	**P**	**19 11 40.7**	**+0.6**
comp=Z,14nm,1.7s							
ILAR	**Eielson Array**	**63.04**	**27**	P	**P**	**19 11 41.1**	**+0.4**
comp=Z,1.0nm,0.8s,baz=255,slow=5.4,SNR=10							
ILAR				LR	LR	19 36 34.0	
comp=Z,103nm,21.8s,baz=270,slow=34							
ILB	**Eielson Array**	**63.04**	**27**	*e*P	**P**	**19 11 40.1**	**-0.6**
comp=Z,5.2nm,1.1s							
RIDG	**Independent Ri**	**63.75**	**28**	*e*P	**P**	**19 11 46.7**	**+1.2**
comp=Z,7.4nm,1.0s							
NIL	**Nilore**	**63.87**	**298**	*e*P	**P**	**19 11 47.3**	**+0.5**
comp=Z,38nm,1.1s							
NIL	**Nilore**	**63.87**	**298**	*e*P	**P**	**19 11 47.3**	**+0.5**
NIL				pmax	pmax		
comp=Z,37nm,1.1s							
DOT	**Dot Lake**	**64.09**	**28**	*e*P	**P**	**19 11 48.7**	**+1.0**
CRQM	**Cirque**	**64.20**	**31**	*e*P	**P**	**19 11 50.1**	**+1.5**
comp=Z,7.1nm,0.8s							
BRVK	**Borovoye**	**64.80**	**320**	*e*P	**P**	**19 11 51.7**	**-0.7**
comp=Z,7.2nm,1.0s							
BRVK	**Borovoye**	**64.80**	**320**	*d i* P	**P**	**19 11 51.4**	**-1.0**
BRVK				pmax	pmax		
comp=Z,9.0nm,1.1s							
KK31	**Karatay Array**	**65.03**	**309**	*e*P	**P**	**19 11 52.7**	**-1.5**
comp=Z,30nm,1.9s							
KK31	**Karatay Array**	**65.03**	**309**	*e*P	**P**	**19 11 52.7**	**-1.5**
KK31				pmax	pmax		
comp=Z,30nm,1.9s							
KKAR	**Karatay Array**	**65.03**	**309**	*e*P	**P**	**19 11 52.8**	**-1.4**
comp=Z,30nm,1.9s							
KKAR	**Karatay Array**	**65.03**	**309**	*e*P	**P**	**19 11 52.8**	**-1.4**
KKAR				pmax	pmax		
comp=Z,30nm,1.9s							
GAR	**Garm**	**65.58**	**305**	*e*P	**P**	**19 11 57.4**	**-0.5**
comp=Z,13nm,1.0s							
GAR	**Garm**	**65.58**	**305**	*e*P	**P**	**19 11 57.4**	**-0.5**
GAR				pmax	pmax		
comp=Z,13nm,1.0s							
HYT	**Haines Junctio**	**66.96**	**31**	*e*P	**P**	**19 12 07.6**	**+1.2**
KBL	**Kabul**	**67.19**	**300**	*e*P	**P**	**19 12 07.8**	**-0.7**
comp=Z,18nm,0.9s							
KBL	**Kabul**	**67.19**	**300**	*e*P	**P**	**19 12 07.8**	**-0.7**
KBL				pmax	pmax		
comp=Z,18nm,0.9s							
INK	**Inuvik**	**68.68**	**23**	*e*P	**P**	**19 12 17.6**	**+0.7**
comp=Z,5.3nm,1.2s							
INK	**Inuvik**	**68.68**	**23**	P	**P**	**19 12 17.9**	**+1.0**
comp=Z,0.7nm,0.6s,baz=273,slow=2.5,SNR=4.8							
ARU	**Arti**	**71.33**	**324**	*c i* P	**P**	**19 12 31.8**	**-1.6**
ARU						19 12 51.9	
ARU						19 15 06.0	
ARU				S	**S**	**19 21 45.5**	**-3.6**
ARU				pmax	pmax		
comp=Z,5.0nm,0.8s							
ABKAR	**Akbulak array**	**71.59**	**317**	*e*P	**P**	**19 12 34.2**	**-0.9**
comp=Z,16nm,1.9s							
PPT	**Papeete**	**74.75**	**115**	LR	LR	19 41 57.7	
comp=Z,132nm,19.4s,baz=334,slow=33							
PPT2	**Papeete2**	**74.75**	**115**	*e*LR	LR	19 35 46.6	
comp=Z,152nm,23.0s							
GEYT	**Alibeck**	**75.18**	**305**	P	**P**	**19 12 57.0**	**+0.4**
comp=Z,1.8nm,0.7s,baz=106,slow=11,SNR=4.0							
YKA	**Yellowknife Ar**	**77.43**	**28**	P	**P**	**19 13 10.0**	**+1.3**
YKA	**Yellowknife Ar**	**77.43**	**28**	P	**P**	**19 13 10.0**	**+1.3**
comp=Z,1.3nm,0.7s,baz=291,slow=5.4,SNR=16							
YKA				LR	LR	19 46 51.9	
comp=Z,7.3nm,20.7s,baz=306,slow=35							
YKB5	**Yellowknife Ar**	**77.43**	**28**	*e*P	**P**	**19 13 10.0**	**+1.3**
RES	**Resolute Bay**	**78.47**	**13**	*e*P	**P**	**19 13 15.1**	**+0.8**
comp=Z,3.0nm,0.8s							
RES	**Resolute Bay**	**78.47**	**13**	P	**P**	**19 13 15.2**	**+0.8**
comp=Z,2.1nm,0.8s,baz=322,slow=6.0,SNR=11							
HUMO	**Hull Mountain**	**78.62**	**49**	*e*P	**P**	**19 13 17.8**	**+2.0**
comp=Z,6.0nm,1.2s							
YBH	**Yreka Blue Hor**	**79.04**	**50**	P	**P**	**19 13 20.4**	**+2.2**
comp=Z,0.8nm,0.6s,baz=327,slow=3.2,SNR=4.5							
PINE	**Pine Mountain**	**79.68**	**47**	*e*P	**P**	**19 13 23.1**	**+1.3**
comp=Z,14nm,1.0s							
ARA0	**ARCESS Array S**	**80.91**	**342**	*e*P	**P**	**19 13 27.4**	**-0.3**
ARCES	**ARCESS Array B**	**80.91**	**342**	P	**P**	**19 13 27.4**	**-0.3**
comp=Z,3.1nm,0.8s,baz=77,slow=9.3,SNR=5.4							
TULEG	**Thule**	**81.61**	**7**	*e*P	**P**	**19 13 30.6**	**-0.7**
comp=Z,6.0nm,0.8s							
BMO	**Blue Mountains**	**81.81**	**45**	*e*P	**P**	**19 13 34.3**	**+1.2**
comp=Z,8.9nm,1.2s							
BMO	**Blue Mountains**	**81.81**	**45**	*e*P	**P**	**19 13 34.3**	**+1.2**
BMO				pmax	pmax		
comp=Z,9.0nm,1.2s							
PNTR	**Pine Nut**	**82.12**	**51**	*e*P	**P**	**19 13 35.7**	**+0.7**
comp=Z,48nm,0.9s							
VRH	**Novokhopyorsk**	**82.31**	**322**	*e*P	**P**	**19 13 34.2**	**-1.2**
VRH				pmax	pmax		
comp=Z,10.0nm,0.8s							
MOS	**Moscow**	**82.74**	**327**	*e*P	**P**	**19 13 34.9**	**-2.6**
KVN	**Kaiserville**	**83.23**	**51**	*e*P	**P**	**19 13 41.8**	**+1.0**
comp=Z,3.2nm,0.8s							
KVN	**Kaiserville**	**83.23**	**51**	*e*P	**P**	**19 13 41.8**	**+1.0**
KVN				pmax	pmax		
comp=Z,3.0nm,0.8s							
NV01	**Mina Array Sit**	**83.30**	**52**	*e*P	**P**	**19 13 42.9**	**+1.8**
NVAR	**Mina Array Bea**	**83.30**	**52**	P	**P**	**19 13 42.9**	**+1.8**
comp=Z,1.5nm,0.7s,baz=268,slow=7.0,SNR=3.1							
NVAR				LR	LR	19 45 02.8	
comp=Z,36nm,19.5s,baz=270,slow=32							
LPSR	**Galich'ya Gora**	**83.35**	**324**	*e*P	**P**	**19 13 39.3**	**-1.4**
LPSR				pmax	pmax		
comp=Z,20nm,0.8s							
OBN	**Obninsk**	**83.56**	**327**	⇓ *e*P	**P**	**19 13 41.2**	**-0.5**
OBN				*e*		19 13 47.4	
OBN				*i* *PP	**pP**	**19 13 50.5**	**+0.3**
OBN				SSS	SSS	19 32 56.0	
OBN				pmax	pmax		
comp=Z,12nm,0.9s							
OBN				MLR	MLR		
comp=Z,49nm,17.0s							
VSR	**Storozhevoye**	**83.78**	**322**	*e*P	**P**	**19 13 40.6**	**-2.4**
VSR				pmax	pmax		
comp=Z,10.0nm,0.9s							
ZEI	**Tsey**	**84.07**	**313**	*e*P	**P**	**19 13 41.2**	**-3.7**
ZEI				pmax	pmax		
comp=Z,11nm,1.5s							
KBZ	**Khabaz**	**84.40**	**314**	P	**P**	**19 13 46.3**	**0.0**
comp=Z,3.3nm,0.9s,baz=150,slow=0.8,SNR=10							
KIV	**Kislovodsk**	**84.45**	**315**	*e*P	**P**	**19 13 46.3**	**-0.4**
KIV				pmax	pmax		
comp=Z,14nm,1.0s							
KIV				MLR	MLR		
comp=Z,66nm,19.0s							
ELK	**Elko**	**84.69**	**49**	*e*P	**P**	**19 13 49.8**	**+1.6**
comp=Z,5.4nm,0.9s							
ELK	**Elko**	**84.69**	**49**	P	**P**	**19 13 49.6**	**+1.4**
comp=Z,1.3nm,0.8s,baz=278,slow=4.3,SNR=4.4							
FIA0	**FINESS Array S**	**85.23**	**335**	*e*P	**P**	**19 13 48.6**	**-1.5**
FIA0	**FINESS Array S**	**85.23**	**335**	*e*P	**P**	**19 13 48.6**	**-1.5**
FINES	**FINESS Array B**	**85.23**	**335**	*ce*P	**P**	**19 13 48.5**	**-1.6**
FINES				pmax	pmax		
comp=Z,3.0nm,0.6s							
FINES	**FINESS Array B**	**85.23**	**335**	P	**P**	**19 13 48.6**	**-1.5**
comp=Z,2.7nm,0.6s,baz=66,slow=4.8,SNR=18							
FFC	**Flin Flon**	**86.66**	**32**	*ce*P	**P**	**19 13 58.9**	**+1.5**
PDAR	**Pinedale Array**	**87.78**	**45**	P	**P**	**19 14 04.9**	**+1.5**
comp=Z,0.2nm,0.4s,baz=240,slow=2.7,SNR=2.3							
PDAR				LR	LR	19 47 10.2	
comp=Z,39nm,21.8s,baz=282,slow=31							
AKASG	**Malin Array Be**	**89.58**	**325**	*ce*P	**P**	**19 14 09.1**	**-2.2**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**89.58**	**325**	P	**P**	**19 14 09.5**	**-1.8**
comp=Z,0.8nm,0.5s,baz=46,slow=4.8,SNR=4.7							
AKASG				LR	LR	19 57 21.1	
comp=Z,43nm,19.9s,baz=60,slow=38							
AKBB	**Malin Array Si**	**89.58**	**325**	*e*P	**P**	**19 14 09.1**	**-2.2**
comp=Z,5.2nm,1.0s							
AKBB	**Malin Array Si**	**89.58**	**325**	*e*P	**P**	**19 14 09.1**	**-2.2**
AKBB				pmax	pmax		
comp=Z,5.0nm,1.0s							
KIEV	**Kiev**	**89.59**	**325**	*i* P	**P**	**19 14 09.7**	**-1.7**
KIEV				pmax	pmax		
comp=Z,6.0nm,1.1s							
SUW	**Suwalki**	**90.79**	**330**	*e*P	**P**	**19 14 15.9**	**-1.0**
comp=Z,33nm,1.0s							
NB200	**NORSAR Array S**	**90.96**	**339**	*e*P	**P**	**19 14 15.9**	**-1.7**
NOA	**NORSAR Array B**	**90.96**	**339**	P	**P**	**19 14 15.9**	**-1.7**
comp=Z,0.5nm,0.8s,baz=49,slow=4.9,SNR=2.8							
NOA				LR	LR	19 58 54.9	
comp=Z,24nm,20.4s,baz=40,slow=38							
ULM	**Lac du Bonnet**	**92.22**	**34**	LR	LR	19 53 54.8	
comp=Z,66nm,21.9s,baz=338,slow=34							
BR101	**Keskin Array S**	**92.37**	**314**	*e*P	**P**	**19 14 23.4**	**-1.4**
BRTR	**Keskin Array B**	**92.37**	**314**	P	**P**	**19 14 23.4**	**-1.4**
comp=Z,1.8nm,0.8s,baz=60,slow=3.9,SNR=9.1							
VYHS	**Vyhne**	**96.35**	**327**	*e*P	**P**	**19 14 41.8**	**-0.8**
VYHS	**Vyhne**	**96.35**	**327**	*e*P	**P**	**19 14 41.8**	**-0.8**
VNDA	**Vanda**	**97.83**	**176**	LR	LR	19 55 38.6	
comp=Z,34nm,20.4s,baz=309,slow=33							
GERES	**GERESS Array B**	**98.65**	**330**	LR	LR	20 03 49.9	
comp=Z,38nm,18.5s,baz=90,slow=38							
LPAZ	**La Paz**	**148.87**	**89**	*e*PKPdf	**PKPdf**	**19 20 57.7**	**-1.4**
LPAZ				PKPbc	**PKPbc**	**19 21 03.1**	**+0.1**
LPAZ	**La Paz**	**148.87**	**89**	PKPbc	**PKPbc**	**19 21 03.1**	**+0.1**
comp=Z,0.9nm,0.6s,baz=35,slow=12,SNR=5.0							

*IDC **08** 19:02:13.4±16.0, 18°.11S×173°.50W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.7/49, mbtmp4.1/5, Error ellipse: s-maj=318.2km s-min=142.5km az=81.0*
*ISCJB **08** 19:02:28.2±0.7, 18°.0S±0°.1×174°.2W±0°.1, h100km, mb4.4/9, Error ellipse: s-maj=18.7km s-min=13.7km az=171.3*
*NEIC **08** 19:02:32.2±4.5, 18°.21S×174°.03W, h132km±59km, mb4.3/3, Error ellipse: s-maj=74.7km s-min=13.6km az=141.0*

ISC 08 19:02:29.6±0.9, 18°.0S±0°.2×174°.2W±0°.1, h100km, n12, σ1 9°01/12, mb4.1/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.20**	**105**	*e*Pn	**Pn**	**19 03 31.9**	**+0.4**
RAO	**Raoul Island**	**11.70**	**196**	*e*Pn	**Pn**	**19 05 12.8**	**-0.5**
CTA	**Charters Tower**	**37.38**	**260**	P	**P**	**19 09 34.7**	**+1.7**
3.2nm,0.5s,baz=87,slow=14,SNR=6.2							
STKA	**Stephens Creek**	**42.11**	**242**	P	**P**	**19 10 11.6**	**-0.4**
1.3nm,0.6s,baz=75,slow=12,SNR=2.6							
WR1	**Warramunga Arr**	**48.54**	**259**	*e*P	**P**	**19 11 03.4**	**+0.3**
WRA	**Warramunga Arr**	**48.55**	**259**	P	**P**	**19 11 03.4**	**+0.3**
0.8nm,0.3s,baz=96,slow=7.7,SNR=37							
AS31	**Alice Springs**	**48.61**	**254**	*e*P	**P**	**19 11 03.9**	**+0.2**
3.9nm,1.6s							
ASAR	**Alice Springs**	**48.61**	**254**	P	**P**	**19 11 03.4**	**-0.3**
1.6nm,0.5s,baz=87,slow=7.5,SNR=31							
FITZ	**Fitzroy Crossi**	**56.95**	**260**	P	**P**	**19 12 05.7**	**+0.6**
2.1nm,1.0s,baz=31,slow=5.9,SNR=3.4							
TWG	**Pinlang**	**75.14**	**300**	*e*P	**P**	**19 13 59.8**	**-1.5**
130nm,1.4s							
GHO	**Glory Hole Cre**	**82.02**	**12**	*e*P	**P**	**19 14 39.5**	**+1.2**
5.7nm,0.6s							
SML	**Sawmill**	**82.17**	**12**	*e*P	**P**	**19 14 37.9**	**-1.2**
3.3nm,0.6s							

MEX 08 19:07:03.4±0.6, 30°.42N×109°.62W, h5km, MD3.8, Sonora

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGIG		**1.42**	**92**	*i* P	Pn	19 07 27.2	-2.9
CGIG				*i* S	Sb	19 07 43.5	-5.5
HSIG		**1.81**	**220**	*i* P	Pn	19 07 32.3	-2.9
HSIG				*i* S	Sn	19 07 54.0	-4.6

IDC 08 19:07:20.7±1.3, 12°.12N×143°.98E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/48, mbtmp3.6/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/30, Error ellipse: s-maj=59.9km s-min=23.8km az=96.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**24.86**	**349**	LR	LR	19 22 20.3	
comp=Z,59nm,18.3s,baz=205,slow=36							
KSRS	**Korea Array**	**29.04**	**333**	LR	LR	19 23 18.0	
comp=Z,31nm,21.1s,baz=125,slow=33							
WRA	**Warramunga Arr**	**33.25**	**197**	P	P	19 13 59.1	-0.8
0.7nm,0.8s,baz=22,slow=9.5,SNR=4.1							
ASAR	**Alice Springs**	**36.91**	**195**	P	P	19 14 32.1	+0.7
0.4nm,0.7s,baz=14,slow=14,SNR=5.3							
MKAR	**Makanchi Array**	**61.95**	**317**	P	P	19 17 43.0	+0.6
0.2nm,0.6s,baz=96,slow=9.5,SNR=2.9							
ILAR	**Eielson Array**	**70.25**	**25**	P	P	19 18 35.7	+0.2
0.5nm,0.7s,baz=244,slow=6.4,SNR=5.4							
FINES	**FINESS Array B**	**92.12**	**335**	P	P	19 20 30.4	-1.4
0.4nm,0.5s,baz=42,slow=6.4,SNR=4.0							

*IDC **08** 19:11:48.5±10.0, 11°.60N×144°.32E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/40, mbtmp3.8/4, Error ellipse: s-maj=313.3km s-min=54.0km az=177.0*
*NEIC **08** 19:11:53.9±1.0, 11°.64N×144°.35E, h35km, mb4.7/3, Error ellipse: s-maj=27.9km s-min=17.4km az=132.0*

ISC 08 19:11:53.1±2.0, 11°.6N±0°.3×144°.3E±0°.3, h29km, n15, σ0 9°86/12, mb4.2/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.02**	**15**	*e*Pn	**Pn**	**19 12 23.8**	**-1.5**
SARN	**Sarigan**	**5.23**	**15**	*e*Pn	**Pn**	**19 13 11.0**	**+1.5**
H11N1	**WAKE ISLAND Hy**	**23.14**	**67**	T	T	19 41 36.2	
baz=255,slow=75,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**23.15**	**67**	T	T	19 41 32.4	
baz=255,slow=75,SNR=4.1							
H11N3	**WAKE ISLAND Hy**	**23.16**	**67**	T	T	19 41 35.9	
baz=255,slow=75,SNR=4.5							
MK32	**Makanchi Array**	**62.54**	**317**	*e*P	**P**	**19 22 14.4**	**0.0**
MKAR	**Makanchi Array**	**62.54**	**317**	P	**P**	**19 22 14.4**	**0.0**
0.3nm,0.5s,baz=97,slow=7.9,SNR=5.2							
ILAR	**Eielson Array**	**70.55**	**25**	P	**P**	**19 23 05.2**	**0.0**
0.3nm,0.4s,baz=250,slow=5.9,SNR=6.8							
ILB	**Eielson Array**	**70.55**	**25**	*e*P	**P**	**19 23 04.7**	**-0.6**
9.9nm,1.8s							
ABKAR	**Akbulak array**	**77.64**	**318**	*e*P	**P**	**19 23 47.2**	**+0.3**
7.4nm,1.7s							
YKA	**Yellowknife Ar**	**84.83**	**27**	P	**P**	**19 24 25.3**	**+0.6**
0.2nm,0.3s,baz=286,slow=5.2,SNR=5.4							
YKB5	**Yellowknife Ar**	**84.83**	**27**	*e*P	**P**	**19 24 25.3**	**+0.6**
FIA0	**FINESS Array S**	**92.70**	**335**	*e*P	**P**	**19 25 01.9**	**-0.4**
FINES	**FINESS Array B**	**92.70**	**335**	P	**P**	**19 25 01.9**	**-0.4**
0.6nm,0.5s,baz=76,slow=5.9,SNR=5.7							
T25A	**Trinidad**	**99.41**	**49**	*e*P	**Pdif**	**19 25 32.7**	**-1.0**
7.1nm,0.7s							

*ATH **08** 19:33:01.8, 35°.44N×26°.80E, h28km±3km, ML2.0/3, Error ellipse: s-maj=5.8km s-min=1.3km az=145.0*
*ISK **08** 19:33:01.8, 35°.52N×26°.74E, h5km, ML2.5/5*
*ISCJB **08** 19:33:02.6±0.7, 35°.50N±0°.06×26°.75E±0°.04, h6km±8km, Error ellipse: s-maj=11.3km s-min=4.0km az=157.8*
*THE **08** 19:33:02.8, 35°.43N×26°.76E, h4km±4km, ML2.0/5, Error ellipse: s-maj=5.3km s-min=0.8km az=143.0*

ISC 08 19:33:01.2±3.2, 35°.44N±0°.05×26°.78E±0°.03, h4km±25km, n19, σ0 9°70/32, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.33**	**71**	P	**Pb**	**19 33 09.8**	**+0.2**
KARP				S	**Sb**	**19 33 15.3**	**0.0**
KARP	**Karpathos**	**0.33**	**71**	P	**Pb**	**19 33 09.7**	**0.0**
KARP				S	**Sb**	**19 33 15.0**	**-0.3**
KARP				AML	AML	19 33 15.7	
comp=E,544μm,0.4s							
KARP				AML	AML	19 33 16.4	
comp=N,759μm,0.3s							
ZKR	**Zakros**	**0.56**	**235**	PG	**Pb**	**19 33 13.6**	**0.0**
ZKR				SG	**Sb**	**19 33 22.

BADI				AML	AML	
	comp=N,255μm,0.3s					
BADI	**Badiali**	**0.06 324**		P	Pg	20 03 43.6 +0.3
BADI	**Badiali**	**0.06 324**		S	Sg	20 03 45.0 +0.2
ATVO	**AVT- Monte Val**	**0.11 133**		P	Pg	20 03 44.3 +0.4
ATVO				S	Sg	20 03 46.2 +0.4
ATVO				AML	AML	
	comp=E,116μm,0.7s					
ATVO				AML	AML	
	comp=N,79μm,0.3s					
ATVO				AML	AML	
	comp=E,116μm,0.7s					
ATVO				AML	AML	
	comp=N,79μm,0.3s					
ATVO				AML	AML	
	comp=N,79μm,0.3s					
ATVO				AML	AML	
	comp=E,116μm,0.7s					
ATVO	**AVT- Monte Val**	**0.11 133**		P	Pg	20 03 44.3 +0.4
ATVO	**AVT- Monte Val**	**0.11 133**		S	Sg	20 03 46.5 +0.7
ATMI	**Monte Miggiano**	**0.13 189**		P	Pg	20 03 44.6 +0.5
ATMI				S	Sg	20 03 47.6 +1.5
ATMI				AML	AML	
	comp=E,74μm,1.6s					
ATMI				AML	AML	
	comp=N,83μm,0.7s					
ATMI				AML	AML	
	comp=E,74μm,1.6s					
ATMI				AML	AML	
	comp=N,83μm,0.7s					
ATMI				AML	AML	
	comp=N,83μm,0.7s					
ATMI				AML	AML	
	comp=E,74μm,1.6s					
ATMI	**Monte Miggiano**	**0.13 189**		P	Pg	20 03 44.6 +0.6
ATMI	**Monte Miggiano**	**0.13 189**		P	Pg	20 03 44.6 +0.6
PIEI	**Pieia**	**0.19 66**		P	Pg	20 03 45.8 +0.6
PIEI				S	Sg	20 03 49.3 +1.3
PIEI				AML	AML	
	comp=E,49μm,1.4s					
PIEI				AML	AML	
	comp=N,39μm,0.4s					
PIEI				AML	AML	
	comp=E,49μm,1.4s					
PIEI				AML	AML	
	comp=N,39μm,0.4s					
PIEI				AML	AML	
	comp=E,49μm,1.4s					
PIEI				AML	AML	
	comp=N,39μm,0.4s					
PIEI	**Pieia**	**0.19 66**		P	Pg	20 03 45.8 +0.7
PIEI	**Pieia**	**0.19 66**		P	Pg	20 03 45.8 +0.7
PIEI	**Pieia**	**0.19 66**		S	Sg	20 03 49.5 +1.5
PARC	**Parchiule**	**0.20 348**		P	Pg	20 03 46.0 +0.7
PARC				S	Sg	20 03 49.5 +1.4
PARC				AML	AML	
	comp=E,54μm,0.2s					
PARC				AML	AML	
	comp=N,46μm,0.2s					
PARC				AML	AML	
	comp=E,54μm,0.2s					
PARC				AML	AML	
	comp=N,46μm,0.2s					
PARC				AML	AML	
	comp=E,54μm,0.2s					
PARC				AML	AML	
	comp=N,46μm,0.2s					
PARC	**Parchiule**	**0.20 348**		P	Pg	20 03 46.0 +0.8
PARC	**Parchiule**	**0.20 348**		P	Pg	20 03 46.0 +0.8
PARC	**Parchiule**	**0.20 348**		S	Sg	20 03 49.4 +1.3
MURB	**Monte Urbino**	**0.26 139**		P	Pg	20 03 47.0 +0.7
MURB				S	Sb	20 03 51.7 -0.7
MURB				AML	AML	
	comp=E,46μm,0.2s					
MURB				AML	AML	
	comp=N,42μm,0.3s					
MURB				AML	AML	
	comp=E,46μm,0.2s					
MURB				AML	AML	
	comp=N,42μm,0.3s					
MURB				AML	AML	
	comp=N,42μm,0.3s					
MURB				AML	AML	
	comp=E,46μm,0.2s					
MURB	**Monte Urbino**	**0.26 139**		P	Pg	20 03 47.1 +0.7
ATTE	**AVT- Monte Tez**	**0.26 171**		P	Pg	20 03 47.1 +0.6
ATTE				S	Sg	20 03 51.0 +1.0
ATTE				AML	AML	
	comp=E,20μm,1.0s					
ATTE				AML	AML	
	comp=N,19μm,1.1s					
ATTE				AML	AML	
	comp=E,20μm,1.0s					
ATTE				AML	AML	
	comp=N,19μm,1.1s					
ATTE				AML	AML	
	comp=N,19μm,1.1s					
ATTE				AML	AML	
	comp=E,20μm,1.0s					
ATTE	**AVT- Monte Tez**	**0.26 171**		P	Pg	20 03 47.1 +0.6
ATTE	**AVT- Monte Tez**	**0.26 171**		P	Pg	20 03 47.1 +0.7
CAFI	**Castiglion Fio**	**0.27 242**		P	Pg	20 03 47.3 +0.7
CAFI	**Castiglion Fio**	**0.27 242**		P	Pg	20 03 47.3 +0.7
CAFI	**Castiglion Fio**	**0.27 242**		P	Pb	20 03 47.4 -0.7
CAFI				S	Sb	20 03 51.9 -0.9
CAFI				AML	AML	
	comp=E,12μm,0.8s					
CAFI				AML	AML	
	comp=N,15μm,1.0s					
CAFI				AML	AML	
	comp=E,12μm,0.8s					
CAFI				AML	AML	
	comp=N,15μm,1.0s					
CAFI	**Castiglion Fio**	**0.27 242**		S	Sb	20 03 51.9 -0.9
FRON	**Frontone**	**0.32 79**		P	Pg	20 03 48.0 +0.6
FRON	**Frontone**	**0.32 79**		P	Pg	20 03 48.1 +0.6
FRON				S	Sb	20 03 53.1 -1.0
FRON	**Frontone**	**0.32 79**		P	Pg	20 03 48.1 +0.6

*IDC **08** 20:08:43.3±9.9, 23°.57S×179°.82W, h512km±102km, mb3.2/3, mb1 3.5/4, mb1mx3.0/37, mbtmp4.3/4, Error ellipse: s-maj=84.6km s-min=38.4km az=33.0*

ISC 08 20:08:44.8±1.9, 23°.7S±0°.1×179°.9W±0°.3, h532km, n6, σ1§43/7, mb3.8/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.73 189**		P		**P**		**20 11 51.9**	**+0.4**
	2.1nm,0.3s,baz=68,slow=11,SNR=11								
URZ				S			**S**	**20 14 25.1**	**-0.5**
	1.4nm,0.3s,baz=193,slow=22,SNR=6.6								
CTA	**Charters Tower**	**31.61 270**		P		**P**		**20 14 24.5**	**+0.2**
	2.8nm,0.4s,baz=88,slow=14,SNR=4.9								
ASAR	**Alice Springs**	**42.20 260**		P		**P**		**20 15 51.4**	**+0.1**
	0.9nm,0.4s,baz=94,slow=7.2,SNR=25								
WRA	**Warramunga Arr**	**42.56 266**		P		**P**		**20 15 53.6**	**-0.4**
	1.3nm,0.4s,baz=95,slow=8.3,SNR=191								
ARCES	**ARCESS Array B 131.74 348**			PKP		**PKPdf**		**20 26 56.6**	**0.0**
	3.4nm,0.9s,baz=20,slow=2.9,SNR=2.6								
AKASG	**Malin Array Be**	**144.89 328**		PKP		**PKPdf**		**20 27 20.7**	**-0.3**
	0.6nm,0.5s,baz=44,slow=3.6,SNR=3.7								

*IDC **08** 20:10:29.9±3.0, 23°.49S×179°.71W, h501km±30km, mb3.3/10, mb1 3.5/11, mb1mx3.3/37, mbtmp4.1/11, Error ellipse: s-maj=33.1km s-min=20.8km az=144.0*

*ISCJB **08** 20:10:32.0±0.8, 23°.53S±0°.09×179°.9W±0°.2, h532km, mb3.7/10, Error ellipse: s-maj=20.6km s-min=11.1km az=7.4*

ISC 08 20:10:32.4±0.8, 23°.7S±0°.1×179°.8W±0°.1, h532km, n20, σ1§51/20, mb3.7/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.78 190**		P		**P**		**20 13 40.4**	**+0.7**
	1.6nm,0.3s,baz=301,slow=3.9,SNR=6.6								
URZ				S			**S**	**20 16 12.6**	**-1.6**
	0.6nm,0.3s,baz=204,slow=19,SNR=5.5								
CTA	**Charters Tower**	**31.65 270**		P		**P**		**20 16 12.9**	**+0.7**
	10nm,0.4s,baz=95,slow=11,SNR=29								
STKA	**Stephens Creek**	**34.97 248**		P		**P**		**20 16 40.9**	**+0.8**
	1.3nm,0.4s,baz=98,slow=12,SNR=5.9								
ASAR	**Alice Springs**	**42.24 260**		P		**P**		**20 17 39.3**	**+0.1**
	1.6nm,0.6s,baz=92,slow=7.1,SNR=13								
ASAR				ScP		**ScP**		**20 22 24.8**	**+3.8**
	0.6nm,0.8s,baz=103,slow=4.7,SNR=4.1								
ASAR				S		**S**		**20 23 18.3**	**-3.1**
	0.8nm,0.8s,baz=98,slow=14,SNR=7.1								
WRA	**Warramunga Arr**	**42.59 266**		P		**P**		**20 17 41.6**	**-0.4**
	1.8nm,0.5s,baz=92,slow=8.4,SNR=23								
MJAR	**Matsushiro Arr**	**71.80 325**		P		**P**		**20 21 00.3**	**-0.9**
	1.2nm,0.7s,baz=160,slow=6.4,SNR=5.0								
KSRS	**Korea Array**	**78.18 320**		P		**P**		**20 21 37.6**	**+0.8**
	0.8nm,0.7s,baz=139,slow=6.7,SNR=4.1								
PETK	**Petropavlovsk-**	**78.92 346**		P		**P**		**20 21 40.0**	**-0.4**
	2.1nm,0.7s,baz=117,slow=8.5,SNR=6.0								
NVAR	**Mina Array Bea**	**84.47 44**		P		**P**		**20 22 09.7**	**+0.2**
	0.3nm,0.5s,baz=215,slow=7.7,SNR=3.5								
CMAR	**Chiang Mai Arr**	**89.61 290**		P		**P**		**20 22 35.9**	**+2.0**
	0.7nm,0.8s,baz=143,slow=3.6,SNR=6.5								
ILAR	**Eielson Array**	**91.77 13**		P		**P**		**20 22 41.4**	**-1.4**
	0.4nm,0.6s,baz=223,slow=7.2,SNR=4.4								
MKAR	**Makanchi Array**	**112.12 313**		PKiKP		**PKiKP**		**20 28 06.8**	**-0.6**
	0.3nm,0.6s,baz=126,slow=1.7,SNR=5.6								
ARCES	**ARCESS Array B 131.69 348**			PKP		**PKPdf**		**20 28 43.5**	**-0.7**
	5.7nm,0.9s,baz=46,slow=3.5,SNR=6.8								
FINES	**FINESS Array B**	**138.28 342**		PKhKP		PKPpre		20 28 47.2	
	1.2nm,0.9s,baz=66,slow=4.8,SNR=3.9								
NB2	**NORSAR Subarra141.88 351**			PKP		PKPpre		20 28 58.1	
	comp=Z,0.5nm,0.5s,baz=16,slow=3.2								
NOA	**NORSAR Array B 141.88 351**			PKhKP		PKPpre		20 28 58.3	
	comp=Z,0.7nm,0.6s,baz=15,slow=4.7,SNR=5.5								
AKASG	**Malin Array Be**	**144.87 328**		PKP		**PKPdf**		**20 29 08.2**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=44,slow=4.2,SNR=13								
BRTR	**Keskin Array B**	**147.57 308**		PKPbc		**PKPbc**		**20 29 17.4**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=149,slow=4.9,SNR=5.0								
GERES	**GERESS Array B 152.70 340**			PKPbc		**PKPbc**		**20 29 27.6**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=64,slow=3.1,SNR=4.6								
TORD	**Torodi Ar. Bea**	**169.44 188**		PKP		**PKPdf**		**20 29 40.1**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=178,slow=1.2,SNR=3.3								

*IDC **08** 20:27:27.0±0.7, 51°.83N×175°.36E, h0km, mb3.9/21, mb1 4.0/22, mb1mx3.9/49, mbtmp3.9/22, ML2.8/1, MS3.3/16, Ms1 3.3/16, ms1mx3.1/45, Error ellipse: s-maj=25.3km s-min=11.3km az=168.0*

*ISCJB **08** 20:27:30.9±0.3, 51°.93N±0°.07×175°.23E±0°.04, h39km, mb4.0/32, MS3.3/13, Error ellipse: s-maj=9.7km s-min=3.3km az=4.5*

*NEIC **08** 20:27:30.0±0.0, 51°.84N×175°.13E, h40km, mb4.5/13, ML3.9(AEIC), After AEIC.*

ISC 08 20:27:32.7±0.6, 52°.0N±0°.1×175°.18E±0°.04, h39km, n84, σ1§34/80, mb4.0/32, MS3.3/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.03 320**		*e*Pn		**Pn**		**20 27 50.3**	**-0.3**
SMY				S		**Sn**		**20 28 05.3**	**+1.6**
GALAA	**Gareloi Lava P**	**3.75 90**		*e*Pn		**Pn**		**20 28 28.3**	**+0.3**
GAEA	**Gareloi East**	**3.77 90**		*e*Pn		**Pn**		**20 28 28.0**	**-0.2**
TASE	**Tanaga Southea**	**4.20 89**		*e*Pn		**Pn**		**20 28 34.0**	**-0.3**
TAFP	**Tanaga Falls P**	**4.23 88**		*e*Pn		**Pn**		**20 28 34.2**	**-0.4**
KIMD	**Kanaga Island**	**4.71 89**		P		**Pn**		**20 28 40.2**	**-0.9**
KIMD				S		**Sn**		**20 29 36.6**	**+2.3**
KICM	**Kanaga Island**	**4.72 87**		*e*Pn		**Pn**		**20 28 40.7**	**-0.6**
KIKV	**Kanaga Island**	**4.74 88**		*e*Pn		**Pn**		**20 28 41.7**	**+0.2**
KIWB	**Kanaga Island**	**4.75 88**		*e*Pn		**Pn**		**20 28 38.6**	**-3.1**
ADK	**Adak**	**5.04 88**		*e*Pn		**Pn**		**20 28 46.0**	**+0.3**
ADK				*e*Sn		**Sn**		**20 29 44.6**	**+2.2**
ADAG	**Mount Adagdak**	**5.08 86**		*e*Pn		**Pn**		**20 28 45.9**	**-0.4**
ETKA	**Kagalaska Isla**	**5.21 88**		*e*Pn		**Pn**		**20 28 47.9**	**-0.2**
GSTD	**Great Sitkin T**	**5.36 85**		*e*Pn		**Pn**		**20 28 49.6**	**-0.5**
GSTD				*e*Sn		**Sn**		**20 29 52.8**	**+2.2**
KOKL	**Mount Kliuchef**	**6.55 83**		*e*Pn		**Pn**		**20 29 07.5**	**+1.0**
ATKA	**Atka Island**	**6.56 84**		P		**Pn**		**20 29 06.5**	**+0.1**
ATKA				S		**Sn**		**20 30 23.1**	**+3.2**
SPIA	**Saint Paul Isl**	**9.95 53**		*e*Pn		**Pn**		**20 29 53.2**	**+0.4**
PEA1	**Petropavlovsk-**	**10.72 283**		*e*Pn		**Pn**		**20 30 04.8**	**+1.3**
PEA1				*e*Sn		**Sn**		**20 32 00.0**	**-2.0**
PETK	**Petropavlovsk-**	**10.72 283**		*e*Pn		**Pn**		**20 30 04.2**	**+0.7**
PETK				Sn		**Sn**		**20 32 00.0**	**-2.0**
PETK	**Petropavlovsk-**	**10.72 283**		Pn		**Pn**		**20 30 04.8**	**+1.3**
	0.3nm,0.3s,baz=89,slow=20,SNR=13								
PETK				Sn		**Sn**		**20 32 00.0**	**-2.0**
	0.7nm,0.3s,baz=65,slow=10,SNR=5.0								
PETK				LR		LR		20 34 17.8	
	comp=Z,68nm,20.9s,baz=96,slow=38								
MA2	**Magadan**	**15.65 309**		LR		LR		20 37 31.7	
	comp=Z,70nm,19.1s,baz=110,slow=38								
KDAK	**Kodiak Island**	**19.32 60**		LR		LR		20 38 53.5	
	comp=Z,81nm,21.3s,baz=268,slow=36								
RDOG	**Red Dog Mine**	**19.32 25**		*e*P		**P**		**20 31 54.6**	**+0.4**
	11nm,0.8s								
ASAJ	**Asahikawa**	**23.00 263**		P		**P**		**20 32 35.6**	**+1.7**
	6.0nm,0.9s,baz=102,slow=25,SNR=4.7								
ILAR	**Eielson Array**	**23.24 42**		P		**P**		**20 32 36.8**	**+0.6**
	1.0nm,0.6s,baz=253,slow=8.8,SNR=8.0								
ILAR				LR		LR		20 41 50.8	
	comp=Z,49nm,20.4s,baz=238,slow=37								
TOLK	**Toolik Lake Re**	**23.65 32**		*e*P		**P**		**20 32 40.2**	**+0.1**
	14nm,0.5s								
BALM	**Baldy**	**24.73 52**		*e*P		**P**		**20 32 49.2**	**-0.9**
	12nm,1.4s								
EGAK	**Eagle**	**25.64 43**		*e*P		**P**		**20 32 57.1**	**-1.1**
	7.0nm,1.3s								
DAWY	**Dawson**	**26.31 45**		*e*P		**P**		**20 33 03.5**	**-0.8**
	3.5nm,0.8s								
KLR	**Kul'dur**	**27.41 282**		P		**P**		**20 33 15.2**	**+0.9**
	1.1nm,0.6s,baz=78,slow=6.8,SNR=5.9								
KLR				LR		LR		20 43 15.7	
	comp=Z,55nm,21.8s,baz=46,slow=34								
TIXI	**Tiksi**	**28.31 331**		LR		LR		20 44 46.6	
	comp=Z,27nm,19.8s,baz=110,slow=36								
INK	**Inuvik**	**29.19 37**		P		**P**		**20 33 30.2**	**+0.2**
	0.8nm,0.4s,baz=289,slow=5.6,SNR=6.1								
USRK	**Ussuriysk Ar.**	**29.51 272**		P		**P**		**20 33 33.8**	**+0.7**
	2.4nm,0.9s,baz=42,slow=12,SNR=4.0								
DLBC	**Dease Lake**	**31.16 56**		P		**P**		**20 33 48.0**	**+0.4**
	1.2nm,0.6s,baz=240,slow=6.1,SNR=3.6								
H11N2	**WAKE ISLAND Hy 32.80 195**			T		T		21 08 35.0	
	baz=10.0,slow=76,SNR=13								
H11N3	**WAKE ISLAND Hy 32.81 194**			T		T		21 08 39.9	
	baz=10.0,slow=76,SNR=14								
H11N1	**WAKE ISLAND Hy 32.82 195**			T		T		21 08 42.3	
	baz=10.0,slow=76,SNR=130								
H11S1	**WAKE ISLAND Hy 34.03 194**			T		T		21 10 25.5	
	baz=9.2,slow=76,SNR=94								
H11S3	**WAKE ISLAND Hy 34.04 195**			T		T		21 10 32.8	
	baz=9.2,slow=76,SNR=87								
H11S2	**WAKE ISLAND Hy 34.05 194**			T		T		21 10 16.1	
	baz=9.2,slow=76,SNR=55								
KSRS	**Korea Array**	**35.91 265**		P		**P**		**20 34 31.1**	**+2.1**
	1.2nm,0.5s,baz=66,slow=8.4,SNR=4.9								
KSRS				LR		LR		20 48 05.0	
	comp=Z,20nm,21.9s,baz=90,slow=34								
KSAR	**Wonju Array Be**	**35.94 265**		P		**P**		**20 34 31.1**	**+1.8**
YKA	**Yellowknife Ar**	**37.54 46**		P		**P**		**20 34 42.0**	**-0.6**
YKA	**Yellowknife Ar**	**37.54 46**		P		**P**		**20 34 42.0**	**-0.6**
	0.3nm,0.5s,baz=290,slow=8.1,SNR=5.1								
YKB5	**Yellowknife Ar**	**37.54 46**		*e*P		**P**		**20 34 42.0**	**-0.6**
RES	**Resolute Bay**	**40.76 24**		P		**P**		**20 35 09.2**	**-0.1**
	0.4nm,0.6s,baz=10,slow=10,SNR=4.1								
NRIK	**Noril'sk**	**41.98 328**		LR		LR		20 54 18.5	
	comp=Z,56nm,18.2s,baz=132,slow=38								
YBH	**Yreka Blue Hor**	**42.47 78**		P		**P**		**20 35 24.4**	**+0.5**
	0.5nm,0.4s,baz=12,slow=9.3,SNR=3.1								
SONA0	**Songino Array**	**43.01 293**		*e*P		**P**		**20 35 29.2**	**+1.1**
SONM	**Songino Array**	**43.01 293**		P		**P**		**20 35 29.2**	**+1.1**
	1.4nm,0.7s,baz=57,slow=9.0,SNR=6.2								
SONM				LR		LR		20 53 24.9	
	comp=Z,53nm,21.5s,baz=83,slow=36								
NV01	**Mina Array Sit**	**47.16 79**		*e*P		**P**		**20 35 59.3**	**-2.0**
NV01				*e*PcP		**PcP**		**20 37 33.4**	**+1.0**
NVAR	**Mina Array Bea**	**47.16 79**		P		**P**		**20 35 59.3**	**-2.0**
	0.4nm,0.5s,baz=295,slow=8.5,SNR=3.4								
NVAR				PcP		**PcP**		**20 37 33.4**	**+1.0**
	0.1nm,0.3s,baz=316,slow=4.1,SNR=3.6								
NVAR				LR		LR		20 52 19.5	
	comp=Z,55nm,20.6s,baz=218,slow=32								
PD31	**Pinedale Array**	**49.66 69**		*e*P		**P**		**20 36 18.4**	**-2.2**
	4.4nm,1.6s								
PDAR	**Pinedale Array**	**49.66 69**		P		**P**		**20 36 18.8**	**-1.8**
	0.5nm,0.7s,baz=306,slow=5.1,SNR=4.8								
PDAR				LR		LR		20 58 04.1	
	comp=Z,22nm,18.1s,baz=255,slow=37								
ZALV	**Zalesovo Beam**	**50.86 310**		LR		LR		20 59 00.7	
	comp=Z,26nm,19.0s,baz=70,slow=37								
ULM	**Lac du Bonnet**	**52.45 54**		P		**P**		**20 36 40.0**	**-1.1**
	1.5nm,0.5s,baz=310,slow=4.0,SNR=3.7								
ULM				LR		LR		20 59 44.5	
	comp=Z,24nm,18.2s,baz=138,slow=37								
KURK	**Kurchatov**	**55.85 310**		*e*P		**P**		**20 37 06.0**	**+0.2**
	5.0nm,0.8s								
MK32	**Makanchi Array**	**56.69 305**		*e*P		**P**		**20 37 11.8**	**-0.2**
MKAR	**Makanchi Array**	**56.69 305**		P		**P**		**20 37 11.8**	**-0.2**
	1.6nm,0.4s,baz=55,slow=6.3,SNR=36								
MKAR				LR		LR		21 02 52.6	
	comp=Z,60nm,18.9s,baz=70,slow=37								
ARA0	**ARCESS Array S**	**56.82 348**		*e*P		**P**		**20 37 12.1**	**-0.3**
ARCES	**ARCESS Array B**	**56.82 348**		P		**P**		**20 37 12.1**	**-0.3**
	4.8nm,0.9s,baz=31,slow=12,SNR=3.4								
F41A	**Three Lakes**	**58.84 55**		*e*P		**P**		**20 37 26.4**	**-0.5**
	5.0nm,0.9s								
MNTX	**Cornudas Mount**	**59.51 77**		*e*P		**P**		**20 37 31.0**	**-0.8**
	2.4nm,0.9s								
LTX	**Lajitas**	**62.23 77**		*e*P		**P**		**20 37 49.9**	**-0.5**
TX31	**Lajitas Ar. Si**	**62.23 77**		*e*P		**P**		**20 37 49.7**	**-0.8**
	12nm,1.9s								
TXAR	**Lajitas Array**	**62.23 77**		P		**P**		**20 37 49.9**	**-0.5**
	1.5nm,0.8s,baz=311,slow=5.8,SNR=19								
FINES	**FINESS Array B**	**64.31 344**		LR		LR		21 09 15.7	
	comp=Z,22nm,19.8s,baz=72,slow=39								
ABKAR	**Akbulak array**	**65.14 319**		*e*P		**P**		**20 38 07.5**	**-1.7**
	8.2nm,1.9s								
WVT	**Waverly**	**66.42 61**		*e*P		**P**		**20 38 16.9**	**-0.7**
	7.7nm,0.9s								
NB2	**NORSAR Subarra**	**66.64 352**		P		P		20 38 27.3	+8.6
	comp=Z,1.6nm,0.8s,baz=9.2,slow=6.5								
NB200	**NORSAR Array S**	**66.64 352**		*e*P		**P**		**20 38 21.6**	**+2.9**
NOA	**NORSAR Array B**	**66.64 352**		P		**P**		**20 38 21.6**	**+2.9**
	comp=Z,0.6nm,0.9s,baz=357,slow=3.3,SNR=2.7								
CMAR	**Chiang Mai Arr**	**67.24 271**		P		**P**		**20 38 23.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=30,slow=6.9,SNR=5.9								
X48A	**Hartselle**	**68.09 62**		*e*P		**P**		**20 38 24.1**	**-4.2**
	comp=Z,29nm,1.5s								
JIRN	**Jiri**	**68.14 287**		*e*P		**P**		**20 38 30.2**	**+1.1**
	comp=Z,12nm,0.6s								
RAMN	**Ramite**	**68.42 286**		*e*P		**P**		**20 38 31.5**	**+0.7**
	comp=Z,12nm,0.6s								
PKI	**Pulchoki**	**68.67 288**		*e*P		**P**		**20 38 32.6**	**+0.2**
	comp=Z,4.1nm,0.5s								
PKIN	**Phulchoki**	**68.67 288**		*e*P		**P**		**20 38 32.6**	**+0.3**
	comp=Z,3.7nm,0.5s								
DANN	**Dangsing**	**69.05 289**		*e*P		**P**		**20 38 34.8**	**+0.1**
	comp=Z,9.9nm,0.8s								
PYUN	**Piuthan**	**69.69 290**		*e*P		**P**		**20 38 38.8**	**+0.2**
	comp=Z,17nm,1.1s								
GEYT	**Alibeck**	**75.05 313**		LR		LR		21 16 30.0	
	comp=Z,49nm,18.1s,baz=90,slow=39								
WR1	**Warramunga Arr**	**79.97 219**		*e*P		**P**		**20 39 37.1**	**-0.5**
WRA	**Warramunga Arr**	**79.97 219**		P		**P**		**20 39 37.1**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=28,slow=5.8,SNR=3.3								
BR101	**Keskin Array S**	**82.75 331**		*e*P		**P**		**20 39 52.1**	**-0.3**
BRTR	**Keskin Array B**	**82.75 331**		P		**P**		**20 39 52.1**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=27,slow=6.8,SNR=2.7								

*NIED **08** 20:30:00, 36°.30N×141°.00E, h26km, Mw3.5 Best double couple: M0=2.35000×10^14 NP1:φ=336.00000°, δ=24.00000°, λ=-143.00000°. NP2:φ=211.00000°, δ=76.00000°, λ=-70.00000°.*

*IDC **08** 20:30:52.3±1.2, 36°.33N×141°.07E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.4/46, mbtmp3.6/6, ML3.0/2, MS2.2/1, Ms1 2.2/1, ms1mx1.9/48, Error ellipse: s-maj=30.8km s-min=20.9km az=80.0*

*ISCJB **08** 20:30:55.5±0.8, 36°.37N±0°.04×141°.06E±0°.07, h38km±8km, mb3.6/4, Error ellipse: s-maj=9.7km s-min=6.4km az=16.4*

*JMA **08** 20:30:56.0±0.1, 36°.34N×141°.02E, h41km±1km, M3.3*

JMA Felt I J1.

ISC 08 20:30:55.6±1.5, 36°.37N±0°.04×141°.03E±0°.06, h23km±12km, n23, σ0§65/24, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.36 265**		P		**Pn**		**20 31 04.8**	**-0.6**
JHYU				S		**Sn**		**20 31 11.0**	**-0.7**
JHO	**Hitachi**	**0.44 303**		P		**Pn**		**20 31 05.9**	**-0.6**
JHO				S		**Sn**		**20 31 12.6**	**-1.2**
JIHU	**Itakohorinouch**	**0.57 226**		P		**Pn**		**20 31 08.2**	**-0.1**
JIHU				S		**Sn**		**20 31 16.2**	**-0.8**
CHOJ	**Chosi**	**0.68 192**		P		**Pb**		**20 31 08.5**	**-0.3**
JYT	**Yasato**	**0.69 258**		P		**Pb**		**20 31 09.1**	**+0.1**
JYT				S		**Sb**		**20 31 18.2**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.75 346**		P		**Pn**		**20 31 10.3**	**-0.6**
ONAJ				S		**Sb**		**20 31 20.1**	**+0.1**
JSMT	**Sammumatsuo**	**0.87 213**		S		**Sb**		**20 31 23.1**	**0.0**
JFK	**Kawauchi**	**1.00 353**		P		**Pn**		**20 31 13.8**	**-0.5**
JAG	**Ashikaga**	**1.27 273**		P		**Pn**		**20 31 17.7**	**-0.3**
JAG				S		**Sn**		**20 31 33.2**	**-1.1**
MJAR	**Matsushiro Ar

BSO1 **Boso 1** 1.25 177 P Pn 20 49 25.6 +0.4
JAG **Ashikaga** 1.28 294 ⇓P Pn 20 49 26.4 +0.2
MJAR **Matsushiro Arr** 2.27 287 Pn Pn 20 49 41.0 +1.3
1.6nm,0.3s,baz=94,slow=12,SNR=68
MJAR LR LR 20 50 39.6
comp=Z,123nm,20.3s,baz=195,slow=38
MAT **Matsushiro** 2.27 287 P Pn 20 49 41.1 +1.3
MAT eS Sn 20 50 05.0 -1.6
JHJ **Hachijo jima 2** 2.93 199 Pn Pn 20 49 49.1 +0.3
17nm,0.3s,baz=305,slow=19,SNR=5.5
JHJ Sn Sn 20 50 22.1 -0.7
33nm,0.3s,baz=134,slow=23,SNR=6.2
ASAJ **Asahikawa** 8.30 8 Pn Pn 20 50 59.0 -3.5
0.1nm,0.3s,baz=262,slow=14,SNR=2.7
JNU **Nakatsue** 8.73 254 LR LR 20 54 58.6
comp=Z,72nm,18.0s,baz=68,slow=39
H11N2 **WAKE ISLAND Hy** 27.95 118 T T 21 24 10.0
baz=310,slow=75,SNR=7.8
H11N1 **WAKE ISLAND Hy** 27.96 118 T T 21 24 27.0
baz=310,slow=75,SNR=5.1
H11N3 **WAKE ISLAND Hy** 27.97 118 T T 21 24 06.5
baz=310,slow=75,SNR=6.7
SONM **Songino Array** 28.09 306 P P 20 54 52.8 +0.4
0.4nm,0.6s,baz=103,slow=8.5,SNR=2.4
H11S3 **WAKE ISLAND Hy** 28.62 120 T T 21 24 46.6
baz=312,slow=75,SNR=5.2
H11S1 **WAKE ISLAND Hy** 28.62 120 T T 21 24 50.4
baz=312,slow=75,SNR=5.5
H11S2 **WAKE ISLAND Hy** 28.63 120 T T 21 24 49.9
baz=312,slow=75,SNR=3.5
MKAR **Makanchi Array** 44.38 303 P P 20 57 12.2 +1.4
1.4nm,0.7s,baz=94,slow=8.6,SNR=11
WRA **Warramunga Arr** 55.89 187 P P 20 58 38.1 -0.1
0.9nm,0.8s,baz=0.8,slow=7.8,SNR=16
ASAR **Alice Springs** 59.62 187 P P 20 59 04.2 -0.1
0.3nm,0.5s,baz=14,slow=9.9,SNR=4.9
AKSAG **Malin Array Be** 74.94 322 P P 21 00 39.2 -1.8
0.5nm,0.4s,baz=49,slow=4.4,SNR=2.4
NVAR **Mina Array Bea** 75.99 53 P P 21 00 43.0 -4.6
0.5nm,0.5s,baz=0.8,slow=7.9,SNR=5.4

*IDC **08** 20:55:30.2±0.8, 5°.62N×77°.34W, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.8/43, mbtmp3.9/11, ML3.4/2, MS3.4/4, Ms1 3.4/4, ms1mx2.8/33, Error ellipse: s-maj=26.9km s-min=16.8km az=45.0*
*RSNC **08** 20:55:31.3±2.0, 5°.61N×77°.38W, h24km±13km, ML3.4*
*NEIC **08** 20:55:31.9±0.6, 5°.61N×77°.21W, h10km, mb4.6/1, Error ellipse: s-maj=16.5km s-min=10.4km az=213.0*
*ISCJB **08** 20:55:33.1±0.8, 5°.72N±0°.03×77°.28W±0°.04, h29km±7km, mb3.9/10, MS3.6/3, Error ellipse: s-maj=6.2km s-min=4.8km az=153.3*
ISC 08 20:55:32.0±1.3, 5°.69N±0°.03×77°.30W±0°.04, h12km±9km, n44, σ1§86/51, mb3.9/10, MS3.1/3, 1C, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**0.55**	**349**	*e*P	**Pg**	**20 55 42.4**	**-0.3**
SOLC				*e*S	**Sg**	**20 55 51.4**	**+1.5**
SOLC				*i*		20 55 55.7	
comp=Z,2μm,0.3s							
PLMC	**San Jos del P**	**1.28**	**127**	*e*P	**Pn**	**20 55 52.5**	**-3.3**
PLMC				*e*S	**Sb**	**20 56 09.2**	**-3.3**
PLMC				*i*		20 56 10.4	
comp=Z,1μm,0.5s							
PTAC	**Punta Ardita,**	**1.53**	**341**	*e*P	**Pn**	**20 55 56.4**	**-2.8**
PTAC				*e*S	**Sn**	**20 56 16.9**	**-2.3**
MALC	**Bahia Malaga**	**1.66**	**181**	*e*P	**Pb**	**20 56 01.7**	**-0.9**
HELC	**Santa Helena**	**1.83**	**74⇑**	*e*P	**Pn**	**20 56 01.8**	**-1.9**
HELC				*e*S	**Sn**	**20 56 24.8**	**-2.3**
HELC				*i*		20 56 28.6	
comp=Z,219nm,0.6s							
YOTC	**Yotoco, Valle**	**1.94**	**151**	*e*P	**Pn**	**20 56 03.9**	**-1.1**
YOTC				*e*S	**Sn**	**20 56 25.5**	**-4.0**
GUY2C	**Guyana, Caldas**	**1.98**	**103**	*e*P	**Pn**	**20 56 04.6**	**-1.3**
GUY2C				*e*S	**Sn**	**20 56 28.6**	**-2.2**
GUY2C				*i*		20 56 39.1	
comp=Z,246nm,0.6s							
RREF	**El Recreo**	**2.10**	**112**	*e*P	**Pn**	**20 56 07.3**	**-0.2**
RREF				*e*S	**Sn**	**20 56 30.1**	**-3.8**
RREF				*i*		20 56 39.4	
comp=Z,196nm,0.4s							
NORC	**Norcasia**	**2.43**	**93**	*e*P	**Pn**	**20 56 11.6**	**+0.1**
NORC				*e*S	**Sn**	**20 56 41.6**	**+0.4**
UREC	**San Jos de Ur**	**2.70**	**41**	*e*P	**Pn**	**20 56 15.3**	**0.0**
UREC				*e*S	**Pn**	**20 56 15.4**	**+0.1**
UREC				*i*	**Sg**	**20 56 58.9**	**0.0**
comp=Z,128nm,0.7s							
PTBC	**PUERTO BERRIO,**	**2.96**	**73**	*e*P	**Pn**	**20 56 19.0**	**+0.2**
PTBC				*e*S	**Sn**	**20 56 53.4**	**-0.9**
ZARC	**Zaragoza, Cauc**	**3.02**	**53**	*e*P	**Pn**	**20 56 20.5**	**+0.8**
ZARC				*e*S	**Sn**	**20 56 55.4**	**-0.4**
ZARC				*i*		20 56 59.2	
comp=Z,79nm,0.3s							
ROSC	**El Rosal**	**3.09**	**106**	*e*P	**Pb**	**20 56 26.4**	**-0.8**
ROSC	**El Rosal**	**3.09**	**106**	Pg	**Pb**	**20 56 26.2**	**-1.0**
comp=Z,12nm,0.3s,baz=20,slow=9.8,SNR=14							
PRAC	**Prado**	**3.11**	**129**	*e*P	**Pn**	**20 56 22.5**	**+1.6**
POPC	**Popayan, Colom**	**3.19**	**169**	*e*P	**Pn**	**20 56 23.8**	**+1.6**
SOTA	**Rioblanco**	**3.60**	**169**	*e*P	**Pn**	**20 56 30.8**	**+2.8**
BBAC	**Balboa, Cauca**	**3.64**	**179**	*e*P	**Pn**	**20 56 30.1**	**+1.6**
CHIC	**Chingaza**	**3.71**	**106**	*e*P	**Pn**	**20 56 32.0**	**+2.4**
BRRC	**Barranca, Sant**	**3.84**	**68**	*e*P	**Pn**	**20 56 34.1**	**+3.1**
VILC	**Villavicencio,**	**3.92**	**113**	*e*P	**Pn**	**20 56 36.4**	**+4.2**
BCIP	**Isla Barro Col**	**4.27**	**324**	*e*P	**Pb**	**20 56 45.2**	**-1.9**
FLOC	**Florencia**	**4.40**	**158**	*e*P	**Pn**	**20 56 40.7**	**+2.0**
SJCC	**San Jacinto, C**	**4.68**	**27**	*e*P	**Pn**	**20 56 44.9**	**+2.3**
SDV	**Santo Domingo**	**7.34**	**64**	*e*P	**Pn**	**20 57 19.5**	**+0.2**
comp=Z,44nm,0.9s							
SDV	**Santo Domingo**	**7.34**	**64**	Pn	**Pn**	**20 57 20.5**	**+1.2**
comp=Z,3.3nm,0.3s,baz=257,slow=9.6,SNR=19							
SDV				LR	LR	21 00 22.8	
comp=Z,376nm,18.9s,baz=251,slow=40							
JTS	**Las Juntas de**	**8.85**	**302**	LR	LR	21 01 09.9	
comp=Z,208nm,19.2s,baz=178,slow=38							
PTGA	**Pitinga**	**18.45**	**110**	P	**Pn**	**20 59 48.7**	**+0.9**
comp=Z,0.2nm,0.3s,baz=274,slow=19,SNR=2.7							
CMIG	**Matias Romero**	**20.60**	**305**	LR	LR	21 08 16.5	
comp=Z,69nm,18.4s,baz=176,slow=37							
LPAZ	**La Paz**	**23.65**	**158**	P	**P**	**21 00 43.3**	**-0.8**
comp=Z,1.5nm,0.8s,baz=354,slow=16,SNR=6.7							
MDP	**Montagnes des**	**24.56**	**90**	LR	LR	21 11 20.2	
comp=Z,61nm,18.1s,baz=232,slow=39							
SIV	**San Ignacio**	**26.87**	**144**	P	**P**	**21 01 12.2**	**-0.8**
comp=Z,1.5nm,0.5s,baz=336,slow=10,SNR=7.2							
LRAL	**Lakeview Retre**	**28.67**	**343**	*e*P	**P**	**21 01 29.6**	**+0.8**
comp=Z,6.4nm,0.6s							
TXAR	**Lajitas Array**	**34.25**	**316**	PcP	**PcP**	**21 04 56.8**	**+2.0**
comp=Z,0.8nm,1.0s,baz=134,slow=5.4,SNR=4.9							
ULM	**Lac du Bonnet**	**47.07**	**344**	P	**P**	**21 04 03.1**	**-0.5**
comp=Z,1.8nm,0.7s,baz=139,slow=12,SNR=5.4							
YKA	**Yellowknife Ar**	**62.95**	**342**	P	**P**	**21 05 58.2**	**+0.1**
comp=Z,1.6nm,0.7s,baz=131,slow=6.9,SNR=40							
DBIC	**Dimbokro**	**71.97**	**85**	P	**P**	**21 06 56.8**	**+0.6**
comp=Z,4.7nm,1.0s,baz=276,slow=9.2,SNR=2.6							
ESDC	**Sonseca Array**	**73.57**	**50**	P	**P**	**21 07 06.2**	**+0.8**
comp=Z,0.1nm,0.3s,baz=264,slow=5.9,SNR=3.9							
ILAR	**Eielson Array**	**76.25**	**336**	P	**P**	**21 07 21.1**	**+0.9**
comp=Z,0.8nm,0.9s,baz=115,slow=4.3,SNR=7.2							
TORD	**Torodi Ar. Bea**	**78.04**	**78**	P	**P**	**21 07 31.3**	**0.0**
comp=Z,0.4nm,0.6s,baz=275,slow=6.2,SNR=4.7							
RAR	**Rarotonga**	**85.05**	**248**	LR	LR	21 37 27.7	
comp=Z,358nm,21.1s,baz=115,slow=30							
GERES	**GERESS Array B**	**86.42**	**41**	P	**P**	**21 08 15.7**	**+1.0**
comp=Z,0.4nm,0.7s,baz=286,slow=4.9,SNR=4.9							
ASAR	**Alice Springs**	**145.05**	**236**	PKP	PKPbc	21 15 09.5	-0.2
comp=Z,1.9nm,0.9s,baz=122,slow=3.6,SNR=11							
WRA	**Warramunga Arr**	**146.14**	**242**	PKPbc	**PKPab**	**21 15 13.2**	**-0.6**
comp=Z,2.0nm,0.8s,baz=107,slow=3.2,SNR=8.6							

*ISCJB **08** 20:56:29.0±1.1, 37°.33N±0°.06×71°.4E±0°.2, h109km, Error ellipse: s-maj=19.6km s-min=6.2km az=159.9*
*NNC **08** 20:56:35.5±5.0, 37°.65N×71°.35E, h165km±102km, mb2.7, mpv3.4, Error ellipse: s-maj=56.7km s-min=28.8km az=18.0*
ISC 08 20:56:29.1±1.4, 37°.24N±0°.10×71°.3E±0°.2, h109km, n10, σ1§13/12, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.89**	**354**	P	**Pn**	**20 57 55.0**	**+1.1**
1.5nm,0.3s,baz=182,slow=12,SNR=47							
KK31				S	**Sn**	**20 58 58.8**	**-1.2**
2.3nm,0.5s,baz=194,slow=15,SNR=5.5							
AAK	**Ala-Archa**	**5.93**	**24**	⇓P	**Pn**	**20 57 56.5**	**+1.9**
2.1nm,0.4s							
AAK				⇑S	**Sn**	**20 58 59.7**	**-1.6**
3.1nm,0.5s							
PYUN	**Piuthan**	**13.41**	**129**	*e*P	**Pn**	**20 59 35.4**	**+0.1**
5.6nm,0.3s							
PYUN				*e*S	Sn	21 01 51.1	-12
DANN	**Dangsing**	**13.72**	**127**	*e*P	**Pn**	**20 59 39.9**	**+0.5**
3.9nm,0.3s							
DANN				*e*S	Sn	21 02 00.0	-11
KOLN	**Koldanda**	**14.03**	**129**	*e*P	**Pn**	**20 59 43.5**	**+0.2**
3.5nm,0.3s							
GKN	**Gorkha**	**14.53**	**126**	*e*P	**Pn**	**20 59 49.7**	**+0.1**
14nm,0.6s							
GKN				*e*S	Sn	21 02 18.7	-11
AB31	**Akbulak array**	**14.56**	**329**	P	**Pn**	**20 59 49.4**	**-0.2**
0.6nm,0.3s,baz=136,slow=14,SNR=30							
PKIN	**Phulchoki**	**15.31**	**125**	*e*P	**P**	**21 00 00.8**	**-1.1**
PKI	**Pulchoki**	**15.32**	**125**	*e*P	**P**	**21 00 01.2**	**-0.9**
JIRN	**Jiri**	**15.78**	**123**	*e*P	**P**	**21 00 06.7**	**-0.5**
10nm,0.4s							

*ISCJB **08** 20:57:29.3±1.9, 5°.68N±0°.04×77°.29W±0°.05, h7km±13km, mb4.0/6, Error ellipse: s-maj=8.6km s-min=5.1km az=148.1*
*IDC **08** 20:57:30.1±0.9, 5°.73N×77°.08W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.5/42, mbtmp3.7/5, Error ellipse: s-maj=38.4km s-min=19.9km az=37.0*
*RSNC **08** 20:57:31.1±0.8, 5°.69N×77°.20W, h3km±6km, ML3.3, Mw3.7*
ISC 08 20:57:29.7±1.6, 5°.70N±0°.04×77°.19W±0°.05, h0km±10km, n19, σ1§26/27, mb3.7/6, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**0.56**	**338**	*e*S	**Sg**	**20 57 49.6**	**+1.8**
SOLC				*i*		20 57 55.5	
comp=N,7μm,0.5s							
PLMC	**San Jos del P**	**1.20**	**131**	*e*P	**Pg**	**20 57 52.9**	**+0.1**
PLMC				*e*S	**Sg**	**20 58 08.5**	**+0.1**
PLMC				*i*		20 58 11.8	
comp=N,3μm,0.2s							
PTAC	**Punta Ardita,**	**1.56**	**337**	*e*P	**Pn**	**20 57 57.7**	**-1.0**
PTAC				*e*S	**Sn**	**20 58 15.9**	**-3.7**
HELC	**Santa Helena**	**1.72**	**74**	*e*P	**Pn**	**20 58 01.1**	**-0.2**
HELC				*e*S	**Sb**	**20 58 23.9**	**-0.9**
HELC				*i*		20 58 28.7	
comp=N,326nm,0.5s							
YOTC	**Yotoco, Valle**	**1.91**	**154**	*e*P	**Pn**	**20 58 03.6**	**0.0**
YOTC				*e*S	**Sn**	**20 58 27.8**	**-0.5**
YOTC				*i*		20 58 39.9	
comp=N,51nm,0.5s							
RREF	**El Recreo**	**2.00**	**113**	*e*P	**Pn**	**20 58 05.3**	**0.0**
NORC	**Norcasia**	**2.32**	**93**	*e*P	**Pn**	**20 58 08.5**	**-0.6**
NORC				*e*S	**Sb**	**20 58 41.1**	**-0.5**
NORC				*i*		20 58 46.7	
comp=N,180nm,0.5s							
UREC	**San Jos de Ur**	**2.62**	**39**	*e*P	**Pn**	**20 58 12.3**	**-1.0**
UREC				*e*S	**Sn**	**20 58 47.3**	**+1.5**
UREC				*i*		20 58 51.1	
comp=N,61nm,0.4s							
PTBC	**PUERTO BERRIO,**	**2.84**	**73**	*e*P	**Pb**	**20 58 20.2**	**-1.2**
PTBC				*e*S	**Sb**	**20 58 54.9**	**-1.9**
ZARC	**Zaragoza, Cauc**	**2.92**	**52**	*e*P	**Pn**	**20 58 19.5**	**+2.0**
ZARC				*e*S	**Sn**	**20 58 53.6**	**+0.3**
ZARC				*i*		20 59 03.4	
comp=Z,53nm,0.5s							
ROSC	**El Rosal**	**2.99**	**107**	Pg	**Pb**	**20 58 23.2**	**-0.8**
comp=Z,3.0nm,0.3s,baz=153,slow=9.1,SNR=1.7							
SIV	**San Ignacio**	**26.82**	**144**	P	**P**	**21 03 11.3**	**-0.6**
comp=Z,1.5nm,0.7s,baz=355,slow=17,SNR=3.8							
NVAR	**Mina Array Bea**	**49.46**	**317**	P	**P**	**21 06 23.2**	**+1.1**
comp=Z,83nm,1.0s,baz=140,slow=7.1,SNR=2.7							
YKA	**Yellowknife Ar**	**62.97**	**342**	P	**P**	**21 07 57.7**	**-0.2**
comp=Z,0.8nm,0.7s,baz=130,slow=6.8,SNR=11							
ILAR	**Eielson Array**	**76.28**	**336**	P	**P**	**21 09 20.5**	**+0.4**
comp=Z,0.4nm,0.7s,baz=117,slow=4.5,SNR=4.5							
TORD	**Torodi Ar. Bea**	**77.93**	**78**	P	**P**	**21 09 30.1**	**-0.2**
comp=Z,0.4nm,0.8s,baz=283,slow=4.5,SNR=3.3							
GERES	**GERESS Array B**	**86.34**	**41**	P	**P**	**21 10 14.8**	**+0.8**
comp=Z,0.3nm,0.6s,baz=263,slow=3.5,SNR=3.7							
ASAR	**Alice Springs**	**145.16**	**236**	PKPbc	**PKPbc**	**21 17 09.9**	**+0.2**
comp=Z,1.1nm,0.8s,baz=120,slow=4.3,SNR=6.4							
WRA	**Warramunga Arr**	**146.25**	**242**	PKPbc	**PKPdf**	**21 17 13.3**	**+1.2**
comp=Z,1.2nm,0.9s,baz=101,slow=3.3,SNR=4.7							

*NIED **08** 21:22:00, 36°.50N×142°.40E, h14km, Mw3.7 Best double couple: M0=4.47000×10^14 NP1:φs=50.00000°, δ=32.00000°, λ=164.00000°. NP2:φs=154.00000°, δ=81.00000°, λ=59.00000°.*
*ISCJB **08** 21:22:47.9±0.7, 36°.46N±0°.05×142°.48E±0°.05, h15km, mb3.5/5, MS3.2/1, Error ellipse: s-maj=7.1km s-min=6.3km az=173.0*
*IDC **08** 21:22:47.3±1.1, 36°.40N×142°.65E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.5/45, mbtmp3.7/8, ML3.3/3, MS2.8/3, Ms1 2.9/3, ms1mx2.5/39, Error ellipse: s-maj=28.7km s-min=21.3km az=120.0*
*JMA **08** 21:22:49.6±0.2, 36°.47N×142°.36E, h20km, M3.5*
ISC 08 21:22:48.9±0.9, 36°.46N±0°.05×142°.53E±0°.07, h15km, n28, σ2§05/27, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.54**	**295**	P	**Pn**	**21 23 14.7**	**-1.1**
ONAJ				S	**Sn**	**21 23 33.0**	**-2.5**
CHOJ	**Chosi**	**1.55**	**242**	P	**Pn**	**21 23 15.2**	**-0.8**
JHYU	**Hitachinakayam**	**1.57**	**266**	P	**Pn**	**21 23 15.1**	**-1.2**
JHYU				S	**Sn**	**21 23 33.6**	**-2.8**
JHO	**Hitachi**	**1.59**	**276**	P	**Pn**	**21 23 14.9**	**-1.6**
JHO				S	**Sn**	**21 23 33.3**	**-3.5**
JFK	**Kawauchi**	**1.61**	**305**	P	**Pn**	**21 23 15.8**	**-1.0**
JMM	**Marumori**	**1.98**	**316**	P	**Pn**	**21 23 21.3**	**-0.6**
JFT	**Otama**	**2.05**	**302**	P	**Pn**	**21 23 22.8**	**-0.1**
JFT				S	**Sn**	**21 23 46.8**	**-1.5**
BSO1	**Boso 1**	**2.20**	**216**	*e*S	**Sn**	**21 23 50.4**	**-0.7**
JAG	**Ashikaga**	**2.48**	**270**	P	**Pn**	**21 23 27.9**	**-0.9**
JRY	**Ryogami san**	**2.97**	**263**	P	**Pn**	**21 23 34.4**	**-1.1**
MJAR	**Matsushiro Arr**	**3.48**	**273**	Pn	**Pn**	**21 23 42.5**	**-0.1**
0.5nm,0.3s,baz=120,slow=17,SNR=26							
MJAR				Sn	**Sn**	**21 24 22.8**	**-0.8**
0.6nm,0.3s,baz=89,slow=9.4,SNR=6.1							
MJAR				LR	LR	21 25 16.1	
comp=Z,62nm,19.3s,baz=120,slow=42							
MAT	**Matsushiro**	**3.49**	**273**	P	**Pn**	**21 23 42.9**	**+0.3**
MAT				*e*S	**Sn**	**21 24 23.9**	**+0.3**
JHJ	**Hachijo jima 2**	**4.02**	**215**	Pn	**Pn**	**21 23 51.0**	**+1.0**
24nm,0.3s,baz=113,slow=22,SNR=6.6							
JHJ				Sn	**Sn**	**21 24 32.1**	**-4.7**
40nm,0.3s,baz=73,slow=23,SNR=8.0							
ASAJ	**Asahikawa**	**7.65**	**0**	Pn	**Pn**	**21 24 39.5**	**-0.3**
0.5nm,0.3s,baz=242,slow=5.6,SNR=6.3							
ASAJ				Sn	**Sn**	**21 26 01.2**	**-5.0**
baz=333,slow=11,SNR=2.5							
USRK	**Ussuriysk Ar.**	**11.15**	**317**	Pn	Pn	21 25 36.8	+9.0
0.3nm,0.3s,baz=132,slow=13,SNR=7.1							
KSRS	**Korea Array**	**11.73**	**279**	LR	LR	21 29 56.9	
comp=Z,33nm,19.5s,baz=195,slow=36							
H11N2	**WAKE ISLAND Hy**	**27.08**	**121**	T	T	21 57 05.3	
baz=314,slow=74,SNR=5.2							
H11N1	**WAKE ISLAND Hy**	**27.09**	**121**	T	T	21 57 13.1	
baz=314,slow=74,SNR=3.8							
H11N3	**WAKE ISLAND Hy**	**27.10**	**121**	T	T	21 57 08.1	
baz=314							
H11S1	**WAKE ISLAND Hy**	**27.79**	**124**	T	T	21 57 55.4	
baz=314,SNR=4.5							
H11S3	**WAKE ISLAND Hy**	**27.79**	**124**	T	T	21 57 54.4	
baz=314							
H11S2	**WAKE ISLAND Hy**	**27.81**	**124**	T	T	21 58 01.5	
baz=314							
SONM	**Songino Array**	**28.85**	**305**	P	**P**	**21 28 47.6**	**+0.7**
1.3nm,0.8s,baz=104,slow=8.8,SNR=7.2							
CMAR	**Chiang Mai Arr**	**42.23**	**257**	LR	LR	21 47 59.8	
comp=Z,31nm,18.1s,baz=265,slow=36							
MKAR	**Makanchi Array**	**45.19**	**303**	P	**P**	**21 31 08.3**	**+3.2**
0.8nm,0.8s,baz=91,slow=9.7,SNR=5.5							
ILAR	**Eielson Array**	**49.50**	**32**	P	**P**	**21 31 39.8**	**+1.3**
0.5nm,0.8s,baz=257,slow=6.4,SNR=5.4							
WRA	**Warramunga Arr**	**56.62**	**189**	P	**P**	**21 32 31.4**	**+0.1**
0.6nm,0.9s,baz=7.2,slow=7.2,SNR=3.0							
YKA	**Yellowknife Ar**	**63.85**	**30**	P	**P**	**21 33 20.6**	**+0.3**
0.1nm,0.3s,baz=300,slow=6.5,SNR=6.2							

BJI 08 21:28:25.8±0.0, 24°.30N×118°.96E, h10km, ML3.6/5, 1D, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QZH	**Quanzhou**	**0.72**	**332**	⇓*i*Pg	Pb	21 28 40.2	-0.3
QZH				Sg	Sg	21 28 49.5	+0.3
QZH				smax	smax		
comp=N,1μm,0.3s							
QZH				smax	smax		
comp=E,1μm,0.2s							

*JMA **08** 21:31:45.6±0.2, 43°.46N×147°.25E, h35km, M3.8*
*SKHL **08** 21:31:45.6±0.8, 43°.55N×147°.36E, h39km±3km, mb3.9/3*
ISC 08 21:31:42.4±2.4, 43°.56N±0°.08×147°.33E±0°.08, h9km±12km, n18, σ1§15/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.16**	**294**	*i* P	**Pg**	**21 32 05.0**	**+0.3**
YUK				AMB	AMB	21 32 06.0	
20nm,0.3s							
YUK				AMB	AMB	21 32 06.0	
10.0nm,0.3s							
YUK				AMB	AMB	21 32 06.0	
50nm,0.3s							
YUK				*i* S	**Sg**	**21 32 20.0**	**+0.2**
YUK				A	A	21 32 23.0	
170nm,0.4s							
YUK				A	A	21 32 23.0	
680nm,0.4s							
NEM2	**Nemuro 2**	**1.17**	**261**	P	**Pg**	**21 32 05.1**	**+0.2**
NEM2				*e*S	**Sg**	**21 32 19.4**	**-0.7**
GRPR	**Tuman**	**1.21**	**291**	*e*P	**Pg**	**21 32 05.0**	**-0.5**
GRPR				AMB	AMB	21 32 06.0	
20nm,0.2s							
GRPR				*i* S	**Sg**	**21 32 20.0**	**-1.2**
GRPR				A	A	21 32 22.0	
280nm,0.3s							
GRPR				A	A	21 32 22.0	
330nm,0.3s							
LAGR	**Lagunnoye**	**1.22**	**294**	*e*S	**Sg**	**21 32 21.0**	**-0.6**
JRA	**Rausu**	**1.64**	**284**	P	**Pn**	**21 32 12.4**	**+1.0**
JRA				*e*S	**Sn**	**21 32 32.3**	**-0.3**
JKHN	**Kushirohamanak**	**1.65**	**254**	P	**Pn**	**21 32 12.1**	**+0.6**
JKHN				*e*S	**Sn**	**21 32 32.3**	**-0.6**
KUR	**Kuril'sk**	**1.71**	**13**	*e*P	**Pn**	**21 32 13.0**	**+0.6**
KUR				AMB	AMB	21 32 16.0	
30nm,0.2s							
KUR				*i* S	**Sn**	**21 32 33.0**	**-1.4**
KUR				A	A	21 32 35.0	
250nm,0.4s							
KUR				A	A	21 32 35.0	
330nm,0.4s							
JNK	**Nakash**	**1.90**	**272**	P	**Pn**	**21 32 15.6**	**+0.7**
JNK				*e*S	**Sn**	**21 32 38.0**	**-0.9**
JAK	**Akkeshi**	**2.00**	**254**	P	**Pn**	**21 32 16.6**	**+0.2**
JAK				*e*S	**Sn**	**21 32 39.6**	**-1.9**
JTKR	**Abashiri--Toko**	**2.51**	**281**	P	**Pn**	**21 32 25.0**	**+1.7**
JAR	**Ashorobuto**	**2.61**	**265**	P	**Pn**	**21 32 25.9**	**+1.2**
JAR				*e*S	**Sn**	**21 32 56.1**	**-0.3**
JOB	**Onbets**	**2.64**	**257**	P	**Pn**	**21 32 25.8**	**+0.7**
JOB				*e*S	**Sn**	**21 32 56.0**	**-1.1**
JMP	**Maruseppu**	**2.91**	**280**	P	**Pn**	**21 32 30.7**	**+1.9**
JCH	**Churui**	**3.06**	**253**	P	**Pn**	**21 32 31.2**	**+0.4**
JEM	**Erimo**	**3.44**	**245**	P	**Pn**	**21 32 38.2**	**+2.1**
JFR	**Furan**	**3.48**	**265**	P	**Pn**	**21 32 38.0**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.60**	**251**	P	**Pn**	**21 32 38.8**	**+0.5**
JSE	**Soyaes**	**3.68**	**294**	P	**Pn**	**21 32 41.3**	**+1.9**

IDC 08 22:06:08.0±5.5, 4°.61S×143°.88E, h112km±44km, mb3.3/4, mb1 3.5/5, mb1mx3.2/23, mbtmp3.7/5, Error ellipse: s-maj=51.0km s-min=20.8km az=91.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.79**	**303**	P	Pn	22 07 03.1	-1.5
1.0nm,0.3s,baz=157,slow=15,SNR=7.6							
JAY				S	Sn	22 07 49.7	+1.3
2.1nm,0.3s,baz=322,slow=19,SNR=4.1							
WRA	**Warramunga Arr**	**17.85**	**211**	P	P	22 10 04.1	-4.4
0.2nm,0.3s,baz=27,slow=13,SNR=9.0							
ASAR	**Alice Springs**	**21.25**	**206**	P	P	22 10 46.9	+1.6
1.1nm,0.6s,baz=33,slow=11,SNR=16							
FITZ	**Fitzroy Crossi**	**22.31**	**232**	P	P	22 10 54.7	-1.9
3.3nm,1.0s,baz=46,slow=7.1,SNR=4.9							
MKAR	**Makanchi Array**	**74.47**	**321**	P	P	22 17 34.6	+0.4
0.3nm,0.3s,baz=104,slow=6.1,SNR=7.7							
ILAR	**Eielson Array**	**85.45**	**24**	P	P	22 18 32.6	-0.3
0.4nm,0.6s,baz=262,slow=5.4,SNR=5.6							

ROM 08 22:12:41.9±0.2, 38°.161N±0°.004×15°.055E±0°.003, h11km±1km, ML0.9/4, Error ellipse: s-maj=0.4km s-min=0.0km az=171.0, Sicily

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MCPD Capo d'Orlando 0.26 261 P Pg 22 12 47.5 +0.3
MCPD Capo d'Orlando 0.26 261 P Pg 22 12 47.5 +0.4
MCPD S Sg 22 12 51.4 +0.7
MCPD AML AML
comp=E,18μm,0.9s
MCPD AML AML
comp=N,21μm,1.6s
MCPD AML AML
comp=E,18μm,0.9s
MCPD AML AML
comp=N,21μm,1.6s
MCPD Capo d'Orlando 0.26 261 P Pg 22 12 47.6 +0.4
MSRU Castanea 0.37 74 P Pg 22 12 49.5 +0.3
MSRU S Sb 22 12 55.5 -0.8
MSRU Castanea 0.37 74 P Pg 22 12 49.6 +0.3
MSRU Castanea 0.37 74 P Pg 22 12 49.6 +0.3

ROM 08 22:15:35.6±0.1, 43°.456N±0°.004×12°.305E±0°.005, h10km, ML0.6/5, Error ellipse: s-maj=0.4km s-min=0.3km az=63.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BADI	**Badiali**	**0.07**	**321**	P	Pg	22 15 38.2	+0.3
BADI	**Badiali**	**0.07**	**321**	P	Pg	22 15 38.2	+0.4
BADI				S	Sg	22 15 39.7	+0.2
BADI				AML	AML		
	comp=E,153μm,0.3s						
BADI				AML	AML		
	comp=N,122μm,0.9s						
BADI				AML	AML		
	comp=E,153μm,0.3s						
BADI				AML	AML		
	comp=N,122μm,0.9s						
BADI				AML	AML		
	comp=E,153μm,0.3s						
BADI				AML	AML		
	comp=N,122μm,0.9s						
BADI	**Badiali**	**0.07**	**321**	S	Sg	22 15 39.7	+0.2
ATPI	**Pietralunga -**	**0.07**	**94**	P	Pg	22 15 38.1	+0.3
ATPI				S	Sg	22 15 39.6	+0.1
ATPI				AML	AML		
	comp=E,67μm,0.3s						
ATPI				AML	AML		
	comp=N,47μm,0.9s						
ATPI				AML	AML		
	comp=E,67μm,0.3s						
ATPI				AML	AML		
	comp=N,48μm,0.9s						
ATPI				AML	AML		
	comp=E,67μm,0.3s						
ATPI				AML	AML		
	comp=N,48μm,0.9s						
ATPI	**Pietralunga -**	**0.07**	**94**	P	Pg	22 15 38.1	+0.3
ATPI	**Pietralunga -**	**0.07**	**94**	S	Sg	22 15 39.6	+0.1
ATVO	**AVT- Monte Val**	**0.10**	**135**	P	Pg	22 15 38.8	+0.5
ATVO				S	Sg	22 15 40.9	+0.7
ATVO				AML	AML		
	comp=E,42μm,0.4s						
ATVO				AML	AML		
	comp=N,36μm,0.8s						
ATVO				AML	AML		
	comp=E,42μm,0.4s						
ATVO				AML	AML		
	comp=N,36μm,0.8s						
ATVO				AML	AML		
	comp=E,42μm,0.4s						
ATVO				AML	AML		
	comp=N,36μm,0.8s						
ATVO	**AVT- Monte Val**	**0.10**	**135**	P	Pg	22 15 38.8	+0.6
ATVO	**AVT- Monte Val**	**0.10**	**135**	S	Sg	22 15 41.0	+0.8
ATMI	**Monte Miggiano**	**0.12**	**192**	P	Pg	22 15 39.2	+0.7
ATMI	**Monte Miggiano**	**0.12**	**192**	P	Pg	22 15 39.3	+0.7
ATMI	**Monte Miggiano**	**0.12**	**192**	P	Pg	22 15 39.3	+0.7
ATMI				S	Sg	22 15 41.6	+1.0
ATMI				AML	AML		
	comp=E,46μm,0.5s						
ATMI				AML	AML		
	comp=N,26μm,1.5s						
ATMI				AML	AML		
	comp=E,46μm,0.5s						
ATMI				AML	AML		
	comp=N,26μm,1.5s						
ATMI	**Monte Miggiano**	**0.12**	**192**	S	Sg	22 15 41.6	+0.9
PIEI	**Pieia**	**0.19**	**64**	P	Pg	22 15 40.2	+0.6
PIEI				S	Sg	22 15 43.7	+1.4
PIEI				AML	AML		
	comp=E,19μm,1.5s						
PIEI				AML	AML		
	comp=N,10μm,1.2s						
PIEI				AML	AML		
	comp=E,19μm,1.5s						
PIEI				AML	AML		
	comp=N,10μm,1.2s						
PIEI				AML	AML		
	comp=E,19μm,1.5s						
PIEI				AML	AML		
	comp=N,10μm,1.2s						
PIEI	**Pieia**	**0.19**	**64**	P	Pg	22 15 40.2	+0.7
PIEI	**Pieia**	**0.19**	**64**	P	Pg	22 15 40.2	+0.7
PIEI	**Pieia**	**0.19**	**64**	S	Sg	22 15 43.7	+1.4
PARC	**Parchiule**	**0.20**	**346**	P	Pg	22 15 40.5	+0.7
PARC				S	Sg	22 15 44.0	+1.3
PARC	**Parchiule**	**0.20**	**346**	P	Pg	22 15 40.5	+0.7
PARC	**Parchiule**	**0.20**	**346**	P	Pg	22 15 40.6	+0.8
PARC	**Parchiule**	**0.20**	**346**	S	Sg	22 15 43.9	+1.3
ATTE	**AVT- Monte Tez**	**0.26**	**172**	P	Pg	22 15 41.6	+0.7
ATTE				S	Sg	22 15 45.5	+1.1
ATTE	**AVT- Monte Tez**	**0.26**	**172**	P	Pg	22 15 41.6	+0.7
ATTE	**AVT- Monte Tez**	**0.26**	**172**	S	Sg	22 15 45.5	+1.0
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pb	22 15 42.0	-0.7
CAFI				S	Sb	22 15 46.5	-1.0
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pb	22 15 42.0	-0.7
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pb	22 15 42.0	-0.7
CAFI	**Castiglion Fio**	**0.28**	**243**	S	Sb	22 15 46.5	-1.0
FRON	**Frontone**	**0.31**	**78**	P	Pb	22 15 42.8	-0.5
PESA	**Pesaro**	**0.62**	**39**	S	Sb	22 15 57.0	-0.3

*ISCJB **08** 22:37:19.8±0.4, 26°.40S±0°.03×27°.47E±0°.04, h15km±3km, mb3.7/3, Error ellipse: s-maj=6.0km s-min=4.5km az=34.3*
*IDC **08** 22:37:20.3±1.3, 26°.34S×27°.44E, h0km, mb3.7/3, mb1 3.9/8, mb1mx3.7/41, mbtmp3.9/8, ML3.2/4, Error ellipse: s-maj=18.8km s-min=16.2km az=80.0*
*PRE **08** 22:37:20.1±2.1, 26°.45S×27°.44E, h2km, ML2.8*

ISC 08 22:37:20.0±0.8, 26°.36S±0°.03×27°.41E±0°.03, h11km±5km, n34, σ2°.22/60, mb3.9/3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.06**	**172**	*eP*	**Pg**	**22 37 22.6**	**+0.1**
WDLM				*eS*	**Sg**	**22 37 23.1**	**-1.2**
WDLM				AML	AML	22 37 24.6	
	comp=Z,9μm,0.1s						
KLOF	**Kloof**	**0.18**	**86**	*eP*	**Pg**	**22 37 23.8**	**-0.1**
KLOF				*eS*	**Sg**	**22 37 25.3**	**-1.5**
KLOF				AML	AML	22 37 27.1	
	comp=Z,7μm,0.2s						
PRYS	**Parys**	**0.56**	**185**	*eP*	**Pg**	**22 37 31.1**	**0.0**
PRYS				*eS*	**Sg**	**22 37 37.5**	**-1.0**
PRYS				AML	AML	22 37 43.6	
	comp=Z,494nm,0.6s						
KSR	**Koster**	**0.69**	**317**	*eP*	**Pb**	**22 37 34.3**	**+0.1**
KSR				*eS*	**Sb**	**22 37 45.0**	**+1.3**
KSR				AML	AML	22 37 51.1	
	comp=Z,404nm,0.8s						
ERPM	**east rand prop**	**0.74**	**89**	*eP*	**Pg**	**22 37 34.2**	**-0.2**
ERPM				*eS*	**Sb**	**22 37 44.5**	**-0.9**
ERPM				AML	AML	22 37 50.7	
	comp=Z,432nm,0.7s						
SWZ	**Schweizer**	**2.03**	**246**	*eP*	**Pn**	**22 37 55.7**	**+1.4**
SWZ				*eS*	**Sb**	**22 38 21.6**	**-0.9**
SWZ				AML	AML	22 38 28.8	
	comp=Z,75nm,0.5s						
LBTB	**Lobatse**	**2.12**	**309**	*eP*	**Pb**	**22 37 58.3**	**-0.2**
LBTB				*eS*	**Sb**	**22 38 25.6**	**+0.7**
LBTB				AML	AML	22 38 29.6	
	comp=Z,378nm,0.3s						
LBTB	**Lobatse**	**2.12**	**309**	Pg	**Pg**	**22 38 00.0**	**-0.6**
	comp=Z,49nm,0.3s,baz=133,slow=14,SNR=529						
LBTB				Lg	Lg	22 38 27.7	
	comp=Z,132nm,0.3s,baz=215,slow=13,SNR=59						
LBTB				Rg	Rg	22 38 37.4	
	comp=Z,342nm,0.8s,baz=206,slow=17,SNR=18						
BOSA	**Boshof**	**2.95**	**220**	*iP*	**Pn**	**22 38 08.7**	**+1.8**
BOSA				*iS*	**Sn**	**22 38 45.3**	**+2.8**
BOSA	**Boshof**	**2.95**	**220**	*eP*	**Pn**	**22 38 07.3**	**+0.3**
BOSA				*eS*	**Sn**	**22 38 41.5**	**-1.0**
BOSA				AML	AML	22 38 52.4	
	comp=Z,51nm,0.3s						
BOSA	**Boshof**	**2.95**	**220**	*iP*	**Pn**	**22 38 08.7**	**+1.8**
BOSA				*iS*	**Sn**	**22 38 45.3**	**+2.8**
BOSA	**Boshof**	**2.95**	**220**	Pn	**Pn**	**22 38 08.4**	**+1.5**
	comp=Z,2.8nm,0.3s,baz=38,slow=12,SNR=71						
BOSA				Pg	**Pg**	**22 38 15.5**	**-1.0**
	comp=Z,5.5nm,0.3s,baz=42,slow=17,SNR=24						
BOSA				Lg	Lg	22 38 50.4	
	comp=Z,25nm,0.3s,baz=151,slow=3.4,SNR=22						
BOSA				Rg	Rg	22 39 09.5	
	comp=Z,20nm,0.4s,baz=315,slow=20,SNR=1.9						
MSNA	**Messina**	**4.65**	**31**	*iP*	**Pn**	**22 38 30.2**	**-0.1**
MSNA	**Messina**	**4.65**	**31**	*eP*	**Pn**	**22 38 32.6**	**+2.3**
MSNA				*eS*	**Sn**	**22 39 24.1**	**-0.3**
MSNA				AML	AML	22 39 50.9	
	comp=Z,43nm,1.1s						
MSNA	**Messina**	**4.65**	**31**	*iP*	**Pn**	**22 38 30.2**	**-0.1**
MATP	**Matopo**	**5.99**	**10**	*iP*	**Pn**	**22 38 50.9**	**+2.0**
MATP				*iS*	**Sn**	**22 39 54.6**	**-3.0**
MATP	**Matopo**	**5.99**	**10**	*iP*	**Pn**	**22 38 50.9**	**+2.0**
MATP				*iS*	**Sn**	**22 39 54.6**	**-3.0**
MATP	**Matopo**	**5.99**	**10**	Pn	**Pn**	**22 38 50.8**	**+2.0**
	comp=Z,4.8nm,0.3s,baz=187,slow=13,SNR=93						
MATP				Sn	**Sn**	**22 39 57.9**	**+0.3**
	comp=Z,3.4nm,0.3s,baz=114,slow=16,SNR=11						
MATP				Lg	Lg	22 40 25.7	
	comp=Z,7.7nm,0.3s,baz=148,slow=5.6,SNR=15						
BLWY	**Bulawayo**	**6.29**	**10**	*iP*	**Pn**	**22 38 54.6**	**+1.6**
BLWY				*iS*	**Sn**	**22 40 02.8**	**-2.2**
BLWY	**Bulawayo**	**6.29**	**10**	*iP*	**Pn**	**22 38 54.6**	**+1.6**
BLWY				*iS*	**Sn**	**22 40 02.8**	**-2.2**
SOE	**Somerset East**	**6.53**	**194**	*eP*	**Pn**	**22 38 57.7**	**+1.6**
SOE				*eS*	**Sn**	**22 40 08.3**	**-2.4**
SOE				AML	AML	22 40 11.8	
	comp=Z,7.4nm,0.7s						
BUFB	**Buffelsbos**	**8.10**	**196**	*eP*	**Pn**	**22 39 18.1**	**+0.5**
BUFB				*eS*	**Sn**	**22 40 45.2**	**-4.0**
BUFB				AML	AML	22 40 51.7	
	comp=Z,5.7nm,0.7s						
SUR	**Sutherland**	**8.31**	**222**	Pn	**Pn**	**22 39 22.5**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=49,slow=16,SNR=20						
SUR				Sn	**Sn**	**22 40 51.7**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=129,slow=19,SNR=3.9						
SUR				Lg	Lg	22 41 40.1	
	comp=Z,3.6nm,0.3s,baz=303,slow=20,SNR=9.5						
CVNA	**Calvinia**	**8.42**	**231**	*eP*	**Pn**	**22 39 22.7**	**+0.5**
CVNA				*eS*	**Sn**	**22 40 53.7**	**-3.7**
CVNA				AML	AML	22 41 02.1	
	comp=Z,9.1nm,0.8s						
KOMG	**Komaggas**	**9.41**	**246**	*eP*	**Pn**	**22 39 36.4**	**+0.7**
KOMG				*eS*	**Sn**	**22 41 17.8**	**-3.8**
KOMG				AML	AML	22 41 46.4	
	comp=Z,2.3nm,0.7s						
LSZ	**Lusaka**	**11.05**	**4**	*iP*	**Pn**	**22 39 56.8**	**-1.5**
LSZ				*iS*	Sn	22 41 51.2	-11
LSZ	**Lusaka**	**11.05**	**4**	*iP*	**Pn**	**22 39 56.8**	**-1.5**
LSZ				*iS*	Sn	22 41 51.2	-11
LSZ	**Lusaka**	**11.05**	**4**	Pn	**Pn**	**22 39 58.6**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=176,slow=15,SNR=9.7						
LSZ				Sn	**Sn**	**22 41 57.3**	**-4.8**
	comp=Z,0.3nm,0.3s,baz=49,slow=20,SNR=3.7						
LSZ				Lg	Lg	22 43 02.5	
	comp=Z,0.5nm,0.3s,baz=96,slow=23,SNR=3.6						
TSUM	**Tsumeb**	**11.53**	**306**	*iP*	**Pn**	**22 40 06.9**	**+2.2**
TSUM				*iS*	**Sn**	**22 42 08.8**	**-4.9**
TSUM	**Tsumeb**	**11.53**	**306**	*iP*	**Pn**	**22 40 06.9**	**+2.2**
TSUM				*iS*	**Sn**	**22 42 08.8**	**-4.9**
TSUM	**Tsumeb**	**11.53**	**306**	Pn	**Pn**	**22 40 06.3**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=127,slow=14,SNR=37						
TSUM				Sn	**Sn**	**22 42 18.7**	**+5.0**
	comp=Z,0.2nm,0.3s,baz=323,slow=14,SNR=3.3						
TSUM				Lg	Lg	22 43 21.4	
	comp=Z,0.7nm,0.3s,baz=248,slow=21,SNR=7.1						
TORD	**Torodi Ar. Bea**	**46.56**	**324**	P	**P**	**22 45 49.1**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=135,slow=7.6,SNR=7.2						
ESDC	**Sonseca Array**	**71.92**	**335**	P	**P**	**22 48 45.7**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=142,slow=5.0,SNR=5.3						
MKAR	**Makanchi Array**	**88.07**	**34**	P	**P**	**22 50 12.6**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=226,slow=3.2,SNR=4.0						

*IDC **08** 22:53:32.1±0.9, 24°.58N×141°.81E, h0km, mb3.9/14, mb1 4.1/16, mb1mx3.9/39, mbtmp3.9/16, ML3.5/2, MS3.2/8, Ms1 3.2/8, ms1mx3.0/39, Error ellipse: s-maj=26.7km s-min=21.4km az=84.0*
*ISCJB **08** 22:53:36.5±0.6, 24°.74N±0°.07×141°.9E±0°.1, h33km, mb3.9/14, MS3.3/5, Error ellipse: s-maj=14.1km s-min=9.1km az=20.7*
*JMA **08** 22:53:39.2±0.1, 24°.99N×141°.63E, h68km*

ISC 08 22:53:38.1±0.8, 24°.73N±0°.09×141°.9E±0°.1, h35km, n32, σ1°.04/27, mb4.0/14, MS3.3/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.91**	**7**	P	**Pn**	**22 54 07.3**	**-0.8**
JHH2				S	**Sn**	**22 54 29.0**	**-1.9**
CBIJ	**Chichi jima**	**2.37**	**6**	P	**Pn**	**22 54 13.5**	**-0.9**
MJAR	**Matsushiro Arr**	**12.19**	**346**	Pn	**Pn**	**22 56 30.2**	**+0.9**
	0.1nm,0.3s,baz=162,slow=11,SNR=8.9						
MJAR				LR	LR	23 00 57.1	
	comp=Z,123nm,20.6s,baz=175,slow=36						
KSRS	**Korea Array**	**17.42**	**320**	P	**P**	**22 57 40.2**	**+0.9**
	0.3nm,0.3s,baz=121,slow=13,SNR=6.9						
KSRS				LR	LR	23 03 59.3	
	comp=Z,31nm,18.1s,baz=150,slow=36						
ASAJ	**Asahikawa**	**19.34**	**1**	P	**Pn**	**22 58 02.4**	**+0.7**
	0.5nm,0.3s,baz=240,slow=29,SNR=6.0						
ASAJ				LR	LR	23 06 59.0	
	comp=Z,36nm,20.5s,baz=156,slow=41						
H11S3	**WAKE ISLAND Hy**	**23.84**	**100**	T	T	23 24 15.9	
	baz=289,slow=75						
H11S1	**WAKE ISLAND Hy**	**23.84**	**100**	T	T	23 24 23.0	
	baz=289,slow=75						
H11S2	**WAKE ISLAND Hy**	**23.85**	**100**	T	T	23 24 16.4	
	baz=289,slow=75						
KLR	**Kul'dur**	**25.72**	**345**	P	**P**	**22 59 05.2**	**+0.2**
	3.3nm,0.9s,baz=157,slow=8.6,SNR=11						
KLR				LR	LR	23 08 56.4	
	comp=Z,80nm,18.9s,baz=182,slow=36						
SONM	**Songino Array**	**36.28**	**319**	P	**P**	**23 00 37.6**	**-0.7**
	0.4nm,0.9s,baz=123,slow=10,SNR=3.8						
CMAR	**Chiang Mai Arr**	**40.31**	**270**	LR	LR	23 18 17.6	
	comp=Z,12nm,19.0s,baz=285,slow=37						
WRA	**Warramunga Arr**	**45.02**	**190**	P	**P**	**23 01 48.7**	**-1.7**
	1.4nm,0.3s,baz=8.3,slow=8.6,SNR=30						
JIRN	**Jiri**	**49.73**	**286**	*eP*	**P**	**23 02 28.4**	**+0.8**
	21nm,0.7s						
PKIN	**Phulchoki**	**50.44**	**286**	*eP*	**P**	**23 02 32.4**	**-0.5**
	4.4nm,0.7s						
DANN	**Dangsing**	**51.72**	**287**	*eP*	**P**	**23 02 44.1**	**+1.6**
	20nm,0.7s						
MKAR	**Makanchi Array**	**51.81**	**311**	P	**P**	**23 02 42.1**	**-0.5**
	0.2nm,0.5s,baz=92,slow=8.3,SNR=3.3						
KOLN	**Koldanda**	**51.97**	**287**	*eP*	**P**	**23 02 44.3**	**0.0**
	4.5nm,0.6s						
PYUN	**Piuthan**	**52.44**	**287**	*eP*	**P**	**23 02 48.4**	**+0.6**
	11nm,0.8s						
ILAR	**Eielson Array**	**59.90**	**28**	P	**P**	**23 03 40.5**	**+0.3**
	1.4nm,0.8s,baz=259,slow=5.9,SNR=17						
ILAR				LR	LR	23 26 01.7	
	comp=Z,20nm,21.8s,baz=194,slow=32						
INK	**Inuvik**	**65.28**	**24**	P	**P**	**23 04 16.7**	**+0.7**
	0.6nm,0.3s,baz=236,slow=7.8,SNR=4.0						
RPZ	**Rata Peaks**	**73.18**	**158**	LR	LR	23 35 34.1	
	comp=Z,70nm,18.8s,baz=206,slow=34						
YKA	**Yellowknife Ar**	**74.33**	**28**	P	**P**	**23 05 12.4**	**+0.7**
	1.2nm,0.8s,baz=294,slow=5.8,SNR=19						
ARCES	**ARCESS Array B**	**75.68**	**341**	P	**P**	**23 05 20.2**	**+0.7**
	4.8nm,0.9s,baz=59,slow=8.8,SNR=3.2						
FINES	**FINESS Array B**	**79.95**	**334**	P	**P**	**23 05 42.9**	**-0.4**
	0.7nm,0.4s,baz=60,slow=3.7,SNR=10						
NVAR	**Mina Array Bea**	**82.17**	**51**	P	**P**	**23 05 55.4**	**-0.5**
	0.3nm,0.5s,baz=277,slow=6.1,SNR=4.3						
NB2	**NORSAR Subarra**	**85.70**	**338**	P	**P**	**23 06 15.7**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**85.70**	**338**	P	**P**	**23 06 12.2**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=44,slow=4.9,SNR=2.6						
NOA				LR	LR	23 48 09.4	
	comp=Z,13nm,18.1s,baz=85,slow=38						
PDAR	**Pinedale Array**	**86.06**	**44**	P	**P**	**23 06 15.8**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=257,slow=5.8,SNR=4.9						
ULM	**Lac du Bonnet**	**89.55**	**33**	P	**P**	**23 06 32.5**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=288,slow=3.2,SNR=2.1						
VYHS	**Vyhne**	**91.11**	**326**	*e*	**P**	23 06 45.9	+6.7
KOLL	**Kolacno**	**91.28**	**326**	*eP*	**P**	**23 06 39.1**	**-0.9**
TXAR	**Lajitas Array**	**97.21**	**53**	P	**P**	**23 07 08.7**	**+1.0**
	comp=Z,0.2nm,0.8s,baz=322,slow=2.8,SNR=2.7						

MEX 08 23:14:25.6±0.5, 15°.64N×93°.76W, h71km±9km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.53**	**83**	*eP*	Pn	23 14 36.9	-1.8
PCIG				*iS*	Sn	23 14 46.8	-1.6
TGIG		**1.29**	**28**	*eP*	Pn	23 14 46.4	-1.5
TGIG				*eS*	Sn	23 15 02.7	-1.9
CCIG	**Comitan**	**1.69**	**68**	*iP*	Pn	23 14 52.5	-0.8
CCIG				*eS*	Sn	23 15 12.3	-1.9
CMIG	**Matias Romero**	**1.80**	**323**	*eP*	Pn	23 14 54.1	-0.5
CMIG				*eS*	Sn	23 15 15.0	-1.7

*ISCJB **08** 23:19:37.9±0.5, 7°.45N±0°.04×126°.60E±0°.07, h155km±3km, mb3.8/15, Error ellipse: s-maj=11.6km s-min=6.6km az=174.9*
*IDC **08** 23:19:39.8±1.1, 7°.47N×126°.57E, h158km±10km, mb3.7/15, mb1 3.8/15, mb1mx3.6/38, mbtmp4.1/15, Error ellipse: s-maj=28.6km s-min=10.8km az=76.0*
*MAN **08** 23:19:39.2, 7°.45N×126°.59E, h138km, mb4.4, ML3.3, MS3.1*

ISC 08 23:19:39.1±0.7, 7°.44N±0°.04×126°.56E±0°.08, h153km±6km, n34, σ1°.44/50, mb3.8/14, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.57**	**212**	*eP*	**Pn**	**23 20 00.9**	**-0.3**
MATI				*eS*	**Sn**	**23 20 17.8**	**-0.3**
BIPH	**Bislig**	**0.77**	**345⇑**	*eP*	**Pn**	**23 20 02.3**	**-0.1**
BIPH				*eS*	**Sn**	**23 20 17.9**	**-2.3**
DAV	**Davao City (W)**	**1.04**	**249**	P	**Pn**	**23 20 05.5**	**+1.0**
	96nm,0.3s,baz=69,slow=3.2,SNR=7.3						
DAV				S	**Sn**	**23 20 26.0**	**+2.1**
	129nm,0.3s,baz=255,slow=21,SNR=16						
DMPH	**Davao City--Mi**	**1.10**	**251⇑**	*eP*	**Pn**	**23 20 05.4**	**+0.4**
DMPH				*eS*	**Sn**	**23 20 24.6**	**-0.2**
BUKP	**Musuan**	**1.55**	**287**	*eP*	**Pn**	**23 20 09.6**	**+0.2**
BUKP				*eS*	**Sn**	**23 20 32.4**	**-0.3**
DDMP	**Don Marcelino,**	**1.57**	**213**	*eP*	**Pn**	**23 20 09.6**	**0.0**
DDMP				*eS*	**Sn**	**23 20 32.9**	**-0.2**
BUTP	**Butuan**	**1.78**	**329**	*eP*	**Pn**	**23 20 13.0**	**+1.0**
BUTP				*eS*	**Sn**	**23 20 36.0**	**-1.2**
CGP	**Cagayan de Oro**	**2.11**	**299⇑**	*eP*	**Pn**	**23 20 16.1**	**+0.4**
CGP				*eS*	**Sn**	**23 20 40.6**	**-3.1**
SKMP	**Bagumbayan, Su**	**2.20**	**246**	*eP*	**Pn**	**23 20 16.2**	**-0.6**
SKMP				*eS*	**Sn**	**23 20 45.5**	**-0.2**
SCPH	**Surigao**	**2.56**	**336⇑**	*eP*	Pn	23 20 30.6	+10
SCPH				*eS*	**Sn**	**23 21 00.1**	**+6.6**
MSLP	**Maasin**	**3.16**	**328**	*eP*	**Pn**	**23 20 28.1**	**-0.6**
MSLP				*eS*	**Sn**	**23 21 07.1**	**+0.1**
PAGZ	**Pagadian**	**3.18**	**278**	*eP*	**Pn**	**23 20 29.5**	**+0.7**
CNP	**Cataman**	**5.38**	**340**	*eP*	**Pn**	**23 20 59.0**	**+1.5**
CNP				*eS*	**Sn**	**23 21 54.8**	**-4.1**
FITZ	**Fitzroy Crossi**	**25.39**	**182**	P	**P**	**23 24 53.2**	**+0.8**
	4.9nm,0.6s,baz=8.9,slow=8.8,SNR=18						
FITZ				PcP	**PcP**	**23 28 21.1**	**+0.2**
	1.6nm,0.7s,baz=333,slow=4.5,SNR=3.5						
WRA	**Warramunga Arr**	**28.27**	**164**	P	**P**	**23 25 18.2**	**+0.1**
	0.7nm,0.8s,baz=345,slow=8.0,SNR=8.3						
WRA				PcP	**PcP**	**23 28 27.9**	**+0.2**
	0.6nm,0.8s,baz=345,slow=2.6,SNR=5.5						
ASAR	**Alice Springs**	**31.74**	**167**	P	**P**	**23 25 49.1**	**+0.3**
	0.5nm,0.4s,baz=345,slow=7.0,SNR=11						
ASAR				PcP	**PcP**	**23 28 37.4**	**+0.6**
	1.0nm,0.6s,baz=351,slow=2.4,SNR=10						
STKA	**Stephens Creek**	**41.65**	**161**	P	**P**	**23 27 13.1**	**+0.6**
	1.3nm,0.5s,baz=344,slow=10,SNR=4.0						
KLR	**Kul'dur**	**41.88**	**5**	P	**P**	**23 27 13.8**	**-0.3**
	1.1nm,0.7s,baz=179,slow=5.7,SNR=5.3						
RAMN	**Ramite**	**42.57**	**302**	*eP*	**P**	**23 27 20.9**	**+0.5**
	5.9nm,0.5s						
JIRN	**Jiri**	**43.15**	**303**	*eP*	**P**	**23 27 25.4**	**+0.2**
	4.9nm,0.3s						
SONM	**Songino Array**	**43.76**	**340**	P	**P**	**23 27 30.8**	**+1.3**
	0.2nm,0.3s,baz=155,slow=7.3,SNR=2.0						
SONM				PcP	**PcP**	**23 29 13.5**	**0.0**
	0.3nm,0.4s,baz=145,slow=3.0,SNR=2.5						
KOLN	**Koldanda**	**45.36**	**302**	*eP*	**P**	**23 27 42.8**	**+0.3**
	4.4nm,0.3s						
DANN	**Dangsing**	**45.41**	**303**	*eP*	**P**	**23 27 43.0**	**0.0**
	7.3nm,0.5s						
PYUN	**Piuthan**	**45.97**	**302**	*eP*	**P**	**23 27 47.6**	**+0.2**
	11nm,0.7s						
PETK	**Petropavlovsk-**	**52.09**	**23**	P	**P**	**23 28 33.7**	**+0.5**
	0.9nm,0.6s,baz=217,slow=4.2,SNR=5.0						
MKAR	**Makanchi Array**	**54.46**	**324**	P	**P**	**23 28 51.1**	**+0.4**
	3.5nm,0.4s,baz=114,slow=7.3,SNR=88						
MKAR				PcP	**PcP**	**23 29 51.8**	**-0.5**
	1.5nm,0.7s,baz=122,slow=5.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**57.24**	**332**	P	**P**	**23 29 09.9**	**-0.4**
	1.4nm,0.3s,baz=139,slow=6.3,SNR=5.0						
ILAR	**Eielson Array**	**81.85**	**26**	P	**P**	**23 31 39.9**	**-1.0**
	0.4nm,0.5s,baz=252,slow=4.9,SNR=9.1						
ARCES	**ARCESS Array B**	**86.93**	**340**	P	**P**	**23 32 05.7**	**-0.7**
	5.6nm,0.9s,baz=82,slow=6.4,SNR=5.6						
BRTR	**Keskin Array B**	**87.54**	**310**	P	**P**	**23 32 09.3

comp=Z,6.5nm,0.2s
HEF eSN Sn 23 52 02.4 +2.6
ERTU Ertsjaerv 1.52 148 P Pn 23 51 41.2 -0.7
ERTU Ertsjaerv 1.52 148 ePG Pn 23 51 41.5 -0.4
ERTU eSN Sn 23 52 04.4 +2.1
HARU Harads 1.72 169 P Pn 23 51 44.8 0.0
HARU Harads 1.72 169 eP Pn 23 51 44.8 0.0
KALU Kalix 2.36 147 eP Pn 23 51 54.5 +1.1
KALU eSG Sb 23 52 26.4 0.0
SGF Sodankyl 2.45 97 ePB Pb 23 51 56.8 -1.6
ARE0 ARCESS Array S 2.57 46 ePB Pb 23 51 58.5 -2.0
baz=228
ARE0 eSB Sb 23 52 31.8 -0.9
KEV Kevo 3.13 49 MSG 23 52 45.9
comp=Z,4.6nm,0.2s
KEV eSB Sb 23 52 47.9 -0.6
MSF Maaselka 3.99 115 eP Pn 23 52 18.7 +2.8
KU6 Riekki 4.23 111 ePG Pb 23 52 28.6 -0.1
baz=299

UPP 08 23:51:42.5±0.1, 67°.86N×20°.15E, h0km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.11**	**37**	P	Pg	23 51 44.9	+0.2
KUA				S	Sg	23 51 46.6	+0.4
RATU	**Laukkuluspa**	**0.22**	**259**	P	Pg	23 51 46.9	+0.2
PAJU	**Pajala**	**1.42**	**125**	P	Pn	23 52 08.7	-0.8

MEX 09 00:15:04.3±0.4, 14°.59N×92°.79W, h17km±22km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.18**	**340**	eP	Pn	00 15 22.9	-3.3
PCIG				eS	Sb	00 15 36.4	-5.0
CCIG	**Comitan**	**1.80**	**20**	eP	Pn	00 15 31.5	-3.3
CCIG				*i* S	Sn	00 15 53.0	-4.3

TRN 09 00:17:37.3, 17°.61N×61°.81W, h23km, MD3.5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.06**	**21**	eP	Pb	00 17 42.3	+0.8
ANWB				eS	Sb	00 17 46.8	+2.6
BPA	**Boggy Peak**	**0.57**	**185**	eP	Pn	00 17 50.4	+0.4
BPA				eS	Sn	00 17 59.9	+1.2
NEV	**Hard Times**	**0.87**	**237**	eP	Pn	00 17 55.8	+1.7
NEV				eS	Sn	00 18 09.4	+3.3
MLYT	**Lee's Yard**	**0.96**	**203**	eP	Pn	00 17 56.7	+1.3
MLYT				eS	Sn	00 18 11.7	+3.3
SEUS	**St. Eustatius**	**1.13**	**264**	eP	Pb	00 18 00.0	+1.9
SEUS				eS	Sn	00 18 15.6	+3.2
SMRT	**St. Maarten**	**1.28**	**290**	eP	Pb	00 18 01.0	+0.2
SMRT				eS	Sb	00 18 18.7	+1.8
DEG	**La Desirade**	**1.48**	**151**	eP	Pb	00 18 03.7	-0.4
DEG				eS	Sb	00 18 24.6	+2.1
TBG	**Guadaloupe-3**	**1.76**	**175**	eP	Pb	00 18 07.8	-1.1
TBG				eS	Sb	00 18 31.1	+0.6
MDPV	**Dominica, Penn**	**2.01**	**169**	eP	Pn	00 18 11.5	+1.6
MDPO	**Dominica; Chan**	**2.06**	**170**	eP	Pb	00 18 12.3	-1.6
MDPO				eS	Sb	00 18 37.9	-1.2
BBL	**Barber's Block**	**2.10**	**171**	eP	Pn	00 18 12.9	+1.8
BBL				eS	Sb	00 18 38.6	-1.8

IDC 09 00:20:44.6±66.0, 20°.42S×176°.81W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/21, mbtmp4.0/3, MS4.2/1, Ms1 4.2/1, ms1mx2.9/41, Error ellipse: s-maj=1222.0km s-min=171.2km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**8.85**	**186**	LR	LR	00 25 17.3	
	comp=Z,2μm,21.5s,baz=156,slow=31						
STKA	**Stephens Creek**	**38.83**	**244**	P	P	00 28 10.2	-1.3
	1.0nm,0.4s,baz=94,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**45.62**	**256**	P	P	00 29 07.0	-0.1
	1.2nm,0.7s,baz=96,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**45.72**	**262**	P	P	00 29 08.4	+0.6
	0.7nm,0.4s,baz=93,slow=8.1,SNR=33						

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*IDC **09** 00:38:44.7±1.0, 22°.90N×95°.91E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.5/54, mbtmp3.9/8, ML4.2/2, MS3.1/2, Ms1 3.2/2, ms1mx2.6/39, Error ellipse: s-maj=28.0km s-min=14.0km az=53.0*
*ISCJB **09** 00:38:46.0±0.7, 22°.84N±0°.09×96°.06E±0°.08, h32km, mb3.7/6, MS3.1/1, Error ellipse: s-maj=14.5km s-min=7.4km az=32.5*
ISC 09 00:38:49.0±1.0, 22°.9N±0°.1×96°.0E±0°.1, h32km, n12, σ1§95/13, mb3.7/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**4.07**	**267**	Pn	**Pn**	**00 39 47.1**	**-1.9**
	6.4nm,0.3s,baz=251,slow=23,SNR=1.6						
BRDH				Sn	**Sn**	**00 40 35.6**	**+0.1**
	18nm,0.3s,baz=72,slow=19,SNR=6.9						
CMMT	**Chiang Mai**	**4.92**	**146**	P	**Pn**	**00 39 58.0**	**-2.8**
	37nm,0.5s,718nm						
CMAR	**Chiang Mai Arr**	**5.22**	**148**	Pn	**Pn**	**00 40 02.8**	**-2.0**
	3.4nm,0.3s,baz=322,slow=13,SNR=31						
CMAR				Pg	**Pb**	**00 40 20.9**	**+1.4**
	10nm,0.3s,baz=322,slow=17,SNR=34						
CMAR				Lg	Lg	00 41 29.2	
	6.2nm,0.3s,baz=321,slow=30,SNR=8.1						
CMAR				LR	LR	00 42 16.5	
	comp=Z,120nm,19.7s,baz=165,slow=40						
LAMP	**Lampang**	**5.53**	**142**	P	**Pn**	**00 40 07.2**	**-1.9**
	142μm,0.7s						
UTTA	**Uttaradit**	**6.68**	**140**	P	**Pn**	**00 40 22.4**	**-2.5**
	32μm,0.5s,427μm						
PALK	**Pallekele**	**21.45**	**226**	LR	LR	00 53 15.5	
	comp=Z,74nm,18.6s,baz=116,slow=41						
MKAR	**Makanchi Array**	**26.26**	**338**	P	**P**	**00 44 21.4**	**+0.1**
	1.9nm,0.8s,baz=144,slow=10,SNR=12						
AAK	**Ala-Archa**	**26.59**	**323**	P	**P**	**00 44 25.1**	**+0.7**
	3.9nm,0.9s,baz=156,slow=3.7,SNR=12						
KURBB	**Kurchatov Arra**	**30.83**	**338**	P	**P**	**00 45 00.5**	**-1.4**
	0.3nm,0.4s,baz=147,slow=9.6,SNR=1.0						
BVAR	**Borovoye Array**	**35.83**	**333**	P	**P**	**00 45 44.9**	**-0.6**
	0.8nm,0.8s,baz=134,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**56.68**	**136**	P	**P**	**00 48 30.6**	**+1.0**
	1.0nm,0.7s,baz=324,slow=7.6,SNR=3.2						
ASAR	**Alice Springs**	**59.16**	**139**	P	**P**	**00 48 49.7**	**+2.7**
	0.5nm,0.7s,baz=328,slow=6.6,SNR=2.6						

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*ISCJB **09** 00:39:56.2±0.7, 21°.61N±0°.04×143°.05E±0°.08, h321km±7km, mb3.9/38, Error ellipse: s-maj=11.6km s-min=6.2km az=169.7*
*IDC **09** 00:39:57.0±1.4, 21°.59N×143°.11E, h316km±13km, mb3.7/28, mb1 3.8/31, mb1mx3.7/57, mbtmp4.4/31, Error ellipse: s-maj=13.1km s-min=7.3km az=88.0*
*NEIC **09** 00:39:57.4±0.5, 21°.58N×143°.03E, h316km±6km, mb4.3/19, Error ellipse: s-maj=9.6km s-min=4.8km az=75.0*
ISC 09 00:39:57.6±0.9, 21°.63N±0°.06×143°.03E±0°.09, h322km±8km, n83, σ1§33/96, mb3.9/38, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**5.55**	**152**	ePn	**Pn**	**00 41 22.3**	**-0.1**
ANA2	**Anatahan**	**5.84**	**154**	ePn	**Pn**	**00 41 24.0**	**-1.8**
GUMO	**Guam**	**8.19**	**167**	ePn	**Pn**	**00 41 53.8**	**0.0**
JHJ2	**Mitsune**	**11.79**	**347**	ePn	**Pn**	**00 42 36.4**	**-0.7**
JHJ	**Hachijo jima 2**	**11.80**	**347**	P	**Pn**	**00 42 36.6**	**-0.7**
	21nm,0.3s,baz=80,slow=18,SNR=5.4						
INU	**Inuyama**	**14.65**	**340**	eP	**P**	**00 43 09.9**	**+0.3**
MJAR	**Matsushiro Arr**	**15.44**	**345**	eP	**P**	**00 43 18.5**	**+0.2**
	8.7nm,0.7s						
MJAR	**Matsushiro Arr**	**15.44**	**345**	P	**P**	**00 43 17.7**	**-0.6**
	0.8nm,0.3s,baz=164,slow=8.7,SNR=35						
MJAR				S	**S**	**00 46 02.4**	**-2.5**
	0.1nm,0.3s,baz=124,slow=14,SNR=3.6						
MAJO	**Matsushiro**	**15.44**	**345**	eP	**P**	**00 43 18.4**	**+0.1**
	26nm,0.9s						
MAT	**Matsushiro**	**15.44**	**345**	P	**P**	**00 43 18.8**	**+0.5**
MJB9	**Matsu-Tunnel**	**15.45**	**345**	eP	**P**	**00 43 18.7**	**+0.4**
	26nm,0.9s						
JNU	**Nakatsue**	**15.71**	**319**	eP	**Pn**	**00 43 23.7**	**+0.1**
	18nm,1.0s						
JNU	**Nakatsue**	**15.71**	**319**	P	**P**	**00 43 22.8**	**+1.5**
	1.1nm,0.3s,baz=125,slow=6.0,SNR=6.7						
ERM	**Erimo**	**20.33**	**0**	eP	**P**	**00 44 11.9**	**+1.6**
	73nm,0.8s						
KSRS	**Korea Array**	**20.48**	**324**	P	**P**	**00 44 11.9**	**+0.1**
	9.9nm,0.6s,baz=145,slow=9.0,SNR=45						
KS15	**Wonju Array Si**	**20.50**	**324**	eP	**P**	**00 44 12.9**	**+0.9**
	9.5nm,0.6s						
ASAJ	**Asahikawa**	**22.43**	**359**	P	**P**	**00 44 29.7**	**0.0**
	2.9nm,0.3s,baz=251,slow=19,SNR=3.6						
USRK	**Ussuriysk Ar.**	**24.30**	**340**	eP	**P**	**00 44 47.2**	**+0.6**
USRK	**Ussuriysk Ar.**	**24.30**	**340**	P	**P**	**00 44 47.0**	**+0.5**
	6.4nm,0.6s,baz=168,slow=10,SNR=17						
KLR	**Kul'dur**	**28.97**	**345**	P	**P**	**00 45 28.5**	**+0.5**
	22nm,0.6s,baz=151,slow=7.4,SNR=104						
KLR				ScP	**ScP**	**00 51 36.5**	**-1.6**
	2.1nm,0.8s,baz=194,slow=1.5,SNR=7.4						
HHC	**Hu-ho-hao-te**	**32.77**	**313**	eP	**P**	**00 46 01.9**	**+0.5**
HHC				S	**S**	**00 50 50.4**	**-3.7**
HHC				sS	sS	00 52 48.8	+4.1
PETK	**Petropavlovsk-**	**33.38**	**16**	P	**P**	**00 46 06.5**	**+0.1**
	1.7nm,0.7s,baz=302,slow=5.5,SNR=7.5						
LZH	**Lanzhou**	**36.96**	**302**	eP	**P**	**00 46 37.2**	**+0.1**
LZH				pP	pwP	00 47 46.6	+2.5
LZH				PP	**PP**	**00 48 01.8**	**-7.4**
LZH				sP	sP	00 48 11.0	-4.4
KMI	**Kunming**	**37.05**	**283**	P	**P**	**00 46 39.0**	**+0.9**
SONM	**Songino Array**	**39.30**	**321**	eP	**P**	**00 46 57.2**	**+0.9**
	1.3nm,1.1s						
SONM	**Songino Array**	**39.30**	**321**	P	**P**	**00 46 57.7**	**+1.4**
	1.2nm,0.4s,baz=126,slow=7.2,SNR=14						
SONM				ScP	**ScP**	**00 52 15.3**	**+0.2**
	0.4nm,0.6s,baz=116,slow=3.4,SNR=3.1						
GTA	**Gaotai**	**40.79**	**306**	eP	P	00 47 00.4	-8.2
GTA				pP	pP	00 48 04.8	-6.9
GTA				sP	sP	00 48 40.6	-7.6
CMAR	**Chiang Mai Arr**	**41.43**	**274**	P	**P**	**00 47 15.6**	**+1.7**
	1.5nm,0.4s,baz=84,slow=6.0,SNR=4.2						
SEY	**Seymchan**	**41.77**	**6**	P	**P**	**00 47 16.4**	**+0.5**
	3.5nm,0.9s,baz=220,slow=1.4,SNR=6.5						
WRAB	**Tennant Creek**	**42.17**	**192**	eP	**P**	**00 47 19.2**	**-0.4**
	16nm,0.6s						
WB2	**Warramunga Arr**	**42.18**	**192**	eP	**P**	**00 47 19.4**	**-0.4**
	13nm,0.7s						
WRA	**Warramunga Arr**	**42.18**	**192**	eP	**P**	**00 47 18.0**	**-1.8**
	3.9nm,1.0s						
WRA	**Warramunga Arr**	**42.18**	**192**	P	**P**	**00 47 19.2**	**-0.5**
	10nm,0.6s,baz=14,slow=8.7,SNR=86						
WRA				PcP	**PcP**	**00 49 07.5**	**+0.1**
	1.0nm,0.6s,baz=11,slow=3.6,SNR=4.4						
WRA				ScP	**ScP**	**00 52 29.4**	**+2.7**
	0.7nm,1.0s,baz=357,slow=4.3,SNR=3.2						
FITZ	**Fitzroy Crossi**	**43.00**	**205**	eP	**P**	**00 47 26.2**	**-0.1**
	8.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**43.00**	**205**	P	**P**	**00 47 26.0**	**-0.2**
	8.8nm,0.6s,baz=23,slow=9.5,SNR=30						
AS31	**Alice Springs**	**45.89**	**192**	eP	**P**	**00 47 48.3**	**-0.7**
	1.8nm,0.5s						
ASAR	**Alice Springs**	**45.89**	**192**	P	**P**	**00 47 48.1**	**-0.9**
	2.1nm,0.5s,baz=16,slow=13,SNR=35						
ASAR				PcP	**PcP**	**00 49 20.1**	**0.0**
	0.5nm,0.6s,baz=3.1,slow=4.8,SNR=3.2						
SHL	**Shillong**	**46.80**	**285**	eP	**P**	**00 47 58.1**	**+1.8**
	20nm,0.4s						
WMQ	**Urumqi**	**50.51**	**310**	eP	**P**	**00 48 24.8**	**+0.9**
WMQ				pP	pP	00 49 29.9	-0.4
WMQ				PcP	**PcP**	**00 49 38.8**	**+2.1**
TIXI	**Tiksi**	**50.70**	**354**	eP	**P**	**00 48 24.6**	**-0.2**
	2.4nm,0.8s						
STKA	**Stephens Creek**	**53.22**	**182**	P	**P**	**00 48 42.8**	**-0.9**
	4.7nm,0.4s,baz=0.1,slow=6.1,SNR=10						
ZALV	**Zalesovo Beam**	**54.17**	**322**	P	**P**	**00 48 51.0**	**+0.6**
	1.1nm,0.4s,baz=106,slow=7.8,SNR=5.9						
ZALV				PcP	**PcP**	**00 49 49.5**	**-0.8**
	2.4nm,0.4s,baz=126,slow=3.5,SNR=8.3						
ZALV				ScP	**ScP**	**00 53 16.5**	**-0.5**
	0.5nm,0.5s,baz=104,slow=6.1,SNR=2.5						
MKAR	**Makanchi Array**	**54.64**	**313**	P	**P**	**00 48 54.6**	**+0.8**
	0.6nm,0.3s,baz=88,slow=9.0,SNR=12						
MKAR				PcP	**PcP**	**00 49 52.4**	**+0.1**
	0.9nm,0.4s,baz=79,slow=4.4,SNR=8.6						
KURK	**Kurchatov**	**57.43**	**317**	eP	**P**	**00 49 13.3**	**0.0**
	15nm,0.3s						
KURBB	**Kurchatov Arra**	**57.47**	**317**	P	**P**	**00 49 14.2**	**+0.5**
	2.8nm,0.3s,baz=93,slow=7.5,SNR=45						
KDJ	**Kajisay**	**58.12**	**307**	eP	**P**	**00 49 18.8**	**+0.2**
	5.5nm,0.8s						
NRN	**Naryn**	**59.02**	**306**	eP	**P**	**00 49 24.6**	**-0.3**
	9.1nm,0.9s						
KSH	**Kashi**	**59.15**	**304**	P	**P**	**00 49 26.8**	**+1.3**
KSH				pP	PcP	00 49 50.1	-20
KSH				PP	**PP**	**00 51 44.2**	**+4.0**
KSH				S	**S**	**00 57 05.1**	**-2.0**
KSH	**Kashi**	**59.15**	**304**	SS	SS	01 01 06.5	-0.7
NWAO	**Narrogin (SRO)**	**59.58**	**205**	P	**P**	**00 49 27.6**	**-0.6**
	21nm,1.1s,baz=315,slow=14,SNR=3.1						
CAST	**Castle Rocks**	**59.68**	**28**	eP	**P**	**00 49 29.2**	**+0.7**
	1.9nm,0.8s						
BPAW	**Bear Paw Mtn.**	**60.30**	**28**	eP	**P**	**00 49 33.6**	**+0.9**
	2.6nm,0.6s						
ILAR	**Eielson Array**	**62.17**	**27**	P	**P**	**00 49 44.1**	**-0.9**
	1.1nm,0.6s,baz=260,slow=5.4,SNR=12						
BVAR	**Borovoye Array**	**62.63**	**320**	P	**P**	**00 49 49.1**	**+0.8**
	5.1nm,0.3s,baz=100,slow=7.9,SNR=65						
KKAR	**Karatay Array**	**62.98**	**308**	eP	**P**	**00 49 52.1**	**+1.2**
BCPM	**Bancas Point**	**65.21**	**33**	eP	**P**	**00 50 06.4**	**+1.5**
	21nm,0.7s						
INK	**Inuvik**	**67.69**	**24**	P	**P**	**00 50 20.0**	**-0.3**
	0.7nm,0.6s,baz=294,slow=2.3,SNR=5.4						
ABKAR	**Akbulak array**	**69.50**	**316**	eP	**P**	**00 50 32.3**	**+0.5**
YKA	**Yellowknife Ar**	**76.58**	**28**	P	**P**	**00 51 12.8**	**0.0**
	1.2nm,0.6s,baz=292,slow=5.6,SNR=24						
ARCES	**ARCESS Array B**	**78.94**	**341**	P	**P**	**00 51 26.1**	**+0.6**
	1.1nm,0.3s,baz=75,slow=8.8,SNR=30						
KBZ	**Khabaz**	**82.31**	**314**	P	**P**	**00 51 44.8**	**+1.0**
	3.3nm,0.8s,baz=88,slow=5.1,SNR=12						
FINES	**FINESS Array B**	**83.18**	**334**	P	**P**	**00 51 47.1**	**-0.7**
	2.2nm,0.3s,baz=64,slow=4.8,SNR=54						
NVAR	**Mina Array Bea**	**83.30**	**51**	eP	**P**	**00 51 49.6**	**+0.3**
NVAR	**Mina Array Bea**	**83.30**	**51**	P	**P**	**00 51 49.7**	**+0.4**
	1.4nm,0.7s,baz=268,slow=5.6,SNR=15						
LRM	**Limekiln Ridge**	**84.33**	**43**	eP	**P**	**00 51 54.8**	**+0.5**
HRY	**Holter Researc**	**84.34**	**42**	eP	**P**	**00 51 54.9**	**+0.7**
PDAR	**Pinedale Array**	**87.55**	**45**	P	**P**	**00 52 08.9**	**-1.0**
	0.2nm,0.4s,baz=206,slow=3.5,SNR=4.2						
NOA	**NORSAR Array B**	**88.96**	**339**	P	**P**	**00 52 15.6**	**-0.3**
	0.1nm,0.5s,baz=23,slow=7.5,SNR=2.2						
BRTR	**Keskin Array B**	**90.28**	**313**	P	**P**	**00 52 22.0**	**-0.7**
	0.8nm,0.8s,baz=58,slow=3.3,SNR=4.9						
VYHS	**Vyhne**	**94.25**	**327**	eP	**P**	**00 52 39.9**	**-0.8**
GERES	**GERESS Array B**	**96.57**	**329**	P	**P**	**00 52 50.1**	**-1.2**
	0.3nm,0.5s,baz=14,slow=5.2,SNR=3.7						
SNAA	**Sanae**	**126.25**	**193**	PKPdf	**PKPdf**	**00 58 20.7**	**-0.7**
VNA2	**Neumayer--Watz**	**127.74**	**192**	PKPdf	**PKPdf**	**00 58 24.1**	**-0.1**
	baz=208,slow=4.7						
VNA3	**Neumayer Olymp**	**127.89**	**191**	PKPdf	**PKPdf**	**00 58 24.6**	**+0.2**
VNA1	**Neumayer--Stat**	**128.13**	**192**	PKPdf	**PKPdf**	**00 58 24.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**128.67**	**309**	PKP	**PKPdf**	**00 58 25.2**	**-2.4**
	0.2nm,0.4s,baz=360,slow=2.8,SNR=6.6						
PLCA	**Paso Flores**	**145.82**	**132**	PKPbc	**PKPbc**	**00 58 60.0**	**+0.4**
	9.1nm,0.6s,baz=261,slow=4.4,SNR=26						
MNMC	**Minye Minye**	**149.35**	**91**	ePKPbc	**PKiKP**	**00 59 10.5**	**-0.2**
PB11	**IPOC Station P**	**149.40**	**93**	ePKPbc	**PKPbc**	**00 59 09.8**	**+0.1**
GO01	**Chusmiza**	**149.81**	**92**	ePKPbc	**PKiKP**	**00 59 12.0**	**+0.1**
LPAZ	**La Paz**	**150.09**	**85**	ePKPbc	**PKiKP**	**00 59 12.7**	**0.0**
LPAZ	**La Paz**	**150.09**	**85**	PKP	**PKPdf**	**00 59 06.2**	**-0.5**
	1.4nm,0.9s,baz=23,slow=1.0,SNR=4.9						
LPAZ				PKPbc	**PKPbc**	**00 59 12.6**	**+0.5**
	4.9nm,0.5s,baz=342,slow=1.8,SNR=22						
CFA	**Coronel Fontan**	**150.43**	**116**	PKPbc	**PKPbc**	**00 59 11.5**	**-0.2**
	4.1nm,0.6s,baz=243,slow=2.2,SNR=9.7						

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*IDC **09** 00:41:17.8±0.8, 23°.29N×123°.28E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.8/49, mbtmp3.9/11, ML3.3/1, MS3.3/10, Ms1 3.3/10, ms1mx3.0/42, Error ellipse: s-maj=45.2km s-min=17.6km az=71.0*
*ISCJB **09** 00:41:19.9±1.2, 23°.22N±0°.04×123°.35E±0°.04, h28km±9km, mb3.9/12, MS3.4/7, Error ellipse: s-maj=7.4km s-min=4.4km az=143.4*
*JMA **09** 00:41:19.9±0.2, 23°.16N×123°.36E, h50km, M3.5*
*NEIC **09** 00:41:21.6±1.6, 23°.28N×123°.26E, h27km±3km, mb4.1/3, Error ellipse: s-maj=19.4km s-min=13.1km az=113.0*
ISC 09 00:41:20.1±2.1, 23°.26N±0°.06×123°.34E±0°.04, h17km±13km, n50, σ0§80/50, mb4.0/12, MS3.4/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.91**	**28**	P	**Pb**	**00 41 37.6**	**+0.2**
HATJ				S	**Sg**	**00 41 50.2**	**+0.6**
IRIF	**Iriomote-Funau**	**1.13**	**18**	P	**Pn**	**00 41 40.9**	**-0.3**
JKRS	**Kuro-shima**	**1.16**	**32**	P	**Pn**	**00 41 41.4**	**-0.1**
JKRS				S	**Sb**	**00 41 56.4**	**+0.1**
YOJ	**Yonaguni jima**	**1.24**	**346**	ePn	**Pn**	**00 41 42.9**	**+0.3**
YOJ	**Yonaguni jima**	**1.24**	**346**	P	**Pn**	**00 41 42.9**	**+0.3**
YOJ				eS	**Sn**	**00 41 59.0**	**+0.1**
JYNG	**Yonagunijimaku**	**1.24**	**343**	P	**Pn**	**00 41 42.7**	**0.0**
JYNG				eS	**Sg**	**00 41 59.9**	**-0.4**
JIJ	**Ishigaki jima**	**1.33**	**34**	P	**Pn**	**00 41 43.3**	**-0.6**
JIJ				S	**Sn**	**00 41 59.9**	**-1.3**
JISG	**Ishigakijimahi**	**1.60**	**34**	P	**Pn**	**00 41 47.3**	**-0.3**
NACB	**Ninganchiao**	**1.84**	**300**	ePn	**Pn**	**00 41 49.3**	**-1.6**
JTJ	**Tarama**	**1.86**	**42**	P	**Pn**	**00 41 51.2**	**0.0**
JTJ				S	**Sn**	**00 42 14.0**	**-0.3**
YULB	**Yu-li**	**1.88**	**275**	ePn	**Pn**	**00 41 50.3**	**-1.2**
TWG	**Pinlang**	**2.13**	**259**	ePn	**Pn**	**00 41 54.2**	**-0.8**
SSLB	**Suanglung**	**2.25**	**284**	ePn	**Pn**	**00 41 56.7**	**+0.1**
YHNB	**Yeheng**	**2.28**	**309**	ePn	**Pn**	**00 41 56.3**	**-0.8**
JIRB	**Irabujima**	**2.29**	**47**	P	**Pn**	**00 41 56.8**	**-0.4**
JIRB				eS	**Sn**	**00 42 24.4**	**-0.7**
JMJ2	**Miyako jima3**	**2.34**	**51**	P	**Pn**	**00 41 57.8**	**-0.1**
JMJ2				eS	**Sn**	**00 42 26.2**	**-0.1**
TATO	**Taipei**	**2.41**	**316**	ePn	**Pn**	**00 42 00.8**	**+2.1**
JIKM	**Ikemajima**	**2.41**	**46**	P	**Pn**	**00 41 58.6**	**-0.1**
JIKM				S	**Sn**	**00 42 27.3**	**-0.6**
TPUB	**Ta-pu**	**2.49**	**272**	ePn	**Pn**	**00 42 01.1**	**+1.2**
KNMB	**Chin-men Tao**	**4.69**	**286**	ePn	**Pn**	**00 42 30.1**	**0.0**
KSRS	**Korea Array**	**14.69**	**15**	LR	LR	00 50 39.3	
	comp=Z,74nm,19.4s,baz=185,slow=38						
JHJ	**Hachijo jima 2**	**17.49**	**52**	LR	LR	00 51 17.2	
	comp=Z,60nm,21.0s,baz=156,slow=34						
MAJO	**Matsushiro**	**18.45**	**41**	eP	**P**	**00 45 33.5**	**-1.4**
MJAR	**Matsushiro Arr**	**18.45**	**41**	P	**P**	**00 45 33.5**	**-1.4**
	0.1nm,0.3s,baz=226,slow=9.8,SNR=2.8						
MJAR				LR	LR	00 52 57.6	
	comp=Z,52nm,21.7s,baz=230,slow=38						
CMAR	**Chiang Mai Arr**	**23.28**	**263**	LR	LR	00 56 34.5	
	comp=Z,36nm,21.3s,baz=270,slow=40						
SONA0	**Songino Array**	**28.01**	**335**	eP	**P**	**00 47 10.3**	**0.0**
SONM	**Songino Array**	**28.01**	**335**	P	**P**	**00 47 10.3**	**0.0**
	1.4nm,0.7s,baz=144,slow=6.7,SNR=5.1						
MYKOM	**Kota Tinggi**	**28.50**	**224**	eP	**P**	**00 47 14.2**	**-0.6**
	9.2nm,0.8s						
JAY	**Jayapura**	**30.70**	**144**	LR	LR	00 58 12.3	
	comp=Z,50nm,19.0s,baz=8.5,slow=33						
PETK	**Petropavlovsk-**	**39.56**	**32**	LR	LR	01 04 37.7	
	comp=Z,35nm,20.4s,baz=252,slow=35						
MKAR	**Makanchi Array**	**40.37**	**316**	LR	LR	01 04 56.0	
	comp=Z,46nm,18.8s,baz=164,slow=35						
ZALV	**Zalesovo Beam**	**42.09**	**327**	P	**P**	**00 49 10.2**	**-0.8**
	1.2nm,0.7s,baz=128,slow=6.1,SNR=2.5						
ZAA1	**Zalesovo Array**	**42.10**	**327**	eP	**P**	**00 49 10.2**	**-0.8**
WR1	**Warramunga Arr**	**44.26**	**165**	eP	**P**	**00 49 28.9**	**+0.1**
WRA	**Warramunga Arr**	**44.26**	**165**	P	**P**	**00 49 28.9**	**+0.1**
	3.2nm,0.8s,baz=346,slow=8.3,SNR=7.3						
AS31	**Alice Springs**	**47.76**	**167**	eP	**P**	**00 49 57.7**	**+1.2**
	0.9nm,0.5s						
ASAR	**Alice Springs**	**47.76**	**167**	P	**P**	**00 49 57.7**	**+1.2**
	0.7nm,0.6s,baz=351,slow=14,SNR=7.4						
NRIK	**Noril'sk**	**50.81**	**344**	LR	LR	01 13 57.9	
	comp=Z,55nm,18.0s,baz=199,slow=39						
GEYT	**Alibeck**	**56.97**	**301**	LR	LR	01 20 00.4	
	comp=Z,30nm,18.6s,baz=115,slow=41						
STKA	**Stephens Creek**	**57.54**	**162**	eP	**P**	**00 51 08.9**	**+0.2**
	1.6nm,1.1s						
STKA	**Stephens Creek**	**57.54**	**162**	P	**P**	**00 51 08.9**	**+0.2**
	3.1nm,0.8s,baz=333,slow=5.7,SNR=3.4						
FIA0	**FINESS Array S**	**73.23**	**330**	eP	**P**	**00 52 50.2**	**+0.2**
FINES	**

DBOC			*i* S	**Sb**	**00 58 31.4**	**+0.1**
DAGI	**Agillar**	**1.42 208**	IAML_P			
	comp=Z,189nm,0.1s					
DAGI			*i* P	**Pn**	**00 58 16.8**	**+0.8**
DAGI			*i* S	**Sb**	**00 58 35.2**	**+0.3**
DBAD	**Bademkaya**	**1.55 212**	IAML_P			
	comp=Z,441nm,0.1s					
DBAD			*i* P	**Pn**	**00 58 18.5**	**+0.7**
DBAD			*i* S	**Sn**	**00 58 38.1**	**+0.4**
DDEM	**Demirkent**	**1.64 209**	IAML_P			
	comp=Z,751nm,0.2s					
DDEM			*i* P	**Pn**	**00 58 20.1**	**+1.0**
DDEM			*i* S	**Sb**	**00 58 41.8**	**+0.6**

*ISCJB **09** 01:14:28.4±0.5, 26°.41S±0°.03×27°.43E±0°.04, h5km±3km,*
Error ellipse: s-maj=5.6km s-min=4.9km az=38.2
*PRE **09** 01:14:28.7±1.2, 26°.41S×27°.43E, h2km, ML2.3*
*EAF **09** 01:14:32.0±1.0, 25°.72S×25°.56E, h9km±12km, MD3.8*
ISC 09 01:14:28.2±0.8, **26°.37S**±0°.03×**27°.43E**±0°.03, **h8**km±6km,
n19, σ2s**00**/37, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.06**	**186**	*e*P	**Pg**	**01 14 29.3**	**-0.9**
WDLM				*e*S	**Sg**	**01 14 30.1**	**-1.6**
WDLM				AML	AML	01 14 33.6	
	comp=Z,5μm,0.2s						
KLOF	**Kloof**	**0.16**	**84**	*e*P	**Pg**	**01 14 32.5**	**+0.8**
KLOF				*e*S	**Sg**	**01 14 34.0**	**-0.1**
KLOF				AML	AML	01 14 36.0	
	comp=Z,1μm,0.1s						
PRYS	**Parys**	**0.56**	**186**	*e*P	**Pg**	**01 14 39.0**	**0.0**
PRYS				*e*S	**Sg**	**01 14 45.7**	**-0.8**
PRYS				AML	AML	01 14 52.1	
	comp=Z,222nm,0.7s						
KSR	**Koster**	**0.70**	**317**	*e*P	**Pg**	**01 14 42.9**	**+1.2**
KSR				*e*S	**Sg**	**01 14 52.2**	**+1.3**
KSR				AML	AML	01 14 59.7	
	comp=Z,53nm,0.2s						
ERPM	**east rand prop**	**0.73**	**88**	*e*P	**Pg**	**01 14 42.7**	**+0.4**
ERPM				*e*S	**Sg**	**01 14 53.5**	**+1.7**
ERPM				AML	AML	01 15 00.1	
	comp=Z,95nm,0.9s						
SWZ	**Schweizer**	**2.04**	**246**	*e*P	**Pn**	**01 15 05.0**	**+2.0**
SWZ				AML	AML	01 15 44.6	
	comp=Z,29nm,0.2s						
LBTB	**Lobatse**	**2.13**	**309**	*e*P	**Pb**	**01 15 07.2**	**+0.1**
LBTB				*e*S	**Sb**	**01 15 34.0**	**+0.3**
LBTB				AML	AML	01 15 38.5	
	comp=Z,84nm,0.8s						
BOSA	**Boshof**	**2.96**	**220**	*i* P	**Pn**	**01 15 17.5**	**+2.0**
BOSA				*i* S	**Sn**	**01 15 52.0**	**+0.7**
BOSA	**Boshof**	**2.96**	**220**	*e*P	**Pn**	**01 15 16.8**	**+1.3**
BOSA				*e*S	**Sn**	**01 15 52.7**	**+1.5**
BOSA				AML	AML	01 16 00.3	
	comp=Z,24nm,0.3s						
BOSA	**Boshof**	**2.96**	**220**	*i* P	**Pn**	**01 15 17.5**	**+2.0**
BOSA				*i* S	**Sn**	**01 15 52.0**	**+0.7**
MSNA	**Messina**	**4.65**	**31**	*i* P	**Pb**	**01 15 50.7**	**+0.6**
MSNA				*i* S	**Sb**	**01 16 47.9**	**+1.6**
MSNA	**Messina**	**4.65**	**31**	*i* P	**Pb**	**01 15 50.7**	**+0.6**
MSNA				*i* S	**Sb**	**01 16 47.9**	**+1.6**
PKA	**Prieska**	**5.28**	**230**	*e*P	**Pn**	**01 15 48.7**	**+1.3**
PKA				*e*S	**Sn**	**01 16 47.3**	**-1.2**
PKA				AML	AML	01 17 19.9	
	comp=Z,2.4nm,0.3s						
MATP	**Matopo**	**6.00**	**10**	*i* P	**Pn**	**01 15 59.9**	**+2.6**
MATP				*i* S	**Sn**	**01 17 03.6**	**-2.7**
MATP	**Matopo**	**6.00**	**10**	*i* P	**Pn**	**01 15 59.9**	**+2.6**
MATP				*i* S	**Sn**	**01 17 03.6**	**-2.7**
BLWY	**Bulawayo**	**6.29**	**10**	*i* P	**Pn**	**01 16 03.2**	**+1.8**
BLWY				*i* S	**Sn**	**01 17 09.2**	**-4.4**
BLWY	**Bulawayo**	**6.29**	**10**	*i* P	**Pn**	**01 16 03.2**	**+1.8**
BLWY				*i* S	**Sn**	**01 17 09.2**	**-4.4**
SOE	**Somerset East**	**6.53**	**194**	*e*P	**Pn**	**01 16 05.8**	**+1.2**
SOE				*e*S	**Sn**	**01 17 16.5**	**-2.7**
SOE				AML	AML	01 17 52.8	
	comp=Z,3.9nm,0.7s						
CVNA	**Calvinia**	**8.43**	**231**	*e*P	**Pn**	**01 16 32.2**	**+1.5**
CVNA				*e*S	**Sn**	**01 18 02.9**	**-3.2**
CVNA				AML	AML	01 18 18.8	
	comp=Z,2.2nm,0.4s						

*NIED **09** 01:14:00, 43°.80N×146°.00E, h92km, Mw3.8 Best double couple: M0=5.26000×10^14 NP1:φs=264.00000°, δ76.00000°, λ-166.00000°. NP2:φs=170.00000°, δ76.00000°, λ-15.00000°.*
*ISCJB **09** 01:14:54.9±0.3, 43°.84N±0°.04×145°.92E±0°.05, h141km±2km, mb4.0/25, Error ellipse: s-maj=7.9km s-min=5.2km az=141.7*
*MOS **09** 01:14:55.2±1.2, 43°.90N×145°.83E, h144km, mb4.2/19, Error ellipse: s-maj=11.7km s-min=7.8km az=94.7*
*IDC **09** 01:14:56.3±1.5, 43°.90N×145°.87E, h139km±12km, mb3.7/16, mb1 3.8/20, mb1mx3.6/36, mbtmp4.1/20, Error ellipse: s-maj=15.2km s-min=12.3km az=133.0*
*JMA **09** 01:14:56.7±0.2, 43°.78N×145°.96E, h130km±2km, M3.8*
JMA Felt I J1.
*SKHL **09** 01:14:56.3±0.7, 43°.85N×145°.93E, h136km±4km, mb4.3/5, msh5.3/4*
ISC 09 01:14:55.8±0.6, **43°.82N**±0°.05×**145°.90E**±0°.04, **h136**km±4km,
n82, σ1s**21**/100, **mb4.1**/25, **7C-4D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRPR	**Tuman**	**0.19**	**333**	*c i*PN	**Pn**	**01 15 14.8**	**+0.4**
GRPR				*i* S	**Sn**	**01 15 28.5**	**0.0**
GRPR				pmax	pmax		
	comp=Z,885nm,0.3s						
GRPR				pmax	pmax		
	comp=N,438nm,0.2s						
GRPR				pmax	pmax		
	comp=E,247nm,0.3s						
GRPR				smax	smax		
	comp=E,4μm,0.5s						
GRPR				smax	smax		
	comp=N,6μm,0.4s						
GRPR	**Tuman**	**0.19**	**333**	*i* P	**Pn**	**01 15 14.0**	**-0.4**
GRPR				AMB	AMB	01 15 15.8	
	comp=N,40nm,0.3s						
GRPR				AMB	AMB	01 15 15.8	
	comp=N,30nm,0.3s						
GRPR				AMB	AMB	01 15 15.8	
	comp=N,170nm,0.3s						
GRPR				*i* S	**Sn**	**01 15 28.0**	**-0.5**
GRPR				A	A	01 15 30.0	
	comp=N,630nm,0.3s						
GRPR				A	A	01 15 30.0	
	comp=N,400nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.21**	**354**	*d i*PN	**Pn**	**01 15 14.6**	**+0.2**
YUK				*i* S	**Sn**	**01 15 28.4**	**-0.2**
YUK				pmax	pmax		
	comp=Z,870nm,0.3s						
YUK				pmax	pmax		
	comp=N,420nm,0.4s						
YUK				pmax	pmax		
	comp=E,399nm,0.4s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
YUK				smax	smax		
	comp=E,4μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.21**	**354**	*i* P	**Pn**	**01 15 14.8**	**+0.4**
YUK				AMB	AMB	01 15 15.6	
	comp=E,40nm,0.3s						
YUK				AMB	AMB	01 15 15.6	
	comp=E,30nm,0.3s						
YUK				AMB	AMB	01 15 15.6	
	comp=E,90nm,0.3s						
YUK				*i* S	**Sn**	**01 15 28.4**	**-0.2**
YUK				A	A	01 15 29.7	
	comp=E,600nm,0.3s						
YUK				A	A	01 15 29.7	
	comp=E,540nm,0.3s						
LAGR	**Lagunnoye**	**0.25**	**341**	*d i*PN	**Pn**	**01 15 15.0**	**+0.5**
LAGR				*i* S	**Sn**	**01 15 29.2**	**+0.5**
LAGR				pmax	pmax		
	comp=Z,2μm,0.5s						
LAGR				pmax	pmax		
	comp=E,159nm,0.2s						
LAGR				pmax	pmax		
	comp=N,428nm,0.4s						
LAGR				smax	smax		
	comp=N,4μm,0.6s						
LAGR				smax	smax		
	comp=E,10μm,0.5s						
LAGR	**Lagunnoye**	**0.25**	**341**	*i* P	**Pn**	**01 15 15.0**	**+0.5**
LAGR				AMB	AMB	01 15 15.0	
	comp=E,40nm,0.5s						
LAGR				AMB	AMB	01 15 15.0	
	comp=E,150nm,0.5s						
LAGR				AMB	AMB	01 15 15.0	
	comp=E,230nm,0.5s						
LAGR				*i* S	**Sn**	**01 15 29.0**	**+0.3**
LAGR				A	A	01 15 37.0	
	comp=E,390nm,0.4s						
LAGR				A	A	01 15 37.0	
	comp=E,1μm,0.4s						
NEM2	**Nemuro 2**	**0.47**	**194**	P	**Pn**	**01 15 15.4**	**0.0**
NEM2				*e*S	**Sn**	**01 15 29.2**	**-1.0**
JRA	**Rausu**	**0.57**	**282**	P	**Pn**	**01 15 16.5**	**+0.5**
JNK	**Nakash**	**0.89**	**255**	P	**Pn**	**01 15 18.9**	**+0.6**
JNK				*e*S	**Sn**	**01 15 35.7**	**+0.4**
JKHN	**Kushirohamanak**	**0.91**	**216**	P	**Pn**	**01 15 18.8**	**+0.3**
JAK	**Akkeshi**	**1.20**	**227**	P	**Pn**	**01 15 21.6**	**+0.4**
JAK				*e*S	**Sn**	**01 15 40.3**	**-0.2**
JTKR	**Abashiri--Toko**	**1.44**	**277**	P	**Pn**	**01 15 24.6**	**+0.9**
JTKR				*e*S	**Sn**	**01 15 45.6**	**+0.6**
JAR	**Ashorobuto**	**1.63**	**252**	P	**Pn**	**01 15 27.0**	**+1.2**
JAR				*e*S	**Sn**	**01 15 50.1**	**+1.4**
JOB	**Onbets**	**1.76**	**239**	P	**Pn**	**01 15 28.3**	**+1.0**
JOB				*e*S	**Sn**	**01 15 51.5**	**+0.2**
JMP	**Maruseppu**	**1.84**	**277**	P	**Pn**	**01 15 29.1**	**+0.8**
KUR	**Kuril'sk**	**2.00**	**44**	*i*PN	**Pn**	**01 15 30.7**	**+0.7**
KUR				*i* S	**Sn**	**01 15 56.9**	**+0.6**
KUR				pmax	pmax		
	comp=Z,92nm,0.8s						
KUR				pmax	pmax		
	comp=E,26nm,0.6s						
KUR				smax	smax		
	comp=E,127nm,0.5s						
KUR				smax	smax		
	comp=N,79nm,0.2s						
KUR	**Kuril'sk**	**2.00**	**44**	*e*P	**Pn**	**01 15 30.7**	**+0.7**
KUR				AMB	AMB	01 15 35.2	
	comp=N,150nm,0.5s						
KUR				*e*S	**Sn**	**01 15 56.0**	**-0.3**
KUR				A	A	01 15 57.6	
	comp=N,130nm,0.3s						
KUR				A	A	01 15 57.6	
	comp=N,250nm,0.3s						
JCH	**Churui**	**2.21**	**238**	P	**Pn**	**01 15 33.2**	**+0.5**
JCH				*e*S	**Sn**	**01 16 00.1**	**-0.8**
JKK2	**Kamakawa 2**	**2.28**	**272**	P	**Pn**	**01 15 34.7**	**+1.2**
JKA	**Kamikawa-asahi**	**2.40**	**278**	*e*P	**Pn**	**01 15 36.6**	**+1.6**
ASAJ	**Asahikawa**	**2.40**	**278**	P	**Pn**	**01 15 36.6**	**+1.6**
ASAJ	**Asahikawa**	**2.40**	**278**	P	**Pn**	**01 15 36.6**	**+1.6**
	comp=N,59nm,0.3s,baz=98,slow=12,SNR=108						
ASAJ				S	**Sn**	**01 16 05.6**	**+0.5**
	comp=N,6.2nm,0.3s,baz=11,slow=10,SNR=5.7						
ERM	**Erimo**	**2.70**	**229**	*c e*PN	**Pn**	**01 15 40.4**	**+1.6**
ERM				pmax	pmax		
	comp=Z,105nm,0.7s						
YSS	**Yuzh-Sakhalins**	**3.83**	**326**	*e*PN	**Pn**	**01 15 55.0**	**+1.5**
YSS				*e*S	**Sn**	**01 16 38.3**	**+0.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				smax	smax		
	comp=E,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**3.83**	**326**	*e*P	**Pn**	**01 15 55.0**	**+1.5**
YSS				AMB	AMB	01 15 55.3	
	comp=E,10.0nm,0.4s						
YSS				*e*S	**Sn**	**01 16 38.0**	**-0.2**
YSS				A	A	01 16 39.6	
	comp=E,20nm,0.9s						
YSS				A	A	01 16 39.6	
	comp=E,40nm,0.9s						
MJAR	**Matsushiro Arr**	**9.35**	**222**	P	**Pn**	**01 17 06.8**	**-0.5**
	comp=E,0.0nm,0.3s,baz=25,slow=14,SNR=6.2						
KLR	**Kul'dur**	**11.14**	**304**	P	**Pn**	**01 17 27.6**	**-3.4**
	comp=E,0.1nm,0.3s,baz=99,slow=9.8,SNR=1.7						
PETK	**Petropavlovsk-**	**12.14**	**36**	P	**Pn**	**01 17 42.4**	**-1.8**
	comp=E,0.4nm,0.3s,baz=197,slow=8.9,SNR=12						
EKMR	**Ekimchan**	**12.61**	**322**	*e*P	**Pn**	**01 17 50.0**	**-0.3**
BMKR	**Bomnak**	**15.53**	**321**	*e*P	**Pn**	**01 18 26.0**	**-1.2**
KROS	**Kirovskiy**	**16.26**	**317**	*e*P	**Pn**	**01 18 32.5**	**-3.7**
KROS				AMB	AMB	01 18 35.8	
	comp=E,4.0nm,0.8s						
SEY	**Seymchan**	**19.52**	**9**	P	**P**	**01 19 11.0**	**-1.2**
	comp=E,0.3nm,0.3s,baz=117,slow=9.0,SNR=4.8						
BILL	**Bilibino**	**26.55**	**17**	*e*P	**P**	**01 20 20.8**	**+0.3**
BILL				*e**PP	**pwP**	**01 20 52.4**	**+1.0**
BILL				*e*		01 21 09.2	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BILL	**Bilibino**	**26.55**	**17**	*e*P	**P**	**01 20 20.8**	**+0.3**
ULN	**Ulaanbaatar**	**27.16**	**292**	*c e*P	**P**	**01 20 27.1**	**+0.7**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULN	**Ulaanbaatar**	**27.16**	**292**	*e*P	**P**	**01 20 27.1**	**+0.7**
SONM	**Songino Array**	**27.60**	**292**	P	**P**	**01 20 31.1**	**+0.8**
	comp=Z,4.8nm,0.7s,baz=81,slow=9.0,SNR=27						
H11N2	**WAKE ISLAND Hy**	**29.76**	**137**	T	T	01 52 05.5	
	baz=328,slow=75,SNR=116						
H11N1	**WAKE ISLAND Hy**	**29.77**	**137**	T	T	01 52 06.3	
	baz=328,slow=75,SNR=106						
H11N3	**WAKE ISLAND Hy**	**29.78**	**137**	T	T	01 52 07.8	
	baz=328,slow=75,SNR=81						
H11S1	**WAKE ISLAND Hy**	**30.71**	**139**	T	T	01 53 15.5	
	baz=329,slow=76,SNR=192						
H11S3	**WAKE ISLAND Hy**	**30.71**	**139**	T	T	01 53 15.4	
	baz=329,slow=76,SNR=131						
H11S2	**WAKE ISLAND Hy**	**30.73**	**139**	T	T	01 53 17.7	
	baz=329,slow=76,SNR=81						
KDAK	**Kodiak Island**	**39.87**	**47**	*i* P	**P**	**01 22 17.3**	**+1.6**
ZALV	**Zalesovo Beam**	**40.23**	**307**	P	**P**	**01 22 18.3**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=92,slow=8.0,SNR=6.0						
ZALV				PcP	**PcP**	**01 24 19.8**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=38,slow=2.6,SNR=2.4						
ILAR	**Eielson Array**	**41.97**	**36**	P	**P**	**01 22 33.0**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	**Eielson Array**	**41.97**	**36**	P	**P**	**01 22 33.0**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=274,slow=8.0,SNR=20						
MKAR	**Makanchi Array**	**43.74**	**297**	P	**P**	**01 22 47.8**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=80,slow=8.8,SNR=30						
KURK	**Kurchatov**	**44.73**	**304**	*c e*P	**P**	**01 22 55.0**	**-0.2**
KURK				pmax	pmax		
	comp=Z,11nm,2.5s						
KURK	**Kurchatov**	**44.73**	**304**	*e*P	**P**	**01 22 55.0**	**-0.2**
INK	**Inuvik**	**46.80**	**30**	P	**P**	**01 23 11.1**	**0.0**
	comp=Z,1.1nm,0.3s,baz=291,slow=5.4,SNR=12						
AAK	**Ala-Archa**	**50.50**	**295**	*c e*P	**P**	**01 23 39.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
AAK	**Ala-Archa**	**50.50**	**295**	*e*P	**P**	**01 23 39.7**	**-0.3**
SVE	**Sverdlovsk**	**52.46**	**316**	*e*P	**P**	**01 23 53.8**	**-0.4**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ARU	**Arti**	**53.67**	**316**	*c i*P	**P**	**01 24 02.0**	**-1.0**
ARU				***PP	**pP**	**01 24 32.0**	**-2.3**
ARU						01 26 00.2	
ARU				S	**S**	**01 31 25.6**	**-0.4**
ARU				SS	**SS**	**01 35 04.5**	**-3.3**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARU	**Arti**	**53.67**	**316**	*e*P	**P**	**01 24 02.0**	**-1.0**
YKA	**Yellowknife Ar**	**56.24**	**33**	P	**P**	**01 24 21.5**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=301,slow=6.7,SNR=15						
ARCES	**ARCESS Array B**	**58.86**	**339**	P	**P**	**01 24 38.1**	**-1.5**
	comp=Z,9.8nm,1.2s,baz=36,slow=8.0,SNR=3.8						
WRA	**Warramunga Arr**	**64.33**	**192**	P	**P**	**01 25 17.0**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=8.7,slow=6.9,SNR=7.6						
FINES	**FINESS Array B**	**64.39**	**332**	P	**P**	**01 25 16.4**	**-0.4**
	comp=Z,5.3nm,0.6s,baz=46,slow=7.8,SNR=47						
OBN	**Obninsk**	**64.72**	**323**	*e*P	**P**	**01 25 16.9**	**-2.0**
OBN				*e*		01 25 52.1	
OBN				*e**PP	**pP**	**01 25 56.1**	**+4.5**
OBN				*e*		01 27 41.3	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OBN	**Obninsk**	**64.72**	**323**	*e*P	**P**	**01 25 16.9**	**-2.0**
FFC	**Flin Flon**	**66.18**	**36**	*i* P	**P**	**01 25 30.9**	**+2.5**
ASAR	**Alice Springs**	**68.05**	**192**	P	**P**	**01 25 41.2**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=13,slow=5.8,SNR=12						
KIV	**Kislovodsk**	**69.03**	**311**	*e*P	**P**	**01 25 48.3**	**+1.6**
KIV				pmax	pmax		
	comp=Z,17nm,1.1s						
KIV	**Kislovodsk**	**69.03**	**311**	*e*P	**P**	**01 25 48.3**	**+1.6**
KBZ	**Khabaz**	**69.07**	**311**	P	**P**	**01 25 47.6**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=95,slow=3.3,SNR=7.7						
NB2	**NORSAR Subarra**	**69.20**	**338**	P	**P**	**01 25 46.8**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.20**	**338**	P	**P**	**01 25 46.7**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=33,slow=6.3,SNR=16						
AKASG	**Malin Array Be**	**70.98**	**323**	P	**P**	**01 25 57.9**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=41,slow=6.1,SNR=7.6						
BURAR	**Bucovina Array**	**75.04**	**323**	⇓*i*P	**P**	**01 26 22.8**	**+0.5**
KOLS	**Kolonicke sedl**	**75.26**	**325**	*e*P	**P**	**01 26 24.5**	**+1.0**
KOLS	**Kolonicke sedl**	**75.26**	**325**	*e*P	**P**	**01 26 24.5**	**+1.0**
TRPA	**Tarpa**	**75.78**	**325**	⇑*i*P	**P**	**01 26 27.2**	**+0.8**
CLL	**Collm**	**76.83**	**332**	*i* P	**P**	**01 26 31.6**	**-0.7**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	**76.83**	**332**	*i* P	**P**	**01 26 31.6**	**-0.7**
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**76.83**	**313**	P	**P**	**01 26 32.0**	**-0.7**
BRTR	**Keskin Array B**	**76.83**	**313**	P	**P**	**01 26 32.0**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=45,slow=8.6,SNR=2.4						
VYHS	**Vyhne**	**77.00**	**327**	*e*P	**P**	**01 26 34.6**	**+1.3**
VYHS	**Vyhne**	**77.00**	**327**	*e*P	**P**	**01 26 34.6**	**+1.3**
GERES	**GERESS Array B**	**78.65**	**330**	P	**P**	**01 26 41.1**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=15,slow=4.1,SNR=2.9						
TXAR	**Lajitas Array**	**83.36**	**55**	P	**P**	**01 27 08.6**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=297,slow=4.0,SNR=2.7						

*ISCJB **09** 02:30:09.0±0.4, 40°.93N±0°.01×19°.71E±0°.03, h2km±3km,*
Error ellipse: s-maj=3.4km s-min=1.8km az=154.9
*BEO **09** 02:30:09.3±1.1, 40°.89N×19°.52E, h11km±4km, ML3.0/4*
*ATH **09** 02:30:10.3, 40°.90N×19°.78E, h26km±1km, ML3.0/7, Error ellipse: s-maj=2.3km s-min=1.1km az=293.0*
*PDG **09** 02:30:10.9±0.5, 40°.97N×19°.75E, h15km±1km, ML3.2/14, Error ellipse: s-maj=0.7km s-min=1.3km az=0.0*
*TIR **09** 02:30:11.1, 40°.90N×19°.86E, h18km, Md3.2/6*
*THE **09** 02:30:11.1, 40°.90N×19°.86E, h0km±1km, ML2.8/14, Error ellipse: s-maj=1.5km s-min=0.5km az=307.0*
ISC 09 02:30:09.8±1.1, **40°.92N**±0°.01×**19.74E**±0°.02, **h7**km±9km,
n141, σ1s**03**/191, **15C-9D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.44**	**12**	*e*Pg	**Pb**	**02 30 19.6**	**-0.3**
TIR				*e*Sg	**Sb**	**02 30 27.5**	**+0.8**
TIR	**Tirane**	**0.44**	**12**	P	**Pb**	**02 30 19.7**	**-0.2**
TIR				S	**Sb**	**02 30 26.6**	**-0.1**
TIR	**Tirane**	**0.44**	**12**	*i* PG	**Pb**	**02 30 20.0**	**+0.1**
TIR				*i* SG	**Sb**	**02 30 28.1**	**+1.5**
TIR	**Tirane**	**0.44**	**12**	P	**Pb**	**02 30 19.8**	**0.0**
TIR				S	**Sb**	**02 30 27.3**	**+0.6**
TIR				AML	AML	02 30 29.7	
	comp=E,4848μm,0.4s						
TIR				AML	AML	02 30 34.8	
	comp=N,4801μm,0.4s						
VLO	**Vlora**	**0.48**	**203**	P	**Pb**	**02 30 20.9**	**+0.3**
VLO				S	**Sb**	**02 30 28.8**	**+1.0**
VLO	**Vlora**	**0.48**	**203**	*i* PG	**Pn**	**02 30 22.0**	**-1.0**
VLO				*i* SG	**Sb**	**02 30 30.1**	**+2.3**
TPE	**Tepelena**	**0.65**	**162**	P	**Pb**	**02 30 23.2**	**-0.2**
TPE				S	**Sb**	**02 30 32.0**	**-0.7**
TPE	**Tepelena**	**0.65**	**162**	*i* PG	**Pb**	**02 30 24.1**	**+0.7**
TPE				*i* SG	**Sb**	**02 30 33.1**	**+0.4**
OHR	**Ohrid**	**0.82**	**76**	*i* Pn	**Pg**	**02 30 25.6**	**0.0**
SRN	**Sarande**	**1.05**	**169**	P	**Pn**	**02 30 31.3**	**+0.5**
SRN				S	**Sn**	**02 30 46.1**	**+0.4**
SRN	**Sarande**	**1.05**	**169**	*i* PG	**Pb**	**02 30 30.3**	**+0.1**
SRN				*i* SG	**Sn**	**02 30 46.1**	**+0.4**
NEST	**Nestorio**	**1.11**	**116**	P	**Pg**	**02 30 29.6**	**-1.5**
NEST				S	**Sg**	**02 30 45.2**	**-0.3**
NEST	**Nestorio**	**1.11**	**116**	P	**Pg**	**02 30 30.7**	**-0.4**
NEST				S	**Sb**	**02 30 46.6**	**+0.5**
NEST				AML	AML	02 30 51.2	
	comp=E,683μm,0.6s						
NEST				AML	AML	02 30 51.8	
	comp=N,798μm,0.5s						
ULC	**Ulcinj**	**1.11**	**340**	⇑*i*Pg	**Pg**	**02 30 31.1**	**0.0**
ULC				*e*Sg	**Sn**	**02 30 46.8**	**-0.5**
PUK	**Puka**	**1.13**	**6**	*i* PN	**Pn**	**02 30 33.0**	**+0.9**
PUK				*i* SN	**Sn**	**02 30 50.0**	**+2.2**
KASA	**Kassiopi**	**1.18**	**173**	P	**Pn**	**02 30 33.2**	**+0.6**
KASA				S	**Sn**	**02 30 48.6**	**-0.2**
KASA				AML	AML	02 30 50.1	
	comp=E,2150μm,0.3s						
KASA				AML	AML	02 30 50.6	
	comp=N,1528μm,0.3s						
BIA	**Bitola**	**1.20**	**85**	P	**Pg**	**02 30 32.1**	**-0.7**
BIA				S	**Sg**	**02 30 48.3**	**-0.1**
BIA	**Bitola**	**1.20**	**85**	*i* Pn	**Pg**	**02 30 32.3**	**-0.5**
KEK	**Kerkira**	**1.20**	**178**	P	**Pn**	**02 30 32.9**	**0.0**
KEK				S	**Sn**	**02 30 49.8**	**+0.4**
KEK	**Kerkira**	**1.20**	**178**	P	**Pn**	**02 30 33.1**	**+0.1**
KEK				S	**Sn**	**02 30 49.9**	**+0.4**
KEK				AML	AML	02 30 54.4	
	comp=N,888μm,0.3s						
KEK				AML	AML	02 30 55.0	
	comp=E,967μm,0.3s						
FNA	**Florina**	**1.25**	**96**	P	**Pb**	**02 30 32.5**	**-1.1**
FNA				S	**Sn**	**02 30 50.4**	**-0.2**
FNA	**Florina**	**1.25**	**96**	P	**Pb**	**02 30 33.0**	**-0.6**
FNA				S	**Sn**	**02 30 50.4**	**-0.2**
FNA				AML	AML	02 30 53.4	
	comp=E,1702μm,0.3s						
FNA				AML	AML	02 30 53.6	
	comp=N,1177μm,0.5s						
PENT	**Pentalofos**	**1.28**	**124**	P	**Pn**	**02 30 33.5**	**-0.6**
PENT				S	**Sg**	**02 30 51.2**	**+0.2**
PENT	**Pentalofos**	**1.28**	**124**	P	**Pn**	**02 30 33.6**	**-0.5**
DRME	**Dracevica, Mon**	**1.34**	**342**	⇓*i*Pg	**Pb**	**02 30 35.1**	**0.0**
DRME				*e*Sg	**Sn**	**02 30 54.5

NKME	**Niksic**	**1.94**	**343**	⇓*i*Pn	**Pn**	**02 30 44.0**	**+0.8**
NKME				*e*Sn	**Sb**	**02 31 09.5**	**-0.4**
IVA	**Berane**	**1.96**	**3**	⇑*i*Pn	**Pb**	**02 30 44.8**	**-1.0**
IVA				*e*Sn	**Sb**	**02 31 09.6**	**-0.8**
NKY	**Niksic**	**1.98**	**344**	⇑*i*Pn	**Pn**	**02 30 44.3**	**+0.6**
NKY				*e*Sn	**Sb**	**02 31 10.2**	**-0.8**
MASS	**Massafra**	**1.99**	**263**	⇓*i*Pn	**Pn**	**02 30 43.1**	**-0.7**
STIP	**Stip**	**2.00**	**66**	*i* Pn	**Pb**	**02 30 46.9**	**+0.5**
TREB	**Trebinje**	**2.08**	**330**	*e*Pg	**Pn**	**02 30 44.6**	**-0.5**
TREB				*e*Sg	**Sn**	**02 31 12.1**	**+1.0**
TREB	**Trebinje**	**2.08**	**330**	*e*Pn	**Pn**	**02 30 44.5**	**-0.5**
VAY	**Valandovo**	**2.17**	**78**	P	**Pn**	**02 30 46.7**	**+0.4**
VAY	**Valandovo**	**2.17**	**78**	*i* Pn	**Pn**	**02 30 46.9**	**+0.6**
BRY	**Bratogost**	**2.18**	**336**	⇑*i*Pn	**Pn**	**02 30 47.4**	**+0.9**
BRY				*e*Sn	**Sn**	**02 31 14.9**	**+1.1**
BRY	**Bratogost**	**2.18**	**336**	*e*Pn	**Pb**	**02 30 50.3**	**+0.7**
THL	**Klokotos Trika**	**2.20**	**127**	P	**Pb**	**02 30 48.2**	**-1.6**
THL	**Klokotos Trika**	**2.20**	**127**	P	**Pn**	**02 30 47.9**	**+1.3**
LKD2	**Lefkada island**	**2.24**	**161**	P	**Pn**	**02 30 47.2**	**0.0**
LKD2	**Lefkada island**	**2.24**	**161**	P	**Pn**	**02 30 47.2**	**0.0**
LIT	**Litokhoron**	**2.25**	**110**	P	**Pn**	**02 30 48.2**	**+0.9**
LIT	**Litokhoron**	**2.25**	**110**	P	**Pn**	**02 30 48.5**	**+1.2**
MATE	**Matera**	**2.32**	**264**	⇑*i*P	**Pn**	**02 30 47.5**	**-0.8**
MATE	**Matera**	**2.32**	**264**	S	**Sg**	**02 31 23.8**	**-0.6**
SJES	**Sjenica**	**2.35**	**4**	*e*Pg	**Pb**	**02 30 51.6**	**-0.9**
SJES				*e*Sg	**Sg**	**02 31 24.8**	**-0.5**
UPM	**Unac-Piva**	**2.37**	**345**	⇑*i*Pn	**Pn**	**02 30 49.3**	**+0.1**
UPM				*e*Sn	**Sn**	**02 31 19.9**	**+1.3**
UPM	**Unac-Piva**	**2.37**	**345**	*e*Pn	**Pb**	**02 30 52.2**	**-0.7**
EVGI	**Lefkada island**	**2.40**	**163**	P	**Pn**	**02 30 49.0**	**-0.4**
EVGI	**Lefkada island**	**2.40**	**163**	P	**Pn**	**02 30 49.1**	**-0.2**
KNT	**Kendrikon**	**2.40**	**83**	P	**Pn**	**02 30 49.8**	**+0.4**
KNT	**Kendrikon**	**2.40**	**83**	P	**Pn**	**02 30 49.9**	**+0.5**
PLE	**Pljevlja**	**2.43**	**354**	*e*Pn	**Pn**	**02 30 50.6**	**+0.7**
PLE				*e*Sn	**Sn**	**02 31 21.8**	**+1.9**
BARS	**Barje**	**2.45**	**38**	*e*Pn	**Pn**	**02 30 50.9**	**+0.8**
BARS	**Barje**	**2.45**	**38**	*e*Pn	Pg	02 31 05.2	+8.5
STON	**Ston**	**2.48**	**323**	*e*Pn	**Pn**	**02 30 49.5**	**-0.9**
STON	**Ston**	**2.48**	**323**	*e*Pn	**Pn**	**02 30 49.6**	**-0.8**
STON				Sn	**Sn**	**02 31 19.1**	**-1.8**
STON	**Ston**	**2.48**	**323**	*e*Pn	**Pn**	**02 30 49.6**	**-0.9**
SELS	**Selova**	**2.52**	**24**	*e*Pn	**Pn**	**02 30 51.3**	**+0.2**
EVR	**Evrytania**	**2.55**	**141**	P	**Pn**	**02 30 53.5**	**+1.9**
EVR	**Evrytania**	**2.55**	**141**	P	**Pn**	**02 30 53.5**	**+1.9**
HORT	**Hortiatis**	**2.57**	**96**	P	**Pn**	**02 30 52.2**	**+0.4**
BOSS	**Bosilegrad**	**2.59**	**51**	*e*Pn	**Pn**	**02 30 52.5**	**+0.5**
PVO	**Paravola**	**2.67**	**149**	P	**Pn**	**02 30 54.5**	**+1.3**
IVAS	**Ivanjica**	**2.68**	**6**	*e*Pn	**Pn**	**02 30 53.5**	**+0.2**
SOH	**Sokhos**	**2.74**	**91**	P	**Pn**	**02 30 55.3**	**+1.2**
AGG	**Agios Georgios**	**2.74**	**133**	P	**Pn**	**02 30 55.1**	**+0.9**
AGG				S	**Sn**	**02 31 28.4**	**+0.9**
VLS	**Valsamata**	**2.81**	**166**	P	**Pn**	**02 30 54.0**	**-1.1**
VLS	**Valsamata**	**2.81**	**166**	P	**Pn**	**02 30 54.4**	**-0.7**
ANX	**Ano Chora**	**2.86**	**143**	P	**Pn**	**02 30 57.4**	**+1.5**
ANX				S	**Sn**	**02 31 32.9**	**+2.3**
TIP	**Timpagrande**	**2.87**	**234**	⇑*i*P	**Pn**	**02 30 55.4**	**-0.6**
TIP	**Timpagrande**	**2.87**	**234**	S	**Sg**	**02 31 41.6**	**-0.5**
TIP	**Timpagrande**	**2.87**	**234**	P	**Pn**	**02 30 55.7**	**-0.3**
KFL	**Anninata**	**2.92**	**164**	P	**Pn**	**02 30 56.0**	**-0.5**
SRS	**Serrai**	**2.92**	**85**	P	**Pn**	**02 30 57.0**	**+0.5**
SRS	**Serrai**	**2.92**	**85**	P	**Pn**	**02 30 57.1**	**+0.5**
BBLS	**Lazići**	**2.96**	**355**	*e*Pn	**Pg**	**02 31 05.8**	**-0.7**
GRUS	**Gruza**	**3.06**	**13**	*e*Pn	**Pn**	**02 30 59.3**	**+0.9**
SERG	**Sergoula**	**3.07**	**144**	P	**Pn**	**02 31 00.2**	**+1.5**
BOVS	**Bovan**	**3.08**	**28**	*e*Pn	**Pn**	**02 30 59.4**	**+0.6**
VTS	**Vitosha**	**3.12**	**56**	*e*Pn	**Pn**	**02 31 00.2**	**+0.8**
VTS	**Vitosha**	**3.12**	**56**	P	**Pn**	**02 31 00.0**	**+0.5**
VTS	**Vitosha**	**3.12**	**56**	⇑*i*P	**Pn**	**02 30 59.9**	**+0.5**
VTS	**Vitosha**	**3.12**	**56**	S	**Sn**	**02 31 37.0**	**+0.1**
TRIZ	**Trizonia**	**3.12**	**144**	P	**Pn**	**02 31 00.7**	**+1.5**
NVR	**Nevrokopi**	**3.14**	**81**	P	**Pn**	**02 31 00.3**	**+0.7**
DIVS	**Divibare**	**3.19**	**3**	*e*Pn	**Pn**	**02 31 00.5**	**+0.2**
DIVS	**Divibare**	**3.19**	**3**	*e*Pn	**Pn**	**02 30 59.7**	**-0.6**
ZAPS	**Zavoj**	**3.19**	**41**	*e*Pn	**Pn**	**02 31 01.8**	**+1.5**
HAPS	**Han Pijesak,BI**	**3.22**	**350**	*e*Pn	**Pn**	**02 31 00.1**	**-0.7**
DSF	**Desfina**	**3.30**	**138**	P	**Pn**	**02 31 03.2**	**+1.4**
DRO	**Drossia**	**3.33**	**152**	P	**Pn**	**02 31 02.7**	**+0.5**
ZAGS	**Zajecar**	**3.43**	**32**	*e*Pn	**Pn**	**02 31 03.3**	**-0.3**
MGRS	**Mrkonjic Grad**	**4.01**	**332**	*e*Pn	**Pn**	**02 31 12.6**	**+1.0**
FRGS	**Fruska Gora**	**4.24**	**1**	*e*Pn	**Pn**	**02 31 14.4**	**-0.3**
FRGS	**Fruska Gora**	**4.24**	**1**	*e*Pn	**Pn**	**02 31 13.4**	**-1.3**
BLY	**Banja Luka**	**4.27**	**335**	*e*Pn	**Pn**	**02 31 12.2**	**-2.9**
HERR	**Herculane**	**4.42**	**25**	⇑*i*P	**Pn**	**02 31 17.2**	**0.0**
HERR	**Herculane**	**4.42**	**25**	S	**Sn**	**02 32 09.2**	**+0.3**
UDBI	**Udbina**	**4.65**	**322**	*e*Pn	**Pn**	**02 31 21.3**	**+0.9**
UDBI				Sn	**Sn**	**02 32 12.5**	**-2.1**
BZS	**Buzias**	**4.89**	**16**	⇑*i*P	**Pn**	**02 31 24.2**	**+0.5**
BZS	**Buzias**	**4.89**	**16**	S	**Sn**	**02 32 18.3**	**-2.2**
NVLJ	**Novalja**	**5.12**	**317**	*e*Pn	**Pn**	**02 31 26.7**	**0.0**
NVLJ				Sn	**Sn**	**02 32 22.1**	**-3.8**
SIRR	**Siria**	**5.53**	**14**	⇑*i*P	**Pn**	**02 31 31.5**	**-0.9**
OZLJ	**Ozalj**	**5.64**	**328**	*e*Pn	**Pn**	**02 31 33.9**	**0.0**
CRES	**Cresnjev**	**5.82**	**329**	*e*Pn	**Pn**	**02 31 35.3**	**-1.1**
RIY	**Rijeka**	**5.85**	**321**	*e*Pn	**Pn**	**02 31 36.1**	**-0.7**
CEY	**Cerknica**	**6.19**	**323**	*e*Pn	**Pn**	**02 31 40.0**	**-1.5**
SOKA	**Soboth**	**6.69**	**331**	*e*Pn	**Pn**	**02 31 48.8**	**+0.3**
	comp=N,0.9nm,0.3s						
OBKA	**Obir**	**6.74**	**328**	*e*Pn	**Pn**	**02 31 50.9**	**+1.8**
	comp=N,1.0nm,0.2s						
VYHS	**Vyhne**	**7.61**	**355**	*e*PN	**Pn**	**02 32 03.4**	**+2.5**
MOA	**Molln**	**7.96**	**332**	*i* Pn	**Pn**	**02 32 09.1**	**+3.3**
	comp=N,0.7nm,0.3s						
WTTA	**Wattenberg**	**8.62**	**320**	*i* Pn	**Pn**	**02 32 16.0**	**+1.1**
	comp=N,3.2nm,0.3s						
WATA	**Walderalm**	**8.70**	**320**	*i* Pn	**Pn**	**02 32 16.7**	**+0.7**
	comp=N,2.5nm,0.3s						
SQTA	**Sankt Quirin**	**8.80**	**319**	*i* Pn	**Pn**	**02 32 18.2**	**+0.8**
	comp=N,2.0nm,0.3s						
MOTA	**Moosalm**	**8.94**	**319**	*e*Pn	**Pn**	**02 32 19.6**	**+0.3**
	comp=N,1.4nm,0.4s						
MOTA				*i* Sn	**Sn**	**02 33 59.2**	**-1.0**
	comp=N,1.0nm,0.4s						

MEX 09 02:33:16.0±1.0, 16°.64N×93°.88W, h152km±8km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.74**	**79**	*e*P	Pn	02 33 37.6	-1.4
TGIG				*e*S	Sn	02 33 53.6	-2.9
CMIG	**Matias Romero**	**1.06**	**295**	*e*P	Pn	02 33 40.6	-0.9
CMIG				*i* S	Sn	02 33 58.8	-2.0
PCIG		**1.13**	**146**	*e*P	Pn	02 33 41.2	-0.9
PCIG				*e*S	Sn	02 34 00.4	-1.6
CCIG	**Comitan**	**1.71**	**102**	*e*P	Pn	02 33 47.0	-1.2
CCIG				*e*S	Sn	02 34 10.7	-2.1
HUIG	**Huatulco**	**2.31**	**248**	*e*P	Pn	02 33 52.6	-2.3
HUIG				*e*S	Sn	02 34 23.4	-1.4
TPIG	**Tehuac#an**	**3.76**	**299**	*i* P	Pn	02 34 12.6	-0.8
TPIG				*e*S	Sn	02 34 56.1	-1.8
PNIG	**Pinotepa**	**4.08**	**267**	*i* P	Pn	02 34 16.1	-1.3
PNIG				*e*S	Sn	02 35 02.8	-2.3

*SAR **09** 03:01:52.3±0.2, 43°.06N×17°.85E, h4km±2km, ML2.6/1*
*PDG **09** 03:01:52.4±0.3, 43°.03N×17°.90E, h10km, ML2.5/11, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
ISC 09 03:01:51.8±1.0, 43°.07N±0°.02×17°.90E±0°.02, h6km±9km, n49, σ1§42/85, 11C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.24**	**217**	*i* Pg	**Pg**	**03 01 56.6**	**0.0**
STON				Sg	**Sg**	**03 02 00.3**	**+0.5**
STON	**Ston**	**0.24**	**217**	*e*Pg	**Pg**	**03 01 56.5**	**0.0**
STON				*e*Sg	**Sg**	**03 02 00.4**	**+0.7**
TREB	**Trebinje**	**0.48**	**136**	⇓*i*Pg	**Pg**	**03 02 00.8**	**-0.2**
TREB				*e*Sg	**Sb**	**03 02 08.5**	**-1.5**
BRY	**Bratogost**	**0.50**	**109**	⇓*i*Pg	**Pg**	**03 02 01.5**	**+0.1**
BRY				*e*Sg	**Sb**	**03 02 09.4**	**-1.2**
BRY	**Bratogost**	**0.50**	**109**	⇓*i*Pg	**Pg**	**03 02 01.4**	**+0.1**
BRY				*e*Sg	**Sb**	**03 02 10.0**	**-0.6**
UPM	**Unac-Piva**	**0.75**	**79**	⇓*i*Pg	**Pg**	**03 02 06.3**	**+0.2**
UPM				*e*Sg	**Sb**	**03 02 18.1**	**+0.2**
UPM	**Unac-Piva**	**0.75**	**79**	⇓*i*Pg	**Pb**	**03 02 06.4**	**-0.9**
UPM				*e*Sg	**Sb**	**03 02 18.3**	**+0.4**
HCY	**Herceg Novi**	**0.76**	**145**	⇓*i*Pg	**Pg**	**03 02 05.6**	**-0.7**
HCY				*e*Sg	**Sb**	**03 02 17.8**	**-0.2**
HCY	**Herceg Novi**	**0.76**	**145**	⇓*i*Pg	**Pg**	**03 02 05.6**	**-0.7**
HCY				*e*Sg	**Sb**	**03 02 17.7**	**-0.2**
NKME	**Niksic**	**0.83**	**111**	⇓*i*Pg	**Pg**	**03 02 07.6**	**-0.1**
NKME				*e*Sg	**Sb**	**03 02 20.5**	**+0.4**
NKY	**Niksic**	**0.84**	**107**	⇓*i*Pg	**Pg**	**03 02 07.8**	**-0.1**
NKY				*e*Sg	**Sb**	**03 02 21.0**	**+0.5**
CEME	**Cevo**	**0.91**	**124**	⇓*i*Pg	**Pg**	**03 02 08.8**	**-0.4**
CEME				*e*Sg	**Sb**	**03 02 23.0**	**+0.6**
BUM	**Brajici-Budva**	**1.06**	**136**	⇑*i*Pg	**Pg**	**03 02 11.9**	**-0.2**
BUM				*e*Sg	**Sn**	**03 02 28.0**	**-0.4**
PLE	**Pljevlja**	**1.12**	**76**	⇑*i*Pg	**Pb**	**03 02 13.3**	**-0.3**
PLE				*e*Sg	**Sn**	**03 02 31.0**	**+1.0**
PDG	**Podgorica**	**1.18**	**122**	⇓*i*P	**Pg**	**03 02 14.1**	**-0.3**
PDG	**Podgorica**	**1.18**	**122**	S	**Sn**	**03 02 30.7**	**-0.6**
PDG	**Podgorica**	**1.18**	**122**	*e*Pg	**Pg**	**03 02 13.9**	**-0.5**
PDG				*e*Sg	**Sn**	**03 02 31.5**	**+0.2**
TTG	**Podgorica**	**1.18**	**122**	⇑*i*Pg	**Pg**	**03 02 14.2**	**-0.2**
TTG				*e*Sg	**Sn**	**03 02 32.3**	**+1.0**
KOME	**Kolasin**	**1.21**	**100**	⇓*i*Pg	**Pb**	**03 02 14.7**	**-0.4**
KOME				*e*Sg	**Sn**	**03 02 33.2**	**+1.2**
HAPS	**Han Pijesak,BI**	**1.27**	**36**	*e*Pg	**Pg**	**03 02 15.2**	**-1.0**
HAPS				*e*Sg	**Sn**	**03 02 33.5**	**-0.3**
DRME	**Dracevica, Mon**	**1.29**	**132**	⇓*i*Pg	**Pn**	**03 02 16.1**	**-0.3**
DRME				*e*Sg	**Sn**	**03 02 35.9**	**+1.9**
DRME	**Dracevica, Mon**	**1.29**	**132**	*e*Pg	**Pn**	**03 02 15.6**	**-0.8**
DRME				*e*Sg	**Sn**	**03 02 34.0**	**0.0**
BBLS	**Lazići**	**1.36**	**53**	⇑*i*Pg	**Pg**	**03 02 17.6**	**-0.2**
BBLS				*e*Sg	**Sn**	**03 02 36.5**	**+0.8**
IVA	**Berane**	**1.48**	**97**	⇑*i*Pg	**Pg**	**03 02 19.6**	**-0.4**
IVA				*e*Sg	**Sg**	**03 02 41.8**	**+2.6**
MGRS	**Mrkonjic Grad**	**1.48**	**337**	*e*Pg	**Pn**	**03 02 18.8**	**-0.2**
MGRS				*e*Sg	**Sg**	**03 02 38.6**	**-0.6**
ULC	**Ulcinj**	**1.48**	**138**	⇑*i*Pg	**Pn**	**03 02 19.1**	**0.0**
ULC				*e*Sg	**Sg**	**03 02 41.7**	**+2.3**
PVY	**Plav**	**1.58**	**107**	⇑*i*Pn	**Pb**	**03 02 21.2**	**-0.4**
PVY				*e*Sn	**Sg**	**03 02 44.4**	**+1.7**
BLY	**Banja Luka**	**1.76**	**343**	⇑*i*P	**Pb**	**03 02 24.2**	**-0.2**
BLY	**Banja Luka**	**1.76**	**343**	S	**Sg**	**03 02 47.3**	**-1.0**
BLY	**Banja Luka**	**1.76**	**343**	⇑*i*Pn	**Pb**	**03 02 24.3**	**-0.2**
BLY				*e*Sn	**Sb**	**03 02 46.1**	**-0.8**
DIVS	**Divibare**	**1.84**	**55**	⇑*i*Pn	**Pb**	**03 02 24.6**	**-1.2**
DIVS				*e*Sn	**Sg**	**03 02 49.5**	**-1.3**
UDBI	**Udbina**	**2.13**	**314**	*e*Pn	**Pb**	**03 02 30.2**	**-0.6**
UDBI				Sn	**Sg**	**03 02 58.8**	**-1.3**
FRGS	**Fruska Gora**	**2.50**	**33**	*e*Pn	**Pn**	**03 02 34.5**	**+1.4**
FRGS				*e*Sn	**Sn**	**03 03 05.1**	**+1.1**
MATE	**Matera**	**2.58**	**201**	⇓*i*P	**Pb**	**03 02 36.6**	**-1.7**
NVLJ	**Novalja**	**2.66**	**305**	*e*Pn	**Pn**	**03 02 36.4**	**+1.3**
NVLJ				Sn	**Sb**	**03 03 10.8**	**-1.8**
CRES	**Cresnjev**	**3.27**	**328**	*e*Pn	**Pn**	**03 02 44.4**	**+0.8**
CRES				*e*Sn	**Sn**	**03 03 22.6**	**-0.2**
RIY	**Rijeka**	**3.34**	**314**	*e*Pn	**Pn**	**03 02 45.2**	**+0.7**
RIY				*e*Sn	**Sn**	**03 03 23.8**	**-0.7**
CEY	**Cerknica**	**3.65**	**318**	*e*Pn	**Pn**	**03 02 49.1**	**+0.2**
CEY				*e*Sn	**Sn**	**03 03 32.5**	**+0.2**
BZS	**Buzias**	**3.69**	**45**	⇑*i*P	**Pn**	**03 02 49.5**	**+0.2**
BZS	**Buzias**	**3.69**	**45**	S	**Sn**	**03 03 30.9**	**-2.3**
HERR	**Herculane**	**3.73**	**59**	⇓*i*P	**Pn**	**03 02 48.9**	**-1.0**
VTS	**Vitosha**	**3.95**	**95**	⇓*i*P	**Pn**	**03 02 52.6**	**-0.5**
VTS	**Vitosha**	**3.95**	**95**	S	**Sn**	**03 03 38.2**	**-1.6**
SOKA	**Soboth**	**4.15**	**332**	*e*Pn	**Pn**	**03 02 57.0**	**+1.3**
	1.1nm,0.3s						
SOKA				*e*Sn	**Sn**	**03 03 45.2**	**+0.6**
	0.9nm,0.3s						
ARSA	**Arzberg**	**4.51**	**339**	*i* P	**Pn**	**03 03 02.4**	**+1.7**
	SNR=4.8						
DRGR		**5.05**	**41**	S	**Sn**	**03 04 05.6**	**-1.3**
MOA	**Molln**	**5.42**	**333**	*i* Pn	**Pn**	**03 03 15.9**	**+2.7**
	0.9nm,0.3s,SNR=5.0						
MOA				*i* Sn	**Sn**	**03 04 18.0**	**+2.1**
	2.8nm,0.5s						
VYHS	**Vyhne**	**5.47**	**7**	*e*PN	**Pn**	**03 03 17.5**	**+3.7**
VYHS				*e*PG	Pg	03 03 41.6	+5.1
VYHS				*e*SN	**Sn**	**03 04 13.5**	**-3.5**
KHC	**Kasperske Hory**	**6.77**	**335**	*e*SN	**Sn**	**03 04 56.5**	**+7.4**

*AZER **09** 03:13:22.0±3.5, 36°.55N×41°.84E, h2km, ml3.2/5, Error ellipse: s-maj=52.3km s-min=20.7km az=161.0*
*ISN **09** 03:13:26.8±1.1, 36°.66N×43°.23E, h4km±4km, ML2.8*
*TEH **09** 03:13:27.3, 36°.67N×43°.38E, h5km, ML3.4*
*DDA **09** 03:13:27.8, 36°.66N×43°.34E, h8km±2km, ML3.3*
*ISK **09** 03:13:30.5, 36°.83N×43°.32E, h5km, ML3.3/13*
ISC 09 03:13:28.1±1.1, 36°.62N±0°.02×43°.30E±0°.02, h6km±9km, n77, σ1§46/99, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.27**	**214**	*e*Pg	**Pg**	**03 13 33.0**	**-0.3**
MSL				AML	AML	03 13 35.5	
	comp=Z,1μm,0.7s						
MSL				*e*Sg	**Sg**	**03 13 37.0**	**+0.2**
MSL	**Mosul**	**0.27**	**214**	*e*Pg	**Pg**	**03 13 33.0**	**-0.3**
CUKT	**Cukurca**	**0.67**	**22**	PG	**Pg**	**03 13 39.9**	**-1.1**
CUKT				SG	**Sg**	**03 13 48.7**	**-1.1**
CUKT	**Cukurca**	**0.67**	**22**	IAML_P			
	comp=Z,13μm,0.2s						
CUKT				*i* P	**Pg**	**03 13 40.0**	**-1.0**
CUKT				*i* S	**Sg**	**03 13 49.9**	**+0.1**
CUKT	**Cukurca**	**0.67**	**22**	*e*Pg	**Pg**	**03 13 39.6**	**-1.4**
HAKT	**HAKKARI**	**0.99**	**19**	IAML_P			
	comp=Z,7μm,0.1s						
HAKT				*i* P	**Pg**	**03 13 46.9**	**-0.2**
HAKT				*i* S	**Sg**	**03 13 59.9**	**-0.1**
HAKT	**HAKKARI**	**0.99**	**19**	*e*Pg	**Pg**	**03 13 45.9**	**-1.2**
SIRT	**Sirnak**	**1.11**	**322**	PG	**Pb**	**03 13 49.8**	**0.0**
SIRT				SG	**Sb**	**03 14 04.7**	**+0.1**
SIRT	**Sirnak**	**1.11**	**322**	*e*Pg	**Pg**	**03 13 49.6**	**+0.2**
SIRN	**Sırnak**	**1.12**	**321**	IAML_P			
	comp=Z,11μm,0.4s						
SIRN				*i* P	**Pb**	**03 13 50.2**	**+0.3**
SIRN				*i* S	**Sn**	**03 14 06.5**	**+0.2**
SIRN	**Sırnak**	**1.12**	**321**	*e*Pn	**Pg**	**03 13 49.6**	**0.0**
YOVA	**Hakkari_Yksek**	**1.25**	**39**	*i* P	**Pg**	**03 13 50.9**	**-1.1**
YOVA				*i* S	**Sg**	**03 14 07.0**	**-1.3**
YOVA	**Hakkari_Yksek**	**1.25**	**39**	*e*Pg	**Pg**	**03 13 50.4**	**-1.6**
IKRK	**Kirkuk**	**1.48**	**145**	*e*Pn	**Pb**	**03 13 56.0**	**-0.1**
IKRK				AML	AML	03 14 01.3	
	comp=Z,227nm,0.3s						
IKRK				*e*Sn	**Sg**	**03 14 16.0**	**+0.2**
IKRK	**Kirkuk**	**1.48**	**145**	*e*Pn	**Pb**	**03 13 56.0**	**-0.1**
BASK	**Baskale_VAN**	**1.54**	**21**	IAML_P			
	comp=Z,3μm,0.2s						
BASK				*i* P	**Pg**	**03 13 57.2**	**-0.3**
BASK	**Baskale_VAN**	**1.54**	**21**	*e*Pn	**Pb**	**03 13 57.1**	**0.0**
GEVA	**Gevas**	**1.70**	**354**	IAML_P			
	comp=Z,5μm,0.5s						
GEVA				*i* P	**Pb**	**03 13 59.8**	**0.0**
GEVA				*i* S	**Sg**	**03 14 24.4**	**+1.8**
GEVA	**Gevas**	**1.70**	**354**	*e*Pn	**Pb**	**03 13 59.3**	**-0.5**
AKDM	**Akdamar-Van**	**1.72**	**352**	PN	**Pb**	**03 14 00.4**	**+0.2**
AKDM	**Akdamar-Van**	**1.72**	**352**	*e*Pn	**Pb**	**03 14 00.3**	**+0.1**
SRTM	**Siirt_Merkez**	**1.75**	**322**	IAML_P			
	comp=Z,2μm,0.2s						
SRTM				*i* P	**Pb**	**03 14 00.2**	**-0.5**
SRTM				*i* S	**Sg**	**03 14 25.7**	**+1.3**
SRTM	**Siirt_Merkez**	**1.75**	**322**	*e*Pn	**Pn**	**03 13 59.5**	**+0.4**
TVAN	**Van**	**1.91**	**3**	IAML_P			
	comp=Z,2μm,0.3s						
TVAN				*i* P	**Pb**	**03 14 03.4**	**+0.1**
TVAN	**Van**	**1.91**	**3**	*e*Pn	**Pb**	**03 14 02.7**	**-0.7**
MAHB	**Mahabad**	**1.94**	**85**	*e*Pn	**Pn**	**03 14 01.9**	**+0.2**
MAHB				IAMB	IAmb	03 14 34.0	
	comp=Z,0.0nm,0.6s						
VANB	**Van**	**1.97**	**2**	PN	**Pn**	**03 14 02.2**	**+0.1**
VANB	**Van**	**1.97**	**2**	*e*Pn	**Pn**	**03 14 02.2**	**+0.1**
BLIS	**Bitlis-Merkez**	**2.02**	**333**	IAML_P			
	comp=Z,403nm,0.3s						
BLIS				*i* P	**Pn**	**03 14 03.7**	**+0.8**
BLIS				*i* S	**Sg**	**03 14 32.8**	**-0.2**
BLIS	**Bitlis-Merkez**	**2.02**	**333**	*e*Pn	**Pn**	**03 14 03.3**	**+0.4**
BTMN	**Batman**	**2.05**	**309**	IAML_P			
	comp=Z,778nm,0.3s						
BTMN				*i* P	**Pb**	**03 14 06.6**	**+0.8**
BTMN				*i* S	**Sg**	**03 14 34.8**	**+0.7**
BTMN	**Batman**	**2.05**	**309**	*e*Pn	**Pb**	**03 14 06.2**	**+0.4**
MARD	**Mardin**	**2.13**	**290**	IAML_P			
	comp=Z,1μm,0.3s						
MARD				*i* P	**Pb**	**03 14 06.3**	**-0.8**
MARD				*i* S	**Sb**	**03 14 33.3**	**-0.6**
GURO	**Guroymak-BITLI**	**2.17**	**333**	PN	**Pb**	**03 14 06.9**	**-1.0**
GURO	**Guroymak-BITLI**	**2.17**	**333**	*e*Pn	**Pb**	**03 14 06.8**	**-1.1**
ADCV	**BITLIS_Adilcev**	**2.23**	**348**	IAML_P			
	comp=Z,345nm,0.3s						
ADCV				*i* P	**Pb**	**03 14 09.4**	**+0.5**
ADCV				*i* S	**Sg**	**03 14 40.2**	**+0.5**
SVAN	**Silvan-Diyarba**	**2.26**	**313**	PN	**Pb**	**03 14 08.8**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.26**	**313**	IAML_P			
	comp=Z,449nm,0.2s						
SVAN				*i* P	**Pb**	**03 14 10.2**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.26**	**313**	*e*Pn	**Pb**	**03 14 08.8**	**-0.6**
VMUR	**Van-Muradiye**	**2.37**	**5**	IAML_P			
	comp=Z,136nm,0.2s						
VMUR				*i* P	**Pb**	**03 14 10.4**	**-1.0**
VMUR	**Van-Muradiye**	**2.37**	**5**	*e*Pn	**Pb**	**03 14 10.1**	**-1.2**
IAZR	**Azarshahr**	**2.39**	**63**	IAMB	IAmb	03 14 54.4	
	comp=Z,3μm,0.5s						
IAZR				*e*Pn	**Pn**	**03 14 08.7**	**+0.7**
MAZI	**Mazidag**	**2.43**	**291**	PN	**Pb**	**03 14 11.8**	**-0.4**
MAZI	**Mazidag**	**2.43**	**291**	*e*Pn	**Pb**	**03 14 11.8**	**-0.4**
ISHB	**Shabestar**	**2.48**	**47**	IAMB	IAmb	03 14 55.5	
	comp=Z,692nm,0.4s						
ISHB				*e*Pn	**Pn**	**03 14 09.5**	**+0.2**
MUSM	**Mu-Merkez**	**2.53**	**327**	*i* P	**Pn**	**03 14 10.1**	**+0.3**
MUSM				*i* S	**Sb**	**03 14 45.6**	**+0.1**
MUSM	**Mu-Merkez**	**2.53**	**327**	*e*Pn	**Pn**	**03 14 09.5**	**-0.3**
CLDR	**Caldiran**	**2.56**	**11**	PN	**Pn**	**03 14 11.7**	**+1.3**
CLDR	**Caldiran**	**2.56**	**11**	IAML_P			
	comp=Z,342nm,0.2s						
CLDR				*i* P	**Pn**	**03 14 12.3**	**+1.9**
CLDR	**Caldiran**	**2.56**	**11**	*e*Pn	**Pn**	**03 14 11.6**	**+1.2**
MLAZ	**Malazgirt-MUS**	**2.58**	**347**	PN	**Pn**	**03 14 12.2**	**+1.6**
MLAZ	**Malazgirt-MUS**	**2.58**	**347**	*e*Pn	**Pn**	**03 14 12.1**	**+1.5**
IMRD	**Marand**	**2.83**	**42**	*e*Pn	**Pn**	**03 14 14.6**	**+0.6**
IMRD				IAMB	IAmb	03 14 22.3	
	comp=Z,616nm,0.4s						
DIYA	**Diyarbakir

IRAM	Ramesheh	3.71	7	ePn	Pn	03 30 35.1	0.0
IRAM	Ramesheh	3.71	7	ePn	Pn	03 30 34.9	-0.2
IRAM				IAMB	IAmb	03 31 44.8	
	comp=Z,2μm,0.8s						
IMEH	Mehriz	4.05	36	ePn	Pn	03 30 41.3	+1.5
IMEH	Mehriz	4.05	36	ePn	Pn	03 30 41.2	+1.5
IMEH				IAMB	IAmb	03 31 32.0	
	comp=Z,3μm,1.0s						
ZNGN	Zangian	4.09	348	ePn	Pn	03 30 42.1	+1.8
ISAD	Sadrabad	4.11	22	ePn	Pn	03 30 42.3	+1.7
ISAD	Sadrabad	4.11	22	ePn	Pn	03 30 41.2	+0.6
ISAD				IAMB	IAmb	03 32 04.1	
	comp=Z,1μm,0.9s						
JHBN	Jahan bin	4.24	346	ePn	Pn	03 30 44.0	+1.6
IGAR	Gharneh	4.28	2	ePn	Pn	03 30 43.6	+0.7
IGAR				IAMB	IAmb	03 31 35.5	
	comp=Z,1μm,0.6s						
SHME	Shamm	4.33	117	P	Pn	03 30 44.4	+1.0
NIAN	Nian	4.44	96	ePn	Pn	03 30 47.3	+2.5
NGRK	Negar Kerman	4.53	69	ePn	Pn	03 30 47.3	+0.8
NAZ	Nazwa, Dubai	4.61	132	P	Pn	03 30 48.9	+1.7
NAZ	Nazwa, Dubai	4.61	132	ePn	Pn	03 30 48.4	+1.2
KHGB	Koh Gabri	4.62	60	ePn	Pn	03 30 48.2	+0.6
ASUD	Al Ashush, Dub	4.66	137	P	Pn	03 30 49.4	+1.5
ICHK	Chekchek	4.67	27	ePn	Pn	03 30 49.7	+1.4
ICHK				IAMB	IAmb	03 31 44.5	
	comp=N,1μm,0.8s						
TVBK	TV Kerman	4.68	65	ePn	Pn	03 30 49.9	+1.4
MSFE	Esma-Masafi	4.72	124	P	Pn	03 30 50.0	+1.2
MSFE	Esma-Masafi	4.72	124	ePn	Pn	03 30 50.1	+1.4
FAQ	Al Faqa, Dubai	4.73	134	P	Pn	03 30 50.5	+1.6
IZEF	Zefreh	4.79	5	ePn	Pn	03 30 50.3	+0.4
IZEF	Zefreh	4.79	5	ePn	Pn	03 30 50.1	+0.2
IZEF				IAMB	IAmb	03 31 22.7	
	comp=Z,511nm,0.8s						
YZKH	Yazd	4.88	28	ePn	Pn	03 30 51.3	+0.4
YZKH	Yazd	4.88	28	ePn	Pn	03 30 51.3	+0.4
HATD	Hatta, Dubai	5.03	130	P	Pn	03 30 53.1	+0.1
HATD	Hatta, Dubai	5.03	130	ePn	Pn	03 30 54.3	+1.3
ASHO	Ashiyiah	5.08	131	P	Pn	03 30 54.7	+1.1
ASHO				S	Sn	03 31 52.5	+1.0
ASHO	Ashiyiah	5.08	131	ePn	Pn	03 30 55.2	+1.5
IKLH	Kolahrood	5.20	357	ePn	Pn	03 30 54.9	-0.6
IKLH				IAMB	IAmb	03 32 14.8	
	comp=Z,708nm,0.9s						
CHMN	Cheshme madani	5.27	69	ePn	Pn	03 30 57.8	+1.2
ANAR	Anarak	5.31	17	ePn	Pn	03 30 57.5	+0.5
KRSH	Karshahi	5.85	2	ePn	Pn	03 31 03.7	-0.7
ISFB	Sefidab	6.23	3	ePn	Pn	03 31 08.4	-1.2
TPRV	Parvadeh(Tabas	6.43	39	ePn	Pn	03 31 13.3	+1.0
IDOB	Doab	6.49	332	ePn	Pn	03 31 13.9	+0.7
HAGD	Aghdareh	7.08	342	ePn	Pn	03 31 21.2	-0.2
IKOM	Komasi	7.10	329	ePn	Pn	03 31 21.1	-0.5
TKDS	Koohdasht(Taba	7.11	38	ePn	Pn	03 31 21.0	-0.6
TNSJ	Nastanj	7.12	34	ePn	Pn	03 31 21.3	-0.4
IDMV	Damavand	7.45	1	ePn	Pn	03 31 25.9	-0.5
IGHG	Ghaleghazi	7.68	325	ePn	Pn	03 31 30.0	+0.4
IVIS	Veis	7.70	327	ePn	Pn	03 31 31.4	+1.6
WSAR	Wadi Sarin	7.79	127	Pn	Pn	03 31 31.3	+0.3
	comp=Z,0.8nm,0.3s,baz=313,slow=5.8,SNR=7.5						
WSAR				Sn	Sn	03 32 56.5	-2.0
	comp=Z,0.5nm,0.3s,baz=216,slow=19,SNR=2.0						
ILIN	Lien	7.97	330	ePn	Pn	03 31 33.2	-0.4
IDHR	Dehrash	8.06	326	ePn	Pn	03 31 34.1	-0.7
GEYT	Alibeck	11.11	27	LR	LR	03 37 14.6	
	comp=Z,114nm,21.4s,baz=320,slow=41						
SIRT	Sirnak	12.26	322	ePn	Pn	03 32 30.1	-2.1
SIRT				eSn	Sn	03 34 47.1	-1.0
ASF	Jabal al Asfar	13.57	291	Pn	Pn	03 32 49.5	-0.6
	comp=Z,0.2nm,0.3s,baz=90,slow=20,SNR=2.4						
ASF				Sn	Sn	03 35 10.1	-10
	comp=Z,0.1nm,0.3s,baz=69,slow=8.2,SNR=3.2						
EIL	Elat	14.90	280	Pn	Pn	03 33 08.2	0.0
	comp=Z,0.1nm,0.3s,baz=156,slow=20,SNR=1.6						
KBZ	Khabaz	17.18	338	P	P	03 33 38.2	-0.5
	comp=Z,0.1nm,0.3s,baz=159,slow=7.1,SNR=12						
KIV	Kislovodsk	17.45	337	ePn	Pn	03 33 39.6	-1.2
	comp=Z,7.4nm,0.9s						
GAR	Garm	18.79	50	eP	P	03 33 57.2	+0.5
	comp=Z,9.2nm,0.8s						
BRTR	Keskin Array B	19.01	312	eP	P	03 33 57.8	-1.3
BRTR	Keskin Array B	19.01	312	P	Pn	03 33 59.4	-0.6
	comp=Z,0.2nm,0.3s,baz=130,slow=12,SNR=14						
BR101	Keskin Array S	19.01	312	eP	Pn	03 33 59.4	-0.6
BR131	Keskin Array S	19.01	312	eP	Pn	03 33 59.8	-0.2
	comp=Z,3.2nm,0.8s						
NIL	Nilore	19.16	68	eP	Pn	03 34 04.6	+2.9
	comp=Z,9.8nm,0.7s						
KK31	Karatay Array	21.23	40	eP	P	03 34 22.7	-0.4
	comp=Z,4.5nm,0.8s						
KKAR	Karatay Array	21.23	40	eP	P	03 34 22.7	-0.4
ARSB	Arslanbob	21.73	47	eP	P	03 34 30.0	+1.4
	comp=Z,7.0nm,1.1s						
ABKAR	Akbulak array	22.01	14	eP	P	03 34 30.0	-1.4
	comp=Z,4.6nm,1.0s						
AKTO	Aktyubinsk	22.78	10	P	P	03 34 39.5	-0.2
	comp=Z,2.1nm,0.9s,baz=191,slow=12,SNR=7.7						
AAK	Ala-Archa	23.37	46	eP	P	03 34 49.8	+3.9
	comp=Z,3.3nm,0.9s						
AAK	Ala-Archa	23.37	46	P	P	03 34 45.6	-0.3
	comp=Z,0.8nm,0.5s,baz=231,slow=6.8,SNR=3.8						
NRN	Naryn	23.77	50	eP	P	03 34 46.7	-3.3
	comp=Z,8.9nm,1.4s						
IDI	Anoyia	23.99	294	P	P	03 34 51.9	+0.1
	comp=Z,6.8nm,0.7s,baz=96,slow=9.7,SNR=4.3						
BOOM	Boomskoye usch	24.22	47	eP	P	03 34 51.1	-2.9
	comp=Z,5.5nm,0.9s						
KDJ	Kajisay	24.87	49	eP	P	03 34 58.5	-1.4
	comp=Z,4.1nm,0.9s						
MLR	Muntele Rosu	26.87	317	eP	P	03 35 18.4	+0.4
	comp=Z,16nm,1.6s						
MLR	Muntele Rosu	26.87	317	P	P	03 35 18.4	+0.4
	comp=Z,1.9nm,0.5s,baz=150,slow=20,SNR=2.1						
AKASG	Malin Array Be	28.34	329	P	P	03 35 29.9	-0.9
	comp=Z,0.2nm,0.3s,baz=132,slow=7.1,SNR=3.2						
AKBB	Malin Array Si	28.34	329	eP	P	03 35 29.9	-0.9
	comp=Z,6.3nm,1.3s						
BVAR	Borovoye Array	28.42	24	P	P	03 35 32.1	+0.5
	comp=Z,0.2nm,0.3s,baz=242,slow=6.2,SNR=3.7						
MK31	Makanchi Array	30.24	44	eP	P	03 35 48.5	+0.7
	comp=Z,2.5nm,1.1s						
MK32	Makanchi Array	30.24	44	eP	P	03 35 47.4	-0.4
MKAR	Makanchi Array	30.24	44	eP	P	03 35 47.0	-0.8
MKAR	Makanchi Array	30.24	44	P	P	03 35 47.4	-0.4
	comp=Z,0.9nm,0.6s,baz=217,slow=5.8,SNR=7.8						
MKAR				LR	LR	03 50 05.0	
	comp=Z,41nm,18.5s,baz=191,slow=41						
KOLS	Kolonicke sedl	30.81	321	eP	P	03 35 55.3	+2.6
KOLS				e		03 45 09.1	
KWP	Kalwaria Pacla	30.94	322	eP	P	03 35 52.4	-1.5
	comp=Z,296nm,1.9s						
KMBO	Kilima Mbogo	32.28	208	LR	LR	03 50 27.4	
	comp=Z,84nm,19.2s,baz=72,slow=39						
ZALV	Zalesovo Beam	35.30	34	eP	P	03 36 28.7	-3.1
ZALV	Zalesovo Beam	35.30	34	P	P	03 36 31.9	+0.1
	comp=Z,0.9nm,0.4s,baz=227,slow=9.6,SNR=4.0						
ZALV				LR	LR	03 52 44.4	
	comp=Z,39nm,19.6s,baz=239,slow=39						
ZAA1	Zalesovo Array	35.30	34	eP	P	03 36 31.9	+0.1
GEC2	GERESS Array S	35.84	316	eP	P	03 36 38.2	+1.5
	comp=Z,2.5nm,1.2s						
GERES	GERESS Array B	35.84	316	P	P	03 36 38.2	+1.5
	comp=Z,0.3nm,0.6s,baz=86,slow=6.8,SNR=4.3						
FIA0	FINESS Array S	37.51	340	eP	P	03 36 49.8	-0.9
FINES	FINESS Array B	37.51	340	P	P	03 36 49.8	-0.9
	comp=Z,1.3nm,0.5s,baz=147,slow=8.5,SNR=9.3						
BFO	Black Forest	39.07	313	eP	P	03 37 02.9	-1.0
	comp=Z,14nm,1.6s						
TAM	Tamanrasset	41.98	274	eP	P	03 37 32.1	+3.6
	comp=Z,2.2nm,0.9s						
NC405	NORSAR Array S	42.47	332	eP	P	03 37 32.7	+0.8
	comp=Z,59nm,1.8s						
NB2	NORSAR Subarra	42.64	332	P	P	03 37 32.0	-1.2
	comp=Z,1.5nm,0.6s,baz=124,slow=8.6						
NB200	NORSAR Array S	42.64	332	eP	P	03 37 31.9	-1.4
NOA	NORSAR Array B	42.64	332	P	P	03 37 31.9	-1.4
	comp=Z,1.1nm,0.7s,baz=122,slow=8.3,SNR=7.0						
ARA0	ARCESS Array S	44.18	347	eP	P	03 37 46.6	+1.1
ARCES	ARCESS Array B	44.18	347	P	P	03 37 46.6	+1.1
	comp=Z,1.9nm,0.8s,baz=160,slow=7.5,SNR=8.1						
SONA0	Songino Array	46.24	49	eP	P	03 38 01.9	-0.3
SONM	Songino Array	46.24	49	P	P	03 38 01.9	-0.3
	comp=Z,0.4nm,0.6s,baz=291,slow=4.0,SNR=3.9						
ESDC	Sonseca Array	47.08	299	P	P	03 38 08.8	-0.1
	comp=Z,0.1nm,0.3s,baz=67,slow=6.8,SNR=3.9						
TOA1	Torodi Ar. Sit	48.92	263	eP	P	03 38 23.1	-0.2
TORD	Torodi Ar. Bea	48.92	263	P	P	03 38 23.1	-0.2
	comp=Z,2.3nm,0.9s,baz=86,slow=9.6,SNR=14						
DBIC	Dimbokro	57.62	260	eP	P	03 39 27.1	-0.2
	comp=Z,44nm,1.8s						
DBIC	Dimbokro	57.62	260	P	P	03 39 27.1	-0.2
	comp=Z,2.9nm,0.6s,baz=45,slow=9.4,SNR=7.4						
ILAR	Eielson Array	86.28	8	P	P	03 42 18.6	+0.3
	comp=Z,0.5nm,1.0s,baz=343,slow=5.8,SNR=5.5						
ILB	Eielson Array	86.28	8	eP	P	03 42 18.6	+0.3
	comp=Z,5.4nm,1.4s						
YKA	Yellowknife Ar	89.06	354	P	P	03 42 31.5	-0.2
	comp=Z,0.4nm,0.7s,baz=8.3,slow=5.0,SNR=10						
YKB5	Yellowknife Ar	89.06	354	eP	P	03 42 31.5	-0.2

CNRM 09 03:48:11.3, 30°.58N×7°.02W, h0km, ml1.3, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZM	OUZ	0.40	34	P	Pg	03 48 15.9	-3.0
OUZM				S	Sg	03 48 18.9	-5.3
TTIG	Tnine Tigouga,	1.23	269	P	Pg	03 48 33.9	-0.9
TTIG				S	Sb	03 48 52.1	+0.3
SRHM	Skhour des Reh	2.03	339	P	Pn	03 48 45.8	-1.0
SRHM	Skhour des Reh	2.03	339	S	Sn	03 49 04.3	-8.7
MD31	MD31	2.99	40	P	Pn	03 49 02.7	+2.7
MD31				S	Sn	03 49 37.5	+0.9
MDT	Midelt	3.03	42	P	Pn	03 49 03.1	+2.5
MDT				S	Sn	03 49 39.8	+2.0

NIED ***09*** *04:29:00, 26°.40N×126°.80E, h65km, Mw4.1 Best double couple: M0 1.41000×10^15 NP1:φ0=95.00000°, δ30.00000°, λ64.00000°. NP2:φ0=304.00000°, δ64.00000°, λ104.00000°.*
ISCJB ***09*** *04:29:46.3±0.3, 26°.27N±0°.04×126°.85E±0°.04, h81km±3km, mb4.0/35, Error ellipse: s-maj=8.3km s-min=4.0km az=150.2*
IDC ***09*** *04:29:47.5±2.9, 26°.30N×126°.74E, h75km±26km, mb3.8/19, mb1 4.0/21, mb1mx3.9/36, mbtmp4.1/21, MS3.0/4, Ms1 3.0/4, ms1mx2.7/35, Error ellipse: s-maj=18.5km s-min=12.0km az=80.0*
NEIC ***09*** *04:29:47.6±2.5, 26°.30N×126°.81E, h75km±9km, mb4.2/22, Error ellipse: s-maj=14.7km s-min=8.1km az=162.0*
NEIC Recorded [2 JMA] on Kume-jima.
JMA ***09*** *04:29:48.0±0.2, 26°.28N×126°.89E, h69km±2km, M3.9*
JMA Felt II J1.

ISC 09 04:29:47.4±0.7, 26°.26N±0°.06×126°.88E±0°.04, h77km±5km, n76, σ1°.40/94, mb4.2/35, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.10	308	P	Pn	04 29 58.2	-0.4
JKE				S	Sn	04 30 05.8	-1.0
JAGN	Aguni-jima	0.46	45	P	Pn	04 30 00.3	-0.3
JAGN				S	Sn	04 30 09.6	-0.7
JJT3	Tamagusuku3	0.82	98	P	Pn	04 30 04.9	+0.7
JJT3				eS	Sn	04 30 17.3	+0.5
JNTH	Nagotoyohara	1.06	76	S	Sn	04 30 21.1	-0.6
JIH	Iheya	1.24	52	P	Pn	04 30 09.6	+0.3
JIH				S	Sn	04 30 25.6	-0.2
JOW	Kunigami	1.38	65	ePn	Pn	04 30 10.7	-0.3
JOW				eSn	Sn	04 30 27.1	-1.7
JOW	Kunigami	1.38	65	P	Pn	04 30 11.1	+0.1
JOW				eS	Sn	04 30 28.6	-0.2
JYRO	Yoronjima	1.60	61	P	Pn	04 30 13.8	-0.1
JYRO				eS	Sn	04 30 33.6	-0.4
YOJ	Yonaguni jima	3.93	244	ePn	Pn	04 30 47.0	+1.7
YOJ				eSn	Sn	04 31 31.2	+0.9
NACB	Ninganchiao	5.22	248	ePn	Pn	04 31 02.6	-0.3
NACB				eSn	Sn	04 32 03.5	+1.8
YHNB	Yeheng	5.22	253	ePn	Pn	04 31 05.8	+2.8
YHNB				eSn	Sn	04 32 03.3	+1.4
YULB	Yu-li	5.82	242	ePn	Pn	04 31 08.8	-2.3
YULB				eSn	Sn	04 32 06.9	-10
SSLB	Suanglung	5.91	247	ePn	Pn	04 31 11.8	-0.6
SSLB				eSn	Sn	04 32 15.5	-3.3
TWG	Pinlang	6.30	238	ePn	Pn	04 31 17.1	-0.6
TWG				eSn	Sn	04 32 21.5	-6.7
JNU	Nakatsue	7.67	26	ePn	Pn	04 31 37.3	+0.9
JNU	Nakatsue	7.67	26	P	Pn	04 31 36.7	+0.3
	4.2nm,0.3s,baz=299,slow=3.8,SNR=21						
JNU				LR	LR	04 34 53.2	
	comp=Z,63nm,18.4s,baz=207,slow=40						
KS15	Wonju Array Si	11.18	4	ePn	Pn	04 32 25.1	+0.8
KSRS	Korea Array	11.19	4	P	Pn	04 32 25.1	+0.6
	0.3nm,0.3s,baz=183,slow=14,SNR=25						
KSRS				LR	LR	04 36 59.4	
	comp=Z,47nm,18.0s,baz=195,slow=39						
MAJO	Matsushiro	14.08	41	eP	P	04 33 09.1	+0.5
MJAR	Matsushiro Arr	14.08	41	ePn	Pn	04 32 59.0	-4.2
MJAR	Matsushiro Arr	14.08	41	P	P	04 33 09.1	+0.5
	0.1nm,0.3s,baz=226,slow=9.6,SNR=12						
USRK	Ussuriysk Ar.	18.37	12	eP	Pn	04 33 56.9	+0.1
SLVN	Son La	21.57	262	eP	P	04 34 30.7	-0.2
	3.0nm,1.1s						
ASAJ	Asahikawa	21.90	32	P	P	04 34 35.8	+1.7
	6.1nm,0.3s,baz=233,slow=14,SNR=4.6						
KLR	Kul'dur	23.24	8	P	P	04 34 46.4	-1.6
	1.0nm,0.4s,baz=202,slow=4.6,SNR=5.8						
YSS	Yuzh-Sakhalins	24.18	27	eP	P	04 34 55.6	-0.8
	11nm,0.6s						
CHTO	Chiang Mai	26.80	260	eP	P	04 35 21.0	+0.5
	6.8nm,0.6s						
SONA0	Songino Array	26.88	329	eP	P	04 35 21.1	+0.1
SONM	Songino Array	26.88	329	P	P	04 35 21.1	+0.1
	1.2nm,0.5s,baz=145,slow=11,SNR=7.2						
CM31	Chiang Mai Arr	26.93	259	eP	P	04 35 20.3	-1.4
CMAR	Chiang Mai Arr	26.93	259	P	P	04 35 20.3	-1.4
	2.1nm,0.4s,baz=53,slow=8.7,SNR=4.0						
SBUM	Sibu	27.55	213	eP	P	04 35 31.5	+4.4
	6.1nm,0.7s						
PETK	Petropavlovsk-	35.31	32	P	P	04 36 34.4	-0.5
	2.3nm,0.7s,baz=202,slow=2.5,SNR=6.7						
PEA1	Petropavlovsk-	35.31	32	eP	P	04 36 34.4	-0.6
MK31	Makanchi Array	40.61	312	eP	P	04 37 19.9	+0.3
	1.5nm,0.8s						
MK32	Makanchi Array	40.61	312	eP	P	04 37 19.2	-0.4
MK32				ePcP	PcP	04 39 20.8	+0.5
MKAR	Makanchi Array	40.61	312	P	P	04 37 19.2	-0.4
	2.1nm,0.5s,baz=98,slow=11,SNR=14						
MKAR				PcP	PcP	04 39 20.8	+0.5
	0.5nm,0.6s,baz=112,slow=3.4,SNR=3.6						
ZALV	Zalesovo Beam	41.49	323	P	P	04 37 26.0	-0.6
	2.5nm,0.5s,baz=111,slow=8.0,SNR=8.0						
ZAA1	Zalesovo Array	41.49	323	eP	P	04 37 26.0	-0.7
KDJ	Kajisay	43.43	304	eP	P	04 37 45.5	+2.6
	2.3nm,0.8s						
FITZ	Fitzroy Crossi	44.11	182	eP	P	04 37 46.4	-1.7
	6.0nm,0.8s						
WR1	Warramunga Arr	46.50	170	eP	P	04 38 07.3	+0.2
WR1				ePcP	PcP	04 39 40.0	-0.4
WRA	Warramunga Arr	46.50	170	P	P	04 38 07.3	+0.2
	3.1nm,0.7s,baz=352,slow=8.6,SNR=14						
WRA				PcP	PcP	04 39 40.0	-0.4
	0.4nm,0.8s,baz=321,slow=5.4,SNR=2.9						
NRIK	Noril'sk	48.85	343	LR	LR	05 01 23.5	
	comp=Z,29nm,20.7s,baz=61,slow=39						
BRVK	Borovoye	49.51	319	eP	P	04 38 28.4	-1.7
	2.2nm,0.6s						
AS31	Alice Springs	50.10	172	eP	P	04 38 35.9	+1.2
	3.3nm,1.3s						
AS31				ePcP	PcP	04 39 54.0	+0.7
ASAR	Alice Springs	50.10	172	P	P	04 38 35.9	+1.1
	2.6nm,0.5s,baz=358,slow=13,SNR=41						
ASAR				PcP	PcP	04 39 54.1	+0.7
	0.5nm,0.7s,baz=351,slow=2.9,SNR=6.6						
ABKAR	Akbulak array	55.74	313	eP	P	04 39 16.7	+0.7
	1.8nm,0.8s						
STKA	Stephens Creek	59.50	165	eP	P	04 39 43.5	+1.0
	1.5nm,0.8s						
STKA	Stephens Creek	59.50	165	P	P	04 39 42.9	+0.4
	5.5nm,0.6s,baz=343,slow=7.1,SNR=13						
RND	Reindeer	64.32	30	eP	P	04 40 15.5	+0.9
	4.4nm,0.6s						
MDM	Murphy Dome	64.39	28	eP	P	04 40 16.8	+1.9
MDM				ePP	pP	04 40 34.6	+0.2
ILAR	Eielson Array	64.98	28	P	P	04 40 18.9	+0.1
	0.5nm,0.7s,baz=251,slow=4.9,SNR=9.4						
ILB	Eielson Array	64.98	28	eP	P	04 40 18.9	+0.1
	3.8nm,1.4s						
HDA	Harding Lake	65.01	29	eP	P	04 40 19.8	+0.8
	3.0nm,1.0s						
PAX	Paxson	65.90	30	eP	P	04 40 26.9	+2.0
	3.3nm,1.2s						
SCRK	Sand Creek	66.36	29	eP	P	04 40 28.5	+0.6
	1.2nm,0.8s						
DOT	Dot Lake	66.40	29	eP	P	04 40 28.8	+0.9
	2.2nm,0.7s						
EPYK	Eagle Plains	68.75	25	eP	P	04 40 43.8	+1.0
	3.0nm,0.5s						
INK	Inuvik	69.34	23	eP	P	04 40 47.0	+0.8
	3.6nm,1.4s						
INK	Inuvik	69.34	23	P	P	04 40 47.0	+0.8
	0.5nm,0.4s,baz=293,slow=7.8,SNR=7.4						
ARA0	ARCESS Array S	69.53	338	eP	P	04 40 46.4	-1.1
ARCES	ARCESS Array B	69.53	338	P	P	04 40 46.4	-1.1
	3.8nm,0.9s,baz=72,slow=7.8,SNR=7.6						
FIA0	FINESS Array S	72.23	330	eP	P	04 41 03.4	-0.6
FINES	FINESS Array B	72.23	330	P	P	04 41 03.4	-0.6
	1.4nm,0.4s,baz=59,slow=5.1,SNR=20						
AKASG	Malin Array Be	74.72	319	P	P	04 41 18.2	-0.6
	0.8nm,0.3s,baz=57,slow=7.0,SNR=4.1						
AKBB	Malin Array Si	74.72	319	eP	P	04 41 18.2	-0.6
BR101	Keskin Array S	76.05	307	eP	P	04 41 27.2	+0.4
BRTR	Keskin Array B	76.05	307	P	P	04 41 27.2	+0.4
	0.7nm,0.6s,baz=103,slow=3.9,SNR=4.3						
NB2	NORSAR Subarra	78.74	333	P	P	04 41 40.8	-0.5
	comp=Z,0.8nm,0.8s,baz=56,slow=5.3						
NB200	NORSAR Array S	78.74	333	eP	P	04 41 40.4	-0.9
NOA	NORSAR Array B	78.74	333	P	P	04 41 40.4	-0.9
	comp=Z,0.3nm,0.3s,baz=53,slow=5.7,SNR=6.1						
NOA				LR	LR	05 18 39.4	
	comp=Z,11nm,18.5s,baz=0.0,slow=37						
YKA	Yellowknife Ar	79.00	25	P	P	04 41 43.9	+1.3
	comp=Z,0.7nm,0.6s,baz=300,slow=5.6,SNR=19						
YKB5	Yellowknife Ar	79.00	25	eP	P	04 41 43.9	+1.3
GEC2	GERESS Array S	84.44	322	eP	P	04 42 11.2	-0.4
GERES	GERESS Array B	84.44	322	P	P	04 42 11.2	-0.4
	comp=Z,0.3nm,0.5s,baz=42,slow=4.5,SNR=4.7						

SOME ***09*** *04:30:17.3, 41°.83N×82°.08E, h15km*
NNC ***09*** *04:30:18.6±2.2, 41°.93N×81°.98E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=15.8km s-min=11.0km az=160.0*

ISC 09 04:30:19.7±2.2, 42°.17N±0°.10×82°.05E±0°.07, h10km, n27, σ2°.18/43, 9C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.79	316	Pg	Pg	04 30 54.7	+0.7
	43nm,0.4s						
KTMS				Lg	Lg	04 31 22.3	
	50nm,0.3s						
KTMS	Ketmen	1.79	316	eP	Pg	04 30 54.7	+0.7
	43nm,0.4s						
KTMS				eS	Sg	04 31 22.3	+5.2
	50nm,0.3s						
SHLS	Shalkode	2.15	298	eP	Pn	04 30 56.7	+1.0
	17nm,0.2s						
SHLS				eS	Sb	04 31 25.4	-0.1
	115nm,0.3s						
PDGK	Podgornoye	2.21	303	Pg	Pb	04 30 59.9	0.0
	3.2nm,0.3s						
PDGK				Lg	Lg	04 31 31.1	
	15nm,0.3s						
PDGK	Podgornoye	2.21	303	⇑Pn	Pb	04 30 59.6	-0.3
	5.0nm,0.4s						
PDGK				⇓Lg	Lg	04 31 33.5	
	16nm,0.3s						
UZB	Uzynbulak	2.44	295	Pg	Pb	04 31 03.4	-0.3
	4.6nm,0.2s						
UZB				Lg	Lg	04 31 37.3	
	53nm,0.4s						
UZB	Uzynbulak	2.44	295	eP	Pb	04 31 03.4	-0.3
	4.6nm,0.2s						
UZB				eS	Sg	04 31 37.3	-0.7
	53nm,0.4s						
KPKS	Kokpek	2.79	299	eP	Pb	04 31 09.1	-0.7
	11nm,0.3s						
KPKS				eS	Sb	04 31 46.2	+2.1
	60nm,0.5s						
SATY	Saty	2.83	290	Pg	Pb	04 31 09.3	-1.1
	5.0nm,0.2s						
SATY				Lg	Lg	04 31 47.0	
	43nm,0.4s						
SATY	Saty	2.83	290	eP	Pb	04 31 09.2	-1.2
	3.7nm,0.2s						
SATY				eS	Sb	04 31 47.0	+1.8
	43nm,0.6s						
MNBS	Baschi	3.28

KTMS	**Ketmen** 14nm,0.3s	**2.41 303**	Pg	**Pb**	**04 39 58.7 +0.2**
KTMS	52nm,0.2s		Lg	Lg	04 40 32.7
KTMS	**Ketmen** 14nm,0.3s	**2.41 303**	*e*P	**Pb**	**04 39 58.7 +0.2**
KTMS	52nm,0.2s		*e*S	**Sg**	**04 40 31.7 -0.8**
SHLS	**Shalkode** 28nm,0.4s	**2.88 291**	*e*P	**Pn**	**04 40 02.0 +1.0**
SHLS	97nm,0.9s		*e*S	**Sn**	**04 40 37.1 +1.3**
PDGK	**Podgornoye** 3.2nm,0.4s	**2.92 294**	⇑Pg	**Pg**	**04 40 11.0 0.0**
PDGK	31nm,0.6s		⇑Lg	Lg	04 40 47.5
UZB	**Uzynbulak** 3.1nm,0.5s	**3.19 289**	*e*P	**Pb**	**04 40 12.4 +0.6**
UZB	16nm,0.6s		*e*S	**Sg**	**04 40 55.0 -2.4**
DJR	**Jarkent** 5.2nm,0.4s	**3.26 312**	Pg	**Pb**	**04 40 12.6 -0.4**
DJR	8.0nm,0.4s		Lg	Lg	04 40 55.9
DJR	**Jarkent** 4.5nm,0.6s	**3.26 312**	*e*P	**Pb**	**04 40 13.0 +0.1**
DJR	13nm,0.8s		*e*S	**Sb**	**04 40 55.8 +3.1**
KPKS	**Kokpek** 6.0nm,0.3s	**3.52 293**	*e*P	**Pb**	**04 40 17.3 -0.1**
KPKS	22nm,0.6s		*e*S	**Sb**	**04 41 03.2 +3.0**
SATY	**Saty** 5.0nm,0.3s	**3.60 286**	*e*P	**Pb**	**04 40 20.1 +1.3**
SATY	17nm,0.2s		*e*S	**Sg**	**04 41 08.1 -2.6**
MNBS	**Baschi** 4.7nm,0.3s	**3.96 300**	Pg	**Pb**	**04 40 26.6 +1.8**
MNBS	27nm,0.4s		Lg	Lg	04 41 20.7
MNBS	**Baschi** 4.7nm,0.3s	**3.96 300**	*e*P	**Pb**	**04 40 27.2 +2.4**
MNBS	27nm,0.4s		*e*S	**Sg**	**04 41 20.7 -1.2**
ARXS	**Arharly** 3.4nm,0.4s	**4.39 299**	Pg	**Pg**	**04 40 35.3 -3.6**
ARXS	13nm,0.4s		Lg	Lg	04 41 35.6
ARXS	**Arharly** 3.4nm,0.4s	**4.39 299**	*e*P	**Pb**	**04 40 33.1 +1.0**
ARXS	13nm,0.4s		*e*S	**Sb**	**04 41 30.2 +5.1**
KOTS	**Kotyrbulak** 2.1nm,0.2s	**4.57 285**	Pg	**Pb**	**04 40 36.5 +1.2**
KOTS	8.3nm,0.6s		Lg	Lg	04 41 37.1
KOTS	**Kotyrbulak** 1.8nm,0.3s	**4.57 285**	*e*P	**Pb**	**04 40 35.6 +0.4**
KOTS	7.5nm,0.4s		*e*S	**Sb**	**04 41 34.5 +4.1**
MK31	**Makanchi Array** 4.0nm,0.6s,baz=174,slow=16,SNR=16	**4.66 353**	⇑Pg	**Pg**	**04 40 41.2 -3.0**
MK31	7.3nm,0.5s,baz=162,slow=26,SNR=7.9		⇑Lg	Lg	04 41 42.8
MAKZ	**Makanchi** 3.3nm,0.8s	**4.71 350**	⇓Pg	**Pg**	**04 40 43.5 -1.6**
MAKZ	2.3nm,0.5s		⇑Lg	Lg	04 41 43.8
KTBS	**Karatobe** 0.8nm,0.3s	**4.98 290**	Pg	**Pg**	**04 40 46.0 -4.3**
KTBS	12nm,0.6s		Lg	Lg	04 41 54.5
KTBS	**Karatobe** 1.2nm,0.6s	**4.98 290**	*e*P	**Pb**	**04 40 44.6 +2.4**
KTBS	10nm,0.6s		*e*S	**Sg**	**04 41 50.0 -4.9**
DGS	**Degeres** 1.5nm,0.5s	**5.53 284**	Pg	**Pg**	**04 40 57.2 -3.6**
DGS	5.9nm,0.7s		Lg	Lg	04 42 12.8
DGS	**Degeres** 1.1nm,0.4s	**5.53 284**	*e*P	**Pg**	**04 40 56.5 -4.4**
DGS	2.8nm,0.7s		*e*S	**Sg**	**04 42 10.2 -2.3**
TKM2	**Tokmak 2** 1.8nm,0.8s	**5.62 280**	⇑Pg	**Pb**	**04 40 56.6 +3.3**
TKM2	3.3nm,0.7s		⇑Lg	Lg	04 42 13.8

ATH 09 04:44:32.7, 38°.34N×20°.47E, h17km±5km, ML1.9/2, Error ellipse: s-maj=5.1km s-min=1.0km az=98.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.18**	**150**	P	Pg	04 44 37.4	0.0
VLS				S	Sg	04 44 40.2	-0.3
VLS	comp=N,696μm,0.1s			AML	AML	04 44 41.1	
VLS	comp=E,920μm,0.1s			AML	AML	04 44 41.2	
EVGI	**Lefkada island**	**0.32**	**27**	P	Pg	04 44 39.3	-0.2
EVGI				S	Sb	04 44 44.7	-0.1
KFL	**Anninata**	**0.34**	**132**	P	Pg	04 44 39.7	-0.1
KFL				S	Sb	04 44 45.1	-0.2
KFL	comp=E,692μm,0.4s			AML	AML	04 44 45.5	
KFL	comp=N,479μm,0.2s			AML	AML	04 44 46.4	
MGNA	**Meganis**	**0.41**	**38**	P	Pg	04 44 40.7	-0.3
MGNA				S	Sg	04 44 46.5	-0.2
LKD2	**Lefkada island**	**0.47**	**18**	P	Pb	04 44 42.9	+0.3
LKD2				S	Sg	04 44 48.6	-0.1
PVO	**Paravola**	**0.87**	**71**	P	Pb	04 44 49.4	0.0

ROM 09 04:47:51.3±0.1, 43°.460N±0°.004×12°.310E±0°.005, h10km, ML1.0/4, Error ellipse: s-maj=0.4km s-min=0.3km az=199.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.06**	**269**	P	Pg	04 47 53.5	+0.2
CDCA				S	Sg	04 47 54.8	+0.1
CDCA	**Citt' di Caste**	**0.06**	**269**	P	Pg	04 47 53.5	+0.2
CDCA	**Citt' di Caste**	**0.06**	**269**	S	Sg	04 47 54.8	+0.1
ATPI	**Pietralunga -**	**0.07**	**98**	P	Pg	04 47 53.8	+0.2
ATPI				S	Sg	04 47 55.2	+0.1
ATPI	comp=E,84μm,0.4s			AML	AML		
ATPI	comp=N,129μm,0.1s			AML	AML		
ATPI	comp=E,84μm,0.4s			AML	AML		
ATPI	comp=N,129μm,0.1s			AML	AML		
ATPI	comp=N,129μm,0.1s			AML	AML		
ATPI	comp=E,84μm,0.4s			AML	AML		
ATPI	**Pietralunga -**	**0.07**	**98**	P	Pg	04 47 53.8	+0.3
ATPI	**Pietralunga -**	**0.07**	**98**	S	Sg	04 47 55.2	+0.1
BADI	**Badiali**	**0.07**	**316**	P	Pg	04 47 53.8	+0.3
BADI	**Badiali**	**0.07**	**316**	P	Pg	04 47 53.9	+0.4
BADI				S	Sg	04 47 55.4	+0.3
BADI	comp=E,297μm,0.3s			AML	AML		
BADI	comp=N,150μm,0.1s			AML	AML		
BADI	comp=E,297μm,0.3s			AML	AML		
BADI	comp=N,150μm,0.1s			AML	AML		
BADI	comp=E,297μm,0.3s			AML	AML		
BADI	comp=N,150μm,0.1s			AML	AML		
BADI	**Badiali**	**0.07**	**316**	P	Pg	04 47 53.9	+0.4
BADI	**Badiali**	**0.07**	**316**	S	Sg	04 47 55.4	+0.3
ATVO	**AVT- Monte Val**	**0.10**	**138**	P	Pg	04 47 54.5	+0.5
ATVO	**AVT- Monte Val**	**0.10**	**138**	P	Pg	04 47 54.5	+0.5
ATVO				S	Sg	04 47 56.5	+0.6
ATVO	comp=E,86μm,0.7s			AML	AML		
ATVO	comp=N,85μm,0.1s			AML	AML		
ATVO	comp=E,86μm,0.7s			AML	AML		
ATVO	comp=N,85μm,0.1s			AML	AML		
ATVO	comp=E,86μm,0.7s			AML	AML		
ATVO	**AVT- Monte Val**	**0.10**	**138**	S	Sg	04 47 56.5	+0.6
ATMI	**Monte Miggiano**	**0.13**	**194**	P	Pg	04 47 55.1	+0.7
ATMI				S	Sg	04 47 57.3	+0.9
ATMI	comp=E,108μm,0.4s			AML	AML		
ATMI	comp=N,100μm,0.4s			AML	AML		
ATMI	comp=E,108μm,0.4s			AML	AML		
ATMI	comp=N,100μm,0.4s			AML	AML		
ATMI	comp=E,108μm,0.4s			AML	AML		
ATMI	comp=N,100μm,0.4s			AML	AML		
ATMI	**Monte Miggiano**	**0.13**	**194**	P	Pg	04 47 55.1	+0.8
ATMI	**Monte Miggiano**	**0.13**	**194**	S	Sg	04 47 57.2	+0.8
PARC	**Parchiule**	**0.20**	**345**	P	Pg	04 47 56.3	+0.8
PARC	**Parchiule**	**0.20**	**345**	P	Pg	04 47 56.3	+0.9
PARC				S	Sg	04 48 00.0	+1.7
PARC	**Parchiule**	**0.20**	**345**	S	Sg	04 47 57.0	-1.3
PARC	**Parchiule**	**0.20**	**345**	S	Sg	04 47 59.8	+1.5
ATFO	**Monte Foce - G**	**0.21**	**116**	P	Pg	04 47 56.5	+0.8
ATFO				S	Sg	04 48 00.1	+1.4
ATFO	**Monte Foce - G**	**0.21**	**116**	P	Pg	04 47 56.6	+0.8
ATFO	**Monte Foce - G**	**0.21**	**116**	P	Pg	04 47 56.6	+0.8
ATFO	**Monte Foce - G**	**0.21**	**116**	S	Sg	04 48 00.1	+1.4
NARO	**Abbazia di Nar**	**0.25**	**52**	P	Pg	04 47 56.7	+0.4
NARO				S	Sg	04 48 01.5	+1.7
NARO	**Abbazia di Nar**	**0.25**	**52**	S	Sg	04 47 57.0	-2.8
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pg	04 47 57.6	+0.6
CAFI				S	Sb	04 48 02.3	-1.1
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pg	04 47 57.7	+0.7
CAFI	**Castiglion Fio**	**0.28**	**243**	S	Sb	04 48 02.3	-1.1
CRE	**Caprese Michel**	**0.31**	**302**	P	Pg	04 47 58.2	+0.7
CRE				S	Sb	04 48 03.1	-1.0

MEX 09 04:50:11.7±0.4, 15°.90N×98°.40W, h9km±7km, MD3.5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.66**	**354**	*i* P	Pn	04 50 37.4	-3.7
TLIG				*e*S	Sn	04 50 57.2	-5.4
CAIG	**El Cayaco**	**2.12**	**303**	*i* P	Pn	04 50 44.4	-3.0
CAIG				*i* S	Sn	04 51 08.7	-5.1

*IDC **09** 05:04:06.7±1.5, 2°.14N×126°.60E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/39, mbtmp3.9/6, Error ellipse: s-maj=100.4km s-min=23.2km az=68.0*
*DJA **09** 05:04:12.0±0.7, 2°N±6°×12°7E±°, h10km, M3.6/3, MLv3.6/3*
*ISCJB **09** 05:04:13.7±1.0, 1°.8N±0°.1×126°.60E±0°.08, h47km, mb3.8/5, Error ellipse: s-maj=16.1km s-min=10.3km az=31.3*

ISC 09 05:04:14.2±1.0, 1°.92N±0°.08×126°.67E±0°.09, h47km, n15, σ1§10/13, mb4.0/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.34**	**148**	P	**Pn**	**05 04 36.1**	**-0.5**
SGSI	**Sangihe**	**2.09**	**327**	P	**Pn**	**05 04 47.8**	**+1.0**
KMSI	**Cibinong**	**3.00**	**244**	P	**Pn**	**05 04 59.1**	**-0.2**
LUWI	**Luwuk**	**4.88**	**233**	P	**Pn**	**05 05 25.4**	**+0.3**
MRSI	**Marisa**	**4.94**	**253**	P	**Pn**	**05 05 25.4**	**-0.5**
APSI	**Ampana**	**5.75**	**241**	P	**Pn**	**05 05 37.5**	**+0.4**
FITZ	**Fitzroy Crossi** 1.4nm,0.4s,baz=359,slow=7.3,SNR=11	**19.92**	**183**	P	**P**	**05 08 42.9**	**+0.7**
WRA	**Warramunga Arr** 2.8nm,0.5s,baz=340,slow=11,SNR=6.6	**23.00**	**161**	P	**P**	**05 09 14.3**	**-0.8**
ASAR	**Alice Springs** 1.4nm,0.7s,baz=343,slow=8.0,SNR=15	**26.39**	**165**	P	**P**	**05 09 47.2**	**+0.7**
ASAR	0.3nm,0.5s,baz=344,slow=2.5,SNR=4.7			PcP	**PcP**	**05 13 11.1**	**-0.3**
STKA	**Stephens Creek** 0.9nm,0.4s,baz=343,slow=14,SNR=3.1	**36.48**	**158**	P	**P**	**05 11 16.6**	**+1.6**
H11S3	**WAKE ISLAND Hy 42.54** baz=252,slow=75,SNR=9.6	**65**		T	T	05 57 34.6	
H11S2	**WAKE ISLAND Hy 42.55** baz=252,slow=75,SNR=6.1	**65**		T	T	05 57 36.3	
H11S1	**WAKE ISLAND Hy 42.55** baz=252,slow=75,SNR=4.4	**64**		T	T	05 57 34.4	
MKAR	**Makanchi Array** 0.4nm,0.3s,baz=120,slow=8.2,SNR=5.8	**59.00**	**326**	P	**P**	**05 14 06.8**	**-2.5**
VNDA	**Vanda** 0.4nm,0.4s,baz=312,slow=7.7,SNR=2.5	**81.65**	**173**	P	**P**	**05 16 27.2**	**+0.3**

*ISCJB **09** 05:08:37.1±0.9, 31°.3N±0°.1×140°.0E±0°.2, h33km, mb3.6/8, Error ellipse: s-maj=26.6km s-min=14.5km az=165.5*
*IDC **09** 05:08:41.4±5.0, 31°.37N×139°.85E, h52km±45km, mb3.3/7, mb1 3.7/8, mb1mx3.4/43, mbtmp3.6/8, ML3.4/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/29, Error ellipse: s-maj=39.1km s-min=24.2km az=111.0*

ISC 09 05:08:39.3±1.0, 31°.4N±0°.1×140°.1E±0°.2, h35km, n18, σ1§92/11, mb3.6/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2** 40nm,0.3s,baz=249,slow=20,SNR=6.7	**1.75**	**353**	P	**Pn**	**05 09 04.3**	**-2.9**
MJAR	**Matsushiro Arr** 1.4nm,0.3s,baz=153,slow=13,SNR=80	**5.37**	**344**	P	**Pn**	**05 09 58.6**	**+1.5**
MAT	**Matsushiro**	**5.38**	**344**	P	**Pn**	**05 09 59.7**	**+2.6**
JNU	**Nakatsue** comp=Z,44nm,21.3s,baz=157,slow=32	**7.96**	**285**	LR	LR	05 12 49.5	
H11N2	**WAKE ISLAND Hy 26.78** baz=301,slow=75,SNR=9.1	**109**		T	T	05 42 19.6	
H11N1	**WAKE ISLAND Hy 26.79** baz=301,slow=75,SNR=5.8	**109**		T	T	05 42 44.3	
H11N3	**WAKE ISLAND Hy 26.80** baz=301,slow=75,SNR=7.3	**109**		T	T	05 42 30.1	
H11S3	**WAKE ISLAND Hy 27.27** baz=304,slow=75,SNR=157	**112**		T	T	05 43 01.1	
H11S1	**WAKE ISLAND Hy 27.27** baz=304,slow=75,SNR=105	**112**		T	T	05 43 01.6	
H11S2	**WAKE ISLAND Hy 27.28** baz=304,slow=75,SNR=63	**112**		T	T	05 42 55.3	
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=96,slow=10,SNR=2.6	**46.37**	**307**	P	**P**	**05 17 01.3**	**-0.8**
WRA	**Warramunga Arr** 0.8nm,0.9s,baz=4.7,slow=7.8,SNR=4.5	**51.32**	**187**	P	**P**	**05 17 39.8**	**-0.4**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=268,slow=6.9,SNR=4.3	**54.91**	**30**	P	**P**	**05 18 06.2**	**0.0**
INK	**Inuvik** 0.4nm,0.6s,baz=292,slow=11,SNR=2.9	**59.95**	**25**	P	**P**	**05 18 41.8**	**+0.2**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=303,slow=6.5,SNR=7.0	**69.28**	**29**	P	**P**	**05 19 42.8**	**+0.2**
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=282,slow=5.3,SNR=4.1	**79.33**	**52**	P	**P**	**05 20 43.5**	**+1.5**
ULM	**Lac du Bonnet** 0.9nm,0.5s,baz=284,slow=4.2,SNR=3.2	**84.86**	**32**	P	**P**	**05 21 08.0**	**-2.3**
TXAR	**Lajitas Array** 0.6nm,0.8s,baz=295,slow=3.4,SNR=9.9	**94.48**	**52**	P	**P**	**05 21 58.0**	**+1.6**

*IDC **09** 05:11:15.7±3.3, 36°.04N×141°.29E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.3/46, mbtmp3.7/4, ML3.1/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/43, Error ellipse: s-maj=70.5km s-min=30.6km az=64.0*
*ISCJB **09** 05:11:22.3±0.8, 35°.87N±0°.04×140°.83E±0°.09, h48km±5km, mb3.6/2, Error ellipse: s-maj=12.1km s-min=6.6km az=161.6*
*JMA **09** 05:11:23.0±0.1, 35°.89N×140°.84E, h41km±1km, M3.1*

ISC 09 05:11:22.8±1.2, 35°.90N±0°.05×140°.87E±0°.09, h41km±8km, n20, σ0§65/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.19**	**182**	P	**Pn**	**05 11 30.1**	**-0.1**
CHOJ				S	**Sn**	**05 11 34.8**	**-0.5**
JIHU	**Itakohorinouch**	**0.29**	**284**	P	**Pn**	**05 11 31.4**	**+0.4**
JIHU				S	**Sn**	**05 11 36.7**	**-0.1**
JSMT	**Sammumatsuo**	**0.42**	**234**	P	**Pn**	**05 11 33.1**	**+0.5**
JSMT				S	**Sn**	**05 11 39.3**	**-0.2**
JHYU	**Hitachinakayam**	**0.50**	**333**	P	**Pn**	**05 11 33.8**	**+0.2**
JHYU				S	**Sn**	**05 11 41.9**	**+0.7**
JYT	**Yasato**	**0.64**	**301**	P	**Pn**	**05 11 35.1**	**-0.4**
JHO	**Hitachi**	**0.75**	**341**	P	**Pn**	**05 11 37.1**	**0.0**
BSO3	**Boso 3**	**1.13**	**195**	P	**Pn**	**05 11 42.2**	**+0.3**
JAG	**Ashikaga**	**1.26**	**295**	P	**Pn**	**05 11 43.8**	**-0.2**
MJAR	**Matsushiro Arr** 1.2nm,0.3s,baz=99,slow=10.0,SNR=26	**2.25**	**287**	Pn	**Pn**	**05 11 57.9**	**+0.4**
MJAR	0.6nm,0.3s,baz=303,slow=27,SNR=4.8			Sn	**Sn**	**05 12 24.4**	**+0.4**
MAT	**Matsushiro**	**2.25**	**287**	P	**Pn**	**05 11 58.7**	**+1.1**
MAT				S	**Sn**	**05 12 22.2**	**-1.9**
JHJ	**Hachijo jima 2** 15nm,0.3s,baz=41,slow=21,SNR=2.0	**2.91**	**198**	Pn	**Pn**	**05 12 07.1**	**+0.4**
JHJ	26nm,0.3s,baz=252,slow=23,SNR=2.3			Sn	**Sn**	**05 12 40.2**	**-0.2**
KSRS	**Korea Array** comp=Z,22nm,19.3s,baz=198,slow=39	**10.52**	**282**	LR	LR	05 18 20.3	
H11N2	**WAKE ISLAND Hy 27.97** baz=311,slow=75,SNR=6.4	**118**		T	T	05 46 23.8	
H11N1	**WAKE ISLAND Hy 27.98** baz=311,slow=75,SNR=5.4	**118**		T	T	05 46 19.5	
H11N3	**WAKE ISLAND Hy 27.99** baz=311,slow=75,SNR=5.5	**118**		T	T	05 46 23.2	
H11S1	**WAKE ISLAND Hy 28.64** baz=314,slow=74,SNR=9.9	**120**		T	T	05 47 13.9	
H11S3	**WAKE ISLAND Hy 28.64**	**120**		T	T	05 47 06.8	
H11S2	**WAKE ISLAND Hy 28.65** baz=15,slow=74,SNR=9.1	**120**		T	T	05 47 16.8	
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=95,slow=9.1,SNR=6.2	**44.36**	**303**	P	**P**	**05 19 29.1**	**+0.1**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=1.2,slow=8.3,SNR=1.7	**55.88**	**187**	P	**P**	**05 20 56.2**	**-0.2**

JMA 09 05:14:40.0, 37°.93N×141°.83E, h52km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.48**	**323**	P	Pn	05 14 51.1	0.0
JIKH				S	Sn	05 14 59.0	-0.1
JIO	**Ouri**	**0.65**	**324**	P	Pn	05 14 53.2	+0.1
JIO				S	Sn	05 15 02.4	-0.3
JMM	**Marumori**	**0.82**	**266**	P	Pn	05 14 55.5	+0.1
JMM				S	Sn	05 15 06.8	+0.1
JKMT	**Kesennumamotoy**	**0.92**	**342**	P	Pn	05 14 56.7	0.0
JKMT				S	Sn	05 15 08.8	-0.2
JFK	**Kawauchi**	**0.94**	**234**	P	Pn	05 14 57.0	-0.1
JFK				S	Sn	05 15 09.4	-0.2
JOU	**Okura**	**1.02**	**296**	P	Pn	05 14 58.3	+0.3
JOU				S	Sn	05 15 11.8	+0.5
JMK	**Ichinoseki**	**1.13**	**335**	P	Pn	05 14 59.8	+0.3
JMK				S	Sn	05 15 14.0	+0.1
JFT	**Otama**	**1.25**	**251**	P	Pn	05 15 02.1	+0.9
JFT				S	Sn	05 15 18.5	+1.5
JYS	**Shiratake**	**1.42**	**282**	P	Pn	05 15 04.2	+0.7
JYS				S	Sn	05 15 22.6	+1.5
JYK	**Kaneyama**	**1.52**	**311**	P	Pn	05 15 05.4	+0.6
JYK				S	Sn	05 15 24.3	+0.9
JOM	**Ohasama**	**1.60**	**345**	P	Pn	05 15 06.6	+0.7
JOM				S	Sn	05 15 26.1	+0.8
JRG	**Rokugo**	**1.74**	**328**	P	Pn	05 15 08.8	+1.0
JRG				S	Sn	05 15 30.9	+2.1
JFY	**Yanaizu**	**1.77**	**253**	P	Pn	05 15 09.1	+0.9
JFY				S	Sn	05 15 30.8	+1.3
JYA	**Atsumi**	**1.79**	**292**	P	Pn	05 15 09.1	+0.6
JYA				S	Sn	05 15 32.1	+2.0
MAT	**Matsushiro**	**3.21**	**246**	P	Pn	05 15 31.3	+3.4
MAT				S	Sn	05 16 11.4	+6.5

*ISCJB **09** 05:17:04.0±1.0, 5°.53S±0°.09×147°.8E±0°.2, h170km, mb3.9/8, Error ellipse: s-maj=23.6km s-min=10.9km az=18.6*
*IDC **09** 05:17:09.3±2.6, 5°.55S×147°.49E, h200km±21km, mb3.7/8, mb1 3.9/10, mb1mx3.5/42, mbtmp4.2/10, Error ellipse: s-maj=29.7km s-min=10.5km az=112.0*

ISC 09 05:17:05.4±1.1, 5°.6S±0°.1×147°.7E±0°.2, h170km, n12, σ1§29/13, mb3.8/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 0.8nm,0.3s,baz=299,slow=19,SNR=3.1	**7.62**	**294**	P	**Pn**	**05 18 54.7**	**+0.9**
CTA	**Charters Tower** 1.1nm,0.3s,baz=6.7,slow=12,SNR=9.4	**14.44**	**185**	P	P	05 20 30.8	+6.7
WRA	**Warramunga Arr** 4.2nm,0.3s,baz=48,slow=12,SNR=70	**19.25**	**221**	P	**Pn**	**05 21 19.1**	**-0.8**
WRA	0.2nm,0.3s,baz=42,slow=20,SNR=5.0			S	**S**	**05 24 43.9**	**-2.2**
ASAR	**Alice Springs** 15nm,0.8s,baz=48,slow=9.0,SNR=109	**22.30**	**215**	P	**P**	**05 21 51.6**	**+2.4**
ASAR	1.3nm,1.0s,baz=45,slow=13,SNR=4.0			S	**S**	**05 25 41.8**	**-0.2**
FITZ	**Fitzroy Crossi** 12nm,0.5s,baz=53,slow=10,SNR=58	**24.83**	**238**	P	**P**	**05 22 12.8**	**+0.6**
STKA	**Stephens Creek** 2.1nm,0.7s,baz=1.8,slow=12,SNR=5.4	**26.72**	**192**	P	**P**	**05 22 29.4**	**+0.3**
KSRS	**Korea Array** 0.9nm,0.7s,baz=167,slow=7.5,SNR=4.7	**46.66**	**338**	P	**P**	**05 25 16.9**	**0.0**
MKAR	**Makanchi Array** 0.7nm,0.4s,baz=96,slow=8.9,SNR=11	**77.65**	**320**	P	**P**	**05 28 42.8**	**-0.3**
AAK	**Ala-Archa** 0.6nm,0.4s,baz=8.7,slow=18,SNR=3.6	**81.57**	**314**	P	**P**	**05 29 03.3**	**-1.2**
ILAR	**Eielson Array** 0.8nm,0.7s,baz=252,slow=5.9,SNR=10	**84.88**	**23**	P	**P**	**05 29 21.5**	**+0.7**
BVAR	**Borovoye Array** 0.7nm,0.5s,baz=141,slow=5.2,SNR=5.0	**86.87**	**324**	P	**P**	**05 29 29.7**	**-1.1**
TORD	**Torodi Ar. Bea** 1.9nm,0.7s,baz=64,slow=2.8,SNR=14	**145.65**	**285**	PKPbc	**PKPdf**	**05 36 23.8**	**-0.8**

*DDA **09** 05:20:20.4, 37°.49N×35°.89E, h7km±4km, ML2.7*
*ISCJB **09** 05:20:21.2±0.5, 37°.40N±0°.03×35°.86E±0°.05, h12km±5km, Error ellipse: s-maj=6.3km s-min=5.4km az=162.6*
*ISK **09** 05:20:21.3, 37°.35N×35°.81E, h3km, ML1.9/8*

ISC 09 05:20:20.6±1.1, 37°.42N±0°.03×35°.87E±0°.03, h19km±2km, n18, σ0§65/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.07**	**330**	PG	**Pg**	**05 20 24.5**	**+0.3**
KOZT				SG	**Sg**	**05 20 27.0**	**+0.4**
AKO	**Adana** comp=Z,5μm,0.2s	**0.34**	**278**	IAML_P			
AKO				*i* P	**Pb**	**05 20 28.7**	**+0.5**
AKO				*i* S	**Sb**	**05 20 33.3**	**0.0**
ANDN	**Andirin** comp=Z,2μm,0.2s	**0.41**	**66**	IAML_P			
ANDN				*i* P	**Pg**	**05 20 28.4**	**-0.7**
CEYT	**Ceyhan**	**0.42**	**194**	PG	**Pg**	**05 20 28.6**	**-0.6**
SAIM	**ADANA**	**0.58**	**16**	*i* P	**Pg**	**05 20 31.1**	**-1.1**
SAIM				*i* S	**Sg**	**05 20 39.8**	**-0.3**
YURE	**YUREGIR**	**0.62**	**198**	PG	**Pg**	**05 20 32.6**	**-0.3**
KARA	**Karaisali**	**0.67**	**257**	PG	**Pb**	**05 20 34.0**	**+0.4**
KAMA	**Osmaniye** comp=Z,1μm,0.1s	**0.67**	**110**	IAML_P			
KAMA				*i* P	**Pb**	**05 20 34.4**	**+0.7**
KAMA				*i* S	**Sn**	**05 20 44.9**	**-0.4**
YAHY	**KAYSERI_Yahyal** comp=Z,2μm,0.1s	**0.79**	**329**	IAML_P			
YAHY				*i* P	**Pb**	**05 20 35.3**	**-0.5**
YAHY				*i* S	**Sb**	**05 20 45.5**	**-0.7**
HCB	**Kahramanmara** comp=Z,882nm,0.2s	**0.83**	**95**	IAML_P			
HCB				*i* P	**Pn**	**05 20 37.4**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.07**	**166**	PG	**Pg**	**05 20 41.6**	**+0.3**
KUZU	**Kuzuini** comp=Z,1μm,0.2s	**1.16**	**123**	IAML_P			
KUZU				*i* P	**Pg**	**05 20 42.8**	**-0.1**
KUZU				*i* S	**Sb**	**05 20 56.9**	**+0.2**
MERS	**Mersin**	**1.21**	**244**	PN	**Pg**	**05 20 43.8**	**-0.2**
GZT	**Gaziantep** comp=Z,138nm,0.1s	**1.35**	**92**	IAML_P			
GZT				*i* P	**Pn**	**05 20 44.2**	**-0.4**
KERG	**Konya-Eregli** comp=Z,175nm,0.2s	**1.39**	**270**	IAML_P			
KERG				*i* P	**Pn**	**05 20 45.0**	**-0.1**
BNN	**Bunyan**	**1.43**	**359**	PN	**Pg**	**05 20 49.9**	**+1.6**
KIZK	**Mersin**	**1.67**	**237**	PN	**Pb**	**05 20 51.4**	**+0.7**
DARE	**Darende-Malaty**	**1.72**	**47**	PN	**Pg**	**05 20 54.4**	**+0.8**

*NEIC **09** 05:20:21.5±1.0, 15°.45N×119°.89E, h35km±2km, mb4.4/17, Error ellipse: s-maj=27.1km s-min=15.6km az=79.0*
NEIC Felt [III PIVS] at Iba and [II PIVS] at Botolan, Castillejos and Palauig.
*ISCJB **09** 05:20:22.6±0.4, 15°.33N±0°.02×119°.80E±0°.04, h60km±4km, mb4.2/41, Error ellipse: s-maj=6.2km s-min=4.2km az=2.5*
*MAN **09** 05:20:22.2, 15°.33N×119°.78E, h25km, ML4.0, MS4.0*
*IDC **09** 05:20:28.2±0.9, 15°.25N×120°.08E, h100km±10km, mb3.7/28, mb1 3.9/28, mb1mx3.8/45, mbtmp4.1/28, MS3.4/13, Ms1 3.4/13, ms1mx3.2/36, Error ellipse: s-maj=18.5km s-min=11.2km az=72.0*
ISC 09 05:20:23.2±0.8, 15°.28N±0°.03×119°.79E±0°.05, h50km±7km, n80, σ1§77/88, mb4.3/47, MS3.4/12, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.50**	**13**	*e*P	**Pn**	**05 20 32.9**	**-1.6**
SCZP				*e*S	**Sn**	**05 20 40.7**	**-1.9**
BOLP	**Bolinao**	**1.10**	**6**	*e*P	**Pn**	**05 20 40.7**	**-1.5**
SMPP	**San Manuel, Pa**	**1.21**	**45**	*e*P	**Pn**	**05 20 42.7**	**-1.2**
SMPP				*e*S	**Sn**	**05 20 56.5**	**-2.7**
LUBP	**Lubang**	**1.60**	**164**	*e*P	**Pn**	**05 20 49.4**	**+0.3**
LUBP				*e*S	**Sn**	**05 21 07.1**	**-1.5**
TGY	**Tagaytay City**	**1.61**	**137**	P	**Pn**	**05 20 51.3**	**+2.0**
	786nm,0.3s,baz=323,slow=2.2,SNR=39						
TGY				S	**Sn**	**05 21 12.8**	**+3.7**
	1μm,0.3s,baz=298,slow=22,SNR=12						
TGY				LR	LR	05 21 29.5	
	comp=Z,572nm,19.2s,baz=40,slow=44						
TGY	**Tagaytay City**	**1.61**	**137**	*e*P	**Pn**	**05 20 51.1**	**+1.7**
TGY				*i* S	**Sn**	**05 21 02.5**	**-6.6**
BALP	**Baler**	**1.78**	**75**	*e*P	**Pn**	**05 20 50.9**	**-0.7**
BALP				*e*S	**Sn**	**05 21 11.8**	**-1.2**
POLP	**Polilio Island**	**2.15**	**105**	*e*P	**Pn**	**05 20 57.6**	**+1.0**
POLP				*e*S	**Sn**	**05 21 24.2**	**+2.2**
ABRA	**Dolores**	**2.51**	**20**	*e*P	**Pn**	**05 21 02.8**	**+1.2**
ABRA				*e*S	**Sn**	**05 21 31.1**	**+0.1**
CAUP	**Cauayan**	**2.56**	**50**	*e*P	**Pn**	**05 21 03.2**	**+1.0**
CAUP				*e*S	**Sn**	**05 21 37.1**	**+5.0**
BOAC	**Boac**	**2.69**	**132**	*e*P	**Pn**	**05 21 05.1**	**+1.0**
APYP	**Conner**	**2.92**	**28**	*e*P	**Pn**	**05 21 09.0**	**+1.8**
APYP				*e*S	**Sn**	**05 21 42.3**	**+1.4**
PALP	**Palanan**	**3.09**	**55**	*e*P	**Pn**	**05 21 11.2**	**+1.8**
PALP				*e*S	**Sn**	**05 21 50.9**	**+5.7**
SJMP	**San Jose**	**3.09**	**155**	*e*P	**Pn**	**05 21 11.8**	**+2.3**
SJMP				*e*S	**Sn**	**05 21 48.4**	**+3.2**
CVP	**Callao Caves**	**3.10**	**39**	*e*P	**Pn**	**05 21 10.2**	**+0.6**
CVP				*i* S	Sn	05 22 07.8	+22
BUSP	**Coron**	**3.29**	**173**	*e*P	**Pn**	**05 21 14.2**	**+2.0**
BUSP				*e*S	**Sn**	**05 21 48.2**	**-1.8**
AUQP	**San Andres**	**3.41**	**125**	*e*P	**Pn**	**05 21 16.3**	**+2.4**
ENPP	**El Nido**	**4.07**	**185**	*e*P	**Pn**	**05 21 24.3**	**+1.4**
PVCP	**Virac**	**4.55**	**111**	*e*P	**Pn**	**05 21 31.1**	**+1.6**
TWG	**Pinlang**	**7.59**	**9**	*e*Pn	**Pn**	**05 22 11.5**	**+0.2**
YULB	**Yu-li**	**8.19**	**10**	*e*Pn	**Pn**	**05 22 19.7**	**+0.2**
YOJ	**Yonaguni jima**	**9.62**	**18**	*e*Pn	Pn	05 22 33.7	-5.3
DAV	**Davao City (W)**	**9.94**	**145**	LR	LR	05 27 11.5	
	comp=Z,122nm,18.3s,baz=348,slow=41						
DLV	**T Lat**	**11.48**	**255**	*e*Pn	**Pn**	**05 23 05.9**	**+1.2**
DLV				*e*Sn	**Sn**	**05 25 15.4**	**+3.7**
SBUM	**Sibu**	**14.78**	**211**	*e*Pn	**Pn**	**05 23 51.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**20.20**	**282**	P	Pn	05 24 59.0	+2.8
	1.4nm,0.4s,baz=88,slow=7.8,SNR=8.4						
CMAR				LR	LR	05 33 27.2	
	comp=Z,149nm,18.8s,baz=178,slow=38						
JNU	**Nakatsue**	**20.41**	**28**	P	**P**	**05 24 55.9**	**-0.3**
	7.6nm,1.0s,baz=155,slow=5.9,SNR=4.8						
JNU				LR	LR	05 32 36.1	
	comp=Z,47nm,20.5s,baz=184,slow=36						
KSRS	**Korea Array**	**23.23**	**17**	P	**P**	**05 25 25.2**	**-0.8**
	1.1nm,0.6s,baz=199,slow=11,SNR=5.0						
KSRS				LR	LR	05 34 01.3	
	comp=Z,66nm,22.0s,baz=195,slow=35						
FITZ	**Fitzroy Crossi**	**33.67**	**170**	P	**P**	**05 26 58.9**	**-0.6**
	1.6nm,0.7s,baz=0.0,slow=7.1,SNR=3.6						
SONM	**Songino Array**	**34.30**	**344**	P	**P**	**05 27 05.4**	**+0.4**
	1.1nm,0.8s,baz=170,slow=8.8,SNR=4.1						
SONM				LR	LR	05 42 11.0	
	comp=Z,63nm,19.1s,baz=39,slow=38						
ASAJ	**Asahikawa**	**34.66**	**29**	LR	LR	05 40 23.2	
	comp=Z,62nm,21.6s,baz=338,slow=35						
KLR	**Kul'dur**	**35.24**	**14**	P	**P**	**05 27 11.8**	**-1.1**
	2.0nm,0.8s,baz=213,slow=7.6,SNR=4.1						
KLR				LR	LR	05 41 40.6	
	comp=Z,56nm,19.4s,baz=190,slow=36						
WRA	**Warramunga Arr**	**37.82**	**157**	P	**P**	**05 27 32.4**	**-2.7**
	3.2nm,0.8s,baz=338,slow=9.6,SNR=2.3						
ASAR	**Alice Springs**	**41.10**	**160**	P	**P**	**05 28 00.7**	**-1.8**
	1.9nm,0.5s,baz=338,slow=6.7,SNR=19						
CTA	**Charters Tower**	**43.73**	**143**	P	**P**	**05 28 22.1**	**-1.7**
	4.5nm,0.8s,baz=336,slow=10.0,SNR=2.9						
MKAR	**Makanchi Array**	**44.24**	**323**	P	**P**	**05 28 29.0**	**+1.2**
	0.4nm,0.5s,baz=121,slow=8.8,SNR=6.7						
MKAR				LR	LR	05 49 07.4	
	comp=Z,42nm,18.6s,baz=134,slow=39						
ZAA0	**Zalesovo Array**	**47.25**	**333**	*e*P	P	05 28 46.3	-5.0
	5.4nm,0.8s						
ZALV	**Zalesovo Beam**	**47.25**	**333**	LR	LR	05 49 28.3	
	comp=Z,37nm,20.0s,baz=256,slow=37						
AAK	**Ala-Archa**	**47.33**	**314**	LR	LR	05 51 03.6	
	comp=Z,58nm,18.9s,baz=69,slow=39						
PETK	**Petropavlovsk-**	**48.08**	**30**	P	**P**	**05 28 57.7**	**-0.1**
	6.7nm,0.8s,baz=193,slow=4.9,SNR=8.5						
PETK				LR	LR	05 49 17.7	
	comp=Z,31nm,19.1s,baz=262,slow=36						
KURBB	**Kurchatov Arra**	**48.39**	**326**	P	**P**	**05 29 00.8**	**+0.6**
	1.3nm,0.7s,baz=122,slow=8.2,SNR=13						
KURK	**Kurchatov**	**48.39**	**326**	*e*P	**P**	**05 29 00.5**	**+0.3**
	2.8nm,0.6s						
GAR	**Garm**	**49.24**	**309**	*e*P	**P**	**05 29 07.0**	**-0.1**
	5.9nm,0.8s						
MA2	**Magadan**	**49.71**	**20**	P	**P**	**05 29 08.7**	**-1.4**
	1.5nm,0.3s,baz=119,slow=10,SNR=4.0						
MA2				LR	LR	05 50 32.8	
	comp=Z,33nm,19.0s,baz=206,slow=36						
KK31	**Karatay Array**	**50.25**	**314**	*e*P	**P**	**05 29 13.7**	**-0.8**
	2.0nm,0.8s						
KKAR	**Karatay Array**	**50.25**	**314**	*e*P	**P**	**05 29 13.7**	**-0.8**
	2.0nm,0.8s						
STKA	**Stephens Creek**	**51.34**	**156**	P	**P**	**05 29 21.6**	**-1.2**
	0.6nm,0.4s,baz=320,slow=7.9,SNR=2.8						
SEY	**Seymchan**	**52.78**	**18**	P	**P**	**05 29 33.4**	**+0.4**
	2.7nm,0.6s,baz=205,slow=10,SNR=4.5						
BVAR	**Borovoye Array**	**53.98**	**325**	P	**P**	**05 29 43.3**	**+1.3**
	0.4nm,0.5s,baz=115,slow=9.7,SNR=3.7						
TIXI	**Tiksi**	**56.61**	**3**	*e*P	**P**	**05 29 59.8**	**-0.9**
	4.9nm,0.5s						
TIXI				*e*S	**S**	**05 37 48.8**	**0.0**
TIXI	**Tiksi**	**56.61**	**3**	P	**P**	**05 30 00.2**	**-0.4**
	2.5nm,0.5s,baz=154,slow=4.6,SNR=12						
NRIK	**Noril'sk**	**57.68**	**347**	P	**P**	**05 30 08.8**	**+0.5**
	2.9nm,0.7s,baz=121,slow=5.9,SNR=3.1						
ABKAR	**Akbulak array**	**58.97**	**319**	*e*P	**P**	**05 30 16.4**	**-1.3**
	2.2nm,0.9s						
AKTO	**Aktyubinsk**	**60.44**	**320**	P	**P**	**05 30 27.8**	**0.0**
	0.8nm,0.4s,baz=118,slow=7.2,SNR=2.9						
KBZ	**Khabaz**	**70.18**	**311**	P	**P**	**05 31 32.2**	**+1.4**
	1.3nm,0.7s,baz=94,slow=4.6,SNR=3.9						
RAO	**Raoul Island**	**74.64**	**127**	*e*P	**P**	**05 31 57.8**	**+0.1**
	2μm,0.5s						
CAST	**Castle Rocks**	**75.63**	**28**	*e*P	**P**	**05 32 02.5**	**-0.3**
	5.8nm,0.9s						
BPAW	**Bear Paw Mtn.**	**76.05**	**27**	*e*P	**P**	**05 32 03.9**	**-1.3**
	2.7nm,0.7s						
MLY	**Manley**	**76.06**	**26**	*e*P	**P**	**05 32 05.1**	**-0.1**
	2.6nm,0.8s						
RND	**Reindeer**	**77.08**	**27**	*e*P	**P**	**05 32 09.7**	**-1.4**
	3.4nm,1.1s						
MDM	**Murphy Dome**	**77.12**	**26**	*e*P	**P**	**05 32 10.0**	**-1.3**
	2.4nm,0.8s						
ARCES	**ARCESS Array B**	**77.30**	**339**	P	**P**	**05 32 12.0**	**-0.1**
	2.2nm,0.5s,baz=72,slow=6.1,SNR=16						
BRTR	**Keskin Array B**	**77.48**	**308**	P	**P**	**05 32 16.7**	**+2.7**
	0.5nm,0.7s,baz=132,slow=5.6,SNR=2.8						
ILAR	**Eielson Array**	**77.72**	**26**	P	**P**	**05 32 13.0**	**-1.6**
	0.2nm,0.4s,baz=312,slow=4.7,SNR=3.8						
FINES	**FINESS Array B**	**78.48**	**331**	P	**P**	**05 32 19.0**	**+0.2**
	1.9nm,0.5s,baz=51,slow=5.7,SNR=16						
AKASG	**Malin Array Be**	**78.69**	**320**	P	**P**	**05 32 20.5**	**+0.3**
	0.2nm,0.4s,baz=67,slow=5.1,SNR=3.1						
RIDG	**Independent Ri**	**78.79**	**27**	*e*P	**P**	**05 32 19.1**	**-1.5**
	4.4nm,1.0s						
BUR08	**Bucovina Ar. S**	**81.91**	**317**	*e*P	**P**	**05 32 37.2**	**-0.5**
	12nm,1.7s						
NB2	**NORSAR Subarra**	**85.46**	**332**	P	**P**	**05 32 55.0**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=65,slow=4.6						
NOA	**NORSAR Array B**	**85.46**	**332**	P	**P**	**05 32 55.4**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=65,slow=4.6,SNR=12						
NC204	**NORSAR Array S**	**85.56**	**333**	*e*P	**P**	**05 32 55.6**	**-0.4**
	comp=Z,22nm,1.0s						
GERES	**GERESS Array B**	**88.86**	**321**	P	**P**	**05 33 12.7**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=64,slow=6.1,SNR=8.1						
GERES				LR	LR	06 16 31.8	
	comp=Z,30nm,18.9s,baz=76,slow=38						
MOA	**Molln**	**88.88**	**320**	*i* PcP	**P**	**05 33 12.7**	**+0.4**
	comp=Z,3.3nm,0.7s						
WTTA	**Wattenberg**	**90.75**	**320**	*i* PcP	**P**	**05 33 21.7**	**+0.5**
	comp=Z,4.6nm,0.8s						
WATA	**Walderalm**	**90.75**	**320**	*i* PcP	**P**	**05 33 21.8**	**+0.5**
	comp=Z,2.2nm,0.7s						
SQTA	**Sankt Quirin**	**91.03**	**320**	*i* PcP	**P**	**05 33 23.0**	**+0.5**
	comp=Z,5.4nm,0.7s						
MOTA	**Moosalm**	**91.04**	**320**	*i* PcP	**P**	**05 33 23.5**	**+0.8**
	comp=Z,4.5nm,0.8s						
FETA	**Feichten**	**91.41**	**320**	*i* PcP	**P**	**05 33 25.1**	**+0.8**
	comp=Z,5.0nm,0.8s						
YKA	**Yellowknife Ar**	**91.65**	**22**	P	**P**	**05 33 24.8**	**0.0**
	comp=Z,0.7nm,0.8s,baz=308,slow=4.5,SNR=20						
TXAR	**Lajitas Array**	**118.95**	**43**	PKP	**PKPdf**	**05 39 06.2**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=132,slow=1.9,SNR=4.2						

*IDC **09** 05:25:02.6±2.6, 14°.32N×91°.79W, h0km, mb3.9/4, mb1 4.3/5, mb1mx3.8/31, mbtmp3.8/5, ML3.7/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/25, Error ellipse: s-maj=130.3km s-min=45.0km az=50.0*
*MEX **09** 05:25:06.9±0.6, 13°.94N×92°.57W, h17km±24km, MD4.0*
*NEIC **09** 05:25:06.9±0.0, 13°.94N×92°.57W, h17km, mb4.2/40, MD4.0(MEX), After MEX.*
*UCR **09** 05:25:09.0±2.9, 13°.83N×92°.29W, h1km±51km, MD3.9, ML3.6, mb4.2(NEIC)*
*SNET **09** 05:25:11.8±0.8, 14°.34N×92°.15W, h15km±999km, ML3.8*
ISC 09 05:25:06.6±1.0, 14°.08N±0°.08×92°.59W±0°.07, h20km±6km, n96, σ1§17/110, mb4.2/30, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.88**	**21**	*e*Pg	**Pb**	**05 25 22.9**	**-0.3**
THIG				*e*Sn	**Sn**	**05 25 34.6**	**-1.4**
THIG		**0.88**	**21**	*e*P	**Pb**	**05 25 22.9**	**-0.3**
THIG				*i* S	**Sn**	**05 25 34.6**	**-1.4**
PCIG		**1.73**	**339**	*e*Pn	**Pn**	**05 25 34.1**	**-1.3**
PCIG				*e*Sn	**Sn**	**05 25 57.1**	**+0.2**
PCIG		**1.73**	**339**	*e*P	**Pn**	**05 25 34.1**	**-1.3**
PCIG				*i* S	**Sn**	**05 25 57.1**	**+0.2**
FUG	**Fuego 3**	**1.73**	**78**	*e*P	**Pn**	**05 25 36.6**	**+0.9**
PCG	**Pacaya**	**1.95**	**81**	*e*P	**Pn**	**05 25 40.1**	**+1.4**
PCG				*e*S	**Sb**	**05 26 05.9**	**+0.5**
IXG	**Ixpaco**	**2.07**	**87**	*e*P	**Pn**	**05 25 41.7**	**+1.3**
IXG				*e*S	**Sb**	**05 26 09.2**	**+0.2**
CCIG	**Comitan**	**2.23**	**11**	*e*Pn	**Pb**	**05 25 44.6**	**-1.7**
CCIG				*e*Sn	**Sn**	**05 26 10.5**	**+0.8**
CCIG	**Comitan**	**2.23**	**11**	*e*P	**Pn**	**05 25 42.7**	**+0.1**
CCIG				*i* S	**Sn**	**05 26 10.5**	**+0.8**
NBG	**Las Nubes**	**2.23**	**77**	*e*P	**Pb**	**05 25 45.3**	**-1.1**
NBG				*e*S	**Sb**	**05 26 13.8**	**+0.1**
TGIG		**2.73**	**349**	*e*Pn	**Pn**	**05 25 49.8**	**+0.4**
TGIG				*e*Sn	**Sn**	**05 26 22.4**	**+0.6**
TGIG		**2.73**	**349**	*e*P	**Pn**	**05 25 49.8**	**+0.4**
TGIG				*i* S	**Sn**	**05 26 22.4**	**+0.6**
RTR	**El Retiro**	**2.86**	**93**	*e*P	**Pn**	**05 25 51.9**	**+0.6**
RTR	**El Retiro**	**2.86**	**93**	*e*P	**Pn**	**05 25 51.9**	**+0.6**
CEVE	**Cerro Verde**	**2.89**	**95**	*e*P	**Pn**	**05 25 52.1**	**+0.4**
CEVE				*e*S	**Sn**	**05 26 24.4**	**-1.6**
CEVE				IAML		05 26 45.5	
	comp=Z,1μm,0.4s						
CEVE	**Cerro Verde**	**2.89**	**95**	*e*P	**Pn**	**05 25 52.1**	**+0.4**
CEVE				*e*S	**Sn**	**05 26 24.4**	**-1.6**
CEVE				IAML		05 26 45.5	
	comp=Z,1μm,0.4s						
SBLS	**San Blas**	**2.89**	**94**	*e*P	**Pn**	**05 25 52.4**	**+0.7**
SBLS				*e*S	**Sn**	**05 26 24.6**	**-1.4**
SBLS	**San Blas**	**2.89**	**94**	*e*P	**Pn**	**05 25 52.4**	**+0.7**
SBLS				*e*S	**Sn**	**05 26 24.6**	**-1.4**
SNJE	**San Jose**	**2.90**	**94**	*e*P	**Pn**	**05 25 53.0**	**+1.1**
SNJE	**San Jose**	**2.90**	**94**	*e*P	**Pn**	**05 25 53.0**	**+1.1**
MRL	**Marmol**	**2.97**	**70**	*e*P	**Pn**	**05 25 55.3**	**+2.6**
BOQS	**Boqueron**	**3.23**	**96**	*e*P	**Pn**	**05 25 57.2**	**+0.8**
BOQS				*e*S	**Sn**	**05 26 32.8**	**-1.6**
LFU	**La Fuente**	**3.39**	**95**	*e*P	**Pn**	**05 25 58.6**	**+0.1**
LFU	**La Fuente**	**3.39**	**95**	*e*P	**Pn**	**05 25 58.6**	**+0.1**
LFRS	**El Faro**	**3.46**	**97**	*e*P	**Pn**	**05 26 00.4**	**+1.0**
LBRS	**Las Brisas**	**3.46**	**95**	*e*P	**Pn**	**05 25 59.9**	**+0.5**
PAVA	**Las Pavas**	**3.56**	**95**	*e*P	**Pn**	**05 26 02.0**	**+1.1**
PAVA	**Las Pavas**	**3.56**	**95**	*e*P	**Pn**	**05 26 02.0**	**+1.1**
CMIG	**Matias Romero**	**3.72**	**324**	*e*Pn	**Pn**	**05 26 02.3**	**-0.6**
CMIG				*e*Sn	**Sn**	**05 26 46.4**	**+0.2**
CMIG	**Matias Romero**	**3.72**	**324**	*e*P	**Pn**	**05 26 02.3**	**-0.6**
CMIG				*i* S	**Sn**	**05 26 46.4**	**+0.2**
LCND	**La Caada**	**4.63**	**99**	*e*P	**Pn**	**05 26 16.7**	**+1.2**
LCND	**La Caada**	**4.63**	**99**	*e*P	**Pn**	**05 26 16.7**	**+1.2**
TGUH	**Tegucigalpa,Un**	**5.16**	**90**	*e*Pn	**Pn**	**05 26 24.1**	**+1.4**
ESTN	**Estel**	**6.13**	**98**	*e*Pn	**Pn**	**05 26 36.1**	**0.0**
LVIG	**Laguna Verde**	**6.70**	**327**	*e*Pn	**Pn**	**05 26 41.7**	**-2.1**
TLIG	**Tlapa**	**6.71**	**302**	*e*Pn	**Pn**	**05 26 46.4**	**+2.2**
TEIG	**Tepich**	**7.37**	**33**	*e*Pn	Pn	05 26 54.4	+1.3
ACON	**Acoyapa**	**7.53**	**105**	*e*Pn	**Pn**	**05 26 58.1**	**+2.9**
ESPN	**Las Esperanzas**	**8.29**	**102**	*e*Pn	**Pn**	**05 27 09.4**	**+3.7**
JTS	**Las Juntas de**	**8.36**	**116**	*e*Pn	Pn	05 27 13.4	+6.7
LTX	**Lajitas**	**18.32**	**328**	*e*P	**P**	**05 29 21.5**	**+1.8**
TXAR	**Lajitas Array**	**18.32**	**328**	*e*P	**Pn**	**05 29 19.2**	**-0.4**
TXAR	**Lajitas Array**	**18.32**	**328**	P	**P**	**05 29 21.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=13						
TXAR				LR	LR	05 37 51.8	
	comp=Z,32nm,19.4s,baz=0.0,slow=42						
TX31	**Lajitas Ar. Si**	**18.32**	**328**	*e*P	**P**	**05 29 21.1**	**+1.4**
	comp=Z,3.2nm,1.0s						
WHTX	**Lake Whitney,**	**18.38**	**347**	*e*P	**Pn**	**05 29 20.3**	**+0.1**
	comp=Z,6.9nm,0.6s						
TIGA	**Tifton**	**19.15**	**24**	*e*Sn	S	05 33 07.7	+2.7
WLAR	**White Oak Lake**	**19.52**	**359**	*e*P	**Pn**	**05 29 33.6**	**-0.5**
	comp=Z,9.8nm,1.0s						
LGNH	**Logne**	**19.68**	**74**	*e*P	**P**	**05 29 34.7**	**+0.2**
	comp=Z,57nm,1.0s						
ROSC	**El Rosal**	**20.21**	**115**	*e*P	Pn	05 29 43.3	+0.5
	comp=Z,3.9nm,0.7s						
MIAR	**Mount Ida**	**20.39**	**358**	*e*P	**P**	**05 29 42.3**	**+0.1**
	comp=Z,10nm,1.3s						
OXF	**Oxford**	**20.54**	**8**	*e*P	**P**	**05 29 44.4**	**+0.6**
	comp=Z,17nm,1.3s						
257A	**Skidaway Islan**	**20.72**	**29**	*e*P	**P**	**05 29 46.1**	**+0.4**
	comp=Z,100nm,0.9s						
GDL2	**Guadalupe Moun**	**21.00**	**331**	*e*P	**P**	**05 29 50.0**	**+1.0**
MET	**Memphis--Engin**	**21.09**	**6**	*e*P	**P**	**05 29 50.2**	**+0.5**
MNTX	**Cornudas Mount**	**21.09**	**328**	*e*P	**P**	**05 29 50.8**	**+1.0**
	comp=Z,12nm,1.6s						
Y52A	**Lilburn**	**21.16**	**20**	*e*P	**P**	**05 29 50.6**	**+0.1**
	comp=Z,4.4nm,0.6s						
PLAL	**Pickwick Lake**	**21.21**	**10**	*e*S	Sn	05 33 51.6	-1.5
Z56A	**Williston**	**21.71**	**26**	*e*P	**P**	**05 29 56.9**	**+0.5**
	comp=Z,14nm,0.9s						
HHAR	**Hobbs**	**22.14**	**357**	*e*P	**P**	**05 30 00.8**	**-0.2**
	comp=Z,4.9nm,1.3s						
AMTX	**Amarillo**	**22.28**	**340**	*e*P	**P**	**05 30 02.3**	**-0.4**
	comp=Z,5.8nm,0.8s						
T47A	**Sharon Grove**	**23.33**	**11**	*e*P	**P**	**05 30 12.7**	**-0.8**
	comp=Z,5.5nm,1.1s						
BNM	**Barren Site**	**23.68**	**330**	*e*P	**P**	**05 30 18.0**	**+0.7**
CCM	**Cathedral Cave**	**23.91**	**3**	*e*P	**P**	**05 30 19.1**	**0.0**
	comp=Z,6.4nm,1.4s						
ANMO	**Albuquerque**	**24.25**	**331**	*e*P	**P**	**05 30 22.8**	**+0.2**
	comp=Z,2.5nm,1.1s						
WCI	**Wyandotte Cave**	**24.69**	**12**	*e*P	**P**	**05 30 24.1**	**-2.1**
CNNC	**Cliffs of the**	**24.88**	**30**	*e*P	**P**	**05 30 28.0**	**0.0**
	comp=Z,20nm,0.6s						
T25A	**Trinidad**	**25.27**	**337**	*e*P	**P**	**05 30 32.8**	**+1.0**
	comp=Z,3.8nm,0.9s						
S22A	**4UR Ranch, Cre**	**26.75**	**334**	*e*P	**P**	**05 30 46.5**	**+1.1**
	comp=Z,2.9nm,1.1s						
CDVI	**St. Croix**	**26.99**	**79**	*e*P	**P**	**05 30 49.6**	**+2.4**
	comp=Z,41nm,0.9s						
MVCO	**Mesa Verde**	**27.05**	**331**	*e*P	**P**	**05 30 50.6**	**+2.7**
	comp=Z,4.6nm,0.9s						
WUAZ	**Wupatki**	**27.22**	**325**	*e*P	**P**	**05 30 48.5**	**-1.0**
	comp=Z,4.8nm,1.4s						
L40A	**Anamosa**	**27.91**	**2**	*e*P	**P**	**05 30 54.7**	**-0.5**
	comp=Z,14nm,1.6s						
PV12	**Saucer Basin,**	**28.09**	**332**	*e*P	**P**	**05 30 58.8**	**+1.6**
	comp=Z,6.8nm,1.0s						
PD31	**Pinedale Array**	**32.11**	**336**	*e*P	**P**	**05 31 32.5**	**-0.2**
	comp=Z,4.0nm,1.6s						
PDAR	**Pinedale Array**	**32.11**	**336**	P	**P**	**05 31 32.6**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=142,slow=7.5,SNR=5.0						
REDW	**Red Top Meadow**	**33.13**	**335**	*e*P	**P**	**05 31 42.0**	**+0.3**
	comp=Z,4.4nm,0.9s						
SNOW	**Snow King Moun**	**33.17**	**335**	*e*P	**P**	**05 31 42.6**	**+0.6**
	comp=Z,8.4nm,0.6s						
LOHW	**Long Hollow**	**33.24**	**336**	*e*P	**P**	**05 31 43.2**	**+0.6**
	comp=Z,2.3nm,0.8s						
NV01	**Mina Array Sit**	**33.25**	**322**	*e*P	**P**	**05 31 44.8**	**+2.0**
NVAR	**Mina Array Bea**	**33.25**	**322**	P	**P**	**05 31 44.8**	**+2.0**
	comp=Z,1.2nm,0.6s,baz=133,slow=8.3,SNR=12						
TPAW	**Teton Pass**	**33.27**	**335**	*e*P	**P**	**05 31 43.6**	**+0.7**
	comp=Z,4.5nm,1.1s						
VCNR	**Virginia City**	**34.61**	**322**	*e*P	**P**	**05 31 52.4**	**-2.2**
	comp=Z,5.5nm,0.9s						
DLMT	**Dillon**	**35.48**	**335**	*e*P	**P**	**05 32 02.3**	**+0.3**
	comp=Z,6.6nm,1.4s						
ULM	**Lac du Bonnet**	**36.17**	**356**	LR	LR	05 50 05.0	
	comp=Z,30nm,18.4s,baz=331,slow=42						
F10A	**Beach Ranch, E**	**37.97**	**332**	*e*P	**P**	**05 32 22.7**	**-0.3**
	comp=Z,6.1nm,1.0s						
YKA	**Yellowknife Ar**	**50.82**	**347**	P	**P**	**05 34 04.7**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=150,slow=7.4,SNR=86						
YKA				PcP	**PcP**	**05 35 21.3**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=148,slow=3.7,SNR=4.1						
YKB5	**Yellowknife Ar**	**50.82**	**347**	*e*P	**P**	**05 34 04.7**	**-0.6**
YKB5				*e*PcP	**PcP**	**05 35 21.3**	**-0.6**
YKW3	**Yellowknife Ar**	**50.88**	**347**	*e*P	**P**	**05 34 05.0**	**-0.8**
	comp=Z,3.9nm,0.8s						
ILAR	**Eielson Array**	**62.54**	**337**	P	**P**	**05 35 27.4**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=145,slow=5.0,SNR=8.5						
ILAR				LR	LR	06 04 01.3	
	comp=Z,22nm,18.2s,baz=318,slow=37						
ILB	**Eielson Array**	**62.54**	**337**	*e*P	**P**	**05 35 27.2**	**-1.5**
	comp=Z,2.2nm,1.0s						
RND	**Reindeer**	**62.71**	**335**	*e*P	**P**	**05 35 29.7**	**-0.2**
	comp=Z,3.8nm,1.0s						
MLY	**Manley**	**64.14**	**336**	*e*P	**P**	**05 35 38.6**	**-0.7**
	comp=Z,3.5nm,1.2s						
KURBB	**Kurchatov Arra**	**115.11**	**6**	PKP	**PKiKP**	**05 43 44.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=26,slow=2.4,SNR=3.0						
LZH	**Lanzhou**	**127.74**	**343**	*e*PKP	**PKPdf**	**05 44 11.9**	**+0.6**
LZH				pPKP	sPKPdf	05 44 22.3	+1.9
LZH				sPKP		05 44 28.0	
CM31	**Chiang Mai Arr**	**145.73**	**340**	*e*PKPdf	**PKPdf**	**05 44 44.1**	**-0.6**
CMAR	**

TRG				*e*S		**Sn**	**05 27 30.7**	**+1.6**
TRG				*e*			05 27 42.1	
TRG				pmax		pmax		
	comp=Z,135nm,0.3s							
TRG				smax		smax		
	comp=E,760nm,0.3s							
STDB	**Stepnoy Dvoret**	**3.43**	**94**	*e*Pn		**Pn**	**05 26 52.6**	**+2.9**
STDB				*e*Pg		**Pb**	**05 26 59.2**	**+2.2**
STDB				*e*			05 27 34.2	
STDB				*e*Sg		**Sg**	**05 27 44.7**	**-1.6**
KAB	**Kabansk**	**3.62**	**96**	*e*		**Pb**	**05 27 02.7**	**+2.4**
KAB				max			05 27 05.9	
	comp=E,425nm,0.5s							
KAB				*e*			05 27 27.6	
KAB				*e*			05 27 38.2	
KAB				*e*Sg		**Sg**	**05 27 49.8**	**-2.7**
KAB				Smax			05 27 59.0	
	comp=E,3μm,1.0s							
FFNB	**Fofonovo**	**3.69**	**96**	*e*Pg		**Pb**	**05 27 02.4**	**+0.9**
FFNB				Pmax			05 27 07.1	
	comp=E,191nm,0.5s							
FFNB				*e*			05 27 40.6	
FFNB				*e*Sg		**Sg**	**05 27 50.7**	**-4.0**
FFNB				*e*SgSg		**SbSb**	**05 27 54.2**	**+2.8**
FFNB				max				
	comp=E,561nm,1.1s							
ZRHB	**Zarechye**	**3.87**	**88**	*e*		**Pn**	**05 26 59.4**	**+3.6**
ZRHB				Pg		**Pb**	**05 27 07.2**	**+2.6**
ZRHB				Pmax			05 27 17.4	
	comp=E,219nm,1.0s							
ZRHB				*e*Sn		**Sn**	**05 27 42.7**	**+1.4**
ZRHB				*e*Sg		**Sg**	**05 27 59.1**	**-1.3**
ZRHB				Smax			05 28 10.6	
	comp=E,3μm,1.7s							
HRMR	**Khuramsha**	**3.90**	**101⇑**	*i*Pn		**Pn**	**05 26 58.6**	**+2.4**
HRMR				*e*Pg		**Pb**	**05 27 07.3**	**+2.2**
HRMR				Pmax			05 27 08.9	
	comp=E,326nm,0.4s							
HRMR				*e*			05 27 45.2	
HRMR				*e*Sg		**Sg**	**05 27 58.7**	**-2.8**
HRMR				Smax			05 28 00.9	
	comp=E,3μm,0.7s							
HRMR				*e*			05 28 03.0	
KZLR	**Kyzyl**	**4.01**	**260**	*e*Pg		**Pb**	**05 27 05.7**	**-1.2**
KZLR				Sg		**Sb**	**05 27 57.8**	**+2.4**
TRTB	**Turuntaevo**	**4.19**	**92**	*e*Pn		**Pn**	**05 27 01.5**	**+1.3**
TRTB				*e*			05 27 07.5	
TRTB				*e*Pg		**Pb**	**05 27 12.0**	**+2.0**
TRTB				*e*Sn		**Sn**	**05 27 51.0**	**+1.8**
TRTB				*e*Sg		**Sg**	**05 28 07.2**	**-3.5**
OGRR	**Ongureny**	**4.23**	**72**	*e*Pn		**Pn**	**05 27 03.1**	**+2.4**
OGRR				*e*Pg		**Pg**	**05 27 13.9**	**-3.3**
OGRR				Pmax			05 27 23.1	
	comp=E,76nm,0.3s							
OGRR				*e*Sn		**Sn**	**05 27 52.4**	**+2.2**
OGRR				*e*Sg		**Sg**	**05 28 10.6**	**-1.4**
OGRR				Smax			05 28 11.3	
	comp=E,2μm,0.9s							
OGRR				*e*			05 28 13.2	
OGRR	**Ongureny**	**4.23**	**72**	*e*PN		**Pn**	**05 27 03.1**	**+2.4**
OGRR				*e*			05 27 14.6	
OGRR				*e*			05 28 10.6	
OGRR				pmax		pmax		
	comp=Z,76nm,0.5s							
OGRR				smax		smax		
	comp=N,2μm,1.5s							
UUDB	**Ulan-Yde**	**4.27**	**97**	*e*Pn		**Pn**	**05 27 02.3**	**+1.0**
UUDB				Pg		**Pb**	**05 27 12.3**	**+0.9**
UUDB				Pmax			05 27 15.2	
	comp=N,93nm,0.7s							
UUDB				*e*Sg		**Sg**	**05 28 10.2**	**-3.1**
UUDB				Smax			05 28 12.9	
	comp=N,1μm,0.9s							
KELR	**Kotokel**	**4.43**	**85**	*e*		**Pn**	**05 27 06.1**	**+2.6**
KELR				*e*			05 27 11.5	
KELR				*e*Sn		**Sn**	**05 27 55.2**	**+0.1**
KELR				*e*			05 28 09.2	
KELR				*e*Sg		**Sg**	**05 28 14.0**	**-4.4**
MXMB	**Maximikha**	**4.86**	**79**	*e*Pn		**Pn**	**05 27 12.7**	**+3.4**
MXMB				*e*			05 27 21.7	
MXMB				*e*Sn		**Sn**	**05 28 07.0**	**+1.5**
MXMB				*e*Sg		**Sg**	**05 28 29.1**	**-2.9**
SYVR	**Suvo**	**5.64**	**75**	*e*Pn		**Pn**	**05 27 23.0**	**+2.9**
SYVR				max			05 27 24.8	
	comp=N,24nm,0.4s							
SYVR				*e*			05 27 29.9	
SYVR				*e*			05 28 16.7	
SYVR				*e*Sg		**Sg**	**05 28 53.8**	**-3.5**
SYVR				Smax			05 29 05.7	
	comp=N,353nm,1.3s							
SONM	**Songino Array**	**5.94**	**141**	Pn		**Pn**	**05 27 26.2**	**+2.0**
	comp=N,0.2nm,0.3s,baz=151,slow=6.4,SNR=5.1							
SONM				Pg		**Pb**	**05 27 41.0**	**+1.2**
	comp=N,9.8nm,0.3s,baz=324,slow=17,SNR=61							
SONM				Lg		Lg	05 29 00.2	
	comp=N,13nm,0.3s,baz=332,slow=22,SNR=12							
SONM				LR		LR	05 29 56.2	
	comp=N,170nm,19.8s,baz=272,slow=41							
NIZ	**Nizh Angarsk**	**6.05**	**54**	*e*Pn		**Pn**	**05 27 27.8**	**+2.1**
NIZ				max			05 27 28.7	
	comp=N,38nm,0.3s							
NIZ				*e*			05 27 32.0	
NIZ				*e*			05 27 36.0	
NIZ				*e*Sn		**Sn**	**05 28 35.1**	**+0.1**
NIZ				*e*Sg		**Sg**	**05 29 05.9**	**-4.5**
NIZ				Smax			05 29 10.1	
	comp=N,535nm,1.4s							
NIZ	**Nizh Angarsk**	**6.05**	**54**	*e*PN		**Pn**	**05 27 27.8**	**+2.1**
NIZ				*e*			05 27 46.6	
NIZ				*e*S		**Sn**	**05 28 36.8**	**+1.8**
NIZ				*e*			05 29 05.8	
NIZ				pmax		pmax		
	comp=Z,35nm,0.5s							
NIZ				smax		smax		
	comp=N,534nm,1.3s							
ULN	**Ulaanbaatar**	**6.17**	**137**	*i* PN		**Pn**	**05 27 25.5**	**-2.0**
YLYR	**Ulyunkhan**	**6.57**	**65⇓**	*i*Pn		**Pn**	**05 27 34.6**	**+1.8**
YLYR				max			05 27 38.1	
	comp=N,31nm,0.5s							
YLYR				*e*Sn		**Sn**	**05 28 49.0**	**+1.3**
YLYR				*e*Sg		**Sg**	**05 29 20.7**	**-6.2**
YLYR				Smax			05 29 31.4	
	comp=N,403nm,1.4s							
YLYR	**Ulyunkhan**	**6.57**	**65**	*e*PN		**Pn**	**05 27 34.8**	**+2.0**
YLYR				*e*			05 27 54.3	
YLYR				*e*S		**Sn**	**05 28 45.4**	**-2.3**
KMO	**Kumora**	**6.94**	**57⇑**	*i*Pn		**Pn**	**05 27 40.8**	**+2.9**
KMO				max			05 27 42.6	
	comp=N,101nm,0.3s							
KMO				*e*			05 28 50.0	
KMO				*e*Sn		**Sn**	**05 28 57.2**	**+0.3**
KMO				*e*Sg		**Sg**	**05 29 35.3**	**-3.6**
KMO				Smax			05 29 43.9	
	comp=N,1μm,1.4s							
YOA	**Uoyan**	**7.31**	**56**	*e*Pn		**Pn**	**05 27 45.8**	**+2.8**
YOA				*e*Sn		**Sn**	**05 29 04.7**	**-1.3**
YOA				*e*Sg		**Sg**	**05 29 46.0**	**-4.7**
YOA				*e*			05 29 57.4	
YOA				max			05 30 12.9	
	comp=N,2μm,2.0s							
KPC	**Khapcheranga**	**7.82**	**107**	*e*Pn		**Pn**	**05 27 49.2**	**-0.8**
KPC				*e*			05 28 13.3	
KPC				max			05 28 21.4	
	comp=N,9.0nm,0.9s							
KPC				*e*Sg		**Sg**	**05 29 58.8**	**-8.2**
KPC				Smax			05 30 13.9	
	comp=N,155nm,1.6s							
CIT	**Chita**	**7.83**	**89**	*e*Sg		**Sg**	**05 30 02.8**	**-4.7**
CIT				Smax			05 30 07.4	
	comp=N,432nm,1.8s							
UKT	**Uakit**	**8.10**	**64**	*e*Pn		**Pn**	**05 27 55.2**	**+1.4**
UKT				*e*			05 28 06.1	
UKT				max			05 28 06.9	
	comp=N,16nm,0.5s							
UKT				*e*Sn		**Sn**	**05 29 25.5**	**+0.1**
UKT				*e*Sg		**Sg**	**05 30 10.5**	**-5.4**
UKT				Smax			05 30 12.7	
	comp=N,241nm,2.0s							
BOD	**Bodaibo**	**9.20**	**50**	*e*Pn		**Pn**	**05 28 10.9**	**+2.1**
BOD				*e*			05 29 52.0	
BOD				*e*Sn		Sn	05 30 13.8	+22
BOD				*e*Sg			05 30 45.8	
BOD				Smax			05 30 51.6	
	comp=N,134nm,1.6s							
VTMR	**Vitim**	**9.52**	**39**	*e*Pn		**Pn**	**05 28 13.9**	**+0.7**
VTMR				*e*Sn		**Sn**	**05 29 58.8**	**-1.2**
VTMR				*e*Sg			05 30 55.5	
ZALV	**Zalesovo Beam**	**9.69**	**285**	Pg		Pn	05 28 45.2	+30
	comp=N,0.4nm,0.3s,baz=88,slow=12,SNR=6.4							
ZALV				Lg		Lg	05 30 54.3	
	comp=N,1.1nm,0.3s,baz=109,slow=26,SNR=8.2							
ZALV				LR		LR	05 32 35.9	
	comp=N,11nm,19.0s,baz=44,slow=40							
CRS	**Chara**	**10.98**	**60**	*e*			05 30 58.3	
CRS				*e*Sg			05 31 38.7	
CRS				Smax			05 32 00.4	
	comp=N,119nm,1.4s							
TUP	**Tupik**	**11.55**	**73**	*e*Pn		**Pn**	**05 28 44.0**	**+2.9**
TUP				*e*			05 28 53.2	
TUP				max			05 28 53.8	
	comp=N,2.0nm,1.0s							
TUP				*e*Sg			05 31 58.0	
TUP				*e*			05 32 14.2	
TUP				max			05 32 16.9	
	comp=N,126nm,1.6s							
HIA	**Hailar**	**12.39**	**98⇓**	*e*P		**Pn**	**05 28 54.7**	**+2.2**
MKAR	**Makanchi Array**	**13.29**	**252**	Pg		Pg	05 30 02.5	
	comp=N,0.1nm,0.3s,baz=69,slow=14,SNR=3.3							
MKAR				Lg		Lg	05 32 49.8	
	comp=N,0.1nm,0.3s,baz=66,slow=32,SNR=5.8							
MKAR				LR		LR	05 34 15.3	
	comp=N,58nm,21.2s,baz=74,slow=36							
KURBB	**Kurchatov Arra**	**13.98**	**271**	Lg		Lg	05 33 09.0	
	baz=80,slow=29,SNR=6.4							
NRIK	**Noril'sk**	**17.95**	**345**	Sn		**Sn**	**05 33 17.0**	**-8.3**
	comp=N,0.3nm,0.3s,baz=90,slow=20,SNR=3.3							
NRIK				Lg		LR	05 35 09.0	
	comp=N,0.5nm,0.3s,baz=276,slow=19,SNR=1.9							
NRIK				LR		LR	05 36 27.8	
	comp=N,29nm,19.9s,baz=238,slow=35							
BVAR	**Borovoye Array**	**18.34**	**284**	P		**P**	**05 30 14.8**	**+4.2**
	comp=N,0.1nm,0.3s,baz=77,slow=14,SNR=3.2							
BRVK	**Borovoye**	**18.40**	**284⇓**	*e*P		**Pn**	**05 30 08.7**	**-2.4**
KLR	**Kul'dur**	**19.72**	**87⇑**	*e*P		**Pn**	**05 30 28.5**	**+1.4**
KLR				pmax		pmax		
	comp=Z,8.0nm,1.7s							
AAK	**Ala-Archa**	**20.23**	**251⇓**	*e*P		**P**	**05 30 28.7**	**-2.7**
AAK				pmax		pmax		
	comp=Z,4.0nm,1.6s							
AAK	**Ala-Archa**	**20.23**	**251**	P		Pn	05 30 36.9	+3.6
	comp=Z,1.1nm,0.4s,baz=249,slow=2.2,SNR=3.7							
TIXI	**Tiksi**	**22.80**	**23⇑**	*e*P		**P**	**05 30 58.8**	**+0.2**
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.7s							
TIXI	**Tiksi**	**22.80**	**23**	P		**P**	**05 30 58.7**	**+0.2**
	comp=Z,4.0nm,0.4s,baz=242,slow=6.4,SNR=8.5							
KIRV	**Kirov**	**29.05**	**303**	LR		LR	05 44 07.8	
	comp=Z,23nm,20.4s,baz=174,slow=37							
CMAR	**Chiang Mai Arr**	**34.06**	**183**	LR		LR	05 47 49.7	
	comp=Z,48nm,19.4s,baz=285,slow=38							
FINES	**FINESS Array B**	**39.48**	**313**	P		**P**	**05 33 30.0**	**+3.7**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**39.48**	**313**	P		**P**	**05 33 30.0**	**+3.7**
	comp=Z,0.8nm,0.7s,baz=22,slow=15,SNR=1.5							
ANN	**Anapa**	**41.33**	**285**	*e*P		**P**	**05 33 38.7**	**-3.0**
ANN				*e**PP		**pP**	**05 33 42.5**	**-3.0**
ANN				*e*			05 35 12.4	
ANN				*e*PPP		PPP	05 35 39.8	
ANN				*e*S		**S**	**05 39 53.8**	**-2.0**
ANN				*e*SS		**SS**	**05 42 55.5**	**-3.6**
ANN				pmax		pmax		
	comp=Z,27nm,1.0s							
AKASG	**Malin Array Be**	**42.79**	**297**	P		P	05 33 59.8	+6.1
	comp=Z,0.5nm,0.5s,baz=55,slow=8.5,SNR=3.8							
YKA	**Yellowknife Ar**	**61.94**	**18**	P		**P**	**05 36 16.4**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=335,slow=6.6,SNR=8.2							
FFC	**Flin Flon**	**71.42**	**14**	*i* P		**P**	**05 37 18.2**	**+2.1**
WRA	**Warramunga Arr**	**77.86**	**148**	P		**P**	**05 37 57.0**	**+3.2**
	comp=Z,0.8nm,1.0s,baz=350,slow=6.6,SNR=2.6							
ASAR	**Alice Springs**	**81.21**	**150**	P		**P**	**05 38 15.8**	**+3.8**
	comp=Z,0.5nm,0.8s,baz=344,slow=6.1,SNR=2.9							
NVAR	**Mina Array Bea**	**83.21**	**30**	P		**P**	**05 38 24.2**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=324,slow=5.8,SNR=3.4							

MEX 09 05:46:52.9±0.7, 17°.22N×99°.88W, h15km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.40**	**246**	*e*P		Pg 05 47 00.3	-0.7
CAIG				*i* S		Sg 05 47 05.0	-1.6
MEIG	**Mezcala**	**0.75**	**20**	*e*P		Pg 05 47 04.4	-3.2
MEIG				*e*S		Sg 05 47 14.8	-2.7
ARIG	**Puente Sto Nin**	**1.15**	**337**	*e*P		Pn 05 47 10.9	-3.5
ARIG				*i* S		Sb 05 47 25.1	-4.1
PLIG	**Platanillo**	**1.23**	**17**	*i* P		Pn 05 47 12.1	-3.5
PLIG				*i* S		Sb 05 47 26.1	-5.4
TLIG	**Tlapa**	**1.30**	**74**	*i* P		Pn 05 47 13.0	-3.7
TLIG				*i* S		Sb 05 47 28.6	-5.2

MEX 09 05:53:00.4±0.6, 16°.60N×98°.42W, h6km±8km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**0.97**	**352**	*e*P		Pg 05 53 16.2	-2.9
TLIG				*i* S		Sg 05 53 28.9	-2.8
CAIG	**El Cayaco**	**1.83**	**285**	*i* P		Pn 05 53 29.8	-2.7
CAIG				*i* S		Sn 05 53 51.2	-4.7

MEX 09 05:55:17.9±0.6, 27°.87N×111°.89W, h10km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.63**	**210**	*e*P		Pg 05 55 28.7	-1.5
SRIG				*e*S		Sg 05 55 37.6	-0.8
GUYB	**Guaymas**	**0.90**	**88**	*e*P		Pg 05 55 32.6	-2.7
GUYB				*i* S		Sg 05 55 43.8	-3.2
HSIG		**1.41**	**36**	*i* P		Pn 05 55 40.5	-3.2
HSIG				*i* S		Sn 05 55 58.0	-4.4

*IDC **09** 06:25:40.7±2.3, 47°.77N×154°.01E, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.6/32, mbtmp3.6/9, ML2.9/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/29, Error ellipse: s-maj=59.0km s-min=29.8km az=8.0*

*KRSC **09** 06:25:50.3±10.0, 48°.13N×156°.68E, h15km±10km, ML4.0*

ISC 09 06:25:47.6±1.1, 48°.1N±0°.1×154°.8E±0°.2, h27km, n33, σ2s22/35, mb3.6/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.74**	**18**	*e*P		**Pn**	**06 26 32.1**	**+2.5**
SKR				*e*S		**Sn**	**06 27 03.6**	**+1.8**
PAU	**Pauzhetka**	**3.63**	**21**	*e*P		**Pn**	**06 26 44.7**	**+2.8**
PAU				*e*S		**Sn**	**06 27 25.6**	**+1.9**
KDTR	**Khodutka, Kamc**	**4.29**	**29**	*e*P		**Pn**	**06 26 52.0**	**+1.0**
KDTR				*e*S		**Sn**	**06 27 37.8**	**-2.3**
MTVR	**Mutnovka**	**4.91**	**25**	*e*P		**Pn**	**06 27 01.2**	**+1.6**
RUS	**Russkaya**	**4.96**	**28**	*e*P		**Pn**	**06 27 01.1**	**+0.9**
RUS				*e*S		**Sn**	**06 27 54.4**	**-2.3**
KRMR	**Karymshinskiy**	**5.20**	**23**	*e*P		**Pn**	**06 27 06.6**	**+3.1**
KRMR				*e*S		**Sn**	**06 28 03.5**	**+0.9**
PETK	**Petropavlovsk-**	**5.36**	**19**	Pn		**Pn**	**06 27 09.0**	**+3.4**
	1.7nm,0.3s,baz=180,slow=11,SNR=26							
PETK				Sn		**Sb**	**06 28 22.9**	**-1.2**
	baz=142,slow=14,SNR=1.6							
PETK				LR		LR	06 29 21.1	
	comp=Z,43nm,20.5s,baz=158,slow=38							
DALK	**Dalny**	**5.56**	**26**	*e*P		**Pn**	**06 27 09.8**	**+1.4**
DALK				*e*S		**Sn**	**06 28 08.9**	**-2.4**
UGLR	**Uglovaya**	**5.73**	**25**	*e*P		**Pn**	**06 27 12.9**	**+2.0**
KOK	**Koryaka**	**5.75**	**24**	*e*P		**Pn**	**06 27 14.2**	**+3.0**
AVH	**Avacha**	**5.76**	**25**	*e*P		**Pn**	**06 27 13.9**	**+2.7**
SMAR	**Somma**	**5.77**	**25**	*e*P		**Pn**	**06 27 13.4**	**+1.8**
KRER	**Koryakskii**	**5.80**	**24**	*e*P		**Pn**	**06 27 13.7**	**+1.8**
SDLR	**Sedlovina**	**5.81**	**25**	*e*P		**Pn**	**06 27 13.9**	**+1.9**
KRX	**Arik**	**5.82**	**24**	*e*P		**Pn**	**06 27 15.9**	**+3.8**
NLC	**Nalytchevo**	**5.86**	**28**	*e*S		**Sn**	**06 28 16.2**	**-2.5**
SPN	**Mys Shipunski**	**6.02**	**32**	*e*P		**Pn**	**06 27 14.5**	**-0.3**
SPN				*e*S		**Sn**	**06 28 18.9**	**-3.9**
MKZ	**Mys Kozlova**	**7.80**	**31**	*e*P		**Pn**	**06 27 39.2**	**+0.1**
KBTR	**Krutoberegovo**	**9.51**	**28**	*e*P		**Pn**	**06 28 03.4**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**29.96**	**157**	T		T	07 03 48.5	
	baz=344,slow=76,SNR=15							
H11N1	**WAKE ISLAND Hy**	**29.98**	**157**	T		T	07 03 33.6	
	baz=344,slow=76,SNR=20							
H11N3	**WAKE ISLAND Hy**	**29.98**	**157**	T		T	07 03 36.7	
	baz=344,slow=76,SNR=9.0							
H11S1	**WAKE ISLAND Hy**	**31.08**	**158**	T		T	07 04 58.1	
	baz=344,slow=76,SNR=103							
H11S3	**WAKE ISLAND Hy**	**31.09**	**158**	T		T	07 04 58.7	
	baz=344,slow=76,SNR=246							
H11S2	**WAKE ISLAND Hy**	**31.10**	**158**	T		T	07 04 59.5	
	baz=344,slow=76,SNR=118							
INK	**Inuvik**	**39.91**	**33**	P		**P**	**06 33 20.1**	**+1.4**
	0.8nm,0.7s,baz=284,slow=4.8,SNR=5.7							
YKA	**Yellowknife Ar**	**49.17**	**38**	P		**P**	**06 34 34.0**	**+1.3**
	0.3nm,0.8s,baz=299,slow=7.5,SNR=6.2							
NVAR	**Mina Array Bea**	**60.83**	**64**	P		**P**	**06 35 58.0**	**+0.5**
	0.5nm,0.6s,baz=306,slow=6.6,SNR=5.3							
PDAR	**Pinedale Array**	**63.06**	**55**	P		**P**	**06 36 14.5**	**+2.0**
	0.2nm,0.6s,baz=285,slow=3.5,SNR=3.2							
FINES	**FINESS Array B**	**63.29**	**335**	P		**P**	**06 36 10.9**	**-2.4**
	2.2nm,1.0s,baz=24,slow=7.4,SNR=6.6							
AKASG	**Malin Array Be**	**71.04**	**327**	P		**P**	**06 37 00.8**	**-1.9**
	0.3nm,0.3s,baz=31,slow=6.4,SNR=2.5							
TXAR	**Lajitas Array**	**75.86**	**62**	P		**P**	**06 37 32.9**	**+1.3**
	0.4nm,0.6s,baz=285,slow=4.1,SNR=7.3							
GERES	**GERESS Array B**	**77.72**	**335**	P		**P**	**06 37 39.4**	**-2.3**
	0.5nm,0.6s,baz=32,slow=5.3,SNR=5.0							

ATH 09 06:26:55.2, 38°.53N×23°.24E, h24km±2km, ML1.3/3, Error ellipse: s-maj=2.5km s-min=0.6km az=320.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.23**	**303**	P		Pb 06 27 01.2	+0.1
LKR	**Lokris**	**0.23**	**303**	P		Pb 06 27 01.1	0.0
LKR				S		Sb 06 27 05.0	-0.1
ATAL	**Atalanti**	**0.24**	**314**	P		Pb 06 27 01.4	+0.2
ATAL				S		Sb 06 27 06.0	+0.6
ATAL	**Atalanti**	**0.24**	**314**	P		Pb 06 27 01.3	0.0
ATAL				S		Sb 06 27 06.1	+0.7
VIL2	**Platees**	**0.32**	**176**	P		Pb 06 27 03.3	+0.8
VIL2				S		Sn 06 27 09.1	-1.2
VIL2				AML	AML	06 27 09.7	
	comp=E,88μm,0.5s						
VIL2				AML	AML	06 27 09.9	
	comp=N,64μm,0.3s						
VIL2	**Platees**	**0.32**	**176**	P		Pb 06 27 03.2	+0.8
VIL2				S		Sn 06 27 09.1	-1.2
VIL2				AML	AML	06 27 09.9	
	comp=N,64μm,0.3s						
VIL2				AML	AML	06 27 17.4	
	comp=E,137μm,0.8s						
MRKA	**Markates**	**0.32**	**57**	P		Pb 06 27 02.5	-0.1
MRKA				S		Sb 06 27 08.4	+0.9
MRKA	**Markates**	**0.32**	**57**	P		Pb 06 27 02.4	-0.1
MRKA				S		Sb 06 27 08.6	+1.0
MRKA				AML	AML	06 27 09.8	
	comp=E,185μm,0.8s						
MRKA				AML	AML	06 27 11.4	
	comp=N,101μm,0.7s						
PROD	**Prodromos**	**0.38**	**225**	P		Pb 06 27 03.7	+0.3
PROD				S		Sn 06 27 11.0	-0.9
PROD	**Prodromos**	**0.38**	**225**	P		Pb 06 27 03.6	+0.1
PROD				S		Sb 06 27 09.8	+0.8
PROD				AML	AML	06 27 13.2	
	comp=E,134μm,0.2s						
PROD				AML	AML	06 27 13.5	
	comp=N,158μm,0.3s						
DSF	**Desfina**	**0.57**	**258**	P		Pn 06 27 07.6	-0.4
DSF				S		Sn 06 27 17.3	+0.6

*BJI **09** 07:05:16.3±0.0, 0°.95N×127°.38E, h131km, mb4.9/48, mB4.9/27*

*ISCJB **09** 07:05:20.0±0.3, 1°.40N±0°.02×127°.10E±0°.03, h130km±3km, mb4.8/152, Error ellipse: s-maj=4.8km s-min=2.8km az=171.6*

*NEIC **09** 07:05:21.8±1.7, 1°.38N×127°.06E, h133km±5km, mb4.8/104, Error ellipse: s-maj=13.2km s-min=8.3km az=217.0*

*IDC **09** 07:05:21.3±1.6, 1°.35N×127°.07E, h129km±13km, mb4.2/25, mb1 4.3/27, mb1mx4.3/31, mbtmp4.6/27, MS3.3/2, Ms1 3.3/2, ms1mx2.8/23, Error ellipse: s-maj=17.5km s-min=8.3km az=79.0*

*DJA **09** 07:05:21.0±0.3, 1°.N±3°.×12°.7E±°, h120km±3km, M4.6/18, mB4.7/4, mb4.7/18, MLv4.8/9, Mw(mB)4.0/4*

*MOS **09** 07:05:21.9±0.9, 1°.39N×127°.06E, h151km, mb4.7/27, Error ellipse: s-maj=12.9km s-min=6.0km az=97.7*

ISC 09 07:05:21.6±0.4, 1°.37N±0°.03×127°.05E±0°.05, h133km±3km, h135km±pP-P, n297, σ1s38/342, mb4.8/152, 8C-16D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.68**	**152**	*e*Pn		**Pn**	**07 05 41.8**	**-0.3**
TNTI				*e*Sn		**Sn**	**07 05 57.5**	**-0.2**
TNTI	**Ternate**	**0.68**	**152**	P		**Pn**	**07 05 41.4**	**-0.7**
TNTI				S		**Sn**	**07 05 58.0**	**+0.3**
SGSI	**Sangihe**	**2.75**	**327**	P		**Pn**	**07 06 03.9**	**-1.3**
SGSI				S		**Sn**	**07 06 36.3**	**-2.5**
KMSI	**Cibinong**	**3.17**	**256**	P		**Pn**	**07 06 09.9**	**-0.6**
KMSI				S		**Sn**	**07 06 49.6**	**+1.3**
SANI	**Sanana**	**3.56**	**197**	P		**Pn**	**07 06 14.2**	**-1.5**
SANI				S		**Sn**	**07 06 52.2**	**-5.3**
DDMP	**Don Marcelino,**	**4.89**	**344**	*e*P		**Pn**	**07 06 30.9**	**-2.4**
DDMP				*e*S		Sn	07 07 16.9	-12
LUWI	**Luwuk**	**4.90**	**241**	*e*Pn		**Pn**	**07 06 31.8**	**-1.7**
LUWI				*e*Sn		**Sn**	**07 07 25.2**	**-4.2**
LUWI	**Luwuk**	**4.90**	**241**	P		**Pn**	**07 06 35.2**	**+1.7**
MRSI	**Marisa**	**5.18**	**260**	P		**Pn**	**07 06 38.4**	**+1.2**

FITZ	Fitzroy Crossi	19.40	184	P	P	07 09 36.7 -0.7
	baz=19,SNR=34					
FITZ	Fitzroy Crossi	19.40	184	P	P	07 09 37.0 -0.4
	1.9nm,0.3s,baz=19,slow=8.7,SNR=48					
COEN	Coen	22.08	134	eP	P	07 10 05.1 -1.0
	36nm,1.1s					
COEN	Coen	22.08	134	P	P	07 10 05.4 -0.8
	baz=22,SNR=5.8					
TWG	Pinlang	22.10	345	eP	P	07 10 05.7 -0.5
	98nm,0.7s					
WRAB	Tennant Creek	22.35	162	eP	P	07 10 07.4 -1.4
	94nm,1.1s					
WRAB	Tennant Creek	22.35	162	c iP	P	07 10 07.9 -0.9
WRAB				pmax	pmax	
	comp=Z,22nm,0.6s					
WRA	Warramunga Arr	22.36	162	i P	P	07 10 07.9 -1.0
WRA				pmax	pmax	
	comp=Z,23nm,0.3s					
WRA	Warramunga Arr	22.36	162	P	P	07 10 07.9 -1.0
	comp=Z,27nm,0.5s,baz=340,slow=11,SNR=173					
WRA				ScP	ScP	07 17 24.2 -0.6
	comp=Z,2.5nm,0.8s,baz=341,slow=2.8,SNR=11					
WR1	Warramunga Arr	22.36	162	eP	P	07 10 07.9 -1.0
WR1				eScP	ScP	07 17 24.2 -0.6
WB2	Warramunga Arr	22.36	162	eP	P	07 10 08.0 -0.9
	comp=Z,77nm,0.9s					
WC3	Warramunga Arr	22.38	162	eP	P	07 10 08.4 -0.7
	comp=Z,68nm,0.8s					
WC3	Warramunga Arr	22.38	162	P	P	07 10 08.0 -1.1
	baz=22					
YULB	Yu-li	22.59	346	eP	P	07 10 10.0 -1.1
	comp=Z,15nm,0.8s					
TPUB	Ta-pu	22.67	345	eP	P	07 10 11.2 -0.7
	comp=Z,58nm,0.9s					
SSLB	Suanglung	23.05	346	eP	P	07 10 15.2 -0.3
	comp=Z,37nm,0.9s					
MBWA	Marble Bar	23.51	197	eP	P	07 10 19.9 +0.2
	comp=Z,25nm,0.8s					
PSAD1	Pilbara Seismi	23.76	197	eP	P	07 10 23.1 +1.1
	comp=Z,17nm,0.6s					
YHNB	Yeheng	23.80	347	eP	P	07 10 22.7 +0.3
	comp=Z,39nm,0.7s					
PSAC1	Pilbara Seismi	23.84	197	eP	P	07 10 23.7 +1.0
	comp=Z,21nm,0.8s					
PSAC2	Pilbara Seismi	23.84	197	eP	P	07 10 23.2 +0.4
	comp=Z,25nm,0.8s					
PSAB2	Pilbara Seismi	23.85	197	eP	P	07 10 22.7 -0.1
	comp=Z,30nm,0.7s					
PSAA2	Pilbara Seismi	23.86	197	eP	P	07 10 22.8 -0.1
	comp=Z,28nm,0.8s					
PSA00	Pilbara Seismi	23.87	197	eP	P	07 10 23.2 +0.2
	comp=Z,20nm,0.6s					
PSAA3	Pilbara Seismi	23.87	197	eP	P	07 10 23.4 +0.4
	comp=Z,23nm,0.8s					
PSAB1	Pilbara Seismi	23.87	197	eP	P	07 10 23.4 +0.5
	comp=Z,26nm,0.8s					
PSAA1	Pilbara Seismi	23.87	197	eP	P	07 10 23.5 +0.5
	comp=Z,34nm,0.9s					
PSAD2	Pilbara Seismi	23.88	196	eP	P	07 10 23.2 +0.2
	comp=Z,30nm,0.8s					
PSAB3	Pilbara Seismi	23.88	197	eP	P	07 10 23.7 +0.6
	comp=Z,22nm,0.6s					
PSAC3	Pilbara Seismi	23.92	197	eP	P	07 10 23.2 -0.2
	comp=Z,22nm,1.2s					
PSAD3	Pilbara Seismi	23.95	197	eP	P	07 10 23.8 0.0
	comp=Z,29nm,0.6s					
QIZ	Qiongzhong	24.34	317	P	P	07 10 27.5 +0.3
QIZ				pP	pP	07 10 54.8 +0.5
QIZ				S	S	07 14 38.7 +1.6
QIZ				sS	sS	07 15 28.0 +2.8
QIZ	Qiongzhong	24.34	317	eP	P	07 10 27.8 +0.5
	comp=Z,14nm,0.8s					
QIS	Mount Isa	25.03	151	P	P	07 10 33.6 +0.1
	baz=25,SNR=30					
JOW	Kunigami	25.34	3	eP	P	07 10 37.9 +1.6
	comp=Z,19nm,0.7s					
JOW	Kunigami	25.34	3	P	P	07 10 37.3 +1.0
	comp=Z,2.7nm,0.6s,baz=177,slow=14,SNR=8.8					
AS31	Alice Springs	25.77	165	eP	P	07 10 39.6 -0.6
	comp=Z,6.1nm,0.4s					
ASAR	Alice Springs	25.77	165	eP	P	07 10 39.9 -0.3
ASAR	Alice Springs	25.77	165	eP	P	07 10 39.9 -0.3
ASAR	Alice Springs	25.77	165	P	P	07 10 39.6 -0.6
	comp=Z,2.3nm,0.3s,baz=344,slow=7.6,SNR=48					
ASAR				ScP	ScP	07 17 34.0 -0.1
	comp=Z,2.0nm,0.5s,baz=344,slow=2.8,SNR=16					
ASPA	Alice Springs	25.77	165	P	P	07 10 40.4 +0.2
	baz=26					
WRKA	Warakurna	26.28	177	P	P	07 10 44.8 0.0
	baz=26,SNR=29					
GIRL	Giralia	26.94	207	eP	P	07 10 52.2 +1.5
	comp=Z,268nm,1.3s					
SKNT	Sakolnakorn	27.49	306	P	P	07 10 56.5 +0.8
	comp=Z,20nm,0.6s					
CTA	Charters Tower	28.45	140	P	P	07 11 03.9 -0.3
	comp=Z,5.5nm,0.9s,baz=309,slow=13,SNR=3.2					
CTAO	Charters Tower	28.45	140	eP	P	07 11 03.8 -0.5
	comp=Z,21nm,1.0s					
CTAO	Charters Tower	28.45	140	eP	P	07 11 03.8 -0.5
CTAO				pmax	pmax	
	comp=Z,21nm,1.0s					
CHAI	Chaiyaphum	28.62	302	P	P	07 11 05.8 +0.1
	comp=Z,39µm,0.8s					
NONG	Nongkai	28.74	307	P	P	07 11 06.9 +0.1
	comp=Z,0.4nm,0.9s					
MEEK	Meekatharra	29.01	196	P	P	07 11 09.2 +0.1
	baz=29,SNR=5.2					
PHET	Kaeng Krachan	29.48	294	P	P	07 11 15.6 +2.2
	comp=Z,22µm,1.1s					
SRDT	SRDT	30.46	296	P	P	07 11 23.4 +1.3
	comp=Z,9.4nm,0.9s					
UTHA	Uthaitani	30.66	299	P	P	07 11 24.0 +0.2
	comp=Z,29µm,0.7s,comp=Z,495µm					
UTTA	Uttaradit	30.70	304	P	P	07 11 25.0 +0.9
	comp=Z,17µm,0.9s					
NANT	Nan	31.10	306	P	P	07 11 29.0 +1.4
	comp=Z,40µm,0.7s					
WHN	Wuhan	31.41	339	⇑P	P	07 11 31.6 +1.4
NJ2	Nanjing	31.48	347	eP	P	07 11 30.5 -0.3
NJ2				pmax	pmax	
	comp=Z,11nm,0.5s					
JNU	Nakatsue	31.79	6	eP	P	07 11 33.2 -0.3
	comp=Z,10nm,0.7s					
JNU	Nakatsue	31.79	6	P	P	07 11 33.3 -0.3
	comp=Z,7.7nm,0.5s,baz=168,slow=4.1,SNR=7.5					
FORT	Forrest	31.99	178	eP	P	07 11 34.9 -0.3
	comp=Z,29nm,0.7s					
FORT	Forrest	31.99	178	P	P	07 11 34.9 -0.3
	baz=32,SNR=11					
MORW	Morawa	32.05	198	eP	P	07 11 36.0 +0.1
	comp=Z,18nm,0.6s					
MORW	Morawa	32.05	198	P	P	07 11 36.1 +0.2
	baz=32,SNR=12					
CMAR	Chiang Mai Arr	32.38	303	eP	P	07 11 38.5 -0.3
CMAR	Chiang Mai Arr	32.38	303	i P	P	07 11 39.7 +0.8
CMAR				pmax	pmax	
	comp=Z,2.0nm,0.8s					
CMAR	Chiang Mai Arr	32.38	303	P	P	07 11 39.3 +0.4
	comp=Z,2.4nm,0.8s,baz=129,slow=7.7,SNR=11					
CMAR				PcP	PcP	07 14 24.4 +0.9
	comp=Z,1.2nm,0.5s,baz=113,slow=2.3,SNR=4.8					
CMMT	Chiang Mai	32.55	304	P	P	07 11 41.0 +0.7
	comp=Z,5.7nm,0.8s					
CHTO	Chiang Mai	32.55	304	eP	P	07 11 40.6 +0.2
	comp=Z,6.9nm,0.8s					
CHTO	Chiang Mai	32.55	304	eP	P	07 11 40.6 +0.2
CHTO				pmax	pmax	
	comp=Z,7.0nm,0.8s					
KMBL	Kambalda	32.93	188	P	P	07 11 43.6 +0.2
	baz=33,SNR=8.3					
ENH	Enshi	33.23	332	eP	P	07 11 47.0 +0.8
	comp=Z,6.9nm,0.9s					
KMI	Kunming	33.29	317	P	P	07 11 49.5 +2.5
KMI				pmax	pmax	
	comp=Z,16nm,0.5s					
BLDU	Ballidu	33.30	196	P	P	07 11 46.7 0.0
	baz=33,SNR=9.6					
JHJ	Hachijo jima 2	33.77	19	P	P	07 11 51.2 +0.5
	comp=Z,100nm,0.7s,baz=79,slow=16,SNR=2.6					
KLBR	Kellerberrin	33.95	194	P	P	07 11 52.6 +0.3
	baz=34,SNR=15					
MUN	Mundaring	34.73	196	P	P	07 11 59.4 +0.4
	baz=35,SNR=18					
TJN	Taejon	34.83	0	ceP	P	07 12 00.6 +0.8
BBOO	Buckleboo	35.05	167	eP	P	07 12 01.2 -0.5
	comp=Z,29nm,1.2s					
BBOO	Buckleboo	35.05	167	P	P	07 12 01.4 -0.4
	baz=35,SNR=6.8					
INU	Inuyama	35.05	14	eP	P	07 12 02.1 +0.3
	comp=Z,13nm,0.6s					
EIDS	Eidsvold	35.33	140	eP	P	07 12 04.0 -0.2
	comp=Z,16nm,0.9s					
EIDS	Eidsvold	35.33	140	P	P	07 12 04.4 +0.2
	baz=35,SNR=5.2					
NWAO	Narrogin (SRO)	35.35	194	eP	P	07 12 04.8 +0.4
	comp=Z,62nm,1.4s					
NWAO	Narrogin (SRO)	35.35	194	P	P	07 12 04.8 +0.4
	baz=36,SNR=12					
NWAO	Narrogin (SRO)	35.35	194	eP	P	07 12 04.8 +0.4
NWAO				pmax	pmax	
	comp=Z,62nm,1.4s					
STKA	Stephens Creek	35.83	159	eP	P	07 12 08.5 0.0
	comp=Z,3.6nm,0.8s					
STKA	Stephens Creek	35.83	159	P	P	07 12 08.5 0.0
	baz=36,SNR=14					
STKA	Stephens Creek	35.83	159	eP	P	07 12 08.5 0.0
STKA				pmax	pmax	
	comp=Z,4.0nm,0.8s					
STKA	Stephens Creek	35.83	159	P	P	07 12 08.4 0.0
	comp=Z,12nm,0.7s,baz=329,slow=9.5,SNR=25					
KS15	Wonju Array Si	35.90	1	eP	P	07 12 09.4 +0.4
	comp=Z,9.3nm,0.6s					
KSAR	Wonju Array Be	35.90	1	eP	P	07 12 10.0 +1.0
KSAR	Wonju Array Be	35.90	1	eP	P	07 12 10.0 +1.0
KSRS	Korea Array	35.91	1	P	P	07 12 09.7 +0.6
	comp=Z,8.7nm,0.6s,baz=177,slow=9.6,SNR=47					
KSRS				PcP	PcP	07 14 34.1 +0.9
	comp=Z,0.8nm,0.4s,baz=184,slow=3.4,SNR=4.6					
KSRS				ScP	ScP	07 18 07.6 +0.3
	comp=Z,2.0nm,0.8s,baz=190,slow=3.9,SNR=5.8					
HTT	Hallett	36.38	163	P	P	07 12 13.4 +0.2
	baz=36,SNR=3.5					
MAJO	Matsushiro	36.49	15	eP	P	07 12 13.6 -0.5
	comp=Z,7.4nm,0.6s					
MAJO				ePcP	PcP	07 14 36.1 +1.0
MAJO	Matsushiro	36.49	15	d iP	P	07 12 12.4 -1.6
MAJO				pmax	pmax	
	comp=Z,7.0nm,0.7s					
MAT	Matsushiro	36.49	15	P	P	07 12 12.9 -1.1
MJAR	Matsushiro Arr	36.49	15	eP	P	07 12 13.0 -1.0
MJAR	Matsushiro Arr	36.49	15	P	P	07 12 13.0 -1.0
	comp=Z,4.7nm,0.5s,baz=194,slow=9.6,SNR=16					
MJAR				PcP	PcP	07 14 36.1 +1.0
	comp=Z,1.4nm,0.5s,baz=171,slow=2.8,SNR=3.4					
MJB9	Matsu-Tunnel	36.49	15	eP	P	07 12 13.2 -0.9
	comp=Z,7.6nm,0.5s					
XAN	Xi'an	36.66	334	P	P	07 12 15.8 +0.2
XAN				pmax	pmax	
	comp=Z,25nm,1.0s					
XAN	Xi'an	36.66	334	eP	P	07 12 15.2 -0.3
	comp=Z,32nm,0.8s					
CD2	Chengdu	36.74	325	P	P	07 12 16.9 +0.6
CD2				pmax	pmax	
	comp=Z,30nm,0.5s					
RKGY	Rocky Gully	37.02	194	P	P	07 12 20.0 +1.5
	baz=37,SNR=10					
CMSA	Cobar Meteorol	37.21	153	P	P	07 12 20.6 +0.4
	baz=37,SNR=11					
ARMA	Armidale	39.34	145	eP	P	07 12 38.9 +0.6
	comp=Z,16nm,0.6s					
ARMA	Armidale	39.34	145	P	P	07 12 39.3 +1.1
	baz=39,SNR=33					
BJT	Baijiatuau	39.72	347	eP	P	07 12 41.8 +0.8
	comp=Z,11nm,0.6s					
ARPS	Mount Arapiles	40.36	162	P	P	07 12 47.1 +0.7
	baz=40,SNR=7.3					
LZH	Lanzhou	40.69	331	⇑P	P	07 12 51.4 +2.1
LZH				pP	pwP	07 13 20.6 -0.5
LZH				sP	sP	07 13 33.6 +0.4
LZH				ePP	PnPn	07 14 29.6 -1.6
LZH				pmax	pmax	
	comp=Z,23nm,1.1s					
LZH				pmax	pmax	
	comp=Z,90nm,4.3s					
LZH				LR	LR	
	comp=Z,160nm,15.7s					
LZH				LR	LR	
	comp=Z,110nm,15.2s					
LZH				LR	LR	
	comp=Z,100nm,16.8s					
MSHR	Mys Shultsa	41.19	5	‖eP	P	07 12 53.9 +0.8
SHL	Shillong	41.55	308	eP	P	07 12 57.1 +0.6
	comp=Z,28nm,0.7s					
HHC	Hu-ho-hao-te	41.72	342	eP	P	07 12 59.2 +1.6
HHC				S	S	07 19 06.9 +2.1
HHC				pmax	pmax	
	comp=Z,76nm,0.9s					
HHC				pmax	pmax	
	comp=Z,290nm,5.8s					
CAN	Canberra	41.88	153	eP	P	07 12 59.5 +0.6
	comp=Z,10.0nm,0.8s					
USRK	Ussuriysk Ar.	42.87	5	eP	P	07 13 06.9 +0.3
USRK	Ussuriysk Ar.	42.87	5	P	P	07 13 07.2 +0.5
	comp=Z,11nm,0.7s,baz=186,slow=5.1,SNR=24					
USA0B	Ussuriysk Arra	42.87	5	eP	P	07 13 06.8 +0.1
	comp=Z,17nm,0.8s					
MDJ	Mudanjiang	43.12	3	eP	P	07 13 09.3 +0.7
	comp=Z,20nm,0.9s					
TEY	Ternei	44.29	10	‖eP	P	07 13 18.3 +0.3
TEY				pmax	pmax	
	comp=N,40nm,0.8s					
TEY				pmax	pmax	
	comp=Z,50nm,0.5s					
ASAJ	Asahikawa	44.75	16	P	P	07 13 22.4 +0.7
	comp=Z,6.0nm,0.5s,baz=221,slow=11,SNR=5.1					
GTA	Gaotai	45.28	330	‖P	P	07 13 27.4 +1.2
GTA				pP	pP	07 13 55.7 0.0
GTA				sP	sP	07 14 13.1 +2.8
GTA				PcP	PcP	07 15 04.8 +1.0
GTA				pmax	pmax	
	comp=Z,16nm,1.2s					
GTA				pmax	pmax	
	comp=Z,43nm,4.6s					
GTA				LR	LR	
	comp=Z,72nm,18.9s					
GTA				LR	LR	
	comp=Z,82nm,19.2s					
GTA				LR	LR	
	comp=Z,67nm,18.9s					
RAMN	Ramite	46.38	307	eP	P	07 13 36.0 +0.8
	comp=Z,56nm,0.7s					
JIRN	Jiri	47.03	308	eP	P	07 13 41.0 +0.7
	comp=Z,69nm,0.6s					
YSS	Yuzh-Sakhalins	47.42	15	eP	P	07 13 42.9 +0.3
YSS				pmax	pmax	
	comp=Z,10.0nm,0.7s					
PKI	Pulchoki	47.61	307	eP	P	07 13 44.9 +0.1
	comp=Z,18nm,0.6s					
PKIN	Phulchoki	47.62	307	eP	P	07 13 44.9 +0.1
	comp=Z,13nm,0.6s					
KKN	Kakani	47.81	307	eP	P	07 13 46.5 +0.3
	comp=Z,26nm,0.6s					
KLR	Kul'dur	47.85	4	d iP	P	07 13 45.8 0.0
KLR				pmax	pmax	
	comp=Z,18nm,1.0s					
DMN	Daman	47.87	307	eP	P	07 13 47.2 +0.5
	comp=Z,35nm,0.9s					
KOLN	Koldanda	49.15	306	eP	P	07 13 57.4 +1.0
	comp=Z,119nm,0.6s					
DANN	Dangsing	49.26	307	eP	P	07 13 57.9 +0.5
	comp=Z,106nm,0.6s					
ULN	Ulaanbaatar	49.45	342	eP	P	07 13 59.4 +1.1
	comp=Z,23nm,1.2s					
ULN	Ulaanbaatar	49.45	342	d iP	P	07 13 59.2 +0.9
ULN				pmax	pmax	
	comp=Z,24nm,1.3s					
SONA0	Songino Array	49.62	342	eP	P	07 14 00.3 +0.7
SONA0				ePcP	PcP	07 15 20.2 +1.1
SONM	Songino Array	49.62	342	P	P	07 14 00.3 +0.7
	comp=Z,7.9nm,0.8s,baz=154,slow=8.3,SNR=19					
SONM				PcP	PcP	07 15 20.2 +1.1
	comp=Z,0.5nm,0.3s,baz=156,slow=3.9,SNR=2.8					
PYUN	Piuthan	49.77	306	eP	P	07 14 02.1 +0.9
	comp=Z,100nm,0.6s					
GRNR	Gornyy	49.85	8	eP	P	07 14 01.8 +0.6
GRNR				pmax	pmax	
	comp=Z,21nm,1.0s					
HYB	Hyderabad	50.24	292	i P	P	07 14 05.0 +0.3
NKL	Nikolayevsk	52.83	10	eP	P	07 14 23.0 -0.2
NKL				pmax	pmax	
	comp=N,5.0nm,0.9s					
NKL				pmax	pmax	
	comp=Z,39nm,0.9s					
ZAK	Zakamensk	52.84	341	eP	P	07 14 23.3 -0.2
ZAK				e		07 15 31.2
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.4s					
ZAK				pmax	pmax	
	comp=Z,3.0nm,0.9s					
TLY	Talaya	53.85	342	‖i P	P	07 14 31.6 +0.8
WMQ	Urumqi	54.83	326	P	P	07 14 40.0 +1.9
WMQ				sP	sP	07 15 24.4 +1.3
WMQ				pmax	pmax	
	comp=Z,85nm,0.9s					
WMQ				pmax	pmax	
	comp=Z,240nm,3.8s					
WMQ				LR	LR	
	comp=Z,950nm,35.7s					
WMQ				LR	LR	
	comp=Z,1µm,38.3s					
WMQ				LR	LR	
	comp=Z,350nm,25.5s					
WMQ	Urumqi	54.83	326	eP	P	07 14 39.8 +1.6
	comp=Z,6.3nm,0.7s					
BOD	Bodaibo	57.23	352	eP	P	07 14 54.0 -0.8
BOD				pmax	pmax	
	comp=Z,10.0nm,1.5s					
PEA0B	Petropavlovsk-	57.49	21	eP	P	07 14 58.6 +1.9
	comp=Z,31nm,1.3s					
PETK	Petropavlovsk-	57.49	21	eP	P	07 14 57.6 +0.9
PETK	Petropavlovsk-	57.49	21	P	P	07 14 57.4 +0.7
	comp=Z,6.1nm,0.7s,baz=182,slow=3.3,SNR=18					
PEA1	Petropavlovsk-	57.49	21	eP	P	07 14 57.4 +0.7
DGZ	Jazzator, Alta	58.79	331	d iP	P	07 15 06.8 +0.7
DGZ				pmax	pmax	
	comp=Z,3.0nm,0.6s					
LBZ	Lake Benmore	59.57	145	eP	P	07 15 12.2 +0.8
	comp=Z,28nm,1.2s					
NIL	Nilore	59.62	309	eP	P	07 15 12.5 +0.6
	comp=Z,26nm,1.3s					
THZ	Tophouse	59.66	142	eP	P	07 15 11.9 -0.2
	comp=Z,34nm,1.4s					
MK31	Makanchi Array	59.67	326	eP	P	07 15 12.8 +0.8
	comp=Z,15nm,0.7s					
MK32	Makanchi Array	59.67	326	eP	P	07 15 12.8 +0.9
MK32				ePcP	PcP	07 15 57.2 -0.4
MKAR	Makanchi Array	59.67	326	P	P	07 15 12.8 +0.8
	comp=Z,16nm,0.6s,baz=121,slow=8.5,SNR=222					
MKAR				PcP	PcP	07 15 57.2 -0.4
	comp=Z,2.9nm,0.5s,baz=122,slow=5.9,SNR=5.0					
TARG	Taragay, Kyrgy	59.72	319	eP	P	07 15 11.7 -1.2
	comp=Z,9.9nm,0.6s					
MAKZ	Makanchi	59.85	326	eP	P	07 15 13.7 +0.4
	comp=Z,17nm,0.8s					
KSH	Kashi	59.94	316	P	P	07 15 16.3 +2.2
KSH				sP	PcP	07 15 59.8 +0.8
KSH				PP	PP	07 17 35.1 +7.2
KSH				S	S	07 23 12.8 -3.3
KSH				SS	SS	07 27 18.0 +3.1
KSH				pmax	pmax	
	comp=Z,19nm,0.5s					
KSH				pmax	pmax	
	comp=Z,230nm,3.8s					
KSH				LR	LR	
	comp=Z,510nm,9.5s					
KSH				LR	LR	
	comp=Z,370nm,10.0s					
KDJ	Kajisay	60.32	319	eP	P	07 15 18.2 +1.5
	comp=Z,18nm,0.9s					
KHZ	Kahutara	60.42	142	eP	P	07 15 16.6 -0.5
	comp=Z,56nm,1.4s					
YAK	Yakutsk	60.54	1	eP	P	07 15 17.4 -0.1
YAK				e*PP	pwP	07 15 54.0 +2.6
YAK				e		07 16 01.1
YAK				eS	S	07 23 24.6 +2.0
YAK				e*SS	pS	07 23 54.9 -1.4
YAK				e		07 24 57.4
YAK				eSS	SS	07 27 26.1 +2.9
YAK				pmax	pmax	
	comp=Z,138nm,0.8s					
YAK				pmax	pmax	
	comp=N,42nm,1.0s					
YAK				pmax	pmax	
	comp=E,12nm,1.0s					
YAK				pmax	pmax	
	comp=Z,294nm,3.3s					
YAK				pmax	pmax	
	comp=N,180nm,3.8s					
YAK				pmax	pmax	
	comp=E,163nm,3.2s					
YAK				smax	smax	
	comp=N,126nm,2.1s					
YAK				smax	smax	
	comp=E,63nm,2.1s					
BKZ	Black Stump Fm	60.64	137	eP	P	07 15 18.3 -0.4
	comp=E,5.5nm,0.7s					
NRN	Naryn	60.77	318	eP	P	07 15 19.3 -0.7
	comp=E,8.1nm,0.7s					
MA2	Magadan	60.90	14	eP	P	07 15 20.5 +0.4
	comp=E,13nm,0.8s					
MA2	Magadan	60.90	14	d iP	P	07 15 21.0 +0.9
MA2				pmax	pmax	
	comp=Z,16nm,0.9s					
BOOM	Boomskoye usch	61.30	319	eP	P	07 15 24.1 +0.8
	comp=Z,14nm,1.2s					
KZA	Kyzart	61.57	318	P	P	07 15 27.2 +1.8
	SNR=20					
TKM2	Tokmak 2	61.72	319	P	P	07 15 27.3 +1.1
	SNR=24					
UCH	Uchtor	62.12	318	P	P	07 15 30.8 +1.6
	SNR=22					
AAK	Ala-Archa	62.32	319	P	P	07 15 31.4 +1.3
	SNR=5.0					
AAK	Ala-Archa	62.32	319	eP	P	07 15 31.5 +1.3
	comp=Z,3.3nm,0.7s					
AAK	Ala-Archa	62.32	319	d iP	P	07 15 31.2 +1.1
AAK				pmax	pmax	
	comp=Z,5.0nm,0.9s					
USP	Ospenovka	62.59	319	P	P	07 15 32.8 +1.0
	SNR=21					
AML	Almayashu	62.63	318	P	P	07 15 34.0 +1.5
	SNR=23					
ARSB	Arslanbob	62.77	317	eP	P	07 15 34.2 +1.0
	comp=Z,18nm,1.1s					
EKS2	Erkin-Say	62.80	318	P	P	07 15 34.7 +1.4
	SNR=15					
ZAA0	Zalesovo Array	62.82	333	eP	P	07 15 31.7 -1.4
	comp=Z,5.0nm,1.0s					
ZALV	Zalesovo Beam	62.82	333	eP	P	07 15 31.4 -1.6
ZALV	Zalesovo Beam	62.82	333	i P	P	07 15 32.4 -0.6
ZALV				pmax	pmax	
	comp=Z,4.0nm,0.8s					
ZALV	Zalesovo Beam	62.82	333	P	P	07 15 32.5 -0.5
	comp=Z,1.7nm,0.5s,baz=99,slow=4.8,SNR=8.8					
ZALV				LR	LR	07 46 49.9
	comp=Z,28nm,18.6s,baz=248,slow=40					
ZAA1	Zalesovo Array	62.83	333	eP	P	07 15 32.5 -0.5
KBL	Kabul	63.21	308	eP	P	07 15 36.9 +0.6
	comp=Z,16nm,0.8s					
GAR	Garm	63.75	313	eP	P	07 15 40.4 +0.7
	comp=Z,31nm,0.7s					
BTK	Batken	63.78	315	eP	P	07 15 40.8 +1.0
	comp=Z,10nm,0.8s					
KURK	Kurchatov	63.89	328	eP	P	07 15 40.6 +0.5
	comp=Z,28nm,0.8s					
KURK	Kurchatov	63.89	328	ceP	P	07 15 40.2 +0.1
KURK				pmax	pmax	
	comp=Z,33nm,0.9s					
NVS	Novosibirsk	64.11	334	i P	P	07 15 40.9 -0.5
SEY	Seymchan	64.25	13	‖eP	P	07 15 43.6 +1.4
KK31	Karatay Array	65.17	318	eP	P	07 15 49.1 +0.5
	comp=Z,14nm,0.9s					
KKAR	Karatay Array	65.17	318	eP	P	07 15 48.7 0.0
BRVK	Borovoye	69.53	327	eP	P	07 16 15.3 -0.6
	comp=Z,14nm,0.9s					
BRVK	Borovoye	69.53	327	d iP	P	07 16 15.9 0.0
BRVK				pmax	pmax	
	comp=Z,16nm,1.0s					
TIXI	Tiksi	70.18	1	eP	P	07 16 18.5 -0.9
	comp=Z,5.9nm,0.9s					
TIXI	Tiksi	70.18	1	d iP	P	07 16 19.0 -0.4
TIXI				pmax	pmax	
	comp=Z,6.0nm,0.8s					
BILL	Bilibino	71.74	15	eP	P	07 16 27.5 -1.4
BILL				e*PP	pP

GYA0B	**ALIBECK ARRAY**	72.62	309	*e*P		**P**	07 16 36.0	+1.1
	comp=Z,7.2nm,0.6s							
NRIK	**Noril'sk**	72.78	346	P		**P**	07 16 35.2	+0.1
	comp=Z,12nm,0.5s,baz=128,slow=5.4,SNR=32							
ABKAR	**Akbulak array**	74.17	321	*e*P		**P**	07 16 43.6	0.0
	comp=Z,4.9nm,0.7s							
ARU	**Arti**	77.09	328	*e*P		**P**	07 16 59.4	-0.7
	comp=Z,8.2nm,0.7s							
ARU	**Arti**	77.09	328	*d i*P		**P**	07 16 59.1	-1.0
ARU							07 19 50.3	
ARU				S		**S**	07 26 39.0	+1.0
ARU				SS		**SS**	07 31 32.2	-6.0
ARU				pmax		pmax		
	comp=Z,8.0nm,0.7s							
VNDA	**Vanda**	81.06	173	*e*P		**P**	07 17 21.8	+0.5
	comp=Z,2.3nm,0.6s							
VNDA	**Vanda**	81.06	173	P		**P**	07 17 21.5	+0.1
	comp=Z,1.5nm,0.4s,baz=312,slow=6.5,SNR=13							
MAW	**Mawson**	81.67	200	*e*P		**P**	07 17 25.8	+1.1
	comp=Z,1.4nm,1.0s							
MAW	**Mawson**	81.67	200	P		**P**	07 17 25.7	+1.1
	comp=Z,3.5nm,0.6s,baz=247,slow=3.3,SNR=3.7							
KDAK	**Kodiak Island**	83.70	32	*e*P		**P**	07 17 35.1	-0.4
	comp=Z,9.8nm,1.0s							
KDAK	**Kodiak Island**	83.70	32	*i* P		**P**	07 17 36.7	+1.3
RSO	**Redoubt South**	83.97	29	*e*P		**P**	07 17 37.3	+0.2
ZEI	**Tsey**	84.04	313	*e*P		**P**	07 17 37.4	-0.4
ZEI				pmax		pmax		
	comp=Z,5.0nm,0.4s							
NCK	**Nalchik**	84.30	313⇓	*e*P		**P**	07 17 39.0	+0.1
NCK				pmax		pmax		
	comp=Z,14nm,0.6s							
IMAR	**Indian Mountai**	84.36	24	*e*P		**P**	07 17 39.7	+1.1
CAST	**Castle Rocks**	84.69	26	*e*P		**P**	07 17 41.1	+0.7
	comp=Z,1.9nm,0.8s							
BRLK	**Bradley Lake**	84.81	30	*e*P		**P**	07 17 41.4	+0.3
	comp=Z,12nm,0.8s							
KBZ	**Khabaz**	84.82	314	P		**P**	07 17 41.6	+0.2
	comp=Z,4.1nm,1.0s,baz=117,slow=4.0,SNR=5.8							
NEY	**Neytrino**	84.92	313⇑	*e*P		**P**	07 17 43.1	+0.9
NEY				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KIV	**Kislovodsk**	84.99	314	*e*P		**P**	07 17 41.7	-0.7
KIV				pmax		pmax		
	comp=Z,17nm,1.0s							
SUA	**Susitna One**	85.07	29	*e*P		**P**	07 17 42.9	+0.5
	comp=Z,11nm,0.8s							
MLY	**Manley**	85.47	25	*e*P		**P**	07 17 44.4	+0.1
	comp=Z,3.8nm,1.2s							
RC01	**Rabbit Creek A**	85.52	29	*e*P		**P**	07 17 43.9	-0.6
	comp=Z,6.8nm,0.6s							
GHO	**Glory Hole Cre**	85.96	28	*e*P		**P**	07 17 46.9	+0.1
	comp=Z,3.2nm,0.8s							
VRH	**Novokhopyorsk**	86.00	321	*e*P		**P**	07 17 46.1	-1.0
VRH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
MCK	**McKinley**	86.12	26	*e*P		**P**	07 17 47.6	+0.2
	comp=Z,3.4nm,0.8s							
RND	**Reindeer**	86.13	27	*e*P		**P**	07 17 47.2	-0.4
	comp=Z,4.2nm,0.6s							
KNK	**Knik Glacier**	86.16	29	*e*P		**P**	07 17 48.0	+0.3
	comp=Z,6.0nm,0.8s							
SML	**Sawmill**	86.25	28	*e*P		**P**	07 17 48.6	+0.5
	comp=Z,5.0nm,0.7s							
TOLK	**Toolik Lake Re**	86.31	21	*e*P		**P**	07 17 48.8	+0.5
	comp=Z,4.1nm,0.8s							
MDM	**Murphy Dome**	86.52	25	*e*P		**P**	07 17 49.5	+0.1
	comp=Z,3.8nm,1.2s							
SCM	**Sheep Creek Mo**	86.72	28	*e*P		**P**	07 17 51.7	+1.2
	comp=Z,7.0nm,0.9s							
GLI	**Glacier Island**	86.78	29	*e*P		**P**	07 17 50.2	-0.5
	comp=Z,5.1nm,0.6s							
HDA	**Harding Lake**	87.04	26	*e*P		**P**	07 17 50.9	-1.0
	comp=Z,3.6nm,0.6s							
ILAR	**Eielson Array**	87.08	25	P		**P**	07 17 50.6	-1.5
	comp=Z,0.8nm,0.5s,baz=250,slow=5.0,SNR=12							
ILB	**Eielson Array**	87.08	25	*e*P		**P**	07 17 51.4	-0.7
	comp=Z,3.7nm,1.3s							
KLMR	**Klimovskoe**	87.60	331	*e*P		**P**	07 17 50.8	-3.8
KLMR				pmax		pmax		
	comp=Z,11nm,1.5s							
VSR	**Storozhevoye**	87.61	321⇑	*e*P		**P**	07 17 53.3	-1.6
VSR				pmax		pmax		
	comp=Z,8.0nm,0.8s							
RIDG	**Independent Ri**	87.94	26	*e*P		**P**	07 17 56.1	-0.2
	comp=Z,3.3nm,0.8s							
OBN	**Obninsk**	89.16	325⇓	*e*P		**P**	07 17 59.4	-2.7
OBN				*e**PP		**pP**	07 18 34.4	-0.9
OBN				pmax		pmax		
	comp=Z,9.0nm,0.5s							
EGAK	**Eagle**	89.54	25	*e*P		**P**	07 18 03.0	-0.7
	comp=Z,2.1nm,0.6s							
DAWY	**Dawson**	90.34	26	*e*P		**P**	07 18 07.7	+0.2
	comp=Z,3.0nm,0.8s							
BR101	**Keskin Array S**	91.76	310	*e*P		**P**	07 18 13.7	-1.1
BRTR	**Keskin Array B**	91.76	310	*i* P		**P**	07 18 14.3	-0.5
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	91.76	310	P		**P**	07 18 13.7	-1.1
	comp=Z,1.2nm,0.8s,baz=110,slow=6.8,SNR=6.1							
ARA0	**ARCESS Array S**	92.76	340	*e*P		**P**	07 18 17.5	-1.0
ARCES	**ARCESS Array B**	92.76	340	P		**P**	07 18 17.5	-1.0
	comp=Z,4.1nm,0.7s,baz=84,slow=6.3,SNR=8.3							
WHY	**Whitehorse**	92.78	29	*e*P		**P**	07 18 19.3	+0.4
	comp=Z,3.3nm,0.8s							
AKASG	**Malin Array Be**	93.91	321	P		**P**	07 18 22.6	-1.6
	comp=Z,0.3nm,0.4s,baz=69,slow=4.4,SNR=2.7							
FIA0	**FINESS Array S**	94.05	332	*e*P		**P**	07 18 23.0	-1.6
FINES	**FINESS Array B**	94.05	332	*i* P		**P**	07 18 22.5	-2.1
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	94.05	332	P		**P**	07 18 23.0	-1.6
	comp=Z,0.6nm,0.5s,baz=48,slow=5.9,SNR=4.4							
YKA	**Yellowknife Ar**	101.50	25	P		**Pdif**	07 18 58.4	+0.3
	comp=Z,0.2nm,0.5s,baz=296,slow=4.5,SNR=10							
YKA				PKiKP		**PKiKP**	07 23 21.3	0.0
	comp=Z,0.1nm,0.5s,baz=301,slow=1.8,SNR=5.9							
YKB5	**Yellowknife Ar**	101.50	25	*e*Pdif		**Pdif**	07 18 58.4	+0.3
YKB5				*e*PKiKP		**PKiKP**	07 23 21.3	0.0
ULM	**Lac du Bonnet**	116.85	29	PKP		**PKPdf**	07 23 50.3	-0.3
	comp=Z,0.7nm,0.6s,baz=250,slow=3.9,SNR=3.2							
TXAR	**Lajitas Array**	122.76	53	PKP		**PKiKP**	07 24 03.2	+0.3
	comp=Z,0.4nm,0.6s,baz=183,slow=2.5,SNR=4.9							
TORD	**Torodi Ar. Bea**	123.93	287	PKP		**PKPdf**	07 24 04.7	-0.4
	comp=Z,1.1nm,0.8s,baz=39,slow=2.6,SNR=6.7							
TOA1	**Torodi Ar. Sit**	123.93	287	*e*PKPdf		**PKPdf**	07 24 04.7	-0.4
E46A	**Sault Ste Mari**	125.03	26	*e*PKPdf		**PKPdf**	07 24 06.2	-0.2
DBIC	**Dimbokro**	131.34	280	*e*PKPdf		**PKPdf**	07 24 18.5	-0.8
DBIC	**Dimbokro**	131.34	280	*e*PKiKP		**PKPdf**	07 24 18.5	-0.8
DBIC	**Dimbokro**	131.34	280	PKP		**PKiKP**	07 24 20.5	+0.2
	comp=Z,6.0nm,1.2s,baz=104,slow=4.2,SNR=2.8							
DBIC				SKPbc		**SKPbc**	07 27 31.9	-0.4
	comp=Z,5.3nm,0.8s,baz=82,slow=6.9,SNR=5.0							
CPUP	**Villa Florida**	154.83	171	*e*PKPbc		**PKPbc**	07 25 03.9	-4.2
CPUP	**Villa Florida**	154.83	171	*e*PKiKP		**PKPbc**	07 25 03.9	-4.2
CPUP	**Villa Florida**	154.83	171	PKPab		**PKPab**	07 25 23.4	-0.1
	comp=Z,1.6nm,0.8s,baz=222,slow=3.3,SNR=4.1							

*ISCJB **09** 07:08:18.1±0.5, 50°.14N±0°.03×19°.10E±0°.03, h0km, Error ellipse: s-maj=4.2km s-min=2.2km az=14.7*
*IPEC **09** 07:08:19.6±0.2, 50°.14N×19°.15E, h0km±1km, ML2.6/4, Error ellipse: s-maj=2.3km s-min=1.0km az=168.0*
*PRU **09** 07:08:19.7±0.0, 50°.16N×19°.12E, h0km*
*BGR **09** 07:08:20.7±0.5, 50°.11N×19°.20E, h1km, ML3.1/2, Error ellipse: s-maj=8.9km s-min=4.4km az=173.0*
*VIE **09** 07:08:22.2±2.7, 50°.29N×18°.89E, h0km, mb2.2/4, ml2.6/6, Error ellipse: s-maj=26.2km s-min=14.3km az=146.0, Suspected Mining induced.*

ISC 09 07:08:19.5±0.8, 50°.08N±0°.03×19°.18E±0°.02, h0km, n39, σ1°31/62, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	0.24	331	*e*Pg	**Pg**	07 08 25.5	+1.3
CHZP				*e*Sg	**Sg**	07 08 29.1	+1.8
OJC	**Ojcow**	0.42	70	*e*Pg	**Pg**	07 08 27.8	+0.2
OJC				*e*Sg	**Sg**	07 08 33.7	+0.7
OKC	**Ostrava-Krasne**	0.71	251	*e*Pg	**Pg**	07 08 33.8	+0.8
OKC				*e*Sg	**Sg**	07 08 43.6	+1.4
OKC	**Ostrava-Krasne**	0.71	251	*e*PG	**Pg**	07 08 33.4	+0.3
OKC				*e*SG	**Sg**	07 08 42.6	+0.4
	comp=Z,71nm,0.5s						
LANS	**Liptovska Anna**	0.95	168	*e*PG	**Pb**	07 08 38.8	0.0
LANS				*e*SG	**Sb**	07 08 52.5	+0.6
NIE	**Niedzica**	0.98	132	*e*Pg	**Pb**	07 08 39.0	-0.4
NIE				*e*Sg	**Sb**	07 08 52.7	-0.2
MORC	**Moravsky Berou**	1.10	255	*e*PG	**Pg**	07 08 40.9	+0.3
MORC				*e*SG	**Sg**	07 08 54.3	-0.5
MORC	**Moravsky Berou**	1.10	255	*e*Pg	**Pg**	07 08 40.9	+0.3
	baz=70						
MORC				*e*Sg	**Sg**	07 08 54.3	-0.5
	74nm,0.7s,baz=70						
MORC	**Moravsky Berou**	1.10	255	*e*Sg	**Sb**	07 08 57.4	+1.1
ANAC	**Anensky vrch**	1.16	270	*e*Pg	**Pg**	07 08 41.7	0.0
	baz=86						
ANAC				*e*Sg	**Sg**	07 08 55.4	-1.3
	114nm,0.6s,baz=86						
KRLC	**Kraliky**	1.54	271	*e*PG	**Pn**	07 08 47.1	-1.2
KRLC				*e*SG	**Sn**	07 09 07.4	-1.7
	comp=Z,13nm,0.7s						
JAVC	**Velka Javorina**	1.57	219	*e*PN	**Pb**	07 08 49.3	-0.1
JAVC	**Velka Javorina**	1.57	219	*e*Pn	**Pb**	07 08 49.3	-0.1
	baz=36						
VYHS	**Vyhne**	1.60	188	*e*PN	**Pn**	07 08 49.0	-0.1
VYHS				*e*SN	**Sg**	07 09 11.1	+0.2
KECS	**Kecovo**	1.81	151	*e*PN	**Pn**	07 08 51.6	-0.3
KECS				*e*SN	**Sn**	07 09 15.7	+0.1
VRAC	**Vranov**	1.85	246	*e*PN	**Pn**	07 08 52.8	+0.4
VRAC				*e*SG	**Sb**	07 09 17.9	+0.1
VRAC	**Vranov**	1.85	246	*e*Pn	**Pn**	07 08 52.8	+0.4
	baz=62						
VRAC				*e*Sg	**Sb**	07 09 17.8	0.0
	39nm,0.8s,baz=62						
DPC	**Dobruska-Polom**	1.86	280	*e*Sg	**Sg**	07 09 18.8	-0.2
DPC	**Dobruska-Polom**	1.86	280	*e*PG	**Pn**	07 08 52.1	-0.5
DPC				*e*SG	**Sn**	07 09 16.7	-0.1
	comp=Z,32nm,0.5s						
KSP	**Ksiaz**	2.00	294	*e*Pg	**Pb**	07 08 56.8	+0.1
KSP				*e*Sg	**Sb**	07 09 22.9	+0.8
KSP	**Ksiaz**	2.00	294	*e*Sg	**Sg**	07 09 24.0	+0.4
UPC	**Upice**	2.08	283	*e*SG	**Sb**	07 09 24.8	+0.4
	comp=Z,21nm,0.5s						
KRUC	**Moravsky**	2.08	242	*e*PN	**Pn**	07 08 56.1	+0.4
KRUC				*e*SG	**Sb**	07 09 25.0	+0.6
KRUC	**Moravsky**	2.08	242	*e*Pn	**Pn**	07 08 56.0	+0.4
	baz=58						
KRUC				*e*Sg	**Sb**	07 09 25.0	+0.6
	29nm,0.6s,baz=58						
MODS	**Modra-Piesok**	2.11	217	*e*PN	**Pn**	07 08 54.5	-1.6
MODS				*e*SN	**Sn**	07 09 22.4	-0.7
MODS				eLG	Lg	07 09 33.1	
KOLS	**Kolonicke sedl**	2.32	118	*e*PG	**Pg**	07 09 03.7	-0.2
KOLS				*e*SN	**Sn**	07 09 28.1	0.0
TREC	**Trest**	2.52	253	*e*SG	**Sg**	07 09 39.4	-1.1
	comp=Z,24nm,0.5s						
PVCC	**Panska Ves**	2.99	280	*e*SG	**Sg**	07 09 53.6	-1.9
	comp=Z,28nm,0.5s						
PRU	**Pruhonice**	2.99	270	*e*SG	**Sb**	07 09 51.9	+1.2
	comp=Z,14nm,0.6s						
CONA	**Conrad Observa**	3.07	227	Pn	**Pb**	07 09 12.9	-2.1
	0.7nm,0.3s						
CONA				Sg	**Sg**	07 10 02.1	+4.1
	8.2nm,0.6s						
BRG	**Berggiesshubel**	3.44	285	PG	**Pg**	07 09 27.7	+2.4
BRG				SG	**Sg**	07 10 08.7	-1.2
	12nm,0.7s						
BRG	**Berggiesshubel**	3.44	285	*e*Sg	**Sg**	07 10 09.7	-0.2
ARSA	**Arzberg**	3.73	222	*i* Sn	**Sb**	07 10 09.2	-2.6
KHC	**Kasperske Hory**	3.76	258	*e*PN	**Pn**	07 09 18.5	-0.3
KHC				*e*SG	**Sg**	07 10 17.9	-2.5
	comp=Z,13nm,0.5s						
MOA	**Molln**	3.93	237	Sg	**Sg**	07 10 28.0	+2.2
	7.7nm,0.5s						
CLL	**Collm**	4.12	290	*e*Pg	Pg	07 09 44.0	+5.7
CLL				*e*Sg	**Sg**	07 10 29.0	-2.6
	comp=Z,15nm,1.1s						
CLL	**Collm**	4.12	290	*e*Sg	**Sg**	07 10 31.8	+0.1
WERN	**Wernitzgruen**	4.38	275	*e*Sg	**Sg**	07 10 39.8	-0.3
KBA	**Koelnbreinsper**	4.90	234	*i* Sg	**Sg**	07 11 01.1	+4.3
	comp=Z,2.5nm,0.5s						

IDC 09 07:57:49.8±13.0, 17°.50S×177°.96W, h538km±168km, mb2.9/6, mb1 3.3/6, mb1mx3.0/26, mbtmp3.7/6, Error ellipse: s-maj=130.6km s-min=41.6km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	45.13	259	P	P	08 05 18.5	-0.1
	0.7nm,0.3s,baz=95,slow=7.1,SNR=27						
ASAR	**Alice Springs**	45.32	254	P	P	08 05 19.9	-0.2
	1.6nm,0.6s,baz=92,slow=8.0,SNR=28						
NVAR	**Mina Array Bea**	78.83	44	P	P	08 08 57.2	-0.3
	0.2nm,0.5s,baz=220,slow=6.8,SNR=3.8						
ILAR	**Eielson Array**	85.39	13	P	P	08 09 29.9	+0.1
	0.2nm,0.4s,baz=218,slow=5.2,SNR=5.3						
TXAR	**Lajitas Array**	85.41	57	P	P	08 09 31.2	+0.2
	0.5nm,0.7s,baz=235,slow=8.7,SNR=3.5						
YKA	**Yellowknife Ar**	93.78	25	P	P	08 10 08.8	-0.1
	0.1nm,0.5s,baz=238,slow=4.5,SNR=2.7						
GERES	**GERESS Array B**	147.32	346	PKPbc	PKPbc	08 16 32.3	-0.8
	0.3nm,0.4s,baz=28,slow=4.4,SNR=2.5						

*IDC **09** 07:59:24.5±1.5, 5°.95N×82°.02W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/24, mbtmp3.6/5, MS3.4/2, Ms1 3.5/2, ms1mx3.0/19, Error ellipse: s-maj=120.8km s-min=27.6km az=61.0*
*ISCJB **09** 07:59:25.8±0.6, 5°.63N±0°.04×82°.68W±0°.05, h35km, mb3.6/5, MS3.3/2, Error ellipse: s-maj=8.3km s-min=3.2km az=142.4*
*UCR **09** 07:59:25.0±3.4, 5°.56N×82°.40W, h37km±999km, MW4.1*

ISC 09 07:59:28.5±1.0, 5°.65N±0°.07×82°.52W±0°.09, h35km, n80, σ2°07/73, mb3.6/5, 3C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	2.77	1	*e*P	**Pn**	08 00 09.0	-1.4
DVD				*e*S	**Sn**	08 00 43.5	+0.9
PTJ1	**Puerto Jimnez**	2.97	345	*e*P	**Pn**	08 00 09.9	-3.2
PTJ1				*e*S	**Sn**	08 00 46.6	-1.0
AZU	**Azuero**	3.08	46	*i* P	**Pn**	08 00 14.2	-0.5
AZU				*e*S	**Sn**	08 00 42.5	-7.9
TBS2		3.13	357	*e*P	**Pn**	08 00 13.5	-2.0
TBS2				*e*S	**Sn**	08 00 49.2	-2.5
BRU2	**Volcan**	3.13	357⇑	*e*P	**Pn**	08 00 13.7	-1.8
BRU2				*e*S	**Sn**	08 00 50.4	-1.3
EDPN	**Palmar Norte**	3.42	344	*e*P	**Pn**	08 00 16.8	-2.6
DRK0	**Durika**	3.66	349⇓	*e*P	**Pn**	08 00 21.2	-1.7
DRK0				*e*S	**Sn**	08 01 04.7	-0.3
EDLM	**Las Mercedes**	3.76	344	*e*P	**Pn**	08 00 23.1	-1.0
ZANG	**Zanguenga, Cho**	4.21	39	*e*P	**Pn**	08 00 30.8	+0.6
LCR2	**La Lucha 2**	4.33	340⇑	*i*P	**Pn**	08 00 29.7	-2.3
BCIP	**Isla Barro Col**	4.39	37	*e*P	**Pn**	08 00 33.7	+1.0
BCIP	**Isla Barro Col**	4.39	37	*e*P	**Pn**	08 00 33.7	+1.0
BCIP	**Isla Barro Col**	4.39	37	*e*P	**Pn**	08 00 33.5	+0.7
UPA	**Univ. de Panam**	4.44	42	*e*P	**Pn**	08 00 31.8	-1.6
HDC	**Heredia**	4.60	340⇑	*i*P	**Pn**	08 00 34.2	-1.6
HDC				*e*S	**Sn**	08 01 25.6	-2.5
PTAC	**Punta Ardita,**	4.91	72	*e*P	**Pn**	08 00 41.9	+2.0
PTAC	**Punta Ardita,**	4.91	72	*e*P	**Pn**	08 00 41.9	+2.0
SOLC	**Bahia Solano**	5.11	83	*e*P	**Pn**	08 00 42.5	-0.1
SOLC	**Bahia Solano**	5.11	83	*e*P	**Pn**	08 00 42.5	-0.1
JTS	**Las Juntas de**	5.20	333	*e*P	**Pn**	08 00 42.2	-1.7
ARE1	**Arenal 1**	5.25	336	*e*P	**Pn**	08 00 43.5	-1.1
CEDE	**Laguna Cedeo**	5.27	336	*e*P	**Pn**	08 00 43.5	-1.4
CUI	**Cuipilapa**	5.62	332	*e*P	**Pn**	08 00 49.0	-0.7
BUEV	**Buena Vista**	5.86	331	*e*P	**Pn**	08 00 52.4	-0.6
GB1A	**Boringuen Arri**	5.87	331	*e*P	**Pn**	08 00 52.4	-0.8
PLMC	**San Jos del P**	6.25	96	*e*P	**Pn**	08 00 59.7	+1.3
PLMC	**San Jos del P**	6.25	96	*e*P	**Pn**	08 00 59.7	+1.3
YOTC	**Yotoco, Valle**	6.37	105	*e*P	**Pn**	08 01 00.5	+0.5
YOTC	**Yotoco, Valle**	6.37	105	*e*P	**Pn**	08 01 00.5	+0.5
BBAC	**Balboa, Cauca**	6.37	124	*e*P	**Pn**	08 00 58.8	-1.4
BBAC	**Balboa, Cauca**	6.37	124	*e*P	**Pn**	08 00 58.8	-1.4
POPC	**Popayan, Colom**	6.59	118	*e*P	**Pn**	08 01 03.4	+0.2
POPC	**Popayan, Colom**	6.59	118	*e*P	**Pn**	08 01 03.4	+0.2
OTAV	**Otavalo**	6.74	143	*e*P	**Pn**	08 01 03.8	-1.6
OTAV	**Otavalo**	6.74	143	*e*P	**Pn**	08 01 03.8	-1.6
GCUF	**Volcan Galeras**	6.78	130	*e*P	**Pn**	08 01 05.8	-0.2
GCUF	**Volcan Galeras**	6.78	130	*e*P	**Pn**	08 01 05.8	-0.2
CRUC	**La Cruz**	6.88	126	*e*P	**Pn**	08 01 07.8	+0.6
CRUC	**La Cruz**	6.88	126	*e*P	**Pn**	08 01 07.8	+0.6
PCON	**Cinco Dias**	6.94	118	*e*P	**Pn**	08 01 10.1	+1.9
PCON	**Cinco Dias**	6.94	118	*e*P	**Pn**	08 01 10.1	+1.9
HELC	**Santa Helena**	6.97	85	*e*P	**Pn**	08 01 10.1	+1.6
HELC	**Santa Helena**	6.97	85	*e*P	**Pn**	08 01 10.1	+1.6
MARP	**Paez Belalcaza**	7.11	113	*e*P	**Pn**	08 01 12.8	+2.4
MARP	**Paez Belalcaza**	7.11	113	*e*P	**Pn**	08 01 12.8	+2.4
UREC	**San Jos de Ur**	7.25	73	*e*P	**Pn**	08 01 15.5	+3.5
UREC	**San Jos de Ur**	7.25	73	*e*P	**Pn**	08 01 15.5	+3.5
NORC	**Norcasia**	7.61	90	*e*P	Pn	08 01 20.9	+3.8
NORC	**Norcasia**	7.61	90	*e*P	Pn	08 01 20.9	+3.8
ZARC	**Zaragoza, Cauc**	7.83	76	*e*P	**Pn**	08 01 23.0	+3.0
ZARC	**Zaragoza, Cauc**	7.83	76	*e*P	**Pn**	08 01 23.0	+3.0
PRAC	**Prado**	7.84	104	*e*P	**Pn**	08 01 22.6	+2.4
PRAC	**Prado**	7.84	104	*e*P	**Pn**	08 01 22.6	+2.4
FLOC	**Florencia**	7.95	120	*e*P	**Pn**	08 01 22.9	+1.1
FLOC	**Florencia**	7.95	120	*e*P	**Pn**	08 01 22.9	+1.1
PTBC	**PUERTO BERRIO,**	8.06	83	*e*P	Pn	08 01 27.1	+3.8
PTBC	**PUERTO BERRIO,**	8.06	83	*e*P	Pn	08 01 27.1	+3.8
ROSC	**El Rosal**	8.20	95	*e*P	Pn	08 01 30.4	+4.9
ROSC	**El Rosal**	8.20	95	*e*P	Pn	08 01 30.4	+4.9
SJCC	**San Jacinto, C**	8.40	59	*e*P	**Pn**	08 01 31.0	+3.1
SJCC	**San Jacinto, C**	8.40	59	*e*P	**Pn**	08 01 31.0	+3.1
CHIC	**Chingaza**	8.81	96	*e*P	Pn	08 01 38.5	+4.7
CHIC	**Chingaza**	8.81	96	*e*P	Pn	08 01 38.5	+4.7
VILC	**Villavicencio,**	8.92	99	*e*P	Pn	08 01 39.7	+4.6
VILC	**Villavicencio,**	8.92	99	*e*P	Pn	08 01 39.7	+4.6
SMLC	**San Martn de**	8.94	69	*e*P	**Pn**	08 01 37.0	+1.7
SMLC	**San Martn de**	8.94	69	*e*P	**Pn**	08 01 37.0	+1.7
RUSC	**La Rusia**	9.39	88	*e*P	Pn	08 01 47.7	+5.8
RUSC	**La Rusia**	9.39	88	*e*P	Pn	08 01 47.7	+5.8
OCAC	**Ocana**	9.49	74	*e*P	**Pn**	08 01 46.2	+3.3
OCAC	**Ocana**	9.49	74	*e*P	**Pn**	08 01 46.2	+3.3
SDV	**Santo Domingo**	12.22	74	*e*P	**Pn**	08 02 22.9	+2.5
SDV	**Santo Domingo**	12.22	74	*e*P	**Pn**	08 02 22.9	+2.5
LPAZ	**La Paz**	26.03	147	P	**P**	08 05 00.3	+0.9
	0.6nm,0.6s,baz=307,slow=5.1,SNR=2.7						
LPAZ				LR	LR	08 16 23.6	
	comp=Z,50nm,19.5s,baz=298,slow=39						
H06E1	**SOCORRO T-PHAS**	30.61	298	T	T	08 37 37.6	
	SNR=15						
CPUP	**Villa Florida**	40.09	144	LR	LR	08 26 35.8	
	comp=Z,73nm,18.8s,baz=204,slow=41						
PDAR	**Pinedale Array**	44.04	331	P	**P**	08 07 34.4	+1.2
	0.2nm,0.6s,baz=152,slow=4.1,SNR=3.0						
ULM	**Lac du Bonnet**	45.85	348	P	**P**	08 07 46.3	-0.8
	1.3nm,0.8s,baz=123,slow=6.6,SNR=3.0						
NVAR	**Mina Array Bea**	46.01	320	P	**P**	08 07 50.5	+1.6
	0.5nm,0.6s,baz=129,slow=8.2,SNR=5.7						
YKA	**Yellowknife Ar**	61.44	344	P	**P**	08 09 41.7	+0.6
	1.0nm,0.7s,baz=140,slow=6.6,SNR=35						

*IDC **09** 08:00:07.6±4.1, 36°.35N×70°.95E, h170km±35km, mb3.4/9, mb1 3.5/14, mb1mx3.2/52, mbtmp3.9/14, Error ellipse: s-maj=29.4km s-min=18.1km az=36.0*
*ISCJB **09** 08:00:10.2±0.5, 36°.56N±0°.03×71°.

comp=E,1.5nm,0.7s,baz=144,slow=7.1,SNR=4.7
ARCES ARCESS Array B 41.10 338 P P 08 07 35.9 +0.4
comp=E,1.5nm,0.6s,baz=104,slow=8.9,SNR=9.5
NB2 NORSAR Subarra 44.35 323 P P 08 08 01.1 -0.7
comp=Z,0.5nm,0.5s,baz=96,slow=7.9
NOA NORSAR Array B 44.35 323 P P 08 08 01.4 -0.4
comp=Z,1.0nm,0.7s,baz=97,slow=7.7,SNR=5.0
TORD Torodi Ar. Bea 65.77 269 P P 08 10 32.9 -2.8
comp=Z,0.6nm,0.6s,baz=54,slow=5.9,SNR=4.8
YKA Yellowknife Ar 81.17 3 P P 08 12 04.8 +0.1
comp=Z,0.6nm,0.4s,baz=351,slow=5.4,SNR=42
WRA Warramunga Arr 81.99 122 P P 08 12 08.3 -1.4
comp=Z,0.3nm,0.4s,baz=325,slow=5.1,SNR=9.0
ASAR Alice Springs 84.25 125 P P 08 12 20.1 -1.2
comp=Z,0.4nm,0.5s,baz=315,slow=5.0,SNR=9.6

MEX 09 08:01:21.2±0.5, 14°.23N×92°.59W, h56km±19km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.74**	**25**	*i* P			Pn	08 01 34.5	-1.3
THIG				*e*S			Sn	08 01 45.1	-1.4
PCIG		**1.59**	**338**	*e*P			Pn	08 01 45.3	-1.8
PCIG				*i* S			Sn	08 02 03.9	-2.7
CCIG	**Comitan**	**2.09**	**12**	*e*P			Pn	08 01 52.9	-1.2
CCIG				*i* S			Sn	08 02 17.9	-1.0
TGIG		**2.59**	**349**	*e*P			Pn	08 01 59.6	-1.1
TGIG				*e*S			Sn	08 02 29.5	-1.6
CMIG	**Matias Romero**	**3.61**	**322**	*i* P			Pn	08 02 14.1	-0.5
CMIG				*e*S			Sn	08 02 54.4	-1.5

IDC ***09*** *08:01:30.5±0.5, 26°.79N×57°.83E, h0km, mb4.5/36, mb1 4.6/38, mb1mx4.5/49, mbtmp4.5/38, ML4.6/2, MS4.4/31, Ms1 4.4/31, ms1mx4.3/39, Error ellipse: s-maj=11.6km s-min=9.8km az=177.0*
ISCJB ***09*** *08:01:31.2±0.6, 26°.65N±0°.01×57°.78E±0°.02, h17km±4km, mb4.9/205, MS4.5/60, Error ellipse: s-maj=2.6km s-min=2.4km az=149.1*
GCMT ***09*** *08:01:32.5±0.2, 26°.51N±0°.01×57°.69E±0°.01, h12km, MW5.0/96, Moment Tensor Solution. s39,c47; s96,c161; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.56±.09; Mθθ-1.51±.09; Mφφ2.07±.09; Mrθ-0.10±.25; Mθφ3.30±.07; Mφr-0.40±.24; Best double couple: M0=3.77400×10^16 NP1:φs=166.00000°, δ88.00000°, λ175.00000°. NP2: φs=256.00000°, δ85.00000°, λ2.00000°. Principal axes: T 4.0680, Plg5.0000°, Azm121.0000°; N -0.5860, Plg85.0000°, Azm327.0000°; P -3.4790, Plg2.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***09*** *08:01:32.4±1.2, 26°.76N×57°.90E, h22km, mb5.0/56, MS4.4/28 Error ellipse: s-maj=5.9km s-min=3.8km az=102.6*
THR ***09*** *08:01:32.8, 26°.70N×57°.56E, h15km, ML4.7*
TEH ***09*** *08:01:33.3, 26°.73N×57°.75E, h10km, ML5.0*
NEIC ***09*** *08:01:33.5±0.0, 26°.73N×57°.69E, h22km, mb4.9/119, ML4.7(THR), MN5.0(TEH), After TEH.*
DSN ***09*** *08:01:35.1±0.4, 26°.37N×57°.77E, h10km±14km, ML4.5/11, Error ellipse: s-maj=27.2km s-min=3.4km az=238.0*
OMAN ***09*** *08:01:36.3±0.4, 26°.48N×57°.83E, h34km±9km, ml4.8/20, ms4.4/2, Mwp5.0/7, Error ellipse: s-maj=13.5km s-min=2.5km az=25.0*
BJI ***09*** *08:01:37.0±0.0, 26°.98N×58°.38E, h20km, mb4.8/46, mB4.8/33, Ms4.9/45, Ms7 4.8/43*
ISC 09 08:01:33.1±0.5, 26°.63N±0°.03×57°.79E±0°.02, h20km±3km, n629, σ1°.77/659, mb4.9/210, MS4.5/60, 36C-21D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.25**	**318**	*e*Pg			**Pb**	**08 01 55.8**	**-0.3**
NIAN					IAMB		IAmb	08 02 31.2	
	comp=Z,0.0nm,0.4s								
SHME	**Shamm**	**1.59**	**249**	*e*P			**Pb**	**08 02 01.6**	**-0.2**
	SNR=124								
SHME	**Shamm**	**1.59**	**249**	*e*Pn			**Pb**	**08 02 01.3**	**-0.4**
GENO	**Geno**	**1.63**	**298**	*e*Pn			**Pb**	**08 02 02.0**	**-0.6**
MDH	**Madha**	**1.89**	**226**	*e*P			**Pn**	**08 02 03.0**	**-1.1**
	SNR=62								
MDH				S			**Sn**	**08 02 27.1**	**-0.2**
MDH	**Madha**	**1.89**	**226**	P			**Pn**	**08 02 03.1**	**-1.1**
MDH				P			**Pn**	**08 02 03.1**	**-1.1**
MDH				S			**Sn**	**08 02 26.8**	**-0.5**
MDH				S			**Sn**	**08 02 26.8**	**-0.5**
MDH	**Madha**	**1.89**	**226**	*e*Pn			**Pn**	**08 02 03.1**	**-1.1**
MSFE	**Esma-Masafi**	**1.94**	**230**	*e*P			**Pn**	**08 02 03.9**	**-1.0**
	SNR=47								
MSFE	**Esma-Masafi**	**1.94**	**230**	*e*Pn			**Pn**	**08 02 03.9**	**-1.0**
UMQ	**Umm Al-Quwin**	**2.21**	**241**	P			**Pb**	**08 02 12.7**	**+0.4**
UMQ				P			**Pb**	**08 02 12.7**	**+0.4**
UMQ	**Umm Al-Quwin**	**2.21**	**241**	*e*Pn			**Pb**	**08 02 10.7**	**-1.6**
HATD	**Hatta, Dubai**	**2.34**	**220**	*e*P			**Pn**	**08 02 08.9**	**-1.5**
	SNR=55								
HATD				S			**Sn**	**08 02 38.8**	**+0.3**
HATD	**Hatta, Dubai**	**2.34**	**220**	P			**Pn**	**08 02 08.7**	**-1.6**
HATD				P			**Pn**	**08 02 08.7**	**-1.6**
HATD				S			**Sn**	**08 02 38.9**	**+0.3**
HATD				S			**Sn**	**08 02 38.9**	**+0.3**
HATD	**Hatta, Dubai**	**2.34**	**220**	*e*Pn			**Pn**	**08 02 09.1**	**-1.3**
ASHO	**Ashiyiah**	**2.49**	**219**	*e*P			**Pn**	**08 02 12.1**	**-0.4**
	SNR=42								
ASHO	**Ashiyiah**	**2.49**	**219**	P			**Pn**	**08 02 12.5**	**+0.1**
ASHO	**Ashiyiah**	**2.49**	**219**	*e*Pn			**Pn**	**08 02 12.3**	**-0.2**
NAZ	**Nazwa, Dubai**	**2.52**	**230**	*e*P			**Pn**	**08 02 13.7**	**+0.8**
	SNR=211								
NAZ	**Nazwa, Dubai**	**2.52**	**230**	P			**Pn**	**08 02 15.2**	**+2.3**
NAZ				P			**Pn**	**08 02 15.2**	**+2.3**
NAZ	**Nazwa, Dubai**	**2.52**	**230**	*e*Pn			**Pn**	**08 02 14.8**	**+1.9**
CHBR	**Chabahar**	**2.63**	**112**	*e*Pn			**Pb**	**08 02 19.0**	**-0.6**
CHBR	**Chabahar**	**2.63**	**112**	*e*Pn			**Pb**	**08 02 19.6**	**0.0**
CHBR	**Chabahar**	**2.63**	**112**	*e*Pn			**Pb**	**08 02 19.6**	**0.0**
CHBR				*e*AML			AML	08 03 25.5	
	comp=N,2μm,0.6s								
FAQ	**Al Faqa, Dubai**	**2.73**	**227**	*e*P			**Pn**	**08 02 17.8**	**+2.1**
	SNR=180								
FAQ	**Al Faqa, Dubai**	**2.73**	**227**	P			**Pn**	**08 02 17.8**	**+2.1**
FAQ	**Al Faqa, Dubai**	**2.73**	**227**	*e*Pn			**Pn**	**08 02 17.9**	**+2.1**
SOHO	**SOHO**	**2.73**	**205**	P			**Pn**	**08 02 14.1**	**-1.7**
SOHO				P			**Pn**	**08 02 14.1**	**-1.7**
SOHO				S			**Sn**	**08 02 47.7**	**-0.5**
SOHO				S			**Sn**	**08 02 47.7**	**-0.5**
ASUD	**Al Ashush, Dub**	**2.98**	**229**	*e*P			**Pn**	**08 02 21.6**	**+2.3**
	SNR=78								
ASUD	**Al Ashush, Dub**	**2.98**	**229**	P			**Pn**	**08 02 22.0**	**+2.8**
	SNR=50								
ASUD	**Al Ashush, Dub**	**2.98**	**229**	*e*Pn			**Pn**	**08 02 22.1**	**+2.8**
HOQ	**Hoqain**	**3.07**	**188**	P			**Pn**	**08 02 19.5**	**-1.0**
HOQ				S			**Sn**	**08 02 56.1**	**-0.4**
BIDO	**Bidbid**	**3.11**	**174**	P			**Pn**	**08 02 20.4**	**-0.7**
BIDO	**Bidbid**	**3.11**	**174**	*e*Pn			**Pn**	**08 02 20.2**	**-0.8**
NGRK	**Negar Kerman**	**3.14**	**343**	*e*Pn			**Pn**	**08 02 23.4**	**+1.6**
NGRK					IAMB		IAmb	08 03 20.5	
	comp=Z,0.0nm,1.2s								
ALNE	**Al Ain**	**3.16**	**216**	*e*P			**Pn**	**08 02 23.0**	**+1.4**
	SNR=60								
ALNE	**Al Ain**	**3.16**	**216**	*e*Pn			**Pn**	**08 02 23.5**	**+1.8**
CHMN	**Cheshme madani**	**3.23**	**356**	*e*Pn			**Pn**	**08 02 25.4**	**+2.5**
AJN	**Ajban**	**3.26**	**231**	*i* P			**Pn**	**08 02 24.4**	**+1.4**
	SNR=78								
AJN	**Ajban**	**3.26**	**231**	P			**Pn**	**08 02 25.8**	**+2.7**
AJN	**Ajban**	**3.26**	**231**	*e*Pn			**Pn**	**08 02 25.6**	**+2.5**
TVBK	**TV Kerman**	**3.46**	**345**	*e*Pn			**Pn**	**08 02 28.6**	**+2.4**
TVBK					IAMB		IAmb	08 03 42.4	
	comp=Z,0.0nm,1.1s								
WSAR	**Wadi Sarin**	**3.46**	**167**	Pn			**Pn**	**08 02 26.1**	**+0.2**
	comp=Z,168nm,0.3s,baz=1.8,slow=12,SNR=359								
WSAR				Sn			**Sn**	**08 03 04.3**	**-2.0**
	comp=Z,124nm,0.3s,baz=259,slow=22,SNR=13								
ARQ	**Araqi**	**3.48**	**200**	P			**Pn**	**08 02 27.9**	**+1.8**
ARQ				S			**Sn**	**08 03 03.7**	**-2.9**
SMDO	**Samad**	**3.56**	**176**	P			**Pn**	**08 02 27.4**	**0.0**
KHGB	**Koh Gabri**	**3.91**	**343**	*e*Pn			**Pn**	**08 02 34.5**	**+2.3**
KHGB					IAMB		IAmb	08 03 42.6	
	comp=Z,0.0nm,0.8s								
BSY	**Bisya**	**3.91**	**188**	P			**Pn**	**08 02 33.7**	**+1.7**
SZD1	**Zahaedan-tmp**	**3.94**	**43**	*e*Pn			**Pn**	**08 02 34.4**	**+1.9**
WBK	**Wadi Bani Khal**	**4.14**	**165**	P			**Pn**	**08 02 35.6**	**+0.3**
WBK				S			**Sn**	**08 03 20.8**	**-2.4**
JMDO	**Jabal Madar**	**4.25**	**176**	P			**Pn**	**08 02 37.9**	**+1.2**
JMDO				S			**Sn**	**08 03 25.5**	**-0.3**
GHIR	**Ghir-Karzin**	**4.57**	**292**	*e*Pn			**Pn**	**08 02 41.0**	**-0.2**
GHIR	**Ghir-Karzin**	**4.57**	**292**	*e*Pn			**Pn**	**08 02 41.0**	**-0.2**
GHIR	**Ghir-Karzin**	**4.57**	**292**	*e*Pn			**Pn**	**08 02 41.0**	**-0.2**
JLN	**Jalan Bani Buh**	**4.70**	**161**	P			**Pn**	**08 02 42.4**	**-0.5**
JLN				S			**Sn**	**08 03 33.5**	**-3.3**
IPAR	**Pars**	**5.26**	**309**	*e*Pn			**Pn**	**08 02 51.3**	**+0.4**
MZR	**Muzera**	**5.33**	**228**	*i* P			**Pn**	**08 02 51.8**	**+0.4**
	SNR=17								
MZR	**Muzera**	**5.33**	**228**	P			**Pn**	**08 02 52.7**	**+1.2**
MZR				S			**Sn**	**08 03 49.6**	**-2.7**
MZR	**Muzera**	**5.33**	**228**	*e*Pn			**Pn**	**08 02 52.6**	**+1.1**
IMEH	**Mehriz**	**5.50**	**330**	*e*Pn			**Pn**	**08 02 54.8**	**+0.8**
SHI	**Shiraz**	**5.54**	**304**	*e*Pn			**Pn**	**08 02 53.9**	**-0.6**
IKOO	**Kooshah**	**5.87**	**10**	*e*Pn			**Pn**	**08 02 59.5**	**+0.3**
IKAZ	**Kazeroun**	**6.11**	**302**	*e*Pn			**Pn**	**08 03 02.3**	**-0.3**
ITEG	**Tejag**	**6.30**	**7**	*e*Pn			**Pn**	**08 03 05.7**	**+0.7**
ICHK	**Chekchek**	**6.32**	**333**	*e*Pn			**Pn**	**08 03 08.3**	**+2.9**
IDAH	**Dahanechah**	**6.35**	**16**	*e*Pn			**Pn**	**08 03 09.8**	**+4.0**
ISAD	**Sadrabad**	**6.37**	**327**	*e*Pn			**Pn**	**08 03 06.7**	**+0.7**
YZKH	**Yazd**	**6.38**	**335**	*e*Pn			**Pn**	**08 03 06.8**	**+0.8**
YZKH	**Yazd**	**6.38**	**335**	*e*Pn			**Pn**	**08 03 06.8**	**+0.8**
TPRV	**Parvadeh(Tabas**	**6.45**	**352**	*e*Pn			**Pn**	**08 03 08.8**	**+1.8**
KLNJ	**Kolanjah**	**6.97**	**310**	*e*Pn			**Pn**	**08 03 13.8**	**-0.5**
TKDS	**Koohdasht(Taba**	**6.98**	**355**	*e*Pn			**Pn**	**08 03 16.8**	**+2.5**
IRAM	**Ramesheh**	**6.99**	**319**	*e*Pn			**Pn**	**08 03 14.5**	**-0.1**
TABS	**Tabas**	**7.02**	**355**	*e*Pn			**Pn**	**08 03 16.0**	**+1.2**
TABS	**Tabas**	**7.02**	**355**	*e*Pn			**Pn**	**08 03 16.4**	**+1.6**
TABS	**Tabas**	**7.02**	**355**	*e*Pn			**Pn**	**08 03 16.4**	**+1.6**
SHRT	**Shahrakht**	**7.32**	**17**	*e*Pn			**Pn**	**08 03 21.3**	**+2.4**
SHRT	**Shahrakht**	**7.32**	**17**	*e*Pn			**Pn**	**08 03 21.3**	**+2.4**
TNSJ	**Nastanj**	**7.38**	**352**	*e*Pn			**Pn**	**08 03 21.7**	**+1.9**
ANAR	**Anarak**	**7.42**	**333**	*e*Pn			**Pn**	**08 03 20.4**	**0.0**
IGAR	**Gharneh**	**7.62**	**320**	*e*Pn			**Pn**	**08 03 23.3**	**+0.1**
IZEF	**Zefreh**	**7.84**	**324**	*e*Pn			**Pn**	**08 03 26.3**	**+0.1**
ZNGN	**Zangian**	**8.15**	**314**	*e*Pn			**Pn**	**08 03 30.1**	**-0.5**
ROKH	**ROKH**	**8.19**	**316**	*e*Pn			**Pn**	**08 03 30.4**	**-0.6**
JHBN	**Jahan bin**	**8.35**	**314**	*e*Pn			**Pn**	**08 03 33.3**	**+0.1**
IPIR	**Pirpir**	**8.51**	**317**	*e*Pn			**Pn**	**08 03 35.6**	**+0.2**
IKLH	**Kolahrood**	**8.57**	**323**	*e*Pn			**Pn**	**08 03 36.8**	**+0.6**
KRSH	**Karshahi**	**8.79**	**328**	*e*Pn			**Pn**	**08 03 39.3**	**+0.1**
ISFB	**Sefidab**	**9.06**	**329**	*e*Pn			**Pn**	**08 03 43.6**	**+0.8**
DMTO	**DMTO**	**9.25**	**197**	P			**Pn**	**08 03 43.8**	**-1.6**
	SNR=25								
IANJ	**Anjilo**	**9.41**	**340**	*e*Pn			**Pn**	**08 03 49.5**	**+1.7**
RBK	**Rabkut**	**9.67**	**201**	P			**Pn**	**08 03 50.1**	**-1.1**
SBZV	**Sabzevar**	**9.73**	**359**	*e*Pn			**Pn**	**08 03 54.1**	**+2.0**
IMYA	**Miami**	**9.88**	**11**	*e*Pn			Pn	08 03 59.9	+5.8
ISHM	**Shahmirzad**	**9.92**	**338**	*e*Pn			**Pn**	**08 03 56.7**	**+1.9**
IFIR	**Firoozkooh**	**9.96**	**336**	*e*Pn			**Pn**	**08 03 56.9**	**+1.6**
IAKL	**Akhelmad**	**9.98**	**5**	*e*Pn			**Pn**	**08 03 58.2**	**+2.7**
ABTO	**Aybut**	**10.13**	**205**	P			**Pn**	**08 03 56.0**	**-1.5**
IKIA	**Kiasar**	**10.17**	**341**	*e*Pn			**Pn**	**08 04 00.5**	**+2.4**
ASAO	**Ashtian**	**10.34**	**322**	*e*Pn			**Pn**	**08 04 00.5**	**0.0**
ASAO	**Ashtian**	**10.34**	**322**	*e*Pn			**Pn**	**08 04 00.5**	**0.0**
ISFR	**Sfrayin**	**10.39**	**1**	*e*Pn			**Pn**	**08 04 03.7**	**+2.4**
IKMR	**Kamar-syah**	**10.65**	**312**	*e*Pn			**Pn**	**08 04 03.8**	**-0.7**
IDOB	**Doab**	**10.95**	**313**	*e*Pn			**Pn**	**08 04 06.6**	**-2.2**
IRAZ	**Razeghan**	**11.04**	**324**	*e*Pn			**Pn**	**08 04 09.1**	**-0.9**
GEYT	**Alibeck**	**11.27**	**1**	Pn			**Pn**	**08 04 16.5**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=181,slow=12,SNR=13								
GEYT				Lg			Lg	08 07 16.1	
	comp=Z,1.7nm,0.3s,baz=192,slow=20,SNR=4.8								
GEYT				LR			LR	08 09 40.1	
	comp=Z,1μm,18.5s,baz=190,slow=44								
GYA0B	**ALIBECK ARRAY**	**11.27**	**1**	*e*Pn			**Pn**	**08 04 11.2**	**-1.8**
GYA0B				*e*Sn			**Sn**	**08 06 15.3**	**-3.1**
QABG	**Abgarm-Qazvin**	**11.45**	**324**	*e*Pn			**Pn**	**08 04 16.7**	**+1.0**
IBZA	**Bozab**	**11.58**	**315**	*e*Pn			**Pn**	**08 04 16.1**	**-1.4**
IKOM	**Komasi**	**11.62**	**313**	*e*Pn			**Pn**	**08 04 15.6**	**-2.4**
HSRG	**Sareghieh**	**11.84**	**319**	*e*Pn			**Pn**	**08 04 20.4**	**-0.6**
KCHF	**Cheshme Sefid,**	**11.99**	**312**	*e*Pn			**Pn**	**08 04 21.0**	**-2.1**
IVIS	**Veis**	**12.27**	**313**	*e*Pn			**Pn**	**08 04 24.2**	**-2.6**
IGHG	**Ghaleghazi**	**12.34**	**311**	*e*Pn			**Pn**	**08 04 24.8**	**-3.1**
ILIN	**Lien**	**12.44**	**314**	*e*Pn			**Pn**	**08 04 26.4**	**-2.8**
KBL	**Kabul**	**12.49**	**48**	*e*Pn			**Pn**	**08 04 30.9**	**+1.0**
KBL				*e*Sn			**Sn**	**08 06 46.9**	**-1.7**
KBL	**Kabul**	**12.49**	**48**	*e*P			**Pn**	**08 04 30.9**	**+1.0**
KBL				*e*				08 06 46.9	
KBL	**Kabul**	**12.49**	**48**	*e*Pn			**Pn**	**08 04 32.4**	**+2.5**
IDHR	**Dehrash**	**12.68**	**312**	*e*Pn			**Pn**	**08 04 29.6**	**-2.9**
THW	**Thamme Wali**	**13.59**	**60**	P			**Pn**	**08 04 42.0**	**-2.7**
CEP	**Cherat**	**14.15**	**56**	P			**Pn**	**08 04 52.2**	**-0.3**
LKRN	**Lenkeran, Azer**	**14.22**	**330**	P			**P**	**08 04 57.1**	**-3.4**
IHRS	**Heris**	**14.75**	**325**	*e*Pn			**Pn**	**08 05 00.3**	**-0.5**
NIL	**Nilore**	**15.09**	**59**	*e*Pn			**Pn**	**08 05 03.8**	**-1.3**
	comp=Z,133nm,0.9s								
NIL	**Nilore**	**15.09**	**59**	*e*P			**Pn**	**08 05 03.8**	**-1.3**
NIL					pmax		pmax		
	comp=Z,133nm,0.9s								
NIL	**Nilore**	**15.09**	**59**	*e*Pn			**Pn**	**08 05 04.0**	**-1.2**
CHCP	**Chirah Chowk**	**15.10**	**59**	P			**Pn**	**08 05 03.7**	**-1.6**
CHGR	**Chuyangaron**	**15.33**	**36**	*e*Pn			**Pn**	**08 05 04.7**	**-3.7**
	comp=Z,74nm,1.1s								
CHGR				*e*Sn			**Sn**	**08 07 53.8**	**-3.8**
CUKT	**Cukurca**	**16.01**	**315**	*e*P			**Pn**	**08 05 14.4**	**-2.8**
NAX	**Nakhchivan**	**16.20**	**324**	P			**P**	**08 05 23.7**	**+1.1**
GAR	**Garm**	**16.20**	**37**	*e*Pn			**Pn**	**08 05 17.2**	**-2.4**
	comp=Z,57nm,1.0s								
GAR	**Garm**	**16.20**	**37**	*e*P			**Pn**	**08 05 17.2**	**-2.4**
GAR					pmax		pmax		
	comp=Z,57nm,1.0s								
MNGR	**Mingechevir, A**	**16.66**	**331**	P			**P**	**08 05 28.6**	**+1.0**
GANJ	**Ganja**	**16.90**	**329**	P			**P**	**08 05 31.9**	**+1.5**
SIRT	**Sirnak**	**16.91**	**314**	*e*Pn			**Pn**	**08 05 25.5**	**-3.1**
	comp=Z,181nm,0.9s								
SIRT				*e*Sn			**Sn**	**08 08 28.2**	**-7.7**
SEKA	**Sheki**	**16.97**	**332**	P			**P**	**08 05 31.7**	**+0.6**
BHK	**Bhakra**	**16.97**	**69**	*e*P			**Pn**	**08 05 28.6**	**-0.8**
VANB	**Van**	**16.99**	**318**	*e*P			**Pn**	**08 05 28.3**	**-1.3**
CLDR	**Caldiran**	**17.04**	**321**	*e*P			**P**	**08 05 31.4**	**-0.7**
AKDM	**Akdamar-Van**	**17.07**	**317**	*e*P			**Pn**	**08 05 29.3**	**-1.3**
BTK	**Batken**	**17.23**	**36**	*e*Pn			**Pn**	**08 05 31.6**	**-1.0**
	comp=Z,57nm,0.8s								
BTK				*e*Sn			**Sn**	**08 08 41.4**	**-2.4**
BTK	**Batken**	**17.23**	**36**	*e*P			**Pn**	**08 05 31.6**	**-1.0**
BTK				*e*				08 08 41.4	
BTK					pmax		pmax		
	comp=Z,57nm,0.8s								
GNI	**Garni**	**17.30**	**324**	*e*Pn			**Pn**	**08 05 30.7**	**-2.9**
	comp=Z,54nm,1.0s								
GNI	**Garni**	**17.30**	**324**	*e*P			**Pn**	**08 05 30.7**	**-2.9**
GNI					pmax		pmax		
	comp=Z,54nm,1.0s								
GNI	**Garni**	**17.30**	**324**	P			**P**	**08 05 35.8**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=122,slow=3.2,SNR=12								
GNI				Lg			Lg	08 10 50.2	
	baz=180,slow=20,SNR=1.5								
GNI				LR			LR	08 13 27.5	
	comp=Z,2μm,19.4s,baz=120,slow=42								
DAMY	**Dhamar**	**17.34**	**229**	*e*Pn			**Pn**	**08 05 32.5**	**-1.7**
	comp=Z,123nm,1.1s								
DAMY				*e*Sn			**Sn**	**08 08 41.5**	**-5.3**
ZKTA	**Zakatala**	**17.57**	**331**	P			**P**	**08 05 39.4**	**+1.7**
AGRB	**Hanur-Agry**	**17.86**	**320**	*e*P			**P**	**08 05 41.7**	**+0.5**
MAZI	**Mazidag**	**18.21**	**311**	*e*P			**Pn**	**08 05 42.8**	**-1.9**
MAK	**Makhachkala**	**18.32**	**335**	*e*P			**P**	**08 05 43.9**	**-2.0**
MAK				*e*S			**Sn**	**08 09 08.3**	**-1.7**
MAK					pmax		pmax		
	comp=Z,211nm,1.4s								
MAK				MLR			MLR		
	comp=Z,882nm,16.0s								
TBLG	**Delisi**	**18.50**	**328**	*e*P			**P**	**08 05 47.5**	**-0.4**
	comp=Z,27nm,1.0s								
KARS	**Kars**	**18.53**	**323**	*e*P			**P**	**08 05 47.1**	**-1.4**
KARS	**Kars**	**18.53**	**323**	*e*P			**P**	**08 05 47.1**	**-1.4**
DYBB	**Diyarbakir**	**18.68**	**312**	*e*P			**P**	**08 05 49.4**	**-0.6**
KOPR	**Koprukoy-ERZUR**	**18.80**	**319**	*e*P			**Pn**	**08 05 53.8**	**+1.8**
AKH	**Akhalkalaki**	**18.87**	**325**	*e*P			**P**	**08 05 52.5**	**+0.3**
	comp=Z,21nm,1.2s								
AKH	**Akhalkalaki**	**18.87**	**325**	‖ *i*P			**Pn**	**08 05 53.7**	**+0.8**
AKH	**Akhalkalaki**	**18.87**	**325**	*e*P			**P**	**08 05 52.5**	**+0.3**
AKH					pmax		pmax		
	comp=Z,21nm,1.2s								
ASF	**Jabal al Asfar**	**19.01**	**292**	P			**Pn**	**08 05 54.3**	**-0.2**
ASF	**Jabal al Asfar**	**19.01**	**292**	P			**P**	**08 05 53.0**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=63,slow=5.8,SNR=15								
ASF				S			**Sn**	**08 09 17.7**	**-9.2**
	comp=Z,0.5nm,0.3s,baz=218,slow=19,SNR=4.3								
ASF				LR			LR	08 13 55.1	
	comp=Z,399nm,20.8s,baz=62,slow=39								
GROC	**Groznyy**	**19.20**	**332**	*i* P			**P**	**08 05 53.8**	**-1.8**
GROC					pmax		pmax		
	comp=Z,10.0nm,0.4s								
YEDI	**Yedisu-Bingol**	**19.25**	**316**	*e*P			**Pn**	**08 05 58.3**	**+0.9**
ARSB	**Arslanbob**	**19.29**	**37**	*e*P			**P**	**08 05 54.1**	**-2.7**
URFA	**Urfa**	**19.32**	**309**	*e*P			**Pn**	**08 05 57.8**	**-0.4**
KK31	**Karatay Array**	**19.43**	**29**	*e*P			**P**	**08 05 58.2**	**0.0**
	comp=Z,57nm,1.0s								
KK31	**Karatay Array**	**19.43**	**29**	*e*P			**P**	**08 05 58.2**	**0.0**
KK31					pmax		pmax		
	comp=Z,57nm,1.0s								
KKAR	**Karatay Array**	**19.43**	**29**	*e*P			**Pn**	**08 05 58.9**	**-0.5**
	comp=Z,57nm,1.0s								
KKAR	**Karatay Array**	**19.43**	**29**	*e*P			**Pn**	**08 05 58.9**	**-0.5**
KKAR					pmax		pmax		
	comp=Z,57nm,1.0s								
SVRC	**Sivrice-ELAZID**	**19.46**	**312**	*e*P			**P**	**08 05 58.8**	**+0.1**
TOTH	**TOTAH**	**19.66**	**295**	*e*P			**P**	**08 06 00.7**	**-0.1**
ZEI	**Tsey**	**19.71**	**328**	*e*P			**Pn**	**08 06 03.2**	**+0.3**
ZEI					pmax		pmax		
	comp=Z,20nm,0.8s								
WALJ	**Wala**	**19.81**	**290**	P			**Pn**	**08 06 06.0**	**+2.0**
JDRJ	**Daraweish**	**19.83**	**287**	P			**P**	**08 06 02.8**	**+0.1**
QASN	**Qassioun**	**19.83**	**295**	*e*P			**Pn**	**08 06 03.6**	**-0.6**
ERZN	**Erzincan**	**19.85**	**315**	*e*P			**P**	**08 06 03.0**	**+0.1**
KSH	**Kashi**	**19.89**	**45**	P			**P**	**08 05 57.3**	**-6.0**
KSH				sP			pP	08 06 08.0	-1.4
KSH				PP			**sP**	**08 06 13.8**	**+1.5**
KSH				S			S	08 09 25.0	-21
KSH				SS			**Sn**	**08 09 51.3**	**+3.3**
KSH					pmax		pmax		
	comp=Z,70nm,0.8s								
KSH				LR			LR		
	comp=Z,3μm,10.7s								
KSH				LR			LR		
	comp=Z,4μm,11.9s								
KSH				LR			LR		
	comp=Z,6μm,10.1s								
BCA	**Borcka**	**19.89**	**322**	*e*P			**P**	**08 06 03.5**	**+0.3**
BCA	**Borcka**	**19.89**	**322**	⇑ *i*P			**Pn**	**08 06 04.7**	**-0.2**
BATM	**Batum

comp=N,500nm,9.4s
AAA MLR MLR

AKKU Akkuyu-Mersin 22.71 301 *e*P **P 08 06 34.9 +1.3**
YOZ Yozgat 22.78 310 *e*P **P 08 06 35.6 +1.2**
LEF Lefka 22.94 298 *e*P **P 08 06 33.6 -2.4**
LEF Lefka 22.94 298⇑*i*P **P 08 06 36.9 +0.9**
KOLN Koldanda 22.98 81 *e*P **P 08 06 38.2 +1.5**
comp=Z,95nm,1.0s
BERE Bereket-Mersin 23.02 301 *e*P **P 08 06 36.4 -0.6**
TEKE Tekeli-Mersin 23.05 300 *e*P **P 08 06 34.9 -2.2**
DANN Dangsing 23.09 80 *e*P **P 08 06 39.7 +1.7**
comp=Z,489nm,1.0s
PRZ Przheval'sk 23.11 42 *e*P **P 08 06 36.3 -1.6**
comp=Z,41nm,0.9s
PRZ Przheval'sk 23.11 42 *e*P **P 08 06 36.3 -1.6**
PRZ pmax pmax
comp=Z,41nm,0.9s
SULT Sultanhani-AKS 23.44 306 *e*P **P 08 06 39.4 -1.8**
CORM Corum 23.50 311 *e*P **P 08 06 37.6 -4.1**
YAYX Yaylak 23.52 307 *e*P **P 08 06 39.0 -3.0**
AKTO Aktyubinsk 23.77 0 P **P 08 06 43.2 -0.9**
AKTO pmax pmax
comp=Z,18nm,0.7s
AKTO MLR MLR
comp=Z,1μm,21.7s
AKTO Aktyubinsk 23.77 0 P **P 08 06 43.2 -0.9**
comp=Z,20nm,0.7s,baz=177,slow=13,SNR=25
AKTO LR LR 08 16 35.7
comp=Z,1μm,21.7s,baz=171,slow=38
BR101 Keskin Array S 23.97 309 *e*P **P 08 06 47.0 +0.7**
BR101 *e*ScP **ScP 08 14 10.0 +4.4**
BR131 Keskin Array S 23.97 309 *e*P **P 08 06 44.7 -1.6**
comp=Z,39nm,1.1s
BR131 Keskin Array S 23.97 309 *e*P **P 08 06 44.7 -1.6**
BR131 pmax pmax
comp=Z,39nm,1.1s
BRTR Keskin Array B 23.97 309 *e*P **P 08 06 46.5 +0.2**
BRTR Keskin Array B 23.97 309 *e*P **P 08 06 46.5 +0.2**
BRTR Keskin Array B 23.97 309 P **P 08 06 47.0 +0.7**
comp=Z,16nm,0.9s,baz=127,slow=14,SNR=46
BRTR ScP **ScP 08 14 10.0 +4.4**
comp=Z,0.9nm,0.8s,baz=134,slow=5.3,SNR=4.1
BRTR LR LR 08 17 57.7
comp=Z,2μm,18.8s,baz=97,slow=41
CHBY Cihanbeyli 24.04 306 *e*P **P 08 06 48.1 +1.2**
PDGK Podgornoye 24.26 41 P **P 08 06 48.2 -0.7**
DMN Daman 24.32 81 *e*P **P 08 06 51.4 +1.6**
comp=Z,120nm,1.1s
OTUK Ortayu 24.39 24 P **P 08 06 49.8 -0.2**
ANN Anapa 24.42 323 *e*P P 08 06 59.8 +10
ANN *e**PP sP 08 07 03.1 +3.7
ANN *e*SS 08 12 18.7
ANN pmax pmax
comp=Z,74nm,1.1s
KKN Kakani 24.46 81 *e*P **P 08 06 52.6 +1.6**
comp=Z,78nm,1.0s
ILGA Ilgaz 24.52 312 *e*P **P 08 06 51.4 -0.1**
comp=Z,61nm,1.4s
PKIN Phulchoki 24.58 81 *e*P **P 08 06 53.4 +1.2**
comp=Z,155nm,1.3s
PKI Pulchoki 24.59 82 *e*P **P 08 06 53.7 +1.4**
comp=Z,154nm,1.2s
ANTO Ankara 24.62 309 *e*P **P 08 06 51.5 -0.7**
comp=Z,75nm,1.4s
ANTO Ankara 24.62 309⇑*i*P **P 08 06 53.1 +0.9**
JIRN Jiri 25.28 81 *e*P **P 08 06 59.5 +0.9**
comp=Z,166nm,1.1s
ISP Isparta 25.53 303 *e*P **P 08 07 00.0 -0.5**
comp=Z,41nm,1.0s
ISP Isparta 25.53 303⇑*i*P **P 08 07 01.9 +1.4**
ISP Isparta 25.53 303 *e*P **P 08 07 01.9 +1.4**
ISP pmax pmax
comp=Z,49nm,1.0s
MDUB Mudurnu 25.99 309 *e*P **P 08 07 05.5 +0.9**
comp=Z,204nm,0.8s
SIM Simferopol' 26.36 320 *de*P **P 08 07 06.2 -1.5**
SIM S **S 08 11 47.4 +7.7**
SIM pmax pmax
comp=Z,49nm,0.8s
MANT Manisa 27.21 303 *e*P **P 08 07 15.8 0.0**
comp=Z,72nm,1.1s
VRH Novokhopyorsk 27.41 338 *e*P **P 08 07 19.7 +2.5**
VRH pmax pmax
comp=Z,20nm,0.6s
MAKZ Makanchi 27.77 37 *e*P **P 08 07 18.6 -1.8**
comp=Z,7.8nm,0.8s
MK31 Makanchi Array 27.93 37 *e*P **P 08 07 18.5 -3.3**
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 27.93 37 P **P 08 07 18.6 -3.3**
MK32 Makanchi Array 27.93 37 *e*P **P 08 07 22.7 +0.8**
MKAR Makanchi Array 27.93 37 *e*P **P 08 07 21.4 -0.5**
MKAR Makanchi Array 27.93 37 P **P 08 07 22.7 +0.8**
comp=Z,3.8nm,0.6s,baz=235,slow=8.4,SNR=17
BVAR Borovoye Array 28.00 16 P **P 08 07 21.3 -1.1**
comp=Z,3.4nm,0.7s,baz=205,slow=9.0,SNR=15
BVAR ScP **ScP 08 14 20.9 +4.0**
comp=Z,1.6nm,0.8s,baz=202,slow=1.6,SNR=5.4
BRVK Borovoye 28.00 16 *e*P **P 08 07 20.8 -1.6**
comp=Z,17nm,1.1s
BRVK Borovoye 28.00 16⇓*e*P **P 08 07 22.6 +0.2**
BRVK pmax pmax
comp=Z,10.0nm,1.4s
BALB Balikesir 28.06 305 *e*P **P 08 07 20.8 -2.3**
comp=Z,57nm,1.0s
VSR Storozhevoye 28.34 335⇑*e*P **P 08 07 24.8 -0.7**
VSR pmax pmax
comp=Z,14nm,0.6s
VORR Voronezh 28.69 336 P **P 08 07 30.0 +1.4**
VORR pmax pmax
comp=Z,250nm,1.2s
KURBB Kurchatov Arra 28.73 28 P **P 08 07 28.2 -0.7**
comp=Z,6.3nm,0.8s,baz=225,slow=9.0,SNR=11
KURK Kurchatov 28.84 28 *e*P **P 08 07 29.5 -0.4**
KURK Kurchatov 28.84 28⇓*e*P **P 08 07 30.9 +1.0**
KURK pmax pmax
comp=Z,11nm,1.2s
PALK Pallekele 29.07 127 P **P 08 07 33.7 +1.3**
comp=Z,9.7nm,1.0s,baz=293,slow=7.1,SNR=2.4
PALK LR LR 08 19 20.7
comp=Z,684nm,18.7s,baz=296,slow=37
SANT Santorini 29.11 297 *e*P **P 08 07 33.3 +0.8**
comp=Z,22nm,0.8s
SANT Santorini 29.11 297⇓*i*P **P 08 07 32.3 -0.2**
APE Apeiranthos 29.18 299⇑*i*P **P 08 07 34.7 +1.5**
IDI Anoyia 29.39 295 P **P 08 07 36.2 +1.1**
comp=Z,12nm,0.7s,baz=83,slow=7.5,SNR=9.5
LPSR Galich'ya Gora 29.55 336 *e*P **P 08 07 36.8 +0.7**
LPSR pmax pmax
comp=Z,7.0nm,0.6s
WMQ Urumqi 29.63 47 *e*P **P 08 07 39.3 +2.2**
WMQ pP sP 08 07 47.6 +1.1
WMQ sP pP 08 07 51.0 +7.2
WMQ pmax pmax
comp=Z,36nm,0.9s
WMQ pmax pmax
comp=Z,69nm,3.8s
WMQ LR LR
comp=Z,12μm,18.9s
WMQ LR LR
comp=Z,15μm,32.5s
WMQ LR LR
comp=Z,3μm,22.3s
WMQ Urumqi 29.63 47 *e*P **P 08 07 36.7 -0.4**
comp=Z,22nm,0.7s
ARU Arti 29.78 1 *e*P **P 08 07 35.8 -2.4**
comp=Z,8.4nm,1.3s
KIS Kishinev 30.56 319 *e*P **P 08 07 47.0 +1.8**
KIS LRM MLR 08 22 20.0
comp=Z,400nm,16.0s
KIS Kishinev 30.56 319 *e*P **P 08 07 47.0 +1.8**
KIS *e* 08 07 55.0
KIS *e* 08 12 50.0
KIS MLR MLR
comp=Z,400nm,20.0s
KIS MLR MLR
comp=N,400nm,16.0s
SHL Shillong 30.59 84 *e*P **P 08 07 45.6 -0.3**
comp=N,16nm,1.2s
SHL Shillong 30.59 84 *e*P **P 08 07 45.0 -0.9**
BRDH Bariadhala 30.97 90 P **P 08 07 50.1 +1.0**
comp=N,39nm,0.3s,baz=264,slow=15,SNR=3.5
VRI Vrincioaia 31.27 316⇓*i*P **P 08 07 52.3 +0.8**
PLOR Plostina 31.31 316⇑*i*P **P 08 07 53.6 +1.7**
MLR Muntele Rosu 31.59 315 *e*P **P 08 07 55.6 +1.0**
comp=N,19nm,1.1s
MLR Muntele Rosu 31.59 315⇑*i*P **P 08 07 56.3 +1.8**
TESR Tescani 31.62 317⇑*i*P **P 08 07 55.4 +0.8**
ITM Ithomi 32.04 298 *e*P **P 08 07 57.4 -1.0**
comp=N,14nm,0.6s
DOPR Dopca 32.15 315⇑*i*P **P 08 08 00.1 +0.8**
VTS Vitosha 32.33 308 *e*P **P 08 07 58.3 -2.8**
comp=N,9.3nm,1.1s
OBN Obninsk 32.40 337 *de*P **P 08 08 03.5 +2.2**
OBN *e* 08 09 12.1
OBN *e*PPP PPP 08 09 24.6
OBN pmax pmax
comp=Z,13nm,0.7s
OBN Obninsk 32.40 337 P **P 08 08 01.8 +0.6**
comp=Z,2.0nm,0.4s,baz=186,slow=21,SNR=4.7
DGZ Jazzator, Alta 32.41 37⇑*e*P **P 08 08 01.1 -0.6**
DGZ pmax pmax
comp=Z,3.0nm,2.0s
AKASG Malin Array Be 32.43 325 *e*P **P 08 08 01.2 -0.4**
AKASG Malin Array Be 32.43 325 *e*P **P 08 08 01.2 -0.4**
AKASG Malin Array Be 32.43 325 P **P 08 08 00.7 -1.0**
comp=Z,11nm,0.8s,baz=125,slow=8.0,SNR=30
AKBB Malin Array Si 32.43 325 *e*P **P 08 08 00.7 -0.9**
comp=Z,27nm,0.9s
KIEV Kiev 32.44 325 *e*P **P 08 08 00.8 -0.9**
comp=Z,24nm,0.9s
KIEV Kiev 32.44 325⇑*i*P **P 08 08 01.7 0.0**
KIEV Kiev 32.44 325*c i*P **P 08 08 00.8 -0.9**
KIEV pmax pmax
comp=Z,26nm,0.9s
KIRV Kirov 32.47 352 P **P 08 08 01.3 -0.5**
comp=Z,6.0nm,0.5s,baz=238,slow=4.9,SNR=4.1
MOS Moscow 32.55 339 *e*P **P 08 08 03.1 +0.5**
MOS *e* 08 08 16.6
MOS *e* 08 09 10.3
MOS *e*S **S 08 13 21.0 +4.3**
MOS pmax pmax
comp=Z,25nm,0.6s
STIP Stip 32.80 306 *i*P **P 08 08 05.0 0.0**
BURAR Bucovina Array 33.00 318⇑*i*P **P 08 08 07.1 +0.3**
BIA Bitola 33.26 305 *i*P **P 08 08 11.2 +2.1**
SKO Skopje 33.42 307 *i*P **P 08 08 11.8 +1.4**
GZR Gura Zlata 33.60 313⇑*i*P **P 08 08 12.1 +0.1**
NVS Novosibirsk 33.78 27 *e*P **P 08 08 12.8 -0.5**
NVS *e*S **S 08 13 37.0 +1.2**
NVS pmax pmax
comp=N,24nm,1.0s
NVS pmax pmax
comp=Z,31nm,1.0s
NVS pmax pmax
comp=E,7.0nm,0.9s
NVS smax smax
comp=N,9.0nm,1.0s
NVS smax smax
comp=E,5.0nm,0.7s
ZAA0 Zalesovo Array 33.81 29 *e*P **P 08 08 12.8 -0.8**
comp=E,28nm,1.1s
ZALV Zalesovo Beam 33.81 29 *e*P **P 08 08 12.8 -0.8**
ZALV Zalesovo Beam 33.81 29 P **P 08 08 12.3 -1.3**
comp=E,2.4nm,0.3s,baz=236,slow=11,SNR=8.1
ZALV LR LR 08 22 55.1
comp=E,256nm,18.4s,baz=242,slow=38
ZAA1 Zalesovo Array 33.81 29 *e*P **P 08 08 12.3 -1.3**
KMBO Kilima Mbogo 33.97 219 *e*P **P 08 08 18.9 +3.2**
comp=E,25nm,1.2s
KMBO Kilima Mbogo 33.97 219 P **P 08 08 19.2 +3.6**
comp=E,2.5nm,0.3s,baz=19,slow=9.2,SNR=13
KMBO LR LR 08 23 54.6
comp=E,733nm,19.2s,baz=38,slow=39
MDVR Moldovita 34.08 312⇓*i*P **P 08 08 16.2 0.0**
DRGR 34.18 315⇑*i*P **P 08 08 17.5 +0.5**
BZS Buzias 34.44 313⇑*i*P **P 08 08 19.8 +0.6**
LVV L'vov 34.74 321 *e*P **P 08 08 23.4 +1.6**
LVV *e* 08 09 43.1
LVV *e*S **S 08 13 52.3 +1.4**
LVV *e*SS **SS 08 16 25.0 +3.3**
TRPA Tarpa 34.84 317 *e*P **P 08 08 26.0 +3.4**
PDG Podgorica 35.10 307⇑*i*P **P 08 08 24.5 -0.5**
UZH Uzhgorod 35.21 318 *e*P **P 08 08 27.6 +1.8**
UZH *e* 08 08 33.3
UZH *e* 08 08 40.3
UZH *e*S **S 08 14 00.3 +2.3**
UZH *e* 08 16 09.4
UZH MLR MLR
comp=N,24nm,15.0s
UZH MLR MLR
comp=E,74nm,15.0s
UZH MLR MLR
comp=Z,27nm,15.0s
KOLS Kolonicke sedl 35.35 319 *e*P **P 08 08 28.5 +1.5**
KOLS pmax pmax
comp=Z,43nm,1.1s
KOLS Kolonicke sedl 35.35 319 *e*P **P 08 08 28.5 +1.5**
KWP Kalwaria Pacla 35.41 320 *e*P **P 08 08 27.4 -0.2**
KWP Kalwaria Pacla 35.41 320 *e*P **P 08 08 27.3 -0.2**
comp=Z,240nm,0.8s
KWP Kalwaria Pacla 35.41 320 *e*P **P 08 08 27.4 -0.2**
PBA Port Blair 36.08 108 *e*P P 08 08 35.3 +1.7
comp=Z,38nm,1.0s
KECS Kecovo 36.24 317 *e*P **P 08 08 36.2 +1.6**
KECS pmax pmax
comp=Z,43nm,0.9s
KECS Kecovo 36.24 317 *e*P **P 08 08 36.2 +1.6**
TIP Timpagrande 36.35 301 *e*P **P 08 08 36.2 +0.4**
comp=Z,21nm,0.9s
TIP Timpagrande 36.35 301⇑*i*P **P 08 08 37.6 +1.7**
PSZ Piszkesteto 36.38 316 *e*P **P 08 08 33.7 -2.3**
comp=Z,12nm,1.0s
PSZ Piszkesteto 36.38 316⇑*i*P **P 08 08 36.3 +0.3**
PSZ Piszkesteto 36.38 316 *e*P **P 08 08 38.0 +2.0**
KLMR Klimovskoe 36.40 345 *e*P **P 08 08 35.3 -0.5**
KLMR pmax pmax
comp=Z,41nm,1.5s
IDID Didziasalis 36.47 330 *e*P **P 08 08 38.0 +1.6**
IDID IAmb IAmb 08 08 39.4
comp=Z,7.8nm,0.4s
IIGN Ignalina 36.72 330 *e*P **P 08 08 40.1 +1.5**
IIGN IAmb IAmb 08 08 41.1
comp=Z,5.1nm,0.5s
ISAL Salakas 36.90 330 *e*P **P 08 08 41.5 +1.3**
ISAL IAmb IAmb 08 08 42.7
comp=Z,5.4nm,0.7s
IZAR Zarasai 36.96 331 *e*P **P 08 08 42.0 +1.3**
IZAR IAmb IAmb 08 08 42.2
comp=Z,5.3nm,0.5s
LANS Liptovska Anna 37.12 318 *e*P **P 08 08 44.9 +2.7**
LANS Liptovska Anna 37.12 318 *e*P **P 08 08 44.9 +2.7**
GTA Gaotai 37.15 59⇓P **P 08 08 43.4 +0.7**
GTA pP pP 08 08 50.4 +0.9
GTA sP sP 08 08 54.8 +2.7
GTA S **S 08 14 30.0 +1.7**
GTA sS sS 08 14 42.0 +2.8
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA pmax pmax
comp=Z,77nm,5.6s
GTA LR LR
comp=Z,640nm,14.4s
GTA LR LR
comp=Z,930nm,13.7s
GTA LR LR
comp=Z,1μm,13.7s
VYHS Vyhne 37.26 316 *e*P **P 08 08 45.3 +2.0**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 37.26 316 *e*P **P 08 08 45.3 +2.0**
OJC Ojcow 37.36 319 *e*P **P 08 08 41.2 -2.9**
comp=Z,39nm,0.9s
SUW Suwalki 37.37 326 *e*P **P 08 08 46.3 +2.1**
SUW Suwalki 37.37 326 *e*P **P 08 08 43.6 -0.5**
comp=Z,49nm,0.9s
SUW Suwalki 37.37 326 *e*P **P 08 08 46.3 +2.1**
MBAR Mbarara 37.58 228 *e*P **P 08 08 46.7 +0.1**
comp=Z,14nm,0.7s
BEHE Becsehely 37.90 312 *e*P **P 08 08 49.0 +0.2**
JAVC Velka Javorina 38.11 316 *e*P **P 08 08 51.8 +1.2**
OKC Ostrava-Krasne 38.18 318 AMS AMS 08 28 30.0
comp=Z,400nm,15.2s
MODS Modra-Piesok 38.18 316 *e*P **P 08 08 51.3 +0.1**
MODS pmax pmax
comp=Z,30nm,1.3s
MODS Modra-Piesok 38.18 316 *e*P **P 08 08 51.2 +0.1**
ZST Bratislava 38.23 315 *e*P **P 08 08 51.1 -0.5**
ZST Bratislava 38.23 315 *e*P **P 08 08 51.1 -0.5**
SOP Sopron 38.41 314 *e*P **P 08 08 54.0 +0.9**
MORC Moravsky Berou 38.52 318 *e*P **P 08 08 53.2 -0.8**
comp=Z,13nm,1.0s
MORC Moravsky Berou 38.52 318⇑*i*P **P 08 08 54.7 +0.7**
MORC Moravsky Berou 38.52 318 P **P 08 08 53.8 -0.2**
MORC Moravsky Berou 38.52 318 *e*P **P 08 08 53.9 -0.1**
VSU Vasula 38.52 334⇑*e*P **P 08 08 56.0 +2.2**
VSU pmax pmax
comp=Z,54nm,1.2s
CHTO Chiang Mai 38.62 93 *e*P **P 08 08 56.6 +1.4**
comp=Z,12nm,1.1s
CMMT Chiang Mai 38.63 93 P **P 08 08 56.9 +1.6**
comp=Z,6.6nm,1.3s
BOJS Bojanci 38.66 310 *i*P **P 08 08 55.7 +0.5**
CM31 Chiang Mai Arr 38.74 93 *e*P **P 08 08 55.4 -0.8**
comp=Z,15nm,0.3s
CMAR Chiang Mai Arr 38.74 93 *e*P **P 08 08 56.3 +0.1**
CMAR Chiang Mai Arr 38.74 93 *i*P **P 08 08 57.2 +1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 38.74 93 P **P 08 08 56.9 +0.7**
comp=Z,1.6nm,0.6s,baz=282,slow=9.8,SNR=9.4
CMAR LR LR 08 26 58.8
comp=Z,796nm,21.8s,baz=274,slow=40
VRAC Vranov 38.93 317⇑*i*P **P 08 08 58.6 +1.2**
VRAC Vranov 38.93 317 *e*P **P 08 08 58.1 +0.7**
CONA Conrad Observa 38.94 314 *i*P **P 08 08 57.8 +0.2**
comp=Z,7.4nm,0.9s,SNR=14
ARSA Arzberg 38.95 313 *i*P **P 08 08 58.5 +0.8**
comp=Z,5.9nm,0.7s
KRUC Moravsky 38.97 316 *e*P **P 08 08 58.3 +0.6**
CLTB Caltabellotta 38.98 298 *e*P **P 08 08 56.0 -2.1**
comp=Z,24nm,1.2s
PERS Pernice 39.05 312 *i*P **P 08 08 58.4 -0.1**
KRLC Kraliky 39.09 318 *e*P **P 08 09 01.3 +2.5**
KRLC Kraliky 39.09 318 *e*P **P 08 09 01.3 +2.5**
SOKA Soboth 39.12 312 *i*P **P 08 08 59.8 +0.7**
comp=Z,3.5nm,0.7s
KLNR Kaliningrad 39.16 326⇓*e*P **P 08 09 01.5 +2.3**
KLNR pmax pmax
comp=Z,57nm,0.8s
DPC Dobruska-Polom 39.46 318 *e*P **P 08 09 02.1 +0.2**
DPC MLR MLR
comp=Z,500nm,18.8s
DPC Dobruska-Polom 39.46 318 *e*P **P 08 09 02.1 +0.2**
DPC AMS AMS 08 27 00.0
comp=Z,500nm,18.8s
UMPA Umpang Tak 39.47 97 P **P 08 09 05.8 +3.5**
comp=Z,55μm,1.1s
TREC Trest 39.61 316 *e*P **P 08 09 03.6 +0.5**
TREC MLR MLR
comp=Z,800nm,19.7s
TREC Trest 39.61 316 *e*P **P 08 09 03.6 +0.5**
TREC AMS AMS 08 28 50.0
comp=Z,800nm,19.7s
KSP Ksiaz 39.66 319 *e*P **P 08 09 04.5 +1.0**
KSP Ksiaz 39.66 319 *e*P **P 08 09 04.5 +1.0**
UPC Upice 39.70 318 AMS AMS 08 27 10.0
comp=Z,500nm,16.7s
TRI Trieste 39.73 310 *e*P **P 08 09 03.9 -0.2**
comp=Z,18nm,0.8s
MOA Molln 39.94 314 *i*P **P 08 09 06.3 +0.4**
comp=Z,21nm,0.8s,SNR=15
MYKA Terra Mystica 40.03 312 *i*P **P 08 09 07.3 +0.6**
comp=Z,8.0nm,0.7s,SNR=5.4
LZH Lanzhou 40.13 65 *e*P **P 08 09 08.3 +0.5**
LZH pP sP 08 09 16.1 -1.1
LZH sP pP 08 09 19.8 +5.2
LZH PP **PnPn 08 10 45.9 +2.2**
LZH pmax pmax
comp=Z,23nm,1.7s
LZH pmax pmax
comp=Z,130nm,4.8s
LZH LR LR
comp=Z,2μm,18.5s
LZH LR LR
comp=Z,1μm,16.3s
LZH LR LR
comp=Z,1μm,17.9s
NANT Nan 40.20 92 P **P 08 09 11.2 +2.8**
comp=Z,15μm,1.0s
UTHA Uthaitani 40.23 97 P **P 08 09 11.4 +2.7**
comp=Z,44μm,1.0s,comp=Z,337μm
GOPC GO Pecny, Ondr 40.24 317 *e*P **P 08 09 11.1 +2.8**
GOPC MLR MLR
comp=Z,800nm,18.4s
GOPC GO Pecny, Ondr 40.24 317 *e*P **P 08 09 11.1 +2.8**
GOPC AMS AMS 08 29 30.0
comp=Z,800nm,18.4s
CD2 Chengdu 40.31 73 *e*P **P 08 09 07.9 -1.3**
CD2 S **S 08 15 13.6 -2.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,190nm,6.7s
CD2 LR LR
comp=Z,910nm,14.7s
CD2 LR LR
comp=Z,1μm,16.7s
CD2 LR LR
comp=Z,2μm,16.7s
KMI Kunming 40.32 82 P **P 08 09 11.8 +2.2**
KMI pmax pmax
comp=Z,32nm,0.9s
KBA Koelnbreinsper 40.34 312 *i*P **P 08 09 09.9 +0.5**
comp=Z,14nm,0.8s,SNR=16
PRU Pruhonice 40.41 317 *e*P **P 08 09 11.6 +1.8**
PRU MLR MLR
comp=Z,900nm,18.3s
PRU Pruhonice 40.41 317 *e*P **P 08 09 11.6 +1.8**
PRU AMS AMS 08 29 30.0
comp=Z,900nm,18.3s
UTTA Uttaradit 40.42 94 P **P 08 09 12.8 +2.6**
comp=Z,30μm,0.9s
PVCC Panska Ves 40.57 318 AMS AMS 08 30 00.0
comp=Z,500nm,16.5s
GEC2 GERESS Array S 40.58 315 *e*P **P 08 09 11.1 -0.3**
comp=Z,18nm,0.9s
GERES GERESS Array B 40.58 315 *e*P **P 08 09 11.1 -0.3**
GERES GERESS Array B 40.58 315 P **P 08 09 11.0 -0.3**
GERES pmax pmax
comp=Z,9.0nm,0.8s
GERES MLR MLR
comp=Z,627nm,20.1s
GERES GERESS Array B 40.58 315 P **P 08 09 10.9 -0.3**
comp=Z,9.4nm,0.8s,baz=113,slow=8.8,SNR=43
GERES LR LR 08 29 43.1
comp=Z,627nm,20.1s,baz=115,slow=42
KHC Kasperske Hory 40.74 315 *e*P **P 08 09 09.3 -3.3**
comp=Z,13nm,1.0s
KHC Kasperske Hory 40.74 315 *e*P **P 08 09 12.7 +0.1**
KHC *e* 08 09 22.9
KHC MLR MLR
comp=Z,700nm,15.4s
KHC Kasperske Hory 40.74 315 *e*P **P 08 09 12.7 +0.1**
KHC *ex* x 08 09 22.9
KHC AMS AMS 08 29 10.0
comp=Z,700nm,15.4s
FIA1 FINESS Array S 40.81 337 *e*P **P 08 09 12.4 -0.4**
comp=Z,36nm,1.4s
FIA0 FINESS Array S 40.81 337 *e*P **P 08 09 12.1 -0.8**
FINES FINESS Array B 40.81 337 *e*P **P 08 09 12.9 +0.1**
FINES FINESS Array B 40.81 337 P **P 08 09 12.1 -0.8**
comp=Z,6.4nm,0.6s,baz=135,slow=8.3,SNR=17
ABTA Abfaltersbach 40.81 312 *i*P **P 08 09 13.5 +0.3**
comp=Z,14nm,0.6s,SNR=12
MOY Mondy 40.96 41 *e*P **P 08 09 15.4 +1.0**
MOY pmax pmax
comp=Z,16nm,1.4s
BRG Berggiesshubel 41.06 318 *e*P **P 08 09 15.1 0.0**
comp=Z,10nm,1.3s
BRG Berggiesshubel 41.06 318 *e*P **P 08 09 15.1 0.0**
BRG pmax pmax
comp=Z,10.0nm,1.3s
BRG MLR MLR
comp=N,740nm,14.3s
BRG MLR MLR
comp=E,672nm,19.2s
BRG MLR MLR
comp=Z,498nm,17.1s
WTTA Wattenberg 41.51 312 *i*P **P 08 09 18.9 -0.2**
comp=Z,36nm,0.9s
WATA Walderalm 41.57 312 *i*P **P 08 09 20.1 +0.6**
comp=Z,20nm,0.7s,SNR=19
CLL Collm 41.77 318 *e*P **P 08 09 19.3 -1.6**
comp=Z,28nm,1.3s
CLL Collm 41.77 318 *i*P **P 08 09 21.1 +0.2**

CLL e 08 09 33.0
CLL eS S 08 15 40.0 +3.0
CLL pmax pmax
comp=Z,32nm,1.3s
CLL MLR MLR
comp=Z,500nm,20.2s
CLL Collm 41.77 318 *i* P P 08 09 21.1 +0.2
comp=Z,32nm,1.3s
CLL e(sP) sP 08 09 33.0 +2.8
CLL ePPP PPP 08 11 27.0
CLL eS S 08 15 40.0 +3.0
CLL eSS SS 08 18 48.0 +5.1
CLL Lm MLR 08 30 00.0
comp=Z,500nm,20.2s
NKC Novy Kostel 41.77 317 *e*P P 08 09 24.4 +3.4
NKC MLR MLR
comp=Z,700nm,20.6s
NKC Novy Kostel 41.77 317 *e*P P 08 09 24.4 +3.4
NKC AMS AMS 08 30 10.0
comp=Z,700nm,20.6s
SQTA Sankt Quirin 41.79 312 *i* P P 08 09 20.9 -0.4
comp=Z,26nm,0.5s,SNR=18
VLC Villacollemand 41.79 307 *e*P P 08 09 18.6 -2.6
comp=Z,18nm,1.0s
MOTA Moosalm 41.89 312 *i* P P 08 09 22.1 0.0
comp=Z,21nm,0.7s,SNR=26
ZAK Zakamensk 41.91 43 *e*P P 08 09 21.7 -0.5
ZAK pmax pmax
comp=Z,3.0nm,1.3s
FETA Feichten 42.07 312 *i* P P 08 09 23.4 -0.2
comp=Z,27nm,0.6s,SNR=21
KEST Kesra 42.07 295 *e*P P 08 09 25.1 +1.4
comp=Z,12nm,0.9s
KEST Kesra 42.07 295 P P 08 09 24.8 +1.2
comp=Z,10nm,0.8s,baz=218,slow=5.4,SNR=13
KEST LR LR 08 30 14.7
comp=Z,499nm,20.0s,baz=25,slow=41
BSD Bornholm Skovb 42.11 324 *i* P P 08 09 22.5 -1.1
BSD pmax pmax
comp=Z,45nm,1.0s
BSD Bornholm Skovb 42.11 324 *i* P P 08 09 22.5 -1.1
comp=Z,45nm,1.0s
RETA Reutte 42.14 312 *i* P P 08 09 23.4 -0.7
comp=Z,21nm,0.9s,SNR=7.9
SLVN Son La 42.29 87 *e*P P 08 09 27.6 +1.9
comp=Z,11nm,1.0s
FUORN Ofenpass-Fuorn 42.30 311 *e*P P 08 09 26.1 +0.5
comp=Z,17nm,0.8s
CHAI Chaiyaphum 42.37 95 P P 08 09 29.7 +3.5
comp=Z,18μm,0.8s
GRA1 Grafenberg Arr 42.38 316 *e*P P 08 09 25.8 -0.1
comp=Z,33nm,1.0s
GRFO Grafenberg 42.38 316 *e*P P 08 09 25.9 0.0
comp=Z,25nm,0.9s
NONG Nongkai 42.63 92 P P 08 09 29.7 +1.4
comp=Z,1.3nm,0.9s
DAVA Damuels 42.69 312 *i* P P 08 09 28.3 -0.4
comp=Z,29nm,0.5s,SNR=31
RGN Rugen 42.73 323 *e*P P 08 09 27.6 -1.0
comp=Z,70nm,1.2s
TUE Stuetta 42.89 311 *e*P P 08 09 31.0 +0.6
comp=Z,11nm,0.8s
SONA0 Songino Array 43.26 48 *e*P P 08 09 33.4 +0.1
SONM Songino Array 43.26 48 *e*P P 08 09 31.0 -2.3
SONM Songino Array 43.26 48 P P 08 09 33.4 +0.1
comp=Z,2.7nm,0.8s,baz=259,slow=8.6,SNR=12
SONM LR LR 08 29 58.0
comp=Z,1μm,19.3s,baz=253,slow=40
APA Apatity 43.57 347⇓ *i*P P 08 09 36.7 +1.5
APA pmax pmax
comp=Z,14nm,1.0s
APA MLR MLR
comp=Z,1μm,17.0s
ULN Ulaanbaatar 43.70 48 *e*P P 08 09 36.5 -0.4
comp=Z,17nm,1.5s
ULN Ulaanbaatar 43.70 48⇑ *e*P P 08 09 36.4 -0.4
ULN pmax pmax
comp=Z,2.0nm,0.8s
SKNT Sakolnakorn 43.76 93 P P 08 09 39.3 +1.9
comp=Z,29nm,1.0s
BFO Black Forest 43.92 313 *e*P P 08 09 36.7 -1.7
comp=Z,8.0nm,1.0s
BFO Black Forest 43.92 313 *i* P P 08 09 40.7 +2.3
PANO Nakornpanom 44.26 92 P P 08 09 43.3 +1.8
comp=Z,0.9nm,1.0s
SENIN Lac Senin/Sane 44.27 310 *e*P P 08 09 41.0 -0.6
comp=Z,12nm,1.0s
XAN Xi'an 44.37 68 P P 08 09 43.4 +1.1
XAN pP pP 08 09 47.5 -1.5
XAN SS SS 08 19 25.4 -9.4
XAN pmax pmax
comp=Z,10.0nm,1.2s
XAN pmax pmax
comp=Z,57nm,9.8s
XAN LR LR
comp=Z,530nm,17.2s
XAN LR LR
comp=Z,830nm,21.6s
XAN LR LR
comp=Z,690nm,21.1s
XAN Xi'an 44.37 68 *e*P P 08 09 42.5 +0.2
comp=Z,20nm,1.1s
BNI Bardonecchia 44.53 308 *e*P P 08 09 43.5 0.0
comp=Z,27nm,1.2s
ECH Echery 44.67 313 *e*P P 08 09 43.9 -0.5
comp=Z,32nm,1.0s
ENH Enshi 45.29 73 *e*P P 08 09 50.2 +0.6
comp=Z,36nm,1.3s
WLF Walferdange 45.58 314 *e*P P 08 09 51.8 +0.2
comp=Z,79nm,0.9s
WLF Walferdange 45.58 314⇑P P 08 09 52.0 +0.5
comp=Z,19nm,1.2s
MEM Membach 45.85 316⇑P P 08 09 55.8 +2.1
SSB Saint Sauveur 46.06 308 *e*P P 08 09 53.1 -2.4
comp=Z,17nm,0.9s
NRIK Noril'sk 46.17 14 P P 08 09 55.2 -0.7
comp=Z,4.9nm,0.8s,baz=199,slow=4.4,SNR=8.7
NRIK LR LR 08 32 54.3
comp=Z,1μm,18.1s,baz=213,slow=41
HHC Hu-ho-hao-te 46.23 58 *e*P P 08 09 57.2 +0.2
HHC pP pP 08 10 04.8 +1.0
HHC S S 08 16 42.6 0.0
HHC ScS ScS 08 19 51.0 -0.6
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,100nm,6.0s
HHC LR LR
comp=Z,670nm,15.8s
HHC LR LR
comp=Z,770nm,14.6s
HHC LR LR
comp=Z,810nm,14.7s
BCLA Clavier 46.26 315⇑P P 08 09 59.0 +2.1
NC405 NORSAR Array S 46.27 331 *e*P P 08 09 56.6 -0.3
comp=Z,50nm,1.4s
NB2 NORSAR Subarra 46.45 331 P P 08 09 56.9 -1.4
comp=Z,2.5nm,0.7s,baz=116,slow=7.9
NB200 NORSAR Array S 46.45 331 *e*P P 08 09 57.0 -1.4
NOA NORSAR Array B 46.45 331 P P 08 09 57.0 -1.4
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,317nm,21.4s
NOA NORSAR Array B 46.45 331 P P 08 09 57.0 -1.4
comp=Z,1.0nm,0.6s,baz=115,slow=7.8,SNR=12
NOA LR LR 08 32 27.4
comp=Z,317nm,21.4s,baz=135,slow=40
NAO01 NORSAR Array S 46.51 330 *e*P P 08 09 58.6 -0.2
comp=Z,21nm,1.1s
KONO Kongsberg 46.60 329⇑ *e*P P 08 10 01.4 +2.0
KONO pmax pmax
comp=Z,22nm,2.5s
NBO00 NORSAR Array S 46.64 331 *e*P P 08 09 58.2 -1.6
comp=Z,19nm,1.0s
DOU Dourbes 46.65 315⇓P P 08 10 00.4 +0.4
comp=Z,16nm,1.0s
KEV Kevo 46.71 346 *e*P P 08 10 01.9 +1.7
comp=Z,31nm,1.2s
IPM Ipoh 46.79 110 *e*P P 08 10 01.9 +0.3
comp=Z,20nm,1.1s
ARA0 ARCESS Array S 46.88 345 *e*P P 08 10 01.3 -0.2
ARE0 ARCESS Array S 46.88 345 *e*P P 08 10 03.5 +2.0
comp=Z,0.7nm,0.9s
ARCES ARCESS Array B 46.88 345 *e*P P 08 09 59.8 -1.7
ARCES ARCESS Array B 46.88 345 P P 08 10 01.3 -0.2
comp=Z,5.8nm,0.8s,baz=147,slow=8.4,SNR=17

UCC Uccle 46.92 316⇑P P 08 10 00.7 -1.4
TIY Taiyuan 46.98 62 P P 08 10 05.5 +2.7
TIY S S 08 16 48.3 -5.0
TIY LR LR
comp=Z,310nm,10.6s
TIY LR LR
comp=Z,190nm,12.4s
TIY LR LR
comp=Z,230nm,11.8s
TAM Tamanrasset 47.37 277 *e*P P 08 10 06.6 +0.4
comp=Z,15nm,0.9s
QIZ Qiongzhong 48.30 88 P P 08 10 13.3 0.0
QIZ S S 08 17 12.5 +0.1
QIZ sS sS 08 17 22.6 -0.9
QIZ LR LR
comp=Z,600nm,21.6s
QIZ LR LR
comp=Z,430nm,20.6s
QIZ LR LR
comp=Z,420nm,18.6s
WHN Wuhan 49.39 72⇑P P 08 10 23.8 +2.3
WHN LR LR
comp=Z,2μm,20.3s
DLV T Lat 49.72 97 *e*P P 08 10 24.8 +0.4
comp=Z,24nm,1.0s
BOD Bodaibo 49.99 36 *e*P P 08 10 24.5 -1.1
BOD pmax pmax
comp=Z,30nm,1.2s
LSZ Lusaka 50.62 218 *e*P P 08 10 32.9 +1.9
comp=Z,13nm,1.2s
TIA Tai'an 50.85 64 P P 08 10 34.5 +2.0
TIA pmax pmax
comp=Z,10.0nm,0.9s
HKPS Hong Kong Po S 51.14 82 *e*P P 08 10 34.2 -0.7
comp=Z,57nm,1.1s
ESDC Sonseca Array 52.38 301 *e*P P 08 10 42.9 -1.0
ESDC Sonseca Array 52.38 301 P P 08 10 43.4 -0.5
comp=Z,3.7nm,0.5s,baz=66,slow=7.4,SNR=24
ESDC LR LR 08 37 06.5
comp=Z,157nm,18.4s,baz=10.0,slow=41
ESLA Sonseca Array 52.38 301 *e*P P 08 10 42.6 -1.3
comp=Z,6.8nm,0.7s
PAB San Pablo 52.68 301 *e*P P 08 10 46.1 -0.2
comp=Z,18nm,1.0s
NJ2 Nanjing 52.90 69 *e*P P 08 10 48.7 +0.8
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 LR LR
comp=Z,840nm,15.7s
NJ2 LR LR
comp=Z,710nm,19.3s
NJ2 LR LR
comp=Z,1μm,19.8s
TOA0 Torodi Ar. Sit 54.04 267 *e*P P 08 10 55.3 -1.1
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 54.04 267 *e*P P 08 10 54.1 -2.3
TORD Torodi Ar. Bea 54.04 267 P P 08 10 55.4 -1.0
comp=Z,7.9nm,1.0s,baz=81,slow=6.2,SNR=31
TORD LR LR 08 38 04.5
comp=Z,279nm,19.1s,baz=0.0,slow=41
TOA1 Torodi Ar. Sit 54.04 267 *e*P P 08 10 55.4 -1.0
PBRG Braganca 54.27 304 *e*P P 08 10 58.6 +0.7
MVO Moncorvo 54.55 303 *e*P P 08 11 01.2 +1.3
comp=Z,30nm,1.0s
MVO Moncorvo 54.55 303 *e*PP PP 08 13 15.9 +14
MVO Moncorvo 54.55 303 *e*LR LR 08 33 25.4
comp=Z,200nm,18.0s
MTE Manteigas 55.03 302 *e*SS SS 08 23 18.4 +50
MTE Manteigas 55.03 302 *e*LR LR 08 33 58.8
comp=Z,310nm,18.0s
PMRV Marv??o 55.04 301 *e*P P 08 11 04.3 +0.9
comp=Z,27nm,1.7s
PMRV Marv??o 55.04 301 *e*LR LR 08 35 17.8
comp=Z,238nm,16.0s
PCBR Castelo Branco 55.05 301 *e*P P 08 11 06.3 +2.9
comp=Z,34nm,1.5s
POLO Lamas de Olo 55.10 303 *e*P P 08 11 05.0 +1.0
comp=Z,16nm,1.6s
PVIS Viseu 55.26 303 *e*P P 08 11 05.9 +0.9
comp=Z,42nm,1.4s
PGAV Gavieira, Arco 55.39 304 *e*P P 08 11 09.2 +3.2
comp=Z,45nm,2.1s
PGAV Gavieira, Arco 55.39 304 *e*LQ LQ 08 29 18.1
PGAV *e*LR LR 08 35 42.6
comp=Z,299nm,18.0s
PBEJ Beja 55.60 299 *e*P P 08 11 09.8 +2.3
comp=Z,16nm,1.3s
COI Coimbra 55.71 302 *e*P P 08 11 09.8 +1.6
PMTG Montargil 55.73 301 *e*P P 08 11 08.6 +0.3
PBDV Barranco-do-Ve 55.78 298 *e*P P 08 11 09.8 +1.0
comp=Z,21nm,1.2s
PTOM Tomar 55.79 301 *e*P P 08 11 10.8 +2.0
comp=Z,40nm,1.0s
MESJ Messejana 55.91 299 *e*P P 08 11 08.9 -0.8
MESJ AMb AMB 08 11 12.8
comp=Z,21nm,2.3s
MESJ Messejana 55.91 299 *e*P P 08 11 11.0 +1.4
comp=Z,22nm,2.0s
MESJ Messejana 55.91 299 *e*P P 08 11 08.8 -0.8
PNCL Nicolau / Gran 56.11 300 *e*P P 08 11 12.3 +1.2
comp=Z,17nm,1.4s
CN2 Changchun 56.37 54 *e*P P 08 11 13.8 +0.9
CN2 *e*S S 08 19 01.1 -1.2
CN2 SS SS 08 22 41.9 -7.2
CN2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 pmax pmax
comp=Z,80nm,3.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,800nm,16.0s
PFVI Vila Bisbo 56.50 298 *e*P P 08 11 14.3 +0.4
comp=Z,50nm,1.3s
PMAFR Mafra 56.56 301 *e*P P 08 11 13.6 -0.7
YAK Yakutsk 58.38 32 *e*P P 08 11 22.0 -4.7
YAK *e* 08 12 14.9
YAK *e*S S 08 19 21.7 -6.4
YAK *e*'SS sS 08 19 46.3 +6.9
YAK *e*SSS SSS 08 25 33.3
YAK pmax pmax
comp=Z,70nm,1.0s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,38nm,1.0s
YAK pmax pmax
comp=Z,238nm,2.7s
YAK pmax pmax
comp=N,161nm,2.5s
YAK pmax pmax
comp=E,155nm,2.2s
YAK smax smax
comp=N,207nm,3.0s
YAK MLR MLR
comp=Z,3μm,18.0s
YAK MLR MLR
comp=N,1μm,20.0s
YAK MLR MLR
comp=E,2μm,17.0s
TJN Taejon 58.98 62⇓ *e*P P 08 11 31.6 +0.3
TIXI Tiksi 59.02 20 *e*P P 08 11 28.3 -2.7
comp=E,5.8nm,0.9s
TIXI Tiksi 59.02 20⇑ *e*P P 08 11 31.9 +0.9
TIXI pmax pmax
comp=Z,13nm,2.0s
KS15 Wonju Array Si 59.17 61 *e*P P 08 11 34.7 +2.0
comp=Z,14nm,1.1s
KSAR Wonju Array Be 59.17 61 *e*P P 08 11 32.2 -0.5
KSRS Korea Array 59.20 61 P P 08 11 32.3 -0.5
comp=Z,3.5nm,0.8s,baz=272,slow=7.4,SNR=14
KSRS LR LR 08 41 12.6
comp=Z,330nm,20.1s,baz=281,slow=40
KLR Kul'dur 60.08 47⇓ *e*P P 08 11 37.8 -0.9
KLR pmax pmax
comp=Z,7.0nm,1.0s
KLR Kul'dur 60.08 47 P P 08 11 37.6 -1.1
comp=Z,5.0nm,0.9s,baz=277,slow=9.4,SNR=7.8
USRK Ussuriysk Ar. 60.99 52 LR LR 08 41 32.4
comp=Z,414nm,18.4s,baz=268,slow=40
DAG Danmarks Havn 61.17 345 *i* P P 08 11 45.5 -0.2
DAG pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 61.17 345 *i* P P 08 11 45.5 -0.2
comp=Z,8.4nm,0.7s
DBIC Dimbokro 62.61 264 *e*P P 08 11 57.9 +1.6
comp=Z,42nm,1.5s
DBIC Dimbokro 62.61 264 *e*P P 08 11 57.9 +1.6
DBIC pmax pmax
comp=Z,42nm,1.5s
DBIC Dimbokro 62.61 264 P P 08 11 56.5 +0.2
comp=Z,13nm,1.1s,baz=100,slow=10,SNR=4.4
DBIC LR LR 08 39 49.5
comp=Z,258nm,18.1s,baz=40,slow=37
KIC Kosan Boka 62.65 263 *e*PKP1 P 08 11 57.4 +0.8
comp=Z,62nm,1.4s
TIC Toumodi 62.77 264 *e*PKP1 P 08 11 58.1 +0.7
LIC Lamto 62.96 263 *e*PKP1 P 08 11 57.3 -1.4
comp=Z,41nm,1.1s
BOSA Boshof 63.19 212 P P 08 12 01.3 +1.3
comp=Z,4.7nm,0.9s,baz=32,slow=6.4,SNR=6.9
BOSA LR LR 08 43 20.1
comp=Z,254nm,18.3s,baz=28,slow=40
MPSI Mapaga 65.08 103 P P 08 12 13.6 +1.0
SUMG Summit 66.68 341 *e*P P 08 12 22.9 +0.4
comp=Z,23nm,0.9s
SUMG Summit 66.68 341 *e*P P 08 12 22.9 +0.4
SUMG pmax pmax
comp=Z,23nm,0.9s
SUMG Summit 66.68 341 *i* P P 08 12 23.0 +0.5
comp=Z,60nm,0.9s
TYV Tymovskoe 66.70 43 *e*P P 08 12 22.0 -0.5
TYV pmax pmax
comp=Z,6.0nm,1.0s
MAJO Matsushiro 67.40 59 *e*P P 08 12 26.5 -0.7
MAJO Matsushiro 67.40 59⇑ *e*P P 08 12 26.0 -1.3
MAJO pmax pmax
comp=Z,6.0nm,1.2s
MJAR Matsushiro Arr 67.40 59 P P 08 12 26.5 -0.7
comp=Z,2.0nm,0.8s,baz=281,slow=11,SNR=7.5
MJAR LR LR 08 45 22.3
comp=Z,296nm,19.2s,baz=270,slow=39
YSS Yuzh-Sakhalins 67.75 47 *e*P P 08 12 29.1 -0.1
comp=Z,18nm,0.7s
YSS Yuzh-Sakhalins 67.75 47 *e*P P 08 12 28.1 -1.1
YSS *e* 08 12 41.1
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS MLR MLR
comp=Z,500nm,17.0s
YSS MLR MLR
comp=E,600nm,18.0s
SEY Seymchan 68.68 29⇓ *i*P P 08 12 34.5 -0.2
MA2 Magadan 68.89 33 *e*P P 08 12 35.8 -0.4
comp=E,8.7nm,1.0s
MA2 Magadan 68.89 33⇓ *e*P P 08 12 35.2 -1.0
MA2 pmax pmax
comp=Z,12nm,1.7s
TULEG Thule 72.04 349 *e*P P 08 12 54.5 -0.6
comp=Z,13nm,0.7s
BILL Bilibino 72.16 22 *e*P P 08 12 56.2 +0.2
comp=Z,7.4nm,1.0s
BILL Bilibino 72.16 22 *de*P P 08 12 55.7 -0.3
BILL *e* 08 13 15.0
BILL *e* 08 15 32.8
BILL pmax pmax
comp=Z,11nm,1.7s
PEA1 Petropavlovsk- 74.76 38 *e*P P 08 13 09.8 -1.7
PETK Petropavlovsk- 74.76 38 *e*P P 08 13 11.1 -0.5
PETK Petropavlovsk- 74.76 38 P P 08 13 09.8 -1.8
comp=Z,4.8nm,1.0s,baz=298,slow=6.2,SNR=4.9
PETK LR LR 08 49 31.1
comp=Z,354nm,18.1s,baz=284,slow=39
PET Petropavlovsk 75.32 38⇑ *e*P P 08 13 14.4 -0.3
PET pmax pmax
comp=Z,19nm,1.2s
FITZ Fitzroy Crossi 79.44 116 *e*P P 08 13 37.7 -0.6
comp=Z,4.3nm,0.9s
RDOG Red Dog Mine 80.91 14 *e*P P 08 13 45.3 -0.2
comp=Z,5.5nm,0.8s
TOLK Toolik Lake Re 82.90 10 *e*P P 08 13 55.7 -0.3
comp=Z,11nm,0.8s
IMAR Indian Mountai 84.58 12 *e*P P 08 14 04.2 -0.4
BMAR Burnt Mountain 84.74 8 *e*P P 08 14 05.7 +0.2
INK Inuvik 84.98 4 *e*P P 08 14 06.3 -0.2
comp=Z,5.9nm,0.9s
INK Inuvik 84.98 4 *e*P P 08 14 06.3 -0.2
INK pmax pmax
comp=Z,6.0nm,0.9s
MLY Manley 85.99 12 *e*P P 08 14 11.6 -0.2
comp=Z,6.5nm,0.9s
SCHQ Schefferville 86.02 331 LR LR 08 53 45.9
comp=Z,131nm,18.9s,baz=42,slow=36
MDM Murphy Dome 86.50 11 *e*P P 08 14 13.9 -0.3
comp=Z,7.7nm,0.8s
BPAW Bear Paw Mtn. 86.79 12 *e*P P 08 14 14.4 -1.3
comp=Z,15nm,0.9s
ILAR Eielson Array 86.89 10 *e*P P 08 14 14.5 -1.6
ILAR Eielson Array 86.89 10 P P 08 14 15.3 -0.8
comp=Z,0.9nm,0.7s,baz=323,slow=4.4,SNR=13
ILAR LR LR 08 58 58.2
comp=Z,196nm,19.9s,baz=333,slow=40
CAST Castle Rocks 87.19 13 *e*P P 08 14 17.3 -0.3
comp=Z,14nm,0.9s
HDA Harding Lake 87.22 10 *e*P P 08 14 17.1 -0.6
comp=Z,5.8nm,0.8s
WR1 Warramunga Arr 87.44 114 *e*P P 08 14 20.9 +1.4
WRA Warramunga Arr 87.44 114 P P 08 14 20.9 +1.4
comp=Z,4.6nm,0.9s,baz=313,slow=4.0,SNR=19
WRAB Tennant Creek 87.44 114 *e*P P 08 14 20.8 +1.3
comp=Z,24nm,1.3s
WRAB Tennant Creek 87.44 114⇓ *e*P P 08 14 22.2 +2.7
WRAB pmax pmax
comp=Z,19nm,2.4s
MCK McKinley 87.51 12 *e*P P 08 14 19.3 +0.2
comp=Z,13nm,1.1s
MCK McKinley 87.51 12 *e*P P 08 14 19.3 +0.2
MCK pmax pmax
comp=Z,13nm,1.1s
EGAK Eagle 87.70 8 *e*P P 08 14 19.4 -0.6
comp=Z,7.7nm,0.9s
SCRK Sand Creek 88.08 9 *e*P P 08 14 22.6 +0.6
comp=Z,8.5nm,0.9s
RIDG Independent Ri 88.18 10 *e*P P 08 14 21.3 -1.1
comp=Z,6.3nm,1.2s
DOT Dot Lake 88.38 10 *e*P P 08 14 21.3 -2.0
comp=Z,4.9nm,0.7s
DAWY Dawson 88.60 7 *e*P P 08 14 24.4 0.0
comp=Z,7.7nm,1.1s
AS31 Alice Springs 88.91 117 *e*P P 08 14 27.2 +0.8
comp=Z,1.8nm,0.9s
ASAR Alice Springs 88.91 117 P P 08 14 27.1 +0.6
comp=Z,4.5nm,0.9s,baz=305,slow=4.5,SNR=24
ASAR LR LR 08 57 10.1
comp=Z,85nm,19.1s,baz=300,slow=38
YKA Yellowknife Ar 90.98 356 P P 08 14 35.1 -0.3
comp=Z,0.9nm,0.8s,baz=359,slow=4.9,SNR=18
YKA PKKPbc **PKKPbc** 08 32 00.8 +0.2
comp=Z,0.1nm,0.6s,baz=182,slow=1.6,SNR=4.5
YKB5 Yellowknife Ar 90.98 356 *e*P P 08 14 35.1 -0.3
YKB5 *e*PKKPdf **PKKPbc** 08 32 00.8 +0.2
FCC Fort Churchill 91.77 346 *e*P P 08 14 38.6 -0.5
comp=Z,5.5nm,1.1s
FCC Fort Churchill 91.77 346 *e*P P 08 14 38.6 -0.5
FCC pmax pmax
comp=Z,5.0nm,1.1s
MAW Mawson 94.02 178 LR LR 08 51 16.5
comp=Z,86nm,20.3s,baz=354,slow=32
STKA Stephens Creek 98.75 121 LR LR 08 57 00.4
comp=Z,302nm,21.8s,baz=291,slow=34
VNA2 Neumayer--Watz 107.31 198 PKiKP **PKiKP** 08 19 58.7 +1.5
baz=35,slow=4.3
VNA1 Neumayer--Stat 107.41 199 PKiKP **PKiKP** 08 19 56.7 -0.6
NV01 Mina Array Sit 115.18 357 *e*PKiKP **PKPdf** 08 20 13.7 +0.2
NVAR Mina Array Bea 115.18 357 PKP **PKPdf** 08 20 13.7 +0.2
comp=Z,0.4nm,0.7s,baz=57,slow=3.3,SNR=2.6
DZM Mont Dzumac 115.61 103 *e*LR LR 08 55 17.7
comp=Z,265nm,25.6s
TX31 Lajitas Ar. Si 121.58 341 *e*PKPdf **PKPdf** 08 20 25.3 -0.6
PPT2 Papeete2 153.15 76 *e*LR LR 09 12 36.7
comp=Z,165nm,23.8s

SNET 09 08:25:12.3±0.7, 15°.60N×87°.07W, h14km±96km, ML3.7, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**1.54**	**187**	*e*P	Pn	08 25 37.7	-1.8
TGUH				*e*S	Sn	08 25 58.6	-0.9
VICT	**Victoria**	**2.23**	**223**	*e*P	Pn	08 25 49.0	+0.1

VICT				*e*S	Sn	08 26 17.2	+0.9
LCND	**La Caada**	**2.41**	**199**	*e*P	Pn	08 25 51.3	-0.1
PACA	**Pacayal**	**2.44**	**210**	*e*P	Pn	08 25 52.0	0.0
TECA	**Tecapa**	**2.51**	**214**	*e*P	Pn	08 25 52.8	-0.1
PAVA	**Las Pavas**	**2.60**	**224**	*e*P	Pn	08 25 54.4	+0.2
CEVE	**Cerro Verde**	**3.03**	**235**	*e*P	Pn	08 26 00.6	+0.4
CEVE				IAML		08 26 59.7	
	comp=Z,279nm,0.4s						

DDA ***09*** *08:26:50.9, 38.30N×38.58E, h7km±4km, ML2.7*
ISK ***09*** *08:26:50.2, 38.31N×38.59E, h6km, ML2.1/6*
ISC 09 08:26:50.8±1.3, 38.30N±0.03×38.58E±0.03, h6km±11km, n15, σ0.94/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.52**	**270**	*i* P	**Pg**	**08 27 00.8**	**+0.1**
AKCD				*i* S	**Sb**	**08 27 09.4**	**-0.8**
SVRC	**Sivrice-ELAZID**	**0.58**	**82**	PG	**Pg**	**08 27 01.6**	**-0.3**
SVRC				SG	**Sg**	**08 27 10.3**	**+0.8**
HEKM	**Malatya_Hekimh**	**0.76**	**320**	IAML_P			
	comp=Z,1μm,0.2s						
HEKM				*i* P	**Pg**	**08 27 05.5**	**+0.2**
HEKM				*i* S	**Sb**	**08 27 17.9**	**+0.7**
ATAB	**Bozova**	**0.86**	**195**	IAML_P			
	comp=Z,2μm,0.1s						
ATAB				*i* P	**Pb**	**08 27 07.8**	**-0.3**
ATAB				*i* S	**Sn**	**08 27 21.8**	**-0.6**
URFA	**Urfa**	**0.88**	**167**	PG	**Pg**	**08 27 07.5**	**-0.1**
URFA				SG	**Sb**	**08 27 20.4**	**-0.1**
DARE	**Darende-Malaty**	**0.90**	**288**	PG	**Pg**	**08 27 08.1**	**0.0**
KEMA	**Kemaliye**	**0.97**	**356**	IAML_P			
	comp=Z,707nm,0.2s						
KEMA				*i* P	**Pb**	**08 27 09.6**	**-0.5**
KEMA				*i* S	**Sn**	**08 27 24.9**	**-0.4**
ELBS	**KAHRAMANMARAS**	**1.14**	**272**	IAML_P			
	comp=Z,235nm,0.2s						
ELBS				*i* P	**Pn**	**08 27 13.1**	**-0.3**
ELBS				*i* S	**Sn**	**08 27 30.3**	**+0.9**
ILIC	**ilic-Erzincan**	**1.15**	**360**	PN	**Pg**	**08 27 12.5**	**-0.4**
SANL	**SANLIURFA_Merk**	**1.17**	**164**	IAML_P			
	comp=Z,2μm,0.2s						
SANL				*i* P	**Pn**	**08 27 14.4**	**+0.7**
SANL				*i* S	**Sn**	**08 27 30.5**	**+0.4**
GZT	**Gaziantep**	**1.24**	**221**	IAML_P			
	comp=Z,1μm,0.1s						
GZT				*i* P	**Pn**	**08 27 15.2**	**+0.5**
GZT				*i* S	**Sn**	**08 27 32.0**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.34**	**320**	*i* P	**Pg**	**08 27 16.6**	**+0.1**
CUKAN				*i* S	**Sn**	**08 27 35.0**	**+0.6**
KMRS	**Kahramanmaras**	**1.55**	**240**	PN	**Pb**	**08 27 19.2**	**-0.7**
GAZ	**Gaziantep**	**1.56**	**224**	PN	**Pb**	**08 27 19.5**	**-0.6**
MAZI	**Mazidag**	**1.70**	**119**	PN	**Pn**	**08 27 21.1**	**0.0**

MEX 09 08:26:53.9±0.5, 13.85N×93.19W, h96km±34km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.38**	**40**	*i* P	Pn	08 27 17.2	-1.2
THIG				*i* S	Sn	08 27 35.6	-1.4
PCIG		**1.84**	**359**	*i* P	Pn	08 27 23.2	-1.1
PCIG				*i* S	Sn	08 27 45.0	-2.4
TGIG		**2.91**	**1**	*e*P	Pn	08 27 37.8	-0.6
TGIG				*e*S	Sn	08 28 12.1	-0.6

JMA 09 08:42:24.5±0.1, 32.01N×140.81E, h18km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.99**	**297**	*e*S	Sb	08 42 55.9	-0.1
JHJ2	**Mitsune**	**1.38**	**323**	P	Pn	08 42 49.2	+0.3
JHJ2				*e*S	Sb	08 43 07.4	+0.3
BSO1	**Boso 1**	**2.64**	**3**	P	Pn	08 43 07.4	+1.7

THR ***09*** *08:50:30.2, 26.60N×57.22E, h15km, ML3.5*
IDC ***09*** *08:50:31.4±1.2, 26.55N×57.68E, h0km, mb3.6/15, mb1 3.8/16, mb1mx3.7/49, mbtmp3.7/16, ML4.3/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/40, Error ellipse: s-maj=25.5km s-min=19.1km az=156.0*
OMAN ***09*** *08:50:33.2±0.2, 26.73N×58.18E, h42km±20km, ml3.9/17, Error ellipse: s-maj=3.2km s-min=2.5km az=330.0*
TEH ***09*** *08:50:34.4, 26.67N×57.64E, h11km, ML4.1*
DSN ***09*** *08:50:34.9±6.2, 26.45N×57.82E, h10km, ML3.6/10, Error ellipse: s-maj=81.2km s-min=21.7km az=13.0*
NEIC ***09*** *08:50:34.5±0.0, 26.65N×57.61E, h24km, mb3.8/13, ML3.5(THR), MN4.1(TEH), After TEH.*
ISC 09 08:50:32.3±1.3, 26.59N±0.03×57.71E±0.04, h12km±9km, n110, σ1.82/116, mb3.8/21, MS3.0/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.25**	**321**	*e*Pg	**Pg**	**08 50 55.9**	**-0.3**
NIAN				IAMB	IAmb	08 51 25.5	
	comp=Z,0.0nm,0.7s						
SHME	**Shamm**	**1.51**	**250**	*e*P	**Pg**	**08 51 01.6**	**+0.4**
	SNR=95						
SHME				S	**Sg**	**08 51 23.8**	**+3.0**
SHME	**Shamm**	**1.51**	**250**	*e*Pn	**Pg**	**08 51 01.7**	**+0.4**
BNDS	**Bandar-Abbas**	**1.59**	**301**	*e*AML	AML	08 51 28.9	
	comp=N,954nm,0.7s						
BNDS				*e*Pn	Pn	08 50 54.7	-5.8
BNDS				*e*AML	AML	08 51 28.6	
	comp=E,995nm,0.4s						
GENO	**Geno**	**1.59**	**301**	*e*Pn	**Pg**	**08 51 02.6**	**-0.3**
GENO				IAMB	IAmb	08 51 31.4	
	comp=E,0.0nm,0.4s						
MDH	**Madha**	**1.81**	**225**	*e*P	**Pn**	**08 51 03.4**	**+0.1**
	SNR=39						
MDH	**Madha**	**1.81**	**225**	P	**Pn**	**08 51 03.7**	**+0.4**
	SNR=15						
MDH	**Madha**	**1.81**	**225**	*e*Pn	**Pn**	**08 51 03.3**	**+0.1**
MSFE	**Esma-Masafi**	**1.86**	**229**	*e*P	**Pn**	**08 51 04.4**	**+0.4**
	SNR=10						
MSFE	**Esma-Masafi**	**1.86**	**229**	*e*Pn	**Pn**	**08 51 04.4**	**+0.4**
UMQ	**Umm Al-Quwin**	**2.12**	**241**	P	**Pb**	**08 51 11.7**	**+0.9**
UMQ				S	**Sg**	**08 51 43.0**	**+2.4**
UMQ	**Umm Al-Quwin**	**2.12**	**241**	*e*Pn	**Pb**	**08 51 11.5**	**+0.8**
HATD	**Hatta, Dubai**	**2.26**	**219**	*e*P	**Pn**	**08 51 09.3**	**-0.2**
	SNR=9.5						
HATD	**Hatta, Dubai**	**2.26**	**219**	P	**Pn**	**08 51 10.1**	**+0.6**
	SNR=9.7						
HATD				S	**Sg**	**08 51 44.9**	**-0.1**
HATD	**Hatta, Dubai**	**2.26**	**219**	*e*Pn	**Pn**	**08 51 10.6**	**+1.1**
ASHO	**Ashiyiah**	**2.41**	**219**	*e*P	**Pn**	**08 51 12.2**	**+0.6**
	SNR=30						
ASHO	**Ashiyiah**	**2.41**	**219**	P	**Pb**	**08 51 14.3**	**-1.3**
	SNR=30						
ASHO	**Ashiyiah**	**2.41**	**219**	*e*Pn	**Pn**	**08 51 12.5**	**+0.9**
NAZ	**Nazwa, Dubai**	**2.44**	**230**	*e*P	**Pb**	**08 51 16.1**	**0.0**
	SNR=16						
NAZ	**Nazwa, Dubai**	**2.44**	**230**	P	**Pb**	**08 51 16.4**	**+0.4**
	SNR=13						
NAZ				S	**Sg**	**08 51 49.4**	**-1.3**
NAZ	**Nazwa, Dubai**	**2.44**	**230**	*e*Pn	**Pb**	**08 51 14.3**	**-1.8**
FAQ	**Al Faqa, Dubai**	**2.65**	**227**	P	**Pb**	**08 51 18.9**	**-0.8**
FAQ	**Al Faqa, Dubai**	**2.65**	**227**	P	**Pb**	**08 51 19.6**	**-0.1**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**2.65**	**227**	*e*Pn	**Pb**	**08 51 18.5**	**-1.2**
SOHO	**SOHO**	**2.66**	**204**	P	**Pn**	**08 51 14.5**	**-0.5**
CHBR	**Chabahar**	**2.68**	**111**	*e*Pn	**Pb**	**08 51 20.0**	**-0.2**
CHBR	**Chabahar**	**2.68**	**111**	*e*Pn	**Pb**	**08 51 20.7**	**+0.5**
CHBR	**Chabahar**	**2.68**	**111**	*e*Pn	**Pb**	**08 51 20.7**	**+0.5**
ASUD	**Al Ashush, Dub**	**2.91**	**228**	P	**Pb**	**08 51 22.4**	**-1.6**
ASUD	**Al Ashush, Dub**	**2.91**	**228**	P	**Pb**	**08 51 22.4**	**-1.6**
ASUD				S	**Sb**	**08 52 01.6**	**+2.1**
ASUD	**Al Ashush, Dub**	**2.91**	**228**	*e*Pn	**Pb**	**08 51 21.8**	**-2.2**
HOQ	**Hoqain**	**3.01**	**187**	P	**Pn**	**08 51 19.8**	**0.0**
	SNR=6.0						
HOQ	**Hoqain**	**3.01**	**187**	*e*Pn	**Pn**	**08 51 19.5**	**-0.3**
BIDO	**Bidbid**	**3.08**	**173**	P	**Pn**	**08 51 20.4**	**-0.3**
BIDO	**Bidbid**	**3.08**	**173**	*e*Pn	**Pn**	**08 51 19.6**	**-1.1**
ALNE	**Al Ain**	**3.08**	**216**	*e*Pn	**Pn**	**08 51 23.1**	**+2.3**
NGRK	**Negar Kerman**	**3.17**	**344**	*e*Pn	**Pn**	**08 51 24.2**	**+1.9**
NGRK				IAMB	IAmb	08 52 16.7	
	comp=N,0.0nm,0.8s						
AJN	**Ajban**	**3.18**	**231**	P	**Pb**	**08 51 26.2**	**-2.5**
AJN	**Ajban**	**3.18**	**231**	P	**Pb**	**08 51 26.4**	**-2.3**
AJN	**Ajban**	**3.18**	**231**	*e*Pn	**Pn**	**08 51 24.9**	**+2.8**
CHMN	**Cheshme madani**	**3.27**	**357**	*e*Pn	**Pb**	**08 51 27.5**	**-2.9**
CHMN				IAMB	IAmb	08 52 30.4	
	comp=Z,0.0nm,0.8s						
ARQ	**Araqi**	**3.41**	**199**	P	**Pn**	**08 51 28.6**	**+3.3**
	SNR=14						
ARQ				S	**Sb**	**08 52 11.0**	**-3.1**
WSAR	**Wadi Sarin**	**3.44**	**166**	Pn	**Pn**	**08 51 25.9**	**+0.2**
	comp=Z,28nm,0.3s,baz=342,slow=6.1,SNR=216						
WSAR				Sn	**Sn**	**08 52 05.3**	**-1.0**
	comp=Z,27nm,0.3s,baz=259,slow=22,SNR=15						
TVBK	**TV Kerman**	**3.49**	**346**	*e*Pn	**Pn**	**08 51 29.2**	**+2.5**
TVBK				IAMB	IAmb	08 52 27.7	
	comp=Z,0.0nm,0.4s						
SMDO	**Samad**	**3.53**	**175**	P	**Pn**	**08 51 27.7**	**+0.7**
	SNR=16						
SMDO				S	**Sn**	**08 52 11.7**	**+3.0**
BSY	**Bisya**	**3.85**	**187**	P	**Pn**	**08 51 34.1**	**+2.7**
	SNR=16						
KHGB	**Koh Gabri**	**3.93**	**344**	IAMB	IAmb	08 49 00.2	
	comp=Z,0.0nm,1.1s						
KHGB				*e*Pn	**Pn**	**08 51 35.1**	**+2.5**
SZD1	**Zahaedan-tmp**	**4.01**	**43**	*e*Pn	**Pn**	**08 51 37.3**	**+3.6**
ZHSF	**Zahedan**	**4.05**	**41**	*e*Pn	**Pn**	**08 51 37.0**	**+2.8**
ZHSF	**Zahedan**	**4.05**	**41**	*e*Pn	**Pn**	**08 51 37.7**	**+3.5**
ZHSF	**Zahedan**	**4.05**	**41**	*e*Pn	**Pn**	**08 51 37.7**	**+3.5**
JLN	**Jalan Bani Buh**	**4.68**	**160**	P	**Pn**	**08 51 42.6**	**-0.1**
	SNR=16						
JLN				S	**Sn**	**08 52 35.4**	**-1.6**
MZR	**Muzera**	**5.25**	**228**	P	**Pn**	**08 51 54.1**	**+3.5**
MZR	**Muzera**	**5.25**	**228**	*e*Pn	**Pn**	**08 51 52.9**	**+2.4**
MHTO	**MHTO**	**5.58**	**178**	P	**Pn**	**08 51 56.5**	**+1.4**
	SNR=7.8						
MHTO				S	**Sn**	**08 52 59.8**	**+0.6**
IKOO	**Kooshah**	**5.92**	**11**	*e*Pn	**Pn**	**08 52 03.7**	**+3.6**
IKAZ	**Kazeroun**	**6.08**	**303**	*e*Pn	**Pn**	**08 52 03.1**	**+0.8**
YZKH	**Yazd**	**6.39**	**336**	*e*Pn	**Pn**	**08 52 04.7**	**-1.6**
YZKH	**Yazd**	**6.39**	**336**	*e*Pn	**Pn**	**08 52 04.7**	**-1.6**
DQM	**DQM**	**6.63**	**181**	P	**Pn**	**08 52 11.5**	**+2.0**
KLNJ	**Kolanjah**	**6.95**	**311**	*e*Pn	**Pn**	**08 52 14.4**	**+0.2**
IRAM	**Ramesheh**	**6.98**	**319**	*e*Pn	**Pn**	**08 52 15.2**	**+0.6**
TKDS	**Koohdasht(Taba**	**7.02**	**356**	*e*Pn	**Pn**	**08 52 17.9**	**+2.9**
TNSJ	**Nastanj**	**7.41**	**353**	*e*Pn	**Pn**	**08 52 22.8**	**+2.4**
ANAR	**Anarak**	**7.43**	**333**	*e*Pn	**Pn**	**08 52 21.7**	**+1.0**
IKOM	**Komasi**	**11.60**	**313**	*e*Pn	**Pn**	**08 53 16.5**	**-1.4**
CHGR	**Chuyangaron**	**15.40**	**36**	*e*Pn	**Pn**	**08 54 09.7**	**+0.2**
	comp=Z,12nm,0.8s						
GAR	**Garm**	**16.27**	**37**	*e*Pn	**Pn**	**08 54 14.0**	**-6.8**
	comp=Z,7.1nm,1.3s						
GNI	**Garni**	**17.30**	**325**	LR	LR	09 02 08.2	
	comp=Z,45nm,19.2s,baz=101,slow=40						
BTK	**Batken**	**17.31**	**36**	*e*Pn	**Pn**	**08 54 33.2**	**-0.6**
	comp=Z,2.7nm,0.6s						
ARSB	**Arslanbob**	**19.36**	**37**	*e*P	**P**	**08 54 58.2**	**+0.3**
	comp=Z,2.7nm,0.8s						
KK31	**Karatay Array**	**19.50**	**29**	*e*P	**P**	**08 54 57.7**	**-1.6**
	comp=Z,2.4nm,0.8s						
KKAR	**Karatay Array**	**19.50**	**29**	*e*P	**P**	**08 54 57.8**	**-1.4**
EIL	**Elat**	**20.30**	**284**	P	Pn	08 55 11.4	+1.3
	comp=Z,2.1nm,0.5s,baz=84,slow=10,SNR=3.4						
MMAI	**Mount Meron Ar**	**20.37**	**294**	P	Pn	08 55 11.1	+0.2
	comp=Z,0.6nm,0.3s,baz=88,slow=13,SNR=3.2						
MMAI				LR	LR	09 04 36.2	
	comp=Z,48nm,18.1s,baz=215,slow=42						
AAK	**Ala-Archa**	**21.08**	**36**	P	**P**	**08 55 17.8**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=180,slow=5.1,SNR=3.4						
KDJ	**Kajisay**	**22.25**	**41**	*e*P	**P**	**08 55 28.8**	**-0.4**
	comp=Z,3.7nm,0.7s						
ABKAR	**Akbulak array**	**22.70**	**4**	*e*P	**P**	**08 55 33.5**	**-0.1**
AKTO	**Aktyubinsk**	**23.81**	**0**	P	**P**	**08 55 46.8**	**+1.8**
	comp=Z,1.7nm,0.5s,baz=172,slow=11,SNR=9.2						
BR101	**Keskin Array S**	**23.95**	**309**	*e*P	**P**	**08 55 48.1**	**+1.6**
BR131	**Keskin Array S**	**23.95**	**309**	*e*P	**P**	**08 55 45.9**	**-0.6**
	comp=Z,2.9nm,0.8s						
BRTR	**Keskin Array B**	**23.95**	**309**	*e*P	**P**	**08 55 44.5**	**-2.0**
BRTR	**Keskin Array B**	**23.95**	**309**	P	**P**	**08 55 48.1**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=134,slow=9.9,SNR=7.8						
BRTR				LR	LR	09 07 07.4	
	comp=Z,45nm,18.2s,baz=84,slow=42						
FURI	**Furi**	**25.20**	**229**	*e*P	**P**	**08 55 53.5**	**-4.8**
	comp=Z,103nm,0.6s						
MK32	**Makanchi Array**	**28.00**	**37**	*e*P	**P**	**08 56 24.4**	**+1.4**
MKAR	**Makanchi Array**	**28.00**	**37**	P	**P**	**08 56 24.4**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=235,slow=5.1,SNR=2.1						
BVAR	**Borovoye Array**	**28.06**	**16**	P	**P**	**08 56 24.8**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=193,slow=6.1,SNR=3.6						
KURBB	**Kurchatov Arra**	**28.80**	**28**	P	**P**	**08 56 31.3**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=228,slow=8.5,SNR=4.0						
AKASG	**Malin Array Be**	**32.43**	**326**	P	**P**	**08 57 02.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=127,slow=8.1,SNR=2.2						
ZALV	**Zalesovo Beam**	**33.88**	**29**	P	**P**	**08 57 15.8**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=232,slow=7.7,SNR=3.6						
ZAA1	**Zalesovo Array**	**33.88**	**29**	*e*P	**P**	**08 57 15.8**	**+1.2**
GERES	**GERESS Array B**	**40.57**	**315**	*e*P	**P**	**08 58 09.7**	**-2.0**
GERES	**GERESS Array B**	**40.57**	**315**	P	**P**	**08 58 10.7**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=116,slow=9.0,SNR=5.8						
FIA0	**FINESS Array S**	**40.82**	**337**	*e*P	**P**	**08 58 14.1**	**+0.7**
FINES	**FINESS Array B**	**40.82**	**337**	P	**P**	**08 58 14.1**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=139,slow=9.1,SNR=5.8						
WTTA	**Wattenberg**	**41.49**	**312**	*e*P	**P**	**08 58 19.4**	**0.0**
	comp=Z,1.4nm,0.4s						
FETA	**Feichten**	**42.05**	**312**	*i* P	**P**	**08 58 23.9**	**+0.1**
	comp=Z,2.4nm,0.8s						
DAVA	**Damuels**	**42.67**	**312**	*i* P	**P**	**08 58 29.0**	**+0.1**
	comp=Z,4.6nm,0.5s						
NB200	**NORSAR Array S**	**46.46**	**331**	*e*P	**P**	**08 59 01.4**	**+2.5**
NOA	**NORSAR Array B**	**46.46**	**331**	P	**P**	**08 59 01.4**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=116,slow=7.6,SNR=3.3						
NOA				LR	LR	09 20 46.5	
	comp=Z,26nm,20.2s,baz=10,slow=39						
PAB	**San Pablo**	**52.65**	**301**	*e*P	**P**	**08 59 46.2**	**-0.3**
	comp=Z,6.7nm,1.4s						
TOA0	**Torodi Ar. Sit**	**53.97**	**267**	*e*P	**P**	**08 59 54.1**	**-2.3**
	comp=Z,1.4nm,0.7s						
TOA1	**Torodi Ar. Sit**	**53.97**	**267**	*e*P	**P**	**08 59 57.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**53.97**	**267**	*e*P	**P**	**08 59 55.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**53.97**	**267**	P	**P**	**08 59 57.0**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=61,slow=6.8,SNR=6.9						
IMAR	**Indian Mountai**	**84.63**	**12**	*e*P	**P**	**09 03 04.9**	**-0.5**
BMAR	**Burnt Mountain**	**84.79**	**8**	*e*P	**P**	**09 03 06.6**	**+0.3**
ILAR	**Eielson Array**	**86.95**	**10**	P	**P**	**09 03 18.4**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=322,slow=5.8,SNR=2.6						
YKA	**Yellowknife Ar**	**91.02**	**356**	P	**P**	**09 03 37.5**	**+1.4**
	comp=Z,0.1nm,0.7s,baz=9.3,slow=4.6,SNR=4.1						
YKB5	**Yellowknife Ar**	**91.02**	**356**	*e*P	**P**	**09 03 37.5**	**+1.4**

UCR 09 09:25:57.4±1.7, 9.82N×84.12W, h61km±5km, MD3.6, 5C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.13**	**29⇑**	*e*P	Pn	09 26 09.1	+2.2
SJS				*e*S	Sn	09 26 16.5	+2.7
LCR2	**La Lucha 2**	**0.14**	**125⇓**	*e*P	Pn	09 26 06.9	-0.1
LCR2				*e*S	Sn	09 26 14.6	+0.6
HDC	**Heredia**	**0.18**	**2**	*e*P	Pn	09 26 06.9	-0.3
HDC				*e*S	Sn	09 26 15.2	+1.1
EDLM	**Las Mercedes**	**0.75**	**136⇑**	*i* P	Pn	09 26 12.6	+0.1
EDLM				*e*S	Sn	09 26 24.5	+1.0
FORC	**Fortuna**	**0.84**	**320**	*i* P	Pn	09 26 13.4	-0.1
CASO	**Castillo**	**0.86**	**315**	*i* P	Pn	09 26 13.7	-0.1
CASO				*i* S	Sn	09 26 26.9	+1.1
ARE1	**Arenal 1**	**0.87**	**317⇑**	*e*P	Pn	09 26 13.8	0.0
CEDE	**Laguna Cedeo**	**0.88**	**319**	*i* P	Pn	09 26 14.0	0.0
CEDE				*i* S	Sn	09 26 27.2	+1.0
JTS	**Las Juntas de**	**0.94**	**300⇑**	*e*P	Pn	09 26 14.8	0.0
JTS				*e*S	Sn	09 26 27.6	-0.1
DRK0	**Durika**	**1.03**	**123⇓**	*e*P	Pn	09 26 15.5	-0.5
DRK0				*e*S	Sn	09 26 30.5	+0.7
EDPN	**Palmar Norte**	**1.08**	**143**	*e*P	Pn	09 26 17.1	+0.6
ACAL	**Aguas Claras**	**1.21**	**312**	*i* P	Pn	09 26 18.2	-0.2
CUI	**Cuipilapa**	**1.32**	**309⇑**	*e*P	Pn	09 26 19.7	-0.1
MESS	**Mesas**	**1.40**	**311**	*i* P	Pn	09 26 20.8	0.0
BUEV	**Buena Vista**	**1.60**	**308**	*e*P	Pn	09 26 23.3	-0.2
NY14	**Universidad de**	**1.62**	**301**	*i* P	Pn	09 26 24.4	+0.6
BRU2	**Volcan**	**1.74**	**126**	*e*P	Pn	09 26 25.5	0.0
BRU2				*e*S	Sn	09 26 46.3	-0.5
TBS2		**1.77**	**125**	*e*P	Pn	09 26 26.2	+0.3
TBS2				*e*S	Sn	09 26 47.5	0.0

LDG 09 09:32:27.5±0.2, 41.01N×9.38E, h2km, Md2.6/1, Ml2.6/5, Error ellipse: s-maj=5.3km s-min=3.6km az=133.0, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGF	**Pioggiola**	**1.57**	**350**	*e*Pn	Pn	09 32 54.9	-1.6
PGF				*e*Sn	Sn	09 33 14.4	-3.0
	31nm,0.2s						
LMR	**La Mourre**	**3.16**	**318**	*e*Pn	Pn	09 33 16.4	-1.8
LMR				*e*Sn	Sn	09 33 52.4	-4.0
	1.0nm,0.3s						
SBF	**Sospel**	**3.20**	**334**	*e*Pn	Pn	09 33 16.3	-2.5
SBF				*e*Sn	Sn	09 33 53.4	-4.1
	2.5nm,0.4s						
FRF	**La Foret Royal**	**3.26**	**322**	*e*Pn	Pn	09 33 17.6	-2.0
FRF				*e*Sn	Sn	09 33 54.8	-4.2
	0.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**4.68**	**328**	*e*Pn	Pn	09 33 37.2	-2.0
ORIF	**Oris-en-Rattie**	**4.68**	**328**	*e*P	Pn	09 33 40.8	+1.6
LASF	**Ste Croix**	**5.10**	**309**	*e*Pn	Pn	09 33 43.2	-1.8
MTLF	**Montolieu**	**5.81**	**296**	*e*Pn	Pn	09 33 52.3	-2.4
CAF	**Calviac**	**6.64**	**309**	*e*Pn	Pn	09 34 03.8	-2.3

ROM 09 09:34:07.2±0.1, 43.458N±0.004×12.309E±0.006, h6km, Md1.2, Error ellipse: s-maj=0.7km s-min=0.1km az=228.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.07**	**96**	P	Pg	09 34 09.1	+0.1
ATPI	**Pietralunga -**	**0.07**	**96**	P	Pg	09 34 09.1	+0.1
ATPI				S	Sg	09 34 10.6	+0.3
ATPI				END			
ATPI				END			
ATPI				END			
ATPI				END			
ATPI	**Pietralunga -**	**0.07**	**96**	P	Pg	09 34 09.1	+0.2
ATPI	**Pietralunga -**	**0.07**	**96**	S	Sg	09 34 10.5	+0.2
BADI	**Badiali**	**0.07**	**317**	P	Pg	09 34 09.1	+0.2
BADI				S	Sg	09 34 10.7	+0.4
BADI				END			
BADI				END			
BADI				END			
BADI				END			
BADI	**Badiali**	**0.07**	**317**	P	Pg	09 34 09.2	+0.2
BADI	**Badiali**	**0.07**	**317**	S	Sg	09 34 10.6	+0.4
ATVO	**AVT- Monte Val**	**0.10**	**137**	P	Pg	09 34 09.8	+0.3
ATVO	**AVT- Monte Val**	**0.10**	**137**	P	Pg	09 34 09.9	+0.4
ATVO				S	Sg	09 34 11.8	+0.8
ATVO				AML	AML		
	comp=E,31μm,0.7s						
ATVO				AML	AML		
	comp=N,30μm,0.7s						
ATVO				AML	AML		
	comp=N,30μm,0.7s						
ATVO				AML	AML		
	comp=E,31μm,0.7s						
ATVO				END			
ATVO				END			
ATVO				END			
ATVO				END			
ATVO	**AVT- Monte Val**	**0.10**	**137**	P	Pg	09 34 09.9	+0.4
PARC	**Parchiule**	**0.20**	**345**	P	Pg	09 34 11.6	+0.5
PARC	**Parchiule**	**0.20**	**345**	P	Pg	09 34 11.7	+0.5
PARC				S	Sg	09 34 15.3	+1.5
PARC				END			
PARC				END			
PARC	**Parchiule**	**0.20**	**345**	P	Pg	09 34 11.7	+0.6

DJA ***09*** *09:36:35.5±0.5, 5°S±6°×15°4E±°, h10km, M5.1/9, mB5.2/1, mb4.7/9, MLv5.3/1, Mw(mB)4.6/1*
ISCJB ***09*** *09:36:36.9±0.2, 5.39S±0.04×153.87E±0.05, h35km, mb4.9/96, MS3.9/25, Error ellipse: s-maj=6.9km s-min=5.0km az=26.6*
IDC ***09*** *09:36:37.6±2.9, 5.36S×153.85E, h29km±19km, mb4.3/21, mb1 4.5/23, mb1mx4.4/32, mbtmp4.5/23, ML3.2/2, MS3.8/22, Ms1 3.8/22, ms1mx3.7/35, Error ellipse: s-maj=18.1km s-min=11.4km az=86.0*
MOS ***09*** *09:36:38.5±1.0, 5.33S×153.80E, h48km, mb5.2/29, Error ellipse: s-maj=10.6km s-min=7.1km az=93.9*
NEIC ***09*** *09:36:41.4±1.5, 5.38S×153.77E, h62km±5km, mb4.7/63, Error ellipse: s-maj=17.8km s-min=13.5km az=89.0*
NEIC Felt at Kokopo, New Britain.
GCMT ***09*** *09:36:41.4±0

comp=Z,382nm,21.9s,baz=35,slow=36
ARMA Armidale 24.95 184 *e*P **P 09 41 59.7 +0.8**
comp=Z,14nm,0.9s
AS31 Alice Springs 26.38 225 *e*P **P 09 42 11.7 -0.1**
comp=Z,3.7nm,0.9s
ASAR Alice Springs 26.38 225 *e*P **P 09 42 12.3 +0.4**
ASAR Alice Springs 26.38 225 *e*P **P 09 42 12.3 +0.4**
ASAR Alice Springs 26.38 225 P **P 09 42 12.0 +0.1**
comp=Z,3.2nm,0.8s,baz=57,slow=9.0,SNR=20
ASAR PcP **PcP 09 45 37.8 +0.6**
comp=Z,5.2nm,0.8s,baz=64,slow=2.6,SNR=16
ASAR ScP **ScP 09 49 15.1 +0.4**
comp=Z,0.5nm,0.6s,baz=59,slow=2.7,SNR=4.9
ASAR LR LR 09 52 34.3
comp=Z,343nm,19.4s,baz=88,slow=36
H11S3 WAKE ISLAND Hy 26.95 28 T T 10 10 34.6
baz=206,slow=77,SNR=30
H11S2 WAKE ISLAND Hy 26.96 28 T T 10 10 28.2
baz=206,slow=77,SNR=37
H11S1 WAKE ISLAND Hy 26.97 28 T T 10 10 31.9
baz=206,slow=77,SNR=25
STKA Stephens Creek 28.69 202 *e*P **P 09 42 32.7 +0.3**
comp=Z,2.0nm,1.2s
STKA Stephens Creek 28.69 202 *e*P **P 09 42 32.7 +0.3**
STKA pmax pmax
comp=Z,2.0nm,1.2s
STKA Stephens Creek 28.69 202 P **P 09 42 32.1 -0.3**
comp=Z,3.7nm,0.8s,baz=28,slow=12,SNR=6.9
STKA PcP **PcP 09 45 42.8 +0.2**
comp=Z,2.6nm,0.8s,baz=357,slow=2.1,SNR=3.3
STKA LR LR 09 53 33.1
comp=Z,290nm,21.7s,baz=21,slow=35
FITZ Fitzroy Crossi 30.24 243 *e*P **P 09 42 46.2 -0.2**
comp=Z,14nm,1.0s
FITZ Fitzroy Crossi 30.24 243 P **P 09 42 45.8 -0.6**
comp=Z,3.4nm,0.6s,baz=73,slow=6.5,SNR=10
FITZ PcP **PcP 09 45 47.0 +0.2**
comp=Z,6.0nm,0.9s,baz=90,slow=6.1,SNR=4.0
MPSI Mapaga 34.32 279 P **P 09 43 24.4 +2.2**
comp=Z,5.1nm,0.9s,comp=Z,302nm
FORT Forrest 34.95 221 *e*P **P 09 43 26.5 -0.9**
comp=Z,28nm,0.8s
URZ Urewera 38.96 150 *e*P **P 09 44 00.8 -0.5**
comp=Z,20nm,0.9s
URZ Urewera 38.96 150 P **P 09 44 01.0 -0.3**
comp=Z,21nm,1.1s,baz=274,slow=2.3,SNR=10.0
JHJ Hachijo jima 2 40.57 342 LR LR 09 58 28.6
comp=Z,41nm,20.3s,baz=48,slow=32
RPZ Rata Peaks 41.06 161 P **P 09 44 18.2 -0.6**
comp=Z,12nm,0.9s,baz=37,slow=5.1,SNR=2.3
JNU Nakatsue 44.07 332 *e*P **P 09 44 42.8 -0.6**
comp=Z,25nm,0.9s
MJAR Matsushiro Arr 44.22 342 P **P 09 44 42.8 -1.7**
comp=Z,1.2nm,0.6s,baz=168,slow=10.0,SNR=4.3
MJAR LR LR 10 03 22.0
comp=Z,64nm,18.5s,baz=160,slow=36
MAJO Matsushiro 44.22 342 *e*P **P 09 44 42.8 -1.7**
MAJO Matsushiro 44.22 342 *e*P **P 09 44 42.8 -1.7**
DLV T Lat 48.24 291 *e*P **P 09 45 17.5 +0.8**
comp=Z,50nm,1.2s
TJN Taejon 48.39 331⇑*e*P **P 09 45 17.1 -0.1**
KSRS Korea Array 49.00 333 P **P 09 45 21.7 -0.1**
comp=Z,6.1nm,0.9s,baz=150,slow=9.2,SNR=20
KSRS LR LR 10 03 38.5
comp=Z,20nm,20.7s,baz=135,slow=33
KSAR Wonju Array Be 49.01 333 *e*P **P 09 45 20.6 -1.3**
KSAR Wonju Array Be 49.01 333 *e*P **P 09 45 20.6 -1.3**
NJ2 Nanjing 49.95 321 *e*P **P 09 45 29.0 -0.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
MSHR Mys Shultsa 52.02 339⇑*e*P **P 09 45 44.6 0.0**
USRK Ussuriysk Ar. 53.15 340 P **P 09 45 52.8 -0.2**
comp=Z,4.1nm,0.9s,baz=163,slow=7.2,SNR=6.3
USRK LR LR 10 05 27.4
comp=Z,70nm,21.9s,baz=173,slow=33
PANO Nakornpanom 53.51 296 P **P 09 45 57.7 +1.6**
TIA Tai'an 53.80 323 P **P 09 45 58.2 +0.3**
TIA pmax pmax
comp=Z,14nm,0.8s
SKNT Sakolnakorn 54.01 295 P **P 09 46 00.8 +1.0**
NONG Nongkai 55.13 296 P **P 09 46 08.8 +0.9**
CN2 Changchun 55.27 335 *e*P **P 09 46 08.5 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CHAI Chaiyaphum 55.47 293 P **P 09 46 12.0 +1.6**
PPT2 Papeete2 56.60 107 *e*LR LR 10 02 50.5
comp=Z,106nm,22.5s
TBI Tubuai 57.41 114 *e*LR LR 10 03 16.0
comp=Z,267nm,30.5s
NANT Nan 57.56 296 P **P 09 46 26.6 +1.3**
comp=Z,48μm,1.0s,comp=Z,175nm
SRDT SRDT 57.66 291 P **P 09 46 28.1 +2.1**
comp=Z,9.2nm,1.1s,comp=Z,0.0nm
UTHA Uthaitani 57.70 292 P **P 09 46 27.7 +1.5**
comp=Z,26μm,1.0s,comp=Z,79nm
KLR Kul'dur 57.72 343||*e*P **P 09 46 26.0 +0.3**
KLR pmax pmax
comp=Z,7.0nm,1.0s
XAN Xi'an 57.75 316 P **P 09 46 26.8 +0.5**
XAN pmax pmax
comp=Z,11nm,0.9s
XAN pmax pmax
comp=Z,4μm,3.3s
XAN Xi'an 57.75 316 *e*P **P 09 46 26.4 +0.1**
comp=Z,13nm,0.8s
XAN Xi'an 57.75 316 *e*P **P 09 46 26.4 +0.1**
XAN pmax pmax
comp=Z,13nm,0.8s
KMI Kunming 58.15 304 P **P 09 46 31.0 +1.5**
KMI pmax pmax
comp=Z,15nm,0.5s
PETK Petropavlovsk- 58.40 3 *e*P **P 09 46 28.7 -1.8**
PETK Petropavlovsk- 58.40 3 *e*P **P 09 46 28.7 -1.8**
PETK Petropavlovsk- 58.40 3 P **P 09 46 29.8 -0.7**
comp=Z,8.5nm,0.9s,baz=168,slow=7.5,SNR=8.3
PETK LR LR 10 07 46.1
comp=Z,66nm,21.7s,baz=171,slow=32
PEA1 Petropavlovsk- 58.41 3 *e*P **P 09 46 29.8 -0.7**
UMPA Umpang Tak 58.43 293 P **P 09 46 33.8 +2.4**
comp=Z,13μm,0.9s,comp=Z,318nm
LAMP Lampang 58.43 295 P **P 09 46 33.1 +1.8**
comp=Z,72μm,0.9s,comp=Z,585μmcomp=Z,282nm
CM31 Chiang Mai Arr 59.03 295 *e*P **P 09 46 36.8 +1.2**
comp=Z,38nm,0.9s
CMAR Chiang Mai Arr 59.03 295 *e*P **P 09 46 37.0 +1.5**
CMAR Chiang Mai Arr 59.03 295 *i*P **P 09 46 37.2 +1.7**
CMAR pmax pmax
comp=Z,23nm,0.9s
CMAR Chiang Mai Arr 59.03 295 P **P 09 46 36.9 +1.4**
comp=Z,22nm,0.9s,baz=113,slow=5.4,SNR=100
CMAR LR LR 10 12 06.0
comp=Z,98nm,18.1s,baz=184,slow=36
CMMT Chiang Mai 59.14 296 P **P 09 46 37.7 +1.4**
comp=Z,12nm,1.2s,comp=Z,0.0nm
CHTO Chiang Mai 59.14 296 *e*P **P 09 46 37.7 +1.4**
comp=Z,24nm,1.0s
CHTO Chiang Mai 59.14 296 *e*P **P 09 46 37.7 +1.4**
CHTO pmax pmax
comp=Z,23nm,1.0s
CD2 Chengdu 59.89 310 *e*P **P 09 46 41.0 -0.3**
HHC Hu-ho-hao-te 60.12 324 *e*P **P 09 46 45.1 +2.3**
HHC pmax pmax
comp=Z,39nm,1.1s
HHC pmax pmax
comp=Z,100nm,6.3s
LZH Lanzhou 62.36 316⇑P **P 09 46 59.7 +1.6**
LZH pP sP 09 47 18.4 +6.6
LZH sP pwP 09 47 21.6 +10
LZH PP **PP 09 49 19.9 +4.2**
LZH pmax pmax
comp=Z,38nm,1.3s
LZH pmax pmax
comp=Z,130nm,4.3s
LZH LR LR
comp=Z,160nm,16.5s
LZH LR LR
comp=Z,110nm,16.3s
LZH LR LR
comp=Z,100nm,17.4s
ZEA Zeya 63.02 343 *e*P **P 09 47 03.0 +1.1**
ZEA pmax pmax
comp=Z,11nm,0.9s
MA2 Magadan 64.84 358 *e*P **P 09 47 13.2 -0.6**
comp=Z,17nm,0.9s
MA2 Magadan 64.84 358⇑*e*P **P 09 47 13.7 0.0**
MA2 pmax pmax
comp=Z,11nm,1.0s

GTA Gaotai 66.78 317⇑P **P 09 47 28.4 +1.5**
GTA pmax pmax
comp=Z,26nm,1.2s
GTA pmax pmax
comp=Z,98nm,5.0s
GTA LR LR
comp=Z,84nm,18.9s
GTA LR LR
comp=Z,96nm,19.2s
GTA LR LR
comp=Z,110nm,19.2s
BRDH Bariadhala 66.82 297 LR LR 10 17 47.0
comp=Z,379nm,19.4s,baz=316,slow=37
ULN Ulaanbaatar 67.04 328 *e*P **P 09 47 29.6 +1.3**
comp=Z,10nm,1.1s
ULN Ulaanbaatar 67.04 328 *e*P **P 09 47 29.7 +1.3**
ULN pmax pmax
comp=Z,10.0nm,1.1s
SONA0 Songino Array 67.37 328 *e*P **P 09 47 30.8 +0.4**
SONM Songino Array 67.37 328 *e*P **P 09 47 31.1 +0.6**
SONM Songino Array 67.37 328 P **P 09 47 30.8 +0.4**
comp=Z,14nm,1.3s,baz=132,slow=4.9,SNR=19
SONM LR LR 10 17 00.5
comp=Z,50nm,18.7s,baz=89,slow=36
SHL Shillong 67.47 300 *e*P **P 09 47 30.3 -1.3**
comp=Z,34nm,1.1s
SHL Shillong 67.47 300 *e*P **P 09 47 30.3 -1.3**
SHL pmax pmax
comp=Z,34nm,1.1s
SEY Seymchan 68.17 359||*e*P **P 09 47 33.2 -1.8**
ZAK Zakamensk 70.53 328 *e*P **P 09 47 49.0 -1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
BOD Bodaibo 70.72 339 *e*P **P 09 47 47.2 -3.6**
BOD pmax pmax
comp=Z,6.0nm,1.6s
TLY Talaya 71.11 330||*e*P **P 09 47 54.3 +0.9**
VNDA Vanda 72.18 178 P **P 09 47 59.8 +0.4**
comp=Z,3.6nm,0.9s,baz=336,slow=5.7,SNR=12
MOY Mondy 72.45 329 *e*P **P 09 48 02.0 +0.4**
MOY pmax pmax
comp=Z,10.0nm,1.4s
JIRN Jiri 72.95 301 *e*P **P 09 48 06.1 +0.7**
comp=Z,35nm,0.8s
PKI Pulchoki 73.60 301 *e*P **P 09 48 09.5 +0.4**
PKIN Phulchoki 73.61 301 *e*P **P 09 48 09.4 +0.3**
KKN Kakani 73.76 301 *e*P **P 09 48 10.6 +0.6**
BILL Bilibino 73.82 5 *e*P **P 09 48 08.9 -0.2**
comp=Z,11nm,0.9s
BILL Bilibino 73.82 5 *e*P **P 09 48 09.2 +0.1**
BILL *e* 09 48 24.9
BILL *e* 09 50 56.2
BILL *e*PPP PPP 09 52 35.1
BILL pmax pmax
comp=Z,7.0nm,1.0s
DMN Daman 73.87 301 *e*P **P 09 48 11.4 +0.8**
comp=Z,60nm,1.0s
GKN Gorkha 74.37 301 *e*P **P 09 48 14.1 +0.7**
KOLN Koldanda 75.20 300 *e*P **P 09 48 18.6 +0.3**
DANN Dangsing 75.20 301 *e*P **P 09 48 18.4 0.0**
comp=Z,70nm,1.5s
PYUN Piuthan 75.80 301 *e*P **P 09 48 21.6 -0.2**
comp=Z,57nm,1.0s
WMQ Urumqi 76.86 317 *e*P **P 09 48 28.3 +1.0**
WMQ PcP **pwP 09 48 39.3 -1.6**
WMQ sP sP 09 48 52.3 +11
WMQ pmax pmax
comp=Z,50nm,1.3s
WMQ pmax pmax
comp=Z,280nm,4.5s
WMQ LR LR
comp=Z,1μm,38.9s
WMQ LR LR
comp=Z,2μm,39.1s
WMQ LR LR
comp=Z,400nm,30.5s
HYB Hyderabad 77.63 289 *i*P **P 09 48 32.0 0.0**
SEW Seward 78.92 25 *e*P **P 09 48 37.4 -0.8**
comp=Z,7.8nm,0.8s
DGZ Jazzator, Alta 79.17 323 *d i*P **P 09 48 40.7 +0.6**
DGZ pmax pmax
comp=Z,10.0nm,0.9s
RC01 Rabbit Creek A 79.33 24 *e*P **P 09 48 40.2 -0.3**
comp=Z,8.8nm,0.9s
CAST Castle Rocks 79.71 22 *e*P **P 09 48 41.1 -1.4**
comp=Z,7.0nm,0.8s
PMR Palmer 79.84 24 *e*P **P 09 48 43.5 +0.3**
comp=Z,6.3nm,0.8s
PMR Palmer 79.84 24 *e*P **P 09 48 43.5 +0.3**
PMR pmax pmax
comp=Z,6.0nm,0.8s
SML Sawmill 80.28 24 *e*P **P 09 48 45.5 -0.2**
comp=Z,17nm,0.9s
SML Sawmill 80.28 24 *e*P **P 09 48 45.5 -0.2**
SML pmax pmax
comp=Z,17nm,0.9s
GLI Glacier Island 80.32 25 *e*P **P 09 48 45.0 -0.8**
comp=Z,7.0nm,0.9s
IMAR Indian Mountai 80.64 19 *e*P **P 09 48 47.5 +0.1**
SCM Sheep Creek Mo 80.70 24 *e*P **P 09 48 48.3 +0.3**
comp=Z,9.4nm,1.0s
RND Reindeer 80.92 23 *e*P **P 09 48 48.0 -1.1**
comp=Z,8.7nm,0.9s
RND Reindeer 80.92 23 *e*P **P 09 48 48.0 -1.1**
RND pmax pmax
comp=Z,9.0nm,0.9s
MCK McKinley 81.06 22 *e*P **P 09 48 48.4 -1.4**
comp=Z,14nm,0.9s
MCK McKinley 81.06 22 *e*P **P 09 48 48.4 -1.4**
MCK pmax pmax
comp=Z,14nm,0.9s
MLY Manley 81.11 21 *e*P **P 09 48 49.0 -1.0**
comp=Z,4.7nm,0.8s
KLU Klutina 81.12 25 *e*P **P 09 48 49.5 -0.7**
comp=Z,10.0nm,1.0s
DHY Denali Highway 81.31 23 *e*P **P 09 48 51.0 -0.3**
comp=Z,4.9nm,1.0s
MK31 Makanchi Array 81.44 319 *e*P **P 09 48 51.9 -0.3**
comp=Z,9.4nm,0.9s
MK31 Makanchi Array 81.44 319 *e*P **P 09 48 51.9 -0.3**
MK31 pmax pmax
comp=Z,9.0nm,0.9s
MK32 Makanchi Array 81.44 319 *e*P **P 09 48 52.1 0.0**
MKAR Makanchi Array 81.44 319 *e*P **P 09 48 52.5 +0.3**
MKAR Makanchi Array 81.44 319 *i*P **P 09 48 52.7 +0.5**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 81.44 319 P **P 09 48 52.1 0.0**
comp=Z,7.8nm,0.7s,baz=104,slow=5.7,SNR=63
MKAR LR LR 10 24 32.6
comp=Z,27nm,21.1s,baz=86,slow=35
MAKZ Makanchi 81.65 319 *e*P **P 09 48 53.6 +0.3**
comp=Z,15nm,0.9s
MAKZ Makanchi 81.65 319 *e*P **P 09 48 53.6 +0.3**
MAKZ pmax pmax
comp=Z,15nm,0.9s
CCB Clear Creek Bu 81.96 22 *e*P **P 09 48 52.5 -2.0**
comp=Z,3.4nm,0.8s
COLA College 82.06 22⇑*e*P **P 09 48 53.2 -1.8**
COLA pmax pmax
comp=Z,6.0nm,0.9s
ZAA0 Zalesovo Array 82.21 326 *e*P **P 09 48 55.3 -0.7**
comp=Z,6.7nm,0.9s
ZALV Zalesovo Beam 82.21 326 P **P 09 48 54.8 -1.2**
comp=Z,4.0nm,0.6s,baz=114,slow=5.9,SNR=14
ZAA1 Zalesovo Array 82.22 326 *e*P **P 09 48 54.8 -1.2**
ILAR Eielson Array 82.36 22 *e*P **P 09 48 54.8 -1.8**
ILAR Eielson Array 82.36 22 *e*P **P 09 48 54.8 -1.8**
ILAR Eielson Array 82.36 22 P **P 09 48 54.5 -2.0**
comp=Z,2.0nm,0.9s,baz=255,slow=5.1,SNR=19
ILAR LR LR 10 22 37.0
comp=Z,117nm,20.2s,baz=259,slow=34
ILB Eielson Array 82.36 22 *e*P **P 09 48 55.0 -1.6**
RIDG Independent Ri 82.63 23 *e*P **P 09 48 57.4 -0.7**
comp=Z,6.2nm,1.0s
CTGM Chitina Glacie 82.86 26 *e*P **P 09 49 00.0 +0.6**
comp=Z,7.9nm,0.8s
DOT Dot Lake 82.90 23 *e*P **P 09 48 58.6 -0.9**
comp=Z,7.1nm,0.8s
PRZ Przheval'sk 82.96 314 *e*P **P 09 49 01.2 +0.7**
comp=Z,27nm,1.0s
PRZ Przheval'sk 82.96 314 *e*P **P 09 49 01.2 +0.7**
PRZ pmax pmax
comp=Z,27nm,1.0s
TARG Taragay, Kyrgy 83.21 313 *e*P **P 09 49 01.0 -1.0**
comp=Z,9.5nm,1.0s

NVS Novosibirsk 83.39 327 *i*P **P 09 49 02.2 +0.1**
TOLK Toolik Lake Re 83.50 18 *e*P **P 09 49 02.1 -0.4**
comp=Z,4.1nm,0.9s
BCAR Beaver Creek A 83.56 24 *e*P **P 09 49 02.7 -0.2**
KDJ Kajisay 83.75 313 *e*P **P 09 49 04.7 +0.2**
comp=Z,33nm,0.9s
KDJ Kajisay 83.75 313 *e*P **P 09 49 04.7 +0.2**
KDJ pmax pmax
comp=Z,33nm,0.9s
KSH Kashi 84.08 311 P **P 09 49 09.2 +3.0**
KSH pP sP 09 49 26.3 +6.2
KSH S **S 09 59 28.4 -0.3**
KSH SS **SS 10 05 01.7 +3.7**
KSH pmax pmax
comp=Z,62nm,1.1s
KSH pmax pmax
comp=Z,280nm,4.5s
NRN Naryn 84.47 312 *e*P **P 09 49 07.8 -0.6**
comp=Z,18nm,1.3s
NRN Naryn 84.47 312 *e*P **P 09 49 07.8 -0.6**
NRN pmax pmax
comp=Z,18nm,1.3s
BMAR Burnt Mountain 84.49 20 *e*P **P 09 49 07.8 +0.3**
HYT Haines Junctio 84.53 27 *e*P **P 09 49 08.3 +0.3**
comp=Z,13nm,0.9s
EGAK Eagle 84.54 23 *e*P **P 09 49 07.7 -0.1**
comp=Z,5.3nm,0.9s
QSPA South Pole Qui 84.54 180 *e*P **P 09 49 07.9 -0.1**
comp=Z,27nm,0.8s
KURK Kurchatov 84.86 322 *e*P **P 09 49 09.2 -0.5**
comp=Z,19nm,1.0s
KURK Kurchatov 84.86 322 *c i*P **P 09 49 09.3 -0.4**
KURK pmax pmax
comp=Z,26nm,1.3s
TKM2 Tokmak 2 85.07 314 P **P 09 49 11.9 +0.6**
SNR=20
NIL Nilore 85.14 304 *e*P **P 09 49 11.4 -0.1**
comp=Z,25nm,0.9s
NIL Nilore 85.14 304 *e*P **P 09 49 11.4 -0.1**
NIL pmax pmax
comp=Z,25nm,0.9s
KZA Kyzart 85.15 313 P **P 09 49 13.5 +1.6**
SNR=20
MAW Mawson 85.38 203 *e*P **P 09 49 12.5 +0.5**
comp=Z,2.1nm,1.0s
MAW Mawson 85.38 203 *e*P **P 09 49 12.5 +0.5**
MAW pmax pmax
comp=Z,2.0nm,1.0s
MAW Mawson 85.38 203 P **P 09 49 12.5 +0.5**
comp=Z,7.9nm,1.0s,baz=103,slow=7.9,SNR=5.3
KBK Karagaybulak 85.48 313 P **P 09 49 14.0 +0.8**
SNR=5.5
CHMS Chumysh 85.69 314 P **P 09 49 14.7 +0.6**
SNR=8.1
UCH Uchtor 85.71 313 P **P 09 49 15.9 +1.1**
SNR=16
AAK Ala-Archa 85.81 313 P **P 09 49 15.8 +1.0**
SNR=9.4
AAK Ala-Archa 85.81 313 *e*P **P 09 49 14.8 0.0**
comp=Z,11nm,0.9s
AAK Ala-Archa 85.81 313 *c e*P **P 09 49 15.6 +0.8**
AAK pmax pmax
comp=Z,12nm,0.8s
USP Ospenovka 85.93 314 P **P 09 49 15.9 +0.7**
SNR=7.4
AML Almayashu 86.29 313 P **P 09 49 18.7 +1.2**
SNR=13
ARSB Arslanbob 86.67 312 *e*P **P 09 49 20.4 +1.2**
comp=Z,46nm,1.4s
EPYK Eagle Plains 86.86 22 *e*P **P 09 49 18.9 -0.4**
comp=Z,10nm,0.9s
NRIK Noril'sk 86.87 341 P **P 09 49 17.4 -1.8**
comp=Z,2.7nm,0.5s,baz=117,slow=5.8,SNR=4.1
NRIK LR LR 10 28 09.8
comp=Z,47nm,19.0s,baz=60,slow=36
BTK Batken 88.09 310 *e*P **P 09 49 26.4 +0.5**
comp=Z,12nm,0.9s
BTK Batken 88.09 310 *e*P **P 09 49 26.4 +0.5**
BTK pmax pmax
comp=Z,12nm,0.9s
GAR Garm 88.32 309 *e*P **P 09 49 27.0 -0.1**
comp=Z,23nm,1.1s
INK Inuvik 88.68 21 *e*P **P 09 49 26.5 -1.4**
comp=Z,4.4nm,1.1s
INK Inuvik 88.68 21 *e*P **P 09 49 26.5 -1.4**
INK pmax pmax
comp=Z,4.0nm,1.1s
KK31 Karatay Array 88.77 313 *e*P **P 09 49 27.9 -1.1**
comp=Z,4.7nm,1.0s
KK31 Karatay Array 88.77 313 *e*P **P 09 49 27.9 -1.1**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 88.77 313 *e*P **P 09 49 27.8 -1.2**
comp=Z,4.7nm,1.0s
KKAR *e*P **P 09 49 28.4 -0.5**
KKAR Karatay Array 88.77 313 *e*P **P 09 49 27.8 -1.2**
KKAR pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 90.33 323 LR LR 10 29 16.8
comp=Z,37nm,21.9s,baz=338,slow=35
BRVK Borovoye 90.39 323 *e*P **P 09 49 34.9 -1.4**
comp=Z,9.3nm,0.9s
BRVK Borovoye 90.39 323 *c e*P **P 09 49 35.2 -1.1**
BRVK pmax pmax
comp=Z,11nm,1.0s
NV01 Mina Array Sit 91.69 52 *e*P **P 09 49 42.8 -0.1**
NVAR Mina Array Bea 91.69 52 P **P 09 49 42.8 -0.1**
comp=Z,0.6nm,0.8s,baz=289,slow=4.5,SNR=4.0
NVAR LR LR 10 22 58.0
comp=Z,67nm,21.8s,baz=268,slow=30
YKA Yellowknife Ar 95.51 28 *e*P **P 09 49 58.5 -1.2**
YKA Yellowknife Ar 95.51 28 *e*P **P 09 49 58.5 -1.2**
YKA Yellowknife Ar 95.51 28 P **P 09 49 58.7 -0.9**
comp=Z,0.4nm,0.6s,baz=269,slow=4.6,SNR=14
YKA PKKP **PKKPbc 10 06 50.0 -3.8**
comp=Z,0.4nm,0.8s,baz=88,slow=2.9,SNR=7.7
YKA LR LR 10 29 01.9
comp=Z,8.6nm,20.2s,baz=300,slow=33
YKB5 Yellowknife Ar 95.51 28 *e*P **P 09 49 58.7 -0.9**
ABKAR Akbulak array 96.58 319 *e*P **P 09 50 02.9 -2.0**
AKTO Aktyubinsk 97.83 320 LR LR 10 34 46.4
comp=Z,11nm,18.9s,baz=83,slow=36
PDAR Pinedale Array 98.53 48 LR LR 10 29 56.1
comp=Z,116nm,19.8s,baz=272,slow=32
VNA3 Neumayer Olymp 102.71 185 Pdiff **Pdif 09 50 36.1 +4.2**
VNA2 Neumayer--Watz 102.78 186 Pdiff **Pdif 09 50 31.9 -0.3**
baz=298,slow=2.0
OBN Obninsk 109.78 327 *i*P **Pdif 09 51 00.8 -2.7**
OBN *e* 09 55 34.4
OBN *e*PPP PPP 09 57 56.9
OBN pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 115.57 325 PKP **PKPdf 09 55 16.5 -0.5**
comp=Z,0.1nm,0.2s,baz=56,slow=3.0,SNR=3.7
BOSA Boshof 120.04 233 PKP **PKiKP 09 55 26.3 -0.3**
comp=Z,2.7nm,0.8s,baz=127,slow=5.1,SNR=3.2
GERES GERESS Array B 125.09 329 PKP **PKiKP 09 55 35.0 -0.9**
comp=Z,0.9nm,0.9s,baz=70,slow=4.3,SNR=5.0
TSUM Tsumeb 130.43 239 PKP **PKiKP 09 55 46.2 -1.2**
comp=Z,2.6nm,0.8s,baz=149,slow=7.8,SNR=4.6
LPAZ La Paz 133.26 118 SKPbc **SKPab 09 59 18.4 -1.8**
comp=Z,0.6nm,0.7s,baz=236,slow=11,SNR=2.9
KEST Kesra 135.53 318 SKPbc **SKPbc 09 59 24.2 -0.3**
comp=Z,3.2nm,0.5s,baz=34,slow=3.6,SNR=3.6
TAM Tamanrasset 144.84 303 *e*PKPdf **PKPdf 09 56 12.4 -0.6**
TAM Tamanrasset 144.84 303 *e*PKIKP **PKPdf 09 56 12.4 -0.6**
CMLA Cha da Macela 147.80 359 *i*PKIKP **PKPdf 09 56 17.3 -0.1**
TOA0 Torodi Ar. Sit 151.44 288 *e*PKPbc **PKiKP 09 56 29.4 -0.9**
TORD Torodi Ar. Bea 151.44 288 PKPbc **PKiKP 09 56 29.4 -1.0**
comp=Z,6.2nm,0.8s,baz=63,slow=2.9,SNR=32
TORD PKPab **PKPab 09 56 38.1 -0.1**
comp=Z,4.0nm,0.8s,baz=52,slow=4.6,SNR=11
TOA1 Torodi Ar. Sit 151.44 288 *e*PKPbc **PKiKP 09 56 29.4 -1.0**
TOA1 *e*PKPab **PKPab 09 56 38.1 -0.1**
DBIC Dimbokro 158.73 274 PKPab **PKPab 09 57 08.1 -1.4**
comp=Z,5.6nm,1.1s,baz=128,slow=4.4,SNR=3.5

ISCJB ***09*** *09:39:14.9±0.5,21°.08S±0°.04×67°.54W±0°.04, h197km±5km, Error ellipse: s-maj=6.8km s-min=5.0km az=136.0*
SJA ***09*** *09:39:14.5±1.1,21°.04S×67°.47W, h198km±14km, MD3.3*
IDC ***09*** *09:39:14.2±0.9,21°.13S×67°.22W, h181km±9km, mb3.1/4, mb1 3.4/7, mb1mx3.3/33, mbtmp3.7/7, Error ellipse: s-maj=21.4km s-min=10.8km az=118.0*
ISC 09 09:39:15.1±0.8,**21°.00S**±0°.04×**67°.47W**±0°.04,**h187**km±7km,

n28,σ1§38/47, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.80**	**298**	*eP*	**Pn**	**09 39 52.1**	**+1.1**
PB08				*eS*	**Sn**	**09 40 19.3**	**+0.6**
PB09	**IPOC Station P**	**1.83**	**244**	*eP*	**Pn**	**09 39 52.3**	**+1.2**
PB09				*eS*	**Sn**	**09 40 19.8**	**+0.8**
LVC	**Limon Verde**	**2.09**	**220**	*eP*	**Pn**	**09 39 54.9**	**+0.9**
LVC				*eS*	**Sn**	**09 40 24.3**	**0.0**
LVC	**Limon Verde**	**2.09**	**220**	P	**Pn**	**09 39 54.8**	**+0.9**
	4.3nm,0.3s,baz=22,slow=7.4,SNR=52						
LVC				S	**Sn**	**09 40 23.7**	**-0.5**
	14nm,0.3s,baz=213,slow=17,SNR=41						
YJA	**Yavi**	**2.16**	**123**	*eP*	**Pn**	**09 39 56.3**	**+1.4**
YJA				*eS*	**Sn**	**09 40 26.1**	**+0.4**
PB02	**IPOC Station P**	**2.29**	**262**	*eP*	**Pn**	**09 39 56.3**	**+0.4**
PB02				*eS*	**Sn**	**09 40 26.2**	**-1.5**
PB07	**IPOC Station P**	**2.37**	**252**	*eP*	**Pn**	**09 39 57.0**	**+0.1**
PB07				*eS*	**Sn**	**09 40 27.6**	**-1.8**
PB03	**IPOC Station P**	**2.37**	**244**	*eP*	**Pn**	**09 39 57.3**	**+0.4**
PB03				*eS*	**Sn**	**09 40 28.7**	**-0.7**
PB11	**IPOC Station P**	**2.40**	**301**	*eP*	**Pn**	**09 39 57.3**	**+0.1**
PB11				*eS*	**Sn**	**09 40 29.6**	**-0.3**
PB06	**IPOC Station P**	**2.59**	**229**	*eP*	**Pn**	**09 39 59.7**	**+0.3**
PB06				*eS*	**Sn**	**09 40 32.9**	**-1.1**
MNMCX	**Minye Minye**	**2.73**	**313**	*eP*	**Pn**	**09 40 02.1**	**+0.9**
MNMCX				*eS*	**Sn**	**09 40 38.0**	**+0.9**
PB04	**IPOC Station P**	**2.83**	**242**	*eP*	**Pn**	**09 40 02.2**	**0.0**
PB04				*eS*	**Sn**	**09 40 37.3**	**-1.6**
PSGCX	**Pisagua**	**2.86**	**299**	*eP*	**Pn**	**09 40 02.0**	**-0.5**
PSGCX				*eS*	**Sn**	**09 40 37.2**	**-2.3**
PB15	**IPOC Station P**	**2.88**	**220**	*eP*	**Pn**	**09 40 04.1**	**+1.3**
PB15				*eS*	**Sn**	**09 40 38.8**	**-1.3**
HJA	**Humahuaca**	**2.91**	**139**	*eP*	**Pn**	**09 40 05.0**	**+1.7**
HJA				*eS*	**Sn**	**09 40 40.5**	**-0.5**
PB05	**IPOC Station P**	**3.14**	**234**	*eP*	**Pn**	**09 40 05.8**	**-0.1**
PB05				*eS*	**Sn**	**09 40 43.6**	**-2.0**
PB16	**IPOC Station P**	**3.28**	**324**	*eP*	**Pn**	**09 40 09.5**	**+1.5**
PB12	**IPOC Station P**	**3.59**	**311**	*eP*	**Pn**	**09 40 10.2**	**-1.3**
AZAP	**Zapla**	**3.90**	**146**	*eP*	**Pn**	**09 40 15.4**	**0.0**
AZAP				*eS*	**Sn**	**09 41 01.1**	**-1.5**
LPAZ	**La Paz**	**4.73**	**352**	*eP*	**Pn**	**09 40 27.7**	**+1.3**
LPAZ	**La Paz**	**4.73**	**352**	P	**Pn**	**09 40 27.9**	**+1.5**
	6.3nm,0.3s,baz=147,slow=6.7,SNR=200						
LPAZ				S	**Sn**	**09 41 25.4**	**+3.1**
	baz=287,slow=24,SNR=1.0						
SIV	**San Ignacio**	**7.85**	**52**	P	**Pn**	**09 41 04.9**	**-1.6**
	1.1nm,0.3s,baz=271,slow=9.4,SNR=30						
SIV				S	**Sn**	**09 42 30.3**	**-4.6**
	0.2nm,0.3s,baz=314,slow=22,SNR=3.3						
TXAR	**Lajitas Array**	**61.01**	**324**	P	**P**	**09 49 09.5**	**+0.4**
	0.2nm,0.7s,baz=129,slow=7.1,SNR=2.5						
PDAR	**Pinedale Array**	**74.36**	**329**	P	**P**	**09 50 33.3**	**+0.8**
	0.1nm,0.4s,baz=125,slow=7.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**75.92**	**70**	P	**P**	**09 50 40.2**	**-1.5**
	0.5nm,0.4s,baz=248,slow=6.0,SNR=9.0						
YKA	**Yellowknife Ar**	**91.17**	**340**	P	**P**	**09 51 58.9**	**+0.7**
	0.4nm,0.5s,baz=134,slow=4.6,SNR=19						
ASAR	**Alice Springs**	**130.96**	**206**	PKP	**PKiKP**	**09 58 05.7**	**-0.4**
	1.1nm,1.1s,baz=129,slow=1.9,SNR=3.5						
MKAR	**Makanchi Array**	**144.44**	**37**	PKP	**PKPdf**	**09 58 28.9**	**-0.2**
	0.5nm,0.4s,baz=330,slow=3.1,SNR=5.8						

IDC 09 09:52:39.5±8.6, 26°.47S×110°.47W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.7/19, mbtmp3.5/4, MS3.7/1, Ms1 3.7/1, ms1mx3.2/11, Error ellipse: s-maj=329.2km s-min=185.2km az=109.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**47.31**	**102**	LR	LR	10 18 10.3	
	comp=Z,78nm,19.6s,baz=223,slow=32						
TXAR	**Lajitas Array**	**55.87**	**7**	P	P	10 02 19.3	+0.3
	0.4nm,0.9s,baz=191,slow=9.2,SNR=2.8						
NVAR	**Mina Array Bea**	**64.97**	**353**	P	P	10 03 21.3	0.0
	0.5nm,0.7s,baz=185,slow=8.7,SNR=3.1						
PDAR	**Pinedale Array**	**68.89**	**1**	P	P	10 03 45.8	-0.3
	0.2nm,0.7s,baz=158,slow=7.6,SNR=2.5						
YKA	**Yellowknife Ar**	**88.71**	**358**	P	P	10 05 34.2	-0.1
	0.4nm,0.8s,baz=169,slow=5.3,SNR=9.4						

*ISCJB **09** 09:59:46.5±0.6, 36°.65N±0°.03×142°.46E±0°.05, h15km, mb3.5/8, Error ellipse: s-maj=6.4km s-min=4.5km az=12.6*
*IDC **09** 09:59:46.5±0.9, 36°.59N×142°.32E, h0km, mb3.4/8, mb1 3.6/11, mb1mx3.5/36, mbtmp3.5/11, ML3.3/3, Error ellipse: s-maj=24.9km s-min=17.4km az=111.0*
*JMA **09** 09:59:47.9±0.3, 36°.67N×142°.38E, h25km±4km, M3.5*
ISC 09 09:59:48.5±0.8, 36°.65N±0°.04×142°.26E±0°.07, h15km, n34, σ1§37/39, mb3.5/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.25**	**291**	P	**Pn**	**10 00 11.4**	**-0.1**
JFK	**Kawauchi**	**1.32**	**303**	P	**Pn**	**10 00 12.1**	**-0.3**
JHO	**Hitachi**	**1.36**	**269**	P	**Pn**	**10 00 13.1**	**+0.2**
JHYU	**Hitachinakayam**	**1.38**	**258**	P	**Pn**	**10 00 13.8**	**+0.6**
JHYU				*eS*	**Sb**	**10 00 31.7**	**+0.2**
JFFD	**Fukushimafurud**	**1.43**	**288**	P	**Pn**	**10 00 14.0**	**+0.1**
JMM	**Marumori**	**1.68**	**316**	P	**Pn**	**10 00 17.3**	**-0.1**
JFT	**Otama**	**1.76**	**300**	P	**Pn**	**10 00 19.3**	**+0.8**
JFT				*eS*	**Sb**	**10 00 42.1**	**-0.4**
JIO	**Ouri**	**1.94**	**338**	P	**Pn**	**10 00 20.5**	**-0.4**
JIO				*eS*	**Sn**	**10 00 44.2**	**-0.8**
JOU	**Okura**	**2.13**	**324**	P	**Pn**	**10 00 24.6**	**+1.1**
JOU				*eS*	**Sb**	**10 00 51.9**	**-1.1**
BSO1	**Boso 1**	**2.25**	**208**	P	**Pn**	**10 00 25.9**	**+1.2**
BSO1				*eS*	**Sn**	**10 00 52.8**	**+0.9**
JAG	**Ashikaga**	**2.27**	**265**	P	**Pn**	**10 00 26.6**	**+1.2**
JMK	**Ichinoseki**	**2.44**	**341**	P	**Pn**	**10 00 28.0**	**+0.3**
JMK				*eS*	**Sn**	**10 00 57.1**	**-0.2**
JYK	**Kaneyama**	**2.72**	**327**	P	**Pn**	**10 00 32.2**	**+0.6**
JRY	**Ryogami san**	**2.78**	**258**	P	**Pn**	**10 00 33.4**	**+0.9**
JOM	**Ohasama**	**2.92**	**345**	P	**Pn**	**10 00 34.6**	**+0.3**
JOM				*eS*	**Sn**	**10 01 08.6**	**-0.5**
JOD2	**Odawara 2**	**2.92**	**243**	P	**Pn**	**10 00 36.1**	**+1.7**
MJAR	**Matsushiro Arr**	**3.26**	**269**	Pn	**Pn**	**10 00 40.9**	**+1.9**
	1.4nm,0.3s,baz=97,slow=11,SNR=51						
MJAR				Sn	**Sb**	**10 01 23.6**	**-2.0**
	0.4nm,0.3s,baz=126,slow=13,SNR=5.1						
MAT	**Matsushiro**	**3.26**	**269**	P	**Pn**	**10 00 41.4**	**+2.3**
MAT				S	**Sb**	**10 01 23.3**	**-2.3**
JHJ	**Hachijo jima 2**	**4.07**	**211**	Pn	**Pn**	**10 00 48.4**	**-1.8**
	8.4nm,0.3s,baz=36,slow=19,SNR=1.9						
JHJ				Sn	**Sn**	**10 01 33.3**	**-4.2**
	10nm,0.3s,baz=86,slow=21,SNR=1.5						
ASAJ	**Asahikawa**	**7.46**	**2**	Pn	**Pn**	**10 01 35.7**	**-1.0**
	0.7nm,0.3s,baz=231,slow=19,SNR=4.7						
ASAJ				Sn	**Sn**	**10 02 57.9**	**-3.2**
	0.6nm,0.3s,baz=152,slow=33,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**27.37**	**121**	T	T	10 34 21.4	
	baz=313,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.38**	**121**	T	T	10 34 13.8	
	baz=313,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.39**	**121**	T	T	10 34 26.6	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**28.08**	**123**	T	T	10 35 26.1	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.08**	**124**	T	T	10 35 16.7	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.10**	**124**	T	T	10 35 26.5	
	baz=316						
SONM	**Songino Array**	**28.56**	**304**	P	**P**	**10 05 45.1**	**+1.3**
	1.0nm,0.7s,baz=101,slow=9.4,SNR=3.9						
MKAR	**Makanchi Array**	**44.90**	**303**	P	**P**	**10 08 02.4**	**0.0**
	0.3nm,0.5s,baz=83,slow=12,SNR=3.7						
KURBB	**Kurchatov Arra**	**46.77**	**308**	P	**P**	**10 08 17.6**	**+0.6**
	0.4nm,0.6s,baz=83,slow=7.7,SNR=4.7						
ILAR	**Eielson Array**	**49.45**	**32**	P	**P**	**10 08 38.4**	**+0.8**
	0.3nm,0.5s,baz=256,slow=6.0,SNR=5.8						
INK	**Inuvik**	**54.42**	**27**	P	**P**	**10 09 15.8**	**+1.3**
	0.3nm,0.5s,baz=319,slow=3.2,SNR=2.7						
WRA	**Warramunga Arr**	**56.78**	**189**	P	**P**	**10 09 32.3**	**+0.3**
	0.3nm,0.8s,baz=2.5,slow=7.6,SNR=2.9						
ASAR	**Alice Springs**	**60.51**	**189**	P	**P**	**10 09 57.7**	**-0.3**
	0.3nm,0.7s,baz=9.9,slow=7.5,SNR=3.3						
YKA	**Yellowknife Ar**	**63.80**	**30**	P	**P**	**10 10 19.6**	**+0.1**
	0.1nm,0.5s,baz=300,slow=6.4,SNR=2.9						

*NIED **09** 10:04:00, 30°.60N×132°.80E, h8km, Mw3.7 Best double couple: M0=4.49000×10^14 NP1:φs=34.00000°, δ80.00000°, λ-9.00000°. NP2:φs126.00000°, δ82.00000°, λ-169.00000°.*
JMA 09 10:04:49.0±0.2, 30°.56N×132°.81E, h62km, M3.7, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.58**	**274**	P	Pn	10 05 15.0	+0.2
JTN				*eS*	Sn	10 05 34.3	0.0
JNAR	**Kushima--Naru**	**1.63**	**307**	P	Pn	10 05 16.4	+0.9
JNAR				*eS*	Sn	10 05 35.9	+0.3
JMTN	**Minamitane**	**1.66**	**265**	P	Pn	10 05 16.4	+0.6
JMTN				*eS*	Sn	10 05 36.7	+0.6
JTSR	**Tashiro 2**	**1.73**	**291**	P	Pn	10 05 17.5	+0.6
JTSR				*eS*	Sn	10 05 38.5	+0.5
JTZ	**Takazaki**	**1.99**	**313**	P	Pn	10 05 20.9	+0.5
JTZ				*eS*	Sn	10 05 44.1	-0.1
JTO	**Tosashimizu**	**2.29**	**360**	P	Pn	10 05 23.8	-0.7
JTO				*eS*	Sn	10 05 47.4	-4.2
JNN	**Nakanoshima**	**2.64**	**255**	P	Pn	10 05 30.0	+0.8
JNN				*eS*	Sn	10 06 00.1	0.0
JSJ	**Shimokoshiki**	**2.88**	**294**	P	Pn	10 05 32.5	0.0
JSJ				*eS*	Sn	10 06 04.1	-1.8
JNA	**Nagahama**	**3.00**	**355**	P	Pn	10 05 34.6	+0.5
JNA				*eS*	Sn	10 06 06.3	-2.6
JMN	**Monobe**	**3.29**	**16**	P	Pn	10 05 38.2	+0.1
JMN				*eS*	Sn	10 06 15.0	-1.0
JTAJ	**Takarajima**	**3.43**	**247**	P	Pn	10 05 41.3	+1.3
JTAJ				*eS*	Sn	10 06 20.9	+1.4
JAI	**Aioi**	**3.51**	**23**	P	Pn	10 05 41.3	+0.2
JAI				*eS*	Sn	10 06 17.2	-4.2
JAMN	**Amaminishikomi**	**3.92**	**235**	P	Pn	10 05 47.5	+0.8
JAMN				S	Sn	10 06 31.2	-0.3
JTNC	**Tanabenakahech**	**4.02**	**35**	P	Pn	10 05 48.3	+0.2

*ISCJB **09** 10:33:33.4±0.4, 23°.65N±0°.02×121°.97E±0°.02, h23km±4km, Error ellipse: s-maj=3.8km s-min=2.4km az=137.9*
*TAP **09** 10:33:33.6, 23°.69N×121°.91E, h19km, ML2.8, C*
*JMA **09** 10:33:33.6±0.1, 23°.70N×121°.96E, h16km±3km, M2.5*
ISC 09 10:33:33.1±1.1, 23°.67N±0°.02×121°.95E±0°.02, h19km±3km, n51, σ0§47/92, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.40**	**306**	P	**Pb**	**10 33 41.7**	**+0.1**
	baz=306						
ENLB				*eS*	**Sb**	**10 33 47.7**	**+0.2**
	baz=306						
EGFH	**Guangfu**	**0.48**	**270**	*eP*	**Pb**	**10 33 43.5**	**+0.5**
	baz=266						
EGFH				*eS*	**Sb**	**10 33 51.1**	**+1.3**
	baz=266						
ESL	**Shilin**	**0.50**	**287**	P	**Pg**	**10 33 43.1**	**-0.1**
	baz=285						
ESL				*eS*	**Sb**	**10 33 50.2**	**0.0**
	baz=285						
HGSD	**Ruisui**	**0.52**	**250**	P	**Pb**	**10 33 44.0**	**+0.4**
	baz=245						
HGSD				*eS*	**Sb**	**10 33 51.1**	**+0.4**
	baz=245						
TWD	**Chiawan**	**0.52**	**321**	P	**Pb**	**10 33 43.8**	**+0.1**
	baz=324						
TWD				*eS*	**Sb**	**10 33 51.0**	**+0.1**
	baz=324						
NACB	**Ninganchiao**	**0.60**	**327**	*eP*	**Pb**	**10 33 44.9**	**-0.1**
	baz=328						
NACB				*eS*	**Sb**	**10 33 52.7**	**-0.3**
	baz=328						
YULB	**Yu-li**	**0.66**	**246**	P	**Pg**	**10 33 46.7**	**+0.5**
	baz=241						
YULB				*eS*	**Sg**	**10 33 56.0**	**+0.9**
	baz=241						
TWF1	**Yuli**	**0.68**	**242**	*eP*	**Pg**	**10 33 47.1**	**+0.5**
	baz=238						
TWF1				S	**Sg**	**10 33 56.5**	**+0.8**
	baz=238						
VWDT	**VWDT**	**0.75**	**277**	P	**Pg**	**10 33 47.9**	**0.0**
	baz=274						
VWDT				*eS*	**Sg**	**10 33 58.2**	**+0.4**
	baz=274						
NANB	**Nanao**	**0.78**	**346**	*eP*	**Pg**	**10 33 48.3**	**-0.1**
	baz=348						
NANB				*eS*	**Sg**	**10 33 59.1**	**+0.4**
	baz=348						
ENA	**Nanau**	**0.78**	**346**	*eP*	**Pg**	**10 33 48.2**	**-0.2**
	baz=348						
ENA				*eS*	**Sn**	**10 33 59.4**	**-0.9**
	baz=348						
CHKT	**Chengkung**	**0.78**	**224**	*eP*	**Pb**	**10 33 47.7**	**-0.4**
	baz=219						
CHKT				*eS*	**Sb**	**10 33 57.2**	**-1.2**
	baz=219						
WHF	**Hehuan Shan**	**0.79**	**307**	*eP*	**Pb**	**10 33 48.3**	**-0.2**
	baz=307						
WHF				*eS*	**Sb**	**10 33 58.9**	**-0.1**
	baz=307						
CHGB	**Renai**	**0.81**	**299**	*eP*	**Pb**	**10 33 48.8**	**0.0**
	baz=298						
CHGB				*eS*	**Sg**	**10 33 60.0**	**+0.1**
	baz=298						
EOS1	**EOS1**	**0.89**	**10**	*eP*	**Pn**	**10 33 50.7**	**+0.1**
	baz=13						
EOS1				*eS*	**Sn**	**10 34 03.0**	**0.0**
	baz=13						
TWT	**Tachien**	**0.92**	**309**	*eP*	**Pg**	**10 33 50.9**	**-0.2**
	baz=308						
TWT				*eS*	**Sg**	**10 34 03.1**	**-0.1**
	baz=308						
SSLB	**Suanglung**	**0.92**	**277**	*eP*	**Pb**	**10 33 50.4**	**-0.2**
	baz=276						
SSLB				*eS*	**Sg**	**10 34 03.1**	**-0.3**
	baz=276						
TDCB	**Techi**	**0.93**	**309**	P	**Pb**	**10 33 50.9**	**+0.2**
	baz=309						
TDCB				*eS*	**Sg**	**10 34 03.2**	**-0.4**
	baz=309						
NNS	**Nan Shan**	**0.93**	**325**	*eP*	**Pb**	**10 33 50.5**	**-0.2**
	baz=326						
NNS				S	**Sg**	**10 34 03.4**	**-0.3**
	baz=326						
TWC	**Suao**	**0.94**	**354**	P	**Pg**	**10 33 51.4**	**0.0**
	baz=357						
TWC				*eS*	**Sg**	**10 34 03.8**	**0.0**
	baz=357						
ELDTW	**Lidau**	**0.98**	**241**	*eP*	**Pb**	**10 33 51.2**	**-0.5**
	baz=238						
ELDTW				*eS*	**Sb**	**10 34 03.4**	**-1.0**
	baz=238						
SMLT	**Sun Moon Lake**	**0.99**	**283**	P	**Pb**	**10 33 51.8**	**+0.1**
	baz=281						
SMLT				*eS*	**Sb**	**10 34 04.8**	**+0.3**
	baz=281						
DPDB	**Guoxing**	**1.01**	**291**	*eP*	**Pn**	**10 33 52.3**	**0.0**
	baz=290						
DPDB				*eS*	**Sb**	**10 34 05.2**	**+0.2**
	baz=290						
NDT	**Datong Townshi**	**1.01**	**337**	*eP*	**Pn**	**10 33 52.3**	**0.0**
	baz=338						
NDT				*eS*	**Sn**	**10 34 06.3**	**+0.2**
	baz=338						
ENTT	**Nioudou**	**1.03**	**340**	*eP*	**Pn**	**10 33 52.5**	**-0.1**
	baz=341						
ENTT				*eS*	**Sn**	**10 34 06.1**	**-0.5**
	baz=341						
TYC	**Yuchr**	**1.03**	**283**	P	**Pn**	**10 33 52.5**	**0.0**
	baz=282						
TYC				S	**Sn**	**10 34 06.3**	**-0.2**
	baz=282						
TWE	**Neicheng**	**1.08**	**346**	*eP*	**Pg**	**10 33 53.9**	**-0.2**
	baz=348						
WHP	**Taichung City**	**1.10**	**303**	*eP*	**Pb**	**10 33 53.6**	**-0.1**
	baz=303						
WHP				*eS*	**Sn**	**10 34 08.2**	**-0.3**
	baz=303						
YHNB	**Yeheng**	**1.13**	**332**	*eP*	**Pb**	**10 33 54.0**	**-0.1**
	baz=333						
YHNB				S	**Sb**	**10 34 08.6**	**+0.2**
	baz=333						
NSK	**Sanguang**	**1.14**	**332**	*eP*	**Pb**	**10 33 54.2**	**-0.1**
	baz=333						
NSK				*eS*	**Sb**	**10 34 08.8**	**0.0**
	baz=333						
TWGBT	**Beinan**	**1.17**	**224**	*eP*	**Pn**	**10 33 53.5**	**-1.0**
	baz=221						
EGS		**1.17**	**359**	*eP*	**Pg**	**10 33 55.5**	**-0.3**
	baz=1.0						
EGS				*eS*	**Sn**	**10 34 10.3**	**+0.3**
	baz=1.0						
TWG	**Pinlang**	**1.17**	**224**	P	**Pn**	**10 33 53.5**	**-1.0**
	baz=221						
CHN5	**Tsauling**	**1.17**	**267**	*eP*	**Pg**	**10 33 55.4**	**-0.4**
	baz=265						
CHN5				*eS*	**Sn**	**10 34 10.6**	**+0.4**
	baz=265						
JYNG	**Yonagunijimaku**	**1.19**	**49**	P	**Pb**	**10 33 55.3**	**+0.1**
JYNG				S	**Sb**	**10 34 10.1**	**-0.2**
STYT	**Tauyuan**	**1.21**	**246**	*eP*	**Pb**	**10 33 55.7**	**+0.3**
	baz=243						
STYT				*eS*	**Sb**	**10 34 10.6**	**-0.2**
	baz=243						
YOJ	**Yonaguni jima**	**1.25**	**51**	*eP*	**Pb**	**10 33 56.1**	**0.0**
	baz=52						
YOJ				*eS*	**Sg**	**10 34 13.0**	**-0.6**
	baz=52						
YOJ	**Yonaguni jima**	**1.25**	**51**	P	**Pb**	**10 33 56.2**	**+0.1**
CHN4	**Tsaushan**	**1.29**	**256**	*eP*	**Pg**	**10 33 57.7**	**-0.3**
	baz=254						
TIPB	**Shuangxi**	**1.30**	**355**	*eP*	**Pb**	**10 33 57.3**	**+0.3**
	baz=356						
TIPB				*eS*	**Sn**	**10 34 13.2**	**-0.1**
	baz=356						
WTP	**Ta-pu**	**1.30**	**251**	*eP*	**Pb**	**10 33 57.5**	**+0.4**
	baz=249						
WTP				*eS*	**Sb**	**10 34 14.1**	**+0.7**
	baz=249						
TWK	**Hsinying**	**1.40**	**254**	*eP*	**Pb**	**10 33 59.5**	**+0.7**
	baz=251						
TWK				*eS*	**Sg**	**10 34 17.7**	**-0.9**
	baz=251						
YM07	**YM07**	**1.53**	**349**	*eP*	**Pn**	**10 34 00.1**	**+0.5**
	baz=349						
YM07				*eS*	**Sn**	**10 34 19.1**	**+0.1**
	baz=349						
MASBT	**Mashibuluo**	**1.61**	**229**	*eP*	**Pn**	**10 34 00.8**	**+0.2**
	baz=227						
HATJ	**Hateruma jima**	**1.74**	**77**	*eS*	**Sn**	**10 34 23.9**	**-0.1**
IRIF	**Iriomote-Funau**	**1.75**	**67**	P	**Pn**	**10 34 03.3**	**+0.8**
JKRS	**Kuro-shima**	**1.96**	**73**	P	**Pn**	**10 34 06.5**	**+1.1**
JKRS				*eS*	**Sn**	**10 34 29.9**	**+0.3**
JIJ	**Ishigaki jima**	**2.12**	**71**	P	**Pn**	**10 34 08.0**	**+0.5**
JIJ				S	**Sn**	**10 34 32.5**	**-0.9**
PHUB	**P'eng-hu**	**2.19**	**266**	*eS*	**Sn**	**10 34 35.0**	**-0.2**
	baz=265						
PNG	**Penghu**	**2.20**	**268**	*eS*	**Sn**	**10 34 35.5**	**0.0**
	baz=266						
JISG	**Ishigakijimahi**	**2.34**	**67**	P	**Pn**	**10 34 11.0**	**+0.4**
JISG				*eS*	**Sn**	**10 34 38.0**	**-0.8**

*IDC **09** 10:33:56.5±2.7, 20°.63S×178°.75W, h631km±32km, mb3.2/13, mb1 3.4/14, mb1mx3.3/31, mbtmp4.1/14, Error ellipse: s-maj=24.9km s-min=13.5km az=153.0*
ISC 09 10:33:57.5±0.7, 20°.85S±0°.1×178°.7W±0°.1, h650km, n24, σ1§15/25, mb3.7/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.89**	**262**	P	**P**	**10 36 52.8**	**-1.0**
	0.2nm,0.3s,baz=79,slow=18,SNR=2.7						
URZ	**Urewera**	**17.76**	**191**	P	**P**	**10 37 25.9**	**-2.8**
	0.5nm,0.3s,baz=325,slow=7.0,SNR=5.6						
CTA	**Charters Tower**	**32.81**	**265**	P	**P**	**10 39 39.8**	**-0.8**
	7.8nm,1.0s,baz=102,slow=9.3,SNR=4.1						
STKA	**Stephens Creek**	**37.07**	**244**	P	**P**	**10 40 15.9**	**+0.4**
	1.9nm,0.8s,baz=95,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**43.81**	**257**	P	**P**	**10 41 09.3**	**+0.4**
	5.2nm,0.7s,baz=97,slow=7.5,SNR=82						
ASAR				PcP	**PcP**	**10 42 40.5**	**+0.2**
	0.7nm,0.5s,baz=103,slow=4.0,SNR=7.6						
ASAR				S	**S**	**10 46 56.8**	**+1.8**
	0.7nm,0.8s,baz=90,slow=15,SNR=5.2						
WRA	**Warramunga Arr**	**43.91**	**263**	P	**P**	**10 41 09.3**	**-0.3**
	2.1nm,0.5s,baz=97,slow=8.0,SNR=34						
FITZ	**Fitzroy Crossi**	**52.34**	**263**	P	**P**	**10 42 12.4**	**+0.6**
	baz=69,slow=8.6						
QSPA	**South Pole Qui**	**69.25**	**180**	P	**P**	**10 44 03.3**	**+1.9**
	2.0nm,0.9s,baz=250,slow=0.6,SNR=5.9						
MJAR	**Matsushiro Arr**	**70.08**	**324**	P	**P**	**10 44 06.3**	**-0.2**
	0.8nm,0.5s,baz=160,slow=5.0,SNR=3.5						
PETK	**Petropavlovsk-**	**76.41**	**346**	P	**P**	**10 44 41.9**	**0.0**
	2.3nm,0.7s,baz=106,slow=3.2,SNR=4.1						
NVAR	**Mina Array Bea**	**81.70**	**44**	P	**P**	**10 45 10.9**	**+0.5**
	0.9nm,0.6s,baz=223,slow=8.6,SNR=9.1						
TXAR	**Lajitas Array**	**87.77**	**58**	P	**P**	**10 45 40.9**	**+1.1**
	0.7nm,0.8s,baz=217,slow=4.8,SNR=9.6						
ILAR	**Eielson Array**	**88.77**	**13**	P	**P**	**10 45 42.6**	**-0.9**
	1.0nm,0.8s,baz=223,slow=6.0,SNR=8.4						
CMAR	**Chiang Mai Arr**	**89.61**	**290**	P	**P**	**10 45 50.3**	**+1.9**
	0.6nm,0.4s,baz=129,slow=2.6,SNR=6.6						
PDAR	**Pinedale Array**	**89.64**	**43**	P	**P**	**10 45 49.0**	**+0.7**
	0.8nm,0.6s,baz=216,slow=4.1,SNR=9.0						
YKA	**Yellowknife Ar**	**97.07**	**25**	P	**P**	**10 46 21.0**	**-0.3**
	0.1nm,0.7s,baz=244,slow=4.6,SNR=3.6						
ARCES	**ARCESS Array B**	**129.11**	**349**	PKP	**PKPdf**	**10 51 52.8**	**0.0**
	7.5nm,1.1s,baz=46,slow=5.2,SNR=5.8						
FINES	**FINESS Array B**	**135.89**	**343**	PKP	**PKiKP**	**10 52 06.9**	**-0.5**
	0.5nm,0.5s,baz=64,slow=3.2,SNR=2.9						
HFS	**Hagfors**	**

comp=E,1μm,0.3s
LVC Limon Verde 2.52 199 P **Pn 10 38 16.5 +1.0**
comp=E,58nm,0.3s,baz=23,slow=9.8,SNR=457
LVC S **Sn 10 38 48.2 -0.3**
comp=E,46nm,0.3s,baz=120,slow=20,SNR=54
PB12 IPOC Station P 2.71 306 ⇑ P **Pn 10 38 16.8 -0.7**
PB12 *i* S **Sn 10 38 49.5 -2.5**
PB12 IAML 10 38 50.5
comp=N,748nm,0.4s
LPAZ La Paz 3.91 358 P **Pn 10 38 35.1 +2.0**
comp=N,5.7nm,0.3s,baz=162,slow=6.7,SNR=137
LPAZ S **Sn 10 39 19.9 0.0**
comp=N,0.8nm,0.3s,baz=131,slow=25,SNR=1.6
SIV San Ignacio 7.83 59 P **Pn 10 39 22.7 -1.4**
comp=N,1.8nm,0.3s,baz=259,slow=12,SNR=27
SIV S Sn 10 40 37.8 -14
baz=248,slow=18,SNR=2.3
CPUP Villa Florida 11.55 124 P **Pn 10 40 11.8 -1.2**
comp=N,0.3nm,0.3s,baz=284,slow=13,SNR=3.3
BDFB Brasilia 19.56 80 P **P 10 41 48.0 -0.3**
comp=N,0.6nm,0.3s,baz=247,slow=13,SNR=2.6
PLCA Paso Flores 20.56 185 P **P 10 41 60.0 +1.2**
comp=N,7.2nm,0.9s,baz=34,slow=11,SNR=12
PLCA pP **pP 10 42 28.4 -0.3**
comp=N,1.0nm,0.7s,baz=13,slow=9.5,SNR=1.5
PTGA Pitinga 20.91 23 P **P 10 42 01.4 -1.2**
comp=N,5.4nm,0.3s,baz=210,slow=15,SNR=14
PTGA pP **pP 10 42 30.7 -1.8**
comp=N,3.0nm,0.6s,baz=205,slow=12,SNR=1.6
TXAR Lajitas Array 60.08 324 P **P 10 47 22.9 +0.1**
comp=N,0.2nm,0.8s,baz=147,slow=8.6,SNR=2.4
TXAR pP **pP 10 48 02.8 -0.1**
comp=N,0.2nm,0.9s,baz=146,slow=6.6,SNR=1.6
DBIC Dimbokro 67.57 74 P **P 10 48 11.4 -0.6**
comp=N,3.4nm,0.6s,baz=189,slow=7.9,SNR=3.8
QSPA South Pole Qui 69.97 180 P **P 10 48 26.9 +0.7**
comp=N,1.6nm,0.8s,baz=4.2,slow=0.9,SNR=8.7
PDAR Pinedale Array 73.43 329 P **P 10 48 47.7 +0.4**
comp=N,0.1nm,0.6s,baz=141,slow=5.8,SNR=2.3
TORD Torodi Ar. Bea 76.14 70 P **P 10 49 01.6 -1.5**
comp=N,3.5nm,0.4s,baz=256,slow=5.4,SNR=41
YKA Yellowknife Ar 90.27 340 P **P 10 50 14.9 +0.5**
comp=N,0.1nm,0.4s,baz=128,slow=4.3,SNR=4.0
YKA pP **pP 10 50 58.2 +0.9**
comp=N,0.2nm,0.6s,baz=130,slow=4.7,SNR=2.0
EKA Eskdalemuir Ar 93.09 31 P **P 10 50 29.1 +1.5**
comp=N,0.6nm,0.4s,baz=225,slow=7.0,SNR=3.5
MKAR Makanchi Array 144.11 35 PKP PKPbc 10 56 48.3 +0.9
comp=N,0.3nm,0.6s,baz=307,slow=5.2,SNR=2.6

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*ISCJB **09** 10:40:13.8±0.4,31°.27S±0°.03×68°.60W±0°.05, h115km±3km, mb3.4/4, Error ellipse: s-maj=6.8km s-min=4.6km az=175.0*
*IDC **09** 10:40:13.8±0.8,31°.27S×68°.59W, h104km±7km, mb3.3/4, mb1 3.6/6, mb1mx3.4/31, mbtmp3.8/6, MS3.2/1, Ms1 3.1/1, ms1mx2.8/5, Error ellipse: s-maj=37.9km s-min=19.4km az=80.0*
*SJA **09** 10:40:13.9±1.1,31°.27S×68°.64W, h107km±4km, ML3.8, MW4.0*

ISC 09 10:40:14.3±0.7,**31°.28S**±0°.04×**68°.58W**±0°.04,**h111**km±5km, **n31**,σ1¶**03**/**48**,**mb3.2**/4,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.10**	**120**	*e*P	**Pn**	**10 40 29.8**	**+0.1**
RTLL				IAML		10 40 30.0	
	comp=Z,4μm,0.2s						
RTLL				*e*S	**Sn**	**10 40 40.5**	**-0.8**
SJA	**San Juan**	**0.25**	**176**	*e*P	**Pn**	**10 40 30.4**	**+0.3**
SJA				IAML		10 40 30.6	
	comp=Z,3μm,0.2s						
SJA				*e*S	**Sn**	**10 40 42.2**	**+0.3**
ZON	**Zonda**	**0.28**	**197**	*e*P	**Pn**	**10 40 30.2**	**0.0**
ZON				IAML		10 40 30.6	
	comp=Z,4μm,0.2s						
ZON				*e*S	**Sn**	**10 40 41.3**	**-0.8**
CFA	**Coronel Fontan**	**0.44**	**138**	P	**Pn**	**10 40 31.2**	**+0.3**
	comp=Z,205nm,0.3s,baz=311,slow=5.8,SNR=2367						
CFA				S	**Sn**	**10 40 43.2**	**-0.2**
	comp=Z,464nm,0.3s,baz=239,slow=18,SNR=27						
CFA				LR	LR	10 40 44.9	
	comp=Z,81nm,20.9s,baz=332,slow=68						
RTCV	**Cerro Valdivia**	**0.58**	**177**	*e*P	**Pn**	**10 40 32.2**	**+0.3**
RTCV				*e*S	**Sn**	**10 40 45.2**	**+0.1**
RTLS	**Leoncito**	**0.80**	**229**	*e*P	**Pn**	**10 40 34.2**	**+0.2**
RTLS				*e*S	**Sn**	**10 40 48.9**	**+0.1**
RTLS				IAML		10 40 49.9	
	comp=Z,1μm,0.2s						
ACCO	**Cerro Coronel**	**0.80**	**329**	*e*P	**Pn**	**10 40 34.4**	**+0.3**
AUSP	**Uspallata**	**1.17**	**216**	*e*P	**Pn**	**10 40 38.2**	**+0.5**
AUSP				*e*S	**Sn**	**10 40 55.5**	**+0.1**
ACDV	**Cuesta del Vie**	**1.20**	**337**	*e*P	**Pn**	**10 40 38.3**	**+0.4**
ACDV				*e*S	**Sn**	**10 40 55.8**	**+0.1**
ACDV				IAML		10 40 56.7	
	comp=Z,1μm,0.3s						
ASAL	**Salagasta**	**1.33**	**189**	*e*P	**Pn**	**10 40 40.1**	**+0.8**
ASAL				*e*S	**Sn**	**10 40 58.5**	**+0.3**
AROD	**Rodeo**	**1.35**	**325**	*e*P	**Pn**	**10 40 40.2**	**+0.5**
AROD				*e*S	**Sn**	**10 40 59.1**	**+0.2**
ACAN	**Cantantal**	**1.55**	**130**	*e*P	**Pn**	**10 40 43.3**	**+1.5**
ACAN				*e*S	**Sn**	**10 41 02.9**	**+0.2**
ARCO	**CERRO ARCO**	**1.59**	**191**	*e*P	**Pn**	**10 40 43.2**	**+0.8**
ARCO				*e*S	**Sn**	**10 41 04.3**	**+0.6**
ARCO				IAML		10 41 06.4	
	comp=Z,1μm,0.3s						
AGUA	**GUANDACOL**	**1.79**	**3**	*e*P	**Pn**	**10 40 46.1**	**+1.3**
AGUA				*e*S	**Sn**	**10 41 09.1**	**+1.1**
AAGR	**Agrelo**	**1.81**	**187**	*e*P	**Pn**	**10 40 46.0**	**+0.9**
AAGR				*e*S	**Sn**	**10 41 08.7**	**+0.1**
GO04	**Tololo Observa**	**2.21**	**299**	*e*P	**Pn**	**10 40 50.0**	**-0.2**
GO04				*e*S	**Sn**	**10 41 16.4**	**-1.3**
ROC1	**El Roble**	**2.67**	**230**	*e*P	**Pn**	**10 40 56.4**	**+0.2**
ROC1				*e*S	**Sn**	**10 41 27.4**	**-1.1**
MRA	**San Martin**	**2.69**	**116**	*e*P	**Pn**	**10 40 57.6**	**+1.3**
MRA				*e*S	**Sn**	**10 41 24.1**	**-4.6**
CYA	**Choya**	**3.72**	**41**	*e*P	**Pn**	**10 41 10.1**	**+0.1**
FSA	**Cafayete**	**5.63**	**25**	*e*P	**Pn**	**10 41 36.3**	**+0.4**
LVC	**Limon Verde**	**8.64**	**358**	P	**Pn**	**10 42 14.7**	**-2.2**
	comp=Z,3.0nm,0.3s,baz=181,slow=11,SNR=8.3						
LPAZ	**La Paz**	**14.93**	**2**	P	**Pn**	**10 43 39.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=188,slow=8.4,SNR=5.2						
BDFB	**Brasilia**	**24.39**	**55**	LR	LR	10 56 45.0	
	comp=Z,57nm,20.2s,baz=138,slow=41						
QSPA	**South Pole Qui**	**58.95**	**180**	P	**P**	**10 50 02.5**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=140,slow=2.1,SNR=7.7						
TXAR	**Lajitas Array**	**68.90**	**327**	P	**P**	**10 51 07.8**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=156,slow=6.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**80.52**	**68**	P	**P**	**10 52 14.4**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=253,slow=6.3,SNR=5.3						
NVAR	**Mina Array Bea**	**83.40**	**323**	P	**P**	**10 52 29.9**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=138,slow=5.0,SNR=2.8						
ASAR	**Alice Springs**	**121.28**	**204**	PKP	**PKPdf**	**10 58 53.5**	**-1.4**
	comp=Z,0.5nm,1.1s,baz=143,slow=2.0,SNR=3.2						
WRA	**Warramunga Arr**	**124.52**	**206**	PKP	**PKPdf**	**10 59 00.5**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=149,slow=1.9,SNR=9.8						
ZALV	**Zalesovo Beam**	**150.37**	**32**	PKPbc	**PKiKP**	**10 59 52.9**	**0.0**
	comp=Z,1.2nm,0.4s,baz=255,slow=4.1,SNR=4.0						
MKAR	**Makanchi Array**	**152.78**	**47**	PKPbc	**PKiKP**	**10 59 58.7**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=311,slow=2.7,SNR=4.1						
MKAR				PKPab	**PKPab**	**11 00 10.2**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=306,slow=1.9,SNR=3.6						

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*REY **09** 10:49:23.3,63°.70N×23°.36W, h11km*
*ISCJB **09** 10:49:25.1±0.7,63°.89N±0°.04×23°.15W±0°.06, h6km±4km, mb3.9/22, MS3.7/27, Error ellipse: s-maj=6.2km s-min=4.6km az=1.0*
*IDC **09** 10:49:25.9±0.6,63°.93N×23°.04W, h0km, mb3.7/14, mb1 3.9/17, mb1mx3.7/43, mbtmp3.7/17, ML2.7/2, MS3.6/27, Ms1 3.6/27, ms1mx3.5/42, Error ellipse: s-maj=14.1km s-min=10.5km az=156.0*
*NEIC **09** 10:49:28.1±1.9,63°.98N×22°.98W, h10km±5km, mb4.4/8, Error ellipse: s-maj=20.5km s-min=11.6km az=137.0*

ISC 09 10:49:28.5±0.8,**63°.86N**±0°.04×**22°.85W**±0°.04,**h15**km±4km, **n79**,σ1¶**84**/**79**,**mb3.8**/22,**MS3.7**/27,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**0.08**	**125**	P	**Pg**	**10 49 29.3**	**-2.3**
	baz=68						
IRNE				S	**Sg**	**10 49 34.0**	**+0.5**
	baz=68						
INYL	**Nylenda**	**0.12**	**23**	S	**Sg**	**10 49 35.9**	**+1.4**
	baz=45						
INYL				P	**Pg**	**10 49 30.6**	**-1.5**
	baz=45						
IGRV	**Grindav??k**	**0.17**	**91**	P	**Pg**	**10 49 31.2**	**-1.5**
	baz=68						
IGRV				S	**Sg**	**10 49 37.9**	**+2.4**
	baz=68						
IVOG	**Vogar**	**0.23**	**61**	P	**Pg**	**10 49 32.2**	**-1.4**
	baz=58						
IVOG				S	**Sb**	**10 49 39.5**	**+1.3**
	baz=58						
IKRI	**Krysuvik**	**0.34**	**87**	P	**Pg**	**10 49 33.8**	**-1.8**
	baz=72						
IKRI				S	**Sb**	**10 49 42.0**	**+0.5**
	baz=72						
IKAS	**Kald??rsel**	**0.47**	**69**	P	**Pg**	**10 49 36.1**	**-1.7**
	baz=64						
IKAS				S	**Sb**	**10 49 46.3**	**+1.2**
	baz=64						
IVOS	**Vogsosar**	**0.51**	**90**	P	**Pg**	**10 49 36.4**	**-2.1**
	baz=78						
IVOS				S	**Sb**	**10 49 46.6**	**+0.4**
	baz=78						
IKUD	**Kuludalsa**	**0.63**	**42**	P	**Pg**	**10 49 38.8**	**-2.1**
	baz=46						
IKUD				S	**Sb**	**10 49 50.5**	**+0.8**
	baz=46						
IBJA	**Bjarnastaoir**	**0.69**	**82**	P	**Pg**	**10 49 39.6**	**-2.4**
	baz=74						
IBJA				S	**Sb**	**10 49 52.1**	**+0.7**
	baz=74						
IHEI	**Heioarbar**	**0.79**	**64**	P	**Pg**	**10 49 41.0**	**-2.8**
	baz=61						
IHEI				S	**Sb**	**10 49 54.6**	**+0.4**
	baz=61						
IKRO	**Krokur**	**0.80**	**72**	P	**Pg**	**10 49 41.1**	**-2.9**
	baz=67						
IKRO				S	**Sb**	**10 49 56.8**	**+2.2**
	baz=67						
ISOL	**Solvholt**	**0.84**	**84**	P	**Pg**	**10 49 41.9**	**-3.0**
	baz=77						
ISOL				S	**Sg**	**10 49 56.3**	**+0.3**
	baz=77						
IASM	**Asmuli**	**0.99**	**91**	S	**Sg**	**10 49 59.5**	**-1.0**
	baz=83						
IASM				P	**Pg**	**10 49 44.0**	**-3.6**
	baz=83						
BORG	**Borgarnes**	**1.11**	**36**	*e*Pg	**Pg**	**10 49 46.3**	**-3.6**
BORG				*e*Sg	**Sb**	**10 50 02.9**	**-0.7**
BORG	**Borgarnes**	**1.11**	**36**	Pg	**Pg**	**10 49 46.7**	**-3.2**
	353nm,0.3s,baz=217,slow=10,SNR=88						
BORG				Lg	Lg	10 50 03.0	
	898nm,0.3s,baz=82,slow=17,SNR=37						
IASB	**`sbjarnarst**	**1.11**	**36**	P	**Pg**	**10 49 46.4**	**-3.5**
	baz=39						
IASB				S	**Sn**	**10 50 04.0**	**-0.4**
	baz=39						
IHAU	**Haukadalur**	**1.28**	**84**	P	**Pg**	**10 49 49.1**	**-4.0**
	baz=78						
IGOD	**Go??abunga**	**1.58**	**96**	P	**Pn**	**10 49 53.0**	**-3.0**
	baz=90						
IHVE	**Hveravellir**	**1.75**	**53**	P	**Pn**	**10 49 56.6**	**-1.7**
	baz=53						
IRJU	**Rjupnafell**	**1.87**	**96**	P	**Pn**	**10 49 57.2**	**-2.7**
	baz=90						
IKAL	**Kalfafell**	**2.28**	**85**	P	**Pn**	**10 50 03.8**	**-1.7**
	baz=82						
SCO	**Scoresbysund**	**6.66**	**3**	*e*Pn	**Pn**	**10 51 01.4**	**-4.3**
SCO	**Scoresbysund**	**6.66**	**3**	*i* P	**Pn**	**10 51 05.2**	**-0.4**
SCO				*i* S	**Sn**	**10 52 25.8**	**+4.7**
JMIC	**Jan Mayen**	**9.00**	**31**	LR	LR	10 54 11.7	
	comp=Z,178nm,20.8s,baz=254,slow=32						
SFJD	**Kangerlussuaq**	**11.92**	**298**	LR	LR	10 56 13.8	
	comp=Z,650nm,19.9s,baz=91,slow=34						
EKA	**Eskdalemuir Ar**	**13.07**	**122**	Pn	**Pn**	**10 52 33.8**	**+0.4**
	baz=318,slow=12,SNR=4.0						
NOA	**NORSAR Array B**	**15.89**	**85**	Pn	**Pn**	**10 53 12.6**	**+1.3**
	0.0nm,0.3s,baz=291,slow=11,SNR=2.0						
NOA				LR	LR	10 58 38.4	
	comp=Z,47nm,20.6s,baz=295,slow=35						
HFS	**Hagfors**	**17.39**	**86**	LR	LR	10 59 13.0	
	comp=Z,88nm,21.6s,baz=290,slow=34						
ARCES	**ARCESS Array B**	**19.47**	**52**	P	**P**	**10 53 54.5**	**+0.1**
	0.1nm,0.3s,baz=270,slow=8.1,SNR=4.1						
FRB	**Frobisher Bay**	**19.85**	**290**	LR	LR	11 00 48.6	
	comp=Z,300nm,20.5s,baz=44,slow=35						
FINES	**FINESS Array B**	**22.16**	**74**	*e*P	**P**	**10 54 24.5**	**+1.1**
FINES	**FINESS Array B**	**22.16**	**74**	P	**P**	**10 54 23.8**	**+0.4**
	9.4nm,1.2s,baz=291,slow=8.8,SNR=9.5						
FINES				LR	LR	11 03 15.2	
	comp=Z,72nm,18.6s,baz=264,slow=37						
FIA1	**FINESS Array S**	**22.16**	**74**	*e*P	**P**	**10 54 24.6**	**+1.3**
	42nm,1.4s						
CLL	**Collm**	**22.59**	**107**	*e*P	**P**	**10 54 29.1**	**+1.1**
	9.5nm,1.2s						
CLL	**Collm**	**22.59**	**107**	*i* P	**P**	**10 54 30.7**	**+2.7**
	comp=Z,12nm,1.3s						
CLL				*i*		10 54 37.2	
CLL				*e*		10 57 54.0	
CLL				*e*S	**S**	**10 58 35.0**	**+0.3**
NKC	**Novy Kostel**	**23.16**	**109**	AMS	AMS	11 06 20.0	
	comp=Z,300nm,10.5s						
BRG	**Berggiesshubel**	**23.31**	**106**	*e*P	**P**	**10 54 36.6**	**+1.2**
	comp=Z,11nm,1.3s						
PRU	**Pruhonice**	**24.23**	**107**	AMS	AMS	11 07 10.0	
	comp=Z,300nm,13.4s						
GOPC	**GO Pecny, Ondr**	**24.39**	**107**	AMS	AMS	11 07 10.0	
	comp=Z,300nm,10.9s						
KHC	**Kasperske Hory**	**24.48**	**110**	*e*P	**P**	**10 54 48.4**	**+1.7**
	comp=Z,3.7nm,1.3s						
KHC	**Kasperske Hory**	**24.48**	**110**	*e*P	**P**	**10 54 48.0**	**+1.4**
KHC				AMS	AMS	11 06 10.0	
	comp=Z,300nm,13.7s						
DPC	**Dobruska-Polom**	**24.71**	**105**	*e*P	**P**	**10 54 50.0**	**+1.2**
GEC2	**GERESS Array S**	**24.75**	**110**	*e*P	**P**	**10 54 50.3**	**+1.1**
	comp=Z,9.3nm,1.5s						
GERES	**GERESS Array B**	**24.75**	**110**	*e*P	**P**	**10 54 50.5**	**+1.3**
GERES	**GERESS Array B**	**24.75**	**110**	P	**P**	**10 54 49.5**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=311,slow=6.9,SNR=6.7						
GERES				LR	LR	11 04 47.4	
	comp=Z,142nm,21.0s,baz=309,slow=37						
DAVOX	**Davos/Dischmat**	**24.86**	**118**	LR	LR	11 04 05.0	
	comp=Z,164nm,20.2s,baz=266,slow=35						
VRAC	**Vranov**	**25.61**	**106**	P	**P**	**10 54 57.5**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=315,slow=10.0,SNR=2.9						
VRAC				LR	LR	11 05 02.1	
	comp=Z,90nm,20.8s,baz=287,slow=36						
MORC	**Moravsky Berou**	**25.66**	**104**	*e*P	**P**	**10 54 58.6**	**+1.3**
	comp=Z,10nm,1.4s						
RES	**Resolute Bay**	**25.77**	**324**	LR	LR	11 04 49.7	
	comp=Z,209nm,20.3s,baz=93,slow=36						
OKC	**Ostrava-Krasne**	**25.88**	**103**	AMS	AMS	11 07 30.0	
	comp=Z,300nm,12.6s						
ESDC	**Sonseca Array**	**26.68**	**146**	P	**P**	**10 55 06.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=354,slow=8.0,SNR=3.7						
ESDC				LR	LR	11 04 53.3	
	comp=Z,204nm,18.8s,baz=315,slow=35						
AKASG	**Malin Array Be**	**30.11**	**91**	P	**P**	**10 55 37.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=304,slow=8.5,SNR=2.3						
AKASG				LR	LR	11 07 41.9	
	comp=Z,127nm,20.4s,baz=345,slow=36						
KEST	**Kesra**	**34.29**	**130**	LR	LR	11 09 08.4	
	comp=Z,145nm,20.7s,baz=320,slow=34						
YKA	**Yellowknife Ar**	**38.02**	**311**	P	**P**	**10 56 43.9**	**-1.5**
	comp=Z,1.0nm,0.9s,baz=46,slow=9.5,SNR=15						
YKA				PcP	**PcP**	**10 59 00.3**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=46,slow=3.1,SNR=6.9						
YKA				LR	LR	11 12 03.2	
	comp=Z,40nm,18.3s,baz=43,slow=36						
NRIK	**Noril'sk**	**38.43**	**32**	LR	LR	11 14 35.4	
	comp=Z,39nm,18.3s,baz=61,slow=39						
BRTR	**Keskin Array B**	**40.59**	**99**	P	**P**	**10 57 07.4**	**0.0**
	comp=Z,0.3nm,0.5s,baz=334,slow=9.6,SNR=3.7						
BRTR				LR	LR	11 16 34.7	
	comp=Z,77nm,18.4s,baz=310,slow=40						
KBZ	**Khabaz**	**41.46**	**87**	LR	LR	11 14 46.0	
	comp=Z,89nm,19.2s,baz=331,slow=37						
ILAR	**Eielson Array**	**45.27**	**330**	P	**P**	**10 57 42.9**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=24,slow=8.4,SNR=6.8						
ILAR				LR	LR	11 18 13.6	
	comp=Z,106nm,18.3s,baz=54,slow=38						
BCAR	**Beaver Creek A**	**45.53**	**326**	*e*P	**P**	**10 57 47.3**	**+0.5**
IMAR	**Indian Mountai**	**45.63**	**334**	*e*P	**P**	**10 57 47.6**	**+0.1**
ZALV	**Zalesovo Beam**	**49.93**	**47**	LR	LR	11 21 19.0	
	comp=Z,32nm,19.6s,baz=335,slow=38						
LRM	**Limekiln Ridge**	**49.98**	**294**	*e*P	P	10 58 14.2	-7.7
PDAR	**Pinedale Array**	**51.30**	**290**	*e*P	**P**	**10 58 30.1**	**-1.6**
PDAR	**Pinedale Array**	**51.30**	**290**	P	**P**	**10 58 30.6**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=57,slow=6.6,SNR=6.9						
PDAR				LR	LR	11 19 41.7	
	comp=Z,138nm,18.4s,baz=38,slow=36						
KSCO	**Kaye Shedlock'**	**51.44**	**281**	*e*P	**P**	**10 58 32.7**	**-0.1**
	comp=Z,26nm,1.3s						
GEYT	**Alibeck**	**52.86**	**78**	LR	LR	11 23 48.9	
	comp=Z,50nm,18.2s,baz=330,slow=39						
WMOK	**Wichita Mounta**	**53.33**	**275**	*e*P	**P**	**10 58 46.0**	**-0.7**
	comp=Z,5.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**53.48**	**150**	P	**P**	**10 58 49.2**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=340,slow=8.0,SNR=4.5						
TORD				LR	LR	11 21 51.8	
	comp=Z,62nm,18.4s,baz=325,slow=36						
MKAR	**Makanchi Array**	**55.11**	**54**	P	**P**	**10 58 59.9**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=332,slow=5.2,SNR=3.8						
KVN	**Kaiserville**	**57.93**	**294**	*e*P	**P**	**10 59 20.9**	**+1.0**
	comp=Z,9.4nm,1.5s						
NVAR	**Mina Array Bea**	**58.54**	**294**	P	**P**	**10 59 23.3**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=52,slow=3.5,SNR=4.7						
NVAR				LR	LR	11 24 18.9	
	comp=Z,160nm,18.6s,baz=5.0,slow=36						
WMQ	**Urumqi**	**59.60**	**52**	*e*P	**P**	**10 59 33.6**	**+2.4**
WMQ				sP	sP	10 59 40.7	+2.7
TXAR	**Lajitas Array**	**60.09**	**276**	P	**P**	**10 59 34.5**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=104,slow=5.3,SNR=4.6						
TXAR				PcP	**PcP**	**11 00 20.2**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=54,slow=4.6,SNR=2.7						
TXAR				LR	LR	11 24 36.1	
	comp=Z,68nm,20.2s,baz=0.0,slow=35						
SONM	**Songino Array**	**61.72**	**36**	LR	LR	11 31 19.7	
	comp=Z,56nm,18.2s,baz=268,slow=41						
HHC	**Hu-ho-hao-te**	**69.57**	**35**	*e*P	**P**	**11 00 36.2**	**-0.3**
KSRS	**Korea Array**	**76.39**	**24**	LR	LR	11 35 27.0	
	comp=Z,40nm,18.3s,baz=217,slow=36						
KMI	**Kunming**	**81.67**	**48**	P	**P**	**11 01 48.2**	**+2.1**
CMAR	**Chiang Mai Arr**	**86.52**	**54**	P	**P**	**11 02 10.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=306,slow=5.1,SNR=2.9						
BOSA	**Boshof**	**99.62**	**138**	LR	LR	11 49 37.6	
	comp=Z,52nm,18.2s,baz=24,slow=36						

IDC 09 11:10:59.7±5.2,**29°.90S**×**178°.44W**,**h0**km,**mb3.5**/2, **mb1 3.8**/2,**mb1mx3.5**/19,**mbtmp3.5**/2,**Error ellipse: s-maj=276.9km s-min=76.8km az=166.0**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.79**	**35**	LR	LR	11 11 46.6	
	comp=Z,2μm,21.4s,baz=334,slow=60						
ASAR	**Alice Springs**	**42.76**	**267**	P	P	11 18 58.9	-0.2
	0.1nm,0.3s,baz=103,slow=7.4,SNR=7.2						
WRA	**Warramunga Arr**	**43.70**	**272**	P	P	11 19 06.7	-0.1
	0.4nm,0.3s,baz=110,slow=8.1,SNR=16						
FINES	**FINESS Array B**	**144.54**	**340**	PKP	PKPdf	11 30 36.9	-0.5
	3.7nm,1.1s,baz=54,slow=2.4,SNR=3.8						

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*PRE **09** 11:36:35.1±0.6,27°.03S×31°.26E, h5km, ML2.6*

ISC 09 11:36:35.4±3.1,**26°.95**±0°.1×**31°.2E**±0°.2,**h10**km,**n10**, σ2¶**05**/**20**,**Swaziland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**3.44**	**268**	*e*P	**Pn**	**11 37 30.8**	**+1.6**
PRYS				*e*S	**Sn**	**11 38 11.0**	**+0.9**
PRYS				AML	AML	11 38 18.7	
	comp=Z,26nm,0.4s						
MSNA	**Messina**	**4.62**	**346**	*i* P	**Pg**	**11 38 05.5**	**+1.6**
MSNA				*i* S	**Sb**	**11 38 49.0**	**-3.3**
MSNA	**Messina**	**4.62**	**346**	*i* P	**Pg**	**11 38 05.5**	**+1.6**
MSNA				*i* S	**Sb**	**11 38 49.0**	**-3.3**
SWZ	**Schweizer**	**5.25**	**265**	*e*P	**Pn**	**11 37 55.5**	**+1.3**
SWZ				*e*S	**Sn**	**11 38 54.5**	**-0.3**
SWZ				AML	AML	11 39 11.7	
	comp=Z,15nm,0.3s						
LBTB	**Lobatse**	**5.38**	**289**	*e*P	**Pn**	**11 37 58.7**	**+2.9**
LBTB				*e*S	**Sn**	**11 38 58.8**	**+1.0**
LBTB				AML	AML	11 39 16.4	
	comp=Z,15nm,0.3s						
BOSA	**Boshof**	**5.56**	**250**	*e*P	**Pn**	**11 37 58.9**	**+0.6**
BOSA				*e*S	**Sn**	**11 39 01.0**	**-1.4**
BOSA				AML	AML	11 39 32.9	
	comp=Z,7.4nm,0.3s						
MATP	**Matopo**	**6.87**	**338**	*i* P	**Pb**	**11 38 32.4**	**-2.5**
MATP				*i* S	**Sn**	**11 39 35.7**	**+1.1**
MATP	**Matopo**	**6.87**	**338**	*i* P	**Pb**	**11 38 32.4**	**-2.5**
MATP				*i* S	**Sn**	**11 39 35.7**	**+1.1**
BLWY	**Bulawayo**	**7.10**	**340**	*i* P	**Pb**	**11 38 37.2**	**-1.7**
BLWY				*i* S	**Sn**	**11 39 42.1**	**+1.8**
BLWY	**Bulawayo**	**7.10**	**340**	*i* P	**Pb**	**11 38 37.2**	**-1.7**
BLWY				*i* S	**Sn**	**11 39 42.1**	**+1.8**

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*IDC **09** 11:38:52.4±0.8, 10°.52N×62°.33W, h0km, mb3.8/9, mb1 4.1/13, mb1mx3.9/35, mbtmp3.9/13, ML3.3/4, MS3.3/7, Ms1 3.3/7, ms1mx3.1/28, Error ellipse: s-maj=23.3km s-min=18.7km az=61.0*
*ISCJB **09** 11:38:56.9±0.5, 10°.34N±0°.03×62°.45W±0°.04, h47km±6km, mb4.

MDPO	Dominica; Chan	5.32	9	eP	Pn	11 40 17.1	+2.5
MDPO	Dominica; Chan	5.32	9	eS	Sn	11 41 15.4	+0.7
DWS	Wesley	5.33	11	eP	Pn	11 40 16.2	+1.4
DWS	Wesley	5.33	11	eS	Sn	11 41 15.6	+0.6
MDPV	Dominica, Penn	5.37	9	eP	Pn	11 40 16.1	+0.7
MDPV	Dominica, Penn	5.37	9	eS	Sn	11 41 15.5	-0.6
TBG	Guadaloupe-3	5.56	7	eP	Pn	11 40 19.6	+1.6
TBG	Guadaloupe-3	5.56	7	eS	Sn	11 41 21.1	+0.4
MLYT	Lee's Yard	6.39	1	eP	Pn	11 40 30.6	+1.3
MLYT	Lee's Yard	6.39	1	eS	Sn	11 41 39.4	-1.7
BPA	Boggy Peak	6.72	4	eP	Pn	11 40 35.0	+1.1
BPA	Boggy Peak	6.72	4	eS	Sn	11 41 48.5	-0.9
NEV	Hard Times	6.80	358	eP	Pn	11 40 36.9	+1.9
NEV	Hard Times	6.80	358	eS	Sn	11 41 49.6	-1.6
SEUS	St. Eustatius	7.18	355	eP	Pn	11 40 42.3	+2.1
SEUS	St. Eustatius	7.18	355	eS	Sn	11 41 58.1	-2.4
ANWB	Willy Bob	7.35	4	eP	Pn	11 40 43.6	+1.1
ANWB	Willy Bob	7.35	4	eS	Sn	11 42 02.4	-2.2
SDV	Santo Domingo	8.30	261	Pn	Pn	11 40 54.8	-0.9
	3.3nm,0.3s,baz=70,slow=8.8,SNR=7.3						
SDV				Sn	Sn	11 42 26.1	-2.3
	5.8nm,0.3s,baz=4.3,slow=20,SNR=7.1						
SDV				Lg	Lg	11 43 27.1	
	5.2nm,0.3s,baz=339,slow=18,SNR=1.3						
MTP	Monte Pirata	8.36	338	ePn	Pn	11 40 56.2	-0.1
STVI	Saint Thomas	8.40	343	ePn	Pn	11 40 57.4	+0.5
SJG	San Juan	8.60	335	LR	LR	11 44 35.0	
	comp=Z,124nm,20.1s,baz=160,slow=41						
MDP	Montagnes des	10.90	118	Pn	Pn	11 41 31.5	+0.3
	0.3nm,0.3s,baz=307,slow=17,SNR=3.6						
MDP				Sn	Sn	11 43 24.8	-7.2
	0.8nm,0.3s,baz=41,slow=21,SNR=5.7						
MDP				LR	LR	11 46 17.7	
	comp=Z,207nm,20.2s,baz=288,slow=40						
PTGA	Pitinga	11.21	168	ePn	Pn	11 41 36.0	+0.6
PTGA	Pitinga	11.21	168	Pn	Pn	11 41 35.4	0.0
	0.9nm,0.3s,baz=343,slow=19,SNR=6.0						
PTGA				Sn	Sn	11 43 37.5	-1.9
	0.7nm,0.3s,baz=312,slow=22,SNR=2.0						
PTGA				Lg	Lg	11 44 41.9	
	1.5nm,0.3s,baz=76,slow=22,SNR=5.8						
SDDR	Presa de Saban	12.22	316	ePn	Pn	11 41 49.0	-0.4
ROSC	El Rosal	13.05	246	Pn	Pn	11 42 01.6	+0.5
	1.4nm,0.3s,baz=49,slow=19,SNR=3.7						
ROSC				Sn	Sn	11 44 33.7	+8.5
	1.6nm,0.3s,baz=134,slow=20,SNR=1.9						
ROSC				Lg	Lg	11 46 02.1	
	1.7nm,0.3s,baz=76,slow=23,SNR=1.9						
ROSC				LR	LR	11 48 00.1	
	comp=Z,432nm,21.6s,baz=27,slow=42						
NORC	Norcasia	13.27	250	eP	Pn	11 42 00.8	-2.9
NORC	Norcasia	13.27	250	eP	Pn	11 42 00.8	-2.9
BCIP	Isla Barro Col	17.29	268	ePn	P	11 42 58.3	+1.1
	28nm,1.1s						
SIV	San Ignacio	26.15	177	P	P	11 44 31.0	+2.8
	0.5nm,0.6s,baz=34,slow=12,SNR=6.3						
250A	Grady	30.90	318	eP	P	11 45 10.0	-0.5
	22nm,0.5s						
T47A	Sharon Grove	34.73	324	eP	P	11 45 44.3	+0.4
	6.3nm,0.8s						
PBMO	Poplar Bluff	36.59	321	eP	P	11 45 59.6	-0.2
	6.0nm,0.8s						
TUL1	Leonard	39.62	315	eP	P	11 46 24.6	-0.8
	12nm,0.8s						
H43A	Windswept, Lux	40.51	332	eP	P	11 46 32.8	+0.1
	9.3nm,0.9s						
G42A	Mountain	41.40	332	eP	P	11 46 40.0	0.0
	5.2nm,0.8s						
TXAR	Lajitas Array	42.96	302	eP	P	11 46 53.0	-0.1
TXAR	Lajitas Array	42.96	302	P	P	11 46 53.5	+0.5
	0.8nm,0.7s,baz=123,slow=7.4,SNR=13						
TXAR				PcP	PcP	11 48 43.8	+0.6
	0.3nm,0.7s,baz=124,slow=5.7,SNR=3.6						
LAZ	Ladron	47.37	308	eP	P	11 47 27.9	-0.2
ULM	Lac du Bonnet	48.49	332	P	P	11 47 35.5	-0.8
	2.2nm,0.7s,baz=124,slow=8.5,SNR=6.0						
ULM				LR	LR	12 09 27.8	
	comp=Z,37nm,18.1s,baz=87,slow=38						
PD31	Pinedale Array	52.24	317	eP	P	11 48 05.1	0.0
	1.0nm,0.7s						
PDAR	Pinedale Array	52.24	317	P	P	11 48 04.0	-1.1
	0.6nm,0.5s,baz=111,slow=8.1,SNR=5.8						
PDAR				LR	LR	12 12 16.4	
	comp=Z,29nm,18.7s,baz=94,slow=38						
NVAR	Mina Array Bea	57.15	309	P	P	11 48 40.6	-0.1
	0.3nm,0.6s,baz=97,slow=6.7,SNR=3.9						
NVAR				PcP	PcP	11 49 35.9	+0.8
	0.2nm,0.4s,baz=94,slow=5.5,SNR=2.8						
NVAR				LR	LR	12 15 07.0	
	comp=Z,18nm,20.2s,baz=349,slow=38						
YKA	Yellowknife Ar	64.09	336	P	P	11 49 26.1	-1.2
	0.6nm,0.6s,baz=110,slow=7.3,SNR=12						
NB200	NORSAR Array S	73.10	29	eP	P	11 50 23.1	-0.5
NOA	NORSAR Array B	73.10	29	P	P	11 50 23.0	-0.5
	0.5nm,0.8s,baz=234,slow=5.4,SNR=2.5						
NOA				LR	LR	12 16 54.1	
	comp=Z,12nm,21.2s,baz=250,slow=31						
BCAR	Beaver Creek A	76.10	333	eP	P	11 50 41.7	+0.8
ILAR	Eielson Array	78.43	334	eP	P	11 50 53.8	0.0
ILAR	Eielson Array	78.43	334	P	P	11 50 53.3	-0.6
	0.9nm,0.7s,baz=119,slow=4.7,SNR=11						
WRH	Wood River Hil	78.95	334	eP	P	11 50 57.0	+0.3
	1.8nm,0.8s						
FIA0	FINESS Array S	80.28	29	eP	P	11 51 05.5	+1.6
FINES	FINESS Array B	80.28	29	P	P	11 51 05.6	+1.6
	0.6nm,0.5s,baz=267,slow=2.8,SNR=6.0						
KSH	Kashi	117.12	35	PKP	PKPdf	11 57 38.4	-0.4
WMQ	Urumqi	119.64	25	ePKP	PKPdf	11 57 43.3	-0.2
HHC	Hu-ho-hao-te	128.80	6	ePKP	PKiKP	11 58 01.9	+0.1
NJ2	Nanjing	137.88	358	ePKP	PKPdf	11 58 18.1	-0.2
CMAR	Chiang Mai Arr	145.97	33	PKPbc	PKPdf	11 58 32.8	-0.3
	0.3nm,0.3s,baz=316,slow=6.2,SNR=3.5						
STKA	Stephens Creek	149.16	222	PKPbc	PKiKP	11 58 43.3	-0.1
	1.6nm,0.8s,baz=49,slow=5.7,SNR=3.4						

*IDC **09** 11:41:43.8±1.3, 0°.43N×123°.86E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/27, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=112.3km s-min=21.5km az=69.0*
*ISCJB **09** 11:41:58.4±0.7, 0°.07N±0°.08×123°.38E±0°.07, h157km, mb3.4/4, Error ellipse: s-maj=11.3km s-min=9.2km az=20.7*
*DJA **09** 11:42:01.1±0.7, 0°.N±4°×12°.3E±°, h112km±9km, M3.6/7, MLv3.6/7*

ISC 09 11:41:59.4±0.9, 0°.07N±0°.08×123°.50E±0°.07, h157km, n12, σ2§44/15, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.69	44	P	Pn	11 42 20.4	-2.3
LUWI	Luwuk	1.32	213	P	Pn	11 42 26.4	-1.4
LUWI				S	Sn	11 42 45.3	-4.3
MRSI	Marisa	1.61	285	P	Pn	11 42 29.4	-1.3
MRSI				S	Sn	11 42 50.8	-3.9
APSI	Ampana	2.09	242	P	Pn	11 42 34.9	-1.2
APSI				S	Sn	11 43 00.8	-3.5
SANI	Sanana	3.26	130	P	Pn	11 42 50.0	-0.4
MPSI	Mapaga	3.61	274	P	Pn	11 42 56.9	+2.0
TTSI	Tana Toraja	4.81	230	P	Pn	11 43 11.7	+1.2
FITZ	Fitzroy Crossi	18.18	173	P	P	11 46 01.7	+1.5
	0.3nm,0.3s,baz=351,slow=10,SNR=10						
WRA	Warramunga Arr	22.55	153	P	P	11 46 47.6	+1.1
	1.4nm,0.5s,baz=333,slow=11,SNR=30						
ASAR	Alice Springs	25.67	158	P	P	11 47 16.9	+2.0
	0.2nm,0.4s,baz=345,slow=10,SNR=4.0						
SONM	Songino Array	49.85	345	P	P	11 50 37.8	+1.2
	0.7nm,0.6s,baz=168,slow=7.4,SNR=3.0						
MKAR	Makanchi Array	58.82	328	P	P	11 51 42.5	+1.1
	0.2nm,0.5s,baz=123,slow=8.1,SNR=3.0						

BUC 09 11:43:51.7±0.3, 45°.81N×26°.76E, h87km±3km, MD2.6/4, 14C-6D, Error ellipse: s-maj=3.1km s-min=2.5km az=335.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.06	340	⇑iP	Pn	11 44 04.5	+0.5
VRI				iS	Sn	11 44 13.4	+0.2
VRI	Vrincioaia	0.06	340	⇑iP	Pn	11 44 04.5	+0.5
PLOR	Plostina	0.09	299	⇓iP	Pn	11 44 04.2	+0.1
PLOR				iS	Sn	11 44 13.3	0.0
PLOR	Plostina	0.09	299	⇓iP	Pn	11 44 04.2	+0.1
ODBI	Odobesti	0.21	102	⇓iP	Pn	11 44 04.5	+0.1
ODBI				iS	Sn	11 44 13.9	+0.1
ODBI	Odobesti	0.21	102	⇓iP	Pn	11 44 04.5	+0.1
MLR	Muntele Rosu	0.65	241	⇓iP	Pn	11 44 07.8	+0.2
MLR				iS	Sn	11 44 19.5	0.0
MLR	Muntele Rosu	0.65	241	⇓iP	Pn	11 44 07.8	+0.2
TUDR		0.67	108	iS	Sn	11 44 19.9	+0.4
TUDR		0.67	108	S	Sn	11 44 19.9	+0.4
TESR	Tescani	0.71	354	⇑iP	Pn	11 44 08.4	+0.4
TESR				iS	Sn	11 44 19.8	-0.4
TESR	Tescani	0.71	354	⇑iP	Pn	11 44 08.4	+0.4
CFR	Carcaliu	1.16	123	⇑iP	Pn	11 44 13.2	+0.2
CFR				iS	Sn	11 44 28.7	-0.3
CFR	Carcaliu	1.16	123	⇑iP	Pn	11 44 13.2	+0.2
BIZ	Bicaz	1.22	338	⇑iP	Pn	11 44 13.3	-0.5
BIZ				iS	Sn	11 44 31.1	+0.7
BIZ	Bicaz	1.22	338	⇑iP	Pn	11 44 13.3	-0.5
LEOM	Leova	1.23	57	⇑iP	Pn	11 44 14.9	+1.0
LEOM				iS	Sn	11 44 30.5	-0.1
LEOM	Leova	1.23	57	⇑iP	Pn	11 44 14.9	+1.0
TLB	Topalu	1.52	143	⇑iP	Pn	11 44 17.9	+0.3
TLB				iS	Sn	11 44 36.2	-0.9
TLB	Topalu	1.52	143	⇑iP	Pn	11 44 17.9	+0.3
MILM	Milestii Mici	1.81	51	⇑iP	Pn	11 44 22.1	+0.9
MILM				iS	Sn	11 44 43.0	-0.6
MILM	Milestii Mici	1.81	51	⇑iP	Pn	11 44 22.1	+0.9
MILM				S	Sn	11 44 43.0	-0.6

*IDC **09** 11:56:54.5±1.4, 3°.76S×135°.25E, h0km, mb3.7/2, mb1 4.1/6, mb1mx3.7/36, mbtmp4.0/6, ML3.9/4, Error ellipse: s-maj=31.5km s-min=26.9km az=108.0*
*ISCJB **09** 11:56:55.4±1.0, 3°.9S±0°.1×135°.28E±0°.09, h20km, mb3.5/2, Error ellipse: s-maj=18.2km s-min=9.9km az=146.6*

ISC 09 11:56:57.3±1.1, 3°.9S±0°.1×135°.3E±0°.1, h20km, n7, σ1§49/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	5.61	76	Pn	Pn	11 58 20.7	+1.0
	1.4nm,0.3s,baz=242,slow=18,SNR=1.9						
JAY				Sn	Sn	11 59 23.4	-0.3
	1.1nm,0.3s,baz=347,slow=4.7,SNR=1.7						
WRA	Warramunga Arr	15.94	183	Pn	Pn	12 00 38.1	-2.5
	0.3nm,0.3s,baz=7.2,slow=13,SNR=17						
FITZ	Fitzroy Crossi	16.94	213	P	Pn	12 00 53.4	+0.1
	0.4nm,0.3s,baz=42,slow=12,SNR=16						
CTA	Charters Tower	19.31	147	P	Pn	12 01 22.4	0.0
	0.2nm,0.3s,baz=322,slow=12,SNR=1.4						
ASAR	Alice Springs	19.66	184	P	Pn	12 01 28.2	+1.5
	1.3nm,0.3s,baz=10,slow=11,SNR=55						
MKAR	Makanchi Array	68.69	324	P	P	12 07 59.7	+0.2
	0.3nm,0.5s,baz=108,slow=7.7,SNR=2.3						
ILAR	Eielson Array	88.37	25	P	P	12 09 46.4	-1.1
	0.4nm,1.0s,baz=271,slow=4.3,SNR=2.5						

*IDC **09** 11:59:12.2±0.6, 3°.79S×135°.34E, h0km, mb4.2/15, mb1 4.3/19, mb1mx4.3/33, mbtmp4.3/19, ML4.7/4, MS3.7/9, Ms1 3.7/9, ms1mx3.5/25, Error ellipse: s-maj=20.7km s-min=12.4km az=73.0*
*ISCJB **09** 11:59:13.6±0.2, 3°.88S±0°.04×135°.44E±0°.04, h20km, mb4.6/48, MS4.0/15, Error ellipse: s-maj=5.4km s-min=5.1km az=10.5*
*DJA **09** 11:59:14.8±0.3, 4°.S±3°×13°.5E±°, h10km, M4.9/12, mb4.8/12, mB5.0/6, MLv5.2/7, Mw(mB)4.4/6*
*BJI **09** 11:59:14.7±0.0, 3°.86S×135°.48E, h16km, mb4.6/22, mB5.0/14, Ms4.5/10, Ms7 4.2/7*
*NEIC **09** 11:59:17.9±1.9, 3°.79S×135°.40E, h40km±6km, mb4.7/30, Error ellipse: s-maj=14.9km s-min=6.9km az=215.0*
NEIC Felt [II] at Nabire.

ISC 09 11:59:15.7±0.4, 3°.94S±0°.05×135°.39E±0°.05, h20km, n98, σ1§76/96, mb4.6/48, MS4.0/15, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	3.29	288	ePn	Pn	12 00 07.4	+1.3
FAKI	Fak Fak	3.29	288	P	Pn	12 00 06.9	+0.7
GENI	Genyem	4.96	74	P	Pn	12 00 29.3	+0.2
BNDI	Bandanaira	5.50	264	P	Pn	12 00 39.3	+2.8
JAY	Jayapura	5.50	75	Pn	Pn	12 00 36.4	-0.1
	5.7nm,0.3s,baz=231,slow=9.5,SNR=9.8						
JAY				Sn	Sn	12 01 41.9	+2.7
	2.3nm,0.3s,baz=193,slow=5.8,SNR=2.2						
SAUI	Saumlaki	5.71	225	ePn	Pn	12 00 42.9	+3.4
SANI	Sanana	9.57	281	P	Pn	12 01 32.2	-0.3
MTN	Manton Dam	9.79	205	ePn	Pn	12 01 39.0	+3.5
SOEI	Soe	12.46	242	ePn	Pn	12 02 12.9	+0.8
SOEI	Soe	12.46	242	P	Pn	12 02 12.5	+0.4
COEN	Coen	12.57	143	ePn	Pn	12 02 13.4	-0.1
BBSI	Bau Bau	12.86	263	P	Pn	12 02 19.7	+2.1
PMG	Port Moresby	12.89	115	ePn	Pn	12 02 18.8	+0.9
PMG	Port Moresby	12.89	115	Pn	Pn	12 02 18.3	+0.4
	2.5nm,0.3s,baz=1.5,slow=14,SNR=5.9						
PMG				Sn	Sn	12 04 31.1	-10
	0.6nm,0.3s,baz=263,slow=22,SNR=1.7						
PMG				Lg	Lg	12 06 15.9	
	baz=308,slow=21,SNR=4.0						
APSI	Ampana	14.05	282	P	Pn	12 02 33.7	-0.1
MRSI	Marisa	14.13	288	P	Pn	12 02 36.2	+1.3
TTSI	Tana Toraja	15.56	273	P	Pn	12 02 55.9	+1.8
SPSI	Sidrap Palu	15.58	269	P	Pn	12 02 54.6	+0.3
WRAB	Tennant Creek	15.93	184	ePn	Pn	12 02 55.8	-3.0
	70nm,0.8s						
WB2	Warramunga Arr	15.94	184	ePn	Pn	12 02 55.6	-3.3
	65nm,0.8s						
WRA	Warramunga Arr	15.94	184	Pn	Pn	12 02 54.9	-4.0
	1.7nm,0.3s,baz=6.1,slow=13,SNR=18						
WRA				Sn	Sn	12 05 49.1	-6.0
	2.7nm,0.3s,baz=7.4,slow=22,SNR=6.0						
WRA				Lg	Lg	12 07 37.5	
	0.9nm,0.3s,baz=1.7,slow=30,SNR=3.5						
MPSI	Mapaga	16.05	285	P	Pn	12 03 01.3	+0.9
FITZ	Fitzroy Crossi	17.00	213	ePn	Pn	12 03 13.6	+1.1
	26nm,0.7s						
FITZ				eSn	Sn	12 06 09.4	-12
FITZ	Fitzroy Crossi	17.00	213	P	Pn	12 03 11.2	-1.2
	2.7nm,0.3s,baz=35,slow=13,SNR=24						
FITZ				S	Sn	12 06 09.4	-12
	1.5nm,0.3s,baz=198,slow=10,SNR=5.3						
FITZ				Lg	Lg	12 08 09.6	
	1.0nm,0.3s,baz=323,slow=12,SNR=1.3						
FITZ				LR	LR	12 10 18.6	
	comp=Z,443nm,20.1s,baz=38,slow=39						
CTA	Charters Tower	19.23	147	P	Pn	12 03 40.0	+0.2
	1.3nm,0.3s,baz=320,slow=12,SNR=16						
CTA				S	S	12 07 32.4	+16
	0.6nm,0.3s,baz=226,slow=18,SNR=2.7						
CTA				Lg	Lg	12 09 12.5	
	0.6nm,0.3s,baz=68,slow=21,SNR=4.2						
CTAO	Charters Tower	19.23	147	eP	Pn	12 03 40.4	+0.6
	35nm,0.9s						
AS31	Alice Springs	19.66	184	eP	P	12 03 45.3	+1.8
	29nm,0.8s						
ASAR	Alice Springs	19.66	184	eP	P	12 03 44.8	+1.2
ASAR	Alice Springs	19.66	184	P	P	12 03 44.2	+0.7
	6.7nm,0.3s,baz=9.3,slow=10,SNR=82						
ASAR				S	S	12 07 16.3	-8.4
	0.5nm,0.3s,baz=11,slow=25,SNR=3.5						
ASAR				Lg	Lg	12 09 30.8	
	0.4nm,0.3s,baz=3.8,slow=35,SNR=3.0						
TGY	Tagaytay City	22.95	322	P	P	12 04 16.2	-2.8
	107nm,0.3s,baz=262,slow=14,SNR=2.2						
PSA00	Pilbara Seismi	23.13	219	eP	P	12 04 24.9	+4.1
	49nm,0.9s						
SBUM	Sibu	24.01	285	eP	P	12 04 29.0	-0.4
	6.7nm,1.1s						
HNR	Honiara	24.99	104	LR	LR	12 15 13.3	
	comp=Z,213nm,19.5s,baz=314,slow=38						
FORT	Forrest	27.57	194	eP	P	12 05 01.7	+0.2
	30nm,0.8s						
STKA	Stephens Creek	28.39	169	P	P	12 05 09.4	+0.5
	2.2nm,0.7s,baz=350,slow=9.5,SNR=1.9						
STKA				S	S	12 10 22.3	+27
	1.0nm,0.6s,baz=79,slow=20,SNR=1.0						
STKA				Lg	Lg	12 14 08.9	
	4.2nm,0.8s,baz=21,slow=11,SNR=1.5						
MYKOM	Kota Tinggi	32.03	280	eP	P	12 05 41.0	-0.2
	7.8nm,0.7s						
DZM	Mont Dzumac	35.09	124	eLR	LR	12 15 38.7	
	comp=Z,629nm,24.8s						
PSI	Prapat	37.05	280	eP	P	12 06 23.8	-1.0
	14nm,0.9s						
JNU	Nakatsue	37.11	354	eP	P	12 06 23.1	-1.9
	11nm,1.1s						
JNU	Nakatsue	37.11	354	P	P	12 06 23.4	-1.6
	5.0nm,0.6s,baz=253,slow=2.1,SNR=5.7						
JNU				LR	LR	12 21 23.9	
	comp=Z,98nm,19.2s,baz=267,slow=36						
TRTT	Trang	37.48	288	P	P	12 06 33.7	+5.3
	14nm,0.8s						
CHAI	Chaiyaphum	38.48	302	P	P	12 06 44.2	+7.4
	12um,0.8s						
NJ2	Nanjing	39.10	337	eP	P	12 06 43.2	+1.5
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
WHN	Wuhan	39.75	331	P	P	12 06 48.1	+0.9
MJAR	Matsushiro Arr	40.36	4	P	P	12 06 49.6	-2.6
	1.3nm,0.7s,baz=189,slow=8.9,SNR=3.6						
MJAR				LR	LR	12 20 16.7	
	comp=Z,81nm,21.6s,baz=180,slow=32						
MAJO	Matsushiro	40.36	4	eP	P	12 06 49.6	-2.6
KSRS	Korea Array	41.77	351	P	P	12 07 01.6	-2.1
	1.4nm,1.0s,baz=168,slow=11,SNR=2.9						
KSRS				LR	LR	12 26 25.5	
	comp=Z,35nm,18.2s,baz=168,slow=39						
CMAR	Chiang Mai Arr	42.24	303	P	P	12 07 06.4	-1.5
	0.4nm,0.4s,baz=126,slow=6.2,SNR=3.7						
KMI	Kunming	42.89	314	P	P	12 07 17.4	+4.0
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN	Xi'an	45.28	329	P	P	12 07 36.3	+4.1
XAN				pP	sP	12 07 45.8	+4.2
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CD2	Chengdu	45.96	321	eP	P	12 07 38.5	+0.9
USRK	Ussuriysk Ar.	48.02	357	P	P	12 07 52.7	-0.8
	1.2nm,0.5s,baz=182,slow=6.5,SNR=4.3						
USRK				LR	LR	12 27 16.1	
	comp=Z,95nm,18.7s,baz=127,slow=35						
ASAJ	Asahikawa	48.28	7	P	P	12 07 53.5	-2.0
	5.3nm,0.6s,baz=212,slow=11,SNR=11						
ASAJ				LR	LR	12 26 54.3	
	comp=Z,74nm,19.2s,baz=166,slow=34						
LZH	Lanzhou	49.56	326	⇓P	P	12 08 06.7	+1.1
LZH				pP	sP	12 08 18.1	+3.1
LZH				PP	PP	12 10 03.5	+3.4
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				pmax	pmax		
	comp=Z,100nm,5.4s						
LZH				LR	LR		
	comp=N,180nm,15.7s						
LZH				LR	LR		
	comp=E,140nm,15.2s						
LZH				LR	LR		
	comp=Z,140nm,16.8s						
HHC	Hu-ho-hao-te	49.62	336	eP	P	12 08 07.8	+1.9
HHC				S	S	12 15 16.8	+3.4
HHC				SS	SS	12 18 44.6	-1.4
HHC				pmax	pmax		
	comp=Z,68nm,1.0s						
HHC				pmax	pmax		
	comp=Z,210nm,5.8s						
HHC				LR	LR		
	comp=Z,810nm,14.7s						
BKZ	Black Stump Fm	51.15	139	eP	P	12 08 17.7	+0.2
	10nm,1.1s						
KLR	Kul'dur	53.05	357	LR	LR	12 28 38.3	
	comp=Z,53nm,19.1s,baz=154,slow=33						
GTA	Gaotai	54.16	326	P	P	12 08 41.0	+1.1
GTA				pP	sP	12 08 51.7	+2.4
GTA				sP	pP	12 08 55.0	+8.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,60nm,5.0s						
GTA				LR	LR		
	comp=N,88nm,16.1s						
GTA				LR	LR		
	comp=E,71nm,17.2s						
SONA0	Songino Array	57.49	337	eP	P	12 09 03.4	-0.2
SONM	Songino Array	57.49	337	P	P	12 09 03.3	-0.2
	0.6nm,0.4s,baz=142,slow=7.3,SNR=4.5						
PEA0B	Petropavlovsk-	59.87	15	eP	P	12 09 19.3	-0.6
	11nm,1.0s						
PETK	Petropavlovsk-	59.87	15	eP	P	12 09 19.9	0.0
PETK	Petropavlovsk-	59.87	15	P	P	12 09 18.6	-1.2
	3.5nm,0.7s,baz=164,slow=4.4,SNR=7.5						
WMQ	Urumqi	63.96	323	eP	P	12 09 47.9	+0.2
WMQ				pP	sP	12 10 00.5	+3.4
WMQ				pmax	pmax		
	comp=Z,120nm,3.8s						
WMQ				LR	LR		
	comp=N,650nm,28.3s						
WMQ				LR	LR		
	comp=Z,350nm,23.7s						
MK31	Makanchi Array	68.78	324	eP	P	12 10 18.2	-0.3
	3.8nm,0.9s						
MKAR	Makanchi Array	68.78	324	P	P	12 10 17.3	-1.1
	2.2nm,0.6s,baz=114,slow=8.0,SNR=22						
KSH	Kashi	69.55	315	P	P	12 10 26.7	+3.2
KSH				pP	sP	12 10 36.4	+3.4
KSH				S	S	12 19 32.9	+2.2
KSH				ScS	SKSac	12 20 21.6	-1.7
KSH				pmax	pmax		
	comp=Z,11nm,0.3s						
KSH				pmax	pmax		
	comp=Z,160nm,3.9s						
ZAA0	Zalesovo Array	71.37	331	eP	P	12 10 33.5	-0.6
	3.2nm,0.9s						
ZALV	Zalesovo Beam	71.37	331	P	P	12 10 33.2	-0.9
	2.7nm,0.7s,baz=138,slow=5.0,SNR=7.5						
ARSB	Arslanbob	72.35	316	eP	P	12 10 40.6	0.0
PPT

*SNET **09** 12:11:29.9±1.1, 13°.82N×91°.42W, h17km±8km, ML3.3*
ISC 09 12:11:22.9±2.9, 14°.4N±0°.2×91°.7W±0°.1, h10km±17km, n10, σ1§21/17, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.75**	**310**	*i* P	**Pn**	**12 11 40.8**	**+1.3**
THIG				*e*S	**Sn**	**12 11 51.1**	**+0.2**
CCIG	**Comitan**	**1.90**	**346**	*e*P	**Pg**	**12 11 59.5**	**+0.1**
CCIG				*i* S	**Sg**	**12 12 24.1**	**0.0**
PCIG		**1.96**	**311**	*e*P	**Pn**	**12 11 56.1**	**0.0**
PCIG				*e*S	**Sn**	**12 12 19.7**	**-1.1**
RTR	**El Retiro**	**2.04**	**105**	*e*P	**Pb**	**12 11 59.8**	**-0.3**
SBLS	**San Blas**	**2.07**	**106**	*e*P	**Pb**	**12 11 59.9**	**-0.8**
SBLS				*e*S	**Sn**	**12 12 24.3**	**+0.4**
CEVE	**Cerro Verde**	**2.08**	**106**	*e*P	**Pb**	**12 12 00.0**	**-0.7**
CEVE				*e*S	**Sn**	**12 12 22.7**	**-1.3**
CEVE				IAML		12 12 33.9	
	comp=Z,1μm,0.5s						
SNJE	**San Jose**	**2.08**	**105**	*e*P	**Pb**	**12 12 00.5**	**-0.3**
TGIG		**2.73**	**329**	*e*P	**Pn**	**12 12 09.0**	**+2.2**
TGIG				*i* S	**Sb**	**12 12 43.2**	**-2.0**
LCND	**La Caada**	**3.84**	**106**	⇓*e*P	**Pn**	**12 12 23.5**	**+1.5**
CMIG	**Matias Romero**	**4.07**	**311**	*i* P	**Pn**	**12 12 25.7**	**+0.5**
CMIG				*i* S	**Sn**	**12 13 14.2**	**+1.2**

*IDC **09** 12:18:54.9±0.9, 30°.40N×103°.47E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.6/43, mbtmp3.7/12, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/35, Error ellipse: s-maj=28.8km s-min=17.4km az=60.0*
*BJI **09** 12:18:57.5±0.0, 30°.26N×102°.99E, h11km, mb3.8/3, ML4.0/20, Ms3.8/7, Ms7 3.6/7*
ISC 09 12:18:55.8±0.8, 30°.15N±0°.05×103°.17E±0°.07, h10km, n20, σ2§14/24, mb3.8/10, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.91**	**34**	⇓*i*Pg	**Pg**	**12 19 14.1**	**+0.7**
CD2				Sg	**Sg**	**12 19 27.1**	**+1.8**
CD2				smax	smax		
	comp=N,4μm,0.6s						
CD2				smax	smax		
	comp=E,6μm,1.0s						
GYA	**Guiyang**	**4.80**	**139**	*e*Pn	Pn	12 20 17.5	+9.2
GYA				Sn	**Sb**	**12 21 18.5**	**+0.5**
GYA				Sg	**Sg**	**12 21 31.1**	**+1.1**
GYA				smax	smax		
	comp=N,130nm,0.9s						
GYA				smax	smax		
	comp=E,140nm,1.2s						
LZH	**Lanzhou**	**5.95**	**5**	*e*Pn	**Pn**	**12 20 22.9**	**-1.1**
LZH				Pg	**Pb**	**12 20 41.6**	**+2.0**
LZH				Sn	**Sn**	**12 21 27.6**	**-4.7**
LZH				Sg	**Sb**	**12 21 56.6**	**+5.7**
LZH				smax	smax		
	comp=N,61nm,1.3s						
LZH				smax	smax		
	comp=E,64nm,0.9s						
LZH				LR	LR		
	comp=N,490nm,8.1s						
LZH				LR	LR		
	comp=E,490nm,6.5s						
LZH				LR	LR		
	comp=Z,380nm,8.7s						
XAN	**Xi'an**	**6.23**	**50**	Pn	**Pn**	**12 20 28.8**	**+0.9**
XAN				Pg	Pg	12 20 52.5	-2.7
XAN				Sn	**Sn**	**12 21 37.9**	**-1.3**
XAN				Sg	**Sg**	**12 22 13.7**	**-2.2**
XAN				smax	smax		
	comp=N,290nm,1.0s						
XAN				smax	smax		
	comp=E,330nm,1.0s						
XAN				LR	LR		
	comp=Z,81nm,6.4s						
GTA	**Gaotai**	**9.64**	**344**	*e*P	**Pn**	**12 21 14.7**	**0.0**
GTA				pP		12 21 18.3	
GTA				sP		12 21 20.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				LR	LR		
	comp=N,270nm,9.2s						
GTA				LR	LR		
	comp=E,350nm,13.1s						
GTA				LR	LR		
	comp=Z,260nm,12.4s						
WHN	**Wuhan**	**9.67**	**85**	*e*P	Pn	12 21 28.6	+14
WHN				S	Sn	12 23 30.6	+27
CMAR	**Chiang Mai Arr**	**12.26**	**199**	Pn	Pn	12 21 57.3	+6.8
	0.2nm,0.3s,baz=20,slow=11,SNR=4.0						
SONM	**Songino Array**	**17.83**	**7**	P	**Pn**	**12 23 01.5**	**-2.6**
	0.2nm,0.3s,baz=179,slow=5.8,SNR=4.3						
WMQ	**Urumqi**	**18.36**	**322**	*e*P	**P**	**12 23 10.8**	**+0.2**
WMQ				LR	LR		
	comp=N,670nm,37.9s						
WMQ				LR	LR		
	comp=E,710nm,39.2s						
WMQ				LR	LR		
	comp=Z,350nm,24.7s						
KSRS	**Korea Array**	**21.79**	**64**	P	**P**	**12 23 45.2**	**-2.5**
	2.1nm,0.8s,baz=246,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**23.19**	**322**	P	**P**	**12 24 02.6**	**-0.1**
	0.7nm,0.6s,baz=151,slow=7.4,SNR=4.4						
AAK	**Ala-Archa**	**26.09**	**306**	LR	LR	12 36 44.5	
	comp=Z,68nm,21.1s,baz=82,slow=41						
ZALV	**Zalesovo Beam**	**27.24**	**336**	P	**P**	**12 24 38.7**	**-1.1**
	1.9nm,0.9s,baz=126,slow=7.5,SNR=5.0						
KURBB	**Kurchatov Arra**	**27.53**	**325**	P	**P**	**12 24 43.5**	**+1.1**
	1.0nm,0.3s,baz=126,slow=13,SNR=3.1						
ARCES	**ARCESS Array B**	**57.79**	**336**	P	**P**	**12 28 47.5**	**+0.6**
	2.3nm,0.7s,baz=86,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**58.15**	**145**	P	**P**	**12 28 51.1**	**+1.2**
	1.3nm,1.1s,baz=327,slow=8.9,SNR=6.9						
ASAR	**Alice Springs**	**61.11**	**148**	P	**P**	**12 29 10.4**	**+0.1**
	0.5nm,0.8s,baz=335,slow=7.2,SNR=4.3						
GERES	**GERESS Array B**	**67.63**	**314**	P	**P**	**12 29 52.9**	**0.0**
	0.4nm,0.7s,baz=57,slow=7.2,SNR=2.4						
ILAR	**Eielson Array**	**71.04**	**25**	P	**P**	**12 30 11.1**	**-2.5**
	1.1nm,1.1s,baz=282,slow=6.6,SNR=6.7						
YKA	**Yellowknife Ar**	**82.83**	**17**	P	**P**	**12 31 20.0**	**0.0**
	0.6nm,0.8s,baz=326,slow=4.7,SNR=17						

*SAR **09** 13:04:02.5±0.8, 42°.40N×20°.28E, h4km±4km, ML2.5/8*
*TIR **09** 13:04:03.5, 42°.46N×20°.11E, h9km, Md2.6/3*
*PDG **09** 13:04:04.7±0.2, 42°.48N×20°.08E, h4km, MD2.6/1, ML2.5/13, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
*BEO **09** 13:04:05.6±0.2, 42°.49N×20°.08E, h0km, ML2.3/9*
ISC 09 13:04:04.6±0.8, 42°.48N±0°.02×20°.10E±0°.02, h14km±6km, n57, σ1§17/96, 11C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.12**	**190**	*i* PG	**Pg**	**13 04 08.4**	**+0.4**
BCI				*i* SG	**Sb**	**13 04 16.4**	**+5.1**
PVY	**Plav**	**0.15**	**318**	⇑*i*Pg	**Pg**	**13 04 07.9**	**-0.7**
PVY				*e*Sg	**Sg**	**13 04 10.4**	**-0.8**
IVA	**Berane**	**0.42**	**339**	⇓*i*Pg	**Pg**	**13 04 12.5**	**-0.5**
IVA				*e*Sg	**Sg**	**13 04 19.2**	**+0.5**
PUK	**Puka**	**0.47**	**199**	*i* PG	**Pg**	**13 04 12.6**	**-1.3**
PUK				*i* SG	**Sg**	**13 04 19.3**	**-0.8**
KOME	**Kolasin**	**0.56**	**311**	⇓*i*Pg	**Pg**	**13 04 15.1**	**-0.7**
KOME				*e*Sg	**Sg**	**13 04 23.8**	**+0.5**
PDG	**Podgorica**	**0.62**	**265**	*e*Pg	**Pg**	**13 04 16.1**	**-0.7**
PDG				*e*Sg	**Sg**	**13 04 25.1**	**0.0**
PDG	**Podgorica**	**0.62**	**265**	⇑*i*P	**Pg**	**13 04 16.3**	**-0.5**
PDG				S	**Sg**	**13 04 25.1**	**0.0**
PDG	**Podgorica**	**0.62**	**265**	*e*Pg	**Pg**	**13 04 15.8**	**-1.0**
PDG				*e*Sg	**Sb**	**13 04 26.4**	**+0.5**
TTG	**Podgorica**	**0.62**	**265**	⇑*i*Pg	**Pg**	**13 04 16.1**	**-0.7**
TTG				*e*Sg	**Sg**	**13 04 25.7**	**+0.6**
DRME	**Dracevica, Mon**	**0.74**	**247**	⇑*i*Pg	**Pb**	**13 04 17.7**	**-1.6**
DRME				*e*Sg	**Sb**	**13 04 29.2**	**0.0**
DRME	**Dracevica, Mon**	**0.74**	**247**	*e*Pg	**Pb**	**13 04 17.3**	**-2.0**
DRME				*e*Sg	**Sb**	**13 04 29.0**	**-0.2**
SJES	**Sjenica**	**0.78**	**353**	*e*Pg	**Pb**	**13 04 19.5**	**-0.6**
SJES				*e*Sg	**Sb**	**13 04 30.6**	**0.0**
ULC	**Ulcinj**	**0.82**	**231**	⇓*i*Pg	**Pb**	**13 04 19.7**	**-0.9**
ULC				*e*Sg	**Sg**	**13 04 32.6**	**+1.3**
PHP	**Peshkopia**	**0.84**	**162**	*i* PG	**Pb**	**13 04 19.2**	**-1.8**
PHP				*i* SG	**Sg**	**13 04 33.2**	**+1.3**
CEME	**Cevo**	**0.87**	**275**	⇓*i*Pg	**Pb**	**13 04 20.5**	**-1.1**
CEME				*e*Sg	**Sg**	**13 04 34.1**	**+1.1**
NKY	**Niksic**	**0.88**	**292**	⇑*i*Pg	**Pb**	**13 04 20.9**	**-0.8**
NKY				*e*Sg	**Sg**	**13 04 34.6**	**+1.4**
NKME	**Niksic**	**0.89**	**289**	⇑*i*Pg	**Pb**	**13 04 21.0**	**-0.9**
NKME				*e*Sg	**Sg**	**13 04 34.9**	**+1.4**
BUM	**Brajici-Budva**	**0.91**	**259**	⇓*i*Pg	**Pb**	**13 04 21.2**	**-1.0**
BUM				*e*Sg	**Sg**	**13 04 35.3**	**+1.1**
PLE	**Pljevlja**	**0.99**	**329**	⇓*i*Pg	**Pb**	**13 04 22.9**	**-0.8**
PLE				*e*Sg	**Sn**	**13 04 38.4**	**+0.2**
SELS	**Selova**	**1.05**	**45**	*e*Pg	**Pb**	**13 04 24.0**	**-0.6**
SELS				*e*Sg	**Sn**	**13 04 39.5**	**0.0**
IVAS	**Ivanjica**	**1.09**	**2**	*e*Pg	**Pb**	**13 04 24.3**	**-1.1**
IVAS				*e*Sg	**Sb**	**13 04 39.5**	**0.0**
SKO	**Skopje**	**1.12**	**117**	*i* Pn	**Pb**	**13 04 25.6**	**-0.2**
UPM	**Unac-Piva**	**1.13**	**310**	⇓*i*Pg	**Pn**	**13 04 25.7**	**-0.6**
UPM				*e*Sg	**Sg**	**13 04 43.1**	**+1.8**
UPM	**Unac-Piva**	**1.13**	**310**	*e*Pg	**Pn**	**13 04 26.0**	**-0.3**
UPM				*e*Sg	**Sg**	**13 04 43.3**	**+2.0**
TIR	**Tirane**	**1.15**	**189**	*e*Pg	**Pn**	**13 04 25.6**	**-0.7**
TIR				*e*Sg	**Sg**	**13 04 43.1**	**+1.4**
TIR	**Tirane**	**1.15**	**189**	⇑*i*P	**Pn**	**13 04 25.1**	**-1.2**
TIR	**Tirane**	**1.15**	**189**	S	**Sg**	**13 04 42.8**	**+1.1**
HCY	**Herceg Novi**	**1.19**	**269**	⇓*i*Pg	**Pn**	**13 04 26.5**	**-0.3**
HCY				*e*Sg	**Sg**	**13 04 44.9**	**+2.0**
HCY	**Herceg Novi**	**1.19**	**269**	*e*Pg	**Pn**	**13 04 26.7**	**-0.1**
HCY				*e*Sg	**Sg**	**13 04 45.0**	**+2.0**
BRY	**Bratogost**	**1.22**	**291**	⇑*i*Pg	**Pn**	**13 04 27.2**	**-0.2**
BRY				*e*Sg	**Sg**	**13 04 46.0**	**+1.9**
BRY	**Bratogost**	**1.22**	**291**	*e*Pg	**Pn**	**13 04 26.8**	**-0.6**
BRY				*e*Sg	**Sg**	**13 04 46.2**	**+2.1**
TREB	**Trebinje**	**1.31**	**281**	*e*Pg	**Pn**	**13 04 29.0**	**+0.5**
TREB	**Trebinje**	**1.31**	**281**	*e*Pg	**Pn**	**13 04 28.7**	**+0.2**
TREB				*e*Sg	**Sg**	**13 04 49.3**	**+2.4**
BARS	**Barje**	**1.31**	**75**	*e*Pg	**Pn**	**13 04 29.3**	**+0.3**
BARS				*e*Sg	**Sg**	**13 04 47.4**	**+0.5**
BBLS	**Lazići**	**1.47**	**340**	*e*Pg	**Pb**	**13 04 31.8**	**0.0**
BBLS	**Lazići**	**1.47**	**340**	*e*Pn	**Pn**	**13 04 31.2**	**+0.4**
BBLS				*e*Sn	**Sg**	**13 04 52.5**	**+0.4**
GRUS	**Gruza**	**1.48**	**18**	*e*Pg	**Pb**	**13 04 32.1**	**+0.3**
DIVS	**Divibare**	**1.62**	**357**	*e*Pg	**Pb**	**13 04 34.5**	**+0.2**
DIVS	**Divibare**	**1.62**	**357**	*e*Pn	**Pn**	**13 04 32.6**	**-0.2**
DIVS				*e*Sn	**Sb**	**13 04 55.2**	**+0.6**
BOVS	**Bovan**	**1.65**	**45**	*e*Pg	**Pb**	**13 04 35.8**	**+1.0**
BOVS				*e*Sg	**Sg**	**13 04 59.0**	**+1.3**
STIP	**Stip**	**1.74**	**116**	*i* Pn	**Pb**	**13 04 36.9**	**+0.5**
TRUS	**Trudelj**	**1.75**	**7**	*e*Pg	**Pb**	**13 04 36.8**	**+0.2**
BOSS	**Bosilegrad**	**1.76**	**89**	*e*Pg	**Pn**	**13 04 35.7**	**+0.9**
HAPS	**Han Pijesak,BI**	**1.81**	**333**	*e*Pn	**Pn**	**13 04 36.2**	**+0.7**
HAPS				*e*Sn	**Sb**	**13 05 00.7**	**+0.6**
STON	**Ston**	**1.81**	**283**	*e*Pg	**Pb**	**13 04 37.9**	**+0.4**
STON				*e*Sg	**Sg**	**13 05 03.2**	**+0.4**
STON	**Ston**	**1.81**	**283**	*e*Pn	**Pb**	**13 04 38.1**	**+0.6**
STON				Sn	**Sg**	**13 05 04.2**	**+1.4**
STON	**Ston**	**1.81**	**283**	*e*Pn	**Pn**	**13 04 36.4**	**+1.1**
STON				*e*Sn	**Sb**	**13 05 01.3**	**+1.3**
ZAPS	**Zavoj**	**2.03**	**66**	*e*Pn	**Pb**	**13 04 41.8**	**+0.6**
ZAPS				*e*Sg	**Sg**	**13 05 10.9**	**+1.1**
ZAGS	**Zajecar**	**2.05**	**49**	*e*Pn	**Pb**	**13 04 41.3**	**-0.4**
TEKS	**Tekeris**	**2.11**	**349**	*e*Pg	**Pb**	**13 04 42.1**	**-0.5**
TEKS	**Tekeris**	**2.11**	**349**	*e*Pn	**Pn**	**13 04 40.4**	**+0.9**
TEKS				*e*Sn	**Sb**	**13 05 07.9**	**-0.7**
VTS	**Vitosha**	**2.32**	**86**	⇑*i*P	**Pn**	**13 04 39.9**	**-2.7**
VTS	**Vitosha**	**2.32**	**86**	S	**Sn**	**13 05 10.7**	**-0.3**
MDVR	**Moldovita**	**2.58**	**27**	⇑*i*P	**Pn**	**13 04 44.3**	**-1.7**
MDVR	**Moldovita**	**2.58**	**27**	S	**Sn**	**13 05 15.9**	**-1.3**
FRGS	**Fruska Gora**	**2.68**	**356**	*e*Pn	**Pb**	**13 04 50.7**	**-1.7**
HERR	**Herculane**	**2.93**	**34**	⇑*i*P	**Pn**	**13 04 49.7**	**-1.1**

*PGC **09** 13:31:52.6±0.8, 52°.82N×132°.26W, h24km, ML3.3/16, 56km southwest of Sandspit, Bc Haida Gwaii Region*
*IDC **09** 13:31:55.5±2.6, 52°.81N×131°.71W, h0km, mb3.3/1, mb1 3.3/6, mb1mx3.2/45, mbtmp3.1/6, ML2.9/5, Error ellipse: s-maj=34.3km s-min=11.7km az=55.0*
ISC 09 13:31:52.7±1.2, 52°.78N±0°.04×132°.21W±0°.06, h16km±6km, n26, σ2§08/40, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG1B	**Mitchell Dam**	**0.16**	**16**	P	**Pg**	**13 31 57.2**	**+0.4**
HG1B				S	**Sg**	**13 32 00.3**	**+0.7**
BNB	**Barry Inlet**	**0.34**	**127**	P	**Pb**	**13 32 01.1**	**+0.7**
MOBC	**Moresby Island**	**0.39**	**21**	P	**Pg**	**13 32 01.0**	**+0.3**
MOBC				S	**Sb**	**13 32 06.4**	**-0.6**
DIB	**Dawson Inlet,**	**0.45**	**339**	P	**Pg**	**13 32 00.7**	**-1.1**
DIB				S	**Sg**	**13 32 06.5**	**-1.5**
HG3B	**Hotspring**	**0.51**	**114**	P	**Pb**	**13 32 03.6**	**+0.5**
HG3B				S	**Sb**	**13 32 11.0**	**+0.8**
HG4B	**Hotspring**	**0.79**	**128**	P	**Pg**	**13 32 08.0**	**+0.1**
HG4B				S	**Sb**	**13 32 19.2**	**+0.9**
NDB	**Naden**	**1.26**	**340**	P	**Pn**	**13 32 13.9**	**-1.7**
BBB	**Bella Bella**	**2.57**	**102**	Pn	**Pn**	**13 32 33.5**	**-0.1**
	2.3nm,0.3s,baz=291,slow=14,SNR=30						
BBB				Sn	**Sn**	**13 33 03.1**	**-1.3**
	12nm,0.3s,baz=168,slow=23,SNR=6.5						
BBB	**Bella Bella**	**2.57**	**102**	Pn	**Pn**	**13 32 33.4**	**-0.2**
BBB				Pg	**Pb**	**13 32 38.0**	**-0.3**
BBB				Sn	**Sn**	**13 33 03.3**	**-1.2**
BBB				Sg	**Sg**	**13 33 12.7**	**-2.6**
HOLB	**Holberg**	**3.32**	**129**	Pn	**Pn**	**13 32 42.6**	**-1.2**
HOLB				Sn	**Sn**	**13 33 19.2**	**-3.7**
PHC	**Port Hardy**	**3.62**	**123**	Pn	**Pn**	**13 32 47.0**	**-1.0**
PHC				Sn	**Sn**	**13 33 28.6**	**-1.7**
BPBC	**Brooks Peninsu**	**3.82**	**132**	Pn	**Pn**	**13 32 50.9**	**+0.2**
MAYB	**Maynard**	**3.94**	**125**	Pn	**Pn**	**13 32 51.5**	**-1.1**
EDB	**Eliza Dome**	**4.32**	**130**	Pn	**Pn**	**13 32 57.4**	**-0.1**
EDB				Sn	**Sn**	**13 33 44.4**	**-3.1**
WOSB	**Woss**	**4.39**	**124**	Pn	**Pn**	**13 32 57.8**	**-0.8**
NCRB	**Newcastle Ridg**	**4.51**	**119**	Pn	**Pn**	**13 32 59.7**	**-0.7**
UBRB	**Upper Baezaeko**	**4.93**	**85**	Pn	**Pn**	**13 33 06.0**	**0.0**
FSB	**Fort Saint Jam**	**4.99**	**67**	Pn	**Pn**	**13 33 06.3**	**-0.5**
CBB	**Campbell River**	**5.09**	**120**	Sn	**Sn**	**13 34 04.7**	**-1.9**
TXB	**Texada**	**5.77**	**119**	Pn	**Pn**	**13 33 18.0**	**+0.4**
DLBC	**Dease Lake**	**5.80**	**11**	Pn	**Pn**	**13 33 21.2**	**+3.2**
	0.1nm,0.3s,baz=172,slow=9.3,SNR=6.4						
DLBC				Sn	**Sn**	**13 34 28.0**	**+3.9**
	0.2nm,0.3s,baz=147,slow=13,SNR=4.2						
DLBC				Lg	Lg	13 34 50.7	
	0.4nm,0.3s,baz=338,slow=23,SNR=4.4						
DLBC	**Dease Lake**	**5.80**	**11**	Pn	**Pn**	**13 33 17.0**	**-1.0**
DLBC				Sg	**Sg**	**13 34 51.2**	**-7.5**
YKA	**Yellowknife Ar**	**13.50**	**37**	Pn	**Pn**	**13 35 03.2**	**+0.1**
	0.0nm,0.3s,baz=226,slow=12,SNR=10						
ILAR	**Eielson Array**	**14.18**	**334**	Pn	**P**	**13 35 20.3**	**+0.4**
	0.0nm,0.3s,baz=143,slow=11,SNR=4.9						
PDAR	**Pinedale Array**	**18.15**	**114**	P	**P**	**13 36 06.2**	**+2.0**
	0.0nm,0.3s,baz=313,slow=7.3,SNR=2.6						
ULM	**Lac du Bonnet**	**22.60**	**82**	P	**P**	**13 36 56.1**	**+3.9**
	0.5nm,0.3s,baz=282,slow=9.3,SNR=3.0						

IDC 09 13:40:04.2±65.0, 20°.46S×174°.34W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/27, mbtmp3.5/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/22, Error ellipse: s-maj=1234.0km s-min=194.4km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.90**	**245**	P	P	13 47 49.0	+0.5
	1.0nm,0.7s,baz=94,slow=13,SNR=2.9						
JAY	**Jayapura**	**47.30**	**286**	LR	LR	14 04 50.2	
	comp=Z,99nm,20.9s,baz=354,slow=31						
ASAR	**Alice Springs**	**47.86**	**256**	P	P	13 48 43.9	-0.5
	0.2nm,0.4s,baz=93,slow=7.8,SNR=7.4						
WRA	**Warramunga Arr**	**48.00**	**261**	P	P	13 48 45.1	-0.3
	0.5nm,0.7s,baz=101,slow=8.1,SNR=5.3						

*HLW **09** 13:51:22.7, 31°.02N×35°.12E, h2km±9km, Md3.1, Ml3.6*
*ISCJB **09** 13:51:24.7±0.6, 30°.89N±0°.05×34°.97E±0°.07, h8km, Error ellipse: s-maj=9.9km s-min=5.2km az=41.5*
*JSO **09** 13:51:25.4±0.7, 31°.N±3°.×3°.5E±°, h10km, M2.9/9, Mjma2.8/9, ML3.0/7, MLv3.0/9*
ISC 09 13:51:24.3±1.1, 30°.91N±0°.05×35°.04E±0°.06, h8km, n14, σ0§72/15, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LISJ	**El Lisan**	**0.50**	**49**	P	**Pb**	**13 51 35.5**	**+0.2**
JDRJ	**Daraweish**	**0.57**	**109**	P	**Pn**	**13 51 37.9**	**-0.9**
GHAJ	**Ghor Haditha**	**0.60**	**49**	P	**Pn**	**13 51 37.8**	**-1.2**
HSNJ	**Maan**	**0.86**	**139**	P	**Pb**	**13 51 41.3**	**-0.2**
WALJ	**Wala**	**0.92**	**45**	P	**Pn**	**13 51 43.3**	**-0.2**
SWQJ	**Swaqa**	**0.94**	**69**	P	**Pn**	**13 51 45.3**	**+1.5**
RSH		**1.13**	**273**	P	**Pg**	**13 51 45.7**	**-0.3**
	baz=268						
AQBJ	**Aqaba**	**1.18**	**180**	P	**Pb**	**13 51 46.8**	**-0.1**
HBST	**Basata**	**1.71**	**189**	P	**Pn**	**13 51 54.4**	**0.0**
	baz=191						
HBST				AMP		13 52 00.0	
	baz=191						
NUB		**1.91**	**190**	P	**Pn**	**13 51 58.0**	**+0.9**
	baz=192						
ASF	**Jabal al Asfar**	**2.02**	**51**	P	**Pn**	**13 51 59.3**	**+0.6**
SUZ	**Suez**	**2.19**	**241**	P	**Pn**	**13 52 01.0**	**0.0**
	baz=240						
HDHB	**Dhahab**	**2.21**	**190**	P	**Pn**	**13 52 01.2**	**-0.1**
	baz=191						
HKAT	**Jabal Katrina**	**2.55**	**201**	P	**Pn**	**13 52 06.0**	**-0.1**
	baz=202						
HKAT				S	**Sn**	**13 52 37.9**	**+0.5**
	baz=202						

*BJI **09** 13:56:33.5±0.0, 0°.62N×128°.68E, h110km, mb5.2/70, mB5.0/38*
*KLM **09** 13:56:39.0, 1°.45N×128°.42E, h84km, mb5.0*
*MOS **09** 13:56:40.0±1.0, 1°.39N×128°.11E, h109km, mb5.1/39, Error ellipse: s-maj=11.3km s-min=5.8km az=104.0*
*ISCJB **09** 13:56:41.0±0.4, 1°.31N±0°.03×128°.14E±0°.03, h118km±4km, mb5.1/135, Error ellipse: s-maj=4.6km s-min=3.9km az=142.2*
*NEIC **09** 13:56:41.7±0.2, 1°.33N×128°.17E, mb5.0/70, Error ellipse: s-maj=5.4km s-min=3.8km az=78.0*
NEIC Felt [III] at Tobelo.
*GCMT **09** 13:56:42.7±0.2, 1°.33N±0°.02×128°.03E±0°.02, h118km±2km, MW4.9/81, Moment Tensor Solution. s39,c49; s81,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.68±.10; $M_{\theta\theta}$-2.55±.10; $M_{\phi\phi}$0.86±.12; $M_{r\theta}$0.97±.07; $M_{\theta\phi}$-0.37±.11; $M_{\phi r}$1.85±.08; Best double couple: $M_0$3.07800×10^{16} NP1:ϕ_s51.00000°, δ69.00000°, λ55.00000°. NP2: ϕ_s294.00000°, δ40.00000°, λ147.00000°. Principal axes: T 3.2170, Plg52.0000°, Azm279.0000°; N -0.2820, Plg33.0000°, Azm65.0000°; P -2.9390, Plg17.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **09** 13:56:42.2±0.6, 1°.32N×128°.06E, h116km±5km, mb4.4/26, mb1 4.5/28, mb1mx4.4/39, mbtmp4.8/28, MS3.5/13, Ms1 3.5/13, ms1mx3.3/34 Error ellipse: s-maj=17.9km s-min=8.0km az=82.0*
*DJA **09** 13:56:42.2±0.2, 1°.N±2°.×12°.8E±°, h101km±2km, M4.8/43, mB5.3/18, mb5.0/43, MLv5.1/12, Mw(mB)4.7/18*
ISC 09 13:56:42.0±0.4, 1°.30N±0°.04×128°.14E±0°.04, h114km±3km, h114km:pP-P, n367, σ1§31/406, mb5.0/140, 18C-8D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.94**	**236**	*e*Pn	**Pn**	**13 57 03.1**	**+0.2**
TNTI	**Ternate**	**0.94**	**236**	P	**Pn**	**13 57 02.7**	**-0.2**
TNTI				S	**Sn**	**13 57 17.8**	**-0.9**
SGSI	**Sangihe**	**3.52**	**312**	P	**Pn**	**13 57 34.9**	**-0.2**
SWI	**Sorong**	**3.79**	**125**	P	**Pn**	**13 57 39.5**	**+0.9**
SANI	**Sanana**	**3.97**	**213**	P	**Pn**	**13 57 40.9**	**-0.1**
KMSI	**Cibinong**	**4.22**	**260**	P	**Pn**	**13 57 44.7**	**+0.3**
LUWI	**Luwuk**	**5.85**	**247**	*e*Pn	**Pn**	**13 58 05.7**	**-0.7**
LUWI				*e*Sn	**Sn**	**13 59 19.8**	**+7.5**
LUWI	**Luwuk**	**5.85**	**247**	P	**Pn**	**13 58 05.6**	**-0.8**
LUWI				S	**Sn**	**13 59 05.9**	**-6.4**
FAKI	**Fak Fak**	**5.87**	**136**	*e*Pn	**Pn**	**13 58 08.3**	**+1.6**
FAKI	**Fak Fak**	**5.87**	**136**	P	**Pn**	**13 58 08.5**	**+1.8**
FAKI				S	**Sn**	**13 59 13.7**	**+1.0**
BNDI	**Bandanaira**	**6.05**	**163**	P	**Pn**	**13 58 09.5**	**+0.4**
MRSI	**Marisa**	**6.25**	**263**	P	**Pn**	**13 58 11.3**	**-0.6**
MRSI				S	**Sn**	**13 59 20.1**	**-1.9**
DAV	**Davao City (W)**	**6.27**	**336**	P	**Pn**	**13 58 14.5**	**+2.4**
	SNR=9.7						
DAV	**Davao City (W)**	**6.27**	**336**	P	**Pn**	**13 58 13.4**	**+1.2**
	34nm,0.3s,baz=54,slow=4.6,SNR=8.6						
DAV				S	**Sn**	**13 59 24.4**	**+1.9**
	39nm,0.3s,baz=48,slow=14,SNR=2.0						
APSI	**Ampana**	**6.86**	**251**	P

comp=Z,168nm,1.3s
MCO Taipa Grande 25.09 327 P P 14 01 58.0 +1.8
QIZ Qiongzhong 25.14 316 P P 14 01 58.0 +1.3
QIZ sP **sP 14 02 33.3 -1.1**
QIZ S **S 14 06 14.5 +1.2**
QIZ Qiongzhong 25.14 316 *eP* **P 14 01 58.5 +1.8**
comp=Z,34nm,0.8s
QZH Quanzhou 25.25 339⇓ *iP* **P 14 02 00.2 +2.7**
QZH sP **sP 14 02 34.7 -1.0**
QZH S **S 14 06 13.2 -1.7**
QZH pmax pmax
comp=Z,72nm,1.3s
JOW Kunigami 25.38 0 *eP* **P 14 01 55.3 -3.5**
comp=Z,22nm,0.9s
JOW Kunigami 25.38 0 P **P 14 01 58.5 -0.2**
comp=Z,2.7nm,0.8s,baz=164,slow=14,SNR=4.7
AS31 Alice Springs 25.44 168 *eP* **P 14 01 60.0 +0.5**
comp=Z,6.9nm,0.6s
ASAR Alice Springs 25.45 168 *eP* **P 14 01 59.9 +0.5**
ASAR Alice Springs 25.45 168 *eP* **P 14 01 59.9 +0.5**
ASAR Alice Springs 25.45 168 P **P 14 02 00.1 +0.7**
comp=Z,11nm,0.9s,baz=353,slow=7.8,SNR=73
ASAR LR LR 14 11 12.4
comp=Z,160nm,21.7s,baz=266,slow=34
MNAI Manna 25.79 257 *eP* **P 14 02 00.6 -2.0**
comp=Z,401nm,1.4s
IPM Ipoh 27.26 277 *eP* **P 14 02 12.6 -3.3**
comp=Z,36nm,1.4s
IPM Ipoh 27.26 277 P **P 14 02 17.0 +1.1**
CTA Charters Tower 27.70 141 P **P 14 02 20.9 +1.2**
comp=Z,12nm,0.9s,baz=323,slow=10,SNR=6.7
CTA LR LR 14 14 57.6
comp=Z,171nm,21.4s,baz=48,slow=40
PDSI Padang 27.77 266 P **P 14 02 20.1 -0.3**
PANO Nakornpanom 27.99 306 P **P 14 02 28.0 +5.7**
comp=Z,0.5nm,1.1s
SKNT Sakolnakorn 28.42 305 P **P 14 02 29.0 +2.9**
comp=Z,42nm,1.3s
KHON Khomkaen 29.07 302 P **P 14 02 34.5 +2.6**
TRTT Trang 29.08 284 P **P 14 02 33.9 +1.9**
comp=Z,15nm,1.2s
SISI Saibi 29.17 265 P **P 14 02 33.6 +0.8**
comp=Z,94nm,0.7s
PSI Prapat 29.24 273 *eP* **P 14 02 34.3 +0.8**
comp=Z,107nm,0.7s
PSI Prapat 29.24 273 *eP* **P 14 02 34.3 +0.8**
PSI pmax pmax
comp=Z,107nm,0.7s
CHAI Chaiyaphum 29.59 301 P **P 14 02 37.2 +0.7**
comp=Z,75µm,0.8s,comp=Z,607µm
KRAB Krabi 29.63 284 P **P 14 02 39.0 +2.1**
comp=Z,62µm,0.9s
UTTA Uttaradit 31.65 303 P **P 14 02 56.4 +1.8**
comp=Z,14µm,1.2s
UTHA Uthaitani 31.65 298 P **P 14 02 56.2 +1.5**
comp=Z,19µm,0.6s,comp=Z,225µm
JNU Nakatsue 31.75 4 *eP* **P 14 02 54.6 -0.8**
comp=Z,22nm,1.2s
JNU Nakatsue 31.75 4 P **P 14 02 55.0 -0.4**
comp=Z,8.2nm,0.6s,baz=249,slow=0.8,SNR=13
JNU LR LR 14 14 51.5
comp=Z,48nm,21.4s,baz=191,slow=34
NJ2 Nanjing 31.82 345 *eP* **P 14 02 55.7 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
WHN Wuhan 31.89 337 ⇑P **P 14 02 58.3 +1.8**
WHN pP **pP 14 03 22.8 +1.0**
WHN S **S 14 08 00.4 +1.3**
WHN pmax pmax
comp=Z,94nm,0.8s
WHN LR LR
comp=Z,450nm,17.5s
FORT Forrest 31.91 180 *eP* **P 14 02 56.2 -0.5**
comp=Z,20nm,0.8s
NANT Nan 32.03 305 P **P 14 03 00.0 +2.0**
comp=Z,35µm,1.0s,comp=Z,517µm
UMPA Umpang Tak 32.43 299 P **P 14 03 03.9 +2.4**
comp=Z,16µm,1.3s,comp=Z,899µm
GYA Guiyang 32.44 322⇓ *iP* **P 14 03 03.5 +1.9**
GYA pP pP 14 03 28.2 +1.6
GYA sP sP 14 03 41.3 +1.6
GYA PP **PP 14 04 15.5 -1.6**
GYA S **S 14 08 09.2 +1.2**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
LAMP Lampang 32.79 303 P **P 14 03 07.1 +2.5**
comp=Z,21µm,1.1s
CM31 Chiang Mai Arr 33.33 303 *eP* **P 14 03 09.5 +0.1**
comp=Z,15nm,1.0s
CMAR Chiang Mai Arr 33.33 303 P **P 14 03 10.1 +0.7**
comp=Z,7.2nm,0.9s,baz=122,slow=7.1,SNR=55
CMAR PcP **PcP 14 05 50.0 +1.1**
comp=Z,2.7nm,0.8s,baz=160,slow=1.5,SNR=11
JHJ Hachijo jima 2 33.49 18 LR LR 14 16 52.3
comp=Z,49nm,18.5s,baz=84,slow=36
CMMT Chiang Mai 33.49 303 P **P 14 03 11.7 +0.9**
comp=Z,11nm,1.2s
CHTO Chiang Mai 33.50 303 *eP* **P 14 03 11.9 +1.1**
comp=Z,18nm,0.9s
CHTO Chiang Mai 33.50 303 *eP* **P 14 03 11.9 +1.1**
CHTO pmax pmax
comp=Z,18nm,0.9s
CHTO Chiang Mai 33.50 303 P **P 14 03 11.6 +0.8**
SNR=8.8
ENH Enshi 33.82 330 *eP* **P 14 03 14.3 +0.8**
comp=Z,32nm,0.8s
KMI Kunming 34.09 316 P **P 14 03 18.5 +2.4**
KMI pP pP 14 03 45.9 +4.5
KMI sP sP 14 03 59.2 +4.6
KMI pmax pmax
comp=Z,43nm,1.3s
KMI pmax pmax
comp=Z,110nm,6.1s
KMI LR LR
comp=Z,190nm,19.2s
KMI LR LR
comp=Z,190nm,19.2s
KMI LR LR
comp=Z,210nm,24.7s
EIDS Eidsvold 34.59 142 *eP* **P 14 03 19.7 -0.4**
comp=Z,41nm,1.5s
BBOO Buckleboo 34.74 168 *eP* **P 14 03 22.2 +0.9**
comp=Z,25nm,1.1s
INU Inuyama 34.87 13 *eP* **P 14 03 22.1 -0.2**
comp=Z,8.7nm,0.9s
TJN Taejon 34.91 359 *ceP* **P 14 03 22.9 +0.3**
STKA Stephens Creek 35.38 160 *eP* **P 14 03 27.4 +0.6**
comp=Z,5.5nm,1.0s
STKA Stephens Creek 35.38 160 *eP* **P 14 03 27.4 +0.6**
STKA pmax pmax
comp=Z,6.0nm,1.0s
STKA Stephens Creek 35.38 160 P **P 14 03 27.9 +1.1**
comp=Z,14nm,0.4s,baz=343,slow=8.0,SNR=71
KS15 Wonju Array Si 35.96 360 *eP* **P 14 03 32.4 +0.7**
comp=Z,20nm,1.0s
KSAR Wonju Array Be 35.96 360 *eP* **P 14 03 30.8 -0.9**
KSAR pP **pP 14 03 57.2 0.0**
KSAR PcP **PcP 14 05 56.9 +0.8**
KSAR Wonju Array Be 35.96 360 *eP* **P 14 03 30.8 -0.9**
KSAR *PP **pP 14 03 57.2 0.0**
KSAR 14 05 56.9
KSRS Korea Array 35.97 360 P **P 14 03 32.1 +0.3**
comp=Z,9.6nm,0.5s,baz=175,slow=9.7,SNR=59
KSRS pP **pP 14 03 57.2 -0.1**
comp=Z,4.9nm,0.8s,baz=178,slow=11,SNR=4.4
KSRS PcP **PcP 14 05 56.9 +0.8**
comp=Z,2.3nm,0.8s,baz=181,slow=3.3,SNR=5.6
KSRS LR LR 14 20 01.1
comp=Z,44nm,18.1s,baz=198,slow=39
TIA Tai'an 36.20 345 P **P 14 03 34.3 +0.5**
TIA pmax pmax
comp=Z,36nm,0.9s
MAJO Matsushiro 36.28 14 *eP* **P 14 03 31.4 -3.0**
comp=Z,10nm,0.6s
MAJO Matsushiro 36.28 14 *d iP* **P 14 03 33.1 -1.4**
MAJO pmax pmax
comp=Z,20nm,1.3s
MJAR Matsushiro Arr 36.28 14 *eP* **P 14 03 32.2 -2.2**
MJAR pP **pP 14 04 00.9 +0.9**
MJAR Matsushiro Arr 36.28 14 *eP* **P 14 03 32.2 -2.2**
MJAR *PP **pP 14 04 00.9 +0.9**
MJAR Matsushiro Arr 36.28 14 P **P 14 03 33.1 -1.4**
comp=Z,4.9nm,0.5s,baz=197,slow=9.6,SNR=25
MJAR pP **pP 14 04 00.9 +0.9**
comp=Z,10nm,0.8s,baz=192,slow=10.0,SNR=7.4
MJAR LR LR 14 17 30.5
comp=Z,92nm,20.1s,baz=225,slow=34
MJB9 Matsu-Tunnel 36.28 14 *eP* **P 14 03 31.3 -3.2**
comp=Z,10nm,0.6s
DGPR DIGLIPUR 36.80 290 *eP* **P 14 03 39.5 +0.4**
XAN Xi'an 37.20 333 P **P 14 03 42.8 +0.4**
XAN S **S 14 09 23.8 +2.9**
XAN pmax pmax
comp=Z,46nm,1.1s
XAN LR LR
comp=Z,160nm,20.2s
XAN LR LR
comp=Z,150nm,22.8s
XAN LR LR
comp=Z,65nm,17.2s
CD2 Chengdu 37.42 324 P **P 14 03 45.5 +1.2**
CD2 pmax pmax
comp=Z,40nm,0.6s
ARMA Armidale 38.68 147 *eP* **P 14 03 54.8 -0.1**
comp=Z,16nm,0.8s
TIY Taiyuan 39.01 340 P **P 14 03 58.5 +1.0**
BJT Baijiatuau 40.05 346 *eP* **P 14 04 06.5 +0.5**
comp=Z,80nm,0.6s
BJT Baijiatuau 40.05 346 *eP* **P 14 04 06.5 +0.5**
BJT pmax pmax
comp=Z,80nm,0.6s
LZH Lanzhou 41.30 330 ⇑P **P 14 04 17.2 +0.7**
LZH pP pP 14 04 43.0 +0.3
LZH sP sP 14 04 56.1 +0.4
LZH *e*PP **PnPn 14 06 00.8 +1.0**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,76nm,5.0s
LZH LR LR
comp=Z,550nm,16.8s
LZH LR LR
comp=Z,470nm,15.4s
LZH LR LR
comp=Z,640nm,17.1s
CAN Canberra 41.33 154 *eP* **P 14 04 18.0 +1.4**
comp=Z,17nm,1.2s
CAN Canberra 41.33 154 *eP* **P 14 04 18.0 +1.4**
CAN pmax pmax
comp=Z,17nm,1.2s
H11N1 WAKE ISLAND Hy 42.09 62 T T 14 49 14.5
baz=248,slow=75,SNR=4.1
H11N2 WAKE ISLAND Hy 42.10 62 T T 14 49 07.7
baz=248,slow=75,SNR=3.3
H11N3 WAKE ISLAND Hy 42.10 62 T T 14 49 07.3
baz=248,slow=75,SNR=4.2
HHC Hu-ho-hao-te 42.13 341 *eP* **P 14 04 23.9 +0.7**
HHC pP pP 14 04 46.0 -3.4
HHC S **S 14 10 33.1 -1.4**
HHC ScS **ScS 14 14 11.5 -2.4**
HHC pmax pmax
comp=Z,100nm,0.9s
HHC pmax pmax
comp=Z,340nm,5.0s
CN2 Changchun 42.38 357 *eP* **P 14 04 21.4 -3.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
SHL Shillong 42.45 308 *eP* **P 14 04 25.7 -0.4**
SHL IAmb IAmb 14 04 27.5
USA0B Ussuriysk Arra 42.85 4 *eP* **P 14 04 29.6 +0.8**
comp=Z,52nm,1.3s
USRK Ussuriysk Ar. 42.85 4 *eP* **P 14 04 29.1 +0.3**
USRK Ussuriysk Ar. 42.85 4 P **P 14 04 29.4 +0.6**
comp=Z,4.9nm,0.4s,baz=194,slow=7.6,SNR=29
MDJ Mudanjiang 43.15 2 P **P 14 04 31.7 +0.5**
MDJ pmax pmax
comp=Z,30nm,1.0s
ASAJ Asahikawa 44.52 15 P **P 14 04 42.9 +0.7**
comp=Z,7.2nm,0.4s,baz=229,slow=9.2,SNR=48
LSA Lhasa 45.10 312 *eP* **P 14 04 49.5 +1.9**
comp=Z,38nm,0.8s
LSA Lhasa 45.10 312 *eP* **P 14 04 49.5 +1.9**
LSA pmax pmax
comp=Z,38nm,0.8s
BWNR Bhubaneshwar 45.45 297 *eP* **P 14 04 48.4 -1.5**
GTA Gaotai 45.89 329 ⇑P **P 14 04 53.9 +0.6**
GTA pP pP 14 05 19.7 -0.1
GTA sP sP 14 05 32.7 0.0
GTA PcP **PcP 14 06 29.7 +1.1**
GTA S **S 14 11 30.5 +1.3**
GTA pmax pmax
comp=Z,25nm,1.2s
GTA pmax pmax
comp=Z,73nm,4.2s
GTA LR LR
comp=Z,62nm,17.5s
GTA LR LR
comp=Z,85nm,17.2s
GTA LR LR
comp=Z,110nm,16.8s
BOK Bokaro 46.62 302 *eP* **P 14 04 59.0 0.0**
BOK IAmb IAmb 14 05 01.4
comp=Z,19nm,0.5s
YSS Yuzh-Sakhalins 47.22 14 *eP* **P 14 05 04.0 +0.7**
comp=Z,18nm,1.1s
YSS Yuzh-Sakhalins 47.22 14⇑*eP* **P 14 05 02.5 -0.8**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS pmax pmax
comp=Z,100nm,4.3s
RAMN Ramite 47.30 306 *eP* **P 14 05 05.7 +1.1**
comp=Z,207nm,0.7s
KLR Kul'dur 47.84 3⇑*eP* **P 14 05 07.6 -0.5**
KLR pmax pmax
comp=Z,16nm,1.0s
KLR Kul'dur 47.84 3 P **P 14 05 08.4 +0.3**
comp=Z,9.0nm,0.9s,baz=204,slow=4.1,SNR=23
JIRN Jiri 47.94 307 *eP* **P 14 05 10.4 +0.7**
comp=Z,148nm,0.6s
PKI Pulchoki 48.53 306 *eP* **P 14 05 14.3 +0.1**
PKIN Phulchoki 48.54 306 *eP* **P 14 05 14.4 +0.2**
KKN Kakani 48.72 307 *eP* **P 14 05 16.0 +0.5**
DMN Daman 48.78 306 *eP* **P 14 05 16.6 +0.5**
comp=Z,120nm,1.0s
MDRS Chennai 48.83 286 *eP* **P 14 05 15.7 -0.6**
MDRS IAmb IAmb 14 05 18.4
comp=Z,36nm,1.1s
GKN Gorkha 49.33 307 *eP* **P 14 05 20.5 +0.4**
comp=Z,100nm,1.0s
GRNR Gornyy 49.78 7 *eP* **P 14 05 23.4 +0.5**
GRNR pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 49.85 342 *eP* **P 14 05 24.2 +0.6**
comp=Z,32nm,0.8s
ULN Ulaanbaatar 49.85 342 *c iP* **P 14 05 24.0 +0.3**
ULN pmax pmax
comp=Z,40nm,0.9s
ULN Ulaanbaatar 49.85 342 P **P 14 05 24.3 +0.6**
SNR=17
SONA0 Songino Array 50.03 341 *eP* **P 14 05 25.1 0.0**
SONA0 *e*PcP **PcP 14 06 43.9 +0.6**
SONM Songino Array 50.03 341 P **P 14 05 25.1 0.0**
comp=Z,10nm,0.6s,baz=153,slow=8.0,SNR=67
SONM PcP **PcP 14 06 43.9 +0.6**
comp=Z,4.3nm,0.8s,baz=152,slow=3.9,SNR=5.1
KOLN Koldanda 50.07 306 *eP* **P 14 05 26.7 +1.0**
comp=Z,155nm,0.6s
DANN Dangsing 50.17 307 *eP* **P 14 05 27.2 +0.5**
comp=Z,177nm,0.6s
PYUN Piuthan 50.69 306 *eP* **P 14 05 31.4 +0.9**
comp=Z,278nm,0.9s
TYV Tymovskoe 50.89 12 *eP* **P 14 05 32.1 +0.9**
TYV pmax pmax
comp=Z,5.0nm,1.2s
HYB Hyderabad 51.28 291 *i* P **P 14 05 34.0 -0.8**
HYB Hyderabad 51.28 291 *eP* **P 14 05 34.2 -0.6**
NGP Nagpur 51.74 296 *eP* **P 14 05 37.8 -0.4**
NGP IAmb IAmb 14 05 39.7
comp=Z,14nm,0.7s
ZEA Zeya 52.27 359 *eP* **P 14 05 40.3 -1.1**
ZEA pmax pmax
comp=Z,17nm,1.0s
NKL Nikolayevsk 52.71 9 *eP* **P 14 05 45.0 +0.3**
NKL pmax pmax
comp=Z,43nm,1.3s
ZAK Zakamensk 53.27 340 *eP* **P 14 05 48.0 -1.0**
ZAK *e* 14 06 55.4
ZAK pmax pmax
comp=Z,5.0nm,1.4s
ZAK pmax pmax
comp=Z,8.0nm,1.0s
BHPL Bhopal 53.77 298 *eP* **P 14 05 52.6 -0.5**
TLY Talaya 54.26 341⇑*eP* **P 14 05 56.6 +0.5**
MOY Mondy 55.13 340 *eP* **P 14 06 02.8 +0.3**
MOY pmax pmax
comp=Z,35nm,3.4s
WMQ Urumqi 55.51 325 P **P 14 06 06.4 +1.1**
WMQ pP pP 14 06 37.8 +5.0
WMQ sP sP 14 06 46.4 +1.0
WMQ PcP **PcP 14 07 01.7 -2.3**
WMQ pmax pmax
comp=Z,110nm,0.9s
WMQ pmax pmax
comp=Z,91nm,3.8s
WMQ LR LR
comp=Z,810nm,29.9s
WMQ LR LR
comp=Z,1µm,39.2s
WMQ LR LR
comp=Z,490nm,39.3s
DDI Dehra Dun 55.53 306 *eP* **P 14 06 05.2 -0.5**
DDI IAmb IAmb 14 06 07.3
comp=Z,205nm,0.2s
POO Poona 55.89 291 *eP* **P 14 06 07.7 -0.8**
POO IAmb IAmb 14 06 08.7
comp=Z,17nm,0.8s
SMLA Simla 56.53 307 *eP* **P 14 06 13.1 +0.4**
PEA0B Petropavlovsk- 57.16 21 *eP* **P 14 06 15.8 -1.0**
comp=Z,24nm,0.9s
PETK Petropavlovsk- 57.16 21 P **P 14 06 17.0 +0.2**
PETK Petropavlovsk- 57.16 21 P **P 14 06 17.0 +0.2**
comp=Z,12nm,0.7s,baz=214,slow=6.5,SNR=36
PETK LR LR 14 33 45.0
comp=Z,19nm,18.8s,baz=202,slow=39
PEA1 Petropavlovsk- 57.16 21 *eP* **P 14 06 17.0 +0.2**
PET Petropavlovsk 57.43 21 *eP* **P 14 06 19.5 +0.9**
comp=Z,34nm,1.3s
PET Petropavlovsk 57.43 21 *eP* **P 14 06 19.7 +1.1**
PET pmax pmax
comp=Z,33nm,1.3s
BOD Bodaibo 57.46 351⇑*iP* **P 14 06 18.4 -0.4**
BOD pmax pmax
comp=Z,23nm,1.3s
DHRM DHARAMSHALA 57.63 308 *eP* **P 14 06 20.7 -0.1**
MK31 Makanchi Array 60.34 325 *eP* **P 14 06 39.4 +0.4**
comp=Z,27nm,0.8s
MK31 Makanchi Array 60.34 325 *eP* **P 14 06 39.4 +0.4**
MK31 pmax pmax
comp=Z,27nm,0.8s
MKAR Makanchi Array 60.34 325 P **P 14 06 39.1 +0.1**
comp=Z,25nm,0.4s,baz=116,slow=8.0,SNR=456
TARG Taragay, Kyrgy 60.49 319 *eP* **P 14 06 40.9 +0.4**
comp=Z,10nm,0.9s
MAKZ Makanchi 60.53 325 *eP* **P 14 06 40.5 +0.3**
comp=Z,34nm,0.7s
MAKZ Makanchi 60.53 325 *eP* **P 14 06 40.5 +0.3**
MAKZ pmax pmax
comp=Z,34nm,0.7s
YAK Yakutsk 60.59 1 *eP* **P 14 06 39.9 -0.3**
YAK *e**PP **pP 14 07 06.2 -1.8**
YAK *e* 14 07 20.6
YAK *e* 14 08 56.4
YAK *e*S **S 14 14 46.1 -1.1**
YAK *e* 14 16 17.8
YAK pmax pmax
comp=Z,537nm,0.9s
YAK pmax pmax
comp=N,96nm,0.9s
YAK pmax pmax
comp=E,30nm,0.8s
YAK pmax pmax
comp=Z,334nm,3.0s
YAK pmax pmax
comp=N,160nm,2.8s
YAK pmax pmax
comp=E,203nm,3.2s
YAK smax smax
comp=N,274nm,2.2s
YAK smax smax
comp=E,157nm,2.5s
MA2 Magadan 60.72 13 *ceP* **P 14 06 41.7 +0.5**
MA2 pmax pmax
comp=Z,17nm,0.9s
MA2 Magadan 60.72 13 P **P 14 06 41.4 +0.2**
comp=Z,11nm,0.8s,baz=182,slow=6.1,SNR=11
MA2 LR LR 14 36 29.0
comp=Z,27nm,18.9s,baz=202,slow=39
KSH Kashi 60.75 316 P **P 14 06 42.9 +0.9**
KSH pP pP 14 07 10.5 +0.6
KSH PP **PP 14 09 00.4 +3.2**
KSH S **S 14 14 50.9 +0.5**
KSH pmax pmax
comp=Z,120nm,1.8s
KSH LR LR
comp=Z,220nm,6.8s
KSH LR LR
comp=Z,140nm,5.9s
KSH LR LR
comp=Z,190nm,10.7s
KDJ Kajisay 61.09 319 *eP* **P 14 06 45.0 +0.8**
comp=Z,27nm,0.7s
KDJ Kajisay 61.09 319 *eP* **P 14 06 45.1 +0.8**
KDJ pmax pmax
comp=Z,27nm,0.7s
NRN Naryn 61.56 318 *eP* **P 14 06 47.8 +0.1**
comp=Z,11nm,0.8s
NRN Naryn 61.56 318 *eP* **P 14 06 47.8 +0.1**
NRN pmax pmax
comp=Z,11nm,0.8s
KZA Kyzart 62.35 318 P **P 14 06 54.0 +1.0**
SNR=33
TKM2 Tokmak 2 62.49 319 P **P 14 06 54.0 +0.3**
SNR=30
KBK Karagaybulak 62.80 318 P **P 14 06 56.4 +0.7**
SNR=6.3
UCH Uchtor 62.91 318 P **P 14 06 57.6 +0.8**
SNR=32
CHMS Chumysh 63.08 319 P **P 14 06 57.5 +0.1**
SNR=8.6
AAK Ala-Archa 63.09 318 P **P 14 06 58.7 +1.0**
SNR=7.7
AAK Ala-Archa 63.09 318 *eP* **P 14 06 58.1 +0.4**
comp=Z,6.9nm,0.5s
AAK Ala-Archa 63.09 318 *ceP* **P 14 06 58.4 +0.7**
AAK pmax pmax
comp=Z,18nm,1.5s
AAK Ala-Archa 63.09 318 P **P 14 06 58.4 +0.7**
SNR=6.9
USP Ospenovka 63.36 319 P **P 14 06 59.5 +0.2**
SNR=43
ZAA0 Zalesovo Array 63.38 333 *eP* **P 14 06 58.1 -1.0**
comp=Z,18nm,1.1s
ZALV Zalesovo Beam 63.38 333 P **P 14 06 58.5 -0.6**
comp=Z,6.4nm,0.7s,baz=115,slow=6.7,SNR=25
ZALV LR LR 14 36 57.1
comp=Z,26nm,19.0s,baz=250,slow=38
AML Almayashu 63.42 317 P **P 14 07 00.8 +0.7**
SNR=31
ARSB Arslanbob 63.57 316 *eP* **P 14 07 01.2 +0.4**
comp=Z,37nm,1.1s
EKS2 Erkin-Say 63.58 318 P **P 14 07 01.6 +0.7**
SNR=16
SEY Seymchan 64.08 12⇑*eP* **P 14 07 04.6 +1.1**
KBL Kabul 64.11 308 *eP* **P 14 07 04.8 +0.2**
comp=Z,17nm,0.9s
KBL Kabul 64.11 308 *eP* **P 14 07 04.8 +0.2**
KBL pmax pmax
comp=Z,17nm,0.9s
KURK Kurchatov 64.53 328 *eP* **P 14 07 06.8 +0.1**
comp=Z,70nm,0.8s
KURK Kurchatov 64.53 328 *c iP* **P 14 07 06.4 -0.3**
KURK pmax pmax
comp=Z,70nm,0.7s
KURK Kurchatov 64.53 328 P **P 14 07 06.5 -0.2**
SNR=24
GAR Garm 64.60 313 *eP* **P 14 07 07.6 0.0**
comp=Z,46nm,0.8s
GAR Garm 64.60 313 *eP* **P 14 07 07.6 0.0**
GAR pmax pmax
comp=Z,46nm,0.8s
NVS Novosibirsk 64.66 333⇑*iP* **P 14 07 07.4 0.0**
NVS *e* 14 07 36.8
NVS pmax pmax
comp=Z,17nm,0.8s
NVS pmax pmax
comp=N,6.0nm,0.6s

NVS pmax pmax
comp=E,5.0nm,0.4s
KK31 Karatay Array 65.96 317 *e*P **P 14 07 15.9 -0.2**
comp=E,20nm,0.8s
KK31 Karatay Array 65.96 317 *e*P **P 14 07 15.9 -0.2**
KK31 pmax pmax
comp=Z,20nm,0.8s
KKAR Karatay Array 65.96 317 *e*P **P 14 07 16.5 +0.4**
comp=Z,20nm,0.8s
KKAR Karatay Array 65.96 317 *e*P **P 14 07 16.5 +0.4**
KKAR pmax pmax
comp=Z,20nm,0.8s
BRVK Borovoye 70.18 327 *e*P **P 14 07 42.3 0.0**
comp=Z,39nm,1.1s
BRVK Borovoye 70.18 327 *i*P **P 14 07 41.6 -0.7**
BRVK pmax pmax
comp=Z,40nm,1.1s
BRVK Borovoye 70.18 327 P **P 14 07 41.8 -0.5**
SNR=13
TIXI Tiksi 70.24 0 *e*P **P 14 07 41.8 -0.4**
comp=Z,17nm,0.8s
TIXI Tiksi 70.24 0*c e*P **P 14 07 41.1 -1.2**
TIXI pmax pmax
comp=Z,20nm,0.8s
TIXI Tiksi 70.24 0 LR LR 14 38 06.7
comp=Z,57nm,20.7s,baz=179,slow=35
MHTO MHTO 71.04 292 P **P 14 07 47.4 -0.7**
BILL Bilibino 71.53 14 *e*P **P 14 07 49.5 -0.7**
BILL *e* 14 08 05.4
BILL *e*PPP PPP 14 12 13.9
BILL pmax pmax
comp=Z,3.0nm,0.7s
NRIK Noril'sk 73.11 346 P **P 14 07 58.8 -0.8**
comp=Z,6.7nm,0.6s,baz=137,slow=6.4,SNR=16
GEYT Alibeck 73.51 309 P **P 14 08 02.2 -0.4**
comp=Z,7.3nm,0.6s,baz=144,slow=5.3,SNR=15
GEYT LR LR 14 45 49.2
comp=Z,21nm,18.2s,baz=45,slow=40
ABKAR Akbulak array 74.91 321 *e*P **P 14 08 09.7 -0.7**
ARU Arti 77.73 328*d i*P **P 14 08 24.8 -1.4**
ARU *PP **pP 14 08 54.2 -1.1**
ARU 14 11 19.6
ARU S **S 14 18 07.5 -1.5**
ARU pmax pmax
comp=Z,15nm,0.8s
VNDA Vanda 80.86 173 P **P 14 08 43.0 +0.2**
comp=Z,2.0nm,0.6s,baz=300,slow=6.3,SNR=6.9
VNDA pP **pP 14 09 10.7 -1.4**
comp=Z,2.9nm,0.9s,baz=326,slow=5.1,SNR=4.7
MAW Mawson 81.99 201 P **P 14 08 48.6 -0.3**
comp=Z,1.9nm,0.8s,baz=82,slow=7.1,SNR=4.3
KDAK Kodiak Island 83.18 32 *e*P **P 14 08 56.3 +1.0**
comp=Z,28nm,0.6s
KDAK Kodiak Island 83.18 32 *e*P **P 14 08 56.3 +1.0**
KDAK pmax pmax
comp=Z,28nm,0.6s
IMAR Indian Mountai 83.98 24 *e*P **P 14 08 59.4 +0.2**
BRLK Bradley Lake 84.33 30 *e*P **P 14 09 01.1 -0.1**
comp=Z,26nm,0.8s
ZEI Tsey 84.89 313 *e*P **P 14 09 01.9 -2.7**
ZEI pmax pmax
comp=Z,18nm,1.2s
RC01 Rabbit Creek A 85.05 29 *e*P **P 14 09 04.8 +0.1**
comp=Z,28nm,0.7s
MLY Manley 85.07 25 *e*P **P 14 09 05.0 +0.1**
comp=Z,3.7nm,0.6s
NCK Nalchik 85.14 313⇑ *i*P **P 14 09 06.3 +0.7**
NCK pmax pmax
comp=Z,9.0nm,1.0s
PRGR Permogore 85.29 332 *e*P **P 14 09 03.3 -2.6**
PRGR *e**PP **pP 14 09 35.4 0.0**
PRGR pmax pmax
comp=Z,19nm,0.7s
PMR Palmer 85.39 28 *e*P **P 14 09 06.0 -0.4**
comp=Z,26nm,1.0s
PMR Palmer 85.39 28 *e*P **P 14 09 06.0 -0.4**
PMR pmax pmax
comp=Z,26nm,1.0s
GHO Glory Hole Cre 85.51 28 *e*P **P 14 09 07.5 +0.4**
comp=Z,14nm,1.0s
KBZ Khabaz 85.66 314 P **P 14 09 07.0 -1.1**
KBZ Khabaz 85.66 314 P **P 14 09 07.0 -1.1**
comp=Z,3.5nm,0.8s,baz=104,slow=11,SNR=12
KNK Knik Glacier 85.69 29 *e*P **P 14 09 08.0 0.0**
comp=Z,37nm,1.0s
MCK McKinley 85.70 26 *e*P **P 14 09 07.2 -0.7**
comp=Z,10nm,0.6s
MCK McKinley 85.70 26 *e*P **P 14 09 07.2 -0.7**
MCK pmax pmax
comp=Z,10.0nm,0.6s
NEY Neytrino 85.77 313⇑ *e*P **P 14 09 11.0 +2.1**
SML Sawmill 85.79 28 *e*P **P 14 09 08.4 0.0**
comp=Z,46nm,1.2s
SML Sawmill 85.79 28 *e*P **P 14 09 08.4 0.0**
SML pmax pmax
comp=Z,46nm,1.2s
KIV Kislovodsk 85.82 314 *e*P **P 14 09 09.2 +0.1**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV Kislovodsk 85.82 314 P **P 14 09 08.7 -0.4**
SNR=5.3
TOLK Toolik Lake Re 85.97 21 P **P 14 09 10.3 +1.1**
baz=263
WRH Wood River Hil 86.14 26 *e*P **P 14 09 09.8 -0.2**
comp=Z,4.4nm,1.0s
COLA College 86.27 25⇓ *e*P **P 14 09 09.3 -1.4**
COLA pmax pmax
comp=Z,2.0nm,0.6s
CCB Clear Creek Bu 86.27 25 *e*P **P 14 09 09.8 -0.9**
comp=Z,2.8nm,0.6s
GLI Glacier Island 86.31 29 *e*P **P 14 09 11.4 +0.4**
comp=Z,18nm,0.6s
HDA Harding Lake 86.62 26 P **P 14 09 11.3 -1.1**
baz=266
ILAR Eielson Array 86.68 25 P **P 14 09 11.6 -1.1**
comp=Z,1.5nm,0.4s,baz=245,slow=5.1,SNR=34
KLMR Klimovskoe 88.20 331 *e*P **P 14 09 16.8 -3.2**
KLMR pmax pmax
comp=Z,24nm,1.3s
BCAR Beaver Creek A 88.88 27 *e*P **P 14 09 23.8 +0.6**
TMCR Tamitsa 88.88 334 *e*P **P 14 09 21.4 -1.7**
TMCR pmax pmax
comp=Z,11nm,0.5s
EGAK Eagle 89.13 25 *e*P **P 14 09 23.9 -0.4**
comp=Z,4.9nm,0.8s
OBN Obninsk 89.84 325 *e*P **P 14 09 26.3 -1.5**
OBN *e**PP **pP 14 09 55.6 -2.0**
OBN pmax pmax
comp=Z,20nm,0.9s
SYO Syowa Base 90.69 201⇑ *e*X P 14 09 26.6 -4.8
SYO Syowa Base 90.69 201⇓ *e*sP **SKSac 14 19 47.1 -5.1**
EPYK Eagle Plains 90.88 24 P **P 14 09 32.3 -0.3**
baz=275
BRTR Keskin Array B 92.64 310 P **P 14 09 40.1 -1.3**
comp=Z,2.7nm,1.0s,baz=144,slow=2.7,SNR=8.3
BRTR PP **PP 14 13 26.2 +1.7**
comp=Z,0.8nm,0.9s,baz=130,slow=6.7,SNR=4.3
ARCES ARCESS Array B 93.20 340 P **P 14 09 42.2 -0.9**
comp=Z,8.3nm,0.8s,baz=82,slow=5.8,SNR=20
ARCES PKiKP **PKiKP 14 14 28.9 -0.4**
comp=Z,4.3nm,1.1s,baz=343,slow=1.2,SNR=4.4
H02S1 DAWSON INLET T 94.59 37 T T 15 54 18.7
SNR=71
FINES FINESS Array B 94.62 332 P **P 14 09 48.2 -1.5**
comp=Z,4.5nm,1.0s,baz=69,slow=10,SNR=6.6
AKASG Malin Array Be 94.65 321 P **P 14 09 48.7 -1.5**
comp=Z,1.3nm,0.8s,baz=67,slow=4.1,SNR=7.5
YKA Yellowknife Ar 101.10 25 P **Pdif 14 10 19.2 +0.3**
comp=Z,0.4nm,0.5s,baz=294,slow=4.6,SNR=8.2
YKA PKiKP **PKiKP 14 14 43.2 -0.1**
comp=Z,0.2nm,0.5s,baz=300,slow=1.6,SNR=4.8
YKA PKKPbc **PKKPbc 14 26 29.0 -3.0**
comp=Z,0.2nm,0.5s,baz=99,slow=2.0,SNR=4.1
NB2 NORSAR Subarra101.57 334 P **Pdif 14 10 19.1 -2.0**
comp=Z,7.0nm,1.1s,baz=68,slow=4.6
NB2 NORSAR Subarra101.57 334 P **Pdif 14 10 19.1 -2.0**
baz=68,slow=4.6
NOA NORSAR Array B 101.57 334 P **Pdif 14 10 19.6 -1.5**
comp=Z,2.2nm,0.8s,baz=67,slow=4.6,SNR=6.4
VYHS Vyhne 101.71 320 *i*P **Pdif 14 10 23.9 +1.9**
VYHS Vyhne 101.71 320 *e*PDIF **Pdif 14 10 23.9 +1.9**
GERES GERESS Array B 104.85 322 Pdiff **Pdif 14 10 35.6 -0.4**
comp=Z,0.8nm,0.9s,baz=70,slow=4.4,SNR=5.1
ULM Lac du Bonnet 116.37 30 PKIKP **PKPdf 14 15 11.0 -1.3**
ULM Lac du Bonnet 116.37 30 PKP **PKPdf 14 15 10.9 -1.3**
comp=Z,1.4nm,0.4s,baz=289,slow=3.9,SNR=3.3
MNTX Cornudas Mount 119.66 52 P **PKiKP 14 15 20.2 +0.9**
baz=292
ECSD EROS Data Cent 119.94 36 P **PKPdf 14 15 18.6 -0.8**
baz=306
F38A Pierce - Schro 121.19 32 P **PKPdf 14 15 21.5 -0.3**
baz=311
E39A Mellen 121.59 31 P **PKPdf 14 15 22.1 -0.4**
baz=313
F39A Loretta 121.72 31 P **PKPdf 14 15 22.5 -0.2**
baz=312
G38A Ridgeland 121.72 32 P **PKPdf 14 15 22.4 -0.4**
baz=311
E40A Wakefield 121.88 30 P **PKPdf 14 15 22.9 -0.1**
baz=314
LTX Lajitas 121.92 54 *e*PKPdf **PKiKP 14 15 24.0 +0.1**
LTX Lajitas 121.92 54 *e*PKIKP **PKiKP 14 15 24.0 +0.1**
TXAR Lajitas Array 121.92 54 PKP **PKiKP 14 15 24.0 +0.1**
comp=Z,0.4nm,0.7s,baz=204,slow=2.2,SNR=5.8
TXAR pPKP **pPKPdf 14 15 55.2 +0.3**
comp=Z,0.6nm,0.8s,baz=202,slow=1.3,SNR=3.9
G39A Holcombe 122.01 32 P **PKPdf 14 15 23.1 -0.2**
baz=312
F40A Park Falls 122.13 31 P **PKPdf 14 15 23.5 0.0**
baz=313
H39A Augusta 122.35 32 P **PKiKP 14 15 24.1 0.0**
baz=311
G40A Rib Lake 122.53 31 P **PKPdf 14 15 24.5 +0.1**
baz=313
I39A Houston 122.76 33 P **PKPdf 14 15 24.5 -0.3**
baz=311
F41A Three Lakes 122.77 30 P **PKiKP 14 15 25.0 0.0**
baz=314
H40A Chili 122.86 32 P **PKPdf 14 15 25.0 0.0**
baz=312
E42A Champion 122.87 29 P **PKPdf 14 15 24.9 -0.1**
baz=316
WMOK Wichita Mounta 123.33 46 P **PKiKP 14 15 26.6 +0.1**
baz=299
G42A Mountain 123.45 30 P **PKPdf 14 15 26.0 0.0**
baz=314
J40A Soldiers Grove 123.49 33 P **PKPdf 14 15 25.2 -1.0**
baz=311
L39A Vinton 123.60 35 P **PKPdf 14 15 25.9 -0.6**
baz=309
K40A Colesburg 123.72 34 P **PKPdf 14 15 26.2 -0.5**
baz=310
G43A Wallace 123.81 30 P **PKPdf 14 15 26.7 0.0**
baz=315
J41A Loganville 123.91 33 P **PKPdf 14 15 26.4 -0.6**
baz=312
L40A Anamosa 124.09 35 P **PKPdf 14 15 27.2 -0.2**
baz=310
F45A CMU Biological 124.56 28 P **PKPdf 14 15 28.3 +0.1**
baz=318
E46A Sault Ste Mari 124.60 27 P **PKiKP 14 15 28.7 +0.1**
baz=319
D47A Chapleau 124.61 26 P **PKPdf 14 15 28.3 +0.1**
baz=321
TORD Torodi Ar. Bea 124.99 287 PKP **PKPdf 14 15 27.9 -1.9**
comp=Z,2.6nm,0.4s,baz=30,slow=3.1,SNR=22
TOA1 Torodi Ar. Sit 124.99 287 *e*PKPdf **PKPdf 14 15 27.9 -1.9**
E47A Iron Bridge 125.00 26 P **PKPdf 14 15 29.1 +0.2**
baz=321
D48A Paudash Townsh 125.06 25 P **PKPdf 14 15 29.0 -0.1**
baz=322
CHGQ Chibougamau 125.44 18 P **PKPdf 14 15 29.8 0.0**
baz=332
E48A Lockeyer 125.46 25 P **PKPdf 14 15 29.9 0.0**
baz=322
F48A Evansville 125.77 26 P **PKPdf 14 15 30.8 +0.3**
baz=321
F49A Sandfield 126.07 26 P **PKPdf 14 15 31.1 0.0**
baz=322
E50A Wahnapitae 126.10 24 P **PKiKP 14 15 31.5 -0.1**
baz=323
R41A Rosebud 126.36 38 P **PKPdf 14 15 31.7 -0.1**
baz=308
E51A G1948 Merrick 126.52 23 P **PKPdf 14 15 32.1 +0.2**
baz=325
S41A Jillco Farms, 126.56 39 P **PKPdf 14 15 32.2 0.0**
baz=307
U40A Yellville 126.57 41 P **PKPdf 14 15 32.6 +0.2**
baz=305
D52A ZEK Kipawa Sen 126.58 22 P **PKPdf 14 15 31.6 -0.4**
baz=326
W39A Magazine 126.60 43 P **PKiKP 14 15 33.0 +0.2**
baz=304
D54A Lac Fusel, La 127.08 21 P **PKPdf 14 15 32.5 -0.5**
baz=328
MIAR Mount Ida 127.10 44 P **PKiKP 14 15 33.8 -0.1**
baz=304
U41A Viola 127.19 41 P **PKPdf 14 15 33.6 +0.1**
baz=306
F52A Sundridge 127.19 24 P **PKPdf 14 15 33.0 -0.3**
baz=325
L48A N Adams 127.84 31 P **PKPdf 14 15 34.4 -0.1**
baz=317
PEMO Pembroke 128.11 22 P **PKPdf 14 15 34.8 -0.2**
baz=327
S48A Wiedeman Farm, 129.98 36 P **PKiKP 14 15 39.5 -0.1**
baz=313
M54A Oil Creek Stat 130.49 27 P **PKPdf 14 15 40.0 +0.3**
baz=322
S50A Richmond 130.91 34 P **PKPdf 14 15 40.9 +0.4**
baz=315
U50A Jamestown 131.54 36 P **PKiKP 14 15 42.4 -0.4**
baz=314
W49A Belvidere 131.55 38 P **PKPdf 14 15 42.3 +0.4**
baz=311
P54A Burton 131.58 30 P **PKiKP 14 15 42.7 -0.1**
baz=320
Q54A Coxs Mills 131.87 30 P **PKPdf 14 15 42.8 +0.5**
baz=320
KIC Kosan Boka 132.35 280 *e*PKIKP **PKiKP 14 15 44.6 -0.4**
comp=Z,60nm,1.5s
LRAL Lakeview Retre 132.41 41 P **PKiKP 14 15 44.8 +0.2**
baz=309
DBIC Dimbokro 132.43 280 PKP **PKPdf 14 15 44.5 +0.5**
comp=Z,3.2nm,0.5s,baz=89,slow=3.2,SNR=6.7
TIC Toumodi 132.59 280 *e*PKIKP **PKPdf 14 15 44.8 +0.4**
LIC Lamto 132.65 280 *e*PKIKP **PKPdf 14 15 44.5 0.0**
comp=Z,38nm,0.9s
CFA Coronel Fontan 146.12 154 PKPbc **PKPbc 14 16 09.4 -0.2**
comp=Z,3.0nm,0.5s,baz=281,slow=5.2,SNR=3.5
CFA pPKPbc pPKPbc 14 16 40.1 0.0
comp=Z,7.2nm,0.6s,baz=170,slow=3.2,SNR=3.8

ROM 09 14:08:42.3±0.1, 43°.453N±0°.004×12°.312E±0°.005, h7km, ML0.3/2, Error ellipse: s-maj=0.5km s-min=0.2km az=45.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.07**	**92**	P	Pg	14 08 44.2	+0.1
ATPI				S	Sg	14 08 45.6	+0.2
ATPI	**Pietralunga -**	**0.07**	**92**	P	Pg	14 08 44.2	+0.1
ATPI	**Pietralunga -**	**0.07**	**92**	S	Sg	14 08 45.6	+0.2
BADI	**Badiali**	**0.07**	**319**	P	Pg	14 08 44.5	+0.3
BADI				S	Sg	14 08 46.1	+0.5
BADI	**Badiali**	**0.07**	**319**	P	Pg	14 08 44.5	+0.3
BADI	**Badiali**	**0.07**	**319**	S	Sg	14 08 46.1	+0.6
ATVO	**AVT- Monte Val**	**0.10**	**136**	P	Pg	14 08 44.9	+0.4
ATVO				S	Sg	14 08 46.9	+0.7
ATVO	comp=E,26μm,0.4s			AML	AML		
ATVO	comp=N,29μm,1.1s			AML	AML		
ATVO	comp=E,26μm,0.4s			AML	AML		
ATVO	comp=N,29μm,1.1s			AML	AML		
ATVO	**AVT- Monte Val**	**0.10**	**136**	P	Pg	14 08 45.0	+0.4
ATVO	**AVT- Monte Val**	**0.10**	**136**	S	Sg	14 08 46.9	+0.8
PIEI	**Pieia**	**0.18**	**63**	P	Pg	14 08 46.5	+0.5
PIEI				S	Sg	14 08 50.0	+1.5
PIEI	**Pieia**	**0.18**	**63**	P	Pg	14 08 46.5	+0.5
PIEI	**Pieia**	**0.18**	**63**	P	Pg	14 08 46.6	+0.6
PIEI	**Pieia**	**0.18**	**63**	S	Sg	14 08 50.0	+1.5
PARC	**Parchiule**	**0.20**	**345**	P	Pg	14 08 46.9	+0.6
PARC				S	Sg	14 08 50.5	+1.3
PARC	comp=E,14μm,1.6s			AML	AML		
PARC	comp=N,15μm,1.6s			AML	AML		
PARC	comp=E,14μm,1.6s			AML	AML		
PARC	comp=N,15μm,1.6s			AML	AML		
PARC	**Parchiule**	**0.20**	**345**	P	Pg	14 08 47.0	+0.6
PARC	**Parchiule**	**0.20**	**345**	S	Sg	14 08 50.5	+1.3

*IDC **09** 14:13:19.4±0.5, 55°.87S×27°.19W, h0km, mb4.7/15, mb1 4.8/16, mb1mx4.6/25, mbtmp4.7/16, ML4.4/1, MS3.9/14, Ms1 3.9/14, ms1mx3.8/18, Error ellipse: s-maj=20.9km s-min=13.6km az=46.0*
*ISCJB **09** 14:13:23.5±0.3, 55°.80S±0°.05×27°.3W±0°.1, h35km, mb4.8/28, MS4.1/18, Error ellipse: s-maj=10.8km s-min=5.9km az=148.8*
*NEIC **09** 14:13:23.2±1.6, 55°.81S×27°.23W, h24km±4km, mb4.9/25, Error ellipse: s-maj=22.4km s-min=13.4km az=225.0*
ISC 09 14:13:24.5±0.4, 55°.84S±0°.08×27°.34W±0°.08, h35km, n110, σ1§48/102, mb4.9/27, MS4.0/17, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.48**	**283**	*e*Pn	**Pn**	**14 14 45.5**	**+2.0**
HOPE				*e*Sn	**Sn**	**14 15 41.6**	**-3.6**
VNA1	**Neumayer--Stat**	**17.02**	**158**	P	**P**	**14 17 22.8**	**+1.9**
VNA3	**Neumayer Olymp**	**17.22**	**161**	P	**P**	**14 17 25.0**	**+1.9**
VNA2	**Neumayer--Watz**	**17.42**	**158**	P	**P**	**14 17 26.9**	**+1.6**
baz=310,slow=12							
SNAA	**Sanae**	**18.97**	**156**	P	**Pn**	**14 17 43.2**	**-0.1**
SNAA	**Sanae**	**18.97**	**156**	*e*P	**Pn**	**14 17 42.1**	**-1.2**
17nm,0.8s							
SNAA	**Sanae**	**18.97**	**156**	P	**P**	**14 17 41.5**	**-0.9**
1.3nm,0.3s,baz=324,slow=12,SNR=37							
SNAA				LR	LR	14 24 35.2	
comp=Z,101nm,19.0s,baz=5.0,slow=36							
PMSA	**Palmer Station**	**19.97**	**229**	P	Pn	14 17 56.8	+1.6
38nm,0.9s,baz=114,slow=5.9,SNR=8.2							
PMSA				LR	LR	14 24 15.5	
comp=Z,1μm,19.0s,baz=80,slow=33							
USHA	**Ushuaia**	**23.15**	**255**	P	**P**	**14 18 28.8**	**+1.4**
16nm,0.9s,baz=88,slow=13,SNR=5.5							
USHA				LR	LR	14 25 30.3	
comp=Z,477nm,20.9s,baz=86,slow=32							
TRQA	**Tornquist**	**29.16**	**293**	*e*P	**P**	**14 19 22.8**	**+0.6**
8.2nm,0.6s							
SYO	**Syowa Base**	**31.80**	**141⇑**	*e*P	**P**	**14 19 44.4**	**-0.7**
PLCA	**Paso Flores**	**31.88**	**280**	*e*P	**P**	**14 19 46.8**	**+0.7**
PLCA	**Paso Flores**	**31.88**	**280**	P	**P**	**14 19 45.4**	**-0.8**
3.7nm,1.0s,baz=189,slow=4.5,SNR=4.8							
PLCA				PcP	**PcP**	**14 22 35.5**	**-0.5**
1.4nm,0.7s,baz=243,slow=4.5,SNR=3.7							
PLCA				LR	LR	14 33 16.2	
comp=Z,206nm,18.0s,baz=164,slow=37							
QSPA	**South Pole Qui**	**34.41**	**180**	*e*P	**P**	**14 20 08.6**	**+0.4**
20nm,0.8s							
SPB	**Sao Paulo**	**35.45**	**327**	*e*P	**P**	**14 20 19.7**	**+2.5**
DUB01	**Friburgo-RJ**	**35.52**	**336**	*e*P	**P**	**14 20 19.4**	**+1.6**
VAS01	**Vassouras-RJ**	**35.59**	**334**	*e*P	**P**	**14 20 18.4**	**-0.1**
CAM01	**Campos-RJ**	**35.60**	**337**	*e*P	**P**	**14 20 18.5**	**0.0**
PTGB	**Pitanga**	**35.97**	**320**	*e*P	**P**	**14 20 23.6**	**+1.8**
FRTB	**Fartura**	**36.36**	**324**	*e*P	**P**	**14 20 28.1**	**+3.0**
CPUP	**Villa Florida**	**36.61**	**311**	*e*P	**P**	**14 20 27.4**	**+0.3**
21nm,0.9s							
CPUP				*e*pP	**pP**	**14 20 33.5**	**-3.2**
CPUP	**Villa Florida**	**36.61**	**311**	P	**P**	**14 20 28.0**	**+0.9**
24nm,1.0s,baz=151,slow=8.1,SNR=31							
CPUP				PcP	**PcP**	**14 22 49.7**	**0.0**
2.3nm,0.6s,baz=118,slow=3.5,SNR=3.2							
CPUP				LR	LR	14 34 07.6	
comp=Z,160nm,19.0s,baz=172,slow=34							
CPUP	**Villa Florida**	**36.61**	**311**	*e*P	**P**	**14 20 28.3**	**+1.2**
CFA	**Coronel Fontan**	**37.40**	**293**	P	**P**	**14 20 33.6**	**-0.2**
15nm,0.7s,baz=145,slow=6.9,SNR=20							
PEL	**Peldehue**	**37.48**	**289**	*e*P	**P**	**14 20 34.5**	**-0.1**
21nm,0.6s							
PEL				*e*pwP	**sP**	**14 20 46.2**	**-2.3**
TRCB	**Terra Rica**	**37.93**	**320**	*e*P	**P**	**14 20 40.3**	**+1.9**
GO04	**Tololo Observa**	**39.87**	**292**	*e*P	**P**	**14 20 54.1**	**-0.7**
12nm,0.7s							
ITRB	**Iturama**	**40.01**	**325**	*e*P	**P**	**14 20 57.1**	**+1.3**
MAW	**Mawson**	**40.37**	**144**	*e*P	**P**	**14 20 58.3**	**+0.1**
3.7nm,1.3s							
MAW	**Mawson**	**40.37**	**144**	P	**P**	**14 20 58.6**	**+0.4**
4.7nm,0.5s,baz=224,slow=4.8,SNR=18							
MAW				LR	LR	14 35 05.5	
comp=Z,175nm,21.5s,baz=234,slow=32							
LCO	**Las Campanas**	**40.74**	**293**	*e*P	**P**	**14 21 02.8**	**+0.6**
MCI6	**Montes Claros**	**40.96**	**335**	*e*P	**P**	**14 21 05.2**	**+1.5**
MCI9	**Montes Claros**	**41.06**	**335**	*e*P	**P**	**14 21 05.8**	**+1.2**
MCI8	**Montes Claros**	**41.10**	**335**	*e*P	**P**	**14 21 06.5**	**+1.7**
AQDB	**Aquidauana**	**41.19**	**317**	*e*P	**P**	**14 21 06.0**	**+0.5**
GO03	**Copiap**	**41.65**	**295**	*e*P	**P**	**14 21 09.8**	**+0.5**
28nm,0.8s							
JANB	**Januaria**	**42.74**	**335**	*e*P	**P**	**14 21 17.5**	**-0.7**
BDFB	**Brasilia**	**43.14**	**330**	P	**P**	**14 21 22.8**	**+1.2**
4.9nm,0.8s,baz=200,slow=7.1,SNR=4.2							
BDFB				LR	LR	14 37 13.6	
comp=Z,201nm,18.4s,baz=161,slow=33							
GO02	**Mina Guanaco**	**43.32**	**297**	*e*P	**P**	**14 21 24.4**	**+1.2**
66nm,0.6s							
LVC	**Limon Verde**	**45.12**	**300**	*e*P	**P**	**14 21 36.4**	**-1.3**
24nm,0.7s							
LVC	**Limon Verde**	**45.12**	**300**	*e*P	**P**	**14 21 39.7**	**+2.0**
PB10	**IPOC Station P**	**45.17**	**298**	*e*P	**P**	**14 21 37.8**	**+0.1**
18nm,0.8s							
BOSA	**Boshof**	**46.00**	**76**	LR	LR	14 36 58.4	
comp=Z,316nm,21.0s,baz=204,slow=31							
PB01	**IPOC Station P**	**46.73**	**301**	*e*P	**P**	**14 21 51.7**	**+1.6**
57nm,0.8s							
VNDA	**Vanda**	**46.78**	**183**	*e*P	**P**	**14 21 50.3**	**+0.6**
7.8nm,0.6s							
VNDA	**Vanda**	**46.78**	**183**	P	**P**	**14 21 49.1**	**-0.6**
5.5nm,0.6s,baz=188,slow=6.1,SNR=24							
H10S2	**ASCENSION HYDR**	**47.82**	**17**	T	T	15 14 18.8	
baz=190,slow=74,SNR=158							
H10S3	**ASCENSION HYDR**	**47.83**	**17**	T	T	15 14 19.0	
baz=190,slow=74,SNR=145							
H10S1	**ASCENSION HYDR**	**47.84**	**17**	T	T	15 14 20.1	
baz=190,slow=74,SNR=153							
MNMC	**Minye Minye**	**48.41**	**302**	*e*P	**P**	**14 22 04.6**	**+1.2**
37nm,0.9s							
MNMC				*e*pP	**pP**	**14 22 09.9**	**-3.5**
H10N1	**ASCENSION HYDR**	**48.94**	**17**	T	T	15 15 42.8	
baz=189,slow=75,SNR=72							
H10N3	**ASCENSION HYDR**	**48.94**	**17**	T	T	15 15 40.7	
baz=189,slow=75,SNR=137							
H10N2	**ASCENSION HYDR**	**48.96**	**17**	T	T	15 15 36.5	
baz=189,slow=75,SNR=106							
SMTB	**Santa Maria do**	**49.50**	**333**	*e*P	**P**	**14 22 12.9**	**+1.4**
CLDB	**Colider**	**50.06**	**322**	*e*P	**P**	**14 22 16.1**	**+0.4**
LPAZ	**La Paz**	**50.18**	**305**	*e*P	**P**	**14 22 18.8**	**+1.5**
25nm,1.0s							
LPAZ	**La Paz**	**50.18**	**305**	P	**P**	**14 22 18.8**	**+1.5**
12nm,0.5s,baz=152,slow=6.7,SNR=63							
LPAZ				LR	LR	14 42 58.2	
comp=Z,80nm,21.9s,baz=150,slow=35							
LPAZ	**La Paz**	**50.18**	**305**	*e*P	**P**	**14 22 19.0**	**+1.7**
CASY	**Casey**	**54.14**	**160**	*e*P	**P**	**14 22 46.3**	**+0.9**
17nm,1.4s							
NNA	**Nana**	**58.07**	**299**	*e*P	**P**	**14 23 14.7**	**+0.6**
22nm,1.0s							
NNA	**Nana**	**58.07**	**299**	P	**P**	**14 23 14.9**	**+0.8**
19nm,0.9s,baz=151,slow=8.1,SNR=5.5							
PTGA	**Pitinga**	**60.95**	**322**	*e*P	**P**	**14 23 34.2**	**+0.3**
6.8nm,0.8s							
PTGA	**Pitinga**	**60.95**	**322**	P	**P**	**14 23 34.4**	**+0.5**
6.5nm,0.8s,baz=143,slow=9.1,SNR=11							
PTGA	**Pitinga**	**60.95**	**322**	*e*P	**P**	**14 23 34.5**	**+0.5**
ATAH	**Atahualpa**	**63.01**	**300**	P	**P**	**14 23 50.1**	**+1.8**
14nm,0.7s,baz=163,slow=4.2,SNR=12							
DBIC	**Dimbokro**	**65.01**	**25**	P	**P**	**14 24 02.4**	**+1.6**
3.7nm,0.7s,baz=182,slow=8.8,SNR=3.1							
OTAV	**Otavalo**	**69.47**	**304**	*e*P	**P**	**14 24 31.4**	**+1.7**
17nm,1.3s							
OTAV	**Otavalo**	**69.47**	**304**	*e*P	**P**	**14 24 31.7**	**+2.1**
ROSC	**El Rosal**	**71.68**	**310**	LR	LR	14 57 59.2	
comp=Z,23nm,19.5s,baz=128,slow=37							
TOA0	**Torodi Ar. Sit**	**72.91**	**30**	*e*P	**P**	**14 24 50.6**	**+0.7**
7.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**72.91**	**30**	*e*P	**P**	**14 24 49.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**72.91**	**30**	P	**P**	**14 24 49.9**	**0.0**
3.7nm,0.4s,baz=212,slow=5.2,SNR=43							
TORD				LR	LR	14 49 54.4	
comp=Z,44nm,21.9s,baz=335,slow=30							
TOA1	**Torodi Ar. Sit**	**72.92**	**30**	*e*P	**P**	**14 24 49.9**	**0.0**
SDV	**Santo Domingo**	**73.80**	**315**	*e*P	**P**	**14 24 56.8**	**+1.5**

RKT	Rikitea	80.50	243	eT	T	15 54 12.1	
	3.0nm,0.2s						
JTS	Las Juntas de	81.32	303	eP	P	14 25 37.7	+0.5
JTS				eP	pP	14 25 44.4	-3.3
TBI	Tubuai	87.15	231	eLR	LR	14 53 52.4	
	comp=Z,186nm,28.8s						
STKA	Stephens Creek	92.12	171	eP	P	14 26 31.5	+1.5
	1.6nm,1.1s						
STKA	Stephens Creek	92.12	171	P	P	14 26 30.8	+0.8
	2.6nm,0.7s,baz=127,slow=2.7,SNR=5.4						
STKA				LR	LR	15 05 55.1	
	comp=Z,74nm,19.6s,baz=215,slow=34						
PPT2	Papeete2	92.23	234	eLR	LR	14 56 13.8	
	comp=Z,160nm,29.2s						
PPT	Papeete	92.25	234	LR	LR	15 01 43.9	
	comp=Z,52nm,18.2s,baz=156,slow=32						
KEST	Kesra	96.43	29	LR	LR	15 06 15.3	
	comp=Z,60nm,19.5s,baz=283,slow=33						
ASAR	Alice Springs	99.22	163	P	Pdif	14 27 01.9	-0.5
	1.1nm,0.7s,baz=183,slow=3.8,SNR=16						
DZM	Mont Dzumac	101.52	193	eLR	LR	15 00 32.2	
	comp=Z,136nm,23.5s						
WR1	Warramunga Arr	102.94	162	ePdif	Pdif	14 27 19.7	+0.7
WRA	Warramunga Arr	102.94	162	P	Pdif	14 27 19.7	+0.7
	0.8nm,0.7s,baz=192,slow=4.4,SNR=6.3						
VYHS	Vyhne	110.90	31	ePDIF	Pdif	14 27 58.7	+5.2
PDAR	Pinedale Array	120.16	302	PKP	PKiKP	14 32 12.9	+1.9
	0.3nm,0.5s,baz=98,slow=4.7,SNR=4.9						
FIA0	FINESS Array S	124.24	28	ePKPdf	PKiKP	14 32 17.4	-0.7
FINES	FINESS Array B	124.24	28	PKP	PKiKP	14 32 17.4	-0.7
	2.8nm,0.7s,baz=176,slow=2.8,SNR=14						
CMAR	Chiang Mai Arr	125.22	111	PKP	PKiKP	14 32 21.1	-0.4
	0.8nm,0.5s,baz=240,slow=4.9,SNR=5.1						
KSH	Kashi	128.59	74	PKP	PKiKP	14 32 27.5	-0.2
ARA0	ARCESS Array S	130.78	22	ePKPdf	PKiKP	14 32 30.1	-0.9
ARCES	ARCESS Array B	130.78	22	PKP	PKiKP	14 32 30.1	-0.9
	5.0nm,0.9s,baz=180,slow=1.5,SNR=11						
YKA	Yellowknife Ar	135.96	318	PKP	PKiKP	14 32 40.7	-1.0
	0.8nm,0.6s,baz=120,slow=3.6,SNR=3.7						
YKB5	Yellowknife Ar	135.96	318	ePKPdf	PKiKP	14 32 40.7	-1.0
MK32	Makanchi Array	136.90	71	ePKPdf	PKPdf	14 32 41.2	-1.1
MKAR	Makanchi Array	136.90	71	PKP	PKPdf	14 32 41.2	-1.1
	0.8nm,0.7s,baz=267,slow=2.9,SNR=4.2						
CD2	Chengdu	137.80	105	PKP	PKiKP	14 32 44.5	-2.0
WMQ	Urumqi	137.95	78	ePKP	PKiKP	14 32 45.1	-1.4
WMQ				LR	LR		
	comp=Z,260nm,38.9s						
GTA	Gaotai	141.82	93	ePKP	PKiKP	14 32 54.8	+0.2
ZALV	Zalesovo Beam	142.35	64	PKhKP	PKPpre	14 32 47.9	
	1.5nm,0.7s,baz=228,slow=3.8,SNR=4.2						
ZALV				PKP	PKiKP	14 32 53.4	-1.6
	1.7nm,0.7s,baz=246,slow=2.3,SNR=5.5						
ZAA1	Zalesovo Array	142.36	64	ePKPpre	PKPpre	14 32 47.9	
ZAA1				ePKPdf	PKiKP	14 32 53.4	-1.6
NJ2	Nanjing	146.52	121	ePKPbc	PKPbc	14 33 00.3	-1.1
NRIK	Noril'sk	148.90	39	PKPbc	PKiKP	14 33 07.0	-1.1
	4.1nm,0.8s,baz=309,slow=0.8,SNR=10.0						
HHC	Hu-ho-hao-te	149.37	102	ePKPbc	PKPbc	14 33 06.4	-2.6
HHC				LR	LR		
	comp=E,170nm,19.6s						
HHC				LR	LR		
	comp=Z,210nm,18.7s						
SML	Sawmill	149.83	306	ePKPbc	PKiKP	14 33 09.7	-0.6
ILAR	Eielson Array	149.91	312	PKPbc	PKiKP	14 33 09.4	-0.9
	9.2nm,0.8s,baz=123,slow=1.7,SNR=49						
SONA0	Songino Array	150.80	86	ePKPbc	PKPbc	14 33 11.0	-1.2
SONM	Songino Array	150.80	86	PKPbc	PKPbc	14 33 11.0	-1.2
	4.0nm,0.6s,baz=224,slow=2.4,SNR=24						

KRSC 09 14:17:49.6±10.0, 51°.96N×158°.79E, h55km±10km, ML3.5,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	0.46	252	eP	Pn	14 18 02.6	+1.9
KDTR				eS	Sn	14 18 10.3	+1.5
RUS	Russkaya	0.51	341	eP	Pn	14 18 02.7	+1.5
RUS				eS	Sn	14 18 10.6	+0.9
MTVR	Mutnovka	0.65	325	eP	Pn	14 18 04.7	+1.7
MTVR				eS	Sn	14 18 14.0	+1.2
ASAK	Asacha	0.69	309	eP	Pn	14 18 05.6	+2.0
KRMR	Karymshinskiy	0.96	336	eP	Pn	14 18 08.8	+1.9
KRMR				eS	Sn	14 18 21.4	+1.7
DALK	Dalny	1.08	359	eP	Pn	14 18 09.9	+1.5
DALK				eS	Sn	14 18 23.6	+1.2
UGLR	Uglovaya	1.26	1	eP	Pn	14 18 12.3	+1.3
NLC	Nalytchevo	1.27	15	eP	Pn	14 18 10.8	-0.1
NLC				eS	Sn	14 18 26.0	-0.9
SMAR	Somma	1.31	0	eP	Pn	14 18 13.7	+1.9
AVH	Avacha	1.31	359	eP	Pn	14 18 13.6	+1.9
AVH				eS	Sn	14 18 30.0	+1.8
PAU	Pauzhetka	1.32	249	eP	Pn	14 18 14.4	+2.7
SDLR	Sedlovina	1.33	3	eP	Pn	14 18 13.0	+1.1
KOK	Koryaka	1.34	356	eP	Pn	14 18 14.1	+2.0
KRER	Koryakskii	1.35	359	eP	Pn	14 18 14.2	+1.9
SPN	Mys Shipunski	1.37	33	eP	Pn	14 18 14.4	+2.0
SPN				eS	Sn	14 18 30.9	+1.4
APC	Apacha	1.39	315	eP	Pn	14 18 14.6	+2.0
KRX	Arik	1.41	357	eP	Pn	14 18 14.9	+1.9
SKR	Severo-Kuril's	2.10	234	eP	Pn	14 18 24.3	+2.0
SKR				eS	Sn	14 18 48.6	+1.3
ALID	Alaid	2.30	243	eP	Pn	14 18 26.4	+1.3
KZV	Kizimen	3.29	15	eP	Pn	14 18 42.9	+4.2
TUMD	Tumrok D	3.39	16	eP	Pn	14 18 45.0	+5.0
KBTR	Krutoberegovo	4.88	28	eP	Pn	14 19 04.1	+3.8

*NNC **09** 15:00:42.1±2.9, 43°.64N×84°.63E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=22.3km s-min=9.9km az=129.0
*SOME **09** 15:00:45.7, 43°.62N×84°.52E, h5km*
ISC 09 15:00:48.0±2.2, 43°.5N±0°.1×84°.7E±0°.1, h10km, n17,
σ2=44/23, 5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	3.17	272	Pg	Pn	15 01 38.0	0.0
	5.6nm,0.2s						
KTMS				Lg	Lg	15 02 19.9	
	14nm,0.2s						
KTMS	Ketmen	3.17	272	eP	Pn	15 01 40.6	+2.6
	4.6nm,0.5s						
KTMS				eS	Sb	15 02 20.3	-2.9
	14nm,0.2s						
DJR	Jarkent	3.66	286	Pg	Pn	15 01 47.2	+2.4
	2.5nm,0.1s						
DJR				Lg	Lg	15 02 34.6	
	7.3nm,0.5s						
DJR	Jarkent	3.66	286	eP	Pn	15 01 49.2	+4.4
	3.3nm,0.4s						
DJR				eS	Sb	15 02 35.0	-2.3
	17nm,0.7s						
MK31	Makanchi Array	3.76	334	⇓Pg	Pn	15 01 50.7	+4.6
	0.7nm,0.4s,baz=149,slow=17,SNR=12						
MK31				Lg	Lg	15 02 36.4	
	2.9nm,0.3s,baz=147,slow=30,SNR=5.7						
PDGK	Podgornoye	3.80	270	⇓Pg	Pn	15 01 51.6	+4.9
	1.4nm,0.6s						
PDGK				⇓Lg	Lg	15 02 39.4	
	3.6nm,0.5s						
SHLS	Shalkode	3.84	267	Pg	Pn	15 01 44.6	-2.6
	4.9nm,0.2s						
SHLS				Lg	Lg	15 02 30.8	
	38nm,0.3s						
SHLS	Shalkode	3.84	267	eP	Pn	15 01 47.5	+0.4
	2.2nm,0.3s						
SHLS				eS	Sn	15 02 32.2	-0.1
	38nm,0.3s						
MAKZ	Makanchi	3.88	331	⇓Pg	Pn	15 01 50.1	+2.5
	3.0nm,0.6s						
MAKZ				⇓Lg	Lg	15 02 39.5	
	4.6nm,0.5s						
ZSN	Zaisan	4.01	2	Pg	Pn	15 01 49.6	+0.2
	0.8nm,0.2s						
ZSN				Lg	Lg	15 02 38.9	
	2.8nm,0.4s						
ZSN	Zaisan	4.01	2	eP	Pb	15 01 56.4	-2.3
	0.8nm,0.2s						
ZSN				eS	Sb	15 02 47.0	-0.2
	5.2nm,0.5s						
UZB	Uzynbulak	4.16	268	eP	Pb	15 01 59.9	-1.4
	1.3nm,0.3s						
UZB				eS	Sb	15 02 53.2	+1.6
	6.1nm,0.6s						
KAPS	Kapalarasan	4.25	297	Pg	Pn	15 01 58.2	+5.4
	1.6nm,0.3s						
KAPS				Lg	Lg	15 02 53.5	
	6.4nm,0.3s						
KAPS	Kapalarasan	4.25	297	eP	Pb	15 01 59.3	-3.6
	1.6nm,0.3s						
KAPS				eS	Sb	15 02 52.7	-1.5
	6.4nm,0.3s						
KPKS	Kokpek	4.38	272	eP	Pb	15 02 03.7	-1.4
	2.7nm,0.5s						
KPKS				eS	Sb	15 02 59.8	+1.8
	14nm,0.2s						
SATY	Saty	4.62	267	Pg	Pb	15 02 08.0	-1.1
	3.8nm,0.2s						
SATY				Lg	Lg	15 03 10.8	
	5.4nm,0.1s						
SATY	Saty	4.62	267	eP	Pb	15 02 06.4	-2.7
	3.8nm,0.2s						
SATY				eS	Sb	15 03 04.9	+0.1
	5.4nm,0.1s						

*IDC **09** 15:24:12.0±1.8, 10°.15S×119°.03E, h0km, mb4.0/5,*
mb1 4.1/8, mb1mx3.8/31, mbtmp4.0/8, ML3.7/3, Error
ellipse: s-maj=68.5km s-min=21.0km az=57.0
*ISCJB **09** 15:24:13.6±0.3, 10°.63S±0°.04×118°.68E±0°.03, h41km,*
mb4.4/8, Error ellipse: s-maj=5.9km s-min=3.8km az=37.5
*DJA **09** 15:24:15.5±0.4, 10°S±5°×11°9E±°, h10km, M4.5/12,*
mb4.6/5, mB4.9/1, MLv4.5/12, Mw(mB)4.2/1
*NEIC **09** 15:24:16.0±3.0, 10°.44S×118°.76E, h39km±11km, mb4.5/10,*
Error ellipse: s-maj=16.0km s-min=10.4km az=197.0
ISC 09 15:24:15.3±0.5, 10°.56S±0°.05×118°.80E±0°.05, h41km, n49,
σ2=55/57, mb4.2/8, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.72	59	P	Pn	15 24 44.9	+2.1
WSI				S	Sn	15 25 08.7	+5.1
PLAI	Plampang	2.00	330	P	Pn	15 24 46.7	+0.1
PLAI				S	Sn	15 25 09.7	-0.6
MMRI	Maumere	3.90	61	ePn	Pn	15 25 13.4	+0.7
MMRI	Maumere	3.90	61	P	Pn	15 25 13.9	+1.2
SRBI	Singaraja	4.31	305	P	Pn	15 25 19.5	+1.2
BSSI	Bau Bau, Buton	4.70	21	P	Pn	15 25 25.7	+2.0
BSSI				S	Sn	15 26 16.7	-0.3
BATI	Baumata	4.80	86	P	Pn	15 25 28.5	+3.4
JAGI	Jajag, Banyuwa	5.03	294	ePn	Pn	15 25 26.8	-1.5
JAGI				eSn	Sn	15 26 23.7	-1.5
JAGI	Jajag, Banyuwa	5.03	294	P	Pn	15 25 27.2	-1.1
BKSI	Bulukumba	5.37	14	P	Pn	15 25 35.1	+2.2
SOEI	Soe	5.45	82	ePn	Pn	15 25 36.3	+2.2
SOEI	Soe	5.45	82	P	Pn	15 25 37.2	+3.1
KAPI	Kappang	5.59	10	ePn	Pn	15 25 36.6	+0.7
KAPI				eSn	Sn	15 26 37.6	-1.5
GMJI	Gumukmas	5.75	293	P	Pn	15 25 37.1	-1.0
BNSI	Bone	6.26	12	P	Pn	15 25 49.4	+4.3
SPSI	Sidrap Palu	6.63	8	P	Pn	15 26 01.1	+11
PWJI	Pagerwojo	7.35	290	P	Pn	15 26 02.4	+2.3
TTSI	Tana Toraja	7.54	8	P	Pn	15 26 18.0	+15
UGM	Wanagama	8.58	287	ePn	Pn	15 26 17.1	0.0
UGM				eSn	Sn	15 27 49.5	-3.2
FITZ	Fitzroy Crossi	10.00	139	ePn	Pn	15 26 38.9	+2.4
FITZ				eSn	Sn	15 28 24.0	-3.4
FITZ	Fitzroy Crossi	10.00	139	Pn	Pn	15 26 38.0	+1.6
	0.8nm,0.3s,baz=332,slow=9.2,SNR=30						
FITZ				Sn	Sn	15 28 22.9	-4.5
	1.4nm,0.3s,baz=169,slow=20,SNR=7.7						
MBWA	Marble Bar	10.57	175	ePn	Pn	15 26 44.0	-0.3
MBWA				eSn	Sn	15 28 32.1	-9.4
PSA00	Pilbara Seismi	10.99	175	ePn	Pn	15 26 52.2	+2.1
PSA00				eSn	Sn	15 28 40.1	-12
CISI	Cisompet, Garu	11.25	284	ePn	Pn	15 26 52.3	-1.4
MTN	Manton Dam	12.29	102	ePn	Pn	15 27 07.8	0.0
MTN				eSn	Sn	15 29 16.3	-7.3
GIRL	Giralia	12.78	199	ePn	Pn	15 27 16.6	+2.1
FAKI	Fak Fak	15.36	61	ePn	Pn	15 27 46.9	-2.4
	27nm,1.2s						
MNAI	Manna	16.87	290	ePn	Pn	15 28 05.8	-2.7
	347nm,1.3s						
WR1	Warramunga Arr	17.64	124	ePn	Pn	15 28 18.3	+0.1
WR1				eSn	Sn	15 31 21.6	-12
WRA	Warramunga Arr	17.64	124	P	Pn	15 28 18.3	+0.1
	0.2nm,0.3s,baz=301,slow=15,SNR=12						
WRA				S	Sn	15 31 21.6	-12
	0.2nm,0.3s,baz=295,slow=22,SNR=4.0						
WRAB	Tennant Creek	17.65	124	ePn	Pn	15 28 12.2	-6.0
	21nm,1.6s						
WB2	Warramunga Arr	17.65	124	ePn	P	15 28 20.6	+1.7
	30nm,1.8s						
MORW	Morawa	18.59	188	eP	Pn	15 28 32.1	+2.4
	167nm,1.9s						
MYKOM	Kota Tinggi	19.28	309	eP	Pn	15 28 38.4	+0.3
	25nm,1.2s						
AS31	Alice Springs	19.42	134	eP	Pn	15 28 41.1	+1.4
	2.1nm,0.9s						
ASAR	Alice Springs	19.42	134	eP	P	15 28 38.7	+0.4
ASAR	Alice Springs	19.42	134	P	Pn	15 28 43.2	+3.5
	0.3nm,0.3s,baz=321,slow=11,SNR=38						
ASAR				S	S	15 32 10.3	-5.6
	0.2nm,0.3s,baz=304,slow=22,SNR=7.1						
FORT	Forrest	21.88	158	eP	P	15 29 03.2	-1.5
	137nm,1.8s						
NWAO	Narrogin (SRO)	22.30	183	eP	P	15 29 13.6	+4.4
	88nm,1.4s						
COEN	Coen	24.05	101	eP	P	15 29 28.6	+1.6
	43nm,1.5s						
MAJO	Matsushiro	50.29	20	eP	P	15 33 06.5	-1.4
MJAR	Matsushiro Arr	50.29	20	P	P	15 33 06.5	-1.4
	1.2nm,0.7s,baz=202,slow=6.5,SNR=3.5						
USRK	Ussuriysk Ar.	55.80	11	P	P	15 33 48.2	-0.1
	3.0nm,0.8s,baz=197,slow=7.3,SNR=4.3						
SONA0	Songino Array	59.17	350	eP	P	15 34 12.3	+0.2
SONM	Songino Array	59.17	350	P	P	15 34 12.3	+0.2
	0.7nm,0.5s,baz=171,slow=11,SNR=5.6						
MK32	Makanchi Array	65.75	333	eP	P	15 34 56.6	+0.7
MKAR	Makanchi Array	65.75	333	P	P	15 34 56.6	+0.7
	1.1nm,0.8s,baz=155,slow=6.0,SNR=6.1						
ZALV	Zalesovo Beam	70.42	339	P	P	15 35 26.2	+1.2
	0.5nm,0.4s,baz=148,slow=5.4,SNR=3.6						
ZAA1	Zalesovo Array	70.43	339	eP	P	15 35 26.2	+1.1

*ISCJB **09** 15:24:50.9±0.3, 42°.43N±0°.02×43°.49E±0°.02, h1km±4km,*
Error ellipse: s-maj=3.1km s-min=2.7km az=146.1
*ISK **09** 15:24:50.6, 42°.42N×43°.52E, h8km, ML2.8/4*
*TIF **09** 15:24:50.5, 42°.42N×43°.49E, h13km*
*DDA **09** 15:24:51.6, 42°.39N×43°.37E, h9km±1km, ML3.3*
ISC 09 15:24:51.0±0.8, 42°.41N±0°.02×43°.47E±0°.02, h12km±5km,
n41, σ0=69/76, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRKG	Sareki	0.12	228	P	Pg	15 24 54.5	+0.4
SRKG				S	Sg	15 24 57.0	+0.6
ONI	Oni	0.19	355	PG	Pg	15 24 54.8	-0.4
ONI				SG	Sg	15 24 57.8	-0.3
ONI	Oni	0.19	355	P	Pg	15 24 54.8	-0.4
ONI				S	Sg	15 24 57.7	-0.4
ONI	Oni	0.19	355	ePg	Pg	15 24 54.8	-0.4
ONI				eSg	Sg	15 24 57.7	-0.4
TKB	Tkibuli	0.36	262	P	Pb	15 24 58.8	-0.5
TKB				S	Sb	15 25 04.4	-0.5
ZEI	Tsey	0.50	39	i Pg	Pg	15 25 00.5	-0.3
ZEI				eSg	Sg	15 25 07.7	+0.2
DIGR	Digorskoe uzhe	0.50	9	i Pg	Pg	15 25 00.5	-0.3
DIGR				eSg	Sg	15 25 07.5	-0.1
LACR	Lac	0.74	55	ePg	Pg	15 25 04.8	-0.6
LACR				eSg	Sb	15 25 15.3	-0.7
GUDG	Gudauri	0.75	85	P	Pb	15 25 05.6	-0.4
GUDG				S	Sn	15 25 17.6	-1.3
LSNR	Lesken	0.91	16	ePg	Pg	15 25 08.3	-0.2
LSNR				eSg	Sb	15 25 21.3	+0.4
ARNR	Ardon	0.98	37	ePg	Pn	15 25 11.2	+0.7
ARNR				eSg	Sn	15 25 25.5	+1.1
AKH	Akhalkalaki	0.99	179	PG	Pg	15 25 10.3	+0.1
AKH				SG	Sn	15 25 24.7	-0.3
AKH	Akhalkalaki	0.99	179	P	Pg	15 25 10.3	+0.1
AKH				S	Sn	15 25 24.5	-0.5
AKH	Akhalkalaki	0.99	179	ePg	Pg	15 25 10.3	+0.1
AKH				eSg	Sn	15 25 24.5	-0.5
NEY	Neytrino	1.01	327	ePg	Pb	15 25 10.3	-0.2
NEY				i Sg	Sn	15 25 24.5	-0.9
EPOS	Posof	1.06	212	i P	Pn	15 25 11.6	-0.1
EPOS				i S	Sn	15 25 27.4	+0.9
NCK	Nalchik	1.09	5	ePg	Pn	15 25 12.3	+0.1
NCK				eSg	Sn	15 25 28.1	+0.8
VLKR	Vladikavkaz	1.09	54	ePg	Pn	15 25 15.0	+2.8
VLKR				eSg	Sn	15 25 29.6	+2.3
BGD	Bogdanovka	1.14	175	P	Pg	15 25 13.1	+0.1
BGD				S	Sn	15 25 28.8	+0.1
TBLG	Delisi	1.16	125	PN	Pb	15 25 12.7	-0.3
TBLG				SN	Sn	15 25 28.9	+0.1
TBLG	Delisi	1.16	125	P	Pb	15 25 12.6	-0.3
TBLG				S	Sn	15 25 28.8	0.0
TBLG	Delisi	1.16	125	ePg	Pb	15 25 12.6	-0.3
TBLG				eSg	Sn	15 25 28.8	0.0
BTNK	Botanikuri	1.22	126	P	Pn	15 25 13.7	-0.2
KZRT	Kazreti	1.23	145	P	Pn	15 25 13.6	-0.4
KZRT				S	Sn	15 25 30.3	-0.3
KBTC	Kuba-Taba	1.41	358	ePg	Pg	15 25 18.4	+0.3
KBTC				eSg	Sg	15 25 37.7	+1.2
SHA1	Shidzhatmaz	1.46	336	ePg	Pg	15 25 18.7	-0.3
SHA1				eSg	Sg	15 25 38.4	+0.3
BATM	Batumi	1.55	240	PN	Pb	15 25 19.6	0.0
BATM	Batumi	1.55	240	P	Pb	15 25 19.4	-0.2
BATM				S	Sg	15 25 41.0	+0.2
DOMR	Dombai	1.62	304	ePg	Pg	15 25 21.5	-0.6
DOMR				eSg	Sg	15 25 43.0	-0.2
KIV	Kislovodsk	1.65	340	PN	Pb	15 25 20.9	-0.5
KIV	Kislovodsk	1.65	340	ePg	Pg	15 25 22.7	0.0
KIV				eSg	Sg	15 25 43.5	-0.7
PYA1	Pyatigorsk	1.68	351	ePg	Pg	15 25 22.3	-0.9
PYA1				eSg	Sg	15 25 44.4	-0.6
BCA	Borcka	1.68	236	PN	Pb	15 25 21.7	-0.2
DBOC	Borcka	1.71	232	IAML_P			
	comp=Z,2μm,0.2s						
DBOC				i P	Pb	15 25 22.6	+0.1
DBOC				i S	Sg	15 25 46.9	+0.7
DAGI	Agillar	1.77	222	i P	Pg	15 25 24.1	-0.8
DAGI				i S	Sg	15 25 48.6	+0.8
GROC	Groznyy	1.89	64	ePg	Pb	15 25 25.0	-0.3
GROC				eSg	Sg	15 25 51.2	-0.4
DBAD	Bademkaya	1.92	224	IAML_P			
	comp=Z,1μm,0.3s						
DBAD				i P	Pb	15 25 26.3	+0.3
DBAD				i S	Sg	15 25 52.2	-0.5
DDEM	Demirkent	1.99	221	IAML_P			
	comp=Z,1μm,0.2s						
DDEM				i P	Pg	15 25 28.7	-0.4
DDEM				i S	Sg	15 25 54.9	0.0
LGD	Lagodekhi	2.14	105	P	Pb	15 25 29.6	0.0
LGD				S	Sg	15 25 58.3	-1.4
DDFL	Dedoflistskaro	2.19	115	P	Pn	15 25 28.5	+1.2
GNI	Garni	2.45	157	PN	Pn	15 25 31.6	+0.7

*ISCJB **09** 15:29:20.8±0.6, 17°.77N±0°.07×94°.57W±0°.08, h150km,*
mb3.6/7, Error ellipse: s-maj=10.7km s-min=9.8km
az=176.4
*IDC **09** 15:29:23.6±0.7, 17°.54N×94°.43W, h172km±16km, mb3.3/7,*
mb1 3.5/9, mb1mx3.3/35, mbtmp3.8/9, MS3.3/1, Ms1 3.2/1,
ms1mx2.5/16, Error ellipse: s-maj=69.5km s-min=14.1km
az=56.0
*MEX **09** 15:29:25.6±0.6, 17°.33N×94°.48W, h180km±6km, MD4.1*
ISC 09 15:29:22.7±0.7, 17°.69N±0°.09×94°.45W±0°.07, h150km, n15,
σ2=58/18, mb3.7/7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.73	215	i P	Pn	15 29 49.2	+3.8
CMIG				eS	Sn	15 30 06.7	+4.1
CMIG	Matias Romero	0.73	215	LR	LR	15 29 45.9	
	comp=Z,12nm,20.7s,baz=172,slow=36						
CMIG				P	Pn	15 29 48.9	+3.6
	335nm,0.3s,baz=86,slow=3.3,SNR=4111						
CMIG				S	Sn	15 30 07.6	+5.0
	130nm,0.3s,baz=292,slow=23,SNR=65						
TGIG		1.56	125	i P	Pn	15 29 55.4	+2.4
TGIG				eS	Sn	15 30 18.3	+2.2
HUIG	Huatulco	2.49	220	eP	Pn	15 30 03.5	-0.1
HUIG				eS	Sn	15 30 33.2	-2.0
JTS	Las Juntas de	11.79	127	P	Pn	15 32 05.9	-0.4
	2.5nm,0.3s,baz=0.0,slow=20,SNR=3.9						
TXAR	Lajitas Array	14.34	326	P	P	15 32 42.5	+0.9
	0.1nm,0.3s,baz=152,slow=14,SNR=6.0						
ULM	Lac du Bonnet	32.50	358	LR	LR	15 52 12.8	
	comp=Z,50nm,18.5s,baz=292,slow=42						
LPAZ	La Paz	42.57	141	P	P	15 37 02.6	-2.1
	0.6nm,0.5s,baz=270,slow=6.1,SNR=3.8						
YKA	Yellowknife Ar	46.92	347	P	P	15 37 37.2	-0.5
	0.8nm,0.7s,baz=151,slow=7.4,SNR=14						
SIV	San Ignacio	46.92	134	P	P	15 37 35.8	-2.7
	1.1nm,0.5s,baz=307,slow=7.6,SNR=6.3						
INK	Inuvik	56.25	344	P	P	15 38 46.7	-0.3
	0.7nm,0.6s,baz=111,slow=4.4,SNR=6.2						
ILAR	Eielson Array	58.54	337	P	P	15 39 02.9	-0.2
	0.3nm,0.8s,baz=129,slow=5.7,SNR=3.9						
NB2	NORSAR Subarra	82.03	28	P	P	15 41 24.9	-1.0
	comp=Z,1.9nm,0.8s,baz=293,slow=5.6						
NOA	NORSAR Array B	82.03	28	P	P	15 41 25.3	-0.7
	comp=Z,1.1nm,0.8s,baz=291,slow=5.2,SNR=4.8						
ARCES	ARCESS Array B	83.38	18	P	P	15 41 31.3	-1.4
	comp=Z,6.5nm,1.1s,baz=5.4,slow=2.6,SNR=3.7						

*ISCJB **09** 15:35:05.9±1.9, 33°.79N±0°.05×35°.7E±0°.1, h22km±13km,*
Error ellipse: s-maj=16.4km s-min=8.1km az=163.7
*NSSC **09** 15:35:05.4

PB04	**IPOC Station P**	**3.06 302**	*e*P	Pn	15 40 52.9	+0.4
PB04			IAML		15 41 36.1	
comp=E,97nm,0.3s						
PB07	**IPOC Station P**	**3.24 313**	⇑*i*P	Pn	15 40 54.9	+0.3
PB07			*i* S	S	15 41 36.8	-1.3
PB07			IAML		15 41 38.5	
comp=N,57nm,0.2s						
PB01	**IPOC Station P**	**3.53 326**	⇓*i*P	Pn	15 40 57.6	-0.1
PB01			*i* S	S	15 41 42.2	-1.7
PB01			IAML		15 41 45.1	
comp=E,33nm,0.6s						
PB02	**IPOC Station P**	**3.54 318**	⇑*i*P	Pn	15 40 57.8	-0.1
PB02			*e*S	S	15 41 42.8	-1.4
PB08	**IPOC Station P**	**4.17 336**	⇑*e*P	Pn	15 41 05.9	+0.4
PB08			*i* S	S	15 41 57.8	-0.2

ROM 09 15:48:13.8±0.1, 43°.458N±0°.004×12°.306E±0°.005, h10km, ML0.8/4, Error ellipse: s-maj=0.4km s-min=0.4km az=38.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.05**	**270**	P	Pg	15 48 16.1	+0.3
CDCA				S	Sg	15 48 17.4	+0.1
CDCA	**Citt' di Caste**	**0.05**	**270**	P	Pg	15 48 16.1	+0.3
CDCA	**Citt' di Caste**	**0.05**	**270**	S	Sg	15 48 17.4	+0.1
BADI	**Badiali**	**0.07**	**319**	P	Pg	15 48 16.4	+0.4
BADI	**Badiali**	**0.07**	**319**	P	Pg	15 48 16.4	+0.4
BADI				S	Sg	15 48 17.9	+0.3
BADI				AML	AML		
comp=E,282μm,0.2s							
BADI				AML	AML		
comp=N,170μm,0.8s							
BADI				AML	AML		
comp=E,282μm,0.2s							
BADI				AML	AML		
comp=N,170μm,0.8s							
BADI				AML	AML		
comp=N,170μm,0.8s							
BADI				AML	AML		
comp=E,282μm,0.2s							
BADI	**Badiali**	**0.07**	**319**	S	Sg	15 48 17.9	+0.2
ATPI	**Pietralunga -**	**0.07**	**96**	P	Pg	15 48 16.4	+0.3
ATPI				S	Sg	15 48 17.9	+0.2
ATPI				AML	AML		
comp=E,111μm,0.3s							
ATPI				AML	AML		
comp=N,100μm,1.0s							
ATPI				AML	AML		
comp=E,110μm,0.3s							
ATPI				AML	AML		
comp=N,100μm,1.0s							
ATPI				AML	AML		
comp=E,110μm,0.3s							
ATPI				AML	AML		
comp=N,100μm,1.0s							
ATPI	**Pietralunga -**	**0.07**	**96**	S	Sg	15 48 17.9	+0.2
ATVO	**AVT- Monte Val**	**0.11**	**136**	P	Pg	15 48 17.1	+0.6
ATVO				S	Sg	15 48 19.2	+0.8
ATVO				AML	AML		
comp=E,61μm,1.6s							
ATVO				AML	AML		
comp=N,63μm,0.1s							
ATVO				AML	AML		
comp=E,61μm,1.6s							
ATVO				AML	AML		
comp=N,63μm,0.1s							
ATVO				AML	AML		
comp=N,63μm,0.1s							
ATVO				AML	AML		
comp=E,61μm,1.6s							
ATVO	**AVT- Monte Val**	**0.11**	**136**	P	Pg	15 48 17.1	+0.6
ATVO	**AVT- Monte Val**	**0.11**	**136**	S	Sg	15 48 19.3	+0.8
PARC	**Parchiule**	**0.20**	**346**	P	Pb	15 48 18.8	-0.8
PARC				S	Sg	15 48 22.2	+1.4
PARC	**Parchiule**	**0.20**	**346**	P	Pb	15 48 18.8	-0.7
PARC	**Parchiule**	**0.20**	**346**	S	Sg	15 48 19.0	-1.9
PARC	**Parchiule**	**0.20**	**346**	S	Sg	15 48 22.4	+1.5
NARO	**Abbazia di Nar**	**0.25**	**53**	P	Pg	15 48 19.5	+0.6
NARO	**Abbazia di Nar**	**0.25**	**53**	P	Pg	15 48 19.6	+0.6
NARO				S	Sb	15 48 23.8	-1.1
NARO	**Abbazia di Nar**	**0.25**	**53**	S	Sg	15 48 20.0	-2.4
ATTE	**AVT- Monte Tez**	**0.26**	**172**	P	Pg	15 48 19.9	+0.7
ATTE	**AVT- Monte Tez**	**0.26**	**172**	P	Pb	15 48 20.0	-0.6
ATTE				S	Sg	15 48 23.8	+1.1
ATTE				AML	AML		
comp=E,20μm,0.3s							
ATTE				AML	AML		
comp=N,23μm,0.4s							
ATTE				AML	AML		
comp=E,20μm,0.3s							
ATTE				AML	AML		
comp=N,23μm,0.4s							
ATTE				AML	AML		
comp=E,20μm,0.3s							
ATTE				AML	AML		
comp=N,23μm,0.4s							
ATTE	**AVT- Monte Tez**	**0.26**	**172**	S	Sg	15 48 23.8	+1.0
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pb	15 48 20.2	-0.7
CAFI				S	Sb	15 48 24.7	-1.0
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pb	15 48 20.2	-0.7
CAFI	**Castiglion Fio**	**0.28**	**243**	S	Sg	15 48 24.5	+1.2
CRE	**Caprese Michel**	**0.30**	**302**	P	Pg	15 48 20.5	+0.5
CRE	**Caprese Michel**	**0.30**	**302**	P	Pg	15 48 20.6	+0.6
OFFI	**Offida**	**1.14**	**117**	P	Pb	15 48 31.2	-4.3

IDC 09 15:51:31.0±18.0, 15°.41S×165°.09E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/29, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=325.7km s-min=43.2km az=46.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.75**	**169**	Pn	Pn	15 53 11.5	0.0
0.8nm,0.3s,baz=72,slow=9.5,SNR=23							
STKA	**Stephens Creek**	**26.96**	**228**	P	P	15 57 14.5	0.0
1.2nm,0.9s,baz=56,slow=8.1,SNR=7.4							
WRA	**Warramunga Arr**	**29.62**	**257**	P	P	15 57 38.1	-0.2
0.6nm,1.0s,baz=83,slow=7.7,SNR=3.9							
ASAR	**Alice Springs**	**30.46**	**249**	P	P	15 57 46.0	+0.1
0.5nm,0.4s,baz=78,slow=9.2,SNR=27							

*KRSC **09** 16:17:44.4±10.0, 50°.99N×158°.08E, h54km±10km, ML4.6*
*MOS **09** 16:17:45.9±0.8, 50°.96N×158°.01E, h54km, mb4.1/16, Error ellipse: s-maj=10.9km s-min=3.7km az=80.8*
*ISCJB **09** 16:17:46.7±0.6, 51°.04N±0°.04×157°.94E±0°.06, h63km±4km, mb4.2/49, Error ellipse: s-maj=8.9km s-min=3.4km az=139.5*
*IDC **09** 16:17:46.9±0.7, 51°.13N×157°.93E, h44km±6km, mb3.6/16, mb1 3.9/18, mb1mx3.6/53, mbtmp3.9/18, ML3.6/2, MS2.8/3, Ms1 2.8/3, ms1mx2.6/39, Error ellipse: s-maj=17.7km s-min=10.6km az=143.0*
*NEIC **09** 16:17:46.0±1.1, 50°.95N×157°.75E, h47km±10km, mb4.3/36, Error ellipse: s-maj=22.8km s-min=19.0km az=170.0*
ISC 09 16:17:46.6±0.7, 50°.99N±0°.05×158°.00E±0°.04, h46km±6km, n164, σ1§26/189, mb4.1/49, 3C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.83**	**3**	*e*P	**Pn**	**16 18 01.4**	**-0.4**
KDTR				*e*S	**Sn**	**16 18 11.7**	**-1.3**
KDTR	**Khodutka, Kamc**	**0.83**	**3**	PN	**Pn**	**16 18 01.4**	**-0.4**
KDTR				S	**Sn**	**16 18 11.7**	**-1.3**
PAU	**Pauzhetka**	**0.89**	**303**	*e*P	**Pn**	**16 18 02.9**	**+0.2**
PAU				*e*S	**Sn**	**16 18 15.2**	**+0.7**
PAU	**Pauzhetka**	**0.89**	**303**	PN	**Pn**	**16 18 02.9**	**+0.2**
PAU				S	**Sn**	**16 18 15.2**	**+0.7**
SKR	**Severo-Kuril's**	**1.23**	**256**	*e*P	**Pn**	**16 18 07.3**	**0.0**
SKR				*e*S	**Sn**	**16 18 22.3**	**-0.5**
SKR	**Severo-Kuril's**	**1.23**	**256**	*e*PN	**Pn**	**16 18 07.4**	**+0.1**
SKR				*i* S	**Sn**	**16 18 22.6**	**-0.2**
SKR				pmax	pmax		
comp=Z,359nm,0.5s							
SKR				smax	smax		
comp=N,9μm,0.3s							
SKR				smax	smax		
comp=E,8μm,0.3s							
ASAK	**Asacha**	**1.40**	**358**	*e*P	**Pn**	**16 18 09.8**	**0.0**
ASAK	**Asacha**	**1.40**	**358**	PN	**Pn**	**16 18 09.8**	**0.0**
RUS	**Russkaya**	**1.48**	**12**	*e*P	**Pn**	**16 18 10.2**	**-0.6**
RUS				*e*S	**Sn**	**16 18 27.9**	**-1.1**
RUS	**Russkaya**	**1.48**	**12**	PN	**Pn**	**16 18 10.2**	**-0.6**
RUS				S	**Sn**	**16 18 27.9**	**-1.1**
MTVR	**Mutnovka**	**1.50**	**4**	*e*P	**Pn**	**16 18 11.3**	**+0.1**
MTVR				*e*S	**Sn**	**16 18 29.4**	**-0.3**
MTVR	**Mutnovka**	**1.50**	**4**	PN	**Pn**	**16 18 11.3**	**+0.1**
MTVR				S	**Sn**	**16 18 29.4**	**-0.3**
ALID	**Alaid**	**1.55**	**267**	*e*P	**Pn**	**16 18 12.1**	**+0.2**
ALID				*e*S	**Sn**	**16 18 31.3**	**+0.4**
ALID	**Alaid**	**1.55**	**267**	PN	**Pn**	**16 18 12.1**	**+0.2**
ALID				S	**Sn**	**16 18 31.3**	**+0.4**
GRL	**Gorelyy**	**1.57**	**2**	*e*P	**Pn**	**16 18 12.6**	**+0.5**
GRL	**Gorelyy**	**1.57**	**2**	PN	**Pn**	**16 18 12.6**	**+0.5**
KRMR	**Karymshinskiy**	**1.85**	**2**	*e*P	**Pn**	**16 18 16.5**	**+0.7**
KRMR				*e*S	**Sn**	**16 18 38.6**	**+0.7**
KRMR	**Karymshinskiy**	**1.85**	**2**	PN	**Pn**	**16 18 16.5**	**+0.7**
KRMR				S	**Sn**	**16 18 38.6**	**+0.7**
APC	**Apacha**	**2.01**	**345**	*e*P	**Pn**	**16 18 18.8**	**+0.8**
APC				*e*S	**Sn**	**16 18 42.7**	**+0.8**
APC	**Apacha**	**2.01**	**345**	PN	**Pn**	**16 18 18.8**	**+0.8**
APC				S	**Sn**	**16 18 42.7**	**+0.8**
PET	**Petropavlovsk**	**2.08**	**11**	*e*Pn	**Pn**	**16 18 19.3**	**+0.3**
PET				*e*Sn	**Sn**	**16 18 44.7**	**+1.1**
PET	**Petropavlovsk**	**2.08**	**11**	PN	**Pn**	**16 18 19.6**	**+0.6**
PET				S	**Sn**	**16 18 43.8**	**+0.2**
DALK	**Dalny**	**2.10**	**13**	*e*P	**Pn**	**16 18 19.7**	**+0.5**
DALK				*e*S	**Sn**	**16 18 43.9**	**-0.2**
DALK	**Dalny**	**2.10**	**13**	PN	**Pn**	**16 18 19.7**	**+0.5**
DALK				S	**Sn**	**16 18 43.9**	**-0.2**
PEA0B	**Petropavlovsk-**	**2.13**	**355**	*e*Pn	**Pn**	**16 18 20.3**	**+0.6**
PEA0B	**Petropavlovsk-**	**2.13**	**355**	PN	**Pn**	**16 18 20.3**	**+0.6**
PETK	**Petropavlovsk-**	**2.13**	**355**	*e*Pn	**Pn**	**16 18 20.1**	**+0.3**
PETK	**Petropavlovsk-**	**2.13**	**355**	P	**Pn**	**16 18 19.7**	**0.0**
comp=E,19nm,0.3s,baz=239,slow=29,SNR=336							
PETK				S	**Sn**	**16 18 47.9**	**+2.9**
comp=E,27nm,0.3s,baz=205,slow=24,SNR=10							
PETK				LR	LR	16 19 18.1	
comp=E,155nm,20.3s,baz=157,slow=46							
UGLR	**Uglovaya**	**2.28**	**13**	*e*P	**Pn**	**16 18 22.8**	**+0.9**
UGLR	**Uglovaya**	**2.28**	**13**	PN	**Pn**	**16 18 22.8**	**+0.9**
AVH	**Avacha**	**2.33**	**11**	*e*P	**Pn**	**16 18 24.0**	**+1.6**
AVH	**Avacha**	**2.33**	**11**	PN	**Pn**	**16 18 24.0**	**+1.6**
SMAR	**Somma**	**2.33**	**12**	*e*P	**Pn**	**16 18 23.4**	**+0.7**
SMAR	**Somma**	**2.33**	**12**	PN	**Pn**	**16 18 23.4**	**+0.7**
NLC	**Nalytchevo**	**2.34**	**20**	*e*P	**Pn**	**16 18 22.3**	**-0.2**
NLC	**Nalytchevo**	**2.34**	**20**	PN	**Pn**	**16 18 22.3**	**-0.2**
KOK	**Koryaka**	**2.34**	**9**	*e*P	**Pn**	**16 18 24.3**	**+1.6**
KOK	**Koryaka**	**2.34**	**9**	PN	**Pn**	**16 18 24.3**	**+1.6**
SDLR	**Sedlovina**	**2.36**	**13**	*e*P	**Pn**	**16 18 23.2**	**+0.3**
SDLR				*e*S	**Sn**	**16 18 50.7**	**0.0**
SDLR	**Sedlovina**	**2.36**	**13**	PN	**Pn**	**16 18 23.2**	**+0.3**
SDLR				S	**Sn**	**16 18 50.7**	**0.0**
KRER	**Koryakskii**	**2.37**	**11**	*e*P	**Pn**	**16 18 24.7**	**+1.6**
KRER	**Koryakskii**	**2.37**	**11**	PN	**Pn**	**16 18 24.7**	**+1.6**
KRX	**Arik**	**2.41**	**9**	*e*P	**Pn**	**16 18 25.6**	**+2.0**
KRX	**Arik**	**2.41**	**9**	PN	**Pn**	**16 18 25.6**	**+2.0**
SPN	**Mys Shipunski**	**2.46**	**30**	*e*P	**Pn**	**16 18 24.9**	**+0.8**
SPN				*e*S	**Sn**	**16 18 53.2**	**+0.3**
SPN	**Mys Shipunski**	**2.46**	**30**	PN	**Pn**	**16 18 24.9**	**+0.8**
SPN				S	**Sn**	**16 18 53.2**	**+0.3**
KZV	**Kizimen**	**4.36**	**18**	*e*P	**Pn**	**16 18 52.9**	**+2.5**
KZV	**Kizimen**	**4.36**	**18**	PN	**Pn**	**16 18 52.9**	**+2.5**
TUMD	**Tumrok D**	**4.46**	**18**	*e*P	**Pn**	**16 18 53.8**	**+2.1**
TUMD				*e*S	**Sn**	**16 19 42.3**	**0.0**
TUMR	**Tumrok**	**4.50**	**16**	PN	**Pn**	**16 18 53.8**	**+1.6**
TUMR				S	**Sn**	**16 19 42.3**	**-0.9**
ESO	**Esso**	**4.97**	**5**	*e*P	**Pn**	**16 19 01.3**	**+2.7**
ESO	**Esso**	**4.97**	**5**	PN	**Pn**	**16 19 01.3**	**+2.7**
SRDR	**Sredinnyy**	**5.44**	**10**	*e*P	**Pn**	**16 19 07.0**	**+1.9**
SRDR	**Sredinnyy**	**5.44**	**10**	PN	**Pn**	**16 19 07.0**	**+1.9**
KLY	**Klyuchi**	**5.56**	**15**	*e*P	**Pn**	**16 19 09.8**	**+3.1**
KLY	**Klyuchi**	**5.56**	**15**	PN	**Pn**	**16 19 09.8**	**+3.1**
KBTR	**Krutoberegovo**	**5.97**	**27**	*e*P	**Pn**	**16 19 13.1**	**+0.9**
KBTR				*e*S	**Sn**	**16 20 21.3**	**+2.1**
KBTR	**Krutoberegovo**	**5.97**	**27**	PN	**Pn**	**16 19 13.1**	**+0.9**
KBTR				S	**Sn**	**16 20 21.3**	**+2.1**
SMKR	**Semkarok**	**5.97**	**19**	*e*P	**Pn**	**16 19 14.5**	**+2.1**
SMKR	**Semkarok**	**5.97**	**19**	PN	**Pn**	**16 19 14.5**	**+2.1**
SRKR	**Sorokina**	**5.98**	**17**	*e*P	**Pn**	**16 19 14.2**	**+1.7**
SRKR	**Sorokina**	**5.98**	**17**	PN	**Pn**	**16 19 14.2**	**+1.7**
BKI	**Bering**	**6.39**	**46**	*e*P	**Pn**	**16 19 18.2**	**+0.1**
BKI				*e*S	**Sn**	**16 20 24.5**	**-5.2**
BKI	**Bering**	**6.39**	**46**	PN	**Pn**	**16 19 18.2**	**+0.1**
KUR	**Kuril'sk**	**8.89**	**234**	PN	**Pn**	**16 19 52.0**	**-0.3**
KUR				pmax	pmax		
comp=Z,4.0nm,0.3s							
MA2	**Magadan**	**9.54**	**337**	*e*Pn	**Pn**	**16 20 00.3**	**-0.9**
MA2	**Magadan**	**9.54**	**337**	*e*PN	**Pn**	**16 20 00.3**	**-0.9**
YSS	**Yuzh-Sakhalins**	**10.80**	**254**	*e*PN	**Pn**	**16 20 14.2**	**-4.2**
ASAJ	**Asahikawa**	**12.46**	**242**	P	**Pn**	**16 20 43.4**	**+2.3**
comp=Z,0.6nm,0.3s,baz=79,slow=17,SNR=15							
ASAJ				LR	LR	16 24 52.9	
comp=Z,36nm,19.9s,baz=340,slow=34							
GRNR	**Gornyy**	**13.62**	**277**	*e*P	**P**	**16 21 07.6**	**+2.9**
GRNR				pmax	pmax		
comp=Z,13nm,1.0s							
KLR	**Kul'dur**	**16.90**	**274**	⇓*e*P	**P**	**16 21 41.7**	**+0.6**
KLR	**Kul'dur**	**16.90**	**274**	P	**P**	**16 21 40.8**	**-0.3**
comp=Z,0.2nm,0.3s,baz=44,slow=11,SNR=5.8							
BILL	**Bilibino**	**17.58**	**10**	*e*Pn	**P**	**16 21 49.0**	**+0.5**
comp=Z,3.1nm,0.9s							
BILL	**Bilibino**	**17.58**	**10**	*e*P	**P**	**16 21 48.6**	**+0.1**
BILL				pmax	pmax		
comp=Z,3.0nm,1.0s							
ZEA	**Zeya**	**18.91**	**290**	*e*P	**Pn**	**16 22 04.0**	**-0.1**
MAJO	**Matsushiro**	**20.22**	**232**	⇑*e*P	Pn	16 22 19.3	-0.6
MAJO				pmax	pmax		
comp=Z,17nm,2.3s							
MAT	**Matsushiro**	**20.22**	**232**	P	Pn	16 22 19.5	-0.4
MJAR	**Matsushiro Arr**	**20.22**	**232**	P	Pn	16 22 19.6	-0.3
comp=Z,2.0nm,0.7s,baz=22,slow=10,SNR=8.8							
MJAR				LR	LR	16 29 40.3	
comp=Z,50nm,18.9s,baz=90,slow=35							
GAMB	**Gambell**	**20.50**	**40**	*e*P	**P**	**16 22 21.4**	**+1.1**
ANM	**Nome**	**23.37**	**41**	*e*P	**P**	**16 22 51.2**	**+0.6**
comp=Z,15nm,1.4s							
ANM	**Nome**	**23.37**	**41**	*e*P	**P**	**16 22 51.2**	**+0.6**
ANM				pmax	pmax		
comp=Z,15nm,1.4s							
TIXI	**Tiksi**	**24.51**	**338**	*e*P	**P**	**16 22 59.0**	**-2.1**
comp=Z,1.9nm,1.0s							
TIXI	**Tiksi**	**24.51**	**338**	⇑*e*P	**P**	**16 22 59.5**	**-1.6**
TIXI				pmax	pmax		
comp=Z,1.0nm,0.8s							
TIXI	**Tiksi**	**24.51**	**338**	P	**P**	**16 22 58.3**	**-2.8**
comp=Z,1.2nm,0.5s,baz=132,slow=8.5,SNR=8.1							
KSRS	**Korea Array**	**25.24**	**249**	P	**P**	**16 23 10.2**	**+2.1**
comp=Z,0.7nm,0.6s,baz=41,slow=9.9,SNR=3.6							
KSRS				LR	LR	16 32 06.6	
comp=Z,16nm,21.7s,baz=230,slow=34							
JNU	**Nakatsue**	**26.68**	**238**	P	**P**	**16 23 23.0**	**+1.9**
comp=Z,4.0nm,0.7s,baz=300,slow=2.0,SNR=12							
SVW2	**Sparrevohn**	**27.25**	**50**	*e*P	**P**	**16 23 26.5**	**+0.4**
IMAR	**Indian Mountai**	**28.44**	**40**	*e*P	**P**	**16 23 36.0**	**-0.6**
PPLA	**Purkeypile**	**28.88**	**46**	*e*P	**P**	**16 23 41.3**	**+0.7**
comp=Z,4.1nm,1.0s							
CAST	**Castle Rocks**	**28.94**	**45**	*e*P	**P**	**16 23 41.5**	**+0.4**
comp=Z,1.8nm,0.8s							
BPAW	**Bear Paw Mtn.**	**29.45**	**44**	*e*P	**P**	**16 23 46.0**	**+0.5**
comp=Z,17nm,2.0s							
MLY	**Manley**	**29.60**	**42**	*e*P	**P**	**16 23 47.3**	**+0.4**
comp=Z,1.5nm,0.8s							
BRLK	**Bradley Lake**	**29.64**	**53**	*e*P	**P**	**16 23 47.4**	**+0.1**
comp=Z,9.3nm,1.2s							
BWN	**Browne**	**30.11**	**44**	*e*P	**P**	**16 23 53.0**	**+1.6**
comp=Z,13nm,1.0s							
TOLK	**Toolik Lake Re**	**30.43**	**35**	*e*P	**P**	**16 23 54.2**	**0.0**
comp=Z,3.3nm,0.5s							
MDM	**Murphy Dome**	**30.66**	**42**	*e*P	**P**	**16 23 57.2**	**+1.0**
comp=Z,3.8nm,1.2s							
SML	**Sawmill**	**30.71**	**49**	*e*P	**P**	**16 23 57.1**	**+0.4**
comp=Z,9.1nm,0.7s							
SML	**Sawmill**	**30.71**	**49**	*e*P	**P**	**16 23 57.1**	**+0.4**
SML				pmax	pmax		
comp=Z,9.0nm,0.7s							
WRH	**Wood River Hil**	**30.72**	**43**	*e*P	**P**	**16 23 57.3**	**+0.6**
comp=Z,3.2nm,0.9s							
COLA	**College**	**30.82**	**42**	⇓*e*P	**P**	**16 23 58.2**	**+0.6**
COLA				pmax	pmax		
comp=Z,5.0nm,0.9s							
CCB	**Clear Creek Bu**	**30.84**	**43**	*e*P	**P**	**16 23 57.6**	**-0.2**
comp=Z,2.2nm,0.8s							
ILAR	**Eielson Array**	**31.23**	**43**	*e*P	**P**	**16 24 01.2**	**+0.4**
ILAR	**Eielson Array**	**31.23**	**43**	*e*P	**P**	**16 24 01.2**	**-0.1**
ILAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
ILAR	**Eielson Array**	**31.23**	**43**	P	**P**	**16 24 00.9**	**-0.4**
comp=Z,1.5nm,0.8s,baz=260,slow=8.3,SNR=16							
ILB	**Eielson Array**	**31.23**	**43**	*e*P	**P**	**16 24 01.5**	**+0.2**
comp=Z,2.4nm,0.8s							
PRP	**Porcupine Dome**	**31.80**	**41**	*e*P	**P**	**16 24 06.9**	**+0.5**
comp=Z,6.1nm,0.9s							
KLU	**Klutina**	**31.88**	**49**	*e*P	**P**	**16 24 06.7**	**-0.5**
comp=Z,7.5nm,1.4s							
FYU	**Fort Yukon**	**31.92**	**39**	*e*P	**P**	**16 24 08.4**	**+1.1**
comp=Z,7.6nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**31.97**	**164**	T	T	16 58 05.8	
baz=350,slow=76,SNR=461							
H11N3	**WAKE ISLAND Hy**	**31.99**	**164**	T	T	16 58 07.1	
baz=350,slow=76,SNR=440							
H11N1	**WAKE ISLAND Hy**	**31.99**	**164**	T	T	16 58 06.9	
baz=350,slow=76,SNR=397							
HARP	**HAARP**	**32.14**	**47**	*e*P	**P**	**16 24 09.2**	**-0.1**
comp=Z,20nm,1.8s							
RIDG	**Independent Ri**	**32.17**	**45**	*e*P	**P**	**16 24 09.4**	**-0.2**
comp=Z,4.9nm,1.3s							
BMAR	**Burnt Mountain**	**32.20**	**38**	*e*P	**P**	**16 24 10.2**	**+0.4**
BMRM	**Bremner River**	**32.59**	**50**	*e*P	**P**	**16 24 12.1**	**-1.1**
comp=Z,30nm,1.7s							
ULN	**Ulaanbaatar**	**32.75**	**285**	*ce*P	**P**	**16 24 16.1**	**+1.2**
ULN				pmax	pmax		
comp=Z,1.0nm,0.5s							
HMT	**Hamilton**	**32.85**	**51**	*e*P	**P**	**16 24 16.6**	**+1.0**
comp=Z,2.4nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**33.14**	**165**	T	T	16 59 33.8	
baz=350,slow=76,SNR=192							
H11S3	**WAKE ISLAND Hy**	**33.15**	**165**	T	T	16 59 31.3	
baz=350,slow=76,SNR=254							
H11S2	**WAKE ISLAND Hy**	**33.15**	**165**	T	T	16 59 28.7	
baz=350,slow=76,SNR=156							
HHC	**Hu-ho-hao-te**	**33.35**	**271**	*e*P	**P**	**16 24 18.8**	**-1.4**
BCAR	**Beaver Creek A**	**33.60**	**46**	*e*P	**P**	**16 24 23.0**	**+0.9**
EGAK	**Eagle**	**33.68**	**42**	*e*P	**P**	**16 24 22.6**	**0.0**
comp=Z,3.2nm,0.9s							
CTGM	**Chitina Glacie**	**34.16**	**49**	*e*P	**P**	**16 24 28.3**	**+1.3**
comp=Z,3.0nm,0.7s							
EPYK	**Eagle Plains**	**35.34**	**39**	*e*P	**P**	**16 24 37.6**	**+0.5**
comp=Z,24nm,1.9s							
INK	**Inuvik**	**36.34**	**36**	*e*P	**P**	**16 24 46.0**	**+0.6**
comp=Z,2.7nm,0.9s							
INK	**Inuvik**	**36.34**	**36**	*e*P	**P**	**16 24 46.0**	**+0.6**
INK				pmax	pmax		
comp=Z,3.0nm,0.9s							
INK	**Inuvik**	**36.34**	**36**	P	**P**	**16 24 45.3**	**-0.1**
comp=Z,0.9nm,0.4s,baz=281,slow=9.3,SNR=10							
LZH	**Lanzhou**	**41.04**	**270**	*e*P	**P**	**16 25 22.4**	**-3.1**
LZH				pP	pP	16 25 34.8	-3.1
LZH				sP	sP	16 25 40.0	-3.3
LZH				PP	**PP**	**16 26 58.4**	**-2.2**
YKW3	**Yellowknife Ar**	**45.56**	**40**	*e*P	**P**	**16 26 01.4**	**0.0**
comp=Z,2.5nm,0.8s							
YKA	**Yellowknife Ar**	**45.60**	**40**	*e*P	**P**	**16 26 01.0**	**-0.7**
YKA	**Yellowknife Ar**	**45.60**	**40**	P	**P**	**16 26 02.3**	**+0.6**
comp=Z,1.4nm,0.7s,baz=296,slow=7.7,SNR=18							
RES	**Resolute Bay**	**45.76**	**21**	*e*P	**P**	**16 26 03.4**	**+0.6**
comp=Z,1.4nm,0.8s							
RES	**Resolute Bay**	**45.76**	**21**	*e*P	**P**	**16 26 03.4**	**+0.6**
RES				pmax	pmax		
comp=Z,1.0nm,0.8s							
WMQ	**Urumqi**	**46.46**	**290**	*e*P	**P**	**16 26 08.0**	**-0.8**
WMQ				pP	pP	16 26 19.3	-2.0
KURK	**Kurchatov**	**47.76**	**302**	P	**P**	**16 26 17.4**	**-1.3**
KURK				pmax	pmax		
comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**47.86**	**302**	P	**P**	**16 26 17.4**	**-2.1**
comp=Z,0.8nm,0.5s,baz=62,slow=7.6,SNR=7.7							
MKAR	**Makanchi Array**	**47.91**	**296**	*e*P	**P**	**16 26 18.4**	**-1.6**
MKAR	**Makanchi Array**	**47.91**	**296**	*e*P	**P**	**16 26 21.4**	**+1.4**
MKAR	**Makanchi Array**	**47.91**	**296**	P	**P**	**16 26 19.8**	**-0.2**
comp=Z,0.4nm,0.5s,baz=64,slow=8.3,SNR=4.6							
SPA0	**Spitsbergen Ar**	**49.00**	**350**	*e*P	**P**	**16 26 27.3**	**-0.6**
comp=Z,34nm,1.1s							
KMI	**Kunming**	**49.18**	**260**	P	**P**	**16 26 29.5**	**-0.7**
BVAR	**Borovoye Array**	**50.69**	**309**	P	**P**	**16 26 39.0**	**-2.1**
comp=Z,0.8nm,0.6s,baz=61,slow=6.8,SNR=6.7							
AAK	**Ala-Archa**	**54.85**	**296**	⇓*e*P	**P**	**16 27 12.3**	**+0.2**
AAK				pmax	pmax		
comp=Z,1.0nm,1.1s							
FFC	**Flin Flon**	**55.43**	**44**	*i* P	**P**	**16 27

IKOO Kooshah 6.15 322 *e*Pn **Pn 16 25 35.3 +1.2**
IKOO IAMB IAmb 16 25 36.7
comp=Z,291nm,0.3s
WSAR Wadi Sarin 6.22 226 P **Pn 16 25 34.6 -0.3**
comp=Z,1.5nm,0.3s,baz=102,slow=6.0,SNR=80
WSAR S Sn 16 26 36.6 -8.1
comp=Z,7.6nm,0.3s,baz=8.5,slow=21,SNR=26
NGRK Negar Kerman 6.27 290 *e*Pn **Pn 16 25 39.8 +3.9**
NGRK IAMB IAmb 16 27 03.2
comp=Z,0.0nm,0.2s
TVBK TV Kerman 6.35 293 *e*Pn **Pn 16 25 40.3 +3.3**
TVBK IAMB IAmb 16 25 41.8
comp=Z,0.0nm,0.3s
GENO Geno 6.51 269 *e*Pn **Pn 16 25 42.3 +3.3**
GENO IAMB IAmb 16 26 00.0
comp=Z,0.0nm,0.2s
JLN Jalan Bani Buh 6.62 215 Pn **Pn 16 25 39.7 -0.6**
SNR=14
JLN Jalan Bani Buh 6.62 215 P **Pn 16 25 39.7 -0.6**
SNR=14
JLN S **Sn 16 26 48.4 -6.1**
MDH Madha 6.87 252 P **Pn 16 25 45.5 +1.8**
MDH S **Sn 16 26 54.6 -6.0**
BHJ Bhuj 7.08 127 *e*P **Pn 16 25 47.3 +0.6**
BHJ *e*S **Sn 16 27 00.4 -5.5**
BHJ IAML 16 27 05.5
comp=E,223nm,0.2s
BHJ IAML 16 27 07.3
comp=N,3μm,1.1s
SOHO SOHO 7.18 242 Pn **Pn 16 25 48.5 +0.4**
SNR=15
SOHO SOHO 7.18 242 P **Pn 16 25 48.5 +0.4**
SNR=15
SOHO S **Sn 16 27 01.0 -7.4**
ASHO Ashiyiah 7.31 248 P **Pn 16 25 51.7 +1.8**
ARQ Araqi 7.63 237 P **Pn 16 25 57.8 +3.6**
ARQ S **Sn 16 27 17.7 -1.7**
ASUD Al Ashush, Dub 7.94 250 Pn **Pn 16 26 02.3 +3.9**
SNR=8.6
ASUD Al Ashush, Dub 7.94 250 P **Pn 16 26 02.3 +3.9**
SNR=8.6
TKDS Koohdasht(Taba 8.09 319 *e*Pn **Pn 16 26 02.1 +1.5**
KBL Kabul 8.35 33 *e*Pn **Pn 16 26 03.3 -1.0**
KBL Kabul 8.35 33 *e*P **Pn 16 26 03.3 -1.0**
KBL Kabul 8.35 33 *e*P **Pn 16 26 04.0 -0.3**
TNSJ Nastanj 8.64 318 *e*Pn **Pn 16 26 09.8 +1.7**
THW Thamme Wali 8.78 52 P **Pn 16 26 10.3 +0.3**
CEP Cherat 9.49 48 P **Pn 16 26 20.4 +0.5**
SBZV Sabzevar 10.04 332 *e*Pn **Pn 16 26 29.1 +1.7**
NIL Nilore 10.31 52 *e*Pn **Pn 16 26 26.8 -4.1**
NIL *e*Sn Sn 16 28 13.8 -11
NIL Nilore 10.31 52 *e*P **Pn 16 26 26.8 -4.1**
NIL Nilore 10.31 52 *e*Pn **Pn 16 26 26.8 -4.1**
CHCP Chirah Chowk 10.32 52 P **Pn 16 26 31.5 +0.4**
GEYT Alibeck 11.20 338 P **Pn 16 26 43.5 +0.4**
comp=N,0.8nm,0.3s,baz=160,slow=14,SNR=5.0
GEYT LR LR 16 31 45.1
comp=N,120nm,19.7s,baz=155,slow=41
KUDL Kundal 11.50 85 *e*P Pn 16 26 42.8 -4.4
KUDL *e*S Sn 16 28 39.6 -15
ROKH ROKH 11.77 296 *e*Pn **Pn 16 26 53.6 +2.5**
CHGR Chuyangaron 11.95 22 *e*Pn **Pn 16 26 57.4 +4.0**
DHRM DHARAMSHALA 12.01 64 *e*P **Pn 16 26 55.0 +0.7**
DHRM *e*x x 16 29 00.5
DHRM IAML 16 29 04.5
comp=E,88nm,0.6s
DHRM IAML 16 29 04.5
comp=N,66nm,0.6s
SONA Sohna 12.03 84 *e*S Sn 16 28 56.5 -11
SMLA Simla 12.41 71 *e*P **Pn 16 27 00.5 +0.9**
SMLA *e*S Sn 16 29 06.3 -10
SMLA IAML 16 29 13.1
comp=E,36nm,0.4s
SMLA IAML 16 29 13.5
comp=N,52nm,0.4s
GAR Garm 12.66 25 *e*Pn **Pn 16 27 02.8 -0.4**
GAR Garm 12.66 25 *e*P **Pn 16 27 02.8 -0.4**
BTK Batken 13.78 24 *e*Pn **Pn 16 27 17.4 -1.0**
BTK Batken 13.78 24 *e*P **Pn 16 27 17.4 -1.0**
JOSI Joshimath 14.34 75 *e*P Pn 16 27 16.7 -9.4
JOSI *e*S Sn 16 29 53.9 -10
JOSI IAML 16 30 41.1
comp=N,36μm,2.1s
JOSI IAML 16 30 50.6
comp=E,28nm,1.5s
ARSB Arslanbob 15.70 27 *e*Pn **Pn 16 27 40.5 -3.4**
KSH Kashi 15.73 38 P **Pn 16 27 39.5 -4.8**
KSH sP P 16 27 46.7 -1.0
KSH PP **PnPn 16 27 51.2 -2.0**
KSH S **Sn 16 30 30.4 -7.1**
KSH SS **S 16 30 47.4 -3.4**
KSH pmax pmax
comp=E,24nm,0.9s
KSH pmax pmax
comp=E,240nm,4.6s
KSH LR LR
comp=E,150nm,8.1s
KSH LR LR
comp=E,140nm,8.2s
KSH LR LR
comp=E,310nm,6.0s
KK31 Karatay Array 16.43 18 *e*Pn **Pn 16 27 51.0 -2.1**
comp=E,3.2nm,0.7s
KK31 Karatay Array 16.43 18 *e*P **Pn 16 27 51.0 -2.1**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 16.43 18 *e*Pn **Pn 16 27 50.7 -2.4**
comp=Z,3.2nm,0.7s
KKAR *e*Pn **P 16 27 51.1 -4.2**
KKAR Karatay Array 16.43 18 *e*P **Pn 16 27 50.7 -2.4**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
NRN Naryn 17.15 34 *e*Pn **Pn 16 28 00.4 -1.9**
comp=Z,4.1nm,1.0s
NRN Naryn 17.15 34 *e*P **Pn 16 28 00.4 -1.9**
NRN pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 17.42 28 *e*Pn **Pn 16 28 03.5 -2.1**
comp=Z,16nm,1.6s
AAK Ala-Archa 17.42 28 *d i*P **P 16 28 06.2 -0.2**
AAK pmax pmax
comp=Z,11nm,1.6s
AAK Ala-Archa 17.42 28 P **Pn 16 28 05.4 -0.1**
comp=Z,0.1nm,0.3s,baz=218,slow=10,SNR=9.3
AAK LR LR 16 35 37.5
comp=Z,59nm,21.1s,baz=142,slow=40
DANN Dangsing 17.91 83 *e*P **P 16 28 15.1 +3.1**
comp=Z,35nm,0.7s
BOOM Boomskoye usch 17.94 31 *e*Pn **Pn 16 28 10.1 -1.8**
comp=Z,6.4nm,0.8s
BOOM Boomskoye usch 17.94 31 *e*P **Pn 16 28 10.1 -1.8**
BOOM pmax pmax
comp=Z,6.0nm,0.8s
KDJ Kajisay 18.26 34 *e*Pn **P 16 28 12.5 -3.1**
comp=Z,6.6nm,1.2s
KDJ Kajisay 18.26 34 *e*P **P 16 28 12.5 -3.1**
KDJ pmax pmax
comp=Z,7.0nm,1.2s
PRZ Przheval'sk 19.13 35 *e*P **P 16 28 23.5 -1.7**
comp=Z,12nm,1.2s
PRZ Przheval'sk 19.13 35 *e*P **P 16 28 23.5 -1.7**
PRZ pmax pmax
comp=Z,12nm,1.2s
DMN Daman 19.15 85 *e*P **Pn 16 28 29.1 +2.3**
KKN Kakani 19.29 85 *e*P **Pn 16 28 29.9 +1.5**
comp=Z,6.0nm,0.5s
PKIN Phulchoki 19.41 85 *e*P **Pn 16 28 31.8 +1.9**
comp=Z,6.7nm,0.6s
PKI Pulchoki 19.42 85 *e*P **Pn 16 28 32.0 +1.9**
comp=Z,10nm,0.7s
GNI Garni 19.89 314 LR LR 16 37 26.7
comp=Z,35nm,18.3s,baz=128,slow=40
JIRN Jiri 20.10 85 *e*P Pn 16 28 38.8 +0.6
comp=Z,31nm,0.7s
SIRT Sirnak 20.24 304 *e*P **P 16 28 34.1 -3.2**
comp=Z,39nm,0.9s
PDGK Podgornoye 20.30 35 P **P 16 28 37.7 -0.2**
PDGK pmax pmax
comp=Z,4.0nm,1.0s
RAMN Ramite 20.54 87 *e*P Pn 16 28 42.9 -0.4
TBLG Delisi 20.80 317 *e*P **P 16 28 40.0 -3.2**
comp=Z,7.8nm,0.7s
TBLG Delisi 20.80 317 *e*P **P 16 28 40.0 -3.2**
TBLG pmax pmax
comp=Z,8.0nm,0.7s

GROC Groznyy 21.12 322 *e*P **P 16 28 45.3 -1.3**
GROC *e*S **S 16 32 40.6 +1.5**
GROC pmax pmax
comp=Z,23nm,0.5s
AKH Akhalkalaki 21.38 315 *e*P **P 16 28 48.4 -1.2**
comp=Z,6.6nm,1.0s
AKH Akhalkalaki 21.38 315 *e*P **P 16 28 48.4 -1.2**
AKH pmax pmax
comp=Z,7.0nm,1.0s
OTUK Ortayu 21.68 16 P **P 16 28 52.2 -0.4**
ABKAR Akbulak array 21.74 354 *e*P **P 16 28 51.5 -1.7**
ABKAR *e*P **P 16 28 51.7 -1.5**
ZEI Tsey 21.93 319 *e*P **P 16 28 55.4 -0.1**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
NCK Nalchik 22.54 320⇑ *e*P **P 16 29 03.3 +1.4**
NEY Neytrino 22.90 318⇓ *i*P **P 16 29 08.6 +2.8**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 23.08 319 P **P 16 29 08.3 +0.9**
comp=Z,2.0nm,0.7s,baz=166,slow=2.3,SNR=7.6
AKTO Aktyubinsk 23.13 351 P **P 16 29 06.1 -1.8**
comp=Z,0.8nm,0.3s,baz=174,slow=11,SNR=3.9
AKTO LR LR 16 38 55.5
comp=Z,37nm,18.6s,baz=145,slow=38
KIV Kislovodsk 23.34 320 *e*P **P 16 29 10.5 +0.4**
comp=Z,10nm,1.1s
KIV Kislovodsk 23.34 320 *e*P **P 16 29 10.5 +0.4**
KIV pmax pmax
comp=Z,10.0nm,1.1s
MAKZ Makanchi 24.02 32 *e*P **P 16 29 17.3 +0.9**
comp=Z,12nm,1.6s
MAKZ Makanchi 24.02 32 *e*P **P 16 29 17.3 +0.9**
MAKZ pmax pmax
comp=Z,12nm,1.6s
MK31 Makanchi Array 24.16 33 *e*P **P 16 29 19.1 +1.4**
comp=Z,4.3nm,1.1s
MK31 Makanchi Array 24.16 33 *e*P **P 16 29 19.1 +1.4**
MK31 pmax pmax
comp=Z,4.0nm,1.1s
MKAR Makanchi Array 24.16 33 P **P 16 29 17.9 +0.3**
comp=Z,2.2nm,0.8s,baz=212,slow=8.6,SNR=7.1
WMQ Urumqi 25.28 44 *e*P **P 16 29 29.2 +1.2**
WMQ pP pP 16 29 32.8 -6.8
WMQ LR LR
comp=Z,350nm,28.7s
WMQ LR LR
comp=Z,1μm,20.5s
WMQ LR LR
comp=Z,200nm,21.9s
KURBB Kurchatov Arra 25.63 22 P **P 16 29 31.6 +0.6**
comp=Z,4.1nm,0.7s,baz=218,slow=8.7,SNR=38
KURK Kurchatov 25.74 22 *e*P **P 16 29 32.3 +0.4**
comp=Z,5.1nm,0.8s
KURK Kurchatov 25.74 22⇑ *e*P **P 16 29 33.1 +1.2**
KURK pmax pmax
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 25.86 10 P **P 16 29 32.8 -0.2**
comp=Z,3.9nm,0.5s,baz=179,slow=11,SNR=30
BRVK Borovoye 25.88 9 *e*P **P 16 29 32.4 -0.7**
comp=Z,3.3nm,0.6s
BRVK Borovoye 25.88 9⇑ *e*P **P 16 29 33.6 +0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRDH Bariadhala 25.92 95 LR LR 16 41 08.6
comp=Z,160nm,18.6s,baz=144,slow=39
PALK Pallekele 26.01 138 LR LR 16 41 55.1
comp=Z,51nm,20.1s,baz=296,slow=41
ANN Anapa 26.94 316 *e*P **P 16 29 37.6 -5.2**
ANN *e**PP pP 16 29 41.3 -13
ANN *e*PPP PPP 16 30 30.4
ANN *e*S **S 16 34 12.2 -4.6**
ANN pmax pmax
comp=Z,19nm,1.0s
BRTR Keskin Array B 27.48 304 *e*P **P 16 29 48.6 +0.7**
BRTR Keskin Array B 27.48 304 *e*P **P 16 29 48.6 +0.7**
BRTR Keskin Array B 27.48 304 P **P 16 29 48.9 +1.0**
comp=Z,0.9nm,0.7s,baz=117,slow=8.6,SNR=6.3
ARU Arti 28.97 354⇓ *e*P **P 16 30 01.3 +0.5**
ARU pmax pmax
comp=Z,4.0nm,1.3s
ZAA0 Zalesovo Array 30.59 25 *e*P **P 16 30 15.2 0.0**
comp=Z,2.8nm,0.6s
ZALV Zalesovo Beam 30.59 25 *e*P **P 16 30 15.2 0.0**
ZALV Zalesovo Beam 30.59 25 P **P 16 30 15.7 +0.5**
comp=Z,2.6nm,0.5s,baz=229,slow=10,SNR=14
GTA Gaotai 32.26 59 *e*P **P 16 30 27.6 -2.6**
GTA pP pP 16 30 32.2 -10
GTA pmax pmax
comp=Z,1.0nm,0.9s
GTA pmax pmax
comp=Z,68nm,4.9s
GTA LR LR
comp=Z,84nm,17.9s
GTA LR LR
comp=Z,62nm,18.2s
GTA LR LR
comp=Z,75nm,18.2s
IDI Anoyia 33.64 293 P **P 16 30 43.5 +1.3**
comp=Z,6.4nm,0.8s,baz=242,slow=11,SNR=5.7
OBN Obninsk 33.67 332 *e*P **P 16 30 44.0 +1.9**
OBN *e* 16 31 55.5
OBN *e*PPP PPP 16 32 06.9
OBN pmax pmax
comp=Z,5.0nm,0.5s
CMAR Chiang Mai Arr 33.77 98 LR LR 16 47 07.9
comp=Z,47nm,18.2s,baz=200,slow=41
AKASG Malin Array Be 34.67 321 *e*P **P 16 30 49.7 -1.2**
AKASG Malin Array Be 34.67 321 P **P 16 30 50.4 -0.5**
comp=Z,0.7nm,0.4s,baz=121,slow=8.2,SNR=8.4
AKBB Malin Array Si 34.67 321 *e*P **P 16 30 49.5 -1.4**
comp=Z,4.3nm,0.9s
KIEV Kiev 34.68 321 *e*P **P 16 30 49.6 -1.3**
comp=Z,4.1nm,0.9s
KIEV Kiev 34.68 321⇓ *i*P **P 16 30 50.7 -0.2**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
CD2 Chengdu 35.13 75 *e*P **P 16 30 55.5 +0.3**
KMI Kunming 35.15 85 P **P 16 30 57.6 +2.0**
KMI pmax pmax
comp=Z,9.0nm,0.5s
VTS Vitosha 35.80 305 *e*P **P 16 31 01.5 +0.6**
comp=Z,4.0nm,0.9s
BURAR Bucovina Array 35.80 314 *e*P **P 16 31 01.1 +0.3**
BUR08 Bucovina Ar. S 35.82 314 *e*P **P 16 31 00.8 -0.2**
comp=Z,2.2nm,0.8s
KLMR Klimovskoe 36.93 341 *e*P **P 16 31 08.1 -2.0**
KLMR pmax pmax
comp=Z,9.0nm,0.9s
KWP Kalwaria Pacla 38.05 316 *e*P **P 16 31 19.7 -0.1**
comp=Z,163nm,1.6s
KOLS Kolonicke sedl 38.09 315 *e*P **P 16 31 21.6 +1.5**
KOLS Kolonicke sedl 38.09 315 *e*P **P 16 31 21.6 +1.5**
KOLS *e* 17 11 06.9
KMBO Kilima Mbogo 38.15 226 *i*P **P 16 31 21.2 0.0**
KMBO pmax pmax
comp=Z,3.0nm,0.3s
ULN Ulaanbaatar 39.27 47⇑ *e*P **P 16 31 32.2 +2.0**
ULN pmax pmax
comp=Z,4.0nm,1.9s
VYHS Vyhne 40.15 314 *e*P **P 16 31 37.4 +0.1**
VYHS Vyhne 40.15 314 *e*P **P 16 31 37.4 +0.1**
HHC Hu-ho-hao-te 41.37 59 *e*P **P 16 31 47.8 +0.2**
HHC pmax pmax
comp=Z,35nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.1s
FIA0 FINESS Array S 41.98 334 *e*pP pP 16 32 03.6 -0.6
FIA1 FINESS Array S 41.98 334 *e*P **P 16 31 51.3 -0.8**
comp=Z,29nm,1.6s
FINES FINESS Array B 41.98 334 P **P 16 31 51.4 -0.7**
comp=Z,2.0nm,0.5s,baz=131,slow=9.1,SNR=26
FINES pP **pP 16 32 03.6 -0.6**
comp=Z,1.7nm,0.4s,baz=129,slow=8.9,SNR=3.1
FINES LR LR 16 50 26.0
comp=Z,38nm,18.3s,baz=178,slow=38
GEC2 GERESS Array S 43.54 313 *e*P **P 16 32 04.8 -0.3**
comp=Z,15nm,1.9s
GERES GERESS Array B 43.54 313 P **P 16 32 04.5 -0.7**
comp=Z,0.7nm,0.6s,baz=95,slow=7.1,SNR=7.5
GERES pP **pP 16 32 18.1 +0.8**
comp=Z,0.6nm,0.6s,baz=101,slow=6.9,SNR=4.0
APA Apatity 43.88 344⇓ *i*P **P 16 32 03.4 -4.0**
APA pmax pmax
comp=Z,5.0nm,1.1s
APA MLR MLR
comp=Z,200nm,13.0s
NRIK Noril'sk 44.02 12 LR LR 16 53 47.0
comp=Z,43nm,18.9s,baz=201,slow=40
CLL Collm 44.47 316 *e*P **P 16 32 13.0 +0.5**
comp=Z,9.9nm,1.7s
CLL Collm 44.47 316 *e*P **P 16 32 11.0 -1.4**
CLL Collm 44.47 316 *e*P **P 16 32 11.0 -1.4**
WTTA Wattenberg 44.67 310 *e*P **P 16 32 14.3 0.0**
comp=Z,2.2nm,0.3s
WATA Walderalm 44.72 310 *e*P **P 16 32 14.7 0.0**
comp=Z,1.2nm,0.2s
MOTA Moosalm 45.04 310 *e*P **P 16 32 16.2 -1.1**
comp=Z,1.2nm,0.3s
RETA Reutte 45.29 311 *e*P **P 16 32 18.5 -0.6**
comp=Z,1.6nm,0.3s
FUORN Ofenpass-Fuorn 45.54 309 *e*P **P 16 32 22.0 +0.7**
comp=Z,28nm,1.9s
DAVA Damuels 45.86 310 *e*P **P 16 32 23.7 0.0**
comp=Z,3.9nm,0.4s
TUE Stuetta 46.16 309 *e*P **P 16 32 27.6 +1.5**
comp=Z,4.1nm,0.8s
BFO Black Forest 47.01 312 *e*P **P 16 32 33.9 +1.3**
comp=Z,22nm,1.8s
ARCES ARCESS Array B 47.31 343 *e*P **P 16 32 34.2 -0.4**
ARCES ARCESS Array B 47.31 343 *e*P **P 16 32 34.2 -0.4**
ARCES ARCESS Array B 47.31 343 P **P 16 32 33.8 -0.8**
comp=Z,2.2nm,0.6s,baz=143,slow=8.3,SNR=13
ARE0 ARCESS Array S 47.31 343 *e*P **P 16 32 34.3 -0.3**
comp=Z,3.7nm,1.9s
SENIN Lac Senin/Sane 47.56 309 *e*P **P 16 32 37.2 0.0**
comp=Z,24nm,1.9s
ECH Echery 47.77 311 *e*P **P 16 32 38.4 -0.1**
comp=Z,9.5nm,1.5s
NJ2 Nanjing 47.78 71 *e*P **P 16 32 38.6 -0.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NC602 NORSAR Array S 47.88 329 *e*P **P 16 32 38.0 -1.1**
comp=Z,55nm,1.8s
NC405 NORSAR Array S 47.93 329 *e*P **P 16 32 38.5 -1.0**
comp=Z,91nm,1.9s
BNI Bardonecchia 47.95 307 *e*P **P 16 32 39.8 -0.3**
comp=Z,5.1nm,0.8s
NB2 NORSAR Subarra 48.13 329 P **P 16 32 39.9 -1.2**
comp=Z,0.5nm,0.5s,baz=110,slow=7.4
NOA NORSAR Array B 48.13 329 P **P 16 32 40.1 -1.0**
comp=Z,1.6nm,0.8s,baz=110,slow=7.5,SNR=6.0
NBO00 NORSAR Array S 48.33 329 *e*P **P 16 32 41.3 -1.3**
comp=Z,34nm,1.4s
SSB Saint Sauveur 49.47 307 *e*P **P 16 32 52.1 +0.6**
comp=Z,18nm,1.5s
ESDC Sonseca Array 56.22 301 pP pP 16 33 53.6 -0.4
comp=Z,0.5nm,0.3s,baz=67,slow=7.7,SNR=4.9
TIXI Tiksi 56.29 20 *e*P **P 16 33 41.6 +0.2**
comp=Z,3.5nm,0.8s
TIXI Tiksi 56.29 20⇓ *i*P **P 16 33 42.0 +0.6**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 56.29 20 LR LR 17 00 28.2
comp=Z,25nm,20.1s,baz=174,slow=39
USRK Ussuriysk Ar. 56.31 54 *e*P **P 16 33 45.4 +3.4**
USRK Ussuriysk Ar. 56.31 54 P **P 16 33 45.4 +3.4**
USRK Ussuriysk Ar. 56.31 54 LR LR 17 02 11.9
comp=Z,72nm,20.0s,baz=237,slow=41
TOA1 Torodi Ar. Sit 59.16 269 *e*P **P 16 34 02.9 +0.4**
TOA1 *e*pP **pP 16 34 15.5 +0.4**
TORD Torodi Ar. Bea 59.16 269 P **P 16 34 02.9 +0.4**
comp=Z,0.4nm,0.6s,baz=64,slow=6.6,SNR=2.4
TORD pP **pP 16 34 15.5 +0.4**
comp=Z,1.9nm,0.8s,baz=62,slow=6.7,SNR=7.9
SEY Seymchan 65.26 30⇓ *e*P **P 16 34 42.1 -0.5**
BOSA Boshof 66.88 216 P **P 16 34 53.6 +0.1**
comp=Z,3.2nm,1.0s,baz=28,slow=7.4,SNR=3.8
BILL Bilibino 69.27 23 *e*P **P 16 35 10.5 +2.7**
BILL *e* 16 35 31.2
BILL *e* 16 37 40.9
BILL *e*PPP PPP 16 39 24.2
BILL pmax pmax
comp=Z,2.0nm,0.7s
TOLK Toolik Lake Re 80.95 12 *e*P **P 16 36 17.2 +2.0**
comp=Z,4.5nm,0.7s
IMAR Indian Mountai 82.40 14 *e*P **P 16 36 24.7 +1.9**
BMAR Burnt Mountain 82.89 11 *e*P **P 16 36 27.1 +1.7**
WR1 Warramunga Arr 83.26 117 *e*pP pP 16 36 42.7 +1.5
WRA Warramunga Arr 83.26 117 P **P 16 36 27.5 -0.5**
comp=Z,1.5nm,0.6s,baz=318,slow=4.6,SNR=13
WRA pP **pP 16 36 42.7 +1.5**
comp=Z,1.7nm,0.7s,baz=316,slow=4.5,SNR=7.4
WRAB Tennant Creek 83.27 116 *e*P **P 16 36 28.9 +0.9**
comp=Z,28nm,1.8s
WRAB Tennant Creek 83.27 116 *e*P **P 16 36 28.9 +0.9**
WRAB pmax pmax
comp=Z,28nm,1.8s
WB2 Warramunga Arr 83.27 117 *e*P **P 16 36 28.4 +0.4**
comp=Z,22nm,1.6s
WC3 Warramunga Arr 83.30 117 *e*P **P 16 36 28.3 +0.1**
comp=Z,27nm,1.9s
MLY Manley 83.87 14 *e*P **P 16 36 31.6 +1.1**
comp=Z,2.7nm,0.8s
MDM Murphy Dome 84.45 13 *e*P **P 16 36 36.7 +3.3**
comp=Z,7.4nm,0.9s
COLA College 84.60 13⇓ *e*P **P 16 36 37.2 +3.1**
COLA pmax pmax
comp=Z,13nm,2.8s
ILAR Eielson Array 84.89 13 P **P 16 36 35.3 -0.2**
comp=Z,0.4nm,0.8s,baz=316,slow=3.8,SNR=2.9
ILAR pP **pP 16 36 48.8 +0.2**
comp=Z,0.8nm,0.7s,baz=324,slow=3.7,SNR=8.3
ASAR Alice Springs 84.92 120 *e*P **P 16 36 36.4 0.0**
ASAR Alice Springs 84.92 120 P **P 16 36 37.0 +0.5**
comp=Z,1.4nm,1.0s,baz=303,slow=5.2,SNR=8.0
ASAR pP **pP 16 36 52.0 +2.4**
comp=Z,0.9nm,0.7s,baz=309,slow=5.0,SNR=4.8
CAST Castle Rocks 84.97 15 *e*P **P 16 36 38.7 +2.6**
comp=Z,5.2nm,0.8s
PPLA Purkeypile 85.39 16 *e*P **P 16 36 41.6 +3.3**
comp=Z,27nm,1.9s
RND Reindeer 85.70 14 *e*P **P 16 36 41.7 +2.0**
comp=Z,5.7nm,1.0s
RND Reindeer 85.70 14 *e*P **P 16 36 41.7 +2.0**
RND pmax pmax
comp=Z,6.0nm,1.0s
SCRK Sand Creek 86.15 12 *e*P **P 16 36 42.5 +0.5**
comp=Z,8.5nm,1.4s
DOT Dot Lake 86.43 12 *e*P **P 16 36 43.1 -0.3**
comp=Z,3.6nm,1.0s
YKA Yellowknife Ar 90.16 359 P **P 16 37 02.1 +1.1**
comp=Z,0.4nm,0.7s,baz=351,slow=4.9,SNR=9.0
YKB5 Yellowknife Ar 90.16 359 *e*P **P 16 37 02.1 +1.1**
STKA Stephens Creek 94.99 123 P **P 16 37 24.1 +0.3**
comp=Z,2.8nm,1.1s,baz=217,slow=5.1,SNR=4.1

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*IDC **09** 16:28:48.6±2.6, 22°.76N×12°.12W, h0km, mb3.8/5,*
mb1 3.8/6, mb1mx3.5/48, mbtmp3.7/6, ML3.2/1, Error
ellipse: s-maj=76.2km s-min=38.9km az=88.0
*NEIC **09** 16:28:48.3±3.0, 22.69N×12.41W, h14km±6km, mb4.2/5,*
Error ellipse: s-maj=31.8km s-min=19.7km az=139.0
ISC 09 16:28:50.3±1.7, 22.62N±0.08×11.9W±0.2, h10km, n27,
σ2.31/28, mb4.0/6, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANT	**Tantan**	**5.79**	**5**	P	**Pb**	**16 30 32.9**	**+1.4**
TANT				S	**Sb**	**16 31 41.1**	**+0.1**
SFNM	**Sidi Ifni**	**6.86**	**12**	P	Pb	16 30 43.2	-6.5
SFNM				S	**Sn**	**16 31 56.7**	**+7.5**
TTIG	**Tnine Tigouga,**	**8.47**	**20**	P	**Pn**	**16 30 53.9**	**+0.6**
TTIG				S	**Sn**	**16 32 28.3**	**-0.7**
OUK	**Oukaimeden**	**9.27**	**22**	P	**Pn**	**16 31 03.4**	**-1.0**
OUK				S	**Sn**	**16 32 43.5**	**-5.4**
OUZM	**OUZ**	**9.43**	**28**	P	**Pn**	**16 31 05.3**	**-1.1**
OUZM				S	Sn	16 32 45.1	-7.6
MD31	**MD31**	**11.99**	**30**	P	Pn	16 31 33.9	-7.5
MD31				S	Sn	16 33 33.4	-22
MDT	**Midelt**	**12.02**	**31**	P	Pn	16 31 37.3	-4.5
MDT				S	Sn	16 33 33.8	-22
TOA1	**Torodi Ar. Sit**	**15.96**	**124**	*e*Pn	**Pn**	**16 32 36.7**	**+1.7**
TOA0	**Torodi Ar. Sit**	**15.96**	**124**	*e*Pn	**Pn**	**16 32 37.7**	**+2.6**
13nm,1.8s							
TORD	**Torodi Ar. Bea**	**15.96**	**124**	*e*Pn	**Pn**	**16 32 37.2**	**+2.0**
TORD	**Torodi Ar. Bea**	**15.96**	**124**	Pn	**Pn**	**16 32 36.7**	**+1.6**
0.1nm,0.3s,baz=319,slow=12,SNR=4.3							
GEC2	**GERESS Array S**	**33.10**	**31**	*e*P	**P**	**16 35 24.3**	**-2.2**
3.2nm,1.1s							
GERES	**GERESS Array B**	**33.10**	**31**	*e*P	**P**	**16 35 25.1**	**-1.4**

GERES	**GERESS Array B**	**33.10**	**31**	P	**P**	**16 35 25.7**	**-0.8**
	1.0nm,0.8s,baz=231,slow=8.4,SNR=6.2						
BR101	**Keskin Array S**	**42.02**	**55**	*e*P	**P**	**16 36 43.7**	**+1.5**
BRTR	**Keskin Array B**	**42.02**	**55**	P	**P**	**16 36 43.7**	**+1.5**
	0.6nm,0.8s,baz=256,slow=4.3,SNR=2.8						
FIA0	**FINESS Array S**	**46.73**	**24**	*e*P	**P**	**16 37 18.6**	**-0.7**
FINES	**FINESS Array B**	**46.73**	**24**	*e*P	**P**	**16 37 17.9**	**-1.4**
FINES	**FINESS Array B**	**46.73**	**24**	P	**P**	**16 37 18.6**	**-0.7**
	1.0nm,0.7s,baz=229,slow=7.3,SNR=6.6						
KURBB	**Kurchatov Arra**	**73.10**	**42**	P	**P**	**16 40 20.6**	**-0.2**
	0.9nm,0.8s,baz=287,slow=6.4,SNR=4.9						
KURK	**Kurchatov**	**73.13**	**42**	*e*P	**P**	**16 40 18.7**	**-2.3**
	1.6nm,0.8s						
MK32	**Makanchi Array**	**76.60**	**45**	*e*P	**P**	**16 40 41.8**	**+0.6**
MKAR	**Makanchi Array**	**76.60**	**45**	*e*P	**P**	**16 40 40.4**	**-0.8**
MKAR	**Makanchi Array**	**76.60**	**45**	P	**P**	**16 40 41.8**	**+0.6**
	0.5nm,0.5s,baz=281,slow=6.0,SNR=6.6						
WR1	**Warramunga Arr**	**148.43**	**92**	*e*PKPbc	**PKiKP**	**16 48 38.3**	**-1.2**
WRA	**Warramunga Arr**	**148.43**	**92**	PKPbc	**PKiKP**	**16 48 38.3**	**-1.2**
	0.4nm,0.6s,baz=293,slow=2.6,SNR=4.8						
ASAR	**Alice Springs**	**148.55**	**99**	PKPbc	**PKiKP**	**16 48 38.2**	**-1.5**
	0.7nm,0.7s,baz=299,slow=1.8,SNR=8.1						

*ISCJB **09** 16:47:30.8±0.9, 46.0°N±0.1°×150.8°E±0.2, h88km, mb3.6/9, Error ellipse: s-maj=25.5km s-min=5.1km az=144.0*
*SKHL **09** 16:47:32.7±0.6, 45.40°N×151.17°E, h79km±6km, mb4.2/5*
*IDC **09** 16:47:34.5±2.9, 46.17°N×150.68°E, h105km±24km, mb3.2/8, mb1 3.4/11, mb1mx3.2/50, mbtmp3.6/11, MS2.4/1, Ms1 2.4/1, ms1mx1.9/38, Error ellipse: s-maj=39.6km s-min=17.8km az=164.0*

ISC 09 16:47:31.5±1.1, 45.8N±0.2×151.0E±0.1, h88km, n30, σ1°39/28, mb3.6/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.27**	**256**	*i* P	**Pn**	**16 48 08.8**	**+1.7**
KUR				AMB	AMB	16 48 09.5	
	20nm,0.3s						
KUR				AMB	AMB	16 48 09.5	
	30nm,0.3s						
KUR				*i* S	**Sn**	**16 48 36.0**	**+1.6**
KUR				A	A	16 48 37.0	
	670nm,0.7s						
KUR				A	A	16 48 37.0	
	230nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**4.05**	**245**	*i* P	**Pn**	**16 48 32.2**	**+1.0**
YUK				AMB	AMB	16 48 32.8	
	20nm,0.4s						
YUK				*i* S	**Sn**	**16 49 16.5**	**-1.0**
YUK				A	A	16 49 22.0	
	250nm,0.7s						
YUK				A	A	16 49 22.0	
	40nm,0.7s						
LAGR	**Lagunnoye**	**4.09**	**246**	*i* P	**Pn**	**16 48 33.0**	**+1.3**
LAGR				AMB	AMB	16 48 35.0	
	10.0nm,0.4s						
LAGR				*i* S	**Sn**	**16 49 19.0**	**+0.6**
LAGR				A	A	16 49 24.0	
	30nm,0.5s						
LAGR				A	A	16 49 24.0	
	140nm,0.5s						
GRPR	**Tuman**	**4.13**	**245**	*i* P	**Pn**	**16 48 33.0**	**+0.7**
GRPR				AMB	AMB	16 48 35.0	
	10.0nm,0.2s						
GRPR				*e*S	**Sn**	**16 49 18.0**	**-1.4**
GRPR				A	A	16 49 22.0	
	20nm,0.3s						
GRPR				A	A	16 49 22.0	
	120nm,0.3s						
GLVR	**Golovnino**	**4.41**	**244**	*i* P	**Pn**	**16 48 37.0**	**+0.9**
GLVR				*e*S	**Sn**	**16 49 25.0**	**-1.2**
GLVR				A	A	16 49 28.0	
	140nm,0.4s						
GLVR				A	A	16 49 28.0	
	20nm,0.4s						
YSS	**Yuzh-Sakhalins**	**5.80**	**284**	*e*P	**Pn**	**16 48 57.9**	**+3.0**
YSS				AMB	AMB	16 48 58.3	
	20nm,0.9s						
ASAJ	**Asahikawa**	**6.19**	**257**	P	**Pn**	**16 49 01.6**	**+1.3**
	0.7nm,0.3s,baz=347,slow=32,SNR=8.9						
ASAJ					LR	16 51 20.8	
	comp=Z,31nm,20.4s,baz=168,slow=37						
PETK	**Petropavlovsk-**	**8.49**	**29**	P	**Pn**	**16 49 32.1**	**+0.5**
	0.3nm,0.3s,baz=193,slow=10.0,SNR=9.6						
USRK	**Ussuriysk Ar.**	**13.53**	**270**	P	**Pn**	**16 50 40.4**	**+0.7**
	0.1nm,0.3s,baz=90,slow=16,SNR=3.7						
TIXI	**Tiksi**	**27.95**	**345**	P	**P**	**16 53 10.4**	**-2.8**
	0.6nm,0.4s,baz=151,slow=8.2,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**29.16**	**148**	T	T	17 25 01.0	
	baz=337,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy**	**29.17**	**148**	T	T	17 25 06.2	
	baz=337,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**29.17**	**148**	T	T	17 25 02.4	
	baz=337,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hy**	**30.21**	**149**	T	T	17 25 32.8	
	baz=338,slow=76,SNR=57						
H11S3	**WAKE ISLAND Hy**	**30.22**	**149**	T	T	17 25 34.6	
	baz=338,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**30.23**	**149**	T	T	17 25 34.1	
	baz=338,slow=76,SNR=31						
MKAR	**Makanchi Array**	**46.04**	**297**	P	**P**	**16 55 44.0**	**-2.2**
	0.4nm,0.6s,baz=51,slow=7.7,SNR=3.5						
RES	**Resolute Bay**	**52.17**	**18**	P	**P**	**16 56 33.2**	**+0.7**
	0.3nm,0.4s,baz=321,slow=6.5,SNR=3.6						
YKA	**Yellowknife Ar**	**52.54**	**36**	P	**P**	**16 56 36.1**	**+0.8**
	0.1nm,0.4s,baz=298,slow=6.7,SNR=3.1						
JIRN	**Jiri**	**53.53**	**274**	*e*P	**P**	**16 56 44.3**	**+0.7**
	11nm,0.4s						
RAMN	**Ramite**	**53.69**	**273**	*e*P	**P**	**16 56 44.5**	**-0.1**
	6.9nm,0.4s						
PKI	**Pulchoki**	**54.13**	**274**	*e*P	**P**	**16 56 48.0**	**+0.1**
GKN	**Gorkha**	**54.41**	**275**	*e*P	**P**	**16 56 49.9**	**+0.2**
	8.8nm,0.5s						
DANN	**Dangsing**	**54.80**	**276**	*e*P	**P**	**16 56 53.8**	**+1.1**
	11nm,0.6s						
FINES	**FINESS Array B**	**64.23**	**334**	P	**P**	**16 57 54.3**	**-2.3**
	0.4nm,0.5s,baz=64,slow=6.5,SNR=3.3						
GEYT	**Alibeck**	**65.79**	**300**	P	**P**	**16 58 07.4**	**+0.1**
	19nm,0.6s,baz=36,slow=5.4,SNR=3.4						
PDAR	**Pinedale Array**	**66.48**	**52**	P	**P**	**16 58 11.9**	**+0.1**
	0.1nm,0.5s,baz=222,slow=1.8,SNR=4.2						
NOA	**NORSAR Array B**	**68.60**	**340**	P	**P**	**16 58 23.7**	**-0.9**
	0.3nm,0.5s,baz=69,slow=11,SNR=2.6						
TXAR	**Lajitas Array**	**79.23**	**59**	P	**P**	**16 59 28.0**	**+0.8**
	0.4nm,0.4s,baz=306,slow=5.5,SNR=6.3						
NDIM	**Novi di Modena**	**83.01**	**333**	P	P	16 59 05.2	-42

*NIED **09** 16:56:00, 33.90N×133.60E, h5km, Mw3.7 Best double couple: M0=3.90000×10^14 NP1:φs=137.00000°, δ75.00000°, λ11.00000°. NP2:φs=44.00000°, δ79.00000°, λ165.00000°.*
*ISCJB **09** 16:56:27.1±0.4, 33.83N±0.03×133.58E±0.03, h10km, mb3.4/7, MS3.8/1, Error ellipse: s-maj=4.6km s-min=3.4km az=155.7*
*JMA **09** 16:56:27.0, 33.83N×133.56E, h5km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs=44.00000°, δ90.00000°, λ180.00000°. NP2: φs=134.00000°, δ90.00000°, λ0.00000°. Principal axes: T Plg0.0000°, Azm359.0000°; N Plg90.0000°, Azm224.0000°; P Plg0.0000°, Azm89.0000°;*
JMA Felt III J1.
*IDC **09** 16:56:28.5±0.8, 33.76N×133.57E, h0km, mb3.4/7, mb1 3.6/11, mb1mx3.4/53, mbtmp3.4/11, ML3.2/4, MS3.1/4, Ms1 3.1/4, ms1mx2.6/33 Error ellipse: s-maj=19.4km s-min=13.2km az=150.0*

ISC 09 16:56:29.0±0.7, 33.83N±0.04×133.58E±0.03, h10km, n22, σ1°75/28, mb3.5/7, 1C-5D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMN	**Monobe**	**0.27**	**112**	∥P	**Pg**	**16 56 32.4**	**-2.1**
JMN				S	**Sg**	**16 56 36.5**	**-1.6**
JKHR	**Kochiharuno**	**0.33**	**192**	P	**Pg**	**16 56 33.8**	**-1.7**
JKHR				S	**Sg**	**16 56 38.5**	**-1.3**
JET	**Tanbara**	**0.44**	**264**	∥P	**Pg**	**16 56 35.3**	**-2.4**
JET				*e*S	**Sg**	**16 56 41.5**	**-2.1**
JJS	**Sakaide**	**0.62**	**28**	∥P	**Pg**	**16 56 39.1**	**-1.9**
JJS				S	**Sg**	**16 56 47.2**	**-1.9**
JKU	**Kubokawa**	**0.67**	**220**	∥P	**Pg**	**16 56 40.2**	**-1.8**
JKU				S	**Sg**	**16 56 49.4**	**-1.4**
JAI	**Aioi**	**0.73**	**93**	∥P	**Pg**	**16 56 40.9**	**-2.1**
JAI				S	**Sg**	**16 56 50.6**	**-2.0**
JHM	**Kurahashi**	**0.93**	**290**	∥P	**Pg**	**16 56 44.3**	**-2.5**
JNA	**Nagahama**	**0.96**	**254**	P	**Pg**	**16 56 44.6**	**-2.8**
JNU	**Nakatsue**	**2.37**	**253**	Pn	**Pn**	**16 57 08.2**	**+0.4**
	16nm,0.3s,baz=38,slow=5.3,SNR=50						
JNU				Lg	Lg	16 57 43.0	
	11nm,0.3s,baz=212,slow=15,SNR=5.9						
MAT	**Matsushiro**	**4.66**	**53**	P	**Pn**	**16 57 39.5**	**+0.1**
MAT				S	**Sn**	**16 58 31.6**	**-1.9**
MJAR	**Matsushiro Arr**	**4.66**	**53**	Pn	**Pn**	**16 57 39.2**	**-0.2**
	0.5nm,0.3s,baz=261,slow=24,SNR=34						
MJAR				Lg	Lg	16 58 59.2	
	0.1nm,0.3s,baz=250,slow=22,SNR=5.5						
MJAR				LR	LR	16 59 33.9	
	comp=Z,68nm,18.3s,baz=180,slow=39						
KSRS	**Korea Array**	**5.86**	**310**	Pn	**Pn**	**16 57 57.0**	**+1.2**
	0.3nm,0.3s,baz=124,slow=14,SNR=4.4						
KSRS				Sn	**Sn**	**16 59 01.6**	**-1.3**
	1.3nm,0.3s,baz=127,slow=23,SNR=11						
ASAJ	**Asahikawa**	**12.43**	**32**	LR	LR	17 04 21.5	
	comp=Z,30nm,18.7s,baz=256,slow=38						
KLR	**Kul'dur**	**15.45**	**355**	Pn	**P**	**17 00 10.5**	**-0.9**
	0.1nm,0.3s,baz=174,slow=9.2,SNR=3.0						
KLR				LR	LR	17 05 21.9	
	comp=Z,82nm,18.8s,baz=188,slow=34						
SONM	**Songino Array**	**24.72**	**313**	P	**P**	**17 01 50.7**	**+0.3**
	0.5nm,0.6s,baz=130,slow=9.3,SNR=3.5						
BRDH	**Bariadhala**	**38.34**	**264**	LR	LR	17 22 36.0	
	comp=Z,139nm,18.5s,baz=136,slow=41						
MKAR	**Makanchi Array**	**40.51**	**304**	P	**P**	**17 04 08.6**	**+0.5**
	0.8nm,0.8s,baz=75,slow=7.6,SNR=3.3						
WRA	**Warramunga Arr**	**53.48**	**179**	P	**P**	**17 05 50.0**	**+0.5**
	0.3nm,0.7s,baz=357,slow=8.0,SNR=3.0						
ILAR	**Eielson Array**	**55.56**	**31**	P	**P**	**17 06 05.4**	**+1.2**
	0.3nm,0.6s,baz=277,slow=7.2,SNR=3.6						
ASAR	**Alice Springs**	**57.18**	**180**	P	**P**	**17 06 16.6**	**+0.5**
	0.4nm,0.6s,baz=8.9,slow=14,SNR=8.4						
FINES	**FINESS Array B**	**68.55**	**331**	P	**P**	**17 07 34.0**	**+2.6**
	1.0nm,0.8s,baz=76,slow=12,SNR=3.1						
YKA	**Yellowknife Ar**	**69.69**	**27**	P	**P**	**17 07 40.4**	**+2.0**
	0.1nm,0.3s,baz=314,slow=6.1,SNR=3.7						

*ISCJB **09** 17:10:19.5±0.6, 50.22N±0.04×19.20E±0.03, h0km, Error ellipse: s-maj=5.9km s-min=2.9km az=13.6*
*PRU **09** 17:10:21.0±0.0, 50.23N×19.24E, h0km*

ISC 09 17:10:20.8±0.9, 50.16N±0.05×19.27E±0.03, h0km, n13, σ0°64/21, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.35**	**80**	*e*Pg	**Pg**	**17 10 27.1**	**-0.3**
OJC				*e*Sg	**Sg**	**17 10 31.6**	**-0.3**
OKC	**Ostrava-Krasne**	**0.79**	**246**	*e*PG	**Pg**	**17 10 36.4**	**+0.5**
OKC				*e*SG	**Sb**	**17 10 48.2**	**-0.5**
	comp=Z,9.0nm,0.4s						
NIE	**Niedzica**	**1.00**	**138**	*e*Pg	**Pb**	**17 10 40.9**	**-0.2**
NIE				*e*Sg	**Sb**	**17 10 55.0**	**+0.2**
LANS	**Liptovska Anna**	**1.02**	**173**	*e*PG	**Pb**	**17 10 41.1**	**-0.3**
LANS				*e*SG	**Sb**	**17 10 56.1**	**+0.8**
MORC	**Moravsky Berou**	**1.18**	**251**	*e*PG	**Pg**	**17 10 43.6**	**+0.3**
MORC				*e*SG	**Sb**	**17 10 59.9**	**+0.1**
STHS	**Stebnicka Huta**	**1.48**	**119**	*e*SN	**Sn**	**17 11 10.4**	**+1.6**
KRLC	**Kraliky**	**1.60**	**268**	*e*SG	**Sn**	**17 11 11.7**	**-0.1**
VYHS	**Vyhne**	**1.69**	**190**	*e*PN	**Pn**	**17 10 51.4**	**-0.2**
VYHS				*e*SN	**Sn**	**17 11 13.3**	**-0.7**
DPC	**Dobruska-Polom**	**1.90**	**277**	*e*PG	**Pn**	**17 10 54.4**	**-0.1**
DPC				*e*SG	**Sb**	**17 11 19.9**	**-0.7**
	comp=Z,9.1nm,0.6s						
VRAC	**Vranov**	**1.93**	**245**	*e*SG	**Sb**	**17 11 22.0**	**+0.5**
KSP	**Ksiaz**	**2.02**	**291**	*e*Pg	**Pg**	**17 11 00.4**	**+1.0**
KSP				*e*Sg	**Sg**	**17 11 25.8**	**+0.3**
KRUC	**Moravsky**	**2.17**	**241**	*e*SG	**Sg**	**17 11 29.8**	**-0.6**
BRG	**Berggiesshubel**	**3.47**	**284**	SG	**Sg**	**17 12 11.3**	**-0.9**
	1.0nm,0.5s						

*BJI **09** 17:10:19.6±0.0, 63.97N×24.18W, h9km, mb4.7/14, mB5.1/10, Ms4.8/4, Ms7 4.5/4*
*ISCJB **09** 17:10:21.2±0.6, 63.82N±0.04×23.23W±0.05, h11km±3km, mb4.2/33, MS3.7/28, Error ellipse: s-maj=6.9km s-min=3.9km az=173.8*
*REY **09** 17:10:22.0, 63.76N×23.21W, h12km*
*NEIC **09** 17:10:22.5±2.8, 63.93N×23.24W, h10km, mb4.5/14, Error ellipse: s-maj=23.5km s-min=11.2km az=139.0*
*IDC **09** 17:10:22.4±0.8, 64.03N×23.34W, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.7/49, mbtmp3.7/12, ML2.3/1, MS3.6/32, Ms1 3.6/32, ms1mx3.5/65, Error ellipse: s-maj=17.3km s-min=12.0km az=159.0*

ISC 09 17:10:22.4±1.1, 63.85N±0.05×23.19W±0.04, h7km±6km, n83, σ1°97/81, mb4.3/33, MS3.6/28, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**0.22**	**98**	P	**Pg**	**17 10 26.6**	**-0.1**
	baz=74						
IRNE				S	**Sg**	**17 10 30.2**	**+0.5**
	baz=74						
INYL	**Nylenda**	**0.24**	**57**	P	**Pb**	**17 10 27.7**	**+0.6**
	baz=43						
INYL				S	**Sb**	**17 10 32.2**	**+1.9**
	baz=43						
IGRV	**Grindav??k**	**0.33**	**88**	P	**Pg**	**17 10 28.5**	**-0.3**
	baz=72						
IGRV				S	**Sg**	**17 10 33.4**	**+0.3**
	baz=72						
IVOG	**Vogar**	**0.37**	**70**	P	**Pg**	**17 10 29.6**	**-0.2**
	baz=59						
IVOG				S	**Sb**	**17 10 35.7**	**-1.6**
	baz=59						
IKRI	**Krysuvik**	**0.49**	**86**	P	**Pg**	**17 10 31.1**	**-0.9**
	baz=76						
IKRI				S	**Sg**	**17 10 38.1**	**-0.3**
	baz=76						
IKAS	**Kald??rsel**	**0.62**	**73**	P	**Pg**	**17 10 33.4**	**-0.9**
	baz=65						
IKAS				S	**Sb**	**17 10 42.6**	**-1.7**
	baz=65						
IVOS	**Vogsosar**	**0.66**	**89**	P	**Pg**	**17 10 33.6**	**-1.5**
	baz=81						
IVOS				S	**Sg**	**17 10 43.0**	**-0.6**
	baz=81						
IKUD	**Kuludalsa**	**0.75**	**50**	P	**Pg**	**17 10 36.0**	**-0.8**
	baz=45						
IKUD				S	**Sb**	**17 10 47.0**	**-1.1**
	baz=45						
IBJA	**Bjarnastaoir**	**0.84**	**82**	P	**Pg**	**17 10 37.0**	**-1.6**
	baz=76						
IBJA				S	**Sg**	**17 10 48.6**	**-0.9**
	baz=76						
IHEI	**Heioarbar**	**0.93**	**67**	P	**Pg**	**17 10 38.4**	**-1.9**
	baz=62						
IHEI				S	**Sg**	**17 10 51.5**	**-0.9**
	baz=62						
IKRO	**Krokur**	**0.95**	**74**	P	**Pg**	**17 10 39.0**	**-1.6**
	baz=69						
IKRO				S	**Sg**	**17 10 52.2**	**-0.7**
	baz=69						
ISOL	**Solvholt**	**1.00**	**84**	P	**Pg**	**17 10 39.1**	**-2.5**
	baz=79						
ISOL				S	**Sg**	**17 10 52.8**	**-1.7**
	baz=79						
IASM	**Asmuli**	**1.14**	**90**	P	**Pb**	**17 10 41.1**	**-3.3**
	baz=85						
BORG	**Borgarnes**	**1.22**	**41**	*e*Pg	**Pn**	**17 10 43.7**	**-2.0**
BORG				*e*Sn	**Sg**	**17 11 00.7**	**-0.7**
BORG	**Borgarnes**	**1.22**	**41**	Pg	**Pn**	**17 10 42.5**	**-3.3**
	464nm,0.3s,baz=229,slow=8.4,SNR=16						
BORG				Lg	Lg	17 11 00.9	
	750nm,0.3s,baz=47,slow=15,SNR=25						
IASB	**`sbjarnarst**	**1.22**	**41**	P	**Pn**	**17 10 43.6**	**-2.2**
	baz=39						
IASB				S	**Sn**	**17 11 01.1**	**-1.4**
	baz=39						
IVME	**Vestmannaeyjar**	**1.36**	**107**	P	**Pn**	**17 10 44.7**	**-3.1**
	baz=103						
IVME				S	**Sb**	**17 11 01.9**	**-3.8**
	baz=103						
IGYG	**Gygjarholskot**	**1.38**	**70**	P	**Pn**	**17 10 46.1**	**-1.9**
	baz=67						
IHAU	**Haukadalur**	**1.43**	**84**	P	**Pn**	**17 10 46.0**	**-2.7**
	baz=80						
IHAU				S	**Sn**	**17 11 05.5**	**-2.3**
	baz=80						
SCO	**Scoresbysund**	**6.68**	**4**	*e*Pn	**Pn**	**17 12 01.2**	**+0.3**
SCO	**Scoresbysund**	**6.68**	**4**	*i* P	Pn	17 12 07.1	+6.3
SCO				*e*S	**Sb**	**17 13 32.9**	**-5.8**
JMIC	**Jan Mayen**	**9.10**	**32**	LR	LR	17 15 08.0	
	comp=Z,237nm,19.1s,baz=259,slow=32						
SUMG	**Summit**	**10.39**	**334**	*e*Pn	**Pn**	**17 12 52.4**	**+0.4**
SFJD	**Kangerlussuaq**	**11.79**	**298**	LR	LR	17 17 11.5	
	comp=Z,728nm,19.1s,baz=92,slow=35						
EKA	**Eskdalemuir Ar**	**13.20**	**121**	Pn	**Pn**	**17 13 29.8**	**-0.2**
	baz=326,slow=12,SNR=4.7						
NOA	**NORSAR Array B**	**16.04**	**84**	LR	LR	17 19 24.3	
	comp=Z,92nm,21.8s,baz=290,slow=34						
HFS	**Hagfors**	**17.54**	**85**	P	**P**	**17 14 29.8**	**+1.5**
	0.0nm,0.3s,baz=291,slow=8.9,SNR=4.2						
HFS				LR	LR	17 20 29.8	
	comp=Z,110nm,18.7s,baz=292,slow=34						
SPITS	**Spitsbergen Ar**	**18.62**	**24**	LR	LR	17 19 59.3	
	comp=Z,111nm,21.5s,baz=210,slow=31						
ARCES	**ARCESS Array B**	**19.60**	**52**	LR	LR	17 21 16.7	
	comp=Z,248nm,19.8s,baz=191,slow=34						
FRB	**Frobisher Bay**	**19.71**	**290**	LR	LR	17 21 45.8	
	comp=Z,341nm,20.0s,baz=48,slow=35						
FINES	**FINESS Array B**	**22.31**	**74**	P	**P**	**17 15 20.3**	**+0.2**
	3.4nm,0.8s,baz=307,slow=14,SNR=7.1						
FINES				LR	LR	17 24 02.0	
	comp=Z,99nm,18.5s,baz=296,slow=37						
CLL	**Collm**	**22.73**	**106**	*e*(P)	**P**	**17 15 27.0**	**+2.4**
	comp=Z,8.0nm,1.4s						
CLL				*i*		17 15 38.5	
	comp=Z,25nm,1.9s						
CLL				*e*S	**S**	**17 19 34.0**	**+0.9**
CLL				*e*SSS	SSS	17 20 24.0	
BRG	**Berggiesshubel**	**23.45**	**106**	*e*P	**P**	**17 15 31.9**	**-0.1**
	comp=Z,6.0nm,1.1s						
SCHQ	**Schefferville**	**23.55**	**268**	LR	LR	17 23 27.5	
	comp=Z,73nm,18.2s,baz=62,slow=33						
KHC	**Kasperske Hory**	**24.62**	**109**	*e*P	**P**	**17 15 44.3**	**+1.2**
	comp=Z,2.0nm,1.1s						
KHC	**Kasperske Hory**	**24.62**	**109**	*e*P	**P**	**17 15 44.5**	**+1.5**
SLVR	**Solovky**	**24.65**	**61**	*e*P	**P**	**17 15 44.3**	**+1.1**
	comp=Z,19nm,2.6s						
DPC	**Dobruska-Polom**	**24.86**	**104**	*e*P	**P**	**17 15 47.7**	**+2.5**
GERES	**GERESS Array B**	**24.89**	**110**	P	**P**	**17 15 46.6**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=327,slow=6.4,SNR=4.5						
GERES				LR	LR	17 25 53.5	
	comp=Z,154nm,19.2s,baz=320,slow=37						
DAVOX	**Davos/Dischmat**	**24.98**	**117**	P	**P**	**17 15 48.4**	**+1.8**
	comp=Z,1.9nm,0.7s,baz=302,slow=9.7,SNR=4.0						
DAVOX				LR	LR	17 26 35.9	
	comp=Z,163nm,18.6s,baz=344,slow=39						
RES	**Resolute Bay**	**25.69**	**324**	LR	LR	17 25 47.3	
	comp=Z,227nm,19.8s,baz=109,slow=36						
VRAC	**Vranov**	**25.76**	**105**	LR	LR	17 25 36.3	
	comp=Z,104nm,20.0s,baz=356,slow=35						
ESDC	**Sonseca Array**	**26.75**	**146**	P	**P**	**17 16 05.8**	**+3.4**
	comp=Z,0.4nm,0.5s,baz=352,slow=8.3,SNR=4.0						
ESDC				LR	LR	17 25 31.2	
	comp=Z,232nm,20.2s,baz=320,slow=34						
AKASG	**Malin Array Be**	**30.26**	**91**	LR	LR	17 28 58.1	
	comp=Z,138nm,18.3s,baz=290,slow=37						
KEST	**Kesra**	**34.40**	**129**	LR	LR	17 30 04.4	
	comp=Z,141nm,20.6s,baz=232,slow=34						
VAE	**Valguarnera**	**34.67**	**121**	LR	LR	17 31 44.4	
	comp=Z,150nm,18.1s,baz=358,slow=37						
YKA	**Yellowknife Ar**	**37.92**	**311**	P	**P**	**17 17 39.5**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=44,slow=8.7,SNR=16						
YKA				PcP	**PcP**	**17 19 55.9**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=37,slow=3.2,SNR=5.4						
YKA				LR	LR	17 33 00.8	
	comp=Z,41nm,18.4s,baz=30,slow=36						
NRIK	**Noril'sk**	**38.52**	**32**	LR	LR	17 33 32.3	
	comp=Z,56nm,21.5s,baz=22,slow=36						
PAGS	**Pennsylvania G**	**38.89**	**259**	*e*P	**P**	**17 17 44.1**	**-4.0**
	comp=Z,15nm,1.0s						
ULM	**Lac du Bonnet**	**39.47**	**285**	LR	LR	17 33 09.9	
	comp=Z,117nm,18.4s,baz=60,slow=35						
IDI	**Anoyia**	**40.73**	**111**	LR	LR	17 36 00.4	
	comp=Z,49nm,21.6s,baz=352,slow=38						
BRTR	**Keskin Array B**	**40.74**	**98**	P	**P**	**17 18 05.6**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=334,slow=9.6,SNR=3.4						
BRTR				LR	LR	17 37 40.1	
	comp=Z,88nm,18.2s,baz=290,slow=40						
O52A	**Adamsville**	**41.22**	**264**	*e*P	**P**	**17 18 04.4**	**-3.1**
	comp=Z,23nm,1.0s						
KBZ	**Khabaz**	**41.61**	**86**	P	**P**	**17 18 13.5**	**+3.0**
	comp=Z,1.0nm,0.6s,baz=302,slow=7.5,SNR=4.4						
KBZ				LR	LR	17 35 21.4	
	comp=Z,84nm,21.6s,baz=334,slow=36						
TIXI	**Tiksi**	**43.42**	**12**	LR	LR	17 33 47.7	
	comp=Z,19nm,19.5s,baz=325,slow=32						
ILAR	**Eielson Array**	**45.20**	**330**	P	**P**	**17 18 39.3**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=31,slow=7.2,SNR=5.2						
ILAR				LR	LR	17 37 56.1	
	comp=Z,71nm,21.3s,baz=46,slow=37						
BOZ	**Bozeman (W)**	**49.70**	**293**	*e*P	**P**	**17 19 14.5**	**-0.2**
	comp=Z,5.7nm,1.4s						
PD31	**Pinedale Array**	**51.16**	**289**	*e*P	**P**	**17 19 27.2**	**+1.3**
PDAR	**Pinedale Array**	**51.16**	**289**	*e*P	**P**	**17 19 26.8**	**+0.9**
PDAR	**Pinedale Array**	**51.16**	**289**	P	**P**	**17 19 25.1**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=35,slow=6.7,SNR=6.5						
PDAR				LR	LR	17 40 30.4	
	comp=Z,121nm,19.0s,baz=44,slow=35						
PLID	**Pearl Lake**	**51.88**	**296**	*

comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,86nm,4.3s
LZH LR LR
comp=Z,170nm,17.1s
LZH LR LR
comp=Z,170nm,17.9s
LZH LR LR
comp=Z,200nm,19.0s
NJ2 Nanjing 79.82 32 *e*P **P 17 22 32.8 +1.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KMI Kunming 81.79 48 P **P 17 22 44.7 +2.7**
KMI pmax pmax
comp=Z,11nm,0.5s
CMAR Chiang Mai Arr 86.65 54 P **P 17 23 08.1 +1.5**
comp=Z,0.6nm,0.9s,baz=316,slow=5.5,SNR=6.7
CMAR LR LR 18 04 01.6
comp=Z,28nm,18.1s,baz=115,slow=37

MAN ***09*** *17:45:11.0, 4˚.34N×123˚.49E, h465km, ML3.0, MS5.6*
BJI ***09*** *17:45:10.9±0.0, 4˚.24N×123˚.97E, h462km, mb4.9/66, mB4.9/34*
IDC ***09*** *17:45:11.8±0.7, 4˚.30N×123˚.84E, h462km±6km, mb4.1/38, mb1 4.2/41, mb1mx4.1/54, mbtmp4.9/41, Error ellipse: s-maj=11.1km s-min=5.4km az=71.0*
ISCJB ***09*** *17:45:11.7±0.2, 4˚.41N±0˚.02×123˚.94E±0˚.03, h466km±2km, mb4.8/169, Error ellipse: s-maj=4.1km s-min=2.6km az=0.6*
GCMT ***09*** *17:45:11.6±0.5, 4˚.41N±0˚.04×123˚.75E±0˚.04, h448km±2km, MW5.3/53, Moment Tensor Solution. s53,c68; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-0.37±.03; Mθθ-0.04±.05; Mφφ0.41±.06; Mrθ-0.57±.06; Mφφ-0.12±.04; Mφr~0.84±.05; Best double couple: M0 1.08500×10^17 NP1:φ=29.00000°, δ82.00000°, λ-76.00000°. NP2: φ=148.00000°, δ16.00000°, λ-149.00000°. Principal axes: T 0.9970, Plg35.0000°, Azm106.0000°; N 0.1760, Plg14.0000°, Azm206.0000°; P -1.1730, Plg51.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
MOS ***09*** *17:45:11.6±1.0, 4˚.39N×123˚.86E, h466km, mb5.0/56 Error ellipse: s-maj=9.4km s-min=4.6km az=113.4*
DJA ***09*** *17:45:12.6±0.3, 4˚N±3˚×12˚4E±˚, h443km±2km, M4.7/57, mB5.2/34, mb4.9/57, MLv5.4/12, Mw(mB)4.5/34*
NEIC ***09*** *17:45:12.6±0.3, 4˚.38N×123˚.90E, h466km±3km, mb4.9/99, Error ellipse: s-maj=4.4km s-min=3.1km az=67.0*
KLM ***09*** *17:45:13.0, 4˚.31N×124˚.00E, h460km, mb5.0*
ISC 09 17:45:12.8±0.4, 4˚37N±0˚03×123˚91E±0˚05, h469km±3km, n480, σ1§60/600, mb4.8/169, 27C-21D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SGSI	**Sangihe**	**1.75**	**113**	P		**P**	**17 46 11.8**	**-2.1**
SKMP	**Bagumbayan, Su**	**2.23**	**16**	*e*P		**P**	**17 46 13.9**	**-2.4**
SKMP				*e*S		**S**	**17 46 59.5**	**-8.4**
DDMP	**Don Marcelino,**	**2.49**	**46**	*e*P		**P**	**17 46 15.0**	**-3.0**
DDMP				*e*S		**S**	**17 47 03.8**	**-6.9**
CTBH	**Cotabato--PC H**	**2.85**	**7**	*e*P		**P**	**17 46 19.4**	**-0.9**
CTBH				*i*S		**S**	**17 47 13.8**	**-1.3**
DMPH	**Davao City--Mi**	**3.13**	**30**	⇑*e*P		**P**	**17 46 23.3**	**+1.0**
DMPH				*e*S		**S**	**17 47 20.2**	**+1.4**
DAV	**Davao City (W)**	**3.16**	**32**	*e*P		**P**	**17 46 22.4**	**-0.1**
DAV				S		**S**	**17 47 17.2**	**-1.9**
DAV	**Davao City (W)**	**3.16**	**32**	P		**P**	**17 46 22.8**	**+0.3**
	64nm,0.3s,baz=184,slow=1.0,SNR=11							
DAV				S		**S**	**17 47 17.2**	**-1.9**
	122nm,0.3s,baz=158,slow=22,SNR=14							
MATI	**Mati**	**3.47**	**42**	*e*P		**P**	**17 46 22.1**	**-2.7**
MATI				*e*S		**S**	**17 47 15.1**	**-8.3**
PAGZ	**Pagadian**	**3.50**	**351**	*e*P		**P**	**17 46 23.5**	**-1.6**
PAGZ				*e*S		**S**	**17 47 21.5**	**-2.3**
IPIL	**Ipil**	**3.65**	**339**	*e*P		**P**	**17 46 24.8**	**-1.5**
BUKP	**Musuan**	**3.67**	**18**	*e*P		**P**	**17 46 25.4**	**-1.2**
BUKP				*e*S		**S**	**17 47 22.5**	**-3.9**
KMSI	**Cibinong**	**3.77**	**179**	P		**P**	**17 46 26.3**	**-1.0**
MRSI	**Marisa**	**4.34**	**207**	P		**P**	**17 46 31.8**	**-0.3**
MRSI				S		**S**	**17 47 35.4**	**-1.3**
TNTI	**Ternate**	**4.97**	**136**	*e*P		**P**	**17 46 35.2**	**-2.6**
TNTI	**Ternate**	**4.97**	**136**	P		**P**	**17 46 35.3**	**-2.6**
LUWI	**Luwuk**	**5.49**	**192**	*e*P		**P**	**17 46 41.1**	**-1.8**
LUWI	**Luwuk**	**5.49**	**192**	P		**P**	**17 46 41.3**	**-1.6**
LUWI				S		**S**	**17 47 51.2**	**-5.2**
MPSI	**Mapaga**	**5.67**	**225**	P		**P**	**17 46 43.7**	**-0.9**
MPSI				S		**S**	**17 47 58.0**	**-1.5**
APSI	**Ampana**	**5.71**	**203**	P		**P**	**17 46 44.6**	**-0.4**
MSLP	**Maasin**	**5.81**	**9**	*e*P		**P**	**17 46 45.4**	**-0.6**
MSLP				*e*S		**S**	**17 47 54.1**	**-7.9**
GUIM	**Jordan**	**6.36**	**348**	*e*P		**P**	**17 46 50.3**	**-1.2**
GUIM				*e*S		**S**	**17 48 07.6**	**-4.5**
SANI	**Sanana**	**6.70**	**162**	P		**P**	**17 46 51.8**	**-3.2**
SANI				S		S	17 48 08.8	-10
BATP	**Bataraza**	**7.50**	**306**	*e*P		**P**	**17 46 58.8**	**-4.4**
BATP				*e*S		**S**	**17 48 30.4**	**-3.3**
KKM	**Kota Kinabalu**	**7.84**	**283**	*e*P		**P**	**17 47 06.3**	**-0.7**
KKM	**Kota Kinabalu**	**7.84**	**283**	P		**P**	**17 47 07.0**	**0.0**
SGKI	**Sangatta, Kali**	**7.96**	**232**	P		P	17 47 02.8	-5.4
ENPP	**El Nido**	**8.12**	**327**	*e*P		P	17 46 54.9	-15
ENPP				*e*S		**S**	**17 48 39.8**	**-6.0**
CNP	**Cataraman**	**8.13**	**5**	*e*P		**P**	**17 47 11.6**	**+1.7**
CNP				*e*S		**S**	**17 48 44.5**	**-1.4**
SMKI	**Samarinda**	**8.23**	**235**	P		**P**	**17 47 13.4**	**+2.4**
TTSI	**Tana Toraja**	**8.42**	**209**	P		**P**	**17 47 13.9**	**+0.8**
SJMP	**San Jose**	**8.50**	**341**	*e*P		**P**	**17 47 14.7**	**+0.8**
SJMP				*e*S		**S**	**17 48 52.8**	**-0.5**
BKB	**Balikpapan**	**8.96**	**232**	P		**P**	**17 47 20.2**	**+1.3**
SWI	**Sorong**	**8.99**	**125**	P		**P**	**17 47 19.7**	**+0.5**
PVCP	**Virac**	**9.17**	**1**	*e*P		**P**	**17 47 20.5**	**-0.5**
PVCP				*e*S		**S**	**17 48 60.0**	**-6.5**
SPSI	**Sidrap Palu**	**9.25**	**207**	P		**P**	**17 47 23.5**	**+1.5**
BNSI	**Bone**	**9.50**	**204**	P		**P**	**17 47 27.9**	**+3.3**
BBSI	**Bau Bau**	**9.88**	**188**	P		**P**	**17 47 31.2**	**+2.5**
LUBP	**Lubang**	**9.98**	**339**	*e*P		**P**	**17 47 26.5**	**-3.3**
LUBP				*e*S		S	17 49 10.9	-12
TGY	**Tagaytay City**	**10.11**	**343**	P		**P**	**17 47 30.6**	**-0.6**
	41nm,0.3s,baz=120,slow=20,SNR=2.3							
TGY				S		**S**	**17 49 25.9**	**+0.9**
	36nm,0.3s,baz=159,slow=20,SNR=3.0							
KAPI	**Kappang**	**10.20**	**204**	*e*P		**P**	**17 47 33.0**	**+0.8**
KAPI	**Kappang**	**10.20**	**204**	*e*P		**P**	**17 47 33.0**	**+0.8**
KAPI	**Kappang**	**10.20**	**204**	P		**P**	**17 47 33.5**	**+1.3**
	SNR=8.2							
BKSI	**Bulukumba**	**10.34**	**201**	P		**P**	**17 47 34.8**	**+1.1**
MTKI	**Muara Teweh, K**	**10.44**	**240**	P		**P**	**17 47 35.6**	**+0.8**
BNDI	**Bandanaira**	**10.67**	**146**	P		**P**	**17 47 38.4**	**+1.2**
FAKI	**Fak Fak**	**11.04**	**131**	*e*P		**P**	**17 47 41.3**	**+0.1**
FAKI	**Fak Fak**	**11.04**	**131**	P		**P**	**17 47 42.0**	**+0.8**
BALP	**Baler**	**11.53**	**349**	*e*P		**P**	**17 47 46.3**	**-0.2**
BALP				*e*S		**S**	**17 49 46.2**	**-7.0**
SBUM	**Sibu**	**11.82**	**261**	*e*P		**P**	**17 47 51.3**	**+1.6**
SBUM	**Sibu**	**11.82**	**261**	P		**P**	**17 47 52.0**	**+2.3**
SCZP	**Santa Cruz**	**12.00**	**341**	*e*P		**P**	**17 47 50.2**	**-1.3**
SCZP				*e*S		**S**	**17 49 56.6**	**-5.8**
SMPP	**San Manuel, Pa**	**12.13**	**345**	*e*P		**P**	**17 47 51.3**	**-1.7**
SMPP				*e*S		**S**	**17 50 01.7**	**-3.4**
BOLP	**Bolinao**	**12.57**	**342**	*e*P		**P**	**17 47 56.5**	**-1.2**
BOLP				*e*S		**S**	**17 50 08.8**	**-4.8**
CAUP	**Cauayan**	**12.67**	**351**	*e*P		**P**	**17 47 58.7**	**0.0**
CAUP				*e*S		**S**	**17 50 14.5**	**-1.0**
MMRI	**Maumere**	**13.02**	**187**	*e*P		**P**	**17 48 03.5**	**+0.9**
MMRI	**Maumere**	**13.02**	**187**	P		**P**	**17 48 04.4**	**+1.8**
ABRA	**Dolores**	**13.57**	**347**	*e*P		**P**	**17 48 07.0**	**-1.3**
ABRA				*e*S		**S**	**17 50 31.0**	**-2.2**
APYP	**Conner**	**13.66**	**349**	*e*P		**P**	**17 48 10.1**	**+0.8**
APYP				*e*S		**S**	**17 50 35.9**	**+0.8**
KSM	**Kuching**	**13.88**	**258**	*e*P		**P**	**17 48 12.4**	**+0.6**
KSM	**Kuching**	**13.88**	**258**	P		**P**	**17 48 13.0**	**+1.2**
SOEI	**Soe**	**14.03**	**179**	*e*P		**P**	**17 48 14.6**	**+1.2**
SOEI	**Soe**	**14.03**	**179**	P		**P**	**17 48 14.7**	**+1.2**
PBKI	**Pangkalan Bun**	**14.11**	**240**	P		**P**	**17 48 14.8**	**+0.6**
PLAI	**Plampang**	**14.46**	**205**	P		**P**	**17 48 20.2**	**+2.2**
BATI	**Baumata**	**14.48**	**181**	P		**P**	**17 48 18.4**	**+0.3**
KMMI	**Kalianget**	**15.07**	**221**	P		**P**	**17 48 25.6**	**+1.2**
SRBI	**Singaraja**	**15.11**	**215**	P		**P**	**17 48 25.0**	**+0.2**
DLV	**T Lat**	**17.01**	**297**	*e*P		**P**	**17 48 44.6**	**-0.5**
	212nm,0.9s							
PWJI	**Pagerwojo**	**17.24**	**224**	P		**P**	**17 48 47.7**	**+0.5**
GENI	**Genyem**	**17.66**	**113**	P		**P**	**17 48 53.2**	**+1.7**
TPI	**Tanjungpandan**	**17.72**	**247**	P		**P**	**17 48 51.2**	**-0.9**
	112nm,1.0s,1μm							
WOJI	**Wonogiri, Jawa**	**17.74**	**227**	P		**P**	**17 48 50.9**	**-1.4**
PCJI	**Pacitan**	**17.80**	**226**	P		**P**	**17 48 56.1**	**+3.2**
	139nm,1.2s							
JAY	**Jayapura**	**18.12**	**112**	P		**P**	**17 48 55.6**	**-0.4**
	7.8nm,0.3s,baz=245,slow=7.8,SNR=28							
MTN	**Manton Dam**	**18.54**	**157**	*e*P		**P**	**17 49 00.1**	**+0.1**
	79nm,0.9s							
TWG	**Pinlang**	**18.55**	**352**	*e*P		**P**	**17 48 58.4**	**-1.4**
	468nm,1.4s							
PPBI	**Pangkal Pinang**	**18.91**	**250**	P		**P**	**17 49 03.6**	**+0.3**
JCJI	**Jatiwangi**	**18.98**	**235**	P		**P**	**17 49 07.0**	**+3.1**
YULB	**Yu-li**	**19.08**	**353**	*e*P		**P**	**17 49 03.9**	**-0.9**
	76nm,1.5s							
TPUB	**Ta-pu**	**19.09**	**351**	*e*P		**P**	**17 49 04.4**	**-0.4**
	1μm,2.0s							
SSLB	**Suanglung**	**19.52**	**352**	*e*P		**P**	**17 49 08.8**	**0.0**
	45nm,0.9s							
TPRI	**Tanjung Pinang**	**19.66**	**261**	P		**P**	**17 49 11.0**	**+0.8**
LEM	**Lembang**	**19.70**	**236**	P		**P**	**17 49 12.3**	**+1.6**
CISI	**Cisompet, Garu**	**19.95**	**234**	*e*P		**P**	**17 49 12.1**	**-0.9**
	228nm,1.4s							
CISI	**Cisompet, Garu**	**19.95**	**234**	P		**P**	**17 49 12.0**	**-0.9**
QIZ	**Qiongzhong**	**20.03**	**318**	P		**P**	**17 49 14.3**	**+0.8**
QIZ				sP		**sP**	**17 51 18.2**	**+2.0**
QIZ				S		**S**	**17 52 31.3**	**+1.9**
QIZ				pmax		pmax		
	comp=Z,47nm,0.9s							
QIZ				pmax		pmax		
	comp=Z,420nm,4.6s							
QIZ	**Qiongzhong**	**20.03**	**318**	*e*P		**P**	**17 49 14.2**	**+0.8**
	47nm,0.9s							
CBJI	**Citeko**	**20.12**	**238**	P		**P**	**17 49 16.3**	**+1.9**
MYKOM	**Kota Tinggi**	**20.19**	**263**	*e*P		**P**	**17 49 15.6**	**+0.6**
	94nm,0.9s							
MYKOM	**Kota Tinggi**	**20.19**	**263**	P		**P**	**17 49 16.0**	**+1.0**
MCO	**Taipa Grande**	**20.30**	**331**	P		**P**	**17 49 19.0**	**+3.1**
YHNB	**Yeheng**	**20.33**	**353**	*e*P		**P**	**17 49 16.0**	**-0.3**
	141nm,1.3s							
PMBI	**Palembang**	**20.45**	**250**	P		**P**	**17 49 20.3**	**+2.9**
SBJI	**Serang**	**20.58**	**240**	P		**P**	**17 49 20.7**	**+2.1**
	416nm,1.2s,4μm							
TATO	**Taipei**	**20.62**	**354**	*e*P		**P**	**17 49 18.5**	**-0.3**
	69nm,1.0s							
QZH	**Quanzhou**	**21.09**	**346**	⇓*i*P		**P**	**17 49 23.3**	**+0.3**
QZH				sP		**sP**	**17 51 31.4**	**+3.6**
QZH				S		**S**	**17 52 46.8**	**+0.6**
QZH				pmax		pmax		
	comp=Z,220nm,4.5s							
CGJI	**Cibinong**	**21.21**	**239**	P		**P**	**17 49 25.0**	**+0.8**
	146nm,1.1s,2μm							
FITZ	**Fitzroy Crossi**	**22.39**	**176**	*e*P		**P**	**17 49 34.7**	**-0.1**
	29nm,0.8s							
FITZ				*e*ScP		**ScP**	**17 56 05.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**22.39**	**176**	P		**P**	**17 49 33.9**	**-0.9**
	30nm,0.9s,baz=338,slow=5.2,SNR=51							
FITZ				S		**S**	**17 53 04.0**	**-2.9**
	1.9nm,0.7s,baz=180,slow=20,SNR=2.0							
FITZ				ScP		**ScP**	**17 56 05.3**	**+0.1**
	5.6nm,0.7s,baz=43,slow=19,SNR=5.4							
JOW	**Kunigami**	**22.73**	**10**	*e*P		**P**	**17 49 39.3**	**+1.5**
	27nm,0.8s							
JOW	**Kunigami**	**22.73**	**10**	P		**P**	**17 49 39.3**	**+1.5**
	2.0nm,0.4s,baz=165,slow=13,SNR=16							
PANO	**Nakornpanom**	**22.79**	**305**	P		**P**	**17 49 39.4**	**+0.9**
	2.7nm,1.1s							
IPM	**Ipoh**	**22.82**	**271**	*e*P		**P**	**17 49 39.1**	**+0.2**
	14nm,0.7s							
IPM	**Ipoh**	**22.82**	**271**	P		**P**	**17 49 39.0**	**+0.2**
KULM	**Kulim**	**23.20**	**273**	P		**P**	**17 49 43.0**	**+0.8**
SKNT	**Sakolnakorn**	**23.21**	**304**	P		**P**	**17 49 43.3**	**+1.0**
	119nm,1.4s							
SKLT	**Songkhla**	**23.34**	**278**	P		**P**	**17 49 45.0**	**+1.5**
	22nm,1.2s,336nm							
KHON	**Khomkaen**	**23.88**	**301**	P		**P**	**17 49 49.4**	**+1.1**
	161μm,1.0s							
PDSI	**Padang**	**24.01**	**258**	P		**P**	**17 49 52.1**	**+2.6**
	18nm,1.1s							
TRTT	**Trang**	**24.32**	**279**	P		**P**	**17 49 53.4**	**+1.1**
	30nm,1.6s							
CHAI	**Chaiyaphum**	**24.40**	**300**	P		**P**	**17 49 53.1**	**+0.2**
	139μm,0.9s							
NONG	**Nongkai**	**24.45**	**305**	P		**P**	**17 49 54.1**	**+0.7**
	2.2nm,1.0s							
KRAB	**Krabi**	**24.86**	**280**	P		**P**	**17 49 58.1**	**+1.1**
	155μm,0.8s							
SISI	**Saibi**	**25.44**	**258**	P		**P**	**17 50 02.8**	**+0.6**
	46nm,0.6s							
PKDT	**Phuket**	**25.66**	**279**	P		**P**	**17 50 05.2**	**+1.0**
	54nm,1.0s							
SLVN	**Son La**	**25.73**	**313**	*e*P		**P**	**17 50 05.0**	**+0.3**
	69nm,1.8s							
WRAB	**Tennant Creek**	**26.24**	**157**	*e*P		**P**	**17 50 08.9**	**-0.2**
	37nm,1.0s							
WRAB	**Tennant Creek**	**26.24**	**157**	⇑*e*P		**P**	**17 50 08.1**	**-1.1**
WRA	**Warramunga Arr**	**26.24**	**157**	P		**P**	**17 50 08.0**	**-1.3**
	7.4nm,0.3s,baz=334,slow=10,SNR=108							
WRA				PcP		**PcP**	**17 53 21.0**	**+0.1**
	1.1nm,0.6s,baz=319,slow=3.6,SNR=3.3							
WRA				S		**S**	**17 54 04.2**	**-3.5**
	4.6nm,0.9s,baz=328,slow=16,SNR=5.3							
WRA				ScP		**ScP**	**17 56 15.9**	**-0.1**
	1.9nm,0.5s,baz=338,slow=2.7,SNR=6.3							
WR1	**Warramunga Arr**	**26.24**	**157**	*e*P		**P**	**17 50 08.0**	**-1.3**
WR1				*e*PcP		**PcP**	**17 53 21.0**	**+0.1**
WR1				*e*S		**S**	**17 54 04.2**	**-3.5**
WR1				*e*ScP		**ScP**	**17 56 15.9**	**-0.1**
WB2	**Warramunga Arr**	**26.25**	**157**	*e*P		**P**	**17 50 09.1**	**-0.2**
	56nm,1.3s							
SRDT	**SRDT**	**26.36**	**294**	P		**P**	**17 50 11.8**	**+1.5**
	26nm,1.3s,975nm							
PMG	**Port Moresby**	**26.91**	**121**	P		**P**	**17 50 14.2**	**-0.9**
	29nm,0.9s,baz=268,slow=9.1,SNR=3.8							
GYA	**Guiyang**	**27.48**	**325**	⇑*i*P		**P**	**17 50 21.9**	**+1.7**
GYA				sP		sP	17 52 38.2	+4.1
GYA				S		**S**	**17 54 28.6**	**+1.5**
GYA				ScP		**ScP**	**17 56 22.0**	**+2.2**
GYA				ScS		**ScS**	**18 00 11.9**	**-0.8**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,4.8s							
WHN	**Wuhan**	**27.56**	**342**	⇓P		**P**	**17 50 22.7**	**+2.1**
WHN				sP		**sP**	**17 52 33.9**	**-0.6**
WHN				S		**S**	**17 54 32.9**	**+4.9**
WHN				pmax		pmax		
	comp=Z,230nm,1.8s							
WHN				pmax		pmax		
	comp=Z,600nm,2.6s							
NJ2	**Nanjing**	**27.95**	**351**	⇑*i*P		**P**	**17 50 24.0**	**0.0**
NJ2				pmax		pmax		
	comp=Z,36nm,0.8s							
CM31	**Chiang Mai Arr**	**28.14**	**302**	*e*P		**P**	**17 50 26.9**	**+0.9**
	55nm,1.0s							
CM31				*e*PcP		**PcP**	**17 53 26.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**28.14**	**302**	*e*P		**P**	**17 50 25.8**	**-0.2**
CMAR				PcP		**PcP**	**17 53 26.6**	**+0.9**
CMAR				ScP		**ScP**	**17 56 21.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**28.14**	**302**	*ce*P		**P**	**17 50 27.2**	**+1.3**
CMAR				pmax		pmax		
	comp=Z,19nm,0.8s							
CMAR	**Chiang Mai Arr**	**28.14**	**302**	P		**P**	**17 50 26.6**	**+0.6**
	comp=Z,19nm,0.8s,baz=119,slow=7.1,SNR=152							
CMAR				PcP		**PcP**	**17 53 26.6**	**+0.9**
	comp=Z,3.3nm,1.0s,baz=144,slow=1.6,SNR=5.8							
CMAR				ScP		**ScP**	**17 56 21.4**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=146,slow=1.6,SNR=10							
CHTO	**Chiang Mai**	**28.30**	**302**	*e*P		**P**	**17 50 27.9**	**+0.5**
	comp=Z,60nm,0.9s							
CHTO	**Chiang Mai**	**28.30**	**302**	*e*P		**P**	**17 50 27.9**	**+0.5**
CHTO				pmax		pmax		
	comp=Z,60nm,0.9s							
CHTO	**Chiang Mai**	**28.30**	**302**	P		**P**	**17 50 28.1**	**+0.8**
	SNR=25							
KMI	**Kunming**	**28.98**	**317**	P		**P**	**17 50 35.2**	**+1.7**
KMI				pmax		pmax		
	comp=Z,42nm,1.3s							
KMI				pmax		pmax		
	comp=Z,140nm,3.1s							
ENH	**Enshi**	**29.15**	**334**	*e*P		**P**	**17 50 34.6**	**-0.1**
	comp=Z,67nm,1.2s							
JNU	**Nakatsue**	**29.34**	**12**	*e*P		**P**	**17 50 36.1**	**-0.2**
	comp=Z,40nm,1.6s							
JNU	**Nakatsue**	**29.34**	**12**	P		**P**	**17 50 36.1**	**-0.2**
	comp=Z,3.7nm,0.4s,baz=331,slow=2.3,SNR=15							
RABL	**Rabaul**	**29.48**	**106**	*e*P		**P**	**17 50 38.6**	**+0.8**
	comp=Z,196nm,1.1s							
AS31	**Alice Springs**	**29.52**	**161**	*e*P		**P**	**17 50 37.4**	**-0.5**
	comp=Z,5.0nm,0.4s							
AS31				*e*PcP		**PcP**	**17 53 29.5**	**+0.4**
AS31				*e*ScP		**ScP**	**17 56 25.4**	**-0.7**
AS31				*e*ScS		**ScS**	**18 00 18.7**	**-3.5**
ASAR	**Alice Springs**	**29.52**	**161**	*e*P		**P**	**17 50 37.2**	**-0.8**
ASAR				PcP		**PcP**	**17 53 29.5**	**+0.4**
ASAR				S		**S**	**17 54 57.1**	**-1.7**
ASAR				ScP		**ScP**	**17 56 25.4**	**-0.7**
ASAR				ScS		**ScS**	**18 00 18.7**	**-3.5**
ASAR	**Alice Springs**	**29.52**	**161**	P		**P**	**17 50 37.7**	**-0.3**
	comp=Z,7.1nm,0.4s,baz=342,slow=7.1,SNR=189							
ASAR				PcP		**PcP**	**17 53 29.5**	**+0.4**
	comp=Z,1.9nm,1.0s,baz=348,slow=2.4,SNR=2.8							
ASAR				S		**S**	**17 54 57.1**	**-1.7**
	comp=Z,5.5nm,0.8s,baz=334,slow=13,SNR=9.6							
ASAR				ScP		**ScP**	**17 56 25.4**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=347,slow=3.0,SNR=8.2							
ASAR				ScS		**ScS**	**18 00 18.7**	**-3.5**
	comp=Z,1.1nm,0.8s,baz=354,slow=7.5,SNR=4.9							
TIA	**Tai'an**	**32.30**	**350**	P		**P**	**17 51 02.3**	**+0.5**
TIA				pmax		pmax		
	comp=Z,48nm,1.1s							
CD2	**Chengdu**	**32.52**	**327**	P		**P**	**17 51 04.1**	**+0.3**
CD2				S		**S**	**17 55 46.3**	**+1.4**
CD2				pmax		pmax		
	comp=Z,30nm,0.6s							
XAN	**Xi'an**	**32.65**	**337**	P		**P**	**17 51 04.6**	**-0.3**
XAN				S		**S**	**17 55 45.1**	**-1.8**
XAN				pmax		pmax		
	comp=Z,33nm,0.8s							
XAN				pmax		pmax		
	comp=Z,180nm,3.3s							
XAN	**Xi'an**	**32.65**	**337**	*e*P		**P**	**17 51 03.5**	**-1.3**
	comp=Z,48nm,0.9s							
XAN	**Xi'an**	**32.65**	**337**	*e*P		**P**	**17 51 03.5**	**-1.3**
XAN				pmax		pmax		
	comp=Z,48nm,0.9s							
CTAO	**Charters Tower**	**32.75**	**139**	*e*P		**P**	**17 51 07.9**	**+2.0**
	comp=Z,26nm,1.0s							
CTAO	**Charters Tower**	**32.75**	**139**	*e*P		**P**	**17 51 07.9**	**+2.0**
CTAO				pmax		pmax		
	comp=Z,26nm,1.0s							
KS15	**Wonju Array Si**	**33.12**	**6**	*e*P		**P**	**17 51 08.9**	**+0.2**
	comp=Z,88nm,2.0s							
KS15				*e*PcP		**PcP**	**17 53 39.9**	**+1.2**
KS15				*e*ScP		**ScP**	**17 56 37.1**	**-0.9**
KSAR	**Wonju Array Be**	**33.12**	**6**	*e*P		**P**	**17 51 10.2**	**+1.5**
KSAR				PcP		**PcP**	**17 53 39.9**	**+1.2**
KSAR				ScP		**ScP**	**17 56 37.1**	**-0.9**
KSAR	**Wonju Array Be**	**33.12**	**6**	*e*P		**P**	**17 51 10.2**	**+1.5**
KSAR							17 53 39.9	
INU	**Inuyama**	**33.13**	**20**	*e*P		**P**	**17 51 07.9**	**-0.9**
	comp=Z,15nm,1.0s							
KSRS	**Korea Array**	**33.13**	**6**	P		**P**	**17 51 09.3**	**+0.5**
	comp=Z,5.5nm,0.5s,baz=182,slow=9.3,SNR=22							
KSRS				PcP		**PcP**	**17 53 39.9**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=147,slow=3.0,SNR=4.3							
KSRS				ScP		**ScP**	**17 56 37.1**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=192,slow=3.8,SNR=6.9							
DL2	**Dalian**	**34.44**	**357**	P		**P**	**17 51 21.6**	**+1.7**
DL2				pmax		pmax		
	comp=Z,69nm,1.1s							
MAJO	**Matsushiro**	**34.62**	**20**	*e*P		**P**	**17 51 21.4**	**0.0**
	comp=Z,18nm,1.1s							
MAJO				*e*PcP		**PcP**	**17 53 44.4**	**+1.4**
MAJO				*e*ScP		**ScP**	**17 56 43.8**	**+0.3**
MAJO	**Matsushiro**	**34.62**	**20**	*ce*P		**P**	**17 51 23.0**	**+1.6**
MAJO				pmax		pmax		
	comp=Z,25nm,1.6s							
MAT	**Matsushiro**	**34.62**	**20**	P		**P**	**17 51 20.6**	**-0.8**
MAT				S		**S**	**17 56 16.2**	**-0.4**
MJAR	**Matsushiro Arr**	**34.62**	**20**	*e*P		**P**	**17 51 20.8**	**-0.6**
MJAR				PcP		**PcP**	**17 53 44.4**	**+1.4**
MJAR				ScP		**ScP**	**17 56 43.8**	**+0.3**
MJAR	**Matsushiro Arr**	**34.62**	**20**	P		**P**	**17 51 20.3**	**-1.1**
	comp=Z,6.7nm,0.4s,baz=203,slow=10,SNR=30							
MJAR				PcP		**PcP**	**17 53 44.4**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=164,slow=0.9,SNR=4.6							
MJAR				ScP		**ScP**

comp=Z,42nm,1.6s
GTA pmax pmax
TEY Ternei 42.01 13⇑ eP P 17 52 24.2 +2.6
TEY pmax pmax
comp=Z,20nm,1.5s
TEY pmax pmax
comp=N,20nm,1.1s
TEY pmax pmax
comp=E,10.0nm,1.1s
RAMN Ramite 42.10 306 eP P 17 52 23.7 +0.7
comp=E,284nm,1.3s
JIRN Jiri 42.73 307 eP P 17 52 28.7 +0.5
comp=E,219nm,0.9s
ASAJ Asahikawa 42.88 20 P P 17 52 29.2 +0.7
comp=E,9.3nm,0.3s,baz=246,slow=10.0,SNR=44
PALK Pallekele 43.07 276 eP P 17 52 30.4 -0.3
comp=E,99nm,1.5s
PALK Pallekele 43.07 276 P P 17 52 30.3 -0.3
PALK Pallekele 43.07 276 eP P 17 52 30.4 -0.3
PALK pmax pmax
comp=Z,99nm,1.5s
PKI Pulchoki 43.32 306 eP P 17 52 32.6 -0.1
PKIN Phulchoki 43.33 306 eP P 17 52 32.5 -0.3
KKN Kakani 43.52 307 eP P 17 52 34.2 +0.1
comp=Z,106nm,0.9s
DMN Daman 43.58 306 eP P 17 52 34.9 +0.2
comp=Z,196nm,1.3s
ARMA Armidale 43.58 144 eP P 17 52 35.8 +1.4
comp=Z,52nm,1.1s
GKN Gorkha 44.12 306 eP P 17 52 38.8 0.0
comp=Z,183nm,1.3s
KOLN Koldanda 44.86 306 eP P 17 52 45.1 +0.5
comp=Z,87nm,0.5s
DANN Dangsing 44.97 306 eP P 17 52 45.7 +0.2
comp=Z,222nm,0.9s
KLR Kul'dur 45.20 7⇑ iP P 17 52 47.1 +0.6
KLR pmax pmax
comp=Z,8.0nm,0.6s
KLR Kul'dur 45.20 7 P P 17 52 46.3 -0.2
comp=Z,7.5nm,0.4s,baz=192,slow=7.9,SNR=40
YSS Yuzh-Sakhalins 45.45 18 eP P 17 52 48.7 +0.2
comp=Z,79nm,2.0s
YSS Yuzh-Sakhalins 45.45 18 eP P 17 52 48.7 +0.2
YSS pmax pmax
comp=Z,79nm,2.0s
PYUN Piuthan 45.49 306 eP P 17 52 49.9 +0.5
comp=Z,610nm,1.4s
ULN Ulaanbaatar 45.69 344 eP P 17 52 50.6 0.0
comp=Z,69nm,1.1s
ULN Ulaanbaatar 45.69 344 eP P 17 52 50.6 0.0
ULN pmax pmax
comp=Z,69nm,1.1s
ULN Ulaanbaatar 45.69 344 P P 17 52 50.8 +0.2
SNR=28
SONA0 Songino Array 45.85 344 eP P 17 52 51.8 +0.1
SONA0 eP cP **P cP 17 54 20.1 +0.5**
SONA0 eS cP **S cP 17 57 28.4 +0.8**
SONM Songino Array 45.85 344 eP P 17 52 51.5 -0.3
SONM P cP **P cP 17 54 20.1 +0.5**
SONM S cP **S cP 17 57 28.4 +0.8**
SONM Songino Array 45.85 344 P P 17 52 51.8 +0.1
comp=Z,33nm,0.9s,baz=160,slow=8.4,SNR=112
SONM P cP **P cP 17 54 20.1 +0.5**
comp=Z,5.7nm,1.1s,baz=160,slow=3.7,SNR=3.9
SONM S cP **S cP 17 57 28.4 +0.8**
comp=Z,1.7nm,0.9s,baz=163,slow=4.6,SNR=4.1
CAN Canberra 45.98 151 eP P 17 52 54.2 +1.4
comp=Z,43nm,0.9s
CAN Canberra 45.98 151 eP P 17 52 54.2 +1.4
CAN pmax pmax
comp=Z,43nm,0.9s
HYB Hyderabad 46.26 290 i P P 17 52 56.0 +0.8
comp=Z,188nm,1.4s
TOO Toolangi 46.30 156 eP P 17 52 56.8 +1.6
comp=Z,26nm,0.9s
TOO Toolangi 46.30 156 eP P 17 52 56.8 +1.6
TOO pmax pmax
comp=Z,26nm,0.9s
GRNR Gornyy 47.42 11 eP P 17 53 04.9 +1.4
ZAK Zakamensk 49.04 343 eP P 17 53 14.8 -1.0
ZAK pmax pmax
comp=Z,17nm,1.4s
ZEA Zeya 49.29 3 eP P 17 53 17.8 +0.4
ZEA pmax pmax
comp=Z,17nm,1.0s
TLY Talaya 50.09 344 eP P 17 53 23.9 +0.4
comp=Z,34nm,1.0s
TLY Talaya 50.09 344 d iP P 17 53 23.7 +0.3
TLY Talaya 50.09 344 P P 17 53 23.3 -0.1
SNR=21
IRK Irkutsk 50.42 344 eP P 17 53 25.1 -0.7
IRK pmax pmax
comp=Z,75nm,2.1s
WMQ Urumqi 50.62 326 P P 17 53 28.7 +1.2
WMQ pP pP 17 55 01.5 +2.7
WMQ pmax pmax
comp=Z,280nm,1.1s
WMQ pmax pmax
comp=Z,660nm,3.8s
WMQ Urumqi 50.62 326 eP P 17 53 28.1 +0.6
comp=Z,106nm,1.0s
WMQ Urumqi 50.62 326 eP P 17 53 28.1 +0.6
WMQ pmax pmax
comp=Z,106nm,1.0s
MOY Mondy 50.86 342 eP P 17 53 36.2 +7.0
MOY pmax pmax
comp=Z,104nm,1.7s
BOD Bodaibo 53.87 353 eP P 17 53 50.8 +0.2
BOD pmax pmax
comp=Z,32nm,1.7s
DGZ Jazzator, Alta 54.68 332‖ eP P 17 53 57.5 +0.8
NIL Nilore 55.32 308 eP P 17 54 01.2 -0.1
comp=Z,137nm,1.3s
NIL Nilore 55.32 308 eP P 17 54 01.2 -0.1
NIL pmax pmax
comp=Z,137nm,1.3s
PRZ Przheval'sk 55.40 320 eP P 17 54 03.3 +1.4
comp=Z,110nm,0.9s
TARG Taragay, Kyrgy 55.41 319 eP P 17 54 02.8 +0.5
comp=Z,58nm,1.2s
MK31 Makanchi Array 55.45 326 eP P 17 54 02.1 +0.1
comp=Z,70nm,1.0s
MK31 Makanchi Array 55.45 326 eP P 17 54 02.1 +0.1
MK31 pmax pmax
comp=Z,70nm,1.0s
MK32 Makanchi Array 55.45 326 eP P 17 54 01.5 -0.5
MK32 eP cP **P cP 17 54 55.0 -0.4**
MK32 eS cP **S cP 17 58 09.0 +0.1**
MK32 eS **S 18 01 10.7 +0.1**
MKAR Makanchi Array 55.45 326 P P 17 54 01.5 -0.5
comp=Z,47nm,0.3s,baz=120,slow=7.5,SNR=848
MKAR P cP **P cP 17 54 55.0 -0.4**
comp=Z,8.7nm,0.7s,baz=103,slow=4.2,SNR=6.3
MKAR S cP **S cP 17 58 09.0 +0.1**
comp=Z,3.2nm,0.8s,baz=121,slow=4.7,SNR=6.3
MKAR S **S 18 01 10.7 +0.1**
comp=Z,7.5nm,1.2s,baz=125,slow=12,SNR=9.8
KSH Kashi 55.62 316 P P 17 54 05.1 +1.6
KSH pP pP 17 55 40.2 +2.8
KSH S **S 18 01 11.0 -2.2**
KSH SS **SS 18 05 06.6 -0.9**
KSH pmax pmax
comp=Z,100nm,1.0s
MAKZ Makanchi 55.63 326 eP P 17 54 03.2 -0.1
comp=Z,110nm,1.1s
MAKZ Makanchi 55.63 326 eP P 17 54 03.2 -0.1
MAKZ pmax pmax
comp=Z,110nm,1.1s
PETK Petropavlovsk- 55.95 24 P P 17 54 05.9 +0.6
comp=Z,3.5nm,0.5s,baz=179,slow=3.7,SNR=38
PETK P cP **P cP 17 54 56.0 -1.2**
comp=Z,1.9nm,0.6s,baz=211,slow=1.5,SNR=3.5
PEA1 Petropavlovsk- 55.95 24 eP P 17 54 05.9 +0.6
PEA1 eP cP **P cP 17 54 56.0 -1.2**
KDJ Kajisay 56.02 319 eP P 17 54 06.7 +0.4
comp=Z,71nm,0.9s
KDJ Kajisay 56.02 319 eP P 17 54 06.7 +0.4
KDJ pmax pmax
comp=Z,71nm,0.9s
PET Petropavlovsk 56.27 24 i P P 17 54 09.0 +1.5
PET pmax pmax
comp=Z,10.0nm,0.7s
NRN Naryn 56.47 318 eP P 17 54 09.8 +0.2
comp=Z,36nm,0.8s
NRN Naryn 56.47 318 eP P 17 54 09.8 +0.2
NRN pmax pmax
comp=Z,36nm,0.8s
ULHL Ulahol 56.69 319 P P 17 54 13.4 +2.5
SNR=7.4
BOOM Boomskoye usch 57.00 319 eP P 17 54 13.9 +0.9
comp=Z,64nm,1.3s
BOOM Boomskoye usch 57.00 319 eP P 17 54 13.9 +0.9
BOOM pmax pmax
comp=Z,64nm,1.3s
KZA Kyzart 57.26 318 P P 17 54 16.3 +1.2
SNR=87
TKM2 Tokmak 2 57.42 319 P P 17 54 18.1 +2.1
SNR=8.7
YAK Yakutsk 57.70 3 eP P 17 54 17.5 +0.4
YAK e 17 55 04.3
YAK eS **S 18 01 40.0 +1.1**
YAK eSS **SS 18 05 35.4 -3.4**
YAK pmax pmax
comp=Z,209nm,0.9s
YAK pmax pmax
comp=N,97nm,1.0s
YAK pmax pmax
comp=E,15nm,0.9s
YAK pmax pmax
comp=Z,201nm,3.0s
YAK pmax pmax
comp=N,133nm,2.8s
YAK pmax pmax
comp=E,246nm,3.0s
YAK smax smax
comp=E,256nm,1.7s
YAK smax smax
comp=N,209nm,1.8s
KBK Karagaybulak 57.72 319 P P 17 54 20.1 +2.0
SNR=36
UCH Uchtor 57.82 318 P P 17 54 20.2 +1.2
SNR=98
FRU1 Bishkek 58.00 319 eP P 17 54 20.2 +0.4
comp=N,36nm,1.1s
FRU1 Bishkek 58.00 319 eP P 17 54 20.2 +0.4
FRU1 pmax pmax
comp=Z,36nm,1.1s
CHMS Chumysh 58.01 319 P P 17 54 21.1 +1.4
SNR=13
AAK Ala-Archa 58.01 319 P P 17 54 21.3 +1.4
SNR=32
AAK Ala-Archa 58.01 319 eP P 17 54 20.6 +0.7
comp=Z,96nm,1.5s
AAK Ala-Archa 58.01 319 i P P 17 54 21.5 +1.6
SNR=46
AAK Ala-Archa 58.01 319 ceP P 17 54 20.3 +0.3
AAK pmax pmax
comp=Z,72nm,1.5s
AAK Ala-Archa 58.01 319 P P 17 54 20.5 +0.5
SNR=29
AML Almayashu 58.32 318 P P 17 54 23.4 +1.0
SNR=116
ARSB Arslanbob 58.46 317 eP P 17 54 23.0 0.0
comp=Z,90nm,1.0s
EKS2 Erkin-Say 58.50 318 P P 17 54 24.1 +0.9
SNR=85
ZAA0 Zalesovo Array 58.77 334 eP P 17 54 23.6 -1.0
comp=Z,55nm,1.3s
ZALV Zalesovo Beam 58.77 334 P P 17 54 23.8 -0.8
comp=Z,13nm,0.6s,baz=121,slow=5.7,SNR=45
ZALV ScP **ScP 17 58 22.7 -0.7**
comp=Z,0.6nm,0.5s,baz=132,slow=2.1,SNR=3.5
ZALV ScS **ScS 18 03 24.6 -1.6**
comp=Z,1.3nm,0.6s,baz=42,slow=4.5,SNR=4.3
ZAA1 Zalesovo Array 58.77 334 eP P 17 54 23.8 -0.9
ZAA1 eScP **ScP 17 58 22.7 -0.7**
ZAA1 eScS **ScS 18 03 24.6 -1.6**
MA2 Magadan 58.81 16 eP P 17 54 26.5 +1.6
comp=Z,14nm,0.9s
MA2 Magadan 58.81 16 deP P 17 54 26.4 +1.6
MA2 pmax pmax
comp=Z,21nm,1.2s
KBL Kabul 58.91 308 eP P 17 54 26.1 -0.1
comp=Z,70nm,0.8s
KBL Kabul 58.91 308 eP P 17 54 26.1 -0.1
KBL pmax pmax
comp=Z,70nm,0.8s
GAR Garm 59.43 313 eP P 17 54 29.5 -0.1
comp=Z,192nm,1.0s
GAR Garm 59.43 313 eP P 17 54 29.5 -0.1
GAR pmax pmax
comp=Z,192nm,1.0s
BTK Batken 59.46 315 eP P 17 54 30.1 +0.4
comp=Z,228nm,1.6s
BTK Batken 59.46 315 eP P 17 54 30.1 +0.4
BTK pmax pmax
comp=Z,228nm,1.6s
KURBB Kurchatov Arra 59.71 328 S S 18 02 05.3 +0.5
comp=Z,1.1nm,1.0s,baz=133,slow=11,SNR=8.4
KURK Kurchatov 59.71 328 eP P 17 54 31.1 0.0
comp=Z,129nm,0.6s
KURK Kurchatov 59.71 328 deP P 17 54 30.9 -0.1
KURK pmax pmax
comp=Z,121nm,0.7s
KURK Kurchatov 59.71 328 P P 17 54 31.0 0.0
SNR=44
NVS Novosibirsk 60.06 334‖ iP P 17 54 33.2 0.0
NVS i *PP **pP 17 56 10.0 +1.1**
NVS i S **S 18 02 09.3 +0.2**
NVS i *SS SKKSac 18 03 32.8 -3.0
NVS pmax pmax
comp=N,17nm,0.8s
NVS pmax pmax
comp=Z,28nm,0.8s
NVS pmax pmax
comp=E,14nm,0.6s
NVS smax smax
comp=N,11nm,1.2s
NVS smax smax
comp=E,12nm,0.8s
KK31 Karatay Array 60.86 318 eP P 17 54 38.7 -0.2
comp=E,68nm,1.0s
KK31 Karatay Array 60.86 318 eP P 17 54 38.7 -0.2
KK31 pmax pmax
comp=Z,68nm,1.0s
SEY Seymchan 62.08 14‖ eP P 17 54 48.2 +1.8
BVAR Borovoye Array 65.27 328 S S 18 03 13.8 +0.7
comp=Z,0.7nm,0.7s,baz=145,slow=16,SNR=6.4
BRVK Borovoye 65.34 328 eP P 17 55 07.4 -0.2
comp=Z,74nm,1.0s
BRVK Borovoye 65.34 328 d iP P 17 55 07.5 -0.1
BRVK pmax pmax
comp=Z,81nm,1.0s
BRVK Borovoye 65.34 328 P P 17 55 07.4 -0.2
SNR=37
MHTO MHTO 66.00 291 P P 17 55 11.5 -0.8
SNR=8.4
BIDO Bidbid 66.08 294 P P 17 55 12.4 -0.4
SNR=8.8
DQM DQM 66.32 290 P P 17 55 14.2 -0.1
SNR=6.0
TIXI Tiksi 67.27 2 eP P 17 55 18.4 -0.8
comp=Z,17nm,1.1s
TIXI Tiksi 67.27 2 deP P 17 55 18.8 -0.4
TIXI pmax pmax
comp=Z,17nm,1.1s
SOHO SOHO 67.59 294 P P 17 55 21.3 -0.9
SNR=5.3
HATD Hatta, Dubai 68.02 295 P P 17 55 25.1 +0.2
HATD Hatta, Dubai 68.02 295 P P 17 55 24.4 -0.4
MSFE Esma-Masafi 68.05 295 P P 17 55 25.4 +0.4
ASHO Ashiyiah 68.08 295 P P 17 55 24.3 -0.9
SHME Shamm 68.14 296 P P 17 55 25.8 +0.2
ALNE Al Ain 68.30 294 i P P 17 55 26.1 -0.4
SNR=13
GEYT Alibeck 68.31 309 P P 17 55 26.4 0.0
comp=Z,44nm,0.8s,baz=134,slow=4.3,SNR=90
GYA0B ALIBECK ARRAY 68.31 309 eP P 17 55 26.7 +0.3
comp=Z,48nm,0.9s
FAQ Al Faqa, Dubai 68.50 295 i P P 17 55 27.6 -0.2
SNR=7.1
FAQ Al Faqa, Dubai 68.50 295 P P 17 55 27.5 -0.3
ASUD Al Ashush, Dub 68.73 295 P P 17 55 29.3 +0.2
ASUD Al Ashush, Dub 68.73 295 P P 17 55 29.0 -0.1
AJN Ajban 69.04 295 P P 17 55 31.1 +0.1
NRIK Noril'sk 69.16 347 P P 17 55 30.9 +0.1
comp=Z,6.5nm,0.3s,baz=144,slow=6.3,SNR=21
BILL Bilibino 69.68 16⇑ eP P 17 55 34.7 +0.7
BILL e 17 55 49.9
BILL e 17 58 13.8
BILL pmax pmax
comp=Z,8.0nm,1.2s
WHFO Wadi Hawf 69.78 287 P P 17 55 35.1 -0.5
ABKAR Akbulak array 69.89 321 eP P 17 55 34.8 -0.8
ABTO Aybut 70.21 287 P P 17 55 38.0 -0.3
ARU Arti 72.91 328 eP P 17 55 52.4 -0.7
comp=Z,52nm,1.1s
ARU Arti 72.91 328 c iP P 17 55 51.9 -1.3
ARU S **S 18 04 38.7 -2.4**
ARU pmax pmax
comp=Z,57nm,1.1s
DAMY Dhamar 78.78 284 eP P 17 56 26.4 -0.7
comp=Z,39nm,0.9s
ABPO Ambohimpanom 78.88 250 i P P 17 56 28.7 +1.3
GNI Garni 78.92 310 eP P 17 56 28.0 +0.8
comp=Z,33nm,1.2s
GNI Garni 78.92 310 i P P 17 56 28.4 +1.2
SNR=8.4
GNI Garni 78.92 310 d iP P 17 56 27.7 +0.5
GNI pmax pmax
comp=Z,114nm,1.3s
GNI Garni 78.92 310 P P 17 56 27.9 +0.7
SNR=14
GNI Garni 78.92 310 P P 17 56 26.1 -1.1
comp=Z,15nm,1.1s,baz=186,slow=3.2,SNR=17
TBLG Delisi 79.03 312 eP P 17 56 28.2 +0.6
comp=Z,35nm,0.9s
TBLG Delisi 79.03 312 eP P 17 56 28.2 +0.6
TBLG pmax pmax
comp=Z,35nm,0.9s
ZEI Tsey 79.72 313 eP P 17 56 30.4 -1.0
ZEI pmax pmax
comp=Z,55nm,1.5s
AKH Akhalkalaki 79.94 311 eP P 17 56 33.4 +0.8
comp=Z,46nm,1.0s
AKH Akhalkalaki 79.94 311⇑ iP P 17 56 34.0 +1.4
AKH Akhalkalaki 79.94 311 eP P 17 56 33.4 +0.8
AKH pmax pmax
comp=Z,46nm,1.0s
NCK Nalchik 79.98 313⇑ iP P 17 56 33.3 +0.7
NCK pmax pmax
comp=Z,40nm,1.4s
ATD Arta Tunnel 80.40 281 eP P 17 56 35.9 +0.5
comp=Z,39nm,0.9s
KBZ Khabaz 80.50 313 P P 17 56 34.7 -0.5
comp=Z,13nm,1.0s,baz=101,slow=2.7,SNR=24
SIRT Sirnak 80.59 307 eP P 17 56 36.2 +0.2
comp=Z,210nm,0.9s
NEY Neytrino 80.61 313‖ eP P 17 56 37.8 +1.8
NEY pmax pmax
comp=Z,6.0nm,1.2s
PRGR Permogore 80.61 332⇑ iP P 17 56 35.0 -0.4
PRGR pmax pmax
comp=Z,22nm,0.7s
KVAR Kislovodsk Arr 80.66 314 P P 17 56 36.2 -0.1
comp=Z,1.5nm,0.5s,baz=128,slow=19,SNR=13
KIV Kislovodsk 80.67 314 eP P 17 56 36.7 +0.5
comp=Z,14nm,0.9s
KIV Kislovodsk 80.67 314‖ iP P 17 56 37.4 +1.2
KIV Kislovodsk 80.67 314 P P 17 56 37.7 +1.5
KIV Kislovodsk 80.67 314 eP P 17 56 36.0 -0.2
KIV pmax pmax
comp=Z,56nm,1.1s
KIV MLR MLR
comp=Z,116nm,19.0s
KIV Kislovodsk 80.67 314 P P 17 56 36.0 -0.2
SNR=9.8
BCA Borcka 81.35 311‖ iP P 17 56 40.5 +0.8
VRH Novokhopyorsk 81.72 321 eP P 17 56 40.9 -0.4
VRH pmax pmax
comp=Z,60nm,0.8s
SOC Sochi 82.80 313 eP P 17 56 45.9 -1.2
SOC eS **S 18 06 18.2 -7.7**
SOC i SS **SS 18 12 01.9 +0.4**
SOC eSSS SSS 18 15 39.5
SOC pmax pmax
comp=Z,21nm,0.5s
KDAK Kodiak Island 82.86 32 eP P 17 56 47.7 +0.7
comp=Z,66nm,1.7s
KDAK Kodiak Island 82.86 32 P P 17 56 47.7 +0.7
comp=Z,7.8nm,0.8s,baz=263,slow=5.9,SNR=6.3
IMAR Indian Mountai 82.91 24 eP P 17 56 47.9 +0.7
VSR Storozhevoye 83.32 321 eP P 17 56 48.2 -1.3
VSR pmax pmax
comp=Z,50nm,0.8s
MAW Mawson 83.39 200 eP P 17 56 49.2 -0.2
comp=Z,1.3nm,1.0s
MAW Mawson 83.39 200 P P 17 56 49.2 -0.2
comp=Z,4.4nm,0.9s,baz=31,slow=5.0,SNR=4.5
KLMR Klimovskoe 83.47 331 eP P 17 56 47.8 -2.2
KLMR pmax pmax
comp=Z,57nm,1.1s
LPSR Galich'ya Gora 83.50 322 eP P 17 56 50.4 0.0
LPSR pmax pmax
comp=Z,80nm,1.0s
BPAW Bear Paw Mtn. 83.95 26 eP P 17 56 53.5 +1.1
comp=Z,6.3nm,1.2s
MLY Manley 84.10 25 eP P 17 56 54.2 +1.0
comp=Z,22nm,2.0s
TMCR Tamitsa 84.30 334 eP P 17 56 53.6 -0.4
MOS Moscow 84.32 325 eP P 17 56 50.1 -4.3
MOS pmax pmax
comp=Z,95nm,1.2s
ANN Anapa 84.45 314 eP P 17 56 53.1 -2.1
ANN eS **S 18 06 34.2 -7.8**
ANN eSSS SSS 18 15 56.8
ANN pmax pmax
comp=Z,164nm,1.1s
FURI Furi 84.63 278 eP P 17 56 57.1 -0.1
comp=Z,62nm,1.4s
TOLK Toolik Lake Re 84.69 22 eP P 17 56 56.0 0.0
comp=Z,10nm,1.0s
MCK McKinley 84.85 27 eP P 17 56 57.3 +0.4
comp=Z,11nm,0.4s
RND Reindeer 84.88 27 eP P 17 56 57.0 -0.1
comp=Z,9.3nm,0.6s
RND Reindeer 84.88 27 eP P 17 56 57.0 -0.1
RND pmax pmax
comp=Z,9.0nm,0.6s
OBN Obninsk 84.92 325 eP P 17 56 57.0 -0.3
comp=Z,101nm,1.3s
OBN Obninsk 84.92 325 d iP P 17 56 56.2 -1.1
OBN e 18 00 21.5
OBN pmax pmax
comp=Z,107nm,1.5s
OBN Obninsk 84.92 325 P P 17 56 57.3 0.0
comp=Z,4.6nm,0.5s,baz=104,slow=1.3,SNR=23
ASF Jabal al Asfar 85.17 302 P P 17 56 59.7 +0.5
comp=Z,31nm,0.9s,baz=52,slow=3.0,SNR=46
WRH Wood River Hil 85.22 26 eP P 17 56 58.9 +0.2
comp=Z,30nm,0.3s
COLA College 85.33 25‖ eP P 17 56 59.7 +0.6
COLA pmax pmax
comp=Z,3.0nm,0.7s
CCB Clear Creek Bu 85.35 26 eP P 17 56 59.6 +0.4
comp=Z,18nm,0.4s
HDA Harding Lake 85.72 26 eP P 17 57 00.9 -0.1
comp=Z,12nm,0.4s
ILAR Eielson Array 85.74 25 P P 17 57 00.2 -0.9
comp=Z,0.4nm,0.4s,baz=253,slow=4.0,SNR=7.4
ILB Eielson Array 85.74 25 eP P 17 57 00.2 -0.9
comp=Z,5.7nm,0.6s
MMAI Mount Meron Ar 86.40 303 P P 17 57 05.4 +0.3
comp=Z,22nm,1.0s,baz=92,slow=6.8,SNR=24
BMAR Burnt Mountain 86.58 23 eP P 17 57 06.0 +0.8
RIDG Independent Ri 86.67 26 eP P 17 57 06.4 +0.8
comp=Z,6.3nm,0.4s
KMBO Kilima Mbogo 86.75 269 eP P 17 57 08.4 +1.1
comp=Z,30nm,1.3s
KMBO Kilima Mbogo 86.75 269 i P P 17 57 08.4 +1.1
SNR=9.2
KMBO Kilima Mbogo 86.75 269 ceP P 17 57 08.6 +1.3
KMBO pmax pmax
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 86.75 269 P P 17 57 08.0 +0.6
SNR=6.2
KMBO Kilima Mbogo 86.75 269 P P 17 57 07.6 +0.3
comp=Z,13nm,1.1s,baz=72,slow=4.6,SNR=13
SIM Simferopol' 86.80 315 ceP P 17 57 03.9 -2.7
SIM pmax pmax
comp=Z,18nm,0.7s
EIL Elat 86.96 299 P P 17 57 07.4 -0.3
comp=Z,16nm,0.8s,baz=2.9,slow=4.4,SNR=14
ILGA Ilgaz 87.31 311 eP P 17 57 09.0 -0.4
comp=Z,15nm,0.9s
BR101 Keskin Array S 87.45 309 eP P 17 57 08.2 -1.8
BR131 Keskin Array S 87.45 309 eP P 17 57 09.1 -0.9

comp=Z,10nm,1.0s
BR131 Keskin Array S 87.45 309 *e*P **P 17 57 09.1 -0.9**
BR131 pmax pmax
comp=Z,10.0nm,1.0s
BRTR Keskin Array B 87.45 309 *e*P **P 17 57 09.5 -0.5**
BRTR Keskin Array B 87.45 309 *i* P **P 17 57 09.6 -0.4**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 87.45 309 P **P 17 57 08.2 -1.8**
comp=Z,8.7nm,0.9s,baz=122,slow=5.7,SNR=36
CSS Mathiatis 88.00 305 *e*P **P 17 57 12.5 0.0**
comp=Z,19nm,1.0s
BCAR Beaver Creek A 88.09 27 *e*P **P 17 57 12.8 +0.4**
ARA0 ARCESS Array S 88.88 340 *e*P **P 17 57 14.6 -1.3**
ARCES ARCESS Array B 88.88 340 P **P 17 57 14.6 -1.3**
comp=Z,2.1nm,0.5s,baz=82,slow=6.5,SNR=23
AKASG Malin Array Be 89.62 321 *e*P **P 17 57 19.1 -0.6**
AKASG PP **PP 18 00 57.4 -2.0**
AKASG Malin Array Be 89.62 321 *c e*P **P 17 57 19.1 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 89.62 321 P **P 17 57 17.6 -2.1**
comp=Z,1.2nm,0.3s,baz=69,slow=4.5,SNR=23
AKASG PP **PP 18 00 57.4 -2.0**
comp=Z,0.3nm,0.3s,baz=68,slow=7.4,SNR=4.0
AKBB Malin Array Si 89.62 321 *e*P **P 17 57 19.0 -0.6**
comp=Z,7.6nm,1.0s
AKBB *e*PP **PP 18 00 57.4 -2.0**
KIEV Kiev 89.64 321 *e*P **P 17 57 18.9 -0.8**
comp=Z,7.4nm,1.0s
KIEV Kiev 89.64 321 P **P 17 57 19.0 -0.7**
KIEV Kiev 89.64 321 *e*P **P 17 57 18.9 -0.8**
KIEV pmax pmax
comp=Z,7.0nm,1.0s
EPYK Eagle Plains 89.78 23 *e*P **P 17 57 20.2 +0.1**
comp=Z,5.7nm,1.0s
FIA0 FINESS Array S 89.94 332 *e*P **P 17 57 19.4 -1.5**
FIA0 FINESS Array S 89.94 332 *e*P **P 17 57 19.4 -1.5**
FINES FINESS Array B 89.94 332 *e*P **P 17 57 20.3 -0.6**
FINES FINESS Array B 89.94 332 *e*P **P 17 57 20.3 -0.6**
FINES FINESS Array B 89.94 332 P **P 17 57 19.4 -1.5**
comp=Z,5.5nm,0.5s,baz=79,slow=4.4,SNR=59
VSU Vasula 90.06 329⇓ *e*P **P 17 57 20.2 -1.3**
VSU pmax pmax
comp=Z,98nm,1.7s
INK Inuvik 90.60 21 *e*P **P 17 57 24.0 +0.2**
comp=Z,6.0nm,1.2s
INK Inuvik 90.60 21 P **P 17 57 23.6 -0.2**
comp=Z,2.6nm,1.0s,baz=272,slow=5.6,SNR=5.6
TESR Tescani 91.85 317⇑ *i*P **P 17 57 30.3 +0.2**
VRI Vrincioaia 91.89 316⇑ *i*P **P 17 57 30.9 +0.6**
PLOR Plostina 91.95 316⇓ *i*P **P 17 57 31.3 +0.7**
MLR Muntele Rosu 92.49 316 *e*P **P 17 57 33.0 -0.2**
comp=Z,16nm,1.1s
MLR Muntele Rosu 92.49 316⇑ *i*P **P 17 57 33.2 0.0**
MLR Muntele Rosu 92.49 316 *e*P **P 17 57 33.0 -0.2**
MLR pmax pmax
comp=Z,16nm,1.1s
MLR Muntele Rosu 92.49 316 P **P 17 57 31.2 -2.0**
comp=Z,5.5nm,0.8s,baz=98,slow=19,SNR=8.5
BURAR Bucovina Array 92.65 318 *e*P **P 17 57 33.3 -0.6**
BURAR Bucovina Array 92.65 318⇑ *i*P **P 17 57 34.4 +0.5**
BUR08 Bucovina Ar. S 92.66 318 *e*P **P 17 57 33.4 -0.5**
comp=Z,14nm,1.0s
SUW Suwalki 92.78 325 *e*P **P 17 57 34.2 +0.1**
SUW Suwalki 92.78 325 *e*P **P 17 57 34.3 +0.1**
KWP Kalwaria Pacla 93.93 320 *e*P **P 17 57 40.0 +0.5**
KWP Kalwaria Pacla 93.93 320 *e*P **P 17 57 39.9 +0.3**
comp=Z,173nm,1.1s
KWP Kalwaria Pacla 93.93 320 *e*P **P 17 57 39.9 +0.3**
KWP pmax pmax
comp=Z,173nm,1.1s
TRPA Tarpa 94.33 319⇑ *i*P **P 17 57 41.5 +0.1**
KOLS Kolonicke sedl 94.35 320 *e*P **P 17 57 41.9 +0.4**
KOLS pmax pmax
comp=Z,8.0nm,1.2s
KOLS Kolonicke sedl 94.35 320 *e*P **P 17 57 41.9 +0.4**
UZH Uzhgorod 94.39 319⇑ *i*P **P 17 57 41.3 -0.3**
DRGR 94.48 317⇑ *i*P **P 17 57 42.5 +0.3**
GZR Gura Zlata 94.70 316⇑ *i*P **P 17 57 43.2 -0.1**
SIRR Siria 95.30 317⇓ *i*P **P 17 57 46.2 +0.3**
NIE Niedzica 95.51 320 *e*P **P 17 57 47.9 +1.1**
NIE Niedzica 95.51 320 *e*P **P 17 57 47.9 +1.1**
MDVR Moldovita 95.56 316⇑ *i*P **P 17 57 47.1 0.0**
OJC Ojcow 95.64 321 *e*P **P 17 57 47.9 +0.6**
OJC Ojcow 95.64 321 *e*P **P 17 57 47.9 +0.6**
HFS Hagfors 96.14 332 P **P 17 57 48.0 -1.3**
comp=Z,1.3nm,0.3s,baz=88,slow=4.5,SNR=9.5
VYHS Vyhne 96.66 320 *i* P **P 17 57 51.4 -0.6**
VYHS Vyhne 96.66 320 *e*P **P 17 57 51.4 -0.6**
NB2 NORSAR Subarra 96.96 333 P **P 17 57 51.9 -1.1**
comp=Z,0.8nm,0.6s,baz=67,slow=4.4
NB2 NORSAR Subarra 96.96 333 P **P 17 57 51.6 -1.4**
NB2 pmax pmax
comp=Z,800nm,0.6s
NB2 NORSAR Subarra 96.96 333 P **P 17 57 51.9 -1.1**
baz=67,slow=4.4
NB200 NORSAR Array S 96.96 333 *e*P **P 17 57 51.0 -2.1**
NB200 *e*PP **PP 18 01 53.0 -2.8**
NOA NORSAR Array B 96.96 333 P **P 17 57 51.0 -2.1**
NOA NORSAR Array B 96.96 333 P **P 17 57 51.0 -2.1**
comp=Z,1.8nm,0.7s,baz=69,slow=4.5,SNR=8.9
NOA PP **PP 18 01 53.0 -2.8**
comp=Z,1.5nm,1.1s,baz=68,slow=7.5,SNR=3.6
MORC Moravsky Berou 97.16 321 *e*P Pdif 17 57 54.7 +0.5
JAVC Velka Javorina 97.32 320 *e*P Pdif 17 57 56.4 +1.5
KSP Ksiaz 97.63 322 *e*P **P 17 57 57.2 +1.0**
KSP Ksiaz 97.63 322 *e*P **P 17 57 57.2 +1.0**
MODS Modra-Piesok 97.70 320 *i* P Pdif 17 57 55.7 -0.9
MODS Modra-Piesok 97.70 320 *e*PDIF Pdif 17 57 55.7 -0.9
DPC Dobruska-Polom 97.76 322 *e*P **P 17 57 57.3 +0.5**
DPC Dobruska-Polom 97.76 322 *e*P **P 17 57 57.3 +0.5**
VRAC Vranov 97.88 321 *e*P **P 17 57 58.2 +0.8**
KRUC Moravsky 98.07 321 *e*P **P 17 57 58.8 +0.6**
BRG Berggiesshubel 99.05 323 *e*P **Pdif 17 58 03.1 +0.6**
comp=Z,7.6nm,1.1s
BRG Berggiesshubel 99.05 323 *e*P **Pdif 17 58 03.1 +0.6**
BRG pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 99.47 324 *i* P **Pdif 17 58 04.6 +0.3**
CLL *i* 18 02 18.7
CLL pmax pmax
comp=Z,10.0nm,1.6s
CLL Collm 99.47 324 *i* Pdif **Pdif 17 58 04.6 +0.3**
comp=Z,10.0nm,1.6s
CLL *i* PP **PP 18 02 18.7 +3.8**
KHC Kasperske Hory 99.82 321 *e*P **Pdif 17 58 06.1 +0.1**
KHC *e* 18 02 21.0
KHC Kasperske Hory 99.82 321 *e*P **Pdif 17 58 06.1 +0.1**
KHC *e*PP **PP 18 02 21.0 +3.4**
GEC2 GERESS Array S 99.83 321 *e*Pdif **Pdif 17 58 05.7 -0.5**
comp=Z,3.9nm,1.1s
GEC2 GERESS Array S 99.83 321 *e*P **Pdif 17 58 05.7 -0.5**
GEC2 pmax pmax
comp=Z,4.0nm,1.1s
GERES GERESS Array B 99.83 321 *e*Pdif **Pdif 17 58 05.8 -0.5**
GERES *e* 17 58 06.0
GERES PP **PP 18 02 17.6 -0.2**
GERES GERESS Array B 99.83 321 P **Pdif 17 58 05.7 -0.5**
comp=Z,0.8nm,0.7s,baz=75,slow=5.7,SNR=13
GERES PP **PP 18 02 17.6 -0.2**
comp=Z,0.8nm,0.8s,baz=75,slow=8.2,SNR=9.2
YKA Yellowknife Ar 100.07 24 *e*PKiKP **PKiKP 18 02 31.4 -0.1**
comp=Z,0.1nm,0.4s,baz=299,slow=1.8,SNR=3.6
YKB5 Yellowknife Ar 100.07 24 *e*PKiKP **PKiKP 18 02 31.4 -0.1**
ESDC Sonseca Array 115.11 318 PP PP 18 04 09.7 +1.6
comp=Z,3.0nm,1.0s,baz=50,slow=6.3,SNR=10
TOA0 Torodi Ar. Sit 120.05 288 *e*PKPdf **PKiKP 18 03 10.6 0.0**
TORD Torodi Ar. Bea 120.05 288 *e*PKPdf **PKPdf 18 03 09.9 -0.6**
TORD PP **PP 18 04 44.1 +1.1**
TORD Torodi Ar. Bea 120.05 288 PKP **PKPdf 18 03 09.0 -1.5**
comp=Z,1.0nm,0.4s,baz=58,slow=2.5,SNR=14
TORD PP **PP 18 04 44.1 +1.1**
comp=Z,4.2nm,1.1s,baz=67,slow=7.5,SNR=10
TOA1 Torodi Ar. Sit 120.05 288 *e*PKPdf **PKPdf 18 03 09.0 -1.5**
TOA1 *e*PP **PP 18 04 44.1 +1.1**
LTX Lajitas 123.40 51 *e*PKPdf **PKiKP 18 03 17.0 0.0**
LTX Lajitas 123.40 51 *e*PKiKP **PKiKP 18 03 17.0 0.0**
TXAR Lajitas Array 123.40 51 PKP **PKiKP 18 03 17.0 0.0**
comp=Z,0.9nm,0.8s,baz=169,slow=1.8,SNR=6.3
SADO Sadowa 126.90 20 PKP **PKiKP 18 03 23.8 +0.4**
comp=Z,2.0nm,0.4s,baz=103,slow=20,SNR=7.0
DBIC Dimbokro 127.69 282 SKPbc SKPbc 18 05 59.1
comp=Z,5.8nm,0.9s,baz=137,slow=2.3,SNR=4.3

CMIG Matias Romero 136.15 60 SKPbc **SKPbc 18 06 29.7 +1.1**
comp=Z,3.1nm,0.8s,baz=108,slow=1.8,SNR=6.6
APG El Apazote 140.88 60 SKPbc **SKPbc 18 06 43.6 +1.5**
comp=Z,1.8nm,0.8s,baz=326,slow=12,SNR=4.2
PLCA Paso Flores 141.53 162 SKPbc **SKPbc 18 06 44.5 +1.6**
comp=Z,1.1nm,0.6s,baz=275,slow=4.3,SNR=4.2
JTS Las Juntas de 147.78 63 PKPbc **PKiKP 18 04 06.1 -0.7**
comp=Z,3.8nm,0.4s,baz=297,slow=4.5,SNR=3.4
LPAZ La Paz 163.26 136 PKP **PKPdf 18 04 22.4 -0.2**
comp=Z,1.3nm,0.9s,baz=292,slow=1.8,SNR=5.3

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*ISCJB **09** 18:01:23.0±0.4, 43.°84N±0.°03×105.°15W±0.°05, h0km, Error ellipse: s-maj=4.9km s-min=3.7km az=173.1*
*IDC **09** 18:01:23.6±1.6, 43.°65N×105.°28W, h0km, mb1 3.8/4, mb1mx3.3/56, mbtmp3.6/4, ML3.2/4, Error ellipse: s-maj=40.4km s-min=8.3km az=149.0*
*NEIC **09** 18:01:25.1±0.2, 43.°83N×105.°20W, h0km, ML3.3, Error ellipse: s-maj=3.4km s-min=2.7km az=89.0, Suspected Mining explosion.*
NEIC 57 km [35 miles] SSE of Gillette.
ISC 09 18:01:24.0±0.9, **43.°81N**±0.°06×**105.°20W**±0.°07, **h0km, n74,** σ**1°31/74, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.89**	**69**	*e*Pg	**Pb**	**18 01 42.8**	**+0.3**
K22A	**Casper**	**1.51**	**220**	*e*Pn	**Pn**	**18 01 51.4**	**-1.2**
PHWY	**Pilot Hill**	**2.52**	**184**	*e*Pn	**Pn**	**18 02 06.8**	**+0.3**
RWWY	**Rawlins**	**2.59**	**216**	*e*Pn	**Pn**	**18 02 09.2**	**+1.8**
LAO	**LASA Array**	**2.96**	**346**	*e*Pn	**Pn**	**18 02 13.8**	**+1.4**
N23A	**Red Feather La**	**2.97**	**191**	*e*Pn	**Pn**	**18 02 14.2**	**+1.5**
RLMT	**Red Lodge**	**3.19**	**296**	*e*Pn	**Pn**	**18 02 16.7**	**+1.1**
BW06	**Boulder Array**	**3.35**	**253**	*e*Pn	**Pn**	**18 02 19.2**	**+1.3**
PD31	**Pinedale Array**	**3.35**	**253**	*e*Pn	**Pn**	**18 02 19.2**	**+1.3**
PDAR	**Pinedale Array**	**3.35**	**253**	*e*Pn	**Pn**	**18 02 19.1**	**+1.3**
PDAR				Lg	Lg	18 03 05.4	
PDAR	**Pinedale Array**	**3.35**	**253**	Pn	**Pn**	**18 02 18.4**	**+0.5**
	13nm,0.3s,baz=81,slow=18,SNR=62						
PDAR				Lg	Lg	18 03 05.4	
	21nm,0.3s,baz=76,slow=33,SNR=17						
OGNE	**Ogallala**	**3.70**	**140**	*e*Pn	**Pn**	**18 02 25.1**	**+2.6**
GCMT	**Greycliff**	**3.75**	**303**	*e*Pn	**Pn**	**18 02 24.8**	**+1.6**
LKWY	**Lake**	**3.82**	**283**	*e*Pn	**Pn**	**18 02 25.7**	**+1.4**
H17A	**Grant Village**	**3.92**	**280**	*e*Pn	**Pn**	**18 02 26.9**	**+1.2**
LOHW	**Long Hollow**	**3.93**	**269**	*e*Pn	**Pn**	**18 02 27.9**	**+2.1**
FLWY	**Flagg Ranch**	**3.98**	**276**	*e*Pn	**Pn**	**18 02 27.7**	**+1.2**
MOOW	**Moose Ponds**	**4.02**	**271**	*e*Pn	**Pn**	**18 02 28.1**	**+1.1**
ISCO	**Idaho Springs**	**4.02**	**185**	*e*Pn	**Pn**	**18 02 28.3**	**+1.1**
REDW	**Red Top Meadow**	**4.13**	**266**	*e*Pn	**Pn**	**18 02 29.7**	**+1.1**
IMW	**Indian Meadow**	**4.15**	**273**	*e*Pn	**Pn**	**18 02 30.1**	**+1.1**
TPAW	**Teton Pass**	**4.19**	**268**	*e*Pn	**Pn**	**18 02 31.1**	**+1.7**
FXWY	**Fox Creek**	**4.23**	**270**	*e*Pn	**Pn**	**18 02 30.8**	**+0.9**
O20A	**White River Ci**	**4.32**	**213**	*e*Pn	**Pn**	**18 02 32.6**	**+1.4**
QLMT	**Earthquake Lak**	**4.59**	**285**	*e*Pn	**Pn**	**18 02 34.3**	**-0.5**
DGMT	**Dagmar**	**4.71**	**8**	*e*Pn	**Pn**	**18 02 39.1**	**+2.8**
SMCO	**Snowmass**	**4.82**	**197**	*e*Pn	**Pn**	**18 02 39.5**	**+1.3**
Q24A	**Divide**	**4.85**	**180**	*e*Pn	**Pn**	**18 02 39.3**	**+0.9**
BOZ	**Bozeman (W)**	**4.92**	**293**	*e*Pn	**Pn**	**18 02 39.9**	**+0.5**
KSCO	**Kaye Shedlock'**	**5.17**	**157**	*e*Pn	**Pn**	**18 02 43.6**	**+0.8**
HWUT	**Hardware Ranch**	**5.18**	**247**	*e*Pn	**Pn**	**18 02 44.5**	**+1.5**
EGMT	**Eagleton**	**5.28**	**325**	*e*Pn	**Pn**	**18 02 44.9**	**+0.7**
HRY	**Holter Researc**	**5.51**	**304**	*e*Pn	**Pn**	**18 02 48.0**	**+0.7**
LRM	**Limekiln Ridge**	**5.54**	**294**	*e*Pn	**Pn**	**18 02 49.0**	**+1.1**
MCMT	**McKenzie Canyo**	**5.58**	**283**	*e*Pn	**Pn**	**18 02 49.8**	**+1.2**
PV22	**Blue Mesa, Par**	**5.93**	**208**	*e*Pn	**Pn**	**18 02 54.8**	**+1.6**
PV07	**Paradox Valley**	**5.97**	**207**	*e*Pn	**Pn**	**18 02 54.3**	**+0.5**
PV21	**Cone Mtn., Par**	**5.97**	**210**	*e*Pn	**Pn**	**18 02 54.5**	**+0.6**
SDCO	**Great Sand Dun**	**6.07**	**182**	*e*Pn	**Pn**	**18 02 56.2**	**+1.0**
PV23	**Carpenter Ridg**	**6.08**	**210**	*e*Pn	**Pn**	**18 02 56.6**	**+1.2**
PV09	**Paradox Valley**	**6.08**	**211**	*e*Pn	**Pn**	**18 02 56.5**	**+1.0**
PV04	**Paradox Valley**	**6.10**	**209**	*e*Pn	**Pn**	**18 02 56.8**	**+1.2**
PV12	**Saucer Basin,**	**6.13**	**208**	*e*Pn	**Pn**	**18 02 57.0**	**+1.0**
PV14	**Lion Creek, Pa**	**6.16**	**209**	*e*Pn	**Pn**	**18 02 57.9**	**+1.5**
PV10	**Paradox Valley**	**6.16**	**209**	*e*Pn	**Pn**	**18 02 58.9**	**+2.5**
PV20	**West Nyswonger**	**6.16**	**209**	*e*Pn	**Pn**	**18 02 58.3**	**+1.8**
PV11	**David Mesa, Pa**	**6.17**	**208**	*e*Pn	**Pn**	**18 02 57.5**	**+0.9**
PV16	**Nyswonger Mesa**	**6.17**	**208**	*e*Pn	**Pn**	**18 02 58.2**	**+1.6**
S22A	**4UR Ranch, Cre**	**6.19**	**192**	*e*Pn	**Pn**	**18 02 58.1**	**+1.2**
PV19	**Morning Glory**	**6.20**	**209**	*e*Pn	**Pn**	**18 02 57.8**	**+0.9**
PV03	**Paradox Valley**	**6.20**	**208**	*e*Pn	**Pn**	**18 02 58.6**	**+1.6**
PV02	**Paradox Valley**	**6.21**	**207**	*e*Pn	**Pn**	**18 02 58.8**	**+1.7**
ECSD	**EROS Data Cent**	**6.21**	**88**	*e*Pn	**Pn**	**18 02 57.6**	**+0.6**
PV17	**East Wray Mesa**	**6.22**	**208**	*e*Pn	**Pn**	**18 02 59.0**	**+1.8**
PV01	**Paradox Valley**	**6.22**	**205**	*e*Pn	**Pn**	**18 02 58.5**	**+1.2**
PV18	**Skein Mesa, Pa**	**6.23**	**208**	*e*Pn	**Pn**	**18 02 59.4**	**+2.0**
PV13	**Radium Mtn., P**	**6.28**	**207**	*e*Pn	**Pn**	**18 02 59.4**	**+1.3**
PV05	**Paradox Valley**	**6.45**	**209**	*e*Pn	**Pn**	**18 02 59.7**	**-0.7**
HLID	**Hailey**	**6.69**	**271**	*e*Pn	**Pn**	**18 03 05.2**	**+1.5**
T25A	**Trinidad**	**6.70**	**175**	*e*Pn	**Pn**	**18 03 04.8**	**+1.0**
MSO	**Missoula**	**6.86**	**299**	*e*Pn	**Pn**	**18 03 06.2**	**+0.3**
AGMN	**Agassiz Nation**	**7.89**	**52**	*e*Pn	**Pn**	**18 03 20.9**	**+1.0**
ELK	**Elko**	**8.05**	**251**	Pn	**Pn**	**18 03 24.0**	**+1.6**
	0.7nm,0.3s,baz=64,slow=8.8,SNR=8.8						
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**Pn**	**18 03 35.6**	**-0.2**
	2.1nm,0.3s,baz=231,slow=11,SNR=16						
ULM				Lg	Lg	18 06 06.7	
	0.7nm,0.3s,baz=139,slow=19,SNR=3.0						
U15A	**North Rim**	**9.16**	**219**	*e*Pn	**Pn**	**18 03 38.8**	**+1.2**
R11A	**Troy Canyon, C**	**9.55**	**239**	*e*Pn	**Pn**	**18 03 43.6**	**+0.7**
WUAZ	**Wupatki**	**9.55**	**212**	*e*Pn	**Pn**	**18 03 43.1**	**+0.2**
FFC	**Flin Flon**	**11.12**	**10**	*e*Pn	**Pn**	**18 04 03.6**	**-0.6**
NV11	**Mina Array Sit**	**11.15**	**246**	*e*Pn	**Pn**	**18 04 04.4**	**-0.4**
NV01	**Mina Array Sit**	**11.25**	**246**	*e*Pn	**Pn**	**18 04 05.3**	**-0.9**
NVAR	**Mina Array Bea**	**11.25**	**246**	Pn	**Pn**	**18 04 05.3**	**-0.9**
	0.1nm,0.3s,baz=53,slow=15,SNR=2.3						
CCM	**Cathedral Cave**	**12.01**	**114**	*e*Pn	**Pn**	**18 04 14.1**	**-2.4**
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**P**	**18 05 52.3**	**-0.2**
	0.1nm,0.3s,baz=159,slow=12,SNR=5.8						
YKB5	**Yellowknife Ar**	**19.50**	**347**	*e*P	**P**	**18 05 52.3**	**-0.2**

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*ISCJB **09** 18:05:49.0±0.7, 63.°73N±0.°04×23.°11W±0.°07, h14km±3km, mb3.6/13, MS3.3/14, Error ellipse: s-maj=6.6km s-min=4.7km az=162.0*
*REY **09** 18:05:49.0, 63.°70N×23.°20W, h15km*
*IDC **09** 18:05:48.8±0.8, 63.°80N×23.°07W, h0km, mb3.6/11, mb1 3.8/15, mb1mx3.6/55, mbtmp3.6/15, ML3.0/4, MS3.3/20, Ms1 3.3/20, ms1mx3.2/44, Error ellipse: s-maj=14.7km s-min=13.2km az=143.0*
ISC 09 18:05:51.8±0.9, **63.°78N**±0.°05×**22.°77W**±0.°04, **h16**km±4km, **n62,** σ**2°55/69, mb3.8**/24, **MS3.3**/15, **Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**0.05**	**35**	P	**Pg**	**18 05 54.0**	**-0.8**
	baz=61						
IRNE				S	**Sg**	**18 05 57.8**	**+1.0**
	baz=61						
IGRV	**Grindav??k**	**0.16**	**60**	P	**Pb**	**18 05 55.8**	**-0.6**
	baz=64						
IGRV				S	**Sg**	**18 06 01.2**	**+2.5**
	baz=64						
INYL	**Nylenda**	**0.20**	**4**	P	**Pg**	**18 05 55.4**	**-1.1**
	baz=36						
INYL				S	**Sb**	**18 06 00.2**	**-0.3**
	baz=36						
IVOG	**Vogar**	**0.26**	**40**	P	**Pg**	**18 05 57.0**	**-0.4**
	baz=52						
IVOG				S	**Sb**	**18 06 03.6**	**+1.4**
	baz=52						
IKRI	**Krysuvik**	**0.32**	**71**	P	**Pg**	**18 05 58.4**	**-0.2**
	baz=70						
IKRI				S	**Sb**	**18 06 05.5**	**+1.3**
	baz=70						
IKAS	**Kald??rsel**	**0.47**	**58**	P	**Pg**	**18 06 00.7**	**-0.6**
	baz=61						
IKAS				S	**Sn**	**18 06 10.2**	**-1.7**
	baz=61						
IVOS	**Vogsosar**	**0.48**	**80**	S	**Sn**	**18 06 10.1**	**-1.9**
	baz=76						
IVOS				P	**Pg**	**18 06 01.0**	**-0.4**
	baz=76						
IBJA	**Bjarnastaoir**	**0.67**	**75**	S	**Sn**	**18 06 15.5**	**-1.2**
	baz=73						
IBJA				P	**Pb**	**18 06 04.1**	**-1.0**
	baz=73						
IKUD	**Kuludalsa**	**0.67**	**35**	P	**Pb**	**18 06 03.5**	**-1.7**
	baz=42						
IKUD				S	**Sb**	**18 06 14.6**	**+0.4**
	baz=42						
IKRO	**Krokur**	**0.80**	**65**	P	**Pb**	**18 06 05.7**	**-1.6**
	baz=65						
IKRO				S	**Sn**	**18 06 19.8**	**-0.1**
	baz=65						
IHEI	**Heioarbar**	**0.80**	**57**	P	**Pb**	**18 06 05.5**	**-1.8**
	baz=59						
IHEI				S	**Sn**	**18 06 19.0**	**-1.0**
	baz=59						
ISOL	**Solvholt**	**0.82**	**79**	P	**Pb**	**18 06 06.4**	**-1.3**
	baz=76						
ISOL				S	**Sn**	**18 06 19.6**	**-0.8**
	baz=76						
IASM	**Asmuli**	**0.96**	**86**	P	**Pb**	**18 06 08.6**	**-1.3**
	baz=82						
IASM				S	**Sn**	**18 06 23.3**	**-0.5**
	baz=82						
BORG	**Borgarnes**	**1.16**	**32**	Pg	**Pn**	**18 06 10.8**	**-2.5**
	483nm,0.3s,baz=231,slow=4.9,SNR=1295						
BORG				Lg	Lg	18 06 28.4	
	621nm,0.3s,baz=107,slow=21,SNR=60						
IASB	**`sbjarnarst**	**1.16**	**32**	P	**Pn**	**18 06 11.0**	**-2.4**
	baz=37						
IASB				S	**Sn**	**18 06 28.4**	**-0.5**
	baz=37						
IVME	**Vestmannaeyjar**	**1.16**	**107**	P	**Pn**	**18 06 10.2**	**-3.2**
	baz=100						
IGYG	**Gygjarholskot**	**1.23**	**65**	P	**Pn**	**18 06 12.4**	**-1.9**
	baz=65						
IGYG				S	**Sg**	**18 06 31.1**	**-0.5**
	baz=65						
IHAU	**Haukadalur**	**1.26**	**80**	P	**Pn**	**18 06 12.7**	**-1.9**
	baz=78						
IHAU				S	**Sg**	**18 06 32.2**	**-0.2**
	baz=78						
SCO	**Scoresbysund**	**6.75**	**2**	*i* P	**Pn**	**18 07 30.8**	**+0.8**
SCO				*i* S	**Sn**	**18 08 49.9**	**+3.6**
JMIC	**Jan Mayen**	**9.06**	**31**	LR	LR	18 10 24.2	
	comp=Z,41nm,20.4s,baz=241,slow=30						
SFJD	**Kangerlussuaq**	**11.99**	**298**	LR	LR	18 12 39.2	
	comp=Z,284nm,19.6s,baz=96,slow=35						
EKA	**Eskdalemuir Ar**	**13.00**	**122**	Pn	**Pn**	**18 08 56.0**	**+0.4**
	baz=317,slow=13,SNR=4.7						
NOA	**NORSAR Array B**	**15.86**	**84**	Pn	**P**	**18 09 36.0**	**-1.8**
	0.0nm,0.3s,baz=291,slow=11,SNR=2.3						
NOA				LR	LR	18 14 51.0	
	comp=Z,36nm,20.6s,baz=300,slow=34						
HFS	**Hagfors**	**17.36**	**85**	P	**P**	**18 09 55.3**	**+1.0**
	0.1nm,0.3s,baz=312,slow=13,SNR=3.5						
HFS				LR	LR	18 15 23.9	
	comp=Z,43nm,19.4s,baz=286,slow=33						
SPITS	**Spitsbergen Ar**	**18.61**	**24**	LR	LR	18 15 27.0	
	comp=Z,56nm,20.5s,baz=55,slow=31						
ARCES	**ARCESS Array B**	**19.50**	**52**	P	**P**	**18 10 17.3**	**-0.5**
	0.1nm,0.3s,baz=262,slow=12,SNR=3.5						
FRB	**Frobisher Bay**	**19.91**	**291**	LR	LR	18 17 23.6	
	comp=Z,126nm,19.2s,baz=19,slow=35						
FINES	**FINESS Array B**	**22.15**	**74**	P	**P**	**18 10 46.5**	**+0.1**
	4.3nm,1.0s,baz=301,slow=11,SNR=5.5						
FINES				LR	LR	18 19 28.7	
	comp=Z,52nm,19.5s,baz=280,slow=37						
CLL	**Collm**	**22.53**	**107**	*i* P	**P**	**18 10 54.1**	**+3.5**
	comp=Z,8.0nm,1.4s						
CLL				*e*S	Sn	18 15 08.0	-2.1
CLL				Lm	MLR	18 21 00.0	
	comp=Z,100nm,19.5s						
NKC	**Novy Kostel**	**23.10**	**109**	*e*P	**P**	**18 10 59.8**	**+3.2**
BRG	**Berggiesshubel**	**23.25**	**106**	*e*P	**P**	**18 11 00.1**	**+2.0**
	comp=Z,6.4nm,1.1s						
KHC	**Kasperske Hory**	**24.42**	**110**	*e*P	**P**	**18 11 11.7**	**+2.4**
RETA	**Reutte**	**24.56**	**116**	*e*pP	**P**	**18 11 14.5**	**+3.9**
	comp=Z,5.2nm,1.1s						
DPC	**Dobruska-Polom**	**24.66**	**104**	*e*P	**P**	**18 11 16.1**	**+4.6**
GERES	**GERESS Array B**	**24.69**	**110**	P	**P**	**18 11 12.1**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=317,slow=8.5,SNR=9.0						
GERES				LR	LR	18 21 10.3	
	comp=Z,71nm,18.4s,baz=335,slow=37						
DAVOX	**Davos/Dischmat**	**24.79**	**118**	LR	LR	18 20 05.8	
	comp=Z,90nm,21.0s,baz=280,slow=34						
MOTA	**Moosalm**	**24.81**	**115**	*e*pP	**P**	**18 11 17.9**	**+4.8**
	comp=Z,3.7nm,1.0s						
FETA	**Feichten**	**24.93**	**116**	*e*pP	**P**	**18 11 18.3**	**+4.2**
	comp=Z,4.6nm,1.5s						
SQTA	**Sankt Quirin**	**24.95**	**115**	*e*pP	**P**	**18 11 18.6**	**+4.3**
	comp=Z,7.1nm,1.2s						
WATA	**Walderalm**	**25.01**	**115**	*e*pP	**P**	**18 11 18.8**	**+4.0**
	comp=Z,3.9nm,0.8s						
KRLC	**Kraliky**	**25.06**	**104**	*e*P	**P**	**18 11 19.1**	**+4.0**
WTTA	**Wattenberg**	**25.09**	**115**	*e*pP	**P**	**18 11 20.2**	**+4.6**
	comp=Z,8.5nm,1.1s						
RES	**Resolute Bay**	**25.85**	**325**	LR	LR	18 21 04.8	
	comp=Z,124nm,19.0s,baz=34,slow=36						
KBA	**Koelnbreinsper**	**25.93**	**113**	*e*pP	**P**	**18 11 27.0**	**+3.8**
	comp=Z,0.5nm,0.4s						
CONA	**Conrad Observa**	**26.31**	**109**	*e*pP	**P**	**18 11 31.0**	**+4.6**
	comp=Z,3.9nm,1.0s						
MYKA	**Terra Mystica**	**26.42**	**113**	*e*pP	**P**	**18 11 31.6**	**+4.2**
	comp=Z,3.0nm,0.8s						
ESDC	**Sonseca Array**	**26.59**	**146**	P	**

MLAZ	**Malazgirt-MUS**	**0.43 355**	PG	**Pb**	**18 37 15.5**	**-0.4**
GURO	**Guroymak-BITLI**	**0.47 250**	PG	**Pb**	**18 37 16.2**	**-0.5**
GURO			SG	**Sb**	**18 37 23.3**	**-0.5**
BLIS	**Bitlis-Merkez**	**0.48 232**	IAML_P			
	comp=Z,5μm,0.1s					
BLIS			*i* P	**Pg**	**18 37 16.1**	**+0.7**
BLIS			*i* S	**Sb**	**18 37 24.4**	**+0.3**
AKDM	**Akdamar-Van**	**0.49 142**	PG	**Pg**	**18 37 15.4**	**-0.1**
GEVA	**Gevas**	**0.54 138**	IAML_P			
	comp=Z,7μm,0.1s					
GEVA			*i* P	**Pb**	**18 37 17.2**	**-0.6**
GEVA			*i* S	**Sb**	**18 37 26.0**	**+0.1**
VANB	**Van**	**0.63 101**	PG	**Pb**	**18 37 19.3**	**-0.1**
TVAN	**Van**	**0.66 106**	*i* P	**Pb**	**18 37 19.5**	**-0.4**
TVAN			*i* S	**Sb**	**18 37 29.5**	**+0.2**
VMUR	**Van-Muradiye**	**0.81 70**	IAML_P			
	comp=Z,394nm,0.1s					
VMUR			*i* P	**Pb**	**18 37 22.6**	**+0.1**
AGRB	**Hanur-Agry**	**0.91 20**	PG	**Pb**	**18 37 23.7**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.23 243**	PN	**Pg**	**18 37 29.8**	**+0.1**
BNGB	**Bingl**	**1.52 281**	PN	**Pn**	**18 37 33.9**	**+0.2**

*IDC **09** 18:51:53.6±3.9, 1°.56N×126°.71E, h29km±26km, mb3.9/9, mb1 4.1/10, mb1mx3.7/37, mbtmp4.0/10, ML3.9/1, MS3.1/1, Ms1 3.3/1, ms1mx2.6/27, Error ellipse: s-maj=52.2km s-min=12.1km az=69.0*
*DJA **09** 18:51:53.3±2.3, 2°.N±6°×12°.7E±°, h12km±25km, M4.4/9, mb4.5/3, mB4.9/1, MLv4.3/9, Mw(mB)4.2/1*
*ISCJB **09** 18:51:54.7±1.0, 1°.53N±0°.06×126°.56E±0°.07, h55km±9km, mb4.2/18, MS3.0/1, Error ellipse: s-maj=13.5km s-min=6.8km az=147.7*
*NEIC **09** 18:51:56.1±1.0, 1°.52N×126°.58E, h52km±9km, mb4.3/11, Error ellipse: s-maj=14.1km s-min=5.7km az=54.0*
ISC 09 18:51:55.5±1.3, **1°.54N**±0°.06×**126°.60E**±0°.07, **h40**km±12km, **n49**, σ1§**42**/60, **mb4.3**/18, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.09**	**135**	*e*Pn	**Pn**	**18 52 15.3**	**+1.1**
TNTI	**Ternate**	**1.09**	**135**	P	**Pn**	**18 52 15.4**	**+1.2**
SGSI	**Sangihe**	**2.38**	**333**	P	**Pn**	**18 52 30.9**	**-1.1**
KMSI	**Cibinong**	**2.79**	**250**	P	**Pn**	**18 52 36.9**	**-0.7**
SANI	**Sanana**	**3.62**	**190**	P	**Pn**	**18 52 49.0**	**-0.1**
LUWI	**Luwuk**	**4.61**	**236**	*e*Pn	**Pn**	**18 53 03.0**	**+0.4**
LUWI	**Luwuk**	**4.61**	**236**	P	**Pn**	**18 53 03.2**	**+0.6**
MRSI	**Marisa**	**4.77**	**257**	P	**Pn**	**18 53 05.9**	**+1.0**
APSI	**Ampana**	**5.51**	**244**	P	**Pn**	**18 53 17.5**	**+2.4**
	97nm,0.8s,985nm0.4nm						
MPSI	**Mapaga**	**6.80**	**260**	P	**Pn**	**18 53 33.8**	**+1.0**
KKM	**Kota Kinabalu**	**11.28**	**294**	*e*Pn	**Pn**	**18 54 34.9**	**+0.6**
MTN	**Manton Dam**	**14.99**	**163**	*e*Pn	**Pn**	**18 55 24.0**	**-0.7**
	8.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.54**	**183**	P	**P**	**18 56 18.0**	**-1.8**
	0.3nm,0.3s,baz=13,slow=11,SNR=4.3						
DLV	**T Lat**	**20.72**	**301**	*e*P	**P**	**18 56 32.4**	**-0.5**
	10nm,0.9s						
WRAB	**Tennant Creek**	**22.66**	**161**	*e*P	**P**	**18 56 52.7**	**-0.8**
	17nm,0.7s						
WR1	**Warramunga Arr**	**22.66**	**161**	*e*P	**P**	**18 56 52.5**	**-1.0**
WR1				*e*PcP	**PcP**	**19 00 45.0**	**-0.3**
WR1				*e*S	**S**	**19 00 58.9**	**-0.1**
WRA	**Warramunga Arr**	**22.66**	**161**	P	**P**	**18 56 52.5**	**-1.0**
	11nm,0.6s,baz=338,slow=11,SNR=26						
WRA				PcP	**PcP**	**19 00 45.0**	**-0.3**
	0.5nm,0.6s,baz=321,slow=2.2,SNR=3.7						
WRA				S	**S**	**19 00 58.9**	**-0.2**
	1.8nm,0.9s,baz=346,slow=18,SNR=4.4						
WB2	**Warramunga Arr**	**22.67**	**161**	*e*P	**P**	**18 56 52.9**	**-0.6**
	17nm,0.6s						
AS31	**Alice Springs**	**26.05**	**165**	*e*P	**P**	**18 57 25.6**	**+0.4**
	3.4nm,0.3s						
ASAR	**Alice Springs**	**26.05**	**165**	P	**P**	**18 57 25.1**	**-0.1**
	2.6nm,0.4s,baz=346,slow=8.4,SNR=26						
ASAR				PcP	**PcP**	**19 00 52.6**	**0.0**
	0.8nm,0.5s,baz=348,slow=2.2,SNR=6.0						
ASAR				S	**S**	**19 01 55.6**	**+1.9**
	0.3nm,0.8s,baz=348,slow=21,SNR=2.6						
CM31	**Chiang Mai Arr**	**31.91**	**304**	*e*P	**P**	**18 58 15.5**	**-1.9**
	5.5nm,1.5s						
CMAR	**Chiang Mai Arr**	**31.91**	**304**	P	**P**	**18 58 18.7**	**+1.2**
	0.3nm,0.3s,baz=139,slow=7.0,SNR=5.6						
CMAR				PcP	**PcP**	**19 01 07.1**	**-0.3**
	0.3nm,0.3s,baz=40,slow=1.5,SNR=6.6						
CMAR				LR	LR	19 12 08.5	
	comp=Z,28nm,18.1s,baz=185,slow=38						
KMI	**Kunming**	**32.85**	**317**	P	**P**	**18 58 28.2**	**+2.3**
STKA	**Stephens Creek**	**36.16**	**158**	*e*P	**P**	**18 58 53.1**	**-1.0**
	6.5nm,1.8s						
STKA	**Stephens Creek**	**36.16**	**158**	P	**P**	**18 58 53.2**	**-1.0**
	4.2nm,0.7s,baz=334,slow=7.7,SNR=8.1						
CD2	**Chengdu**	**36.34**	**326**	*e*P	**P**	**18 58 55.0**	**-0.8**
LZH	**Lanzhou**	**40.32**	**331**	*e*P	**P**	**18 59 29.5**	**+0.2**
LZH				pP	pP	18 59 40.0	-0.2
LZH				sP	pwP	18 59 44.3	+4.1
LZH				PP	**PP**	**19 01 04.1**	**+1.4**
HHC	**Hu-ho-hao-te**	**41.43**	**343**	*e*P	**P**	**18 59 39.6**	**+1.3**
GTA	**Gaotai**	**44.91**	**330**	*e*P	**P**	**19 00 06.8**	**+0.3**
GTA				pP	pP	19 00 17.4	+0.2
GTA				sP	sP	19 00 21.6	-0.1
KLR	**Kul'dur**	**47.71**	**5**	P	**P**	**19 00 27.5**	**-0.7**
	0.9nm,0.6s,baz=234,slow=14,SNR=3.5						
SONM	**Songino Array**	**49.32**	**342**	P	**P**	**19 00 39.6**	**-1.1**
	0.7nm,0.6s,baz=148,slow=8.5,SNR=3.0						
WMQ	**Urumqi**	**54.44**	**326**	*e*P	**P**	**19 01 19.8**	**+0.9**
WMQ				sP	pP	19 01 33.7	+3.8
MK31	**Makanchi Array**	**59.27**	**326**	*e*P	**P**	**19 01 51.4**	**-1.7**
	1.8nm,0.9s						
MK32	**Makanchi Array**	**59.27**	**326**	*e*PcP	**PcP**	**19 02 40.2**	**-0.8**
MKAR	**Makanchi Array**	**59.27**	**326**	*e*P	**P**	**19 01 52.0**	**-1.1**
MKAR				PcP	**PcP**	**19 02 40.2**	**-0.8**
MKAR	**Makanchi Array**	**59.27**	**326**	P	**P**	**19 01 51.6**	**-1.4**
	1.6nm,0.5s,baz=118,slow=6.9,SNR=21						
MKAR				PcP	**PcP**	**19 02 40.2**	**-0.8**
	1.0nm,0.7s,baz=128,slow=5.7,SNR=3.9						
MAKZ	**Makanchi**	**59.46**	**326**	*e*P	**P**	**19 01 53.7**	**-0.6**
	2.5nm,0.7s						
KSH	**Kashi**	**59.50**	**316**	P	**P**	**19 01 58.4**	**+3.5**
KSH				pP	pP	19 02 07.1	+0.9
KSH				PP	**PP**	**19 04 12.0**	**+5.4**
KSH				S	**S**	**19 10 05.0**	**+3.1**
KSH	**Kashi**	**59.50**	**316**	SS	SS	19 14 01.8	+4.1
ZALV	**Zalesovo Beam**	**62.47**	**334**	P	**P**	**19 02 15.9**	**+1.3**
	0.5nm,0.3s,baz=142,slow=7.5,SNR=3.3						
ZAA1	**Zalesovo Array**	**62.47**	**334**	*e*P	**P**	**19 02 15.9**	**+1.3**
KURK	**Kurchatov**	**63.51**	**328**	*e*P	**P**	**19 02 19.5**	**-2.1**
	6.1nm,0.9s						
KK31	**Karatay Array**	**64.74**	**318**	*e*P	**P**	**19 02 28.7**	**-1.2**
	3.4nm,1.1s						
KKAR	**Karatay Array**	**64.74**	**318**	*e*P	**P**	**19 02 28.6**	**-1.2**
TIXI	**Tiksi**	**70.02**	**1**	*e*P	**P**	**19 03 02.8**	**+0.1**
	3.0nm,1.1s						
KBZ	**Khabaz**	**84.38**	**314**	P	**P**	**19 04 23.2**	**-0.5**
	1.3nm,0.8s,baz=103,slow=3.1,SNR=4.7						
BURAR	**Bucovina Array**	**96.53**	**318**	*e*P	**P**	**19 05 20.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**123.44**	**287**	PKP	**PKiKP**	**19 10 49.2**	**-0.4**
	0.7nm,1.0s,baz=70,slow=4.7,SNR=2.5						
TOA1	**Torodi Ar. Sit**	**123.44**	**287**	*e*PKPdf	**PKiKP**	**19 10 49.2**	**-0.5**

*ISK **09** 19:09:40.5, 35°.91N×31°.44E, h14km, ML3.2/35*
*ISCJB **09** 19:09:41.3±0.8, 35°.88N±0°.03×31°.44E±0°.03, h20km±8km, Error ellipse: s-maj=5.4km s-min=3.3km az=19.0*
*DDA **09** 19:09:41.6, 35°.83N×31°.57E, h40km, ML3.8*
*NIC **09** 19:09:46.6±0.4, 36°.09N×31°.85E, h25km, ML3.4*
ISC 09 19:09:41.5±1.5, **35°.91N**±0°.03×**31°.48E**±0°.02, **h16**km±13km, **n69**, σ1§**09**/81, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.75**	**64**	PG	**Pb**	**19 09 56.2**	**-0.1**
GAZI				SG	**Sb**	**19 10 06.8**	**+0.5**
GAZI	**Gazipasa**	**0.75**	**64**	*i* P	**Pn**	**19 09 57.1**	**-0.5**
GAZI				*i* S	**Sb**	**19 10 06.8**	**+0.5**
ALAN	**Alanya-ANTALYA**	**0.79**	**34**	PG	**Pb**	**19 09 56.6**	**-0.3**
KEPZ	**Antalya-Kepez**	**1.00**	**6**	IAML_P			
	comp=Z,9μm,0.2s						
KEPZ				*i* P	**Pn**	**19 10 00.6**	**-0.3**
KEPZ				*i* S	**Sb**	**19 10 12.4**	**-1.1**
AKUM	**Antalya-Kumluc**	**1.01**	**295**	IAML_P			
	comp=Z,6μm,0.3s						
AKUM				*i* P	**Pn**	**19 10 02.9**	**+1.7**
AKUM				*i* S	**Sn**	**19 10 18.9**	**+3.9**
ALFC	**Alefka**	**1.18**	**129**	P	**Pg**	**19 10 04.1**	**-0.2**
	baz=326						
ALFC				S	**Sn**	**19 10 19.2**	**0.0**
PPCY	**Paphos**	**1.24**	**145**	P	**Pg**	**19 10 07.4**	**+2.0**
	baz=341						
TEKE	**Tekeli-Mersin**	**1.34**	**79**	PN	**Pb**	**19 10 05.8**	**-0.6**
AKDN	**Akdeniz- Kıbrı**	**1.35**	**116**	PN	**Pb**	**19 10 06.2**	**-0.3**
ERMK	**Ermenek**	**1.37**	**57**	IAML_P			
	comp=Z,7μm,0.2s						
ERMK				*i* P	**Pb**	**19 10 06.8**	**-0.2**
LEF	**Lefka**	**1.39**	**124**	PN	**Pn**	**19 10 06.0**	**-0.3**
LEF	**Lefka**	**1.39**	**124**	IAML_P			
	comp=Z,3μm,0.1s						
LEF				*i* P	**Pb**	**19 10 06.5**	**-0.7**
LEF				*i* S	**Sn**	**19 10 22.9**	**-1.4**
KORT	**Korkueli**	**1.42**	**320**	PN	**Pb**	**19 10 06.2**	**-1.6**
BERE	**Bereket-Mersin**	**1.48**	**72**	PN	**Pb**	**19 10 07.9**	**-0.8**
ELL	**Elmali**	**1.52**	**304**	PN	**Pn**	**19 10 07.5**	**-0.8**
AKAS	**Kas**	**1.56**	**283**	PN	**Pb**	**19 10 08.3**	**-1.8**
AKAS	**Kas**	**1.56**	**283**	*i* P	**Pb**	**19 10 08.8**	**-1.3**
MAMC	**Mammari**	**1.59**	**117**	P	**Pb**	**19 10 09.6**	**-1.0**
	baz=309						
OREN	**Orenkoy-Mersin**	**1.63**	**79**	PN	**Pn**	**19 10 09.9**	**+0.3**
TEVE	**Tevekalti-Mers**	**1.67**	**71**	PN	**Pb**	**19 10 10.9**	**-1.1**
AKK1	**Akkuyu-Mersin**	**1.69**	**81**	PN	**Pn**	**19 10 10.6**	**+0.3**
AKK2	**Akkuyu-Mersin**	**1.69**	**82**	PN	**Pn**	**19 10 10.9**	**+0.5**
GULN	**MERSIN_Gulnar**	**1.69**	**80**	IAML_P			
	comp=Z,3μm,0.3s						
GULN				*i* P	**Pb**	**19 10 11.9**	**-0.4**
GULN				*i* S	**Sn**	**19 10 32.1**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.69**	**81**	PN	**Pb**	**19 10 11.2**	**-1.1**
BCK	**Bucak**	**1.71**	**335**	PN	**Pn**	**19 10 10.3**	**-0.5**
TEPE	**Tepekoy-Mersin**	**1.71**	**79**	PN	**Pn**	**19 10 10.9**	**+0.1**
YESI	**Yesilovacik-Me**	**1.77**	**80**	PN	**Pn**	**19 10 12.1**	**+0.5**
CSS	**Mathiatis**	**1.78**	**121**	P	**Pb**	**19 10 12.5**	**-1.3**
	baz=313						
CSS				S	**Sn**	**19 10 32.6**	**-1.4**
LFK	**Lefkose**	**1.78**	**110**	PN	**Pn**	**19 10 12.0**	**+0.2**
TISA	**Tisan-Mersin**	**1.80**	**81**	PN	**Pn**	**19 10 12.1**	**+0.2**
IKL	**Isikli**	**1.81**	**79**	PN	**Pb**	**19 10 13.1**	**-1.3**
KARG	**Kargicak-Mersi**	**1.83**	**80**	PN	**Pn**	**19 10 12.6**	**+0.3**
KEBE	**Keben-Mersin**	**1.88**	**73**	PN	**Pb**	**19 10 14.1**	**-1.5**
KMER	**Konya-Meram**	**1.99**	**21**	IAML_P			
	comp=Z,1μm,0.3s						
KMER				*i* P	**Pb**	**19 10 16.0**	**-1.4**
KMER				*i* S	**Sb**	**19 10 42.4**	**+0.3**
SILI	**Silifke-Mersin**	**2.03**	**76**	PN	**Pn**	**19 10 15.5**	**+0.4**
SLFK	**Silifke-Mersin**	**2.05**	**76**	PN	**Pn**	**19 10 15.8**	**+0.4**
ISP	**Isparta**	**2.06**	**338**	PN	**Pn**	**19 10 15.5**	**-0.2**
FETY	**Fethiye**	**2.07**	**291**	PN	**Pn**	**19 10 15.3**	**-0.4**
KONT	**Konya--Tatoy**	**2.15**	**19**	PN	**Pn**	**19 10 17.4**	**+0.5**
KONT	**Konya--Tatoy**	**2.15**	**19**	IAML_P			
	comp=Z,1μm,0.2s						
KONT				*i* P	**Pb**	**19 10 18.2**	**-2.0**
DOGA	**KONYA_Doganhis**	**2.20**	**4**	IAML_P			
	comp=Z,1μm,0.2s						
DOGA				*i* P	**Pn**	**19 10 18.4**	**+0.8**
DOGA				*i* S	**Sb**	**19 10 47.4**	**-0.8**
EREN	**Erenkoy**	**2.22**	**99**	PN	**Pn**	**19 10 18.2**	**+0.5**
EREN	**Erenkoy**	**2.22**	**99**	IAML_P			
	comp=Z,4μm,0.3s						
EREN				*i* P	**Pb**	**19 10 19.1**	**-2.1**
KIZK	**Mersin**	**2.23**	**74**	PN	**Pn**	**19 10 18.4**	**+0.6**
KIZK	**Mersin**	**2.23**	**74**	IAML_P			
	comp=Z,3μm,0.1s						
KIZK				*i* P	**Pb**	**19 10 20.0**	**-1.4**
LADK	**Ladik-KONYA**	**2.40**	**17**	PN	**Pn**	**19 10 20.4**	**+0.1**
DALY	**Dalyan (Mula)**	**2.46**	**293**	PN	**Pn**	**19 10 21.3**	**+0.3**
TURN	**Turunc**	**2.52**	**293**	PN	**Pb**	**19 10 24.9**	**-1.4**
KERG	**Konya-Eregli**	**2.60**	**54**	IAML_P			
	comp=Z,358nm,0.2s						
KERG				*i* P	**Pb**	**19 10 25.6**	**-2.4**
KERG				*i* S	**Sn**	**19 10 56.4**	**+1.9**
MERS	**Mersin**	**2.63**	**68**	PN	**Pn**	**19 10 24.0**	**+0.5**
ARG	**Arkhangelos**	**2.74**	**277**	PN	**Pn**	**19 10 24.9**	**+0.1**
SHUT	**Suhut-Afyon**	**2.75**	**345**	PN	**Pn**	**19 10 24.9**	**-0.2**
BBRN	**Bozburun-Marma**	**2.87**	**287**	PN	**Pn**	**19 10 26.7**	**0.0**
CHBY	**Cihanbeyli**	**2.90**	**22**	PN	**Pn**	**19 10 27.9**	**+0.7**
GULE	**Gulek**	**2.99**	**62**	IAML_P			
	comp=Z,1μm,0.2s						
GULE				*i* P	**Pb**	**19 10 32.1**	**-2.4**
GULE				*i* S	**Sb**	**19 11 09.9**	**-0.9**
KARA	**Karaisali**	**3.18**	**64**	PN	**Pn**	**19 10 31.5**	**+0.6**
KRTS	**Karatas**	**3.22**	**77**	PN	**Pn**	**19 10 32.1**	**+0.7**
DAT	**Datca**	**3.26**	**286**	PN	**Pn**	**19 10 32.2**	**+0.1**
YURE	**YUREGIR**	**3.47**	**73**	PN	**Pn**	**19 10 36.1**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**3.53**	**306**	PN	**Pn**	**19 10 35.9**	**+0.1**
SVRH	**Sivrihisar-ESK**	**3.54**	**1**	PN	**Pn**	**19 10 36.4**	**+0.5**
YAYX	**Yaylak**	**3.55**	**31**	PN	**Pn**	**19 10 37.5**	**+1.4**
BODT	**Bodrum**	**3.56**	**290**	PN	**Pn**	**19 10 36.4**	**+0.3**
CEYT	**Ceyhan**	**3.61**	**71**	PN	**Pn**	**19 10 37.9**	**+1.1**
KOZT	**Kozan**	**3.83**	**64**	PN	**Pn**	**19 10 40.9**	**+1.0**
TAHT	**Tahtakopru-Hat**	**3.83**	**82**	PN	**Pn**	**19 10 41.2**	**+1.3**
GCAM	**G?zelcaml?**	**3.85**	**299**	PN	**Pn**	**19 10 40.1**	**0.0**
ZKR	**Zakros**	**4.37**	**261**	PN	**Pn**	**19 10 47.5**	**+0.2**
SANT	**Santorini**	**4.90**	**277**	PN	**Pn**	**19 10 55.5**	**+0.9**

IDC 09 19:16:03.4±6.6, **8°.81S×130°.50E, h0**km, **mb4.0**/1, **mb1 3.7**/3, **mb1mx3.4**/23, **mbtmp3.5**/3, **ML3.3**/2, **Error ellipse: s-maj=84.5km s-min=75.0km az=134.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.67**	**162**	Pn	Pn	19 18 50.7	-0.7
	0.2nm,0.3s,baz=343,slow=10,SNR=22						
WRA				Sn	Sn	19 21 05.8	+3.3
	0.1nm,0.3s,baz=337,slow=23,SNR=2.9						
ASAR	**Alice Springs**	**15.13**	**168**	Pn	Pn	19 19 37.0	-1.6
	0.1nm,0.3s,baz=341,slow=9.1,SNR=12						
STKA	**Stephens Creek**	**25.16**	**157**	P	P	19 21 30.8	+0.3
	3.2nm,0.8s,baz=358,slow=9.7,SNR=2.9						

*BJI **09** 19:20:37.1±0.0, 64°.08N×23°.77W, h9km, mb4.7/31, mB5.0/23, Ms4.9/10, Ms7 4.6/8*
*REY **09** 19:20:37.6, 63°.71N×23°.26W, h14km*
*IDC **09** 19:20:38.0±0.4, 63°.79N×23°.03W, h0km, mb4.0/26, mb1 4.2/32, mb1mx4.1/58, mbtmp4.0/32, MLJ3.9/4, MS4.0/30, Ms1 4.0/30, ms1mx3.9/52, Error ellipse: s-maj=10.3km s-min=9.5km az=176.0*
*ISCJB **09** 19:20:38.7±0.6, 63°.80N±0°.03×23°.12W±0°.04, h10km±3km, mb4.5/97, MS4.1/37, Error ellipse: s-maj=4.7km s-min=3.2km az=175.6*
*GCMT **09** 19:20:39.2±0.3, 63°.58N±0°.02×23°.29W±0°.04, h13km±1km, MW4.8/62, Moment Tensor Solution. s6,c6; s62,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.36±.18; $M_{\theta\theta}$0.57±.12; $M_{\phi\phi}$0.78±.10; $M_{r\theta}$-0.18±.20; $M_{\theta\phi}$1.67±.07; $M_{\phi r}$-0.80±.24; Best double couple: $M_0$2.10500×10^{16} NP1:ϕ_s19.00000°, δ62.00000°, λ-123.00000°. NP2: ϕ_s253.00000°, δ43.00000°, λ-45.00000°. Principal axes: T 2.4870, Plg11.0000°, Azm132.0000°; N -0.7590, Plg29.0000°, Azm36.0000°; P -1.7240, Plg59.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 19:20:40.2±0.2, 63°.75N×23°.08W, h10km, mb4.6/56 Error ellipse: s-maj=6.2km s-min=3.4km az=192.0*
ISC 09 19:20:40.5±0.7, **63°.77N**±0°.04×**22°.96W**±0°.03, **h13**km±4km, **n208**, σ1§**67**/226, **mb4.5**/107, **MS4.1**/38, **5C-1D, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**0.12**	**66**	P	**Pg**	**19 20 43.0**	**-0.8**
	baz=66						
IRNE				S	**Sb**	**19 20 46.8**	**-0.7**
	baz=66						
INYL	**Nylenda**	**0.23**	**25**	P	**Pg**	**19 20 44.3**	**-1.2**
	baz=41						
INYL				S	**Sg**	**19 20 49.1**	**+0.3**
	baz=41						
IGRV	**Grindav??k**	**0.24**	**68**	P	**Pg**	**19 20 44.8**	**-0.8**
	baz=67						
IGRV				S	**Sb**	**19 20 50.6**	**-0.2**
	baz=67						
IVOG	**Vogar**	**0.32**	**51**	S	**Sb**	**19 20 52.9**	**-0.3**
	baz=55						
IVOG				P	**Pg**	**19 20 46.0**	**-1.1**
	baz=55						
IKRI	**Krysuvik**	**0.41**	**74**	P	**Pg**	**19 20 47.4**	**-1.2**
	baz=72						
IKRI				S	**Sb**	**19 20 55.0**	**-0.6**
	baz=72						
IKAS	**Kald??rsel**	**0.55**	**62**	P	**Pg**	**19 20 49.8**	**-1.6**
	baz=63						
IKAS				S	**Sb**	**19 20 59.6**	**-0.2**
	baz=63						
IVOS	**Vogsosar**	**0.56**	**81**	P	**Pg**	**19 20 50.0**	**-1.5**
	baz=78						
IVOS				S	**Sb**	**19 20 59.9**	**-0.2**
	baz=78						
IKUD	**Kuludalsa**	**0.73**	**40**	P	**Pg**	**19 20 52.4**	**-2.3**
	baz=44						
IKUD				S	**Sg**	**19 21 03.6**	**-0.7**
	baz=44						
IBJA	**Bjarnastaoir**	**0.76**	**75**	P	**Pg**	**19 20 53.2**	**-1.9**
	baz=74						
IBJA				S	**Sb**	**19 21 05.4**	**-0.3**
	baz=74						
IHEI	**Heioarbar**	**0.88**	**59**	P	**Pg**	**19 20 54.5**	**-2.9**
	baz=60						
IHEI				S	**Sg**	**19 21 08.2**	**-0.6**
	baz=60						
IKRO	**Krokur**	**0.88**	**67**	P	**Pg**	**19 20 54.5**	**-2.9**
	baz=67						
IKRO				S	**Sg**	**19 21 08.8**	**-0.1**
	baz=67						
ISOL	**Solvholt**	**0.91**	**79**	P	**Pg**	**19 20 55.4**	**-2.6**
	baz=77						
ISOL				S	**Sg**	**19 21 09.2**	**-0.6**
	baz=77						
IASM	**Asmuli**	**1.04**	**85**	P	**Pb**	**19 20 57.5**	**-2.8**
	baz=83						
IASM				S	**Sb**	**19 21 13.2**	**-0.7**
	baz=83						
BORG	**Borgarnes**	**1.22**	**35**	Pg	**Pn**	**19 20 59.7**	**-3.4**
	1μm,0.3s,baz=229,slow=5.2,SNR=366						
BORG				Lg	Lg	19 21 17.0	
	2μm,0.3s,baz=82,slow=20,SNR=47						
IASB	**`sbjarnarst**	**1.22**	**35**	P	**Pn**	**19 20 60.0**	**-3.2**
	baz=38						
IASB				S	**Sb**	**19 21 17.4**	**-1.5**
	baz=38						
IVME	**Vestmannaeyjar**	**1.24**	**105**	P	**Pn**	**19 20 59.5**	**-4.0**
	baz=101						
IGYG	**Gygjarholskot**	**1.31**	**66**	P	**Pn**	**19 21 01.4**	**-3.1**
	baz=66						
IHAU	**Haukadalur**	**1.34**	**80**	P	**Pn**	**19 21 01.9**	**-3.0**
	baz=78						
SCO	**Scoresbysund**	**6.76**	**3**	*e*Pn	**Pn**	**19 22 17.6**	**-1.6**
SCO	**Scoresbysund**	**6.76**	**3**	*i* P	**Pn**	**19 22 16.8**	**-2.4**
SCO				*i* S	**Sn**	**19 23 36.6**	**+0.7**
JMIC	**Jan Mayen**	**9.11**	**31**	LR	LR	19 25 25.3	
	comp=Z,512nm,18.9s,baz=232,slow=32						
SFJD	**Kangerlussuaq**	**11.92**	**298**	Pn	**Pn**	**19 23 28.0**	**-1.8**
	0.5nm,0.3s,baz=106,slow=18,SNR=3.1						
EKA	**Eskdalemuir Ar**	**13.07**	**121**	Pn	**Pn**	**19 23 45.1**	**-0.4**
	baz=319,slow=12,SNR=14						
NC204	**NORSAR Array S**	**15.65**	**84**	*e*Pn	**P**	**19 24 22.8**	**-1.8**
	39nm,1.1s						
NB2	**NORSAR Subarra**	**15.95**	**84**	P	**P**	**19 24 29.0**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=271,slow=10						
NB200	**NORSAR Array S**	**15.95**	**84**	*e*Pn	**Pn**	**19 24 28.8**	**+0.5**
NOA	**NORSAR Array B**	**15.95**	**84**	Pn	**Pn**	**19 24 24.7**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=291,slow=11,SNR=3.0						
NOA				LR	LR	19 29 52.7	
	comp=Z,194nm,21.8s,baz=295,slow=35						
NC405	**NORSAR Array S**	**16.14**	**84**	*e*Pn	**Pn**	**19 24 26.6**	**-0.1**
	comp=Z,50nm,1.4s						
NC602	**NORSAR Array S**	**16.22**	**85**	*e*Pn	**Pn**	**19 24 28.0**	**+0.2**
	comp=Z,98nm,1.8s						
HFS	**Hagfors**	**17.45**	**85**	P	**P**	**19 24 44.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=308,slow=7.3,SNR=12						
HFS				LR	LR	19 30 48.0	
	comp=Z,232nm,20.4s,baz=293,slow=35						
SPITS	**Spitsbergen Ar**	**18.66**	**24**	LR	LR	19 29 42.1	
	comp=Z,140nm,21.7s,baz=40,slow=29						
ARA0	**ARCESS Array S**	**19.57**	**52**	*e*P	**P**	**19 25 06.7**	**-1.0**
ARCES	**ARCESS Array B**	**19.57**	**52**	P	**P**	**19 25 06.7**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=260,slow=8.9,SNR=10						
SNF	**Seneffe**	**19.66**	**120**	⇑P	**P**	**19 25 08.6**	**0.0**
FRB	**Frobisher Bay**	**19.84**	**291**	P	**P**	**19 25 09.1**	**

GERES LR LR 19 36 20.6
comp=Z,362nm,18.8s,baz=321,slow=38
DAVOX Davos/Dischmat 24.86 118 P P 19 26 03.3 +0.7
comp=Z,2.9nm,0.8s,baz=330,slow=18,SNR=4.8
DAVOX LR LR 19 35 29.5
comp=Z,462nm,21.0s,baz=326,slow=36
MOTA Moosalm 24.89 115 *e*pP **P 19 26 05.3 +2.6**
comp=Z,4.3nm,0.8s
TUE Stuetta 24.90 119 *e*P **P 19 26 03.2 +0.2**
comp=Z,10nm,1.0s
SQTA Sankt Quirin 25.03 115 *e*P **P 19 26 06.2 +2.2**
comp=Z,3.8nm,0.9s
WATA Walderalm 25.08 115 *e*P **P 19 26 06.4 +1.9**
comp=Z,6.2nm,0.7s
BNI Bardonecchia 25.08 124 *e*P **P 19 26 05.2 +0.7**
comp=Z,20nm,1.6s
FUORN Ofenpass-Fuorn 25.14 117 *e*P **P 19 26 07.0 +1.8**
comp=Z,8.9nm,1.0s
KRLC Kraliky 25.14 104 *e*P **P 19 26 06.4 +1.5**
WTTA Wattenberg 25.16 115 *e*P **P 19 26 07.5 +2.1**
comp=Z,15nm,1.3s
TREC Trest 25.17 107 *e*P **P 19 26 06.3 +1.1**
TREC AMS AMS 19 38 30.0
comp=Z,600nm,15.5s
SUW Suwalki 25.19 91 *e*P **P 19 26 05.8 +0.6**
SUW Suwalki 25.19 91 *e*P **P 19 26 05.7 +0.4**
comp=Z,37nm,1.2s
ISAL Salakas 25.50 86 *e*P **P 19 26 06.5 -1.5**
ISAL IAmb IAmb 19 26 10.6
comp=Z,8.2nm,1.0s
VRAC Vranov 25.64 106 *e*P **P 19 26 10.7 +1.3**
VRAC Vranov 25.64 106 LR LR 19 36 15.2
comp=Z,280nm,19.2s,baz=314,slow=36
MORC Moravsky Berou 25.69 104 *e*P **P 19 26 10.3 +0.4**
comp=Z,6.5nm,1.0s
MORC Moravsky Berou 25.69 104 *e*P **P 19 26 09.8 -0.1**
KRUC Moravsky 25.74 106 *e*P **P 19 26 10.7 +0.4**
MOA Molln 25.78 110 *e*P **P 19 26 13.3 +2.6**
comp=Z,6.4nm,1.6s
RES Resolute Bay 25.81 325 *e*P **P 19 26 10.4 -0.3**
comp=Z,7.7nm,1.5s
RES Resolute Bay 25.81 325 P **P 19 26 10.4 -0.3**
comp=Z,0.5nm,0.6s,baz=120,slow=8.7,SNR=3.1
RES LR LR 19 36 03.2
comp=Z,655nm,20.0s,baz=62,slow=36
OKC Ostrava-Krasne 25.91 103 *e*P **P 19 26 14.8 +3.0**
OKC AMS AMS 19 38 30.0
comp=Z,700nm,16.4s
IDID Didziasalis 25.93 86 *e*P **P 19 26 09.4 -2.6**
IDID IAmb IAmb 19 26 17.8
comp=Z,4.9nm,0.9s
ABTA Abfaltersbach 25.94 114 *e*P **P 19 26 13.6 +1.4**
comp=Z,3.3nm,1.0s
KBA Koelnbreinsper 26.01 113 *e*P **P 19 26 17.5 +4.6**
comp=Z,9.8nm,1.0s
OJC Ojcow 26.34 101 *e*P **P 19 26 17.9 +2.1**
CONA Conrad Observa 26.39 108 *e*P **P 19 26 17.1 +0.8**
comp=Z,2.6nm,1.2s
MYKA Terra Mystica 26.49 113 *e*pP **P 19 26 18.9 +1.7**
comp=Z,7.0nm,1.1s
ESDC Sonseca Array 26.63 146 *e*P **P 19 26 18.8 +0.3**
ESDC Sonseca Array 26.63 146 P **P 19 26 17.8 -0.6**
comp=Z,0.9nm,0.6s,baz=338,slow=8.7,SNR=7.0
ESDC LR LR 19 35 57.4
comp=Z,630nm,19.2s,baz=330,slow=34
ARSA Arzberg 26.77 110 *e*P **P 19 26 23.2 +3.5**
comp=Z,0.7nm,0.5s
OBKA Obir 26.96 112 *e*pP **P 19 26 23.4 +1.9**
comp=Z,3.8nm,0.9s
SOKA Soboth 27.03 111 *e*pP **P 19 26 24.0 +2.0**
comp=Z,4.4nm,1.2s
VYHS Vyhne 27.22 104 *e*P **P 19 26 27.0 +3.3**
KWP Kalwaria Pacla 28.05 98 *e*P **P 19 26 32.1 +1.0**
comp=Z,64nm,1.0s
KLMR Klimovskoe 28.16 67 *e*P **P 19 26 30.4 -1.5**
comp=Z,19nm,1.4s
KOLS Kolonicke sedl 28.38 100 *e*P **P 19 26 35.9 +1.9**
AKASG Malin Array Be 30.16 91 P **P 19 26 48.7 -1.1**
comp=Z,1.8nm,1.1s,baz=314,slow=9.0,SNR=5.1
AKASG PcP **PcP 19 29 49.2 -1.3**
comp=Z,0.1nm,0.3s,baz=316,slow=2.6,SNR=3.4
AKASG LR LR 19 39 14.0
comp=Z,303nm,18.2s,baz=310,slow=37
AKBB Malin Array Si 30.16 91 *e*PcP **PcP 19 29 49.2 -1.3**
MDT Midelt 33.03 151 P **P 19 27 14.5 -0.8**
comp=Z,2.3nm,0.8s,baz=342,slow=12,SNR=4.6
MDT LR LR 19 39 29.6
comp=Z,247nm,20.9s,baz=357,slow=34
FRNY Flat Rock 33.89 260 *e*P **P 19 27 23.5 +0.9**
comp=Z,50nm,1.9s
KEST Kesra 34.27 129 *e*P **P 19 27 26.6 +0.6**
comp=Z,9.3nm,1.1s
KEST Kesra 34.27 129 P **P 19 27 25.3 -0.7**
comp=Z,5.6nm,1.1s,baz=254,slow=3.7,SNR=4.3
KEST LR LR 19 40 21.5
comp=Z,425nm,20.4s,baz=184,slow=34
SADO Sadowa 36.40 266 LR LR 19 41 20.3
comp=Z,192nm,18.5s,baz=22,slow=34
YKA Yellowknife Ar 38.05 311 *e*P **P 19 27 58.6 +0.7**
YKA PcP **PcP 19 30 11.3 -1.5**
YKA Yellowknife Ar 38.05 311 P **P 19 27 57.1 -0.8**
comp=Z,1.0nm,0.6s,baz=44,slow=9.3,SNR=22
YKA PcP **PcP 19 30 11.3 -1.5**
comp=Z,0.7nm,0.6s,baz=38,slow=3.2,SNR=9.1
YKA LR LR 19 43 16.9
comp=Z,118nm,18.5s,baz=36,slow=36
YKB5 Yellowknife Ar 38.05 311 *e*P **P 19 27 57.1 -0.8**
YKB5 *e*PcP **PcP 19 30 11.3 -1.5**
NRIK Noril'sk 38.54 32 P **P 19 28 02.1 +0.2**
comp=Z,1.3nm,0.3s,baz=303,slow=8.2,SNR=7.2
INK Inuvik 39.32 327 *e*P **P 19 28 06.0 -2.5**
comp=Z,12nm,1.8s
INK Inuvik 39.32 327 P **P 19 28 06.0 -2.5**
comp=Z,1.0nm,0.8s,baz=30,slow=9.3,SNR=2.8
N55A Marion Center 39.52 262 *e*P **P 19 28 13.6 +3.0**
comp=Z,13nm,0.6s
ULM Lac du Bonnet 39.59 286 P **P 19 28 09.2 -1.7**
comp=Z,1.4nm,0.6s,baz=23,slow=8.3,SNR=4.0
ULM LR LR 19 43 25.7
comp=Z,312nm,19.0s,baz=55,slow=35
BR101 Keskin Array S 40.63 99 *e*P **P 19 28 20.3 +0.3**
BR131 Keskin Array S 40.63 99 *e*P **P 19 28 20.5 +0.6**
comp=Z,5.4nm,1.2s
BRTR Keskin Array B 40.63 99 *e*P **P 19 28 21.3 +1.4**
BRTR Keskin Array B 40.63 99 P **P 19 28 20.3 +0.3**
comp=Z,2.1nm,1.0s,baz=323,slow=9.1,SNR=7.3
BRTR LR LR 19 47 47.9
comp=Z,188nm,18.7s,baz=312,slow=40
O52A Adamsville 41.31 264 *e*P **P 19 28 21.4 -4.0**
comp=Z,189nm,0.8s
KBZ Khabaz 41.51 86 P **P 19 28 27.6 +0.6**
comp=Z,2.3nm,0.8s,baz=348,slow=9.6,SNR=7.3
KBZ LR LR 19 45 49.3
comp=Z,267nm,20.6s,baz=322,slow=36
N49A Columbus Grove 41.70 267 *e*P **P 19 28 28.4 -0.1**
comp=Z,15nm,0.6s
ACSO Alum Creek Sta 41.73 265 *e*P **P 19 28 29.4 +0.6**
comp=Z,22nm,0.6s
TIXI Tiksi 43.48 13 *e*P **P 19 28 44.0 +1.4**
comp=Z,22nm,1.5s
ABKAR Akbulak array 44.54 68 *e*P **P 19 28 52.3 +0.9**
TAM Tamanrasset 45.13 142 *e*P **P 19 28 56.9 +0.4**
comp=Z,3.7nm,1.0s
BIRD Birdtown, Kers 45.27 258 *e*P **P 19 28 56.4 -0.9**
comp=Z,14nm,0.7s
ILAR Eielson Array 45.33 330 *e*P **P 19 28 58.8 +1.3**
ILAR PcP **PcP 19 30 36.5 -0.3**
ILAR Eielson Array 45.33 330 P **P 19 28 56.7 -0.7**
comp=Z,0.8nm,0.5s,baz=29,slow=7.3,SNR=19
ILAR PcP **PcP 19 30 36.5 -0.3**
comp=Z,0.9nm,0.8s,baz=349,slow=2.9,SNR=7.1
ILAR LR LR 19 49 18.2
comp=Z,201nm,18.5s,baz=33,slow=38
ILB Eielson Array 45.33 330 *e*P **P 19 28 58.0 +0.5**
ILB *e*PcP **PcP 19 30 36.5 -0.3**
BCAR Beaver Creek A 45.58 326 *e*P **P 19 29 00.3 +0.7**
BRVK Borovoye 45.65 57 *e*P **P 19 29 01.9 +1.7**
comp=Z,18nm,1.6s
RIDG Independent Ri 45.74 328 *e*P **P 19 29 01.4 +0.5**
comp=Z,5.4nm,1.0s
T47A Sharon Grove 46.22 266 *e*P **P 19 29 04.8 -0.1**
comp=Z,12nm,1.0s
HODGE Hodges 46.40 260 *e*P **P 19 29 06.8 +0.6**
comp=Z,10nm,1.1s
X48A Hartselle 48.32 264 *e*P **P 19 29 21.5 +0.3**
comp=Z,6.1nm,0.6s
BOZ Bozeman (W) 49.82 293 *e*P **P 19 29 32.5 -0.3**
comp=Z,26nm,1.9s
ZAA1 Zalesovo Array 50.03 47 *e*PcP **PcP 19 30 53.2 -0.4**
ZALV Zalesovo Beam 50.03 47 P **P 19 29 34.8 +0.7**
comp=Z,0.8nm,0.7s,baz=325,slow=7.4,SNR=5.0
ZALV PcP **PcP 19 30 53.2 -0.4**
comp=Z,1.6nm,0.8s,baz=342,slow=9.3,SNR=5.1
ZALV LR LR 19 52 23.0
comp=Z,82nm,20.7s,baz=54,slow=38
KURK Kurchatov 50.60 54 *e*P **P 19 29 39.1 +0.7**
comp=Z,8.6nm,1.0s
IMW Indian Meadow 50.93 291 *e*P **P 19 29 41.9 +0.5**
comp=Z,4.4nm,0.6s
MIAR Mount Ida 51.14 270 *e*P **P 19 29 44.1 +1.4**
comp=Z,4.9nm,0.9s
PDAR Pinedale Array 51.28 290 LR LR 19 50 55.2
comp=Z,439nm,18.3s,baz=50,slow=36
GEYT Alibeck 52.93 78 P **P 19 29 54.6 -1.4**
comp=Z,14nm,0.5s,baz=327,slow=12,SNR=4.6
GEYT LR LR 19 53 47.4
comp=Z,88nm,19.1s,baz=10.0,slow=38
WMOK Wichita Mounta 53.29 275 *e*P **P 19 29 58.0 -0.7**
comp=Z,6.5nm,0.9s
TOA1 Torodi Ar. Sit 53.42 150 *e*P **P 19 29 58.4 -1.4**
TORD Torodi Ar. Bea 53.42 150 P **P 19 29 58.4 -1.4**
comp=Z,1.2nm,0.8s,baz=343,slow=7.5,SNR=7.3
TORD LR LR 19 52 54.5
comp=Z,155nm,18.9s,baz=320,slow=36
T25A Trinidad 53.75 281 *e*P **P 19 30 02.5 +0.2**
comp=Z,6.0nm,1.0s
KK31 Karatay Array 53.83 65 *e*P **P 19 30 04.3 +1.7**
comp=Z,8.9nm,1.3s
KKAR Karatay Array 53.83 65 *e*P **P 19 30 04.1 +1.5**
PV13 Radium Mtn., P 54.80 286 *e*P **P 19 30 10.0 +0.1**
comp=Z,8.0nm,1.2s
MK31 Makanchi Array 55.21 54 *e*P **P 19 30 13.6 +1.0**
comp=Z,4.7nm,0.9s
MKAR Makanchi Array 55.21 54 *e*P **P 19 30 13.8 +1.2**
MKAR Makanchi Array 55.21 54 P **P 19 30 13.2 +0.6**
comp=Z,4.4nm,0.9s,baz=330,slow=7.1,SNR=11
ELK Elko 55.32 293 P **P 19 30 14.5 +0.8**
comp=Z,1.1nm,0.6s,baz=0.1,slow=12
ELK LR LR 19 53 30.3
comp=Z,736nm,19.0s,baz=42,slow=36
EKS2 Erkin-Say 55.50 63 P **P 19 30 17.7 +2.9**
SNR=13
AAK Ala-Archa 55.80 62 P **P 19 30 19.9 +2.9**
SNR=7.5
AAK Ala-Archa 55.80 62 *e*P **P 19 30 18.6 +1.5**
comp=Z,8.6nm,1.0s
AML Almayashu 55.92 63 P **P 19 30 21.2 +3.1**
SNR=11
TKM2 Tokmak 2 55.99 61 P **P 19 30 21.1 +2.7**
SNR=7.0
UCH Uchtor 56.16 62 P **P 19 30 23.3 +3.3**
SNR=5.9
ARSB Arslanbob 56.31 64 *e*P **P 19 30 22.9 +2.1**
comp=Z,10nm,1.1s
BOOM Boomskoye usch 56.49 61 *e*P **P 19 30 23.7 +1.7**
BTK Batken 56.51 67 *e*P **P 19 30 23.9 +1.9**
comp=Z,20nm,1.3s
KZA Kyzart 56.58 62 P **P 19 30 25.9 +3.0**
SNR=5.2
GAR Garm 57.20 68 *e*P **P 19 30 29.5 +2.5**
comp=Z,35nm,1.1s
JCT Junction City 57.35 273 *e*P **P 19 30 29.0 +0.9**
comp=Z,9.1nm,0.9s
NRN Naryn 57.42 62 *e*P **P 19 30 31.9 +3.2**
comp=Z,5.3nm,1.1s
R11A Troy Canyon, C 57.49 291 *e*P **P 19 30 29.6 +0.5**
comp=Z,12nm,2.0s
TARG Taragay, Kyrgy 57.87 60 *e*P **P 19 30 34.9 +2.9**
comp=Z,12nm,1.0s
KVN Kaiserville 57.92 294 *e*P **P 19 30 32.4 +0.3**
comp=Z,8.4nm,1.4s
DBIC Dimbokro 58.47 159 *e*P **P 19 30 35.0 -0.9**
comp=Z,17nm,1.3s
DBIC Dimbokro 58.47 159 P **P 19 30 35.0 -0.9**
comp=Z,5.2nm,1.0s,baz=324,slow=5.7,SNR=3.0
DBIC LR LR 19 56 28.6
comp=Z,66nm,18.5s,baz=350,slow=37
NVAR Mina Array Bea 58.53 294 LR LR 19 55 32.5
comp=Z,468nm,18.9s,baz=14,slow=36
KSH Kashi 59.05 63 P **P 19 30 43.4 +3.5**
KSH pP sP 19 30 47.3 +1.6
KSH PP **PP 19 32 55.1 +5.2**
KSH S **S 19 38 47.6 +1.5**
KSH pmax pmax
comp=Z,32nm,1.0s
KSH LR LR
comp=Z,360nm,7.8s
KSH LR LR
comp=Z,280nm,6.6s
KSH LR LR
comp=Z,330nm,12.0s
WMQ Urumqi 59.69 52 *e*P **P 19 30 47.8 +3.6**
WMQ pP sP 19 30 52.1 +2.1
WMQ pmax pmax
comp=Z,210nm,3.7s
WMQ LR LR
comp=Z,640nm,36.5s
WMQ LR LR
comp=Z,800nm,30.1s
WMQ LR LR
comp=Z,430nm,21.5s
LTX Lajitas 60.05 276 *e*P **P 19 30 45.6 -1.3**
TXAR Lajitas Array 60.05 276 P **P 19 30 45.6 -1.3**
comp=Z,0.4nm,0.7s,baz=80,slow=2.1,SNR=3.4
TXAR LR LR 19 55 48.9
comp=Z,190nm,21.1s,baz=0.0,slow=35
SONA0 Songino Array 61.83 36 *e*P **P 19 30 59.1 +0.3**
SONM Songino Array 61.83 36 P **P 19 30 59.1 +0.3**
comp=Z,0.8nm,0.7s,baz=328,slow=5.1,SNR=4.4
MDP Montagnes des 62.37 214 P **P 19 31 03.5 +0.9**
comp=Z,11nm,0.7s,baz=40,slow=5.6,SNR=5.1
NIL Nilore 63.00 69 *e*P **P 19 31 08.1 +1.4**
comp=Z,13nm,1.1s
PETK Petropavlovsk- 63.46 360 LR LR 20 00 08.6
comp=Z,57nm,18.3s,baz=5.1,slow=37
GTA Gaotai 67.66 45 ⇑P **P 19 31 38.4 +1.5**
GTA pP sP 19 31 42.8 +0.1
GTA sP pP 19 31 45.3 +4.1
GTA pmax pmax
comp=Z,5.0nm,1.7s
GTA pmax pmax
comp=Z,96nm,5.3s
GTA LR LR
comp=Z,78nm,17.2s
GTA LR LR
comp=Z,140nm,16.5s
GTA LR LR
comp=Z,160nm,16.5s
HHC Hu-ho-hao-te 69.68 35 *e*P **P 19 31 49.4 -0.1**
HHC S S 19 40 46.5 -11
HHC pmax pmax
comp=Z,37nm,1.1s
HHC pmax pmax
comp=Z,140nm,6.5s
LZH Lanzhou 71.96 43 *e*P **P 19 32 03.3 -0.2**
LZH pP sP 19 32 09.1 -0.2
LZH sP pP 19 32 12.0 +4.3
LZH *e*PP **PP 19 34 48.2 +5.5**
LZH pmax pmax
comp=Z,14nm,1.3s
LZH pmax pmax
comp=Z,65nm,4.8s
LZH LR LR
comp=Z,260nm,17.2s
LZH LR LR
comp=Z,280nm,17.5s
LZH LR LR
comp=Z,300nm,18.4s
CD2 Chengdu 76.73 45 *e*P **P 19 32 30.3 -0.9**
CD2 pmax pmax
comp=Z,40nm,0.6s
MAJO Matsushiro 78.91 15 *e*P **P 19 32 43.1 -0.1**
MAT Matsushiro 78.91 15 P **P 19 32 43.1 -0.1**
MJAR Matsushiro Arr 78.91 15 P **P 19 32 43.1 -0.1**
comp=Z,2.1nm,0.9s,baz=339,slow=6.5,SNR=5.8
ENH Enshi 79.06 41 *e*P **P 19 32 44.6 +0.5**
comp=Z,3.7nm,1.0s
NJ2 Nanjing 79.84 32 *e*P **P 19 32 50.0 +1.8**
NJ2 pmax pmax
comp=Z,12nm,0.6s
BDFB Brasilia 81.50 204 P **P 19 32 55.9 -1.4**
comp=Z,2.2nm,0.4s,baz=161,slow=13,SNR=3.8
CHTO Chiang Mai 86.29 54 *e*P **P 19 33 21.8 0.0**
comp=Z,6.3nm,1.1s
CMMT Chiang Mai 86.29 54 P **P 19 33 22.9 +1.0**
comp=Z,2.8nm,1.1s
CMAR Chiang Mai Arr 86.62 54 P **P 19 33 23.9 +0.4**
comp=Z,2.6nm,1.0s,baz=323,slow=6.3,SNR=15
NONG Nongkai 88.46 50 P **P 19 33 33.5 +1.2**
comp=Z,0.2nm,1.8s,comp=Z,166nm
UTHA Uthaitani 89.47 54 P **P 19 33 39.9 +2.8**
comp=Z,10μm,0.9s
SKNT Sakolnakorn 89.75 50 P **P 19 33 39.8 +1.4**
comp=Z,7.9nm,2.3s
AS31 Alice Springs 137.08 32 *e*PKPdf **PKPdf 19 40 02.0 -0.7**
ASAR Alice Springs 137.08 32 PKP **PKPdf 19 40 02.0 -0.7**
comp=Z,0.7nm,0.8s,baz=352,slow=2.5,SNR=5.3
MAW Mawson 144.59 139 PKP **PKPdf 19 40 14.6 -0.1**
comp=Z,2.2nm,0.7s,baz=315,slow=7.1,SNR=4.3
STKA Stephens Creek 146.64 24 PKPbc **PKPbc 19 40 20.4 -0.6**
comp=Z,3.1nm,0.8s,baz=338,slow=11,SNR=4.9

UCR 09 19:23:08.3±2.0, 9°.87N×86°.34W, h0km±9km, MD4.2, ML2.9, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**1.11**	**45**	*i* P	Pg	19 23 29.6	+0.1
NY14				*i* S	Sn	19 23 47.9	+0.8
BUEV	**Buena Vista**	**1.30**	**45**	*e*P	Pg	19 23 32.0	-1.3
GB1A	**Borinquen Arri**	**1.32**	**44**	*e*P	Pg	19 23 32.4	-1.2
LIM1	**Limonal**	**1.35**	**52**	*i* P	Pg	19 23 32.9	-1.3
CUI	**Cuipilapa**	**1.40**	**56**	*i* P	Pg	19 23 33.8	-1.3
ACAL	**Aguas Claras**	**1.49**	**59**	*i* P	Pn	19 23 35.1	-1.4
AMAS	**Alto Masis**	**1.52**	**61**	*i* P	Pn	19 23 35.3	-1.5
CASO	**Castillo**	**1.68**	**70**	*i* P	Pn	19 23 38.0	-1.0
ARE1	**Arenal 1**	**1.70**	**70**	*e*P	Pn	19 23 38.7	-0.5
CEDE	**Laguna Cedeo**	**1.72**	**69**	*e*P	Pn	19 23 39.3	-0.3
CONN	**Concepcion**	**1.82**	**22**	*e*P	Pn	19 23 40.4	-0.6
HDC	**Heredia**	**2.19**	**86**	*e*P	Pn	19 23 46.4	+0.2
LCR2	**La Lucha 2**	**2.30**	**93**	*e*P	Pn	19 23 48.0	+0.2
ACON	**Acoyapa**	**2.38**	**29**	*e*P	Pn	19 23 47.9	-0.8
ACON				IAML		19 24 26.7	
	comp=E,76nm,0.8s						
MOMN	**Momotombo**	**2.53**	**356**	*e*P	Pn	19 23 50.7	-0.1
CNGN	**Cerro Negro**	**2.64**	**352**	*e*P	Pn	19 23 52.2	0.0
CRIN	**San Cristobal**	**2.90**	**346**	*e*P	Pn	19 23 57.2	+1.3
CRIN				*e*S	Sn	19 24 32.3	+0.8
MATN	**Matagalpa**	**3.07**	**8**	*e*P	Pn	19 23 58.3	+0.1
DRK0	**Durika**	**3.11**	**101**	*e*P	Pn	19 23 59.9	+1.1
SOMN	**Somoto**	**3.54**	**356**	*e*P	Pn	19 24 07.0	+2.3

*IDC **09** 19:30:03.6±0.9, 16°.50N×98°.18W, h0km, mb4.2/11, mb1 4.3/15, mb1mx4.1/46, mbtmp4.2/15, ML3.7/4, MS3.8/9, Ms1 3.8/9, ms1mx3.3/39, Error ellipse: s-maj=22.7km s-min=12.2km az=32.0*
*ISCJB **09** 19:30:07.6±0.5, 16°.61N±0°.03×97°.99W±0°.02, h29km±4km, mb4.4/123, MS3.8/6, Error ellipse: s-maj=4.8km s-min=2.7km az=18.7*
*BJI **09** 19:30:09.5±0.0, 16°.90N×98°.00W, h22km, Ms4.9/1*
*NEIC **09** 19:30:11.0±0.0, 16°.55N×98°.10W, h19km, mb4.5/135, MD4.6(MEX), After MEX.*
NEIC Felt [II] at Mexico. Also felt at Ixtac Zoquitlan, Putla and Tepotzotlan.
*MEX **09** 19:30:11.0±0.5, 16°.55N×98°.10W, h19km±4km, MD4.6*
ISC 09 19:30:06.8±1.3, 16°.62N±0°.03×98°.05W±0°.03, h13km±8km, n377, σ1§17/409, mb4.5/123, MS3.6/6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**199**	*e*Pg	**Pb**	**19 30 14.3**	**+1.4**
PNIG	**Pinotepa**	**0.23**	**199**	*e*P	**Pb**	**19 30 14.3**	**+1.4**
PNIG				*e*S	**Sb**	**19 30 18.3**	**+1.3**
TLIG	**Tlapa**	**1.06**	**332**	*e*Pn	**Pn**	**19 30 27.3**	**-0.2**
TLIG				*e*Sn	**Sg**	**19 30 41.2**	**-0.1**
TLIG	**Tlapa**	**1.06**	**332**	*e*P	**Pn**	**19 30 27.7**	**+0.2**
TLIG				*e*S	**Sg**	**19 30 41.3**	**0.0**
HMTT	**Tlapaneco**	**1.27**	**338**	*e*P	**Pg**	**19 30 31.1**	**-0.2**
HMTT				*i* S	**Sb**	**19 30 46.1**	**-0.9**
ACP2	**Acapulco**	**1.78**	**279**	*e*P	**Pn**	**19 30 37.9**	**+0.7**
ACP2				*i* S	**Sn**	**19 30 57.3**	**-2.5**
TPIG	**Tehuac#an**	**1.91**	**20**	*e*P	**Pb**	**19 30 41.2**	**-0.4**
TPIG				*i* S	**Sb**	**19 31 04.2**	**-1.3**
MEIG	**Mezcala**	**1.99**	**311**	*e*Sn	**Sn**	**19 31 05.0**	**0.0**
MEIG	**Mezcala**	**1.99**	**311**	*i* S	**Sn**	**19 31 05.0**	**0.0**
HUIG	**Huatulco**	**2.04**	**114**	*e*Pn	**Pn**	**19 30 42.0**	**+1.1**
HUIG				*e*Sn	**Sn**	**19 31 05.3**	**-1.0**
HUIG	**Huatulco**	**2.04**	**114**	*e*P	**Pn**	**19 30 42.0**	**+1.1**
HUIG				*i* S	**Sn**	**19 31 05.3**	**-1.0**
CAIG	**El Cayaco**	**2.17**	**282**	*e*Sn	**Sn**	**19 31 08.3**	**-1.0**
CAIG	**El Cayaco**	**2.17**	**282**	*e*P	**Pn**	**19 30 43.0**	**+0.4**
CAIG				*i* S	**Sn**	**19 31 08.3**	**-1.0**
PLIG	**Platanillo**	**2.25**	**322**	*e*Pn	**Pn**	**19 30 45.0**	**+1.2**
PLIG	**Platanillo**	**2.25**	**322**	*e*P	**Pn**	**19 30 45.0**	**+1.2**
PLIG				*e*S	**Sn**	**19 31 11.9**	**+0.5**
YAIG	**Yautepec**	**2.44**	**337**	*e*P	**Pn**	**19 30 47.9**	**+1.5**
YAIG				*e*S	**Sn**	**19 31 17.6**	**+1.4**
PPM	**Popocatepetl**	**2.50**	**347**	*e*Pn	**Pn**	**19 30 48.8**	**+1.1**
PPM				*e*Sn	**Sn**	**19 31 19.7**	**+1.5**
PPM	**Popocatepetl**	**2.50**	**347**	*e*P	**Pn**	**19 30 48.8**	**+1.1**
PPM				*i* S	**Sn**	**19 31 19.7**	**+1.5**
AMVM	**AMECAMECA**	**2.60**	**344**	*e*P	**Pn**	**19 30 49.9**	**+1.1**
AMVM				*i* S	**Sn**	**19 31 21.1**	**+0.7**
ARIG	**Puente Sto Nin**	**2.75**	**307**	*e*P	**Pn**	**19 30 51.5**	**+0.9**
ARIG				*i* S	**Sn**	**19 31 23.5**	**-0.2**
ARIG	**Puente Sto Nin**	**2.75**	**307**	*e*P	**Pn**	**19 30 51.5**	**+0.9**
ARIG				*i* S	**Sn**	**19 31 23.5**	**-0.2**
UNM	**Universidad Na**	**2.91**	**338**	*i* P	**Pn**	**19 30 54.5**	**+1.6**
UNM				*i* S	**Sn**	**19 31 29.4**	**+1.5**
UNM	**Universidad Na**	**2.91**	**338**	*i* P	**Pn**	**19 30 54.5**	**+1.6**
UNM				*i* S	**Sn**	**19 31 29.4**	**+1.5**
PBVM	**Pinon**	**2.98**	**341**	*e*Pn	**Pn**	**19 30 56.0**	**+2.3**
PBVM				*e*Sn	**Sn**	**19 31 27.6**	**-1.7**
PBVM	**Pinon**	**2.98**	**341**	*e*P	**Pn**	**19 30 56.0**	**+2.3**
PBVM				*i* S	**Sn**	**19 31 30.5**	**+1.2**
CMIG	**Matias Romero**	**3.07**	**81**	*e*P	**Pn**	**19 30 56.7**	**+1.8**
CMIG				*i* S	**Sn**	**19 31 32.7**	**+1.2**
CMIG	**Matias Romero**	**3.07**	**81**	Pn	**Pn**	**19 30 56.3**	**+1.3**
	12nm,0.3s,baz=256,slow=13,SNR=77						
CMIG				Sn	**Sb**	**19 31 36.2**	**-2.4**
	74nm,0.3s,baz=1.6,slow=5.5,SNR=5.2						
CMIG				Lg	Lg	19 31 45.8	
	125nm,0.3s,baz=351,slow=19,SNR=20						
CMIG				LR	LR	19 32 28.0	
	comp=Z,983nm,20.1s,baz=284,slow=45						
ZIIG	**Zihuatanejo**	**3.41**	**287**	*e*Sn	**Sn**	**19 31 40.0**	**0.0**
ZIIG	**Zihuatanejo**	**3.41**	**287**	*e*P	**Pn**	**19 30 60.0**	**+0.2**
ZIIG				*e*S	**Sn**	**19 31 40.0**	**0.0**
LVIG	**Laguna Verde**	**3.46**	**26**	*e*Pn	**Pn**	**19 31 00.0**	**-0.3**
LVIG				*i* S	**Sn**	**19 31 43.5**	**+2.3**
LVIG	**Laguna Verde**	**3.46**	**26**	*e*P	**Pn**	**19 31 02.0**	**+1.6**
LVIG				*i* S	**Sn**	**19 31 43.5**	**+2.3**
MOIG	**Morelia**	**4.26**	**316**	*e*Pn	**Pn**	**19 31 11.9**	**+0.3**
MOIG				*i* S	**Sn**	**19 32 01.8**	**+0.3**
MOIG	**Morelia**	**4.26**	**316**	*e*P	**Pn**	**19 31 12.9**	**+1.2**
MOIG				*i* S	**Sn**	**19 32 01.8**	**+0.3**
TGIG		**4.72**	**87**	*e*Pn	**Pn**	**19 31 20.9**	**+3.0**
TGIG		**4.72**	**87**	*i* P	**Pn**	**19 31 20.9**	**+3.0**
TGIG				*i* S	**Sn**	**19 32 14.2**	**+1.7**
PCIG		**4.73**	**100**	*e*Sn	**Sn**	**19 32 14.3**	**+1.7**
PCIG		**4.73**	**100**	*i* P	**Pn**	**19 31 20.1**	**+2.2**
PCIG				*i* S	**Sn**	**19 32 14.3**	**+1.7**
MMIG	**Aquila**	**5.32**	**289**	*i* P	**Pn**	**19 31 26.5**	**+0.5**
MMIG				*i* S	**Sn**	**19 32 27.6**	**+0.4**
CCIG	**Comitan**	**5.68**	**93**	*e*Pn	**Pn**	**19 31 35.0**	**+3.9**
CCIG				*i* S	**Sn**	**19 32 38.9**	**+2.6**
CCIG	**Comitan**	**5.68**	**93**	*i* P	**Pn**	**19 31 34.1**	**+3.0**
CCIG				*i* S	**Sn**	**19 32 37.5**	**+1.2**
CJM	**Chamela**	**7.25**	**294**	*e*Pn	**Pn**	**19 31 54.0**	**+1.6**
CJM				*e*		21 35 19.5	
CJM	**Chamela**	**7.25**	**294**	*i* P	**Pn**	**19 31 54.0**	**+1.6**
CJM				*i* S	**Sn**	**19 33 15.2**	**+0.6**
APG	**El Apazote**	**7.47**	**101**	Pn	**Pn**	**19 31 57.0**	**+1.2**
	0.3nm,0.3s,baz=339,slow=18,SNR=4.0						
APG				Sn	**Sn**	**19 33 20.6**	**+0.1**
	2.0nm,0.3s,baz=356,slow=10,SNR=4.6						
APG				Lg	Lg	19 34 07.8	
	5.1nm,0.3s,baz=22,slow=18,SNR=3.0						
LNIG	**Linares**	**8.35**	**351**	*e*Pn	**Pn**	**19 32 06.8**	**-0.7**
LNIG	**Linares**	**8.35**	**351**	*i* P	**Pn**	**19 32 11.2**	**+3.6**
833A	**Chaparral WMA,**	**11.72**	**354**	*e*Pn	**Pn**	**19 32 52.4**	**-1.4**

TXAR Lajitas Array 13.67 339 ePn Pn 19 33 19.8 -0.7
TXAR Lajitas Array 13.67 339 Pn Pn 19 33 18.5 -2.0
0.2nm,0.3s,baz=188,slow=5.2,SNR=3.4
TXAR LR LR 19 39 09.8
comp=Z,788nm,18.0s,baz=0.0,slow=40
TX31 Lajitas Ar. Si 13.67 339 ePn Pn 19 33 18.6 -2.0
LPIG La Paz 13.69 305 LR LR 19 38 13.9
comp=Z,368nm,18.2s,baz=172,slow=36
JCT Junction City 13.89 354 ePn Pn 19 33 23.8 +0.3
JTS Las Juntas de 14.20 115 Pn Pn 19 33 27.8 0.0
0.6nm,0.3s,baz=4.1,slow=14,SNR=2.3
WHTX Lake Whitney, 15.32 2 ePn Pn 19 33 44.1 +1.3
25nm,0.8s
WHTX Lake Whitney, 15.32 2 P Pn 19 33 41.3 -1.4
baz=182
ABTX Abilene, Hawle 16.00 355 ePn Pn 19 33 51.9 +0.2
54nm,1.3s
ABTX Abilene, Hawle 16.00 355 P Pn 19 33 50.9 -0.8
baz=175,SNR=5.2
MNTX Cornudas Mount 16.43 337 ePn Pn 19 33 58.0 +0.9
19nm,1.5s
MNTX Cornudas Mount 16.43 337 P Pn 19 33 56.9 -0.2
baz=155
GDL2 Guadalupe Moun 16.54 341 ePn Pn 19 33 58.9 +0.2
MSTX Muleshoe 17.80 347 ePn P 19 34 14.7 -0.4
26nm,0.8s
319A Douglas 17.90 327 ePn Pn 19 34 14.6 -1.1
35nm,1.4s
X37A Clayton 18.06 7 ePn P 19 34 17.6 -0.3
36nm,1.0s
WMOK Wichita Mounta 18.06 358 ePn Pn 19 34 17.0 -0.5
9.3nm,0.9s
WMOK Wichita Mounta 18.06 358 P Pn 19 34 16.8 -0.7
baz=178
121A Cookes Peak, D 18.14 333 P Pn 19 34 18.6 0.0
baz=149
MIAR Mount Ida 18.30 12 eP Pn 19 34 19.7 -0.8
19nm,0.9s
MIAR Mount Ida 18.30 12 P Pn 19 34 19.6 -0.8
baz=194
AMTX Amarillo 18.48 351 eP Pn 19 34 22.8 +0.1
16nm,0.9s
AMTX Amarillo 18.48 351 P P 19 34 21.9 -0.7
baz=169
W39A Magazine 18.89 11 eP Pn 19 34 27.8 +0.2
19nm,0.8s
W39A Magazine 18.89 11 P P 19 34 26.3 -0.8
baz=193
OK023 East Waterloo 19.05 2 eP P 19 34 27.1 -1.6
53nm,1.2s
OK024 West corner E0 19.05 2 eP P 19 34 28.3 -0.5
37nm,1.0s
BNM Barren Site 19.09 338 eP Pn 19 34 30.7 +0.4
W41B Gary Mavity, V 19.20 15 eP P 19 34 29.7 -0.6
7.2nm,0.8s
LENM Lemitar 19.23 337 eP Pn 19 34 31.8 -0.1
150A Eclectic 19.29 32 P P 19 34 31.0 -0.4
baz=217
TUL1 Leonard 19.32 6 eP P 19 34 30.4 -1.3
33nm,0.8s
TUL1 Leonard 19.32 6 P P 19 34 31.8 +0.1
baz=187
TUC Tucson 19.43 326 eP Pn 19 34 34.0 -0.2
8.2nm,0.8s
TUC Tucson 19.43 326 P Pn 19 34 34.1 -0.2
baz=141
Z49A Columbiana 19.51 30 P P 19 34 33.8 0.0
baz=215
455A Stateville 19.64 42 P P 19 34 35.2 0.0
baz=228
ANMO Albuquerque 19.75 339 eP Pn 19 34 38.0 -0.1
5.6nm,0.7s
ANMO Albuquerque 19.75 339 P Pn 19 34 37.5 -0.6
baz=156
ANMO Albuquerque 19.75 339 P P 19 34 36.3 -0.2
0.5nm,0.3s,baz=149,slow=11,SNR=11
ANMO LR LR 19 42 56.1
comp=Z,345nm,21.4s,baz=166,slow=39
TASM ASL Pad, Albuq 19.75 339 P Pn 19 34 37.3 -0.8
baz=156,SNR=6.9
TASM ASL Pad, Albuq 19.75 339 P Pn 19 34 37.6 -0.5
baz=156,SNR=6.9
X46A Booneville 19.78 24 P P 19 34 37.0 +0.2
baz=208
Z50A Ashland 19.85 31 eP P 19 34 37.4 -0.2
8.9nm,0.8s
Z50A Ashland 19.85 31 P P 19 34 37.6 0.0
baz=216
HHAR Hobbs 19.93 10 eP P 19 34 37.0 -1.3
11nm,1.0s
152A Waverly Hall 20.02 35 eP P 19 34 39.1 -0.3
8.6nm,0.4s
U40A Yellville 20.20 12 P P 19 34 41.2 -0.1
baz=195
214A Organ Pipe Nat 20.32 321 P Pn 19 34 44.0 -0.7
baz=136
U41A Viola 20.39 14 P P 19 34 43.7 +0.3
baz=197
W47A Westpoint 20.78 25 P P 19 34 46.9 -0.7
baz=209
X18A Snowflake 20.79 331 eP Pn 19 34 49.1 -1.3
15nm,0.8s
Y51A Rockmart 20.80 32 P P 19 34 47.3 -0.6
baz=217
W48A Pulaski 20.95 26 P P 19 34 49.2 -0.3
baz=211
V46A Holladay 21.06 23 P P 19 34 49.3 -1.2
baz=207
Z53A Monticello 21.12 36 P P 19 34 50.1 -1.2
baz=222
T25A Trinidad 21.20 346 eP P 19 34 53.4 +1.0
27nm,1.0s
T25A Trinidad 21.20 346 P P 19 34 53.4 +1.0
baz=163,SNR=20
GOGA Godfrey 21.27 35 eP P 19 34 52.3 -0.6
11nm,0.8s
GOGA Godfrey 21.27 35 P P 19 34 52.3 -0.6
baz=222
Y52A Lilburn 21.29 34 eP P 19 34 51.5 -1.6
18nm,1.1s
Y52A Lilburn 21.29 34 P P 19 34 51.9 -1.2
baz=220
V47A Nunnelly 21.31 24 P P 19 34 52.7 -0.6
baz=209
X16A Lo Mia Camp, P 21.42 328 eP P 19 34 57.1 +2.4
20nm,0.8s
X51A Calhoun 21.43 31 eP P 19 34 55.8 +1.1
16nm,0.9s
SWET Sewanee 21.46 28 eP P 19 34 49.7 -5.2
21nm,0.7s
WVT Waverly 21.46 23 eP P 19 34 53.7 -1.2
11nm,0.6s
WVT Waverly 21.46 23 P P 19 34 53.6 -1.3
baz=208
113A Mohawk Valley, 21.46 321 eP P 19 34 54.0 -0.9
10nm,0.8s
Z54A Sparta 21.50 37 P P 19 34 53.3 -2.1
baz=223
V48A Smith Brothers 21.52 26 eP P 19 34 54.7 -0.9
14nm,0.6s
V48A Smith Brothers 21.52 26 P P 19 34 54.9 -0.6
baz=210
Y53A Monroe 21.54 34 P P 19 34 54.3 -1.5
baz=221
S41A Jillco Farms, 21.62 14 P P 19 34 55.5 -1.1
baz=197
Y14A Wickenburg 21.87 325 eP P 19 35 01.5 +2.0
14nm,0.8s
SDCO Great Sand Dun 22.05 344 eP P 19 35 02.5 +0.9
5.4nm,0.8s
SDCO Great Sand Dun 22.05 344 P P 19 35 02.6 +1.0
baz=161,SNR=14
CBKS Cedar Bluff 22.16 356 eP P 19 35 03.3 +0.8
40nm,0.8s
CBKS Cedar Bluff 22.16 356 P P 19 35 03.2 +0.7
baz=176
CCM Cathedral Cave 22.18 14 eP P 19 35 04.6 +1.9
30nm,0.9s
WUAZ Wupatki 22.26 330 eP P 19 35 05.5 +1.7
26nm,0.9s
WUAZ Wupatki 22.26 330 P P 19 35 05.8 +2.0
baz=145,SNR=6.4
GLA Glamis 22.30 320 eP P 19 35 05.3 +1.2
18nm,0.9s
GLA Glamis 22.30 320 P P 19 35 05.6 +1.5
baz=134,SNR=5.7
S22A 4UR Ranch, Cre 22.43 342 eP P 19 35 05.9 +0.3
6.8nm,0.9s
S22A 4UR Ranch, Cre 22.43 342 P P 19 35 05.8 +0.2
baz=158
MVCO Mesa Verde 22.50 338 eP P 19 35 07.3 +0.9
23nm,0.9s
MVCO Mesa Verde 22.50 338 P P 19 35 06.9 +0.5
baz=153,SNR=11
Y12C Blythe 22.60 322 eP P 19 35 08.7 +1.5
18nm,1.3s
Y12C Blythe 22.60 322 P P 19 35 08.4 +1.2
baz=135
T48A Bowling Green 22.87 25 P P 19 35 10.8 +0.8
baz=210
BC3 Big Chuckawall 23.09 321 P P 19 35 14.3 +1.8
baz=133,SNR=8.7
Q24A Divide 23.12 346 eP P 19 35 13.6 +0.7
11nm,1.0s
Q24A Divide 23.12 346 P P 19 35 12.9 0.0
baz=153,SNR=7.3
MONP2 Monument Peak 23.20 318 P P 19 35 14.6 +0.9
baz=130
W13A Hualapai Mount 23.22 325 eP P 19 35 14.9 +1.0
56nm,2.0s
W54A Cherokee Point 23.23 35 P P 19 35 14.2 +0.5
baz=222
IRM Iron Mountain 23.26 322 P P 19 35 15.6 +1.5
baz=135,SNR=5.8
U51A La Follette 23.30 30 P P 19 35 14.4 -0.1
baz=216
PV01 Paradox Valley 23.35 339 eP P 19 35 16.5 +1.3
15nm,0.9s
U15A North Rim 23.44 330 eP P 19 35 17.7 +1.5
27nm,1.3s
PV13 Radium Mtn., P 23.46 338 eP P 19 35 17.3 +1.1
14nm,1.0s
PV02 Paradox Valley 23.47 338 eP P 19 35 17.8 +1.4
25nm,1.3s
PV05 Paradox Valley 23.49 338 eP P 19 35 18.0 +1.4
11nm,0.8s
PV03 Paradox Valley 23.55 338 eP P 19 35 18.1 +1.0
16nm,1.1s
PV18 Skein Mesa, Pa 23.57 338 eP P 19 35 18.1 +0.8
10.0nm,0.8s
PV12 Saucer Basin, 23.59 338 eP P 19 35 18.9 +1.3
19nm,1.0s
PV11 David Mesa, Pa 23.60 338 eP P 19 35 19.0 +1.4
22nm,0.4s
PV17 East Wray Mesa 23.62 338 eP P 19 35 18.2 +0.4
13nm,0.9s
U52A Thorn Hill 23.62 31 P P 19 35 17.9 +0.3
baz=217
PV16 Nyswonger Mesa 23.63 338 eP P 19 35 18.8 +0.8
18nm,1.3s
PV07 Paradox Valley 23.65 339 eP P 19 35 18.4 +0.3
36nm,1.6s
TZTN Tazewell 23.65 30 P P 19 35 18.3 +0.4
baz=217
BELC Belle Mtn. Jos 23.66 320 P P 19 35 19.8 +1.6
baz=133
Z59A Georgetown, SC 23.68 42 P P 19 35 18.9 +0.8
baz=230
PFO Pinyon Flats O 23.69 319 P P 19 35 19.3 +0.8
baz=131
PFO Pinyon Flats O 23.69 319 LR LR 19 44 37.7
comp=Z,194nm,19.8s,baz=136,slow=37
PV04 Paradox Valley 23.70 338 eP P 19 35 19.7 +1.2
37nm,1.5s
PV14 Lion Creek, Pa 23.72 338 eP P 19 35 19.7 +0.9
9.9nm,1.1s
PV22 Blue Mesa, Par 23.78 339 eP P 19 35 20.8 +1.4
12nm,1.0s
PV23 Carpenter Ridg 23.79 338 eP P 19 35 20.7 +1.2
8.9nm,0.8s
SMCO Snowmass 23.80 343 eP P 19 35 21.3 +1.6
23nm,1.5s
Q45A Warren Harvey, 23.83 19 P P 19 35 18.4 -1.1
baz=204
R47A Wooly Knot Far 23.85 23 P P 19 35 19.4 -0.4
baz=208
PV09 Paradox Valley 23.87 338 eP P 19 35 21.3 +0.9
PV21 Cone Mtn., Par 23.87 338 eP P 19 35 21.3 +1.0
11nm,1.1s
WCI Wyandotte Cave 23.88 23 P P 19 35 19.2 -0.8
baz=205
S49A Springfield 23.90 26 P P 19 35 19.3 -1.0
baz=211
GMRC Granite Mounta 24.00 322 P P 19 35 21.8 +0.4
baz=135
ISCO Idaho Springs 24.02 346 eP P 19 35 22.8 +1.0
11nm,0.7s
ISCO Idaho Springs 24.02 346 P P 19 35 22.0 +0.2
baz=162,SNR=11
MURC Murrieta 24.15 318 P P 19 35 23.3 +0.6
baz=130
KNB Kanab 24.16 330 eP P 19 35 24.8 +1.9
45nm,1.5s
S50A Richmond 24.19 27 P P 19 35 22.9 -0.1
baz=213
PKCU Pink Cliffs 24.27 332 eP P 19 35 25.9 +1.8
24nm,1.0s
LCMT Little Creek M 24.36 329 eP P 19 35 26.3 +1.5
17nm,1.5s
HEC Hector,Ludlow 24.43 321 P P 19 35 25.8 +0.5
baz=134,SNR=5.1
U54A Nelsons Funny 24.50 33 eP P 19 35 26.3 +0.4
17nm,0.6s
U54A Nelsons Funny 24.50 33 P P 19 35 26.0 +0.1
baz=220
W57A Gilead 24.52 38 P P 19 35 25.1 -0.8
baz=226
TUQ Turquoise Moun 24.61 323 P P 19 35 27.9 +0.9
baz=135
MTPU Mount Pierson 24.70 333 eP P 19 35 29.5 +1.4
23nm,0.8s
Q48A North Vernon 24.71 23 P P 19 35 28.0 +0.3
baz=209
SZCU Shurtz Canyon 24.75 331 eP P 19 35 29.6 +1.2
8.4nm,0.9s
N41A Harden Midland 24.80 13 P P 19 35 28.1 -0.4
baz=197
CCUT Cedar City 24.85 330 eP P 19 35 30.8 +1.5
4.7nm,1.0s
BFSC Mount Baldy Ra 24.85 319 P P 19 35 30.3 +1.0
baz=130
SRU San Rafael Swe 24.93 336 eP P 19 35 31.1 +1.2
12nm,0.9s
Q16A Castle Valley 25.01 335 eP P 19 35 31.6 +0.9
13nm,0.7s
GSC Goldstone, Bar 25.03 322 eP P 19 35 32.3 +1.5
3.7nm,0.8s
GSC Goldstone, Bar 25.03 322 P P 19 35 31.7 +0.9
baz=134
O20A White River Ci 25.05 341 eP P 19 35 32.6 +1.6
18nm,1.0s
O20A White River Ci 25.05 341 P P 19 35 32.1 +1.1
baz=157,SNR=10
R51A Hillsboro 25.06 28 P P 19 35 31.0 +0.1
baz=214
MSU Marsvale 25.09 333 eP P 19 35 33.0 +1.6
N23A Red Feather La 25.14 346 eP P 19 35 31.5 -0.4
10nm,0.9s
N23A Red Feather La 25.14 346 P P 19 35 32.4 +0.5
baz=162
Q50A Georgetown 25.34 26 P P 19 35 33.1 -0.3
baz=213
TMUT Trail Mountain 25.35 336 eP P 19 35 35.2 +1.3
4.7nm,0.6s
PHWY Pilot Hill 25.42 347 eP P 19 35 35.3 +0.8
6.1nm,0.9s
N43A Stutzman Famil 25.43 16 P P 19 35 34.4 +0.2
baz=200
EDW2 Edwards Air Fo 25.48 319 P P 19 35 35.7 +0.9
baz=131
P49A Miami Univ. Ec 25.62 24 P P 19 35 35.6 -0.4
baz=211,SNR=6.9
LRMC Laurel Mtn Rad 25.68 321 P P 19 35 37.7 +1.0
baz=132
Q51A Peebles 25.77 27 P P 19 35 37.1 -0.2
baz=214
U57A Blanch 25.79 36 P P 19 35 38.1 +0.6
baz=225
PSUT Pine Spring 25.87 331 eP P 19 35 38.9 +0.4
7.4nm,0.8s
TPNV Topopah Spring 25.88 325 eP P 19 35 39.7 +1.2
15nm,1.4s
L39A Vinton 25.95 10 P P 19 35 38.3 -0.5
baz=193
MPMC Manual Prospec 25.96 322 P P 19 35 40.4 +1.2
baz=134
L40A Anamosa 26.03 12 eP P 19 35 39.1 -0.6
11nm,0.9s
L40A Anamosa 26.03 12 P P 19 35 39.5 -0.1
baz=195
O48A Farmland 26.08 23 P P 19 35 39.7 -0.4
baz=209
MPU Maple Canyon 26.14 336 eP P 19 35 41.5 +0.6
4.6nm,0.8s
L41A Preston 26.19 13 P P 19 35 41.3 +0.2
baz=197
Q52A Bidwell 26.20 29 P P 19 35 41.4 +0.2
baz=216
RWWY Rawlins 26.20 344 eP P 19 35 42.5 +1.0
60nm,2.0s
NLU North Lily Min 26.26 335 eP P 19 35 42.3 +0.2
7.8nm,0.9s
L42A Oliver, Polo 26.31 14 P P 19 35 42.1 0.0
baz=198
N47A Urbana 26.44 21 P P 19 35 42.5 -0.9
baz=207
Q53A Leroy 26.46 30 P P 19 35 43.3 -0.3
baz=218
CWC Cottonwood Cre 26.57 322 P P 19 35 45.8 +1.1
baz=133
R11A Troy Canyon, C 26.57 328 eP P 19 35 46.4 +1.6
4.6nm,1.0s
R11A Troy Canyon, C 26.57 328 P P 19 35 46.8 +2.0
baz=140
T58A Grand View Acr 26.61 37 P P 19 35 45.6 +0.7
baz=226
N48A Decatur 26.66 22 P P 19 35 44.3 -1.0
baz=209
DUG Dugway, Tooele 26.77 334 eP P 19 35 47.3 +0.7
6.4nm,0.9s
DUG Dugway, Tooele 26.77 334 P P 19 35 47.9 +1.4
baz=147
VES Vestal, Richgr 26.78 320 P P 19 35 48.4 +2.0
baz=130
K22A Casper 26.94 346 eP P 19 35 49.0 +0.9
10.0nm,0.8s
K22A Casper 26.94 346 P P 19 35 49.0 +0.9
baz=162
TCUT Toone Canyon 27.01 337 eP P 19 35 49.7 +0.9
66nm,1.7s
ECSD EROS Data Cent 27.06 2 P P 19 35 48.5 -0.4
baz=183
K42A Prairie Point, 27.12 14 P P 19 35 49.2 -0.2
baz=199
BGU Big Grassy Mou 27.47 335 eP P 19 35 53.0 +0.1
7.9nm,1.2s
J41A Loganville 27.53 13 P P 19 35 53.0 -0.1
baz=197
BW06 Boulder Array 27.86 342 eP P 19 35 57.1 +0.7
26nm,1.8s
BW06 Boulder Array 27.86 342 P P 19 35 56.9 +0.5
baz=156,SNR=7.5
PD31 Pinedale Array 27.86 342 eP P 19 35 57.3 +0.9
23nm,1.8s
PD31 ePcP PcP 19 39 11.2 -1.0
PDAR Pinedale Array 27.86 342 P P 19 35 56.8 +0.4
3.7nm,0.9s,baz=138,slow=11,SNR=13
PDAR PcP PcP 19 39 11.2 -1.0
0.3nm,0.5s,baz=169,slow=6.3,SNR=2.9
OMMB Old Mammoth Mi 27.90 323 eP P 19 35 58.1 +1.2
26nm,2.0s
NV11 Mina Array Sit 27.99 325 eP P 19 35 59.6 +2.0
1.0nm,1.3s
O54A Avella 28.05 30 P P 19 35 56.6 -1.2
baz=218
NV01 Mina Array Sit 28.07 325 ePcP PcP 19 39 12.8 0.0
NVAR Mina Array Bea 28.07 325 eP P 19 35 60.0 +1.6
NVAR PcP PcP 19 39 12.8 0.0
NVAR S S 19 40 45.7 +2.7
NVAR Mina Array Bea 28.07 325 P P 19 35 57.7 -0.6
8.5nm,1.0s,baz=150,slow=9.9,SNR=29
NVAR PcP PcP 19 39 12.8 0.0
0.4nm,0.4s,baz=154,slow=2.9,SNR=3.3
NVAR S S 19 40 45.7 +2.7
0.8nm,0.5s,baz=33,slow=8.7,SNR=4.9
HVU Hansel Valley 28.09 336 eP P 19 35 59.7 +1.3
5.8nm,1.0s
ELK Elko 28.27 332 eP P 19 36 00.2 +0.1
17nm,1.9s
ELK Elko 28.27 332 P P 19 36 00.3 +0.1
1.1nm,0.9s,baz=170,slow=11,SNR=4.2
RYN Ryan 28.33 325 eP P 19 36 02.3 +1.7
6.9nm,1.2s
PLIO Pelee Island, 28.34 25 P P 19 35 59.6 -0.8
baz=212
KVN Kaiserville 28.41 326 eP P 19 36 02.6 +1.3
3.6nm,1.0s
H40A Chili 28.66 11 P P 19 36 02.6 -0.6
baz=196
WAKR Walker 28.76 324 eP P 19 36 05.2 +0.8
7.1nm,1.3s
H41A Junction City 28.80 12 P P 19 36 03.5 -0.9
baz=197
REDW Red Top Meadow 28.80 340 eP P 19 36 05.6 +0.8
22nm,1.5s
SPMN Marine on St. 28.86 8 P P 19 36 04.6 -0.3
baz=190
LOHW Long Hollow 28.95 341 eP P 19 36 07.2 +1.2
8.0nm,0.8s
TPAW Teton Pass 28.95 340 eP P 19 36 07.5 +1.4
8.0nm,0.9s
H43A Windswept, Lux 29.09 15 P P 19 36 07.1 0.0
baz=201
FXWY Fox Creek 29.11 340 eP P 19 36 08.9 +1.4
2.7nm,0.9s
MOOW Moose Ponds 29.11 341 eP P 19 36 08.0 +0.4
3.6nm,0.8s
G39A Holcombe 29.16 10 P P 19 36 06.6 -1.1
baz=194
IMW Indian Meadow 29.31 341 eP P 19 36 10.1 +0.8
3.3nm,0.6s
G40A Rib Lake 29.32 11 P P 19 36 07.9 -1.2
baz=196
G42A Mountain 29.66 14 P P 19 36 10.5 -1.6
baz=199
F39A Loretta 29.81 10 P P 19 36 12.7 -0.8
baz=194
G43A Wallace 29.85 15 P P 19 36 12.6 -1.2
baz=200
RLMT Red Lodge 29.94 344 eP P 19 36 16.0 +1.1
8.8nm,0.8s
RLMT Red Lodge 29.94 344 P P 19 36 15.4 +0.6
baz=158,SNR=6.8
F40A Park Falls 29.96 11 P P 19 36 14.2 -0.6
baz=195
I48A Sherman Twp 30.05 21 P P 19 36 15.3 -0.2
baz=208
YHH Holmes Hill 30.09 342 eP P 19 36 17.7 +1.4
3.0nm,1.1s
BEKR Beckworth 30.22 325 eP P 19 36 18.7 +1.4
7.7nm,1.1s
HLID Hailey 30.25 336 eP P 19 36 18.5 +1.0
3.4nm,0.9s
HLID Hailey 30.25 336 P P 19 36 18.3 +0.7
baz=148
E39A Mellen 30.32 10 P P 19 36 17.3 -0.7
baz=194
SJG San Juan 30.46 82 LR LR 19 50 57.0
comp=Z,500nm,18.2s,baz=150,slow=41
E40A Wakefield 30.51 11 P P 19 36 18.9 -0.7
baz=196
F43A Flat Rock, Esc 30.52 15 P P 19 36 18.8 -0.8
baz=201
L55A Hinsdale 30.53 29 P P 19 36 18.3 -1.6
baz=219
ATAH Atahualpa 30.58 139 LR LR 19 46 30.9
comp=Z,111nm,18.1s,baz=257,slow=32
GCMT Greycliff 30.67 344 eP P 19 36 22.1 +0.9
MCMT McKenzie Canyo 30.76 339 eP P 19 36 23.4 +1.3
BOZ Bozeman (W) 31.05 341 eP P 19 36 26.2 +1.6
6.7nm,1.4s
BOZ Bozeman (W) 31.05 341 P P 19 36 25.2 +0.6
baz=154
WVOR Wild Horse Val 31.18 330 eP P 19 36 27.3 +1.5
17nm,1.3s
O03E Paynes Creek 31.32 324 P P 19 36 26.7 -0.2
baz=132
MOD Modoc Plateau 31.62 327 eP P 19 36 30.9 +1.3
7.9nm,0.8s
AGMN Agassiz Nation 31.65 3 eP P 19 36 29.3 -0.3
9.7nm,0.7s
AGMN Agassiz Nation 31.65 3 P P 19 36 28.9 -0.7
baz=184
J08A Circle Bar Ran 31.82 331 eP P 19 36 32.6 +1.3

21nm,1.4s
F49A Sandfield 32.00 21 P P 19 36 31.3 -1.4
baz=210
HRY Holter Researc 32.12 342 *eP* **P 19 36 35.3 +1.4**
E47A Iron Bridge 32.19 19 P P 19 36 34.1 -0.3
baz=207
N02D Trinity Center 32.28 324 P P 19 36 35.6 +0.2
baz=132
KLBO Killbear Provi 32.32 24 P P 19 36 34.5 -1.0
baz=213
M04C Macdoel 32.35 326 P P 19 36 35.4 -0.7
baz=134,SNR=5.0
K05A Summer Lake 32.52 328 *eP* **P 19 36 38.4 +0.8**
5.8nm,1.0s
M02C Callahan 32.65 324 P P 19 36 38.4 -0.2
baz=132
BUKO Buck Lake 32.72 25 P P 19 36 37.8 -1.2
baz=214
DELO Deloro Mine 32.72 28 P P 19 36 38.1 -1.0
baz=218
EGMT Eagleton 32.77 345 *eP* **P 19 36 40.0 +0.5**
34nm,1.9s
EGMT Eagleton 32.77 345 P P 19 36 39.7 +0.2
baz=159
KHMM Horse Mountain 32.81 323 *eP* **P 19 36 41.7 +1.6**
6.0nm,0.9s
I07A Izee 32.85 331 *eP* **P 19 36 41.2 +0.9**
3.2nm,0.9s
MSO Missoula 32.89 340 P P 19 36 40.9 +0.3
baz=151
L04D Klamath Falls 32.90 326 P P 19 36 41.0 +0.1
baz=134
PINE Pine Mountain 33.32 329 *eP* **P 19 36 45.9 +1.3**
4.7nm,0.9s
F10A Beach Ranch, E 33.36 335 *eP* **P 19 36 45.6 +0.8**
5.0nm,0.8s
J04D Umpqua Nationa 33.51 327 P P 19 36 46.9 +0.6
baz=135
G08A Pilot Rock 33.54 333 *eP* **P 19 36 47.3 +0.9**
6.5nm,1.3s
ULM Lac du Bonnet 33.60 3 P P 19 36 45.6 -1.0
1.8nm,0.5s,baz=186,slow=9.5,SNR=4.9
K02D Willamette Mer 33.97 325 P P 19 36 50.5 +0.4
baz=132
I04A Tendick Farm, 34.06 328 P P 19 36 51.5 +0.7
baz=135
J01E Myrtle Point 34.42 326 P P 19 36 55.1 +1.2
baz=132
I03D Drain, OR 34.48 327 P P 19 36 55.5 +1.1
baz=134
H04A Detroit Lake 34.58 329 *eP* **P 19 36 56.6 +1.2**
18nm,1.0s
H04D Lebanon 34.74 328 P P 19 36 57.2 +0.5
baz=136
I02D Swisshome 35.02 327 P P 19 37 00.6 +1.5
baz=134
F05D White Salmon 35.12 331 P P 19 37 01.1 +1.2
baz=139
G03D McMinnville, O 35.49 329 P P 19 37 04.4 +1.3
baz=136
LTY Liberty 35.82 333 *eP* **P 19 37 07.2 +1.2**
14nm,1.5s
LON Longmire 35.93 332 *eP* **P 19 37 08.3 +1.4**
5.8nm,1.1s
D05A Enumclaw 36.34 332 *eP* **P 19 37 11.9 +1.5**
15nm,0.9s
E03A Lebam 36.60 330 *eP* **P 19 37 14.0 +1.5**
D03D Eldon 37.10 332 P P 19 37 17.3 +0.5
baz=138,SNR=8.4
NLWA Neilton Lookou 37.35 331 *eP* **P 19 37 20.2 +1.2**
14nm,1.2s
FFC Flin Flon 38.15 356 *eP* **P 19 37 25.7 +0.1**
6.9nm,0.8s
FCC Fort Churchill 42.18 3 *eP* **P 19 37 58.4 -0.6**
3.6nm,0.7s
SCHQ Schefferville 45.07 25 LR LR 20 01 46.3
comp=Z,77nm,18.0s,baz=299,slow=42
YKA Yellowknife Ar 47.28 350 *eP* **P 19 38 39.3 -0.3**
YKA Yellowknife Ar 47.28 350 P P 19 38 38.9 -0.7
1.3nm,0.8s,baz=155,slow=7.2,SNR=16
YKW3 Yellowknife Ar 47.35 350 *eP* **P 19 38 39.9 -0.2**
4.4nm,0.8s
DLBC Dease Lake 47.97 338 *eP* **P 19 38 47.0 +1.8**
7.2nm,1.1s
LVC Limon Verde 48.30 143 *eP* P 19 38 53.8 +5.4
5.3nm,0.8s
SIV San Ignacio 48.79 130 P P 19 38 51.1 -0.8
0.5nm,0.4s,baz=306,slow=10,SNR=4.1
BCAR Beaver Creek A 55.36 338 *eP* **P 19 39 41.5 +1.3**
KLU Klutina 56.09 335 *eP* **P 19 39 47.2 +1.7**
12nm,0.8s
EGAK Eagle 56.17 339 *eP* **P 19 39 46.6 +0.6**
3.7nm,1.0s
INK Inuvik 56.35 345 *eP* **P 19 39 47.6 +0.4**
4.9nm,0.8s
INK Inuvik 56.35 345 P P 19 39 46.0 -1.2
6.6nm,1.0s,baz=133,slow=6.0,SNR=6.6
PAX Paxson 56.69 336 *eP* **P 19 39 50.7 +0.9**
RIDG Independent Ri 56.87 337 *eP* **P 19 39 51.6 +0.5**
13nm,1.1s
GHO Glory Hole Cre 57.48 334 *eP* **P 19 39 56.0 +0.6**
12nm,0.8s
RC01 Rabbit Creek A 57.51 333 *eP* **P 19 39 56.3 +0.7**
7.1nm,0.8s
HDA Harding Lake 58.01 337 P P 19 39 58.9 -0.2
baz=122
RES Resolute Bay 58.10 1 P P 19 39 58.8 -0.7
0.7nm,0.6s,baz=214,slow=8.3,SNR=4.0
ILAR Eielson Array 58.18 338 *eP* **P 19 40 00.6 +0.4**
ILAR Eielson Array 58.18 338 P P 19 39 58.6 -1.6
3.1nm,1.1s,baz=142,slow=4.5,SNR=15
ILAR LR LR 20 07 22.3
comp=Z,194nm,18.1s,baz=112,slow=38
ILB Eielson Array 58.18 338 *eP* **P 19 40 00.8 +0.6**
10nm,1.8s
CPUP Villa Florida 58.21 136 P P 19 39 59.9 -1.0
0.5nm,0.3s,baz=28,slow=10.0,SNR=2.8
RND Reindeer 58.23 336 *eP* **P 19 40 01.7 +1.0**
9.1nm,1.0s
RSO Redoubt South 58.58 332 *eP* **P 19 40 04.6 +1.3**
BMAR Burnt Mountain 58.88 341 *eP* **P 19 40 05.8 +0.7**
CAST Castle Rocks 59.53 335 *eP* **P 19 40 09.6 -0.1**
6.3nm,0.8s
MLY Manley 59.74 337 *eP* **P 19 40 11.7 +0.6**
4.5nm,1.0s
TOLK Toolik Lake Re 61.12 341 P P 19 40 20.8 +0.3
baz=121
TIXI Tiksi 86.44 347 *eP* **P 19 42 48.0 -0.7**
3.1nm,1.0s
NRIK Norilʼsk 94.18 358 P P 19 43 23.9 -1.2
3.5nm,0.6s,baz=66,slow=3.6,SNR=6.3
HHC Hu-ho-hao-te 116.56 335 *e*PKP **PKPdf 19 48 50.6 -0.4**
HHC LR LR
comp=N,130nm,17.7s
HHC LR LR
comp=E,60nm,18.4s
WMQ Urumqi 119.63 355 *e*PKP **PKiKP 19 48 58.8 +1.9**
NJ2 Nanjing 120.06 324 *e*PKP **PKiKP 19 49 00.0 +2.1**
LZH Lanzhou 123.64 339 *e*PKP **PKPdf 19 49 04.3 -0.6**
LZH sPKP 19 49 18.7
KSH Kashi 123.88 6 PKP **PKiKP 19 49 06.2 +0.7**
CD2 Chengdu 128.30 336 Pdif **Pdif 19 45 57.4 -0.8**
WRA Warramunga Arr 130.31 258 PKP **PKPdf 19 49 16.9 -0.9**
0.9nm,0.8s,baz=87,slow=2.8,SNR=8.2
AS31 Alice Springs 130.94 253 *e*PKPpre **PKPdf 19 49 16.0 -2.9**
ASAR Alice Springs 130.94 253 PKP **PKPdf 19 49 16.0 -2.9**
1.1nm,1.0s,baz=58,slow=2.7,SNR=5.4
CM31 Chiang Mai Arr 141.34 334 *e*PKPpre **PKPdf 19 49 36.7 -1.6**
CMAR Chiang Mai Arr 141.34 334 PKP **PKPdf 19 49 36.7 -1.7**
0.9nm,0.9s,baz=353,slow=1.7,SNR=7.6

*IDC **09** 19:33:34.8±1.0, 16°.89N×61°.34W, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.7/46, mbtmp3.9/9, ML3.8/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/45, Error ellipse: s-maj=36.8km s-min=19.0km az=33.0*
*NEIC **09** 19:33:38.5±0.8, 17°.49N×61°.04W, h10km±5km, mb4.7/1, Error ellipse: s-maj=28.0km s-min=5.5km az=59.0*
*TRN **09** 19:33:41.1, 17°.32N×61°.31W, h23km, MD3.9*
ISC 09 19:33:39.8±2.4, 17°.43N±0°.04×61°.22W±0°.05, h17km±15km, n68, σ1§19/79, mb4.0/8, 1C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.59**	**294**	*e*Pn	**Pn**	**19 33 54.1**	**+0.7**
ANWB	**Willy Bob**	**0.59**	**294**	⇓*i*P	**Pn**	**19 33 54.2**	**+0.7**
ANWB				*e*S	**Sn**	**19 34 04.0**	**+1.3**
BPA	**Boggy Peak**	**0.71**	**238**	⇑*i*P	**Pn**	**19 33 55.6**	**+0.4**
BPA				*e*S	**Sn**	**19 34 04.8**	**-1.1**
ABD	**La Joyeuse, An**	**0.98**	**195**	*e*P	**Pb**	**19 33 58.0**	**-0.4**
DEG	**La Desirade**	**1.12**	**172**	*e*P	**Pn**	**19 34 01.6**	**+0.8**
DEG				*e*S	**Sb**	**19 34 15.8**	**+0.7**
MLYT	**Lee's Yard**	**1.16**	**233**	*e*P	**Pb**	**19 34 01.7**	**+0.2**
MLYT				*e*S	**Sn**	**19 34 16.6**	**-0.2**
NEV	**Hard Times**	**1.32**	**258**	*e*P	**Pn**	**19 34 03.6**	**0.0**
NEV				*e*S	**Sg**	**19 34 21.9**	**-0.6**
CBE	**Ff, Capester**	**1.40**	**195**	*e*P	**Pn**	**19 34 04.9**	**+0.3**
MAGL	**Barre de l'ile**	**1.47**	**182**	*e*P	**Pn**	**19 34 05.6**	**0.0**
TBG	**Guadaloupe-3**	**1.62**	**195**	*e*P	**Pn**	**19 34 07.9**	**+0.3**
TBG				*e*S	**Sn**	**19 34 27.1**	**-1.0**
TDBA	**Terre de Bas,**	**1.62**	**194**	*e*P	**Pn**	**19 34 07.9**	**+0.3**
SEUS	**St. Eustatius**	**1.68**	**272**	*e*Pn	**Pb**	**19 34 10.6**	**+0.3**
SEUS	**St. Eustatius**	**1.68**	**272**	*e*P	**Pb**	**19 34 09.9**	**-0.4**
SEUS				*e*S	**Sb**	**19 34 31.6**	**+0.4**
MDPV	**Dominica, Penn**	**1.80**	**186**	*e*P	**Pn**	**19 34 10.8**	**+0.6**
MDPV				*e*S	**Sn**	**19 34 33.5**	**+0.8**
DWS	**Wesley**	**1.85**	**183**	*e*P	**Pn**	**19 34 11.4**	**+0.6**
DWS				*e*S	**Sn**	**19 34 33.9**	**+0.1**
MDPO	**Dominica; Chan**	**1.85**	**187**	*e*P	**Pn**	**19 34 11.7**	**+0.8**
MDPO				*e*S	**Sn**	**19 34 34.5**	**+0.5**
SMRT	**St. Maarten**	**1.87**	**290**	*e*Pn	**Pb**	**19 34 12.6**	**-1.0**
SMRT	**St. Maarten**	**1.87**	**290**	*e*P	**Pb**	**19 34 12.8**	**-0.8**
SMRT				*e*S	**Sb**	**19 34 36.4**	**-0.3**
BBL	**Barber's Block**	**1.91**	**187**	*e*P	**Pn**	**19 34 12.7**	**+1.0**
BBL				*e*S	**Sn**	**19 34 35.4**	**+0.2**
DLPL	**La Plaine**	**2.08**	**181**	*e*P	**Pn**	**19 34 15.6**	**+1.5**
DLPL				*e*S	**Sn**	**19 34 39.7**	**+0.1**
BAMF	**Morne Balai**	**2.60**	**178**	*e*P	**Pn**	**19 34 23.9**	**+2.7**
PCM	**Pelee Case Pet**	**2.60**	**180**	*e*P	**Pn**	**19 34 22.7**	**+1.6**
CXM	**Morne La Croix**	**2.60**	**179**	*e*P	**Pn**	**19 34 23.4**	**+2.1**
GBMF	**Grand Be**	**2.62**	**179**	*e*P	**Pn**	**19 34 22.8**	**+1.3**
PML	**Morne Lenard**	**2.63**	**179**	*e*P	**Pn**	**19 34 23.1**	**+1.5**
FDF	**Fort de France**	**2.68**	**178**	*e*Pn	**Pn**	**19 34 22.6**	**+0.3**
FDF	**Fort de France**	**2.68**	**178**	*e*P	**Pn**	**19 34 22.7**	**+0.4**
FDF				*e*S	**Sn**	**19 34 54.2**	**-0.2**
TRMF	**Trois Ilets**	**2.88**	**177**	*e*P	**Pn**	**19 34 27.5**	**+2.5**
MPOM	**Morne Pois Mar**	**2.99**	**173**	*e*P	**Pn**	**19 34 27.2**	**+0.7**
SLBI	**Saint Lucia, B**	**3.39**	**176**	*e*P	**Pn**	**19 34 33.5**	**+1.4**
SLBI				*e*S	**Sn**	**19 35 11.4**	**-0.5**
SLB	**Belfond**	**3.58**	**177**	*e*P	**Pn**	**19 34 36.1**	**+1.4**
SLB				*e*S	**Sn**	**19 35 16.8**	**0.0**
STVI	**Saint Thomas**	**3.67**	**285**	*e*Pn	**Pn**	**19 34 35.6**	**-0.3**
MCLT	**Moule a Chique**	**3.71**	**176**	*e*P	**Pn**	**19 34 37.8**	**+1.4**
MCLT				*e*S	**Sn**	**19 35 18.8**	**-0.9**
CUPR	**Culebra, Puert**	**3.96**	**283**	*e*Pn	**Pn**	**19 34 41.8**	**+1.9**
SFAN	**Fancy Village**	**4.02**	**179**	*e*P	**Pn**	**19 34 42.4**	**+1.7**
SSV	**Crater Summit**	**4.08**	**180**	*e*P	**Pn**	**19 34 42.5**	**+1.0**
SVV	**Soufriere Volc**	**4.08**	**180**	*e*P	**Pn**	**19 34 42.9**	**+1.3**
SVB	**Belmont**	**4.13**	**180**	*e*Pn	**Pn**	**19 34 43.1**	**+0.8**
SVB	**Belmont**	**4.13**	**180**	*e*P	**Pn**	**19 34 43.0**	**+0.8**
SVB	**Belmont**	**4.13**	**180**	*e*S	**Sn**	**19 35 29.6**	**-0.7**
SVCV	**St. Vincent, C**	**4.13**	**179**	*e*P	**Pn**	**19 34 44.1**	**+1.8**
MTP	**Monte Pirata**	**4.18**	**280**	*e*Pn	**Pn**	**19 34 44.4**	**+1.5**
HUMP	**Col San Antoni**	**4.46**	**280**	*e*Pn	**Pn**	**19 34 48.8**	**+2.0**
CBYP	**Canovanas**	**4.49**	**281**	*e*Pn	**Pn**	**19 34 48.9**	**+1.6**
SJG	**San Juan**	**4.74**	**279**	*e*Pn	**Pn**	**19 34 52.1**	**+1.5**
SJG				Sn	**Sn**	**19 35 45.1**	**-0.2**
SJG	**San Juan**	**4.74**	**279**	Pn	**Pn**	**19 34 49.9**	**-0.7**
4.5nm,0.3s,baz=92,slow=9.0,SNR=8.7
SJG Sn **Sn 19 35 45.1 -0.2**
baz=263,slow=19,SNR=1.7
ICMP Isla Caja de M 5.08 276 *e*Pn **Pn 19 34 53.6 -1.7**
OBIP Obispado Ponce 5.17 278 *e*Pn **Pn 19 34 58.5 +2.0**
AOPR Arecibo Observ 5.34 281 *e*Pn **Pn 19 35 03.2 +4.2**
SDDR Presa de Saban 9.69 281 *e*Pn **Pn 19 36 00.2 +1.6**
MDP Montagnes des 14.85 145 LR LR 19 44 29.4
comp=Z,22nm,18.1s,baz=226,slow=45
ULM Lac du Bonnet 42.91 328 P P 19 41 37.4 -0.2
2.2nm,0.7s,baz=105,slow=5.7,SNR=4.4
CPUP Villa Florida 43.66 175 P P 19 41 36.1 -7.7
0.7nm,0.3s,baz=142,slow=3.3,SNR=3.2
PDAR Pinedale Array 48.03 312 P P 19 42 19.1 +0.5
0.5nm,0.6s,baz=123,slow=11,SNR=6.5
H10N3 ASCENSION HYDR 52.55 115 T T 20 39 31.9
baz=298,slow=75
H10N2 ASCENSION HYDR 52.55 115 T T 20 39 28.3
baz=298,slow=75
H10N1 ASCENSION HYDR 52.57 115 T T 20 39 28.4
baz=298,slow=75
H10S3 ASCENSION HYDR 52.95 116 T T 20 39 55.2
baz=299,slow=75
H10S1 ASCENSION HYDR 52.96 116 T T 20 39 58.1
baz=299,slow=75
H10S2 ASCENSION HYDR 52.97 116 T T 20 39 57.4
baz=299,slow=75
DBIC Dimbokro 55.97 94 P P 19 43 17.4 -0.4
4.7nm,1.0s,baz=302,slow=15,SNR=3.0
YKA Yellowknife Ar 58.13 334 P P 19 43 32.7 +0.4
1.1nm,0.5s,baz=107,slow=7.4,SNR=16
YKB5 Yellowknife Ar 58.13 334 *eP* **P 19 43 32.7 +0.4**
TOA1 Torodi Ar. Sit 60.61 84 *eP* **P 19 43 48.6 -1.7**
TORD Torodi Ar. Bea 60.62 84 P P 19 43 48.6 -1.7
0.4nm,0.7s,baz=269,slow=5.8,SNR=2.5
INK Inuvik 67.40 337 *eP* **P 19 44 34.0 0.0**
9.1nm,1.8s
INK Inuvik 67.40 337 P P 19 44 34.1 0.0
1.1nm,0.6s,baz=97,slow=4.8,SNR=5.8
ILAR Eielson Array 72.55 333 P P 19 45 06.0 +0.2
0.4nm,0.6s,baz=111,slow=5.5,SNR=5.1

IDC 09 19:45:17.5±2.1, 1°.76N×126°.06E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/35, mbtmp3.2/3, Error ellipse: s-maj=173.9km s-min=27.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.04**	**160**	P	P	19 50 23.2	-1.4
0.6nm,0.8s,baz=338,slow=12,SNR=7.9
ASAR Alice Springs 26.40 164 P P 19 50 57.5 +1.6
0.2nm,0.6s,baz=348,slow=13,SNR=4.6
MKAR Makanchi Array 58.80 326 P P 19 55 17.4 -0.4
0.2nm,0.5s,baz=115,slow=7.1,SNR=4.1

*IDC **09** 19:50:10.7±1.0, 37°.38S×78°.16E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/38, mbtmp4.0/10, MS4.6/29, Ms1 4.5/29, ms1mx4.4/43, Error ellipse: s-maj=31.3km s-min=21.7km az=46.0*
*ISCJB **09** 19:50:11.1±0.7, 37°.4S±0°.1×78°.2E±0°.2, h13km, mb4.5/24, MS4.6/31, Error ellipse: s-maj=21.9km s-min=12.1km az=135.0*
*NEIC **09** 19:50:11.9±0.4, 37°.42S×78°.15E, h10km, mb4.7/13, Error ellipse: s-maj=14.0km s-min=8.2km az=222.0*
*GCMT **09** 19:50:13.9±0.1, 37°.46S±0°.01×78°.01E±0°.01, h12km, MW5.2/108, Moment Tensor Solution. s77,c117; s108,c181; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.13±.01; $M_{\theta\theta}$=0.68±.01; $M_{\phi\phi}$0.81±.01; $M_{r\theta}$0.01±.03; $M_{\theta\phi}$-0.37±.01; $M_{\phi r}$0.22±.03; Best double couple: $M_0$0.85700×10^{17} NP1:ϕ_s32.00000°, δ86.00000°, λ12.00000°. NP2:ϕ_s301.00000°, δ78.00000°, λ176.00000°. Principal axes: T 0.9390, Plg11.0000°, Azm257.0000°; N -0.1660, Plg78.0000°, Azm51.0000°; P -0.7740, Plg5.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 19:50:12.7±0.9, 37°.4S±0°.2×78°.2E±0°.2, h13km, n80, σ0§69/50, mb4.6/24, MS4.6/31, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**29.03**	**96**	T	T	20 26 35.1	
baz=255,slow=75
H01W3 Cape Leeuwin H 29.04 96 T T 20 26 34.2
baz=255,slow=75
H01W1 Cape Leeuwin H 29.05 96 T T 20 26 35.1
baz=255,slow=75
H08S2 Diego Garcia H 30.08 349 T T 20 27 50.8
baz=171,slow=76
H08S1 Diego Garcia H 30.08 349 T T 20 27 51.9
baz=171,slow=76
H08S3 Diego Garcia H 30.10 349 T T 20 27 52.5
baz=171,slow=76
MAW Mawson 31.45 191 LR LR 20 06 55.6
comp=Z,1μm,19.0s,baz=20,slow=32
PALK Pallekele 44.51 4 LR LR 20 12 26.2
comp=Z,1μm,21.1s,baz=115,slow=30
BOSA Boshof 44.74 265 LR LR 20 12 52.7
comp=Z,770nm,21.6s,baz=94,slow=30
FITZ Fitzroy Crossi 45.67 78 P P 19 58 33.1 -0.1
3.5nm,1.2s,baz=214,slow=3.6,SNR=2.8
FITZ LR LR 20 14 42.4
comp=Z,1μm,19.9s,baz=254,slow=32
ASAR Alice Springs 49.26 90 *eP* **P 19 59 00.6 -0.7**
ASAR Alice Springs 49.26 90 P P 19 59 01.1 -0.1
1.3nm,0.8s,baz=241,slow=6.3,SNR=9.2
ASAR LR LR 20 17 36.2
comp=Z,1μm,19.1s,baz=256,slow=33
AS31 Alice Springs 49.26 90 *eP* **P 19 59 01.1 -0.1**
3.3nm,1.4s
WR1 Warramunga Arr 51.52 87 *eP* **P 19 59 18.3 -0.1**
WRA Warramunga Arr 51.52 87 P P 19 59 18.3 -0.1
3.1nm,0.7s,baz=238,slow=7.2,SNR=12
WRA LR LR 20 18 51.5
comp=Z,1μm,19.7s,baz=235,slow=33
STKA Stephens Creek 51.60 104 P P 19 59 18.8 -0.1
1.9nm,1.0s,baz=228,slow=15,SNR=2.5
STKA LR LR 20 17 12.8
comp=Z,1μm,20.4s,baz=235,slow=31
KMBO Kilima Mbogo 52.17 304 LR LR 20 18 14.6
comp=Z,163nm,18.6s,baz=104,slow=32
VNDA Vanda 52.44 164 LR LR 20 19 42.5
comp=Z,1μm,19.4s,baz=256,slow=34
QSPA South Pole Qui 52.74 180 P P 19 59 27.6 +0.5
3.6nm,1.0s,baz=284,slow=8.2,SNR=6.1
TSUM Tsumeb 55.44 271 LR LR 20 19 38.4
comp=Z,2μm,21.2s,baz=120,slow=32
MBAR Mbarara 56.99 299 LR LR 20 20 15.4
comp=Z,591nm,21.3s,baz=138,slow=32
ATD Arta Tunnel 58.90 319 LR LR 20 21 40.1
comp=Z,146nm,19.0s,baz=145,slow=32
CM31 Chiang Mai Arr 58.91 23 *eP* **P 20 00 12.2 +0.7**
9.8nm,1.4s
CMAR Chiang Mai Arr 58.91 23 *eP* **P 20 00 12.0 +0.4**
CMAR Chiang Mai Arr 58.91 23 P P 20 00 11.7 +0.2
2.2nm,1.0s,baz=214,slow=6.7,SNR=12
CMAR LR LR 20 22 12.2
comp=Z,147nm,19.5s,baz=200,slow=33
WSAR Wadi Sarin 63.07 340 LR LR 20 22 03.9
comp=Z,472nm,20.1s,baz=172,slow=30
RAMN Ramite 64.51 8 *eP* **P 20 00 50.7 +1.3**
37nm,1.1s
PKI Pulchoki 65.00 7 *eP* **P 20 00 53.2 +0.5**
PKIN Phulchoki 65.00 7 *eP* **P 20 00 53.2 +0.6**
13nm,0.9s
DMN Daman 65.00 7 *eP* **P 20 00 53.6 +0.9**
83nm,1.7s
KOLN Koldanda 65.04 5 *eP* **P 20 00 53.3 +0.5**
16nm,1.0s
JIRN Jiri 65.16 8 *eP* **P 20 00 54.7 +0.9**
KKN Kakani 65.20 7 *eP* **P 20 00 53.6 -0.3**
28nm,1.1s
PYUN Piuthan 65.32 5 *eP* **P 20 00 55.1 +0.4**
GKN Gorkha 65.35 6 *eP* **P 20 00 55.5 +0.7**
81nm,1.5s
DANN Dangsing 65.62 5 *eP* **P 20 00 56.3 -0.4**
19nm,0.7s
JAY Jayapura 66.83 75 LR LR 20 28 34.0
comp=Z,690nm,21.4s,baz=206,slow=34
PMG Port Moresby 67.66 85 LR LR 20 28 01.5
comp=Z,1μm,21.4s,baz=204,slow=34
LSA Lhasa 67.86 12 *eP* **P 20 01 11.7 +0.5**
6.4nm,0.9s
KBL Kabul 72.09 352 *eP* **P 20 01 36.6 -0.1**
14nm,1.2s
DZM Mont Dzumac 75.62 107 *e*LR LR 20 25 33.0
comp=Z,985nm,25.6s
DZM Mont Dzumac 75.62 107 LR LR 20 30 35.1
comp=Z,497nm,18.8s,baz=206,slow=32
GAR Garm 76.38 354 *eP* **P 20 02 01.9 +0.4**
8.4nm,1.0s
XAN Xiʼan 76.63 26 *eP* **P 20 02 02.0 -1.0**
16nm,1.0s
GEYT Alibeck 77.22 344 P P 20 02 06.0 -0.3
18nm,0.6s,baz=199,slow=4.0,SNR=6.0
BTK Batken 77.39 354 *eP* **P 20 02 07.3 +0.2**
15nm,1.1s
NRN Naryn 78.49 358 *eP* **P 20 02 12.9 -0.6**
8.9nm,1.4s
ARSB Arslanbob 78.50 356 *eP* **P 20 02 12.7 -0.7**
21nm,1.4s
AAK Ala-Archa 79.74 357 *eP* **P 20 02 19.6 -0.6**
11nm,1.4s
AAK Ala-Archa 79.74 357 LR LR 20 34 31.3
comp=Z,709nm,20.2s,baz=184,slow=33
KK31 Karatay Array 80.44 354 *eP* **P 20 02 22.4 -1.4**
8.8nm,0.9s
KKAR Karatay Array 80.44 354 *eP* **P 20 02 23.7 0.0**
MK31 Makanchi Array 83.91 3 *eP* **P 20 02 42.0 +0.2**
4.2nm,1.1s
MK32 Makanchi Array 83.91 3 *eP* **P 20 02 40.7 -1.2**
MKAR Makanchi Array 83.91 3 *eP* **P 20 02 41.6 -0.3**
MKAR Makanchi Array 83.91 3 P P 20 02 40.7 -1.2
2.8nm,0.9s,baz=173,slow=5.8,SNR=9.1
MKAR LR LR 20 37 31.5
comp=Z,545nm,20.6s,baz=190,slow=34
JNU Nakatsue 85.65 42 LR LR 20 37 35.9
comp=Z,117nm,21.1s,baz=185,slow=33
KBZ Khabaz 86.88 335 LR LR 20 38 44.3
comp=Z,174nm,19.8s,baz=155,slow=34
BRTR Keskin Array B 86.98 327 P P 20 02 57.1 -0.4
0.8nm,0.9s,baz=173,slow=5.9,SNR=5.2
BRTR LR LR 20 38 44.9
comp=Z,67nm,20.0s,baz=114,slow=34
BR101 Keskin Array S 86.99 327 *eP* **P 20 02 57.1 -0.4**
TORD Torodi Ar. Bea 87.45 289 LR LR 20 40 06.8
comp=Z,679nm,19.7s,baz=300,slow=34
KSRS Korea Array 87.53 37 LR LR 20 42 26.5
comp=Z,58nm,18.1s,slow=36
KURK Kurchatov 87.75 0 *eP* **P 20 03 00.7 0.0**
4.0nm,1.0s
SONA0 Songino Array 88.53 19 *eP* **P 20 03 05.4 +0.7**
SONM Songino Array 88.53 19 P P 20 03 05.4 +0.7
0.4nm,0.7s,baz=205,slow=6.4,SNR=2.4
SONM LR LR 20 40 57.3
comp=Z,191nm,20.1s,baz=183,slow=34
AKTO Aktyubinsk 89.26 347 LR LR 20 41 29.3
comp=Z,78nm,19.1s,baz=148,slow=34
ZALV Zalesovo Beam 91.17 4 P P 20 03 16.5 -0.2
0.3nm,0.3s,baz=258,slow=4.1,SNR=2.3
ZAA1 Zalesovo Array 91.18 4 *eP* **P 20 03 16.5 -0.3**
MJAR Matsushiro Arr 92.19 44 LR LR 20 41 14.6
comp=Z,151nm,21.9s,baz=215,slow=33
USRK Ussuriysk Ar. 94.71 36 LR LR 20 43 30.8
comp=Z,173nm,21.7s,baz=211,slow=34
KEST Kesra 96.77 310 LR LR 20 45 57.4
comp=Z,68nm,18.8s,baz=304,slow=35
TBI Tubuai 104.75 135 *e*LR LR 20 39 21.3
comp=Z,296nm,32.5s
PPT2 Papeete2 109.20 132 *e*LR LR 20 41 05.0
comp=Z,216nm,24.5s
RKT Rikitea 112.18 147 *e*T T 22 10 13.4
2.4nm,0.3s
ILAR Eielson Array 141.96 29 PKP **PKPdf 20 09 42.0 -1.4**
0.1nm,0.5s,baz=261,slow=3.6,SNR=3.5
INK Inuvik 144.44 20 *e*PKPdf PKPbc 20 09 46.4 +0.3
INK Inuvik 144.44 20 PKP **PKPab 20 09 46.0 +0.2**
0.9nm,0.8s,baz=285,slow=8.4,SNR=3.9
DAWY Dawson 145.17 28 *e*PKPbc **PKPbc 20 09 47.8 -0.8**
YKA Yellowknife Ar 153.68 13 PKPbc **PKiKP 20 10 10.6 +0.2**
0.6nm,0.8s,baz=334,slow=3.1,SNR=6.5
YKA PKPab **PKPab 20 10 24.5 +1.4**
1.4nm,1.0s,baz=338,slow=3.2,SNR=5.8
YKB5 Yellowknife Ar 153.68 13 *e*PKPbc **PKiKP 20 10 10.6 +0.2**
YKB5 *e*PKPab **PKPab 20 10 24.6 +1.4**

IDC 09 19:57:44.7±2.1, 8°.28S×130°.58E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.4/34, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=75.9km s-min=28.7km az=78.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.88**	**206**	Pn	Pn	20 00 21.5	-0.3
0.1nm,0.3s,baz=22,slow=12,SNR=7.5
FITZ Sn Sn 20 02 18.1 -6.2
0.3nm,0.3s,baz=176,slow=19,SNR=6.4
WRA Warramunga Arr 12.15 163 Pn Pn 20 00 39.7 +0.4
0.2nm,0.3s,baz=347,slow=13,SNR=15
WRA Sn Sn 20 02 50.8 -4.8
0.1nm,0.3s,baz=348,slow=22,SNR=2.9
ASAR Alice Springs 15.63 169 Pn Pn 20 01 26.1 -0.3

0.1nm,0.3s,baz=344,slow=8.9,SNR=7.3
ASAR Sn Sn 20 04 16.8 -3.7
0.1nm,0.3s,baz=348,slow=26,SNR=1.8
MKAR Makanchi Array 69.61 327 P P 20 08 55.9 0.0
0.3nm,0.5s,baz=120,slow=8.2,SNR=6.0

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*ISCJB **09** 20:07:11.7±0.5, 13°.62N±0°.03×120°.64E±0°.06, h128km±5km, mb3.4/4, Error ellipse: s-maj=9.6km s-min=5.0km az=177.2*
*IDC **09** 20:07:11.6±0.7, 13°.62N×121°.00E, h136km±11km, mb3.1/4, mb1 3.3/4, mb1mx2.9/58, mbtmp3.5/4, Error ellipse: s-maj=59.0km s-min=18.2km az=51.0*
*MAN **09** 20:07:12.5, 13°.62N×120°.64E, h111km, ML3.0, MS3.3*
ISC 09 20:07:12.0±0.9, 13°.62N±0°.03×120°.64E±0°.05, h129km±7km, n21, σ1§65/31, mb3.4/4, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.40**	**287**	*e*P			**Pn**	**20 07 30.8**	**+0.5**
LUBP				*e*S			**Sn**	**20 07 44.0**	**-0.3**
TGY	**Tagaytay City**	**0.56**	**31**	P			**Pn**	**20 07 32.1**	**+0.7**
827nm,0.3s,baz=188,slow=7.1,SNR=83									
TGY				S			**Sn**	**20 07 47.9**	**+1.9**
348nm,0.3s,baz=28,slow=24,SNR=9.5									
TGY	**Tagaytay City**	**0.56**	**31**	*e*P			**Pn**	**20 07 30.8**	**-0.5**
TGY				*i* S			Sn	20 07 33.7	-12
BOAC	**Boac**	**1.18**	**97**	*e*P			**Pn**	**20 07 36.6**	**+0.1**
BOAC				*e*S			**Sn**	**20 07 55.1**	**-0.1**
SJMP	**San Jose**	**1.24**	**158**	*e*P			**Pn**	**20 07 37.2**	**+0.1**
SJMP				*e*S			**Sn**	**20 07 55.0**	**-1.2**
BUSP	**Coron**	**1.66**	**195**	*e*P			**Pn**	**20 07 42.4**	**+0.5**
BUSP				*e*S			**Sn**	**20 08 04.4**	**-0.3**
POLP	**Polilio Island**	**1.68**	**49**	*e*P			**Pn**	**20 07 42.8**	**+0.8**
POLP				*e*S			**Sn**	**20 08 00.8**	**-4.1**
OTRP	**Odiongan**	**1.84**	**133**	*e*P			**Pn**	**20 07 43.5**	**-0.4**
AUQP	**San Andres**	**2.00**	**98**	*e*P			**Pn**	**20 07 47.8**	**+1.9**
AUQP				*e*S			**Sn**	**20 08 16.2**	**+4.4**
SCZP	**Santa Cruz**	**2.26**	**342**	*e*P			**Pn**	**20 07 49.6**	**+0.5**
SCZP				*e*S			**Sn**	**20 08 16.8**	**-0.8**
BALP	**Baler**	**2.30**	**23**	*e*P			**Pn**	**20 07 50.4**	**+0.9**
BALP				*e*S			**Sn**	**20 08 18.2**	**-0.2**
SMPP	**San Manuel, Pa**	**2.52**	**1**	*e*P			**Pn**	**20 07 52.4**	**0.0**
SMPP				*e*S			**Sn**	**20 08 22.2**	**-1.3**
ENPP	**El Nido**	**2.67**	**206**	*e*P			**Pn**	**20 07 55.9**	**+1.6**
CUYO	**Cuyo Island**	**2.77**	**172**	*e*P			**Pn**	**20 07 56.3**	**+0.6**
CUYO				*e*S			**Sn**	**20 08 29.3**	**0.0**
BOLP	**Bolinao**	**2.84**	**346**	*e*P			**Pn**	**20 07 57.5**	**+1.0**
CNP	**Cataman**	**4.07**	**105**	*e*P			Pn	20 08 00.7	-12
APYP	**Conner**	**4.26**	**8**	*e*P			**Pn**	**20 08 16.8**	**+1.6**
CMAR	**Chiang Mai Arr**	**21.39**	**286**	P			**P**	**20 11 52.0**	**+2.4**
0.6nm,0.8s,baz=95,slow=7.9,SNR=10									
WRA	**Warramunga Arr**	**35.97**	**158**	P			**P**	**20 13 58.2**	**-2.4**
0.6nm,0.6s,baz=337,slow=9.2,SNR=12									
ASAR	**Alice Springs**	**39.26**	**161**	P			**P**	**20 14 26.0**	**-2.2**
0.3nm,0.6s,baz=343,slow=7.3,SNR=5.1									
MKAR	**Makanchi Array**	**46.06**	**324**	P			**P**	**20 15 23.3**	**+0.4**
1.1nm,0.8s,baz=123,slow=9.0,SNR=6.7									

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*ISCJB **09** 20:08:01.3±0.5, 26°.05S±0°.04×69°.17W±0°.08, h150km, Error ellipse: s-maj=11.0km s-min=4.7km az=165.7*
*GUC **09** 20:08:03.9±0.4, 25°.97S×69°.61W, h135km±2km, ML3.6*
*SJA **09** 20:08:05.1±0.5, 26°.25S×68°.70W, h167km±15km, ML2.7, MW3.8*
ISC 09 20:08:01.2±1.2, 26°.04S±0°.04×69°.09W±0°.07, h150km, n14, σ1§61/20, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.98**	**332**	⇑*i*P			**Pn**	**20 08 27.0**	**+0.8**
GO02				*i* S			**Sn**	**20 08 44.5**	**-0.7**
GO02				IAML				20 08 46.4	
comp=N,3μm,0.1s									
GO03	**Copiap**	**1.86**	**213**	*e*P			**Pn**	**20 08 35.3**	**+0.5**
GO03				*i* S			**Sn**	**20 08 59.3**	**-1.3**
GO03				IAML				20 09 03.4	
comp=E,462nm,0.3s									
FSA	**Cafayete**	**2.79**	**92**	*e*P			**Pn**	**20 08 47.7**	**+1.5**
VCA	**Vinchina**	**2.80**	**164**	*e*P			**Pn**	**20 08 48.5**	**+2.3**
VCA				IAML				20 09 26.5	
comp=Z,23nm,0.4s									
PB10	**IPOC Station P**	**2.84**	**332**	⇓*i*P			**Pn**	**20 08 48.0**	**+1.4**
PB10				*i* S			**Sn**	**20 09 19.8**	**-1.9**
PB05	**IPOC Station P**	**3.33**	**342**	⇑*i*P			**Pn**	**20 08 53.5**	**+0.6**
PB05				IAML				20 09 43.0	
comp=E,53nm,0.2s									
AHML	**Horco Molle**	**3.45**	**103**	*e*P			**Pn**	**20 08 54.7**	**+0.5**
AGUA	**GUANDACOL**	**3.48**	**171**	*e*P			**Pn**	**20 08 56.9**	**+2.2**
AGUA				*e*S			**Sn**	**20 09 35.3**	**-1.1**
PB04	**IPOC Station P**	**3.81**	**345**	⇑*i*P			**Pn**	**20 09 00.5**	**+1.3**
PB04				*i* S			**Sn**	**20 09 42.9**	**-1.3**
PB04				IAML				20 09 47.0	
comp=N,49nm,0.3s									
ACLC	**CERRO LA CRUZ**	**3.87**	**151**	*e*P			**Pn**	**20 09 01.1**	**+1.2**
ACLC				*e*S			**Sn**	**20 09 42.1**	**-3.4**
PB03	**IPOC Station P**	**4.02**	**351**	*e*P			**Pn**	**20 09 03.3**	**+1.4**
PB07	**IPOC Station P**	**4.35**	**350**	⇑*i*P			**Pn**	**20 09 07.5**	**+1.2**
PB02	**IPOC Station P**	**4.75**	**351**	*e*P			**Pn**	**20 09 12.7**	**+1.2**
APLL	**PUNTA DE LOS L**	**4.89**	**153**	*e*P			**Pn**	**20 09 13.8**	**+0.6**

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*HLW **09** 20:12:03.8, 36°.29N×22°.35E, h10km±12km, Md4.2, Ml4.4*
*ATH **09** 20:12:04.2, 35°.89N×21°.89E, h4km±1km, ML3.8/38, Error ellipse: s-maj=2.3km s-min=1.1km az=42.0*
*PDG **09** 20:12:04.0±0.3, 35°.91N×21°.63E, h13km±5km, ML4.1/14, Error ellipse: s-maj=6.6km s-min=1.3km az=90.0*
*BEO **09** 20:12:04.7±0.9, 35°.87N×21°.48E, h4km±7km, ML4.4/5*
*MOS **09** 20:12:06.0±1.2, 36°.01N×22°.01E, h25km, mb4.5/22, Error ellipse: s-maj=7.6km s-min=4.1km az=73.9*
*THE **09** 20:12:06.6, 36°.01N×21°.94E, h0km±1km, ML4.0/11, Error ellipse: s-maj=2.1km s-min=0.7km az=226.0*
*IDC **09** 20:12:08.8±2.1, 36°.03N×22°.04E, h33km±16km, mb3.9/24, mb1 3.9/38, mb1mx3.8/66, mbtmp4.0/38, ML3.6/12, MS3.3/4, Ms1 3.3/4, ms1mx2.7/51, Error ellipse: s-maj=13.0km s-min=9.6km az=11.0*
*NEIC **09** 20:12:08.2±0.0, 36°.29N×22°.18E, h9km, mb4.2/12, ML3.9(ISK), ML4.0(THE), After ISK.*
ISC 09 20:12:07.5±1.1, 36°.00N±0°.03×21°.95E±0°.03, h26km±7km, n362, σ1§80/424, mb4.2/43, 23C-24D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MES2	**Methoni**	**0.85**	**347**	P			**Pb**	**20 12 21.9**	**-1.8**
MES2				S			**Sn**	**20 12 35.8**	**+0.4**
MES2				AML			AML	20 12 39.6	
comp=E,15560μm,0.5s									
MES2				AML			AML	20 12 45.1	
comp=N,15071μm,0.4s									
PYL	**PYLOS**	**0.92**	**349**	*e*Pg			**Pb**	**20 12 22.7**	**-2.0**
PYL				*e*Sg			**Sb**	**20 12 36.5**	**0.0**
PYL	**PYLOS**	**0.92**	**349**	P			**Pb**	**20 12 22.7**	**-2.0**
PYL				S			**Sb**	**20 12 36.5**	**0.0**
PYL	**PYLOS**	**0.92**	**349**	P			**Pb**	**20 12 22.6**	**-2.1**
PYL				S			**Sn**	**20 12 37.0**	**0.0**
KYTH	**Kithira**	**0.93**	**73**	*e*Pn			**Pn**	**20 12 23.6**	**-1.2**
KYTH				*e*Sg			**Sn**	**20 12 38.1**	**+0.9**
KYTH	**Kithira**	**0.93**	**73**	P			**Pn**	**20 12 23.6**	**-1.2**
KYTH				S			**Sn**	**20 12 38.1**	**+0.9**
KYTH	**Kithira**	**0.93**	**73**	P			**Pn**	**20 12 23.7**	**-1.1**
KYTH				AML			AML	20 12 40.0	
comp=E,14014μm,0.6s									
KYTH				AML			AML	20 12 45.0	
comp=N,17492μm,0.5s									
VLI	**Veliai**	**1.07**	**47**	*e*Pn			**Pn**	**20 12 26.5**	**-0.3**
VLI				*e*Sg			**Sb**	**20 12 42.3**	**+1.3**
VLI	**Veliai**	**1.07**	**47**	P			**Pn**	**20 12 26.5**	**-0.3**
VLI				S			**Sb**	**20 12 42.3**	**+1.3**
VLI	**Veliai**	**1.07**	**47**	P			**Pn**	**20 12 26.4**	**-0.4**
VLI				AML			AML	20 12 49.5	
comp=E,22385μm,1.1s									
VLI				AML			AML	20 12 51.5	
comp=N,15265μm,1.1s									
ANKY	**Antikythira Is**	**1.10**	**96**	*e*Pg			**Pn**	**20 12 26.9**	**-0.2**
ANKY				*e*Sn			**Sb**	**20 12 44.1**	**+2.3**
ANKY	**Antikythira Is**	**1.10**	**96**	P			**Pn**	**20 12 26.9**	**-0.2**
ANKY				S			**Sb**	**20 12 44.1**	**+2.3**
ANKY	**Antikythira Is**	**1.10**	**96**	P			**Pn**	**20 12 27.0**	**-0.2**
ANKY				AML			AML	20 12 57.2	
comp=N,6973μm,0.5s									
ANKY				AML			AML	20 12 57.8	
comp=E,8986μm,0.6s									
MNVA	**Monemvasia**	**1.11**	**51**	P			**Pn**	**20 12 27.2**	**-0.2**
MNVA				S			**Sb**	**20 12 42.9**	**+0.7**
MNVA				AML			AML	20 12 50.0	
comp=N,8926μm,1.1s									
MNVA				AML			AML	20 12 51.3	
comp=E,11294μm,1.2s									
ITM	**Ithomi**	**1.18**	**359**	*e*Pn			**Pn**	**20 12 27.9**	**-0.5**
ITM				*e*Sn			**Sb**	**20 12 45.4**	**+1.2**
ITM	**Ithomi**	**1.18**	**359**	P			**Pn**	**20 12 27.9**	**-0.5**
ITM				S			**Sb**	**20 12 45.4**	**+1.2**
ITM	**Ithomi**	**1.18**	**359**	P			**Pn**	**20 12 27.8**	**-0.6**
ITM				S			**Sb**	**20 12 46.1**	**+1.9**
ITM				AML			AML	20 12 49.8	
comp=N,10412μm,0.3s									
ITM				AML			AML	20 12 51.6	
comp=E,13080μm,0.5s									
MES3	**Kyparissia**	**1.27**	**350**	P			**Pn**	**20 12 29.4**	**-0.1**
VLX	**Vlachokerasia**	**1.42**	**14**	*e*Pn			**Pn**	**20 12 31.9**	**+0.3**
VLX				*e*Sn			**Sb**	**20 12 53.0**	**+2.1**
VLX	**Vlachokerasia**	**1.42**	**14**	P			**Pn**	**20 12 31.9**	**+0.3**
VLX				S			**Sb**	**20 12 53.0**	**+2.1**
VLX	**Vlachokerasia**	**1.42**	**14**	P			**Pn**	**20 12 32.0**	**+0.3**
AMT	**Artemida-Makis**	**1.55**	**353**	P			**Pb**	**20 12 34.4**	**-1.1**
AMT				S			**Sb**	**20 12 56.6**	**+1.9**
AMT	**Artemida-Makis**	**1.55**	**353**	P			**Pb**	**20 12 35.2**	**-0.3**
TRIP	**Tripoli**	**1.55**	**9**	P			**Pb**	**20 12 34.5**	**-1.1**
TRIP				S			**Sb**	**20 12 58.0**	**+3.2**
TRIP				AML			AML	20 13 02.6	
comp=N,5177μm,1.0s									
TRIP				AML			AML	20 13 05.7	
comp=E,7984μm,0.6s									
KRND	**KRANIDI**	**1.69**	**34**	P			**Pb**	**20 12 36.8**	**-1.0**
KRND	**KRANIDI**	**1.69**	**34**	P			**Pb**	**20 12 37.7**	**-0.2**
KRND				S			**Sb**	**20 13 03.0**	**+4.3**
KRND				AML			AML	20 13 06.5	
comp=E,6079μm,0.7s									
KRND				AML			AML	20 13 10.1	
comp=N,3839μm,0.6s									
IMMV	**Iera Moni Meta**	**1.73**	**107**	P			**Pb**	**20 12 37.9**	**-0.7**
IMMV				S			**Sb**	**20 13 01.5**	**+1.5**
IMMV	**Iera Moni Meta**	**1.73**	**107**	P			**Pb**	**20 12 38.0**	**-0.6**
IMMV				AML			AML	20 13 08.7	
comp=E,4570μm,0.7s									
IMMV				AML			AML	20 13 17.8	
comp=N,6163μm,0.6s									
CHAN	**Chania**	**1.76**	**105**	P			**Pb**	**20 12 38.5**	**-0.6**
CHAN				S			**Sb**	**20 13 01.8**	**+1.0**
YDRA	**Hydra**	**1.82**	**41**	P			**Pb**	**20 12 38.9**	**-1.2**
DID	**Didima**	**1.83**	**34**	*e*Pn			**Pn**	**20 12 38.4**	**+1.2**
DID	**Didima**	**1.83**	**34**	P			**Pn**	**20 12 38.4**	**+1.2**
DID				S			**Sb**	**20 13 03.9**	**+1.2**
DID	**Didima**	**1.83**	**34**	P			**Pb**	**20 12 40.1**	**-0.2**
DID				S			**Sb**	**20 13 06.4**	**+3.7**
DID				AML			AML	20 13 11.8	
comp=E,5561μm,0.7s									
DID				AML			AML	20 13 14.6	
comp=N,5403μm,0.5s									
EPID	**Epidavros**	**1.87**	**30**	P			**Pb**	**20 12 40.9**	**0.0**
VAM	**Vamos**	**1.92**	**107**	P			**Pb**	**20 12 40.3**	**-1.5**
VAM	**Vamos**	**1.92**	**107**	P			**Pb**	**20 12 40.6**	**-1.2**
GUR	**Goura**	**1.96**	**9**	*e*Pn			**Pb**	**20 12 41.1**	**-1.5**
GUR	**Goura**	**1.96**	**9**	P			**Pb**	**20 12 41.1**	**-1.5**
GUR				S			**Sb**	**20 13 06.2**	**-0.5**
DRO	**Drossia**	**1.96**	**354**	P			**Pb**	**20 12 42.7**	**+0.1**
DRO				AML			AML	20 13 22.5	
comp=E,7889μm,0.5s									
DRO				AML			AML	20 13 23.0	
comp=N,6300μm,0.7s									
VTN	**Vitineika**	**2.02**	**342**	P			**Pb**	**20 12 42.9**	**-0.6**
KLV	**Kalavryta, Ach**	**2.05**	**4**	P			**Pn**	**20 12 41.7**	**+1.4**
KLV	**Kalavryta, Ach**	**2.05**	**4**	P			**Pb**	**20 12 42.8**	**-1.3**
KLV				AML			AML	20 13 24.9	
comp=E,2334μm,1.3s									
KLV				AML			AML	20 13 28.2	
comp=N,2296μm,0.8s									
GVD	**Gavdhos**	**2.09**	**123**	P			**Pn**	**20 12 42.6**	**+1.8**
MHLO	**Agia Marina, M**	**2.09**	**70**	P			**Pn**	**20 12 42.1**	**+1.3**
MHLO				S			**Sb**	**20 13 09.6**	**-0.7**
MHLO	**Agia Marina, M**	**2.09**	**70**	P			**Pn**	**20 12 42.4**	**+1.5**
MHLO				S			**Sb**	**20 13 12.9**	**+2.6**
MHLO				AML			AML	20 13 16.2	
comp=N,13383μm,0.6s									
MHLO				AML			AML	20 13 16.5	
comp=E,13730μm,0.5s									
RLS	**Riolos of Patr**	**2.10**	**349**	P			**Pb**	**20 12 43.8**	**-1.0**
RLS				AML			AML	20 13 27.2	
comp=E,1930μm,0.6s									
RLS				AML			AML	20 13 31.6	
comp=N,2545μm,0.9s									
MHLA	**Plaka, Milos I**	**2.13**	**69**	P			**Pn**	**20 12 43.0**	**+1.7**
LOUT	**Loutraki**	**2.15**	**22**	P			**Pb**	**20 12 45.5**	**-0.2**
LOUT				AML			AML	20 13 27.9	
comp=N,970μm,0.7s									
LOUT				AML			AML	20 13 28.0	
comp=E,837μm,0.9s									
LAKA	**Lakka**	**2.24**	**0**	P			**Pb**	**20 12 46.1**	**-1.2**
LAKA				AML			AML	20 13 37.4	
comp=N,2523μm,1.0s									
LAKA				AML			AML	20 13 42.3	
comp=E,1998μm,1.0s									
KFL	**Anninata**	**2.31**	**337**	P			**Pn**	**20 12 45.4**	**+1.6**
KFL				AML			AML	20 13 42.4	
comp=E,1817μm,0.5s									
KFL				AML			AML	20 13 52.8	
comp=N,1436μm,0.7s									
SERI	**Serifos**	**2.35**	**60**	P			**Pn**	**20 12 45.0**	**+0.7**
SERI				S			**Sb**	**20 13 16.6**	**-1.0**
SERI	**Serifos**	**2.35**	**60**	P			**Pn**	**20 12 45.5**	**+1.2**
SERI				AML			AML	20 13 22.5	
comp=N,1034μm,0.6s									
SERI				AML			AML	20 13 30.1	
comp=E,1054μm,0.8s									
TRIZ	**Trizonia**	**2.37**	**2**	P			**Pb**	**20 12 47.6**	**-1.8**
PROD	**Prodromos**	**2.38**	**18**	P			**Pb**	**20 12 47.3**	**-2.4**
PROD				AML			AML	20 13 30.7	
comp=E,2145μm,0.8s									
PROD				AML			AML	20 13 33.6	
comp=N,1328μm,0.4s									
SERG	**Sergoula**	**2.42**	**2**	P			**Pb**	**20 12 49.1**	**-1.2**
ATH	**Athens Observa**	**2.43**	**35**	P			**Pn**	**20 12 47.3**	**+1.9**
ATH				AML			AML	20 13 32.0	
comp=N,2165μm,0.5s									
ATH				AML			AML	20 13 34.2	
comp=E,2570μm,0.8s									
EFP	**Efpalio**	**2.43**	**359**	P			**Pb**	**20 12 49.4**	**-1.0**
EFP				AML			AML	20 13 35.2	
comp=E,1793μm,0.7s									
EFP				AML			AML	20 13 42.5	
comp=N,1966μm,0.9s									
VLS	**Valsamata**	**2.44**	**334**	P			**Pn**	**20 12 47.3**	**+1.7**
VIL2	**Platees**	**2.45**	**25**	P			**Pb**	**20 12 48.5**	**-2.3**
VIL2				AML			AML	20 13 32.5	
comp=E,3539μm,0.9s									
VIL2				AML			AML	20 13 33.4	
comp=N,3044μm,0.7s									
ATHU	**Athens Univers**	**2.45**	**36**	P			**Pb**	**20 12 50.5**	**-0.4**
ATHU				AML			AML	20 13 31.7	
comp=E,592μm,1.0s									
ATHU				AML			AML	20 13 35.6	
comp=N,939μm,1.0s									
DSF	**Desfina**	**2.46**	**11**	P			**Pn**	**20 12 48.3**	**+2.4**
DSF				AML			AML	20 13 33.5	
comp=E,1938μm,0.5s									
DSF				AML			AML	20 13 38.9	
comp=N,1256μm,0.9s									
IDI	**Anoyia**	**2.49**	**106**	Pn			**Pn**	**20 12 47.5**	**+1.2**
comp=N,4.9nm,0.3s,baz=258,slow=3.6,SNR=47									
IDI				Lg			Lg	20 13 27.5	
comp=N,32nm,0.3s,baz=189,slow=23,SNR=6.6									
IDI	**Anoyia**	**2.49**	**106**	P			**Pn**	**20 12 47.6**	**+1.2**
IDI				AML			AML	20 13 34.7	
comp=N,799μm,0.5s									
IDI				AML			AML	20 13 44.3	
comp=E,873μm,0.6s									
SIVA	**Sivas**	**2.53**	**112**	P			**Pn**	**20 12 48.9**	**+2.2**
PTL	**Penteli**	**2.56**	**36**	P			**Pn**	**20 12 49.0**	**+1.7**
PTL				AML			AML	20 13 33.3	
comp=E,2364μm,0.8s									
PTL				AML			AML	20 13 35.9	
comp=N,1570μm,0.7s									
ANX	**Ano Chora**	**2.59**	**359**	P			**Pb**	**20 12 51.6**	**-1.8**
DION	**Dionisos Attik**	**2.61**	**37**	P			**Pb**	**20 12 51.9**	**-1.8**
DION				AML			AML	20 13 35.3	
comp=N,1732μm,0.6s									
DION				AML			AML	20 13 40.6	
comp=E,2038μm,0.7s									
PVO	**Paravola**	**2.64**	**353**	P			**Pn**	**20 12 51.1**	**+2.7**
FSK	**Fiskardo**	**2.70**	**336**	P			**Pn**	**20 12 51.9**	**+2.7**
LKR	**Lokris**	**2.78**	**17**	P			**Pb**	**20 12 53.4**	**-3.0**
LKR				AML			AML	20 13 44.9	
comp=E,1392μm,0.8s									
LKR				AML			AML	20 13 51.7	
comp=N,1134μm,0.7s									
EVGI	**Lefkada island**	**2.82**	**339**	P			**Pn**	**20 12 53.2**	**+2.4**
ATAL	**Atalanti**	**2.82**	**17**	P			**Pb**	**20 12 54.8**	**-2.4**
ATAL				AML			AML	20 13 47.9	
comp=E,1287μm,0.9s									
ATAL				AML			AML	20 13 51.4	
comp=N,860μm,0.8s									
SANT	**Santorini**	**2.86**	**81**	*e*Pn			**Pn**	**20 12 52.0**	**+0.5**
SANT	**Santorini**	**2.86**	**81**	⇑*i*P			**Pb**	**20 12 57.2**	**-0.6**
SANT	**Santorini**	**2.86**	**81**	P			**Pn**	**20 12 52.2**	**+0.8**
SANT				AML			AML	20 13 47.7	
comp=E,1405μm,0.7s									
SANT				AML			AML	20 13 48.9	
comp=N,460μm,0.6s									
EREA	**Eretria**	**2.89**	**33**	P			**Pn**	**20 12 53.9**	**+2.1**
EREA				S			**Sb**	**20 13 32.5**	**-0.8**
EREA				AML			AML	20 13 45.4	
comp=E,1173μm,0.6s									
EREA				AML			AML	20 13 55.9	
comp=N,1049μm,0.7s									
EVR	**Evrytania**	**2.92**	**358**	P			**Pb**	**20 12 57.1**	**-1.8**
EVR				AML			AML	20 13 57.2	
comp=N,1776μm,0.8s									
EVR				AML			AML	20 14 00.8	
comp=E,1597μm,1.7s									
LKD2	**Lefkada island**	**2.97**	**340**	P			**Pn**	**20 12 55.5**	**+2.5**
LAST	**Lasithi**	**2.99**	**105**	P			**Pn**	**20 12 54.2**	**+0.9**
LAST				AML			AML	20 13 48.8	
comp=N,911μm,0.5s									
LAST				AML			AML	20 13 56.9	
comp=E,822μm,0.9s									
MRKA	**Markates**	**3.00**	**25**	P			**Pn**	**20 12 54.8**	**+1.4**
MRKA				AML			AML	20 13 55.9	
comp=E,1198μm,0.9s									
MRKA				AML			AML	20 14 02.6	
comp=N,1408μm,1.2s									
AGG	**Agios Georgios**	**3.04**	**6**	*e*Pn			**Pn**	**20 12 56.2**	**+2.3**
AGG	**Agios Georgios**	**3.04**	**6**	*e*P			**Pn**	**20 12 56.2**	**+2.3**
AGG	**Agios Georgios**	**3.04**	**6**	P			**Pn**	**20 12 57.1**	**+3.2**
SMIA	**Simia**	**3.05**	**19**	P			**Pn**	**20 12 55.8**	**+1.8**
SMIA				AML			AML	20 13 50.8	
comp=N,2771μm,0.9s									
SMIA				AML			AML	20 13 53.9	
comp=E,2454μm,0.8s									
NPS	**Neapolis**	**3.07**	**103**	P			**Pn**	**20 12 55.0**	**+0.8**
APE	**Apeiranthos**	**3.07**	**69**	⇑*i*P			**Pb**	**20 13 00.2**	**-1.3**
APE	**Apeiranthos**	**3.07**	**69**	*e*P			**Pn**	**20 12 55.7**	**+1.3**
APE	**Apeiranthos**	**3.07**	**69**	P			**Pb**	**20 12 58.0**	**-3.5**
APE				AML			AML	20 13 52.1	
comp=N,541μm,0.8s									
APE				AML			AML	20 14 01.7	
comp=E,394μm,0.7s									
ANAF	**Anafi Island**	**3.11**	**82**	P			**Pn**	**20 12 56.0**	**+1.1**
AMGA	**Amorgos Island**	**3.29**	**74**	P			**Pn**	**20 12 58.5**	**+1.3**
SKIA	**Skiathos**	**3.39**	**20**	P			**Pn**	**20 13 01.9**	**+3.3**
SKIA				AML			AML	20 13 51.8	
comp=E,907μm,0.9s									
SKIA				AML			AML	20 13 57.6	
comp=N,754μm,0.8s									
NEO	**Neokhori**	**3.46**	**17**	P			**Pn**	**20 13 02.4**	**+2.8**
FYTO	**Fytoko, Volos**	**3.50**	**13**	P			**Pn**	**20 13 02.1**	**+2.0**
FYTO				AML			AML	20 14 12.5	
comp=N,286μm,1.0s									
FYTO				AML			AML	20 14 15.0	
comp=E,214μm,1.2s									
THL	**Klokotos Trika**	**3.56**	**1**	P			**Pn**	**20 13 03.2**	**+2.2**
JAN	**Janina**	**3.76**	**347**	P			**Pn**	**20 13 06.2**	**+2.4**
KASA	**Kassiopi**	**4.07**	**338**	P			**Pn**	**20 13 11.2**	**+3.2**
KEK	**Kerkira**	**4.08**	**336**	P			**Pn**	**20 13 10.7**	**+2.5**
LIT	**Litokhoron**	**4.12**	**6**	*e*Pn			**Pn**	**20 13 11.2**	**+2.5**
LIT	**Litokhoron**	**4.12**	**6**	*e*P			**Pn**	**20 13 11.2**	**+2.5**
PENT	**Pentalofos**	**4.24**	**352**	P			**Pn**	**20 13 13.7**	**+3.2**
KARP	**Karpathos**	**4.26**	**94**	P			**Pn**	**20 13 11.9**	**+1.3**
SMG	**Samos**	**4.27**	**65**	P			**Pn**	**20 13 12.9**	**+2.1**
KZN	**Kozani**	**4.31**	**358**	P			**Pn**	**20 13 12.9**	**+1.6**
SOH	**Sokhos**	**4.94**	**12**	P			**Pn**	**20 13 22.5**	**+2.4**
SOH				pmax			pmax		
comp=Z,21nm,0.9s									
ARG	**Arkhangelos**	**5.00**	**86**	P			**Pn**	**20 13 22.5**	**+1.7**
BIA	**Bitola**	**5.04**	**355**	*i* Pn	

SWA2 7.35 155 P Pn 20 13 53.5 +0.4
baz=158
SWA2 AMP 20 15 00.0
baz=158
SWA2 S Sn 20 15 13.3 -2.4
baz=158
BRY Bratogost 7.39 340⇑ *i*Pn Pn 20 13 53.5 -0.2
BRY *e*Sn Sn 20 15 15.4 -1.3
BRY Bratogost 7.39 340 *e*Pn Pn 20 13 52.9 -0.8
SJES Sjenica 7.42 349 *e*Pn Pn 20 13 54.7 +0.6
SJES *e*Sn Sn 20 15 15.9 -1.5
UPM Unac-Piva 7.57 343⇑ *i*Pn Pn 20 13 56.3 0.0
UPM *e*Sn Sn 20 15 20.1 -1.2
PLE Pljevlja 7.59 346⇓ *i*Pn Pn 20 13 56.7 +0.3
PLE *e*Sn Sn 20 15 20.3 -1.3
STON Ston 7.62 336 *e*Pn Pn 20 13 55.1 -1.5
STON *e*Sn Sn 20 15 17.4 -4.6
STON Ston 7.62 336 *e*Pn Pn 20 13 54.9 -1.8
STON Sn Sn 20 15 15.3 -6.7
STON Ston 7.62 336 *e*Pn Pn 20 13 54.8 -1.8
BOVS Bovan 7.63 359 *e*Pn Pn 20 13 57.0 +0.1
IVAS Ivanjica 7.70 350 *e*Pn Pn 20 13 56.4 -1.5
ZAGS Zajecar 7.81 1 *e*Pn Pn 20 14 00.8 +1.4
GRUS Gruza 7.94 354 *e*Pn Pn 20 14 00.5 -0.7
BBLS Lazići 8.10 347 *e*Pn Pn 20 14 01.0 -2.4
BBLS Lazići 8.10 347 *e*Pn Pn 20 14 03.7 +0.3
DIVS Divibare 8.23 350 *e*Pn Pn 20 14 04.2 -1.0
DIVS *e*Sn Sn 20 15 35.0 -2.4
DIVS Divibare 8.23 350 *e*Pn Pn 20 14 02.1 -3.1
TRUS Trudelj 8.30 352 *e*Pn Pn 20 14 05.7 -0.4
HAPS Han Pijesak,Bl 8.40 345 *e*Pn Pn 20 14 05.0 -2.6
KUBS Kucevo 8.41 359 *e*Pn Pn 20 14 06.5 -1.1
HERR Herculane 8.88 2⇑ *i*P Pn 20 14 15.7 +1.6
MGRS Mrkonjic Grad 9.20 338 *e*Pn Pn 20 14 19.6 +1.2
FRGS Fruska Gora 9.30 351 *e*Pn Pn 20 14 18.4 -1.4
FRGS Fruska Gora 9.30 351 *e*Pn Pn 20 14 18.2 -1.6
GZR Gura Zlata 9.41 4⇓ *i*P Pn 20 14 23.7 +2.4
BLY Banja Luka 9.47 339 *e*Pn Pn 20 14 23.0 +0.9
BLY Banja Luka 9.47 339 *e*Pn Pn 20 14 19.9 -2.2
LOT Lotru 9.54 8⇓ *i*P Pn 20 14 24.8 +1.6
ARR Arges 9.58 11⇑ *i*P Pn 20 14 25.9 +2.2
UDBI Udbina 9.74 333 *e*Pn Pn 20 14 27.0 +1.0
MLR Muntele Rosu 9.96 16 *e*Pn Pn 20 14 30.9 +2.0
MLR Muntele Rosu 9.96 16⇑ *i*P Pn 20 14 32.5 +3.6
MLR Muntele Rosu 9.96 16 *e*P Pn 20 14 30.9 +2.0
MLR Muntele Rosu 9.96 16 Pn Pn 20 14 31.0 +2.1
comp=Z,0.1nm,0.3s,baz=298,slow=20,SNR=2.3
BR131 Keskin Array S 9.96 65 *e*Pn Pn 20 14 27.5 -1.5
BR131 Keskin Array S 9.96 65 *e*P Pn 20 14 27.5 -1.5
BRTR Keskin Array B 9.96 65 *e*Pn Pn 20 14 30.9 +1.9
BRTR Keskin Array B 9.96 65 Pn Pn 20 14 30.2 +1.2
comp=Z,0.2nm,0.3s,baz=245,slow=14,SNR=12
BR101 Keskin Array S 9.96 65 *e*Pn Pn 20 14 30.2 +1.2
NVLJ Novalja 10.12 330 *e*Pn Pn 20 14 31.0 0.0
NVLJ Sn Sn 20 16 19.2 -4.3
KEST Kesra 10.24 272 Sn Sn 20 16 26.8 +0.1
comp=Z,0.2nm,0.3s,baz=266,slow=22,SNR=3.3
GLL Jalalah 10.40 125 P Pn 20 14 33.1 -1.9
baz=127
PLOR Plostina 10.46 18⇓ *i*P Pn 20 14 39.6 +3.8
VRI Vrincioaia 10.50 19⇓ *i*P Pn 20 14 39.5 +3.3
MORH Mrgy, Hungar 10.51 347 *e*Pn Pn 20 14 34.6 -1.7
MORH Mrgy, Hungar 10.51 347 *e*Pn Pn 20 14 35.0 -1.3
MORH Sn Sn 20 16 29.1 -4.0
OZLJ Ozalj 10.79 335 *e*Pn Pn 20 14 38.9 -1.2
DRGR 10.80 3⇑ *i*P Pn 20 14 41.5 +1.1
CRES Cresnjev 10.98 335 *e*Pn Pn 20 14 40.6 -2.2
BEHE Becsehely 11.16 341 *e*Pn Pn 20 14 44.0 -1.3
BEHE Sn Sn 20 16 31.1 -18
CEY Cerknica 11.27 332 *e*Pn Pn 20 14 43.9 -2.9
MMAI Mount Meron Ar 11.49 101 Pn Pn 20 14 49.0 -0.9
comp=Z,0.8nm,0.3s,baz=301,slow=11,SNR=4.8
MMAI Sn Sn 20 16 52.5 -4.8
comp=Z,1.3nm,0.3s,baz=284,slow=31,SNR=4.2
BURAR Bucovina Array 11.86 11⇓ *i*P Pn 20 14 58.3 +3.4
SOKA Soboth 11.87 336 *e*Pn Pn 20 14 55.8 +0.8
comp=Z,1.7nm,0.4s
SOKA Sn Sn 20 17 00.1 -6.5
comp=Z,1.6nm,0.7s
OBKA Obir 11.88 334 *e*Pn Pn 20 14 56.9 +1.6
comp=Z,0.9nm,0.2s
PSZ Piszkesteto 12.01 353 *e*Pn Pn 20 14 56.4 -0.6
PSZ Piszkesteto 12.01 353 *e*P Pn 20 14 56.4 -0.6
PSZ Piszkesteto 12.01 353 *e*Pn Pn 20 14 57.0 +0.1
PSZ Sn Sn 20 17 10.0 0.0
TRPA Tarpa 12.13 2⇑ *i*P Pn 20 14 59.6 +1.1
TRPA Tarpa 12.13 2 *e*Pn Pn 20 14 59.1 +0.6
TRPA Sn Sn 20 17 10.1 -2.8
ARSA Arzberg 12.23 339 *e*Pn P 20 15 06.3 -5.7
comp=Z,4.8nm,0.7s
EIL Elat 12.61 116 Pn Pn 20 15 06.7 +1.5
comp=Z,0.4nm,0.3s,baz=202,slow=3.7,SNR=7.7
EIL Sn Sn 20 17 17.3 -7.5
comp=Z,0.7nm,0.3s,baz=57,slow=10,SNR=4.0
VYHS Vyhne 12.70 351 *e*P Pn 20 15 08.3 +2.0
VYHS Vyhne 12.70 351 *e*PN Pn 20 15 08.3 +2.0
CONA Conrad Observa 12.75 341 *e*Pn Pn 20 15 08.7 +1.6
comp=Z,0.5nm,0.4s
KBA Koelnbreinsper 12.80 333 P Pn 20 15 12.9 +5.0
KBA pmax pmax
comp=Z,7.0nm,1.1s
KOLS Kolonicke sedl 12.93 1 *e*P Pn 20 15 12.3 +2.8
KOLS Kolonicke sedl 12.93 1 *e*PN Pn 20 15 12.3 +2.8
ASF Jabal al Asfar 12.96 103 Pn Pn 20 15 11.6 +1.6
comp=Z,0.2nm,0.3s,baz=194,slow=16,SNR=2.4
ASF Sn Sn 20 17 31.2 -2.1
comp=Z,0.1nm,0.3s,baz=120,slow=22,SNR=2.0
MOA Molln 13.15 337 *e*Pn Pn 20 15 13.6 +1.2
comp=Z,0.5nm,0.3s
MOA *e*Sn Sn 20 17 35.3 -2.4
comp=Z,1.1nm,0.3s
WTTA Wattenberg 13.63 329 *e*Pn Pn 20 15 22.1 +2.8
comp=Z,1.5nm,0.5s
WTTA Sn Sn 20 17 47.5 -2.3
comp=Z,1.5nm,0.4s
WATA Walderalm 13.72 329 *e*Pn P 20 15 25.2 -3.5
comp=Z,0.8nm,0.3s
VRAC Vranov 13.87 345 Pn Pn 20 15 23.6 +1.3
baz=162,slow=13,SNR=3.0
VRAC Sn Sn 20 17 40.4 -15
comp=Z,0.6nm,0.3s,baz=120,slow=18,SNR=4.0
MOTA Moosalm 13.92 328 *e*Pn P 20 15 27.0 -4.0
comp=Z,1.2nm,0.4s
DAVOX Davos/Dischmat 14.06 324 Pn Pn 20 15 26.9 +1.8
comp=Z,0.1nm,0.3s,baz=184,slow=23,SNR=2.0
DAVOX Sn Sn 20 17 58.3 -1.9
comp=Z,0.2nm,0.3s,baz=339,slow=3.5,SNR=2.9
OKC Ostrava-Krasne 14.11 350 *e*P P 20 15 33.0 +0.1
OKC Ostrava-Krasne 14.11 350 *e*P P 20 15 33.0 +0.1
OKC *e*x x 20 15 38.9
GERES GERESS Array B 14.20 337 Pn Pn 20 15 27.2 +0.3
comp=Z,0.2nm,0.3s,baz=158,slow=13,SNR=6.3
GERES Sn Sn 20 18 00.9 -2.6
comp=Z,0.2nm,0.3s,baz=145,slow=22,SNR=4.5
GERES LR LR 20 22 13.6
comp=Z,65nm,18.7s,baz=354,slow=43
KHC Kasperske Hory 14.49 338 *e*P Pn 20 15 32.6 +1.8
KHC Kasperske Hory 14.49 338 *e*P Pn 20 15 32.6 +1.8
KHC *e*x x 20 15 43.8
ANN Anapa 14.69 49 *e*P Pn 20 15 24.8 -8.7
ANN *e*S Sn 20 18 05.8 -10
ANN pmax pmax
comp=Z,48nm,1.2s
DPC Dobruska-Polom 14.92 346 *e*P P 20 15 41.5 -0.4
DPC Dobruska-Polom 14.92 346 *e*P P 20 15 41.5 -0.4
PRU Pruhonice 14.99 341 *e*P Pn 20 15 38.8 +1.4
PRU Pruhonice 14.99 341 *e*P Pn 20 15 38.8 +1.4
UPC Upice 15.13 345 *e*P P 20 15 48.9 +4.7
UPC Upice 15.13 345 *e*P P 20 15 48.9 +4.7
SOC Sochi 15.60 56 *e*P P 20 15 47.7 -1.8
SOC *e* 20 18 43.5
SOC pmax pmax
comp=Z,5.0nm,0.4s
KIEV Kiev 15.60 17 *e*Pn Pn 20 15 45.6 +0.2
comp=Z,3.8nm,0.9s
KIEV Kiev 15.60 17⇓ *e*P P 20 15 49.0 -0.4
KIEV pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 15.61 17 *e*Pn Pn 20 15 44.5 -1.0
AKASG Malin Array Be 15.61 17 *c*e*P* P 20 15 49.5 0.0
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 15.61 17 Pn Pn 20 15 43.5 -2.0
comp=Z,0.3nm,0.3s,baz=206,slow=11,SNR=3.1
AKBB Malin Array Si 15.61 17 *e*Pn Pn 20 15 43.7 -1.8
comp=Z,3.7nm,0.8s
AKBB Malin Array Si 15.61 17 *e*P Pn 20 15 43.7 -1.8
AKBB pmax pmax
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 15.95 341 *e*P P 20 15 56.8 +3.4
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 15.95 341 *e*P P 20 15 56.8 +3.4
BRG pmax pmax
comp=Z,3.0nm,1.0s
CLL Collm 16.60 340 *e*P P 20 16 06.0 +5.5
CLL pmax pmax
comp=Z,5.0nm,1.2s
CLL Collm 16.60 340 *e*PP P 20 16 06.0 +5.5
comp=Z,5.0nm,1.2s
CLL *e* 20 16 14.0
NEY Neytrino 17.54 59⇓ *e*P P 20 16 13.2 +2.0
NEY pmax pmax
comp=Z,2.0nm,0.8s
KIV Kislovodsk 17.74 57 *e*P P 20 16 13.7 +0.4
KIV pmax pmax
comp=Z,37nm,1.1s
KIV MLR MLR
comp=Z,75nm,14.0s
KVAR Kislovodsk Arr 17.74 57 P P 20 16 14.1 +0.7
baz=259,slow=19,SNR=3.3
KBZ Khabaz 17.81 58 P P 20 16 14.8 +1.0
comp=Z,0.7nm,0.3s,baz=235,slow=8.6,SNR=22
NCK Nalchik 18.22 59⇑ *e*P P 20 16 20.4 +1.9
NCK pmax pmax
comp=Z,10.0nm,0.8s
ZEI Tsey 18.24 62 *e*P Pn 20 16 16.5 -2.4
ZEI pmax pmax
comp=Z,5.0nm,0.6s
GNI Garni 18.40 70 *e*Pn P 20 16 19.7 -1.0
comp=Z,32nm,1.7s
GNI Garni 18.40 70⇑ *e*P Pn 20 16 22.5 +1.7
GNI pmax pmax
comp=Z,99nm,1.7s
GNI Garni 18.40 70 P Pn 20 16 21.7 +0.9
comp=Z,0.7nm,0.3s,baz=264,slow=7.2,SNR=5.2
PABE Paberze 19.56 3 *e*P P 20 16 33.1 0.0
PABE IAmb IAmb 20 16 34.1
comp=Z,12nm,0.7s
IIGN Ignalina 19.58 7 *e*P P 20 16 32.1 -1.2
IIGN IAmb IAmb 20 16 33.7
comp=Z,4.6nm,0.6s
VSR Storozhevoye 19.59 34⇑ *e*P P 20 16 33.5 +0.1
VSR pmax pmax
comp=Z,7.0nm,0.5s
IDID Didziasalis 19.60 8 *e*P P 20 16 32.3 -1.2
IDID IAmb IAmb 20 16 36.1
comp=Z,2.6nm,0.8s
GROC Groznyy 19.69 61 *e*P P 20 16 33.6 -1.0
GROC *e*S S 20 20 14.8 -0.4
GROC pmax pmax
comp=Z,3.0nm,0.4s
BSD Bornholm Skovb 19.73 348 *i*P P 20 16 33.6 -1.2
BSD Bornholm Skovb 19.73 348 *i*P P 20 16 33.6 -1.2
ISAL Salakas 19.79 7 *e*P P 20 16 34.9 -0.6
ISAL IAmb IAmb 20 16 40.7
comp=Z,3.7nm,0.8s
IZAR Zarasai 19.98 7 *e*P P 20 16 36.6 -1.0
IZAR IAmb IAmb 20 16 37.9
comp=Z,6.3nm,0.6s
PBUR Paburg 20.03 360 *e*P P 20 16 39.0 +0.8
PBUR IAmb IAmb 20 16 42.0
comp=Z,15nm,0.8s
LPSR Galich'ya Gora 20.49 31 *e*P P 20 16 42.6 -0.5
LPSR pmax pmax
comp=Z,20nm,0.7s
ESDC Sonseca Array 20.77 288 P Pn 20 16 48.1 -0.8
comp=Z,0.8nm,0.8s,baz=90,slow=13,SNR=5.6
VRH Novokhopyorsk 20.78 37 *e*P P 20 16 45.4 -0.9
VRH pmax pmax
comp=Z,10.0nm,1.3s
OBN Obninsk 21.60 23 *e*P P 20 16 54.9 -0.2
comp=Z,16nm,0.6s
OBN Obninsk 21.60 23⇓ *e*P P 20 16 56.3 +1.2
OBN *e* 20 17 19.3
OBN *e*PPP PPP 20 17 26.6
OBN *e* 20 20 52.5
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 21.60 23 P P 20 16 55.5 +0.4
comp=Z,1.8nm,0.4s,baz=151,slow=23,SNR=4.0
SLIT Slitere, Latvi 21.64 0 *e*P P 20 16 56.4 +0.9
SLIT IAmb IAmb 20 17 01.8
comp=Z,53nm,0.7s
MDT Midelt 22.12 269 P P 20 17 02.8 +1.7
comp=Z,1.6nm,0.9s,baz=235,slow=11,SNR=2.4
MDT LR LR 20 25 36.9
comp=Z,33nm,21.6s,baz=90,slow=36
MOS Moscow 22.46 24 *e*P P 20 17 03.5 -0.8
MOS *e* 20 17 27.4
MOS *e*S S 20 21 08.5 -0.7
MOS pmax pmax
comp=Z,24nm,0.8s
VSU Vasula 22.70 7⇓ *e*P P 20 17 08.3 +1.5
VSU pmax pmax
comp=Z,39nm,1.4s
VSU Vasula 22.70 7 *e*P P 20 17 10.7 +3.8
VSU IAmb IAmb 20 17 13.7
comp=Z,53nm,0.7s
HFS Hagfors 24.74 350 P P 20 17 26.0 -0.4
comp=Z,2.4nm,0.6s,baz=156,slow=11,SNR=28
FIA0 FINESS Array S 25.60 5 *e*P P 20 17 33.8 -0.5
FIA0 FINESS Array S 25.60 5 *e*P P 20 17 33.8 -0.5
FINES FINESS Array B 25.60 5 *i*P P 20 17 33.7 -0.6
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 25.60 5 P P 20 17 33.8 -0.5
comp=Z,2.5nm,0.7s,baz=166,slow=10,SNR=13
FINES LR LR 20 28 46.6
comp=Z,59nm,18.1s,baz=278,slow=39
EKA Eskdalemuir Ar 25.87 326 P P 20 17 37.8 +1.0
comp=Z,1.1nm,0.5s,baz=126,slow=8.8,SNR=7.5
NB2 NORSAR Subarra 25.98 348 P P 20 17 37.6 -0.3
comp=Z,1.4nm,0.7s,baz=156,slow=9.3
NB200 NORSAR Array S 25.98 348 *e*P P 20 17 37.5 -0.3
NOA NORSAR Array B 25.98 348 P P 20 17 37.5 -0.3
comp=Z,1.1nm,0.7s,baz=156,slow=8.9,SNR=6.6
KLMR Klimovskoe 27.29 19 *e*P P 20 17 50.3 +0.8
KLMR pmax pmax
comp=Z,8.0nm,1.2s
GEYT Alibeck 28.85 75 P P 20 18 03.6 -0.1
comp=Z,13nm,0.7s,baz=270,slow=9.2,SNR=7.4
KIRV Kirov 28.91 30 P P 20 18 02.9 -1.1
comp=Z,5.1nm,0.4s,baz=178,slow=3.5,SNR=5.5
TOA0 Torodi Ar. Sit 29.15 224 *e*P P 20 18 07.5 +0.9
comp=Z,3.7nm,0.8s
TORD Torodi Ar. Bea 29.15 224 *e*P P 20 18 06.5 0.0
TORD Torodi Ar. Bea 29.15 224 P P 20 18 06.3 -0.2
comp=Z,4.8nm,0.9s,baz=36,slow=8.9,SNR=26
AKTO Aktyubinsk 29.65 50 P P 20 18 09.9 -0.8
comp=Z,0.8nm,0.2s,baz=249,slow=4.8,SNR=11
PRGR Permogore 29.68 23 *e*P P 20 18 07.6 -3.2
PRGR pmax pmax
comp=Z,9.0nm,0.8s
ABKAR Akbulak array 30.59 52 *e*P P 20 18 17.9 -1.1
comp=Z,2.5nm,0.7s
ARU Arti 31.99 39 *d i*P P 20 18 30.8 -0.4
ARU 20 19 37.0
ARU S S 20 23 44.1 +3.2
ARU SS SnSn 20 25 35.5 +4.7
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARA0 ARCESS Array S 33.65 2 *e*P P 20 18 45.6 0.0
ARCES ARCESS Array B 33.65 2 P P 20 18 45.6 0.0
comp=Z,2.3nm,0.5s,baz=188,slow=9.9,SNR=20
BRVK Borovoye 37.63 48⇓ *e*P P 20 19 21.0 +1.1
BRVK pmax pmax
comp=Z,1.0nm,1.2s
KK31 Karatay Array 37.67 64 *e*P P 20 19 19.7 -0.8
comp=Z,3.2nm,0.5s
KK31 Karatay Array 37.67 64 *e*P P 20 19 19.7 -0.8
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 37.67 64 *e*P P 20 19 19.9 -0.6
KKAR Karatay Array 37.67 64 *e*P P 20 19 19.9 -0.6
BVAR Borovoye Array 37.69 48 P P 20 19 20.1 -0.4
comp=Z,0.8nm,0.6s,baz=284,slow=6.0,SNR=6.9
GAR Garm 38.13 71 *e*P P 20 19 25.0 +0.5
comp=Z,17nm,1.4s
GAR Garm 38.13 71 *e*P P 20 19 25.0 +0.5
GAR pmax pmax
comp=Z,17nm,1.4s
DBIC Dimbokro 38.15 226 P P 20 19 26.2 +1.6
comp=Z,7.6nm,0.9s,baz=359,slow=3.9,SNR=5.2
TIC Toumodi 38.26 227 *e*P P 20 19 27.2 +1.5
KIC Kosan Boka 38.33 226 *e*P P 20 19 27.7 +1.5
comp=Z,37nm,1.4s
LIC Lamto 38.60 226 *e*P P 20 19 30.1 +1.6
comp=Z,51nm,1.5s
OTUK Ortayu 38.66 56 P P 20 19 28.4 -0.3
OTUK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 40.64 64 *e*P P 20 19 43.6 -1.9
comp=Z,1.8nm,0.7s
AAK Ala-Archa 40.64 64⇓ *e*P P 20 19 45.8 +0.4
AAK pmax pmax
comp=Z,5.0nm,1.7s
AAK Ala-Archa 40.64 64 P P 20 19 44.9 -0.5
comp=Z,1.6nm,0.8s,baz=68,slow=2.0,SNR=4.2
KURK Kurchatov 42.70 52 *e*P P 20 20 00.2 -1.8
comp=Z,3.6nm,1.1s
KURK Kurchatov 42.70 52⇓ *e*P P 20 20 01.4 -0.5
KURK pmax pmax
comp=Z,6.0nm,2.5s
PDGK Podgornoye 44.13 62 P P 20 20 13.5 -0.3
PDGK pmax pmax
comp=Z,4.0nm,0.6s
NVS Novosibirsk 45.35 45 *i*P P 20 20 23.4 +0.2
MK31 Makanchi Array 45.50 57 *e*P P 20 20 23.9 -0.6
comp=Z,4.9nm,0.6s
MK31 Makanchi Array 45.50 57 *e*P P 20 20 24.0 -0.6
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 45.50 57 *e*P P 20 20 23.6 -0.9
MKAR Makanchi Array 45.50 57 *c*e*P* P 20 20 23.7 -0.8
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 45.50 57 P P 20 20 23.8 -0.7
comp=Z,6.6nm,0.6s,baz=270,slow=7.9,SNR=68
ZALV Zalesovo Beam 46.32 47 P P 20 20 29.6 -1.3
comp=Z,1.6nm,0.3s,baz=266,slow=9.3,SNR=6.9
PYUN Piuthan 51.60 80 *e*P P 20 21 11.5 -0.5
comp=Z,15nm,0.7s
DANN Dangsing 52.11 80 *e*P P 20 21 15.8 -0.1
comp=Z,32nm,0.7s
KOLN Koldanda 52.23 81 *e*P P 20 21 16.2 -0.5
GKN Gorkha 52.96 80 *e*P P 20 21 21.4 -0.6
comp=Z,14nm,0.5s
DMN Daman 53.51 80 *e*P P 20 21 25.8 -0.3
comp=Z,14nm,0.7s
KKN Kakani 53.57 80 *e*P P 20 21 25.9 -0.6
comp=Z,7.5nm,0.6s
PKIN Phulchoki 53.75 80 *e*P P 20 21 27.3 -0.6
comp=Z,7.7nm,0.9s
PKI Pulchoki 53.76 80 *e*P P 20 21 27.3 -0.8
comp=Z,15nm,0.9s
JIRN Jiri 54.35 79 *e*P P 20 21 32.0 -0.4
comp=Z,9.4nm,0.6s
GTA Gaotai 59.86 61 *e*P P 20 22 10.7 -0.3
GTA pP pP 20 22 16.4 -1.7
GTA sP sP 20 22 19.1 -1.7
SONA0 Songino Array 60.97 50 *e*P P 20 22 18.2 -0.2
SONM Songino Array 60.97 50 P P 20 22 18.2 -0.2
comp=Z,0.6nm,0.6s,baz=292,slow=4.7,SNR=5.7
TIXI Tiksi 61.30 20⇓ *e*P P 20 22 19.3 -0.7
TIXI pmax pmax
comp=Z,2.0nm,1.2s
ULN Ulaanbaatar 61.36 50⇑ *e*P P 20 22 20.8 -0.3
ULN pmax pmax
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 69.06 82 P P 20 23 10.8 -0.4
comp=Z,1.2nm,0.8s,baz=299,slow=7.0,SNR=13
BILL Bilibino 72.88 13 *e*P P 20 23 34.6 +1.0
BILL *e* 20 23 49.5
BILL pmax pmax
comp=Z,1.0nm,1.0s
KLR Kul'dur 74.82 40⇑ *e*P P 20 23 45.2 -0.1
KLR pmax pmax
comp=Z,2.0nm,0.8s
KLR Kul'dur 74.82 40 P P 20 23 44.8 -0.5
comp=Z,1.7nm,0.6s
YKA Yellowknife Ar 75.83 341 P P 20 23 51.9 +1.1
comp=Z,0.2nm,0.4s,baz=33,slow=5.0,SNR=3.9
YKB5 Yellowknife Ar 75.83 341 *e*P P 20 23 51.9 +1.1
KSAR Wonju Array Be 79.80 51 P P 20 24 13.8 +0.4
KSAR Wonju Array Be 79.80 51 P P 20 24 13.9 +0.4
KSRS Korea Array 79.82 51 P P 20 24 13.8 +0.3
comp=Z,1.1nm,0.5s,baz=311,slow=4.4,SNR=6.6
MAJO Matsushiro 86.67 46 *e*P P 20 24 49.4 +0.4
MAJO Matsushiro 86.67 46 *e*P P 20 24 49.4 +0.4
MJAR Matsushiro Arr 86.68 46 P P 20 24 49.4 +0.4
comp=Z,0.7nm,0.6s,baz=305,slow=4.9,SNR=2.8
PDAR Pinedale Array 90.00 327 P P 20 25 06.4 +1.5
comp=Z,0.1nm,0.4s,baz=70,slow=3.0,SNR=2.2
ROSC El Rosal 92.25 278 LR LR 21 04 41.7
comp=Z,233nm,20.0s,baz=156,slow=34
DAV Davao City (W) 96.78 76 LR LR 21 14 12.8
comp=Z,46nm,21.6s,baz=296,slow=38
WR1 Warramunga Arr 119.27 94 *e*PKPdf PKPdf 20 30 54.0 -0.6
WRA Warramunga Arr 119.27 94 PKPdf PKPdf 20 30 54.0 -0.6
comp=Z,0.6nm,1.1s,baz=333,slow=1.1,SNR=5.4
ASAR Alice Springs 120.76 98 PKP PKPdf 20 30 57.5 0.0
comp=Z,0.2nm,0.4s,baz=336,slow=2.0,SNR=3.3

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*ISCJB **09** 20:26:22.5±1.2, 12°.77N±0°.05×143°.04E±0°.07, h129km±12km, mb4.2/44, Error ellipse: s-maj=12.0km s-min=8.9km az=3.8*
*NEIC **09** 20:26:22.9±0.2, 12°.77N×143°.10E, mb4.5/22, Error ellipse: s-maj=6.6km s-min=5.3km az=94.0*
*IDC **09** 20:26:23.4±0.8, 12°.78N×143°.10E, h120km±7km, mb3.9/26, mb1 4.0/26, mb1mx3.9/48, mbtmp4.2/26, MS4.0/1, Ms1 4.0/1, ms1mx2.9/39, Error ellipse: s-maj=17.3km s-min=9.4km az=85.0*
ISC 09 20:26:23.6±0.7, 12°.79N±0°.07×143°.13E±0°.09, h126km±6km, h126km:pP-P, n79, σ0°96/89, mb4.3/44, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
GUMO	**Guam**	1.87	65	*e*Pn	Pn	20 26 55.6		-0.2
JOW	**Kunigami**	19.73	317	*e*P	Pn	20 30 44.8		-1.4
39nm,1.4s								
JOW	**Kunigami**	19.73	317	P	Pn	20 30 45.2		-1.0
0.4nm,0.3s,baz=146,slow=13,SNR=5.4								
PMG	**Port Moresby**	22.41	170	P	P	20 31 13.3		+1.4
7.3nm,0.3s,baz=290,slow=14,SNR=4.5								
JNU	**Nakatsue**	23.13	333	*e*P	P	20 31 18.6		-0.2
22nm,1.1s								
JNU	**Nakatsue**	23.13	333	P	P	20 31 19.5		+0.7
10nm,0.8s,baz=137,slow=3.8,SNR=6.2								
SSLB	**Suanglung**	23.69	301	*e*P	P	20 31 24.5		+0.5
8.4nm,0.9s								
MJAR	**Matsushiro Arr**	24.07	350	*e*P	P	20 31 26.1		-1.1
MJAR	**Matsushiro Arr**	24.07	350	P	P	20 31 26.6		-0.6
1.7nm,0.6s,baz=189,slow=11,SNR=6.4								
MAJO	**Matsushiro**	24.07	350	*e*P	P	20 31 26.5		-0.7
37nm,1.9s								
MJB9	**Matsu-Tunnel**	24.07	350	*e*P	P	20 31 26.3		-0.9
37nm,1.9s								
LUWI	**Luwuk**	24.43	237	*e*P	P	20 31 30.0		-0.7
54nm,1.0s								
USRK	**Ussuriysk Ar.**	32.73	345	*e*P	P	20 32 44.9		+0.7
USRK	**Ussuriysk Ar.**	32.73	345	P	P	20 32 45.8		+1.6
2.6nm,0.7s,baz=158,slow=7.1,SNR=4.9								
WR1	**Warramunga Arr**	33.65	195	*e*P	P	20 32 52.2		-0.2
WR1				*e*pP	pP	20 33 18.0		-1.1
WR1				*e*PcP	PcP	20 35 30.9		+1.1
WRA	**Warramunga Arr**	33.65	195	P	P	20 32 52.2		-0.2
2.1nm,0.8s,baz=14,slow=9.6,SNR=27								
WRA				pP	pP	20 33 18.0		-1.1
1.3nm,0.7s,baz=16,slow=9.6,SNR=4.1								
WRA				PcP	PcP	20 35 30.9		+1.1
0.5nm,0.8s,baz=18,slow=3.7,SNR=2.9								
ENH	**Enshi**	35.62	305	*e*P	P	20 33 09.3		-0.1
4.7nm,0.6s								
BJT	**Baijiatuau**	36.04	324	*e*P	P	20 33 13.1		+0.3
7.4nm,0.5s								
AS31	**Alice Springs**	37.33	194	*e*P	P	20 33 23.8		-0.1
2.6nm,1.5s								
AS31				*e*PcP	PcP	20 35 41.8		+1.1
ASAR	**Alice Springs**	37.34	194	P	P	20 33 24.0		0.0
0.8nm,0.4s,baz=23,slow=12,SNR=18								
ASAR				pP	pP	20 33 50.6		-0.3
0.6nm,0.6s,baz=19,slow=12,SNR=3.1								

ASAR PcP **PcP** **20 35 41.8 +1.1**
0.5nm,0.6s,baz=22,slow=3.3,SNR=4.6
KLR Kul'dur 37.54 348 P **P** **20 33 26.1 +0.7**
2.3nm,0.5s,baz=170,slow=5.9,SNR=9.9
XAN Xi'an 37.59 310 *eP* **P** **20 33 26.1 0.0**
4.9nm,0.5s
PETK Petropavlovsk- 41.87 13 P **P** **20 34 02.1 +0.9**
1.6nm,0.8s,baz=213,slow=10,SNR=2.7
PEA1 Petropavlovsk- 41.88 13 *eP* **P** **20 34 02.1 +0.9**
CM31 Chiang Mai Arr 42.85 283 *eP* **P** **20 34 09.9 +0.3**
3.6nm,0.6s
CMAR Chiang Mai Arr 42.85 283 *eP* **P** **20 34 10.2 +0.6**
CMAR Chiang Mai Arr 42.85 283 P **P** **20 34 10.3 +0.8**
2.5nm,0.8s,baz=84,slow=6.1,SNR=24
STKA Stephens Creek 44.43 182 *eP* **P** **20 34 21.6 -0.4**
9.5nm,1.9s
STKA Stephens Creek 44.43 182 P **P** **20 34 21.7 -0.2**
0.9nm,0.6s,baz=5.8,slow=15,SNR=3.6
SONA0 Songino Array 46.43 326 *eP* **P** **20 34 38.6 +0.8**
SONM Songino Array 46.43 326 *eP* **P** **20 34 38.5 +0.7**
SONM Songino Array 46.43 326 P **P** **20 34 38.6 +0.8**
1.5nm,0.5s,baz=146,slow=7.7,SNR=9.8
MA2 Magadan 47.05 5 P **P** **20 34 42.5 +0.3**
2.2nm,0.2s,baz=186,slow=19,SNR=3.0
MA2 LR LR 20 53 25.4
comp=Z,196nm,21.3s,baz=215,slow=34
SHL Shillong 49.77 293 *eP* **P** **20 35 03.3 -0.5**
11nm,0.4s
SEY Seymchan 50.51 5 P **P** **20 35 09.4 +0.8**
2.2nm,0.6s,baz=189,slow=13,SNR=5.3
LSA Lhasa 50.86 298 *eP* **P** **20 35 11.8 -0.6**
3.0nm,0.9s
RAMN Ramite 54.59 294 *eP* **P** **20 35 39.4 -0.2**
JIRN Jiri 55.00 295 *eP* **P** **20 35 42.6 -0.1**
14nm,0.5s
PKI Pulchoki 55.69 295 *eP* **P** **20 35 46.9 -0.6**
3.1nm,0.4s
PKIN Phulchoki 55.70 295 *eP* **P** **20 35 46.8 -0.7**
2.7nm,0.4s
KKN Kakani 55.81 295 *eP* **P** **20 35 47.8 -0.5**
6.7nm,0.8s
DMN Daman 55.96 295 *eP* **P** **20 35 49.1 -0.3**
6.5nm,0.6s
GKN Gorkha 56.39 295 *eP* **P** **20 35 51.9 -0.5**
5.3nm,0.3s
DANN Dangsing 57.18 296 *eP* **P** **20 35 57.5 -0.6**
26nm,0.5s
KOLN Koldanda 57.30 295 *eP* **P** **20 35 57.6 -1.2**
PYUN Piuthan 57.85 295 *eP* **P** **20 36 02.2 -0.5**
17nm,0.7s
TIXI Tiksi 59.47 355 *eP* **P** **20 36 12.2 -0.6**
5.9nm,1.3s
TIXI Tiksi 59.47 355 P **P** **20 36 12.5 -0.3**
1.5nm,0.4s,baz=178,slow=7.0,SNR=15
MK32 Makanchi Array 60.90 317 *eP* **P** **20 36 23.6 +0.6**
MKAR Makanchi Array 60.90 317 *eP* **P** **20 36 23.4 +0.3**
MKAR Makanchi Array 60.90 317 P **P** **20 36 23.6 +0.6**
0.8nm,0.3s,baz=92,slow=8.9,SNR=14
ZAA0 Zalesovo Array 61.30 325 *eP* **P** **20 36 25.6 0.0**
3.3nm,0.5s
ZALV Zalesovo Beam 61.30 325 *eP* **P** **20 36 25.4 -0.2**
ZALV Zalesovo Beam 61.30 325 P **P** **20 36 25.5 0.0**
3.0nm,0.4s,baz=104,slow=7.2,SNR=10
ZAA1 Zalesovo Array 61.30 325 *eP* **P** **20 36 25.5 0.0**
KURK Kurchatov 64.11 320 *eP* **P** **20 36 44.1 -0.1**
13nm,0.8s
KURBB Kurchatov Arra 64.15 320 P **P** **20 36 44.8 +0.2**
11nm,0.7s,baz=105,slow=6.7,SNR=85
AAK Ala-Archa 65.75 311 P **P** **20 36 55.4 +0.1**
0.5nm,0.5s,baz=117,slow=6.8,SNR=2.5
NIL Nilore 66.34 301 *eP* **P** **20 36 59.5 +0.4**
12nm,0.6s
KK31 Karatay Array 68.71 311 *eP* **P** **20 37 14.0 +0.2**
2.1nm,0.6s
KKAR Karatay Array 68.71 311 *eP* **P** **20 37 13.0 -0.7**
GAR Garm 68.75 307 *eP* **P** **20 37 14.2 0.0**
8.2nm,0.5s
BVAR Borovoye Array 69.51 322 P **P** **20 37 18.8 +0.3**
6.9nm,0.4s,baz=108,slow=8.1,SNR=80
BVAR pP **pP** **20 37 49.5 +1.1**
1.0nm,0.7s,baz=87,slow=5.2,SNR=2.0
BRVK Borovoye 69.58 322 *eP* **P** **20 37 19.0 +0.1**
7.6nm,0.4s
COLA College 69.64 25 *e*PcP **PcP** **20 37 35.1 -6.0**
ILAR Eielson Array 70.02 25 P **P** **20 37 20.9 -0.4**
0.3nm,0.5s,baz=240,slow=5.4,SNR=7.4
ABKAR Akbulak array 76.00 318 *eP* **P** **20 37 56.4 -0.4**
ARU Arti 76.46 325 *eP* **P** **20 37 59.1 -0.3**
3.7nm,0.7s
AKTO Aktyubinsk 77.16 319 P **P** **20 38 02.9 -0.5**
1.3nm,0.5s,baz=107,slow=7.8,SNR=7.3
GEYT Alibeck 78.37 306 P **P** **20 38 11.0 +0.6**
20nm,0.8s,baz=134,slow=6.4,SNR=4.9
YKA Yellowknife Ar 84.35 27 P **P** **20 38 42.1 +0.8**
0.6nm,0.5s,baz=286,slow=5.1,SNR=4.2
YKB5 Yellowknife Ar 84.35 27 *eP* **P** **20 38 42.1 +0.8**
ARA0 ARCESS Array S 87.32 342 *eP* **P** **20 38 55.6 -0.3**
ARCES ARCESS Array B 87.32 342 P **P** **20 38 55.6 -0.3**
0.8nm,0.3s,baz=80,slow=7.6,SNR=18
NV01 Mina Array Sit 88.74 51 *eP* **P** **20 39 04.0 +0.4**
NV01 *e*pP **pP** **20 39 35.3 +0.3**
NVAR Mina Array Bea 88.74 51 P **P** **20 39 04.0 +0.4**
0.4nm,0.6s,baz=263,slow=7.2,SNR=2.8
NVAR pP **pP** **20 39 35.3 +0.3**
0.3nm,0.4s,baz=291,slow=5.7,SNR=1.8
FIA0 FINESS Array S 91.17 335 *eP* **P** **20 39 12.6 -1.5**
FINES FINESS Array B 91.17 335 P **P** **20 39 12.6 -1.5**
0.8nm,0.3s,baz=60,slow=4.9,SNR=29
LPAZ La Paz 149.56 100 PKPbc **PKiKP** **20 46 01.9 +0.9**
4.2nm,0.8s,baz=321,slow=3.9,SNR=16

WEL 09 20:29:18.3,41°S±1°×17°5E±°,h54km±4km,ML3.6/33, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.31**	**142**		P	Pn	20 29 28.1	+0.1
KIW					S	Sn	20 29 35.0	+0.1
OGWZ	**Otaki Gorge**	**0.44**	**117**		P	Pn	20 29 29.6	+0.4
OGWZ					S	Sn	20 29 37.7	+0.7
CAW	**Cannon Point**	**0.58**	**148**		P	Pn	20 29 31.4	+0.5
CAW					S	Sn	20 29 41.2	+1.3
DUWZ	**D'Urville Isla**	**0.59**	**251**		P	Pn	20 29 30.4	-0.5
DUWZ					S	Sn	20 29 39.4	-0.7
OHWZ	**Ohakea**	**0.65**	**51**		P	Pn	20 29 32.3	+0.7
MRZ	**Mangatainoka R**	**0.70**	**94**		P	Pn	20 29 32.5	+0.1
HOWZ	**Holdsworth Sta**	**0.71**	**114**		P	Pn	20 29 32.5	+0.1
BHW	**Baring Head**	**0.81**	**168**		P	Pn	20 29 34.2	+0.5
MTW	**Mount Morrison**	**0.84**	**131**		P	Pn	20 29 34.6	+0.5
POWZ	**Post Office Ro**	**0.88**	**76**		P	Pn	20 29 34.7	+0.2
WAZ	**Wanganui**	**0.90**	**16**		P	Pn	20 29 35.1	+0.3
MSWZ	**Moikau Station**	**0.92**	**151**		P	Pn	20 29 36.2	+1.1
TIWZ	**Tintock**	**0.95**	**100**		P	Pn	20 29 35.6	+0.1
PAWZ	**Paruwai Farm**	**0.96**	**143**		P	Pn	20 29 36.7	+1.0
TUWZ	**Tuamarina**	**0.98**	**213**		P	Pn	20 29 36.4	+0.5
PRWZ	**Pori Road**	**1.00**	**87**		P	Pn	20 29 36.6	+0.4
PLWZ	**Palliser**	**1.05**	**155**		P	Pn	20 29 37.5	+0.5
TMWZ	**Te Maipa**	**1.06**	**118**		P	Pn	20 29 37.7	+0.7
TRWZ	**Traveller**	**1.10**	**135**		P	Pn	20 29 39.4	+1.8
NNZ	**Nelson**	**1.14**	**238**		P	Pn	20 29 38.3	+0.2
TSZ	**Takapari Road**	**1.14**	**61**		P	Pn	20 29 38.0	-0.1
LREZ	**Lake Rotokare**	**1.17**	**350**		P	Pn	20 29 38.8	+0.4
DVHZ	**Dannevirke**	**1.20**	**75**		P	Pn	20 29 38.7	-0.1
CPWZ	**Castlepoint**	**1.21**	**105**		P	Pn	20 29 39.2	+0.3
BFZ	**Birch Farm**	**1.21**	**94**		P	Pn	20 29 38.6	-0.4
BSWZ	**Blackbirch Sta**	**1.25**	**208**		P	Pn	20 29 40.2	+0.7
PREZ	**Palmer Road**	**1.33**	**343**		P	Pn	20 29 41.6	+1.0
NMEZ	**Namu Road**	**1.34**	**333**		P	Pn	20 29 41.2	+0.5
PNHZ	**Pukenui**	**1.37**	**60**		P	Pn	20 29 40.7	-0.5
MTVZ	**Mangateitei**	**1.38**	**27**		P	Pn	20 29 41.9	+0.6
ANWZ	**Angora Road**	**1.40**	**84**		P	Pn	20 29 41.4	-0.1
KHEZ	**Kahui Hut**	**1.41**	**339**		P	Pn	20 29 42.4	+0.6
PKVZ	**Pokaka**	**1.43**	**22**		P	Pn	20 29 42.8	+0.8
DREZ	**Durham Road**	**1.47**	**346**		P	Pn	20 29 43.4	+0.9
WPHZ	**Waipukurau**	**1.47**	**69**		P	Pn	20 29 42.2	-0.3
MOVZ	**Moawhango**	**1.47**	**35**		P	Pn	20 29 42.7	+0.1
NBEZ	**Newall Road No**	**1.48**	**335**		P	Pn	20 29 42.9	+0.3
TRVZ	**Turoa**	**1.48**	**28**		P	Pn	20 29 43.7	+0.8
VRZ	**Vera Road**	**1.49**	**3**		P	Pn	20 29 43.3	+0.5
PKE	**Pukeiti**	**1.51**	**340**		P	Pn	20 29 43.6	+0.5
WHVZ	**Whangaehu Hut**	**1.51**	**29**		P	Pn	20 29 44.1	+0.8
FWVZ	**Far West T-bar**	**1.52**	**27**		P	Pn	20 29 44.1	+0.7
TUVZ	**Tukino**	**1.55**	**30**		P	Pn	20 29 44.7	+1.0
PRHZ	**Porangahau**	**1.55**	**78**		P	Pn	20 29 43.4	-0.2
MHEZ	**Mangahewa**	**1.56**	**350**		P	Pn	20 29 44.6	+0.9
BHHZ	**Black Hill Sta**	**1.56**	**44**		P	Pn	20 29 43.9	+0.2
NGZ	**Ngauruhoe**	**1.61**	**27**		P	Pn	20 29 45.6	+1.0
QRZ	**Quartz Range**	**1.63**	**262**		P	Pn	20 29 44.5	-0.2
KRHZ	**Kereru**	**1.63**	**54**		P	Pn	20 29 44.3	-0.4
TWVZ	**Taurewa**	**1.66**	**22**		P	Pn	20 29 45.7	+0.6
WTVZ	**West Tongariro**	**1.66**	**26**		P	Pn	20 29 45.9	+0.7
KRVZ	**Karewarewa**	**1.70**	**27**		P	Pn	20 29 46.6	+0.9
THZ	**Tophouse**	**1.75**	**228**		P	Pn	20 29 47.0	+0.6
PXZ	**Pawanui**	**1.79**	**72**		P	Pn	20 29 46.3	-0.5
KWHZ	**Kaweka Forest**	**1.80**	**49**		P	Pn	20 29 46.4	-0.7
KATZ	**Kakaramea**	**1.82**	**26**		P	Pn	20 29 48.2	+0.7
RITZ	**Rihia Road**	**1.88**	**30**		P	Pn	20 29 48.4	+0.3
KAHZ	**Kahuranaki**	**1.89**	**65**		P	Pn	20 29 47.1	-1.1
MCHZ	**McNeill Hill**	**1.96**	**54**		P	Pn	20 29 48.9	-0.2
KHZ	**Kahutara**	**1.98**	**205**		P	Pn	20 29 49.7	+0.2
BKZ	**Black Stump Fm**	**2.02**	**45**		P	Pn	20 29 50.9	+0.8
HIZ	**Hauiti**	**2.10**	**4**		P	Pn	20 29 52.0	+0.8
MRHZ	**Matea Rd**	**2.24**	**38**		P	Pn	20 29 51.9	-1.1
TLZ	**Tolley Road**	**2.38**	**17**		P	Pn	20 29 55.1	+0.1
MTHZ	**Maungataniwha**	**2.44**	**44**		P	Pn	20 29 55.5	-0.3
RAHZ	**Arahi**	**2.53**	**49**		P	Pn	20 29 55.4	-1.6
LTZ	**Lake Taylor**	**2.81**	**219**		P	Pn	20 30 00.2	-0.6
AMCZ	**Amberley**	**2.96**	**210**		P	Pn	20 30 01.6	-1.3
URZ	**Urewera**	**3.02**	**40**		P	Pn	20 30 01.7	-2.0
MWZ	**Matawai**	**3.18**	**45**		P	Pn	20 30 03.8	-2.1
INZ	**Inchbonnie**	**3.20**	**228**		P	Pn	20 30 05.3	-0.8
OXZ	**Oxford**	**3.34**	**215**		P	Pn	20 30 06.0	-2.1
MQZ	**McQueen's Vall**	**3.43**	**205**		P	Pn	20 30 06.7	-2.6
MKAZ	**Moumakai**	**3.53**	**7**		P	Pn	20 30 10.9	+0.3
AWAZ	**Awhitu Peninsu**	**3.55**	**360**		P	Pn	20 30 11.1	+0.2
PKGZ	**Pakihiroa**	**3.80**	**45**		P	Pn	20 30 12.5	-1.9
WVZ	**Waitaha Valley**	**3.82**	**229**		P	Pn	20 30 13.6	-1.0
WMGZ	**Waiomatatini S**	**4.04**	**47**		P	Pn	20 30 14.7	-2.9
RPZ	**Rata Peaks**	**4.09**	**220**		P	Pn	20 30 16.8	-1.6
LBZ	**Lake Benmore**	**5.01**	**220**		P	Pn	20 30 28.7	-2.3
ODZ	**Otahua Downs**	**5.32**	**212**		P	Pn	20 30 32.5	-2.6

*IDC **09** 20:40:16.6±1.4,24°.09S×69°.64E,h0km,mb3.9/8, mb1 4.1/8,mb1mx3.7/48,mbtmp3.9/8,MS3.8/1,Ms1 3.6/1, ms1mx2.9/30,Error ellipse: s-maj=48.2km s-min=23.2km az=31.0*
*NEIC **09** 20:40:18.0±0.5,24°.09S×69°.59E,h10km,mb4.8/1,Error ellipse: s-maj=18.1km s-min=9.7km az=196.0*
ISC 09 20:40:18.6±1.0,23°.9S±0°.2×69°.6E±0°.1,h10km,n26, σ1§09/22,mb4.1/8,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**11.78**	**285**	*e*Pn	P	**Pn**	**20 43 05.5**	**-1.3**
H08S1	**Diego Carcia H**	**16.39**	**10**	T	T		21 01 04.3	
baz=190,slow=76,SNR=14								
H08S2	**Diego Garcia H**	**16.39**	**10**	T	T		21 01 08.4	
baz=190,slow=76,SNR=10								
H08S3	**Diego Garcia H**	**16.40**	**10**	T	T		21 01 08.6	
baz=190,slow=76,SNR=13								
DGAR	**Diego Garcia**	**16.61**	**10**	*e*Pn		**Pn**	**20 44 08.8**	**-2.9**
64nm,0.9s								
BOSA	**Boshof**	**39.88**	**253**	LR	LR		21 01 32.7	
comp=Z,116nm,19.8s,baz=88,slow=32								
CMAR	**Chiang Mai Arr**	**50.90**	**37**	P		**P**	**20 49 21.3**	**+1.1**
0.4nm,0.7s,baz=233,slow=8.6,SNR=5.1								
ASAR	**Alice Springs**	**58.35**	**104**	P		**P**	**20 50 13.3**	**-1.1**
1.5nm,0.7s,baz=254,slow=6.2,SNR=22								
WR1	**Warramunga Arr**	**59.73**	**100**	*e*P		**P**	**20 50 23.0**	**-1.0**
WRA	**Warramunga Arr**	**59.73**	**100**	P		**P**	**20 50 23.0**	**-1.0**
1.3nm,0.7s,baz=253,slow=6.8,SNR=11								
KKAR	**Karatay Array**	**66.66**	**1**	*e*P		**P**	**20 51 10.5**	**+1.1**
MK32	**Makanchi Array**	**71.28**	**9**	*e*P		**P**	**20 51 38.3**	**+0.2**
MKAR	**Makanchi Array**	**71.28**	**9**	*e*P		**P**	**20 51 37.5**	**-0.6**
MKAR	**Makanchi Array**	**71.28**	**9**	P		**P**	**20 51 38.3**	**+0.2**
1.5nm,0.8s,baz=203,slow=5.3,SNR=11								
BRTR	**Keskin Array B**	**71.64**	**331**	P		**P**	**20 51 41.5**	**+1.0**
0.9nm,0.8s,baz=174,slow=4.8,SNR=4.2								
BR101	**Keskin Array S**	**71.64**	**331**	*e*P		**P**	**20 51 41.5**	**+1.0**
ABKAR	**Akbulak array**	**73.32**	**353**	*e*P		**P**	**20 51 50.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**75.86**	**291**	P		**P**	**20 52 05.9**	**+0.2**
1.3nm,1.0s,baz=133,slow=8.7,SNR=4.6								
TOA1	**Torodi Ar. Sit**	**75.86**	**291**	*e*P		**P**	**20 52 05.9**	**+0.2**
ZALV	**Zalesovo Beam**	**78.62**	**9**	P		**P**	**20 52 20.8**	**+0.6**
1.7nm,0.7s,baz=195,slow=4.6,SNR=5.3								
ZAA1	**Zalesovo Array**	**78.63**	**9**	*e*P		**P**	**20 52 20.8**	**+0.5**
AKASG	**Malin Array Be**	**82.38**	**335**	P		**P**	**20 52 41.6**	**+1.1**
0.5nm,0.6s,baz=140,slow=4.3,SNR=3.5								
PBMO	**Poplar Bluff**	**158.56**	**311**	*e*PKPdf		**PKPdf**	**21 00 17.2**	**+0.6**
BEKR	**Beckworth**	**161.99**	**26**	*e*PKPdf		**PKPdf**	**21 00 20.8**	**+0.2**
PAHR	**Pah Rah Range**	**162.50**	**24**	*e*PKPdf		**PKPdf**	**21 00 19.5**	**-1.6**
ABTX	**Abilene, Hawle**	**167.14**	**315**	*e*PKPdf		**PKPdf**	**21 00 24.9**	**-0.3**

*IDC **09** 20:41:21.6±1.1,39°.31N×16°.12E,h0km,mb3.6/7, mb1 3.7/12,mb1mx3.5/52,mbtmp3.6/12,ML3.6/4,MS4.1/2, Ms1 4.2/2,ms1mx2.8/44,Error ellipse: s-maj=20.5km s-min=17.1km az=92.0*
*ROM **09** 20:41:22.4±0.1,39°.177N±0°.005×15°.993E±0°.009, h20km±1km,ML3.4/99,Error ellipse: s-maj=0.6km s-min=0.5km az=289.0*
*NEIC **09** 20:41:22.4±0.8,39°.20N×16°.06E,h10km±6km, ML3.4(ROM),Error ellipse: s-maj=5.6km s-min=4.7km az=93.0*
NEIC Felt at Castrolibero.
*PDG **09** 20:41:22.0±0.4,39°.18N×15°.98E,h29km,ML3.5/9,Error ellipse: s-maj=0.6km s-min=1.1km az=0.0*
*BEO **09** 20:41:23.8±0.8,39°.35N×16°.04E,h7km±4km,ML3.3/9*
ISC 09 20:41:23.0±0.9,39°.18N±0°.02×16°.03E±0°.02,h19km±2km, n353,σ1§16/349,mb3.8/7,17C-10D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CAR1	**CAROLEI**	**0.16**	**62**		P	**Pg**	**20 41 27.9**	**+0.4**
CAR1					S	**Sg**	**20 41 31.1**	**+0.5**
CAR1					AML	AML		
comp=E,90950μm,0.4s								
CAR1					AML	AML		
CAR1					AML	AML		
CAR1					AML	AML		
CAR1					AML	AML		
comp=E,90950μm,0.3s								
CAR1					AML	AML		
CAR1					AML	AML		
CAR1					AML	AML		
CAR1					AML	AML		
CAR1					AML	AML		
CAR1					AML	AML		
comp=E,90950μm,0.3s								
CAR1					AML	AML		
CET2	**Cetraro**	**0.35**	**351**		P	**Pb**	**20 41 31.2**	**+0.4**
CET2					S	**Sb**	**20 41 36.2**	**+0.2**
CET2					AML	AML		
comp=E,84450μm,0.3s								
CET2					AML	AML		
comp=N,68400μm,1.3s							

PIPA				AML	AML	
	comp=N,7360μm,0.3s					
PIPA				AML	AML	
	comp=E,11150μm,0.2s					
PIPA				AML	AML	
	comp=E,11040μm,0.2s					
IST3	**Stromboli F**	**0.73**	**239**	P	**Pn**	**20 41 37.9 -0.3**
IST3	**Stromboli F**	**0.73**	**239**	P	**Pn**	**20 41 37.9 -0.3**
IST3				AML	AML	
	comp=E,6685μm,1.5s					
IST3				AML	AML	
	comp=N,9825μm,0.4s					
IST3				AML	AML	
	comp=E,6685μm,1.5s					
IST3				AML	AML	
	comp=N,9825μm,0.4s					
IST3				AML	AML	
	comp=N,9825μm,0.4s					
IST3				AML	AML	
	comp=E,6685μm,1.5s					
SALB	**San Lorenzo Be**	**0.74**	**19**	P	**Pb**	**20 41 36.8 -0.5**
SALB	**San Lorenzo Be**	**0.74**	**19**	P	**Pb**	**20 41 37.2 -0.1**
SALB				AML	AML	
	comp=E,3490μm,1.4s					
SALB				AML	AML	
	comp=N,2130μm,1.1s					
SALB				AML	AML	
	comp=E,3760μm,1.4s					
SALB				AML	AML	
	comp=N,2280μm,1.1s					
SALB				AML	AML	
	comp=E,3485μm,1.4s					
SALB				AML	AML	
	comp=N,2130μm,1.1s					
SALB				AML	AML	
	comp=E,3760μm,1.4s					
SALB				AML	AML	
	comp=N,2280μm,1.1s					
SALB				AML	AML	
	comp=E,3485μm,1.4s					
SALB				AML	AML	
	comp=N,2130μm,1.1s					
SALB				AML	AML	
	comp=E,3760μm,1.4s					
SALB				AML	AML	
	comp=N,2280μm,1.1s					
SALB				AML	AML	
	comp=E,3485μm,1.4s					
SALB				AML	AML	
	comp=N,2280μm,1.1s					
SALB				AML	AML	
	comp=N,2130μm,1.1s					
SALB				AML	AML	
	comp=E,3760μm,1.4s					
LADO	**San Nicola del**	**0.75**	**82**	P	**Pb**	**20 41 37.0 -0.4**
T0721	**Laino Castello**	**0.76**	**357**	P	**Pb**	**20 41 34.8 -2.8**
T0721	**Laino Castello**	**0.76**	**357**	P	**Pb**	**20 41 37.3 -0.3**
T0721	**Laino Castello**	**0.76**	**357**	P	**Pb**	**20 41 37.4 -0.3**
T0721				AML	AML	
	comp=E,8220μm,0.5s					
T0721				AML	AML	
	comp=N,7140μm,0.8s					
T0721				AML	AML	
	comp=E,7390μm,0.5s					
T0721				AML	AML	
	comp=N,6785μm,0.2s					
T0721				AML	AML	
	comp=E,8220μm,0.5s					
T0721				AML	AML	
	comp=N,7140μm,0.8s					
T0721				AML	AML	
	comp=E,7385μm,0.5s					
T0721				AML	AML	
	comp=N,6780μm,0.2s					
T0721				AML	AML	
	comp=E,8220μm,0.5s					
T0721				AML	AML	
	comp=E,7385μm,0.5s					
T0721				AML	AML	
	comp=N,6780μm,0.2s					
T0721				AML	AML	
	comp=N,7140μm,0.8s					
T0721	**Laino Castello**	**0.76**	**357**	P	**Pb**	**20 41 37.4 -0.2**
ISTR	**Stromboli Gino**	**0.76**	**239**	P	**Pg**	**20 41 37.7 -0.2**
ISTR				AML	AML	
	comp=E,5535μm,0.4s					
ISTR				AML	AML	
	comp=N,4930μm,0.2s					
ISTR				AML	AML	
	comp=E,5530μm,0.4s					
ISTR				AML	AML	
	comp=N,4930μm,0.2s					
ISTR				AML	AML	
	comp=N,4930μm,0.2s					
ISTR				AML	AML	
	comp=E,5530μm,0.4s					
ISTR	**Stromboli Gino**	**0.76**	**239**	P	**Pg**	**20 41 37.7 -0.2**
PLAC	**Placanica**	**0.80**	**156**	P	**Pb**	**20 41 37.7 -0.5**
PLAC				S	**Sg**	**20 41 49.7 +0.6**
PLAC				AML	AML	
	comp=E,4565μm,1.5s					
PLAC				AML	AML	
	comp=N,4030μm,0.6s					
PLAC				AML	AML	
	comp=E,4250μm,0.6s					
PLAC				AML	AML	
	comp=N,4790μm,1.5s					
PLAC				AML	AML	
	comp=E,4565μm,1.5s					
PLAC				AML	AML	
	comp=N,4035μm,0.6s					
PLAC				AML	AML	
	comp=E,4250μm,0.6s					
PLAC				AML	AML	
	comp=N,4790μm,1.5s					
PLAC				AML	AML	
	comp=N,4790μm,1.5s					
PLAC				AML	AML	
	comp=E,4565μm,1.5s					
PLAC				AML	AML	
	comp=E,4250μm,0.6s					
PLAC				AML	AML	
	comp=N,4035μm,0.6s					
PLAC	**Placanica**	**0.80**	**156**	P	**Pn**	**20 41 39.9 +0.7**
PLAC	**Placanica**	**0.80**	**156**	S	**Sg**	**20 41 49.6 +0.5**
CUC	**Castrocucco**	**0.83**	**349**	P	**Pb**	**20 41 37.7 -1.2**
CUC	**Castrocucco**	**0.83**	**349**	P	**Pb**	**20 41 37.7 -1.2**
CUC	**Castrocucco**	**0.83**	**349**	P	**Pb**	**20 41 37.7 -1.2**
CUC				S	**Sg**	**20 41 50.0 -0.2**
CUC				AML	AML	
	comp=E,4420μm,1.2s					
CUC				AML	AML	
	comp=N,2660μm,1.6s					
CUC				AML	AML	
	comp=E,5565μm,1.2s					
CUC				AML	AML	
	comp=N,3310μm,1.6s					
CUC				AML	AML	
	comp=E,4415μm,1.2s					
CUC				AML	AML	
	comp=N,2655μm,1.6s					
CUC				AML	AML	
	comp=E,5565μm,1.2s					
CUC				AML	AML	
	comp=N,3310μm,1.6s					
CUC				AML	AML	
	comp=E,5565μm,1.2s					
CUC				AML	AML	
	comp=N,3310μm,1.6s					
CUC				AML	AML	
	comp=N,2655μm,1.6s					
CUC				AML	AML	
	comp=E,4415μm,1.2s					
CUC	**Castrocucco**	**0.83**	**349**	S	**Sg**	**20 41 49.6 -0.6**
CUC	**Castrocucco**	**0.83**	**349**	S	**Sn**	**20 41 52.0 +0.5**
CEL	**Celeste**	**0.92**	**187**	ePg	**Pb**	**20 41 38.8 -1.6**
CEL	**Celeste**	**0.92**	**187**	P	**Pb**	**20 41 39.3 -1.1**
CEL	**Celeste**	**0.92**	**187**	P	**Pb**	**20 41 39.5 -0.9**
CEL				S	**Sn**	**20 41 53.4 -0.4**
CEL				AML	AML	
	comp=E,3280μm,1.6s					
CEL				AML	AML	
	comp=N,3565μm,0.6s					
CEL				AML	AML	
	comp=E,3980μm,1.6s					
CEL				AML	AML	
	comp=N,4285μm,0.5s					
CEL				AML	AML	
	comp=E,3280μm,1.6s					
CEL				AML	AML	
	comp=N,3565μm,0.6s					
CEL				AML	AML	
	comp=E,3980μm,1.6s					
CEL				AML	AML	
	comp=N,4285μm,0.5s					
CEL				AML	AML	
	comp=E,3280μm,1.6s					
CEL				AML	AML	
	comp=N,3565μm,0.6s					
CEL				AML	AML	
	comp=E,3980μm,1.6s					
CEL				AML	AML	
	comp=N,4285μm,0.5s					
CEL	**Celeste**	**0.92**	**187**	S	**Sn**	**20 41 53.5 -0.3**
ORI	**Oriolo Calabro**	**0.94**	**20**	P	**Pb**	**20 41 40.7 0.0**
ORI	**Oriolo Calabro**	**0.94**	**20**	P	**Pb**	**20 41 40.7 0.0**
ORI				AML	AML	
	comp=E,5900μm,0.4s					
ORI				AML	AML	
	comp=N,5320μm,0.3s					
ORI				AML	AML	
	comp=N,5320μm,0.3s					
ORI				AML	AML	
	comp=E,5900μm,0.4s					
MSCL	**Scilla**	**0.96**	**191**	P	**Pb**	**20 41 40.0 -1.1**
MSCL				AML	AML	
	comp=E,7790μm,0.9s					
MSCL				AML	AML	
	comp=N,10025μm,0.6s					
MSCL				AML	AML	
	comp=E,7790μm,0.9s					
MSCL				AML	AML	
	comp=N,10025μm,0.6s					
MSCL				AML	AML	
	comp=N,10025μm,0.6s					
MSCL				AML	AML	
	comp=E,7790μm,0.9s					
MSRU	**Castanea**	**1.00**	**204**	P	**Pb**	**20 41 40.7 -1.0**
MSRU				AML	AML	
	comp=E,13050μm,0.4s					
MSRU				AML	AML	
	comp=N,6150μm,0.5s					
MSRU				AML	AML	
	comp=E,13050μm,0.4s					
MSRU				AML	AML	
	comp=N,6150μm,0.5s					
SIRI	**Monte Sirino -**	**1.01**	**353**	P	**Pb**	**20 41 40.5 -1.4**
SIRI				AML	AML	
	comp=E,4230μm,1.1s					
SIRI				AML	AML	
	comp=N,3460μm,0.2s					
SIRI				AML	AML	
	comp=E,4380μm,1.1s					
SIRI				AML	AML	
	comp=N,3580μm,0.3s					
SIRI				AML	AML	
	comp=E,4230μm,1.1s					
SIRI				AML	AML	
	comp=N,3460μm,0.2s					
SIRI				AML	AML	
	comp=E,4380μm,1.1s					
SIRI				AML	AML	
	comp=N,3580μm,0.3s					
SIRI				AML	AML	
	comp=N,3580μm,0.3s					
SIRI				AML	AML	
	comp=E,4380μm,1.1s					
SIRI				AML	AML	
	comp=E,4230μm,1.1s					
SIRI				AML	AML	
	comp=N,3460μm,0.2s					
SCHR	**S. Chirico Rap**	**1.02**	**2**	P	**Pb**	**20 41 40.9 -1.2**
SCHR				AML	AML	
	comp=E,892μm,0.9s					
SCHR				AML	AML	
	comp=N,940μm,1.2s					
SCHR				AML	AML	
	comp=E,888μm,0.9s					
SCHR				AML	AML	
	comp=N,942μm,1.2s					
SCHR				AML	AML	
	comp=N,942μm,1.2s					
SCHR				AML	AML	
	comp=E,888μm,0.9s					
SCHR	**S. Chirico Rap**	**1.02**	**2**	P	**Pb**	**20 41 41.0 -1.0**
MGR	**Morigerati**	**1.03**	**339**	P	**Pb**	**20 41 40.8 -1.3**
MGR				AML	AML	
	comp=E,2810μm,0.3s					
MGR				AML	AML	
	comp=N,2360μm,1.2s					
MGR				AML	AML	
	comp=E,2330μm,0.3s					
MGR				AML	AML	
	comp=N,2825μm,0.3s					
MGR				AML	AML	
	comp=E,2810μm,0.3s					
MGR				AML	AML	
	comp=N,2365μm,1.2s					
MGR				AML	AML	
	comp=E,2330μm,0.3s					
MGR				AML	AML	
	comp=N,2825μm,0.3s					
MGR				AML	AML	
	comp=E,2810μm,0.3s					
MGR				AML	AML	
	comp=N,2825μm,0.3s					
MGR				AML	AML	
	comp=N,2365μm,1.2s					
MGR				AML	AML	
	comp=E,2330μm,0.3s					
BULG	**Bulgheria - Ca**	**1.03**	**331**	P	**Pb**	**20 41 41.6 -0.6**
BULG				AML	AML	
	comp=E,2440μm,1.2s					
BULG				AML	AML	
	comp=N,3855μm,0.3s					
BULG				AML	AML	
	comp=E,2545μm,1.2s					
BULG				AML	AML	
	comp=N,3970μm,0.3s					
BULG				AML	AML	
	comp=E,2435μm,1.2s					
BULG				AML	AML	
	comp=N,3860μm,0.3s					
BULG				AML	AML	
	comp=E,2545μm,1.2s					
BULG				AML	AML	
	comp=N,3970μm,0.3s					
BULG				AML	AML	
	comp=E,2435μm,1.2s					
BULG				AML	AML	
	comp=N,3970μm,0.3s					
BULG				AML	AML	
	comp=N,3860μm,0.3s					
BULG				AML	AML	
	comp=E,2545μm,1.2s					
BULG	**Bulgheria - Ca**	**1.03**	**331**	P	**Pb**	**20 41 41.6 -0.6**
MILZ	**Milazzo**	**1.10**	**215**	P	**Pb**	**20 41 42.1 -1.3**
MILZ				AML	AML	
	comp=E,5005μm,0.4s					
MILZ				AML	AML	
	comp=N,7540μm,0.5s					
MILZ				AML	AML	
	comp=E,5005μm,0.4s					
MILZ				AML	AML	
	comp=N,7540μm,0.5s					
MILZ				AML	AML	
	comp=N,7540μm,0.5s					
MILZ				AML	AML	
	comp=E,5005μm,0.4s					
SOI	**Samo**	**1.10**	**179**	P	**Pn**	**20 41 42.2 -1.2**
SOI	**Samo**	**1.10**	**179**	P	**Pn**	**20 41 42.2 -1.2**
SOI				AML	AML	
	comp=E,2125μm,0.4s					
SOI				AML	AML	
	comp=N,2485μm,0.5s					
SOI				AML	AML	
	comp=E,2125μm,0.4s					
SOI				AML	AML	
	comp=N,2480μm,0.5s					
SOI				AML	AML	
	comp=N,2480μm,0.5s					
SOI				AML	AML	
	comp=E,2125μm,0.4s					
MTSN	**Montesano sull**	**1.11**	**349**	P	**Pb**	**20 41 41.8 -1.8**
MTSN				AML	AML	
	comp=E,1905μm,0.6s					
MTSN				AML	AML	
	comp=N,2335μm,0.5s					
MTSN				AML	AML	
	comp=N,2335μm,0.5s					
MTSN				AML	AML	
	comp=E,1905μm,0.6s					
MTSN	**Montesano sull**	**1.11**	**349**	P	**Pb**	**20 41 41.8 -1.8**
ATN	**Antennamare**	**1.11**	**204**	P	**Pb**	**20 41 42.0 -1.5**
ATN	**Antennamare**	**1.11**	**204**	P	**Pb**	**20 41 42.0 -1.5**
ATN	**Antennamare**	**1.11**	**204**	P	**Pb**	**20 41 42.1 -1.5**
ATN				AML	AML	
	comp=E,5340μm,1.5s					
ATN				AML	AML	
	comp=N,4125μm,0.4s					
ATN				AML	AML	
	comp=E,5340μm,1.5s					
ATN				AML	AML	
	comp=N,4125μm,0.4s					
ATN				AML	AML	
	comp=E,5340μm,1.5s					
ATN				AML	AML	
	comp=N,4125μm,0.4s					
LLI	**Lipari**	**1.12**	**229**	P	**Pn**	**20 41 43.1 -0.5**
LLI				AML	AML	
	comp=E,8230μm,0.6s					
LLI				AML	AML	
	comp=N,13200μm,0.5s					
LLI				AML	AML	
	comp=E,8950μm,0.6s					
LLI				AML	AML	
	comp=N,14100μm,0.5s					
LLI				AML	AML	
	comp=N,14100μm,0.5s					
LLI				AML	AML	
	comp=E,8950μm,0.6s					
VPL	**Vulcano Piano**	**1.14**	**226**	P	**Pn**	**20 41 43.0 -1.0**
VPL				AML	AML	
	comp=E,12850μm,0.5s					
VPL				AML	AML	
	comp=N,11700μm,0.5s					
VPL				AML	AML	
	comp=E,12850μm,0.5s					
VPL				AML	AML	
	comp=N,11700μm,0.5s					
VPL				AML	AML	
	comp=E,12850μm,0.5s					
VPL				AML	AML	
	comp=N,11700μm,0.5s					
VPL	**Vulcano Piano**	**1.14**	**226**	P	**Pn**	**20 41 43.0 -1.0**
MCEL	**Monticello**	**1.16**	**351**	P	**Pn**	**20 41 42.5 -1.7**
MCEL				AML	AML	
	comp=E,1255μm,0.4s					
MCEL				AML	AML	
	comp=N,1323μm,0.3s					
MCEL				AML	AML	
	comp=E,1285μm,0.4s					
MCEL				AML	AML	
	comp=N,1380μm,0.3s					
MCEL				AML	AML	
	comp=E,1255μm,0.4s					
MCEL				AML	AML	
	comp=N,1380μm,0.3s					
MCEL				AML	AML	
	comp=N,1323μm,0.3s					
MCEL				AML	AML	
	comp=E,1285μm,0.4s					
MPNC	**Port Mandanici**	**1.16**	**207**	P	**Pn**	**20 41 42.7 -1.5**
MPNC				AML	AML	
	comp=E,8620μm,0.6s					
MPNC				AML	AML	
	comp=N,7305μm,0.7s					
MPNC				AML	AML	
	comp=E,8620μm,0.6s					
MPNC				AML	AML	
	comp=N,7305μm,0.7s					
MPNC	**Port Mandanici**	**1.16**	**207**	P	**Pn**	**20 41 42.7 -1.5**
MTTG	**Motta San Giov**	**1.20**	**193**	P	**Pn**	**20 41 43.4 -1.4**
MTTG				AML	AML	
	comp=E,2510μm,0.6s					
MTTG				AML	AML	
	comp=N,2625μm,0.4s					
MTTG				AML	AML	
	comp=E,2510μm,0.6s					
MTTG				AML	AML	
	comp=N,2625μm,0.4s					
MTTG				AML	AML	
	comp=E,2510μm,0.6s					
MTTG				AML	AML	
	comp=N,2625μm,0.4s					
MTTG	**Motta San Giov**	**1.20**	**193**	P	**Pn**	**20 41 43.4 -1.4**
CRAC	**Craco**	**1.23**	**15**	P	**Pg**	**20 41 46.2 -0.5**
CRAC				AML	AML	
	comp=E,1855μm,0.8s					
CRAC				AML	AML	
	comp=N,1118μm,0.3s					
CRAC				AML	AML	
	comp=E,1855μm,0.8s					
CRAC				AML	AML	
	comp=N,1118μm,0.3s					
SLCN	**Sala Consilina**	**1.25**	**346**	P	**Pn**	**20 41 44.0 -1.5**
SLCN				AML	AML	
	comp=E,2535μm,0.4s					
SLCN				AML	AML	
	comp=N,1695μm,1.0s					
SLCN				AML	AML	
	comp=E,2765μm,1.5s					
SLCN				AML	AML	
	comp=N,1690μm,1.0s					
SLCN				AML	AML	
	comp=E,2540μm,0.4s					
SLCN				AML	AML	
	comp=N,1700μm,1.0s					
SLCN				AML	AML	
	comp=E,2765μm,1.5s					
SLCN				AML	AML	
	comp=N,1690μm,1.0s					
SLCN				AML	AML	
	comp=N,1690μm,1.0s					
SLCN				AML	AML	
	comp=E,2765μm,1.5s					
SLCN				AML	AML	
	comp=E,2540μm,0.4s					
SLCN				AML	AML	
	comp=N,1700μm,1.0s					
CMPR	**Campora**	**1.27**	**334**	P	**Pn**	**20 41 44.9 -0.9**
CMPR				AML	AML	
	comp=E,1640μm,0.4s					
CMPR				AML	AML	
	comp=N,2470μm,0.5s					
CMPR				AML	AML	
	comp=E,1640μm,0.4s					
CMPR				AML	AML	
	comp=N,2470μm,0.5s					
MCSR	**Castroreale**	**1.27**	**209**	P	**Pn**	**20 41 44.4 -1.4**
MCSR				AML	AML	
	comp=E,6645μm,0.3s					
MCSR				AML	AML	
	comp=N,5540μm,0.3s					
MCSR				AML	AML	
	comp=E,6645μm,0.3s					
MCSR				AML	AML	
	comp=N,5540μm,0.3s					
MCSR				AML	AML	
	comp=N,5540μm,0.3s					
MCSR				AML	AML	
	comp=E,6645μm,0.3s					
PTRP	**Pietrapertosa**	**1.34**	**1**	P	**Pn**	**20 41 46.7 -0.1**
PTRP	**Pietrapertosa**	**1.34**	**1**	P	**Pn**	**20 41 46.7 -0.1**
AIO	**Antillo**	**1.36**	**208**	P	**Pn**	**20 41 45.9 -1.1**
AIO				AML	AML	
	comp=E,1125μm,0.6s					
AIO				AML	AML	
	comp=N,1365μm,0.4s					
AIO				AML	AML	
	comp=E,1125μm,0.6s					
AIO				AML	AML	
	comp=N,1365μm,0.4s					
CDRU	**Civita di Ruta**	**1.42**	**337**	P	**Pn**	**20 41 46.8 -1.1**
CDRU	**Civita di Ruta**	**1.42**	**337**	P	**Pn**	**20 41 46.9 -1.1**
CDRU				AML	AML	
	comp=E,1186μm,0.5s					
CDRU				AML	AML	
	comp=N,520μm,1.0s					
CDRU				AML	AML	
	comp=E,1186μm,0.5s					
CDRU				AML	AML	

comp=N,520µm,1.0s
MUCR Ucria 1.45 219 P Pn 20 41 47.3 -0.9
MUCR AML AML
comp=E,1000µm,0.4s
MUCR AML AML
comp=N,1555µm,0.4s
MUCR AML AML
comp=E,1000µm,0.4s
MUCR AML AML
comp=N,1555µm,0.4s
MUCR Ucria 1.45 219 P Pn 20 41 47.3 -0.9
IACL Alicudi 1.46 244 P Pn 20 41 47.3 -1.0
IACL AML AML
comp=E,878µm,0.5s
IACL AML AML
comp=N,927µm,0.4s
IACL AML AML
comp=E,878µm,0.5s
IACL AML AML
comp=N,927µm,0.4s
IACL Alicudi 1.46 244 P Pn 20 41 47.6 -0.6
MIGL Miglionico 1.46 12 P Pn 20 41 48.4 +0.1
MIGL Miglionico 1.46 12 P Pb 20 41 49.0 -0.6
MIGL AML AML
comp=E,2660µm,0.5s
MIGL AML AML
comp=N,2595µm,1.0s
MIGL AML AML
comp=N,2595µm,1.0s
MIGL AML AML
comp=E,2660µm,0.5s
MCPD Capo d'Orlando 1.47 224 P Pn 20 41 47.6 -0.8
MCPD Capo d'Orlando 1.47 224 P Pn 20 41 47.6 -0.8
MCPD AML AML
comp=E,885µm,0.6s
MCPD AML AML
comp=N,812µm,0.5s
MCPD AML AML
comp=N,812µm,0.5s
MCPD AML AML
comp=E,885µm,0.6s
PZUN Potenza 1.48 353 P Pb 20 41 49.6 -0.2
PZUN AML AML
comp=E,648µm,0.5s
PZUN AML AML
comp=N,642µm,0.8s
PZUN AML AML
comp=E,648µm,0.5s
PZUN AML AML
comp=N,642µm,0.8s
PZUN Potenza 1.48 353 P Pb 20 41 49.9 +0.1
LTRZ Laterza 1.55 23 P Pn 20 41 49.6 +0.1
MATE Matera 1.56 19⇑iP Pn 20 41 49.1 -0.5
MATE Matera 1.56 19 P Pn 20 41 49.7 +0.1
MATE AML AML
comp=E,566µm,0.3s
MATE AML AML
comp=N,798µm,0.6s
MATE AML AML
comp=N,798µm,0.6s
MATE AML AML
comp=E,566µm,0.3s
MATE Matera 1.56 19 P Pn 20 41 49.8 +0.1
MSFR San Fratello 1.60 225 P Pn 20 41 49.8 -0.5
MSFR AML AML
comp=E,398µm,0.7s
MSFR AML AML
comp=N,509µm,1.3s
MSFR AML AML
comp=N,509µm,1.3s
MSFR AML AML
comp=E,398µm,0.7s
MSFR San Fratello 1.60 225 P Pn 20 41 49.8 -0.5
ACER Acerenza 1.61 358 P Pn 20 41 50.9 +0.5
ACER AML AML
comp=E,1063µm,0.7s
ACER AML AML
comp=N,684µm,0.5s
ACER AML AML
comp=E,1090µm,0.7s
ACER AML AML
comp=N,708µm,0.5s
ACER AML AML
comp=N,708µm,0.5s
ACER AML AML
comp=N,684µm,0.5s
ACER AML AML
comp=E,1090µm,0.7s
ACER AML AML
comp=E,1063µm,0.7s
MNO Monte Soro 1.62 220 P Pn 20 41 50.9 +0.2
MNO AML AML
comp=E,1513µm,0.5s
MNO AML AML
comp=N,1360µm,0.8s
MNO AML AML
comp=E,1513µm,0.5s
MNO AML AML
comp=N,1360µm,0.8s
MRLC Muro Lucano 1.63 345 P Pn 20 41 50.6 0.0
MRLC AML AML
comp=E,376µm,0.5s
MRLC AML AML
comp=N,454µm,1.1s
MRLC AML AML
comp=N,454µm,1.1s
MRLC AML AML
comp=E,376µm,0.5s
MRLC Muro Lucano 1.63 345 P Pn 20 41 50.7 0.0
TAR1 Taranto 1.66 35⇑iPn Pn 20 41 51.2 +0.2
MASS Massafra 1.69 30⇑iPn Pn 20 41 51.4 0.0
ESLN Serra La Nave 1.70 210 P Pb 20 41 52.6 -1.1
ESLN AML AML
comp=E,1235µm,0.7s
ESLN AML AML
comp=N,906µm,0.6s
ESLN AML AML
comp=E,1235µm,0.7s
ESLN AML AML
comp=N,906µm,0.6s
ESLN Serra La Nave 1.70 210 P Pb 20 41 53.3 -0.4
SN1 Capo Mulini Ma 1.70 197 P Pb 20 41 52.7 -0.7
SN1 AML AML
comp=E,1710µm,0.7s
SN1 AML AML
comp=N,1090µm,0.7s
SN1 AML AML
comp=N,1090µm,0.7s
SN1 AML AML
comp=E,1710µm,0.7s
MCRV Calabrutti - M 1.73 338 P Pn 20 41 52.0 -0.2
MCRV AML AML
comp=E,460µm,0.3s
MCRV AML AML
comp=N,650µm,0.5s
MCRV AML AML
comp=N,650µm,0.5s
MCRV AML AML
comp=E,460µm,0.3s
MCRV Calabrutti - M 1.73 338 P Pn 20 41 52.2 +0.1
PALZ Palazzo San Ge 1.76 358 P Pn 20 41 52.6 +0.1
PALZ AML AML
comp=E,726µm,1.3s
PALZ AML AML
comp=N,590µm,0.9s
PALZ AML AML
comp=N,590µm,0.9s
PALZ AML AML
comp=E,726µm,1.3s
PALZ Palazzo San Ge 1.76 358 P Pn 20 41 52.6 +0.1
AMUR Altamura 1.78 14 P Pn 20 41 52.6 -0.2
AMUR AML AML
comp=E,423µm,0.9s
AMUR AML AML
comp=N,321µm,0.4s
AMUR AML AML
comp=E,423µm,0.9s
AMUR AML AML
comp=N,321µm,0.4s
NOCI Noci 1.79 26 P Pn 20 41 52.6 -0.3
NOCI AML AML
comp=E,696µm,1.5s
NOCI AML AML
comp=N,614µm,0.3s
NOCI AML AML
comp=N,614µm,0.3s
NOCI AML AML
comp=E,696µm,1.5s
NOCI Noci 1.79 26 P Pn 20 41 52.6 -0.3
ESML S. M. di Licod 1.80 211 P Pb 20 41 55.0 -0.3
ESML S. M. di Licod 1.80 211 AML AML
comp=E,849µm,0.6s
ESML AML AML
comp=N,930µm,0.8s
ESML AML AML
comp=E,849µm,0.6s
ESML AML AML
comp=N,930µm,0.8s
CGL1 Ceglie Messapi 1.85 37⇑iPn Pn 20 41 53.5 -0.1
SNAL S. Angelo Dei 1.85 340 P Pn 20 41 53.9 +0.1
SNAL AML AML
comp=E,600µm,0.9s
SNAL AML AML
comp=N,522µm,1.2s
SNAL AML AML
comp=N,522µm,1.2s
SNAL AML AML
comp=E,600µm,0.9s
GALF Gagliano Caste 1.86 219 P Pb 20 41 55.5 -0.9
GALF Gagliano Caste 1.86 219 AML AML
comp=E,698µm,0.8s
GALF AML AML
comp=E,698µm,0.8s
GALF AML AML
comp=N,560µm,0.6s
GALF AML AML
comp=N,560µm,0.6s
FASA Fasano 1.93 31⇑iPn Pn 20 41 54.4 -0.3
CAFE Carife 1.94 342 P Pn 20 41 55.1 +0.1
CAFE AML AML
comp=E,454µm,0.9s
CAFE AML AML
comp=N,310µm,0.7s
CAFE AML AML
comp=N,310µm,0.7s
CAFE AML AML
comp=E,454µm,0.9s
CAFE Carife 1.94 342 P Pn 20 41 55.7 +0.7
CAGR Agira 1.96 218 P Pb 20 41 58.1 0.0
CAGR Agira 1.96 218 AML AML
comp=E,610µm,0.6s
CAGR AML AML
comp=N,718µm,0.6s
CAGR AML AML
comp=N,718µm,0.6s
CAGR AML AML
comp=E,610µm,0.6s
MESG Mesagne 1.99 44 P Pn 20 41 55.5 0.0
MESG AML AML
comp=E,488µm,0.6s
MESG AML AML
comp=N,378µm,1.0s
MESG AML AML
comp=E,488µm,0.6s
MESG AML AML
comp=N,378µm,1.0s
MESG Mesagne 1.99 44 P Pn 20 41 55.9 +0.4
HAGA Augusta 2.01 200 P Pn 20 41 55.8 -0.1
HAGA Augusta 2.01 200 P Pn 20 41 55.8 -0.1
HAGA AML AML
comp=E,509µm,0.4s
HAGA AML AML
comp=N,506µm,0.8s
HAGA AML AML
comp=E,509µm,0.4s
HAGA AML AML
comp=N,506µm,0.8s
PETRA Petralia Sopra 2.02 229 P Pn 20 41 56.3 +0.2
PETRA Petralia Sopra 2.02 229 AML AML
comp=E,395µm,0.5s
PETRA AML AML
comp=E,395µm,0.5s
PETRA AML AML
comp=N,449µm,0.7s
PETRA AML AML
comp=N,449µm,0.7s
SGTA Sant Agata di 2.02 346 P Pn 20 41 57.3 +1.3
SGTA Sant Agata di 2.02 346 AML AML
comp=N,187µm,0.8s
SGTA AML AML
comp=E,240µm,0.5s
SGTA AML AML
comp=N,187µm,0.8s
SGTA AML AML
comp=E,240µm,0.5s
AGST Augusta-Monte 2.02 198 P Pn 20 41 56.2 +0.2
AGST Augusta-Monte 2.02 198 AML AML
comp=N,605µm,1.2s
AGST AML AML
comp=E,594µm,0.5s
AGST AML AML
comp=E,594µm,0.5s
AGST AML AML
comp=N,605µm,1.2s
BAI Bari 2.03 18 *e*Pn **Pn 20 41 55.7 -0.5**
HLNI Lentini 2.04 207 P Pn 20 41 56.3 0.0
HLNI AML AML
comp=E,318µm,0.7s
HLNI AML AML
comp=N,254µm,0.8s
HLNI AML AML
comp=N,254µm,0.8s
HLNI AML AML
comp=E,318µm,0.7s
HCRL Carlentini 2.05 203 P Pn 20 41 56.3 -0.1
HCRL Carlentini 2.05 203 P Pn 20 41 56.4 0.0
HCRL AML AML
comp=E,712µm,0.2s
HCRL AML AML
comp=N,566µm,1.0s
HCRL AML AML
comp=E,712µm,0.2s
HCRL AML AML
comp=N,566µm,1.0s
SCTE Santa Cesarea 2.08 64 P Pn 20 41 57.0 +0.1
SCTE Santa Cesarea 2.08 64 AML AML
comp=N,310µm,1.1s
SCTE AML AML
comp=E,454µm,1.0s
SCTE AML AML
comp=N,310µm,1.1s
SCTE AML AML
comp=E,454µm,1.0s
MRB1 Monte Rocchett 2.11 338 P Pb 20 41 59.6 -1.0
MRB1 Monte Rocchett 2.11 338 AML AML
comp=E,432µm,0.7s
MRB1 AML AML
comp=E,432µm,0.7s
MRB1 AML AML
comp=N,488µm,0.6s
MRB1 AML AML
comp=N,488µm,0.6s
VAE Valguarnera 2.12 217 Pn **Pb 20 42 00.3 -0.5**
comp=N,3.5nm,0.3s,baz=85,slow=23,SNR=13
VAE Sn **Sg 20 42 30.4 -0.9**
comp=N,5.0nm,0.3s,baz=3.4,slow=19,SNR=3.6
VAE Lg Lg 20 42 41.9
comp=N,9.7nm,0.3s,baz=0.9,slow=13,SNR=3.4
SSY Sortino 2.16 201 P Pn 20 41 57.9 -0.1
SSY Sortino 2.16 201 AML AML
comp=E,446µm,0.7s
SSY AML AML
comp=N,920µm,0.4s
SSY AML AML
comp=E,446µm,0.7s
SSY AML AML
comp=N,920µm,0.4s
PAOL Paolisi 2.16 329 P Pn 20 41 58.2 +0.2
PAOL Paolisi 2.16 329 AML AML
comp=E,176µm,0.6s
PAOL AML AML
comp=E,176µm,0.6s
PAOL AML AML
comp=N,219µm,1.5s
PAOL AML AML
comp=N,219µm,1.5s
RESU Resuttano 2.18 226 P Pb 20 42 00.8 -1.0
RESU Resuttano 2.18 226 AML AML
comp=N,227µm,0.4s
RESU AML AML
comp=E,218µm,0.5s
RESU AML AML
comp=N,227µm,0.4s
RESU AML AML
comp=E,218µm,0.5s
MEU Monte Lauro 2.25 203 P Pn 20 41 59.4 +0.1
MEU Monte Lauro 2.25 203 AML AML
comp=E,526µm,1.0s
MEU AML AML
comp=N,564µm,0.4s
MEU AML AML
comp=E,526µm,1.0s
MEU AML AML
comp=N,564µm,0.4s
HVZN Vizzini 2.25 208 P Pn 20 41 59.5 +0.3
HVZN Vizzini 2.25 208 AML AML
comp=E,2580µm,0.5s
HVZN AML AML
comp=E,2580µm,0.5s
HVZN AML AML
comp=N,2275µm,1.1s
HVZN AML AML
comp=N,2275µm,1.1s
USI Ustica 2.27 259 P Pn 20 41 58.5 -0.9
USI AML AML
comp=E,478µm,0.3s
USI AML AML
comp=N,941µm,0.4s
USI AML AML
comp=N,941µm,0.4s
USI AML AML
comp=E,478µm,0.3s
USI Ustica 2.27 259 P Pn 20 41 58.8 -0.7
ALJA Alia 2.29 232 P Pn 20 42 00.6 +0.8
ALJA Alia 2.29 232 AML AML
comp=E,180µm,0.5s
ALJA AML AML
comp=E,180µm,0.5s
ALJA AML AML
comp=N,146µm,1.5s
ALJA AML AML
comp=N,146µm,1.5s
MPG Monte Pellegri 2.32 245 P Pn 20 42 00.2 0.0
HAVL Avola 2.33 198 P Pn 20 41 59.8 -0.5
HAVL Avola 2.33 198 AML AML
comp=N,552µm,0.3s
HAVL AML AML
comp=E,594µm,1.6s
HAVL AML AML
comp=N,552µm,0.3s
HAVL AML AML
comp=E,594µm,1.6s
HBSP Bosco Santo Pi 2.38 211 P Pn 20 42 01.7 +0.7
HBSP Bosco Santo Pi 2.38 211 AML AML
comp=N,664µm,0.5s
HBSP AML AML
comp=E,892µm,0.7s
HBSP AML AML
comp=N,664µm,0.5s
HBSP AML AML
comp=E,892µm,0.7s
SACR S. Croce Del S 2.44 336 P Pn 20 42 01.8 -0.1
SACR S. Croce Del S 2.44 336 AML AML
comp=N,139µm,0.8s
SACR AML AML
comp=E,130µm,0.7s
SACR AML AML
comp=N,139µm,0.8s
SACR AML AML
comp=E,130µm,0.7s
PTRJ Pietraroja 2.47 333 P Pn 20 42 02.1 -0.2
PTRJ Pietraroja 2.47 333 AML AML
comp=E,262µm,0.7s
PTRJ AML AML
comp=N,414µm,1.2s
PTRJ AML AML
comp=E,262µm,0.7s
PTRJ AML AML
comp=N,414µm,1.2s
MSAG Monte S. Angel 2.53 358 P Pn 20 42 02.5 -0.6
MSAG Monte S. Angel 2.53 358 AML AML
comp=N,472µm,0.3s
MSAG AML AML
comp=E,210µm,0.5s
MSAG AML AML
comp=N,472µm,0.3s
MSAG AML AML
comp=E,210µm,0.5s
SGG Gregorio Mates 2.54 331 P Pn 20 42 04.4 +1.2
SGG Gregorio Mates 2.54 331 AML AML
comp=E,135µm,0.5s
SGG AML AML
comp=E,135µm,0.5s
SGG AML AML
comp=N,146µm,0.6s
SGG AML AML
comp=N,146µm,0.6s
HPAC Pachino 2.58 197 P Pn 20 42 04.1 +0.3
HPAC Pachino 2.58 197 AML AML
comp=N,436µm,1.3s
HPAC AML AML
comp=E,422µm,0.9s
HPAC AML AML
comp=N,436µm,1.3s
HPAC AML AML
comp=E,422µm,0.9s
SGRT San Giovanni R 2.58 355 P Pn 20 42 03.0 -0.8
SGRT San Giovanni R 2.58 355 AML AML
comp=E,166µm,1.3s
SGRT AML AML
comp=E,166µm,1.3s
SGRT AML AML
comp=N,194µm,1.0s
SGRT AML AML
comp=N,194µm,1.0s
MELA Melanico ??? S 2.62 345 P Pn 20 42 04.2 0.0
MELA Melanico ??? S 2.62 345 AML AML
comp=E,258µm,0.4s
MELA AML AML
comp=E,258µm,0.4s
MELA AML AML
comp=N,240µm,0.5s
MELA AML AML
comp=N,240µm,0.5s
CIGN Sant'Elia a Pi 2.62 341 P Pn 20 42 05.5 +1.3
CIGN Sant'Elia a Pi 2.62 341 AML AML
comp=N,78µm,1.4s
CIGN AML AML
comp=E,79µm,0.7s
CIGN AML AML
comp=E,79µm,0.7s
CIGN AML AML
comp=N,78µm,1.4s
CLTB Caltabellotta 2.73 235 *e*Pn **Pn 20 42 07.8 +2.0**
CLTB Caltabellotta 2.73 235 P Pg 20 42 14.0 -1.2
CRJA Costa Raja 2.74 241 P Pb 20 42 11.2 -0.2
MMGO Monte Magaggia 2.83 239 P Pn 20 42 09.3 +2.1
CERA Filignano 2.86 328 P Pn 20 42 08.5 +0.8
CERA Filignano 2.86 328 AML AML
comp=N,106µm,0.9s
CERA AML AML
comp=E,103µm,0.4s
CERA AML AML
comp=N,106µm,0.9s
CERA AML AML
comp=E,103µm,0.4s
MTGR Montagna Grand 2.87 244 P Pn 20 42 06.8 -0.9
RNI2 Rionero Sannit 2.90 331 P Pn 20 42 10.8 +2.6
RNI2 Rionero Sannit 2.90 331 AML AML
comp=E,114µm,0.8s
RNI2 AML AML
comp=E,114µm,0.8s
RNI2 AML AML
comp=N,76µm,1.4s
RNI2 AML AML
comp=N,76µm,1.4s
KEK Kerkira 2.97 78 P Pn 20 42 09.0 0.0
POFI Posta Fibreno 3.09 326 P Pn 20 42 12.0 +1.2
POFI Posta Fibreno 3.09 326 AML AML
comp=E,45µm,0.9s
POFI AML AML
comp=N,35µm,0.7s
POFI AML AML
comp=E,45µm,0.9s
POFI AML AML
comp=N,35µm,0.7s
GIUL Giuliano Di Ro 3.19 319 P Pn 20 42 12.2 +0.1
GIUL Giuliano Di Ro 3.19 319 AML AML
comp=E,50µm,0.7s
GIUL AML AML
comp=E,50µm,0.7s

GIUL				AML	AML		
	comp=N,68μm,1.6s						
GIUL				AML	AML		
	comp=N,68μm,1.6s						
LPEL	**Lama dei Pelig**	**3.19**	**334**	P	**Pn**	**20 42 14.7**	**+2.5**
LPEL	**Lama dei Pelig**	**3.19**	**334**	AML	AML		
	comp=N,52μm,0.6s						
LPEL				AML	AML		
	comp=E,73μm,1.6s						
LPEL				AML	AML		
	comp=N,52μm,0.6s						
LPEL				AML	AML		
	comp=E,73μm,1.6s						
VVLD	**Villa Vallelon**	**3.26**	**326**	P	**Pn**	**20 42 14.1**	**+1.0**
VVLD	**Villa Vallelon**	**3.26**	**326**	AML	AML		
	comp=E,40μm,0.4s						
VVLD				AML	AML		
	comp=E,40μm,0.4s						
VVLD				AML	AML		
	comp=N,61μm,0.3s						
VVLD				AML	AML		
	comp=N,61μm,0.3s						
INTR	**Introdacqua**	**3.26**	**331**	P	**Pn**	**20 42 14.8**	**+1.6**
INTR	**Introdacqua**	**3.26**	**331**	AML	AML		
	comp=N,94μm,0.6s						
INTR				AML	AML		
INTR				AML	AML		
INTR				AML	AML		
	comp=E,82μm,0.7s						
INTR				AML	AML		
	comp=N,94μm,0.6s						
INTR				AML	AML		
	comp=E,82μm,0.7s						
INTR				AML	AML		
INTR				AML	AML		
CAFR	**Castel Frentan**	**3.30**	**338**	P	**Pn**	**20 42 16.1**	**+2.4**
CAFR	**Castel Frentan**	**3.30**	**338**	AML	AML		
	comp=E,258μm,1.1s						
CAFR				AML	AML		
	comp=E,258μm,1.1s						
CAFR				AML	AML		
	comp=N,244μm,1.1s						
CAFR				AML	AML		
	comp=N,244μm,1.1s						
IGT	**Igoumenitsa**	**3.35**	**83**	*e*Pn	**Pn**	**20 42 14.7**	**+0.3**
IGT	**Igoumenitsa**	**3.35**	**83**	P	**Pn**	**20 42 14.7**	**+0.3**
WDD	**Wied Dalam**	**3.54**	**200**	*e*Pn	**Pn**	**20 42 16.8**	**-0.1**
FSK	**Fiskardo**	**3.61**	**100**	P	**Pn**	**20 42 18.2**	**+0.3**
LKD2	**Lefkada island**	**3.63**	**95**	P	**Pn**	**20 42 18.8**	**+0.7**
TIR	**Tirane**	**3.65**	**52**	*e*Pn	**Pn**	**20 42 18.9**	**+0.5**
TIR				*e*Sn	**Sn**	**20 43 00.3**	**-0.6**
TIR	**Tirane**	**3.65**	**52**	*e*Pn	**Pn**	**20 42 17.2**	**-1.2**
TIR	**Tirane**	**3.65**	**52**	⇑*i*P	**Pn**	**20 42 18.5**	**+0.1**
TIR	**Tirane**	**3.65**	**52**	P	**Pn**	**20 42 19.1**	**+0.7**
TIR	**Tirane**	**3.65**	**52**	AML	AML		
	comp=N,210μm,1.5s						
TIR				AML	AML		
	comp=E,134μm,1.2s						
TIR				AML	AML		
	comp=N,210μm,1.5s						
TIR				AML	AML		
	comp=E,134μm,1.2s						
EVGI	**Lefkada island**	**3.65**	**97**	P	**Pn**	**20 42 19.2**	**+0.7**
ULC	**Ulcinj**	**3.71**	**40**	⇓*i*Pn	**Pn**	**20 42 18.5**	**-0.7**
ULC				*e*Sn	**Sn**	**20 43 02.4**	**0.0**
VLS	**Valsamata**	**3.71**	**104**	P	**Pn**	**20 42 19.2**	**0.0**
VLS	**Valsamata**	**3.71**	**104**	P	**Pn**	**20 42 19.8**	**+0.6**
VLS	**Valsamata**	**3.71**	**104**	AML	AML		
	comp=N,47μm,0.5s						
VLS				AML	AML		
	comp=E,27μm,1.5s						
VLS				AML	AML		
	comp=N,47μm,0.5s						
VLS				AML	AML		
	comp=E,27μm,1.5s						
AQU	**L'Aquila**	**3.75**	**329**	*e*Pn	**Pn**	**20 42 21.6**	**+1.9**
AQU	**L'Aquila**	**3.75**	**329**	*e*Pn	**Pn**	**20 42 21.7**	**+1.9**
HCY	**Herceg Novi**	**3.76**	**29**	⇓*i*Pn	**Pn**	**20 42 19.2**	**-0.8**
HCY				*e*Sn	**Sn**	**20 43 03.9**	**+0.2**
HCY	**Herceg Novi**	**3.76**	**29**	*e*Pn	**Pn**	**20 42 18.6**	**-1.4**
MTCE	**Montecelio**	**3.79**	**320**	P	**Pn**	**20 42 20.9**	**+0.6**
MTCE	**Montecelio**	**3.79**	**320**	AML	AML		
	comp=E,24μm,0.6s						
MTCE				AML	AML		
	comp=N,25μm,0.6s						
MTCE				AML	AML		
	comp=E,24μm,0.6s						
MTCE				AML	AML		
	comp=N,25μm,0.6s						
FIAM	**Fiamignano**	**3.80**	**325**	P	**Pn**	**20 42 22.7**	**+2.1**
FIAM	**Fiamignano**	**3.80**	**325**	AML	AML		
	comp=E,45μm,0.5s						
FIAM				AML	AML		
	comp=E,45μm,0.5s						
FIAM				AML	AML		
	comp=N,32μm,0.5s						
FIAM				AML	AML		
	comp=N,32μm,0.5s						
BUM	**Brajici-Budva**	**3.80**	**34**	⇓*i*Pn	**Pn**	**20 42 19.5**	**-1.1**
BUM				*e*Sn	**Sn**	**20 43 04.8**	**0.0**
DRME	**Dracevica, Mon**	**3.84**	**38**	⇓*i*Pn	**Pn**	**20 42 20.3**	**-0.8**
DRME				*e*Sn	**Sn**	**20 43 06.0**	**+0.2**
DRME	**Dracevica, Mon**	**3.84**	**38**	*e*Pn	**Pn**	**20 42 20.2**	**-0.8**
KFL	**Anninata**	**3.88**	**104**	P	**Pn**	**20 42 21.7**	**+0.2**
STON	**Ston**	**3.90**	**18**	*e*Pn	**Pn**	**20 42 20.8**	**-1.0**
STON				*e*Sn	**Sn**	**20 43 05.3**	**-1.8**
STON	**Ston**	**3.90**	**18**	*i*Pn	**Pn**	**20 42 21.0**	**-0.9**
STON	**Ston**	**3.90**	**18**	*e*Pn	**Pn**	**20 42 20.6**	**-1.2**
STON	**Ston**	**3.90**	**18**	P	**Pn**	**20 42 20.9**	**-0.9**
STON	**Ston**	**3.90**	**18**	AML	AML		
	comp=E,34μm,0.8s						
STON				AML	AML		
	comp=E,34μm,0.8s						
STON				AML	AML		
	comp=N,38μm,1.6s						
STON				AML	AML		
	comp=N,38μm,1.6s						
TREB	**Trebinje**	**3.95**	**26**	*e*Pn	**Pn**	**20 42 21.4**	**-1.1**
TREB				*e*Sn	**Sn**	**20 43 06.7**	**-1.6**
TREB	**Trebinje**	**3.95**	**26**	*e*Pn	**Pn**	**20 42 21.3**	**-1.2**
SMA1	**SAN MARTINO**	**4.01**	**330**	P	**Pn**	**20 42 25.8**	**+2.3**
CEME	**Cevo**	**4.01**	**32**	⇑*i*Pn	**Pn**	**20 42 22.8**	**-0.7**
CEME				*e*Sn	**Sn**	**20 43 09.0**	**-1.0**
NEST	**Nestorio**	**4.06**	**71**	P	**Pn**	**20 42 26.9**	**+2.8**
PDG	**Podgorica**	**4.07**	**36**	*e*Pn	**Pn**	**20 42 23.6**	**-0.6**
PDG				*e*Sn	**Sn**	**20 43 10.2**	**-1.0**
PDG	**Podgorica**	**4.07**	**36**	⇓*i*P	**Pn**	**20 42 23.4**	**-0.7**
PDG	**Podgorica**	**4.07**	**36**	*e*Pn	**Pn**	**20 42 22.5**	**-1.6**
TTG	**Podgorica**	**4.07**	**36**	⇓*i*Pn	**Pn**	**20 42 23.1**	**-1.0**
TTG				*e*Sn	**Sn**	**20 43 10.1**	**-1.1**
TTG	**Podgorica**	**4.07**	**36**	*e*Pn	**Pn**	**20 42 23.5**	**-0.6**
PUK	**Puka**	**4.10**	**45**	P	**Pn**	**20 42 25.1**	**+0.4**
PUK	**Puka**	**4.10**	**45**	S	**Sn**	**20 43 14.0**	**+1.8**
BRY	**Bratogost**	**4.18**	**26**	⇓*i*Pn	**Pn**	**20 42 25.1**	**-0.7**
BRY				*e*Sn	**Sn**	**20 43 13.8**	**-0.3**
BRY	**Bratogost**	**4.18**	**26**	*e*Pn	**Pn**	**20 42 24.5**	**-1.3**
NKY	**Niksic**	**4.27**	**31**	⇓*i*Pn	**Pn**	**20 42 26.1**	**-0.9**
PVO	**Paravola**	**4.33**	**96**	P	**Pn**	**20 42 29.4**	**+1.7**
FNA	**Florina**	**4.41**	**67**	*e*Pn	**Pn**	**20 42 30.2**	**+1.3**
FNA	**Florina**	**4.41**	**67**	P	**Pn**	**20 42 30.2**	**+1.3**
BIA	**Bitola**	**4.46**	**64**	*e*Pn	**Pn**	**20 42 32.6**	**+3.0**
EVR	**Evrytania**	**4.51**	**92**	P	**Pn**	**20 42 32.6**	**+2.3**
KOME	**Kolasin**	**4.52**	**35**	⇓*i*Pn	**Pn**	**20 42 30.6**	**+0.2**
KOME				*e*Sn	**Sn**	**20 43 21.6**	**-0.9**
UPM	**Unac-Piva**	**4.57**	**27**	⇑*i*Pn	**Pn**	**20 42 30.5**	**-0.7**
UPM				*e*Sn	**Sn**	**20 43 22.7**	**-1.2**
UPM	**Unac-Piva**	**4.57**	**27**	*e*Pn	**Pn**	**20 42 30.5**	**-0.7**
DRO	**Drossia**	**4.62**	**104**	P	**Pn**	**20 42 32.9**	**+1.2**
ANX	**Ano Chora**	**4.63**	**95**	P	**Pn**	**20 42 34.0**	**+2.0**
EFP	**Efpalio**	**4.65**	**97**	P	**Pn**	**20 42 34.2**	**+2.0**
THL	**Klokotos Trika**	**4.66**	**83**	P	**Pn**	**20 42 34.0**	**+1.8**
SERG	**Sergoula**	**4.77**	**97**	P	**Pn**	**20 42 36.0**	**+2.1**
PLE	**Pljevlja**	**4.86**	**30**	⇑*i*Pn	**Pn**	**20 42 35.3**	**+0.2**
PLE				*e*Sn	**Sn**	**20 43 29.7**	**-1.2**
AGG	**Agios Georgios**	**4.90**	**90**	*e*Pn	**Pn**	**20 42 37.5**	**+1.9**
AGG				*e*Sn	**Sn**	**20 43 31.6**	**-0.4**
AGG	**Agios Georgios**	**4.90**	**90**	P	**Pn**	**20 42 37.7**	**+2.0**
SKO	**Skopje**	**4.98**	**54**	*i*Pn	**Pn**	**20 42 37.7**	**+1.1**
SJES	**Sjenica**	**5.05**	**35**	*e*Pn	**Pn**	**20 42 38.5**	**+0.8**
SJES				*e*Sn	**Sn**	**20 43 32.2**	**-3.4**
PYL	**PYLOS**	**5.05**	**115**	*e*Pn	**Pn**	**20 42 37.5**	**-0.2**
PYL	**PYLOS**	**5.05**	**115**	P	**Pn**	**20 42 37.5**	**-0.2**
ITM	**Ithomi**	**5.06**	**111**	*e*Pn	**Pn**	**20 42 36.7**	**-1.1**
LIT	**Litokhoron**	**5.07**	**77**	*e*Pn	**Pn**	**20 42 37.8**	**-0.2**
LIT				*e*Sn	**Sn**	**20 43 35.6**	**-0.5**
GUR	**Goura**	**5.10**	**102**	*e*Pn	**Pn**	**20 42 41.3**	**+2.8**
GUR	**Goura**	**5.10**	**102**	P	**Pn**	**20 42 41.3**	**+2.8**
DSF	**Desfina**	**5.13**	**97**	P	**Pn**	**20 42 41.7**	**+2.8**
VSL	**Villasalto**	**5.17**	**276**	P	**Pn**	**20 42 38.6**	**-0.7**
AXAR	**Agios Charalam**	**5.18**	**92**	*e*Pn	**Pn**	**20 42 43.7**	**+4.2**
AXAR	**Agios Charalam**	**5.18**	**92**	P	**Pn**	**20 42 43.7**	**+4.2**
MGRS	**Mrkonjic Grad**	**5.29**	**8**	*e*Pn	**Pn**	**20 42 41.2**	**+0.2**
BBLS	**Lazići**	**5.32**	**27**	*e*Pn	**Pn**	**20 42 42.9**	**+1.4**
BBLS	**Lazići**	**5.32**	**27**	*e*Pn	**Pn**	**20 42 42.5**	**+1.0**
STIP	**Stip**	**5.33**	**60**	*i*Pn	**Pn**	**20 42 44.5**	**+3.0**
UDBI	**Udbina**	**5.35**	**358**	*e*Pn	**Pn**	**20 42 42.8**	**+1.0**
HAPS	**Han Pijesak,BI**	**5.37**	**23**	*e*Pn	**Pn**	**20 42 40.2**	**-1.9**
IVAS	**Ivanjica**	**5.38**	**34**	*e*Pn	**Pn**	**20 42 41.7**	**-0.5**
IVAS				*e*Sn	**Sn**	**20 43 40.6**	**-3.0**
NVLJ	**Novalja**	**5.45**	**351**	*e*Pn	**Pn**	**20 42 42.8**	**-0.3**
SELS	**Selova**	**5.57**	**42**	*e*Pn	**Pn**	**20 42 44.2**	**-0.6**
NEO	**Neokhori**	**5.59**	**86**	P	**Pn**	**20 42 46.3**	**+1.2**
BLY	**Banja Luka**	**5.63**	**8**	*e*Pn	**Pn**	**20 42 46.5**	**+0.8**
BLY	**Banja Luka**	**5.63**	**8**	*e*Pn	**Pn**	**20 42 46.2**	**+0.6**
BARS	**Barje**	**5.69**	**48**	*e*Pn	**Pb**	**20 42 58.7**	**-2.9**
DIVS	**Divibare**	**5.74**	**30**	*e*Pn	**Pn**	**20 42 46.6**	**-0.6**
DIVS				*e*Sn	**Sn**	**20 43 49.8**	**-2.8**
DIVS	**Divibare**	**5.74**	**30**	*e*Pn	**Pn**	**20 42 46.3**	**-0.9**
GRUS	**Gruza**	**5.87**	**35**	*e*Pn	**Pn**	**20 42 49.0**	**0.0**
BOSS	**Bosilegrad**	**5.91**	**54**	*e*Pn	**Pn**	**20 42 49.7**	**+0.2**
KKB	**Krupnik**	**6.01**	**61**	*e*P	**Pn**	**20 42 51.1**	**+0.3**
BOVS	**Bovan**	**6.17**	**42**	*e*Pn	**Pn**	**20 42 52.6**	**-0.4**
BOVS				*e*Sn	**Sn**	**20 43 59.5**	**-3.4**
KEST	**Kesra**	**6.33**	**239**	*e*Pn	**Pn**	**20 42 59.2**	**+3.8**
KEST	**Kesra**	**6.33**	**239**	Pn	Pn	20 43 01.6	+6.3
	comp=N,0.3nm,0.3s,baz=23,slow=3.9,SNR=5.1						
BOJS	**Bojanci**	**6.35**	**355**	*i*P	**Pn**	**20 42 56.2**	**+0.7**
BOJS	**Bojanci**	**6.35**	**355**	P	**Pn**	**20 42 56.3**	**+0.9**
MMB	**Musomiste**	**6.35**	**65**	*i*P	**Pn**	**20 42 56.1**	**+0.5**
ZAPS	**Zavoj**	**6.44**	**48**	*e*Pn	**Pn**	**20 42 57.3**	**+0.5**
ZAPS				*e*Sn	**Sn**	**20 44 06.6**	**-3.2**
OZLJ	**Ozalj**	**6.45**	**356**	*e*Pn	**Pn**	**20 42 57.1**	**+0.3**
VTS	**Vitosha**	**6.45**	**56**	*e*Pn	**Pn**	**20 42 57.3**	**+0.3**
VTS	**Vitosha**	**6.45**	**56**	*e*Pn	**Pn**	**20 42 57.6**	**+0.5**
VTS	**Vitosha**	**6.45**	**56**	⇓*i*P	**Pn**	**20 42 57.3**	**+0.3**
VTS	**Vitosha**	**6.45**	**56**	*i*P	**Pn**	**20 42 57.0**	**0.0**
ZAGS	**Zajecar**	**6.57**	**43**	*e*Pn	**Pn**	**20 42 58.3**	**-0.2**
CRES	**Cresnjev**	**6.66**	**357**	*e*Pn	**Pn**	**20 42 59.6**	**-0.1**
CEY	**Cerknica**	**6.66**	**350**	*e*Pn	**Pn**	**20 43 00.8**	**+1.0**
TRI	**Trieste**	**6.74**	**346**	*e*Pn	**Pn**	**20 43 00.2**	**-0.6**
MDVR	**Moldovita**	**7.02**	**35**	⇑*i*P	**Pn**	**20 43 03.8**	**-0.9**
CRNS	**Crni Vrh**	**7.02**	**350**	*i*P	**Pn**	**20 43 04.4**	**-0.3**
MORH	**Mrgy, Hungar**	**7.29**	**14**	*e*Pn	**Pn**	**20 43 06.3**	**-2.1**
OBKA	**Obir**	**7.41**	**352**	*e*Pn	**Pn**	**20 43 09.7**	**-0.4**
	comp=N,0.5nm,0.2s						
HERR	**Herculane**	**7.42**	**38**	⇑*i*P	**Pn**	**20 43 10.0**	**-0.2**
SOKA	**Soboth**	**7.53**	**355**	*e*Pn	**Pn**	**20 43 11.7**	**-0.1**
	comp=N,0.8nm,0.3s						
BZS	**Buzias**	**7.65**	**31**	⇑*i*P	**Pn**	**20 43 12.3**	**-1.0**
SRE	**Strehaia**	**7.66**	**42**	⇑*i*P	**Pn**	**20 43 13.7**	**+0.3**
ALN	**Alexandroupoli**	**7.88**	**74**	*e*Pn	**Pn**	**20 43 17.0**	**+0.6**
IDI	**Anoyia**	**8.06**	**116**	Pn	**Pn**	**20 43 18.7**	**-0.4**
	comp=N,0.5nm,0.3s,baz=298,slow=12,SNR=6.3						
IDI				Sn	**Sn**	**20 44 44.2**	**-5.6**
	comp=N,0.9nm,0.3s,baz=322,slow=21,SNR=7.0						
ARSA	**Arzberg**	**8.08**	**358**	*e*Pn	**Pn**	**20 43 18.5**	**-0.7**
	comp=N,1.7nm,0.5s						
SIRR	**Siria**	**8.21**	**28**	⇑*i*P	**Pn**	**20 43 19.7**	**-1.3**
FUORN	**Ofenpass-Fuorn**	**8.55**	**332**	*e*Pn	**Pn**	**20 43 27.1**	**+1.1**
CONA	**Conrad Observa**	**8.75**	**359**	*e*Pn	**Pn**	**20 43 28.3**	**-0.2**
	comp=N,0.9nm,0.3s						
MOA	**Molln**	**8.76**	**352**	*e*Pn	**Pn**	**20 43 29.1**	**+0.5**
	comp=N,0.9nm,0.2s						
DAVOX	**Davos/Dischmat**	**8.83**	**331**	Pn	**Pn**	**20 43 30.6**	**+0.9**
	comp=N,0.2nm,0.3s,baz=149,slow=19,SNR=2.4						
ARR	**Arges**	**8.88**	**43**	⇑*i*P	**Pn**	**20 43 31.0**	**+0.7**
MOTA	**Moosalm**	**8.92**	**338**	*e*Pn	**Pn**	**20 43 31.4**	**+0.6**
	comp=N,0.3nm,0.2s						
DRGR		**9.04**	**31**	⇑*i*P	**Pn**	**20 43 31.3**	**-1.2**
VYHS	**Vyhne**	**9.53**	**11**	*e*PN	**Pn**	**20 43 39.4**	**+0.3**
MLR	**Muntele Rosu**	**9.68**	**46**	*e*Pn	**Pn**	**20 43 40.1**	**-1.1**
MLR	**Muntele Rosu**	**9.68**	**46**	Pn	**Pn**	**20 43 40.9**	**-0.3**
	comp=N,0.1nm,0.3s,baz=168,slow=6.1,SNR=3.7						
GEC2	**GERESS Array S**	**9.81**	**351**	*e*Pn	**Pn**	**20 43 43.1**	**+0.1**
GERES	**GERESS Array B**	**9.81**	**351**	*e*Pn	**Pn**	**20 43 42.9**	**-0.1**
GERES	**GERESS Array B**	**9.81**	**351**	Pn	**Pn**	**20 43 43.1**	**+0.1**
	comp=N,0.4nm,0.3s,baz=173,slow=14,SNR=15						
BURAR	**Bucovina Array**	**10.75**	**35**	*e*Pn	**Pn**	**20 43 54.8**	**-1.2**
KVAR	**Kislovodsk Arr**	**20.48**	**68**	LR	LR	20 56 49.1	
	comp=N,242nm,21.1s,baz=88,slow=46						
HFS	**Hagfors**	**21.03**	**357**	P	**P**	**20 46 05.2**	**-0.1**
	comp=N,2.0nm,1.0s,baz=153,slow=13,SNR=4.2						
NB200	**NORSAR Array S**	**22.09**	**354**	*e*P	**P**	**20 46 17.1**	**+0.3**
NOA	**NORSAR Array B**	**22.09**	**354**	P	**P**	**20 46 17.1**	**+0.3**
	comp=N,0.4nm,0.6s,baz=173,slow=9.0,SNR=3.5						
FIA0	**FINESS Array S**	**23.14**	**12**	*e*P	**P**	**20 46 26.8**	**-1.0**
FINES	**FINESS Array B**	**23.14**	**12**	P	**P**	**20 46 26.8**	**-1.0**
	comp=N,2.1nm,0.8s,baz=198,slow=9.2,SNR=8.8						
ZAA1	**Zalesovo Array**	**47.64**	**48**	*e*P	**P**	**20 49 57.7**	**0.0**
ZALV	**Zalesovo Beam**	**47.65**	**48**	P	**P**	**20 49 57.7**	**0.0**
	comp=N,0.5nm,0.3s,baz=294,slow=11,SNR=2.5						
MK32	**Makanchi Array**	**47.77**	**58**	*e*P	**P**	**20 49 58.4**	**-0.3**
MKAR	**Makanchi Array**	**47.77**	**58**	P	**P**	**20 49 58.4**	**-0.3**
	comp=N,0.5nm,0.5s,baz=282,slow=7.2,SNR=10						
SONA0	**Songino Array**	**62.51**	**49**	*e*P	**P**	**20 51 45.9**	**+0.6**
SONM	**Songino Array**	**62.51**	**49**	P	**P**	**20 51 45.9**	**+0.6**
	comp=N,0.6nm,0.8s,baz=302,slow=8.3,SNR=3.9						
SONM	**Songino Array**	**62.51**	**49**	*e*P	**P**	**20 51 45.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**73.20**	**80**	P	**P**	**20 52 55.6**	**+2.7**
	comp=N,0.4nm,0.4s,baz=302,slow=5.1,SNR=2.7						
PDAR	**Pinedale Array**	**84.69**	**323**	LR	LR	21 32 47.5	
	comp=N,262nm,19.4s,baz=32,slow=36						

IDC 09 20:42:08.3±13.0, 20°.25S×169°.52E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/30, mbtmp3.7/4, Error ellipse: s-maj=306.6km s-min=45.8km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.00**	**264**	P	P	20 48 44.6	-0.8
	0.2nm,0.3s,baz=96,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**33.15**	**258**	P	P	20 48 46.4	-0.4
	0.3nm,0.5s,baz=85,slow=8.5,SNR=4.9						
FITZ	**Fitzroy Crossi**	**41.41**	**265**	P	P	20 49 58.1	+1.2
	2.2nm,1.0s,baz=85,slow=12,SNR=2.5						
MJAR	**Matsushiro Arr**	**63.77**	**332**	P	P	20 52 42.0	-0.1
	1.1nm,0.6s,baz=148,slow=7.9,SNR=3.8						

KRSC 09 20:45:23.7±10.0, 49°.79N×157°.74E, h71km±10km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.37**	**311**	*e*P	Pn	20 45 48.1	+1.2
SKR				*e*S	Sn	20 46 05.6	+1.2
PAU	**Pauzhetka**	**1.78**	**341**	*e*P	Pn	20 45 55.1	+2.8
PAU				*e*S	Sn	20 46 17.5	+3.4
KDTR	**Khodutka, Kamc**	**2.03**	**6**	*e*P	Pn	20 45 57.6	+1.9
KDTR				*e*S	Sn	20 46 22.0	+1.9
RUS	**Russkaya**	**2.69**	**10**	*e*P	Pn	20 46 07.7	+3.1
KRMR	**Karymshinskiy**	**3.05**	**4**	*e*P	Pn	20 46 14.0	+4.4
DALK	**Dalny**	**3.31**	**11**	*e*P	Pn	20 46 15.9	+2.9
UGLR	**Uglovaya**	**3.49**	**11**	*e*P	Pn	20 46 16.6	+1.0
AVH	**Avacha**	**3.54**	**10**	*e*P	Pn	20 46 20.0	+3.8
SMAR	**Somma**	**3.54**	**10**	*e*P	Pn	20 46 16.3	-0.1
KOK	**Koryaka**	**3.55**	**9**	*e*P	Pn	20 46 19.9	+3.5
SDLR	**Sedlovina**	**3.56**	**11**	*e*P	Pn	20 46 20.5	+3.9
KRX	**Arik**	**3.62**	**9**	*e*P	Pn	20 46 20.6	+3.2
KBTR	**Krutoberegovo**	**7.12**	**24**	*e*P	Pn	20 47 08.2	+3.2

*NIED **09** 20:45:00, 46°.60N×153°.10E, h35km, Mw4.4 Best double couple: M0=4.37000×10^15 NP1:φ=222.00000°, δ=61.00000°, λ=-170.00000°. NP2:φ=127.00000°, δ=81.00000°, λ=-30.00000°.*
*JMA **09** 20:45:32.0±0.7, 46°.65N×153°.05E, h30km, M5.2*
*BJI **09** 20:45:32.6±0.0, 46°.82N×152°.71E, h41km, mb4.6/26, mB4.7/16, Ms4.0/8, Ms7 3.9/8*
*ISCJB **09** 20:45:33.2±0.5, 46°.60N±0°.03×152°.83E±0°.03, h50km±4km, mb4.8/156, MS3.7/12, Error ellipse: s-maj=5.7km s-min=3.0km az=147.9*
*SKHL **09** 20:45:33.7±0.3, 46°.46N×153°.09E, h65km±4km, mb5.1/14*
*MOS **09** 20:45:34.6±1.0, 46°.67N×152°.78E, h63km, mb4.8/49, Error ellipse: s-maj=6.3km s-min=4.7km az=95.0*
*NEIC **09** 20:45:35.9±0.2, 46°.71N×152°.72E, mb4.7/98, Error ellipse: s-maj=6.1km s-min=3.1km az=159.0*
*IDC **09** 20:45:37.4±2.1, 46°.76N×152°.70E, h68km±18km, mb4.1/30, mb1 4.3/36, mb1mx4.2/55, mbtmp4.5/36, MS3.6/15, Ms1 3.6/15, ms1mx3.4/39, Error ellipse: s-maj=13.6km s-min=9.4km az=141.0*

ISC 09 20:45:34.3±0.6, 46°.54N±0°.05×152°.86E±0°.04, h50km±5km, n452, σ1§54/493, mb4.7/156, MS3.7/12, 35C-19D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.73**	**251**	*d*PN	**Pn**	**20 46 30.9**	**+1.6**
KUR				*i*S	**Sn**	**20 47 13.8**	**+1.9**
KUR				pmax	pmax		
	comp=Z,397nm,0.3s						
KUR				pmax	pmax		
	comp=E,179nm,0.2s						
KUR				pmax	pmax		
	comp=N,190nm,0.1s						
KUR				smax	smax		
	comp=E,775nm,0.3s						
KUR				smax	smax		
	comp=N,1μm,0.5s						
KUR	**Kuril'sk**	**3.73**	**251**	*i*P	**Pn**	**20 46 30.9**	**+1.6**
KUR				AMB	AMB	20 46 36.0	
	comp=N,250nm,0.3s						
KUR				AMB	AMB	20 46 36.0	
	comp=N,170nm,0.3s						
KUR				AMB	AMB	20 46 36.0	
	comp=N,400nm,0.3s						
KUR				*i*S	**Sn**	**20 47 14.1**	**+2.2**
KUR				A	A	20 47 31.5	
	comp=N,500nm,0.6s						
KUR				A	A	20 47 31.5	
	comp=N,2μm,0.6s						
KUR				AMS	AMS	20 47 53.8	
	comp=N,1μm,10.0s						
SKR	**Severo-Kuril's**	**4.67**	**26**	*e*PN	**Pn**	**20 46 42.7**	**+0.4**
SKR				*e*S	**Sn**	**20 47 33.0**	**-2.1**
SKR				pmax	pmax		
	comp=Z,141nm,0.6s						
SKR				smax	smax		
	comp=N,533nm,0.5s						
SKR				smax	smax		
	comp=E,389nm,0.5s						
SKR				MLR	MLR		
	comp=Z,300nm,14.0s						
SKR	**Severo-Kuril's**	**4.67**	**26**	*e*P	**Pn**	**20 46 42.0**	**-0.3**
SKR				AMB	AMB	20 46 47.3	
	comp=Z,140nm,0.6s						
SKR				*e*S	**Sn**	**20 47 33.0**	**-2.1**
SKR				A	A	20 47 49.0	
	comp=Z,530nm,0.5s						
SKR				A	A	20 47 49.0	
	comp=Z,390nm,0.5s						
SKR				AMS	AMS	20 48 38.1	
	comp=Z,300nm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.54**	**246**	*d*PN	**Pn**	**20 46 56.3**	**+2.2**
YUK				*i*S	**Sn**	**20 47 59.3**	**+2.8**
YUK				pmax	pmax		
	comp=Z,432nm,0.4s						
YUK				pmax	pmax		
	comp=N,175nm,0.2s						
YUK				pmax	pmax		
	comp=E,153nm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
YUK				smax	smax		
	comp=N,670nm,0.6s						
YUK				MLR	MLR		
	comp=Z,300nm,13.0s						
YUK	**Yuzh-Kuril'sk**	**5.54**	**246**	*e*P	**Pn**	**20 46 55.8**	**+1.7**
YUK				AMB	AMB	20 47 00.0	
	comp=Z,180nm,0.4s						
YUK				AMB	AMB	20 47 00.0	
	comp=Z,150nm,0.4s						
YUK				AMB	AMB	20 47 00.0	
	comp=Z,430nm,0.4s						
YUK				*i*S	**Sn**	**20 47 56.9**	**+0.4**
YUK				A	A	20 48 20.0	
	comp=Z,670nm,0.6s						
YUK				A	A	20 48 20.0	
	comp=Z,1μm,0.6s						
YUK				AMS	AMS	20 48 55.6	

JAK	**Akkeshi**	**6.81 242**	P	**Pn**	**20 47 11.3 -0.2**
JAK			*e*S	**Sn**	**20 48 24.4 -3.2**
JTKR	**Abashiri--Toko**	**6.82 251**	P	**Pn**	**20 47 14.1 +2.4**
YSS	**Yuzh-Sakhalins**	**6.96 277**	*e*Pn	**Pn**	**20 47 14.2 +0.6**
YSS	**Yuzh-Sakhalins**	**6.96 277⇓**	*e*PN	**Pn**	**20 47 15.9 +2.3**
YSS			*e*S	**Sn**	**20 48 32.7 +1.4**
YSS			pmax	pmax	
	comp=Z,40nm,1.1s				
YSS			pmax	pmax	
	comp=N,20nm,0.5s				
YSS			pmax	pmax	
	comp=E,40nm,0.9s				
YSS			smax	smax	
	comp=N,40nm,0.4s				
YSS			smax	smax	
	comp=E,50nm,0.6s				
YSS			MLR	MLR	
	comp=Z,600nm,12.0s				
YSS			MLR	MLR	
	comp=N,200nm,14.0s				
YSS			MLR	MLR	
	comp=E,500nm,17.0s				
YSS	**Yuzh-Sakhalins**	**6.96 277**	*e*P	**Pn**	**20 47 15.9 +2.3**
YSS			AMB	AMB	20 47 17.1
	comp=E,20nm,1.0s				
YSS			AMB	AMB	20 47 17.1
	comp=E,40nm,1.0s				
YSS			*e*S	**Sn**	**20 48 32.0 +0.7**
YSS			A	A	20 48 34.8
	comp=E,40nm,0.5s				
YSS			A	A	20 48 34.8
	comp=E,50nm,0.5s				
YSS			AMS	AMS	20 49 38.0
	comp=E,200nm,14.0s				
YSS			AMS	AMS	20 49 38.0
	comp=E,500nm,14.0s				
YSS			AMS	AMS	20 49 38.0
	comp=E,600nm,14.0s				
JMP	**Maruseppu**	**7.17 253**	P	**Pn**	**20 47 19.2 +2.7**
JAR	**Ashorobuto**	**7.22 247**	P	**Pn**	**20 47 18.9 +1.6**
JAR			*e*S	**Sn**	**20 48 39.6 +1.7**
PEA0B	**Petropavlovsk-**	**7.28 24**	*e*Pn	**Pn**	**20 47 18.5 +0.5**
PETK	**Petropavlovsk-**	**7.28 24**	*e*Pn	**Pn**	**20 47 17.7 -0.2**
PETK	**Petropavlovsk-**	**7.28 24**	P	**Pn**	**20 47 18.5 +0.5**
	comp=E,1.3nm,0.3s,baz=179,slow=11,SNR=12				
PEA1	**Petropavlovsk-**	**7.28 24**	*e*Pn	**Pn**	**20 47 18.5 +0.5**
JOB	**Onbets**	**7.39 244**	P	**Pn**	**20 47 19.4 -0.1**
JOB			*e*S	**Sn**	**20 48 39.8 -2.1**
JKK2	**Kamakawa 2**	**7.63 253**	P	**Pn**	**20 47 25.5 +2.7**
JKA	**Kamikawa-asahi**	**7.63 255**	*e*P	**Pn**	**20 47 26.3 +3.5**
ASAJ	**Asahikawa**	**7.63 255**	P	**Pn**	**20 47 25.8 +3.0**
ASAJ	**Asahikawa**	**7.63 255**	P	**Pn**	**20 47 26.2 +3.4**
	comp=E,4.7nm,0.3s,baz=79,slow=17,SNR=64				
ASAJ			LR	LR	20 50 13.0
	comp=E,259nm,20.7s,baz=20,slow=36				
UGL	**Uglegorsk**	**7.70 293**	*e*P	**Pn**	**20 47 26.9 +3.2**
UGL			AMB	AMB	20 47 29.0
	comp=E,100nm,0.9s				
JWK2	**Keihoku**	**7.75 265**	P	Pn	20 47 29.9 +5.5
JCH	**Churui**	**7.83 243**	P	**Pn**	**20 47 26.0 +0.4**
JCH			*e*S	**Sn**	**20 48 50.1 -2.8**
TYV	**Tymovskoe**	**8.02 306**	*e*PN	**Pn**	**20 47 29.8 +1.7**
TYV			*e*S	**Sn**	**20 49 01.4 +4.1**
TYV			pmax	pmax	
	comp=Z,29nm,0.7s				
TYV			smax	smax	
	comp=E,10.0nm,0.4s				
TYV	**Tymovskoe**	**8.02 306**	*e*P	**Pn**	**20 47 29.8 +1.7**
TYV			AMB	AMB	20 47 30.9
	comp=E,30nm,0.7s				
TYV			*e*S	**Sn**	**20 48 59.0 +1.7**
TYV			A	A	20 49 01.8
	comp=E,10.0nm,0.4s				
JFR	**Furan**	**8.04 249**	P	**Pn**	**20 47 30.4 +2.0**
JAB	**Ashibetsu**	**8.13 252**	P	**Pn**	**20 47 32.5 +2.9**
ERM	**Erimo**	**8.30 240**	*e*Pn	**Pn**	**20 47 33.3 +1.3**
ERM	**Erimo**	**8.30 240**	*de*PN	**Pn**	**20 47 33.4 +1.4**
JEM	**Erimo**	**8.30 240**	P	**Pn**	**20 47 32.8 +0.8**
JBT2	**Biratori 2**	**8.38 247**	P	**Pn**	**20 47 33.7 +0.7**
JNBK	**Urakawa-nobuka**	**8.40 243**	P	**Pn**	**20 47 32.8 -0.5**
JNB	**Noboribetsu**	**9.38 249**	P	**Pn**	**20 47 47.5 +0.8**
JNB			*e*S	**Sn**	**20 49 28.1 -2.6**
JKB	**Kayabe**	**9.68 246**	P	**Pn**	**20 47 50.2 -0.7**
JKB			*e*S	**Sn**	**20 49 32.9 -5.2**
JSH	**Shimam**	**9.94 252**	P	**Pn**	**20 47 55.7 +1.3**
JYM2	**Yakumo 2**	**9.98 248**	P	**Pn**	**20 47 55.2 +0.2**
JSR	**Shiriuchi**	**10.26 245**	P	**Pn**	**20 47 58.5 -0.3**
JSR			*e*S	**Sn**	**20 49 45.7 -6.7**
NKL	**Nikolayevsk**	**10.27 315**	*i* PN	**Pn**	**20 48 01.8 +2.9**
NKL			pmax	pmax	
	comp=N,22nm,1.0s				
NKL			pmax	pmax	
	comp=E,22nm,1.0s				
NKL			pmax	pmax	
	comp=Z,43nm,1.0s				
NKL			MLR	MLR	
	comp=N,400nm,15.0s				
NKL			MLR	MLR	
	comp=Z,600nm,15.0s				
NKL	**Nikolayevsk**	**10.27 315**	*i* P	**Pn**	**20 48 01.8 +2.9**
	comp=Z,40nm,1.0s				
NKL			AMB	AMB	20 48 02.4
	comp=Z,20nm,1.0s				
NKL			AMB	AMB	20 48 02.4
	comp=Z,40nm,1.0s				
NKL			AMS	AMS	20 52 38.0
	comp=Z,400nm,15.0s				
NKL			AMS	AMS	20 52 38.0
	comp=Z,600nm,15.0s				
JANG	**Nango**	**10.29 237**	P	**Pn**	**20 47 56.4 -2.9**
JANG			*e*S	Sn	20 49 43.9 -9.2
JTM	**Tenmabayashi**	**10.30 240**	P	**Pn**	**20 47 58.0 -1.3**
JTM			*e*S	**Sn**	**20 49 45.0 -8.2**
JTH	**Tanohata**	**10.38 234**	*e*S	Sn	20 49 45.4 -10
JOSM	**Okushiri--Mats**	**10.58 250**	P	**Pn**	**20 48 03.5 +0.4**
OFUJ	**Ofunato**	**11.09 232**	*e*S	Sn	20 50 02.7 -10
JRG	**Rokugo**	**11.45 236**	P	**Pn**	**20 48 13.9 -1.1**
JRG			*e*S	**Sn**	**20 50 16.3 -5.1**
TEY	**Ternei**	**11.46 268⇑**	*e*PN	Pn	20 48 21.3 +6.2
TEY			pmax	pmax	
	comp=E,30nm,0.9s				
TEY			pmax	pmax	
	comp=Z,30nm,0.8s				
TEY	**Ternei**	**11.46 268**	*e*P	**Pn**	**20 48 17.5 +2.4**
TEY			AMB	AMB	20 48 19.0
	comp=Z,30nm,1.0s				
GRNR	**Gornyy**	**11.66 297**	*e*P	**Pn**	**20 48 19.5 +1.5**
GRNR			AMB	AMB	20 48 23.8
	comp=Z,30nm,1.0s				
JIO	**Ouri**	**11.72 231**	*e*S	Sn	20 50 18.0 -10
MA2	**Magadan**	**13.12 355**	*e*Pn	**Pn**	**20 48 37.0 -0.7**
MA2	**Magadan**	**13.12 355**	*de*PN	**Pn**	**20 48 37.7 0.0**
MA2			pmax	pmax	
	comp=Z,10.0nm,0.5s				
MA2	**Magadan**	**13.12 355**	P	**Pn**	**20 48 37.9 +0.2**
	comp=Z,4.4nm,0.3s,baz=180,slow=8.7,SNR=12				
MA2	**Magadan**	**13.12 355**	*e*P	**Pn**	**20 48 37.7 0.0**
EKMR	**Ekimchan**	**14.40 304**	*e*P	**Pn**	**20 48 55.5 +0.4**
EKMR			AMB	AMB	20 49 05.0
	comp=Z,10.0nm,0.6s				
KLR	**Kul'dur**	**14.42 288⇓**	*e*P	**Pn**	**20 48 57.1 +1.8**
KLR			pmax	pmax	
	comp=Z,7.0nm,1.5s				
KLR	**Kul'dur**	**14.42 288**	P	**Pn**	**20 48 56.1 +0.8**
	comp=Z,0.4nm,0.3s,baz=77,slow=7.6,SNR=13				
KLR			LR	LR	20 54 38.3
	comp=Z,252nm,18.7s,baz=76,slow=38				
KLR	**Kul'dur**	**14.42 288**	*e*P	**Pn**	**20 48 51.7 -3.6**
MJB9	**Matsu-Tunnel**	**14.81 233**	*e*Pn	**Pn**	**20 48 58.8 -1.9**
MAJO	**Matsushiro**	**14.82 233**	*e*Pn	**Pn**	**20 48 58.9 -1.8**
MAJO	**Matsushiro**	**14.82 233⇑**	*e*P	**Pn**	**20 49 00.5 -0.2**
MAJO			pmax	pmax	
	comp=Z,7.0nm,0.9s				
MAT	**Matsushiro**	**14.82 233**	P	**Pn**	**20 48 58.9 -1.8**
MJAR	**Matsushiro Arr**	**14.82 233**	*e*Pn	**Pn**	**20 48 59.6 -1.1**
MJAR	**Matsushiro Arr**	**14.82 233**	P	**Pn**	**20 48 58.7 -1.9**
	comp=Z,0.1nm,0.3s,baz=31,slow=12,SNR=10.0				
MJAR			LR	LR	20 55 08.3
	comp=Z,78nm,21.3s,baz=45,slow=38				
USA0B	**Ussuriysk Arra**	**14.86 269**	*e*Pn	**Pn**	**20 49 02.2 +1.1**
USRK	**Ussuriysk Ar.**	**14.86 269**	*e*Pn	**Pn**	**20 49 02.1 +1.0**
USRK	**Ussuriysk Ar.**	**14.86 269**	P	**Pn**	**20 49 02.3 +1.2**
	comp=Z,1.6nm,0.3s,baz=85,slow=12,SNR=21				
USRK			LR	LR	20 54 36.6
	comp=Z,198nm,20.5s,baz=68,slow=37				
INU	**Inuyama**	**16.35 232**	*e*Pn	**Pn**	**20 49 17.7 -2.6**
	comp=Z,13nm,0.8s				
SEY	**Seymchan**	**16.43 359⇓**	*e*P	**Pn**	**20 49 21.4 +0.2**
SEY	**Seymchan**	**16.43 359**	P	**Pn**	**20 49 21.9 +0.8**
	comp=Z,0.7nm,0.3s,baz=166,slow=9.7,SNR=6.1				
SEY	**Seymchan**	**16.43 359**	*e*P	**Pn**	**20 49 21.4 +0.2**
BMKR	**Bomnak**	**17.23 307**	*e*P	**Pn**	**20 49 30.9 -0.3**
BMKR			AMB	AMB	20 49 36.8
	comp=Z,10.0nm,0.4s				
ZEA	**Zeya**	**17.86 303**	*e*P	**P**	**20 49 40.7 +1.6**
ZEA			pmax	pmax	
	comp=Z,17nm,0.7s				
ZEA	**Zeya**	**17.86 303**	*e*P	**P**	**20 49 39.4 +0.3**
ZEA			AMB	AMB	20 49 42.9
	comp=Z,20nm,0.7s				
ZEA			AMS	AMS	20 56 59.0
	comp=Z,300nm,16.0s				
KROS	**Kirovskiy**	**18.19 305**	*e*P	**P**	**20 49 42.6 -0.1**
KROS			AMB	AMB	20 49 45.0
	comp=Z,40nm,1.0s				
CN2	**Changchun**	**19.49 272**	*e*P	**P**	**20 49 57.2 +0.2**
CN2			*e*S	**S**	**20 53 27.8 -6.5**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.4s				
CN2			pmax	pmax	
	comp=Z,200nm,3.0s				
CN2			LR	LR	
	comp=Z,200nm,18.0s				
CN2			LR	LR	
	comp=Z,200nm,18.0s				
CN2			LR	LR	
	comp=Z,300nm,16.0s				
YAK	**Yakutsk**	**20.41 328**	*e*P	**P**	**20 50 06.1 -0.7**
YAK			*e*S	**S**	**20 53 48.5 -3.8**
YAK			*e*SS	**SnSn**	**20 54 22.0 +8.8**
YAK			pmax	pmax	
	comp=Z,236nm,0.9s				
YAK			pmax	pmax	
	comp=N,64nm,0.9s				
YAK			pmax	pmax	
	comp=E,43nm,0.8s				
YAK			pmax	pmax	
	comp=Z,223nm,1.1s				
YAK			pmax	pmax	
	comp=N,201nm,1.6s				
YAK			pmax	pmax	
	comp=E,143nm,1.3s				
YAK			smax	smax	
	comp=N,127nm,2.5s				
YAK			smax	smax	
	comp=E,147nm,2.5s				
KSRS	**Korea Array**	**20.57 253**	P	Pn	20 50 11.2 -0.2
KSRS			pmax	pmax	
	comp=Z,8.0nm,0.6s				
KSRS			MLR	MLR	
	comp=Z,122nm,20.2s				
KSRS	**Korea Array**	**20.57 253**	P	Pn	20 50 11.2 -0.2
	comp=Z,9.2nm,0.6s,baz=59,slow=9.3,SNR=24				
KSRS			LR	LR	20 57 01.2
	comp=Z,122nm,20.2s,slow=33				
KS15	**Wonju Array Si**	**20.60 253**	*e*P	**P**	**20 50 03.3 -5.9**
	comp=Z,18nm,0.9s				
KSAR	**Wonju Array Be**	**20.60 253**	*e*P	**P**	**20 50 10.3 +1.2**
KSAR	**Wonju Array Be**	**20.60 253**	*e*P	**P**	**20 50 10.3 +1.2**
KSAR	**Wonju Array Be**	**20.60 253**	*e*P	**P**	**20 50 10.3 +1.2**
JNU	**Nakatsue**	**21.46 239**	*e*P	**P**	**20 50 20.5 +2.0**
	comp=Z,13nm,0.7s				
JNU	**Nakatsue**	**21.46 239**	P	**P**	**20 50 20.2 +1.7**
	comp=Z,17nm,0.9s,baz=234,slow=0.9,SNR=8.1				
JNU			LR	LR	20 59 02.6
	comp=Z,94nm,18.8s,baz=24,slow=38				
TJN	**Taejon**	**21.55 251⇑**	*e*P	**P**	**20 50 21.4 +2.1**
BILL	**Bilibino**	**22.64 13**	*e*P	**P**	**20 50 30.3 -0.4**
BILL			*e*		20 50 40.1
BILL			*e*		20 54 22.6
BILL			pmax	pmax	
	comp=Z,2.0nm,0.5s				
BILL	**Bilibino**	**22.64 13**	*e*P	**P**	**20 50 30.3 -0.4**
BOD	**Bodaibo**	**25.99 310**	*e*P	**P**	**20 50 59.7 -2.4**
BOD			pmax	pmax	
	comp=Z,4.0nm,1.4s				
TIXI	**Tiksi**	**27.62 344**	*e*P	**P**	**20 51 13.2 -3.3**
	comp=Z,5.7nm,1.5s				
TIXI			*e*PcP	**PcP**	**20 54 33.1 +0.5**
TIXI	**Tiksi**	**27.62 344⇓**	*e*P	**P**	**20 51 15.6 -1.0**
TIXI			pmax	pmax	
	comp=Z,3.0nm,1.7s				
TIXI	**Tiksi**	**27.62 344**	P	**P**	**20 51 15.1 -1.5**
	comp=Z,1.1nm,0.3s,baz=138,slow=10,SNR=10				
TIXI			PcP	**PcP**	**20 54 33.1 +0.5**
	comp=Z,1.2nm,0.6s,baz=58,slow=3.3,SNR=5.3				
H11N2	**WAKE ISLAND Hy**	**29.11 152**	T	T	21 22 54.2
	baz=340,slow=76,SNR=3738				
H11N1	**WAKE ISLAND Hy**	**29.13 152**	T	T	21 23 02.3
	baz=340,slow=76,SNR=2899				
H11N3	**WAKE ISLAND Hy**	**29.13 152**	T	T	21 22 57.8
	baz=340,slow=76,SNR=2588				
H11S1	**WAKE ISLAND Hy**	**30.20 153**	T	T	21 24 20.1
	baz=340,slow=76,SNR=5405				
H11S3	**WAKE ISLAND Hy**	**30.20 153**	T	T	21 24 18.1
	baz=340,slow=76,SNR=6403				
H11S2	**WAKE ISLAND Hy**	**30.21 153**	T	T	21 24 20.2
	baz=340,slow=76,SNR=6046				
ULN	**Ulaanbaatar**	**30.81 289**	*e*P	**P**	**20 51 43.8 -1.5**
	comp=Z,6.7nm,1.0s				
ULN	**Ulaanbaatar**	**30.81 289⇑**	*e*P	**P**	**20 51 45.9 +0.6**
ULN			pmax	pmax	
	comp=Z,2.0nm,0.6s				
ULN	**Ulaanbaatar**	**30.81 289**	*e*P	**P**	**20 51 45.9 +0.6**
SONA0	**Songino Array**	**31.24 290**	*e*P	**P**	**20 51 48.7 -0.4**
SONA0			*e*PcP	**PcP**	**20 54 42.9 +0.4**
SONM	**Songino Array**	**31.24 290**	PcP	**PcP**	**20 54 42.9 +0.4**
SONM	**Songino Array**	**31.24 290**	P	**P**	**20 51 48.7 -0.4**
	comp=Z,1.6nm,0.8s,baz=75,slow=7.9,SNR=6.7				
SONM			PcP	**PcP**	**20 54 42.9 +0.4**
	comp=Z,1.1nm,0.7s,baz=111,slow=1.9,SNR=5.3				
SONM			LR	LR	21 05 23.4
	comp=Z,149nm,19.5s,baz=82,slow=38				
TLY	**Talaya**	**32.12 298⇓**	*e*P	**P**	**20 51 58.0 +1.3**
ZAK	**Zakamensk**	**32.61 295**	*e*P	**P**	**20 51 59.5 -1.5**
ZAK			pmax	pmax	
	comp=Z,2.0nm,0.9s				
IMAR	**Indian Mountai**	**34.04 36**	*e*P	**P**	**20 52 12.6 -0.6**
KDAK	**Kodiak Island**	**34.37 51**	*e*P	**P**	**20 52 16.6 +0.6**
	comp=Z,23nm,1.2s				
KDAK	**Kodiak Island**	**34.37 51**	*i* P	**P**	**20 52 16.8 +0.7**
KDAK	**Kodiak Island**	**34.37 51**	P	**P**	**20 52 16.1 +0.1**
	comp=Z,7.3nm,0.7s,baz=298,slow=7.4,SNR=6.6				
CAST	**Castle Rocks**	**34.51 41**	*e*P	**P**	**20 52 18.2 +1.0**
	comp=Z,2.6nm,0.8s				
BPAW	**Bear Paw Mtn.**	**35.02 39**	*e*P	**P**	**20 52 22.3 +0.6**
	comp=Z,3.8nm,0.9s				
MLY	**Manley**	**35.19 38**	*e*P	**P**	**20 52 24.4 +1.3**
	comp=Z,3.7nm,0.8s				
XAN	**Xi'an**	**35.33 265**	P	**P**	**20 52 25.3 +0.6**
XAN			pP	pP	20 52 33.0 -4.0
XAN			pmax	pmax	
	comp=Z,8.0nm,0.7s				
XAN			pmax	pmax	
	comp=Z,110nm,5.5s				
XAN	**Xi'an**	**35.33 265**	*e*P	**P**	**20 52 25.3 +0.6**
	comp=Z,9.7nm,0.6s				
XAN	**Xi'an**	**35.33 265**	*e*P	**P**	**20 52 25.3 +0.6**
XAN			pmax	pmax	
	comp=Z,10.0nm,0.6s				
MCK	**McKinley**	**35.92 40**	*e*P	**P**	**20 52 29.7 +0.3**
	comp=Z,7.2nm,1.1s				
MCK	**McKinley**	**35.92 40**	*e*P	**P**	**20 52 29.7 +0.3**
MCK			pmax	pmax	
	comp=Z,7.0nm,1.1s				
RND	**Reindeer**	**35.96 41**	*e*P	**P**	**20 52 30.1 +0.3**
	comp=Z,4.9nm,1.0s				
RND	**Reindeer**	**35.96 41**	*e*P	**P**	**20 52 30.1 +0.3**
RND			pmax	pmax	
	comp=Z,5.0nm,1.0s				
TOLK	**Toolik Lake Re**	**36.01 32**	*e*P	**P**	**20 52 31.2 +1.0**
	comp=Z,4.6nm,0.5s				
KNK	**Knik Glacier**	**36.20 44**	*e*P	**P**	**20 52 32.8 +0.9**
	comp=Z,9.4nm,1.2s				
SML	**Sawmill**	**36.24 43**	*e*P	**P**	**20 52 33.2 +1.0**
	comp=Z,11nm,0.9s				
SML	**Sawmill**	**36.24 43**	*e*P	**P**	**20 52 33.2 +1.0**
SML			pmax	pmax	
	comp=Z,11nm,0.9s				
MDM	**Murphy Dome**	**36.25 38**	*e*P	**P**	**20 52 33.5 +1.3**
	comp=Z,5.2nm,0.8s				
WRH	**Wood River Hil**	**36.30 39**	*e*P	**P**	**20 52 33.5 +0.9**
	comp=Z,3.8nm,0.9s				
COLA	**College**	**36.41 38**	*ce*P	**P**	**20 52 34.7 +1.2**
COLA			pmax	pmax	
	comp=Z,10.0nm,0.9s				
CCB	**Clear Creek Bu**	**36.42 39**	*e*P	**P**	**20 52 34.3 +0.6**
	comp=Z,3.3nm,1.0s				
DHY	**Denali Highway**	**36.63 41**	*e*P	**P**	**20 52 35.8 +0.2**
	comp=Z,3.9nm,0.8s				
HDA	**Harding Lake**	**36.80 39**	*e*P	**P**	**20 52 37.4 +0.6**
	comp=Z,3.9nm,0.7s				
ILAR	**Eielson Array**	**36.82 38**	*e*P	**P**	**20 52 37.3 +0.3**
ILAR	**Eielson Array**	**36.82 38**	P	**P**	**20 52 37.1 +0.1**
	comp=Z,1.7nm,0.7s,baz=262,slow=6.5,SNR=19				
ILB	**Eielson Array**	**36.82 38**	*e*P	**P**	**20 52 37.5 +0.4**
	comp=Z,3.2nm,0.9s				
ENH	**Enshi**	**37.16 260**	*e*P	**P**	**20 52 40.1 -0.2**
	comp=Z,6.9nm,0.9s				
PRP	**Porcupine Dome**	**37.39 37**	*e*P	**P**	**20 52 42.5 +0.5**
	comp=Z,4.4nm,0.8s				
LZH	**Lanzhou**	**37.72 272**	*e*P	**P**	**20 52 47.2 +2.0**
LZH			pP	pP	20 52 56.2 -1.4
LZH			sP	pwP	20 53 02.2 +1.2
LZH			pmax	pmax	
	comp=Z,20nm,1.7s				
BMAR	**Burnt Mountain**	**37.79 34**	*e*P	**P**	**20 52 46.7 +1.4**
GTA	**Gaotai**	**38.83 279**	*e*P	**P**	**20 52 55.4 +0.9**
GTA			PcP	**PcP**	**20 55 06.7 +2.0**
GTA			pmax	pmax	
	comp=Z,4.0nm,1.0s				
GTA			pmax	pmax	
	comp=Z,41nm,5.2s				
GTA			LR	LR	
	comp=Z,64nm,17.2s				
GTA			LR	LR	
	comp=Z,66nm,16.8s				
GTA			LR	LR	
	comp=Z,100nm,16.1s				
NRIK	**Noril'sk**	**38.85 329**	P	**P**	**20 52 52.1 -2.0**
	comp=Z,3.0nm,0.4s,baz=80,slow=7.5,SNR=3.8				
BCAR	**Beaver Creek A**	**39.17 41**	*e*P	**P**	**20 52 57.9 +1.0**
EGAK	**Eagle**	**39.27 38**	*e*P	**P**	**20 52 58.2 +0.6**
	comp=Z,7.7nm,0.8s				
CTGM	**Chitina Glacie**	**39.68 44**	*e*P	**P**	**20 53 02.9 +1.6**
	comp=Z,6.5nm,0.6s				
DAWY	**Dawson**	**40.11 39**	*e*P	**P**	**20 53 05.4 +0.7**
	comp=Z,16nm,1.8s				
BCPM	**Bancas Point**	**40.70 45**	*e*P	**P**	**20 53 10.7 +1.1**
	comp=Z,112nm,0.8s				
EPYK	**Eagle Plains**	**40.94 35**	*e*P	**P**	**20 53 12.8 +1.3**
	comp=Z,8.1nm,1.0s				
INK	**Inuvik**	**41.92 32**	*e*P	**P**	**20 53 20.7 +1.3**
	comp=Z,4.6nm,0.7s				
INK	**Inuvik**	**41.92 32**	P	**P**	**20 53 20.6 +1.1**
	comp=Z,4.8nm,0.8s,baz=291,slow=5.9,SNR=22				
ZAA1	**Zalesovo Array**	**42.59 306**	*e*P	**P**	**20 53 23.5 -1.6**
ZAA1			*e*PcP	**PcP**	**20 55 17.1 +0.7**
ZAA0	**Zalesovo Array**	**42.59 306**	*e*P	**P**	**20 53 23.6 -1.5**
	comp=Z,3.0nm,0.4s				
ZALV	**Zalesovo Beam**	**42.59 306**	*e*P	**P**	**20 53 22.9 -2.2**
ZALV			PcP	**PcP**	**20 55 17.1 +0.7**
ZALV	**Zalesovo Beam**	**42.59 306**	P	**P**	**20 53 23.5 -1.6**
	comp=Z,3.4nm,0.4s,baz=61,slow=6.6,SNR=14				
ZALV			PcP	**PcP**	**20 55 17.1 +0.7**
	comp=Z,2.2nm,0.4s,baz=56,slow=3.2,SNR=9.5				
ZALV			LR	LR	21 12 21.3
	comp=Z,212nm,18.2s,baz=64,slow=38				
DLBC	**Dease Lake**	**45.86 46**	*e*P	**P**	**20 53 53.8 +2.5**
	comp=Z,3.7nm,0.9s				
DLBC	**Dease Lake**	**45.86 46**	P	**P**	**20 53 51.6 +0.3**
	comp=Z,3.1nm,0.8s,baz=312,slow=12,SNR=4.7				
SLVN	**Son La**	**46.82 255**	*e*P	**P**	**20 54 00.7 +1.5**
	comp=Z,4.8nm,0.8s				
MK31	**Makanchi Array**	**46.89 297**	*e*P	**P**	**20 53 57.7 -1.7**
	comp=Z,2.6nm,0.6s				
MK31	**Makanchi Array**	**46.89 297**	*e*P	**P**	**20 53 57.7 -1.7**
MK31			pmax	pmax	
	comp=Z,3.0nm,0.6s				
MK32	**Makanchi Array**	**46.89 297**	*e*P	**P**	**20 53 58.4 -1.0**
MK32			*e*PcP	**PcP**	**20 55 31.9 +0.5**
MKAR	**Makanchi Array**	**46.89 297**	*e*P	**P**	**20 53 58.1 -1.3**
MKAR			PcP	**PcP**	**20 55 31.9 +0.5**
MKAR	**Makanchi Array**	**46.89 297**	P	**P**	**20 53 58.4 -1.0**
	comp=Z,2.5nm,0.5s,baz=67,slow=7.0,SNR=63				
MKAR			PcP	**PcP**	**20 55 31.9 +0.5**
	comp=Z,2.9nm,0.6s,baz=61,slow=4.8,SNR=10				
MKAR			LR	LR	21 14 47.5
	comp=Z,187nm,18.6s,baz=62,slow=38				
KURK	**Kurchatov**	**47.34 304**	*e*P	**P**	**20 54 01.1 -1.7**
	comp=Z,6.0nm,0.6s				
KURK	**Kurchatov**	**47.34 304**	*e*P	**P**	**20 54 01.1 -1.7**
KURK			pmax	pmax	
	comp=Z,6.0nm,0.6s				
NONG	**Nongkai**	**49.64 252**	P	**P**	**20 54 22.8 +1.9**
	comp=Z,0.6nm,0.7s				
LSA	**Lhasa**	**50.11 273**	*e*P	**P**	**20 54 26.7 +1.8**
	comp=Z,28nm,0.6s				
LSA	**Lhasa**	**50.11 273**	*e*P	**P**	**20 54 26.7 +1.8**
LSA			pmax	pmax	
	comp=Z,28nm,0.6s				
BRVK	**Borovoye**	**50.90 310**	*e*P	**P**	**20 54 29.0 -1.0**
	comp=Z,3.3nm,0.6s				
BRVK	**Borovoye**	**50.90 310**	*d i* P	**P**	**20 54 29.2 -0.8**
BRVK			pmax	pmax	
	comp=Z,3.0nm,0.6s				
BRVK	**Borovoye**	**50.90 310**	*e*P	**P**	**20 54 29.2 -0.8**
RES	**Resolute Bay**	**51.09 18**	*e*P	**P**	**20 54 31.3 +0.2**
	comp=Z,6.0nm,1.4s				
RES	**Resolute Bay**	**51.09 18**	*e*P	**P**	**20 54 31.3 +0.2**
RES			pmax	pmax	
	comp=Z,6.0nm,1.4s				
RES	**Resolute Bay**	**51.09 18**	P	**P**	**20 54 31.1 0.0**
	comp=Z,1.3nm,0.5s,baz=229,slow=3.7,SNR=9.9				
KHON	**Khomkaen**	**51.10 251**	P	**P**	**20 54 36.2 +4.3**
YKW3	**Yellowknife Ar**	**51.16 36**	*e*P	**P**	**20 54 32.6 +0.8**
	comp=Z,2.7nm,0.9s				
YKA	**Yellowknife Ar**	**51.20 37**	P	**P**	**20 54 33.0 +1.0**
	comp=Z,1.3nm,0.6s,baz=296,slow=7.3,SNR=13				
YKA			PcP	**PcP**	**20 55 47.7 +1.0**
	comp=Z,0.7nm,0.5s,baz=303,slow=3.3,SNR=5.1				
YKB5	**Yellowknife Ar**	**51.20 37**	*e*P	**P**	**20 54 33.0 +1.0**
YKB5			*e*PcP	**PcP**	**20 55 47.7 +1.0**
UTTA	**Uttaradit**	**51.58 254**	P	**P**	**20 54 37.7 +2.2**
	comp=Z,22μm,0.8s,comp=Z,225μm				
LAMP	**Lampang**	**51.65 256**	P	**P**	**20 54 38.4 +2.4**
	comp=Z,24μm,0.8s,comp=Z,225μm				
CMMT	**Chiang Mai**	**51.90 257**	P	**P**	**20 54 39.4 +1.5**
	comp=Z,7.4nm,0.8s				
CHTO	**Chiang Mai**	**51.90 257**	*e*P	**P**	**20 54 39.3 +1.4**
	comp=Z,9.1nm,0.6s				
CHTO	**Chiang Mai**	**51.90 257**	*e*P	**P**	**20 54 39.3 +1.4

comp=Z,82nm,0.6s
ARU **Arti** 55.05 317 *e*P **P** 20 54 58.8 -1.7
comp=Z,3.6nm,0.7s
ARU **Arti** 55.05 317 *d i*P **P** 20 54 59.5 -1.0
ARU 20 56 01.1
ARU 20 57 01.2
ARU S **S** 21 02 38.0 -0.9
ARU SS **SS** 21 06 16.9 -5.6
ARU pmax pmax
comp=Z,4.0nm,0.7s
KKN **Kakani** 55.34 275 *e*P **P** 20 55 04.3 +1.1
comp=Z,76nm,0.6s
PKI **Pulchoki** 55.38 275 *e*P **P** 20 55 04.5 +0.8
comp=Z,36nm,0.6s
PKIN **Phulchoki** 55.39 275 *e*P **P** 20 55 04.4 +0.7
comp=Z,28nm,0.5s
DMN **Daman** 55.57 275 *e*P **P** 20 55 06.2 +1.2
comp=Z,74nm,0.7s
GKN **Gorkha** 55.64 276 *e*P **P** 20 55 06.5 +1.1
comp=Z,87nm,0.5s
PHET **Kaeng Krachan** 55.70 251 P **P** 20 55 08.7 +3.0
KK31 **Karatay Array** 55.95 299 *e*P **P** 20 55 06.3 -0.8
comp=Z,2.6nm,1.0s
KK31 **Karatay Array** 55.95 299 *e*P **P** 20 55 06.4 -0.8
KK31 pmax pmax
comp=Z,3.0nm,1.0s
KKAR **Karatay Array** 55.95 299 *e*P **P** 20 55 06.1 -1.1
KKAR **Karatay Array** 55.95 299 *e*P **P** 20 55 06.1 -1.1
DANN **Dangsing** 56.03 277 *e*P **P** 20 55 09.7 +1.4
comp=Z,103nm,0.6s
KOLN **Koldanda** 56.50 276 *e*P **P** 20 55 12.7 +1.1
comp=Z,54nm,0.6s
PYUN **Piuthan** 56.71 277 *e*P **P** 20 55 14.2 +1.1
comp=Z,89nm,0.9s
PINE **Pine Mountain** 57.85 59 *e*P **P** 20 55 21.7 +0.8
comp=Z,4.3nm,0.8s
ARA0 **ARCESS Array S** 57.99 341 *e*P **P** 20 55 20.6 -0.6
ARCES **ARCESS Array B** 57.99 341 P **P** 20 55 20.6 -0.6
comp=Z,1.1nm,0.4s,baz=36,slow=7.4,SNR=24
ABKAR **Akbulak array** 58.43 310 *e*P **P** 20 55 22.2 -2.4
comp=Z,5.4nm,1.1s
GAR **Garm** 58.45 295 *e*P **P** 20 55 24.7 -0.3
comp=Z,11nm,0.6s
GAR **Garm** 58.45 295 *e*P **P** 20 55 24.7 -0.3
GAR pmax pmax
comp=Z,11nm,0.6s
I07A **Izee** 58.52 58 *e*P **P** 20 55 26.3 +0.8
comp=Z,5.5nm,0.4s
CHGR **Chuyangaron** 59.38 295 *e*P **P** 20 55 31.2 -0.2
comp=Z,14nm,0.6s
KRAB **Krabi** 59.49 248 P **P** 20 55 35.2 +2.8
comp=Z,77µm,0.7s
NIL **Nilore** 59.81 288 *e*P **P** 20 55 35.4 +1.0
comp=Z,22nm,0.8s
NIL **Nilore** 59.81 288 *e*P **P** 20 55 35.4 +1.0
NIL pmax pmax
comp=Z,22nm,0.8s
WVOR **Wild Horse Val** 60.01 59 *e*P **P** 20 55 37.3 +1.5
comp=Z,14nm,1.1s
WVOR **Wild Horse Val** 60.01 59 *e*P **P** 20 55 37.3 +1.5
WVOR pmax pmax
comp=Z,14nm,1.1s
KLMR **Klimovskoe** 60.20 329 *e*P **P** 20 55 34.2 -2.4
KLMR pmax pmax
comp=Z,8.0nm,1.4s
SUMG **Summit** 60.92 4 *e*P **P** 20 55 41.1 -0.7
comp=Z,20nm,1.1s
SUMG **Summit** 60.92 4 *e*P **P** 20 55 41.1 -0.7
SUMG pmax pmax
comp=Z,20nm,1.1s
FFC **Flin Flon** 61.01 40 *e*P **P** 20 55 43.2 +1.1
comp=Z,6.9nm,0.9s
FFC **Flin Flon** 61.01 40 *e*P **P** 20 55 43.3 +1.1
FFC pmax pmax
comp=Z,7.0nm,0.9s
FCC **Fort Churchill** 61.53 33 *e*P **P** 20 55 46.0 +0.4
comp=Z,7.4nm,0.8s
FCC **Fort Churchill** 61.53 33 *e*P **P** 20 55 46.0 +0.4
FCC pmax pmax
comp=Z,7.0nm,0.8s
HLID **Hailey** 61.77 56 *e*P **P** 20 55 48.5 +0.8
HLID *e*pP **pwP** 20 56 04.8 0.0
KBL **Kabul** 61.98 292 *e*P **P** 20 55 49.0 -0.4
comp=Z,8.6nm,0.6s
KBL **Kabul** 61.98 292 *e*P **P** 20 55 49.0 -0.4
KBL pmax pmax
comp=Z,9.0nm,0.6s
KVN **Kaiserville** 62.42 61 *e*P **P** 20 55 51.9 -0.3
comp=Z,9.3nm,0.8s
KVN **Kaiserville** 62.42 61 *e*P **P** 20 55 51.9 -0.3
KVN pmax pmax
comp=Z,9.0nm,0.8s
RYN **Ryan** 62.42 62 *e*P **P** 20 55 52.6 +0.4
RYN *e*pP **pwP** 20 56 07.8 -1.4
NV01 **Mina Array Sit** 62.68 62 *e*P **P** 20 55 55.6 +1.6
NVAR **Mina Array Bea** 62.68 62 *e*P **P** 20 55 55.5 +1.5
NVAR *e*pP **pwP** 20 56 09.7 -1.3
NVAR **Mina Array Bea** 62.68 62 P **P** 20 55 55.6 +1.6
comp=Z,1.7nm,0.8s,baz=291,slow=7.8,SNR=7.4
NV11 **Mina Array Sit** 62.77 62 *e*P **P** 20 55 55.4 +0.9
NV11 *e*pP **pP** 20 56 07.4 -0.2
RLMT **Red Lodge** 63.63 52 *e*P P 20 55 50.0 -10
RLMT *e*pP pP 20 56 13.6 +0.3
FIA1 **FINESS Array S** 64.16 335 *e*P **P** 20 56 02.3 -0.7
comp=Z,11nm,0.4s
FIA0 **FINESS Array S** 64.16 335 *e*P **P** 20 56 02.2 -0.8
FIA0 *e*PcP **PcP** 20 56 37.3 -0.4
FIA0 **FINESS Array S** 64.16 335 *e*P **P** 20 56 02.2 -0.8
FIA0 *e* 20 56 37.3
FINES **FINESS Array B** 64.16 335 P **P** 20 56 02.2 -0.8
comp=Z,9.3nm,0.4s,baz=33,slow=7.8,SNR=186
FINES PcP **PcP** 20 56 37.3 -0.4
comp=Z,0.7nm,0.5s,baz=17,slow=2.0,SNR=4.1
FINES LR LR 21 27 06.8
comp=Z,53nm,18.8s,baz=61,slow=39
R11A **Troy Canyon, C** 64.38 61 *e*P **P** 20 56 06.0 +0.8
R11A *e*pP **pP** 20 56 16.6 -1.7
DUG **Dugway, Tooele** 64.83 58 *e*P **P** 20 56 08.5 +0.5
comp=Z,8.2nm,0.8s
TPNV **Topopah Spring** 64.88 62 *e*P **P** 20 56 07.7 -0.7
TPNV *e*pP **pwP** 20 56 24.7 -0.8
TPNV **Topopah Spring** 64.88 62 *e*P **P** 20 56 07.7 -0.7
TPNV *e**PP **pwP** 20 56 24.7 -0.8
BW06 **Boulder Array** 65.01 54 *e*P **P** 20 56 08.9 -0.4
comp=Z,7.5nm,0.8s
PD31 **Pinedale Array** 65.01 54 *e*P **P** 20 56 09.2 0.0
comp=Z,7.1nm,0.8s
OBN **Obninsk** 65.39 325 *e*P **P** 20 56 08.9 -2.2
OBN *e* 20 56 39.3
OBN *e*PPP PPP 21 00 08.5
OBN pmax pmax
comp=Z,6.0nm,0.8s
GEYT **Alibeck** 66.56 301 P **P** 20 56 19.6 +0.5
comp=Z,9.5nm,0.4s,baz=58,slow=3.7,SNR=24
GEYT LR LR 21 27 38.0
comp=Z,70nm,19.5s,baz=100,slow=38
GYA0B **ALIBECK ARRAY** 66.56 301 *e*P **P** 20 56 19.4 +0.3
comp=Z,5.6nm,0.6s
K22A **Casper** 66.76 52 *e*pP pP 20 56 34.7 +1.2
ULM **Lac du Bonnet** 66.79 41 P **P** 20 56 20.9 +0.6
comp=Z,2.9nm,0.6s,baz=319,slow=6.5,SNR=8.1
RWWY **Rawlins** 67.03 53 *e*P **P** 20 56 22.0 -0.2
RWWY *e*pP **pwP** 20 56 38.5 -1.0
VSR **Storozhevoye** 67.17 321 ⇓ *i*P **P** 20 56 21.4 -1.2
VSR pmax pmax
comp=Z,7.0nm,0.6s
NC303 **NORSAR Array S** 68.17 341 *e*P **P** 20 56 28.3 -0.5
comp=Z,15nm,0.7s
NC405 **NORSAR Array S** 68.19 341 *e*P **P** 20 56 28.5 -0.5
comp=Z,32nm,1.0s
WR1 **Warramunga Arr** 68.26 199 *e*P **P** 20 56 31.0 +1.2
WRA **Warramunga Arr** 68.26 199 P **P** 20 56 31.0 +1.2
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA **Warramunga Arr** 68.26 199 P **P** 20 56 31.0 +1.2
comp=Z,1.4nm,0.6s,baz=22,slow=7.1,SNR=11
NC204 **NORSAR Array S** 68.26 341 *e*P **P** 20 56 29.0 -0.4
comp=Z,32nm,0.8s
NB201 **NORSAR Array S** 68.34 341 *e*P **P** 20 56 29.4 -0.5
comp=Z,28nm,0.6s
NB2 **NORSAR Subarra** 68.37 341 P **P** 20 56 29.3 -0.8
comp=Z,9.0nm,0.7s,baz=28,slow=6.5
NB200 **NORSAR Array S** 68.37 341 *e*P **P** 20 56 29.6 -0.5
NOA **NORSAR Array B** 68.37 341 P **P** 20 56 29.6 -0.5
comp=Z,5.6nm,0.5s,baz=28,slow=6.4,SNR=50
NOA LR LR 21 30 39.9
comp=Z,33nm,18.2s,baz=50,slow=40
PV03 **Paradox Valley** 68.42 57 *e*P **P** 20 56 30.3 -0.7
comp=Z,11nm,1.4s
PV13 **Radium Mtn., P** 68.50 57 *e*P **P** 20 56 30.3 -1.3
comp=Z,3.9nm,0.8s
NC602 **NORSAR Array S** 68.57 341 *e*P **P** 20 56 30.6 -0.7
comp=Z,98nm,1.9s
HFS **Hagfors** 68.59 339 P **P** 20 56 30.8 -0.6
comp=Z,15nm,0.4s,baz=57,slow=5.7,SNR=187
NAO01 **NORSAR Array S** 68.62 341 *e*P **P** 20 56 31.1 -0.6
comp=Z,19nm,0.9s
FITZ **Fitzroy Crossi** 68.87 208 *e*P **P** 20 56 34.0 +0.4
comp=Z,38nm,1.9s
FITZ **Fitzroy Crossi** 68.87 208 P **P** 20 56 34.3 +0.7
comp=Z,2.9nm,0.7s,baz=11,slow=3.4,SNR=4.5
X16A **Lo Mia Camp, P** 69.48 61 *e*P **P** 20 56 37.1 -0.5
X16A *e*pP **pP** 20 56 50.3 -0.6
S22A **4UR Ranch, Cre** 69.93 56 *e*P **P** 20 56 40.2 -0.3
comp=Z,8.1nm,1.5s
NCK **Nalchik** 70.70 313 ⇓ *e*P **P** 20 56 44.9 +0.1
NCK pmax pmax
comp=Z,7.0nm,0.7s
KIV **Kislovodsk** 70.82 314 *e*P **P** 20 56 44.4 -1.2
comp=Z,4.7nm,0.7s
KIV **Kislovodsk** 70.82 314 ⇑ *i*P **P** 20 56 46.3 +0.7
KIV **Kislovodsk** 70.82 314 *e*P **P** 20 56 44.4 -1.2
KIV pmax pmax
comp=Z,5.0nm,0.7s
KBZ **Khabaz** 70.88 314 P **P** 20 56 45.8 0.0
comp=Z,4.6nm,0.7s,baz=43,slow=6.7,SNR=17
SUW **Suwalki** 71.10 331 *e*P **P** 20 56 46.1 -0.8
SUW **Suwalki** 71.10 331 *e*P **P** 20 56 46.1 -0.8
AKASG **Malin Array Be** 71.63 326 P **P** 20 56 49.4 -0.7
AKASG pmax pmax
comp=Z,11nm,0.5s
AKASG MLR MLR
comp=Z,54nm,21.5s
AKASG **Malin Array Be** 71.63 326 P **P** 20 56 49.4 -0.7
comp=Z,10nm,0.5s,baz=36,slow=6.2,SNR=48
AKASG LR LR 21 30 06.1
comp=Z,54nm,21.5s,baz=85,slow=37
AKBB **Malin Array Si** 71.63 326 *e*P **P** 20 56 49.0 -1.1
comp=Z,11nm,0.6s
AKBB **Malin Array Si** 71.63 326 *e*P **P** 20 56 49.0 -1.1
AKBB pmax pmax
comp=Z,11nm,0.6s
KIEV **Kiev** 71.64 326 *e*P **P** 20 56 49.2 -0.9
comp=Z,11nm,0.6s
KIEV **Kiev** 71.64 326 *c i*P **P** 20 56 49.3 -0.9
KIEV pmax pmax
comp=Z,9.0nm,0.6s
AS31 **Alice Springs** 71.95 198 *e*P **P** 20 56 54.4 +2.0
comp=Z,2.6nm,1.3s
ASAR **Alice Springs** 71.95 198 P **P** 20 56 54.5 +2.1
comp=Z,2.7nm,0.6s,baz=11,slow=5.4,SNR=52
AKH **Akhalkalaki** 72.27 312 ⇑ *i*P **P** 20 56 55.8 +1.4
BSD **Bornholm Skovb** 72.68 336 *i* P **P** 20 56 55.5 -0.8
BSD pmax pmax
comp=Z,13nm,0.6s
BSD **Bornholm Skovb** 72.68 336 *i* P **P** 20 56 55.5 -0.8
comp=Z,13nm,0.6s
BCA **Borcka** 73.20 313 ⇑ *i*P **P** 20 56 59.9 +0.2
GKP **Gorka Klasztor** 73.61 334 *e*P **P** 20 57 01.7 -0.2
GKP **Gorka Klasztor** 73.61 334 *e*P **P** 20 57 01.7 -0.2
LVV **L'vov** 74.28 328 *e*P **P** 20 57 03.2 -2.7
MILM **Milestii Mici** 74.82 324 ⇑ *i*P **P** 20 57 08.9 -0.1
KWP **Kalwaria Pacla** 74.92 329 *e*P **P** 20 57 10.0 +0.4
KWP **Kalwaria Pacla** 74.92 329 *e*P **P** 20 57 09.5 -0.1
comp=Z,179nm,1.0s
KWP **Kalwaria Pacla** 74.92 329 *e*P **P** 20 57 10.0 +0.4
LEOM **Leova** 75.41 324 ⇑ *i*P **P** 20 57 12.6 +0.2
OJC **Ojcow** 75.42 331 *e*P **P** 20 57 12.5 0.0
OJC **Ojcow** 75.42 331 *e*P **P** 20 57 12.5 0.0
PRAR **RASCA** 75.49 326 ⇑ *i*P **P** 20 57 13.0 +0.1
BUR08 **Bucovina Ar. S** 75.65 326 *e*P **P** 20 57 13.7 -0.3
comp=Z,14nm,0.5s
KOLS **Kolonicke sedl** 75.66 329 *e*P **P** 20 57 13.7 -0.2
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS **Kolonicke sedl** 75.66 329 *e*P **P** 20 57 13.7 -0.2
BURAR **Bucovina Array** 75.67 326 ⇓ *i*P **P** 20 57 14.4 +0.3
GIRR **Girov** 75.72 325 ⇑ *i*P **P** 20 57 14.1 -0.1
BIR **Birlad** 75.83 324 ⇑ *i*P **P** 20 57 15.5 +0.6
BIZ **Bicaz** 75.88 326 ⇑ *i*P **P** 20 57 15.5 +0.3
UZH **Uzhgorod** 75.90 329 *e*P **P** 20 57 14.3 -0.9
UZH *e* 20 57 27.1
NIE **Niedzica** 75.94 330 *e*P **P** 20 57 16.1 +0.6
NIE **Niedzica** 75.94 330 *e*P **P** 20 57 16.1 +0.6
KSP **Ksiaz** 76.01 333 *e*P **P** 20 57 16.0 +0.1
KSP **Ksiaz** 76.01 333 *e*P **P** 20 57 16.0 +0.1
TESR **Tescani** 76.02 325 ⇓ *i*P **P** 20 57 16.1 +0.1
TLCR 76.22 323 ⇑ *i*P **P** 20 57 17.1 0.0
TRPA **Tarpa** 76.24 328 ⇑ *e*P **P** 20 57 17.0 -0.1
UPC **Upice** 76.39 333 *e*P **P** 20 57 18.2 +0.2
UPC **Upice** 76.39 333 *e*P **P** 20 57 18.2 +0.2
DPC **Dobruska-Polom** 76.43 333 *e*P **P** 20 57 18.1 -0.2
DPC **Dobruska-Polom** 76.43 333 *e*P **P** 20 57 18.1 -0.2
LANS **Liptovska Anna** 76.45 331 *e*P **P** 20 57 19.6 +1.2
LANS **Liptovska Anna** 76.45 331 *e*P **P** 20 57 19.6 +1.2
EKA **Eskdalemuir Ar** 76.50 346 P **P** 20 57 18.5 -0.1
baz=24,slow=5.0
CFR **Carcaliu** 76.51 323 ⇓ *i*P **P** 20 57 18.9 +0.2
VRI **Vrincioaia** 76.52 325 ⇑ *i*P **P** 20 57 18.6 -0.2
KRLC **Kraliky** 76.53 333 *e*P **P** 20 57 18.3 -0.5
KRLC **Kraliky** 76.53 333 *e*P **P** 20 57 18.3 -0.5
MORC **Moravsky Berou** 76.55 332 *e*P **P** 20 57 18.6 -0.3
comp=Z,11nm,1.0s
MORC **Moravsky Berou** 76.55 332 ⇑ *i*P **P** 20 57 18.8 -0.1
MORC **Moravsky Berou** 76.55 332 *e*P **P** 20 57 18.8 -0.1
PLOR **Plostina** 76.56 325 ⇑ *i*P **P** 20 57 19.3 +0.2
CLL **Collm** 76.58 335 *e*P **P** 20 57 18.5 -0.5
comp=Z,13nm,0.7s
CLL **Collm** 76.58 335 *e*P **P** 20 57 18.5 -0.5
CLL pmax pmax
comp=Z,13nm,0.7s
CLL **Collm** 76.58 335 ⇑ *i*P **P** 20 57 18.5 -0.5
comp=Z,15nm,0.7s
WMOK **Wichita Mounta** 76.62 53 *e*P **P** 20 57 19.8 +0.2
comp=Z,2.3nm,0.8s
WMOK **Wichita Mounta** 76.62 53 *e*P **P** 20 57 19.8 +0.2
WMOK pmax pmax
comp=Z,2.0nm,0.8s
BRG **Berggiesshubel** 76.70 335 *e*P **P** 20 57 18.2 -1.5
comp=Z,5.4nm,1.0s
BRG **Berggiesshubel** 76.70 335 *e*P **P** 20 57 18.2 -1.5
BRG pmax pmax
comp=Z,5.0nm,1.0s
PVCC **Panska Ves** 76.82 334 *e*P **P** 20 57 20.7 +0.3
PVCC **Panska Ves** 76.82 334 *e*P **P** 20 57 20.7 +0.3
HARR **Harsova** 76.99 323 ⇑ *i*P **P** 20 57 22.1 +0.7
TLB **Topalu** 77.03 323 ⇑ *i*P **P** 20 57 22.0 +0.4
MLR **Muntele Rosu** 77.14 325 *e*P **P** 20 57 22.2 -0.3
comp=Z,10nm,0.7s
MLR **Muntele Rosu** 77.14 325 ⇑ *i*P **P** 20 57 23.1 +0.6
VYHS **Vyhne** 77.23 331 *e*P **P** 20 57 22.9 +0.1
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS **Vyhne** 77.23 331 *e*P **P** 20 57 22.9 +0.1
VRAC **Vranov** 77.26 332 ⇑ *i*P **P** 20 57 23.5 +0.6
VRAC **Vranov** 77.26 332 *e*P **P** 20 57 23.3 +0.4
GOPC **GO Pecny, Ondr** 77.29 334 *e*P **P** 20 57 23.0 -0.1
GOPC **GO Pecny, Ondr** 77.29 334 *e*P **P** 20 57 23.0 -0.1
DRGR 77.30 327 ⇑ *i*P **P** 20 57 23.3 0.0
JAVC **Velka Javorina** 77.30 332 *e*P **P** 20 57 24.4 +1.2
KOLL **Kolacno** 77.30 331 *e*P **P** 20 57 24.0 +0.9
PRU **Pruhonice** 77.30 334 *e*P **P** 20 57 22.9 -0.2
PRU **Pruhonice** 77.30 334 *e*P **P** 20 57 22.9 -0.2
PSZ **Piszkesteto** 77.36 330 *e*P **P** 20 57 22.1 -1.5
comp=Z,8.7nm,1.0s
PSZ **Piszkesteto** 77.36 330 ⇑ *i*P **P** 20 57 23.9 +0.3
PSZ **Piszkesteto** 77.36 330 *e*P **P** 20 57 22.1 -1.5
PSZ pmax pmax
comp=Z,9.0nm,1.0s
PSZ **Piszkesteto** 77.36 330 *e*P **P** 20 57 24.0 +0.4
ICOR **Ion Corvin** 77.51 323 ⇑ *i*P **P** 20 57 25.1 +0.7
KRUC **Moravsky** 77.54 332 *e*P **P** 20 57 24.7 +0.2
MOX **Moxa** 77.57 336 P **P** 20 57 26.1 +1.5
MOX pmax pmax
comp=Z,8.0nm,0.9s
NKC **Novy Kostel** 77.70 335 *e*P **P** 20 57 25.6 +0.2
NKC **Novy Kostel** 77.70 335 *e*P **P** 20 57 25.6 +0.2
LTX **Lajitas** 77.75 60 *e*P **P** 20 57 27.1 +1.1
LTX **Lajitas** 77.75 60 *e*P **P** 20 57 27.2 +1.1
TXAR **Lajitas Array** 77.75 60 P **P** 20 57 27.1 +1.1
comp=Z,0.9nm,0.7s,baz=300,slow=4.4,SNR=9.2
ARR **Arges** 77.76 325 ⇑ *i*P **P** 20 57 26.8 +1.0
MODS **Modra-Piesok** 77.85 331 *e*P **P** 20 57 26.6 +0.4
MODS pmax pmax
comp=Z,11nm,1.0s
MODS **Modra-Piesok** 77.85 331 *e*P **P** 20 57 26.6 +0.4
SRO **Srobarova** 77.99 331 *e*P **P** 20 57 27.9 +0.9
SRO **Srobarova** 77.99 331 *e*P **P** 20 57 27.9 +0.9
ZST **Bratislava** 78.06 332 *e*P **P** 20 57 27.3 -0.1
ZST **Bratislava** 78.06 332 *e*P **P** 20 57 27.3 -0.1
SIRR **Siria** 78.13 328 ⇑ *i*P **P** 20 57 28.4 +0.6
KHC **Kasperske Hory** 78.35 334 *e*P **P** 20 57 29.1 0.0
comp=Z,4.1nm,0.8s
KHC **Kasperske Hory** 78.35 334 *e*P **P** 20 57 29.7 +0.7
KHC *e* 20 57 33.0
KHC **Kasperske Hory** 78.35 334 *e*P **P** 20 57 29.7 +0.7
KHC *ex* x 20 57 33.0
CSKK **Cskako** 78.40 330 ⇓ *e*P **P** 20 57 29.1 -0.2
BR101 **Keskin Array S** 78.42 317 *e*P **P** 20 57 30.4 +0.6
BR131 **Keskin Array S** 78.42 317 *e*P **P** 20 57 29.7 0.0
comp=Z,5.2nm,0.9s
BRTR **Keskin Array B** 78.42 317 P **P** 20 57 30.4 +0.6
comp=Z,4.2nm,0.8s,baz=73,slow=4.5,SNR=23
BRTR LR LR 21 38 07.3
comp=Z,25nm,18.6s,baz=358,slow=40
GZR **Gura Zlata** 78.45 327 ⇓ *i*P **P** 20 57 29.4 -0.3
GRA1 **Grafenberg Arr** 78.54 336 *e*P **P** 20 57 30.2 +0.2
comp=Z,12nm,0.7s
GRFO **Grafenberg** 78.54 336 *e*P **P** 20 57 30.2 +0.2
comp=Z,11nm,0.7s
GEC2 **GERESS Array S** 78.57 334 *e*P **P** 20 57 30.0 -0.3
comp=Z,3.8nm,0.6s
GEC2 **GERESS Array S** 78.57 334 *e*P **P** 20 57 30.0 -0.3
GEC2 pmax pmax
comp=Z,4.0nm,0.6s
GERES **GERESS Array B** 78.57 334 P **P** 20 57 30.4 +0.1
comp=Z,2.6nm,0.5s,baz=35,slow=6.1,SNR=38
SOP **Sopron** 78.69 332 P **P** 20 57 33.0 +2.1
SOP pmax pmax
comp=Z,1.0nm,1.1s
BZS **Buzias** 78.70 327 ⇑ *i*P **P** 20 57 30.9 0.0
CONA **Conrad Observa** 78.70 332 *e*P **P** 20 57 32.0 +1.0
comp=Z,7.7nm,0.7s,SNR=5.3
TIH **Tihany** 78.92 330 *e*P **P** 20 57 32.0 -0.1
HERR **Herculane** 79.02 327 ⇑ *i*P **P** 20 57 32.3 -0.4
MORH **Mrgy, Hungar** 79.26 330 *e*P **P** 20 57 33.1 -0.9
MOA **Molin** 79.28 333 *e*P **P** 20 57 34.7 +0.6
comp=Z,4.5nm,0.8s
PUNG **Punghina** 79.33 326 ⇑ *i*P **P** 20 57 33.8 -0.6
MDVR **Moldovita** 79.37 327 ⇑ *i*P **P** 20 57 34.3 -0.4
ARSA **Arzberg** 79.41 332 *e*P **P** 20 57 35.7 +0.8
comp=Z,3.4nm,0.6s
W41B **Gary Mavity, V** 79.81 49 *e*pP pP 20 57 51.6 +0.9
SOKA **Soboth** 80.07 332 *e*P **P** 20 57 39.0 +0.5
comp=Z,5.9nm,0.7s,SNR=7.1
KBA **Koelnbreinsper** 80.25 333 *i* P **P** 20 57 40.5 +0.8
comp=Z,8.6nm,0.5s,SNR=10.0
KBA **Koelnbreinsper** 80.25 333 P **P** 20 57 40.4 +0.8
OBKA **Obir** 80.38 332 *i* P **P** 20 57 40.7 +0.5
comp=Z,3.4nm,0.7s
MYKA **Terra Mystica** 80.56 333 *e*P **P** 20 57 41.4 +0.3
comp=Z,2.3nm,0.5s
WATA **Walderalm** 80.56 334 *e*P **P** 20 57 42.1 +0.9
comp=Z,4.7nm,0.5s,SNR=9.1
BFO **Black Forest** 80.58 337 *e*P **P** 20 57 41.1 -0.1
comp=Z,7.1nm,1.0s
BFO **Black Forest** 80.58 337 *e*P **P** 20 57 41.1 -0.1
BFO pmax pmax
comp=Z,7.0nm,1.0s
WTTA **Wattenberg** 80.61 334 *e*P **P** 20 57 42.6 +1.1
comp=Z,13nm,0.5s
VTS **Vitosha** 80.61 325 *e*P **P** 20 57 41.6 0.0
comp=Z,16nm,0.8s
VTS **Vitosha** 80.61 325 ⇑ *i*P **P** 20 57 41.8 +0.2
VTS **Vitosha** 80.61 325 *e*P **P** 20 57 41.6 0.0
VTS pmax pmax
comp=Z,16nm,0.8s
RETA **Reutte** 80.66 335 *i* P **P** 20 57 42.4 +0.7
comp=Z,2.8nm,0.6s
MOTA **Moosalm** 80.69 335 *i* P **P** 20 57 42.6 +0.7
comp=Z,3.4nm,0.5s,SNR=8.6
SQTA **Sankt Quirin** 80.77 335 *i* P **P** 20 57 43.1 +0.8
comp=Z,5.7nm,0.6s
ABTA **Abfaltersbach** 80.80 334 *e*P **P** 20 57 42.8 +0.3
comp=Z,0.8nm,0.4s
ABTA **Abfaltersbach** 80.80 334 *e*P **P** 20 57 42.8 +0.3
comp=Z,0.8nm,0.4s
FETA **Feichten** 81.09 335 *e*P **P** 20 57 45.0 +0.9
comp=Z,3.1nm,0.7s
DAVA **Damuels** 81.10 335 *e*P **P** 20 57 44.7 +0.6
comp=Z,4.1nm,0.8s
MANT **Manisa** 81.77 319 *e*P **P** 20 57 47.5 -0.4
comp=Z,47nm,0.8s
TUE **Stuetta** 81.99 335 *e*P **P** 20 57 46.1 -2.8
comp=Z,5.0nm,0.8s
TTG **Podgorica** 82.31 327 *e*P **P** 20 57 49.7 -0.6
comp=Z,11nm,0.6s
TTG **Podgorica** 82.31 327 *e*P **P** 20 57 49.7 -0.6
TTG pmax pmax
comp=Z,11nm,0.6s
CSS **Mathiatis** 82.34 314 *e*P **P** 20 57 50.9 +0.2
comp=Z,14nm,0.8s
T52A **Hallie** 82.83 42 *e*P **P** 20 57 53.7 +0.6
comp=Z,80nm,0.9s
TZTN **Tazewell** 83.03 43 *e*P **P** 20 57 54.5 +0.3
comp=Z,68nm,1.5s
Y49A **Blount Mountai** 83.81 46 *e*P **P** 20 57 56.1 -2.2
comp=Z,70nm,1.7s
T57A **Hurt** 84.59 39 *e*P **P** 20 58 01.4 -0.8
comp=Z,27nm,0.6s
TIP **Timpagrande** 86.07 327 *e*P **P** 20 58 07.3 -2.2
comp=Z,8.9nm,1.1s
ESDC **Sonseca Array** 91.70 342 P **P** 20 58 35.3 -0.9
comp=Z,0.6nm,0.6s,baz=356,slow=4.5,SNR=4.8
TOA1 **Torodi Ar. Sit** 115.18 329 *e*PKIKP **PKiKP** 21 04 08.9 -1.4
TORD **Torodi Ar. Bea** 115.19 329 PKP **PKiKP** 21 04 08.9 -1.4
comp=Z,0.3nm,0.5s,baz=21,slow=1.9,SNR=5.7
VNDA **Vanda** 123.91 178 *e*PKPdf **PKiKP** 21 04 25.9 +0.5
VNDA **Vanda** 123.91 178 PKP **PKiKP** 21 04 25.8 +0.3
comp=Z,0.8nm,0.7s,baz=358,slow=2.8,SNR=3.3
BDFB **Brasilia** 144.61 36 PKIKP **PKPab** 21 05 04.4 +0.2
BDFB pmax pmax
comp=Z,2.0nm,0.6s
BDFB **Brasilia** 144.61 36 PKP PKPbc 21 05 04.4 0.0
comp=Z,1.4nm,0.4s,baz=138,slow=21,SNR=4.1
PLCA **Paso Flores** 148.36 95 PKPbc **PKiKP** 21 05 16.2 -0.1
comp=Z,2.6nm,0.9s,baz=291,slow=6.1,SNR=3.8
CPUP **Villa Florida** 148.72 60 *e*PKPbc **PKPbc** 21 05 16.7 +0.8
CPUP **Villa Florida** 148.72 60 *e*PKP2 **PKPbc** 21 05 16.7 +0.8
CPUP **Villa Florida** 148.72 60 PKPbc **PKiKP** 21 05 17.0 -0.3
comp=Z,2.5nm,0.7s,baz=312,slow=3.9,SNR=8.3

ANF ***09*** *20:57:22.5±0.1, 37°.79N×82°.10W, ML2.5/36, Error ellipse: s-maj=1.0km s-min=0.8km az=12.0*

ISC 09 20:57:22.5±0.9**, 37°.78N**±0°.02×**82°.10W**±0°.02**, h7**km±8km**,**
n38, σ0°.59/55**, West Virginia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S53A	**Williamson**	**0.10**	**192**	P	**Pg**	**20 57 24.8**	**0.0**
baz=11							
S53A				S	**Sg**	**20 57 26.2**	**-0.2**
baz=11							
R53A	**Hurricane**	**0.56**	**12**	S	**Sg**	**20 57 40.6**	**0.0**
baz=192							
S52A	**Salyersville**	**0.78**	**263**	S	**Sg**	**20 57 48.0**	**+0.3**
baz=82							
T54A	**Tazewell**	**0.83**	**150**	S	**Sb**	**20 57 50.2**	**-0.5**
baz=330							
T53A	**Wise**	**0.87**	**204**	P	**Pg**	**20 57 39.1**	**0.0**
baz=23							
T53A				S	**Sb**	**20 57 51.5**	**-0.2**
baz=23							
R54A	**Victor**	**0.96**	**65**	P	**Pg**	**20 57 40.8**	**-0.2**
baz=246							
R54A				S	**Sb**	**20 57 54.4**	**-0.1**
baz=246							
T52A	**Hallie**	**0.97**	**227**	P	**Pg**	**20 57 41.2**	**+0.1**
baz=46							
Q52A	**Bidwell**	**1.19**	**354**	P	**Pb**	**20 57 44.9**	**-0.4**
baz=174							
S51A	**Beattyville**	**1.19**	**264**	*e*P	**Pg**	**20 57 45.5**	**+0.2**
20nm,0.6s							
S51A	**Beattyville**	**1.19**	**264**	P	**Pg**	**20 57 45.5**	**+0.2**
baz=82							
S51A				S	**Sn**	**20 58 01.5**	**-0.6**
baz=82							

S55A	**Lewisburg**	**1.27**	**90**	P	**Pg**	**20 57 46.8**	**0.0**
	baz=271						
U54A	**Nelsons Funny**	**1.28**	**170**	P	**Pn**	**20 57 46.5**	**-0.3**
	baz=350						
U54A				S	**Sn**	**20 58 04.2**	**0.0**
	baz=350						
BLA	**Blacksburg**	**1.45**	**113**	P	**Pg**	**20 57 50.3**	**-0.1**
	baz=294						
BLA				S	**Sg**	**20 58 09.3**	**+0.1**
	baz=294						
U53A	**Fall Branch**	**1.47**	**195**	P	**Pb**	**20 57 50.2**	**+0.1**
	baz=15,SNR=6.8						
U53A				S	**Sg**	**20 58 11.0**	**+1.4**
	baz=15						
U55A	**TA2, Sparta**	**1.53**	**146**	P	**Pg**	**20 57 51.6**	**-0.2**
	baz=327						
U55A				S	**Sg**	**20 58 12.1**	**+0.5**
	baz=327						
Q54A	**Coxs Mills**	**1.56**	**39**	P	**Pb**	**20 57 50.9**	**-0.7**
	baz=220						
R55A	**Marlinton**	**1.64**	**72**	P	**Pb**	**20 57 53.3**	**+0.1**
	baz=253						
T51A	**Gray**	**1.68**	**242**	P	**Pb**	**20 57 53.4**	**-0.3**
	baz=60,SNR=8.4						
TZTN	**Tazewell**	**1.69**	**224**	P	**Pb**	**20 57 53.7**	**-0.3**
	baz=42,SNR=12						
P53A	**Whipple**	**1.79**	**18**	Pb	**Pg**	**20 57 56.2**	**-0.6**
	baz=198						
T56A	**Rocky Mt**	**1.81**	**114**	Sb	**Sg**	**20 58 21.4**	**+0.7**
	baz=295						
Q50A	**Georgetown**	**1.82**	**306**	P	**Pb**	**20 57 55.3**	**-0.8**
	baz=125						
Q50A				Sb	**Sg**	**20 58 21.8**	**+0.9**
	baz=125						
S50A	**Richmond**	**1.83**	**267**	P	**Pn**	**20 57 54.9**	**+0.6**
	baz=86,SNR=7.5						
S50A				Sb	**Sg**	**20 58 21.8**	**+0.7**
	baz=86						
R50A	**Paris**	**1.83**	**287**	Sb	**Sg**	**20 58 21.7**	**+0.5**
	baz=105						
P52A	**Corning**	**1.85**	**359**	Pb	**Pg**	**20 57 57.4**	**-0.5**
	baz=179						
P52A				Sb	**Sg**	**20 58 22.7**	**+0.8**
	baz=179						
P51A	**Williamsport**	**1.86**	**336**	Pb	**Pb**	**20 57 56.9**	**+0.2**
	baz=156						
P51A				Sb	**Sg**	**20 58 23.0**	**+0.8**
	baz=156						
U56A	**King**	**1.98**	**136**	Pb	**Pb**	**20 57 59.6**	**+0.7**
	baz=317						
U56A				Sb	**Sg**	**20 58 26.9**	**+0.6**
	baz=317						
Q55A	**Buckhannon**	**2.00**	**52**	Pb	**Pb**	**20 57 59.6**	**+0.5**
	baz=233						
Q55A				Sb	**Sg**	**20 58 26.6**	**0.0**
	baz=233						
V54A	**Nebo**	**2.00**	**176**	P	**Pb**	**20 57 58.0**	**-1.2**
	baz=356,SNR=8.5						
V55A	**Taylorsville**	**2.05**	**159**	S	**Sb**	**20 58 25.5**	**-0.3**
	baz=340						
U51A	**La Follette**	**2.08**	**228**	P	**Pb**	**20 57 59.1**	**-1.4**
	baz=47						
U51A				Sb	**Sg**	**20 58 29.3**	**+0.2**
	baz=47						
V53A	**Saluda**	**2.18**	**195**	*e*P	**Pb**	**20 58 01.6**	**-0.7**
	19nm,0.6s						
V53A	**Saluda**	**2.18**	**195**	P	**Pb**	**20 58 01.3**	**-1.0**
	baz=15,SNR=6.2						
V53A				Sb	**Sg**	**20 58 32.3**	**-0.3**
	baz=15						
P54A	**Burton**	**2.22**	**34**	Pb	**Pg**	**20 58 04.2**	**-0.7**
	baz=215						
P54A				Sb	**Sg**	**20 58 33.9**	**+0.2**
	baz=215						
P50A	**Jamestown**	**2.26**	**324**	Sb	**Sg**	**20 58 34.8**	**-0.1**
	baz=143						
T50A	**Nancy**	**2.31**	**252**	P	**Pn**	**20 58 02.1**	**+1.2**
	baz=70,SNR=6.6						
T57A	**Hurt**	**2.40**	**108**	Pb	**Pb**	**20 58 06.3**	**+0.3**
	baz=290						
R49A	**Shelbyville**	**2.48**	**283**	Pb	**Pb**	**20 58 07.4**	**+0.1**
	baz=101						

ROM 09 21:04:31.8±0.1, 37°.929N±0°.006×14°.65E±0°.01, h7km±1km, ML1.8/13, Error ellipse: s-maj=1.1km s-min=0.5km az=283.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSFR	**San Fratello**	**0.11**	**337**	P	Pg	21 04 34.6	+0.2
MSFR				S	Sg	21 04 37.2	+1.1
MSFR				AML	AML		
	comp=E,442μm,0.3s						
MSFR				AML	AML		
	comp=N,699μm,0.8s						
MSFR				AML	AML		
	comp=E,442μm,0.3s						
MSFR				AML	AML		
	comp=N,699μm,0.8s						
MSFR				AML	AML		
	comp=E,442μm,0.3s						
MSFR				AML	AML		
	comp=N,699μm,0.8s						
MSFR	**San Fratello**	**0.11**	**337**	S	Sg	21 04 37.0	+0.9
MCPD	**Capo d'Orlando**	**0.20**	**19**	P	Pg	21 04 36.5	+0.6
MCPD				S	Sg	21 04 40.4	+1.8
MCPD				AML	AML		
	comp=E,312μm,0.2s						
MCPD				AML	AML		
	comp=N,367μm,1.1s						
MCPD				AML	AML		
	comp=E,312μm,0.2s						
MCPD				AML	AML		
	comp=N,367μm,1.1s						
MCPD				AML	AML		
	comp=E,312μm,0.2s						
MCPD				AML	AML		
	comp=N,367μm,1.1s						
MCPD	**Capo d'Orlando**	**0.20**	**19**	P	Pg	21 04 36.5	+0.6
MCPD	**Capo d'Orlando**	**0.20**	**19**	S	Sg	21 04 40.0	+1.4
MUCR	**Ucria**	**0.21**	**58**	P	Pg	21 04 36.6	+0.6
MUCR	**Ucria**	**0.21**	**58**	P	Pg	21 04 36.7	+0.6
MUCR				S	Sg	21 04 40.7	+1.7
MUCR				AML	AML		
	comp=E,675μm,0.7s						
MUCR				AML	AML		
	comp=N,378μm,0.6s						
MUCR				AML	AML		
	comp=E,675μm,0.7s						
MUCR				AML	AML		
	comp=N,378μm,0.6s						
MUCR				AML	AML		
	comp=N,378μm,0.6s						
MUCR				AML	AML		
	comp=E,675μm,0.7s						
MUCR	**Ucria**	**0.21**	**58**	S	Sg	21 04 40.6	+1.6
GALF	**Gagliano Caste**	**0.23**	**196**	P	Pg	21 04 36.8	+0.4
GALF				S	Sg	21 04 41.0	+1.6
GALF				AML	AML		
	comp=E,393μm,0.6s						
GALF				AML	AML		
	comp=N,296μm,0.3s						
GALF				AML	AML		
	comp=E,393μm,0.6s						
GALF				AML	AML		
	comp=N,296μm,0.3s						
GALF				AML	AML		
	comp=E,393μm,0.6s						
GALF				AML	AML		
	comp=N,296μm,0.3s						
GALF	**Gagliano Caste**	**0.23**	**196**	S	Sg	21 04 40.9	+1.5
AIO	**Antillo**	**0.47**	**85**	P	Pg	21 04 41.1	+0.3
AIO	**Antillo**	**0.47**	**85**	P	Pg	21 04 41.2	+0.3
AIO	**Antillo**	**0.47**	**85**	P	Pg	21 04 41.2	+0.4
AIO				S	Sb	21 04 49.2	-0.2
AIO				AML	AML		
	comp=E,68μm,0.4s						
AIO				AML	AML		
	comp=N,97μm,0.4s						
AIO				AML	AML		
	comp=E,68μm,0.4s						
AIO				AML	AML		
	comp=N,97μm,0.4s						
AIO				AML	AML		
	comp=E,68μm,0.4s						
AIO				AML	AML		
	comp=N,97μm,0.4s						
AIO	**Antillo**	**0.47**	**85**	S	Sb	21 04 49.3	-0.2
MCSR	**Castroreale**	**0.49**	**74**	P	Pg	21 04 41.2	-0.2
MCSR	**Castroreale**	**0.49**	**74**	P	Pg	21 04 41.3	-0.1
MCSR				AML	AML		
	comp=E,182μm,0.3s						
MCSR				AML	AML		
	comp=N,204μm,0.3s						
MCSR				AML	AML		
	comp=N,204μm,0.3s						
MCSR				AML	AML		
	comp=E,182μm,0.3s						
MCSR	**Castroreale**	**0.49**	**74**	P	Pg	21 04 41.9	+0.5
VPL	**Vulcano Piano**	**0.52**	**31**	P	Pg	21 04 42.2	+0.4
VPL				S	Sb	21 04 51.3	+0.2
VPL				AML	AML		
	comp=E,442μm,0.6s						
VPL				AML	AML		
	comp=N,431μm,1.1s						
VPL				AML	AML		
	comp=E,442μm,0.6s						
VPL				AML	AML		
	comp=N,432μm,1.1s						
VPL				AML	AML		
	comp=E,442μm,0.6s						
VPL				AML	AML		
	comp=N,432μm,1.1s						
VPL	**Vulcano Piano**	**0.52**	**31**	P	Pg	21 04 42.3	+0.4
VPL	**Vulcano Piano**	**0.52**	**31**	P	Pg	21 04 42.4	+0.5
LLI	**Lipari**	**0.57**	**25**	P	Pb	21 04 44.0	0.0
LLI				AML	AML		
	comp=E,401μm,1.0s						
LLI				AML	AML		
	comp=N,657μm,0.9s						
LLI				AML	AML		
	comp=E,401μm,1.0s						
LLI				AML	AML		
	comp=N,657μm,0.9s						
LLI	**Lipari**	**0.57**	**25**	P	Pb	21 04 44.1	+0.1
LLI	**Lipari**	**0.57**	**25**	P	Pb	21 04 44.2	+0.1
MILZ	**Milazzo**	**0.57**	**53**	P	Pg	21 04 43.0	+0.1
MILZ				S	Sb	21 04 52.0	-0.5
MILZ				AML	AML		
	comp=E,75μm,0.5s						
MILZ				AML	AML		
	comp=N,126μm,1.3s						
MILZ				AML	AML		
	comp=E,75μm,0.5s						
MILZ				AML	AML		
	comp=N,126μm,1.3s						
MILZ				AML	AML		
	comp=N,126μm,1.3s						
MILZ				AML	AML		
	comp=E,75μm,0.5s						
MILZ	**Milazzo**	**0.57**	**53**	P	Pg	21 04 43.0	+0.1
MILZ	**Milazzo**	**0.57**	**53**	P	Pg	21 04 43.4	+0.5
MPNC	**Port Mandanici**	**0.60**	**69**	P	Pg	21 04 43.7	+0.4
MPNC				AML	AML		
	comp=E,94μm,0.6s						
MPNC				AML	AML		
	comp=N,108μm,0.5s						
MPNC				AML	AML		
	comp=N,108μm,0.5s						
MPNC				AML	AML		
	comp=E,94μm,0.6s						
MPNC	**Port Mandanici**	**0.60**	**69**	P	Pg	21 04 43.8	+0.5
MPNC	**Port Mandanici**	**0.60**	**69**	P	Pg	21 04 43.8	+0.5
HLNI	**Lentini**	**0.61**	**163**	P	Pb	21 04 44.3	-0.4
HLNI	**Lentini**	**0.61**	**163**	P	Pb	21 04 44.5	-0.2
HLNI				AML	AML		
	comp=E,44μm,1.4s						
HLNI				AML	AML		
	comp=N,37μm,0.2s						
HLNI				AML	AML		
	comp=E,44μm,1.4s						
HLNI				AML	AML		
	comp=N,37μm,0.2s						
HLNI	**Lentini**	**0.61**	**163**	P	Pb	21 04 44.6	-0.1
IFIL	**Filicudi I Eol**	**0.64**	**354**	P	Pg	21 04 42.8	-1.3
IFIL	**Filicudi I Eol**	**0.64**	**354**	P	Pg	21 04 44.3	+0.2
IFIL	**Filicudi I Eol**	**0.64**	**354**	P	Pg	21 04 44.5	+0.4
IACL	**Alicudi**	**0.65**	**339**	P	Pg	21 04 44.6	+0.4
IACL	**Alicudi**	**0.65**	**339**	P	Pg	21 04 44.7	+0.4
IACL				AML	AML		
	comp=E,119μm,0.6s						
IACL				AML	AML		
	comp=N,114μm,1.6s						
IACL				AML	AML		
	comp=E,119μm,0.6s						
IACL				AML	AML		
	comp=N,114μm,1.6s						
IACL	**Alicudi**	**0.65**	**339**	P	Pg	21 04 44.7	+0.5
HCRL	**Carlentini**	**0.71**	**155**	P	Pb	21 04 46.6	0.0
HCRL	**Carlentini**	**0.71**	**155**	P	Pb	21 04 46.6	+0.1
HCRL	**Carlentini**	**0.71**	**155**	P	Pb	21 04 47.0	+0.5
HCRL				AML	AML		
	comp=E,58μm,0.5s						
HCRL				AML	AML		
	comp=N,48μm,1.5s						
HCRL				AML	AML		
	comp=N,48μm,1.5s						
HCRL				AML	AML		
	comp=E,58μm,0.5s						
PIPA	**Pietrapaola**	**2.30**	**47**	S	Sn	21 05 38.0	-0.7
CDRU	**Civita di Ruta**	**2.61**	**11**	S	Sb	21 05 49.0	-2.2

ROM 09 21:06:07.5±0.1, 43°.455N±0°.003×12°.308E±0°.004, h9km, ML0.8/7, Error ellipse: s-maj=0.3km s-min=0.3km az=188.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.05**	**273**	P	Pg	21 06 09.6	+0.2
CDCA	**Citt' di Caste**	**0.05**	**273**	P	Pg	21 06 09.6	+0.3
CDCA				S	Sg	21 06 10.9	+0.2
ATPI	**Pietralunga -**	**0.07**	**94**	P	Pg	21 06 09.8	+0.2
ATPI	**Pietralunga -**	**0.07**	**94**	P	Pg	21 06 09.8	+0.2
ATPI				S	Sg	21 06 11.2	+0.1
ATPI				AML	AML		
	comp=E,275μm,0.5s						
ATPI				AML	AML		
	comp=N,116μm,0.4s						
ATPI				AML	AML		
	comp=E,274μm,0.5s						
ATPI				AML	AML		
	comp=N,116μm,0.4s						
ATPI				AML	AML		
	comp=N,116μm,0.4s						
ATPI				AML	AML		
	comp=E,274μm,0.5s						
BADI	**Badiali**	**0.07**	**320**	P	Pg	21 06 10.0	+0.4
BADI				S	Sg	21 06 11.6	+0.5
BADI				AML	AML		
	comp=E,112μm,0.8s						
BADI				AML	AML		
	comp=N,165μm,0.4s						
BADI				AML	AML		
	comp=E,113μm,0.8s						
BADI				AML	AML		
	comp=N,166μm,0.4s						
BADI				AML	AML		
	comp=E,113μm,0.8s						
BADI				AML	AML		
	comp=N,166μm,0.4s						
ATVO	**AVT- Monte Val**	**0.10**	**135**	P	Pg	21 06 10.5	+0.5
ATVO				S	Sg	21 06 12.6	+0.8
ATVO				AML	AML		
	comp=E,88μm,1.2s						
ATVO				AML	AML		
	comp=N,70μm,0.8s						
ATVO				AML	AML		
	comp=E,88μm,1.2s						
ATVO				AML	AML		
	comp=N,70μm,0.8s						
ATVO				AML	AML		
	comp=N,70μm,0.8s						
ATVO				AML	AML		
	comp=E,88μm,1.2s						
ATVO	**AVT- Monte Val**	**0.10**	**135**	P	Pg	21 06 10.5	+0.5
ATMI	**Monte Miggiano**	**0.12**	**193**	P	Pg	21 06 11.1	+0.7
ATMI				S	Sg	21 06 13.0	+0.7
ATMI				AML	AML		
	comp=E,104μm,1.0s						
ATMI				AML	AML		
	comp=N,118μm,0.4s						
ATMI				AML	AML		
	comp=N,118μm,0.4s						
ATMI				AML	AML		
	comp=E,104μm,1.0s						
ATMI	**Monte Miggiano**	**0.12**	**193**	P	Pg	21 06 11.1	+0.8
PARC	**Parchiule**	**0.20**	**345**	P	Pg	21 06 12.4	+0.7
PARC				S	Sg	21 06 15.9	+1.5
PARC				AML	AML		
	comp=E,36μm,0.7s						
PARC				AML	AML		
	comp=N,36μm,0.1s						
PARC				AML	AML		
	comp=E,36μm,0.7s						
PARC				AML	AML		
	comp=N,36μm,0.1s						
PARC	**Parchiule**	**0.20**	**345**	P	Pg	21 06 12.4	+0.8
NARO	**Abbazia di Nar**	**0.25**	**52**	P	Pg	21 06 13.1	+0.5
NARO				AML	AML		
	comp=E,21μm,0.2s						
NARO				AML	AML		
	comp=N,18μm,1.1s						
NARO				AML	AML		
	comp=E,21μm,0.2s						
NARO				AML	AML		
	comp=N,18μm,1.1s						
NARO				AML	AML		
	comp=E,21μm,0.2s						
NARO				AML	AML		
	comp=N,18μm,1.1s						
NARO	**Abbazia di Nar**	**0.25**	**52**	P	Pg	21 06 13.1	+0.6
PE3	**Peglio**	**0.28**	**30**	P	Pg	21 06 12.5	-0.5
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pg	21 06 13.8	+0.7
CAFI				S	Sb	21 06 18.4	-1.0
CAFI				AML	AML		
	comp=E,20μm,0.1s						
CAFI				AML	AML		
	comp=N,15μm,1.6s						
CAFI				AML	AML		
	comp=E,20μm,0.1s						
CAFI				AML	AML		
	comp=N,15μm,1.6s						
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pg	21 06 13.8	+0.8
CRE	**Caprese Michel**	**0.31**	**302**	P	Pg	21 06 14.3	+0.7
CRE	**Caprese Michel**	**0.31**	**302**	P	Pg	21 06 14.4	+0.8
MPAG	**Monte Paganucc**	**0.37**	**62**	P	Pg	21 06 15.4	+0.6
MPAG				S	Sb	21 06 21.6	-0.6
MPAG	**Monte Paganucc**	**0.37**	**62**	P	Pg	21 06 15.5	+0.7

*ISCJB **09** 21:10:03.1±0.3, 36°.91N±0°.03×54°.82E±0°.03, h15km, Error ellipse: s-maj=4.1km s-min=2.5km az=36.1*
*TEH **09** 21:10:03.2, 36°.73N×54°.96E, h10km, ML3.4*
*THR **09** 21:10:06.3, 36°.54N×55°.05E, h14km, ML3.2*
*AZER **09** 21:10:10.0±0.5, 36°.99N×54°.46E, h21km±9km, ml3.5/5, Error ellipse: s-maj=10.4km s-min=6.9km az=121.0*

ISC 09 21:10:03.4±0.8, 36°.81N±0°.05×54°.94E±0°.03, h15km, n67, σ2°.06/85, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.59**	**40**	*e*Pg	**Pg**	**21 10 14.3**	**-0.6**
SHRO	**Shahrood**	**1.19**	**133**	*e*Pg	**Pn**	**21 10 23.9**	**-1.7**
SHRO	**Shahrood**	**1.19**	**133**	*e*Pg	**Pn**	**21 10 23.9**	**-1.7**
SHRO				*e*Sg	**Sb**	**21 10 37.2**	**-3.7**
IANJ	**Anjilo**	**1.57**	**212**	*e*Pg	**Pn**	**21 10 31.5**	**+0.5**
ISHM	**Shahmirzad**	**1.66**	**234**	*e*Pn	**Pn**	**21 10 32.7**	**+0.4**
ISHM				IAMB	IAmb	21 11 06.9	
	comp=Z,5μm,0.4s						
IFIR	**Firoozkooh**	**2.12**	**237**	*e*Pg	**Pb**	**21 10 41.8**	**+0.2**
IFIR				IAMB	IAmb	21 10 45.8	
	comp=Z,0.0nm,0.3s						
ILAS	**Lasjerd**	**2.14**	**229**	*e*Pn	**Pb**	**21 10 41.5**	**-0.5**
ILAS				IAMB	IAmb	21 10 46.2	
	comp=Z,2μm,0.5s						
BJRD	**Bojnurd**	**2.16**	**65**	*e*Pn	**Pg**	**21 10 45.0**	**+0.1**
BJRD	**Bojnurd**	**2.16**	**65**	*e*Pn	**Pg**	**21 10 45.0**	**+0.1**
BJRD	**Bojnurd**	**2.16**	**65**	*e*Sg	**Sg**	**21 11 15.8**	**+2.8**
IPRN	**Peran**	**2.17**	**256**	*e*Pn	**Pb**	**21 10 42.7**	**+0.3**
SBZV	**Sabzevar**	**2.19**	**100**	*e*Pn	**Pb**	**21 10 41.5**	**-1.3**
ISFR	**Sfrayin**	**2.46**	**83**	*e*Pn	**Pb**	**21 10 46.2**	**-1.4**
ISFR				IAMB	IAmb	21 11 26.0	
	comp=Z,2μm,0.5s						
IDMV	**Damavand**	**2.65**	**243**	*e*Pn	**Pb**	**21 10 50.6**	**-0.1**
IDMV				IAMB	IAmb	21 10 55.6	
	comp=Z,0.0nm,0.4s						
IKRD	**Kardeh**	**2.87**	**90**	*e*Pn	**Pg**	**21 11 02.4**	**+4.0**
IKRD				IAMB	IAmb	21 12 08.5	
	comp=Z,520nm,0.8s						
IEMG	**Emamgholi**	**3.03**	**77**	*e*Pn	**Pn**	**21 10 54.0**	**+2.9**
IEMG				IAMB	IAmb	21 11 08.9	
	comp=Z,708nm,0.4s						
IAKL	**Akhelmad**	**3.08**	**93**	*e*Pn	**Pn**	**21 10 53.9**	**+2.2**
TNSJ	**Nastanj**	**3.15**	**154**	*e*Pn	**Pn**	**21 10 54.0**	**+1.5**
TNSJ				IAMB	IAmb	21 11 50.1	
	comp=Z,0.0nm,0.6s						
CHTH	**Charan**	**3.21**	**255**	*e*Pn	**Pb**	**21 10 58.6**	**-1.5**
CHTH	**Charan**	**3.21**	**255**	*e*Pn	**Pb**	**21 10 58.6**	**-1.5**
IPAY	**Payeh**	**3.28**	**95**	*e*Pn	**Pn**	**21 10 56.6**	**+2.1**
IPAY				IAMB	IAmb	21 12 01.6	
	comp=Z,528nm,0.5s						
ISFB	**Sefidab**	**3.29**	**223**	*e*Pn	**Pn**	**21 10 57.0**	**+2.5**
QALM	**Alamut, Qazvin**	**3.47**	**265**	*e*Pn	**Pn**	**21 11 00.5**	**+3.4**
TABS	**Tabas**	**3.62**	**150**	*e*Pn	**Pn**	**21 11 00.5**	**+1.5**
TABS	**Tabas**	**3.62**	**150**	*e*Pn	**Pn**	**21 11 00.5**	**+1.5**
KRSH	**Karshahi**	**3.64**	**220**	*e*Pn	**Pn**	**21 11 00.6**	**+1.2**
KRSH				IAMB	IAmb	21 12 08.4	
	comp=Z,0.0nm,0.5s						
TKDS	**Koohdasht(Taba**	**3.65**	**150**	*e*Pn	**Pn**	**21 11 00.5**	**+1.0**
TKDS				IAMB	IAmb	21 12 16.2	
	comp=Z,0.0nm,0.7s						
ANAR	**Anarak**	**3.74**	**196**	*e*Pn	**Pn**	**21 11 01.9**	**+1.2**
GHVR	**GHOM**	**3.77**	**233**	*e*AML	AML	21 12 11.9	
	comp=E,39nm,0.5s						
IGZV	**Ghazvin**	**3.82**	**265**	*e*Pn	**Pn**	**21 11 05.0**	**+3.1**
IMYA	**Miami**	**4.18**	**95**	*e*Pn	**Pn**	**21 11 09.5**	**+2.7**
IMYA				IAMB	IAmb	21 12 32.2	
	comp=Z,292nm,0.7s						
IRAZ	**Razeghan**	**4.29**	**252**	*e*Pn	**Pn**	**21 11 12.2**	**+3.9**
YZKH	**Yazd**	**4.42**	**184**	*e*Pn	**Pn**	**21 11 11.9**	**+2.0**
YZKH	**Yazd**	**4.42**	**184**	*e*Pn	**Pn**	**21 11 11.9**	**+2.0**
IKLH	**Kolahrood**	**4.44**	**219**	*e*Pn	**Pn**	**21 11 10.6**	**+0.2**
IZEF	**Zefreh**	**4.45**	**210**	*e*Pn	**Pn**	**21 11 11.8**	**+1.2**
JRKH	**Jarkhoshk**	**4.46**	**100**	*e*Pn	**Pn**	**21 11 13.0**	**+2.5**
QABG	**Abgarm-Qazvin**	**4.46**	**257**	*e*Pn	**Pn**	**21 11 13.5**	**+2.8**
ICHK	**Chekchek**	**4.57**	**186**	*e*Pn	**Pn**	**21 11 14.7**	**+2.5**
ISAD	**Sadrabad**	**4.99**	**192**	*e*Pn	**Pn**	**21 11 19.6**	**+1.6**
ISAD				IAMB	IAmb	21 13 09.4	
	comp=Z,223nm,0.6s						
IGAR	**Gharneh**	**5.00**	**209**	*e*Pn	**Pn**	**21 11 20.4**	**+2.3**
ITEG	**Tejag**	**5.00**	**140**	*e*Pn	**Pn**	**21 11 19.7**	**+1.6**
ASTR	**Astara**	**5.18**	**292**	P	**Pn**	**21 11 20.7**	**+0.4**
ASTR				S	**Sn**	**21 12 17.3**	**-2.5**
LKRN	**Lenkeran, Azer**	**5.24**	**293**	P	**Pn**	**21 11 21.5**	**+0.4**
	SNR=4.0						
LKRN				S	**Sn**	**21 12 19.7**	**-1.5**
IMEH	**Mehriz**	**5.41**	**183**	*e*Pn	**Pn**	**21 11 25.6**	**+1.9**
IRAM	**Ramesheh**	**5.42**	**204**	*e*Pn	**Pn**	**21 11 26.1**	**+2.3**
ROKH	**ROKH**	**5.49**	**217**	*e*Pn	**Pn**	**21 11 27.9**	**+3.0**
IKOO	**Kooshah**	**5.51**	**141**	*e*Pn	**Pn**	**21 11 26.2**	**+1.1**
LRK	**Lerik**	**5.54**	**291**	P	**Pn**	**21 11 26.0**	**+0.5**
	SNR=4.6						
LRK				S	**Sn**	**21 12 26.7**	**-2.3**
ALIB	**Äli-Bayra**	**5.62**	**306**	P	**Pn**	**21 11 27.6**	**+1.2**
ALIB				S	**Sn**	**21 12 27.9**	**-2.8**
GLBA	**Clilabad**	**5.71**	**297**	P	**Pn**	**21 11 28.6**	**+0.9**
	SNR=4.2						
GLBA				S	**Sn**	**21 12 30.0**	**-2.8**
ISRB	**Sarab**	**5.88**	**282**	*e*Pn	**Pn**	**21 11 32.6**	**+2.4**
GBS	**Qobustan**	**5.99**	**310**	P	**Pn**	**21 11 33.1**	**+1.6**
GBS				S	**Sn**	**21 12 39.0**	**-0.9**
ATGJ	**Altiaghaj**	**6.19**	**313**	P	**Pn**	**21 11 36.2**	**+1.9**
ATGJ				S	**Sn**	**21 12 43.2**	**-1.7**
SIZA	**Siyzn**	**6.35**	**314**	P	**Pn**	**21 11 38.3**	**+1.8**
SIZA				S	**Sn**	**21 12 47.5**	**-1.3**
PQL	**Pirkuli**	**6.35**	**311**	P	**Pn**	**21 11 38.5**	**+1.9**
	SNR=5.6						
PQL				S	**Sn**	**21 12 46.0**	**-2.9**
IHRS	**Heris**	**6.45**	**286**	*e*Pn	**Pn**	**21 11 40.7**	**+2.7**
IML	**Ismayilli**	**6.61**	**309**	P	**Pn**	**21 11 41.2**	**+1.2**

IML			S	Sn	21 12 52.5	-2.6
QUBA	**Quba, Azerbaij**	**6.76 314**	P	Pn	21 11 43.8	+1.7
QUBA			S	Sn	21 12 56.7	-2.2
XNQ	**Khinaliq**	**6.86 312**	P	Pn	21 11 44.7	+1.1
	SNR=4.6					
XNQ			S	Sn	21 12 58.5	-3.0
QSAR	**Qusar**	**7.00 314**	P	Pn	21 11 46.7	+1.3
QSAR			S	Sn	21 13 02.4	-2.3
ORD	**Ordubad**	**7.39 289**	P	Pn	21 11 51.5	+0.8
ORD			S	Sn	21 13 12.5	-1.8
SEKA	**Sheki**	**7.46 308**	P	Pn	21 11 51.7	0.0
SEKA			S	Sn	21 13 14.4	-1.7
IMRD	**Marand**	**7.56 287**	*e*Pn	Pn	21 11 56.5	+3.3
GANJ	**Ganja**	**7.75 302**	P	Pn	21 11 56.6	+0.9
GANJ			S	Sn	21 13 19.5	-3.6
GDB	**GEDABAY**	**8.17 301**	P	Pn	21 12 02.0	+0.5
	SNR=4.9					
GDB			S	Sn	21 13 29.8	-3.9
QZX	**Qazax, Azerbai**	**8.58 303**	P	Pn	21 12 08.7	+1.7
QZX			S	Sn	21 13 42.0	-1.5

KRSC ***09*** *21:26:32.6±10.0, 55.°57N×161.°62E, h87km±10km, ML4.8, FELT [III] at GMS Kronoki.*
ISCJB ***09*** *21:26:33.9±0.2, 55.°62N±0.°02×161.°47E±0.°04, h93km±2km, mb4.2/67, Error ellipse: s-maj=4.6km s-min=2.5km az=31.0*
MOS ***09*** *21:26:33.7±0.8, 55.°62N×161.°50E, h90km, mb4.3/32, Error ellipse: s-maj=8.8km s-min=3.9km az=76.7*
IDC ***09*** *21:26:34.7±0.5, 55.°65N×161.°38E, h84km±4km, mb3.7/23, mb1 3.9/25, mb1mx3.9/36, mbtmp4.0/25, MS2.9/3, Ms1 2.9/3, ms1mx2.6/43, Error ellipse: s-maj=13.7km s-min=9.7km az=157.0*
NEIC ***09*** *21:26:36.2±0.5, 55.°52N×161.°34E, h105km±5km, mb4.4/46, Error ellipse: s-maj=6.5km s-min=4.5km az=166.0*
ISC 09 21:26:34.5±0.4, 55.°57N±0.°03×161.°58E±0.°03, h86km±3km, h86km:pP-P, n218, σ1°38/288, mb4.3/67, 3C-7D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.62**	**307**	*e*P	**Pn**	**21 26 49.4**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**0.62**	**307**	PN	**Pn**	**21 26 49.4**	**-0.5**
BZMR	**Bezymyannaya**	**0.71**	**301**	*e*P	**Pn**	**21 26 50.6**	**-0.3**
BZMR	**Bezymyannaya**	**0.71**	**301**	PN	**Pn**	**21 26 50.6**	**-0.3**
LGNR	**Loginova**	**0.72**	**316**	*e*P	**Pn**	**21 26 51.0**	**0.0**
LGNR	**Loginova**	**0.72**	**316**	PN	**Pn**	**21 26 51.0**	**0.0**
CIRR	**Tsirk**	**0.72**	**320**	*e*P	**Pn**	**21 26 50.7**	**-0.2**
CIRR	**Tsirk**	**0.72**	**320**	PN	**Pn**	**21 26 50.7**	**-0.2**
BZWR	**Bezymyannyi-We**	**0.73**	**303**	*e*P	**Pn**	**21 26 51.0**	**0.0**
BZWR				*e*S	**Sn**	**21 27 04.0**	**+0.7**
BZWR	**Bezymyannyi-We**	**0.73**	**303**	PN	**Pn**	**21 26 51.0**	**0.0**
BZWR				S	**Sn**	**21 27 04.0**	**+0.7**
TUMD	**Tumrok D**	**0.77**	**242**	*e*P	**Pn**	**21 26 50.4**	**-0.8**
TUMD				*e*S	**Sn**	**21 27 02.9**	**-0.8**
KMNR	**Kamenistaya**	**0.78**	**284**	*e*P	**Pn**	**21 26 51.1**	**-0.4**
KMNR	**Kamenistaya**	**0.78**	**284**	PN	**Pn**	**21 26 51.1**	**-0.4**
KIRR	**Kirishev**	**0.80**	**299**	*e*P	**Pn**	**21 26 51.3**	**-0.4**
KIRR				*e*S	**Sn**	**21 27 03.7**	**-0.9**
KIRR	**Kirishev**	**0.80**	**299**	PN	**Pn**	**21 26 51.3**	**-0.4**
KIRR				S	**Sn**	**21 27 03.7**	**-0.9**
KPT	**Kopyto**	**0.86**	**298**	*e*P	**Pn**	**21 26 51.9**	**-0.5**
KPT				*e*S	**Sn**	**21 27 05.2**	**-0.5**
KPT	**Kopyto**	**0.86**	**298**	PN	**Pn**	**21 26 51.9**	**-0.5**
KPT				S	**Sn**	**21 27 05.2**	**-0.5**
KZV	**Kizimen**	**0.86**	**239**	*e*P	**Pn**	**21 26 51.6**	**-0.8**
KZV				*e*S	**Sn**	**21 27 05.0**	**-0.8**
KZV	**Kizimen**	**0.86**	**239**	PN	**Pn**	**21 26 51.6**	**-0.8**
KZV				S	**Sn**	**21 27 05.0**	**-0.8**
TUMR	**Tumrok**	**0.86**	**251**	PN	**Pn**	**21 26 50.4**	**-2.0**
TUMR				S	**Sn**	**21 27 02.9**	**-2.9**
KLY	**Klyuchi**	**0.91**	**326**	*e*P	**Pn**	**21 26 51.6**	**-1.2**
KLY	**Klyuchi**	**0.91**	**326**	PN	**Pn**	**21 26 51.6**	**-1.2**
KBG	**Krutoberegovo**	**0.94**	**42**	*e*P	**Pn**	**21 26 52.9**	**-0.2**
KBG				*e*S	**Sn**	**21 27 07.6**	**+0.6**
KBG	**Krutoberegovo**	**0.94**	**42**	PN	**Pn**	**21 26 52.9**	**-0.2**
KBG				S	**Sn**	**21 27 07.6**	**+0.6**
KBTR	**Krutoberegovo**	**0.95**	**47**	*e*P	**Pn**	**21 26 53.0**	**-0.2**
KBTR				*e*S	**Sn**	**21 27 07.7**	**+0.4**
KBTR	**Krutoberegovo**	**0.95**	**47**	PN	**Pn**	**21 26 53.0**	**-0.2**
KBTR				S	**Sn**	**21 27 07.7**	**+0.4**
SMKR	**Semkarok**	**1.02**	**357**	*e*P	**Pn**	**21 26 54.0**	**-0.1**
SMKR	**Semkarok**	**1.02**	**357**	PN	**Pn**	**21 26 54.0**	**-0.1**
BDR	**Baidarnaya**	**1.02**	**349**	*e*P	**Pn**	**21 26 54.2**	**0.0**
BDR				*e*S	**Sn**	**21 27 09.8**	**+0.9**
BDR	**Baidarnaya**	**1.02**	**349**	PN	**Pn**	**21 26 54.2**	**0.0**
BDR				S	**Sn**	**21 27 09.8**	**+0.9**
KOZ	**Kozyrevsk**	**1.08**	**298**	*e*P	**Pn**	**21 26 54.7**	**-0.1**
KOZ				*e*S	**Sn**	**21 27 10.9**	**+0.9**
KOZ	**Kozyrevsk**	**1.08**	**298**	PN	**Pn**	**21 26 54.7**	**-0.1**
KOZ				S	**Sn**	**21 27 10.9**	**+0.9**
SRKR	**Sorokina**	**1.11**	**348**	*e*P	**Pn**	**21 26 55.1**	**-0.1**
SRKR	**Sorokina**	**1.11**	**348**	PN	**Pn**	**21 26 55.1**	**-0.1**
SRDR	**Sredinnyy**	**1.29**	**306**	*e*P	**Pn**	**21 26 56.8**	**-0.5**
SRDR	**Sredinnyy**	**1.29**	**306**	PN	**Pn**	**21 26 56.8**	**-0.5**
ESO	**Esso**	**1.66**	**284**	*e*P	**Pn**	**21 27 01.8**	**-0.3**
ESO				*e*S	**Sn**	**21 27 21.9**	**-1.2**
ESO	**Esso**	**1.66**	**284**	PN	**Pn**	**21 27 01.8**	**-0.3**
ESO				S	**Sn**	**21 27 21.9**	**-1.2**
BKI	**Bering**	**2.54**	**96**	*e*P	**Pn**	**21 27 12.9**	**-0.6**
BKI				*e*S	**Sn**	**21 27 41.0**	**-2.5**
BKI	**Bering**	**2.54**	**96**	PN	**Pn**	**21 27 12.9**	**-0.6**
BKI				S	**Sn**	**21 27 41.0**	**-2.5**
SPN	**Mys Shipunski**	**2.64**	**201**	*e*P	**Pn**	**21 27 13.9**	**-1.0**
SPN				*e*S	**Sn**	**21 27 43.2**	**-2.8**
SPN	**Mys Shipunski**	**2.64**	**201**	PN	**Pn**	**21 27 13.9**	**-1.0**
SPN				S	**Sn**	**21 27 43.2**	**-2.8**
NLC	**Nalytchevo**	**2.73**	**209**	*e*P	**Pn**	**21 27 16.2**	**0.0**
NLC				*e*S	**Sn**	**21 27 48.5**	**+0.2**
NLC	**Nalytchevo**	**2.73**	**209**	PN	**Pn**	**21 27 16.2**	**0.0**
NLC				S	**Sn**	**21 27 48.5**	**+0.2**
SDLR	**Sedlovina**	**2.78**	**216**	*i* P	**Pn**	**21 27 17.7**	**+0.7**
SDLR				*e*S	**Sn**	**21 27 51.5**	**+1.8**
SDLR	**Sedlovina**	**2.78**	**216**	PN	**Pn**	**21 27 17.7**	**+0.7**
SDLR				S	**Sn**	**21 27 51.5**	**+1.8**
KRX	**Arik**	**2.80**	**219**	*e*P	**Pn**	**21 27 18.5**	**+1.3**
KRX	**Arik**	**2.80**	**219**	PN	**Pn**	**21 27 18.5**	**+1.3**
KRER	**Koryakskii**	**2.81**	**217**	*e*P	**Pn**	**21 27 18.3**	**+0.9**
KRER				*e*S	**Sn**	**21 27 52.7**	**+2.3**
KRER	**Koryakskii**	**2.81**	**217**	PN	**Pn**	**21 27 18.3**	**+0.9**
KRER				S	**Sn**	**21 27 52.7**	**+2.3**
SMAR	**Somma**	**2.82**	**216**	*i* P	**Pn**	**21 27 18.4**	**+0.8**
SMAR	**Somma**	**2.82**	**216**	PN	**Pn**	**21 27 18.4**	**+0.8**
AVH	**Avacha**	**2.84**	**217**	*e*P	**Pn**	**21 27 18.7**	**+0.9**
AVH				*e*S	**Sn**	**21 27 53.5**	**+2.4**
AVH	**Avacha**	**2.84**	**217**	PN	**Pn**	**21 27 18.7**	**+0.9**
AVH				S	**Sn**	**21 27 53.5**	**+2.4**
KOK	**Koryaka**	**2.85**	**218**	*e*P	**Pn**	**21 27 19.5**	**+1.5**
KOK	**Koryaka**	**2.85**	**218**	PN	**Pn**	**21 27 19.5**	**+1.5**
UGLR	**Uglovaya**	**2.86**	**215**	*e*P	**Pn**	**21 27 18.7**	**+0.6**
UGLR	**Uglovaya**	**2.86**	**215**	PN	**Pn**	**21 27 18.7**	**+0.6**
DALK	**Dalny**	**3.03**	**214**	*e*P	**Pn**	**21 27 20.8**	**+0.5**
DALK				*e*S	**Sn**	**21 27 56.0**	**+0.4**
DALK	**Dalny**	**3.03**	**214**	PN	**Pn**	**21 27 20.8**	**+0.5**
DALK				S	**Sn**	**21 27 56.0**	**+0.4**
PET	**Petropavlovsk**	**3.07**	**215**	*e*Pn	**Pn**	**21 27 21.6**	**+0.8**
PET	**Petropavlovsk**	**3.07**	**215**	*i* P	**Pn**	**21 27 22.2**	**+1.4**
PET	**Petropavlovsk**	**3.07**	**215**	*e*PN	**Pn**	**21 27 21.4**	**+0.6**
PET				*e*S	**Sn**	**21 27 58.4**	**+1.9**
PET				pmax	pmax		
	comp=Z,177nm,0.7s						
PET				smax	smax		
	comp=N,870nm,0.4s						
PET				smax	smax		
	comp=E,924nm,0.5s						
PEA0B	**Petropavlovsk-**	**3.35**	**224**	*e*Pn	**Pn**	**21 27 25.2**	**+0.7**
PEA0B	**Petropavlovsk-**	**3.35**	**224**	PN	**Pn**	**21 27 25.3**	**+0.7**
PETK	**Petropavlovsk-**	**3.35**	**224**	*e*Pn	**Pn**	**21 27 25.1**	**+0.5**
PETK	**Petropavlovsk-**	**3.35**	**224**	P	**Pn**	**21 27 25.2**	**+0.7**
	comp=E,16nm,0.3s,baz=60,slow=16,SNR=204						
PETK				S	**Sn**	**21 28 08.9**	**+5.6**
	comp=E,11nm,0.3s,baz=72,slow=18,SNR=4.7						
KRMR	**Karymshinskiy**	**3.41**	**218**	*e*P	**Pn**	**21 27 26.3**	**+1.0**
KRMR				*e*S	**Sn**	**21 28 06.6**	**+1.9**
KRMR	**Karymshinskiy**	**3.41**	**218**	PN	**Pn**	**21 27 26.3**	**+1.0**
KRMR				S	**Sn**	**21 28 06.6**	**+1.9**
RUS	**Russkaya**	**3.62**	**211**	*i* P	**Pn**	**21 27 29.3**	**+1.0**
RUS				*e*S	**Sn**	**21 28 11.2**	**+1.3**
RUS	**Russkaya**	**3.62**	**211**	PN	**Pn**	**21 27 29.3**	**+1.0**
RUS				S	**Sn**	**21 28 11.2**	**+1.3**
PALN	**Palana**	**3.64**	**347**	*e*P	**Pn**	**21 27 29.2**	**+0.8**
PALN	**Palana**	**3.64**	**347**	PN	**Pn**	**21 27 29.2**	**+0.8**
GRL	**Gorelyy**	**3.66**	**216**	*e*P	**Pn**	**21 27 29.7**	**+0.8**
GRL	**Gorelyy**	**3.66**	**216**	PN	**Pn**	**21 27 29.7**	**+0.8**
MTVR	**Mutnovka**	**3.68**	**214**	*e*P	**Pn**	**21 27 31.3**	**+2.1**
MTVR				*e*S	**Sn**	**21 28 13.9**	**+2.4**
MTVR	**Mutnovka**	**3.68**	**214**	PN	**Pn**	**21 27 31.3**	**+2.1**
MTVR				S	**Sn**	**21 28 13.9**	**+2.4**
APC	**Apacha**	**3.71**	**226**	*e*P	**Pn**	**21 27 30.6**	**+1.3**
APC	**Apacha**	**3.71**	**226**	PN	**Pn**	**21 27 30.6**	**+1.3**
OSSR	**Ossora**	**3.78**	**12**	*e*P	**Pn**	**21 27 30.4**	**+0.1**
OSSR				*e*S	**Sn**	**21 28 12.6**	**-0.9**
OSSR	**Ossora**	**3.78**	**12**	PN	**Pn**	**21 27 30.4**	**+0.1**
OSSR				S	**Sn**	**21 28 12.6**	**-0.9**
ASAK	**Asacha**	**3.86**	**216**	*e*P	**Pn**	**21 27 33.0**	**+1.5**
ASAK	**Asacha**	**3.86**	**216**	PN	**Pn**	**21 27 33.0**	**+1.5**
KDTR	**Khodutka, Kamc**	**4.30**	**210**	*e*P	**Pn**	**21 27 37.8**	**+0.4**
KDTR				*e*S	**Sn**	**21 28 27.2**	**+0.8**
KDTR	**Khodutka, Kamc**	**4.30**	**210**	PN	**Pn**	**21 27 37.8**	**+0.4**
KDTR				S	**Sn**	**21 28 27.2**	**+0.8**
PAU	**Pauzhetka**	**5.00**	**217**	*e*P	**Pn**	**21 27 48.8**	**+1.9**
PAU	**Pauzhetka**	**5.00**	**217**	PN	**Pn**	**21 27 48.8**	**+1.9**
TILK	**Tilichiki**	**5.46**	**25**	*e*P	**Pn**	**21 27 54.6**	**+1.5**
TILK				*e*S	**Sn**	**21 28 55.8**	**+1.3**
TILK	**Tilichiki**	**5.46**	**25**	PN	**Pn**	**21 27 54.6**	**+1.5**
TILK				S	**Sn**	**21 28 55.8**	**+1.3**
SKR	**Severo-Kuril's**	**5.89**	**216**	*e*P	**Pn**	**21 28 00.2**	**+1.1**
SKR	**Severo-Kuril's**	**5.89**	**216**	*e*PN	**Pn**	**21 28 00.8**	**+1.7**
SKR				*e*S	**Sn**	**21 29 11.2**	**+6.0**
SKR				smax	smax		
	comp=E,103nm,0.5s						
SKR				smax	smax		
	comp=N,137nm,0.5s						
ALID	**Alaid**	**5.94**	**220**	*e*P	**Pn**	**21 28 03.1**	**+3.2**
ALID	**Alaid**	**5.94**	**220**	PN	**Pn**	**21 28 03.1**	**+3.2**
MA2	**Magadan**	**7.06**	**309**	⇑*e*PN	**Pn**	**21 28 17.0**	**+2.0**
MA2				pmax	pmax		
	comp=Z,12nm,0.8s						
MA2	**Magadan**	**7.06**	**309**	P	**Pn**	**21 28 16.6**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=113,slow=11,SNR=12						
MA2				LR	LR	21 31 25.7	
	comp=Z,28nm,20.7s,baz=122,slow=42						
KMSK	**Kamenskaya**	**7.32**	**17**	*e*P	**Pn**	**21 28 20.3**	**+1.9**
KMSK				*e*S	**Sn**	**21 29 38.3**	**-1.5**
KMSK	**Kamenskaya**	**7.32**	**17**	PN	**Pn**	**21 28 20.3**	**+1.9**
KMSK				S	**Sn**	**21 29 38.3**	**-1.5**
SMY	**Shemya**	**7.88**	**106**	*e*Pn	**Pn**	**21 28 28.0**	**+1.8**
SMY	**Shemya**	**7.88**	**106**	*e*PN	**Pn**	**21 28 28.0**	**+1.8**
SEY	**Seymchan**	**8.75**	**331**	⇓*e*PN	**Pn**	**21 28 41.5**	**+3.6**
SEY	**Seymchan**	**8.75**	**331**	P	**Pn**	**21 28 40.0**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=153,slow=14,SNR=2.1						
BILL	**Bilibino**	**12.70**	**8**	*e*Pn	**Pn**	**21 29 34.7**	**+3.1**
BILL	**Bilibino**	**12.70**	**8**	⇓*i*PN	**Pn**	**21 29 33.6**	**+2.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ASAJ	**Asahikawa**	**16.70**	**235**	P	**P**	**21 30 26.5**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=346,slow=8.8,SNR=2.6						
ASAJ				LR	LR	21 36 53.7	
	comp=Z,36nm,19.0s,baz=132,slow=37						
KLR	**Kul'dur**	**19.17**	**263**	P	**P**	**21 30 50.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=70,slow=8.8,SNR=3.3						
TIXI	**Tiksi**	**21.25**	**332**	*e*P	**P**	**21 31 13.8**	**+0.8**
	comp=Z,5.8nm,0.7s						
TIXI	**Tiksi**	**21.25**	**332**	*d i*P	**P**	**21 31 14.1**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TIXI	**Tiksi**	**21.25**	**332**	P	**P**	**21 31 13.5**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=110,slow=9.1,SNR=26						
TIXI				PcP	**PcP**	**21 35 13.8**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=180,slow=2.0,SNR=2.9						
IMAR	**Indian Mountai**	**23.62**	**46**	*e*P	**P**	**21 31 37.3**	**0.0**
MJB9	**Matsu-Tunnel**	**24.79**	**230**	*e*P	**P**	**21 31 46.6**	**-1.6**
	comp=Z,6.8nm,0.9s						
MAJO	**Matsushiro**	**24.79**	**230**	*e*P	**P**	**21 31 46.5**	**-1.7**
	comp=Z,6.3nm,0.8s						
MAJO	**Matsushiro**	**24.79**	**230**	⇑*e*P	**P**	**21 31 48.6**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAT	**Matsushiro**	**24.79**	**230**	P	**P**	**21 31 48.4**	**+0.2**
MJAR	**Matsushiro Arr**	**24.79**	**230**	*e*P	**P**	**21 31 46.6**	**-1.6**
	comp=Z,1.4nm,0.6s						
MJAR	**Matsushiro Arr**	**24.79**	**230**	P	**P**	**21 31 48.6**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=26,slow=7.1,SNR=9.8						
MJAR				pP	**pP**	**21 32 08.7**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=17,slow=6.8,SNR=3.2						
KDAK	**Kodiak Island**	**24.91**	**66**	*e*P	**P**	**21 31 50.2**	**+1.2**
	comp=Z,33nm,1.4s						
KDAK	**Kodiak Island**	**24.91**	**66**	P	**P**	**21 31 50.3**	**+1.2**
	comp=Z,7.2nm,0.7s,baz=335,slow=5.0,SNR=4.6						
TOLK	**Toolik Lake Re**	**25.48**	**40**	*e*P	**P**	**21 31 53.2**	**-1.0**
	comp=Z,8.2nm,0.9s						
BOD	**Bodaibo**	**25.80**	**295**	*e*P	**P**	**21 31 53.9**	**-3.2**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ILAR	**Eielson Array**	**26.49**	**49**	P	**P**	**21 32 03.9**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**26.49**	**49**	P	**P**	**21 32 03.9**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=284,slow=7.9,SNR=6.3						
EGAK	**Eagle**	**28.93**	**48**	*e*P	**P**	**21 32 23.9**	**-1.0**
	comp=Z,7.6nm,0.8s						
KSRS	**Korea Array**	**29.00**	**245**	PcP	**PcP**	**21 35 32.5**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=5.2,slow=2.8,SNR=4.3						
INK	**Inuvik**	**31.39**	**40**	*e*P	**P**	**21 32 47.5**	**+0.8**
	comp=Z,4.6nm,0.7s						
INK	**Inuvik**	**31.39**	**40**	P	**P**	**21 32 47.1**	**+0.4**
	comp=Z,4.6nm,0.7s,baz=288,slow=8.0,SNR=20						
INK				PcP	**PcP**	**21 35 38.0**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=319,slow=3.7,SNR=3.8						
HYT	**Haines Junctio**	**31.49**	**55**	*e*P	**P**	**21 32 48.6**	**+0.8**
	comp=Z,4.7nm,0.8s						
WHY	**Whitehorse**	**32.76**	**55**	*e*P	**P**	**21 33 01.0**	**+2.1**
	comp=Z,3.8nm,0.8s						
SONM	**Songino Array**	**34.24**	**281**	P	**P**	**21 33 12.1**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=72,slow=6.4,SNR=2.7						
HHC	**Hu-ho-hao-te**	**35.59**	**267**	*e*P	**P**	**21 33 23.3**	**-0.3**
DLBC	**Dease Lake**	**35.91**	**56**	*e*P	**P**	**21 33 27.3**	**+1.3**
	comp=Z,4.6nm,0.8s						
RES	**Resolute Bay**	**40.70**	**23**	*e*P	**P**	**21 34 06.5**	**+0.6**
	comp=Z,2.1nm,0.7s						
RES	**Resolute Bay**	**40.70**	**23**	*e*P	**P**	**21 34 06.5**	**+0.6**
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKW3	**Yellowknife Ar**	**40.73**	**45**	*e*P	**P**	**21 34 06.7**	**+0.5**
	comp=Z,3.2nm,0.9s						
YKA	**Yellowknife Ar**	**40.77**	**45**	*e*P	**P**	**21 34 07.5**	**+0.9**
YKA	**Yellowknife Ar**	**40.77**	**45**	P	**P**	**21 34 06.9**	**+0.3**
YKA				*SP	**sP**	**21 34 34.8**	**-1.8**
YKA						21 36 05.7	
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**40.77**	**45**	P	**P**	**21 34 06.9**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=299,slow=8.2,SNR=28						
YKA				sP	**sP**	**21 34 34.8**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=300,slow=7.7,SNR=2.6						
YKA				PcP	**PcP**	**21 36 05.7**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=306,slow=3.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**42.20**	**301**	P	**P**	**21 34 17.3**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=57,slow=5.3,SNR=2.1						
GTA	**Gaotai**	**43.23**	**275**	*e*P	**P**	**21 34 28.4**	**+1.3**
GTA				pP	pP	21 34 37.8	-10
GTA				sP	sP	21 34 41.5	-16
LZH	**Lanzhou**	**43.26**	**268**	*e*P	**P**	**21 34 25.4**	**-2.0**
LZH				pP	pP	21 34 49.1	+1.0
LZH				sP	sP	21 35 00.0	+2.0
LZH				*e*PP	**PcP**	**21 36 12.3**	**-2.6**
SPA0	**Spitsbergen Ar**	**44.83**	**350**	*e*P	**P**	**21 34 38.4**	**-0.8**
	comp=Z,35nm,1.1s						
B08A	**Colville Reser**	**46.77**	**64**	*e*P	**P**	**21 34 55.9**	**+1.0**
	comp=Z,3.7nm,0.8s						
WMQ	**Urumqi**	**47.00**	**288**	*e*P	**P**	**21 34 57.2**	**+0.4**
WMQ				pP	pP	21 35 16.1	-1.6
CD2	**Chengdu**	**47.10**	**263**	*e*P	**P**	**21 34 55.1**	**-2.6**
KURK	**Kurchatov**	**47.19**	**301**	*e*P	**P**	**21 34 56.2**	**-1.8**
	comp=Z,4.3nm,0.8s						
KURK	**Kurchatov**	**47.19**	**301**	⇓*e*P	**P**	**21 34 56.3**	**-1.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
MKAR	**Makanchi Array**	**47.89**	**294**	P	**P**	**21 35 02.3**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=51,slow=6.7,SNR=7.4						
MKAR				pP	**pP**	**21 35 23.9**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=59,slow=8.7,SNR=3.1						
YBH	**Yreka Blue Hor**	**49.41**	**73**	*e*P	**P**	**21 35 16.0**	**+0.7**
	comp=Z,3.0nm,0.8s						
YBH	**Yreka Blue Hor**	**49.41**	**73**	*e*P	**P**	**21 35 16.0**	**+0.7**
YBH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YBH	**Yreka Blue Hor**	**49.41**	**73**	P	**P**	**21 35 17.3**	**+2.0**
	comp=Z,2.9nm,0.7s,baz=348,slow=6.0,SNR=13						
BRVK	**Borovoye**	**49.57**	**308**	⇓*e*P	**P**	**21 35 16.7**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BMO	**Blue Mountains**	**50.14**	**66**	*e*P	**P**	**21 35 22.3**	**+1.4**
	comp=Z,2.6nm,0.8s						
BMO	**Blue Mountains**	**50.14**	**66**	*e*P	**P**	**21 35 22.3**	**+1.4**
BMO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MOD	**Modoc Plateau**	**50.59**	**71**	*e*P	**P**	**21 35 26.0**	**+1.6**
	comp=Z,4.4nm,0.8s						
FFC	**Flin Flon**	**50.70**	**48**	*e*P	**P**	**21 35 25.6**	**+0.8**
	comp=Z,3.5nm,0.9s						
FFC	**Flin Flon**	**50.70**	**48**	*e*P	**P**	**21 35 25.6**	**+0.8**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FCC	**Fort Churchill**	**51.02**	**41**	*e*P	**P**	**21 35 27.3**	**+0.2**
	comp=Z,6.6nm,0.7s						
FCC	**Fort Churchill**	**51.02**	**41**	*e*P	**P**	**21 35 27.3**	**+0.2**
FCC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WVOR	**Wild Horse Val**	**51.11**	**69**	*e*P	**P**	**21 35 29.9**	**+1.7**
	comp=Z,2.7nm,0.8s						
WVOR	**Wild Horse Val**	**51.11**	**69**	*e*P	**P**	**21 35 29.9**	**+1.7**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SUMG	**Summit**	**51.39**	**8**	*e*P	**P**	**21 35 30.3**	**+0.1**
	comp=Z,8.6nm,0.9s						
SUMG	**Summit**	**51.39**	**8**	*e*P	**P**	**21 35 30.3**	**+0.1**
SUMG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI	**Kunming**	**52.12**	**259**	P	**P**	**21 35 34.0**	**-2.1**
ARU	**Arti**	**52.17**	**317**	*d i*P	**P**	**21 35 34.2**	**-1.6**
ARU				*PP	**pP**	**21 35 59.5**	**+2.6**
ARU						21 37 32.5	
ARU				S	**S**	**21 42 51.1**	**-2.2**
ARU				SS	**SS**	**21 46 27.4**	**-3.5**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PNTR	**Pine Nut**	**52.95**	**73**	*e*P	**P**	**21 35 43.1**	**+1.1**
	comp=Z,6.7nm,0.9s						
WAKR	**Walker**	**53.46**	**73**	*e*P	**P**	**21 35 48.2**	**+2.4**
	comp=Z,3.9nm,0.7s						
KVN	**Kaiserville**	**53.79**	**72**	*e*P	**P**	**21 35 49.1**	**+0.9**
	comp=Z,3.9nm,0.7s						
KVN	**Kaiserville**	**53.79**	**72**	*e*P	**P**	**21 35 49.1**	**+0.9**
KVN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
RYN	**Ryan**	**53.87**	**73**	*e*P	**P**	**21 35 49.4**	**+0.8**
	comp=Z,3.3nm,0.7s						
RLMT	**Red Lodge**	**54.04**	**61**	*e*P	**P**	**21 35 50.9**

comp=Z,0.7nm,0.6s,baz=16,slow=5.9,SNR=2.6
ASAR Alice Springs 82.37 205 P P 21 38 47.2 +0.6
comp=Z,1.7nm,0.8s,baz=12,slow=5.6,SNR=12
ASAR pP **pP 21 39 08.6 -0.9**
comp=Z,1.2nm,0.8s,baz=17,slow=5.7,SNR=4.4
ESDC Sonseca Array 84.33 349 *e*P **P 21 38 55.6 -1.2**
comp=Z,1.0nm,0.9s
ESDC Sonseca Array 84.33 349 P **P 21 38 56.0 -0.8**
comp=Z,0.9nm,0.8s,baz=5.4,slow=5.2,SNR=6.1
ESDC pP **pP 21 39 20.1 +0.5**
comp=Z,0.3nm,0.6s,baz=352,slow=6.1,SNR=2.6
PLCA Paso Flores 143.13 89 PKIKP **PKPdf 21 45 58.9 +1.2**
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 143.13 89 PKP **PKPdf 21 45 58.9 +1.2**
comp=Z,2.6nm,0.9s,baz=309,slow=5.6,SNR=3.4

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*ISCJB **09** 21:39:34.9±0.4, 50.°23N±0.°03×18.°76E±0.°02, h0km, Error ellipse: s-maj=4.0km s-min=2.0km az=7.7*
*PRU **09** 21:39:36.6±0.0, 50.°23N×18.°80E, h0km*
*BGR **09** 21:39:36.2±0.4, 50.°33N×18.°85E, h1km, ML3.0/8, Error ellipse: s-maj=6.7km s-min=3.3km az=179.0*
*IPEC **09** 21:39:36.3±1.9, 50.°22N×18.°89E, h4km±16km, ML2.2/4, Error ellipse: s-maj=21.6km s-min=10.5km az=171.0*
ISC 09 21:39:36.0±0.8, 50.°20N±0.°03×18.°85E±0.°02, h0km, n42, σ0.976/71, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.13**	**46**	*i* Pg	**Pg**	**21 39 38.6**	**+0.1**
CHZP				*e*Sg	**Sg**	**21 39 40.0**	**-0.2**
OKC	**Ostrava-Krasne**	**0.58**	**231**	*e*Pg	**Pb**	**21 39 48.8**	**-0.2**
OKC				*e*Sg	**Sb**	**21 39 58.5**	**+0.7**
OKC	**Ostrava-Krasne**	**0.58**	**231**	*e*PG	**Pb**	**21 39 48.3**	**-0.7**
OKC				*e*SG	**Sb**	**21 39 56.4**	**-1.3**
	comp=Z,16nm,0.5s						
OJC	**Ojcow**	**0.61**	**88**	*e*Pg	**Pg**	**21 39 47.5**	**-0.2**
OJC				*e*Sg	**Sg**	**21 39 55.8**	**+0.1**
OJC	**Ojcow**	**0.61**	**88**	*e*Pg	**Pg**	**21 39 47.6**	**-0.2**
OJC				*e*Sg	**Sg**	**21 39 55.6**	**0.0**
MORC	**Moravsky Berou**	**0.94**	**244**	*e*PG	**Pb**	**21 39 54.9**	**-0.3**
MORC				*e*SG	**Sg**	**21 40 06.8**	**+0.5**
MORC	**Moravsky Berou**	**0.94**	**244**	*e*Pg	**Pb**	**21 39 54.9**	**-0.3**
	baz=63						
MORC				*e*Sg	**Sg**	**21 40 06.7**	**+0.5**
	40nm,0.4s,baz=63						
MORC	**Moravsky Berou**	**0.94**	**244**	*e*Pg	**Pb**	**21 39 55.2**	**0.0**
MORC				*e*Sg	**Sb**	**21 40 08.0**	**-0.2**
ANAC	**Anensky vrch**	**0.95**	**263**	*e*Pg	**Pb**	**21 39 55.1**	**-0.3**
	baz=81						
ANAC				*e*Sg	**Sg**	**21 40 07.3**	**+0.7**
	49nm,0.3s,baz=81						
LANS	**Liptovska Anna**	**1.12**	**159**	*e*PG	**Pb**	**21 39 58.5**	**+0.2**
LANS				*e*SG	**Sb**	**21 40 14.2**	**+0.7**
NIE	**Niedzica**	**1.22**	**129**	*e*Pg	**Pb**	**21 39 60.0**	**0.0**
NIE				*e*Sg	**Sn**	**21 40 17.7**	**+0.1**
KRLC	**Kraliky**	**1.33**	**265**	*e*PG	**Pg**	**21 40 01.1**	**-0.5**
KRLC				*e*SG	**Sg**	**21 40 18.9**	**+0.1**
	comp=Z,10nm,0.6s						
JAVC	**Velka Javorina**	**1.54**	**210**	*e*PN	**Pb**	**21 40 05.2**	**-0.3**
JAVC	**Velka Javorina**	**1.54**	**210**	*e*Pn	**Pn**	**21 40 05.1**	**+0.3**
	baz=30						
DPC	**Dobruska-Polom**	**1.63**	**276**	*e*Pg	**Pn**	**21 40 06.1**	**+0.2**
DPC	**Dobruska-Polom**	**1.63**	**276**	*e*PG	**Pn**	**21 40 06.0**	**+0.1**
DPC				*e*SG	**Sg**	**21 40 28.4**	**+0.2**
	comp=Z,22nm,0.5s						
VYHS	**Vyhne**	**1.71**	**180**	*e*PN	**Pn**	**21 40 07.0**	**0.0**
VYHS				*e*SN	**Sn**	**21 40 29.5**	**0.0**
VRAC	**Vranov**	**1.71**	**239**	*e*PN	**Pn**	**21 40 07.4**	**+0.3**
VRAC				*e*SG	**Sg**	**21 40 31.0**	**0.0**
VRAC	**Vranov**	**1.71**	**239**	*e*Pn	**Pn**	**21 40 07.4**	**+0.3**
	baz=58						
VRAC				*e*Sg	**Sg**	**21 40 30.9**	**0.0**
	20nm,0.4s,baz=58						
STHS	**Stebnicka Huta**	**1.74**	**116**	*e*PN	**Pb**	**21 40 08.4**	**-0.4**
STHS				*e*SN	**Sg**	**21 40 32.1**	**+0.3**
KSP	**Ksiaz**	**1.75**	**293**	*e*Pg	**Pg**	**21 40 09.6**	**+0.1**
KSP				*e*Sg	**Sg**	**21 40 32.8**	**+0.5**
KSP	**Ksiaz**	**1.75**	**293**	*e*Pg	**Pg**	**21 40 09.8**	**+0.2**
UPC	**Upice**	**1.84**	**281**	*e*SG	**Sg**	**21 40 34.9**	**-0.2**
SMOL	**Smolenice**	**1.93**	**209**	*e*SN	**Sb**	**21 40 35.8**	**-0.7**
KRUC	**Moravsky**	**1.96**	**235**	*e*PN	**Pn**	**21 40 10.8**	**+0.3**
KRUC				*e*SG	**Sg**	**21 40 38.7**	**-0.2**
KRUC	**Moravsky**	**1.96**	**235**	*e*Pn	**Pn**	**21 40 10.7**	**+0.3**
	baz=54						
KRUC				*e*Sg	**Sg**	**21 40 38.6**	**-0.3**
	16nm,0.5s,baz=54						
MODS	**Modra-Piesok**	**2.10**	**210**	*e*PG	**Pg**	**21 40 16.8**	**+0.7**
MODS				*e*SN	**Sn**	**21 40 38.0**	**-1.2**
MODS				*e*LG	Lg	21 40 51.0	
TREC	**Trest**	**2.36**	**249**	*e*SG	**Sb**	**21 40 49.6**	**+0.6**
	comp=Z,17nm,0.6s						
KOLS	**Kolonicke sedl**	**2.57**	**118**	*e*PN	**Pn**	**21 40 19.1**	**+0.3**
KOLS				*e*PG	**Pg**	**21 40 24.9**	**-0.2**
KOLS				*e*SN	**Sn**	**21 40 50.4**	**-0.3**
GOPC	**GO Pecny, Ondr**	**2.63**	**265**	*e*PG	**Pb**	**21 40 23.3**	**-0.7**
GOPC				*e*SG	**Sb**	**21 40 58.1**	**+1.2**
	comp=Z,12nm,0.8s						
PVCC	**Panska Ves**	**2.76**	**278**	*e*SG	**Sg**	**21 41 04.5**	**-0.1**
	comp=Z,15nm,0.6s						
PRU	**Pruhonice**	**2.78**	**267**	*e*PG	**Pb**	**21 40 26.5**	**0.0**
PRU				*e*SG	**Sb**	**21 41 02.9**	**+1.8**
	comp=Z,7.5nm,0.6s						
BRG	**Berggiesshubel**	**3.20**	**284**	PG	**Pg**	**21 40 38.6**	**+1.3**
BRG				SG	**Sg**	**21 41 19.1**	**+0.4**
	3.8nm,0.5s						
KHC	**Kasperske Hory**	**3.58**	**255**	*e*PN	**Pn**	**21 40 33.7**	**+0.8**
KHC				*e*PG	**Pb**	**21 40 40.0**	**-0.3**
KHC				*e*SG	**Sg**	**21 41 29.1**	**-2.0**
	comp=Z,9.0nm,0.6s						
GEC2	**GERESS Array S**	**3.62**	**250**	*e*Sg	**Sg**	**21 41 31.4**	**-0.7**
CLL	**Collm**	**3.87**	**289**	*e*Pg	**Pg**	**21 40 51.0**	**+0.8**
CLL				*e*Sg	**Sg**	**21 41 39.0**	**-1.4**
	comp=Z,6.0nm,0.6s						
WET	**Wettzell**	**4.02**	**257**	*e*Sg	**Sg**	**21 41 43.8**	**-1.2**
TANN	**Tannenbergstha**	**4.10**	**275**	*e*Sg	**Sg**	**21 41 46.3**	**-1.3**
WERN	**Wernitzgruen**	**4.15**	**274**	*e*Sg	**Sg**	**21 41 47.4**	**-2.0**
GUNZ	**Gunzen**	**4.18**	**275**	*e*Sg	**Sg**	**21 41 49.2**	**-1.1**
PLN	**Plauen**	**4.29**	**276**	*e*Sg	**Sg**	**21 41 51.5**	**-2.4**
RJOB	**Jochberg**	**4.69**	**241**	*e*Sg	**Sg**	**21 42 07.5**	**+1.0**

MEX 09 21:51:29.4±0.6, 18.°93N×104.°62W, h16km±10km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.69**	**324**	*e*P	Pg	21 51 40.5	-2.5
CJM				*e*S	Sg	21 51 48.9	-3.4
EZ5V		**1.10**	**60**	*e*P	Pb	21 51 46.4	-3.9
EZ5V				*e*S	Sb	21 51 59.5	-5.0
MMIG	**Aquila**	**1.36**	**118**	*e*P	Pn	21 51 49.4	-4.4

IDC 09 21:53:46.9±58.0, 21.°48S×179.°53W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/21, mbtmp3.9/3, MS4.3/1, Ms1 4.3/1, ms1mx2.9/32, Error ellipse: s-maj=1051.0km s-min=162.0km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**23.51**	**197**	LR	LR	22 06 47.9	
	comp=Z,685nm,18.5s,baz=302,slow=33						
STKA	**Stephens Creek**	**36.07**	**245**	P	P	22 00 49.0	-1.4
	0.5nm,0.2s,baz=108,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**42.91**	**258**	P	P	22 01 47.5	-0.2
	0.9nm,0.5s,baz=100,slow=7.4,SNR=10						
WRA	**Warramunga Arr**	**43.05**	**263**	P	P	22 01 49.6	+0.7
	0.9nm,0.4s,baz=92,slow=8.5,SNR=45						

NNC 09 21:57:52.4±6.3, 36.°96N×71.°06E, h0km, mb3.6, mpv3.3, 4C-1D, Error ellipse: s-maj=63.2km s-min=41.8km az=140.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.15**	**356**	⇑P	Pn	21 59 25.6	+1.1
	1.5nm,0.3s,baz=177,slow=11,SNR=66						
KK31				⇓S	Sn	22 00 37.7	+2.2
	0.6nm,0.3s,baz=185,slow=25,SNR=7.7						
AAK	**Ala-Archa**	**6.26**	**24**	⇑P	Pn	21 59 26.5	+0.4
	0.7nm,0.4s						
AAK				⇑S	Sn	22 00 38.7	+0.3
	1.8nm,0.7s						
AB31	**Akbulak array**	**14.71**	**330**	⇑P	Pn	22 01 18.3	-3.3
	0.2nm,0.3s,baz=142,slow=13,SNR=15						

IDC 09 22:30:46.7±2.9, 4.°52S×102.°34E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.5/42, mbtmp3.8/5, Error ellipse: s-maj=75.7km s-min=66.7km az=8.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**29.84**	**263**	T	T	23 07 27.5	
	baz=87,slow=76,SNR=96						
H08S3	**Diego Garcia H**	**29.85**	**263**	T	T	23 07 29.4	
	baz=87,slow=76,SNR=84						
H08S1	**Diego Garcia H**	**29.86**	**263**	T	T	23 07 30.5	
	baz=87,slow=76,SNR=87						
H01W3	**Cape Leeuwin H**	**32.13**	**162**	T	T	23 11 03.8	
	baz=335						
H01W2	**Cape Leeuwin H**	**32.14**	**162**	T	T	23 11 01.7	
	baz=335						
H01W1	**Cape Leeuwin H**	**32.14**	**162**	T	T	23 10 56.9	
	baz=335						
SONM	**Songino Array**	**52.25**	**3**	P	P	22 40 00.3	+0.5
	1.1nm,0.7s,baz=191,slow=7.4,SNR=4.8						
MKAR	**Makanchi Array**	**54.09**	**343**	P	P	22 40 12.8	-0.4
	0.3nm,0.4s,baz=152,slow=8.0,SNR=6.6						
ZALV	**Zalesovo Beam**	**60.08**	**348**	P	P	22 40 55.3	-0.2
	0.6nm,0.4s,baz=174,slow=6.7,SNR=2.9						
BRTR	**Keskin Array B**	**76.74**	**312**	P	P	22 42 40.9	+0.6
	0.3nm,0.7s,baz=140,slow=5.1,SNR=2.7						
FINES	**FINESS Array B**	**87.42**	**332**	P	P	22 43 34.9	-0.9
	1.3nm,0.9s,baz=104,slow=5.9,SNR=4.6						
TXAR	**Lajitas Array**	**145.13**	**42**	PKPbc	PKPbc	22 50 25.8	-0.8
	0.2nm,0.6s,baz=336,slow=2.0,SNR=2.8						

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*ISCJB **09** 22:32:20.7±0.2, 0.°55S±0.°03×123.°33E±0.°03, h10km, mb4.9/61, MS3.6/13, Error ellipse: s-maj=4.8km s-min=3.5km az=145.7*
*BJI **09** 22:32:21.9±0.0, 0.°89S×123.°08E, h22km, mb4.7/31, mB4.9/17, Ms4.3/12, Ms7 4.0/10*
*DJA **09** 22:32:23.4±0.2, 1.°S±2.°×12.°3E±.°, h10km, M4.8/18, mB5.3/7, mb4.9/18, MLv4.9/18, Mw(mB)4.7/7*
*IDC **09** 22:32:23.2±2.4, 0.°51S×123.°10E, h26km±15km, mb4.2/19, mb1 4.3/20, mb1mx4.1/40, mbtmp4.3/20, ML3.7/1, MS3.5/11, Ms1 3.5/11, ms1mx3.2/36, Error ellipse: s-maj=26.2km s-min=11.6km az=65.0*
*KLM **09** 22:32:27.0, 0.°47N×123.°47E, h46km, mb4.8*
*NEIC **09** 22:32:27.6±0.9, 0.°66S×123.°26E, h62km±9km, mb4.7/23, Error ellipse: s-maj=9.9km s-min=6.2km az=47.0*
ISC 09 22:32:21.6±0.3, 0.°49S±0.°05×123.°33E±0.°05, h10km, n138, σ1.89/146, mb4.7/61, MS3.6/13, 1C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.79**	**226**	P	**Pg**	**22 32 35.6**	**-1.2**
KMSI	**Cibinong**	**1.24**	**31**	P	**Pn**	**22 32 46.9**	**+1.9**
MRSI	**Marisa**	**1.69**	**305**	P	**Pn**	**22 32 50.4**	**-0.9**
APSI	**Ampana**	**1.74**	**256**	P	**Pg**	**22 32 52.7**	**-2.3**
SANI	**Sanana**	**3.07**	**120**	P	**Pn**	**22 33 10.6**	**+0.3**
KDI	**Kendari**	**3.52**	**192**	P	**Pn**	**22 33 15.9**	**-0.5**
MPSI	**Mapaga**	**3.53**	**283**	P	**Pn**	**22 33 16.2**	**-0.4**
TNTI	**Ternate**	**4.22**	**73**	*e*Pn	Pn	22 33 31.4	+5.3
TNTI	**Ternate**	**4.22**	**73**	P	Pn	22 33 34.3	+8.2
TTSI	**Tana Toraja**	**4.33**	**234**	P	**Pn**	**22 33 27.4**	**-0.2**
SPSI	**Sidrap Palu**	**4.96**	**226**	P	**Pn**	**22 33 36.1**	**-0.1**
BBSI	**Bau Bau**	**5.02**	**189**	P	**Pn**	**22 33 37.3**	**+0.2**
BNSI	**Bone**	**5.05**	**220**	P	**Pn**	**22 33 37.7**	**+0.3**
SGKI	**Sangatta, Kali**	**5.73**	**270**	P	Pn	22 33 50.4	+3.6
KAPI	**Kappang**	**5.74**	**218**	*e*Pn	**Pn**	**22 33 46.9**	**-0.1**
BKSI	**Bulukumba**	**5.77**	**214**	P	**Pn**	**22 33 47.9**	**+0.5**
SMKI	**Samarinda**	**6.12**	**270**	P	**Pn**	**22 33 48.9**	**-3.4**
BSSI	**Bau Bau, Buton**	**6.29**	**207**	P	**Pn**	**22 33 55.2**	**+0.6**
BKB	**Balikpapan**	**6.48**	**263**	P	**Pn**	**22 33 59.1**	**+1.9**
	730nm,0.6s,9μm2.8nm						
BNDI	**Bandanaira**	**7.69**	**122**	P	**Pn**	**22 34 16.8**	**+3.0**
FAKI	**Fak Fak**	**9.23**	**105**	*e*Pn	**Pn**	**22 34 36.0**	**+1.0**
FAKI	**Fak Fak**	**9.23**	**105**	P	**Pn**	**22 34 36.1**	**+1.1**
SOEI	**Soe**	**9.25**	**174**	*e*Pn	**Pn**	**22 34 34.9**	**-0.5**
SOEI	**Soe**	**9.25**	**174**	P	Pn	22 34 40.9	+5.6
	151nm,1.0s						
KKM	**Kota Kinabalu**	**9.62**	**313**	*e*Pn	Pn	22 34 45.4	+5.0
SBUM	**Sibu**	**11.49**	**285**	*e*Pn	**Pn**	**22 35 08.9**	**+3.0**
SBUM	**Sibu**	**11.49**	**285**	P	Pn	22 35 10.0	+4.1
SMRI	**Semarang**	**14.41**	**243**	P	**P**	**22 35 56.1**	**+3.2**
MTN	**Manton Dam**	**14.51**	**148**	*e*Pn	**Pn**	**22 35 48.9**	**+1.7**
MTN	**Manton Dam**	**14.51**	**148**	P	**Pn**	**22 35 48.9**	**+1.7**
	baz=14,SNR=3.9						
TGY	**Tagaytay City**	**14.69**	**351**	Pn	P	22 36 01.8	+5.8
	52nm,0.3s,baz=175,slow=4.6,SNR=7.8						
TGY				LR	LR	22 41 05.0	
	comp=Z,138nm,21.2s,baz=219,slow=36						
KDU	**Kakadu**	**15.13**	**144**	P	**Pn**	**22 35 56.7**	**+1.1**
	baz=15,SNR=3.7						
TPI	**Tanjungpandan**	**15.83**	**262**	P	**P**	**22 36 06.2**	**-2.5**
PPBI	**Pangkal Pinang**	**17.27**	**264**	P	P	22 36 38.2	+14
CBJI	**Citeko**	**17.47**	**250**	P	**P**	**22 36 32.4**	**+5.6**
FITZ	**Fitzroy Crossi**	**17.64**	**173**	*e*Pn	**Pn**	**22 36 27.5**	**-0.2**
	43nm,1.8s						
FITZ	**Fitzroy Crossi**	**17.64**	**173**	P	**Pn**	**22 36 26.9**	**-0.8**
	0.2nm,0.3s,baz=335,slow=19,SNR=3.3						
FITZ				LR	LR	22 45 27.8	
	comp=Z,140nm,18.4s,baz=346,slow=44						
CGJI	**Cibinong**	**18.62**	**251**	P	**Pn**	**22 36 43.6**	**+3.8**
	97nm,1.0s						
PMBI	**Palembang**	**18.71**	**262**	P	**Pn**	**22 36 46.4**	**+5.5**
TPRI	**Tanjung Pinang**	**18.86**	**274**	P	**Pn**	**22 36 44.2**	**+1.5**
	31nm,0.4s,5μm						
DLV	**T Lat**	**19.23**	**310**	*e*P	**Pn**	**22 36 48.5**	**+1.1**
	15nm,0.9s						
MYKOM	**Kota Tinggi**	**19.61**	**277**	*e*P	**Pn**	**22 36 51.3**	**-0.5**
	59nm,0.7s						
MYKOM	**Kota Tinggi**	**19.61**	**277**	P	**Pn**	**22 36 52.0**	**+0.2**
WRAB	**Tennant Creek**	**22.13**	**151**	*e*P	**P**	**22 37 16.5**	**-1.1**
	70nm,1.4s						
WRA	**Warramunga Arr**	**22.13**	**152**	P	**P**	**22 37 16.7**	**-1.0**
	18nm,0.9s,baz=332,slow=9.9,SNR=37						
WRA				ScP	**ScP**	**22 44 49.5**	**-3.3**
	1.5nm,0.8s,baz=324,slow=2.5,SNR=12						
WB2	**Warramunga Arr**	**22.14**	**152**	*e*P	**P**	**22 37 16.7**	**-1.0**
	66nm,1.4s						
IPM	**Ipoh**	**22.83**	**283**	*e*P	**P**	**22 37 24.9**	**-0.2**
	68nm,1.1s						
IPM	**Ipoh**	**22.83**	**283**	P	**P**	**22 37 26.0**	**+0.9**
KULM	**Kulim**	**23.37**	**285**	*e*P	**P**	**22 37 30.3**	**-0.4**
	48nm,1.4s						
KULM	**Kulim**	**23.37**	**285**	P	**P**	**22 37 31.0**	**+0.3**
COEN	**Coen**	**23.76**	**125**	*e*P	**P**	**22 37 35.4**	**+0.8**
	28nm,0.9s						
COEN	**Coen**	**23.76**	**125**	P	**P**	**22 37 34.6**	**+0.1**
	baz=24,SNR=6.2						
TPUB	**Ta-pu**	**23.79**	**354**	*e*P	**P**	**22 37 38.6**	**+3.8**
	47nm,1.0s						
YULB	**Yu-li**	**23.82**	**355**	*e*P	**P**	**22 37 38.5**	**+3.5**
	22nm,1.1s						
SKLT	**Songkhla**	**23.90**	**289**	P	**P**	**22 37 37.3**	**+1.4**
	14nm,0.9s						
SSLB	**Suanglung**	**24.24**	**355**	*e*P	**P**	**22 37 41.5**	**+2.5**
	38nm,1.0s						
PSI	**Prapat**	**24.62**	**278**	*e*P	**P**	**22 37 42.3**	**-0.4**
	34nm,1.0s						
WRKA	**Warakurna**	**24.87**	**169**	P	**P**	**22 37 45.0**	**+0.3**
	baz=25,SNR=4.7						
TRTT	**Trang**	**24.98**	**290**	P	**P**	**22 37 47.1**	**+1.3**
	22nm,0.9s						
YHNB	**Yeheng**	**25.08**	**356**	*e*P	**P**	**22 37 49.7**	**+3.1**
	23nm,0.9s						
AS15	**Alice Springs**	**25.20**	**157**	P	**P**	**22 37 48.2**	**+0.6**
	baz=25						
AS31	**Alice Springs**	**25.22**	**157**	*e*P	**P**	**22 37 48.0**	**+0.1**
	3.2nm,0.6s						
ASAR	**Alice Springs**	**25.22**	**157**	*e*P	**P**	**22 37 46.8**	**-1.0**
ASAR				PcP	**PcP**	**22 41 21.5**	**-0.1**
ASAR				ScP	**ScP**	**22 44 59.4**	**-1.6**
ASAR	**Alice Springs**	**25.22**	**157**	P	**P**	**22 37 47.9**	**0.0**
	6.0nm,0.7s,baz=346,slow=15,SNR=35						
ASAR				PcP	**PcP**	**22 41 21.5**	**-0.1**
	1.9nm,0.5s,baz=345,slow=2.3,SNR=12						
ASAR				ScP	**ScP**	**22 44 59.4**	**-1.6**
	0.6nm,0.6s,baz=343,slow=2.9,SNR=4.2						
ASAR				LR	LR	22 48 05.4	
	comp=Z,85nm,20.8s,baz=314,slow=37						
PMG	**Port Moresby**	**25.31**	**111**	P	**P**	**22 37 50.2**	**+1.4**
	9.5nm,0.6s,baz=306,slow=18,SNR=2.2						
PANO	**Nakornpanom**	**25.45**	**314**	P	**P**	**22 37 51.7**	**+1.8**
	0.4nm,0.9s,168nm						
QIS	**Mount Isa**	**25.51**	**142**	P	**P**	**22 37 50.8**	**+0.2**
	baz=26,SNR=5.6						
KRAB	**Krabi**	**25.57**	**290**	P	**P**	**22 37 53.3**	**+2.2**
	129μm,0.8s						
KHON	**Khomkaen**	**26.25**	**310**	P	**P**	**22 37 59.0**	**+1.8**
	80μm,0.6s						
CHAI	**Chaiyaphum**	**26.64**	**309**	P	**P**	**22 38 01.9**	**+1.1**
	65μm,0.8s,809μm						
NONG	**Nongkai**	**27.10**	**314**	P	**P**	**22 38 05.8**	**+0.9**
	0.4nm,0.8s,139nm						
SRDT	**SRDT**	**28.14**	**303**	P	**P**	**22 38 16.1**	**+1.9**
	11nm,0.8s						
UTHA	**Uthaitani**	**28.48**	**305**	P	**P**	**22 38 18.5**	**+1.2**
	65μm,0.7s,517μm						
UTTA	**Uttaradit**	**28.83**	**310**	P	**P**	**22 38 21.8**	**+1.5**
	25μm,0.8s,247μm						
UMPA	**Umpang Tak**	**29.30**	**306**	P	**P**	**22 38 25.5**	**+0.9**
	24μm,0.9s,337μm						
CTA	**Charters Tower**	**29.71**	**132**	P	**P**	**22 38 29.5**	**+1.4**
	14nm,1.1s,baz=295,slow=7.5,SNR=3.4						
LAMP	**Lampang**	**29.99**	**310**	P	**P**	**22 38 32.8**	**+2.1**
	32μm,0.8s,270μm						
CMAR	**Chiang Mai Arr**	**30.48**	**309**	*e*P	**P**	**22 38 36.1**	**+1.1**
CMAR				*e*PcP	**PcP**	**22 41 33.7**	**-0.7**
CMAR				ScP	**ScP**	**22 45 14.4**	**-2.8**
CMAR	**Chiang Mai Arr**	**30.48**	**309**	P	**P**	**22 38 33.3**	**-1.7**
	9.3nm,0.8s,baz=116,slow=8.1,SNR=58						
CMAR				PcP	**PcP**	**22 41 33.8**	**-0.7**
	2.1nm,0.7s,baz=161,slow=2.2,SNR=12						
CMAR				ScP	**ScP**	**22 45 14.4**	**-2.8**
	1.5nm,0.5s,baz=161,slow=3.3,SNR=7.4						
CMAR				LR	LR	22 51 16.2	
	comp=Z,150nm,20.9s,baz=138,slow=37						
CMMT	**Chiang Mai**	**30.69**	**310**	P	**P**	**22 38 38.2**	**+1.4**
	15nm,1.1s,196nm						
CHTO	**Chiang Mai**	**30.69**	**310**	*e*P	**P**	**22 38 38.4**	**+1.6**
	22nm,0.9s						
CHTO				*e*PcP	**PcP**	**22 41 35.0**	**+0.1**
GYA	**Guiyang**	**31.24**	**330**	⇓*i*P	**P**	**22 38 43.9**	**+2.1**
GYA				pP	sP	22 38 49.8	+3.9
GYA				PP	**PnPn**	**22 39 44.6**	**+0.8**
GYA				S	**S**	**22 43 49.5**	**+1.0**
GYA				sS	sS	22 43 58.9	+5.9
GYA				SS	ScP	22 45 39.9	+20
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,470nm,16.8s						
GYA				LR	LR		
	comp=E,350nm,17.0s						
GYA				LR	LR		
	comp=Z,460nm,17.3s						
KMI	**Kunming**	**32.33**	**323**	P	P	22 38 57.0	+5.5
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2	**Nanjing**	**32.64**	**353**	*e*P	**P**	**22 38 56.1**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
STKA	**Stephens Creek**	**35.67**	**153**	P	**P**	**22 39 20.4**	**+0.2**
	3.9nm,0.8s,baz=324,slow=9.9,SNR=6.8						
STKA				LR	LR	22 54 35.5	
	comp=Z,92nm,18.8s,baz=13,slow=37						
HTT	**Hallett**	**35.89**	**157**	P	**P**	**22 39 23.6**	**+1.5**
	baz=36,SNR=3.9						
CD2	**Chengdu**	**36.35**	**331**	P	**P**	**22 39 27.5**	**+1.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
KSRS	**Korea Array**	**37.99**	**6**	LR	LR	22 54 23.2	
	comp=Z,53nm,21.2s,slow=35						
MJAR	**Matsushiro Arr**	**39.35**	**19**	P	**P**	**22 39 51.8**	**+0.5**
	2.2nm,0.7s,baz=195,slow=9.2,SNR=6.8						
MJAR				LR	LR	22 55 02.6	
	comp=Z,22nm,21.2s,baz=215,slow=34						
MAT	**Matsushiro**	**39.35**	**19**	P	**P**	**22 39 53.1**	**+1.8**
SHL	**Shillong**	**39.93**	**313**	*e*P	**P**	**22 39 57.5**	**+1.0**
LZH	**Lanzhou**	**40.66**	**335**	*e*P	**P**	**22 40 06.4**	**+4.0**
LZH				pP	sP	22 40 12.4	+5.8
LZH				sP	pP	22 40 16.4	+11
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH				pmax	pmax		
	comp=Z,54nm,4.3s						
LZH				LR	LR		
	comp=N,94nm,13.6s						
LZH				LR	LR		
	comp=E,150nm,16.8s						
LZH				LR	LR		
	comp=Z,130nm,15.2s						
CAN	**Canberra**	**42.10**	**148**	*e*P	**P**	**22 40 14.4**	**+0.3**
	17nm,1.5s						
HHC	**Hu-ho-hao-te**	**42

KSH			SS	**SS**	**22 54 22.0**	**+3.0**
KSH			pmax	pmax		
	comp=Z,12nm,0.6s					
KSH			pmax	pmax		
	comp=Z,68nm,2.9s					
KSH			LR	LR		
	comp=N,130nm,8.7s					
KSH			LR	LR		
	comp=E,140nm,8.3s					
KSH			LR	LR		
	comp=Z,200nm,9.5s					
MK31	**Makanchi Array**	**59.20 328**	*e*P	**P**	**22 42 23.6**	**+0.6**
	2.9nm,1.0s					
MKAR	**Makanchi Array**	**59.20 328**	*e*P	**P**	**22 42 23.3**	**+0.3**
MKAR			PcP	**PcP**	**22 43 09.5**	**-1.9**
MKAR			ScP	**ScP**	**22 47 07.0**	**-5.5**
MKAR	**Makanchi Array**	**59.20 328**	P	**P**	**22 42 22.2**	**-0.8**
	1.3nm,0.4s,baz=119,slow=7.9,SNR=19					
MKAR			PcP	**PcP**	**22 43 09.5**	**-1.9**
	1.5nm,0.6s,baz=123,slow=5.4,SNR=3.9					
MKAR			ScP	**ScP**	**22 47 07.0**	**-5.5**
	1.0nm,0.7s,baz=134,slow=5.2,SNR=6.0					
MAKZ	**Makanchi**	**59.38 328**	*e*P	**P**	**22 42 25.8**	**+1.5**
	10nm,1.4s					
PETK	**Petropavlovsk-**	**60.60 23**	P	**P**	**22 42 33.5**	**+1.0**
	1.2nm,0.5s,baz=199,slow=3.1,SNR=5.2					
KBL	**Kabul**	**61.51 310**	*e*P	**P**	**22 42 37.8**	**-1.5**
	20nm,1.4s					
GAR	**Garm**	**62.39 315**	*e*P	**P**	**22 42 43.8**	**-1.3**
	10nm,1.0s					
ZALV	**Zalesovo Beam**	**62.89 336**	*e*P	**P**	**22 42 49.1**	**+1.3**
ZALV	**Zalesovo Beam**	**62.89 336**	P	**P**	**22 42 48.2**	**+0.3**
	1.0nm,0.5s,baz=132,slow=6.2,SNR=3.7					
ZALV			LR	LR	23 12 30.1	
	comp=Z,36nm,18.3s,baz=67,slow=38					
KKAR	**Karatay Array**	**64.10 320**	*e*P	**P**	**22 42 55.1**	**-1.1**
GEYT	**Alibeck**	**70.96 311**	P	**P**	**22 43 37.6**	**-2.1**
	2.8nm,1.0s,baz=80,slow=7.9,SNR=5.3					
NRIK	**Noril'sk**	**73.74 348**	P	**P**	**22 43 54.0**	**-1.6**
	1.8nm,0.4s,baz=146,slow=7.8,SNR=5.1					
SYO	**Syowa Base**	**87.30 201⇑**	*e*P	**P**	**22 45 06.8**	**-1.5**
QSPA	**South Pole Qui**	**89.45 180**	P	**P**	**22 45 18.3**	**-0.5**
	1.5nm,0.7s,baz=306,slow=14,SNR=3.7					
BRTR	**Keskin Array B**	**90.07 310**	P	**P**	**22 45 19.0**	**-3.3**
	0.7nm,0.8s,baz=110,slow=5.4,SNR=4.3					
BRTR			LR	LR	23 32 42.4	
	comp=Z,15nm,19.0s,baz=92,slow=40					
ILAR	**Eielson Array**	**90.34 25**	P	**P**	**22 45 21.9**	**-0.9**
	0.1nm,0.3s,baz=231,slow=5.7,SNR=3.6					
BCAR	**Beaver Creek A**	**92.65 27**	*e*P	**P**	**22 45 33.4**	**-0.2**
AKASG	**Malin Array Be**	**92.99 321**	P	P	22 45 31.4	-4.0
	0.3nm,0.4s,baz=76,slow=3.9,SNR=3.5					
ARCES	**ARCESS Array B**	**93.20 340**	P	**P**	**22 45 33.0**	**-3.0**
	3.2nm,1.1s,baz=76,slow=6.8,SNR=5.1					
FINES	**FINESS Array B**	**93.91 331**	P	**P**	**22 45 36.5**	**-2.9**
	1.0nm,0.8s,baz=64,slow=3.2,SNR=3.4					
BOSA	**Boshof**	**96.86 241**	LR	LR	23 23 00.3	
	comp=Z,24nm,20.0s,baz=131,slow=31					
ULM	**Lac du Bonnet**	**120.26 28**	PKP	**PKPdf**	**22 51 10.4**	**-2.8**
	1.2nm,0.7s,baz=282,slow=5.6,SNR=4.1					
TORD	**Torodi Ar. Bea**	**120.86 285**	PKP	**PKPdf**	**22 51 12.9**	**-2.4**
	0.8nm,0.6s,baz=53,slow=1.6,SNR=10					
SCHQ	**Schefferville**	**125.20 7**	PKP	**PKPdf**	**22 51 21.4**	**-1.1**
	1.6nm,0.4s,baz=253,slow=17,SNR=3.0					
GO02	**Mina Guanaco**	**151.60 155**	*e*PKPbc	**PKPbc**	**22 52 18.2**	**+0.8**
CPUP	**Villa Florida**	**153.33 179**	PKPbc	**PKPbc**	**22 52 20.7**	**-0.2**
	2.4nm,0.9s,baz=144,slow=0.9,SNR=5.7					

ROM 09 22:38:56.4±0.0, 43°.454N±0°.003×12°.297E±0°.004, h9km, ML1.1/8, Error ellipse: s-maj=0.3km s-min=0.2km az=134.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCA	**Citt' di Caste**	**0.05**	**276**	P	Pg	22 38 58.6	+0.3
CDCA				S	Sg	22 39 00.1	+0.5
CDCA	**Citt' di Caste**	**0.05**	**276**	P	Pg	22 38 58.6	+0.4
BADI	**Badiali**	**0.07**	**326**	P	Pg	22 38 56.5	-2.0
BADI	**Badiali**	**0.07**	**326**	P	Pg	22 38 58.9	+0.3
BADI	**Badiali**	**0.07**	**326**	P	Pg	22 38 58.9	+0.3
BADI				S	Sg	22 39 00.4	+0.2
BADI				AML	AML		
	comp=E,684μm,0.3s						
BADI				AML	AML		
	comp=N,568μm,0.8s						
BADI	**Badiali**	**0.07**	**326**	S	Sg	22 39 00.2	+0.1
ATPI	**Pietralunga -**	**0.08**	**92**	P	Pg	22 38 57.0	-1.7
ATPI	**Pietralunga -**	**0.08**	**92**	P	Pg	22 38 59.0	+0.3
ATPI				S	Sg	22 39 00.5	+0.1
ATPI				AML	AML		
	comp=E,142μm,0.5s						
ATPI				AML	AML		
	comp=N,174μm,0.9s						
ATPI				AML	AML		
	comp=E,142μm,0.5s						
ATPI				AML	AML		
	comp=N,174μm,0.9s						
ATPI				AML	AML		
	comp=E,142μm,0.5s						
ATPI				AML	AML		
	comp=N,174μm,0.9s						
ATPI	**Pietralunga -**	**0.08**	**92**	P	Pg	22 38 59.0	+0.3
ATPI	**Pietralunga -**	**0.08**	**92**	S	Sg	22 39 00.4	+0.1
ATVO	**AVT- Monte Val**	**0.11**	**132**	P	Pg	22 38 59.7	+0.6
ATVO				S	Sg	22 39 01.8	+0.8
ATVO				AML	AML		
	comp=E,178μm,0.4s						
ATVO				AML	AML		
	comp=N,144μm,0.4s						
ATVO				AML	AML		
	comp=E,179μm,0.4s						
ATVO				AML	AML		
	comp=N,144μm,0.4s						
ATVO				AML	AML		
	comp=N,144μm,0.4s						
ATVO				AML	AML		
	comp=E,179μm,0.4s						
ATVO	**AVT- Monte Val**	**0.11**	**132**	S	Sg	22 39 01.6	+0.6
ATMI	**Monte Miggiano**	**0.12**	**190**	P	Pg	22 39 00.0	+0.7
ATMI				S	Sg	22 39 02.4	+1.1
ATMI				AML	AML		
	comp=E,370μm,0.6s						
ATMI				AML	AML		
	comp=N,336μm,0.7s						
ATMI				AML	AML		
	comp=E,370μm,0.6s						
ATMI				AML	AML		
	comp=N,336μm,0.7s						
ATMI				AML	AML		
	comp=E,370μm,0.6s						
ATMI				AML	AML		
	comp=N,336μm,0.7s						
ATMI	**Monte Miggiano**	**0.12**	**190**	P	Pg	22 39 00.0	+0.7
ATMI	**Monte Miggiano**	**0.12**	**190**	S	Sg	22 39 02.2	+0.9
PIEI	**Pieia**	**0.19**	**65**	P	Pg	22 39 01.1	+0.6
PIEI				S	Sg	22 39 04.7	+1.5
PIEI	**Pieia**	**0.19**	**65**	P	Pg	22 39 01.2	+0.7
PIEI	**Pieia**	**0.19**	**65**	S	Sg	22 39 02.0	-1.3
PIEI	**Pieia**	**0.19**	**65**	S	Sg	22 39 04.7	+1.4
PARC	**Parchiule**	**0.20**	**348**	P	Pg	22 39 01.3	+0.7
PARC	**Parchiule**	**0.20**	**348**	P	Pg	22 39 01.3	+0.7
PARC				S	Sg	22 39 04.9	+1.4
PARC	**Parchiule**	**0.20**	**348**	S	Sg	22 39 02.0	-1.5
PARC	**Parchiule**	**0.20**	**348**	S	Sg	22 39 04.8	+1.3
ATTE	**AVT- Monte Tez**	**0.26**	**171**	P	Pg	22 39 02.5	+0.8
ATTE				S	Sg	22 39 06.4	+1.2
ATTE				AML	AML		
	comp=E,93μm,0.3s						
ATTE				AML	AML		
	comp=N,102μm,1.0s						
ATTE				AML	AML		
	comp=E,93μm,0.3s						
ATTE				AML	AML		
	comp=N,102μm,1.0s						
ATTE	**AVT- Monte Tez**	**0.26**	**171**	P	Pg	22 39 02.5	+0.8
ATTE	**AVT- Monte Tez**	**0.26**	**171**	S	Sg	22 39 06.1	+0.9
NARO	**Abbazia di Nar**	**0.26**	**53**	P	Pg	22 39 02.2	+0.5
NARO				S	Sb	22 39 06.7	-1.1
NARO				AML	AML		
	comp=E,32μm,0.1s						
NARO				AML	AML		
	comp=N,40μm,0.6s						
NARO				AML	AML		
	comp=N,40μm,0.6s						
NARO				AML	AML		
	comp=E,32μm,0.1s						
NARO	**Abbazia di Nar**	**0.26**	**53**	P	Pg	22 39 02.2	+0.5
NARO	**Abbazia di Nar**	**0.26**	**53**	S	Sg	22 39 03.0	-2.2
NARO	**Abbazia di Nar**	**0.26**	**53**	S	Sb	22 39 06.6	-1.2
CAFI	**Castiglion Fio**	**0.27**	**243**	P	Pg	22 39 02.7	+0.8
CAFI				S	Sb	22 39 07.1	-1.1
CAFI				AML	AML		
	comp=E,37μm,0.8s						
CAFI				AML	AML		
	comp=N,44μm,0.5s						
CAFI				AML	AML		
	comp=E,37μm,0.8s						
CAFI				AML	AML		
	comp=N,44μm,0.5s						
CAFI	**Castiglion Fio**	**0.27**	**243**	P	Pb	22 39 02.7	-0.8
PE3	**Peglio**	**0.28**	**31**	P	Pg	22 39 02.9	+0.8
PE3	**Peglio**	**0.28**	**31**	S	Sg	22 39 03.0	-3.0
CRE	**Caprese Michel**	**0.30**	**304**	P	Pg	22 39 03.2	+0.7
CRE	**Caprese Michel**	**0.30**	**304**	P	Pb	22 39 03.5	-0.6
FRON	**Frontone**	**0.32**	**78**	P	Pg	22 39 03.3	+0.5
FRON				S	Sb	22 39 08.7	-0.8
FRON	**Frontone**	**0.32**	**78**	P	Pg	22 39 03.3	+0.5
FRON	**Frontone**	**0.32**	**78**	S	Sg	22 39 08.2	+1.2
MPAG	**Monte Paganucc**	**0.38**	**62**	P	Pg	22 39 04.5	+0.5
MPAG				S	Sb	22 39 10.7	-0.7
MPAG				AML	AML		
	comp=E,21μm,0.4s						
MPAG				AML	AML		
	comp=N,39μm,0.3s						
MPAG				AML	AML		
	comp=N,39μm,0.3s						
MPAG				AML	AML		
	comp=E,21μm,0.4s						
MPAG	**Monte Paganucc**	**0.38**	**62**	P	Pg	22 39 04.6	+0.6
FSSB	**Fossombrone**	**0.42**	**56**	P	Pg	22 39 05.3	+0.5
FSSB				S	Sb	22 39 12.3	-0.3
FSSB				AML	AML		
	comp=E,52μm,0.4s						
FSSB				AML	AML		
	comp=N,48μm,0.3s						
FSSB				AML	AML		
	comp=N,48μm,0.3s						
FSSB				AML	AML		
	comp=E,52μm,0.4s						
FSSB	**Fossombrone**	**0.42**	**56**	P	Pg	22 39 05.3	+0.6

*IPEC **09** 22:41:21.1±0.1, 47°.52N×14°.86E, h1km±1km, ML1.2/5, Error ellipse: s-maj=1.3km s-min=0.7km az=42.0*

VIE 09 22:41:20.3±0.3, 47°.45N×14°.81E, h7km±6km, ml1.1/6, Error ellipse: s-maj=2.3km s-min=1.9km az=113.0, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSA	**Arzberg**	**0.52**	**112**	*e*Pg	Pg	22 41 31.0	+0.7
	0.1nm,0.1s						
ARSA				*e*Sg	Sg	22 41 38.0	+0.9
	0.6nm,0.1s						
MOA	**Molln**	**0.55**	**318**	*e*Pg	Pg	22 41 31.3	+0.4
	0.2nm,0.1s						
MOA				Sg	Sg	22 41 38.4	+0.4
	0.4nm,0.1s						
SOKA	**Soboth**	**0.78**	**169**	Pg	Pg	22 41 35.2	-0.1
	0.1nm,0.1s						
SOKA				*e*Sg	Sg	22 41 45.7	+0.2
	0.5nm,0.1s						
CONA	**Conrad Observa**	**0.86**	**55**	Pg	Pg	22 41 37.0	+0.3
	0.1nm,0.2s						
CONA				Sg	Sb	22 41 49.4	+0.1
	0.8nm,0.2s						
OBKA	**Obir**	**0.95**	**191**	Pg	Pb	22 41 39.1	0.0
	0.4nm,0.1s						
OBKA				Sg	Sb	22 41 52.6	+0.6
	0.3nm,0.1s						
KRUC	**Moravsky**	**1.93**	**33**	*e*PN	Pn	22 41 54.2	+0.7
KRUC				*e*SG	Sb	22 42 19.1	-1.0
KRUC	**Moravsky**	**1.93**	**33**	*e*Pn	Pn	22 41 54.1	+0.6
	baz=214						
KRUC				*e*Sg	Sn	22 42 19.0	+0.9
	1.2nm,0.3s,baz=214						
VRAC	**Vranov**	**2.21**	**32**	*e*SG	Sb	22 42 27.8	-0.3
VRAC	**Vranov**	**2.21**	**32**	*e*Sg	Sb	22 42 27.8	-0.3
	1.1nm,0.3s,baz=213						

MEX 10 00:03:52.9±0.6, 15°.97N×98°.77W, h16km±69km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.75**	**55**	*e*P	Pg	00 04 04.2	-3.3
PNIG				*i* S	Sg	00 04 14.2	-3.2
TLIG	**Tlapa**	**1.60**	**7**	*e*P	Pn	00 04 17.4	-3.3
TLIG				*e*S	Sn	00 04 35.3	-5.7

ROM 10 00:07:27.2±0.1, 43°.456N±0°.004×12°.304E±0°.005, h10km, ML0.7/7, Error ellipse: s-maj=0.5km s-min=0.3km az=50.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCA	**Citt' di Caste**	**0.05**	**272**	P	Pg	00 07 29.5	+0.3
CDCA	**Citt' di Caste**	**0.05**	**272**	P	Pg	00 07 29.5	+0.3
CDCA				S	Sg	00 07 30.8	+0.1
CDCA	**Citt' di Caste**	**0.05**	**272**	P	Pg	00 07 29.5	+0.3
CDCA	**Citt' di Caste**	**0.05**	**272**	S	Sg	00 07 30.8	+0.1
BADI	**Badiali**	**0.07**	**321**	P	Pg	00 07 29.8	+0.3
BADI	**Badiali**	**0.07**	**321**	P	Pg	00 07 29.8	+0.4
BADI	**Badiali**	**0.07**	**321**	P	Pg	00 07 29.8	+0.4
BADI				S	Sg	00 07 31.3	+0.2
BADI				AML	AML		
	comp=E,182μm,0.2s						
BADI				AML	AML		
	comp=N,140μm,0.1s						
BADI				AML	AML		
	comp=E,182μm,0.2s						
BADI				AML	AML		
	comp=N,140μm,0.1s						
BADI				AML	AML		
	comp=E,182μm,0.2s						
BADI				AML	AML		
	comp=N,140μm,0.1s						
BADI	**Badiali**	**0.07**	**321**	S	Sg	00 07 31.3	+0.2
ATVO	**AVT- Monte Val**	**0.10**	**135**	P	Pg	00 07 30.5	+0.6
ATVO				S	Sg	00 07 32.6	+0.8
ATVO				AML	AML		
	comp=E,48μm,0.7s						
ATVO				AML	AML		
	comp=N,55μm,0.1s						
ATVO				AML	AML		
	comp=E,48μm,0.7s						
ATVO				AML	AML		
	comp=N,55μm,0.1s						
ATVO				AML	AML		
	comp=N,55μm,0.1s						
ATVO				AML	AML		
	comp=E,48μm,0.7s						
ATVO	**AVT- Monte Val**	**0.10**	**135**	P	Pg	00 07 30.6	+0.6
ATVO	**AVT- Monte Val**	**0.10**	**135**	S	Sg	00 07 32.6	+0.7
ATMI	**Monte Miggiano**	**0.12**	**192**	P	Pg	00 07 30.9	+0.7
ATMI				S	Sg	00 07 33.3	+1.0
ATMI				AML	AML		
	comp=E,88μm,0.4s						
ATMI				AML	AML		
	comp=N,52μm,0.7s						
ATMI				AML	AML		
	comp=E,88μm,0.4s						
ATMI				AML	AML		
	comp=N,52μm,0.7s						
ATMI				AML	AML		
	comp=E,88μm,0.4s						
ATMI				AML	AML		
	comp=N,52μm,0.7s						
ATMI	**Monte Miggiano**	**0.12**	**192**	P	Pg	00 07 30.9	+0.7
ATMI	**Monte Miggiano**	**0.12**	**192**	P	Pb	00 07 31.0	-0.7
ATMI	**Monte Miggiano**	**0.12**	**192**	S	Sg	00 07 33.3	+1.0
PARC	**Parchiule**	**0.20**	**346**	P	Pb	00 07 32.2	-0.7
PARC				S	Sg	00 07 35.7	+1.4
PARC				AML	AML		
	comp=E,17μm,0.3s						
PARC				AML	AML		
	comp=N,20μm,0.3s						
PARC				AML	AML		
	comp=E,17μm,0.3s						
PARC				AML	AML		
	comp=N,20μm,0.3s						
PARC				AML	AML		
	comp=N,20μm,0.3s						
PARC				AML	AML		
	comp=E,17μm,0.3s						
PARC	**Parchiule**	**0.20**	**346**	P	Pb	00 07 32.2	-0.7
PARC	**Parchiule**	**0.20**	**346**	P	Pb	00 07 32.3	-0.6
PARC	**Parchiule**	**0.20**	**346**	S	Sg	00 07 35.6	+1.4
ATFO	**Monte Foce - G**	**0.21**	**115**	P	Pg	00 07 32.2	+0.5
ATFO				S	Sg	00 07 36.1	+1.3
ATFO				AML	AML		
	comp=E,35μm,0.4s						
ATFO				AML	AML		
	comp=N,31μm,1.1s						
ATFO				AML	AML		
	comp=E,35μm,0.4s						
ATFO				AML	AML		
	comp=N,31μm,1.1s						
ATFO				AML	AML		
	comp=N,31μm,1.1s						
ATFO				AML	AML		
	comp=E,35μm,0.4s						
ATFO	**Monte Foce - G**	**0.21**	**115**	P	Pb	00 07 32.5	-0.7
ATFO	**Monte Foce - G**	**0.21**	**115**	S	Sg	00 07 36.1	+1.4
NARO	**Abbazia di Nar**	**0.25**	**52**	P	Pg	00 07 32.9	+0.6
NARO	**Abbazia di Nar**	**0.25**	**52**	P	Pg	00 07 33.0	+0.7
ATTE	**AVT- Monte Tez**	**0.26**	**172**	P	Pb	00 07 33.3	-0.7
ATTE				S	Sg	00 07 37.0	+0.9
ATTE				AML	AML		
	comp=E,15μm,0.2s						
ATTE				AML	AML		
	comp=N,14μm,1.0s						
ATTE				AML	AML		
	comp=E,15μm,0.2s						
ATTE				AML	AML		
	comp=N,15μm,1.0s						
ATTE				AML	AML		
	comp=N,15μm,1.0s						
ATTE				AML	AML		
	comp=E,15μm,0.2s						
ATTE	**AVT- Monte Tez**	**0.26**	**172**	P	Pb	00 07 33.5	-0.5
ATTE	**AVT- Monte Tez**	**0.26**	**172**	S	Sg	00 07 37.3	+1.2
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pb	00 07 33.6	-0.7
CAFI				S	Sb	00 07 38.1	-0.9
CAFI				AML	AML		
	comp=E,17μm,0.5s						
CAFI				AML	AML		
	comp=N,30μm,0.8s						
CAFI				AML	AML		
	comp=E,17μm,0.5s						
CAFI				AML	AML		
	comp=N,30μm,0.8s						
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pb	00 07 33.6	-0.6
CAFI	**Castiglion Fio**	**0.28**	**243**	P	Pb	00 07 33.7	-0.5
FRON	**Frontone**	**0.31**	**79**	P	Pg	00 07 34.1	+0.7
FRON	**Frontone**	**0.31**	**79**	P	Pb	00 07 34.4	-0.5

ROM 10 00:08:51.1±0.1, 37°.933N±0°.003×14°.626E±0°.006, h11km, ML1.1/4, Error ellipse: s-maj=0.5km s-min=0.3km az=285.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNO	**Monte Soro**	**0.05**	**90**	P	Pg	00 08 53.5	-0.1
MNO				S	Sg	00 08 55.5	+0.3
MNO	**Monte Soro**	**0.05**	**90**	P	Pg	00 08 53.5	0.0
MNO	**Monte Soro**	**0.05**	**90**	S	Sg	00 08 55.5	+0.3
MSFR	**San Fratello**	**0.10**	**344**	P	Pg	00 08 54.2	+0.3
MSFR				S	Sg	00 08 56.6	+0.6
MSFR				AML	AML		
	comp=E,83μm,0.3s						
MSFR				AML	AML		
	comp=N,109μm,1.2s						
MSFR				AML	AML		
	comp=E,83μm,0.3s						
MSFR				AML	AML		
	comp=N,109μm,1.2s						
MCPD	**Capo d'Orlando**	**0.20**	**24**	P	Pg	00 08 56.0	+0.6
MCPD				S	Sg	00 08 59.7	+1.3
MCPD				AML	AML		
	comp=E,61μm,0.5s						
MCPD				AML	AML		
	comp=N,87μm,0.3s						
MCPD				AML	AML		
	comp=N,87μm,0.3s						
MCPD				AML	AML		
	comp=E,61μm,0.5s						
MUCR	**Ucria**	**0.22**	**61**	P	Pg	00 08 56.2	+0.4
MUCR				S	Sg	00 09 00.2	+1.1
MUCR				AML	AML		
	comp=E,107μm,0.2s						
MUCR				AML	AML		
	comp=N,94μm,0.4s						
MUCR				AML	AML		
	comp=E,107μm,0.2s						
MUCR				AML	AML		
	comp=N,94μm,0.4s						
MUCR	**Ucria**	**0.22**	**61**	P	Pg	00 08 56.3	+0.4
MUCR	**Ucria**	**0.22**	**61**	S	Sg	00 09 00.2	+1.1
GALF	**Gagliano Caste**	**0.23**	**192**	P	Pg	00 08 56.4	+0.5
GALF				S	Sg	00 09 00.5	+1.3
GALF				AML	AML		
	comp=E,68μm,0.5s						
GALF				AML	AML		
	comp=N,56μm,0.9s						
GALF				AML	AML		
	comp=E,68μm,0.5s						
GALF				AML	AML		
	comp=N,56μm,0.9s						
GALF	**Gagliano Caste**	**0.23**	**192**	P	Pg	00 08 56.4	+0.5
GALF	**Gagliano Caste**	**0.23**	**192**	P	Pg	00 08 56.5	+0.6
GALF	**Gagliano Caste**	**0.23**	**192**	S	Sg	00 09 00.4	+1.3
VPL	**Vulcano Piano**	**0.53**	**32**	P	Pg	00 09 01.9	+0.4
VPL	**Vulcano Piano**	**0.53**	**32**	P	Pb	00 09 02.6	+0.2
VPL	**Vulcano Piano**	**0.53**	**32**	P	Pb	00 09 02.6	+0.2

IDC 10 00:10:08.0±2.9, 30°.45S×177°.58W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/27, mbtmp3.7/2, Error ellipse: s-maj=61.3km s-min=25.5km az=102.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.23**	**346**	Pn	Pn	00 10 32.9	+0.5
	132nm,0.3s,baz=84,slow=9.8,SNR=9.0						
RAO				Sn	Sn	00 10 49.8	+0.2
	279nm,0.3s,baz=120,slow=23,SNR=8.2						
RAO				LR	LR	00 10 59.7	
	comp=Z,131nm,20.1s,baz=342,slow=42						
ASAR	**Alice Springs**	**43.47**	**267**	P	P	00 18 12.5	-0.7
	0.7nm,0.8s,baz=102,slow=7.7,SNR=2.5						
WRA	**Warramunga Arr**	**44.46**	**272**	P	P	00 18 21.6	+0.4
	1.1nm,0.7s,baz=110,slow=8.0,SNR=4.8						
FINES	**FINESS Array B**	**145.31**	**340**	PKPbc	PKPbc	00 29 45.8	-1.0
	1.0nm,0.4s,baz=49,slow=4.2,SNR=19						

*TIF **10** 00:16:40.0, 42°.39N×41°.05E, h8km±2km*
*ISK **10** 00:16:40.9, 42°.37N×40°.93E, h1km, ML3.2/12*
*DDA **10** 00:16:42.2, 42°.26N×41°.08E, h6km±2km, ML3.6*
*NORS **10** 00:16:45.0±0.0, 42°.60N×41°.43E, h2km, MPVA3.7*

ISC 10 00:16:39.8±1.2, 42°.41N±0°.02×41°.00E±0°.03, h1km±11km, n55, σ1°.34/89, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.95**	**147**	PG	**Pb**	**00 16 59.8**	**+0.7**
BATM				SG	**Sb**	**00 17 13.4**	**+1.2**
BATM	**Batumi**	**0.95**	**147**	P	**Pb**	**00 16 59.8**	**+0.7**
BATM				S	**Sb**	**00 17 13.6**	**+1.4**
DOMR	**Dombai**	**0.99**	**27**	*i* Pg	Pg	00 16 52.3	-6.5
DOMR				*e*Sg	**Sg**	**00 17 05.0**	**-6.7**
BCA	**Borcka**	**1.07**	**154**	PG	**Pb**	**00 17 01.1**	**+0.1**
ARXR	**Arkhyz**	**1.17**	**10**	*e*Pg	**Pg**	**00 17 03.2**	**+1.0**
ARXR				*e*Sg	**Sg**	**00 17 18.5**	**+1.1**
DBOC	**Borcka**	**1.17**	**155**	IAML_P			
	comp=Z,5μm,0.1s						
DBOC				*i* P	**Pb**	**00 17 03.2**	**+0.3**
DBOC				*i* S	**Sg**	**00 17 18.1**	**+0.7**
TKB	**Tkibuli**	**1.48**	**92**	P	**Pn**	**00 17 07.5**	**0.0**
TKB				S	**Sg**	**00 17 27.2**	**0.0**
DBAD	**Bademkaya**	**1.48**	**159**	IAML_P			

	comp=Z,4μm,0.1s						
DBAD				*i* P	**Pn**	**00 17 07.3**	**-0.3**
DAGI	**Agillar**	**1.49**	**153**	*i* P	**Pn**	**00 17 08.0**	**+0.1**
SOC	**Sochi**	**1.51**	**322**	*e*Pg	**Pn**	**00 17 09.1**	**+1.2**
SOC				*e*Sg	**Sg**	**00 17 28.0**	**-0.1**
NEY	**Neytrino**	**1.52**	**56**	*i* Pg	**Pn**	**00 17 08.9**	**+0.7**
NEY				*e*Sg	**Sg**	**00 17 28.0**	**-0.6**
EPOS	**Posof**	**1.57**	**124**	*i* P	**Pn**	**00 17 09.6**	**+0.7**
EPOS				*i* S	**Sb**	**00 17 30.4**	**+0.2**
DDEM	**Demirkent**	**1.61**	**159**	IAML_P			
	comp=Z,4μm,0.2s						
DDEM				*i* P	**Pn**	**00 17 10.0**	**+0.5**
DDEM				*i* S	**Sn**	**00 17 30.6**	**-0.3**
KTUT	**Trabzon**	**1.69**	**213**	PN	**Pn**	**00 17 10.1**	**-0.3**
GUZR	**Guzeripl'**	**1.71**	**338**	*e*Pg	**Pb**	**00 17 12.5**	**+0.4**
GUZR				*e*Sg	**Sb**	**00 17 35.3**	**+1.2**
SRKG	**Sareki**	**1.74**	**92**	P	**Pn**	**00 17 11.2**	**0.0**
SRKG				S	**Sn**	**00 17 33.6**	**-0.4**
SHA1	**Shidzhatmaz**	**1.80**	**42**	*e*Pg	**Pb**	**00 17 14.3**	**+0.6**
SHA1				*e*Sg	**Sn**	**00 17 36.8**	**+1.0**
ONI	**Oni**	**1.82**	**83**	PN	**Pb**	**00 17 13.6**	**-0.3**
ONI				SN	**Sb**	**00 17 37.4**	**+0.2**
ONI	**Oni**	**1.82**	**83**	P	**Pn**	**00 17 12.8**	**+0.6**
ONI				S	**Sb**	**00 17 37.0**	**-0.3**
ONI	**Oni**	**1.82**	**83**	*e*Pg	**Pn**	**00 17 12.8**	**+0.6**
ONI				*e*Sg	**Sb**	**00 17 37.0**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.96**	**75**	*e*Pg	**Pb**	**00 17 16.5**	**+0.1**
DIGR				*e*Sg	**Sb**	**00 17 41.4**	**-0.1**
KIV	**Kislovodsk**	**1.98**	**38**	PN	**Pb**	**00 17 17.1**	**+0.5**
KIV0	**Kislovodsk Arr**	**1.98**	**38**	*i* Pg	**Pb**	**00 17 17.3**	**+0.6**
KIV0				*e*Sg	**Sb**	**00 17 42.3**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.10**	**151**	PN	**Pn**	**00 17 17.8**	**+1.5**
AKH	**Akhalkalaki**	**2.11**	**117**	PN	**Pn**	**00 17 17.6**	**+1.3**
BAYT	**Aydıntepe-Bayb**	**2.11**	**198**	PN	**Pn**	**00 17 16.4**	**0.0**
ZEI	**Tsey**	**2.17**	**79**	*e*Pg	**Pg**	**00 17 21.3**	**-0.1**
ZEI				*e*Sg	**Sb**	**00 17 47.6**	**+0.1**
NCK	**Nalchik**	**2.19**	**59**	*e*Pg	**Pg**	**00 17 21.8**	**0.0**
NCK				*e*Sg	**Sb**	**00 17 48.8**	**+0.9**
LABN	**Labinsk**	**2.24**	**355**	*e*Pg	**Pg**	**00 17 23.6**	**+0.9**
LABN				*e*Sg	**Sb**	**00 17 51.3**	**+2.0**
BGD	**Bogdanovka**	**2.25**	**120**	P	**Pb**	**00 17 20.6**	**-0.7**
BGD				S	**Sb**	**00 17 49.6**	**-0.2**
LSNR	**Lesken**	**2.25**	**66**	*e*Pg	**Pb**	**00 17 22.2**	**+0.9**
LSNR				*e*Sg	**Sb**	**00 17 49.9**	**+0.3**
PYA1	**Pyatigorsk**	**2.25**	**42**	*e*Pg	**Pb**	**00 17 22.2**	**+1.0**
PYA1				*e*Sg	**Sb**	**00 17 50.0**	**+0.3**
KBTC	**Kuba-Taba**	**2.26**	**51**	*e*Pg	**Pb**	**00 17 21.4**	**+0.1**
KBTC				*e*Sg	**Sb**	**00 17 50.4**	**+0.6**
NVNR	**Nevinnomyssk**	**2.31**	**17**	*e*Pn	**Pg**	**00 17 25.6**	**+1.5**
NVNR				*e*Sn	**Sg**	**00 17 53.5**	**-0.6**
KORR	**Kora**	**2.36**	**72**	*e*Pg	**Pg**	**00 17 24.9**	**-0.1**
KORR				*e*Sg	**Sb**	**00 17 52.2**	**-0.5**
STDR	**Stavd-Durt**	**2.45**	**66**	*e*Pn	**Pb**	**00 17 25.3**	**+0.7**
STDR				*e*Sn	**Sb**	**00 17 55.2**	**0.0**
LACR	**Lac**	**2.47**	**79**	*e*Pn	**Pb**	**00 17 23.9**	**-1.1**
LACR				*e*Sn	**Sn**	**00 17 53.9**	**+1.9**
KOPR	**Koprukoy-ERZUR**	**2.50**	**165**	PN	**Pn**	**00 17 22.3**	**+0.6**
ARNR	**Ardon**	**2.54**	**71**	*e*Pn	**Pb**	**00 17 26.7**	**+0.7**
ARNR				*e*Sn	**Sb**	**00 17 57.4**	**-0.4**
GUDG	**Gudauri**	**2.57**	**88**	P	**Pb**	**00 17 28.0**	**+1.2**
GUDG				S	**Sb**	**00 18 00.5**	**+1.4**
KZRT	**Kazreti**	**2.73**	**111**	P	**Sb**	**00 18 04.7**	**+1.2**
PRTR	**Priterechnaya**	**2.75**	**60**	*e*Pn	**Pb**	**00 17 30.9**	**+1.1**
PRTR				*e*Sn	**Sb**	**00 18 02.7**	**-1.2**
BTKR	**Batakoyurt**	**2.77**	**68**	*e*Pn	**Pg**	**00 17 35.1**	**+2.2**
BTKR				*e*Sn	**Sn**	**00 18 00.6**	**+1.1**
TBLG	**Delisi**	**2.86**	**102**	PN	**Pn**	**00 17 28.5**	**+1.9**
TBLG	**Delisi**	**2.86**	**102**	P	**Pn**	**00 17 28.8**	**+2.2**
TBLG				S	**Sb**	**00 18 06.4**	**-0.8**
BTNK	**Botanikuri**	**2.92**	**103**	P	**Pb**	**00 17 34.0**	**+1.4**
BTNK				S	**Sb**	**00 18 10.2**	**+1.5**
KMGR	**Komgaron**	**2.92**	**76**	*e*Pn	**Pb**	**00 17 33.0**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.99**	**187**	PN	**Pn**	**00 17 29.0**	**+0.6**
GNI	**Garni**	**3.61**	**127**	PN	**Pn**	**00 17 38.8**	**+1.8**
DDFL	**Dedoflistskaro**	**3.94**	**102**	P	**Pb**	**00 17 50.7**	**+0.8**
KVT	**Kavak**	**3.94**	**252**	PN	**Pn**	**00 17 42.3**	**+1.0**
LGD	**Lagodekhi**	**3.94**	**97**	P	**Pb**	**00 17 48.8**	**-1.2**
SNOP	**Sinop**	**4.32**	**267**	PN	**Pn**	**00 17 47.3**	**+0.7**
DIKM	**Dikmen**	**4.34**	**262**	PN	**Pn**	**00 17 48.1**	**+1.2**
VYHS	**Vyhne**	**16.67**	**299**	*e*PN	**Pn**	**00 20 28.7**	**-5.8**

DJA 10 00:35:03.2±0.4, 7°S±3°×10°8E±°, h12km±4km, M3.8/5, MLv3.8/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.28**	**134**	P	Pb	00 35 10.2	-0.1
CISI				S	Sb	00 35 14.9	-0.1
LEM	**Lembang**	**0.53**	**1**	P	Pb	00 35 14.2	-0.4
LEM				S	Sb	00 35 22.1	+0.3
SKJI	**Sukabumi**	**1.10**	**289**	P	Pb	00 35 24.0	-0.2
SKJI				S	Sb	00 35 38.5	-0.1
CGJI	**Cibinong**	**2.04**	**291**	P	Pg	00 35 41.6	-0.8

*DRS **10** 00:34:54.2±0.0, 41°.29N×45°.81E, h2km*
*NORS **10** 00:35:06.9±0.0, 41°.29N×45°.85E, h28km, MPVA3.2*
*TIF **10** 00:35:07.5, 41°.27N×45°.76E, h19km±3km*
ISC 10 00:35:06.8±1.5, 41°.21N±0°.07×45°.83E±0°.03, h11km±9km, n18, σ1s12/36, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.33**	**42**	P	**Pg**	**00 35 12.6**	**-0.8**
DDFL				S	**Sb**	**00 35 20.2**	**+0.3**
LGD	**Lagodekhi**	**0.70**	**26**	P	**Pg**	**00 35 20.8**	**+0.4**
LGD				S	**Sg**	**00 35 30.0**	**+0.4**
LGD	**Lagodekhi**	**0.70**	**26**	*e*Pg	**Pg**	**00 35 20.8**	**+0.4**
LGD				*e*Sg	**Sg**	**00 35 30.0**	**+0.4**
BTNK	**Botanikuri**	**0.91**	**302**	P	**Pg**	**00 35 24.2**	**-0.1**
BTNK				S	**Sg**	**00 35 35.9**	**-0.3**
SEAG	**Tbilisi Sea**	**0.95**	**306**	P	**Pb**	**00 35 25.2**	**-0.1**
SEAG				S	**Sg**	**00 35 37.5**	**-0.1**
TBLG	**Delisi**	**0.97**	**303**	P	**Pb**	**00 35 25.2**	**-0.5**
TBLG				S	**Sb**	**00 35 37.6**	**-0.9**
TBLG	**Delisi**	**0.97**	**303**	*e*Pg	**Pb**	**00 35 25.2**	**-0.5**
TBLG				*e*Sg	**Sb**	**00 35 37.6**	**-0.9**
KZRT	**Kazreti**	**1.09**	**280**	P	**Pb**	**00 35 27.3**	**-0.4**
KZRT				S	**Sb**	**00 35 41.2**	**-0.8**
AKT	**Akhty**	**1.46**	**79**	*e*Pg	**Pn**	**00 35 34.1**	**+0.9**
AKT				*e*Sg	**Sb**	**00 35 53.7**	**+1.1**
BTLR	**Botlikh**	**1.49**	**11**	*e*Pg	**Pn**	**00 35 33.7**	**+0.1**
BTLR				*e*Sg	**Sn**	**00 35 52.5**	**-0.4**
XNZR	**Khunzakh**	**1.49**	**26**	*e*Pg	**Pn**	**00 35 32.8**	**-0.9**
XNZR				*e*Sg	**Sn**	**00 35 50.9**	**-2.2**
GUDG	**Gudauri**	**1.61**	**322**	P	**Pb**	**00 35 36.6**	**-0.1**
GUDG				S	**Sb**	**00 35 57.0**	**-0.1**
URKR	**Urkarakh**	**1.66**	**54**	*e*Pg	**Pg**	**00 35 39.1**	**+0.4**
URKR				*e*Sg	**Sg**	**00 36 00.5**	**+0.3**
DVE	**Vedeno**	**1.76**	**7**	*e*Pg	**Pn**	**00 35 37.3**	**0.0**
DVE				*i* Sg	**Sb**	**00 36 00.6**	**-0.7**
SRKG	**Sareki**	**2.16**	**302**	P	**Pb**	**00 35 44.4**	**-1.6**
SRKG				S	**Sb**	**00 36 11.6**	**-1.1**
DIGR	**Digorskoe uzhe**	**2.38**	**316**	*e*Pg	**Pg**	**00 35 55.6**	**+3.1**
DIGR				*e*Sg	**Sb**	**00 36 20.0**	**+0.8**
LSNR	**Lesken**	**2.55**	**325**	*e*Pg	**Pg**	**00 35 58.1**	**+2.4**
LSNR				*i* Sg	**Sb**	**00 36 25.6**	**+1.6**
NCK	**Nalchik**	**2.82**	**325**	*e*Pg	**Pg**	**00 35 59.8**	**-1.2**
NCK				*e*Sg	**Sn**	**00 36 27.4**	**+1.5**

*ISK **10** 00:35:20.1, 42°.36N×40°.98E, h10km, ML2.4/4*
ISC 10 00:35:20.0±3.2, 42°.37N±0°.03×41°.02E±0°.04, h9km±25km, n17, σ0s95/28, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.92**	**147**	PG	**Pb**	**00 35 38.4**	**+0.3**
BATM				SG	**Sn**	**00 35 51.4**	**-1.0**
BATM	**Batumi**	**0.92**	**147**	P	**Pn**	**00 35 38.7**	**-0.4**
BATM				S	**Sn**	**00 35 52.1**	**-0.3**
DOMR	**Dombai**	**1.02**	**25**	*e*Pg	Pg	00 35 31.7	-8.0
DOMR				*e*Sg	Sg	00 35 44.0	-9.0
BCA	**Borcka**	**1.03**	**154**	PG	**Pn**	**00 35 40.3**	**-0.4**
BCA				SG	**Sn**	**00 35 54.8**	**-0.4**
ARXR	**Arkhyz**	**1.20**	**9**	*e*Pg	**Pn**	**00 35 42.3**	**-0.9**
ARXR				*e*Sg	**Sb**	**00 35 56.8**	**-2.1**
NEY	**Neytrino**	**1.53**	**54**	*e*Pg	**Pn**	**00 35 47.5**	**-0.2**
NEY				*e*Sg	**Sn**	**00 36 06.4**	**-1.4**
SOC	**Sochi**	**1.54**	**322**	*e*Pg	**Pn**	**00 35 48.1**	**+0.4**
SOC				*e*Sg	**Sb**	**00 36 08.9**	**+0.5**
KTUT	**Trabzon**	**1.67**	**215**	PN	**Pn**	**00 35 49.6**	**+0.1**
GUZR	**Guzeripl'**	**1.75**	**338**	*e*Pg	**Pb**	**00 35 51.8**	**-0.6**
GUZR				*e*Sg	**Sb**	**00 36 14.0**	**-0.5**
ONI	**Oni**	**1.81**	**82**	PN	**Pn**	**00 35 52.6**	**+1.1**
ONI				SN	**Sb**	**00 36 16.4**	**+0.2**
SHA1	**Shidzhatmaz**	**1.82**	**41**	*e*Pg	**Pb**	**00 35 53.1**	**-0.5**
SHA1				*i* Sg	**Sn**	**00 36 15.4**	**+0.4**
LZRR	**Lazarevskoye**	**1.97**	**323**	*e*Pg	**Pb**	**00 35 56.4**	**+0.3**
LZRR				*i* Sg	**Sb**	**00 36 21.4**	**+0.6**
KIV	**Kislovodsk**	**2.00**	**37**	PN	**Pn**	**00 35 55.3**	**+1.3**
KIV0	**Kislovodsk Arr**	**2.00**	**37**	*i* Pg	**Pb**	**00 35 56.1**	**-0.6**
KIV0				*i* Sg	**Sn**	**00 36 21.2**	**+1.9**
SENK	**Senkaya-Erzuru**	**2.07**	**151**	PN	**Pn**	**00 35 56.3**	**+1.2**
BAYT	**Aydıntepe-Bayb**	**2.08**	**199**	PN	**Pn**	**00 35 55.6**	**+0.3**
BEYR	**Belyy Ugol+**	**2.10**	**38**	*e*Pg	**Pn**	**00 35 57.0**	**+1.6**
BEYR				*i* Sg	**Sb**	**00 36 24.2**	**-0.3**

ISK 10 00:39:38.9, 36°.94N×26°.84E, h14km, ML1.9/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.40**	**72**	PG	Pb	00 39 47.5	-0.2
BODT				SG	Sb	00 39 53.3	-0.4
DAT	**Datca**	**0.63**	**109**	PG	Pb	00 39 51.6	-0.2
GCAM	**G?zelcaml?**	**0.82**	**23**	PG	Pn	00 39 55.6	-0.4
GCAM				SG	Sn	00 40 07.6	-0.4
APE	**Apeiranthos**	**1.05**	**277**	PG	Pn	00 39 59.4	+0.1
APE				SG	Sn	00 40 14.6	+0.8
TURN	**Turunc**	**1.42**	**92**	PN	Pn	00 40 00.9	-3.3

ROM 10 00:42:42.1±0.3, 38°.88N±0°.01×15°.65E±0°.03, h168km±2km, ML2.3/5, Error ellipse: s-maj=2.8km s-min=0.5km az=111.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOPP	**Joppolo**	**0.33**	**146**	P	Pn	00 43 05.1	+0.2
JOPP				S	Sn	00 43 21.7	-0.7
JOPP				AML	AML		
	comp=E,25μm,1.1s						
JOPP				AML	AML		
	comp=N,27μm,0.7s						
JOPP				AML	AML		
	comp=E,25μm,1.1s						
JOPP				AML	AML		
	comp=N,27μm,0.7s						
JOPP				AML	AML		
	comp=N,27μm,0.7s						
JOPP				AML	AML		
	comp=E,25μm,1.1s						
JOPP	**Joppolo**	**0.33**	**146**	S	Sn	00 43 21.7	-0.7
CAR1	**CAROLEI**	**0.58**	**50**	P	Pn	00 43 05.9	+0.1
CAR1				S	Sn	00 43 23.6	-0.6
CAR1				AML	AML		
	comp=E,120μm,0.7s						
CAR1				AML	AML		
	comp=N,112μm,0.5s						
CAR1				AML	AML		
	comp=E,120μm,0.7s						
CAR1				AML	AML		
	comp=N,112μm,0.5s						
CAR1	**CAROLEI**	**0.58**	**50**	P	Pn	00 43 06.0	+0.1
CAR1	**CAROLEI**	**0.58**	**50**	S	Sn	00 43 23.6	-0.6
GRI	**Girifalco**	**0.61**	**95**	P	Pn	00 43 06.5	+0.5
MSRU	**Castanea**	**0.63**	**190**	P	Pn	00 43 06.3	+0.2
MSRU				S	Sn	00 43 24.3	-0.2
MSRU	**Castanea**	**0.63**	**190**	S	Sn	00 43 24.3	-0.2
CEL	**Celeste**	**0.65**	**163**	P	Pn	00 43 06.4	0.0
MSCL	**Scilla**	**0.66**	**170**	P	Pn	00 43 06.4	0.0
CET2	**Cetraro**	**0.69**	**20**	P	Pn	00 43 06.7	+0.2
CET2				S	Sn	00 43 24.5	-0.9
CET2				AML	AML		
	comp=E,58μm,1.0s						
CET2				AML	AML		
	comp=N,58μm,1.1s						
CET2				AML	AML		
	comp=E,268μm,1.4s						
CET2				AML	AML		
	comp=N,393μm,0.4s						
CET2				AML	AML		
	comp=E,268μm,1.4s						
CET2				AML	AML		
	comp=N,393μm,0.4s						
CET2	**Cetraro**	**0.69**	**20**	S	Sn	00 43 24.5	-0.9
PLAC	**Placanica**	**0.76**	**125**	P	Pn	00 43 07.0	+0.1
PLAC				S	Sn	00 43 25.2	-0.7
PLAC	**Placanica**	**0.76**	**125**	S	Sn	00 43 25.2	-0.7
MPNC	**Port Mandanici**	**0.77**	**198**	P	Pn	00 43 07.6	+0.6
SERS	**Sersale**	**0.83**	**79**	P	Pn	00 43 07.5	+0.1
SERS				S	Sn	00 43 27.2	+0.2
SERS				AML	AML		
	comp=E,14μm,0.9s						
SERS				AML	AML		
	comp=N,16μm,0.8s						
SERS				AML	AML		
	comp=N,16μm,0.8s						
SERS				AML	AML		
	comp=E,14μm,0.9s						
SERS	**Sersale**	**0.83**	**79**	P	Pn	00 43 07.6	+0.2
SERS	**Sersale**	**0.83**	**79**	S	Sn	00 43 27.2	+0.2
CELI	**Celico**	**0.85**	**52**	P	Pn	00 43 08.3	+0.7
CELI				S	Sn	00 43 27.7	+0.5
CELI				AML	AML		
	comp=E,68μm,1.1s						
CELI				AML	AML		
	comp=N,85μm,0.4s						
CELI				AML	AML		
	comp=N,85μm,0.4s						
CELI				AML	AML		
	comp=E,68μm,1.1s						
CELI	**Celico**	**0.85**	**52**	P	Pn	00 43 08.3	+0.7
CELI	**Celico**	**0.85**	**52**	S	Sn	00 43 27.7	+0.5
MCSR	**Castroreale**	**0.87**	**201**	P	Pn	00 43 08.4	+0.6
T0702	**Acquaformosa (**	**0.91**	**22**	P	Pn	00 43 08.1	+0.2
T0702				S	Sn	00 43 27.3	-0.6
T0702	**Acquaformosa (**	**0.91**	**22**	S	Sn	00 43 27.3	-0.6
TIP	**Timpagrande**	**0.92**	**71**	P	Pn	00 43 08.1	+0.1
TIP	**Timpagrande**	**0.92**	**71**	P	Pn	00 43 08.2	+0.2
PIPA	**Pietrapaola**	**1.09**	**56**	P	Pn	00 43 19.2	+10
MIGL	**Miglionico**	**1.83**	**19**	P	Pn	00 43 15.6	-0.8
MIGL	**Miglionico**	**1.83**	**19**	S	Sn	00 43 41.5	-1.5
MCRV	**Calabrutti - M**	**1.93**	**349**	S	Sn	00 43 49.0	+3.7

*ISK **10** 00:45:37.7, 38°.92N×43°.60E, h12km, ML2.0/8*
*DDA **10** 00:45:38.5, 38°.94N×43°.48E, h7km±4km, ML2.8*
ISC 10 00:45:37.8±0.9, 38°.97N±0°.05×43°.57E±0°.05, h17km±6km, n12, σ0s52/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.02**	**7**	IAML_P			
	comp=Z,9μm,0.1s						
VMUR				*i* P	**Pg**	**00 45 40.3**	**-0.7**
VMUR				*i* S	**Sg**	**00 45 43.4**	**+0.2**
ERCV	**ERCIS-VAN**	**0.19**	**286**	PG	**Pg**	**00 45 42.9**	**+0.3**
CLDR	**Caldiran**	**0.32**	**57**	PG	**Pg**	**00 45 44.6**	**-0.2**
CLDR				SG	**Sg**	**00 45 50.4**	**+0.9**
VANB	**Van**	**0.40**	**201**	PG	**Pb**	**00 45 46.8**	**+0.3**
TVAN	**Van**	**0.46**	**196**	IAML_P			
	comp=Z,3μm,0.3s						
TVAN				*i* P	**Pb**	**00 45 47.5**	**-0.1**
TVAN				*i* S	**Sb**	**00 45 54.7**	**+0.6**
TUTA	**Tutak**	**0.73**	**307**	IAML_P			
	comp=Z,2μm,0.2s						
TUTA				*i* P	**Pn**	**00 45 52.9**	**-0.7**
AGRB	**Hanur-Agry**	**0.75**	**324**	PG	**Pn**	**00 45 53.6**	**-0.3**
GEVA	**Gevas**	**0.77**	**212**	*i* P	**Pg**	**00 45 52.4**	**-0.4**
AKDM	**Akdamar-Van**	**0.79**	**216**	PG	**Pg**	**00 45 52.9**	**-0.3**
MLAZ	**Malazgirt-MUS**	**0.81**	**283**	PG	**Pn**	**00 45 54.5**	**-0.2**
GURO	**Guroymak-BITLI**	**1.27**	**251**	PN	**Pg**	**00 46 01.9**	**-0.4**
GURO				SN	**Sg**	**00 46 19.5**	**+0.6**
GNI	**Garni**	**1.49**	**37**	PN	**Pb**	**00 46 05.2**	**+0.1**

IDC 10 00:50:49.0±8.5, 15°.06S×175°.76W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/25, mbtmp3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/22, Error ellipse: s-maj=376.5km s-min=38.1km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**14.27**	**188**	LR	LR	00 58 17.1	
	comp=Z,175nm,21.0s,baz=230,slow=31						
WRA	**Warramunga Arr**	**47.71**	**257**	P	P	00 59 28.1	+0.2
	0.2nm,0.3s,baz=90,slow=8.4,SNR=3.5						
ASAR	**Alice Springs**	**48.06**	**252**	P	P	00 59 30.1	-0.4
	0.7nm,0.5s,baz=86,slow=8.8,SNR=9.1						
ILAR	**Eielson Array**	**82.57**	**12**	P	P	01 03 13.4	0.0
	0.5nm,1.0s,baz=226,slow=6.2,SNR=4.2						

*IDC **10** 00:55:56.3±15.0, 20°.18S×177°.77W, h277km±137km, mb3.4/4, mb1 3.7/4, mb1mx3.2/29, mbtmp4.0/4, Error ellipse: s-maj=60.0km s-min=42.7km az=107.0*
ISC 10 00:56:28.1±1.3, 19°.9S±0°.3×178°.7W±0°.3, h600km, n11, σ2s33/11, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.07**	**256**	P	**P**	**01 03 42.8**	**-1.8**
	5.7nm,0.7s,baz=92,slow=8.8,SNR=42						
ASAR				PcP	**PcP**	**01 05 18.5**	**+2.1**
	0.3nm,0.8s,baz=84,slow=3.8,SNR=4.9						
WRA	**Warramunga Arr**	**44.08**	**262**	P	**P**	**01 03 43.9**	**-0.9**
	1.1nm,0.5s,baz=93,slow=8.2,SNR=16						
FITZ	**Fitzroy Crossi**	**52.50**	**262**	P	**P**	**01 04 48.1**	**+1.0**
	2.8nm,1.0s,baz=101,slow=5.2,SNR=7.2						
ILAR	**Eielson Array**	**87.84**	**13**	P	**P**	**01 08 14.1**	**-0.1**
	0.3nm,0.8s,baz=212,slow=3.2,SNR=3.4						
ARCES	**ARCESS Array B**	**128.20**	**349**	PKP	**PKiKP**	**01 14 28.7**	**+1.5**
	1.4nm,0.8s,baz=17,slow=0.9,SNR=6.2						
FINES	**FINESS Array B**	**135.00**	**343**	PKP	**PKiKP**	**01 14 43.2**	**+2.1**
	1.0nm,0.7s,baz=36,slow=2.6,SNR=3.5						
HFS	**Hagfors**	**138.83**	**351**	PKhKP	PKPpre	01 14 42.4	
	0.4nm,0.3s,baz=35,slow=5.3,SNR=7.2						
AKASG	**Malin Array Be**	**142.17**	**331**	PKP	**PKiKP**	**01 14 54.5**	**-1.6**
	0.2nm,0.3s,baz=42,slow=4.2,SNR=7.8						
BRTR	**Keskin Array B**	**145.97**	**313**	PKPbc	**PKPab**	**01 15 07.1**	**+2.9**
	0.9nm,0.7s,baz=144,slow=4.3,SNR=6.3						
GERES	**GERESS Array B**	**149.43**	**344**	PKPbc	**PKPab**	**01 15 14.0**	**-3.9**
	0.2nm,0.3s,baz=53,slow=3.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**173.30**	**183**	PKPab	**PKPab**	**01 17 01.7**	**-0.9**
	0.4nm,0.7s,baz=180,slow=5.6,SNR=4.3						

*REY **10** 01:06:02.9, 63°.72N×23°.26W, h13km*
*ISCJB **10** 01:06:03.5±0.5, 63°.80N±0°.03×23°.15W±0°.05, h12km±3km, mb3.9/38, MS3.4/22, Error ellipse: s-maj=5.5km s-min=3.4km az=171.1*
*IDC **10** 01:06:03.2±0.7, 63°.86N×23°.15W, h0km, mb3.7/11, mb1 3.9/15, mb1mx3.7/42, mbtmp3.7/15, ML3.7/3, MS3.4/27, Ms1 3.4/27, ms1mx3.2/51, Error ellipse: s-maj=17.9km s-min=13.2km az=12.0*
*NEIC **10** 01:06:04.8±0.3, 63°.76N×23°.13W, h10km, mb4.1/22, Error ellipse: s-maj=8.9km s-min=5.1km az=201.0*
ISC 10 01:06:04.5±1.2, 63°.75N±0°.05×22°.98W±0°.04, h8km±7km, n115, σ1s99/117, mb4.0/45, MS3.4/23, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**0.14**	**59**	P	**Pg**	**01 06 08.1**	**+0.6**
	baz=67						
IRNE				S	**Sg**	**01 06 12.0**	**+2.4**
	baz=67						
INYL	**Nylenda**	**0.25**	**25**	P	**Pg**	**01 06 09.4**	**-0.2**
	baz=41						
INYL				S	**Sg**	**01 06 14.3**	**+1.3**
	baz=41						
IGRV	**Grindav??k**	**0.26**	**64**	P	**Pg**	**01 06 10.1**	**+0.4**
	baz=68						
IGRV				S	**Sg**	**01 06 15.4**	**+2.3**
	baz=68						
IVOG	**Vogar**	**0.34**	**49**	P	**Pg**	**01 06 11.1**	**-0.1**
	baz=56						
IVOG				S	**Sg**	**01 06 17.7**	**+1.9**
	baz=56						
IKRI	**Krysuvik**	**0.42**	**71**	P	**Pg**	**01 06 12.7**	**-0.1**
	baz=72						
IKRI				S	**Sg**	**01 06 20.3**	**+2.0**
	baz=72						
IKAS	**Kald??rsel**	**0.57**	**60**	P	**Pg**	**01 06 15.0**	**-0.6**
	baz=63						
IKAS				S	**Sg**	**01 06 24.7**	**+1.7**
	baz=63						
IVOS	**Vogsosar**	**0.58**	**79**	P	**Pg**	**01 06 15.2**	**-0.5**
	baz=78						
IVOS				S	**Sg**	**01 06 24.9**	**+1.7**
	baz=78						
IKUD	**Kuludalsa**	**0.76**	**40**	P	**Pg**	**01 06 17.6**	**-1.5**
	baz=44						
IKUD				S	**Sg**	**01 06 28.8**	**-0.1**
	baz=44						
IBJA	**Bjarnastaoir**	**0.77**	**74**	P	**Pg**	**01 06 18.3**	**-1.0**
	baz=74						
IBJA				S	**Sg**	**01 06 30.5**	**+1.2**
	baz=74						
IHEI	**Heioarbar**	**0.90**	**59**	P	**Pb**	**01 06 19.8**	**-2.5**
	baz=60						
IHEI				S	**Sb**	**01 06 33.4**	**-1.0**
	baz=60						
IKRO	**Krokur**	**0.90**	**66**	P	**Pb**	**01 06 19.9**	**-2.4**
	baz=67			

FINES	FINESS Array B	22.25	73	eP	P	01 11 01.7	+0.3
FINES	FINESS Array B	22.25	73	P	P	01 11 02.2	+0.8
	3.8nm,0.8s,baz=323,slow=10,SNR=12						
FINES				LR	LR	01 19 32.4	
	comp=Z,57nm,18.4s,baz=344,slow=36						
CLL	Collm	22.61	106	eP	P	01 11 06.8	+1.4
	6.9nm,1.1s						
CLL	Collm	22.61	106	eP	P	01 11 07.0	+1.7
	comp=Z,20nm,2.1s						
CLL				i		01 11 13.4	
CLL				eS	S	01 15 16.0	+3.1
CLL				Lm	MLR	01 19 00.0	
	comp=Z,100nm,20.4s						
STU	Stuttgart	22.97	115	eP	P	01 11 10.3	+1.2
	comp=Z,14nm,1.1s						
GRA1	Grafenberg Arr	23.08	111	eP	P	01 11 11.0	+0.8
	comp=Z,12nm,1.0s						
GRFO	Grafenberg	23.08	111	eP	P	01 11 10.7	+0.5
	comp=Z,10nm,1.0s						
NKC	Novy Kostel	23.18	109	eP	P	01 11 12.0	+0.7
BRG	Berggiesshubel	23.33	106	eP	P	01 11 09.3	-3.5
	comp=Z,3.4nm,0.8s						
BRG				e		01 11 14.0	
	comp=Z,6.0nm,1.0s						
SCHQ	Schefferville	23.64	268	eP	P	01 11 13.7	-2.2
	comp=Z,5.5nm,0.8s						
PVCC	Panska Ves	23.86	106	eP	P	01 11 19.8	+1.8
PRU	Pruhonice	24.25	107	eP	P	01 11 25.5	+3.9
KHC	Kasperske Hory	24.49	109	eP	P	01 11 24.3	+0.3
	comp=Z,2.5nm,0.9s						
KHC	Kasperske Hory	24.49	109	eP	P	01 11 25.4	+1.5
KHC				AMS	AMS	01 22 50.0	
	comp=Z,200nm,14.4s						
RETA	Reutte	24.63	115	epP	P	01 11 28.0	+2.8
	comp=Z,6.5nm,1.1s						
DPC	Dobruska-Polom	24.74	104	eP	P	01 11 28.7	+2.5
GEC2	GERESS Array S	24.77	110	eP	P	01 11 27.6	+1.1
	comp=Z,2.2nm,0.9s						
GERES	GERESS Array B	24.77	110	eP	P	01 11 27.1	+0.7
GERES	GERESS Array B	24.77	110	P	P	01 11 27.5	+1.0
	comp=Z,1.3nm,0.9s,baz=307,slow=8.1,SNR=7.8						
GERES				LR	LR	01 20 52.8	
	comp=Z,90nm,20.1s,baz=306,slow=36						
DAVOX	Davos/Dischmat	24.85	117	P	P	01 11 29.2	+1.9
	comp=Z,1.9nm,0.6s,baz=311,slow=14,SNR=4.9						
DAVOX				LR	LR	01 20 54.6	
	comp=Z,102nm,18.3s,baz=301,slow=36						
MOTA	Moosalm	24.88	115	epP	P	01 11 30.4	+2.8
	comp=Z,1.4nm,0.7s						
TUE	Stuetta	24.90	119	eP	P	01 11 28.7	+0.9
	comp=Z,6.3nm,1.0s						
SQTA	Sankt Quirin	25.03	115	epP	P	01 11 34.0	+5.1
	comp=Z,4.7nm,1.0s						
WATA	Walderalm	25.08	114	epP	P	01 11 32.4	+3.0
	comp=Z,2.7nm,0.7s						
WTTA	Wattenberg	25.16	115	epP	P	01 11 34.8	+4.6
	comp=Z,11nm,1.1s						
TREC	Trest	25.18	107	eP	P	01 11 31.6	+1.5
VRAC	Vranov	25.64	105	LR	LR	01 23 23.4	
	comp=Z,46nm,18.3s,baz=266,slow=40						
MORC	Moravsky Berou	25.70	104	eP	P	01 11 35.6	+0.8
	comp=Z,4.7nm,1.0s						
MORC	Moravsky Berou	25.70	104	eP	P	01 11 39.4	+4.6
KRUC	Moravsky	25.74	106	eP	P	01 11 37.7	+2.5
MOA	Molln	25.78	110	eP	P	01 11 40.1	+4.6
	comp=Z,3.9nm,1.3s						
RES	Resolute Bay	25.83	325	LR	LR	01 21 28.8	
	comp=Z,118nm,19.7s,baz=321,slow=36						
ABTA	Abfaltersbach	25.93	114	eP	P	01 11 40.8	+3.8
	comp=Z,3.6nm,0.9s						
KBA	Koelnbreinsper	26.01	113	eP	P	01 11 42.4	+4.6
	comp=Z,5.7nm,1.1s						
CONA	Conrad Observa	26.39	108	epP	P	01 11 43.6	+2.5
	comp=Z,1.6nm,0.7s						
MYKA	Terra Mystica	26.49	113	eP	P	01 11 46.8	+4.7
	comp=Z,8.1nm,1.1s						
ESDC	Sonseca Array	26.61	146	eP	P	01 11 43.2	0.0
	comp=Z,0.7nm,1.0s						
ESDC	Sonseca Array	26.61	146	P	P	01 11 43.5	+0.3
	comp=Z,0.5nm,0.6s,baz=353,slow=9.4,SNR=3.3						
ESDC				LR	LR	01 21 50.0	
	comp=Z,123nm,18.2s,baz=0.0,slow=35						
PAB	San Pablo	26.64	147	eP	P	01 11 41.7	-1.8
	comp=Z,4.0nm,1.1s						
ARSA	Arzberg	26.78	110	eP	P	01 11 44.3	-0.3
	comp=Z,2.9nm,0.8s						
SOKA	Soboth	27.03	111	pP	P	01 11 49.6	+2.7
	comp=Z,2.2nm,1.3s						
VYHS	Vyhne	27.22	104	eP	P	01 11 51.2	+2.7
MLR	Muntele Rosu	32.63	100	LR	LR	01 26 12.7	
	comp=Z,57nm,19.3s,baz=278,slow=37						
FCC	Fort Churchill	32.92	295	eP	P	01 12 38.4	-0.4
	comp=Z,2.3nm,1.1s						
KIRV	Kirov	33.55	65	LR	LR	01 25 30.7	
	comp=Z,101nm,19.4s,baz=239,slow=35						
KEST	Kesra	34.26	129	LR	LR	01 25 46.4	
	comp=Z,85nm,20.2s,baz=255,slow=34						
YKA	Yellowknife Ar	38.06	311	P	P	01 13 22.1	-0.8
	comp=Z,0.9nm,0.9s,baz=47,slow=8.6,SNR=12						
YKA				LR	LR	01 28 33.4	
	comp=Z,20nm,19.8s,baz=38,slow=36						
FFC	Flin Flon	38.85	295	eP	P	01 13 29.0	-0.6
	comp=Z,0.9nm,0.5s						
INK	Inuvik	39.34	327	eP	P	01 13 32.4	-1.2
	comp=Z,1.0nm,0.9s						
ULM	Lac du Bonnet	39.58	286	LR	LR	01 28 15.9	
	comp=Z,56nm,20.1s,baz=88,slow=34						
IDI	Anoyia	40.61	111	LR	LR	01 31 53.6	
	comp=Z,25nm,20.5s,baz=347,slow=38						
BRTR	Keskin Array B	40.64	99	P	P	01 13 46.4	+1.5
	comp=Z,1.1nm,1.0s,baz=326,slow=6.4,SNR=4.2						
KBZ	Khabaz	41.52	86	LR	LR	01 32 02.5	
	comp=Z,36nm,18.7s,baz=292,slow=38						
ABKAR	Akbulak array	44.56	68	eP	P	01 14 18.0	+1.6
TAM	Tamanrasset	45.12	142	eP	P	01 14 21.6	+0.4
	comp=Z,2.9nm,1.0s						
GNI	Garni	45.21	88	LR	LR	01 32 38.7	
	comp=Z,39nm,19.8s,baz=350,slow=35						
ILAR	Eielson Array	45.34	330	P	P	01 14 21.6	-0.9
	comp=Z,0.3nm,0.6s,baz=27,slow=9.1,SNR=4.2						
ILAR				LR	LR	01 34 53.2	
	comp=Z,64nm,18.2s,baz=45,slow=38						
BCAR	Beaver Creek A	45.59	326	eP	P	01 14 24.7	+0.2
BCPM	Bancas Point	47.66	323	eP	P	01 14 40.5	-0.1
	comp=Z,24nm,1.1s						
HMT	Hamilton	48.54	325	eP	P	01 14 47.7	+0.2
	comp=Z,6.2nm,1.0s						
BOZ	Bozeman (W)	49.82	293	eP	P	01 14 57.0	-0.7
	comp=Z,1.3nm,0.7s						
BW06	Boulder Array	51.28	290	eP	P	01 15 08.2	-0.6
	comp=Z,0.5nm,0.5s						
PDAR	Pinedale Array	51.28	290	eP	P	01 15 08.0	-0.8
PDAR	Pinedale Array	51.28	290	P	P	01 15 08.0	-0.8
	comp=Z,0.6nm,0.8s,baz=56,slow=5.8,SNR=5.1						
PDAR				LR	LR	01 36 12.8	
	comp=Z,54nm,18.8s,baz=45,slow=35						
N23A	Red Feather La	51.29	285	eP	P	01 15 08.8	-0.2
	comp=Z,4.1nm,1.0s						
GEYT	Alibeck	52.94	78	LR	LR	01 38 57.7	
	comp=Z,39nm,18.5s,baz=195,slow=37						
TORD	Torodi Ar. Bea	53.41	150	P	P	01 15 23.8	-0.8
	comp=Z,0.4nm,0.8s,baz=344,slow=8.0,SNR=4.0						
MKAR	Makanchi Array	55.23	54	eP	P	01 15 38.9	+1.3
MKAR	Makanchi Array	55.23	54	P	P	01 15 38.6	+1.0
	comp=Z,1.2nm,0.8s,baz=325,slow=6.2,SNR=8.8						
GAR	Garm	57.22	68	eP	P	01 15 53.5	+1.5
	comp=Z,9.9nm,1.1s						
LAZ	Ladron	57.24	282	eP	P	01 15 50.9	-1.4
YERR	Yerington	58.44	295	eP	P	01 16 01.0	+0.4
	comp=Z,2.4nm,0.9s						
NVAR	Mina Array Bea	58.53	294	LR	LR	01 40 48.5	
	comp=Z,69nm,18.2s,baz=345,slow=36						
WMQ	Urumqi	59.71	52	eP	P	01 16 13.9	+4.6
WMQ				sP	sP	01 16 19.9	+7.2
TXAR	Lajitas Array	60.04	276	P	P	01 16 10.5	-1.3
	comp=Z,0.4nm,0.9s,baz=17,slow=4.7,SNR=3.3						
TXAR				LR	LR	01 41 26.1	
	comp=Z,29nm,19.8s,baz=0.0,slow=35						
SONM	Songino Array	61.85	36	LR	LR	01 47 09.9	
	comp=Z,30nm,18.0s,baz=160,slow=40						
HHC	Hu-ho-hao-te	69.70	35	eP	P	01 17 15.8	+1.3
LZH	Lanzhou	71.98	43	eP	P	01 17 28.5	0.0
LZH				pP	sP	01 17 31.8	-0.2
LZH				sP	pP	01 17 33.4	+2.3
LZH				ePP	PP	01 20 09.7	+2.0
KSRS	Korea Array	76.52	23	LR	LR	01 53 34.4	
	comp=Z,12nm,18.5s,baz=170,slow=37						
CD2	Chengdu	76.75	45	P	P	01 17 55.5	-0.7
KMI	Kunming	81.79	48	P	P	01 18 25.1	+1.1

*DDA **10** 01:13:44.7, 42°.37N×41°.08E, h6km±3km, ML2.6*
*TIF **10** 01:13:44.9, 42°.39N×41°.00E, h31km±3km*
*ISK **10** 01:13:45.4, 42°.33N×40°.97E, h12km, ML2.3/2*
*NORS **10** 01:13:47.5±0.0, 42°.54N×41°.14E, h4km*
ISC 10 01:13:43.9±1.8, 42°.42N±0°.03×41°.05E±0°.04, h1km±14km, n24, σ1°.22/44, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	Batumi	0.94	149	PG	Pb	01 14 03.4	+0.4
BATM				SG	Sb	01 14 16.1	+0.1
BATM	Batumi	0.94	149	P	Pn	01 14 03.7	-0.6
BATM				S	Sn	01 14 17.6	-0.9
DOMR	Dombai	0.97	25	ePg	Pg	01 13 56.2	-6.2
DOMR				eSg	Sg	01 14 08.9	-6.2
BCA	Borcka	1.06	156	PG	Pb	01 14 04.9	-0.2
BCA				SG	Sn	01 14 19.4	-2.0
ARXR	Arkhyz	1.16	8	ePg	Pb	01 14 07.0	+0.3
ARXR				eSg	Sb	01 14 22.5	+0.2
DBOC	Borcka	1.17	157	IAML_P			
	comp=Z,593nm,0.1s						
DBOC				i P	Pb	01 14 07.0	+0.2
DBOC				i S	Sg	01 14 22.1	+0.8
TKB	Tkibuli	1.44	92	P	Pb	01 14 11.8	+0.2
TKB				S	Sg	01 14 30.9	+0.7
DBAD	Bademkaya	1.48	161	IAML_P			
	comp=Z,379nm,0.1s						
DBAD				i P	Pn	01 14 11.5	-0.2
NEY	Neytrino	1.48	55	ePg	Pb	01 14 12.7	+0.4
NEY				eSg	Sn	01 14 31.6	-0.5
DAGI	Agillar	1.49	154	IAML_P			
	comp=Z,100nm,0.1s						
DAGI				i P	Pn	01 14 11.9	0.0
DAGI				i S	Sn	01 14 30.2	-1.8
SOC	Sochi	1.52	320	ePg	Pn	01 14 13.0	+0.7
SOC				i Sg	Sn	01 14 33.0	+0.3
EPOS	Posof	1.55	126	i P	Pb	01 14 13.8	+0.4
EPOS				i S	Sg	01 14 34.7	+1.1
SRKG	Sareki	1.71	92	P	Pn	01 14 15.3	+0.5
SRKG				S	Sb	01 14 37.8	-0.3
GUZR	Guzeripl'	1.72	337	ePg	Pb	01 14 17.0	+0.7
GUZR				eSg	Sb	01 14 39.5	+1.0
SHA1	Shidzhatmaz	1.77	41	ePg	Pb	01 14 17.9	+0.6
SHA1				eSg	Sb	01 14 40.8	+0.7
ONI	Oni	1.78	84	PN	Pb	01 14 17.5	+0.1
ONI				SN	Sg	01 14 41.7	+0.5
ONI	Oni	1.78	84	P	Pb	01 14 17.4	+0.1
ONI				S	Sg	01 14 41.6	+0.4
ONI	Oni	1.78	84	ePg	Pb	01 14 17.4	+0.1
ONI				eSg	Sg	01 14 41.6	+0.4
DIGR	Digorskoe uzhe	1.93	75	ePg	Pb	01 14 20.7	+0.7
DIGR				eSg	Sb	01 14 45.4	+0.8
KIV	Kislovodsk	1.95	37	PN	Pb	01 14 20.8	+0.6
KIV0	Kislovodsk Arr	1.95	37	i Pg	Pb	01 14 21.2	+0.9
KIV0				eSg	Sb	01 14 46.2	+1.0
BEYR	Belyy Ugol+	2.05	38	ePg	Pb	01 14 22.2	+0.2
BEYR				eSg	Sb	01 14 49.5	+1.5
SENK	Senkaya-Erzuru	2.10	152	PN	Pn	01 14 20.7	+0.4
ZEI	Tsey	2.14	79	ePg	Pb	01 14 23.6	+0.1
ZEI				eSg	Sb	01 14 50.7	+0.1

*ISCJB **10** 01:15:31.8±0.9, 32°.43S±0°.04×177°.8W±0°.2, h24km, mb4.7/11, MS3.6/5, Error ellipse: s-maj=22.3km s-min=3.6km az=12.0*
*IDC **10** 01:15:33.1±0.9, 32°.20S×178°.05W, h0km, mb4.5/5, mb1 4.6/6, mb1mx4.1/24, mbtmp4.5/6, ML4.3/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/26, Error ellipse: s-maj=35.8km s-min=24.7km az=151.0*
*NEIC **10** 01:15:35.7±8.3, 32°.29S×178°.29W, h14km±49km, mb4.7/5, Error ellipse: s-maj=23.3km s-min=13.8km az=220.0*
ISC 10 01:15:36.3±0.5, 32°.34S±0°.06×178°.0W±0°.1, h24km, n95, σ1°.68/92, mb4.7/11, MS3.7/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.07	1	P	Pn	01 16 21.2	-2.0
GLKZ				S	Sn	01 16 56.0	-3.1
RAO	Raoul Island	3.08	2	Pn	Pn	01 16 21.7	-1.7
	42nm,0.3s,baz=107,slow=11,SNR=5.4						
RAO				Sn	Sn	01 16 56.8	-2.6
	204nm,0.3s,baz=114,slow=21,SNR=6.8						
RIZ	Raoul Island	3.08	1	S	Sn	01 16 57.8	-1.8
MXZ	Matakaoa Point	6.02	209	ePn	Pn	01 17 01.9	-1.9
MXZ	Matakaoa Point	6.02	209	P	Pn	01 17 01.0	-2.9
MXZ				S	Sn	01 18 10.6	-1.5
WMGZ	Waiomatatini S	6.20	207	P	Pn	01 17 05.6	-0.7
WMGZ				S	Sn	01 18 15.9	-0.5
PKGZ	Pakihiroa	6.40	209	P	Pn	01 17 06.5	-2.5
PKGZ				S	Sn	01 18 19.5	-1.8
HAZ	Te Kaha	6.41	211	P	Pn	01 17 07.7	-1.4
PUZ	Puketiti	6.48	207	P	Pn	01 17 08.3	-1.9
RUGZ	Raukumara Rang	6.63	211	P	Pn	01 17 11.7	-0.6
TWGZ	Tauwhareparae	6.68	208	P	Pn	01 17 11.4	-1.5
CNGZ	Carnagh Statio	6.86	206	P	Pn	01 17 12.0	-3.4
MWZ	Matawai	7.00	210	P	Pn	01 17 17.1	-0.3
URZ	Urewera	7.12	213	ePn	Pn	01 17 18.2	-0.7
URZ				Sn	Sn	01 18 36.2	-3.0
URZ	Urewera	7.12	213	Pn	Pn	01 17 16.6	-2.4
	5.6nm,0.3s,baz=59,slow=3.7,SNR=18						
URZ				Sn	Sn	01 18 36.2	-3.0
	7.1nm,0.3s,baz=96,slow=20,SNR=9.1						
URZ	Urewera	7.12	213	P	Pn	01 17 17.0	-2.0
RAGZ	Rawiri	7.19	210	P	Pn	01 17 17.9	-2.0
RIGZ	Rimuhau	7.23	207	P	Pn	01 17 18.4	-2.0
WCZ	Waipu Caves	7.28	238	P	Pn	01 17 25.0	+3.8
MUGZ	Murupara	7.46	213	P	Pn	01 17 20.9	-2.6
KNZ	Kokohu	7.53	207	P	Pn	01 17 22.8	-1.8
OUZ	Omahuta	7.55	245	P	Pn	01 17 28.3	+3.4
MHGZ	Mahia Peninsul	7.56	205	P	Pn	01 17 22.4	-2.6
TOZ	Tahuroa Road	7.56	223	P	Pn	01 17 27.0	+2.0
RAHZ	Arahi	7.68	210	P	Pn	01 17 26.6	0.0
MTHZ	Maungataniwha	7.73	211	P	Pn	01 17 27.0	-0.4
ARHZ	Aropaoanui	8.01	209	P	Pn	01 17 30.1	-1.0
BKZ	Black Stump Fm	8.14	212	ePn	Pn	01 17 33.0	0.0
BKZ	Black Stump Fm	8.14	212	P	Pn	01 17 32.8	-0.2
MCHZ	McNeill Hill	8.29	210	P	Pn	01 17 33.6	-1.4
CKHZ	Cape Kidnapper	8.31	207	P	Pn	01 17 34.8	-0.5
KWHZ	Kaweka Forest	8.39	211	P	Pn	01 17 35.4	-0.9
KAHZ	Kahuranaki	8.51	208	P	Pn	01 17 33.0	-5.0
OTVZ	Oturere	8.53	215	P	Pn	01 17 36.5	-1.9
MRZ	Mangatainoka R	9.77	210	P	Pn	01 17 51.6	-3.7
RPZ	Rata Peaks	14.24	214	Pn	Pn	01 18 52.0	-4.4
	0.6nm,0.3s,baz=59,slow=10,SNR=3.0						
RPZ				Sn	Sn	01 21 17.6	-16
	1.9nm,0.3s,baz=246,slow=20,SNR=6.0						
DZM	Mont Dzumac	17.18	303	eP	P	01 19 41.8	+5.5
	55nm,1.2s						
DZM				eLR	LR	01 23 44.3	
	comp=Z,447nm,23.1s						
DZM	Mont Dzumac	17.18	303	LR	LR	01 25 06.7	
	comp=Z,544nm,18.5s,baz=192,slow=34						
RAR	Rarotonga	19.67	60	LR	LR	01 28 46.0	
	comp=Z,122nm,18.0s,baz=252,slow=40						
PPT2	Papeete2	29.55	67	eLR	LR	01 29 10.0	
	comp=Z,136nm,28.2s						
PPT	Papeete	29.56	67	LR	LR	01 34 06.2	
	comp=Z,62nm,18.5s,baz=310,slow=38						
STKA	Stephens Creek	34.08	260	eP	P	01 22 19.5	+0.6
	6.0nm,1.9s						
STKA	Stephens Creek	34.08	260	P	P	01 22 20.3	+1.4
	2.3nm,0.7s,baz=76,slow=6.5,SNR=4.5						
STKA				LR	LR	01 35 06.1	
	comp=Z,151nm,19.1s,baz=33,slow=34						
CTA	Charters Tower	34.15	282	P	P	01 22 20.1	+0.6
	4.4nm,0.5s,baz=111,slow=10,SNR=9.0						
AS31	Alice Springs	43.03	269	eP	P	01 23 34.2	+0.1
	1.8nm,0.8s						
ASAR	Alice Springs	43.03	269	eP	P	01 23 33.0	-1.2
ASAR	Alice Springs	43.03	269	P	P	01 23 33.7	-0.5
	6.0nm,0.8s,baz=107,slow=7.8,SNR=31						
WB2	Warramunga Arr	44.18	274	eP	P	01 23 42.4	-1.1
	30nm,1.3s						
WRAB	Tennant Creek	44.19	274	eP	P	01 23 42.6	-0.9
	22nm,1.1s						
WR1	Warramunga Arr	44.19	274	eP	P	01 23 42.6	-1.0
WRA	Warramunga Arr	44.19	274	P	P	01 23 42.6	-1.0
	3.5nm,0.3s,baz=112,slow=8.1,SNR=23						
WRA				LR	LR	01 41 32.5	
	comp=Z,90nm,18.1s,baz=30,slow=35						
FORT	Forrest	45.57	257	eP	P	01 23 52.2	-2.2
	32nm,0.8s						
QSPA	South Pole Qui	57.78	180	eP	P	01 25 27.9	+2.6
	8.7nm,0.6s						
SNAA	Sanae	76.22	178	PKPdf	P	01 27 24.9	+2.7
VNA3	Neumayer Olymp	76.38	176	PKPdf	P	01 27 24.7	+1.6
VNA2	Neumayer--Watz	76.88	177	PKPdf	P	01 27 27.6	+2.1
VNA1	Neumayer--Stat	77.04	177	PKPdf	P	01 27 29.4	+2.6
PETK	Petropavlovsk-	87.68	346	P	P	01 28 22.7	+0.4
	1.3nm,0.6s,baz=106,slow=6.1,SNR=3.5						
PEA1	Petropavlovsk-	87.69	346	eP	P	01 28 22.7	+0.3
HPIG		90.61	58	eP	P	01 28 41.0	+4.0
	20nm,0.8s						
CPUP	Villa Florida	98.79	129	LR	LR	02 04 28.9	
	comp=Z,28nm,19.7s,baz=212,slow=30						
MK32	Makanchi Array	119.00	309	ePKPdf	PKiKP	01 34 22.2	-0.4
MKAR	Makanchi Array	119.00	309	PKP	PKiKP	01 34 22.2	-0.4
	0.4nm,0.6s,baz=107,slow=1.5,SNR=2.8						
NRIK	Noril'sk	121.39	336	PKP	PKiKP	01 34 27.1	+0.5
	2.7nm,0.4s,baz=71,slow=1.8,SNR=4.5						
KURBB	Kurchatov Arra	122.40	313	PKP	PKiKP	01 34 28.7	-0.4
	1.2nm,0.7s,baz=122,slow=1.9,SNR=7.1						
KKAR	Karatay Array	126.12	302	ePKPdf	PKiKP	01 34 36.9	+0.1
BVAR	Borovoye Array	127.77	315	PKP	PKiKP	01 34 39.3	-0.5
	0.6nm,0.4s,baz=151,slow=2.2,SNR=4.8						
GEYT	Alibeck	134.34	293	PKP	PKiKP	01 34 54.1	+0.6
	20nm,0.8s,baz=169,slow=2.9,SNR=3.6						
ARA0	ARCESS Array S	140.47	347	ePKPpre	PKPpre	01 34 58.8	
ARCES	ARCESS Array B	140.47	347	PKhKP	PKPpre	01 34 58.8	
	1.7nm,0.9s,baz=357,slow=3.1,SNR=3.4						
KBZ	Khabaz	146.15	302	PKPbc	PKPab	01 35 15.3	+0.4
	2.1nm,0.7s,baz=126,slow=1.8,SNR=7.3						
OBN	Obninsk	146.74	324	ePKPdf	PKPbc	01 35 15.1	-0.4
OBN	Obninsk	146.74	324	PKPbc	PKPbc	01 35 15.4	-0.1
	1.3nm,0.4s,baz=27,slow=2.9,SNR=5.7						
FIA1	FINESS Array S	146.95	339	ePKPdf	PKPbc	01 35 15.7	-0.2
FIA0	FINESS Array S	146.95	339	ePKPdf	PKPab	01 35 16.3	-1.2
FINES	FINESS Array B	146.95	339	ePKPdf	PKPbc	01 35 16.0	+0.1
FINES	FINESS Array B	146.95	339	PKPbc	PKPab	01 35 16.3	-1.2
	5.2nm,0.5s,baz=45,slow=4.0,SNR=109						
ASF	Jabal al Asfar	150.55	279	PKPbc	PKiKP	01 35 27.1	0.0
	1.5nm,0.8s,baz=225,slow=4.3,SNR=5.3						
NB2	NORSAR Subarra	150.66	351	PKP	PKiKP	01 35 25.7	-0.6
	comp=Z,0.7nm,0.4s,baz=28,slow=2.3						
NB200	NORSAR Array S	150.66	351	ePKPbc	PKPbc	01 35 25.3	-0.2
NOA	NORSAR Array B	150.66	351	ePKPbc	PKPbc	01 35 25.3	-0.2
	comp=Z,1.3nm,0.5s,baz=14,slow=4.1,SNR=11						
HFS	Hagfors	151.13	348	PKPbc	PKiKP	01 35 26.5	-0.7
	comp=Z,2.0nm,0.5s,baz=67,slow=3.9,SNR=20						
EIL	Elat	151.68	273	PKPbc	PKiKP	01 35 29.8	+0.4
	comp=Z,4.7nm,0.8s,baz=37,slow=5.1,SNR=4.7						
MMAI	Mount Meron Ar	151.93	280	PKPbc	PKiKP	01 35 30.9	+1.1
	comp=Z,3.1nm,0.6s,baz=80,slow=6.0,SNR=12						
AKASG	Malin Array Be	152.81	320	ePKPbc	PKiKP	01 35 31.3	+0.4
AKASG	Malin Array Be	152.81	320	PKPbc	PKiKP	01 35 30.8	-0.2
	comp=Z,0.5nm,0.5s,baz=56,slow=2.2,SNR=6.1						
AKBB	Malin Array Si	152.81	320	ePKPbc	PKiKP	01 35 30.8	-0.2
BR101	Keskin Array S	153.46	295	ePKPbc	PKPbc	01 35 32.1	-0.7
BR131	Keskin Array S	153.46	295	ePKPbc	PKiKP	01 35 33.2	+0.3
BRTR	Keskin Array B	153.46	295	ePKPbc	PKPbc	01 35 31.9	-0.8
BRTR	Keskin Array B	153.46	295	PKPbc	PKPbc	01 35 32.1	-0.7
	comp=Z,1.1nm,0.8s,baz=123,slow=3.1,SNR=8.9						
CLL	Collm	159.39	340	ePKPab	PKPab	01 36 09.0	-0.9
TORD	Torodi Ar. Bea	160.90	179	PKPab	PKPab	01 36 18.4	+1.1
	comp=Z,0.8nm,0.8s,baz=182,slow=2.7,SNR=5.8						
TOA1	Torodi Ar. Sit	160.90	179	ePKPab	PKPab	01 36 18.4	+1.1
GERES	GERESS Array B	161.30	335	PKPab	PKPab	01 36 17.5	-1.0
	comp=Z,0.2nm,0.6s,baz=356,slow=3.2,SNR=3.5						

*ISCJB **10** 01:24:26.9±0.6, 37°.26N±0°.04×37°.09E±0°.04, h6km±5km, Error ellipse: s-maj=6.6km s-min=5.0km az=12.1*
*DDA **10** 01:24:26.2, 37°.32N×37°.10E, h5km±1km, ML2.5*
*ISK **10** 01:24:26.5, 37°.25N×37°.11E, h10km, ML1.7/7*
ISC 10 01:24:27.0±1.1, 37°.29N±0°.03×37°.12E±0°.03, h4km±12km, n16, σ0°.41/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.14	147	PG	Pg	01 24

	baz=74							
IBJA				S		Sn	01 34 48.0	-0.4
	baz=74							
IKUD	**Kuludalsa**	**0.68**	**35**	P		**Pb**	**01 34 35.5**	**-1.6**
	baz=44							
IKUD				S		**Sg**	**01 34 46.7**	**+0.2**
	baz=44							
IKRO	**Krokur**	**0.81**	**65**	P		**Pb**	**01 34 37.8**	**-1.4**
	baz=67							
IHEI	**Heioarbar**	**0.81**	**57**	P		**Pb**	**01 34 37.7**	**-1.6**
	baz=60							
IHEI				S		**Sn**	**01 34 51.1**	**-0.6**
	baz=60							
ISOL	**Solvholt**	**0.83**	**78**	P		**Pb**	**01 34 38.6**	**-1.1**
	baz=77							
ISOL				S		**Sn**	**01 34 52.1**	**0.0**
	baz=77							
IASM	**Asmuli**	**0.96**	**85**	P		**Pb**	**01 34 40.7**	**-1.3**
	baz=83							
IASM				S		**Sn**	**01 34 55.8**	**+0.4**
	baz=83							
IVME	**Vestmannaeyjar**	**1.16**	**106**	P		**Pn**	**01 34 42.5**	**-2.6**
	baz=101							
BORG	**Borgarnes**	**1.17**	**32**	Pg		**Pn**	**01 34 43.2**	**-2.0**
	311nm,0.3s,baz=214,slow=12,SNR=198							
BORG				Lg		Lg	01 35 00.6	
	295nm,0.3s,baz=76,slow=18,SNR=22							
IASB	**`sbjarnarst**	**1.17**	**32**	P		**Pn**	**01 34 43.3**	**-1.9**
	baz=38							
IASB				S		**Sn**	**01 35 00.4**	**-0.2**
	baz=38							
IHAU	**Haukadalur**	**1.26**	**80**	P		**Pn**	**01 34 45.5**	**-0.9**
	baz=79							
IHAU				S		**Sg**	**01 35 03.9**	**-0.9**
	baz=79							
SCO	**Scoresbysund**	**6.75**	**2**	*i* P		**Pn**	**01 36 02.3**	**+0.5**
SCO				*i* S		**Sn**	**01 37 20.4**	**+2.4**
JMIC	**Jan Mayen**	**9.07**	**31**	LR		LR	01 39 08.8	
	comp=Z,58nm,19.3s,baz=208,slow=32							
SUMG	**Summit**	**10.54**	**334**	*i* P		Pn	01 36 59.2	+5.1
SFJD	**Kangerlussuaq**	**11.99**	**298**	LR		LR	01 41 10.9	
	comp=Z,149nm,19.5s,baz=94,slow=35							
EKA	**Eskdalemuir Ar**	**13.00**	**121**	Pn		**Pn**	**01 37 27.4**	**+0.1**
	baz=322,slow=13,SNR=5.9							
NOA	**NORSAR Array B**	**15.87**	**84**	LR		LR	01 44 29.9	
	comp=Z,16nm,19.4s,baz=295,slow=38							
HFS	**Hagfors**	**17.37**	**85**	LR		LR	01 43 54.8	
	comp=Z,41nm,21.3s,baz=280,slow=33							
SPITS	**Spitsbergen Ar**	**18.62**	**24**	LR		LR	01 44 08.9	
	comp=Z,32nm,20.0s,baz=220,slow=32							
ARCES	**ARCESS Array B**	**19.51**	**52**	P		**Pn**	**01 38 50.7**	**-0.1**
	0.1nm,0.3s,baz=271,slow=12,SNR=4.0							
FRB	**Frobisher Bay**	**19.91**	**291**	LR		LR	01 45 32.9	
	comp=Z,52nm,18.1s,baz=186,slow=34							
FINES	**FINESS Array B**	**22.16**	**74**	P		**P**	**01 39 19.4**	**+1.2**
	3.9nm,0.9s,baz=305,slow=9.8,SNR=8.3							
FINES				LR		LR	01 46 50.4	
	comp=Z,38nm,18.0s,baz=268,slow=34							
CLL	**Collm**	**22.53**	**107**	*e*P		**P**	**01 39 27.0**	**+4.7**
	comp=Z,9.0nm,1.4s							
CLL				*e*S		Sn	01 43 36.0	-5.7
BRG	**Berggiesshubel**	**23.25**	**106**	*e*P		**P**	**01 39 32.9**	**+3.2**
	comp=Z,5.1nm,1.3s							
KHC	**Kasperske Hory**	**24.42**	**110**	*e*P		**P**	**01 39 42.9**	**+2.0**
DPC	**Dobruska-Polom**	**24.66**	**104**	*e*P		**P**	**01 39 46.6**	**+3.5**
GERES	**GERESS Array B**	**24.69**	**110**	P		**P**	**01 39 45.7**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=312,slow=8.2,SNR=5.9							
GERES				LR		LR	01 49 52.4	
	comp=Z,41nm,18.4s,baz=292,slow=38							
DAVOX	**Davos/Dischmat**	**24.79**	**118**	LR		LR	01 48 26.9	
	comp=Z,68nm,19.0s,baz=264,slow=34							
TREC	**Trest**	**25.10**	**107**	*e*P		**P**	**01 39 49.7**	**+2.7**
RES	**Resolute Bay**	**25.86**	**325**	LR		LR	01 49 56.1	
	comp=Z,50nm,20.7s,baz=351,slow=36							
KEST	**Kesra**	**34.20**	**130**	LR		LR	01 54 23.0	
	comp=Z,43nm,20.2s,baz=284,slow=35							
YKA	**Yellowknife Ar**	**38.11**	**311**	P		**P**	**01 41 39.7**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=45,slow=9.6,SNR=6.2							
YKA				LR		LR	01 56 60.0	
	comp=Z,8.6nm,18.6s,baz=40,slow=36							
BRTR	**Keskin Array B**	**40.55**	**99**	P		**P**	**01 42 03.9**	**+2.2**
	comp=Z,0.9nm,1.0s,baz=344,slow=9.0,SNR=3.9							
ILAR	**Eielson Array**	**45.37**	**330**	P		**P**	**01 42 38.9**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=35,slow=6.6,SNR=3.5							
PDAR	**Pinedale Array**	**51.36**	**290**	P		**P**	**01 43 26.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=63,slow=7.3,SNR=4.6							
TORD	**Torodi Ar. Bea**	**53.38**	**150**	P		**P**	**01 43 40.8**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=344,slow=7.5,SNR=2.9							
MKAR	**Makanchi Array**	**55.14**	**54**	P		**P**	**01 43 56.0**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=327,slow=6.2,SNR=6.2							

JMA 10 01:37:54.0±0.2, 25°.35N×123°.58E, h176km±5km, M3.6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**1.01**	**139**	P	Pn	01 38 21.5	+0.1
JISG				S	Sn	01 38 42.5	+0.1
IRIF	**Iriomote-Funau**	**1.02**	**172**	P	Pn	01 38 21.3	-0.2
IRIF				*e*S	Sn	01 38 42.6	-0.1
YOJ	**Yonaguni jima**	**1.02**	**210**	P	Pn	01 38 21.7	+0.2
YOJ				S	Sn	01 38 43.5	+0.8
JYNG	**Yonagunijimaku**	**1.06**	**213**	P	Pn	01 38 21.9	+0.1
JYNG				S	Sn	01 38 43.7	+0.5
JIJ	**Ishigaki jima**	**1.11**	**152**	P	Pn	01 38 22.1	-0.1
JIJ				S	Sn	01 38 43.3	-0.6
JKRS	**Kuro-shima**	**1.17**	**161**	P	Pn	01 38 23.0	+0.3
JKRS				S	Sn	01 38 45.3	+0.4
JTJ	**Tarama**	**1.24**	**125**	P	Pn	01 38 23.7	+0.5
JTJ				S	Sn	01 38 46.1	+0.3
HATJ	**Hateruma jima**	**1.30**	**171**	P	Pn	01 38 24.4	+0.6
HATJ				S	Sn	01 38 47.1	+0.2
JIRB	**Irabujima**	**1.54**	**109**	P	Pn	01 38 25.9	0.0
JIRB				S	Sn	01 38 50.0	-0.6
JIKM	**Ikemajima**	**1.57**	**105**	P	Pn	01 38 26.6	+0.3
JIKM				S	Sn	01 38 50.7	-0.5
JMJ2	**Miyako jima3**	**1.70**	**111**	P	Pn	01 38 28.1	+0.5
JOGS	**Gusukube**	**1.76**	**109**	*e*S	Sn	01 38 54.9	+0.3

*ATH **10** 01:40:22.8, 37°.70N×19°.68E, h6km±1km, ML3.0/5, Error ellipse: s-maj=2.5km s-min=1.3km az=54.0*
*THE **10** 01:40:26.2, 37°.82N×19°.81E, h0km±1km, ML2.9/13, Error ellipse: s-maj=2.3km s-min=1.2km az=263.0*
ISC 10 01:40:23.5±1.6, 37°.75N±0°.05×19°.71E±0°.04, h0km±11km, n86, σ1°.23/112, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.82**	**58**	P		**Pg**	**01 40 38.9**	**-0.3**
VLS				S		**Sb**	**01 40 51.0**	**-1.2**
VLS	**Valsamata**	**0.82**	**58**	P		**Pg**	**01 40 38.9**	**-0.3**
VLS				S		**Sb**	**01 40 51.0**	**-1.2**
KFL	**Anninata**	**0.93**	**67**	P		**Pg**	**01 40 40.9**	**-0.4**
KFL				S		**Sg**	**01 40 53.8**	**+0.5**
KFL	**Anninata**	**0.93**	**67**	P		**Pg**	**01 40 40.9**	**-0.4**
KFL				S		**Sb**	**01 40 55.1**	**-0.2**
KFL				AML	AML	01 40 58.2	
	comp=E,6627μm,0.4s						
KFL				AML	AML	01 41 00.1	
	comp=N,6493μm,0.4s						
FSK	**Fiskardo**	**0.98**	**43**	P		**Pg**	**01 40 41.8**	**-0.6**
FSK				S		**Sg**	**01 40 55.4**	**+0.4**
FSK	**Fiskardo**	**0.98**	**43**	P		**Pg**	**01 40 41.7**	**-0.6**
FSK				S		**Sb**	**01 40 56.5**	**-0.4**
EVGI	**Lefkada island**	**1.15**	**40**	P		**Pg**	**01 40 44.8**	**-0.8**
EVGI	**Lefkada island**	**1.15**	**40**	P		**Pg**	**01 40 45.0**	**-0.6**
EVGI				S		**Sn**	**01 41 02.5**	**-0.8**
VTN	**Vitineika**	**1.18**	**81**	P		**Pg**	**01 40 46.6**	**+0.4**
VTN				S		**Sb**	**01 41 02.4**	**-0.2**
LKD2	**Lefkada island**	**1.28**	**35**	P		**Pg**	**01 40 47.4**	**-0.7**
LKD2				S		**Sn**	**01 41 06.1**	**-0.5**
LKD2	**Lefkada island**	**1.28**	**35**	P		**Pg**	**01 40 47.8**	**-0.3**
LKD2				S		**Sn**	**01 41 06.8**	**+0.2**
LKD2				AML	AML	01 41 10.3	
	comp=E,884μm,0.3s						
LKD2				AML	AML	01 41 11.4	
	comp=N,1098μm,0.4s						
RLS	**Riolos of Patr**	**1.43**	**77**	P		**Pn**	**01 40 50.3**	**-0.3**
RLS				S		**Sn**	**01 41 09.9**	**-0.1**
RLS	**Riolos of Patr**	**1.43**	**77**	P		**Pn**	**01 40 50.5**	**-0.1**
RLS				S		**Sn**	**01 41 10.3**	**+0.3**
RLS				AML	AML	01 41 16.3	
	comp=E,477μm,0.4s						
RLS				AML	AML	01 41 17.2	
	comp=N,491μm,0.4s						
DRO	**Drossia**	**1.60**	**82**	P		**Pb**	**01 40 53.9**	**0.0**
DRO	**Drossia**	**1.60**	**82**	P		**Pb**	**01 40 54.2**	**+0.3**
AMT	**Artemida-Makis**	**1.60**	**97**	P		**Pn**	**01 40 53.5**	**+0.4**
AMT				S		**Sg**	**01 41 15.9**	**+0.9**
AMT	**Artemida-Makis**	**1.60**	**97**	P		**Pn**	**01 40 53.6**	**+0.5**
PVO	**Paravola**	**1.68**	**58**	P		**Pn**	**01 40 54.7**	**+0.7**
PVO				S		**Sb**	**01 41 16.4**	**-0.5**
PVO	**Paravola**	**1.68**	**58**	P		**Pn**	**01 40 54.8**	**+0.7**
PVO				S		**Sg**	**01 41 17.6**	**+0.2**
IGT	**Igoumenitsa**	**1.85**	**15**	P		**Pn**	**01 40 57.2**	**+0.7**
IGT	**Igoumenitsa**	**1.85**	**15**	P		**Pn**	**01 40 57.4**	**+0.9**
ITM	**Ithomi**	**1.85**	**107**	P		**Pn**	**01 40 57.0**	**+0.5**
ITM	**Ithomi**	**1.85**	**107**	P		**Pn**	**01 40 57.0**	**+0.5**
LAKA	**Lakka**	**1.86**	**74**	P		**Pn**	**01 40 57.6**	**+1.0**
LAKA				S		**Sb**	**01 41 22.2**	**0.0**
LAKA	**Lakka**	**1.86**	**74**	P		**Pb**	**01 40 58.2**	**-0.2**
EFP	**Efpalio**	**1.86**	**68**	P		**Pn**	**01 40 57.6**	**+1.0**
EFP				S		**Sb**	**01 41 22.1**	**-0.1**
EFP	**Efpalio**	**1.86**	**68**	P		**Pb**	**01 40 58.4**	**0.0**
EFP				S		**Sb**	**01 41 22.6**	**+0.4**
EFP				AML	AML	01 41 31.5	
	comp=N,372μm,0.4s						
EFP				AML	AML	01 41 32.3	
	comp=E,392μm,0.5s						
ANX	**Ano Chora**	**1.94**	**63**	P		**Pb**	**01 40 59.2**	**-0.6**
ANX				S		**Sn**	**01 41 22.5**	**-0.4**
ANX	**Ano Chora**	**1.94**	**63**	P		**Pb**	**01 40 59.9**	**+0.1**
KLV	**Kalavryta, Ach**	**1.96**	**80**	P		**Pn**	**01 40 59.2**	**+1.2**
KLV	**Kalavryta, Ach**	**1.96**	**80**	P		**Pb**	**01 40 59.7**	**-0.3**
KEK	**Kerkira**	**1.97**	**2**	P		**Pn**	**01 40 58.9**	**+0.8**
KEK				S		**Sb**	**01 41 24.6**	**-0.6**
KEK	**Kerkira**	**1.97**	**2**	P		**Pb**	**01 40 59.7**	**-0.5**
TRIZ	**Trizonia**	**1.97**	**71**	P		**Pb**	**01 40 59.4**	**-0.8**
TRIZ	**Trizonia**	**1.97**	**71**	P		**Pb**	**01 40 59.6**	**-0.6**
ALIK	**Aliki, Aigiali**	**1.97**	**74**	P		**Pb**	**01 41 00.0**	**-0.2**
SERG	**Sergoula**	**1.97**	**69**	P		**Pb**	**01 40 59.6**	**-0.6**
SERG				S		**Sb**	**01 41 24.4**	**-0.9**
SERG	**Sergoula**	**1.97**	**69**	P		**Pb**	**01 40 59.6**	**-0.6**
EVR	**Evrytania**	**2.02**	**54**	P		**Pn**	**01 41 00.3**	**+1.3**
EVR				S		**Sn**	**01 41 24.8**	**-0.2**
EVR	**Evrytania**	**2.02**	**54**	P		**Pb**	**01 41 00.9**	**-0.3**
EVR				S		**Sg**	**01 41 28.3**	**-0.2**
EVR				AML	AML	01 41 40.2	
	comp=N,457μm,0.8s						
EVR				AML	AML	01 41 40.7	
	comp=E,320μm,1.0s						
TRIP	**Tripoli**	**2.05**	**95**	P		**Pn**	**01 41 00.2**	**+1.0**
GUR	**Goura**	**2.09**	**84**	P		**Pn**	**01 41 01.2**	**+1.3**
GUR	**Goura**	**2.09**	**84**	P		**Pb**	**01 41 01.5**	**-0.9**
JAN	**Janina**	**2.11**	**25**	P		**Pb**	**01 41 02.2**	**-0.4**
SRN	**Sarande**	**2.14**	**6**	P		**Pn**	**01 41 01.2**	**+0.7**
VLX	**Vlachokerasia**	**2.15**	**99**	P		**Pn**	**01 41 02.1**	**+1.3**
DSF	**Desfina**	**2.32**	**72**	P		**Pn**	**01 41 04.5**	**+1.4**
DSF	**Desfina**	**2.32**	**72**	P		**Pn**	**01 41 04.4**	**+1.4**
AGG	**Agios Georgios**	**2.42**	**57**	P		**Pn**	**01 41 06.0**	**+1.6**
AGG				S		**Sn**	**01 41 35.1**	**+0.4**
AGG	**Agios Georgios**	**2.42**	**57**	P		**Pn**	**01 41 06.2**	**+1.8**
KPRO	**Kipourio**	**2.56**	**30**	P		**Pn**	**01 41 08.4**	**+2.1**
KPRO	**Kipourio**	**2.56**	**30**	P		**Pb**	**01 41 08.8**	**-1.5**
THL	**Klokotos Trika**	**2.56**	**44**	P		**Pn**	**01 41 08.1**	**+1.9**
THL	**Klokotos Trika**	**2.56**	**44**	P		**Pn**	**01 41 08.3**	**+2.1**
PROD	**Prodromos**	**2.57**	**78**	P		**Pn**	**01 41 07.0**	**+0.6**
PROD	**Prodromos**	**2.57**	**78**	P		**Pn**	**01 41 07.2**	**+0.8**
LTK	**Loutraki**	**2.59**	**83**	P		**Pn**	**01 41 07.4**	**+0.7**
LTK	**Loutraki**	**2.59**	**83**	P		**Pn**	**01 41 07.4**	**+0.7**
PENT	**Pentalofos**	**2.69**	**24**	P		**Pn**	**01 41 10.5**	**+2.4**
EPID	**Epidavros**	**2.71**	**92**	P		**Pn**	**01 41 08.8**	**+0.5**
TIP	**Timpagrande**	**2.72**	**303**	P		**Pb**	**01 41 12.2**	**-0.9**
LKR	**Lokris**	**2.75**	**70**	P		**Pn**	**01 41 09.3**	**+0.5**
LKR	**Lokris**	**2.75**	**70**	P		**Pn**	**01 41 09.7**	**+0.9**
VIL2	**Platees**	**2.85**	**80**	P		**Pn**	**01 41 11.2**	**+0.9**
NEST	**Nestorio**	**2.86**	**21**	P		**Pn**	**01 41 12.7**	**+2.2**
NEST	**Nestorio**	**2.86**	**21**	P		**Pn**	**01 41 13.2**	**+2.7**
SMIA	**Simia**	**2.98**	**67**	P		**Pn**	**01 41 12.7**	**+0.7**
KZN	**Kozani**	**3.02**	**31**	P		**Pn**	**01 41 15.0**	**+2.4**
FYTO	**Fytoko, Volos**	**3.03**	**56**	P		**Pn**	**01 41 14.1**	**+1.5**
VLY	**Voula,Athens**	**3.24**	**87**	P		**Pn**	**01 41 15.8**	**+0.2**
FNA	**Florina**	**3.30**	**23**	P		**Pn**	**01 41 17.9**	**+1.4**
TAR1	**Taranto**	**3.36**	**327**	*e*Pn		**Pn**	**01 41 19.3**	**+2.1**
TAR1				Sn		**Sn**	**01 41 58.2**	**+0.5**
DION	**Dionisos Attik**	**3.36**	**83**	P		**Pn**	**01 41 17.6**	**+0.4**
EREA	**Eretria**	**3.40**	**77**	P		**Pn**	**01 41 18.0**	**+0.2**
OHR	**Ohrid**	**3.47**	**14**	*i* Pn		**Pn**	**01 41 21.6**	**+2.9**
BIA	**Bitola**	**3.50**	**20**	*i* Pn		**Pn**	**01 41 22.6**	**+3.3**
HORT	**Hortiatis**	**3.88**	**42**	P		**Pn**	**01 41 25.5**	**+1.1**
PLG	**Polygyros**	**3.92**	**47**	P		**Pn**	**01 41 25.8**	**+0.8**
PLG	**Polygyros**	**3.92**	**47**	P		**Pn**	**01 41 25.7**	**+0.8**
SOH	**Sokhos**	**4.18**	**42**	P		**Pn**	**01 41 29.7**	**+1.2**
VAY	**Valandovo**	**4.20**	**31**	*i* Pn		**Pn**	**01 41 30.4**	**+1.7**
STIP	**Stip**	**4.38**	**25**	*i* Pn		**Pn**	**01 41 35.9**	**+4.7**
SRS	**Serrai**	**4.51**	**41**	P		**Pn**	**01 41 33.9**	**+0.8**
STON	**Ston**	**5.34**	**344**	*e*Pn		**Pn**	**01 41 45.0**	**+0.5**
STON				Sn		**Sn**	**01 42 43.1**	**-3.6**
UDBI	**Udbina**	**7.40**	**338**	*i* Pn		**Pn**	**01 42 15.8**	**+3.0**
NVLJ	**Novalja**	**7.73**	**333**	*i* Pn		**Pn**	**01 42 18.4**	**+1.3**

RSNC 10 01:45:02.6±0.9, 3°.80N×71°.29W, h13km±8km, ML3.5, Mw3.9,2C, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUVC	**San Jose del G**	**1.83**	**227**	*e*P	Pn	01 45 31.9	-2.0
GUVC				*e*S	Sn	01 45 56.7	-0.2
YOPC	**Yopal, Colombi**	**1.91**	**324**	*e*P	Pn	01 45 34.4	-0.7
YOPC				*e*S	Sn	01 45 58.7	-0.4
YOPC				*i*		01 46 03.8	
	comp=Z,525nm,0.4s						
VILC	**Villavicencio,**	**2.42**	**277**	*e*P	Pn	01 45 41.0	-1.1
VILC				*e*S	Sn	01 46 10.8	-0.9
VILC				*i*		01 46 26.4	
	comp=Z,1μm,0.5s						
CHIC	**Chingaza**	**2.58**	**289**	*e*P	Pn	01 45 43.1	-1.3
CHIC				*e*S	Sn	01 46 14.6	-1.3
CHIC				*i*		01 46 21.6	
	comp=Z,268nm,0.4s						
TAMC	**Tame, Arauca**	**2.67**	**349**	*e*P	Pn	01 45 43.9	-1.4
TAMC				*e*S	Sn	01 46 17.4	-0.2
TAMC				*i*		01 46 28.8	
	comp=Z,299nm,0.3s						
RUSC	**La Rusia**	**2.74**	**319**	⇑*i*P	Pn	01 45 45.2	-1.6
RUSC				*i* Pg	Pb	01 45 50.5	-1.4
RUSC				*e*S	Sn	01 46 20.0	-0.1
RUSC				*i*		01 46 34.8	
	comp=Z,112nm,0.4s						
ROSC	**El Rosal**	**3.20**	**289**	*e*P	Pn	01 45 52.2	-0.8
ROSC				*e*S	Sn	01 46 30.6	-0.6
ROSC				*i*		01 47 02.6	
	comp=Z,104nm,0.5s						
PRAC	**Prado**	**3.59**	**269**	⇑*i*P	Pn	01 45 57.7	-0.4
PRAC				*e*S	Sn	01 46 39.1	-1.5
PRAC				*i*		01 47 11.3	
	comp=Z,100nm,0.5s						
PAMC	**Pamplona, Colo**	**3.79**	**338**	*e*P	Pn	01 45 59.3	-1.9
PAMC				*e*S	Sn	01 46 44.3	-1.6
PAMC				*i*		01 47 04.9	
	comp=Z,114nm,0.4s						
NORC	**Norcasia**	**3.98**	**296**	*e*P	Pn	01 46 02.1	-1.4
NORC				*e*S	Sn	01 46 48.5	-1.6
NORC				*i*		01 47 11.4	
	comp=Z,47nm,0.6s						
BRRC	**Barranca, Sant**	**4.08**	**324**	*e*P	Pn	01 46 03.3	-1.4
BRRC				*e*S	Sn	01 46 51.2	-1.2
BRRC				*i*		01 47 09.4	
	comp=Z,40nm,0.6s						
MARP	**Paez Belalcaza**	**4.76**	**259**	*e*P	Pn	01 46 20.2	+5.8
MARP				*e*S	Sb	01 47 24.8	+1.3
MARP				*i*		01 47 34.9	
	comp=Z,62nm,0.6s						
HELC	**Santa Helena**	**4.85**	**299**	*e*P	Pn	01 46 14.7	-1.0
HELC				*i*		01 47 33.1	
	comp=Z,14nm,0.4s						
FLOC	**Florencia**	**4.89**	**243**	*e*P	Pn	01 46 15.3	-0.7
FLOC				*e*S	Sb	01 47 24.4	-2.6
FLOC				*i*		01 47 43.8	
	comp=Z,110nm,0.5s						
YOTC	**Yotoco, Valle**	**5.05**	**272**	*e*P	Pn	01 46 15.9	-2.4
YOTC				*e*S	Sn	01 47 11.2	-5.4
SMLC	**San Martn de**	**5.69**	**331**	*e*P	Pn	01 46 23.4	-3.5
SMLC				*e*S	Sn	01 47 28.9	-3.3

*ISCJB **10** 01:54:20.8±0.8, 37°.50N±0°.04×38°.63E±0°.03, h5km±7km, Error ellipse: s-maj=7.4km s-min=3.9km az=163.6*
*DDA **10** 01:54:20.0, 37°.48N×38°.63E, h7km±3km, ML3.1*
*ISK **10** 01:54:20.1, 37°.44N×38°.61E, h6km, ML2.5/12*
ISC 10 01:54:20.7±0.9, 37°.46N±0°.04×38°.61E±0°.02, h10km±8km, n20, σ0°.72/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.17**	**96**	PG		**Pg**	**01 54 24.1**	**-0.3**
URFA				SG		**Sg**	**01 54 27.0**	**0.0**
ATAB	**Bozova**	**0.25**	**273**	IAML_P				
	comp=Z,34μm,0.1s							
ATAB				*i* P		**Pg**	**01 54 26.0**	**+0.2**
ATAB				*i* S		**Sg**	**01 54 29.5**	**+0.3**
SANL	**SANLIURFA_Merk**	**0.42**	**133**	IAML_P				
	comp=Z,5μm,0.1s							
SANL				*i* P		**Pb**	**01 54 29.9**	**-0.3**
SANL				*i* S		**Sb**	**01 54 36.0**	**-0.7**
SURC	**SANLIURFA_SURC**	**0.58**	**180**	IAML_P				
	comp=Z,484nm,0.1s							
SURC				*i* P		**Pb**	**01 54 32.2**	**-0.8**
SURC				*i* S		**Sb**	**01 54 41.0**	**-0.3**
GZT	**Gaziantep**	**0.84**	**263**	IAML_P				
	comp=Z,3μm,0.1s							
GZT				*i* P		**Pb**	**01 54 37.0**	**-0.5**
GZT				*i* S		**Sn**	**01 54 51.1**	**-0.1**
AKCD	**Akcadag**	**1.00**	**327**	*i* P		**Pg**	**01 54 39.4**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.07**	**31**	PN		**Pb**	**01 54 41.2**	**-0.3**
SVRC				SN		**Sn**	**01 54 56.9**	**-0.2**
GAZ	**Gaziantep**	**1.15**	**256**	PN		**Pn**	**01 54 42.6**	**-0.4**
GAZ				SN		**Sn**	**01 54 58.6**	**-0.2**
DYBB	**Diyarbakir**	**1.31**	**67**	PN		**Pg**	**01 54 45.8**	**-0.1**
HCB	**Kahramanmara**	**1.36**	**266**	IAML_P				
	comp=Z,750nm,0.1s							
HCB				*i* P		**Pg**	**01 54 46.3**	**-0.4**
KUZU	**Kuzuini**	**1.40**	**241**	*i* P		**Pg**	**01 54 48.0**	**+0.3**
KUZU				*i* S		**Sg**	**01 55 07.6**	**+1.7**
DARE	**Darende-Malaty**	**1.42**	**322**	PN		**Pg**	**01 54 47.4**	**-0.6**
MAZI	**Mazidag**	**1.46**	**89**	PN		**Pb**	**01 54 47.4**	**-0.7**
KAMA	**Osmaniye**	**1.57**	**261**	IAML_P				
	comp=Z,598nm,0.1s							
KAMA				*i* P		**Pg**	**01 54 50.1**	**-0.8**
KAMA				*i* S		**Sg**	**01 55 11.0**	**-0.2**
SVAN	**Silvan-Diyarba**	**2.17**	**71**	PN		**Pn**	**01 54 57.6**	**+0.7**
KOZT	**Kozan**	**2.21**	**271**	PN		**Pn**	**01 54 58.9**	**+1.4**
TAHT	**Tahtakopru-Hat**	**2.22**	**242**	PN		**Pn**	**01 54 58.3**	**+0.6**
BNGB	**Bingl**	**2.24**	**46**	PN		**Pn**	**01 54 58.8**	**+0.8**
GURO	**Guroymak-BITLI**	**2.92**	**67**	PN		**Pn**	**01 55 08.6**	**+1.3**
SIRT	**Sirnak**	**3.05**	**88**	PN		**Pn**	**01 55 10.1**	**+1.0**

*IDC **10** 01:55:25.2±1.9, 18°.22S×173°.42E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/42, mbtmp4.0/4, MS3.5/12, Ms1 3.5/12, ms1mx3.3/30, Error ellipse: s-maj=109.0km s-min=26.8km az=153.0*
*ISCJB **10** 01:55:29.3±1.9, 18°.3S±0°.7×173°.3E±0°.4, h33km, mb4.1/4, MS3.5/13, Error ellipse: s-maj=116.4km s-min=22.9km az=155.2*
ISC 10 01:55:30.5±1.7, 18°.2S±0°.6×173°.3E±0°.4, h35km, n24, σ0°.81/11, mb4.1/4, MS3.6/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.55**	**238**	*e*LR	LR	01 59 11.4	
	comp=Z,279nm,26.6s						
HNR	**Honiara**	**15.64**	**302**	LR	LR	02 04 28.5	
	comp=Z,134nm,18.9s,baz=122,slow=35						
URZ	**Urewera**	**20.27**	**171**	LR	LR	02 06 20.6	
	comp=Z,137nm,20.0s,baz=7.5,slow=32						
RAR	**Rarotonga**	**25.48**	**101**	LR	LR	02 08 43.6	
	comp=Z,84nm,21.8s,baz=284,slow=31						
RPZ	**Rata Peaks**	**25.53**	**184**	LR	LR	02 09 51.8	
	comp=Z,238nm,18.3s,baz=34,slow=34						
PMG	**Port Moresby**	**26.85**	**285**	LR	LR	02 09 37.2	
	comp=Z,142nm,18.4s,baz=83,slow=32						
TBI	**Tubuai**	**35

GUZR	Guzeripl'	1.75	338	*e*Pg		Pn	02 01 20.4	0.0
GUZR				*e*Sg		Sn	02 01 42.7	0.0
ONI	Oni	1.80	82	PN		Pn	02 01 21.3	+0.2
ONI				SN		Sb	02 01 45.4	-0.2
ONI	Oni	1.80	82	P		Pn	02 01 21.2	+0.2
ONI				S		Sb	02 01 45.0	-0.7
ONI	Oni	1.80	82	*e*Pg		Pn	02 01 21.2	+0.2
ONI				*e*Sg		Sb	02 01 45.0	-0.7
SHA1	Shidzhatmaz	1.81	41	*e*Pg		Pn	02 01 21.4	+0.2
SHA1				*e*Sg		Sn	02 01 44.3	-0.1
DIGR	Digorskoe uzhe	1.95	74	*e*Pg		Pb	02 01 24.9	-0.6
DIGR				*e*Sg		Sb	02 01 49.1	-1.0
KIV	Kislovodsk	1.99	37	PN		Pn	02 01 24.1	+0.5
KIV0	Kislovodsk Arr	1.99	37	*i* Pg		Pn	02 01 25.0	+1.3
KIV0				*e*Sg		Sb	02 01 49.9	-1.2
SENK	Senkaya-Erzuru	2.07	151	PN		Pn	02 01 24.1	-0.7
BEYR	Belyy Ugol+	2.09	38	*e*Pg		Pb	02 01 26.7	-1.1
BEYR				*e*Sg		Sb	02 01 53.0	-0.9
BAYT	Aydıntepe-Bayb	2.09	199	PN		Pn	02 01 23.5	-1.6
ZEI	Tsey	2.16	78	*e*Pg		Pb	02 01 29.6	+0.6
ZEI				*e*Sg		Sb	02 01 54.6	-1.4
LACR	Lac	2.45	78	*e*Pn		Pb	02 01 33.4	-0.7
LACR				*e*Sn		Sb	02 02 03.8	-0.6
VYHS	Vyhne	16.71	299	*e*PN		Pn	02 04 43.8	-0.1
VYHS	Vyhne	16.71	299	*e*P		P	02 04 51.0	+4.8

*IDC **10** 02:03:27.8±0.7, 11°.98N×143°.32E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.8/54, mbtmp3.9/11, MS3.1/3, Ms1 3.1/3, ms1mx2.7/40, Error ellipse: s-maj=37.8km s-min=17.7km az=97.0*
*ISCJB **10** 02:03:30.3±0.5, 11°.95N±0°.09×143°.2E±0°.2, h25km, mb3.9/12, MS3.5/2, Error ellipse: s-maj=23.0km s-min=10.5km az=20.1*
*NEIC **10** 02:03:33.5±1.8, 11°.98N×143°.25E, h37km±17km, mb4.1/4, Error ellipse: s-maj=22.6km s-min=8.5km az=106.0*

ISC 10 02:03:31.7±0.7, 11°.9N±0°.1×143°.2E±0°.2, h25km, n30, σ0°90/21, mb4.0/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.29	44	*e*Pn	Pn	02 04 08.2	+0.2
DAV	Davao City (W)	18.06	256	LR	LR	02 13 59.4	
	comp=Z,12nm,20.7s,baz=144,slow=35						
H11S3	WAKE ISLAND Hy 23.54	71		T	T	02 32 58.6	
	baz=257,slow=75,SNR=6.2						
H11S1	WAKE ISLAND Hy 23.56	71		T	T	02 32 58.2	
	baz=257,slow=75,SNR=5.2						
H11S2	WAKE ISLAND Hy 23.56	71		T	T	02 32 59.2	
	baz=257,slow=75,SNR=7.6						
JNU	Nakatsue	23.93	334	LR	LR	02 15 47.0	
	comp=Z,44nm,19.5s,baz=182,slow=31						
H11N1	WAKE ISLAND Hy 24.02	68		T	T	02 33 32.4	
	baz=255,slow=74,SNR=5.3						
H11N2	WAKE ISLAND Hy 24.03	68		T	T	02 33 32.4	
	baz=255,slow=74,SNR=3.9						
H11N3	WAKE ISLAND Hy 24.04	68		T	T	02 33 32.3	
	baz=255,slow=74,SNR=5.6						
WR1	Warramunga Arr	32.86	196	*e*P	P	02 10 04.5	+0.7
WRA	Warramunga Arr	32.86	196	P	P	02 10 04.5	+0.6
	1.0nm,0.6s,baz=21,slow=9.9,SNR=8.5						
AS31	Alice Springs	36.54	194	*e*P	P	02 10 36.9	+1.4
	2.0nm,1.3s						
ASAR	Alice Springs	36.54	194	P	P	02 10 36.9	+1.4
	0.3nm,0.6s,baz=23,slow=12,SNR=6.0						
STKA	Stephens Creek	43.59	182	*e*P	P	02 11 32.6	-1.3
	6.6nm,2.0s						
STKA	Stephens Creek	43.59	182	P	P	02 11 32.6	-1.3
	0.8nm,0.5s,baz=350,slow=11,SNR=2.7						
KURBB	Kurchatov Arra	64.86	320	P	P	02 14 08.8	+0.1
	1.1nm,0.8s,baz=104,slow=6.2,SNR=7.8						
BVAR	Borovoye Array	70.24	322	P	P	02 14 43.4	+0.7
	0.6nm,0.5s,baz=126,slow=7.5,SNR=5.8						
ILAR	Eielson Array	70.74	25	P	P	02 14 44.6	-0.9
	1.1nm,0.6s,baz=251,slow=5.7,SNR=14						
ILB	Eielson Array	70.74	25	*e*P	P	02 14 44.6	-0.9
	2.3nm,0.9s						
INK	Inuvik	76.50	22	*e*P	P	02 15 19.3	0.0
	12nm,2.0s						
INK	Inuvik	76.50	22	P	P	02 15 19.3	0.0
	0.9nm,0.8s,baz=288,slow=6.1,SNR=3.8						
YKA	Yellowknife Ar	85.06	27	P	P	02 16 04.5	-0.6
	0.3nm,0.6s,baz=289,slow=4.7,SNR=5.9						
YKB5	Yellowknife Ar	85.06	27	*e*P	P	02 16 04.5	-0.6
ARA0	ARCESS Array S	88.16	342	*e*P	P	02 16 20.5	+0.4
ARCES	ARCESS Array B	88.16	342	P	P	02 16 20.5	+0.4
	2.1nm,0.9s,baz=68,slow=5.9,SNR=3.8						
NV01	Mina Array Sit	89.20	51	*e*P	P	02 16 26.9	+0.9
NVAR	Mina Array Bea	89.20	51	P	P	02 16 26.9	+0.9
	0.8nm,0.7s,baz=272,slow=5.6,SNR=6.4						
FIA0	FINESS Array S	91.97	335	*e*P	P	02 16 37.1	-1.0
FINES	FINESS Array B	91.97	335	P	P	02 16 37.1	-1.0
	0.5nm,0.5s,baz=54,slow=3.3,SNR=4.7						
ASF	Jabal al Asfar	97.15	305	LR	LR	03 03 59.4	
	comp=Z,61nm,20.6s,baz=176,slow=37						

*ISCJB **10** 02:08:09.6±0.7, 7°.40S±0°.04×107°.63E±0°.03, h16km±7km, mb3.9/6, MS3.1/1, Error ellipse: s-maj=7.8km s-min=3.9km az=30.7*
*DJA **10** 02:08:09.6±0.2, 7°S±2°×10°8E±°, h10km, M4.2/7, mb4.4/1, MLv4.1/7*
*IDC **10** 02:08:19.4±6.1, 6°.94S×108°.15E, h93km±56km, mb3.7/7, mb1 3.8/7, mb1mx3.5/46, mbtmp4.0/7, MS3.2/1, Ms1 3.4/1, ms1mx2.6/37, Error ellipse: s-maj=42.7km s-min=14.5km az=44.0*

ISC 10 02:08:09.2±1.1, 7°.33S±0°.04×107°.62E±0°.03, h14km±7km, n29, σ1°76/34, mb3.9/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.30	139	P	Pg	02 08 14.3	-1.2
CISI				S	Sg	02 08 19.8	+0.1
LEM	Lembang	0.50	360	P	Pb	02 08 20.3	+0.4
LEM				S	Sn	02 08 30.0	-0.6
JCJI	Jatiwangi	1.05	38	P	Pb	02 08 28.1	-1.2
JCJI				S	Sb	02 08 42.4	-0.6
SKJI	Sukabumi	1.10	287	P	Pb	02 08 29.4	-0.7
SKJI				S	Sn	02 08 45.4	+0.1
TNG	Tangerang	1.50	320	P	Pg	02 08 37.8	-0.3
TNG				S	Sg	02 08 58.1	+0.5
SBJI	Serang	1.90	309	P	Pn	02 08 42.2	+0.9
SBJI				S	Sb	02 09 08.1	+0.7
CGJI	Cibinong	2.04	290	P	Pn	02 08 44.2	+1.0
CGJI				S	Sn	02 09 09.2	+0.7
YOGI	Yogyakarta	2.70	101	P	Pn	02 08 53.6	+1.3
SMRI	Semarang	2.81	85	P	Pn	02 08 56.2	+2.3
UGM	Wanagama	2.94	102	P	Pn	02 08 57.2	+1.6
WOJI	Wonogiri, Jawa	3.32	99	P	Pn	02 09 03.2	+2.4
PCJI	Pacitan	3.63	104	P	Pn	02 09 05.8	+0.7
PCJI				S	Sn	02 09 50.2	+2.4
NGJI	Ngawi	3.81	91	P	Pn	02 09 09.1	+1.5
KLSI		3.89	312	P	Pn	02 09 10.5	+1.9
PWJI	Pagerwojo	4.21	100	P	Pn	02 09 16.1	+3.1
TPI	Tanjungpandan	4.54	0	P	Pn	02 09 18.8	+1.2
GRJI	Gresik	4.84	85	P	Pn	02 09 23.7	+1.9
FITZ	Fitzroy Crossi	20.56	123	P	P	02 12 47.1	-0.6
	11nm,0.7s,baz=294,slow=6.3,SNR=27						
FITZ				S	S	02 16 31.8	-5.8
	3.1nm,1.1s,baz=51,slow=12,SNR=2.2						
CMAR	Chiang Mai Arr	27.01	342	LR	LR	02 26 34.7	
	comp=Z,52nm,20.3s,baz=185,slow=41						
WRA	Warramunga Arr	28.78	119	P	P	02 14 06.1	-0.8
	1.7nm,0.9s,baz=292,slow=11,SNR=4.7						
ASAR	Alice Springs	30.00	126	P	P	02 14 18.5	+0.7
	0.9nm,0.9s,baz=306,slow=9.1,SNR=6.8						
H08S2	Diego Garcia H	34.82	267	T	T	02 51 51.9	
	baz=92,slow=76,SNR=3.6						
H08S3	Diego Garcia H	34.83	267	T	T	02 51 50.7	
	baz=92,slow=76,SNR=2.9						
H08S1	Diego Carcia H	34.84	267	T	T	02 51 50.7	
	baz=92,slow=76,SNR=3.9						
STKA	Stephens Creek	39.97	132	P	P	02 15 44.5	+0.9
	6.7nm,0.6s,baz=310,slow=9.6,SNR=15						
SONM	Songino Array	54.93	359	P	P	02 17 37.8	-2.0
	0.8nm,0.7s,baz=170,slow=7.7,SNR=3.8						
MKAR	Makanchi Array	58.40	340	P	P	02 18 03.9	-0.5
	0.3nm,0.6s,baz=150,slow=7.6,SNR=3.0						
SNAA	Sanae	89.40	197	P	P	02 21 07.1	+1.8
	1.4nm,0.8s,baz=75,slow=5.2,SNR=4.0						
BDFB	Brasilia	146.78	227	PKPbc	PKPab	02 27 53.1	-0.2
	0.8nm,0.4s,baz=145,slow=12,SNR=3.1						

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*ISCJB **10** 02:12:09.3±0.5, 55°.75S±0°.08×27°.2W±0°.2, h63km, mb4.6/13, Error ellipse: s-maj=15.2km s-min=7.9km az=143.8*
*IDC **10** 02:12:13.8±0.7, 55°.78S×27°.16W, h89km±6km, mb4.3/9, mb1 4.4/10, mb1mx4.0/23, mbtmp4.6/10, Error ellipse: s-maj=22.7km s-min=13.6km az=67.0*
*NEIC **10** 02:12:13.3±1.5, 55°.80S×27°.32W, h86km±12km, mb4.7/10, Error ellipse: s-maj=13.3km s-min=7.5km az=56.0*

ISC 10 02:12:10.4±0.5, 55°.77S±0°.10×27°.1W±0°.1, h63km, n78, σ0°74/84, mb4.7/11, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.59	282	*e*Pn	Pn	02 13 31.6	+0.8
VNA1	Neumayer--Stat	17.05	158	P	P	02 16 05.7	+0.6
VNA3	Neumayer Olymp	17.25	161	P	P	02 16 07.1	-0.2
VNA2	Neumayer--Watz	17.44	158	P	P	02 16 10.9	+1.5
	baz=320,slow=13						
SNAA	Sanae	18.99	156	P	Pn	02 16 27.5	-0.2
SNAA	Sanae	18.99	156	*e*P	Pn	02 16 27.2	-0.6
	40nm,1.1s						
SNAA	Sanae	18.99	156	P	Pn	02 16 27.5	-0.2
	6.3nm,0.3s,baz=303,slow=10,SNR=267						
PMSA	Palmer Station	20.12	228	P	Pn	02 16 41.6	+0.6
	47nm,0.9s,baz=58,slow=4.7,SNR=4.3						
SYO	Syowa Base	31.78	141	*e*P	P	02 18 27.0	-1.2
QSPA	South Pole Qui	34.49	180	*e*P	P	02 18 52.3	+0.2
	45nm,1.5s						
QSPA				PcP	PcP	02 21 24.4	-1.1
QSPA	South Pole Qui	34.49	180	P	P	02 18 52.2	+0.2
	9.1nm,0.5s,baz=211,slow=0.7,SNR=106						
QSPA				PcP	PcP	02 21 24.4	-1.1
	2.3nm,0.7s,baz=202,slow=2.5,SNR=4.4						
CPUP	Villa Florida	36.65	311	*e*P	P	02 19 09.8	-1.0
	24nm,2.0s						
CPUP	Villa Florida	36.65	311	P	P	02 19 09.8	-1.0
	1.8nm,0.7s,baz=142,slow=6.4,SNR=5.2						
MAW	Mawson	40.36	144	*e*P	P	02 19 42.6	+1.3
	12nm,1.9s						
MAW	Mawson	40.36	144	P	P	02 19 42.6	+1.3
	3.7nm,0.6s,baz=246,slow=9.4,SNR=9.4						
GO02	Mina Guanaco	43.40	297	*e*P	P	02 20 07.2	+0.2
	12nm,0.6s						
LVC	Limon Verde	45.19	300	*e*P	P	02 20 21.0	-0.4
	5.3nm,0.6s						
VNDA	Vanda	46.86	183	*e*P	P	02 20 33.9	+0.4
	7.1nm,0.6s						
VNDA	Vanda	46.86	183	P	P	02 20 33.9	+0.4
	6.1nm,0.6s,baz=191,slow=6.4,SNR=48						
H10S2	ASCENSION HYDR	47.72	17	T	T	03 12 20.1	
	baz=190,slow=75,SNR=8.5						
H10S3	ASCENSION HYDR	47.72	17	T	T	03 12 19.5	
	baz=190,slow=75,SNR=8.3						
H10S1	ASCENSION HYDR	47.73	17	T	T	03 12 18.4	
	baz=190,slow=75,SNR=7.8						
MNMC	Minye Minye	48.48	301	*e*P	P	02 20 47.1	+0.2
	7.6nm,0.6s						
H10N1	ASCENSION HYDR	48.83	17	T	T	03 13 42.7	
	baz=189,slow=75,SNR=4.6						
H10N3	ASCENSION HYDR	48.84	17	T	T	03 13 44.9	
	baz=189,slow=75,SNR=7.8						
H10N2	ASCENSION HYDR	48.85	17	T	T	03 13 45.5	
	baz=189,slow=75,SNR=8.9						
LPAZ	La Paz	50.24	305	*e*P	P	02 21 00.1	-0.7
LPAZ				*e*pP	sP	02 21 23.4	+0.1
LPAZ				*e*PcP	PcP	02 22 19.4	+0.4
LPAZ	La Paz	50.24	305	P	P	02 21 01.6	+0.8
	3.7nm,0.6s,baz=148,slow=5.3,SNR=31						
LPAZ				pP	sP	02 21 23.4	+0.1
	1.9nm,0.6s,baz=152,slow=1.9,SNR=2.9						
LPAZ				PcP	PcP	02 22 19.4	+0.4
	1.0nm,0.6s,baz=187,slow=4.5,SNR=2.6						
TOA0	Torodi Ar. Sit	72.79	29	*e*P	P	02 23 34.7	+2.7
	21nm,1.9s						
TORD	Torodi Ar. Bea	72.79	29	*e*P	P	02 23 34.2	+2.3
TORD	Torodi Ar. Bea	72.79	29	P	P	02 23 32.8	+0.8
	1.3nm,0.5s,baz=204,slow=6.1,SNR=26						
TOA1	Torodi Ar. Sit	72.79	29	*e*P	P	02 23 32.8	+0.8
STKA	Stephens Creek	92.18	170	*e*P	P	02 25 12.0	-1.0
	8.7nm,2.0s						
STKA	Stephens Creek	92.18	170	P	P	02 25 12.0	-1.0
	2.2nm,0.6s,baz=149,slow=5.0,SNR=4.4						
ASAR	Alice Springs	99.25	162	P	Pdif	02 25 44.1	-1.2
	1.1nm,0.7s,baz=182,slow=4.0,SNR=14						
AS31	Alice Springs	99.25	162	*e*P	Pdif	02 25 44.1	-1.2
	2.6nm,1.4s						
NV01	Mina Array Sit	121.32	293	*e*PKPdf	PKiKP	02 30 56.0	0.0
NVAR	Mina Array Bea	121.32	293	PKP	PKiKP	02 30 56.0	0.0
	0.3nm,0.6s,baz=100,slow=3.7,SNR=3.6						
FIA0	FINESS Array S	124.11	28	*e*PKPdf	PKPdf	02 30 58.9	-1.3
FINES	FINESS Array B	124.11	28	PKP	PKPdf	02 30 58.9	-1.3
	0.5nm,0.7s,baz=180,slow=0.4,SNR=4.7						
ARA0	ARCESS Array S	130.66	22	*e*PKPdf	PKPdf	02 31 12.1	-0.3
ARCES	ARCESS Array B	130.66	22	PKP	PKPdf	02 31 12.1	-0.3
	1.3nm,0.9s,baz=241,slow=3.0,SNR=3.9						
YKA	Yellowknife Ar	135.98	318	*e*PKPdf	PKPdf	02 31 23.2	+0.6
YKA				pPKP	sPKPdf	02 31 46.5	-0.2
YKA	Yellowknife Ar	135.98	318	PKP	PKPdf	02 31 22.1	-0.5
	0.5nm,0.5s,baz=128,slow=2.4,SNR=10.0						
YKA				pPKP	sPKPdf	02 31 46.5	-0.2
	0.2nm,0.5s,baz=130,slow=2.3,SNR=2.7						
YKB5	Yellowknife Ar	135.98	318	*e*PKPdf	PKPdf	02 31 22.1	-0.5
MK32	Makanchi Array	136.76	71	*e*PKPdf	PKiKP	02 31 26.0	-0.4
MKAR	Makanchi Array	136.76	71	PKP	PKiKP	02 31 26.0	-0.4
	0.2nm,0.6s,baz=243,slow=0.3,SNR=2.6						
INK	Inuvik	145.60	321	*e*PKPdf	PKPdf	02 31 39.8	+0.1
INK	Inuvik	145.60	321	PKPbc	PKPbc	02 31 39.9	-0.2
	3.1nm,0.5s,baz=81,slow=2.4,SNR=37						
EPYK	Eagle Plains	146.24	317	*e*PKPdf	PKPbc	02 31 41.6	-0.6
DAWY	Dawson	146.63	312	*e*PKPdf	PKPbc	02 31 42.6	-0.9
BCAR	Beaver Creek A	147.34	310	*e*PKPbc	PKPbc	02 31 44.7	-0.8
HMT	Hamilton	147.56	304	*e*PKPbc	PKPbc	02 31 46.3	+0.2
SCRK	Sand Creek	148.54	311	*e*PKPbc	PKPbc	02 31 49.0	+0.3
KLU	Klutina	148.70	306	*e*PKPbc	PKPbc	02 31 49.5	+0.4
RIDG	Independent Ri	148.85	310	*e*PKPbc	PKPbc	02 31 49.6	+0.2
BMAR	Burnt Mountain	149.50	318	*e*PKPbc	PKPbc	02 31 51.1	+0.2
PRP	Porcupine Dome	149.54	314	*e*PKPbc	PKPbc	02 31 51.4	+0.2
DHY	Denali Highway	149.79	309	*e*PKPbc	PKPbc	02 31 51.8	-0.1
KNK	Knik Glacier	149.84	305	*e*PKPbc	PKPbc	02 31 52.0	+0.2
SML	Sawmill	149.89	306	*e*PKPbc	PKPbc	02 31 51.8	-0.2
ILAR	Eielson Array	149.95	312	*e*PKPbc	PKPbc	02 31 51.2	-0.8
ILAR				pPKPbc	sPKPbc	02 32 16.4	+0.3
ILAR	Eielson Array	149.95	312	PKPbc	PKPbc	02 31 51.9	-0.1
	6.2nm,0.7s,baz=133,slow=1.8,SNR=52						
ILAR				pPKPbc	sPKPbc	02 32 16.4	+0.3
	1.6nm,0.8s,baz=139,slow=1.9,SNR=3.9						
ILB	Eielson Array	149.95	312	*e*PKPbc	PKPbc	02 31 51.9	-0.1
GHO	Glory Hole Cre	150.16	306	*e*PKPbc	PKPbc	02 31 52.8	+0.1
CCB	Clear Creek Bu	150.32	312	*e*PKPbc	PKPbc	02 31 52.3	-0.5
WRH	Wood River Hil	150.40	311	*e*PKPbc	PKPbc	02 31 52.9	-0.2
RND	Reindeer	150.51	309	*e*PKPbc	PKPbc	02 31 53.4	-0.1
MCK	McKinley	150.62	310	*e*PKPbc	PKPbc	02 31 53.9	+0.2
SONA0	Songino Array	150.67	86	*e*PKPbc	PKPbc	02 31 54.9	+0.4
SONM	Songino Array	150.67	86	PKPbc	PKPbc	02 31 54.9	+0.4
	2.7nm,0.7s,baz=228,slow=3.2,SNR=14						
SONM				pPKPbc	sPKPbc	02 32 18.9	+0.4
	0.7nm,0.5s,baz=267,slow=4.0,SNR=3.4						
KDAK	Kodiak Island	150.72	297	PKPbc	PKPbc	02 31 53.8	-0.2
	9.6nm,0.6s,baz=209,slow=2.4,SNR=20						
BWN	Browne	150.94	310	*e*PKPdf	PKPdf	02 31 47.7	-0.9
BWN				*e*PKPbc	PKPbc	02 31 53.9	-0.4
TOLK	Toolik Lake Re	151.49	320	*e*PKPbc	PKPbc	02 31 55.4	-0.2
BPAW	Bear Paw Mtn.	151.58	310	*e*PKPbc	PKPbc	02 31 55.7	-0.2
MLY	Manley	151.62	312	*e*PKPbc	PKPbc	02 31 55.7	-0.3
CAST	Castle Rocks	151.94	308	*e*PKPbc	PKPbc	02 31 56.2	-0.6
IMAR	Indian Mountai	152.96	314	*e*PKPbc	PKPbc	02 31 58.5	-0.4

IDC 10 02:25:55.2±5.5, 30°.20S×75°.63E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.5/3, Error ellipse: s-maj=198.2km s-min=36.8km az=38.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	22.63	352	T	T	02 54 10.1	
	baz=174,slow=76,SNR=5.4						
H08S1	Diego Carcia H	22.64	352	T	T	02 54 10.0	
	baz=174,slow=76,SNR=5.5						
H08S3	Diego Garcia H	22.65	352	T	T	02 54 10.1	
	baz=174,slow=76,SNR=5.6						
ASAR	Alice Springs	51.89	98	P	P	02 35 05.0	-0.8
	0.3nm,0.7s,baz=252,slow=5.7,SNR=3.5						
WRA	Warramunga Arr	53.65	93	P	P	02 35 19.4	+0.6
	0.8nm,0.9s,baz=255,slow=6.7,SNR=1.9						
MKAR	Makanchi Array	76.88	5	P	P	02 37 48.9	0.0
	0.5nm,0.9s,baz=188,slow=4.4,SNR=2.8						
YKA	Yellowknife Ar	147.02	9	PKPbc	PKPbc	02 45 38.4	-0.7
	0.1nm,0.4s,baz=333,slow=2.1,SNR=3.3						

*NIED **10** 02:44:00, 37°.70N×143°.50E, h8km, Mw3.9 Best double couple: M0 7.68000×10^14 NP1:φ=318.00000°, δ61.00000°, λ174.00000°. NP2:φ=51.00000°, δ84.00000°, λ29.00000°.*
*IDC **10** 02:44:53.3±0.7, 37°.67N×143°.43E, h0km, mb3.9/20, mb1 4.0/27, mb1mx3.9/55, mbtmp3.9/27, ML3.9/5, MS2.8/5, Ms1 2.8/5, ms1mx2.6/37, Error ellipse: s-maj=17.6km s-min=14.1km az=126.0*
*JMA **10** 02:44:55.6±0.2, 37°.75N×143°.51E, h51km, M4.3*
*ISCJB **10** 02:44:56.2±0.3, 37°.69N±0°.03×143°.43E±0°.04, h33km, mb4.0/26, MS2.4/1, Error ellipse: s-maj=4.5km s-min=3.8km az=136.6*
*NEIC **10** 02:44:57.1±1.7, 37°.72N×143°.46E, h24km±12km, mb4.5/8, Error ellipse: s-maj=7.8km s-min=4.9km az=124.0*

ISC 10 02:44:58.8±0.6, 37°.76N±0°.05×143°.38E±0°.07, h35km, n81, σ1°47/88, mb4.1/26, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.61	291	P	Pn	02 45 23.9	-0.8
JIKH				*e*S	Sn	02 45 44.2	-0.1
JIO	Ouri	1.75	294	P	Pn	02 45 25.8	-0.8
JIO				*e*S	Sn	02 45 48.0	+0.3
JKMT	Kesennumamotoy	1.84	306	P	Pn	02 45 26.7	-1.1
JKMT				S	Sn	02 45 49.7	-0.1
OFUJ	Ofunato	1.89	315	P	Pn	02 45 27.2	-1.3
OFUJ				*e*S	Sn	02 45 50.2	-0.9
JMK	Ichinoseki	2.08	306	P	Pn	02 45 30.3	-0.8
JOM	Ohasama	2.37	317	P	Pn	02 45 34.2	-1.0
JOM				S	Sn	02 46 03.2	+0.2
JFT	Otama	2.43	265	P	Pn	02 45 36.0	0.0
JFT				*e*S	Sn	02 46 05.5	+1.0
JYK	Kaneyama	2.65	297	P	Pn	02 45 38.9	-0.1
JYK				*e*S	Sn	02 46 11.4	+1.6
JAW	Awa shima	3.34	283	P	Pn	02 45 48.9	+0.5
JAG	Ashikaga	3.41	248	P	Pn	02 45 49.1	-0.4
BSO1	Boso 1	3.66	213	P	Pn	02 45 50.5	-1.8
BSO1				*e*S	Sn	02 46 33.7	-0.3
JRY	Ryogami san	3.99	246	P	Pn	02 45 57.1	-0.4
JRY				*e*S	Sn	02 46 41.7	-1.3
ERM	Erimo	4.26	358	*e*Pn	Pn	02 46 00.1	-0.9
JOD2	Odawara 2	4.26	236	P	Pn	02 46 00.2	-1.0
MJAR	Matsushiro Arr	4.31	255	Pn	Pn	02 46 02.0	+0.2
	4.2nm,0.3s,baz=90,slow=15,SNR=52						
MJAR				Sn	Sn	02 46 49.0	-1.9
	baz=82,slow=15,SNR=2.5						
MAJO	Matsushiro	4.31	255	*e*Pn	Pn	02 46 03.2	+1.4
MAJO				*e*Sn	Sn	02 46 49.0	-1.9
MAT	Matsushiro	4.31	255	P	Pn	02 46 03.1	+1.3
MAT				S	Sn	02 46 48.7	-2.2
MJB9	Matsu-Tunnel	4.31	255	*e*Pn	Pn	02 46 03.3	+1.5
JKB	Kayabe	4.51	337	P	Pn	02 46 03.8	-0.7
JCH	Churui	4.85	360	P	Pn	02 46 06.4	-2.9
JCH				S	Sn	02 46 58.1	-6.1
JHJ2	Mitsune	5.47	213	*e*Pn	Pn	02 46 16.7	-1.1
JHJ	Hachijo jima 2	5.48	213	Pn	Pn	02 46 15.4	-2.5
	33nm,0.3s,baz=337,slow=19,SNR=8.9						
JHJ				Sn	Sn	02 47 12.7	-7.0
	20nm,0.3s,baz=73,slow=20,SNR=4.0						
INU	Inuyama	5.66	247	*e*Pn	Pn	02 46 20.1	-0.3
ASAJ	Asahikawa	6.38	355	Pn	Pn	02 46 29.2	-1.1
	4.3nm,0.3s,baz=262,slow=28,SNR=6.0						
ASAJ				Sn	Sn	02 47 37.9	-3.9
	2.0nm,0.3s,baz=198,slow=20,SNR=5.0						
USRK	Ussuriysk Ar.	10.75	310	*e*Pn	Pn	02 47 31.6	+1.5
USRK	Ussuriysk Ar.	10.75	310	Pn	Pn	02 47 30.7	+0.6
	0.3nm,0.3s,baz=114,slow=13,SNR=4.1						
JNU	Nakatsue	11.20

NB200	NORSAR Array S	74.12	338	eP		P		02 56 30.9	-0.2
NOA	NORSAR Array B	74.12	338	P		P		02 56 30.9	-0.2
	0.4nm,0.7s,baz=35,slow=5.9,SNR=2.9								
AKASG	Malin Array Be	74.68	323	P		P		02 56 34.4	-0.1
	0.4nm,0.5s,baz=45,slow=6.3,SNR=2.5								
AKBB	Malin Array Si	74.68	323	eP		P		02 56 34.4	-0.1
	18nm,2.0s								
PD31	Pinedale Array	76.04	47	eP		P		02 56 44.6	+1.8
	4.3nm,1.6s								
PDAR	Pinedale Array	76.04	47	P		P		02 56 44.6	+1.8
	0.2nm,0.4s,baz=289,slow=3.6,SNR=2.3								

*ISCJB **10** 02:53:33.9±0.7, 18°.30S±0°.05×69°.4W±0°.1, h138km±6km, mb3.0/2, Error ellipse: s-maj=16.0km s-min=7.1km az=8.8*
*GUC **10** 02:53:35.0±0.6, 18°.27S×69°.28W, h128km±3km, ML3.0*
*IDC **10** 02:53:39.7±6.1, 17°.97S×68°.73W, h163km±37km, mb3.0/2, mb1 3.2/2, mb1mx2.9/27, mbtmp3.5/2, Error ellipse: s-maj=80.7km s-min=49.3km az=22.0*

ISC 10 02:53:34.3±1.0, 18°.28S±0°.05×69°.34W±0°.10, h135km±8km, n13, σ1§03/23, 8C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	IPOC Station P	0.17	251	⇑eP	Pn	02 53 53.8	+0.4
PB16				eS	Sn	02 54 07.7	0.0
PB16				IAML		02 54 09.6	
	comp=N,229nm,0.6s						
MNMC	Minye Minye	0.88	196	⇑eP	Pn	02 53 56.9	-0.1
MNMC				eS	Sn	02 54 13.2	-0.9
PB12	IPOC Station P	0.99	250	⇑eP	Pn	02 53 57.8	+0.1
PB12				eS	Sn	02 54 15.1	-0.3
PB12				IAML		02 54 18.2	
	comp=N,314nm,0.1s						
GO01	Chusmiza	1.39	174	⇑iP	Pn	02 54 02.9	+0.8
GO01				iS	Sn	02 54 23.7	+0.6
GO01				IAML		02 54 24.9	
	comp=E,322nm,0.1s						
PB11	IPOC Station P	1.50	191	⇑eP	Pn	02 54 03.2	+0.3
PB11				eS	Sn	02 54 24.6	-0.2
PSGC	Pisagua	1.50	209	⇑iP	Pn	02 54 03.0	+0.1
PSGC				iS	Sn	02 54 24.7	0.0
PSGC				IAML		02 54 30.2	
	comp=N,197nm,0.3s						
PB08	IPOC Station P	1.86	175	⇑eP	Pn	02 54 07.8	+0.6
PB08				eS	Sn	02 54 33.2	+0.8
PB08				IAML		02 54 34.2	
	comp=E,98nm,0.2s						
LPAZ	La Paz	2.29	30	⇓iP	Pn	02 54 13.6	+0.8
LPAZ	La Paz	2.29	30	P	Pn	02 54 13.6	+0.8
	comp=E,8.0nm,0.3s,baz=202,slow=6.3,SNR=245						
LPAZ				S	Sn	02 54 40.0	-2.2
	comp=E,0.8nm,0.3s,baz=294,slow=20,SNR=4.5						
PB01	IPOC Station P	2.75	183	⇑iP	Pn	02 54 18.4	+0.4
PB01				iS	Sn	02 54 50.2	-1.5
PB01				IAML		02 54 52.0	
	comp=E,105nm,0.2s						
PB02	IPOC Station P	3.07	190	eP	Pn	02 54 22.4	+0.3
PB02				eS	Sn	02 54 57.1	-1.9
TORD	Torodi Ar. Bea	76.69	71	P	P	03 05 09.7	-1.4
	comp=E,0.2nm,0.5s,baz=248,slow=5.3,SNR=7.5						
YKA	Yellowknife Ar	88.03	341	P	P	03 06 10.5	+1.6
	comp=E,0.1nm,0.5s,baz=130,slow=5.3,SNR=2.4						

*ISK **10** 02:56:15.9, 37°.41N×38°.62E, h13km, ML1.8/6*
*DDA **10** 02:56:16.4, 37°.48N×38°.61E, h7km±3km, ML2.7*
*ISCJB **10** 02:56:17.1±0.7, 37°.49N±0°.07×38°.64E±0°.04, h9km±7km, Error ellipse: s-maj=11.8km s-min=5.5km az=178.7*

ISC 10 02:56:16.3±1.0, 37°.42N±0°.05×38°.61E±0°.03, h12km±8km, n10, σ0§58/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.17	84	PG	Pg	02 56 20.2	0.0
URFA				SG	Sg	02 56 23.3	+0.3
ATAB	Bozova	0.26	280	IAML_P			
	comp=Z,12μm,0.1s						
ATAB				iP	Pb	02 56 22.7	-0.1
ATAB				iS	Sb	02 56 26.6	-0.7
SANL	SANLIURFA_Merk	0.39	130	IAML_P			
	comp=Z,1μm,0.1s						
SANL				iP	Pb	02 56 25.6	+0.4
SANL				iS	Sb	02 56 32.0	+0.7
SURC	SANLIURFA_SURC	0.54	180	IAML_P			
	comp=Z,185nm,0.1s						
SURC				iP	Pn	02 56 29.2	-0.8
GZT	Gaziantep	0.84	266	IAML_P			
	comp=Z,1μm,0.1s						
GZT				iP	Pb	02 56 33.0	+0.1
GZT				iS	Sn	02 56 47.0	+0.6
SVRC	Sivrice-ELAZID	1.10	30	PN	Pg	02 56 37.5	0.0
SVRC				SN	Sn	02 56 53.6	+0.7
GAZ	Gaziantep	1.14	258	PN	Pg	02 56 38.3	0.0
DYBB	Diyarbakir	1.32	66	PN	Pb	02 56 40.8	-0.3
DARE	Darende-Malaty	1.45	322	PN	Pn	02 56 42.6	+0.1
MAZI	Mazidag	1.46	88	PN	Pb	02 56 42.6	-0.9

*SJA **10** 03:02:45.3±0.7, 23°.72S×69°.43W, h79km±3km, ML2.5, MW3.0*
*GUC **10** 03:02:46.4±0.6, 23°.74S×69°.44W, h78km±4km, ML3.1*
*ISCJB **10** 03:02:47.1±0.8, 23°.72S±0°.03×69°.49W±0°.06, h77km±10km, Error ellipse: s-maj=9.9km s-min=5.2km az=8.9*

ISC 10 03:02:47.5±1.5, 23°.73S±0°.04×69°.46W±0°.06, h70km±12km, n24, σ0§52/40, 8C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	IPOC Station P	0.52	359	eP	Pn	03 03 00.4	-0.3
PB15				eS	Sn	03 03 10.7	+0.3
PB15	IPOC Station P	0.52	359	⇓iP	Pn	03 03 00.2	-0.5
PB15				iS	Sn	03 03 10.4	0.0
PB06	IPOC Station P	1.02	354	eP	Pn	03 03 06.0	-0.4
PB06				eS	Sn	03 03 20.7	+0.2
PB06	IPOC Station P	1.02	354	⇑iP	Pn	03 03 06.0	-0.4
PB06				iS	Sn	03 03 20.2	-0.3
PB06				IAML		03 03 21.4	
	comp=E,947nm,0.5s						
PB10	IPOC Station P	1.03	282	eP	Pn	03 03 06.4	+0.1
PB10				eS	Sn	03 03 21.6	+1.2
PB10	IPOC Station P	1.03	282	⇑iP	Pn	03 03 06.0	-0.3
PB10				iS	Sn	03 03 20.4	0.0
PB10				IAML		03 03 24.0	
	comp=E,264nm,0.3s						
PB05	IPOC Station P	1.11	322	eP	Pn	03 03 07.1	-0.4
PB05				eS	Sn	03 03 23.2	+0.9
PB05	IPOC Station P	1.11	322	⇑iP	Pn	03 03 07.1	-0.4
PB05				iS	Sn	03 03 22.5	+0.2
LVC	Limon Verde	1.22	24	eP	Pn	03 03 09.3	+0.1
LVC				eS	Sn	03 03 26.0	+0.7
LVC				IAML		03 03 28.7	
	comp=Z,69nm,0.3s						
LVC	Limon Verde	1.22	24	⇑eP	Pn	03 03 09.0	-0.1
LVC				iS	Sn	03 03 25.4	+0.1
PB14	IPOC Station P	1.24	224	⇓eS	Sn	03 03 26.7	+0.9
GO02	Mina Guanaco	1.43	185	⇑iP	Pn	03 03 11.1	-0.7
GO02				eS	Sn	03 03 30.5	+0.3
GO02				IAML		03 03 34.3	
	comp=N,621nm,0.3s						
PB04	IPOC Station P	1.53	335	eP	Pn	03 03 12.4	-0.6
PB04	IPOC Station P	1.53	335	⇓eP	Pn	03 03 12.3	-0.6
PB04				iS	Sn	03 03 32.3	+0.1
PB04				IAML		03 03 37.1	
	comp=N,244nm,0.3s						
PB03	IPOC Station P	1.69	351	eP	Pn	03 03 14.9	-0.3
PB03	IPOC Station P	1.69	351	⇑eP	Pn	03 03 14.9	-0.3
PB03				iS	Sn	03 03 36.3	+0.1
PB03				IAML		03 03 40.1	
	comp=E,291nm,0.3s						
PB09	IPOC Station P	1.93	6	eP	Pn	03 03 19.1	+0.8
PB09	IPOC Station P	1.93	6	⇑iP	Pn	03 03 18.9	+0.5
PB09				iS	Sn	03 03 42.7	+0.9
PB09				IAML		03 03 53.8	
	comp=N,109nm,0.3s						
PB07	IPOC Station P	2.03	349	eP	Pn	03 03 19.3	-0.4
PB07	IPOC Station P	2.03	349	⇓iP	Pn	03 03 19.3	-0.4
PB07				iS	Sn	03 03 44.6	+0.3
PB07				IAML		03 03 51.8	
	comp=E,135nm,0.5s						
PB02	IPOC Station P	2.43	350	eP	Pn	03 03 24.5	-0.6
PB02	IPOC Station P	2.43	350	⇑eP	Pn	03 03 24.5	-0.6
PB02				iS	Sn	03 03 53.5	-0.3
PB02				IAML		03 04 03.9	
	comp=E,168nm,0.3s						
PB01	IPOC Station P	2.67	359	⇓iP	Pn	03 03 27.8	-0.5
PB01				iS	Sn	03 03 60.0	+0.3
PB01				IAML		03 04 07.1	
	comp=E,121nm,0.4s						
HJA	Humahuaca	3.75	83	eP	Pn	03 03 47.0	+3.7

*IDC **10** 03:05:10.9±1.9, 14°.89S×166°.89E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/38, mbtmp3.9/6, ML3.8/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/22, Error ellipse: s-maj=42.1km s-min=29.1km az=111.0*
*ISCJB **10** 03:05:16.7±1.5, 15°.03S±0°.09×166°.9E±0°.2, h57km, mb3.8/5, MS3.4/2, Error ellipse: s-maj=29.8km s-min=12.4km az=172.8*

ISC 10 03:05:18.0±1.6, 15°.0S±0°.1×166°.9E±0°.2, h57km, n7, σ1§48/7, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.04	184	Pn	Pn	03 06 56.7	-1.9
	1.6nm,0.3s,baz=350,slow=11,SNR=13						
DZM				Sn	Sn	03 08 19.3	+2.0
	0.6nm,0.3s,baz=340,slow=4.0,SNR=2.4						
DZM				LR	LR	03 09 31.6	
	comp=Z,147nm,18.9s,baz=260,slow=36						
URZ	Urewera	24.84	161	LR	LR	03 19 28.4	
	comp=Z,80nm,18.6s,baz=296,slow=34						
STKA	Stephens Creek	28.57	230	P	P	03 11 09.3	+0.5
	5.5nm,0.7s,baz=42,slow=9.5,SNR=11						
WRA	Warramunga Arr	31.45	256	P	P	03 11 33.5	-0.8
	0.4nm,0.6s,baz=87,slow=8.8,SNR=4.3						
ASAR	Alice Springs	32.28	249	P	P	03 11 41.8	+0.2
	0.6nm,0.5s,baz=75,slow=9.1,SNR=11						
FITZ	Fitzroy Crossi	39.65	260	P	P	03 12 44.9	+0.2
	1.8nm,0.7s,baz=79,slow=7.6,SNR=4.4						
ILAR	Eielson Array	86.89	18	P	P	03 17 56.8	+0.6
	0.3nm,0.8s,baz=233,slow=5.5,SNR=4.3						
ILAR				LR	LR	03 52 00.2	
	comp=Z,16nm,18.8s,baz=2.5,slow=32						

ROM 10 03:17:59.4±0.1, 40°.250N±0°.004×15°.911E±0°.004, h11km, ML0.9/3, Error ellipse: s-maj=0.5km s-min=0.0km az=211.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRI	Monte Sirino -	0.08	206	P	Pg	03 18 02.1	+0.2
SIRI				S	Sg	03 18 04.2	+0.5
SIRI				AML	AML		
	comp=E,136μm,1.0s						
SIRI				AML	AML		
	comp=N,196μm,0.2s						
SIRI				AML	AML		
	comp=N,196μm,0.2s						
SIRI				AML	AML		
	comp=E,136μm,1.0s						
SIRI	Monte Sirino -	0.08	206	P	Pg	03 18 02.1	+0.2
SIRI	Monte Sirino -	0.08	206	S	Sg	03 18 04.1	+0.4
MCEL	Monticello	0.11	312	P	Pg	03 18 02.6	+0.3
MCEL				S	Sg	03 18 05.0	+0.5
MCEL				AML	AML		
	comp=E,60μm,0.5s						
MCEL				AML	AML		
	comp=N,71μm,1.3s						
MCEL				AML	AML		
	comp=N,71μm,1.3s						
MCEL				AML	AML		
	comp=E,60μm,0.5s						
MCEL	Monticello	0.11	312	S	Sg	03 18 04.3	-0.2
MTSN	Montesano sull	0.12	278	P	Pg	03 18 02.9	+0.4
MTSN				S	Sg	03 18 05.4	+0.7
MTSN				AML	AML		
	comp=E,76μm,0.7s						
MTSN				AML	AML		
	comp=N,79μm,0.9s						
MTSN				AML	AML		
	comp=N,79μm,0.9s						
MTSN				AML	AML		
	comp=E,76μm,0.7s						
MTSN	Montesano sull	0.12	278	P	Pg	03 18 02.9	+0.4
MTSN	Montesano sull	0.12	278	S	Sg	03 18 05.4	+0.7
SCHR	S. Chirico Rap	0.14	112	P	Pg	03 18 03.0	+0.4
SCHR				S	Sg	03 18 05.9	+0.9
SCHR	S. Chirico Rap	0.14	112	P	Pg	03 18 03.1	+0.5
SCHR	S. Chirico Rap	0.14	112	P	Pg	03 18 03.1	+0.5
SCHR	S. Chirico Rap	0.14	112	S	Sg	03 18 05.9	+0.9
SLCN	Sala Consilina	0.25	303	P	Pg	03 18 05.3	+0.7
SLCN	Sala Consilina	0.25	303	P	Pb	03 18 05.5	-0.5
SLCN	Sala Consilina	0.25	303	P	Pb	03 18 05.5	-0.5
CUC	Castrocucco	0.27	196	P	Pg	03 18 05.2	+0.3
CUC	Castrocucco	0.27	196	P	Pb	03 18 05.6	-0.6
CUC	Castrocucco	0.27	196	S	Sb	03 18 10.1	-0.7
MGR	Morigerati	0.30	248	P	Pb	03 18 06.2	-0.5
MGR	Morigerati	0.30	248	S	Sb	03 18 10.9	-0.7

ROM 10 03:19:58.8±0.1, 43°.393N±0°.001×12°.845E±0°.003, h13km, ML0.4/1, Error ellipse: s-maj=0.2km s-min=0.0km az=242.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOSV	Fossato di Vic	0.12	212	P	Pg	03 20 02.4	+0.3
FOSV				S	Sg	03 20 05.0	+0.6
FOSV	Fossato di Vic	0.12	212	P	Pg	03 20 02.4	+0.3
FOSV	Fossato di Vic	0.12	212	S	Sb	03 20 05.0	-0.6
ARVD	Arcevia	0.13	34	P	Pg	03 20 02.6	+0.3
ARVD				S	Sg	03 20 05.2	+0.6
ARVD				AML	AML		
	comp=E,26μm,0.2s						
ARVD				AML	AML		
	comp=N,15μm,0.5s						
ARVD				AML	AML		
	comp=N,15μm,0.5s						
ARVD				AML	AML		
	comp=E,26μm,0.2s						
ARVD	Arcevia	0.13	34	S	Sg	03 20 05.2	+0.6
FRON	Frontone	0.15	325	P	Pg	03 20 02.9	+0.3
FRON				S	Sb	03 20 06.0	-0.7
FRON	Frontone	0.15	325	P	Pg	03 20 02.9	+0.3
FRON	Frontone	0.15	325	S	Sg	03 20 05.9	+0.7
SNTG	Esanatoglia	0.15	153	P	Pg	03 20 02.9	+0.2
SNTG				S	Sb	03 20 06.1	-0.6
SNTG	Esanatoglia	0.15	153	P	Pg	03 20 02.9	+0.3
SNTG	Esanatoglia	0.15	153	P	Pg	03 20 03.0	+0.3
SNTG	Esanatoglia	0.15	153	S	Sb	03 20 06.1	-0.6
MPAG	Monte Paganucc	0.24	345	P	Pg	03 20 04.5	+0.4
MPAG				S	Sb	03 20 08.6	-0.8
MPAG	Monte Paganucc	0.24	345	P	Pg	03 20 04.6	+0.5
MPAG	Monte Paganucc	0.24	345	S	Sb	03 20 09.0	-0.4

*KRNET **10** 03:24:47.9±0.1, 41°.95N×72°.64E, h11km, mb2.5*
*NNC **10** 03:24:49.0±0.8, 42°.01N×72°.65E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=8.6km s-min=3.1km az=175.0*
*SOME **10** 03:24:49.1, 42°.02N×72°.65E, h10km*

ISC 10 03:24:47.5±1.2, 41°.95N±0°.03×72°.65E±0°.02, h3km±12km, n30, σ1§14/55, 25C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	Arkit	0.53	254	⇑iP	Pg	03 24 57.3	-0.4
	baz=51						
ARK				⇑iS	Sg	03 25 04.7	0.0
	baz=51						
ARSB	Arslanbob	0.67	158	⇑iP	Pg	03 25 00.4	+0.1
	baz=58						
ARSB				⇑iS	Sg	03 25 10.0	+1.0
	baz=58						
AML	Almayashu	0.80	76	⇑iP	Pb	03 25 03.7	-0.5
	baz=77						
AML				⇑iS	Sb	03 25 14.7	-0.9
	baz=77						
MRKS	Merke	0.91	28	P	Pg	03 25 05.1	+0.2
MRKS				S	Sb	03 25 17.9	-0.5
MRKS	Merke	0.91	28	eP	Pg	03 25 05.1	+0.2
	14nm,0.2s						
MRKS				eS	Sb	03 25 17.9	-0.5
	30nm,0.1s						
EKS2	Erkin-Say	1.10	49	⇑iP	Pn	03 25 09.4	-0.5
	baz=50						
EKS2				⇑iS	Sg	03 25 23.3	+0.5
	baz=50						
ARLS	Aral	1.25	93	⇑iP	Pb	03 25 11.7	-0.1
	baz=93						
ARLS				⇑iS	Sn	03 25 28.7	-0.7
	baz=93						
UCH	Uchtor	1.42	78	⇑iP	Pg	03 25 15.3	+0.7
	baz=78						
UCH				⇑iS	Sg	03 25 33.5	+0.5
	baz=78						
AAK	Ala-Archa	1.53	63	⇓iP	Pb	03 25 16.6	0.0
	1.0nm,0.3s						
AAK				⇑iS	Sg	03 25 37.7	+1.0
	1.3nm,0.3s						
AAK	Ala-Archa	1.53	63	⇑iP	Pg	03 25 17.0	+0.1
	baz=63						
AAK				⇑iS	Sg	03 25 37.2	+0.5
	baz=63						
KBK	Karagaybulak	1.85	67	⇑iP	Pg	03 25 22.8	-0.1
	baz=67						
KBK				⇑iS	Sg	03 25 46.6	-0.2
	baz=67						
CHMS	Chumysh	1.88	55	⇓iP	Pg	03 25 23.0	-0.4
	baz=55						
CHMS				⇓iS	Sg	03 25 47.0	-0.8
	baz=55						
USP	Ospenovka	1.90	45	⇑iP	Pg	03 25 23.5	-0.4
	baz=46						
USP				⇑iS	Sg	03 25 47.9	-0.6
	baz=46						
KZA	Kyzart	1.94	85	⇓iP	Pg	03 25 24.6	-0.1
	baz=85						
KZA				⇓iS	Sg	03 25 50.2	+0.3
	baz=85						
KK31	Karatay Array	1.96	307	⇑Pn	Pb	03 25 22.8	-1.0
	0.6nm,0.3s,baz=128,slow=15,SNR=37						
KK31				⇑Sn	Sb	03 25 49.1	+0.5
	5.5nm,0.4s,baz=122,slow=29,SNR=23						
IUG	Iuzhnay	1.96	277	Pg	Pb	03 25 23.9	0.0
	8.4nm,0.2s						
IUG				Lg	Lg	03 25 50.4	
	17nm,0.2s						
IUG	Iuzhnay	1.96	277	eP	Pb	03 25 23.9	0.0
	8.4nm,0.2s						
IUG				eS	Sg	03 25 50.4	-0.1
	26nm,0.4s						
TKM2	Tokmak 2	2.39	65	⇓Pn	Pb	03 25 30.8	-0.4
	2.4nm,0.6s						
TKM2				⇓Lg	Lg	03 26 03.0	
	11nm,0.6s						
TKM2	Tokmak 2	2.39	65	⇑iP	Pb	03 25 30.5	-0.7
	baz=65						
TKM2				⇑iS	Sb	03 26 00.5	-0.6
	baz=65						
BOOM	Boomskoye usch	2.50	76	⇓iP	Pb	03 25 31.4	-1.8
	baz=76						
BOOM				⇓iS	Sb	03 26 03.5	-0.9
	baz=76						
NRN	Naryn	2.56	100	⇓iP	Pn	03 25 31.8	+1.7
	baz=1.0						
NRN				⇓iS	Sb	03 26 04.4	-1.8
	baz=1.0						
DGS	Degeres	2.64	60	Pg	Pb	03 25 36.4	+0.9
	2.4nm,0.4s						
DGS				Lg	Lg	03 26 11.6	
	11nm,0.3s						
DGS	Degeres	2.64	60	eP	Pb	03 25 35.0	-0.5
	3.3nm,0.4s						
DGS				eS	Sb	03 26 09.0	+0.6
	11nm,0.6s						
KST	Kastek	2.68	65	Pg	Pb	03 25 36.6	+0.4
	5.0nm,0.3s						
KST				Lg	Lg	03 26 12.9	
	20nm,0.6s						
KST	Kastek	2.68	65	eP	Pb	03 25 36.0	-0.2
	5.0nm,0.3s						
KST				eS	Sb	03 26 11.1	+1.5
	20nm,0.6s						
ULHL	Ulahol	2.69	82	⇑iP	Pb	03 25 35.0	-1.3
	baz=83						
ULHL				⇑iS	Sb	03 26 08.0	-1.8
	baz=83						
KUU	Kurty	3.33	53	Pg	Pb	03 25 47.4	+0.2
	0.3nm,0.1s						
KUU				Lg	Lg	03 26 32.0	
	2.9nm,0.3s						
KUU	Kurty	3.33	53	eP	Pb	03 25 47.4	+0.2
	0.3nm,0.1s						
KUU				eS	Sb	03 26 31.0	+2.8
	2.9nm,0.3s						
CHKK	Chushkaly	3.71	58	eP	Pb	03 25 54.1	+0.4
	1.0nm,0.7s						
CHKK				eS	Sb	03 26 42.1	+3.0
	3.8nm,0.3s						
ARXS	Arharly	4.42	57	eP	Pb	03 26 07.7	+2.0
	1.3nm,1.1s						
ARXS				eS	Sg	03 27 05.2	-4.1
	4.3nm,0.6s						

*BER **10** 03:30:43.2±0.4, 71°.14N×8°.14W, h15km±8km, ML3.0, Confirmed Earthquake*

ISC 10 03:30:42.5±2.0, 71°.20N±0°.08×8°.2W±0°.3, h18km±5km, n5, σ0§37/7, 3D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	Jan Mayen West	0.19	202	⇓iP	Pb	03 30 47.4	+0.4
JNW				IAML		03 30 51.8	
	comp=Z,2μm,0.1s						
JNE	Jan Mayen East	0.21	187	eP	Pg	03 30 47.5	-0.1
JNE				IAML		03 30 51.5	
	comp=Z,4μm,0.1s						
JMIC	Jan Mayen	0.24	204	⇓iP	Pg	03 30 47.9	-0.1
JMIC				eS	Sb	03 30 51.5	-0.3
JMIC				IAML		03 30 54.2	
	comp=Z,705nm,0.3s						
JMI	Jan Mayen	0.32	212	⇓iP	Pg	03 30 49.4	+0.1
JMI				eS	Sb	03 30 54.2	-0.4
DAG	Danmarks Havn	6.29	338	iP	Pn	03 32 14.0	-0.1

*DDA **10** 03:33:01.8, 40°.09N×40°.92E, h7km±3km, ML2.8*
*ISK **10** 03:33:01.9, 40°.10N×40°.86E, h13km, ML2.3/4*
*ISCJB **10** 03:33:02.4±0.6, 40°.08N±0°.03×40°.88E±0°.04, h10km±6km, Error ellipse: s-maj=6.0km s-min=5.2km az=22.8*

ISC 10 03:33:02.3±1.1, 40°.08N±0°.04×40°.87E±0°.03, h11km±9km, n15, σ0§81/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRIK	Erzurum-spir	0.26	10	iP	Pg	03 33 07.8	0.0
KRIK				iS	Sg	03 33 12.2	+0.8
KOPT	Kop Dagi	0.29	257	IAML_P			
	comp=Z,5μm,0.1s						
KOPT				iP	Pb	03 33 09.8	0.0
BAYB	BAYBURT	0.50	291	IAML_P			
	comp=Z,929nm,0.1s						
BAYB				iP	Pb	03 33 12.6	-0.7
BAYB				iS	Sb	03 33 20.4	-0.3
BAYT	Aydıntepe-Bayb	0.64	299	PG	Pg	03 33 14.6	-0.2
BAYT				SG	Sg	03 33 23.7	+0.5
YEDI	Yedisu-Bingol	0.69	201	PG	Pg	03 33 15.8	0.0
YEDI				SG	Sb	03 33 26.4	+0.2
KOPR	Koprukoy-ERZUR	0.76	97	PG	Pb	03 33 17.1	-0.6
KOPR				SG	Sb	03 33 28.4	+0.3
CHAY	Cayeli-Rize	1.01	354	PG	Pb	03 33 21.5	-0.3
DDEM	Demirkent	1.05	39	IAML_P			
	comp=Z,858nm,0.2s						
DDEM				iP	Pn	03 33 22.3	-0.9
DBAD	Bademkaya	1.12	34	IAML_P			
	comp=Z,1μm,0.2s						
DBAD				iP	Pb	03 33 23.3	-0.6
MACK	Trabzon	1.20	316	iP	Pg	03 33 25.8	+0.3
MACK				iS	Sn	03 33 41.2	-0.3
KTUT	Trabzon	1.23	317	PN	Pn	03 33 25.1	-0.5
DAGI	Agillar	1.27	38	IAML_P			
	comp=Z,431nm,0.2s						
DAGI				iP	Pg	03 33 26.1	-0.7
DAGI				iS	Sn	03 33 46.0	+2.7
DBOC	Borcka	1.40	25	IAML_P			
	comp=Z,820nm,0.1s						
DBOC				iP	Pn	03 33 27.5	-0.4

NEIC 10 03:35:18.9±0.9, 12°21S×76°67W, h77km±9km, mb4.1/2, Error ellipse: s-maj=54.9km s-min=10.1km az=49.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.28**	**323**	*e*Pn	Pn	03 35 30.9	0.0
NNA				*e*Sn	Sn	03 35 38.7	-1.0
LPAZ	**La Paz**	**9.22**	**117**	*e*Pn	Pn	03 37 29.7	0.0
MNMC	**Minye Minye**	**9.68**	**136**	*e*Pn	Pn	03 37 35.7	0.0
PB11	**IPOC Station P**	**10.09**	**139**	*e*Pn	Pn	03 37 41.2	+0.1
GO01	**Chusmiza**	**10.33**	**137**	*e*Pn	Pn	03 37 44.8	+0.1
CPUP	**Villa Florida** 13nm,1.8s	**22.99**	**130**	*e*P	P	03 40 17.2	-0.1
RSSD	**Black Hills** 0.9nm,0.5s	**61.34**	**338**	*e*P	P	03 45 26.9	0.0

*ISCJB **10** 03:35:36.2±0.6, 4°.56N±0°.04×125°.7E±0°.1, h200km, mb3.8/3, Error ellipse: s-maj=15.7km s-min=5.2km az=169.9*
*IDC **10** 03:35:37.4±7.6, 2°.59N×126°.34E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/24, mbtmp4.0/3, Error ellipse: s-maj=169.2km s-min=118.6km az=72.0*
*MAN **10** 03:35:40.1, 4°.71N×125°.93E, h123km, MS2.9*
*DJA **10** 03:35:40.1±0.8, 4°.N±5°×12°.6E±°, h181km±5km, M4.2/8, mb4.1/5, mB5.3/2, MLv4.2/8, Mw(mB)4.7/2*
ISC 10 03:35:37.5±0.9, 4°.50N±0°.05×125°.7E±0°.1, h200km, n15, σ2§92/21, mb3.9/3, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.81**	**188**	P	**Pn**	**03 36 08.9**	**+2.8**
SGSI				S	**Sn**	**03 36 24.1**	**-4.3**
SKMP	**Bagumbayan, Su**	**2.29**	**331**	*e*P	**Pn**	**03 36 18.0**	**-1.1**
SKMP				*e*S	**Sn**	**03 36 48.8**	**-2.9**
MATI	**Mati**	**2.51**	**14**	*e*P	Pn	03 36 17.4	-4.1
MATI				*e*S	Sn	03 36 35.9	-20
DMPH	**Davao City--Mi**	**2.58**	**357⇑**	*e*P	**Pn**	**03 36 23.6**	**+1.3**
DMPH				*e*S	**Sn**	**03 36 58.0**	**+0.6**
CTBH	**Cotabato--PC H**	**3.05**	**333⇑**	*i*P	**Pn**	**03 36 27.2**	**-0.5**
CTBH				*i* S	**Sn**	**03 37 03.4**	**-3.7**
BUKP	**Musuan**	**3.41**	**350**	*e*P	**Pn**	**03 36 31.1**	**-1.1**
BUKP				*e*S	**Sn**	**03 37 12.4**	**-2.6**
TNTI	**Ternate**	**4.08**	**155**	P	**Pn**	**03 36 39.9**	**-0.4**
TNTI				S	**Sn**	**03 37 25.3**	**-4.4**
KMSI	**Cibinong**	**4.24**	**203**	P	**Pn**	**03 36 41.7**	**-0.6**
MRSI	**Marisa** 16nm,0.7s,0.1nm	**5.45**	**223**	P	**Pn**	**03 37 00.7**	**+3.0**
LUWI	**Luwuk**	**6.21**	**208**	P	**Pn**	**03 37 07.2**	**-0.3**
SANI	**Sanana** 64nm,0.5s,3μm0.4nm	**6.51**	**177**	P	**Pn**	**03 37 10.1**	**-1.3**
SANI	64nm,0.5s,3μm0.4nm			S	**Sn**	**03 38 19.3**	**-6.6**
APSI	**Ampana**	**6.69**	**217**	P	**Pn**	**03 37 14.5**	**+0.7**
WRA	**Warramunga Arr** 0.9nm,0.4s,baz=339,slow=10,SNR=18	**25.74**	**161**	P	**P**	**03 40 51.9**	**+2.0**
ASAR	**Alice Springs** 1.1nm,0.5s,baz=344,slow=7.3,SNR=22	**29.13**	**164**	P	**P**	**03 41 23.1**	**+3.1**
STKA	**Stephens Creek** 1.7nm,0.5s,baz=333,slow=9.0,SNR=3.5	**39.23**	**158**	P	**P**	**03 42 48.9**	**+2.3**

IDC 10 03:56:14.9±2.2, 6°.05S×130°.08E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.5/28, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=96.8km s-min=28.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=22,slow=15,SNR=3.3	**12.73**	**200**	Pn	Pn	03 59 16.9	-0.5
FITZ	0.0nm,0.3s,baz=3.2,slow=18,SNR=2.0			Sn	Sn	04 01 21.8	-18
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=348,slow=13,SNR=2.9	**14.41**	**164**	Pn	Pn	03 59 41.0	+0.6
WRA	0.1nm,0.3s,baz=334,slow=22,SNR=3.3			Sn	Sn	04 02 06.0	-15
ASAR	**Alice Springs** 0.1nm,0.3s,baz=343,slow=10,SNR=5.5	**17.89**	**169**	P	Pn	04 00 25.2	-0.2
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=108,slow=9.5,SNR=3.0	**67.48**	**327**	P	P	04 07 12.8	+0.1

*ISCJB **10** 04:06:18.8±0.4, 76°.93N±0°.03×18°.9E±0°.1, h10km, Error ellipse: s-maj=5.5km s-min=3.2km az=145.9*
*NAO **10** 04:06:21.5±0.9, 76°.97N×18°.86E, h14km±9km, ML3.4*
*BER **10** 04:06:22.4±2.4, 76°.99N×18°.93E, h9km, ML2.8, MW3.3, ML3.4(NAO), Confirmed Earthquake*
*IEPN **10** 04:06:23.0, 77°.09N×19°.58E, h10km*
ISC 10 04:06:20.9±0.7, 77°.02N±0°.04×19°.13E±0°.03, h10km, n23, σ1§45/37, 2C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.81**	**271**	Pg	**Pg**	**04 06 36.8**	**+0.4**
HSP				Lg	Lg	04 06 46.4	
HSPB	**Hornsund (broa**	**0.81**	**270**	*e*P	**Pg**	**04 06 36.6**	**+0.1**
HSPB				*e*S	**Sg**	**04 06 46.5**	**-0.6**
HSPB	comp=Z,282nm,0.3s			IAML		04 06 50.5	
SPA0	**Spitsbergen Ar** baz=149,slow=18	**1.30**	**334**	Pn	**Pn**	**04 06 45.5**	**+0.3**
SPA0	baz=149,slow=22			Pg	**Pb**	**04 06 46.6**	**+1.2**
SPA0	baz=162,slow=37			Lg	Lg	04 07 02.9	
SPA0	**Spitsbergen Ar**	**1.30**	**334⇓**	*i*P	**Pn**	**04 06 45.7**	**+0.5**
SPA0				*i* S	**Sb**	**04 07 02.5**	**+0.3**
SPA0	**Spitsbergen Ar** baz=149,slow=18	**1.30**	**334**	Pn	**Pn**	**04 06 45.5**	**+0.3**
SPA0	baz=149,slow=22			Pg	**Pb**	**04 06 46.6**	**+1.2**
SPA0	baz=162,slow=37			Sg	**Sb**	**04 07 02.9**	**+0.7**
SPA0	comp=Z,176nm,0.3s			IAML		04 07 06.5	
HOPEN	**Hopen**	**1.45**	**108**	Pn	**Pn**	**04 06 47.8**	**+0.7**
HOPEN				Pg	**Pg**	**04 06 49.9**	**+1.2**
HOPEN				Lg	Lg	04 07 08.2	
HOPEN	**Hopen**	**1.45**	**108**	*e*P	**Pn**	**04 06 47.8**	**+0.7**
HOPEN				*e*Pg	**Pg**	**04 06 50.1**	**+1.4**
HOPEN				*e*S	**Sb**	**04 07 06.1**	**-0.2**
HOPEN				*e*Sg	**Sg**	**04 07 08.2**	**+0.8**
HOPEN	comp=Z,601nm,0.3s			IAML		04 07 11.8	
KBS	**Kingsbay**	**2.43**	**325**	Pn	**Pn**	**04 07 00.5**	**-0.1**
KBS				Pg	**Pb**	**04 07 06.5**	**+1.9**
KBS				Lg	Lg	04 07 36.6	
KBS	**Kingsbay**	**2.43**	**325⇑**	*i*P	**Pn**	**04 07 00.3**	**-0.3**
KBS				*e*S	**Sn**	**04 07 29.3**	**-1.0**
KBS	**Kingsbay**	**2.43**	**325**	Pn	**Pn**	**04 07 00.5**	**-0.1**
KBS				Pg	**Pb**	**04 07 06.5**	**+1.9**
KBS				Sg	**Sb**	**04 07 36.6**	**+2.0**
BJO	**Bjornoya**	**2.53**	**180**	*e*Pg	**Pb**	**04 07 07.5**	**+1.1**
BJO				*e*Sg	**Sb**	**04 07 39.7**	**+2.2**
BJO	comp=Z,95nm,0.4s			IAML		04 07 44.9	
BJO1	**Bjornoya**	**2.54**	**181**	Pg	**Pb**	**04 07 07.5**	**+1.0**
BJO1				Lg	Lg	04 07 39.8	
HAMF	**Hammerfest**	**6.54**	**167**	*e*P	**Pn**	**04 07 56.6**	**-0.4**
HAMF				*e*S	Sn	04 09 03.0	-8.4
ZFI2	**Zemlya Franca-**	**6.60**	**42⇑**	*i*P	**Pn**	**04 07 58.3**	**+0.6**
ZFI2	comp=Z,3.3nm,0.2s			*i* S	**Sn**	**04 09 08.7**	**-4.1**
KEV	**Kevo**	**7.64**	**159**	Pn	**Pn**	**04 08 10.5**	**-1.4**
KEV				Sn	Sn	04 09 31.2	-7.2
KEV	**Kevo**	**7.64**	**159**	*e*P	**Pn**	**04 08 10.6**	**-1.4**
KEV				*e*S	Sn	04 09 30.3	-8.1
ARA0	**ARCESS Array S** baz=354,slow=12	**7.74**	**163**	Pn	**Pn**	**04 08 12.0**	**-1.5**
ARA0	**ARCESS Array S** baz=354,slow=12	**7.74**	**163**	Pn	**Pn**	**04 08 12.0**	**-1.5**
ARE0	**ARCESS Array S**	**7.74**	**163**	*e*P	**Pn**	**04 08 12.7**	**-0.8**
ARE0				*e*S	Sn	04 09 32.4	-8.7
KIF	**Kilpisjarvi**	**8.08**	**176**	Pn	Pn	04 08 16.1	-1.9
KIF	**Kilpisjarvi**	**8.08**	**176**	*e*P	**Pn**	**04 08 16.1**	**-1.9**
KIF				*e*S	Sn	04 09 40.9	-8.4
APA0	**Apatity Array** baz=338,slow=12	**10.31**	**149**	Pn	**Pn**	**04 08 46.0**	**-2.5**
APA0	**Apatity Array** baz=338,slow=12	**10.31**	**149**	Pn	**Pn**	**04 08 46.0**	**-2.5**

*IDC **10** 04:09:44.6±4.0, 17°.93S×178°.43W, h476km±44km, mb3.1/8, mb1 3.4/8, mb1mx3.2/30, mbtmp3.9/8, Error ellipse: s-maj=25.2km s-min=14.8km az=113.0*
ISC 10 04:09:53.4±0.8, 17°.95S±0°.2×178°.7W±0°.2, h579km, n10, σ1§84/12, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 2.8nm,0.4s,baz=30,slow=20,SNR=4.6	**20.60**	**189**	P	**P**	**04 13 49.7**	**-3.6**
URZ	2.7nm,0.4s,baz=216,slow=20,SNR=5.3			S	**S**	**04 17 10.2**	**+3.0**
STKA	**Stephens Creek** 1.5nm,0.5s,baz=92,slow=9.7,SNR=6.6	**38.41**	**241**	P	**P**	**04 16 26.3**	**-0.1**
WRA	**Warramunga Arr** 1.2nm,0.5s,baz=95,slow=7.0,SNR=20	**44.39**	**260**	P	**P**	**04 17 13.2**	**-0.5**
ASAR	**Alice Springs** 9.9nm,0.6s,baz=89,slow=8.2,SNR=125	**44.55**	**254**	P	**P**	**04 17 15.3**	**+0.3**
ASAR	0.2nm,0.4s,baz=95,slow=4.6,SNR=3.4			PcP	**PcP**	**04 18 47.0**	**+1.6**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=219,slow=7.0,SNR=3.4	**79.60**	**44**	P	**P**	**04 21 00.3**	**-1.2**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=210,slow=5.2,SNR=4.0	**85.95**	**13**	P	**P**	**04 21 31.6**	**-0.8**
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=217,slow=5.9,SNR=4.7	**86.21**	**58**	P	**P**	**04 21 36.1**	**+1.5**
PDAR	**Pinedale Array** 0.3nm,0.4s,baz=269,slow=4.1,SNR=2.5	**87.53**	**44**	P	**P**	**04 21 41.2**	**+0.5**
BRTR	**Keskin Array B** 0.8nm,0.7s,baz=48,slow=1.2,SNR=6.1	**144.61**	**315**	PKP	**PKPab**	**04 28 26.9**	**+0.8**
GERES	**GERESS Array B** 0.9nm,0.5s,baz=22,slow=3.3,SNR=8.8	**147.55**	**345**	PKPbc	**PKiKP**	**04 28 34.4**	**-0.4**

*IDC **10** 04:12:50.6±1.0, 30°.05N×102°.86E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/35, mbtmp3.7/8, ML2.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/37, Error ellipse: s-maj=38.1km s-min=18.5km az=59.0*
*ISCJB **10** 04:12:53.5±1.0, 30°.0N±0°.1×102°.9E±0°.2, h33km, mb3.7/7, MS2.8/1, Error ellipse: s-maj=27.1km s-min=15.9km az=151.9*
ISC 10 04:12:55.8±1.2, 30°.1N±0°.2×102°.9E±0°.2, h35km, n8, σ0§84/8, mb3.7/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.0nm,0.3s,baz=193,slow=10.0,SNR=2.7	**17.93**	**8**	P	**P**	**04 17 03.2**	**+0.5**
KSRS	**Korea Array** 4.3nm,0.9s,baz=244,slow=10,SNR=3.9	**22.00**	**64**	P	**P**	**04 17 46.8**	**-0.2**
KSRS	comp=Z,32nm,18.8s,baz=220,slow=39			LR	LR	04 27 02.8	
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=127,slow=14,SNR=3.6	**23.12**	**322**	P	**P**	**04 18 00.0**	**+1.3**
KURBB	**Kurchatov Arra** 0.3nm,0.2s,baz=132,slow=9.4,SNR=2.3	**27.47**	**325**	P	**P**	**04 18 37.6**	**-0.8**
ARCES	**ARCESS Array B** 1.8nm,1.0s,baz=80,slow=10,SNR=2.5	**57.77**	**336**	P	**P**	**04 22 42.2**	**-0.9**
WRA	**Warramunga Arr** 1.6nm,0.7s,baz=336,slow=7.5,SNR=12	**58.21**	**145**	P	**P**	**04 22 46.8**	**+0.1**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=337,slow=6.5,SNR=3.3	**61.17**	**147**	P	**P**	**04 23 07.3**	**+0.3**
YKA	**Yellowknife Ar** 0.4nm,0.6s,baz=328,slow=5.1,SNR=8.5	**82.96**	**17**	P	**P**	**04 25 17.0**	**+0.1**

IDC 10 04:22:31.4±1.4, 29°.79N×103°.40E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/38, mbtmp3.4/4, MS3.1/1, Ms1 3.0/1, ms1mx2.4/28, Error ellipse: s-maj=44.4km s-min=27.1km az=57.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array** 1.2nm,0.8s,baz=256,slow=9.9,SNR=2.7	**21.76**	**63**	P	P	04 27 24.4	-0.2
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=115,slow=10,SNR=3.9	**23.60**	**322**	P	P	04 27 43.8	-0.1
KBZ	**Khabaz** comp=Z,22nm,21.1s,baz=238,slow=38	**49.40**	**304**	LR	LR	04 54 06.0	
WRA	**Warramunga Arr** 1.0nm,0.7s,baz=337,slow=7.5,SNR=5.0	**57.74**	**145**	P	P	04 32 23.7	-0.6
ASAR	**Alice Springs** 0.4nm,1.0s,baz=331,slow=7.5,SNR=3.0	**60.70**	**148**	P	P	04 32 45.1	+0.3

JMA 10 04:28:11.8±0.2, 24°.75N×123°.24E, h33km, M1.2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.35**	**216**	P	Pb	04 28 19.9	-0.4
YOJ				*e*S	Sb	04 28 25.7	-0.3
IRIF	**Iriomote-Funau**	**0.61**	**133**	P	Pn	04 28 23.8	-0.3
IRIF				*e*S	Sb	04 28 31.7	-0.9
JKRS	**Kuro-shima**	**0.87**	**126**	S	Sn	04 28 39.1	-0.1
JIJ	**Ishigaki jima**	**0.91**	**115**	P	Pn	04 28 27.9	-0.3
JIJ				*e*S	Sn	04 28 39.8	-0.4

TAP 10 04:28:50.1, 24°.90N×122°.66E, h18km±2km, ML2.5, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima** baz=143	**0.54**	**144**	P	Pg	04 29 00.7	-0.3
YOJ	baz=143			S	Sg	04 29 07.8	-0.4
EOS1	**EOS1** baz=224	**0.60**	**234**	*e*P	Pb	04 29 01.9	0.0
EOS1	baz=224			S	Sb	04 29 10.7	+0.8
TIPB	**Shuangxi** baz=275	**0.76**	**276**	P	Pb	04 29 04.5	-0.3
TIPB	baz=275			*e*S	Sg	04 29 16.0	+0.8
TWC	**Suao** baz=248	**0.79**	**249**	*e*P	Pg	04 29 05.8	+0.1
WFSB	**Wu-fen Shan** baz=282	**0.82**	**282**	*e*P	Pb	04 29 05.5	-0.2
PCYT	**Pengchaiyu** baz=332	**0.90**	**324**	*e*P	Pb	04 29 07.3	+0.1
NANB	**Nanao** baz=240	**0.95**	**241**	*e*P	Pb	04 29 07.7	-0.4
ENA	**Nanau** baz=240	**0.96**	**241**	*e*P	Pb	04 29 07.5	-0.7
YM07	**YM07** baz=286	**0.98**	**286**	*e*P	Pg	04 29 09.2	0.0
YM08	**YM08** baz=287	**1.01**	**287**	*e*P	Pb	04 29 09.2	+0.1
ANP	**Anpu** baz=286	**1.07**	**286**	*e*P	Pb	04 29 08.8	-1.5
YHNB	**Yeheng** baz=273	**1.19**	**259**	*e*P	Pn	04 29 11.4	-0.6
NACB	**Ninganchiao** baz=224	**1.21**	**234**	*e*P	Pn	04 29 12.0	-0.1
TWD	**Chiawan** baz=229	**1.27**	**230**	*e*P	Pn	04 29 11.8	-1.2

IPEC 10 04:32:51.1±0.2, 49°.84N×18°.49E, h1km±3km, ML1.6/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne** comp=Z,114nm,0.8s	**0.22**	**270**	*e*PG	Pg	04 32 55.7	+0.3
OKC				*e*SG	Sg	04 32 58.2	-0.1
MORC	**Moravsky Berou** baz=84	**0.62**	**265**	*e*PG	Pg	04 33 03.2	+0.3
MORC				*e*SG	Sg	04 33 10.6	-0.4
MORC	**Moravsky Berou** baz=84	**0.62**	**265**	*e*Pg	Pg	04 33 03.2	+0.3
MORC	18nm,0.4s,baz=84			*e*Sg	Sg	04 33 10.5	-0.5
OJC	**Ojcow**	**0.92**	**65**	*e*Pg	Pg	04 33 08.9	+0.1
OJC				*e*Sg	Sb	04 33 22.4	-0.2
LANS	**Liptovska Anna**	**0.94**	**137**	*e*PG	Pb	04 33 09.7	-0.4
LANS				*e*SG	Sb	04 33 23.8	+0.7
JAVC	**Velka Javorina**	**1.12**	**209**	*e*PG	Pb	04 33 13.3	+0.1
JAVC				*e*SG	Sg	04 33 27.0	0.0
KRLC	**Kraliky**	**1.13**	**283**	*e*PG	Pg	04 33 12.7	0.0
KRLC				*e*SG	Sg	04 33 26.6	-0.8
NIE	**Niedzica** comp=Z,2.9nm,0.3s	**1.25**	**109**	*e*Pg	Pb	04 33 15.5	+0.1
NIE				*e*Sg	Sn	04 33 33.3	+0.2
VRAC	**Vranov**	**1.35**	**247**	*e*PG	Pg	04 33 16.2	-0.7
VRAC				*e*SG	Sg	04 33 33.2	-1.1
VRAC	**Vranov** baz=66	**1.35**	**247**	*e*Pg	Pg	04 33 16.1	-0.8
VRAC	8.1nm,0.2s,baz=66			*e*Sg	Sg	04 33 33.2	-1.1
VYHS	**Vyhne**	**1.36**	**170**	*e*PG	Pg	04 33 16.5	-0.7
VYHS				*e*SG	Sg	04 33 34.8	-0.1
DPC	**Dobruska-Polom**	**1.49**	**291**	*e*PG	Pn	04 33 18.3	-0.7
DPC	comp=Z,7.2nm,0.6s			*e*SG	Sg	04 33 38.2	-0.7
KRUC	**Moravsky**	**1.57**	**241**	*e*PG	Pn	04 33 19.6	-0.5
KRUC				*e*SG	Sn	04 33 40.4	-0.7
KRUC	**Moravsky** baz=60	**1.57**	**241**	*e*Pg	Pn	04 33 19.6	-0.5
KRUC	3.8nm,0.2s,baz=60			*e*Sg	Sn	04 33 40.4	-0.7
UPC	**Upice**	**1.73**	**294**	*e*PG	Pb	04 33 23.1	-0.5
UPC				*e*SG	Sb	04 33 45.7	-0.1
PRU	**Pruhonice**	**2.56**	**275**	*e*SG	Sb	04 34 10.5	+0.9
KHC	**Kasperske Hory**	**3.28**	**259**	*e*PG	Pb	04 33 50.0	-0.1
KHC				*e*SG	Sb	04 34 32.6	+2.1

ROM 10 04:36:55.6±0.0, 43°.459N±0°.002×12°.302E±0°.003, h10km, ML0.8/6, Error ellipse: s-maj=0.3km s-min=0.2km az=310.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.05**	**269**	P	Pg	04 36 58.0	+0.3
CDCA				S	Sg	04 36 59.6	+0.5
CDCA	**Citt' di Caste**	**0.05**	**269**	P	Pg	04 36 58.0	+0.3
CDCA	**Citt' di Caste**	**0.05**	**269**	P	Pg	04 36 58.0	+0.3
CDCA	**Citt' di Caste**	**0.05**	**269**	S	Sg	04 36 59.6	+0.4
ATVO	**AVT- Monte Val**	**0.11**	**135**	P	Pg	04 36 58.7	+0.3
ATVO	**AVT- Monte Val**	**0.11**	**135**	P	Pg	04 36 58.9	+0.5
ATVO				S	Sg	04 37 01.1	+0.6
ATVO	comp=E,97μm,0.2s			AML	AML		
ATVO	comp=N,130μm,0.7s			AML	AML		
ATVO	comp=E,97μm,0.2s			AML	AML		
ATVO	comp=N,130μm,0.7s			AML	AML		
ATVO	comp=E,97μm,0.2s			AML	AML		
ATVO	comp=N,130μm,0.7s			AML	AML		
ATVO	**AVT- Monte Val**	**0.11**	**135**	P	Pg	04 36 58.9	+0.5
ATVO	**AVT- Monte Val**	**0.11**	**135**	S	Sg	04 37 01.1	+0.6
ATMI	**Monte Miggiano**	**0.13**	**191**	P	Pg	04 36 59.3	+0.6
ATMI				S	Sg	04 37 01.7	+0.8
ATMI	comp=E,118μm,0.4s			AML	AML		
ATMI	comp=N,85μm,0.4s			AML	AML		
ATMI	comp=E,117μm,0.4s			AML	AML		
ATMI	comp=N,85μm,0.4s			AML	AML		
ATMI	comp=E,117μm,0.4s			AML	AML		
ATMI	comp=N,85μm,0.4s			AML	AML		
ATMI	**Monte Miggiano**	**0.13**	**191**	P	Pg	04 36 59.3	+0.6
ATMI	**Monte Miggiano**	**0.13**	**191**	P	Pg	04 36 59.3	+0.6
ATMI	**Monte Miggiano**	**0.13**	**191**	S	Sg	04 37 01.7	+0.8
PIEI	**Pieia**	**0.19**	**66**	P	Pg	04 37 00.1	+0.5
PIEI				S	Sg	04 37 04.0	+1.6
PIEI	comp=E,44μm,0.4s			AML	AML		
PIEI	comp=N,29μm,0.4s			AML	AML		
PIEI	comp=E,44μm,0.4s			AML	AML		
PIEI	comp=N,29μm,0.4s			AML	AML		
PIEI	comp=E,44μm,0.4s			AML	AML		
PIEI	comp=N,29μm,0.4s			AML	AML		
PIEI	**Pieia**	**0.19**	**66**	P	Pg	04 37 00.2	+0.6
PIEI	**Pieia**	**0.19**	**66**	P	Pg	04 37 00.3	+0.6
PIEI	**Pieia**	**0.19**	**66**	S	Sg	04 37 04.0	+1.5
PARC	**Parchiule**	**0.20**	**346**	P	Pg	04 37 00.4	+0.6
PARC				S	Sg	04 37 04.0	+1.3
PARC	comp=E,42μm,0.8s			AML	AML		
PARC	comp=N,45μm,0.8s			AML	AML		
PARC	comp=E,42μm,0.8s			AML	AML		
PARC	comp=N,45μm,0.8s			AML	AML		
PARC	comp=N,45μm,0.8s			AML	AML		
PARC	comp=E,42μm,0.8s			AML	AML		
PARC	**Parchiule**	**0.20**	**346**	P	Pg	04 37 00.5	+0.7
PARC	**Parchiule**	**0.20**	**346**	S	Sg	04 37 03.9	+1.2
ATFO	**Monte Foce - G**	**0.22**	**115**	P	Pg	04 37 00.8	+0.6
ATFO				S	Sg	04 37 04.6	+1.3
ATFO	**Monte Foce - G**	**0.22**	**115**	P	Pg	04 37 00.9	+0.7
ATFO	**Monte Foce - G**	**0.22**	**115**	S	Sg	04 37 04.5	+1.2
NARO	**Abbazia di Nar**	**0.25**	**53**	P	Pg	04 37 01.3	+0.5
NARO				S	Sb	04 37 05.6	-1.1
NARO	comp=E,24μm,0.6s			AML	AML		
NARO	comp=N,22μm,0.1s			AML	AML		
NARO	comp=E,24μm,0.6s			AML	AML		
NARO	comp=N,22μm,0.1s			AML	AML		
NARO	comp=E,24μm,0.6s			AML	AML		
NARO	comp=N,22μm,0.1s			AML	AML		
NARO	**Abbazia di Nar**	**0.25**	**53**	P	Pg	04 37 01.3	+0.5
NARO	**Abbazia di Nar**	**0.25**	**53**	S	Sb	04 37 05.6	-1.1
CAFI	**Castiglion Fio**	**0.28**	**242**	P	Pb	04 37 02.0	-0.7
CAFI				S	Sb	04 37 06.5	-0.9
CAFI	comp=E,13μm,0.1s			AML	AML		
CAFI	comp=N,12μm,0.5s			AML	AML		
CAFI	comp=E,12μm,0.1s			AML	AML		
CAFI	comp=N,12μm,0.5s			AML	AML		
CAFI	comp=E,12μm,0.1s			AML	AML		
CAFI	comp=N,12μm,0.5s			AML	AML		
CAFI	**Castiglion Fio**	**0.28**	**242**	P	Pb	04 37 02.0	-0.6

MEX 10 04:42:51.8±0.5, 18°.23N×101°.77W, h16km±26km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.68**	**155**	*e*P	Pg	04 43 02.7	-2.5
ZIIG				*i* S	Sg	04 43 10.9	-3.3
ARIG	**Puente Sto Nin**	**1.35**	**88**	*e*P	Pn	04 43 12.0	-4.1
ARIG				*e*S	Sn	04 43 28.4	-5.3
CAIG	**El Cayaco**	**1.85**	**129**	*e*P	Pn	04 43 19.9	-3.0
CAIG				*e*S	Sn	04 43 40.9	-5.0

*SOME **10** 05:01:11.7, 43°.77N×82°.00E, h20km*
*NNC **10** 05:01:13.8±1.2, 43°.70N×81°.85E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=11.1km s-min=4.7km az=138.0*
ISC 10 05:01:10.6±1.7, 43°.65N±0°.05×82°.03E±0°.05, h13km±11km, n45, σ1§84/74, 8C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 74nm,0.3s	**1.24**	**261**	P	**Pg**	**05 01 34.9**	**+0.5**
KTMS	104nm,0.2s			S	**Sb**	**05 01 51.2**	**+1.4**

KTMS	**Ketmen**	**1.24 261**	*e*P		**Pg**	**05 01 34.9 +0.5**
	74nm,0.3s					
KTMS			*e*S		**Sb**	**05 01 51.2 +1.4**
	134nm,0.2s					
DJR	**Jarkent**	**1.75 294**	P		**Pg**	**05 01 44.1 -0.1**
	70nm,0.2s					
DJR			S		**Sg**	**05 02 07.7 +0.6**
	528nm,0.4s					
DJR	**Jarkent**	**1.75 294**	*e*P		**Pg**	**05 01 44.1 -0.1**
	66nm,0.5s					
DJR			*e*S		**Sg**	**05 02 07.7 +0.6**
	482nm,0.4s					
PDGK	**Podgornoye**	**1.88 261**	P		**Pb**	**05 01 45.6 +0.8**
	9.2nm,0.2s					
PDGK			S		**Sg**	**05 02 10.4 -0.6**
	96nm,0.4s					
PDGK	**Podgornoye**	**1.88 261**	⇓Pn		**Pb**	**05 01 45.6 +0.8**
	9.1nm,0.5s					
PDGK			⇓Sn		**Sb**	**05 02 09.7 +1.5**
	100nm,0.4s					
SHLS	**Shalkode**	**1.94 256**	P		**Pn**	**05 01 42.3 -1.0**
	52nm,0.1s					
SHLS			S		**Sn**	**05 02 04.0 -3.7**
	522nm,0.4s					
SHLS	**Shalkode**	**1.94 256**	*e*P		**Pn**	**05 01 42.3 -1.0**
	52nm,0.1s					
SHLS			*e*S		**Sn**	**05 02 04.3 -3.3**
	522nm,0.4s					
UZB	**Uzynbulak**	**2.25 258**	Pg		**Pb**	**05 01 52.5 +1.3**
	16nm,0.2s					
UZB			Lg		Lg	05 02 21.7
	83nm,0.2s					
UZB	**Uzynbulak**	**2.25 258**	*e*P		**Pb**	**05 01 52.5 +1.3**
	10nm,0.3s					
UZB			*e*S		**Sb**	**05 02 21.7 +2.7**
	101nm,0.4s					
KPKS	**Kokpek**	**2.44 267**	*e*P		**Pb**	**05 01 54.9 +0.5**
	22nm,0.1s					
KPKS			*e*S		**Sb**	**05 02 26.4 +1.9**
	156nm,0.2s					
KAPS	**Kapalarasan**	**2.52 311**	Pg		**Pb**	**05 01 56.2 +0.5**
	18nm,0.5s					
KAPS			Lg		Lg	05 02 28.6
	61nm,0.5s					
KAPS	**Kapalarasan**	**2.52 311**	⇓*i*P		**Pb**	**05 01 56.2 +0.5**
	18nm,0.5s					
KAPS			*e*S		**Sg**	**05 02 28.6 -2.9**
	61nm,0.5s					
MNBS	**Baschi**	**2.66 281**	Pg		**Pb**	**05 01 58.7 +0.6**
MNBS			Lg		Lg	05 02 32.6
MNBS	**Baschi**	**2.66 281**	*e*P		**Pb**	**05 01 58.7 +0.6**
MNBS			*e*S		**Sb**	**05 02 32.6 +1.8**
ZHN	**Zhinishke**	**2.67 261**	Pg		**Pb**	**05 01 59.5 +1.3**
	11nm,0.2s					
ZHN			Lg		Lg	05 02 34.9
	88nm,0.2s					
ZHN	**Zhinishke**	**2.67 261**	*e*P		**Pb**	**05 01 59.5 +1.3**
	5.0nm,0.3s					
ZHN			*e*S		**Sg**	**05 02 34.2 -2.0**
	88nm,0.2s					
SATY	**Saty**	**2.71 259**	Pg		**Pb**	**05 02 00.1 +1.1**
	10nm,0.2s					
SATY			Lg		Lg	05 02 35.1
	171nm,0.2s					
SATY	**Saty**	**2.71 259**	*e*P		**Pb**	**05 02 00.1 +1.1**
	10nm,0.2s					
SATY			*e*S		**Sb**	**05 02 35.1 +2.9**
	171nm,0.2s					
KURS	**Kuram**	**2.81 268**	Pg		**Pb**	**05 02 01.3 +0.6**
	5.7nm,0.4s					
KURS			Lg		Lg	05 02 38.2
	27nm,0.5s					
KURS	**Kuram**	**2.81 268**	*e*P		**Pb**	**05 02 01.3 +0.6**
	3.0nm,1.3s					
KURS			*e*S		**Sb**	**05 02 37.3 +2.3**
	30nm,0.7s					
TDK	**Taldyqorghan**	**2.93 299**	*e*P		**Pb**	**05 02 04.7 -2.1**
	56nm,0.3s					
TDK			*e*S		**Sg**	**05 02 42.6 -2.1**
	130nm,0.4s					
ARXS	**Arharly**	**3.09 282**	Pg		**Pb**	**05 02 06.7 +1.2**
	14nm,0.3s					
ARXS			Lg		Lg	05 02 46.1
	86nm,0.3s					
ARXS	**Arharly**	**3.09 282**	*e*P		**Pb**	**05 02 06.7 +1.2**
	14nm,0.3s					
ARXS			*e*S		**Sg**	**05 02 46.0 -3.7**
	86nm,0.3s					
MK31	**Makanchi Array**	**3.15 3**	⇑Pn		**Pb**	**05 02 04.3 -2.1**
	0.4nm,0.3s,baz=77,slow=29,SNR=62					
MK31			⇓Pg		**Pg**	**05 02 12.9 +2.0**
	1.2nm,0.3s,baz=180,slow=14,SNR=6.0					
MK31			⇓Lg		Lg	05 02 49.2
	12nm,0.5s,baz=184,slow=29,SNR=7.4					
MAKZ	**Makanchi**	**3.16 359**	⇑Pn		**Pb**	**05 02 03.9 -2.7**
	1.3nm,0.3s					
MAKZ			⇓Pg		**Pg**	**05 02 13.6 +2.5**
	6.0nm,0.5s					
MAKZ			⇑Lg		Lg	05 02 49.3
	7.3nm,0.4s					
KOTS	**Kotyrbulak**	**3.61 265**	Pg		**Pb**	**05 02 15.6 +1.3**
	4.8nm,0.3s					
KOTS			Lg		Lg	05 03 02.0
	40nm,0.4s					
KOTS	**Kotyrbulak**	**3.61 265**	*e*P		**Pb**	**05 02 15.6 +1.3**
	4.8nm,0.3s					
KOTS			*e*S		**Sb**	**05 03 02.0 +4.0**
	40nm,0.4s					
CHKK	**Chushkaly**	**3.66 275**	Pg		**Pb**	**05 02 16.1 +0.9**
	5.7nm,0.1s					
CHKK			Lg		Lg	05 03 02.3
	55nm,0.2s					
CHKK	**Chushkaly**	**3.66 275**	*e*P		**Pb**	**05 02 16.1 +0.9**
	5.7nm,0.1s					
CHKK			*e*S		**Sb**	**05 03 02.3 +2.9**
	55nm,0.2s					
MDOK	**Medeo**	**3.66 264**	Pg		**Pg**	**05 02 20.2 -0.5**
	3.8nm,0.4s					
MDOK			Lg		Lg	05 03 07.1
	14nm,0.4s					
MDOK	**Medeo**	**3.66 264**	*e*P		**Pb**	**05 02 16.9 +1.6**
	2.3nm,0.3s					
MDOK			*e*S		**Sb**	**05 03 03.5 +3.8**
	22nm,0.5s					
TNSS	**Tian-Shan**	**3.76 262**	*e*P		**Pb**	**05 02 16.9 -0.1**
	3.3nm,0.5s					
TNSS			*e*S		**Sb**	**05 03 03.5 +0.8**
	23nm,0.5s					
KTBS	**Karatobe**	**3.88 273**	Pg		**Pb**	**05 02 19.8 +0.9**
	2.1nm,0.3s					
KTBS			Lg		Lg	05 03 09.0
	27nm,0.5s					
KTBS	**Karatobe**	**3.88 273**	*e*P		**Pb**	**05 02 19.8 +0.9**
	2.1nm,0.3s					
KTBS			*e*S		**Sb**	**05 03 09.0 +3.2**
	27nm,0.5s					
MTBS	**Maitube**	**4.12 265**	*e*P		**Pg**	**05 02 27.7 -1.7**
	2.1nm,0.1s					
MTBS			*e*S		**Sg**	**05 03 22.1 -0.6**
	25nm,0.5s					
KUU	**Kurty**	**4.13 275**	*e*P		**Pb**	**05 02 24.7 +1.5**
	1.6nm,0.1s					
KUU			*e*S		**Sb**	**05 03 16.9 +3.9**
	31nm,0.6s					
ZSN	**Zaisan**	**4.29 27**	*e*P		**Pb**	**05 02 25.6 -0.2**
	1.3nm,0.3s					
ZSN			*e*S		**Sb**	**05 03 18.8 +1.3**
	10nm,0.8s					
KST	**Kastek**	**4.47 264**	*e*P		**Pg**	**05 02 34.9 -1.2**
	3.9nm,0.7s					
KST			*e*S		**Sg**	**05 03 34.4 +0.4**
	27nm,0.5s					
DGS	**Degeres**	**4.58 267**	*e*P		**Pb**	**05 02 31.8 +1.0**
	1.5nm,0.5s					
DGS			*e*S		**Sb**	**05 03 29.1 +3.2**
	33nm,0.6s					
TKM2	**Tokmak 2**	**4.75 263**	⇑Pg		**Pg**	**05 02 40.9 -0.7**
	1.3nm,0.3s					
TKM2			⇑Lg		Lg	05 03 39.8
	6.0nm,0.3s					
AAK	**Ala-Archa**	**5.61 262**	Pg		**Pg**	**05 02 56.3 -1.6**
	1.8nm,0.8s					
AAK			Lg		Lg	05 04 05.0
	12nm,0.8s					
KURBB	**Kurchatov Arra**	**7.37 342**	⇑Pn		**Pn**	**05 03 00.1 +2.2**
	1.3nm,0.5s					
KURBB			⇑Lg		Lg	05 05 02.9
	12nm,0.7s					
KURK	**Kurchatov**	**7.44 343**	⇑Pn		**Pn**	**05 02 59.2 +0.4**
	2.4nm,1.0s					
KURK			⇓Lg		Lg	05 05 04.7
	8.9nm,0.8s					
OTUK	**Ortayu**	**8.17 308**	⇓Pn		**Pn**	**05 03 08.9 +0.1**
	1.1nm,0.8s					
OTUK			⇓Lg		Lg	05 05 25.9
	0.9nm,0.5s					

*ISK **10** 05:03:23.7, 40°.10N×40°.67E, h7km, ML2.4/6*
*ISCJB **10** 05:03:24.4±0.6, 40°.09N±0°.04×40°.69E±0°.05, h9km±6km, Error ellipse: s-maj=6.4km s-min=5.5km az=36.5*
*DDA **10** 05:03:24.0, 40°.08N×40°.66E, h7km±3km, ML3.4*
ISC 10 05:03:24.6±1.0, 40°.09N±0°.04×40°.66E±0°.03, h16km±8km, n14, σ0°66/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.15**	**241**	IAML_P			
	comp=Z,36μm,0.1s						
KOPT				*i* P	**Pg**	**05 03 28.9**	**0.0**
KOPT				*i* S	**Sg**	**05 03 32.0**	**+0.3**
KRIK	**Erzurum-spir**	**0.32**	**39**	*i* P	**Pb**	**05 03 31.4**	**-0.7**
BAYB	**BAYBURT**	**0.35**	**299**	*i* P	**Pg**	**05 03 31.7**	**-0.4**
BAYB				*i* S	**Sb**	**05 03 37.7**	**-0.4**
BAYT	**Aydıntepe-Bayb**	**0.50**	**307**	PG	**Pg**	**05 03 34.0**	**-0.7**
BAYT				SG	**Sg**	**05 03 41.3**	**-0.2**
ECAT	**Cat-ERZURUM**	**0.54**	**154**	*i* P	**Pg**	**05 03 35.0**	**-0.4**
YEDI	**Yedisu-Bingol**	**0.66**	**188**	PG	**Pg**	**05 03 37.1**	**-0.5**
YEDI				SG	**Sb**	**05 03 47.0**	**+0.2**
ERZN	**Erzincan**	**0.88**	**236**	PG	**Pg**	**05 03 40.9**	**-0.9**
KOPR	**Koprukoy-ERZUR**	**0.92**	**96**	PG	**Pg**	**05 03 41.7**	**-0.8**
KELT	**Kelkit**	**1.08**	**274**	IAML_P			
	comp=Z,2μm,0.1s						
KELT				*i* P	**Pg**	**05 03 44.6**	**-1.0**
KELT				*i* S	**Sb**	**05 03 59.9**	**+0.8**
MACK	**Trabzon**	**1.09**	**322**	IAML_P			
	comp=Z,7μm,0.1s						
MACK				*i* P	**Pn**	**05 03 45.9**	**+0.6**
KTUT	**Trabzon**	**1.13**	**323**	PN	**Pb**	**05 03 45.7**	**0.0**
BCA	**Borcka**	**1.54**	**28**	PN	**Pn**	**05 03 51.9**	**+0.5**
BATM	**Batumi**	**1.70**	**27**	PN	**Pn**	**05 03 54.5**	**+0.9**
BATM	**Batumi**	**1.70**	**27**	P	**Pb**	**05 03 55.5**	**0.0**
BATM				S	**Sb**	**05 04 17.4**	**+0.8**

NEIC 10 05:12:24.9±0.0, 37°.37N×121°.72W, h8km, MW3.5(BRK), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C055	**Cottonwood Ave**	**0.42**	**313**	*e*Pg	Pg	05 12 33.1	+0.1
SAO	**San Andreas Ge**	**0.65**	**160**	*e*Pg	Pb	05 12 38.0	-0.5
SAO				*e*Sg	Sb	05 12 47.3	-0.3
J061	**Lakeshore Driv**	**0.71**	**300**	*e*Pg	Pg	05 12 38.2	-0.4
MCCM	**Marconi Confer**	**1.20**	**310**	*e*Pg	Pb	05 12 45.7	-2.1
CMB	**Columbia Colle**	**1.25**	**58**	*e*Pn	Pn	05 12 47.9	-0.8
CMB				*e*Sg	Sb	05 13 04.7	-0.3
GDXM	**Geysers**	**1.66**	**330**	*e*Pn	Pn	05 12 52.9	-1.5
AFDM	**Forest Hills D**	**1.68**	**20**	*e*Pn	Pn	05 12 53.4	-1.3
HOPS	**Hopland Field**	**1.94**	**327**	*e*Pn	Pn	05 12 56.3	-1.8
PAGB	**Antelope Grade**	**2.02**	**144**	*e*Pn	Pn	05 12 58.2	-1.1
RUBR	**Rubicon Trail**	**2.08**	**36**	*e*Pn	Pn	05 13 01.2	+0.9
MDPB	**Devils Postpil**	**2.12**	**82**	*e*Pn	Pn	05 13 01.4	+0.6
MDPB				*e*Sn	Sn	05 13 28.2	+0.7
WAKR	**Walker**	**2.13**	**57**	*e*Pn	Pb	05 13 02.8	-1.1
OMMB	**Old Mammoth Mi**	**2.18**	**83**	*e*Pn	Pn	05 13 02.4	+0.7
ORV	**Oroville**	**2.19**	**5**	*e*Pn	Pn	05 13 02.2	+0.6
VCNR	**Virginia City**	**2.52**	**40**	*e*Pn	Pn	05 13 07.8	+1.5
NVAR	**Mina Array Bea**	**2.90**	**68**	*e*Pn	Pn	05 13 11.9	+0.3
NV11	**Mina Array Sit**	**3.01**	**68**	*e*Pn	Pn	05 13 14.1	+1.0
ISA	**Isabella, Lake**	**3.12**	**122**	*e*Pn	Pn	05 13 14.5	0.0
WDC	**Whiskeytown Da**	**3.27**	**349**	*e*Pn	Pn	05 13 16.1	-0.2
KVN	**Kaiserville**	**3.31**	**58**	*e*Pn	Pn	05 13 18.5	+1.3
KHMM	**Horse Mountain**	**3.83**	**337**	*e*Pn	Pn	05 13 24.9	+0.6
JCC	**Jacoby Creek,**	**3.88**	**333**	*e*Pn	Pn	05 13 25.1	+0.4
PASC	**Pasadena Art C**	**4.30**	**137**	*e*Pn	Pn	05 13 30.1	-0.4
MWC	**Mount Wilson**	**4.33**	**135**	*e*Pn	Pn	05 13 32.8	+1.6
GSC	**Goldstone, Bar**	**4.48**	**116**	*e*Pn	Pn	05 13 32.9	-0.2
R11A	**Troy Canyon, C**	**4.95**	**77**	*e*Pg	Pb	05 13 55.8	+3.8
PFO	**Pinyon Flats O**	**5.70**	**130**	*e*Pn	Pn	05 13 49.8	-0.2
U15A	**North Rim**	**7.62**	**94**	*e*Pn	Pn	05 14 20.1	+3.7

*IDC **10** 05:13:00.1±1.1, 10°.96S×162°.90E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.0/36, mbtmp4.2/11, ML4.7/1, MS3.4/11, Ms1 3.4/11, ms1mx3.2/24, Error ellipse: s-maj=31.7km s-min=20.8km az=136.0*
*ISCJB **10** 05:13:04.8±0.5, 10°.85S±0°.07×162°.70E±0°.07, h34km, mb4.3/18, MS3.4/9, Error ellipse: s-maj=10.3km s-min=9.8km az=151.6*
*NEIC **10** 05:13:12.4±2.2, 10°.73S×162°.46E, h78km±8km, mb4.6/11, Error ellipse: s-maj=20.3km s-min=15.6km az=56.0*
ISC 10 05:13:06.5±0.6, 10°.77S±0°.08×162°.80E±0°.08, h34km, n49, σ1°59/36, mb4.2/18, MS3.4/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.11**	**295**	*e*P	**Pn**	**05 13 53.0**	**-0.2**
HNR				*e*S	**Sn**	**05 14 29.0**	**-0.2**
HNR	**Honiara**	**3.11**	**295**	*e*Pn	**Pn**	**05 13 53.5**	**+0.3**
HNR				*e*Sn	**Sn**	**05 14 33.3**	**+4.2**
HNR	**Honiara**	**3.11**	**295**	Pn	**Pn**	**05 13 53.5**	**+0.3**
	74nm,0.3s,baz=149,slow=5.4,SNR=7.8						
HNR				Sn	**Sn**	**05 14 31.8**	**+2.6**
	131nm,0.3s,baz=232,slow=18,SNR=12						
HNR				LR	LR	05 15 13.9	
	comp=Z,581nm,21.8s,baz=148,slow=41						
DZM	**Mont Dzumac**	**11.76**	**163**	*e*Pn	**Pn**	**05 15 51.9**	**-0.1**
	11nm,0.3s						
DZM				*e*LR	LR	05 18 37.4	
	comp=Z,378nm,24.9s						
DZM	**Mont Dzumac**	**11.76**	**163**	*e*Pn	Pn	05 15 58.5	+6.5
DZM	**Mont Dzumac**	**11.76**	**163**	LR	LR	05 19 39.0	
	comp=Z,169nm,20.4s,baz=19,slow=34						
ONTNC	**Ouen Toro**	**11.99**	**163**	*e*Pn	Pn	05 16 02.4	+7.3
PMG	**Port Moresby**	**15.46**	**274**	LR	LR	05 22 09.0	
	comp=Z,238nm,18.0s,baz=136,slow=35						
MANU	**Manus Island**	**17.61**	**298**	*e*Pn	**Pn**	**05 17 08.8**	**-0.6**
	307nm,0.1s						
CTA	**Charters Tower**	**18.43**	**238**	P	**Pn**	**05 17 20.0**	**+0.6**
	0.4nm,0.3s,baz=79,slow=12,SNR=5.6						
CTAO	**Charters Tower**	**18.43**	**238**	*e*P	**Pn**	**05 17 21.4**	**+2.1**
	22nm,1.1s						
ARMA	**Armidale**	**22.14**	**206**	*e*P	**P**	**05 18 01.9**	**+2.5**
	15nm,1.3s						
STKA	**Stephens Creek**	**28.72**	**220**	P	**P**	**05 18 59.7**	**-1.0**
	1.0nm,0.5s,baz=34,slow=7.3,SNR=2.6						
STKA				LR	LR	05 30 13.8	
	comp=Z,80nm,18.4s,baz=26,slow=36						
WB2	**Warramunga Arr**	**28.87**	**248**	*e*P	**P**	**05 19 00.5**	**-1.7**
	7.8nm,1.1s						
WR1	**Warramunga Arr**	**28.88**	**248**	*e*P	**P**	**05 19 00.4**	**-1.9**
WRA	**Warramunga Arr**	**28.88**	**248**	P	**P**	**05 19 00.4**	**-1.9**
	1.7nm,0.8s,baz=81,slow=9.5,SNR=12						
WRA				LR	LR	05 30 23.8	
	comp=Z,120nm,19.2s,baz=245,slow=36						
H11S2	**WAKE ISLAND Hy**	**29.33**	**8**	T	T	05 49 49.8	
	baz=188,slow=76,SNR=1178						
H11S3	**WAKE ISLAND Hy**	**29.34**	**8**	T	T	05 49 53.7	
	baz=188,slow=76,SNR=553						
H11S1	**WAKE ISLAND Hy**	**29.35**	**8**	T	T	05 49 52.3	
	baz=188,slow=76,SNR=511						
ASAR	**Alice Springs**	**30.36**	**241**	P	**P**	**05 19 13.6**	**-1.8**
	1.5nm,0.6s,baz=66,slow=9.8,SNR=11						
ASAR				LR	LR	05 31 05.0	
	comp=Z,92nm,18.1s,baz=79,slow=36						
H11N1	**WAKE ISLAND Hy**	**30.56**	**8**	T	T	05 51 22.1	
	baz=188,slow=76,SNR=206						
H11N3	**WAKE ISLAND Hy**	**30.57**	**8**	T	T	05 51 29.6	
	baz=188,slow=76,SNR=231						
H11N2	**WAKE ISLAND Hy**	**30.58**	**8**	T	T	05 51 26.1	
	baz=188,slow=76,SNR=252						
BKZ	**Black Stump Fm**	**30.80**	**159**	*e*P	**P**	**05 19 21.7**	**+2.6**
	25nm,1.3s						
SAUI	**Saumlaki**	**31.19**	**272**	*e*P	**P**	**05 19 19.8**	**-3.1**
	566nm,1.1s						
FITZ	**Fitzroy Crossi**	**36.66**	**254**	*e*P	**P**	**05 20 08.0**	**-2.3**
	5.0nm,1.0s						
FORT	**Forrest**	**37.86**	**233**	*e*P	**P**	**05 20 19.6**	**-0.7**
	15nm,0.8s						
PPT	**Papeete**	**46.57**	**104**	LR	LR	05 38 28.4	
	comp=Z,24nm,21.5s,baz=156,slow=33						
PPT2	**Papeete2**	**46.57**	**104**	*e*LR	LR	05 34 44.3	
	comp=Z,85nm,32.0s						
MJAR	**Matsushiro Arr**	**52.45**	**335**	LR	LR	05 42 45.3	
	comp=Z,28nm,21.9s,baz=300,slow=34						
ASAJ	**Asahikawa**	**57.63**	**343**	P	**P**	**05 22 54.4**	**+1.1**
	9.6nm,0.7s,baz=233,slow=11,SNR=4.5						
PETK	**Petropavlovsk-**	**63.78**	**357**	LR	LR	05 44 54.3	
	comp=Z,26nm,21.7s,baz=139,slow=30						
KLR	**Kul'dur**	**65.70**	**338**	P	**P**	**05 23 47.7**	**+0.2**
	1.5nm,0.8s,baz=158,slow=11,SNR=4.4						
CMAR	**Chiang Mai Arr**	**69.36**	**294**	LR	LR	05 55 40.4	
	comp=Z,13nm,18.1s,baz=275,slow=37						
ULN	**Ulaanbaatar**	**76.40**	**325**	*e*P	**P**	**05 24 53.6**	**+0.9**
	13nm,1.2s						
SONA0	**Songino Array**	**76.76**	**325**	*e*P	**P**	**05 24 54.8**	**+0.2**
SONM	**Songino Array**	**76.76**	**325**	*e*P	**P**	**05 24 54.7**	**0.0**
SONM	**Songino Array**	**76.76**	**325**	P	**P**	**05 24 54.8**	**+0.2**
	6.9nm,1.0s,baz=138,slow=6.1,SNR=19						
QSPA	**South Pole Qui**	**79.23**	**180**	*e*P	**P**	**05 25 08.9**	**+0.8**
	1.4nm,1.1s						
IMAR	**Indian Mountai**	**82.96**	**16**	*e*P	**P**	**05 25 29.2**	**+1.6**
ILAR	**Eielson Array**	**84.20**	**19**	P	**P**	**05 25 33.2**	**-0.8**
	0.7nm,0.9s,baz=232,slow=5.1,SNR=4.9						
BCAR	**Beaver Creek A**	**84.92**	**22**	*e*P	**P**	**05 25 39.0**	**+1.3**
NV01	**Mina Array Sit**	**88.07**	**50**	*e*P	**P**	**05 25 53.1**	**-0.9**
NVAR	**Mina Array Bea**	**88.07**	**50**	P	**P**	**05 25 53.1**	**-0.9**
	0.5nm,0.7s,baz=231,slow=7.1,SNR=5.1						
MK32	**Makanchi Array**	**91.35**	**317**	*e*P	**P**	**05 26 08.8**	**-0.2**
MKAR	**Makanchi Array**	**91.35**	**317**	P	**P**	**05 26 08.8**	**-0.2**
	0.6nm,0.8s,baz=120,slow=6.4,SNR=5.0						
NRIK	**Noril'sk**	**94.87**	**340**	LR	LR	06 08 02.1	
	comp=Z,14nm,21.4s,baz=112,slow=35						
YKA	**Yellowknife Ar**	**96.07**	**28**	P	**P**	**05 26 29.1**	**-1.0**
	0.7nm,1.1s,baz=260,slow=4.9,SNR=5.4						
YKB5	**Yellowknife Ar**	**96.07**	**28**	*e*P	**P**	**05 26 29.1**	**-1.0**

*KRSC **10** 05:29:17.7±10.0, 49°.72N×157°.86E, h50km±10km, ML4.9*
*ISCJB **10** 05:29:20.7±0.7, 49°.80N±0°.04×157°.55E±0°.05, h33km±6km, mb4.2/48, MS3.6/2, Error ellipse: s-maj=8.0km s-min=4.6km az=145.6*
*MOS **10** 05:29:22.9±1.1, 49°.97N×157°.58E, h51km, mb4.3/12, Error ellipse: s-maj=10.5km s-min=3.7km az=83.1*
*NEIC **10** 05:29:23.4±0.9, 49°.94N×157°.28E, h38km±5km, mb4.4/27, Error ellipse: s-maj=21.1km s-min=13.7km az=141.0*
*IDC **10** 05:29:26.3±2.2, 49°.98N×157°.32E, h68km±19km, mb3.7/18, mb1 3.9/23, mb1mx3.8/38, mbtmp4.0/23, MS3.2/4, Ms1 3.2/4, ms1mx2.8/29, Error ellipse: s-maj=17.5km s-min=10.4km az=136.0*
ISC 10 05:29:24.5±1.0, 49°.86N±0°.06×157°.54E±0°.05, h57km±8km, n166, σ1°86/173, mb4.3/48, 2C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.23**	**313**	*e*P	**Pn**	**05 29 42.4**	**-3.1**
SKR				*e*S	**Sn**	**05 30 00.9**	**-0.2**
SKR	**Severo-Kuril's**	**1.23**	**313**	*e*PN	**Pn**	**05 29 42.3**	**-3.2**
SKR				*e*S	**Sn**	**05 29 59.8**	**-1.3**
SKR				pmax	pmax		
	comp=Z,1μm,0.3s						
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				smax	smax		
	comp=E,13μm,0.4s						
SKR				smax	smax		
	comp=N,16μm,0.4s						
ALID	**Alaid**	**1.62**	**309**	*e*P	**Pn**	**05 29 50.1**	**-0.9**
ALID	**Alaid**	**1.62**	**309**	PN	**Pn**	**05 29 50.1**	**-0.9**
PAU	**Pauzhetka**	**1.68**	**344**	*e*P	**Pn**	**05 29 49.9**	**-1.6**
PAU				*e*S	**Sn**	**05 30 12.8**	**+0.9**
PAU	**Pauzhetka**	**1.68**	**344**	PN	**Pn**	**05 29 49.9**	**-1.6**
PAU				S	**Sn**	**05 30 12.8**	**+0.9**
KDTR	**Khodutka, Kamc**	**1.98**	**10**	*e*P	**Pn**	**05 29 52.7**	**-3.0**
KDTR				*e*S	**Sn**	**05 30 18.6**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.98**	**10**	PN	**Pn**	**05 29 52.7**	**-3.0**
KDTR				S	**Sn**	**05 30 18.6**	**-0.7**
ASAK	**Asacha**	**2.54**	**5**	*e*P	**Pn**	**05 30 01.3**	**-2.0**
ASAK	**Asacha**	**2.54**	**5**	PN	**Pn**	**05 30 01.3**	**-2.0**
RUS	**Russkaya**	**2.65**	**13**	*e*P	**Pn**	**05 30 01.6**	**-3.2**
RUS	**Russkaya**	**2.65**	**13**	PN	**Pn**	**05 30 01.6**	**-3.2**
MTVR	**Mutnovka**	**2.66**	**9**	*e*P	**Pn**	**05 30 02.8**	**-2.2**
MTVR				*e*S	**Sn**	**05 30 36.0**	**-0.1**
MTVR	**Mutnovka**	**2.66**	**9**	PN	**Pn**	**05 30 02.8**	**-2.2**
MTVR				S	**Sn**	**05 30 36.0**	**-0.1**
KRMR	**Karymshinskiy**	**3.00**	**7**	*e*P	**Pn**	**05 30 07.9**	**-1.6**
KRMR	**Karymshinskiy**	**3.00**	**7**	PN	**Pn**	**05 30 07.9**	**-1.6**
APC	**Apacha**	**3.08**	**356**	*e*P	**Pn**	**05 30 09.4**	**-1.2**
APC	**Apacha**	**3.08**	**356**	PN	**Pn**	**05 30 09.4**	**-1.2**
PET	**Petropavlovsk**	**3.25**	**12**	*e*Pn	**Pn**	**05 30 10.6**	**-2.2**
PET	**Petropavlovsk**	**3.25**	**12**	*e*P	**Pn**	**05 30 10.7**	**-2.2**
PET	**Petropavlovsk**	**3.25**	**12**	*e*PN	**Pn**	**05 30 10.5**	**-2.4**
PET				*e*S	**Sn**	**05 30 49.8**	**-0.5**
PET				pmax	pmax		
	comp=Z,80nm,0.5s						
PET				smax	smax		
	comp=N,372nm,0.6s						
PET				smax	smax		
	comp=E,261nm,0.5s						
PET				MLR	MLR		
	comp=Z,300nm,11.0s						
PET				MLR	MLR		
	comp=Z,500nm,13.0s						
PEA0B	**Petropavlovsk-**	**3.26**	**2**	*e*Pn	**Pn**	**05 30 12.8**	**-0.3**
PEA0B	**Petropavlovsk-**	**3.26**	**2**	PN	**Pn**	**05 30 12.8**	**-0.3**
PETK	**Petropavlovsk-**	**3.26**	**2**	*e*Pn	**Pn**	**05 30 11.2**	**-1.8**
PETK	**Petropavlovs

MA2	**Magadan**	**10.49**	**341**	P	**Pn**	**05 31 51.2**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=161,slow=16,SNR=2.7						
MA2				LR	LR	05 36 01.0	
	comp=Z,80nm,19.7s,baz=146,slow=38						
SMY	**Shemya**	**10.76**	**68**	*e*Pn	Pn	05 31 50.4	-5.3
SMY	**Shemya**	**10.76**	**68**	*e*PN	Pn	05 31 50.4	-5.3
ASAJ	**Asahikawa**	**11.70**	**246**	P	**Pn**	**05 32 09.6**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=79,slow=16,SNR=6.4						
ASAJ				LR	LR	05 36 14.6	
	comp=Z,90nm,20.5s,baz=164,slow=35						
ERM	**Erimo**	**12.70**	**237**	*e*Pn	**Pn**	**05 32 20.4**	**-1.8**
ERM	**Erimo**	**12.70**	**237**	*ce*PN	**Pn**	**05 32 25.7**	**+3.5**
ERM				pmax	pmax		
	comp=Z,32nm,1.3s						
KLR	**Kul'dur**	**16.73**	**278**	*i* P	**P**	**05 33 15.5**	**-0.8**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KLR	**Kul'dur**	**16.73**	**278**	P	**Pn**	**05 33 15.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=75,slow=12,SNR=5.3						
BILL	**Bilibino**	**18.75**	**10⇓**	*e*P	**P**	**05 33 37.6**	**-0.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.6s						
BILL				MLR	MLR		
	comp=Z,104nm,16.0s						
ZEA	**Zeya**	**19.05**	**293**	*e*P	**Pn**	**05 33 44.8**	**+1.7**
ZEA				pmax	pmax		
	comp=Z,18nm,1.4s						
MJA0	**Matsu Arr-Jizo**	**19.29**	**234**	*e*P	**P**	**05 33 45.3**	**+0.7**
MJAR	**Matsushiro Arr**	**19.31**	**234**	P	**P**	**05 33 44.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=22,slow=7.7,SNR=10						
CN2	**Changchun**	**22.66**	**267**	*e*P	**P**	**05 34 19.8**	**-1.0**
KSRS	**Korea Array**	**24.58**	**251**	*e*P	**P**	**05 34 42.1**	**+3.1**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSRS	**Korea Array**	**24.58**	**251**	P	**P**	**05 34 39.4**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=52,slow=10.0,SNR=6.9						
TIXI	**Tiksi**	**25.45**	**339**	*e*P	**P**	**05 34 45.6**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.5s						
TIXI	**Tiksi**	**25.45**	**339**	P	**P**	**05 34 44.9**	**-1.7**
	comp=Z,1.2nm,0.5s,baz=119,slow=9.0,SNR=6.3						
RDOG	**Red Dog Mine**	**26.62**	**32**	*e*P	**P**	**05 34 59.5**	**+2.3**
	comp=Z,6.6nm,0.6s						
SVW2	**Sparrevohn**	**28.21**	**49**	*e*P	**P**	**05 35 12.6**	**+1.1**
	comp=Z,1.4nm,1.0s						
IMAR	**Indian Mountai**	**29.50**	**39**	*e*P	**P**	**05 35 23.4**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**30.98**	**163**	T	T	06 09 00.1	
	baz=348,slow=76,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**30.99**	**163**	T	T	06 09 19.9	
	baz=348,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**30.99**	**163**	T	T	06 09 30.1	
	baz=348,slow=76,SNR=12						
KNK	**Knik Glacier**	**31.65**	**48**	*e*P	**P**	**05 35 41.9**	**0.0**
	comp=Z,11nm,1.2s						
SML	**Sawmill**	**31.68**	**47**	*e*P	**P**	**05 35 42.5**	**+0.3**
	comp=Z,12nm,0.7s						
SML	**Sawmill**	**31.68**	**47**	*e*P	**P**	**05 35 42.6**	**+0.3**
SML				pmax	pmax		
	comp=Z,12nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**32.13**	**163**	T	T	06 10 45.1	
	baz=348,slow=76,SNR=48						
H11S3	**WAKE ISLAND Hy**	**32.14**	**164**	T	T	06 10 14.3	
	baz=348,slow=76,SNR=65						
H11S2	**WAKE ISLAND Hy**	**32.15**	**163**	T	T	06 10 15.1	
	baz=348,slow=76,SNR=34						
ILAR	**Eielson Array**	**32.27**	**41**	*e*P	**P**	**05 35 47.0**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**32.27**	**41**	P	**P**	**05 35 47.4**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=271,slow=10.0,SNR=6.0						
PRP	**Porcupine Dome**	**32.85**	**40**	*e*P	**P**	**05 35 53.5**	**+1.0**
	comp=Z,2.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**33.08**	**272**	*e*P	**P**	**05 35 52.3**	**-2.5**
HHC				S	**S**	**05 41 07.2**	**-2.4**
BMAR	**Burnt Mountain**	**33.27**	**37**	*e*P	**P**	**05 35 57.3**	**+1.2**
NJ2	**Nanjing**	**33.73**	**253**	*e*P	**P**	**05 35 58.7**	**-1.7**
BCAR	**Beaver Creek A**	**34.61**	**44**	*e*P	**P**	**05 36 08.0**	**+0.2**
INK	**Inuvik**	**37.43**	**35**	*e*P	**P**	**05 36 32.9**	**+1.3**
	comp=Z,2.1nm,0.6s						
INK	**Inuvik**	**37.43**	**35**	*e*P	**P**	**05 36 32.9**	**+1.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**37.43**	**35**	P	**P**	**05 36 32.2**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=282,slow=4.8,SNR=21						
LZH	**Lanzhou**	**40.76**	**271**	*e*P	**P**	**05 36 59.5**	**-0.6**
LZH				pP	pP	05 37 10.6	-3.5
LZH				sP	pwP	05 37 13.8	-2.6
LZH				*e*PP	**PnPn**	**05 38 39.0**	**-0.2**
DGZ	**Jazzator, Alta**	**43.72**	**298**	*i* P	**P**	**05 37 25.3**	**+1.4**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CD2	**Chengdu**	**44.08**	**265**	*e*P	**P**	**05 37 24.7**	**-2.2**
WMQ	**Urumqi**	**46.57**	**291**	*e*P	**P**	**05 37 47.0**	**+0.5**
YKW3	**Yellowknife Ar**	**46.62**	**40**	*e*P	**P**	**05 37 47.6**	**+1.1**
	comp=Z,2.9nm,0.8s						
YKA	**Yellowknife Ar**	**46.65**	**40**	P	**P**	**05 37 47.6**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=294,slow=7.1,SNR=21						
KURK	**Kurchatov**	**48.12**	**303**	*i* P	**P**	**05 37 58.8**	**+0.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,2.5s						
MKAR	**Makanchi Array**	**48.15**	**297**	*e*P	**P**	**05 37 57.5**	**-1.2**
MKAR	**Makanchi Array**	**48.15**	**297**	P	**P**	**05 37 57.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=62,slow=6.4,SNR=11						
MKAR				LR	LR	05 59 39.5	
	comp=Z,87nm,18.7s,baz=47,slow=38						
KMI	**Kunming**	**48.69**	**260**	P	**P**	**05 38 05.4**	**+2.0**
SPA0	**Spitsbergen Ar**	**50.06**	**350**	*e*P	**P**	**05 38 12.9**	**+0.1**
	comp=Z,24nm,1.1s						
YBH	**Yreka Blue Hor**	**53.72**	**66**	P	**P**	**05 38 42.3**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=358,slow=4.3,SNR=4.6						
K05A	**Summer Lake**	**54.18**	**64**	*e*P	**P**	**05 38 46.5**	**+2.4**
	comp=Z,2.9nm,1.3s						
MOD	**Modoc Plateau**	**55.03**	**64**	*e*P	**P**	**05 38 52.2**	**+2.0**
	comp=Z,2.8nm,0.6s						
WVOR	**Wild Horse Val**	**55.67**	**63**	*e*P	**P**	**05 38 56.7**	**+1.9**
	comp=Z,3.1nm,0.9s						
WVOR	**Wild Horse Val**	**55.67**	**63**	*e*P	**P**	**05 38 56.7**	**+1.9**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**55.86**	**342**	*e*P	**P**	**05 38 55.0**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**55.86**	**342**	P	**P**	**05 38 54.6**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=44,slow=7.4,SNR=8.3						
CMAR	**Chiang Mai Arr**	**55.94**	**258**	P	**P**	**05 38 58.0**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=29,slow=6.7,SNR=7.2						
KSH	**Kashi**	**56.18**	**293**	P	**P**	**05 39 01.3**	**+2.8**
KSH				pP	pP	05 39 10.4	-2.7
KSH				PP	**PP**	**05 41 08.7**	**+4.9**
KSH				S	**S**	**05 46 46.8**	**+3.2**
KSH	**Kashi**	**56.18**	**293**	SS	**SS**	**05 50 34.4**	**+4.2**
MCMT	**McKenzie Canyo**	**57.41**	**58**	*e*P	**P**	**05 39 08.9**	**+1.7**
BOZ	**Bozeman (W)**	**57.57**	**56**	*e*P	**P**	**05 39 09.8**	**+1.6**
	comp=Z,2.2nm,0.8s						
BOZ	**Bozeman (W)**	**57.57**	**56**	*e*P	**P**	**05 39 09.9**	**+1.6**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KVN	**Kaiserville**	**58.14**	**66**	*e*P	**P**	**05 39 14.3**	**+1.9**
	comp=Z,1.0nm,0.9s						
KVN	**Kaiserville**	**58.14**	**66**	*e*P	**P**	**05 39 14.3**	**+1.9**
KVN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NVAR	**Mina Array Bea**	**58.43**	**67**	*e*P	**P**	**05 39 16.2**	**+1.8**
NVAR	**Mina Array Bea**	**58.43**	**67**	P	**P**	**05 39 15.6**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=301,slow=7.1,SNR=9.1						
ABKAR	**Akbulak array**	**58.68**	**311**	*e*P	**P**	**05 39 14.8**	**-0.9**
RLMT	**Red Lodge**	**59.15**	**55**	*e*P	**P**	**05 39 21.2**	**+1.9**
	comp=Z,3.6nm,1.1s						
TPAW	**Teton Pass**	**59.31**	**58**	*e*P	**P**	**05 39 22.9**	**+2.3**
	comp=Z,2.6nm,0.8s						
REDW	**Red Top Meadow**	**59.45**	**58**	*e*P	**P**	**05 39 24.0**	**+2.5**
	comp=Z,2.6nm,0.9s						
R11A	**Troy Canyon, C**	**60.08**	**65**	*e*P	**P**	**05 39 27.3**	**+1.5**
	comp=Z,1.2nm,1.0s						
DUG	**Dugway, Tooele**	**60.46**	**62**	*e*P	**P**	**05 39 30.2**	**+2.0**
	comp=Z,2.2nm,0.8s						
DUG	**Dugway, Tooele**	**60.46**	**62**	*e*P	**P**	**05 39 30.3**	**+2.0**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BW06	**Boulder Array**	**60.55**	**58**	*e*P	**P**	**05 39 30.8**	**+1.7**
	comp=Z,3.8nm,1.0s						
PDAR	**Pinedale Array**	**60.55**	**58**	*e*P	**P**	**05 39 30.4**	**+1.3**
PDAR	**Pinedale Array**	**60.55**	**58**	P	**P**	**05 39 30.2**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=308,slow=3.1,SNR=17						
FINES	**FINESS Array B**	**62.44**	**336**	P	**P**	**05 39 40.2**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=69,slow=7.6,SNR=4.1						
PV22	**Blue Mesa, Par**	**63.87**	**61**	*e*P	**P**	**05 39 53.5**	**+2.3**
	comp=Z,2.9nm,0.7s						
PV17	**East Wray Mesa**	**63.95**	**61**	*e*P	**P**	**05 39 53.1**	**+1.3**
	comp=Z,8.6nm,0.7s						
PV16	**Nyswonger Mesa**	**63.95**	**61**	*e*P	**P**	**05 39 53.4**	**+1.5**
	comp=Z,7.2nm,1.4s						
PV11	**David Mesa, Pa**	**63.98**	**61**	*e*P	**P**	**05 39 53.5**	**+1.5**
	comp=Z,3.8nm,0.6s						
PV13	**Radium Mtn., P**	**64.11**	**61**	*e*P	**P**	**05 39 54.3**	**+1.4**
	comp=Z,5.5nm,0.8s						
OBN	**Obninsk**	**64.37**	**327⇑**	*e*P	**P**	**05 39 52.4**	**-1.5**
OBN				*e*		05 42 18.9	
OBN				*e*S	**S**	**05 48 21.4**	**-6.2**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,26nm,16.0s						
S22A	**4UR Ranch, Cre**	**65.52**	**60**	*e*P	**P**	**05 40 04.1**	**+1.9**
NB2	**NORSAR Subarra**	**66.18**	**343**	P	**P**	**05 40 05.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=27,slow=6.9						
NOA	**NORSAR Array B**	**66.18**	**343**	*e*P	**P**	**05 40 05.2**	**-0.5**
NOA	**NORSAR Array B**	**66.18**	**343**	P	**P**	**05 40 05.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=24,slow=6.7,SNR=3.8						
AKASG	**Malin Array Be**	**70.54**	**328**	P	**P**	**05 40 32.1**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=31,slow=6.5,SNR=2.5						
KIV	**Kislovodsk**	**70.68**	**316**	*e*P	**P**	**05 40 35.5**	**+1.4**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WMOK	**Wichita Mounta**	**72.16**	**57**	*e*P	**P**	**05 40 42.6**	**-0.5**
	comp=Z,3.6nm,1.0s						
WMOK	**Wichita Mounta**	**72.16**	**57**	*e*P	**P**	**05 40 42.6**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SOC	**Sochi**	**72.29**	**318**	*e*P	**P**	**05 40 44.1**	**+0.4**
SOC				*e*S	**S**	**05 49 54.3**	**-7.9**
SOC				*e*SSS	SSS	05 57 54.6	
WB2	**Warramunga Arr**	**72.47**	**203**	*e*P	**P**	**05 40 45.0**	**+0.2**
	comp=Z,5.8nm,1.1s						
WRA	**Warramunga Arr**	**72.47**	**203**	*i* P	**P**	**05 40 45.0**	**+0.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**72.47**	**203**	P	**P**	**05 40 45.1**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=18,slow=6.3,SNR=18						
FITZ	**Fitzroy Crossi**	**73.31**	**212**	*e*P	**P**	**05 40 50.7**	**+0.9**
	comp=Z,8.5nm,1.4s						
TXAR	**Lajitas Array**	**73.43**	**64**	P	**P**	**05 40 51.9**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=299,slow=4.6,SNR=28						
VYHS	**Vyhne**	**75.77**	**333**	*e*P	**P**	**05 41 04.4**	**+0.5**
VYHS	**Vyhne**	**75.77**	**333**	*e*P	**P**	**05 41 04.4**	**+0.5**
MOQ	**Mont Orford**	**75.80**	**34**	*e*P	**P**	**05 41 05.1**	**+0.9**
ASAR	**Alice Springs**	**76.15**	**202**	P	**P**	**05 41 07.1**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=16,slow=5.2,SNR=13						
GERES	**GERESS Array B**	**76.87**	**336**	*e*P	**P**	**05 41 12.1**	**+1.8**
GERES	**GERESS Array B**	**76.87**	**336**	P	**P**	**05 41 10.6**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=22,slow=4.3,SNR=4.4						

ROM 10 05:38:47.1±0.1, 43°.442N±0°.004×12°.316E±0°.006, h10km, ML0.9/6, Error ellipse: s-maj=0.6km s-min=0.4km az=48.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.06**	**286**	P	Pg	05 38 49.6	+0.3
CDCA	**Citt' di Caste**	**0.06**	**286**	P	Pg	05 38 49.6	+0.3
CDCA				S	Sg	05 38 51.0	+0.3
CDCA				AML	AML		
	comp=E,1235μm,1.1s						
CDCA				AML	AML		
	comp=N,662μm,0.2s						
CDCA				AML	AML		
	comp=N,662μm,0.2s						
CDCA				AML	AML		
	comp=E,1235μm,1.1s						
CDCA	**Citt' di Caste**	**0.06**	**286**	P	Pg	05 38 49.6	+0.4
CDCA	**Citt' di Caste**	**0.06**	**286**	S	Sg	05 38 51.0	+0.3
ATPI	**Pietralunga -**	**0.06**	**82**	P	Pg	05 38 49.5	+0.2
ATPI	**Pietralunga -**	**0.06**	**82**	P	Pg	05 38 49.6	+0.2
ATPI	**Pietralunga -**	**0.06**	**82**	P	Pg	05 38 49.6	+0.3
ATPI				S	Sg	05 38 51.0	0.0
ATPI				AML	AML		
	comp=E,202μm,0.5s						
ATPI				AML	AML		
	comp=N,96μm,0.9s						
ATPI				AML	AML		
	comp=N,96μm,0.9s						
ATPI				AML	AML		
	comp=E,202μm,0.5s						
ATPI	**Pietralunga -**	**0.06**	**82**	S	Sg	05 38 51.0	0.0
ATVO	**AVT- Monte Val**	**0.09**	**132**	P	Pg	05 38 50.2	+0.6
ATVO				S	Sg	05 38 52.2	+0.8
ATVO				AML	AML		
	comp=E,66μm,0.2s						
ATVO				AML	AML		
	comp=N,66μm,0.7s						
ATVO				AML	AML		
	comp=N,66μm,0.7s						
ATVO				AML	AML		
	comp=E,66μm,0.2s						
ATVO	**AVT- Monte Val**	**0.09**	**132**	P	Pg	05 38 50.3	+0.6
ATVO	**AVT- Monte Val**	**0.09**	**132**	S	Sg	05 38 52.2	+0.8
PIEI	**Pieia**	**0.18**	**59**	P	Pg	05 38 51.8	+0.7
PIEI				S	Sg	05 38 55.2	+1.3
PIEI				AML	AML		
	comp=E,76μm,0.3s						
PIEI				AML	AML		
	comp=N,51μm,0.3s						
PIEI				AML	AML		
	comp=N,51μm,0.3s						
PIEI				AML	AML		
	comp=E,76μm,0.3s						
PIEI	**Pieia**	**0.18**	**59**	P	Pg	05 38 51.8	+0.7
PIEI	**Pieia**	**0.18**	**59**	S	Sg	05 38 55.5	+1.6
PARC	**Parchiule**	**0.21**	**345**	P	Pg	05 38 52.2	+0.5
PARC				S	Sg	05 38 56.1	+1.4
PARC				AML	AML		
	comp=E,35μm,0.2s						
PARC				AML	AML		
	comp=N,41μm,0.5s						
PARC				AML	AML		
	comp=N,41μm,0.5s						
PARC				AML	AML		
	comp=E,35μm,0.2s						
PARC	**Parchiule**	**0.21**	**345**	P	Pg	05 38 52.4	+0.7
PARC	**Parchiule**	**0.21**	**345**	S	Sg	05 38 55.8	+1.2
ATTE	**AVT- Monte Tez**	**0.24**	**174**	P	Pg	05 38 52.7	+0.5
ATTE				S	Sg	05 38 56.8	+1.3
ATTE	**AVT- Monte Tez**	**0.24**	**174**	P	Pg	05 38 53.2	+1.0
ATTE	**AVT- Monte Tez**	**0.24**	**174**	S	Sg	05 38 54.0	-1.6
ATTE	**AVT- Monte Tez**	**0.24**	**174**	S	Sg	05 38 56.9	+1.3
CAFI	**Castiglion Fio**	**0.28**	**246**	P	Pb	05 38 53.6	-0.6
CAFI				S	Sb	05 38 58.4	-0.7
CAFI	**Castiglion Fio**	**0.28**	**246**	P	Pb	05 38 53.9	-0.4
CAFI	**Castiglion Fio**	**0.28**	**246**	S	Sg	05 38 54.0	-2.6
CAFI	**Castiglion Fio**	**0.28**	**246**	S	Sb	05 38 58.4	-0.7
FOSV	**Fossato di Vic**	**0.36**	**114**	P	Pg	05 38 50.3	-3.9
FOSV	**Fossato di Vic**	**0.36**	**114**	AML	AML		
	comp=N,30μm,0.9s						
FOSV				AML	AML		
	comp=E,35μm,0.4s						
FOSV				AML	AML		
	comp=E,35μm,0.4s						
FOSV				AML	AML		
	comp=N,30μm,0.9s						
NDIM	**Novi di Modena**	**1.77**	**325**	S	Sg	05 39 44.0	0.0
SBPO	**S.Benedetto Po**	**1.90**	**329**	S	Sg	05 39 50.0	+1.9
IFIL	**Filicudi I Eol**	**5.16**	**160**	P	Pn	05 40 01.0	-3.4

MEX 10 05:45:06.5±0.5, 15°.86N×94°.45W, h90km±36km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PCIG		**1.19**	**97**	*e*P	Pn	05 45 27.0	-1.4
PCIG				*e*S	Sn	05 45 43.5	-1.4
CMIG	**Matias Romero**	**1.29**	**341**	*e*P	Pn	05 45 28.6	-1.2
CMIG				*i* S	Sn	05 45 45.4	-1.8

*DDA **10** 05:55:49.7, 37°.31N×37°.13E, h7km±3km, ML3.1*
*ISK **10** 05:55:49.2, 37°.34N×37°.12E, h5km, ML2.5/8*
*ISCJB **10** 05:55:50.1±0.7, 37°.29N±0°.03×37°.10E±0°.03, h1km±6km, Error ellipse: s-maj=4.5km s-min=4.0km az=44.4*

ISC 10 05:55:49.7±1.0, 37°.30N±0°.03×37°.13E±0°.02, h9km±8km, n21, σ0°93/32, Turkey

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**152**	PG	**Pg**	**05 55 53.2**	**+0.2**
HCB	**Kahramanmara**	**0.18**	**283**	*i* P	**Pg**	**05 55 53.7**	**+0.2**
KMRS	**Kahramanmaras**	**0.27**	**318**	PG	**Pg**	**05 55 54.8**	**-0.4**
KMRS				SG	**Sg**	**05 55 58.5**	**-0.3**
GZT	**Gaziantep**	**0.35**	**81**	IAML_P			
	comp=Z,7μm,0.1s						
GZT				*i* P	**Pb**	**05 55 57.4**	**-0.9**
KAMA	**Osmaniye**	**0.38**	**252**	*i* P	**Pg**	**05 55 57.1**	**-0.2**
KAMA				*i* S	**Sb**	**05 56 03.9**	**-0.9**
KUZU	**Kuzuini**	**0.53**	**184**	*i* P	**Pb**	**05 56 01.6**	**+0.3**
KUZU				*i* S	**Sb**	**05 56 08.8**	**-0.2**
ANDN	**Andirin**	**0.68**	**294**	IAML_P			
	comp=Z,3μm,0.2s						
ANDN				*i* P	**Pb**	**05 56 03.4**	**-0.5**
ATAB	**Bozova**	**0.95**	**80**	*i* P	**Pn**	**05 56 08.7**	**-0.5**
ELBS	**KAHRAMANMARAS**	**1.02**	**0**	*i* P	**Pn**	**05 56 11.4**	**+1.1**
ELBS				*i* S	**Sn**	**05 56 26.3**	**+1.5**
KOZT	**Kozan**	**1.05**	**280**	PG	**Pb**	**05 56 09.5**	**-0.6**
KOZT				SG	**Sb**	**05 56 24.0**	**+0.1**
SAIM	**ADANA**	**1.07**	**309**	*i* P	**Pn**	**05 56 10.8**	**-0.2**
SAIM				*i* S	**Sn**	**05 56 26.5**	**+0.5**
CEYT	**Ceyhan**	**1.14**	**256**	PN	**Pn**	**05 56 11.4**	**-0.4**
AKCD	**Akcadag**	**1.18**	**32**	*i* P	**Pg**	**05 56 13.2**	**+0.8**
AKCD				*i* S	**Sn**	**05 56 29.3**	**+0.6**
TAHT	**Tahtakopru-Hat**	**1.19**	**219**	PN	**Pg**	**05 56 12.9**	**+0.3**
TAHT				SN	**Sn**	**05 56 30.1**	**+1.2**
SURC	**SANLIURFA_SURC**	**1.26**	**109**	*i* P	**Pg**	**05 56 14.3**	**+0.3**
SURC				*i* S	**Sg**	**05 56 32.5**	**+2.1**
YURE	**YUREGIR**	**1.28**	**249**	PN	**Pg**	**05 56 14.2**	**-0.2**
DARE	**Darende-Malaty**	**1.30**	**12**	PN	**Pn**	**05 56 13.5**	**-0.6**
URFA	**Urfa**	**1.36**	**84**	PN	**Pg**	**05 56 15.8**	**0.0**
SANL	**SANLIURFA_Merk**	**1.49**	**94**	*i* P	**Pg**	**05 56 18.6**	**+0.3**
SANL				*i* S	**Sn**	**05 56 35.6**	**-0.8**
HEKM	**Malatya_Hekimh**	**1.71**	**22**	IAML_P			
	comp=Z,721nm,0.2s						
HEKM				*i* P	**Pg**	**05 56 22.8**	**+0.4**
HEKM				*i* S	**Sg**	**05 56 46.0**	**+1.4**
MAZI	**Mazidag**	**2.65**	**86**	PN	**Pb**	**05 56 34.8**	**-2.6**

*IDC **10** 06:27:50.5±0.6, 53°.09S×26°.44E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.2/25, mbtmp4.2/13, MS3.9/20, Ms1 3.9/20, ms1mx3.9/28, Error ellipse: s-maj=23.5km s-min=15.9km az=79.0*
*ISCJB **10** 06:27:51.3±0.4, 53°.01S±0°.06×26°.0E±0°.1, h10km, mb4.3/19, MS4.0/24, Error ellipse: s-maj=12.6km s-min=8.3km az=177.4*
*GCMT **10** 06:27:53.2±0.3, 52°.83S±0°.02×25°.70E±0°.03, h17km±1km, MW5.0/77, Moment Tensor Solution. s25,c28; s77,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.11±.20; $M_{\theta\theta}$=2.73±.18; $M_{\phi\phi}$=-1.62±.15; $M_{r\theta}$=0.65±.38; $M_{r\phi}$=2.76±.11; $M_{\theta\phi}$=-1.73±.42; Best double couple: M_0=4.08500×10^{16} NP1:ϕ_S=24.00000°, δ70.00000°, λ-155.00000°. NP2: ϕ_S=285.00000°, δ67.00000°, λ-22.00000°. Principal axes: T 4.0750, Plg2.0000°, Azm154.0000°; N 0.0210, Plg58.0000°, Azm60.0000°; P -4.0960, Plg32.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 06:27:54.1±2.7, 53°.10S×25°.79E, h16km±3km, mb4.5/12 Error ellipse: s-maj=22.2km s-min=15.4km az=66.0*
*BJI **10** 06:27:54.4±0.0, 53°.20S×25°.81E, h18km, Ms4.9/1, Ms7 4.5/2*

ISC 10 06:27:53.1±0.4, 53°.10S±0°.07×25°.9E±0°.1, h10km, n80, σ1°80/74, mb4.4/20, MS4.0/24, 1C-1D, South of Africa

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.21**	**163⇑**	*i* Pn	**Pn**	**06 31 50.8**	**-2.5**
SYO	**Syowa Base**	**17.21**	**163⇓**	*i* Pn	**Pn**	**06 31 52.0**	**-1.3**
SUR	**Sutherland**	**21.03**	**348**	*e*P	**P**	**06 32 37.2**	**+0.1**
	16nm,1.1s						
SUR	**Sutherland**	**21.03**	**348**	P	**P**	**06 32 36.8**	**-0.3**
	11nm,0.9s,baz=156,slow=4.4,SNR=3.5						
SUR				LR	LR	06 38 35.6	
	comp=Z,670nm,21.2s,baz=157,slow=31						
SNAA	**Sanae**	**22.47**	**203**	P	**P**	**06 32 52.6**	**+0.5**
SNAA				S	**S**	**06 36 55.4**	**-3.1**
SNAA	**Sanae**	**22.47**	**203**	*e*P	**P**	**06 32 52.2**	**+0.1**
	25nm,1.0s						
SNAA	**Sanae**	**22.47**	**203**	P	**P**	**06 32 52.2**	**+0.1**
	12nm,1.1s,baz=48,slow=8.1,SNR=10.0						
SNAA				S	**S**	**06 36 55.1**	**-3.4**
	1.4nm,0.7s,baz=342,slow=20,SNR=5.6						
SNAA				LR	LR	06 39 38.0	
	comp=Z,174nm,18.6s,baz=44,slow=31						
MAW	**Mawson**	**22.87**	**144**	*e*P	**P**	**06 32 58.5**	**+2.3**
	1.7nm,0.9s		

TORD Torodi Ar. Bea 69.17 335 P P 06 38 58.9 -0.7
0.9nm,0.8s,baz=145,slow=3.9,SNR=4.2
TORD LR LR 07 02 59.5
comp=Z,84nm,21.8s,baz=15,slow=30
TOA1 Torodi Ar. Sit 69.18 335 *eP* **P 06 38 59.0 -0.8**
STKA Stephens Creek 78.66 129 P P 06 39 56.9 +1.6
4.3nm,0.9s,baz=284,slow=4.8,SNR=5.7
STKA LR LR 07 07 19.5
comp=Z,60nm,20.7s,baz=207,slow=30
LPAZ La Paz 79.52 257 *eP* **P 06 39 59.0 -1.9**
LPAZ La Paz 79.52 257 P P 06 40 01.8 +0.9
0.7nm,0.9s,baz=182,slow=7.2,SNR=2.9
LPAZ LR LR 07 10 06.5
comp=Z,70nm,21.7s,baz=122,slow=32
ASAR Alice Springs 81.53 118 *eP* **P 06 40 09.3 -1.6**
ASAR Alice Springs 81.53 118 P P 06 40 08.4 -2.5
2.1nm,0.8s,baz=206,slow=5.5,SNR=7.2
ASAR LR LR 07 11 24.2
comp=Z,82nm,21.2s,baz=234,slow=32
AS31 Alice Springs 81.53 118 *eP* **P 06 40 11.3 +0.4**
1.0nm,0.9s
WR1 Warramunga Arr 84.79 116 *eP* **P 06 40 25.4 -2.3**
WRA Warramunga Arr 84.79 116 P P 06 40 25.4 -2.3
3.6nm,0.9s,baz=210,slow=4.3,SNR=13
KEST Kesra 89.63 347 LR LR 07 20 47.3
comp=Z,116nm,21.6s,baz=186,slow=35
BRTR Keskin Array B 92.69 6 LR LR 07 22 53.3
comp=Z,49nm,20.1s,baz=210,slow=36
GNI Garni 94.30 14 LR LR 07 24 35.4
comp=Z,56nm,18.4s,baz=194,slow=36
GEYT Alibeck 94.87 25 LR LR 07 22 02.6
comp=Z,22nm,19.9s,baz=170,slow=34
ESDC Sonseca Array 95.94 337 LR LR 07 21 40.3
comp=Z,22nm,21.2s,baz=330,slow=34
KSH Kashi 101.91 37 P **Pdif 06 41 48.0 +1.5**
KSH pP pwP 06 41 56.1 +2.8
KSH S **Sdif 06 53 22.9 -5.3**
KMI Kunming 102.27 65 P **Pdif 06 41 52.1 +3.5**
TBI Tubuai 103.77 184 *eLR* LR 07 15 57.3
comp=Z,266nm,41.2s
CD2 Chengdu 107.39 62 Pdif **Pdif 06 42 12.9 +1.9**
PPT2 Papeete2 109.50 185 *eLR* LR 07 18 47.7
comp=Z,106nm,23.8s
WMQ Urumqi 110.14 43 *e*PKP **PKiKP 06 46 25.5 +1.2**
WMQ LR LR
comp=Z,250nm,39.2s
LZH Lanzhou 111.47 58 *e*PKP **PKiKP 06 46 27.6 +0.4**
LZH sPKP 06 46 36.2
LZH LR LR
comp=N,100nm,18.0s
LZH LR LR
comp=E,96nm,17.9s
LZH LR LR
comp=Z,140nm,20.1s
NJ2 Nanjing 116.61 72 *e*PKP **PKiKP 06 46 38.5 +1.6**
HHC Hu-ho-hao-te 119.03 60 *e*PKP **PKiKP 06 46 41.8 +0.3**
TXAR Lajitas Array 136.39 257 PKP **PKPdf 06 47 14.4 -0.5**
0.4nm,0.9s,baz=141,slow=3.0,SNR=2.5
TIXI Tiksi 143.09 31 *e*PKPdf **PKiKP 06 47 29.3 +0.5**
SDCO Great Sand Dun 143.35 265 *e*PKPdf **PKPdf 06 47 28.0 +0.6**
S22A 4UR Ranch, Cre 144.15 264 *e*PKPdf PKPbc 06 47 27.1 +0.1
ULM Lac du Bonnet 144.62 289 PKP **PKPab 06 47 27.1 -0.5**
0.8nm,0.4s,baz=180,slow=4.0,SNR=3.0
WUAZ Wupatki 145.35 257 *e*PKPbc **PKPbc 06 47 29.6 -1.1**
PHWY Pilot Hill 145.55 270 *e*PKPdf **PKPdf 06 47 29.6 -1.5**
RSSD Black Hills 146.31 275 *e*PKPdf **PKPdf 06 47 31.7 -0.6**
FCC Fort Churchill 146.91 304 *e*PKPdf **PKPbc 06 47 34.1 -0.3**
RES Resolute Bay 148.33 334 *e*PKPdf **PKPdf 06 47 35.5 +1.1**
RES *e*PKPbc **PKPbc 06 47 38.6 +0.8**
PDAR Pinedale Array 148.88 269 PKPbc **PKPbc 06 47 39.7 -0.9**
1.6nm,1.0s,baz=119,slow=5.2,SNR=5.0
TPAW Teton Pass 150.13 269 *e*PKPbc **PKPbc 06 47 43.3 -0.4**
FXWY Fox Creek 150.26 269 *e*PKPdf **PKPdf 06 47 39.4 +0.6**
NV11 Mina Array Sit 151.30 254 *e*PKPdf **PKPdf 06 47 41.4 +0.9**
NV01 Mina Array Sit 151.38 254 *e*PKPdf **PKPdf 06 47 39.4 -1.3**
NV01 *e*PKPbc **PKPbc 06 47 46.9 +0.1**
NVAR Mina Array Bea 151.38 254 *e*PKPdf **PKPdf 06 47 41.1 +0.4**
NVAR Mina Array Bea 151.38 254 PKP **PKPdf 06 47 39.4 -1.3**
0.8nm,0.7s,baz=112,slow=3.4,SNR=4.0
NVAR PKPbc **PKPbc 06 47 46.8 +0.1**
3.1nm,1.0s,baz=163,slow=4.2,SNR=8.3
YKA Yellowknife Ar 157.30 310 PKP **PKPdf 06 47 45.4 -2.4**
0.1nm,0.6s,baz=64,slow=1.4,SNR=3.2
YKA PKPab **PKPab 06 48 18.8 -0.4**
1.2nm,1.0s,baz=87,slow=5.0,SNR=7.7
YKB5 Yellowknife Ar 157.30 310 *e*PKPdf **PKPdf 06 47 45.4 -2.4**
YKB5 *e*PKPab **PKPab 06 48 18.8 -0.4**

ISCJB ***10*** *06:35:23.2±0.4, 41°.83N±0°.02×42°.30E±0°.03, h3km±6km, Error ellipse: s-maj=4.2km s-min=2.6km az=40.5*
TIF ***10*** *06:35:23.4, 41°.78N×42°.31E, h19km±1km*
ISK ***10*** *06:35:23.8, 41°.75N×42°.33E, h15km, ML2.9/1*
DDA ***10*** *06:35:24.6, 41°.73N×42°.32E, h7km±2km, ML2.9*
NORS ***10*** *06:35:24.2±0.0, 41°.88N×42°.43E, h7km, MPVA3.5*
ISC 10 06:35:24.2±1.0, 41°.78N±0°.02×42°.33E±0°.02, h15km±10km, n27, σ0s53/51, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPOS	**Posof**	**0.41**	**132**	*i* P	**Pb**	**06 35 33.1**	**-0.1**
EPOS				*i* S	**Sb**	**06 35 40.0**	**+0.7**
BATM	**Batumi**	**0.51**	**250**	PG	**Pg**	**06 35 34.0**	**-0.1**
BATM	**Batumi**	**0.51**	**250**	P	**Pg**	**06 35 34.1**	**-0.1**
BATM				S	**Sg**	**06 35 41.2**	**+0.2**
BCA	**Borcka**	**0.63**	**238**	PG	**Pg**	**06 35 36.2**	**-0.2**
DBOC	**Borcka**	**0.66**	**229**	*i* P	**Pb**	**06 35 37.6**	**+0.2**
DBOC				*i* S	**Sb**	**06 35 46.2**	**-0.3**
TKB	**Tkibuli**	**0.76**	**41**	P	**Pg**	**06 35 39.0**	**+0.1**
TKB				S	**Sb**	**06 35 49.1**	**-0.1**
DAGI	**Agillar**	**0.77**	**204**	IAML_P			
DAGI	comp=Z,818nm,0.1s						
DAGI				*i* P	**Pb**	**06 35 39.7**	**+0.4**
DAGI				*i* S	**Sb**	**06 35 49.9**	**+0.3**
DBAD	**Bademkaya**	**0.90**	**212**	*i* P	**Pb**	**06 35 41.1**	**-0.4**
DBAD				*i* S	**Sb**	**06 35 53.1**	**-0.3**
SRKG	**Sareki**	**0.94**	**54**	P	**Pb**	**06 35 41.7**	**-0.5**
SRKG				S	**Sg**	**06 35 54.7**	**+0.1**
AKH	**Akhalkalaki**	**0.95**	**113**	PG	**Pb**	**06 35 42.3**	**-0.1**
AKH				SG	**Sn**	**06 35 55.8**	**-0.7**
AKH	**Akhalkalaki**	**0.95**	**113**	P	**Pb**	**06 35 42.4**	**-0.1**
AKH				S	**Sg**	**06 35 55.3**	**+0.3**
AKH	**Akhalkalaki**	**0.95**	**113**	P	**Pb**	**06 35 42.4**	**-0.1**
AKH				S	**Sg**	**06 35 55.3**	**+0.3**
AKH	**Akhalkalaki**	**0.95**	**113**	*e*Pg	**Pb**	**06 35 42.4**	**-0.1**
AKH				*e*Sg	**Sg**	**06 35 55.3**	**+0.3**
DDEM	**Demirkent**	**0.99**	**206**	*i* P	**Pg**	**06 35 43.3**	**0.0**
DDEM				*i* S	**Sg**	**06 35 56.3**	**+0.1**
BGD	**Bogdanovka**	**1.08**	**118**	P	**Pb**	**06 35 44.7**	**-0.1**
BGD				S	**Sb**	**06 35 59.1**	**+0.2**
ONI	**Oni**	**1.16**	**46**	PN	**Pb**	**06 35 46.3**	**+0.2**
ONI	**Oni**	**1.16**	**46**	P	**Pb**	**06 35 46.2**	**+0.2**
ONI				S	**Sg**	**06 36 02.0**	**+0.2**
ONI	**Oni**	**1.16**	**46**	*e*Pg	**Pb**	**06 35 46.2**	**+0.2**
ONI				*e*Sg	**Sg**	**06 36 02.0**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.45**	**39**	*e*Pg	**Pn**	**06 35 50.5**	**+0.3**
DIGR				*e*Sg	**Sb**	**06 36 10.3**	**+0.8**
NEY	**Neytrino**	**1.50**	**11**	*e*Pg	**Pg**	**06 35 52.5**	**-0.5**
NEY				*e*Sg	**Sg**	**06 36 12.2**	**-0.2**
ZEI	**Tsey**	**1.54**	**49**	*e*Pg	**Pb**	**06 35 53.1**	**+0.5**
ZEI				*e*Sg	**Sg**	**06 36 13.8**	**-0.1**
KZRT	**Kazreti**	**1.60**	**104**	P	**Pb**	**06 35 53.9**	**+0.4**
KZRT				S	**Sb**	**06 36 13.3**	**-0.3**
GUDG	**Gudauri**	**1.74**	**66**	P	**Pg**	**06 35 56.9**	**-0.7**
GUDG				S	**Sg**	**06 36 20.8**	**+0.6**
LACR	**Lac**	**1.80**	**54**	*e*Pg	**Pb**	**06 35 56.8**	**-0.1**
LACR				*e*Sg	**Sg**	**06 36 20.7**	**-1.3**
ARXR	**Arkhyz**	**1.94**	**337**	*e*Pg	**Pg**	**06 36 00.5**	**-1.0**
ARXR				*e*Sg	**Sg**	**06 36 25.5**	**-1.2**
SHA1	**Shidzhatmaz**	**1.97**	**7**	*e*Pg	**Pb**	**06 36 00.5**	**+0.6**
SHA1				*e*Sg	**Sb**	**06 36 26.0**	**+1.6**
GUZR	**Guzeripl'**	**2.75**	**325**	*e*Pn	**Pb**	**06 36 13.1**	**+0.1**
GUZR				*e*Sn	**Sb**	**06 36 47.6**	**+1.0**

KRNET ***10*** *06:36:57.5±0.1, 41°.04N×80°.10E, mb2.8*
ISC 10 06:36:57.3±3.7, 41°.0N±0°.2×80°.1E±0°.1, h10km, n6, σ1s34/10, 10C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.85**	**292**	⇑*i* P	**Pn**	**06 37 30.2**	**+0.6**
TARG	baz=93			⇑*i* S	**Sn**	**06 37 54.1**	**+0.8**
PDGK	**Podgornoye**	**2.33**	**349**	⇑*i* P	**Pn**	**06 37 36.8**	**+1.0**
PDGK	baz=49			⇑*i* S	**Sn**	**06 38 05.4**	**+0.8**
KDJ	**Kajisay**	**2.44**	**297**	⇓*i* P	**Pn**	**06 37 38.2**	**+0.8**
KDJ	baz=98			⇓*i* S	**Sn**	**06 38 07.6**	**+0.2**
ULHL	**Ulahol**	**3.13**	**294**	⇑*i* P	**Pn**	**06 37 47.7**	**+0.8**
ULHL	baz=94			⇑*i* S	**Sn**	**06 38 24.3**	**-0.1**
MAKZ	**Makanchi**	**5.92**	**13**	⇑Pn	Pn	06 38 31.2	+6.1
MAKZ	2.6nm,1.1s			⇑Pg	**Pb**	**06 38 38.4**	**-2.3**
MAKZ	1.2nm,0.6s			⇑Lg	Lg	06 39 09.3	
MK31	**Makanchi Array**	**5.96**	**15**	⇓Pn	**Pn**	**06 38 27.6**	**+1.9**
MK31	0.5nm,0.5s,baz=191,slow=13,SNR=7.2			⇓Pg	Pb	06 38 35.0	-6.3
MK31	0.1nm,0.3s,baz=114,slow=16,SNR=5.2			⇑Lg	Lg	06 39 04.2	
MK31	1.3nm,0.7s,baz=117,slow=25						

ISCJB ***10*** *08:06:42.2±0.8, 30°.22N±0°.05×102°.94E±0°.08, h10km, mb3.6/6, MS2.9/1, Error ellipse: s-maj=10.2km s-min=7.6km az=7.9*
IDC ***10*** *08:06:42.1±1.1, 30°.06N×102°.65E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/34, mbtmp3.6/6, MS3.0/1, Ms1 3.0/1, ms1mx2.4/39, Error ellipse: s-maj=41.3km s-min=20.6km az=56.0*
BJI ***10*** *08:06:45.9±0.0, 30°.30N×102°.95E, h24km, ML3.5/15*
ISC 10 08:06:43.8±1.1, 30°.26N±0°.06×102°.84E±0°.09, h10km, n10, σ2s85/14, mb3.7/6, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.02**	**50**	⇑*i* Pg	**Pg**	**08 07 03.1**	**-0.4**
CD2				Sg	**Sg**	**08 07 15.4**	**-1.3**
CD2				smax	smax		
	comp=N,1μm,0.7s						
CD2				smax	smax		
	comp=E,1μm,1.0s						
GYA	**Guiyang**	**5.07**	**137**	*e*Pn	**Pn**	**08 07 59.1**	**-0.9**
GYA				Sn	**Sn**	**08 08 57.9**	**-0.8**
GYA				Sg	**Sb**	**08 09 15.6**	**+1.8**
GYA				smax	smax		
	comp=N,110nm,0.7s						
GYA				smax	smax		
	comp=E,60nm,0.7s						
XAN	**Xi'an**	**6.38**	**52**	Pn	**Pn**	**08 08 15.7**	**-2.3**
XAN				Sn	**Sn**	**08 09 26.4**	**-4.6**
XAN				Sg	**Sb**	**08 09 58.2**	**+6.7**
XAN				smax	smax		
	comp=N,69nm,1.0s						
XAN				smax	smax		
	comp=E,57nm,0.7s						
KSRS	**Korea Array**	**21.99**	**64**	P	**P**	**08 11 40.8**	**+2.8**
	3.2nm,0.9s,baz=249,slow=9.9,SNR=6.5						
MKAR	**Makanchi Array**	**22.93**	**322**	P	**P**	**08 11 49.3**	**+1.2**
	0.5nm,0.5s,baz=123,slow=12,SNR=6.2						
KURBB	**Kurchatov Arra**	**27.28**	**325**	P	**P**	**08 12 29.0**	**+0.7**
	0.2nm,0.2s,baz=132,slow=10,SNR=3.3						
MJAR	**Matsushiro Arr**	**30.07**	**69**	LR	LR	08 25 40.0	
	comp=Z,26nm,18.4s,baz=305,slow=38						
WRA	**Warramunga Arr**	**58.40**	**145**	P	**P**	**08 16 39.1**	**-0.6**
	1.0nm,0.5s,baz=327,slow=9.1,SNR=17						
ASAR	**Alice Springs**	**61.35**	**147**	P	**P**	**08 16 59.4**	**-0.6**
	0.4nm,0.7s,baz=324,slow=5.0,SNR=4.5						
YKA	**Yellowknife Ar**	**82.81**	**17**	P	**P**	**08 19 07.7**	**-0.3**
	0.3nm,0.6s,baz=332,slow=5.3,SNR=9.9						

BJI ***10*** *08:38:24.6±0.0, 67°.50N×139°.30E, h6km, mb5.0/53, mB5.1/47, Ms5.5/65, Ms7 5.3/62*
IDC ***10*** *08:38:25.6±0.3, 67°.53N×139°.40E, h0km, mb5.0/35, mb1 5.1/39, mb1mx5.0/52, mbtmp5.0/39, ML4.4/5, MS4.5/45, Ms1 4.5/45, ms1mx4.5/55, Error ellipse: s-maj=9.4km s-min=8.0km az=45.0*
MOS ***10*** *08:38:26.0±0.9, 67°.57N×139°.31E, h14km, mb5.6/54, MS4.9/49, Error ellipse: s-maj=11.0km s-min=4.0km az=98.8*
GCMT ***10*** *08:38:28.1±0.1, 67°.55N±0°.01×139°.32E±0°.03, h21km, MW5.2/110, Moment Tensor Solution. s97,c141; s110,c195; Duration: 0 Moment tensor: Scale 1016Nm; Mrr6.25±.15; Mθθ-4.07±.11; Mφφ-2.18±.11; Mrθ2.82±.20; Mθφ3.36±.08; Mφr-2.17±.21; Best double couple: M0 7.35100×1016 NP1:φs127.00000°, δ59.00000°, λ90.00000°. NP2:φs307.00000°, δ31.00000°, λ90.00000°. Principal axes: T 7.1690, Plg76.0000°, Azm38.0000°; N 0.3650, Plg0.0000°, Azm307.0000°; P -7.5340, Plg14.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***10*** *08:38:28.1±1.6, 67°.54N×139°.30E, h16km±1km, mb5.4/147, MS4.7/443 Error ellipse: s-maj=11.6km s-min=10.9km az=139.0*
ISCJB ***10*** *08:38:28.4±0.8, 67°.62N±0°.01×139°.54E±0°.03, h33km±6km, mb5.3/258, MS4.7/464, Error ellipse: s-maj=2.5km s-min=1.9km az=161.4*
YARS ***10*** *08:38:29.8±0.1, 67°.650N±0°.004×139°.01E±0°.01*
ISC 10 08:38:27.1±0.4, 67°.53N±0°.02×139°.14E±0°.02, h10km±2km, h10km: pP-P, n1625, σ1s62/1427, mb5.4/277, MS4.7/465, 81C-36D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTGS	**Batagay**	**1.73**	**276**	*i* P	**Pb**	**08 38 58.6**	**-0.3**
BTGS				*e*P	**Pg**	**08 38 59.7**	**-0.5**
BTGS				Pmax		08 38 59.7	
	comp=Z,6μm,0.7s						
BTGS				*e*S	**Sb**	**08 39 21.3**	**+0.6**
BTGS				Smax		08 39 21.3	
	comp=N,8μm,1.4s						
DEPR	**Deputatskiy**	**1.89**	**8**	*e*P	**Pb**	**08 39 01.0**	**-0.7**
DEPR				*e*P	**Pg**	**08 39 01.9**	**-1.5**
DEPR				Pmax		08 39 01.9	
	comp=Z,4μm,0.4s						
DEPR				*e*S	**Sb**	**08 39 24.9**	**-0.5**
DEPR				Smax		08 39 24.9	
	comp=N,7μm,0.8s						
MOMR	**Moma**	**1.92**	**122**	*i* P	**Pg**	**08 39 06.7**	**+2.8**
MOMR				Pmax		08 39 06.7	
	comp=Z,9μm,0.4s						
MOMR				*e*S	**Sg**	**08 39 31.9**	**+3.1**
MOMR				Smax		08 39 31.9	
	comp=N,6μm,0.4s						
MOMR				Smax		08 39 31.9	
	comp=E,3μm,0.4s						
YBGR	**Belaya Gora**	**2.84**	**66**	*e*P	**Pg**	**08 39 20.3**	**-1.1**
YBGR				*e*S	**Sn**	**08 39 49.0**	**+2.5**
YBGR				*e*S	**Sg**	**08 39 57.3**	**-0.7**
YBGR				Smax		08 39 57.3	
	comp=N,2μm,0.4s						
ATKR	**Artyk**	**4.17**	**141**	*e*S	**Sn**	**08 40 23.5**	**+4.1**
ATKR				*e*S	**Sg**	**08 40 42.3**	**+1.6**
ATKR				Smax		08 40 42.3	
	comp=N,3μm,0.9s						
ATKR				Smax		08 40 42.3	
	comp=E,5μm,0.9s						
TIXI	**Tiksi**	**5.48**	**324**	*e*Pn	**Pn**	**08 39 50.0**	**+1.4**
TIXI	**Tiksi**	**5.48**	**324**	*ce*P	**Pn**	**08 39 49.2**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,229nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,10μm,10.0s						
TIXI	**Tiksi**	**5.48**	**324**	*i* P	**Pn**	**08 39 49.3**	**+0.7**
TIXI				*e*S	**Sn**	**08 40 49.3**	**-2.2**
TIXI				*e*S	**Sb**	**08 41 15.1**	**+6.8**
TIXI				Smax		08 41 15.1	
	comp=E,8μm,0.7s						
TIXI	**Tiksi**	**5.48**	**324**	Pn	**Pn**	**08 39 49.5**	**+0.9**
	comp=E,30nm,0.3s,baz=138,slow=14,SNR=600						
TIXI				Sn	**Sn**	**08 40 51.8**	**+0.3**
	comp=E,56nm,0.3s,baz=180,slow=18,SNR=4.5						
TIXI				Lg	Lg	08 41 20.4	
	comp=E,150nm,0.3s,baz=72,slow=16,SNR=7.4						
TIXI				LR	LR	08 41 49.5	
	comp=E,2μm,19.1s,baz=122,slow=37						
YAK	**Yakutsk**	**6.83**	**221**	*e*P	**Pn**	**08 40 06.6**	**-0.6**
YAK				*e*		08 41 26.2	
YAK				pmax	pmax		
	comp=Z,281nm,0.7s						
YAK				pmax	pmax		
	comp=N,2μm,0.9s						
YAK				pmax	pmax		
	comp=E,2μm,1.0s						
YAK				smax	smax		
	comp=N,2μm,0.9s						
YAK				smax	smax		
	comp=E,3μm,0.9s						
YAK	**Yakutsk**	**6.83**	**221**	*e*S	**Sg**	**08 42 03.3**	**-2.8**
YAK				Smax		08 42 03.3	
	comp=N,6μm,0.9s						
TBGR	**Tabaga**	**7.02**	**220**	*e*S	**Sg**	**08 42 08.5**	**-3.7**
TBGR				Smax		08 42 08.5	
	comp=E,9μm,1.0s						
SEY	**Seymchan**	**7.21**	**123**	*ce*P	**Pn**	**08 40 12.8**	**+0.4**
SEY	**Seymchan**	**7.21**	**123**	Pn	**Pn**	**08 40 11.8**	**-0.7**
	comp=E,1.7nm,0.3s,baz=314,slow=14,SNR=14						
SEY				Pg	Pb	08 40 21.9	-10
	comp=E,4.7nm,0.3s,baz=310,slow=18,SNR=17						
SEY				Lg	Lg	08 42 10.8	
	comp=E,66nm,0.3s,baz=29,slow=21,SNR=4.1						
SEY				LR	LR	08 43 06.2	
	comp=E,7μm,18.4s,baz=336,slow=39						
USMR	**Ust'-Maya**	**7.42**	**198**	*e*S	**Sg**	**08 42 22.4**	**-2.4**
USMR				Smax		08 42 22.4	
	comp=N,5μm,1.0s						
BLSR	**Buluus**	**7.57**	**220**	*e*S	**Sn**	**08 41 43.6**	**+0.6**
BLSR				*e*S	**Sg**	**08 42 25.0**	**-4.7**
BLSR				Smax		08 42 25.0	
	comp=N,6μm,1.2s						
MA2	**Magadan**	**9.50**	**142**	*ce*P	**Pn**	**08 40 43.9**	**+0.2**
MA2				pmax	pmax		
	comp=Z,51nm,1.7s						
MA2	**Magadan**	**9.50**	**142**	Pn	**Pn**	**08 40 42.6**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=328,slow=16,SNR=8.8						
MA2				Sn	**Sn**	**08 42 26.0**	**-4.4**
	comp=Z,9.4nm,0.3s,baz=359,slow=15,SNR=3.7						
MA2				Lg	Lg	08 43 25.5	
	comp=Z,22nm,0.3s,baz=60,slow=22,SNR=19						
MA2				LR	LR	08 44 51.1	
	comp=Z,2μm,20.8s,baz=329,slow=41						
CGD	**Chagda**	**9.61**	**208**	*e*S	Sn	08 43 29.5	+56
CGD				Smax		08 43 29.5	
	comp=N,1μm,1.3s						
BILL	**Bilibino**	**10.25**	**75**	*e*Pn	**Pn**	**08 40 55.8**	**+1.8**
BILL	**Bilibino**	**10.25**	**75**	*c i* P	**Pn**	**08 40 55.2**	**+1.3**
BILL				*e*S	**Sn**	**08 42 48.0**	**-0.7**
BILL				pmax	pmax		
	comp=Z,46nm,1.0s						
BILL				MLR	MLR		
	comp=Z,5μm,14.0s						
OLMR	**Olekminsk**	**10.86**	**238**	*e*S		08 44 05.8	
OLMR				Smax		08 44 05.8	
	comp=N,2μm,1.3s						
ALDR	**Aldan**	**10.87**	**221**	*e*S		08 44 07.3	
ALDR				Smax		08 44 07.3	
	comp=E,1μm,1.8s						
YCRN	**Chernyshevskiy**	**11.97**	**261**	*e*P	**Pn**	**08 41 17.6**	**0.0**
YCRN				*e*S		08 44 38.2	
YCRN				Smax		08 44 38.2	
	comp=N,856nm,1.1s						
YKLR	**Yuktali**	**13.62**	**225**	*e*S	S	08 45 32.4	+58
YKLR				Smax		08 45 32.4	
	comp=E,1μm,2.0s						
KHN	**Khani**	**13.86**	**229**	*e*S	S	08 45 37.7	+58
KHN				Smax		08 45 37.7	
	comp=N,4μm,1.6s						
OKH	**Okha**	**14.14**	**171**	*c i* P	**Pn**	**08 41 50.8**	**+3.6**
OKH				*i* S	**Sn**	**08 44 25.3**	**+1.3**
OKH				pmax	pmax		
	comp=Z,300nm,8.0s						
OKH				MLR	MLR		
	comp=Z,3μm,12.0s						
TNDR	**Tynda**	**14.16**	**216**	*e*S	S	08 45 49.6	+64
TNDR				Smax		08 45 49.6	
	comp=E,2μm,2.0s						
CRS	**Chara**	**14.33**	**232**	*e*S	S	08 45 53.1	+64
CRS				Smax		08 45 53.1	
	comp=E,2μm,1.5s						
NKL	**Nikolayevsk**	**14.45**	**176**	*e*P	**Pn**	**08 41 50.0**	**-1.3**
NKL				*e*		08 44 38.0	
NKL				pmax	pmax		
	comp=N,200nm,1.5s						
NKL				pmax	pmax		
	comp=Z,340nm,1.5s						
NKL				pmax	pmax		
	comp=N,1μm,4.0s						
NKL				pmax	pmax		
	comp=Z,1μm,4.0s						
NKL				MLR	MLR		
	comp=N,7μm,11.0s						
NKL				MLR	MLR		
	comp=E,5μm,11.0s						
NKL				MLR	MLR		
	comp=Z,19μm,11.0s						
BOD	**Bodaibo**	**14.97**	**242**	*e*P	**Pn**	**08 41 54.0**	**-4.4**
BOD				*e*		08 44 46.3	
BOD				pmax	pmax		
	comp=Z,114nm,1.0s						
ZEA	**Zeya**	**14.97**	**208**	*e*P	**Pn**	**08 41 56.2**	**-2.2**
ZEA				pmax	pmax		
	comp=Z,300nm,1.0s						
ZEA				pmax	pmax		
	comp=N,200nm,2.0s						
ZEA				pmax	pmax		
	comp=N,110nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,170nm,0.9s						
ZEA				MLR	MLR		
	comp=Z,16μm,13.0s						
ZEA				MLR	MLR		
	comp=E,5μm,8.0s						
ZEA				MLR	MLR		
	comp=N,10μm,7.0s						
TYV	**Tymovskoe**	**16.81**	**172**	*e*P	**P**	**08 42 24.0**	**-0.4**
TYV				*e*S	**S**	**08 45 34.8**	**-4.8**
TYV				smax	smax		
	comp=E,12nm,1.4s						
TYV				smax	smax		
	comp=E,800nm,7.7s						
TYV				MLR	MLR		
	comp=Z,9μm,15.0s						
TYV				MLR	MLR		
	comp=E,3μm,16.0s						
GRNR	**Gornyy**	**16.87**	**186**	*e*P	**Pn**	**08 42 23.0**	**0.0**
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
PEA1	**Petropavlovsk-**	**17.01**	**139**	*e*Pn	**Pn**	**08 42 24.0**	**-0.8**
PEA0B	**Petropavlovsk-**	**17.01**	**139**	*e*Pn	**P**	**08 42 27.1**	**+0.4**
	comp=Z,116nm,1.1s						
PEA0B	**Petropavlovsk-**	**17.01**	**139**	P	**P**	**08 42 27.1**	**+0.4**
PEA0B				pmax	pmax		
	comp=Z,116nm,1.2s						
PETK	**Petropavlovsk-**	**17.01**	**139**	*e*Pn	**Pn**	**08 42 23.8**	**-1.0**
PETK	**Petropavlovsk-**	**17.01**	**139**	*e*P	**Pn**	**08 42 23.8**	**-1.0**
PETK	**Petropavlovsk-**	**17.01**	**139**	Pn	**Pn**	**08 42 24.0**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=7.4,slow=6.6,SNR=13						
PETK				LR	LR	08 49 09.6	
	comp=Z,1μm,20.8s,baz=323,slow=38						
PET	**Petropavlovsk**	**17.33**	**137**	*e*Pn	**P**	**08 42 31.5**	**+1.3**
	comp=Z,64nm,1.1s						
PET	**Petropavlovsk**	**17.33**	**137**	*e*P	**P**	**08 42 30.7**	**+0.5**
PET				*e*S	**Sn**	**08 45 41.2**	**-0.2**
PET				pmax	pmax		
	comp=Z,500nm,9.9s						
PET				pmax	pmax		
	comp=Z,57nm,0.8s						
PET				MLR	MLR		
	comp=Z,4μm,14.0s						
PET				MLR	MLR		
	comp=Z,4μm,13.0s						
UGL	**Uglegorsk**	**18.56**	**174**	*e*P	**Pn**	**08 42 44.6**	**+0

comp=Z,7μm,12.0s
UGL MLR MLR
comp=N,11μm,11.0s
UGL MLR MLR
comp=E,5μm,11.0s
NRIK Noril'sk 18.59 299 P Pn 08 42 44.5 +0.3
comp=E,0.6nm,0.3s,baz=77,slow=11,SNR=56
NRIK Lg Lg 08 48 18.8
comp=E,1.6nm,0.3s,baz=4.0,slow=23,SNR=6.8
NRIK LR LR 08 50 19.8
comp=E,2μm,19.9s,baz=72,slow=38
KLR Kul'dur 18.73 195*c iP* **Pn 08 42 46.8 +0.8**
KLR pmax pmax
comp=Z,39nm,0.6s
KLR Kul'dur 18.73 195 P Pn 08 42 47.0 +1.0
comp=Z,3.6nm,0.3s,baz=2.2,slow=9.3,SNR=93
KLR Lg Lg 08 48 21.2
comp=Z,0.5nm,0.3s,baz=108,slow=23,SNR=13
KLR LR LR 08 50 23.0
comp=Z,3μm,19.7s,baz=3.5,slow=38
SKR Severo-Kuril's 18.89 145 *eP* **P 08 42 47.4 +0.1**
SKR *eS* **Sn 08 46 15.0 -3.9**
SKR pmax pmax
comp=Z,108nm,0.6s
SKR pmax pmax
comp=Z,600nm,5.2s
SKR MLR MLR
comp=Z,2μm,13.0s
SKR MLR MLR
comp=Z,2μm,12.0s
GAMB Gambell 20.16 77 *eP* **P 08 43 01.6 +0.5**
YSS Yuzh-Sakhalins 20.71 173 *eP* **P 08 43 08.1 +0.9**
comp=Z,187nm,1.2s
YSS LR LR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 20.71 173⇓*iP* Pn 08 43 08.4 -1.2
YSS *e* 08 43 29.0
YSS *eS* **S 08 46 56.8 -1.4**
YSS pmax pmax
comp=Z,110nm,1.1s
YSS pmax pmax
comp=Z,600nm,9.4s
YSS smax smax
comp=N,2μm,10.0s
YSS smax smax
comp=E,2μm,12.0s
YSS MLR MLR
comp=Z,5μm,13.0s
YSS MLR MLR
comp=N,4μm,15.0s
YSS MLR MLR
comp=E,2μm,12.0s
HIA Hailar 20.77 218 *eP* **P 08 43 08.4 +0.6**
comp=E,94nm,0.8s
HIA Hailar 20.77 218 *eP* **P 08 43 08.4 +0.6**
HIA pmax pmax
comp=Z,94nm,0.8s
RDOG Red Dog Mine 21.23 62 *eP* **P 08 43 11.9 -0.7**
comp=Z,201nm,1.0s
RDOG LR LR
comp=Z,700nm,18.0s
ANM Nome 22.07 71 *eP* **P 08 43 22.2 +0.5**
comp=Z,137nm,1.0s
ANM LR LR
comp=Z,4μm,18.0s
ANM Nome 22.07 71 *eP* **P 08 43 22.2 +0.5**
ANM pmax pmax
comp=Z,137nm,1.0s
ANM MLR MLR
comp=Z,4μm,18.0s
TEY Ternei 22.59 185⇓*eP* **P 08 43 29.2 +1.8**
TEY *eS* **S 08 47 35.2 +0.6**
TEY pmax pmax
comp=N,50nm,1.3s
TEY pmax pmax
comp=Z,80nm,1.3s
TEY MLR MLR
comp=E,2μm,11.0s
TEY MLR MLR
comp=N,4μm,15.0s
TEY MLR MLR
comp=Z,4μm,8.0s
IRK Irkutsk 22.79 245 *eP* **P 08 43 29.9 +0.4**
IRK *eS* **S 08 47 39.9 +1.7**
IRK pmax pmax
comp=Z,131nm,1.7s
KUR Kuril'sk 22.82 164 *eP* **P 08 43 29.9 +0.1**
KUR *eS* **S 08 47 38.1 -0.6**
KUR pmax pmax
comp=Z,443nm,1.1s
KUR pmax pmax
comp=N,99nm,0.9s
KUR MLR MLR
comp=Z,2μm,15.0s
KUR MLR MLR
comp=E,376nm,10.0s
KUR MLR MLR
comp=N,1μm,14.0s
TLY Talaya 23.47 245 *eP* **P 08 43 37.5 +1.0**
comp=N,40nm,1.2s
TLY Talaya 23.47 245*ceP* **P 08 43 38.2 +1.7**
TLY pmax pmax
comp=Z,114nm,2.5s
TLY Talaya 23.47 245 P **P 08 43 37.5 +1.0**
SNR=24
MDJ Mudanjiang 23.52 197 PFAKE 08 43 50.0 +13
MDJ LR LR
comp=Z,6μm,18.0s
ASAJ Asahikawa 23.54 174 P **P 08 43 37.2 +0.1**
comp=Z,32nm,0.7s,baz=336,slow=11,SNR=17
ASAJ LR LR 08 53 39.5
comp=Z,3μm,19.2s,baz=358,slow=39
USA0B Ussuriysk Arra 23.69 193 *eP* **P 08 43 38.6 -0.1**
comp=Z,117nm,1.0s
USA0B Ussuriysk Arra 23.69 193 P **P 08 43 39.2 +0.6**
USA0B pmax pmax
comp=Z,116nm,1.0s
USRK Ussuriysk Ar. 23.69 193 *eP* **P 08 43 38.3 -0.4**
USRK Ussuriysk Ar. 23.69 193 P **P 08 43 38.9 +0.3**
comp=Z,28nm,0.8s,baz=8.1,slow=9.9,SNR=34
USRK Lg Lg 08 50 59.8
comp=Z,9.6nm,1.1s,baz=356,slow=25,SNR=6.9
USRK LR LR 08 53 20.4
comp=Z,2μm,20.1s,baz=1.4,slow=38
MOY Mondy 24.42 249 *eP* **P 08 43 47.3 +1.7**
MOY pmax pmax
comp=Z,187nm,1.9s
ZAK Zakamensk 24.68 244 *eP* **P 08 43 48.9 +1.0**
ZAK pmax pmax
comp=Z,27nm,1.6s
CN2 Changchun 24.88 204 *eP* **P 08 43 52.7 +3.1**
CN2 *es*P sP 08 43 59.9 +5.6
CN2 *eS* **S 08 48 13.4 +1.0**
CN2 pmax pmax
comp=Z,40nm,0.7s
CN2 pmax pmax
comp=Z,600nm,3.0s
CN2 LR LR
comp=Z,14μm,12.0s
CN2 LR LR
comp=Z,9μm,12.0s
CN2 LR LR
comp=Z,18μm,13.0s
TOLK Toolik Lake Re 25.29 54 P **P 08 43 53.2 0.0**
baz=302
IMAR Indian Mountai 25.38 62 *eP* **P 08 43 53.5 -0.5**
ULN Ulaanbaatar 25.60 236 *eP* **P 08 43 57.9 +1.6**
comp=Z,62nm,1.4s
ULN LR LR
comp=Z,4μm,18.0s
ULN Ulaanbaatar 25.60 236*ceP* **P 08 43 58.3 +2.0**
ULN pmax pmax
comp=Z,60nm,2.5s
ERM Erimo 25.66 173 *eP* **P 08 43 54.9 -1.8**
comp=Z,60nm,1.3s
ERM Erimo 25.66 173*ceP* **P 08 43 56.6 -0.1**
ERM pmax pmax
comp=Z,57nm,1.7s
SONA0 Songino Array 25.84 237 *eP* **P 08 44 00.4 +1.9**
SONM Songino Array 25.84 237 *eP* **P 08 44 00.0 +1.5**
SONM Songino Array 25.84 237 *eP* **P 08 44 00.0 +1.5**
SONM Songino Array 25.84 237 P **P 08 44 00.4 +1.9**
comp=Z,23nm,0.8s,baz=28,slow=9.5,SNR=82
SONM Lg Lg 08 52 09.8
comp=Z,9.9nm,1.0s,baz=34,slow=22,SNR=3.7
SONM LR LR 08 53 49.9
comp=Z,823nm,18.5s,baz=21,slow=36

KIWB Kanaga Island 26.30 105 *eP* **P 08 44 01.8 -0.6**
ADK Adak 26.45 104 *eP* **P 08 44 03.0 -0.7**
comp=Z,390nm,1.6s
ADK Adak 26.45 104 *eP* **P 08 44 03.0 -0.7**
ADK pmax pmax
comp=Z,390nm,1.6s
MLY Manley 26.95 62 PFAKE 08 44 20.0 +12
MLY LR LR
comp=Z,600nm,18.0s
BPAW Bear Paw Mtn. 27.44 63 PFAKE 08 44 20.0 +7.4
BPAW LR LR
comp=Z,1μm,18.0s
CAST Castle Rocks 27.49 65 PFAKE 08 44 20.0 +6.9
CAST LR LR
comp=Z,700nm,21.0s
BMAR Burnt Mountain 27.52 54 *eP* **P 08 44 13.3 -0.1**
MDM Murphy Dome 27.84 60 *eP* **P 08 44 16.0 -0.3**
comp=Z,53nm,0.8s
BWN Browne 27.92 62 PFAKE 08 44 30.0 +13
BWN LR LR
comp=Z,400nm,22.0s
POKR Poker Plat Res 28.01 60 P **P 08 44 17.8 +0.1**
baz=308
POKR S **S 08 49 05.0 +3.4**
baz=308
TCOL CIGO, UAF Yank 28.02 60 P **P 08 44 17.8 0.0**
baz=308,SNR=25
COLA College 28.02 60 *eP* **P 08 44 17.3 -0.5**
comp=Z,57nm,0.8s
COLA LR LR
comp=Z,1μm,20.0s
COLA College 28.02 60*c iP* **P 08 44 17.7 0.0**
COLA pmax pmax
comp=Z,60nm,0.9s
WRH Wood River Hil 28.20 61 PFAKE 08 44 30.0 +11
WRH LR LR
comp=Z,300nm,22.0s
MCK McKinley 28.38 63 PFAKE 08 44 30.0 +9.0
MCK LR LR
comp=Z,2μm,19.0s
ILAR Eielson Array 28.41 60 *eP* **P 08 44 20.8 -0.4**
ILAR Eielson Array 28.41 60 *eP* **P 08 44 20.8 -0.4**
ILAR Eielson Array 28.41 60 P **P 08 44 21.1 -0.2**
comp=Z,66nm,0.9s,baz=299,slow=8.0,SNR=474
ILAR LR LR 08 56 57.0
comp=Z,640nm,19.9s,baz=252,slow=39
HDA Harding Lake 28.62 61 PFAKE 08 44 30.0 +6.9
HDA LR LR
comp=Z,600nm,22.0s
HDA Harding Lake 28.62 61 P **P 08 44 22.4 -0.7**
baz=310,SNR=29
NVS Novosibirsk 28.64 272 *eP* **P 08 44 23.6 +0.3**
NVS *e* 08 45 10.6
NVS pmax pmax
comp=N,17nm,1.2s
NVS pmax pmax
comp=E,25nm,1.2s
NVS pmax pmax
comp=Z,38nm,1.2s
ZAA1 Zalesovo Array 28.70 269 *eP* **P 08 44 24.6 +0.8**
ZAA1 *ePcP* **PcP 08 47 34.0 +0.2**
ZAA0 Zalesovo Array 28.70 269 *eP* **P 08 44 24.6 +0.7**
comp=Z,15nm,0.8s
ZAA0 *ePcP* **PcP 08 47 34.7 +0.8**
ZALV Zalesovo Beam 28.70 269 *eP* **P 08 44 24.0 +0.1**
ZALV *ePcP* **PcP 08 47 34.3 +0.5**
ZALV Zalesovo Beam 28.70 269 *i* P **P 08 44 24.8 +0.9**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV Zalesovo Beam 28.70 269 P **P 08 44 24.6 +0.8**
comp=Z,6.7nm,0.6s,baz=46,slow=6.9,SNR=14
ZALV PcP **PcP 08 47 34.0 +0.2**
comp=Z,7.3nm,0.6s,baz=10,slow=3.3,SNR=4.1
AKUT Akutan 28.85 90 *eP* **P 08 44 25.8 +0.6**
RSO Redoubt South 29.20 70 *eP* **P 08 44 28.3 -0.2**
DHY Denali Highway 29.34 63 *eP* **P 08 44 28.4 -1.3**
comp=Z,68nm,1.6s
DHY LR LR
comp=Z,800nm,19.0s
GHO Glory Hole Cre 29.68 66 *eP* **P 08 44 31.5 -1.1**
comp=Z,24nm,0.8s
GHO LR LR
comp=Z,2μm,18.0s
RIDG Independent Ri 29.76 60 *eP* **P 08 44 31.4 -1.9**
comp=Z,12nm,0.9s
RIDG LR LR
comp=Z,600nm,20.0s
RC01 Rabbit Creek A 29.86 67 PFAKE 08 44 50.0 +16
RC01 LR LR
comp=Z,900nm,20.0s
SML Sawmill 29.86 65 PFAKE 08 44 50.0 +16
SML LR LR
comp=Z,2μm,19.0s
SCRK Sand Creek 29.89 60 PFAKE 08 44 50.0 +16
SCRK LR LR
comp=Z,800nm,18.0s
KNK Knik Glacier 30.09 66 PFAKE 08 44 50.0 +14
KNK LR LR
comp=Z,800nm,22.0s
HOM Homer 30.16 71 PFAKE 08 44 50.0 +13
HOM LR LR
comp=Z,700nm,22.0s
SCM Sheep Creek Mo 30.19 65 PFAKE 08 44 50.0 +13
SCM LR LR
comp=Z,600nm,20.0s
INK Inuvik 30.27 47 LR LR 08 59 17.3
comp=Z,627nm,18.6s,baz=284,slow=42
EGAK Eagle 30.28 57 PFAKE 08 44 50.0 +12
EGAK LR LR
comp=Z,1μm,20.0s
DL2 Dalian 30.29 208 P P 08 44 45.1 +7.0
DL2 S S 08 49 48.3 +11
BJI Beijing 30.31 216 P **P 08 44 36.7 -1.6**
BJI S **S 08 49 35.1 -2.9**
BJI LR LR
comp=Z,2μm,8.8s
BJI LR LR
comp=Z,1μm,9.4s
BJI LR LR
comp=Z,1μm,18.1s
BJT Baijiatuau 30.34 216 PFAKE 08 44 50.0 +12
BJT LR LR
comp=Z,3μm,19.0s
HARP HAARP 30.56 63 PFAKE 08 44 50.0 +10
HARP LR LR
comp=Z,1μm,18.0s
KBS Kingsbay 30.59 342 PFAKE 08 44 50.0 +10
KBS LR LR
comp=Z,400nm,20.0s
KBS Kingsbay 30.59 342 *eP* **P 08 44 41.6 +1.2**
EPYK Eagle Plains 30.61 52 P **P 08 44 40.7 0.0**
baz=311
SPA0 Spitsbergen Ar 30.64 340 *eP* **P 08 44 41.5 +0.6**
HHC Hu-ho-hao-te 30.69 223 *eP* **P 08 44 43.0 +1.3**
HHC sP sP 08 44 49.9 +3.5
HHC PP **PP 08 45 47.8 -3.0**
HHC S **S 08 49 41.2 -2.9**
HHC SS **SnSn 08 51 29.2 +7.8**
HHC pmax pmax
comp=Z,190nm,0.9s
HHC pmax pmax
comp=Z,740nm,4.2s
HHC LR LR
comp=Z,4μm,9.6s
HHC LR LR
comp=Z,3μm,11.2s
HHC LR LR
comp=Z,5μm,11.3s
KSRS Korea Array 30.79 198 LR LR 08 57 57.1
comp=Z,2μm,20.4s,baz=19,slow=38
KLU Klutina 30.92 64 *eP* **P 08 44 42.6 -0.9**
comp=Z,18nm,0.8s
KLU LR LR
comp=Z,500nm,19.0s
GLI Glacier Island 30.93 66 PFAKE 08 45 00.0 +16
GLI LR LR
comp=Z,1μm,18.0s
MJB9 Matsu-Tunnel 31.04 181 PFAKE 08 45 00.0 +15
MJB9 LR LR
comp=Z,1μm,18.0s
MAJO Matsushiro 31.04 181 *eP* **P 08 44 44.6 -0.2**
comp=Z,38nm,1.5s
MAJO *ePcP* **PcP 08 47 40.0 -0.2**
MAJO LR LR
comp=Z,1μm,18.0s
MAT Matsushiro 31.04 181 P **P 08 44 44.4 -0.3**

MAT S **S 08 49 51.0 +1.5**
MJAR Matsushiro Arr 31.04 181 P **P 08 44 44.5 -0.3**
comp=Z,6.2nm,1.1s,baz=358,slow=7.9,SNR=14
MJAR PcP **PcP 08 47 40.0 -0.2**
comp=Z,5.6nm,1.0s,baz=320,slow=3.2,SNR=4.4
MJAR LR LR 08 57 28.1
comp=Z,1μm,18.4s,baz=5.0,slow=37
DGZ Jazzator, Alta 31.05 261*c iP* **P 08 44 46.4 +1.5**
DGZ pmax pmax
comp=Z,8.0nm,0.8s
KDAK Kodiak Island 31.16 74 *eP* **P 08 44 44.0 -1.6**
comp=Z,65nm,1.5s
KDAK *e*PcP **PcP 08 47 40.6 +0.5**
KDAK LR LR
comp=Z,3μm,18.0s
KDAK Kodiak Island 31.16 74 *eP* **P 08 44 44.0 -1.6**
KDAK *e* 08 47 40.6
KDAK pmax pmax
comp=Z,65nm,1.5s
KDAK MLR MLR
comp=Z,3μm,18.0s
BCAR Beaver Creek A 31.23 60 *eP* **P 08 44 45.3 -1.0**
BCAR *e*PcP **PcP 08 47 41.6 +1.3**
DAWY Dawson 31.33 57 PFAKE 08 45 00.0 +13
DAWY LR LR
comp=Z,2μm,19.0s
SII Sitkinak Islan 31.46 77 PFAKE 08 45 00.0 +12
SII LR LR
comp=Z,800nm,18.0s
HSPB Hornsund (broa 31.68 339 *eP* **P 08 44 50.8 +0.8**
INU Inuyama 32.25 183 PFAKE 08 45 10.0 +15
INU LR LR
comp=Z,1μm,20.0s
HMT Hamilton 32.31 65 PFAKE 08 45 10.0 +14
HMT LR LR
comp=Z,1μm,22.0s
BALM Baldy 32.47 63 PFAKE 08 45 10.0 +13
BALM LR LR
comp=Z,700nm,18.0s
BJO Bjornoya 33.12 335 *eP* **P 08 45 03.7 +1.2**
TIY Taiyuan 33.42 220 *eP* P 08 45 13.4 +7.7
TIY PP **PP 08 46 25.4 +4.3**
TIY S **S 08 50 32.5 +5.8**
TIY Taiyuan 33.42 220 ScS ScS 08 55 35.8 +4.1
KURK Kurchatov 33.61 271 *eP* **P 08 45 07.3 +0.2**
comp=Z,69nm,1.1s
KURK LR LR
comp=Z,401nm,19.0s
KURK Kurchatov 33.61 271*ceP* **P 08 45 07.6 +0.5**
KURK pmax pmax
comp=Z,77nm,1.3s
KURK Kurchatov 33.61 271 P **P 08 45 07.6 +0.5**
SNR=29
KURBB Kurchatov Arra 33.72 271 P **P 08 45 08.7 +0.6**
comp=Z,37nm,1.0s,baz=38,slow=9.0,SNR=160
RES Resolute Bay 33.90 23 *eP* **P 08 45 08.6 -0.8**
comp=Z,84nm,1.8s
RES *e*PcP **PcP 08 47 47.1 -0.3**
RES Resolute Bay 33.90 23 *eP* **P 08 45 08.6 -0.8**
RES *e* 08 47 47.1
RES pmax pmax
comp=Z,85nm,1.8s
RES Resolute Bay 33.90 23 LR LR 09 01 50.1
comp=Z,384nm,18.1s,baz=2.0,slow=42
BCPM Bancas Point 34.18 62 PFAKE 08 45 20.0 +8.0
BCPM LR LR
comp=Z,500nm,18.0s
HYT Haines Junctio 34.25 60 *eP* **P 08 45 12.9 +0.1**
comp=Z,13nm,0.9s
JHJ Hachijo jima 2 34.45 179 LR LR 08 59 59.2
comp=Z,990nm,19.0s,baz=50,slow=38
JNU Nakatsue 34.78 192 PFAKE 08 45 30.0 +12
JNU LR LR
comp=Z,1μm,18.0s
JNU Nakatsue 34.78 192 P **P 08 45 17.8 +0.3**
comp=Z,8.9nm,0.9s,baz=333,slow=4.5,SNR=3.3
BVAR Borovoye Array 34.93 280 P **P 08 45 19.2 +0.6**
comp=Z,12nm,0.6s,baz=46,slow=8.5,SNR=81
BVAR PP **PnPn 08 46 36.3 +1.3**
comp=Z,8.9nm,0.9s,baz=30,slow=11,SNR=2.4
BVAR PcP **PcP 08 47 50.5 -0.2**
comp=Z,18nm,0.7s,baz=66,slow=1.8,SNR=11
BRVK Borovoye 34.94 281 *eP* **P 08 45 19.0 +0.4**
comp=Z,68nm,1.4s
BRVK *e*PcP **PcP 08 47 52.0 +1.2**
BRVK LR LR
comp=Z,2μm,19.0s
BRVK Borovoye 34.94 281*ceP* **P 08 45 19.1 +0.4**
BRVK pmax pmax
comp=Z,52nm,1.3s
BRVK Borovoye 34.94 281 P **P 08 45 19.3 +0.6**
SNR=19
LVZ Lovozero 35.11 320 *eP* **P 08 45 19.7 -0.3**
comp=Z,60nm,0.9s
LVZ LR LR
comp=Z,500nm,21.0s
LVZ Lovozero 35.11 320*ceP* **P 08 45 19.6 -0.4**
LVZ pmax pmax
comp=Z,62nm,1.0s
TULEG Thule 35.12 11 PFAKE 08 45 30.0 +10
TULEG LR LR
comp=Z,800nm,20.0s
WHY Whitehorse 35.24 58 PFAKE 08 45 30.0 +8.7
WHY LR LR
comp=Z,1μm,20.0s
DAG Danmarks Havn 35.28 351⇑*iP* **P 08 45 21.0 -0.3**
DAG pmax pmax
comp=Z,19nm,0.9s
DAG MLR MLR
comp=Z,540nm,18.0s
DAG Danmarks Havn 35.28 351⇑*iP* **P 08 45 21.0 -0.3**
comp=Z,23nm,0.9s
HAMF Hammerfest 35.39 329 *eP* **P 08 45 22.7 +0.4**
MK31 Makanchi Array 35.40 263 *eP* **P 08 45 22.4 -0.2**
comp=Z,30nm,0.8s
MK31 Makanchi Array 35.40 263 *eP* **P 08 45 22.4 -0.2**
MK31 pmax pmax
comp=Z,30nm,0.8s
MK32 Makanchi Array 35.40 263 *eP* **P 08 45 23.1 +0.5**
MKAR Makanchi Array 35.40 263 *eP* **P 08 45 22.4 -0.2**
MKAR Makanchi Array 35.40 263 *i* P **P 08 45 22.7 0.0**
MKAR pmax pmax
comp=Z,28nm,0.7s
MKAR Makanchi Array 35.40 263 P **P 08 45 23.1 +0.5**
comp=Z,27nm,0.7s,baz=50,slow=7.2,SNR=252
MKAR LR LR 09 01 42.0
comp=Z,916nm,18.8s,baz=19,slow=39
KEV Kevo 35.41 326 PFAKE 08 45 30.0 +7.5
KEV LR LR
comp=Z,800nm,20.0s
GTA Gaotai 35.50 238 P **P 08 45 25.9 +2.1**
GTA pP sP 08 45 30.3 +1.7
GTA sP pP 08 45 33.0 +5.8
GTA PcP **PcP 08 47 53.2 +0.4**
GTA S **S 08 51 01.9 +3.0**
GTA sS sS 08 51 09.4 +4.9
GTA SS **SnSn 08 53 16.8 -1.5**
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA pmax pmax
comp=Z,140nm,4.6s
GTA LR LR
comp=Z,3μm,11.0s
GTA LR LR
comp=Z,3μm,13.7s
GTA LR LR
comp=Z,4μm,13.1s
MAKZ Makanchi 35.50 264 PFAKE 08 45 40.0 +16
MAKZ LR LR
comp=Z,800nm,19.0s
SVE Sverdlovsk 35.59 292*d iP* **P 08 45 26.0 +1.9**
SVE pmax pmax
comp=Z,131nm,1.4s
SVE MLR MLR
comp=Z,2μm,16.0s
APA Apatity 35.66 321⇓*iP* **P 08 45 25.2 +0.5**
APA pmax pmax
comp=Z,20nm,0.9s
APA MLR MLR
comp=Z,800nm,14.0s
WMQ Urumqi 35.87 255 *eP* **P 08 45 28.8 +2.0**
WMQ pP sP 08 45 32.9 +1.2
WMQ sP pP 08 45 35.1 +4.8
WMQ S **S 08 51 05.7 +1.4**
WMQ ScP **ScP 08 51 38.7 -0.8**

WMQ			PcS	**PcS**	**08 51 41.6 +0.5**
WMQ			SS	**SnSn**	**08 53 28.3 +1.4**
WMQ			pmax	pmax	
	comp=Z,80nm,1.3s				
WMQ			pmax	pmax	
	comp=Z,450nm,3.6s				
WMQ			LR	LR	
	comp=Z,4μm,16.9s				
WMQ			LR	LR	
	comp=Z,3μm,13.3s				
WMQ			LR	LR	
	comp=Z,6μm,16.9s				
WMQ	**Urumqi**	**35.87 255**	PFAKE		08 45 40.0 +13
WMQ			LR	LR	
	comp=Z,2μm,18.0s				
ARA0	**ARCESS Array S**	**35.91 327**	*e*P	**P**	**08 45 27.0 +0.2**
ARA0			*e*PP	**PP**	**08 46 46.6 -1.4**
ARA0			*e*PcP	**PcP**	**08 47 53.3 -0.1**
ARCES	**ARCESS Array B**	**35.91 327**	*e*P	**P**	**08 45 26.5 -0.3**
ARCES			*e*PcP	**PcP**	**08 47 53.8 +0.4**
ARCES	**ARCESS Array B**	**35.91 327**	*e*P	**P**	**08 45 26.5 -0.3**
ARCES			*e*		08 47 53.8
ARCES	**ARCESS Array B**	**35.91 327**	P	**P**	**08 45 27.0 +0.2**
	comp=Z,11nm,0.7s,baz=22,slow=6.3,SNR=30				
ARCES			PP	**PP**	**08 46 46.6 -1.4**
	comp=Z,10nm,0.8s,baz=43,slow=11,SNR=4.0				
ARCES			PcP	**PcP**	**08 47 53.3 -0.1**
	comp=Z,10nm,0.8s,baz=36,slow=4.5,SNR=6.4				
ARCES			LR	LR	09 03 32.2
	comp=Z,448nm,20.6s,baz=24,slow=42				
ARE0	**ARCESS Array S**	**35.91 327**	*e*P	**P**	**08 45 27.0 +0.2**
	comp=Z,0.8nm,0.8s				
ARE0			*e*PcP	**PcP**	**08 47 53.5 +0.1**
ARU	**Arti**	**36.63 293**	*e*P	**P**	**08 45 33.6 +0.6**
	comp=Z,135nm,1.4s				
ARU			LR	LR	
	comp=Z,2μm,18.0s				
ARU	**Arti**	**36.63 293**	*ce*P	**P**	**08 45 34.0 +1.0**
ARU			pmax	pmax	
	comp=Z,133nm,1.7s				
KTK1	**Kautokeino**	**36.81 327**	*e*P	**P**	**08 45 34.9 +0.4**
PRGR	**Permogore**	**36.89 307**	⇑*i*P	**P**	**08 45 36.1 +0.9**
PRGR			pmax	pmax	
	comp=Z,68nm,0.8s				
TMCR	**Tamitsa**	**37.12 315**	*e*P	**P**	**08 45 36.4 -0.7**
TMCR			*e*S	**S**	**08 51 23.5 +0.7**
TMCR			pmax	pmax	
	comp=Z,132nm,1.3s				
TRO	**Tromso**	**37.16 330**	*e*P	**P**	**08 45 37.8 +0.4**
JIS	**Juneau Island**	**37.23 61**	PFAKE		08 45 50.0 +12
JIS			LR	LR	
	comp=Z,900nm,21.0s				
LZH	**Lanzhou**	**37.30 231**	⇓P	**P**	**08 45 41.1 +1.9**
LZH			pP	sP	08 45 45.2 +1.2
LZH			sP	pP	08 45 47.0 +4.4
LZH			*e*S	**S**	**08 51 27.5 +1.1**
LZH			sS	sS	08 51 36.7 +4.6
LZH			SS	**SS**	**08 53 58.2 -11**
LZH			pmax	pmax	
	comp=Z,56nm,1.0s				
LZH			pmax	pmax	
	comp=Z,260nm,4.8s				
LZH			LR	LR	
	comp=Z,3μm,13.0s				
LZH			LR	LR	
	comp=Z,2μm,12.5s				
LZH			LR	LR	
	comp=Z,4μm,15.7s				
NJ2	**Nanjing**	**37.47 209**	*e*P	**P**	**08 45 40.5 +0.1**
NJ2			pmax	pmax	
	comp=Z,26nm,1.5s				
NJ2			LR	LR	
	comp=Z,4μm,14.1s				
NJ2			LR	LR	
	comp=Z,3μm,13.0s				
NJ2			LR	LR	
	comp=Z,1μm,10.8s				
XAN	**Xi'an**	**37.80 223**	P	**P**	**08 45 44.4 +1.1**
XAN			pP	sP	08 45 49.8 +1.9
XAN			PP	**PnPn**	**08 47 15.8 +5.3**
XAN			S	**S**	**08 51 37.1 +3.3**
XAN			pmax	pmax	
	comp=Z,15nm,1.5s				
XAN			pmax	pmax	
	comp=Z,130nm,6.4s				
XAN			LR	LR	
	comp=Z,3μm,12.7s				
XAN			LR	LR	
	comp=Z,3μm,9.6s				
XAN			LR	LR	
	comp=Z,2μm,11.8s				
XAN	**Xi'an**	**37.80 223**	PFAKE		08 46 00.0 +17
XAN			LR	LR	
	comp=Z,99nm,18.0s				
SSE	**Sheshan**	**37.99 205**	PFAKE		08 46 00.0 +15
SSE			LR	LR	
	comp=Z,1μm,20.0s				
OTUK	**Ortayu**	**38.02 274**	P	**P**	**08 45 45.7 +0.7**
OTUK			pmax	pmax	
	comp=Z,60nm,1.2s				
KIRV	**Kirov**	**38.06 302**	P	**P**	**08 45 45.8 +0.6**
	comp=Z,25nm,0.5s,baz=36,slow=3.8,SNR=29				
DLBC	**Dease Lake**	**38.54 58**	PFAKE		08 46 00.0 +11
DLBC			LR	LR	
	comp=Z,600nm,21.0s				
STEI	**Steigen**	**39.32 330**	*e*P	**P**	**08 45 56.3 +0.8**
KLMR	**Klimovskoe**	**39.33 310**	*c i*P	**P**	**08 45 56.5 +0.7**
KLMR			*e*		08 47 26.7
KLMR			*e*		08 48 02.4
KLMR			pmax	pmax	
	comp=Z,120nm,1.1s				
WRAK	**Wrangell Islan**	**39.37 61**	PFAKE		08 46 10.0 +14
WRAK			LR	LR	
	comp=Z,800nm,19.0s				
PDGK	**Podgornoye**	**39.38 263**	P	**P**	**08 45 57.6 +1.0**
PDGK			pmax	pmax	
	comp=Z,20nm,1.1s				
LOF	**Lofoten**	**39.46 331**	*e*P	**P**	**08 45 57.2 +0.5**
WHN	**Wuhan**	**39.84 214**	P	**P**	**08 46 01.6 +1.3**
WHN			S	**S**	**08 52 03.3 -1.1**
WHN			pmax	pmax	
	comp=Z,290nm,9.1s				
WHN			LR	LR	
	comp=Z,7μm,12.0s				
WHN			LR	LR	
	comp=Z,2μm,10.1s				
WHN			LR	LR	
	comp=Z,7μm,10.2s				
YKA	**Yellowknife Ar**	**39.85 44**	*e*P	**P**	**08 45 58.6 -1.5**
YKA	**Yellowknife Ar**	**39.85 44**	*e*P	**P**	**08 45 58.6 -1.5**
YKA	**Yellowknife Ar**	**39.85 44**	P	**P**	**08 45 59.8 -0.3**
	comp=Z,9.7nm,0.6s,baz=328,slow=7.6,SNR=191				
YKA			PcP	**PcP**	**08 48 04.9 -0.7**
	comp=Z,3.3nm,1.0s,baz=332,slow=3.0,SNR=4.0				
YKA			LR	LR	09 05 53.4
	comp=Z,27nm,19.8s,baz=340,slow=42				
YKB5	**Yellowknife Ar**	**39.85 44**	*e*P	**P**	**08 45 59.9 -0.3**
YKB5			*e*PcP	**PcP**	**08 48 04.9 -0.7**
SUMG	**Summit**	**40.13 359**	*e*P	**P**	**08 46 03.3 +0.5**
	comp=Z,207nm,1.5s				
SUMG	**Summit**	**40.13 359**	⇑*i*P	**P**	**08 46 03.8 +1.0**
SUMG			MLR	MLR	
	comp=Z,4μm,25.0s				
SUMG	**Summit**	**40.13 359**	⇑*i*P	**P**	**08 46 03.8 +1.0**
PRZ	**Przheval'sk**	**40.52 263**	PFAKE		08 46 20.0 +14
PRZ			LR	LR	
	comp=Z,1μm,18.0s				
MOR8	**Moi Rana**	**41.01 329**	*e*P	**P**	**08 46 09.1 -0.6**
ENH	**Enshi**	**41.23 220**	PFAKE		08 46 20.0 +8.1
ENH			LR	LR	
	comp=Z,3μm,19.0s				
KDJ	**Kajisay**	**41.29 264**	PFAKE		08 46 20.0 +7.5
KDJ			LR	LR	
	comp=Z,900nm,19.0s				
TARG	**Taragay, Kyrgy**	**41.40 263**	*e*P	**P**	**08 46 15.5 +1.9**
	comp=Z,13nm,0.7s				
TARG			LR	LR	
	comp=Z,1μm,20.0s				
BOOM	**Boomskoye usch**	**41.46 266**	*e*P	**P**	**08 46 14.7 +0.9**
	comp=Z,21nm,0.9s				
BOOM			LR	LR	
	comp=Z,200nm,18.0s				
BOOM	**Boomskoye usch**	**41.46 266**	*e*P	**P**	**08 46 14.7 +0.9**
BOOM			pmax	pmax	
	comp=Z,21nm,0.9s				
BOOM			MLR	MLR	
	comp=Z,200nm,18.0s				
AKTO	**Aktyubinsk**	**41.61 288**	P	**P**	**08 46 15.4 +0.6**
	comp=Z,23nm,0.8s,baz=39,slow=8.1,SNR=70				
SCO	**Scoresbysund**	**41.65 351**	PFAKE		08 46 30.0 +15
SCO			LR	LR	
	comp=Z,500nm,22.0s				
SCO	**Scoresbysund**	**41.65 351**	⇑*i*P	**P**	**08 46 15.8 +1.0**
SCO			pmax	pmax	
	comp=Z,17nm,0.9s				
SCO	**Scoresbysund**	**41.65 351**	⇑*i*P	**P**	**08 46 15.8 +1.0**
	comp=Z,17nm,0.9s				
FRU1	**Bishkek**	**41.69 267**	PFAKE		08 46 30.0 +14
FRU1			LR	LR	
	comp=Z,2μm,21.0s				
ABKAR	**Akbulak array**	**41.88 285**	*e*P	**P**	**08 46 17.2 +0.3**
	comp=Z,42nm,0.9s				
ABKAR			*e*PcP	**PcP**	**08 48 13.6 +1.2**
AAK	**Ala-Archa**	**41.88 267**	*e*P	**P**	**08 46 18.9 +1.6**
	comp=Z,183nm,1.7s				
AAK			LR	LR	
	comp=Z,2μm,20.0s				
AAK	**Ala-Archa**	**41.88 267**	*i* P	**P**	**08 46 19.2 +1.8**
	SNR=53				
AAK	**Ala-Archa**	**41.88 267**	*e*P	**P**	**08 46 18.9 +1.6**
AAK			pmax	pmax	
	comp=Z,183nm,1.7s				
AAK	**Ala-Archa**	**41.88 267**	P	**P**	**08 46 19.1 +1.8**
	SNR=25				
AAK	**Ala-Archa**	**41.88 267**	P	**P**	**08 46 19.1 +1.8**
	comp=Z,28nm,0.5s,baz=84,slow=3.3,SNR=86				
CD2	**Chengdu**	**42.16 228**	P	**P**	**08 46 20.9 +1.4**
CD2			sP	sP	08 46 26.1 +1.7
CD2			S	**S**	**08 52 40.0 +0.8**
CD2			SS	**SS**	**08 55 42.0 -4.7**
CD2			ScS	**ScS**	**08 56 16.2 -5.4**
CD2			pmax	pmax	
	comp=Z,20nm,0.7s				
CD2			pmax	pmax	
	comp=Z,180nm,8.9s				
CD2			LR	LR	
	comp=Z,2μm,15.0s				
CD2			LR	LR	
	comp=Z,2μm,12.9s				
CD2			LR	LR	
	comp=Z,3μm,10.7s				
NRN	**Naryn**	**42.34 265**	P	**P**	**08 46 23.1 +1.9**
NRN			pmax	pmax	
	comp=Z,15nm,0.8s				
FIA1	**FINESS Array S**	**42.50 319**	*e*P	**P**	**08 46 22.0 +0.1**
	comp=Z,120nm,1.4s				
FIA1			*e*PcP	**PcP**	**08 48 14.7 +0.4**
FIA0	**FINESS Array S**	**42.50 319**	*e*P	**P**	**08 46 22.3 +0.4**
FIA0			*e*PP	**PP**	**08 48 01.1 +1.1**
FIA0			*e*PcP	**PcP**	**08 48 14.2 0.0**
FIA0	**FINESS Array S**	**42.50 319**	*e*P	**P**	**08 46 22.3 +0.4**
FIA0			*e*		08 48 01.2
FIA0			*e*		08 48 14.2
FINES	**FINESS Array B**	**42.50 319**	*e*P	**P**	**08 46 21.9 -0.1**
FINES			*e*PcP	**PcP**	**08 48 14.2 0.0**
FINES	**FINESS Array B**	**42.50 319**	P	**P**	**08 46 22.3 +0.4**
	comp=Z,34nm,0.8s,baz=36,slow=10.0,SNR=95				
FINES			PP	**PP**	**08 48 01.1 +1.1**
	comp=Z,5.7nm,0.7s,baz=30,slow=14,SNR=2.9				
FINES			PcP	**PcP**	**08 48 14.2 0.0**
	comp=Z,7.3nm,0.6s,baz=78,slow=3.7,SNR=7.1				
FINES			LR	LR	09 07 09.9
	comp=Z,1μm,19.3s,baz=14,slow=40				
PUL	**Pulkovo**	**42.82 315**	*ce*P	**P**	**08 46 25.8 +1.3**
PUL			pmax	pmax	
	comp=Z,75nm,0.7s				
NSS	**Namsos**	**42.95 330**	*e*P	**P**	**08 46 26.3 +0.8**
KKAR	**Karatay Array**	**43.02 271**	*e*P	**P**	**08 46 26.4 0.0**
KKAR	**Karatay Array**	**43.02 271**	*e*P	**P**	**08 46 26.4 0.0**
ARSB	**Arslanbob**	**43.59 268**	*e*P	**P**	**08 46 32.9 +1.8**
	comp=Z,86nm,1.7s				
TATO	**Taipei**	**43.94 203**	PFAKE		08 46 50.0 +16
TATO			LR	LR	
	comp=Z,1μm,18.0s				
KSH	**Kashi**	**44.01 263**	P	P	08 46 40.2 +5.7
KSH			sP	sP	08 46 46.1 +6.7
KSH			PP	**PcP**	**08 48 25.7 +5.8**
KSH			S	**S**	**08 53 13.2 +6.9**
KSH			ScS	**ScS**	**08 56 35.7 +2.7**
KSH			pmax	pmax	
	comp=Z,18nm,0.6s				
KSH			pmax	pmax	
	comp=Z,310nm,3.4s				
KSH			LR	LR	
	comp=Z,1μm,11.3s				
KSH			LR	LR	
	comp=Z,1μm,10.6s				
KSH			LR	LR	
	comp=Z,3μm,15.2s				
MOS	**Moscow**	**44.12 307**	*e*P	**P**	**08 46 33.8 -1.2**
MOS			*e*		08 48 18.0
MOS			*e*PPP	PPP	08 48 56.7
MOS			pmax	pmax	
	comp=Z,77nm,1.0s				
MOS			pmax	pmax	
	comp=Z,300nm,2.0s				
MOS			MLR	MLR	
	comp=Z,1μm,17.0s				
YOJ	**Yonaguni jima**	**44.22 201**	PFAKE		08 46 50.0 +14
YOJ			LR	LR	
	comp=Z,600nm,19.0s				
YHNB	**Yeheng**	**44.26 203**	PFAKE		08 46 50.0 +13
YHNB			LR	LR	
	comp=Z,700nm,21.0s				
BBB	**Bella Bella**	**44.27 62**	*e*P	**P**	**08 46 36.2 0.0**
	comp=Z,24nm,1.3s				
BBB	**Bella Bella**	**44.27 62**	LR	LR	09 06 28.5
	comp=Z,348nm,19.2s,baz=340,slow=38				
QZH	**Quanzhou**	**44.44 207**	⇓*i*P	**P**	**08 46 40.8 +2.9**
QZH			S	**S**	**08 53 12.8 +0.3**
QZH			LR	LR	
	comp=Z,5μm,12.3s				
QZH			LR	LR	
	comp=Z,2μm,10.9s				
QZH			LR	LR	
	comp=Z,7μm,14.3s				
NACB	**Ninganchiao**	**44.71 203**	PFAKE		08 46 50.0 +10
NACB			LR	LR	
	comp=Z,2μm,20.0s				
VSU	**Vasula**	**44.90 316**	*ce*P	**P**	**08 46 41.9 +0.7**
VSU			pmax	pmax	
	comp=Z,372nm,1.7s				
VSU	**Vasula**	**44.90 316**	*e*P	**P**	**08 46 41.5 +0.3**
VSU			IAmb	IAmb	08 46 42.7
	comp=Z,127nm,0.8s				
OBN	**Obninsk**	**44.97 307**	*e*P	**P**	**08 46 42.0 +0.3**
	comp=Z,137nm,1.2s				
OBN			LR	LR	
	comp=Z,600nm,21.0s				
OBN	**Obninsk**	**44.97 307**	*c i*P	**P**	**08 46 42.2 +0.4**
OBN			*e*		08 48 22.0
OBN			*e*		08 48 30.4
OBN			*e*S	S	08 53 32.5 +13
OBN			*e*SS	SnSn	08 57 39.6 +34
OBN			pmax	pmax	
	comp=Z,132nm,1.4s				
OBN			MLR	MLR	
	comp=Z,1μm,15.0s				
SSLB	**Suanglung**	**45.19 204**	PFAKE		08 47 00.0 +16
SSLB			LR	LR	
	comp=Z,900nm,19.0s				
BTK	**Batken**	**45.51 269**	*e*P	**P**	**08 46 47.5 +1.1**
	comp=Z,75nm,1.1s				
BTK			LR	LR	
	comp=Z,1μm,20.0s				
BTK	**Batken**	**45.51 269**	*e*P	**P**	**08 46 47.5 +1.1**
BTK			pmax	pmax	
	comp=Z,75nm,1.1s				
BTK			MLR	MLR	
	comp=Z,1μm,20.0s				
YULB	**Yu-li**	**45.52 203**	PFAKE		08 47 00.0 +13
YULB			LR	LR	
	comp=Z,700nm,18.0s				
MOL	**Molde**	**45.57 331**	*e*P	**P**	**08 46 46.9 +0.4**
SFJD	**Kangerlussuaq**	**45.58 5**	*e*P	**P**	**08 46 45.8 -0.6**
	comp=Z,177nm,1.7s				
SFJD	**Kangerlussuaq**	**45.58 5**	⇑*i*P	**P**	**08 46 46.1 -0.3**
SFJD	**Kangerlussuaq**	**45.58 5**	LR	LR	09 05 46.5
	comp=Z,886nm,20.6s,baz=352,slow=36				
SFJD	**Kangerlussuaq**	**45.58 5**	⇑*i*P	**P**	**08 46 46.1 -0.3**
GYA	**Guiyang**	**45.59 222**	*e*P	**P**	**08 46 48.1 +0.9**
GYA			pP	sP	08 46 54.8 +2.9
GYA			PP	**PP**	**08 48 34.0 +0.3**
GYA			pmax	pmax	
	comp=Z,20nm,0.8s				
GYA			pmax	pmax	
	comp=Z,130nm,5.7s				
GYA			LR	LR	
	comp=Z,570nm,17.8s				
GYA			LR	LR	
	comp=Z,550nm,18.0s				
GYA			LR	LR	
	comp=Z,560nm,18.3s				
TPUB	**Ta-pu**	**45.71 204**	PFAKE		08 47 00.0 +12
TPUB			LR	LR	
	comp=Z,500nm,19.0s				
DOMB	**Dombas**	**45.77 330**	*e*P	**P**	**08 46 47.6 -0.5**
AKN	**Aaknes**	**46.03 331**	*e*P	**P**	**08 46 50.8 +0.6**
NC303	**NORSAR Array S**	**46.06 328**	*e*P	**P**	**08 46 50.3 0.0**
	comp=Z,75nm,1.0s				
TWG	**Pinlang**	**46.12 203**	PFAKE		08 47 00.0 +8.8
TWG			LR	LR	
	comp=Z,4μm,18.0s				
NB2	**NORSAR Subarra**	**46.26 328**	P	**P**	**08 46 51.6 -0.4**
	comp=Z,48nm,0.8s,baz=24,slow=7.9				
NB2	**NORSAR Subarra**	**46.26 328**	P	**P**	**08 46 51.6 -0.4**
	baz=24,slow=7.9				
NB200	**NORSAR Array S**	**46.26 328**	*e*P	**P**	**08 46 52.0 +0.1**
NB200			*e*PcP	**PcP**	**08 48 26.9 -0.3**
NOA	**NORSAR Array B**	**46.26 328**	P	**P**	**08 46 52.0 +0.1**
	comp=Z,27nm,0.8s,baz=25,slow=7.8,SNR=83				
NOA			PcP	**PcP**	**08 48 26.9 -0.3**
	comp=Z,5.3nm,0.8s,baz=28,slow=2.7,SNR=3.3				
NOA			LR	LR	09 10 06.5
	comp=Z,305nm,18.9s,baz=25,slow=41				
LPSR	**Galich'ya Gora**	**46.37 304**	*e*P	**P**	**08 46 53.2 +0.3**
LPSR			*e**SP	**sP**	**08 46 57.6 -0.2**
LPSR			pmax	pmax	
	comp=Z,90nm,0.8s				
LPSR			pmax	pmax	
	comp=Z,130nm,1.0s				
LPSR			MLR	MLR	
	comp=Z,870nm,22.0s				
NC602	**NORSAR Array S**	**46.47 328**	*e*P	**P**	**08 46 53.4 -0.1**
GAR	**Garm**	**46.62 269**	*e*P	**P**	**08 46 56.4 +1.2**
	comp=Z,138nm,1.1s				
GAR			LR	LR	
	comp=Z,2μm,20.0s				
GAR	**Garm**	**46.62 269**	*e*P	**P**	**08 46 56.4 +1.2**
GAR			pmax	pmax	
	comp=Z,138nm,1.1s				
GAR			MLR	MLR	
	comp=Z,2μm,20.0s				
VRH	**Novokhopyorsk**	**46.66 301**	*e*P	**P**	**08 46 54.5 -0.7**
VRH			*e**SP	**pP**	**08 46 59.2 +0.5**
VRH			pmax	pmax	
	comp=Z,100nm,0.8s				
VRH			pmax	pmax	
	comp=Z,110nm,0.8s				
VRH			MLR	MLR	
	comp=Z,2μm,16.0s				
SLIT	**Slitere, Latvi**	**46.78 319**	*e*P	**P**	**08 46 55.7 -0.3**
SLIT			IAmb	IAmb	08 46 57.1
	comp=Z,416nm,0.9s				
HYA	**Hoyanger**	**47.12 331**	*e*P	**P**	**08 46 58.6 0.0**
SKAR	**Skarslia**	**47.17 329**	*e*P	**P**	**08 46 59.6 +0.5**
GZH	**Guangzhou**	**47.26 213**	*e*P	**P**	**08 46 56.1 -4.1**
GZH			S	**S**	**08 53 44.7 -8.4**
GZH	**Guangzhou**	**47.26 213**	SS	SS	08 57 12.1 -8.1
CHGR	**Chuyangaron**	**47.37 269**	PFAKE		08 47 10.0 +9.0
CHGR			LR	LR	
	comp=Z,5μm,19.0s				
VSR	**Storozhevoye**	**47.48 303**	*e*P	**P**	**08 47 01.0 -0.6**
VSR			*e**SP	**pP**	**08 47 05.6 +0.5**
VSR			pmax	pmax	
	comp=Z,130nm,0.8s				
VSR			pmax	pmax	
	comp=Z,120nm,0.7s				
VSR			MLR	MLR	
	comp=Z,740nm,13.0s				
SUE	**Sulen**	**47.48 332**	*e*P	**P**	**08 47 02.1 +0.6**
ISAL	**Salakas**	**47.59 315**	*e*P	**P**	**08 47 03.1 +0.8**
ISAL			IAmb	IAmb	08 47 08.5
	comp=Z,62nm,1.2s				
IDID	**Didziasalis**	**47.65 314**	*e*P	**P**	**08 47 03.6 +0.8**
IDID			IAmb	IAmb	08 47 09.9
	comp=Z,112nm,1.1s				
IIGN	**Ignalina**	**47.76 315**	*e*P	**P**	**08 47 04.3 +0.6**
IIGN			IAmb	IAmb	08 47 10.8
	comp=Z,43nm,0.8s				
KONO	**Kongsberg**	**47.86 328**	*e*P	**P**	**08 47 04.7 +0.3**
	comp=Z,36nm,0.9s				
KONO	**Kongsberg**	**47.86 328**	*ce*P	**P**	**08 47 04.4 0.0**
KONO			pmax	pmax	
	comp=Z,48nm,1.7s				
KONO	**Kongsberg**	**47.86 328**	*e*P	**P**	**08 47 05.0 +0.6**
HKPS	**Hong Kong Po S**	**47.88 212**	PFAKE		08 47 20.0 +15
HKPS			LR	LR	
	comp=Z,1μm,20.0s				
KMI	**Kunming**	**47.91 226**	P	**P**	**08 47 06.5 +1.0**
KMI			pP	sP	08 47 11.0 +0.6
KMI			sP	pP	08 47 12.9 +3.8
KMI			S	**S**	**08 54 01.4 -1.4**
KMI			SS	**SS**	**08 57 23.5 -7.7**
KMI			pmax	pmax	
	comp=Z,31nm,0.5s				
KMI			pmax	pmax	
	comp=Z,230nm,5.0s				
KMI			LR	LR	
	comp=Z,2μm,11.9s				
KMI			LR	LR	
	comp=Z,2μm,11.8s				
KMI			LR	LR	
	comp=Z,3μm,12.5s				
KMI	**Kunming**	**47.91 226**	PFAKE		08 47 20.0 +14
KMI			LR	LR	
	comp=Z,2μm,18.0s				
ASK	**Askoy**	**47.94 331**	*e*P	**P**	**08 47 05.2 +0.2**
NACGM	**Naroch**	**48.00 314**	*e*	**P**	**08 47 06.0 +0.4**
BER	**Bergen**	**48.01 331**	*e*P	**P**	**08 47 06.1 +0.6**
MICGM	**Minsk**	**48.04 313**	⇓*e*P	**P**	**08 47 07.0 +1.1**
MICGM			PM		08 47 08.0
	comp=Z,0.2nm,1.5s				
MICGM			*e*PP	**PP**	**08 49 04.0 +6.4**
MICGM			*e*S	**S**	**08 54 06.0 +2.4**
MICGM			*e*LR	LR	09 08 40.0
MICGM			LRM	MLR	09 09 53.0
	comp=Z,2.2nm,16.0s				
MNK	**Minsk**	**48.04 313**	⇓*e*P	**P**	**08 47 07.0 +1.1**
MNK			*e*		08 49 04.0
MNK			*e*S	**S**	**08 54 06.0 +2.4**
MNK			pmax	pmax	
	comp=Z,200nm,1.5s				
MNK			MLR	MLR	
	comp=Z,2μm,16.0s				
FCC	**Fort Churchill**	**48.09 34**	*e*P	**P**	**08 47 05.2 -1.0**
	comp=Z,137nm,1.7s				
FCC			*e*PcP	**PcP**	**08 48 33.6 -0.1**
FCC	**Fort Churchill**	**48.09 34**	*e*P	**P**	**08 47 05.2 -1.0**
FCC			*e*		08 48 33.6
FCC			pmax	pmax	
	comp=Z,137nm,1.7s				
ODD1	**Odda**	**48.20 330**	*e*P	**P**	**08 47 07.6 +0.5**
PABE	**Paberze**	**48.23 316**	*e*P	**P**	**08 47 07.7 +0.4**
PABE			IAmb	IAmb	08 47 13.1
	comp=Z,184nm,0.9s				
PBUR	**Paburg**	**48.30 318**	*e*P	**P**	**08 47 08.1 +0.3**
PBUR			IAmb	IAmb	08 47 13.6
	comp=Z,207nm,1.2s				
BLS5	**Blasjo**	**48.69 330**	*e*P	**P**	**08 47 11.3 +0.4**
A04D	**Lummi Island**	**49.03 60**	P	**P**	**08 47 13.8 +0.2**
	baz=330				
SNART	**Snartemo**	**49.55 329**	*e*P	**P**	**08 47 18.1 +0.7**
B06A	**Marblemount**	**49.61 59**	PFAKE		08 47 30.0 +12
B06A			LR	LR	
	comp=Z,600nm,18.0s				
B05A	**Bryant**	**49.63 60**	P	**P**	**08 47 18.2 0.0**
	baz=330,SNR=17				
SUW	**Suwalki**	**49.77 316**	*e*P	**P**	**08 47 19.2 +0.1**
SUW			LMZ	LR	09 10 40.7
	comp=Z,2μm,18.3s				
SUW	**Suwalki**	**49.77 316**	PFAKE		08 47 30.0 +11
SUW			LR	LR	
	comp=Z,2μm,19.0s				
SUW	**Suwalki**	**49.77 316**	*e*P	**P**	**08 47 19.2 +0.1**

SUW MLR MLR
comp=Z,2µm,18.3s
FFC Flin Flon 49.89 42 *eP* **P 08 47 18.8 -1.3**
comp=Z,41nm,0.8s
FFC Flin Flon 49.89 42 *i* P **P 08 47 19.0 -1.1**
D03D Eldon 49.93 61 P **P 08 47 21.3 +0.8**
baz=330,SNR=12
KLNR Kaliningrad 50.01 318 *i* P **P 08 47 21.6 +0.6**
NIL Nilore 50.20 262 *eP* **P 08 47 23.4 +0.7**
comp=Z,25nm,0.9s
NIL LR LR
comp=Z,600nm,18.0s
NIL Nilore 50.20 262 *eP* **P 08 47 23.5 +0.7**
NIL pmax pmax
comp=Z,25nm,0.9s
NIL MLR MLR
comp=Z,600nm,18.0s
C06D Leavenworth 50.33 59 P **P 08 47 23.5 0.0**
baz=331
D04E Lakebay 50.35 61 P **P 08 47 24.8 +1.2**
baz=330
B08A Colville Reser 50.46 58 PFAKE 08 47 40.0 +15
B08A LR LR
comp=Z,700nm,19.0s
E03A Lebam 50.63 62 PFAKE 08 47 40.0 +14
E03A LR LR
comp=Z,400nm,20.0s
SHL Shillong 50.81 239 PFAKE 08 47 40.0 +12
SHL LR LR
comp=Z,2µm,21.0s
BSD Bornholm Skovb 50.85 322⇑ *iP* **P 08 47 27.3 0.0**
BSD pmax pmax
comp=Z,70nm,0.7s
BSD MLR MLR
comp=Z,750nm,23.0s
BSD Bornholm Skovb 50.85 322⇑ *iP* **P 08 47 27.3 0.0**
comp=Z,70nm,0.7s
MUD Monsted U'grnd 50.90 327⇑ *iP* **P 08 47 28.4 +0.8**
MUD pmax pmax
comp=Z,38nm,0.8s
MUD Monsted U'grnd 50.90 327⇑ *iP* **P 08 47 28.4 +0.8**
comp=Z,38nm,0.8s
E04D Cinebar 50.96 62 P **P 08 47 29.1 +0.9**
baz=331,SNR=10
LTY Liberty 50.98 60 PFAKE 08 47 40.0 +11
LTY LR LR
comp=Z,500nm,20.0s
AKASG Malin Array Be 51.01 310 *eP* **P 08 47 28.5 -0.1**
AKASG Malin Array Be 51.01 310 *i* P **P 08 47 28.6 0.0**
AKASG pmax pmax
comp=Z,57nm,0.6s
AKASG Malin Array Be 51.01 310 P **P 08 47 28.9 +0.4**
comp=Z,57nm,0.7s,baz=30,slow=8.5,SNR=103
AKASG LR LR 09 11 44.1
comp=Z,433nm,19.0s,baz=30,slow=39
AKBB Malin Array Si 51.01 310 *eP* **P 08 47 28.0 -0.6**
comp=Z,140nm,1.4s
AKBB LR LR
comp=Z,500nm,18.0s
AKBB Malin Array Si 51.01 310 *eP* **P 08 47 28.0 -0.6**
AKBB pmax pmax
comp=Z,140nm,1.4s
AKBB MLR MLR
comp=Z,500nm,18.0s
KBL Kabul 51.02 267 *eP* **P 08 47 29.1 0.0**
comp=Z,73nm,1.9s
KBL LR LR
comp=Z,500nm,22.0s
KIEV Kiev 51.02 310 *eP* **P 08 47 28.3 -0.3**
comp=Z,149nm,1.4s
KIEV LR LR
comp=Z,500nm,19.0s
KIEV Kiev 51.02 310 *i* P **P 08 47 28.8 +0.2**
SNR=10
KIEV Kiev 51.02 310*c i*P **P 08 47 28.5 -0.2**
KIEV pmax pmax
comp=Z,43nm,0.8s
SLVN Son La 51.20 224 *eP* **P 08 47 30.5 +0.1**
comp=Z,15nm,0.9s
SLVN LR LR
comp=Z,2µm,19.0s
F04D Rainier, OR 51.22 62 P **P 08 47 30.5 +0.3**
baz=331
NEW Newport 51.26 56 PFAKE 08 47 40.0 +9.5
NEW LR LR
comp=Z,1µm,18.0s
NEW Newport 51.26 56 P **P 08 47 30.3 -0.2**
baz=331,SNR=11
C09A Chrisman Ranch 51.29 57 PFAKE 08 47 40.0 +9.2
C09A LR LR
comp=Z,500nm,20.0s
RSC Scourie 51.70 337 *eP* **P 08 47 34.1 +0.5**
D08A Wollman Farm, 51.73 58 *eP* **P 08 47 33.6 -0.5**
comp=Z,21nm,1.0s
D08A LR LR
comp=Z,500nm,19.0s
RGN Rugen 51.74 323 *eP* **P 08 47 34.9 +0.9**
comp=Z,124nm,0.8s
RGN LR LR
comp=Z,700nm,19.0s
MAK Makhachkala 51.77 291 *eP* **P 08 47 30.2 -4.2**
MAK *e* 08 49 27.4
MAK *eS* **S 08 54 50.8 -5.1**
MAK pmax pmax
comp=Z,189nm,1.8s
MAK MLR MLR
comp=Z,1µm,15.0s
G03D McMinnville, O 51.90 63 P **P 08 47 35.9 +0.6**
baz=331
F05D White Salmon 51.92 61 P **P 08 47 36.3 +0.8**
baz=331,SNR=7.1
QIZ Qiongzhong 51.95 216 P **P 08 47 36.0 0.0**
QIZ S **S 08 55 00.1 +1.3**
QIZ sS **sS 08 55 05.3 +0.7**
QIZ SS **SS 08 58 38.3 +2.8**
QIZ LR LR
comp=Z,1µm,15.7s
QIZ LR LR
comp=Z,990nm,12.0s
QIZ LR LR
comp=Z,1µm,16.7s
QIZ Qiongzhong 51.95 216 PFAKE 08 47 50.0 +14
QIZ LR LR
comp=Z,1µm,18.0s
MCD Coleburn Disti 52.14 335 *eP* **P 08 47 37.4 +0.4**
GROC Groznyy 52.17 292 *eP* **P 08 47 37.7 +0.3**
GROC *e* 08 48 49.0
GROC *e* 08 49 35.6
GROC *eS* **S 08 55 04.7 +3.3**
GROC pmax pmax
comp=Z,31nm,0.5s
GEYT Alibeck 52.23 279 P **P 08 47 38.9 +1.0**
comp=Z,32nm,0.5s,baz=345,slow=4.6,SNR=34
GEYT LR LR 09 12 35.7
comp=Z,2µm,18.9s,baz=30,slow=39
GYA0B ALIBECK ARRAY 52.23 279 PFAKE 08 47 50.0 +12
GYA0B LR LR
comp=Z,2µm,18.0s
DVE Vedeno 52.27 292 *i* P **P 08 47 39.0 +0.8**
RRR Rubha Reidh 52.27 337 *eP* **P 08 47 38.1 +0.2**
BEL Belsk 52.36 316 *eP* **P 08 47 39.6 +1.0**
BEL LMZ LR 09 12 21.5
comp=Z,2µm,18.8s
BEL Belsk 52.36 316 *eP* **P 08 47 39.6 +1.0**
BEL MLR MLR
comp=Z,2µm,18.8s
PYA1 Pyatigorsk 52.37 295 *i* P **P 08 47 39.7 +0.8**
COR Corvallis 52.43 63 *eP* **P 08 47 40.4 +1.2**
comp=Z,77nm,0.8s
MDO Dochfour 52.45 336 *eP* **P 08 47 39.4 +0.1**
G05D Wamic, OR 52.53 61 P **P 08 47 40.6 +0.5**
baz=332
KAC Achnashellach 52.54 337 *eP* **P 08 47 39.8 -0.1**
KIV Kislovodsk 52.60 295 *eP* **P 08 47 42.4 +1.7**
KIV Kislovodsk 52.60 295 *eP* **P 08 47 41.9 +1.3**
comp=Z,72nm,0.9s
KIV LR LR
comp=Z,500nm,19.0s
KIV Kislovodsk 52.60 295⇑ *iP* **P 08 47 42.1 +1.4**
KIV Kislovodsk 52.60 295 *i* P **P 08 47 42.2 +1.5**
SNR=11
KIV Kislovodsk 52.60 295 *eP* **P 08 47 42.0 +1.3**
KIV pmax pmax
comp=Z,241nm,1.0s
KIV MLR MLR
comp=Z,1µm,16.0s
KIV Kislovodsk 52.60 295 P **P 08 47 42.1 +1.4**
SNR=28
DRUM Mains of Drumt 52.66 335 *eP* **P 08 47 40.8 +0.1**
I02D Swisshome 52.66 64 P **P 08 47 40.4 -0.6**
baz=331
H04D Lebanon 52.68 63 P **P 08 47 41.7 +0.6**
baz=332,SNR=7.5
KBZ Khabaz 52.73 295 P **P 08 47 42.9 +1.4**
comp=Z,46nm,1.0s,baz=48,slow=6.0,SNR=58
KBZ LR LR 09 12 55.6
comp=Z,793nm,20.0s,baz=24,slow=39
KPL Plockton 52.75 337 *eP* **P 08 47 41.5 +0.1**
KPL IAmb IAmb 08 47 42.5
comp=Z,37nm,0.8s
SHA1 Shidzhatmaz 52.81 295 *i* P **P 08 47 42.9 +0.5**
I03D Drain, OR 53.20 64 P **P 08 47 45.8 +0.9**
baz=332,SNR=11
ZEI Tsey 53.20 294 *eP* **P 08 47 41.0 -4.3**
ZEI pmax pmax
comp=Z,41nm,1.3s
NEY Neytrino 53.21 295*c iP* **P 08 47 46.7 +1.4**
NEY pmax pmax
comp=Z,9.0nm,0.9s
F10A Beach Ranch, E 53.24 58 PFAKE 08 48 00.0 +15
F10A LR LR
comp=Z,500nm,21.0s
LVV L'vov 53.30 313 *eP* **P 08 47 46.0 +0.4**
LVV *eS* **S 08 55 12.0 -4.7**
LVV MLR MLR
comp=Z,840nm,15.0s
I05D Terrebonne, OR 53.32 62 P **P 08 47 46.3 +0.3**
baz=332,SNR=14
INVG Invergeldie, C 53.38 335 *eP* **P 08 47 45.2 -0.8**
I04A Tendick Farm, 53.43 63 P **P 08 47 46.8 +0.1**
baz=332,SNR=9.9
J01E Myrtle Point 53.47 65 P **P 08 47 48.0 +1.1**
baz=332,SNR=12
MSO Missoula 53.53 55 PFAKE 08 48 00.0 +12
MSO LR LR
comp=Z,1µm,18.0s
MSO Missoula 53.53 55 P **P 08 47 47.5 -0.1**
baz=333,SNR=13
ONI Oni 53.54 294 *eP* **P 08 47 50.5 +3.0**
RUE Ruedersdorf 53.54 322 *eP* **P 08 47 47.3 0.0**
RUE IAmb IAmb 08 47 53.2
comp=Z,58nm,1.0s
BRDH Bariadhala 53.58 238 LR LR 09 14 16.0
comp=Z,488nm,20.9s,baz=43,slow=40
ESY Stoneypath 53.63 334 *eP* **P 08 47 47.6 -0.3**
ANN Anapa 53.65 300 *eP* **P 08 47 48.3 +0.1**
ANN *eS* **S 08 55 21.1 -0.4**
ANN pmax pmax
comp=Z,128nm,1.7s
EAB Aberfoyle 53.65 336 *eP* **P 08 47 47.8 -0.3**
EDI Edinburgh 53.72 335 *eP* **P 08 47 48.4 -0.2**
EDI IAmb IAmb 08 47 49.2
comp=Z,27nm,0.9s
LAWE Loch Awe, Argy 53.75 336 *eP* **P 08 47 48.7 -0.1**
LAWE IAmb IAmb 08 47 49.7
comp=Z,39nm,0.8s
EGMT Eagleton 53.75 51 *eP* **P 08 47 48.3 -0.8**
comp=Z,25nm,0.8s
EGMT LR LR
comp=Z,800nm,18.0s
EGMT Eagleton 53.75 51 P **P 08 47 48.7 -0.3**
baz=334,SNR=22
TBLG Delisi 53.84 292 *eP* **P 08 47 51.2 +1.5**
KWP Kalwaria Pacla 53.84 314 *eP* **P 08 47 50.6 +1.0**
KWP LMZ LR 09 13 29.5
comp=Z,1µm,18.3s
KWP Kalwaria Pacla 53.84 314 PFAKE 08 48 00.0 +10
KWP LR LR
comp=Z,12µm,18.0s
KWP Kalwaria Pacla 53.84 314 *eP* **P 08 47 50.6 +1.0**
KWP MLR MLR
comp=Z,1µm,18.3s
EBL Broad Law 53.84 335 *eP* **P 08 47 49.7 +0.2**
SOC Sochi 53.95 298*c iP* **P 08 47 51.5 +1.0**
SOC *e**PP **pP 08 47 52.8 -1.3**
SOC *e* 08 49 57.3
SOC *e*PPP PPP 08 50 57.3
SOC *eS* **S 08 55 25.2 -0.5**
SOC *e*SS **SKiKP 08 59 03.4 +0.7**
SOC pmax pmax
comp=Z,113nm,1.3s
SOC MLR MLR
comp=Z,1µm,16.0s
K02D Willamette Mer 53.97 65 P **P 08 47 51.4 +0.6**
baz=332,SNR=9.9
J04D Umpqua Nationa 54.02 63 P **P 08 47 52.0 +0.7**
baz=332,SNR=21
PGBU Glenifferbraes 54.04 336 *eP* **P 08 47 51.4 +0.5**
PGBU IAmb IAmb 08 47 52.2
comp=Z,152nm,0.9s
OJC Ojcow 54.09 316 *eP* **P 08 47 52.2 +0.7**
OJC LMZ LR 09 13 34.3
comp=Z,2µm,18.0s
OJC Ojcow 54.09 316 *eP* **P 08 47 52.2 +0.7**
OJC MLR MLR
comp=Z,2µm,18.0s
I07A Izee 54.16 61 *eP* **P 08 47 52.3 +0.1**
comp=Z,66nm,1.5s
BMO Blue Mountains 54.21 58 PFAKE 08 48 00.0 +7.5
BMO LR LR
comp=Z,300nm,19.0s
J05D Fort Rock, OR 54.28 62 P **P 08 47 54.1 +0.9**
baz=332,SNR=35
HUMO Hull Mountain 54.29 64 *eP* **P 08 47 53.6 +0.6**
comp=Z,22nm,1.1s
HUMO *e*PcP **PcP 08 48 58.5 +1.5**
ESK Eskdalemuir 54.30 335 *eP* **P 08 47 53.1 +0.2**
comp=Z,34nm,0.9s
ESK Eskdalemuir 54.30 335 *eP* **P 08 47 52.7 -0.2**
ESK IAmb IAmb 08 47 54.0
comp=Z,30nm,0.8s
ESK Eskdalemuir 54.30 335 *i* P **P 08 47 53.9 +1.0**
KSP Ksiaz 54.43 319 *eP* **P 08 47 54.3 +0.4**
KSP LMZ LR 09 14 29.9
comp=Z,900nm,18.7s
KSP Ksiaz 54.43 319 *eP* **P 08 47 54.3 +0.4**
KSP MLR MLR
comp=Z,900nm,18.7s
KIS Kishinev 54.44 308⇑ *iP* **P 08 47 53.0 -1.0**
comp=Z,250nm,1.3s
KIS Kishinev 54.44 308 *e*PcP **PcP 08 48 57.0 -0.4**
KIS *eS* **S 08 55 38.0 +5.9**
KIS *e*SS **SKiKP 08 59 06.0 +2.8**
KIS *e*LR LR 09 10 35.0
comp=Z,2µm,14.0s
KIS Kishinev 54.44 308⇑ *eP* **P 08 47 53.0 -1.0**
KIS *i* 08 47 58.0
KIS *e* 08 48 57.0
KIS *eS* **S 08 55 38.0 +5.9**
KIS pmax pmax
comp=Z,250nm,1.3s
KIS MLR MLR
comp=Z,2µm,14.0s
KIS MLR MLR
comp=N,1µm,13.0s
L02E Cave Junction 54.46 65 P **P 08 47 55.1 +0.9**
baz=332,SNR=11
BHH Howats Hill 54.52 334 *eP* **P 08 47 54.8 +0.3**
NONG Nongkai 54.52 223 P **P 08 47 56.3 +1.4**
comp=N,0.3nm,0.9s,comp=N,64nm
AKH Akhalkalaki 54.56 293 *eP* **P 08 47 56.2 +1.0**
AKH Akhalkalaki 54.56 293 PFAKE 08 48 10.0 +15
AKH LR LR
comp=Z,600nm,20.0s
AKH Akhalkalaki 54.56 293⇑ *iP* **P 08 47 56.6 +1.4**
EDMD Edmundbyers 54.56 334 *eP* **P 08 47 54.7 0.0**
EDMD IAmb IAmb 08 47 55.8
comp=Z,57nm,0.9s
KOLS Kolonicke sedl 54.59 314 *eP* **P 08 47 55.9 +0.8**
KOLS *e* 08 48 00.6
KOLS pmax pmax
comp=Z,70nm,1.4s
KOLS Kolonicke sedl 54.59 314 *eP* **P 08 47 55.9 +0.8**
KOLS *e*pP **sP 08 48 00.5 +0.5**
NIE Niedzica 54.69 315 *eP* **P 08 47 57.0 +1.2**
NIE LMZ LR 09 13 48.9
comp=Z,600nm,19.4s
NIE Niedzica 54.69 315 *eP* **P 08 47 57.0 +1.2**
NIE MLR MLR
comp=Z,600nm,19.4s
K04D Chiloquin, OR 54.69 63 P **P 08 47 56.6 +0.6**
baz=332,SNR=6.1
TGY Tagaytay City 54.70 202 LR LR 09 13 40.0
comp=Z,456nm,18.2s,baz=205,slow=39
CLL Collm 54.81 322 *eP* **P 08 47 56.4 -0.2**
comp=Z,71nm,0.9s
CLL Collm 54.81 322⇑ *iP* **P 08 47 56.7 +0.1**
CLL *i* 08 48 01.2
CLL pmax pmax
comp=Z,72nm,0.9s
CLL Collm 54.81 322⇑ *iP* **P 08 47 56.7 +0.1**
comp=Z,72nm,0.9s
CLL *i* pP **pP 08 48 00.7 +0.5**
CLL *i* pPmax 08 48 01.2
comp=Z,104nm,1.1s
CLL *e*PP **PP 08 50 00.0 +1.2**
CLL *e*S **S 08 55 36.0 -1.0**
CLL *e* 08 57 06.0
CLL *e* 09 00 00.0
CLL LmH 09 12 00.0
comp=Z,400nm,21.6s
UPC Upice 54.81 319 *eP* **P 08 47 57.2 +0.6**
UPC MLR MLR
comp=Z,1µm,17.4s
UPC Upice 54.81 319 *eP* **P 08 47 57.2 +0.6**
UPC AMS AMS 09 14 20.0
comp=Z,1µm,17.4s
UZH Uzhgorod 54.86 314⇑ *iP* **P 08 47 55.9 -1.1**
UZH *i* 08 48 00.8
UZH *i* 08 48 04.7
L04D Klamath Falls 54.86 64 P **P 08 47 57.9 +0.6**
baz=332,SNR=22
DPC Dobruska-Polom 54.88 319 *eP* **P 08 47 57.9 +0.7**
DPC *e* 08 48 02.4
DPC MLR MLR
comp=Z,900nm,18.0s
DPC Dobruska-Polom 54.88 319 *eP* **P 08 47 57.9 +0.7**
DPC *e*pP **sP 08 48 02.4 +0.3**
DPC AMS AMS 09 15 20.0
comp=Z,900nm,18.0s
OKC Ostrava-Krasne 54.88 317 *eP* **P 08 47 58.0 +0.9**
OKC *e* 08 48 02.5
OKC MLR MLR
comp=Z,1µm,15.5s
OKC Ostrava-Krasne 54.88 317 *eP* **P 08 47 58.0 +0.9**
OKC *e*pP **sP 08 48 02.5 +0.4**
OKC AMS AMS 09 13 40.0
comp=Z,1µm,15.5s
PRAR RASCA 54.88 310⇓ *iP* **P 08 47 57.9 +0.7**
KRMB Red Mountain 54.92 66 *eP* **P 08 47 58.2 +0.5**
BURAR Bucovina Array 54.95 311 *eP* **P 08 47 58.0 +0.1**
BURAR Bucovina Array 54.95 311⇑ *iP* **P 08 47 58.1 +0.3**
DGMT Dagmar 54.95 47 PFAKE 08 48 10.0 +12
DGMT LR LR
comp=Z,600nm,20.0s
DGMT Dagmar 54.95 47 P **P 08 47 57.1 -0.7**
baz=335,SNR=5.9
CMMT Chiang Mai 54.97 228 P **P 08 47 58.9 +0.8**
comp=Z,3.6nm,2.1s
CHTO Chiang Mai 54.97 228 *eP* **P 08 47 58.3 +0.2**
comp=Z,8.2nm,1.0s
CHTO LR LR
comp=Z,1µm,19.0s
BRG Berggiesshubel 54.98 321 *i* P **P 08 47 58.1 +0.2**
comp=Z,20nm,0.9s
BRG *i* 08 48 02.7
comp=Z,20nm,0.8s
BRG Berggiesshubel 54.98 321 *i* P **P 08 47 58.1 +0.2**
BRG *i* 08 48 02.7
BRG pmax pmax
comp=Z,20nm,0.9s
BRG MLR MLR
comp=N,402nm,15.7s
BRG MLR MLR
comp=E,549nm,11.5s
BRG MLR MLR
comp=Z,891nm,12.8s
KRLC Kraliky 55.01 318 *eP* **P 08 47 59.0 +0.8**
KRLC *e* 08 48 03.5
KRLC Kraliky 55.01 318 *eP* **P 08 47 59.0 +0.8**
KRLC *e*pP **sP 08 48 03.5 +0.4**
PANO Nakornpanom 55.02 221 P **P 08 47 59.7 +1.2**
comp=Z,0.5nm,1.4s,comp=Z,25nm
BATM Batumi 55.02 295 *eP* **P 08 47 58.9 +0.6**
BATM Batumi 55.02 295⇓ *iP* **P 08 47 58.7 +0.4**
LEOM Leova 55.08 308⇑ *iP* **P 08 47 59.1 +0.5**
MORC Moravsky Berou 55.09 318 *eP* **P 08 47 59.2 +0.5**
comp=Z,90nm,1.3s
MORC LR LR
comp=Z,1µm,18.0s
MORC Moravsky Berou 55.09 318⇑ *iP* **P 08 47 59.5 +0.8**
MORC Moravsky Berou 55.09 318 *eP* **P 08 47 59.5 +0.8**
MORC *e*pP **sP 08 48 04.2 +0.5**
PVCC Panska Ves 55.15 320 *eP* **P 08 48 00.0 +0.9**
PVCC MLR MLR
comp=Z,900nm,16.7s
PVCC Panska Ves 55.15 320 *eP* **P 08 48 00.0 +0.9**
PVCC AMS AMS 09 14 40.0
comp=Z,900nm,16.7s
YBH Yreka Blue Hor 55.15 65 *eP* **P 08 47 59.6 +0.3**
comp=Z,11nm,0.8s
YBH LR LR
comp=Z,300nm,21.0s
YBH Yreka Blue Hor 55.15 65 LR LR 09 10 53.1
comp=Z,223nm,20.1s,baz=326,slow=35
J08A Circle Bar Ran 55.15 60 *eP* **P 08 47 59.9 +0.6**
comp=Z,12nm,0.9s
LANS Liptovska Anna 55.16 316 *eP* **P 08 48 00.9 +1.7**
LANS *e* 08 48 05.3
LANS Liptovska Anna 55.16 316 *eP* **P 08 48 00.9 +1.7**
LANS *e*pP **sP 08 48 05.3 +1.1**
BCA Borcka 55.19 295 *eP* **P 08 48 00.3 +0.8**
BCA Borcka 55.19 295⇓ *iP* **P 08 48 00.0 +0.5**
IDGL Inch Island, C 55.21 337 *i* P **P 08 47 59.4 -0.1**
GNI Garni 55.23 292 *eP* **P 08 48 02.5 +2.5**
GNI Garni 55.23 292 PFAKE 08 48 10.0 +10
GNI LR LR
comp=Z,1µm,20.0s
GNI Garni 55.23 292 *i* P **P 08 48 01.1 +1.1**
SNR=5.6
GNI Garni 55.23 292*ceP* **P 08 48 01.9 +1.9**
GNI pmax pmax
comp=Z,87nm,1.2s
GNI Garni 55.23 292 P **P 08 48 01.9 +1.9**
SNR=9.0
GNI P **P 08 48 01.9 +1.9**
SNR=9.0
GNI Garni 55.23 292 LR LR 09 16 07.7
comp=Z,1µm,18.7s,baz=34,slow=41
TRPA Tarpa 55.25 313⇑ *iP* **P 08 48 00.6 +0.8**
TRPA Tarpa 55.25 313⇑ *iP* **P 08 48 00.1 +0.3**
DLMT Dillon 55.27 55 PFAKE 08 48 10.0 +10
DLMT LR LR
comp=Z,800nm,19.0s
BIZ Bicaz 55.30 310⇓ *iP* **P 08 48 00.6 +0.4**
CMAR Chiang Mai Arr 55.30 228 *eP* **P 08 47 59.5 -1.1**
CMAR Chiang Mai Arr 55.30 228 P **P 08 48 00.7 +0.2**
comp=Z,1.8nm,0.8s,baz=2.0,slow=8.2,SNR=16
CMAR PcP **PcP 08 49 01.1 0.0**
comp=Z,3.2nm,0.7s,baz=342,slow=4.2,SNR=6.7
CMAR LR LR 09 14 17.7
comp=Z,631nm,20.2s,baz=50,slow=39
SKNT Sakolnakorn 55.35 222 P **P 08 48 01.4 +0.5**
comp=Z,32nm,1.7s
BOZ Bozeman (W) 55.35 54 PFAKE 08 48 10.0 +9.1
BOZ LR LR
comp=Z,600nm,20.0s
BOZ Bozeman (W) 55.35 54 P **P 08 48 01.2 +0.3**
baz=334,SNR=51
BMR Baia Mare 55.39 312⇓ *iP* **P 08 48 01.9 +1.0**
M02C Callahan 55.40 65 P **P 08 48 02.2 +1.1**
baz=332,SNR=28
M04C Macdoel 55.41 64 P **P 08 48 01.9 +0.6**
baz=333,SNR=19
KECS Kecovo 55.49 315 *eP* **P 08 48 02.6 +1.0**
KECS *e* 08 48 06.7
KECS pmax pmax
comp=Z,96nm,1.0s
KECS Kecovo 55.49 315 *eP* **P 08 48 02.6 +1.0**
KECS *e*pP **sP 08 48 06.7 +0.2**
JCC Jacoby Creek, 55.50 66 PFAKE 08 48 10.0 +8.3
JCC LR LR
comp=Z,400nm,20.0s
ULM Lac du Bonnet 55.51 40 *eP* **P 08 47 59.5 -2.2**
comp=Z,15nm,0.9s
ULM *e*PcP **PcP 08 49 00.6 -0.9**

ULM Lac du Bonnet 55.51 40 P **P 08 48 00.1 -1.5**
comp=Z,10nm,0.9s,baz=327,slow=6.8,SNR=18
ULM PcP **PcP 08 49 00.5 -1.0**
comp=Z,6.9nm,0.6s,baz=307,slow=5.8,SNR=8.3
ULM LR LR 09 14 04.9
comp=Z,802nm,19.6s,baz=316,slow=39
TESR Tescani 55.52 309 ⇓*i*P **P 08 48 02.1 +0.2**
UTTA Uttaradit 55.53 226 P **P 08 48 02.9 +0.8**
comp=Z,36µm,0.8s,comp=Z,337µm
KHMM Horse Mountain 55.55 66 PFAKE 08 48 10.0 +7.7
KHMM LR LR
comp=Z,400nm,19.0s
TASB TASBURUN-IGDIR 55.56 292 *e*P **P 08 48 02.9 +0.6**
PRU Pruhonice 55.66 320 *e*P **P 08 48 03.2 +0.5**
PRU *e* 08 48 08.0
PRU MLR MLR
comp=Z,1µm,15.6s
PRU Pruhonice 55.66 320 *e*P **P 08 48 03.2 +0.5**
PRU *ep*P **sP 08 48 08.0 +0.3**
PRU AMS AMS 09 14 50.0
comp=Z,1µm,15.6s
GOPC GO Pecny, Ondr 55.66 320 *e*P **P 08 48 03.4 +0.6**
GOPC MLR MLR
comp=Z,800nm,14.3s
GOPC GO Pecny, Ondr 55.66 320 *e*P **P 08 48 03.4 +0.6**
GOPC AMS AMS 09 14 50.0
comp=Z,800nm,14.3s
MCMT McKenzie Canyo 55.66 55 *e*P **P 08 48 03.6 +0.4**
ARCR ARCALIA 55.68 311 ⇑*i*P **P 08 48 04.4 +1.4**
SENK Senkaya-Erzuru 55.71 294 *e*P **P 08 48 04.6 +1.0**
VRAC Vranov 55.77 318 ⇑*i*P **P 08 48 04.5 +0.9**
VRAC Vranov 55.77 318 *e*P **P 08 48 04.4 +0.9**
VRAC *ep*P **sP 08 48 09.0 +0.5**
N02D Trinity Center 55.82 65 P **P 08 48 05.4 +1.2**
baz=333,SNR=34
MOD Modoc Plateau 55.83 63 PFAKE 08 48 20.0 +16
MOD LR LR
comp=Z,400nm,19.0s
LBWR Ladybower, Pea 55.89 333 *e*P **P 08 48 04.6 +0.2**
LBWR IAmb IAmb 08 48 05.4
comp=Z,59nm,0.9s
JAVC Velka Javorina 55.90 317 *e*P **P 08 48 06.2 +1.6**
JAVC *ep*P **sP 08 48 10.9 +1.4**
WVOR Wild Horse Val 55.92 61 *e*P **P 08 48 05.3 +0.4**
comp=Z,55nm,1.6s
WVOR LR LR
comp=Z,500nm,20.0s
VYHS Vyhne 55.93 316 *e*P **P 08 48 05.7 +1.0**
VYHS *e* 08 48 10.5
VYHS pmax pmax
comp=Z,34nm,1.2s
VYHS Vyhne 55.93 316 *e*P **P 08 48 05.7 +1.0**
VYHS *ep*P **sP 08 48 10.5 +0.8**
NKC Novy Kostel 55.94 322 *e*P **P 08 48 05.4 +0.6**
NKC *e* 08 48 10.0
NKC MLR MLR
comp=Z,700nm,17.8s
NKC Novy Kostel 55.94 322 *e*P **P 08 48 05.4 +0.6**
NKC *ep*P **sP 08 48 10.0 +0.2**
NKC AMS AMS 09 15 20.0
comp=Z,700nm,17.8s
LAO LASA Array 55.99 49 PFAKE 08 48 20.0 +15
LAO LR LR
comp=Z,900nm,18.0s
LAO LASA Array 55.99 49 P **P 08 48 04.9 -0.4**
baz=335,SNR=7.1
KRUC Moravsky 56.04 318 *e*P **P 08 48 06.3 +0.8**
KRUC *ep*P **sP 08 48 11.0 +0.5**
TREC Trest 56.06 319 *e*P **P 08 48 06.4 +0.7**
TREC *e* 08 48 10.8
TREC MLR MLR
comp=Z,800nm,17.7s
TREC Trest 56.06 319 *e*P **P 08 48 06.4 +0.7**
TREC *ep*P **sP 08 48 10.8 +0.1**
TREC AMS AMS 09 16 10.0
comp=Z,800nm,17.7s
PETR Petresti 56.06 308 ⇑*i*P **P 08 48 07.5 +1.8**
TLCR 56.06 307 ⇓*i*P **P 08 48 07.6 +1.9**
ODBI Odobesti 56.08 309 ⇓*i*P **P 08 48 07.6 +1.8**
VRI Vrincioaia 56.08 309 ⇓*i*P **P 08 48 06.7 +0.8**
LTVH Ltavrtes, Hu 56.10 313 *e*P **P 08 48 07.0 +1.1**
PLOR Plostina 56.12 309 ⇑*i*P **P 08 48 06.8 +0.6**
KMRM Mail Ridge 56.14 66 PFAKE 08 48 20.0 +14
KMRM LR LR
comp=Z,800nm,18.0s
PSZ Piszkesteto 56.17 315 PFAKE 08 48 20.0 +13
PSZ LR LR
comp=Z,1µm,18.0s
PSZ Piszkesteto 56.17 315 ⇓*i*P **P 08 48 07.8 +1.2**
PSZ Piszkesteto 56.17 315 ⇑*i*P **P 08 48 07.1 +0.5**
WDC Whiskeytown Da 56.23 65 *e*P **P 08 48 06.9 -0.1**
comp=Z,25nm,0.8s
WDC LR LR
comp=Z,300nm,20.0s
CJR Cluj-Napoca 56.23 312 ⇓*i*P **P 08 48 08.2 +1.2**
KTUT Trabzon 56.24 296 ⇑*i*P **P 08 48 07.2 +0.2**
CFR Carcaliu 56.28 307 ⇑*i*P **P 08 48 07.8 +0.6**
HLID Hailey 56.30 57 PFAKE 08 48 20.0 +12
HLID LR LR
comp=Z,400nm,20.0s
HLID Hailey 56.30 57 P **P 08 48 07.6 -0.1**
baz=334,SNR=14
AGRB Hanur-Agry 56.36 293 *e*P **P 08 48 10.5 +2.3**
BISRR Bisoca 56.38 309 ⇓*i*P **P 08 48 09.6 +1.5**
DOPR Dopca 56.39 310 ⇓*i*P **P 08 48 09.3 +1.2**
KOPR Koprukoy-ERZUR 56.40 294 *e*P **P 08 48 09.4 +1.0**
CLDR Caldiran 56.42 292 *e*P **P 08 48 10.9 +2.3**
DRGR 56.42 312 ⇑*i*P **P 08 48 09.1 +0.8**
SCHQ Schefferville 56.43 18 *e*P **P 08 48 06.7 -1.5**
comp=Z,131nm,1.8s
SCHQ Schefferville 56.43 18 P **P 08 48 07.0 -1.3**
comp=Z,17nm,0.7s,baz=0.7,slow=7.4,SNR=9.7
SCHQ LR LR 09 14 00.4
comp=Z,1µm,18.1s,baz=3.0,slow=38
MODS Modra-Piesok 56.45 317 *e*P **P 08 48 08.8 +0.3**
MODS *e* 08 48 13.3
MODS pmax pmax
comp=Z,55nm,1.1s
MODS Modra-Piesok 56.45 317 *e*P **P 08 48 08.8 +0.3**
MODS *ep*P **sP 08 48 13.3 -0.1**
CWF Charnwood Fore 56.45 332 *e*P **P 08 48 08.5 +0.2**
CWF IAmb IAmb 08 48 08.6
comp=Z,69nm,1.2s
O02D Mt. Diablo Mer 56.50 65 P **P 08 48 10.0 +1.0**
baz=333,SNR=15
RLMT Red Lodge 56.51 52 *e*P **P 08 48 09.7 +0.5**
comp=Z,57nm,0.9s
RLMT LR LR
comp=Z,700nm,20.0s
RLMT Red Lodge 56.51 52 P **P 08 48 10.0 +0.8**
baz=335,SNR=65
FOEL Foel Wylfa 56.63 334 *e*P **P 08 48 09.7 0.0**
FOEL IAmb IAmb 08 48 10.6
comp=Z,44nm,0.8s
MLR Muntele Rosu 56.66 309 PFAKE 08 48 20.0 +10
MLR LR LR
comp=Z,700nm,19.0s
MLR Muntele Rosu 56.66 309 ⇓*i*P **P 08 48 11.4 +1.3**
ZST Bratislava 56.66 317 *e*P **P 08 48 10.1 +0.2**
ZST Bratislava 56.66 317 *e*P **P 08 48 10.1 +0.2**
KHC Kasperske Hory 56.69 320 PFAKE 08 48 20.0 +10
KHC LR LR
comp=Z,300nm,21.0s
KHC Kasperske Hory 56.69 320 *e*P **P 08 48 10.9 +0.7**
KHC *e* 08 48 15.6
KHC MLR MLR
comp=Z,900nm,15.6s
KHC Kasperske Hory 56.69 320 *e*P **P 08 48 10.9 +0.7**
KHC *ep*P **sP 08 48 15.6 +0.5**
KHC AMS AMS 09 15 30.0
comp=Z,900nm,15.6s
GRFO Grafenberg 56.73 322 *e*P **P 08 48 11.2 +0.8**
comp=Z,48nm,1.3s
O03E Paynes Creek 56.74 65 P **P 08 48 10.7 0.0**
baz=333,SNR=24
H17A Grant Village 56.76 54 P **P 08 48 13.1 +2.0**
baz=334,SNR=34
MDND Maddock 56.77 44 *e*P **P 08 48 10.0 -0.8**
comp=Z,54nm,1.1s
MDND LR LR
comp=Z,300nm,18.0s
MDND Maddock 56.77 44 P **P 08 48 09.9 -0.8**
baz=337
HARR Harsova 56.78 307 ⇓*i*P **P 08 48 11.6 +0.8**

DSB Dublin 56.81 336 *e*P **P 08 48 10.9 0.0**
TLB Topalu 56.84 307 ⇑*i*P **P 08 48 11.9 +0.6**
CHAI Chaiyaphum 56.90 224 P **P 08 48 12.3 +0.4**
comp=Z,33µm,0.8s,comp=Z,854µm
MLAZ Malazgirt-MUS 56.90 293 *e*P **P 08 48 13.4 +1.4**
GEC2 GERESS Array S 56.92 320 *e*P **P 08 48 12.2 +0.2**
comp=Z,48nm,1.2s
GEC2 LR LR
comp=Z,800nm,20.0s
GERES GERESS Array B 56.92 320 *e*P **P 08 48 12.0 +0.1**
GERES GERESS Array B 56.92 320 P **P 08 48 12.5 +0.6**
comp=Z,18nm,0.9s,baz=38,slow=6.8,SNR=103
GERES LR LR 09 16 02.9
comp=Z,670nm,20.1s,baz=20,slow=40
HLM1 Long Mynd 56.94 333 *e*P **P 08 48 11.2 -0.7**
HLM1 IAmb IAmb 08 48 12.0
comp=Z,74nm,0.8s
MEM Membach 57.04 326 ⇑P **P 08 48 12.9 +0.4**
comp=Z,53nm,1.1s
MEM ⇑*p*P **pP 08 48 15.8 -0.4**
MEM ⇑*s*P **sP 08 48 17.8 +0.3**
IGLA Glengowla, Co 57.09 338 *e*P **P 08 48 12.4 -0.5**
VANB Van 57.09 292 *e*P **P 08 48 15.4 +2.1**
IMW Indian Meadow 57.10 54 PFAKE 08 48 30.0 +17
IMW LR LR
comp=Z,500nm,18.0s
CSKK Cskako 57.12 316 *e*P **P 08 48 14.1 +0.9**
ARR Arges 57.16 310 ⇓*i*P **P 08 48 15.1 +1.5**
MTUR Matau 57.16 310 ⇓*i*P **P 08 48 15.3 +1.7**
DIKM Dikmen 57.18 300 *e*P **P 08 48 15.2 +1.5**
DIKM Dikmen 57.18 300 ⇑*i*P **P 08 48 15.0 +1.3**
DEV Deva 57.19 312 ⇑*i*P **P 08 48 14.8 +1.1**
SIRR Siria 57.19 313 ⇓*i*P **P 08 48 14.8 +1.0**
UCC Uccle 57.21 328 ⇑P **P 08 48 12.8 -0.9**
CONA Conrad Observa 57.23 318 *e*P **P 08 48 15.1 +1.0**
comp=Z,11nm,1.0s,SNR=20
SOP Sopron 57.27 317 ⇑*i*P **P 08 48 15.1 +0.8**
MOOW Moose Ponds 57.29 54 PFAKE 08 48 30.0 +15
MOOW LR LR
comp=Z,600nm,21.0s
SULR 57.30 309 ⇑*i*P **P 08 48 15.2 +0.7**
AGMN Agassiz Nation 57.32 41 PFAKE 08 48 30.0 +15
AGMN LR LR
comp=Z,600nm,18.0s
AGMN Agassiz Nation 57.32 41 P **P 08 48 12.7 -1.9**
baz=338,SNR=11
LOT Lotru 57.34 311 ⇑*i*P **P 08 48 15.3 +0.4**
ICOR Ion Corvin 57.34 307 ⇓*i*P **P 08 48 16.0 +1.2**
YEDI Yedisu-Bingol 57.35 295 *e*P **P 08 48 16.9 +1.8**
BCLA Clavier 57.37 327 ⇑P **P 08 48 15.4 +0.5**
BCLA ⇑*p*P **pP 08 48 18.3 -0.2**
BCLA ⇑*s*P **sP 08 48 20.0 +0.1**
KVT Kavak 57.42 299 *e*P **P 08 48 17.0 +1.5**
LOHW Long Hollow 57.46 54 *e*P **P 08 48 16.6 +0.6**
comp=Z,51nm,1.4s
TPAW Teton Pass 57.46 54 PFAKE 08 48 30.0 +14
TPAW LR LR
comp=Z,700nm,22.0s
UMPA Umpang Tak 57.47 227 P **P 08 48 18.3 +2.3**
comp=Z,33µm,0.8s
AKDM Akdamar-Van 57.47 292 *e*P **P 08 48 18.5 +2.4**
ORV Oroville 57.51 65 PFAKE 08 48 30.0 +14
ORV LR LR
comp=Z,200nm,19.0s
SNOW Snow King Moun 57.55 54 *e*P **P 08 48 17.4 +0.7**
comp=Z,103nm,1.8s
SNOW LR LR
comp=Z,800nm,18.0s
REDW Red Top Meadow 57.61 54 PFAKE 08 48 30.0 +13
REDW LR LR
comp=Z,500nm,18.0s
GURO Guroymak-BITLI 57.61 293 *e*P **P 08 48 17.8 +0.8**
BEKR Beckworth 57.62 64 PFAKE 08 48 30.0 +13
BEKR LR LR
comp=Z,400nm,18.0s
TIH Tihany 57.64 316 *e*P **P 08 48 18.0 +1.1**
GZR Gura Zlata 57.67 312 ⇓*i*P **P 08 48 18.0 +0.8**
BNGB Bingl 57.70 294 *e*P **P 08 48 18.6 +1.1**
MOA Molln 57.70 319 *e*P **P 08 48 18.0 +0.6**
comp=Z,20nm,0.9s,SNR=9.6
IWEX Carrickbyrne, 57.72 336 *i*P **P 08 48 17.6 +0.3**
GDXM Geysers 57.72 66 PFAKE 08 48 30.0 +12
GDXM LR LR
comp=Z,600nm,18.0s
BZS Buzias 57.80 313 ⇑*i*P **P 08 48 18.5 +0.5**
DOU Dourbes 57.82 327 ⇑P **P 08 48 18.2 +0.1**
comp=Z,13nm,0.8s
DOU ⇑*s*P **sP 08 48 22.9 -0.1**
WLF Walferdange 57.90 326 ⇑P **P 08 48 19.5 +0.9**
UTHA Uthaitani 57.92 227 P **P 08 48 20.0 +0.9**
comp=Z,45µm,0.9s,comp=Z,697µm
TOKT Tokat 57.93 298 *e*P **P 08 48 21.1 +2.0**
ARSA Arzberg 57.94 318 *e*P **P 08 48 20.2 +1.1**
comp=Z,16nm,0.9s,SNR=6.9
AHID Auburn Hatcher 58.07 55 *e*P **P 08 48 20.9 +0.6**
comp=Z,29nm,1.3s
AHID LR LR
comp=Z,600nm,19.0s
PAHR Pah Rah Range 58.10 63 PFAKE 08 48 30.0 +10
PAHR LR LR
comp=Z,400nm,18.0s
SVSK Karacayir 58.14 298 *e*P **P 08 48 22.5 +2.0**
SRE Strehaia 58.22 311 ⇓*i*P **P 08 48 21.8 +0.8**
ILGA Ilgaz 58.22 301 *e*P **P 08 48 22.3 +1.0**
comp=Z,86nm,1.0s
AFDM Forest Hills D 58.23 65 PFAKE 08 48 30.0 +8.8
AFDM LR LR
comp=Z,300nm,19.0s
HERR Herculane 58.24 312 ⇓*i*P **P 08 48 21.6 +0.5**
SVAN Silvan-Diyarba 58.26 293 *e*P **P 08 48 23.5 +2.1**
BEHE Becsehely 58.34 317 ⇑*i*P **P 08 48 22.1 +0.3**
VCNR Virginia City 58.38 63 PFAKE 08 48 30.0 +7.6
VCNR LR LR
comp=Z,400nm,19.0s
SIRT Sirnak 58.40 292 *e*P **P 08 48 23.8 +1.3**
SIRT Sirnak 58.40 292 *e*P **P 08 48 24.0 +1.5**
comp=Z,213nm,1.2s
SIRT LR LR
comp=Z,4µm,20.0s
RUBR Rubicon Trail 58.42 64 PFAKE 08 48 30.0 +7.2
RUBR LR LR
comp=Z,400nm,19.0s
ZIMR 58.50 309 ⇓*i*P **P 08 48 24.1 +1.2**
MDVR Moldovita 58.54 312 ⇓*i*P **P 08 48 23.7 +0.4**
BW06 Boulder Array 58.55 54 *e*P **P 08 48 22.8 -0.8**
comp=Z,15nm,0.8s
BW06 LR LR
comp=Z,300nm,20.0s
BW06 Boulder Array 58.55 54 P **P 08 48 23.4 -0.2**
baz=335,SNR=27
PDAR Pinedale Array 58.55 54 *e*P **P 08 48 23.1 -0.5**
PDAR Pinedale Array 58.55 54 P **P 08 48 23.4 -0.2**
comp=Z,9.9nm,0.6s,baz=16,slow=2.5,SNR=151
PDAR LR LR 09 16 30.2
comp=Z,427nm,18.6s,baz=354,slow=39
PNTR Pine Nut 58.58 63 *e*P **P 08 48 24.3 +0.4**
comp=Z,95nm,1.7s
PNTR LR LR
comp=Z,400nm,18.0s
SOKA Soboth 58.60 318 *e*P **P 08 48 24.4 +0.7**
comp=Z,16nm,1.0s,SNR=13
KBA Koelnbreinsper 58.65 320 *ep*P **P 08 48 25.6 +1.4**
comp=Z,22nm,0.9s,SNR=44
BFO Black Forest 58.68 324 *e*P **P 08 48 24.1 -0.1**
comp=Z,30nm,1.0s
BFO Black Forest 58.68 324 *i*P **P 08 48 24.7 +0.5**
SRAK Srakaew 58.69 223 P P 08 48 29.5 +5.0
comp=Z,158µm,1.1s
EYMN Ely 58.70 37 PFAKE 08 48 40.0 +16
EYMN LR LR
comp=Z,800nm,19.0s
EYMN Ely 58.70 37 P **P 08 48 22.3 -2.1**
baz=340,SNR=9.2
SVRC Sivrice-ELAZID 58.72 295 *e*P **P 08 48 27.2 +2.4**
YERR Yerington 58.80 63 PFAKE 08 48 40.0 +15
YERR LR LR
comp=Z,500nm,18.0s
DYBB Diyarbakir 58.81 294 *e*P **P 08 48 27.2 +1.9**
WATA Walderalm 58.85 321 *i*P **P 08 48 26.9 +1.4**
comp=Z,21nm,0.9s,SNR=7.4
OBKA Obir 58.88 318 *ep*P **P 08 48 26.8 +1.2**
comp=Z,48nm,0.9s,SNR=25
WTTA Wattenberg 58.90 321 *e*P **P 08 48 26.9 +1.0**
comp=Z,26nm,0.8s
RETA Reutte 58.90 322 *e*P **P 08 48 26.1 +0.3**

comp=Z,13nm,0.8s
MOTA Moosalm 58.95 321 *e*P **P 08 48 26.8 +0.5**
comp=Z,7.3nm,0.7s,SNR=6.9
YOZ Yozgat 58.96 299 *e*P **P 08 48 27.0 +0.6**
RSSD Black Hills 58.97 49 *e*P **P 08 48 25.9 -0.6**
comp=Z,14nm,1.2s
RSSD LR LR
comp=Z,600nm,19.0s
RSSD Black Hills 58.97 49 P **P 08 48 25.2 -1.3**
baz=336
HWUT Hardware Ranch 58.97 56 PFAKE 08 48 40.0 +13
HWUT LR LR
comp=Z,200nm,19.0s
MYKA Terra Mystica 59.00 319 *i*P **P 08 48 27.3 +0.8**
comp=Z,16nm,0.8s,SNR=8.4
SQTA Sankt Quirin 59.04 321 *e*P **P 08 48 27.6 +0.8**
comp=Z,32nm,0.9s,SNR=13
DLV T Lat 59.11 216 PFAKE 08 48 40.0 +12
DLV LR LR
comp=Z,300nm,19.0s
KVN Kaiserville 59.13 62 PFAKE 08 48 40.0 +12
KVN LR LR
comp=Z,500nm,18.0s
MAZI Mazidag 59.15 294 *e*P **P 08 48 29.0 +1.3**
SRDT SRDT 59.16 227 P **P 08 48 28.5 +0.7**
comp=Z,11nm,1.1s
WAKR Walker 59.16 64 *e*P **P 08 48 28.5 +0.6**
comp=Z,132nm,1.7s
WAKR LR LR
comp=Z,400nm,19.0s
ABTA Abfaltersbach 59.17 320 *e*P **P 08 48 28.4 +0.7**
comp=Z,13nm,0.8s,SNR=11
DARE Darende-Malaty 59.18 297 *e*P **P 08 48 30.1 +2.2**
CMB Columbia Colle 59.25 65 PFAKE 08 48 40.0 +12
CMB LR LR
comp=Z,501nm,18.0s
C40A Isle Royale Na 59.27 36 P **P 08 48 26.1 -2.1**
baz=340
DAVA Damuels 59.30 322 *e*P **P 08 48 29.0 +0.4**
comp=Z,8.2nm,1.0s
FETA Feichten 59.35 321 *e*P **P 08 48 29.7 +0.7**
comp=Z,18nm,1.1s,SNR=8.1
RYN Ryan 59.36 63 PFAKE 08 48 40.0 +11
RYN LR LR
comp=Z,400nm,18.0s
BR101 Keskin Array S 59.44 300 *e*P **P 08 48 30.8 +1.0**
BR131 Keskin Array S 59.44 300 *e*P **P 08 48 30.5 +0.7**
comp=Z,23nm,0.8s
BRTR Keskin Array B 59.44 300 *e*P **P 08 48 30.0 +0.3**
BRTR *e*PcP **PcP 08 49 18.1 +0.8**
BRTR Keskin Array B 59.44 300 P **P 08 48 30.8 +1.0**
comp=Z,13nm,0.8s,baz=45,slow=3.7,SNR=70
BRTR LR LR 09 18 20.1
comp=Z,148nm,18.8s,baz=9.0,slow=40
K22A Casper 59.58 51 PFAKE 08 48 40.0 +9.3
K22A LR LR
comp=Z,500nm,19.0s
K22A Casper 59.58 51 P **P 08 48 29.5 -1.2**
baz=336,SNR=19
ANTO Ankara 59.59 301 *e*P **P 08 48 31.8 +1.1**
comp=Z,113nm,1.3s
ANTO Ankara 59.59 301 ⇓*i*P **P 08 48 32.1 +1.4**
ANTO Ankara 59.59 301 P **P 08 48 32.1 +1.4**
SNR=12
NV01 Mina Array Sit 59.62 63 *e*P **P 08 48 31.9 +0.9**
NVAR Mina Array Bea 59.62 63 *e*P **P 08 48 31.0 0.0**
NVAR Mina Array Bea 59.62 63 P **P 08 48 31.9 +0.9**
comp=Z,18nm,0.8s,baz=322,slow=5.3,SNR=117
NVAR LR LR 09 13 41.7
comp=Z,272nm,20.7s,baz=351,slow=36
PHSR Pinarhisar 59.68 306 ⇑*i*P **P 08 48 32.1 +0.9**
URFA Urfa 59.73 295 *e*P **P 08 48 33.6 +1.9**
MATQ Matagami 59.80 27 P **P 08 48 30.1 -1.7**
baz=344,SNR=9.4
BLY Banja Luka 59.82 316 PFAKE 08 48 40.0 +7.9
BLY LR LR
comp=Z,1µm,19.0s
TRI Trieste 59.82 319 PFAKE 08 48 40.0 +7.9
TRI LR LR
comp=Z,400nm,20.0s
DUG Dugway, Tooele 59.85 57 *e*P **P 08 48 33.1 +0.6**
comp=Z,30nm,0.9s
DUG LR LR
comp=Z,300nm,22.0s
DUG Dugway, Tooele 59.85 57 P **P 08 48 33.5 +0.9**
baz=335,SNR=25
PGB Panagyurishte 59.87 309 *i*P **P 08 48 32.9 +0.4**
E38A The Farm, Brul 59.95 38 PFAKE 08 48 40.0 +7.1
E38A LR LR
comp=Z,700nm,20.0s
E38A The Farm, Brul 59.95 38 P **P 08 48 30.5 -2.4**
baz=340,SNR=9.4
SAO San Andreas Ge 60.02 66 PFAKE 08 48 50.0 +16
SAO LR LR
comp=Z,500nm,18.0s
MDPB Devils Postpil 60.07 64 PFAKE 08 48 50.0 +16
MDPB LR LR
comp=Z,400nm,21.0s
VTS Vitosha 60.08 310 PFAKE 08 48 50.0 +16
VTS LR LR
comp=Z,500nm,18.0s
VTS Vitosha 60.08 310 P **P 08 48 30.4 -3.7**
VTS Vitosha 60.08 310 ⇑*i*P **P 08 48 34.0 -0.1**
VTS Vitosha 60.08 310 *i*P **P 08 48 33.2 -0.9**
KIP Kipapa 60.09 107 *ce*P **P 08 48 34.2 +0.1**
comp=Z,204nm,1.8s
KIP Kipapa 60.09 107 *ce*P **P 08 48 34.4 +0.3**
KIP pmax pmax
comp=Z,40nm,1.3s
SUSD Miller 60.09 45 P **P 08 48 32.5 -1.4**
baz=338
MLAC Mammoth, Mammo 60.15 64 P **P 08 48 36.6 +1.8**
baz=334,SNR=5.5
TUE Stuetta 60.19 322 *e*P **P 08 48 35.1 +0.3**
comp=Z,48nm,1.1s
TUE LR LR
comp=Z,600nm,20.0s
CHGQ Chibougamau 60.19 24 P **P 08 48 32.7 -1.9**
baz=346,SNR=7.5
D41A Chassel 60.21 36 P **P 08 48 33.1 -1.6**
baz=341
RWWY Rawlins 60.25 52 PFAKE 08 48 50.0 +15
RWWY LR LR
comp=Z,800nm,18.0s
KMRS Kahramanmaras 60.34 297 *e*P **P 08 48 36.1 +0.3**
PHET Kaeng Krachan 60.39 226 P **P 08 48 37.8 +1.5**
E39A Mellen 60.40 37 P **P 08 48 33.6 -2.5**
baz=340,SNR=7.7
F38A Pierce - Schro 60.48 39 P **P 08 48 34.8 -1.8**
baz=340,SNR=31
E40A Wakefield 60.49 37 P **P 08 48 34.4 -2.2**
baz=340
F37A Hinrichs Farm, 60.52 39 P **P 08 48 34.8 -2.1**
baz=340,SNR=6.8
GAZ Gaziantep 60.53 296 *e*P **P 08 48 37.9 +0.7**
LSQQ Lebel-sur-Quev 60.59 26 P **P 08 48 35.6 -1.6**
baz=345
R11A Troy Canyon, C 60.61 61 *e*P **P 08 48 37.7 -0.1**
comp=Z,26nm,1.0s
R11A LR LR
comp=Z,400nm,19.0s
R11A Troy Canyon, C 60.61 61 P **P 08 48 38.4 +0.6**
baz=335,SNR=58
E41A Kenton 60.68 36 P **P 08 48 35.5 -2.5**
baz=341
KOZT Kozan 60.73 297 *e*P **P 08 48 39.1 +0.7**
F39A Loretta 60.75 38 P **P 08 48 36.5 -1.9**
baz=340,SNR=9.5
ALN Alexandroupoli 60.81 307 PFAKE 08 48 50.0 +11
ALN LR LR
comp=Z,300nm,19.0s
KKB Krupnik 60.81 310 *i*P **P 08 48 39.7 +0.8**
MMB Musomiste 60.88 309 *i*P **P 08 48 39.9 +0.5**
TIN Tinemaha, Big 60.88 63 P **P 08 48 41.0 +1.4**
baz=335
F40A Park Falls 60.93 37 P **P 08 48 37.4 -2.2**
baz=341,SNR=5.9
SPMN Marine on St. 60.94 40 PFAKE 08 48 50.0 +10
SPMN LR LR
comp=Z,600nm,20.0s
SPMN Marine on St. 60.94 40 P **P 08 48 37.6 -2.1**
baz=340,SNR=6.7
E42A Champion 60.95 35 P **P 08 48 37.8 -2.0**
baz=341
COWI Conover 60.99 36 PFAKE 08 48 50.0 +10
COWI LR LR

comp=Z,700nm,18.0s
PHWY Pilot Hill 61.13 51 PFAKE 08 48 50.0 +8.5
PHWY LR LR
comp=Z,200nm,18.0s
VOG Valley Oaks Go 61.14 65 P **P 08 48 41.2 +0.1**
baz=335
CEYT Ceyhan 61.18 297 *e*P **P 08 48 42.9 +1.4**
SKO Skopje 61.20 311 *i* P **P 08 48 42.0 +0.5**
E43A Lone Tree Farm 61.20 35 PFAKE 08 48 50.0 +8.5
E43A LR LR
comp=Z,700nm,18.0s
E43A Lone Tree Farm 61.20 35 P **P 08 48 39.3 -2.2**
baz=342
G38A Ridgeland 61.23 39 P **P 08 48 39.4 -2.3**
baz=340,SNR=6.6
GRAC Grapevine Rang 61.23 63 P **P 08 48 43.4 +1.5**
baz=335,SNR=27
STIP Stip 61.23 310 *i* P **P 08 48 40.8 -0.9**
G39A Holcombe 61.28 38 P **P 08 48 39.6 -2.4**
baz=340,SNR=7.0
F41A Three Lakes 61.34 37 P **P 08 48 40.1 -2.3**
baz=341
D46A Sault St. Mari 61.34 32 P **P 08 48 40.8 -1.7**
baz=343,SNR=6.0
SRS Serrai 61.35 309 P **P 08 48 43.0 +0.4**
O20A White River Ci 61.35 54 PFAKE 08 48 50.0 +7.1
O20A LR LR
comp=Z,800nm,18.0s
O20A White River Ci 61.35 54 P **P 08 48 42.5 -0.3**
baz=336,SNR=30
N23A Red Feather La 61.36 52 PFAKE 08 48 50.0 +7.0
N23A LR LR
comp=Z,500nm,18.0s
N23A Red Feather La 61.36 52 P **P 08 48 42.4 -0.6**
baz=337,SNR=14
ECSD EROS Data Cent 61.37 43 PFAKE 08 48 50.0 +7.3
ECSD LR LR
comp=Z,400nm,20.0s
ECSD EROS Data Cent 61.37 43 P **P 08 48 41.0 -1.7**
baz=339,SNR=17
D47A Chapleau 61.37 32 P **P 08 48 41.1 -1.5**
baz=343,SNR=11
PDG Podgorica 61.40 313⇑ *i*P **P 08 48 42.6 -0.2**
TTG Podgorica 61.40 313 PFAKE 08 49 00.0 +17
TTG LR LR
comp=Z,700nm,19.0s
VLDQ Val d'Or 61.42 27 PFAKE 08 48 50.0 +7.1
VLDQ LR LR
comp=Z,600nm,18.0s
VAY Valandovo 61.47 310 *i* P **P 08 48 44.4 +1.1**
CWC Cottonwood Cre 61.48 64 P **P 08 48 44.8 +1.1**
baz=335
D49A Beulah Townshi 61.51 30 P **P 08 48 42.2 -1.4**
baz=344,SNR=14
KNT Kendrikon 61.51 310 P **P 08 48 44.4 +0.7**
D48A Paudash Townsh 61.52 31 P **P 08 48 41.9 -1.7**
baz=343
G40A Rib Lake 61.52 38 PFAKE 08 49 00.0 +16
G40A LR LR
comp=Z,700nm,20.0s
G40A Rib Lake 61.52 38 P **P 08 48 41.6 -2.1**
baz=341,SNR=7.2
H38A Maiden Rock 61.59 39 P **P 08 48 42.1 -2.1**
baz=340
TAHT Tahtakopru-Hat 61.60 297 *e*P **P 08 48 46.2 +1.8**
E45A Wooded Hills, 61.61 33 P **P 08 48 42.3 -1.9**
baz=342
VES Vestal, Richgr 61.68 65 P **P 08 48 44.7 -0.1**
baz=335,SNR=10
F43A Flat Rock, Esc 61.68 35 P **P 08 48 42.7 -2.0**
baz=342
F44A Big Bay de Noc 61.71 34 P **P 08 48 42.9 -2.1**
baz=342
PHP Peshkopia 61.75 312 P **P 08 48 45.0 -0.3**
E46A Sault Ste Mari 61.79 33 P **P 08 48 43.5 -2.0**
baz=343
G41A Antigo 61.82 37 P **P 08 48 43.5 -2.1**
baz=341
H39A Augusta 61.82 39 P **P 08 48 43.7 -2.1**
baz=340
SMMC Simmler 61.84 66 P **P 08 48 47.0 +1.0**
baz=335,SNR=5.3
FURC Furnace Creek, 61.88 62 P **P 08 48 47.1 +1.0**
baz=335,SNR=18
E47A Iron Bridge 61.91 32 P **P 08 48 44.6 -1.7**
baz=343
G42A Mountain 61.96 36 P **P 08 48 44.4 -2.2**
baz=341
MPMC Manual Prospec 62.03 63 P **P 08 48 48.3 +0.9**
baz=335,SNR=29
ISA Isabella, Lake 62.05 64 *e*P **P 08 48 47.2 -0.2**
comp=Z,23nm,1.3s
ISA LR LR
comp=Z,300nm,19.0s
ISA Isabella, Lake 62.05 64 P **P 08 48 47.5 0.0**
baz=335,SNR=13
D51A Lot 18 Range I 62.06 29 P **P 08 48 45.5 -1.8**
baz=344,SNR=6.1
H40A Chili 62.09 38 P **P 08 48 45.5 -2.0**
baz=341
E48A Lockeyer 62.11 31 P **P 08 48 45.8 -1.9**
baz=343
G43A Wallace 62.11 36 P **P 08 48 45.6 -2.0**
baz=342
VLC Villacollemand 62.12 321 PFAKE 08 49 00.0 +12
VLC LR LR
comp=Z,600nm,18.0s
F45A CMU Biological 62.18 34 P **P 08 48 46.0 -2.1**
baz=342
MANT Manisa 62.22 304 PFAKE 08 49 00.0 +11
MANT LR LR
comp=Z,1μm,21.0s
TIR Tirane 62.23 312 PFAKE 08 49 00.0 +12
TIR LR LR
comp=Z,700nm,18.0s
F46A Macinaw City C 62.26 33 P **P 08 48 46.3 -2.3**
baz=342
H41A Junction City 62.27 37 P **P 08 48 46.4 -2.3**
baz=341
PKM Mcpherson Peak 62.28 66 P **P 08 48 50.2 +1.0**
baz=335,SNR=6.9
FNA Florina 62.31 311 PFAKE 08 49 00.0 +11
FNA LR LR
comp=Z,400nm,18.0s
FNA Florina 62.31 311 P **P 08 48 49.0 -0.1**
D52A ZEK Kipawa Sen 62.35 28 P **P 08 48 47.6 -1.6**
baz=345,SNR=27
ARVC Arvin 62.41 65 P **P 08 48 49.3 -0.5**
baz=335
PAIG Paliouri 62.42 308 P **P 08 48 49.7 0.0**
SHPR Sheep Range 62.42 61 *e*P **P 08 48 50.7 +0.7**
comp=Z,37nm,1.1s
SHPR LR LR
comp=Z,300nm,21.0s
E50A Wahnapitae 62.45 30 P **P 08 48 48.1 -1.8**
baz=344
ISCO Idaho Springs 62.47 52 *e*P **P 08 48 49.8 -0.7**
comp=Z,12nm,1.0s
ISCO LR LR
comp=Z,400nm,20.0s
ISCO Idaho Springs 62.47 52 P **P 08 48 50.2 -0.3**
baz=337,SNR=18
OGNE Ogallala 62.47 48 PFAKE 08 49 00.0 +10
OGNE LR LR
comp=Z,600nm,19.0s
OGNE Ogallala 62.47 48 P **P 08 48 48.9 -1.3**
baz=338
D54A Lac Fusel, La 62.49 27 P **P 08 48 48.6 -1.6**
baz=345,SNR=6.0
LRMC Laurel Mtn Rad 62.49 64 P **P 08 48 51.1 +0.6**
baz=335,SNR=11
I39A Houston 62.54 39 PFAKE 08 49 00.0 +9.4
I39A LR LR
comp=Z,600nm,20.0s
I39A Houston 62.54 39 P **P 08 48 48.2 -2.3**
baz=340,SNR=8.8
PV09 Paradox Valley 62.57 55 *e*P **P 08 48 51.1 -0.1**
E51A G1948 Merrick 62.58 29 P **P 08 48 49.0 -1.7**
baz=344,SNR=13
SHOC Shoshone, Teco 62.59 62 P **P 08 48 52.1 +1.1**
baz=335,SNR=23
LIT Litokhoron 62.61 309 PFAKE 08 49 00.0 +8.9
LIT LR LR
comp=Z,400nm,22.0s
SMCO Snowmass 62.62 53 PFAKE 08 49 00.0 +8.3
SMCO LR LR
comp=Z,300nm,22.0s
H42A Shiocton 62.63 37 P **P 08 48 48.6 -2.5**
baz=341
F48A Evansville 62.65 32 P **P 08 48 49.5 -1.7**
baz=343
G46A Petoskey 62.67 33 P **P 08 48 49.4 -2.0**
baz=342
PV14 Lion Creek, Pa 62.72 55 PFAKE 08 49 00.0 +7.9
PV14 LR LR
comp=Z,900nm,18.0s
SBC Santa Barbara 62.72 66 P **P 08 48 52.9 +1.1**
baz=335
I40A Norwalk 62.73 38 P **P 08 48 49.5 -2.3**
baz=341,SNR=11
I41A Arkdale 62.74 38 PFAKE 08 49 00.0 +8.1
I41A LR LR
comp=Z,600nm,20.0s
I41A Arkdale 62.74 38 P **P 08 48 49.7 -2.2**
baz=341
NEST Nestorio 62.75 311 P **P 08 48 52.4 +0.3**
G45A Suttons Bay 62.77 34 P **P 08 48 50.0 -2.0**
baz=342
PV20 West Nyswonger 62.77 55 PFAKE 08 49 00.0 +7.6
PV20 LR LR
comp=Z,1μm,20.0s
PV07 Paradox Valley 62.78 55 PFAKE 08 49 00.0 +7.5
PV07 LR LR
comp=Z,700nm,18.0s
PV16 Nyswonger Mesa 62.81 55 PFAKE 08 49 00.0 +7.3
PV16 LR LR
comp=Z,700nm,19.0s
F49A Sandfield 62.83 31 P **P 08 48 50.7 -1.7**
baz=344
H43A Windswept, Lux 62.84 36 P **P 08 48 50.4 -2.1**
baz=342
PV18 Skein Mesa, Pa 62.87 55 PFAKE 08 49 00.0 +6.9
PV18 LR LR
comp=Z,800nm,18.0s
LATQ La Tuque 62.90 24 P **P 08 48 51.4 -1.5**
baz=347
EDW2 Edwards Air Fo 62.92 64 P **P 08 48 54.0 +0.7**
baz=335,SNR=20
HYB Hyderabad 62.94 249 *i* P **P 08 48 52.0 -1.5**
SDHHI Sand Hill 62.95 105 PFAKE 08 49 10.0 +16
SDHHI LR LR
comp=Z,700nm,18.0s
GSC Goldstone, Bar 62.95 63 *e*P **P 08 48 54.3 +0.8**
comp=Z,36nm,1.3s
GSC Goldstone, Bar 62.95 63 P **P 08 48 54.3 +0.8**
baz=335,SNR=13
E52A Mattawa 62.97 29 P **P 08 48 51.4 -1.9**
baz=345,SNR=9.1
PV13 Radium Mtn., P 62.98 55 *e*P **P 08 48 53.7 -0.1**
comp=Z,41nm,1.4s
J39A Decorah 62.99 39 P **P 08 48 50.9 -2.6**
baz=340
NPOC North of Pu'u 63.02 105 PFAKE 08 49 10.0 +16
NPOC LR LR
comp=Z,1μm,22.0s
STCH Steam Cracks 63.02 105 PFAKE 08 49 10.0 +16
STCH LR LR
comp=Z,1μm,20.0s
G47A Hillman 63.02 33 P **P 08 48 51.6 -2.1**
baz=343
AQU L'Aquila 63.05 318 PFAKE 08 49 10.0 +16
AQU LR LR
comp=Z,700nm,18.0s
E53A Dumoine, Ponti 63.06 28 P **P 08 48 52.5 -1.5**
baz=345,SNR=12
F51A Arnstein 63.08 30 P **P 08 48 52.3 -1.8**
baz=344
KPRO Kipourio 63.08 310 P **P 08 48 53.7 -0.6**
E54A Lac Daplat, Po 63.09 27 P **P 08 48 52.3 -1.8**
baz=345,SNR=5.8
BGNE Belgrade 63.12 45 PFAKE 08 49 10.0 +15
BGNE LR LR
comp=Z,400nm,21.0s
BGNE Belgrade 63.12 45 P **P 08 48 52.6 -1.9**
baz=339
I42A Draeger Farm, 63.13 37 P **P 08 48 52.4 -2.1**
baz=341
TUQ Turquoise Moun 63.13 62 P **P 08 48 55.6 +0.8**
baz=336,SNR=32
SCZ2 Santa Cruz Isl 63.15 66 P **P 08 48 55.2 +0.4**
baz=335
J40A Soldiers Grove 63.16 39 P **P 08 48 52.3 -2.4**
baz=341
GLMI Grayling 63.19 33 P **P 08 48 52.9 -1.9**
baz=343
BLG Laguna Peak, P 63.25 65 P **P 08 48 56.0 +0.6**
baz=335
RRX Edison Barstow 63.27 63 P **P 08 48 56.4 +0.9**
baz=335
I43A Langenfeld Bro 63.31 36 P **P 08 48 53.5 -2.2**
baz=342
F52A Sundridge 63.32 29 P **P 08 48 54.2 -1.5**
baz=344,SNR=7.3
H46A Fife Lake 63.34 34 P **P 08 48 53.9 -1.9**
baz=342
KKM Kota Kinabalu 63.34 206 *e*P **P 08 48 56.8 +0.6**
comp=Z,45nm,0.8s
J41A Loganville 63.37 38 P **P 08 48 54.0 -2.1**
baz=341
DECC Green Verdugo 63.37 65 P **P 08 48 56.7 +0.4**
baz=335
Q24A Divide 63.38 52 PFAKE 08 49 10.0 +13
Q24A LR LR
comp=Z,400nm,20.0s
Q24A Divide 63.38 52 P **P 08 48 56.0 -0.5**
baz=337
ALGO Algonquin Park 63.40 28 P **P 08 48 54.4 -1.8**
baz=345,SNR=10
TOBO Tobermory, Bru 63.44 31 P **P 08 48 54.8 -1.7**
baz=344
U15A North Rim 63.44 59 *e*P **P 08 48 56.9 -0.1**
comp=Z,68nm,1.9s
H47A Mio 63.49 33 P **P 08 48 54.9 -2.0**
baz=343
MWC Mount Wilson 63.50 65 PFAKE 08 49 10.0 +13
MWC LR LR
comp=Z,400nm,19.0s
PASC Pasadena Art C 63.50 65 PFAKE 08 49 10.0 +13
PASC LR LR
comp=Z,400nm,19.0s
K39A Oelwein 63.54 40 P **P 08 48 54.2 -2.9**
baz=340,SNR=8.7
HEC Hector,Ludlow 63.54 63 P **P 08 48 58.2 +0.8**
baz=336,SNR=22
KLBO Killbear Provi 63.57 30 P **P 08 48 56.0 -1.3**
baz=344,SNR=6.8
H48A Harrisville 63.58 33 P **P 08 48 55.3 -2.1**
baz=343
BFSC Mount Baldy Ra 63.62 64 P **P 08 48 58.6 +0.6**
baz=335,SNR=22
J42A Columbus 63.62 37 P **P 08 48 55.5 -2.2**
baz=341
BUKO Buck Lake 63.65 29 P **P 08 48 56.4 -1.4**
baz=344,SNR=8.3
AGG Agios Georgios 63.65 309 PFAKE 08 49 10.0 +12
AGG LR LR
comp=Z,500nm,18.0s
J43A Natural Harves 63.73 37 P **P 08 48 55.9 -2.5**
baz=342
K40A Colesburg 63.73 39 P **P 08 48 55.9 -2.5**
baz=341,SNR=7.7
JFWS Jewell Farm 63.74 38 PFAKE 08 49 10.0 +12
JFWS LR LR
comp=Z,500nm,18.0s
JFWS Jewell Farm 63.74 38 P **P 08 48 56.1 -2.4**
baz=341
GMRC Granite Mounta 63.81 62 P **P 08 48 60.0 +0.7**
baz=336,SNR=13
PEMO Pembroke 63.81 28 P **P 08 48 57.0 -1.9**
baz=345,SNR=16
F55A Otter Lake 63.82 27 P **P 08 48 57.3 -1.7**
baz=346,SNR=6.8
BBRC Big Bear Solar 63.85 64 P **P 08 49 00.5 +0.9**
baz=336,SNR=14
I46A Reed City 63.86 34 P **P 08 48 57.2 -2.1**
baz=342
CSS Mathiatis 63.86 298 *e*P **P 08 49 00.1 +0.7**
comp=Z,88nm,1.6s
BATG Bathurst New B 63.94 19 PFAKE 08 49 10.0 +10
BATG LR LR
comp=Z,600nm,18.0s
MVCO Mesa Verde 63.95 55 PFAKE 08 49 10.0 +10
MVCO LR LR
comp=Z,500nm,19.0s
MVCO Mesa Verde 63.95 55 P **P 08 49 00.2 -0.1**
baz=337,SNR=10
SCIA State Center 63.96 41 PFAKE 08 49 10.0 +10
SCIA LR LR
comp=Z,600nm,19.0s
SCIA State Center 63.96 41 P **P 08 48 57.9 -2.1**
baz=340
S22A 4UR Ranch, Cre 63.98 54 PFAKE 08 49 10.0 +9.5
S22A LR LR
comp=Z,800nm,19.0s
S22A 4UR Ranch, Cre 63.98 54 P **P 08 49 00.7 +0.1**
baz=337,SNR=12
I47A Gladwin 63.98 34 P **P 08 48 58.6 -1.5**
baz=343
I48A Sherman Twp 63.99 33 P **P 08 48 58.6 -1.6**
baz=343
K41A Shullsburg 64.01 39 P **P 08 48 57.8 -2.5**
baz=341
L39A Vinton 64.06 40 P **P 08 48 58.0 -2.6**
baz=341,SNR=7.8
K42A Prairie Point, 64.08 38 P **P 08 48 58.0 -2.8**
baz=341
KSCO Kaye Shedlock' 64.08 50 *e*P **P 08 48 59.5 -1.5**
comp=Z,16nm,0.8s
KSCO Kaye Shedlock' 64.08 50 P **P 08 49 00.1 -0.9**
baz=338,SNR=5.1
G53A Haliburton 64.10 29 P **P 08 48 59.3 -1.5**
baz=345,SNR=9.4
W13A Hualapai Mount 64.12 61 *e*P **P 08 49 01.7 +0.3**
comp=Z,16nm,0.9s
QASN Qassioun 64.15 295 *e*P P 08 48 53.8 -7.7
NEE2 Needles Airpor 64.18 61 P **P 08 49 02.0 +0.5**
baz=336
TOTH TOTAH 64.25 295 *e*P **P 08 49 02.6 +0.6**
ALFO Alfred 64.27 26 P **P 08 49 00.5 -1.3**
baz=346,SNR=9.9
L40A Anamosa 64.31 40 PFAKE 08 49 10.0 +7.8
L40A LR LR
comp=Z,600nm,20.0s
L40A Anamosa 64.31 40 P **P 08 48 59.5 -2.7**
baz=341,SNR=5.6
G55A Calabogie 64.32 27 P **P 08 49 00.4 -1.8**
baz=346
H52A Wyevale 64.32 30 P **P 08 49 00.3 -2.0**
baz=344,SNR=7.8
BANO Bancroft 64.33 28 P **P 08 49 00.9 -1.4**
baz=345,SNR=8.6
ORIO Orleans, Innes 64.33 26 P **P 08 49 00.6 -1.8**
baz=346,SNR=6.2
MURC Murrieta 64.36 64 P **P 08 49 03.1 +0.4**
baz=336,SNR=6.4
BRBR Barbar 64.37 295 *e*P **P 08 49 03.7 +0.7**
K43A Burlington 64.39 37 PFAKE 08 49 10.0 +7.3
K43A LR LR
comp=Z,600nm,18.0s
SDCO Great Sand Dun 64.39 53 *e*P **P 08 49 02.4 -0.8**
comp=Z,75nm,1.9s
SDCO LR LR
comp=Z,500nm,20.0s
SDCO Great Sand Dun 64.39 53 P **P 08 49 02.8 -0.4**
baz=337,SNR=24
BELC Belle Mtn. Jos 64.41 63 P **P 08 49 03.6 +0.4**
baz=336,SNR=6.3
I49A Point Hope 64.41 32 P **P 08 49 01.0 -1.9**
baz=343
PLVO Plevna 64.46 28 PFAKE 08 49 20.0 +17
PLVO LR LR
comp=Z,400nm,22.0s
PLVO Plevna 64.46 28 P **P 08 49 01.7 -1.5**
baz=345,SNR=17
L41A Preston 64.47 39 P **P 08 49 00.8 -2.5**
baz=341,SNR=5.5
IRM Iron Mountain 64.56 62 P **P 08 49 04.9 +0.8**
baz=336,SNR=29
WUAZ Wupatki 64.58 58 P **P 08 49 04.9 +0.6**
baz=336,SNR=13
BASO Ashfield 64.58 31 P **P 08 49 02.2 -1.7**
baz=344
BWLO Walkerton 64.58 31 P **P 08 49 02.4 -1.6**
baz=344
PFO Pinyon Flats O 64.60 63 *e*P **P 08 49 04.5 +0.1**
comp=Z,49nm,1.5s
PFO LR LR
comp=Z,300nm,20.0s
PFO Pinyon Flats O 64.60 63 *i* P **P 08 49 05.2 +0.7**
PFO Pinyon Flats O 64.60 63 P **P 08 49 04.8 +0.3**
baz=336,SNR=11
M39A Webster 64.62 40 P **P 08 49 01.9 -2.4**
baz=341,SNR=8.3
HATD Hatta, Dubai 64.66 274 *i* P **P 08 49 04.6 -0.1**
SNR=14
HATD Hatta, Dubai 64.66 274 P **P 08 49 04.8 0.0**
HATD P **P 08 49 04.8 0.0**
J47A Sunmer 64.66 34 P **P 08 49 03.4 -1.2**
baz=343
NAZ Nazwa, Dubai 64.70 274 P **P 08 49 05.0 0.0**
NAZ Nazwa, Dubai 64.70 274 P **P 08 49 05.0 0.0**
L42A Oliver, Polo 64.74 38 PFAKE 08 49 20.0 +15
L42A LR LR
comp=Z,600nm,21.0s
L42A Oliver, Polo 64.74 38 P **P 08 49 02.4 -2.7**
baz=341
PDMCI Parker Dam,Lak 64.76 61 P **P 08 49 05.8 +0.5**
baz=336,SNR=13
L43A Garden Prairie 64.78 38 P **P 08 49 02.9 -2.4**
baz=342
ASHO Ashiyiah 64.82 274 *i* P **P 08 49 05.7 -0.2**
SNR=6.5
ASHO Ashiyiah 64.82 274 P **P 08 49 06.0 +0.1**
ASHO P **P 08 49 06.0 +0.1**
J48A Bridge Port 64.83 33 P **P 08 49 04.1 -1.5**
baz=343
DELO Deloro Mine 64.87 28 P **P 08 49 04.3 -1.5**
baz=345,SNR=13
J49A Marlette 64.90 33 P **P 08 49 04.5 -1.6**
baz=343
BC3 Big Chuckawall 64.91 63 P **P 08 49 07.1 +0.6**
baz=336,SNR=14
I51A Listowel 64.91 31 P **P 08 49 04.6 -1.5**
baz=344
H55A Tweed 64.91 28 P **P 08 49 04.6 -1.5**
baz=345,SNR=11
FAQ Al Faqa, Dubai 64.94 274 P **P 08 49 06.0 -0.6**
K46A Dorr 64.98 35 P **P 08 49 04.3 -2.3**
baz=343
L44A Lake County Fo 64.98 37 P **P 08 49 04.5 -2.2**
baz=342
KRAB Krabi 64.98 225 P P 08 49 16.7 +10
MOQ Mont Orford 65.00 24 *e*P **P 08 49 06.0 -0.8**
MOQ *e*PcP **PcP 08 49 40.1 +0.4**
109C Camp Elliot, M 65.04 64 P **P 08 49 07.5 +0.4**
baz=336
H56A Elgin 65.04 27 P **P 08 49 05.6 -1.3**
baz=346,SNR=12
CBKS Cedar Bluff 65.10 48 PFAKE 08 49 20.0 +12
CBKS LR LR
comp=Z,400nm,19.0s
CBKS Cedar Bluff 65.10 48 P **P 08 49 05.7 -1.8**
baz=339,SNR=5.8
TIP Timpagrande 65.11 314 *e*P **P 08 49 08.1 +0.5**
comp=Z,128nm,1.2s
TIP LR LR
comp=Z,1μm,18.0s
TIP Timpagrande 65.11 314⇑ *i*P **P 08 49 08.3 +0.7**
M41A Milan 65.12 39 P **P 08 49 05.0 -2.6**
baz=341,SNR=5.9
PKRO Pickering 65.13 29 P **P 08 49 06.2 -1.4**
baz=345
WSAR Wadi Sarin 65.14 271 LR LR 09 21 35.8
comp=Z,226nm,19.0s,baz=36,slow=40
Y12C Blythe 65.14 62 PFAKE 08 49 20.0 +12
Y12C LR LR
comp=Z,400nm,19.0s
Y12C Blythe 65.14 62 P **P 08 49 08.5 +0.7**
baz=336,SNR=24
SANT Santorini 65.14 305 PFAKE 08 49 20.0 +12
SANT LR LR
comp=Z,300nm,20.0s
I55A Frankford 65.15 28 P **P 08 49 06.1 -1.6**
baz=345,SNR=12
ASUD Al Ashush, Dub 65.15 274 P **P 08 49 07.6 -0.4**
K47A Vermontville 65.17 34 P **P 08 49 05.8 -2.0**
baz=343
I53A Kortright Cn E 65.17 30 P **P 08 49 06.0 -1.9**
baz=345
TRTT Trang 65.22 224 P P 08 49 15.2 +6.8
K48A Perry 65.23 34 P **P 08 49 06.5 -1.8**

baz=343,SNR=6.2
FRNY Flat Rock 65.25 25 PFAKE 08 49 20.0 +12
FRNY LR LR
comp=Z,400nm,20.0s
MONP2 Monument Peak 65.27 64 P **P 08 49 09.6 +0.7**
baz=336,SNR=14
T25A Trinidad 65.28 52 PFAKE 08 49 20.0 +11
T25A LR LR
comp=Z,400nm,20.0s
T25A Trinidad 65.28 52 P **P 08 49 07.5 -1.4**
baz=338
ACTO Acton 65.28 30 P **P 08 49 07.0 -1.6**
baz=344
DRCO St. Marys Ceme 65.29 29 P **P 08 49 07.2 -1.3**
baz=345
DRWO Darlington Wes 65.29 29 P **P 08 49 07.0 -1.5**
baz=345,SNR=7.1
WLVO Wesleyville 65.30 29 P **P 08 49 07.4 -1.3**
baz=345,SNR=14
LONY Lake Ozonia 65.30 26 *e*P **P 08 49 07.3 -1.4**
comp=Z,40nm,0.8s
LONY LR LR
comp=Z,400nm,19.0s
LONY Lake Ozonia 65.30 26 P **P 08 49 07.4 -1.3**
baz=346,SNR=22
N40A Mertquake, Sal 65.33 40 P **P 08 49 06.4 -2.5**
baz=341
K49A Clarkson 65.39 33 P **P 08 49 07.9 -1.4**
baz=343,SNR=5.2
SWSC Sam W. Stewart 65.44 63 P **P 08 49 10.6 +0.9**
baz=336,SNR=6.0
M43A Waltham Townsh 65.44 38 P **P 08 49 07.2 -2.4**
baz=342
W18A Petrified Fore 65.47 57 PFAKE 08 49 20.0 +10
W18A LR LR
comp=Z,300nm,18.0s
W18A Petrified Fore 65.47 57 P **P 08 49 10.3 +0.1**
baz=337
ITM Ithomi 65.48 309 PFAKE 08 49 20.0 +10
ITM LR LR
comp=Z,300nm,22.0s
Y14A Wickenburg 65.48 60 *e*P **P 08 49 10.5 +0.5**
comp=Z,24nm,1.1s
PKME Peaks-Kenny Pk 65.49 22 P **P 08 49 09.0 -0.8**
baz=348
L46A Eue Claire 65.51 36 P **P 08 49 07.9 -2.1**
baz=342
PECO Prince Edward 65.55 28 P **P 08 49 08.8 -1.5**
baz=346,SNR=11
J52A Paris 65.56 31 P **P 08 49 08.5 -1.8**
baz=344
X16A Lo Mia Camp, P 65.56 59 *e*P **P 08 49 11.3 +0.6**
comp=Z,16nm,0.8s
X16A LR LR
comp=Z,300nm,20.0s
IKP In-Ko-Pah, Jac 65.60 64 P **P 08 49 11.8 +0.9**
baz=336,SNR=11
GLA Glamis 65.67 62 *e*P **P 08 49 11.8 +0.5**
comp=Z,46nm,1.1s
GLA LR LR
comp=Z,400nm,19.0s
GLA Glamis 65.67 62 P **P 08 49 12.2 +0.9**
baz=336,SNR=8.8
N41A Harden Midland 65.68 40 PFAKE 08 49 20.0 +8.9
N41A LR LR
comp=Z,600nm,20.0s
N41A Harden Midland 65.68 40 P **P 08 49 08.5 -2.7**
baz=341
KSU1 Kansas State U 65.70 45 PFAKE 08 49 20.0 +8.7
KSU1 LR LR
comp=Z,400nm,20.0s
KSU1 Kansas State U 65.70 45 P **P 08 49 09.2 -2.2**
baz=340
M44A Midewin, Midew 65.70 37 PFAKE 08 49 20.0 +8.7
M44A LR LR
comp=Z,500nm,21.0s
M44A Midewin, Midew 65.70 37 P **P 08 49 09.2 -2.1**
baz=342
L47A Sherwood 65.79 35 P **P 08 49 09.7 -2.1**
baz=343,SNR=6.0
AAM Ann Arbor 65.81 34 PFAKE 08 49 20.0 +8.0
AAM LR LR
comp=Z,600nm,20.0s
AAM Ann Arbor 65.81 34 P **P 08 49 10.2 -1.8**
baz=343
TYNO Tyneside 65.82 30 P **P 08 49 10.2 -1.8**
baz=345
STCO Saint Catharin 65.84 30 P **P 08 49 10.5 -1.6**
baz=345
K51A Iona Station 65.85 32 P **P 08 49 10.2 -2.0**
baz=344
N43A Stutzman Famil 65.86 38 P **P 08 49 09.8 -2.6**
baz=342
VT1 Waterbury 65.88 25 PFAKE 08 49 20.0 +7.6
VT1 LR LR
comp=Z,500nm,19.0s
J54A Appleton 65.88 29 PFAKE 08 49 20.0 +7.6
J54A LR LR
comp=Z,600nm,18.0s
J54A Appleton 65.88 29 P **P 08 49 10.8 -1.6**
baz=345
M45A Boilermakers S 65.89 37 P **P 08 49 10.2 -2.3**
baz=342
X18A Snowflake 65.94 58 *e*P **P 08 49 13.1 -0.1**
comp=Z,19nm,1.1s
X18A LR LR
comp=Z,200nm,20.0s
K52A Tillsonburg 65.95 31 P **P 08 49 10.8 -2.1**
baz=344
L49A Milan 65.97 34 P **P 08 49 11.2 -1.8**
baz=343
L48A N Adams 65.98 34 P **P 08 49 11.2 -1.9**
baz=343
NCB Newcomb 65.99 26 *e*P **P 08 49 11.9 -1.3**
comp=Z,29nm,0.7s
NCB LR LR
comp=Z,300nm,19.0s
MEDO Medina 66.02 29 PFAKE 08 49 30.0 +17
MEDO LR LR
comp=Z,600nm,18.0s
MEDO Medina 66.02 29 P **P 08 49 11.9 -1.4**
baz=345,SNR=5.6
J55A Hilton 66.04 29 PFAKE 08 49 30.0 +17
J55A LR LR
comp=Z,600nm,18.0s
J55A Hilton 66.04 29 P **P 08 49 11.8 -1.7**
baz=345,SNR=12
M46A Old House Fiel 66.07 36 PFAKE 08 49 30.0 +16
M46A LR LR
comp=Z,600nm,18.0s
M46A Old House Fiel 66.07 36 P **P 08 49 11.6 -2.1**
baz=343
LBNH Lisbon 66.10 24 *e*P **P 08 49 13.2 -0.7**
comp=Z,25nm,0.8s
LBNH LR LR
comp=Z,900nm,18.0s
LBNH Lisbon 66.10 24 P **P 08 49 13.0 -0.9**
baz=348,SNR=8.8
WVL Waterville 66.12 22 PFAKE 08 49 30.0 +16
WVL LR LR
comp=Z,400nm,18.0s
HDIL Hopedale 66.20 39 PFAKE 08 49 30.0 +15
HDIL LR LR
comp=Z,600nm,19.0s
HDIL Hopedale 66.20 39 P **P 08 49 11.9 -2.6**
baz=342
CEL Celeste 66.21 314 PFAKE 08 49 30.0 +15
CEL LR LR
comp=Z,500nm,20.0s
L50A Kingsville 66.23 33 P **P 08 49 12.7 -2.1**
baz=344
N44A Piper City 66.25 38 P **P 08 49 12.5 -2.3**
baz=342
M47A Cromwell 66.28 35 P **P 08 49 13.0 -2.0**
baz=343
GBN Guysborough 66.31 16 PFAKE 08 49 30.0 +15
GBN LR LR
comp=Z,500nm,22.0s
N45A Kentland 66.34 37 P **P 08 49 13.2 -2.2**
baz=342
M48A Edgerton 66.36 35 PFAKE 08 49 30.0 +14
M48A LR LR
comp=Z,500nm,19.0s
M48A Edgerton 66.36 35 P **P 08 49 13.5 -2.0**
baz=343
N46A Monticello 66.47 36 P **P 08 49 13.9 -2.4**
baz=342,SNR=7.7

K55A Perry 66.52 29 P **P 08 49 14.5 -2.0**
baz=345
M49A Liberty Center 66.53 34 P **P 08 49 14.5 -2.1**
baz=343,SNR=5.2
MMNY Mt. Morris Dam 66.54 29 PFAKE 08 49 30.0 +13
MMNY LR LR
comp=Z,500nm,19.0s
PLIO Pelee Island, 66.55 33 P **P 08 49 15.0 -1.7**
baz=344
HNH Hanover 66.56 24 PFAKE 08 49 30.0 +13
HNH LR LR
comp=Z,800nm,18.0s
ACCN Adirondack Com 66.65 25 PFAKE 08 49 30.0 +13
ACCN LR LR
comp=Z,500nm,21.0s
ANMO Albuquerque 66.67 55 *e*P **P 08 49 17.0 -0.9**
comp=Z,6.2nm,1.0s
ANMO LR LR
comp=Z,500nm,20.0s
ANMO Albuquerque 66.67 55 *c e*P **P 08 49 17.8 -0.1**
ANMO pmax pmax
comp=Z,10.0nm,1.7s
ANMO Albuquerque 66.67 55 P **P 08 49 17.6 -0.3**
baz=338
TASM ASL Pad, Albuq 66.67 55 P **P 08 49 17.6 -0.4**
baz=338,SNR=7.1
TASM ASL Pad, Albuq 66.67 55 P **P 08 49 17.5 -0.4**
baz=338,SNR=6.4
N47A Urbana 66.72 36 P **P 08 49 14.9 -3.0**
baz=343
ERPA Erie 66.74 31 PFAKE 08 49 30.0 +12
ERPA LR LR
comp=Z,500nm,19.0s
ERPA Erie 66.74 31 P **P 08 49 16.0 -1.9**
baz=345
L54A Sinclairville 66.75 30 P **P 08 49 16.3 -1.8**
baz=345
O44A Mansfield 66.78 38 P **P 08 49 16.4 -1.8**
baz=342
M50A Fremont 66.80 33 PFAKE 08 49 30.0 +12
M50A LR LR
comp=Z,500nm,21.0s
M50A Fremont 66.80 33 P **P 08 49 16.1 -2.2**
baz=344
HAL Halifax 66.84 17 PFAKE 08 49 30.0 +11
HAL LR LR
comp=Z,1μm,18.0s
L53A Girard 66.84 31 P **P 08 49 16.9 -1.7**
baz=345,SNR=8.5
O45A Potomac 66.86 37 P **P 08 49 16.5 -2.2**
baz=342
SFIN Lafayette 66.88 37 PFAKE 08 49 30.0 +11
SFIN LR LR
comp=Z,500nm,18.0s
SFIN Lafayette 66.88 37 P **P 08 49 16.4 -2.5**
baz=342,SNR=5.3
N48A Decatur 66.89 35 P **P 08 49 16.4 -2.5**
baz=343
L55A Hinsdale 66.97 30 P **P 08 49 17.8 -1.7**
baz=345,SNR=6.3
P43A Skaggs, Pawnee 67.01 39 P **P 08 49 17.2 -2.5**
baz=342
N49A Columbus Grove 67.02 34 PFAKE 08 49 30.0 +10
N49A LR LR
comp=Z,400nm,19.0s
N49A Columbus Grove 67.02 34 P **P 08 49 17.4 -2.4**
baz=343,SNR=6.1
M52A Chesterland 67.02 32 PFAKE 08 49 30.0 +10
M52A LR LR
comp=Z,500nm,18.0s
M52A Chesterland 67.02 32 P **P 08 49 18.1 -1.7**
baz=344,SNR=6.1
M51A Elyria 67.05 33 P **P 08 49 18.0 -1.9**
baz=344,SNR=8.5
TNTI Ternate 67.13 193 P **P 08 49 20.7 0.0**
comp=Z,24nm,1.6s
ALLY Alegheny Colle 67.16 31 PFAKE 08 49 30.0 +9.4
ALLY LR LR
comp=Z,600nm,19.0s
O47A Sheridan 67.23 36 P **P 08 49 18.5 -2.6**
baz=343,SNR=7.0
LENM Lemitar 67.23 55 *e*P **P 08 49 21.2 -0.3**
M53A WI Miller and 67.25 31 P **P 08 49 19.6 -1.6**
baz=344,SNR=12
TRY Troy 67.29 26 PFAKE 08 49 30.0 +8.6
TRY LR LR
comp=Z,400nm,20.0s
Y22D IRIS PASSCAL I 67.33 55 PFAKE 08 49 30.0 +8.0
Y22D LR LR
comp=Z,400nm,18.0s
Y22D IRIS PASSCAL I 67.33 55 P **P 08 49 22.4 +0.4**
baz=338
BNM Barren Site 67.36 55 *e*P **P 08 49 21.7 -0.6**
214A Organ Pipe Nat 67.36 61 P **P 08 49 22.6 +0.5**
baz=337,SNR=16
N50A Nevada 67.38 34 P **P 08 49 20.1 -2.0**
baz=344
M54A Oil Creek Stat 67.39 31 PFAKE 08 49 30.0 +7.9
M54A LR LR
comp=Z,500nm,19.0s
M54A Oil Creek Stat 67.39 31 P **P 08 49 20.0 -2.1**
baz=345,SNR=7.2
N51A Ashland 67.41 33 PFAKE 08 49 30.0 +7.8
N51A LR LR
comp=Z,400nm,18.0s
N51A Ashland 67.41 33 P **P 08 49 20.1 -2.2**
baz=344,SNR=7.4
BINY Binghamton 67.41 28 PFAKE 08 49 30.0 +7.8
BINY LR LR
comp=Z,300nm,18.0s
BINY Binghamton 67.41 28 P **P 08 49 21.0 -1.2**
baz=346,SNR=14
KULM Kulim 67.41 222 PFAKE 08 49 30.0 +7.5
KULM LR LR
comp=Z,300nm,18.0s
MHTO MHTO 67.43 270 P **P 08 49 22.5 -0.1**
SNR=5.9
MHTO P **P 08 49 22.5 -0.1**
SNR=5.9
O48A Farmland 67.44 35 P **P 08 49 19.6 -2.9**
baz=343,SNR=6.9
Q42A Golden Eagle 67.45 40 P **P 08 49 20.2 -2.3**
baz=342,SNR=9.6
P45A Graceland, Par 67.54 38 PFAKE 08 49 30.0 +6.9
P45A LR LR
comp=Z,500nm,21.0s
P45A Graceland, Par 67.54 38 P **P 08 49 20.6 -2.5**
baz=342
SBUM Sibu 67.56 209 PFAKE 08 49 40.0 +17
SBUM LR LR
comp=Z,400nm,19.0s
CLTB Caltabellotta 67.58 316 PFAKE 08 49 40.0 +17
CLTB LR LR
comp=Z,700nm,19.0s
P46A Rosedale 67.58 37 P **P 08 49 20.7 -2.6**
baz=342
M55A Ridgway 67.60 30 P **P 08 49 21.7 -1.8**
baz=345,SNR=6.0
N52A McGinn's Farm, 67.65 32 P **P 08 49 21.5 -2.2**
baz=344
O49A Covington 67.69 35 PFAKE 08 49 40.0 +16
O49A LR LR
comp=Z,500nm,18.0s
O49A Covington 67.69 35 P **P 08 49 21.8 -2.2**
baz=343
TUC Tucson 67.71 59 *e*P **P 08 49 24.3 0.0**
comp=Z,38nm,1.8s
TUC Tucson 67.71 59 P **P 08 49 24.8 +0.4**
baz=337
R41A Rosebud 67.82 41 P **P 08 49 22.1 -2.7**
baz=341,SNR=7.1
N53A Lisbon 67.83 32 PFAKE 08 49 40.0 +15
N53A LR LR
comp=Z,500nm,19.0s
N53A Lisbon 67.83 32 P **P 08 49 23.1 -1.8**
baz=344,SNR=6.7
HRV Adam Dziewonsk 67.85 24 PFAKE 08 49 40.0 +15
HRV LR LR
comp=Z,900nm,18.0s
HRV Adam Dziewonsk 67.85 24 P **P 08 49 23.9 -1.1**
baz=348
N54A Moraine State 67.85 31 PFAKE 08 49 40.0 +15
N54A LR LR
comp=Z,500nm,19.0s
N54A Moraine State 67.85 31 P **P 08 49 22.9 -2.1**
baz=345,SNR=11
O50A Cable 67.88 34 P **P 08 49 23.0 -2.3**

baz=344
P47A Martinsville 67.92 36 P **P 08 49 22.8 -2.7**
baz=343,SNR=6.6
ACSO Alum Creek Sta 67.94 34 PFAKE 08 49 40.0 +14
ACSO LR LR
comp=Z,400nm,20.0s
ACSO Alum Creek Sta 67.94 34 P **P 08 49 23.4 -2.2**
baz=344,SNR=9.4
QUA2 Belchertown 67.94 25 PFAKE 08 49 40.0 +14
QUA2 LR LR
comp=Z,300nm,20.0s
PBRG Braganca 67.97 333 *e*P **P 08 49 25.9 +0.1**
comp=Z,32nm,1.7s
MRSI Marisa 67.98 199 P **P 08 49 25.8 -0.3**
comp=Z,68nm,0.7s,comp=Z,910nm
WES Weston 68.00 24 PFAKE 08 49 40.0 +14
WES LR LR
comp=Z,1μm,18.0s
Q45A Warren Harvey, 68.05 38 P **P 08 49 23.5 -2.7**
baz=342,SNR=8.0
KSPA Keystone Colle 68.07 28 PFAKE 08 49 40.0 +14
KSPA LR LR
comp=Z,400nm,18.0s
PGAV Gavieira, Arco 68.07 334 *e*P **P 08 49 26.7 +0.2**
comp=Z,57nm,1.8s
CCM Cathedral Cave 68.09 41 *e*P **P 08 49 23.7 -2.9**
comp=Z,51nm,1.6s
CCM LR LR
comp=Z,700nm,20.0s
CCM Cathedral Cave 68.09 41 P **P 08 49 23.9 -2.6**
baz=341
IPM Ipoh 68.09 222 PFAKE 08 49 40.0 +13
IPM LR LR
comp=Z,600nm,18.0s
O51A Pataskala 68.10 33 P **P 08 49 23.9 -2.6**
baz=344,SNR=5.5
Q46A CEJHS Indians, 68.11 38 P **P 08 49 24.1 -2.6**
baz=342
P48A Milroy 68.14 36 P **P 08 49 24.2 -2.7**
baz=343,SNR=8.0
BLO Bloomington 68.17 37 PFAKE 08 49 40.0 +13
BLO LR LR
comp=Z,500nm,19.0s
AMTX Amarillo 68.19 51 *e*P **P 08 49 25.2 -2.2**
comp=Z,30nm,1.2s
AMTX LR LR
comp=Z,500nm,18.0s
AMTX Amarillo 68.19 51 P **P 08 49 25.7 -1.7**
baz=339
OLIL Olney 68.21 38 PFAKE 08 49 40.0 +13
OLIL LR LR
comp=Z,600nm,20.0s
N55A Marion Center 68.22 30 *e*P **P 08 49 25.6 -1.8**
comp=Z,21nm,0.8s
N55A LR LR
comp=Z,600nm,18.0s
N55A Marion Center 68.22 30 P **P 08 49 25.3 -2.1**
baz=345,SNR=8.3
P49A Miami Univ. Ec 68.23 35 P **P 08 49 24.8 -2.6**
baz=343,SNR=5.2
PCAB Cabril 68.28 334 *e*P P 08 49 35.1 +7.4
O52A Adamsville 68.29 33 PFAKE 08 49 40.0 +12
O52A LR LR
comp=Z,400nm,18.0s
O52A Adamsville 68.29 33 P **P 08 49 25.6 -2.1**
baz=344,SNR=12
O53A New Philadelph 68.29 32 P **P 08 49 25.7 -2.1**
baz=344,SNR=9.3
P50A Jamestown 68.36 34 P **P 08 49 25.9 -2.3**
baz=344,SNR=8.3
FVM French Village 68.36 40 PFAKE 08 49 40.0 +12
FVM LR LR
comp=Z,500nm,20.0s
MPSI Mapaga 68.39 201 P **P 08 49 28.3 -0.3**
comp=Z,16nm,1.0s,comp=Z,646nm
S41A Jillco Farms, 68.40 42 P **P 08 49 26.2 -2.4**
baz=341,SNR=12
Q47A Bedord North L 68.41 37 P **P 08 49 26.0 -2.5**
baz=343,SNR=6.8
BRYW Bryant College 68.43 24 PFAKE 08 49 40.0 +11
BRYW LR LR
comp=Z,800nm,18.0s
121A Cookes Peak, D 68.48 57 P **P 08 49 29.7 +0.4**
baz=338,SNR=13
O54A Avella 68.52 32 P **P 08 49 27.3 -1.9**
baz=345,SNR=12
POLO Lamas de Olo 68.57 334 *e*P **P 08 49 29.8 +0.2**
POLO *i* LQ LQ 08 49 54.7
SSPA Standing Stone 68.57 29 *e*P **P 08 49 27.8 -1.8**
comp=Z,12nm,0.8s
SSPA LR LR
comp=Z,600nm,18.0s
SSPA Standing Stone 68.57 29 P **P 08 49 27.6 -2.0**
baz=346
Q48A North Vernon 68.58 36 P **P 08 49 27.2 -2.3**
baz=343
R45A Skyar, Fairfi 68.59 38 P **P 08 49 27.0 -2.7**
baz=342
P51A Williamsport 68.64 34 PFAKE 08 49 40.0 +10
P51A LR LR
comp=Z,500nm,19.0s
P51A Williamsport 68.64 34 P **P 08 49 27.4 -2.6**
baz=344
MVO Moncorvo 68.64 333 *e*P **P 08 49 30.4 +0.3**
comp=Z,38nm,1.5s
PVRL Vila Real 68.65 334 *e*P **P 08 49 30.1 0.0**
PVRL *i* LQ LQ 08 49 54.0
N59A State Game Lan 68.69 28 PFAKE 08 49 40.0 +10
N59A LR LR
comp=Z,300nm,19.0s
N59A State Game Lan 68.69 28 P **P 08 49 28.8 -1.5**
baz=346,SNR=6.3
P52A Corning 68.69 33 P **P 08 49 27.7 -2.6**
baz=344,SNR=9.0
Q49A Aurora 68.69 36 P **P 08 49 27.7 -2.7**
baz=343
MSTX Muleshoe 68.71 52 PFAKE 08 49 40.0 +9.3
MSTX LR LR
comp=Z,500nm,21.0s
MSTX Muleshoe 68.71 52 P **P 08 49 29.3 -1.4**
baz=339,SNR=10
O55A Ligonier 68.71 31 P **P 08 49 28.2 -2.2**
baz=345,SNR=6.6
ODNJ Ogdensburg 68.73 27 *e*P **P 08 49 29.0 -1.6**
comp=Z,17nm,0.9s
ODNJ LR LR
comp=Z,600nm,19.0s
O56A Blue Knob Stat 68.80 30 *e*P **P 08 49 28.8 -2.3**
comp=Z,18nm,0.8s
O56A LR LR
comp=Z,600nm,18.0s
O56A Blue Knob Stat 68.80 30 P **P 08 49 28.9 -2.1**
baz=345,SNR=9.8
R46A Gibon Southern 68.85 38 P **P 08 49 28.5 -2.8**
baz=343
KSM Kuching 68.89 211 *e*P **P 08 49 32.4 +0.6**
comp=Z,29nm,0.8s
KSM LR LR
comp=Z,300nm,19.0s
SIUC Southern Illin 68.91 39 PFAKE 08 49 40.0 +8.3
SIUC LR LR
comp=Z,500nm,19.0s
TUL1 Leonard 68.91 45 PFAKE 08 49 40.0 +8.3
TUL1 LR LR
comp=Z,600nm,19.0s
TUL1 Leonard 68.91 45 P **P 08 49 29.7 -2.0**
baz=340,SNR=5.3
S44A Carbondale 68.92 39 P **P 08 49 29.5 -2.3**
baz=342,SNR=7.8
PAL Palisades 68.93 26 PFAKE 08 49 40.0 +8.3
PAL LR LR
comp=Z,500nm,19.0s
PAL Palisades 68.93 26 P **P 08 49 30.1 -1.6**
baz=347,SNR=7.5
P53A Whipple 68.99 33 *e*P **P 08 49 29.9 -2.2**
comp=Z,102nm,1.5s
P53A LR LR
comp=Z,500nm,18.0s
P53A Whipple 68.99 33 P **P 08 49 30.1 -2.1**
baz=344,SNR=11
R47A Wooly Knot Far 69.00 37 P **P 08 49 29.8 -2.4**
baz=343
Q51A Peebles 69.02 34 PFAKE 08 49 40.0 +7.7
Q51A LR LR
comp=Z,600nm,18.0s
Q51A Peebles 69.02 34 P **P 08 49 30.0 -2.4**
baz=344

USIN	University of	69.05	38	PFAKE			08 49 40.0 +7.5
USIN				LR	LR		
	comp=Z,600nm,22.0s						
Q50A	Georgetown	69.05	35	P	P	08 49 30.2	-2.4
	baz=344						
R48A	Northridge Ran	69.05	37	P	P	08 49 30.3	-2.3
	baz=343						
319A	Douglas	69.06	58	eP	P	08 49 33.0	+0.1
	comp=Z,44nm,0.9s						
319A				LR	LR		
	comp=Z,300nm,20.0s						
P54A	Burton	69.06	32	P	P	08 49 30.9	-1.8
	baz=345,SNR=10						
S45A	Carrier Mills	69.10	39	P	P	08 49 30.7	-2.1
	baz=342						
WCI	Wyandotte Cave	69.12	37	eP	P	08 49 30.9	-2.1
	comp=Z,19nm,1.0s						
WCI				LR	LR		
	comp=Z,600nm,18.0s						
WCI	Wyandotte Cave	69.12	37	P	P	08 49 30.7	-2.3
	baz=343						
BRNJ	Basking Ridge	69.13	27	PFAKE			08 49 40.0 +7.0
BRNJ				LR	LR		
	comp=Z,500nm,19.0s						
MCWV	Mont Chateau	69.14	31	PFAKE			08 49 40.0 +6.9
MCWV				LR	LR		
	comp=Z,300nm,18.0s						
MCWV	Mont Chateau	69.14	31	P	P	08 49 31.2	-1.9
	baz=345						
WMOK	Wichita Mounta	69.17	48	PFAKE			08 49 50.0 +17
WMOK				LR	LR		
	comp=Z,600nm,19.0s						
WMOK	Wichita Mounta	69.17	48	P	P	08 49 31.9	-1.6
	baz=340,SNR=10.0						
PAGS	Pennsylvania G	69.19	29	PFAKE			08 49 50.0 +17
PAGS				LR	LR		
	comp=Z,400nm,20.0s						
O59A	Robesonia	69.20	28	P	P	08 49 31.8	-1.6
	baz=346,SNR=8.3						
U40A	Yellville	69.28	43	P	P	08 49 31.5	-2.6
	baz=341,SNR=13						
P55A	Reedsville	69.28	31	P	P	08 49 32.1	-2.0
	baz=345,SNR=7.9						
S46A	Don Dixon Farm	69.30	38	P	P	08 49 31.6	-2.5
	baz=343						
Q52A	Bidwell	69.31	33	P	P	08 49 31.4	-2.7
	baz=344						
R49A	Shelbyville	69.31	36	P	P	08 49 32.0	-2.2
	baz=343,SNR=6.8						
O60A	Telford	69.34	28	P	P	08 49 32.3	-2.0
	baz=346						
LUWI	Luwuk	69.38	198	P	P	08 49 33.4	-1.4
APSI	Ampana	69.39	199	P	P	08 49 34.0	-0.8
	comp=Z,72nm,1.2s,comp=Z,762nm						
MTE	Manteigas	69.47	333	eP	P	08 49 35.3	+0.1
	comp=Z,57nm,1.3s						
PBMO	Poplar Bluff	69.50	41	PFAKE			08 49 50.0 +15
PBMO				LR	LR		
	comp=Z,600nm,21.0s						
R50A	Paris	69.51	35	P	P	08 49 33.0	-2.4
	baz=344						
ESDC	Sonseca Array	69.53	330	eP	P	08 49 35.2	-0.3
ESDC	Sonseca Array	69.53	330	P	P	08 49 35.9	+0.4
	comp=Z,12nm,0.8s,baz=9.5,slow=6.3,SNR=47						
ESDC				LR	LR	09 25 32.0	
	comp=Z,262nm,18.3s,baz=335,slow=41						
ESLA	Sonseca Array	69.53	330	PFAKE			08 49 50.0 +14
ESLA				LR	LR		
	comp=Z,600nm,21.0s						
U41A	Viola	69.53	42	P	P	08 49 33.2	-2.3
	baz=341,SNR=7.3						
SMKI	Samarinda	69.55	203	P	P	08 49 35.8	0.0
	comp=Z,70nm,0.6s,comp=Z,2μm						
Q53A	Leroy	69.56	33	P	P	08 49 33.8	-2.0
	baz=344,SNR=19						
SGKI	Sangatta, Kali	69.57	203	P	P	08 49 35.2	-0.8
Q54A	Coxs Mills	69.59	32	PFAKE			08 49 50.0 +14
Q54A				LR	LR		
	comp=Z,600nm,18.0s						
Q54A	Coxs Mills	69.59	32	P	P	08 49 34.0	-1.8
	baz=345,SNR=7.6						
S47A	Hartford	69.59	38	P	P	08 49 33.4	-2.5
	baz=343						
R51A	Hillsboro	69.66	35	P	P	08 49 34.2	-2.2
	baz=344,SNR=11						
PSUB	Penn St. - Bra	69.71	28	PFAKE			08 49 50.0 +13
PSUB				LR	LR		
	comp=Z,500nm,19.0s						
T45A	Paducah	69.71	39	PFAKE			08 49 50.0 +13
T45A				LR	LR		
	comp=Z,600nm,20.0s						
S48A	Wiedeman Farm,	69.72	37	P	P	08 49 34.7	-2.0
	baz=343						
PAB	San Pablo	69.73	331	eP	P	08 49 36.6	-0.2
	comp=Z,43nm,1.3s						
Q55A	Buckhannon	69.73	32	P	P	08 49 35.1	-1.7
	baz=345,SNR=9.9						
S49A	Springfield	69.77	36	P	P	08 49 34.9	-2.2
	baz=343,SNR=5.6						
PARMO	Parma	69.78	40	PFAKE			08 49 50.0 +13
PARMO				LR	LR		
	comp=Z,600nm,20.0s						
P60A	Greenville	69.79	28	P	P	08 49 34.9	-2.2
	baz=346						
R52A	Catlettsburg	69.83	34	P	P	08 49 34.9	-2.4
	baz=344						
P59A	Jarrettsville	69.84	29	P	P	08 49 35.4	-2.0
	baz=346,SNR=5.6						
T46A	Princeton	69.87	39	P	P	08 49 35.3	-2.4
	baz=343						
SDMD	Soldier's Deli	69.96	29	eP	P	08 49 36.4	-1.8
	comp=Z,18nm,1.5s						
SDMD				LR	LR		
	comp=Z,300nm,18.0s						
PCAS	Casmilo, Conde	69.97	334	eP	P	08 49 38.1	-0.1
	comp=Z,42nm,3.1s						
R53A	Hurricane	69.98	33	P	P	08 49 36.3	-2.0
	baz=344,SNR=10						
MYKOM	Kota Tinggi	69.98	218	PFAKE			08 49 50.0 +11
MYKOM				LR	LR		
	comp=Z,200nm,19.0s						
MNTX	Cornudas Mount	70.02	55	eP	P	08 49 38.3	-0.4
	comp=Z,14nm,0.8s						
MNTX				LR	LR		
	comp=Z,300nm,18.0s						
MNTX	Cornudas Mount	70.02	55	P	P	08 49 38.4	-0.3
	baz=338,SNR=15						
Q57A	Strasburg	70.02	30	P	P	08 49 36.5	-2.1
	baz=346						
SANI	Sanana	70.04	194	P	P	08 49 37.7	-1.1
	comp=Z,37nm,1.3s						
S50A	Richmond	70.07	36	P	P	08 49 36.6	-2.3
	baz=344,SNR=5.2						
T47A	Sharon Grove	70.11	38	PFAKE			08 49 50.0 +11
T47A				LR	LR		
	comp=Z,400nm,20.0s						
T47A	Sharon Grove	70.11	38	P	P	08 49 37.0	-2.1
	baz=343,SNR=7.6						
W39A	Magazine	70.13	44	PFAKE			08 49 50.0 +11
W39A				LR	LR		
	comp=Z,600nm,19.0s						
W39A	Magazine	70.13	44	P	P	08 49 36.9	-2.3
	baz=341						
T48A	Bowling Green	70.16	37	P	P	08 49 37.2	-2.2
	baz=343,SNR=5.8						
PSI	Prapat	70.25	223	eP	P	08 49 39.7	-0.6
	comp=Z,26nm,0.9s						
GLAT	Glass	70.27	40	PFAKE			08 49 50.0 +10
GLAT				LR	LR		
	comp=Z,500nm,20.0s						
S51A	Beattyville	70.29	35	PFAKE			08 49 50.0 +10
S51A				LR	LR		
	comp=Z,400nm,19.0s						
S51A	Beattyville	70.29	35	P	P	08 49 37.8	-2.5
	baz=344						
R54A	Victor	70.33	33	P	P	08 49 38.4	-2.1
	baz=345,SNR=9.1						
KEST	Kesra	70.33	318	P	P	08 49 41.2	+0.6
	comp=Z,8.3nm,0.8s,baz=354,slow=2.6,SNR=14						
KEST				LR	LR	09 25 07.0	
	comp=Z,319nm,19.0s,baz=337,slow=40						
S52A	Salyersville	70.37	34	P	P	08 49 38.5	-2.2
	baz=344						
T49A	Edmonton	70.37	37	PFAKE			08 49 50.0 +9.3
T49A				LR	LR		
	comp=Z,400nm,18.0s						
T49A	Edmonton	70.37	37	P	P	08 49 38.7	-2.0
	baz=343,SNR=9.1						
GNAR	Gosnell	70.38	41	PFAKE			08 49 50.0 +9.3
GNAR				LR	LR		
	comp=Z,600nm,20.0s						
BKB	Balikpapan	70.39	204	P	P	08 49 39.6	-1.4
MTKI	Muara Teweh, K	70.40	206	P	P	08 49 40.4	-0.7
R55A	Marlinton	70.41	32	PFAKE			08 49 50.0 +9.0
R55A				LR	LR		
	comp=Z,800nm,22.0s						
R55A	Marlinton	70.41	32	P	P	08 49 39.0	-2.0
	baz=345,SNR=9.3						
WHAR	Wooly Hollow	70.44	43	PFAKE			08 49 50.0 +8.9
WHAR				LR	LR		
	comp=Z,400nm,20.0s						
U46A	Springville	70.45	39	P	P	08 49 39.6	-1.6
	baz=343,SNR=6.6						
FAKI	Fak Fak	70.46	187	PFAKE			08 49 50.0 +8.6
FAKI				LR	LR		
	comp=Z,500nm,21.0s						
Q59A	Harwood	70.52	29	P	P	08 49 39.8	-1.8
	baz=346						
W41B	Gary Mavity, V	70.56	43	eP	P	08 49 39.4	-2.5
	comp=Z,116nm,1.7s						
W41B				LR	LR		
	comp=Z,400nm,19.0s						
W41B	Gary Mavity, V	70.56	43	P	P	08 49 39.8	-2.1
	baz=342,SNR=19						
S53A	Williamson	70.57	34	P	P	08 49 39.9	-2.1
	baz=344,SNR=8.0						
U47A	Clarksville	70.59	38	P	P	08 49 39.9	-2.2
	baz=343,SNR=5.6						
T50A	Nancy	70.61	36	P	P	08 49 39.9	-2.2
	baz=344,SNR=8.4						
U48A	Cassie Pea, Po	70.70	38	P	P	08 49 40.6	-2.1
	baz=343						
R57A	Stanardsville	70.71	31	P	P	08 49 40.8	-1.9
	baz=346,SNR=11						
SESP	Santiago Espad	70.76	329	P	P	08 49 44.8	+1.6
WVT	Waverly	70.76	39	eP	P	08 49 41.2	-1.8
	comp=Z,18nm,0.8s						
WVT				LR	LR		
	comp=Z,600nm,21.0s						
MIAR	Mount Ida	70.80	44	PFAKE			08 49 50.0 +6.7
MIAR				LR	LR		
	comp=Z,600nm,18.0s						
MIAR	Mount Ida	70.80	44	P	P	08 49 41.3	-2.1
	baz=341						
R58A	Rapidan	70.81	30	P	P	08 49 41.0	-2.3
	baz=346						
S55A	Lewisburg	70.82	32	P	P	08 49 41.3	-2.2
	baz=345						
T51A	Gray	70.86	35	P	P	08 49 41.3	-2.4
	baz=344,SNR=5.6						
U49A	Red Boiling Sp	70.88	37	P	P	08 49 41.7	-2.1
	baz=343,SNR=7.2						
PMTG	Montargil	70.89	334	eP	P	08 49 43.1	-0.7
	comp=Z,52nm,1.6s						
ABTX	Abilene, Hawle	70.90	50	eP	P	08 49 41.9	-2.1
	comp=Z,17nm,0.9s						
ABTX				LR	LR		
	comp=Z,400nm,18.0s						
ABTX	Abilene, Hawle	70.90	50	P	P	08 49 42.6	-1.4
	baz=340,SNR=6.1						
UALR	University of	70.91	43	PFAKE			08 50 00.0 +16
UALR				LR	LR		
	comp=Z,400nm,20.0s						
T52A	Hallie	70.94	35	P	P	08 49 42.3	-1.9
	baz=344						
V46A	Holladay	71.00	39	P	P	08 49 42.7	-1.9
	baz=343,SNR=8.0						
CBN	Corbin Frederi	71.02	30	PFAKE			08 50 00.0 +15
CBN				LR	LR		
	comp=Z,500nm,18.0s						
CBN	Corbin Frederi	71.02	30	P	P	08 49 42.5	-2.1
	baz=346						
X40A	Basin Creek Fa	71.05	43	PFAKE			08 50 00.0 +15
X40A				LR	LR		
	comp=Z,600nm,20.0s						
X40A	Basin Creek Fa	71.05	43	P	P	08 49 42.7	-2.1
	baz=341,SNR=13						
R59A	King George, V	71.08	30	P	P	08 49 43.1	-1.8
	baz=346						
S56A	Natural Bridge	71.10	32	P	P	08 49 43.1	-2.1
	baz=345						
R60A	Leonardtown, M	71.11	29	P	P	08 49 43.8	-1.4
	baz=346						
V47A	Nunnelly	71.12	39	P	P	08 49 43.2	-2.1
	baz=343,SNR=6.7						
S57A	Dark Hollow, R	71.15	31	PFAKE			08 50 00.0 +15
S57A				LR	LR		
	comp=Z,500nm,19.0s						
S57A	Dark Hollow, R	71.15	31	P	P	08 49 43.8	-1.6
	baz=346,SNR=8.7						
T53A	Wise	71.15	34	P	P	08 49 43.6	-2.0
	baz=344						
R58B	Mineral	71.16	30	PFAKE			08 50 00.0 +15
R58B				LR	LR		
	comp=Z,400nm,19.0s						
R58B	Mineral	71.16	30	P	P	08 49 43.4	-2.1
	baz=346						
U50A	Jamestown	71.18	36	P	P	08 49 43.7	-2.0
	baz=344,SNR=11						
MET	Memphis--Engin	71.20	41	PFAKE			08 50 00.0 +14
MET				LR	LR		
	comp=Z,500nm,20.0s						
T54A	Tazewell	71.28	33	P	P	08 49 44.4	-1.9
	baz=345,SNR=8.3						
TZTN	Tazewell	71.35	35	PFAKE			08 50 00.0 +13
TZTN				LR	LR		
	comp=Z,500nm,18.0s						
TZTN	Tazewell	71.35	35	P	P	08 49 44.6	-2.1
	baz=344,SNR=5.5						
V48A	Smith Brothers	71.37	38	PFAKE			08 50 00.0 +13
V48A				LR	LR		
	comp=Z,500nm,20.0s						
V48A	Smith Brothers	71.37	38	P	P	08 49 44.7	-2.1
	baz=343,SNR=5.9						
EVO	Evora	71.37	333	eP	P	08 49 46.7	-0.1
	comp=Z,54nm,1.6s						
EVO				i LQ	LQ	08 50 00.0	
BLA	Blacksburg	71.38	32	PFAKE			08 50 00.0 +13
BLA				LR	LR		
	comp=Z,500nm,20.0s						
BLA	Blacksburg	71.38	32	P	P	08 49 44.7	-2.2
	baz=345,SNR=5.2						
T55A	Pulaski	71.39	33	P	P	08 49 44.9	-2.1
	baz=345						
U51A	La Follette	71.41	36	P	P	08 49 44.8	-2.3
	baz=344						
S58A	Poland Farm, P	71.47	30	PFAKE			08 50 00.0 +13
S58A				LR	LR		
	comp=Z,300nm,21.0s						
S58A	Poland Farm, P	71.47	30	P	P	08 49 45.2	-2.2
	baz=346						
X43A	Marvell	71.53	42	PFAKE			08 50 00.0 +12
X43A				LR	LR		
	comp=Z,600nm,19.0s						
X43A	Marvell	71.53	42	P	P	08 49 45.9	-1.9
	baz=342						
U52A	Thorn Hill	71.54	35	P	P	08 49 45.7	-2.1
	baz=344						
V49A	McMinnville	71.56	37	P	P	08 49 45.9	-2.0
	baz=343,SNR=6.1						
W46A	Michie	71.57	40	P	P	08 49 45.9	-2.2
	baz=343						
T56A	Rocky Mt	71.64	32	P	P	08 49 46.0	-2.4
	baz=345						
S60A	Water View	71.64	29	P	P	08 49 46.6	-1.8
	baz=346						
W47A	Westpoint	71.65	39	P	P	08 49 46.7	-1.8
	baz=343,SNR=6.1						
TTSI	Tana Toraja	71.73	200	P	P	08 49 47.8	-1.3
	comp=Z,9.3nm,0.6s						
WLAR	White Oak Lake	71.73	44	PFAKE			08 50 00.0 +11
WLAR				LR	LR		
	comp=Z,500nm,18.0s						
U53A	Fall Branch	71.74	34	P	P	08 49 47.0	-2.0
	baz=344,SNR=8.4						
U54A	Nelsons Funny	71.75	34	P	P	08 49 47.2	-2.0
	baz=345,SNR=6.6						
SRIG	Santa Rosalia	71.80	63	eP	P	08 49 49.6	+0.1
	comp=Z,57nm,1.2s						
T57A	Hurt	71.82	32	P	P	08 49 47.4	-2.1
	baz=346,SNR=7.0						
V50A	Pikeville	71.84	37	P	P	08 49 47.7	-2.0
	baz=344,SNR=6.1						
PBEJ	Beja	71.84	333	eP	P	08 49 50.6	+1.0
	comp=Z,29nm,1.5s						
PBEJ				i LQ	LQ	08 50 10.2	
CCAR	Cane Creek	71.87	43	PFAKE			08 50 00.0 +10
CCAR				LR	LR		
	comp=Z,700nm,21.0s						
V51A	Loudon	71.88	36	PFAKE			08 50 00.0 +10
V51A				LR	LR		
	comp=Z,500nm,18.0s						
V51A	Loudon	71.88	36	P	P	08 49 47.7	-2.2
	baz=344						
OXF	Oxford	71.91	41	PFAKE			08 50 00.0 +10
OXF				LR	LR		
	comp=Z,600nm,20.0s						
OXF	Oxford	71.91	41	P	P	08 49 47.8	-2.3
	baz=342						
W48A	Pulaski	71.92	38	P	P	08 49 47.9	-2.2
	baz=343						
U55A	TA2, Sparta	71.93	33	P	P	08 49 48.3	-2.0
	baz=345,SNR=8.6						
V52A	Sevierville	72.02	35	PFAKE			08 50 00.0 +9.3
V52A				LR	LR		
	comp=Z,400nm,18.0s						
V52A	Sevierville	72.02	35	P	P	08 49 48.5	-2.2
	baz=344						
T58A	Grand View Acr	72.02	31	P	P	08 49 48.7	-2.0
	baz=346,SNR=9.3						
X46A	Booneville	72.07	40	P	P	08 49 48.9	-2.1
	baz=343						
BKNI	Bangkinang	72.08	220	P	P	08 49 50.4	-0.8
	comp=Z,87nm,0.4s,comp=Z,8μm						
SWET	Sewanee	72.08	38	PFAKE			08 50 00.0 +8.9
SWET				LR	LR		
	comp=Z,500nm,20.0s						
MESJ	Messejana	72.08	333	eP	P	08 49 50.6	-0.4
MESJ				AMb	AMB	08 49 54.0	
	comp=Z,51nm,2.5s						
MESJ	Messejana	72.08	333	eP	P	08 49 50.9	-0.1
	comp=Z,51nm,1.6s						
MESJ				i LQ	LQ	08 50 09.7	
MESJ	Messejana	72.08	333	eP	P	08 49 50.6	-0.4
W49A	Belvidere	72.09	38	P	P	08 49 49.1	-2.1
	baz=343,SNR=7.9						
WHTX	Lake Whitney,	72.13	48	PFAKE			08 50 00.0 +8.6
WHTX				LR	LR		
	comp=Z,700nm,18.0s						
WHTX	Lake Whitney,	72.13	48	P	P	08 49 49.6	-1.8
	baz=340,SNR=7.0						
T60A	Surry	72.18	29	P	P	08 49 49.8	-1.8
	baz=346						
CPCT	Cooper Cave	72.18	36	eP	P	08 49 49.8	-1.9
	comp=Z,12nm,0.8s						
CPCT				LR	LR		
	comp=Z,600nm,18.0s						
T59A	Double "B" Far	72.18	30	P	P	08 49 49.6	-2.0
	baz=346						
U56A	King	72.22	33	P	P	08 49 50.0	-1.9
	baz=345,SNR=5.9						
Z41A	Richland Creek	72.22	44	PFAKE			08 50 00.0 +8.1
Z41A				LR	LR		
	comp=Z,500nm,19.0s						
Z41A	Richland Creek	72.22	44	P	P	08 49 50.3	-1.6
	baz=342						
W50A	Signal Mountai	72.24	37	PFAKE			08 50 00.0 +7.9
W50A				LR	LR		
	comp=Z,300nm,21.0s						
W50A	Signal Mountai	72.24	37	P	P	08 49 50.0	-2.1
	baz=344						
X47A	Russelville	72.29	39	P	P	08 49 50.1	-2.2
	baz=343,SNR=9.1						
U57A	Blanch	72.35	32	P	P	08 49 50.6	-2.1
	baz=346,SNR=12						
V53A	Saluda	72.35	35	PFAKE			08 50 00.0 +7.2
V53A				LR	LR		
	comp=Z,600nm,19.0s						
V53A	Saluda	72.35	35	P	P	08 49 50.7	-2.1
	baz=344						
W51A	Cleveland	72.41	37	P	P	08 49 50.9	-2.1
	baz=344						
V54A	Nebo	72.44	34	P	P	08 49 51.3	-1.9
	baz=345,SNR=10						
V55A	Taylorsville	72.52	33	P	P	08 49 52.0	-1.8
	baz=345,SNR=6.0						
X48A	Hartselle	72.55	39	PFAKE			08 50 10.0 +16
X48A				LR	LR		
	comp=Z,500nm,19.0s						
X48A	Hartselle	72.55	39	P	P	08 49 51.5	-2.3
	baz=343,SNR=6.1						
U58A	Oxford	72.55	31	P	P	08 49 52.0	-1.9
	baz=346,SNR=8.8						
PBDV	Barranco-do-Ve	72.61	333	eP	P	08 49 54.7	+0.4
	comp=Z,41nm,1.2s						
PBDV				i LQ	LQ	08 50 07.5	
SPSI	Sidrap Palu	72.64	200	P	P	08 49 53.8	-0.7
	comp=Z,20nm,1.1s						
W52A	Murphy	72.66	36	PFAKE			08 50 10.0 +15
W52A				LR	LR		
	comp=Z,300nm,21.0s						
W52A	Murphy	72.66	36	P	P	08 49 52.6	-2.0
	baz=344,SNR=8.7						
X49A	Woodville	72.66	38	P	P	08 49 52.5	-2.1
	baz=343						
MORF	Marmelete	72.68	334	eP	P	08 49 54.5	-0.2
MORF				AMb	AMB	08 49 56.6	
	comp=Z,55nm,1.1s						
MORF	Marmelete	72.68	334	eP	P	08 49 54.9	+0.2
	comp=Z,56nm,1.4s						
MORF				i LQ	LQ	08 50 07.5	
MORF	Marmelete	72.68	334	eP	P	08 49 54.5	-0.2
PBKI	Pangkalan Bun	72.70	209	P	P	08 49 53.9	-1.0
V56A	Mocksville	72.72	33	P	P	08 49 52.8	-2.1
	baz=345,SNR=8.6						
U59A	Littleton	72.74	31	P	P	08 49 53.4	-1.6
	baz=346,SNR=8.4						
U60A	Pendleton	72.74	30	P	P	08 49 53.0	-2.0
	baz=346						
TX31	Lajitas Ar. Si	72.75	54	eP	P	08 49 54.6	-0.6
	comp=Z,15nm,1.0s						
TXAR	Lajitas Array	72.75	54	eP	P	08 49 53.9	-1.4
TXAR	Lajitas Array	72.75	54	P	P	08 49 55.0	-0.3
TXAR	Lajitas Array	72.75	54	P	P	08 49 55.0	-0.3
	comp=Z,4.7nm,0.7s,baz=344,slow=4.6,SNR=54						
TXAR				LR	LR	09 26 19.0	
	comp=Z,243nm,19.5s,baz=0.0,slow=40						
W53A	Cullowhee	72.76	35	P	P	08 49 53.1	-2.2
	baz=344						
V57A	Coltrane Farms	72.79	32	P	P	08 49 53.0	-2.3
	baz=345,SNR=5.4						
JCT	Junction City	72.86	51	PFAKE			08 50 10.0 +14
JCT				LR	LR		
	comp=Z,600nm,19.0s						
JCT	Junction City	72.86	51	P	P	08 49 54.7	-1.1
	baz=340,SNR=9.6						
X50B	Fort Payne	72.87	38	P	P	08 49 53.7	-2.1
	baz=344,SNR=6.7						
X51A	Calhoun	72.95	37	PFAKE			08 50 10.0 +14
X51A				LR	LR		
	comp=Z,500nm,19.0s						
X51A	Calhoun	72.95	37	P	P	08 49 54.4	-1.9
	baz=344						
BG3	Lake Jocassee	72.98	35	PFAKE			08 50 10.0 +14
BG3				LR	LR		
	comp=Z,600nm,19.0s						
V58A	Windy Hill, Pi	73.01	32	P	P	08 49 54.6	-2.0
	baz=346						
U61A	Possum Corner	73.02	29	P	P	08 49 54.8	-1.8
	baz=346						
BNSI	Bone	73.02	200	P	P	08 49 56.9	+0.1
	comp=Z,79nm,1.3s						
Y48A	Jasper	73.03	39	P	P	08 49 54.1	-2.7
	baz=343,SNR=6.7						
W54A	Cherokee Point	73.05	34	P	P	08 49 54.9	-2.0
	baz=345,SNR=6.4						
NATX	Nacogdoches	73.13	46	PFAKE			08 50 10.0 +13
NATX				LR	LR		
	comp=Z,600nm,18.0s						
NATX	Nacogdoches	73.13	46	P	P	08 49 56.1	-1.3
	baz=341						
X52A	Dahlonega	73.14	36	P	P	08 49 55.4	-2.0
	baz=344,SNR=6.9						
KMSC	Kings Mountain	73.18	34	PFAKE			08 50 10.0 +12
KMSC				LR	LR		
	comp=Z,300nm,18.0s						
KMSC	Kings Mountain	73.18	34	P	P	08 49 55.8	-1.8
	baz=345,SNR=8.6						
V59A	Middlesex	73.22	31	P	P	08 49 56.1	-1.7
	baz=346,SNR=8.8						
435B	Jarrell	73.22	49	PFAKE			08 50 10.0 +12

435B LR LR
comp=Z,500nm,21.0s
435B Jarrell 73.22 49 P **P 08 49 56.5 -1.4**
baz=340
Y49A Blount Mountai 73.27 38 PFAKE 08 50 10.0 +12
Y49A LR LR
comp=Z,700nm,20.0s
Y49A Blount Mountai 73.27 38 P **P 08 49 56.0 -2.2**
baz=343
PPBI Pangkal Pinang 73.29 215 P **P 08 49 58.1 -0.3**
W56A Indian Trail 73.35 33 P **P 08 49 56.6 -2.0**
baz=345
X53A Estanollee 73.37 36 P **P 08 49 56.8 -1.9**
baz=344,SNR=5.5
PAULI Pauline 73.39 34 PFAKE 08 50 10.0 +11
PAULI LR LR
comp=Z,500nm,19.0s
Y50A Piedmont 73.39 38 P **P 08 49 56.8 -2.1**
baz=344,SNR=9.6
V60A Jim Taylor Roa 73.41 30 P **P 08 49 56.9 -2.0**
baz=346
PDSI Padang 73.41 221 P **P 08 49 58.6 -0.6**
W57A Gilead 73.45 33 P **P 08 49 57.4 -1.8**
baz=345,SNR=5.8
V61A Roper 73.52 30 P **P 08 49 58.8 -0.7**
baz=346
X54A Belton 73.53 35 P **P 08 49 57.6 -2.1**
baz=345,SNR=7.3
Y51A Rockmart 73.54 37 P **P 08 49 57.7 -2.1**
baz=344,SNR=8.9
SMIR Smir Dam 73.67 331 P **P 08 50 01.1 +0.6**
KAPI Kappang 73.67 200 *e*P **P 08 50 00.2 -0.4**
comp=Z,100nm,1.3s
KAPI Kappang 73.67 200 P **P 08 50 00.5 -0.1**
SNR=7.1
W58A Raeford 73.74 32 P **P 08 49 59.0 -1.9**
baz=346
W59A Clinton 73.75 31 P **P 08 49 59.3 -1.7**
baz=346
X55A Gracelyn & Ava 73.76 34 P **P 08 49 59.1 -2.0**
baz=345,SNR=7.7
CNNC Cliffs of the 73.80 31 PFAKE 08 50 10.0 +8.8
CNNC LR LR
comp=Z,500nm,18.0s
CNNC Cliffs of the 73.80 31 P **P 08 49 59.6 -1.6**
baz=346
VBMS Vicksburg 73.81 42 PFAKE 08 50 10.0 +8.7
VBMS LR LR
comp=Z,500nm,21.0s
VBMS Vicksburg 73.81 42 P **P 08 49 59.7 -1.6**
baz=342
Y52A Lilburn 73.81 36 PFAKE 08 50 10.0 +8.7
Y52A LR LR
comp=Z,300nm,20.0s
Y52A Lilburn 73.81 36 P **P 08 49 59.8 -1.6**
baz=344,SNR=7.3
HODGE Hodges 73.86 35 PFAKE 08 50 10.0 +8.4
HODGE LR LR
comp=Z,600nm,19.0s
Z49A Columbiana 73.87 39 P **P 08 49 59.6 -2.1**
baz=343
X56A White Oak 73.87 34 P **P 08 49 59.8 -1.9**
baz=345,SNR=6.0
LRAL Lakeview Retre 73.91 39 PFAKE 08 50 10.0 +8.1
LRAL LR LR
comp=Z,400nm,20.0s
LRAL Lakeview Retre 73.91 39 P **P 08 49 59.2 -2.8**
baz=343
Y53A Monroe 73.92 36 P **P 08 50 00.2 -1.8**
baz=344,SNR=8.5
BKSI Bulukumba 73.93 200 P **P 08 50 01.9 -0.2**
comp=Z,19nm,1.5s
147A Livingston 73.94 40 PFAKE 08 50 10.0 +7.9
147A LR LR
comp=Z,600nm,19.0s
Z50A Ashland 73.96 38 PFAKE 08 50 10.0 +7.7
Z50A LR LR
comp=Z,500nm,18.0s
Z50A Ashland 73.96 38 P **P 08 49 59.8 -2.4**
baz=344,SNR=6.9
W60A Pink Hill 74.01 31 P **P 08 49 59.9 -2.6**
baz=346
JSC Jenkinsville 74.03 34 PFAKE 08 50 10.0 +7.4
JSC LR LR
comp=Z,400nm,20.0s
W61A Ground Anchor 74.03 30 P **P 08 50 00.6 -1.9**
baz=346
Z51A Franklin 74.08 37 P **P 08 50 00.6 -2.3**
baz=344
X57A Johnson Farm, 74.10 33 P **P 08 50 01.5 -1.6**
baz=345,SNR=5.1
Y54A Tignall 74.12 35 P **P 08 50 01.2 -1.9**
baz=345,SNR=8.9
148A Greensboro 74.14 40 P **P 08 50 00.6 -2.7**
baz=343
X58A Rowland 74.17 32 P **P 08 50 01.6 -1.8**
baz=346
Y55A Saluda 74.23 35 P **P 08 50 02.0 -1.8**
baz=345,SNR=9.1
X59A McDuffie Farm, 74.30 32 P **P 08 50 02.5 -1.6**
baz=346
Z52A Williamson 74.37 37 P **P 08 50 02.9 -1.8**
baz=344,SNR=9.3
149A Jones 74.38 39 P **P 08 50 02.4 -2.3**
baz=343,SNR=6.8
GOGA Godfrey 74.38 36 PFAKE 08 50 20.0 +15
GOGA LR LR
comp=Z,300nm,20.0s
GOGA Godfrey 74.38 36 P **P 08 50 02.8 -1.8**
baz=344,SNR=6.9
JBK JBK 74.42 328 P **P 08 50 06.0 +0.9**
X60A Albert Glenn T 74.42 31 P **P 08 50 03.1 -1.8**
baz=346
Y57A Sumter 74.47 33 P **P 08 50 03.1 -2.0**
baz=345
Z53A Monticello 74.48 36 P **P 08 50 03.4 -1.9**
baz=344,SNR=9.7
Y56A Pelion 74.49 34 P **P 08 50 02.7 -2.6**
baz=345
HKT Hockley 74.51 48 PFAKE 08 50 20.0 +15
HKT LR LR
comp=Z,700nm,20.0s
RSA Sarsar 74.53 331 P **P 08 50 06.0 +0.4**
150A Eclectic 74.55 38 P **P 08 50 03.4 -2.3**
baz=344,SNR=7.5
Z54A Sparta 74.69 36 P **P 08 50 04.7 -1.7**
baz=345,SNR=17
BSSI Bau Bau, Buton 74.69 199 P **P 08 50 05.7 -0.9**
Y58A Scranton 74.72 33 P **P 08 50 04.9 -1.8**
baz=346
151A Opelika 74.80 38 P **P 08 50 04.9 -2.2**
baz=344
152A Waverly Hall 74.80 37 PFAKE 08 50 20.0 +13
152A LR LR
comp=Z,400nm,21.0s
152A Waverly Hall 74.80 37 P **P 08 50 05.0 -2.2**
baz=344,SNR=6.1
Z55A Blythe 74.86 35 P **P 08 50 05.6 -1.8**
baz=345
249A Camden 74.89 39 P **P 08 50 05.7 -2.0**
baz=343
Z56A Williston 74.92 34 P **P 08 50 05.8 -2.0**
baz=345
Y60A Bolivia 74.93 31 P **P 08 50 05.8 -2.0**
baz=346
833A Chaparral WMA, 75.00 51 PFAKE 08 50 20.0 +12
833A LR LR
comp=Z,600nm,18.0s
833A Chaparral WMA, 75.00 51 P **P 08 50 07.8 -0.6**
baz=340
153A Fort Valley 75.03 37 P **P 08 50 06.8 -1.6**
baz=344
Z57A Bowman 75.09 34 P **P 08 50 07.0 -1.8**
baz=345,SNR=5.5
250A Grady 75.10 39 PFAKE 08 50 20.0 +11
250A LR LR
comp=Z,500nm,20.0s
250A Grady 75.10 39 P **P 08 50 06.5 -2.3**
baz=344
251A Midway 75.19 38 P **P 08 50 07.3 -2.1**
baz=344,SNR=14
154A Montrose 75.22 36 PFAKE 08 50 20.0 +10
154A LR LR
comp=Z,400nm,21.0s
154A Montrose 75.22 36 P **P 08 50 08.1 -1.5**
baz=344,SNR=11
Z58A St. Stephen 75.25 33 P **P 08 50 08.0 -1.6**
baz=346
PPSI Pulau Pagai 75.31 221 P **P 08 50 10.2 +0.1**
155A Kite 75.36 35 P **P 08 50 08.8 -1.6**
baz=345,SNR=7.0
NHSC New Hope 75.39 33 PFAKE 08 50 20.0 +10
NHSC LR LR
comp=Z,600nm,19.0s
NHSC New Hope 75.39 33 P **P 08 50 08.8 -1.7**
252A Lumpkin 75.44 37 P **P 08 50 08.6 -2.2**
baz=344
Z59A Georgetown, SC 75.45 33 P **P 08 50 09.3 -1.5**
baz=346
349A Repton 75.47 40 P **P 08 50 09.0 -2.0**
baz=343
253A Americus 75.52 37 PFAKE 08 50 20.0 +8.7
253A LR LR
comp=Z,600nm,20.0s
253A Americus 75.52 37 P **P 08 50 09.4 -1.9**
baz=344,SNR=5.8
156A Sylvania 75.54 35 P **P 08 50 10.0 -1.3**
baz=345
TDRA Tendrara 75.56 327 P **P 08 50 13.1 +1.4**
350A Dozier 75.61 39 P **P 08 50 10.0 -1.8**
baz=344
157A Early Branch 75.63 34 P **P 08 50 10.3 -1.5**
baz=345
BRAL Brewton 75.68 40 PFAKE 08 50 20.0 +7.8
BRAL LR LR
comp=Z,500nm,18.0s
MMPI Merauke 75.81 179 P **P 08 50 11.9 -1.1**
254A Abbeville 75.83 36 P **P 08 50 11.3 -1.7**
baz=344,SNR=8.7
352A Blakely 75.89 38 PFAKE 08 50 20.0 +6.6
352A LR LR
comp=Z,400nm,20.0s
352A Blakely 75.89 38 P **P 08 50 11.4 -2.0**
baz=344
351A Pinckard 75.93 38 P **P 08 50 11.7 -1.9**
baz=344
SLBS Sierra La Lagu 75.94 62 *e*P **P 08 50 14.4 +0.5**
comp=Z,66nm,1.6s
255A Hazlehurst 76.03 36 *e*P **P 08 50 12.8 -1.4**
comp=Z,313nm,1.9s
255A LR LR
comp=Z,500nm,20.0s
255A Hazlehurst 76.03 36 P **P 08 50 12.6 -1.5**
baz=345,SNR=5.5
449A Pace 76.03 40 P **P 08 50 12.4 -1.8**
baz=343
ZHG ZHG 76.08 331 P **P 08 50 15.0 +0.5**
256A Glennville 76.11 35 P **P 08 50 12.8 -1.8**
baz=345
450A Crestview 76.14 39 P **P 08 50 13.2 -1.6**
baz=344
353A Camilla 76.19 37 P **P 08 50 13.4 -1.7**
baz=344
TIGA Tifton 76.24 37 PFAKE 08 50 30.0 +15
TIGA LR LR
comp=Z,500nm,21.0s
TIGA Tifton 76.24 37 P **P 08 50 13.7 -1.7**
baz=344
FIGM Figuig 76.27 326 P **P 08 50 17.0 +1.2**
257A Skidaway Islan 76.30 34 PFAKE 08 50 30.0 +14
257A LR LR
comp=Z,400nm,19.0s
MDT Midelt 76.30 329 P **P 08 50 15.9 0.0**
452A Marianna 76.44 38 P **P 08 50 14.8 -1.7**
baz=344
355A Pearson 76.50 36 P **P 08 50 15.0 -1.9**
baz=345
451A Vernon 76.53 39 PFAKE 08 50 30.0 +13
451A LR LR
comp=Z,500nm,18.0s
451A Vernon 76.53 39 P **P 08 50 15.4 -1.6**
baz=344
KMMI Kalianget 76.54 206 P **P 08 50 17.7 +0.6**
comp=Z,39nm,0.9s
453A Whigham 76.64 37 PFAKE 08 50 30.0 +12
453A LR LR
comp=Z,600nm,18.0s
453A Whigham 76.64 37 P **P 08 50 16.3 -1.3**
baz=344
GRJI Gresik 76.66 207 P **P 08 50 17.7 -0.1**
356A Blackshear 76.68 35 P **P 08 50 16.2 -1.7**
baz=345
357A Townsend 76.73 35 P **P 08 50 16.6 -1.5**
baz=345
454A Quitman 76.93 37 P **P 08 50 17.7 -1.6**
baz=344
MMRI Maumere 76.94 197 P **P 08 50 18.5 -0.9**
comp=Z,59nm,1.1s
455A Stateville 77.04 36 P **P 08 50 18.1 -1.8**
baz=345
TNG Tangerang 77.07 213 P **P 08 50 20.6 +0.5**
552A Lynn Haven 77.10 38 P **P 08 50 18.7 -1.5**
baz=344
553A Crawfordville 77.25 38 P **P 08 50 19.6 -1.5**
baz=344
SRHM Skhour des Reh 77.26 332 P **P 08 50 22.0 +0.8**
456A Hilliard 77.28 36 PFAKE 08 50 30.0 +8.7
456A LR LR
comp=Z,600nm,18.0s
456A Hilliard 77.28 36 P **P 08 50 20.1 -1.2**
baz=345
SRBI Singaraja 77.35 204 P **P 08 50 20.6 -1.1**
GOLM Goulmima 77.44 329 P **P 08 50 24.0 +1.6**
457A Yulee 77.49 35 P **P 08 50 21.1 -1.4**
baz=345
554A Perry 77.52 37 P **P 08 50 20.9 -1.7**
baz=344
555A McAlpin 77.65 36 PFAKE 08 50 30.0 +6.7
555A LR LR
comp=Z,400nm,18.0s
555A McAlpin 77.65 36 P **P 08 50 21.8 -1.5**
baz=345
PLAI Plampang 77.70 202 P **P 08 50 23.6 0.0**
SOEI Soe 77.83 195 P **P 08 50 23.5 -1.0**
PWJI Pagerwojo 77.87 208 P **P 08 50 24.3 -0.3**
556A Lake Butler 77.89 36 P **P 08 50 23.2 -1.5**
baz=345
SKJI Sukabumi 77.90 213 P **P 08 50 24.5 -0.3**
SKJI pP **PcP 08 50 35.9 +1.3**
JAGI Jajag, Banyuwa 77.90 205 P **P 08 50 24.0 -0.8**
YOGI Yogyakarta 77.94 209 P **P 08 50 25.1 +0.1**
557A Orange Park 78.03 35 P **P 08 50 24.1 -1.4**
baz=345
655A Horseshoe Beac 78.17 37 P **P 08 50 24.5 -1.8**
baz=345
HNR Honiara 78.21 159 LR LR 09 22 23.7
comp=Z,191nm,20.6s,baz=324,slow=34
BATI Baumata 78.34 196 P **P 08 50 26.4 -0.8**
657A Interlachen 78.42 36 P **P 08 50 26.3 -1.3**
baz=345
DAMY Dhamar 78.46 280 PFAKE 08 50 40.0 +12
DAMY LR LR
comp=Z,300nm,19.0s
656A Willston 78.47 36 PFAKE 08 50 40.0 +12
656A LR LR
comp=Z,600nm,19.0s
656A Willston 78.47 36 P **P 08 50 26.7 -1.2**
baz=345
OUK Oukaimeden 78.48 332 P **P 08 50 26.0 -2.3**
OUK Oukaimeden 78.48 332 P **P 08 50 29.0 +0.6**
OUZM OUZ 78.57 331 P **P 08 50 29.0 +0.4**
658A Bunnell 78.71 35 PFAKE 08 50 40.0 +11
658A LR LR
comp=Z,500nm,19.0s
658A Bunnell 78.71 35 P **P 08 50 27.8 -1.4**
baz=345
757A Oxford 78.99 36 P **P 08 50 29.4 -1.3**
baz=345
758A Lake Helen 79.17 35 P **P 08 50 30.2 -1.5**
baz=345
ZAIG Zacatecas 79.22 56 *e*P **P 08 50 32.4 0.0**
comp=Z,31nm,1.4s
TTIG Tnine Tigouga, 79.23 332 P **P 08 50 32.0 -0.3**
857A Zephyrhills 79.60 36 P **P 08 50 32.8 -1.3**
baz=345
858A St. Cloud 79.85 36 P **P 08 50 34.1 -1.4**
baz=345
DWPF Disney Wildern 79.94 36 PFAKE 08 50 50.0 +14
DWPF LR LR
comp=Z,600nm,20.0s
859A Kempfer Cattle 80.10 35 P **P 08 50 35.5 -1.4**
baz=346
957A Wimauma 80.18 37 PFAKE 08 50 50.0 +13
957A LR LR
comp=Z,600nm,19.0s
957A Wimauma 80.18 37 P **P 08 50 35.8 -1.5**
baz=345
MTN Manton Dam 80.36 188 *e*P **P 08 50 37.8 -0.4**
comp=Z,74nm,1.4s
958A Wauchula 80.37 36 P **P 08 50 37.0 -1.3**
baz=345
959A Okeechobee 80.62 35 P **P 08 50 38.6 -1.1**
baz=346
059A Moore Haven 81.10 36 PFAKE 08 50 50.0 +7.8
059A LR LR
comp=Z,600nm,20.0s
059Z Ave Maria 81.64 36 P **P 08 50 43.9 -1.1**
baz=345
060Z West Palm Beac 81.77 35 P **P 08 50 44.8 -1.0**
baz=346
ATD Arta Tunnel 81.84 280 PFAKE 08 51 00.0 +14
ATD LR LR
comp=Z,600nm,18.0s
061Z Ochoppi 82.22 36 PFAKE 08 51 00.0 +12
061Z LR LR
comp=Z,500nm,18.0s
061Z Ochoppi 82.22 36 P **P 08 50 46.6 -1.5**
baz=346
MYIG Mrida 84.72 45 PFAKE 08 51 10.0 +9.0
MYIG LR LR
comp=Z,400nm,20.0s
FURI Furi 85.82 283 PFAKE 08 51 20.0 +13
FURI LR LR
comp=Z,500nm,19.0s
FITZ Fitzroy Crossi 85.96 193 P **P 08 51 06.9 -0.1**
comp=Z,19nm,1.0s,baz=347,slow=5.1,SNR=15
WRAB Tennant Creek 87.28 185 *e*P **P 08 51 12.8 -0.6**
comp=Z,24nm,1.4s
WR1 Warramunga Arr 87.28 185 *e*P **P 08 51 12.5 -1.0**
WRA Warramunga Arr 87.28 185 P **P 08 51 12.5 -1.0**
comp=Z,6.3nm,1.0s,baz=358,slow=5.2,SNR=27
WRA PKKPbc **PKKPbc 09 09 01.6 -0.2**
comp=Z,0.4nm,0.5s,baz=202,slow=2.1,SNR=8.1
MBWA Marble Bar 89.59 198 *e*P **P 08 51 24.0 -0.4**
comp=Z,93nm,1.5s
ASAR Alice Springs 91.00 185 *e*P **P 08 51 29.5 -1.5**
ASAR Alice Springs 91.00 185 P **P 08 51 30.1 -0.9**
comp=Z,3.1nm,0.8s,baz=8.5,slow=4.7,SNR=15
ASAR PKKPbc **PKKPbc 09 08 53.0 +0.3**
comp=Z,0.4nm,0.6s,baz=190,slow=2.4,SNR=9.5
ASAR LR LR 09 31 24.6
comp=Z,137nm,21.1s,baz=354,slow=35
DZM Mont Dzumac 91.61 155 *e*P **P 08 51 34.5 +0.7**
comp=Z,71nm,0.8s
DZM LR LR
comp=Z,400nm,18.0s
DZM Mont Dzumac 91.61 155 P **P 08 51 34.0 +0.1**
comp=Z,8.7nm,0.8s,baz=180,slow=4.2,SNR=6.1
AOPR Arecibo Observ 92.27 25 PFAKE 08 51 50.0 +13
AOPR LR LR
comp=Z,2μm,22.0s
CBYP Canovanas 92.49 24 PFAKE 08 51 50.0 +12
CBYP LR LR
comp=Z,200nm,22.0s
MTP Monte Pirata 92.70 23 PFAKE 08 51 50.0 +11
MTP LR LR
comp=Z,300nm,20.0s
TOA1 Torodi Ar. Sit 93.85 319 *e*P **P 08 51 43.7 -0.7**
TOA1 *e*PP **PP 08 55 27.3 -2.0**
TOA0 Torodi Ar. Sit 93.85 319 *e*P **P 08 51 43.8 -0.7**
comp=Z,14nm,0.9s
TORD Torodi Ar. Bea 93.85 319 P **P 08 51 43.7 -0.8**
comp=Z,12nm,1.1s,baz=358,slow=5.9,SNR=38
TORD PP **PP 08 55 27.3 -2.1**
comp=Z,4.3nm,1.1s,baz=11,slow=7.0,SNR=6.3
TORD LR LR 09 39 41.1
comp=Z,203nm,19.3s,baz=355,slow=39
KMBO Kilima Mbogo 95.58 281 PFAKE 08 52 00.0 +7.3
KMBO LR LR
comp=Z,400nm,18.0s
MBAR Mbarara 97.53 287 LR LR 09 41 03.4
comp=Z,83nm,18.1s,baz=40,slow=38
STKA Stephens Creek 99.11 178 LR LR 09 40 57.4
comp=Z,65nm,18.1s,baz=17,slow=38
PPT Papeete 99.16 114 LR LR 09 30 00.1
comp=Z,90nm,20.6s,baz=335,slow=31
PPT2 Papeete2 99.18 114 *e*LR LR 09 24 33.4
comp=Z,196nm,23.2s
TBI Tubuai 104.54 116 *e*LR LR 09 26 57.2
comp=Z,122nm,30.5s
BKZ Black Stump Fm 110.07 150 PFAKE 08 57 10.0 +12
BKZ LR LR
comp=Z,1μm,20.0s
BFZ Birch Farm 111.49 150 PFAKE 08 57 10.0 +10
BFZ LR LR
comp=Z,1μm,18.0s
OXZ Oxford 113.30 154 PFAKE 08 57 20.0 +16
OXZ LR LR
comp=Z,1μm,18.0s
ASCN Ascension 117.86 330 PFAKE 08 57 20.0 +6.5
ASCN LR LR
comp=Z,146μm,20.0s
BOSA Boshof 125.22 280 PKP **PKPdf 08 57 27.2 -0.1**
comp=Z,2.9nm,0.6s,baz=10,slow=3.8,SNR=8.2
LPAZ La Paz 125.83 33 *e*PKPdf **PKPdf 08 57 28.1 -1.3**
LPAZ La Paz 125.83 33 PKP **PKPdf 08 57 28.6 -0.9**
comp=Z,1.2nm,0.8s,baz=25,slow=9.6,SNR=5.1
LPAZ PP **PP 08 59 17.0 -4.8**
comp=Z,4.6nm,1.1s,baz=313,slow=6.0,SNR=7.1
SIV San Ignacio 126.85 25 PKP **PKPdf 08 57 30.3 -0.3**
comp=Z,2.8nm,0.9s,baz=189,slow=0.2,SNR=14
SIV PP **PP 08 59 23.7 -4.0**
comp=Z,0.8nm,0.8s,baz=354,slow=8.1,SNR=3.4
BDFB Brasilia 127.94 9 PKP **PKPdf 08 57 32.6 -0.3**
comp=Z,1.7nm,0.4s,baz=339,slow=4.2,SNR=4.5
MNMC Minye Minye 128.27 35 *e*PKPdf **PKPdf 08 57 33.0 -0.7**
PB11 IPOC Station P 128.87 36 *e*PKPdf **PKPdf 08 57 33.9 -0.6**
GO01 Chusmiza 128.88 35 *e*PKPdf **PKPdf 08 57 34.5 -0.5**
CPUP Villa Florida 137.57 22 PKP **PKPdf 08 57 50.4 -0.2**
comp=Z,3.3nm,1.0s,baz=350,slow=3.1,SNR=6.6
CFA Coronel Fontan 140.60 38 PKhKP PKPpre 08 57 46.5
comp=Z,1.0nm,0.7s,baz=15,slow=1.1,SNR=3.2
MAW Mawson 144.86 220 *e*PKPdf **PKPab 08 58 01.3 -0.1**
MAW Mawson 144.86 220 *e*PKIKP **PKPab 08 58 01.3 -0.1**
MAW Mawson 144.86 220 PKP PKPbc 08 58 01.7 +0.2
comp=Z,25nm,0.6s,baz=40,slow=3.3,SNR=56
VNDA Vanda 145.48 171 *e*PKPdf **PKPdf 08 58 02.3 -0.8**
VNDA Vanda 145.48 171 PKPbc **PKPdf 08 58 02.6 -0.5**
comp=Z,17nm,1.0s,baz=318,slow=4.8,SNR=37
SBA Scott Base 146.10 170 *e*PKPdf **PKPdf 08 58 04.5 +0.4**
SBA Scott Base 146.10 170 *e*PKP2 **PKPdf 08 58 04.6 +0.4**
GO06 Curarrehue 147.31 47 *e*PKPdf **PKPbc 08 58 09.3 -0.6**
TRQA Tornquist 148.19 33 *e*PKPdf **PKPbc 08 58 11.4 -0.8**
TRQA Tornquist 148.19 33 *e*PKP2 **PKPbc 08 58 11.4 -0.8**
PLCA Paso Flores 148.63 46 PKPbc **PKPbc 08 58 12.9 -0.4**
comp=Z,22nm,0.9s,baz=356,slow=3.8,SNR=29
SYO Syowa Base 152.15 230‖ *e*pPKPdf pPKPdf 08 58 19.2 +1.3
SYO Syowa Base 152.15 230‖ *i*PKiKP **PKiKP 08 58 24.0 +3.0**
SYO Syowa Base 152.15 230‖ *i*pPKPbc **PKPab 08 58 28.8 -1.8**
QSPA South Pole Qui 157.32 180 *e*PKPdf **PKPdf 08 58 19.2 -2.2**
QSPA *e*PKPab **PKPab 08 58 52.2 -0.7**
SNAA Sanae 166.30 235 PKPdf **PKPdf 08 58 29.2 -1.3**
SNAA Sanae 166.30 235 *e*PKPdf **PKPdf 08 58 29.6 -0.9**
SNAA Sanae 166.30 235 *e*PKIKP **PKPdf 08 58 29.6 -0.9**

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*ISCJB **10** 08:40:40.4±0.5, 43°.03N±0°.03×122°.54E±0°.05, h10km, Error ellipse: s-maj=5.4km s-min=4.4km az=44.8*
*IDC **10** 08:40:40.5±2.1, 43°.02N×122°.46E, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.7/53, mbtmp3.9/3, ML3.6/1, MS2.6/1, Ms1 2.6/1, ms1mx2.5/37, Error ellipse: s-maj=62.0km s-min=19.7km az=59.0*
*NEIC **10** 08:40:41.6±0.7, 42°.73N×121°.73E, h10km, mb4.1/3, Error ellipse: s-maj=12.1km s-min=10.6km az=216.0*
*BJI **10** 08:40:42.3±0.0, 42°.95N×122°.38E, h6km, mb4.1/6, ML4.2/18, Ms3.7/3, Ms7 3.4/3*

ISC 10 08:40:43.2±0.6, 42°.90N±0°.05×122°.44E±0°.03, h10km, n26, σ2s71/32, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**1.37**	**141**	Pn	**Pn**	**08 41 07.5**	**-0.8**
SNY				⇑Pg	**Pb**	**08 41 08.4**	**-0.5**
SNY				Sn	**Sn**	**08 41 24.9**	**-1.6**
SNY				Sg	**Sg**	**08 41 28.0**	**+0.8**
SNY				smax	smax		

comp=N,5μm,0.4s
SNY smax smax
comp=E,9μm,0.4s
CN2 Changchun 2.38 67 Pg Pb 08 41 25.0 -1.1
CN2 Sg **Sb 08 41 56.5 +1.1**
CN2 smax smax
comp=E,2μm,0.5s
CN2 smax smax
comp=E,800nm,0.5s
DL2 Dalian 4.04 189 Pn Pn 08 41 45.7 +0.6
DL2 Sn **Sn 08 42 35.8 +3.4**
DL2 smax smax
comp=E,230nm,0.5s
DL2 smax smax
comp=E,390nm,0.6s
DL2 LR LR
comp=E,530nm,13.9s
DL2 LR LR
comp=E,540nm,12.9s
DL2 LR LR
comp=E,310nm,10.8s
MDJ Mudanjiang 5.46 69 Pg Pb 08 42 21.9 +3.3
MDJ Mudanjiang 5.46 69 *e*Pn Pn 08 42 10.9 +6.3
MDJ Sg **Sg 08 43 32.8 -5.7**
BJI Beijing 5.50 241 Pg Pb 08 42 21.0 +1.7
BJI Sn **Sb 08 43 20.9 -4.5**
BJT Baijiatuau 5.52 241 Pn Pn 08 41 54.9 -11
BJT *e*Pg **Pb 08 42 19.2 -0.4**
BJT Sg **Sg 08 43 33.9 -6.4**
KS15 Wonju Array Si 6.87 141 *e*Pn **Pn 08 42 24.1 +0.2**
KS15 *e*Sn **Sn 08 43 43.8 +1.7**
KSAR Wonju Array Be 6.87 141 *e*Pn **Pn 08 42 24.4 +0.5**
KSRS Korea Array 6.87 141 Pn **Pn 08 42 23.8 -0.2**
comp=E,1.2nm,0.3s,baz=322,slow=13,SNR=11
KSRS Pg Pb 08 42 47.9 +5.2
comp=E,1.1nm,0.3s,baz=326,slow=18,SNR=7.5
KSRS Sn **Sn 08 43 44.0 +1.7**
comp=E,1.3nm,0.3s,baz=324,slow=23,SNR=7.1
KSRS Lg Lg 08 44 21.0
comp=E,4.5nm,0.3s,baz=321,slow=28,SNR=12
KSRS LR LR 08 45 25.2
comp=E,50nm,21.5s,baz=274,slow=41
USA0B Ussuriysk Arra 7.06 76 *e*Pn Pn 08 42 32.6 +6.0
USRK Ussuriysk Ar. 7.06 76 *e*Pn Pn 08 42 32.0 +5.4
USRK Ussuriysk Ar. 7.06 76 Pn **Pn 08 42 30.5 +3.9**
comp=E,1.3nm,0.3s,baz=255,slow=12,SNR=8.1
USRK Lg Lg 08 44 23.1
comp=E,2.0nm,0.3s,baz=13,slow=12,SNR=4.1
HHC Hu-ho-hao-te 8.37 259 *e*P **Pn 08 42 47.7 +3.1**
HHC S **Sn 08 44 23.7 +4.5**
KLR Kul'dur 9.05 42 Lg Lg 08 45 27.4
comp=E,1.6nm,0.3s,baz=143,slow=20,SNR=4.1
JNU Nakatsue 11.81 143 *e*Pn **Pn 08 43 34.5 +2.7**
SONM Songino Array 12.31 299 Lg Lg 08 47 04.9
comp=E,0.2nm,0.3s,baz=99,slow=26,SNR=2.7
GTA Gaotai 17.38 266 *e*P **Pn 08 44 43.5 -2.4**
GTA pP pP 08 44 48.4 -1.7
GTA sP sP 08 44 51.8 +0.4
GTA pmax pmax
comp=E,4.0nm,0.9s
NACB Ninganchiao 18.69 182 *e*P **P 08 44 59.5 -2.1**
comp=E,14nm,0.8s
KEV Kevo 52.29 334 *e*P **P 08 49 53.0 -1.3**
comp=E,4.3nm,0.8s
ILAR Eielson Array 52.48 33 P **P 08 49 53.5 -2.3**
comp=E,0.8nm,0.8s,baz=286,slow=7.4,SNR=3.1
ARA0 ARCESS Array S 52.86 334 *e*P **P 08 49 56.9 -1.6**
ARCES ARCESS Array B 52.86 334 *e*P **P 08 49 57.1 -1.5**
ARCES ARCESS Array B 52.86 334 P **P 08 49 56.9 -1.6**
comp=E,1.9nm,0.5s,baz=63,slow=9.0,SNR=5.7
ARE0 ARCESS Array S 52.86 334 *e*P **P 08 49 57.2 -1.4**
comp=E,0.4nm,1.1s
INK Inuvik 55.71 26 *e*P **P 08 50 17.8 -1.5**

IDC 10 08:43:38.8±2.2, 5°.34S×152°.48E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/42, mbtmp3.8/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/33, Error ellipse: s-maj=125.0km s-min=28.7km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.65**	**232**	LR	LR	08 47 51.6	
	comp=Z,70nm,18.5s,baz=108,slow=38						
WRA	**Warramunga Arr**	**22.85**	**229**	P	P	08 48 44.0	0.0
	0.8nm,0.5s,baz=53,slow=10.0,SNR=9.4						
ASAR	**Alice Springs**	**25.54**	**223**	P	P	08 49 09.6	+0.1
	0.8nm,0.8s,baz=62,slow=9.1,SNR=7.8						
FITZ	**Fitzroy Crossi**	**29.12**	**242**	P	P	08 49 41.4	-0.3
	7.1nm,1.2s,baz=60,slow=14,SNR=3.7						
ILAR	**Eielson Array**	**82.78**	**22**	P	P	08 56 04.7	+0.2
	0.3nm,0.6s,baz=246,slow=4.7,SNR=4.6						

*IDC **10** 09:09:21.4±2.9, 42°.34N×79°.78E, h0km, mb3.4/1, mb1 3.7/5, mb1mx3.3/48, mbtmp3.6/5, ML3.3/4, Error ellipse: s-maj=42.8km s-min=11.5km az=147.0*
*SOME **10** 09:09:24.5, 42°.53N×79°.67E, h20km*
*NNC **10** 09:09:24.8±0.9, 42°.60N×79°.61E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=5.5km s-min=3.1km az=142.0*
*ISCJB **10** 09:09:25.8±0.6, 42°.60N±0°.03×79°.68E±0°.03, h10km, mb3.3/1, Error ellipse: s-maj=5.0km s-min=2.5km az=141.0*
*KRNET **10** 09:09:25.3±0.1, 42°.58N×79°.57E, h15km, mb4.1*
ISC 10 09:09:25.3±1.0, 42°.58N±0°.04×79°.66E±0°.03, h10km, n102, σ1§60/170, 34C-25D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.60**	**346**	P	**Pb**	**09 09 36.9**	**-1.0**
	1μm,0.1s						
SHLS				S	**Sb**	**09 09 46.1**	**-0.3**
	4μm,0.2s						
SHLS	**Shalkode**	**0.60**	**346**	*e*P	**Pb**	**09 09 36.9**	**-1.0**
	baz=22						
SHLS				*e*S	**Sb**	**09 09 46.1**	**-0.3**
	baz=22						
SHLS	**Shalkode**	**0.60**	**346**	*e*P	**Pb**	**09 09 36.9**	**-1.0**
	1μm,0.1s						
SHLS				*e*S	**Sb**	**09 09 46.1**	**-0.3**
	4μm,0.2s						
UZB	**Uzynbulak**	**0.73**	**321**	P	**Pg**	**09 09 38.5**	**-1.0**
	76nm,0.1s						
UZB				S	**Sg**	**09 09 48.7**	**-0.4**
	2μm,0.2s						
UZB	**Uzynbulak**	**0.73**	**321**	*e*P	**Pg**	**09 09 38.7**	**-0.8**
	baz=25						
UZB				*e*S	**Sg**	**09 09 48.8**	**-0.4**
	baz=25						
UZB	**Uzynbulak**	**0.73**	**321**	*e*P	**Pg**	**09 09 38.7**	**-0.8**
	52nm,0.1s						
UZB				*e*S	**Sg**	**09 09 48.8**	**-0.4**
	2μm,0.2s						
PDGK	**Podgornoye**	**0.76**	**351**	P	**Pg**	**09 09 39.1**	**-0.9**
	198nm,0.1s						
PDGK				S	**Sb**	**09 09 49.5**	**-1.6**
	264nm,0.2s						
PDGK	**Podgornoye**	**0.76**	**351**	⇑P	**Pg**	**09 09 39.0**	**-0.9**
	32nm,0.5s						
PDGK				⇓S	**Sb**	**09 09 49.6**	**-1.6**
	539nm,0.8s						
PDGK	**Podgornoye**	**0.76**	**351**	⇑*i*P	**Pb**	**09 09 40.0**	**-0.7**
	baz=55						
PDGK				⇑*i*S	**Sb**	**09 09 49.9**	**-1.3**
	baz=55						
PRZ	**Przheval'sk**	**0.93**	**265**	⇑*i*P	**Pg**	**09 09 41.6**	**-1.6**
	baz=64						
PRZ				⇑*i*S	**Sg**	**09 09 53.5**	**-1.9**
	baz=64						
KTMS	**Ketmen**	**1.01**	**30**	P	**Pg**	**09 09 43.6**	**-1.1**
	45nm,0.1s						
KTMS				S	**Sb**	**09 09 57.4**	**-0.9**
	600nm,0.1s						
SATY	**Saty**	**1.04**	**298**	P	**Pg**	**09 09 43.4**	**-1.9**
	124nm,0.1s						
SATY				S	**Sg**	**09 09 57.7**	**-1.0**
	1μm,0.1s						
SATY	**Saty**	**1.04**	**298**	*e*P	**Pg**	**09 09 43.7**	**-1.5**
	74nm,0.2s						
SATY				*e*S	**Sg**	**09 09 57.5**	**-1.2**
	1μm,0.1s						
ZHN	**Zhinishke**	**1.07**	**304**	P	**Pg**	**09 09 44.1**	**-1.8**
	61nm,0.1s						
ZHN				S	**Sg**	**09 09 58.4**	**-1.6**
	569nm,0.2s						
ZHN	**Zhinishke**	**1.07**	**304**	*e*P	**Pg**	**09 09 44.6**	**-1.3**
	baz=6.0						
ZHN				*e*S	**Sg**	**09 09 58.3**	**-1.6**
	baz=6.0						
ZHN	**Zhinishke**	**1.07**	**304**	*e*P	**Pg**	**09 09 44.6**	**-1.3**
	48nm,0.2s						
ZHN				*e*S	**Sg**	**09 09 58.3**	**-1.6**
	569nm,0.2s						
KPKS	**Kokpek**	**1.14**	**322**	*e*P	**Pb**	**09 09 46.1**	**-1.0**
	baz=23						
KPKS				*e*S	**Sg**	**09 10 01.0**	**-0.9**
	baz=23						
KPKS	**Kokpek**	**1.14**	**322**	*e*P	**Pb**	**09 09 46.1**	**-1.0**
	152nm,0.1s						
KPKS				*e*S	**Sg**	**09 10 01.0**	**-0.9**
	1μm,0.2s						
KURS	**Kuram**	**1.42**	**310**	P	**Pn**	**09 09 50.7**	**-0.5**
	36nm,0.3s						
KURS				S	**Sb**	**09 10 09.5**	**-0.5**
	198nm,0.4s						
KURS	**Kuram**	**1.42**	**310**	*e*P	**Pb**	**09 09 51.1**	**-0.8**
	baz=12						
KURS				*e*S	**Sb**	**09 10 09.5**	**-0.5**
	baz=12						
KURS	**Kuram**	**1.42**	**310**	*e*P	**Pb**	**09 09 51.1**	**-0.8**
	32nm,0.7s						
KURS				*e*S	**Sb**	**09 10 09.5**	**-0.5**
	195nm,0.6s						
DJR	**Jarkent**	**1.76**	**3**	P	**Pb**	**09 09 56.8**	**-0.9**
	411nm,0.3s						
DJR				S	**Sg**	**09 10 20.5**	**-1.3**
	164nm,0.3s						
DJR	**Jarkent**	**1.76**	**3**	*e*P	**Pg**	**09 09 57.7**	**-1.3**
	370nm,0.3s						
DJR				*e*S	**Sg**	**09 10 20.6**	**-1.1**
	173nm,0.7s						
MNBS	**Baschi**	**1.76**	**329**	P	**Pb**	**09 09 56.9**	**-0.8**
	97nm,0.1s						
MNBS				S	**Sg**	**09 10 20.3**	**-1.5**
	808nm,0.2s						
KDJ	**Kajisay**	**1.89**	**257**	⇑*i*P	**Pb**	**09 09 58.6**	**-1.3**
	baz=56						
KDJ				⇑*i*S	**Sb**	**09 10 23.5**	**-0.2**
	baz=56						
KOTS	**Kotyrbulak**	**1.98**	**290**	Pg	**Pb**	**09 10 00.5**	**-1.0**
	72nm,0.2s						
KOTS				Lg	Lg	09 10 27.2	
	788nm,0.3s						
KOTS	**Kotyrbulak**	**1.98**	**290**	*e*P	**Pb**	**09 10 01.3**	**-0.2**
	baz=91						
KOTS				*e*S	**Sg**	**09 10 27.3**	**-1.6**
	baz=91						
KOTS	**Kotyrbulak**	**1.98**	**290**	*e*P	**Pb**	**09 10 01.3**	**-0.2**
	72nm,0.2s						
KOTS				*e*S	**Sg**	**09 10 27.3**	**-1.6**
	1μm,0.4s						
MDOK	**Medeo**	**2.00**	**288**	⇓P	**Pn**	**09 09 59.3**	**0.0**
	43nm,0.5s						
MDOK				⇑S	**Sb**	**09 10 26.7**	**-0.3**
	100nm,0.4s						
MDOK	**Medeo**	**2.00**	**288**	Pg	**Pb**	**09 10 00.8**	**-1.1**
	69nm,0.2s						
MDOK				Lg	Lg	09 10 27.0	
	311nm,0.5s						
MDOK	**Medeo**	**2.00**	**288**	*e*P	**Pb**	**09 10 01.0**	**-0.9**
	baz=88						
MDOK				*e*S	**Sb**	**09 10 26.9**	**-0.1**
	baz=88						
MDOK	**Medeo**	**2.00**	**288**	*e*P	**Pb**	**09 10 01.0**	**-0.9**
	79nm,0.4s						
MDOK				*e*S	**Sb**	**09 10 26.8**	**-0.1**
	287nm,0.6s						
TNSS	**Tian-Shan**	**2.04**	**284**	Pg	**Pb**	**09 10 01.1**	**-1.6**
	128nm,0.2s						
TNSS				Lg	Lg	09 10 28.3	
	280nm,0.3s						
TNSS	**Tian-Shan**	**2.04**	**284**	*e*P	**Pb**	**09 10 01.9**	**-0.8**
	baz=84						
TNSS				*e*S	**Sb**	**09 10 28.5**	**+0.1**
	baz=84						
TNSS	**Tian-Shan**	**2.04**	**284**	*e*P	**Pb**	**09 10 01.9**	**-0.8**
	124nm,0.3s						
TNSS				*e*S	**Sb**	**09 10 28.5**	**+0.1**
	281nm,0.4s						
KNDC	**Almaty**	**2.08**	**289**	⇓Pg	**Pg**	**09 10 05.2**	**+0.2**
	63nm,0.3s						
KNDC				⇑Lg	Lg	09 10 31.0	
	128nm,0.4s						
ARXS	**Arharly**	**2.11**	**321**	Pg	**Pb**	**09 10 02.6**	**-1.0**
	48nm,0.2s						
ARXS				Lg	Lg	09 10 29.8	
	840nm,0.4s						
ARXS	**Arharly**	**2.11**	**321**	*e*P	**Pb**	**09 10 03.2**	**-0.4**
	48nm,0.2s						
ARXS				*e*S	**Sg**	**09 10 30.9**	**-2.1**
	840nm,0.4s						
AAA	**Alma-Ata**	**2.11**	**288**	*e*P	**Pb**	**09 10 03.2**	**-0.5**
	baz=89						
AAA				*e*S	**Sg**	**09 10 30.9**	**-2.2**
	baz=89						
AAA	**Alma-Ata**	**2.11**	**288**	*e*P	**Pb**	**09 10 03.1**	**-0.5**
	128nm,0.2s						
AAA				*e*S	**Sg**	**09 10 30.9**	**-2.2**
	243nm,0.2s						
CHKK	**Chushkaly**	**2.33**	**304**	Pg	**Pb**	**09 10 06.8**	**-0.6**
	39nm,0.2s						
CHKK				Lg	Lg	09 10 37.0	
	610nm,0.3s						
CHKK	**Chushkaly**	**2.33**	**304**	*e*P	**Pb**	**09 10 06.8**	**-0.6**
	baz=5.0						
CHKK				*e*S	**Sb**	**09 10 37.1**	**+0.9**
	baz=5.0						
CHKK	**Chushkaly**	**2.33**	**304**	*e*P	**Pb**	**09 10 06.8**	**-0.6**
	17nm,0.3s						
CHKK				*e*S	**Sb**	**09 10 37.1**	**+0.9**
	598nm,0.2s						
MTBS	**Maitube**	**2.44**	**284**	*e*P	**Pb**	**09 10 08.9**	**-0.3**
	baz=85						
MTBS				*e*S	**Sb**	**09 10 39.9**	**+0.6**
	baz=85						
MTBS	**Maitube**	**2.44**	**284**	*e*P	**Pb**	**09 10 08.9**	**-0.3**
	113nm,0.2s						
MTBS				*e*S	**Sb**	**09 10 39.9**	**+0.6**
	308nm,0.3s						
KTBS	**Karatobe**	**2.45**	**299**	Pg	**Pb**	**09 10 08.1**	**-1.4**
	68nm,0.2s						
KTBS				Lg	Lg	09 10 40.2	
	504nm,0.3s						
KTBS	**Karatobe**	**2.45**	**299**	*e*P	**Pb**	**09 10 09.2**	**-0.3**
	baz=98						
KTBS				*e*S	**Sb**	**09 10 40.6**	**+0.8**
	baz=98						
KTBS	**Karatobe**	**2.45**	**299**	*e*P	**Pb**	**09 10 09.2**	**-0.3**
	68nm,0.2s						
KTBS				*e*S	**Sb**	**09 10 40.5**	**+0.8**
	1μm,0.5s						
ULHL	**Ulahol**	**2.55**	**264**	P	**Pb**	**09 10 08.6**	**-2.6**
	SNR=32						
ULHL	**Ulahol**	**2.55**	**264**	⇑*i*P	**Pb**	**09 10 08.6**	**-2.6**
	baz=63						
ULHL				⇑*i*S	**Sb**	**09 10 40.6**	**-2.1**
	baz=63						
TDK	**Taldyqorghan**	**2.59**	**340**	Pg	**Pb**	**09 10 10.9**	**-0.9**
	165nm,0.3s						
TDK				Lg	Lg	09 10 44.4	
	684nm,0.6s						
TDK	**Taldyqorghan**	**2.59**	**340**	*e*P	**Pb**	**09 10 11.4**	**-0.3**
	76nm,0.2s						
TDK				*e*S	**Sb**	**09 10 44.2**	**+0.6**
	683nm,0.6s						
KAPS	**Kapalarasan**	**2.71**	**356**	Pg	**Pb**	**09 10 12.0**	**-2.0**
	17nm,0.2s						
KAPS				Lg	Lg	09 10 46.9	
	80nm,0.3s						
KAPS	**Kapalarasan**	**2.71**	**356**	*e*P	**Pb**	**09 10 14.3**	**+0.4**
	8.6nm,0.1s						
KAPS				*e*S	**Sg**	**09 10 49.5**	**-3.0**
	63nm,0.3s						
BOOM	**Boomskoye usch**	**2.75**	**269**	⇑*i*P	**Pb**	**09 10 11.6**	**-3.0**
	baz=69						
BOOM				⇑*i*S	**Sn**	**09 10 45.0**	**+2.1**
	baz=69						
KST	**Kastek**	**2.76**	**281**	Pg	**Pb**	**09 10 12.9**	**-1.8**
	94nm,0.4s						
KST				Lg	Lg	09 10 47.9	
	238nm,0.6s						
KST	**Kastek**	**2.76**	**281**	*e*P	**Pb**	**09 10 14.7**	**0.0**
	baz=81						
KST				*e*S	**Sb**	**09 10 50.0**	**+1.4**
	baz=81						
KST	**Kastek**	**2.76**	**281**	*e*P	**Pb**	**09 10 14.7**	**0.0**
	70nm,0.3s						
KST				*e*S	**Sb**	**09 10 50.0**	**+1.4**
	237nm,0.9s						
KUU	**Kurty**	**2.76**	**300**	Pg	**Pb**	**09 10 12.8**	**-1.8**
	15nm,0.2s						
KUU				Lg	Lg	09 10 47.8	
	181nm,0.3s						
KUU	**Kurty**	**2.76**	**300**	*e*P	**Pb**	**09 10 13.9**	**-0.7**
	baz=0.0						
KUU				*e*S	**Sb**	**09 10 48.6**	**+0.1**
	baz=0.0						
KUU	**Kurty**	**2.76**	**300**	*e*P	**Pb**	**09 10 13.9**	**-0.7**
	5.2nm,0.2s						
KUU				*e*S	**Sb**	**09 10 48.6**	**+0.1**
	151nm,0.5s						
DGS	**Degeres**	**2.93**	**284**	Pg	**Pb**	**09 10 16.0**	**-1.7**
	108nm,0.4s						
DGS				Lg	Lg	09 10 53.0	
	414nm,0.3s						
DGS	**Degeres**	**2.93**	**284**	*e*P	**Pb**	**09 10 17.3**	**-0.3**
	baz=85						
DGS				*e*S	**Sb**	**09 10 55.1**	**+1.6**
	baz=85						
DGS	**Degeres**	**2.93**	**284**	*e*P	**Pb**	**09 10 17.3**	**-0.3**
	43nm,0.1s						
DGS				*e*S	**Sb**	**09 10 55.2**	**+1.6**
	369nm,0.6s						
NRN	**Naryn**	**2.95**	**248**	⇑*i*P	**Pn**	**09 10 14.6**	**+2.1**
	baz=48						
NRN				⇑*i*S	**Sn**	**09 10 50.7**	**+2.5**
	baz=48						
TKM2	**Tokmak 2**	**3.01**	**278**	P	**Pb**	**09 10 16.6**	**-2.4**
	SNR=10						
TKM2	**Tokmak 2**	**3.01**	**278**	⇑Pn	**Pb**	**09 10 16.5**	**-2.6**
	8.9nm,0.3s						
TKM2				⇑Lg	Lg	09 10 57.7	
	110nm,0.6s						
TKM2	**Tokmak 2**	**3.01**	**278**	⇑*i*P	**Pn**	**09 10 15.1**	**+1.9**
	baz=78						
TKM2				⇑*i*S	**Sn**	**09 10 51.7**	**+2.3**
	baz=78						
KZA	**Kyzart**	**3.30**	**263**	P	**Pb**	**09 10 20.5**	**-3.7**
	SNR=17						
KZA	**Kyzart**	**3.30**	**263**	⇓*i*P	**Pn**	**09 10 19.4**	**+2.0**
	baz=63						
KZA				⇓*e*S	**Sn**	**09 10 58.8**	**+1.8**
	baz=63						
KBK	**Karagaybulak**	**3.48**	**273**	P	**Pn**	**09 10 22.6**	**+3.1**
	SNR=16						
KBK	**Karagaybulak**	**3.48**	**273**	⇑*e*P	**Pn**	**09 10 21.5**	**+1.9**
	baz=73						
KBK				⇑*i*S	**Sn**	**09 11 02.9**	**+2.0**
	baz=73						
CHMS	**Chumysh**	**3.63**	**278**	P	**Pb**	**09 10 26.9**	**-2.7**
	SNR=12						
CHMS	**Chumysh**	**3.63**	**278**	⇑*e*P	**Pn**	**09 10 23.7**	**+2.1**
	baz=78						
CHMS				⇑*i*S	**Sn**	**09 11 06.3**	**+1.7**
	baz=78						
FRU1	**Bishkek**	**3.71**	**275**	⇑*i*P	**Pn**	**09 10 24.9**	**+2.2**
	baz=75						
FRU1				⇑*i*S	**Sn**	**09 11 08.2**	**+1.7**
	baz=75						
AAK	**Ala-Archa**	**3.81**	**273**	P	**Pn**	**09 10 26.1**	**+1.9**
	SNR=20						
AAK	**Ala-Archa**	**3.81**	**273**	⇑Pg	**Pb**	**09 10 32.1**	**-0.6**
	5.6nm,0.2s						
AAK				⇓Lg	Lg	09 11 24.7	
	22nm,0.6s						
AAK	**Ala-Archa**	**3.81**	**273**	⇑*i*P	**Pn**	**09 10 25.9**	**+1.7**
	baz=73						
AAK				⇑*i*S	**Sn**	**09 11 10.6**	**+1.5**
	baz=73						
AAK	**Ala-Archa**	**3.81**	**273**	Pn	**Pn**	**09 10 26.2**	**+2.0**
	4.4nm,0.3s,baz=90,slow=5.0,SNR=18						
AAK				Pg	**Pb**	**09 10 33.3**	**+0.6**
	9.5nm,0.3s,baz=97,slow=12,SNR=34						
AAK				Lg	Lg	09 11 20.1	
	10nm,0.3s,baz=322,slow=18,SNR=12						
UCH	**Uchtor**	**3.82**	**266**	P	**Pb**	**09 10 29.0**	**-4.1**
	SNR=20						
UCH	**Uchtor**	**3.82**	**266**	⇓*e*P	**Pn**	**09 10 26.4**	**+1.8**
	baz=66						
UCH				⇓*i*S	**Sn**	**09 11 11.3**	**+1.5**
	baz=66						
USP	**Ospenovka**	**3.85**	**282**	P	**Pb**	**09 10 32.7**	**-0.6**
	SNR=7.8						
USP	**Ospenovka**	**3.85**	**282**	⇑*i*P	**Pn**	**09 10 26.6**	**+2.0**
	baz=82						
USP				⇑*e*S	**Sn**	**09 11 11.7**	**+1.8**
	baz=82						
ARLS	**Aral**	**4.02**	**262**	⇓*i*P	**Pn**	**09 10 29.2**	**+2.1**
	baz=61						
ARLS				⇓*i*S	**Sn**	**09 11 15.6**	**+1.2**
	baz=61						
EKS2	**Erkin-Say**	**4.34**	**273**	P	**Pb**	**09 10 43.8**	**+2.1**
	SNR=15						
EKS2	**Erkin-Say**	**4.34**	**273**	⇑*e*P	**Pn**	**09 10 33.2**	**+1.8**
	baz=73						
EKS2				⇑*i*S	**Sn**	**09 11 23.6**	**+1.5**
	baz=73						
AML	**Almayashu**	**4.44**	**266**	P	**Pb**	**09 10 40.4**	**-3.2**
	SNR=5.6						
AML	**Almayashu**	**4.44**	**266**	⇑*e*P	**Pn**	**09 10 35.1**	**+2.1**
	baz=66						
AML				⇑*i*S	**Sn**	**09 11 26.5**	**+1.5**
	baz=66						
MAKZ	**Makanchi**	**4.54**	**21**	⇓Pn	**Pn**	**09 10 35.7**	**+1.6**
	9.5nm,0.3s						
MAKZ				⇓Sn	**Sn**	**09 11 30.1**	**+3.2**
	2.7nm,0.3s						
MAKZ				⇓Lg	Lg	09 11 44.1	
	4.5nm,0.4s						
MK31	**Makanchi Array**	**4.62**	**23**	Pn	**Pn**	**09 10 36.9**	**+1.8**
	1.8nm,0.2s,baz=200,slow=13,SNR=145						
MK31				⇓Sn	**Sn**	**09 11 30.2**	**+1.4**
	1.5nm,0.2s,baz=195,slow=15,SNR=5.2						
MK31				⇓Lg	Lg	09 11 48.8	
	2.5nm,0.2s,baz=195,slow=28,SNR=6.1						
MKAR	**Makanchi Array**	**4.62**	**23**	Pn	**Pn**	**09 10 36.9**	**+1.8**
	8.1nm,0.3s,baz=207,slow=14,SNR=222						
MKAR				Pg	**Pb**	**09 10 48.4**	**+2.0**
	2.4nm,0.3s,baz=200,slow=14,SNR=7.9						
MKAR				Sn	**Sn**	**09 11 30.1**	**+1.4**
	4.5nm,0.3s,baz=206,slow=25,SNR=7.5						
MKAR				Lg	Lg	09 11 48.9	
	5.0nm,0.3s,baz=197,slow=30,SNR=8.8						
MRKS	**Merke**	**4.74**	**274**	Pg	**Pb**	**09 10 48.5**	**0.0**
	16nm,0.5s						
MRKS				Lg	Lg	09 11 50.0	
	48nm,0.5s						
MRKS	**Merke**	**4.74**	**274**	*e*P	**Pb**	**09 10 50.1**	**+1.6**
	11nm,0.2s						
MRKS				*e*S	**Sb**	**09 11 50.7**	**+5.0**
	45nm,0.5s						
ARSB	**Arslanbob**	**5.13**	**258**	⇓*i*P	**Pn**	**09 10 44.6**	**+2.3**
	baz=58						
ARSB				⇓*e*S	**Sn**	**09 11 42.4**	**+0.8**
	baz=58						
KK31	**Karatay Array**	**6.74**	**278**	⇓Pg	**Pg**	**09 11 30.9**	**-3.4**
	3.9nm,0.7s,baz=92,slow=16,SNR=13						
KK31				⇓Lg	Lg	09 12 58.9	
	9.0nm,0.6s,baz=90,slow=30,SNR=7.2						
OTUK	**Ortayu**	**7.65**	**320**	⇓Pn	**Pn**	**09 11 17.2**	**+0.4**
	1.6nm,0.6s						
OTUK				⇓Lg	Lg	09 13 26.4	
	22nm,1.0s						
KURBB	**Kurchatov Arra**	**8.08**	**355**	⇓Pg	**Pg**	**09 11 55.7**	**-4.3**
	1.0nm,0.3s						
KURBB				⇓Lg	Lg	09 13 41.4	
	14nm,0.7s						
KURBB	**Kurchatov Arra**	**8.08**	**355**	Pn	**Pn**	**09 11 24.2**	**+1.6**
	0.0nm,0.3s,baz=173,slow=11,SNR=2.9						
KURBB				Lg	Lg	09 13 36.9	
	0.3nm,0.3s,baz=176,slow=28,SNR=12						
KURK	**Kurchatov**	**8.17**	**355**	⇓Pg	Pg	09 11 53.8	-7.8
	3.6nm,0.9s						
KURK				⇓Lg	Lg	09 13 41.4	
	14nm,0.9s						
ZALV	**Zalesovo Beam**	**11.88**	**15**	Pn	**Pn**	**09 12 16.3**	**+1.7**
	0.6nm,0.3s,baz=205,slow=14,SNR=2.9						
BVAR	**Borovoye Array**	**12.15**	**332**	Lg	Lg	09 15 43.9	
	0.1nm,0.3s,baz=131,slow=29,SNR=4.1						
YKA	**Yellowknife Ar**	**74.65**	**7**	P	**P**	**09 21 03.2**	**-1.1**
	0.2nm,0.5s,

*ISCJB **10** 09:13:25.7±0.9, 30°.3N×0°.1×103°.2E±0°.10, h10km, mb3.4/4, MS3.5/5, Error ellipse: s-maj=17.3km s-min=8.1km az=143.1*
*IDC **10** 09:13:26.3±1.2, 29°.85N×102°.39E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/54, mbtmp3.5/4, MS3.5/5, Ms1 3.5/5, ms1mx3.0/46, Error ellipse: s-maj=386.2km s-min=21.2km az=55.0*
*BJI **10** 09:13:29.0±0.0, 30°.25N×102°.81E, h16km, ML3.3/11*
ISC 10 09:13:27.5±1.3, 30°.1N±0°.1×103°.1E±0°.1, h10km, n10, σ2°28/9, mb3.5/4, MS3.6/5, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.99**	**36**	iPg	**Pg**	**09 13 48.3**	**+1.8**
CD2				Sg	**Sg**	**09 14 02.4**	**+3.1**
CD2				smax	smax		
	comp=N,860nm,0.6s						
CD2				smax	smax		
	comp=E,530nm,0.8s						
XAN	**Xi'an**	**6.32**	**50**	Pn	**Pn**	**09 14 58.9**	**-1.8**
XAN				Pg	Pb	09 15 24.7	+7.1
XAN				Sn	**Sn**	**09 16 09.9**	**-3.1**
XAN				Sg	**Sg**	**09 16 49.8**	**-0.5**
XAN				smax	smax		
	comp=N,35nm,1.0s						
XAN				smax	smax		
	comp=E,31nm,0.9s						
TGY	**Tagaytay City**	**22.92**	**130**	LR	LR	09 26 17.4	
	comp=Z,259nm,20.2s,baz=148,slow=33						
MKAR	**Makanchi Array**	**23.17**	**322**	P	**P**	**09 18 32.6**	**-1.6**
	1.7nm,1.0s,baz=132,slow=11,SNR=6.5						
ZALV	**Zalesovo Beam**	**27.24**	**336**	LR	LR	09 30 46.9	
	comp=Z,53nm,18.3s,baz=42,slow=38						
KURBB	**Kurchatov Arra**	**27.52**	**325**	P	**P**	**09 19 13.6**	**-0.4**
	0.3nm,0.5s,baz=130,slow=9.8,SNR=2.9						
AKTO	**Aktyubinsk**	**39.18**	**314**	LR	LR	09 39 02.3	
	comp=Z,80nm,18.0s,baz=101,slow=39						
WRA	**Warramunga Arr**	**58.16**	**145**	P	**P**	**09 23 23.0**	**+1.3**
	0.4nm,0.6s,baz=336,slow=7.6,SNR=7.2						
ASAR	**Alice Springs**	**61.12**	**148**	P	**P**	**09 23 43.2**	**+1.1**
	0.2nm,0.7s,baz=330,slow=7.2,SNR=3.8						
ASAR				LR	LR	09 51 31.0	
	comp=Z,37nm,20.5s,baz=318,slow=37						
BORG	**Borgarnes**	**76.06**	**339**	LR	LR	10 02 20.6	
	comp=Z,26nm,18.5s,baz=248,slow=39						

IDC 10 09:57:37.3±3.6, 14°.67N×42°.23E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/52, mbtmp3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.3/34, Error ellipse: s-maj=76.3km s-min=37.6km az=153.0, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**26.08**	**345**	P	P	10 03 14.3	+1.5
	0.2nm,0.5s,baz=145,slow=10,SNR=3.0						
GEYT	**Alibeck**	**27.11**	**28**	LR	LR	10 13 52.2	
	comp=Z,25nm,19.9s,baz=185,slow=36						
TORD	**Torodi Ar. Bea**	**39.34**	**273**	P	P	10 05 09.1	+0.3
	0.4nm,0.7s,baz=69,slow=8.0,SNR=3.6						
GERES	**GERESS Array B**	**41.36**	**331**	P	P	10 05 23.5	-1.7
	1.3nm,0.7s,baz=129,slow=7.7,SNR=8.1						
MKAR	**Makanchi Array**	**46.23**	**38**	P	P	10 06 04.1	-0.2
	0.4nm,0.7s,baz=225,slow=7.7,SNR=3.6						

*SNET **10** 10:03:22.8±0.8, 13°.93N×93°.02W, h35km±999km, ML4.2*
*UCR **10** 10:03:23.9±1.6, 14°.70N×92°.77W, h19km±20km, MD3.9, ML3.8, mb4.0(NEIC)*
*MEX **10** 10:03:24.8±0.7, 14°.87N×92°.66W, h81km±7km, MD4.0*
*NEIC **10** 10:03:24.8±0.0, 14°.87N×92°.66W, h81km, mb4.0/30, MD4.0(MEX), After MEX.*
*ISCJB **10** 10:03:24.0±0.4, 14°.99N±0°.04×92°.70W±0°.03, h83km±4km, mb3.9/12, Error ellipse: s-maj=8.4km s-min=3.3km az=34.5*
*IDC **10** 10:03:25.4±2.4, 15°.08N×92°.49W, h91km±19km, mb3.3/3, mb1 3.7/6, mb1mx3.4/43, mbtmp3.7/6, MS2.8/2, Ms1 2.8/2, ms1mx2.4/20, Error ellipse: s-maj=63.4km s-min=19.8km az=34.0*
ISC 10 10:03:24.9±0.7, 15°.01N±0°.06×92°.66W±0°.05, h78km±6km, n80, σ1°60/105, mb3.9/13, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.40**	**105**	*e*Pn	**Pn**	**10 03 36.5**	**-1.1**
THIG				*e*Sn	**Sn**	**10 03 45.3**	**-1.7**
THIG		**0.40**	**105**	*e*P	**Pn**	**10 03 36.5**	**-1.1**
THIG				*e*S	**Sn**	**10 03 45.3**	**-1.7**
PCIG		**0.87**	**322**	*e*Pn	**Pn**	**10 03 42.4**	**+0.1**
PCIG				*e*Sn	**Sn**	**10 03 56.1**	**+0.8**
PCIG		**0.87**	**322**	*e*P	**Pn**	**10 03 42.4**	**+0.1**
PCIG				*e*S	**Sn**	**10 03 56.1**	**+0.8**
CCIG	**Comitan**	**1.36**	**22**	*e*Pn	**Pn**	**10 03 49.8**	**+1.2**
CCIG				*e*Sn	**Sn**	**10 04 07.9**	**+1.6**
CCIG	**Comitan**	**1.36**	**22**	*e*P	**Pn**	**10 03 49.2**	**+0.7**
CCIG				*e*S	**Sn**	**10 04 07.0**	**+0.7**
FUG	**Fuego 3**	**1.85**	**107**	*e*P	**Pn**	**10 03 55.0**	**+0.2**
PCG	**Pacaya**	**2.08**	**107**	*e*P	**Pn**	**10 03 59.3**	**+1.3**
PCG				*e*S	**Sn**	**10 04 24.3**	**+1.0**
APG	**El Apazote**	**2.12**	**90**	P	**Pn**	**10 03 57.4**	**-1.2**
	20nm,0.3s,baz=190,slow=13,SNR=232						
APG				S	**Sn**	**10 04 22.0**	**-2.3**
	56nm,0.3s,baz=323,slow=19,SNR=9.9						
NBG	**Las Nubes**	**2.28**	**100**	*e*P	**Pn**	**10 04 01.8**	**+1.1**
IXG	**Ixpaco**	**2.29**	**111**	*e*P	**Pn**	**10 04 01.8**	**+1.0**
IXG				*e*S	**Sn**	**10 04 30.0**	**+1.7**
CMIG	**Matias Romero**	**2.97**	**314**	P	**Pn**	**10 04 09.6**	**-0.3**
	23nm,0.3s,baz=142,slow=13,SNR=172						
CMIG				S	**Sn**	**10 04 45.6**	**+1.1**
	71nm,0.3s,baz=252,slow=20,SNR=10						
RTR	**El Retiro**	**3.12**	**110**	*e*P	**Pn**	**10 04 12.5**	**+0.4**
RTR				*e*S	**Sn**	**10 04 51.8**	**+3.4**
RTR	**El Retiro**	**3.12**	**110**	*e*P	**Pn**	**10 04 12.5**	**+0.4**
RTR				*e*S	**Sn**	**10 04 51.8**	**+3.4**
SBLS	**San Blas**	**3.17**	**111**	*e*P	**Pn**	**10 04 13.3**	**+0.6**
SBLS	**San Blas**	**3.17**	**111**	*e*P	**Pn**	**10 04 13.3**	**+0.6**
CEVE	**Cerro Verde**	**3.17**	**111**	*e*P	**Pn**	**10 04 12.9**	**+0.2**
CEVE				*e*S	**Sn**	**10 04 52.0**	**+2.4**
CEVE				IAML		10 05 04.3	
	comp=Z,2μm,0.2s						
CEVE	**Cerro Verde**	**3.17**	**111**	*e*P	**Pn**	**10 04 12.9**	**+0.2**
CEVE				*e*S	**Sn**	**10 04 52.0**	**+2.4**
CEVE				IAML		10 05 04.3	
	comp=Z,2μm,0.2s						
SNJE	**San Jose**	**3.17**	**111**	*e*P	**Pn**	**10 04 13.9**	**+1.2**
SNJE	**San Jose**	**3.17**	**111**	*e*P	**Pn**	**10 04 13.9**	**+1.2**
UNIC	**Santa Ana**	**3.17**	**108**	*e*P	**Pn**	**10 04 13.6**	**+0.9**
UNIC				*e*S	**Sn**	**10 04 52.7**	**+3.3**
UNIC	**Santa Ana**	**3.17**	**108**	*e*P	**Pn**	**10 04 13.6**	**+0.9**
UNIC				*e*S	**Sn**	**10 04 52.7**	**+3.3**
UEES	**San Salvador**	**3.55**	**111**	*e*S	**Sn**	**10 05 01.4**	**+2.7**
UEES				IAML		10 05 12.9	
	comp=Z,373nm,0.3s						
UEES	**San Salvador**	**3.55**	**111**	*e*S	**Sn**	**10 05 01.4**	**+2.7**
UEES				IAML		10 05 12.9	
	comp=Z,373nm,0.3s						
SNET	**Serv Nac Est T**	**3.58**	**111**	*e*S	**Sn**	**10 05 01.0**	**+1.7**
SNET				IAML		10 05 10.3	
	comp=Z,369nm,0.3s						
SNET	**Serv Nac Est T**	**3.58**	**111**	*e*S	**Sn**	**10 05 01.0**	**+1.7**
SNET				IAML		10 05 10.3	
	comp=Z,369nm,0.3s						
LFRS	**El Faro**	**3.75**	**111**	*e*P	**Pn**	**10 04 20.2**	**-0.4**
LFRS				*e*S	**Sn**	**10 05 05.3**	**+1.6**
PAVA	**Las Pavas**	**3.83**	**109**	*e*P	**Pn**	**10 04 21.9**	**+0.3**
PAVA				IAML		10 05 22.4	
	comp=Z,159nm,0.3s						
PAVA	**Las Pavas**	**3.83**	**109**	*e*P	**Pn**	**10 04 21.9**	**+0.3**
PAVA				IAML		10 05 22.4	
	comp=Z,159nm,0.3s						
TGUH	**Tegucigalpa,Un**	**5.30**	**100**	*e*Pn	**Pn**	**10 04 41.5**	**-0.1**
TGUH				*e*Sn	**Sn**	**10 05 38.6**	**-2.8**
LVIG	**Laguna Verde**	**5.90**	**323**	*e*Pn	**Pn**	**10 04 49.4**	**-0.3**
LVIG				*e*Sn	**Sn**	**10 05 57.4**	**+1.4**
TLIG	**Tlapa**	**6.21**	**295**	*e*Pn	**Pn**	**10 04 54.8**	**+0.6**
TLIG				*e*Sn	**Sn**	**10 06 02.2**	**-1.6**
ESTN	**Estel**	**6.39**	**106**	*e*Pn	**Pn**	**10 04 55.3**	**-1.3**
ESTN				*e*Sn	**Sn**	**10 06 06.6**	**-1.7**
MYIG	**Mrida**	**6.54**	**25**	*e*Pn	**Pn**	**10 04 59.0**	**+0.6**
MYIG				*e*Sn	**Sn**	**10 06 09.9**	**-1.6**
TEIG	**Tepich**	**6.66**	**38**	*e*Pn	**Pn**	**10 05 00.8**	**+0.6**
TEIG				*e*Sn	**Sn**	**10 06 16.1**	**+1.5**
ACON	**Acoyapa**	**7.89**	**112**	*e*Pn	**Pn**	**10 05 15.7**	**-1.2**
ACON				*e*Sn	**Sn**	**10 06 42.2**	**-2.4**
JTS	**Las Juntas de**	**8.87**	**121**	*e*Pn	**Pn**	**10 05 29.9**	**-0.4**
JTS				*e*Sn	**Sn**	**10 07 07.0**	**-1.7**
JTS	**Las Juntas de**	**8.87**	**121**	P	**Pn**	**10 05 30.2**	**-0.1**
	comp=Z,2.8nm,0.3s,baz=21,slow=17,SNR=26						
JTS				S	**Sn**	**10 07 06.1**	**-2.5**
	baz=18,slow=20,SNR=2.0						
833A	**Chaparral WMA,**	**14.64**	**336**	*e*Pn	**Pn**	**10 06 49.1**	**+1.0**
656A	**Willston**	**17.08**	**32**	*e*Pn	**Pn**	**10 07 18.8**	**+0.2**
	comp=Z,9.7nm,0.8s						
WHTX	**Lake Whitney,**	**17.46**	**346**	*e*P	**Pn**	**10 07 24.0**	**+0.7**
	comp=Z,3.0nm,0.6s						
555A	**McAlpin**	**17.49**	**29**	*e*P	**P**	**10 07 26.4**	**+2.7**
	comp=Z,17nm,1.0s						
TXAR	**Lajitas Array**	**17.50**	**326**	*e*P	**P**	**10 07 26.7**	**+2.6**
TXAR	**Lajitas Array**	**17.50**	**326**	P	**P**	**10 07 25.9**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=150,slow=14,SNR=7.8						
TX31	**Lajitas Ar. Si**	**17.50**	**326**	*e*P	**P**	**10 07 27.4**	**+3.3**
	comp=Z,0.1nm,0.3s						
453A	**Whigham**	**17.53**	**24**	*e*P	**P**	**10 07 26.4**	**+2.2**
	comp=Z,28nm,1.3s						
352A	**Blakely**	**17.86**	**22**	*e*P	**P**	**10 07 28.5**	**+0.7**
	comp=Z,18nm,0.8s						
LRAL	**Lakeview Retre**	**18.67**	**15**	*e*P	**P**	**10 07 37.5**	**+0.8**
	comp=Z,12nm,1.3s						
152A	**Waverly Hall**	**19.01**	**21**	*e*P	**P**	**10 07 41.2**	**+0.8**
	comp=Z,6.5nm,0.9s						
Z50A	**Ashland**	**19.16**	**17**	*e*P	**P**	**10 07 43.5**	**+1.3**
	comp=Z,14nm,1.4s						
MIAR	**Mount Ida**	**19.47**	**358**	*e*P	**Pn**	**10 07 49.3**	**+2.0**
	comp=Z,6.9nm,0.8s						
X43A	**Marvell**	**19.49**	**4**	*e*P	**Pn**	**10 07 50.0**	**+2.5**
	comp=Z,14nm,0.4s						
154A	**Montrose**	**19.56**	**25**	*e*P	**P**	**10 07 47.4**	**+0.9**
	comp=Z,17nm,0.6s						
X37A	**Clayton**	**19.65**	**353**	*e*P	**Pn**	**10 07 49.4**	**0.0**
	comp=Z,6.9nm,1.2s						
X48A	**Hartselle**	**20.01**	**14**	*e*P	**Pn**	**10 07 54.3**	**+0.6**
	comp=Z,8.3nm,1.0s						
GOGA	**Godfrey**	**20.13**	**23**	*e*P	**P**	**10 07 52.1**	**-0.5**
	comp=Z,6.5nm,0.8s						
MNTX	**Cornudas Mount**	**20.27**	**327**	*e*P	Pn	10 07 56.9	+0.1
	comp=Z,1.7nm,0.8s						
Y52A	**Lilburn**	**20.32**	**21**	*e*P	**P**	**10 07 55.4**	**+0.7**
	comp=Z,7.0nm,0.6s						
X51A	**Calhoun**	**20.70**	**18**	*e*P	**P**	**10 07 60.0**	**+1.1**
	comp=Z,7.2nm,0.7s						
AMTX	**Amarillo**	**21.39**	**339**	*e*P	**P**	**10 08 05.1**	**-1.2**
	comp=Z,3.3nm,0.7s						
CPCT	**Cooper Cave**	**21.62**	**18**	*e*P	**P**	**10 08 08.7**	**+0.1**
	comp=Z,4.1nm,1.1s						
ANMO	**Albuquerque**	**23.41**	**330**	pP	pP	10 08 45.3	+1.1
	comp=Z,0.5nm,0.5s,baz=148,slow=15,SNR=2.5						
WCI	**Wyandotte Cave**	**23.80**	**12**	*e*P	**P**	**10 08 31.2**	**+0.6**
	comp=Z,5.5nm,1.0s						
SJG	**San Juan**	**25.59**	**79**	LR	LR	10 18 59.5	
	comp=Z,18nm,21.4s,baz=66,slow=37						
ATAH	**Atahualpa**	**26.16**	**146**	LR	LR	10 17 38.5	
	comp=Z,29nm,18.8s,baz=226,slow=33						
PV05	**Paradox Valley**	**27.19**	**331**	*e*P	**P**	**10 09 01.5**	**0.0**
	comp=Z,2.7nm,0.7s						
MWC	**Mount Wilson**	**29.84**	**314**	*e*P	**P**	**10 09 27.5**	**+2.4**
	comp=Z,13nm,1.0s						
ELK	**Elko**	**32.30**	**327**	*e*P	**P**	**10 09 48.4**	**+1.8**
	comp=Z,1.2nm,1.3s						
SNOW	**Snow King Moun**	**32.30**	**335**	*e*P	**P**	**10 09 45.2**	**-1.5**
	comp=Z,3.4nm,1.3s						
NVAR	**Mina Array Bea**	**32.49**	**321**	*e*P	**P**	**10 09 50.2**	**+1.9**
NVAR	**Mina Array Bea**	**32.49**	**321**	P	**P**	**10 09 49.9**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=133,slow=8.2,SNR=16						
NVAR				pP	**pP**	**10 10 09.3**	**+2.6**
	comp=Z,0.9nm,0.7s,baz=130,slow=8.6,SNR=3.9						
MCMT	**McKenzie Canyo**	**34.29**	**334**	*e*P	**P**	**10 10 02.7**	**-1.3**
J08A	**Circle Bar Ran**	**35.85**	**327**	*e*P	**P**	**10 10 17.9**	**+0.7**
	comp=Z,1.0nm,1.5s						
F10A	**Beach Ranch, E**	**37.12**	**331**	*e*P	**P**	**10 10 26.3**	**-1.7**
	comp=Z,2.6nm,0.8s						
YKA	**Yellowknife Ar**	**49.90**	**347**	P	**P**	**10 12 08.0**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=149,slow=7.9,SNR=4.9						
YKA				pP	**pP**	**10 12 29.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=149,slow=7.4,SNR=5.5						
YKA				PcP	**PcP**	**10 13 27.3**	**-2.2**
	comp=Z,0.3nm,0.9s,baz=146,slow=4.5,SNR=3.9						
ILAR	**Eielson Array**	**61.66**	**337**	P	**P**	**10 13 33.3**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=121,slow=4.6,SNR=3.9						
LZH	**Lanzhou**	**126.83**	**343**	*e*PKP	**PKPdf**	**10 22 19.0**	**-1.3**
LZH				pPKP	pPKPdf	10 22 40.1	-2.3
LZH				sPKP		10 22 50.3	
CD2	**Chengdu**	**131.69**	**341**	PKP	**PKPdf**	**10 22 27.8**	**-1.7**
WRA	**Warramunga Arr**	**135.01**	**257**	PKP	**PKPdf**	**10 22 34.0**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=79,slow=2.1,SNR=4.8						
CMAR	**Chiang Mai Arr**	**144.83**	**341**	PKP	**PKPab**	**10 22 51.5**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=349,slow=3.7,SNR=5.5						

*SNET **10** 10:08:54.5±1.1, 14°.49N×92°.94W, h35km±999km, ML4.4*
*UCR **10** 10:08:54.6±1.3, 14°.87N×92°.84W, h48km±103km, MD3.9, ML4.1, mb4.1(NEIC)*
*ISCJB **10** 10:08:55.6±0.4, 15°.06N±0°.04×92°.64W±0°.03, h90km±3km, mb4.0/19, Error ellipse: s-maj=7.5km s-min=3.4km az=33.3*
*NEIC **10** 10:08:56.1±0.0, 14°.87N×92°.65W, h80km, mb4.1/40, MD4.0(MEX), After MEX.*
*MEX **10** 10:08:56.1±0.6, 14°.87N×92°.65W, h80km±6km, MD4.0*
*IDC **10** 10:08:57.0±2.2, 15°.20N×92°.44W, h94km±18km, mb3.5/3, mb1 3.9/5, mb1mx3.4/38, mbtmp3.9/5, MS3.2/2, Ms1 3.2/2, ms1mx2.7/20, Error ellipse: s-maj=47.7km s-min=16.2km az=23.0*
ISC 10 10:08:56.1±0.7, 15°.02N±0°.06×92°.62W±0°.05, h84km±6km, n98, σ1°58/118, mb4.1/19, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.36**	**108**	*e*Pn	**Pn**	**10 09 07.8**	**-1.4**
THIG				*e*Sn	**Sn**	**10 09 16.7**	**-2.2**
THIG		**0.36**	**108**	*e*P	**Pn**	**10 09 07.8**	**-1.4**
THIG				*e*S	**Sn**	**10 09 16.7**	**-2.2**
PCIG		**0.89**	**320**	*e*Pn	**Pn**	**10 09 13.7**	**-0.4**
PCIG				*e*Sn	**Sn**	**10 09 27.3**	**-0.2**
PCIG		**0.89**	**320**	*e*P	**Pn**	**10 09 13.7**	**-0.4**
PCIG				*e*S	**Sn**	**10 09 27.3**	**-0.2**
CCIG	**Comitan**	**1.34**	**20**	*e*Pn	**Pn**	**10 09 20.3**	**+0.5**
CCIG				*e*		10 09 20.5	
CCIG				*e*Sn	**Sn**	**10 09 38.5**	**+1.1**
CCIG	**Comitan**	**1.34**	**20**	*e*P	**Pn**	**10 09 20.3**	**+0.5**
FUG	**Fuego 3**	**1.81**	**108**	*e*P	**Pn**	**10 09 26.0**	**+0.1**
FUG				*e*S	**Sn**	**10 09 50.6**	**+2.2**
PCG	**Pacaya**	**2.05**	**108**	*e*P	**Pn**	**10 09 29.5**	**+0.5**
APG	**El Apazote**	**2.09**	**90**	P	**Pn**	**10 09 29.1**	**-0.3**
	59nm,0.3s,baz=199,slow=13,SNR=69						
APG				S	**Sn**	**10 09 52.9**	**-2.0**
	50nm,0.3s,baz=216,slow=15,SNR=7.3						
APG				LR	LR	10 10 13.9	
	comp=Z,275nm,20.8s,baz=256,slow=40						
NBG	**Las Nubes**	**2.24**	**101**	*e*P	**Pn**	**10 09 32.3**	**+0.7**
IXG	**Ixpaco**	**2.27**	**112**	*e*P	**Pn**	**10 09 33.1**	**+1.1**
MRL	**Marmol**	**2.84**	**88**	*e*P	**Pn**	**10 09 40.3**	**+0.7**
CMIG	**Matias Romero**	**2.99**	**314**	P	**Pn**	**10 09 41.1**	**-0.3**
	22nm,0.3s,baz=143,slow=8.7,SNR=29						
CMIG				S	**Sn**	**10 10 16.3**	**-0.1**
	44nm,0.3s,baz=120,slow=20,SNR=9.7						
RTR	**El Retiro**	**3.09**	**111**	*e*P	**Pn**	**10 09 43.4**	**+0.4**
RTR				*e*S	**Sn**	**10 10 22.4**	**+3.3**
RTR	**El Retiro**	**3.09**	**111**	*e*P	**Pn**	**10 09 43.4**	**+0.4**
RTR				*e*S	**Sn**	**10 10 22.4**	**+3.3**
SBLS	**San Blas**	**3.13**	**112**	*e*P	**Pn**	**10 09 43.7**	**+0.1**
SBLS	**San Blas**	**3.13**	**112**	*e*P	**Pn**	**10 09 43.7**	**+0.1**
CEVE	**Cerro Verde**	**3.14**	**112**	*e*P	**Pn**	**10 09 44.9**	**+1.2**
CEVE				*e*S	**Sn**	**10 10 23.2**	**+2.9**
CEVE				IAML		10 10 30.8	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**3.14**	**112**	*e*P	**Pn**	**10 09 44.9**	**+1.2**
CEVE				*e*S	**Sn**	**10 10 23.2**	**+2.9**
CEVE				IAML		10 10 30.8	
	comp=Z,2μm,0.4s						
UNIC	**Santa Ana**	**3.14**	**109**	*e*P	**Pn**	**10 09 44.6**	**+1.1**
UNIC	**Santa Ana**	**3.14**	**109**	*e*P	**Pn**	**10 09 44.6**	**+1.1**
SNJE	**San Jose**	**3.14**	**111**	*e*P	**Pn**	**10 09 44.9**	**+1.2**
SNJE	**San Jose**	**3.14**	**111**	*e*P	**Pn**	**10 09 44.9**	**+1.2**
BOQS	**Boqueron**	**3.48**	**111**	*e*P	**Pn**	**10 09 49.4**	**+1.1**
UEES	**San Salvador**	**3.52**	**111**	IAML		10 10 43.2	
	comp=Z,604nm,0.2s						
UEES	**San Salvador**	**3.52**	**111**	IAML		10 10 43.2	
	comp=Z,604nm,0.2s						
SNET	**Serv Nac Est T**	**3.54**	**112**	*e*P	**Pn**	**10 09 49.8**	**+0.7**
SNET				*e*S	**Sn**	**10 10 33.0**	**+3.1**
SNET				IAML		10 10 38.0	
	comp=Z,581nm,0.2s						
SNET	**Serv Nac Est T**	**3.54**	**112**	*e*P	**Pn**	**10 09 49.8**	**+0.7**
SNET				*e*S	**Sn**	**10 10 33.0**	**+3.1**
SNET				IAML		10 10 38.0	
	comp=Z,581nm,0.2s						
OPAM	**San Salvador**	**3.56**	**111**	*e*P	**Pn**	**10 09 50.6**	**+1.4**
OPAM				IAML		10 10 42.8	
	comp=Z,495nm,0.2s						
OPAM	**San Salvador**	**3.56**	**111**	*e*P	**Pn**	**10 09 50.6**	**+1.4**
OPAM				IAML		10 10 42.8	
	comp=Z,495nm,0.2s						
LFRS	**El Faro**	**3.72**	**111**	*e*P	**Pn**	**10 09 53.0**	**+1.6**
LFRS				*e*S	**Sn**	**10 10 37.4**	**+3.1**
TGUH	**Tegucigalpa,Un**	**5.27**	**100**	*e*Pn	**Pn**	**10 10 12.1**	**-0.3**
TGUH				*e*Sn	**Sn**	**10 11 09.5**	**-2.3**
LVIG	**Laguna Verde**	**5.92**	**323**	*e*Pn	**Pn**	**10 10 21.4**	**+0.2**
TLIG	**Tlapa**	**6.24**	**295**	*e*Pn	**Pn**	**10 10 27.3**	**+1.5**
TLIG				*e*Sn	**Sn**	**10 11 34.8**	**-1.0**
ESTN	**Estel**	**6.36**	**107**	*e*Pn	**Pn**	**10 10 27.0**	**-0.4**
MYIG	**Mrida**	**6.51**	**24**	*e*Pn	**Pn**	**10 10 30.6**	**+1.3**
MYIG				*e*Sn	**Sn**	**10 11 40.3**	**-1.8**
TEIG	**Tepich**	**6.63**	**38**	*e*Pn	**Pn**	**10 10 31.6**	**+0.6**
TEIG				*e*Sn	**Sn**	**10 11 45.4**	**+0.3**
ACON	**Acoyapa**	**7.86**	**112**	*e*Pn	**Pn**	**10 10 47.6**	**-0.1**
JTS	**Las Juntas de**	**8.84**	**121**	*e*Pn	**Pn**	**10 11 02.0**	**+0.9**
JTS				*e*Sn	**Sn**	**10 12 34.7**	**-4.5**
JTS	**Las Juntas de**	**8.84**	**121**	P	**Pn**	**10 11 01.3**	**+0.1**
	comp=Z,4.4nm,0.3s,baz=19,slow=14,SNR=32						
JTS				S	**Sn**	**10 12 35.8**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=336,slow=20,SNR=2.2						
MOIG	**Morelia**	**9.40**	**301**	*e*Pn	**Pn**	**10 11 09.6**	**+0.7**
HDC	**Heredia**	**9.69**	**120**	*e*Pn	**Pn**	**10 11 12.9**	**+0.1**
LNIG	**Linares**	**11.74**	**328**	*e*Pn	**Pn**	**10 11 39.7**	**-0.9**
833A	**Chaparral WMA,**	**14.65**	**336**	*e*Pn	**Pn**	**10 12 20.0**	**+0.9**
061Z	**Ochoppi**	**15.38**	**44**	*e*Pn	**Pn**	**10 12 27.3**	**-1.2**
	comp=Z,104nm,1.3s						
HPIG		**16.98**	**316**	*e*Pn	**P**	**10 12 50.5**	**+1.2**
	comp=Z,1.9nm,0.7s						
WHTX	**Lake Whitney,**	**17.46**	**346**	*e*P	**Pn**	**10 12 51.9**	**-2.3**
	comp=Z,3.9nm,0.9s						
TXAR	**Lajitas Array**	**17.52**	**326**	*e*P	**P**	**10 12 54.3**	**-0.7**
TXAR	**Lajitas Array**	**17.52**	**326**	P	**Pn**	**10 12 57.1**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=149,slow=14,SNR=6.8						
TX31	**Lajitas Ar. Si**	**17.52**	**326**	*e*P	**P**	**10 12 55.0**	**0.0**
	comp=Z,3.2nm,1.4s						
352A	**Blakely**	**17.83**	**22**	*e*P	**Pn**	**10 13 00.6**	**+1.9**
	comp=Z,17nm,0.9s						
147A	**Livingston**	**18.01**	**12**	*e*P	**Pn**	**10 13 03.9**	**+3.0**
	comp=Z,9.3nm,0.8s						
TIGA	**Tifton**	**18.31**	**25**	*e*P	**Pn**	**10 13 04.4**	**-0.2**
	comp=Z,19nm,1.1s						
WLAR	**White Oak Lake**	**18.59**	**359**	*e*P	**Pn**	**10 13 08.2**	**+0.3**
	comp=Z,9.5nm,0.5s						
LRAL	**Lakeview Retre**	**18.65**	**15**	*e*P	**Pn**	**10 13 09.6**	**+1.1**
	comp=Z,9.2nm,1.4s						
ABTX	**Abilene, Hawle**	**18.65**	**341**	*e*P	**Pn**	**10 13 11.2**	**+2.6**
	comp=Z,4.1nm,0.9s						
152A	**Waverly Hall**	**18.98**	**21**	*e*P	**Pn**	**10 13 13.4**	**+0.9**
	comp=Z,11nm,1.0s						
Z50A	**Ashland**	**19.14**	**17**	*e*P	**Pn**	**10 13 15.0**	**+0.6**
	comp=Z,3.8nm,0.8s						
MIAR	**Mount Ida**	**19.46**	**358**	*e*P	**Pn**	**10 13 20.3**	**+2.2**
	comp=Z,5.8nm,0.8s						
X43A	**Marvell**	**19.48**	**4**	*e*P	**Pn**	**10 13 17.6**	**-0.7**
	comp=Z,18nm,1.1s						
Y49A	**Blount Mountai**	**19.58**	**16**	*e*P	**P**	**10 13 17.6**	**+0.

APSI	Ampana	1.36	199	P		Pn	10 19 14.7 +0.5
APSI				S		Sn	10 19 38.4 0.0
LUWI	Luwuk	1.57	155	P		Pn	10 19 16.8 +0.7
LUWI				S		Sn	10 19 41.9 +0.1
KMSI	Cibinong	1.89	84	P		Pn	10 19 19.7 +0.3
MPSI	Mapaga	2.20	269	P		Pn	10 19 22.8 +0.1
PCI	Palu	2.60	240	P		Pn	10 19 27.8 +0.6
TTSI	Tana Toraja	4.10	214	P		Pn	10 19 45.1 -0.5
SANI	Sanana	4.58	122	P		Pn	10 19 51.6 -0.2
SGKI	Sangatta, Kali	4.58	259	P		Pn	10 19 51.2 -0.7
SGSI	Sangihe	4.75	46	P		Pn	10 19 53.1 -0.9
BNSI	Bone	5.15	203	P		Pn	10 20 00.3 +1.1
TNTI	Ternate	5.28	86	P		Pn	10 20 00.4 -0.5
BKB	Balikpapan	5.45	253	P		Pn	10 20 02.5 -0.6
FITZ	Fitzroy Crossi	18.69	169	P		P	10 22 47.1 -0.5
	0.4nm,0.3s,baz=9.3,slow=8.3,SNR=18						
WRA	Warramunga Arr	23.49	150	P		P	10 23 35.1 -1.3
	0.4nm,0.2s,baz=327,slow=11,SNR=25						
ASAR	Alice Springs	26.52	155	P		P	10 24 03.2 -0.6
	0.6nm,0.5s,baz=330,slow=8.0,SNR=14						
ASAR				PcP		PcP	10 27 22.8 -1.0
	0.2nm,0.3s,baz=348,slow=2.1,SNR=6.2						
SONM	Songino Array	49.20	346	P		P	10 27 14.1 +1.4
	1.0nm,0.7s,baz=152,slow=9.4,SNR=4.4						
WMQ	Urumqi	53.00	329	eP		P	10 27 40.3 -0.7
MKAR	Makanchi Array	57.82	329	P		P	10 28 16.3 +1.0
	0.5nm,0.3s,baz=128,slow=7.9,SNR=3.6						
KURBB	Kurchatov Arra	62.18	330	P		P	10 28 44.9 +0.1
	0.2nm,0.3s,baz=120,slow=5.9,SNR=2.8						

MAN 10 10:20:39.2, 8°.97N×125°.59E, h12^{km}, MS1.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.03	94	eP	Pg	10 20 41.8	+0.4
BUTP				eS	Sg	10 20 48.0	+5.1
SCPH	Surigao	0.81	353	eP	Pg	10 20 54.5	-0.5
SCPH				eS	Sg	10 21 02.9	-2.7
CGP	Cagayan de Oro	1.02	240⇓	eP	Pb	10 20 57.5	-1.5
CGP				eS	Sn	10 21 13.8	+0.1
BUKP	Musuan	1.21	206	eP	Pn	10 21 01.2	-0.7
BUKP				eS	Sn	10 21 23.7	+5.5

*ISCJB **10** 10:21:20.4±0.4, 50°.08N±0°.02×18°.32E±0°.02, h0^{km}, Error ellipse: s-maj=3.3km s-min=1.9km az=9.8*
*IPEC **10** 10:21:22.4±0.2, 50°.07N×18°.48E, h0^{km}, ML2.5/3, Error ellipse: s-maj=2.0km s-min=1.1km az=160.0*
*BGR **10** 10:21:24.4±0.9, 50°.11N×18°.28E, h1^{km}, ML3.1/9, Error ellipse: s-maj=7.8km s-min=3.3km az=62.0*

ISC 10 10:21:21.6±0.8, 50°.05N±0°.03×18°.37E±0°.02, h0^{km}, n51, σ1§06/78, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.26	214	ePg	Pb	10 21 29.1	-0.1
OKC				eSg	Sb	10 21 34.0	-0.2
OKC	Ostrava-Krasne	0.26	214	ePG	Pb	10 21 29.0	-0.1
OKC				eSG	Sb	10 21 32.9	-1.3
	comp=Z,230nm,0.7s						
CHZP	Chorzow	0.47	59	ePg	Pg	10 21 31.2	+0.6
CHZP				eSg	Sg	10 21 37.2	+0.6
MORC	Moravsky Berou	0.60	243	ePG	Pb	10 21 35.2	+0.1
MORC				eSG	Sb	10 21 43.7	-0.4
MORC	Moravsky Berou	0.60	243	ePg	Pb	10 21 35.2	+0.1
	baz=64						
MORC				eSg	Sb	10 21 43.7	-0.4
	74nm,0.4s,baz=64						
MORC	Moravsky Berou	0.60	243	ePg	Pb	10 21 35.2	+0.1
MORC				eSg	Sb	10 21 43.1	-1.0
OJC	Ojcow	0.93	79	ePg	Pg	10 21 39.1	-0.5
OJC				eSg	Sg	10 21 51.3	-0.3
KRLC	Kraliky	1.02	272	ePG	Pb	10 21 42.5	+0.2
KRLC				eSG	Sb	10 21 56.0	-0.3
	comp=Z,24nm,0.6s						
LANS	Liptovska Anna	1.15	141	ePG	Pb	10 21 44.7	+0.3
LANS				eSG	Sg	10 21 57.8	-0.7
JAVC	Velka Javorina	1.28	201	ePG	Pn	10 21 47.9	+1.1
JAVC				eSG	Sn	10 22 04.3	-0.3
DPC	Dobruska-Polom	1.35	284	ePg	Pb	10 21 48.7	+0.8
DPC	Dobruska-Polom	1.35	284	ePG	Pb	10 21 48.6	+0.8
DPC				eSG	Sn	10 22 06.6	+0.1
	comp=Z,73nm,0.3s						
VRAC	Vranov	1.37	238	ePG	Pb	10 21 49.2	+1.0
VRAC				eSG	Sn	10 22 07.5	+0.5
VRAC	Vranov	1.37	238	ePg	Pb	10 21 49.1	+0.9
	baz=57						
VRAC				eSg	Sn	10 22 07.4	+0.5
	51nm,0.4s,baz=57						
VRAC	Vranov	1.37	238	ePg	Pb	10 21 49.0	+0.9
VRAC				eSg	Sn	10 22 07.9	+0.9
NIE	Niedzica	1.40	116	ePg	Pb	10 21 49.0	+0.3
NIE				eSg	Sb	10 22 07.9	+0.7
KSP	Ksiaz	1.55	302	ePg	Pn	10 21 50.7	+0.3
KSP				eSg	Sb	10 22 12.6	+1.3
UPC	Upice	1.58	288	ePG	Pg	10 21 52.5	+0.6
UPC				eSG	Sg	10 22 14.2	+1.8
	comp=Z,35nm,0.5s						
VYHS	Vyhne	1.59	169	ePG	Pb	10 21 51.7	-0.1
VYHS				eSG	Sg	10 22 14.1	+1.5
KRUC	Moravsky	1.62	233	ePG	Pg	10 21 53.1	+0.4
KRUC				eSG	Sg	10 22 15.4	+1.6
KRUC	Moravsky	1.62	233	ePg	Pg	10 21 53.1	+0.4
	baz=53						
KRUC				eSg	Sg	10 22 15.4	+1.6
	60nm,0.6s,baz=53						
KRUC	Moravsky	1.62	233	eSg	Sg	10 22 15.3	+1.5
MODS	Modra-Piesok	1.82	204	ePN	Pn	10 21 54.3	0.0
MODS				eSN	Sn	10 22 14.7	-3.4
MODS				eLG	Lg	10 22 26.1	
STHS	Stebnicka Huta	1.97	108	ePN	Pb	10 21 58.8	+0.4
STHS				eSN	Sb	10 22 23.5	+0.1
TREC	Trest	2.02	249	eSg	Sg	10 22 27.1	+0.6
TREC	Trest	2.02	249	eSG	Sg	10 22 26.7	+0.2
	comp=Z,22nm,0.3s						
KECS	Kecovo	2.09	138	eSN	Sn	10 22 23.4	-1.3
GOPC	GO Pecny, Ondr	2.32	268	eSG	Sg	10 22 35.5	-0.6
	comp=Z,19nm,0.4s						
PRU	Pruhonice	2.47	270	eSg	Sg	10 22 40.3	-0.7
PRU	Pruhonice	2.47	270	eSG	Sg	10 22 40.0	-1.0
	comp=Z,20nm,0.5s						
PVCC	Panska Ves	2.48	283	eSG	Sg	10 22 42.8	+1.4
	comp=Z,33nm,0.4s						
CONA	Conrad Observa	2.69	219	Pn	Pb	10 22 09.1	-1.6
	1.1nm,0.3s						
CONA				Sn	Sn	10 22 40.6	+1.1
	1.5nm,0.2s						
KOLS	Kolonicke sedl	2.78	112	eSN	Sn	10 22 40.0	-1.6
BRG	Berggiesshubel	2.95	288	PG	Pg	10 22 17.9	-0.2
BRG				SG	Sg	10 22 56.4	+0.1
	12nm,0.5s						
BRG	Berggiesshubel	2.95	288	eSg	Sg	10 22 55.9	-0.4
KHC	Kasperske Hory	3.25	255	ePG	Pg	10 22 23.2	-0.7
KHC				eSG	Sg	10 23 05.0	-1.1
	comp=Z,14nm,0.5s						
GEC2	GERESS Array S	3.28	250	eSg	Sg	10 23 06.7	-0.1
FBE	Freiberg	3.32	287	eSg	Sg	10 23 08.5	+0.2
ARSA	Arzberg	3.38	215	Sg	Sg	10 23 13.3	+3.2
	1.4nm,0.4s						
MOA	Molln	3.49	232	Pg	Pg	10 22 27.3	-1.2
	0.6nm,0.2s						
MOA				Sg	Sg	10 23 14.0	+0.3
	15nm,0.5s						
CLL	Collm	3.64	292	ePg	Pg	10 22 32.0	+0.6
CLL				e		10 22 38.0	
CLL				eSg	Sg	10 23 17.0	-1.5
	comp=Z,12nm,0.6s						
CLL	Collm	3.64	292	eSg	Sg	10 23 16.9	-1.6
TANN	Tannenbergstha	3.81	278	eSg	Sg	10 23 22.0	-2.1
NKC	Novy Kostel	3.81	275	eSG	Sg	10 23 24.4	+0.3
	comp=Z,16nm,0.6s						
MULD	Muldenberg	3.85	278	eSg	Sg	10 23 23.8	-1.4
WERN	Wernitzgruen	3.86	276	eSg	Sg	10 23 24.6	-1.0
GUNZ	Gunzen	3.89	277	eSg	Sg	10 23 25.9	-0.8
HKWD	Heukewalde	3.98	284	ePg	Pg	10 22 37.4	-0.5
ROTZ	Rotzenmuhle	4.00	268	eSg	Sg	10 23 30.5	+0.6
MOX	Moxa	4.37	280	eSg	Sg	10 23 39.6	-2.3
CHRS	Christianenhau	5.04	291	eSg	Sg	10 24 02.5	-0.8

*MOS **10** 10:25:53.1±1.2, 51°.51N×177°.39E, h28^{km}, mb4.9/49, MS4.2/5, Error ellipse: s-maj=7.0km s-min=5.4km az=96.1*
*ISCJB **10** 10:25:54.3±0.2, 51°.52N±0°.03×177°.42E±0°.02, h43^{km}, mb4.7/204, MS4.2/52, Error ellipse: s-maj=4.9km s-min=1.9km az=179.2*
*BJI **10** 10:25:55.6±0.0, 51°.50N×177°.40E, h62^{km}, mb4.9/35, mB5.0/25, Ms4.6/20, Ms7 4.3/20*
*IDC **10** 10:25:55.3±1.9, 51°.56N×177°.43E, h31^{km}±12^{km}, mb4.4/36, mb1 4.5/39, mb1mx4.5/46, mbtmp4.5/39, MS3.5/2, MS4.0/42, Ms1 4.0/42, ms1mx4.0/56, Error ellipse: s-maj=15.1km s-min=8.5km az=169.0*
*GCMT **10** 10:25:57.3±0.3, 51°.49N±0°.02×177°.28E±0°.03, h34^{km}±2^{km}, MW5.0/82, Moment Tensor Solution. s37,c43; s82,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.80±.15; $M_{\theta\theta}$-2.38±.12; $M_{\phi\phi}$1.58±.12; $M_{r\theta}$2.31±.19; $M_{\theta\phi}$-1.47±.08; $M_{\phi r}$-0.24±.11; Best double couple: $M_0$3.33500×10^{16} NP1:ϕ_s108.00000°, δ83.00000°, λ133.00000°. NP2: ϕ_s206.00000°, δ44.00000°, λ10.00000°. Principal axes: T 2.8080, Plg37.0000°, Azm55.0000°; N 1.0550, Plg43.0000°, Azm282.0000°; P -3.8620, Plg25.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **10** 10:25:57.3, 51°.88N×177°.41E, h30^{km}, ML4.8, MB4.8(NEIC)*
*NEIC **10** 10:25:57.3±0.0, 51°.88N×177°.41E, h30^{km}, mb4.8/284, ML4.8(AEIC), After AEIC.*

ISC 10 10:25:56.8±0.3, 51°.56N±0°.06×177°.32E±0°.03, h43^{km}, n727, σ1§50/740, mb4.8/204, MS4.2/52, 25C-3D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	2.30	302	ePn	Pn	10 26 32.6	+0.4
SMY				eSn	Sn	10 27 00.2	+1.0
SMY	Shemya	2.30	302	eP	Pn	10 26 32.6	+0.4
SMY				e		10 27 00.2	
GALAA	Gareloi Lava P	2.44	84	ePn	Pn	10 26 35.3	+1.2
GAEA	Gareloi East	2.46	83	ePn	Pn	10 26 35.5	+1.2
TASE	Tanaga Southea	2.90	83	ePn	Pn	10 26 41.4	+1.0
TAFP	Tanaga Falls P	2.94	82	ePn	Pn	10 26 41.6	+0.7
TAFP				eSn	Sn	10 27 16.7	+1.7
KIKV	Kanaga Island	3.44	83	ePn	Pn	10 26 48.5	+0.7
KIWB	Kanaga Island	3.45	83	ePn	Pn	10 26 48.5	+0.6
KIWB				eSn	Sn	10 27 26.6	-0.9
KINC	Kanaga Island	3.47	82	ePn	Pn	10 26 49.2	+1.0
KIRH	Kanaga Island	3.49	82	ePn	Pn	10 26 49.5	+1.1
ADK	Adak	3.74	83	ePn	Pn	10 26 52.3	+0.4
ADK				eSn	Sn	10 27 32.1	-2.5
ADK	Adak	3.74	83	eP	Pn	10 26 52.3	+0.4
ADK				e		10 27 32.1	
ADAG	Mount Adagdak	3.80	81	ePn	Pn	10 26 53.3	+0.6
ETKA	Kagalaska Isla	3.91	83	ePn	Pn	10 26 54.9	+0.6
GSTD	Great Sitkin T	4.08	81	ePn	Pn	10 26 57.3	+0.6
GSTD				eSn	Sn	10 27 45.3	+2.0
GSMY	Great Sitkin M	4.14	81	ePn	Pn	10 26 58.3	+0.9
GSTR	Great Sitkin T	4.14	80	ePn	Pn	10 26 57.8	+0.4
GSTR				eSn	Sn	10 27 45.2	+0.7
KOWE	Korovin West	5.27	78	ePn	Pn	10 27 14.2	+1.2
ATKA	Atka Island	5.29	80	ePn	Pn	10 27 14.2	+1.0
ATKA				eSn	Sn	10 28 13.3	+0.5
KOKL	Mount Kliuchef	5.30	78	ePn	Pn	10 27 15.2	+1.9
KOFP	Korovin Flat P	5.36	79	ePn	Pn	10 27 16.1	+1.9
NIKH	Nikolski High	8.60	75	ePn	Pn	10 28 01.0	+2.5
NIKH				eSn	Sn	10 29 35.4	+1.4
OKAK	Okmok	8.95	71	ePn	Pn	10 28 04.8	+1.4
OKWE	Okmok W'ng Wal	9.01	72	ePn	Pn	10 28 06.3	+2.2
SPIA	Saint Paul Isl	9.17	47	ePn	Pn	10 28 09.3	+3.0
SPIA				eSn	Sn	10 29 49.3	+1.3
MCIR	Makushin Cirqu	9.87	70	ePn	Pn	10 28 18.6	+2.8
MSW	Makushin Switc	9.92	70	ePn	Pn	10 28 19.1	+2.4
MREP	Makushin Rep't	9.93	71	ePn	Pn	10 28 19.2	+2.4
UNV	Unalaska Valle	10.08	71	ePn	Pn	10 28 21.4	+2.7
UNV				eSn	Sn	10 30 11.1	+0.8
AKUT	Akutan	10.54	69	ePn	Pn	10 28 28.2	+3.1
AKUT				eSn	Sn	10 30 23.8	+2.1
PET	Petropavlovsk	11.53	285	ePn	Pn	10 28 40.0	+1.5
PET				eSn	Sn	10 30 42.1	-3.7
PET	Petropavlovsk	11.53	285	eP	Pn	10 28 38.5	0.0
PET				eS	Sn	10 30 47.5	+1.8
PET				pmax	pmax		
	comp=Z,19nm,0.6s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET				MLR	MLR		
	comp=Z,600nm,16.0s						
FALS	False Pass	12.00	67	ePn	Pn	10 28 48.2	+3.2
FALS				eSn	Sn	10 30 57.9	+0.6
PEA0B	Petropavlovsk-	12.10	285	ePn	Pn	10 28 48.6	+2.2
PEA0B				eSn	Sn	10 30 58.5	-1.3
PEA0B	Petropavlovsk-	12.10	285	eP	Pn	10 28 48.6	+2.2
PEA0B				e		10 30 58.5	
PETK	Petropavlovsk-	12.10	285	ePn	Pn	10 28 45.2	-1.2
PETK				eSn	Sn	10 30 56.0	-3.8
PETK	Petropavlovsk-	12.10	285	eP	Pn	10 28 45.2	-1.2
PETK				e		10 30 56.0	
PETK	Petropavlovsk-	12.10	285	Pn	Pn	10 28 48.1	+1.7
	comp=Z,1.2nm,0.3s,baz=98,slow=18,SNR=26						
PETK				Sn	Sn	10 30 55.1	-4.7
	comp=Z,1.6nm,0.3s,baz=87,slow=28,SNR=3.5						
PETK				LR	LR	10 32 55.3	
	comp=Z,402nm,21.6s,baz=89,slow=34						
GAMB	Gambell	13.55	21	ePn	Pn	10 29 07.8	+1.8
SDPT	Sand Point	13.74	65	ePn	Pn	10 29 07.7	-1.1
CHGN	Chignik	15.02	62	ePn	Pn	10 29 24.7	-1.1
ANM	Nome	15.84	28	ePn	Pn	10 29 37.9	+1.4
	comp=Z,23nm,0.9s						
ANM	Nome	15.84	28	eP	Pn	10 29 37.9	+1.4
ANM				pmax	pmax		
	comp=Z,23nm,0.9s						
MA2	Magadan	16.93	309	ePn	P	10 29 51.1	-0.6
	comp=Z,4.1nm,0.9s						
MA2	Magadan	16.93	309	ceP	Pn	10 29 50.6	+0.4
MA2				pmax	pmax		
	comp=Z,31nm,2.5s						
MA2	Magadan	16.93	309	Pn	P	10 29 54.4	+2.7
	comp=Z,0.4nm,0.3s,baz=110,slow=11,SNR=4.5						
MA2				LR	LR	10 35 45.7	
	comp=Z,353nm,19.0s,baz=112,slow=35						
SII	Sitkinak Islan	17.38	62	ePn	Pn	10 29 53.7	-2.1
	comp=Z,58nm,1.1s						
BILL	Bilibino	17.38	346	ePn	P	10 29 56.9	+0.3
	comp=Z,32nm,0.9s						
BILL	Bilibino	17.38	346⇑	iP	P	10 29 57.5	+0.8
BILL				eS	S	10 33 12.2	-2.7
BILL				pmax	pmax		
	comp=Z,38nm,0.9s						
BILL				MLR	MLR		
	comp=Z,972nm,21.0s						
SEY	Seymchan	17.52	320	ceP	Pn	10 29 56.5	-0.9
SEY	Seymchan	17.52	320	P	P	10 29 57.9	-0.3
	comp=Z,0.2nm,0.3s,baz=124,slow=14,SNR=2.5						
SVW2	Sparrevohn	17.67	47	ePn	P	10 30 01.4	+1.5
	comp=Z,42nm,1.0s						
OHAK	Old Harbor	17.93	60	ePn	Pn	10 29 59.9	-2.7
	comp=Z,29nm,0.6s						
KDAK	Kodiak Island	18.37	58	ePn	P	10 30 05.2	-2.5
	comp=Z,29nm,0.6s						
KDAK	Kodiak Island	18.37	58	P	P	10 30 05.0	-2.6
	comp=Z,13nm,0.3s,baz=276,slow=3.0,SNR=91						
KDAK				S	Sn	10 33 22.8	-9.2
	comp=Z,0.2nm,0.3s,baz=295,slow=17,SNR=2.6						
KDAK				LR	LR	10 37 46.1	
	comp=Z,1μm,19.6s,baz=255,slow=39						
RSO	Redoubt South	18.80	50	eP	Pn	10 30 13.7	+0.4
RDOG	Red Dog Mine	19.13	23	eP	Pn	10 30 18.1	+1.1
	comp=Z,66nm,0.7s						
HOM	Homer	19.16	53	eP	P	10 30 16.5	+0.3
	comp=Z,143nm,0.6s						
BRLK	Bradley Lake	19.55	53	eP	P	10 30 19.4	-1.1
	comp=Z,93nm,0.8s						
PPLA	Purkeypile	19.80	43	eP	Pn	10 30 24.7	-0.5
	comp=Z,71nm,0.9s						
CAST	Castle Rocks	20.04	42	eP	Pn	10 30 27.6	-0.3
	comp=Z,40nm,0.8s						
SEW	Seward	20.33	52	eP	P	10 30 28.4	-0.5
	comp=Z,76nm,0.7s						
RC01	Rabbit Creek A	20.38	49	eP	P	10 30 30.0	+0.4
	comp=Z,42nm,0.7s						
IMAR	Indian Mountai	20.54	34	eP	P	10 30 31.9	+0.7
BPAW	Bear Paw Mtn.	20.75	41	eP	Pn	10 30 35.0	-1.2
	comp=Z,63nm,0.6s						
PMR	Palmer	20.78	48	eP	P	10 30 33.6	-0.2
	comp=Z,16nm,0.6s						
PMR	Palmer	20.78	48	eP	P	10 30 33.7	-0.2
PMR				pmax	pmax		
	comp=Z,16nm,0.6s						
GHO	Glory Hole Cre	20.92	48	eP	P	10 30 34.9	-0.6
	comp=Z,38nm,0.6s						
KNK	Knik Glacier	21.06	49	eP	P	10 30 36.0	-0.9
	comp=Z,76nm,0.8s						
SML	Sawmill	21.20	48	eP	P	10 30 37.7	-0.7
	comp=Z,70nm,0.8s						
SML	Sawmill	21.20	48	eP	P	10 30 37.7	-0.7
SML				pmax	pmax		
	comp=Z,70nm,0.8s						
MLY	Manley	21.21	38	eP	P	10 30 39.8	+1.3
	comp=Z,90nm,1.2s						
BWN	Browne	21.40	41	eP	P	10 30 40.8	+0.4
	comp=Z,102nm,0.8s						
MCK	McKinley	21.47	42	eP	P	10 30 40.9	-0.3
	comp=Z,31nm,0.8s						
MCK	McKinley	21.47	42	eP	P	10 30 40.9	-0.3
MCK				pmax	pmax		
	comp=Z,31nm,0.8s						
GLI	Glacier Island	21.61	51	eP	P	10 30 41.9	-0.8
	comp=Z,68nm,0.5s						
TYV	Tymovskoe	21.61	282	eP	P	10 30 41.1	-1.7
TYV				eS	S	10 34 38.4	-1.3
TYV				pmax	pmax		
	comp=Z,200nm,4.4s						
TYV				smax	smax		
	comp=E,600nm,8.2s						
SCM	Sheep Creek Mo	21.68	48	eP	P	10 30 43.2	-0.3
	comp=E,76nm,0.6s						
SCM	Sheep Creek Mo	21.68	48	eP	P	10 30 43.2	-0.3
SCM				pmax	pmax		
	comp=Z,76nm,0.6s						
MID	Middleton Isla	21.80	55	eP	P	10 30 45.2	+0.6
	comp=Z,102nm,0.8s						
MID	Middleton Isla	21.80	55	eP	P	10 30 45.3	+0.6
MID				pmax	pmax		
	comp=Z,102nm,0.8s						
DHY	Denali Highway	21.95	45	eP	P	10 30 46.1	-0.4
	comp=Z,58nm,0.6s						
WRH	Wood River Hil	22.06	41	eP	P	10 30 46.8	-0.7
	comp=Z,31nm,1.0s						
MDM	Murphy Dome	22.17	40	eP	P	10 30 49.1	+0.4
	comp=Z,68nm,0.7s						
EYAK	Cordova Ski Ar	22.21	52	eP	P	10 30 48.5	-0.7
	comp=Z,38nm,0.9s						
CCB	Clear Creek Bu	22.24	41	eP	P	10 30 48.5	-0.9
	comp=Z,29nm,0.9s						
KLU	Klutina	22.27	49	eP	P	10 30 49.0	-0.9
	comp=Z,37nm,0.7s						
DIV	Divide	22.28	50	eP	P	10 30 48.9	-1.1
	comp=Z,49nm,0.7s						
NKL	Nikolayevsk	22.28	289	eP	P	10 30 52.5	+2.5
TCOL	CIGO, UAF Yank	22.29	40	P	P	10 30 49.8	-0.2
	baz=250,SNR=32						
COLA	College	22.29	40	eP	P	10 30 50.8	+0.8
	comp=Z,49nm,0.6s						
COLA	College	22.29	40	c iP	P	10 30 50.5	+0.5
COLA				pmax	pmax		
	comp=Z,61nm,1.3s						
HDA	Harding Lake	22.51	41	eP	P	10 30 51.9	-0.5
	comp=Z,36nm,0.5s						
HDA	Harding Lake	22.51	41	P	P	10 30 51.9	-0.5
	baz=253,SNR=66						
POKR	Poker Plat Res	22.55	40	P	P	10 30 52.6	-0.2
	baz=250,SNR=26						
ILAR	Eielson Array	22.65	41	eP	P	10 30 52.3	-1.5
ILAR	Eielson Array	22.65	41	eP	P	10 30 52.3	-1.5
ILAR	Eielson Array	22.65	41	P	P	10 30 51.9	-2.0
	comp=Z,15nm,0.5s,baz=242,slow=9.2,SNR=157						
ILAR				ScP	ScP	10 38 19.0	+0.2
	comp=Z,1.0nm,0.7s,baz=280,slow=2.9,SNR=7.2						
ILAR				LR	LR	10 40 03.5	
	comp=Z,587nm,20.1s,baz=256,slow=38						
ILB	Eielson Array	22.65	41	eP	P	10 30 52.2	-1.5
	comp=Z,29nm,0.9s						
PAX	Paxson	22.77	46	eP	P	10 30 54.7	-0.5
	comp=Z,51nm,0.8s						
PAX	Paxson	22.77	46	eP	P	10 30 54.7	-0.5
PAX				pmax	pmax		
	comp=Z,51nm,0.8s						
YSS	Yuzh-Sakhalins	22.89	272	eP	P	10 30 53.1	-3.3
YSS				eS	S	10 34 59.5	-3.4
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				pmax	pmax		
	comp=Z,200nm,7.0s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
TOLK	Toolik Lake Re	23.29	30	P	P	10 31 00.9	+0.5
	baz=240,SNR=155						
ASAJ	Asahikawa	24.29	266	P	P	10 31 11.7	+1.9
	comp=Z,9.5nm,0.8s,baz=72,slow=6.0,SNR=6.8						
ASAJ				LR	LR	10 39 55.3	
	comp=Z,193nm,19.8s,baz=31,slow=34						
BCAR	Beaver Creek A	24.43	46	eP	P	10 31 11.6	+0.5
BMAR	Burnt Mountain	24.45	35	eP	P	10 31 11.9	+0.8
ERM	Erimo	25.06	261	eP	P	10 31 18.5	+1.6
	comp=Z,19nm,1.0s						
ERM	Erimo	25.06	261	i P	P	10 31 17.2	+0.4
ERM				pmax	pmax		
	comp=Z,11nm,0.8s						
GRNR	Gornyy	25.43	284	eP	P	10 31 37.1	+17
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
EPYK	Eagle Plains	27.14	39	P	P	10 31 35.0	-0.5
	baz=260,SNR=27						
YAK	Yakutsk	27.47	311	eP	P	10 31 37.9	-0.5
YAK				e		10 32 25.6	
YAK				e		10 34 53.4	
YAK				eS	S	10 36 15.1	-0.6
YAK				eSS	SnSn	10 37 30.9	+2.8
YAK				e		10 42 21.0	
YAK				pmax	pmax		
	comp=Z,88nm,0.8s						
YAK				pmax	pmax		
	comp=N,9.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,57nm,0.9s						
YAK				pmax	pmax		

USRK LR LR 10 43 11.9
comp=Z,185nm,21.8s,baz=56,slow=34
MJAR Matsushiro Arr 31.44 257 P **P 10 32 14.6 +0.7**
comp=Z,1.0nm,0.7s,baz=39,slow=6.4,SNR=3.5
MJAR LR LR 10 43 20.3
comp=Z,170nm,21.5s,baz=75,slow=33
MAJO Matsushiro 31.44 257 *e*P **P 10 32 14.6 +0.7**
MAJO Matsushiro 31.44 257 *e*P **P 10 32 14.6 +0.7**
H11N2 WAKE ISLAND Hy 32.81 198 T T 11 07 53.1
baz=11,slow=76,SNR=154
H11N3 WAKE ISLAND Hy 32.82 198 T T 11 07 58.9
baz=11,slow=76,SNR=158
H11N1 WAKE ISLAND Hy 32.83 198 T T 11 07 56.3
baz=11,slow=76,SNR=122
JHJ Hachijo jima 2 32.84 251 LR LR 10 42 53.6
comp=Z,174nm,21.5s,baz=146,slow=31
H11S1 WAKE ISLAND Hy 34.04 198 T T 11 09 20.0
baz=11,slow=76,SNR=121
H11S3 WAKE ISLAND Hy 34.05 198 T T 11 09 25.3
baz=11,slow=76,SNR=133
H11S2 WAKE ISLAND Hy 34.05 198 T T 11 09 25.2
baz=11,slow=76,SNR=86
CN2 Changchun 35.12 278 *e*P **P 10 32 48.1 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BOD Bodaibo 35.91 305 *e*P **P 10 32 51.9 -0.5**
BOD pmax pmax
comp=Z,22nm,1.6s
YKA Yellowknife Ar 36.85 46 P **P 10 33 00.3 -0.1**
comp=Z,5.3nm,0.7s,baz=287,slow=8.2,SNR=39
YKA PcP **PcP 10 35 21.0 -0.2**
comp=Z,1.0nm,0.7s,baz=291,slow=3.3,SNR=4.9
YKA ScP **ScP 10 39 04.1 -0.2**
comp=Z,0.8nm,0.8s,baz=291,slow=3.6,SNR=6.8
YKA LR LR 10 49 49.0
comp=Z,77nm,18.5s,baz=284,slow=39
KSRS Korea Array 37.22 267 P **P 10 33 04.2 +0.5**
comp=Z,1.6nm,0.8s,baz=52,slow=6.7,SNR=5.4
KSRS LR LR 10 47 44.1
comp=Z,84nm,20.6s,baz=53,slow=35
KS15 Wonju Array Ei 37.25 267 *e*P **P 10 33 04.2 +0.2**
comp=Z,4.3nm,0.9s
D03D Eldon 37.94 72 P **P 10 33 09.7 -0.1**
baz=299,SNR=11
B05A Bryant 38.17 70 P **P 10 33 11.3 -0.4**
baz=299
E04D Cinebar 38.73 73 P **P 10 33 16.1 -0.4**
baz=301,SNR=9.3
I02D Swisshome 39.23 77 P **P 10 33 20.9 +0.2**
baz=303
COR Corvallis 39.31 76 *e*P **P 10 33 20.8 -0.5**
comp=Z,13nm,0.6s
COR Corvallis 39.31 76 *e*P **P 10 33 20.8 -0.5**
COR pmax pmax
comp=Z,13nm,0.6s
H04D Lebanon 39.68 76 P **P 10 33 23.8 -0.7**
baz=303
I03D Drain, OR 39.76 77 P **P 10 33 24.1 -0.9**
baz=304
K02D Willamette Mer 40.11 79 P **P 10 33 28.1 0.0**
baz=304
G05D Wamic, OR 40.16 74 P **P 10 33 28.3 -0.1**
baz=302
I04A Tendick Farm, 40.27 77 P **P 10 33 29.3 -0.1**
baz=304,SNR=10.0
L02E Cave Junction 40.45 79 P **P 10 33 31.9 +1.0**
baz=305,SNR=12
RES Resolute Bay 40.57 24 *e*P **P 10 33 31.7 +0.3**
comp=Z,10nm,1.1s
RES Resolute Bay 40.57 24 *e*P **P 10 33 31.7 +0.3**
RES pmax pmax
comp=Z,10.0nm,1.1s
I05D Terrebonne, OR 40.63 75 P **P 10 33 32.1 -0.2**
baz=303,SNR=6.6
J04D Umpqua Nationa 40.76 77 P **P 10 33 33.6 0.0**
baz=304,SNR=9.8
NEW Newport 41.07 68 P **P 10 33 34.3 -1.6**
baz=301,SNR=16
NEW Newport 41.07 68 P **P 10 33 34.5 -1.4**
comp=Z,11nm,0.4s,baz=296,slow=8.1,SNR=21
PINE Pine Mountain 41.16 76 *e*P **P 10 33 35.9 -1.1**
comp=Z,7.0nm,0.9s
L04D Klamath Falls 41.21 79 P **P 10 33 37.6 +0.3**
baz=305,SNR=15
YBH Yreka Blue Hor 41.24 79 P **P 10 33 38.5 +1.1**
comp=Z,13nm,0.6s,baz=340,slow=7.0,SNR=28
J05D Fort Rock, OR 41.27 77 P **P 10 33 38.1 +0.4**
baz=304,SNR=19
K04D Chiloquin, OR 41.32 78 P **P 10 33 38.6 +0.4**
baz=305
M02C Callahan 41.35 80 P **P 10 33 39.2 +0.9**
baz=306,SNR=12
N02D Trinity Center 41.68 80 P **P 10 33 42.1 +1.0**
baz=306,SNR=18
M04C Macdoel 41.75 79 P **P 10 33 42.4 +0.7**
baz=306,SNR=23
K05A Summer Lake 41.79 77 *e*P **P 10 33 42.7 +0.6**
comp=Z,16nm,0.5s
I07A Izee 41.87 74 *e*P **P 10 33 42.4 -0.3**
comp=Z,11nm,0.7s
O02D Mt. Diablo Mer 42.10 81 P **P 10 33 45.2 +0.7**
baz=307,SNR=13
F10A Beach Ranch, E 42.20 71 *e*P **P 10 33 44.7 -0.6**
comp=Z,4.1nm,0.8s
MOD Modoc Plateau 42.62 78 *e*P **P 10 33 49.1 +0.3**
comp=Z,14nm,0.6s
O03E Paynes Creek 42.64 81 P **P 10 33 47.7 -1.1**
baz=307,SNR=37
J08A Circle Bar Ran 42.90 75 *e*P **P 10 33 50.8 -0.2**
comp=Z,7.3nm,0.6s
NRIK Noril'sk 43.01 329 P **P 10 33 51.1 -0.2**
comp=Z,2.7nm,0.6s,baz=110,slow=2.6,SNR=4.3
NRIK LR LR 10 52 53.9
comp=Z,164nm,19.1s,baz=62,slow=38
WVOR Wild Horse Val 43.32 76 *e*P **P 10 33 54.3 -0.1**
comp=Z,9.9nm,0.5s
WVOR Wild Horse Val 43.32 76 *e*P **P 10 33 54.3 -0.1**
WVOR pmax pmax
comp=Z,10.0nm,0.5s
MSO Missoula 43.66 68 P **P 10 33 55.6 -1.5**
baz=303,SNR=22
TLY Talaya 43.90 300 *i* P **P 10 33 58.8 0.0**
ULN Ulaanbaatar 43.99 294 *e*P **P 10 34 00.0 +0.3**
comp=Z,4.0nm,0.6s
ULN Ulaanbaatar 43.99 294 *ce*P **P 10 34 00.6 +0.9**
ULN pmax pmax
comp=Z,3.0nm,0.6s
SONA0 Songino Array 44.38 294 *e*P **P 10 34 03.6 +0.8**
SONM Songino Array 44.38 294 *e*P **P 10 34 03.1 +0.2**
SONM Songino Array 44.38 294 P **P 10 34 03.7 +0.8**
comp=Z,4.1nm,0.6s,baz=62,slow=8.0,SNR=16
SONM LR LR 10 53 42.4
comp=Z,113nm,18.8s,baz=74,slow=38
PAHR Pah Rah Range 44.48 80 *e*P **P 10 34 04.2 +0.5**
comp=Z,12nm,0.9s
VCNR Virginia City 44.56 80 *e*P **P 10 34 05.2 +0.7**
comp=Z,15nm,0.6s
PNTR Pine Nut 44.72 80 *e*P **P 10 34 06.5 +0.7**
comp=Z,32nm,0.6s
ZAK Zakamensk 44.76 299 *e*P **P 10 34 06.1 +0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
HLID Hailey 45.21 72 P **P 10 34 08.5 -1.0**
baz=306,SNR=14
HHC Hu-ho-hao-te 45.30 283 *e*P **P 10 34 11.1 +0.9**
HHC S **S 10 40 43.9 -3.6**
HHC pmax pmax
comp=Z,65nm,1.0s
HHC pmax pmax
comp=Z,260nm,5.4s
HHC LR LR
comp=Z,890nm,13.9s
HHC LR LR
comp=Z,680nm,14.5s
HHC LR LR
comp=Z,720nm,15.0s
MOY Mondy 45.32 302 *e*P **P 10 34 12.0 +1.7**
EGMT Eagleton 45.40 64 *e*P **P 10 34 11.1 +0.2**
comp=Z,8.7nm,0.8s
EGMT Eagleton 45.40 64 P **P 10 34 09.2 -1.7**
baz=304,SNR=7.0
MCMT McKenzie Canyo 45.41 70 *e*P **P 10 34 09.8 -1.4**
KVN Kaiserville 45.66 79 *e*P **P 10 34 13.0 -0.2**
comp=Z,8.4nm,0.6s
KVN Kaiserville 45.66 79 *e*P **P 10 34 13.0 -0.2**
KVN pmax pmax
comp=Z,8.0nm,0.6s

BOZ Bozeman (W) 45.68 68 *e*P **P 10 34 11.8 -1.4**
comp=Z,16nm,0.6s
BOZ Bozeman (W) 45.68 68 *e*P **P 10 34 11.8 -1.4**
BOZ pmax pmax
comp=Z,15nm,0.6s
BOZ Bozeman (W) 45.68 68 P **P 10 34 11.7 -1.5**
baz=305,SNR=42
NV01 Mina Array Sit 45.92 80 *e*ScP **ScP 10 39 42.8 +1.8**
NVAR Mina Array Bea 45.92 80 *e*P **P 10 34 15.9 +0.6**
NVAR Mina Array Bea 45.92 80 P **P 10 34 15.6 +0.2**
comp=Z,9.6nm,0.5s,baz=299,slow=7.3,SNR=44
NVAR ScP **ScP 10 39 42.8 +1.8**
comp=Z,0.3nm,0.5s,baz=322,slow=4.9,SNR=3.8
NVAR LR LR 10 51 40.7
comp=Z,110nm,20.5s,baz=314,slow=34
FFC Flin Flon 45.98 53 *e*P **P 10 34 14.1 -1.2**
comp=Z,4.5nm,1.1s
FFC Flin Flon 45.98 53 *ce*P **P 10 34 15.6 +0.3**
MLAC Mammoth, Mammo 46.09 82 P **P 10 34 15.2 -1.5**
baz=310
NJ2 Nanjing 46.39 269 *e*P **P 10 34 18.3 -0.4**
NJ2 pmax pmax
comp=Z,11nm,0.6s
TIN Tinemaha, Big 46.83 82 P **P 10 34 22.4 +0.1**
baz=310
SMMC Simmler 46.85 85 P **P 10 34 22.1 -0.3**
baz=311
H17A Grant Village 46.98 69 P **P 10 34 22.7 -0.9**
baz=306,SNR=16
VES Vestal, Richgr 47.08 84 P **P 10 34 23.8 -0.3**
baz=311
PKM Mcpherson Peak 47.24 85 P **P 10 34 24.7 -0.9**
baz=311
TPAW Teton Pass 47.29 70 *e*P **P 10 34 25.8 -0.2**
comp=Z,4.3nm,0.7s
CWC Cottonwood Cre 47.31 82 P **P 10 34 25.8 -0.3**
baz=310
RLMT Red Lodge 47.32 67 *e*P **P 10 34 25.3 -0.8**
comp=Z,1.1nm,0.9s
RLMT Red Lodge 47.32 67 P **P 10 34 24.8 -1.3**
baz=306,SNR=18
GRAC Grapevine Rang 47.40 81 P **P 10 34 26.8 +0.2**
baz=310
REDW Red Top Meadow 47.43 70 *e*P **P 10 34 27.6 +0.6**
comp=Z,2.6nm,0.8s
FCC Fort Churchill 47.56 45 *e*P **P 10 34 26.9 -0.6**
comp=Z,16nm,1.1s
FCC Fort Churchill 47.56 45 *e*P **P 10 34 26.9 -0.6**
FCC pmax pmax
comp=Z,16nm,1.1s
ISA Isabella, Lake 47.57 83 P **P 10 34 27.7 -0.4**
baz=311,SNR=7.0
R11A Troy Canyon, C 47.64 79 *e*P **P 10 34 28.4 -0.3**
comp=Z,9.4nm,0.5s
R11A Troy Canyon, C 47.64 79 P **P 10 34 28.3 -0.3**
baz=309,SNR=28
ARVC Arvin 47.70 84 P **P 10 34 28.8 -0.1**
baz=311
MPMC Manual Prospec 47.93 82 P **P 10 34 30.3 -0.6**
baz=311,SNR=9.9
FURC Furnace Creek, 48.05 81 P **P 10 34 31.9 +0.3**
baz=311,SNR=13
HWUT Hardware Ranch 48.06 73 *e*P **P 10 34 31.3 -0.6**
comp=Z,3.1nm,0.6s
LAO LASA Array 48.14 64 *e*P **P 10 34 31.6 -0.7**
comp=Z,11nm,0.6s
LAO LASA Array 48.14 64 P **P 10 34 31.2 -1.1**
baz=306,SNR=7.6
DUG Dugway, Tooele 48.18 75 *e*P **P 10 34 32.0 -0.8**
comp=Z,11nm,0.6s
DUG Dugway, Tooele 48.18 75 *e*P **P 10 34 32.0 -0.8**
DUG pmax pmax
comp=Z,11nm,0.6s
DUG Dugway, Tooele 48.18 75 P **P 10 34 32.3 -0.5**
baz=309,SNR=19
LRMC Lazel Mtn Rad 48.18 83 P **P 10 34 32.0 -0.9**
baz=311
EDW2 Edwards Air Fo 48.38 84 P **P 10 34 33.6 -0.7**
baz=312
BW06 Boulder Array 48.54 70 *e*P **P 10 34 34.4 -1.3**
comp=Z,12nm,1.0s
BW06 Boulder Array 48.54 70 P **P 10 34 34.2 -1.4**
baz=308,SNR=22
PD31 Pinedale Array 48.54 70 *e*P **P 10 34 34.6 -1.0**
comp=Z,12nm,1.0s
PD31 *e*ScP **ScP 10 39 52.4 +0.4**
PDAR Pinedale Array 48.54 70 *e*P **P 10 34 34.5 -1.2**
PDAR Pinedale Array 48.54 70 P **P 10 34 34.4 -1.3**
comp=Z,7.9nm,0.5s,baz=333,slow=2.9,SNR=45
PDAR ScP **ScP 10 39 52.4 +0.4**
comp=Z,0.2nm,0.4s,baz=205,slow=3.1,SNR=4.1
PDAR LR LR 10 52 47.9
comp=Z,144nm,20.8s,baz=316,slow=33
SHOC Shoshone, Teco 48.78 82 P **P 10 34 37.0 -0.3**
baz=311,SNR=19
GSC Goldstone, Bar 48.84 83 *e*P **P 10 34 37.7 -0.2**
comp=Z,21nm,0.6s
GSC Goldstone, Bar 48.84 83 *e*P **P 10 34 37.7 -0.2**
GSC pmax pmax
comp=Z,21nm,0.6s
GSC Goldstone, Bar 48.84 83 P **P 10 34 38.0 +0.2**
baz=311,SNR=32
RRX Edison Barstow 49.00 83 P **P 10 34 38.7 -0.3**
baz=312
BFSC Mount Baldy Ra 49.01 84 P **P 10 34 39.0 -0.2**
baz=312,SNR=7.3
SHPR Sheep Range 49.07 80 *e*P **P 10 34 39.6 -0.1**
comp=Z,3.1nm,0.6s
CIS Catalina Islan 49.09 86 P **P 10 34 39.7 0.0**
baz=312
TUQ Turquoise Moun 49.30 82 P **P 10 34 40.9 -0.5**
baz=311,SNR=9.1
HEC Hector,Ludlow 49.44 83 P **P 10 34 42.2 -0.2**
baz=312
BBRC Big Bear Solar 49.45 84 P **P 10 34 42.2 -0.5**
baz=312,SNR=7.9
KBS Kingsbay 49.48 356 *e*P **P 10 34 43.3 +1.3**
comp=Z,8.4nm,0.8s
KBS Kingsbay 49.48 356 *e*P **P 10 34 43.3 +1.3**
KBS pmax pmax
comp=Z,8.0nm,0.8s
MURC Murrieta 49.72 84 P **P 10 34 44.4 -0.2**
baz=312
GMRC Granite Mounta 49.89 82 P **P 10 34 45.8 -0.1**
baz=312,SNR=26
SPA0 Spitsbergen Ar 50.00 355 *e*P **P 10 34 45.6 -0.4**
comp=Z,13nm,0.7s
SPITS Spitsbergen Ar 50.00 355 P **P 10 34 45.6 -0.4**
comp=Z,4.1nm,0.4s,baz=41,slow=6.7,SNR=41
PFO Pinyon Flats O 50.17 84 *e*P **P 10 34 47.2 -0.8**
comp=Z,8.9nm,1.1s
PFO Pinyon Flats O 50.17 84 *e*P **P 10 34 47.2 -0.8**
PFO pmax pmax
comp=Z,9.0nm,1.1s
PFO Pinyon Flats O 50.17 84 P **P 10 34 47.9 -0.2**
baz=312,SNR=6.5
BELC Belle Mtn. Jos 50.20 83 P **P 10 34 47.8 -0.5**
baz=312,SNR=10.0
109C Camp Elliot, M 50.25 85 P **P 10 34 48.5 0.0**
baz=313
K22A Casper 50.39 68 *e*P **P 10 34 49.3 -0.3**
comp=Z,5.2nm,0.6s
K22A Casper 50.39 68 P **P 10 34 47.7 -1.9**
baz=309,SNR=5.7
NEE2 Needles Airpor 50.54 82 P **P 10 34 50.2 -0.5**
baz=312
RWWY Rawlins 50.58 70 *e*P **P 10 34 50.6 -0.7**
comp=Z,4.1nm,0.8s
IRM Iron Mountain 50.62 82 P **P 10 34 51.4 0.0**
baz=312,SNR=11
MONP2 Monument Peak 50.67 85 P **P 10 34 51.4 -0.6**
baz=313
BC3 Big Chuckawall 50.76 83 P **P 10 34 52.0 -0.5**
baz=312,SNR=6.7
U15A North Rim 50.88 78 *e*P **P 10 34 53.9 +0.3**
comp=Z,15nm,0.6s
RSSD Black Hills 50.91 65 *e*P **P 10 34 52.1 -1.5**
comp=Z,4.3nm,0.6s
RSSD Black Hills 50.91 65 *e*P **P 10 34 52.1 -1.5**
RSSD pmax pmax
comp=Z,4.0nm,0.6s
RSSD Black Hills 50.91 65 P **P 10 34 51.6 -2.1**
baz=308
O20A White River Ci 50.95 72 *e*P **P 10 34 52.7 -1.2**
comp=Z,13nm,0.6s
O20A White River Ci 50.95 72 P **P 10 34 52.7 -1.2**
baz=310,SNR=18
IKP In-Ko-Pah, Jac 51.03 85 P **P 10 34 53.0 -1.5**
baz=313,SNR=5.3
PDMCI Parker Dam,Lak 51.14 82 P **P 10 34 54.2 -1.0**
baz=312,SNR=6.4
XAN Xi'an 51.24 278 P **P 10 34 57.8 +1.8**
XAN pP sP 10 35 16.7 +4.1
XAN pmax pmax
comp=Z,5.0nm,1.4s
XAN pmax pmax
comp=Z,110nm,5.9s
XAN LR LR
comp=Z,120nm,15.7s
XAN LR LR
comp=Z,190nm,18.1s
XAN LR LR
comp=Z,130nm,21.6s
Y12C Blythe 51.28 82 *e*P **P 10 34 56.3 +0.1**
comp=Z,11nm,0.7s
Y12C Blythe 51.28 82 P **P 10 34 55.7 -0.5**
baz=313,SNR=10
PV21 Cone Mtn., Par 51.51 74 *e*P **P 10 34 57.6 -0.6**
comp=Z,8.9nm,0.6s
DAG Danmarks Havn 51.53 5 *i* P **P 10 34 56.4 -1.1**
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 51.53 5 *i* P **P 10 34 56.4 -1.1**
comp=Z,6.2nm,0.7s
GLA Glamis 51.56 83 *e*P **P 10 34 58.4 0.0**
comp=Z,22nm,0.6s
GLA Glamis 51.56 83 *e*P **P 10 34 58.4 0.0**
GLA pmax pmax
comp=Z,22nm,0.6s
GLA Glamis 51.56 83 P **P 10 34 57.6 -0.7**
baz=313,SNR=9.4
PV23 Carpenter Ridg 51.56 74 *e*P **P 10 34 58.3 -0.3**
comp=Z,12nm,0.6s
ULM Lac du Bonnet 51.58 55 *e*P **P 10 34 56.7 -1.5**
comp=Z,6.6nm,0.6s
ULM Lac du Bonnet 51.58 55 P **P 10 34 56.4 -1.9**
comp=Z,6.8nm,0.5s,baz=296,slow=7.4,SNR=13
ULM PcP **PcP 10 36 11.3 -0.4**
comp=Z,2.9nm,0.5s,baz=308,slow=5.0,SNR=4.3
ULM LR LR 10 58 16.5
comp=Z,597nm,18.5s,baz=308,slow=38
PV22 Blue Mesa, Par 51.64 74 *e*P **P 10 34 59.5 +0.3**
comp=Z,9.3nm,1.1s
PV11 David Mesa, Pa 51.74 74 *e*P **P 10 34 58.5 -1.5**
comp=Z,25nm,0.7s
N23A Red Feather La 51.82 70 *e*P **P 10 34 59.5 -1.1**
comp=Z,4.0nm,0.6s
N23A Red Feather La 51.82 70 P **P 10 34 59.5 -1.1**
baz=310
WUAZ Wupatki 52.04 79 P **P 10 35 01.6 -0.5**
baz=312,SNR=12
Y14A Wickenburg 52.09 81 *e*P **P 10 35 01.7 -0.7**
comp=Z,6.3nm,0.9s
ZALV Zalesovo Beam 52.12 312 P **P 10 35 02.8 +0.6**
comp=Z,1.7nm,0.3s,baz=38,slow=7.5,SNR=3.3
ZALV LR LR 10 57 55.1
comp=Z,98nm,18.3s,baz=64,slow=37
SMCO Snowmass 52.31 72 *e*P **P 10 35 03.2 -1.2**
comp=Z,3.8nm,0.6s
113A Mohawk Valley, 52.41 83 *e*P **P 10 35 03.8 -0.8**
comp=Z,4.3nm,0.9s
MVCO Mesa Verde 52.68 75 *e*P **P 10 35 06.8 -0.1**
comp=Z,6.4nm,0.6s
MVCO Mesa Verde 52.68 75 P **P 10 35 05.7 -1.2**
baz=311,SNR=10.0
ISCO Idaho Springs 52.72 71 *e*P **P 10 35 07.0 -0.2**
comp=Z,3.0nm,0.6s
ISCO Idaho Springs 52.72 71 *e*P **P 10 35 07.0 -0.2**
ISCO pmax pmax
comp=Z,3.0nm,0.6s
ISCO Idaho Springs 52.72 71 P **P 10 35 05.9 -1.3**
baz=311
X16A Lo Mia Camp, P 52.73 80 *e*P **P 10 35 05.9 -1.3**
comp=Z,6.3nm,0.9s
AGMN Agassiz Nation 52.79 57 P **P 10 35 05.3 -2.0**
baz=309
LZH Lanzhou 52.99 283 *e*P **P 10 35 10.2 +1.1**
LZH pP sP 10 35 24.0 -1.7
LZH sP pP 10 35 30.5 +10
LZH *e*PP **PP 10 37 12.1 +3.3**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,86nm,6.5s
LZH LR LR
comp=Z,360nm,14.9s
LZH LR LR
comp=Z,360nm,15.2s
LZH LR LR
comp=Z,480nm,17.8s
GTA Gaotai 53.23 289 *e*P **P 10 35 10.2 -0.6**
GTA pP pwP 10 35 25.7 +1.2
GTA sP sP 10 35 34.3 +7.0
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,99nm,4.6s
GTA LR LR
comp=Z,180nm,16.1s
GTA LR LR
comp=Z,160nm,15.8s
GTA LR LR
comp=Z,210nm,15.8s
W18A Petrified Fore 53.31 78 *e*P **P 10 35 11.0 -0.5**
comp=Z,8.4nm,0.8s
W18A Petrified Fore 53.31 78 P **P 10 35 10.8 -0.7**
baz=312
S22A 4UR Ranch, Cre 53.33 73 *e*P **P 10 35 11.8 +0.1**
comp=Z,4.1nm,0.8s
S22A 4UR Ranch, Cre 53.33 73 P **P 10 35 11.0 -0.7**
baz=312,SNR=9.7
Q24A Divide 53.53 71 P **P 10 35 12.5 -0.7**
baz=311
214A Organ Pipe Nat 53.55 83 P **P 10 35 13.0 -0.1**
baz=314,SNR=8.8
SUSD Miller 53.55 62 P **P 10 35 11.8 -1.2**
baz=310
X18A Snowflake 53.57 78 *e*P **P 10 35 13.6 +0.1**
comp=Z,9.8nm,0.6s
SUMG Summit 53.67 13 *e*P **P 10 35 13.3 -0.6**
comp=Z,8.2nm,0.6s
SUMG Summit 53.67 13⇑ *i*P **P 10 35 13.9 0.0**
SUMG Summit 53.67 13⇑ *i*P **P 10 35 13.9 0.0**
SDCO Great Sand Dun 54.12 73 *e*P **P 10 35 17.2 -0.4**
comp=Z,6.1nm,0.9s
SDCO Great Sand Dun 54.12 73 P **P 10 35 16.7 -0.8**
baz=312,SNR=16
TUC Tucson 54.56 81 *e*P **P 10 35 20.2 -0.3**
comp=Z,9.9nm,0.9s
TUC Tucson 54.56 81 *e*P **P 10 35 20.3 -0.3**
TUC pmax pmax
comp=Z,10.0nm,0.9s
TUC Tucson 54.56 81 P **P 10 35 20.3 -0.3**
baz=314
KSCO Kaye Shedlock' 54.98 70 P **P 10 35 23.1 -0.5**
baz=312,SNR=6.2
T25A Trinidad 55.17 72 *e*P **P 10 35 25.0 -0.1**
comp=Z,10nm,1.0s
T25A Trinidad 55.17 72 P **P 10 35 24.6 -0.5**
baz=312,SNR=9.4
ECSD EROS Data Cent 55.30 62 P **P 10 35 24.5 -1.1**
baz=311
LAZ Ladron 55.37 77 *e*P **P 10 35 27.4 +0.9**
TASM ASL Pad, Albuq 55.41 76 P **P 10 35 26.2 -0.6**
baz=313
TASM ASL Pad, Albuq 55.41 76 P **P 10 35 26.2 -0.6**
baz=313
ANMO Albuquerque 55.41 76 *e*P **P 10 35 28.0 +1.2**
comp=Z,2.2nm,0.8s
ANMO Albuquerque 55.41 76 *e*P **P 10 35 28.0 +1.2**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 55.41 76 P **P 10 35 26.1 -0.7**
baz=313
BGNE Belgrade 55.97 65 P **P 10 35 29.1 -1.5**
baz=312
E38A The Farm, Brul 56.12 56 P **P 10 35 29.4 -2.1**
baz=312
F37A Hinrichs Farm, 56.14 58 P **P 10 35 29.8 -1.8**
baz=312
121A Cookes Peak, D 56.25 79 P **P 10 35 32.5 -0.3**
baz=314,SNR=7.0
SPMN Marine on St. 56.38 58 P **P 10 35 31.5 -1.9**
baz=312
F38A Pierce - Schro 56.38 57 P **P 10 35 31.9 -1.4**
baz=312,SNR=5.2

CD2	Chengdu	56.55	279	eP	P	10 35 33.7	-1.1
CD2				pmax	pmax		
comp=Z,10.0nm,0.6s							
CBKS	Cedar Bluff	56.80	68	P	P	10 35 34.8	-1.6
baz=313							
F39A	Loretta	56.91	56	P	P	10 35 34.9	-2.2
baz=312							
G38A	Ridgeland	56.91	58	P	P	10 35 35.0	-2.1
baz=312							
H38A	Maiden Rock	57.02	58	P	P	10 35 36.2	-1.7
baz=312							
E40A	Wakefield	57.08	55	P	P	10 35 36.4	-1.9
baz=312							
KURK	Kurchatov	57.11	312	eP	P	10 35 38.8	+0.3
comp=Z,19nm,0.9s							
KURK	Kurchatov	57.11	312	ceP	P	10 35 38.7	+0.3
KURK				pmax	pmax		
comp=Z,30nm,1.3s							
WMQ	Urumqi	57.18	301	eP	P	10 35 41.6	+2.5
WMQ				sP	sP	10 36 03.8	+8.2
WMQ				LR	LR		
comp=Z,3μm,27.5s							
WMQ				LR	LR		
comp=Z,3μm,27.5s							
WMQ				LR	LR		
comp=Z,970nm,25.5s							
G39A	Holcombe	57.20	57	P	P	10 35 37.3	-1.8
baz=312							
KURBB	Kurchatov Arra	57.22	312	P	P	10 35 39.3	+0.1
comp=Z,9.1nm,0.7s,baz=42,slow=6.9,SNR=46							
ARA0	ARCESS Array S	57.46	349	eP	P	10 35 40.6	0.0
ARCES	ARCESS Array B	57.46	349	P	P	10 35 40.6	0.0
comp=Z,1.2nm,0.4s,baz=26,slow=8.6,SNR=7.8							
ARCES				LR	LR	11 00 12.6	
comp=Z,195nm,21.8s,baz=352,slow=36							
F41A	Three Lakes	57.97	56	P	P	10 35 42.9	-1.7
baz=313							
I39A	Houston	57.98	59	P	P	10 35 42.8	-1.8
baz=313							
MKAR	Makanchi Array	57.99	306	P	P	10 35 44.6	-0.2
comp=Z,2.1nm,0.4s,baz=54,slow=6.4,SNR=26							
MKAR				LR	LR	11 01 40.0	
comp=Z,212nm,20.2s,baz=36,slow=37							
H40A	Chili	58.05	57	P	P	10 35 42.7	-2.5
baz=313							
E42A	Champion	58.10	54	P	P	10 35 43.5	-2.0
baz=313							
MAKZ	Makanchi	58.14	306	eP	P	10 35 45.9	+0.1
comp=Z,3.5nm,0.6s							
MAKZ	Makanchi	58.14	306	eP	P	10 35 45.9	+0.1
MAKZ				pmax	pmax		
comp=Z,4.0nm,0.6s							
J39A	Decorah	58.23	59	P	P	10 35 44.6	-1.9
baz=313							
MNTX	Cornudas Mount	58.30	78	P	P	10 35 47.1	0.0
baz=315,SNR=10							
MSTX	Muleshoe	58.30	74	P	P	10 35 46.0	-1.2
baz=314							
AMTX	Amarillo	58.33	73	P	P	10 35 46.4	-0.9
baz=314							
H41A	Junction City	58.44	57	P	P	10 35 46.4	-1.5
baz=313							
K39A	Oelwein	58.56	60	P	P	10 35 47.1	-1.6
baz=313							
E43A	Lone Tree Farm	58.60	54	P	P	10 35 47.2	-1.8
baz=314							
J40A	Soldiers Grove	58.70	58	P	P	10 35 48.0	-1.8
baz=314							
I41A	Arkdale	58.71	57	P	P	10 35 48.2	-1.6
baz=314							
L39A	Vinton	58.90	60	P	P	10 35 48.9	-2.1
baz=314							
K40A	Colesburg	58.97	59	P	P	10 35 49.8	-1.8
baz=314							
J41A	Loganville	59.11	58	P	P	10 35 50.3	-2.3
baz=314							
BVAR	Borovoye Array	59.15	318	P	P	10 35 52.7	0.0
comp=Z,7.4nm,0.4s,baz=51,slow=7.8,SNR=24							
BRVK	Borovoye	59.17	318	eP	P	10 35 52.7	-0.1
comp=Z,12nm,0.5s							
BRVK	Borovoye	59.17	318	ceP	P	10 35 53.5	+0.7
BRVK				pmax	pmax		
comp=Z,25nm,1.7s							
M39A	Webster	59.24	61	P	P	10 35 51.7	-1.8
baz=314							
JFWS	Jewell Farm	59.30	59	P	P	10 35 51.3	-2.5
baz=314							
I42A	Draeger Farm,	59.33	57	P	P	10 35 51.9	-2.1
baz=314							
L40A	Anamosa	59.36	60	P	P	10 35 52.6	-1.7
baz=314							
K41A	Shullsburg	59.48	59	P	P	10 35 53.2	-1.9
baz=314							
E45A	Wooded Hills,	59.53	53	P	P	10 35 53.8	-1.6
baz=314							
J42A	Columbus	59.61	58	P	P	10 35 53.2	-2.9
baz=314							
D46A	Sault St. Mari	59.72	52	P	P	10 35 54.7	-2.0
baz=315							
I43A	Langenfeld Bro	59.73	57	P	P	10 35 55.0	-1.8
baz=314							
L41A	Preston	59.74	59	P	P	10 35 55.0	-1.9
baz=314							
K42A	Prairie Point,	59.87	58	P	P	10 35 55.5	-2.3
baz=314							
J43A	Natural Harves	59.94	57	P	P	10 35 56.6	-1.7
baz=314							
E46A	Sault Ste Mari	59.95	52	P	P	10 35 56.2	-2.1
baz=315							
D47A	Chapleau	60.06	51	P	P	10 35 57.4	-1.7
baz=315							
WMOK	Wichita Mounta	60.14	71	eP	P	10 35 59.3	-0.5
comp=Z,6.1nm,0.6s							
WMOK	Wichita Mounta	60.14	71	eP	P	10 35 59.3	-0.5
WMOK				pmax	pmax		
comp=Z,6.0nm,0.6s							
WMOK	Wichita Mounta	60.14	71	P	P	10 35 58.5	-1.3
baz=315							
M41A	Milan	60.20	60	P	P	10 35 58.1	-2.0
baz=314							
E47A	Iron Bridge	60.40	52	P	P	10 35 59.7	-1.6
baz=315							
N41A	Harden Midland	60.50	61	P	P	10 36 00.5	-1.6
baz=315							
D48A	Paudash Townsh	60.60	50	P	P	10 36 00.5	-2.2
baz=316							
MATQ	Matagami	60.68	46	P	P	10 36 01.1	-2.1
baz=317							
D49A	Beulah Townshi	60.75	50	P	P	10 36 02.1	-1.6
baz=316							
PRGR	Permogore	60.78	336	eP	P	10 36 05.7	+2.0
PRGR				pmax	pmax		
comp=Z,14nm,0.6s							
TXAR	Lajitas Array	61.01	79	eP	P	10 36 05.9	0.0
TXAR	Lajitas Array	61.01	79	P	P	10 36 05.6	-0.2
comp=Z,5.3nm,0.5s,baz=303,slow=5.3,SNR=142							
TXAR				ScP	ScP	10 40 48.1	+1.6
comp=Z,0.4nm,0.7s,baz=287,slow=3.7,SNR=3.8							
TUL1	Leonard	61.07	68	P	P	10 36 04.5	-1.6
baz=315							
ABTX	Abilene, Hawle	61.11	73	P	P	10 36 05.3	-1.1
baz=315							
ARU	Arti	61.13	326	eP	P	10 36 07.5	+1.3
comp=Z,8.4nm,0.8s							
ARU	Arti	61.13	326	cP	P	10 36 06.7	+0.5
ARU						10 36 44.1	
ARU						10 38 18.8	
ARU				S	S	10 44 26.2	+4.2
ARU				pmax	pmax		
comp=Z,16nm,1.2s							
ARU				MLR	MLR		
comp=Z,222nm,19.0s							
KMI	Kunming	61.30	275	P	P	10 36 07.7	-0.3
KMI				pmax	pmax		
comp=Z,12nm,0.5s							
SCHQ	Schefferville	61.33	36	eP	P	10 36 07.1	-0.5
comp=Z,16nm,1.1s							
SCHQ	Schefferville	61.33	36	P	P	10 36 06.3	-1.2
comp=Z,5.1nm,0.5s,baz=316,slow=5.9,SNR=17							
SCHQ				LR	LR	11 04 01.7	
comp=Z,232nm,18.9s,baz=340,slow=37							
HDIL	Hopedale	61.45	60	eP	P	10 36 07.0	-1.6
comp=Z,19nm,0.5s							
HDIL	Hopedale	61.45	60	P	P	10 36 06.7	-1.9
baz=315							
LSQQ	Lebel-sur-Quev	61.49	46	P	P	10 36 06.7	-2.0
baz=317							
HPIG		61.49	82	eP	P	10 36 10.1	+0.8
comp=Z,12nm,1.1s							
M44A	Midewin, Midew	61.53	59	P	P	10 36 07.5	-1.6
baz=315							
D51A	Lot 18 Range I	61.82	49	P	P	10 36 08.8	-2.1
baz=317							
HHAR	Hobbs	61.87	66	eP	P	10 36 10.1	-1.4
comp=Z,3.3nm,0.5s							
R41A	Rosebud	61.90	63	P	P	10 36 09.8	-1.8
baz=315							
N44A	Piper City	61.91	59	P	P	10 36 09.6	-2.0
baz=316							
Q42A	Golden Eagle	61.93	62	P	P	10 36 10.2	-1.6
baz=315							
P43A	Skaggs, Pawnee	61.97	61	P	P	10 36 10.3	-1.8
baz=316							
CHGQ	Chibougamau	62.01	44	P	P	10 36 10.4	-1.9
baz=318,SNR=5.6							
CCM	Cathedral Cave	62.14	63	P	P	10 36 11.1	-2.1
baz=316							
E51A	G1948 Merrick	62.16	49	P	P	10 36 11.1	-2.2
baz=317							
JAY	Jayapura	62.19	222	LR	LR	11 00 38.1	
comp=Z,176nm,19.7s,baz=12,slow=34							
S41A	Jillco Farms,	62.19	64	P	P	10 36 11.2	-2.5
baz=316							
N45A	Kentland	62.20	59	P	P	10 36 11.8	-1.8
baz=316							
X37A	Clayton	62.24	69	eP	P	10 36 14.5	+0.5
comp=Z,4.9nm,0.9s							
D52A	ZEK Kipawa Sen	62.35	49	P	P	10 36 12.3	-2.2
baz=317							
I49A	Point Hope	62.41	53	P	P	10 36 12.8	-2.2
baz=316							
U40A	Yellville	62.44	66	P	P	10 36 13.9	-1.4
baz=316							
O45A	Potomac	62.51	59	P	P	10 36 14.2	-1.4
baz=316							
HNR	Honiara	62.58	199	LR	LR	10 57 54.0	
comp=Z,209nm,19.9s,baz=24,slow=31							
L47A	Sherwood	62.61	56	P	P	10 36 14.2	-2.2
baz=316							
KLBO	Killbear Provi	62.67	51	P	P	10 36 14.2	-2.5
baz=317							
W39A	Magazine	62.73	67	eP	P	10 36 17.3	+0.1
comp=Z,4.1nm,0.8s							
W39A	Magazine	62.73	67	P	P	10 36 15.9	-1.3
baz=316							
E52A	Mattawa	62.74	49	P	P	10 36 15.2	-2.0
baz=317							
SFIN	Lafayette	62.76	59	eP	P	10 36 16.5	-0.8
comp=Z,13nm,0.5s							
SFIN	Lafayette	62.76	59	P	P	10 36 15.6	-1.7
baz=316							
F52A	Sundridge	62.78	50	P	P	10 36 15.5	-1.9
baz=317							
WHTX	Lake Whitney,	62.86	72	P	P	10 36 17.4	-0.7
baz=316							
KLMR	Klimovskoe	62.94	338	eP	P	10 36 17.6	-0.6
KLMR				pmax	pmax		
comp=Z,10.0nm,1.3s							
U41A	Viola	62.98	65	P	P	10 36 17.1	-1.7
baz=316							
BUKO	Buck Lake	63.01	50	P	P	10 36 16.7	-2.2
baz=317							
P45A	Graceland, Par	63.02	60	P	P	10 36 17.1	-2.0
baz=316							
D54A	Lac Fusel, La	63.04	47	P	P	10 36 16.3	-2.8
baz=318							
E53A	Dumoine, Ponti	63.14	49	P	P	10 36 18.0	-1.8
baz=318							
Q45A	Warren Harvey,	63.25	61	P	P	10 36 19.1	-1.5
baz=316							
MIAR	Mount Ida	63.31	67	eP	P	10 36 20.4	-0.6
comp=Z,14nm,1.1s							
MIAR	Mount Ida	63.31	67	eP	P	10 36 20.5	-0.6
MIAR				pmax	pmax		
comp=Z,14nm,1.1s							
MIAR	Mount Ida	63.31	67	P	P	10 36 19.8	-1.3
baz=316							
E54A	Lac Daplat, Po	63.32	48	P	P	10 36 19.2	-1.7
baz=318							
O47A	Sheridan	63.35	58	P	P	10 36 19.9	-1.3
baz=316							
I51A	Listowel	63.41	52	P	P	10 36 20.0	-1.6
baz=317							
S44A	Carbondale	63.50	62	P	P	10 36 19.8	-2.5
baz=316							
PBMO	Poplar Bluff	63.51	64	eP	P	10 36 21.0	-1.4
comp=Z,5.8nm,0.8s							
WHAR	Wooly Hollow	63.52	66	eP	P	10 36 22.3	-0.1
comp=Z,9.3nm,1.1s							
G53A	Haliburton	63.61	50	P	P	10 36 20.6	-2.3
baz=318,SNR=6.3							
W41B	Gary Mavity, V	63.63	66	eP	P	10 36 22.0	-1.1
comp=Z,4.6nm,0.6s							
W41B	Gary Mavity, V	63.63	66	P	P	10 36 21.4	-1.7
baz=316							
X40A	Basin Creek Fa	63.78	67	P	P	10 36 23.1	-1.1
baz=316							
P47A	Martinsville	63.84	59	P	P	10 36 22.6	-1.9
baz=317							
PEMO	Pembroke	63.85	49	P	P	10 36 22.4	-2.1
baz=318							
KDJ	Kajisay	63.87	305	eP	P	10 36 25.9	+1.0
comp=Z,6.2nm,0.8s							
KDJ	Kajisay	63.87	305	eP	P	10 36 25.9	+1.0
KDJ				pmax	pmax		
comp=Z,6.0nm,0.8s							
O48A	Farmland	63.87	58	P	P	10 36 23.0	-1.7
baz=317							
N49A	Columbus Grove	63.90	57	P	P	10 36 23.0	-1.9
baz=317							
BANO	Bancroft	64.02	50	P	P	10 36 23.8	-1.8
baz=318							
Q47A	Bedord North L	64.15	59	P	P	10 36 24.6	-2.0
baz=317							
P48A	Milroy	64.31	58	P	P	10 36 25.6	-2.0
baz=317							
PLVO	Plevna	64.41	49	P	P	10 36 25.3	-2.9
baz=318							
G55A	Calabogie	64.42	49	P	P	10 36 26.1	-2.1
baz=319							
TYNO	Tyneside	64.50	52	P	P	10 36 25.9	-2.8
baz=318							
DELO	Deloro Mine	64.54	50	P	P	10 36 26.6	-2.4
baz=318							
N50A	Nevada	64.55	56	P	P	10 36 27.4	-1.7
baz=317							
LATQ	La Tuque	64.61	45	P	P	10 36 27.4	-2.0
baz=320							
WLVO	Wesleyville	64.61	51	P	P	10 36 26.0	-3.4
baz=318							
H55A	Tweed	64.72	50	P	P	10 36 28.3	-1.9
baz=319							
T46A	Princeton	64.72	62	P	P	10 36 28.6	-1.7
baz=317							
I55A	Frankford	64.73	50	P	P	10 36 27.9	-2.4
baz=318							
O50A	Cable	64.76	57	P	P	10 36 29.0	-1.6
baz=317							
STCO	Saint Catharin	64.76	52	P	P	10 36 28.6	-1.8
baz=318							
N51A	Ashland	64.84	55	P	P	10 36 28.4	-2.7
baz=318							
AAK	Ala-Archa	64.85	307	eP	P	10 36 29.5	-1.8
comp=Z,4.7nm,0.9s							
AAK	Ala-Archa	64.85	307	ceP	P	10 36 30.9	-0.4
AAK				pmax	pmax		
comp=Z,11nm,1.7s							
AAK	Ala-Archa	64.85	307	P	P	10 36 31.6	+0.3
comp=Z,2.6nm,0.4s,baz=132,slow=4.2,SNR=9.0							
ALFO	Alfred	64.99	48	P	P	10 36 29.9	-2.0
baz=319							
FINES	FINESS Array B	65.03	345	eP	P	10 36 30.2	-1.6
FINES	FINESS Array B	65.03	345	P	P	10 36 31.1	-0.8
comp=Z,2.2nm,0.7s,baz=23,slow=7.5,SNR=9.4							
FINES				LR	LR	11 06 05.9	
comp=Z,97nm,21.9s,baz=352,slow=37							
ACSO	Alum Creek Sta	65.03	56	P	P	10 36 30.2	-2.1
baz=318							
P50A	Jamestown	65.06	57	P	P	10 36 30.6	-1.9
baz=318							
H56A	Elgin	65.13	49	P	P	10 36 30.8	-2.0
baz=319							
L53A	Girard	65.15	53	P	P	10 36 31.2	-1.9
baz=318							
T47A	Sharon Grove	65.20	61	P	P	10 36 31.6	-1.8
baz=317,SNR=6.4							
PECO	Prince Edward	65.28	50	P	P	10 36 32.0	-1.7
baz=319							
S48A	Wiedeman Farm,	65.28	60	P	P	10 36 32.4	-1.6
baz=317							
O51A	Pataskala	65.29	56	P	P	10 36 32.3	-1.7
baz=318							
M53A	Wl Miller and	65.32	54	P	P	10 36 32.3	-1.9
baz=318							
J55A	Hilton	65.38	51	P	P	10 36 32.3	-2.2
baz=319							
L54A	Sinclairville	65.41	53	P	P	10 36 33.0	-1.7
baz=318							
WVT	Waverly	65.42	63	eP	P	10 36 33.2	-1.7
comp=Z,3.8nm,0.6s							
WVT	Waverly	65.42	63	eP	P	10 36 33.2	-1.7
WVT				pmax	pmax		
comp=Z,4.0nm,0.6s							
WVT	Waverly	65.42	63	P	P	10 36 32.9	-1.9
baz=317							
U47A	Clarksville	65.49	62	P	P	10 36 34.2	-1.1
baz=317							
V46A	Holladay	65.50	63	P	P	10 36 33.2	-2.2
baz=317							
S49A	Springfield	65.60	60	P	P	10 36 34.6	-1.4
baz=318							
K55A	Perry	65.66	52	P	P	10 36 34.1	-2.2
baz=319							
O52A	Adamsville	65.71	56	P	P	10 36 35.2	-1.5
baz=318							
OXF	Oxford	65.72	65	P	P	10 36 35.4	-1.4
baz=317							
Q51A	Peebles	65.73	57	P	P	10 36 35.3	-1.5
baz=318							
V47A	Nunnelly	65.81	63	P	P	10 36 35.4	-2.0
baz=317							
U48A	Cassie Pea, Po	65.86	61	P	P	10 36 36.1	-1.5
baz=318							
L55A	Hinsdale	65.89	52	P	P	10 36 36.3	-1.5
baz=319							
LONY	Lake Ozonia	65.89	48	P	P	10 36 35.9	-1.9
baz=320							
T49A	Edmonton	65.97	60	P	P	10 36 37.1	-1.3
baz=318							
PANO	Nakornpanom	66.03	268	P	P	10 36 45.6	+6.6
comp=Z,0.2nm,1.0s							
PANO	Nakornpanom	66.03	268	P	P	10 36 45.6	+6.6
comp=Z,0.2nm,1.0s							
PMG	Port Moresby	66.07	213	LR	LR	10 59 28.2	
comp=Z,203nm,21.7s,baz=20,slow=30							
R51A	Hillsboro	66.14	58	P	P	10 36 37.6	-1.8
baz=318							
X46A	Booneville	66.15	64	P	P	10 36 38.3	-1.3
baz=318							
S50A	Richmond	66.16	59	P	P	10 36 38.0	-1.5
baz=318							
NONG	Nongkai	66.25	269	P	P	10 36 43.5	+3.1
comp=Z,0.2nm,0.7s							
NONG	Nongkai	66.25	269	P	P	10 36 43.5	+3.1
comp=Z,0.2nm,0.7s							
M55A	Ridgway	66.26	53	P	P	10 36 37.9	-2.3
baz=319							
U49A	Red Boiling Sp	66.27	61	P	P	10 36 38.0	-2.3
baz=318							
ABKAR	Akbulak array	66.29	321	eP	P	10 36 40.9	+0.6
FAKI	Fak Fak	66.38	231	eP	P	10 36 40.9	-0.3
comp=Z,7.4nm,1.0s							
T50A	Nancy	66.41	60	P	P	10 36 38.6	-2.6
baz=318							
KSH	Kashi	66.42	304	P	P	10 36 45.6	+4.2
KSH				pP	sP	10 37 00.3	+2.3
KSH				PcP	PcP	10 37 13.1	+2.3
KSH				S	S	10 45 29.4	+1.1
KSH				ScS	SKSac	10 46 32.0	-2.2
KSH				pmax	pmax		
comp=Z,14nm,0.5s							
KSH				pmax	pmax		
comp=Z,130nm,3.0s							
KSH				LR	LR		
comp=Z,390nm,15.0s							
KSH				LR	LR		
comp=Z,200nm,7.9s							
KSH				LR	LR		
comp=Z,250nm,11.6s							
MOQ	Mont Orford	66.43	46	eP	P	10 36 39.7	-1.6
KK31	Karatay Array	66.44	310	eP	P	10 36 41.3	0.0
comp=Z,3.9nm,0.8s							
KK31	Karatay Array	66.44	310	eP	P	10 36 41.3	0.0
KK31				pmax	pmax		
comp=Z,4.0nm,0.8s							
KKAR	Karatay Array	66.44	310	eP	P	10 36 41.5	+0.2
comp=Z,3.9nm,0.8s							
KKAR	Karatay Array	66.44	310	eP	P	10 36 41.5	+0.2
KKAR				pmax	pmax		
comp=Z,4.0nm,0.8s							
SKNT	Sakolnakorn	66.55	268	P	P	10 36 42.9	+0.6
comp=Z,19nm,1.2s							
SKNT	Sakolnakorn	66.55	268	P	P	10 36 42.9	+0.6
comp=Z,19nm,1.2s							
S51A	Beattyville	66.62	59	P	P	10 36 40.0	-2.5
baz=318							
W48A	Pulaski	66.64	63	P	P	10 36 41.2	-1.6
baz=318							
N55A	Marion Center	66.66	53	P	P	10 36 41.0	-1.8
baz=319							
V49A	McMinnville	66.75	62	P	P	10 36 41.4	-2.1
baz=318							
P54A	Burton	66.79	55	P	P	10 36 41.2	-2.4
baz=319							
LNIG	Linares	66.79	79	eP	P	10 36 43.2	-0.6
comp=Z,6.3nm,0.7s							
Q53A	Leroy	66.80	56	P	P	10 36 42.2	-1.5
baz=319							
U50A	Jamestown	66.85	60	P	P	10 36 42.4	-1.7
baz=318							
R53A	Hurricane	66.97	57	P	P	10 36 43.7	-1.1
baz=319							
NC204	NORSAR Array S	67.00	353	eP	P	10 36 43.9	-0.7
comp=Z,17nm,0.8s							
W49A	Belvidere	67.03	62	P	P	10 36 43.6	-1.6
baz=318							
BINY	Binghamton	67.07	51	eP	P	10 36 45.2	-0.1
comp=Z,10nm,0.6s							
MCWV	Mont Chateau	67.07	55	eP	P	10 36 45.2	-0.2
comp=Z,10nm,0.3s							
NC405	NORSAR Array S	67.08	352	eP	P	10 36 44.6	-0.5
comp=Z,9.3nm,0.8s							
X48A	Hartselle	67.09	63	P	P	10 36 43.8	-1.7
baz=318							
SWET	Sewanee	67.14	62	eP	P	10 36 44.7	-1.3
comp=Z,3.8nm,0.6s							
NB201	NORSAR Array S	67.18	353	eP	P	10 36 45.8	0.0
comp=Z,22nm,0.9s							
NB2	NORSAR Subarra	67.20	353	P	P	10 36 45.6	-0.3
comp=Z,3.1nm,0.6s,baz=7.9,slow=6.2							
NOA	NORSAR Array B	67.20	353	P	P	10 36 45.5	-0.4
comp=Z,2.0nm,0.6s,baz=8.7,slow=6.3,SNR=12							
NOA				LR	LR	11 04 27.0	
comp=Z,68nm,21.6s,baz=350,slow=34							
V50A	Pikevile	67.26	61	P	P	10 36 44.8	-1.9
baz=318							
SSPA	Standing Stone	67.32	53	eP	P	10 36 46.1	-0.9
comp=Z,8.7nm,0.6s							
SSPA	Standing Stone	67.32	53	P	P	10 36 45.9	-1.0
baz=320							
U51A	La Follette	67.33	60	P	P	10 36 45.6	-1.5
baz=318							
BATG	Bathurst New B	67.56	41	eP	P	10 36 47.3	-1.1
comp=Z,8.4nm,1.0s							
KSPA	Keystone Colle	67.66	51	eP	P	10 36 48.7	-0.4
comp=Z,8.9nm,0.8s							
147A	Livingston	67.71	65	P	P	10 36 47.4	-2.1
baz=318							
CPCT	Cooper Cave	67.74	61	eP	P	10 36 48.0	-1.7
comp=Z,3.5nm,0.7s							
PKME	Peaks-Kenny Pk	67.78	44	eP	P	10 36 48.1	-1.7
comp=Z,5.9nm,0.9s							
W51A	Cleveland	67.83	61	P	P	10 36 47.3	-2.9
baz=318							
X50B	Fort Payne	67.86	62	P	P	10 36 48.9	-1.5
baz=318							
Y49A	Blount Mountai	67.88	63	P	P	10 36 47.9	-2.7
baz=318							
UTTA	Uttaradit	68.11	271	P	P	10 36 53.0	+0.8
comp=Z,19μm,0.9s							
UTTA	Uttaradit	68.11	271	P	P	10 36 53.0	+0.8
comp=Z,19μm,0.9s							
T54A	Tazewell	68.12	58	P	P	10 36 50.3	-1.8
baz=319							

N59A	State Game Lan	68.15	51	eP	P	10 36 50.9	-1.3
	comp=Z,17nm,1.0s						
N59A	State Game Lan	68.15	51	P	P	10 36 50.1	-2.1
	baz=320						
LRAL	Lakeview Retre	68.16	64	P	P	10 36 49.6	-2.7
	baz=318						
Y50A	Piedmont	68.23	63	P	P	10 36 50.9	-1.8
	baz=319						
Z49A	Columbiana	68.30	64	P	P	10 36 51.7	-1.6
	baz=318						
CMMT	Chiang Mai	68.31	273	P	P	10 36 57.7	+4.2
	comp=Z,4.4nm,1.1s						
CMMT	Chiang Mai	68.31	273	P	P	10 36 57.7	+4.2
U54A	Nelsons Funny	68.39	58	P	P	10 36 52.3	-1.6
	baz=319						
O59A	Robesonia	68.41	52	P	P	10 36 51.9	-1.9
	baz=320						
T55A	Pulaski	68.49	57	P	P	10 36 52.6	-1.9
	baz=319						
V53A	Saluda	68.50	60	eP	P	10 36 53.7	-0.8
	comp=Z,4.1nm,1.0s						
V53A	Saluda	68.50	60	P	P	10 36 51.8	-2.7
	baz=319						
CMAR	Chiang Mai Arr	68.58	273	eP	P	10 36 54.6	-0.6
CMAR	Chiang Mai Arr	68.58	273	i P	P	10 36 55.7	+0.5
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	Chiang Mai Arr	68.58	273	P	P	10 36 55.4	+0.2
	comp=Z,2.2nm,0.6s,baz=27,slow=7.0,SNR=12						
CMAR				LR	LR	11 09 14.4	
	comp=Z,27nm,18.7s,baz=146,slow=38						
Y51A	Rockmart	68.60	62	P	P	10 36 52.7	-2.4
	baz=319						
149A	Jones	68.60	64	P	P	10 36 53.7	-1.4
	baz=319						
Z50A	Ashland	68.60	63	eP	P	10 36 53.5	-1.6
	comp=Z,6.3nm,0.7s						
Z50A	Ashland	68.60	63	P	P	10 36 53.3	-1.8
	baz=319						
BLA	Blacksburg	68.61	57	P	P	10 36 52.3	-2.8
	baz=319						
W53A	Cullowhee	68.69	60	P	P	10 36 54.3	-1.5
	baz=319						
S56A	Natural Bridge	68.71	56	P	P	10 36 53.9	-1.8
	baz=320						
X52A	Dahlonega	68.71	61	P	P	10 36 54.0	-1.8
	baz=319						
R57A	Stanardsville	68.77	55	P	P	10 36 54.4	-1.7
	baz=320						
O60A	Telford	68.79	52	P	P	10 36 53.9	-2.2
	baz=321						
OBN	Obninsk	68.80	337⇓	eP	P	10 36 56.3	+0.4
OBN				e		10 37 19.5	
OBN				e		10 39 27.9	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,209nm,17.0s						
P59A	Jarrettsville	68.82	53	P	P	10 36 53.8	-2.5
	baz=320						
V54A	Nebo	68.89	59	P	P	10 36 54.3	-2.6
	baz=319						
PAL	Palisades	68.98	50	P	P	10 36 54.4	-2.9
	baz=321						
EMMW	East Machias	69.02	44	eP	P	10 36 56.5	-1.0
	comp=Z,13nm,0.7s						
X53A	Estanollee	69.11	61	P	P	10 36 56.4	-1.9
	baz=319						
Y52A	Lilburn	69.17	62	P	P	10 36 56.6	-2.1
	baz=319						
LMN	Caledonia Moun	69.22	41	eP	P	10 36 57.8	-0.9
	comp=Z,7.1nm,0.9s						
W54A	Cherokee Point	69.28	60	P	P	10 36 57.5	-1.8
	baz=319						
R58B	Mineral	69.36	55	P	P	10 36 57.0	-2.6
	baz=320						
T57A	Hurt	69.38	56	eP	P	10 36 58.8	-1.0
	comp=Z,7.2nm,1.1s						
T57A	Hurt	69.38	56	P	P	10 36 58.0	-1.9
	baz=320						
Z52A	Williamson	69.48	62	P	P	10 36 58.8	-1.8
	baz=319						
JIRN	Jiri	69.52	289	eP	P	10 37 02.5	+1.1
	comp=Z,36nm,0.7s						
X54A	Belton	69.58	60	P	P	10 36 59.3	-1.8
	baz=319						
KMSC	Kings Mountain	69.69	59	eP	P	10 37 00.9	-1.0
	comp=Z,6.6nm,0.5s						
KMSC	Kings Mountain	69.69	59	P	P	10 37 00.2	-1.7
	baz=320						
T58A	Grand View Acr	69.80	56	P	P	10 37 00.8	-1.6
	baz=320						
RAMN	Ramite	69.81	288	eP	P	10 37 03.7	+0.7
	comp=Z,84nm,1.0s						
GOGA	Godfrey	69.84	62	P	P	10 37 01.1	-1.7
	baz=319						
HODGE	Hodges	69.88	60	eP	P	10 37 01.9	-1.1
	comp=Z,5.0nm,0.5s						
Z53A	Monticello	69.88	62	P	P	10 37 00.8	-2.3
	baz=319						
Y54A	Tignall	69.93	61	P	P	10 37 01.5	-1.7
	baz=320						
X55A	Gracelyn & Ava	70.04	60	P	P	10 37 02.1	-1.9
	baz=320						
PKI	Pulchoki	70.05	289	eP	P	10 37 05.0	+0.4
	comp=Z,16nm,0.6s						
PKIN	Phulchoki	70.05	289	eP	P	10 37 05.3	+0.8
	comp=Z,15nm,0.5s						
DMN	Daman	70.20	290	eP	P	10 37 06.2	+0.8
T59A	Double "B" Far	70.28	55	P	P	10 37 03.0	-2.4
	baz=321						
Z54A	Sparta	70.32	61	P	P	10 37 04.2	-1.4
	baz=320						
Y55A	Saluda	70.32	60	P	P	10 37 03.9	-1.8
	baz=320						
UMPA	Umpang Tak	70.33	271	P	P	10 37 17.6	+12
	comp=Z,11μm,1.1s						
X56A	White Oak	70.35	59	P	P	10 37 04.2	-1.6
	baz=320						
V58A	Windy Hill, Pi	70.37	57	P	P	10 37 04.2	-1.7
	baz=320						
JSC	Jenkinsville	70.38	60	eP	P	10 37 05.2	-0.9
	comp=Z,5.2nm,0.5s						
JSC	Jenkinsville	70.38	60	eP	P	10 37 05.2	-0.9
JSC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
W57A	Gilead	70.40	58	eP	P	10 37 05.3	-0.9
	comp=Z,5.2nm,0.8s						
W57A	Gilead	70.40	58	P	P	10 37 04.4	-1.8
	baz=320						
DANN	Dangsing	70.44	291	eP	P	10 37 07.7	+0.8
	comp=Z,67nm,0.9s						
LPSR	Galich'ya Gora	70.46	335	eP	P	10 37 04.4	-1.8
LPSR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
V59A	Middlesex	70.85	56	P	P	10 37 06.9	-2.0
	baz=321						
VRH	Novokhopyorsk	70.93	332	eP	P	10 37 08.6	-0.5
VRH				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KOLN	Koldanda	70.96	291	eP	P	10 37 10.2	+0.2
	comp=Z,14nm,0.7s						
PYUN	Piuthan	71.07	291	eP	P	10 37 11.2	+0.6
	comp=Z,53nm,0.9s						
VSR	Storozhevoye	71.64	334	i P	P	10 37 13.0	-0.4
VSR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NIL	Nilore	72.28	302	eP	P	10 37 18.6	+1.0
	comp=Z,8.2nm,0.7s						
NIL	Nilore	72.28	302	eP	P	10 37 18.6	+1.0
NIL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TLIG	Tlapa	72.82	83	eP	P	10 37 21.2	+0.2
	comp=Z,3.9nm,0.7s						
PMOR	Pomariorio Ree	72.88	145	eT	T	11 56 20.8	
	comp=Z,18nm,0.2s						
DZM	Mont Dzumac	73.94	190	eLR	LR	10 59 51.6	
	comp=Z,462nm,22.1s						
AKASG	Malin Array Be	74.58	340	eP	P	10 37 31.0	+0.3
AKASG	Malin Array Be	74.58	340	eP	P	10 37 31.0	+0.3
AKASG	Malin Array Be	74.58	340	P	P	10 37 30.7	-0.1
	comp=Z,3.4nm,0.5s,baz=26,slow=6.5,SNR=16						
AKASG				LR	LR	11 16 06.7	
	comp=Z,118nm,18.1s,baz=15,slow=40						
KIEV	Kiev	74.59	340	eP	P	10 37 27.9	-2.9
KIEV	Kiev	74.59	340	i P	P	10 37 30.9	+0.1
KIEV	Kiev	74.59	340	P	P	10 37 30.9	+0.1
PPT	Papeete	74.67	147	LR	LR	11 04 58.7	
	comp=Z,177nm,18.9s,baz=342,slow=31						
PPT2	Papeete2	74.69	147	eS	S	10 47 04.2	-0.4
	comp=Z,314nm,32.0s						
PPT2	Papeete2	74.69	147	eLR	LR	11 00 21.2	
	comp=Z,289nm,24.8s,baz=340						
PPT2	Papeete2	74.69	147	eT	T	11 58 38.8	
	comp=Z,3.7nm,0.3s						
RAR	Rarotonga	75.20	158	LR	LR	11 04 42.0	
	comp=Z,274nm,18.8s,baz=336,slow=31						
GEYT	Alibeck	76.27	315	P	P	10 37 41.6	+0.8
	comp=Z,3.8nm,0.4s,baz=4.4,slow=5.3,SNR=4.8						
GEYT				LR	LR	11 13 55.0	
	comp=Z,241nm,20.8s,baz=40,slow=38						
CTA	Charters Tower	76.36	210	LR	LR	11 09 08.3	
	comp=Z,164nm,18.9s,baz=356,slow=34						
CLL	Collm	76.65	350	e(pP)	pP	10 37 55.0	-0.1
KIV	Kislovodsk	77.08	328	eP	P	10 37 44.6	-0.7
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
KIV				MLR	MLR		
	comp=Z,329nm,18.0s						
DPC	Dobruska-Polom	77.19	348	eP	P	10 37 46.1	+0.4
DPC	Dobruska-Polom	77.19	348	eP	P	10 37 46.1	+0.4
KBZ	Khabaz	77.21	328	P	P	10 37 46.7	+0.8
	comp=Z,1.9nm,0.5s,baz=61,slow=6.5,SNR=6.1						
KBZ				LR	LR	11 15 21.6	
	comp=Z,111nm,21.1s,baz=24,slow=38						
MORC	Moravsky Berou	77.58	347	eP	P	10 37 47.9	0.0
KOLS	Kolonicke sedl	77.64	343	eP	P	10 37 49.6	+1.4
KOLS	Kolonicke sedl	77.64	343	eP	P	10 37 49.6	+1.4
ZEI	Tsey	77.71	327	eP	P	10 37 48.7	-0.3
ZEI				pmax	pmax		
	comp=Z,12nm,1.0s						
LANS	Liptovska Anna	77.90	345	eP	P	10 37 51.6	+1.9
LANS	Liptovska Anna	77.90	345	eP	P	10 37 51.6	+1.9
UZH	Uzhgorod	77.92	343	eP	P	10 37 50.6	+0.8
UZH				i		10 37 55.0	
UZH				i		10 38 04.6	
VRAC	Vranov	78.17	347	eP	P	10 37 51.0	-0.2
BURAR	Bucovina Array	78.34	341	eP	P	10 37 53.2	+0.9
BURAR	Bucovina Array	78.34	341	⇓i P	P	10 37 53.2	+0.9
BURAR	Bucovina Array	78.34	341	⇑P	P	10 37 53.2	+0.9
TRPA	Tarpa	78.36	343	⇑i P	P	10 37 53.3	+1.1
KRUC	Moravsky	78.44	347	eP	P	10 37 53.2	+0.6
JAVC	Velka Javorina	78.45	346	eP	P	10 37 54.4	+1.6
VYHS	Vyhne	78.64	346	eP	P	10 37 55.4	+1.6
VYHS	Vyhne	78.64	346	eP	P	10 37 55.4	+1.6
KHC	Kasperske Hory	78.73	349	eP	P	10 37 54.9	+0.6
KHC	Kasperske Hory	78.73	349	eP	P	10 37 54.9	+0.6
GERES	GERESS Array B	78.99	349	eP	P	10 37 56.2	+0.4
GERES	GERESS Array B	78.99	349	P	P	10 37 56.1	+0.3
	comp=Z,0.5nm,0.5s,baz=30,slow=8.2,SNR=6.5						
GERES				LR	LR	11 14 51.1	
	comp=Z,81nm,21.0s,baz=3.5,slow=37						
DRGR		79.62	343	⇓i P	P	10 38 00.1	+0.9
DRGR		79.62	343	⇓P	P	10 38 00.1	+0.9
CONA	Conrad Observa	79.62	347	eP	P	10 38 01.0	+1.8
	comp=Z,10nm,1.5s						
PLOR	Plostina	79.72	340	⇑i P	P	10 38 01.8	+2.0
PLOR	Plostina	79.72	340	⇑P	P	10 38 01.8	+2.0
MOA	Molln	79.91	348	eP	P	10 38 02.0	+1.3
	comp=Z,3.8nm,1.0s						
BFO	Black Forest	80.04	353	ceP	P	10 38 03.6	+2.2
TBI	Tubuai	80.09	149	eLR	LR	11 02 56.9	
	comp=Z,296nm,26.2s,baz=332						
MLR	Muntele Rosu	80.22	340	⇑i P	P	10 38 04.2	+1.6
MLR	Muntele Rosu	80.22	340	⇑P	P	10 38 04.2	+1.6
ARSA	Arzberg	80.33	348	eP	P	10 38 04.8	+1.8
	comp=Z,4.3nm,1.2s						
WRAB	Tennant Creek	80.51	221	eP	P	10 38 01.5	-2.6
	comp=Z,13nm,1.1s						
WB2	Warramunga Arr	80.52	221	eP	P	10 38 03.2	-0.9
	comp=Z,12nm,0.9s						
WR1	Warramunga Arr	80.52	221	eP	P	10 38 03.0	-1.2
WRA	Warramunga Arr	80.52	221	P	P	10 38 03.0	-1.2
	comp=Z,6.4nm,0.6s,baz=31,slow=5.7,SNR=62						
WRA				PKKPbc	PKKPbc	10 56 44.2	+0.4
	comp=Z,0.9nm,1.1s,baz=228,slow=2.4,SNR=3.7						
RAO	Raoul Island	80.57	176	LR	LR	11 04 50.3	
	comp=Z,170nm,21.1s,baz=300,slow=29						
ARR	Arges	80.61	341	⇑i P	P	10 38 06.5	+1.9
WATA	Walderalm	80.72	350	eP	P	10 38 06.9	+1.6
	comp=Z,3.5nm,0.5s						
MOTA	Moosalm	80.76	351	eP	P	10 38 06.4	+0.9
	comp=Z,6.0nm,1.0s						
KBA	Koelnbreinsper	80.78	349	eP	P	10 38 06.6	+1.0
	comp=Z,6.7nm,0.5s						
WTTA	Wattenberg	80.79	350	eP	P	10 38 06.5	+0.8
	comp=Z,4.4nm,0.7s						
SQTA	Sankt Quirin	80.87	350	eP	P	10 38 06.8	+0.8
	comp=Z,0.3nm,0.3s						
GZR	Gura Zlata	80.95	342	⇑i P	P	10 38 02.3	-4.1
GZR	Gura Zlata	80.95	342	⇑P	P	10 38 02.3	-4.1
SOKA	Soboth	80.96	348	eP	P	10 38 07.6	+1.2
	comp=Z,12nm,1.2s						
FETA	Feichten	81.12	351	eP	P	10 38 08.4	+1.0
	comp=Z,3.3nm,0.7s						
MYKA	Terra Mystica	81.18	349	eP	P	10 38 08.9	+1.3
	comp=Z,3.4nm,0.8s						
OBKA	Obir	81.19	348	eP	P	10 38 08.7	+1.0
	comp=Z,1.8nm,0.4s						
ABTA	Abfaltersbach	81.20	349	eP	P	10 38 08.5	+0.7
	comp=Z,3.4nm,0.7s						
TGUH	Tegucigalpa,Un	82.44	77	eP	P	10 38 15.2	+0.6
	comp=Z,15nm,0.7s						
FITZ	Fitzroy Crossi	82.71	229	eP	P	10 38 15.1	-0.7
	comp=Z,10.0nm,0.6s						
BRTR	Keskin Array B	83.72	333	eP	P	10 38 20.9	-0.1
BRTR	Keskin Array B	83.72	333	P	P	10 38 21.2	+0.1
	comp=Z,2.0nm,0.8s,baz=46,slow=3.6,SNR=12						
BRTR				LR	LR	11 18 57.7	
	comp=Z,27nm,21.9s,baz=1.0,slow=38						
ASAR	Alice Springs	84.04	219	eP	P	10 38 22.4	-0.1
ASAR	Alice Springs	84.04	219	P	P	10 38 22.3	-0.2
	comp=Z,5.4nm,0.6s,baz=24,slow=5.4,SNR=88						
ASAR				LR	LR	11 10 42.5	
	comp=Z,82nm,20.4s,baz=29,slow=32						
STKA	Stephens Creek	88.82	210	eP	P	10 38 45.8	+0.1
	comp=Z,2.5nm,1.1s						
STKA	Stephens Creek	88.82	210	P	P	10 38 45.4	-0.4
	comp=Z,4.9nm,0.8s,baz=336,slow=7.6,SNR=9.1						
STKA				LR	LR	11 12 14.7	
	comp=Z,113nm,21.5s,baz=22,slow=31						
ESDC	Sonseca Array	89.13	1	eP	P	10 38 47.0	-0.5
ESDC	Sonseca Array	89.13	1	P	P	10 38 46.6	-0.9
	comp=Z,0.6nm,0.5s,baz=0.9,slow=5.4,SNR=2.9						
SJG	San Juan	91.36	58	LR	LR	11 20 08.2	
	comp=Z,97nm,20.2s,baz=312,slow=36						
RPZ	Rata Peaks	95.05	185	LR	LR	11 15 08.8	
	comp=Z,117nm,20.0s,baz=24,slow=31						
TOA1	Torodi Ar. Sit	115.44	355	ePKiKP	PKiKP	10 44 33.0	-1.0
TORD	Torodi Ar. Bea	115.45	355	PKP	PKiKP	10 44 33.0	-1.0
	comp=Z,0.3nm,0.5s,baz=0.2,slow=1.9,SNR=4.3						
TORD				PP	PP	10 45 36.9	+2.3
	comp=Z,1.0nm,1.0s,baz=346,slow=5.4,SNR=4.5						
MAW	Mawson	145.15	218	ePKPdf	PKPbc	10 45 27.5	-0.1
MAW	Mawson	145.15	218	ePKiKP	PKPbc	10 45 27.5	-0.1
MAW	Mawson	145.15	218	PKPbc	PKPbc	10 45 26.5	-1.1
	comp=Z,6.4nm,0.5s,baz=81,slow=4.3,SNR=14						
LBTB	Lobatse	145.82	310	ePKPdf	PKPab	10 45 31.6	0.0
LBTB	Lobatse	145.82	310	ePKP2	PKPab	10 45 31.7	0.0
BOSA	Boshof	148.99	307	PKPbc	PKPbc	10 45 40.3	+0.4
	comp=Z,2.3nm,0.5s,baz=46,slow=2.7,SNR=7.9						
BOSA				PKPab	PKPab	10 45 48.1	+4.0
	comp=Z,2.8nm,0.6s,baz=49,slow=4.9,SNR=3.8						
SNAA	Sanae	159.82	180	PKPab	PKPab	10 46 27.1	-1.7
VNA3	Neumayer Olymp	160.00	173	PKPab	PKPab	10 46 28.5	-1.0
VNA2	Neumayer--Watz	160.45	175	PKPab	PKPab	10 46 30.6	-0.8
VNA1	Neumayer--Stat	160.68	174	PKPab	PKPab	10 46 32.3	-0.1

IDC ***10*** *10:55:35.9±2.4, 17°.94S×178°.51W, h540km±27km, mb3.9/14, mb1 4.1/15, mb1mx3.7/40, mbtmp4.8/15, Error ellipse: s-maj=21.4km s-min=13.6km az=153.0*
ISCJB ***10*** *10:55:38.6±0.2, 17°.78S±0°.05×178°.83W±0°.04, h579km, mb4.3/173, Error ellipse: s-maj=8.2km s-min=3.4km az=145.6*
NEIC ***10*** *10:55:38.0±1.6, 17°.76S×178°.69W, h557km±7km, mb4.3/173, Error ellipse: s-maj=17.2km s-min=13.8km az=131.0*
ISC 10 10:55:39.2±0.4, 17°.82S±0°.08×178°.68W±0°.07, h579km, n227, σ1$01/229, mb4.3/173, 2C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	8.40	100	eP	P	10 57 38.9	-2.8
MARNC	Mare, Loyalty	13.04	252	eP	P	10 58 26.9	-1.6
PINNC	Pines Island,	13.87	248	eP	P	10 58 33.5	-3.4
DZM	Mont Dzumac	14.62	251	eP	P	10 58 42.7	-1.8
DZM	Mont Dzumac	14.62	251	P	P	10 58 42.9	-1.5
	1.6nm,0.3s,baz=94,slow=19,SNR=13						
KNTN	Kanton	16.44	25	eP	P	10 58 57.8	-3.8
	246nm,1.4s						
OUZ	Omahuta	18.64	200	eP	P	10 59 21.3	-0.1
	24nm,0.8s						
URZ	Urewera	20.69	189	eP	P	10 59 41.9	+2.0
	18nm,0.7s						
URZ	Urewera	20.69	189	P	P	10 59 36.6	-3.3
	11nm,0.8s,baz=357,slow=11,SNR=4.4						
TARA	Tarawa	20.78	336	eP	P	10 59 40.9	-0.1
	221nm,1.5s						
BKZ	Black Stump Fm	21.68	190	eP	P	10 59 48.8	-0.1
	43nm,1.4s						
HNR	Honiara	22.37	289	eP	P	10 59 55.2	-0.1
	177nm,1.3s						
THZ	Tophouse	24.93	195	eP	P	11 00 17.9	+0.2
	17nm,1.2s						
KHZ	Kahutara	25.40	194	eP	P	11 00 20.5	-1.2
	69nm,1.4s						
EIDS	Eidsvold	29.06	250	eP	P	11 00 52.4	-1.6
	12nm,0.8s						
ARMA	Armidale	29.76	240	eP	P	11 01 01.3	+1.1
	13nm,0.8s						
WHZ	Wether Hill Ro	30.12	199	eP	P	11 01 03.3	+0.4
	40nm,1.5s						
CTA	Charters Tower	33.21	260	P	P	11 01 29.6	0.0
	6.9nm,0.4s,baz=92,slow=12,SNR=11						
CTAO	Charters Tower	33.21	260	eP	P	11 01 29.8	+0.3
	12nm,0.8s						
CAN	Canberra	33.55	232	eP	P	11 01 32.4	+0.1
	9.4nm,0.9s						
PMG	Port Moresby	34.20	280	eP	P	11 01 37.2	-0.6
	42nm,0.8s						
PMG	Port Moresby	34.20	280	P	P	11 01 38.8	+1.0
	46nm,0.9s,baz=74,slow=7.7,SNR=5.8						
MANU	Manus Island	36.83	291	eP	P	11 02 01.5	+1.9
	35nm,0.7s						
COEN	Coen	36.85	270	eP	P	11 02 00.9	+1.1
	20nm,0.8s						
TOO	Toolangi	37.03	231	eP	P	11 02 02.1	+1.2
	14nm,0.8s						
TAU	Tasmania Unive	38.13	222	eP	P	11 02 10.6	+0.8
	14nm,1.1s						
STKA	Stephens Creek	38.45	241	eP	P	11 02 13.6	+1.0
	5.5nm,1.0s						
STKA	Stephens Creek	38.45	241	P	P	11 02 13.2	+0.7
	12nm,0.4s,baz=87,slow=6.7,SNR=56						
JAY	Jayapura	42.64	286	P	P	11 02 46.9	+0.8
	50nm,1.0s,baz=179,slow=8.1,SNR=10.0						
BBOO	Buckleboo	43.23	241	eP	P	11 02 51.0	+0.7
	32nm,0.8s						
KHLU	Kahalu`u	43.39	32	eP	P	11 02 52.0	+0.1
	58nm,0.9s						
HMH	Humu'ula Sheep	43.61	33	eP	P	11 02 54.2	+0.4
	57nm,0.8s						
KEKH	Kekaha	43.70	26	eP	P	11 02 54.0	-0.1
	51nm,1.0s						
HLK	Haleakala	44.20	31	eP	P	11 02 58.1	-0.2
	66nm,0.9s						
WC3	Warramunga Arr	44.37	259	eP	P	11 02 59.0	-0.4
	13nm,0.7s						
WB2	Warramunga Arr	44.39	259	eP	P	11 02 59.3	-0.3
	15nm,0.8s						
WRAB	Tennant Creek	44.39	259	eP	P	11 02 58.4	-1.1
	14nm,0.8s						
WR1	Warramunga Arr	44.40	259	eP	P	11 02 58.8	-0.8
WRA	Warramunga Arr	44.40	259	P	P	11 02 58.8	-0.8
	11nm,0.8s,baz=91,slow=7.6,SNR=118						
AS31	Alice Springs	44.57	254	eP	P	11 03 01.4	+0.4
	23nm,0.8s						
ASAR	Alice Springs	44.57	254	eP	P	11 03 00.9	0.0
ASAR	Alice Springs	44.57	254	P	P	11 03 01.3	+0.4
	79nm,0.6s,baz=88,slow=8.3,SNR=1021						
ASAR				ScP	ScP	11 07 32.9	+4.1
	0.4nm,0.7s,baz=101,slow=4.4,SNR=4.3						
ASAR				S	S	11 08 54.0	-1.5
	1.1nm,0.9s,baz=92,slow=15,SNR=6.0						
MTN	Manton Dam	48.55	268	eP	P	11 03 30.6	-0.4
	14nm,0.9s						
FORT	Forrest	49.81	245	eP	P	11 03 40.0	-0.1
	26nm,0.7s						
FAKI	Fak Fak	50.31	281	eP	P	11 03 44.5	+0.6
	12nm,1.0s						
FITZ	Fitzroy Crossi	52.79	261	eP	P	11 04 02.3	+0.6
	3.5nm,0.8s						
FITZ	Fitzroy Crossi	52.79	261	P	P	11 04 02.4	+0.7
	2.1nm,0.3s,baz=93,slow=4.4,SNR=25						
SOEI	Soe	55.82	270	eP	P	11 04 23.7	+0.6
	40nm,0.9s						
PSAD2	Pilbara Seismi	57.57	255	eP	P	11 04 35.0	+0.1
	11nm,0.8s						
PSAC2	Pilbara Seismi	57.64	255	eP	P	11 04 35.1	-0.2
	14nm,0.8s						
PSAB2	Pilbara Seismi	57.67	255	eP	P	11 04 35.8	+0.2
	10nm,0.9s						
PSAB3	Pilbara Seismi	57.67	255	eP	P	11 04 35.3	-0.3
	15nm,0.8s						
PSAA3	Pilbara Seismi	57.68	255	eP	P	11 04 35.5	-0.1
	18nm,0.9s						
PSA00	Pilbara Seismi	57.69	255	eP	P	11 04 35.8	+0.2
	11nm,0.9s						
PSAA2	Pilbara Seismi	57.69	255	eP	P	11 04 35.9	+0.2
	9.0nm,0.6s						
PSAA1	Pilbara Seismi	57.69	255	eP	P	11 04 35.9	+0.2
	12nm,0.8s						
PSAC3	Pilbara Seismi	57.70	255	eP	P	11 04 36.0	+0.2
	20nm,1.4s						
PSAB1	Pilbara Seismi	57.71	255	eP	P	11 04 35.6	-0.2
	12nm,0.8s						
PSAD1	Pilbara Seismi	57.72	256	eP	P	11 04 36.0	+0.2
	24nm,1.4s						
PSAC1	Pilbara Seismi	57.72	255	eP	P	11 04 35.6	-0.3
	16nm,0.9s						
PSAD3	Pilbara Seismi	57.74	255	eP	P	11 04 36.1	+0.1
	11nm,0.7s						
MBWA	Marble Bar	57.85	256	eP	P	11 04 36.3	-0.5
	6.8nm,0.8s			

VCNR	Virginia City 5.5nm,0.8s	79.13	43	eP	P	11 06 46.1 +1.2
YERR	Yerington 12nm,0.9s	79.23	43	eP	P	11 06 45.9 +0.6
RYN	Ryan 7.4nm,1.1s	79.50	44	eP	P	11 06 47.7 +0.9
PAHR	Pah Rah Range 5.8nm,0.8s	79.53	42	eP	P	11 06 48.0 +1.1
NV01	Mina Array Sit	79.54	44	eP	P	11 06 47.8 +0.7
NVAR	Mina Array Bea	79.54	44	eP	P	11 06 47.5 +0.4
NVAR	Mina Array Bea 6.7nm,0.8s,baz=224,slow=8.9,SNR=42	79.54	44	P	P	11 06 47.8 +0.7
NV11	Mina Array Sit 0.7nm,1.0s	79.64	44	eP	P	11 06 48.3 +0.8
Y12C	Blythe 3.9nm,0.8s	79.76	50	eP	P	11 06 49.0 +1.0
113A	Mohawk Valley, 12nm,1.4s	79.83	51	eP	P	11 06 48.3 -0.2
LDFC	Landfair 23nm,1.0s	79.99	48	eP	P	11 06 50.8 +1.4
KVN	Kaiserville 5.0nm,0.8s	80.01	44	eP	P	11 06 50.0 +0.6
TPNV	Topopah Spring 4.8nm,0.9s	80.14	46	eP	P	11 06 51.4 +1.2
MOD	Modoc Plateau 8.6nm,0.8s	80.18	40	eP	P	11 06 51.1 +0.8
K05A	Summer Lake 16nm,1.0s	80.29	39	eP	P	11 06 51.9 +1.0
BRLK	Bradley Lake 8.1nm,0.8s	80.55	14	eP	P	11 06 51.6 +0.1
SHPR	Sheep Range 3.3nm,1.0s	80.67	47	eP	P	11 06 54.2 +1.2
H04A	Detroit Lake 6.0nm,0.7s	80.68	37	eP	P	11 06 52.9 +0.3
RSO	Redoubt South	80.78	13	eP	P	11 06 52.3 -0.6
W13A	Hualapai Mount 3.7nm,1.1s	80.88	49	eP	P	11 06 54.5 +0.5
PINE	Pine Mountain 14nm,0.9s	80.88	38	eP	P	11 06 55.1 +1.2
Y14A	Wickenburg 4.8nm,0.9s	80.95	50	eP	P	11 06 55.2 +0.9
DIB	Dawson Inlet, 6.0nm,0.9s	81.16	26	eP	P	11 06 55.5 +0.7
R11A	Troy Canyon, C 4.3nm,1.1s	81.31	45	eP	P	11 06 56.9 +0.7
BMN	Battle Mountai 11nm,1.0s	81.32	43	eP	P	11 06 57.1 +0.9
WVOR	Wild Horse Val 14nm,1.0s	81.51	40	eP	P	11 06 57.8 +0.8
TUC	Tucson 8.2nm,1.0s	81.85	52	eP	P	11 07 00.3 +1.4
I07A	Izee 9.0nm,0.8s	81.90	39	eP	P	11 06 59.9 +1.0
RC01	Rabbit Creek A 9.3nm,1.1s	82.00	14	eP	P	11 06 58.7 -0.2
J08A	Circle Bar Ran 15nm,1.1s	82.11	40	eP	P	11 07 00.9 +0.8
D05A	Enumclaw 21nm,1.2s	82.28	35	eP	P	11 07 02.0 +1.4
X16A	Lo Mia Camp, P 9.0nm,0.9s	82.32	50	eP	P	11 07 03.0 +1.5
BBB	Bella Bella 9.9nm,1.2s	82.36	29	eP	P	11 07 01.5 +0.6
GLI	Glacier Island 15nm,0.8s	82.44	15	eP	P	11 07 00.5 -0.6
EYAK	Cordova Ski Ar 8.3nm,0.9s	82.49	16	eP	P	11 07 01.5 +0.1
KNK	Knik Glacier 6.7nm,0.7s	82.58	14	eP	P	11 07 01.6 -0.2
PMR	Palmer 4.5nm,0.8s	82.58	14	eP	P	11 07 01.4 -0.4
319A	Douglas 10nm,0.9s	82.58	54	eP	P	11 07 03.1 +0.4
U15A	North Rim 12nm,0.8s	82.65	48	eP	P	11 07 04.4 +1.2
ELK	Elko 6.6nm,1.0s	82.77	43	eP	P	11 07 04.2 +0.5
GHO	Glory Hole Cre 15nm,0.8s	82.78	14	eP	P	11 07 02.8 -0.2
WUAZ	Wupatki 7.4nm,0.9s	82.88	49	eP	P	11 07 05.3 +1.1
G08A	Pilot Rock 16nm,1.4s	82.90	38	eP	P	11 07 05.0 +1.0
DIV	Divide 9.0nm,0.8s	82.98	15	eP	P	11 07 04.0 0.0
LTY	Liberty 4.8nm,0.9s	83.05	36	eP	P	11 07 05.2 +0.6
HAWA	Hanford 16nm,1.3s	83.19	37	eP	P	11 07 06.4 +1.2
SCM	Sheep Creek Mo 16nm,0.8s	83.21	14	eP	P	11 07 05.3 +0.2
X18A	Snowflake 3.4nm,0.8s	83.47	51	eP	P	11 07 07.9 +0.8
WRAK	Wrangell Islan 8.9nm,1.0s	83.53	24	eP	P	11 07 07.5 +0.8
CAST	Castle Rocks 10nm,0.8s	83.60	12	eP	P	11 07 05.6 -1.3
BMO	Blue Mountains 2.6nm,0.8s	83.64	39	eP	P	11 07 08.0 +0.3
BALM	Baldy 6.2nm,0.7s	83.81	17	eP	P	11 07 08.1 -0.1
CTGM	Chitina Glacie 7.8nm,0.9s	84.04	17	eP	P	11 07 09.4 +0.1
BESE	Bessie Mountai 10.0nm,1.2s	84.21	21	eP	P	11 07 11.2 +1.2
HARP	HAARP 12nm,0.9s	84.23	15	eP	P	11 07 10.4 +0.3
F10A	Beach Ranch, E 13nm,1.0s	84.29	38	eP	P	11 07 11.0 +0.2
B08A	Colville Reser 5.5nm,0.8s	84.42	35	eP	P	11 07 11.6 +0.2
BPAW	Bear Paw Mtn. 2.5nm,1.0s	84.42	12	eP	P	11 07 10.0 -1.0
MCK	McKinley 10nm,1.0s	84.51	13	eP	P	11 07 11.2 -0.2
ZAIG	Zacatecas 4.9nm,1.0s	84.60	64	eP	P	11 07 15.2 +2.0
PAX	Paxson 2.6nm,0.9s	84.63	15	eP	P	11 07 11.8 -0.3
C09A	Chrisman Ranch 14nm,1.4s	84.69	36	eP	P	11 07 11.9 -0.7
HLID	Hailey 4.5nm,0.8s	84.73	41	eP	P	11 07 14.2 +1.0
MENT	Mentasta 4.4nm,1.0s	85.03	15	eP	P	11 07 14.3 +0.4
WRH	Wood River Hil 6.3nm,0.9s	85.34	13	eP	P	11 07 14.7 -0.7
RIDG	Independent Ri 6.9nm,1.0s	85.44	14	eP	P	11 07 15.9 0.0
HDA	Harding Lake 5.3nm,0.9s	85.53	13	eP	P	11 07 16.2 -0.1
DOT	Dot Lake 4.4nm,0.8s	85.55	15	eP	P	11 07 16.2 -0.2
CCB	Clear Creek Bu 4.4nm,0.8s	85.56	13	eP	P	11 07 15.5 -0.9
BCAR	Beaver Creek A	85.63	16	eP	P	11 07 16.6 -0.3
MDM	Murphy Dome 6.0nm,1.1s	85.74	12	eP	P	11 07 16.6 -0.7
WHY	Whitehorse 5.2nm,1.0s	85.76	20	eP	P	11 07 18.4 +0.8
PV09	Paradox Valley	85.83	47	eP	P	11 07 19.7 +0.9
PV14	Lion Creek, Pa 4.4nm,0.9s	85.85	48	eP	P	11 07 20.0 +1.3
ILAR	Eielson Array	85.86	13	eP	P	11 07 16.8 -1.0
ILAR	Eielson Array 1.2nm,0.4s,baz=219,slow=5.2,SNR=28	85.86	13	P	P	11 07 16.9 -0.9
ILB	Eielson Array 2.6nm,0.8s	85.86	13	eP	P	11 07 17.3 -0.5
PV20	West Nyswonger 5.1nm,1.0s	85.88	48	eP	P	11 07 17.3 -1.5
PV04	Paradox Valley 3.8nm,0.8s	85.95	48	eP	P	11 07 20.1 +1.0
PV12	Saucer Basin, 3.0nm,0.8s	85.98	48	eP	P	11 07 20.4 +1.0
PV01	Paradox Valley 3.2nm,0.8s	86.07	48	eP	P	11 07 20.7 +0.9
LTX	Lajitas	86.16	58	eP	P	11 07 21.8 +1.6
TX31	Lajitas Ar. Si 11nm,1.0s	86.16	58	eP	P	11 07 21.9 +1.7
TXAR	Lajitas Array 5.1nm,0.7s,baz=217,slow=5.8,SNR=69	86.16	58	P	P	11 07 21.8 +1.6
ANMO	Albuquerque 3.2nm,1.0s	86.24	52	eP	P	11 07 21.3 +0.7
MCMT	McKenzie Canyo	86.34	41	eP	P	11 07 21.8 +0.9
DLMT	Dillon 5.8nm,0.9s	86.76	40	eP	P	11 07 23.2 +0.5
TPAW	Teton Pass 5.5nm,1.0s	86.89	42	eP	P	11 07 24.6 +1.0
REDW	Red Top Meadow 8.2nm,1.0s	86.90	43	eP	P	11 07 24.7 +1.2
FXWY	Fox Creek 3.1nm,0.8s	86.92	42	eP	P	11 07 24.8 +1.1
SNOW	Snow King Moun 9.8nm,1.0s	87.01	43	eP	P	11 07 25.1 +1.0
HHC	Hu-ho-hao-te	87.03	315	eP	P	11 07 24.6 +0.5
LRM	Limekiln Ridge	87.07	40	eP	P	11 07 25.0 +0.7
DAWY	Dawson 3.1nm,1.0s	87.08	16	eP	P	11 07 23.8 +0.1
IMW	Indian Meadow 7.8nm,0.8s	87.09	42	eP	P	11 07 25.6 +1.1
S22A	4UR Ranch, Cre 3.5nm,1.1s	87.14	49	eP	P	11 07 25.0 +0.1
MOOW	Moose Ponds 2.7nm,1.0s	87.15	42	eP	P	11 07 25.5 +0.8
LOHW	Long Hollow 3.1nm,0.8s	87.17	42	eP	P	11 07 25.1 +0.2
O20A	White River Ci 4.4nm,0.9s	87.18	46	eP	P	11 07 25.6 +0.7
EGAK	Eagle 2.4nm,0.8s	87.20	15	eP	P	11 07 24.4 +0.3
QLMT	Earthquake Lak	87.22	41	eP	P	11 07 26.9 +1.9
FLWY	Flagg Ranch 7.6nm,0.9s	87.33	42	eP	P	11 07 27.0 +1.5
BW06	Boulder Array 3.6nm,0.6s	87.46	44	eP	P	11 07 26.4 +0.2
PD31	Pinedale Array 3.3nm,0.7s	87.46	44	eP	P	11 07 26.8 +0.6
PDAR	Pinedale Array	87.46	44	eP	P	11 07 26.1 -0.1
PDAR	Pinedale Array 3.4nm,0.7s,baz=219,slow=3.4,SNR=28	87.46	44	P	P	11 07 26.3 +0.1
BOZ	Bozeman (W) 5.5nm,1.1s	87.47	40	eP	P	11 07 26.8 +0.8
H17A	Grant Village 5.9nm,0.8s	87.56	42	eP	P	11 07 28.8 +2.1
KMI	Kunming	87.57	297	P	P	11 07 27.6 +0.5
LKWY	Lake 4.9nm,0.9s	87.75	42	eP	P	11 07 29.6 +2.1
HRY	Holter Researc	87.88	39	eP	P	11 07 27.6 -0.4
LNIG	Linares 11nm,1.1s	88.02	63	eP	P	11 07 29.1 +0.1
MSTX	Muleshoe 5.0nm,0.8s	88.65	54	eP	P	11 07 32.2 +0.4
RLMT	Red Lodge 3.8nm,1.0s	88.72	42	eP	P	11 07 33.3 +1.3
CD2	Chengdu	88.81	303	eP	P	11 07 32.0 -0.5
N23A	Red Feather La 5.9nm,0.9s	89.08	46	eP	P	11 07 34.9 +1.1
SYO	Syowa Base	89.18	193	‖eP	P	11 07 33.0 -0.4
EPYK	Eagle Plains 5.1nm,0.9s	89.59	16	eP	P	11 07 35.2 -0.1
ABTX	Abilene, Hawle 8.8nm,1.0s	90.59	56	eP	P	11 07 41.2 +0.5
LZH	Lanzhou	90.64	308	⇑P	P	11 07 38.8 -2.2
LZH				pP	pP	11 09 38.5 -8.6
LZH				sP	sP	11 10 31.7 -13
LZH				PP	PP	11 11 26.1 -1.0
LAO	LASA Array 9.0nm,0.9s	91.31	41	eP	P	11 07 44.9 +1.2
RSSD	Black Hills 4.4nm,0.9s	91.68	44	eP	P	11 07 45.2 -0.5
INK	Inuvik 4.6nm,1.0s	91.87	15	eP	P	11 07 45.6 -0.1
DGMT	Dagmar 13nm,0.8s	93.29	40	eP	P	11 07 54.0 +1.3
YKA	Yellowknife Ar	94.36	25	eP	P	11 07 54.9 -2.3
YKA	Yellowknife Ar 1.2nm,0.9s,baz=246,slow=4.4,SNR=16	94.36	25	P	P	11 07 56.8 -0.3
YKB5	Yellowknife Ar	94.36	25	eP	P	11 07 56.9 -0.3
BVAR	Borovoye Array 0.3nm,0.3s,baz=62,slow=3.0,SNR=2.9	116.62	321	PKP	PKPdf	11 13 17.6 -0.3
ABPO	Ambohimpanom	121.91	233	ePKPpre	PKPpre	11 13 24.0
BUR08	Bucovina Ar. S	144.41	332	ePKPbc	PKPab	11 14 11.4 +0.6
BR101	Keskin Array S	144.54	315	ePKPdf	PKPab	11 14 11.5 -0.2
BRTR	Keskin Array B 0.8nm,0.9s,baz=20,slow=4.1,SNR=3.7	144.54	315	PKP	PKPab	11 14 11.5 -0.2
CLL	Collm	145.32	347	ePKPdf	PKPab	11 14 13.6 -0.5
CLL	Collm comp=Z,9.0nm,1.0s	145.32	347	⇑↑PKPbc	PKPbc	11 14 13.2 +0.4
DPC	Dobruska-Polom	145.39	343	ePKP	PKPdf	11 14 11.5 -0.3
BRG	Bergqiesshubel comp=Z,6.2nm,1.1s	145.52	346	ePKP	PKPbc	11 14 14.0 +0.6
VYHS	Vyhne	146.25	339	ePKP	PKPbc	11 14 16.3 +0.8
MODS	Modra-Piesok	146.87	340	ePKP	PKPbc	11 14 18.1 +0.9
KHC	Kasperske Hory	147.23	345	ePKP	PKPbc	11 14 19.0 +0.9
GEC2	GERESS Array S	147.46	345	ePKPbc	PKPbc	11 14 19.5 +0.7
GERES	GERESS Array B comp=Z,1.9nm,0.6s,baz=33,slow=3.2,SNR=15	147.46	345	PKPbc	PKPbc	11 14 19.1 +0.3
ESDC	Sonseca Array comp=Z,0.4nm,0.5s,baz=337,slow=2.9,SNR=4.0	157.75	11	PKPab	PKPab	11 15 06.6 0.0

*IDC **10** 10:56:47.2±1.7, 0°.47N×123°.69E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.5/45, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=131.6km s-min=24.1km az=65.0*
*ISCJB **10** 10:57:05.5±0.6, 0°.13S±0°.07×123°.01E±0°.05, h157km, mb3.4/3, Error ellipse: s-maj=9.9km s-min=7.6km az=174.7*
*DJA **10** 10:57:07.6±0.5, 0°S±3°×12°3E±°, h140km±5km, M3.6/10, MLv3.6/10*
ISC 10 10:57:06.2±0.9, 0°.08S±0°.07×122°.98E±0°.06, h157km, n13, σ1°24/17, mb3.4/3, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.97	193	P	Pn	10 57 31.2	-0.3
LUWI				S	Sn	10 57 49.2	-1.6
MRSI	Marisa	1.18	298	P	Pn	10 57 33.7	+0.5
MRSI				S	Sn	10 57 53.6	-0.3
KMSI	Cibinong	1.19	57	P	Pn	10 57 34.0	+0.7
KMSI				S	Sn	10 57 53.6	-0.5
APSI	Ampana	1.57	238	P	Pn	10 57 37.9	+0.9
APSI				S	Sn	10 57 59.6	-1.0
MPSI	Mapaga	3.11	278	P	Pn	10 57 55.1	-0.2
PCI	Palu	3.25	255	P	Pn	10 57 58.0	+1.0
SANI	Sanana	3.58	123	P	Pn	10 58 02.1	+0.8
TTSI	Tana Toraja	4.32	227	P	Pn	10 58 11.9	+1.1
FITZ	Fitzroy Crossi 0.4nm,0.3s,baz=351,slow=9.8,SNR=11	18.09	172	P	P	11 01 05.8	-0.2
WRA	Warramunga Arr 2.0nm,0.5s,baz=330,slow=11,SNR=36	22.66	151	P	P	11 01 52.3	-2.0
ASAR	Alice Springs 0.3nm,0.5s,baz=338,slow=10,SNR=7.2	25.73	156	P	P	11 02 21.2	-1.0
MKAR	Makanchi Array 0.3nm,0.6s,baz=120,slow=8.4,SNR=5.6	58.67	328	P	P	11 06 46.0	-1.2
SYO	Syowa Base	87.55	201	⇑eX	P	11 09 38.5	+2.5

IDC 10 11:08:16.3±5.0, 37°.88S×77°.96E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/39, mbtmp3.7/2, Error ellipse: s-maj=193.1km s-min=52.9km az=27.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H baz=255,slow=75,SNR=84	29.16	95	T	T	11 44 39.0	
H01W3	Cape Leeuwin H baz=255,slow=75,SNR=81	29.16	95	T	T	11 44 39.6	
H01W1	Cape Leeuwin H baz=255,slow=75,SNR=83	29.18	95	T	T	11 44 42.4	
H08S2	Diego Garcia H baz=171,slow=76,SNR=586	30.50	349	T	T	11 45 56.6	
H08S1	Diego Carcia H baz=171,slow=76,SNR=604	30.50	349	T	T	11 45 56.8	
H08S3	Diego Garcia H baz=171,slow=76,SNR=691	30.52	349	T	T	11 45 57.9	
WRA	Warramunga Arr 0.5nm,0.8s,baz=236,slow=7.6,SNR=2.7	51.72	86	P	P	11 17 25.4	-0.1
MKAR	Makanchi Array 1.3nm,1.1s,baz=180,slow=5.8,SNR=4.8	84.38	3	P	P	11 20 50.0	0.0
YKA	Yellowknife Ar 0.3nm,0.9s,baz=344,slow=3.0,SNR=4.5	154.17	13	PKPbc	PKPbc	11 28 17.2	0.0

IDC 10 11:14:41.6±5.6, 15°.19N×92°.51W, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/47, mbtmp3.1/4, ML3.0/2, Error ellipse: s-maj=156.5km s-min=24.9km az=24.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote 1.6nm,0.3s,baz=272,slow=10,SNR=16	1.99	95	Pn	Pn	11 15 17.2	+0.5
CMIG	Matias Romero 0.6nm,0.3s,baz=140,slow=16,SNR=7.2	2.96	310	Pn	Pn	11 15 30.4	+0.5
TXAR	Lajitas Array 0.0nm,0.3s,baz=151,slow=13,SNR=2.3	17.43	326	P	P	11 18 48.3	+0.5
NVAR	Mina Array Bea 0.3nm,0.6s,baz=153,slow=6.1,SNR=2.7	32.44	320	P	P	11 21 13.5	-0.3
YKA	Yellowknife Ar 0.5nm,0.8s,baz=148,slow=7.5,SNR=8.7	49.76	347	P	P	11 23 34.9	-0.6

*BJI **10** 11:18:39.3±0.0, 18°.42S×168°.49E, h149km, mb4.7/22, mB5.0/14*
*ISCJB **10** 11:18:40.7±0.2, 18°.00S±0°.03×168°.48E±0°.05, h150km, mb4.5/71, Error ellipse: s-maj=7.2km s-min=4.1km az=16.9*
*NEIC **10** 11:18:41.8±0.7, 18°.00S×168°.55E, h150km±7km, mb4.6/47, Error ellipse: s-maj=19.7km s-min=15.7km az=89.0*
*IDC **10** 11:18:43.4±2.6, 18°.01S×168°.59E, h164km±24km, mb4.1/23, mb1 4.2/24, mb1mx4.0/46, mbtmp4.5/24, MS3.0/1, Ms1 3.0/1, ms1mx2.5/19, Error ellipse: s-maj=15.4km s-min=12.7km az=99.0*
ISC 10 11:18:41.7±0.4, 18°.03S±0°.05×168°.59E±0°.08, h150km, n125, σ0°94/134, mb4.5/70, 3C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	3.47	189	ePn	Pn	11 19 35.4	+0.3
MARNC				eSn	Sn	11 20 14.9	-1.7
DZM	Mont Dzumac	4.50	206	ePn	Pn	11 19 49.3	+0.7
DZM				eSn	Sn	11 20 40.6	-0.1
DZM	Mont Dzumac 39nm,0.3s,baz=102,slow=5.9,SNR=433	4.50	206	P	Pn	11 19 49.5	+0.9
DZM				S	Sn	11 20 40.5	-0.2
DZM	40nm,0.3s,baz=308,slow=22,SNR=15			LR		11 21 09.6	
PINNC	Pines Island, comp=Z,152nm,19.0s,baz=22,slow=32	4.68	193	ePn	Pn	11 19 51.5	+0.5
PINNC				eSn	Sn	11 20 44.1	-0.8
ONTNC	Ouen Toro	4.71	205	ePn	Pn	11 19 51.4	+0.2
ONTNC				eSn	Sn	11 20 45.5	+0.1
CTA	Charters Tower 7.9nm,0.5s,baz=84,slow=11,SNR=19	21.21	261	P	P	11 23 18.1	+2.4
CTAO	Charters Tower 18nm,1.3s	21.21	261	eP	P	11 23 16.1	+0.3
URZ	Urewera 52nm,1.3s	21.49	161	eP	P	11 23 20.4	+1.8
URZ	Urewera 7.1nm,0.6s,baz=353,slow=1.8,SNR=7.7	21.49	161	P	P	11 23 20.5	+2.0
BKZ	Black Stump Fm 34nm,1.2s	22.15	164	eP	P	11 23 26.9	+1.5
STKA	Stephens Creek 1.8nm,0.6s	28.00	235	eP	P	11 24 19.7	+1.1
STKA	Stephens Creek 7.0nm,0.6s,baz=64,slow=8.1,SNR=23	28.00	235	P	P	11 24 19.5	+0.9
TOO	Toolangi 15nm,1.5s	28.09	221	eP	P	11 24 20.1	+0.7
WB2	Warramunga Arr 12nm,0.4s	32.40	261	eP	P	11 24 56.7	-0.9
WRAB	Tennant Creek 15nm,1.0s	32.40	261	eP	P	11 24 56.8	-0.7
WRA	Warramunga Arr 4.9nm,0.4s,baz=78,slow=6.2,SNR=277	32.41	261	P	P	11 24 56.8	-0.9
WRA				PcP	PcP	11 27 40.8	-0.8
BBOO	Buckleboo 11nm,0.9s	32.70	237	eP	P	11 25 00.0	0.0
AS31	Alice Springs 8.0nm,0.5s	32.84	254	eP	P	11 25 01.2	-0.2
ASAR	Alice Springs	32.84	254	eP	P	11 25 00.9	-0.5
ASAR	Alice Springs 16nm,0.6s,baz=80,slow=8.9,SNR=240	32.84	254	P	P	11 25 01.1	-0.3
ASAR				PcP	PcP	11 27 42.0	-0.9
ASAR	0.6nm,0.8s,baz=80,slow=2.4,SNR=3.5			S	S	11 30 05.5	-2.4
MTN	Manton Dam 7.6nm,0.7s	36.43	273	eP	P	11 25 31.8	-0.4
FAKI	Fak Fak 18nm,0.7s	38.65	289	eP	P	11 25 50.6	-0.4
FORT	Forrest 20nm,0.7s	38.83	243	eP	P	11 25 52.1	-0.1
FITZ	Fitzroy Crossi 21nm,0.6s	40.76	263	eP	P	11 26 08.3	-0.1
PSA00	Pilbara Seismi 15nm,0.6s	45.85	257	eP	P	11 26 49.3	+0.1
MBWA	Marble Bar 18nm,0.5s	46.00	258	eP	P	11 26 50.5	+0.2
NWAO	Narrogin (SRO) 64nm,1.4s	48.23	242	eP	P	11 27 06.9	-0.6
NWAO	Narrogin (SRO) 8.0nm,0.4s,baz=110,slow=6.3,SNR=5.9	48.23	242	P	P	11 27 06.9	-0.6
MORW	Morawa 81nm,1.6s	49.06	247	eP	P	11 27 13.4	-0.5
VNDA	Vanda 5.5nm,1.3s	59.61	182	eP	P	11 28 29.4	+0.1
VNDA	Vanda 0.9nm,0.5s,baz=5.2,slow=6.2,SNR=7.0	59.61	182	P	P	11 28 29.5	+0.1
SBA	Scott Base 7.3nm,0.9s	59.86	180	eP	P	11 28 32.1	+1.1
MJAR	Matsushiro Arr 2.6nm,0.5s	61.40	332	eP	P	11 28 41.5	-0.5
MJAR	Matsushiro Arr 3.8nm,0.6s,baz=172,slow=7.8,SNR=16	61.40	332	P	P	11 28 41.0	-1.0
MAJO	Matsushiro 21nm,1.3s	61.40	332	eP	P	11 28 41.9	-0.1
MAT	Matsushiro	61.40	332	P	P	11 28 41.6	-0.4
MJB9	Matsu-Tunnel 21nm,1.3s	61.41	332	eP	P	11 28 41.9	-0.2
JNU	Nakatsue 18nm,0.9s	62.33	325	eP	P	11 28 48.0	-0.4
JNU	Nakatsue 11nm,0.8s,baz=186,slow=19,SNR=5.7	62.33	325	P	P	11 28 48.1	-0.2
YHNB	Yeheng 44nm,1.3s	62.59	311	eP	P	11 28 49.9	-0.3
ASAJ	Asahikawa 17nm,0.6s,baz=208,slow=5.2,SNR=20	66.26	340	P	P	11 29 14.6	+1.0
KSRS	Korea Array 1.2nm,0.7s,baz=136,slow=8.1,SNR=4.1	67.17	326	P	P	11 29 19.9	+0.4
NJ2	Nanjing NJ2 comp=Z,11nm,0.5s	68.92	316	eP	P	11 29 31.0	+0.5
				pmax	pmax		
USRK	Ussuriysk Ar. 1.6nm,0.5s,baz=143,slow=4.9,SNR=5.4	70.39	333	P	P	11 29 39.5	+0.2
PETK	Petropavlovsk- 3.7nm,0.6s,baz=138,slow=6.0,SNR=14	71.47	353	eP	P	11 29 45.4	-0.2
PETK	Petropavlovsk-	71.47	353	P	P	11 29 45.8	+0.2
QSPA	South Pole Qui 8.2nm,0.8s	72.02	180	eP	P	11 29 49.1	+0.1
CN2	Changchun CN2 comp=Z,10.0nm,0.5s	73.11	329	eP	P	11 29 57.7	+2.1
				pmax	pmax		
CHAI	Chaiyaphum 13μm,0.8s,787μm	73.75	293	P	P	11 30 00.8	+0.9
XAN	Xi'an XAN comp=Z,7.0nm,0.9s	76.84	313	P	P	11 30 17.8	+0.5
				pmax	pmax		
LAMP	Lampang 26μm,0.7s	76.88	295	P	P	11 30 19.3	+1.5
KMI	Kunming KMI comp=Z,21nm,0.7s	77.11	302	P	P	11 30 20.9	+1.7
				pmax	pmax		
CMAR	Chiang Mai Arr	77.45	294	eP	P	11 30 21.6	+0.7
CMAR	Chiang Mai Arr 5.3nm,0.8s,baz=130,slow=4.3,SNR=23	77.45	294	P	P	11 30 22.4	+1.5
CMMT	Chiang Mai 6.1nm,0.8s	77.59	295	P	P	11 30 22.8	+1.1
CHTO	Chiang Mai 6.1nm,0.7s	77.59	295	eP	P	11 30 22.0	+0.3
MA2	Magadan 4.1nm,0.7s,baz=178,slow=4.0,SNR=6.9	78.69	351	P	P	11 30 25.8	-1.0
HHC	Hu-ho-hao-te	78.91	320	eP	P	11 30 31.2	+2.6
HHC				S	S	11 40 14.5	-0.2
HHC	comp=Z,27nm,1.2s			pmax	pmax		
HHC	comp=Z,120nm,6.9s			pmax	pmax		
MAW	Mawson 5.2nm,0.8s,baz=152,slow=5.4,SNR=6.3	79.32	202	P	P	11 30 30.9	+0.6
LZH	Lanzhou	81.47	312	‖P	P	11 30 43.5	+1.0
LZH				pP	pP	11 31 20.3	+0.8
LZH				sP	sP	11 31 36.2	+0.4
LZH				PP	PP	11 33 53.8	+2.8
LZH	comp=Z,20nm,1.3s			pmax	pmax		
LZH				pmax	pmax		

comp=Z,78nm,8.7s
SEY Seymchan 81.70 353 P **P 11 30 42.8 -0.1**
0.9nm,0.4s,baz=132,slow=7.3,SNR=12
ULN Ulaanbaatar 85.53 324 *e*P **P 11 31 03.0 0.0**
8.4nm,0.9s
RC01 Rabbit Creek A 85.61 19 *e*P **P 11 31 02.8 -0.1**
3.3nm,0.8s
KHMM Horse Mountain 85.78 45 *e*P **P 11 31 05.2 +0.7**
5.7nm,0.8s
BILL Bilibino 85.84 359 *e*P **P 11 31 03.8 -0.1**
7.3nm,1.0s
GTA Gaotai 85.85 314 P **P 11 31 05.3 +0.5**
GTA pP pP 11 31 40.3 -2.1
GTA sP sP 11 31 56.8 -1.4
GTA pmax pmax
comp=Z,7.0nm,1.1s
SONM Songino Array 85.89 323 *e*P **P 11 31 04.6 -0.2**
4.9nm,0.8s
SONM Songino Array 85.89 323 P **P 11 31 04.7 0.0**
4.2nm,0.5s,baz=146,slow=6.0,SNR=20
SYO Syowa Base 85.92 196⇑ *e*P **P 11 31 03.2 -1.2**
AFDM Forest Hills D 86.80 47 *e*P **P 11 31 09.1 -0.1**
5.5nm,1.0s
CMB Columbia Colle 86.81 48 *e*P **P 11 31 09.6 +0.2**
4.9nm,0.9s
YBH Yreka Blue Hor 86.86 44 P **P 11 31 10.0 +0.4**
1.4nm,0.6s,baz=241,slow=2.8,SNR=8.2
BEKR Beckworth 87.63 47 *e*P **P 11 31 13.8 +0.4**
2.8nm,0.8s
WAKR Walker 87.69 48 *e*P **P 11 31 14.6 +0.8**
10.0nm,1.5s
PAHR Pah Rah Range 88.24 47 *e*P **P 11 31 16.6 +0.3**
4.3nm,1.1s
NVAR Mina Array Bea 88.47 49 P **P 11 31 17.7 +0.2**
2.2nm,1.0s,baz=232,slow=6.9,SNR=10
K05A Summer Lake 88.52 44 *e*P **P 11 31 17.9 +0.3**
7.9nm,1.3s
NV11 Mina Array Sit 88.58 49 *e*P **P 11 31 18.2 +0.3**
0.7nm,1.4s
KVN Kaiserville 88.87 48 *e*P **P 11 31 19.8 +0.5**
5.4nm,1.4s
PINE Pine Mountain 88.96 43 *e*P **P 11 31 20.3 +0.6**
3.8nm,0.8s
ILAR Eielson Array 89.27 17 *e*P **P 11 31 19.1 -1.3**
ILAR Eielson Array 89.27 17 P **P 11 31 18.2 -2.1**
0.7nm,0.5s,baz=235,slow=5.0,SNR=19
WVOR Wild Horse Val 89.90 45 *e*P **P 11 31 24.0 +0.1**
7.6nm,1.3s
I07A Izee 90.02 43 *e*P **P 11 31 24.7 +0.2**
5.1nm,0.8s
SNAA Sanae 90.33 183 P **P 11 31 24.9 -0.6**
SNAA Sanae 90.33 183 *e*P **P 11 31 24.9 -0.6**
3.9nm,0.8s
J08A Circle Bar Ran 90.39 44 *e*P **P 11 31 26.1 -0.1**
4.8nm,0.8s
G08A Pilot Rock 90.88 42 *e*P **P 11 31 28.6 +0.2**
4.9nm,0.8s
VNA3 Neumayer Olymp 90.95 181 P **P 11 31 27.4 -0.9**
VNA2 Neumayer--Watz 91.23 181 P **P 11 31 29.6 0.0**
baz=165,slow=2.4
VNA1 Neumayer--Stat 91.53 181 P **P 11 31 30.4 -0.5**
X16A Lo Mia Camp, P 92.07 55 *e*P **P 11 31 34.5 +0.3**
2.3nm,1.1s
WMQ Urumqi 95.93 314 *e*P **P 11 31 49.5 -2.1**
WMQ pP pP 11 32 28.8 -0.9
WMQ sP sP 11 32 45.5 +0.2
WMQ LR LR
comp=N,740nm,21.1s
WMQ LR LR
comp=E,850nm,26.9s
WMQ LR LR
comp=Z,190nm,24.9s
TXAR Lajitas Array 96.73 61 P **P 11 31 56.0 +0.3**
0.2nm,0.7s,baz=203,slow=8.8,SNR=3.0
YKA Yellowknife Ar 99.88 27 P **Pdif 11 32 08.9 +0.2**
0.5nm,0.5s,baz=255,slow=4.7,SNR=12
MKAR Makanchi Array 100.45 316 *e*Pdif **Pdif 11 32 11.4 -0.4**
MKAR Makanchi Array 100.45 316 P **Pdif 11 32 11.6 -0.2**
1.0nm,0.5s,baz=89,slow=7.4,SNR=12
ARCES ARCESS Array B 123.75 345 PKP **PKPdf 11 37 19.9 -1.1**
1.9nm,0.3s,baz=64,slow=2.0,SNR=68
FINES FINESS Array B 129.24 338 PKP **PKPdf 11 37 31.0 -0.7**
0.5nm,0.3s,baz=31,slow=1.9,SNR=8.7
NOA NORSAR Array B 134.12 345 PKP **PKPdf 11 37 40.6 -0.5**
0.5nm,0.5s,baz=28,slow=2.0,SNR=2.8
AKASG Malin Array Be 134.16 325 PKP **PKPdf 11 37 40.3 -1.0**
0.4nm,0.4s,baz=48,slow=2.1,SNR=4.7
BRTR Keskin Array B 135.58 309 PKP **PKPdf 11 37 45.0 +0.4**
0.3nm,0.4s,baz=104,slow=6.1,SNR=3.1
BURAR Bucovina Array 138.00 323 *e*PKPdf **PKPdf 11 37 48.4 -0.3**
CONA Conrad Observa 142.79 329 *e*PKPdf **PKPdf 11 37 54.5 -2.9**
1.0nm,0.4s
KHC Kasperske Hory 142.98 333 *e*PKP **PKPdf 11 38 00.5 +2.9**
GERES GERESS Array B 143.14 332 PKhKP **PKPab** 11 37 54.4 +0.6
0.8nm,0.5s,baz=49,slow=2.4,SNR=11
MOA Molln 143.61 331 *e*PKPdf PKPab 11 37 56.8 +1.1
2.0nm,0.4s
SOKA Soboth 144.07 329 *e*PKPdf **PKPab 11 37 57.5 0.0**
6.9nm,0.5s,SNR=5.3
OBKA Obir 144.42 329 *e*PKPdf **PKPab 11 37 58.6 -0.3**
0.4nm,0.3s
KBA Koelnbreinsper 144.60 330 *e*PKPdf **PKPab 11 37 59.1 -0.5**
6.6nm,0.6s,SNR=8.3
MEM Membach 144.64 341 ⇓PKPdf **PKPab 11 37 59.4 0.0**
MYKA Terra Mystica 144.78 330 *i* PKPab **PKPab 11 37 59.3 -0.9**
8.2nm,0.4s,SNR=9.2
BCLA Clavier 145.03 341 ⇑PKPbc **PKPbc 11 38 00.2 -0.5**
WATA Walderalm 145.22 332 *i* PKPdf **PKPbc 11 38 01.6 -0.1**
7.3nm,0.5s
ABTA Abfaltersbach 145.23 331 *e*PKPab **PKPbc 11 38 00.7 -0.9**
19nm,0.7s,SNR=12
WTTA Wattenberg 145.24 332 *i* PKPab **PKPbc 11 38 01.5 -0.2**
14nm,0.8s
SNF Seneffe 145.25 342 ⇓PKP **PKPbc 11 38 01.5 +0.1**
MOTA Moosalm 145.42 333 *i* PKPab **PKPdf 11 38 01.9 -0.2**
7.9nm,0.6s,SNR=10
WLF Walferdange 145.42 340 ⇑PKPbc **PKPdf 11 38 00.4 -1.4**
RETA Reutte 145.45 333 *i* PKPab **PKPdf 11 38 02.0 0.0**
4.5nm,0.5s
SQTA Sankt Quirin 145.47 332 *i* PKPab **PKPdf 11 38 02.2 +0.1**
10nm,0.5s,SNR=8.9
DOU Dourbes 145.53 342 ⇓PKP **PKPdf 11 38 02.3 +0.4**
FETA Feichten 145.83 333 *e*PKPab **PKPdf 11 38 03.5 +0.7**
9.4nm,0.6s,SNR=7.3
DAVA Damuels 145.99 334 *i* PKPab **PKPdf 11 38 03.9 +0.9**
7.0nm,0.6s
TORD Torodi Ar. Bea 166.48 251 PKP **PKPdf 11 38 28.4 -1.7**
1.7nm,1.0s,baz=146,slow=1.7,SNR=6.3
TORD PKPab **PKPab 11 39 31.8 -1.0**
1.4nm,0.9s,baz=92,slow=4.1,SNR=6.0

*DDA **10** 11:20:09.5, 37°.88N×35°.07E, h7km±2km, ML2.5*
*ISK **10** 11:20:09.7, 37°.84N×35°.10E, h6km, ML2.1/7*
*ISCJB **10** 11:20:10.0±0.7, 37°.85N±0°.04×35°.11E±0°.05, h6km±8km,*
Error ellipse: s-maj=7.5km s-min=5.0km az=135.9
ISC 10 11:20:09.4±1.3, 37°.89N±0°.03×35°.05E±0°.04, h4km±16km, n14, σ0°81/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAHY	**KAYSERI_Yahyal**	**0.32**	**50**	IAML_P			
	comp=Z,4μm,0.1s						
YAHY				*i* P	**Pg**	11 20 16.8	**+1.1**
NIG	**Nigde**	**0.41**	**303**	PG	**Pb**	11 20 19.4	**-0.1**
NIG				SG	**Sb**	11 20 26.2	**0.0**
AKO	**Adana**	**0.53**	**143**	IAML_P			
	comp=Z,1μm,0.1s						
AKO				*i* P	**Pg**	11 20 19.9	**+0.3**
AKO				*i* S	**Sg**	11 20 26.2	**-0.3**
KARA	**Karaisali**	**0.63**	**180**	PG	**Pg**	11 20 21.3	**-0.1**
KARA				SG	**Sg**	11 20 29.8	**+0.2**
GULE	**Gulek**	**0.64**	**200**	IAML_P			
	comp=Z,578nm,0.2s						
GULE				*i* P	**Pg**	11 20 22.3	**+0.6**
KOZT	**Kozan**	**0.74**	**123**	PG	**Pg**	11 20 23.1	**-0.5**
KOZT				SG	**Sg**	11 20 32.9	**-0.3**
SAIM	**ADANA**	**0.82**	**83**	*i* P	**Pg**	11 20 25.1	**-0.1**
KERG	**Konya-Eregli**	**0.87**	**237**	*i* P	**Pb**	11 20 27.1	**-0.1**
AVNS	**Nevsehir-Avano**	**0.93**	**350**	IAML_P			
	comp=Z,668nm,0.3s						
AVNS				*i* P	**Pg**	11 20 25.1	**-2.2**
AVNS				*i* S	**Sb**	11 20 41.3	**+0.3**
YAYX	**Yaylak**	**1.43**	**318**	PN	**Pg**	11 20 37.9	**+1.0**
KIZK	**Mersin**	**1.58**	**208**	PN	**Pb**	11 20 38.5	**-0.7**
YOZ	**Yozgat**	**1.76**	**7**	PN	**Pb**	11 20 42.2	**-0.2**
KEBE	**Keben-Mersin**	**1.79**	**217**	PN	**Pb**	11 20 41.9	**-0.9**
DARE	**Darende-Malaty**	**2.04**	**70**	PN	**Pn**	11 20 45.2	**+0.6**

JSO 10 11:22:10.6±1.2, 30°N±9°×3°6E±°, h10km, M3.3/10, Mjma3.1/10, ML3.3/3, MLv3.3/10, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSNJ	**Maan**	**0.50**	**311**	P	Pg	11 22 20.4	+0.1
JDRJ	**Daraweish**	**0.89**	**334**	P	Pg	11 22 26.2	-1.5
AQBJ	**Aqaba**	**0.95**	**258**	P	Pg	11 22 28.8	-0.1
SWQJ	**Swaqa**	**1.31**	**358**	P	Pg	11 22 35.8	0.0
LISJ	**El Lisan**	**1.42**	**337**	P	Pn	11 22 35.9	-0.5
GHAJ	**Ghor Haditha**	**1.45**	**341**	P	Pn	11 22 36.2	-0.7
WALJ	**Wala**	**1.65**	**351**	P	Pn	11 22 38.9	-0.7
ASF	**Jabal al Asfar**	**2.33**	**16**	P	Pn	11 22 48.2	-0.9
SHMJ	**Saham**	**2.81**	**354**	P	Pn	11 22 55.4	-0.2

*IDC **10** 11:48:50.9±0.9, 15°.14S×173°.39W, h0km, mb3.7/8,*
mb1 4.1/8, mb1mx3.9/24, mbtmp3.7/8, Error ellipse:
s-maj=47.3km s-min=20.4km az=138.0
*ISCJB **10** 11:48:53.8±0.8, 15°.1S±0°.2×173°.5W±0°.2, h30km, mb3.7/8,*
Error ellipse: s-maj=39.2km s-min=16.9km az=44.1
ISC 10 11:48:55.4±0.9, 15°.1S±0°.3×173°.4W±0°.3, h30km, n13, σ0°44/10, mb3.6/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.51**	**198**	P	**P**	**11 54 12.3**	**+0.1**
	8.0nm,0.6s,baz=340,slow=3.6,SNR=8.9						
H11S2	**WAKE ISLAND Hy**	**38.72**	**329**	T	T	12 36 43.4	
	baz=146,slow=76,SNR=5.9						
H11S3	**WAKE ISLAND Hy**	**38.73**	**329**	T	T	12 36 46.1	
	baz=146,slow=76,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**38.73**	**329**	T	T	12 36 47.5	
	baz=146,slow=76,SNR=3.5						
WRA	**Warramunga Arr**	**49.88**	**257**	P	**P**	**11 57 46.4**	**-0.2**
	0.2nm,0.3s,baz=93,slow=6.6,SNR=8.8						
ASAR	**Alice Springs**	**50.17**	**252**	P	**P**	**11 57 48.4**	**-0.3**
	0.7nm,0.6s,baz=86,slow=8.3,SNR=8.9						
NVAR	**Mina Array Bea**	**74.14**	**42**	P	**P**	**12 00 29.3**	**-0.1**
	0.4nm,0.6s,baz=220,slow=8.3,SNR=3.8						
TXAR	**Lajitas Array**	**80.48**	**56**	P	**P**	**12 01 04.9**	**-0.1**
	0.6nm,0.9s,baz=226,slow=6.8,SNR=6.1						
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**12 01 13.4**	**+0.1**
	0.6nm,0.8s,baz=232,slow=3.6,SNR=5.4						
ILAR	**Eielson Array**	**82.18**	**11**	P	**P**	**12 01 12.5**	**-0.6**
	0.3nm,0.6s,baz=208,slow=6.8,SNR=4.7						
YKA	**Yellowknife Ar**	**89.86**	**23**	P	**P**	**12 01 51.2**	**+0.2**
	0.2nm,0.8s,baz=231,slow=3.9,SNR=4.7						
GERES	**GERESS Array B**	**145.87**	**352**	PKPbc	**PKPab**	**12 08 33.0**	**+0.6**
	0.2nm,0.2s,baz=26,slow=2.5,SNR=4.0						
BRTR	**Keskin Array B**	**145.93**	**321**	PKPbc	**PKPab**	**12 08 33.7**	**+0.7**
	1.8nm,1.0s,baz=102,slow=1.8,SNR=6.3						

*NIED **10** 12:19:00, 37°.20N×141°.30E, h32km, Mw3.5 Best double*
couple: M0 1.87000×10^14 NP1:φs 92.00000°, δ45.00000°,
λ-67.00000°. NP2:φs 241.00000°, δ49.00000°,
λ-111.00000°.
JMA 10 12:19:37.6±0.1, 37°.21N×141°.22E, h32km±1km, M3.4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.32**	**300**	P	Pb	12 19 45.2	-0.3
JFK				S	Sb	12 19 50.3	-0.6
ONAJ	**Iwakimizuishiy**	**0.35**	**252**	P	Pb	12 19 45.8	-0.2
ONAJ				*i* S	Sb	12 19 51.3	-0.5
JFFD	**Fukushimafurud**	**0.54**	**257**	P	Pb	12 19 48.4	-0.4
JFFD				S	Sb	12 19 56.1	-0.3
JMM	**Marumori**	**0.74**	**333**	P	Pn	12 19 51.2	-0.6
JMM				S	Sb	12 20 01.0	-0.8
JFT	**Otama**	**0.77**	**294**	P	Pb	12 19 52.5	-0.1
JFT				S	Sb	12 20 02.9	+0.2
JHO	**Hitachi**	**0.79**	**221**	P	Pn	12 19 51.4	-1.2
JHO				S	Sn	12 20 02.0	-1.3
JSB	**Shiboa**	**1.07**	**257**	P	Pb	12 19 57.8	+0.2
JSB				S	Sb	12 20 11.9	+0.7
JFY	**Yanaizu**	**1.22**	**280**	P	Pb	12 19 59.8	-0.4
JFY				S	Sb	12 20 15.8	+0.1
JOU	**Okura**	**1.23**	**339**	P	Pn	12 19 59.4	+0.7
JOU				S	Sb	12 20 15.5	-0.5
JIO	**Ouri**	**1.25**	**5**	P	Pn	12 19 58.4	-0.4
JIO				S	Sn	12 20 13.8	-0.7
MAT	**Matsushiro**	**2.51**	**255**	P	Pn	12 20 18.3	+2.2
MAT				S	Sb	12 20 50.7	-1.7

*ISCJB **10** 12:19:50.4±0.7, 6°.86N±0°.03×73°.11W±0°.05, h160km±5km,*
mb3.2/1, Error ellipse: s-maj=8.3km s-min=4.9km az=7.3
*RSNC **10** 12:19:51.6±1.1, 6°.84N×73°.13W, h155km±5km, ML3.3,*
Mw3.7
*IDC **10** 12:19:53.3±5.5, 6°.79N×73°.46W, h181km±30km, mb2.8/1,*
mb1 3.2/2, mb1mx2.8/23, mbtmp3.4/2, Error ellipse:
s-maj=174.3km s-min=37.4km az=94.0
ISC 10 12:19:51.6±1.0, 6°.85N±0°.04×73°.12W±0°.05, h151km±6km, n21, σ0°92/37, 5C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.24**	**341⇑**	*i* P	**Pn**	**12 20 12.2**	**-0.1**
GIRC				*e*S	**Sn**	**12 20 28.8**	**+0.7**
GIRC				*i*		12 20 29.7	
	comp=Z,214nm,0.2s						
BARC	**Barichara**	**0.27**	**194⇓**	*i* P	**Pn**	**12 20 12.1**	**-0.4**
BARC				*e*S	**Sn**	**12 20 27.6**	**-0.8**
BARC				*i*		12 20 29.0	
	comp=Z,472nm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**40⇑**	*e*P	**Pn**	**12 20 15.0**	**+0.5**
PAMC				*i*		12 20 15.3	
	comp=Z,581nm,0.4s						
PAMC				*e*S	**Sn**	**12 20 32.5**	**+0.6**
BRRC	**Barranca, Sant**	**0.64**	**293⇑**	*i* P	**Pn**	**12 20 14.0**	**+0.2**
BRRC				*i*		12 20 14.3	
	comp=Z,424nm,0.3s						
BRRC				*e*S	**Sn**	**12 20 31.6**	**+0.7**
RUSC	**La Rusia**	**0.95**	**178⇓**	*e*P	**Pn**	**12 20 16.0**	**-0.7**
RUSC				*e*S	**Sn**	**12 20 34.7**	**-1.1**
RUSC				*i*		12 20 35.9	
	comp=Z,230nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	*e*P	**Pn**	**12 20 18.8**	**-1.1**
PTBC				*i*		12 20 45.8	
	comp=Z,222nm,0.4s						
TAMC	**Tame, Arauca**	**1.38**	**107⇑**	*i* P	**Pn**	**12 20 20.4**	**+0.3**
TAMC				*e*S	**Sn**	**12 20 42.2**	**+0.3**
TAMC				*i*		12 20 48.2	
	comp=Z,91nm,0.6s						
OCAC	**Ocana**	**1.39**	**352**	*e*P	**Pn**	**12 20 20.3**	**0.0**
OCAC				*e*S	**Sn**	**12 20 43.1**	**+0.7**
OCAC				*i*		12 20 49.1	
	comp=Z,174nm,0.4s						
YOPC	**Yopal, Colombi**	**1.64**	**155**	*e*P	**Pn**	**12 20 22.6**	**-0.3**
YOPC				*e*S	**Sn**	**12 20 47.1**	**+0.2**
YOPC				*i*		12 20 47.7	
	comp=Z,98nm,0.4s						
SMLC	**San Martn de**	**2.16**	**334**	*e*P	**Pn**	**12 20 28.4**	**-0.2**
SMLC				*e*S	**Sn**	**12 20 57.4**	**+0.2**
SMLC				*i*		12 21 04.7	
	comp=Z,199nm,0.1s						
NORC	**Norcasia**	**2.16**	**234⇑**	*e*P	**Pn**	**12 20 28.1**	**-0.7**
NORC				*e*S	**Sn**	**12 20 56.2**	**-1.2**
NORC				*i*		12 21 00.3	
	comp=Z,160nm,0.2s						
CHIC	**Chingaza**	**2.29**	**196**	*e*P	**Pn**	**12 20 30.2**	**-0.5**
CHIC				*e*S	**Sn**	**12 21 00.9**	**+0.1**
CHIC				*i*		12 21 03.1	
	comp=Z,84nm,0.5s						
ROSC	**El Rosal**	**2.33**	**211**	*e*P	**Pn**	**12 20 31.5**	**+0.4**
ROSC				*e*S	**Sn**	**12 21 02.5**	**+1.0**
ROSC				*i*		12 21 09.8	
	comp=Z,226nm,0.5s						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**12 20 31.8**	**+0.6**
	comp=Z,24nm,0.3s,baz=28,slow=18,SNR=41						
ROSC				S	**Sn**	**12 21 02.7**	**+1.2**
	comp=Z,12nm,0.3s,baz=142,slow=19,SNR=4.2						
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**12 20 33.4**	**+0.4**
RREF	**El Recreo**	**2.95**	**229**	*e*P	**Pn**	**12 20 39.9**	**+0.9**
RREF				*e*S	**Sn**	**12 21 17.4**	**+2.0**
RREF				*i*		12 21 20.5	
	comp=Z,111nm,0.3s						
CODC	**Agustn Codazz**	**3.08**	**354**	*e*P	**Pn**	**12 20 39.5**	**-0.6**
CODC				*e*S	**Sn**	**12 21 17.2**	**-0.4**
CODC				*i*		12 21 29.1	
	comp=Z,45nm,0.8s						
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**12 20 45.5**	**-1.0**
PRAC				*e*S	**Sn**	**12 21 28.5**	**-0.6**
PRAC				*i*		12 21 33.8	
	comp=Z,122nm,0.3s						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**12 30 01.9**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=132,slow=7.0,SNR=5.3						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPdf**	**12 39 19.8**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=115,slow=4.1,SNR=4.2						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPdf**	**12 39 23.1**	**+2.4**
	comp=Z,0.7nm,1.0s,baz=106,slow=3.1,SNR=4.7						

IDC 10 12:31:50.0±1.8, 15°.66S×72°.21W, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/46, mbtmp3.5/4, ML3.1/3, Error ellipse: s-maj=57.9km s-min=29.7km az=40.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.97**	**100**	Pn	Pn	12 32 54.1	+1.3
	0.2nm,0.3s,baz=277,slow=10.0,SNR=5.2						
LVC	**Limon Verde**	**7.58**	**156**	Pn	Pn	12 33 41.8	-0.4
	2.2nm,0.3s,baz=342,slow=11,SNR=32						
LVC				Sn	Sn	12 35 06.2	-2.8
	0.5nm,0.3s,baz=323,slow=20,SNR=2.5						
SIV	**San Ignacio**	**10.72**	**93**	Pn	Pn	12 34 23.5	-1.5
	0.2nm,0.3s,baz=277,slow=11,SNR=5.0						
YKA	**Yellowknife Ar**	**84.68**	**342**	P	P	12 44 25.1	-0.2
	0.4nm,0.9s,baz=135,slow=5.1,SNR=8.3						
SONM	**Songino Array**	**147.90**	**2**	PKPbc	PKPbc	12 51 37.1	-0.3
	0.3nm,0.4s,baz=355,slow=1.6,SNR=3.6						

IDC 10 12:44:21.6±3.8, 14°.91N×42°.37E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/46, mbtmp3.7/3, Error ellipse: s-maj=93.9km s-min=36.3km az=158.0, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**39.46**	**273**	P	P	12 51 53.9	-0.1
	0.9nm,0.9s,baz=77,slow=7.6,SNR=3.7						
GERES	**GERESS Array B**	**41.21**	**331**	P	P	12 52 08.1	-0.1
	1.3nm,0.7s,baz=133,slow=8.2,SNR=10						
MKAR	**Makanchi Array**	**45.96**	**38**	P	P	12 52 46.3	-0.1
	0.6nm,0.9s,baz=243,slow=6.3,SNR=5.4						

IDC 10 12:51:19.7±1.7, 2°.21N×127°.88E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/42, mbtmp3.7/5, Error ellipse: s-maj=93.0km s-min=22.5km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.30**	**186**	P	P	12 55 57.0	-0.4
	1.2nm,0.7s,baz=1.9,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**22.91**	**164**	P	P	12 56 26.0	+0.6
	2.3nm,0.5s,baz=345,slow=11,SNR=69						
ASAR	**Alice Springs**	**26.38**	**167**	P	P	12 56 57.8	-0.2
	1.0nm,0.5s,baz=346,slow=7.6,SNR=38						
STKA	**Stephens Creek**	**36.32**	**160**	P	P	12 58 25.0	-0.4
	0.9nm,0.5s,baz=345,slow=9.7,SNR=3.7						
MKAR	**Makanchi Array**	**59.45**	**325**	P	P	13 01 24.6	+0.1
	0.1nm,0.3s,baz=122,slow=8.8,SNR=2.4						

*ISCJB **10** 12:53:04.1±0.6, 51°.44N±0°.03×16°.21E±0°.03, h0km,*
mb3.2/1, Error ellipse: s-maj=4.1km s-min=2.9km az=20.6
*VIE **10** 12:53:04.1±0.7, 51°.37N×16°.13E, h0km, mb2.2/4, ml2.5/6,*
Error ellipse: s-maj=5.2km s-min=4.9km az=73.0,
Suspected Mining induced.
*PRU **10** 12:53:07.4±0.0, 51°.41N×16°.21E, h0km*
*IDC **10** 12:53:07.1±0.8, 51°.44N×16°.07E, h0km, mb2.9/1,*
mb1 3.3/6, mb1mx3.1/45, mbtmp3.1/6, ML2.6/5, Error
ellipse: s-maj=17.7km s-min=6.9km az=105.0
ISC 10 12:53:04.8±0.7, 51°.50N±0°.03×16°.22E±0°.03, h0km, n31, σ1°38/60, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**176**	*i* Pg	**Pg**	**12 53 18.3**	**+0.8**
KSP				*e*Sg	**Sg**	**12 53 26.1**	**+0.1**
UPC	**Upice**	**1.00**	**187**	*e*PG	**Pg**	**12 53 24.5**	**+0.5**
UPC				*e*SG	**Sg**	**12 53 37.0**	**0.0**
	comp=Z,79nm,0.3s						
DPC	**Dobruska-Polom**	**1.16**	**177**	*e*PG	**Pg**	**12 53 27.0**	**+0.1**
DPC				*e*SG	**Sg**	**12 53 41.9**	**0.0**
PVCC	**Panska Ves**	**1.43**	**227**	*e*PG	**Pb**	**12 53 33.1**	**+0.9**
PVCC				*e*SG	**Sb**	**12 53 51.1**	**+0.2**
	comp=Z,188nm,0.9s						
KRLC	**Kraliky**	**1.47**	**166**	*e*PG	**Pb**	**12 53 33.4**	**+0.3**
KRLC				*e*SG	**Sg**	**12 53 51.2**	**-0.9**
BRG	**Berggiesshubel**	**1.56**	**247**	PN	**Pn**	**12 53 33.7**	**-0.1**
BRG				PG	**Pg**	**12 53 35.6**	**+1.0**
BRG				SG	**Sg**	**12 53 55.7**	**+0.8**
	32nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.83**	**210**	*e*PN	**Pn**	**12 53 38.2**	**+0.7**
GOPC				*e*PG	**Pb**	**12 53 39.3**	**+0.2**
GOPC				*e*SG	**Sb**	**12 54 02.5**	**-0.1**
	comp=Z,29nm,0.9s						
PRU	**Pruhonice**	**1.85**	**216**	*e*PG	**Pb**	**12 53 39.7**	**+0.2**
PRU				*e*SG	**Sb**	**12 54 03.4**	**+0.2**
	comp=Z,38nm,0.7s						
MORC	**Moravsky Berou**	**1.92**	**153**	*e*PN	**Pn**	**12 53 39.0**	**+0.2**
MORC				*e*SG	**Sn**	**12 54 03.2**	**-0.5**
CLL	**Collm**	**2.02**	**266**	*e*Pn	**Pn**	**12 53 41.0**	**+0.9**
CLL				*e*Pg	**Pg**	**12 53 44.0**	**+0.5**
CLL				*e*Sg	**Sg**	**12 54 10.0**	**+0.3**
	comp=Z,19nm,0.6s						
OKC	**Ostrava-Krasne**	**2.07**	**143**	*e*SG	**Sb**	**12 54 09.3**	**-0.2**
	comp=Z,26nm,0.7s						
VRAC	**Vranov**	**2.21**	**174**	*e*PN	**Pn**	**12 53 43.5**	**+0.8**
VRAC				*e*SG	**Sb**	**12 54 12.7**	**-0.8**
VRAC	**Vranov**	**2.21**	**174**	Pn	**Pn**	**12 53 44.0**	**+1.3**
	comp=Z,1.5nm,0.3s,baz=350,slow=16,SNR=5.1						
VRAC				Sn	**Sn**	**12 54 11.5**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=90,slow=19,SNR=6.0						
KRUC	**Moravsky**	**2.45**	**177**	*e*PN	**Pn**	**12 53 47.0**	**+1.1**
KRUC				*e*SG	**Sb**	**12 54 21.0**	**+0.7**
OJC	**Ojcow**	**2.61**	**118**	*e*Pg	**Pg**	**12 53 55.0**	**+0.3**
OJC				*e*Sg	**Sg**	**12 54 29.9**	**+1.4**
NKC	**Novy Kostel**	**2.70**	**243**	*e*PN	**Pn**	**12 53 50.6**	**+1.1**
NKC				*e*PG	**Pg**	**12 53 57.0**	**+0.4**
NKC				*e*SG	**Sg**	**12 54 33.8**	**+2.2**
	comp=Z,25nm,0.6s						
JAVC	**Velka Javorina**	**2.81**	**160**	*e*PN	**Pn**	**12 53 53.6**	**+2.6**
KHC	**Kasper

DAVOX	Davos/Dischmat	6.29	224	Lg	Lg		12 56 24.2	
	comp=Z,0.3nm,0.3s,baz=270,slow=20,SNR=2.5							
HFS	Hagfors	8.77	352	Pn	Pn		12 55 13.0	+0.4
	comp=Z,0.1nm,0.3s,baz=167,slow=14,SNR=2.6							
FINES	FINESS Array B	11.34	25	Pn	Pn		12 55 47.2	-0.6
	comp=Z,0.1nm,0.3s,baz=218,slow=11,SNR=3.4							
FINES				Sn	Sn		12 57 50.4	-4.7
	comp=Z,0.1nm,0.3s,baz=209,slow=26,SNR=3.0							
ARCES	ARCESS Array B	18.62	10	Pn	P		12 57 21.1	-2.3
	comp=Z,0.1nm,0.3s,baz=198,slow=11,SNR=5.9							
YKA	Yellowknife Ar	59.89	336	P	P		13 03 13.5	+1.7
	comp=Z,0.2nm,0.8s,baz=34,slow=7.1,SNR=3.7							

*IDC **10** 13:06:45.1±0.8, 6°.03S×103°.84E, h0km, mb4.6/20, mb1 4.6/20, mb1mx4.4/40, mbtmp4.5/20, MS3.5/15, Ms1 3.5/15, ms1mx3.3/42, Error ellipse: s-maj=30.8km s-min=13.6km az=47.0*
*BJI **10** 13:06:46.6±0.0, 6°.20S×103°.70E, h20km, mb4.8/40, mB4.9/26, Ms4.5/11, Ms7 4.3/7*
*ISCJB **10** 13:06:47.8±0.4, 6°.28S±0°.06×103°.59E±0°.05, h35km, mb4.8/46, MS3.7/19, Error ellipse: s-maj=10.1km s-min=4.8km az=34.6*
*DJA **10** 13:06:49.9±0.9, 6°.5±6°.×10°.4E±°., h39km±8km, M4.8/12, mB4.9/3, mb4.8/12, MLv4.9/7, Mw(mB)4.2/3*
*NEIC **10** 13:06:49.3±0.7, 6°.28S×103°.57E, h35km, mb4.8/16, Error ellipse: s-maj=21.7km s-min=8.1km az=47.0*
ISC 10 13:06:49.4±0.6, **6°.36S**±0°.08×**103°.51E**±0°.08, **h35**km, **n107,** σ1§**95**/103, **mb4.8**/46, **MS3.4**/19, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	2.06	344	ePn	Pn	13 07 23.0	+1.4
MNAI	Manna	2.06	344	P	Pn	13 07 22.5	+1.0
CGJI	Cibinong	2.18	97	P	Pn	13 07 22.3	-0.9
SBJI	Serang	2.62	85	P	Pn	13 07 29.2	+0.1
CBJI	Citeko	3.32	91	P	Pn	13 07 40.2	+1.3
PMBI	Palembang	3.63	20	P	Pn	13 07 43.3	+0.1
CISI	Cisompet, Garu	4.44	106	ePn	Pn	13 07 53.4	-0.9
CISI	Cisompet, Garu	4.44	106	P	Pn	13 08 00.3	+6.0
XMIS	Christmas Isla	4.61	153	ePn	Pn	13 07 53.2	-3.4
PPBI	Pangkal Pinang	4.92	32	P	Pn	13 08 01.0	+0.1
TPI	Tanjungpandan 16nm,1.0s,0.2nm	5.46	49	P	Pn	13 08 07.1	-1.3
DSRI	Dabo 171nm,0.8s,0.8nm	5.94	10	P	Pn	13 08 15.3	+0.5
PDSI	Padang	6.21	331	P	Pn	13 08 18.6	0.0
UGM	Wanagama	7.13	103	ePn	Pn	13 08 32.0	+0.7
MYKOM	Kota Tinggi	8.10	2	ePn	Pn	13 08 42.6	-2.0
JAGI	Jajag, Banyuwa	10.76	102	ePn	Pn	13 09 21.2	+0.1
BKSI	Bulukumba 16nm,1.0s	16.56	87	P	Pn	13 10 38.1	-0.9
MRSI	Marisa 35nm,0.6s,361nm	19.61	70	P	P	13 11 13.2	-1.7
SOEI	Soe 92nm,0.8s	20.82	101	eP	P	13 11 26.3	-2.0
SOEI	Soe 139nm,0.8s	20.82	101	P	P	13 11 29.4	+1.1
UTHA	Uthaitani 32μm,0.7s,292μm	22.14	350	P	P	13 11 42.6	+0.4
CHAI	Chaiyaphum 19μm,0.6s	22.17	356	P	P	13 11 45.0	+2.5
PANO	Nakornpanom 0.3nm,0.9s	23.38	3	P	P	13 11 55.4	+0.3
FITZ	Fitzroy Crossi 8.3nm,1.0s	24.54	120	eP	P	13 12 05.4	-0.6
FITZ	Fitzroy Crossi 4.9nm,0.9s,baz=231,slow=4.5,SNR=6.2	24.54	120	P	P	13 12 05.4	-0.6
FITZ				LR	LR	13 22 32.0	
	comp=Z,114nm,18.1s,baz=338,slow=39						
CM31	Chiang Mai Arr 26nm,0.7s	25.07	350	eP	P	13 12 09.0	-1.7
CMAR	Chiang Mai Arr 23nm,0.8s,baz=181,slow=9.0,SNR=109	25.07	350	P	P	13 12 08.4	-2.3
CMAR				PcP	PcP	13 15 46.3	+1.3
	0.2nm,0.3s,baz=221,slow=3.1,SNR=4.2						
CMAR				LR	LR	13 22 54.3	
	comp=Z,118nm,18.1s,baz=173,slow=39						
CHTO	Chiang Mai 16nm,0.8s	25.41	350	eP	P	13 12 12.2	-1.7
MTN	Manton Dam 18nm,1.1s	27.97	105	eP	P	13 12 36.5	-0.5
H01W3	Cape Leeuwin H baz=342,slow=76,SNR=9.3	30.03	162	T	T	13 45 12.1	
H01W2	Cape Leeuwin H baz=342,slow=76,SNR=11	30.05	162	T	T	13 45 14.8	
H01W1	Cape Leeuwin H baz=342,slow=76,SNR=11	30.05	162	T	T	13 45 09.2	
H08S2	Diego Garcia H baz=88,slow=76,SNR=17	30.81	266	T	T	13 46 42.2	
H08S3	Diego Garcia H baz=88,slow=76,SNR=17	30.82	266	T	T	13 46 43.5	
H08S1	Diego Carcia H baz=88,slow=76,SNR=16	30.83	266	T	T	13 46 51.1	
BRDH	Bariadhala comp=Z,122nm,18.2s,baz=234,slow=38	31.11	338	LR	LR	13 26 13.4	
KMI	Kunming	31.30	359	P	P	13 13 10.2	+3.6
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WR1	Warramunga Arr	32.84	117	eP	P	13 13 19.8	-0.2
WRA	Warramunga Arr 1.4nm,0.6s,baz=308,slow=8.8,SNR=19	32.84	117	P	P	13 13 19.8	-0.2
ASAR	Alice Springs	33.90	124	eP	P	13 13 31.9	+2.5
ASAR	Alice Springs 0.3nm,0.3s,baz=297,slow=7.6,SNR=8.0	33.90	124	P	P	13 13 28.4	-0.9
ASAR				LR	LR	13 28 27.5	
	comp=Z,74nm,19.4s,baz=270,slow=38						
RAMN	Ramite 28nm,0.3s	36.94	334	eP	P	13 13 56.1	+0.6
CD2	Chengdu	37.06	0	eP	P	13 13 55.9	-0.3
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
JIRN	Jiri 155nm,0.6s	37.74	334	eP	P	13 14 02.7	+0.3
PKI	Pulchoki 18nm,0.4s	38.00	333	eP	P	13 14 04.8	+0.2
PKIN	Phulchoki 20nm,0.4s	38.01	333	eP	P	13 14 04.5	-0.1
WHN	Wuhan	38.13	15	P	P	13 14 07.4	+2.1
DMN	Daman 20nm,0.3s	38.17	333	eP	P	13 14 06.3	+0.3
KKN	Kakani 60nm,0.5s	38.25	333	eP	P	13 14 06.9	+0.3
GKN	Gorkha 46nm,0.2s	38.72	333	eP	P	13 14 11.0	+0.5
KOLN	Koldanda 46nm,0.5s	39.00	331	eP	P	13 14 13.6	+0.7
DANN	Dangsing 144nm,0.6s	39.42	332	eP	P	13 14 17.0	+0.5
PYUN	Piuthan 70nm,0.5s	39.57	331	eP	P	13 14 18.3	+0.6
XAN	Xi'an	40.50	7	P	P	13 14 22.6	-2.5
XAN				pP	pP	13 14 28.6	-6.1
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NJ2	Nanjing	40.90	20	eP	P	13 14 28.0	-0.3
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
LZH	Lanzhou	42.22	0	eP	P	13 14 40.6	+1.3
LZH				pP	pP	13 14 48.5	-0.5
LZH				sP	pwP	13 14 52.2	+0.6
LZH				ePP	PP	13 16 21.7	+4.1
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,92nm,5.2s						
LZH				LR	LR		
	comp=N,360nm,13.2s						
LZH				LR	LR		
	comp=E,380nm,13.6s						
LZH				LR	LR		
	comp=Z,520nm,16.8s						
STKA	Stephens Creek 2.4nm,0.7s	43.67	131	eP	P	13 14 53.7	+2.7
STKA	Stephens Creek 1.8nm,0.5s,baz=316,slow=11,SNR=6.4	43.67	131	P	P	13 14 51.4	+0.4
STKA				LR	LR	13 33 45.1	
	comp=Z,52nm,19.7s,baz=212,slow=37						
GTA	Gaotai	45.67	356	eP	P	13 15 06.5	-0.4
GTA				pP	pP	13 15 13.0	-3.6
GTA				sP	pwP	13 15 15.7	-3.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,57nm,4.5s						
GTA				LR	LR		
	comp=N,71nm,16.8s						
GTA				LR	LR		
	comp=E,79nm,16.8s						
JNU	Nakatsue	47.09	32	LR	LR	13 37 24.6	
	comp=Z,33nm,18.0s,baz=197,slow=39						
HHC	Hu-ho-hao-te	47.55	8	eP	P	13 15 21.7	+0.1
HHC				S	S	13 22 20.9	+6.4
HHC				pmax	pmax		
	comp=Z,76nm,1.0s						
HHC				pmax	pmax		
	comp=Z,240nm,5.6s						
HHC				LR	LR		
	comp=N,460nm,13.3s						
HHC				LR	LR		
	comp=E,670nm,14.4s						
HHC				LR	LR		
	comp=Z,620nm,14.4s						
KS15	Wonju Array Si 74nm,1.6s	49.16	26	eP	P	13 15 32.5	-1.4
KSAR	Wonju Array Be	49.16	26	eP	P	13 15 32.3	-1.5
KSRS	Korea Array 7.5nm,0.7s,baz=222,slow=7.6,SNR=28	49.18	26	P	P	13 15 32.7	-1.4
KSRS				LR	LR	13 37 09.5	
	comp=Z,29nm,18.1s,baz=204,slow=37						
WMQ	Urumqi	51.95	345	eP	P	13 15 55.3	+0.3
WMQ				pP	pP	13 16 02.3	-2.6
WMQ				pmax	pmax		
	comp=Z,66nm,0.7s						
WMQ				LR	LR		
	comp=N,790nm,34.5s						
WMQ				LR	LR		
	comp=E,2μm,38.8s						
WMQ				LR	LR		
	comp=Z,270nm,25.3s						
KSH	Kashi	52.26	333	P	P	13 15 56.2	-1.3
KSH				sP	pP	13 16 07.3	0.0
KSH				S	S	13 23 14.7	-5.7
KSH				SS	SS	13 26 48.8	-10
KSH				pmax	pmax		
	comp=Z,18nm,0.6s						
KSH				pmax	pmax		
	comp=Z,110nm,3.0s						
KSH				LR	LR		
	comp=N,540nm,9.1s						
KSH				LR	LR		
	comp=E,360nm,7.9s						
TARG	Taragay, Kyrgy 7.2nm,0.9s	53.32	336	eP	P	13 16 04.1	-1.4
MAJO	Matsushiro	53.64	35	eP	P	13 16 03.3	-4.3
MJAR	Matsushiro Arr 1.6nm,0.5s,baz=253,slow=17,SNR=8.7	53.64	35	P	P	13 16 03.3	-4.3
MJAR				LR	LR	13 40 01.7	
	comp=Z,15nm,18.4s,baz=80,slow=38						
CN2	Changchun	53.72	20	eP	P	13 16 08.6	+0.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NRN	Naryn 11nm,1.1s	53.82	335	eP	P	13 16 07.0	-2.1
SONM	Songino Array 13nm,0.7s,baz=181,slow=8.7,SNR=56	54.02	2	P	P	13 16 09.9	-0.4
SONM				LR	LR	13 42 09.5	
	comp=Z,70nm,18.4s,baz=228,slow=40						
KZA	Kyzart SNR=6.9	54.67	334	P	P	13 16 16.4	+1.0
UCH	Uchtor SNR=6.9	55.11	334	P	P	13 16 19.0	+0.3
TKM2	Tokmak 2 SNR=14	55.21	335	P	P	13 16 19.2	+0.1
KBK	Karagaybulak SNR=8.9	55.27	335	P	P	13 16 20.2	+0.7
AML	Almayashu SNR=11	55.39	333	P	P	13 16 21.0	+0.3
AAK	Ala-Archa 3.2nm,0.6s	55.45	334	eP	P	13 16 20.1	-0.6
EKS2	Erkin-Say SNR=9.5	55.78	334	P	P	13 16 23.7	+0.7
MK31	Makanchi Array 6.9nm,0.8s	56.17	343	eP	P	13 16 25.0	-0.7
MKAR	Makanchi Array 11nm,0.8s,baz=144,slow=8.5,SNR=51	56.17	343	P	P	13 16 25.2	-0.5
MKAR				LR	LR	13 44 26.1	
	comp=Z,20nm,18.0s,baz=142,slow=40						
USRK	Ussuriysk Ar. 8.3nm,0.6s,baz=210,slow=5.8,SNR=22	56.50	24	P	P	13 16 26.4	-1.6
KURBB	Kurchatov Arra 5.0nm,0.7s,baz=159,slow=6.4,SNR=7.7	60.72	342	P	P	13 16 56.9	-0.4
KURK	Kurchatov 9.9nm,0.9s	60.77	342	eP	P	13 16 56.1	-1.5
GEYT	Alibeck 3.9nm,0.8s,baz=182,slow=10,SNR=5.8	61.01	320	P	P	13 17 00.3	+0.7
GEYT				LR	LR	13 45 42.1	
	comp=Z,16nm,20.9s,baz=165,slow=38						
ZAA0	Zalesovo Array 16nm,0.7s	62.11	348	eP	P	13 17 05.7	-0.9
ZALV	Zalesovo Beam 12nm,0.5s,baz=155,slow=4.6,SNR=55	62.11	348	P	P	13 17 05.7	-0.9
ZALV				LR	LR	13 46 59.1	
	comp=Z,64nm,18.3s,baz=72,slow=39						
BVAR	Borovoye Array 4.3nm,0.5s,baz=144,slow=9.8,SNR=29	65.47	339	P	P	13 17 28.3	-0.5
ABKAR	Akbulak array 14nm,0.8s	67.12	331	eP	P	13 17 39.5	+0.1
AKTO	Aktyubinsk 1.3nm,0.3s,baz=128,slow=1.8,SNR=7.1	68.84	331	P	P	13 17 50.2	0.0
URZ	Urewera comp=Z,75nm,18.0s,baz=274,slow=40	73.22	128	LR	LR	13 55 07.4	
KBZ	Khabaz 4.7nm,0.8s,baz=162,slow=6.4,SNR=11	73.87	319	P	P	13 18 22.1	+1.4
NRIK	Noril'sk 2.2nm,0.3s,baz=158,slow=5.7,SNR=5.4	76.33	354	P	P	13 18 32.8	-1.6
NRIK				LR	LR	13 55 09.1	
	comp=Z,47nm,21.8s,baz=148,slow=38						
TIXI	Tiksi 2.7nm,1.0s	79.62	8	eP	P	13 18 50.3	-2.3
AKASG	Malin Array Be 3.0nm,0.6s,baz=84,slow=5.0,SNR=9.0	85.05	322	P	P	13 19 22.0	+0.6
AKASG				LR	LR	14 03 51.9	
	comp=Z,14nm,18.3s,baz=55,slow=40						
MLR	Muntele Rosu baz=166,slow=8.3	85.85	316	P	P	13 19 27.8	+2.1
BURAR	Bucovina Array	86.82	318	eP	P	13 19 32.5	+2.1
BUR08	Bucovina Ar. S 5.5nm,0.8s	86.84	318	eP	P	13 19 31.4	+0.9
KOLS	Kolonicke sedl	89.02	319	eP	P	13 19 43.7	+2.9
KOLS				esP	sP	13 19 57.7	+2.6
FINES	FINESS Array B 1.6nm,0.6s,baz=101,slow=8.1,SNR=8.2	89.57	332	P	P	13 19 44.0	+1.0
ARCES	ARCESS Array B 1.6nm,0.9s,baz=33,slow=2.9,SNR=4.1	91.74	340	P	P	13 19 53.0	0.0
N55A	Marion Center	145.65	3	ePKPbc	PKPdf	13 26 24.1	-0.4
TX31	Lajitas Ar. Si	145.66	45	ePKPbc	PKPab	13 26 25.7	+0.1
LTX	Lajitas	145.66	45	ePKPbc	PKPbc	13 26 25.6	+0.4
TXAR	Lajitas Array 5.6nm,0.8s,baz=284,slow=1.3,SNR=41	145.66	45	PKPbc	PKPbc	13 26 25.6	+0.4
CCM	Cathedral Cave	145.72	21	ePKPdf	PKPdf	13 26 24.4	-0.2
WVT	Waverly	148.60	18	ePKPbc	PKPbc	13 26 33.1	-0.1

*ISK **10** 13:11:34.9, 38°.98N×29°.87E, h6km, ML2.1/6*
*ISCJB **10** 13:11:35.4±0.6, 38°.99N±0°.03×29°.89E±0°.04, h1km±10km, Error ellipse: s-maj=5.0km s-min=4.4km az=38.9*
*DDA **10** 13:11:35.8, 38°.98N×29°.85E, h7km±4km, ML2.5*
ISC 10 13:11:35.5±1.2, **38°.97N**±0°.03×**29°.87E**±0°.03, **h9**km±11km, **n13,** σ0§**60**/21, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	Gediz comp=Z,4μm,0.1s	0.32	293	IAML_P			
GDZ				*i* P	Pb	13 11 43.0	-0.6
GDZ				*i* S	Sb	13 11 47.8	-1.2
SHAP	Saphane-Kutahy	0.51	277	PG	Pg	13 11 45.3	-0.1
SHAP				SG	Sg	13 11 52.8	+0.8
TVSB	Tavsanli	0.58	327	PG	Pg	13 11 46.4	-0.4
TVSB				SG	Sg	13 11 54.7	+0.3
KHAL	Karahalli comp=Z,580nm,0.2s	0.66	206	IAML_P			
KHAL				*i* P	Pg	13 11 47.5	-0.9
KHAL				*i* S	Sb	13 11 58.2	-0.4
SHUT	Suhut-Afyon	0.68	127	PG	Pg	13 11 48.6	0.0
SHUT				SG	Sb	13 11 58.6	-0.5
USAK	Uak-Merkez	0.71	250	*i* P	Pg	13 11 44.0	-5.2
USAK				*i* S	Sb	13 11 59.7	-0.3
KZIL	AFYON_Kizioren comp=Z,681nm,0.1s	0.74	163	IAML_P			
KZIL				*i* P	Pb	13 11 51.1	+0.4
KZIL				*i* S	Sb	13 12 00.8	-0.1
BORA	Eskisehir	1.02	26	PG	Pg	13 11 54.8	-0.4
BORA	Eskisehir comp=Z,1μm,0.1s	1.02	26	IAML_P			
BORA				*i* P	Pb	13 11 55.4	-0.1
BORA				*i* S	Sb	13 12 08.8	-0.2
KULA	Kula-Manisa	1.04	245	PG	Pg	13 11 55.5	-0.1
CAVI	Cavuskoy	1.24	359	PN	Pb	13 11 58.7	-0.4
DURS	Dursunbey comp=Z,200nm,0.1s	1.25	301	IAML_P			
DURS				*i* P	Pg	13 12 00.7	+1.1
DURS				*i* S	Sn	13 12 16.9	+0.6
GULT	Gulveren	1.55	19	PN	Pn	13 12 03.6	+0.2

*NSSC **10** 13:28:54.6±2.2, 34°.16N×35°.73E, h5km*
*ISCJB **10** 13:29:01.0±0.8, 33°.80N±0°.05×35°.82E±0°.08, h6km, Error ellipse: s-maj=10.1km s-min=5.3km az=149.3*
*GRAL **10** 13:29:01.9±0.3, 33°.79N×35°.77E, h4km±8km, MD2.6*
ISC 10 13:28:59.8±1.2, **33°.88N**±0°.06×**35°.91E**±0°.06, **h6**km, **n7,** σ1§**11**/9, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.21	278	eP	Pg	13 29 04.7	+0.7
BHL				eS	Sg	13 29 06.9	0.0
DQRL	Deir Qamar	0.33	239	eP	Pg	13 29 05.3	-0.9
RCY	Rachaya	0.38	189	eP	Pg	13 29 07.2	-0.1
RCY				eS	Sg	13 29 11.2	-1.1
HWQ	Hawqa	0.40	5	eP	Pn	13 29 11.1	-1.2
QASN	Qassioun	0.46	138	eP	Pg	13 29 08.2	-0.5
BRBR	Barbar	0.47	175	eP	Pg	13 29 09.3	+0.5
TOTH	TOTAH	0.67	139	eP	Pb	13 29 15.7	+1.7

*DSN **10** 13:46:55.6±3.0, 26°.92N×58°.00E, h13km, ML3.1/8, Error ellipse: s-maj=45.7km s-min=12.3km az=175.0*
*TEH **10** 13:47:00.1, 26°.63N×57°.67E, h7km, ML3.6*
*OMAN **10** 13:47:03.3±0.4, 26°.45N×57°.65E, h20km, ml3.2/13, Error ellipse: s-maj=6.8km s-min=3.7km az=42.0*
ISC 10 13:46:51.6±1.2, **26°.55N**±0°.03×**58°.10E**±0°.06, **h10**km, **n36,** σ1§**44**/40, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.52	312	ePg	Pg	13 47 23.6	+2.9
NIAN				IAMB	IAmb	13 47 52.3	
	comp=N,0.0nm,0.3s						
SHME	Shamm SNR=48	1.83	255	eP	Pg	13 47 28.2	+1.5
SHME				S	Sg	13 47 52.0	+1.5
SHME	Shamm	1.83	255	ePn	Pg	13 47 28.6	+1.9
GENO	Geno	1.92	297	ePn	Pg	13 47 29.4	+0.9
GENO				eSg	Sg	13 47 53.5	0.0
GENO				IAMB	IAmb	13 47 56.7	
	comp=Z,0.0nm,0.4s						
MDH	Madha SNR=22	2.05	233	eP	Pg	13 47 30.4	-0.4
MDH	Madha	2.05	233	P	Pg	13 47 30.5	-0.4
MDH				S	Sb	13 47 52.5	-1.9
MDH	Madha	2.05	233	ePn	Pg	13 47 30.6	-0.3
MSFE	Esma-Masafi SNR=8.9	2.11	236	eP	Pg	13 47 31.3	-0.8
MSFE	Esma-Masafi	2.11	236	ePn	Pg	13 47 31.8	-0.3
HATD	Hatta, Dubai	2.47	227	P	Pg	13 47 39.1	+0.2
HATD	Hatta, Dubai	2.47	227	P	Pg	13 47 39.3	+0.4
HATD	Hatta, Dubai	2.47	227	ePn	Pg	13 47 39.6	+0.6
ASHO	Ashiyiah SNR=15	2.62	225	eP	Pg	13 47 41.1	-0.7
ASHO	Ashiyiah	2.62	225	P	Pg	13 47 41.3	-0.5
ASHO	Ashiyiah	2.62	225	ePn	Pg	13 47 41.9	+0.1
NAZ	Nazwa, Dubai	2.69	235	ePn	Pg	13 47 44.4	+1.2
SOHO	SOHO	2.79	211	P	Pb	13 47 41.4	-0.2
FAQ	Al Faqa, Dubai	2.89	232	P	Pg	13 47 44.2	-2.8
FAQ	Al Faqa, Dubai	2.89	232	P	Pg	13 47 45.8	-1.2
FAQ	Al Faqa, Dubai	2.89	232	ePn	Pg	13 47 46.2	-0.8
BIDO	Bidbid	3.01	180	P	Pb	13 47 47.6	+2.2
BIDO				S	Sb	13 48 24.0	+1.8
HOQ	Hoqain	3.04	194	P	Pb	13 47 46.7	+0.9
HOQ				S	Sb	13 48 22.6	-0.3
HOQ	Hoqain	3.04	194	ePn	Pg	13 47 48.6	-1.2
ASUD	Al Ashush, Dub	3.15	233	P	Pb	13 47 47.4	-0.4
ASUD	Al Ashush, Dub	3.15	233	P	Pg	13 47 49.6	-2.5
ASUD				S	Sn	13 48 16.8	-2.2
ALNE	Al Ain SNR=7.3	3.27	221	*i* P	Pb	13 47 50.4	+0.7
ALNE	Al Ain	3.27	221	ePn	Pg	13 47 52.4	-1.9
NGRK	Negar Kerman	3.32	339	ePn	Pb	13 47 51.0	+0.2
NGRK				IAMB	IAmb	13 48 47.9	
	comp=Z,0.0nm,0.4s						
CHMN	Cheshme madani	3.34	352	ePn	Pg	13 47 54.5	-1.2
SMDO	Samad	3.47	181	P	Pb	13 47 55.8	+2.5
SMDO				S	Sb	13 48 36.6	+1.1
TVBK	TV Kerman comp=Z,0.0nm,0.3s	3.63	341	IAMB	IAmb	13 48 05.3	
BSY	Bisya	3.87	192	P	Pb	13 48 02.4	+2.3
KHGB	Koh Gabri	4.08	340	ePn	Pb	13 48 02.2	-1.4
KHGB				IAMB	IAmb	13 49 18.0	
	comp=Z,0.0nm,0.8s						
JLN	Jalan Bani Buh	4.54	164	P	Pb	13 48 10.6	-0.8
TPRV	Parvadeh(Tabas	6.58	350	ePn	Pn	13 48 37.3	+8.8
IRAM	Ramesheh	7.25	318	ePn	Pn	13 48 42.7	+4.9

*IDC **10** 13:47:13.3±0.9, 41°.02S×42°.77E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/30, mbtmp3.7/7, ML3.6/1, MS3.4/16, Ms1 3.4/16, ms1mx3.3/42, Error ellipse: s-maj=36.9km s-min=19.8km az=44.0*
*ISCJB **10** 13:47:14.5±0.8, 41°.0S±0°.2×42°.7E±0°.2, h16km, mb3.5/6, MS3.4/14, Error ellipse: s-maj=31.2km s-min=14.9km az=135.4*
ISC 10 13:47:15.9±1.1, **41°.0S**±0°.2×**42°.8E**±0°.2, **h16**km, **n23,** σ1§**12**/8, **mb3.7**/6, **MS3.5**/14, **Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof 0.1nm,0.3s,baz=126,slow=14,SNR=3.2	18.92	305	P	P	13 51 35.5	-0.6
BOSA				LR	LR	13 57 27.1	
	comp=Z,99nm,20.8s,baz=150,slow=32						
SUR	Sutherland comp=Z,79nm,20.8s,baz=119,slow=32	19.55	289	LR	LR	13 57 28.8	
LBTB	Lobatse 0.8nm,0.4s,baz=121,slow=12,SNR=2.7	21.42	313	P	P	13 52 03.9	+0.6
LBTB				LR	LR	13 59 17.2	
	comp=Z,53nm,21.0s,baz=140,slow=34						
OPO	Ambohidratompo comp=Z,283nm,20.9s,baz=2.5,slow=33	22.69	11	LR	LR	13 59 38.7	
MATP	Matopo 1.1nm,0.4s,baz=160,slow=7.4,SNR=5.7	23.84	325	P	P	13 52 27.7	-0.8
MATP				LR	LR	14 00 55.8	
	comp=Z,77nm,19.0s,baz=138,slow=34						
LSZ	Lusaka comp=Z,117nm,21.9s,baz=152,slow=33	28.60	330	LR	LR	14 03 00.9	
MAW	Mawson comp=Z,66nm,21.2s,baz=321,slow=30	28.82	164	LR	LR	14 01 35.3	
TSUM	Tsumeb comp=Z,92nm,18.1s,baz=150,slow=35	30.57	308	LR	LR	14 04 50.2	
SNAA	Sanae 1.2nm,0.8s,baz=135,slow=19,SNR=3.0	38.03	202	P	P	13 54 33.3	+0.3
MBAR	Mbarara comp=Z,60nm,19.1s,baz=142,slow=35	41.68	342	LR	LR	14 11 28.6	
H01W2	Cape Leeuwin H baz=242,slow=75,SNR=28	55.19	108	T	T	14 56 15.0	
H01W3	Cape Leeuwin H baz=242,slow=75,SNR=26	55.20	108	T	T	14 56 14.9	
H01W1	Cape Leeuwin H baz=242,slow=75,SNR=31	55.20	108	T	T	14 56 16.4	
PALK	Pallekele comp=Z,44nm,21.7s,baz=104,slow=29	59.35	45	LR	LR	14 15 57.7	
DBIC	Dimbokro comp=Z,26nm,22.0s,baz=106,slow=32	64.45	306	LR	LR	14 21 27.2	
TORD	Torodi Ar. Bea 0.5nm,0.8s,baz=142,slow=4.9,SNR=2.4	65.92	316	P	P	13 58 02.2	+1.0
TORD				LR	LR	14 26 55.5	
	comp=Z,42nm,18.4s,baz

0.2nm,0.4s,baz=228,slow=5.2,SNR=7.7
WRA Warramunga Arr 78.35 106 P **P 13 59 16.1 +0.3**
0.6nm,0.8s,baz=221,slow=4.8,SNR=5.9
CPUP Villa Florida 80.24 244 LR LR 14 27 35.6
comp=Z,32nm,18.7s,baz=209,slow=30
BRTR Keskin Array B 80.79 353 LR LR 14 33 52.7
comp=Z,14nm,20.1s,baz=98,slow=35
TXAR Lajitas Array 150.35 258 PKPbc **PKPbc 14 07 04.7 -1.9**
0.2nm,0.5s,baz=133,slow=3.8,SNR=3.3

IDC 10 13:49:22.9±8.6, 6°22S×130°50E, h102km±84km, mb2.7/1, mb1 3.1/4, mb1mx3.0/33, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=69.7km s-min=28.1km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.73**	**201**	P	Pn	13 52 20.0	-0.2
	0.0nm,0.3s,baz=38,slow=12,SNR=3.5						
FITZ				S	Sn	13 54 42.2	+1.9
	0.1nm,0.3s,baz=78,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**14.14**	**165**	P	Pn	13 52 38.8	+0.1
	0.1nm,0.3s,baz=347,slow=13,SNR=7.0						
WRA				S	Sn	13 55 11.6	-3.1
	0.2nm,0.3s,baz=332,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**17.66**	**170**	P	P	13 53 21.6	-0.4
	0.1nm,0.3s,baz=354,slow=9.2,SNR=11						
ASAR				S	S	13 56 40.1	-0.1
	0.1nm,0.3s,baz=351,slow=25,SNR=3.6						
MKAR	**Makanchi Array**	**67.85**	**326**	P	P	14 00 10.3	0.0
	0.1nm,0.4s,baz=121,slow=5.4,SNR=2.1						

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*IDC **10** 14:20:43.7±7.5, 36°93N×70°58E, h187km±28km, mb3.0/3, mb1 3.1/5, mb1mx2.8/55, mbtmp3.6/5, Error ellipse: s-maj=113.2km s-min=26.5km az=145.0*
*NNC **10** 14:20:45.8±6.1, 37°12N×71°33E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=47.6km s-min=44.5km az=146.0*
ISC 10 14:20:41.5±2.3, 36°7N±0°2×70°9E±0°1, h200km, n9, σ1§99/13, mb3.3/3, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.38**	**357**	⇓Pn	**Pn**	**14 22 15.3**	**+1.7**
	0.6nm,0.3s,baz=176,slow=12,SNR=47						
KK31				⇑Sn	**Sn**	**14 23 26.4**	**-0.2**
	1.7nm,0.5s,baz=177,slow=21,SNR=6.5						
AAK	**Ala-Archa**	**6.51**	**24**	⇓Pn	**Pn**	**14 22 16.9**	**+1.5**
	2.8nm,0.4s						
AAK				⇓Sn	**Sn**	**14 23 29.1**	**-0.8**
	3.5nm,0.6s						
AAK	**Ala-Archa**	**6.51**	**24**	P	**Pn**	**14 22 17.1**	**+1.6**
	2.1nm,0.3s,baz=150,slow=4.8,SNR=19						
AAK				S	**Sn**	**14 23 30.3**	**+0.3**
	0.5nm,0.3s,baz=317,slow=22,SNR=14						
TKM2	**Tokmak 2**	**7.15**	**29**	⇑Pn	**Pn**	**14 22 24.8**	**+1.0**
	5.2nm,1.1s						
TKM2				⇑Sn	**Sn**	**14 23 40.1**	**-4.9**
	2.1nm,0.8s						
GEYT	**Alibeck**	**10.28**	**281**	P	**Pn**	**14 23 02.5**	**-1.9**
	1.0nm,0.3s,baz=57,slow=4.1,SNR=4.3						
AKTO	**Aktyubinsk**	**16.56**	**330**	P	**Pn**	**14 24 22.1**	**-0.3**
	0.1nm,0.3s,baz=154,slow=6.6,SNR=3.6						
FINES	**FINESS Array B**	**37.27**	**326**	P	**P**	**14 27 33.7**	**0.0**
	0.6nm,0.7s,baz=122,slow=8.4,SNR=3.4						
ARCES	**ARCESS Array B**	**40.92**	**338**	P	**P**	**14 28 05.1**	**+1.2**
	1.0nm,0.8s,baz=116,slow=8.2,SNR=4.3						
NOA	**NORSAR Array B**	**44.17**	**323**	P	**P**	**14 28 30.7**	**+0.5**
	0.3nm,0.5s,baz=95,slow=8.0,SNR=2.5						

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*ISCJB **10** 14:34:22.6±1.0, 63°66N±0°05×23°20W±0°09, h13km±4km, mb3.4/5, Error ellipse: s-maj=9.3km s-min=6.2km az=166.3*
*IDC **10** 14:34:23.4±1.3, 63°78N×23°01W, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.4/51, mbtmp3.5/8, ML3.3/3, Error ellipse: s-maj=25.2km s-min=14.2km az=151.0*
*REY **10** 14:34:23.7, 63°71N×23°26W, h13km*
ISC 10 14:34:25.9±1.2, 63°77N±0°06×22°94W±0°06, h15km±6km, n22, σ1§36/34, mb3.4/5, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**0.12**	**65**	P	**Pg**	**14 34 29.1**	**-0.3**
	baz=66						
IRNE				S	**Sg**	**14 34 33.2**	**+1.5**
	baz=66						
INYL	**Nylenda**	**0.23**	**24**	P	**Pb**	**14 34 30.3**	**-1.4**
	baz=41						
INYL				S	**Sb**	**14 34 35.3**	**-0.2**
	baz=41						
IGRV	**Grindav??k**	**0.23**	**67**	P	**Pg**	**14 34 30.7**	**-0.4**
	baz=67						
IGRV				S	**Sb**	**14 34 36.3**	**+0.5**
	baz=67						
IVOG	**Vogar**	**0.32**	**50**	P	**Pg**	**14 34 32.1**	**-0.4**
	baz=55						
IVOG				S	**Sb**	**14 34 38.7**	**+0.5**
	baz=55						
IKRI	**Krysuvik**	**0.40**	**74**	P	**Pg**	**14 34 33.5**	**-0.5**
	baz=71						
IKRI				S	**Sb**	**14 34 41.4**	**+0.8**
	baz=71						
IKAS	**Kald??rsel**	**0.55**	**62**	P	**Pg**	**14 34 35.9**	**-0.8**
	baz=62						
IKAS				S	**Sb**	**14 34 45.6**	**+0.9**
	baz=62						
IVOS	**Vogsosar**	**0.56**	**81**	P	**Pg**	**14 34 36.2**	**-0.6**
	baz=77						
IVOS				S	**Sb**	**14 34 45.9**	**+0.9**
	baz=77						
ISAN	**Sandskeio**	**0.67**	**64**	P	**Pg**	**14 34 37.8**	**-1.2**
	baz=64						
ISAN				S	**Sb**	**14 34 49.4**	**+1.0**
	baz=64						
IKUD	**Kuludalsa**	**0.73**	**40**	P	**Pg**	**14 34 38.5**	**-1.5**
	baz=44						
IKUD				S	**Sg**	**14 34 49.9**	**+0.2**
	baz=44						
IBJA	**Bjarnastaoir**	**0.75**	**75**	P	**Pg**	**14 34 39.3**	**-1.2**
	baz=74						
IBJA				S	**Sb**	**14 34 51.5**	**+0.9**
	baz=74						
ISOL	**Solvholt**	**0.90**	**79**	P	**Pg**	**14 34 41.5**	**-1.8**
	baz=77						
ISOL				S	**Sg**	**14 34 55.4**	**+0.3**
	baz=77						
BORG	**Borgarnes**	**1.21**	**35**	Pg	**Pn**	**14 34 46.2**	**-2.1**
	268nm,0.3s,baz=228,slow=5.4,SNR=368						
BORG				Lg	Lg	14 35 03.7	
	725nm,0.3s,baz=90,slow=16,SNR=53						
SCO	**Scoresbysund**	**6.76**	**3**	*i P*	**Pn**	**14 36 04.8**	**+0.5**
SCO				*i* S	**Sn**	**14 37 25.3**	**+4.5**
EKA	**Eskdalemuir Ar**	**13.06**	**121**	Pn	**Pn**	**14 37 30.5**	**-0.2**
	baz=327,slow=14,SNR=2.6						
HFS	**Hagfors**	**17.44**	**85**	P	**Pn**	**14 38 27.2**	**-1.1**
	0.1nm,0.3s,baz=293,slow=12,SNR=2.0						
ARCES	**ARCESS Array B**	**19.57**	**52**	P	**P**	**14 38 51.6**	**-1.1**
	0.1nm,0.3s,baz=272,slow=6.8,SNR=4.5						
FINES	**FINESS Array B**	**22.23**	**73**	P	**P**	**14 39 22.0**	**+0.5**
	3.4nm,1.1s,baz=14,slow=3.9,SNR=5.8						
KHC	**Kasperske Hory**	**24.49**	**109**	*eP*	**P**	**14 39 47.1**	**+3.0**
YKA	**Yellowknife Ar**	**38.05**	**311**	P	**P**	**14 41 42.7**	**-0.4**
	0.3nm,0.8s,baz=48,slow=9.2,SNR=5.8						
ILAR	**Eielson Array**	**45.33**	**330**	P	**P**	**14 42 41.8**	**-0.8**
	0.2nm,0.5s,baz=24,slow=7.7,SNR=3.6						
PDAR	**Pinedale Array**	**51.29**	**290**	P	**P**	**14 43 29.0**	**-0.1**
	0.5nm,0.9s,baz=54,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**55.20**	**54**	P	**P**	**14 43 58.0**	**+0.4**
	0.4nm,0.7s,baz=327,slow=6.1,SNR=5.2						

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*ISCJB **10** 14:36:45.5±1.4, 35°02S±0°06×179°8W±0°1, h43km, mb3.9/2, Error ellipse: s-maj=17.3km s-min=8.5km az=174.5*
*WEL **10** 14:36:47.1±1.3, 35°3S×7°×18°0W±1°2, h33km, ML4.5/28*
*IDC **10** 14:36:52.5±7.5, 35°58S×179°74W, h97km±67km, mb3.7/2, mb1 3.9/3, mb1mx3.5/32, mbtmp4.0/3, ML3.4/1, Error ellipse: s-maj=71.0km s-min=42.6km az=3.0*
ISC 10 14:36:46.7±1.2, 35°03S±0°08×179°7W±0°1, h43km, n48, σ1§18/53, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.00**	**212**	P	**Pn**	**14 37 31.6**	**-0.1**
WMGZ	**Waiomatatini S**	**3.17**	**208**	P	**Pn**	**14 37 35.2**	**+1.0**
PKGZ	**Pakihiroa**	**3.37**	**212**	P	**Pn**	**14 37 36.5**	**-0.4**
PKGZ				S	**Sn**	**14 38 16.5**	**+0.8**
HAZ	**Te Kaha**	**3.40**	**216**	P	**Pn**	**14 37 37.4**	**+0.2**
PUZ	**Puketiti**	**3.46**	**208**	P	**Pn**	**14 37 38.8**	**+0.8**
RUGZ	**Raukumara Rang**	**3.62**	**215**	P	**Pn**	**14 37 40.8**	**+0.5**
TWGZ	**Tauwhareparae**	**3.66**	**210**	P	**Pn**	**14 37 42.0**	**+1.2**
CNGZ	**Carnagh Statio**	**3.84**	**206**	P	**Pn**	**14 37 44.4**	**+1.2**
CNGZ				S	**Sn**	**14 38 30.2**	**+3.1**
TKGZ	**Te Karaka**	**3.94**	**210**	P	**Pn**	**14 37 45.8**	**+1.3**
MWZ	**Matawai**	**3.98**	**213**	P	**Pn**	**14 37 46.1**	**+0.8**
KUZ	**Kuaotunu**	**4.11**	**244**	P	**Pn**	**14 37 46.4**	**-0.5**
URZ	**Urewera**	**4.12**	**218**	P	**Pn**	**14 37 47.2**	**0.0**
	3.1nm,0.3s,baz=274,slow=4.4,SNR=31						
URZ				S	**Sn**	**14 38 30.1**	**-4.0**
	7.9nm,0.3s,baz=150,slow=20,SNR=7.4						
URZ	**Urewera**	**4.12**	**218**	P	**Pn**	**14 37 47.6**	**+0.5**
OPRZ	**Ohinepanea**	**4.13**	**226**	P	**Pn**	**14 37 47.3**	**+0.1**
GRZ	**Great Barrier**	**4.14**	**252**	P	**Pn**	**14 37 46.6**	**-0.8**
RIGZ	**Rimuhau**	**4.20**	**208**	P	**Pn**	**14 37 49.1**	**+0.9**
RIGZ				S	**Sn**	**14 38 35.6**	**-0.4**
PRGZ	**Paritu Road**	**4.34**	**206**	P	**Pn**	**14 37 49.7**	**-0.5**
SNGZ	**Shannon Statio**	**4.44**	**212**	P	**Pn**	**14 37 52.4**	**+1.0**
SNGZ				S	**Sn**	**14 38 42.3**	**+0.4**
RRRZ	**Republican Roa**	**4.50**	**222**	P	**Pn**	**14 37 53.5**	**+1.2**
KMRZ	**Kaimai**	**4.51**	**230**	P	**Pn**	**14 37 52.3**	**-0.2**
KNZ	**Kokohu**	**4.51**	**207**	P	**Pn**	**14 37 52.1**	**-0.3**
MHGZ	**Mahia Peninsul**	**4.54**	**204**	P	**Pn**	**14 37 52.3**	**-0.6**
WIAZ	**Waiheke Island**	**4.56**	**246**	P	**Pn**	**14 37 53.1**	**-0.1**
RAHZ	**Arahi**	**4.66**	**213**	P	**Pn**	**14 37 55.5**	**+1.0**
MKAZ	**Moumakai**	**4.66**	**242**	P	**Pn**	**14 37 54.8**	**+0.3**
MTHZ	**Maungataniwha**	**4.72**	**215**	P	**Pn**	**14 37 55.9**	**+0.5**
MBAZ	**Motutapu North**	**4.73**	**247**	P	**Pn**	**14 37 55.4**	**-0.1**
ETAZ	**East Tamaki Re**	**4.77**	**245**	P	**Pn**	**14 37 57.1**	**+1.1**
WCZ	**Waipu Caves**	**4.96**	**258**	P	**Pn**	**14 37 58.5**	**-0.1**
BKZ	**Black Stump Fm**	**5.13**	**215**	P	**Pn**	**14 38 00.9**	**-0.2**
MCHZ	**McNeill Hill**	**5.26**	**212**	P	**Pn**	**14 38 02.4**	**-0.4**
KWHZ	**Kaweka Forest**	**5.37**	**214**	P	**Pn**	**14 38 04.2**	**-0.2**
KAHZ	**Kahuranaki**	**5.48**	**209**	P	**Pn**	**14 38 03.7**	**-2.2**
OTVZ	**Oturere**	**5.55**	**221**	P	**Pn**	**14 38 08.2**	**+1.3**
HIZ	**Hauiti**	**5.59**	**230**	P	**Pn**	**14 38 07.6**	**+0.3**
BHHZ	**Black Hill Sta**	**5.59**	**216**	P	**Pn**	**14 38 07.3**	**-0.1**
VRZ	**Vera Road**	**6.04**	**226**	P	**Pn**	**14 38 15.7**	**+2.3**
TSZ	**Takapari Road**	**6.09**	**213**	P	**Pn**	**14 38 13.3**	**-1.0**
BFZ	**Birch Farm**	**6.49**	**209**	P	**Pn**	**14 38 17.1**	**-2.6**
MRZ	**Mangatainoka R**	**6.75**	**212**	P	**Pn**	**14 38 20.8**	**-2.4**
ASAR	**Alice Springs**	**41.68**	**273**	P	**P**	**14 44 31.4**	**+0.1**
	1.3nm,0.4s,baz=117,slow=7.3,SNR=95						
WRA	**Warramunga Arr**	**43.09**	**278**	P	**P**	**14 44 43.5**	**+0.7**
	1.0nm,0.3s,baz=117,slow=7.4,SNR=18						
FINES	**FINESS Array B**	**148.91**	**336**	PKPbc	**PKPbc**	**14 56 29.1**	**+0.3**
	0.7nm,0.5s,baz=42,slow=2.3,SNR=5.8						
NOA	**NORSAR Array B**	**153.05**	**348**	PKPbc	**PKiKP**	**14 56 39.1**	**+0.2**
	1.1nm,0.8s,baz=30,slow=2.0,SNR=3.4						
BRTR	**Keskin Array B**	**153.21**	**290**	PKPbc	**PKPbc**	**14 56 38.7**	**-1.2**
	0.6nm,0.5s,baz=160,slow=4.6,SNR=3.8						
HFS	**Hagfors**	**153.42**	**345**	Pn	**PKiKP**	**14 56 40.0**	**+0.4**
	baz=59,slow=12						
HFS	**Hagfors**	**153.42**	**345**	PKPbc	**PKiKP**	**14 56 40.0**	**+0.4**
	1.0nm,0.6s,baz=46,slow=8.9,SNR=3.0						
HFS	**Hagfors**	**153.42**	**345**	Pn	**PKiKP**	**14 56 40.0**	**+0.4**
	baz=59,slow=12						

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*ISCJB **10** 14:40:20.8±1.3, 4°8S±0°1×145°7E±0°1, h64km, mb3.5/4, Error ellipse: s-maj=21.5km s-min=7.6km az=140.5*
*IDC **10** 14:40:23.2±2.5, 4°82S×145°66E, h75km±23km, mb3.4/4, mb1 3.7/8, mb1mx3.3/38, mbtmp3.8/8, Error ellipse: s-maj=27.8km s-min=12.4km az=53.0*
ISC 10 14:40:22.1±1.4, 4°8S±0°1×145°7E±0°1, h64km, n8, σ1§00/10, mb3.5/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.82**	**163**	P	**Pn**	**14 41 32.2**	**0.0**
	12nm,0.3s,baz=43,slow=7.0,SNR=34						
PMG				S	**Sn**	**14 42 27.9**	**+1.2**
	8.7nm,0.3s,baz=132,slow=23,SNR=6.5						
JAY	**Jayapura**	**5.49**	**294**	P	**Pn**	**14 41 41.2**	**-0.2**
	2.1nm,0.3s,baz=150,slow=4.2,SNR=13						
JAY				S	**Sn**	**14 42 44.8**	**+1.5**
	0.4nm,0.3s,baz=249,slow=18,SNR=1.9						
CTA	**Charters Tower**	**15.23**	**178**	P	**Pn**	**14 43 53.9**	**+0.4**
	0.1nm,0.3s,baz=6.8,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**18.71**	**215**	P	**P**	**14 44 34.1**	**-1.5**
	0.4nm,0.3s,baz=36,slow=11,SNR=31						
ASAR	**Alice Springs**	**21.97**	**210**	P	**P**	**14 45 10.6**	**-0.4**
	0.5nm,0.5s,baz=32,slow=8.6,SNR=8.3						
FITZ	**Fitzroy Crossi**	**23.68**	**234**	P	**P**	**14 45 27.5**	**-0.7**
	2.1nm,0.4s,baz=44,slow=9.3,SNR=18						
STKA	**Stephens Creek**	**27.24**	**188**	P	**P**	**14 46 00.3**	**0.0**
	1.0nm,0.4s,baz=29,slow=12,SNR=4.3						
ILAR	**Eielson Array**	**84.86**	**23**	P	**P**	**14 52 49.7**	**0.0**
	0.2nm,0.7s,baz=238,slow=5.2,SNR=3.0						

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*ISCJB **10** 14:41:44.9±0.7, 63°77N±0°04×23°18W±0°07, h13km±3km, mb3.6/12, MS3.3/16, Error ellipse: s-maj=7.6km s-min=4.9km az=172.9*
*IDC **10** 14:41:45.0±0.8, 63°79N×23°07W, h0km, mb3.6/10, mb1 3.9/13, mb1mx3.7/46, mbtmp3.7/13, ML3.7/3, MS3.3/21, Ms1 3.3/21, ms1mx3.1/45, Error ellipse: s-maj=16.7km s-min=12.4km az=150.0*
*REY **10** 14:41:44.7, 63°72N×23°26W, h14km*
ISC 10 14:41:47.6±0.8, 63°81N±0°05×22°87W±0°05, h17km±4km, n50, σ1§40/48, mb3.7/12, MS3.2/16, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**0.07**	**83**	P	**Pg**	**14 41 50.0**	**-0.8**
	baz=67						
IRNE				S	**Sg**	**14 41 54.1**	**+1.1**
	baz=67						
INYL	**Nylenda**	**0.18**	**20**	P	**Pb**	**14 41 51.3**	**-1.2**
	baz=42						
INYL				S	**Sb**	**14 41 56.2**	**+0.5**
	baz=42						
IGRV	**Grindav??k**	**0.19**	**75**	P	**Pb**	**14 41 51.8**	**-0.9**
	baz=68						
IVOG	**Vogar**	**0.27**	**52**	P	**Pb**	**14 41 53.0**	**-1.0**
	baz=56						
IVOG				S	**Sb**	**14 41 59.6**	**+1.4**
	baz=56						
IKRI	**Krysuvik**	**0.36**	**78**	P	**Pg**	**14 41 54.5**	**-0.6**
	baz=72						
IKRI				S	**Sb**	**14 42 02.3**	**+1.4**
	baz=72						
IKAS	**Kald??rsel**	**0.50**	**64**	P	**Pg**	**14 41 56.8**	**-0.8**
	baz=63						
IKAS				S	**Sn**	**14 42 06.5**	**-1.7**
	baz=63						
IVOS	**Vogsosar**	**0.52**	**84**	P	**Pg**	**14 41 57.1**	**-0.8**
	baz=78						
IVOS				S	**Sb**	**14 42 06.7**	**+1.2**
	baz=78						
ISAN	**Sandskeio**	**0.63**	**66**	P	**Pg**	**14 41 58.7**	**-1.3**
	baz=65						
ISAN				S	**Sn**	**14 42 10.3**	**-1.0**
	baz=65						
IKUD	**Kuludalsa**	**0.68**	**40**	P	**Pg**	**14 41 59.5**	**-1.4**
	baz=44						
IKUD				S	**Sb**	**14 42 10.6**	**+0.6**
	baz=44						
IBJA	**Bjarnastaoir**	**0.71**	**78**	P	**Pg**	**14 42 00.3**	**-1.2**
	baz=74						
IBJA				S	**Sn**	**14 42 12.1**	**-1.2**
	baz=74						
IHEI	**Heioarbar**	**0.82**	**61**	P	**Pg**	**14 42 01.6**	**-2.0**
	baz=60						
IKRO	**Krokur**	**0.83**	**69**	P	**Pg**	**14 42 01.6**	**-2.1**
	baz=67						
ISOL	**Solvholt**	**0.86**	**81**	P	**Pg**	**14 42 02.5**	**-1.9**
	baz=77						
ISOL				S	**Sn**	**14 42 16.4**	**-0.7**
	baz=77						
IASM	**Asmuli**	**1.00**	**87**	P	**Pb**	**14 42 04.6**	**-1.9**
	baz=83						
IASM				S	**Sn**	**14 42 20.2**	**-0.4**
	baz=83						
BORG	**Borgarnes**	**1.16**	**35**	Pg	**Pb**	**14 42 07.0**	**-2.2**
	430nm,0.3s,baz=228,slow=5.8,SNR=59						
BORG				Lg	Lg	14 42 24.6	
	472nm,0.3s,baz=94,slow=21,SNR=48						
IASB	**`sbjarnarst**	**1.16**	**35**	P	**Pb**	**14 42 07.1**	**-2.1**
	baz=38						
SCO	**Scoresbysund**	**6.72**	**3**	*i P*	**Pn**	**14 43 26.0**	**+0.7**
SCO				*e*S	**Sn**	**14 44 44.6**	**+3.3**
JMIC	**Jan Mayen**	**9.05**	**31**	LR	LR	14 46 32.4	
	comp=Z,72nm,19.8s,baz=252,slow=32						
SFJD	**Kangerlussuaq**	**11.94**	**298**	LR	LR	14 48 33.5	
	comp=Z,258nm,19.5s,baz=92,slow=34						
EKA	**Eskdalemuir Ar**	**13.06**	**121**	Pn	**Pn**	**14 44 52.6**	**+0.5**
	baz=320,slow=13,SNR=5.4						
NOA	**NORSAR Array B**	**15.91**	**84**	LR	LR	14 50 59.0	
	comp=Z,25nm,21.0s,baz=295,slow=35						
HFS	**Hagfors**	**17.41**	**85**	LR	LR	14 52 16.9	
	comp=Z,27nm,18.8s,baz=307,slow=36						
ARCES	**ARCESS Array B**	**19.52**	**52**	P	**Pn**	**14 46 15.2**	**+0.3**
	0.2nm,0.3s,baz=270,slow=9.3,SNR=10						
FRB	**Frobisher Bay**	**19.86**	**291**	P	**P**	**14 46 15.9**	**-1.5**
	0.1nm,0.3s,baz=60,slow=7.9,SNR=3.6						
FRB				LR	LR	14 53 08.1	
	comp=Z,120nm,20.9s,baz=17,slow=34						
FINES	**FINESS Array B**	**22.19**	**74**	P	**P**	**14 46 43.9**	**+1.4**
	4.3nm,0.9s,baz=297,slow=5.5,SNR=10						
CLL	**Collm**	**22.58**	**107**	*e*P	**P**	**14 46 49.0**	**+2.1**
	comp=Z,10.0nm,1.4s						
CLL				*e*(sP)	**sP**	**14 46 54.0**	**+0.2**
CLL				LmV		14 56 00.0	
	comp=Z,100nm,19.1s						
BRG	**Berggiesshubel**	**23.30**	**106**	*e*P	**P**	**14 46 55.7**	**+1.4**
	comp=Z,7.0nm,1.2s						
KHC	**Kasperske Hory**	**24.47**	**110**	*e*P	**P**	**14 47 07.1**	**+1.6**
GERES	**GERESS Array B**	**24.74**	**110**	P	**P**	**14 47 09.1**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=343,slow=8.8,SNR=5.3						
GERES				LR	LR	14 56 34.7	
	comp=Z,62nm,21.2s,baz=294,slow=36						
DAVOX	**Davos/Dischmat**	**24.84**	**118**	LR	LR	14 56 15.2	
	comp=Z,66nm,21.8s,baz=270,slow=35						
RES	**Resolute Bay**	**25.80**	**324**	LR	LR	14 56 59.1	
	comp=Z,99nm,18.8s,baz=211,slow=36						
ESDC	**Sonseca Array**	**26.64**	**146**	LR	LR	14 57 32.2	
	comp=Z,82nm,19.7s,baz=165,slow=36						
VYHS	**Vyhne**	**27.19**	**104**	*e*P	**P**	**14 47 32.5**	**+2.5**
MLR	**Muntele Rosu**	**32.59**	**101**	LR	LR	15 01 54.7	
	comp=Z,49nm,18.9s,baz=106,slow=37						
KIRV	**Kirov**	**33.48**	**65**	LR	LR	15 01 36.2	
	comp=Z,45nm,18.6s,baz=153,slow=36						
KEST	**Kesra**	**34.26**	**130**	LR	LR	15 01 47.3	
	comp=Z,49nm,19.4s,baz=314,slow=35						
YKA	**Yellowknife Ar**	**38.05**	**311**	P	**P**	**14 49 03.8**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=47,slow=8.9,SNR=8.0						
YKA				LR	LR	15 04 14.1	
	comp=Z,16nm,19.0s,baz=36,slow=36						
ULM	**Lac du Bonnet**	**39.61**	**286**	LR	LR	15 04 32.7	
	comp=Z,37nm,18.6s,baz=5.0,slow=35						
BRTR	**Keskin Array B**	**40.60**	**99**	P	**P**	**14 49 26.5**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=322,slow=7.8,SNR=4.7						
KBZ	**Khabaz**	**41.47**	**87**	LR	LR	15 07 06.7	
	comp=Z,41nm,19.0s,baz=5.5,slow=37						
TIXI	**Tiksi**	**43.43**	**13**	LR	LR	15 06 17.9	
	comp=Z,22nm,18.3s,baz=290,slow=34						
GNI	**Garni**	**45.16**	**88**	LR	LR	15 08 59.2	
	comp=Z,27nm,19.7s,baz=328,slow=36						
ILAR	**Eielson Array**	**45.31**	**330**	P	**P**	**14 50 04.4**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=23,slow=8.8,SNR=4.2						
PDAR	**Pinedale Array**	**51.30**	**290**	P	**P**	**14 50 49.6**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=49,slow=6.8,SNR=6.1						
PDAR				LR	LR	15 11 18.1	
	comp=Z,47nm,19.7s,baz=52,slow=35						
TORD	**Torodi Ar. Bea**	**53.44**	**150**	P	**P**	**14 51 05.3**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=339,slow=7.8,SNR=3.0						
TORD				LR	LR	15 13 50.6	
	comp=Z,26nm,18.2s,baz=20,slow=36						
MKAR	**Makanchi Array**	**55.15**	**54**	P	**P**	**14 51 19.8**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=319,slow=6.9,SNR=15						
NVAR	**Mina Array Bea**	**58.55**	**294**	LR	LR	15 16 57.2	
	comp=Z,75nm,18.1s,baz=5.0,slow=36						
TXAR	**Lajitas Array**	**60.08**	**276**	P	**P**	**14 51 53.1**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=54,slow=6.4,SNR=3.6						
TXAR				LR	LR	15 16 07.4	
	comp=Z,30nm,20.7s,baz=0.0,slow=34						
CMAR	**Chiang Mai Arr**	**86.56**	**54**	P	**P**	**14 54 30.6**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=314,slow=7.5,SNR=5.6						
ASAR	**Alice Springs**	**137.02**	**32**	PKP	**PKiKP**	**15 01 10.4**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=2.9,slow=1.9,SNR=3.3						

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*IDC **10** 14:43:12.7±1.2, 6°11S×147°82E, h0km, mb4.1/6, mb1 4.2/8, mb1mx3.8/38, mbtmp4.1/8, ML4.1/1, MS3.2/10, Ms1 3.2/10, ms1mx3.1/27, Error ellipse: s-maj=49.1km s-min=18.0km az=110.0*
*ISCJB **10** 14:43:18.5±0.5, 6°25S±0°07×147°8E±0°1, h60km, mb4.2/8, MS3.2/7, Error ellipse: s-maj=16.2km s-min=7.0km az=26.8*
*NEIC **10** 14:43:20.3±1.7, 6°29S×147°83E, h59km±19km, mb4.0/5, Error ellipse: s-maj=32.2km s-min=8.3km az=131.0*
ISC 10 14:43:20.2±0.7, 6°26S±0°09×147°8E±0°1, h60km, n27, σ0§80/23, mb4.2/8, MS3.2/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.18**	**191**	*e*Pn	**

az=15.4
*DJA **10** 14:46:39.4±0.9, 1°N±5°×12°5E±°, h182km±9km, M3.3/7, MLv3.3/7*
ISC 10 14:46:37.4±1.1, 1°.5N±0°.1×124°.69E±0°.07, h235km, n9, σ3°39/12, mb3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.13 219**		P	**Pn**	**14 47 10.7**	**-1.0**
TNTI	**Ternate**	**2.77 104**		P	**Pn**	**14 47 24.9**	**-1.6**
TNTI				S	**S**	**14 48 01.1**	**-3.8**
MRSI	**Marisa**	**2.92 250**		P	**Pn**	**14 47 27.6**	**-0.5**
LUWI	**Luwuk**	**3.14 218**		P	**Pn**	**14 47 29.4**	**-1.2**
LUWI				S	**S**	**14 48 08.4**	**-4.1**
SANI	**Sanana**	**3.73 160**		P	**Pn**	**14 47 37.4**	**0.0**
SANI				S	**S**	**14 48 21.7**	**-3.0**
WRA	**Warramunga Arr**	**23.29 156**		P	**P**	**14 51 29.7**	**+5.2**
	1.9nm,0.3s,baz=333,slow=11,SNR=23						
ASAR	**Alice Springs**	**26.54 161**		P	**P**	**14 51 59.4**	**+5.5**
	0.2nm,0.4s,baz=336,slow=7.7,SNR=6.6						
MKAR	**Makanchi Array**	**58.29 327**		P	**P**	**14 56 07.3**	**-0.4**
	0.8nm,0.4s,baz=123,slow=7.8,SNR=16						
KURBB	**Kurchatov Arra**	**62.57 329**		P	**P**	**14 56 36.5**	**0.0**
	0.4nm,0.3s,baz=134,slow=6.7,SNR=4.7						

*ISCJB **10** 14:49:07.6±0.3, 24°.84N±0°.02×122°.10E±0°.02, h102km±2km, Error ellipse: s-maj=3.2km s-min=2.1km*
az=155.0
*JMA **10** 14:49:07.2±0.2, 24°.82N×122°.06E, h105km±2km, M2.5*
*TAP **10** 14:49:07.5, 24°.85N×122°.08E, h106km, ML3.9, B*
ISC 10 14:49:07.8±1.3, 24°.84N±0°.03×122°.08E±0°.02, h103km±5km, n110, σ0°75/214, 23C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.14 272**		*e*P	**Pn**	**14 49 22.4**	**+0.2**
	baz=260						
EGS				*e*S	**Sn**	**14 49 33.5**	**+0.5**
	baz=260						
TWB1	**Santiao Chiao**	**0.19 333**		⇑*e*P	**Pn**	**14 49 22.4**	**0.0**
	baz=327						
TWB1				*e*S	**Sn**	**14 49 32.9**	**-0.3**
	baz=327						
NTC	**Toucheng**	**0.23 273**		*e*P	**Pn**	**14 49 22.3**	**-0.2**
	baz=281						
NTC				*e*S	**Sn**	**14 49 32.9**	**-0.6**
	baz=281						
TIPB	**Shuangxi**	**0.27 299**		⇑P	**Pn**	**14 49 22.7**	**0.0**
	baz=288						
TIPB				S	**Sn**	**14 49 33.2**	**-0.6**
	baz=288						
EOS1	**EOS1**	**0.29 172**		⇑*e*P	**Pn**	**14 49 23.2**	**+0.5**
	baz=163						
EOS1				S	**Sn**	**14 49 35.1**	**+1.2**
	baz=163						
ILA	**Ilan**	**0.31 256**		P	**Pn**	**14 49 23.0**	**+0.2**
	baz=264						
ILA				S	**Sn**	**14 49 33.9**	**-0.2**
	baz=264						
TWC	**Suao**	**0.31 223**		P	**Pn**	**14 49 22.7**	**-0.2**
	baz=226						
TWC				S	**Sn**	**14 49 33.9**	**-0.2**
	baz=226						
NWF	**Wu-fen Shan**	**0.36 310**		*e*P	**Pn**	**14 49 23.2**	**0.0**
	baz=302						
NWF				*e*S	**Sn**	**14 49 34.0**	**-0.6**
	baz=302						
WFSB	**Wu-fen Shan**	**0.36 310**		*e*P	**Pn**	**14 49 23.1**	**+0.1**
	baz=302						
WFSB				*e*S	**Sn**	**14 49 34.2**	**-0.2**
	baz=302						
TWE	**Neicheng**	**0.40 252**		P	**Pn**	**14 49 23.2**	**-0.1**
	baz=253						
TWE				*e*S	**Sn**	**14 49 35.3**	**+0.4**
	baz=253						
SLBB	**Yuanshan**	**0.41 258**		P	**Pn**	**14 49 23.5**	**+0.1**
	baz=260						
SLBB				*e*S	**Sn**	**14 49 35.0**	**-0.2**
	baz=260						
TWA	**Mucha**	**0.47 287**		⇑P	**Pn**	**14 49 23.6**	**-0.2**
	baz=289						
TWA				S	**Sn**	**14 49 34.6**	**-1.2**
	baz=289						
ENTT	**Nioudou**	**0.51 247**		P	**Pn**	**14 49 24.5**	**+0.4**
	baz=250						
ENTT				S	**Sn**	**14 49 37.5**	**+1.2**
	baz=250						
NANB	**Nanao**	**0.51 216**		⇑P	**Pn**	**14 49 24.4**	**+0.3**
	baz=215						
NANB				S	**Sn**	**14 49 36.6**	**+0.4**
	baz=215						
ENA	**Nanau**	**0.52 217**		P	**Pn**	**14 49 24.6**	**+0.5**
	baz=214						
ENA				S	**Sn**	**14 49 36.8**	**+0.6**
	baz=214						
NHDH	**Xindian Distri**	**0.52 284**		⇑P	**Pn**	**14 49 23.9**	**-0.2**
	baz=286						
NHDH				*e*S	**Sn**	**14 49 35.5**	**-0.8**
	baz=286						
NWLT	**Wulai**	**0.53 263**		⇑P	**Pn**	**14 49 24.1**	**-0.1**
	baz=269						
NWLT				S	**Sn**	**14 49 36.3**	**-0.2**
	baz=269						
YM07	**YM07**	**0.54 309**		⇑*e*P	**Pn**	**14 49 24.1**	**-0.2**
	baz=307						
YM07				*e*S	**Sn**	**14 49 35.4**	**-1.2**
	baz=307						
TATO	**Taipei**	**0.56 284**		P	**Pn**	**14 49 24.1**	**-0.3**
	baz=286						
TATO				*e*S	**Sn**	**14 49 35.0**	**-1.7**
	baz=286						
YM01	**YM01**	**0.56 303**		P	**Pn**	**14 49 24.3**	**-0.1**
	baz=300						
YM01				S	**Sn**	**14 49 36.1**	**-0.7**
	baz=300						
TAP	**Taipei**	**0.56 291**		*e*P	**Pn**	**14 49 24.2**	**-0.2**
	baz=291						
YM11	**YM11**	**0.56 305**		⇑*e*P	**Pn**	**14 49 24.4**	**-0.2**
	baz=301						
YM11				*e*S	**Sn**	**14 49 37.6**	**+0.6**
	baz=301						
YM08	**YM08**	**0.56 308**		⇑P	**Pn**	**14 49 24.1**	**-0.4**
	baz=306						
YM08				*e*S	**Sn**	**14 49 35.5**	**-1.5**
	baz=306						
YM10	**YM10**	**0.57 304**		P	**Pn**	**14 49 24.4**	**-0.1**
	baz=300						
YM10				*e*S	**Sn**	**14 49 36.1**	**-0.9**
	baz=300						
NDT	**Datong Townshi**	**0.57 245**		⇑P	**Pn**	**14 49 25.2**	**+0.7**
	baz=255						
NDT				S	**Sn**	**14 49 37.6**	**+0.6**
	baz=255						
ANP	**Anpu**	**0.61 304**		*e*P	**Pn**	**14 49 24.7**	**-0.3**
	baz=302						
ANP				*e*S	**Sn**	**14 49 37.2**	**-0.5**
	baz=302						
TWY	**Chenhua**	**0.61 315**		⇑P	**Pn**	**14 49 24.9**	**+0.1**
	baz=313						
TWY				S	**Sn**	**14 49 37.6**	**0.0**
	baz=313						
TWS1	**Kuangyinshan**	**0.66 293**		P	**Pn**	**14 49 25.3**	**+0.1**
	baz=292						
TWS1				*e*S	**Sn**	**14 49 38.6**	**+0.4**
	baz=292						
NTST	**Danshui**	**0.66 299**		*e*P	**Pn**	**14 49 24.9**	**-0.3**
	baz=300						
NTST				*e*S	**Sn**	**14 49 38.6**	**+0.5**
	baz=300						
YHNB	**Yeheng**	**0.66 255**		⇑P	**Pn**	**14 49 25.4**	**+0.1**
	baz=255						
YHNB				S	**Sn**	**14 49 38.2**	**-0.3**
	baz=255						
NSK	**Sanguang**	**0.68 256**		⇑P	**Pn**	**14 49 25.6**	**+0.2**
	baz=257						
NSK				S	**Sn**	**14 49 38.3**	**-0.3**
	baz=257						
NNS	**Nan Shan**	**0.76 238**		P	**Pn**	**14 49 26.8**	**+0.5**
	baz=246						
NNS				S	**Sn**	**14 49 40.2**	**+0.2**
	baz=246						
PCYT	**Pengchaiyu**	**0.79 359**		*e*P	**Pn**	**14 49 26.5**	**+0.2**
	baz=356						
PCYT				*e*S	**Sn**	**14 49 41.0**	**+0.8**
	baz=356						
NACB	**Ninganchiao**	**0.80 214**		⇑P	**Pn**	**14 49 26.0**	**-0.5**
	baz=217						
NACB				S	**Sn**	**14 49 40.1**	**-0.4**
	baz=217						
NCU	**National Centr**	**0.82 279**		⇑P	**Pn**	**14 49 27.2**	**+0.5**
	baz=271						
NCU				S	**Sn**	**14 49 41.9**	**+1.1**
	baz=271						
NCUH	**Zhongli**	**0.82 279**		⇑P	**Pn**	**14 49 27.0**	**+0.3**
	baz=271						
NCUH				S	**Sn**	**14 49 41.5**	**+0.6**
	baz=271						
JYNG	**Yonagunijimaku**	**0.88 116**		P	**Pn**	**14 49 27.1**	**-0.1**
JYNG				S	**Sn**	**14 49 41.8**	**0.0**
TWD	**Chiawan**	**0.88 210**		⇑*e*P	**Pn**	**14 49 27.1**	**-0.2**
	baz=222						
TWD				S	**Sn**	**14 49 41.3**	**-0.5**
	baz=222						
YOJ	**Yonaguni jima**	**0.93 114**		*e*P	**Pn**	**14 49 27.7**	**-0.1**
	baz=121						
YOJ				*e*S	**Sn**	**14 49 42.0**	**-0.6**
	baz=121						
YOJ	**Yonaguni jima**	**0.93 114**		P	**Pn**	**14 49 27.6**	**-0.1**
YOJ				S	**Sn**	**14 49 42.3**	**-0.4**
HWA	**Hwalien**	**0.96 207**		*e*P	**Pn**	**14 49 28.5**	**+0.3**
	baz=202						
HWA				*e*S	**Sn**	**14 49 44.0**	**+0.7**
	baz=202						
LIOB	**Emei**	**0.99 259**		⇑P	**Pn**	**14 49 28.6**	**+0.2**
	baz=253						
LIOB				S	**Sn**	**14 49 43.8**	**-0.1**
	baz=253						
SBCB	**Hsinchu**	**1.00 267**		*e*P	**Pn**	**14 49 28.7**	**+0.3**
	baz=261						
SBCB				*e*S	**Sn**	**14 49 44.3**	**+0.2**
	baz=261						
NSTT	**Nanjuang**	**1.00 258**		P	**Pn**	**14 49 28.7**	**+0.2**
	baz=253						
NSTT				S	**Sn**	**14 49 44.0**	**-0.2**
	baz=253						
HSN	**Hsinchu**	**1.01 268**		*e*P	**Pn**	**14 49 28.6**	**0.0**
	baz=262						
HSN				*e*S	**Sn**	**14 49 44.0**	**-0.2**
	baz=262						
WHF	**Hehuan Shan**	**1.02 227**		⇓*e*P	**Pn**	**14 49 29.5**	**+0.3**
	baz=230						
WHF				*e*S	**Sn**	**14 49 45.2**	**0.0**
	baz=230						
TDCB	**Techi**	**1.02 235**		⇑P	**Pn**	**14 49 29.7**	**+0.7**
	baz=229						
TDCB				S	**Sn**	**14 49 45.1**	**+0.3**
	baz=229						
ENLB	**Shoufeng**	**1.03 205**		*e*P	**Pn**	**14 49 28.7**	**-0.2**
	baz=202						
ENLB				*e*S	**Sn**	**14 49 44.9**	**+0.2**
	baz=202						
CHGB	**Renai**	**1.14 227**		⇑P	**Pn**	**14 49 30.9**	**+0.7**
	baz=230						
CHGB				S	**Sn**	**14 49 47.1**	**+0.1**
	baz=230						
WHP	**Taichung City**	**1.18 242**		⇑*e*P	**Pn**	**14 49 31.3**	**+0.8**
	baz=244						
WHP				S	**Sn**	**14 49 47.6**	**-0.1**
	baz=244						
ESL	**Shilin**	**1.18 210**		*e*P	**Pn**	**14 49 29.6**	**-1.0**
	baz=219						
ESL				*e*S	**Sn**	**14 49 46.2**	**-1.4**
	baz=219						
OWD	**Renai**	**1.21 223**		*e*P	**Pn**	**14 49 31.3**	**+0.3**
	baz=227						
OWD				S	**Sn**	**14 49 47.8**	**-0.6**
	baz=227						
NMLH	**Miaoli**	**1.21 256**		⇑*e*P	**Pn**	**14 49 31.1**	**+0.2**
	baz=257						
NMLH				S	**Sn**	**14 49 48.4**	**+0.1**
	baz=257						
NSY	**Sanyi**	**1.27 251**		P	**Pn**	**14 49 32.2**	**+0.6**
	baz=252						
NSY				S	**Sn**	**14 49 50.5**	**+0.9**
	baz=252						
TWQ1	**Liyutan**	**1.29 248**		P	**Pn**	**14 49 32.0**	**+0.2**
	baz=249						
TWQ1				S	**Sn**	**14 49 50.2**	**+0.3**
	baz=249						
EGFH	**Guangfu**	**1.31 207**		*e*P	**Pn**	**14 49 31.5**	**-0.5**
	baz=216						
EGFH				*e*S	**Sn**	**14 49 48.6**	**-1.7**
	baz=216						
PTSB	**Yuanli**	**1.31 253**		*e*P	**Pn**	**14 49 32.4**	**+0.4**
	baz=254						
PTSB				*e*S	**Sn**	**14 49 50.3**	**-0.1**
	baz=254						
DPDB	**Guoxing**	**1.32 233**		*e*P	**Pn**	**14 49 33.0**	**+0.8**
	baz=242						
DPDB				S	**Sn**	**14 49 51.8**	**+1.1**
	baz=242						
VWDT	**VWDT**	**1.38 219**		*e*P	**Pn**	**14 49 33.4**	**+0.6**
	baz=218						
VWDT				*e*S	**Sn**	**14 49 52.5**	**+0.7**
	baz=218						
WDJ	**Dajia District**	**1.40 250**		*e*P	**Pn**	**14 49 33.3**	**+0.3**
	baz=246						
WDJ				*e*S	**Sn**	**14 49 52.1**	**-0.1**
	baz=246						
SMLT	**Sun Moon Lake**	**1.44 229**		*e*P	**Pn**	**14 49 34.3**	**+0.7**
	baz=237						
SMLT				*e*S	**Sn**	**14 49 54.7**	**+1.5**
	baz=237						
TCU	**Taichung**	**1.46 242**		*e*P	**Pn**	**14 49 34.3**	**+0.6**
	baz=250						
TCU				*e*S	**Sn**	**14 49 53.6**	**+0.2**
	baz=250						
TYC	**Yuchr**	**1.46 230**		*e*P	**Pn**	**14 49 34.4**	**+0.7**
	baz=239						
TYC				*e*S	**Sn**	**14 49 54.2**	**+0.9**
	baz=239						
SSLB	**Suanglung**	**1.47 225**		*e*P	**Pn**	**14 49 34.7**	**+0.7**
	baz=228						
SSLB				*e*S	**Sn**	**14 49 54.9**	**+1.1**
	baz=228						
HGSD	**Ruisui**	**1.47 204**		*e*P	**Pn**	**14 49 34.0**	**0.0**
	baz=217						
HGSD				*e*S	**Sn**	**14 49 53.3**	**-0.4**
	baz=217						
EHY	**Hungye**	**1.50 208**		*e*P	**Pn**	**14 49 33.5**	**-0.8**
	baz=212						
EHY				*e*S	**Sn**	**14 49 52.4**	**-1.9**
	baz=212						
WCHH	**Zhanghua**	**1.58 242**		*e*P	**Pn**	**14 49 35.4**	**+0.1**
	baz=251						
WCHH				*e*S	**Sn**	**14 49 56.4**	**+0.3**
	baz=251						
IRIF	**Iriomote-Funau**	**1.58 108**		P	**Pn**	**14 49 35.0**	**-0.3**
IRIF				S	**Sn**	**14 49 55.3**	**-0.8**
WNT	**Mingjian**	**1.59 233**		*e*P	**Pn**	**14 49 36.3**	**+0.8**
	baz=244						
WNT				*e*S	**Sn**	**14 49 57.0**	**+0.6**
	baz=244						
WJS	**Zhushan**	**1.60 231**		*e*P	**Pn**	**14 49 35.9**	**+0.4**
	baz=242						
WJS				*e*S	**Sn**	**14 49 57.0**	**+0.5**
	baz=242						
WHYT	**Xinyi Township**	**1.60 225**		*e*P	**Pn**	**14 49 36.4**	**+0.8**
	baz=234						
WHYT				*e*S	**Sn**	**14 49 58.0**	**+1.4**
	baz=234						
YULB	**Yu-li**	**1.61 207**		*e*P	**Pn**	**14 49 34.8**	**-0.8**
	baz=210						
YULB				*e*S	**Sn**	**14 49 55.4**	**-1.4**
	baz=210						
TWF1	**Yuli**	**1.65 206**		*e*P	**Pn**	**14 49 35.1**	**-1.0**
	baz=210						
TWF1				*e*S	**Sn**	**14 49 55.6**	**-2.0**
	baz=210						
HATJ	**Hateruma jima**	**1.75 116**		S	**Sn**	**14 50 00.4**	**+0.5**
ALS	**Alishan**	**1.77 222**		*e*P	**Pn**	**14 49 38.7**	**+0.8**
	baz=233						
ALS				*e*S	**Sn**	**14 50 01.8**	**+1.1**
	baz=233						
CHN5	**Tsauling**	**1.78 226**		*e*P	**Pn**	**14 49 38.5**	**+0.6**
	baz=229						
CHN5				*e*S	**Sn**	**14 50 01.7**	**+1.0**
	baz=229						
WGK	**Gukeng**	**1.80 231**		*e*P	**Pn**	**14 49 38.8**	**+0.8**
	baz=242						
WGK				*e*S	**Sn**	**14 50 02.3**	**+1.3**
	baz=242						
WDLH	**Douliu**	**1.82 231**		*e*P	**Pn**	**14 49 38.6**	**+0.4**
	baz=242						
WDLH				*e*S	**Sn**	**14 50 02.0**	**+0.7**
	baz=242						
RLNB	**Erlin**	**1.83 239**		*e*P	**Pn**	**14 49 38.5**	**+0.1**
	baz=247						
RLNB				*e*S	**Sn**	**14 50 02.0**	**+0.3**
	baz=247						
CHKT	**Chengkung**	**1.85 201**		*e*P	**Pn**	**14 49 37.7**	**-1.0**
	baz=205						
CHKT				*e*S	**Sn**	**14 50 00.5**	**-1.7**
	baz=205						
JKRS	**Kuro-shima**	**1.86 109**		P	**Pn**	**14 49 38.9**	**+0.2**
JKRS				S	**Sn**	**14 50 01.6**	**-0.6**
WTCT	**Ta-ch'eng**	**1.91 240**		*e*S	**Sn**	**14 50 03.3**	**-0.1**
	baz=242						
ELDTW	**Lidau**	**1.91 211**		*e*P	**Pn**	**14 49 39.7**	**+0.1**
	baz=208						
ELDTW				*e*S	**Sn**	**14 50 03.0**	**-0.7**
	baz=208						
JIJ	**Ishigaki jima**	**1.94 104**		P	**Pn**	**14 49 39.5**	**-0.2**
JIJ				S	**Sn**	**14 50 02.5**	**-1.5**
CHN4	**Tsaushan**	**2.01 223**		*e*P	**Pn**	**14 49 41.3**	**+0.6**
	baz=226						
CHN4				*e*S	**Sn**	**14 50 06.8**	**+1.0**
	baz=226						
CHY	**Chiayi**	**2.02 229**		*e*P	**Pn**	**14 49 41.3**	**+0.5**
	baz=231						
CHY				*e*S	**Sn**	**14 50 06.2**	**+0.2**
	baz=231						
JISG	**Ishigakijimahi**	**2.04 97**		P	**Pn**	**14 49 41.3**	**+0.2**
JISG				S	**Sn**	**14 50 06.2**	**-0.3**
WSF	**Szhu**	**2.08 235**		*e*P	**Pn**	**14 49 40.9**	**-0.6**
	baz=237						
WSF				*e*S	**Sn**	**14 50 07.5**	**+0.2**
	baz=237						
WTP	**Ta-pu**	**2.08 220**		*e*P	**Pn**	**14 49 42.0**	**+0.3**
	baz=224						
WTP				*e*S	**Sn**	**14 50 07.3**	**-0.1**
	baz=224						
TWK	**Hsinying**	**2.14 223**		*e*P	**Pn**	**14 49 42.7**	**+0.3**
	baz=225						
TWK				*e*S	**Sn**	**14 50 09.7**	**+0.8**
	baz=225						
SNST	**Tainan City**	**2.17 222**		*e*P	**Pn**	**14 49 42.3**	**-0.4**
	baz=225						
SNST				*e*S	**Sn**	**14 50 10.3**	**+0.9**
	baz=225						
CHN1	**Nanshi**	**2.18 221**		*e*P	**Pn**	**14 49 43.0**	**+0.1**
	baz=225						
CHN1				*e*S	**Sn**	**14 50 09.2**	**-0.4**
	baz=225						
PTTC	**Pingtan**	**2.19 288**		*e*P	**Pn**	**14 49 42.3**	**-0.8**
	baz=286						
PTTC				*e*S	**Sn**	**14 50 08.1**	**-1.9**
	baz=286						
TWGBT	**Beinan**	**2.21 205**		*e*P	**Pn**	**14 49 42.2**	**-1.2**
	baz=204						
TWGBT				*e*S	**Sn**	**14 50 08.7**	**-1.8**
	baz=204						
TWG	**Pinlang**	**2.21 205**		*e*P	**Pn**	**14 49 42.2**	**-1.1**
	baz=204						
TWG				*e*S	**Sn**	**14 50 09.1**	**-1.4**
	baz=204						
SGST	**Jiashian**	**2.22 218**		*e*P	**Pn**	**14 49 44.0**	**+0.6**
	baz=229						
SGST				*e*S	**Sn**	**14 50 11.7**	**+0.9**
	baz=229						
SLGT	**Liugui**	**2.26 216**		*e*P	**Pn**	**14 49 44.8**	**+0.8**
	baz=228						
SLGT				*e*S	**Sn**	**14 50 12.6**	**+1.0**
	baz=228						
CHN8	**Yiju**	**2.27 229**		*e*P	**Pn**	**14 49 44.2**	**+0.2**
	baz=232						
CHN8				*e*S	**Sn**	**14 50 12.4**	**+0.7**
	baz=232						
MATB	**Ma-tsu**	**2.33 305**		*e*P	**Pn**	**14 49 43.9**	**-0.9**
	baz=303						
CHN3	**Shinhua**	**2.36 222**		*e*P	**Pn**	**14 49 45.9**	**+0.7**
	baz=225						
CHN3				*e*S	**Sn**	**14 50 15.4**	**+1.6**
	baz=225						
JTJ	**Tarama**	**2.39 94**		P	**Pn**	**14 49 46.0**	**+0.4**
JTJ				S	**Sn**	**14 50 14.3**	**-0.3**
SCLT	**Jiali**	**2.39 227**		*e*P	**Pn**	**14 49 45.9**	**+0.2**
	baz=229						
SCLT				*e*S	**Sn**	**14 50 14.7**	**+0.1**
	baz=229						
ECL	**Taimali**	**2.46 205**		*e*S	**Sn**	**14 50 13.8**	**-2.5**
	baz=206						
SSD	**Sandimen**	**2.47 213**		*e*P	**Pn**	**14 49 47.6**	**+0.9**
	baz=218						
SSD				*e*S	**Sn**	**14 50 17.3**	**+0.8**
	baz=218						
MASBT	**Mashibuluo**	**2.59 211**		*e*P	**Pn**	**14 49 48.9**	**+0.7**
	baz=217						
MASBT				*e*S	**Sn**	**14 50 18.4**	**-0.8**
	baz=217						
PNG	**Penghu**	**2.63 242**		*e*P	**Pn**	**14 49 48.0**	**-0.8**
	baz=243						
PNG				*e*S	**Sn**	**14 50 18.2**	**-2.1**
	baz=243						
JIRB	**Irabujima**	**2.81 90**		P	**Pn**	**14 49 52.4**	**+1.3**
JIRB				S	**Sn**	**14 50 25.1**	**+0.7**
JIKM	**Ikemajima**	**2.88 88**		*e*S	**Sn**	**14 50 25.6**	**-0.4**
JMJ2	**Miyako jima3**	**2.95 91**		P	**Pn**	**14 49 54.6**	**+1.6**
JMJ2				*e*S	**Sn**	**14 50 28.2**	**+0.4**
JOGS	**Gusukube**	**3.02 91**		P	**Pn**	**14 49 55.9**	**+1.9**
JOGS				*e*S	**Sn**	**14 50 29.4**	**-0.1**

*KOLA **10** 14:53:56.3, 67°.68N×34°.15E, M1.8, Industrial explosion*
(after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)
*NAO **10** 14:53:57.2±1.1, 67°.71N×33°.91E, ML2.6*
HEL 10 14:53:55.0±0.3, 67°.66N×33°.29E, h0km, ML2.3, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.35 256**		P	Pg	14 54 01.8	+0.1
APA				S	Sg	14 54 05.8	-0.4
APZ9	**Apatity**	**0.35 256**		Pg	Pg	14 54 01.8	0.0
APZ9				Lg	Lg	14 54 05.6	
APZ9	**Apatity**	**0.35 256**		Pg	Pg	14 54 01.8	0.0
APZ9				Sg	Sg	14 54 05.6	-0.6
APA0	**Apatity Array**	**0.50 265**		Pg	Pg	14 54 04.4	-0.2
APA0				Lg	Lg	14 54 08.8	
APA0				Rg	Rg	14 54 11.9	
APA0	**Apatity Array**	**0.50 265**		P	Pg	14 54 04.3	-0.3
APA0				S	Sg	14 54 10.2	-0.8
APA0	**Apatity Array**	**0.50 265**		Pg	Pg	14 54 04.4	-0.2
APA0				Sg	Sg	14 54 08.8	-2.3
APA0				Rg	Rg	14 54 11.9	
VRF	**Varrio**	**1.79 275**		PG	Pn	14 54 26.9	-0.2
VRF				MSG		14 54 48.4	
	comp=Z,40nm,0.2s						
VRF				SN	Sn	14 54 50.0	-0.5
KU6	**Riekki**	**2.39 229**		PG	Pn	14 54 36.5	+1.1
	baz=46						
KU6				MSG		14 55 05.7	
	comp=Z,8.8nm,0.2s						
KU6				SG	Sb	14 55 08.6	-0.3
MSF	**Maaselka**	**2.72 232**		PN	Pn	14 54 36.2	-3.7
MSF				SG	Sb	14 55 20.1	+1.7
SGF	**Sodankyl**	**2.99 269**		PN	Pn	14 54 43.3	-0.2
SGF				SG	Sb	14 55 26.6	+0.5
KEV	**Kevo**	**3.39 312**		Pn	Pn	14 54 49.7	+0.6
KEV				Sn	Sn	14 55 28.9	-1.1
KEV	**Kevo**	**3.39 312**		Pn	Pn	14 54 49.7	+0.6
KEV				Sn	Sn	14 55 28.9	-1.1
KEV	**Kevo**	**3.39 312**		PN	Pn	14 54 49.8	+0.8
KEV				SN	Sn	14 55 28.9	-1.0
ARA0	**ARCESS Array S**	**3.73 304**		Pn	Pn	14 54 54.0	+0.3
	baz=120,slow=16						
ARA0				Pg	Pb	14 55 01.9	+0.2
	baz=117,slow=18						
ARA0				Sn	Sn	14 55 36.3	-2.1
	baz=118,slow=28						
ARA0				Lg	Lg	14 55 47.7	
	baz=109,slow=37						
ARA0	**ARCESS Array S**	**3.73 304**		Pn	Pn	14 54 54.0	+0.3
	baz=120,slow=16						
ARA0				Pg	Pb	14 55 01.9	+0.2
	baz=117,slow=18						
ARA0				Sn	Sn	14 55 36.3	-2.1
	baz=118,slow=28						

ARE0	**ARCESS Array S**	**3.73 304**	PN	Pn	14 54 53.8	0.0
	baz=115					
ARE0			SN	Sn	14 55 36.8	-1.6
HEF	**Hetta**	**4.07 286**	Pn	Pn	14 54 57.8	-0.5
HEF			Pg	Pb	14 55 06.5	-0.9
HEF			Sn	Sn	14 55 45.6	-1.0
HEF			Lg	Lg	14 55 58.1	
HEF	**Hetta**	**4.07 286**	*e*P	Pn	14 54 58.4	+0.1
HEF			*e*Pg	Pb	14 55 07.2	-0.2
HEF			*e*S	Sn	14 55 45.6	-1.0
HEF			*e*		14 55 58.0	
HEF	**Hetta**	**4.07 286**	PN	Pn	14 54 58.2	-0.2
	baz=96					
HEF			SG	Sb	14 55 59.6	+2.6
OUL	**Oulu**	**4.25 237**	PG	Pb	14 55 07.7	-2.8
OUL			SG	Sb	14 56 05.5	+3.1
KTK1	**Kautokeino**	**4.32 293**	*e*P	Pn	14 55 02.1	+0.3
KTK1			*e*S	Sn	14 55 49.1	-3.7
KTK1			IAML		14 56 06.3	
	comp=Z,9.2nm,0.3s					
LANU	**Lannavaara**	**4.67 281**	PN	Pn	14 55 05.9	-0.8
KIF	**Kilpisjarvi**	**5.18 291**	Pn	Pn	14 55 12.5	-1.1
KIF			Pg	Pb	14 55 26.1	-0.1
KIF			Sn	Sn	14 56 10.8	-3.1
KIF			Lg	Lg	14 56 29.6	
KIF	**Kilpisjarvi**	**5.18 291**	Pn	Pn	14 55 12.5	-1.1
KIF			Pg	Pb	14 55 26.1	-0.1
KIF			Sn	Sn	14 56 10.8	-3.1
FIA0	**FINESS Array S**	**7.17 213**	Pn	Pn	14 55 40.8	-0.1
	baz=32,slow=14					
FIA0			Sn	Sn	14 56 58.5	-4.3
	baz=32,slow=22					
FIA0			Lg	Lg	14 57 34.8	
	baz=27,slow=28					
FIA0	**FINESS Array S**	**7.17 213**	Pn	Pn	14 55 40.8	-0.1
	baz=32,slow=14					
FIA0			Sn	Sn	14 56 58.5	-4.3
	baz=32,slow=22					
FIA0			Sg	Sb	14 57 34.8	+8.7
	baz=27,slow=28					
SPA0	**Spitsbergen Ar**	**11.71 342**	Pn	Pn	14 56 41.4	-1.7
	baz=146,slow=14					
SPA0	**Spitsbergen Ar**	**11.71 342**	Pn	Pn	14 56 41.4	-1.7
	baz=146,slow=14					
NB2	**NORSAR Subarra**	**11.93 247**	Pn	Pn	14 56 43.8	-2.4
NB2	**NORSAR Subarra**	**11.93 247**	Pn	Pn	14 56 43.8	-2.4
NRA0	**NORESS Array S**	**12.03 246**	Pn	Pn	14 56 45.9	-1.5
	baz=36,slow=12					
NRA0	**NORESS Array S**	**12.03 246**	Pn	Pn	14 56 45.9	-1.5
	baz=36,slow=12					

*ISCJB **10** 14:58:18.5±0.7,36°.6N±0°.1×26°.81E±0°.06,h150km, Error ellipse: s-maj=17.7km s-min=6.7km az=171.1*
*ATH **10** 14:58:18.0,36°.57N×26°.79E,h149km±11km,ML2.3/2, Error ellipse: s-maj=11.6km s-min=3.2km az=341.0*
*ISK **10** 14:58:20.0,36°.69N×26°.80E,h127km,ML2.7/9*

ISC 10 14:58:17.4±1.4,36°.7N±0°.1×26°.83E±0°.05,h150km,n18, σ2°.9 14/20,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMGA	**Amorgos Island**	**0.77 281**		P	**Pn**	**14 58 41.1**	**+0.8**
ANAF	**Anafi Island**	**0.92 249**		P	**Pn**	**14 58 42.3**	**+0.8**
ARG	**Arkhangelos**	**1.14 114**		PN	**Pn**	**14 58 44.9**	**+1.5**
ARG				SN	**Sn**	**14 59 02.9**	**-0.3**
KARP	**Karpathos**	**1.17 167**		P	**Pn**	**14 58 43.7**	**0.0**
TURN	**Turunc**	**1.43 82**		PN	**Pn**	**14 58 44.7**	**-1.5**
TURN				SN	**Sn**	**14 59 02.9**	**-5.3**
DALY	**Dalyan (Mula)**	**1.47 84**		PN	**Pn**	**14 58 48.5**	**+2.0**
ZKR	**Zakros**	**1.65 198**		PN	**Pn**	**14 58 50.2**	**+1.6**
ZKR	**Zakros**	**1.65 198**		P	**Pn**	**14 58 49.1**	**+0.6**
ZKR				AML	AML	14 59 12.8	
	comp=E,216μm,0.3s						
ZKR				AML	AML	14 59 12.9	
	comp=N,71μm,0.4s						
FETY	**Fethiye**	**1.81 91**		PN	**Pn**	**14 58 52.5**	**+2.2**
LAST	**Lasithi**	**1.88 216**		P	**Pn**	**14 58 51.3**	**+0.1**
LAST				AML	AML	14 59 15.0	
	comp=E,47μm,0.4s						
LAST				AML	AML	14 59 15.3	
	comp=N,82μm,0.4s						
IDI	**Anoyia**	**2.11 229**		P	**Pn**	**14 58 52.7**	**-1.1**
AKAS	**Kas**	**2.28 101**		PN	**Pn**	**14 58 58.4**	**+2.5**
KSL	**Kastellorizon**	**2.28 103**		P	**Pn**	**14 58 57.7**	**+1.9**
ELL	**Elmali**	**2.47 88**		PN	**Pn**	**14 59 00.9**	**+2.7**
IMMV	**Iera Moni Meta**	**2.62 243**		PN	**Pn**	**14 59 02.1**	**+2.2**
IMMV	**Iera Moni Meta**	**2.62 243**		P	**Pn**	**14 59 01.0**	**+1.1**
GVD	**Gavdhos**	**2.90 231**		PN	**Pn**	**14 59 05.8**	**+2.4**
VLI	**Veliai**	**3.13 272**		P	**Pn**	**14 59 07.9**	**+1.5**

*IDC **10** 15:13:27.8±2.1,36°.91N×141°.54E,h0km,mb3.3/2, mb1 3.4/3,mb1mx3.2/37,mbtmp3.2/3,ML2.0/1,Error ellipse: s-maj=38.5km s-min=23.3km az=11.0*
*ISCJB **10** 15:13:29.3±1.4,36°.90N±0°.04×141°.46E±0°.09,h18km±8km, mb3.3/2,Error ellipse: s-maj=12.1km s-min=6.6km az=1.2*
*JMA **10** 15:13:30.3±0.1,36°.91N×141°.40E,h25km±1km,M3.2*

ISC 10 15:13:29.6±2.1,36°.90N±0°.04×141°.41E±0°.09,h13km±10km, n19,σ0°.9 70/22,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.53 293**		P	**Pg**	**15 13 40.5**	**+0.5**
ONAJ				*e*S	**Sg**	**15 13 47.7**	**+0.6**
JFK	**Kawauchi**	**0.63 318**		P	**Pg**	**15 13 42.2**	**+0.2**
JFK				S	**Sg**	**15 13 50.5**	**+0.1**
JFFD	**Fukushimafurud**	**0.71 286**		P	**Pg**	**15 13 43.3**	**0.0**
JFFD				S	**Sg**	**15 13 52.5**	**-0.1**
JHO	**Hitachi**	**0.73 247**		P	**Pg**	**15 13 44.2**	**+0.4**
JHO				*e*S	**Sg**	**15 13 53.8**	**+0.3**
JHYU	**Hitachinakayam**	**0.86 230**		P	**Pg**	**15 13 46.3**	**0.0**
JHYU				*e*S	**Sg**	**15 13 57.4**	**-0.2**
JFT	**Otama**	**1.06 306**		P	**Pb**	**15 13 49.6**	**-0.2**
JFT				S	**Sb**	**15 14 03.3**	**-0.3**
JMM	**Marumori**	**1.08 333**		P	**Pb**	**15 13 49.3**	**-1.0**
JMM				*e*S	**Sb**	**15 14 03.5**	**-0.9**
JYT	**Yasato**	**1.19 236**		P	**Pn**	**15 13 51.0**	**-0.9**
JFY	**Yanaizu**	**1.45 291**		P	**Pn**	**15 13 55.9**	**+0.2**
JFY				S	**Sn**	**15 14 14.5**	**-0.2**
MJAR	**Matsushiro Arr**	**2.59 263**		Pn	**Pn**	**15 14 12.4**	**+1.0**
	0.3nm,0.3s,baz=89,slow=14,SNR=17						
MJAR				Lg	Lg	15 14 52.9	
	0.8nm,0.3s,baz=83,slow=28,SNR=7.6						
MAT	**Matsushiro**	**2.60 263**		P	**Pn**	**15 14 12.8**	**+1.4**
MAT				S	**Sg**	**15 14 51.7**	**-1.4**
H11N2	**WAKE ISLAND Hy 28.08 121**			T	T	15 48 45.8	
	baz=313,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy 28.09 121**			T	T	15 48 47.7	
	baz=313,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy 28.10 121**			T	T	15 48 48.5	
	baz=313,slow=75,SNR=52						
H11S1	**WAKE ISLAND Hy 28.79 123**			T	T	15 49 41.4	
	baz=315,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy 28.79 123**			T	T	15 49 38.9	
	baz=315,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy 28.80 123**			T	T	15 49 40.7	
	baz=315,slow=75,SNR=12						
MKAR	**Makanchi Array**	**44.19 302**		P	**P**	**15 21 38.5**	**+0.3**
	0.2nm,0.6s,baz=93,slow=8.7,SNR=3.5						
WRA	**Warramunga Arr**	**56.92 188**		P	**P**	**15 23 15.1**	**+0.5**
	0.3nm,0.7s,baz=5.7,slow=9.0,SNR=3.3						

IDC 10 15:30:33.9±3.4,31°.57S×179°.62W,h557km±40km, mb2.7/2,mb1 3.0/4,mb1mx2.8/27,mbtmp3.8/4,Error ellipse: s-maj=58.1km s-min=31.2km az=10.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.19 201**		P	P	15 32 23.8	0.0
	1.1nm,0.3s,baz=267,slow=5.8,SNR=13						
URZ				S	S	15 33 59.6	+5.6
	1.1nm,0.3s,baz=262,slow=20,SNR=9.7						
DZM	**Mont Dzumac**	**15.61 304**		P	P	15 33 50.5	+0.9
	0.1nm,0.3s,baz=248,slow=6.6,SNR=5.0						
ASAR	**Alice Springs**	**41.67 269**		P	P	15 37 35.0	+0.4
	0.2nm,0.4s,baz=105,slow=7.3,SNR=15						
WRA	**Warramunga Arr**	**42.77 274**		P	P	15 37 41.8	-1.3
	1.1nm,0.6s,baz=114,slow=6.5,SNR=14						
FINES	**FINESS Array B**	**145.74 338**		PKPbc	PKPdf	15 49 09.0	+0.5
	1.7nm,0.3s,baz=49,slow=4.1,SNR=27						
NOA	**NORSAR Array B**	**149.67 350**		PKPbc	PKPbc	15 49 19.1	-1.3
	0.1nm,0.4s,baz=349,slow=3.2,SNR=2.8						
AKASG	**Malin Array Be**	**151.34 320**		PKPbc	PKiKP	15 49 26.1	+1.3
	0.5nm,0.4s,baz=51,slow=2.7,SNR=3.3						

*ISCJB **10** 15:34:01.6±0.8,37°.88N±0°.04×29°.07E±0°.06,h11km±8km, Error ellipse: s-maj=8.3km s-min=6.3km az=25.8*
*DDA **10** 15:34:01.6,37°.92N×29°.09E,h7km±3km,ML2.5*
*ISK **10** 15:34:01.5,37°.90N×29°.06E,h8km,ML1.8/3*

ISC 10 15:34:01.6±1.1,37°.88N±0°.04×29°.10E±0°.05,h13km±10km, n8,σ0°.9 41/15,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.14 202**		PG	**Pg**	**15 34 05.0**	**-0.1**
DENT				SG	**Sg**	**15 34 07.6**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.44 200**		IAML_P			
	comp=Z,1μm,0.1s						
TAVA				*i* P	**Pb**	**15 34 11.3**	**0.0**
TAVA				*i* S	**Sg**	**15 34 16.4**	**+0.1**
KHAL	**Karahalli**	**0.58 32**		*i* P	**Pg**	**15 34 13.1**	**+0.2**
KHAL				*i* S	**Sb**	**15 34 21.4**	**-0.4**
KULA	**Kula-Manisa**	**0.72 331**		PG	**Pg**	**15 34 15.4**	**-0.2**
KULA				SG	**Sb**	**15 34 25.5**	**-0.3**
MANT	**Manisa**	**0.74 325**		IAML_P			
	comp=Z,650nm,0.1s						
MANT				*i* P	**Pb**	**15 34 16.9**	**+0.4**
MANT				*i* S	**Sb**	**15 34 25.8**	**-0.9**
USAK	**Uak-Merkez**	**0.83 356**		IAML_P			
	comp=Z,431nm,0.2s						
USAK				*i* P	**Pb**	**15 34 18.1**	**+0.2**
USAK				*i* S	**Sb**	**15 34 29.1**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.96 274**		PG	**Pg**	**15 34 19.8**	**-0.3**
AYDB				SG	**Sb**	**15 34 33.1**	**+0.3**
AYDN	**Tasoluk**	**0.99 257**		IAML_P			
	comp=Z,359nm,0.2s						
AYDN				*i* P	**Pb**	**15 34 21.3**	**+0.6**

GUC 10 15:43:21.1±0.8,22°.10S×70°.31W,h40km±3km,ML3.7, 5C-7D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.28 149**		⇑*i*P	Pn	15 43 28.8	-0.6
PB04				*i* S	Sn	15 43 34.5	-0.6
PB04				IAML		15 43 35.5	
	comp=E,13μm,0.2s						
PB03	**IPOC Station P**	**0.52 85**		⇓*i*P	Pn	15 43 31.7	-0.5
PB03				*e*S	Sn	15 43 39.3	-0.8
PB03				IAML		15 43 39.9	
	comp=N,5μm,0.2s						
PB07	**IPOC Station P**	**0.54 47**		⇓*i*P	Pn	15 43 31.8	-0.8
PB07				*e*S	Sn	15 43 39.8	-0.7
PB05	**IPOC Station P**	**0.76 173**		⇓*i*P	Pn	15 43 35.0	-0.5
PB05				*e*S	Sn	15 43 45.9	0.0
PB02	**IPOC Station P**	**0.86 26**		⇓*i*P	Pn	15 43 35.9	-1.0
PB02				*e*S	Sn	15 43 47.6	-0.7
PB02				IAML		15 43 49.2	
	comp=E,7μm,0.3s						
PB06	**IPOC Station P**	**0.91 132**		⇓*i*P	Pn	15 43 37.4	-0.2
PB06				*e*S	Sn	15 43 50.2	+0.6
PB09	**IPOC Station P**	**1.03 73**		⇓*i*P	Pn	15 43 39.6	+0.4
PB09				*e*S	Sn	15 43 53.7	+1.1
PB09				IAML		15 43 55.8	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**1.29 36**		⇓*i*P	Pn	15 43 42.5	-0.3
PB01				*e*S	Sn	15 43 59.8	+0.8
PB01				IAML		15 44 02.6	
	comp=E,2μm,0.2s						
PB15	**IPOC Station P**	**1.35 145**		⇑*i*P	Pn	15 43 44.1	+0.4
PB15				*e*S	Sn	15 44 02.6	+2.1
LVC	**Limon Verde**	**1.39 112**		*e*P	Pn	15 43 45.6	+1.2
LVC				*e*S	Sn	15 44 03.7	+2.0
PB10	**IPOC Station P**	**1.43 189**		⇑*i*P	Pn	15 43 43.1	-1.5
PB10				*i* S	Sn	15 44 00.9	-1.3
PB10				IAML		15 44 11.4	
	comp=E,387nm,0.2s						
PB11	**IPOC Station P**	**2.40 15**		*e*P	Pn	15 43 57.8	-0.3
PB11				*e*S	Sn	15 44 28.3	+1.9
PB11				IAML		15 44 35.8	
	comp=N,621nm,0.1s						
PSGC	**Pisagua**	**2.49 4**		⇑*i*P	Pn	15 43 57.7	-1.5
PSGC				*e*S	Sn	15 44 31.0	+2.5
GO01	**Chusmiza**	**2.63 23**		*e*P	Pn	15 44 03.4	+1.9
GO01				*e*S	Sn	15 44 36.1	+3.7
GO01				IAML		15 44 40.6	
	comp=N,709nm,0.2s						
MNMC	**Minye Minye**	**3.02 13**		*e*P	Pn	15 44 06.2	-0.5
MNMC				*e*S	Sn	15 44 43.0	+1.2
MNMC				IAML		15 45 00.8	
	comp=E,481nm,0.4s						
GO02	**Mina Guanaco**	**3.12 168**		⇑*i*P	Pn	15 44 08.4	+0.3
GO02				*i* S	Sn	15 44 46.2	+1.9

*NEIC **10** 15:55:08.0±0.0,37°.36N×57°.35E,h10km,mb4.1/9, MN4.2(TEH),After TEH.*
*TEH **10** 15:55:08.6,37°.36N×57°.35E,h10km,ML4.2*
*NNC **10** 15:55:08.2±12.0,37°.75N×57°.01E,h0km,mb4.5,Error ellipse: s-maj=110.3km s-min=65.3km az=32.0*
*IDC **10** 15:55:09.1±0.9,37°.62N×57°.17E,h0km,mb3.7/15, mb1 4.1/21,mb1mx3.9/49,mbtmp4.0/21,ML4.1/5,MS3.2/18, Ms1 3.3/18,ms1mx3.0/51,Error ellipse: s-maj=16.0km s-min=6.9km az=175.0*
*THR **10** 15:55:09.4,37°.54N×57°.24E,h37km,ML3.9*
*ISCJB **10** 15:55:09.1±0.5,37°.55N±0°.02×57°.31E±0°.02,h22km±4km, mb3.8/19,MS3.2/14,Error ellipse: s-maj=3.8km s-min=3.1km az=160.5*
*MOS **10** 15:55:10.0±2.0,37°.90N×57°.29E,h10km,mb4.1/7,Error ellipse: s-maj=6.5km s-min=4.9km az=44.6*

ISC 10 15:55:11.3±0.9,37°.59N±0°.04×57°.31E±0°.03,h24km±7km, n175,σ2°.3 30/174,mb3.9/19,MS3.2/14,29C-7D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**0.14 36**		*e*Pg	**Pb**	**15 55 16.8**	**+0.4**
BJRD	**Bojnurd**	**0.14 36**		*e*Pg	**Pb**	**15 55 16.8**	**+0.4**
BJRD				*e*AML	AML	15 55 23.0	
	comp=E,9μm,0.3s						
BJRD				*e*AML	AML	15 55 24.9	
	comp=N,8μm,0.8s						
GEYT	**Alibeck**	**0.73 62**		Pg	**Pb**	**15 55 23.6**	**-1.8**
GEYT				Lg	Lg	15 55 35.7	
GEYT				*e*Sg	**Sn**	**15 55 36.6**	**+0.2**
GEYT	**Alibeck**	**0.73 62**		Pg	**Pb**	**15 55 23.6**	**-1.8**
	comp=N,89nm,0.3s,baz=238,slow=20,SNR=140						
GEYT				Lg	Lg	15 55 35.7	
	comp=N,745nm,0.3s,baz=224,slow=40,SNR=140						
GYA0B	**ALIBECK ARRAY**	**0.73 62**		*e*Pg	**Pb**	**15 55 23.6**	**-1.8**
GYA0B				*e*Sg	**Sn**	**15 55 36.7**	**+0.2**
ASHT	**Ashkhabad**	**0.92 67**		P	**Pn**	**15 55 28.5**	**-0.3**
ASHT	**Ashkhabad**	**0.92 67**		*e*Pg	**Pn**	**15 55 28.5**	**-0.3**
MRVT	**Maraveh tapeh**	**0.97 274**		*e*Pg	**Pb**	**15 55 26.8**	**-2.6**
MRVT	**Maraveh tapeh**	**0.97 274**		*e*AML	AML	15 55 49.6	
	comp=N,4μm,0.7s						
MRVT				*e*AML	AML	15 55 50.9	
	comp=E,3μm,0.7s						
MRVT	**Maraveh tapeh**	**0.97 274**		*e*Pg	**Pb**	**15 55 26.8**	**-2.6**
MRVT				*e*Sg	**Sb**	**15 55 39.9**	**-2.0**
IEMG	**Emamgholi**	**1.08 99**		*e*Pg	**Pn**	**15 55 27.7**	**-3.5**
IEMG				*e*Sg	**Sb**	**15 55 44.2**	**-1.2**
IEMG				IAMB	IAmb	15 55 47.3	
	comp=Z,63μm,0.3s						
SBZV	**Sabzevar**	**1.22 168**		*e*Pg	Pn	15 55 27.8	-5.3
SBZV				*e*Sg	**Sn**	**15 55 42.3**	**-6.7**
IKRD	**Kardeh**	**1.26 130**		*e*Pn	Pb	15 55 41.6	+7.1
IKRD				IAMB	IAmb	15 56 13.8	
	comp=Z,30μm,0.7s						
IAKL	**Akhelmad**	**1.52 130**		*e*Pg	**Pn**	**15 55 33.5**	**-3.7**
IAKL				IAMB	IAmb	15 55 58.7	
	comp=Z,26μm,0.2s						
IMND	**Minoodasht**	**1.55 258**		*e*Pn	**Pn**	**15 55 36.4**	**-0.9**
IPAY	**Payeh**	**1.77 130**		*e*Pn	**Pn**	**15 55 37.1**	**-3.5**
IPAY				IAMB	IAmb	15 56 13.9	
	comp=Z,22μm,0.2s						
SHRO	**Shahrood**	**1.91 213**		*e*Pn	**Pn**	**15 55 40.3**	**-2.1**
SHRO	**Shahrood**	**1.91 213**		*e*Sg	**Sn**	**15 56 06.1**	**+0.4**
SHRO	**Shahrood**	**1.91 213**		*e*AML	AML	15 56 08.4	
	comp=E,975nm,0.5s						
SHRO				*e*AML	AML	15 56 09.5	
	comp=N,1μm,0.5s						
SHRO	**Shahrood**	**1.91 213**		*e*Pn	**Pn**	**15 55 40.3**	**-2.1**
IMOG	**Moghan**	**2.20 132**		*e*Pn	**Pn**	**15 55 45.8**	**-0.8**
IMOG				IAMB	IAmb	15 56 21.9	
	comp=Z,18μm,0.6s						
IMYA	**Miami**	**2.56 118**		*e*Pn	**Pn**	**15 55 51.6**	**+0.1**
IMYA				IAMB	IAmb	15 56 46.0	
	comp=Z,21μm,0.8s						
JRKH	**Jarkhoshk**	**2.96 124**		*e*Pn	**Pn**	**15 55 57.1**	**+0.2**
IKIA	**Kiasar**	**3.21 246**		*e*Pn	**Pn**	**15 56 01.7**	**+1.2**
IKIA				IAMB	IAmb	15 56 12.3	
	comp=Z,5μm,0.4s						
IANJ	**Anjilo**	**3.46 233**		*e*Pn	**Pn**	**15 56 04.1**	**+0.3**
TNSJ	**Nastanj**	**3.66 189**		*e*Pn	**Pn**	**15 56 04.7**	**-1.8**
ISHM	**Shahmirzad**	**3.68 242**		IAMB	IAmb	15 56 28.2	
	comp=Z,5μm,0.7s						
ISHM				*e*Pn	**Pn**	**15 56 08.1**	**+1.1**
TABS	**Tabas**	**3.94 182**		*e*Pn	**Pn**	**15 56 08.7**	**-1.6**
TABS	**Tabas**	**3.94 182**		*e*Pn	**Pn**	**15 56 08.7**	**-1.6**
TKDS	**Koohdasht(Taba**	**3.97 182**		*e*Pn	**Pn**	**15 56 08.9**	**-1.9**
ILAS	**Lasjerd**	**4.14 239**		*e*Pn	**Pn**	**15 56 13.7**	**+0.5**
IFIR	**Firoozkooh**	**4.15 243**		*e*Pn	**Pn**	**15 56 13.3**	**0.0**
IPRN	**Peran**	**4.20 253**		*e*Pn	**Pn**	**15 56 14.4**	**+0.4**
IPRN				IAMB	IAmb	15 57 33.3	
	comp=Z,6μm,0.6s						
TPRV	**Parvadeh(Tabas**	**4.58 187**		*e*Pn	**Pn**	**15 56 17.1**	**-2.0**
SHRT	**Shahrakht**	**4.62 147**		*e*Pn	**Pn**	**15 56 18.7**	**-1.1**
SHRT	**Shahrakht**	**4.62 147**		*e*Pn	**Pn**	**15 56 18.6**	**-1.1**
IDMV	**Damavand**	**4.70 246**		*e*Pn	**Pn**	**15 56 22.1**	**+1.2**
ITEG	**Tejag**	**4.83 165**		*e*Pn	**Pn**	**15 56 21.2**	**-1.4**
ITEG				IAMB	IAmb	15 56 30.4	
	comp=Z,2μm,0.4s						
IVRN	**Varamin**	**5.20 242**		*e*Pn	**Pn**	**15 56 27.0**	**-0.6**
ANAR	**Anarak**	**5.27 215**		*e*Pn	**Pn**	**15 56 27.6**	**-1.1**
IDAH	**Dahanechah**	**5.28 156**		*e*Pn	**Pn**	**15 56 27.5**	**-1.3**
IKOO	**Kooshah**	**5.34 164**		*e*Pn	**Pn**	**15 56 27.8**	**-1.9**
ICHK	**Chekchek**	**5.84 205**		*e*Pn	**Pn**	**15 56 35.1**	**-1.5**
ICHK				IAMB	IAmb	15 57 41.5	
	comp=N,1μm,0.4s						
IZEF	**Zefreh**	**6.21 222**		*e*Pn	**Pn**	**15 56 40.3**	**-1.3**
IKLH	**Kolahrood**	**6.32 229**		*e*Pn	**Pn**	**15 56 42.5**	**-0.7**
ISAD	**Sadrabad**	**6.40 209**		*e*Pn	**Pn**	**15 56 43.0**	**-1.3**
QABG	**Abgarm-Qazvin**	**6.49 256**		*e*Pn	**Pn**	**15 56 46.1**	**+0.7**
IMEH	**Mehriz**	**6.57 201**		*e*Pn	**Pn**	**15 56 45.6**	**-1.0**
LKRN	**Lenkeran, Azer**	**6.81 282**		P	**Pn**	**15 56 47.5**	**-2.2**
IRAM	**Ramesheh**	**7.05 217**		*e*Pn	**Pn**	**15 56 52.6**	**-0.6**
KHGB	**Koh Gabri**	**7.23 186**		*e*Pn	**Pn**	**15 56 54.5**	**-1.1**
ZNGN	**Zangian**	**7.61 226**		*e*Pn	**Pn**	**15 57 01.5**	**+0.6**
JHBN	**Jahan bin**	**7.64 228**		*e*Pn	**Pn**	**15 57 02.3**	**+1.0**
AKT	**Akhty**	**8.36 301**		*i* P	**Pn**	**15 57 11.2**	**+0.2**
SEKA	**Sheki**	**8.62 298**		P	**Pn**	**15 57 13.4**	**-1.1**
GANJ	**Ganja**	**9.07 293**		P	**Pn**	**15 57 19.1**	**-1.5**
DDFL	**Dedoflistskaro**	**9.46 297**		P	**Pn**	**15 57 23.3**	**-2.8**
DDFL				S		15 57 31.8	
LGD	**Lagodekhi**	**9.52 300**		P	**Pn**	**15 57 27.2**	**+0.4**
LGD				S		15 57 32.1	
LGD	**Lagodekhi**	**9.52 300**		*e*P	**Pn**	**15 57 27.2**	**+0.4**
GNI	**Garni**	**10.13 288**		*e*Pn	**Pn**	**15 57 36.9**	**+1.6**
GNI				Pn	Pn	15 57 37.8	+2.5
GNI				Sn	**Sn**	**15 59 31.6**	**+3.4**
GNI	**Garni**	**10.13 288**		*ce*P	**Pn**	**15 57 38.6**	**+3.3**
GNI				pmax	pmax		
	comp=Z,91nm,0.7s						
GNI	**Garni**	**10.13 288**		Pn	**Pn**	**15 57 37.8**	**+2.5**
	comp=Z,1.9nm,0.3s,baz=28,slow=12,SNR=6.2						
GNI				Sn	**Sn**	**15 59 31.6**	**+3.4**
	comp=Z,0.9nm,0.3s,baz=144,slow=19,SNR=1.8						
GAR	**Garm**	**10.32 78**		*e*Pn	**Pn**	**15 57 37.1**	**-0.9**
GAR	**Garm**	**10.32 78**		*e*P	**Pn**	**15 57 37.1**	**-0.9**
GROC	**Groznyy**	**10.41 306**		*e*P	**Pn**	**15 57 36.8**	**-2.2**
GROC				*e*S	**Sn**	**15 59 30.8**	**-4.0**
GROC				pmax	pmax		
	comp=Z,23nm,0.5s						
BTK	**Batken**	**10.83 73**		*e*Pn	**Pn**	**15 57 44.0**	**-0.8**
BTK	**Batken**	**10.83 73**		*e*P	**Pn**	**15 57 44.0**	**-0.8**
KK31	**Karatay Array**	**11.48 57**		*e*Pn	**Pn**	**15 57 52.7**	**-0.9**
KK31	**Karatay Array**	**11.48 57**		⇑P	**Pn**	**15 57 54.4**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=258,slow=7.4,SNR=18						
KK31				⇓S	**Sn**	**16 00 04.0**	**+3.0**
	comp=Z,10nm,0.8s						
KK31	**Karatay Array**	**11.48 57**		*e*P	**Pn**	**15 57 52.7**	**-0.9**
KKAR	**Karatay Array**	**11.48 57**		*e*Pn	**Pn**	**15 57 52.8**	**-0.8**
KKAR	**Karatay Array**	**11.48 57**		*e*P	**Pn**	**15 57 52.8**	**-0.8**
ZEI	**Tsey**	**11.49 301**		*e*P	**Pn**	**15 57 54.5**	**+0.6**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ONI	**Oni**	**11.72 300**		P	**Pn**	**15 58 00.3**	**+3.3**
ONI	**Oni**	**11.72 300**		*e*P	**Pn**	**15 58 00.3**	**+3.3**
AB31	**Akbulak array**	**11.82 8**		⇑P	**Pn**	**15 57 56.9**	**-1.3**
	comp=Z,7

comp=Z,10.0nm,0.9s
SVE Sverdlovsk 19.37 6 *eP* **P 15 59 33.7 -1.4**
LPSR Galich'ya Gora 19.75 325 *eS* **S 16 03 14.0 -6.4**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR smax smax
comp=N,40nm,2.8s
KURBB Kurchatov Arra 19.96 42 P **Pn 15 59 44.6 +1.4**
comp=N,4.0nm,0.9s,baz=241,slow=12,SNR=12
KURK Kurchatov 20.06 42 *eP* **P 15 59 40.7 -1.8**
comp=N,6.1nm,0.9s
KURK Kurchatov 20.06 42 *ceP* Pn 15 59 44.7 +0.3
KURK pmax pmax
comp=Z,7.0nm,1.0s
MK31 Makanchi Array 20.60 56 *eP* Pn 15 59 51.0 +0.2
comp=Z,3.6nm,0.8s
MK31 Makanchi Array 20.60 56 *eP* Pn 15 59 51.1 +0.2
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 20.60 56 P Pn 15 59 51.1 +0.2
comp=Z,2.0nm,0.7s,baz=244,slow=11,SNR=15
MKAR LR LR 16 08 45.3
comp=Z,81nm,18.1s,baz=254,slow=40
KIRV Kirov 21.63 349 P **P 16 00 01.7 +2.3**
comp=Z,16nm,0.8s,baz=145,slow=2.2,SNR=7.5
KIRV LR LR 16 10 22.5
comp=Z,99nm,18.2s,baz=191,slow=42
OBN Obninsk 22.48 328 *eP* **P 16 00 08.7 +0.1**
OBN *e* 16 00 31.9
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,29nm,14.0s
TLCR 22.60 299 ⇑*iP* **P 16 00 13.3 +3.3**
TLCR 22.60 299 ⇑P **P 16 00 13.3 +3.3**
TLB Topalu 23.05 297 ⇑*iP* **P 16 00 16.8 +2.1**
TLB Topalu 23.05 297 ⇑P **P 16 00 16.8 +2.1**
HARR Harsova 23.15 297 ⇑*iP* P 16 00 23.3 +7.6
HARR Harsova 23.15 297 ⇑P P 16 00 23.3 +7.6
AKASG Malin Array Be 23.87 312 *ceP* **P 16 00 25.2 +2.6**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 23.87 312 P **P 16 00 22.1 -0.5**
comp=Z,1.7nm,0.6s,baz=106,slow=9.0,SNR=7.8
AKBB Malin Array Si 23.87 312 *eP* **P 16 00 21.8 -0.9**
comp=Z,5.7nm,0.7s
AKBB Malin Array Si 23.87 312 *eP* **P 16 00 21.8 -0.9**
AKBB pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 23.88 312 ⇑*iP* **P 16 00 23.5 +0.8**
KIEV Kiev 23.88 312 ⇑P **P 16 00 23.5 +0.8**
VRI Vrincioaia 24.16 300 ⇓*iP* **P 16 00 31.0 +5.5**
VRI Vrincioaia 24.16 300 ⇓P **P 16 00 31.0 +5.5**
PLOR Plostina 24.21 300 ⇑*iP* **P 16 00 27.3 +1.3**
PLOR Plostina 24.21 300 ⇑P **P 16 00 27.3 +1.3**
MLR Muntele Rosu 24.65 299 *eP* **P 16 00 29.3 -0.7**
comp=Z,8.6nm,1.0s
MLR P **P 16 00 31.5 +1.4**
MLR Muntele Rosu 24.65 299 ⇑*iP* **P 16 00 33.4 +3.3**
MLR Muntele Rosu 24.65 299 ⇑P **P 16 00 33.4 +3.3**
MLR Muntele Rosu 24.65 299 P **P 16 00 31.5 +1.4**
comp=Z,2.6nm,0.7s,baz=126,slow=8.7,SNR=3.8
MLR LR LR 16 12 25.3
comp=Z,49nm,18.6s,baz=325,slow=42
ZALV Zalesovo Beam 24.99 40 P **P 16 00 34.6 +1.8**
comp=Z,1.3nm,0.4s,baz=244,slow=9.8,SNR=6.8
ZALV LR LR 16 11 16.3
comp=Z,31nm,18.3s,baz=252,slow=39
DOPR Dopca 25.10 300 ⇑*iP* **P 16 00 35.9 +1.9**
VOIR 25.27 298 ⇑*iP* **P 16 00 37.0 +1.4**
VOIR 25.27 298 ⇑P **P 16 00 37.0 +1.4**
BURAR Bucovina Array 25.49 303 *eP* **P 16 00 38.4 +0.8**
BURAR Bucovina Array 25.49 303 ⇑*iP* **P 16 00 39.5 +1.9**
BURAR Bucovina Array 25.49 303 ⇑P **P 16 00 39.5 +1.9**
KLMR Klimovskoe 25.85 340 *eP* **P 16 00 40.0 -0.6**
KLMR pmax pmax
comp=Z,4.0nm,0.8s
IDI Anoyia 26.11 275 P **P 16 00 44.1 +0.8**
comp=Z,7.9nm,1.0s,baz=63,slow=2.3,SNR=3.9
DEV Deva 26.81 299 ⇑*iP* **P 16 00 44.7 -4.8**
DEV Deva 26.81 299 ⇑P **P 16 00 44.7 -4.8**
DRGR 27.05 301 ⇓*iP* **P 16 00 56.4 +4.7**
DRGR 27.05 301 ⇓P **P 16 00 56.4 +4.7**
ATD Arta Tunnel 29.01 210 LR LR 16 15 32.1
comp=Z,19nm,19.9s,baz=150,slow=42
FIA0 FINESS Array S 30.78 331 *eP* **P 16 01 25.8 +1.2**
FIA0 FINESS Array S 30.78 331 *eP* **P 16 01 25.8 +1.2**
FINES FINESS Array B 30.78 331 P **P 16 01 25.7 +1.2**
comp=Z,0.4nm,0.4s,baz=139,slow=13,SNR=2.8
FINES LR LR 16 15 30.5
comp=Z,40nm,18.1s,baz=134,slow=40
NRIK Noril'sk 35.76 18 LR LR 16 19 35.6
comp=Z,48nm,18.4s,baz=202,slow=41
ARA0 ARCESS Array S 36.29 342 *eP* **P 16 02 14.0 +1.6**
ARCES ARCESS Array B 36.29 342 P **P 16 02 14.0 +1.6**
ARCES ARCESS Array B 36.29 342 P **P 16 02 14.0 +1.6**
comp=Z,1.3nm,0.8s,baz=150,slow=5.2,SNR=5.3
SONM Songino Array 36.93 58 LR LR 16 17 32.0
comp=Z,40nm,18.3s,baz=260,slow=36
NB2 NORSAR Subarra 36.99 324 P **P 16 02 19.7 +1.2**
comp=Z,0.6nm,0.7s,baz=108,slow=8.6
NB200 NORSAR Array S 36.99 324 *eP* **P 16 02 19.2 +0.7**
NOA NORSAR Array B 36.99 324 P **P 16 02 19.2 +0.7**
comp=Z,1.1nm,0.9s,baz=109,slow=8.2,SNR=3.8
ULN Ulaanbaatar 37.37 58 *ceP* **P 16 02 25.6 +3.5**
ULN pmax pmax
comp=Z,1.0nm,1.0s
CM31 Chiang Mai Arr 41.00 106 *eP* **P 16 02 54.9 +2.3**
comp=Z,3.3nm,1.0s
CMAR Chiang Mai Arr 41.00 106 P **P 16 02 54.9 +2.3**
comp=Z,0.9nm,0.6s,baz=299,slow=8.2,SNR=10
CMAR LR LR 16 22 23.9
comp=Z,29nm,20.6s,baz=290,slow=40
ESDC Sonseca Array 47.08 292 P **P 16 03 41.5 +0.4**
comp=Z,0.1nm,0.3s,baz=63,slow=10,SNR=3.2
TIXI Tiksi 49.02 23 *ceP* **P 16 03 58.1 +2.5**
TIXI pmax pmax
comp=Z,2.0nm,1.7s
KLR Kul'dur 53.25 52 LR LR 16 29 05.9
comp=Z,51nm,18.1s,baz=35,slow=38
TOA1 Torodi Ar. Sit 54.95 259 *eP* **P 16 04 40.9 +0.4**
TORD Torodi Ar. Bea 54.95 259 P **P 16 04 40.9 +0.4**
comp=Z,0.6nm,0.8s,baz=67,slow=8.0,SNR=3.5
USRK Ussuriysk Ar. 55.04 58 LR LR 16 29 55.7
comp=Z,48nm,18.3s,baz=210,slow=38
CMLA Cha da Macela 63.32 298 *iP* P 16 05 43.6 +5.3
DBIC Dimbokro 63.99 258 LR LR 16 35 49.1
comp=Z,22nm,18.8s,baz=50,slow=38
ILAR Eielson Array 76.22 10 P **P 16 06 59.6 +2.5**
comp=Z,0.1nm,0.5s,baz=345,slow=6.5,SNR=3.3
ILB Eielson Array 76.22 10 *eP* **P 16 06 59.6 +2.5**
comp=Z,6.3nm,1.6s
YKA Yellowknife Ar 80.05 356 P **P 16 07 19.9 +1.5**
comp=Z,0.3nm,0.9s,baz=3.1,slow=5.9,SNR=6.2
YKB5 Yellowknife Ar 80.05 356 *eP* **P 16 07 19.9 +1.5**
ULM Lac du Bonnet 89.39 343 LR LR 16 50 40.2
comp=Z,34nm,18.1s,baz=38,slow=37

*ISCJB **10** 15:55:33.7±0.7, 38.°71N±0.°03×25.°58E±0.°04, h8km±5km, Error ellipse: s-maj=6.0km s-min=4.1km az=154.2*
*ISK **10** 15:55:33.4, 38.°72N×25.°57E, h10km, ML2.4/13*
*ATH **10** 15:55:33.4, 38.°72N×25.°59E, h26km±3km, ML2.3/3, Error ellipse: s-maj=5.1km s-min=1.1km az=81.0*
*THE **10** 15:55:34.0, 38.°71N×25.°55E, h9km±4km, ML2.1/4, Error ellipse: s-maj=5.7km s-min=1.1km az=87.0*
*DDA **10** 15:55:36.6, 38.°77N×25.°87E, h10km±2km, ML2.7*
ISC 10 15:55:34.1±1.1, 38.°72N±0.°02×25.°58E±0.°04, h13km±11km, n34, σ0s53/47, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.50**	**132**	PG	**Pg**	**15 55 43.9**	**0.0**
CHOS				SG	**Sg**	**15 55 51.1**	**+0.5**
CHOS	**Chios island**	**0.50**	**132**	P	**Pg**	**15 55 43.9**	**0.0**
CHOS				S	**Sg**	**15 55 51.0**	**+0.5**
CHOS	**Chios island**	**0.50**	**132**	P	**Pg**	**15 55 43.9**	**0.0**
CHOS				S	**Sg**	**15 55 50.9**	**+0.4**
CHOS				AML	AML	15 55 51.1	
CHOS	comp=N,503μm,0.3s			AML	AML	15 55 53.9	
SIGR	comp=E,578μm,0.2s			PG	**Pg**	**15 55 44.3**	**-0.3**
SIGR				SG	**Sg**	**15 55 52.1**	**+0.4**
SIGR	**SIGRI**	**0.54**	**23**	P	**Pg**	**15 55 44.3**	**-0.3**
SIGR				S	**Sg**	**15 55 52.1**	**+0.4**
SIGR	**SIGRI**	**0.54**	**23**	P	**Pg**	**15 55 44.3**	**-0.3**
SIGR				S	**Sg**	**15 55 52.1**	**+0.4**
SIGR				AML	AML	15 55 53.0	
SIGR	comp=N,918μm,0.2s			AML	AML	15 55 53.7	
SIGR	comp=E,485μm,0.3s			AML	AML	15 55 53.7	
PRK	**Paraskevi**	**0.75**	**45**	P	**Pb**	**15 55 49.1**	**0.0**
PRK				S	**Sb**	**15 56 00.5**	**+1.2**
PRK	**Paraskevi**	**0.75**	**45**	P	**Pb**	**15 55 48.8**	**-0.3**
PRK				S	**Sb**	**15 55 59.1**	**-0.2**
PRK				AML	AML	15 56 03.2	
PRK	comp=E,620μm,0.4s			AML	AML	15 56 03.5	
PRK	comp=N,634μm,0.3s			AML	AML	15 56 03.5	
KRBN	**Karaburun**	**0.77**	**99**	PG	**Pg**	**15 55 48.8**	**-0.2**
SKY	**Skiros Island**	**0.82**	**281**	P	**Pb**	**15 55 50.3**	**0.0**
ZEY	**zmir**	**0.87**	**123**	IAML_P			
ZEY	comp=Z,1μm,0.2s			*iP*	**Pb**	**15 55 51.3**	**+0.3**
ZEY				*iS*	**Sg**	**15 56 01.3**	**-0.9**
URLA	**Izmir**	**0.87**	**114**	PG	**Pg**	**15 55 50.7**	**-0.3**
URLA	**Izmir**	**0.87**	**114**	*iP*	**Pb**	**15 55 51.3**	**+0.1**
FOCM	**Foa**	**0.90**	**90**	PG	**Pg**	**15 55 51.2**	**-0.3**
AYVA	**Ayvalik**	**1.04**	**55**	*iP*	**Pg**	**15 55 53.8**	**-0.5**
AYVA				*iS*	**Sb**	**15 56 07.8**	**+0.2**
BOZC	**Bozcaada**	**1.18**	**18**	PN	**Pb**	**15 55 55.7**	**-0.7**
BOZC	**Bozcaada**	**1.18**	**18**	IAML_P			
BOZC	comp=Z,949nm,0.2s			*iP*	**Pb**	**15 55 56.3**	**-0.1**
BLCB	**Balcova**	**1.19**	**106**	PN	**Pn**	**15 55 56.7**	**+0.2**
ZEDA	**zmir-Bergama**	**1.19**	**78**	IAML_P			
ZEDA	comp=Z,362nm,0.1s			*iP*	**Pb**	**15 55 55.9**	**-0.8**
ZEDA				*iS*	**Sb**	**15 56 10.4**	**-1.6**
LIA	**Limnos Island**	**1.22**	**345**	P	**Pn**	**15 55 56.6**	**-0.3**
LIA				S	**Sb**	**15 56 12.8**	**+0.1**
LIA	**Limnos Island**	**1.22**	**345**	P	**Pn**	**15 55 56.6**	**-0.3**
DGB	**zmir**	**1.22**	**123**	IAML_P			
DGB	comp=Z,750nm,0.1s			*iP*	**Pg**	**15 55 57.5**	**-0.1**
DGB				*iS*	**Sb**	**15 56 12.9**	**+0.2**
EZN	**Ezine**	**1.25**	**27**	PN	**Pn**	**15 55 57.2**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.27**	**36**	IAML_P			
BAYC	comp=Z,464nm,0.1s			*iP*	**Pg**	**15 55 58.2**	**-0.3**
AOS	**Alonnisos**	**1.40**	**289**	PN	**Pn**	**15 55 59.6**	**+0.2**
SMG	**Samos**	**1.41**	**135**	P	**Pb**	**15 56 00.3**	**-0.1**
APE	**Apeiranthos**	**1.65**	**181**	PN	**Pn**	**15 56 03.1**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.81**	**22**	PN	**Pn**	**15 56 05.4**	**+0.3**
AMGA	**Amorgos Island**	**1.90**	**172**	P	**Pn**	**15 56 05.5**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.97**	**112**	PN	**Pn**	**15 56 07.9**	**+0.5**
ERIK	**Erikli-Kesan**	**2.08**	**20**	PN	**Pn**	**15 56 09.6**	**+0.9**
KRBG	**Karabiga-Canak**	**2.13**	**38**	PN	**Pn**	**15 56 10.6**	**+1.1**
ALN	**Alexandroupoli**	**2.20**	**9**	PN	**Pn**	**15 56 11.1**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.32**	**32**	PN	**Pn**	**15 56 12.5**	**+0.4**

*ISCJB **10** 15:58:50.4±0.6, 55.°18S±0.°09×28.°1W±0.°2, h10km, mb4.2/11, MS3.5/5, Error ellipse: s-maj=17.3km s-min=11.1km az=144.8*
*IDC **10** 15:58:51.5±0.8, 55.°16S×28.°18W, h0km, mb4.1/6, mb1 4.2/7, mb1mx4.0/26, mbtmp4.1/7, ML3.3/1, MS3.6/5, Ms1 3.5/5, ms1mx3.2/19, Error ellipse: s-maj=37.4km s-min=18.4km az=71.0*
*NEIC **10** 15:58:52.7±0.5, 55.°14S×28.°18W, h10km, mb4.3/9, Error ellipse: s-maj=15.3km s-min=10.4km az=57.0*
ISC 10 15:58:52.2±0.6, 55.°2S±0.°1×28.°1W±0.°1, h10km, n36, σ1s16/27, mb4.2/11, MS3.6/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.95**	**277**	*e*Pn	**Pn**	**16 00 05.6**	**-1.0**
SNAA	**Sanae**	**19.74**	**156**	*eP*	**P**	**16 03 22.8**	**+1.0**
SNAA	**Sanae**	**19.74**	**156**	P	**P**	**16 03 21.9**	**+0.1**
PMSA	**Palmer Station**	**20.10**	**227**	LR	LR	16 10 00.4	
QSPA	**South Pole Qui**	**35.06**	**180**	*eP*	**P**	**16 05 46.4**	**+1.3**
QSPA	**South Pole Qui**	**35.06**	**180**	P	**P**	**16 05 46.4**	**+1.3**
CPUP	**Villa Florida**	**35.86**	**312**	*eP*	**P**	**16 05 51.5**	**-0.5**
CPUP	**Villa Florida**	**35.86**	**312**	P	**P**	**16 05 51.4**	**-0.6**
MAW	**Mawson**	**41.15**	**144**	*eP*	**P**	**16 06 32.3**	**-3.7**
BDFB	**Brasilia**	**42.36**	**331**	P	**P**	**16 06 48.1**	**+1.5**
BDFB				LR	LR	16 24 42.4	
BOSA	**Boshof**	**46.26**	**77**	LR	LR	16 22 45.7	
GO01	**Chusmiza**	**47.06**	**302**	*eP*	**P**	**16 07 22.9**	**-1.6**
H10S2	**ASCENSION HYDR**	**47.33**	**18**	T	T	16 58 25.2	
H10S3	**ASCENSION HYDR**	**47.33**	**18**	T	T	16 58 32.4	
H10S1	**ASCENSION HYDR**	**47.34**	**18**	T	T	16 58 33.7	
VNDA	**Vanda**	**47.41**	**183**	*eP*	**P**	**16 07 27.6**	**+1.6**
VNDA	**Vanda**	**47.41**	**183**	P	**P**	**16 07 27.0**	**+1.0**
MNMC	**Minye Minye**	**47.71**	**302**	*eP*	**P**	**16 07 29.8**	**+0.5**
H10N1	**ASCENSION HYDR**	**48.45**	**18**	T	T	16 59 56.0	
H10N3	**ASCENSION HYDR**	**48.45**	**18**	T	T	16 59 53.9	
H10N2	**ASCENSION HYDR**	**48.46**	**18**	T	T	17 00 00.3	
LPAZ	**La Paz**	**49.46**	**306**	P	**P**	**16 07 43.0**	**-0.3**
CASY	**Casey**	**54.89**	**161**	*eP*	**P**	**16 08 21.8**	**-0.4**
TOA0	**Torodi Ar. Sit**	**72.56**	**30**	*eP*	**P**	**16 10 18.1**	**-1.3**
TORD	**Torodi Ar. Bea**	**72.56**	**30**	*eP*	**P**	**16 10 19.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**72.56**	**30**	P	**P**	**16 10 19.9**	**+0.5**
TORD				LR	LR	16 37 14.6	
TOA1	**Torodi Ar. Sit**	**72.56**	**30**	*eP*	**P**	**16 10 19.9**	**+0.5**
KEST	**Kesra**	**96.07**	**30**	LR	LR	16 49 49.6	
YKA	**Yellowknife Ar**	**135.19**	**319**	PKP	**PKPdf**	**16 18 10.7**	**+0.3**
YKB5	**Yellowknife Ar**	**135.19**	**319**	*e*PKPdf	**PKPdf**	**16 18 10.7**	**+0.3**
PAX	**Paxson**	**148.13**	**310**	*e*PKPdf	**PKPbc**	**16 18 37.4**	**+0.5**
ILAR	**Eielson Array**	**149.16**	**313**	PKPbc	**PKiKP**	**16 18 40.4**	**-0.2**
MCK	**McKinley**	**149.83**	**311**	*e*PKPbc	**PKiKP**	**16 18 41.8**	**-0.2**
TOLK	**Toolik Lake Re**	**150.69**	**320**	*e*PKPbc	**PKiKP**	**16 18 44.1**	**+0.4**
SONA0	**Songino Array**	**151.17**	**86**	*e*PKPbc	**PKiKP**	**16 18 46.1**	**+0.7**
SONM	**Songino Array**	**151.17**	**86**	PKPbc	**PKiKP**	**16 18 46.1**	**+0.7**

*KRSC **10** 16:15:55.3±10.0, 55.°74N×165.°71E, h48km±10km, ML4.3*
*BJI **10** 16:15:56.3±0.0, 55.°94N×166.°06E, h33km, mb4.7/29, mB4.9/17, Ms4.6/9, Ms7 4.3/6*
*IDC **10** 16:15:56.3±0.5, 55.°78N×165.°45E, h0km, mb4.2/26, mb1 4.4/29, mb1mx4.3/43, mbtmp4.2/29, ML3.5/3, MS3.2/11, Ms1 3.2/11, ms1mx3.0/43, Error ellipse: s-maj=14.8km s-min=10.6km az=157.0*
*ISCJB **10** 16:15:57.2±0.7, 55.°75N±0.°03×165.°49E±0.°03, h17km±5km, mb4.5/98, MS3.5/13, Error ellipse: s-maj=4.6km s-min=2.7km az=170.6*
*MOS **10** 16:16:01.0±0.9, 55.°76N×165.°27E, h48km, mb4.8/32, Error ellipse: s-maj=5.6km s-min=4.8km az=76.0*
*NEIC **10** 16:16:01.4±0.2, 55.°82N×165.°42E, h35km, mb4.6/39, Error ellipse: s-maj=6.2km s-min=3.1km az=161.0*
ISC 10 16:15:59.0±1.0, 55.°73N±0.°04×165.°50E±0.°04, h19km±4km, n286, σ1s21/331, mb4.6/98, MS3.4/14, 12C, Komandorsky

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.59**	**153**	*eP*	**Pg**	**16 16 09.6**	**-1.2**
BKI				*e*S	**Sg**	**16 16 16.4**	**-2.3**
BKI	**Bering**	**0.59**	**153**	PN	**Pg**	**16 16 09.6**	**-1.2**
KBTR	**Krutoberegovo**	**1.58**	**289**	*eP*	**Pn**	**16 16 23.4**	**-2.6**
KBTR				*e*S	**Sn**	**16 16 42.7**	**-3.2**
KBTR	**Krutoberegovo**	**1.58**	**289**	PN	**Pn**	**16 16 23.4**	**-2.6**
KBTR				S	**Sn**	**16 16 42.7**	**-3.2**
KBG	**Krutoberegovo**	**1.66**	**290**	*eP*	**Pn**	**16 16 24.2**	**-2.8**
KBG				*e*S	**Sn**	**16 16 45.2**	**-2.5**
KBG	**Krutoberegovo**	**1.66**	**290**	PN	**Pn**	**16 16 24.2**	**-2.8**
KBG				S	**Sn**	**16 16 45.2**	**-2.5**
SMKR	**Semkarok**	**2.41**	**292**	*eP*	**Pn**	**16 16 36.8**	**-0.7**
SMKR				*e*S	**Sn**	**16 17 07.8**	**+1.3**
SMKR	**Semkarok**	**2.41**	**292**	PN	**Pn**	**16 16 36.8**	**-0.7**
SMKR				S	**Sn**	**16 17 07.8**	**+1.3**
MKZ	**Mys Kozlova**	**2.46**	**243**	*eP*	**Pn**	**16 16 36.8**	**-1.3**
MKZ	**Mys Kozlova**	**2.46**	**243**	PN	**Pn**	**16 16 36.8**	**-1.3**
BDR	**Baidarnaya**	**2.54**	**291**	*eP*	**Pn**	**16 16 38.7**	**-0.6**
BDR				*e*S	**Sn**	**16 17 10.1**	**+0.3**
BDR	**Baidarnaya**	**2.54**	**291**	PN	**Pn**	**16 16 38.7**	**-0.6**
BDR				S	**Sn**	**16 17 10.1**	**+0.3**
SRKR	**Sorokina**	**2.59**	**293**	*eP*	**Pn**	**16 16 39.5**	**-0.5**
SRKR	**Sorokina**	**2.59**	**293**	PN	**Pn**	**16 16 39.5**	**-0.5**
CIRR	**Tsirk**	**2.70**	**280**	*eP*	**Pn**	**16 16 41.6**	**+0.1**
CIRR				*e*S	**Sn**	**16 17 14.9**	**+1.1**
CIRR	**Tsirk**	**2.70**	**280**	PN	**Pn**	**16 16 41.6**	**+0.1**
CIRR				S	**Sn**	**16 17 14.9**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**2.72**	**276**	*eP*	**Pn**	**16 16 41.8**	**+0.1**
BZGR				*e*S	**Sn**	**16 17 15.3**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**2.72**	**276**	PN	**Pn**	**16 16 41.8**	**+0.1**
BZGR				S	**Sn**	**16 17 15.3**	**+1.2**
LGNR	**Loginova**	**2.73**	**279**	*eP*	**Pn**	**16 16 42.1**	**0.0**
LGNR	**Loginova**	**2.73**	**279**	PN	**Pn**	**16 16 42.1**	**0.0**
KLY	**Klyuchi**	**2.78**	**284**	*eP*	**Pn**	**16 16 40.8**	**-1.7**
KLY				*e*S	**Sn**	**16 17 13.7**	**-1.8**
KLY	**Klyuchi**	**2.78**	**284**	PN	**Pn**	**16 16 40.8**	**-1.7**
KLY				S	**Sn**	**16 17 13.7**	**-1.8**
BZWR	**Bezymyannyi-We**	**2.83**	**277**	*eP*	**Pn**	**16 16 43.9**	**+0.5**
BZWR				*e*S	**Sn**	**16 17 17.6**	**+0.6**
BZWR	**Bezymyannyi-We**	**2.83**	**277**	PN	**Pn**	**16 16 43.9**	**+0.5**
BZWR				S	**Sn**	**16 17 17.6**	**+0.6**
BZMR	**Bezymyannaya**	**2.83**	**276**	*eP*	**Pn**	**16 16 43.5**	**+0.1**
BZMR	**Bezymyannaya**	**2.83**	**276**	PN	**Pn**	**16 16 43.5**	**+0.1**
KIRR	**Kirishev**	**2.92**	**276**	*eP*	**Pn**	**16 16 45.0**	**+0.5**
KIRR	**Kirishev**	**2.92**	**276**	PN	**Pn**	**16 16 45.0**	**+0.5**
TUMD	**Tumrok D**	**2.95**	**262**	*eP*	**Pn**	**16 16 44.5**	**-0.4**
TUMD				*e*S	**Sn**	**16 17 19.6**	**-0.2**
KPT	**Kopyto**	**2.98**	**277**	*eP*	**Pn**	**16 16 46.2**	**+0.8**
KPT				*e*S	**Sn**	**16 17 22.6**	**+1.9**
KPT	**Kopyto**	**2.98**	**277**	PN	**Pn**	**16 16 46.2**	**+0.8**
KPT				S	**Sn**	**16 17 22.6**	**+1.9**
KZV	**Kizimen**	**3.03**	**260**	*eP*	**Pn**	**16 16 46.2**	**+0.1**
KZV	**Kizimen**	**3.03**	**260**	PN	**Pn**	**16 16 46.2**	**+0.1**
TUMR	**Tumrok**	**3.08**	**264**	PN	**Pn**	**16 16 44.5**	**-2.2**
TUMR				S	**Sn**	**16 17 19.6**	**-3.4**
KOZ	**Kozyrevsk**	**3.19**	**278**	*eP*	**Pn**	**16 16 49.3**	**+1.2**
KOZ				*e*S	**Sn**	**16 17 27.6**	**+2.1**
KOZ	**Kozyrevsk**	**3.19**	**278**	PN	**Pn**	**16 16 49.3**	**+1.2**
KOZ				S	**Sn**	**16 17 27.6**	**+2.1**
OSSR	**Ossora**	**3.77**	**341**	*eP*	**Pn**	**16 16 54.4**	**-1.6**
OSSR				*e*S	**Sn**	**16 17 36.2**	**-3.5**
OSSR	**Ossora**	**3.77**	**341**	PN	**Pn**	**16 16 54.4**	**-1.6**
ESO	**Esso**	**3.84**	**276**	*eP*	**Pn**	**16 16 56.9**	**-0.2**
ESO	**Esso**	**3.84**	**276**	PN	**Pn**	**16 16 56.9**	**-0.2**
SPN	**Mys Shipunski**	**4.15**	**233**	*eP*	**Pn**	**16 17 00.5**	**-0.8**
SPN	**Mys Shipunski**	**4.15**	**233**	PN	**Pn**	**16 17 00.5**	**-0.8**
PALN	**Palana**	**4.50**	**321**	*eP*	**Pn**	**16 17 06.8**	**+0.8**
PALN	**Palana**	**4.50**	**321**	PN	**Pn**	**16 17 06.9**	**+0.8**
SDLR	**Sedlovina**	**4.57**	**240**	*eP*	**Pn**	**16 17 07.4**	**+0.2**
SDLR	**Sedlovina**	**4.57**	**240**	PN	**Pn**	**16 17 07.4**	**+0.2**
SMAR	**Somma**	**4.62**	**240**	*eP*	**Pn**	**16 17 08.4**	**+0.4**
SMAR	**Somma**	**4.62**	**240**	PN	**Pn**	**16 17 08.4**	**+0.4**
KRER	**Koryakskii**	**4.62**	**241**	*eP*	**Pn**	**16 17 08.7**	**+0.7**
KRER	**Koryakskii**	**4.62**	**241**	PN	**Pn**	**16 17 08.7**	**+0.7**
UGLR	**Uglovaya**	**4.64**	**240**	*eP*	**Pn**	**16 17 08.4**	**+0.2**
UGLR	**Uglovaya**	**4.64**	**240**	PN	**Pn**	**16 17 08.4**	**+0.2**
KRX	**Arik**	**4.64**	**242**	*eP*	**Pn**	**16 17 09.3**	**+1.1**
KRX	**Arik**	**4.64**	**242**	PN	**Pn**	**16 17 09.3**	**+1.1**
AVH	**Avacha**	**4.65**	**241**	*eP*	**Pn**	**16 17 08.9**	**+0.6**
AVH	**Avacha**	**4.65**	**241**	PN	**Pn**	**16 17 08.9**	**+0.6**
KOK	**Koryaka**	**4.69**	**241**	*eP*	**Pn**	**16 17 09.6**	**+0.8**
KOK	**Koryaka**	**4.69**	**241**	PN	**Pn**	**16 17 09.6**	**+0.8**
TILK	**Tilichiki**	**4.74**	**4**	*eP*	**Pn**	**16 17 08.4**	**-1.0**
TILK	**Tilichiki**	**4.74**	**4**	PN	**Pn**	**16 17 08.4**	**-1.0**
DALK	**Dalny**	**4.78**	**238**	*eP*	**Pn**	**16 17 09.8**	**-0.2**
DALK				*e*S	**Sn**	**16 18 03.2**	**-1.6**
DALK	**Dalny**	**4.78**	**238**	PN	**Pn**	**16 17 09.8**	**-0.2**
DALK				S	**Sn**	**16 18 03.2**	**-1.6**
PET	**Petropavlovsk**	**4.83**	**239**	*e*Pn	**Pn**	**16 17 11.0**	**+0.3**
PET	**Petropavlovsk**	**4.83**	**239**	*eP*	**Pn**	**16 17 11.0**	**+0.3**
PET				*e*S	**Sn**	**16 18 05.5**	**-0.7**
PET	**Petropavlovsk**	**4.83**	**239**	*e*PN	**Pn**	**16 17 10.3**	**-0.4**
PET				*e*S	**Sn**	**16 18 05.4**	**-0.7**
PET	comp=Z,62nm,0.5s			pmax	pmax		
PET	comp=E,49nm,0.6s			smax	smax		
PET	comp=N,113nm,0.7s			smax	smax		
PET	comp=Z,100nm,18.0s			MLR	MLR		
KRMR	**Karymshinskiy**	**5.21**	**239**	*eP*	**Pn**	**16 17 15.6**	**-0.2**
KRMR	**Karymshinskiy**	**5.21**	**239**	PN	**Pn**	**16 17 15.6**	**-0.2**
PEA1	**Petropavlovsk-**	**5.26**	**243**	*e*Pn	**Pn**	**16 17 17.0**	**+0.5**
PEA1				*e*Sn	**Sn**	**16 18 17.9**	**+1.3**
PEA0B	**Petropavlovsk-**	**5.26**	**243**	*e*Pn	**Pn**	**16 17 17.7**	**+1.1**
PEA0B	**Petropavlovsk-**	**5.26**	**243**	PN	**Pn**	**16 17 17.7**	**+1.1**
PETK	**Petropavlovsk-**	**5.26**	**243**	Pn	**Pn**	**16 17 17.0**	**+0.5**
PETK	comp=Z,1.3nm,0.3s,baz=68,slow=18,SNR=30			Sn	**Sn**	**16 18 17.9**	**+1.2**
PETK	baz=70,slow=25,SNR=2.4			LR	LR	16 19 15.2	
PETK	comp=Z,107nm,19.2s,baz=89,slow=38			LR	LR	16 19 15.2	
RUS	**Russkaya**	**5.28**	**234**	*eP*	**Pn**	**16 17 16.9**	**+0.2**
RUS	**Russkaya**	**5.28**	**234**	PN	**Pn**	**16 17 16.9**	**+0.2**
MTVR	**Mutnovka**	**5.39**	**236**	*eP*	**Pn**	**16 17 18.2**	**-0.4**
MTVR	**Mutnovka**	**5.39**	**236**	PN	**Pn**	**16 17 18.2**	**-0.4**
ASAK	**Asacha**	**5.59**	**236**	*eP*	**Pn**	**16 17 21.9**	**+0.7**
ASAK	**

comp=E,123nm,2.5s
ERM Erimo 19.98 236 *i* P **Pn 16 20 31.5 -0.4**
ERM pmax pmax
comp=Z,8.0nm,0.4s
KLR Kul'dur 21.40 266 P **P 16 20 46.2 +0.8**
comp=Z,1.7nm,0.6s,baz=52,slow=11,SNR=4.5
IMAR Indian Mountai 21.91 46 *e*P **P 16 20 50.9 +0.2**
TIXI Tiksi 22.19 330 *e*P **P 16 20 53.1 -0.5**
comp=Z,5.4nm,0.9s
TIXI Tiksi 22.19 330 *ce*P **P 16 20 54.1 +0.5**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 22.19 330 P **P 16 20 53.7 +0.1**
comp=Z,3.0nm,0.8s,baz=116,slow=12,SNR=21
TIXI PcP **PcP 16 24 49.1 -0.3**
comp=Z,2.1nm,0.6s,baz=113,slow=1.3,SNR=8.9
TIXI LR LR 16 29 51.3
comp=Z,66nm,18.4s,baz=106,slow=38
KDAK Kodiak Island 22.81 67 *ce*P **P 16 21 05.5 +5.2**
MLY Manley 23.06 49 *e*P **P 16 21 03.9 +0.8**
comp=Z,18nm,1.8s
BRLK Bradley Lake 23.29 62 *e*P **P 16 21 04.8 -0.5**
comp=Z,30nm,1.7s
TOLK Toolik Lake Re 23.93 40 *e*P **P 16 21 11.9 +0.4**
comp=Z,7.6nm,0.8s
SEW Seward 23.95 61 *e*P **P 16 21 11.4 -0.2**
comp=Z,10nm,0.8s
WRH Wood River Hil 24.19 50 *e*P **P 16 21 13.8 -0.1**
comp=Z,6.1nm,1.0s
KNK Knik Glacier 24.24 57 *e*P **P 16 21 14.7 +0.3**
comp=Z,21nm,0.9s
SML Sawmill 24.25 57 *e*P **P 16 21 14.9 +0.5**
comp=Z,14nm,0.8s
SML Sawmill 24.25 57 *e*P **P 16 21 15.0 +0.5**
SML pmax pmax
comp=Z,14nm,0.8s
CCB Clear Creek Bu 24.31 50 *e*P **P 16 21 15.4 +0.4**
comp=Z,5.7nm,0.9s
ILAR Eielson Array 24.70 49 P **P 16 21 18.2 -0.3**
comp=Z,2.7nm,0.9s,baz=261,slow=9.6,SNR=16
ILAR LR LR 16 32 00.2
comp=Z,49nm,18.1s,baz=324,slow=39
SCM Sheep Creek Mo 24.72 56 *e*P **P 16 21 19.4 +0.6**
comp=Z,19nm,0.6s
SCM Sheep Creek Mo 24.72 56 *e*P **P 16 21 19.4 +0.6**
SCM pmax pmax
comp=Z,19nm,0.6s
PRP Porcupine Dome 25.27 47 *e*P **P 16 21 23.2 -0.6**
comp=Z,5.3nm,0.8s
FYU Fort Yukon 25.39 45 *e*P **P 16 21 23.2 -1.4**
comp=Z,12nm,1.2s
BMAR Burnt Mountain 25.67 43 *e*P **P 16 21 28.1 +0.7**
MAJO Matsushiro 26.66 235 *i* P **P 16 21 37.4 +0.9**
MAJO pmax pmax
comp=Z,16nm,1.0s
MAT Matsushiro 26.66 235 P **P 16 21 37.3 +0.8**
MJAR Matsushiro Arr 26.66 235 P **P 16 21 37.5 +1.0**
comp=Z,5.8nm,0.9s,baz=21,slow=7.0,SNR=10
BCAR Beaver Creek A 27.10 53 *e*P **P 16 21 38.0 -2.3**
EGAK Eagle 27.15 49 *e*P **P 16 21 39.4 -1.2**
comp=Z,3.2nm,0.8s
CN2 Changchun 28.08 262 *e*P **P 16 21 50.8 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
INK Inuvik 29.82 41 *e*P **P 16 22 04.0 -0.4**
comp=Z,15nm,1.8s
INK Inuvik 29.82 41 *e*P **P 16 22 04.0 -0.4**
INK pmax pmax
comp=Z,15nm,1.8s
INK Inuvik 29.82 41 P **P 16 22 04.2 -0.2**
comp=Z,2.0nm,0.7s,baz=285,slow=8.4,SNR=8.9
KSRS Korea Array 31.12 250 P **P 16 22 17.2 +1.1**
comp=Z,4.7nm,0.8s,baz=39,slow=8.9,SNR=15
KSRS LR LR 16 34 08.9
comp=Z,30nm,21.1s,baz=238,slow=35
KS15 Wonju Array Si 31.14 250 *e*P **P 16 22 17.2 +0.8**
comp=Z,142nm,1.9s
NRIK Noril'sk 35.62 323 P **P 16 22 55.2 +0.2**
comp=Z,1.2nm,0.6s,baz=87,slow=8.5,SNR=3.9
NRIK LR LR 16 37 41.8
comp=Z,65nm,19.2s,baz=50,slow=37
H11N2 WAKE ISLAND Hy 35.96 178 T T 17 00 43.9
baz=359,slow=76,SNR=271
H11N3 WAKE ISLAND Hy 35.97 178 T T 17 00 43.5
baz=359,slow=76,SNR=214
H11N1 WAKE ISLAND Hy 35.98 178 T T 17 00 43.8
baz=359,slow=76,SNR=229
ULN Ulaanbaatar 36.00 283 *ce*P **P 16 22 58.4 -0.3**
ULN pmax pmax
comp=Z,6.0nm,1.0s
SONA0 Songino Array 36.38 283 *e*P **P 16 23 02.7 +0.8**
SONA0 *e*PcP **PcP 16 25 25.6 -0.3**
SONM Songino Array 36.38 283 P **P 16 23 02.7 +0.8**
comp=Z,3.3nm,0.7s,baz=58,slow=9.1,SNR=21
SONM PcP **PcP 16 25 25.6 -0.3**
comp=Z,1.1nm,0.9s,baz=55,slow=3.6,SNR=3.8
SONM LR LR 16 38 39.2
comp=Z,38nm,18.7s,baz=76,slow=38
H11S1 WAKE ISLAND Hy 37.17 178 T T 17 02 23.3
baz=359,slow=76,SNR=6.9
MOY Mondy 37.17 292 *e*P **P 16 23 10.1 +1.5**
H11S3 WAKE ISLAND Hy 37.18 178 T T 17 02 34.0
baz=359,slow=76,SNR=4.5
H11S2 WAKE ISLAND Hy 37.19 178 T T 17 02 33.8
baz=359,slow=76,SNR=7.8
HHC Hu-ho-hao-te 37.82 270 *e*P **P 16 23 14.5 +0.3**
HHC S **S 16 28 56.3 -7.9**
HHC pmax pmax
comp=Z,45nm,1.0s
HHC pmax pmax
comp=Z,140nm,4.7s
HHC LR LR
comp=Z,460nm,13.9s
HHC LR LR
comp=Z,670nm,13.4s
YKA Yellowknife Ar 39.06 46 P **P 16 23 24.5 +0.3**
comp=Z,1.7nm,0.7s,baz=298,slow=8.1,SNR=26
YKA PcP **PcP 16 25 33.8 +0.2**
comp=Z,0.6nm,0.8s,baz=294,slow=3.9,SNR=7.0
YKB5 Yellowknife Ar 39.06 46 *e*P **P 16 23 24.5 +0.3**
YKB5 *e*PcP **PcP 16 25 33.9 +0.2**
NJ2 Nanjing 40.07 254 *e*P **P 16 23 32.6 -0.3**
NJ2 pmax pmax
comp=Z,14nm,0.5s
WHN Wuhan 43.69 257 P **P 16 24 02.9 +0.4**
ZAA1 Zalesovo Array 44.00 303 *e*P **P 16 24 04.0 -0.8**
ZALV Zalesovo Beam 44.00 303 P **P 16 24 04.0 -0.8**
comp=Z,1.0nm,0.4s,baz=35,slow=5.4,SNR=5.1
ZALV PcP **PcP 16 25 49.9 -0.2**
comp=Z,1.8nm,0.7s,baz=29,slow=2.7,SNR=5.3
NVS Novosibirsk 44.22 305 *e*P **P 16 24 06.0 -0.5**
NVS pmax pmax
comp=Z,10.0nm,0.6s
NVS pmax pmax
comp=N,3.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.6s
B08A Colville Reser 44.68 66 *e*P **P 16 24 10.6 +0.2**
comp=E,6.9nm,0.8s
GTA Gaotai 45.42 278 ⇑P **P 16 24 17.4 +0.9**
GTA pP pwP 16 24 24.9 +1.1
GTA sP sP 16 24 28.7 +5.3
GTA pmax pmax
comp=E,10.0nm,1.2s
LZH Lanzhou 45.48 271 *e*P **P 16 24 17.0 0.0**
LZH pP sP 16 24 27.5 +3.6
LZH sP pP 16 24 31.3 +9.0
LZH *e*PP **PP 16 26 03.6 +0.3**
LZH pmax pmax
comp=E,21nm,1.2s
LZH pmax pmax
comp=E,75nm,6.7s
LZH LR LR
comp=E,310nm,13.6s
LZH LR LR
comp=E,410nm,16.9s
E09A Wood Farm, Sta 46.48 68 *e*P **P 16 24 24.6 0.0**
comp=E,7.7nm,0.8s
WALA Waterton Lakes 47.00 63 *e*P **P 16 24 29.4 +0.7**
comp=E,7.6nm,0.8s
MOD Modoc Plateau 48.42 74 *e*P **P 16 24 41.2 +1.3**
comp=E,3.9nm,0.7s
KURK Kurchatov 48.99 303 *e*P **P 16 24 43.9 -0.1**
comp=E,32nm,1.0s
KURK Kurchatov 48.99 303 *ce*P **P 16 24 42.1 -1.9**
KURK pmax pmax
comp=Z,25nm,0.8s

WMQ Urumqi 49.04 290 *e*P **P 16 24 46.3 +1.8**
WMQ sP pwP 16 25 01.8 +8.4
WMQ LR LR
comp=Z,1μm,22.9s
WMQ LR LR
comp=Z,270nm,30.5s
CD2 Chengdu 49.33 266 *e*P **P 16 24 45.4 -1.5**
CD2 pmax pmax
comp=Z,20nm,0.5s
FCC Fort Churchill 49.42 42 *e*P **P 16 24 47.3 +0.2**
comp=Z,5.3nm,0.8s
FCC Fort Churchill 49.42 42 *e*P **P 16 24 47.3 +0.2**
FCC pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 49.82 297 *e*P **P 16 24 49.7 -0.7**
comp=Z,3.3nm,0.8s
MK31 Makanchi Array 49.82 297 *e*P **P 16 24 49.7 -0.7**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK32 Makanchi Array 49.82 297 *e*P **P 16 24 49.7 -0.7**
MKAR Makanchi Array 49.82 297 P **P 16 24 49.7 -0.7**
comp=Z,4.4nm,0.8s,baz=52,slow=7.0,SNR=51
MAKZ Makanchi 49.97 297 *e*P **P 16 24 50.7 -0.8**
comp=Z,4.7nm,0.8s
MAKZ Makanchi 49.97 297 *e*P **P 16 24 50.7 -0.8**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 51.21 310 *e*P **P 16 25 00.9 +0.2**
comp=Z,11nm,0.8s
BRVK Borovoye 51.21 310 *ce*P **P 16 25 01.0 +0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.5s
KVN Kaiserville 51.61 75 *e*P **P 16 25 05.1 +0.9**
comp=Z,2.6nm,0.8s
KVN Kaiserville 51.61 75 *e*P **P 16 25 05.1 +0.9**
KVN pmax pmax
comp=Z,3.0nm,0.8s
ARA0 ARCESS Array S 51.72 343 *e*P **P 16 25 03.2 -1.1**
ARA0 *e*PcP **PcP 16 26 17.4 0.0**
ARCES ARCESS Array B 51.72 343 P **P 16 25 03.2 -1.1**
comp=Z,2.3nm,0.7s,baz=24,slow=12,SNR=4.9
ARCES PcP **PcP 16 26 17.4 0.0**
comp=Z,2.3nm,0.8s,baz=35,slow=4.4,SNR=7.8
NV01 Mina Array Sit 51.94 76 *e*P **P 16 25 07.9 +1.2**
NV01 *e*PcP **PcP 16 26 20.1 +1.1**
NVAR Mina Array Bea 51.94 76 *e*P **P 16 25 06.6 -0.1**
NVAR *e*PcP **PcP 16 26 20.7 +1.6**
NVAR Mina Array Bea 51.94 76 P **P 16 25 07.9 +1.2**
comp=Z,2.6nm,0.7s,baz=302,slow=7.4,SNR=19
NVAR PcP **PcP 16 26 20.1 +1.1**
comp=Z,0.2nm,0.2s,baz=316,slow=3.6,SNR=7.2
PDAR Pinedale Array 53.51 66 P **P 16 25 19.3 +1.0**
comp=Z,5.3nm,0.8s,baz=329,slow=3.1,SNR=48
ARU Arti 53.55 319 *ce*P **P 16 25 17.8 -0.2**
ARU pmax pmax
comp=Z,11nm,2.5s
PDGK Podgornoye 53.66 295 P **P 16 25 19.5 +0.3**
PDGK pmax pmax
comp=Z,5.0nm,0.9s
OTUK Ortayu 53.67 304 P **P 16 25 19.1 0.0**
OTUK pmax pmax
comp=Z,11nm,0.8s
PRGR Permogore 53.84 329 P **P 16 25 19.3 -0.8**
PRGR pmax pmax
comp=Z,11nm,0.8s
MSF Maaselka 54.29 340 P **P 16 25 23.5 +0.2**
MSF pmax pmax
comp=Z,8.0nm,1.1s
KMI Kunming 54.35 263 P **P 16 25 25.1 +0.6**
KMI pmax pmax
comp=Z,15nm,0.5s
RSSD Black Hills 55.33 61 *e*P **P 16 25 31.3 -0.2**
comp=Z,8.7nm,0.8s
RSSD Black Hills 55.33 61 *e*P **P 16 25 31.3 -0.2**
RSSD pmax pmax
comp=Z,9.0nm,0.8s
KDJ Kajisay 55.70 296 P **P 16 25 34.4 +0.3**
KDJ pmax pmax
comp=Z,9.0nm,0.9s
O20A White River Ci 56.10 67 *e*P **P 16 25 37.2 +0.2**
comp=Z,18nm,0.7s
KLMR Klimovskoe 56.19 332 *e*P **P 16 25 34.1 -3.0**
KLMR pmax pmax
comp=Z,7.0nm,1.1s
USP Ospenovka 56.22 299 P **P 16 25 38.0 +0.4**
SNR=12
KBK Karagaybulak 56.45 298 P **P 16 25 39.7 +0.3**
SNR=9.3
U15A North Rim 56.67 73 *e*P **P 16 25 42.4 +1.2**
comp=Z,6.1nm,1.1s
AAK Ala-Archa 56.69 298 P **P 16 25 41.3 +0.2**
SNR=13
AAK Ala-Archa 56.69 298 *e*P **P 16 25 40.3 -0.7**
comp=Z,11nm,0.9s
AAK Ala-Archa 56.69 298 *ce*P **P 16 25 40.4 -0.7**
AAK pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 57.03 298 P **P 16 25 43.7 +0.2**
SNR=12
PV04 Paradox Valley 57.03 69 *e*P **P 16 25 44.1 +0.5**
comp=Z,13nm,0.8s
AML Almayashu 57.46 298 P **P 16 25 47.5 +0.6**
SNR=8.2
SUF Sumiainen 57.72 339 P **P 16 25 47.9 +0.1**
SUF pmax pmax
comp=Z,16nm,0.8s
KSH Kashi 58.25 295 P **P 16 25 56.4 +4.3**
KSH pP pwP 16 26 06.3 +5.3
KSH PP **PP 16 28 07.3 +6.6**
KSH S **S 16 33 53.3 +0.3**
KSH SS **SS 16 37 47.9 +3.7**
KSH pmax pmax
comp=Z,23nm,0.9s
KSH pmax pmax
comp=Z,130nm,3.6s
KSH LR LR
comp=Z,360nm,5.5s
ABKAR Akbulak array 58.43 312 *e*P **P 16 25 50.9 -2.2**
comp=Z,2.7nm,0.8s
FIA1 FINESS Array S 58.88 339 *e*P **P 16 25 54.6 -1.4**
comp=Z,7.9nm,0.8s
FIA0 FINESS Array S 58.88 339 *e*P **P 16 25 55.8 -0.2**
FIA0 *e*PcP **PcP 16 26 44.2 -0.9**
FIA0 FINESS Array S 58.88 339 *e*P **P 16 25 55.8 -0.2**
FIA0 *e* 16 26 44.2
FINES FINESS Array B 58.88 339 P **P 16 25 55.8 -0.2**
comp=Z,5.4nm,0.7s,baz=44,slow=8.5,SNR=24
FINES PcP **PcP 16 26 44.2 -0.9**
comp=Z,1.3nm,0.7s,baz=38,slow=3.4,SNR=3.6
FINES LR LR 16 57 38.1
comp=Z,20nm,18.4s,baz=20,slow=42
ANMO Albuquerque 60.92 70 *ce*P **P 16 26 11.9 +1.3**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
VSU Vasula 61.45 337 *ce*P **P 16 26 14.5 +0.9**
VSU pmax pmax
comp=Z,23nm,1.3s
CMMT Chiang Mai 61.48 262 P **P 16 26 14.9 +0.5**
CMMT Chiang Mai 61.48 262 P **P 16 26 14.9 +0.5**
GAR Garm 61.51 298 *e*P **P 16 26 14.1 -0.4**
comp=Z,28nm,1.1s
GAR Garm 61.51 298 *e*P **P 16 26 14.1 -0.4**
GAR pmax pmax
comp=Z,28nm,1.1s
JIRN Jiri 61.71 278 *e*P **P 16 26 16.1 -0.2**
CM31 Chiang Mai Arr 61.76 261 *e*P **P 16 26 16.9 +0.6**
comp=Z,3.9nm,0.8s
CM31 *e*PcP **PcP 16 26 56.4 -1.0**
CMAR Chiang Mai Arr 61.76 261 *i* P **P 16 26 16.8 +0.5**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 61.76 261 P **P 16 26 16.9 +0.6**
comp=Z,2.6nm,0.7s,baz=22,slow=7.2,SNR=25
CMAR PcP **PcP 16 26 56.4 -1.0**
comp=Z,0.3nm,0.4s,baz=31,slow=4.2,SNR=4.7
NB2 NORSAR Subarra 61.81 346 P **P 16 26 15.5 -0.6**
comp=Z,1.1nm,0.6s,baz=17,slow=6.9
NB200 NORSAR Array S 61.81 346 *e*P **P 16 26 15.9 -0.1**
NOA NORSAR Array B 61.81 346 P **P 16 26 16.0 -0.1**
NOA NORSAR Array B 61.81 346 P **P 16 26 15.9 -0.1**
comp=Z,1.4nm,0.6s,baz=18,slow=6.8,SNR=8.3
NOA LR LR 16 53 31.9
comp=Z,8.9nm,20.5s,baz=15,slow=36
OBN Obninsk 61.92 330 ⇑*e*P **P 16 26 16.3 -0.5**
OBN *e* 16 26 56.5
OBN *e* 16 28 34.3

OBN *e*S S 16 34 50.4 +11
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,25nm,20.0s
RAMN Ramite 62.03 277 *e*P **P 16 26 18.0 -0.3**
comp=Z,44nm,0.8s
PKI Pulchoki 62.22 279 *e*P **P 16 26 19.3 -0.4**
comp=Z,39nm,1.0s
PKIN Phulchoki 62.22 279 *e*P **P 16 26 19.3 -0.3**
comp=Z,16nm,0.6s
GKN Gorkha 62.32 280 *e*P **P 16 26 20.0 -0.1**
comp=Z,21nm,0.7s
DMN Daman 62.36 279 *e*P **P 16 26 20.5 0.0**
comp=Z,18nm,0.9s
DANN Dangsing 62.54 281 *e*P **P 16 26 21.8 0.0**
comp=Z,52nm,0.7s
KOLN Koldanda 63.07 280 *e*P **P 16 26 24.9 -0.3**
comp=Z,19nm,0.6s
PYUN Piuthan 63.16 281 *e*P **P 16 26 25.6 -0.2**
comp=Z,52nm,0.9s
NIL Nilore 64.13 292 *e*P **P 16 26 32.1 +0.2**
comp=Z,20nm,0.8s
NIL Nilore 64.13 292 *e*P **P 16 26 32.1 +0.2**
NIL pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 64.51 326 *i* P **P 16 26 33.3 -0.8**
VSR pmax pmax
comp=Z,7.0nm,0.8s
TX31 Lajitas Ar. Si 66.75 72 *e*P **P 16 26 49.2 +0.2**
comp=Z,6.9nm,0.8s
LTX Lajitas 66.75 72 *e*P **P 16 26 49.8 +0.8**
LTX Lajitas 66.75 72 *e*P **P 16 26 49.8 +0.8**
TXAR Lajitas Array 66.75 72 P **P 16 26 49.8 +0.8**
comp=Z,5.4nm,0.7s,baz=299,slow=4.3,SNR=38
AKASG Malin Array Be 67.88 332 P **P 16 26 55.0 -0.7**
AKASG Malin Array Be 67.88 332 P **P 16 26 55.0 -0.7**
comp=Z,2.1nm,0.5s,baz=28,slow=6.4,SNR=7.1
AKBB Malin Array Si 67.88 332 *e*P **P 16 26 55.0 -0.7**
comp=Z,4.5nm,0.9s
AKBB Malin Array Si 67.88 332 *e*P **P 16 26 55.0 -0.7**
AKBB pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 67.89 332 *i* P **P 16 26 54.9 -0.9**
KIEV pmax pmax
comp=Z,5.0nm,1.0s
GEYT Alibeck 68.21 306 P **P 16 26 58.1 +0.1**
comp=Z,1.8nm,0.6s,baz=13,slow=9.3,SNR=5.3
KIV Kislovodsk 69.57 320 *e*P **P 16 27 05.4 -1.1**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,57nm,17.0s
KBZ Khabaz 69.69 319 P **P 16 27 07.5 +0.5**
comp=Z,3.4nm,0.8s,baz=54,slow=3.8,SNR=10
KWP Kalwaria Pacla 70.51 335 *e*P **P 16 27 13.1 +1.0**
KWP Kalwaria Pacla 70.51 335 *e*P **P 16 27 13.1 +1.0**
OJC Ojcow 70.62 337 *e*P **P 16 27 13.6 +0.9**
OJC Ojcow 70.62 337 *e*P **P 16 27 13.6 +0.9**
KSP Ksiaz 70.75 340 *e*P **P 16 27 13.7 +0.2**
KSP Ksiaz 70.75 340 *e*P **P 16 27 13.7 +0.2**
CLL Collm 70.91 342 *i* P **P 16 27 13.9 -0.5**
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 70.91 342 *i* P **P 16 27 13.9 -0.5**
comp=Z,5.0nm,1.1s
UPC Upice 71.13 340 *e*P **P 16 27 16.3 +0.5**
UPC Upice 71.13 340 *e*P **P 16 27 16.3 +0.5**
DPC Dobruska-Polom 71.22 340 *e*P **P 16 27 16.9 +0.5**
DPC Dobruska-Polom 71.22 340 *e*P **P 16 27 16.9 +0.5**
DPC *ex* x 16 27 23.9
MORC Moravsky Berou 71.52 339 *e*P **P 16 27 18.6 +0.4**
LANS Liptovska Anna 71.70 337 *e*P **P 16 27 21.1 +1.8**
LANS Liptovska Anna 71.70 337 *e*P **P 16 27 21.1 +1.8**
PRU Pruhonice 71.90 341 *e*P **P 16 27 20.8 +0.4**
PRU Pruhonice 71.90 341 *e*P **P 16 27 20.8 +0.4**
KECS Kecovo 72.10 336 *e*P **P 16 27 21.8 +0.1**
KECS Kecovo 72.10 336 *e*P **P 16 27 21.8 +0.1**
VRAC Vranov 72.15 339 *e*P **P 16 27 22.5 +0.5**
JAVC Velka Javorina 72.36 338 *e*P **P 16 27 24.8 +1.5**
KRUC Moravsky 72.43 339 *e*P **P 16 27 24.1 +0.5**
VYHS Vyhne 72.46 337 *e*P **P 16 27 24.7 +0.9**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 72.46 337 *e*P **P 16 27 24.7 +0.9**
KHC Kasperske Hory 72.90 341 *e*P **P 16 27 27.4 +0.9**
KHC *e* 16 27 36.0
KHC Kasperske Hory 72.90 341 *e*P **P 16 27 27.4 +0.9**
KHC *e*pP **pwP 16 27 36.0 +0.4**
MODS Modra-Piesok 72.90 338 *e*P **P 16 27 27.0 +0.5**
MODS pmax pmax
comp=Z,5.0nm,0.9s
MODS Modra-Piesok 72.90 338 *e*P **P 16 27 27.0 +0.5**
GEC2 GERESS Array S 73.16 341 *e*P **P 16 27 27.9 -0.1**
GEC2 GERESS Array S 73.16 341 *e*P **P 16 27 28.0 -0.1**
GERES GERESS Array B 73.16 341 P **P 16 27 28.0 -0.1**
GERES GERESS Array B 73.16 341 P **P 16 27 28.0 -0.1**
comp=Z,1.3nm,0.6s,baz=29,slow=6.6,SNR=13
CONA Conrad Observa 73.62 339 *e*P **P 16 27 31.7 +0.9**
comp=Z,3.8nm,1.0s
KBA Koelnbreinsper 74.92 341 *i* P **P 16 27 39.7 +1.2**
comp=Z,11nm,1.1s
SOKA Soboth 74.98 339 *i* P **P 16 27 39.1 +0.4**
comp=Z,3.0nm,0.7s
MOTA Moosalm 75.06 342 *i* P **P 16 27 39.2 -0.2**
comp=Z,1.8nm,0.5s
SQTA Sankt Quirin 75.17 342 *e*P **P 16 27 40.5 +0.7**
comp=Z,6.8nm,0.9s
OBKA Obir 75.24 340 *i* P **P 16 27 41.2 +1.0**
comp=Z,10nm,0.8s
MYKA Terra Mystica 75.30 340 *e*P **P 16 27 40.8 +0.2**
comp=Z,3.5nm,0.8s
ABTA Abfaltersbach 75.39 341 *i* P **P 16 27 41.3 +0.2**
comp=Z,6.7nm,1.0s
FETA Feichten 75.44 342 *i* P **P 16 27 42.8 +1.3**
BR101 Keskin Array S 76.48 324 *e*P **P 16 27 47.2 -0.3**
BRTR Keskin Array B 76.48 324 P **P 16 27 47.2 -0.3**
comp=Z,1.5nm,0.8s,baz=57,slow=5.3,SNR=9.3
BRTR LR LR 17 03 46.2
comp=Z,19nm,19.4s,baz=68,slow=38
WR1 Warramunga Arr 79.88 210 *e*P **P 16 28 05.4 -0.8**
WRA Warramunga Arr 79.88 210 P **P 16 28 05.4 -0.8**
comp=Z,1.2nm,0.9s,baz=20,slow=6.4,SNR=4.0
AS31 Alice Springs 83.53 209 *e*P **P 16 28 25.4 0.0**
comp=Z,1.7nm,1.1s
ASAR Alice Springs 83.53 209 P **P 16 28 25.4 0.0**
comp=Z,1.6nm,1.0s,baz=28,slow=4.1,SNR=7.6
ESDC Sonseca Array 84.54 352 P **P 16 28 30.4 -0.2**
comp=Z,1.4nm,0.6s,baz=3.2,slow=4.6,SNR=8.6
STKA Stephens Creek 89.62 200 *e*P **P 16 28 54.5 -0.5**
comp=Z,6.0nm,1.8s
STKA Stephens Creek 89.62 200 P **P 16 28 54.5 -0.5**
comp=Z,2.0nm,0.8s,baz=27,slow=9.0,SNR=4.1
RPZ Rata Peaks 99.19 176 LR LR 17 12 31.9
comp=Z,45nm,18.1s,baz=324,slow=34

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*ISK **10** 16:27:35.8, 38°.34N×36°.27E, h6km, ML2.0/7*
*ISCJB **10** 16:27:36.6±0.6, 38°.35N±0°.03×36°.30E±0°.05, h3km±8km,*
Error ellipse: s-maj=6.5km s-min=4.5km az=155.8
*DDA **10** 16:27:36.0, 38°.36N×36°.29E, h7km±3km, ML2.8*
ISC 10 16:27:36.6±1.2, 38°.36N±0°.03×36°.27E±0°.03, h14km±12km, n18, σ0°56/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIM	**ADANA** comp=Z,3μm,0.1s	**0.41**	**201**	IAML_P			
SAIM				*i* P	**Pg**	**16 27 45.0**	**+0.3**
SAIM				*i* S	**Sb**	**16 27 51.3**	**-0.4**
BNN	**Bunyan**	**0.59**	**327**	PG	**Pg**	**16 27 48.2**	**-0.1**
BNN				SG	**Sb**	**16 27 57.1**	**-0.1**
ELBS	**KAHRAMANMARAS** comp=Z,781nm,0.2s	**0.68**	**92**	IAML_P			
ELBS				*i* P	**Pg**	**16 27 49.4**	**-0.5**
ELBS				*i* S	**Sg**	**16 27 58.9**	**-0.1**
YAHY	**KAYSERI_Yahyal** comp=Z,734nm,0.2s	**0.76**	**250**	IAML_P			
YAHY				*i* P	**Pg**	**16 27 51.3**	**0.0**
ANDN	**Andirin**	**0.78**	**175**	*i* P	**Pn**	**16 27 54.2**	**+1.0**
KOZT	**Kozan**	**0.94**	**202**	PG	**Pb**	**16 27 54.0**	**-0.7**
DARE	**Darende-Malaty**	**0.98**	**77**	PG	**Pb**	**16 27 54.9**	**-0.5**
KMRS	**Kahramanmaras**	**0.99**	**149**	PG	**Pb**	**16 27 54.9**	**-0.6**
KMRS				SG	**Sb**	**16 28 08.4**	**0.0**
AYKD	**Aykdinkavak**	**1.03**	**155**	IAML_P			

comp=Z,740nm,0.1s
AYKD *i* P **Pb** **16 27 56.3 0.0**
AYKD *i* S **Sb** **16 28 09.2 -0.5**
CUSAR Sarkisla-SIVAS 1.06 359 *i* P **Pn** **16 27 57.4 +0.1**
HCB Kahramanmara 1.13 153 IAML_P
comp=Z,568nm,0.1s
HCB *i* P **Pb** **16 27 57.8 -0.2**
KAMA Osmaniye 1.21 165 IAML_P
comp=Z,671nm,0.1s
KAMA *i* P **Pg** **16 28 00.6 +0.7**
AKCD Akcadag 1.30 92 IAML_P
comp=Z,618nm,0.1s
AKCD *i* P **Pn** **16 28 00.5 -0.1**
AKCD *i* S **Sb** **16 28 17.5 -0.2**
CUKAN kangal_SIVAS 1.34 44 *i* P **Pg** **16 28 03.8 +1.4**
GAZ Gaziantep 1.40 147 PN **Pb** **16 28 02.2 -0.4**
GZT Gaziantep 1.43 134 *i* P **Pg** **16 28 04.6 +0.4**
YOZ Yozgat 1.48 330 PN **Pb** **16 28 04.1 +0.1**
SVSK Karacayir 1.66 20 PN **Pb** **16 28 06.3 -0.6**

IDC 10 16:31:47.8±2.3, 2°.90S×130°.34E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.5/39, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=136.6km s-min=23.4km az=74.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.79**	**197**	Pn	Pn	16 35 30.4	-1.2
	0.0nm,0.3s,baz=25,slow=13,SNR=2.7						
WRA	**Warramunga Arr**	**17.38**	**167**	P	Pn	16 35 50.2	-1.8
	0.2nm,0.3s,baz=349,slow=11,SNR=11						
ASAR	**Alice Springs**	**20.93**	**171**	P	P	16 36 33.2	+0.9
	3.4nm,0.5s,baz=353,slow=11,SNR=46						
MKAR	**Makanchi Array**	**65.03**	**326**	P	P	16 42 29.9	0.0
	0.2nm,0.7s,baz=111,slow=7.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**69.23**	**328**	P	P	16 42 56.7	+0.1
	0.3nm,0.6s,baz=127,slow=6.0,SNR=4.8						

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*ISCJB **10** 17:02:02.6±0.4, 67°.04N±0°.02×20°.94E±0°.07, h0km, Error ellipse: s-maj=4.0km s-min=3.2km az=2.8*
*UPP **10** 17:02:03.7±0.1, 67°.06N×20°.97E, h0km, ML2.0, Explosion*
*HEL **10** 17:02:04.6±0.1, 67°.06N×20°.99E, h0km, ML2.0(UPP), Explosion*
*IDC **10** 17:02:04.0±1.0, 67°.12N×21°.36E, h0km, mb1 2.8/3, mb1mx2.7/35, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=16.6km s-min=6.9km az=109.0*
*KOLA **10** 17:02:04.3, 67°.80N×20°.74E, h0km*
*NAO **10** 17:02:04.5±0.8, 66°.99N×21°.35E, ML2.7*

ISC 10 17:02:03.5±0.8, 67°.06N±0°.03×20°.99E±0°.03, h0km, n47, σ1§13/64, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.69**	**136**	P	**Pg**	**17 02 16.9**	**+0.1**
ERTU	**Ertsjaerv**	**0.69**	**136**	*i* P	**Pg**	**17 02 16.9**	**+0.1**
PAJU	**Pajala**	**0.83**	**91**	P	**Pg**	**17 02 19.6**	**+0.1**
PAJU				S	**Sg**	**17 02 30.1**	**-0.2**
PAJU	**Pajala**	**0.83**	**91**	*i* P	**Pg**	**17 02 19.6**	**+0.1**
PAJU				*i* S	**Sg**	**17 02 30.1**	**-0.2**
HARU	**Harads**	**0.90**	**180**	P	**Pg**	**17 02 20.4**	**-0.3**
HARU	**Harads**	**0.90**	**180**	*e*P	**Pg**	**17 02 20.4**	**-0.3**
KUA	**Kurravaara**	**0.94**	**345**	P	**Pg**	**17 02 21.2**	**-0.3**
KUA	**Kurravaara**	**0.94**	**345**	*e*P	**Pg**	**17 02 21.2**	**-0.3**
RATU	**Laukkuluspa**	**0.94**	**326**	P	**Pg**	**17 02 21.2**	**-0.3**
RATU	**Laukkuluspa**	**0.94**	**326**	*e*P	**Pg**	**17 02 21.2**	**-0.3**
SALU	**Saltoluokta**	**1.02**	**290**	P	**Pg**	**17 02 22.8**	**-0.2**
SALU	**Saltoluokta**	**1.02**	**290**	*e*P	**Pg**	**17 02 22.8**	**-0.2**
LANU	**Lannavaara**	**1.07**	**21**	P	**Pg**	**17 02 23.7**	**-0.3**
LANU	**Lannavaara**	**1.07**	**21**	*e*P	**Pg**	**17 02 23.7**	**-0.3**
NIKU	**Nikkaluokta**	**1.11**	**318**	P	**Pg**	**17 02 24.4**	**-0.4**
NIKU	**Nikkaluokta**	**1.11**	**318**	*e*P	**Pg**	**17 02 24.4**	**-0.4**
KALU	**Kalix**	**1.53**	**141**	P	**Pn**	**17 02 31.9**	**-0.3**
KALU	**Kalix**	**1.53**	**141**	*e*P	**Pn**	**17 02 31.9**	**-0.3**
SJUU	**Sjulsmark**	**1.58**	**171**	P	**Pn**	**17 02 32.6**	**-0.1**
SJUU	**Sjulsmark**	**1.58**	**171**	*e*P	**Pn**	**17 02 32.6**	**-0.1**
HEF	**Hetta**	**1.70**	**36**	Pn	**Pn**	**17 02 34.8**	**+0.4**
HEF				Sn	**Sb**	**17 02 57.9**	**+0.5**
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pn**	**17 02 34.6**	**+0.2**
HEF				*e*SN	**Sg**	**17 02 59.0**	**+1.0**
KIF	**Kilpisjarvi**	**1.96**	**358**	Pn	**Pb**	**17 02 40.4**	**+0.4**
KIF				Sn	**Sg**	**17 03 07.4**	**+1.0**
KIF	**Kilpisjarvi**	**1.96**	**358**	*e*PB	**Pb**	**17 02 39.8**	**-0.2**
KIF				*e*SG	**Sg**	**17 03 07.8**	**+1.5**
SGF	**Sodankyl**	**2.19**	**77**	*e*PB	**Pn**	**17 02 42.5**	**+1.4**
SGF				*e*SG	**Sg**	**17 03 14.1**	**+0.4**
BURU	**Burvik**	**2.49**	**176**	P	**Pn**	**17 02 46.6**	**+1.4**
BURU	**Burvik**	**2.49**	**176**	*e*P	**Pn**	**17 02 46.6**	**+1.4**
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**17 02 53.1**	**+0.8**
	baz=203,slow=16						
ARA0				Sn	**Sn**	**17 03 29.6**	**+0.6**
	baz=222,slow=22						
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**17 02 53.0**	**+0.7**
	0.3nm,0.3s,baz=209,slow=14,SNR=24						
ARCES				Sn	**Sn**	**17 03 24.9**	**-4.1**
	0.4nm,0.3s,baz=217,slow=14,SNR=5.0						
ARCES				Lg	Lg	17 03 32.4	
	1.3nm,0.3s,baz=210,slow=24,SNR=9.8						
ARE0	**ARCESS Array S**	**3.00**	**32**	*e*P	**Pn**	**17 02 53.2**	**+0.9**
ARE0				*e*S	**Sn**	**17 03 30.9**	**+2.0**
OUF	**Merijarvi**	**3.11**	**148**	*e*P	**Pn**	**17 02 55.0**	**+1.2**
VRF	**Varrio**	**3.40**	**74**	*e*P	**Pn**	**17 02 59.2**	**+1.4**
MSF	**Maaselka**	**3.43**	**106**	*e*P	**Pn**	**17 03 00.4**	**+2.2**
KEV	**Kevo**	**3.51**	**37**	Pn	**Pn**	**17 03 00.6**	**+1.4**
KEV				Sn	**Sn**	**17 03 42.5**	**+1.2**
KEV	**Kevo**	**3.51**	**37**	*e*PB	**Pb**	**17 03 04.0**	**-2.4**
KU6	**Riekki**	**3.71**	**102**	*e*P	**Pn**	**17 03 03.7**	**+1.7**
KU6				*e*S	**Sn**	**17 03 48.1**	**+1.8**
VAF	**Ylistaro**	**4.09**	**169**	*e*P	**Pn**	**17 03 09.1**	**+1.9**
APA0	**Apatity Array**	**4.68**	**78**	Pn	**Pn**	**17 03 15.7**	**+0.4**
APA0				Sn	**Sn**	**17 04 09.3**	**-0.9**
APA0	**Apatity Array**	**4.68**	**78**	P	**Pn**	**17 03 14.9**	**-0.4**
APA0				S	**Sn**	**17 04 07.9**	**-2.3**
SUF	**Sumiainen**	**4.88**	**151**	*e*P	**Pn**	**17 03 19.5**	**+1.4**
FIA0	**FINESS Array S**	**6.05**	**156**	Pn	**Pn**	**17 03 32.9**	**-1.3**
FIA0				Sn	**Sn**	**17 04 43.2**	**-0.9**
	baz=342,slow=28						
FINES	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**17 03 35.5**	**+1.3**
	0.1nm,0.3s,baz=347,slow=12,SNR=14						
FINES				Sn	**Sn**	**17 04 43.4**	**-0.7**
	0.2nm,0.3s,baz=342,slow=29,SNR=5.0						
FINES				Lg	Lg	17 05 14.6	
	0.2nm,0.3s,baz=340,slow=24,SNR=2.6						
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn	**Pn**	**17 03 51.7**	**-1.0**
	baz=24,slow=14						
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	**Pn**	**17 03 53.0**	**+0.4**
	0.0nm,0.3s,baz=44,slow=23,SNR=3.4						
NOA				Sn	**Sn**	**17 05 16.1**	**-1.2**
	0.0nm,0.3s,baz=52,slow=20,SNR=3.1						
NOA				Lg	Lg	17 05 51.8	
	0.0nm,0.3s,baz=96,slow=19,SNR=2.4						
NRA0	**NORESS Array S**	**7.58**	**218**	Pn	**Pn**	**17 03 55.6**	**+0.4**
	baz=48,slow=14						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**17 03 56.2**	**-0.1**
	baz=26,slow=14						
SPA0	**Spitsbergen Ar**	**11.26**	**355**	Pn	**Pn**	**17 04 45.8**	**+0.4**
	baz=155,slow=16						

IDC 10 17:06:19.3±2.9, 32°.30S×178°.25W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/27, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=69.8km s-min=44.4km az=124.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.05**	**211**	Pn	Pn	17 08 02.5	-1.3
	0.6nm,0.3s,baz=345,slow=19,SNR=4.3						
URZ				Sn	Sn	17 09 19.9	-4.8
	1.2nm,0.3s,baz=351,slow=19,SNR=8.7						
ASAR	**Alice Springs**	**42.83**	**269**	P	P	17 14 19.5	+0.2
	0.7nm,0.8s,baz=112,slow=7.7,SNR=11						
WRA	**Warramunga Arr**	**43.99**	**274**	P	P	17 14 28.5	-0.1
	0.7nm,0.4s,baz=112,slow=8.0,SNR=14						
FINES	**FINESS Array B**	**146.84**	**339**	PKPbc	PKPbc	17 26 01.9	-0.8
	0.7nm,0.5s,baz=59,slow=4.5,SNR=9.4						

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*ISCJB **10** 17:12:15.4±0.8, 11°.6N±0°.1×141°.9E±0°.2, h49km, mb3.6/11, Error ellipse: s-maj=26.0km s-min=17.4km az=179.4*
*IDC **10** 17:12:28.5±14.0, 11°.51N×141°.89E, h155km±136km, mb3.2/11, mb1 3.4/11, mb1mx3.3/35, mbtmp3.6/11, Error ellipse: s-maj=35.4km s-min=19.0km az=57.0*

ISC 10 17:12:17.1±0.9, 11°.6N±0°.2×142°.0E±0°.2, h49km, n11, σ1§03/11, mb3.6/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.22**	**194**	P	**P**	**17 18 40.2**	**-0.6**
	0.4nm,0.7s,baz=14,slow=9.7,SNR=5.7						
ASAR	**Alice Springs**	**35.91**	**193**	P	**P**	**17 19 13.8**	**+0.9**
	0.4nm,0.8s,baz=24,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**42.07**	**285**	P	**P**	**17 20 05.3**	**+0.8**
	0.3nm,0.4s,baz=97,slow=6.7,SNR=2.9						
SONM	**Songino Array**	**46.84**	**327**	P	**P**	**17 20 43.5**	**+1.2**
	0.2nm,0.4s,baz=149,slow=6.7,SNR=2.3						
MKAR	**Makanchi Array**	**61.03**	**317**	P	**P**	**17 22 25.1**	**-0.6**
	0.4nm,0.8s,baz=116,slow=6.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**64.38**	**321**	P	**P**	**17 22 47.1**	**-0.9**
	0.6nm,0.7s,baz=110,slow=6.8,SNR=2.9						
BVAR	**Borovoye Array**	**69.78**	**322**	P	**P**	**17 23 21.6**	**-0.7**
	0.6nm,0.8s,baz=109,slow=8.1,SNR=2.0						
ILAR	**Eielson Array**	**71.57**	**25**	P	**P**	**17 23 32.5**	**-0.3**
	0.5nm,0.5s,baz=249,slow=6.0,SNR=10						
YKA	**Yellowknife Ar**	**85.91**	**27**	P	**P**	**17 24 52.8**	**+1.2**
	0.1nm,0.4s,baz=290,slow=5.1,SNR=3.8						
NVAR	**Mina Array Bea**	**90.35**	**51**	P	**P**	**17 25 13.4**	**-0.2**
	0.5nm,0.7s,baz=256,slow=6.2,SNR=3.0						
BRTR	**Keskin Array B**	**96.39**	**313**	P	**P**	**17 25 39.8**	**-1.5**
	0.4nm,0.7s,baz=36,slow=9.3,SNR=3.2						

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*ISCJB **10** 17:15:33.2±0.8, 37°.91N±0°.05×29°.07E±0°.06, h11km±8km, Error ellipse: s-maj=9.3km s-min=7.1km az=146.6*
*ISK **10** 17:15:33.2, 37°.89N×29°.06E, h9km, ML1.8/3*
*DDA **10** 17:15:33.2, 37°.89N×29°.09E, h7km±2km, ML2.5*

ISC 10 17:15:33.4±1.1, 37°.89N±0°.04×29°.07E±0°.05, h11km±10km, n7, σ0§45/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.14**	**192**	PG	**Pg**	**17 15 36.7**	**-0.1**
DENT				SG	**Sg**	**17 15 39.3**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.44**	**196**	*i* P	**Pg**	**17 15 42.5**	**+0.4**
TAVA				*i* S	**Sb**	**17 15 49.3**	**-0.7**
KHAL	**Karahalli**	**0.58**	**35**	*i* P	**Pg**	**17 15 44.6**	**-0.2**
KHAL				*i* S	**Sg**	**17 15 52.7**	**+0.2**
KULA	**Kula-Manisa**	**0.70**	**333**	PG	**Pg**	**17 15 47.1**	**+0.1**
USAK	**Uak-Merkez**	**0.82**	**357**	IAML_P			
	comp=Z,445nm,0.1s						
USAK				*i* P	**Pb**	**17 15 49.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.93**	**274**	PG	**Pg**	**17 15 51.4**	**-0.1**
AYDB				SG	**Sb**	**17 16 04.7**	**+0.5**
AYDN	**Tasoluk**	**0.97**	**257**	IAML_P			
	comp=Z,221nm,0.1s						
AYDN				*i* P	**Pn**	**17 15 53.3**	**+0.2**
AYDN				*i* S	**Sg**	**17 16 04.0**	**-0.8**

MEX 10 17:21:32.0±0.7, 16°.06N×97°.59W, h16km±8km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.61**	**303**	*e*P	Pg	17 21 41.8	-2.4
PNIG				*e*S	Sg	17 21 49.8	-2.5

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*ISCJB **10** 17:27:40.4±0.9, 33°.78N±0°.04×35°.73E±0°.08, h9km±10km, Error ellipse: s-maj=12.4km s-min=5.7km az=156.3*
*NSSC **10** 17:27:40.4±0.6, 33°.72N×35°.67E, h10km±30km, ML1.5*
*GRAL **10** 17:27:41.1±0.3, 33°.79N×35°.78E, h2km±13km, MD2.7*

ISC 10 17:27:38.4±1.9, 33°.86N±0°.09×35°.9E±0°.1, h13km±16km, n7, σ0§44/12, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.19**	**283**	*e*P	**Pb**	**17 27 43.8**	**0.0**
BHL				*e*S	**Sg**	**17 27 46.0**	**+0.2**
DQRL	**Deir Qamar**	**0.30**	**238**	*e*P	**Pg**	**17 27 44.6**	**0.0**
RCY	**Rachaya**	**0.37**	**185**	*e*P	**Pb**	**17 27 46.4**	**-0.5**
RCY				*e*S	**Sg**	**17 27 50.4**	**-0.5**
HWQ	**Hawqa**	**0.42**	**8**	*e*P	**Pn**	**17 27 50.2**	**-0.1**
BRBR	**Barbar**	**0.46**	**172**	*e*P	**Pb**	**17 27 48.4**	**0.0**
BRBR				*e*S	**Sg**	**17 27 53.6**	**+0.1**
BRBR				AML	AML	17 27 58.1	
	comp=N,50nm,0.6s						
BRBR				AML	AML	17 27 59.3	
	comp=E,45nm,0.6s						
QASN	**Qassioun**	**0.47**	**134**	*e*P	**Pn**	**17 27 51.0**	**+0.1**
QASN				*e*S	**Sn**	**17 27 58.6**	**-0.5**
QASN				AML	AML	17 28 02.2	
	comp=N,87nm,0.5s						
QASN				AML	AML	17 28 03.8	
	comp=E,31nm,0.8s						
TOTH	**TOTAH**	**0.68**	**137**	*e*P	**Pn**	**17 27 54.6**	**+0.8**
TOTH				*e*S	**Sn**	**17 28 04.6**	**+0.3**
TOTH				AML	AML	17 28 09.3	
	comp=E,16nm,0.6s						
TOTH				AML	AML	17 28 14.1	
	comp=N,13nm,0.3s						

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*IDC **10** 17:27:48.0±2.4, 53°.29N×170°.31E, h0km, mb3.2/5, mb1 3.6/6, mb1mx3.3/40, mbtmp3.3/6, ML3.4/1, Error ellipse: s-maj=63.9km s-min=23.0km az=179.0*
*KRSC **10** 17:27:51.4±10.0, 53°.14N×169°.83E, h40km±10km, ML4.3*
*ISCJB **10** 17:27:52.5±0.9, 53°.15N±0°.09×169°.87E±0°.07, h33km, mb3.1/5, Error ellipse: s-maj=13.0km s-min=6.1km az=170.8*

ISC 10 17:27:52.4±1.1, 53°.2N±0°.1×170°.15E±0°.07, h35km, n26, σ1§44/37, mb3.1/5, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**3.20**	**312**	*e*P	**Pn**	**17 28 40.5**	**+0.4**
BKI				*e*S	**Sn**	**17 29 16.4**	**-0.5**
MKZ	**Mys Kozlova**	**5.17**	**289**	*e*P	**Pn**	**17 29 08.1**	**+0.8**
MKZ				*e*S	**Sn**	**17 30 04.7**	**-0.9**
KBTR	**Krutoberegovo**	**5.23**	**309**	*e*P	**Pn**	**17 29 08.4**	**+0.3**
TUMD	**Tumrok D**	**6.08**	**294**	*e*P	**Pn**	**17 29 19.8**	**+0.1**
SPN	**Mys Shipunski**	**6.10**	**273**	*e*P	**Pn**	**17 29 21.0**	**+1.1**
SPN				*e*S	**Sn**	**17 30 26.5**	**-1.8**
KZV	**Kizimen**	**6.11**	**293**	*e*P	**Pn**	**17 29 21.6**	**+1.3**
BDR	**Baidarnaya**	**6.19**	**307**	*e*P	**Pn**	**17 29 24.9**	**+3.6**
LGNR	**Loginova**	**6.22**	**302**	*e*P	**Pn**	**17 29 23.7**	**+1.8**
SDLR	**Sedlovina**	**6.77**	**276**	*e*P	**Pn**	**17 29 30.7**	**+1.5**
SDLR				*e*S	**Sn**	**17 30 44.7**	**-0.4**
UGLR	**Uglovaya**	**6.81**	**275**	*e*P	**Pn**	**17 29 31.6**	**+1.8**
SMAR	**Somma**	**6.82**	**275**	*e*P	**Pn**	**17 29 31.5**	**+1.5**
KRER	**Koryakskii**	**6.85**	**276**	*e*P	**Pn**	**17 29 32.3**	**+1.9**
KRER				*e*S	**Sn**	**17 30 46.3**	**-0.8**
AVH	**Avacha**	**6.86**	**275**	*e*P	**Pn**	**17 29 32.3**	**+1.9**
AVH				*e*S	**Sn**	**17 30 46.8**	**-0.4**
DALK	**Dalny**	**6.87**	**273**	*e*P	**Pn**	**17 29 32.3**	**+1.9**
DALK				*e*S	**Sn**	**17 30 46.1**	**-1.1**
KRX	**Arik**	**6.90**	**276**	*e*P	**Pn**	**17 29 32.5**	**+1.4**
KOK	**Koryaka**	**6.91**	**276**	*e*P	**Pn**	**17 29 32.8**	**+1.6**
KOK				*e*S	**Sn**	**17 30 48.0**	**-0.7**
PET	**Petropavlovsk**	**6.93**	**273**	*e*S	**Sn**	**17 30 48.2**	**-0.6**
RUS	**Russkaya**	**7.09**	**269**	*e*S	**Sn**	**17 30 51.4**	**-1.5**
KRMR	**Karymshinskiy**	**7.26**	**272**	*e*P	**Pn**	**17 29 37.3**	**+1.4**
KRMR				*e*S	**Sn**	**17 30 55.2**	**-1.8**
MTVR	**Mutnovka**	**7.28**	**269**	*e*P	**Pn**	**17 29 37.8**	**+1.4**
MTVR				*e*S	**Sn**	**17 30 56.2**	**-1.6**
PETK	**Petropavlovsk-**	**7.49**	**275**	Pn	**Pn**	**17 29 41.3**	**+2.2**
	3.0nm,0.3s,baz=85,slow=18,SNR=105						
PETK				Sn	**Sn**	**17 31 01.6**	**-1.1**
	2.6nm,0.3s,baz=91,slow=23,SNR=11						
ILAR	**Eielson Array**	**24.47**	**45**	P	**P**	**17 33 07.2**	**-0.6**
	0.5nm,0.9s,baz=255,slow=8.6,SNR=4.4						
TIXI	**Tiksi**	**25.76**	**331**	P	**P**	**17 33 19.7**	**+0.3**
	0.4nm,0.4s,baz=109,slow=9.5,SNR=8.1						
YKA	**Yellowknife Ar**	**38.90**	**46**	P	**P**	**17 35 13.0**	**-1.1**
	0.1nm,0.5s,baz=275,slow=7.4,SNR=4.0						
MKAR	**Makanchi Array**	**53.45**	**301**	P	**P**	**17 37 08.5**	**-0.1**
	0.1nm,0.5s,baz=46,slow=6.3,SNR=3.2						
TXAR	**Lajitas Array**	**64.91**	**74**	P	**P**	**17 38 28.7**	**+0.4**
	0.2nm,0.5s,baz=313,slow=4.2,SNR=4.1						

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*ATH **10** 17:50:54.6, 36°.01N×27°.27E, h27km±2km, ML3.4/9, Error ellipse: s-maj=2.8km s-min=0.7km az=126.0*
*DDA **10** 17:50:54.9, 35°.95N×27°.37E, h19km±2km, ML3.1*
*ISCJB **10** 17:50:55.9±0.5, 35°.93N±0°.02×27°.34E±0°.02, h30km±4km, Error ellipse: s-maj=3.5km s-min=2.7km az=162.9*
*THE **10** 17:50:55.2, 35°.99N×27°.31E, h4km±2km, ML3.4/6, Error ellipse: s-maj=3.0km s-min=0.8km az=115.0*
*ISK **10** 17:50:55.1, 36°.01N×27°.29E, h18km, ML3.5/26*
*HLW **10** 17:50:57.7, 35°.94N×27°.45E, h30km±16km, Ml3.9*
*NIC **10** 17:50:59.6±0.3, 36°.38N×27°.83E, h12km, mb4.0, ML3.5*

ISC 10 17:50:56.0±1.0, 35°.95N±0°.02×27°.36E±0°.02, h24km±11km, n101, σ1§34/129, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.43**	**202**	P	**Pb**	**17 51 03.7**	**-1.4**
KARP				S	**Sb**	**17 51 12.0**	**+0.7**
KARP	**Karpathos**	**0.43**	**202**	P	**Pb**	**17 51 04.1**	**-1.0**
KARP				S	**Sb**	**17 51 12.2**	**+0.9**
KARP				AML	AML	17 51 15.2	
	comp=E,9678μm,0.3s						
KARP				AML	AML	17 51 15.2	
	comp=N,5027μm,0.2s						
ARG	**Arkhangelos**	**0.68**	**67**	PG	**Pb**	**17 51 09.4**	**+0.2**
ARG				SG	**Sn**	**17 51 19.4**	**-0.5**
ARG	**Arkhangelos**	**0.68**	**67**	P	**Pb**	**17 51 08.1**	**-1.1**
ARG				S	**Sn**	**17 51 19.3**	**-0.6**
ARG	**Arkhangelos**	**0.68**	**67**	P	**Pb**	**17 51 08.4**	**-0.8**
ARG				S	**Sn**	**17 51 19.5**	**-0.5**
ARG				AML	AML	17 51 22.8	
	comp=N,8999μm,0.2s						
ARG				AML	AML	17 51 22.8	
	comp=E,13475μm,0.4s						
DAT	**Datca**	**0.80**	**13**	PG	**Pb**	**17 51 10.5**	**-0.8**
DAT	**Datca**	**0.80**	**13**	IAML_P			
	comp=Z,3μm,0.2s						
DAT				*i* P	**Pb**	**17 51 10.9**	**-0.4**
DAT				*i* S	**Sn**	**17 51 22.6**	**-0.6**
DATC	**Datca-Mugla**	**0.84**	**17**	PG	**Pb**	**17 51 11.4**	**-0.7**
BBRN	**Bozburun-Marma**	**0.92**	**38**	PG	**Pn**	**17 51 13.3**	**-0.2**
MRSB	**Marmaris-Mugla**	**1.02**	**41**	PG	**Pb**	**17 51 15.2**	**+0.1**
MRSB				SG	**Sn**	**17 51 29.6**	**+1.1**
BODT	**Bodrum**	**1.11**	**358**	PG	**Pn**	**17 51 15.8**	**-0.3**
BODT	**Bodrum**	**1.11**	**358**	P	**Pn**	**17 51 15.2**	**-0.9**
BODT				S	**Sn**	**17 51 30.6**	**-0.1**
BDRM	**Kayabasi**	**1.12**	**3**	IAML_P			
	comp=Z,2μm,0.2s						
BDRM				*i* P	**Pn**	**17 51 16.0**	**-0.2**
BDRM				*i* S	**Sn**	**17 51 31.8**	**+0.9**
ZKR	**Zakros**	**1.25**	**229**	PN	**Pb**	**17 51 18.7**	**-0.2**
ZKR	**Zakros**	**1.25**	**229**	P	**Pb**	**17 51 18.8**	**-0.2**
ZKR				S	**Sb**	**17 51 35.1**	**+0.5**
ZKR	**Zakros**	**1.25**	**229**	P	**Pn**	**17 51 17.9**	**-0.1**
ZKR				S	**Sb**	**17 51 35.1**	**+0.5**
ZKR				AML	AML	17 51 38.1	
	comp=E,5495μm,0.4s						
ZKR				AML	AML	17 51 38.5	
	comp=N,3443μm,0.4s						
STIA	**Sitia Lasithi**	**1.27**	**235**	P	**Pn**	**17 51 18.8**	**+0.5**
STIA				S	**Sb**	**17 51 35.1**	**-0.2**
ANAF	**Anafi Island**	**1.35**	**288**	P	**Pn**	**17 51 18.3**	**-1.1**
ANAF				S	**Sn**	**17 51 36.7**	**+0.2**
ANAF	**Anafi Island**	**1.35**	**288**	P	**Pn**	**17 51 18.3**	**-1.1**
ANAF				S	**Sn**	**17 51 35.1**	**-1.4**
ANAF				AML	AML	17 51 38.7	
	comp=E,9304μm,0.3s						
ANAF				AML	AML	17 51 39.9	
	comp=N,12045μm,0.5s						
DALY	**Dalyan (Mula)**	**1.36**	**50**	PN	**Pb**	**17 51 20.2**	**-0.6**
DALY	**Dalyan (Mula)**	**1.36**	**50**	IAML_P			
	comp=Z,2μm,0.3s						
DALY				*i* P	**Pb**	**17 51 20.8**	**0.0**
DALY				*i* S	**Sb**	**17 51 40.0**	**+2.3**
TURN	**Turunc**	**1.36**	**47**	PN	**Pn**	**17 51 16.0**	**-3.5**
TURN				SN	**Sn**	**17 51 31.3**	**-5.5**
TURN	**Turunc**	**1.36**	**47**	*i* P	**Pn**	**17 51 16.1**	**-3.5**
TURN				*i* S	**Sn**	**17 51 32.5**	**-4.3**
AMGA	**Amorgos Island**	**1.48**	**307**	P	**Pn**	**17 51 19.6**	**-1.5**
AMGA				S	**Sb**	**17 51 40.4**	**-0.7**
AMGA	**Amorgos Island**	**1.48**	**307**	P	**Pn**	**17 51 19.6**	**-1.5**
AMGA				S	**Sn**	**17 51 38.9**	**-0.7**
AMGA				AML	AML	17 51 44.6	
	comp=N,2049μm,0.5s						
AMGA				AML	AML	17 51 45.1	
	comp=E,1950μm,0.5s						
FETY	**Fethiye**	**1.55**	**63**	PN	**Pb**	**17 51 23.4**	**-0.7**
FETY	**Fethiye**	**1.55**	**63**	P	**Pb**	**17 51 23.4**	**-0.7**
FETY	**Fethiye**	**1.55**	**63**	*i* P	**Pb**	**17 51 25.0**	**+0.9**
NPS	**Neapolis**	**1.58**	**245**	P	**Pn**	**17 51 21.9**	**-0.7**
NPS	**Neapolis**	**1.58**	**245**	P	**Pn**	**17 51 21.8**	**-0.7**
NPS				S	**Sn**	**17 51 42.1**	**-0.1**
NPS				AML	AML	17 51 46.3	
	comp=N,1889μm,0.4s						
NPS				AML	AML	17 51 46.5	
	comp=E,2732μm,0.4s						
THR8	**Santorini-Mono**	**1.59**	**287**	P	**Pn**	**17 51 22.4**	**-0.3**
SANT	**Santorini**	**1.59**	**

comp=Z,116nm,0.2s
KHAL *i* P **Pn** **17 51 44.5 +2.9**
ISP Isparta 3.15 53 PN **Pn** **17 51 45.2 +0.9**
SIGR SIGRI 3.47 340 PN **Pn** **17 51 48.9 +0.4**
SIGR SIGRI 3.47 340 P **Pn** **17 51 47.8 -0.7**
KYTH Kithira 3.51 276 P **Pn** **17 51 49.5 +0.5**
KEPZ Antalya-Kepez 3.55 73 *i* P **Pn** **17 51 53.1 +3.4**
VLI Veliai 3.65 283 P **Pn** **17 51 51.2 +0.2**
DURS Dursunbey 3.75 13 *i* P **Pn** **17 51 54.0 +1.5**
TVSB Tavsanli 3.87 25 PN **Pn** **17 51 55.0 +0.8**
GAZI Gazipasa 4.02 84 PN **Pn** **17 51 58.5 +2.3**
PPCY Paphos 4.21 103 P **Pn** **17 51 59.8 +1.1**
baz=293
ALFC Alefka 4.34 99 P **Pn** **17 52 01.9 +1.3**
baz=288
ALFC S **Sn** **17 52 50.4 -0.1**
LEF Lefka 4.58 99 PN **Pn** **17 52 05.5 +1.6**
TEKE Tekeli-Mersin 4.67 86 PN **Pn** **17 52 08.1 +3.1**
SZAC Souni 4.67 103 P **Pn** **17 52 07.2 +2.1**
baz=292
SZAC S **Sn** **17 52 59.4 +0.9**
SLUM Salum 4.79 203 P **Pn** **17 52 08.3 +1.6**
baz=204
SLUM S **Sn** **17 52 59.0 -2.5**
baz=204
CSS Mathiatis 4.97 100 P **Pn** **17 52 10.8 +1.6**
baz=289
CSS S **Sn** **17 53 05.7 -0.3**
SWA2 6.88 194 P **Pn** **17 52 36.7 +1.3**
baz=195
SWA2 S **Sn** **17 53 49.7 -3.2**
baz=195
GLL Jalalah 7.33 149 P **Pn** **17 52 42.3 +0.6**
baz=149
BRBR Barbar 7.52 107⇓*e*P **Pn** **17 52 42.2 -2.1**
SUZ Suez 7.63 141 P **Pn** **17 52 46.7 +1.0**
baz=141
QASN Qassioun 7.72 106 *e*P Pn 17 52 40.3 -6.8
TOTH TOTAH 7.91 106 *e*P **Pn** **17 52 51.4 +1.9**
GRB Gharib 8.93 147 P **Pn** **17 53 05.1 +1.5**
baz=147
HKAT Jabal Katrina 9.29 141 P **Pn** **17 53 09.6 +0.9**
baz=141

PGC 10 18:06:02.6±0.0, 54.°54N×116.°38W, h0km, ML2.3/3, 196km Sse of Peace R., Alberta Alberta, Canada Mining explosion., Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNB	**Mounoet Dainar**	**2.64**	**208**	Pn	Pn	18 06 45.7	-0.8
MNB	**Mounoet Dainar**	**2.64**	**208**	Pn	Pn	18 06 45.7	-0.8
BLBC	**Blue River**	**3.04**	**216**	Pn	Pn	18 06 52.5	+0.4
BLBC	**Blue River**	**3.04**	**216**	Pg	Pb	18 06 57.5	-0.1
SLEB	**Sale Mountain**	**3.54**	**198**	Pn	Pn	18 06 58.7	-0.3
SLEB				Sn	Sn	18 07 39.3	-2.4
SLEB	**Sale Mountain**	**3.54**	**198**	Pn	Pn	18 06 58.7	-0.3
SLEB				Sn	Sn	18 07 39.3	-2.4

*DJA **10** 18:12:35.8±0.4, 1.°N±4.°×12.°3E±.°, h10km, M4.6/13, mb5.0/6, mB5.0/5, MLv4.6/13, Mw(mB)4.4/5*
*ISCJB **10** 18:12:37.5±0.3, 1.°31N±0.°04×123.°00E±0.°04, h39km, mb4.5/23, MS3.4/1, Error ellipse: s-maj=6.1km s-min=5.3km az=8.7*
*NEIC **10** 18:12:39.6±2.1, 1.°25N×122.°98E, h39km±8km, mb4.6/21, Error ellipse: s-maj=16.7km s-min=12.1km az=76.0*
*BJI **10** 18:12:41.0±0.0, 1.°50N×123.°00E, h35km, mb4.4/4, mB4.8/1*
*IDC **10** 18:12:42.5±5.0, 1.°12N×122.°93E, h66km±48km, mb3.8/6, mb1 4.0/8, mb1mx3.6/33, mbtmp4.2/8, ML4.7/2, MS3.1/5, Ms1 3.2/5, ms1mx2.8/32, Error ellipse: s-maj=77.8km s-min=15.0km az=73.0*
ISC 10 18:12:39.3±0.5, 1.°29N±0.°06×122.°91E±0.°06, h39km, n58, σ1°58/60, mb4.5/23, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.27**	**230**	P	**Pn**	**18 12 59.5**	**-1.0**
MRSI				S	**Sn**	**18 13 17.3**	**+1.0**
KMSI	**Cibinong**	**1.28**	**124**	P	**Pn**	**18 13 01.1**	**+0.3**
KMSI				S	**Sn**	**18 13 19.3**	**+2.5**
LUWI	**Luwuk**	**2.32**	**183**	*e*Pn	**Pn**	**18 13 16.1**	**+1.0**
LUWI				*e*Sn	**Sn**	**18 13 49.1**	**+6.7**
LUWI	**Luwuk**	**2.32**	**183**	P	**Pn**	**18 13 15.8**	**+0.7**
APSI	**Ampana**	**2.53**	**210**	P	**Pn**	**18 13 20.3**	**+2.4**
MPSI	**Mapaga**	**3.16**	**253**	P	**Pn**	**18 13 28.1**	**+1.5**
TNTI	**Ternate**	**4.48**	**97**	*e*Pn	**Pn**	**18 13 45.3**	**+0.5**
SANI	**Sanana**	**4.53**	**137**	P	**Pn**	**18 13 44.8**	**-0.6**
TTSI	**Tana Toraja**	**5.30**	**216**	P	**Pn**	**18 13 58.1**	**+2.0**
258nm,0.8s,2μm							
CTBH	**Cotabato--PC H**	**6.04**	**13**⇑*i* P		**Pn**	**18 14 05.6**	**-0.6**
SPSI	**Sidrap Palu**	**6.09**	**211**	P	**Pn**	**18 14 09.1**	**+2.2**
BNSI	**Bone**	**6.31**	**206**	P	**Pn**	**18 14 11.9**	**+2.0**
389nm,0.7s,3μm							
DAV	**Davao City (W)**	**6.33**	**25**	*e*Pn	**Pn**	**18 14 11.0**	**+0.9**
DAV	**Davao City (W)**	**6.33**	**25**	P	Pn	18 14 16.0	+5.8
37nm,0.3s,baz=189,slow=13,SNR=3.6							
DAV				LR	LR	18 16 52.7	
comp=Z,108nm,18.8s,baz=135,slow=39							
KAPI	**Kappang**	**7.01**	**207**	*e*Pn	**Pn**	**18 14 20.8**	**+1.2**
KAPI				*e*Sn	**Sn**	**18 15 34.1**	**-4.1**
BKSI	**Bulukumba**	**7.14**	**203**	P	**Pn**	**18 14 24.2**	**+2.9**
BSSI	**Bau Bau, Buton**	**7.77**	**198**	P	**Pn**	**18 14 31.9**	**+1.9**
KKM	**Kota Kinabalu**	**8.18**	**305**	*e*Pn	**Pn**	**18 14 36.0**	**+0.3**
MMRI	**Maumere**	**9.89**	**184**	*e*Pn	**Pn**	**18 14 58.7**	**-0.3**
FAKI	**Fak Fak**	**10.23**	**114**	*e*Pn	**Pn**	**18 15 03.9**	**+0.2**
MTN	**Manton Dam**	**16.24**	**150**	*e*Pn	**Pn**	**18 16 23.6**	**-1.1**
66nm,2.0s							
FITZ	**Fitzroy Crossi**	**19.45**	**172**	*e*P	**P**	**18 17 02.2**	**-0.6**
6.6nm,0.6s							
FITZ	**Fitzroy Crossi**	**19.45**	**172**	P	**P**	**18 17 02.1**	**-0.7**
1.0nm,0.3s,baz=16,slow=9.6,SNR=32							
PSA00	**Pilbara Seismi**	**22.92**	**187**	*e*P	**P**	**18 17 39.2**	**-0.9**
19nm,1.0s							
WRAB	**Tennant Creek**	**23.89**	**153**	*e*P	**P**	**18 17 47.5**	**-2.1**
6.3nm,0.6s							
WR1	**Warramunga Arr**	**23.89**	**153**	*e*P	**P**	**18 17 48.0**	**-1.7**
WRA	**Warramunga Arr**	**23.89**	**153**	P	**P**	**18 17 48.0**	**-1.7**
7.3nm,0.8s,baz=329,slow=10,SNR=64							
WB2	**Warramunga Arr**	**23.90**	**153**	*e*P	**P**	**18 17 48.7**	**-1.0**
7.7nm,0.6s							
ASAR	**Alice Springs**	**27.01**	**157**	*e*P	**P**	**18 18 17.1**	**-0.8**
ASAR	**Alice Springs**	**27.01**	**157**	P	**P**	**18 18 17.2**	**-0.7**
1.1nm,0.8s,baz=342,slow=7.5,SNR=13							
ASAR				PcP	**PcP**	**18 21 38.9**	**-0.1**
0.4nm,0.6s,baz=332,slow=2.0,SNR=5.6							
CMAR	**Chiang Mai Arr**	**29.05**	**307**	LR	LR	18 30 35.4	
comp=Z,44nm,19.0s,baz=150,slow=37							
WHN	**Wuhan**	**30.20**	**345**	*e*P	P	18 18 51.2	+5.0
FORT	**Forrest**	**32.27**	**172**	*e*P	**P**	**18 19 03.4**	**-1.0**
18nm,0.8s							
NWAO	**Narrogin (SRO)**	**34.46**	**188**	LR	LR	18 35 31.2	
comp=Z,74nm,19.4s,baz=129,slow=40							
BBOO	**Buckleboo**	**36.12**	**161**	*e*P	**P**	**18 19 37.0**	**-0.8**
64nm,1.8s							
KSRS	**Korea Array**	**36.28**	**7**	LR	LR	18 35 28.6	
comp=Z,10nm,18.0s,baz=135,slow=38							
STKA	**Stephens Creek**	**37.44**	**153**	*e*P	**P**	**18 19 48.6**	**-0.5**
2.6nm,1.4s							
STKA	**Stephens Creek**	**37.44**	**153**	P	**P**	**18 19 48.4**	**-0.7**
2.6nm,0.6s,baz=333,slow=8.3,SNR=9.0							
ARMA	**Armidale**	**41.75**	**141**	*e*P	**P**	**18 20 26.2**	**+1.1**
33nm,1.5s							
CN2	**Changchun**	**42.39**	**3**	*e*P	**P**	**18 20 28.7**	**-1.2**
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
GTA	**Gaotai**	**43.40**	**334**	*e*P	P	18 20 44.6	+6.2
GTA				pP	sP	18 20 51.7	-0.8
GTA				sP	pwP	18 20 56.4	+3.8
GTA				pmax	pmax		
comp=Z,3.0nm,1.1s							
CAN	**Canberra**	**43.83**	**149**	*e*P	**P**	**18 20 41.2**	**-0.7**
32nm,1.7s							
TOO	**Toolangi**	**43.96**	**154**	*e*P	**P**	**18 20 43.0**	**+0.3**
28nm,1.6s							
SONA0	**Songino Array**	**48.52**	**345**	*e*P	**P**	**18 21 19.4**	**+0.8**
SONA0				*e*PcP	**PcP**	**18 22 44.0**	**-0.1**
SONM	**Songino Array**	**48.52**	**345**	*e*P	**P**	**18 21 19.8**	**+1.2**
SONM	**Songino Array**	**48.52**	**345**	P	**P**	**18 21 19.4**	**+0.8**
1.0nm,0.9s,baz=165,slow=8.2,SNR=4.9							
SONM				PcP	**PcP**	**18 22 44.0**	**-0.1**
0.2nm,0.4s,baz=181,slow=6.6,SNR=2.2							
MK31	**Makanchi Array**	**57.48**	**328**	*e*P	**P**	**18 22 25.3**	**+0.8**
5.9nm,1.9s							
MK32	**Makanchi Array**	**57.48**	**328**	*e*P	**P**	**18 22 26.1**	**+1.6**
MKAR	**Makanchi Array**	**57.48**	**328**	*e*P	**P**	**18 22 25.3**	**+0.8**
MKAR	**Makanchi Array**	**57.48**	**328**	P	**P**	**18 22 26.1**	**+1.6**
0.5nm,0.6s,baz=130,slow=7.9,SNR=7.9							
MKAR				LR	LR	18 48 40.9	
comp=Z,17nm,18.3s,baz=220,slow=38							
KURK	**Kurchatov**	**61.82**	**330**	*e*P	**P**	**18 22 55.5**	**+1.2**
12nm,1.8s							
RPZ	**Rata Peaks**	**62.08**	**142**	*e*P	**P**	**18 22 56.8**	**+0.6**
204nm,1.9s							
BKZ	**Black Stump Fm**	**63.43**	**136**	*e*P	**P**	**18 23 05.8**	**+0.4**
108nm,1.7s							
URZ	**Urewera**	**63.48**	**134**	*e*P	**P**	**18 23 05.7**	**+0.1**
68nm,1.4s							
CASY	**Casey**	**68.00**	**185**	*e*P	**P**	**18 23 33.2**	**-1.0**
9.8nm,1.3s							
ABKAR	**Akbulak array**	**71.66**	**322**	*e*P	**P**	**18 23 56.6**	**-0.5**
4.1nm,1.4s							
ABKAR				*e*P	**P**	**18 23 57.0**	**-0.1**
VNDA	**Vanda**	**81.53**	**172**	*e*P	**P**	**18 24 51.9**	**-0.4**
2.6nm,0.8s							
VNDA	**Vanda**	**81.53**	**172**	P	**P**	**18 24 51.7**	**-0.6**
3.1nm,0.8s,baz=318,slow=6.6,SNR=13							

*ISCJB **10** 18:13:03.6±0.4, 31.°63S±0.°03×68.°68W±0.°04, h114km±4km, mb3.8/1, Error ellipse: s-maj=5.6km s-min=4.0km az=18.0*
*SJA **10** 18:13:03.6±0.6, 31.°66S×68.°73W, h107km±1km, ML3.6, MW3.7*
*GUC **10** 18:13:03.5±0.6, 31.°61S×68.°87W, h134km±13km, ML3.5*
*IDC **10** 18:13:04.8±2.4, 31.°48S×68.°42W, h104km±8km, mb3.7/1, mb1 3.7/3, mb1mx3.3/19, mbtmp4.0/3, Error ellipse: s-maj=84.4km s-min=31.4km az=68.0*
ISC 10 18:13:04.2±0.9, 31.°63S±0.°04×68.°71W±0.°04, h109km±5km, n36, σ0°74/56, 3C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.09**	**15**	*e*P	**Pn**	**18 13 19.0**	**-0.3**
ZON				*e*S	**Sn**	**18 13 30.6**	**0.0**
SJA	**San Juan**	**0.16**	**50**	*e*P	**Pn**	**18 13 19.4**	**0.0**
SJA				IAML		18 13 19.6	
comp=Z,3μm,0.2s							
SJA				*e*S	**Sn**	**18 13 30.6**	**-0.2**
RTCV	**Cerro Valdivia**	**0.27**	**148**	*e*P	**Pn**	**18 13 19.7**	**-0.1**
RTCV				*e*S	**Sn**	**18 13 31.2**	**-0.2**
RTLL	**Cerro Villicun**	**0.36**	**33**	*e*P	**Pn**	**18 13 20.1**	**-0.1**
RTLL				*e*S	**Sn**	**18 13 32.1**	**0.0**
RTLL				IAML		18 13 35.2	
comp=E,3μm,0.4s							
CFA	**Coronel Fontan**	**0.40**	**86**	*e*P	**Pn**	**18 13 20.3**	**0.0**
CFA				*e*S	**Sn**	**18 13 32.8**	**+0.3**
CFA	**Coronel Fontan**	**0.40**	**86**	P	**Pn**	**18 13 20.1**	**-0.3**
baz=323,slow=15							
CFA				S	**Sn**	**18 13 32.1**	**-0.4**
comp=E,671nm,0.3s,baz=0.0,slow=20,SNR=122							
RTLS	**Leoncito**	**0.53**	**252**	*e*P	**Pn**	**18 13 21.6**	**+0.1**
RTLS				*e*S	**Sn**	**18 13 35.0**	**+0.6**
RTLS				IAML		18 13 35.1	
comp=Z,2μm,0.2s							
AMOG	**MOGNA**	**0.71**	**15**	*e*P	**Pn**	**18 13 23.2**	**+0.6**
AMOG				*e*S	**Sn**	**18 13 36.9**	**+0.4**
AUSP	**Uspallata**	**0.83**	**224**	*e*P	**Pn**	**18 13 23.8**	**-0.1**
AUSP				*e*S	**Sn**	**18 13 38.9**	**+0.2**
ASAL	**Salagasta**	**0.96**	**186**	*e*P	**Pn**	**18 13 25.1**	**+0.1**
ACCO	**Cerro Coronel**	**1.09**	**343**	*e*P	**Pn**	**18 13 27.3**	**+0.7**
ACCO				*e*S	**Sn**	**18 13 44.6**	**+1.2**
ARCO	**CERRO ARCO**	**1.22**	**189**	*e*P	**Pn**	**18 13 27.9**	**0.0**
ARCO				*e*S	**Sn**	**18 13 45.5**	**-0.3**
ARCO				IAML		18 13 46.9	
comp=Z,1μm,0.3s							
ACAN	**Cantantal**	**1.44**	**117**	*e*P	**Pn**	**18 13 30.9**	**+0.6**
ACAN				*e*S	**Sn**	**18 13 50.4**	**+0.3**
AAGR	**Agrelo**	**1.45**	**184**	*e*P	**Pn**	**18 13 30.6**	**+0.2**
AAGR				*e*S	**Sn**	**18 13 50.0**	**-0.4**
ACDV	**Cuesta del Vie**	**1.50**	**346**	*e*P	**Pn**	**18 13 31.9**	**+0.8**
AROD	**Rodeo**	**1.60**	**336**	*e*P	**Pn**	**18 13 33.5**	**+0.9**
AVIZ	**Vizcacheras**	**1.84**	**175**	*e*P	**Pn**	**18 13 35.5**	**+0.2**
FCH	**Farellones**	**2.16**	**218**	*e*P	**Pn**	**18 13 39.9**	**+0.5**
FCH				*i* S	**Sn**	**18 14 08.3**	**+2.0**
FCH				IAML		18 14 18.1	
comp=E,177nm,0.2s							
APLL	**PUNTA DE LOS L**	**2.24**	**57**	*e*P	**Pn**	**18 13 40.7**	**+0.5**
APLL				IAML		18 14 08.1	
comp=Z,114nm,0.3s							
PEL	**Peldehue**	**2.25**	**227**	*e*P	**Pn**	**18 13 40.2**	**-0.2**
PEL				⇑*e*		18 13 46.8	
PEL				*i* S	**Sn**	**18 14 08.2**	**+0.1**
GO04	**Tololo Observa**	**2.31**	**308**	*e*P	**Pn**	**18 13 41.0**	**-0.4**
GO04				*i* S	**Sn**	**18 14 09.7**	**-0.2**
CLCH	**Cerro Calan**	**2.34**	**221**⇑*i*P		**Pn**	**18 13 41.8**	**+0.3**
CLCH				⇑*e*P	**Pn**	**18 13 41.9**	**+0.3**
CLCH				*i* S	**Sn**	**18 14 10.7**	**+0.5**
CLCH				IAML		18 14 17.7	
comp=E,230nm,0.6s							
LMEL	**Las Melosas**	**2.54**	**209**	*e*P	**Pn**	**18 13 44.4**	**+0.1**
LMEL				*i* S	**Sn**	**18 14 17.1**	**+2.0**
LMEL				IAML		18 14 28.6	
comp=N,118nm,0.2s							
MRA	**San Martin**	**2.66**	**108**	*e*P	**Pn**	**18 13 46.1**	**+0.4**
MRA				IAML		18 14 17.8	
comp=Z,183nm,0.2s							
ACLC	**CERRO LA CRUZ**	**2.67**	**35**	*e*P	**Pn**	**18 13 46.8**	**+0.8**
VCA	**Vinchina**	**2.92**	**9**	*e*P	**Pn**	**18 13 50.2**	**+0.9**
VCA				IAML		18 14 30.8	
comp=Z,216nm,0.2s							
LCO	**Las Campanas**	**3.13**	**326**	*e*P	**Pn**	**18 13 52.1**	**0.0**
LCO				*i* S	**Sn**	**18 14 29.0**	**-0.1**
LCO				IAML		18 14 32.5	
comp=N,190nm,0.2s							
TCA	**Tanti**	**3.52**	**86**	*e*P	**Pn**	**18 13 57.0**	**-0.2**
TCA				IAML		18 14 39.0	
comp=Z,81nm,0.7s							
CYA	**Choya**	**4.06**	**39**	*e*P	**Pn**	**18 14 03.7**	**-0.6**
CYA				IAML		18 14 50.4	
comp=Z,24nm,0.4s							
GO03	**Copiap**	**4.24**	**341**	*e*P	**Pn**	**18 14 06.3**	**-0.6**
GO05	**Huala**	**4.32**	**218**	*i* S	**Sn**	**18 14 55.0**	**-2.1**
LVC	**Limon Verde**	**8.99**	**359**	P	**Pn**	**18 15 09.0**	**-2.4**
comp=Z,1.9nm,0.3s,baz=165,slow=8.9,SNR=26							
LPAZ	**La Paz**	**15.29**	**2**	P	**Pn**	**18 16 35.3**	**+0.6**
comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=6.6							
TORD	**Torodi Ar. Bea**	**80.75**	**68**	P	**P**	**18 25 05.3**	**-0.6**
comp=Z,1.0nm,0.7s,baz=240,slow=4.8,SNR=5.0							
ZALV	**Zalesovo Beam**	**150.73**	**33**	PKPbc	**PKPbc**	**18 32 43.3**	**+0.2**
comp=Z,1.5nm,0.4s,baz=298,slow=2.8,SNR=6.6							
MKAR	**Makanchi Array**	**153.10**	**47**	PKPab	**PKPab**	**18 33 00.8**	**0.0**
comp=Z,0.5nm,0.6s,baz=304,slow=3.3,SNR=5.6							

*IDC **10** 18:22:51.8±5.2, 7.°52S×127.°70E, h110km±49km, mb3.7/5, mb1 4.1/8, mb1mx3.7/27, mbtmp4.3/8, Error ellipse: s-maj=69.8km s-min=19.4km az=60.0*
*BJI **10** 18:22:52.6±0.0, 8.°04S×127.°69E, h153km, mb4.6/11, mB4.8/7*
*ISCJB **10** 18:22:53.6±0.3, 7.°60S±0.°04×127.°81E±0.°04, h150km, mb4.5/20, Error ellipse: s-maj=6.9km s-min=4.2km az=146.8*
*NEIC **10** 18:22:56.8±2.5, 7.°60S×127.°74E, h161km±13km, mb4.5/17, Error ellipse: s-maj=17.0km s-min=14.9km az=55.0*
ISC 10 18:22:55.2±0.4, 7.°71S±0.°05×127.°83E±0.°05, h150km, n51, σ2°43/65, mb4.6/20, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.45**	**95**	*e*Pn	Pn	18 23 53.4	+5.1
SAUI				*e*Sn	**Sn**	**18 24 27.2**	**-2.3**
SOEI	**Soe**	**4.07**	**240**	*e*Pn	**Pn**	**18 23 59.4**	**+2.9**
SOEI				*e*Sn	**Sn**	**18 24 41.5**	**-2.5**
MMRI	**Maumere**	**5.61**	**260**	*e*Pn	**Pn**	**18 24 18.0**	**+1.2**
MTN	**Manton Dam**	**6.05**	**148**	*e*Pn	**Pn**	**18 24 26.1**	**+3.5**
MTN				*e*Sn	**Sn**	**18 25 30.7**	**-0.4**
FAKI	**Fak Fak**	**6.48**	**43**	*e*Pn	**Pn**	**18 24 29.3**	**+0.9**
FAKI				*e*Sn	**Sn**	**18 25 36.0**	**-5.3**
FITZ	**Fitzroy Crossi**	**10.55**	**191**	*e*Pn	**Pn**	**18 25 22.1**	**-0.3**
FITZ				*e*Sn	Sn	18 27 09.1	-10
FITZ	**Fitzroy Crossi**	**10.55**	**191**	P	**Pn**	**18 25 21.4**	**-1.1**
4.4nm,0.3s,baz=25,slow=10,SNR=113							
FITZ				S	**Sn**	**18 27 13.4**	**-5.8**
3.4nm,0.3s,baz=92,slow=18,SNR=8.0							
WRAB	**Tennant Creek**	**13.70**	**153**	*e*Pn	**Pn**	**18 26 04.0**	**+0.5**
WRAB				*e*Sn	**Sn**	**18 28 28.5**	**-6.7**
WRA	**Warramunga Arr**	**13.70**	**153**	P	**Pn**	**18 26 02.9**	**-0.5**
1.8nm,0.3s,baz=324,slow=14,SNR=96							
WRA				S	**Sn**	**18 28 27.1**	**-8.2**
3.2nm,0.3s,baz=330,slow=22,SNR=13							
WB2	**Warramunga Arr**	**13.71**	**153**	*e*Pn	**Pn**	**18 26 03.8**	**+0.3**
PSA00	**Pilbara Seismi**	**15.79**	**208**	*e*Pn	**Pn**	**18 26 29.7**	**+0.2**
15nm,0.7s							
COEN	**Coen**	**16.30**	**114**	*e*P	**P**	**18 26 38.0**	**+2.1**
62nm,1.6s							
AS31	**Alice Springs**	**16.91**	**160**	*e*P	**Pn**	**18 26 46.1**	**+3.1**
9.8nm,0.5s							
ASAR	**Alice Springs**	**16.91**	**161**	*e*P	**Pn**	**18 26 46.1**	**+3.0**
ASAR				*e*S	**S**	**18 29 46.5**	**-4.7**
ASAR	**Alice Springs**	**16.91**	**161**	P	**Pn**	**18 26 45.6**	**+2.5**
2.1nm,0.3s,baz=341,slow=13,SNR=224							
ASAR				S	**S**	**18 29 45.6**	**-5.5**
1.2nm,0.3s,baz=330,slow=19,SNR=9.5							
KKM	**Kota Kinabalu**	**17.91**	**319**	*e*P	**P**	**18 26 53.5**	**-0.2**
8.8nm,0.8s							
SBUM	**Sibu**	**18.55**	**302**	*e*P	**P**	**18 26 59.4**	**-1.2**
5.2nm,1.1s							
KSM	**Kuching**	**19.71**	**297**	*e*P	**P**	**18 27 13.0**	**-0.2**
9.0nm,0.9s							
GIRL	**Giralia**	**19.79**	**220**	*e*P	**Pn**	**18 27 17.0**	**0.0**
313nm,1.4s							
FORT	**Forrest**	**22.96**	**179**	*e*P	**P**	**18 27 49.3**	**+2.7**
22nm,0.8s							
MORW	**Morawa**	**23.98**	**206**	*e*P	**P**	**18 27 58.4**	**+2.5**
40nm,1.4s							
STKA	**Stephens Creek**	**27.26**	**154**	*e*P	**P**	**18 28 28.3**	**+2.8**
7.7nm,1.9s							
STKA	**Stephens Creek**	**27.26**	**154**	P	**P**	**18 28 28.4**	**+3.0**
1.3nm,0.5s,baz=332,slow=12,SNR=5.2							
KULM	**Kulim**	**30.03**	**295**	*e*P	**P**	**18 28 48.9**	**-1.4**
23nm,1.2s							
SARN	**Sarigan**	**30.06**	**36**	*e*P	P	18 28 45.2	-5.3
70nm,1.2s							
PSI	**Prapat**	**30.67**	**289**	*e*P	**P**	**18 28 54.9**	**-1.2**
25nm,1.2s							
CAN	**Canberra**	**33.65**	**148**	*e*P	**P**	**18 29 21.4**	**-0.3**
48nm,2.0s							
TOO	**Toolangi**	**33.77**	**154**	*e*P	**P**	**18 29 23.8**	**+1.0**
14nm,1.4s							
CMAR	**Chiang Mai Arr**	**38.58**	**313**	P	**P**	**18 30 02.9**	**-0.9**
1.3nm,0.4s,baz=140,slow=6.9,SNR=9.3							
CMAR				PcP	**PcP**	**18 32 14.2**	**+0.8**
0.7nm,0.5s,baz=159,slow=3.8,SNR=4.7							
KMI	**Kunming**	**40.76**	**324**	P	**P**	**18 30 21.7**	**-0.3**
KMI				pmax	pmax		
comp=Z,7.0nm,0.5s							
CD2	**Chengdu**	**44.79**	**330**	*e*P	**P**	**18 30 54.0**	**-0.2**
CD2				pmax	pmax		
comp=Z,30nm,0.5s							
LZH	**Lanzhou**	**49.05**	**334**	⇑P	**P**	**18 31 26.7**	**-0.6**
LZH				pP	pP	18 32 02.0	+1.9
LZH				PP	**PP**	**18 33 22.5**	**0.0**
LZH				pmax	pmax		
comp=Z,16nm,1.2s							
LZH				pmax	pmax		
comp=Z,54nm,6.3s							
HHC	**Hu-ho-hao-te**	**50.58**	**344**	*e*P	**P**	**18 31 40.5**	**+1.8**
HHC				pmax	pmax		
comp=Z,34nm,1.0s							
HHC				pmax	pmax		
comp=Z,120nm,5.5s							
RAMN	**Ramite**	**52.75**	**312**	*e*P	**P**	**18 31 54.9**	**-0.3**
17nm,0.7s							
JIRN	**Jiri**	**53.45**	**313**	*e*P	**P**	**18 31 59.8**	**-0.7**
GTA	**Gaotai**	**53.59**	**333**	*e*P	**P**	**18 32 00.9**	**-0.1**
GTA				pP	pP	18 32 37.8	+3.6
GTA				sP	sP	18 32 55.5	+5.3
GTA				pmax	pmax		
comp=Z,2.0nm,0.7s							
PKI	**Pulchoki**	**53.97**	**312**	*e*P	**P**	**18 32 03.2**	**-1.1**
PKIN	**Phulchoki**	**53.98**	**312**	*e*P	**P**	**18 32 03.1**	**-1.2**
4.4nm,0.6s							
KKN	**Kakani**	**54.19**	**312**	*e*P	**P**	**18 32 04.9**	**-0.8**
GKN	**Gorkha**	**54.78**	**312**	*e*P	**P**	**18 32 08.7**	**-1.2**
13nm,0.6s							
KOLN	**Koldanda**	**55.42**	**311**	*e*P	**P**	**18 32 13.9**	**-0.6**
12nm,0.6s							
PYUN	**Piuthan**	**56.05**	**311**	*e*P	**P**	**18 32 18.5**	**-0.5**
19nm,0.8s							
SONM	**Songino Array**	**58.46**	**343**	P	**P**	**18 32 35.5**	**+0.1**
0.9nm,0.6s,baz=161,slow=7.6,SNR=8.5							
SONM				PcP	**PcP**	**18 33 24.5**	**+0.1**
0.3nm,0.6s,baz=168,slow=4.3,SNR=2.9							
WMQ	**Urumqi**	**62.84**	**328**	*e*P	**P**	**18 33 05.5**	**+0.4**
WMQ				pP	PcP	18 33 43.1	+1.0
WMQ				pmax	pmax		
comp=Z,45nm,0.7s							
KSH	**Kashi**	**67.10**	**319**	P	**P**	**18 33 34.4**	**+1.5**
KSH				pP	pP	18 34 10.8	+3.5
KSH				PP	**PP**	**18 36 05.7**	**+2.9**
KSH				S	**S**	**18 42 12.3**	**-2.8**
KSH				SS	**SS**	**18 46 37.0**	**-0.4**
KSH				pmax	pmax		
comp=Z,200nm,4.0s							
KSH				LR	LR		
comp=N,540nm,12.2s							
KSH				LR	LR		
comp=E,490nm,12.7s			

MEX 10 19:14:53.1±0.6, 16°49N×94°73W, h96km±7km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.62**	**347**	*i* P	Pn	19 15 08.3	-1.2
CMIG				*e*S	Sn	19 15 19.8	-1.9
HUIG	**Huatulco**	**1.50**	**242**	*e*P	Pn	19 15 17.3	-1.9
HUIG				*e*S	Sn	19 15 37.7	-1.2
PCIG		**1.65**	**118**	*e*P	Pn	19 15 19.9	-1.1
PCIG				*e*S	Sn	19 15 41.0	-1.2

*IDC **10** 19:17:29.4±1.3, 4°28N×128°64E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/38, mbtmp3.6/7, MS3.0/1, Ms1 3.0/1, ms1mx2.4/50, Error ellipse: s-maj=53.9km s-min=12.8km az=81.0*

*ISCJB **10** 19:17:33.8±0.9, 4°2N±0°1×128°5E±0°1, h46km, mb3.6/7, Error ellipse: s-maj=25.7km s-min=9.2km az=139.1*

ISC 10 19:17:35.2±1.2, 4°2N±0°2×128°6E±0°2, h46km, n11, σ2°73/11, mb3.7/7, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**3.49**	**303**	*e*P	**Pn**	**19 18 23.3**	**-3.6**
DDMP				*e*S	**Sn**	**19 19 13.1**	**+6.1**
DAV	**Davao City (W)**	**4.18**	**313**	LR	LR	19 20 36.8	
	comp=Z,170nm,18.2s,baz=7.5,slow=46						
SKMP	**Bagumbayan, Su**	**4.69**	**300**	*e*P	**Pn**	**19 18 43.3**	**-0.2**
SKMP				*e*S	**Sn**	**19 19 34.6**	**-2.1**
BUKP	**Musuan**	**5.11**	**316**	*e*P	Pn	19 18 54.6	+5.3
BUKP				*e*S	Sn	19 20 00.1	+13
FITZ	**Fitzroy Crossi**	**22.33**	**188**	P	**P**	**19 22 29.6**	**+0.4**
	1.0nm,0.8s,baz=18,slow=9.6,SNR=2.8						
FITZ				S	Sn	19 26 39.3	-7.0
	2.5nm,1.1s,baz=97,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**24.62**	**167**	P	**P**	**19 22 53.1**	**+1.7**
	0.9nm,0.8s,baz=345,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**28.15**	**170**	P	**P**	**19 23 23.5**	**+0.2**
	0.4nm,0.9s,baz=354,slow=7.9,SNR=3.8						
CMAR	**Chiang Mai Arr**	**32.31**	**298**	P	**P**	**19 23 59.5**	**-0.7**
	0.3nm,0.3s,baz=123,slow=8.0,SNR=4.4						
SONM	**Songino Array**	**47.51**	**340**	P	**P**	**19 26 06.6**	**+0.7**
	0.8nm,0.7s,baz=153,slow=6.9,SNR=7.1						
MKAR	**Makanchi Array**	**58.29**	**324**	P	**P**	**19 27 25.6**	**+0.3**
	1.0nm,0.6s,baz=121,slow=8.0,SNR=15						
ZALV	**Zalesovo Beam**	**61.07**	**332**	P	**P**	**19 27 44.0**	**-0.3**
	0.7nm,0.5s,baz=109,slow=6.7,SNR=3.2						

*WEL **10** 19:22:25.3±1.0, 31°S±12°×17°9W±2°8, h236km±19km*

*IDC **10** 19:22:26.3±9.1, 30°82S×179°39W, h367km±103km, mb2.8/2, mb1 3.2/3, mb1mx2.9/27, mbtmp3.8/3, Error ellipse: s-maj=104.5km s-min=38.8km az=3.0*

ISC 10 19:22:20.7±1.4, 30°6S±0°1×178°6W±0°3, h300km, n30, σ1°96/32, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.48**	**25**	P	**Pn**	**19 23 03.2**	**-0.6**
RIZ	**Raoul Island**	**1.49**	**25**	P	**Pn**	**19 23 03.9**	**0.0**
MXZ	**Matakaoa Point**	**7.39**	**199**	P	**Pn**	**19 24 11.1**	**+4.4**
WMGZ	**Waiomatatini S**	**7.60**	**198**	P	Pn	19 24 14.8	+5.5
HAZ	**Te Kaha**	**7.72**	**202**	P	**Pn**	**19 24 12.2**	**+1.3**
HAZ				S	**S**	**19 25 40.5**	**+0.5**
PKGZ	**Pakihiroa**	**7.76**	**200**	P	**Pn**	**19 24 12.6**	**+1.3**
PUZ	**Puketiti**	**7.88**	**198**	P	**Pn**	**19 24 11.9**	**-0.9**
PUZ				S	**S**	**19 25 43.5**	**-0.1**
WCZ	**Waipu Caves**	**7.92**	**226**	P	**Pn**	**19 24 15.7**	**+2.4**
RUGZ	**Raukumara Rang**	**7.95**	**202**	P	**Pn**	**19 24 15.7**	**+1.9**
RUGZ				S	**S**	**19 25 44.1**	**-1.2**
TWGZ	**Tauwhareparae**	**8.05**	**199**	P	**Pn**	**19 24 19.0**	**+4.1**
CNGZ	**Carnagh Statio**	**8.28**	**197**	P	**Pn**	**19 24 19.8**	**+2.2**
MWZ	**Matawai**	**8.33**	**201**	P	**Pn**	**19 24 21.1**	**+2.7**
TKGZ	**Te Karaka**	**8.34**	**199**	P	**Pn**	**19 24 21.1**	**+2.8**
URZ	**Urewera**	**8.40**	**204**	P	**Pn**	**19 24 20.5**	**+1.4**
	3.3nm,0.3s,baz=278,slow=3.7,SNR=25						
URZ				S	**S**	**19 25 53.1**	**-2.2**
	2.9nm,0.3s,baz=169,slow=21,SNR=9.2						
URZ	**Urewera**	**8.40**	**204**	P	**Pn**	**19 24 19.3**	**+0.1**
URZ				S	**S**	**19 25 53.8**	**-1.5**
MUGZ	**Murupara**	**8.72**	**204**	P	**Pn**	**19 24 24.0**	**+1.0**
RAHZ	**Arahi**	**9.01**	**202**	P	**Pn**	**19 24 28.6**	**+2.1**
MTHZ	**Maungataniwha**	**9.03**	**203**	P	**Pn**	**19 24 29.1**	**+2.2**
NMHZ	**Naumai**	**9.26**	**203**	P	**Pn**	**19 24 31.8**	**+2.0**
HATZ	**Hinemaiaia**	**9.33**	**206**	P	**Pn**	**19 24 31.8**	**+1.2**
ARHZ	**Aropaoanui**	**9.35**	**201**	P	**Pn**	**19 24 32.4**	**+1.6**
BKZ	**Black Stump Fm**	**9.43**	**204**	P	**Pn**	**19 24 32.8**	**+1.0**
HIZ	**Hauiti**	**9.54**	**212**	P	**P**	**19 24 36.6**	**-0.6**
MCHZ	**McNeill Hill**	**9.61**	**202**	P	**Pn**	**19 24 35.9**	**+1.9**
BHHZ	**Black Hill Sta**	**9.87**	**205**	P	**Pn**	**19 24 36.7**	**-0.5**
KRHZ	**Kereru**	**9.90**	**203**	P	**Pn**	**19 24 38.0**	**+0.5**
PNHZ	**Pukenui**	**10.20**	**203**	P	**Pn**	**19 24 41.1**	**-0.1**
ASAR	**Alice Springs**	**42.55**	**267**	P	P	19 29 42.2	-5.6
	0.3nm,0.4s,baz=106,slow=6.8,SNR=3.7						
WRA	**Warramunga Arr**	**43.56**	**273**	P	P	19 29 50.6	-5.3
	0.4nm,0.3s,baz=110,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**145.15**	**339**	PKPbc	**PKPdf**	**19 41 19.2**	**-2.6**
	1.8nm,0.3s,baz=49,slow=4.4,SNR=44						

IDC 10 19:23:50.2±25.0, 22°81S×68°25E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/41, mbtmp3.5/4, MS3.4/3, Ms1 3.5/3, ms1mx2.9/44, Error ellipse: s-maj=854.5km s-min=36.5km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**32.28**	**24**	LR	LR	19 40 10.5	
	comp=Z,74nm,19.9s,baz=99,slow=30						
BOSA	**Boshof**	**39.01**	**252**	LR	LR	19 44 20.2	
	comp=Z,60nm,18.2s,baz=84,slow=32						
CMAR	**Chiang Mai Arr**	**50.81**	**39**	LR	LR	19 52 46.8	
	comp=Z,30nm,18.1s,baz=165,slow=34						
ASAR	**Alice Springs**	**59.83**	**105**	P	P	19 33 58.4	+0.5
	0.4nm,0.7s,baz=250,slow=6.6,SNR=3.8						
WRA	**Warramunga Arr**	**61.15**	**101**	P	P	19 34 06.4	-0.5
	0.3nm,0.9s,baz=257,slow=5.3,SNR=3.5						
MKAR	**Makanchi Array**	**70.42**	**10**	P	P	19 35 06.2	+0.2
	0.4nm,0.7s,baz=190,slow=6.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**77.76**	**10**	P	P	19 35 48.6	-0.1
	0.6nm,0.6s,baz=193,slow=5.9,SNR=2.3						

*IDC **10** 19:37:02.2±2.5, 23°46S×178°09W, h0km, mb4.5/5, mb1 4.7/5, mb1mx3.9/45, mbtmp4.5/5, Error ellipse: s-maj=118.6km s-min=35.9km az=153.0*

*NEIC **10** 19:37:52.7±1.9, 24°27S×179°51W, h414km±7km, mb4.6/33, Error ellipse: s-maj=27.9km s-min=20.9km az=82.0*

ISC 10 19:37:51.7±1.2, 24°3S±0°1×179°5W±0°2, h400km, n44, σ1°07/44, mb4.3/29, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**18.55**	**198**	*e*P	**P**	**19 41 43.0**	**+1.0**
	18nm,1.1s						
KHZ	**Kahutara**	**18.99**	**196**	*e*P	**P**	**19 41 46.8**	**+0.4**
	199nm,1.6s						
LTZ	**Lake Taylor**	**19.67**	**198**	*e*P	**P**	**19 41 52.5**	**-0.5**
	85nm,1.5s						
OXZ	**Oxford**	**20.24**	**198**	*e*P	**P**	**19 41 57.9**	**-0.2**
	94nm,1.4s						
MQZ	**McQueen's Vall**	**20.43**	**197**	*e*P	**P**	**19 42 00.8**	**+1.0**
	145nm,1.5s						
RPZ	**Rata Peaks**	**20.89**	**200**	*e*P	**P**	**19 42 04.2**	**+0.1**
	64nm,1.3s						
FOZ	**Fox Glacier**	**21.12**	**202**	*e*P	**P**	**19 42 05.3**	**-0.9**
	182nm,1.6s						
LBZ	**Lake Benmore**	**21.76**	**200**	*e*P	**P**	**19 42 11.6**	**-0.4**
	93nm,1.6s						
ODZ	**Otahua Downs**	**22.21**	**199**	*e*P	**P**	**19 42 17.4**	**+1.3**
	44nm,1.3s						
WKZ	**Wanaka**	**22.54**	**202**	*e*P	**P**	**19 42 18.5**	**-0.6**
	142nm,1.5s						
MLZ	**Mavora Lakes**	**23.32**	**202**	*e*P	**P**	**19 42 26.4**	**+0.3**
	104nm,1.6s						
DCZ	**Deep Cove**	**23.75**	**204**	*e*P	**P**	**19 42 31.0**	**+1.0**
	40nm,1.4s						
WHZ	**Wether Hill Ro**	**23.83**	**202**	*e*P	**P**	**19 42 30.7**	**0.0**
	51nm,1.4s						
HNR	**Honiara**	**24.56**	**303**	*e*P	**P**	**19 42 41.0**	**+3.5**
	116nm,1.0s						
ARMA	**Armidale**	**26.34**	**250**	*e*P	**P**	**19 42 53.9**	**+0.5**
	9.3nm,1.0s						
EIDS	**Eidsvold**	**26.72**	**261**	*e*P	**P**	**19 42 55.2**	**-1.5**
	47nm,1.6s						
CAN	**Canberra**	**29.37**	**241**	*e*P	**P**	**19 43 20.7**	**+0.7**
	17nm,1.4s						
CTA	**Charters Tower**	**31.95**	**271**	P	**P**	**19 43 43.1**	**+0.5**
	10nm,0.4s,baz=94,slow=10.0,SNR=22						
CTAO	**Charters Tower**	**31.95**	**271**	*e*P	**P**	**19 43 43.9**	**+1.3**
	14nm,0.5s						
TOO	**Toolangi**	**32.64**	**238**	*e*P	**P**	**19 43 48.6**	**+0.3**
	23nm,1.6s						
TAU	**Tasmania Unive**	**33.02**	**228**	*e*P	**P**	**19 43 52.0**	**+0.5**
	13nm,1.0s						
STKA	**Stephens Creek**	**35.02**	**249**	*e*P	**P**	**19 44 09.0**	**+0.4**
	1.0nm,0.6s						
STKA	**Stephens Creek**	**35.02**	**249**	P	**P**	**19 44 09.0**	**+0.4**
	3.2nm,0.4s,baz=91,slow=9.2,SNR=18						
BBOO	**Buckleboo**	**39.73**	**247**	*e*P	**P**	**19 44 46.7**	**-0.9**
	20nm,1.3s						
AS31	**Alice Springs**	**42.44**	**261**	*e*P	**P**	**19 45 09.1**	**-0.5**
	1.6nm,0.9s						
ASAR	**Alice Springs**	**42.44**	**261**	*e*P	**P**	**19 45 08.8**	**-0.8**
ASAR	**Alice Springs**	**42.44**	**261**	P	**P**	**19 45 09.1**	**-0.5**
	2.7nm,0.8s,baz=87,slow=6.5,SNR=45						
WB2	**Warramunga Arr**	**42.84**	**266**	*e*P	**P**	**19 45 12.1**	**-0.7**
	8.2nm,0.6s						
WRAB	**Tennant Creek**	**42.85**	**266**	*e*P	**P**	**19 45 11.7**	**-1.1**
	9.9nm,1.2s						
WR1	**Warramunga Arr**	**42.86**	**266**	*e*P	**P**	**19 45 12.3**	**-0.5**
WRA	**Warramunga Arr**	**42.86**	**266**	P	**P**	**19 45 12.3**	**-0.6**
	4.4nm,0.3s,baz=99,slow=7.0,SNR=143						
FORT	**Forrest**	**46.63**	**250**	*e*P	**P**	**19 45 40.5**	**-1.5**
	19nm,0.6s						
MTN	**Manton Dam**	**47.96**	**274**	*e*P	**P**	**19 45 51.6**	**-0.7**
	47nm,1.6s						
FITZ	**Fitzroy Crossi**	**51.27**	**266**	*e*P	**P**	**19 46 16.6**	**-0.4**
	8.1nm,0.8s						
MBWA	**Marble Bar**	**55.78**	**260**	*e*P	**P**	**19 46 47.7**	**-1.6**
	46nm,1.5s						
MORW	**Morawa**	**57.19**	**250**	*e*P	**P**	**19 46 57.5**	**-1.5**
	30nm,1.3s						
QSPA	**South Pole Qui**	**65.80**	**180**	*e*P	**P**	**19 47 57.1**	**+1.7**
	5.2nm,1.5s						
KKM	**Kota Kinabalu**	**69.47**	**287**	*e*P	**P**	**19 48 18.9**	**+0.1**
	4.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.10**	**290**	P	**P**	**19 50 09.2**	**+1.2**
	0.7nm,0.7s,baz=167,slow=2.6,SNR=6.2						
BVAR	**Borovoye Array**	**124.00**	**319**	PKP	**PKPdf**	**19 55 55.8**	**-1.4**
	0.3nm,0.4s,baz=64,slow=3.4,SNR=4.0						
HFS	**Hagfors**	**143.01**	**349**	PKP	**PKPdf**	**19 56 36.2**	**-1.9**
	1.5nm,0.4s,baz=47,slow=3.0,SNR=15						
BR101	**Keskin Array S**	**148.19**	**307**	*e*PKPbc	**PKPbc**	**19 56 51.0**	**-0.6**
BRTR	**Keskin Array B**	**148.19**	**307**	PKPbc	**PKPbc**	**19 56 51.0**	**-0.6**
	0.7nm,0.6s,baz=95,slow=1.6,SNR=4.5						
MMAI	**Mount Meron Ar**	**148.29**	**294**	PKPbc	**PKiKP**	**19 56 53.4**	**+0.1**
	1.8nm,0.5s,baz=72,slow=5.5,SNR=12						

*DDA **10** 19:43:32.4, 37°31N×28°78E, h7km±2km, ML2.0*

ISK 10 19:43:32.2, 37°31N×28°78E, h9km, ML1.8/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVA	**DENIZLI_Tavas**	**0.18**	**35**	IAML_P			
	comp=Z,2μm,0.1s						
TAVA				*i* P	Pg	19 43 37.4	+1.3
TAVA				*i* S	Sg	19 43 40.6	+1.8
TURN	**Turunc**	**0.46**	**198**	PG	Pn	19 43 46.0	+1.0
DENT	**Denizli**	**0.48**	**24**	PG	Pg	19 43 42.1	+0.5
DENT				SG	Sb	19 43 49.3	-0.9
DALY	**Dalyan (Mula)**	**0.51**	**192**	PG	Pg	19 43 42.6	+0.6
DALY				SG	Sb	19 43 50.2	-0.6
DALY	**Dalyan (Mula)**	**0.51**	**192**	IAML_P			
	comp=Z,402nm,0.2s						
DALY				*i* P	Pb	19 43 43.0	-0.3
DALY				*i* S	Sg	19 43 48.9	+0.3
FETY	**Fethiye**	**0.72**	**160**	PG	Pg	19 43 46.1	0.0
FETY	**Fethiye**	**0.72**	**160**	IAML_P			
	comp=Z,366nm,0.1s						
FETY				*i* P	Pg	19 43 46.2	+0.1
AYDN	**Tasoluk**	**0.80**	**296**	*i* P	Pb	19 43 48.8	+0.5
AYDB	**Zeytinkoy-Aydi**	**0.95**	**312**	PG	Pb	19 43 50.9	0.0
ELL	**Elmali**	**1.06**	**122**	PG	Pn	19 43 53.4	-0.1
DAT	**Datca**	**1.13**	**239**	PN	Pn	19 43 54.4	+0.1
DAT	**Datca**	**1.13**	**239**	IAML_P			
	comp=Z,39nm,0.2s						
DAT				*i* P	Pn	19 43 54.2	0.0
KHAL	**Karahalli**	**1.20**	**28**	IAML_P			
	comp=Z,99nm,0.1s						
KHAL				*i* P	Pn	19 43 55.4	+0.1
BODT	**Bodrum**	**1.20**	**258**	PN	Pg	19 43 55.5	+0.2
KULA	**Kula-Manisa**	**1.20**	**356**	PN	Pn	19 43 55.6	+0.3
ARG	**Arkhangelos**	**1.22**	**206**	PN	Pg	19 43 55.8	+0.3
AKAS	**Kas**	**1.27**	**148**	PN	Pg	19 43 56.6	+0.1
AKAS	**Kas**	**1.27**	**148**	IAML_P			
	comp=Z,682nm,0.3s						
AKAS				*i* P	Pg	19 43 57.7	+1.2
GCAM	**G?zelcaml?**	**1.29**	**288**	PN	Pg	19 43 56.9	0.0
KORT	**Korkueli**	**1.29**	**104**	PN	Pg	19 43 57.3	+0.3
USAK	**Uak-Merkez**	**1.41**	**8**	IAML_P			
	comp=Z,203nm,0.2s						
USAK				*i* P	Pg	19 44 00.1	+0.8

*IDC **10** 19:44:14.4±1.1, 45°90N×154°38E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/62, mbtmp3.5/7, ML2.6/1, MS2.8/3, Ms1 2.8/3, ms1mx2.3/50, Error ellipse: s-maj=31.1km s-min=26.1km az=124.0*

*ISCJB **10** 19:44:15.6±1.0, 46°0N±0°2×154°4E±0°2, h19km, mb3.5/6, MS3.2/1, Error ellipse: s-maj=26.8km s-min=19.1km az=33.9*

ISC 10 19:44:17.5±1.2, 46°0N±0°2×154°4E±0°2, h19km, n16, σ0°71/7, mb3.7/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.46**	**16**	Pn	**Pn**	**19 46 04.5**	**-0.7**
	0.4nm,0.3s,baz=184,slow=11,SNR=9.8						
ASAJ	**Asahikawa**	**8.55**	**262**	LR	LR	19 49 34.9	
	comp=Z,28nm,21.0s,baz=76,slow=38						
MA2	**Magadan**	**13.79**	**352**	LR	LR	19 53 02.9	
	comp=Z,26nm,18.3s,baz=199,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.14**	**154**	T	T	20 19 29.6	
	baz=342						
H11N1	**WAKE ISLAND Hy**	**28.15**	**154**	T	T	20 19 34.9	
	baz=342						
H11N3	**WAKE ISLAND Hy**	**28.15**	**154**	T	T	20 19 34.6	
	baz=342						
H11S1	**WAKE ISLAND Hy**	**29.23**	**156**	T	T	20 21 01.6	
	baz=342						
H11S3	**WAKE ISLAND Hy**	**29.24**	**156**	T	T	20 20 50.8	
	baz=342						
H11S2	**WAKE ISLAND Hy**	**29.25**	**156**	T	T	20 20 50.7	
	baz=342						
MKAR	**Makanchi Array**	**48.08**	**299**	P	**P**	**19 52 55.2**	**-0.4**
	0.4nm,0.6s,baz=69,slow=7.9,SNR=5.8						
YKA	**Yellowknife Ar**	**51.02**	**37**	P	**P**	**19 53 18.0**	**+0.2**
	0.1nm,0.4s,baz=294,slow=6.6,SNR=3.3						
BVAR	**Borovoye Array**	**52.03**	**310**	P	**P**	**19 53 25.7**	**+0.2**
	0.3nm,0.4s,baz=58,slow=6.2,SNR=4.2						
ELK	**Elko**	**62.45**	**59**	LR	LR	20 19 15.8	
	comp=Z,19nm,20.0s,baz=310,slow=34						
FINES	**FINESS Array B**	**65.11**	**335**	P	**P**	**19 54 57.3**	**+0.9**
	0.3nm,0.5s,baz=43,slow=6.7,SNR=8.0						
ASAR	**Alice Springs**	**71.77**	**200**	P	**P**	**19 55 38.0**	**-0.5**
	0.6nm,0.7s,baz=19,slow=5.9,SNR=4.1						
TXAR	**Lajitas Array**	**77.10**	**61**	P	**P**	**19 56 10.1**	**+0.3**
	0.5nm,0.6s,baz=309,slow=4.3,SNR=6.1						

*ISCJB **10** 19:46:04.3±0.3, 45°72N±0°01×26°59E±0°02, h144km±2km, mb3.3/2, Error ellipse: s-maj=2.8km s-min=2.5km az=178.4*

*BUC **10** 19:46:05.4±0.4, 45°74N×26°58E, h144km±3km, MD4.3/8, Error ellipse: s-maj=3.0km s-min=2.6km az=126.0*

*IDC **10** 19:46:05.8±1.1, 45°92N×26°57E, h129km±13km, mb3.0/2, mb1 3.1/4, mb1mx2.7/50, mbtmp3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.1/23, Error ellipse: s-maj=45.3km s-min=17.6km az=108.0*

*SIGU **10** 19:46:05.0±0.2, 46°N±2°×2°7E±°, h144km±1km, mb2.8/6*

*SOF **10** 19:46:05.8, 45°73N×26°48E, h28km*

*BEO **10** 19:46:06.5±0.8, 45°68N×26°13E, h0km, ML3.3/6*

ISC 10 19:46:04.8±0.9, 45°72N±0°02×26°58E±0°02, h148km±5km, n160, σ1°09/211, 49C-55D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.14**	**21**	⇓*i*P	**Pn**	**19 46 24.6**	**-0.2**
PLOR				*i* S	**Sn**	**19 46 38.9**	**-1.1**
PLOR	**Plostina**	**0.14**	**21**	⇓*i*P	**Pn**	**19 46 24.6**	**-0.2**
VRI	**Vrincioaia**	**0.18**	**35**	⇓*i*P	**Pn**	**19 46 24.7**	**-0.1**
VRI				*i* S	**Sn**	**19 46 38.9**	**-1.2**
VRI	**Vrincioaia**	**0.18**	**35**	⇓*i*P	**Pn**	**19 46 24.7**	**-0.1**
ODBI	**Odobesti**	**0.34**	**82**	⇓*i*P	**Pn**	**19 46 26.1**	**+0.9**
ODBI	**Odobesti**	**0.34**	**82**	⇓*i*P	**Pn**	**19 46 26.1**	**+0.9**
GRER		**0.44**	**140**	⇑*i*P	**Pn**	**19 46 26.8**	**+1.2**
GRER				*i* S	**Sn**	**19 46 40.0**	**-1.4**
GRER		**0.44**	**140**	⇑*i*P	**Pn**	**19 46 26.8**	**+1.2**
PETR	**Petresti**	**0.46**	**89**	⇓*i*P	**Pn**	**19 46 26.1**	**+0.5**
PETR				*i* S	**Sn**	**19 46 41.9**	**+0.4**
PETR	**Petresti**	**0.46**	**89**	⇓*i*P	**Pn**	**19 46 26.1**	**+0.5**
MLR	**Muntele Rosu**	**0.50**	**243**	⇓*i*P	**Pn**	**19 46 26.3**	**+0.2**
MLR				*i* S	**Sn**	**19 46 41.7**	**-0.5**
MLR	**Muntele Rosu**	**0.50**	**243**	⇓*i*P	**Pn**	**19 46 26.3**	**+0.2**
MLR	**Muntele Rosu**	**0.50**	**243**	P	**Pn**	**19 46 26.2**	**+0.1**
	baz=36,slow=19						
MLR				S	**Sn**	**19 46 41.8**	**-0.3**
	baz=30,slow=20						
ISR	**Istrita**	**0.60**	**182**	⇑*i*P	**Pn**	**19 46 27.0**	**+0.5**
ISR	**Istrita**	**0.60**	**182**	⇑*i*P	**Pn**	**19 46 27.0**	**+0.5**
SECR		**0.77**	**208**	⇑*i*P	**Pn**	**19 46 28.3**	**+0.7**
SECR				*i* S	**Sn**	**19 46 45.1**	**+0.2**
SECR		**0.77**	**208**	⇑*i*P	**Pn**	**19 46 28.3**	**+0.7**
TUDR		**0.78**	**99**	⇓*i*P	**Pn**	**19 46 28.2**	**+0.7**
TUDR				*i* S	**Sn**	**19 46 44.0**	**-0.8**
TUDR		**0.78**	**99**	⇓*i*P	**Pn**	**19 46 28.2**	**+0.7**
TESR	**Tescani**	**0.80**	**4**	⇓*i*P	**Pn**	**19 46 27.3**	**-0.4**
TESR				*i* S	**Sn**	**19 46 43.0**	**-2.3**
TESR	**Tescani**	**0.80**	**4**	⇓*i*P	**Pn**	**19 46 27.3**	**-0.4**
DOPR	**Dopca**	**0.87**	**287**	⇓*i*P	**Pn**	**19 46 28.4**	**+0.1**
DOPR				*i* S	**Sn**	**19 46 45.9**	**-0.3**
DOPR	**Dopca**	**0.87**	**287**	⇓*i*P	**Pn**	**19 46 28.4**	**+0.1**
PLAR	**PLOIESTI**	**0.89**	**206**	⇑*i*P	**Pn**	**19 46 29.2**	**+0.7**
PLAR	**PLOIESTI**	**0.89**	**206**	⇑*i*P	**Pn**	**19 46 29.2**	**+0.7**
BIR	**Birlad**	**0.92**	**53**	⇓*i*P	**Pn**	**19 46 28.9**	**+0.3**
BIR				*i* S	**Sn**	**19 46 45.8**	**-1.0**
BIR	**Birlad**	**0.92**	**53**	⇓*i*P	**Pn**	**19 46 28.9**	**+0.3**
SULR		**1.06**	**192**	⇑*i*P	**Pn**	**19 46 30.6**	**+0.7**
SULR				*i* S	**Sn**	**19 46 49.7**	**+0.7**
SULR		**1.06**	**192**	⇑*i*P	**Pn**	**19 46 30.6**	**+0.7**
VOIR		**1.11**	**256**	⇓*i*P	**Pn**	**19 46 30.5**	**+0.1**
VOIR				*i* S	**Sn**	**19 46 48.8**	**-1.1**
VOIR		**1.11**	**256**	⇓*i*P	**Pn**	**19 46 30.5**	**+0.1**
GIUM	**Giurgiulesti**	**1.17**	**101**	⇓*i*P	**Pn**	**19 46 31.4**	**+0.6**
GIUM	**Giurgiulesti**	**1.17**	**101**	⇓*i*P	**Pn**	**19 46 31.4**	**+0.6**
MTUR	**Matau**	**1.17**	**246**	⇓*i*P	**Pn**	**19 46 31.9**	**+0.9**
MTUR	**Matau**	**1.17**	**246**	⇓*i*P	**Pn**	**19 46 31.9**	**+0.9**
CFR	**Carcaliu**	**1.22**	**116**	⇓*i*P	**Pn**	**19 46 31.4**	**0.0**
CFR				*i* S	**Sn**	**19 46 50.3**	**-1.3**
CFR	**Carcaliu**	**1.22**	**116**	⇓*i*P	**Pn**	**19 46 31.4**	**0.0**
AMRR	**Amara**	**1.23**	**154**	⇑*i*P	**Pn**	**19 46 32.0**	**+0.5**
AMRR				*i* S	**Sn**	**19 46 51.5**	**-0.2**
AMRR	**Amara**	**1.23**	**154**	⇑*i*P	**Pn**	**19 46 32.0**	**+0.5**
JOSR	**Joseni**	**1.23**	**324**	⇓*i*P	**Pn**	**19 46 31.6**	**+0.1**
JOSR	**Joseni**	**1.23**	**324**	⇓*i*P	**Pn**	**19 46 31.6**	**+0.1**
GIRR	**Girov**	**1.24**	**358**	*i* S	**Sn**	**19 46 49.8**	**-2.2**
GIRR	**Girov**	**1.24**	**358**	S	**Sn**	**19 46 49.8**	**-2.2**
LEHL	**Lehliu**	**1.26**	**172**	⇑*i*P	**Pn**	**19 46 32.3**	**+0.6**
LEHL				*i* S	**Sn**	**19 46 52.4**	**+0.2**
LEHL	**Lehliu**	**1.26**	**172**	⇑*i*P	**Pn**	**19 46 32.3**	**+0.6**
BIZ	**Bicaz**	**1.26**	**345**	⇓*i*P	**Pn**	**19 46 32.7**	**+0.9**
BIZ				*i* S	**Sn**	**19 46 52.2**	**-0.3**
BIZ	**Bicaz**	**1.26**	**345**	⇓*i*P	**Pn**	**19 46 32.7**	**+0.9**
INCR	**INCERC-Sediu C**	**1.31**	**193**	*i* S	**Sn**	**19 46 52.9**	**-0.2**
INCR	**INCERC-Sediu C**	**1.31**	**193**	S	**Sn**	**19 46 52.9**	**-0.2**
LEOM	**Leova**	**1.39**	**56**	⇑*i*P	**Pn**	**19 46 33.3**	**+0.3**
LEOM				*i* S	**Sn

KMPD				*i* S		**Sn**	**19 47 23.2 -1.9**
NSLU	**Nyzhne Selyshc**	**2.87**	**330**	*i* P		Pn	19 46 56.7 +6.3
NSLU				Pm			19 46 58.9
NSLU				*i* S		Sn	19 47 35.3 +10
NSLU				Sm			19 47 44.9
BMR	**Baia Mare**	**2.88**	**314**	⇓*i* P		**Pn**	**19 46 51.1 +0.6**
BMR	**Baia Mare**	**2.88**	**314**	⇓*i* P		**Pn**	**19 46 51.1 +0.6**
DRGR		**2.89**	**293**	*e*Pn		**Pn**	**19 46 50.4 -0.2**
DRGR		**2.89**	**293**	⇓*i* P		**Pn**	**19 46 50.5 -0.2**
DRGR		**2.89**	**293**	⇓*i* P		**Pn**	**19 46 50.5 -0.2**
NDNU	**Novodnistrovsk**	**2.93**	**10**	⇑*i* P		**Pn**	**19 46 50.8 -0.3**
NDNU				*i* S		**Sn**	**19 47 24.2 -2.7**
HERR	**Herculane**	**3.05**	**256**	⇑*i* P		**Pn**	**19 46 52.8 +0.1**
HERR				*i* S		**Sn**	**19 47 27.6 -2.1**
HERR	**Herculane**	**3.05**	**256**	⇑*i* P		**Pn**	**19 46 52.8 +0.1**
MPEP	**Malo Peshtene**	**3.11**	**222**	*i* P		**Pn**	**19 46 53.8 +0.3**
JMB	**Yambol**	**3.25**	**180**	P		**Pn**	**19 46 55.2 -0.1**
HORU	**Horodok**	**3.50**	**358**	⇓*i* P		**Pn**	**19 46 58.5 +0.1**
HORU				*i* S		**Sn**	**19 47 40.1 +0.1**
BRIU	**Brid**	**3.58**	**318**	*i* P		**Pn**	**19 46 59.8 +0.4**
BRIU				Pm			19 47 00.1
BRIU				*e*S		**Sn**	**19 47 42.3 +0.6**
BRIU				Sm			19 47 56.4
PGB	**Panagyurishte**	**3.61**	**210**	P		**Pn**	**19 47 00.8 +0.8**
ZAGS	**Zajecar**	**3.63**	**240**	*e*Pn		**Pn**	**19 46 59.6 -0.6**
BERU	**Beregovo**	**3.68**	**315**	*i* P		**Pn**	**19 47 00.6 -0.2**
KUBS	**Kucevo**	**3.71**	**251**	*e*Pn		**Pn**	**19 47 00.5 -0.7**
KUBS				*e*Sn		**Sn**	**19 47 41.5 -3.4**
ZAPS	**Zavoj**	**3.73**	**230**	*e*Pn		**Pn**	**19 47 01.7 +0.2**
ZAPS				*e*Sn		**Sn**	**19 47 42.5 -3.0**
MUKU	**Mukachevo**	**3.81**	**317**	⇓*i* P		**Pn**	**19 47 03.4 +0.9**
MUKU				Pm			19 47 03.7
MUKU				*e*S		**Sn**	**19 47 48.3 +1.0**
MUKU				Sm			19 47 48.8
MORS	**Morshin**	**3.87**	**333**	*i* P		**Pn**	**19 47 03.9 +0.7**
MORS				*e*S		**Sn**	**19 47 49.5 +0.9**
EDRB	**Edirne**	**3.87**	**178**	P		**Pn**	**19 47 03.9 +0.6**
VTS	**Vitosha**	**3.92**	**219**	*e*Pn		**Pn**	**19 47 04.9 +0.8**
VTS				*e*Sn		**Sn**	**19 47 49.7 -0.4**
VTS	**Vitosha**	**3.92**	**219**	P		**Pn**	**19 47 04.7 +0.6**
VTS	**Vitosha**	**3.92**	**219**	⇓*i* P		**Pn**	**19 47 04.9 +0.8**
VTS	**Vitosha**	**3.92**	**219**	⇓*i* P		**Pn**	**19 47 04.9 +0.8**
VTS	**Vitosha**	**3.92**	**219**	P		**Pn**	**19 47 04.8 +0.6**
BOVS	**Bovan**	**4.05**	**241**	*e*Pn		**Pn**	**19 47 05.5 -0.1**
BOVS				*e*Sn		**Sn**	**19 47 49.8 -3.0**
RZN	**Rozhen**	**4.25**	**199**	P		**Pn**	**19 47 08.7 +0.3**
KOLS	**Kolonicke sedl**	**4.35**	**319**	*e*P		**Pn**	**19 47 10.9 +1.4**
BOSS	**Bosilegrad**	**4.37**	**224**	*e*Pn		**Pn**	**19 47 10.5 +0.7**
BOSS				*e*Sn		**Sn**	**19 47 58.8 -1.6**
BARS	**Barje**	**4.48**	**231**	*e*Pn		**Pn**	**19 47 11.6 +0.3**
BARS				*e*Sn		Sn	19 47 38.8 -24
GRUS	**Gruza**	**4.55**	**248**	*e*Pn		**Pn**	**19 47 12.4 +0.1**
MMB	**Musomiste**	**4.62**	**208**	P		**Pn**	**19 47 14.0 +0.9**
TRUS	**Trudelj**	**4.63**	**253**	*e*Pn		**Pn**	**19 47 13.5 +0.3**
RDO	**Rodhopi**	**4.63**	**190**	P		**Pn**	**19 47 13.4 +0.1**
SELS	**Selova**	**4.64**	**239**	*e*Pn		**Pn**	**19 47 13.4 0.0**
NVR	**Nevrokopi**	**4.79**	**205**	P		**Pn**	**19 47 15.8 +0.3**
DIVS	**Divibare**	**4.95**	**253**	*e*Pn		**Pn**	**19 47 17.1 -0.5**
IVAS	**Ivanjica**	**5.06**	**247**	*e*Pn		**Pn**	**19 47 18.4 -0.6**
SRS	**Serrai**	**5.09**	**206**	P		**Pn**	**19 47 19.7 +0.4**
STIP	**Stip**	**5.13**	**220**	*i* Pn		**Pn**	**19 47 17.8 -2.0**
SEV	**Sevastopol'**	**5.15**	**101**	P		**Pn**	**19 47 19.2 -0.9**
SEV				Pm			19 47 19.4
SEV				S		**Sn**	**19 48 17.4 -1.5**
SEV				Sm			19 48 19.7
KNT	**Kendrikon**	**5.28**	**212**	P		**Pn**	**19 47 22.4 +0.5**
AKASG	**Malin Array Be**	**5.29**	**19**	P		**Pn**	**19 47 21.3 -0.6**
	8.0nm,0.3s,baz=201,slow=11,SNR=22						
AKASG				S		**Sn**	**19 48 18.1 -4.0**
	2.3nm,0.3s,baz=202,slow=21,SNR=8.8						
SMTH	**Samothraki Isl**	**5.30**	**189**	P		**Pn**	**19 47 21.6 -0.6**
SJES	**Sjenica**	**5.32**	**245**	*e*Pn		**Pn**	**19 47 23.5 +0.9**
SUDU	**Sudak**	**6.00**	**95**	P		**Pn**	**19 47 31.2 -0.2**
SUDU				Pm			19 47 31.5
SUDU				S		**Sn**	**19 48 39.2 +0.1**
SUDU				Sm			19 48 41.7
FINES	**FINESS Array B**	**15.76**	**359**	P		**Pn**	**19 49 36.5 -1.8**
	0.3nm,0.3s,baz=170,slow=12,SNR=13						
ARCES	**ARCESS Array B**	**23.89**	**359**	P		**P**	**19 51 05.5 +1.1**
	1.3nm,0.8s,baz=177,slow=7.3,SNR=3.5						
JMIC	**Jan Mayen**	**30.45**	**338**	LR		LR	20 03 40.0
	comp=Z,74nm,21.3s,baz=96,slow=35						
MKAR	**Makanchi Array**	**37.85**	**68**	P		**P**	**19 53 08.9 +1.9**
	0.2nm,0.4s,baz=273,slow=6.9,SNR=4.1						
MK32	**Makanchi Array**	**68.75**	**322**	*e*P		**P**	**19 58 38.3 +0.8**
MKAR	**Makanchi Array**	**68.75**	**322**	P		**P**	**19 58 38.3 +0.8**
	0.5nm,0.7s,baz=107,slow=7.8,SNR=4.1						
BVAR	**Borovoye Array**	**78.24**	**325**	P		**P**	**19 59 34.2 +1.0**
	2.2nm,0.5s,baz=110,slow=7.2,SNR=25						
ILAR	**Eielson Array**	**84.70**	**24**	P		**P**	**20 00 06.2 -1.0**
	0.2nm,0.5s,baz=259,slow=4.9,SNR=3.2						

IDC ***10*** *19:47:32.5±0.9, 1°.33S×138°.80E, h0km, mb3.7/8, mb1 4.0/10, mb1mx3.7/41, mbtmp3.8/10, ML4.3/2, MS2.7/2, Ms1 2.7/2, ms1mx2.6/27, Error ellipse: s-maj=30.0km s-min=17.2km az=74.0*

ISCJB ***10*** *19:47:35.1±0.4, 1°.50S±0°.05×138°.59E±0°.04, h33km, mb3.9/10, Error ellipse: s-maj=7.5km s-min=5.0km az=35.0*

NEIC ***10*** *19:47:36.8±2.6, 1°.47S×138°.73E, h31km±7km, mb4.4/12, Error ellipse: s-maj=20.3km s-min=12.2km az=45.0*

DJA ***10*** *19:47:37.7±0.6, 2°.5±4°×13°.9E±°, h42km±25km, M4.7/6, mb4.8/6, MLv4.7/5*

ISC 10 19:47:37.1±0.6, 1°.43S±0°.07×138°.65E±0°.06, h35km, n32, σ1°.24/34, mb3.8/10, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.90**	**127**	P	**Pn**	**19 48 07.3**	**+0.3**
GENI				S	**Sn**	**19 48 38.3**	**+0.5**
JAY	**Jayapura**	**2.31**	**118**	Pn	**Pn**	**19 48 11.8**	**-1.0**
	62nm,0.3s,baz=251,slow=9.6,SNR=393						
JAY				Sn	**Sn**	**19 48 37.6**	**-2.4**
	36nm,0.3s,baz=126,slow=17,SNR=6.7						
JAY				LR	LR	19 48 41.4	
	comp=Z,158nm,18.0s,baz=207,slow=31						
FAKI	**Fak Fak**	**6.57**	**257**	P	**Pn**	**19 49 11.4**	**+0.2**
	28nm,0.9s						
FAKI				S	**Sn**	**19 50 22.2**	**-2.8**
	28nm,0.9s						
MMPI	**Merauke**	**7.20**	**166**	P	**Pn**	**19 49 19.3**	**-0.5**
MMPI				S	**Sn**	**19 50 40.8**	**+0.4**
SWI	**Sorong**	**7.41**	**274**	P	**Pn**	**19 49 22.2**	**-0.6**
BNDI	**Bandanaira**	**9.26**	**250**	P	**Pn**	**19 49 46.3**	**-1.9**
MTN	**Manton Dam**	**13.57**	**213**	*e*Pn	**Pn**	**19 50 50.8**	**+3.6**
DAV	**Davao City (W)**	**15.54**	**303**	LR	LR	19 56 04.5	
	comp=Z,330nm,21.3s,baz=111,slow=33						
GUMO	**Guam**	**16.15**	**22**	*e*Pn	**Pn**	**19 51 20.1**	**-1.3**
	330nm,1.6s						
SOEI	**Soe**	**16.52**	**239**	*e*Pn	**P**	**19 51 29.4**	**+0.7**
	78nm,1.9s						
WRAB	**Tennant Creek**	**18.86**	**193**	*e*P	**P**	**19 51 53.5**	**-0.8**
WB2	**Warramunga Arr**	**18.87**	**193**	*e*P	**P**	**19 51 54.2**	**-0.3**
	16nm,1.3s						
WR1	**Warramunga Arr**	**18.87**	**193**	*e*P	**P**	**19 51 54.5**	**+0.1**
WR1				*e*Sn	Sn	19 55 12.0	-14
WRA	**Warramunga Arr**	**18.87**	**193**	P	**P**	**19 51 54.5**	**0.0**
	1.2nm,0.3s,baz=18,slow=12,SNR=61						
WRA				S	Sn	19 55 12.0	-14
	0.3nm,0.3s,baz=11,slow=23,SNR=4.5						
KAPI	**Kappang**	**19.20**	**259**	*e*P	**P**	**19 51 58.0**	**-0.2**
	5.8nm,0.7s						
CTA	**Charters Tower**	**19.98**	**159**	P	**Pn**	**19 52 08.0**	**-0.5**
	4.7nm,0.6s,baz=332,slow=12,SNR=8.2						
CTAO	**Charters Tower**	**19.98**	**159**	*e*P	**Pn**	**19 52 08.4**	**0.0**
	38nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.92**	**217**	*e*P	Pn	19 52 20.9	+1.4
	32nm,1.8s						
FITZ	**Fitzroy Crossi**	**20.92**	**217**	P	Pn	19 52 20.1	+0.7
	0.9nm,0.4s,baz=43,slow=8.7,SNR=11						
AS31	**Alice Springs**	**22.57**	**191**	*e*P	**P**	**19 52 34.7**	**+0.1**
	3.7nm,1.1s						
ASAR	**Alice Springs**	**22.58**	**191**	*e*P	**P**	**19 52 34.7**	**+0.1**
ASAR	**Alice Springs**	**22.58**	**191**	P	**P**	**19 52 35.2**	**+0.7**
	2.2nm,0.5s,baz=18,slow=10.0,SNR=44						
ASAR				S	**S**	**19 56 40.5**	**+0.6**
	2.6nm,0.8s,baz=17,slow=24,SNR=8.9						
STKA	**Stephens Creek**	**30.41**	**175**	*e*P	**P**	**19 53 44.2**	**-1.9**
	2.6nm,1.4s						
IPM	**Ipoh**	**38.05**	**279**	*e*P	**P**	**19 54 53.2**	**+0.6**
	16nm,1.1s						
KULM	**Kulim**	**38.54**	**280**	*e*P	**P**	**19 54 56.7**	**0.0**
	15nm,1.1s						
CMAR	**Chiang Mai Arr**	**43.77**	**299**	P	**P**	**19 55 40.8**	**+1.2**
	0.5nm,0.8s,baz=118,slow=7.1,SNR=3.5						
SONA0	**Songino Array**	**56.55**	**334**	*e*P	**P**	**19 57 17.3**	**+1.1**
SONM	**Songino Array**	**56.55**	**334**	P	**P**	**19 57 17.3**	**+1.1**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=4.6						

JMA 10 19:53:34.2±0.1, 24°.72N×123°.36E, h24km±3km, M0.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.41**	**231**	*e*P	Pb	19 53 42.6	-0.2
	133nm,1.4s						
YOJ	**Yonaguni jima**	**0.41**	**231**	P	Pb	19 53 42.6	-0.3
YOJ				*e*S	Sb	19 53 48.6	-0.1
JYNG	**Yonagunijimaku**	**0.46**	**235**	P	Pb	19 53 43.6	-0.2
JYNG				S	Sb	19 53 50.3	+0.1
IRIF	**Iriomote-Funau**	**0.51**	**139**	P	Pb	19 53 44.3	-0.3
IRIF				S	Sb	19 53 51.0	-0.6
JKRS	**Kuro-shima**	**0.76**	**129**	P	Pb	19 53 48.4	-0.4
JKRS				*e*S	Sb	19 53 58.6	-0.2
HATJ	**Hateruma jima**	**0.78**	**148**	P	Pb	19 53 48.6	-0.4
HATJ				*e*S	Sb	19 53 59.2	+0.1
JIJ	**Ishigaki jima**	**0.80**	**116**	P	Pb	19 53 49.0	-0.4
JIJ				*e*S	Sb	19 53 59.0	-0.8

TAP 10 19:53:51.4, 24°.39N×121°.45E, h6km, ML1.4, 5C-3D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan**	**0.09**	**305**	⇓P	Pg	19 53 53.8	+0.3
	baz=307						
NNS				S	Sg	19 53 55.2	+0.3
	baz=307						
NDT	**Datong Townshi**	**0.22**	**14**	⇑P	Pg	19 53 56.3	+0.6
	baz=14						
NDT				S	Sg	19 53 59.6	+0.9
	baz=14						
NACB	**Ninganchiao**	**0.25**	**149**	⇓P	Pg	19 53 57.2	+0.9
	baz=148						
NACB				S	Sg	19 54 01.1	+1.6
	baz=148						
ENA	**Nanau**	**0.27**	**81**	⇑P	Pg	19 53 57.3	+0.8
	baz=81						
ENA				S	Sg	19 54 01.1	+1.0
	baz=81						
ENTT	**Nioudou**	**0.27**	**22**	⇑P	Pg	19 53 57.2	+0.6
	baz=14						
ENTT				*e*S	Sg	19 54 01.8	+1.5
	baz=14						
NANB	**Nanao**	**0.27**	**82**	P	Pg	19 53 57.3	+0.6
	baz=80						
NANB				*e*S	Sg	19 54 00.9	+0.6
	baz=80						
YHNB	**Yeheng**	**0.29**	**346**	⇓P	Pg	19 53 57.7	+0.6
	baz=346						
YHNB				*e*S	Sg	19 54 01.4	+0.5
	baz=346						
NSK	**Sanguang**	**0.30**	**343**	*e*P	Pg	19 53 57.2	-0.1
	baz=345						
NSK				*e*S	Sg	19 54 01.2	0.0
	baz=345						
TDCB	**Techi**	**0.30**	**244**	P	Pg	19 53 57.5	+0.2
	baz=244						
TDCB				*e*S	Sg	19 54 01.4	+0.1
	baz=244						
TWD	**Chiawan**	**0.33**	**157**	*e*P	Pg	19 53 58.6	+0.8
	baz=155						
TWD				*e*S	Sg	19 54 03.5	+1.3
	baz=155						
TWE	**Neicheng**	**0.38**	**30**	⇑P	Pg	19 53 59.5	+0.7
	baz=46						
TWE				*e*S	Sb	19 54 06.2	-0.7
	baz=46						
NWLT	**Wulai**	**0.39**	**6**	⇑P	Pg	19 53 59.6	+0.6
	baz=359						
NWLT				*e*S	Sg	19 54 04.1	0.0
	baz=359						
CHGB	**Renai**	**0.41**	**218**	P	Pg	19 53 59.4	0.0
	baz=219						
CHGB				S	Sg	19 54 06.4	+1.5
	baz=219						
TWC	**Suao**	**0.42**	**58**	P	Pg	19 54 00.1	+0.6
	baz=58						
TWC				*e*S	Sb	19 54 07.1	-0.8
	baz=58						
LIOB	**Emei**	**0.47**	**303**	*e*P	Pg	19 54 00.6	+0.1
	baz=305						
LIOB				*e*S	Sg	19 54 07.8	+1.0
	baz=305						
WHP	**Taichung City**	**0.48**	**257**	*e*S	Sg	19 54 06.9	+0.1
	baz=259						
NSTT	**Nanjuang**	**0.48**	**300**	*e*S	Sg	19 54 08.0	+1.1
	baz=303						
OWD	**Renai**	**0.50**	**211**	*e*P	Pg	19 54 00.8	-0.2
	baz=211						
OWD				*e*S	Sb	19 54 09.0	-1.4
	baz=211						
DPDB	**Guoxing**	**0.60**	**234**	*e*P	Pg	19 54 03.0	+0.2
	baz=224						
DPDB				*e*S	Sg	19 54 11.4	+0.8
	baz=224						
EOS1	**EOS1**	**0.64**	**75**	*e*S	Sb	19 54 13.8	-0.2
	baz=74						
TIPB	**Shuangxi**	**0.67**	**30**	*e*P	Pg	19 54 04.6	+0.3
	baz=16						
TIPB				*e*S	Sg	19 54 13.9	+0.8
	baz=16						
HGSD	**Ruisui**	**0.89**	**182**	*e*P	Pg	19 54 08.5	0.0
	baz=188						
HGSD				*e*S	Sb	19 54 20.9	-0.6
	baz=188						
YULB	**Yu-li**	**1.00**	**188**	*e*P	Pg	19 54 10.7	+0.1
	baz=171						

ISCJB ***10*** *19:56:03.4±0.1, 29°.05S±0°.04×13°.12W±0°.03, h3km, mb5.3/185, MS5.5/706, Error ellipse: s-maj=5.7km s-min=2.6km az=152.5*

NEIC ***10*** *19:56:04.2±1.9, 28°.98S×13°.23W, h4km±3km, mb5.5/125, MS5.6/720, MW5.7, MW5.7, Error ellipse: s-maj=13.1km s-min=9.2km az=209.0, Moment Tensor Solution. s28 Moment tensor: Scale 10^17 Nm; Mrr-2.05; Mθθ-2.62; Mφφ4.66; Mrθ0.01; Mθφ-0.26; Mφr-1.54; Best double couple: M0 4.30000×10^17 NP1:φs222.00000°, δ88.00000°, λ16.00000°. NP2:φs132.00000°, δ74.00000°, λ178.00000°. Principal axes: T 5.0100, Plg12.0000°, Azm88.0000°; N -2.3700, Plg74.0000°, Azm227.0000°; P -2.6300, Plg10.0000°, Azm356.0000°;*

MOS ***10*** *19:56:04.2±1.1, 29°.01S×13°.23W, h10km, mb5.5/58, MS5.3/58 Error ellipse: s-maj=10.3km s-min=5.6km az=66.0*

IDC ***10*** *19:56:04.6±0.4, 28°.98S×13°.30W, h0km, mb4.8/38, mb1 4.8/38, mb1mx4.8/46, mbtmp4.8/38, MS5.3/24, Ms1 5.3/24, ms1mx5.3/25, Error ellipse: s-maj=13.7km s-min=11.4km az=135.0*

NEIC ***10*** *19:56:05.0±0.0, 28°.89S×13°.23W, h11km, Moment Tensor Solution. s36 Moment tensor: Scale 10^17 Nm; Mrr-3.24; Mθθ-0.32; Mφφ3.56; Mrθ-1.02; Mθφ-0.64; Mφr-1.70; Best double couple: M0 4.00000×10^17 NP1:φs10.00000°, δ60.00000°, λ-68.00000°. NP2:φs152.00000°, δ36.00000°, λ-121.00000°. Principal axes: T 4.0000, Plg12.0000°, Azm84.0000°; N 0.0000, Plg18.0000°, Azm178.0000°; P -4.0000, Plg67.0000°, Azm321.0000°;*

BJI ***10*** *19:56:05.9±0.0, 29°.00S×13°.20W, h8km, mB5.8/31, Ms6.1/39, Ms7 5.9/39*

GCMT ***10*** *19:56:10.2±0.1, 29°.02S±0°.01×12°.97W, h12km, MW5.8/131, Moment Tensor Solution. s108, c192; s131, c397; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr-5.35±.04; Mθθ-0.45±.04; Mφφ5.80±.04; Mrθ0.10±.13; Mθφ0.26±.04; Mφr0.94±.12; Best double couple: M0 5.66000×10^17 NP1:φs183.00000°, δ50.00000°, λ-89.00000°. NP2:φs2.00000°, δ40.00000°, λ-91.00000°. Principal axes: T 5.8900, Plg5.0000°, Azm272.0000°; N -0.4560, Plg1.0000°, Azm2.0000°; P -5.4300, Plg85.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface/mantle waves, cutoff=50s.
Triangular moment-rate function

ISC 10 19:56:06.6±0.6, 28°.97S±0°.05×13°.18W±0°.05, h14km±3km, h14km: pP-P, n1438, σ1°.54/976, mb5.4/187, MS5.6/708, 32C-39D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN**	**8.11**	**175**	T	T	20 06 32.6	
	SNR=15						
H09W1	**TRISTAN DA CUN**	**8.14**	**175**	T	T	20 06 36.0	
	SNR=26						
SHEL	**Horse Pasture**	**14.65**	**29**	*e*Pn	**Pn**	**19 59 35.4**	**+1.8**
SHEL	**Horse Pasture**	**14.65**	**29**	*e*P	**Pn**	**19 59 35.4**	**+1.8**
H10S2	**ASCENSION HYDR**	**19.95**	**356**	T	T	20 21 12.6	
	baz=176,slow=75,SNR=1447						
H10S3	**ASCENSION HYDR**	**19.96**	**356**	T	T	20 21 13.3	
	baz=176,slow=75,SNR=1335						
H10S1	**ASCENSION HYDR**	**19.97**	**356**	T	T	20 21 14.1	
	baz=176,slow=75,SNR=1817						
ASCN	**Ascension**	**20.95**	**357**	*e*P	**P**	**20 00 48.4**	**-0.9**
	951nm,1.7s						
ASCN				LR	LR		
	comp=Z,7μm,21.0s						
ALF01	**Guarapari-ES**	**26.30**	**282**	*e*P	**P**	**20 01 44.3**	**+2.3**
RIB01	**Linhares ES**	**26.57**	**285**	*e*P	**P**	**20 01 45.3**	**+0.8**
CAM01	**Campos-RJ**	**26.64**	**279**	*e*P	**P**	**20 01 45.7**	**+0.6**
BSFB	**Barra de Sao F**	**27.17**	**286**	*e*P	**P**	**20 01 50.4**	**+0.6**
DUB01	**Friburgo-RJ**	**27.17**	**278**	*e*P	**P**	**20 01 50.7**	**+0.8**
SJMB	**Sao Joao De Ma**	**27.51**	**286**	*e*P	**P**	**20 01 52.7**	**-0.2**
VAS01	**Vassouras-RJ**	**28.03**	**277**	*e*P	**P**	**20 01 58.4**	**+0.8**
ESAR	**Angra dos Reis**	**28.66**	**275**	*e*P	**P**	**20 02 04.9**	**+1.8**
SUR	**Sutherland**	**29.36**	**105**	*e*P	**P**	**20 02 06.6**	**-2.9**
	comp=Z,108nm,1.6s						
SUR				LR	LR		
	comp=Z,14μm,20.0s						
SUR	**Sutherland**	**29.36**	**105**	P	**P**	**20 02 12.0**	**+2.4**
	comp=Z,7.1nm,0.9s,baz=242,slow=4.8,SNR=4.7						
SUR				PP	**PnPn**	**20 02 57.0**	**-6.1**
	comp=Z,7.0nm,0.7s,baz=268,slow=15,SNR=10						
SUR				LR	LR	20 11 17.9	
	comp=Z,14μm,19.9s,baz=264,slow=31						
BSCB	**Bom Sucesso**	**29.65**	**278**	*e*P	**P**	**20 02 12.2**	**+0.2**
TSUM	**Tsumeb**	**29.65**	**78**	*e*P	**P**	**20 02 09.2**	**-2.9**
	comp=Z,106nm,1.6s						
TSUM				LR	LR		
	comp=Z,8μm,20.0s						
TSUM	**Tsumeb**	**29.65**	**78**	P	**P**	**20 02 10.7**	**-1.3**
	comp=Z,10nm,0.8s,baz=249,slow=7.9,SNR=10						
TSUM				LR	LR	20 11 38.5	
	comp=Z,9μm,20.9s,baz=240,slow=31						
HOPE	**Hope Point**	**30.44**	**207**	*e*P	**P**	**20 02 16.0**	**-2.5**
	comp=Z,364nm,1.8s						
MCI6	**Montes Claros**	**30.68**	**287**	*e*P	**P**	**20 02 21.3**	**+0.1**
MCI9	**Montes Claros**	**30.73**	**287**	*e*P	**P**	**20 02 19.8**	**-1.7**
MCI8	**Montes Claros**	**30.77**	**287**	*e*P	**P**	**20 02 22.0**	**+0.1**
SPB	**Sao Paulo**	**31.10**	**272**	*e*P	**P**	**20 02 22.2**	**-2.5**
	comp=Z,86nm,1.6s						
SPB				LR	LR		
	comp=Z,12μm,22.0s						
SPB	**Sao Paulo**	**31.10**	**272**	*e*P	**P**	**20 02 24.0**	**-0.8**
TER01	**Tubaro-SC**	**31.44**	**262**	*e*P	**P**	**20 02 29.1**	**+1.3**
RCBR	**Riachuelo**	**31.49**	**313**	*e*P	**P**	**20 02 26.2**	**-2.0**
	comp=Z,35nm,1.2s						
RCBR				LR	LR		
	comp=Z,10μm,22.0s						
RCBR	**Riachuelo**	**31.49**	**313**	*e*P	**P**	**20 02 26.2**	**-2.0**
RCBR				pmax	pmax		
	comp=Z,35nm,1.2s						
RCBR				MLR	MLR		
	comp=Z,10μm,22.0s						
RCBR	**Riachuelo**	**31.49**	**313**	*e*P	**P**	**20 02 30.2**	**+2.0**
RCLB	**Rio Claro- Sao**	**31.55**	**274**	*e*P	**P**	**20 02 29.8**	**+1.0**
JANB	**Januaria**	**31.89**	**289**	*e*P	**P**	**20 02 31.5**	**-0.3**
TIJ01	**Guaruva-PR**	**32.01**	**268**	*e*P	**P**	**20 02 33.5**	**+0.7**
PMNB	**Patos De Minas**	**32.06**	**281**	*e*P	**P**	**20 02 33.9**	**+0.6**
NBPA	**Parau_RN**	**32.34**	**311**	*e*P	**P**	**20 02 36.2**	**+0.6**
CNLB	**Canela**	**32.81**	**260**	*e*P	**P**	**20 02 41.5**	**+1.7**
BB19B	**Bebedouro**	**32.89**	**276**	*e*P	**P**	**20 02 41.3**	**+0.8**
FRTB	**Fartura**	**33.04**	**271**	*e*P	**P**	**20 02 43.6**	**+1.7**
BOSA	**Boshof**	**33.59**	**99**	*e*P	**P**	**20 02 44.0**	**-2.7**
	comp=Z,92nm,1.8s						
BOSA	**Boshof**	**33.59**	**99**	P	**P**	**20 02 45.6**	**-1.1**
	comp=Z,5.4nm,0.6s,baz=269,slow=9.6,SNR=12						
BOSA				LR	LR	20 14 20.3	
	comp=Z,16μm,18.1s,baz=257,slow=32						
ITAB	**Concordia**	**34.30**	**263**	*e*P	**P**	**20 02 53.1**	**+0.4**
LBTB	**Lobatse**	**34.68**	**93**	*e*P	**P**	**20 02 54.1**	**-2.0**
	comp=Z,56nm,1.2s						
LBTB	**Lobatse**	**34.68**	**93**	*e*P	**P**	**20 02 54.1**	**-2.0**
LBTB				pmax	pmax		
	comp=Z,56nm,1.2s						
BDFB	**Brasilia**	**34.71**	**285**	*e*P	**P**	**20 02 55.0**	**-1.5**
BDFB				*e*P	**P**	**20 02 55.5**	**-1.0**
BDFB				LR	LR		
	comp=Z,16μm,22.0s						
BDFB	**Brasilia**	**34.71**	**285**	P	**P**	**20 02 55.0**	**-1.5**
	comp=Z,26nm,0.5s,baz=115,slow=7.6,SNR=24						
BDFB				LR	LR	20 14 25.4	
	comp=Z,16μm,21.7s,baz=122,slow=32						
PTGB	**Pitanga**	**34.84**	**268**	*e*P	**P**	**20 02 58.7**	**+1.1**
ITRB	**Iturama**	**34.98**	**277**	*e*P	**P**	**20 02 59.2**	**+0.5**
OGAUY	**Aigu**	**35.57**	**251**	*e*P	**P**	**20 03 07.2**	**+3.6**
LIC	**Lamto**	**35.86**	**14**	*e*P	**P**	**20 03 05.7**	**-0.5**
	comp=

SNAA Sanae 43.13 175 P **P 20 04 06.6 +0.3**
SNAA Sanae 43.13 175 *e*P **P 20 04 05.0 -1.3**
comp=Z,159nm,1.8s
SNAA LR LR
comp=Z,2µm,22.0s
SNAA Sanae 43.13 175*c i*P **P 20 04 05.2 -1.1**
SNAA Sanae 43.13 175 P **P 20 04 06.2 -0.1**
comp=Z,7.4nm,0.8s,baz=352,slow=8.6,SNR=16
CLDB Colider 43.63 285 *e*P **P 20 04 11.8 +0.8**
TCA Tanti 44.19 254 *e*P **P 20 04 14.8 -0.7**
TCA *i*P **P 20 04 15.1 -0.3**
TOC5 Torodi Ar. Sit 44.24 21 PFAKE 20 04 30.0 +14
TOC5 LR LR
comp=Z,6µm,20.0s
TOC4 Torodi Ar. Sit 44.25 21 PFAKE 20 04 30.0 +14
TOC4 LR LR
comp=Z,6µm,20.0s
TOB4 Torodi Ar. Sit 44.26 21 PFAKE 20 04 30.0 +14
TOB4 LR LR
comp=Z,5µm,20.0s
TOB3 Torodi Ar. Sit 44.26 21 PFAKE 20 04 30.0 +14
TOB3 LR LR
comp=Z,5µm,20.0s
TOA3 Torodi Ar. Sit 44.26 21 PFAKE 20 04 30.0 +14
TOA3 LR LR
comp=Z,6µm,20.0s
TOC3 Torodi Ar. Sit 44.27 21 PFAKE 20 04 30.0 +14
TOC3 LR LR
comp=Z,6µm,20.0s
TOA0 Torodi Ar. Sit 44.27 21 *e*P **P 20 04 14.4 -1.5**
TOA0 LR LR
comp=Z,6µm,20.0s
TORD Torodi Ar. Bea 44.27 21 *e*P **P 20 04 14.4 -1.5**
TORD Torodi Ar. Bea 44.27 21 P **P 20 04 15.1 -0.9**
comp=Z,13nm,0.8s,baz=197,slow=4.5,SNR=43
TORD LR LR 20 19 14.1
comp=Z,5µm,20.1s,baz=270,slow=31
TOB5 Torodi Ar. Sit 44.27 21 PFAKE 20 04 30.0 +14
TOB5 LR LR
comp=Z,6µm,20.0s
TOA1 Torodi Ar. Sit 44.27 21 PFAKE 20 04 30.0 +14
TOA1 LR LR
comp=Z,6µm,20.0s
TOB2 Torodi Ar. Sit 44.28 21 PFAKE 20 04 30.0 +14
TOB2 LR LR
comp=Z,6µm,20.0s
TOC7 Torodi Ar. Sit 44.28 21 PFAKE 20 04 30.0 +14
TOC7 LR LR
comp=Z,6µm,21.0s
TOC2 Torodi Ar. Sit 44.29 21 PFAKE 20 04 30.0 +14
TOC2 LR LR
comp=Z,6µm,21.0s
TOC1 Torodi Ar. Sit 44.29 21 PFAKE 20 04 30.0 +14
TOC1 LR LR
comp=Z,7µm,21.0s
MRA San Martin 44.94 252 *i*P **P 20 04 20.8 -0.6**
MRA *i*P **P 20 04 21.5 +0.1**
CYA Choya 45.83 257 *i*P **P 20 04 27.7 -0.8**
AHML Horco Molle 45.85 260 *i*P **P 20 04 28.5 -0.2**
APLL PUNTA DE LOS L 46.01 254 *i*P **P 20 04 28.1 -1.7**
ACAN Cantantal 46.19 252 *i*P **P 20 04 31.7 +0.4**
AZAP Zapla 46.34 263 *i*P **P 20 04 32.9 +0.2**
SLA San Lorenzo 46.57 262 *i*P **P 20 04 33.4 -1.1**
SLA *i*P **P 20 04 37.3 +2.8**
SLA *e*P **P 20 04 37.5 +3.0**
ACLC CERRO LA CRUZ 46.58 256 *e*P **P 20 04 32.7 -1.8**
FSA Cafayete 46.58 260 *e*P **P 20 04 34.4 -0.2**
HJA Humahuaca 46.95 264 *i*P **P 20 04 38.8 +1.1**
CFA Coronel Fontan 47.19 252 *i*P **P 20 04 38.1 -1.0**
RTCV Cerro Valdivia 47.39 252 *i*P **P 20 04 40.0 -0.7**
AAGR Agrelo 47.40 250 *i*P **P 20 04 40.8 0.0**
RTLL Cerro Villicun 47.45 253 *i*P **P 20 04 41.0 -0.1**
RTLL *e*P **P 20 04 42.9 +1.8**
ASAL Salagasta 47.49 251 *e*P **P 20 04 41.2 -0.3**
ARCO CERRO ARCO 47.53 251 *e*P P 20 04 35.1 -6.8
AMOG MOGNA 47.55 253 *i*P **P 20 04 41.6 -0.3**
ZON Zonda 47.57 252 *e*P **P 20 04 41.2 -0.9**
PMSA Palmer Station 47.75 207 *e*P **P 20 04 46.0 +3.1**
PLCA Paso Flores 47.76 240 *e*P **P 20 04 43.5 +0.1**
comp=Z,114nm,1.6s
PLCA Paso Flores 47.76 240 *e*P **P 20 04 43.5 +0.1**
PLCA pmax pmax
comp=Z,114nm,1.6s
PLCA Paso Flores 47.76 240 P **P 20 04 42.5 -0.9**
comp=Z,14nm,1.0s,baz=114,slow=6.0,SNR=9.9
PLCA LR LR 20 23 01.7
comp=Z,3µm,19.8s,baz=114,slow=34
PLCA Paso Flores 47.76 240 *e*P **P 20 04 45.1 +1.7**
VCA Vinchina 47.81 256 *e*P **P 20 04 44.2 +0.1**
AGUA GUANDACOL 47.87 255 *i*P **P 20 04 44.5 0.0**
AUSP Uspallata 48.02 251 *i*P **P 20 04 46.1 +0.2**
RTLS Leoncito 48.04 252 *e*P **P 20 04 46.2 +0.3**
ACCO Cerro Coronel 48.10 254 *i*P **P 20 04 46.9 +0.4**
GO10 Punta Arenas 48.29 223 *e*P **P 20 04 47.5 +0.2**
comp=Z,416nm,1.6s
AROD Rodeo 48.54 254 ‖*i*P **P 20 04 50.5 +0.5**
GO06 Curarrehue 48.57 241 *e*P **P 20 04 48.6 -1.1**
comp=Z,102nm,1.8s
GO06 LR LR
comp=Z,5µm,20.0s
PEL Peldehue 48.91 250 *e*P **P 20 04 52.1 -0.3**
comp=Z,63nm,1.3s
PEL LR LR
comp=Z,14µm,21.0s
PEL Peldehue 48.91 250 *e*P **P 20 04 52.1 -0.3**
PEL pmax pmax
comp=Z,63nm,1.3s
PEL MLR MLR
comp=Z,14µm,21.0s
GO09 Cerro Castillo 48.92 226 *e*P **P 20 04 52.7 +0.6**
comp=Z,133nm,1.4s
ROC1 El Roble 49.22 250 *e*P **P 20 04 53.7 -1.3**
ROC1 El Roble 49.22 250 *i*P **P 20 04 55.7 +0.7**
ROC1 *i*P **P 20 04 56.7 +1.7**
GO05 Huala 49.58 247 *e*P **P 20 04 56.1 -1.3**
comp=Z,73nm,1.2s
GO05 LR LR
comp=Z,6µm,22.0s
GO05 Huala 49.58 247 *e*P **P 20 04 55.7 -1.7**
GO04 Tololo Observa 49.66 254 *e*P **P 20 04 57.3 -1.0**
comp=Z,98nm,1.1s
GO04 LR LR
comp=Z,7µm,21.0s
GO04 Tololo Observa 49.66 254 *i*P **P 20 04 58.2 -0.2**
GO03 Copiap 49.84 257 *e*P **P 20 04 58.9 -0.7**
comp=Z,109nm,1.4s
GO03 LR LR
comp=Z,7µm,21.0s
GO03 Copiap 49.84 257 *e*P **P 20 04 59.8 +0.2**
LCO Las Campanas 49.86 255 *e*P **P 20 04 59.1 -0.8**
comp=Z,215nm,1.9s
LCO LR LR
comp=Z,7µm,19.0s
LCO Las Campanas 49.86 255 ‖*i*P **P 20 05 01.1 +1.2**
LCO Las Campanas 49.86 255 *e*P **P 20 04 59.2 -0.8**
LCO pmax pmax
comp=Z,215nm,1.9s
LCO MLR MLR
comp=Z,7µm,19.0s
LCO Las Campanas 49.86 255 *e*P **P 20 05 00.5 +0.5**
GO02 Mina Guanaco 49.98 260 *e*P **P 20 05 00.6 -0.3**
comp=Z,151nm,1.5s
GO02 LR LR
comp=Z,12µm,20.0s
SYO Syowa Base 50.17 158 ‖*i*P **P 20 04 59.2 -2.2**
SYO Syowa Base 50.17 158 ‖*i*sP **P 20 05 00.6 -0.8**
LVC Limon Verde 50.20 264 *e*P **P 20 05 00.6 -2.1**
comp=Z,16nm,0.8s
LVC LR LR
comp=Z,8µm,18.0s
LVC Limon Verde 50.20 264 *e*P **P 20 05 02.2 -0.5**
LVC Limon Verde 50.20 264 *e*P **P 20 05 00.6 -2.1**
LVC pmax pmax
comp=Z,16nm,0.8s
LVC MLR MLR
comp=Z,8µm,18.0s
LVC Limon Verde 50.20 264 *e*P **P 20 05 02.2 -0.5**
PB15 IPOC Station P 50.49 263 *i*P **P 20 05 04.5 -0.3**
MBAR Mbarara 50.49 64 *e*P **P 20 05 05.1 +0.3**
comp=Z,116nm,1.4s
MBAR LR LR
comp=Z,10µm,18.0s
MBAR Mbarara 50.49 64 *i*P **P 20 05 05.6 +0.8**
MBAR pmax pmax
comp=Z,96nm,1.5s
PB06 IPOC Station P 50.74 263 *i*P **P 20 05 06.4 -0.2**
PB14 IPOC Station P 50.84 261 *e*P **P 20 05 09.9 +2.4**
PB03 IPOC Station P 51.12 264 *i*P **P 20 05 09.2 -0.2**
PB01 IPOC Station P 51.24 265 *e*P **P 20 05 09.5 -0.8**
comp=Z,89nm,1.2s
PB01 LR LR
comp=Z,5µm,21.0s
PB01 IPOC Station P 51.24 265 *i*P **P 20 05 09.2 -1.0**
PB05 IPOC Station P 51.24 263 *e*P **P 20 05 10.3 0.0**
PB08 IPOC Station P 51.27 267 *i*P **P 20 05 10.6 -0.2**
PB10 IPOC Station P 51.33 262 *e*P **P 20 05 09.5 -1.3**
comp=Z,296nm,2.0s
PB10 LR LR
comp=Z,10µm,21.0s
PB10 IPOC Station P 51.33 262 *i*P **P 20 05 11.1 +0.3**
PB07 IPOC Station P 51.35 264 *i*P **P 20 05 11.2 +0.1**
PB04 IPOC Station P 51.37 264 *e*P **P 20 05 10.7 -0.6**
comp=Z,140nm,1.2s
PB04 LR LR
comp=Z,10µm,21.0s
PB04 IPOC Station P 51.37 264 *i*P **P 20 05 11.4 +0.1**
GO01 Chusmiza 51.48 267 *e*P **P 20 05 10.9 -1.6**
comp=Z,49nm,1.0s
GO01 LR LR
comp=Z,13µm,20.0s
PB02 IPOC Station P 51.50 265 *i*P **P 20 05 12.2 -0.1**
PB11 IPOC Station P 51.85 267 *e*P **P 20 05 13.7 -1.2**
comp=Z,176nm,1.6s
PB11 LR LR
comp=Z,7µm,19.0s
PB11 IPOC Station P 51.85 267 *e*P **P 20 05 14.3 -0.5**
LPAZ La Paz 51.86 272 *e*P **P 20 05 13.6 -1.9**
LPAZ *e* 20 05 13.9
LPAZ La Paz 51.86 272 *i*P **P 20 05 14.5 -1.1**
LPAZ La Paz 51.86 272 *e*P **P 20 05 13.6 -1.9**
LPAZ *e* 20 05 13.9
LPAZ La Paz 51.86 272 P **P 20 05 13.9 -1.6**
comp=Z,5.5nm,0.9s,baz=118,slow=4.4,SNR=19
LPAZ LR LR 20 25 16.7
comp=Z,7µm,21.8s,baz=124,slow=34
LPAZ La Paz 51.86 272 *e*P **P 20 05 14.7 -0.8**
MNMC Minye Minye 52.03 268 *e*P **P 20 05 14.5 -1.9**
comp=Z,214nm,1.8s
MNMC LR LR
comp=Z,7µm,20.0s
MNMCX Minye Minye 52.03 268 *i*P **P 20 05 16.9 +0.5**
PSGCX Pisagua 52.31 267 *i*P **P 20 05 17.7 -0.6**
PTGA Pitinga 52.69 294 *e*P **P 20 05 20.4 -0.7**
comp=Z,35nm,1.2s
PTGA LR LR
comp=Z,12µm,22.0s
PTGA Pitinga 52.69 294 *e*P **P 20 05 21.2 +0.2**
PB12 IPOC Station P 52.87 268 *i*P **P 20 05 21.8 -0.6**
TAM Tamanrasset 54.52 21 *e*P **P 20 05 35.3 +0.9**
comp=Z,93nm,1.7s
TAM LR LR
comp=Z,4µm,19.0s
TAM Tamanrasset 54.52 21 *e*P **P 20 05 35.3 +0.9**
TAM pmax pmax
comp=Z,93nm,1.7s
TAM MLR MLR
comp=Z,4µm,19.0s
NAI Nairobi 54.98 69 PFAKE 20 05 50.0 +12
NAI LR LR
comp=Z,8µm,21.0s
KMBO Kilima Mbogo 55.43 69 *e*P **P 20 05 40.4 -0.9**
KMBO *e*pP **P 20 05 40.6 -0.7**
KMBO LR LR
comp=Z,8µm,20.0s
KMBO Kilima Mbogo 55.43 69 *i*P **P 20 05 44.6 +3.2**
SNR=11
KMBO Kilima Mbogo 55.43 69 *e*P **P 20 05 40.4 -0.9**
KMBO *e**PP **P 20 05 40.6 -0.7**
KMBO MLR MLR
comp=Z,8µm,20.0s
KMBO Kilima Mbogo 55.43 69 P **P 20 05 44.9 +3.6**
SNR=9.3
KMBO P **P 20 05 44.9 +3.6**
SNR=9.3
KMBO Kilima Mbogo 55.43 69 P **P 20 05 43.8 +2.4**
comp=Z,6.3nm,0.8s,baz=213,slow=9.4,SNR=9.2
KMBO LR LR 20 27 24.4
comp=Z,8µm,20.4s,baz=242,slow=34
ABPO Ambohimpanom 55.57 94 *e*P **P 20 05 41.5 -0.7**
comp=Z,44nm,1.0s
ABPO LR LR
comp=Z,7µm,19.0s
ABPO Ambohimpanom 55.57 94 *e*P **P 20 05 41.5 -0.7**
ABPO pmax pmax
comp=Z,44nm,1.0s
ABPO MLR MLR
comp=Z,7µm,19.0s
MACI Morro de la Ar 56.98 357 *e*P **P 20 05 50.0 -2.0**
comp=Z,63nm,1.0s
MAW Mawson 58.27 154 *e*P **P 20 06 00.0 -0.3**
comp=Z,40nm,1.7s
MAW LR LR
comp=Z,900nm,20.0s
MAW Mawson 58.27 154 *e*P **P 20 06 00.0 -0.3**
MAW pmax pmax
comp=Z,40nm,1.7s
MAW MLR MLR
comp=Z,900nm,20.0s
MAW Mawson 58.27 154 P **P 20 06 01.3 +1.0**
comp=Z,22nm,0.9s,baz=280,slow=7.1,SNR=20
MAW LR LR 20 27 01.1
comp=Z,4µm,18.3s,baz=282,slow=32
QSPA South Pole Qui 61.26 180 *e*P **P 20 06 21.0 -0.2**
comp=Z,101nm,1.2s
QSPA LR LR
comp=Z,1µm,19.0s
BBGH Gun Hill 61.31 307 *e*P **P 20 06 19.8 -2.3**
comp=Z,709nm,1.3s
BBGH LR LR
comp=Z,5µm,21.0s
NNA Nana 61.32 272 PFAKE 20 06 30.0 +7.7
NNA LR LR
comp=Z,5µm,20.0s
PMOZ Porto Moniz, M 61.57 356 *e*LR LR 20 25 19.5
comp=Z,843nm,20.0s
MDT Midelt 61.98 8 P **P 20 06 27.4 +1.1**
comp=Z,17nm,1.1s,baz=216,slow=4.7,SNR=16
GRGR Grenville 62.12 304 *e*P **P 20 06 25.5 -2.0**
comp=Z,124nm,1.1s
GRGR LR LR
comp=Z,2µm,21.0s
FURI Furi 62.57 61 *e*P **P 20 06 31.6 +0.7**
comp=Z,121nm,1.8s
FURI LR LR
comp=Z,4µm,20.0s
SVB Belmont 62.60 305 *e*P **P 20 06 28.3 -2.4**
RTC Rabat Centre 62.90 6 PFAKE 20 06 40.0 +7.7
RTC LR LR
comp=Z,5µm,20.0s
FDF Fort de France 63.52 307 *e*P **P 20 06 36.4 -0.4**
comp=Z,264nm,1.8s
FDF LR LR
comp=Z,2µm,21.0s
FDF Fort de France 63.52 307 *e*P **P 20 06 36.4 -0.4**
FDF pmax pmax
comp=Z,264nm,1.8s
FDF MLR MLR
comp=Z,2µm,21.0s
BAMF Morne Balai 63.57 307 *e*P P 20 06 45.2 +7.9
GBMF Grand Be 63.57 307 *e*P P 20 06 44.2 +7.0
CXM Morne La Croix 63.59 307 ‖*e*P P 20 06 44.2 +6.8
MRIV Mauritius Mete 64.01 100 *e*P **P 20 06 39.9 -0.3**
comp=Z,55nm,1.6s
MRIV LR LR
comp=Z,2µm,21.0s
SFS San Fernando 65.42 6 PFAKE 20 07 00.0 +11
SFS LR LR
comp=Z,1µm,20.0s
PTLC Puerto Leguiza 65.47 285 *e*P **P 20 06 46.7 -3.0**
PTLC Puerto Leguiza 65.47 285 *e*P **P 20 06 46.7 -3.0**
PFVI Vila Bisbo 65.88 4 PFAKE 20 07 00.0 +8.2
PFVI LR LR
comp=Z,2µm,22.0s
ANWB Willy Bob 65.98 308 PFAKE 20 07 00.0 +7.2
ANWB LR LR
comp=Z,2µm,22.0s
PBDV Barranco-do-Ve 66.05 5 *e*P **P 20 06 53.3 +0.4**
comp=Z,11nm,0.7s
MORF Marmelete 66.06 4 *e*P **P 20 06 53.7 +0.6**
MORF AMS AMS 20 31 56.2
comp=Z,2µm,23.4s
MORF Marmelete 66.06 4 *e*P **P 20 06 53.6 +0.6**
PVAQ Vaqueiros 66.22 5 *e*LQ LQ 20 23 29.9
PTEO Sao Teotonio 66.30 4 *e*P **P 20 06 54.7 +0.3**
comp=Z,101nm,1.7s
TAMC Tame, Arauca 66.42 292 *e*P **P 20 06 56.1 +0.3**
TAMC Tame, Arauca 66.42 292 *e*P **P 20 06 56.1 +0.3**
PCVE Castro Verde 66.43 4 *e*P **P 20 06 56.0 +0.7**
comp=Z,89nm,1.9s
MESJ Messejana 66.62 4 *e*P **P 20 06 57.1 +0.6**
MESJ AMS AMS 20 32 25.8
comp=Z,2µm,22.9s
MESJ Messejana 66.62 4 *e*P **P 20 06 57.0 +0.6**
SEUS St. Eustatius 66.68 307 PFAKE 20 07 10.0 +13
SEUS LR LR
comp=Z,2µm,19.0s
PBEJ Beja 66.83 5 *e*P **P 20 06 58.6 +0.8**
comp=Z,66nm,1.7s
PNCL Nicolau / Gran 66.87 4 *e*P **P 20 06 59.3 +1.2**
comp=Z,56nm,1.8s
SDV Santo Domingo 66.92 295 *e*P **P 20 06 58.5 -0.8**
comp=Z,57nm,1.1s
SDV LR LR
comp=Z,8µm,18.0s
SDV Santo Domingo 66.92 295 *e*P **P 20 06 58.9 -0.4**
FLOC Florencia 66.94 286 *e*P **P 20 07 00.0 +0.8**
FLOC Florencia 66.94 286 *e*P **P 20 07 00.0 +0.8**
CKHR Kef el Ahmar 66.99 16 P P 20 07 05.4 +6.3
CHIC Chingaza 66.99 289 *e*P **P 20 06 58.7 -1.3**
CHIC Chingaza 66.99 289 *e*P **P 20 06 58.7 -1.3**
SMRT St. Maarten 67.13 308 PFAKE 20 07 10.0 +10
SMRT LR LR
comp=Z,2µm,22.0s
SET Setif 67.14 16 P **P 20 07 01.0 +1.0**
RUSC La Rusia 67.17 291 *e*P **P 20 07 02.0 +0.9**
RUSC La Rusia 67.17 291 *e*P **P 20 07 02.0 +0.9**
CART Cartagena 67.18 10 PFAKE 20 07 10.0 +10
CART LR LR
comp=Z,3µm,19.0s
CTEI Djebel Teioual 67.26 17 P P 20 07 06.0 +5.2
EVO Evora 67.32 4 *e*P **P 20 07 01.8 +0.8**
comp=Z,75nm,1.8s
ATD Arta Tunnel 67.41 62 PFAKE 20 07 10.0 +7.9
ATD LR LR
comp=Z,3µm,19.0s
LIS Lisbon 67.44 3 *e*P **P 20 07 02.1 +0.5**
LIS AMS AMS 20 33 17.7
comp=E,2µm,19.0s
LIS Lisbon 67.44 3 *e*P **P 20 07 02.1 +0.5**
PRAC Prado 67.45 288 *e*P **P 20 07 04.0 +1.6**
PRAC Prado 67.45 288 *e*P **P 20 07 04.0 +1.6**
CASM Ain Smara 67.47 17 P **P 20 07 06.4 +4.4**
ROSC El Rosal 67.60 289 *e*P **P 20 07 02.1 -1.7**
comp=E,74nm,1.8s
ROSC LR LR
comp=Z,6µm,19.0s
ROSC El Rosal 67.60 289 P **P 20 07 05.2 +1.5**
comp=Z,6.8nm,0.4s,baz=199,slow=1.3,SNR=8.5
ROSC LR LR 20 35 38.9
comp=Z,7µm,18.8s,baz=164,slow=35
BARC Barichara 67.65 292 *e*P **P 20 07 04.7 +0.8**
BARC Barichara 67.65 292 *e*P **P 20 07 04.7 +0.8**
CKFL Kef-Lekhel 67.66 17 P **P 20 07 07.4 +4.1**
CAPV Capacho 67.67 293 *e*P **P 20 07 06.0 +2.0**
CAPV Capacho 67.67 293 *e*P **P 20 07 06.0 +2.0**
PAMC Pamplona, Colo 67.68 292 *e*P **P 20 07 05.3 +0.9**
PAMC Pamplona, Colo 67.68 292 *e*P **P 20 07 05.3 +0.9**
ABSA Djebel Ababsia 67.75 18 P P 20 07 09.1 +5.3
KEST Kesra 67.77 20 *e*P **P 20 07 04.8 +0.9**
comp=Z,140nm,1.4s
KEST LR LR
comp=Z,5µm,18.0s
KEST Kesra 67.77 20 P **P 20 07 05.0 +1.1**
comp=Z,36nm,1.0s,baz=161,slow=4.7,SNR=19
KEST LR LR 20 35 10.5
comp=Z,5µm,18.0s,baz=145,slow=35
PMTG Montargil 67.84 4 *e*P **P 20 07 04.9 +0.7**
comp=Z,65nm,1.7s
MARP Paez Belalcaza 67.87 287 *e*P **P 20 07 07.3 +1.9**
MARP Paez Belalcaza 67.87 287 *e*P **P 20 07 07.3 +1.9**
SOTA Rioblanco 68.04 285 *e*P **P 20 07 08.0 +1.3**
SOTA Rioblanco 68.04 285 *e*P **P 20 07 08.0 +1.3**
CMAH Djebel Manchou 68.06 18 P **P 20 07 08.6 +2.9**
PMRV Marv??o 68.26 5 *e*P P 20 07 11.6 +4.7
comp=Z,114nm,1.7s
PMRV Marv??o 68.26 5 *e*LQ LQ 20 24 43.7
PMRV *e*LR LR 20 29 19.6
comp=Z,2µm,22.0s
POPC Popayan, Colom 68.31 286 *e*P **P 20 07 08.0 -0.1**
POPC Popayan, Colom 68.31 286 *e*P **P 20 07 08.0 -0.1**
BRRC Barranca, Sant 68.37 292 *e*P **P 20 07 04.7 -3.5**
BRRC Barranca, Sant 68.37 292 *e*P **P 20 07 04.7 -3.5**
PTOM Tomar 68.38 4 *e*P **P 20 07 09.8 +2.2**
comp=Z,88nm,1.7s
NORC Norcasia 68.45 290 *e*P **P 20 07 06.6 -2.1**
NORC Norcasia 68.45 290 *e*P **P 20 07 06.6 -2.1**
ABVI Anegada Island 68.46 307 PFAKE 20 07 20.0 +11
ABVI LR LR
comp=Z,2µm,20.0s
OTAV Otavalo 68.62 283 PFAKE 20 07 20.0 +10
OTAV LR LR
comp=Z,6µm,20.0s
OTAV Otavalo 68.62 283 *e*P **P 20 07 10.5 +0.3**
PAB San Pablo 68.66 7 *e*P **P 20 07 09.0 -0.4**
comp=Z,56nm,1.9s
PAB San Pablo 68.66 7 *e*P **P 20 07 09.0 -0.4**
PAB pmax pmax
comp=Z,56nm,1.9s
PTBC PUERTO BERRIO, 68.66 291 *e*P **P 20 07 08.6 -1.3**
PTBC PUERTO BERRIO, 68.66 291 *e*P **P 20 07 08.6 -1.3**
PCBR Castelo Branco 68.66 5 *e*P **P 20 07 10.5 +1.2**
comp=Z,54nm,1.7s
GUY2C Guyana, Caldas 68.67 289 *e*P **P 20 07 10.6 0.0**
GUY2C Guyana, Caldas 68.67 289 *e*P **P 20 07 10.6 0.0**
PCAS Casmilo, Conde 68.81 4 *e*P **P 20 07 11.5 +1.2**
comp=Z,85nm,1.6s
ESDC Sonseca Array 68.83 8 *e*P **P 20 07 09.8 -0.7**
ESDC Sonseca Array 68.83 8 P **P 20 07 11.3 +0.8**
comp=Z,4.5nm,1.1s,baz=181,slow=7.0,SNR=12
ESDC LR LR 20 35 12.4
comp=Z,948nm,19.7s,baz=185,slow=34
ESLA Sonseca Array 68.83 8 *e*P **P 20 07 10.8 +0.3**
comp=Z,28nm,1.3s
ESLA LR LR
comp=Z,2µm,20.0s
CUPR Culebra, Puert 68.84 307 *e*P **P 20 07 10.6 -0.3**
MTP Monte Pirata 68.89 306 PFAKE 20 07 20.0 +8.8
MTP LR LR
comp=Z,3µm,19.0s
MSEY Mahe Island 69.10 84 PFAKE 20 07 20.0 +7.2
MSEY LR LR
comp=Z,6µm,19.0s
MSEY Mahe Island 69.10 84 P **P 20 07 15.3 +2.5**
HUMP Col San Antoni 69.13 306 *e*P **P 20 07 11.4 -1.3**
HUMP LR LR
comp=Z,4µm,19.0s
MTE Manteigas 69.21 5 *e*LQ LQ 20 26 42.3
MTE *e*LR LR 20 29 31.5
comp=Z,1µm,24.0s
MTE Manteigas 69.21 5 PFAKE 20 07 20.0 +7.1
MTE LR LR
comp=Z,2µm,20.0s
SJG San Juan 69.33 306 PFAKE 20 07 20.0 +6.1
SJG LR LR
comp=Z,4µm,20.0s
SJG San Juan 69.33 306 P **P 20 07 14.4 +0.5**
comp=Z,16nm,0.3s,baz=77,slow=8.5,SNR=3.2
HELC Santa Helena 69.34 290 *e*P **P 20 07 11.3 -3.4**
HELC Santa Helena 69.34 290 *e*P **P 20 07 11.3 -3.4**
ICMP Isla Caja de M 69.45 305 PFAKE 20 07 30.0 +15
ICMP LR LR
comp=Z,4µm,20.0s
PVIS Viseu 69.50 4 *e*P **P 20 07 15.5 +0.9**
comp=Z,56nm,1.8s
WDD Wied Dalam 69.54 24 PFAKE 20 07 30.0 +15
WDD LR LR
comp=Z,1µm,22.0s
SMLC San Martn de 69.63 293 *e*P **P 20 07 14.6 -1.3**
SMLC San Martn de 69.63 293 *e*P **P 20 07 14.6 -1.3**
URIC Uribia, Colomb 69.67 297 *e*P **P 20 07 12.6 -3.5**
URIC Uribia, Colomb 69.67 297 *e*P **P 20 07 12.6 -3.5**
EMPR Esperanza - Ma 69.84 306 PFAKE 20 07 30.0 +13
EMPR LR LR
comp=Z,4µm,20.0s

AOPR Arecibo Observ 69.91 306 PFAKE 20 07 30.0 +12
AOPR LR LR
comp=Z,4μm,22.0s
CRPR Cabo Rojo, PR 69.94 305 PFAKE 20 07 30.0 +12
CRPR LR LR
comp=Z,4μm,20.0s
MVO Moncorvo 70.01 5 *e*P **P 20 07 17.4 -0.4**
comp=Z,69nm,2.3s
MVO Moncorvo 70.01 5 *e*LR LR 20 30 14.7
comp=Z,1μm,22.0s
MPR Mayaguez 70.10 305 *e*P **P 20 07 14.3 -4.4**
MPR LR LR
comp=Z,4μm,20.0s
UREC San Jos de Ur 70.22 291 *e*P **P 20 07 17.9 -1.7**
UREC San Jos de Ur 70.22 291 *e*P **P 20 07 17.9 -1.7**
DAMY Dhamar 70.46 60 PFAKE 20 07 30.0 +8.6
DAMY LR LR
comp=Z,5μm,20.0s
PCAB Cabril 70.49 4 *e*P **P 20 07 22.6 +2.0**
comp=Z,65nm,1.3s
PBRG Braganca 70.67 5 *e*P **P 20 07 23.4 +1.6**
comp=Z,74nm,1.8s
CLTB Caltabellotta 70.67 22 PFAKE 20 07 30.0 +8.1
CLTB LR LR
comp=Z,1μm,18.0s
PGAV Gavieira, Arco 70.72 4 *e*LR LR 20 30 09.0
comp=Z,753nm,24.0s
VAE Valguarnera 70.98 23 P **P 20 07 25.8 +2.0**
comp=Z,9.6nm,0.8s,baz=85,slow=23,SNR=5.9
SJCC San Jacinto, C 71.15 293 *e*P **P 20 07 26.6 +1.3**
SJCC San Jacinto, C 71.15 293 *e*P **P 20 07 26.6 +1.3**
CEL Celeste 72.20 24 PFAKE 20 07 40.0 +8.9
CEL LR LR
comp=Z,1μm,20.0s
SDD Santo Domingo 72.26 304 PFAKE 20 07 40.0 +8.2
SDD LR LR
comp=Z,4μm,19.0s
VAM Vamos 73.09 31 P **P 20 07 36.6 +0.2**
IDI Anoyia 73.31 32 P **P 20 07 39.3 +1.5**
comp=Z,8.2nm,0.6s,baz=214,slow=7.0,SNR=13
TIP Timpagrande 73.32 24 *e*P **P 20 07 35.9 -1.9**
comp=Z,29nm,1.1s
TIP LR LR
comp=Z,2μm,21.0s
TIP Timpagrande 73.32 24 P **P 20 07 36.8 -0.9**
TIP Timpagrande 73.32 24⇑*i*P **P 20 07 36.9 -0.8**
SBA Scott Base 73.42 180 *e*P **P 20 07 38.0 +0.1**
comp=Z,233nm,1.8s
SBA Scott Base 73.42 180 *e*P **P 20 07 38.0 +0.1**
SBA pmax pmax
comp=Z,233nm,1.8s
ITM Ithomi 73.58 29 *e*P **P 20 07 39.7 +0.4**
comp=Z,94nm,1.6s
ITM LR LR
comp=Z,1μm,21.0s
ITM Ithomi 73.58 29 P **P 20 07 39.5 +0.2**
SDDR Presa de Saban 73.60 303 PFAKE 20 07 50.0 +10
SDDR LR LR
comp=Z,4μm,22.0s
VLI Veliai 73.63 30 *e*P **P 20 07 39.0 -0.5**
VLI Veliai 73.63 30 P **P 20 07 39.0 -0.5**
VNDA Vanda 73.72 179 *e*P **P 20 07 38.9 -0.7**
VNDA *e*PcP **P 20 07 39.1 -0.5**
VNDA Vanda 73.72 179 *e*P **P 20 07 38.9 -0.7**
VNDA *e* 20 07 39.1
VNDA Vanda 73.72 179 P **P 20 07 40.0 +0.4**
comp=Z,1.8nm,0.8s,baz=205,slow=5.4,SNR=14
VNDA LR LR 20 37 13.8
comp=Z,1μm,20.6s,baz=168,slow=34
ZKR Zakros 73.79 33 *e*P **P 20 07 40.9 +0.4**
ZKR Zakros 73.79 33 P **P 20 07 40.9 +0.4**
AMT Artemida-Makis 73.79 28 P **P 20 07 42.6 +2.1**
KFL Anninata 73.91 27 P **P 20 07 41.5 +0.3**
DRO Drossia 74.15 28 P **P 20 07 44.0 +1.4**
EIL Elat 74.24 42 P **P 20 07 44.4 +1.1**
comp=Z,12nm,0.9s,baz=210,slow=1.8,SNR=6.1
GUR Goura 74.40 28 *e*P **P 20 07 44.7 +0.5**
GUR Goura 74.40 28 P **P 20 07 44.7 +0.5**
KLV Kalavryta, Ach 74.41 28 P **P 20 07 44.8 +0.6**
DID Didima 74.42 29 *e*P **P 20 07 43.5 -0.7**
DID Didima 74.42 29 P **P 20 07 43.5 -0.7**
SANT Santorini 74.46 32 PFAKE 20 08 00.0 +16
SANT LR LR
comp=Z,700nm,21.0s
LAKA Lakka 74.51 28 *e*P **P 20 07 44.7 0.0**
LAKA Lakka 74.51 28 P **P 20 07 44.7 0.0**
BCIP Isla Barro Col 74.54 290 PFAKE 20 08 00.0 +15
BCIP LR LR
comp=Z,5μm,20.0s
KARP Karpathos 74.59 33 P **P 20 07 44.4 -0.8**
ANAF Anafi Island 74.59 32 P **P 20 07 45.2 0.0**
MATE Matera 74.61 23⇓*i*P **P 20 07 42.2 -2.9**
EFP Efpalio 74.64 28 P **P 20 07 45.6 +0.2**
PVO Paravola 74.64 28 P **P 20 07 46.1 +0.7**
TRIZ Trizonia 74.65 28 P **P 20 07 45.5 +0.1**
SERG Sergoula 74.69 28 P **P 20 07 46.3 +0.6**
ANX Ano Chora 74.78 28 P **P 20 07 46.9 +0.5**
DSF Desfina 74.88 28 P **P 20 07 46.8 -0.1**
KEK Kerkira 74.91 26 *e*P **P 20 07 47.0 +0.1**
KEK Kerkira 74.91 26 P **P 20 07 47.0 +0.1**
IGT Igoumenitsa 74.96 26 *e*P **P 20 07 47.3 +0.1**
IGT Igoumenitsa 74.96 26 P **P 20 07 47.3 +0.1**
IGT Igoumenitsa 74.96 26 *e*P **P 20 07 47.3 +0.1**
VILL Villia 75.00 29 P **P 20 07 47.5 -0.1**
ATH Athens Observa 75.01 29 P **P 20 07 47.5 -0.1**
EVR Evrytania 75.02 28 P **P 20 07 48.0 +0.3**
ATHU Athens Univers 75.04 29 *e*P **P 20 07 46.3 -1.4**
ATHU Athens Univers 75.04 29 P **P 20 07 46.3 -1.4**
AQU L'Aquila 75.08 20 *e*P **P 20 07 48.2 +0.3**
comp=Z,69nm,1.4s
AQU LR LR
comp=Z,4μm,21.0s
AQU L'Aquila 75.08 20 *e*P **P 20 07 48.2 +0.3**
AQU pmax pmax
comp=Z,69nm,1.4s
AQU MLR MLR
comp=Z,4μm,21.0s
GRTK Grand Turk 75.09 305 PFAKE 20 08 00.0 +12
GRTK LR LR
comp=Z,2μm,20.0s
SRN Sarande 75.13 26 P **P 20 07 48.2 0.0**
PTL Penteli 75.14 29 *e*P **P 20 07 48.6 +0.2**
PTL Penteli 75.14 29 P **P 20 07 48.6 +0.2**
DION Dionisos Attik 75.20 30 P **P 20 07 49.2 +0.5**
AXAR Agios Charalam 75.24 28 *e*P **P 20 07 51.5 +2.6**
AXAR Agios Charalam 75.24 28 P **P 20 07 51.5 +2.6**
JAN Janina 75.27 27 P **P 20 07 50.1 +1.1**
LKR Lokris 75.28 29 P **P 20 07 49.2 +0.1**
AGG Agios Georgios 75.32 28 *e*P **P 20 07 49.3 0.0**
comp=Z,34nm,1.5s
AGG LR LR
comp=Z,600nm,19.0s
AGG Agios Georgios 75.32 28 P **P 20 07 49.6 +0.3**
AGG Agios Georgios 75.32 28 *e*P **P 20 07 49.3 0.0**
AGG pmax pmax
comp=Z,34nm,1.5s
AGG MLR MLR
comp=Z,600nm,19.0s
ATAL Atalanti 75.33 29 *e*P **P 20 07 48.2 -1.2**
ATAL Atalanti 75.33 29 P **P 20 07 48.2 -1.2**
SSB Saint Sauveur 75.64 13 *e*P **P 20 07 51.9 +0.8**
comp=Z,26nm,1.2s
SSB LR LR
comp=Z,1μm,20.0s
SSB Saint Sauveur 75.64 13 *e*P **P 20 07 51.9 +0.8**
SSB pmax pmax
comp=Z,26nm,1.2s
SSB MLR MLR
comp=Z,1μm,20.0s
THL Klokotos Trika 75.65 27 P **P 20 07 50.1 -1.1**
KPRO Kipourio 75.72 27 P **P 20 07 52.5 +0.8**
PENT Pentalofos 75.84 26 P **P 20 07 53.0 +0.6**
BNI Bardonecchia 75.86 14 PFAKE 20 08 00.0 +7.6
BNI LR LR
comp=Z,1μm,22.0s
BODT Bodrum 75.88 32 *e*P **P 20 07 53.0 +0.4**
BODT Bodrum 75.88 32 P **P 20 07 53.0 +0.4**
CASY Casey 75.89 160 PFAKE 20 08 00.0 +7.7
CASY LR LR
comp=Z,3μm,19.0s
FYTO Fytoko, Volos 75.89 28 *e*P **P 20 07 53.7 +1.1**
FYTO Fytoko, Volos 75.89 28 P **P 20 07 53.7 +1.1**
VLC Villacollemand 75.90 17 PFAKE 20 08 00.0 +7.4
VLC LR LR
comp=Z,1μm,19.0s
XOR Xorichti 75.96 28 P **P 20 07 53.0 0.0**
KZN Kozani 76.19 27 P **P 20 07 54.3 0.0**
SMG Samos 76.19 32 P **P 20 07 54.6 +0.3**
KSL Kastellorizon 76.25 34 P **P 20 07 55.4 +0.7**
LIT Litokhoron 76.30 27 *e*P **P 20 07 54.0 -0.9**
comp=Z,26nm,1.0s
LIT Litokhoron 76.30 27 P **P 20 07 54.4 -0.5**
LIT Litokhoron 76.30 27 *e*P **P 20 07 54.0 -0.9**
LIT pmax pmax
comp=Z,26nm,1.0s
TIR Tirane 76.36 25 *e*P **P 20 07 56.2 +1.0**
comp=Z,50nm,1.0s
TIR LR LR
comp=Z,1μm,19.0s
CHOS Chios island 76.39 31 P **P 20 07 55.8 +0.3**
FETY Fethiye 76.39 34 *e*P **P 20 07 55.1 -0.4**
FETY Fethiye 76.39 34 P **P 20 07 55.1 -0.4**
FNA Florina 76.44 26 *e*P **P 20 07 55.9 +0.1**
comp=Z,79nm,1.8s
FNA Florina 76.44 26 P **P 20 07 55.6 -0.2**
FNA Florina 76.44 26 *e*P **P 20 07 55.9 +0.1**
FNA pmax pmax
comp=Z,79nm,1.8s
OHR Ohrid 76.50 26 *i*P **P 20 07 57.0 +0.9**
BIA Bitola 76.62 26 *i*P **P 20 07 58.0 +1.2**
PAIG Paliouri 76.64 28 P **P 20 07 57.4 +0.6**
ULC Ulcinj 76.67 24⇓*i*P **P 20 07 56.8 -0.2**
HCY Herceg Novi 76.82 24⇓*i*P **P 20 07 58.6 +0.8**
BUM Brajici-Budva 76.84 24⇓*i*P **P 20 07 58.5 +0.5**
DRME Dracevica, Mon 76.84 24⇓*i*P **P 20 07 59.2 +1.3**
PLG Polygyros 76.92 28 P **P 20 07 58.7 +0.3**
MMAI Mount Meron Ar 76.95 40 P **P 20 07 59.9 +1.0**
comp=Z,17nm,1.1s,baz=254,slow=5.1,SNR=6.6
HORT Hortiatis 76.97 28 P **P 20 07 58.5 -0.3**
GTBY Guantanamo Bay 77.01 302 PFAKE 20 08 10.0 +11
GTBY LR LR
comp=Z,2μm,20.0s
CEME Cevo 77.06 24⇓*i*P **P 20 07 59.5 +0.3**
PDG Podgorica 77.08 24⇑*i*P **P 20 07 59.9 +0.7**
TTG Podgorica 77.08 24⇓*i*P **P 20 08 00.1 +0.9**
TTG Podgorica 77.08 24 *e*P **P 20 07 59.4 +0.2**
comp=Z,46nm,1.5s
TTG LR LR
comp=Z,1μm,22.0s
TTG Podgorica 77.08 24 *e*P **P 20 07 59.4 +0.2**
TTG pmax pmax
comp=Z,46nm,1.5s
TTG MLR MLR
comp=Z,1μm,22.0s
OUR Ouranopolis 77.11 28 *e*P **P 20 07 59.7 +0.3**
OUR Ouranopolis 77.11 28 P **P 20 07 59.7 +0.3**
OUR Ouranopolis 77.11 28 *e*P **P 20 07 59.7 +0.3**
LEF Lefka 77.15 37⇓*i*P **P 20 08 00.8 +1.0**
PRK Paraskevi 77.19 30 P **P 20 08 01.8 +1.9**
ASF Jabal al Asfar 77.20 42 P **P 20 08 01.3 +1.0**
comp=Z,5.2nm,1.0s,baz=202,slow=3.8,SNR=5.2
BRY Bratogost 77.24 23⇓*i*P **P 20 08 00.4 +0.1**
SENIN Lac Senin/Sane 77.24 14 *e*P **P 20 07 59.8 -0.6**
comp=Z,18nm,1.3s
SENIN LR LR
comp=Z,1μm,22.0s
SOH Sokhos 77.26 28 P **P 20 08 01.1 +0.7**
CSS Mathiatis 77.27 38 *e*P **P 20 07 59.4 -1.2**
comp=Z,33nm,1.4s
CSS LR LR
comp=Z,1μm,19.0s
CSS Mathiatis 77.27 38 P **P 20 07 59.7 -0.8**
NKME Niksic 77.27 24⇓*i*P **P 20 08 00.4 +0.1**
NKY Niksic 77.32 24⇓*i*P **P 20 08 00.7 0.0**
KNT Kendrikon 77.36 27 P **P 20 07 59.9 -1.0**
VAY Valandovo 77.37 27 *e*P **P 20 08 01.2 +0.3**
VAY Valandovo 77.37 27 P **P 20 08 01.2 +0.3**
VAY Valandovo 77.37 27 *i*P **P 20 08 02.1 +1.3**
VAY Valandovo 77.37 27 *e*P **P 20 08 01.2 +0.3**
PVY Plav 77.47 24⇓*i*P **P 20 08 02.1 +0.5**
SKO Skopje 77.49 26 *i*P **P 20 08 02.2 +0.6**
STIP Stip 77.53 26 *i*P **P 20 08 01.6 -0.2**
KOME Kolasin 77.54 24⇓*i*P **P 20 08 02.7 +0.8**
SRS Serrai 77.60 28 P **P 20 08 01.3 -0.9**
MANT Manisa 77.62 32 *e*P **P 20 08 02.4 -0.2**
comp=Z,125nm,1.1s
UPM Unac-Piva 77.63 23⇓*i*P **P 20 08 02.3 -0.3**
THAS Thassos island 77.64 29 P **P 20 08 01.4 -1.0**
KULA Kula-Manisa 77.69 32 P **P 20 08 03.4 +0.6**
EZN Ezine 77.69 30 *e*P **P 20 08 03.3 +0.6**
EZN Ezine 77.69 30 P **P 20 08 03.3 +0.6**
EZN Ezine 77.69 30⇑*i*P **P 20 08 03.8 +1.1**
EZN Ezine 77.69 30 *e*P **P 20 08 03.3 +0.6**
IVA Berane 77.69 24⇓*i*P **P 20 08 03.3 +0.5**
TUE Stuetta 77.81 16 *e*P **P 20 08 03.0 -0.5**
comp=Z,62nm,1.6s
TUE LR LR
comp=Z,2μm,20.0s
MTDJ Mount Denham 77.84 299 PFAKE 20 08 10.0 +5.9
MTDJ LR LR
comp=Z,4μm,22.0s
SMTH Samothraki Isl 77.87 29 *e*P **P 20 08 02.7 -1.0**
SMTH Samothraki Isl 77.87 29 P **P 20 08 02.7 -1.0**
KAVA Kavala 77.88 28 *e*P **P 20 08 03.8 +0.1**
KAVA Kavala 77.88 28 P **P 20 08 03.8 +0.1**
NVR Nevrokopi 77.91 28 P **P 20 08 01.7 -2.3**
PLE Pljevlja 77.91 24⇓*i*P **P 20 08 03.9 -0.1**
ISP Isparta 78.03 34 *e*P **P 20 08 04.9 +0.1**
ISP LR LR
comp=Z,600nm,20.0s
ISP Isparta 78.03 34 P **P 20 08 04.9 +0.1**
ISP Isparta 78.03 34⇓*i*P **P 20 08 05.6 +0.8**
ISP Isparta 78.03 34 *e*P **P 20 08 04.9 +0.1**
ISP MLR MLR
comp=Z,600nm,20.0s
KKB Krupnik 78.03 27 *e*P **P 20 08 05.0 +0.4**
MMB Musomiste 78.06 27 *e*P **P 20 08 03.0 -1.8**
FUORN Ofenpass-Fuorn 78.17 16 *e*P **P 20 08 04.4 -1.1**
comp=Z,17nm,0.9s
FUORN LR LR
comp=Z,2μm,22.0s
DAVOX Davos/Dischmat 78.23 16 P **P 20 08 05.7 -0.1**
comp=Z,10nm,0.9s,baz=159,slow=6.5,SNR=9.8
BALB Balikesir 78.23 31 PFAKE 20 08 20.0 +14
BALB LR LR
comp=Z,2μm,20.0s
TRI Trieste 78.25 19 PFAKE 20 08 20.0 +14
TRI LR LR
comp=Z,2μm,22.0s
PAYG Puerto Ayora 78.39 276 PFAKE 20 08 20.0 +13
PAYG LR LR
comp=Z,4μm,20.0s
BLY Banja Luka 78.42 22 *e*P **P 20 08 05.6 -1.1**
comp=Z,19nm,1.2s
BLY LR LR
comp=Z,1μm,20.0s
BLY Banja Luka 78.42 22⇓*i*P **P 20 08 07.1 +0.4**
RDO Rodhopi 78.43 29 *e*P **P 20 08 06.0 -0.8**
RDO Rodhopi 78.43 29 P **P 20 08 06.0 -0.8**
ALN Alexandroupoli 78.44 29 *e*P **P 20 08 05.2 -1.6**
comp=Z,23nm,1.4s
ALN Alexandroupoli 78.44 29 P **P 20 08 06.2 -0.7**
ALN Alexandroupoli 78.44 29 *e*P **P 20 08 05.2 -1.6**
ALN pmax pmax
comp=Z,23nm,1.4s
HDC Heredia 78.53 288 PFAKE 20 08 20.0 +12
HDC LR LR
comp=Z,9μm,20.0s
RZN Rozhen 78.54 28 *e*P **P 20 08 08.0 +0.3**
FETA Feichten 78.66 16 *e*P **P 20 08 08.5 +0.4**
comp=Z,31nm,1.9s
FETA *e*PP **PP 20 11 10.1 +3.5**
comp=Z,12nm,1.7s
DAVA Damuels 78.70 16 *i*P **P 20 08 08.3 -0.1**
comp=Z,37nm,1.3s,SNR=11
DAVA *i*PP **PP 20 11 10.3 +3.4**
comp=Z,14nm,1.4s
VTS Vitosha 78.73 27 *e*P **P 20 08 08.1 -0.5**
comp=Z,17nm,1.2s
VTS *e*P **P 20 08 08.9 +0.3**
VTS LR LR
comp=Z,900nm,21.0s
VTS Vitosha 78.73 27 P **P 20 08 08.9 +0.3**
VTS Vitosha 78.73 27⇓*i*P **P 20 08 09.5 +0.9**
VTS Vitosha 78.73 27 *e*P **P 20 08 08.1 -0.5**
VTS *e* 20 08 08.9
VTS pmax pmax
comp=Z,17nm,1.2s
VTS MLR MLR
comp=Z,900nm,21.0s
VTS Vitosha 78.73 27 *e*P **P 20 08 04.0 -4.6**
ABTA Abfaltersbach 78.86 18 *i*P **P 20 08 09.9 +0.8**
comp=Z,35nm,1.3s,SNR=12
SQTA Sankt Quirin 78.96 17 *e*P **P 20 08 09.7 0.0**
comp=Z,18nm,1.3s
SQTA *e*PP **PP 20 11 12.4 +3.3**
comp=Z,10.0nm,1.1s
ECH Echery 78.97 14 *e*P **P 20 08 09.4 -0.3**
comp=Z,30nm,1.5s
ECH LR LR
comp=Z,1μm,19.0s
ECH Echery 78.97 14 *e*P **P 20 08 09.4 -0.3**
ECH pmax pmax
comp=Z,30nm,1.5s
ECH MLR MLR
comp=Z,1μm,19.0s
PGB Panagyurishte 79.04 27 *e*P **P 20 08 09.0 -1.2**
MOTA Moosalm 79.05 17 P **P 20 08 10.6 +0.3**
comp=Z,19nm,1.5s
MOTA *i*PP **PP 20 11 12.8 +2.9**
comp=Z,6.8nm,1.0s
MYKA Terra Mystica 79.06 18 P **P 20 08 11.1 +0.9**
comp=Z,22nm,1.7s
MYKA *e*PP **PP 20 11 13.3 +3.4**
comp=Z,7.1nm,1.3s
RETA Reutte 79.10 16 *e*P **P 20 08 10.4 -0.1**
comp=Z,18nm,1.5s
WTTA Wattenberg 79.11 17 *e*P **P 20 08 10.4 -0.2**
comp=Z,41nm,1.6s
WTTA *i*PP **PP 20 11 12.2 +1.8**
comp=Z,16nm,1.7s
WATA Walderalm 79.16 17 *e*P **P 20 08 11.0 +0.1**
comp=Z,56nm,1.8s,SNR=5.2
OBKA Obir 79.21 19 P **P 20 08 11.7 +0.6**
comp=Z,16nm,1.6s
OBKA *e*PP **PP 20 11 14.5 +3.4**
comp=Z,16nm,1.9s
BFO Black Forest 79.33 14 *e*P **P 20 08 10.4 -1.2**
comp=Z,36nm,1.2s
BFO LR LR
comp=Z,700nm,19.0s
BFO Black Forest 79.33 14 *ce*P **P 20 08 12.6 +1.0**
JTS Las Juntas de 79.38 288 *e*P **P 20 08 11.6 -1.1**
comp=Z,30nm,1.1s
JTS LR LR
comp=Z,9μm,20.0s
JTS Las Juntas de 79.38 288 *i*P **P 20 08 12.9 +0.2**
JTS pmax pmax
comp=Z,14nm,1.0s
KBA Koelnbreinsper 79.39 18 *i*P **P 20 08 12.5 +0.3**
comp=Z,16nm,1.4s,SNR=5.8
SOKA Soboth 79.50 19 *i*P **P 20 08 13.3 +0.7**
comp=Z,28nm,1.3s,SNR=21
SOKA *e*PP **PP 20 11 17.2 +3.6**
comp=Z,11nm,1.3s
MPEP Malo Peshtene 79.55 26 P **P 20 08 13.0 +0.1**
YLV Yalova 79.65 32⇑*i*P **P 20 08 14.6 +1.0**
BEHE Becsehely 79.83 21 *e*P **P 20 08 14.1 -0.3**
ESPN Las Esperanzas 79.86 290 *e*P **P 20 08 14.2 -1.0**
comp=Z,34nm,1.0s
ESPN LR LR
comp=Z,4μm,21.0s
STU Stuttgart 79.94 15 PFAKE 20 08 30.0 +15
STU LR LR
comp=Z,900nm,19.0s
WLF Walferdange 80.15 13 *e*P **P 20 08 15.2 -0.8**
comp=Z,369nm,1.4s
WLF LR LR
comp=Z,5μm,20.0s
WLF Walferdange 80.15 13 *e*P **P 20 08 15.2 -0.8**
WLF pmax pmax
comp=Z,369nm,1.4s
WLF MLR MLR
comp=Z,5μm,20.0s
WLF Walferdange 80.15 13⇑P **P 20 08 16.9 +0.9**
comp=Z,43nm,1.8s
ARSA Arzberg 80.16 19 *i*P **P 20 08 16.8 +0.7**
comp=Z,22nm,1.4s,SNR=11
DOU Dourbes 80.28 12⇑P **P 20 08 17.0 +0.3**
HERR Herculane 80.35 25⇑*i*P **P 20 08 17.4 +0.2**
MOA Molln 80.35 18 *e*P **P 20 08 17.2 0.0**
comp=Z,18nm,1.4s
SZH Strazhica 80.36 28 *e*P **P 20 08 17.0 -0.3**
MDUB Mudurnu 80.43 33 PFAKE 20 08 30.0 +12
MDUB LR LR
comp=Z,2μm,22.0s
ACON Acoyapa 80.45 289 *e*P **P 20 08 16.1 -2.3**
comp=Z,72nm,0.8s
ACON LR LR
comp=Z,3μm,19.0s
TIH Tihany 80.56 21 *e*P **P 20 08 21.0 +2.7**
BZS Buzias 80.69 24⇓*i*P **P 20 08 19.6 +0.6**
BCLA Clavier 80.72 12⇑P **P 20 08 20.2 +1.2**
comp=Z,25nm,1.9s
ANTO Ankara 80.73 34⇓*i*P **P 20 08 21.3 +1.8**
ANTO Ankara 80.73 34 P **P 20 08 22.8 +3.4**
SNR=9.7
ANTO P **P 20 08 22.8 +3.4**
SNR=9.7
SOP Sopron 80.86 20 *e*P **P 20 08 22.0 +2.2**
CONA Conrad Observa 80.87 19 *i*P **P 20 08 20.7 +0.6**
comp=Z,27nm,1.5s,SNR=15
PRD Provadia 80.91 29 *e*P **P 20 08 21.0 +0.8**
GZR Gura Zlata 80.92 25⇑*i*P **P 20 08 20.8 +0.5**
UCC Uccle 80.92 11 PFAKE 20 08 30.0 +10
UCC LR LR
comp=Z,1μm,22.0s
HUMR Humele 81.02 27⇓*i*P **P 20 08 21.6 +0.8**
MEM Membach 81.03 12⇓P **P 20 08 21.2 +0.6**
BR131 Keskin Array S 81.04 35 *e*P **P 20 08 21.3 +0.1**
comp=Z,99nm,1.8s
BRTR Keskin Array B 81.04 35 *ce*P **P 20 08 22.8 +1.6**
BRTR pmax pmax
comp=Z,10.0nm,1.0s
BRTR Keskin Array B 81.04 35 P **P 20 08 20.5 -0.8**
comp=Z,6.2nm,0.9s,baz=191,slow=6.0,SNR=22
BRTR LR LR 20 44 27.2
comp=Z,274nm,20.4s,baz=182,slow=36
CSKK Cskako 81.09 21 *e*P **P 20 08 24.0 +2.9**
GEC2 GERESS Array S 81.11 18 *e*P **P 20 08 20.2 -1.0**
comp=Z,43nm,1.9s
GEC2 *e*PP **PP 20 11 24.9 -2.0**
GEC2 LR LR
comp=Z,1μm,19.0s
GEC2 GERESS Array S 81.11 18 *e*P **P 20 08 20.3 -1.0**
GEC2 *e* 20 11 24.9
GEC2 pmax pmax
comp=Z,43nm,1.9s
GEC2 MLR MLR
comp=Z,1μm,19.0s
GERES GERESS Array B 81.11 18 *e*P **P 20 08 20.2 -1.0**
GERES GERESS Array B 81.11 18 P **P 20 08 21.5 +0.2**
comp=Z,1.0nm,0.7s,baz=182,slow=4.0,SNR=8.3
GERES PP **PP 20 11 25.5 -1.4**
comp=Z,2.6nm,0.9s,baz=198,slow=8.0,SNR=8.0
GERES LR LR 20 43 49.7
comp=Z,1μm,19.1s,baz=203,slow=35
GRFO Grafenberg 81.27 16 *e*P **P 20 08 22.0 0.0**
comp=Z,49nm,1.3s
GRFO LR LR
comp=Z,1μm,19.0s
GRA1 Grafenberg Arr 81.27 16 *e*P **P 20 08 21.5 -0.5**
comp=Z,65nm,1.4s
GRA1 LR LR
comp=Z,1μm,19.0s
GRF Grafenberg Arr 81.27 16 *e*P **P 20 08 21.5 -0.5**
GRF pmax pmax
comp=Z,65nm,1.4s
GRF MLR MLR
comp=Z,1μm,19.0s
KHC Kasperske Hory 81.34 17 *e*P **P 20 08 21.7 -0.7**
comp=Z,27nm,2.0s
KHC LR LR
comp=Z,400nm,20.0s
KHC Kasperske Hory 81.34 17 *e*P **P 20 08 22.7 +0.3**
KHC *e* 20 11 25.4
KHC *e*S **S 20 18 32.1 -0.6**
KHC MLR MLR
comp=Z,1μm,22.2s
KHC Kasperske Hory 81.34 17 *e*P **P 20 08 22.7 +0.3**
KHC *e*pP **sP 20 08 25.9 -1.2**
KHC *e*PP **PP 20 11 25.4 -3.3**
KHC *e*S **S 20 18 32.1 -0.6**
KHC AMS AMS 20 41 20.0

comp=Z,1μm,22.2s
ZST Bratislava 81.48 20 *e*P **P 20 08 23.1 0.0**
ZST Bratislava 81.48 20 *e*P **P 20 08 23.1 0.0**
ARR Arges 81.59 26⇓*i*P **P 20 08 24.3 +0.4**
SULR 81.65 27⇓*i*P **P 20 08 24.4 +0.3**
MODS Modra-Piesok 81.69 20 *e*P **P 20 08 22.8 -1.5**
MODS pmax pmax
comp=Z,60nm,1.6s
MODS Modra-Piesok 81.69 20 *e*P **P 20 08 22.8 -1.5**
VOIR 81.81 26⇓*i*P **P 20 08 25.1 0.0**
TREC Trest 82.00 18 *e*P **P 20 08 26.3 +0.4**
TREC MLR MLR
comp=Z,2μm,21.0s
TREC Trest 82.00 18 *e*P **P 20 08 26.3 +0.4**
TREC AMS AMS 20 42 30.0
comp=Z,2μm,21.0s
KRUC Moravsky 82.05 19 *e*P **P 20 08 26.4 +0.3**
KRUC *e*PP **PP 20 11 37.3 +2.8**
NKC Novy Kostel 82.07 16 *e*P **P 20 08 28.4 +2.2**
NKC *e* 20 11 34.3
NKC *e*S **S 20 18 44.6 +4.5**
NKC MLR MLR
comp=Z,1μm,20.1s
NKC Novy Kostel 82.07 16 *e*P **P 20 08 28.4 +2.2**
NKC *e*PP **PP 20 11 34.3 -0.4**
NKC *e*S **S 20 18 44.6 +4.5**
NKC AMS AMS 20 41 20.0
comp=Z,1μm,20.1s
DRGR 82.09 24⇓*i*P **P 20 08 26.9 +0.4**
ILGA Ilgaz 82.09 34 PFAKE 20 08 40.0 +13
ILGA LR LR
comp=Z,500nm,19.0s
PSZ Piszkesteto 82.10 22 *e*P **P 20 08 26.6 +0.1**
comp=Z,38nm,1.2s
PSZ LR LR
comp=Z,1μm,18.0s
PSZ Piszkesteto 82.10 22⇑*i*P **P 20 08 26.8 +0.3**
PSZ Piszkesteto 82.10 22 *e*P **P 20 08 26.6 +0.1**
PSZ pmax pmax
comp=Z,38nm,1.2s
PSZ MLR MLR
comp=Z,1μm,18.0s
PSZ Piszkesteto 82.10 22 *e*P **P 20 08 27.0 +0.5**
MLR Muntele Rosu 82.20 27 PFAKE 20 08 40.0 +13
MLR LR LR
comp=Z,900nm,21.0s
MLR Muntele Rosu 82.20 27⇑*i*P **P 20 08 26.4 -0.8**
MLR Muntele Rosu 82.20 27 P **P 20 08 26.3 -0.9**
comp=Z,25nm,1.0s,baz=170,slow=8.0,SNR=15
JAVC Velka Javorina 82.24 20 *e*P **P 20 08 26.7 -0.5**
VYHS Vyhne 82.27 21 *e*P **P 20 08 25.4 -1.9**
VYHS pmax pmax
comp=Z,15nm,1.1s
VYHS Vyhne 82.27 21 *e*P **P 20 08 25.3 -2.0**
LTVH Ltavrtes, Hu 82.31 23 *e*P **P 20 08 27.1 -0.5**
VRAC Vranov 82.33 19 *e*P **P 20 08 28.0 +0.4**
VRAC *e*PP **PP 20 11 38.3 +1.5**
VRAC Vranov 82.33 19 P **P 20 08 26.9 -0.7**
comp=Z,1.5nm,0.4s,baz=218,slow=7.3,SNR=7.5
GOPC GO Pecny, Ondr 82.37 18 *e*P **P 20 08 28.3 +0.5**
GOPC *e* 20 08 31.2
GOPC *e*S **S 20 18 43.6 +0.3**
GOPC MLR MLR
comp=Z,2μm,19.8s
GOPC GO Pecny, Ondr 82.37 18 *e*P **P 20 08 28.3 +0.5**
GOPC *e*pP **pP 20 08 31.2 -0.1**
GOPC *e*S **S 20 18 43.6 +0.3**
GOPC AMS AMS 20 42 10.0
comp=Z,2μm,19.8s
PRU Pruhonice 82.38 18 *e*P **P 20 08 28.4 +0.6**
PRU *e* 20 08 31.2
PRU *e*S **S 20 18 40.8 -2.4**
PRU MLR MLR
comp=Z,2μm,22.2s
PRU Pruhonice 82.38 18 *e*P **P 20 08 28.4 +0.6**
PRU *e*pP **pP 20 08 31.2 0.0**
PRU *e*S **S 20 18 40.8 -2.4**
PRU AMS AMS 20 41 40.0
comp=Z,2μm,22.2s
DOPR Dopca 82.38 26⇓*i*P **P 20 08 28.7 +0.7**
BISRR Bisoca 82.55 27⇑*i*P **P 20 08 29.3 +0.4**
DGAR Diego Garcia 82.65 94 PFAKE 20 08 40.0 +10
DGAR LR LR
comp=Z,7μm,18.0s
PLOR Plostina 82.78 27⇓*i*P **P 20 08 29.7 -0.4**
VRI Vrincioaia 82.82 27⇑*i*P **P 20 08 30.0 -0.3**
CFR Carcaliu 82.83 28⇓*i*P **P 20 08 31.0 +0.8**
PVCC Panska Ves 82.88 17 *e*P **P 20 08 31.2 +0.8**
PVCC *e*S **SKSac 20 18 55.5 +4.2**
PVCC MLR MLR
comp=Z,1μm,21.0s
PVCC Panska Ves 82.88 17 *e*P **P 20 08 31.2 +0.8**
PVCC *e*S **SKSac 20 18 55.5 +4.2**
PVCC AMS AMS 20 42 00.0
comp=Z,1μm,21.0s
ARCR ARCALIA 82.93 25⇑*i*P **P 20 08 32.2 +1.4**
MORC Moravsky Berou 83.02 19 *e*P **P 20 08 30.2 -1.1**
comp=Z,64nm,1.8s
MORC LR LR
comp=Z,2μm,22.0s
MORC Moravsky Berou 83.02 19⇓*i*P **P 20 08 31.3 0.0**
MORC Moravsky Berou 83.02 19 *e*P **P 20 08 30.2 -1.1**
MORC pmax pmax
comp=Z,64nm,1.8s
MORC MLR MLR
comp=Z,2μm,22.0s
MORC Moravsky Berou 83.02 19 *e*P **P 20 08 30.0 -1.3**
MORC *e*PP **PP 20 11 42.2 -0.4**
BRG Berggiesshubel 83.03 17 *e*P **P 20 08 32.2 +1.0**
comp=Z,23nm,1.4s
BRG *e*PP **PP 20 11 44.4 +1.8**
comp=Z,20nm,1.4s
BRG S **SKSac 20 18 54.0 +1.7**
BRG PS **PnS 20 19 46.0 +4.4**
BRG SS **SS 20 24 11.0 -3.5**
BRG Berggiesshubel 83.03 17 *e*P **P 20 08 32.2 +1.0**
BRG *e* 20 11 44.4
BRG S **SKSac 20 18 54.0 +1.7**
BRG PS 20 19 46.0
BRG SS **SS 20 24 11.0 -3.5**
BRG pmax pmax
comp=Z,23nm,1.5s
BRG pmax pmax
comp=Z,20nm,1.4s
BRG MLR MLR
comp=N,875nm,19.7s
BRG MLR MLR
comp=E,912nm,21.0s
BRG MLR MLR
comp=Z,1μm,18.5s
LANS Liptovska Anna 83.05 21 *e*P **P 20 08 31.1 -0.3**
LANS Liptovska Anna 83.05 21 *e*P **P 20 08 31.1 -0.3**
KRLC Kraliky 83.07 19 *e*PP PP 20 11 44.4 +1.4
TRPA Tarpa 83.17 23⇑*i*P **P 20 08 32.1 +0.1**
TRPA Tarpa 83.17 23 *e*P **P 20 08 31.1 -0.9**
DPC Dobruska-Polom 83.19 19 *e*P **P 20 08 32.8 +0.7**
DPC *e* 20 08 35.8
DPC *e*S **SKSac 20 18 52.9 -0.6**
DPC MLR MLR
comp=Z,2μm,19.7s
DPC Dobruska-Polom 83.19 19 *e*P **P 20 08 32.8 +0.7**
DPC *e*pP **sP 20 08 35.8 -1.0**
DPC *e*S **SKSac 20 18 52.9 -0.6**
DPC AMS AMS 20 43 20.0
comp=Z,2μm,19.7s
CLL Collm 83.19 16 *e*P **P 20 08 31.2 -0.8**
comp=Z,26nm,1.4s
CLL LR LR
comp=Z,800nm,21.0s
CLL Collm 83.19 16 *i* P **P 20 08 31.9 -0.1**
CLL *i* 20 08 38.5
CLL *e*S **S 20 18 49.0 -2.5**
CLL pmax pmax
comp=Z,44nm,1.7s
CLL MLR MLR
comp=Z,700nm,19.7s
CLL Collm 83.19 16 *i* P **P 20 08 31.9 -0.1**
comp=Z,44nm,1.7s
CLL *i* P(2) 20 08 38.5
CLL *i* 20 08 49.7
CLL *i* 20 09 30.9
CLL *e*PP **PP 20 11 43.0 -0.9**
CLL *i* PP(2) 20 11 49.2
comp=Z,57nm,1.8s
CLL *e*PPP PPP 20 13 29.0
CLL *e*PPPP 20 14 54.0
CLL *e*S **S 20 18 49.0 -2.5**
CLL *e*PS **PnS 20 19 43.0 -0.6**
CLL *e*(PPS) 20 20 24.0
CLL *e*SS **SS 20 24 19.0 +2.1**
CLL *e*SSS SSS 20 27 36.0
CLL *e*SSSS 20 30 30.0
CLL LmV 20 45 00.0
comp=Z,700nm,19.7s
UPC Upice 83.25 18 *e*P **P 20 08 33.1 +0.8**
UPC *e*S **SKSac 20 18 56.3 +2.6**
UPC MLR MLR
comp=Z,2μm,20.3s
UPC Upice 83.25 18 *e*P **P 20 08 33.1 +0.8**
UPC *e*S **SKSac 20 18 56.3 +2.6**
UPC AMS AMS 20 43 20.0
comp=Z,2μm,20.3s
OKC Ostrava-Krasne 83.25 20 *e*P **P 20 08 33.1 +0.7**
OKC MLR MLR
comp=Z,900nm,18.5s
OKC Ostrava-Krasne 83.25 20 *e*P **P 20 08 33.1 +0.7**
OKC AMS AMS 20 44 50.0
comp=Z,900nm,18.5s
TGUH Tegucigalpa,Un 83.29 290 PFAKE 20 08 40.0 +6.7
TGUH LR LR
comp=Z,7μm,18.0s
TESR Tescani 83.32 26⇑*i*P **P 20 08 33.7 +0.9**
BIZ Bicaz 83.47 26⇑*i*P **P 20 08 34.7 +1.1**
UZH Uzhgorod 83.52 23⇓*i*P **P 20 08 33.7 0.0**
UZH *i* 20 08 38.5
NIE Niedzica 83.55 21 *e*P **P 20 08 34.1 +0.2**
NIE LMZ LR 20 44 06.2
comp=Z,1μm,21.1s
NIE Niedzica 83.55 21 *e*P **P 20 08 34.1 +0.2**
NIE MLR MLR
comp=Z,1μm,21.1s
KSP Ksiaz 83.63 18 *e*P **P 20 08 35.3 +1.0**
KSP LMZ LR 20 41 51.5
comp=Z,2μm,25.0s
KSP Ksiaz 83.63 18 *e*P **P 20 08 35.3 +1.0**
KSP MLR MLR
comp=Z,2μm,25.0s
BURAR Bucovina Array 83.69 25 *e*P **P 20 08 34.2 -0.6**
BURAR Bucovina Array 83.69 25⇓*i*P **P 20 08 35.5 +0.7**
BURAR Bucovina Array 83.69 25 *e*P **P 20 08 34.2 -0.6**
BUR08 Bucovina Ar. S 83.71 25 *e*P **P 20 08 35.1 +0.2**
comp=Z,62nm,1.7s
DQM DQM 83.75 63 P **P 20 08 36.9 +1.3**
SNR=7.6
DQM P **P 20 08 36.9 +1.3**
SNR=7.6
KOLS Kolonicke sedl 83.77 23 *e*P **P 20 08 36.2 +1.1**
KOLS pmax pmax
comp=Z,46nm,1.9s
KOLS Kolonicke sedl 83.77 23 *e*P **P 20 08 36.2 +1.1**
OJC Ojcow 84.09 21 *e*P **P 20 08 36.7 0.0**
OJC LMZ LR 20 39 10.4
comp=Z,1μm,29.3s
OJC Ojcow 84.09 21 *e*P **P 20 08 36.1 -0.6**
comp=Z,68nm,1.7s
OJC Ojcow 84.09 21 *e*P **P 20 08 36.1 -0.6**
OJC pmax pmax
comp=Z,68nm,1.7s
SIRT Sirnak 84.18 41 *e*P **P 20 08 36.0 -1.5**
comp=Z,120nm,1.2s
SIRT LR LR
comp=Z,6μm,21.0s
ESK Eskdalemuir 84.38 6*c*e**P P 20 08 41.4 +3.4**
EKA Eskdalemuir Ar 84.40 6 P **P 20 08 37.7 -0.4**
comp=Z,5.3nm,0.7s,baz=179,slow=5.6,SNR=11
KWP Kalwaria Pacla 84.52 23 *e*P **P 20 08 39.5 +0.6**
KWP LMZ LR 20 38 37.1
comp=Z,1μm,32.9s
KWP Kalwaria Pacla 84.52 23 *e*P **P 20 08 38.6 -0.2**
comp=Z,392nm,1.2s
KWP LR LR
comp=Z,8μm,19.0s
KWP Kalwaria Pacla 84.52 23 *e*P **P 20 08 39.5 +0.6**
KWP MLR MLR
comp=Z,1μm,32.9s
KIS Kishinev 84.58 27 *e*P **P 20 08 38.0 -1.2**
comp=Z,500nm,3.2s
KIS Kishinev 84.58 27 *e*PP PP 20 11 42.0 -13
KIS Kishinev 84.58 27 *e*PPP PPP 20 14 00.0
KIS *e*S **SKSac 20 19 00.0 -2.5**
comp=Z,500nm,11.0s
KIS Kishinev 84.58 27 *e*PS 20 19 58.0
KIS *e*SS SS 20 24 36.0 -1.6
KIS *e*LR LR 20 37 00.0
comp=Z,700nm,21.0s
KIS Kishinev 84.58 27 *e*P **P 20 08 38.0 -1.2**
KIS *e* 20 08 47.0
KIS *e* 20 12 04.0
KIS *e*S **SKSac 20 19 00.0 -2.5**
KIS *e*PS 20 19 58.0
KIS *e*SS **SS 20 24 36.0 -1.6**
KIS pmax pmax
comp=Z,500nm,3.2s
KIS pmax pmax
comp=Z,400nm,6.0s
KIS smax smax
comp=N,500nm,11.0s
KIS MLR MLR
comp=Z,700nm,21.0s
KIS MLR MLR
comp=N,500nm,20.0s
ALNE Al Ain 84.69 59 *i* P **P 20 08 42.1 +1.8**
SNR=8.0
061Z Ochoppi 84.83 303 PFAKE 20 08 50.0 +9.1
061Z LR LR
comp=Z,2μm,19.0s
FAQ Al Faqa, Dubai 84.96 58 P **P 20 08 42.6 +0.9**
060A Indiantown 85.11 304 PFAKE 20 08 50.0 +7.7
060A LR LR
comp=Z,5μm,19.0s
LVV L'vov 85.13 23 *e*P **P 20 08 42.0 +0.1**
LVV *e*S **SKSac 20 19 04.0 -1.9**
LVV MLR MLR
comp=Z,550nm,18.0s
KTUT Trabzon 85.13 37⇓*i*P **P 20 08 42.7 +0.6**
SIM Simferopol' 85.25 32*c i*P **P 20 08 45.3 +2.6**
SIM *e*S **S 20 19 12.0 -0.4**
SIM pmax pmax
comp=Z,200nm,8.8s
ASHO Ashiyiah 85.27 59 *i* P **P 20 08 44.7 +1.4**
SNR=11
ASHO Ashiyiah 85.27 59 P P 20 08 48.7 +5.4
SNR=9.0
ASHO P P 20 08 48.7 +5.4
SNR=9.0
SOHO SOHO 85.32 59 P **P 20 08 46.0 +2.5**
SNR=32
SOHO P **P 20 08 46.0 +2.5**
SNR=32
HATD Hatta, Dubai 85.41 59 *i* P **P 20 08 45.4 +1.5**
SNR=8.9
059A Moore Haven 85.63 304 PFAKE 20 09 00.0 +15
059A LR LR
comp=Z,3μm,22.0s
MDH Madha 85.80 58 P **P 20 08 48.8 +2.9**
GBN Guysborough 86.08 328 PFAKE 20 09 00.0 +13
GBN LR LR
comp=Z,2μm,20.0s
058A Arcadia 86.17 304 P **P 20 08 49.3 +1.7**
baz=125
RGN Rugen 86.26 15 PFAKE 20 09 00.0 +13
RGN LR LR
comp=Z,800nm,21.0s
APG El Apazote 86.42 289 P **P 20 08 49.1 -0.3**
comp=Z,2.2nm,0.8s,baz=97,slow=9.5,SNR=3.5
958A Wauchula 86.43 304 P **P 20 08 49.8 +0.9**
baz=125
HAL Halifax 86.49 327 PFAKE 20 09 00.0 +11
HAL LR LR
comp=Z,1μm,20.0s
DWPF Disney Wildern 86.50 305 PFAKE 20 09 00.0 +11
DWPF LR LR
comp=Z,3μm,20.0s
858A St. Cloud 86.51 305 P **P 20 08 51.4 +2.1**
baz=126
ANN Anapa 86.70 33 *e*P **P 20 08 48.0 -1.8**
ANN *e*S **SKSac 20 19 14.2 -1.8**
ANN pmax pmax
comp=Z,61nm,1.7s
ANN MLR MLR
comp=Z,570nm,17.0s
957A Wimauma 86.83 304 PFAKE 20 09 00.0 +9.1
957A LR LR
comp=Z,4μm,22.0s
SOC Sochi 86.96 35 *e*P **P 20 08 52.5 +1.4**
SOC *e* 20 12 13.1
SOC *e*PPP PPP 20 14 11.0
SOC *e*S S 20 19 18.7 -10
SOC *e*SS **SS 20 25 10.1 -2.5**
SOC pmax pmax
comp=Z,5.0nm,0.4s
658A Bunnell 87.14 306 PFAKE 20 09 00.0 +7.7
658A LR LR
comp=Z,2μm,21.0s
658A Bunnell 87.14 306 P **P 20 08 53.7 +1.3**
baz=126
857A Zephyrhills 87.17 304 P **P 20 08 53.4 +0.9**
baz=125
GNI Garni 87.29 41 PFAKE 20 09 00.0 +6.9
GNI LR LR
comp=Z,2μm,21.0s
GNI Garni 87.29 41 *i* P **P 20 08 53.9 +0.9**
SNR=6.7
GNI Garni 87.29 41 *i* P **P 20 08 51.7 -1.4**
GNI pmax pmax
comp=Z,4.0nm,1.0s
GNI Garni 87.29 41 P **P 20 08 54.1 +1.1**
comp=Z,2.7nm,0.8s,baz=294,slow=4.0,SNR=4.8
DRLN Deer Lake 87.32 333 PFAKE 20 09 00.0 +7.3
DRLN LR LR
comp=Z,3μm,20.0s
TEIG Tepich 87.36 295 PFAKE 20 09 00.0 +6.4
TEIG LR LR
comp=Z,8μm,20.0s
757A Oxford 87.44 305 P **P 20 08 55.0 +1.2**
baz=125
AKH Akhalkalaki 87.44 39 *e*P **P 20 08 52.1 -1.7**
comp=Z,43nm,1.9s
AKH LR LR
comp=Z,900nm,20.0s
AKH Akhalkalaki 87.44 39 *e*P **P 20 08 52.1 -1.7**
AKH pmax pmax
comp=Z,43nm,1.9s
AKH MLR MLR
comp=Z,900nm,20.0s
KIEV Kiev 87.72 25 *e*P **P 20 08 54.0 -0.6**
KIEV LR LR
comp=Z,500nm,20.0s
KIEV Kiev 87.72 25⇑*i*P **P 20 08 54.3 -0.3**
KIEV Kiev 87.72 25 *i* P **P 20 08 57.0 +2.4**
SNR=5.6
KIEV Kiev 87.72 25 *i* P **P 20 08 53.5 -1.1**
KIEV pmax pmax
comp=Z,22nm,1.4s
AKASG Malin Array Be 87.73 25 *e*P **P 20 08 53.0 -1.6**
AKASG Malin Array Be 87.73 25*c*e**P P 20 08 55.2 +0.6**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 87.73 25 P **P 20 08 54.9 +0.2**
comp=Z,5.5nm,0.9s,baz=220,slow=4.8,SNR=18
AKASG LR LR 20 47 40.3
comp=Z,487nm,20.9s,baz=195,slow=35
AKBB Malin Array Si 87.73 25 *e*P **P 20 08 53.4 -1.2**
comp=Z,22nm,1.3s
AKBB Malin Array Si 87.73 25 *e*P **P 20 08 53.4 -1.2**
AKBB pmax pmax
comp=Z,22nm,1.3s
Y60A Bolivia 87.76 311 PFAKE 20 09 10.0 +15
Y60A LR LR
comp=Z,1μm,21.0s
LMN Caledonia Moun 87.96 327 *e*P **P 20 08 56.3 +0.4**
comp=Z,53nm,1.5s
LMN LR LR
comp=Z,900nm,21.0s
656A Willston 88.02 305 PFAKE 20 09 10.0 +13
656A LR LR
comp=Z,2μm,22.0s
V60A Jim Taylor Roa 88.22 313 PFAKE 20 09 10.0 +13
V60A LR LR
comp=Z,1μm,21.0s
NEY Neytrino 88.28 37 *i* P **P 20 08 56.8 -0.9**
NEY pmax pmax
comp=Z,1.0nm,0.9s
556A Lake Butler 88.28 306 P **P 20 08 58.1 +0.3**
baz=125
CNNC Cliffs of the 88.30 312 PFAKE 20 09 10.0 +12
CNNC LR LR
comp=Z,2μm,21.0s
X59A McDuffie Farm, 88.36 311 P **P 20 08 59.2 +1.1**
baz=127
SUW Suwalki 88.42 20 *e*P **P 20 09 00.1 +2.3**
SUW LMZ LR 20 42 02.4
comp=Z,1μm,29.6s
SUW Suwalki 88.42 20 *e*P **P 20 08 57.8 -0.1**
comp=Z,48nm,1.1s
SUW LR LR
comp=Z,1μm,19.0s
SUW Suwalki 88.42 20 *e*P **P 20 09 00.1 +2.3**
SUW MLR MLR
comp=Z,1μm,29.6s
Z58A St. Stephen 88.43 310 P **P 20 08 59.6 +1.2**
baz=127
456A Hilliard 88.43 307 PFAKE 20 09 10.0 +12
456A LR LR
comp=Z,2μm,19.0s
GGN Saint George 88.43 325 *e*P **P 20 08 58.8 +0.7**
comp=Z,41nm,1.4s
GGN LR LR
comp=Z,1μm,20.0s
EMMW East Machias 88.45 325 PFAKE 20 09 10.0 +12
EMMW LR LR
comp=Z,1μm,20.0s
CCIG Comitan 88.45 289 PFAKE 20 09 10.0 +11
CCIG LR LR
comp=Z,10μm,18.0s
257A Skidaway Islan 88.46 308 PFAKE 20 09 10.0 +11
257A LR LR
comp=Z,2μm,21.0s
NHSC New Hope 88.54 309 PFAKE 20 09 10.0 +11
NHSC LR LR
comp=Z,2μm,21.0s
ZEI Tsey 88.60 38 *e*P **P 20 08 59.5 +0.2**
ZEI pmax pmax
comp=Z,15nm,1.6s
655A Horseshoe Beac 88.61 305 P **P 20 09 01.1 +1.8**
baz=125
Y58A Scranton 88.67 310 P **P 20 09 01.4 +1.9**
baz=127
KBZ Khabaz 88.71 37 P **P 20 09 01.5 +2.1**
comp=Z,2.9nm,1.0s,baz=89,slow=4.0,SNR=5.7
KBZ LR LR 20 50 13.3
comp=Z,282nm,19.8s,baz=213,slow=37
BRYW Bryant College 88.72 321 PFAKE 20 09 10.0 +10
BRYW LR LR
comp=Z,2μm,22.0s
T60A Surry 88.73 314 P **P 20 09 01.4 +1.7**
baz=128
KIV Kislovodsk 88.75 37 PFAKE 20 09 10.0 +10
KIV LR LR
comp=Z,500nm,18.0s
KIV Kislovodsk 88.75 37⇑*i*P **P 20 08 59.2 -0.6**
KIV Kislovodsk 88.75 37 *e*P **P 20 09 00.3 +0.5**
KIV pmax pmax
comp=Z,12nm,1.1s
555A McAlpin 88.75 306 PFAKE 20 09 10.0 +10
555A LR LR
comp=Z,2μm,22.0s
X58A Rowland 88.84 311 PFAKE 20 09 10.0 +10
X58A LR LR
comp=Z,2μm,21.0s
X58A Rowland 88.84 311 P **P 20 09 02.3 +2.0**
baz=127
V59A Middlesex 88.84 312 P **P 20 09 02.0 +1.7**
baz=128
157A Early Branch 88.85 309 P **P 20 09 01.9 +1.6**
baz=126
WES Weston 88.91 321 *e*P **P 20 09 00.3 -0.1**
comp=Z,42nm,1.2s
WES LR LR
comp=Z,2μm,21.0s
WES Weston 88.91 321 *e*P **P 20 09 00.3 -0.1**
WES pmax pmax
comp=Z,42nm,1.2s
WES MLR MLR
comp=Z,2μm,21.0s

U59A	Littleton	88.91	313	eP	P	20 09 01.0 +0.3
	comp=Z,51nm,1.4s					
U59A				LR	LR	
	comp=Z,1µm,20.0s					
U59A	Littleton	88.91	313	P	P	20 09 02.0 +1.4
	baz=128					
Z57A	Bowman	89.01	309	P	P	20 09 02.0 +0.9
	baz=126					
W58A	Raeford	89.04	311	P	P	20 09 02.5 +1.2
	baz=127					
256A	Glennville	89.06	308	P	P	20 09 02.6 +1.2
	baz=125					
HRV	Adam Dziewonsk	89.12	321	eP	P	20 09 02.1 +0.7
	comp=Z,51nm,1.2s					
HRV				LR	LR	
	comp=Z,2µm,21.0s					
HRV	Adam Dziewonsk	89.12	321	eP	P	20 09 02.1 +0.7
HRV				pmax	pmax	
	comp=Z,51nm,1.2s					
HRV				MLR	MLR	
	comp=Z,2µm,21.0s					
HRV	Adam Dziewonsk	89.12	321	P	P	20 09 03.6 +2.1
	baz=132					
T59A	Double "B" Far	89.14	314	P	P	20 09 04.3 +2.7
	baz=128					
455A	Stateville	89.15	306	P	P	20 09 03.3 +1.4
	baz=125					
156A	Sylvania	89.17	308	P	P	20 09 03.0 +1.1
	baz=126					
554A	Perry	89.24	305	P	P	20 09 04.3 +2.0
	baz=124					
CPNY	Central Park	89.36	318	PFAKE		20 09 10.0 +7.4
CPNY				LR	LR	
	comp=Z,1µm,22.0s					
QUA2	Belchertown	89.41	320	PFAKE		20 09 10.0 +7.2
QUA2				LR	LR	
	comp=Z,2µm,21.0s					
V58A	Windy Hill, Pi	89.43	312	P	P	20 09 04.0 +1.0
	baz=127					
255A	Hazlehurst	89.43	307	PFAKE		20 09 10.0 +6.8
255A				LR	LR	
	comp=Z,2µm,21.0s					
255A	Hazlehurst	89.43	307	P	P	20 09 05.0 +1.8
	baz=125					
S59A	Mechanicsville	89.46	315	P	P	20 09 05.2 +2.1
	baz=128					
PAL	Palisades	89.46	319	PFAKE		20 09 10.0 +6.9
PAL				LR	LR	
	comp=Z,1µm,21.0s					
PAL	Palisades	89.46	319	P	P	20 09 05.7 +2.6
	baz=130					
Z56A	Williston	89.47	309	P	P	20 09 04.8 +1.5
	baz=126					
WVL	Waterville	89.48	323	eP	P	20 09 04.6 +1.6
	comp=Z,29nm,1.2s					
WVL				LR	LR	
	comp=Z,1µm,19.0s					
454A	Quitman	89.56	306	P	P	20 09 06.4 +2.6
	baz=124					
BATG	Bathurst New B	89.59	327	eP	P	20 09 03.5 0.0
	comp=Z,130nm,1.9s					
BATG				LR	LR	
	comp=Z,900nm,20.0s					
W57A	Gilead	89.62	311	eP	P	20 09 04.2 +0.2
	comp=Z,39nm,1.4s					
W57A				LR	LR	
	comp=Z,1µm,21.0s					
W57A	Gilead	89.62	311	P	P	20 09 05.8 +1.8
	baz=126					
BRNJ	Basking Ridge	89.64	318	PFAKE		20 09 10.0 +6.1
BRNJ				LR	LR	
	comp=Z,1µm,21.0s					
PSUB	Penn St. - Bra	89.68	317	eP	P	20 09 03.9 -0.2
	comp=Z,116nm,1.9s					
PSUB				LR	LR	
	comp=Z,1µm,19.0s					
KSCT	Kent School, K	89.69	319	PFAKE		20 09 10.0 +5.9
KSCT				LR	LR	
	comp=Z,2µm,21.0s					
P60A	Greenville	89.72	317	P	P	20 09 06.8 +2.5
	baz=129					
T58A	Grand View Acr	89.75	313	P	P	20 09 05.4 +0.9
	baz=127					
PKME	Peaks-Kenny Pk	89.77	324	PFAKE		20 09 10.0 +5.6
PKME				LR	LR	
	comp=Z,1µm,20.0s					
CBN	Corbin Frederi	89.78	315	PFAKE		20 09 20.0 +15
CBN				LR	LR	
	comp=Z,2µm,20.0s					
155A	Kite	89.82	308	P	P	20 09 06.7 +1.7
	baz=125					
553A	Crawfordville	89.84	305	P	P	20 09 07.3 +2.2
	baz=124					
S58A	Poland Farm, P	89.84	314	PFAKE		20 09 20.0 +15
S58A				LR	LR	
	comp=Z,2µm,19.0s					
S58A	Poland Farm, P	89.84	314	P	P	20 09 07.7 +2.8
	baz=128					
O60A	Telford	89.90	317	P	P	20 09 07.6 +2.5
	baz=129					
GROC	Groznyy	89.91	39	eP	P	20 09 07.2 +2.1
GROC				e		20 12 39.8
GROC				pmax	pmax	
	comp=Z,9.0nm,0.6s					
V57A	Coltrane Farms	89.92	312	P	P	20 09 07.1 +1.8
	baz=127					
ODNJ	Ogdensburg	89.92	318	eP	P	20 09 02.6 -2.7
	comp=Z,30nm,1.4s					
ODNJ				LR	LR	
	comp=Z,1µm,19.0s					
PABE	Paberze	89.94	20	eP	P	20 09 06.4 +1.5
PABE				IAmb	IAmb	20 09 10.0
	comp=Z,131nm,1.9s					
TIGA	Tifton	89.94	306	PFAKE		20 09 20.0 +14
TIGA				LR	LR	
	comp=Z,3µm,21.0s					
TIGA	Tifton	89.94	306	P	P	20 09 08.0 +2.5
	baz=124					
R58B	Mineral	89.95	314	PFAKE		20 09 20.0 +15
R58B				LR	LR	
	comp=Z,2µm,20.0s					
U57A	Blanch	89.95	312	P	P	20 09 07.9 +2.4
	baz=127					
JSC	Jenkinsville	89.96	310	PFAKE		20 09 20.0 +14
JSC				LR	LR	
	comp=Z,2µm,22.0s					
W56A	Indian Trail	90.00	311	P	P	20 09 07.8 +2.0
	baz=126					
254A	Abbeville	90.01	307	P	P	20 09 08.3 +2.4
	baz=125					
LUPA	Lehigh Univers	90.06	318	PFAKE		20 09 20.0 +14
LUPA				LR	LR	
	comp=Z,100nm,21.0s					
PQI	Presque Isle	90.11	326	eP	P	20 09 03.9 -2.1
	comp=Z,28nm,0.9s					
PQI				LR	LR	
	comp=Z,900nm,19.0s					
453A	Whigham	90.13	306	PFAKE		20 09 20.0 +14
453A				LR	LR	
	comp=Z,2µm,20.0s					
453A	Whigham	90.13	306	P	P	20 09 08.3 +1.9
	baz=124					
Y55A	Saluda	90.16	309	P	P	20 09 08.3 +1.8
	baz=126					
SDMD	Soldier's Deli	90.20	316	PFAKE		20 09 20.0 +13
SDMD				LR	LR	
	comp=Z,900nm,21.0s					
R58A	Rapidan	90.23	315	P	P	20 09 08.7 +2.0
	baz=128					
T57A	Hurt	90.24	313	P	P	20 09 08.2 +1.3
	baz=127					
154A	Montrose	90.26	308	PFAKE		20 09 20.0 +13
154A				LR	LR	
	comp=Z,2µm,20.0s					
154A	Montrose	90.26	308	P	P	20 09 08.6 +1.6
	baz=125					
HNH	Hanover	90.31	322	PFAKE		20 09 20.0 +13
HNH				LR	LR	
	comp=Z,22.0s					
X55A	Gracelyn & Ava	90.32	310	P	P	20 09 09.1 +1.9
	baz=126					
353A	Camilla	90.33	306	P	P	20 09 09.1 +1.7
	baz=124					
V56A	Mocksville	90.34	311	PFAKE		20 09 20.0 +13
V56A				LR	LR	
	comp=Z,1µm,20.0s					
V56A	Mocksville	90.34	311	P	P	20 09 09.3 +1.9
	baz=126					
MICGM	Minsk	90.35	23	e	P	20 09 07.0 +0.1
MICGM				eLR	LR	20 42 38.0
MNK	Minsk	90.35	23	eP	P	20 09 07.0 +0.1
O59A	Robesonia	90.36	317	P	P	20 09 08.2 +0.9
	baz=129					
Z54A	Sparta	90.43	308	P	P	20 09 10.2 +2.4
	baz=125					
TRY	Troy	90.44	320	PFAKE		20 09 20.0 +12
TRY				LR	LR	
	comp=Z,2µm,20.0s					
LBNH	Lisbon	90.47	322	PFAKE		20 09 20.0 +12
LBNH				LR	LR	
	comp=Z,2µm,22.0s					
N59A	State Game Lan	90.50	318	PFAKE		20 09 20.0 +12
N59A				LR	LR	
	comp=Z,1µm,20.0s					
N59A	State Game Lan	90.50	318	P	P	20 09 10.4 +2.5
	baz=129					
S57A	Dark Hollow, R	90.50	314	PFAKE		20 09 20.0 +12
S57A				LR	LR	
	comp=Z,2µm,19.0s					
S57A	Dark Hollow, R	90.50	314	P	P	20 09 09.2 +1.2
	baz=127					
IIGN	Ignalina	90.50	21	eP	P	20 09 07.6 0.0
IIGN				IAmb	IAmb	20 09 13.2
	comp=Z,8.4nm,1.1s					
KMSC	Kings Mountain	90.51	310	PFAKE		20 09 20.0 +12
KMSC				LR	LR	
	comp=Z,2µm,22.0s					
R57A	Stanardsville	90.56	314	P	P	20 09 10.9 +2.6
	baz=127					
U56A	King	90.58	312	P	P	20 09 09.9 +1.5
	baz=126					
HODGE	Hodges	90.60	309	PFAKE		20 09 20.0 +11
HODGE				LR	LR	
	comp=Z,2µm,22.0s					
PAGS	Pennsylvania G	90.63	317	PFAKE		20 09 20.0 +11
PAGS				LR	LR	
	comp=Z,2µm,19.0s					
IDID	Didziasalis	90.64	22	eP	P	20 09 08.2 0.0
IDID				IAmb	IAmb	20 09 13.6
	comp=Z,8.5nm,1.3s					
PAULI	Pauline	90.64	310	PFAKE		20 09 20.0 +11
PAULI				LR	LR	
	comp=Z,2µm,22.0s					
253A	Americus	90.67	307	PFAKE		20 09 20.0 +11
253A				LR	LR	
	comp=Z,2µm,22.0s					
Y54A	Tignall	90.68	309	P	P	20 09 10.6 +1.6
	baz=125					
MNCI	Minicoy	90.69	81	PFAKE		20 09 20.0 +11
MNCI				LR	LR	
	comp=Z,8µm,22.0s					
MAK	Makhachkala	90.70	40	eP	P	20 09 03.6 -5.2
MAK				e		20 12 40.2
MAK				pmax	pmax	
	comp=Z,234nm,1.5s					
T56A	Rocky Mt	90.76	313	P	P	20 09 11.2 +1.9
	baz=126					
V55A	Taylorsville	90.84	311	P	P	20 09 11.1 +1.4
	baz=126					
S56A	Natural Bridge	90.84	313	P	P	20 09 11.5 +1.8
	baz=127					
X54A	Belton	90.86	309	P	P	20 09 11.8 +2.0
	baz=125					
ACCN	Adirondack Com	90.86	321	PFAKE		20 09 20.0 +10
ACCN				LR	LR	
	comp=Z,2µm,21.0s					
KSPA	Keystone Colle	90.89	318	PFAKE		20 09 20.0 +10
KSPA				LR	LR	
	comp=Z,1µm,21.0s					
352A	Blakely	90.91	306	PFAKE		20 09 20.0 +10
352A				LR	LR	
	comp=Z,2µm,19.0s					
352A	Blakely	90.91	306	P	P	20 09 12.5 +2.4
	baz=124					
Q57A	Strasburg	90.93	315	P	P	20 09 12.8 +2.8
	baz=127					
Z53A	Monticello	90.96	308	P	P	20 09 12.4 +2.1
	baz=124					
GOGA	Godfrey	90.96	308	eP	P	20 09 09.4 -0.9
	comp=Z,12nm,0.9s					
GOGA				LR	LR	
	comp=Z,2µm,19.0s					
GOGA	Godfrey	90.96	308	eP	P	20 09 09.4 -0.9
GOGA				pmax	pmax	
	comp=Z,12nm,0.9s					
GOGA				MLR	MLR	
	comp=Z,2µm,19.0s					
GOGA	Godfrey	90.96	308	P	P	20 09 12.4 +2.1
	baz=125					
VT1	Waterbury	90.98	322	PFAKE		20 09 20.0 +10
VT1				LR	LR	
	comp=Z,2µm,22.0s					
451A	Vernon	91.02	305	PFAKE		20 09 20.0 +9.4
451A				LR	LR	
	comp=Z,2µm,18.0s					
W54A	Cherokee Point	91.04	310	P	P	20 09 12.9 +2.3
	baz=125					
252A	Lumpkin	91.06	306	P	P	20 09 13.1 +2.3
	baz=124					
U55A	TA2, Sparta	91.11	312	P	P	20 09 12.0 +1.0
	baz=126					
BLA	Blacksburg	91.12	313	PFAKE		20 09 20.0 +9.0
BLA				LR	LR	
	comp=Z,1µm,20.0s					
BLA	Blacksburg	91.12	313	P	P	20 09 12.7 +1.7
	baz=126					
CMIG	Matias Romero	91.13	289	P	P	20 09 11.0 -0.5
	comp=Z,1.4nm,0.3s,baz=131,slow=6.0,SNR=6.1					
351A	Pinckard	91.28	305	P	P	20 09 14.5 +2.7
	baz=124					
V54A	Nebo	91.28	311	P	P	20 09 14.1 +2.4
	baz=125					
T55A	Pulaski	91.30	312	P	P	20 09 14.1 +2.3
	baz=126					
MOQ	Mont Orford	91.35	323	eP	P	20 09 11.7 -0.2
152A	Waverly Hall	91.42	307	PFAKE		20 09 20.0 +7.6
152A				LR	LR	
	comp=Z,2µm,20.0s					
BINY	Binghamton	91.42	319	PFAKE		20 09 20.0 +7.7
BINY				LR	LR	
	comp=Z,1µm,22.0s					
BINY	Binghamton	91.42	319	P	P	20 09 15.1 +2.8
	baz=129					
HFS	Hagfors	91.49	13	P	P	20 09 12.7 +0.7
	comp=Z,11nm,1.0s,baz=134,slow=4.3,SNR=11					
HFS				PP	PP	20 12 51.1 +0.6
	comp=Z,3.3nm,0.9s,baz=181,slow=5.9,SNR=6.1					
BG3	Lake Jocassee	91.49	310	PFAKE		20 09 20.0 +7.3
BG3				LR	LR	
	comp=Z,2µm,22.0s					
S55A	Lewisburg	91.50	313	P	P	20 09 14.5 +1.8
	baz=126					
NCB	Newcomb	91.55	321	PFAKE		20 09 20.0 +7.2
NCB				LR	LR	
	comp=Z,2µm,20.0s					
R55A	Marlinton	91.55	314	PFAKE		20 09 20.0 +7.0
R55A				LR	LR	
	comp=Z,2µm,20.0s					
R55A	Marlinton	91.55	314	P	P	20 09 15.2 +2.2
	baz=126					
SSPA	Standing Stone	91.58	317	PFAKE		20 09 20.0 +7.0
SSPA				LR	LR	
	comp=Z,2µm,19.0s					
SSPA	Standing Stone	91.58	317	P	P	20 09 15.4 +2.4
	baz=128					
Y52A	Lilburn	91.63	308	eP	P	20 09 10.4 -3.0
	comp=Z,25nm,1.4s					
Y52A				LR	LR	
	comp=Z,2µm,22.0s					
W53A	Cullowhee	91.75	310	P	P	20 09 16.2 +2.1
	baz=125					
FRNY	Flat Rock	91.76	322	PFAKE		20 09 20.0 +6.3
FRNY				LR	LR	
	comp=Z,2µm,22.0s					
151A	Opelika	91.77	306	P	P	20 09 16.1 +2.0
	baz=124					
O56A	Blue Knob Stat	91.77	316	PFAKE		20 09 20.0 +6.0
O56A				LR	LR	
	comp=Z,2µm,22.0s					
O56A	Blue Knob Stat	91.77	316	P	P	20 09 16.6 +2.6
	baz=127					
T54A	Tazewell	91.78	312	P	P	20 09 16.2 +2.2
	baz=126					
NBO00	NORSAR Array S	91.78	11	eP	P	20 09 12.9 -0.5
	comp=Z,213nm,1.8s					
V53A	Saluda	91.80	310	PFAKE		20 09 20.0 +5.8
V53A				LR	LR	
	comp=Z,2µm,22.0s					
NB2	NORSAR Subarra	91.86	12	P	P	20 09 16.1 +2.3
	comp=Z,3.2nm,0.9s,baz=202,slow=5.1					
NOA	NORSAR Array B	91.86	12	P	P	20 09 15.7 +1.8
	comp=Z,8.6nm,1.0s,baz=202,slow=4.8,SNR=13					
NOA				LR	LR	20 50 12.3
	comp=Z,819nm,19.0s,baz=200,slow=35					
NB201	NORSAR Array S	91.89	12	eP	P	20 09 13.2 -0.7
	comp=Z,160nm,1.6s					
Q55A	Buckhannon	91.95	314	P	P	20 09 17.6 +2.8
	baz=126					
NC204	NORSAR Array S	92.01	11	eP	P	20 09 14.1 -0.5
	comp=Z,104nm,1.4s					
NC405	NORSAR Array S	92.02	12	eP	P	20 09 14.5 0.0
	comp=Z,55nm,1.3s					
NC303	NORSAR Array S	92.06	12	eP	P	20 09 14.9 +0.2
	comp=Z,102nm,1.3s					
250A	Grady	92.14	306	PFAKE		20 09 30.0 +14
250A				LR	LR	
	comp=Z,3µm,20.0s					
250A	Grady	92.14	306	P	P	20 09 17.0 +1.3
	baz=123					
LONY	Lake Ozonia	92.16	321	eP	P	20 09 14.6 -1.0
	comp=Z,47nm,1.9s					
LONY				LR	LR	
	comp=Z,2µm,22.0s					
LONY	Lake Ozonia	92.16	321	P	P	20 09 17.9 +2.3
	baz=130					
VSR	Storozhevoye	92.17	30	eP	P	20 09 15.1 -0.3
VSR				pmax	pmax	
	comp=Z,20nm,1.4s					
VSR				MLR	MLR	
	comp=Z,580nm,18.0s					
MCWV	Mont Chateau	92.19	315	PFAKE		20 09 30.0 +14
MCWV				LR	LR	
	comp=Z,1µm,20.0s					
W52A	Murphy	92.22	309	PFAKE		20 09 30.0 +14
W52A				LR	LR	
	comp=Z,1µm,21.0s					
BRAL	Brewton	92.26	305	PFAKE		20 09 30.0 +14
BRAL				LR	LR	
	comp=Z,2µm,20.0s					
150A	Eclectic	92.30	306	P	P	20 09 17.5 +1.0
	baz=123					
N55A	Marion Center	92.34	316	PFAKE		20 09 30.0 +13
N55A				LR	LR	
	comp=Z,2µm,22.0s					
N55A	Marion Center	92.34	316	P	P	20 09 18.7 +2.2
	baz=127					
Y51A	Rockmart	92.34	308	P	P	20 09 17.5 +0.8
	baz=124					
Q54A	Coxs Mills	92.42	314	PFAKE		20 09 30.0 +13
Q54A				LR	LR	
	comp=Z,1µm,20.0s					
V52A	Sevierville	92.42	310	PFAKE		20 09 30.0 +13
V52A				LR	LR	
	comp=Z,2µm,22.0s					
X51A	Calhoun	92.56	308	PFAKE		20 09 30.0 +12
X51A				LR	LR	
	comp=Z,2µm,20.0s					
Z50A	Ashland	92.58	307	PFAKE		20 09 30.0 +12
Z50A				LR	LR	
	comp=Z,2µm,20.0s					
TZTN	Tazewell	92.78	311	PFAKE		20 09 30.0 +11
TZTN				LR	LR	
	comp=Z,2µm,21.0s					
Q53A	Leroy	92.78	313	P	P	20 09 20.0 +1.4
	baz=126					
CPCT	Cooper Cave	92.83	309	PFAKE		20 09 30.0 +11
CPCT				LR	LR	
	comp=Z,1µm,21.0s					
MMNY	Mt. Morris Dam	92.87	318	PFAKE		20 09 30.0 +11
MMNY				LR	LR	
	comp=Z,2µm,21.0s					
V51A	Loudon	92.91	310	PFAKE		20 09 30.0 +11
V51A				LR	LR	
	comp=Z,2µm,20.0s					
LATQ	La Tuque	92.99	324	P	P	20 09 21.3 +2.0
	baz=131					
N54A	Moraine State	93.06	316	PFAKE		20 09 30.0 +10
N54A				LR	LR	
	comp=Z,2µm,20.0s					
P53A	Whipple	93.06	314	PFAKE		20 09 30.0 +10
P53A				LR	LR	
	comp=Z,2µm,22.0s					
LPSR	Galich'ya Gora	93.07	29	eP	P	20 09 20.3 +0.8
LPSR				pmax	pmax	
	comp=Z,10.0nm,1.1s					
LPSR				MLR	MLR	
	comp=Z,440nm,17.0s					
H56A	Elgin	93.08	320	P	P	20 09 21.3 +1.5
	baz=129					
J55A	Hilton	93.14	319	PFAKE		20 09 30.0 +10
J55A				LR	LR	
	comp=Z,2µm,22.0s					
TRQ	Mont Tremblant	93.17	322	eP	P	20 09 19.1 -1.2
M54A	Oil Creek Stat	93.18	316	PFAKE		20 09 30.0 +10
M54A				LR	LR	
	comp=Z,2µm,20.0s					
ORIO	Orleans, Innes	93.20	321	P	P	20 09 21.7 +1.4
	baz=129					
LRAL	Lakeview Retre	93.22	306	PFAKE		20 09 30.0 +9.2
LRAL				LR	LR	
	comp=Z,3µm,21.0s					
W50A	Signal Mountai	93.23	309	PFAKE		20 09 30.0 +9.2
W50A				LR	LR	
	comp=Z,2µm,20.0s					
Y49A	Blount Mountai	93.26	307	PFAKE		20 09 30.0 +9.1
Y49A				LR	LR	
	comp=Z,2µm,20.0s					
VRH	Novokhopyorsk	93.30	31	eP	P	20 09 21.6 +1.0
VRH				pmax	pmax	
	comp=Z,10.0nm,0.9s					
VRH				MLR	MLR	
	comp=Z,530nm,19.0s					
S51A	Beattyville	93.43	311	eP	P	20 09 21.0 -0.6
	comp=Z,11nm,0.6s					
S51A				LR	LR	
	comp=Z,2µm,22.0s					
MEDO	Medina	93.45	318	PFAKE		20 09 30.0 +8.4
MEDO				LR	LR	
	comp=Z,1µm,20.0s					
N53A	Lisbon	93.48	315	PFAKE		20 09 30.0 +8.2
N53A				LR	LR	
	comp=Z,2µm,21.0s					
ALLY	Alegheny Colle	93.56	316	PFAKE		20 09 30.0 +7.9
ALLY				LR	LR	
	comp=Z,2µm,20.0s					
J54A	Appleton	93.63	318	PFAKE		20 09 30.0 +7.7
J54A				LR	LR	
	comp=Z,1µm,20.0s					
SWET	Sewanee	93.66	308	PFAKE		20 09 30.0 +7.2
SWET				LR	LR	
	comp=Z,2µm,20.0s					
O52A	Adamsville	93.70	314	PFAKE		20 09 30.0 +7.2
O52A				LR	LR	
	comp=Z,2µm,20.0s					
ERPA	Erie	93.74	317	PFAKE		20 09 30.0 +7.1
ERPA				LR	LR	
	comp=Z,2µm,20.0s					
DELO	Deloro Mine	93.79	320	P	P	20 09 24.9 +1.8
	baz=128					
PLVO	Plevna	93.81	320	PFAKE		20 09 30.0 +6.8
PLVO				LR	LR	
	comp=Z,2µm,21.0s					
PLVO	Plevna	93.81	320	P	P	20 09 25.1 +1.9
	baz=128					
WLVO	Wesleyville	93.88	319	P	P	20 09 23.8 +0.3
	baz=127					
147A	Livingston	93.94	305	PFAKE		20 09 30.0 +5.9
147A				LR	LR	
	comp=Z,3µm,19.0s					
OBN	Obninsk	93.96	26	eP	P	20 09 23.6 0.0
	comp=Z,10nm,0.6s					
OBN				LR	LR	
	comp=Z,800nm,19.0s					
OBN	Obninsk	93.96	26	ceP	P	20 09 22.4 -1.2
OBN				e		20 13 08.0
OBN				eS	S	20 20 30.2 -2.8
OBN				eSS	SS	20 26 48.2 -5.3
OBN				pmax	pmax	
	comp=Z,2.0nm,0.8s					
OBN				MLR	MLR	

comp=Z,683nm,19.0s
OBN Obninsk 93.96 26 P P 20 09 25.0 +1.5
comp=Z,1.5nm,0.3s,baz=217,slow=5.1,SNR=2.9
X48A Hartselle 94.02 307 PFAKE 20 09 30.0 +5.6
X48A LR LR
comp=Z,2μm,22.0s
Q51A Peebles 94.05 313 PFAKE 20 09 30.0 +5.6
Q51A LR LR
comp=Z,2μm,21.0s
P51A Williamsport 94.12 313 PFAKE 20 09 30.0 +5.3
P51A LR LR
comp=Z,2μm,20.0s
GEYT Alibeck 94.17 49 P P 20 09 26.6 +1.5
comp=Z,18nm,0.9s,baz=225,slow=8.2,SNR=3.8
GEYT PP **PP 20 13 12.4 +0.3**
comp=Z,2.2nm,0.9s,baz=213,slow=5.1,SNR=5.0
GEYT LR LR 20 52 27.0
comp=Z,921nm,18.2s,baz=240,slow=36
GYA0B ALIBECK ARRAY 94.17 49 PFAKE 20 09 40.0 +15
GYA0B LR LR
comp=Z,2μm,19.0s
M52A Chesterland 94.23 316 PFAKE 20 09 40.0 +15
M52A LR LR
comp=Z,2μm,22.0s
BANO Bancroft 94.27 320 P P 20 09 25.4 +0.1
baz=128
W48A Pulaski 94.31 308 P P 20 09 25.3 -0.4
baz=123
T49A Edmonton 94.42 310 PFAKE 20 09 40.0 +14
T49A LR LR
comp=Z,2μm,22.0s
TLIG Tlapa 94.43 287 PFAKE 20 09 40.0 +13
TLIG LR LR
comp=Z,4μm,22.0s
ACSO Alum Creek Sta 94.49 314 PFAKE 20 09 40.0 +14
ACSO LR LR
comp=Z,2μm,21.0s
N51A Ashland 94.50 315 PFAKE 20 09 40.0 +14
N51A LR LR
comp=Z,2μm,22.0s
V48A Smith Brothers 94.55 308 PFAKE 20 09 40.0 +13
V48A LR LR
comp=Z,1μm,20.0s
SADO Sadowa 94.81 319 PFAKE 20 09 40.0 +12
SADO LR LR
comp=Z,2μm,21.0s
PLAL Pickwick Lake 95.02 307 PFAKE 20 09 40.0 +11
PLAL LR LR
comp=Z,2μm,21.0s
M50A Fremont 95.19 315 PFAKE 20 09 40.0 +10
M50A LR LR
comp=Z,2μm,21.0s
SCHQ Schefferville 95.31 332 *e*P **P 20 09 30.3 +0.5**
comp=Z,52nm,1.9s
SCHQ LR LR
comp=Z,1μm,20.0s
SCHQ Schefferville 95.31 332 LR LR 20 47 05.9
comp=Z,964nm,18.7s,baz=180,slow=32
VBMS Vicksburg 95.33 304 PFAKE 20 09 40.0 +10
VBMS LR LR
comp=Z,2μm,20.0s
O49A Covington 95.33 313 PFAKE 20 09 40.0 +10
O49A LR LR
comp=Z,2μm,20.0s
T47A Sharon Grove 95.41 309 PFAKE 20 09 40.0 +9.3
T47A LR LR
comp=Z,2μm,21.0s
WVT Waverly 95.45 308 PFAKE 20 09 40.0 +9.1
WVT LR LR
comp=Z,2μm,20.0s
V46A Holladay 95.48 308 P P 20 09 31.6 +0.5
baz=122
WCI Wyandotte Cave 95.53 311 PFAKE 20 09 40.0 +8.8
WCI LR LR
comp=Z,2μm,22.0s
FINES FINESS Array B 95.54 18 P P 20 09 32.4 +1.8
comp=Z,3.1nm,1.1s,baz=182,slow=13,SNR=4.3
FINES LR LR 20 51 13.2
comp=Z,1μm,21.9s,baz=212,slow=35
N49A Columbus Grove 95.64 314 PFAKE 20 09 40.0 +8.4
N49A LR LR
comp=Z,2μm,20.0s
OXF Oxford 95.71 306 PFAKE 20 09 40.0 +7.9
OXF LR LR
comp=Z,2μm,19.0s
VLDQ Val d'Or 95.89 323 PFAKE 20 09 40.0 +7.4
VLDQ LR LR
comp=Z,2μm,20.0s
AAM Ann Arbor 96.07 315 PFAKE 20 09 40.0 +6.4
AAM LR LR
comp=Z,2μm,22.0s
BLO Bloomington 96.19 311 PFAKE 20 09 40.0 +5.8
BLO LR LR
comp=Z,1μm,22.0s
M48A Edgerton 96.28 314 PFAKE 20 09 40.0 +5.4
M48A LR LR
comp=Z,2μm,21.0s
USIN University of 96.31 310 PFAKE 20 09 50.0 +15
USIN LR LR
comp=Z,2μm,20.0s
HALT Halls 96.38 308 PFAKE 20 09 50.0 +15
HALT LR LR
comp=Z,2μm,21.0s
MET Memphis--Engin 96.39 307 PFAKE 20 09 50.0 +15
MET LR LR
comp=Z,2μm,20.0s
T45A Paducah 96.48 309 PFAKE 20 09 50.0 +14
T45A LR LR
comp=Z,2μm,20.0s
I49A Point Hope 96.49 317 PFAKE 20 09 50.0 +15
I49A LR LR
comp=Z,1μm,20.0s
GLAT Glass 96.53 308 PFAKE 20 09 50.0 +14
GLAT LR LR
comp=Z,2μm,22.0s
X43A Marvell 96.75 306 PFAKE 20 09 50.0 +13
X43A LR LR
comp=Z,2μm,19.0s
PALK Pallekele 96.86 86 *e*P **P 20 09 35.9 -2.0**
comp=Z,51nm,1.4s
PALK LR LR
comp=Z,4μm,18.0s
PALK Pallekele 96.86 86 *e*P **P 20 09 35.9 -2.0**
PALK pmax pmax
comp=Z,51nm,1.4s
PALK MLR MLR
comp=Z,4μm,18.0s
PALK Pallekele 96.86 86 LR LR 20 49 49.2
comp=Z,3μm,18.6s,baz=296,slow=33
GNAR Gosnell 96.88 307 PFAKE 20 09 50.0 +13
GNAR LR LR
comp=Z,2μm,20.0s
PVMO Portageville 96.89 308 PFAKE 20 09 50.0 +13
PVMO LR LR
comp=Z,2μm,22.0s
OLIL Olney 97.00 310 PFAKE 20 09 50.0 +12
OLIL LR LR
comp=Z,2μm,21.0s
PARMO Parma 97.05 308 PFAKE 20 09 50.0 +12
PARMO LR LR
comp=Z,2μm,22.0s
CCAR Cane Creek 97.09 305 PFAKE 20 09 50.0 +11
CCAR LR LR
comp=Z,3μm,22.0s
HBAR Harrisburg 97.12 307 PFAKE 20 09 50.0 +11
HBAR LR LR
comp=Z,2μm,19.0s
P45A Graceland, Par 97.18 311 PFAKE 20 09 50.0 +11
P45A LR LR
comp=Z,2μm,22.0s
SFIN Lafayette 97.21 312 PFAKE 20 09 50.0 +11
SFIN LR LR
comp=Z,2μm,20.0s
SIUC Southern Illin 97.23 309 PFAKE 20 09 50.0 +11
SIUC LR LR
comp=Z,700nm,22.0s
M46A Old House Fiel 97.28 313 PFAKE 20 09 50.0 +11
M46A LR LR
comp=Z,2μm,19.0s
Z41A Richland Creek 97.51 304 PFAKE 20 09 50.0 +10
Z41A LR LR
comp=Z,2μm,20.0s
PBMO Poplar Bluff 97.58 308 PFAKE 20 09 50.0 +9.4
PBMO LR LR
comp=Z,2μm,21.0s
MOIG Morelia 97.62 288 PFAKE 20 09 50.0 +8.5
MOIG LR LR
comp=Z,3μm,20.0s
UALR University of 97.93 305 PFAKE 20 09 50.0 +7.8
UALR LR LR
comp=Z,2μm,22.0s
WLAR White Oak Lake 97.95 304 PFAKE 20 09 50.0 +7.7
WLAR LR LR
comp=Z,3μm,20.0s
GLMI Grayling 98.05 317 PFAKE 20 09 50.0 +7.5
GLMI LR LR
comp=Z,2μm,19.0s
ETX06 Route 59 and C 98.05 302 PFAKE 20 09 50.0 +7.2
ETX06 LR LR
comp=Z,900nm,22.0s
W41B Gary Mavity, V 98.06 306 PFAKE 20 09 50.0 +7.2
W41B LR LR
comp=Z,2μm,22.0s
X40A Basin Creek Fa 98.14 305 PFAKE 20 09 50.0 +6.8
X40A LR LR
comp=Z,2μm,22.0s
WHAR Wooly Hollow 98.14 306 PFAKE 20 09 50.0 +6.8
WHAR LR LR
comp=Z,2μm,22.0s
NATX Nacogdoches 98.15 302 PFAKE 20 09 50.0 +6.7
NATX LR LR
comp=Z,2μm,21.0s
HKT Hockley 98.17 300 PFAKE 20 09 50.0 +6.7
HKT LR LR
comp=Z,1μm,20.0s
FVM French Village 98.19 309 PFAKE 20 09 50.0 +6.7
FVM LR LR
comp=Z,2μm,20.0s
M44A Midewin, Midew 98.35 313 PFAKE 20 09 50.0 +6.1
M44A LR LR
comp=Z,2μm,20.0s
SLM Saint Louis 98.39 310 PFAKE 20 09 50.0 +5.8
SLM LR LR
comp=Z,2μm,22.0s
KVTX Kingsville 98.62 297 PFAKE 20 10 00.0 +15
KVTX LR LR
comp=Z,2μm,19.0s
MIAR Mount Ida 98.70 305 PFAKE 20 10 00.0 +14
MIAR LR LR
comp=Z,2μm,21.0s
HDIL Hopedale 98.73 312 PFAKE 20 10 00.0 +14
HDIL LR LR
comp=Z,1μm,20.0s
CCM Cathedral Cave 98.78 309 PFAKE 20 10 00.0 +14
CCM LR LR
comp=Z,2μm,22.0s
W39A Magazine 99.16 305 PFAKE 20 10 00.0 +12
W39A LR LR
comp=Z,2μm,22.0s
K43A Burlington 99.21 314 PFAKE 20 10 00.0 +12
K43A LR LR
comp=Z,2μm,21.0s
L42A Oliver, Polo 99.71 313 PFAKE 20 10 00.0 +10
L42A LR LR
comp=Z,2μm,20.0s
H43A Windswept, Lux 99.77 316 PFAKE 20 10 00.0 +10
H43A LR LR
comp=Z,2μm,22.0s
E44A Grand Marais A 99.78 318 PFAKE 20 10 00.0 +10
E44A LR LR
comp=Z,2μm,22.0s
HHAR Hobbs 99.80 306 PFAKE 20 10 00.0 +9.5
HHAR LR LR
comp=Z,2μm,22.0s
N41A Harden Midland 99.83 311 PFAKE 20 10 00.0 +9.4
N41A LR LR
comp=Z,2μm,21.0s
435B Jarrell 99.89 300 PFAKE 20 10 00.0 +8.9
435B LR LR
comp=Z,1μm,20.0s
X37A Clayton 100.02 304 PFAKE 20 10 00.0 +8.4
X37A LR LR
comp=Z,2μm,19.0s
KBL Kabul 100.03 56 PFAKE 20 10 00.0 +8.1
KBL LR LR
comp=Z,2μm,20.0s
G43A Wallace 100.12 316 PFAKE 20 10 00.0 +8.3
G43A LR LR
comp=Z,1μm,19.0s
833A Chaparral WMA, 100.16 297 PFAKE 20 10 00.0 +7.7
833A LR LR
comp=Z,1μm,22.0s
I42A Draeger Farm, 100.18 315 PFAKE 20 10 00.0 +8.0
I42A LR LR
comp=Z,1μm,20.0s
H42A Shiocton 100.25 315 PFAKE 20 10 00.0 +7.7
H42A LR LR
comp=Z,2μm,20.0s
E43A Lone Tree Farm 100.28 317 PFAKE 20 10 00.0 +7.6
E43A LR LR
comp=Z,1μm,19.0s
WHTX Lake Whitney, 100.35 301 PFAKE 20 10 00.0 +6.9
WHTX LR LR
comp=Z,1μm,19.0s
JFWS Jewell Farm 100.53 313 PFAKE 20 10 00.0 +6.4
JFWS LR LR
comp=Z,2μm,21.0s
G42A Mountain 100.56 316 PFAKE 20 10 00.0 +6.3
G42A LR LR
comp=Z,1μm,18.0s
L40A Anamosa 100.74 312 PFAKE 20 10 10.0 +15
L40A LR LR
comp=Z,2μm,20.0s
I41A Arkdale 100.86 314 PFAKE 20 10 10.0 +15
I41A LR LR
comp=Z,2μm,21.0s
TUL1 Leonard 100.94 305 PFAKE 20 10 10.0 +14
TUL1 LR LR
comp=Z,2μm,22.0s
H41A Junction City 101.00 315 PFAKE 20 10 10.0 +14
H41A LR LR
comp=Z,2μm,22.0s
F41A Three Lakes 101.22 316 PFAKE 20 10 10.0 +13
F41A LR LR
comp=Z,2μm,20.0s
COWI Conover 101.42 316 PFAKE 20 10 10.0 +12
COWI LR LR
comp=Z,1μm,19.0s
JCT Junction City 101.45 298 PFAKE 20 10 10.0 +12
JCT LR LR
comp=Z,2μm,22.0s
D41A Chassel 101.56 318 PFAKE 20 10 10.0 +12
D41A LR LR
comp=Z,1μm,18.0s
G40A Rib Lake 101.66 315 PFAKE 20 10 10.0 +11
G40A LR LR
comp=Z,1μm,22.0s
OK024 West corner E0 101.77 304 PFAKE 20 10 10.0 +11
OK024 LR LR
comp=Z,2μm,22.0s
I39A Houston 101.80 314 PFAKE 20 10 10.0 +11
I39A LR LR
comp=Z,2μm,20.0s
OK023 East Waterloo 101.85 304 PFAKE 20 10 10.0 +10
OK023 LR LR
comp=Z,2μm,22.0s
SCIA State Center 101.97 311 PFAKE 20 10 10.0 +10
SCIA LR LR
comp=Z,2μm,19.0s
CHGR Chuyangaron 102.02 53 PFAKE 20 10 10.0 +10
CHGR LR LR
comp=Z,7μm,21.0s
ABTX Abilene, Hawle 102.29 300 PFAKE 20 10 10.0 +8.3
ABTX LR LR
comp=Z,1μm,19.0s
C40A Isle Royale Na 102.33 318 PFAKE 20 10 10.0 +8.5
C40A LR LR
comp=Z,2μm,19.0s
APA Apatity 102.35 17 ⇓*i*P **Pdif 20 10 04.2 +3.1**
APA pmax pmax
comp=Z,3.0nm,0.8s
APA MLR MLR
comp=Z,1μm,10.0s
WMOK Wichita Mounta 102.59 303 PFAKE 20 10 10.0 +7.0
WMOK LR LR
comp=Z,1μm,20.0s
KEV Kevo 102.63 13 PFAKE 20 10 10.0 +7.7
KEV LR LR
comp=Z,800nm,21.0s
NIL Nilore 102.73 59 PFAKE 20 10 10.0 +6.3
NIL LR LR
comp=Z,1μm,21.0s
SUMG Summit 102.75 352 PFAKE 20 10 10.0 +6.7
SUMG LR LR
comp=Z,600nm,20.0s
LVZ Lovozero 102.91 17 PFAKE 20 10 10.0 +6.4
LVZ LR LR
comp=Z,1μm,21.0s
KSU1 Kansas State U 102.98 308 PFAKE 20 10 20.0 +15
KSU1 LR LR
comp=Z,2μm,21.0s
GAR Garm 102.98 53 PFAKE 20 10 20.0 +15
GAR LR LR
comp=Z,7μm,21.0s
E38A The Farm, Brul 103.13 316 PFAKE 20 10 20.0 +15
E38A LR LR
comp=Z,1μm,20.0s
SPMN Marine on St. 103.26 314 PFAKE 20 10 20.0 +14
SPMN LR LR
comp=Z,2μm,21.0s
RKT Rikitea 103.70 234 *e*LR LR 20 44 16.7
comp=Z,2μm,24.2s
EYMN Ely 103.73 317 PFAKE 20 10 20.0 +12
EYMN LR LR
comp=Z,1μm,20.0s
BTK Batken 103.80 52 PFAKE 20 10 20.0 +12
BTK LR LR
comp=Z,3μm,21.0s
ARU Arti 104.37 33 PFAKE 20 10 20.0 +10
ARU LR LR
comp=Z,1μm,19.0s
HPIG 104.53 293 PFAKE 20 10 20.0 +7.9
HPIG LR LR
comp=Z,3μm,21.0s
AMTX Amarillo 104.80 302 PFAKE 20 10 20.0 +7.1
AMTX LR LR
comp=Z,2μm,19.0s
ECSD EROS Data Cent 105.03 312 PFAKE 20 14 40.0 +12
ECSD LR LR
comp=Z,2μm,22.0s
BGNE Belgrade 105.05 309 PFAKE 20 14 40.0 +12
BGNE LR LR
comp=Z,2μm,22.0s
MSTX Muleshoe 105.23 301 PFAKE 20 14 40.0 +11
MSTX LR LR
comp=Z,2μm,21.0s
ARSB Arslanbob 105.83 51 PFAKE 20 14 40.0 +10
ARSB LR LR
comp=Z,1μm,19.0s
MNTX Cornudas Mount 106.30 297 PFAKE 20 14 40.0 +9.0
MNTX LR LR
comp=Z,1μm,21.0s
AGMN Agassiz Nation 106.50 316 PFAKE 20 14 40.0 +9.1
AGMN LR LR
comp=Z,1μm,20.0s
SLBS Sierra La Lagu 106.68 288 PFAKE 20 14 40.0 +7.9
SLBS LR LR
comp=Z,2μm,21.0s
KSH Kashi 107.18 54 Pdif **Pdif 20 10 24.2 +0.8**
KSH PP **PP 20 14 52.5 +1.7**
KSH S **Sdif 20 22 22.4 -3.4**
KSH LR LR
comp=Z,1μm,14.0s
KSH LR LR
comp=Z,1μm,15.5s
KSCO Kaye Shedlock' 107.18 305 PFAKE 20 14 40.0 +7.4
KSCO LR LR
comp=Z,2μm,22.0s
EPT El Paso 107.20 297 PFAKE 20 14 40.0 +7.1
EPT LR LR
comp=Z,700nm,20.0s
ULM Lac du Bonnet 107.33 318 PFAKE 20 14 40.0 +7.7
ULM LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 107.40 51 PFAKE 20 14 40.0 +7.1
AAK LR LR
comp=Z,2μm,22.0s
OGNE Ogallala 107.53 307 PFAKE 20 14 40.0 +6.9
OGNE LR LR
comp=Z,2μm,22.0s
FRU1 Bishkek 107.56 50 PFAKE 20 14 40.0 +6.9
FRU1 LR LR
comp=Z,2μm,19.0s
T25A Trinidad 107.74 303 PFAKE 20 14 40.0 +6.2
T25A LR LR
comp=Z,2μm,19.0s
OXZ Oxford 107.90 184 PFAKE 20 14 40.0 +6.2
OXZ LR LR
comp=Z,2μm,22.0s
NRN Naryn 107.95 52 PFAKE 20 14 50.0 +16
NRN LR LR
comp=Z,2μm,20.0s
ANMO Albuquerque 108.41 300 PFAKE 20 14 50.0 +15
ANMO LR LR
comp=Z,2μm,22.0s
Y22D IRIS PASSCAL I 108.43 299 PFAKE 20 14 50.0 +15
Y22D LR LR
comp=Z,1μm,20.0s
MDND Maddock 108.62 315 PFAKE 20 14 50.0 +15
MDND LR LR
comp=Z,1μm,19.0s
KBS Kingsbay 108.62 5 PFAKE 20 14 40.0 +6.0
KBS LR LR
comp=Z,500nm,20.0s
SDCO Great Sand Dun 108.77 303 PFAKE 20 14 50.0 +14
SDCO LR LR
comp=Z,2μm,22.0s
BRVK Borovoye 108.90 39 PFAKE 20 14 50.0 +15
BRVK LR LR
comp=Z,1μm,19.0s
Q24A Divide 108.98 305 PFAKE 20 14 50.0 +14
Q24A LR LR
comp=Z,2μm,22.0s
KDJ Kajisay 109.04 52 PFAKE 20 14 50.0 +14
KDJ LR LR
comp=Z,2μm,19.0s
319A Douglas 109.22 296 PFAKE 20 14 50.0 +13
319A LR LR
comp=Z,2μm,20.0s
TARG Taragay, Kyrgy 109.32 52 PFAKE 20 14 50.0 +13
TARG LR LR
comp=Z,2μm,19.0s
PBA Port Blair 109.41 87 PFAKE 20 14 50.0 +13
PBA LR LR
comp=Z,7μm,21.0s
ISCO Idaho Springs 109.62 305 PFAKE 20 14 50.0 +13
ISCO LR LR
comp=Z,2μm,22.0s
HSIG 109.65 293 PFAKE 20 14 50.0 +13
HSIG LR LR
comp=Z,2μm,20.0s
S22A 4UR Ranch, Cre 109.75 303 PFAKE 20 14 50.0 +12
S22A LR LR
comp=Z,2μm,19.0s
FCC Fort Churchill 109.82 327 PFAKE 20 14 50.0 +13
FCC LR LR
comp=Z,2μm,21.0s
SRIG Santa Rosalia 110.04 291 PFAKE 20 14 50.0 +12
SRIG LR LR
comp=Z,2μm,20.0s
FORT Forrest 110.04 145 PFAKE 20 14 50.0 +12
FORT LR LR
comp=Z,2μm,19.0s
PHWY Pilot Hill 110.06 307 PFAKE 20 14 50.0 +12
PHWY LR LR
comp=Z,2μm,22.0s
RSSD Black Hills 110.10 310 PFAKE 20 14 50.0 +12
RSSD LR LR
comp=Z,3μm,22.0s
LHMI Lhok Sumawe 110.12 95 PFAKE 20 14 50.0 +11
LHMI LR LR
comp=Z,4μm,20.0s
N23A Red Feather La 110.26 306 PFAKE 20 14 50.0 +12
N23A LR LR
comp=Z,1μm,20.0s
SMCO Snowmass 110.38 304 PFAKE 20 14 50.0 +11
SMCO LR LR
comp=Z,2μm,22.0s
TULEG Thule 110.64 348 PFAKE 20 14 50.0 +12
TULEG LR LR
comp=Z,800nm,22.0s
PSI Prapat 110.66 99 PFAKE 20 14 50.0 +10
PSI LR LR
comp=Z,4μm,20.0s
TUC Tucson 110.76 296 PFAKE 20 14 50.0 +11
TUC LR LR

comp=Z,2μm,20.0s
MVCO Mesa Verde 110.79 302 PFAKE 20 14 50.0 +10
MVCO LR LR
comp=Z,2μm,20.0s
TOO Toolangi 110.86 162 PFAKE 20 14 50.0 +10
TOO LR LR
comp=Z,1μm,18.0s
X18A Snowflake 110.92 299 PFAKE 20 14 50.0 +10
X18A LR LR
comp=Z,2μm,20.0s
W18A Petrified Fore 110.97 299 PFAKE 20 14 50.0 +10
W18A LR LR
comp=Z,2μm,18.0s
PV01 Paradox Valley 111.17 303 PFAKE 20 14 50.0 +10
PV01 LR LR
comp=Z,2μm,21.0s
BKNI Bangkinang 111.24 102 PFAKE 20 14 50.0 +9.2
BKNI LR LR
comp=Z,3μm,22.0s
K22A Casper 111.28 308 PFAKE 20 14 50.0 +10
K22A LR LR
comp=Z,1μm,22.0s
PV07 Paradox Valley 111.33 303 PFAKE 20 14 50.0 +9.5
PV07 LR LR
comp=Z,2μm,22.0s
PV13 Radium Mtn., P 111.36 303 PFAKE 20 14 50.0 +9.4
PV13 LR LR
comp=Z,3μm,22.0s
PV12 Saucer Basin, 111.41 303 PFAKE 20 14 50.0 +9.3
PV12 LR LR
comp=Z,3μm,21.0s
PV03 Paradox Valley 111.42 303 PFAKE 20 14 50.0 +9.3
PV03 LR LR
comp=Z,2μm,22.0s
RWWY Rawlins 111.43 307 PFAKE 20 14 50.0 +9.3
RWWY LR LR
comp=Z,1μm,20.0s
PV11 David Mesa, Pa 111.45 303 PFAKE 20 14 50.0 +9.2
PV11 LR LR
comp=Z,3μm,21.0s
PV18 Skein Mesa, Pa 111.46 303 PFAKE 20 14 50.0 +9.2
PV18 LR LR
comp=Z,2μm,22.0s
PV22 Blue Mesa, Par 111.47 303 PFAKE 20 14 50.0 +9.2
PV22 LR LR
comp=Z,1μm,21.0s
PV16 Nyswonger Mesa 111.49 303 PFAKE 20 14 50.0 +9.2
PV16 LR LR
comp=Z,2μm,22.0s
PV20 West Nyswonger 111.54 303 PFAKE 20 14 50.0 +9.1
PV20 LR LR
comp=Z,2μm,22.0s
PV19 Morning Glory 111.54 303 PFAKE 20 14 50.0 +9.1
PV19 LR LR
comp=Z,2μm,22.0s
PV05 Paradox Valley 111.54 302 PFAKE 20 14 50.0 +9.0
PV05 LR LR
comp=Z,3μm,22.0s
PV14 Lion Creek, Pa 111.59 303 PFAKE 20 14 50.0 +8.9
PV14 LR LR
comp=Z,3μm,22.0s
PV10 Paradox Valley 111.60 303 PFAKE 20 14 50.0 +8.9
PV10 LR LR
comp=Z,2μm,20.0s
PV23 Carpenter Ridg 111.61 303 PFAKE 20 14 50.0 +8.9
PV23 LR LR
comp=Z,2μm,21.0s
BKZ Black Stump Fm 111.62 188 PFAKE 20 14 50.0 +9.0
BKZ LR LR
comp=Z,2μm,20.0s
O20A White River Ci 111.63 305 PFAKE 20 14 50.0 +9.0
O20A LR LR
comp=Z,1μm,19.0s
DGMT Dagmar 111.71 314 PFAKE 20 14 50.0 +9.3
DGMT LR LR
comp=Z,2μm,21.0s
X16A Lo Mia Camp, P 112.03 298 PFAKE 20 14 50.0 +8.0
X16A LR LR
comp=Z,2μm,22.0s
PSAD3 Pilbara Seismi 112.27 133 PFAKE 20 14 50.0 +7.4
PSAD3 LR LR
comp=Z,3μm,18.0s
PSAC3 Pilbara Seismi 112.31 133 PFAKE 20 14 50.0 +7.3
PSAC3 LR LR
comp=Z,3μm,20.0s
PSAB1 Pilbara Seismi 112.35 133 PFAKE 20 14 50.0 +7.2
PSAB1 LR LR
comp=Z,3μm,20.0s
PSAA1 Pilbara Seismi 112.35 133 PFAKE 20 14 50.0 +7.2
PSAA1 LR LR
comp=Z,2μm,20.0s
PSAB3 Pilbara Seismi 112.35 133 PFAKE 20 14 50.0 +7.2
PSAB3 LR LR
comp=Z,4μm,21.0s
WUAZ Wupatki 112.37 299 PFAKE 20 14 50.0 +7.5
WUAZ LR LR
comp=Z,1μm,19.0s
PSAD2 Pilbara Seismi 112.40 133 PFAKE 20 14 50.0 +7.1
PSAD2 LR LR
comp=Z,4μm,21.0s
LAO LASA Array 112.42 312 PFAKE 20 14 50.0 +7.9
LAO LR LR
comp=Z,2μm,22.0s
FFC Flin Flon 112.44 321 PFAKE 20 14 50.0 +8.2
FFC LR LR
comp=Z,2μm,20.0s
KURK Kurchatov 112.92 44 PFAKE 20 14 50.0 +7.2
KURK LR LR
comp=Z,2μm,18.0s
Y14A Wickenburg 113.08 297 PFAKE 20 14 50.0 +6.2
Y14A LR LR
comp=Z,2μm,18.0s
TBI Tubuai 113.09 224 *e*SP SP 20 25 10.1 +3.6
comp=Z,438nm,29.5s
TBI *e*SS **SS** **20 31 21.4 +5.3**
comp=Z,536nm,30.2s
TBI Tubuai 113.09 224 *e*LR LR 20 48 23.6
comp=Z,2μm,26.8s
SIMRM Sittwe 113.13 79 PFAKE 20 15 00.0 +16
SIMRM LR LR
comp=Z,600nm,19.0s
113A Mohawk Valley, 113.28 296 PFAKE 20 14 50.0 +5.9
113A LR LR
comp=Z,1μm,20.0s
IPM Ipoh 113.31 98 PFAKE 20 15 00.0 +15
IPM LR LR
comp=Z,2μm,20.0s
KULM Kulim 113.37 97 PFAKE 20 15 00.0 +15
KULM LR LR
comp=Z,3μm,18.0s
U15A North Rim 113.38 300 PFAKE 20 15 00.0 +15
U15A LR LR
comp=Z,1μm,19.0s
BW06 Boulder Array 113.43 307 PFAKE 20 15 00.0 +16
BW06 LR LR
comp=Z,1μm,21.0s
MAKZ Makanchi 113.85 48 PFAKE 20 15 00.0 +15
MAKZ LR LR
comp=Z,2μm,20.0s
RLMT Red Lodge 113.96 310 PFAKE 20 15 00.0 +15
RLMT LR LR
comp=Z,2μm,21.0s
MKAR Makanchi Array 114.05 48 PKiKP **PKiKP** **20 14 47.3 +2.1**
comp=Z,0.9nm,0.9s,baz=228,slow=1.5,SNR=3.6
MKAR PKKPab **PKKPab** **20 25 32.8 +1.4**
comp=Z,0.9nm,0.7s,baz=68,slow=2.6,SNR=9.2
W13A Hualapai Mount 114.16 298 PFAKE 20 15 00.0 +14
W13A LR LR
comp=Z,2μm,22.0s
Y12C Blythe 114.21 296 PFAKE 20 15 00.0 +14
Y12C LR LR
comp=Z,2μm,18.0s
GLA Glamis 114.21 296 PFAKE 20 15 00.0 +14
GLA LR LR
comp=Z,1μm,20.0s
SHL Shillong 114.36 73 PFAKE 20 15 00.0 +13
SHL LR LR
comp=Z,5μm,20.0s
MYKOM Kota Tinggi 114.39 102 PFAKE 20 15 00.0 +13
MYKOM LR LR
comp=Z,2μm,19.0s
LOHW Long Hollow 114.42 308 PFAKE 20 15 00.0 +14
LOHW LR LR
comp=Z,1μm,19.0s
SNOW Snow King Moun 114.48 308 PFAKE 20 15 00.0 +14
SNOW LR LR
comp=Z,2μm,22.0s
HWUT Hardware Ranch 114.49 305 PFAKE 20 15 00.0 +14
HWUT LR LR
comp=Z,1μm,21.0s
AHID Auburn Hatcher 114.51 307 PFAKE 20 15 00.0 +14
AHID LR LR
comp=Z,2μm,21.0s
REDW Red Top Meadow 114.52 307 PFAKE 20 15 00.0 +14
REDW LR LR
comp=Z,1μm,21.0s
MOOW Moose Ponds 114.56 308 PFAKE 20 15 00.0 +13
MOOW LR LR
comp=Z,2μm,20.0s
LKWY Lake 114.56 309 PFAKE 20 15 00.0 +13
LKWY LR LR
comp=Z,4μm,20.0s
TPAW Teton Pass 114.62 308 PFAKE 20 15 00.0 +13
TPAW LR LR
comp=Z,2μm,22.0s
FLWY Flagg Ranch 114.62 308 PFAKE 20 15 00.0 +13
FLWY LR LR
comp=Z,2μm,22.0s
H17A Grant Village 114.63 309 PFAKE 20 15 00.0 +13
H17A LR LR
comp=Z,3μm,20.0s
IMW Indian Meadow 114.73 308 PFAKE 20 15 00.0 +13
IMW LR LR
comp=Z,2μm,19.0s
DUG Dugway, Tooele 114.96 304 PFAKE 20 15 00.0 +13
DUG LR LR
comp=Z,2μm,20.0s
LDFC Landfair 115.10 298 PFAKE 20 15 00.0 +12
LDFC LR LR
comp=Z,2μm,19.0s
EGMT Eagleton 115.12 313 PFAKE 20 15 00.0 +13
EGMT LR LR
comp=Z,1μm,20.0s
LSA Lhasa 115.23 69 PFAKE 20 15 00.0 +11
LSA LR LR
comp=Z,698nm,20.0s
RES Resolute Bay 115.53 343 *e*PKPdf **PKPdf** **20 14 48.6 +1.4**
RES LR LR
comp=Z,600nm,21.0s
RES Resolute Bay 115.53 343 *e*PKIKP **PKPdf** **20 14 48.6 +1.4**
RES MLR MLR
comp=Z,600nm,21.0s
RES Resolute Bay 115.53 343 PKP **PKPdf** **20 14 49.2 +2.1**
comp=Z,1.5nm,0.9s,baz=344,slow=3.9,SNR=6.1
BAR Barrett 115.55 295 PFAKE 20 15 00.0 +11
BAR LR LR
comp=Z,1μm,21.0s
SHPR Sheep Range 115.59 299 PFAKE 20 15 00.0 +11
SHPR LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flats O 115.68 296 PFAKE 20 15 00.0 +11
PFO LR LR
comp=Z,2μm,19.0s
BOZ Bozeman (W) 115.69 310 PFAKE 20 15 00.0 +11
BOZ LR LR
comp=Z,2μm,22.0s
CPE Camp Elliot 115.96 295 PFAKE 20 15 00.0 +11
CPE LR LR
comp=Z,1μm,19.0s
DLMT Dillon 116.28 309 PFAKE 20 15 00.0 +10
DLMT LR LR
comp=Z,2μm,22.0s
R11A Troy Canyon, C 116.47 301 *e*PKPdf **PKPdf** **20 14 48.8 -1.5**
R11A LR LR
comp=Z,1μm,19.0s
R11A Troy Canyon, C 116.47 301 P **PKiKP** **20 14 51.7 +1.4**
baz=107
GSC Goldstone, Bar 116.49 297 PFAKE 20 15 00.0 +10
GSC LR LR
comp=Z,2μm,19.0s
TPNV Topopah Spring 116.56 299 PFAKE 20 15 00.0 +9.5
TPNV LR LR
comp=Z,2μm,19.0s
WMQ Urumqi 116.88 53 *e*PKP **PKPdf** **20 14 50.4 -0.4**
WMQ LR LR
comp=Z,7μm,27.5s
WMQ LR LR
comp=Z,6μm,24.9s
WMQ LR LR
comp=Z,6μm,24.9s
WMQ Urumqi 116.88 53 PFAKE 20 15 00.0 +9.2
WMQ LR LR
comp=Z,1μm,20.0s
ELK Elko 116.89 304 *e*PKPdf **PKPdf** **20 14 49.9 -1.2**
ELK LR LR
comp=Z,2μm,20.0s
ELK Elko 116.89 304 PKP **PKiKP** **20 14 52.4 +1.2**
comp=Z,1.7nm,0.9s,baz=67,slow=6.8,SNR=5.6
HLID Hailey 117.06 307 PFAKE 20 15 00.0 +8.7
HLID LR LR
comp=Z,1μm,19.0s
JAGI Jajag, Banyuwa 117.08 118 PFAKE 20 15 00.0 +8.0
JAGI LR LR
comp=Z,2μm,20.0s
MWC Mount Wilson 117.14 296 PFAKE 20 15 00.0 +8.2
MWC LR LR
comp=Z,1μm,19.0s
PASC Pasadena Art C 117.22 296 PFAKE 20 15 00.0 +8.3
PASC LR LR
comp=Z,1μm,19.0s
PPT2 Papeete2 117.42 228 *e*SP SP 20 25 42.2 -4.3
comp=Z,476nm,26.5s
PPT2 *e*SS **SS** **20 32 18.5 +5.0**
comp=Z,1μm,29.5s
PPT2 Papeete2 117.42 228 *e*LQ LQ 20 45 36.4
comp=Z,773nm,29.5s
PPT2 *e*LR LR 20 50 37.7
comp=Z,1μm,22.0s
ZAA0 Zalesovo Array 117.44 41 PFAKE 20 15 00.0 +8.6
ZAA0 LR LR
comp=Z,2μm,20.0s
MSO Missoula 117.56 310 PFAKE 20 15 00.0 +7.9
MSO LR LR
comp=Z,2μm,20.0s
CM31 Chiang Mai Arr 117.70 83 *e*PKPdf **PKPdf** **20 14 52.2 -0.8**
CMAR Chiang Mai Arr 117.70 83 *e*PKPdf **PKPdf** **20 14 52.9 -0.2**
CMAR Chiang Mai Arr 117.70 83 PKP **PKiKP** **20 14 53.6 +0.6**
comp=Z,2.1nm,0.9s,baz=245,slow=4.3,SNR=12
CMAR PP **PP** **20 16 10.6 +4.3**
comp=Z,0.9nm,1.0s,baz=259,slow=9.1,SNR=4.1
OSI Osito Audit: C 117.78 296 PFAKE 20 15 00.0 +7.2
OSI LR LR
comp=Z,1μm,20.0s
CHTO Chiang Mai 117.85 83 *e*PKPdf **PKPdf** **20 14 52.2 -1.1**
CHTO LR LR
comp=Z,2μm,22.0s
CHTO Chiang Mai 117.85 83 *e*PKIKP **PKPdf** **20 14 52.2 -1.1**
CHTO MLR MLR
comp=Z,2μm,22.0s
CMMT Chiang Mai 117.85 83 PKP **PKiKP** **20 14 56.8 +3.5**
ISA Isabella, Lake 117.89 297 PFAKE 20 15 00.0 +7.0
ISA LR LR
comp=Z,2μm,22.0s
SNCC San Nicolas Is 118.00 294 PFAKE 20 15 00.0 +6.8
SNCC LR LR
comp=Z,1μm,21.0s
BMN Battle Mountai 118.26 303 PFAKE 20 15 00.0 +6.3
BMN LR LR
comp=Z,2μm,20.0s
NV11 Mina Array Sit 118.43 300 PFAKE 20 15 00.0 +5.9
NV11 LR LR
comp=Z,200nm,19.0s
NVAR Mina Array Bea 118.54 300 *e*PKPdf **PKPdf** **20 14 53.1 -1.3**
NVAR Mina Array Bea 118.54 300 PKP **PKiKP** **20 14 54.5 +0.1**
comp=Z,1.1nm,0.6s,baz=127,slow=2.6,SNR=6.8
PLID Pearl Lake 118.54 308 PFAKE 20 15 10.0 +16
PLID LR LR
comp=Z,2μm,20.0s
KVN Kaiserville 118.55 301 *e*PKPdf **PKiKP** **20 14 54.6 +0.2**
KVN LR LR
comp=Z,2μm,22.0s
FITZ Fitzroy Crossi 118.59 135 *e*PKPdf **PKPdf** **20 14 54.7 -0.1**
FITZ Fitzroy Crossi 118.59 135 PKP **PKPdf** **20 14 53.8 -1.0**
comp=Z,2.3nm,0.8s,baz=276,slow=1.9,SNR=5.6
RYN Ryan 118.76 300 PFAKE 20 15 10.0 +15
RYN LR LR
comp=Z,2μm,20.0s
UTTA Uttaradit 118.82 85 PKP PKiKP 20 15 04.7 +9.5
ASAR Alice Springs 118.83 145 *e*PKPdf **PKPdf** **20 14 53.1 -2.2**
ASAR *e*PP **PP** **20 16 10.6 -2.1**
ASAR Alice Springs 118.83 145 PKP **PKPdf** **20 14 53.5 -1.7**
comp=Z,3.5nm,0.6s,baz=200,slow=1.7,SNR=40
ASAR PKKPbc **PKKPbc** **20 25 10.3 +0.4**
comp=Z,0.8nm,0.9s,baz=34,slow=5.6,SNR=4.5
AS31 Alice Springs 118.83 145 *e*PKPdf **PKPdf** **20 14 52.9 -2.3**
OMMB Old Mammoth Mi 118.85 299 PFAKE 20 15 10.0 +15
OMMB LR LR
comp=Z,1μm,19.0s
MDPB Devils Postpil 118.92 299 PFAKE 20 15 10.0 +15
MDPB LR LR
comp=Z,1μm,19.0s
PAGB Antelope Grade 119.30 297 PFAKE 20 15 10.0 +14
PAGB LR LR
comp=Z,1μm,21.0s
BMO Blue Mountains 119.39 308 PFAKE 20 15 10.0 +14
BMO LR LR
comp=Z,2μm,22.0s
YERR Yerington 119.39 301 PFAKE 20 15 10.0 +14
YERR LR LR
comp=Z,2μm,19.0s
WAKR Walker 119.42 300 PFAKE 20 15 10.0 +14
WAKR LR LR
comp=Z,2μm,20.0s
F10A Beach Ranch, E 119.58 309 PFAKE 20 15 10.0 +14
F10A LR LR
comp=Z,1μm,20.0s
PAHR Pah Rah Range 119.68 301 PFAKE 20 15 10.0 +14
PAHR LR LR
comp=Z,2μm,21.0s
PNTR Pine Nut 119.69 301 PFAKE 20 15 10.0 +13
PNTR LR LR
comp=Z,2μm,20.0s
KSM Kuching 119.72 106 PFAKE 20 15 10.0 +13
KSM LR LR
comp=Z,2μm,20.0s
VCNR Virginia City 119.78 301 PFAKE 20 15 10.0 +13
VCNR LR LR
comp=Z,2μm,19.0s
WVOR Wild Horse Val 119.79 305 PFAKE 20 15 10.0 +13
WVOR LR LR
comp=Z,2μm,21.0s
J08A Circle Bar Ran 119.88 306 *e*PKPdf **PKPdf** **20 14 55.7 -1.0**
J08A LR LR
comp=Z,1μm,18.0s
NEW Newport 119.97 312 PFAKE 20 15 10.0 +13
NEW LR LR
comp=Z,2μm,22.0s
CMB Columbia Colle 120.02 299 PFAKE 20 15 10.0 +13
CMB LR LR
comp=Z,1μm,19.0s
RUBR Rubicon Trail 120.10 301 PFAKE 20 15 10.0 +13
RUBR LR LR
comp=Z,2μm,19.0s
E09A Wood Farm, Sta 120.31 309 PFAKE 20 15 10.0 +13
E09A LR LR
comp=Z,1μm,21.0s
BEKR Beckworth 120.45 301 PFAKE 20 15 10.0 +12
BEKR LR LR
comp=Z,2μm,20.0s
YKA Yellowknife Ar 120.48 328 *e*PKPdf **PKPdf** **20 14 55.1 -1.9**
YKA Yellowknife Ar 120.48 328 PKP **PKPdf** **20 14 55.4 -1.6**
comp=Z,2.5nm,0.9s,baz=93,slow=1.9,SNR=18
YKA PKKPbc **PKKPbc** **20 25 04.1 -0.3**
comp=Z,0.1nm,0.3s,baz=291,slow=2.9,SNR=3.9
YKW3 Yellowknife Ar 120.50 328 *e*PKPdf **PKPdf** **20 14 55.6 -1.4**
SAO San Andreas Ge 120.51 298 PFAKE 20 15 10.0 +12
SAO LR LR
comp=Z,1μm,19.0s
G08A Pilot Rock 120.63 308 PFAKE 20 15 10.0 +12
G08A LR LR
comp=Z,2μm,22.0s
C09A Chrisman Ranch 120.64 311 PFAKE 20 15 10.0 +12
C09A LR LR
comp=Z,1μm,19.0s
AFDM Forest Hills D 120.69 300 PFAKE 20 15 10.0 +12
AFDM LR LR
comp=Z,1μm,21.0s
I07A Izee 120.76 306 *e*PKPdf **PKPdf** **20 14 57.2 -1.1**
I07A LR LR
comp=Z,2μm,20.0s
MOD Modoc Plateau 120.87 304 PFAKE 20 15 10.0 +11
MOD LR LR
comp=Z,2μm,20.0s
E08A Dider Farm, El 120.93 309 PFAKE 20 15 10.0 +12
E08A LR LR
comp=Z,1μm,21.0s
D08A Wollman Farm, 120.94 310 PFAKE 20 15 10.0 +11
D08A LR LR
comp=Z,2μm,22.0s
HAWA Hanford 121.23 309 PFAKE 20 15 10.0 +11
HAWA LR LR
comp=Z,2μm,21.0s
ORV Oroville 121.23 301 PFAKE 20 15 10.0 +11
ORV LR LR
comp=Z,1μm,20.0s
F07A Phinny Hill Vi 121.41 308 PFAKE 20 15 10.0 +11
F07A LR LR
comp=Z,2μm,21.0s
B08A Colville Reser 121.44 311 *e*PKPdf **PKPdf** **20 14 58.9 -0.4**
B08A LR LR
comp=Z,2μm,22.0s
K05A Summer Lake 121.48 305 PFAKE 20 15 10.0 +10
K05A LR LR
comp=Z,2μm,22.0s
E07A Sunnyside 121.48 309 PFAKE 20 15 10.0 +10
E07A LR LR
comp=Z,2μm,21.0s
SKNT Sakolnakorn 121.51 87 PKP **PKiKP** **20 15 03.5 +3.0**
O03E Paynes Creek 121.63 302 P **PKiKP** **20 15 00.3 +0.1**
baz=103
PINE Pine Mountain 121.72 306 *e*PKPdf **PKPdf** **20 15 00.0 -0.3**
PINE LR LR
comp=Z,2μm,19.0s
G06A Carlson Farm, 121.78 308 PFAKE 20 15 10.0 +10
G06A LR LR
comp=Z,1μm,20.0s
J05D Fort Rock, OR 121.83 305 P **PKPdf** **20 14 59.9 -0.5**
baz=101
SBUM Sibu 121.85 107 PFAKE 20 15 10.0 +8.7
SBUM LR LR
comp=Z,700nm,22.0s
MCCM Marconi Confer 121.95 299 PFAKE 20 15 10.0 +9.2
MCCM LR LR
comp=Z,900nm,18.0s
GDXM Geysers 122.04 300 PFAKE 20 15 10.0 +8.9
GDXM LR LR
comp=Z,2μm,19.0s
WC4 Warramunga Arr 122.13 143 PFAKE 20 15 10.0 +8.2
WC4 LR LR
comp=Z,2μm,20.0s
WRA Warramunga Arr 122.14 143 PKP **PKPdf** **20 15 01.4 -0.3**
comp=Z,4.0nm,1.0s,baz=236,slow=1.9,SNR=28
WRA PKKPbc **PKKPbc** **20 24 57.8 +0.2**
comp=Z,1.0nm,0.9s,baz=37,slow=4.4,SNR=5.0
LTY Liberty 122.15 310 PFAKE 20 15 10.0 +9.0
LTY LR LR
comp=Z,1μm,22.0s
WC3 Warramunga Arr 122.15 143 PFAKE 20 15 10.0 +8.2
WC3 LR LR
comp=Z,2μm,20.0s
WB2 Warramunga Arr 122.15 143 PFAKE 20 15 10.0 +8.2
WB2 LR LR
comp=Z,2μm,21.0s
WRAB Tennant Creek 122.16 143 PFAKE 20 15 10.0 +8.1
WRAB LR LR
comp=Z,2μm,20.0s
WC1 Warramunga Arr 122.16 143 PFAKE 20 15 10.0 +8.1
WC1 LR LR
comp=Z,1μm,19.0s
WB3 Warramunga Arr 122.17 143 PFAKE 20 15 10.0 +8.1
WB3 LR LR
comp=Z,2μm,20.0s
WB4 Warramunga Arr 122.19 143 PFAKE 20 15 10.0 +8.1
WB4 LR LR
comp=Z,2μm,21.0s
WB6 Warramunga Arr 122.23 143 PFAKE 20 15 10.0 +8.0
WB6 LR LR
comp=Z,2μm,21.0s
WDC Whiskeytown Da 122.24 302 *e*PKPpre PKPpre 20 14 53.8
WDC *e*PKPdf **PKPdf** **20 14 59.5 -1.6**
WDC LR LR
comp=Z,1μm,22.0s
HOPS Hopland Field 122.29 300 PFAKE 20 15 10.0 +8.6
HOPS LR LR
comp=Z,2μm,20.0s

O02D	**Mt. Diablo Mer**	**122.34 301**	P	**PKiKP**	**20 15 02.2 +0.6**	
	baz=102					
N02D	**Trinity Center**	**122.44 302**	P	**PKiKP**	**20 15 02.8 +1.0**	
	baz=102					
J04D	**Umpqua Nationa**	**122.45 305**	P	**PKiKP**	**20 15 01.8 -0.1**	
	baz=101					
YBH	**Yreka Blue Hor**	**122.60 303**	PFAKE		20 15 10.0 +7.9	
YBH			LR	LR		
	comp=Z,1μm,20.0s					
H04A	**Detroit Lake**	**122.77 307**	PFAKE		20 15 10.0 +7.8	
H04A			LR	LR		
	comp=Z,2μm,22.0s					
I04A	**Tendick Farm,**	**122.77 306**	P	**PKiKP**	**20 15 02.5 +0.2**	
	baz=100					
KCPM	**Cahto Peak**	**122.83 301**	PFAKE		20 15 10.0 +7.4	
KCPM			LR	LR		
	comp=Z,2μm,19.0s					
B06A	**Marblemount**	**122.88 311**	PFAKE		20 15 10.0 +7.8	
B06A			LR	LR		
	comp=Z,2μm,20.0s					
HUMO	**Hull Mountain**	**122.95 304**	*e*PKPpre	PKPpre	20 14 53.6	
HUMO			*e*PKPdf	**PKPdf**	**20 15 01.8 -0.6**	
HUMO			LR	LR		
	comp=Z,1μm,20.0s					
D05A	**Enumclaw**	**123.03 310**	PFAKE		20 15 10.0 +7.4	
D05A			LR	LR		
	comp=Z,1μm,21.0s					
KMRM	**Mail Ridge**	**123.04 301**	PFAKE		20 15 10.0 +7.0	
KMRM			LR	LR		
	comp=Z,2μm,21.0s					
SLVN	**Son La**	**123.11 82**	PFAKE		20 15 10.0 +6.3	
SLVN			LR	LR		
	comp=Z,2μm,20.0s					
KHMM	**Horse Mountain**	**123.18 302**	PFAKE		20 15 10.0 +6.7	
KHMM			LR	LR		
	comp=Z,2μm,22.0s					
DLV	**T Lat**	**123.32 95**	PFAKE		20 15 20.0 +16	
DLV			LR	LR		
	comp=Z,2μm,20.0s					
L02E	**Cave Junction**	**123.33 303**	P	**PKiKP**	**20 15 03.8 +0.3**	
	baz=101					
LLLB	**Lilloet**	**123.39 314**	PFAKE		20 15 10.0 +6.7	
LLLB			LR	LR		
	comp=Z,2μm,21.0s					
JCC	**Jacoby Creek,**	**123.39 302**	PFAKE		20 15 10.0 +6.5	
JCC			LR	LR		
	comp=Z,1μm,20.0s					
KMI	**Kunming**	**123.42 78**	PKP	**PKPdf**	**20 15 03.1 -1.0**	
KMI			SS	SS	20 33 32.3 -0.3	
KMI			LR	LR		
	comp=Z,890nm,20.5s					
KMI			LR	LR		
	comp=Z,2μm,19.8s					
KMI			LR	LR		
	comp=Z,3μm,20.5s					
KMI	**Kunming**	**123.42 78**	PFAKE		20 15 20.0 +16	
KMI			LR	LR		
	comp=Z,3μm,20.0s					
K02D	**Willamette Mer**	**123.48 304**	P	**PKiKP**	**20 15 05.1 +1.3**	
	baz=100					
COR	**Corvallis**	**123.54 306**	PFAKE		20 15 10.0 +6.3	
COR			LR	LR		
	comp=Z,1μm,22.0s					
KAPI	**Kappang**	**123.56 119**	PFAKE		20 15 20.0 +15	
KAPI			LR	LR		
	comp=Z,1μm,18.0s					
SOEI	**Soe**	**123.72 127**	PFAKE		20 15 20.0 +15	
SOEI			LR	LR		
	comp=Z,2μm,18.0s					
D03D	**Eldon**	**123.81 310**	P	**PKiKP**	**20 15 04.8 +0.6**	
	baz=98					
F03A	**Seaside**	**123.92 308**	PFAKE		20 15 10.0 +5.6	
F03A			LR	LR		
	comp=Z,2μm,21.0s					
KEBM	**Edson Butte**	**123.99 304**	PFAKE		20 15 20.0 +15	
KEBM			LR	LR		
	comp=Z,1μm,21.0s					
E03A	**Lebam**	**124.01 309**	PFAKE		20 15 20.0 +15	
E03A			LR	LR		
	comp=Z,2μm,21.0s					
NLWA	**Neilton Lookou**	**124.32 310**	PFAKE		20 15 20.0 +15	
NLWA			LR	LR		
	comp=Z,1μm,22.0s					
GTA	**Gaotai**	**124.74 60**	PKP	**PKiKP**	**20 15 06.7 +0.2**	
GTA			PP	**PP**	**20 17 01.0 +6.9**	
GTA			AMB	AMB		
	comp=Z,250nm,9.8s					
GTA			LR	LR		
	comp=Z,1μm,21.3s					
GTA			LR	LR		
	comp=Z,2μm,21.3s					
GTA			LR	LR		
	comp=Z,3μm,23.0s					
MOY	**Mondy**	**126.90 45**	*e*PKIKP	**PKiKP**	**20 15 10.7 +0.4**	
MOY			pmax	pmax		
	comp=Z,37nm,2.3s					
MPSI	**Mapaga**	**126.97 114**	PKP	**PKiKP**	**20 15 11.3 -0.2**	
MPSI			PKP	**sPKPdf**	**20 15 14.8 -1.0**	
KKM	**Kota Kinabalu**	**127.12 105**	PFAKE		20 15 20.0 +8.1	
KKM			LR	LR		
	comp=Z,2μm,20.0s					
GYA	**Guiyang**	**127.19 77**	PKP	**PKiKP**	**20 15 11.4 -0.3**	
GYA			PKS		20 18 46.6	
GYA			SKKS		20 24 08.6	
GYA			AMB	AMB		
	comp=Z,170nm,9.0s					
GYA			LR	LR		
	comp=Z,2μm,21.8s					
GYA			LR	LR		
	comp=Z,3μm,22.4s					
GYA			LR	LR		
	comp=Z,3μm,22.5s					
LZH	**Lanzhou**	**127.23 65**	*e*PKP	**PKPdf**	**20 15 08.5 -2.6**	
LZH			sPKP		20 15 13.1	
LZH			PP	**PP**	**20 17 13.0 +2.2**	
LZH			SKS	**SKSac**	**20 22 16.0 -1.3**	
LZH			SKKS	**SKKSac**	**20 24 05.0 -3.0**	
LZH			SS	**SS**	**20 34 20.2 +0.1**	
LZH			AMB	AMB		
	comp=Z,280nm,9.6s					
LZH			LR	LR		
	comp=Z,2μm,17.9s					
LZH			LR	LR		
	comp=Z,2μm,18.2s					
LZH			LR	LR		
	comp=Z,4μm,20.1s					
CTAO	**Charters Tower**	**127.34 155**	PFAKE		20 15 20.0 +7.9	
CTAO			LR	LR		
	comp=Z,2μm,21.0s					
BBB	**Bella Bella**	**127.38 315**	PFAKE		20 15 20.0 +8.9	
BBB			LR	LR		
	comp=Z,1μm,20.0s					
QIZ	**Qiongzhong**	**127.44 87**	PKP	**PKPdf**	**20 15 09.3 -2.4**	
QIZ			LR	LR		
	comp=Z,790nm,19.6s					
QIZ			LR	LR		
	comp=Z,1μm,18.1s					
QIZ			LR	LR		
	comp=Z,2μm,21.6s					
QIZ	**Qiongzhong**	**127.44 87**	PFAKE		20 15 20.0 +7.8	
QIZ			LR	LR		
	comp=Z,2μm,20.0s					
INK	**Inuvik**	**127.72 336**	*e*PKPdf	**PKPdf**	**20 15 10.7 0.0**	
INK			LR	LR		
	comp=Z,2μm,21.0s					
INK	**Inuvik**	**127.72 336**	PKP	**PKPdf**	**20 15 10.7 0.0**	
	comp=Z,10nm,1.0s,baz=72,slow=2.1,SNR=16					
DLBC	**Dease Lake**	**128.16 323**	*e*PKPdf	**PKPdf**	**20 15 11.5 -0.5**	
DLBC			LR	LR		
	comp=Z,2μm,22.0s					
DLBC	**Dease Lake**	**128.16 323**	PKP	**PKPdf**	**20 15 12.2 +0.2**	
	comp=Z,8.4nm,0.9s,baz=14,slow=2.9,SNR=9.9					
ZAK	**Zakamensk**	**128.33 47**	*e*PKIKP	**PKiKP**	**20 15 12.9 -0.3**	
ZAK			*e*		20 17 17.8	
ZAK			pmax	pmax		
	comp=Z,8.0nm,1.4s					
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.4s					
LUWI	**Luwuk**	**128.39 118**	PFAKE		20 15 20.0 +5.7	
LUWI			LR	LR		
	comp=Z,1μm,20.0s					
TLY	**Talaya**	**128.56 45**	PFAKE		20 15 20.0 +6.5	
TLY			LR	LR		
	comp=Z,1μm,20.0s					
DZM	**Mont Dzumac**	**129.26 180**	*e*LQ	LQ	20 50 33.1	
	comp=Z,1μm,29.2s					
DZM			*e*LR	LR	20 55 51.9	
	comp=Z,2μm,22.4s					
DZM	**Mont Dzumac**	**129.26 180**	PFAKE		20 15 30.0 +14	
DZM			LR	LR		
	comp=Z,1μm,19.0s					
EPYK	**Eagle Plains**	**129.50 334**	*e*PKPdf	**PKPdf**	**20 15 14.0 -0.3**	
EPYK			LR	LR		
	comp=Z,2μm,20.0s					
EPYK	**Eagle Plains**	**129.50 334**	P	**PKiKP**	**20 15 14.6 -0.4**	
	baz=71					
WRAK	**Wrangell Islan**	**129.63 321**	PFAKE		20 15 30.0 +15	
WRAK			LR	LR		
	comp=Z,1μm,20.0s					
WHY	**Whitehorse**	**130.25 327**	*e*PKPdf	**PKPdf**	**20 15 15.0 -1.0**	
WHY			LR	LR		
	comp=Z,1μm,20.0s					
SONM	**Songino Array**	**130.35 50**	*e*PKPdf	**PKPdf**	**20 15 15.3 -1.3**	
SONM	**Songino Array**	**130.35 50**	PKP	**PKPdf**	**20 15 16.2 -0.4**	
	comp=Z,4.2nm,1.1s,baz=237,slow=3.2,SNR=11					
JIS	**Juneau Island**	**130.46 324**	PFAKE		20 15 30.0 +13	
JIS			LR	LR		
	comp=Z,2μm,22.0s					
ENH	**Enshi**	**130.61 74**	PFAKE		20 15 30.0 +12	
ENH			LR	LR		
	comp=Z,2μm,22.0s					
BESE	**Bessie Mountai**	**130.65 324**	PFAKE		20 15 30.0 +12	
BESE			LR	LR		
	comp=Z,2μm,21.0s					
ULN	**Ulaanbaatar**	**130.79 50**	PFAKE		20 15 30.0 +12	
ULN			LR	LR		
	comp=Z,2μm,20.0s					
ULN	**Ulaanbaatar**	**130.79 50**	*c i*PKIKP	**PKiKP**	**20 15 17.8 -0.5**	
ULN			pmax	pmax		
	comp=Z,19nm,2.5s					
ULN	**Ulaanbaatar**	**130.79 50**	P	**PKiKP**	**20 15 21.5 +3.2**	
	SNR=6.6					
XAN	**Xi'an**	**130.93 69**	PKP	**PKiKP**	**20 15 19.2 +0.3**	
XAN			SS	SS	20 35 05.5 -0.2	
XAN			LR	LR		
	comp=Z,1μm,24.5s					
XAN			LR	LR		
	comp=Z,1μm,22.1s					
XAN			LR	LR		
	comp=Z,1μm,24.5s					
XAN	**Xi'an**	**130.93 69**	PFAKE		20 15 30.0 +11	
XAN			LR	LR		
	comp=Z,2μm,21.0s					
DAWY	**Dawson**	**131.33 332**	*e*PKPdf	**PKPdf**	**20 15 16.9 -0.9**	
DAWY			LR	LR		
	comp=Z,2μm,22.0s					
HYT	**Haines Junctio**	**131.46 327**	*e*PKPdf	**PKPdf**	**20 15 18.2 0.0**	
EGAK	**Eagle**	**131.79 333**	*e*PKPdf	**PKPdf**	**20 15 17.8 -0.8**	
EGAK			LR	LR		
	comp=Z,1μm,21.0s					
BMAR	**Burnt Mountain**	**131.93 337**	*e*PKPdf	**PKPdf**	**20 15 17.6 -1.2**	
HKPS	**Hong Kong Po S**	**132.36 85**	PFAKE		20 15 30.0 +8.0	
HKPS			LR	LR		
	comp=Z,2μm,22.0s					
TIXI	**Tiksi**	**132.52 15**	PFAKE		20 15 30.0 +9.1	
TIXI			LR	LR		
	comp=Z,1μm,22.0s					
TIXI	**Tiksi**	**132.52 15**	*c i*PKIKP	**PKPdf**	**20 15 19.9 +0.1**	
TIXI			pmax	pmax		
	comp=Z,9.0nm,1.7s					
FYU	**Fort Yukon**	**132.56 336**	PFAKE		20 15 30.0 +8.9	
FYU			LR	LR		
	comp=Z,1μm,19.0s					
BTO	**Baotou**	**132.67 60**	*e*PKP	**PKPdf**	**20 15 21.0 -0.1**	
BCPM	**Bancas Point**	**132.72 327**	PFAKE		20 15 30.0 +8.4	
BCPM			LR	LR		
	comp=Z,1μm,21.0s					
TOLK	**Toolik Lake Re**	**132.90 340**	*e*PKPdf	**PKPdf**	**20 15 20.6 -0.1**	
TOLK			LR	LR		
	comp=Z,900nm,20.0s					
TOLK	**Toolik Lake Re**	**132.90 340**	P	**PKiKP**	**20 15 21.3 -0.5**	
	baz=56					
TNTI	**Ternate**	**133.08 120**	PFAKE		20 15 30.0 +6.2	
TNTI			LR	LR		
	comp=Z,400nm,22.0s					
PRP	**Porcupine Dome**	**133.15 335**	*e*PKPdf	**PKPdf**	**20 15 20.8 -0.6**	
PRP			LR	LR		
	comp=Z,1μm,20.0s					
CTGM	**Chitina Glacie**	**133.21 328**	PFAKE		20 15 30.0 +7.2	
CTGM			LR	LR		
	comp=Z,2μm,22.0s					
SCRK	**Sand Creek**	**133.24 333**	*e*PKPdf	**PKPdf**	**20 15 21.1 -0.5**	
SCRK			LR	LR		
	comp=Z,1μm,22.0s					
DOT	**Dot Lake**	**133.40 332**	*e*PKPdf	**PKPdf**	**20 15 21.0 -0.7**	
DOT			LR	LR		
	comp=Z,1μm,20.0s					
BALM	**Baldy**	**133.65 329**	*e*PKPpre	PKPpre	20 15 09.6	
BALM			*e*PKPdf	**PKPdf**	**20 15 21.4 -0.9**	
BALM			LR	LR		
	comp=Z,2μm,22.0s					
BOD	**Bodaibo**	**133.67 36**	*e*PKIKP	**PKPdf**	**20 15 22.1 -0.2**	
BOD			pmax	pmax		
	comp=Z,15nm,1.4s					
RIDG	**Independent Ri**	**133.68 333**	*e*PKPpre	PKPpre	20 15 10.5	
RIDG			*e*PKPdf	**PKPdf**	**20 15 21.1 -1.2**	
RIDG			LR	LR		
	comp=Z,1μm,20.0s					
HHC	**Hu-ho-hao-te**	**133.85 60**	*e*PKP	**PKiKP**	**20 15 24.8 +0.1**	
HHC			PP	**PP**	**20 17 57.5 +4.0**	
HHC			PKS	**PKSbc**	**20 18 55.4 +1.8**	
HHC			SKS	**SKSdf**	**20 22 33.3 -1.0**	
HHC			SS	**SS**	**20 35 46.2 +5.2**	
HHC			AMB	AMB		
	comp=Z,500nm,8.8s					
HHC			LR	LR		
	comp=Z,790nm,18.2s					
HHC			LR	LR		
	comp=Z,920nm,19.4s					
HHC			LR	LR		
	comp=Z,740nm,18.7s					
COLD	**Coldfoot**	**133.90 338**	*e*PKPdf	**PKPdf**	**20 15 21.5 -1.0**	
TGL	**Tana Glacier**	**133.97 328**	PFAKE		20 15 30.0 +5.7	
TGL			LR	LR		
	comp=Z,2μm,22.0s					
ILAR	**Eielson Array**	**134.01 334**	*e*PKPpre	PKPpre	20 15 07.3	
ILAR			*e*PKPdf	**PKPdf**	**20 15 20.2 -2.6**	
ILAR	**Eielson Array**	**134.01 334**	*e*PKHKP	PKPpre	20 15 07.3	
ILAR			*e*		20 15 20.2	
ILAR	**Eielson Array**	**134.01 334**	PKP	**PKPdf**	**20 15 23.0 +0.2**	
	comp=Z,4.0nm,1.0s,baz=353,slow=1.9,SNR=17					
ILB	**Eielson Array**	**134.01 334**	*e*PKPdf	**PKPdf**	**20 15 20.8 -2.0**	
POKR	**Poker Plat Res**	**134.05 335**	P	**PKPdf**	**20 15 23.1 +0.3**	
	baz=61					
FAKI	**Fak Fak**	**134.13 128**	PFAKE		20 15 40.0 +14	
FAKI			LR	LR		
	comp=Z,500nm,21.0s					
HDA	**Harding Lake**	**134.21 334**	*e*PKPdf	**PKPdf**	**20 15 20.3 -2.9**	
HDA			LR	LR		
	comp=Z,1μm,20.0s					
HDA	**Harding Lake**	**134.21 334**	P	**PKPdf**	**20 15 22.8 -0.4**	
	baz=62					
PAX	**Paxson**	**134.26 332**	PFAKE		20 15 30.0 +5.2	
PAX			LR	LR		
	comp=Z,1μm,22.0s					
TIY	**Taiyuan**	**134.28 64**	PKP	**PKiKP**	**20 15 25.9 +0.3**	
TIY			SKS	**SKSdf**	**20 22 29.1 -6.0**	
TIY			AMB	AMB		
	comp=Z,160nm,4.2s					
TIY			LR	LR		
	comp=Z,650nm,15.0s					
TIY			LR	LR		
	comp=Z,830nm,16.2s					
TIY			LR	LR		
	comp=Z,2μm,19.4s					
COLA	**College**	**134.32 335**	PFAKE		20 15 30.0 +5.3	
COLA			LR	LR		
	comp=Z,1μm,20.0s					
HARP	**HAARP**	**134.37 331**	PFAKE		20 15 30.0 +5.1	
HARP			LR	LR		
	comp=Z,1μm,21.0s					
CCB	**Clear Creek Bu**	**134.42 335**	*e*PKPdf	**PKPdf**	**20 15 21.6 -1.9**	
CCB			LR	LR		
	comp=Z,1μm,21.0s					
MDM	**Murphy Dome**	**134.42 335**	*e*PKPdf	**PKPdf**	**20 15 22.5 -1.1**	
MDM			LR	LR		
	comp=Z,2μm,20.0s					
WRH	**Wood River Hil**	**134.61 334**	PFAKE		20 15 30.0 +4.7	
WRH			LR	LR		
	comp=Z,900nm,20.0s					
BMRM	**Bremner River**	**134.70 329**	PFAKE		20 15 40.0 +14	
BMRM			LR	LR		
	comp=Z,100nm,20.0s					
WHN	**Wuhan**	**134.76 74**	PKP	**PKPdf**	**20 15 25.5 +0.3**	
WHN			PKS	**PKSbc**	**20 18 57.0 +0.3**	
WHN			SKKS		20 24 55.3	
WHN			LR	LR		
	comp=Z,3μm,17.9s					
WHN			LR	LR		
	comp=Z,850nm,14.6s					
WHN			LR	LR		
	comp=Z,3μm,17.4s					
HMT	**Hamilton**	**134.78 328**	PFAKE		20 15 40.0 +14	
HMT			LR	LR		
	comp=Z,2μm,21.0s					
DHY	**Denali Highway**	**135.00 333**	*e*PKPpre	PKPpre	20 15 16.9	
DHY			*e*PKPdf	**PKPdf**	**20 15 22.6 -2.3**	
DHY			LR	LR		
	comp=Z,1μm,22.0s					
KLU	**Klutina**	**135.08 330**	*e*PKPpre	PKPpre	20 15 16.9	
KLU			*e*PKPdf	**PKPdf**	**20 15 23.7 -1.3**	
KLU			LR	LR		
	comp=Z,1μm,20.0s					
DIV	**Divide**	**135.16 330**	PFAKE		20 15 40.0 +13	
DIV			LR	LR		
	comp=Z,1μm,20.0s					
BWN	**Browne**	**135.28 335**	PFAKE		20 15 40.0 +13	
BWN			LR	LR		
	comp=Z,1μm,20.0s					
MLY	**Manley**	**135.29 336**	*e*PKPpre	PKPpre	20 15 15.5	
MLY			*e*PKPdf	**PKPdf**	**20 15 24.2 -1.0**	
MLY			LR	LR		
	comp=Z,1μm,20.0s					
MCK	**McKinley**	**135.30 334**	*e*PKPdf	**PKPdf**	**20 15 24.4 -0.9**	
MCK			LR	LR		
	comp=Z,1μm,20.0s					
EYAK	**Cordova Ski Ar**	**135.38 329**	PFAKE		20 15 40.0 +13	
EYAK			LR	LR		
	comp=Z,2μm,21.0s					
RND	**Reindeer**	**135.43 333**	*e*PKPdf	**PKPdf**	**20 15 24.6 -0.9**	
RND			LR	LR		
	comp=Z,2μm,21.0s					
DAV	**Davao City (W)**	**135.47 111**	PFAKE		20 15 40.0 +11	
DAV			LR	LR		
	comp=Z,700nm,20.0s					
SCM	**Sheep Creek Mo**	**135.54 331**	*e*PKPpre	PKPpre	20 15 14.8	
SCM			*e*PKPdf	**PKPdf**	**20 15 24.6 -1.3**	
SCM			LR	LR		
	comp=Z,900nm,22.0s					
SCM	**Sheep Creek Mo**	**135.54 331**	*e*PKHKP	PKPpre	20 15 14.8	
SCM			*e*		20 15 24.6	
SCM			MLR	MLR		
	comp=Z,900nm,22.0s					
GLI	**Glacier Island**	**135.85 330**	PFAKE		20 15 40.0 +12	
GLI			LR	LR		
	comp=Z,1μm,20.0s					
BPAW	**Bear Paw Mtn.**	**135.89 335**	*e*PKPdf	**PKPdf**	**20 15 25.2 -1.1**	
BPAW			LR	LR		
	comp=Z,1μm,20.0s					
SML	**Sawmill**	**135.98 331**	*e*PKPdf	**PKPdf**	**20 15 24.6 -2.0**	
SML			LR	LR		
	comp=Z,900nm,22.0s					
KNK	**Knik Glacier**	**136.21 331**	*e*PKPdf	**PKPdf**	**20 15 25.1 -1.9**	
KNK			LR	LR		
	comp=Z,1μm,20.0s					
GHO	**Glory Hole Cre**	**136.24 331**	*e*PKPdf	**PKPdf**	**20 15 24.9 -2.2**	
GHO			LR	LR		
	comp=Z,1μm,20.0s					
PMR	**Palmer**	**136.41 331**	*e*PKPdf	**PKPdf**	**20 15 23.9 -3.4**	
PMR	**Palmer**	**136.41 331**	*e*PKIKP	**PKPdf**	**20 15 23.9 -3.4**	
CAST	**Castle Rocks**	**136.67 334**	*e*PKPpre	PKPpre	20 15 17.8	
CAST			*e*PKPdf	**PKPdf**	**20 15 25.0 -2.8**	
CAST			LR	LR		
	comp=Z,900nm,21.0s					
KNMB	**Chin-men Tao**	**136.74 84**	PFAKE		20 15 40.0 +9.1	
KNMB			LR	LR		
	comp=Z,2μm,21.0s					
RC01	**Rabbit Creek A**	**136.91 331**	*e*PKPdf	**PKPdf**	**20 15 27.6 -0.6**	
RC01			LR	LR		
	comp=Z,1μm,22.0s					
RDOG	**Red Dog Mine**	**136.97 344**	*e*PKPdf	**PKPdf**	**20 15 27.6 -0.6**	
RDOG			LR	LR		
	comp=Z,900nm,22.0s					
PPLA	**Purkeypile**	**136.99 334**	*e*PKPpre	PKPpre	20 15 17.4	
PPLA			*e*PKPdf	**PKPdf**	**20 15 27.8 -0.8**	
PPLA			LR	LR		
	comp=Z,2μm,20.0s					
SUA	**Susitna One**	**137.15 332**	*e*PKPdf	**PKPdf**	**20 15 25.0 -3.9**	
SUA			LR	LR		
	comp=Z,800nm,22.0s					
SEW	**Seward**	**137.24 329**	PFAKE		20 15 40.0 +9.3	
SEW			LR	LR		
	comp=Z,2μm,20.0s					
BJT	**Baijiatuau**	**137.33 61**	PFAKE		20 15 40.0 +8.4	
BJT			LR	LR		
	comp=Z,2μm,21.0s					
BRLK	**Bradley Lake**	**138.04 329**	*e*PKPdf	**PKPdf**	**20 15 28.3 -2.2**	
BRLK			LR	LR		
	comp=Z,2μm,22.0s					
HOM	**Homer**	**138.43 330**	PFAKE		20 15 40.0 +6.8	
HOM			LR	LR		
	comp=Z,2μm,21.0s					
RSO	**Redoubt South**	**138.51 331**	*e*PKPdf	**PKPdf**	**20 15 27.2 -4.3**	
TWG	**Pinlang**	**138.59 88**	PFAKE		20 15 40.0 +5.3	
TWG			LR	LR		
	comp=Z,6μm,21.0s					
SSLB	**Suanglung**	**138.78 86**	PFAKE		20 15 40.0 +4.9	
SSLB			LR	LR		
	comp=Z,2μm,21.0s					
NJ2	**Nanjing**	**138.83 73**	*e*PKP	**PKPdf**	**20 15 33.0 +0.3**	
YAK	**Yakutsk**	**138.96 26**	*e*PKIKP	**PKPdf**	**20 15 30.7 -1.3**	
YAK			*e*		20 18 24.1	
YAK			*e*SS	SS	20 36 36.9 -2.8	
YAK			pmax	pmax		
	comp=N,15nm,0.9s					
YAK			pmax	pmax		
	comp=Z,26nm,0.9s					
YAK			pmax	pmax		
	comp=E,7.0nm,1.3s					
YAK			pmax	pmax		
	comp=Z,533nm,2.9s					
YAK			pmax	pmax		
	comp=N,325nm,2.6s					
YAK			pmax	pmax		
	comp=E,258nm,2.5s					
YULB	**Yu-li**	**138.97 87**	PFAKE		20 15 40.0 +4.5	
YULB			LR	LR		
	comp=Z,2μm,21.0s					
YHNB	**Yeheng**	**139.41 85**	PFAKE		20 15 50.0 +14	
YHNB			LR	LR		
	comp=Z,2μm,20.0s					
NACB	**Ninganchiao**	**139.46 86**	PFAKE		20 15 50.0 +14	
NACB			LR	LR		
	comp=Z,2μm,21.0s					
TATO	**Taipei**	**139.59 85**	PFAKE		20 15 50.0 +13	
TATO			LR	LR		
	comp=Z,2μm,20.0s					
KDAK	**Kodiak Island**	**139.75 327**	PFAKE		20 15 40.0 +4.0	
KDAK			LR	LR		
	comp=Z,1μm,21.0s					
ANM	**Nome**	**140.29 342**	PFAKE		20 15 50.0 +13	
ANM			LR	LR		
	comp=Z,800nm,21.0s					
SSE	**Sheshan**	**140.65 75**	PFAKE		20 15 50.0 +11	
SSE			LR	LR		
	comp=Z,3μm,20.0s					
YOJ	**Yonaguni jima**	**140.78 86**	PFAKE		20 15 50.0 +11	
YOJ			LR	LR		
	comp=Z,2μm,22.0s					
BILL	**Bilibino**	**140.90 0**	*e*PKPdf	**PKPdf**	**20 15 33.0 -2.4**	
BILL	**Bilibino**	**140.90 0**	*c i*PKIKP	**PKPdf**	**20 15 35.5 +0.1**	
BILL			*e*		20 18 37.8	
BILL			pmax	pmax		
	comp=Z,36nm,2.5s					
BILL			MLR	MLR		
	comp=Z,708nm,20.0s					
SII	**Sitkinak Islan**	**141.10 326**	PFAKE		20 15 50.0 +11	
SII			LR	LR		
	comp=Z,1μm,22.0s					
DL2	**Dalian**	**141.56 63**	*e*PKP	**PKPdf**	**20 15 38.6 +1.2**	
DL2			PP	PP	20 18 49.5 +8.1	
DL2			AMB	AMB		
	comp=Z,150nm,6.4s					
DL2			LR	LR		
	comp=Z,2μm,19.4s					
DL2			LR	LR		

comp=Z,2μm,20.8s
DL2 LR LR
ZEA Zeya 142.08 38 *i* PKIKP **PKiKP 20 15 41.0 +0.1**
ZEA pmax pmax
comp=Z,3μm,20.9s
ZEA pmax pmax
comp=Z,64nm,1.8s
ZEA pmax pmax
comp=Z,500nm,10.0s
ZEA pmax pmax
comp=Z,500nm,11.0s
ZEA MLR MLR
comp=Z,2μm,18.0s
GAMB Gambell 142.56 344 PFAKE 20 15 50.0 +8.5
GAMB LR LR
comp=Z,500nm,18.0s
SNY Shenyang 142.87 58 ⇑PKP **PKPdf 20 15 36.6 -3.1**
CN2 Changchun 143.95 54 *e*PKP **PKPdf 20 15 41.0 -0.5**
CN2 *e*PP **PP 20 19 00.6 +5.0**
CN2 AMB AMB
comp=Z,100nm,8.0s
CN2 LR LR
comp=Z,1μm,21.0s
CN2 LR LR
comp=Z,600nm,21.0s
CN2 LR LR
comp=Z,2μm,22.0s
RABL Rabaul 144.15 154 PFAKE 20 15 50.0 +3.6
RABL LR LR
comp=Z,900nm,21.0s
BYL Byron's Ledge 144.25 263 PFAKE 20 15 50.0 +3.5
BYL LR LR
comp=Z,1μm,20.0s
SBLHI Steaming Bluff 144.26 263 PFAKE 20 15 50.0 +3.4
SBLHI LR LR
comp=Z,2μm,22.0s
OBL Observatory Le 144.28 263 PFAKE 20 15 50.0 +3.4
OBL LR LR
comp=Z,2μm,20.0s
WRMHI West Rim 144.28 263 PFAKE 20 15 50.0 +3.4
WRMHI LR LR
comp=Z,2μm,22.0s
AIN Ainahou 144.41 263 PFAKE 20 15 50.0 +3.1
AIN LR LR
comp=Z,2μm,22.0s
HMH Humu'ula Sheep 144.52 263 *e*PKPdf **PKPab 20 15 40.1 -1.9**
MLOA Mauna Loa Obse 144.57 263 *e*PKPdf PKPbc 20 15 42.5 -0.1
SDPT Sand Point 144.75 328 *e*PKPdf **PKPab 20 15 40.3 -1.1**
SEY Seymchan 144.75 11 *i* PKIKP **PKPab 20 15 40.3 -0.9**
SEY Seymchan 144.75 11 PKP **PKPab 20 15 41.1 -0.1**
comp=Z,41nm,1.0s,baz=310,slow=2.1,SNR=24
HUH Hualalai 144.86 263 PFAKE 20 15 50.0 +2.0
HUH LR LR
comp=Z,3μm,21.0s
FALS False Pass 146.40 329 PFAKE 20 16 00.0 +10
FALS LR LR
comp=Z,2μm,22.0s
KLR Kul'dur 146.51 43 PKPbc **PKPdf 20 15 45.4 -0.4**
comp=Z,34nm,0.9s,baz=306,slow=4.3,SNR=24
KS15 Wonju Array Si 146.54 65 *e*PKPdf **PKPab 20 15 48.3 -0.4**
KSAR Wonju Array Be 146.54 65 *e*PKPdf **PKPbc 20 15 47.5 -0.2**
KSAR Wonju Array Be 146.54 65 *e*PKP2 **PKPbc 20 15 47.5 -0.2**
KSRS Korea Array 146.57 65 PKPbc **PKPbc 20 15 48.1 +0.4**
comp=Z,26nm,0.9s,baz=266,slow=2.4,SNR=37
MDJ Mudanjiang 146.68 52 *e*PKPdf **PKPdf 20 15 45.2 -1.0**
MDJ *e*PKPbc **PKPbc 20 15 49.9 +2.0**
MDJ LR LR
comp=Z,2μm,20.0s
MA2 Magadan 147.50 15 *e*PKPdf **PKPbc 20 15 48.5 -1.2**
MA2 LR LR
comp=Z,999nm,19.0s
MA2 Magadan 147.50 15 *e*PKP2 **PKPbc 20 15 48.5 -1.2**
MA2 MLR MLR
comp=Z,999nm,19.0s
MA2 Magadan 147.50 15 PKPbc **PKPbc 20 15 49.6 -0.1**
comp=Z,7.3nm,0.7s,baz=11,slow=5.3,SNR=9.0
SPIA Saint Paul Isl 147.52 337 PFAKE 20 16 00.0 +8.1
SPIA LR LR
comp=Z,2μm,20.0s
UNV Unalaska Valle 148.44 329 PFAKE 20 16 00.0 +4.4
UNV LR LR
comp=Z,1μm,20.0s
USA0B Ussuriysk Arra 148.44 52 PFAKE 20 16 00.0 +4.0
USA0B LR LR
comp=Z,2μm,19.0s
USRK Ussuriysk Ar. 148.44 52 PKP2 **PKPbc 20 15 51.0 -1.7**
USRK Ussuriysk Ar. 148.44 52 PKPbc **PKPbc 20 15 51.0 -1.7**
comp=Z,2.5nm,0.7s,baz=298,slow=3.1,SNR=2.7
GRNR Gornyy 148.45 38 *e*PKP2 **PKPbc 20 15 52.8 +0.3**
GRNR pmax pmax
comp=Z,26nm,1.0s
JNU Nakatsue 149.03 73 PFAKE 20 16 00.0 +1.2
JNU LR LR
comp=Z,2μm,20.0s
NKL Nikolayevsk 149.14 31 *e*PKIKP **PKPdf 20 15 51.0 +1.1**
NKL pmax pmax
comp=Z,1μm,4.0s
NKL pmax pmax
comp=E,13nm,1.0s
NKL pmax pmax
comp=Z,65nm,1.0s
NIKH Nikolski High 150.07 330 PFAKE 20 16 00.0 -2.3
NIKH LR LR
comp=Z,1μm,22.0s
TEY Ternei 151.24 48⇑ *e*PKIKP **PKiKP 20 16 02.3 +2.3**
TEY pmax pmax
comp=Z,60nm,1.0s
ATKA Atka Island 152.84 334 PFAKE 20 16 10.0 -3.8
ATKA LR LR
comp=Z,700nm,20.0s
ADK Adak 154.01 336 PFAKE 20 16 10.0 +4.5
ADK LR LR
comp=Z,800nm,20.0s
INU Inuyama 154.04 68 PFAKE 20 16 10.0 +3.9
INU LR LR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 154.04 40 PFAKE 20 16 10.0 +4.3
YSS LR LR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 154.04 40 *e*PKIKP **PKPbc 20 16 04.2 -1.5**
YSS pmax pmax
comp=Z,20nm,1.7s
YSS MLR MLR
comp=Z,600nm,17.0s
MJB9 Matsu-Tunnel 154.84 65 PFAKE 20 16 10.0 +2.2
MJB9 LR LR
comp=Z,900nm,20.0s
MAJO Matsushiro 154.84 65 *e*PKPbc **PKPbc 20 16 07.3 -0.5**
MAJO LR LR
comp=Z,800nm,20.0s
MAJO Matsushiro 154.84 65 *e*PKIKP **PKPbc 20 16 07.3 -0.5**
MAJO MLR MLR
comp=Z,800nm,20.0s
MAT Matsushiro 154.84 65 PKP **PKPdf 20 15 59.2 +0.1**
MJAR Matsushiro Arr 154.85 65 PKPbc **PKPbc 20 16 07.3 -0.5**
comp=Z,2.7nm,0.9s,baz=262,slow=6.2,SNR=4.7
PEA0B Petropavlovsk- 154.96 13 PFAKE 20 16 10.0 +2.5
PEA0B LR LR
comp=Z,2μm,19.0s
PETK Petropavlovsk- 154.96 13 PKPbc **PKPbc 20 16 07.2 -0.3**
comp=Z,5.5nm,1.0s,baz=40,slow=4.7,SNR=3.9
PET Petropavlovsk 155.22 12 PFAKE 20 16 10.0 +11
PET LR LR
comp=Z,2μm,21.0s

JMA 10 20:02:25.0±0.2, 27°.57N×143°.27E, h59km, M3.6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.07**	**244**	P	Pn	20 02 44.4	+0.4
CBIJ				*e*S	Sn	20 02 58.8	+0.7
JHH2	**Haha-jima-NKT2**	**1.35**	**227**	P	Pn	20 02 48.0	+0.3
JHH2				*e*S	Sn	20 03 05.3	+0.7
JHU	**Hanno**	**8.93**	**339**	P	Pn	20 04 33.3	+2.1
JRY	**Ryogami san**	**9.20**	**337**	P	Pn	20 04 37.4	+2.4
JAG	**Ashikaga**	**9.40**	**341**	P	Pn	20 04 39.3	+1.6

DDA ***10*** *20:16:47.9, 39°.82N×30°.51E, h9km±1km, ML3.5*
ISK ***10*** *20:16:47.9, 39°.82N×30°.53E, h6km, ML3.3/41*
ISCJB ***10*** *20:16:48.3±0.3, 39°.82N±0°.02×30°.52E±0°.02, h3km±3km,*
Error ellipse: s-maj=3.6km s-min=2.5km az=138.5
ISC 10 20:16:47.8±0.8, 39°.81N±0°.02×30°.49E±0°.02, h12km±5km,
n72, σ0°.79/87, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	**Eskisehir**	**0.07**	**335**	PG	**Pg**	**20 16 50.4**	**0.0**
BORA				SG	**Sg**	**20 16 51.9**	**-0.4**
BORA	**Eskisehir**	**0.07**	**335**	*i* P	**Pg**	**20 16 50.9**	**+0.5**
BORA				*i* S	**Sg**	**20 16 52.4**	**0.0**
SRCK	**Saricakaya, Es**	**0.25**	**24**	PG	**Pg**	**20 16 53.2**	**+0.2**
SRCK				SG	**Sg**	**20 16 56.9**	**+0.3**
SRCK	**Saricakaya, Es**	**0.25**	**24**	*i* P	**Pg**	**20 16 53.4**	**+0.3**
SRCK				*i* S	**Sg**	**20 16 57.7**	**+1.2**
AUBOZ	**BOZOYUK**	**0.37**	**286**	PG	**Pb**	**20 16 56.3**	**-0.1**
AUBOZ				SG	**Sb**	**20 17 01.9**	**-0.2**
AUBOZ	**BOZOYUK**	**0.37**	**286**	*i* P	**Pb**	**20 16 56.5**	**+0.1**
AUBOZ				*i* S	**Sb**	**20 17 02.9**	**+0.8**
ESKT	**Eskisehir**	**0.40**	**137**	PG	**Pg**	**20 16 55.9**	**+0.1**
ESKT				SG	**Sg**	**20 17 01.8**	**+0.6**
AUKIR	**Kırka- Seyitga**	**0.54**	**177**	*i* P	**Pb**	**20 16 59.6**	**+0.4**
AUKIR				*i* S	**Sg**	**20 17 05.6**	**+0.2**
GULT	**Gulveren**	**0.62**	**1**	PG	**Pg**	**20 17 00.2**	**+0.3**
CIFT	**Cifteler, Eski**	**0.63**	**136**	PG	**Pb**	**20 17 00.5**	**-0.3**
CIFT	**Cifteler, Eski**	**0.63**	**136**	*i* P	**Pg**	**20 16 58.8**	**-1.3**
CIFT				*i* S	**Sg**	**20 17 08.4**	**+0.1**
CAVI	**Cavuskoy**	**0.63**	**308**	PG	**Pg**	**20 17 00.6**	**+0.5**
GEYV	**SAKARYA_Geyve**	**0.69**	**347**	IAML_P			
	comp=Z,13μm,0.1s						
GEYV				*i* P	**Pb**	**20 17 02.1**	**+0.3**
GEYV				*i* S	**Sb**	**20 17 12.4**	**+1.2**
AUMIH	**MIHALICIK**	**0.76**	**86**	PG	**Pg**	**20 17 02.3**	**-0.3**
AUMIH	**MIHALICIK**	**0.76**	**86**	*i* P	**Pg**	**20 17 02.2**	**-0.3**
AUMIH				*i* S	**Sb**	**20 17 13.7**	**+0.1**
ADVT	**Abdulvahap**	**0.85**	**317**	PG	**Pg**	**20 17 04.5**	**+0.3**
BTAS	**Taskesti**	**0.85**	**27**	IAML_P			
	comp=Z,7μm,0.1s						
BTAS				*i* P	**Pb**	**20 17 04.8**	**+0.2**
MDUB	**Mudurnu**	**0.85**	**39**	PG	**Pg**	**20 17 04.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.87**	**114**	PG	**Pb**	**20 17 04.9**	**-0.1**
TVSB	**Tavsanli**	**0.88**	**246**	PG	**Pb**	**20 17 05.6**	**+0.6**
SPNC	**Sapanca-Adapaz**	**0.88**	**351**	PG	**Pb**	**20 17 05.4**	**+0.3**
AUSIV	**SIVRIHISAR**	**0.89**	**114**	PG	**Pg**	**20 17 04.9**	**-0.1**
AUSIV	**SIVRIHISAR**	**0.89**	**114**	*i* P	**Pb**	**20 17 05.1**	**-0.1**
AUSIV				*i* S	**Sb**	**20 17 18.0**	**+0.9**
SAUV	**Serdivan-Sakar**	**0.94**	**352**	PG	**Pb**	**20 17 06.5**	**+0.5**
IZI	**Iznik**	**0.94**	**304**	PG	**Pn**	**20 17 06.9**	**-0.1**
AFYO	**Afyonkarahisar**	**1.03**	**188**	*i* P	**Pg**	**20 17 07.5**	**-0.3**
AFYO				*i* S	**Sn**	**20 17 23.6**	**+0.8**
GDZ	**Gediz**	**1.07**	**228**	IAML_P			
	comp=Z,11μm,0.2s						
GDZ				*i* P	**Pb**	**20 17 08.5**	**+0.2**
GDZ				*i* S	**Sn**	**20 17 23.9**	**+0.3**
SAHE	**Sakarya_HENDEK**	**1.07**	**15**	IAML_P			
	comp=Z,2μm,0.2s						
SAHE				*i* P	**Pg**	**20 17 08.6**	**0.0**
ULDT	**Uludag**	**1.09**	**288**	IAML_P			
	comp=Z,3μm,0.1s						
ULDT				*i* P	**Pn**	**20 17 09.7**	**+0.6**
ULDT				*i* S	**Sn**	**20 17 24.3**	**-0.1**
GEDZ	**Gediz**	**1.14**	**228**	PN	**Pn**	**20 17 10.5**	**+0.8**
YLV	**Yalova**	**1.14**	**312**	PN	**Pg**	**20 17 10.5**	**+0.7**
BOLV	**Bolvadin**	**1.15**	**162**	*i* P	**Pn**	**20 17 10.4**	**+0.6**
BOLV				*i* S	**Sn**	**20 17 27.5**	**+1.9**
GEMT	**Gemlik**	**1.18**	**302**	PN	**Pg**	**20 17 11.2**	**+0.7**
HRT	**Hereke**	**1.19**	**328**	PN	**Pg**	**20 17 10.9**	**+0.2**
KIBS	**BOLU**	**1.21**	**59**	IAML_P			
	comp=Z,5μm,0.3s						
KIBS				*i* P	**Pg**	**20 17 11.2**	**+0.2**
ORLT	**Orhaneli**	**1.25**	**281**	PN	**Pg**	**20 17 12.9**	**+1.0**
SHUT	**Suhut-Afyon**	**1.26**	**178**	PN	**Pg**	**20 17 12.4**	**+0.4**
SHAP	**Saphane-Kutahy**	**1.26**	**232**	PN	**Pg**	**20 17 12.8**	**+0.7**
KAND	**Kocaeli-Kandir**	**1.30**	**350**	*i* P	**Pg**	**20 17 13.2**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.35**	**295**	PN	**Pg**	**20 17 14.1**	**+0.3**
YIGI	**Dzce**	**1.36**	**32**	*i* P	**Pb**	**20 17 13.6**	**+0.3**
SMAA	**Simav-Kutahya**	**1.37**	**239**	PN	**Pg**	**20 17 14.4**	**+0.3**
ARMT	**Armutlu**	**1.46**	**302**	PN	**Pb**	**20 17 15.5**	**+0.6**
BUY	**Buyukada**	**1.48**	**315**	PN	**Pb**	**20 17 15.9**	**+0.7**
BUY	**Buyukada**	**1.48**	**315**	*i* P	**Pg**	**20 17 16.2**	**0.0**
BCAM	**Yenicaga**	**1.56**	**50**	*i* P	**Pg**	**20 17 18.0**	**+0.1**
DURS	**Dursunbey**	**1.57**	**263**	*i* P	**Pg**	**20 17 18.4**	**+0.4**
KZIL	**AFYON_Kizioren**	**1.58**	**190**	*i* P	**Pg**	**20 17 18.1**	**0.0**
USAK	**Uak-Merkez**	**1.59**	**227**	*i* P	**Pg**	**20 17 18.1**	**-0.2**
KHAL	**Karahalli**	**1.64**	**209**	*i* P	**Pg**	**20 17 19.3**	**+0.1**
KAVV	**Kandilli-Istan**	**1.66**	**319**	PN	**Pb**	**20 17 18.5**	**+0.1**
ISK	**Istanbul-Kandi**	**1.66**	**319**	PN	**Pb**	**20 17 18.7**	**+0.3**
CMDR	**Camlidere-ANKA**	**1.66**	**65**	*i* P	**Pb**	**20 17 18.9**	**+0.4**
KCTX	**Karacabey (Bur**	**1.70**	**286**	PN	**Pb**	**20 17 19.1**	**0.0**
LOD	**Lodumlu**	**1.75**	**87**	PN	**Pn**	**20 17 18.8**	**+0.7**
ANTO	**Ankara**	**1.77**	**87**	PN	**Pb**	**20 17 19.5**	**-0.8**
KLYT	**Kilyos**	**1.82**	**323**	PN	**Pb**	**20 17 20.9**	**-0.1**
BAGO	**Egridir - ISPA**	**1.83**	**173**	*i* P	**Pg**	**20 17 23.5**	**+0.5**
BGKT	**Bogazkoy**	**1.90**	**317**	PN	**Pb**	**20 17 21.9**	**-0.4**
KULA	**Kula-Manisa**	**1.93**	**228**	PN	**Pb**	**20 17 22.3**	**-0.6**
DOGA	**KONYA_Doganhis**	**1.93**	**151**	*i* P	**Pb**	**20 17 23.4**	**+0.3**
MANT	**Manisa**	**2.00**	**229**	*i* P	**Pg**	**20 17 27.4**	**+1.2**
BALB	**Balikesir**	**2.02**	**266**	PN	**Pb**	**20 17 24.1**	**-0.4**
CTKS	**Kestanelik-??a**	**2.08**	**314**	PN	**Pb**	**20 17 24.3**	**-1.2**
EDC	**Edincik**	**2.09**	**286**	PN	**Pb**	**20 17 24.7**	**-0.9**
LADK	**Ladik-KONYA**	**2.17**	**137**	PN	**Pn**	**20 17 25.3**	**+1.4**
GONE	**Gonen-Balikesi**	**2.17**	**277**	PN	**Pb**	**20 17 25.9**	**-1.2**
CHBY	**Cihanbeyli**	**2.23**	**123**	PN	**Pn**	**20 17 26.5**	**+1.8**
CTYL	**Yalikoy Yolu**	**2.36**	**315**	PN	**Pn**	**20 17 28.3**	**+1.9**
KONT	**Konya--Tatoy**	**2.37**	**141**	PN	**Pn**	**20 17 27.7**	**+1.2**
VYHS	**Vyhne**	**12.05**	**320**	*e*PN	Pn	20 19 34.1	-5.2
ZST	**Bratislava**	**12.76**	**315**	*e*PN	**Pn**	**20 19 45.1**	**-3.9**

TIF ***10*** *20:19:01.2, 42°.38N×41°.11E, h9km±1km*
DDA ***10*** *20:19:01.9, 42°.23N×41°.05E, h4km±5km, ML3.0*
ISK ***10*** *20:19:01.5, 42°.36N×41°.00E, h8km, ML3.2/9*
NORS ***10*** *20:19:03.9±0.0, 42°.55N×41°.35E, h4km, MPVA3.8*
MOS ***10*** *20:19:03.9±2.8, 42°.55N×41°.35E, h4km, mb3.9/1, Error ellipse: s-maj=6.9km s-min=5.8km az=57.8*
AZER ***10*** *20:19:06.2±8.2, 40°.93N×40°.42E, h10km, ml3.1/4, Error ellipse: s-maj=236.7km s-min=51.5km az=174.0*
ISC 10 20:19:01.5±1.2, 42°.36N±0°.02×40°.98E±0°.02, h0km±9km,
n92, σ1°.62/150, 3C-3D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.92**	**144**	PG	**Pb**	**20 19 19.7**	**-0.7**
BATM	**Batumi**	**0.92**	**144**	P	**Pb**	**20 19 20.0**	**-0.4**
BATM				S	**Sn**	**20 19 33.4**	**-2.3**
BCA	**Borcka**	**1.03**	**152**	PG	**Pg**	**20 19 21.4**	**+0.1**
BCA				SG	**Sn**	**20 19 36.1**	**-2.2**
DOMR	**Dombai**	**1.05**	**27**	⇓ *i* PG	Pg	20 19 12.8	-8.9
DOMR	**Dombai**	**1.05**	**27**	*i* Pg	Pg	20 19 12.8	-8.9
DOMR				*i* Sg	Sg	20 19 25.2	-10
DBOC	**Borcka**	**1.13**	**153**	*i* P	**Pn**	**20 19 23.7**	**-0.9**
DBOC				*i* S	**Sg**	**20 19 38.3**	**+0.4**
ARXR	**Arkhyz**	**1.23**	**10**	*e*Pg	**Pb**	**20 19 23.7**	**-2.0**
ARXR				*i* Sg	**Sb**	**20 19 39.0**	**-3.1**
DBAD	**Bademkaya**	**1.44**	**158**	*i* P	**Pn**	**20 19 28.2**	**-0.7**
DBAD				*i* S	**Sn**	**20 19 46.0**	**-2.6**
DAGI	**Agillar**	**1.46**	**151**	IAML_P			
	comp=Z,2μm,0.2s						
DAGI				*i* P	**Pb**	**20 19 28.7**	**-0.9**
DAGI				*i* S	**Sn**	**20 19 45.1**	**-3.9**
TKB	**Tkibuli**	**1.50**	**90**	P	**Pn**	**20 19 28.0**	**-1.7**
TKB				S	**Sn**	**20 19 47.4**	**-2.4**
SOC	**Sochi**	**1.54**	**323**	*e*PG	**Pb**	**20 19 29.6**	**-1.2**
SOC				*e*		20 19 54.0	
SOC				pmax	pmax		
	comp=Z,96nm,0.3s						
SOC				pmax	pmax		
	comp=Z,39nm,0.2s						
SOC				smax	smax		
	comp=E,211nm,0.2s						
SOC				smax	smax		
	comp=N,540nm,0.3s						
SOC	**Sochi**	**1.54**	**323**	*e*Pg	**Pb**	**20 19 29.8**	**-1.0**
SOC				*e*Sg	**Sb**	**20 19 49.5**	**-1.3**
EPOS	**Posof**	**1.56**	**123**	*i* P	**Pn**	**20 19 29.6**	**-1.1**
EPOS				*i* S	**Sn**	**20 19 49.5**	**-2.1**
NEY	**Neytrino**	**1.56**	**55**	⇓ *e*PG	**Pn**	**20 19 29.1**	**-1.7**
NEY				*e*S	**Sn**	**20 19 48.0**	**-3.8**
NEY	**Neytrino**	**1.56**	**55**	*e*Pg	**Pn**	**20 19 29.0**	**-1.7**
NEY				*i* Sg	**Sn**	**20 19 48.0**	**-3.8**
KTUT	**Trabzon**	**1.64**	**214**	PN	**Pn**	**20 19 31.2**	**-0.4**
MACK	**Trabzon**	**1.68**	**213**	IAML_P			
	comp=Z,2μm,0.1s						
MACK				*i* P	**Pn**	**20 19 31.1**	**-1.0**
GUZR	**Guzeripl'**	**1.75**	**339**	*e*Pg	**Pb**	**20 19 33.0**	**-1.7**
GUZR				*e*Sg	**Sb**	**20 19 56.1**	**-1.1**
SRKG	**Sareki**	**1.76**	**90**	P	**Pn**	**20 19 31.6**	**-1.7**
SRKG				S	**Sn**	**20 19 54.4**	**-2.1**
ONI	**Oni**	**1.85**	**82**	PN	**Pn**	**20 19 33.8**	**-0.7**
ONI				SN	**Sb**	**20 19 57.8**	**-2.0**
ONI	**Oni**	**1.85**	**82**	P	**Pn**	**20 19 33.8**	**-0.7**
ONI				S	**Sb**	**20 19 58.4**	**-1.5**
ONI	**Oni**	**1.85**	**82**	*e*PG	**Pn**	**20 19 33.8**	**-0.7**
ONI				*e*S	**Sb**	**20 19 58.4**	**-1.5**
ONI	**Oni**	**1.85**	**82**	*e*Pg	**Pn**	**20 19 33.8**	**-0.7**
ONI				*e*Sg	**Sb**	**20 19 58.4**	**-1.5**
SHA1	**Shidzhatmaz**	**1.85**	**41**	⇓ *i* PG	**Pn**	**20 19 34.3**	**-0.4**
SHA1				*e*S	**Sn**	**20 19 57.6**	**-1.3**
SHA1	**Shidzhatmaz**	**1.85**	**41**	*e*Pg	**Pn**	**20 19 34.4**	**-0.3**
SHA1				*e*Sg	**Sn**	**20 19 56.7**	**-2.2**
DIGR	**Digorskoe uzhe**	**2.00**	**73**	*e*PN	**Pb**	**20 19 36.9**	**-1.9**
DIGR				*e*S	**Sn**	**20 20 01.8**	**-0.7**
DIGR	**Digorskoe uzhe**	**2.00**	**73**	*e*Pg	**Pn**	**20 19 36.5**	**-0.2**
DIGR				*e*Sg	**Sn**	**20 20 01.2**	**-1.3**
KRIK	**Erzurum-spir**	**2.02**	**181**	*i* P	**Pb**	**20 19 37.7**	**-1.5**
KIV	**Kislovodsk**	**2.03**	**37**	PN	**Pn**	**20 19 36.8**	**-0.2**
KIV	**Kislovodsk**	**2.03**	**37**	*i* PN	**Pb**	**20 19 37.6**	**-1.7**
KIV				*e*S	**Sn**	**20 20 02.4**	**-0.7**
KIV0	**Kislovodsk Arr**	**2.03**	**38**	*i* Pg	**Pb**	**20 19 37.6**	**-1.8**
KIV0				*e*Sg	**Sn**	**20 20 02.4**	**-0.9**
BAYT	**Aydıntepe-Bayb**	**2.06**	**198**	PN	**Pn**	**20 19 37.5**	**0.0**
SENK	**Senkaya-Erzuru**	**2.07**	**150**	PN	**Pn**	**20 19 37.5**	**-0.2**
AKH	**Akhalkalaki**	**2.10**	**116**	PN	**Pn**	**20 19 37.8**	**-0.3**
AKH	**Akhalkalaki**	**2.10**	**116**	P	**Pb**	**20 19 38.7**	**-1.9**
AKH				S	**Sb**	**20 20 05.5**	**-1.8**
AKH	**Akhalkalaki**	**2.10**	**116**	*e*PN	**Pb**	**20 19 38.7**	**-1.9**
AKH				*e*S	**Sb**	**20 20 05.5**	**-1.8**
BEYR	**Belyy Ugol+**	**2.13**	**39**	⇑ *e*PN	**Pb**	**20 19 39.4**	**-1.7**
BEYR				*i* S	**Sb**	**20 20 06.0**	**-2.1**
BEYR	**Belyy Ugol+**	**2.13**	**39**	*e*Pg	**Pb**	**20 19 39.4**	**-1.7**
BEYR				*i* Sg	**Sb**	**20 20 06.0**	**-2.1**
BAYB	**BAYBURT**	**2.17**	**195**	IAML_P			
	comp=Z,231nm,0.2s						
BAYB				*i* P	**Pb**	**20 19 40.3**	**-1.4**
ZEI	**Tsey**	**2.20**	**78**	*e*PN	**Pb**	**20 19 41.8**	**-0.5**
ZEI				*e*S	**Sb**	**20 20 08.5**	**-1.7**
ZEI	**Tsey**	**2.20**	**78**	*e*Pg	**Pb**	**20 19 41.3**	**-1.0**
ZEI				*e*Sg	**Sb**	**20 20 07.9**	**-2.3**
NCK	**Nalchik**	**2.23**	**59**	*e*PN	**Pb**	**20 19 42.8**	**0.0**
NCK				*e*S	**Sb**	**20 20 11.3**	**+0.3**
NCK	**Nalchik**	**2.23**	**59**	*e*Pg	**Pb**	**20 19 43.0**	**+0.2**
NCK				*e*Sg	**Sb**	**20 20 10.7**	**-0.3**
BGD	**Bogdanovka**	**2.24**	**118**	P	**Pb**	**20 19 41.0**	**-2.0**
BGD				S	**Sb**	**20 20 09.4**	**-2.0**
LSNR	**Lesken**	**2.29**	**65**	*e*PN	**Pb**	**20 19 42.9**	**-0.8**
LSNR				*e*S	**Sb**	**20 20 11.4**	**-1.2**
LSNR	**Lesken**	**2.29**	**65**	*e*Pg	**Pb**	**20 19 41.7**	**-2.0**
LSNR				*e*Sg	**Sb**	**20 20 12.9**	**+0.3**
KBTC	**Kuba-Taba**	**2.30**	**50**	*e*PN	**Pb**	**20 19 44.0**	**+0.1**
KBTC				*e*S	**Sg**	**20 20 14.0**	**-1.5**
KBTC	**Kuba-Taba**	**2.30**	**50**	*e*Pg	**Pb**	**20 19 41.8**	**-2.1**
KBTC				*e*Sg	**Sb**	**20 20 12.5**	**-0.5**
PYA1	**Pyatigorsk**	**2.30**	**42**	*e*PN	**Pb**	**20 19 42.6**	**-1.4**
PYA1				*e*S	**Sn**	**20 20 08.9**	**-0.9**
PYA1	**Pyatigorsk**	**2.30**	**42**	*e*Pg	**Pb**	**20 19 42.0**	**-1.9**
PYA1				*e*Sg	**Sn**	**20 20 09.4**	**-0.4**
KOPT	**Kop Dagi**	**2.36**	**189**	IAML_P			
	comp=Z,224nm,0.1s						
KOPT				*i* P	**Pb**	**20 19 43.4**	**-1.7**
NVNR	**Nevinnomyssk**	**2.37**	**17**	*e*Pn	**Pb**	**20 19 43.7**	**-1.3**
NVNR				*e*Sn	**Sb**	**20 20 14.3**	**-0.5**
KORR	**Kora**	**2.39**	**71**	*e*PN	**Pb**	**20 19 44.5**	**-0.9**
KORR				*e*S	**Sb**	**20 20 15.3**	**-0.2**
KORR	**Kora**	**2.39**	**71**	*e*Pn	**Pb**	**20 19 44.5**	**-0.9**
KORR				*e*Sn	**Sb**	**20 20 15.3**	**-0.2**
KOPR	**Koprukoy-ERZUR**	**2.45**	**164**	PN	**Pn**	**20 19 42.9**	**0.0**
STDR	**Stavd-Durt**	**2.48**	**65**	*e*PN	**Pg**	**20 19 49.6**	**+0.5**
STDR				*e*S	**Sg**	**20 20 21.9**	**+0.5**
STDR	**Stavd-Durt**	**2.48**	**65**	*e*Pn	**Pg**	**20 19 49.6**	**+0.5**
STDR				*e*Sn	**Sg**	**20 20 21.9**	**+0.5**
LACR	**Lac**	**2.50**	**78**	*e*PN	**Pb**	**20 19 45.1**	**-2.2**
LACR				*e*S	**Sb**	**20 20 15.8**	**-2.8**
LACR	**Lac**	**2.50**	**78**	*i* Pn	**Pb**	**20 19 45.0**	**-2.2**
LACR				*e*Sn	**Sb**	**20 20 15.5**	**-3.1**
KELT	**Kelkit**	**2.56**	**211**	IAML_P			
	comp=Z,210nm,0.2s						
KELT				*i* P	**Pn**	**20 19 45.1**	**+0.7**
ARNR	**Ardon**	**2.57**	**70**	*e*Pn	**Pb**	**20 19 47.5**	**-1.0**
ARNR				*e*Sn	**Sb**	**20 20 18.4**	**-2.2**
EAK	**Akyaka**	**2.59**	**129**	IAML_P			
	comp=Z,557nm,0.4s						
EAK				*i* P	**Pb**	**20 19 47.3**	**-1.5**
GUDG	**Gudauri**	**2.59**	**86**	P	**Pb**	**20 19 47.4**	**-1.6**
GUDG				S	**Sb**	**20 20 20.9**	**-0.7**
EATA	**Eleskirt**	**2.74**	**155**	*i* P	**Pn**	**20 19 48.3**	**+1.3**
VLKR	**Vladikavkaz**	**2.81**	**75**	*i* Pn	**Pg**	**20 19 57.5**	**+2.1**
VLKR				*e*Sn	**Sg**	**20 20 30.2**	**-1.7**
TBLG	**Delisi**	**2.87**	**101**	PN	**Pn**	**20 19 48.7**	**+0.2**
TBLG	**Delisi**	**2.87**	**101**	P	**Sb**	**20 20 27.7**	**-1.6**
BTNK	**Botanikuri**	**2.93**	**102**	P	**Sb**	**20 20 30.2**	**-0.6**
GOF	**Gofitskoye**	**3.09**	**28**	*e*Pn	**Pg**	**20 20 02.0**	**+1.2**
GOF				*i* Sn	**Sg**	**20 20 39.0**	**-1.8**
QZX	**Qazax, Azerbai**	**3.54**	**110**	P	**Pb**	**20 20 03.2**	**-1.8**
QZX				S	**Sb**	**20 20 48.7**	**+0.3**
ANN	**Anapa**	**3.55**	**315**	*e*PN	**Pn**	**20 20 00.0**	**+2.2**
ANN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ANN	**Anapa**	**3.55**	**315**	*e*Pn

PDAR	**Pinedale Array**	**82.06**	**42**	P		P	20 44 08.4	0.0
	0.5nm,0.9s,baz=224,slow=5.0,SNR=4.3							

*ISCJB **10** 20:42:49.9±0.4, 39°.78N±0°.02×26°.11E±0°.03, h9km±3km, Error ellipse: s-maj=4.4km s-min=3.3km az=164.3*
*ATH **10** 20:42:49.8, 39°.77N×26°.09E, h28km±1km, ML1.5/5, Error ellipse: s-maj=2.8km s-min=0.9km az=254.0*
*DDA **10** 20:42:49.9, 39°.79N×26°.16E, h7km±3km, ML2.6*
*ISK **10** 20:42:49.6, 39°.77N×26°.14E, h7km, ML2.0/14*
ISC 10 20:42:49.9±0.8, 39.78N±0°.02×26.13E±0°.02, h11km±5km, n32, σ0.37/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.09**	**316**	PG	**Pg**	**20 42 52.5**	**0.0**
BOZC				SG	**Sg**	**20 42 54.2**	**-0.2**
BOZC	**Bozcaada**	**0.09**	**316**	IAML_P			
	comp=Z,18μm,0.1s						
BOZC				*i* P	**Pg**	**20 42 52.9**	**+0.4**
BOZC				*i* S	**Sg**	**20 42 54.0**	**-0.4**
EZN	**Ezine**	**0.16**	**73**	PG	**Pg**	**20 42 53.4**	**-0.1**
EZN				SG	**Sg**	**20 42 56.0**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.32**	**97**	IAML_P			
	comp=Z,3μm,0.2s						
BAYC				*i* P	**Pg**	**20 42 56.8**	**+0.4**
BAYC				*i* S	**Sb**	**20 43 01.8**	**-1.0**
PRK	**Paraskevi**	**0.54**	**168**	P	**Pb**	**20 43 01.5**	**+0.1**
PRK				S	**Sb**	**20 43 08.8**	**-0.3**
PRK				AML	AML	20 43 10.1	
	comp=N,254μm,0.4s						
PRK				AML	AML	20 43 11.2	
	comp=E,109μm,0.5s						
SIGR	**SIGRI**	**0.61**	**201**	PG	**Pg**	**20 43 01.7**	**+0.1**
SIGR	**SIGRI**	**0.61**	**201**	P	**Pg**	**20 43 01.7**	**+0.1**
SIGR				S	**Sb**	**20 43 10.4**	**-0.6**
SIGR				AML	AML	20 43 11.4	
	comp=N,305μm,0.3s						
SIGR				AML	AML	20 43 14.0	
	comp=E,217μm,0.3s						
AYVA	**Ayvalik**	**0.64**	**137**	IAML_P			
	comp=Z,414nm,0.1s						
AYVA				*i* P	**Pb**	**20 43 03.4**	**+0.4**
AYVA				*i* S	**Sb**	**20 43 12.0**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.67**	**23**	PG	**Pg**	**20 43 03.1**	**+0.2**
LIA	**Limnos Island**	**0.74**	**280**	P	**Pg**	**20 43 04.2**	**+0.1**
LIA				S	**Sg**	**20 43 14.3**	**+0.5**
LIA				AML	AML	20 43 17.7	
	comp=E,52μm,0.4s						
LIA				AML	AML	20 43 18.2	
	comp=N,73μm,0.2s						
LPK	**Lapseki**	**0.77**	**39**	PG	**Pb**	**20 43 05.2**	**+0.1**
SMTH	**Samothraki Isl**	**0.83**	**327**	P	**Pg**	**20 43 06.0**	**+0.1**
SMTH				S	**Sg**	**20 43 17.2**	**+0.5**
SMTH				AML	AML	20 43 20.2	
	comp=N,66μm,0.2s						
SMTH				AML	AML	20 43 20.5	
	comp=E,52μm,0.3s						
ERIK	**Erikli-Kesan**	**0.94**	**18**	PG	**Pg**	**20 43 07.9**	**0.0**
ENEZ	**Enez**	**0.95**	**1**	PG	**Pb**	**20 43 08.5**	**+0.1**
KRBG	**Karabiga-Canak**	**1.09**	**55**	PN	**Pb**	**20 43 10.6**	**0.0**
ZEDA	**zmir-Bergama**	**1.09**	**138**	IAML_P			
	comp=Z,580nm,0.2s						
ZEDA				*i* P	**Pn**	**20 43 11.4**	**+0.4**
ZEDA				*i* S	**Sn**	**20 43 26.1**	**0.0**
ALN	**Alexandroupoli**	**1.12**	**357**	PN	**Pb**	**20 43 10.8**	**-0.3**
ALN	**Alexandroupoli**	**1.12**	**357**	P	**Pb**	**20 43 10.9**	**-0.3**
ALN				S	**Sn**	**20 43 26.8**	**+0.1**
ALN				AML	AML	20 43 28.2	
	comp=E,28μm,0.3s						
ALN				AML	AML	20 43 28.9	
	comp=N,26μm,0.3s						
KESN	**Edirne-Kesan**	**1.13**	**22**	IAML_P			
	comp=Z,178nm,0.1s						
KESN				*i* P	**Pn**	**20 43 12.7**	**+0.9**
KESN				*i* S	**Sg**	**20 43 26.5**	**+0.2**
KNL	**Balıkesir**	**1.18**	**65**	IAML_P			
	comp=Z,160nm,0.1s						
KNL				*i* P	**Pb**	**20 43 11.3**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.21**	**41**	PN	**Pg**	**20 43 13.1**	**0.0**
GONE	**Gonen-Balikesi**	**1.23**	**77**	PN	**Pg**	**20 43 13.7**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.29**	**108**	IAML_P			
	comp=Z,257nm,0.2s						
STEP				*i* P	**Pg**	**20 43 14.7**	**0.0**
BALB	**Balikesir**	**1.36**	**95**	PN	**Pb**	**20 43 15.1**	**-0.1**
THAS	**Thassos island**	**1.36**	**308**	P	**Pn**	**20 43 14.5**	**-0.2**
CHOS	**Chios island**	**1.39**	**182**	PN	**Pb**	**20 43 15.8**	**-0.1**
CHOS	**Chios island**	**1.39**	**182**	P	**Pn**	**20 43 15.5**	**+0.3**
CHOS				S	**Sn**	**20 43 33.1**	**-0.5**
RDO	**Rodhopi**	**1.44**	**342**	PN	**Pb**	**20 43 16.5**	**-0.1**
RDO	**Rodhopi**	**1.44**	**342**	P	**Pn**	**20 43 16.2**	**+0.4**
EDC	**Edincik**	**1.45**	**66**	PN	**Pb**	**20 43 16.7**	**-0.1**
URLA	**Izmir**	**1.46**	**166**	PN	**Pn**	**20 43 16.3**	**+0.1**
URLA	**Izmir**	**1.46**	**166**	*i* P	**Pn**	**20 43 16.5**	**+0.3**

*MOS **10** 20:49:22.3±1.2, 14°.07N×91°.43W, h33km, mb5.2/53, Error ellipse: s-maj=11.0km s-min=4.5km az=111.0*
*BJI **10** 20:49:26.0±0.0, 14°.10N×91°.40W, h50km, mB5.7/3, Ms5.5/9, Ms7 5.2/9*
*GCMT **10** 20:49:26.6±0.3, 13°.98N±0°.02×91°.83W±0°.02, h47km±1km, MW5.2/74, Moment Tensor Solution. s42,c50; s74,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.71±.32; $M_{\theta\theta}$1.14±.24; $M_{\phi\phi}$4.57±.23; $M_{r\theta}$3.46±.15; $M_{\theta\phi}$-2.90±.14; $M_{r\phi}$-2.68±.15; Best double couple: $M_0$7.41200×10^{16} NP1:ϕ_s317.00000°, δ63.00000°, λ-103.00000°. NP2: ϕ_s164.00000°, δ29.00000°, λ-66.00000°. Principal axes: T 7.4950, Plg17.0000°, Azm57.0000°; N -0.1670, Plg12.0000°, Azm323.0000°; P -7.3290, Plg69.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SNET **10** 20:49:26.0±0.0, 13°.91N×91°.70W, h35km*
*IDC **10** 20:49:27.1±0.5, 14°.23N×91°.10W, h58km±4km, mb4.4/26, mb1 4.5/27, mb1mx4.4/37, mbtmp4.7/27, MS4.4/16, Ms1 4.4/16, ms1mx4.2/33, Error ellipse: s-maj=18.2km s-min=8.2km az=58.0*
*NEIC **10** 20:49:27.6±2.6, 14°.05N×91°.49W, h66km±4km, mb5.1/382, MD5.2(SNET), MD5.3(MEX), Error ellipse: s-maj=13.5km s-min=9.7km az=225.0*
NEIC Felt [III] at Antigua Guatemala and Guatemala. Also felt at Magdalena Milpas Altas, Mixco, Palin, Quetzaltenango and San Marcos. Felt [II] at San Salvador, El Salvador.
*MEX **10** 20:49:29.3±0.5, 13°.96N×91°.89W, h26km±7km, MD5.3*
*ISCJB **10** 20:49:29.5±0.3, 14°.09N±0°.02×91°.39W±0°.02, h104km±2km, mb5.0/317, Error ellipse: s-maj=3.4km s-min=2.3km az=141.3*
ISC 10 20:49:25.9±0.4, 14°.05N±0°.04×91°.63W±0°.03, h54km±2km, h55km:pP-P, n1159, σ1.60/1288, mb5.1/321, MS4.6/24, 13C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.05**	**324**	*e*Pn	**Pn**	**20 49 45.6**	**+1.1**
THIG				*e*Sn	**Sn**	**20 49 57.4**	**-0.8**
THIG		**1.05**	**324**	*e*P	**Pn**	**20 49 45.6**	**+1.1**
THIG				*e*S	**Sn**	**20 49 57.4**	**-0.8**
APG	**El Apazote**	**1.47**	**50**	P	**Pn**	**20 49 53.5**	**+3.2**
	908nm,0.3s,baz=206,slow=9.6,SNR=2371						
APG				S	**Sn**	**20 50 14.2**	**+5.6**
	590nm,0.3s,baz=72,slow=17,SNR=7.2						
RTR	**El Retiro**	**1.93**	**94**	*i* P	**Pn**	**20 49 58.5**	**+2.0**
CEVE	**Cerro Verde**	**1.96**	**96**	*e*P	**Pn**	**20 49 58.5**	**+1.5**
CEVE				*e*S	**Sn**	**20 50 22.9**	**+2.4**
CEVE				IAML		20 50 29.8	
	comp=Z,54μm,0.5s						
SBLS	**San Blas**	**1.96**	**96**	*i* P	**Pn**	**20 49 58.5**	**+1.5**
SNJE	**San Jose**	**1.97**	**95**	*e*P	**Pn**	**20 49 58.6**	**+1.5**
UNIC	**Santa Ana**	**2.01**	**92**	*e*P	**Pn**	**20 49 59.4**	**+1.9**
UNIC				*e*S	**Sn**	**20 50 25.5**	**+4.0**
UNIC				IAML		20 50 29.7	
	comp=Z,6μm,0.4s						
PCIG		**2.25**	**317**	*e*Pn	**Pn**	**20 50 01.4**	**+0.7**
PCIG				*e*Sn	**Sn**	**20 50 26.6**	**-0.8**
PCIG		**2.25**	**317**	*e*P	**Pn**	**20 50 01.4**	**+0.7**
PCIG				*e*S	**Sn**	**20 50 26.6**	**-0.8**
CCIG	**Comitan**	**2.27**	**348**	*e*Pn	**Pn**	**20 50 05.2**	**+4.0**
CCIG				*e*Sn	**Sn**	**20 50 33.8**	**+5.8**
CCIG	**Comitan**	**2.27**	**348**	*i* P	**Pn**	**20 50 03.5**	**+2.4**
CCIG				*i* S	**Sn**	**20 50 31.1**	**+3.0**
UEES	**San Salvador**	**2.34**	**98**	*e*P	**Pn**	**20 50 03.8**	**+1.8**
SNET	**Serv Nac Est T**	**2.35**	**99**	*e*P	**Pn**	**20 50 04.0**	**+1.7**
SNET				*e*S	**Sn**	**20 50 32.0**	**+2.0**
SNET				IAML		20 50 36.0	
	comp=Z,18μm,0.3s						
OPAM	**San Salvador**	**2.38**	**98**	*e*P	**Pn**	**20 50 04.7**	**+2.2**
OPAM				*e*S	**Sn**	**20 50 34.1**	**+3.4**
UDBS	**Soyapango**	**2.42**	**97**	*e*P	**Pn**	**20 50 05.2**	**+2.1**
UDBS				*e*S	**Sn**	**20 50 35.2**	**+3.6**
LFU	**La Fuente**	**2.46**	**97**	*e*P	**Pn**	**20 50 05.6**	**+1.9**
PAVA	**Las Pavas**	**2.63**	**97**	*e*P	**Pn**	**20 50 08.1**	**+1.9**
UESV	**Ojushtada**	**2.84**	**103**	*e*P	**Pn**	**20 50 10.0**	**+1.2**
VICT	**Victoria**	**2.90**	**91**	*e*P	**Pn**	**20 50 11.2**	**+1.4**
TECA	**Tecapa**	**3.09**	**100**	*i* P	**Pn**	**20 50 14.1**	**+1.7**
PACA	**Pacayal**	**3.26**	**100**	*e*P	**Pn**	**20 50 16.5**	**+1.7**
LCY	**Lacayo**	**3.30**	**101**	*e*P	**Pn**	**20 50 17.4**	**+2.2**
VSM	**San Miguel**	**3.32**	**100**	*e*P	**Pn**	**20 50 18.0**	**+2.4**
LCND	**La Caada**	**3.71**	**101**	*e*P	**Pn**	**20 50 22.4**	**+1.7**
LCND				*e*S	**Sn**	**20 51 06.6**	**+3.4**
LCND				IAML		20 51 10.6	
	comp=Z,5μm,0.3s						
TGUH	**Tegucigalpa,Un**	**4.22**	**89**	*e*Pn	**Pn**	**20 50 29.2**	**+1.3**
CMIG	**Matias Romero**	**4.36**	**314**	*e*P	**Pn**	**20 50 31.2**	**+1.6**
CMIG				*i* S	**Sn**	**20 51 19.2**	**+0.1**
CMIG	**Matias Romero**	**4.36**	**314**	P	**Pn**	**20 50 31.2**	**+1.6**
	comp=Z,16nm,0.3s,baz=127,slow=12,SNR=120						
CMIG				S	**Sn**	**20 51 21.0**	**+1.9**
	comp=Z,50nm,0.3s,baz=3.7,slow=20,SNR=7.4						
CMIG				LR	LR	20 52 41.4	
	comp=Z,3μm,21.2s,baz=150,slow=42						
HUIG	**Huatulco**	**4.66**	**292**	*e*Pn	**Pn**	**20 50 33.4**	**-0.3**
HUIG	**Huatulco**	**4.66**	**292**	*e*P	**Pn**	**20 50 33.4**	**-0.3**
HUIG				*i* S	**Sn**	**20 51 23.6**	**-2.9**
ACON	**Acoyapa**	**6.62**	**108**	*e*Pn	**Pn**	**20 51 01.0**	**+0.3**
TEIG	**Tepich**	**6.92**	**27**	*e*Pn	**Pn**	**20 51 07.0**	**+2.2**
TEIG				*e*Sn	**Sn**	**20 52 20.6**	**-1.7**
MYIG	**Mrida**	**7.10**	**14**	*e*Pn	**Pn**	**20 51 09.4**	**+2.2**
LVIG	**Laguna Verde**	**7.27**	**322**	*e*Pn	**Pn**	**20 51 09.7**	**+0.1**
ESPN	**Las Esperanzas**	**7.37**	**104**	*e*Pn	**Pn**	**20 51 12.0**	**+1.0**
JTS	**Las Juntas de**	**7.52**	**119**	*e*Pn	**Pn**	**20 51 14.8**	**+1.7**
JTS				*e*		20 51 14.9	
JTS	**Las Juntas de**	**7.52**	**119**	*e*P	**Pn**	**20 51 15.1**	**+2.0**
JTS				pmax	pmax		
	comp=Z,50nm,0.8s						
JTS	**Las Juntas de**	**7.52**	**119**	P	**Pn**	**20 51 15.3**	**+2.2**
	comp=Z,13nm,0.3s,baz=2.2,slow=8.2,SNR=34						
JTS				S	**Sn**	**20 52 32.8**	**-4.2**
	comp=Z,7.7nm,0.3s,baz=308,slow=18,SNR=1.3						
TLIG	**Tlapa**	**7.54**	**298**	*e*Pn	**Pn**	**20 51 14.9**	**+1.6**
HDC	**Heredia**	**8.38**	**118**	*e*Pn	**Pn**	**20 51 21.7**	**-3.2**
MOIG	**Morelia**	**10.72**	**303**	*e*Pn	**Pn**	**20 52 01.0**	**+3.9**
WBCY	**West Bay, Gran**	**11.13**	**60**	*e*Pn	**Pn**	**20 52 04.2**	**+1.8**
FSCY	**Frank Sound, G**	**11.29**	**61**	*e*Pn	**Pn**	**20 52 05.0**	**+0.4**
BCIP	**Isla Barro Col**	**12.53**	**112**	*e*Pn	**Pn**	**20 52 21.2**	**-0.3**
BCIP	**Isla Barro Col**	**12.53**	**112**	*e*P	**Pn**	**20 52 21.2**	**-0.3**
LNIG	**Linares**	**13.07**	**327**	*e*Pn	**Pn**	**20 52 31.0**	**+2.1**
ZAIG	**Zacatecas**	**13.52**	**311**	*e*Pn	**P**	**20 52 39.4**	**-3.4**
MTDJ	**Mount Denham**	**14.16**	**71**	*e*Pn	**Pn**	**20 52 43.5**	**-0.2**
062Z	**Marathon**	**14.56**	**42**	P	**Pn**	**20 52 47.8**	**-1.1**
	baz=224						
KVTX	**Kingsville**	**14.64**	**337**	*e*Pn	**Pn**	**20 52 52.3**	**+2.3**
PAYG	**Puerto Ayora**	**14.69**	**175**	*e*Pn	**Pn**	**20 52 52.9**	**+2.1**
061Z	**Ochoppi**	**15.47**	**39**	*e*Pn	**Pn**	**20 53 00.4**	**-0.2**
	comp=Z,884nm,1.6s						
061Z	**Ochoppi**	**15.47**	**39**	P	**Pn**	**20 53 00.1**	**-0.6**
	baz=222						
059Z	**Ave Maria**	**15.50**	**36**	P	**Pn**	**20 53 00.9**	**-0.2**
	baz=219						
058A	**Arcadia**	**15.86**	**34**	P	**Pn**	**20 53 05.9**	**+0.2**
	baz=217,SNR=9.5						
833A	**Chaparral WMA,**	**15.93**	**334**	*e*Pn	**P**	**20 53 08.7**	**-0.6**
	comp=Z,45nm,0.9s						
833A	**Chaparral WMA,**	**15.93**	**334**	P	**Pn**	**20 53 07.9**	**+1.3**
	baz=151						
060Z	**West Palm Beac**	**16.08**	**38**	P	**Pn**	**20 53 07.4**	**-1.1**
	baz=222						
957A	**Wimauma**	**16.13**	**31**	*e*Pn	**Pn**	**20 53 09.5**	**+0.4**
	comp=Z,730nm,1.4s						
957A	**Wimauma**	**16.13**	**31**	P	**Pn**	**20 53 09.4**	**+0.4**
	baz=214,SNR=10						
059A	**Moore Haven**	**16.16**	**36**	*e*Pn	**P**	**20 53 10.8**	**-1.0**
	comp=Z,270nm,0.9s						
059A	**Moore Haven**	**16.16**	**36**	P	**Pn**	**20 53 09.4**	**0.0**
	baz=219,SNR=5.0						
HKT	**Hockley**	**16.29**	**347**	*e*Pn	**P**	**20 53 13.0**	**-0.2**
	comp=Z,127nm,1.7s						
HKT	**Hockley**	**16.29**	**347**	*e*P	**P**	**20 53 13.0**	**-0.2**
HKT				pmax	pmax		
	comp=Z,127nm,1.7s						
958A	**Wauchula**	**16.31**	**33**	P	**P**	**20 53 12.8**	**-0.8**
	baz=216,SNR=12						
SJCC	**San Jacinto, C**	**16.61**	**103**	*e*P	**Pn**	**20 53 15.4**	**+0.1**
SJCC	**San Jacinto, C**	**16.61**	**103**	*e*P	**Pn**	**20 53 15.4**	**+0.1**
857A	**Zephyrhills**	**16.62**	**30**	P	**Pn**	**20 53 15.6**	**+0.3**
	baz=213,SNR=24						
060A	**Indiantown**	**16.66**	**37**	*e*Pn	**Pn**	**20 53 16.4**	**+0.7**
	comp=Z,728nm,1.1s						
060A	**Indiantown**	**16.66**	**37**	P	**Pn**	**20 53 15.6**	**-0.2**
	baz=221,SNR=5.6						
959A	**Okeechobee**	**16.73**	**35**	P	**Pn**	**20 53 17.2**	**+0.5**
	baz=218,SNR=5.4						
GTBY	**Guantanamo Bay**	**16.84**	**67**	*e*P	**P**	**20 53 18.8**	**-0.6**
	comp=Z,241nm,1.3s						
DWPF	**Disney Wildern**	**16.90**	**33**	*e*Pn	**Pn**	**20 53 19.1**	**+0.3**
	comp=Z,250nm,1.0s						
DWPF	**Disney Wildern**	**16.90**	**33**	P	**Pn**	**20 53 19.3**	**+0.5**
	baz=216						
UREC	**San Jos de Ur**	**16.99**	**110**	*e*P	**Pn**	**20 53 18.0**	**-2.0**
UREC	**San Jos de Ur**	**16.99**	**110**	*e*P	**Pn**	**20 53 18.0**	**-2.0**
858A	**St. Cloud**	**17.02**	**33**	P	**Pn**	**20 53 20.6**	**+0.4**
	baz=216,SNR=7.5						
552A	**Lynn Haven**	**17.04**	**19**	P	**P**	**20 53 22.8**	**+1.3**
	baz=201						
449A	**Pace**	**17.12**	**13**	P	**P**	**20 53 24.8**	**+2.4**
	baz=194						
859A	**Kempfer Cattle**	**17.14**	**34**	P	**P**	**20 53 22.4**	**-0.3**
	baz=217,SNR=13						
655A	**Horseshoe Beac**	**17.22**	**25**	P	**P**	**20 53 23.7**	**+0.1**
	baz=208,SNR=60						
757A	**Oxford**	**17.26**	**29**	P	**P**	**20 53 23.9**	**-0.1**
	baz=212,SNR=25						
450A	**Crestview**	**17.30**	**15**	P	**P**	**20 53 26.9**	**+2.4**
	baz=196						
451A	**Vernon**	**17.35**	**17**	*e*Pn	**Pn**	**20 53 24.1**	**-0.2**
	comp=Z,743nm,1.8s						
451A	**Vernon**	**17.35**	**17**	P	**P**	**20 53 25.7**	**+0.7**
	baz=199						
553A	**Crawfordville**	**17.38**	**21**	P	**P**	**20 53 26.6**	**+1.3**
	baz=204,SNR=32						
656A	**Willston**	**17.41**	**27**	*e*Pn	**P**	**20 53 25.7**	**0.0**
	comp=Z,335nm,0.9s						
656A	**Willston**	**17.41**	**27**	P	**P**	**20 53 26.1**	**+0.4**
	baz=210,SNR=25						
435B	**Jarrell**	**17.53**	**343**	*e*Pn	**P**	**20 53 28.2**	**+1.2**
	comp=Z,88nm,1.4s						
435B	**Jarrell**	**17.53**	**343**	P	**P**	**20 53 28.7**	**+1.7**
	baz=160						
BRAL	**Brewton**	**17.55**	**13**	*e*Pn	**P**	**20 53 28.8**	**+1.6**
	comp=Z,456nm,1.0s						
BRAL	**Brewton**	**17.55**	**13**	P	**P**	**20 53 29.7**	**+2.5**
	baz=194						
554A	**Perry**	**17.56**	**23**	P	**P**	**20 53 28.4**	**+1.1**
	baz=206,SNR=33						
349A	**Repton**	**17.69**	**13**	P	**P**	**20 53 31.5**	**+2.7**
	baz=194,SNR=15						
758A	**Lake Helen**	**17.71**	**31**	P	**P**	**20 53 29.3**	**+0.3**
	baz=215,SNR=16						
452A	**Marianna**	**17.74**	**18**	P	**P**	**20 53 31.6**	**+2.4**
	baz=200,SNR=20						
NATX	**Nacogdoches**	**17.84**	**352**	*e*P	**P**	**20 53 31.3**	**+0.8**
	comp=Z,312nm,1.5s						
NATX	**Nacogdoches**	**17.84**	**352**	P	**P**	**20 53 31.9**	**+1.5**
	baz=170						
555A	**McAlpin**	**17.88**	**25**	*e*P	**P**	**20 53 32.5**	**+1.8**
	comp=Z,785nm,0.7s						
555A	**McAlpin**	**17.88**	**25**	P	**P**	**20 53 32.6**	**+1.8**
	baz=208,SNR=92						
657A	**Interlachen**	**17.90**	**29**	P	**P**	**20 53 32.1**	**+1.0**
	baz=212,SNR=19						
ETX06	**Route 59 and C**	**17.92**	**352**	*e*P	**Pn**	**20 53 32.7**	**+1.4**
	comp=Z,105nm,1.2s						
350A	**Dozier**	**17.95**	**15**	P	**Pn**	**20 53 34.5**	**+2.7**
	baz=196						
SMLC	**San Martn de**	**17.98**	**105**	*e*P	**P**	**20 53 28.7**	**-3.4**
SMLC	**San Martn de**	**17.98**	**105**	*e*P	**P**	**20 53 28.7**	**-3.4**
JCT	**Junction City**	**18.00**	**337**	*e*P	**Pn**	**20 53 33.6**	**+1.2**
	comp=Z,42nm,1.1s						
JCT				*e*ScP	**ScP**	**21 01 39.6**	**+3.6**
JCT	**Junction City**	**18.00**	**337**	*e*P	**Pn**	**20 53 33.6**	**+1.2**
JCT				pmax	pmax		
	comp=Z,42nm,1.1s						
JCT	**Junction City**	**18.00**	**337**	P	**Pn**	**20 53 34.3**	**+1.9**
	baz=153						
351A	**Pinckard**	**18.01**	**17**	P	**Pn**	**20 53 34.7**	**+2.3**
	baz=199						
556A	**Lake Butler**	**18.01**	**27**	P	**Pn**	**20 53 33.6**	**+1.2**
	baz=210,SNR=45						
453A	**Whigham**	**18.02**	**21**	*e*P	**Pn**	**20 53 34.0**	**+1.4**
	comp=Z,474nm,1.3s						
453A	**Whigham**	**18.02**	**21**	P	**Pn**	**20 53 35.0**	**+2.5**
	baz=203,SNR=16						
658A	**Bunnell**	**18.05**	**30**	*e*P	**Pn**	**20 53 33.9**	**+0.9**
	comp=Z,188nm,0.9s						
658A	**Bunnell**	**18.05**	**30**	P	**Pn**	**20 53 33.7**	**+0.8**
	baz=214,SNR=10.0						
YOTC	**Yotoco, Valle**	**18.09**	**122**	*e*P	**Pn**	**20 53 35.3**	**+1.6**
YOTC	**Yotoco, Valle**	**18.09**	**122**	*e*P	**Pn**	**20 53 35.3**	**+1.6**
VBMS	**Vicksburg**	**18.11**	**3**	*e*P	**Pn**	**20 53 35.5**	**+2.0**
	comp=Z,208nm,1.0s						
VBMS	**Vicksburg**	**18.11**	**3**	P	**Pn**	**20 53 35.3**	**+1.7**
	baz=183						
454A	**Quitman**	**18.14**	**23**	P	**Pn**	**20 53 36.2**	**+2.2**
	baz=205,SNR=33						
249A	**Camden**	**18.31**	**12**	P	**Pn**	**20 53 37.7**	**+1.7**
	baz=194,SNR=9.8						
557A	**Orange Park**	**18.33**	**28**	P	**Pn**	**20 53 36.8**	**+0.5**
	baz=212						
455A	**Stateville**	**18.40**	**24**	P	**Pn**	**20 53 38.3**	**+1.2**
	baz=207,SNR=9.8						
352A	**Blakely**	**18.40**	**18**	*e*P	**Pn**	**20 53 37.7**	**+0.5**
	comp=Z,338nm,1.1s						
352A	**Blakely**	**18.40**	**18**	P	**Pn**	**20 53 38.3**	**+1.1**
	baz=200,SNR=17						
PTBC	**PUERTO BERRIO,**	**18.46**	**112**	*e*P	**P**	**20 53 34.6**	**-2.8**
PTBC	**PUERTO BERRIO,**	**18.46**	**112**	*e*P	**P**	**20 53 34.6**	**-2.8**
250A	**Grady**	**18.50**	**14**	*e*P	**Pn**	**20 53 39.2**	**+0.8**
	comp=Z,144nm,1.1s						
250A	**Grady**	**18.50**	**14**	P	**Pn**	**20 53 39.8**	**+1.4**
	baz=196,SNR=9.9						
353A	**Camilla**	**18.51**	**20**	P	**Pn**	**20 53 39.5**	**+1.0**
	baz=203,SNR=16						
NORC	**Norcasia**	**18.53**	**115**	*e*P	**P**	**20 53 38.0**	**-0.2**
NORC	**Norcasia**	**18.53**	**115**	*e*P	**P**	**20 53 38.0**	**-0.2**
WHTX	**Lake Whitney,**	**18.64**	**344**	*e*P	**Pn**	**20 53 40.6**	**+0.7**
	comp=Z,53nm,0.8s						
WHTX	**Lake Whitney,**	**18.64**	**344**	P	**Pn**	**20 53 42.1**	**+2.1**
	baz=162						
POPC	**Popayan, Colom**	**18.68**	**126**	*e*P	**Pn**	**20 53 42.0**	**+1.0**
POPC	**Popayan, Colom**	**18.68**	**126**	*e*P	**Pn**	**20 53 42.0**	**+1.0**
147A	**Livingston**	**18.79**	**9**	*e*P	**Pn**	**20 53 41.4**	**-0.4**
	comp=Z,336nm,1.1s						
147A	**Livingston**	**18.79**	**9**	P	**Pn**	**20 53 43.1**	**+1.3**
	baz=190,SNR=18						
456A	**Hilliard**	**18.80**	**26**	*e*P	**Pn**	**20 53 41.9**	**-0.1**
	comp=Z,150nm,0.8s						
456A	**Hilliard**	**18.80**	**26**	P	**Pn**	**20 53 42.2**	**+0.2**
	baz=210						
TIGA	**Tifton**	**18.81**	**22**	*e*P	**Pn**	**20 53 42.8**	**+0.7**
	comp=Z,1μm,1.9s						
TIGA	**Tifton**	**18.81**	**22**	P	**Pn**	**20 53 42.8**	**+0.7**
	baz=204,SNR=13						
251A	**Midway**	**18.84**	**17**	P	**Pn**	**20 53 43.1**	**+0.7**
	baz=198						
LTX	**Lajitas**	**18.85**	**326**	*e*PcP	**PcP**	**20 58 07.4**	**+0.7**
TXAR	**Lajitas Array**	**18.85**	**326**	*e*P	**Pn**	**20 53 44.7**	**+2.0**
TXAR				*e*PcP	**PcP**	**20 58 07.7**	**+0.9**
TXAR				*e*ScP	**ScP**	**21 01 43.0**	**+4.9**
TXAR	**Lajitas Array**	**18.85**	**326**	*e*P	**Pn**	**20 53 44.7**	**+2.0**
TXAR	**Lajitas Array**	**18.85**	**326**	P	**Pn**	**20 53 45.2**	**+2.5**
	comp=Z,0.7nm,0.3s,baz=154,slow=12,SNR=40						
TXAR				PcP	**PcP**	**20 58 07.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=158,slow=2.4,SNR=8.2						
TXAR				ScP	**ScP**	**21 01 41.1**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=134,slow=3.9,SNR=17						
TX31	**Lajitas Ar. Si**	**18.86**	**326**	*e*P	**Pn**	**20 53 44.7**	**+2.0**
	comp=Z,39nm,1.3s						
TX31				*e*PcP	**PcP**	**20 58 09.2**	**+2.4**
TX31				*e*ScP	**ScP**	**21 01 42.8**	**+4.8**
148A	**Greensboro**	**18.88**	**11**	P	**Pn

RUSC	La Rusia	19.97	112	eP	P	20 53 55.2	+0.8
RUSC	La Rusia	19.97	112	eP	P	20 53 55.2	+0.8
154A	Montrose	20.05	21	eP	Pn	20 53 56.0	-0.8
	comp=Z,454nm,0.9s						
154A	Montrose	20.05	21	P	P	20 53 55.6	+1.0
	baz=204						
Z51A	Franklin	20.05	16	P	Pn	20 53 56.3	-0.5
	baz=198						
FLOC	Florencia	20.07	127	eP	Pn	20 53 57.9	+0.6
FLOC	Florencia	20.07	127	eP	Pn	20 53 57.9	+0.6
SDDR	Presa de Saban	20.10	73	eP	P	20 53 54.3	-1.1
	comp=Z,57nm,1.1s						
Z52A	Williamson	20.15	18	P	Pn	20 53 57.2	-0.7
	baz=200,SNR=22						
Y48A	Jasper	20.18	11	P	Pn	20 53 57.9	-0.4
	baz=192						
VILC	Villavicencio,	20.26	118	eP	Pn	20 54 00.6	+1.0
VILC	Villavicencio,	20.26	118	eP	Pn	20 54 00.6	+1.0
LPIG	La Paz	20.27	302	P	Pn	20 54 01.0	+1.6
	comp=Z,26nm,0.3s,baz=127,slow=7.2,SNR=4.1						
Y49A	Blount Mountai	20.28	13	eP	P	20 53 58.0	+1.0
	comp=Z,107nm,1.1s						
Y49A	Blount Mountai	20.28	13	P	Pn	20 53 58.9	-0.6
	baz=194,SNR=12						
155A	Kite	20.29	23	P	P	20 53 58.4	+1.2
	baz=206,SNR=36						
257A	Skidaway Islan	20.31	27	eP	P	20 53 57.0	-0.4
	comp=Z,258nm,0.9s						
257A	Skidaway Islan	20.31	27	P	P	20 53 57.7	+0.3
	baz=210						
X40A	Basin Creek Fa	20.37	357	eP	P	20 53 58.8	+0.7
	comp=Z,153nm,1.5s						
X40A	Basin Creek Fa	20.37	357	P	Pn	20 54 00.8	+0.2
	baz=176,SNR=6.9						
X43A	Marvell	20.39	2	eP	P	20 53 58.4	+0.2
	comp=Z,259nm,1.1s						
X43A	Marvell	20.39	2	P	Pn	20 54 00.8	+0.1
	baz=182						
Y50A	Piedmont	20.46	14	P	Pn	20 54 00.8	-0.8
	baz=196						
OXF	Oxford	20.47	5	eP	P	20 53 59.6	+0.5
	comp=Z,263nm,1.0s						
MIAR	Mount Ida	20.48	355	eP	P	20 53 59.0	-0.2
	comp=Z,309nm,1.3s						
MIAR	Mount Ida	20.48	355	eP	P	20 53 59.0	-0.2
MIAR				pmax	pmax		
	comp=Z,309nm,1.3s						
MIAR	Mount Ida	20.48	355	P	Pn	20 54 02.1	+0.3
	baz=174,SNR=18						
Z53A	Monticello	20.50	20	P	Pn	20 54 01.0	-1.1
	baz=202,SNR=24						
X46A	Booneville	20.60	7	P	Pn	20 54 03.6	+0.3
	baz=188						
Y51A	Rockmart	20.64	16	P	Pn	20 54 02.5	-1.2
	baz=198,SNR=21						
UALR	University of	20.64	358	eP	P	20 54 02.0	+1.0
	comp=Z,306nm,1.2s						
GOGA	Godfrey	20.65	20	eP	P	20 54 01.6	+0.5
	comp=Z,175nm,1.4s						
GOGA				eScP	ScP	21 01 43.0	+1.1
GOGA	Godfrey	20.65	20	eP	P	20 54 01.6	+0.5
GOGA				pmax	pmax		
	comp=Z,175nm,1.4s						
GOGA	Godfrey	20.65	20	P	P	20 54 02.3	+1.2
	baz=202,SNR=17						
X47A	Russelville	20.66	9	P	P	20 54 02.4	+1.2
	baz=190						
156A	Sylvania	20.70	25	P	P	20 54 02.0	+0.4
	baz=208,SNR=7.9						
Z54A	Sparta	20.70	21	P	P	20 54 02.6	+0.9
	baz=204,SNR=30						
X37A	Clayton	20.73	351	eP	P	20 54 03.2	+1.3
	comp=Z,238nm,1.1s						
X48A	Hartselle	20.73	11	eP	P	20 54 02.1	+0.2
	comp=Z,260nm,0.9s						
X48A				eScP	ScP	21 01 44.5	+2.4
X48A	Hartselle	20.73	11	P	Pn	20 54 03.4	-1.4
	baz=192,SNR=12						
GRTK	Grand Turk	20.86	66	eP	P	20 54 02.7	-0.8
	comp=Z,550nm,1.4s						
Y52A	Lilburn	20.88	18	eP	P	20 54 04.2	+0.5
	comp=Z,102nm,0.9s						
Y52A	Lilburn	20.88	18	P	Pn	20 54 05.2	-1.4
	baz=200,SNR=19						
157A	Early Branch	20.92	26	P	P	20 54 04.7	+0.6
	baz=210						
X49A	Woodville	20.93	12	P	Pn	20 54 06.1	-1.0
	baz=194,SNR=14						
Z55A	Blythe	20.95	23	P	P	20 54 04.9	+0.6
	baz=206						
Y53A	Monroe	21.02	19	P	P	20 54 06.2	+1.1
	baz=202,SNR=23						
X50B	Fort Payne	21.03	14	P	P	20 54 06.6	+1.4
	baz=196,SNR=30						
W41B	Gary Mavity, V	21.04	359	eP	P	20 54 05.0	-0.3
	comp=Z,226nm,1.2s						
W41B				eScP	ScP	21 01 46.3	+3.5
W41B	Gary Mavity, V	21.04	359	P	P	20 54 07.8	+2.6
	baz=178,SNR=6.4						
PLAL	Pickwick Lake	21.08	8	eP	P	20 54 05.8	0.0
	comp=Z,82nm,1.0s						
PLAL				eScP	ScP	21 01 45.1	+2.1
W39A	Magazine	21.14	355	eP	P	20 54 08.2	+1.9
	comp=Z,89nm,1.1s						
W39A	Magazine	21.14	355	P	P	20 54 08.6	+2.3
	baz=174,SNR=7.0						
WHAR	Wooly Hollow	21.15	358	eP	P	20 54 07.3	+0.8
	comp=Z,235nm,1.4s						
W46A	Michie	21.19	7	P	P	20 54 06.6	-0.3
	baz=188						
SDV	Santo Domingo	21.20	102	eP	P	20 54 04.7	-2.7
	comp=Z,59nm,1.1s						
SDV				eScP	ScP	21 01 45.1	+1.3
SDV	Santo Domingo	21.20	102	P	P	20 54 05.1	-2.2
	comp=Z,28nm,0.7s,baz=288,slow=5.7,SNR=22						
SDV				ScP	ScP	21 01 45.5	+1.6
	comp=Z,7.2nm,0.7s,baz=281,slow=3.2,SNR=8.6						
SDV				LR	LR	21 02 28.3	
	comp=Z,719nm,19.1s,baz=275,slow=38						
SDV	Santo Domingo	21.20	102	eP	P	20 54 05.6	-1.8
CLNB	Carlsbad	21.31	330	eP	P	20 54 10.6	+2.3
X51A	Calhoun	21.32	16	eP	P	20 54 09.6	+1.3
	comp=Z,239nm,1.2s						
X51A	Calhoun	21.32	16	P	P	20 54 09.3	+1.0
	baz=198,SNR=17						
158A	Hollywood	21.32	27	P	P	20 54 08.7	+0.4
	baz=212						
Y54A	Tignall	21.32	21	P	P	20 54 09.0	+0.6
	baz=204,SNR=18						
Z56A	Williston	21.33	24	eP	P	20 54 08.6	+0.1
	comp=Z,149nm,1.0s						
Z56A	Williston	21.33	24	P	P	20 54 09.2	+0.8
	baz=208						
W47A	Westpoint	21.42	9	P	P	20 54 09.4	0.0
	baz=190						
W48A	Pulaski	21.42	11	P	P	20 54 08.8	-0.5
	baz=192						
HBAR	Harrisburg	21.43	2	eP	P	20 54 07.4	-2.0
	comp=Z,99nm,0.5s						
HBAR				eScP	ScP	21 01 46.9	+3.1
RGRS	Roger Stewart	21.47	27	eP	P	20 54 08.7	-1.2
	comp=Z,811nm,0.9s						
GDL2	Guadalupe Moun	21.49	329	eP	P	20 54 12.5	+2.2
W49A	Belvidere	21.52	12	P	P	20 54 11.7	+1.3
	baz=194						
Z57A	Bowman	21.58	26	P	P	20 54 12.2	+1.1
	baz=210						
WMOK	Wichita Mounta	21.59	344	eP	P	20 54 11.8	+0.6
	comp=Z,43nm,1.0s						
WMOK				eScP	ScP	21 01 47.2	+3.0
WMOK	Wichita Mounta	21.59	344	eP	P	20 54 11.8	+0.6
WMOK				pmax	pmax		
	comp=Z,43nm,1.0s						
WMOK	Wichita Mounta	21.59	344	P	P	20 54 12.1	+1.0
	baz=161,SNR=13						
CSU	Charleston Sou	21.59	27	eP	P	20 54 12.0	+0.9
MNTX	Cornudas Mount	21.62	327	eP	P	20 54 12.2	+0.6
	comp=Z,51nm,1.0s						
MNTX				eScP	ScP	21 01 48.1	+3.7
MNTX	Cornudas Mount	21.62	327	P	P	20 54 12.6	+1.0
	baz=141,SNR=74						
X52A	Dahlonega	21.62	18	P	P	20 54 12.7	+1.1
	baz=200,SNR=22						
NHSC	New Hope	21.64	27	eP	P	20 54 12.5	+0.7
	comp=Z,244nm,1.1s						
NHSC	New Hope	21.64	27	P	P	20 54 12.3	+0.6
	baz=211						
SWET	Sewanee	21.69	13	eP	P	20 54 12.4	+0.1
	comp=Z,66nm,1.0s						
Y55A	Saluda	21.69	22	P	P	20 54 12.4	+0.2
	baz=206,SNR=15						
X53A	Estanollee	21.71	19	P	P	20 54 13.2	+0.8
	baz=202,SNR=11						
HODGE	Hodges	21.81	21	eP	P	20 54 12.7	-0.8
	comp=Z,352nm,1.8s						
W50A	Signal Mountai	21.81	14	eP	P	20 54 13.8	+0.2
	comp=Z,131nm,1.0s						
W50A	Signal Mountai	21.81	14	P	P	20 54 14.4	+0.8
	baz=196						
HALT	Halls	21.86	5	eP	P	20 54 13.3	-0.7
	comp=Z,218nm,1.2s						
GNAR	Gosnell	21.87	4	eP	P	20 54 12.6	-1.5
	comp=Z,291nm,1.4s						
V46A	Holladay	21.88	8	P	P	20 54 14.2	-0.1
	baz=189						
W51A	Cleveland	21.91	15	P	P	20 54 14.0	-0.6
	baz=198,SNR=11						
CPRX	Cap Rock	21.94	332	eP	P	20 54 16.5	+1.5
V47A	Nunnelly	21.99	9	P	P	20 54 15.4	-0.1
	baz=190						
Z58A	St. Stephen	22.00	27	P	P	20 54 15.8	+0.3
	baz=212,SNR=6.1						
V48A	Smith Brothers	22.02	10	eP	P	20 54 15.5	-0.3
	comp=Z,47nm,0.9s						
V48A	Smith Brothers	22.02	10	P	P	20 54 15.4	-0.3
	baz=192						
X54A	Belton	22.05	21	P	P	20 54 15.8	-0.3
	baz=204						
W52A	Murphy	22.07	17	eP	P	20 54 17.6	+1.3
	comp=Z,59nm,0.8s						
W52A	Murphy	22.07	17	P	P	20 54 16.7	+0.3
	baz=200,SNR=8.1						
TUL1	Leonard	22.08	351	eP	P	20 54 17.0	+0.6
	comp=Z,92nm,1.1s						
TUL1	Leonard	22.08	351	P	P	20 54 17.7	+1.3
	baz=169						
OK024	West corner E0	22.12	348	eP	P	20 54 17.3	+0.4
	comp=Z,49nm,0.8s						
OK023	East Waterloo	22.15	348	eP	P	20 54 17.2	+0.1
	comp=Z,85nm,1.1s						
Z59A	Georgetown, SC	22.16	28	P	P	20 54 17.7	+0.4
	baz=213						
U41A	Viola	22.20	359	P	P	20 54 17.4	-0.3
	baz=179,SNR=11						
JSC	Jenkinsville	22.22	23	eP	P	20 54 18.1	+0.2
	comp=Z,48nm,0.9s						
GLAT	Glass	22.22	5	eP	P	20 54 16.3	-1.6
	comp=Z,228nm,1.0s						
V49A	McMinnville	22.22	12	P	P	20 54 18.2	+0.2
	baz=194						
HHAR	Hobbs	22.23	355	eP	P	20 54 18.1	0.0
	comp=Z,36nm,1.0s						
HHAR				eScP	ScP	21 01 47.9	+2.0
U40A	Yellville	22.24	357	P	P	20 54 19.2	+1.1
	baz=176,SNR=13						
CPCT	Cooper Cave	22.24	15	eP	P	20 54 18.0	-0.2
	comp=Z,116nm,1.2s						
WVT	Waverly	22.25	8	eP	P	20 54 17.8	-0.4
	comp=Z,56nm,1.1s						
WVT				eScP	ScP	21 01 46.2	+0.4
WVT	Waverly	22.25	8	eP	P	20 54 17.8	-0.4
WVT				pmax	pmax		
	comp=Z,56nm,1.1s						
WVT	Waverly	22.25	8	P	P	20 54 18.4	+0.2
	baz=189						
X55A	Gracelyn & Ava	22.25	22	P	P	20 54 17.8	-0.5
	baz=206,SNR=9.1						
MSTX	Muleshoe	22.26	335	eP	P	20 54 18.8	+0.3
	comp=Z,57nm,1.0s						
MSTX	Muleshoe	22.26	335	P	P	20 54 19.2	+0.7
	baz=150						
BG3	Lake Jocassee	22.28	19	eP	P	20 54 18.8	+0.2
	comp=Z,75nm,0.8s						
BG3				eScP	ScP	21 01 47.3	+1.3
V50A	Pikevile	22.31	14	P	P	20 54 19.0	+0.1
	baz=196						
Y57A	Sumter	22.33	25	eP	P	20 54 18.8	-0.3
	comp=Z,139nm,1.3s						
Y57A	Sumter	22.33	25	P	P	20 54 19.1	-0.1
	baz=209						
W53A	Cullowhee	22.37	18	P	P	20 54 20.4	+0.8
	baz=202,SNR=6.2						
U46A	Springville	22.43	7	P	P	20 54 20.8	+0.6
	baz=188						
CLTN	Cedars of Leba	22.45	11	eP	P	20 54 20.4	-0.1
	comp=Z,48nm,1.0s						
X56A	White Oak	22.49	23	P	P	20 54 21.1	+0.2
	baz=207,SNR=8.8						
PAULI	Pauline	22.50	21	eP	P	20 54 21.1	+0.2
	comp=Z,360nm,1.7s						
Y58A	Scranton	22.55	27	eP	P	20 54 20.4	-1.1
	comp=Z,283nm,1.6s						
Y58A	Scranton	22.55	27	P	P	20 54 21.6	+0.2
	baz=211						
PARMO	Parma	22.58	4	eP	P	20 54 20.7	-1.1
	comp=Z,249nm,0.8s						
W54A	Cherokee Point	22.61	20	P	P	20 54 23.1	+1.0
	baz=204,SNR=11						
V51A	Loudon	22.62	16	eP	P	20 54 22.9	+0.6
	comp=Z,92nm,0.9s						
V51A	Loudon	22.62	16	P	P	20 54 23.0	+0.7
	baz=198						
U47A	Clarksville	22.63	9	P	P	20 54 21.6	-0.7
	baz=191						
AMTX	Amarillo	22.64	338	eP	P	20 54 22.4	-0.1
	comp=Z,48nm,0.8s						
AMTX				eScP	ScP	21 01 50.0	+2.9
AMTX	Amarillo	22.64	338	P	P	20 54 23.1	+0.5
	baz=154						
PBMO	Poplar Bluff	22.66	2	eP	P	20 54 21.5	-1.0
	comp=Z,79nm,0.8s						
PBMO				eScP	ScP	21 01 48.7	+1.8
U48A	Cassie Pea, Po	22.82	11	P	P	20 54 23.7	-0.7
	baz=192						
V52A	Sevierville	22.86	17	eP	P	20 54 24.4	-0.4
	comp=Z,75nm,1.0s						
V52A	Sevierville	22.86	17	P	P	20 54 25.4	+0.6
	baz=200,SNR=12						
V53A	Saluda	22.94	19	eP	P	20 54 26.1	+0.5
	comp=Z,107nm,0.9s						
V53A	Saluda	22.94	19	P	P	20 54 26.2	+0.6
	baz=202,SNR=16						
KMSC	Kings Mountain	22.96	22	eP	P	20 54 25.9	+0.2
	comp=Z,152nm,1.0s						
KMSC	Kings Mountain	22.96	22	P	P	20 54 25.6	-0.1
	baz=206,SNR=8.7						
U49A	Red Boiling Sp	22.97	12	P	P	20 54 25.6	-0.3
	baz=194,SNR=5.9						
T45A	Paducah	23.03	6	P	P	20 54 26.3	-0.1
	baz=187						
U50A	Jamestown	23.08	14	P	P	20 54 27.0	0.0
	baz=197						
T46A	Princeton	23.14	8	P	P	20 54 27.2	-0.2
	baz=189,SNR=8.7						
T47A	Sharon Grove	23.19	9	eP	P	20 54 27.5	-0.5
	comp=Z,105nm,0.9s						
T47A	Sharon Grove	23.19	9	P	P	20 54 27.7	-0.4
	baz=191,SNR=8.2						
W56A	Indian Trail	23.23	23	P	P	20 54 28.3	-0.1
	baz=208,SNR=10						
X58A	Rowland	23.24	26	eP	P	20 54 26.7	-1.8
	comp=Z,60nm,0.9s						
X58A	Rowland	23.24	26	P	P	20 54 27.4	-1.1
	baz=211						
U51A	La Follette	23.25	16	P	P	20 54 29.0	+0.3
	baz=199,SNR=8.5						
HSIG		23.29	313	eP	P	20 54 30.5	+1.4
	comp=Z,29nm,1.0s						
Y60A	Bolivia	23.29	29	P	P	20 54 28.2	-0.8
	baz=214						
V54A	Nebo	23.32	20	P	P	20 54 29.8	+0.5
	baz=204,SNR=13						
T48A	Bowling Green	23.43	11	P	P	20 54 29.4	-0.9
	baz=192						
S41A	Jillco Farms,	23.44	360	P	P	20 54 29.7	-0.7
	baz=179,SNR=21						
U52A	Thorn Hill	23.44	17	P	P	20 54 30.1	-0.4
	baz=200,SNR=7.4						
W57A	Gilead	23.48	25	eP	P	20 54 30.3	-0.5
	comp=Z,47nm,0.8s						
W57A	Gilead	23.48	25	P	P	20 54 30.3	-0.5
	baz=209						
TZTN	Tazewell	23.54	16	eP	P	20 54 31.6	+0.2
	comp=Z,104nm,1.1s						
TZTN	Tazewell	23.54	16	P	P	20 54 31.4	+0.1
	baz=200,SNR=8.4						
121A	Cookes Peak, D	23.58	324	P	P	20 54 33.4	+1.4
	baz=137,SNR=23						
X59A	McDuffie Farm,	23.58	28	P	P	20 54 30.1	-1.6
	baz=213						
T49A	Edmonton	23.59	12	eP	P	20 54 31.2	-0.6
	comp=Z,82nm,1.2s						
T49A	Edmonton	23.59	12	P	P	20 54 31.8	0.0
	baz=194						
V55A	Taylorsville	23.64	21	P	P	20 54 32.2	0.0
	baz=206,SNR=6.8						
S44A	Carbondale	23.64	5	P	P	20 54 31.5	-0.7
	baz=185,SNR=6.4						
U53A	Fall Branch	23.65	18	P	P	20 54 32.5	+0.1
	baz=202,SNR=26						
319A	Douglas	23.66	320	eP	P	20 54 34.2	+1.6
	comp=Z,88nm,1.1s						
T50A	Nancy	23.66	14	P	P	20 54 31.9	-0.6
	baz=196						
SIUC	Southern Illin	23.66	5	eP	P	20 54 30.5	-1.9
	comp=Z,221nm,1.1s						
W58A	Raeford	23.68	26	P	P	20 54 32.3	-0.4
	baz=211						
S45A	Carrier Mills	23.68	6	P	P	20 54 31.8	-0.9
	baz=187						
S46A	Don Dixon Farm	23.79	8	P	P	20 54 33.2	-0.5
	baz=189						
S47A	Hartford	23.82	9	P	P	20 54 32.4	-1.5
	baz=191						
T51A	Gray	23.83	15	P	P	20 54 33.1	-0.9
	baz=198						
FVM	French Village	23.86	2	eP	P	20 54 32.8	-1.5
	comp=Z,167nm,2.0s						
FVM	French Village	23.86	2	eP	P	20 54 32.8	-1.5
FVM				pmax	pmax		
	comp=Z,167nm,2.0s						
V56A	Mocksville	23.86	23	eP	P	20 54 34.4	+0.1
	comp=Z,118nm,1.2s						
V56A	Mocksville	23.86	23	P	P	20 54 34.1	-0.2
	baz=207,SNR=8.4						
X60A	Albert Glenn T	23.87	29	P	P	20 54 33.6	-0.8
	baz=214,SNR=5.9						
CCM	Cathedral Cave	23.91	1	eP	P	20 54 33.3	-1.4
	comp=Z,88nm,1.0s						
CCM	Cathedral Cave	23.91	1	eP	P	20 54 33.3	-1.4
CCM				pmax	pmax		
	comp=Z,88nm,1.0s						
CCM	Cathedral Cave	23.91	1	P	P	20 54 33.6	-1.1
	baz=181						
S48A	Wiedeman Farm,	24.02	11	P	P	20 54 34.7	-1.1
	baz=193						
U54A	Nelsons Funny	24.03	20	eP	P	20 54 36.2	+0.2
	comp=Z,193nm,0.9s						
U54A	Nelsons Funny	24.03	20	P	P	20 54 36.0	0.0
	baz=204,SNR=14						
USIN	University of	24.07	8	eP	P	20 54 36.7	+0.5
	comp=Z,179nm,0.9s						
R41A	Rosebud	24.15	0	P	P	20 54 36.0	-0.9
	baz=180,SNR=27						
W59A	Clinton	24.15	27	P	P	20 54 35.9	-1.1
	baz=212						
BNM	Barren Site	24.19	328	eP	P	20 54 39.6	+2.0
BNM				eScP	ScP	21 01 54.7	+3.3
V57A	Coltrane Farms	24.21	24	P	P	20 54 36.9	-0.6
	baz=209,SNR=15						
T52A	Hallie	24.22	17	eP	P	20 54 37.2	-0.4
	comp=Z,86nm,1.1s						
T52A	Hallie	24.22	17	P	P	20 54 37.5	-0.1
	baz=200,SNR=7.1						
T53A	Wise	24.23	18	P	P	20 54 37.6	-0.2
	baz=202						
Y22D	IRIS PASSCAL I	24.28	328	P	P	20 54 39.4	+1.1
	baz=141						
U55A	TA2, Sparta	24.28	21	P	P	20 54 38.0	-0.2
	baz=205,SNR=18						
S49A	Springfield	24.30	12	P	P	20 54 37.9	-0.4
	baz=195						
LPM	Los Pinos Moun	24.32	329	eP	P	20 54 38.7	0.0
R45A	Skylar, Fairfi	24.32	6	P	P	20 54 38.5	0.0
	baz=188						
R46A	Gibon Southern	24.34	8	P	P	20 54 39.6	+1.0
	baz=189						
LENM	Lemitar	24.38	328	eP	P	20 54 41.1	+1.8
U56A	King	24.38	22	P	P	20 54 39.3	+0.2
	baz=207						
W60A	Pink Hill	24.39	29	P	P	20 54 38.2	-0.9
	baz=214,SNR=6.0						
S50A	Richmond	24.39	14	P	P	20 54 38.9	-0.2
	baz=197						
V58A	Windy Hill, Pi	24.39	25	P	P	20 54 38.3	-0.9
	baz=210,SNR=17						
CNNC	Cliffs of the	24.46	28	eP	P	20 54 39.1	-0.6
	comp=Z,95nm,0.5s						
CNNC	Cliffs of the	24.46	28	P	P	20 54 38.6	-1.1
	baz=213,SNR=6.8						
SLM	Saint Louis	24.52	3	eP	P	20 54 39.5	-0.7
	comp=Z,101nm,0.8s						
SLM	Saint Louis	24.52	3	eP	P	20 54 39.5	-0.7
SLM				pmax	pmax		
	comp=Z,101nm,0.8s						
WCI	Wyandotte Cave	24.54	10	eP	P	20 54 39.5	-1.0
	comp=Z,83nm,0.8s						
WCI	Wyandotte Cave	24.54	10	eP	P	20 54 39.5	-1.0
WCI				pmax	pmax		
	comp=Z,83nm,0.8s						
WCI	Wyandotte Cave	24.54	10	P	P	20 54 40.2	-0.3
	baz=192						
S51A	Beattyville	24.55	15	eP	P	20 54 39.9	-0.7
	comp=Z,42nm,0.9s						
S51A	Beattyville	24.55	15	P	P	20 54 40.0	-0.7
	baz=199						
R47A	Wooly Knot Far	24.57	10	P	P	20 54 40.8	+0.1
	baz=192,SNR=9.1						
T54A	Tazewell	24.61	20	P	P	20 54 40.7	-0.5
	baz=204,SNR=9.2						
LAZ	Ladron	24.65	328	eP	P	20 54 44.2	+2.5
S52A	Salyersville	24.73	16	P	P	20 54 40.8	-1.4
	baz=200						
ANMO	Albuquerque	24.73	330	eP	P	20 54 44.8	+2.3
	comp=Z,39nm,1.7s						
ANMO				eScP	ScP	21 01 56.0	+3.2
ANMO	Albuquerque	24.73	330	eP	P	20 54 44.8	+2.3
ANMO				pmax	pmax		
	comp=Z,39nm,1.7s						
ANMO	Albuquerque	24.73	330	P	P	20 54 43.5	+1.0
	baz=143						
ANMO	Albuquerque	24.73	330	P	P	20 54 44.8	+2.3
	comp=Z,7.3nm,0.6s,baz=144,slow=12,SNR=28						
ANMO				ScP	ScP	21 01 55.7	+2.9
	comp=Z,7.8nm,1.0s,baz=174,slow=5.7,SNR=7.5						
TASM	ASL Pad, Albuq	24.74	330	P	P	20 54 43.4	+0.9
	baz=143,SNR=16						
TASM	ASL Pad, Albuq	24.74	330	P	P	20 54 42.9	+0.3
	baz=143,SNR=16						
V59A	Middlesex	24.74	27	P	P	20 54 41.1	-1.2
	baz=212,SNR=12						
Q42A	Golden Eagle	24.78	2	P	P	20 54 42.6	-0.1
	baz=182,SNR=12						
OLIL	Olney	24.78	7	eP	P	20 54 42.8	+0.1
	comp=Z,96nm,0.9s						
OLIL				eScP	ScP	21 01 54.0	+1.4
R48A	Northridge Ran	24.78	11	P	P	20 54 41.9	-0.8
	baz=193						
SJG	San Juan	24.80	77	LR	LR	21 04 42.5	
	comp=Z,892nm,20.6s,baz=266,slow=38						
R49A	Shelbyville	24.81	12	P	P	20 54 42.7	-0.2
	baz=195						
ATAH	Atahualpa	24.81	147	P	P	20 54 44.9	+1.3
	comp=Z,35nm,1.0s,baz=347,slow=5.3,SNR=21						
W61A	Ground Anchor	24.83	30	P	P	20 54 40.6	-2.5
	baz=215						
U57A	Blanch	24.86	24	P	P	20 54 42.4	-0.9
	baz=209,SNR=8.4						
T55A	Pulaski	24.92	21	P	P	20 54 43.1	-0.9
	baz=205						
Q45A

BLA	Blacksburg	25.14	21	eP	P	20 54 45.8	-0.2
BLA				pmax	pmax		
	comp=Z,105nm,0.9s						
BLA	Blacksburg	25.14	21	P	P	20 54 45.7	-0.2
	baz=206						
U58A	Oxford	25.14	25	P	P	20 54 45.5	-0.5
	baz=211						
R51A	Hillsboro	25.18	15	P	P	20 54 45.7	-0.6
	baz=198						
Q47A	Bedord North L	25.21	10	P	P	20 54 47.2	+0.7
	baz=192						
TUC	Tucson	25.23	319	eP	P	20 54 48.6	+1.6
	comp=Z,32nm,1.2s						
TUC	Tucson	25.23	319	P	P	20 54 48.4	+1.5
	baz=132						
Q48A	North Vernon	25.32	11	P	P	20 54 48.6	+1.0
	baz=193						
MTP	Monte Pirata	25.36	77	eP	P	20 54 44.7	-3.5
	comp=Z,51nm,1.1s						
T57A	Hurt	25.38	24	eP	P	20 54 48.3	+0.2
	comp=Z,76nm,1.1s						
T57A	Hurt	25.38	24	P	P	20 54 48.0	-0.1
	baz=209,SNR=5.3						
BLO	Bloomington	25.42	9	eP	P	20 54 48.5	0.0
	comp=Z,343nm,2.0s						
BLO	Bloomington	25.42	9	eP	P	20 54 48.5	0.0
BLO				pmax	pmax		
	comp=Z,343nm,2.0s						
U59A	Littleton	25.43	27	eP	P	20 54 48.4	-0.1
	comp=Z,105nm,1.8s						
U59A	Littleton	25.43	27	P	P	20 54 47.2	-1.4
	baz=212						
R52A	Catlettsburg	25.46	17	P	P	20 54 49.3	+0.4
	baz=200						
Q49A	Aurora	25.55	12	P	P	20 54 48.8	-0.8
	baz=195						
P43A	Skaggs, Pawnee	25.56	4	P	P	20 54 49.1	-0.6
	baz=184						
Q50A	Georgetown	25.60	14	P	P	20 54 49.3	-0.8
	baz=197						
P45A	Graceland, Par	25.61	7	eP	P	20 54 49.0	-1.1
	comp=Z,81nm,1.1s						
P45A	Graceland, Par	25.61	7	P	P	20 54 49.9	-0.2
	baz=188						
S55A	Lewisburg	25.61	21	P	P	20 54 49.7	-0.6
	baz=205						
T58A	Grand View Acr	25.62	25	P	P	20 54 50.1	-0.2
	baz=210						
R53A	Hurricane	25.66	18	eP	P	20 54 50.4	-0.2
	comp=Z,30nm,0.9s						
R53A	Hurricane	25.66	18	P	P	20 54 50.2	-0.4
	baz=202,SNR=5.5						
T25A	Trinidad	25.66	336	eP	P	20 54 52.5	+1.5
	comp=Z,26nm,1.0s						
T25A	Trinidad	25.66	336	P	P	20 54 51.9	+1.0
	baz=150,SNR=7.0						
P46A	Rosedale	25.76	8	P	P	20 54 52.1	+0.6
	baz=190						
P47A	Martinsville	25.77	10	P	P	20 54 51.4	-0.3
	baz=192						
U60A	Pendleton	25.81	28	P	P	20 54 51.0	-1.0
	baz=213						
R54A	Victor	25.82	20	P	P	20 54 51.8	-0.3
	baz=204,SNR=5.3						
P48A	Milroy	25.89	11	P	P	20 54 52.8	+0.1
	baz=194						
Q51A	Peebles	25.93	15	eP	P	20 54 52.5	-0.5
	comp=Z,94nm,1.1s						
Q51A	Peebles	25.93	15	P	P	20 54 52.7	-0.3
	baz=198,SNR=5.3						
U61A	Possum Corner	26.02	29	P	P	20 54 51.7	-2.2
	baz=215						
T59A	Double "B" Far	26.05	26	eP	P	20 54 53.8	-0.4
	comp=Z,31nm,0.7s						
T59A	Double "B" Far	26.05	26	P	P	20 54 53.6	-0.6
	baz=212,SNR=13						
P49A	Miami Univ. Ec	26.10	12	P	P	20 54 54.6	-0.1
	baz=195						
O44A	Mansfield	26.15	6	P	P	20 54 55.1	+0.1
	baz=187						
Q52A	Bidwell	26.15	17	P	P	20 54 54.8	-0.3
	baz=201,SNR=6.1						
S57A	Dark Hollow, R	26.16	23	eP	P	20 54 54.5	-0.8
	comp=Z,141nm,1.8s						
S57A	Dark Hollow, R	26.16	23	P	P	20 54 54.3	-0.9
	baz=208						
R55A	Marlinton	26.20	21	eP	P	20 54 55.8	+0.2
	comp=Z,81nm,1.1s						
R55A	Marlinton	26.20	21	P	P	20 54 55.8	+0.2
	baz=206,SNR=5.2						
X18A	Snowflake	26.27	324	eP	P	20 54 58.0	+1.6
	comp=Z,33nm,0.9s						
X18A				eScP	ScP	21 02 01.4	+4.1
Q53A	Leroy	26.27	18	P	P	20 54 55.6	-0.6
	baz=202,SNR=7.0						
O45A	Potomac	26.32	7	P	P	20 54 56.0	-0.6
	baz=188						
214A	Organ Pipe Nat	26.33	316	P	P	20 54 58.6	+1.8
	baz=128,SNR=18						
P50A	Jamestown	26.37	14	P	P	20 54 56.7	-0.3
	baz=197						
S58A	Poland Farm, P	26.39	25	eP	P	20 54 56.9	-0.4
	comp=Z,144nm,1.9s						
S58A	Poland Farm, P	26.39	25	P	P	20 54 56.7	-0.5
	baz=210						
P51A	Williamsport	26.43	15	eP	P	20 54 57.3	-0.3
	comp=Z,90nm,0.8s						
P51A	Williamsport	26.43	15	P	P	20 54 57.6	0.0
	baz=199						
HDIL	Hopedale	26.48	4	eP	P	20 54 57.3	-0.8
	comp=Z,49nm,0.9s						
HDIL	Hopedale	26.48	4	P	P	20 54 57.6	-0.4
	baz=185						
O47A	Sheridan	26.52	9	P	P	20 54 57.4	-1.0
	baz=192						
SFIN	Lafayette	26.52	8	eP	P	20 54 57.9	-0.6
	comp=Z,45nm,0.8s						
SFIN	Lafayette	26.52	8	P	P	20 54 58.2	-0.2
	baz=190						
N41A	Harden Midland	26.56	1	P	P	20 54 58.9	+0.1
	baz=181						
W18A	Petrified Fore	26.58	325	eP	P	20 55 01.6	+2.4
	comp=Z,73nm,1.3s						
W18A	Petrified Fore	26.58	325	P	P	20 55 00.3	+1.1
	baz=138,SNR=8.1						
Q54A	Coxs Mills	26.60	19	eP	P	20 54 59.1	0.0
	comp=Z,47nm,1.0s						
Q54A	Coxs Mills	26.60	19	P	P	20 54 58.9	-0.3
	baz=204,SNR=11						
SDCO	Great Sand Dun	26.63	335	eP	P	20 55 01.6	+1.8
	comp=Z,11nm,1.1s						
SDCO				eScP	ScP	21 02 01.9	+3.6
SDCO	Great Sand Dun	26.63	335	P	P	20 55 00.4	+0.6
	baz=149						
O48A	Farmland	26.71	11	P	P	20 55 00.1	-0.1
	baz=194						
N40A	Mertquake, Sal	26.73	0	P	P	20 54 59.0	-1.3
	baz=180						
R58B	Mineral	26.76	25	eP	P	20 55 00.1	-0.4
	comp=Z,30nm,1.1s						
R58B	Mineral	26.76	25	P	P	20 55 00.4	-0.2
	baz=210						
R57A	Stanardsville	26.80	23	P	P	20 54 59.9	-1.0
	baz=209,SNR=6.3						
O49A	Covington	26.81	12	eP	P	20 55 00.7	-0.3
	comp=Z,34nm,1.0s						
O49A	Covington	26.81	12	P	P	20 55 01.9	+0.9
	baz=196						
N44A	Piper City	26.82	6	P	P	20 55 00.6	-0.4
	baz=187						
P52A	Corning	26.82	16	P	P	20 55 00.5	-0.6
	baz=200						
Q55A	Buckhannon	26.85	20	P	P	20 55 01.6	+0.1
	baz=205						
N43A	Stutzman Famil	26.87	4	P	P	20 55 00.9	-0.6
	baz=185						
P53A	Whipple	26.89	18	eP	P	20 55 01.3	-0.4
	comp=Z,89nm,1.3s						
P53A	Whipple	26.89	18	P	P	20 55 02.1	+0.3
	baz=202						
O50A	Cable	26.93	14	P	P	20 55 01.7	-0.3
	baz=197						
N45A	Kentland	26.93	7	P	P	20 55 02.0	-0.1
	baz=188						
R58A	Rapidan	27.00	24	P	P	20 55 02.4	-0.3
	baz=210						
N46A	Monticello	27.08	8	P	P	20 55 03.7	+0.3
	baz=190						
ACSO	Alum Creek Sta	27.16	15	eP	P	20 55 03.7	-0.5
	comp=Z,310nm,1.9s						
ACSO	Alum Creek Sta	27.16	15	P	P	20 55 03.8	-0.3
	baz=198						
O51A	Pataskala	27.17	15	P	P	20 55 03.6	-0.7
	baz=199						
S22A	4UR Ranch, Cre	27.19	333	eP	P	20 55 05.7	+0.9
	comp=Z,12nm,1.0s						
S22A				ePcP	PcP	20 58 25.3	+1.2
S22A				eScP	ScP	21 02 03.4	+3.3
S22A	4UR Ranch, Cre	27.19	333	P	P	20 55 06.3	+1.4
	baz=146,SNR=7.9						
M41A	Milan	27.24	2	P	P	20 55 04.2	-0.6
	baz=182						
P54A	Burton	27.27	19	P	P	20 55 05.0	-0.3
	baz=204,SNR=7.3						
R59A	King George, V	27.28	26	P	P	20 55 04.6	-0.6
	baz=212						
N48A	Deatur	27.32	11	P	P	20 55 04.7	-0.9
	baz=194						
M39A	Webster	27.33	359	P	P	20 55 05.3	-0.3
	baz=179						
O52A	Adamsville	27.35	16	eP	P	20 55 04.2	-1.6
	comp=Z,48nm,1.1s						
O52A	Adamsville	27.35	16	P	P	20 55 05.2	-0.7
	baz=201						
M43A	Waltham Townsh	27.38	4	P	P	20 55 05.7	-0.4
	baz=185						
P55A	Reedsville	27.40	20	P	P	20 55 05.3	-1.0
	baz=205						
Q57A	Strasburg	27.48	23	P	P	20 55 06.3	-0.8
	baz=208						
MCWV	Mont Chateau	27.53	20	P	P	20 55 06.3	-1.2
	baz=205						
MVCO	Mesa Verde	27.53	330	eP	P	20 55 10.1	+2.2
	comp=Z,20nm,0.9s						
MVCO				eScP	ScP	21 02 04.7	+3.7
MVCO	Mesa Verde	27.53	330	P	P	20 55 08.7	+0.9
	baz=142,SNR=10						
N50A	Nevada	27.63	14	P	P	20 55 09.2	+0.8
	baz=198						
O53A	New Philadelph	27.65	17	P	P	20 55 08.3	-0.2
	baz=202						
Y14A	Wickenburg	27.70	319	eP	P	20 55 11.1	+1.9
	comp=Z,23nm,0.9s						
Y14A				eScP	ScP	21 02 04.6	+3.2
WUAZ	Wupatki	27.79	324	eP	P	20 55 12.3	+2.2
	comp=Z,35nm,1.0s						
WUAZ				eScP	ScP	21 02 06.4	+4.7
WUAZ	Wupatki	27.79	324	P	P	20 55 12.7	+2.7
	baz=135,SNR=5.7						
O54A	Avella	27.84	19	P	P	20 55 09.7	-0.5
	baz=204,SNR=5.8						
L42A	Oliver, Polo	27.90	3	eP	P	20 55 10.6	-0.2
	comp=Z,66nm,1.2s						
L42A	Oliver, Polo	27.90	3	P	P	20 55 10.2	-0.5
	baz=184						
L40A	Anamosa	27.91	1	eP	P	20 55 10.3	-0.5
	comp=Z,40nm,1.0s						
L40A	Anamosa	27.91	1	P	P	20 55 10.6	-0.2
	baz=181						
L41A	Preston	27.94	2	P	P	20 55 11.0	-0.1
	baz=182						
N51A	Ashland	27.96	15	eP	P	20 55 10.2	-1.1
	comp=Z,166nm,1.8s						
N51A	Ashland	27.96	15	P	P	20 55 10.7	-0.5
	baz=199						
L39A	Vinton	27.97	359	P	P	20 55 11.9	+0.5
	baz=179						
N52A	McGinn's Farm,	28.04	16	P	P	20 55 11.2	-0.8
	baz=200						
O55A	Ligonier	28.21	20	P	P	20 55 12.5	-1.1
	baz=206						
N53A	Lisbon	28.27	17	eP	P	20 55 13.4	-0.7
	comp=Z,52nm,1.0s						
N53A	Lisbon	28.27	17	P	P	20 55 13.8	-0.2
	baz=202						
PV01	Paradox Valley	28.30	331	eP	P	20 55 15.9	+1.2
	comp=Z,18nm,1.2s						
GLA	Glamis	28.34	316	eP	P	20 55 16.3	+1.4
	comp=Z,43nm,1.0s						
GLA				eSS	SS	21 02 08.5	+9.1
GLA	Glamis	28.34	316	eP	P	20 55 16.3	+1.4
GLA				pmax	pmax		
	comp=Z,43nm,1.0s						
GLA	Glamis	28.34	316	P	P	20 55 16.7	+1.8
	baz=126,SNR=5.5						
ISCO	Idaho Springs	28.44	337	P	P	20 55 17.0	+1.1
	baz=150						
PV02	Paradox Valley	28.44	331	eP	P	20 55 16.1	+0.2
	comp=Z,54nm,1.7s						
PV13	Radium Mtn., P	28.44	331	eP	P	20 55 17.6	+1.7
	comp=Z,21nm,0.9s						
PV13				eScP	ScP	21 02 07.2	+3.4
SMCO	Snowmass	28.45	334	eP	P	20 55 17.2	+1.0
	comp=Z,6.3nm,0.9s						
SMCO				eScP	ScP	21 02 08.1	+4.1
K41A	Shullsburg	28.48	2	P	P	20 55 15.9	0.0
	baz=182						
L48A	N Adams	28.48	11	P	P	20 55 14.8	-1.2
	baz=194						
PV05	Paradox Valley	28.51	330	eP	P	20 55 17.9	+1.3
	comp=Z,28nm,1.2s						
O56A	Blue Knob Stat	28.51	21	eP	P	20 55 16.1	-0.2
	comp=Z,58nm,1.4s						
O56A	Blue Knob Stat	28.51	21	P	P	20 55 16.1	-0.2
	baz=207,SNR=5.2						
PV03	Paradox Valley	28.53	331	eP	P	20 55 17.8	+1.1
	comp=Z,64nm,1.8s						
K40A	Colesburg	28.55	1	P	P	20 55 16.0	-0.5
	baz=181						
K39A	Oelwein	28.55	360	P	P	20 55 16.0	-0.5
	baz=179						
PV18	Skein Mesa, Pa	28.55	331	eP	P	20 55 17.2	+0.3
	comp=Z,24nm,1.0s						
PV12	Saucer Basin,	28.56	331	eP	P	20 55 18.6	+1.7
	comp=Z,57nm,1.6s						
PV12				eScP	ScP	21 02 07.5	+3.3
Y12C	Blythe	28.56	317	eP	P	20 55 18.5	+1.7
	comp=Z,35nm,1.4s						
Y12C				eScP	ScP	21 02 08.8	+4.8
Y12C	Blythe	28.56	317	P	P	20 55 18.4	+1.7
	baz=128						
PV11	David Mesa, Pa	28.58	331	eP	P	20 55 18.4	+1.3
	comp=Z,57nm,1.5s						
PV11				eScP	ScP	21 02 07.8	+3.6
PV07	Paradox Valley	28.58	331	eP	P	20 55 18.1	+0.9
	comp=Z,16nm,1.3s						
PV07				eScP	ScP	21 02 07.3	+3.1
PV16	Nyswonger Mesa	28.61	331	eP	P	20 55 19.8	+2.4
	comp=Z,18nm,1.0s						
PV16				eScP	ScP	21 02 07.9	+3.6
PDMCI	Parker Dam,Lak	28.66	319	P	P	20 55 20.0	+2.4
	baz=129,SNR=9.5						
PV20	West Nyswonger	28.66	331	eP	P	20 55 19.2	+1.4
	comp=Z,54nm,1.8s						
PV20				eScP	ScP	21 02 08.1	+3.6
N54A	Moraine State	28.67	19	eP	P	20 55 16.5	-1.1
	comp=Z,62nm,1.3s						
N54A	Moraine State	28.67	19	P	P	20 55 16.6	-1.1
	baz=204,SNR=7.1						
PV04	Paradox Valley	28.67	331	eP	P	20 55 19.7	+1.8
	comp=Z,70nm,1.7s						
K43A	Burlington	28.69	5	P	P	20 55 18.7	+0.9
	baz=186						
K42A	Prairie Point,	28.69	3	P	P	20 55 18.9	+1.1
	baz=184						
PV22	Blue Mesa, Par	28.73	331	eP	P	20 55 20.4	+2.0
	comp=Z,44nm,1.8s						
PV22				eScP	ScP	21 02 08.3	+3.6
P59A	Jarrettsville	28.75	25	P	P	20 55 18.2	-0.1
	baz=212						
L49A	Milan	28.77	12	P	P	20 55 18.5	0.0
	baz=196						
JFWS	Jewell Farm	28.78	2	eP	P	20 55 17.6	-1.0
	comp=Z,24nm,0.6s						
JFWS	Jewell Farm	28.78	2	eP	P	20 55 17.6	-1.0
JFWS				pmax	pmax		
	comp=Z,24nm,0.6s						
JFWS	Jewell Farm	28.78	2	P	P	20 55 19.7	+1.1
	baz=182						
M52A	Chesterland	28.81	16	P	P	20 55 19.1	+0.2
	baz=201						
N55A	Marion Center	28.83	20	eP	P	20 55 17.9	-1.2
	comp=Z,24nm,0.9s						
N55A	Marion Center	28.83	20	P	P	20 55 18.6	-0.5
	baz=206						
PV09	Paradox Valley	28.86	331	eP	P	20 55 21.0	+1.3
PV09				eScP	ScP	21 02 09.2	+4.1
M53A	WI Miller and	28.90	17	P	P	20 55 19.2	-0.5
	baz=202						
SWSC	Sam W. Stewart	28.95	315	P	P	20 55 23.2	+3.0
	baz=125						
U15A	North Rim	28.96	324	eP	P	20 55 23.0	+2.4
	comp=Z,24nm,1.0s						
IKP	In-Ko-Pah, Jac	29.00	314	P	P	20 55 23.2	+2.4
	baz=124						
W13A	Hualapai Mount	29.01	320	eP	P	20 55 23.3	+2.4
	comp=Z,27nm,1.0s						
W13A				ePcP	PcP	20 58 29.3	+0.8
W13A				eScP	ScP	21 02 09.8	+4.1
SSPA	Standing Stone	29.08	22	eP	P	20 55 20.5	-0.8
	comp=Z,86nm,1.8s						
SSPA	Standing Stone	29.08	22	P	P	20 55 21.4	+0.1
	baz=208						
MVL	Millersville	29.12	25	eP	P	20 55 21.6	0.0
	comp=Z,23nm,1.2s						
BC3	Big Chuckawall	29.12	316	P	P	20 55 24.3	+2.4
	baz=126,SNR=24						
IRM	Iron Mountain	29.22	317	P	P	20 55 24.7	+2.0
	baz=127,SNR=13						
J42A	Columbus	29.24	4	P	P	20 55 22.4	-0.3
	baz=185						
J41A	Loganville	29.24	2	P	P	20 55 22.3	-0.4
	baz=183						
P60A	Greenville	29.25	26	P	P	20 55 22.9	+0.1
	baz=213						
M54A	Oil Creek Stat	29.27	19	eP	P	20 55 21.8	-1.1
	comp=Z,30nm,0.9s						
M54A	Oil Creek Stat	29.27	19	P	P	20 55 23.1	+0.2
	baz=204						
MONP2	Monument Peak	29.35	314	P	P	20 55 25.1	+1.0
	baz=124						
BAR	Barrett	29.41	313	eP	P	20 55 24.4	+0.1
	comp=Z,76nm,2.0s						
O59A	Robesonia	29.45	24	P	P	20 55 24.2	-0.4
	baz=211						
M55A	Ridgway	29.52	20	P	P	20 55 24.0	-1.2
	baz=206						
N23A	Red Feather La	29.52	338	P	P	20 55 27.5	+2.0
	baz=151						
BELC	Belle Mtn. Jos	29.69	316	P	P	20 55 28.8	+1.8
	baz=126,SNR=5.4						
I39A	Houston	29.70	0	eP	P	20 55 25.2	-1.5
	comp=Z,14nm,0.8s						
I39A	Houston	29.70	0	P	P	20 55 25.7	-1.0
	baz=180						
ERPA	Erie	29.73	18	P	P	20 55 26.4	-0.6
	baz=203						
NNA	Nana	29.73	150	LR	LR	21 04 43.9	
	comp=Z,506nm,20.9s,baz=334,slow=31						
LDFC	Landfair	29.77	319	eP	P	20 55 31.1	+3.5
	comp=Z,84nm,1.0s						
O60A	Telford	29.77	25	P	P	20 55 27.5	+0.1
	baz=213						
PFO	Pinyon Flats O	29.78	315	eP	P	20 55 29.8	+2.1
	comp=Z,15nm,1.0s						
PFO	Pinyon Flats O	29.78	315	eP	P	20 55 29.8	+2.1
PFO				pmax	pmax		
	comp=Z,15nm,1.0s						
PFO	Pinyon Flats O	29.78	315	P	P	20 55 29.9	+2.1
	baz=125						
PFO	Pinyon Flats O	29.78	315	P	P	20 55 30.8	+3.1
	comp=Z,4.5nm,0.8s,baz=118,slow=11,SNR=5.6						
O20A	White River Ci	29.79	334	eP	P	20 55 28.9	+1.1
	comp=Z,16nm,1.3s						
O20A				eScP	ScP	21 02 10.8	+2.8
O20A	White River Ci	29.79	334	P	P	20 55 29.4	+1.6
	baz=146						
ECSD	EROS Data Cent	29.89	353	P	P	20 55 28.6	+0.2
	baz=170						
GMRC	Granite Mounta	29.94	318	P	P	20 55 31.7	+2.6
	baz=128,SNR=11						
LUPA	Lehigh Univers	30.02	25	eP	P	20 55 29.7	+0.1
	comp=Z,1.6nm,0.6s						
L54A	Sinclairville	30.03	18	P	P	20 55 29.3	-0.4
	baz=204						
N59A	State Game Lan	30.13	24	eP	P	20 55 30.4	-0.2
	comp=Z,14nm,1.1s						
N59A	State Game Lan	30.13	24	P	P	20 55 30.4	-0.2
	baz=212						
I46A	Reed City	30.25	9	P	P	20 55 30.5	-1.1
	baz=192						
L55A	Hinsdale	30.27	20	P	P	20 55 30.8	-1.1
	baz=206						
H40A	Chili	30.48	2	P	P	20 55 33.4	-0.3
	baz=182						
H41A	Junction City	30.51	3	P	P	20 55 33.8	0.0
	baz=184						
H38A	Maiden Rock	30.52	359	P	P	20 55 34.0	-0.1
	baz=178						
J52A	Paris	30.63	16	P	P	20 55 33.9	-1.0
	baz=201						
TYNO	Tyneside	30.66	17	P	P	20 55 34.2	-1.0
	baz=202						
RWWY	Rawlins	30.68	337	eP	P	20 55 36.8	+1.0
	comp=Z,47nm,1.8s						
RWWY				eScP	ScP	21 02 14.0	+3.1
SHPR	Sheep Range	30.71	321	eP	P	20 55 37.8	+1.9
	comp=Z,35nm,1.1s						
SHPR				ePcP	PcP	20 58 33.9	+1.0
SHPR				eScP	ScP	21 02 14.3	+3.3
ODNJ	Ogdensburg	30.75	26	eP	P	20 55 35.4	-0.6
	comp=Z,30nm,1.4s						
K55A	Perry	30.88	20	P	P	20 55 35.8	-1.4
	baz=206						
MMNY	Mt. Morris Dam	30.93	20	eP	P	20 55 36.9	-0.7
	comp=Z,26nm,1.0s						
PAL	Palisades	30.98	27	P	P	20 55 36.9	-1.1
	baz=215						
GSC	Goldstone, Bar	31.00	317	eP	P	20 55 38.7	+0.2
	comp=Z,27nm,1.4s						
GSC				ePcP	PcP	20 58 35.0	+1.5
GSC				eScP	ScP	21 02 15.4	+3.5
GSC	Goldstone, Bar	31.00	317	eP	P	20 55 38.7	+0.2
GSC				e		20 58 35.0	
GSC				pmax	pmax		
	comp=Z,27nm,1.4s						
GSC	Goldstone, Bar	31.00	317	P	P	20 55 37.9	-0.6
	baz=127						
I51A	Listowel	31.01	15	P	P	20 55 37.4	-0.9
	baz=200						
G38A	Ridgeland	31.01	360	P	P	20 55 37.6	-0.8
	baz=179						
CIS	Catalina Islan	31.03	313	P	P	20 55 38.7	+0.1
	baz=122						
ACTO	Acton	31.08	16	P	P	20 55 37.0	-1.9
	baz=202						
SPMN	Marine on St.	31.09	358	eP	P	20 55 37.9	-1.0
	comp=Z,24nm,0.5s						
SPMN	Marine on St.	31.09	358	P	P	20 55 38.5	-0.5
	baz=178						
G39A	Holcombe	31.13	1	P	P	20 55 38.2	-1.1
	baz=181						
G40A	Rib Lake	31.14	2	P	P	20 55 39.2	-0.2
	baz=182						
BINY	Binghamton	31.14	23	eP	P	20 55 38.0	-1.6
	comp=Z,29nm,1.0s						
BINY	Binghamton	31.14	23	P	P	20 55 37.9	-1.6
	baz=210,SNR=6.0						
MWC	Mount Wilson	31.22	315	eP	P	20 55 42.9	+2.3
	comp=Z,96nm,2.0s						
MWC	Mount Wilson	31.22	315	eP	P	20 55 42.9	+2.3
MWC				pmax	pmax		
	comp=Z,96nm,2.0s						
GLMI	Grayling	31.24	10	P	P	20 55 40.5	+0.1
	baz=193						
K22A	Casper	31.26	339	P	P	20 55 40.8	+0.1
	baz=151						
BWLO	Walkerton	31.27	15	P	P	20 55 39.6	-1.0
	baz=200						
J55A	Hilton	31.44	20	P	P	20 55 41.5	-0.5
	baz=206						
EDW2	Edwards Air Fo	31.55	316	P	P	20 55 44.9	+1.7
	baz=124,SNR=5.0						
PKRO	Pickering	31.69	17	P	P	20 55 43.8	-0.4
	baz=203						
DRWO	Darlington Wes	31.70	18	P	P	20 55 44.0	-0.4
	baz=204						
BMRO	Meriville Lake	31.71	14	P	P	20 55 43.4	-1.0
	baz=199						
F42A	Maple Grove Fa	31.74	5	P	P	20 55 44.1	-0.6
	baz=186						
FURC	Furnace Creek,	31.74	319	P	P	20 55 47.2	+2.4
	baz=128,SNR=5.4						

KSCT	Kent School, K	31.75	26	eP	P	20 55 43.8	-1.0
	comp=Z,26nm,1.0s						
F39A	Loretta	31.77	1	P	P	20 55 44.4	-0.5
	baz=181						
RSSD	Black Hills	31.79	343	P	P	20 55 46.6	+1.2
	baz=156						
F40A	Park Falls	31.79	2	P	P	20 55 44.7	-0.5
	baz=182						
F38A	Pierce - Schro	31.80	360	P	P	20 55 44.1	-1.1
	baz=179						
WLVO	Wesleyville	31.85	18	P	P	20 55 44.9	-0.7
	baz=205						
MPMC	Manual Prospec	31.90	318	P	P	20 55 48.8	+2.3
	baz=127,SNR=15						
DUG	Dugway, Tooele	31.98	328	eP	P	20 55 50.0	+2.9
	comp=Z,14nm,1.3s						
DUG				eScP	ScP	21 02 17.9	+2.7
DUG	Dugway, Tooele	31.98	328	eP	P	20 55 50.0	+2.9
DUG				pmax	pmax		
	comp=Z,13nm,1.3s						
DUG	Dugway, Tooele	31.98	328	P	P	20 55 49.4	+2.3
	baz=138						
COWI	Conover	32.01	3	eP	P	20 55 45.5	-1.6
	comp=Z,12nm,0.8s						
DAC	Darwin (Calif)	32.09	318	eP	P	20 55 50.9	+2.7
	comp=Z,26nm,1.0s						
DAC	Darwin (Calif)	32.09	318	eP	P	20 55 50.9	+2.7
DAC				pmax	pmax		
	comp=Z,26nm,1.0s						
R11A	Troy Canyon, C	32.18	323	eP	P	20 55 51.5	+2.6
	comp=Z,31nm,1.1s						
R11A				eScP	ScP	21 02 18.9	+2.9
R11A	Troy Canyon, C	32.18	323	P	P	20 55 51.6	+2.7
	baz=132,SNR=11						
TOBO	Tobermory, Bru	32.23	13	P	P	20 55 48.7	-0.3
	baz=198						
E39A	Mellen	32.23	1	P	P	20 55 48.6	-0.5
	baz=182						
PECO	Prince Edward	32.30	20	P	P	20 55 48.8	-0.9
	baz=207,SNR=5.0						
ISA	Isabella, Lake	32.31	317	eP	P	20 55 52.9	+2.9
ISA				ePcP	PcP	20 58 38.6	+1.5
ISA	Isabella, Lake	32.31	317	eP	P	20 55 52.9	+2.9
ISA				e		20 58 38.6	
ISA				pmax	pmax		
	comp=Z,29nm,1.3s						
ISA	Isabella, Lake	32.31	317	P	P	20 55 52.0	+2.0
	baz=125						
E40A	Wakefield	32.32	2	P	P	20 55 49.3	-0.5
	baz=183						
I55A	Frankford	32.34	19	P	P	20 55 49.7	-0.2
	baz=206						
SADO	Sadowa	32.41	17	eP	P	20 55 49.0	-1.5
	comp=Z,57nm,1.6s						
SADO	Sadowa	32.41	17	P	P	20 55 49.7	-0.8
	comp=Z,6.0nm,0.4s,baz=250,slow=6.3,SNR=10						
E38A	The Farm, Brul	32.45	0	P	P	20 55 50.0	-1.0
	baz=180						
E43A	Lone Tree Farm	32.45	6	P	P	20 55 50.4	-0.5
	baz=188						
HWUT	Hardware Ranch	32.46	332	eP	P	20 55 52.7	+1.4
	comp=Z,6.9nm,0.8s						
HWUT				ePcP	PcP	20 58 38.4	+0.9
HWUT				eScP	ScP	21 02 18.7	+1.8
TRY	Troy	32.51	25	eP	P	20 55 51.7	+0.3
	comp=Z,34nm,1.2s						
CWC	Cottonwood Cre	32.51	318	P	P	20 55 53.8	+2.0
	baz=126						
BW06	Boulder Array	32.52	335	eP	P	20 55 53.0	+1.1
	comp=Z,5.5nm,1.1s						
BW06				eScP	ScP	21 02 17.9	+0.8
BW06	Boulder Array	32.52	335	P	P	20 55 53.4	+1.5
	baz=146						
PD31	Pinedale Array	32.52	335	eP	P	20 55 53.0	+1.1
	comp=Z,4.8nm,1.1s						
PD31				eScP	ScP	21 02 18.2	+1.1
PDAR	Pinedale Array	32.52	335	eP	P	20 55 52.6	+0.7
PDAR				ePcP	PcP	20 58 37.2	-0.5
PDAR				eScP	ScP	21 02 18.3	+1.2
PDAR	Pinedale Array	32.52	335	P	P	20 55 53.6	+1.7
	comp=Z,1.6nm,0.7s,baz=132,slow=10,SNR=16						
PDAR				PcP	PcP	20 58 37.7	0.0
	comp=Z,1.3nm,0.6s,baz=141,slow=5.0,SNR=4.7						
PDAR				ScP	ScP	21 02 19.6	+2.5
	comp=Z,6.1nm,1.0s,baz=142,slow=5.1,SNR=19						
DELO	Deloro Mine	32.63	19	P	P	20 55 51.5	-1.0
	baz=206,SNR=6.8						
E45A	Wooded Hills,	32.66	8	P	P	20 55 53.3	+0.6
	baz=191						
QUA2	Belchertown	32.69	27	eP	P	20 55 52.4	-0.7
	comp=Z,18nm,0.9s						
H55A	Tweed	32.79	19	P	P	20 55 54.0	+0.1
	baz=206						
VES	Vestal, Richgr	32.82	316	P	P	20 55 57.4	+3.1
	baz=124						
G53A	Haliburton	32.88	17	P	P	20 55 54.0	-0.7
	baz=203						
BUKO	Buck Lake	32.96	16	P	P	20 55 54.6	-0.8
	baz=202						
ACCN	Adirondack Com	33.05	24	eP	P	20 55 55.4	-0.8
	comp=Z,11nm,0.9s						
H56A	Elgin	33.13	20	P	P	20 55 56.5	-0.4
	baz=208,SNR=6.4						
HRV	Adam Dziewonsk	33.23	28	eP	P	20 55 57.4	-0.4
	comp=Z,61nm,1.7s						
HRV	Adam Dziewonsk	33.23	28	eP	P	20 55 57.4	-0.4
HRV				pmax	pmax		
	comp=Z,61nm,1.7s						
HRV	Adam Dziewonsk	33.23	28	P	P	20 55 56.6	-1.1
	baz=217						
PLVO	Plevna	33.27	19	P	P	20 55 57.0	-1.1
	baz=206						
F51A	Arnstein	33.27	15	P	P	20 55 58.3	+0.2
	baz=201						
F52A	Sundridge	33.30	16	P	P	20 55 56.9	-1.5
	baz=202						
NCB	Newcomb	33.33	23	eP	P	20 55 57.7	-0.9
	comp=Z,24nm,1.1s						
D46A	Sault St. Mari	33.35	9	P	P	20 55 57.8	-1.0
	baz=193						
E50A	Wahnapitae	33.54	14	P	P	20 55 58.8	-1.6
	baz=199						
REDW	Red Top Meadow	33.55	334	eP	P	20 56 02.4	+1.5
	comp=Z,18nm,0.8s						
PAGB	Antelope Grade	33.55	315	eP	P	20 56 02.6	+1.9
	comp=Z,96nm,1.6s						
G55A	Calabogie	33.57	19	P	P	20 55 59.9	-0.8
	baz=206						
SNOW	Snow King Moun	33.59	334	eP	P	20 56 02.5	+1.2
	comp=Z,28nm,0.6s						
ELK	Elko	33.65	327	eP	P	20 56 04.0	+2.3
	comp=Z,13nm,0.9s						
ELK				ePcP	PcP	20 58 42.1	+1.2
ELK				eScP	ScP	21 02 24.6	+3.6
ELK	Elko	33.65	327	eP	P	20 56 04.0	+2.3
ELK				e		20 58 42.1	
ELK				pmax	pmax		
	comp=Z,13nm,0.9s						
LOHW	Long Hollow	33.65	335	eP	P	20 56 02.9	+1.1
	comp=Z,6.3nm,0.6s						
LOHW				eScP	ScP	21 02 23.1	+2.1
D47A	Chapleau	33.66	11	P	P	20 56 00.6	-0.9
	baz=195						
TPAW	Teton Pass	33.70	334	eP	P	20 56 04.0	+1.8
	comp=Z,31nm,1.5s						
TPAW				eScP	ScP	21 02 24.8	+3.5
LONY	Lake Ozonia	33.74	22	eP	P	20 56 01.4	-0.9
	comp=Z,32nm,1.1s						
LONY	Lake Ozonia	33.74	22	P	P	20 56 01.3	-0.9
	baz=210,SNR=8.2						
NV11	Mina Array Sit	33.77	321	eP	P	20 56 05.8	+3.1
	comp=Z,5.8nm,0.9s						
NV11				eScP	ScP	21 02 25.0	+3.6
PEMO	Pembroke	33.78	18	P	P	20 56 01.7	-0.9
	baz=205						
EYMN	Ely	33.79	0	P	P	20 56 02.5	-0.2
	baz=180						
OMMB	Old Mammoth Mi	33.80	319	eP	P	20 56 05.9	+2.7
	comp=Z,26nm,1.0s						
OMMB				eScP	ScP	21 02 28.1	+6.4
ALGO	Algonquin Park	33.80	17	P	P	20 56 01.9	-0.8
	baz=204						
MOOW	Moose Ponds	33.82	335	eP	P	20 56 04.0	+0.7
	comp=Z,4.7nm,1.0s						
MOOW				ePcP	PcP	20 58 42.0	+0.7
MOOW				eScP	ScP	21 02 23.8	+2.2
FXWY	Fox Creek	33.85	334	eP	P	20 56 04.7	+1.3
	comp=Z,5.2nm,1.0s						
FXWY				eScP	ScP	21 02 24.3	+2.6
MDPB	Devils Postpil	33.86	319	eP	P	20 56 06.4	+2.7
	comp=Z,42nm,1.0s						
NVAR	Mina Array Bea	33.86	321	eP	P	20 56 06.1	+2.5
NVAR				ePcP	PcP	20 58 42.5	+1.0
NVAR				eScP	ScP	21 02 24.7	+2.9
NVAR	Mina Array Bea	33.86	321	P	P	20 56 07.0	+3.4
	comp=Z,18nm,0.7s,baz=134,slow=8.4,SNR=135						
NVAR				pP	sP	20 56 21.7	-2.2
	comp=Z,78nm,0.8s,baz=130,slow=8.4,SNR=39						
NVAR				PcP	PcP	20 58 42.9	+1.4
	comp=Z,5.8nm,0.7s,baz=136,slow=3.3,SNR=7.1						
NVAR				ScP	ScP	21 02 24.4	+2.6
	comp=Z,4.5nm,0.8s,baz=135,slow=3.8,SNR=15						
E52A	Mattawa	33.93	16	P	P	20 56 03.0	-0.8
	baz=203						
E51A	G1948 Merrick	33.95	15	P	P	20 56 03.1	-0.9
	baz=201						
IMW	Indian Meadow	34.02	335	eP	P	20 56 05.7	+0.7
	comp=Z,5.1nm,0.6s						
IMW				ePcP	PcP	20 58 42.9	+1.0
IMW				eScP	ScP	21 02 25.0	+2.6
RYN	Ryan	34.12	321	eP	P	20 56 07.8	+2.0
	comp=Z,37nm,1.0s						
RYN				eScP	ScP	21 02 27.4	+4.7
KVN	Kaiserville	34.12	322	eP	P	20 56 08.4	+2.5
	comp=Z,55nm,1.0s						
KVN				ePcP	PcP	20 58 43.5	+1.3
KVN				eScP	ScP	21 02 26.8	+4.0
KVN	Kaiserville	34.12	322	eP	P	20 56 08.4	+2.5
KVN				e		20 58 43.5	
KVN				pmax	pmax		
	comp=Z,55nm,1.0s						
ORHO	Orleans, Herit	34.14	20	P	P	20 56 04.2	-1.4
	baz=208						
ORIO	Orleans, Innes	34.14	20	P	P	20 56 05.1	-0.6
	baz=208						
F55A	Otter Lake	34.20	19	P	P	20 56 05.8	-0.4
	baz=207						
D49A	Beulah Townshi	34.21	12	P	P	20 56 05.8	-0.4
	baz=198						
H17A	Grant Village	34.29	336	P	P	20 56 09.4	+2.1
	baz=146						
E53A	Dumoine, Ponti	34.30	17	P	P	20 56 06.9	-0.2
	baz=204						
FRNY	Flat Rock	34.30	23	eP	P	20 56 06.2	-0.9
	comp=Z,60nm,1.8s						
AGMN	Agassiz Nation	34.32	355	P	P	20 56 07.7	+0.5
	baz=172						
MDND	Maddock	34.34	350	P	P	20 56 06.8	-0.6
	baz=166						
RLMT	Red Lodge	34.40	338	eP	P	20 56 08.8	+0.7
	comp=Z,11nm,1.4s						
RLMT	Red Lodge	34.40	338	P	P	20 56 08.1	-0.1
	baz=148,SNR=5.5						
LBNH	Lisbon	34.47	25	P	P	20 56 07.9	-0.6
	baz=215						
E54A	Lac Daplat, Po	34.49	18	P	P	20 56 07.9	-0.8
	baz=205						
D51A	Lot 18 Range I	34.49	15	P	P	20 56 07.4	-1.3
	baz=201						
ALFO	Alfred	34.51	21	P	P	20 56 08.4	-0.4
	baz=209						
BMN	Battle Mountai	34.52	324	eP	P	20 56 12.0	+2.8
	comp=Z,40nm,0.9s						
BMN	Battle Mountai	34.52	324	eP	P	20 56 12.0	+2.8
BMN				pmax	pmax		
	comp=Z,40nm,0.9s						
WAKR	Walker	34.61	320	eP	P	20 56 12.4	+2.4
	comp=Z,40nm,1.1s						
WAKR				eScP	ScP	21 02 29.7	+5.2
PTGA	Pitinga	34.62	113	eP	P	20 56 08.9	-1.3
	comp=Z,34nm,0.9s						
PTGA	Pitinga	34.62	113	eP	P	20 56 09.0	-1.3
D52A	ZEK Kipawa Sen	34.64	16	P	P	20 56 09.1	-0.8
	baz=203						
YERR	Yerington	34.78	321	eP	P	20 56 14.2	+2.6
	comp=Z,47nm,0.9s						
CMB	Columbia Colle	34.93	318	eP	P	20 56 14.6	+1.9
	comp=Z,28nm,1.2s						
CMB	Columbia Colle	34.93	318	eP	P	20 56 14.6	+1.9
CMB				pmax	pmax		
	comp=Z,28nm,1.2s						
PNTR	Pine Nut	35.06	321	eP	P	20 56 16.8	+2.7
	comp=Z,58nm,0.9s						
PNTR				eScP	ScP	21 02 29.0	+2.9
MOQ	Mont Orford	35.22	24	eP	P	20 56 14.7	-0.3
VCNR	Virginia City	35.22	321	eP	P	20 56 18.4	+3.0
	comp=Z,31nm,1.2s						
D54A	Lac Fusel, La	35.29	18	P	P	20 56 14.6	-0.9
	baz=205						
HLID	Hailey	35.30	331	eP	P	20 56 17.8	+1.8
	comp=Z,17nm,1.1s						
HLID				ePcP	PcP	20 58 46.6	+1.1
HLID				eScP	ScP	21 02 30.4	+3.5
HLID	Hailey	35.30	331	P	P	20 56 17.5	+1.6
	baz=139,SNR=19						
PAHR	Pah Rah Range	35.31	322	eP	P	20 56 18.9	+2.8
	comp=Z,31nm,0.9s						
RUBR	Rubicon Trail	35.38	320	eP	P	20 56 19.2	+2.5
	comp=Z,72nm,1.0s						
BOZ	Bozeman (W)	35.70	336	eP	P	20 56 20.4	+1.2
	comp=Z,11nm,1.4s						
BOZ				eScP	ScP	21 02 31.4	+3.2
BOZ	Bozeman (W)	35.70	336	eP	P	20 56 20.5	+1.2
BOZ				pmax	pmax		
	comp=Z,11nm,1.4s						
BOZ	Bozeman (W)	35.70	336	P	P	20 56 21.0	+1.7
	baz=145						
WVL	Waterville	35.70	27	eP	P	20 56 18.8	-0.3
	comp=Z,26nm,1.2s						
AFDM	Forest Hills D	35.84	319	eP	P	20 56 20.7	+0.2
	comp=Z,9.7nm,1.2s						
AFDM				ePcP	PcP	20 58 47.7	+0.7
AFDM				eScP	ScP	21 02 32.5	+3.8
DLMT	Dillon	35.91	335	eP	P	20 56 20.9	-0.1
	comp=Z,14nm,0.9s						
DLMT				ePcP	PcP	20 58 48.9	+1.7
DLMT				eScP	ScP	21 02 32.4	+3.5
BEKR	Beckworth	36.00	321	eP	P	20 56 24.6	+2.6
	comp=Z,38nm,1.0s						
BEKR				eScP	ScP	21 02 33.5	+4.1
ULM	Lac du Bonnet	36.26	355	eP	P	20 56 22.4	-1.5
	comp=Z,8.2nm,0.9s						
ULM	Lac du Bonnet	36.26	355	eP	P	20 56 22.4	-1.5
ULM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ULM	Lac du Bonnet	36.26	355	P	P	20 56 22.6	-1.3
	comp=Z,3.6nm,0.7s,baz=191,slow=12,SNR=4.8						
ULM				ScP	ScP	21 02 30.1	+0.2
	comp=Z,2.8nm,0.5s,baz=160,slow=5.4,SNR=7.1						
ULM				LR	LR	21 13 16.4	
	comp=Z,682nm,21.0s,baz=148,slow=40						
PKME	Peaks-Kenny Pk	36.41	27	eP	P	20 56 24.2	-1.0
	comp=Z,32nm,1.1s						
PKME	Peaks-Kenny Pk	36.41	27	P	P	20 56 24.5	-0.7
	baz=218,SNR=5.7						
ORV	Oroville	36.52	320	eP	P	20 56 28.2	+1.9
	comp=Z,43nm,1.4s						
ORV	Oroville	36.52	320	eP	P	20 56 28.2	+1.9
ORV				pmax	pmax		
	comp=Z,43nm,1.4s						
WVOR	Wild Horse Val	36.65	326	eP	P	20 56 29.1	+1.7
	comp=Z,41nm,1.1s						
WVOR				eScP	ScP	21 02 35.9	+4.2
WVOR	Wild Horse Val	36.65	326	eP	P	20 56 29.1	+1.7
WVOR				pmax	pmax		
	comp=Z,41nm,1.1s						
LATQ	La Tuque	36.76	22	P	P	20 56 26.8	-1.3
	baz=211						
EMMW	East Machias	36.82	29	eP	P	20 56 26.5	-2.1
	comp=Z,41nm,1.3s						
LSQQ	Lebel-sur-Quev	36.93	16	P	P	20 56 28.3	-1.3
	baz=204						
EGMT	Eagleton	37.06	340	eP	P	20 56 31.2	+0.4
	comp=Z,28nm,1.4s						
EGMT				ePcP	PcP	20 58 51.0	+0.4
EGMT	Eagleton	37.06	340	P	P	20 56 31.7	+0.9
	baz=150						
O03E	Paynes Creek	37.14	320	P	P	20 56 32.3	+0.7
	baz=126,SNR=6.1						
J08A	Circle Bar Ran	37.19	327	eP	P	20 56 33.6	+1.5
	comp=Z,100nm,1.0s						
J08A				eScP	ScP	21 02 37.5	+3.8
PLID	Pearl Lake	37.20	331	eP	P	20 56 33.4	+1.2
	comp=Z,78nm,1.7s						
MOD	Modoc Plateau	37.24	324	eP	P	20 56 33.9	+1.4
	comp=Z,26nm,1.0s						
MATQ	Matagami	37.40	15	P	P	20 56 32.2	-1.4
	baz=202,SNR=11						
MSO	Missoula	37.64	335	eP	P	20 56 37.2	+1.4
	comp=Z,35nm,1.7s						
MSO				eScP	ScP	21 02 38.2	+2.9
MSO	Missoula	37.64	335	P	P	20 56 35.9	+0.2
	baz=143,SNR=6.6						
BMO	Blue Mountains	37.66	330	eP	P	20 56 36.3	+0.4
	comp=Z,28nm,1.5s						
BMO				eScP	ScP	21 02 37.8	+2.3
BMO	Blue Mountains	37.66	330	eP	P	20 56 36.3	+0.4
BMO				pmax	pmax		
	comp=Z,28nm,1.5s						
O02D	Mt. Diablo Mer	37.69	320	P	P	20 56 36.0	-0.2
	baz=125						
WDC	Whiskeytown Da	37.77	320	eP	P	20 56 36.6	-0.1
	comp=Z,13nm,1.2s						
WDC				ePcP	PcP	20 58 53.2	+0.4
WDC	Whiskeytown Da	37.77	320	eP	P	20 56 36.7	-0.1
WDC				e		20 58 53.2	
WDC				pmax	pmax		
	comp=Z,13nm,1.2s						
KCPM	Cahto Peak	37.92	318	eP	P	20 56 40.0	+1.8
	comp=Z,132nm,1.8s						
LPAZ	La Paz	38.05	142	eP	P	20 56 39.1	-1.0
	comp=Z,6.1nm,0.9s						
LPAZ				ePcP	PcP	20 58 54.9	+0.2
LPAZ	La Paz	38.05	142	eP	P	20 56 39.1	-1.0
LPAZ				e		20 58 54.9	
LPAZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LPAZ	La Paz	38.05	142	P	P	20 56 39.0	-1.0
	comp=Z,3.6nm,0.7s,baz=336,slow=8.3,SNR=19						
LPAZ				PcP	PcP	20 58 55.0	+0.3
	comp=Z,4.5nm,1.0s,baz=329,slow=9.3,SNR=4.8						
LPAZ				LR	LR	21 12 07.4	
	comp=Z,603nm,18.5s,baz=340,slow=36						
LPAZ	La Paz	38.05	142	eP	P	20 56 39.9	-0.2
M04C	Macdoel	38.06	322	P	P	20 56 40.3	+0.9
	baz=128						
N02D	Trinity Center	38.10	321	P	P	20 56 40.6	+1.0
	baz=126						
K05A	Summer Lake	38.10	324	eP	P	20 56 41.7	+1.9
	comp=Z,28nm,1.3s						
K05A				ePcP	PcP	20 58 55.6	+1.6
K05A				eS	ScP	21 02 40.7	+3.4
I07A	Izee	38.23	327	eP	P	20 56 41.9	+1.1
	comp=Z,18nm,0.9s						
I07A				eS	ScP	21 02 41.6	+3.9
KMRM	Mail Ridge	38.30	319	eP	P	20 56 43.8	+2.4
	comp=Z,52nm,1.1s						
M02C	Callahan	38.43	321	P	P	20 56 42.8	+0.3
	baz=126						
F10A	Beach Ranch, E	38.44	331	eP	P	20 56 43.4	+0.9
	comp=Z,40nm,0.8s						
CHGQ	Chibougamau	38.44	18	P	P	20 56 41.6	-0.7
	baz=207						
YBH	Yreka Blue Hor	38.55	322	eP	P	20 56 44.0	+0.5
	comp=Z,7.5nm,1.0s						
YBH				eS	ScP	21 02 42.6	+3.7
YBH	Yreka Blue Hor	38.55	322	eP	P	20 56 44.0	+0.5
YBH				eS	ScP	21 02 42.6	+3.7
YBH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
L04D	Klamath Falls	38.60	323	P	P	20 56 44.6	+0.7
	baz=127,SNR=8.3						
J05D	Fort Rock, OR	38.65	325	P	P	20 56 46.4	+2.1
	baz=130						
KHMM	Horse Mountain	38.68	320	eP	P	20 56 46.6	+2.0
	comp=Z,41nm,0.9s						
KHMM				ePcP	PcP	20 58 57.4	+1.6
G08A	Pilot Rock	38.79	329	eP	P	20 56 46.4	+1.0
	comp=Z,32nm,1.8s						
G08A				ePcP	PcP	20 58 57.2	+1.3
PINE	Pine Mountain	38.81	326	eP	P	20 56 47.0	+1.2
	comp=Z,32nm,1.0s						
PINE				eS	ScP	21 02 44.5	+4.5
JCC	Jacoby Creek,	38.83	320	eP	P	20 56 47.6	+2.0
	comp=Z,105nm,1.3s						
LMN	Caledonia Moun	38.93	30	eP	P	20 56 45.4	-1.1
	comp=Z,49nm,1.4s						
J04D	Umpqua Nationa	39.12	324	P	P	20 56 50.5	+2.2
	baz=129						
HUMO	Hull Mountain	39.22	323	eP	P	20 56 50.1	+1.1
	comp=Z,6.1nm,0.9s						
E09A	Wood Farm, Sta	39.27	331	eP	P	20 56 48.8	-0.4
	comp=Z,8.2nm,0.8s						
L02E	Cave Junction	39.34	322	P	P	20 56 51.2	+1.3
	baz=126						
MNMC	Minye Minye	39.48	146	eP	P	20 56 51.9	+0.3
	comp=Z,75nm,1.3s						
MNMC				ePcP	PcP	20 58 59.5	+0.7
I04A	Tendick Farm,	39.63	324	P	P	20 56 53.1	+0.7
	baz=129,SNR=6.3						
K02D	Willamette Mer	39.69	322	P	P	20 56 54.1	+1.1
	baz=126						
PB11	IPOC Station P	39.96	147	eP	P	20 56 55.3	-0.2
	comp=Z,56nm,1.3s						
PB11				ePcP	PcP	20 59 00.4	+0.3
G05D	Wamic, OR	39.97	327	P	P	20 56 56.9	+1.7
	baz=132						
H04A	Detroit Lake	40.07	326	eP	P	20 56 57.6	+1.5
	comp=Z,60nm,0.8s						
I03D	Drain, OR	40.11	324	P	P	20 56 57.6	+1.3
	baz=128,SNR=8.2						
NEW	Newport	40.11	333	eP	P	20 56 56.5	+0.2
	comp=Z,5.3nm,0.7s						
NEW				ePcP	PcP	20 58 59.8	-0.3
NEW				eScP	ScP	21 02 46.5	+1.8
NEW	Newport	40.11	333	eP	P	20 56 56.5	+0.2
NEW				e		20 58 59.8	
NEW				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NEW	Newport	40.11	333	P	P	20 56 57.6	+1.3
	baz=140						
J01E	Myrtle Point	40.12	323	P	P	20 56 58.4	+2.0
	baz=126,SNR=9.1						
GO01	Chusmiza	40.13	146	eP	P	20 56 58.0	+0.8
	comp=Z,48nm,1.4s						
KEBM	Edson Butte	40.19	322	eP	P	20 56 59.9	+2.8
	comp=Z,153nm,1.0s						
C09A	Chrisman Ranch	40.27	332	eP	P	20 56 59.9	+2.2
	comp=Z,194nm,0.2s						
C09A				eScP	ScP	21 02 47.4	+2.1
H04D	Lebanon	40.27	325	P	P	20 56 59.0	+1.3
	baz=129						
COR	Corvallis	40.63	325	eP	P	20 57 01.8	+1.2
	comp=Z,56nm,1.0s						
COR	Corvallis	40.63	325	eP	P	20 57 01.8	+1.2
COR				pmax	pmax		
	comp=Z,56nm,1.0s						
I02D	Swisshome	40.64	324	P	P	20 57 02.8	+2.1
	baz=127,SNR=5.5						
G03D	McMinnville, O	41.00	326	P	P	20 57 05.9	+2.3
	baz=129						
LTY	Liberty	41.01	330	eP	P	20 57 04.8	+0.9
	comp=Z,69nm,1.6s						
B08A	Colville Reser	41.16	332	eP	P	20 57 05.8	+0.8
	comp=Z,7.6nm,1.0s						
FFC	Flin Flon	41.38	351	ceP	P	20 57 08.2	+1.6
E04D	Cinebar	41.49	328	P	P	20 57 08.9	+1.3
	baz=131						
F03A	Seaside	41.62	326	eP	P	20 57 08.9	+0.3
	comp=Z,37nm,0.8s						
D05A	Enumclaw	41.62	329	eP	P	20 57 08.6	0.0
	comp=Z,57nm,1.1s						
E03A	Lebam	42.01	327	eP	P	20 57 13.8	+1.9
	comp=Z,56nm,1.0s						
B06A	Marblemount	42.28	331	eP	P	20 57 15.

LVC *e* 20 59 09.4
LVC pmax pmax
comp=Z,21nm,1.1s
LVC Limon Verde 42.70 148 P **P 20 57 19.1 +0.9**
comp=Z,11nm,0.9s,baz=310,slow=6.2,SNR=12
LVC Limon Verde 42.70 148 *e*P **P 20 57 18.9 +0.8**
NLWA Neilton Lookou 42.72 328 *e*P **P 20 57 19.6 +1.9**
comp=Z,69nm,1.2s
NLWA *e*ScP **ScP 21 02 58.1 +3.1**
A04D Lummi Island 43.01 330 P **P 20 57 21.1 +1.2**
baz=133,SNR=5.6
CLDB Colider 43.31 123 *e*P **P 20 57 21.4 -1.5**
PGC Sidney 43.33 329 *e*P **P 20 57 24.1 +1.6**
comp=Z,44nm,0.9s
LLLB Lillooet 43.94 332 *e*P **P 20 57 28.5 +1.1**
comp=Z,17nm,0.9s
GO02 Mina Guanaco 44.51 151 *e*P **P 20 57 32.6 0.0**
comp=Z,40nm,1.1s
GO02 *e*PcP **PcP 20 59 16.2 +0.9**
FCC Fort Churchill 44.66 358 *e*P **P 20 57 31.7 -1.4**
comp=Z,8.9nm,0.8s
FCC Fort Churchill 44.66 358 *e*P **P 20 57 31.7 -1.4**
FCC pmax pmax
comp=Z,9.0nm,0.8s
SCHQ Schefferville 45.05 20 *e*P **P 20 57 35.0 -1.2**
comp=Z,22nm,0.6s
SCHQ Schefferville 45.05 20 P **P 20 57 34.5 -1.7**
comp=Z,21nm,0.5s,baz=211,slow=7.0,SNR=12
SCHQ pP **pP 20 57 50.9 +0.4**
comp=Z,15nm,0.6s,baz=246,slow=9.1,SNR=3.9
SCHQ LR LR 21 17 21.2
comp=Z,1μm,20.6s,baz=249,slow=37
LCO Las Campanas 47.35 155 *e*P **P 20 57 54.2 -0.7**
comp=Z,48nm,1.1s
LCO *e*PcP **PcP 20 59 22.7 -2.4**
LCO Las Campanas 47.35 155 *e*P **P 20 57 54.2 -0.7**
LCO *e* 20 59 22.7
LCO pmax pmax
comp=Z,48nm,1.1s
LCO Las Campanas 47.35 155 *e*P **P 20 57 55.3 +0.4**
GO04 Tololo Observa 48.33 156 *e*P **P 20 58 02.1 -0.3**
comp=Z,44nm,1.1s
AQDB Aquidauana 49.24 133 *e*P **P 20 58 08.3 -1.0**
DIB Dawson Inlet, 50.63 329 *e*P **P 20 58 20.2 +0.8**
comp=Z,37nm,1.2s
CFA Coronel Fontan 50.64 154 P **P 20 58 20.0 +0.2**
comp=Z,25nm,0.8s,baz=331,slow=6.7,SNR=45
ROC1 El Roble 50.74 158 *e*P **P 20 58 19.4 -1.4**
YKA Yellowknife Ar 51.06 347 P **P 20 58 22.3 -0.2**
comp=Z,6.6nm,0.7s,baz=149,slow=7.6,SNR=63
YKA pP **pP 20 58 37.3 +0.3**
comp=Z,7.3nm,0.6s,baz=149,slow=7.6,SNR=22
YKA PcP **PcP 20 59 37.8 +0.2**
comp=Z,3.7nm,0.7s,baz=148,slow=3.8,SNR=7.7
YKA ScP **ScP 21 03 30.2 +0.6**
comp=Z,0.4nm,0.5s,baz=143,slow=4.2,SNR=6.4
YKW3 Yellowknife Ar 51.12 347 *e*P **P 20 58 22.6 -0.3**
FRB Frobisher Bay 52.18 13 LR LR 21 22 05.9
comp=Z,635nm,19.6s,baz=203,slow=38
CPUP Villa Florida 52.19 140 *e*P **P 20 58 29.3 -2.1**
comp=Z,22nm,1.0s
CPUP *e*PcP **PcP 20 59 42.5 0.0**
CPUP Villa Florida 52.19 140 *e*P **P 20 58 29.3 -2.1**
CPUP *e* 20 59 42.5
CPUP pmax pmax
comp=Z,22nm,1.0s
CPUP Villa Florida 52.19 140 P **P 20 58 29.9 -1.5**
comp=Z,12nm,0.9s,baz=330,slow=8.2,SNR=26
CPUP PcP **PcP 20 59 42.5 0.0**
comp=Z,1.4nm,0.5s,baz=325,slow=6.1,SNR=2.9
CPUP Villa Florida 52.19 140 *e*P **P 20 58 30.3 -1.1**
BDFB Brasilia 52.24 123 P **P 20 58 31.0 -1.1**
comp=Z,3.7nm,0.5s,baz=294,slow=11,SNR=6.1
BDFB LR LR 21 21 28.0
comp=Z,406nm,19.2s,baz=302,slow=37
GO05 Huala 52.25 160 *e*P **P 20 58 30.9 -0.8**
comp=Z,47nm,0.8s
ITRB Iturama 52.67 129 *e*P **P 20 58 34.3 -0.9**
DLBC Dease Lake 52.75 336 *e*P **P 20 58 37.0 +1.8**
comp=Z,19nm,0.8s
TRCB Terra Rica 52.91 133 *e*P **P 20 58 35.4 -1.5**
TAOE Nuku Hiva Isla 53.25 248 *e*LR LR 21 13 41.7
comp=Z,796nm,28.5s
TAOE Nuku Hiva Isla 53.25 248 *e*T T 21 55 25.6
comp=Z,24nm,0.2s
NBMO Morrinhos-CE 53.97 105 *e*P **P 20 58 44.1 -0.7**
JIS Juneau Island 54.45 334 *e*P **P 20 58 49.1 +1.6**
comp=Z,15nm,1.2s
JIS *e*PcP **PcP 20 59 51.2 +0.7**
PTGB Pitanga 54.54 135 *e*P **P 20 58 47.1 -1.8**
BESE Bessie Mountai 54.83 334 *e*P **P 20 58 51.6 +1.1**
comp=Z,41nm,1.8s
BB19B Bebedouro 54.86 129 *e*P **P 20 58 50.5 -0.6**
JANB Januaria 55.02 120 *e*P **P 20 58 51.6 -0.8**
FRTB Fartura 55.45 132 *e*P **P 20 58 55.4 0.0**
SKAG Skagway 55.55 335 *e*P **P 20 58 56.4 +1.0**
comp=Z,12nm,1.0s
WHY Whitehorse 56.08 336 *e*P **P 20 59 00.4 +1.0**
comp=Z,19nm,1.5s
ITAB Concordia 56.16 137 *e*P **P 20 58 59.2 -1.1**
RCLB Rio Claro- Sao 56.40 129 *e*P **P 20 59 01.6 -0.6**
TIJ01 Guaruva-PR 57.07 133 *e*P **P 20 59 06.9 -0.1**
SPB Sao Paulo 57.16 130 *e*P **P 20 59 07.0 -0.5**
HYT Haines Junctio 57.22 335 *e*P **P 20 59 08.3 +0.7**
comp=Z,18nm,1.3s
BSCB Bom Sucesso 57.71 126 *e*P **P 20 59 11.1 -0.4**
PLCA Paso Flores 57.91 161 *e*P **P 20 59 11.9 -0.6**
comp=Z,56nm,1.3s
PLCA Paso Flores 57.91 161 *e*P **P 20 59 11.9 -0.6**
PLCA pmax pmax
comp=Z,56nm,1.3s
PLCA Paso Flores 57.91 161 P **P 20 59 11.7 -0.9**
comp=Z,19nm,1.1s,baz=354,slow=7.9,SNR=14
PLCA LR LR 21 17 56.4
comp=Z,398nm,21.8s,baz=42,slow=30
PLCA Paso Flores 57.91 161 *e*P **P 20 59 12.7 +0.2**
PCA Pinnacle 57.98 334 *e*P **P 20 59 14.9 +2.0**
comp=Z,24nm,0.9s
CNLB Canela 58.38 138 *e*P **P 20 59 15.9 -0.2**
RCBR Riachuelo 58.71 106 *e*P **P 20 59 17.5 -1.1**
TRQA Tornquist 58.83 153 *e*P **P 20 59 17.5 -1.4**
comp=Z,60nm,1.4s
TRQA Tornquist 58.83 153 *e*P **P 20 59 17.5 -1.4**
TRQA pmax pmax
comp=Z,60nm,1.4s
CTGM Chitina Glacie 58.88 334 *e*P **P 20 59 19.9 +0.7**
comp=Z,26nm,1.4s
BALM Baldy 59.35 334 *e*P **P 20 59 23.5 +1.2**
comp=Z,35nm,1.4s
BALM Baldy 59.35 334 *e*P **P 20 59 23.5 +1.2**
BALM pmax pmax
comp=Z,35nm,1.4s
SJMB Sao Joao De Ma 59.41 122 *e*P **P 20 59 23.3 0.0**
TGL Tana Glacier 59.42 334 *e*P **P 20 59 24.3 +1.4**
comp=Z,27nm,1.1s
VAS01 Vassouras-RJ 59.45 127 *e*P **P 20 59 22.8 -0.8**
OGAUY Aigu 59.56 145 *e*P **P 20 59 24.5 +0.4**
BSFB Barra de Sao F 59.75 122 *e*P **P 20 59 24.9 -0.8**
DAWY Dawson 59.76 338 *e*P **P 20 59 25.2 +0.1**
comp=Z,6.2nm,1.0s
HMT Hamilton 59.85 333 *e*P **P 20 59 26.6 +0.9**
comp=Z,29nm,1.0s
BCAR Beaver Creek A 60.13 336 *e*P **P 20 59 28.6 +0.9**
BCAR *e*PcP **PcP 21 00 13.6 +0.7**
DUB01 Friburgo-RJ 60.17 126 *e*P **P 20 59 28.8 +0.2**
EPYK Eagle Plains 60.20 341 *e*P **P 20 59 28.8 +0.8**
comp=Z,8.1nm,1.0s
EPYK Eagle Plains 60.20 341 P **P 20 59 28.0 0.0**
baz=129
RIB01 Linhares ES 60.36 122 *e*P **P 20 59 29.3 -0.5**
INK Inuvik 60.49 343 *e*P **P 20 59 30.1 +0.2**
comp=Z,12nm,1.0s
EYAK Cordova Ski Ar 60.60 333 *e*P **P 20 59 32.2 +1.4**
comp=Z,27nm,0.9s
CAM01 Campos-RJ 60.61 125 *e*P **P 20 59 30.1 -1.3**
RES Resolute Bay 60.65 359 *e*P **P 20 59 29.4 -1.5**
comp=Z,5.0nm,0.8s
RES Resolute Bay 60.65 359 *e*P **P 20 59 29.4 -1.5**
RES pmax pmax
comp=Z,5.0nm,0.8s
ALF01 Guarapari-ES 60.74 124 *e*P **P 20 59 32.2 -0.1**
EGAK Eagle 60.80 338 *e*P **P 20 59 32.3 +0.2**
comp=Z,36nm,1.7s
MENT Mentasta 60.84 336 *e*P **P 20 59 33.5 +1.1**
comp=Z,7.4nm,0.7s
DIV Divide 60.87 333 *e*P **P 20 59 33.5 +0.8**
comp=Z,33nm,1.3s
KLU Klutina 61.09 334 *e*P **P 20 59 35.3 +1.1**
comp=Z,19nm,0.8s
HARP HAARP 61.17 335 *e*P **P 20 59 35.4 +0.7**
comp=Z,24nm,0.8s
DOT Dot Lake 61.32 336 *e*P **P 20 59 36.5 +0.8**
comp=Z,14nm,0.9s
SCRK Sand Creek 61.45 337 *e*P **P 20 59 37.5 +0.9**
comp=Z,26nm,1.5s
PAX Paxson 61.56 335 *e*P **P 20 59 38.2 +0.8**
comp=Z,14nm,0.9s
PAX Paxson 61.56 335 *e*P **P 20 59 38.2 +0.8**
PAX pmax pmax
comp=Z,14nm,0.9s
RIDG Independent Ri 61.67 336 *e*P **P 20 59 39.0 +0.9**
comp=Z,59nm,1.7s
SCM Sheep Creek Mo 61.84 334 *e*P **P 20 59 40.2 +0.9**
comp=Z,34nm,1.3s
SCM Sheep Creek Mo 61.84 334 *e*P **P 20 59 40.2 +0.9**
SCM pmax pmax
comp=Z,34nm,1.3s
SEW Seward 62.11 331 *e*P **P 20 59 41.7 +0.7**
comp=Z,15nm,0.8s
KNK Knik Glacier 62.16 333 *e*P **P 20 59 42.4 +1.0**
comp=Z,98nm,1.8s
SML Sawmill 62.27 333 *e*P **P 20 59 42.5 +0.4**
comp=Z,23nm,1.0s
SML Sawmill 62.27 333 *e*P **P 20 59 42.5 +0.4**
SML pmax pmax
comp=Z,23nm,1.0s
DHY Denali Highway 62.39 335 *e*P **P 20 59 44.0 +1.0**
comp=Z,11nm,1.2s
GHO Glory Hole Cre 62.51 333 *e*P **P 20 59 44.7 +0.9**
comp=Z,38nm,0.8s
PMR Palmer 62.53 333 *e*P **P 20 59 44.5 +0.7**
comp=Z,14nm,0.8s
PMR Palmer 62.53 333 *e*P **P 20 59 44.5 +0.7**
PMR pmax pmax
comp=Z,14nm,0.8s
RC01 Rabbit Creek A 62.61 332 *e*P **P 20 59 45.0 +0.6**
comp=Z,25nm,0.8s
BRLK Bradley Lake 62.67 331 *e*P **P 20 59 45.3 +0.5**
comp=Z,42nm,0.8s
PMOR Pomariorio Ree 62.70 245 *e*T T 22 07 12.1
comp=Z,1.9nm,0.2s
PRP Porcupine Dome 62.76 338 *e*P **P 20 59 46.2 +0.7**
comp=Z,18nm,1.0s
HDA Harding Lake 62.80 336 *e*P **P 20 59 45.7 +0.2**
comp=Z,19nm,1.0s
HDA Harding Lake 62.80 336 P **P 20 59 45.8 +0.3**
baz=116,SNR=8.2
KDAK Kodiak Island 62.86 328 *e*P **P 20 59 47.0 +1.0**
comp=Z,34nm,0.8s
KDAK Kodiak Island 62.86 328 *ce*P **P 20 59 47.7 +1.6**
ILAR Eielson Array 62.93 337 *e*P **P 20 59 47.4 +1.0**
ILAR Eielson Array 62.93 337 *e*P **P 20 59 47.4 +1.0**
ILAR Eielson Array 62.93 337 P **P 20 59 47.0 +0.6**
comp=Z,6.9nm,0.8s,baz=143,slow=4.4,SNR=56
ILAR pP **pP 21 00 03.4 +2.0**
comp=Z,10nm,0.9s,baz=162,slow=5.1,SNR=13
ILB Eielson Array 62.93 337 *e*P **P 20 59 46.8 +0.3**
comp=Z,68nm,1.6s
RND Reindeer 63.13 335 *e*P **P 20 59 48.7 +0.8**
comp=Z,140nm,1.6s
RND Reindeer 63.13 335 *e*P **P 20 59 48.7 +0.8**
RND pmax pmax
comp=Z,140nm,1.6s
SUA Susitna One 63.20 333 *e*P **P 20 59 49.3 +0.9**
comp=Z,28nm,0.9s
CCB Clear Creek Bu 63.23 336 *e*P **P 20 59 48.2 -0.2**
comp=Z,6.9nm,0.8s
KIP Kipapa 63.27 287 *ce*P **P 20 59 50.6 +1.2**
KIP pmax pmax
comp=Z,39nm,1.2s
WRH Wood River Hil 63.27 336 *e*P **P 20 59 48.5 -0.2**
WRH *e*PcP **PcP 21 00 25.5 0.0**
POKR Poker Plat Res 63.30 337 P **P 20 59 49.6 +0.8**
baz=116
MCK McKinley 63.30 335 *e*P **P 20 59 49.2 +0.3**
comp=Z,24nm,1.2s
MCK McKinley 63.30 335 *e*P **P 20 59 49.2 +0.3**
MCK pmax pmax
comp=Z,24nm,1.2s
COLA College 63.35 337 *e*P **P 20 59 49.5 +0.4**
COLA *e*PcP **PcP 21 00 26.0 +0.3**
COLA College 63.35 337 *e*P **P 20 59 49.5 +0.4**
COLA *e* 21 00 26.0
TCOL CIGO. UAF Yank 63.35 337 P **P 20 59 50.2 +1.1**
baz=115
BMAR Burnt Mountain 63.37 340 *e*P **P 20 59 50.5 +1.2**
MDM Murphy Dome 63.53 337 *e*P **P 20 59 51.0 +0.6**
MDM *e*PcP **PcP 21 00 26.7 +0.1**
BWN Browne 63.69 336 *e*P **P 20 59 51.6 +0.2**
comp=Z,94nm,1.0s
RSO Redoubt South 63.78 331 *e*P **P 20 59 53.2 +0.8**
BPAW Bear Paw Mtn. 64.28 335 *e*P **P 20 59 55.9 +0.6**
comp=Z,19nm,0.8s
PPLA Purkeypile 64.34 334 *e*P **P 20 59 56.5 +0.6**
comp=Z,60nm,1.4s
CAST Castle Rocks 64.48 334 *e*P **P 20 59 56.5 -0.3**
comp=Z,18nm,0.9s
MLY Manley 64.54 336 *e*P **P 20 59 57.6 +0.5**
comp=Z,27nm,0.7s
COLD Coldfoot 65.21 339 *e*P **P 21 00 03.1 +1.8**
comp=Z,19nm,1.4s
PPT Papeete 65.24 243 LR LR 21 20 18.5
comp=Z,354nm,19.0s,baz=17,slow=28
PPT2 Papeete2 65.25 243 *e*LR LR 21 19 20.5
comp=Z,514nm,25.2s
SVW2 Sparrevohn 65.30 331 *e*P **P 21 00 02.2 +0.2**
comp=Z,15nm,0.8s
CHGN Chignik 65.57 326 *e*P **P 21 00 05.0 +1.2**
comp=Z,40nm,1.0s
TOLK Toolik Lake Re 65.59 340 *e*P **P 21 00 04.6 +0.8**
comp=Z,9.0nm,0.8s
TOLK Toolik Lake Re 65.59 340 P **P 21 00 04.7 +0.8**
baz=115,SNR=9.4
IMAR Indian Mountai 66.05 337 *e*P **P 21 00 06.5 -0.3**
SUMG Summit 66.09 15 *e*P **P 21 00 05.9 -1.5**
comp=Z,23nm,1.2s
SUMG Summit 66.09 15 *e*P **P 21 00 05.9 -1.5**
SUMG pmax pmax
comp=Z,23nm,1.2s
SUMG Summit 66.09 15 *i*P **P 21 00 06.2 -1.2**
comp=Z,18nm,0.6s
TBI Tubuai 67.68 237 *e*LR LR 21 20 35.0
comp=Z,694nm,27.8s
FALS False Pass 68.15 324 *e*P **P 21 00 20.2 0.0**
comp=Z,106nm,1.0s
RDOG Red Dog Mine 70.08 338 *e*P **P 21 00 31.2 -0.8**
comp=Z,27nm,1.3s
SCO Scoresbysund 70.09 20 *i*P **P 21 00 30.6 -1.4**
SCO pmax pmax
comp=Z,3.0nm,0.6s
SCO Scoresbysund 70.09 20 *i*P **P 21 00 30.6 -1.4**
comp=Z,2.9nm,0.6s
ANM Nome 70.43 334 *e*P **P 21 00 34.1 -0.1**
comp=Z,8.2nm,0.7s
ANM Nome 70.43 334 *e*P **P 21 00 34.1 -0.1**
ANM pmax pmax
comp=Z,8.0nm,0.7s
SPIA Saint Paul Isl 72.14 326 *e*P **P 21 00 45.8 +1.1**
comp=Z,255nm,1.4s
DAG Danmarks Havn 72.53 13⇑ *i*P **P 21 00 44.9 -1.7**
DAG pmax pmax
comp=Z,5.0nm,0.6s
DAG Danmarks Havn 72.53 13⇑ *i*P **P 21 00 44.9 -1.7**
comp=Z,7.0nm,0.6s
GAMB Gambell 73.11 333 *e*P **P 21 00 50.2 -0.1**
comp=Z,13nm,1.0s
ADK Adak 76.04 320 *e*P **P 21 01 06.9 -0.6**
comp=Z,42nm,0.7s
ADK Adak 76.04 320 *e*P **P 21 01 06.9 -0.6**
ADK pmax pmax
comp=Z,42nm,0.7s
KPL Plockton 76.13 34 *e*P **P 21 01 05.7 -2.1**
KPL IAmb IAmb 21 01 06.4
comp=Z,40nm,1.0s
KAC Achnashellach 76.31 34 *e*P **P 21 01 06.6 -2.4**
MDO Dochfour 76.82 34 *e*P **P 21 01 09.5 -2.3**
INVG Invergeldie, C 77.09 35 *e*P **P 21 01 11.2 -2.2**
MCD Coleburn Disti 77.40 33 *e*P **P 21 01 13.2 -1.8**
EDU Dundee 77.65 35 *e*P **P 21 01 14.4 -2.0**
ESK Eskdalemuir 77.69 36 *e*P **P 21 01 14.3 -2.4**
ESK IAmb IAmb 21 01 18.8
comp=Z,31nm,1.1s
DRUM Mains of Drumt 77.89 34 *e*P **P 21 01 15.8 -2.0**
ESY Stoneypath 77.94 35 *e*P **P 21 01 16.1 -2.0**
ESDC Sonseca Array 79.40 52 *e*P **P 21 01 23.4 -3.2**
ESDC Sonseca Array 79.40 52 P **P 21 01 23.8 -2.8**
comp=Z,0.9nm,0.5s,baz=289,slow=4.7,SNR=13
ESDC pP **pP 21 01 40.1 -1.9**
comp=Z,0.6nm,0.5s,baz=292,slow=6.5,SNR=4.3
ESDC LR LR 21 31 22.7
comp=Z,122nm,21.9s,baz=160,slow=32
BILL Bilibino 81.54 338 *e*P **P 21 01 38.2 +0.8**
comp=Z,48nm,1.3s
BILL Bilibino 81.54 338 *d i*P **P 21 01 38.4 +1.0**
BILL *e* 21 04 48.6
BILL pmax pmax
comp=Z,21nm,1.3s
BILL MLR MLR
comp=Z,1μm,20.0s
NB2 NORSAR Subarra 83.92 29 P **P 21 01 48.3 -1.6**
comp=Z,0.8nm,0.6s,baz=289,slow=5.1
NOA NORSAR Array B 83.92 29 P **P 21 01 48.4 -1.6**
comp=Z,4.6nm,1.0s,baz=290,slow=5.0,SNR=7.9
NOA LR LR 21 39 50.5
comp=Z,122nm,18.3s,baz=280,slow=36
NC405 NORSAR Array S 84.13 28 *e*P **P 21 01 48.9 -2.0**
comp=Z,112nm,1.8s
DBIC Dimbokro 85.29 84 LR LR 21 36 27.6
comp=Z,146nm,21.0s,baz=292,slow=33
ARCES ARCESS Array B 85.97 18 P **P 21 01 58.9 -1.1**
comp=Z,2.1nm,0.5s,baz=293,slow=4.3,SNR=17
TUE Stuetta 87.32 43 *e*P **P 21 02 05.1 -2.3**
comp=Z,6.9nm,0.9s
FUORN Ofenpass-Fuorn 87.88 42 *e*P **P 21 02 08.0 -2.0**
comp=Z,13nm,1.1s
CLL Collm 88.05 37 *e*P **P 21 02 10.0 -0.4**
CLL Collm 88.05 37 *e*P **P 21 02 10.0 -0.4**
CLL *e*(sP) **sP 21 02 39.0 +6.9**
CLL *e*PP **PP 21 05 32.0 -5.2**
CLL LmH 21 37 00.0
comp=N,300nm,20.3s
CLL LmH 21 37 00.0
comp=E,300nm,20.3s
NKC Novy Kostel 88.08 39 *e*P **P 21 02 10.9 +0.2**
NKC *e* 21 02 25.5
NKC Novy Kostel 88.08 39 *e*P **P 21 02 10.9 +0.2**
NKC *e*pP **pP 21 02 25.5 -0.9**
BRG Berggiesshubel 88.76 38 *e*P P 21 02 40.6 +27
comp=E,2.7nm,0.9s
SEY Seymchan 88.85 336 *ce*P **P 21 02 15.7 +1.7**
KHC Kasperske Hory 89.15 39 *e*P **P 21 02 14.2 -1.6**
KHC *e* 21 02 30.6
KHC Kasperske Hory 89.15 39 *e*P **P 21 02 14.2 -1.6**
KHC *e*pP **pP 21 02 30.6 -0.9**
GERES GERESS Array B 89.33 40 *e*P **P 21 02 14.8 -1.9**
GERES GERESS Array B 89.33 40 *e*P **P 21 02 14.8 -1.9**
GERES GERESS Array B 89.33 40 P **P 21 02 14.6 -2.1**
comp=E,1.1nm,1.0s,baz=291,slow=3.7,SNR=5.5
GERES LR LR 21 38 47.8
comp=E,203nm,21.5s,baz=343,slow=33
TORD Torodi Ar. Bea 90.01 77 P **P 21 02 16.9 -3.5**
comp=E,0.3nm,0.7s,baz=284,slow=5.4,SNR=5.1
TIXI Tiksi 90.28 348 *e*P **P 21 02 19.2 -1.2**
comp=E,4.4nm,0.8s
TIXI Tiksi 90.28 348 *ce*P **P 21 02 19.9 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 90.30 25 P **P 21 02 18.8 -1.9**
comp=Z,3.0nm,0.9s,baz=243,slow=3.4,SNR=6.8
DPC Dobruska-Polom 90.36 38 *e*P **P 21 02 21.4 0.0**
DPC Dobruska-Polom 90.36 38 *e*P **P 21 02 21.4 0.0**
KEST Kesra 90.57 53 *e*P **P 21 02 20.6 -2.1**
comp=Z,24nm,1.8s
KEST Kesra 90.57 53 P **P 21 02 20.2 -2.6**
comp=Z,1.8nm,0.6s,baz=217,slow=5.4,SNR=5.5
PETK Petropavlovsk- 90.81 326 P **P 21 02 24.1 +0.8**
comp=Z,5.1nm,0.9s,baz=64,slow=10,SNR=4.5
PETK pP **pP 21 02 41.1 +2.1**
comp=Z,12nm,1.0s,baz=78,slow=9.4,SNR=5.7
MA2 Magadan 91.21 333 *e*P **P 21 02 25.7 +0.6**
comp=Z,14nm,0.9s
MA2 Magadan 91.21 333 *ce*P **P 21 02 26.2 +1.1**
MA2 pmax pmax
comp=Z,15nm,0.9s
VYHS Vyhne 92.61 39 *e*P **P 21 02 32.6 +0.8**
VYHS Vyhne 92.61 39 *e*P **P 21 02 32.6 +0.8**
KOLS Kolonicke sedl 94.47 37 *e*P **P 21 02 42.4 +2.1**
KOLS Kolonicke sedl 94.47 37 *e*P **P 21 02 42.4 +2.1**
NRIK Noril'sk 96.82 0 LR LR 21 49 34.0
comp=Z,548nm,20.3s,baz=30,slow=37
OBN Obninsk 98.47 27 ||*e*P Pdif 21 02 58.9 +0.6
OBN *e* 21 07 01.1
OBN *e*S **S 21 14 16.4 -6.1**
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,216nm,18.0s
BRTR Keskin Array B 106.17 41 PKKPbc PKKPbc 21 19 06.2 -1.0
comp=Z,0.4nm,0.6s,baz=114,slow=2.7,SNR=3.7
GUDG Gudauri 110.80 33 P **PKiKP 21 07 53.2 -0.2**
KZRT Kazreti 111.50 34 P **PKiKP 21 08 00.1 +5.6**
KZRT S **sPKiKP 21 08 15.0 -1.7**
BTNK Botanikuri 111.52 34 P **PKiKP 21 07 54.0 -0.6**
BTNK S sPKiKP 21 08 05.5 -11
ZALV Zalesovo Beam 112.20 2 PKiKP **PKiKP 21 07 55.4 0.0**
comp=Z,0.5nm,0.4s,baz=318,slow=1.9,SNR=3.3
KURK Kurchatov 114.94 7 *c i*PKIKP PKPdf 21 08 01.2 +0.4
KURK pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 116.14 346 *c i*PKIKP **PKPdf 21 08 04.8 +1.4**
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 116.32 347 PKP **PKiKP 21 08 03.4 -0.3**
comp=Z,0.8nm,0.8s,baz=14,slow=0.6,SNR=5.2
SONM PKKPbc **PKKPbc 21 18 31.7 -2.5**
comp=Z,1.2nm,0.7s,baz=198,slow=4.7,SNR=8.5
KSRS Korea Array 116.70 325 PKP **PKiKP 21 08 04.8 +0.2**
comp=Z,2.1nm,0.6s,baz=25,slow=1.4,SNR=8.4
KSAR Wonju Array Be 116.73 325 *e*PKPdf **PKPdf 21 08 03.9 -0.7**
KSAR Wonju Array Be 116.73 325 *e*PKIKP **PKPdf 21 08 03.9 -0.7**
MAKZ Makanchi 119.15 5 *e*PKPdf **PKPdf 21 08 07.2 -1.9**
MAKZ Makanchi 119.15 5 *e*PKIKP **PKPdf 21 08 07.2 -1.9**
MK31 Makanchi Array 119.19 5 *e*PKPdf **PKPdf 21 08 08.1 -1.0**
MK31 Makanchi Array 119.19 5 *e*PKIKP **PKPdf 21 08 08.1 -1.0**
MKAR Makanchi Array 119.19 5 *e*PKPdf **PKPdf 21 08 07.9 -1.2**
MKAR Makanchi Array 119.19 5 PKP **PKPdf 21 08 08.5 -0.6**
comp=Z,2.3nm,0.8s,baz=344,slow=2.3,SNR=16
BOSA Boshof 120.05 115 PKP **PKPdf 21 08 11.0 -0.3**
comp=Z,6.3nm,0.7s,baz=195,slow=1.0,SNR=10
GEYT Alibeck 121.01 28 PKP **PKiKP 21 08 13.1 +0.1**
comp=Z,4.5nm,0.7s,baz=270,slow=1.5,SNR=10
HHC Hu-ho-hao-te 121.30 340 *e*PKP **PKPdf 21 08 12.8 -0.7**
LSZ Lusaka 121.93 99 *e*PKPdf **PKiKP 21 08 15.6 +0.2**
LSZ Lusaka 121.93 99 *e*PKIKP **PKiKP 21 08 15.6 +0.2**
AAK Ala-Archa 122.16 12 *e*PKPdf **PKiKP 21 08 15.8 +0.5**
AAK Ala-Archa 122.16 12 *c i*PKIKP **PKiKP 21 08 16.3 +1.0**
AAK pmax pmax
comp=Z,5.0nm,1.3s
WMQ Urumqi 122.40 1 *e*PKP **PKPdf 21 08 15.1 -0.4**
WMQ LR LR
comp=Z,960nm,23.3s
WMQ LR LR
comp=Z,2μm,25.1s
WMQ LR LR
comp=Z,2μm,25.1s
NRN Naryn 123.62 11 *e*PKPdf **PKPdf 21 08 18.2 0.0**
NRN Naryn 123.62 11 *e*PKIKP **PKPdf 21 08 18.2 0.0**
CHGR Chuyangaron 124.57 18 *e*PKPdf **PKPdf 21 08 17.9 -1.9**
GAR Garm 124.59 17 *e*PKPdf **PKPdf 21 08 19.9 0.0**
GAR Garm 124.59 17 *e*PKIKP **PKPdf 21 08 19.9 0.0**
KSH Kashi 125.47 12 PKP **PKiKP 21 08 23.5 +1.6**
KSH PP **PP 21 10 18.3 +6.9**
KSH SKS **SKSdf 21 15 28.9 -0.3**
KSH SS **SS 21 27 06.0 +0.7**
KSH AMB AMB
comp=Z,220nm,4.6s
KSH LR LR
comp=Z,400nm,9.3s
KSH LR LR
comp=Z,450nm,14.7s
KSH LR LR
comp=Z,580nm,14.0s
NJ2 Nanjing 125.64 328 *e*PKP **PKPdf 21 08 22.0 +0.1**
GTA Gaotai 125.75 349 PKP **PKiKP 21 08 22.5 0.0**
GTA sPKP 21 08 45.4
GTA LR LR
comp=Z,200nm,18.2s
GTA LR LR

comp=Z,280nm,18.6s
GTA LR LR
comp=Z,450nm,20.3s
LZH Lanzhou 128.03 344 *e*PKP **PKPdf 21 08 24.7 -1.9**
LZH sPKP 21 08 50.6
LZH LR LR
comp=Z,180nm,18.1s
LZH LR LR
comp=Z,180nm,18.3s
LZH LR LR
comp=Z,260nm,20.0s
STKA Stephens Creek 128.40 240 PKP **PKPdf 21 08 27.3 +0.2**
comp=Z,9.9nm,0.9s,baz=108,slow=1.5,SNR=12
WHN Wuhan 129.10 331 PKPbc PKiKP 21 08 45.7 +16
ENH Enshi 131.46 335 *e*PKPdf **PKiKP 21 08 33.8 -0.3**
WRAB Tennant Creek 135.75 256 *c i*PKiKP **PKiKP 21 08 44.0 +1.1**
WRAB pmax pmax
comp=Z,13nm,1.7s
WRA Warramunga Arr 135.76 256 PKP **PKPdf 21 08 41.5 +0.2**
comp=Z,3.9nm,0.8s,baz=85,slow=2.4,SNR=24
WRA SKPab **SKiKP 21 12 17.7 +3.1**
comp=Z,2.0nm,0.8s,baz=86,slow=3.4,SNR=10
ASAR Alice Springs 136.03 250 *e*PKPpre PKPpre 21 08 30.4
ASAR *e*PKPdf **PKPdf 21 08 41.6 -0.2**
ASAR Alice Springs 136.03 250 *e*PKHKP PKPpre 21 08 30.4
ASAR *e* 21 08 41.6
ASAR Alice Springs 136.03 250 PKhKP PKPpre 21 08 31.8
comp=Z,0.9nm,0.8s,baz=108,slow=3.6,SNR=7.4
ASAR PKP **PKPdf 21 08 41.5 -0.2**
comp=Z,3.4nm,1.0s,baz=107,slow=2.2,SNR=12
ASAR SKPab **SKiKP 21 12 18.0 +2.9**
comp=Z,0.9nm,0.6s,baz=94,slow=2.4,SNR=7.3
ASAR SKKPbc **SKKPbc 21 21 07.3 -0.8**
comp=Z,0.4nm,0.6s,baz=293,slow=4.5,SNR=4.9
LSA Lhasa 136.42 356 *e*PKPdf **PKPdf 21 08 43.5 +0.5**
LSA Lhasa 136.42 356 *e*PKIKP **PKPdf 21 08 43.5 +0.5**
DANN Dangsing 137.61 6 *e*P **PKPdf 21 08 40.6 -4.4**
comp=Z,46nm,0.7s
PYUN Piuthan 137.77 7 *e*P **PKPdf 21 08 41.2 -4.0**
comp=Z,26nm,0.9s
GKN Gorkha 138.04 5 *e*P **PKPdf 21 08 42.1 -3.5**
comp=Z,26nm,0.9s
KOLN Koldanda 138.17 6 *e*P **PKPdf 21 08 43.0 -2.9**
KKN Kakani 138.30 4 *e*P **PKPdf 21 08 41.7 -4.5**
comp=Z,12nm,0.6s
DMN Daman 138.46 4 *e*P **PKPdf 21 08 43.9 -2.6**
comp=Z,17nm,1.0s
PKIN Phulchoki 138.52 4 *e*P **PKPdf 21 08 42.9 -3.7**
PKI Pulchoki 138.52 4 *e*P **PKPdf 21 08 43.0 -3.7**
comp=Z,12nm,0.7s
KMI Kunming 138.62 340 PKP **PKPdf 21 08 45.5 -1.3**
RAMN Ramite 139.21 2 *e*P **PKPdf 21 08 46.5 -1.4**
SHL Shillong 140.47 355 *e*PKPdf **PKPdf 21 08 49.0 -1.1**
SHL Shillong 140.47 355 *e*PKIKP **PKPdf 21 08 49.0 -1.1**
FITZ Fitzroy Crossi 144.01 259 *e*PKPdf PKPbc 21 08 55.0 +0.7
SOEI Soe 144.64 273 *e*PKPdf **PKPdf 21 08 57.9 +0.2**
NONG Nongkai 144.92 335 PKP PKPbc 21 08 57.2 +0.1
PANO Nakornpanom 145.10 332 PKP **PKPdf 21 08 58.1 -0.1**
SKNT Sakolnakorn 145.53 333 PKP **PKPab 21 08 59.4 0.0**
CHTO Chiang Mai 145.72 342 *e*PKPdf **PKPdf 21 08 58.9 -0.4**
CHTO Chiang Mai 145.72 342 *e*PKP2 **PKPdf 21 08 58.9 -0.4**
LAMP Lampang 145.78 341 PKP **PKPab 21 09 00.3 +0.1**
KKM Kota Kinabalu 145.91 304 *e*PKPdf **PKPdf 21 08 59.8 -0.1**
CM31 Chiang Mai Arr 146.06 342 *e*PKPdf **PKPbc 21 09 00.5 -0.2**
CMAR Chiang Mai Arr 146.06 342 *e*PKPdf **PKPbc 21 09 00.5 -0.2**
CMAR Chiang Mai Arr 146.06 342 *e*PKP2 **PKPbc 21 09 00.5 -0.2**
CMAR Chiang Mai Arr 146.06 342 PKPbc **PKPbc 21 09 00.9 +0.2**
comp=Z,41nm,0.9s,baz=337,slow=3.7,SNR=185
CMAR pPKPbc pPKPab 21 09 18.3 +1.1
comp=Z,14nm,0.7s,baz=349,slow=3.8,SNR=5.5
CMAR SKPbc **SKiKP 21 12 38.2 +2.3**
comp=Z,3.4nm,1.0s,baz=334,slow=2.4,SNR=5.6
UTTA Uttaradit 146.19 339 PKP **PKPbc 21 09 01.3 +0.2**
KHON Khomkaen 146.60 334 PKP **PKPab 21 09 03.2 -0.2**
HYB Hyderabad 147.26 18 *i* PKP **PKPdf 21 09 02.5 +0.5**
CHAI Chaiyaphum 147.34 335 PKP **PKPbc 21 09 05.0 +0.6**
DLV T Lat 147.37 321 *e*PKPdf **PKPdf 21 09 03.3 +0.8**
UMPA Umpang Tak 148.20 341 PKP **PKiKP 21 09 08.2 -0.3**
MORW Morawa 150.35 235 *e*PKPdf **PKPdf 21 09 05.4 -1.2**
PHET Kaeng Krachan 150.98 337 PKP **PKiKP 21 09 15.0 +0.7**
SBUM Sibu 151.23 303 *e*PKPdf **PKPdf 21 09 06.8 -1.6**
SBUM *e*PKPbc **PKiKP 21 09 14.7 -0.2**
KSM Kuching 153.35 304 *e*PKPdf **PKPdf 21 09 11.4 -0.1**
KSM *e*PKPbc **PKiKP 21 09 19.8 +0.6**
PSI Prapat 160.25 327 *e*PKPdf **PKPdf 21 09 19.1 -1.4**
PSI *e*PKPab **PKPab 21 10 00.8 -0.1**
PSI Prapat 160.25 327 *e*PKIKP **PKPdf 21 09 19.1 -1.4**
PSI *e* 21 10 00.8

*ISCJB **10** 21:05:52.1±0.5, 82°.75N±0°.06×7°.5W±0°.5, h10km, mb3.6/19, Error ellipse: s-maj=9.2km s-min=8.3km az=166.7*
*IDC **10** 21:05:52.7±0.7, 82°.90N×7°.16W, h0km, mb3.6/18, mb1 3.8/20, mb1mx3.7/51, mbtmp3.7/20, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx3.0/41, Error ellipse: s-maj=19.2km s-min=12.6km az=42.0*
*IEPN **10** 21:05:56.0, 83°.05N×3°.70W, h15km*
ISC 10 21:05:53.5±0.6, 82°.83N±0°.07×6°.83W±0°.06, h10km, n26, σ2§40/30, mb3.6/19, 2C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**4.89**	**133**	⇑*iP*	**Pn**	**21 07 06.1**	**-0.8**
KBS				*e*S	**Sn**	**21 07 57.9**	**-5.6**
SPA0	**Spitsbergen Ar**	**5.97**	**129**	⇑*iP*	**Pn**	**21 07 21.2**	**-0.6**
SPA0				*e*S	**Sn**	**21 08 25.7**	**-4.4**
SPITS	**Spitsbergen Ar**	**5.97**	**129**	Pn	**Pn**	**21 07 21.1**	**-0.6**
SPITS	baz=9.6,slow=10,SNR=107			Sn	**Sn**	**21 08 25.5**	**-4.6**
SPITS	baz=1.0,slow=16,SNR=0.8			LR	LR	21 09 44.3	
DAG	**Danmarks Havn**	**6.42**	**205**	*i* P	**Pn**	**21 07 27.9**	**+0.1**
DAG				*e*S	**Sn**	**21 08 38.2**	**-2.8**
ZFI2	**Zemlya Franca-**	**7.73**	**77**	*e*P	**Pn**	**21 07 42.7**	**-3.1**
ZFI2	4.6nm,0.5s			*e*S	Sn	21 09 01.2	-12
ARCES	**ARCESS Array B**	**14.98**	**133**	Pn	**Pn**	**21 09 24.4**	**-0.4**
	0.2nm,0.3s,baz=356,slow=12,SNR=7.0						
RES	**Resolute Bay**	**16.76**	**293**	Pn	**Pn**	**21 09 42.4**	**-5.4**
	0.4nm,0.3s,baz=39,slow=11,SNR=17						
NOA	**NORSAR Array B**	**22.36**	**157**	P	**P**	**21 10 52.8**	**+1.6**
	2.9nm,1.1s,baz=356,slow=9.7,SNR=2.7						
NRIK	**Noril'sk**	**22.47**	**68**	P	**P**	**21 10 53.2**	**+1.0**
	6.1nm,0.8s,baz=350,slow=5.9,SNR=6.9						
FINES	**FINESS Array B**	**22.97**	**138**	P	**P**	**21 10 57.3**	**-0.2**
	1.0nm,0.9s,baz=357,slow=15,SNR=2.7						
HFS	**Hagfors**	**23.40**	**154**	P	**P**	**21 11 05.2**	**+3.3**
	2.1nm,0.9s,baz=347,slow=5.9,SNR=3.8						
TIXI	**Tiksi**	**24.15**	**33**	P	**P**	**21 11 08.9**	**-0.1**
	0.8nm,0.3s,baz=350,slow=9.5,SNR=3.9						
INK	**Inuvik**	**26.74**	**319**	P	**P**	**21 11 33.4**	**+0.8**
	1.5nm,0.8s,baz=32,slow=17,SNR=6.4						
YKA	**Yellowknife Ar**	**30.59**	**300**	P	**P**	**21 12 06.5**	**-0.2**
	0.3nm,0.7s,baz=11,slow=9.1,SNR=7.9						
ILAR	**Eielson Array**	**31.23**	**328**	P	**P**	**21 12 12.2**	**-0.3**
	0.6nm,1.0s,baz=7.2,slow=6.2,SNR=6.1						
GERES	**GERESS Array B**	**34.66**	**156**	P	**P**	**21 12 44.5**	**+1.8**
	0.1nm,0.4s,baz=22,slow=8.5,SNR=5.1						
ZALV	**Zalesovo Beam**	**37.05**	**79**	P	**P**	**21 13 03.6**	**+0.7**
	0.8nm,0.6s,baz=12,slow=7.6,SNR=3.7						
KURBB	**Kurchatov Arra**	**39.53**	**86**	P	**P**	**21 13 24.4**	**+0.6**
	0.6nm,0.7s,baz=353,slow=7.3,SNR=4.1						
KBZ	**Khabaz**	**42.08**	**124**	P	**P**	**21 13 47.0**	**+2.1**
	3.0nm,0.8s,baz=326,slow=3.8,SNR=9.9						
ESDC	**Sonseca Array**	**43.31**	**177**	P	**P**	**21 13 55.4**	**+0.4**
	0.3nm,0.6s,baz=350,slow=7.7,SNR=3.4						
MKAR	**Makanchi Array**	**43.77**	**83**	P	**P**	**21 13 58.9**	**+0.3**
	0.9nm,0.7s,baz=358,slow=7.7,SNR=8.7						
BRTR	**Keskin Array B**	**45.15**	**135**	P	**P**	**21 14 11.6**	**+1.7**
	0.6nm,0.9s,baz=348,slow=13,SNR=4.1						
SONM	**Songino Array**	**45.60**	**60**	P	**P**	**21 14 15.0**	**+1.7**
	0.4nm,0.9s,baz=308,slow=5.5,SNR=4.2						
AAK	**Ala-Archa**	**46.88**	**92**	P	**P**	**21 14 29.4**	**+1.4**
	1.5nm,0.7s,baz=229,slow=20,SNR=5.9						
PDAR	**Pinedale Array**	**49.40**	**289**	P	**P**	**21 14 43.1**	**+0.1**
	0.5nm,0.9s,baz=20,slow=4.7,SNR=5.9						
GEYT	**Alibeck**	**49.51**	**110**	P	**P**	**21 14 45.3**	**+1.6**
	2.1nm,0.9s,baz=347,slow=5.9,SNR=5.8						

*IDC **10** 21:41:52.9±0.8, 18°.75S×173°.54W, h0km, mb4.1/14, mb1 4.4/15, mb1mx4.1/45, mbtmp4.2/15, ML3.6/1, MS3.9/5, Ms1 3.9/5, ms1mx3.4/42, Error ellipse: s-maj=40.6km s-min=17.2km az=142.0*
ISC 10 21:41:57.1±0.7, 18°.8S±0°.2×173°.5W±0°.2, h28km, n70, σ1§06/64, mb4.2/14, MS3.9/6, 14C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.09**	**103**	Pn	Pn	21 44 50.4	-11
	5.4nm,0.3s,baz=250,slow=6.6,SNR=9.9						
RAR				Sn	Sn	21 47 04.6	-21
	1.7nm,0.3s,baz=156,slow=11,SNR=2.7						
RAR				LR	LR	21 49 02.6	
	comp=Z,235nm,20.0s,baz=314,slow=33						
DZM	**Mont Dzumac**	**19.09**	**257**	*e*P	**Pn**	**21 46 19.1**	**+0.3**
	121nm,1.1s						
DZM				*e*LR	LR	21 50 43.9	
	comp=Z,583nm,23.1s						
DZM	**Mont Dzumac**	**19.09**	**257**	Pn	**Pn**	**21 46 19.8**	**+1.1**
	0.2nm,0.3s,baz=91,slow=21,SNR=5.2						
URZ	**Urewera**	**21.02**	**201**	P	**P**	**21 46 39.6**	**+1.0**
	6.8nm,0.3s,baz=238,slow=3.3,SNR=7.2						
PPT2	**Papeete2**	**22.73**	**91**	*e*LQ	LQ	21 51 05.6	
	332nm,27.8s						
PPT2				*e*LR	LR	21 51 57.9	
	comp=Z,458nm,28.5s						
TBI	**Tubuai**	**22.84**	**106**	*e*LR	LR	21 52 06.6	
	comp=Z,345nm,28.0s						
HNR	**Honiara**	**27.39**	**286**	LR	LR	21 57 21.2	
	comp=Z,455nm,18.7s,baz=355,slow=34						
STKA	**Stephens Creek**	**42.34**	**243**	P	**P**	**21 49 47.6**	**-1.3**
	2.6nm,0.9s,baz=83,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**49.06**	**255**	P	**P**	**21 50 40.8**	**-1.4**
	13nm,0.7s,baz=88,slow=8.4,SNR=94						
WRA	**Warramunga Arr**	**49.08**	**260**	P	**P**	**21 50 40.2**	**-2.1**
	3.4nm,0.7s,baz=96,slow=7.5,SNR=58						
MJAR	**Matsushiro Arr**	**71.53**	**321**	LR	LR	22 18 59.8	
	comp=Z,49nm,21.6s,baz=110,slow=31						
JNU	**Nakatsue**	**74.11**	**314**	LR	LR	22 21 06.4	
	comp=Z,85nm,20.7s,baz=76,slow=32						
YBH	**Yreka Blue Hor**	**76.38**	**37**	P	**P**	**21 53 43.0**	**-1.0**
	0.6nm,0.6s,baz=183,slow=7.0,SNR=2.8						
NVAR	**Mina Array Bea**	**76.93**	**41**	P	**P**	**21 53 47.2**	**-0.2**
	1.0nm,0.9s,baz=238,slow=6.3,SNR=2.3						
KSRS	**Korea Array**	**78.57**	**316**	P	**P**	**21 53 57.5**	**+1.3**
	1.5nm,0.8s,baz=120,slow=7.3,SNR=5.5						
TXAR	**Lajitas Array**	**82.59**	**56**	P	**P**	**21 54 18.1**	**0.0**
	0.4nm,0.7s,baz=263,slow=7.1,SNR=3.6						
MAW	**Mawson**	**84.53**	**199**	LR	LR	22 31 12.3	
	comp=Z,109nm,19.2s,baz=50,slow=35						
PDAR	**Pinedale Array**	**84.87**	**42**	P	**P**	**21 54 29.4**	**-0.2**
	0.7nm,0.9s,baz=258,slow=4.3,SNR=3.5						
SEY	**Seymchan**	**85.81**	**345**	P	**P**	**21 54 32.5**	**-1.0**
	1.2nm,0.6s,baz=143,slow=10,SNR=3.5						
ILAR	**Eielson Array**	**85.82**	**11**	P	**P**	**21 54 32.0**	**-1.5**
	2.3nm,1.0s,baz=220,slow=5.9,SNR=9.9						
INK	**Inuvik**	**91.61**	**14**	P	**P**	**21 55 00.0**	**-0.9**
	1.4nm,0.9s,baz=199,slow=7.1,SNR=3.0						
YKA	**Yellowknife Ar**	**93.27**	**23**	P	**P**	**21 55 08.6**	**-0.1**
	0.2nm,0.8s,baz=259,slow=5.1,SNR=3.7						
CMAR	**Chiang Mai Arr**	**93.62**	**288**	P	**P**	**21 55 12.1**	**+0.7**
	0.8nm,0.3s,baz=111,slow=3.4,SNR=7.6						
BVAR	**Borovoye Array**	**120.52**	**321**	PKP	**PKPdf**	**22 00 45.7**	**-0.3**
	0.7nm,0.7s,baz=101,slow=1.5,SNR=6.2						
MATP	**Matopo**	**135.43**	**210**	PKP	**PKiKP**	**22 01 17.6**	**+0.6**
	2.8nm,1.0s,baz=172,slow=7.1,SNR=3.5						
AKASG	**Malin Array Be**	**143.45**	**336**	PKhKP	PKPpre	22 01 25.8	
	0.6nm,0.5s,baz=38,slow=4.0,SNR=6.0						
CLL	**Collm**	**147.20**	**352**	*i* PKPbc	**PKPbc**	**22 01 37.5**	**-0.1**
	comp=Z,10.0nm,0.9s						
CLL				*e*(PKPdf)	**sPKPab**	**22 01 49.0**	**-0.6**
CLL				*i* PKPbc	**sPKPbc**	**22 01 51.9**	**+3.9**
	comp=Z,20nm,1.2s						
BURAR	**Bucovina Array**	**147.50**	**336**	⇑*iP*	**PKPab**	**22 01 40.0**	**-0.8**
UPC	**Upice**	**147.51**	**349**	*e*PKP	**PKPab**	**22 01 39.7**	**-0.9**
DPC	**Dobruska-Polom**	**147.60**	**348**	*e*PKP	**PKPbc**	**22 01 39.6**	**+0.8**
DPC				*ex*	x	22 01 53.8	
BIZ	**Bicaz**	**147.70**	**335**	⇑*iP*	**PKiKP**	**22 01 40.2**	**-1.0**
PVCC	**Panska Ves**	**147.74**	**350**	*e*PKP	**PKiKP**	**22 01 40.2**	**-0.9**
PVCC				*ex*	x	22 01 54.8	
KRLC	**Kraliky**	**147.78**	**348**	*e*PKP	**PKPab**	**22 01 43.3**	**+1.6**
KRLC				*ex*	x	22 01 54.8	
TESR	**Tescani**	**147.81**	**334**	⇓*iP*	**PKiKP**	**22 01 41.4**	**0.0**
TLCR		**147.85**	**330**	⇑*iP*	**PKiKP**	**22 01 40.6**	**-0.9**
MORC	**Moravsky Berou**	**147.90**	**347**	⇑*iP*	**PKPbc**	**22 01 39.7**	**+0.1**
MORC	**Moravsky Berou**	**147.90**	**347**	*e*PKP	**PKPbc**	**22 01 40.0**	**+0.4**
TRPA	**Tarpa**	**148.01**	**340**	⇑*iP*	**PKiKP**	**22 01 41.0**	**-0.7**
CFR	**Carcaliu**	**148.18**	**330**	⇑*iP*	**PKPbc**	**22 01 40.8**	**+0.4**
PRU	**Pruhonice**	**148.27**	**350**	*e*PKP	**PKPbc**	**22 01 40.9**	**+0.3**
PRU				*ex*	x	22 01 55.7	
GOPC	**GO Pecny, Ondr**	**148.30**	**350**	*e*PKP	**PKPbc**	**22 01 41.0**	**+0.3**
GOPC				*ex*	x	22 01 56.6	
VRAC	**Vranov**	**148.54**	**347**	*e*PKP	**PKPbc**	**22 01 42.0**	**+0.7**
VRAC	**Vranov**	**148.54**	**347**	PKPbc	**PKiKP**	**22 01 42.6**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=45,slow=1.4,SNR=3.8						
HARR	**Harsova**	**148.64**	**330**	⇑*iP*	**PKPbc**	**22 01 42.3**	**+0.6**
TLB	**Topalu**	**148.67**	**330**	⇑*iP*	**PKiKP**	**22 01 42.9**	**-0.3**
BRTR	**Keskin Array B**	**148.71**	**317**	PKPbc	**PKPbc**	**22 01 42.7**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=138,slow=3.3,SNR=17						
JAVC	**Velka Javorina**	**148.73**	**346**	*e*PKP	**PKiKP**	**22 01 43.2**	**-0.1**
KRUC	**Moravsky**	**148.82**	**347**	*e*PKP	**PKPbc**	**22 01 42.0**	**0.0**
MLR	**Muntele Rosu**	**148.92**	**333**	PKPbc	**PKPbc**	**22 01 43.1**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=110,slow=4.5,SNR=4.6						
PSZ	**Piszkesteto**	**149.02**	**342**	⇑*iP*	**PKiKP**	**22 01 44.4**	**+0.4**
DRGR		**149.11**	**338**	⇓*iP*	**PKPbc**	**22 01 43.3**	**+0.4**
KHC	**Kasperske Hory**	**149.25**	**351**	*e*PKP	**PKiKP**	**22 01 43.8**	**-0.6**
KHC				*ex*	x	22 01 58.5	
KHC				*ex*	x	22 04 08.5	
VOIR		**149.34**	**334**	⇑*iP*	**PKiKP**	**22 01 44.4**	**-0.3**
GERES	**GERESS Array B**	**149.51**	**351**	PKPbc	**PKPbc**	**22 01 44.1**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=0.0,slow=2.7,SNR=9.5						
ARR	**Arges**	**149.57**	**334**	⇑*iP*	**PKiKP**	**22 01 45.4**	**+0.2**
ASF	**Jabal al Asfar**	**149.66**	**302**	PKPbc	**PKPbc**	**22 01 44.5**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=34,slow=3.6,SNR=2.5						
CONA	**Conrad Observa**	**150.01**	**347**	*i* PKPdf	**PKiKP**	**22 01 45.5**	**-0.5**
	comp=Z,6.4nm,1.2s						
BZS	**Buzias**	**150.51**	**338**	⇑*iP*	**PKPbc**	**22 01 46.5**	**+0.2**
MMAI	**Mount Meron Ar**	**150.56**	**304**	PKPbc	**PKiKP**	**22 01 48.3**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=79,slow=7.5,SNR=4.4						
HERR	**Herculane**	**150.85**	**336**	⇑*iP*	**PKPbc**	**22 01 46.5**	**-0.6**
RETA	**Reutte**	**151.22**	**354**	*i* PKPdf	**PKiKP**	**22 01 48.2**	**-0.3**
	comp=Z,3.2nm,0.8s						
MOTA	**Moosalm**	**151.33**	**354**	*e*PKPdf	**PKPbc**	**22 01 48.4**	**0.0**
	comp=Z,3.3nm,1.0s						
WTTA	**Wattenberg**	**151.34**	**353**	*e*PKPbc	**PKiKP**	**22 01 49.1**	**+0.1**
	comp=Z,3.1nm,0.7s						
SOKA	**Soboth**	**151.37**	**348**	*e*PKPdf	**PKiKP**	**22 01 48.6**	**-0.3**
	comp=Z,5.1nm,1.0s						
SQTA	**Sankt Quirin**	**151.44**	**353**	*e*PKPbc	**PKiKP**	**22 01 49.2**	**+0.2**
	comp=Z,4.4nm,1.2s						
DAVA	**Damuels**	**151.50**	**355**	*e*PKPdf	**PKPbc**	**22 01 48.7**	**-0.1**
	comp=Z,2.7nm,0.7s						
FETA	**Feichten**	**151.69**	**354**	*e*PKPdf	**PKiKP**	**22 01 49.5**	**-0.1**
	comp=Z,4.5nm,1.1s						
ABTA	**Abfaltersbach**	**151.74**	**351**	*e*PKPdf	**PKiKP**	**22 01 49.5**	**-0.2**
	comp=Z,3.9nm,0.7s						
DAVOX	**Davos/Dischmat**	**152.00**	**355**	PKPbc	**PKPbc**	**22 01 49.9**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=273,slow=8.2,SNR=3.1						
VTS	**Vitosha**	**152.39**	**333**	⇑*iP*	**PKPab**	**22 02 05.8**	**+4.8**

*TIF **10** 21:49:49.1, 42°.37N×41°.09E, h14km±4km*
*NORS **10** 21:49:53.7±0.0, 42°.62N×41°.34E, h12km, MPVA3.1*
ISC 10 21:49:49.1±1.4, 42°.49N±0°.04×41°.06E±0°.05, h3km±12km, n14, σ1§47/27, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.91**	**27**	*e*Pg	Pg	21 49 59.9	-6.5
DOMR				*e*Sg	**Sg**	**21 50 11.9**	**-6.3**
BATM	**Batumi**	**1.00**	**152**	P	**Pg**	**21 50 07.7**	**-0.6**
BATM				S	**Sg**	**21 50 20.9**	**-0.3**
ARXR	**Arkhyz**	**1.09**	**8**	*e*Pg	**Pn**	**21 50 11.4**	**+0.1**
ARXR				*e*Sg	**Sn**	**21 50 26.7**	**-0.3**
NEY	**Neytrino**	**1.44**	**58**	*e*Pg	**Pb**	**21 50 16.8**	**+0.2**
NEY				*e*Sg	**Sg**	**21 50 36.0**	**+0.7**
TKB	**Tkibuli**	**1.44**	**95**	P	**Pn**	**21 50 16.1**	**0.0**
TKB				S	**Sn**	**21 50 34.7**	**-0.8**
GUZR	**Guzeripl'**	**1.66**	**336**	*e*Pg	**Pb**	**21 50 20.6**	**+0.3**
GUZR				*e*Sg	**Sg**	**21 50 43.4**	**+1.1**
SRKG	**Sareki**	**1.71**	**95**	P	**Pn**	**21 50 20.0**	**+0.2**
SRKG				S	**Sn**	**21 50 41.2**	**-0.9**
SHA1	**Shidzhatmaz**	**1.71**	**43**	*e*Pg	**Pg**	**21 50 22.5**	**+0.6**
SHA1				*e*Sg	**Sg**	**21 50 44.2**	**+0.1**
ONI	**Oni**	**1.77**	**86**	P	**Pn**	**21 50 21.5**	**+0.9**
ONI				S	**Sb**	**21 50 45.7**	**+0.8**
KIV0	**Kislovodsk Arr**	**1.89**	**39**	*e*Pg	**Pb**	**21 50 25.1**	**+0.8**
KIV0				*e*Sg	**Sg**	**21 50 50.4**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.90**	**77**	*e*Pg	**Pg**	**21 50 26.6**	**+1.1**
DIGR				*e*Sg	**Sb**	**21 50 48.1**	**-0.7**
BEYR	**Belyy Ugol+**	**1.99**	**40**	*e*Pg	**Pb**	**21 50 26.0**	**0.0**
BEYR				*e*Sg	**Sg**	**21 50 53.0**	**-0.1**
ZEI	**Tsey**	**2.12**	**81**	*e*Pg	**Pb**	**21 50 29.1**	**+0.8**
ZEI				*e*Sg	**Sb**	**21 50 55.6**	**+0.6**
LACR	**Lac**	**2.41**	**81**	*e*Pn	**Pb**	**21 50 33.5**	**+0.3**
LACR				*i* Sn	**Sb**	**21 51 02.5**	**-0.9**

*ISCJB **10** 21:55:36.9±0.7, 30°.33N±0°.05×103°.06E±0°.07, h10km, mb3.4/4, Error ellipse: s-maj=8.7km s-min=6.2km az=22.9*
*IDC **10** 21:55:36.6±1.7, 28°.49N×100°.22E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/61, mbtmp3.5/4, Error ellipse: s-maj=453.2km s-min=22.6km az=56.0*
*BJI **10** 21:55:40.2±0.0, 30°.25N×102°.81E, h22km, ML3.3/14*
ISC 10 21:55:39.4±0.9, 30°.32N±0°.06×102°.97E±0°.08, h10km, n9, σ1§80/14, mb3.5/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**5.04**	**139**	Pg	**Pb**	**21 57 05.9**	**-1.9**
GYA				Sg	**Sn**	**21 57 53.9**	**+0.3**
GYA	**Guiyang**	**5.04**	**139**	Pg	**Pb**	**21 57 05.9**	**-1.9**
GYA				Sn	**Sn**	**21 57 53.9**	**+0.3**
GYA				smax	smax		
	comp=N,40nm,0.8s						
GYA				smax	smax		
	comp=E,40nm,0.7s						
KMI	**Kunming**	**5.18**	**182**	Pn	**Pn**	**21 57 01.1**	**+3.8**
KMI				Sn	**Sn**	**21 57 56.8**	**-0.5**
XAN	**Xi'an**	**6.26**	**52**	Pn	**Pn**	**21 57 13.1**	**+1.2**
XAN				Sn	**Sn**	**21 58 22.6**	**-0.9**
XAN				Sg	**Sg**	**21 59 01.8**	**+1.5**
XAN				smax	smax		
	comp=N,31nm,0.8s						
XAN				smax	smax		
	comp=E,28nm,0.9s						
WMQ	**Urumqi**	**18.13**	**322**	*e*P	**Pn**	**21 59 50.2**	**-1.1**
MKAR	**Makanchi Array**	**22.95**	**322**	P	**P**	**22 00 43.7**	**-0.1**
	1.2nm,0.8s,baz=133,slow=10,SNR=8.7						
KURBB	**Kurchatov Arra**	**27.29**	**325**	P	**P**	**22 01 24.3**	**+0.3**
	0.3nm,0.5s,baz=131,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**58.38**	**145**	P	**P**	**22 05 33.9**	**-1.3**
	0.6nm,0.6s,baz=328,slow=9.0,SNR=6.8						
ASAR	**Alice Springs**	**61.35**	**148**	P	**P**	**22 05 53.1**	**-2.4**
	0.2nm,0.4s,baz=328,slow=6.8,SNR=1.5						

*SGS **10** 21:56:12, 14°.56N×41°.79E, h28km, MI3.6*
*IDC **10** 21:56:21.3±0.8, 14°.91N×42°.22E, h0km, mb4.0/19, mb1 4.1/21, mb1mx3.9/57, mbtmp4.0/21, ML3.8/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/43, Error ellipse: s-maj=17.7km s-min=14.2km az=69.0*
*NEIC **10** 21:56:22.5±0.4, 14°.79N×42°.20E, h10km, mb4.4/9, Error ellipse: s-maj=8.1km s-min=7.6km az=147.0*
ISC 10 21:56:22.1±0.5, 14°.76N±0°.05×42°.20E±0°.08, h10km, n75, σ0§88/65, mb4.1/34, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRSS	**Farasan al Kab**	**1.97**	**358**	P	Pn	21 56 45.3	-10
DAMY	**Dhamar**	**2.13**	**95**	*e*Pn	**Pn**	**21 56 58.8**	**+0.8**
JAZS	**Jizan**	**2.40**	**17**	P	Pn	21 56 52.4	-9.0
BESHS	**BESHS**	**2.66**	**13**	P	Pn	21 56 56.2	-8.9
DRBS	**Ad Darb**	**3.06**	**2**	P	Pn	21 57 00.1	-10
DRBS				S	Sn	21 57 36.7	-10
DJNS	**Zahran al Janu**	**3.20**	**24**	P	Pn	21 57 05.3	-7.4
ATD	**Arta Tunnel**	**3.27**

MK32	Makanchi Array	46.18	38	eP		P		22 04 47.4 +0.4
MKAR	Makanchi Array	46.18	38	P		P		22 04 47.4 +0.4
	1.9nm,0.9s,baz=232,slow=6.8,SNR=12							
KURBB	Kurchatov Arra	46.24	31	P		P		22 04 47.7 +0.2
	0.6nm,0.7s,baz=232,slow=8.3,SNR=6.4							
ESDC	Sonseca Array	47.31	311	P		P		22 04 57.4 +1.4
	0.1nm,0.4s,baz=120,slow=6.8,SNR=4.1							
FIA0	FINESS Array S	48.04	350	eP		P		22 05 00.8 -0.5
FINES	FINESS Array B	48.04	350	P		P		22 05 00.8 -0.5
	1.2nm,0.6s,baz=144,slow=11,SNR=7.0							
HFS	Hagfors	49.86	342	P		P		22 05 14.1 -1.2
	1.6nm,0.7s,baz=187,slow=8.7,SNR=3.1							
ZALV	Zalesovo Beam	51.32	31	eP		P		22 05 25.6 -0.8
ZALV	Zalesovo Beam	51.32	31	P		P		22 05 24.9 -1.5
	1.4nm,0.6s,baz=279,slow=9.6,SNR=4.5							
ZAA1	Zalesovo Array	51.32	31	eP		P		22 05 24.9 -1.5
NB2	NORSAR Subarra	51.33	341	P		P		22 05 25.2 -1.3
	comp=Z,2.1nm,1.0s,baz=122,slow=7.9							
NOA	NORSAR Array B	51.33	341	P		P		22 05 25.6 -0.9
	comp=Z,0.5nm,0.7s,baz=138,slow=8.7,SNR=4.2							
CMAR	Chiang Mai Arr	54.32	78	P		P		22 05 50.1 +0.9
	comp=Z,0.6nm,0.3s,baz=283,slow=8.3,SNR=7.7							
SONA0	Songino Array	61.91	43	eP		P		22 06 42.4 +0.2
SONM	Songino Array	61.91	43	eP		P		22 06 42.2 +0.1
SONM	Songino Array	61.91	43	P		P		22 06 42.4 +0.2
	comp=Z,1.1nm,0.9s,baz=260,slow=7.9,SNR=8.5							
PEA1	Petropavlovsk-	92.81	33	eP		P		22 09 33.7 -1.3
PETK	Petropavlovsk-	92.81	33	P		P		22 09 33.7 -1.3
	comp=Z,3.1nm,0.9s,baz=324,slow=7.1,SNR=3.5							

*ISCJB **10** 22:04:15.0±0.5, 28°.66N±0°.02×129°.64E±0°.04, h29km±3km, mb3.4/3, Error ellipse: s-maj=6.8km s-min=3.4km az=23.2*
*JMA **10** 22:04:15.6±0.1, 28°.65N×129°.59E, h14km±4km, M3.6*
JMA Felt I J1.
*IDC **10** 22:04:20.5±1.5, 28°.67N×129°.45E, h69km±16km, mb3.1/3, mb1 3.3/5, mb1mx2.9/58, mbtmp3.4/5, Error ellipse: s-maj=43.3km s-min=8.9km az=109.0*
ISC 10 22:04:12.9±1.3, 28°.73N±0°.03×129°.60E±0°.04, h11km±9km, n23, σ1°.48/38, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.32	180	P	Pb	22 04 20.6	0.0
JAM				S	Sg	22 04 24.2	+0.6
JZK	Kikaishima	0.53	142	P	Pb	22 04 25.0	+0.8
JZK				S	Sb	22 04 32.3	+0.6
JTAJ	Takarajima	0.55	320	P	Pn	22 04 27.5	+0.8
JTAJ				S	Sn	22 04 36.4	+0.6
JAMN	Amaminishikomi	0.61	218	P	Pb	22 04 26.3	+0.7
JAMN				S	Sb	22 04 34.3	0.0
JTK	Tokunoshima	1.10	212	P	Pg	22 04 33.6	-0.5
JTK				eS	Sg	22 04 47.5	-1.0
JNN	Nakanoshima	1.13	12	P	Pn	22 04 35.7	+0.9
JNN				eS	Sb	22 04 50.8	+1.5
JOKE	Okinoerabujima	1.64	214	P	Pn	22 04 42.5	+0.8
JOKE				eS	Sn	22 05 02.7	-0.1
JYAK	Yakushimahirau	1.70	28	P	Pn	22 04 43.2	+0.7
JYAK				eS	Sn	22 05 04.0	-0.2
JKC	Kuchinoerabu	1.80	16	P	Pn	22 04 45.2	+1.3
JKC				S	Sn	22 05 07.1	+0.3
JYRO	Yoronjima	1.98	211	P	Pn	22 04 47.2	+0.8
JYRO				eS	Sn	22 05 10.4	-0.8
JMTN	Minamitane	2.01	34	P	Pb	22 04 50.3	+0.8
JIH	Iheya	2.22	221	P	Pn	22 04 50.3	+0.6
JIH				S	Sn	22 05 15.7	-1.5
JOW	Kunigami	2.23	212	P	Pn	22 04 50.9	+1.1
JOW	Kunigami	2.23	212	P	Pb	22 04 52.1	-1.1
	2.0nm,0.3s,baz=99,slow=17,SNR=35						
JOW				S	Sn	22 05 19.4	+2.2
	10nm,0.3s,baz=76,slow=24,SNR=9.3						
JTN	Tanegashima 3	2.26	32	P	Pb	22 04 54.2	+0.4
JNTH	Nagotoyohara	2.61	213	P	Pn	22 04 57.1	+2.1
JNTH				eS	Sn	22 05 27.9	+1.2
JAGN	Aguni-jima	2.99	225	P	Pn	22 05 01.4	+1.2
JAGN				eS	Sn	22 05 34.9	-1.1
JMZ	Minamidaito 2	3.24	153	eS	Sn	22 05 38.5	-3.7
JKE	Kume jima 2	3.46	227	P	Pn	22 05 08.1	+1.3
JKE				eS	Sn	22 05 46.9	-0.8
JNU	Nakatsue	4.51	14	P	Pn	22 05 26.4	+5.2
	1.3nm,0.3s,baz=197,slow=11,SNR=12						
JNU				S	Sb	22 06 21.4	-5.2
	0.8nm,0.3s,baz=85,slow=2.3,SNR=2.4						
WRA	Warramunga Arr	48.60	174	P	P	22 12 56.5	-0.2
	0.2nm,0.5s,baz=356,slow=8.9,SNR=4.2						
ASAR	Alice Springs	52.26	175	P	P	22 13 25.0	+0.7
	0.2nm,0.6s,baz=8.9,slow=15,SNR=7.0						
FINES	FINESS Array B	71.30	330	P	P	22 15 32.0	-0.2
	0.2nm,0.4s,baz=66,slow=6.7,SNR=5.9						

*ISCJB **10** 22:05:35.8±0.3, 29°.59N±0°.03×140°.28E±0°.07, h125km, mb4.3/38, Error ellipse: s-maj=8.4km s-min=4.0km az=160.8*
*JMA **10** 22:05:35.6±0.1, 29°.70N×140°.94E, h187km, M4.2*
*IDC **10** 22:05:37.4±1.8, 29°.64N×140°.17E, h125km±14km, mb3.8/26, mb1 3.9/30, mb1mx3.8/55, mbtmp4.2/30, Error ellipse: s-maj=14.6km s-min=12.1km az=98.0*
*NEIC **10** 22:05:38.8±0.8, 29°.61N×140°.14E, h138km±6km, mb4.3/12, Error ellipse: s-maj=7.3km s-min=6.5km az=138.0*
ISC 10 22:05:37.3±0.5, 29°.69N±0°.05×140°.47E±0°.08, h125km, n74, σ1°.57/86, mb4.2/38, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.99	149	P	Pn	22 06 22.6	-1.0
CBIJ				eS	Sn	22 06 58.2	-1.1
JHH2	Haha-jima-NKT2	3.40	153	P	Pn	22 06 28.4	-0.5
JHH2				eS	Sn	22 07 08.7	-0.1
JHJ2	Mitsune	3.46	351	ePn	Pn	22 06 32.0	+2.3
JHJ2	Mitsune	3.46	351	P	Pn	22 06 31.9	+2.2
JHJ	Hachijo jima 2	3.47	350	P	Pn	22 06 32.0	+2.2
	37nm,0.3s,baz=292,slow=23,SNR=8.5						
JHJ				S	Sn	22 07 10.5	-0.1
	54nm,0.3s,baz=99,slow=23,SNR=5.7						
JMKN	Mikurajimanish	4.26	350	P	Pn	22 06 41.1	+0.8
BSO1	Boso 1	4.97	5	P	Pn	22 06 48.8	-0.5
BSO1				eS	Sn	22 07 42.6	-2.9
TTO1	TONANKAI O.B.S	5.03	322	P	Pn	22 06 52.9	+2.6
JIE	Ise	5.67	327	P	Pn	22 07 02.5	+3.2
JOD2	Odawara 2	5.68	348	P	Pn	22 07 00.2	+0.8
JOD2				S	Sn	22 08 03.6	+0.2
JTNC	Tanabenakahech	5.84	316	P	Pn	22 07 03.9	+2.4
INU	Inuyama	6.35	334	ePn	Pn	22 07 10.5	+2.1
JRY	Ryogami san	6.45	349	P	Pn	22 07 10.4	+0.7
MJAR	Matsushiro Arr	7.09	345	ePn	Pn	22 07 19.8	+1.4
MJAR				S	Sn	22 08 34.5	-3.1
MJAR	Matsushiro Arr	7.09	345	P	Pn	22 07 19.4	+1.0
	0.6nm,0.3s,baz=164,slow=11,SNR=25						
MJAR				S	Sn	22 08 34.5	-3.1
	0.3nm,0.3s,baz=173,slow=21,SNR=6.8						
MAJO	Matsushiro	7.09	345	ePn	Pn	22 07 19.9	+1.5
MAJO				eSn	Sn	22 08 34.5	-3.1
MAT	Matsushiro	7.09	345	P	Pn	22 07 19.8	+1.4
MAT				S	Sn	22 08 34.1	-3.5
MJB9	Matsu-Tunnel	7.10	345	ePn	Pn	22 07 20.1	+1.7
JNU	Nakatsue	8.88	295	ePn	Pn	22 07 46.0	+3.4
JMK	Ichinoseki	9.26	4	P	Pn	22 07 46.0	-1.6
ASAJ	Asahikawa	14.50	6	P	Pn	22 08 58.5	+2.1
	1.6nm,0.3s,baz=223,slow=9.6,SNR=5.0						
USRK	Ussuriysk Ar.	15.98	337	P	P	22 09 15.7	-0.2
	1.1nm,0.3s,baz=140,slow=8.7,SNR=17						
YULB	Yu-li	18.26	254	eP	Pn	22 09 43.1	+0.5
	38nm,1.6s						
KLR	Kul'dur	20.62	344	P	P	22 10 05.7	-0.8
	9.1nm,0.4s,baz=161,slow=3.9,SNR=24						
DAV	Davao City (W)	26.51	215	P	P	22 11 01.6	-1.6
	292nm,0.5s,baz=96,slow=3.1,SNR=3.9						
SONA0	Songino Array	31.82	314	eP	P	22 11 49.5	-0.6
SONM	Songino Array	31.82	314	P	P	22 11 49.5	-0.6
	0.4nm,0.5s,baz=111,slow=9.1,SNR=3.9						
CHAI	Chaiyaphum	37.86	257	P	P	22 12 42.9	+0.8
	21μm,0.8s						
ZALV	Zalesovo Beam	46.55	318	P	P	22 13 50.8	-1.4
	0.6nm,0.3s,baz=87,slow=9.2,SNR=3.6						
ZALV				PcP	PcP	22 15 23.9	-0.3
	1.7nm,0.6s,baz=114,slow=3.9,SNR=7.1						
ZAA1	Zalesovo Array	46.55	318	eP	P	22 13 50.8	-1.4
ZAA1				ePcP	PcP	22 15 23.9	-0.4
MK32	Makanchi Array	47.68	308	eP	P	22 13 59.2	-1.9
MK32				ePcP	PcP	22 15 28.3	-0.2
MKAR	Makanchi Array	47.68	308	P	P	22 13 59.2	-1.9
	0.3nm,0.3s,baz=80,slow=10.0,SNR=8.8						
MKAR				PcP	PcP	22 15 28.3	-0.2
	0.5nm,0.6s,baz=86,slow=5.8,SNR=3.9						
NRIK	Noril'sk	49.69	338	P	P	22 14 16.4	+0.4
	10nm,0.6s,baz=107,slow=10,SNR=19						
WR1	Warramunga Arr	49.70	188	eP	P	22 14 15.9	-0.7
WRA	Warramunga Arr	49.70	188	P	P	22 14 15.9	-0.7
	0.5nm,0.4s,baz=6.4,slow=7.8,SNR=14						
KDAK	Kodiak Island	53.23	38	eP	P	22 14 44.1	+1.6
	71nm,1.7s						
KDAK	Kodiak Island	53.23	38	P	P	22 14 43.8	+1.3
	3.4nm,0.3s,baz=265,slow=1.4,SNR=16						
ASAR	Alice Springs	53.42	188	P	P	22 14 43.4	-1.0
	0.3nm,0.4s,baz=5.5,slow=5.4,SNR=9.9						
CAST	Castle Rocks	53.82	31	eP	P	22 14 49.3	+2.4
	3.7nm,1.0s						
MLY	Manley	54.56	29	eP	P	22 14 54.4	+2.2
	2.2nm,0.8s						
BVAR	Borovoye Array	55.13	316	P	P	22 14 55.4	-1.0
	3.5nm,0.5s,baz=90,slow=7.7,SNR=38						
ILAR	Eielson Array	56.19	29	P	P	22 15 04.6	+0.8
	1.0nm,0.8s,baz=263,slow=6.2,SNR=10						
DOT	Dot Lake	57.42	31	eP	P	22 15 14.0	+1.5
SCRK	Sand Creek	57.45	30	eP	P	22 15 14.3	+1.5
	1.9nm,0.8s						
HYT	Haines Junctio	60.74	34	eP	P	22 15 38.5	+3.0
	5.6nm,1.1s						
INK	Inuvik	61.31	25	eP	P	22 15 40.4	+1.3
	11nm,2.0s						
INK	Inuvik	61.31	25	P	P	22 15 40.4	+1.3
	0.8nm,0.5s,baz=312,slow=3.6,SNR=6.2						
ARU	Arti	61.46	321	eP	P	22 15 39.4	-0.9
	4.8nm,0.7s						
WHY	Whitehorse	62.04	34	eP	P	22 15 47.0	+2.7
	3.3nm,0.8s						
ABKAR	Akbulak array	62.22	313	eP	P	22 15 44.7	-0.8
	4.1nm,0.5s						
KIRV	Kirov	65.71	325	P	P	22 16 08.0	-0.1
	3.1nm,0.4s,baz=43,slow=5.6,SNR=4.4						
YKA	Yellowknife Ar	70.58	28	P	P	22 16 39.0	+0.5
	0.5nm,0.6s,baz=298,slow=6.3,SNR=5.5						
ARCES	ARCESS Array B	70.60	340	P	P	22 16 39.1	+0.5
	8.6nm,0.6s,baz=71,slow=8.6,SNR=64						
FINES	FINESS Array B	74.96	333	eP	P	22 17 04.5	+0.1
FINES	FINESS Array B	74.96	333	P	P	22 17 04.3	-0.1
	5.5nm,0.4s,baz=67,slow=5.3,SNR=120						
KBZ	Khabaz	75.15	312	P	P	22 17 05.2	-0.6
	1.3nm,0.6s,baz=115,slow=4.7,SNR=5.2						
YBH	Yreka Blue Hor	75.55	50	P	P	22 17 10.7	+2.4
	1.6nm,0.9s,baz=323,slow=5.1,SNR=4.1						
PINE	Pine Mountain	75.77	48	eP	P	22 17 12.1	+2.5
	5.0nm,0.8s						
NEW	Newport	76.01	42	P	P	22 17 11.0	+0.3
	2.3nm,0.8s,baz=288,slow=16,SNR=2.7						
J08A	Circle Bar Ran	77.56	47	eP	P	22 17 22.0	+2.4
	6.3nm,1.3s						
BEKR	Beckworth	78.00	51	eP	P	22 17 21.4	-0.8
	2.1nm,0.9s						
AKASG	Malin Array Be	79.64	323	P	P	22 17 29.8	-0.9
	0.5nm,0.3s,baz=50,slow=6.1,SNR=8.1						
NVAR	Mina Array Bea	80.09	51	eP	P	22 17 35.1	+1.4
NVAR	Mina Array Bea	80.09	51	P	P	22 17 35.4	+1.7
	1.7nm,0.7s,baz=289,slow=5.8,SNR=11						
HFS	Hagfors	80.45	336	P	P	22 17 34.6	-0.3
	2.4nm,0.5s,baz=93,slow=5.0,SNR=12						
NB2	NORSAR Subarra	80.65	338	P	P	22 17 35.7	-0.3
	comp=Z,0.8nm,0.5s,baz=45,slow=4.8						
NOA	NORSAR Array B	80.65	338	P	P	22 17 35.9	-0.1
	comp=Z,1.4nm,0.6s,baz=45,slow=5.5,SNR=10						
ELK	Elko	80.95	48	P	P	22 17 39.8	+1.6
	comp=Z,1.1nm,0.8s,baz=338,slow=5.5,SNR=4.9						
BR101	Keskin Array S	83.15	312	eP	P	22 17 49.2	-0.4
BRTR	Keskin Array B	83.15	312	P	P	22 17 49.2	-0.4
	comp=Z,0.7nm,0.6s,baz=116,slow=4.2,SNR=5.7						
BUR08	Bucovina Ar. S	83.58	322	eP	P	22 17 51.2	-0.4
	comp=Z,12nm,1.8s						
GERES	GERESS Array B	88.52	328	P	P	22 18 14.9	-0.9
	comp=Z,0.2nm,0.3s,baz=56,slow=5.0,SNR=6.2						
TXAR	Lajitas Array	95.23	52	P	P	22 18 49.0	+1.7
	comp=Z,0.7nm,0.7s,baz=285,slow=2.4,SNR=5.4						
LPAZ	La Paz	150.58	69	PKPbc	PKiKP	22 25 17.4	+0.9
	comp=Z,1.7nm,0.8s,baz=260,slow=1.7,SNR=9.2						

*ISCJB **10** 22:11:13.1±0.2, 21°.99N±0°.03×94°.74E±0°.03, h97km, mb4.1/36, Error ellipse: s-maj=4.8km s-min=3.8km az=30.8*
*BJI **10** 22:11:14.1±0.0, 21°.82N×94°.70E, h110km, mb4.4/22, mB4.5/12*
*IDC **10** 22:11:15.6±1.7, 21°.75N×94°.67E, h126km±16km, mb3.6/18, mb1 3.7/20, mb1mx3.5/46, mbtmp4.0/20, Error ellipse: s-maj=23.1km s-min=12.6km az=45.0*
*NEIC **10** 22:11:15.8±0.5, 21°.82N×94°.72E, h121km±6km, mb4.3/18, Error ellipse: s-maj=7.6km s-min=6.2km az=46.0*
ISC 10 22:11:13.9±0.5, 21°.95N±0°.06×94°.68E±0°.05, h97km, n77, σ2s22/92, mb4.3/36, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMRM	Sittwe	2.46	223	ePn	Pn	22 11 53.4	+0.9
SIMRM				eSn	Sn	22 12 24.3	+2.3
BRDH	Bariadhala	2.91	285	P	Pn	22 11 59.9	+1.6
	53nm,0.3s,baz=52,slow=7.6,SNR=7.4						
BRDH				S	Sn	22 12 35.2	+2.6
	290nm,0.3s,baz=157,slow=21,SNR=16						
CHTO	Chiang Mai	5.07	127	ePn	Pn	22 12 27.8	+0.3
CMMT	Chiang Mai	5.07	127	P	Pn	22 12 27.9	+0.3
	6.4nm,0.8s						
CMAR	Chiang Mai Arr	5.29	130	ePn	Pn	22 12 31.0	+0.3
CMAR	Chiang Mai Arr	5.29	130	P	Pn	22 12 31.1	+0.5
	0.8nm,0.3s,baz=305,slow=14,SNR=53						
CMAR				S	Sn	22 13 44.0	+14
	baz=304,slow=18,SNR=3.0						
LAMP	Lampang	5.76	125	P	Pn	22 12 38.0	+1.0
	33μm,0.7s,292μm						
UMPA	Umpang Tak	6.94	145	P	Pn	22 12 56.0	+2.9
	48μm,0.7s						
UTHA	Uthaitani	7.79	144	P	Pn	22 13 05.4	+0.8
	43μm,0.8s,450μm						
KMI	Kunming	8.04	65	P	Pn	22 13 09.5	+1.3
KMI				sP		22 13 38.6	
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
LSA	Lhasa	8.35	338	ePn	Pn	22 13 16.7	+4.1
SRDT	SRDT	8.65	150	P	Pn	22 13 16.4	+0.1
	22nm,0.9s,491nm						
RAMN	Ramite	8.89	306	ePn	Pn	22 13 21.5	+1.8
RAMN				eSn	Sn	22 14 56.5	-1.8
	98nm,0.4s						
JIRN	Jiri	9.58	308	ePn	Pn	22 13 31.6	+2.3
JIRN				eSn	Sn	22 15 13.1	-2.3
	105nm,0.3s						
PKI	Pulchoki	10.12	305	ePn	Pn	22 13 38.0	+1.5
PKIN	Phulchoki	10.13	305	ePn	Pn	22 13 37.9	+1.3
PKIN				eSn	Sn	22 15 25.4	-3.1
	54nm,0.3s						
PHET	Kaeng Krachan	10.15	152	P	Pn	22 13 38.5	+1.8
DMN	Daman	10.37	305	ePn	Pn	22 13 41.6	+1.7
PBA	Port Blair	10.40	191	ePn	Pn	22 13 41.3	+1.2
GKN	Gorkha	10.93	306	ePn	Pn	22 13 48.2	+0.8
GKN				eSn	Sn	22 15 44.0	-3.7
	116nm,0.4s						
KOLN	Koldanda	11.61	302	ePn	Pn	22 13 57.0	+0.4
KOLN				eSn	Sn	22 15 58.3	-6.1
DANN	Dangsing	11.77	305	ePn	Pn	22 13 59.0	+0.2
DANN				eSn	Sn	22 16 02.8	-5.6
	54nm,0.4s						
CD2	Chengdu	12.07	40	eP	Pn	22 14 04.7	+2.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PYUN	Piuthan	12.24	302	ePn	Pn	22 14 04.9	-0.2
PYUN				eSn	Sn	22 16 13.8	-6.0
	62nm,0.5s						
ENH	Enshi	15.66	55	ePn	P	22 14 50.5	-0.7
	15nm,0.6s						
HYB	Hyderabad	15.84	256	i P	Pn	22 14 53.0	+1.5
HYB				eS	Sn	22 17 47.0	+0.2
LZH	Lanzhou	16.20	28	eP	Pn	22 14 55.0	-0.9
LZH				pP	pP	22 15 10.2	-5.3
LZH				PP	sP	22 15 15.3	-13
LZH				sP	P	22 15 27.0	+30
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				pmax	pmax		
	comp=Z,72nm,4.5s						
XAN	Xi'an	17.39	43	P	Pn	22 15 11.2	+0.8
XAN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
XAN	Xi'an	17.39	43	eP	Pn	22 15 11.5	+1.0
	13nm,1.3s						
PSI	Prapat	19.47	167	eP	P	22 15 34.2	+0.9
	26nm,1.1s						
NIL	Nilore	22.21	306	eP	P	22 16 02.4	0.0
	9.9nm,0.5s						
WMQ	Urumqi	22.57	347	eP	P	22 16 06.9	+0.7
WMQ				sP	sP	22 16 39.4	+2.0
HHC	Hu-ho-hao-te	23.65	33	eP	P	22 16 16.7	+0.2
HHC				S	S	22 20 19.5	-4.5
HHC				pmax	pmax		
	comp=Z,32nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,4.1s						
KSH	Kashi	23.70	322	P	P	22 16 18.9	+1.9
KSH				pP	pP	22 16 43.0	+5.4
KSH				PP	PnPn	22 16 57.4	+7.1
KSH				S	S	22 20 24.4	-0.5
KSH				SS	SnSn	22 21 22.1	+8.5
KSH				pmax	pmax		
	comp=Z,15nm,0.4s						
KSH				pmax	pmax		
	comp=Z,120nm,6.8s						
KSH				LR	LR		
	comp=N,440nm,11.0s						
KSH				LR	LR		
	comp=E,230nm,8.9s						
KSH				LR	LR		
	comp=Z,260nm,8.1s						
MK31	Makanchi Array	26.75	341	eP	P	22 16 46.2	+1.8
	2.7nm,0.9s						
MKAR	Makanchi Array	26.75	341	eP	P	22 16 45.8	+1.4
MKAR	Makanchi Array	26.75	341	P	P	22 16 46.2	+1.8
	2.1nm,0.5s,baz=146,slow=9.1,SNR=34						
MKAR				PcP	PcP	22 20 04.5	-0.7
	0.3nm,0.4s,baz=160,slow=3.9,SNR=5.0						
MAKZ	Makanchi	26.86	340	eP	P	22 16 45.9	+0.6
	2.8nm,1.1s						
GAR	Garm	26.89	315	eP	P	22 16 47.2	+1.3
	7.4nm,0.8s						
SONM	Songino Array	27.49	17	P	P	22 16 52.4	+1.2
	0.2nm,0.4s,baz=216,slow=7.1,SNR=3.9						
KKAR	Karatay Array	29.15	322	eP	P	22 17 06.8	+0.9
KURK	Kurchatov	31.35	340	eP	P	22 17 25.6	+0.5
	3.8nm,0.7s						
ZAA0	Zalesovo Array	32.82	349	eP	P	22 17 39.6	+1.7
	7.8nm,0.8s						
ZALV	Zalesovo Beam	32.82	349	eP	P	22 17 39.0	+1.1
ZALV	Zalesovo Beam	32.82	349	P	P	22 17 39.4	+1.5
	8.3nm,0.7s,baz=171,slow=9.1,SNR=30						
GEYT	Alibeck	35.21	305	P	P	22 18 00.3	+1.5
	25nm,0.6s,baz=133,slow=16,SNR=4.4						
GEYT				ScP	ScP	22 23 59.7	-5.2
	0.4nm,0.4s,baz=154,slow=4.3,SNR=3.7						
BRVK	Borovoye	36.24	335	eP	P	22 18 08.0	+0.6
	3.3nm,0.9s						
USRK	Ussuriysk Ar.	37.88	45	P	P	22 18 21.1	-0.3
	0.7nm,0.5s,baz=252,slow=12,SNR=3.9						
ABKAR	Akbulak array	38.69	323	eP	P	22 18 29.4	+1.3
ARU	Arti	43.48	332	eP	P	22 19 08.0	+0.6
	5.0nm,1.1s						
NRIK	Noril'sk	47.60	357	P	P	22 19 40.2	+0.7
	3.1nm,0.5s,baz=154,slow=5.8,SNR=4.9						
BRTR	Keskin Array B	54.33	304	P	P	22 20 30.4	-0.3
	0.2nm,0.6s,baz=69,slow=8.4,SNR=2.6						
WRA	Warramunga Arr	56.88	134	P	P	22 20 46.9	-2.0
	0.3nm,0.4s,baz=320,slow=7.5,SNR=7.4						
AKASG	Malin Array Be	57.86	317	P	P	22 20 54.4	-1.1
	0.2nm,0.3s,baz=81,slow=6.0,SNR=5.7						
ASAR	Alice Springs	59.26	138	P	P	22 21 03.4	-2.1
	0.3nm,0.5s,baz=319,slow=6.6,SNR=7.2						
MLR	Muntele Rosu	59.94	311	eP	P	22 21 09.6	-0.5
	3.4nm,0.8s						
ALN	Alexandroupoli	60.09	305	eP	P	22 21 10.8	-0.2
	3.9nm,1.1s						
FINES	FINESS Array B	60.75	329	eP	P	22 21 14.2	-1.0
FINES	FINESS Array B	60.75	329	P	P	22 21 14.5	-0.6
	1.4nm,0.8s,baz=100,slow=7.9,SNR=5.0						
ARCES	ARCESS Array B	62.36	338	eP	P	22 21 26.0	+0.2
ARCES	ARCESS Array B	62.36	338	P	P	22 21 25.5	-0.4
	1.7nm,0.8s,baz=90,slow=9.9,SNR=5.6						
NOA	NORSAR Array B	67.92	329	P	P	22 21 59.9	-2.1
	0.6nm,0.8s,baz=117,slow=3.5,SNR=3.3						
GERES	GERESS Array B	67.97	315	eP	P	22 22 02.1	-0.5
GERES	GERESS Array B	67.97	315	P	P	22 22 01.5	-1.2
	0.7nm,0.7s,baz=77,slow=5.8,SNR=6.5						
SUMG	Summit	80.62	347	eP	P	22 23 15.4	-0.5
	5.5nm,0.8s						
BMAR	Burnt Mountain	80.82	20	eP	P	22 23 16.6	-0.1
MCK	McKinley	81.42	24	eP	P	22 23 20.5	+0.6
	5.4nm,1.0s						
ILAR	Eielson Array	81.59	22	eP	P	22 23 18.8	-1.9
ILAR	Eielson Array	81.59	22	P	P	22 23 18.6	-2.1
	0.8nm,0.7s,baz=299,slow

0.5nm,0.5s,baz=153,slow=9.0,SNR=6.9
ZALV Zalesovo Beam 59.27 347 P P 22 55 09.1 -0.8
0.8nm,0.4s,baz=155,slow=5.0,SNR=3.9

GCMT ***10*** *22:52:41.9±0.3, 6°.52S±0°.02×154°.62E±0°.03, h31km±1km, MW5.0/59, Moment Tensor Solution. s33,c35; s59,c76; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.12±.29; Mθθ0.54±.17; Mφφ-3.66±.17; Mrθ-0.97±.29; Mθφ-0.37±.14; Mφr1.98±.27; Best double couple: M0=4.08300×10^16 NP1:φs=348.00000°, δ62.00000°, λ71.00000°. NP2: φs=204.00000°, δ33.00000°, λ121.00000°. Principal axes: T 3.9670, Plg67.0000°, Azm221.0000°; N 0.2290, Plg17.0000°, Azm357.0000°; P -4.1980, Plg15.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***10*** *22:52:42.7±0.1, 6°.46S±0°.03×154°.42E±0°.03, h48km, mb5.0/107, MS4.3/31 Error ellipse: s-maj=4.3km s-min=3.8km az=152.2*

BJI ***10*** *22:52:43.6±0.0, 6°.61S×154°.31E, h58km, mb4.9/54, mB5.1/35, Ms4.6/26, Ms7 4.4/26*

MOS ***10*** *22:52:43.4±1.1, 6°.40S×154°.41E, h52km, mb5.1/24, Error ellipse: s-maj=9.9km s-min=8.4km az=82.4*

NEIC ***10*** *22:52:45.9±0.8, 6°.50S×154°.38E, h66km±7km, mb5.1/64, Error ellipse: s-maj=5.4km s-min=5.0km az=80.0*

IDC ***10*** *22:52:45.5±2.4, 6°.33S×154°.48E, h71km±21km, mb4.4/24, mb1 4.6/28, mb1mx4.5/42, mbtmp4.8/28, MS4.2/23, Ms1 4.2/23, ms1mx4.0/41, Error ellipse: s-maj=14.8km s-min=10.8km az=84.0*

DJA ***10*** *22:52:46.3±1.0, 6°.5S±5°.×15°.4E±°, h59km±9km, M5.3/29, mB5.6/8, mb5.2/29, MLv5.5/1, Mw(mB)5.1/8*

ISC 10 22:52:44.4±0.3, 6°.41S±0°.05×154°.47E±0°.05, h48km, n292, σ1§75/303, mb5.0/107, MS4.2/31, 9C-2D,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.18**	**314**	*e*Pn	**Pn**	**22 53 32.3**	**+0.3**
HNR	**Honiara**	**6.20**	**119**	*e*P	**Pn**	**22 54 16.0**	**+2.6**
HNR				*e*S	Sn	22 55 45.0	+22
HNR	**Honiara**	**6.20**	**119**	*e*Pn	**Pn**	**22 54 14.8**	**+1.4**
HNR	**Honiara**	**6.20**	**119**	P	**Pn**	**22 54 14.7**	**+1.3**
	42nm,0.3s,baz=167,slow=7.5,SNR=17						
HNR				S	**Sn**	**22 55 31.8**	**+8.7**
	45nm,0.3s,baz=317,slow=19,SNR=2.1						
HNR				LR	LR	22 56 38.1	
	comp=Z,6μm,18.2s,baz=280,slow=37						
PMG	**Port Moresby**	**7.83**	**247**	*e*Pn	**Pn**	**22 54 36.5**	**+0.7**
PMG				*e*Sn	**Sn**	**22 56 07.7**	**+4.7**
PMG	**Port Moresby**	**7.83**	**247**	*ce*P	**Pn**	**22 54 38.8**	**+3.0**
PMG				pmax	pmax		
	comp=Z,623nm,0.8s						
PMG	**Port Moresby**	**7.83**	**247**	P	**Pn**	**22 54 38.6**	**+2.9**
	comp=Z,8.0nm,0.3s,baz=61,slow=8.8,SNR=23						
PMG				S	**Sn**	**22 56 07.7**	**+4.7**
	comp=Z,9.2nm,0.3s,baz=236,slow=20,SNR=9.1						
PMG				LR	LR	22 57 36.6	
	comp=Z,5μm,19.4s,baz=15,slow=37						
COEN	**Coen**	**13.40**	**235**	P	**Pn**	**22 55 55.1**	**+3.0**
	baz=14,SNR=13						
GENI	**Genyem**	**14.75**	**284**	P	**Pn**	**22 56 10.1**	**-0.1**
CTA	**Charters Tower**	**15.76**	**210**	P	**Pn**	**22 56 24.8**	**+1.5**
	comp=Z,2.6nm,0.3s,baz=33,slow=11,SNR=44						
CTAO	**Charters Tower**	**15.76**	**210**	*e*Pn	**Pn**	**22 56 24.0**	**+0.7**
	comp=Z,112nm,0.8s						
CTAO	**Charters Tower**	**15.76**	**210**	*e*P	**Pn**	**22 56 24.0**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,112nm,0.8s						
EIDS	**Eidsvold**	**19.13**	**189**	*e*P	**P**	**22 57 00.1**	**-3.5**
	comp=Z,69nm,1.1s						
EIDS	**Eidsvold**	**19.13**	**189**	P	**Pn**	**22 57 04.2**	**-0.6**
	baz=19,SNR=7.9						
DZM	**Mont Dzumac**	**19.39**	**145**	*e*P	**P**	**22 57 06.1**	**-0.5**
	comp=Z,170nm,1.1s						
DZM				*e*LQ	LQ	23 01 05.9	
	comp=Z,1μm,24.6s						
DZM				*e*LR	LR	23 01 55.8	
	comp=Z,600nm,22.8s						
DZM	**Mont Dzumac**	**19.39**	**145**	*e*P	**P**	**22 57 06.4**	**-0.2**
	comp=Z,115nm,1.2s						
DZM	**Mont Dzumac**	**19.39**	**145**	P	**P**	**22 57 06.5**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=6.2,slow=9.2,SNR=14						
ONTNC	**Ouen Toro**	**19.59**	**145**	*e*P	**P**	**22 57 08.1**	**-0.5**
	comp=Z,76nm,1.0s						
TARA	**Tarawa**	**19.97**	**68**	*e*P	**Pn**	**22 57 16.2**	**+1.2**
	comp=Z,727nm,1.6s						
KWAJ	**Kwajalein Atol**	**20.00**	**41**	*e*P	Pn	22 57 15.5	+0.2
	comp=Z,1μm,1.8s						
KWAJ	**Kwajalein Atol**	**20.00**	**41**	*e*P	Pn	22 57 15.5	+0.2
KWAJ				pmax	pmax		
	comp=Z,1μm,1.8s						
QIS	**Mount Isa**	**20.14**	**224**	P	**P**	**22 57 15.0**	**+0.3**
	baz=20,SNR=30						
PINNC	**Pines Island,**	**20.40**	**143**	*e*P	**P**	**22 57 17.6**	**+0.1**
	comp=Z,180nm,1.5s						
RMQ	**Roma**	**20.69**	**195**	P	**P**	**22 57 21.5**	**+0.9**
	baz=21,SNR=8.4						
GUMO	**Guam**	**22.04**	**334**	LR	LR	23 05 43.4	
	comp=Z,231nm,19.3s,baz=144,slow=35						
FAKI	**Fak Fak**	**22.41**	**278**	*e*P	**P**	**22 57 39.1**	**-0.2**
	comp=Z,128nm,1.5s						
FAKI	**Fak Fak**	**22.41**	**278**	P	**P**	**22 57 38.6**	**-0.7**
	comp=Z,43nm,0.8s,comp=Z,986nm						
KDU	**Kakadu**	**22.56**	**252**	P	**P**	**22 57 39.6**	**-1.1**
	baz=23,SNR=13						
WRAB	**Tennant Creek**	**23.71**	**234**	*e*P	**P**	**22 57 51.9**	**-0.4**
	comp=Z,118nm,0.8s						
WRAB	**Tennant Creek**	**23.71**	**234**	*de*P	**P**	**22 57 52.4**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,124nm,0.9s						
WB2	**Warramunga Arr**	**23.72**	**234**	*e*P	**P**	**22 57 51.4**	**-0.9**
	comp=Z,114nm,0.8s						
WRA	**Warramunga Arr**	**23.73**	**234**	P	**P**	**22 57 51.8**	**-0.6**
	comp=Z,110nm,0.9s,baz=58,slow=9.6,SNR=136						
WRA				PcP	**PcP**	**23 01 35.7**	**+0.2**
	comp=Z,7.8nm,0.9s,baz=56,slow=2.7,SNR=6.8						
WRA				ScP	**ScP**	**23 05 13.6**	**+3.5**
	comp=Z,2.5nm,0.7s,baz=55,slow=3.2,SNR=7.2						
WRA				LR	LR	23 07 02.1	
	comp=Z,1μm,19.4s,baz=45,slow=36						
MTN	**Manton Dam**	**23.86**	**253**	P	**P**	**22 57 53.4**	**-0.3**
	baz=24,SNR=5.6						
ARMA	**Armidale**	**24.03**	**186**	*e*P	**P**	**22 57 54.6**	**-0.5**
	comp=Z,95nm,1.0s						
ARMA	**Armidale**	**24.03**	**186**	P	**P**	**22 57 55.6**	**+0.5**
	baz=24,SNR=13						
PALU	**Palau**	**24.18**	**304**	P	**P**	**22 57 56.3**	**-0.2**
	baz=24,SNR=7.1						
ASAR	**Alice Springs**	**26.18**	**227**	*e*P	**P**	**22 58 13.2**	**-1.5**
ASAR				*e*PcP	**PcP**	**23 01 40.8**	**-0.2**
ASAR	**Alice Springs**	**26.18**	**227**	*e*P	**P**	**22 58 13.2**	**-1.5**
ASAR				*e*		23 01 40.8	
ASAR	**Alice Springs**	**26.18**	**227**	P	**P**	**22 58 13.7**	**-0.9**
	comp=Z,10nm,0.5s,baz=57,slow=9.3,SNR=129						
ASAR				PcP	**PcP**	**23 01 39.4**	**-1.6**
	comp=Z,5.7nm,1.1s,baz=72,slow=1.2,SNR=4.4						
ASAR				ScP	**ScP**	**23 05 20.1**	**+3.1**
	comp=Z,2.5nm,0.7s,baz=53,slow=3.4,SNR=10						
ASAR				LR	LR	23 08 25.2	
	comp=Z,839nm,18.9s,baz=53,slow=36						
CMSA	**Cobar Meteorol**	**26.31**	**197**	P	**P**	**22 58 15.0**	**-0.7**
	baz=26,SNR=31						
KNRA	**Kununurra**	**26.83**	**248**	P	**P**	**22 58 20.3**	**-0.2**
	baz=27,SNR=7.9						
STKA	**Stephens Creek**	**28.05**	**204**	P	**P**	**22 58 29.8**	**-1.5**
STKA				*e*ScP	**ScP**	**23 05 25.8**	**+3.4**
STKA	**Stephens Creek**	**28.05**	**204**	P	**P**	**22 58 30.3**	**-1.0**
	baz=28,SNR=9.4						
STKA	**Stephens Creek**	**28.05**	**204**	P	**P**	**22 58 29.8**	**-1.5**
	comp=Z,14nm,0.6s,baz=31,slow=13,SNR=21						
STKA				ScP	**ScP**	**23 05 25.0**	**+2.6**
	comp=Z,5.6nm,1.1s,baz=2.4,slow=1.8,SNR=5.6						
STKA				LR	LR	23 09 35.3	
	comp=Z,671nm,19.9s,baz=20,slow=36						
SANI	**Sanana**	**28.72**	**277**	P	**P**	**22 58 38.0**	**+0.5**
	comp=Z,31nm,1.1s,comp=Z,722nm						
FITZ	**Fitzroy Crossi**	**30.41**	**245**	P	**P**	**22 58 51.6**	**-0.9**
	baz=31,SNR=18						
FITZ	**Fitzroy Crossi**	**30.41**	**245**	P	**P**	**22 58 51.2**	**-1.3**
	comp=Z,13nm,0.8s,baz=81,slow=7.2,SNR=28						
FITZ				LR	LR	23 11 34.1	
	comp=Z,1μm,19.2s,baz=76,slow=37						
HTT	**Hallett**	**30.51**	**206**	P	**P**	**22 58 52.5**	**-0.7**
	baz=31,SNR=6.6						
WRKA	**Warakurna**	**31.15**	**231**	P	**P**	**22 58 57.6**	**-1.4**
	baz=31,SNR=38						
KMSI	**Cibinong**	**31.21**	**282**	P	**P**	**22 58 59.6**	**+0.1**
BBOO	**Buckleboo**	**31.36**	**211**	P	**P**	**22 58 59.4**	**-1.2**
	baz=32,SNR=13						
DAV	**Davao City (W)**	**31.78**	**294**	LR	LR	23 12 07.6	
	comp=Z,314nm,18.1s,baz=100,slow=37						
MMRI	**Maumere**	**32.02**	**264**	P	**P**	**22 59 06.4**	**-0.3**
LUWI	**Luwuk**	**32.06**	**278**	P	**P**	**22 59 08.1**	**+1.0**
	comp=Z,96nm,1.3s						
MRSI	**Marisa**	**33.18**	**281**	P	**P**	**22 59 16.8**	**0.0**
APSI	**Ampana**	**33.19**	**278**	P	**P**	**22 59 16.9**	**0.0**
OUZ	**Omahuta**	**33.64**	**151**	*e*P	**P**	**22 59 19.9**	**-0.7**
	comp=Z,45nm,1.1s						
BSSI	**Bau Bau, Buton**	**33.77**	**269**	P	**P**	**22 59 21.8**	**-0.2**
KAPI	**Kappang**	**34.57**	**270**	*e*P	**P**	**22 59 27.9**	**-1.0**
	comp=Z,27nm,1.0s						
KAPI	**Kappang**	**34.57**	**270**	*e*P	**P**	**22 59 27.9**	**-1.0**
KAPI				pmax	pmax		
	comp=Z,27nm,1.0s						
FORT	**Forrest**	**34.66**	**222**	P	**P**	**22 59 28.9**	**-0.6**
	baz=35,SNR=6.3						
MPSI	**Mapaga**	**35.15**	**280**	P	**P**	**22 59 32.8**	**-1.1**
	comp=Z,54nm,0.9s,comp=Z,521nm						
MOO	**Moorlands**	**36.45**	**189**	P	**P**	**22 59 45.6**	**+0.9**
	baz=37,SNR=5.3						
TAU	**Tasmania Unive**	**36.89**	**189**	*e*P	**P**	**22 59 48.5**	**+0.1**
	comp=Z,62nm,0.8s						
TAU	**Tasmania Unive**	**36.89**	**189**	*e*P	**P**	**22 59 48.5**	**+0.1**
TAU				pmax	pmax		
	comp=Z,62nm,0.8s						
SMKI	**Samarinda**	**37.64**	**278**	P	**P**	**22 59 55.6**	**+0.4**
URZ	**Urewera**	**37.77**	**150**	P	**P**	**22 59 55.7**	**-0.2**
	comp=Z,5.7nm,0.4s,baz=265,slow=2.5,SNR=9.3						
URZ				LR	LR	23 13 21.9	
	comp=Z,348nm,20.6s,baz=332,slow=33						
KMBL	**Kambalda**	**39.31**	**227**	P	**P**	**23 00 08.4**	**-0.6**
	baz=40,SNR=5.9						
LTZ	**Lake Taylor**	**39.49**	**159**	*e*P	**P**	**23 00 10.1**	**-0.2**
	comp=Z,64nm,1.1s						
MEEK	**Meekatharra**	**39.60**	**235**	P	**P**	**23 00 11.0**	**-0.5**
	baz=40,SNR=6.8						
KHZ	**Kahutara**	**39.63**	**158**	*e*P	**P**	**23 00 10.5**	**-1.0**
	comp=Z,69nm,1.2s						
RPZ	**Rata Peaks**	**39.91**	**161**	*e*P	**P**	**23 00 13.1**	**-0.7**
	comp=Z,46nm,1.0s						
RPZ	**Rata Peaks**	**39.91**	**161**	P	**P**	**23 00 13.0**	**-0.8**
	comp=Z,27nm,0.9s,baz=287,slow=3.1,SNR=5.8						
JAGI	**Jajag, Banyuwa**	**40.02**	**264**	*e*P	**P**	**23 00 12.5**	**-2.6**
	comp=Z,71nm,1.1s						
KKM	**Kota Kinabalu**	**40.13**	**287**	P	**P**	**23 00 16.0**	**-0.2**
MLZ	**Mavora Lakes**	**40.58**	**165**	*e*P	**P**	**23 00 17.9**	**-1.4**
	comp=Z,191nm,1.8s						
PWJI	**Pagerwojo**	**42.34**	**265**	P	**P**	**23 00 34.0**	**-0.2**
KLBR	**Kellerberrin**	**42.46**	**229**	P	**P**	**23 00 34.1**	**-0.9**
	baz=43,SNR=5.2						
MORW	**Morawa**	**42.68**	**233**	*e*P	**P**	**23 00 35.8**	**-0.9**
	comp=Z,39nm,1.1s						
MORW	**Morawa**	**42.68**	**233**	P	**P**	**23 00 36.5**	**-0.2**
	baz=43,SNR=4.3						
SBUM	**Sibu**	**43.09**	**280**	P	**P**	**23 00 41.0**	**+0.7**
NACB	**Ninganchiao**	**44.18**	**315**	*e*P	**P**	**23 00 48.1**	**-0.8**
	comp=Z,52nm,1.1s						
KSM	**Kuching**	**44.77**	**279**	*e*P	**P**	**23 00 53.3**	**-0.5**
	comp=Z,25nm,1.2s						
JNU	**Nakatsue**	**45.25**	**332**	*e*P	**P**	**23 00 56.2**	**-1.1**
	comp=Z,33nm,1.2s						
JNU	**Nakatsue**	**45.25**	**332**	P	**P**	**23 00 56.2**	**-1.1**
	comp=Z,6.1nm,0.6s,baz=55,slow=4.8,SNR=6.0						
MJAR	**Matsushiro Arr**	**45.37**	**342**	P	**P**	**23 00 56.9**	**-1.3**
	comp=Z,4.5nm,0.7s,baz=144,slow=10,SNR=4.2						
MJAR				LR	LR	23 21 14.1	
	comp=Z,177nm,18.0s,baz=170,slow=38						
MAJO	**Matsushiro**	**45.37**	**342**	*e*P	**P**	**23 00 56.9**	**-1.3**
MAJO	**Matsushiro**	**45.37**	**342**	*e*P	**P**	**23 00 56.9**	**-1.3**
CISI	**Cisompet, Garu**	**46.30**	**266**	*e*P	**P**	**23 01 04.9**	**-1.1**
	comp=Z,157nm,0.9s						
CISI	**Cisompet, Garu**	**46.30**	**266**	P	**P**	**23 01 05.2**	**-0.8**
	comp=Z,190nm,1.1s						
RAR	**Rarotonga**	**46.62**	**113**	LR	LR	23 17 52.3	
	comp=Z,230nm,18.7s,baz=282,slow=32						
CBJI	**Citeko**	**47.31**	**267**	P	**P**	**23 01 12.8**	**-0.9**
CGJI	**Cibinong**	**48.45**	**267**	P	**P**	**23 01 20.8**	**-1.8**
DLV	**T Lat**	**49.23**	**292**	*e*P	**P**	**23 01 28.4**	**-0.3**
	comp=Z,56nm,1.1s						
KSRS	**Korea Array**	**50.18**	**332**	P	**P**	**23 01 33.8**	**-1.6**
	comp=Z,6.4nm,1.0s,baz=144,slow=7.7,SNR=5.0						
KSRS				LR	LR	23 23 04.3	
	comp=Z,97nm,18.1s,baz=142,slow=36						
KSAR	**Wonju Array Be**	**50.19**	**332**	*e*P	**P**	**23 01 34.5**	**-1.0**
KSAR	**Wonju Array Be**	**50.19**	**332**	*e*P	**P**	**23 01 34.5**	**-1.0**
NJ2	**Nanjing**	**51.14**	**321**	*e*P	**P**	**23 01 43.4**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
WHN	**Wuhan**	**53.16**	**316**	⇑P	**P**	**23 01 57.0**	**-0.8**
WHN				S	**S**	**23 09 31.1**	**+5.9**
WHN				LR	LR		
	comp=Z,520nm,18.4s						
YSS	**Yuzh-Sakhalins**	**54.14**	**350**	*e*P	P	23 02 11.1	+6.5
IPM	**Ipoh**	**54.44**	**280**	P	**P**	**23 02 07.0**	**-0.5**
KULM	**Kulim**	**54.97**	**281**	*e*P	**P**	**23 02 09.4**	**-1.8**
	comp=Z,18nm,1.0s						
TIA	**Tai'an**	**54.99**	**323**	P	**P**	**23 02 14.0**	**+3.0**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PPT	**Papeete**	**55.66**	**107**	LR	LR	23 22 45.0	
	comp=Z,129nm,18.8s,baz=351,slow=32						
PPT2	**Papeete2**	**55.67**	**107**	*e*LQ	LQ	23 16 21.3	
	comp=Z,303nm,26.8s						
PPT2				*e*LR	LR	23 18 43.0	
	comp=Z,291nm,27.8s						
NONG	**Nongkai**	**56.18**	**297**	P	**P**	**23 02 21.1**	**+1.3**
	comp=Z,0.3nm,0.7s						
TBI	**Tubuai**	**56.39**	**114**	*e*LQ	LQ	23 16 39.5	
	comp=Z,693nm,29.2s						
TBI				*e*LR	LR	23 19 06.7	
	comp=Z,546nm,25.0s,baz=286						
CN2	**Changchun**	**56.45**	**335**	*e*P	**P**	**23 02 24.2**	**+2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA	**Guiyang**	**56.69**	**307**	*e*P	**P**	**23 02 23.9**	**+0.4**
GYA				pP	sP	23 02 38.6	-1.3
GYA				sP	pwP	23 02 47.0	+4.5
GYA				PP	**PP**	**23 04 31.4**	**+1.3**
GYA				S	**S**	**23 10 07.9**	**-5.0**
GYA				sS	sS	23 10 34.8	+2.3
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
SKR	**Severo-Kuril's**	**56.88**	**1**	*e*P	P	23 02 36.4	+12
SKR				pmax	pmax		
	comp=Z,121nm,1.3s						
SKR				pmax	pmax		
	comp=Z,1μm,4.5s						
SKR				pmax	pmax		
	comp=Z,600nm,4.4s						
PHET	**Kaeng Krachan**	**57.76**	**290**	P	**P**	**23 02 33.7**	**+2.6**
	comp=Z,20μm,1.1s						
UTTA	**Uttaradit**	**58.38**	**295**	P	**P**	**23 02 37.1**	**+1.7**
	comp=Z,17μm,0.8s						
NANT	**Nan**	**58.61**	**296**	P	**P**	**23 02 37.4**	**+0.4**
	comp=Z,46μm,0.4s						
SRDT	**SRDT**	**58.64**	**291**	P	**P**	**23 02 39.9**	**+2.6**
	comp=Z,8.3nm,1.0s,comp=Z,493nm						
UTHA	**Uthaitani**	**58.70**	**292**	P	**P**	**23 02 40.7**	**+3.0**
	comp=Z,16μm,1.1s						
TIY	**Taiyuan**	**58.81**	**322**	*e*P	P	23 02 45.0	+6.8
TIY				pP	pwP	23 03 04.9	+7.8
TIY				sP	PcP	23 03 16.6	-11
TIY				PP	**PP**	**23 04 52.6**	**+3.8**
TIY				S	**S**	**23 10 43.6**	**+3.3**
TIY				sS	sS	23 11 19.5	+18
KLR	**Kul'dur**	**58.86**	**343**	*i* P	**P**	**23 02 38.8**	**+0.7**
KLR				pmax	pmax		
	comp=Z,12nm,1.2s						
KLR	**Kul'dur**	**58.86**	**343**	P	**P**	**23 02 36.7**	**-1.4**
	comp=Z,12nm,1.1s,baz=124,slow=7.3,SNR=3.6						
XAN	**Xi'an**	**58.93**	**316**	P	**P**	**23 02 38.0**	**-1.0**
XAN				S	**S**	**23 10 46.3**	**+4.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,55nm,5.3s						
XAN				LR	LR		
	comp=Z,120nm,17.6s						
XAN				LR	LR		
	comp=Z,170nm,21.6s						
XAN				LR	LR		
	comp=Z,140nm,18.1s						
KMI	**Kunming**	**59.26**	**304**	P	**P**	**23 02 42.6**	**+0.9**
KMI				pmax	pmax		
	comp=Z,19nm,1.3s						
KMI				LR	LR		
	comp=Z,81nm,9.6s						
KMI				LR	LR		
	comp=Z,160nm,15.9s						
KMI				LR	LR		
	comp=Z,200nm,15.7s						
PETK	**Petropavlovsk-**	**59.36**	**2**	*e*P	**P**	**23 02 43.6**	**+2.0**
PETK	**Petropavlovsk-**	**59.36**	**2**	*e*P	**P**	**23 02 43.6**	**+2.0**
PETK	**Petropavlovsk-**	**59.36**	**2**	P	**P**	**23 02 42.9**	**+1.3**
	comp=Z,16nm,1.1s,baz=142,slow=7.5,SNR=7.6						
PETK				LR	LR	23 24 24.7	
	comp=Z,122nm,21.6s,baz=174,slow=32						
PEA1	**Petropavlovsk-**	**59.36**	**2**	*e*P	**P**	**23 02 42.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**60.06**	**295**	*e*P	**P**	**23 02 47.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**60.06**	**295**	P	**P**	**23 02 47.9**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=121,slow=5.1,SNR=14						
CMMT	**Chiang Mai**	**60.17**	**296**	P	**P**	**23 02 49.6**	**+1.8**
	comp=Z,5.0nm,1.8s,comp=Z,221nm						
CHTO	**Chiang Mai**	**60.18**	**296**	*e*P	**P**	**23 02 48.4**	**+0.5**
	comp=Z,22nm,1.4s						
CHTO	**Chiang Mai**	**60.18**	**296**	*e*P	**P**	**23 02 48.4**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,22nm,1.4s						
CD2	**Chengdu**	**61.04**	**311**	P	**P**	**23 02 53.6**	**0.0**
CD2				S	**S**	**23 11 13.6**	**+4.4**
CD2				sS	sS	23 11 31.4	+3.3
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
CD2				pmax	pmax		
	comp=Z,130nm,9.2s						
CD2				LR	LR		
	comp=Z,260nm,15.5s						
CD2				LR	LR		
	comp=Z,240nm,16.1s						
CD2				LR	LR		
	comp=Z,390nm,17.5s						
HHC	**Hu-ho-hao-te**	**61.32**	**324**	*e*P	**P**	**23 02 58.6**	**+3.3**
HHC				S	**S**	**23 11 18.5**	**+6.0**
HHC				ScS	**SKKSac**	**23 12 41.0**	**-1.9**
HHC				pmax	pmax		
	comp=Z,59nm,1.1s						
HHC				pmax	pmax		
	comp=Z,200nm,6.2s						
HHC				LR	LR		
	comp=Z,510nm,15.4s						
HHC				LR	LR		
	comp=Z,500nm,16.7s						
HHC				LR	LR		
	comp=Z,520nm,16.2s						
ADK	**Adak**	**63.10**	**20**	*e*P	**P**	**23 03 08.0**	**+1.2**
	comp=Z,31nm,1.0s						
ADK	**Adak**	**63.10**	**20**	*e*P	**P**	**23 03 08.0**	**+1.2**
ADK				pmax	pmax		
	comp=Z,31nm,1.0s						
LZH	**Lanzhou**	**63.54**	**316**	*e*P	**P**	**23 03 12.5**	**+2.2**
LZH				pP	sP	23 03 26.5	-0.6
LZH				sP	pwP	23 03 32.5	+3.5
LZH				pmax	pmax		
	comp=Z,27nm,1.3s						
LZH				pmax	pmax		
	comp=Z,170nm,7.8s						
LZH				LR	LR		
	comp=Z,180nm,15.2s						
LZH				LR	LR		
	comp=Z,180nm,15.3s						
LZH				LR	LR		
	comp=Z,350nm,19.0s						
ZEA	**Zeya**	**64.17**	**342**	*e*P	**P**	**23 03 16.2**	**+2.3**
ZEA				pmax	pmax		
	comp=Z,23nm,1.0s						
MA2	**Magadan**	**65.84**	**358**	*ce*P	**P**	**23 03 25.9**	**+1.2**
MA2				pmax	pmax		
	comp=Z,14nm,1.7s						
MA2	**Magadan**	**65.84**	**358**	P	**P**	**23 03 25.3**	**+0.7**
	comp=Z,2.5nm,0.4s,baz=141,slow=13,SNR=4.1						
CASY	**Casey**	**66.98**	**198**	*e*P	**P**	**23 03 31.4**	**-0.5**
	comp=Z,33nm,1.5s						
GTA	**Gaotai**	**67.96**	**317**	*e*P	**P**	**23 03 39.3**	**+0.6**
GTA				pP	pP	23 03 53.2	+2.4
GTA				sP	pwP	23 03 59.1	+1.6
GTA				S	**S**	**23 12 34.1**	**-0.4**
GTA				sS	sS	23 13 02.6	+6.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,80nm,5.0s						
ULN	**Ulaanbaatar**	**68.24**	**328**	*e*P	**P**	**23 03 41.7**	**+1.4**
	comp=Z,10nm,1.1s						
ULN	**Ulaanbaatar**	**68.24**	**328**	*ce*P	**P**	**23 03 41.0**	**+0.7**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SHL	**Shillong**	**68.55**	**301**	*e*P	**P**	**23 03 43.0**	**+0.2**
SONM	**Songino Array**	**68.57**	**327**	*e*P	**P**	**23 03 41.9**	**-0.5**
SONM	**Songino Array**	**68.57**	**327**	*e*P	**P**	**23 03 41.9**	**-0.5**
SONM	**Songino Array**	**68.57**	**327**	P	**P**	**23 03 41.5**	**-0.8**
	comp=Z,5.7nm,1.0s,baz=136,slow=4.6,SNR=15						
SONM				LR	LR	23 36 11.2	
	comp=Z,192nm,18.1s,baz=121,slow=38						
SEY	**Seymchan**	**69.17**	**359**	*ce*P	**P**	**23 03 45.3**	**-0.2**
SEY	**Seymchan**	**69.17**	**359**	P	**P**	**23 03 43.5**	**-2.1**
	comp=Z,1.1nm,0.4s,baz=149,slow=12,SNR=2.8						
VNDA	**Vanda**	**71.17**	**178**	P	**P**	**23 03 57.3**	**-0.4**
	comp=Z,6.9nm,0.9s,baz=332,slow=6.8,SNR=25						
SBA	**Scott Base**	**71.69**	**177**	*e*P	**P**

WRH	Wood River Hil	82.43	22	eP	P	23 05 00.8	-0.5
	comp=Z,8.5nm,0.8s						
MKAR	Makanchi Array	82.62	319	ceP	P	23 05 02.9	+0.2
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	Makanchi Array	82.62	319	P	P	23 05 01.1	-1.6
	comp=Z,4.4nm,0.9s,baz=116,slow=5.0,SNR=11						
COLA	College	82.73	21	eP	P	23 05 02.7	-0.1
	comp=Z,8.2nm,1.0s						
COLA	College	82.73	21	i P	P	23 05 03.3	+0.5
COLA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HDA	Harding Lake	82.82	22	P	P	23 05 01.6	-1.7
	baz=239						
MAKZ	Makanchi	82.83	319	eP	P	23 05 02.2	-1.6
	comp=Z,15nm,1.3s						
MAKZ	Makanchi	82.83	319	eP	P	23 05 02.2	-1.6
MAKZ				pmax	pmax		
	comp=Z,15nm,1.3s						
ILAR	Eielson Array	83.03	22	P	P	23 05 01.6	-2.8
	comp=Z,4.6nm,1.1s,baz=251,slow=5.6,SNR=12						
ILAR				LR	LR	23 38 09.5	
	comp=Z,334nm,21.0s,baz=247,slow=33						
BALM	Baldy	83.03	26	eP	P	23 05 05.2	+0.5
	comp=Z,6.7nm,0.9s						
ZALV	Zalesovo Beam	83.41	326	eP	P	23 05 04.9	-1.7
ZALV	Zalesovo Beam	83.41	326	eP	P	23 05 04.9	-1.7
ZALV	Zalesovo Beam	83.41	326	P	P	23 05 03.5	-3.0
	comp=Z,1.0nm,0.6s,baz=133,slow=6.1,SNR=6.1						
ZALV				LR	LR	23 43 41.7	
	comp=Z,72nm,19.4s,baz=68,slow=37						
CTGM	Chitina Glacie	83.44	26	eP	P	23 05 06.1	-0.7
	comp=Z,12nm,0.9s						
DOT	Dot Lake	83.54	23	eP	P	23 05 05.7	-1.4
QSPA	South Pole Qui	83.56	180	eP	P	23 05 06.8	-0.6
	comp=Z,35nm,1.1s						
QSPA	South Pole Qui	83.56	180	P	P	23 05 06.7	-0.6
	comp=Z,23nm,1.0s,baz=351,slow=3.0,SNR=34						
BCAR	Beaver Creek A	84.18	24	eP	P	23 05 09.2	-1.2
NVS	Novosibirsk	84.58	327	eP	P	23 05 11.4	-1.1
MAW	Mawson	84.73	203	eP	P	23 05 13.1	+0.1
	comp=Z,2.2nm,1.5s						
MAW	Mawson	84.73	203	P	P	23 05 12.2	-0.8
	baz=85,SNR=12						
MAW	Mawson	84.73	203	eP	P	23 05 13.1	+0.1
MAW				pmax	pmax		
	comp=Z,2.0nm,1.5s						
MAW	Mawson	84.73	203	P	P	23 05 12.5	-0.5
	comp=Z,21nm,1.0s,baz=87,slow=7.1,SNR=13						
MAW				LR	LR	23 39 01.3	
	comp=Z,89nm,21.2s,baz=77,slow=33						
HYT	Haines Junctio	85.10	27	eP	P	23 05 15.9	+0.7
	comp=Z,8.2nm,0.8s						
EGAK	Eagle	85.19	23	eP	P	23 05 13.9	-1.4
	comp=Z,6.7nm,0.9s						
KSH	Kashi	85.24	310	P	P	23 05 18.4	+2.0
KSH				pP	pwP	23 05 35.7	+0.5
KSH				PP	PP	23 08 40.7	+6.1
KSH				S	S	23 15 41.0	-2.3
KSH				SS	SS	23 21 17.6	-1.0
KSH				pmax	pmax		
	comp=Z,36nm,1.3s						
KSH				pmax	pmax		
	comp=Z,240nm,6.2s						
BESE	Bessie Mountai	85.54	30	eP	P	23 05 18.6	+1.3
DAWY	Dawson	85.58	24	eP	P	23 05 18.8	+1.4
	comp=Z,5.8nm,1.1s						
KURK	Kurchatov	86.05	322	ceP	P	23 05 19.7	-0.2
KURK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
NIL	Nilore	86.25	304	eP	P	23 05 20.6	-0.8
	comp=Z,15nm,1.1s						
NIL	Nilore	86.25	304	eP	P	23 05 20.6	-0.8
NIL				pmax	pmax		
	comp=Z,15nm,1.1s						
AAK	Ala-Archa	86.97	313	i P	P	23 05 25.1	+0.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EPYK	Eagle Plains	87.52	22	P	P	23 05 25.5	-1.3
	baz=248						
DLBC	Dease Lake	87.91	31	eP	P	23 05 30.1	+1.2
	comp=Z,12nm,1.3s						
DLBC	Dease Lake	87.91	31	P	P	23 05 27.9	-1.0
	comp=Z,2.8nm,0.8s,baz=241,slow=5.4,SNR=7.1						
NRIK	Noril'sk	88.02	341	P	P	23 05 25.7	-3.4
	comp=Z,1.2nm,0.4s,baz=139,slow=6.5,SNR=4.3						
NRIK				LR	LR	23 48 06.8	
	comp=Z,86nm,18.0s,baz=80,slow=38						
K02D	Willamette Mer	88.36	47	P	P	23 05 30.8	-0.6
	baz=260						
O02D	Mt. Diablo Mer	88.58	49	P	P	23 05 35.2	+2.7
	baz=260						
M02C	Callahan	88.73	48	P	P	23 05 33.7	+0.5
	baz=260						
I03D	Drain, OR	88.76	46	P	P	23 05 34.4	+1.2
	baz=260						
YBH	Yreka Blue Hor	88.89	48	P	P	23 05 30.4	-3.6
	baz=346,slow=4.2						
NLWA	Neilton Lookou	89.06	42	eP	P	23 05 35.4	+0.8
	comp=Z,22nm,1.7s						
E03A	Lebam	89.11	43	eP	P	23 05 35.5	+0.8
	comp=Z,20nm,1.2s						
O03E	Paynes Creek	89.34	49	P	P	23 05 35.0	-1.1
	baz=261						
INK	Inuvik	89.36	21	P	P	23 05 32.4	-3.0
	comp=Z,1.8nm,1.1s,baz=210,slow=6.1,SNR=4.7						
GAR	Garm	89.46	309	eP	P	23 05 36.5	-0.2
	comp=Z,17nm,1.4s						
GAR	Garm	89.46	309	eP	P	23 05 36.6	-0.2
GAR				pmax	pmax		
	comp=Z,17nm,1.4s						
J04D	Umpqua Nationa	89.57	47	P	P	23 05 38.9	+1.6
	baz=261						
AFDM	Forest Hills D	89.77	51	eP	P	23 05 37.4	-0.7
	comp=Z,4.8nm,0.8s						
KKAR	Karatay Array	89.94	313	eP	P	23 05 38.2	-0.5
KKAR	Karatay Array	89.94	313	eP	P	23 05 38.2	-0.5
J05D	Fort Rock, OR	90.21	47	P	P	23 05 38.6	-1.6
	baz=261						
PINE	Pine Mountain	90.50	46	eP	P	23 05 40.4	-1.2
	comp=Z,24nm,1.9s						
MOD	Modoc Plateau	90.69	48	eP	P	23 05 42.9	+0.4
	comp=Z,8.1nm,1.3s						
PNTR	Pine Nut	90.85	51	eP	P	23 05 42.5	-0.8
	comp=Z,24nm,0.6s						
ISA	Isabella, Lake	91.31	54	P	P	23 05 45.2	-0.2
	baz=263						
BRVK	Borovoye	91.59	323	eP	P	23 05 46.8	+0.7
	comp=Z,4.4nm,1.0s						
BRVK	Borovoye	91.59	323	ceP	P	23 05 45.1	-1.0
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
EDW2	Edwards Air Fo	91.61	55	P	P	23 05 46.2	-0.6
	baz=263						
CWC	Cottonwood Cre	91.72	54	P	P	23 05 47.2	-0.2
	baz=263						
NVAR	Mina Array Bea	91.77	52	eP	P	23 05 46.4	-1.3
NVAR	Mina Array Bea	91.77	52	P	P	23 05 46.6	-1.0
	comp=Z,12nm,1.1s,baz=251,slow=6.4,SNR=33						
NVAR				LR	LR	23 41 58.8	
	comp=Z,235nm,19.6s,baz=292,slow=32						
BFSC	Mount Baldy Ra	91.81	56	P	P	23 05 47.5	-0.3
	baz=264						
LRMC	Laurel Mtn Rad	91.93	55	P	P	23 05 48.1	-0.2
	baz=264						
WVOR	Wild Horse Val	91.99	48	eP	P	23 05 48.9	+0.4
	comp=Z,18nm,1.0s						
WVOR	Wild Horse Val	91.99	48	eP	P	23 05 48.9	+0.4
WVOR				pmax	pmax		
	comp=Z,18nm,1.0s						
MPMC	Manual Prospec	92.15	54	P	P	23 05 48.9	-0.5
	baz=264						
J08A	Circle Bar Ran	92.22	47	eP	P	23 05 48.7	-0.7
	comp=Z,9.8nm,1.6s						
GSC	Goldstone, Bar	92.62	55	P	P	23 05 51.5	0.0
	baz=264						
MONP2	Monument Peak	92.69	57	P	P	23 05 52.6	+0.6
	baz=264						
FURC	Furnace Creek,	92.70	54	P	P	23 05 51.7	+0.1
	baz=264						
PFO	Pinyon Flats O	92.73	57	eP	P	23 05 52.1	0.0
	comp=Z,7.7nm,1.0s						
PFO	Pinyon Flats O	92.73	57	eP	P	23 05 52.1	0.0
PFO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PFO	Pinyon Flats O	92.73	57	P	P	23 05 51.2	-0.9
	baz=264						
PFO	Pinyon Flats O	92.73	57	P	P	23 05 51.1	-1.0
	comp=Z,7.6nm,1.1s,baz=221,slow=4.0,SNR=3.8						
TPFO	Pinon Flats	92.74	57	P	P	23 05 51.7	-0.4
	baz=264						
HEC	Hector,Ludlow	92.96	55	P	P	23 05 52.8	-0.2
	baz=264						
BELC	Belle Mtn. Jos	93.16	56	P	P	23 05 53.5	-0.5
	baz=264						
BMO	Blue Mountains	93.22	45	eP	P	23 05 54.1	+0.1
	comp=Z,9.6nm,1.5s						
BMO	Blue Mountains	93.22	45	eP	P	23 05 54.1	+0.1
BMO				pmax	pmax		
	comp=Z,10.0nm,1.5s						
GMRC	Granite Mounta	93.51	56	P	P	23 05 55.4	-0.2
	baz=265						
BC3	Big Chuckawall	93.57	57	P	P	23 05 55.6	-0.4
	baz=265						
NEW	Newport	93.68	42	eP	P	23 05 56.0	0.0
	comp=Z,5.6nm,1.1s						
NEW	Newport	93.68	42	eP	P	23 05 56.0	0.0
NEW				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NEW	Newport	93.68	42	P	P	23 05 56.6	+0.6
	baz=265						
IRM	Iron Mountain	93.88	56	P	P	23 05 57.0	-0.2
	baz=265						
R11A	Troy Canyon, C	93.89	52	P	P	23 05 56.7	-0.7
	baz=265						
SHPR	Sheep Range	94.07	54	eP	P	23 05 57.4	-0.9
	comp=Z,7.7nm,1.1s						
Y12C	Blythe	94.36	57	P	P	23 05 58.9	-0.4
	baz=265						
ELK	Elko	94.36	50	eP	P	23 05 59.8	+0.2
	comp=Z,3.8nm,1.1s						
ELK	Elko	94.36	50	eP	P	23 05 59.8	+0.2
ELK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PDMCI	Parker Dam,Lak	94.72	56	P	P	23 06 01.2	+0.2
	baz=265						
HLID	Hailey	95.18	47	eP	P	23 06 03.2	+0.1
	comp=Z,1.0nm,0.6s						
HLID	Hailey	95.18	47	P	P	23 06 03.0	-0.2
	baz=266						
YKA	Yellowknife Ar	96.07	28	eP	P	23 06 07.6	+1.1
YKA	Yellowknife Ar	96.07	28	eP	P	23 06 07.6	+1.1
YKA	Yellowknife Ar	96.07	28	P	P	23 06 03.7	-2.8
	comp=Z,1.9nm,0.9s,baz=266,slow=4.6,SNR=18						
YKA				PKKPbc	PKKPbc	23 22 52.4	-4.1
	comp=Z,0.1nm,0.4s,baz=82,slow=3.0,SNR=4.8						
YKA				LR	LR	23 48 26.1	
	comp=Z,11nm,18.3s,baz=288,slow=35						
BOZ	Bozeman (W)	97.27	45	eP	P	23 06 12.0	-0.6
	comp=Z,2.2nm,0.8s						
BOZ	Bozeman (W)	97.27	45	eP	P	23 06 12.0	-0.6
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	Arti	98.57	326	i P	Pdif	23 06 18.3	+0.3
BW06	Boulder Array	98.70	48	P	Pdif	23 06 19.9	+0.7
	baz=269						
PDAR	Pinedale Array	98.70	48	eP	Pdif	23 06 19.4	+0.2
PDAR	Pinedale Array	98.70	48	LR	LR	23 48 00.9	
	comp=Z,206nm,18.6s,baz=284,slow=34						
GEYT	Alibeck	98.91	307	LR	LR	23 53 33.8	
	comp=Z,61nm,20.2s,baz=185,slow=37						
OBN	Obninsk	110.98	327	i PKIKP	PKiKP	23 11 12.7	+0.4
OBN				e		23 11 48.3	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,104nm,20.0s						
BOSA	Boshof	119.97	232	PKP	PKPdf	23 11 28.5	-2.1
	comp=Z,2.0nm,0.8s,baz=135,slow=2.9,SNR=3.2						
VYHS	Vyhne	123.74	326	eP	Pdif	23 08 06.2	-3.9
VYHS	Vyhne	123.74	326	ePDIF	Pdif	23 08 06.2	-3.9
VYHS	Vyhne	123.74	326	ePKP	PKiKP	23 11 43.4	+6.1
CLL	Collm	125.05	331	ePKIKP	PKPdf	23 11 35.0	-4.5
FNA	Florina	126.00	317	ePKPdf	PKPdf	23 11 41.7	0.0
FNA	Florina	126.00	317	ePKIKP	PKPdf	23 11 41.7	0.0
GERES	GERESS Array B	126.29	329	PKP	PKPdf	23 11 40.5	-1.6
	comp=Z,0.3nm,0.5s,baz=73,slow=1.8,SNR=5.6						
LPAZ	La Paz	132.19	119	PKP	PKPdf	23 11 54.1	-0.8
	comp=Z,2.0nm,0.8s,baz=222,slow=1.7,SNR=3.9						
CPUP	Villa Florida	135.16	138	PKPdf	PKPdf	23 11 58.1	-1.3
	comp=Z,1.4nm,0.8s,baz=230,slow=5.4,SNR=4.4						
SDV	Santo Domingo	135.25	84	ePKPdf	PKPdf	23 11 58.7	-1.4
BDFB	Brasilia	148.76	135	PKP	PKPdf	23 12 22.1	-1.9
	comp=Z,2.5nm,0.6s,baz=90,slow=13,SNR=3.3						
BDFB				PKPbc	PKPbc	23 12 25.7	-2.0
	comp=Z,7.8nm,1.1s,baz=153,slow=2.0,SNR=3.4						
TOA0	Torodi Ar. Sit	152.37	286	ePKPdf	PKPdf	23 12 27.4	-2.0
TORD	Torodi Ar. Bea	152.37	286	PKP	PKPdf	23 12 27.4	-2.0
	comp=Z,1.2nm,1.0s,baz=24,slow=5.2,SNR=4.9						
TORD				PKPbc	PKPbc	23 12 33.4	-2.9
	comp=Z,8.6nm,0.9s,baz=13,slow=3.1,SNR=30						
TOA1	Torodi Ar. Sit	152.37	286	ePKPdf	PKPdf	23 12 27.4	-2.0
TOA1				ePKPbc	PKPbc	23 12 33.4	-2.9

NIED ***10*** *22:59:00,37°.20N×143°.80E,h8km,Mw3.7 Best double couple: M0=4.43000×10^14 NP1:φs=25.00000°,δ=26.00000°, λ=-128.00000°. NP2:φs=246.00000°,δ=70.00000°, λ=-73.00000°.*

IDC ***10*** *22:59:12.7±0.9,37°.07N×144°.10E,h0km,mb3.7/6, mb1 4.0/11,mb1mx3.7/51,mbtmp3.8/11,ML3.6/4,MS2.5/2, Ms1 2.5/2,ms1mx2.2/37,Error ellipse: s-maj=27.9km s-min=17.3km az=120.0*

ISCJB ***10*** *22:59:15.3±0.5,37°.22N±0°.03×143°.93E±0°.04,h33km, mb3.7/6,MS4.5/1,Error ellipse: s-maj=5.2km s-min=4.6km az=142.2*

JMA ***10*** *22:59:17.2±0.2,37°.25N×143°.82E,h55km,M4.0*

ISC 10 22:59:17.4±0.9,37°.27N±0°.05×143°.96E±0°.07,h35km,n31, σ2°.33/52,mb3.7/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time (h m s)	Res (ISC)
JIKH	Ishinomakikobu	2.23	298	P	P	Pn	22 59 51.5	-0.3
JIKH				S	S	Sn	23 00 16.8	-1.3
JIO	Ouri	2.38	301	P	P	Pn	22 59 53.8	0.0
JIO				S	S	Sn	23 00 20.7	-1.0
JFK	Kawauchi	2.46	273	P	P	Pn	22 59 54.5	-0.5
JFK				S	S	Sn	23 00 21.9	-1.9
JKMT	Kesennumamotoy	2.49	309	P	P	Pn	22 59 55.2	-0.2
JKMT				S	S	Sn	23 00 23.2	-1.3
ONAJ	Iwakimizuishiy	2.53	267	P	P	Pn	22 59 55.3	-0.7
ONAJ				S	S	Sn	23 00 23.6	-2.0
JMK	Ichinoseki	2.73	309	P	P	Pn	22 59 58.8	+0.1
JMK				S	S	Sn	23 00 29.7	-0.8
JFT	Otama	2.89	276	P	P	Pn	23 00 01.6	+0.6
JFT				S	S	Sn	23 00 33.9	-0.6
JOM	Ohasama	3.03	317	P	P	Pn	23 00 03.2	+0.3
JOM				S	S	Sn	23 00 37.7	-0.3
JYK	Kaneyama	3.28	301	P	P	Pn	23 00 06.9	+0.7
JYK				eS	S	Sn	23 00 45.5	+1.5
BSO1	Boso 1	3.56	224	P	P	Pn	23 00 08.2	-1.4
BSO1				eS	S	Sn	23 00 48.5	-1.7
JAG	Ashikaga	3.71	258	P	P	Pn	23 00 11.8	-0.4
JAG				S	S	Sn	23 00 52.6	-2.1
JRY	Ryogami san	4.25	254	P	P	Pn	23 00 18.8	-0.9
JRY				S	S	Sn	23 01 04.1	-4.0
JOD2	Odawara 2	4.42	244	P	P	Pn	23 00 21.4	-0.5
JOD2				eS	S	Sn	23 01 08.0	-4.1
MJAR	Matsushiro Arr	4.66	263	Pn	Pn	Pn	23 00 26.2	+0.9
	0.8nm,0.3s,baz=92,slow=15,SNR=38							
MJAR				Sn	Sn	Sn	23 01 18.4	+0.1
	0.5nm,0.3s,baz=109,slow=23,SNR=5.1							
MJAR				LR	LR	LR	23 02 08.0	
	comp=Z,50nm,19.1s,baz=20,slow=37							
MAT	Matsushiro	4.67	263	P	P	Pn	23 00 26.6	+1.3
MAT				S	S	Sn	23 01 18.1	-0.1
JOT	Ohata	4.68	332	P	P	Pn	23 00 25.6	+0.1
JOT				eS	S	Sn	23 01 15.7	-2.9
JKB	Kayabe	5.13	335	P	P	Pn	23 00 32.4	+0.7
JKB				S	S	Sn	23 01 27.0	-2.6
JCH	Churui	5.35	355	P	P	Pn	23 00 33.9	-0.8
JCH				eS	S	Sn	23 01 31.6	-3.5
JHJ	Hachijo jima 2	5.37	221	Pn	Pn	Pn	23 00 32.6	-2.4
	14nm,0.3s,baz=280,slow=21,SNR=5.5							
JHJ				Sn	Sn	Sn	23 01 27.7	-8.0
	9.0nm,0.3s,baz=253,slow=19,SNR=3.3							
NEM2	Nemuro 2	6.24	12	P	P	Pn	23 00 44.7	-2.1
NEM2				eS	S	Sn	23 01 50.1	-6.7
JTKR	Abashiri--Toko	6.69	360	P	P	Pn	23 00 52.1	-1.0
JTKR				eS	S	Sn	23 02 03.6	-4.4
ASAJ	Asahikawa	6.91	352	Pn	Pn	Pn	23 00 56.2	+0.1
	1.2nm,0.3s,baz=208,slow=15,SNR=7.3							
ASAJ				Sn	Sn	Sn	23 02 09.3	-4.2
	baz=312,slow=17,SNR=2.1							
USRK	Ussuriysk Ar.	11.41	311	Pn	Pn	Pn	23 02 00.0	+2.3
	0.2nm,0.3s,baz=111,slow=14,SNR=5.8							
KSRS	Korea Array	12.76	276	Pn	Pn	Pn	23 02 18.0	+1.8
	0.3nm,0.3s,baz=80,slow=14,SNR=3.0							
KSRS				LR	LR	LR	23 08 22.5	
	comp=Z,20nm,18.1s,baz=110,slow=42							
ILAR	Eielson Array	48.20	32	P	P	P	23 07 55.6	+1.6
	0.8nm,0.8s,baz=246,slow=5.9,SNR=3.5							
INK	Inuvik	53.24	27	P	P	P	23 08 33.8	+1.8
	1.0nm,0.6s,baz=260,slow=5.1,SNR=4.7							
WRA	Warramunga Arr	57.63	191	P	P	P	23 09 03.0	-1.0
	1.0nm,0.5s,baz=11,slow=7.1,SNR=9.3							
ASAR	Alice Springs	61.35	191	P	P	P	23 09 28.8	-0.8
	0.4nm,0.7s,baz=18,slow=9.7,SNR=5.5							
YKA	Yellowknife Ar	62.57	31	P	P	P	23 09 38.5	+1.1
	0.1nm,0.4s,baz=283,slow=5.5,SNR=3.5							
NVAR	Mina Array Bea	73.21	54	P	P	P	23 10 46.3	+1.3
	0.3nm,0.5s,baz=291,slow=5.3,SNR=3.5							
TXAR	Lajitas Array	88.35	54	LR	LR	LR	23 49 38.4	
	comp=Z,200nm,18.9s,baz=0.0,slow=34							

BEO 10 23:06:24.3±0.6,42°.43N×19°.76E,h4km±8km,ML1.3/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time (h m s)	Res (ISC)
PDG	Podgorica	0.37	271	eP	g	Pg	23 06 30.7	-0.8
PDG				eS	g	Sg	23 06 36.5	+0.2
SJES	Sjenica	0.85	11	eP	g	Pg	23 06 40.4	-0.2
SJES				eS	g	Sg	23 06 52.0	+0.3
IVAS	Ivanjica	1.19	14	eP	g	Pg	23 06 45.9	-1.2
IVAS				eS	g	Sg	23 07 01.0	-1.5
SELS	Selova	1.28	51	eP	g	Pg	23 06 46.5	-2.3
BARS	Barje	1.57	75	eP	g	Pn	23 06 52.6	-0.3
BARS				eS	g	Sb	23 07 14.1	0.0

ISCJB ***10*** *23:09:17.8±0.6,47°.91N±0°.10×153°.6E±0°.1,h100km, mb3.5/10,Error ellipse: s-maj=17.5km s-min=8.8km az=137.4*

IDC ***10*** *23:09:18.2±2.6,47°.85N×153°.61E,h88km±24km,mb3.2/10, mb1 3.5/15,mb1mx3.3/47,mbtmp3.6/15,MS2.9/2, Ms1 2.9/2,ms1mx2.6/18,Error ellipse: s-maj=25.1km s-min=13.6km az=136.0*

ISC 10 23:09:19.3±0.8,47°.9N±0°.1×153°.6E±0°.1,h100km,n21, σ0°.90/15,mb3.5/10,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time (h m s)	Res (ISC)
PETK	Petropavlovsk-	5.85	25	P	P	Pn	23 10 42.0	-1.5
	0.5nm,0.3s,baz=171,slow=13,SNR=8.6							
PETK				S	S	Sn	23 12 00.3	+11
	baz=192,slow=17,SNR=2.6							
ASAJ	Asahikawa	8.51	248	P	P	Pn	23 11 18.9	-0.7
	1.1nm,0.3s,baz=78,slow=19,SNR=4.9							
ASAJ				LR	LR	LR	23 14 20.4	
	comp=Z,83nm,19.4s,baz=92,slow=35							
MA2	Magadan	11.82	353	P	P	Pn	23 12 04.0	-0.4
	0.8nm,0.3s,baz=172,slow=17,SNR=3.3							
MA2				LR	LR	LR	23 16 38.7	
	comp=Z,46nm,19.2s,baz=303,slow=37							
USRK	Ussuriysk Ar.	15.41	264	P	P	Pn	23 12 51.0	0.0
	0.3nm,0.3s,baz=77,slow=15,SNR=5.3							
MJAR	Matsushiro Arr	16.02	231	P	P	P	23 12 59.4	-0.9
	0.0nm,0.3s,baz=32,slow=8.9,SNR=4.4							
H11N2	WAKE ISLAND Hy	30.11	154	T	T	T	23 47 18.1	
	baz=342,slow=76,SNR=82							
H11N1	WAKE ISLAND Hy	30.12	154	T	T	T	23 47 37.8	
	baz=342,slow=76,SNR=178							
H11N3	WAKE ISLAND Hy	30.12	154	T	T	T	23 47 33.8	
	baz=342,slow=76,SNR=111							
H11S1	WAKE ISLAND Hy	31.21	155	T	T	T	23 48 52.4	
	baz=343,slow=76,SNR=374							
H11S3	WAKE ISLAND Hy	31.22	155	T	T	T	23 48 53.0	
	baz=343,slow=76,SNR=538							
H11S2	WAKE ISLAND Hy	31.23	155	T	T	T	23 48 53.4	
	baz=343,slow=76,SNR=468							
INK	Inuvik	40.53	33	P	P	P	23 16 48.4	+0.3
	0.6nm,0.8s,baz=296,slow=5.6,SNR=3.1							
MKAR	Makanchi Array	46.69	297	P	P	P	23 17 37.3	-0.5
	0.4nm,0.6s,baz=65,slow=9.9,SNR=4.8							
YKA	Yellowknife Ar	49.83	37	P	P	P	23 18 02.3	+0.6
	0.1nm,0.3s,baz=295,slow=7.7,SNR=2.8							
CMAR	Chiang Mai Arr	52.93	256	P	P	P	23 18 27.2	+1.9
	0.5nm,0.3s,baz=32,slow=8.8,SNR=5.2							
NVAR	Mina Array Bea	61.65	63	P	P	P	23 19 27.0	+0.3
	0.3nm,0.6s,baz=290,slow=4.4,SNR=3.7							
FINES	FINESS Array B	63.13	335	P	P	P	23 19 36.0	+0.1
	0.5nm,0.3s,baz=34,slow=7.4,SNR=15							
PDAR	Pinedale Array	63.84	55	P	P	P	23 19 41.4	+0.2
	0.3nm,0.6s,baz=297,slow=4.6,SNR=2.9							
WRA	Warramunga Arr	69.69	199	P	P	P	23 20 17.0	-1.1
	0.4nm,0.7s,baz=10,slow=6.3,SNR=3.2							
ASAR	Alice Springs	73.39	199	P	P	P	23 20 40.6	+0.3
	0.5nm,0.7s,baz=9.4,slow=5.9,SNR=7.2							
TXAR	Lajitas Array	76.67	61	P	P	P	23 20 59.5	+0.1
	0.3nm,0.5s,baz=316,slow=6.3,SNR=2.7							

ISCJB ***10*** *23:30:07.8±0.3,30°.29N±0°.03×103°.01E±0°.05,h10km, mb3.9/21,Error ellipse: s-maj=6.2km s-min=4.5km az=152.2*

IDC ***10*** *23:30:07.8±0.7,30°.32N×103°.17E,h0km,mb3.9/14, mb1 4.0/16,mb1mx3.8/38,mbtmp3.8/16,ML4.4/1,Error ellipse: s-maj=26.7km s-min=13.6km az=58.0*

NEIC ***10*** *23:30:09.6±0.3,30°.28N×102°.98E,h10km,mb4.2/5,Error ellipse: s-maj=8.0km s-min=6.2km az=61.0*

WHN				S	Sn	23 34 21.5	-0.9
WHN				LR	LR		
	comp=N,380nm,4.5s						
WHN				LR	LR		
	comp=Z,2μm,8.1s						
CMAR	**Chiang Mai Arr**	**12.36**	**198**	Pn	**Pn**	**23 33 05.0**	**-1.1**
	0.7nm,0.3s,baz=14,slow=11,SNR=6.6						
CMAR				Lg	Lg	23 36 40.0	
	0.9nm,0.3s,baz=13,slow=32,SNR=4.3						
NJ2	**Nanjing**	**13.73**	**79**	*e*P	**Pn**	**23 33 28.7**	**+3.9**
NJ2				LR	LR		
	comp=E,440nm,6.5s						
NJ2				LR	LR		
	comp=Z,560nm,10.3s						
SONA0	**Songino Array**	**17.69**	**8**	*e*Pn	**Pn**	**23 34 15.9**	**-0.8**
SONM	**Songino Array**	**17.69**	**8**	P	**Pn**	**23 34 15.9**	**-0.8**
	baz=185,slow=11,SNR=6.2						
WMQ	**Urumqi**	**18.12**	**322**	*e*P	**Pn**	**23 34 20.8**	**-1.1**
WMQ				LR	LR		
	comp=N,610nm,17.7s						
WMQ				LR	LR		
	comp=E,470nm,21.3s						
WMQ				LR	LR		
	comp=Z,700nm,16.3s						
KSAR	**Wonju Array Be**	**21.85**	**64**	P	**P**	**23 35 04.2**	**+1.4**
KSRS	**Korea Array**	**21.89**	**64**	P	**P**	**23 35 04.2**	**+1.0**
	2.9nm,0.9s,baz=248,slow=10,SNR=9.6						
MK31	**Makanchi Array**	**22.95**	**322**	*e*P	**P**	**23 35 14.6**	**+0.2**
	5.5nm,1.0s						
MK32	**Makanchi Array**	**22.95**	**322**	*e*P	**P**	**23 35 14.9**	**+0.4**
MKAR	**Makanchi Array**	**22.95**	**322**	*e*P	**P**	**23 35 14.7**	**+0.2**
MKAR	**Makanchi Array**	**22.95**	**322**	P	**P**	**23 35 14.9**	**+0.4**
	7.9nm,1.1s,baz=130,slow=11,SNR=21						
MAKZ	**Makanchi**	**23.12**	**321**	*e*P	**P**	**23 35 16.6**	**+0.3**
	6.9nm,1.0s						
NIL	**Nilore**	**25.36**	**285**	*e*P	**P**	**23 35 36.5**	**-0.9**
	19nm,1.0s						
AAK	**Ala-Archa**	**25.84**	**306**	P	**P**	**23 35 43.0**	**+1.1**
	0.4nm,0.3s,baz=216,slow=17,SNR=3.1						
ZALV	**Zalesovo Beam**	**27.02**	**336**	*e*P	**P**	**23 35 52.6**	**+0.5**
ZALV	**Zalesovo Beam**	**27.02**	**336**	P	**P**	**23 35 51.9**	**-0.2**
	1.7nm,0.9s,baz=152,slow=10,SNR=5.8						
ZAA1	**Zalesovo Array**	**27.02**	**336**	*e*P	**P**	**23 35 51.9**	**-0.2**
KURBB	**Kurchatov Arra**	**27.29**	**325**	P	**P**	**23 35 53.8**	**-0.8**
	0.9nm,0.6s,baz=131,slow=9.7,SNR=10						
ABKAR	**Akbulak array**	**37.46**	**313**	*e*P	**P**	**23 37 23.3**	**-0.3**
	2.7nm,1.1s						
GEYT	**Alibeck**	**37.59**	**294**	P	**P**	**23 37 25.6**	**+0.6**
	2.0nm,0.8s,baz=91,slow=6.1,SNR=6.9						
TIXI	**Tiksi**	**43.72**	**12**	P	**P**	**23 38 14.3**	**-0.7**
	1.1nm,0.5s,baz=216,slow=4.7,SNR=5.5						
BR101	**Keskin Array S**	**56.26**	**300**	*e*P	**P**	**23 39 51.6**	**+0.7**
BRTR	**Keskin Array B**	**56.26**	**300**	P	**P**	**23 39 51.6**	**+0.7**
	0.3nm,0.6s,baz=69,slow=4.8,SNR=3.3						
AKASG	**Malin Array Be**	**57.20**	**313**	P	**P**	**23 39 56.9**	**-0.3**
	0.3nm,0.4s,baz=69,slow=6.5,SNR=4.2						
ARA0	**ARCESS Array S**	**57.57**	**336**	*e*P	**P**	**23 39 58.5**	**-1.0**
ARCES	**ARCESS Array B**	**57.57**	**336**	P	**P**	**23 39 58.5**	**-1.1**
	1.1nm,0.8s,baz=84,slow=8.3,SNR=3.0						
FIA0	**FINESS Array S**	**57.66**	**326**	*e*P	**P**	**23 40 01.7**	**+1.4**
FINES	**FINESS Array B**	**57.66**	**326**	P	**P**	**23 40 01.7**	**+1.4**
	0.7nm,0.7s,baz=99,slow=8.6,SNR=5.8						
WR1	**Warramunga Arr**	**58.39**	**145**	*e*P	**P**	**23 40 04.4**	**-1.5**
WRA	**Warramunga Arr**	**58.39**	**145**	P	**P**	**23 40 04.4**	**-1.5**
	3.0nm,0.5s,baz=336,slow=7.4,SNR=34						
WB2	**Warramunga Arr**	**58.40**	**145**	*e*P	**P**	**23 40 03.6**	**-2.4**
	15nm,1.1s						
ASAR	**Alice Springs**	**61.35**	**147**	P	**P**	**23 40 24.9**	**-1.4**
	1.1nm,0.6s,baz=333,slow=6.7,SNR=15						
ILAR	**Eielson Array**	**70.97**	**25**	P	**P**	**23 41 25.2**	**-2.4**
	0.5nm,1.0s,baz=288,slow=6.0,SNR=5.6						
STKA	**Stephens Creek**	**71.91**	**146**	*e*P	**P**	**23 41 32.4**	**-1.1**
	4.9nm,1.6s						
STKA	**Stephens Creek**	**71.91**	**146**	P	**P**	**23 41 32.4**	**-1.1**
	1.7nm,0.5s,baz=340,slow=5.0,SNR=6.1						
YKA	**Yellowknife Ar**	**82.73**	**17**	P	**P**	**23 42 33.1**	**-0.7**
	0.6nm,0.6s,baz=331,slow=5.2,SNR=12						
YKB5	**Yellowknife Ar**	**82.73**	**17**	*e*P	**P**	**23 42 33.1**	**-0.7**

*HEL **10** 23:51:35.9, 67°.87N×20°.00E, h0km, ML1.5, Explosion*
UPP 10 23:51:37.1±0.1, 67°.83N×20°.19E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**24**	P	Pg	23 51 40.0	+0.3
KUA				S	Sg	23 51 41.9	+0.5
KUA	**Kurravaara**	**0.13**	**24**	*i* P	Pg	23 51 40.0	+0.3
KUA				*i* S	Sg	23 51 41.9	+0.5
RATU	**Laukkuluspa**	**0.23**	**268**	P	Pg	23 51 41.7	+0.3
RATU				S	Sg	23 51 44.9	+0.5
RATU	**Laukkuluspa**	**0.23**	**268**	*i* P	Pg	23 51 41.7	+0.3
RATU				*i* S	Sg	23 51 44.9	+0.5
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	23 51 45.6	+0.2
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	23 51 45.6	+0.2
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	23 51 50.4	-0.3
LANU				*e*S	Sg	23 51 59.9	-0.1
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	23 51 52.0	-0.2
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	23 51 52.0	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 51 52.0	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23 51 52.0	-0.2
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*PB	Pg	23 52 00.1	+0.1
	baz=188						
KIF				MSG		23 52 12.7	
	comp=Z,3.7nm,0.2s						
KIF				*e*SB	Sb	23 52 16.2	-0.4
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 52 02.5	-1.2
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	23 52 02.5	-1.2
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	23 52 03.1	-1.0
	baz=246						
HEF				MSG		23 52 20.2	
	comp=Z,2.2nm,0.2s						
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 52 05.0	-0.2
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	23 52 04.3	-0.9
ERTU				*e*SB	Sg	23 52 24.9	-0.4
KALU	**Kalix**	**2.34**	**146**	*e*P	Pn	23 52 17.7	+1.0
KALU				*e*SG	Sb	23 52 49.5	0.0
SGF	**Sodankyl**	**2.46**	**96**	*e*PB	Pb	23 52 20.4	-1.6
	baz=279						
SGF				*e*SB	Sb	23 52 51.4	-1.3
KEV	**Kevo**	**3.14**	**49**	MSG		23 53 09.2	
	comp=Z,1.5nm,0.2s						
KEV				*e*SB	Sb	23 53 09.6	-2.8

UPP 10 23:51:40.3±0.1, 67°.83N×20°.20E, h0km, ML1.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**23**	P	Pg	23 51 43.1	+0.3
KUA				S	Sg	23 51 45.0	+0.4
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	23 51 48.8	0.0
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	23 51 55.1	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 51 55.1	-0.3
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 52 05.5	-1.3

MEX 10 23:51:57.3±0.4, 16°.35N×98°.24W, h13km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.12**	**69**	*i* P	Pg	23 51 59.5	-1.0
PNIG				*e*S	Sg	23 52 02.4	-0.4

ARO 11 00:24:16.9, 16°N±33°×4°2E±10°0, h15km±99km, MI4.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAOD	**Malaho**	**3.48**	**173**	*e*P	Pn	00 25 11.0	+0.4
OBO	**Obock**	**3.85**	**158**	*e*P	Pn	00 25 16.4	+0.8
TDD	**Tadjoura Ara**	**3.90**	**164**	*e*P	Pn	00 25 17.0	+0.7
LDLD	**Lac de Lave**	**4.02**	**170**	*e*P	Pn	00 25 19.6	+1.6
ATD	**Arta Tunnel**	**4.14**	**166**	*e*P	Pn	00 25 21.2	+1.4
ATD				*e*S	Sn	00 26 12.9	+4.9
ATD	**Arta Tunnel**	**4.14**	**166**	*e*P	Pn	00 25 21.2	+1.4
SGH	**Sud-Ghoubbet**	**4.19**	**169**	*e*P	Pn	00 25 21.6	+1.2
GBR	**Grand-Bara**	**4.44**	**172**	*e*P	Pn	00 25 25.8	+2.0

*SOME **11** 00:31:58.0, 42°.35N×81°.25E, h10km*

*NNC **11** 00:31:58.7±1.1, 42°.33N×81°.23E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=7.6km s-min=5.1km az=162.0*
ISC 11 00:32:04.0±2.3, 42°.51N±0°.08×80°.92E±0°.07, h14km±11km, n42, σ1§81/70, 8C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.03**	**336**	P	**Pg**	**00 32 22.6**	**-1.3**
	15nm,0.2s						
KTMS				S	**Sn**	**00 32 40.7**	**+2.2**
	30nm,0.4s						
KTMS	**Ketmen**	**1.03**	**336**	*e*P	**Pg**	**00 32 22.6**	**-1.3**
	15nm,0.2s						
KTMS				*e*S	**Sn**	**00 32 40.7**	**+2.2**
	30nm,0.4s						
SHLS	**Shalkode**	**1.25**	**302**	P	**Pn**	**00 32 23.2**	**-4.2**
	47nm,0.2s						
SHLS				S	**Sb**	**00 32 41.6**	**-2.1**
	87nm,0.3s						
SHLS	**Shalkode**	**1.25**	**302**	*e*P	**Pn**	**00 32 23.2**	**-4.2**
	47nm,0.2s						
SHLS				*e*S	**Sb**	**00 32 41.6**	**-2.1**
	87nm,0.3s						
PDGK	**Podgornoye**	**1.33**	**308**	P	**Pn**	**00 32 28.6**	**+0.2**
	8.2nm,0.3s						
PDGK				S	**Sg**	**00 32 50.9**	**+3.8**
	19nm,0.2s						
PDGK	**Podgornoye**	**1.33**	**308**	⇓P	**Pn**	**00 32 28.4**	**0.0**
	5.8nm,0.3s						
PDGK				⇓S	**Sg**	**00 32 51.3**	**+4.2**
	15nm,0.3s						
UZB	**Uzynbulak**	**1.54**	**295**	Pg	**Pb**	**00 32 32.6**	**+0.2**
	7.1nm,0.2s						
UZB				Lg	Lg	00 32 58.1	
	42nm,0.3s						
UZB	**Uzynbulak**	**1.54**	**295**	*e*P	**Pb**	**00 32 32.6**	**+0.2**
	7.1nm,0.2s						
UZB				*e*S	**Sg**	**00 32 58.1**	**+4.5**
	42nm,0.3s						
KPKS	**Kokpek**	**1.90**	**301**	*e*P	**Pb**	**00 32 38.4**	**-0.2**
	43nm,0.2s						
KPKS				*e*S	**Sg**	**00 33 07.4**	**+2.2**
	247nm,0.3s						
SATY	**Saty**	**1.93**	**287**	Pg	**Pb**	**00 32 39.6**	**+0.4**
	19nm,0.2s						
SATY				Lg	Lg	00 33 09.7	
	78nm,0.1s						
SATY	**Saty**	**1.93**	**287**	*e*P	**Pb**	**00 32 39.6**	**+0.4**
	19nm,0.2s						
SATY				*e*S	**Sg**	**00 33 09.7**	**+3.5**
	78nm,0.1s						
ZHN	**Zhinishke**	**1.95**	**291**	Pg	**Pb**	**00 32 39.6**	**+0.2**
	12nm,0.2s						
ZHN				Lg	Lg	00 33 09.7	
	68nm,0.2s						
ZHN	**Zhinishke**	**1.95**	**291**	*e*P	**Pb**	**00 32 39.6**	**+0.2**
	12nm,0.2s						
ZHN				*e*S	**Sg**	**00 33 09.7**	**+3.1**
	68nm,0.2s						
DJR	**Jarkent**	**2.00**	**336**	Pg	**Pb**	**00 32 39.1**	**-1.2**
	12nm,0.3s						
DJR				Lg	Lg	00 33 08.6	
	34nm,0.3s						
DJR	**Jarkent**	**2.00**	**336**	*e*P	**Pb**	**00 32 39.1**	**-1.2**
	12nm,0.3s						
DJR				*e*S	**Sg**	**00 33 08.6**	**+0.2**
	34nm,0.3s						
KURS	**Kuram**	**2.25**	**297**	Pg	**Pb**	**00 32 44.8**	**+0.3**
	6.8nm,0.5s						
KURS				Lg	Lg	00 33 18.5	
	21nm,0.5s						
KURS	**Kuram**	**2.25**	**297**	*e*P	**Pb**	**00 32 44.8**	**+0.3**
	6.8nm,0.5s						
KURS				*e*S	**Sg**	**00 33 18.4**	**+2.2**
	21nm,0.5s						
MNBS	**Baschi**	**2.42**	**311**	Pg	**Pb**	**00 32 47.1**	**-0.3**
	6.7nm,0.2s						
MNBS				Lg	Lg	00 33 23.0	
	45nm,0.2s						
MNBS	**Baschi**	**2.42**	**311**	*e*P	**Pb**	**00 32 47.1**	**-0.3**
	6.7nm,0.2s						
MNBS				*e*S	**Sg**	**00 33 23.0**	**+1.2**
	45nm,0.2s						
ARXS	**Arharly**	**2.83**	**308**	Pg	**Pb**	**00 32 54.8**	**+0.4**
	4.1nm,0.5s						
ARXS				Lg	Lg	00 33 35.6	
	22nm,0.2s						
ARXS	**Arharly**	**2.83**	**308**	*e*P	**Pb**	**00 32 54.8**	**+0.4**
	4.1nm,0.5s						
ARXS				*e*S	**Sg**	**00 33 35.6**	**+0.7**
	22nm,0.2s						
KOTS	**Kotyrbulak**	**2.89**	**286**	Pg	**Pb**	**00 32 55.4**	**-0.2**
	7.5nm,0.5s						
KOTS				Lg	Lg	00 33 36.5	
	36nm,0.5s						
KOTS	**Kotyrbulak**	**2.89**	**286**	*e*P	**Pb**	**00 32 55.4**	**-0.2**
	7.5nm,0.5s						
KOTS				*e*S	**Sg**	**00 33 36.5**	**-0.5**
	36nm,0.5s						
MDOK	**Medeo**	**2.92**	**284**	⇓Pg	**Pb**	**00 32 56.1**	**0.0**
	5.3nm,0.7s						
MDOK				⇑Lg	Lg	00 33 39.5	
	13nm,0.6s						
MDOK	**Medeo**	**2.92**	**284**	Pg	**Pb**	**00 32 56.8**	**+0.7**
	5.0nm,0.5s						
MDOK				Lg	Lg	00 33 39.0	
	10nm,0.6s						
MDOK	**Medeo**	**2.92**	**284**	*e*P	**Pb**	**00 32 56.8**	**+0.7**
	5.0nm,0.5s						
MDOK				*e*S	**Sg**	**00 33 39.0**	**+1.0**
	10nm,0.6s						
TNSS	**Tian-Shan**	**2.98**	**282**	Pg	**Pb**	**00 32 57.6**	**+0.5**
	7.0nm,0.4s						
TNSS				Lg	Lg	00 33 40.6	
	21nm,0.3s						
TNSS	**Tian-Shan**	**2.98**	**282**	*e*P	**Pb**	**00 32 57.6**	**+0.5**
	7.0nm,0.4s						
TNSS				*e*S	**Sg**	**00 33 40.6**	**+1.0**
	21nm,0.3s						
KAPS	**Kapalarasan**	**3.00**	**338**	Pg	**Pb**	**00 32 56.0**	**-1.2**
	2.9nm,0.2s						
KAPS				Lg	Lg	00 33 36.7	
	17nm,0.3s						
KAPS	**Kapalarasan**	**3.00**	**338**	*e*P	**Pb**	**00 32 56.0**	**-1.2**
	2.9nm,0.2s						
KAPS				*e*S	**Sb**	**00 33 36.7**	**+3.0**
	17nm,0.3s						
TDK	**Taldyqorghan**	**3.09**	**325**	*e*P	**Pb**	**00 32 57.9**	**-0.9**
	23nm,0.4s						
TDK				*e*S	**Sg**	**00 33 40.5**	**-2.7**
	38nm,0.3s						
CHKK	**Chushkaly**	**3.18**	**296**	Pg	**Pb**	**00 33 00.1**	**-0.2**
	2.9nm,0.4s						
CHKK				Lg	Lg	00 33 45.0	
	24nm,0.3s						
CHKK	**Chushkaly**	**3.18**	**296**	*e*P	**Pb**	**00 33 00.1**	**-0.2**
	2.9nm,0.4s						
CHKK				*e*S	**Sg**	**00 33 45.0**	**-1.1**
	24nm,0.3s						
KTBS	**Karatobe**	**3.33**	**293**	*e*P	**Pb**	**00 33 03.8**	**+0.9**
	1.8nm,0.8s						
KTBS				*e*S	**Sg**	**00 33 51.7**	**+0.7**
	5.5nm,0.4s						
MTBS	**Maitube**	**3.37**	**282**	*e*P	**Pb**	**00 33 03.5**	**-0.1**
	4.6nm,0.2s						
MTBS				*e*S	**Sg**	**00 33 50.7**	**-1.4**
	18nm,0.5s						
KUU	**Kurty**	**3.63**	**294**	*e*P	**Pb**	**00 33 08.7**	**+0.7**
	3.0nm,0.5s						
KUU				*e*S	**Sg**	**00 33 59.4**	**-1.1**
	8.5nm,0.2s						
KST	**Kastek**	**3.69**	**280**	*e*P	**Pb**	**00 33 09.3**	**+0.1**
	5.0nm,0.6s						
KST				*e*S	**Sg**	**00 34 01.0**	**-1.6**
	9.9nm,0.6s						
DGS	**Degeres**	**3.86**	**283**	*e*P	**Pb**	**00 33 12.1**	**+0.1**
	2.5nm,0.3s						
DGS				*e*S	**Sg**	**00 34 04.8**	**-3.0**
	14nm,0.4s						
TKM2	**Tokmak 2**	**3.95**	**278**	⇓Pg	**Pb**	**00 33 13.5**	**0.0**
	3.1nm,0.9s						
TKM2				⇓Lg	Lg	00 34 11.2	
	8.7nm,0.7s						
MAKZ	**Makanchi**	**4.36**	**10**	⇓Pn	**Pn**	**00 33 09.8**	**-0.2**
	0.9nm,0.5s						
MAKZ				⇑Sn	**Sn**	**00 34 03.7**	**+3.0**
	2.6nm,0.6s						
MAKZ				⇑Lg	Lg	00 34 22.1	
	1.9nm,0.4s						
MK31	**Makanchi Array**	**4.39**	**12**	⇑Pn	**Pn**	**00 33 09.4**	**-1.0**
	0.5nm,0.5s,baz=196,slow=13,SNR=19						
MK31				Pg	**Pb**	**00 33 21.7**	**+0.6**
	0.3nm,0.2s,baz=188,slow=16,SNR=4.1						
MK31				⇑Sn	**Sn**	**00 34 02.9**	**+1.5**
	0.8nm,0.5s						
MK31				⇑Lg	Lg	00 34 23.1	
	7.1nm,0.8s,baz=189,slow=28,SNR=8.2						
AAK	**Ala-Archa**	**4.75**	**274**	⇑Pg	**Pb**	**00 33 31.1**	**+3.9**
	2.3nm,0.9s						
AAK				⇑Lg	Lg	00 34 37.1	
	7.9nm,1.1s						

*ISCJB **11** 00:50:37.4±0.2, 30°.29N±0°.02×102°.96E±0°.03, h10km, mb4.4/75, MS3.3/8, Error ellipse: s-maj=3.5km s-min=3.3km az=146.2*
*IDC **11** 00:50:37.0±0.6, 30°.25N×102°.97E, h0km, mb4.2/23, mb1 4.3/24, mb1mx4.2/39, mbtmp4.2/24, ML4.0/1, MS3.3/8, Ms1 3.3/8, ms1mx3.1/32, Error ellipse: s-maj=18.2km s-min=11.6km az=30.0*
*MOS **11** 00:50:38.1±1.2, 30°.29N×103°.00E, h15km, mb4.6/44, Error ellipse: s-maj=8.9km s-min=5.6km az=107.3*
*NEIC **11** 00:50:39.2±0.2, 30°.34N×102°.98E, h10km, mb4.6/42, Error ellipse: s-maj=5.9km s-min=4.6km az=192.0*
NEIC Felt [III] at Chengdu.
*BJI **11** 00:50:41.3±0.0, 30°.40N×102°.95E, h20km, mb4.4/23, mB4.5/8, ML4.3/24, Ms3.9/26, Ms7 3.9/26*
ISC 11 00:50:39.4±0.4, 30°.32N±0°.04×102°.99E±0°.04, h10km, n173, σ1§85/188, mb4.5/75, MS3.4/9, 13C-2D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.89**	**48**	⇓*i* Pg	**Pg**	**00 50 56.7**	**+0.1**
CD2				Sg	**Sg**	**00 51 09.5**	**+1.3**
CD2				smax	smax		
	comp=N,10μm,0.7s						
CD2				smax	smax		
	comp=E,9μm,0.6s						
GYA	**Guiyang**	**5.03**	**139**	⇓*i* Pn	**Pn**	**00 51 55.6**	**+0.6**
GYA				Pg	Pb	00 52 14.0	+6.4
GYA				Sn	**Sn**	**00 52 52.5**	**-0.7**
GYA				smax	smax		
	comp=N,520nm,0.8s						
GYA				smax	smax		
	comp=E,350nm,0.8s						
GYA				LR	LR		
	comp=E,1μm,6.8s						
GYA				LR	LR		
	comp=Z,2μm,8.6s						
KMI	**Kunming**	**5.18**	**182**	Pn	**Pn**	**00 51 59.4**	**+2.2**
KMI				Sn	**Sn**	**00 52 59.1**	**+2.0**
KMI				smax	smax		
	comp=N,150nm,1.1s						
KMI				smax	smax		
	comp=E,160nm,1.2s						
KMI				LR	LR		
	comp=N,1μm,7.0s						
KMI				LR	LR		
	comp=Z,1μm,10.2s						
KMI	**Kunming**	**5.18**	**182**	*e*Pn	**Pn**	**00 51 57.9**	**+0.7**
KMI	**Kunming**	**5.18**	**182**	*e*P	**Pn**	**00 51 57.9**	**+0.7**
ENH	**Enshi**	**5.62**	**89**	*e*Pn	**Pn**	**00 52 03.8**	**+0.7**
LZH	**Lanzhou**	**5.80**	**7**	*e*Pn	**Pn**	**00 52 06.0**	**+0.4**
LZH				Sn	**Sn**	**00 53 14.9**	**+2.6**
LZH				Sg	**Sg**	**00 53 50.1**	**+4.5**
LZH				smax	smax		
	comp=N,130nm,1.1s						
LZH				smax	smax		
	comp=E,170nm,1.1s						
LZH				LR	LR		
	comp=N,1μm,6.2s						
LZH				LR	LR		
	comp=Z,940nm,7.8s						
XAN	**Xi'an**	**6.25**	**52**	Pn	**Pn**	**00 52 10.5**	**-1.3**
XAN				Pg	**Pg**	**00 52 36.5**	**-2.6**
XAN				Sn	**Sn**	**00 53 19.8**	**-3.5**
XAN				Sg	**Sg**	**00 53 58.9**	**-1.2**
XAN				smax	smax		
	comp=N,650nm,0.8s						
XAN				smax	smax		
	comp=E,750nm,1.0s						
XAN				LR	LR		
	comp=Z,550nm,10.0s						
XAN	**Xi'an**	**6.25**	**52**	*e*Pn	**Pn**	**00 52 10.8**	**-1.0**
XAN	**Xi'an**	**6.25**	**52**	*e*P	**Pn**	**00 52 10.8**	**-1.0**
GTA	**Gaotai**	**9.44**	**345**	P	Pn	00 53 03.7	+8.2
GTA				pP		00 53 08.1	
GTA				sP		00 53 11.3	
GTA				S	Sn	00 54 56.4	+15
WHN	**Wuhan**	**9.81**	**86**	P	**Pn**	**00 53 00.9**	**+0.3**
LSA	**Lhasa**	**10.28**	**270**	*e*Pn	**Pn**	**00 53 07.0**	**-0.3**
LSA	**Lhasa**	**10.28**	**270**	*e*P	**Pn**	**00 53 07.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**12.37**	**198**	Pn	**Pn**	**00 53 38.1**	**+2.5**
	0.5nm,0.3s,baz=13,slow=12,SNR=9.4						
CMAR				Lg	Lg	00 57 14.4	
	0.7nm,0.3s,baz=18,slow=27,SNR=5.5						
HHC	**Hu-ho-hao-te**	**12.61**	**31**	*e*P	**Pn**	**00 53 41.7**	**+2.8**
HHC				sP		00 53 48.0	
HHC				S	**Sn**	**00 56 03.8**	**+4.4**
HHC				SS	**SnSn**	**00 56 20.9**	**+9.2**
QIZ	**Qiongzhong**	**12.85**	**149**	P	**Pn**	**00 53 42.9**	**+0.8**
QIZ				S	**Sn**	**00 56 06.7**	**+1.5**
QIZ				LR	LR		
	comp=N,480nm,9.2s						
QIZ				LR	LR		
	comp=E,530nm,8.6s						
QIZ				LR	LR		
	comp=Z,690nm,8.2s						
NJ2	**Nanjing**	**13.70**	**79**	*e*P	**Pn**	**00 53 54.6**	**+0.9**
RAMN	**Ramite**	**14.77**	**261**	*e*P	**Pn**	**00 54 08.1**	**-0.6**
	62nm,0.9s						
JIRN	**Jiri**	**14.94**	**264**	*e*P	**Pn**	**00 54 10.6**	**-0.4**
	316nm,1.3s						
UTHA	**Uthaitani**	**15.04**	**193**	P	**P**	**00 54 18.5**	**+1.0**
	17μm,0.7s						
PKI	**Pulchoki**	**15.63**	**264**	*e*P	**Pn**	**00 54 18.9**	**-1.2**
	228nm,1.5s						
PKIN	**Phulchoki**	**15.64**	**264**	*e*P	**Pn**	**00 54 19.0**	**-1.2**
	178nm,1.4s						
KKN	**Kakani**	**15.69**	**265**	*e*P	**Pn**	**00 54 19.9**	**-0.9**
	39nm,0.6s						
DMN	**Daman**	**15.88**	**265**	*e*P	**Pn**	**00 54 22.2**	**-1.1**
	274nm,1.6s						
GKN	**Gorkha**	**16.20**	**266**	*e*P	**Pn**	**00 54 25.8**	**-1.5**
	15nm,0.4s						
SRDT	**SRDT**	**16.29**	**193**	P	**P**	**00 54 32.6**	**+1.3**
	10nm,1.0s,442nm						
DANN	**Dangsing**	**16.88**	**268**	*e*P	**Pn**	**00 54 34.1**	**-2.0**
	42nm,0.8s						
KOLN	**Koldanda**	**17.14**	**266**	*e*P	**Pn**	**

KSAR Wonju Array Be 21.82 64 eP P 00 55 32.2 +0.4
KSRS Korea Array 21.86 64 P P 00 55 32.4 +0.3
KSRS pmax pmax
comp=Z,19nm,0.8s
KSRS Korea Array 21.86 64 P P 00 55 32.4 +0.3
comp=Z,16nm,0.9s,baz=249,slow=9.3,SNR=22
KSRS LR LR 01 03 48.3
comp=Z,42nm,20.0s,baz=245,slow=36
CN2 Changchun 22.33 47 eP P 00 55 36.5 -0.7
CN2 pmax pmax
comp=Z,20nm,0.6s
JOW Kunigami 22.46 93 P P 00 55 38.5 -0.4
comp=Z,0.6nm,0.3s,baz=176,slow=17,SNR=5.0
DGZ Jazzator, Alta 22.65 333 iP P 00 55 42.0 +1.3
DGZ pmax pmax
comp=Z,11nm,1.0s
MK31 Makanchi Array 22.97 322 eP P 00 55 44.6 +0.7
comp=Z,11nm,1.1s
MK31 Makanchi Array 22.97 322 eP P 00 55 44.7 +0.7
MK31 pmax pmax
comp=Z,11nm,1.1s
MKAR Makanchi Array 22.97 322 eP P 00 55 44.0 0.0
MKAR Makanchi Array 22.97 322 iP P 00 55 44.5 +0.5
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 22.97 322 P P 00 55 44.6 +0.5
comp=Z,3.6nm,0.5s,baz=120,slow=9.6,SNR=37
MKAR LR LR 01 04 58.0
comp=Z,47nm,19.8s,baz=120,slow=37
MAKZ Makanchi 23.15 321 eP P 00 55 46.6 +0.8
comp=Z,17nm,1.2s
MAKZ Makanchi 23.15 321 eP P 00 55 46.6 +0.8
MAKZ pmax pmax
comp=Z,17nm,1.2s
KDJ Kajisay 23.83 307 eP P 00 55 52.0 -0.8
comp=Z,9.3nm,0.9s
KDJ Kajisay 23.83 307 eP P 00 55 52.0 -0.8
KDJ pmax pmax
comp=Z,9.0nm,0.9s
JNU Nakatsue 23.86 76 eP P 00 55 54.7 +1.6
comp=Z,54nm,1.4s
JNU Nakatsue 23.86 76 P P 00 55 52.7 -0.4
comp=Z,16nm,1.1s,baz=188,slow=7.1,SNR=1.9
KSH Kashi 23.90 300 P P 00 55 54.0 +0.5
KSH pP sP 00 55 59.6 +1.0
KSH PP PnPn 00 56 29.0 +7.4
KSH S S 01 00 07.4 -2.5
KSH SS SnSn 01 00 58.6 +10
KSH pmax pmax
comp=Z,19nm,0.9s
KSH LR LR
comp=Z,440nm,11.5s
NRN Naryn 24.42 304 eP P 00 56 00.2 +1.7
comp=Z,11nm,0.9s
NRN Naryn 24.42 304 eP P 00 56 00.2 +1.7
NRN pmax pmax
comp=Z,11nm,0.9s
NIL Nilore 25.40 285 eP P 00 56 07.6 +0.5
comp=Z,20nm,0.8s
NIL Nilore 25.40 285 eP P 00 56 07.6 +0.5
NIL pmax pmax
comp=Z,21nm,0.8s
AAK Ala-Archa 25.87 306 eP P 00 56 11.2 -0.2
comp=Z,9.6nm,1.1s
AAK Ala-Archa 25.87 306ceP P 00 56 13.5 +2.1
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 25.87 306 P P 00 56 12.4 +0.9
comp=Z,1.4nm,0.5s,baz=92,slow=8.1,SNR=7.0
USRK Ussuriysk Ar. 26.76 51 eP P 00 56 19.9 +0.6
USRK Ussuriysk Ar. 26.76 51 LR LR 01 07 12.6
comp=Z,52nm,19.0s,baz=287,slow=37
ZAA0 Zalesovo Array 27.03 336 eP P 00 56 20.4 -1.1
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 27.03 336 eP P 00 56 21.5 0.0
ZALV Zalesovo Beam 27.03 336 iP P 00 56 21.7 +0.2
ZALV pmax pmax
comp=Z,9.0nm,0.9s
ZALV Zalesovo Beam 27.03 336 P P 00 56 21.8 +0.2
comp=Z,9.5nm,0.9s,baz=141,slow=9.6,SNR=29
ZALV LR LR 01 07 20.2
comp=Z,92nm,18.5s,baz=65,slow=37
KURBB Kurchatov Arra 27.31 325 P P 00 56 24.1 0.0
comp=Z,1.8nm,0.6s,baz=130,slow=9.8,SNR=14
KURBB PcP PcP 00 59 41.7 -1.7
comp=Z,0.4nm,0.3s,baz=125,slow=1.9,SNR=4.3
KURK Kurchatov 27.32 325 eP P 00 56 23.2 -1.0
comp=Z,10.0nm,1.4s
KURK Kurchatov 27.32 325ceP P 00 56 24.8 +0.6
KURK pmax pmax
comp=Z,13nm,2.5s
GAR Garm 28.11 297 eP P 00 56 32.0 +0.4
comp=Z,9.9nm,0.9s
GAR Garm 28.11 297 eP P 00 56 32.1 +0.4
GAR pmax pmax
comp=Z,10.0nm,0.9s
KK31 Karatay Array 28.80 305 eP P 00 56 38.1 +0.5
comp=Z,7.9nm,1.5s
KKAR Karatay Array 28.80 305 eP P 00 56 37.0 -0.6
comp=Z,7.9nm,1.5s
KKAR Karatay Array 28.80 305 eP P 00 56 37.0 -0.6
KKAR pmax pmax
comp=Z,8.0nm,1.5s
KLR Kul'dur 28.81 41 iP P 00 56 37.6 0.0
KLR pmax pmax
comp=Z,2.0nm,1.0s
KLR Kul'dur 28.81 41 P P 00 56 37.5 -0.1
comp=Z,1.3nm,0.7s,baz=273,slow=7.0,SNR=4.3
MJAR Matsushiro Arr 29.93 69 P P 00 56 49.1 +1.5
comp=Z,1.3nm,0.6s,baz=263,slow=9.6,SNR=3.8
MJAR LR LR 01 08 39.9
comp=Z,40nm,19.8s,baz=295,slow=36
ABKAR Akbulak array 37.49 313 eP P 00 57 53.4 +0.3
GEYT Alibeck 37.62 294 P P 00 57 55.2 +0.7
comp=Z,5.1nm,0.8s,baz=121,slow=5.7,SNR=12
GYA0B ALIBECK ARRAY 37.62 294 eP P 00 57 55.4 +0.9
comp=Z,9.8nm,1.1s
SVE Sverdlovsk 39.57 324 eP P 00 58 10.6 +0.1
SVE pmax pmax
comp=Z,9.0nm,1.0s
NRIK Noril'sk 40.06 352 P P 00 58 14.2 -0.3
comp=Z,5.1nm,0.7s,baz=138,slow=7.7,SNR=9.2
NRIK LR LR 01 15 55.5
comp=Z,85nm,18.3s,baz=202,slow=38
ARU Arti 40.47 323 eP P 00 58 17.8 -0.3
comp=Z,5.4nm,0.8s
ARU Arti 40.47 323c iP P 00 58 17.6 -0.4
ARU 01 00 16.6
ARU S S 01 04 25.5 -1.1
ARU SS SS 01 07 22.0 -3.7
ARU pmax pmax
comp=Z,5.0nm,0.7s
TIXI Tiksi 43.71 12ceP P 00 58 43.5 -0.7
TIXI pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 43.71 12 P P 00 58 43.4 -0.9
comp=Z,2.7nm,0.3s,baz=218,slow=3.7,SNR=10
KBZ Khabaz 48.81 303 P P 00 59 25.9 +1.2
comp=Z,0.8nm,0.6s,baz=31,slow=5.9,SNR=2.5
KIV Kislovodsk 48.94 304 eP P 00 59 25.6 -0.3
comp=Z,6.2nm,0.8s
KIV Kislovodsk 48.94 304 eP P 00 59 26.9 +1.0
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,60nm,16.0s
KLMR Klimovskoe 51.17 326 eP P 00 59 40.4 -2.0
KLMR pmax pmax
comp=Z,8.0nm,0.6s
BILL Bilibino 52.30 25ceP P 00 59 50.3 -0.4
BILL pmax pmax
comp=Z,9.0nm,1.7s
OBN Obninsk 52.42 318 iP P 00 59 52.8 +1.0
OBN pmax pmax
comp=Z,23nm,3.2s
ANN Anapa 52.59 305 eP P 00 59 42.6 -11
ANN pmax pmax
comp=Z,34nm,1.2s
BRTR Keskin Array B 56.29 300 eP P 01 00 19.0 -1.5
BRTR Keskin Array B 56.29 300 P P 01 00 19.2 -1.3
comp=Z,1.2nm,0.9s,baz=121,slow=5.5,SNR=6.7
AKASG Malin Array Be 57.22 313 P P 01 00 25.4 -1.3
comp=Z,1.8nm,0.4s,baz=67,slow=7.1,SNR=11
ARCES ARCESS Array B 57.58 336 eP P 01 00 27.9 -1.1
ARCES ARCESS Array B 57.58 336 P P 01 00 28.1 -0.9
comp=Z,3.3nm,0.9s,baz=85,slow=7.6,SNR=12
ARE0 ARCESS Array S 57.58 336 eP P 01 00 28.9 -0.1
comp=Z,1.4nm,1.4s
VSU Vasula 57.64 323ceP P 01 00 29.5 +0.1
VSU pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 57.68 326 eP P 01 00 29.0 -0.7
FINES FINESS Array B 57.68 326 P P 01 00 28.7 -1.0
comp=Z,1.1nm,0.5s,baz=92,slow=7.0,SNR=15
CSS Mathiatis 57.76 294 eP P 01 00 30.2 -0.6
comp=Z,8.1nm,0.9s
WRAB Tennant Creek 58.37 145 eP P 01 00 34.7 -0.4
comp=Z,12nm,0.9s
WRAB Tennant Creek 58.37 145ceP P 01 00 37.2 +2.1
WRAB pmax pmax
comp=Z,16nm,1.3s
WRA Warramunga Arr 58.37 145⇑eP P 01 00 38.9 +3.8
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 58.37 145 P P 01 00 34.3 -0.8
comp=Z,4.3nm,0.7s,baz=336,slow=7.6,SNR=9.1
WB2 Warramunga Arr 58.38 145 eP P 01 00 35.4 +0.2
comp=Z,11nm,0.9s
BURAR Bucovina Array 60.41 311 eP P 01 00 47.9 -1.2
comp=Z,10.0nm,0.8s
BURAR Bucovina Array 60.41 311 eP P 01 00 47.9 -1.2
BURAR pmax pmax
comp=Z,10.0nm,0.8s
MLR Muntele Rosu 60.44 308 eP P 01 00 48.6 -0.7
comp=Z,3.7nm,1.0s
MLR Muntele Rosu 60.44 308 eP P 01 00 48.6 -0.7
MLR pmax pmax
comp=Z,4.0nm,1.0s
ASAR Alice Springs 61.33 148 P P 01 00 54.8 -0.7
comp=Z,1.9nm,0.8s,baz=331,slow=6.7,SNR=12
KWP Kalwaria Pacla 61.54 313 eP P 01 00 56.5 -0.2
KWP Kalwaria Pacla 61.54 313 eP P 01 00 56.4 -0.2
comp=Z,80nm,0.8s
KWP Kalwaria Pacla 61.54 313 eP P 01 00 56.4 -0.2
VTS Vitosha 63.10 305 eP P 01 01 06.7 -0.6
comp=Z,3.6nm,1.0s
VTS Vitosha 63.10 305 eP P 01 01 06.7 -0.6
VTS pmax pmax
comp=Z,4.0nm,1.0s
OJC Ojcow 63.20 314 eP P 01 01 07.8 +0.1
OJC Ojcow 63.20 314 eP P 01 01 08.1 +0.4
comp=Z,10nm,1.4s
OJC Ojcow 63.20 314 eP P 01 01 08.1 +0.4
OJC pmax pmax
comp=Z,10.0nm,1.4s
VYHS Vyhne 64.30 313 eP P 01 01 14.1 -0.9
VYHS pmax pmax
comp=Z,2.0nm,1.3s
VYHS Vyhne 64.30 313 eP P 01 01 14.1 -0.9
NB2 NORSAR Subarra 64.80 327 P P 01 01 16.1 -2.0
comp=Z,1.5nm,0.6s,baz=74,slow=6.9
NOA NORSAR Array B 64.80 327 P P 01 01 15.9 -2.1
comp=Z,0.4nm,0.5s,baz=76,slow=7.2,SNR=5.1
DPC Dobruska-Polom 65.30 315 eP P 01 01 21.1 -0.4
DPC Dobruska-Polom 65.30 315 eP P 01 01 21.1 -0.4
CLL Collm 66.97 317 eP P 01 01 31.0 -1.2
CLL Collm 66.97 317 eP P 01 01 31.0 -1.2
GERES GERESS Array B 67.41 314 P P 01 01 34.2 -0.9
comp=Z,0.6nm,0.6s,baz=70,slow=5.8,SNR=7.9
GERES LR LR 01 32 57.6
comp=Z,32nm,19.3s,baz=62,slow=38
IMAR Indian Mountai 67.85 25 eP P 01 01 36.7 -0.7
MLY Manley 69.40 26 eP P 01 01 47.5 +0.2
comp=Z,7.1nm,1.1s
BPAW Bear Paw Mtn. 69.73 27 eP P 01 01 49.3 0.0
comp=Z,8.3nm,0.8s
PPLA Purkeypile 69.81 28 eP P 01 01 50.1 +0.2
MDM Murphy Dome 70.37 25 eP P 01 01 53.2 0.0
comp=Z,1.1nm,1.0s
WRH Wood River Hil 70.66 26 eP P 01 01 54.5 -0.4
comp=Z,7.4nm,1.0s
CCB Clear Creek Bu 70.68 26 eP P 01 01 54.6 -0.4
comp=Z,2.7nm,0.8s
RND Reindeer 70.90 27 eP P 01 01 55.9 -0.6
comp=Z,5.1nm,0.9s
RND Reindeer 70.90 27 P P 01 01 55.9 -0.6
RND pmax pmax
comp=Z,5.0nm,0.9s
ILAR Eielson Array 70.96 25 eP P 01 01 55.3 -1.4
ILAR Eielson Array 70.96 25 P P 01 01 55.5 -1.2
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 70.96 25 P P 01 01 55.5 -1.2
comp=Z,2.3nm,0.9s,baz=279,slow=5.7,SNR=18
PRP Porcupine Dome 71.06 24 eP P 01 01 57.6 0.0
comp=Z,9.3nm,1.1s
PMR Palmer 71.69 29 eP P 01 02 00.9 -0.3
STKA Stephens Creek 71.89 146 P P 01 02 00.7 -1.9
comp=Z,1.0nm,0.4s,baz=327,slow=16,SNR=2.9
SML Sawmill 71.91 28 eP P 01 02 02.3 -0.3
comp=Z,9.9nm,0.9s
SML Sawmill 71.91 28 P P 01 02 02.3 -0.3
SML pmax pmax
comp=Z,10.0nm,0.9s
RIDG Independent Ri 72.26 26 eP P 01 02 03.6 -1.1
comp=Z,11nm,1.2s
SCRK Sand Creek 72.45 25 eP P 01 02 04.6 -1.2
comp=Z,5.5nm,1.0s
KLU Kluting 73.06 28 eP P 01 02 09.2 -0.3
comp=Z,11nm,1.0s
INK Inuvik 73.21 19 eP P 01 02 09.5 -0.6
comp=Z,6.9nm,1.1s
INK Inuvik 73.21 19 eP P 01 02 09.5 -0.6
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 73.21 19 P P 01 02 09.7 -0.4
comp=Z,4.0nm,0.8s,baz=323,slow=8.0,SNR=19
TULEG Thule 73.28 358 eP P 01 02 08.6 -1.8
comp=Z,6.5nm,1.0s
EPYK Eagle Plains 73.51 21 eP P 01 02 11.1 -0.9
comp=Z,7.2nm,0.7s
BCAR Beaver Creek A 73.78 25 eP P 01 02 13.5 -0.1
DAWY Dawson 74.05 24 eP P 01 02 14.7 -0.6
comp=Z,5.2nm,1.0s
RES Resolute Bay 74.60 5 eP P 01 02 18.2 +0.1
comp=Z,4.8nm,0.9s
RES Resolute Bay 74.60 5 eP P 01 02 18.3 +0.1
RES pmax pmax
comp=Z,5.0nm,0.9s
YKW3 Yellowknife Ar 82.66 17 eP P 01 03 02.2 -0.5
comp=Z,3.7nm,0.9s
YKA Yellowknife Ar 82.72 17 eP P 01 03 02.1 -0.9
YKA Yellowknife Ar 82.72 17⇑eP P 01 03 02.4 -0.7
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 82.72 17 P P 01 03 02.4 -0.7
comp=Z,2.6nm,0.7s,baz=327,slow=4.9,SNR=60
FFC Flin Flon 92.62 14ceP P 01 03 50.9 -0.2
ROSC El Rosal 144.95 355 PKPbc PKPab 01 10 15.7 -1.5
comp=Z,7.0nm,0.7s,baz=203,slow=22,SNR=5.2
PTGA Pitinga 146.41 328 PKPbc PKPdf 01 10 19.4 -0.7
comp=Z,1.2nm,0.3s,baz=309,slow=22,SNR=5.0
LPAZ La Paz 163.84 328 PKP PKPdf 01 10 42.1 -2.0
comp=Z,1.2nm,0.9s,baz=34,slow=2.3,SNR=4.4

ISCJB ***11*** *00:53:26.9±0.4,21°.80S±0°.03×68°.73W±0°.07,h111km±6km, mb3.8/4, Error ellipse: s-maj=10.5km s-min=4.4km az=3.9*
IDC ***11*** *00:53:27.8±0.7,21°.85S×68°.52W,h97km±8km, mb3.7/5, mb1 3.7/10, mb1mx3.5/32, mbtmp4.0/10, MS3.4/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=24.8km s-min=15.8km az=118.0*
SJA ***11*** *00:53:27.0±0.6,21°.80S×68°.77W,h104km±4km, MD3.0*
GUC ***11*** *00:53:28.5±0.6,21°.80S×68°.81W,h104km±2km, ML4.3*
ISC 11 00:53:27.6±0.6, 21°.78S±0°.03×68°.73W±0°.06, h101km±6km, n43,σ18°04/65, mb3.9/4, 3C-10D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.47	268	eP	Pn	00 53 43.8	+0.2
PB09				i S	Sn	00 53 55.8	+0.3
PB09				IAML		00 53 58.1	
	comp=E,13μm,0.5s						
LVC	Limon Verde	0.84	191	eP	Pn	00 53 47.3	+0.3
LVC				⇓eS	Sn	00 54 01.6	+0.2
LVC	Limon Verde	0.84	191	⇓iP	Pn	00 53 47.5	+0.5
LVC				i S	Sn	00 54 02.0	+0.6
LVC	Limon Verde	0.84	191	P	Pn	00 53 47.4	+0.5
	comp=E,254nm,0.3s,baz=357,slow=7.1,SNR=2196						
LVC				S	Sn	00 54 01.6	+0.2
	comp=E,536nm,0.3s,baz=142,slow=19,SNR=197						
LVC				LR	LR	00 54 20.4	
	comp=E,192nm,21.2s,baz=334,slow=62						
PB03	IPOC Station P	0.99	254	eP	Pn	00 53 48.2	0.0
PB03				⇓eS	Sn	00 54 03.4	-0.3
PB03	IPOC Station P	0.99	254	eP	Pn	00 53 48.2	0.0
PB03				i S	Sn	00 54 03.2	-0.4
PB03				IAML		00 54 04.8	
	comp=E,14μm,0.2s						
PB01	IPOC Station P	1.01	316	eP	Pn	00 53 48.3	-0.1
PB01				i S	Sn	00 54 04.2	+0.2
PB01				IAML		00 54 06.6	
	comp=E,6μm,0.2s						
PB07	IPOC Station P	1.07	272	⇓eS	Sn	00 54 05.0	-0.3
PB07	IPOC Station P	1.07	272	eP	Pn	00 53 49.0	-0.2
PB07				i S	Sn	00 54 04.8	-0.6
PB07				IAML		00 54 06.7	
	comp=N,10μm,0.5s						
PB02	IPOC Station P	1.18	293	⇓eP	Pn	00 53 50.4	+0.1
PB02				⇓eS	Sn	00 54 07.0	-0.2
PB02	IPOC Station P	1.18	293	eP	Pn	00 53 49.9	-0.3
PB02				i S	Sn	00 54 06.8	-0.5
PB02				IAML		00 54 08.0	
	comp=E,8μm,0.5s						
PB06	IPOC Station P	1.21	220	eP	Pn	00 53 51.0	+0.3
PB06				⇓eS	Sn	00 54 08.8	+0.8
PB06	IPOC Station P	1.21	220	eP	Pn	00 53 50.9	+0.3
PB06				i S	Sn	00 54 08.3	+0.3
PB06				IAML		00 54 09.7	
	comp=E,6μm,0.4s						
PB04	IPOC Station P	1.43	247	eP	Pn	00 53 53.0	-0.2
PB04				⇓eS	Sn	00 54 12.5	-0.1
PB04	IPOC Station P	1.43	247	eP	Pn	00 53 53.0	-0.2
PB04				i S	Sn	00 54 12.3	-0.3
PB15	IPOC Station P	1.58	205	eP	Pn	00 53 56.0	+0.8
PB15				eS	Sn	00 54 16.8	+0.8
PB15	IPOC Station P	1.58	205	eP	Pn	00 53 55.7	+0.5
PB15				i S	Sn	00 54 16.8	+0.8
PB08	IPOC Station P	1.68	346	eP	Pn	00 53 58.1	+1.6
PB08				i S	Sn	00 54 20.7	+2.3
PB05	IPOC Station P	1.73	232	eP	Pn	00 53 56.8	-0.3
PB05				⇓eS	Sn	00 54 21.6	+2.3
PB05	IPOC Station P	1.73	232	eP	Pn	00 53 56.7	-0.3
GO01	Chusmiza	2.14	348	⇓iP	Pn	00 54 04.2	+1.6
GO01				i S	Sn	00 54 30.8	+1.6
GO01				IAML		00 54 35.7	
	comp=E,1μm,0.4s						
PB11	IPOC Station P	2.18	337	eP	Pn	00 54 03.1	+0.3
PB11	IPOC Station P	2.18	337	⇑iP	Pn	00 54 03.1	+0.3
PB11				i S	Sn	00 54 29.9	+0.2
PB11				IAML		00 54 33.8	
	comp=N,2μm,0.5s						
PB10	IPOC Station P	2.41	224	eP	Pn	00 54 06.5	+0.9
PB10	IPOC Station P	2.41	224	eP	Pn	00 54 05.6	0.0
PSGC	Pisagua	2.53	329	⇑iP	Pn	00 54 06.2	-1.1
PSGC				eS	Sn	00 54 34.9	-2.8
MNMCX	Minye Minye	2.75	343	eP	Pn	00 54 11.1	+0.7
PB14	IPOC Station P	3.23	208	⇑eP	Pn	00 54 17.5	+0.8
PB14				i S	Sn	00 54 54.9	+0.3
PB14				IAML		00 55 05.2	
	comp=E,2μm,0.4s						
LPAZ	La Paz	5.49	6	P	Pn	00 54 50.2	+2.6
	comp=E,2.9nm,0.3s,baz=200,slow=6.2,SNR=73						
SIV	San Ignacio	9.26	53	P	Pn	00 55 36.0	-2.3
	comp=E,3.7nm,0.3s,baz=251,slow=13,SNR=142						
CFA	Coronel Fontan	9.80	178	P	Pn	00 55 43.8	-1.8
	comp=E,0.3nm,0.3s,baz=196,slow=20,SNR=7.5						
CPUP	Villa Florida	11.36	116	P	Pn	00 56 05.0	-1.8
	comp=E,0.1nm,0.3s,baz=288,slow=13,SNR=4.3						
PLCA	Paso Flores	18.96	184	P	Pn	00 57 42.0	-0.7
	comp=E,0.2nm,0.3s,baz=20,slow=12,SNR=4.3						
BDFB	Brasilia	20.54	76	P	P	00 57 57.6	-0.8
	comp=E,3.4nm,0.8s,baz=237,slow=5.8,SNR=3.7						
PTGA	Pitinga	22.60	23	P	P	00 58 18.8	-1.1
	comp=E,1.8nm,0.3s,baz=317,slow=22,SNR=5.2						
LPIG	La Paz	60.95	316	LR	LR	01 26 28.1	
	comp=E,28nm,18.3s,baz=310,slow=32						
DBIC	Dimbokro	68.66	73	P	P	01 04 20.5	-0.1
	comp=E,2.5nm,0.7s,baz=236,slow=11,SNR=3.4						
NVAR	Mina Array Bea	75.81	322	P	P	01 05 05.2	+2.3
	comp=E,0.5nm,0.6s,baz=166,slow=4.6,SNR=3.1						
NVAR				pP	pP	01 05 31.7	+1.7
	comp=E,0.7nm,0.7s,baz=140,slow=5.8,SNR=2.5						
TORD	Torodi Ar. Bea	77.29	70	P	P	01 05 11.4	-0.1
	comp=E,1.1nm,0.7s,baz=272,slow=5.4,SNR=16						
TORD				pP	pP	01 05 37.8	-1.1
	comp=E,1.1nm,0.6s,baz=252,slow=5.1,SNR=5.2						
ASAR	Alice Springs	129.74	207	PKP	PKPdf	01 12 26.0	+0.2
	comp=E,1.0nm,0.9s,baz=148,slow=2.4,SNR=6.1						
WRA	Warramunga Arr	132.80	210	PKP	PKPdf	01 12 31.2	-0.4
	comp=E,0.7nm,0.6s,baz=144,slow=2.0,SNR=7.1						
ZALV	Zalesovo Beam	142.13	25	PKP	PKPdf	01 12 48.6	+0.9
	comp=E,0.7nm,0.6s,baz=306,slow=5.0,SNR=3.3						
MKAR	Makanchi Array	145.76	36	pPKPbc	pPKPbc	01 13 24.2	+0.6
	comp=E,2.0nm,0.8s,baz=347,slow=5.9,SNR=3.6						

IDC ***11*** *00:59:52.6±0.9,52°.10N×171°.04W,h0km, mb4.0/26, mb1 4.2/28, mb1mx4.1/49, mbtmp4.0/28, ML3.4/2, MS3.2/7, Ms1 3.2/7, ms1mx2.9/38, Error ellipse: s-maj=25.4km s-min=12.3km az=1.0*
NEIC ***11*** *00:59:56.2±0.0,51°.87N×170°.83W,h28km, mb4.2/70, ML3.9(AEIC), After AEIC.*
ISCJB ***11*** *00:59:57.1±0.2,52°.04N±0°.04×170°.92W±0°.03,h42km, mb4.3/78, MS3.1/6, Error ellipse: s-maj=6.5km s-min=2.4km az=167.3*
ISC 11 00:59:58.1±0.5, 51°.99N±0°.09×170°.90W±0°.04, h42km, n171,σ0°99/173, mb4.3/78, MS3.2/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.59	51	P	Pn	01 00 22.1	-1.6
NIKH				S	Sn	01 00 44.0	+0.9
KOFP	Korovin Flat P	1.99	279	P	Pn	01 00 29.1	-0.2
ATKA	Atka Island	2.04	277	P	Pn	01 00 29.6	-0.3
ATKA				S	Sn	01 00 54.4	+0.2
KOKL	Mount Kliuchef	2.06	281	P	Pn	01 00 31.0	+0.8
KOWE	Korovin West	2.10	282	P	Pn	01 00 31.5	+0.8
OKWE	Okmok W'ng Wal	2.19	46	P	Pn	01 00 33.1	+1.1
OKAK	Okmok	2.22	43	P	Pn	01 00 31.1	-1.2
MREP	Makushin Rep't	3.11	52	P	Pn	01 00 45.1	+0.5
MCIR	Makushin Cirqu	3.12	49	P	Pn	01 00 45.3	+0.5
MSW	Makushin Switc	3.15	51	P	Pn	01 00 45.5	+0.3
GSMY	Great Sitkin M	3.19	273	P	Pn	01 00 45.8	+0.2
GSMY				S	Sn	01 01 24.2	+1.9
GSTR	Great Sitkin T	3.19	274	ePn	Pn	01 00 45.8	+0.1
MTBL	Makushin Table	3.23	51	P	Pn	01 00 47.4	+1.1
GSTD	Great Sitkin T	3.24	273	P	Pn	01 00 46.8	+0.3
UNV	Unalaska Valle	3.25	53	P	Pn	01 00 47.1	+0.6
ETKA	Kagalaska Isla	3.41	270	P	Pn	01 00 48.9	+0.2
ADAG	Mount Adagdak	3.53	272	P	Pn	01 00 50.8	+0.5
ADK	Adak	3.58	271	ePn	Pn	01 00 49.9	-1.1
KIRH	Kanaga Island	3.83	271	P	Pn	01 00 55.5	+0.9
KIWB	Kanaga Island	3.87	270	ePn	Pn	01 00 54.9	-0.2
KIKV	Kanaga Island	3.88	271	P	Pn	01 00 55.9	+0.7
KIKV				S	Sn	01 01 41.0	+1.4
KIMD	Kanaga Island	3.93	269	P	Pn	01 00 56.6	+0.7
TAFP	Tanaga Falls P	4.38	272	P	Pn	01 01 03.1	+1.0
TAFP				S	Sn	01 01 54.4	+2.5
TASE	Tanaga Southea	4.42	271	P	Pn	01 01 03.2	+0.5
SPIA	Saint Paul Isl	5.21	4	ePn	Pn	01 01 14.9	+1.5
FALS	False Pass	5.32	54	P	Pn	01 01 16.1	+1.3
DT1	Dutton Round H	6.01	55	P	Pn	01 01 25.7	+1.3
SDPT	Sand Point	7.05	57	ePn	Pn	01 01 39.4	+0.9
SII	Sitkinak Islan	10.78	58	ePn	Pn	01 02 28.9	-0.8
KDAK	Kodiak Island	12.02	54	Pn	Pn	01 02 44.5	-2.1
	0.7nm,0.3s,baz=177,slow=6.4,SNR=7.6						
ANM	Nome	12.93	11	ePn	Pn	01 02 59.5	+0.5
SEW	Seward	14.42	47	ePn	Pn	01 03 17.6	-1.7
CAST	Castle Rocks	15.16	34	ePn	Pn	01 03 30.2	+1.2
	3.9nm,0.7s						
KNK	Knik Glacier	15.44	44	ePn	Pn	01 03 32.4	-0.3
	24nm,1.6s						
SML	Sawmill	15.68	42	ePn	Pn	01 03 35.6	-0.2
	7.4nm,1.1s						
BPAW	Bear Paw Mtn.	15.97	33	ePn	Pn	01 03 41.0	+1.5
	8.3nm,0.8s						
SCM	Sheep Creek Mo	16.11	43	ePn	Pn	01 03 40.7	-0.7
	11nm,0.9s						
RND	Reindeer	16.31	37	ePn	Pn	01 03 45.3	+1.4
	5.1nm,0.9s						
MCK	McKinley	16.47	36	ePn	Pn	01 03 45.2	-0.6
	7.7nm,1.0s						

IMAR	Indian Mountai	16.49	25	*e*Pn	P		01 03 47.4	-0.7
BWN	Browne	16.54	34	*e*Pn	Pn		01 03 47.2	+0.5
	24nm,1.3s							
KLU	Klutina	16.57	45	*e*Pn	Pn		01 03 45.3	-1.9
	14nm,1.6s							
MLY	Manley	16.67	31	*e*Pn	Pn		01 03 49.1	+0.7
	7.1nm,1.2s							
DHY	Denali Highway	16.70	39	*e*Pn	Pn		01 03 49.3	+0.5
	6.9nm,1.3s							
HMT	Hamilton	16.92	50	*e*Pn	Pn		01 03 49.9	-1.7
	11nm,0.9s							
WRH	Wood River Hil	17.20	35	*e*Pn	P		01 03 56.8	+0.7
	7.4nm,1.0s							
HARP	HAARP	17.28	43	*e*Pn	Pn		01 03 55.0	-1.0
	16nm,1.3s							
CCB	Clear Creek Bu	17.40	34	*e*Pn	Pn		01 03 56.7	-0.7
	2.7nm,0.8s							
HDA	Harding Lake	17.57	36	*e*Pn	P		01 04 00.8	+0.6
	3.7nm,0.8s							
ILAR	Eielson Array	17.80	35	*e*Pn	Pn		01 04 01.1	-1.2
ILAR	Eielson Array	17.80	35	P	Pn		01 04 01.4	-0.9
	0.1nm,0.3s,baz=232,slow=9.5,SNR=6.9							
ILAR				LR	LR		01 11 15.5	
	comp=Z,112nm,19.1s,baz=269,slow=38							
ILB	Eielson Array	17.80	35	*e*Pn	Pn		01 04 01.4	-0.9
	3.3nm,0.6s							
RIDG	Independent Ri	18.02	39	*e*Pn	P		01 04 05.6	+0.5
	8.3nm,1.2s							
BALM	Baldy	18.03	49	*e*Pn	P		01 04 05.9	+0.5
	4.7nm,0.7s							
SCRK	Sand Creek	18.46	39	*e*P	P		01 04 10.1	0.0
	3.7nm,0.9s							
PRP	Porcupine Dome	18.70	34	*e*P	P		01 04 13.1	+0.4
	4.5nm,0.8s							
PETK	Petropavlovsk-	19.05	286	*e*P	P		01 04 16.2	-0.3
PETK	Petropavlovsk-	19.05	286	P	P		01 04 16.7	+0.2
	0.7nm,0.3s,baz=85,slow=14,SNR=18							
BCPM	Bancas Point	19.07	53	*e*P	Pn		01 04 18.1	+0.4
	62nm,1.2s							
FYU	Fort Yukon	19.40	31	*e*P	P		01 04 20.9	+0.7
	26nm,1.6s							
TOLK	Toolik Lake Re	19.56	23	*e*P	Pn		01 04 23.1	-0.5
	9.0nm,1.0s							
EGAK	Eagle	19.92	39	*e*P	P		01 04 25.7	-0.2
	12nm,1.4s							
HYT	Haines Junctio	20.27	51	*e*P	Pn		01 04 32.0	-0.2
	69nm,0.9s							
DAWY	Dawson	20.34	41	*e*P	P		01 04 30.6	+0.1
	5.2nm,1.0s							
SKAG	Skagway	21.16	55	*e*P	P		01 04 41.4	+2.1
BESE	Bessie Mountai	21.35	58	*e*P	P		01 04 42.7	+1.2
WHY	Whitehorse	21.52	52	*e*P	P		01 04 45.6	+2.3
	16nm,1.4s							
SEY	Seymchan	22.24	314	P	P		01 04 50.1	-0.8
	1.4nm,0.5s,baz=45,slow=20,SNR=2.7							
EPYK	Eagle Plains	22.27	37	*e*P	P		01 04 50.8	-0.4
	7.2nm,0.7s							
MA2	Magadan	22.58	305	P	P		01 04 54.0	-0.5
	1.6nm,0.3s,baz=102,slow=20,SNR=3.1							
DLBC	Dease Lake	23.89	58	*e*P	P		01 05 09.0	+1.5
	16nm,0.9s							
DLBC	Dease Lake	23.89	58	P	P		01 05 09.2	+1.7
	13nm,0.9s,baz=278,slow=9.0,SNR=31							
INK	Inuvik	24.18	33	*e*P	P		01 05 09.5	-0.5
	5.4nm,0.6s							
INK	Inuvik	24.18	33	P	P		01 05 09.4	-0.5
	6.4nm,0.7s,baz=247,slow=7.8,SNR=36							
BBB	Bella Bella	26.01	72	*e*P	P		01 05 26.5	-0.3
	9.6nm,1.4s							
YKW3	Yellowknife Ar	31.19	48	*e*P	P		01 06 13.2	+0.5
	3.9nm,0.8s							
YKA	Yellowknife Ar	31.20	48	P	P		01 06 13.7	+0.8
	3.3nm,0.8s,baz=273,slow=8.3,SNR=42							
YKA				PcP	PcP		01 09 06.4	-0.1
	0.4nm,0.9s,baz=278,slow=3.1,SNR=4.5							
YKA				LR	LR		01 19 21.2	
	comp=Z,9.8nm,21.2s,baz=254,slow=38							
YBH	Yreka Blue Hor	33.93	88	LR	LR		01 19 10.3	
	comp=Z,47nm,18.5s,baz=36,slow=34							
NEW	Newport	34.02	74	*e*P	P		01 06 38.5	+0.8
	3.9nm,0.9s							
PAHR	Pah Rah Range	37.16	88	*e*P	P		01 07 05.5	+0.5
	7.7nm,1.3s							
NVAR	Mina Array Bea	38.60	89	*e*P	P		01 07 18.1	+0.9
NVAR	Mina Array Bea	38.60	89	P	P		01 07 18.7	+1.5
	1.8nm,0.8s,baz=299,slow=8.4,SNR=9.6							
OMMB	Old Mammoth Mi	38.68	91	*e*P	P		01 07 18.9	+0.9
	7.2nm,1.5s							
MJAR	Matsushiro Arr	38.74	267	LR	LR		01 21 12.4	
	comp=Z,29nm,21.9s,baz=50,slow=33							
FFC	Flin Flon	39.72	58	*e*P	P		01 07 26.4	+0.4
	4.3nm,1.0s							
RLMT	Red Lodge	40.27	75	*e*P	P		01 07 32.3	+1.3
	3.5nm,1.0s							
PD31	Pinedale Array	41.40	78	*e*P	P		01 07 40.9	+0.5
	1.5nm,0.7s							
PDAR	Pinedale Array	41.40	78	*e*P	P		01 07 39.9	-0.5
PDAR	Pinedale Array	41.40	78	P	P		01 07 40.9	+0.5
	1.0nm,0.8s,baz=311,slow=3.9,SNR=8.3							
GSC	Goldstone, Bar	41.52	92	*e*P	P		01 07 41.9	+0.7
	8.1nm,1.0s							
FCC	Fort Churchill	41.91	49	*e*P	P		01 07 44.5	+0.6
	13nm,0.8s							
SRU	San Rafael Swe	42.98	83	*e*P	P		01 07 55.1	+1.9
	3.2nm,0.9s							
W13A	Hualapai Mount	43.46	90	*e*P	P		01 07 58.3	+1.2
	2.9nm,1.0s							
U15A	North Rim	43.58	87	*e*P	P		01 07 59.6	+1.5
	3.4nm,1.0s							
O20A	White River Ci	43.75	80	*e*P	P		01 08 00.0	+0.6
	7.7nm,1.1s							
Y12C	Blythe	43.95	92	*e*P	P		01 08 02.0	+1.2
	5.5nm,0.9s							
KSRS	Korea Array	44.51	276	P	P		01 08 05.5	+0.3
	1.2nm,0.6s,baz=46,slow=9.4,SNR=5.2							
KSAR	Wonju Array Be	44.54	276	P	P		01 08 05.5	0.0
PV13	Radium Mtn., P	44.62	83	*e*P	P		01 08 07.5	+1.0
	5.3nm,0.9s							
PV02	Paradox Valley	44.64	82	*e*P	P		01 08 07.2	+0.6
	5.5nm,0.9s							
WUAZ	Wupatki	44.74	87	*e*P	P		01 08 08.8	+1.5
	3.4nm,0.8s							
Y14A	Wickenburg	44.77	90	*e*P	P		01 08 08.4	+1.0
	2.7nm,0.9s							
PV01	Paradox Valley	44.79	82	*e*P	P		01 08 08.7	+0.9
	3.0nm,0.8s							
ULM	Lac du Bonnet	45.16	61	P	P		01 08 12.1	+1.9
	1.5nm,0.7s,baz=288,slow=3.2,SNR=2.9							
X16A	Lo Mia Camp, P	45.42	89	*e*P	P		01 08 14.4	+1.7
	1.9nm,0.9s							
TUC	Tucson	47.24	90	*e*P	P		01 08 27.4	+0.4
	3.0nm,0.9s							
T25A	Trinidad	47.97	81	*e*P	P		01 08 34.3	+1.6
	5.7nm,1.0s							
LAZ	Ladron	48.08	85	*e*P	P		01 08 34.4	+0.8
ANMO	Albuquerque	48.14	84	LR	LR		01 28 56.2	
	comp=Z,26nm,18.2s,baz=252,slow=36							
LENM	Lemitar	48.34	85	*e*P	P		01 08 35.9	+0.4
ECSD	EROS Data Cent	48.49	69	*e*P	P		01 08 36.8	+0.4
	6.8nm,1.4s							
EYMN	Ely	48.84	61	*e*P	P		01 08 39.0	0.0
	14nm,1.2s							
SPITS	Spitsbergen Ar	50.02	358	P	P		01 08 47.0	-0.6
	1.5nm,0.5s,baz=32,slow=5.6,SNR=8.2							
SONM	Songino Array	50.68	300	*e*P	P		01 08 52.9	-0.3
	0.8nm,0.9s							
SONM	Songino Array	50.68	300	P	P		01 08 52.6	-0.5
	0.6nm,0.5s,baz=56,slow=5.2,SNR=4.0							
SONM				LR	LR		01 31 27.0	
	comp=Z,52nm,19.9s,baz=59,slow=38							
MNTX	Cornudas Mount	51.00	87	*e*P	P		01 08 56.7	+1.1
	9.1nm,1.8s							
HHC	Hu-ho-hao-te	52.17	290	*e*P	P		01 09 00.5	-3.9
TX31	Lajitas Ar. Si	53.70	87	*e*P	P		01 09 16.1	+0.4
	3.3nm,1.0s							
TXAR	Lajitas Array	53.70	87	*e*P	P		01 09 16.0	+0.2
TXAR	Lajitas Array	53.70	87	P	P		01 09 15.9	+0.1
	1.7nm,0.7s,baz=274,slow=4.9,SNR=6.3							
VLDQ	Val d'Or	56.05	54	*e*P	P		01 09 32.2	-0.2
	6.4nm,0.9s							
SCHQ	Schefferville	56.35	42	P	P		01 09 34.8	+0.4
	5.4nm,1.0s,baz=333,slow=7.6,SNR=4.7							
ZALV	Zalesovo Beam	57.06	317	PcP	PcP		01 10 34.1	+0.1
	0.5nm,0.5s,baz=56,slow=3.6,SNR=4.6							
ARCES	ARCESS Array B	58.19	353	P	P		01 09 45.8	-1.4
	1.7nm,0.8s,baz=13,slow=10,SNR=4.1							
BLA	Blacksburg	62.02	65	*e*P	P		01 10 14.2	+0.2
	8.3nm,0.8s							
KURBB	Kurchatov Arra	62.13	318	P	P		01 10 14.0	-0.4
	1.6nm,0.8s,baz=46,slow=6.8,SNR=11							
WMQ	Urumqi	63.02	307	*e*P	P		01 10 22.4	+1.9
MKAR	Makanchi Array	63.37	313	P	P		01 10 21.6	-1.2
	0.7nm,0.7s,baz=39,slow=7.8,SNR=6.2							
MAKZ	Makanchi	63.51	313	*e*P	P		01 10 22.6	-1.1
CD2	Chengdu	63.59	287	*e*P	P		01 10 22.2	-2.2
JSC	Jenkinsville	63.65	68	*e*P	P		01 10 24.2	-0.5
	23nm,1.8s							
ARU	Arti	64.52	332	*e*P	P		01 10 29.4	-0.7
	3.9nm,0.7s							
FINES	FINESS Array B	66.11	351	*e*P	P		01 10 38.6	-1.7
FINES	FINESS Array B	66.11	351	P	P		01 10 38.9	-1.3
	0.9nm,0.6s,baz=1.7,slow=9.4,SNR=8.2							
NC303	NORSAR Array S	67.12	359	*e*P	P		01 10 46.8	0.0
	93nm,1.9s							
NC405	NORSAR Array S	67.23	359	*e*P	P		01 10 46.9	-0.6
	105nm,2.0s							
NB2	NORSAR Subarra	67.31	359	P	P		01 10 47.5	-0.5
	comp=Z,6.3nm,0.9s,baz=0.9,slow=6.2							
NOA	NORSAR Array B	67.31	359	P	P		01 10 47.8	-0.2
	comp=Z,1.7nm,0.8s,baz=0.6,slow=6.3,SNR=5.7							
NOA				LR	LR		01 41 22.0	
	comp=Z,11nm,19.1s,baz=350,slow=37							
AAK	Ala-Archa	70.10	314	*e*P	P		01 11 06.0	+0.1
	comp=Z,3.6nm,0.9s							
AAK	Ala-Archa	70.10	314	P	P		01 11 05.9	+0.1
	comp=Z,1.8nm,0.7s,baz=79,slow=2.2,SNR=6.0							
ABKAR	Akbulak array	70.25	327	*e*P	P		01 11 06.0	-0.5
	comp=Z,5.8nm,1.4s							
KKAR	Karatay Array	71.44	317	*e*P	P		01 11 12.7	-1.1
PPT	Papeete	71.72	159	*e*P	P		01 11 14.8	-0.7
CHGR	Chuyangaron	75.68	316	*e*P	P		01 11 39.6	+0.6
	comp=Z,5.4nm,0.7s							
CMAR	Chiang Mai Arr	75.78	282	P	P		01 11 40.0	+0.4
	comp=Z,2.1nm,0.7s,baz=20,slow=7.1,SNR=6.8							
AKASG	Malin Array Be	76.27	347	P	P		01 11 41.1	-0.8
	comp=Z,0.4nm,0.4s,baz=17,slow=6.0,SNR=6.3							
BRG	Berggiesshubel	77.43	357	*e*P	P		01 11 47.9	-0.6
	comp=Z,12nm,1.6s							
GERES	GERESS Array B	79.47	357	*e*P	P		01 11 60.0	+0.2
GERES	GERESS Array B	79.47	357	P	P		01 12 00.1	+0.3
	comp=Z,1.0nm,0.7s,baz=15,slow=5.5,SNR=8.9							
BUR08	Bucovina Ar. S	79.79	349	*e*P	P		01 12 01.4	-0.3
	comp=Z,2.8nm,1.1s							
BURAR	Bucovina Array	79.82	349	*e*P	P		01 12 01.9	+0.1
	comp=Z,13nm,1.0s							
KBZ	Khabaz	80.28	336	P	P		01 12 04.8	+0.6
	comp=Z,1.7nm,0.8s,baz=5.8,slow=5.0,SNR=5.9							
CONA	Conrad Observa	80.29	355	*e*P	P		01 12 04.7	+0.4
	comp=Z,5.5nm,1.3s							
GEYT	Alibeck	80.77	323	P	P		01 12 07.4	+0.4
	comp=Z,0.6nm,0.5s,baz=350,slow=5.9,SNR=2.8							
ARSA	Arzberg	80.98	356	*e*P	P		01 12 08.2	+0.3
	comp=Z,2.3nm,0.8s							
MOTA	Moosalm	81.03	359	*e*P	P		01 12 09.4	+1.0
	comp=Z,4.0nm,1.1s							
SQTA	Sankt Quirin	81.15	359	*i* P	P		01 12 10.2	+1.3
	comp=Z,6.7nm,1.2s							
KBA	Koelnbreinsper	81.24	357	*i* P	P		01 12 10.4	+0.9
	comp=Z,4.8nm,0.7s							
FETA	Feichten	81.36	359	*e*P	P		01 12 11.5	+1.4
	comp=Z,5.8nm,1.0s							
SOKA	Soboth	81.58	356	*e*P	P		01 12 12.3	+1.1
	comp=Z,5.5nm,1.1s							
ABTA	Abfaltersbach	81.60	358	*e*P	P		01 12 11.8	+0.5
	comp=Z,5.5nm,1.3s							
MYKA	Terra Mystica	81.68	357	*e*P	P		01 12 11.4	-0.3
	comp=Z,2.1nm,0.9s							
MTP	Monte Pirata	85.01	67	*e*P	P		01 12 29.7	+0.5
	comp=Z,41nm,1.1s							
BRTR	Keskin Array B	86.19	341	*e*P	P		01 12 35.3	+0.4
BRTR	Keskin Array B	86.19	341	P	P		01 12 35.8	+0.9
	comp=Z,0.9nm,0.9s,baz=64,slow=2.9,SNR=5.5							
FNA	Florina	86.99	351	*e*P	P		01 12 37.9	-0.8
	comp=Z,2.7nm,0.8s							
PSI	Prapat	87.92	272	*e*P	P		01 12 44.1	+0.5
	comp=Z,16nm,1.1s							
ESDC	Sonseca Array	88.00	10	*e*P	P		01 12 43.3	-0.3
	comp=Z,1.4nm,0.9s							
ESDC	Sonseca Array	88.00	10	P	P		01 12 42.6	-1.0
	comp=Z,1.1nm,0.8s,baz=350,slow=5.1,SNR=6.1							
ASAR	Alice Springs	89.43	229	*e*P	P		01 12 49.6	-0.7
ASAR	Alice Springs	89.43	229	P	P		01 12 50.4	+0.1
	comp=Z,0.9nm,1.0s,baz=31,slow=2.2,SNR=3.9							

ISCJB ***11*** *01:07:18.9±0.2,30°.21N±0°.02×102°.98E±0°.03,h10km, mb4.1/38,MS3.2/5,Error ellipse: s-maj=4.2km s-min=3.5km az=14.9*

IDC ***11*** *01:07:19.0±0.8,30°.26N×103°.00E,h0km,mb3.9/17, mb1 4.1/18,mb1mx3.9/42,mbtmp4.0/18,ML4.4/1,MS3.2/5, Ms1 3.2/5,ms1mx2.9/33,Error ellipse: s-maj=22.8km s-min=15.1km az=43.0*

MOS ***11*** *01:07:18.1±1.1,30°.24N×102°.98E,h16km,mb4.3/24,Error ellipse: s-maj=12.3km s-min=7.3km az=103.1*

NEIC ***11*** *01:07:20.8±0.3,30°.29N×102°.97E,h10km,mb4.4/16,Error ellipse: s-maj=6.5km s-min=4.9km az=200.0*

BJI ***11*** *01:07:22.5±0.0,30°.30N×103°.00E,h20km,mb4.2/9, ML4.0/21,Ms3.8/20,Ms7 3.7/18*

ISC 11 01:07:21.1±0.4,30°.26N±0°.03×103°.02E±0°.04,h10km,n91, σ2ŝ15/104,mb4.2/38,MS3.2/5,7C-1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
CD2	Chengdu	0.91	44 ⇓	*i*Pg	Pg	01 07 38.8	+0.2	
CD2				Sg	Sg	01 07 51.6	+1.2	
CD2				smax	smax			
	comp=N,10μm,0.7s							
CD2				smax	smax			
	comp=E,4μm,0.5s							
GYA	Guiyang	4.96	139 ⇑	*i*Pn	Pn	01 08 36.1	+0.3	
GYA				Pg	Pg	01 08 55.9	-0.3	
GYA				Sn	Sn	01 09 34.3	+0.9	
GYA				Sg	Sb	01 09 51.7	+3.7	
GYA				smax	smax			
	comp=N,280nm,0.7s							
GYA				smax	smax			
	comp=E,210nm,0.9s							
GYA				LR	LR			
	comp=N,570nm,8.2s							
GYA				LR	LR			
	comp=E,470nm,10.8s							
GYA				LR	LR			
	comp=Z,970nm,9.2s							
KMI	Kunming	5.12	183	Pn	Pn	01 08 38.2	0.0	
KMI				Sn	Sn	01 09 39.2	+1.7	
KMI				Sg	Sg	01 10 06.9	+1.2	
KMI				smax	smax			
	comp=N,100nm,0.9s							
KMI				smax	smax			
	comp=E,69nm,1.1s							
KMI				LR	LR			
	comp=N,620nm,7.1s							
KMI				LR	LR			
	comp=E,1μm,9.7s							
KMI				LR	LR			
	comp=Z,490nm,9.6s							
KMI	Kunming	5.12	183	*e*Pn	Pn	01 08 38.1	0.0	
KMI	Kunming	5.12	183	*e*P	Pn	01 08 38.1	0.0	
ENH	Enshi	5.59	88	*e*Pn	Pn	01 08 45.5	+1.1	
LZH	Lanzhou	5.85	7	*e*Pn	Pn	01 08 49.4	+1.3	
LZH				Sn	Sn	01 09 59.7	+4.4	
LZH				Sg	Sg	01 10 34.5	+5.5	
LZH				smax	smax			
	comp=N,78nm,1.1s							
LZH				smax	smax			
	comp=E,93nm,1.1s							
LZH				LR	LR			
	comp=N,600nm,6.5s							
LZH				LR	LR			
	comp=E,830nm,7.3s							
LZH				LR	LR			
	comp=Z,660nm,7.8s							
XAN	Xi'an	6.26	51	Pn	Pn	01 08 52.6	-1.0	
XAN				Sn	Sn	01 10 02.0	-3.3	
XAN				Sg	Sg	01 10 41.0	-1.2	
XAN				smax	smax			
	comp=N,270nm,1.3s							
XAN				smax	smax			
	comp=E,270nm,1.0s							
XAN				LR	LR			
	comp=Z,190nm,9.2s							
XAN	Xi'an	6.26	51	*e*Pn	Pn	01 08 52.0	-1.6	
XAN	Xi'an	6.26	51	*e*P	Pn	01 08 52.0	-1.6	
GTA	Gaotai	9.50	345	*e*P	Pn	01 09 45.8	+7.7	
GTA				pP		01 09 50.2		
GTA				sP		01 09 53.2		
GTA				pmax	pmax			
	comp=Z,3.0nm,1.3s							
GTA				LR	LR			
	comp=N,370nm,10.5s							
GTA				LR	LR			
	comp=E,260nm,14.1s							
GTA				LR	LR			
	comp=Z,350nm,11.4s							
WHN	Wuhan	9.79	85	P	Pn	01 09 40.8	-1.1	
WHN				LR	LR			
	comp=N,980nm,9.6s							
WHN				LR	LR			
	comp=E,1μm,12.0s							
WHN				LR	LR			
	comp=Z,990nm,12.6s							
CMAR	Chiang Mai Arr	12.32	198	Pn	Pn	01 10 21.1	+4.4	
	0.4nm,0.3s,baz=10.0,slow=12,SNR=4.0							
HHC	Hu-ho-hao-te	12.64	31	*e*P	Pn	01 10 24.0	+2.9	
HHC				S	Sn	01 12 47.7	+5.8	
RAMN	Ramite	14.80	261	*e*P	Pn	01 10 50.2	-0.5	
	28nm,0.8s							
JIRN	Jiri	14.96	264	*e*P	Pn	01 10 52.7	-0.3	
	162nm,1.3s							
PKI	Pulchoki	15.65	264	*e*P	Pn	01 11 01.3	-0.9	
	106nm,1.3s							
PKIN	Phulchoki	15.66	265	*e*P	Pn	01 11 01.3	-0.9	
	29nm,0.8s							
KKN	Kakani	15.71	265	*e*P	Pn	01 11 01.9	-0.9	
	24nm,0.7s							
DANN	Dangsing	16.91	268	*e*P	Pn	01 11 16.3	-1.9	
	24nm,0.8s							
KOLN	Koldanda	17.17	267	*e*P	Pn	01 11 20.3	-1.1	
	14nm,0.7s							
PYUN	Piuthan	17.62	268	*e*P	Pn	01 11 25.2	-1.9	
	30nm,0.9s							
SONM	Songino Array	17.74	7	*e*Pn	Pn	01 11 28.5	+0.2	
SONM	Songino Array	17.74	7	P	Pn	01 11 29.5	+1.2	
	1.3nm,0.3s,baz=189,slow=12,SNR=7.2							
SONM				LR	LR	01 18 59.1		
	comp=Z,44nm,20.4s,baz=102,slow=40							
ULN	Ulaanbaatar	17.85	9	*c*eP	Pn	01 11 29.6	-0.1	
ULN				pmax	pmax			
	comp=Z,7.0nm,1.7s							
WMQ	Urumqi	18.20	322	*e*P	P	01 11 35.1	+0.9	
WMQ				pP	P	01 11 36.9	+2.7	
ZAK	Zakamensk	20.10	0	*e*P	P	01 11 55.9	+1.0	
ZAK				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KSAR	Wonju Array Be	21.82	64	*e*P	P	01 12 14.4	+0.9	
KSAR	Wonju Array Be	21.82	64	*e*P	P	01 12 14.4	+0.9	
KSRS	Korea Array	21.85	64	P	P	01 12 13.8	0.0	
	comp=Z,8.8nm,0.9s,baz=248,slow=9.5,SNR=16							
MK31	Makanchi Array	23.03	322	*e*P	P	01 12 25.8	-0.5	
	comp=Z,6.0nm,1.1s							
MK31	Makanchi Array	23.03	322	*e*P	P	01 12 25.8	-0.5	
MK31				pmax	pmax			
	comp=Z,6.0nm,1.1s							
MKAR	Makanchi Array	23.03	322	*e*P	P	01 12 25.7	-0.7	
MKAR	Makanchi Array	23.03	322	*c*eP	P	01 12 26.7	+0.4	
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MKAR	Makanchi Array	23.03	322	P	P	01 12 26.8	+0.4	
	comp=Z,2.1nm,0.5s,baz=120,slow=9.3,SNR=17							
MAKZ	Makanchi	23.21	321	*e*P	P	01 12 28.0	-0.2	
	comp=Z,8.6nm,1.1s							
MAKZ	Makanchi	23.21	321	*e*P	P	01 12 28.0	-0.2	
MAKZ				pmax	pmax			
	comp=Z,9.0nm,1.1s							
TARG	Taragay, Kyrgy	23.31	306	*e*P	P	01 12 28.0	-1.7	
	comp=Z,9.6nm,1.1s							
JNU	Nakatsue	23.85	76	LR	LR	01 23 18.4		
	comp=Z,49nm,18.7s,baz=128,slow=40							
KSH	Kashi	23.96	300	P	P	01 12 39.5	+3.8	
KSH				sP	sP	01 12 45.7	+5.1	
KSH				PP	pP	01 13 13.1	+34	
KSH				S	S	01 16 54.4	+1.9	
KSH				SS	SnSn	01 17 45.7	+14	
NIL	Nilore	25.44	285	*e*P	P	01 12 48.4	-0.8	
	comp=Z,11nm,0.7s							
NIL	Nilore	25.44	285	*e*P	P	01 12 48.4	-0.8	
NIL				pmax	pmax			
	comp=Z,11nm,0.7s							
AAK	Ala-Archa	25.93	306	P	P	01 12 54.3	+0.6	
	comp=Z,0.7nm,0.6s,baz=150,slow=20,SNR=2.4							
AAK				LR	LR	01 25 05.6		
	comp=Z,62nm,18.7s,baz=76,slow=41							
ZAA0	Zalesovo Array	27.09	336	*e*P	P	01 13 03.0	-0.8	
	comp=Z,5.8nm,1.0s							
ZALV	Zalesovo Beam	27.09	336	*e*P	P	01 13 03.4	-0.5	
ZALV	Zalesovo Beam	27.09	336	P	P	01 13 03.7	-0.1	
	comp=Z,3.8nm,0.8s,baz=145,slow=9.0,SNR=16							
ZALV				LR	LR	01 24 12.0		
	comp=Z,37nm,18.4s,baz=98,slow=37							
KURBB	Kurchatov Arra	27.37	325	P	P	01 13 06.1	-0.3	
	comp=Z,1.0nm,0.6s,baz=131,slow=10.0,SNR=11							
KURBB				PcP	PcP	01 16 23.5	-1.7	
	comp=Z,0.4nm,0.6s,baz=125,slow=1.4,SNR=3.1							
KURK	Kurchatov	27.38	325	P	P	01 13 06.1	-0.4	
KURK						01 16 23.5		
KURK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KLR	Kul'dur	28.84	41	LR	LR	01 26 12.1		
	comp=Z,80nm,18.4s,baz=73,slow=39							
KKAR	Karatay Array	28.86	305	*e*P

IMAR	Indian Mountai	67.89	25	eP	P	01 18 18.9	-0.5
TOLK	Toolik Lake Re	68.18	22	eP	P	01 18 21.2	-0.1
	comp=Z,2.5nm,0.8s						
MLY	Manley	69.43	26	eP	P	01 18 29.2	0.0
	comp=Z,1.9nm,0.8s						
BPAW	Bear Paw Mtn.	69.77	27	eP	P	01 18 31.1	-0.1
	comp=Z,13nm,1.8s						
MDM	Murphy Dome	70.41	25	eP	P	01 18 35.1	0.0
	comp=Z,3.5nm,0.8s						
BMAR	Burnt Mountain	70.41	22	eP	P	01 18 35.0	-0.1
ILAR	Eielson Array	71.00	25	P	P	01 18 37.7	-1.0
	comp=Z,1.4nm,1.1s,baz=306,slow=6.4,SNR=8.8						
PRP	Porcupine Dome	71.10	24	eP	P	01 18 39.2	-0.2
	comp=Z,3.9nm,1.1s						
SCRK	Sand Creek	72.49	25	eP	P	01 18 47.4	-0.4
	comp=Z,5.2nm,1.2s						
KLU	Klutina	73.09	28	eP	P	01 18 51.4	0.0
	comp=Z,4.7nm,0.8s						
INK	Inuvik	73.25	19	eP	P	01 18 51.5	-0.6
	comp=Z,6.7nm,1.4s						
INK	Inuvik	73.25	19	eP	P	01 18 51.5	-0.6
INK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
INK	Inuvik	73.25	19	P	P	01 18 51.6	-0.6
	comp=Z,1.1nm,0.5s,baz=336,slow=8.4,SNR=7.8						
BCAR	Beaver Creek A	73.82	25	eP	P	01 18 55.5	-0.1
RES	Resolute Bay	74.66	5	eP	P	01 18 59.9	-0.3
	comp=Z,2.9nm,0.9s						
RES	Resolute Bay	74.66	5	eP	P	01 18 59.9	-0.3
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	Yellowknife Ar	82.77	17	eP	P	01 19 43.6	-1.4
YKA	Yellowknife Ar	82.77	17	P	P	01 19 44.3	-0.7
	comp=Z,1.2nm,0.7s,baz=327,slow=4.9,SNR=29						

*ISCJB **11** 01:08:34.1±1.1, 44°.33N±0°.08×148°.2E±0°.1, h62km±11km, Error ellipse: s-maj=18.4km s-min=6.7km az=43.4*
*JMA **11** 01:08:34.0±0.3, 43°.97N×147°.96E, h0km, M4.0*
*SKHL **11** 01:08:34.8±0.7, 44°.31N×148°.25E, h44km±2km, mb4.1/4*
*IDC **11** 01:08:39.5±9.3, 46°.52N×147°.45E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/44, mbtmp3.5/3, MS3.4/3, Ms1 3.4/3, ms1mx2.6/29, Error ellipse: s-maj=242.4km s-min=40.9km az=168.0*

ISC 11 01:08:33.5±2.5, 44°.3N±0°.1×148°.3E±0°.2, h47km±20km, n28, σ1§30/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.99	342	iP	Pn	01 08 51.0	0.0
KUR				AMB	AMB	01 08 51.0	
	130nm,0.3s						
KUR				AMB	AMB	01 08 51.0	
	60nm,0.3s						
KUR				iS	Sn	01 09 03.2	-0.6
KUR				A	A	01 09 06.0	
	660nm,0.2s						
KUR				A	A	01 09 06.0	
	150nm,0.2s						
YUK	Yuzh-Kuril'sk	1.77	262	iP	Pn	01 09 02.3	+0.7
YUK				AMB	AMB	01 09 03.0	
	80nm,0.2s						
YUK				AMB	AMB	01 09 03.0	
	30nm,0.2s						
YUK				eS	Sn	01 09 22.1	-0.8
YUK				A	A	01 09 26.0	
	350nm,0.3s						
YUK				A	A	01 09 26.0	
	220nm,0.3s						
LAGR	Lagunnoye	1.82	263	eP	Pn	01 09 02.0	-0.3
LAGR				AMB	AMB	01 09 04.0	
	110nm,0.4s						
LAGR				eS	Sn	01 09 23.0	-1.2
LAGR				A	A	01 09 25.0	
	430nm,0.4s						
LAGR				A	A	01 09 25.0	
	530nm,0.4s						
GRPR	Tuman	1.84	261	iP	Pn	01 09 03.0	+0.4
GRPR				AMB	AMB	01 09 04.0	
	130nm,0.4s						
GRPR				AMB	AMB	01 09 04.0	
	150nm,0.4s						
GRPR				iS	Sn	01 09 24.0	-0.7
GRPR				A	A	01 09 29.0	
	510nm,0.4s						
GRPR				A	A	01 09 29.0	
	350nm,0.4s						
NEM2	Nemuro 2	2.07	244	P	Pn	01 09 05.5	-0.2
NEM2				eS	Sn	01 09 28.4	-1.8
GLVR	Golovnino	2.08	255	eP	Pn	01 09 06.0	+0.2
GLVR				iS	Sn	01 09 30.0	-0.5
GLVR				A	A	01 09 35.0	
	320nm,0.4s						
GLVR				A	A	01 09 35.0	
	500nm,0.4s						
JRA	Rausu	2.31	262	P	Pn	01 09 10.4	+1.3
JRA				eS	Sn	01 09 37.4	+1.1
JKHN	Kushirohamanak	2.58	243	P	Pn	01 09 13.0	+0.3
JNK	Nakash	2.68	256	P	Pn	01 09 15.2	+1.1
JNK				eS	Sn	01 09 44.8	-0.5
JAK	Akkeshi	2.92	245	P	Pn	01 09 17.7	+0.4
JAK				eS	Sn	01 09 49.9	-1.2
JTKR	Abashiri--Toko	3.17	266	P	Pn	01 09 24.0	+3.1
JAR	Ashorobuto	3.42	255	P	Pn	01 09 25.4	+1.1
JOB	Onbets	3.53	248	P	Pn	01 09 26.9	+1.2
JCH	Churui	3.96	247	P	Pn	01 09 32.9	+1.2
JCH				eS	Sn	01 10 16.6	-0.3
JNBK	Urakawa-nobuka	4.52	245	P	Pn	01 09 40.9	+1.6
JKB	Kayabe	5.84	248	P	Pn	01 09 59.0	+1.6
JKB				eS	Sn	01 11 01.6	-1.4
H11N2	WAKE ISLAND Hy	28.99	142	T	T	01 45 35.3	
	baz=332,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	29.01	142	T	T	01 45 22.5	
	baz=332,slow=76,SNR=14						
H11N3	WAKE ISLAND Hy	29.01	142	T	T	01 45 19.4	
	baz=332,slow=76,SNR=19						
H11S1	WAKE ISLAND Hy	29.99	143	T	T	01 46 35.9	
	baz=333,slow=76,SNR=38						
H11S3	WAKE ISLAND Hy	29.99	143	T	T	01 46 35.1	
	baz=333,slow=76,SNR=25						
H11S2	WAKE ISLAND Hy	30.00	143	T	T	01 46 34.7	
	baz=333,slow=76,SNR=31						
NRIK	Noril'sk	39.18	331	LR	LR	01 33 05.2	
	comp=Z,32nm,18.2s,baz=171,slow=40						
MKAR	Makanchi Array	45.06	298	P	P	01 16 44.9	+0.3
	0.4nm,0.6s,baz=75,slow=6.1,SNR=3.2						
YKA	Yellowknife Ar	54.89	34	P	P	01 18 00.5	+1.8
	0.2nm,0.5s,baz=301,slow=7.2,SNR=5.2						
FINES	FINESS Array B	64.76	333	P	P	01 19 04.0	-2.6
	0.6nm,0.7s,baz=60,slow=8.2,SNR=3.7						
WRA	Warramunga Arr	65.19	194	LR	LR	01 48 33.0	
	comp=Z,36nm,18.1s,baz=225,slow=36						
ULM	Lac du Bonnet	70.56	38	LR	LR	01 53 15.8	
	comp=Z,32nm,18.2s,baz=350,slow=39						

*ISCJB **11** 01:14:21.2±0.6, 24°.13S±0°.03×67°.14W±0°.04, h197km±7km, Error ellipse: s-maj=6.0km s-min=4.2km az=146.7*
*SJA **11** 01:14:21.6±0.6, 24°.20S×67°.13W, h199km±4km, ML2.8, MW3.1*
*GUC **11** 01:14:23.6±0.6, 24°.09S×67°.40W, h220km±8km, ML4.3*

ISC 11 01:14:19.4±1.6, 24°.11S±0°.05×67°.09W±0°.04, h223km±14km, n39, σ1§94/75, 10C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.57	113	iP	Pn	01 14 56.8	+0.8
SLA				IAML		01 14 57.4	
	comp=Z,38nm,0.5s						
SLA				iS	S	01 15 22.6	-1.8
HJA	Humahuaca	1.79	60	iP	Pn	01 14 58.8	+0.6
HJA				IAML		01 15 00.2	
	comp=Z,22nm,0.3s						
HJA				iS	S	01 15 26.1	-2.1
LVC	Limon Verde	2.24	312	iP	Pn	01 15 04.0	+1.5
LVC				iS	S	01 15 35.1	-0.9
LVC	Limon Verde	2.24	312	eP	Pn	01 15 04.1	+1.6
LVC				eP	Pn	01 15 04.2	+1.7
LVC				eS	S	01 15 35.0	-1.0
PB15	IPOC Station P	2.36	292	iP	Pn	01 15 05.2	+1.7
PB15				iS	S	01 15 36.5	-1.3
PB15	IPOC Station P	2.36	292	eP	Pn	01 15 05.2	+1.7
PB15				eS	S	01 15 36.2	-1.6
GO02	Mina Guanaco	2.50	245	iP	Pn	01 15 06.5	+1.4
GO02				iS	S	01 15 39.9	-0.8
GO02				IAML		01 15 40.5	
	comp=N,591nm,0.4s						
PB06	IPOC Station P	2.67	301	iP	Pn	01 15 08.6	+1.7
PB06				iS	S	01 15 42.1	-1.7
PB06	IPOC Station P	2.67	301	eP	Pn	01 15 08.4	+1.6
PB06				eS	S	01 15 42.1	-1.7
PB06				IAML		01 15 44.8	
	comp=E,866nm,0.3s						
PB09	IPOC Station P	3.04	319	iP	Pn	01 15 13.1	+2.2
PB09				iS	S	01 15 51.0	-0.2
PB09	IPOC Station P	3.04	319	eP	Pn	01 15 13.1	+2.2
PB09				iS	S	01 15 50.7	-0.5
PB14	IPOC Station P	3.06	260	iP	Pn	01 15 12.6	+1.3
PB14				iS	S	01 15 49.9	-1.9
PB14	IPOC Station P	3.06	260	iP	Pn	01 15 12.4	+1.1
PB14				iS	S	01 15 49.9	-1.9
PB14				IAML		01 15 52.5	
	comp=E,237nm,0.5s						
AHML	Horco Molle	3.10	149	iP	Pn	01 15 12.2	+0.8
AHML				IAML		01 15 13.3	
	comp=Z,15nm,0.5s						
AHML				iS	S	01 15 49.9	-2.4
PB05	IPOC Station P	3.12	293	iP	Pn	01 15 13.4	+1.7
PB05				iS	S	01 15 50.3	-2.4
PB05	IPOC Station P	3.12	293	eP	Pn	01 15 13.2	+1.5
PB05				eS	S	01 15 50.2	-2.4
PB05				IAML		01 15 53.2	
	comp=N,224nm,0.3s						
PB03	IPOC Station P	3.20	309	iP	Pn	01 15 14.3	+1.6
PB03				iS	S	01 15 52.5	-1.9
PB03	IPOC Station P	3.20	309	eP	Pn	01 15 14.4	+1.7
PB03				eS	S	01 15 52.8	-1.6
PB03				IAML		01 15 56.2	
	comp=E,369nm,0.5s						
PB10	IPOC Station P	3.22	280	iP	Pn	01 15 14.8	+2.0
PB10				iS	S	01 15 54.5	-0.1
PB10	IPOC Station P	3.22	280	iP	Pn	01 15 14.3	+1.5
PB10				iS	S	01 15 52.6	-2.0
PB10				IAML		01 15 56.5	
	comp=E,195nm,0.2s						
PB04	IPOC Station P	3.32	302	iP	Pn	01 15 16.0	+1.8
PB04				iS	S	01 15 55.8	-1.3
PB07	IPOC Station P	3.50	312	iP	Pn	01 15 17.9	+1.7
PB07				iS	S	01 15 58.6	-2.2
PB07	IPOC Station P	3.50	312	eP	Pn	01 15 18.0	+1.7
PB07				iS	S	01 15 59.2	-1.7
PB07				IAML		01 16 00.2	
	comp=N,252nm,0.2s						
PB01	IPOC Station P	3.77	324	iP	Pn	01 15 20.8	+1.4
PB01				iS	S	01 16 05.7	-0.8
PB01	IPOC Station P	3.77	324	iP	Pn	01 15 20.8	+1.4
PB01				iS	S	01 16 05.4	-1.2
PB01				IAML		01 16 10.1	
	comp=E,152nm,0.2s						
PB02	IPOC Station P	3.80	317	iP	Pn	01 15 21.0	+1.3
PB02				iS	S	01 16 04.8	-2.3
PB08	IPOC Station P	4.39	334	iP	Pn	01 15 29.6	+2.4
PB08				iS	S	01 16 21.2	+0.6
PB08	IPOC Station P	4.39	334	iP	Pn	01 15 29.6	+2.4
PB08				iS	S	01 16 21.0	+0.4
PB08				IAML		01 16 23.5	
	comp=E,102nm,0.3s						
GO03	Copiap	4.47	219	iP	Pn	01 15 28.5	+0.6
GO03				iS	S	01 16 20.2	-1.7
GO01	Chusmiza	4.83	336	iP	Pn	01 15 35.0	+2.1
GO01				iS	S	01 16 30.3	-0.4
GO01				IAML		01 16 33.4	
	comp=N,127nm,0.5s						
PB11	IPOC Station P	4.94	331	iP	Pn	01 15 34.7	+0.8
PB11				iS	S	01 16 27.7	-5.0
PB11	IPOC Station P	4.94	331	iP	Pn	01 15 34.7	+0.8
PB11				iS	S	01 16 30.6	-2.0
PB11				IAML		01 16 34.0	
	comp=E,112nm,0.2s						
PSGCX	Pisagua	5.30	327	iP	Pn	01 15 38.4	+0.1
PSGCX				iS	S	01 16 34.0	-6.8
MNMCX	Minye Minye	5.48	334	iP	Pn	01 15 42.3	+1.6
MNMCX				iS	S	01 16 43.6	-1.4
PB16	IPOC Station P	6.17	338	iP	Pn	01 15 52.2	+2.3
PB16				iS	S	01 16 59.7	-1.9
PB12	IPOC Station P	6.25	331	iP	Pn	01 15 51.0	+0.7
TCA	Tanti	7.53	163	iP	Pn	01 16 07.5	+0.9
TCA				IAML		01 16 10.2	
	comp=Z,3.7nm,0.2s						
CFA	Coronel Fontan	7.53	187	eP	Pn	01 16 08.7	+2.1
LPAZ	La Paz	7.84	353	iP	Pn	01 16 15.3	+4.0

*GII **11** 01:14:17.3±0.0, 23°.21N×34°.33E, h20km, mb4.1/3, MD3.9/3*
*ISCJB **11** 01:14:40.8±0.5, 25°.52N±0°.03×37°.29E±0°.03, h4km±4km, Error ellipse: s-maj=5.1km s-min=3.4km az=137.1*
*HLW **11** 01:14:41.6, 25°.46N×37°.26E, h0km±4km, Md3.0, Ml2.5*
*SGS **11** 01:14:43, 25°.51N×37°.38E, h6km, Ml3.6*

ISC 11 01:14:42.4±1.0, 25°.49N±0°.03×37°.33E±0°.03, h11km±9km, n73, σ1§81/86, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJS	Umm Lajj	0.26	184	P	Pg	01 14 48.2	+0.5
UMJS				S	Sg	01 14 52.0	+0.7
LNY09	LNY09	0.31	107	P	Pg	01 14 48.2	-0.5
LNY09				S	Sg	01 14 52.1	-0.8
LNY04	LNY04	0.36	127	P	Pg	01 14 49.1	-0.5
LNY13	LNY13	0.42	139	P	Pg	01 14 50.2	-0.5
LNY11	LNY11	0.44	113	P	Pg	01 14 50.3	-0.7
LNY12	LNY12	0.46	119	P	Pg	01 14 50.7	-0.6
LNY14	LNY14	0.46	121	P	Pg	01 14 50.9	-0.6
LNY15	LNY15	0.48	119	P	Pg	01 14 51.3	-0.6
LNY03	LNY03	0.49	103	P	Pg	01 14 51.2	-0.8
LNY03				S	Sg	01 14 57.2	-1.2
LNY17	LNY17	0.49	120	P	Pg	01 14 51.4	-0.7
LNY10	LNY10	0.53	115	P	Pg	01 14 52.0	-0.8
LNY05	LNY05	0.55	143	P	Pg	01 14 52.6	-0.6
LNY02	LNY02	0.60	126	P	Pg	01 14 53.1	-0.9
LNY01	LNY01	0.63	115	P	Pg	01 14 53.6	-1.1
LNY08	LNY08	0.66	134	P	Pg	01 14 54.3	-0.8
LNYS	LNYS	0.69	126	P	Pg	01 14 54.7	-1.1
SUMJS	Umluj	0.73	175	P	Pg	01 14 56.7	+0.1
OLAS	OLAS	0.80	20	P	Pg	01 14 56.7	-1.2
OLAS				S	Sb	01 15 08.8	-0.5
EWJHS	Al Wajh	0.90	318	P	Pg	01 14 59.5	-0.3
EWJHS				S	Sg	01 15 11.7	+0.2
TRAS	Al Qrash	1.20	111	P	Pb	01 15 04.0	-1.2
YNBS	Yanbu`al Bahr	1.30	152	P	Pn	01 15 05.8	-0.8
BIDS	Bi'r al Bayda'	1.41	346	P	Pn	01 15 07.1	-1.0
WJHS		1.49	326	P	Pn	01 15 08.2	-1.0
YOBS		1.71	131	P	Pn	01 15 12.5	+0.3
RHT07	RHT07	1.75	118	P	Pn	01 15 13.3	+0.4
KBR07	Khaybar	1.94	96	P	Pn	01 15 15.3	-0.2
KBR08	Khaybar	1.95	83	P	Pn	01 15 15.7	+0.1
RHT06	RHT06	2.02	123	P	Pn	01 15 16.6	+0.1
RHT08	RHT08	2.15	111	P	Pn	01 15 18.5	+0.2
RHT11	RHT11	2.21	104	P	Pn	01 15 19.2	0.0
KBR01	Khaybar	2.22	90	P	Pn	01 15 19.5	+0.3
RHT13	RHT13	2.25	124	P	Pn	01 15 20.2	+0.5
RHT05	RHT05	2.29	133	P	Pn	01 15 20.9	+0.6
KBR10	Khaybar	2.39	98	P	Pn	01 15 21.8	+0.2
KBR03	Khaybar	2.39	82	P	Pn	01 15 22.1	+0.4
HAGS	Hagol	2.40	243	P	Pn	01 15 21.4	-0.3
	baz=243						
QLABS	Al Qalibar	2.41	13	P	Pn	01 15 21.8	-0.2
RHT09	RHT09	2.45	106	P	Pn	01 15 22.7	+0.3
RHT01	RHT01	2.55	118	P	Pn	01 15 24.5	+0.6
NADB	Abo Dabab	2.56	267	P	Pn	01 15 22.9	-1.0
	baz=268						
NADB				AMP		01 15 00.0	
	baz=268						
KBR02	Khaybar	2.65	95	P	Pn	01 15 25.9	+0.7
KBR05	Khaybar	2.69	88	P	Pn	01 15 26.3	+0.5
RHT02	RHT02	2.69	111	P	Pn	01 15 26.5	+0.7
KBR04	Khaybar	2.70	79	P	Pn	01 15 26.5	+0.5
RHT04	RHT04	2.75	122	P	Pn	01 15 27.4	+0.7
TBKS	Tabuk	2.81	346	P	Pn	01 15 27.2	-0.1
RHT03	RHT03	2.86	115	P	Pn	01 15 28.8	+0.7
HSHL	Bi'r Shalatayn	2.96	217	P	Pn	01 15 28.2	-1.2
	baz=217						
KRABS	KRABS	3.19	325	P	Pn	01 15 32.3	-0.3
RHT16	RHT16	3.28	127	P	Pn	01 15 34.7	+0.8
HAJR	Hajar	3.35	140	P	Pn	01 15 36.0	+1.2
FRJS	Jabal Farasan	3.44	147	P	Pn	01 15 36.8	+0.8
JLOS		3.62	334	P	Pn	01 15 38.8	+0.2
SH2	Sharm el Sheik	3.75	310	P	Pn	01 15 39.5	-0.8
	baz=311						
KHLS2	Khulais	3.79	148	P	Pn	01 15 41.7	+0.9
HHRG	Al Ghardaqah	3.79	298	P	Pn	01 15 38.9	-1.9
	baz=297						
HHRG				S	Sn	01 16 20.4	-5.0
	baz=297						
GHASH	GHASH	3.83	136	P	Pn	01 15 43.0	+1.5
KHLS	Khulais	3.87	152	P	Pn	01 15 42.4	+0.5
JOFS	JOFS	4.07	16	P	Pn	01 15 45.8	+1.1
HKAT	Jabal Katrina	4.24	316	P	Pn	01 15 47.1	-0.1
	baz=318						
HKAT				S	Sn	01 16 35.0	-1.9
	baz=318						
FDAS		4.58	142	P	Pn	01 15 53.8	+2.1
EIL	Elat	4.67	334	Pn	Pn	01 15 51.2	-1.7
EIL				Sn	Sb	01 17 04.3	+3.7
MBRI	Mt Berech	4.79	334	Pn	Pn	01 15 53.9	-0.8
MBRI				Sn	Sb	01 17 08.4	+4.2
HRFI	Mount Harif	4.96	336	Pn	Pn	01 15 57.3	+0.3
HRFI				Sn	Sb	01 17 14.9	+5.8
LBNS	Jabal Laban	5.02	151	P	Pn	01 15 60.0	+2.3
KRMI	Paran Flat	5.15	334	Pn	Pn	01 15 57.9	-1.7
KRMI				Sn	Sb	01 17 15.2	+0.6
PRNI	Paran	5.26	338	Pn	Pn	01 16 01.4	+0.3
PRNI				Sn	Sb	01 17 22.7	+5.0
FRAS	Faraa	5.30	146	P	Pn	01 16 03.6	+1.8
ZFRI	Zfri	5.39	340	Pn	Pn	01 16 03.3	+0.5
ZFRI				Sn	Sb	01 17 27.4	+6.1
YTIR	Yattir	6.17	342	Sn	Sb	01 17 47.3	+3.5
DSI	Dead Sea	6.29	345	Sn	Sb	01 17 53.1	+5.7
AMAZ	Amatzia	6.38	341	Sn	Sb	01 17 51.1	+1.2
HMDT	Nahal Hemdat	6.92	347	Sn	Sb	01 18 08.7	+3.3

RSNC 11 01:19:41.7±0.8, 3°.76N×71°.24W, h8km±7km, ML3.8, Mw4.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUVC	San Jose del G	1.84	229	eP	Pn	01 20 12.3	-1.4
GUVC				eS	Sn	01 20 36.3	-0.9
GUVC				i		01 20 38.7	
	comp=Z,960nm,0.2s						
YOPC	Yopal, Colombi	1.97	323	eP	Pn	01 20 14.5	-1.1
YOPC				eS	Sn	01 20 40.3	-0.2
YOPC				i		01 20 47.6	
	comp=Z,860nm,0.3s						
VILC	Villavicencio,	2.48	278	eP	Pn	01 20 21.5	-1.0
VILC				eS	Sn	01 20 51.6	-1.4
VILC				i		01 20 58.7	
	comp=Z,1μm,0.4s						
CHIC	Chingaza	2.63	289	eP	Pn	01 20 23.2	-1.7
CHIC				eS	Sn	01 20 55.2	-2.1
CHIC				i		01 21 20.3	
	comp=Z,383nm,0.6s						
TAMC	Tame, Arauca	2.71	348	eP	Pn	01 20 24.4	-1.2
TAMC				eS	Sn	01 20 57.8	-0.9
TAMC				i		01 21 05.7	
	comp=Z,277nm,0.2s						
RUSC	La Rusia	2.81	319	eP	Pn	01 20 25.4	-1.9
RUSC				eS	Sn	01 21 00.7	-0.9
RUSC				i		01 21 18.8	
	comp=Z,140nm,0.5s						
ROSC	El Rosal	3.26	289	eP	Pn	01 20 33.2	-0.2
ROSC				eS	Sn	01 21 13.9	+1.3
BARC	Barichara	3.42	325	eP	Pn	01 20 33.6	-1.9
PRAC	Prado	3.64	269	eP	Pn	01 20 38.0	-0.5
PRAC				eS	Sn	01 21 20.4	-1.3
GIRC	Giron, Santand	3.83	329	eP	Pn	01 20 39.1	-2.0
GIRC				i Pg	Pb	01 20 46.7	-2.9
PAMC	Pamplona, Colo	3.84	338	eP	Pn	01 20 40.0	-1.6
PAMC				i Pg	Pb	01 20 48.3	-1.7
PAMC				i		01 21 52.0	
	comp=Z,109nm,0.4s						
NORC	Norcasia	4.04	296	eP	Pn	01 20 42.0	-1.9
NORC				eS	Sn	01 21 27.9	-3.6
NORC				i		01 21 51.6	
	comp=Z,86nm,0.6s						
BRRC	Barranca, Sant	4.14	324	eP	Pn	01 20 42.6	-2.6
BRRC				eS	Sn	01 21 28.3	-5.6
PTBC	PUERTO BERRIO,	4.23	311	eP	Pb	01 20 54.5	-1.9
PTBC				eS	Sb	01 21 44.3	-3.5
PTBC				i		01 21 56.4	
	comp=Z,48nm,0.3s						
BETC	Betania	4.33	256	eP	Pb	01 20 54.8	-3.5
BETC				eS	Sb	01 21 51.9	+1.1
MARP	Paez Belalcaza	4.80	259	eP	Pb	01 21 03.6	-2.7
MARP				eS	Sb	01 22 05.1	+0.7
MARP				i		01 22 10.7	
	comp=Z,76nm,0.6s						
HELC	Santa Helena	4.91	300	eP	Pn	01 20 54.1	-2.1
HELC				eS	Sn	01 21 49.4	-4.1
FLOC	Florencia	4.92	244	eP	Pn	01 20 55.0	-1.0
FLOC				i		01 22 18.4	
	comp=Z,146nm,0.6s						
YOTC	Yotoco, Valle	5.10	273	eP	Pn	01 20 56.3	-2.3
YOTC				eS	Sn	01 21 52.9	-4.9
ZARC	Zaragoza, Cauc	5.17	316	eP	Pn	01 20 57.5	-2.0
ZARC				eS	Sn	01 21 53.3	-6.1
PCON	Cinco Dias	5.35	255	eP	Pn	01 21 09.0	+6.6
PCON				eS	Sb	01 22 23.9	+3.5
PCON				i		01 22 36.2	
	comp=Z,121nm,0.5s						
SOTA	Rioblanco	5.60	253	eP	Pn	01 21 05.8	-0.1
SOTA				eS	Sb	01 22 33.8	+6.1
UREC	San Jos de Ur	5.83	313	eP	Pn	01 21 03.3	-5.2
UREC				eS	Sn	01 22 10.1	-5.6
GCUF	Volcan Galeras	6.60	248	eP	Pn	01 21 26.4	+6.8
GCUF				eS	Sb	01 22 57.7	+1.2
GCUF				i		01 23 16.9	
	comp=Z,40nm,0.8s						
SJCC	San Jacinto, C	7.24	327	eP	Pn	01 21 25.7	-2.3
SJCC				eS	Sn	01 22 43.8	-6.8
URIC	Uribia, Colomb	7.92	355	eP	Pn	01 21 22.9	-14
URIC				eS	Sn	01 22 55.0	-12

MEX 11 02:01:49.9±0.5, 13°.88N×91°.77W, h14km±254km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		2.30	322	eP	Pn	02 02 24.6	-2.7
PCIG				eS	Sn	02 02 50.7	-4.7
CCIG	Comitan	2.42	352	iP	Pn	02 02 26.2	-3.0
CCIG				eS	Sn	02 02 54.7	-4.0

*NEIC **11** 02:08:08.5±0.0, 26°.56N×57°.77E, h15km, mb5.9/201, MS6.2/296,

MOS ***11*** *02:08:10.0±0.9, 26°.75N×57°.90E, h17km, mb6.0/135, MS6.1/100, Error ellipse: s-maj=4.0km s-min=2.5km az=116.4*

GCMT ***11*** *02:08:11.5±0.1, 26°.55N×57°.73E, h12km, MW6.2/128, Moment Tensor Solution. s128, c293; s128, c494; Duration: 3s0 Moment tensor: Scale 10^18Nm; Mrr-0.14±.01; Mθθ-0.97±.01; Mφφ 1.11±.01; Mrθ 0.60±.03; Mrφ 1.86±.01; Mθφ 0.14±.03; Best double couple: M0 2.22100×10^18 NP1:φs255.00000°, δ88.00000°, λ-16.00000°. NP2:φs346.00000°, δ74.00000°, λ-178.00000°. Principal axes: T 2.2770, Plg10.0000°, Azm301.0000°; N -0.1160, Plg74.0000°, Azm69.0000°; P -2.1650, Plg13.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***11*** *02:08:11.0±0.0, 26°.58N×57°.88E, h13km, Moment Tensor Solution. s16 Moment tensor: Scale 10^18Nm; Mrr 0.15; Mθθ-0.72; Mφφ 0.57; Mrθ-0.30; Mφφ 1.44; Mφr-0.02; Best double couple: M0 1.60000×10^18 NP1:φs258.00000°, δ90.00000°, λ11.00000°. NP2:φs168.00000°, δ79.00000°, λ180.00000°. Principal axes: T 1.5200, Plg7.0000°, Azm123.0000°; N 0.1600, Plg79.0000°, Azm258.0000°; P -1.6800, Plg7.0000°, Azm32.0000°;*

OMAN ***11*** *02:08:12.1±0.6, 26°.69N×57°.90E, h36km, ml6.0/18, ms6.0/2, Mwp6.5/14 Error ellipse: s-maj=10.1km s-min=6.8km az=16.0*

ISC 11 02:08:11.3±0.3, 26°.66N±0°.02×57°.84E±0°.02, h15km±1km, h18km: pP-P, n2100, σ1987/1684, mb5.8/418, MS6.3/840, 140C-39D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.27**	**315**	*e*Pn	**Pg**	**02 08 35.5**	**-0.3**
NIAN	**Nian**	**1.27**	**315**	*e*Pg	**Pg**	**02 08 34.5**	**-1.3**
NIAN				IAMB	IAmb	02 09 07.0	
	comp=Z,0.0nm,0.7s						
SHME	**Shamm**	**1.64**	**249**	*e*P	**Pg**	**02 08 40.1**	**-2.8**
	SNR=3933						
SHME				S	**Sg**	**02 09 05.3**	**+1.0**
SHME	**Shamm**	**1.64**	**249**	*e*Pn	**Pg**	**02 08 40.3**	**-2.6**
GENO	**Geno**	**1.66**	**297**	*e*Pn	**Pg**	**02 08 40.5**	**-2.8**
GENO	**Geno**	**1.66**	**297**	*e*Pn	**Pg**	**02 08 40.8**	**-2.5**
GENO				*e*Sg	**Sg**	**02 09 05.6**	**+0.6**
GENO				IAMB	IAmb	02 09 14.7	
	comp=Z,0.0nm,0.8s						
MDH	**Madha**	**1.94**	**226**	*e*P	**Pn**	**02 08 42.1**	**-1.6**
	SNR=783						
MDH	**Madha**	**1.94**	**226**	P	**Pn**	**02 08 42.2**	**-1.6**
	SNR=783						
MDH				P	**Pn**	**02 08 42.2**	**-1.6**
	SNR=783						
MDH				S	**Sb**	**02 09 06.7**	**-3.7**
MDH				S	**Sb**	**02 09 06.7**	**-3.7**
MDH	**Madha**	**1.94**	**226**	*e*Pn	**Pn**	**02 08 41.9**	**-1.8**
MSFE	**Esma-Masafi**	**1.99**	**230**	*e*P	**Pb**	**02 08 43.2**	**-4.1**
	SNR=922						
MSFE	**Esma-Masafi**	**1.99**	**230**	*e*Pn	**Pb**	**02 08 43.2**	**-4.1**
UMQ	**Umm Al-Quwin**	**2.26**	**241**	*e*P	**Pg**	**02 08 50.7**	**-4.0**
	SNR=304						
UMQ	**Umm Al-Quwin**	**2.26**	**241**	P	**Pg**	**02 08 51.0**	**-3.7**
	SNR=40						
UMQ				P	**Pg**	**02 08 51.0**	**-3.7**
	SNR=40						
UMQ				S	**Sg**	**02 09 26.1**	**+2.0**
UMQ				S	**Sg**	**02 09 26.1**	**+2.0**
UMQ	**Umm Al-Quwin**	**2.26**	**241**	*e*Pn	**Pg**	**02 08 51.6**	**-3.1**
HATD	**Hatta, Dubai**	**2.39**	**221**	*e*Pn	**Pn**	**02 08 48.3**	**-1.7**
HATD	**Hatta, Dubai**	**2.39**	**221**	*e*P	**Pn**	**02 08 48.0**	**-1.9**
	SNR=516						
HATD	**Hatta, Dubai**	**2.39**	**221**	P	**Pn**	**02 08 48.4**	**-1.6**
	SNR=38						
HATD				P	**Pn**	**02 08 48.4**	**-1.6**
	SNR=38						
HATD				S	**Sb**	**02 09 19.5**	**-3.8**
HATD				S	**Sb**	**02 09 19.5**	**-3.8**
HATD	**Hatta, Dubai**	**2.39**	**221**	*e*Pn	**Pn**	**02 08 48.3**	**-1.7**
ASHO	**Ashiyiah**	**2.54**	**220**	*e*Pn	**Pn**	**02 08 51.2**	**-0.8**
ASHO	**Ashiyiah**	**2.54**	**220**	*e*P	**Pn**	**02 08 50.7**	**-1.4**
	SNR=104						
ASHO	**Ashiyiah**	**2.54**	**220**	P	**Pn**	**02 08 51.2**	**-0.8**
	SNR=102						
ASHO				P	**Pn**	**02 08 51.2**	**-0.8**
	SNR=102						
ASHO				S	**Sg**	**02 09 30.9**	**-2.2**
ASHO				S	**Sg**	**02 09 30.9**	**-2.2**
ASHO	**Ashiyiah**	**2.54**	**220**	*e*Pn	**Pn**	**02 08 51.2**	**-0.8**
NAZ	**Nazwa, Dubai**	**2.58**	**230**	*e*P	**Pb**	**02 08 53.9**	**-3.3**
	SNR=1293						
NAZ				S	**Sg**	**02 09 30.8**	**-3.3**
NAZ	**Nazwa, Dubai**	**2.58**	**230**	*e*Pn	**Pb**	**02 08 54.5**	**-2.7**
CHBR	**Chabahar**	**2.60**	**113**	*e*Pn	**Pn**	**02 08 52.4**	**-0.4**
CHBR	**Chabahar**	**2.60**	**113**	*e*Pn	**Pn**	**02 08 52.4**	**-0.4**
CHBR	**Chabahar**	**2.60**	**113**	*e*Pn	**Pn**	**02 08 52.4**	**-0.4**
SOHO	**SOHO**	**2.78**	**206**	P	**Pn**	**02 08 53.0**	**-2.3**
	SNR=799						
SOHO				P	**Pn**	**02 08 53.0**	**-2.3**
	SNR=799						
FAQ	**Al Faqa, Dubai**	**2.79**	**227**	*e*P	**Pb**	**02 08 56.9**	**-3.9**
	SNR=850						
FAQ	**Al Faqa, Dubai**	**2.79**	**227**	P	**Pb**	**02 08 58.2**	**-2.6**
	SNR=44						
FAQ				P	**Pb**	**02 08 58.2**	**-2.6**
	SNR=44						
FAQ				S	**Sg**	**02 09 37.5**	**-3.3**
FAQ				S	**Sg**	**02 09 37.5**	**-3.3**
FAQ	**Al Faqa, Dubai**	**2.79**	**227**	*e*Pn	**Pb**	**02 08 57.0**	**-3.8**
ASUD	**Al Ashush, Dub**	**3.04**	**229**	*e*Pn	**Pb**	**02 09 01.0**	**-4.1**
ASUD	**Al Ashush, Dub**	**3.04**	**229**	*i* P	**Pb**	**02 09 00.8**	**-4.4**
	SNR=262						
ASUD	**Al Ashush, Dub**	**3.04**	**229**	P	**Pb**	**02 09 02.4**	**-2.7**
	SNR=261						
ASUD				P	**Pb**	**02 09 02.4**	**-2.7**
	SNR=261						
ASUD	**Al Ashush, Dub**	**3.04**	**229**	*e*Pn	**Pb**	**02 09 01.0**	**-4.1**
HOQ	**Hoqain**	**3.10**	**189**	P	**Pn**	**02 08 58.5**	**-1.2**
	SNR=103						
HOQ				S	**Sn**	**02 09 35.1**	**-1.5**
HOQ	**Hoqain**	**3.10**	**189**	*e*Pn	**Pn**	**02 08 58.1**	**-1.6**
NGRK	**Negar Kerman**	**3.13**	**342**	*e*Pn	**Pn**	**02 09 01.7**	**+1.2**
NGRK	**Negar Kerman**	**3.13**	**342**	*e*Pn	**Pn**	**02 09 01.7**	**+1.2**
NGRK				IAMB	IAmb	02 10 09.2	
	comp=Z,0.0nm,1.5s						
BIDO	**Bidbid**	**3.13**	**175**	*e*Pn	**Pn**	**02 08 58.9**	**-1.3**
BIDO	**Bidbid**	**3.13**	**175**	P	**Pn**	**02 08 58.8**	**-1.3**
	SNR=359						
BIDO				S	**Sn**	**02 09 36.8**	**-0.6**
BIDO	**Bidbid**	**3.13**	**175**	*e*Pn	**Pn**	**02 08 58.9**	**-1.3**
CHMN	**Cheshme madani**	**3.20**	**355**	*e*Pn	**Pn**	**02 09 02.8**	**+1.4**
CHMN	**Cheshme madani**	**3.20**	**355**	*e*Pn	**Pn**	**02 09 02.8**	**+1.4**
CHMN				IAMB	IAmb	02 10 10.3	
	comp=Z,0.0nm,1.1s						
ALNE	**Al Ain**	**3.21**	**217**	*i* P	Pb	02 09 02.0	-6.0
	SNR=132						
ALNE	**Al Ain**	**3.21**	**217**	*e*Pn	Pb	02 09 02.4	-5.6
AJN	**Ajban**	**3.32**	**232**	*i* P	Pb	02 09 03.8	-6.0
	SNR=312						
AJN	**Ajban**	**3.32**	**232**	P	**Pb**	**02 09 05.5**	**-4.3**
	SNR=15						
AJN				P	**Pb**	**02 09 05.5**	**-4.3**
	SNR=15						
AJN				S	**Sb**	**02 09 48.0**	**-2.1**
AJN				S	**Sb**	**02 09 48.0**	**-2.1**
AJN	**Ajban**	**3.32**	**232**	*e*Pn	Pb	02 09 04.8	-5.1
TVBK	**TV Kerman**	**3.45**	**344**	*e*Pn	**Pb**	**02 09 07.6**	**-4.7**
TVBK				IAMB	IAmb	02 10 30.5	
	comp=Z,0.0nm,1.3s						
WSAR	**Wadi Sarin**	**3.48**	**168**	Pn	**Pn**	**02 09 04.4**	**-0.5**
	comp=Z,348nm,0.3s,baz=347,slow=5.3,SNR=996						
WSAR				Sn	**Sn**	**02 09 44.9**	**-1.0**
	comp=Z,2μm,0.3s,baz=272,slow=21,SNR=18						
ARQ	**Araqi**	**3.52**	**200**	P	**Pb**	**02 09 08.9**	**-4.4**
ARQ				S	**Sb**	**02 09 51.5**	**-4.4**
SMDO	**Samad**	**3.59**	**177**	P	**Pn**	**02 09 07.0**	**+0.4**
SMDO				S	**Sb**	**02 09 50.5**	**-7.5**
SZD1	**Zahaedan-tmp**	**3.88**	**43**	*e*Pn	**Pn**	**02 09 11.7**	**+1.1**
KHGB	**Koh Gabri**	**3.89**	**342**	*e*Pn	**Pn**	**02 09 13.0**	**+2.2**
KHGB				IAMB	IAmb	02 10 34.2	
	comp=Z,0.0nm,0.9s						
ZHSF	**Zahedan**	**3.92**	**41**	*e*Pn	**Pn**	**02 09 12.0**	**+0.9**
ZHSF	**Zahedan**	**3.92**	**41**	*e*Pn	**Pn**	**02 09 12.0**	**+0.9**
ZHSF	**Zahedan**	**3.92**	**41**	*e*Pn	**Pn**	**02 09 12.0**	**+0.9**
BSY	**Bisya**	**3.94**	**189**	P	Pb	02 09 12.9	-7.6
WBK	**Wadi Bani Khal**	**4.16**	**165**	S	**Sn**	**02 10 00.9**	**-1.7**
JHRM	**Jahrom**	**4.21**	**297**	*e*Pn	**Pn**	**02 09 15.1**	**0.0**
JMDO	**Jabal Madar**	**4.28**	**177**	P	**Pn**	**02 09 16.4**	**+0.5**
	SNR=40						
GHIR	**Ghir-Karzin**	**4.61**	**292**	*e*Pn	**Pn**	**02 09 19.4**	**-1.2**
GHIR	**Ghir-Karzin**	**4.61**	**292**	*e*Pn	**Pn**	**02 09 19.4**	**-1.2**
GHIR	**Ghir-Karzin**	**4.61**	**292**	*e*Pn	**Pn**	**02 09 19.4**	**-1.2**
JLN	**Jalan Bani Buh**	**4.71**	**162**	P	**Pn**	**02 09 20.8**	**-1.1**
	SNR=512						
JLN				S	**Sn**	**02 10 16.1**	**-0.1**
ISRV	**Sarvestan**	**4.98**	**304**	*e*Pn	**Pn**	**02 09 26.2**	**+0.3**
ISRV	**Sarvestan**	**4.98**	**304**	*e*Pn	**Pn**	**02 09 26.2**	**+0.3**
IMEH	**Mehriz**	**5.50**	**330**	*e*Pn	**Pn**	**02 09 33.4**	**+0.5**
IMEH	**Mehriz**	**5.50**	**330**	*e*Pn	**Pn**	**02 09 33.4**	**+0.5**
SHI	**Shiraz**	**5.57**	**304**	*e*Pn	**Pn**	**02 09 33.6**	**-0.2**
SHI	**Shiraz**	**5.57**	**304**	*e*P	**Pn**	**02 09 33.6**	**-0.2**
SHI	**Shiraz**	**5.57**	**304**	*e*Pn	**Pn**	**02 09 33.6**	**-0.2**
IKOO	**Kooshah**	**5.83**	**10**	*e*Pn	**Pn**	**02 09 38.1**	**+0.6**
IKOO	**Kooshah**	**5.83**	**10**	*e*Pn	**Pn**	**02 09 38.1**	**+0.6**
IKAZ	**Kazeroun**	**6.14**	**302**	*e*Pn	**Pn**	**02 09 41.5**	**-0.4**
IKAZ	**Kazeroun**	**6.14**	**302**	*e*Pn	**Pn**	**02 09 41.4**	**-0.4**
ITEG	**Tejag**	**6.27**	**7**	*e*Pn	**Pn**	**02 09 44.1**	**+0.7**
ITEG	**Tejag**	**6.27**	**7**	*e*Pn	**Pn**	**02 09 44.1**	**+0.7**
IDAH	**Dahanechah**	**6.31**	**16**	*e*Pn	**Pn**	**02 09 46.6**	**+2.5**
ICHK	**Chekchek**	**6.32**	**333**	*e*Pn	**Pn**	**02 09 44.8**	**+0.6**
ICHK	**Chekchek**	**6.32**	**333**	*e*Pn	**Pn**	**02 09 44.6**	**+0.4**
ISAD	**Sadrabad**	**6.37**	**326**	*e*Pn	**Pn**	**02 09 45.4**	**+0.5**
ISAD	**Sadrabad**	**6.37**	**326**	*e*Pn	**Pn**	**02 09 45.4**	**+0.5**
TKDS	**Koohdasht(Taba**	**6.96**	**355**	*e*Pn	**Pn**	**02 09 54.0**	**+1.1**
IRAM	**Ramesheh**	**7.01**	**318**	*e*Pn	**Pn**	**02 09 53.1**	**-0.5**
IRAM	**Ramesheh**	**7.01**	**318**	*e*Pn	**Pn**	**02 09 53.1**	**-0.5**
TNSJ	**Nastanj**	**7.36**	**352**	*e*Pn	**Pn**	**02 09 59.9**	**+1.6**
ANAR	**Anarak**	**7.42**	**332**	*e*Pn	**Pn**	**02 09 59.8**	**+0.6**
IGAR	**Gharneh**	**7.64**	**320**	*e*Pn	**Pn**	**02 10 02.1**	**-0.1**
IZEF	**Zefreh**	**7.85**	**324**	*e*Pn	**Pn**	**02 10 05.0**	**-0.1**
IZEF	**Zefreh**	**7.85**	**324**	*e*Pn	**Pn**	**02 10 05.0**	**-0.1**
ZNGN	**Zangian**	**8.17**	**313**	*e*Pn	**Pn**	**02 10 09.1**	**-0.5**
ROKH	**ROKH**	**8.20**	**315**	*e*Pn	**Pn**	**02 10 09.3**	**-0.7**
JHBN	**Jahan bin**	**8.37**	**313**	*e*Pn	**Pn**	**02 10 10.5**	**-1.8**
IPIR	**Pirpir**	**8.52**	**316**	*e*Pn	**Pn**	**02 10 13.6**	**-0.8**
IPIR	**Pirpir**	**8.52**	**316**	*e*Pn	**Pn**	**02 10 13.6**	**-0.8**
IKLH	**Kolahrood**	**8.57**	**322**	*e*Pn	**Pn**	**02 10 15.1**	**-0.1**
IKLH	**Kolahrood**	**8.57**	**322**	*e*Pn	**Pn**	**02 10 15.8**	**+0.6**
ISFB	**Sefidab**	**9.06**	**329**	*e*Pn	**Pn**	**02 10 22.2**	**+0.5**
ISFB	**Sefidab**	**9.06**	**329**	*e*Pn	**Pn**	**02 10 22.2**	**+0.5**
DMTO	**DMTO**	**9.29**	**197**	P	**Pn**	**02 10 22.8**	**-2.0**
	SNR=77						
DMTO				P	**Pn**	**02 10 22.8**	**-2.0**
	SNR=77						
IANJ	**Anjilo**	**9.40**	**340**	*e*Pn	**Pn**	**02 10 28.1**	**+1.6**
IANJ	**Anjilo**	**9.40**	**340**	*e*Pn	**Pn**	**02 10 28.4**	**+1.9**
SHRO	**Shahrood**	**9.43**	**351**	*e*Pn	**Pn**	**02 10 28.8**	**+2.0**
SHRO	**Shahrood**	**9.43**	**351**	*e*Pn	**Pn**	**02 10 28.8**	**+2.0**
JRKH	**Jarkhoshk**	**9.47**	**12**	*e*Pn	**Pn**	**02 10 29.9**	**+2.7**
SBZV	**Sabzevar**	**9.70**	**359**	*e*Pn	**Pn**	**02 10 33.5**	**+2.9**
RBK	**Rabkut**	**9.71**	**201**	P	**Pn**	**02 10 29.8**	**-0.8**
	SNR=12						
IPAY	**Payeh**	**9.81**	**5**	*e*Pn	**Pn**	**02 10 34.5**	**+2.4**
KHMZ	**Khomeyn**	**9.81**	**318**	*e*Pn	**Pn**	**02 10 31.3**	**-0.8**
KHMZ	**Khomeyn**	**9.81**	**318**	*e*Pn	**Pn**	**02 10 31.3**	**-0.8**
KHMZ	**Khomeyn**	**9.81**	**318**	*e*Pn	**Pn**	**02 10 31.3**	**-0.8**
IVRN	**Varamin**	**9.83**	**329**	*e*Pn	**Pn**	**02 10 33.8**	**+1.6**
IMYA	**Miami**	**9.84**	**11**	*e*Pn	**Pn**	**02 10 34.2**	**+1.8**
IMYA	**Miami**	**9.84**	**11**	*e*Pn	**Pn**	**02 10 34.2**	**+1.8**
ISHM	**Shahmirzad**	**9.91**	**338**	*e*Pn	**Pn**	**02 10 35.3**	**+1.8**
ISHM	**Shahmirzad**	**9.91**	**338**	*e*Pn	**Pn**	**02 10 35.3**	**+1.8**
IAKL	**Akhelmad**	**9.94**	**4**	*e*Pn	**Pn**	**02 10 35.6**	**+1.7**
IFIR	**Firoozkooh**	**9.96**	**335**	*e*Pn	**Pn**	**02 10 35.4**	**+1.3**
IFIR	**Firoozkooh**	**9.96**	**335**	*e*Pn	**Pn**	**02 10 35.4**	**+1.3**
IKRD	**Kardeh**	**10.10**	**3**	*e*Pn	**Pn**	**02 10 39.1**	**+3.0**
ABTO	**Aybut**	**10.17**	**205**	P	**Pn**	**02 10 34.8**	**-2.1**
	SNR=29						
IDMV	**Damavand**	**10.19**	**332**	*e*Pn	**Pn**	**02 10 38.4**	**+1.1**
IDMV	**Damavand**	**10.19**	**332**	*e*Pn	**Pn**	**02 10 38.3**	**+1.1**
ISFR	**Sfrayin**	**10.37**	**1**	*e*Pn	**Pn**	**02 10 42.2**	**+2.5**
IHSB	**Hasanabad**	**10.40**	**329**	*e*Pn	**Pn**	**02 10 39.8**	**-0.3**
IHSB	**Hasanabad**	**10.40**	**329**	*e*Pn	**Pn**	**02 10 40.8**	**+0.7**
IR5	**Iran Long-Peri**	**10.56**	**326**	*e*Pn	**Pn**	**02 10 43.9**	**+1.7**
IKMR	**Kamar-syah**	**10.67**	**312**	*e*Pn	**Pn**	**02 10 41.6**	**-2.0**
IEMG	**Emamgholi**	**10.75**	**3**	*e*Pn	**Pn**	**02 10 47.1**	**+2.2**
IMND	**Minoodasht**	**10.77**	**350**	*e*Pn	**Pn**	**02 10 47.0**	**+2.1**
IMHD	**Mahdasht**	**10.89**	**327**	*e*Pn	**Pn**	**02 10 48.3**	**+1.5**
IDOB	**Doab**	**10.97**	**313**	*e*Pn	**Pn**	**02 10 45.0**	**-2.9**
IKFM	**Kafar-mosalman**	**11.03**	**311**	*e*Pn	**Pn**	**02 10 45.8**	**-2.7**
HAGD	**Aghdareh**	**11.05**	**320**	*e*Pn	**Pn**	**02 10 48.0**	**-1.1**
BHJ	**Bhuj**	**11.24**	**105**	*e*P	**Pn**	**02 10 50.1**	**-1.3**
BHJ				IAmb	IAmb	02 10 53.2	
	comp=Z,806nm,1.2s						
GEYT	**Alibeck**	**11.24**	**1**	*e*Pn	Pn	02 10 56.3	+4.9
GEYT	**Alibeck**	**11.24**	**1**	Pn	**Pn**	**02 10 54.2**	**+2.8**
	comp=Z,2.8nm,0.3s,baz=189,slow=8.4,SNR=64						
GEYT				LR	LR	02 15 59.4	
	comp=Z,173μm,18.4s,baz=195,slow=42						
GYA0B	**ALIBECK ARRAY**	**11.24**	**1**	*e*Pn	**Pn**	**02 10 52.8**	**+1.3**
QABG	**Abgarm-Qazvin**	**11.46**	**324**	*e*Pn	**Pn**	**02 10 55.7**	**+1.1**
QALM	**Alamut, Qazvin**	**11.51**	**330**	*e*Pn	**Pn**	**02 10 56.7**	**+1.3**
IBZA	**Bozab**	**11.60**	**315**	*e*Pn	**Pn**	**02 10 53.7**	**-2.9**
IKOM	**Komasi**	**11.64**	**313**	*e*Pn	**Pn**	**02 10 54.1**	**-3.0**
IGZV	**Ghazvin**	**11.67**	**328**	*e*Pn	**Pn**	**02 10 57.6**	**+0.1**
KCHF	**Cheshme Sefid,**	**12.01**	**312**	*e*Pn	**Pn**	**02 10 58.7**	**-3.5**
IVIS	**Veis**	**12.29**	**312**	*e*Pn	**Pn**	**02 11 03.4**	**-2.5**
IGHG	**Ghaleghazi**	**12.36**	**311**	*e*Pn	**Pn**	**02 11 03.6**	**-3.4**
KBL	**Kabul**	**12.43**	**48**	*e*Pn	**Pn**	**02 11 09.3**	**+1.3**
KBL	**Kabul**	**12.43**	**48**	*e*P	**Pn**	**02 11 09.3**	**+1.3**
KBL	**Kabul**	**12.43**	**48**	*e*Pn	**Pn**	**02 11 10.5**	**+2.5**
ILIN	**Lien**	**12.45**	**314**	*e*Pn	**Pn**	**02 11 06.3**	**-2.0**
IDHR	**Dehrash**	**12.70**	**312**	*e*Pn	**Pn**	**02 11 07.9**	**-3.7**
THW	**Thamme Wali**	**13.53**	**60**	P	**Pn**	**02 11 21.1**	**-1.7**
SARP	**Sargodha**	**13.96**	**64**	P	**Pn**	**02 11 27.1**	**-1.5**
ISRB	**Sarab**	**14.06**	**325**	*e*Pn	**Pn**	**02 11 30.5**	**+0.3**
CEP	**Cherat**	**14.09**	**56**	P	**Pn**	**02 11 30.0**	**-0.5**
MAHB	**Mahabad**	**14.42**	**317**	*e*Pn	**Pn**	**02 11 32.0**	**-3.0**
IAZR	**Azarshahr**	**14.87**	**321**	*e*Pn	**Pn**	**02 11 42.4**	**+1.1**
NIL	**Nilore**	**15.03**	**59**	*e*Pn	**Pn**	**02 11 41.8**	**-1.5**
NIL	**Nilore**	**15.03**	**59**	*e*P	**Pn**	**02 11 41.8**	**-1.5**
NIL	**Nilore**	**15.03**	**59**	*e*Pn	**Pn**	**02 11 42.2**	**-1.0**
CHCP	**Chirah Chowk**	**15.04**	**59**	P	**Pn**	**02 11 41.6**	**-1.8**
ITBZ	**Tabriz**	**15.17**	**322**	*e*Pn	**Pn**	**02 11 44.8**	**-0.4**
CHGR	**Chuyangaron**	**15.28**	**36**	*e*Pn	**Pn**	**02 11 42.6**	**-3.9**
	comp=Z,4μm,1.7s						
ISHB	**Shabestar**	**15.50**	**321**	*e*Pn	**Pn**	**02 11 49.2**	**-0.4**
CUKT	**Cukurca**	**16.02**	**315**	*e*P	**Pn**	**02 11 52.0**	**-4.3**
GAR	**Garm**	**16.14**	**37**	*e*Pn	**Pn**	**02 11 55.7**	**-2.1**
	comp=Z,778nm,1.1s						
GAR	**Garm**	**16.14**	**37**	*e*P	**Pn**	**02 11 55.7**	**-2.1**
GAR				pmax	pmax		
	comp=Z,778nm,1.1s						
MAKU	**Maku**	**16.77**	**322**	*e*AML	AML	02 19 17.6	
	comp=Z,0.0nm,5.6s						
POO	**Poona**	**16.84**	**115**	*e*P	**P**	**02 12 08.4**	**-0.3**
POO				IAmb	IAmb	02 12 13.7	
	comp=Z,5μm,2.3s						
POO				IAMs_20	IAMs_20	02 22 20.8	
	comp=Z,81μm,17.6s						
AKT	**Akhty**	**16.97**	**333**	*i* P	**P**	**02 12 08.4**	**-1.7**
VANB	**Van**	**17.00**	**318**	*e*P	**Pn**	**02 12 07.8**	**-0.9**
DHRM	**DHARAMSHALA**	**17.01**	**67**	*e*P	**P**	**02 12 08.4**	**-2.3**
DHRM				IAmb	IAmb	02 12 26.8	
	comp=Z,2μm,0.9s						
DHRM				IAMs_20	IAMs_20	02 20 20.2	
	comp=Z,143μm,19.3s						
CLDR	**Caldiran**	**17.05**	**320**	*e*P	**P**	**02 12 10.3**	**-0.9**
AKDM	**Akdamar-Van**	**17.08**	**317**	*e*P	**Pn**	**02 12 08.7**	**-1.0**
BTK	**Batken**	**17.18**	**36**	*e*Pn	**Pn**	**02 12 09.3**	**-1.6**
	comp=Z,2μm,1.6s						
BTK	**Batken**	**17.18**	**36**	*e*P	**Pn**	**02 12 09.3**	**-1.6**
BTK				pmax	pmax		
	comp=Z,2μm,1.6s						
NDI	**New Delhi**	**17.28**	**79**	*e*P	**Pn**	**02 12 10.0**	**-2.1**
GNI	**Garni**	**17.31**	**324**	*e*Pn	**P**	**02 12 13.1**	**-0.9**
	comp=Z,1μm,1.2s						
GNI	**Garni**	**17.31**	**324**	*i* P	**P**	**02 12 13.9**	**-0.1**
	SNR=115						
GNI	**Garni**	**17.31**	**324**	*ce*P	**P**	**02 12 12.5**	**-1.5**
GNI				pmax	pmax		
	comp=Z,3μm,1.7s						
GNI	**Garni**	**17.31**	**324**	P	**P**	**02 12 15.3**	**+1.3**
	comp=Z,4.1nm,0.3s,baz=125,slow=1.0,SNR=34						
GNI				LR	LR	02 20 00.7	
	comp=Z,137μm,19.3s,baz=116,slow=41						
DAMY	**Dhamar**	**17.39**	**229**	*e*Pn	**Pn**	**02 12 11.2**	**-2.7**
	comp=Z,2μm,1.2s						
TAS	**Tashkent**	**17.41**	**30**	P	**P**	**02 12 13.0**	**-1.9**
TAS				pmax	pmax		
	comp=Z,977nm,1.4s						
TASB	**TASBURUN-IGDIR**	**17.46**	**323**	*e*P	**P**	**02 12 15.2**	**-0.3**
SMLA	**Simla**	**17.49**	**71**	*e*P	**P**	**02 12 14.1**	**-1.8**
SMLA				IAmb	IAmb	02 12 19.4	
	comp=Z,2μm,1.6s						
GURO	**Guroymak-BITLI**	**17.80**	**316**	*e*P	**P**	**02 12 20.1**	**+0.7**
MLAZ	**Malazgirt-MUS**	**17.85**	**318**	*e*P	**P**	**02 12 19.5**	**-0.5**
TUTA	**Tutak**	**17.86**	**319**	*i* P	**P**	**02 12 21.7**	**+1.5**
AGRB	**Hanur-Agry**	**17.88**	**320**	*e*P	**P**	**02 12 20.6**	**+0.4**
MARD	**Mardin**	**17.93**	**311**	*i* P	**Pn**	**02 12 18.2**	**-2.0**
GNBR	**Gunib**	**18.05**	**333**	*i* P	**P**	**02 12 21.9**	**0.0**
BHPL	**Bhopal**	**18.08**	**97**	*e*P	**P**	**02 12 20.9**	**-1.5**
BHPL				IAmb	IAmb	02 12 25.4	
	comp=Z,1μm,1.6s						
SVAN	**Silvan-Diyarba**	**18.10**	**313**	*e*P	**P**	**02 12 22.0**	**-0.6**
DDI	**Dehra Dun**	**18.14**	**74**	*e*P	**P**	**02 12 22.7**	**-0.2**
DDI				*e*P	**P**	**02 12 22.8**	**-0.2**
DDI				IAmb	IAmb	02 12 32.8	
	comp=Z,4μm,2.1s						
DDI				*ex*	x	02 15 42.5	
MAK	**Makhachkala**	**18.32**	**335**	*e*P	**P**	**02 12 25.0**	**+0.1**
MAK				*e*S	**Sn**	**02 15 48.9**	**-0.2**
MAK				pmax	pmax		
	comp=Z,1μm,1.1s						
MAK				MLR	MLR		
	comp=Z,48μm,17.0s						
CHM	**Chimkent**	**18.36**	**29**	*e*P	**P**	**02 12 22.8**	**-2.5**
CHM				*e*S	**S**	**02 15 52.1**	**-2.5**
CHM				pmax	pmax		
	comp=Z,82nm,0.7s						
CHM				MLR	MLR		
	comp=Z,12μm,12.0s						
CHM	**Chimkent**	**18.36**	**29**	*e*P	**P**	**02 12 22.8**	**-2.5**
	comp=Z,82nm,0.7s						
CHM				*e*S	**S**	**02 15 52.1**	**-2.5**
CHM				*e*LR	LR	02 21 37.0	
	comp=Z,12μm,11.5s						
IUG	**Iuzhnay**	**18.40**	**30**	*e*P	**P**	**02 12 23.8**	**-2.1**
IUG				*e*S	**Sn**	**02 15 46.4**	**-4.9**
IUG				pmax	pmax		
	comp=Z,236nm,1.5s						
IUG				smax	smax		
	comp=E,2μm,13.4s						
IUG				MLR	MLR		
	comp=Z,22μm,14.0s						
IUG	**Iuzhnay**	**18.40**	**30**	*e*P	**P**	**02 12 23.9**	**-2.1**
	comp=Z,236nm,1.5s						

JBP eS S 02 16 33.6 -1.8
JBP AMB AMB 02 16 42.0
comp=N,270nm,5.6s
JBP AMS AMS 02 23 05.1
comp=Z,79μm,22.1s
NCK Nalchik 20.40 329 *i* P **P 02 12 46.7 -0.9**
NCK pmax pmax
comp=Z,317nm,1.2s
EIL Elat 20.40 284 P Pn 02 13 11.3 +21
EIL Elat 20.40 284 LR LR 02 22 52.9
comp=Z,83μm,21.9s,baz=102,slow=43
MMAI Mount Meron Ar 20.45 293 P Pn 02 12 49.4 -1.2
comp=Z,184nm,0.8s,baz=94,slow=11,SNR=63
MMAI S **S 02 16 30.3 -6.8**
comp=Z,18nm,0.6s,baz=108,slow=37,SNR=4.4
MMAI LR LR 02 22 31.4
comp=Z,38μm,20.5s,baz=90,slow=42
BHL Bhannes 20.45 296 *e*P Pn 02 12 50.1 -0.5
DQRL Deir Qamar 20.47 295 *e*P Pn 02 12 49.7 -1.1
BEYL Beirut 20.58 296 *e*P Pn 02 12 50.9 -1.0
EKS2 Erkin-Say 20.60 35 P **P 02 12 49.5 -0.4**
SNR=149
AMAZ Amatzia 20.60 289 P Pn 02 12 50.9 -1.4
NEY Neytrino 20.62 327*c i*P Pn 02 12 50.3 -2.3
ATD Arta Tunnel 20.64 226 *e*P Pn 02 12 51.0 -1.8
comp=Z,3μm,1.4s
ATD Arta Tunnel 20.64 226 P Pn 02 12 53.1 +0.3
comp=Z,825nm,1.1s,baz=30,slow=6.3,SNR=86
ATD LR LR 02 21 43.6
comp=Z,40μm,21.8s,baz=46,slow=39
KTUT Trabzon 20.67 318 *e*P Pn 02 12 51.2 -1.8
KTUT Trabzon 20.67 318⇑*i*P Pn 02 12 51.4 -1.6
UCH Uchtor 20.68 37 P **P 02 12 50.0 -1.2**
SNR=62
KMRS Kahramanmaras 20.74 307 *e*P Pn 02 12 52.0 -1.8
AYKD Aykdinkavak 20.77 306 *i*P Pn 02 12 55.6 +1.5
DARE Darende-Malaty 20.81 310 *e*P Pn 02 12 53.9 -0.8
TAHT Tahtakopru-Hat 20.81 303 *e*P Pn 02 12 53.7 -0.9
KBZ Khabaz 20.90 328 P Pn 02 12 56.2 +0.6
comp=Z,40nm,0.9s,baz=113,slow=9.6,SNR=28
AAK Ala-Archa 20.96 36 P **P 02 12 53.4 -0.5**
SNR=45
AAK Ala-Archa 20.96 36 *e*P **P 02 12 53.3 -0.5**
comp=Z,2μm,1.6s
AAK Ala-Archa 20.96 36 *i*P **P 02 12 51.2 -2.7**
SNR=195
AAK Ala-Archa 20.96 36*ce*P **P 02 12 53.6 -0.3**
AAK pmax pmax
comp=Z,643nm,2.5s
AAK Ala-Archa 20.96 36 P **P 02 12 53.3 -0.5**
comp=Z,78nm,0.9s,baz=206,slow=11,SNR=64
AAK LR LR 02 22 25.4
comp=Z,47μm,21.1s,baz=210,slow=41
KZA Kyzart 20.98 38 P **P 02 12 55.1 +0.7**
SNR=147
NRN Naryn 21.00 41 *e*P **P 02 12 53.7 -0.8**
comp=Z,396nm,1.0s
NRN Naryn 21.00 41 *e*P **P 02 12 53.7 -0.8**
NRN pmax pmax
comp=Z,396nm,1.0s
SHA1 Shidzhatmaz 21.02 328 *i*P **P 02 12 54.9 +0.3**
CUGUR Gurin_SVAS 21.03 310 *i*P **P 02 12 55.8 +1.1**
PYA1 Pyatigorsk 21.07 329 *i*P **P 02 12 55.1 +0.2**
FRU1 Bishkek 21.15 36 *e*P **P 02 12 56.4 +0.6**
comp=Z,702nm,1.0s
FRU1 LR LR
comp=Z,47μm,20.0s
FRU1 Bishkek 21.15 36 *e*P **P 02 12 56.4 +0.6**
FRU1 pmax pmax
comp=Z,702nm,1.0s
FRU1 MLR MLR
comp=Z,47μm,20.0s
KVAR Kislovodsk Arr 21.17 328 P **P 02 13 00.3 +4.2**
comp=Z,66nm,1.0s,baz=270,slow=20,SNR=66
KIV Kislovodsk 21.17 328 *e*P **P 02 12 58.5 +2.4**
comp=Z,729nm,1.1s
KIV LR LR
comp=Z,30μm,21.0s
KIV Kislovodsk 21.17 328⇑*i*P **P 02 12 56.7 +0.6**
KIV Kislovodsk 21.17 328 *i*P **P 02 12 58.0 +1.9**
SNR=198
KIV Kislovodsk 21.17 328 *e*P **P 02 12 56.6 +0.5**
KIV *e* 02 16 49.5
KIV pmax pmax
comp=Z,2μm,1.0s
KIV MLR MLR
comp=Z,56μm,14.0s
CUKAN kangal_SIVAS 21.19 312 *i*P **P 02 12 58.0 +1.6**
KBK Karagaybulak 21.21 37 P **P 02 12 56.5 -0.2**
SNR=58
HYB Hyderabad 21.26 111 *i*P **P 02 12 57.0 -0.2**
comp=Z,500nm,1.0s
HYB *e*S **S 02 16 48.0 -5.2**
HYB LR LR
comp=Z,48nm,18.0s
CUZAR Zara_SIVAS 21.29 313 *i*P **P 02 13 00.2 +2.8**
CHMS Chumysh 21.34 36 P **P 02 12 57.4 -0.5**
SNR=30
CEYT Ceyhan 21.38 304 *e*P **P 02 13 00.0 +1.8**
YURE YUREGIR 21.39 304 *e*P **P 02 13 01.4 +2.9**
YURE YUREGIR 21.39 304 *i*P **P 02 13 01.0 +2.6**
USP Ospenovka 21.40 35 P **P 02 12 59.9 +1.3**
SNR=15
KRTS Karatas 21.49 303 *e*P **P 02 13 01.5 +2.0**
BOOM Boomskoye usch 21.64 39 *e*P **P 02 13 01.4 +0.1**
comp=Z,684nm,1.0s
BOOM LR LR
comp=Z,67μm,18.0s
BOOM Boomskoye usch 21.64 39 *e*P **P 02 13 01.4 +0.1**
BOOM pmax pmax
comp=Z,684nm,1.0s
BOOM MLR MLR
comp=Z,67μm,18.0s
CUALT Altinyayla-SIV 21.65 311 *i*P **P 02 13 03.8 +2.5**
ULHL Ulahol 21.65 39 P **P 02 13 03.9 +2.4**
SNR=6.8
TKM2 Tokmak 2 21.74 37 P **P 02 13 01.3 -1.1**
SNR=39
SVSK Karacayir 21.81 313 *e*P **P 02 13 03.7 +0.9**
RSDY Resadiye-TOKAT 21.85 314 *e*P **P 02 13 04.6 +1.3**
KARA Karaisali 21.98 304 *e*P **P 02 13 05.8 +1.0**
PHNC Paralimni 22.04 298 P **P 02 13 06.6 +1.2**
CUSAR Sarkisla-SIVAS 22.07 311 *i*P **P 02 13 07.8 +2.0**
BNN Bunyan 22.07 309 *e*P **P 02 13 07.2 +1.3**
EREN Erenkoy 22.08 299 *e*P **P 02 13 07.0 +1.2**
KDJ Kajisay 22.12 41 *e*P **P 02 13 06.3 0.0**
comp=Z,1μm,1.0s
KDJ LR LR
comp=Z,183μm,18.0s
KDJ Kajisay 22.12 41 *e*P **P 02 13 06.4 0.0**
KDJ pmax pmax
comp=Z,1μm,1.0s
KDJ MLR MLR
comp=Z,183μm,18.0s
MERS Mersin 22.24 303 *e*P **P 02 13 08.2 +0.6**
TARG Taragay, Kyrgy 22.25 42 PFAKE 02 13 20.0 +12
TARG LR LR
comp=Z,33μm,18.0s
TOKT Tokat 22.31 313 *e*P **P 02 13 08.7 +0.3**
MTBS Maitube 22.33 38 *e*P **P 02 13 09.3 +0.7**
MTBS pmax pmax
comp=Z,2μm,1.3s
MTBS Maitube 22.33 38 *e*P **P 02 13 09.3 +0.7**
comp=Z,2μm,1.3s
PYUN Piuthan 22.37 81 *e*P **P 02 13 10.9 +1.7**
comp=Z,4μm,1.7s
SOC Sochi 22.39 324*c i*P **P 02 13 08.1 -1.0**
SOC *e**PP **sP 02 13 15.5 -0.4**
SOC *e*PPP PPP 02 13 39.3
SOC *e*S **S 02 17 12.1 -2.5**
SOC *e*SSS SSS 02 17 55.0
SOC pmax pmax
comp=Z,480nm,1.6s
SOC MLR MLR
comp=Z,71μm,17.0s
KIZK Mersin 22.39 302 *e*P **P 02 13 09.3 +0.1**
BTLS Baital 22.48 31 *e*P **P 02 13 08.4 -1.6**
BTLS *e*S **S 02 17 18.0 +1.7**
BTLS pmax pmax
comp=Z,294nm,1.7s
BTLS smax smax
comp=E,2μm,10.4s
BTLS MLR MLR
comp=Z,17μm,12.0s
BTLS Baital 22.48 31 *e*P **P 02 13 08.4 -1.6**
comp=Z,294nm,1.7s
BTLS *e*S **S 02 17 18.0 +1.7**
comp=Z,2μm,10.4s
BTLS *e*LR LR 02 23 11.9
comp=Z,17μm,11.9s
LFK Lefkose 22.50 298 *e*P **P 02 13 10.3 -0.2**
SILI Silifke-Mersin 22.52 301 *e*P **P 02 13 11.1 +0.6**
CSS Mathiatis 22.58 297 *e*P **P 02 13 11.4 +0.2**
comp=Z,1μm,1.2s
CSS LR LR
comp=Z,14μm,22.0s
CSS Mathiatis 22.58 297 P **P 02 13 12.7 +1.5**
CSS Mathiatis 22.58 297 P **P 02 13 11.5 +0.3**
ABKAR Akbulak array 22.62 4 *e*P **P 02 13 09.8 -1.6**
AAA Alma-Ata 22.66 38 *e*P **P 02 13 11.0 -0.9**
AAA *e*S **S 02 17 18.9 -0.7**
AAA pmax pmax
comp=Z,593nm,1.5s
AAA smax smax
comp=E,17μm,15.4s
AAA MLR MLR
comp=Z,56μm,17.0s
AAA Alma-Ata 22.66 38 *e*P **P 02 13 11.1 -0.9**
comp=Z,593nm,1.5s
AAA *e*S **S 02 17 18.9 -0.7**
comp=Z,17μm,15.4s
AAA *e*LR LR 02 21 52.6
comp=Z,56μm,16.7s
IKL Isikli 22.66 301 *e*P **P 02 13 11.9 -0.2**
MDOK Medeo 22.70 39 *e*P **P 02 13 11.2 -1.3**
MDOK *e*S **S 02 17 16.6 -3.9**
MDOK MLR MLR
comp=Z,53μm,17.0s
MDOK Medeo 22.70 39 *e*P **P 02 13 11.2 -1.3**
comp=Z,10μm,1.7s
MDOK *e*S **S 02 17 16.7 -3.9**
comp=Z,19μm,15.2s
MDOK *e*LR LR 02 22 05.4
comp=Z,53μm,16.6s
KEBE Keben-Mersin 22.71 301 *e*P **P 02 13 12.9 +0.3**
MAMC Mammari 22.73 298 P **P 02 13 13.9 +1.2**
AKKU Akkuyu-Mersin 22.74 301 *e*P **P 02 13 12.6 -0.3**
AVNS Nevsehir-Avano 22.75 308 *i*P **P 02 13 14.1 +1.0**
KUU Kurty 22.80 36 *e*P **P 02 13 11.5 -1.9**
KUU *e*S **S 02 17 22.4 +0.4**
KUU pmax pmax
comp=Z,1μm,2.0s
KUU smax smax
comp=E,2μm,3.9s
KUU MLR MLR
comp=Z,27μm,12.0s
KUU Kurty 22.80 36 *e*P **P 02 13 11.6 -1.9**
comp=Z,1μm,2.0s
KUU *e*S **S 02 17 22.5 +0.4**
comp=Z,2μm,3.9s
KUU *e*LR LR 02 22 38.7
comp=Z,27μm,12.0s
YOZ Yozgat 22.80 310 *e*P **P 02 13 13.4 -0.2**
SZAC Souni 22.89 297 P **P 02 13 15.3 +0.8**
TEVE Tevekalti-Mers 22.91 301 *e*P **P 02 13 15.2 +0.4**
KOLN Koldanda 22.92 81 *e*P **P 02 13 16.2 +1.1**
comp=Z,963nm,1.3s
LEF Lefka 22.97 298 *e*P **P 02 13 15.4 +0.1**
LEF Lefka 22.97 298⇑*i*P **P 02 13 16.0 +0.7**
LEF Lefka 22.97 298 *i*P **P 02 13 16.5 +1.2**
KVT Kavak 23.03 314 *e*P **P 02 13 15.2 -0.7**
DANN Dangsing 23.04 80 *e*P **P 02 13 18.0 +1.6**
comp=Z,3μm,1.0s
BERE Bereket-Mersin 23.05 301 *e*P **P 02 13 16.5 +0.2**
PRZ Przheval'sk 23.05 42 *e*P **P 02 13 16.7 +0.4**
comp=Z,601nm,1.0s
PRZ LR LR
comp=Z,50μm,20.0s
PRZ Przheval'sk 23.05 42 *e*P **P 02 13 16.7 +0.4**
PRZ pmax pmax
comp=Z,601nm,1.0s
PRZ MLR MLR
comp=Z,50μm,20.0s
TEKE Tekeli-Mersin 23.08 300 *e*P **P 02 13 16.7 +0.3**
DESE Dese 23.10 231 *i*P **P 02 13 18.8 +1.7**
DESE *i*S Sn 02 17 34.3 -11
DESE Dese 23.10 231 *i*P **P 02 13 18.8 +1.7**
DESE *i*S Sn 02 17 34.3 -11
VLK Valmikinagar 23.19 82 *ex* **P 02 13 16.0 -1.6**
VLK *ex* x 02 13 40.0
ALFC Alefka 23.21 298 P **P 02 13 18.9 +1.1**
MNCY Minicoy 23.29 139 *e*P **P 02 13 18.5 -0.1**
PPCY Paphos 23.35 297 P **P 02 13 20.3 +1.2**
SATY Saty 23.41 40 *e*P **P 02 13 17.8 -2.0**
SATY pmax pmax
comp=Z,497nm,1.7s
SATY MLR MLR
comp=Z,76μm,16.0s
SATY Saty 23.41 40 *e*P **P 02 13 17.9 -2.0**
comp=Z,497nm,1.7s
SATY *e*S **S 02 17 36.2 +3.7**
SATY *e*LR LR 02 23 01.2
comp=Z,76μm,15.9s
SULT Sultanhani-AKS 23.47 305 *e*P **P 02 13 21.6 +1.2**
ZHN Zhinishke 23.49 40 *e*P **P 02 13 18.3 -2.3**
ZHN *e*S **S 02 17 34.4 +0.6**
ZHN pmax pmax
comp=Z,101nm,1.4s
ZHN smax smax
comp=E,62nm,3.6s
ZHN MLR MLR
comp=Z,36μm,15.0s
ZHN Zhinishke 23.49 40 *e*P **P 02 13 18.4 -2.3**
comp=Z,101nm,1.4s
ZHN *e*S **S 02 17 34.5 +0.6**
comp=Z,62nm,3.6s
ZHN *e*LR LR 02 23 07.2
comp=Z,36μm,14.6s
CORM Corum 23.52 311 *e*P **P 02 13 20.6 -0.3**
YAYX Yaylak 23.55 307 *e*P **P 02 13 21.4 +0.2**
GAZI Gazipasa 23.72 300 *i*P **P 02 13 24.3 +1.5**
SERE Sereflikochisa 23.72 307 *e*P **P 02 13 23.7 +0.8**
AKTO Aktyubinsk 23.74 0 P **P 02 13 22.1 -0.7**
comp=Z,67nm,0.6s,baz=174,slow=9.6,SNR=114
AKTO LR LR 02 24 15.4
comp=Z,36μm,18.1s,baz=171,slow=41
KPKS Kokpek 23.82 40 *e*P **P 02 13 21.0 -2.7**
KPKS *e*S **S 02 17 39.7 +0.7**
KPKS pmax pmax
comp=Z,724nm,2.2s
KPKS smax smax
comp=E,1μm,7.7s
KPKS MLR MLR
comp=Z,72μm,15.0s
KPKS Kokpek 23.82 40 *e*P **P 02 13 21.0 -2.7**
comp=Z,724nm,2.2s
KPKS *e*S **S 02 17 39.8 +0.7**
comp=Z,1μm,7.7s
KPKS *e*LR LR 02 23 25.2
comp=Z,72μm,15.3s
UZB Uzynbulak 23.82 41 *e*P **P 02 13 22.0 -1.8**
UZB *e*S **S 02 17 38.6 -0.6**
UZB pmax pmax
comp=Z,291nm,1.8s
UZB smax smax
comp=E,608nm,4.0s
UZB MLR MLR
comp=Z,30μm,15.0s
UZB Uzynbulak 23.82 41 *e*P **P 02 13 22.1 -1.8**
comp=Z,291nm,1.8s
UZB *e*S **S 02 17 38.6 -0.6**
comp=Z,608nm,4.0s
UZB *e*LR LR 02 23 23.2
comp=Z,30μm,14.6s
GKN Gorkha 23.83 81 *e*P **P 02 13 25.2 +1.1**
comp=Z,849nm,1.1s
DIKM Dikmen 23.84 315 *e*P **P 02 13 23.5 -0.3**
DIKM Dikmen 23.84 315⇑*i*P **P 02 13 24.4 +0.6**
BR131 Keskin Array S 24.00 309 *e*P **P 02 13 25.6 0.0**
comp=Z,764nm,1.1s
BRTR Keskin Array B 24.00 309 *e*P **P 02 13 26.2 +0.6**
BRTR ScP **ScP 02 20 46.4 +1.0**
BRTR Keskin Array B 24.00 309 *e*P **P 02 13 26.2 +0.6**
BRTR Keskin Array B 24.00 309 P **P 02 13 25.5 0.0**
comp=Z,107nm,0.9s,baz=127,slow=12,SNR=90
BRTR ScP **ScP 02 20 46.4 +1.0**
comp=Z,7.2nm,0.8s,baz=146,slow=5.5,SNR=3.9
BRTR LR LR 02 24 40.2
comp=Z,107μm,18.6s,baz=97,slow=41
SNOP Sinop 24.07 315 *e*P **P 02 13 25.7 -0.3**
SNOP Sinop 24.07 315 *e*P **P 02 13 28.1 +2.1**
comp=Z,2μm,1.6s
SNOP LR LR
comp=Z,46μm,19.0s
CHBY Cihanbeyli 24.07 306 *e*P **P 02 13 27.8 +1.6**
SHLS Shalkode 24.08 41 *e*P **P 02 13 27.1 +0.8**
SHLS *e*S **S 02 17 46.9 +3.6**
SHLS pmax pmax
comp=Z,845nm,2.2s
SHLS MLR MLR
comp=Z,29μm,13.0s
SHLS Shalkode 24.08 41 *e*P **P 02 13 27.2 +0.8**
comp=Z,845nm,2.2s
SHLS *e*S **S 02 17 46.9 +3.6**
SHLS *e*LR LR 02 24 01.7
comp=Z,29μm,12.6s
ANKE Ethiopia-Afar 24.12 229 *i*P **P 02 13 26.5 -0.6**
ANKE *i*S S 02 17 55.5 +11
ANKE Ethiopia-Afar 24.12 229 *i*P **P 02 13 26.5 -0.6**
ANKE *i*S S 02 17 55.5 +11
PDGK Podgornoye 24.20 41 P **P 02 13 26.6 -0.8**
PDGK pmax pmax
comp=Z,338nm,1.4s
KONT Konya--Tatoy 24.23 304 *e*P **P 02 13 29.2 +1.6**
DMN Daman 24.27 82 *e*P **P 02 13 29.1 +0.8**
comp=Z,4μm,1.9s
LADK Ladik-KONYA 24.31 305 *e*P **P 02 13 29.8 +1.4**
OTUK Ortayu 24.35 24 P **P 02 13 28.2 -0.4**
OTUK pmax pmax
comp=Z,309nm,1.1s
CANT Cankiri 24.40 311 *e*P **P 02 13 29.4 +0.2**
KKN Kakani 24.41 81 *e*P **P 02 13 30.4 +0.9**
comp=Z,2μm,1.4s
ANN Anapa 24.43 323*c i*P **P 02 13 29.0 -0.2**
ANN *e* 02 14 04.8
ANN *e*S **S 02 17 47.6 -0.9**
ANN pmax pmax
comp=Z,816nm,1.4s
ANN pmax pmax
comp=E,170nm,1.4s
ANN pmax pmax
comp=N,341nm,1.4s
ANN pmax pmax
comp=Z,3μm,6.3s
ANN MLR MLR
comp=N,105μm,20.0s
ANN MLR MLR
comp=Z,87μm,20.0s
ANN MLR MLR
comp=E,52μm,20.0s
KEPZ Antalya-Kepez 24.46 301 *i*P **P 02 13 30.5 +0.7**
ELDT Eldivan 24.48 310 *i*P **P 02 13 31.4 +1.4**
PKIN Phulchoki 24.52 82 *e*P **P 02 13 30.9 +0.2**
comp=E,2μm,1.6s
PKI Pulchoki 24.54 82 *e*P **P 02 13 31.2 +0.4**
comp=E,2μm,1.5s
ILGA Ilgaz 24.54 312 *e*P **P 02 13 31.4 +0.7**
comp=E,2μm,1.8s
TDK Taldyqorghan 24.64 37*c i*P **P 02 13 30.0 -1.2**
TDK *e*S **S 02 17 45.6 -6.4**
TDK pmax pmax
comp=Z,1μm,2.1s
TDK smax smax
comp=E,10μm,15.3s
TDK MLR MLR
comp=Z,31μm,15.0s
TDK Taldyqorghan 24.64 37⇑*i*P **P 02 13 30.0 -1.2**
comp=Z,1μm,2.1s
TDK *e*S **S 02 17 45.7 -6.4**
comp=Z,10μm,15.3s
TDK *e*LR LR 02 23 44.4
comp=Z,31μm,14.6s
ANTO Ankara 24.65 309 *e*P **P 02 13 33.0 +1.6**
comp=Z,1μm,1.3s
ANTO LR LR
comp=Z,97μm,22.0s
ANTO Ankara 24.65 309⇑*i*P **P 02 13 33.3 +1.9**
ANTO Ankara 24.65 309 *e*P **P 02 13 33.0 +1.6**
ANTO pmax pmax
comp=Z,1μm,1.3s
ANTO MLR MLR
comp=Z,97μm,22.0s
BR231 Keskin MP Arra 24.65 309 *e*P **P 02 13 33.0 +1.6**
comp=Z,782nm,1.1s
LOD Lodumlu 24.68 309 *e*P **P 02 13 31.7 0.0**
BZK Bozkurt 24.80 314 *e*P **P 02 13 32.9 +0.2**
BZK Bozkurt 24.80 314⇑*i*P **P 02 13 33.7 +1.0**
JIRN Jiri 25.22 81 *e*P **P 02 13 37.6 +0.5**
comp=Z,3μm,1.5s
FURI Furi 25.33 229 *e*P **P 02 13 39.3 +1.2**
comp=Z,808nm,1.3s
FURI LR LR
comp=Z,70μm,18.0s
AUSIV SIVRIHISAR 25.36 307 *i*P **P 02 13 39.6 +1.6**
SVRH Sivrihisar-ESK 25.38 307 *e*P **P 02 13 38.3 +0.2**
KORT Korkueli 25.45 301 *e*P **P 02 13 38.9 +0.1**
BOK Bokaro 25.51 90 *e*P **P 02 13 37.4 -1.9**
BOK IAMs_20 IAMs_20 02 24 42.3
comp=Z,97μm,7.6s
ISP Isparta 25.56 303 *e*P **P 02 13 40.9 +1.1**
comp=Z,1μm,1.4s
ISP LR LR
comp=Z,60μm,20.0s
ISP Isparta 25.56 303 P **P 02 13 40.2 +0.4**
ISP Isparta 25.56 303⇑*i*P **P 02 13 40.9 +1.1**
ISP Isparta 25.56 303 *e*P **P 02 13 40.9 +1.1**
ISP pmax pmax
comp=Z,1μm,1.4s
ISP MLR MLR
comp=Z,60μm,20.0s
KURC Kurucasile-Bar 25.56 313 *e*P **P 02 13 40.9 +1.3**
AUMIH MIHALICIK 25.57 308 *i*P **P 02 13 41.6 +1.7**
TRD Trivandrum 25.58 131 *e*P **P 02 13 39.0 -1.0**
TRD IAmb IAmb 02 13 46.3
comp=Z,9μm,5.0s
RAMN Ramite 25.65 83 *e*P **P 02 13 41.0 +0.2**
comp=Z,1μm,1.3s
CIFT Cifteler, Eski 25.68 306 *e*P **P 02 13 41.3 +0.5**
ELL Elmali 25.73 300 *e*P **P 02 13 42.2 +0.9**
ELL Elmali 25.73 300 P **P 02 13 42.1 +0.8**
SHUT Suhut-Afyon 25.77 304 *e*P **P 02 13 42.9 +1.2**
KSL Kastellorizon 25.83 298 P **P 02 13 41.2 -0.9**
KSL Kastellorizon 25.83 298 P **P 02 13 41.2 -0.9**
AKAS Kas 25.84 299 *e*P **P 02 13 42.2 -0.1**
BRDR BURDUR-Merkez 25.87 302 *i*P **P 02 13 42.5 -0.1**
BRZS Berezniki 25.94 22 *e*P **P 02 13 41.9 -1.0**
BRZS *e*S **S 02 18 13.7 +1.1**
BRZS pmax pmax
comp=Z,491nm,2.0s
BRZS smax smax
comp=N,290nm,4.1s
BRZS MLR MLR
comp=Z,39μm,13.0s
BRZS Berezniki 25.94 22 *e*P **P 02 13 42.0 -1.0**
comp=Z,491nm,2.0s
BRZS *e*S **S 02 18 13.8 +1.1**
comp=Z,290nm,4.1s
BRZS *e*LR LR 02 25 00.2
comp=Z,39μm,13.2s
AUKIR Kirka- Seyitga 26.03 306 *i*P **P 02 13 45.8 +1.7**
SRCK Saricakaya, Es 26.24 307 *e*P **P 02 13 46.3 +0.5**
FETY Fethiye 26.34 299 *e*P **P 02 13 46.1 -0.7**
FETY Fethiye 26.34 299 P **P 02 13 46.5 -0.3**
FETY Fethiye 26.34 299 P **P 02 13 46.5 -0.3**
SIM Simferopol' 26.37 320*c i*P **P 02 13 47.3 +0.4**
SIM *i* 02 14 28.5
SIM *i*S **S 02 18 21.7 +2.2**
SIM pmax pmax
comp=Z,769nm,1.1s
SIM MLR MLR
comp=Z,8μm,15.0s
BWNR Bhubaneshwar 26.39 98 *e*P **P 02 13 44.7 -2.5**
BWNR IAmb IAmb 02 13 53.3
comp=Z,7μm,4.2s
SAHE Sakarya_HENDEK 26.40 309 *i*P **P 02 13 47.3 0.0**
GULT Gulveren 26.47 308 *e*P **P 02 13 48.5 +0.5**
DALY Dalyan (Mula) 26.72 299 *e*P **P 02 13 49.4 -0.7**
TURN Turunc 26.77 300 *e*P **P 02 13 53.3 +2.7**
CAVI Cavuskoy 26.86 307 *e*P **P 02 13 52.0 +0.6**
TVSB Tavsanli 26.87 305 *e*P **P 02 13 52.4 +0.8**
ARG Arkhangelos 27.00 298 P **P 02 13 52.7 +0.1**
ARG Arkhangelos 27.00 298 P **P 02 13 52.7 +0.1**
ARG Arkhangelos 27.00 298 P **P 02 13 52.7 +0.1**
ADVT Abdulvahap 27.02 308 *e*P **P 02 13 52.8 0.0**
KULA Kula-Manisa 27.17 303 *e*P **P 02 13 54.3 0.0**

KULA **Kula-Manisa** 27.17 303 P **P** 02 13 54.7 +0.4
KULA **Kula-Manisa** 27.17 303 P **P** 02 13 54.7 +0.4
HRT **Hereke** 27.22 308 *e*P **P** 02 13 55.1 +0.5
MANT **Manisa** 27.24 303 *e*P **P** 02 13 55.7 +0.7
comp=Z,2μm,1.1s
MANT LR LR
comp=Z,321μm,18.0s
YLV **Yalova** 27.33 308⇑*i*P **P** 02 13 56.4 +0.7
VRH **Novokhopyorsk** 27.41 338 *e*P **P** 02 13 58.0 +1.9
VRH *e*S **S** 02 18 32.8 -2.9
VRH pmax pmax
comp=Z,190nm,0.8s
VRH smax smax
comp=N,4μm,5.0s
VRH MLR MLR
comp=Z,31μm,16.0s
DAT **Datca** 27.54 299 *e*P **P** 02 13 57.6 0.0
AYDB **Zeytinkoy-Aydi** 27.59 302 *e*P **P** 02 13 57.8 -0.3
BUY **Buyukada** 27.61 308 *e*P **P** 02 13 58.2 +0.1
KARP **Karpathos** 27.64 296 P **P** 02 13 58.7 +0.3
KARP **Karpathos** 27.64 296 P **P** 02 13 58.7 +0.3
ARMT **Armutlu** 27.69 307 *e*P **P** 02 13 58.6 -0.3
MAKZ **Makanchi** 27.71 37 *e*P **P** 02 13 59.1 +0.1
comp=Z,333nm,1.3s
ISK **Istanbul-Kandi** 27.74 309 P **P** 02 13 59.5 +0.3
ISK **Istanbul-Kandi** 27.74 309 P **P** 02 13 59.5 +0.3
KLYT **Kilyos** 27.82 309 *e*P **P** 02 14 03.3 +3.4
KLYT **Kilyos** 27.82 309⇑*i*P **P** 02 14 00.3 +0.4
BODT **Bodrum** 27.82 299 *e*P **P** 02 13 59.6 -0.5
BODT **Bodrum** 27.82 299 P **P** 02 14 00.1 0.0
BODT **Bodrum** 27.82 299 P **P** 02 14 00.1 0.0
MK31 **Makanchi Array** 27.87 37 *e*P **P** 02 13 59.8 -0.6
comp=Z,104nm,1.0s
MK31 **Makanchi Array** 27.87 37 *e*P **P** 02 13 59.8 -0.6
MK31 pmax pmax
comp=Z,104nm,1.0s
MKAR **Makanchi Array** 27.87 37 *e*P **P** 02 13 58.8 -1.6
MKAR *e* 02 46 30.4
MKAR **Makanchi Array** 27.87 37 *i*P **P** 02 14 01.6 +1.2
MKAR pmax pmax
comp=Z,6.0nm,0.5s
MKAR **Makanchi Array** 27.87 37 P **P** 02 13 59.7 -0.7
comp=Z,6.4nm,0.5s,baz=231,slow=8.1,SNR=19
MKAR P3KPbc 02 46 30.4
comp=Z,0.4nm,0.7s,baz=51,slow=9.4,SNR=3.1
KCTX **Karacabey (Bur** 27.95 307 *e*P **P** 02 14 01.1 -0.1
BVAR **Borovoye Array** 27.96 16 P **P** 02 14 00.1 -0.9
comp=Z,34nm,0.8s,baz=190,slow=7.5,SNR=70
BVAR ScP **ScP** 02 20 57.6 +1.2
comp=Z,8.2nm,0.9s,baz=195,slow=10,SNR=3.8
BVAR LR LR 02 27 06.6
comp=Z,3μm,18.4s,baz=345,slow=41
BVAR P3KPbc 02 46 27.5
comp=Z,0.7nm,0.7s,baz=32,slow=5.6,SNR=4.6
BRVK **Borovoye** 27.96 16 *e*P **P** 02 14 00.3 -0.7
comp=Z,179nm,1.1s
BRVK LR LR
comp=Z,118μm,18.0s
BRVK **Borovoye** 27.96 16*c*e*P **P** 02 14 00.4 -0.7
BRVK pmax pmax
comp=Z,64nm,1.3s
GCAM **G?zelcaml?** 28.03 301 *e*P **P** 02 14 02.9 +1.0
BALB **Balikesir** 28.09 305 *e*P **P** 02 14 02.5 +0.1
CTKS **Kestanelik-??a** 28.19 309 *e*P **P** 02 14 03.1 -0.1
ZKR **Zakros** 28.33 295 P **P** 02 14 05.9 +1.3
ZKR **Zakros** 28.33 295 P **P** 02 14 05.9 +1.3
EDC **Edincik** 28.33 306 *e*P **P** 02 14 04.6 +0.1
SMG **Samos** 28.34 301 P **P** 02 14 05.4 +0.7
SMG **Samos** 28.34 301 P **P** 02 14 05.4 +0.7
VSR **Storozhevoye** 28.34 335 *e*P **P** 02 14 03.5 -1.0
VSR *e*S **S** 02 18 47.1 -3.3
VSR pmax pmax
comp=Z,120nm,0.9s
VSR smax smax
comp=N,4μm,5.0s
VSR MLR MLR
comp=Z,26μm,16.0s
BLCB **Balcova** 28.35 302 *e*P **P** 02 14 04.9 +0.2
SLVT **Silivri** 28.39 308 *e*P P 02 14 09.1 +4.0
CTYL **Yalikoy Yolu** 28.43 309⇑*i*P **P** 02 14 06.1 +0.7
STIA **Sitia Lasithi** 28.44 295 P **P** 02 14 06.1 +0.5
KURBB **Kurchatov Arra** 28.68 28 P **P** 02 14 07.1 -0.4
comp=Z,11nm,0.5s,baz=223,slow=8.8,SNR=49
KURBB P3KPbc 02 46 23.9
comp=Z,2.0nm,0.9s,baz=40,slow=4.5,SNR=13
URLA **Izmir** 28.68 302 *e*P **P** 02 14 08.5 +0.7
VORR **Voronezh** 28.69 336 *e*P **P** 02 14 08.0 +0.4
VORR pmax pmax
comp=Z,750nm,1.2s
KRBG **Karabiga-Canak** 28.75 306 *e*P **P** 02 14 07.6 -0.7
KURK **Kurchatov** 28.79 28 *e*P **P** 02 14 07.4 -1.1
comp=Z,320nm,1.6s
KURK LR LR
comp=Z,57μm,18.0s
KURK **Kurchatov** 28.79 28 *e*P **P** 02 14 07.4 -1.1
KURK pmax pmax
comp=Z,320nm,1.6s
KURK MLR MLR
comp=Z,57μm,18.0s
NPS **Neapolis** 28.84 295 P **P** 02 14 10.3 +1.1
NPS **Neapolis** 28.84 295 P **P** 02 14 10.3 +1.1
AMGA **Amorgos Island** 28.88 298 P **P** 02 14 09.2 -0.3
ANAF **Anafi Island** 28.89 297 P **P** 02 14 09.4 -0.2
LAST **Lasithi** 28.93 295 P **P** 02 14 11.1 +1.0
LAST **Lasithi** 28.93 295 P **P** 02 14 11.1 +1.0
RKY **Sarkoy-Tekirda** 28.94 307 *e*P **P** 02 14 08.3 -1.7
PHSR **Pinarhisar** 29.02 309⇑*i*P **P** 02 14 11.3 +0.7
PALK **Pallekele** 29.05 127 P **P** 02 14 12.4 +1.2
comp=Z,14nm,1.0s,baz=297,slow=4.5,SNR=3.2
PALK LR LR 02 26 35.2
comp=Z,33μm,18.3s,baz=294,slow=38
CHOS **Chios island** 29.10 302 P **P** 02 14 12.7 +1.2
CHOS **Chios island** 29.10 302 P **P** 02 14 12.7 +1.2
THR8 **Santorini-Mono** 29.13 297 P **P** 02 14 12.0 +0.3
LPK **Lapseki** 29.14 306 *e*P **P** 02 14 12.6 +0.9
SANT **Santorini** 29.14 297 *e*P **P** 02 14 11.7 -0.2
comp=Z,485nm,1.0s
SANT LR LR
comp=Z,11μm,20.0s
SANT **Santorini** 29.14 297 P **P** 02 14 11.8 0.0
SANT **Santorini** 29.14 297⇓*i*P **P** 02 14 11.6 -0.2
PRK **Paraskevi** 29.16 303 P **P** 02 14 13.7 +1.8
PRK **Paraskevi** 29.16 303 P **P** 02 14 13.7 +1.8
THR2 **Thira island,** 29.17 298 P **P** 02 14 11.4 -0.7
THR2 **Thira island,** 29.17 298 P **P** 02 14 11.4 -0.7
THR6 **Thira Island,** 29.19 297 P **P** 02 14 13.1 +0.9
THR6 **Thira Island,** 29.19 297 P **P** 02 14 13.1 +0.9
CMBO **Columbo, Santo** 29.20 298 P **P** 02 14 12.4 +0.1
APE **Apeiranthos** 29.22 299 P **P** 02 14 12.6 +0.1
APE **Apeiranthos** 29.22 299 P **P** 02 14 12.6 +0.1
APE **Apeiranthos** 29.22 299⇑*i*P **P** 02 14 12.5 +0.1
APE **Apeiranthos** 29.22 299 *i*P **P** 02 14 13.0 +0.5
THR5 **Thira Island,** 29.24 297 P **P** 02 14 12.7 +0.1
SEM **Semipalatinsk** 29.27 30 *e*P **P** 02 14 11.7 -1.3
SEM pmax pmax
comp=Z,188nm,2.3s
SEM MLR MLR
comp=Z,20μm,17.0s
SEM **Semipalatinsk** 29.27 30 *e*P **P** 02 14 11.7 -1.3
comp=Z,188nm,2.3s
SEM *e*LR LR 02 26 23.0
comp=Z,20μm,16.6s
EZN **Ezine** 29.29 305 *e*P **P** 02 14 13.4 +0.5
EZN **Ezine** 29.29 305 P **P** 02 14 13.5 +0.5
EZN **Ezine** 29.29 305 P **P** 02 14 13.5 +0.5
EZN **Ezine** 29.29 305⇑*i*P **P** 02 14 14.2 +1.2
EZN **Ezine** 29.29 305 P **P** 02 14 13.5 +0.5
GELI **Tayfur-Gelibol** 29.35 306 *e*P **P** 02 14 14.0 +0.4
PSN **Preselentsi** 29.39 313 P **P** 02 14 14.0 +0.1
ERIK **Erikli-Kesan** 29.41 306 *e*P **P** 02 14 14.4 +0.3
IDI **Anoyia** 29.43 295 P **P** 02 14 15.1 +0.7
comp=Z,83nm,0.7s,baz=91,slow=9.3,SNR=34
IDI LR LR 02 30 35.5
comp=Z,19μm,20.6s,baz=76,slow=46
MFTR **Murfatlar** 29.45 314⇓*i*P **P** 02 14 16.7 +2.3
LSA **Lhasa** 29.46 76 *e*P P 02 14 18.8 +3.6
comp=Z,90nm,1.6s
SIVA **Sivas** 29.46 295 P **P** 02 14 15.5 +0.9
SIVA **Sivas** 29.46 295 P **P** 02 14 15.5 +0.9
SIGR **SIGRI** 29.46 303 P **P** 02 14 15.0 +0.4
SIGR **SIGRI** 29.46 303 P **P** 02 14 15.0 +0.4
BOZC **Bozcaada** 29.49 305 *e*P **P** 02 14 15.2 +0.3
LPSR **Galich'ya Gora** 29.54 336 *e*P **P** 02 14 15.7 +0.6

LPSR *e*S **S** 02 19 06.1 -3.2
LPSR pmax pmax
comp=Z,70nm,0.7s
LPSR smax smax
comp=N,4μm,5.2s
LPSR MLR MLR
comp=Z,22μm,17.0s
WMQ **Urumqi** 29.57 47 P **P** 02 14 16.7 +1.1
WMQ pP sP 02 14 21.4 -1.3
WMQ sP pP 02 14 24.4 +3.8
WMQ PP **PP** 02 15 13.2 -9.2
WMQ S **S** 02 19 10.1 -0.1
WMQ sS sS 02 19 19.1 +0.7
WMQ pmax pmax
comp=Z,610nm,2.1s
WMQ pmax pmax
comp=Z,4μm,3.7s
WMQ LR LR
comp=Z,65μm,15.1s
WMQ LR LR
comp=Z,56μm,18.7s
WMQ **Urumqi** 29.57 47 *e*P **P** 02 14 17.5 +1.8
comp=Z,758nm,1.5s
WMQ LR LR
comp=Z,66μm,20.0s
TIRR **Tirgusor** 29.58 315 PFAKE 02 14 30.0 +14
TIRR LR LR
comp=Z,100nm,21.0s
EDRB **Edirne** 29.64 309 *e*P **P** 02 14 16.5 +0.3
EDRB **Edirne** 29.64 309 P **P** 02 14 16.2 0.0
EDRB **Edirne** 29.64 309 P **P** 02 14 16.2 0.0
ZSN **Zaisan** 29.68 39 *e*P **P** 02 14 15.7 -0.8
ZSN pmax pmax
comp=Z,33nm,2.0s
ZSN MLR MLR
comp=Z,7μm,11.0s
ZSN **Zaisan** 29.68 39 *e*P **P** 02 14 15.7 -0.8
comp=Z,34nm,2.0s
ZSN *e*S S 02 19 28.6 +17
ZSN *e*LR LR 02 27 14.8
comp=Z,7μm,11.3s
ENEZ **Enez** 29.69 306 *e*P **P** 02 14 16.9 +0.3
PRD **Provadia** 29.71 312 P **P** 02 14 17.0 +0.3
ARU **Arti** 29.75 1 *e*P **P** 02 14 16.9 0.0
comp=Z,353nm,1.8s
ARU LR LR
comp=Z,13μm,18.0s
ARU **Arti** 29.75 1*d*i*P **P** 02 14 16.8 -0.1
ARU 02 15 10.3
ARU PPP PPP 02 15 31.3
ARU 02 17 21.8
ARU S **S** 02 19 12.0 -0.5
ARU SS **SnSn** 02 20 41.1 -1.2
ARU pmax pmax
comp=Z,20nm,1.2s
ARU MLR MLR
comp=Z,36μm,24.0s
ALN **Alexandroupoli** 29.82 307 *e*P **P** 02 14 18.4 +0.7
comp=Z,98nm,1.0s
ALN LR LR
comp=Z,43μm,18.0s
ALN **Alexandroupoli** 29.82 307 P **P** 02 14 17.4 -0.3
ICOR **Ion Corvin** 29.83 314⇑*i*P **P** 02 14 18.3 +0.6
TLB **Topalu** 29.88 315⇓*i*P **P** 02 14 19.4 +1.2
JMB **Yambol** 29.98 310 P **P** 02 14 19.0 -0.1
HARR **Harsova** 30.00 315⇑*i*P **P** 02 14 19.0 -0.2
VAM **Vamos** 30.00 295 P **P** 02 14 20.3 +0.8
VAM **Vamos** 30.00 295 P **P** 02 14 20.3 +0.8
VAM **Vamos** 30.00 295 P **P** 02 14 20.3 +0.8
GVD **Gavdhos** 30.03 294 P **P** 02 14 19.8 +0.1
GVD **Gavdhos** 30.03 294 P **P** 02 14 19.8 +0.1
MHLO **Agia Marina, M** 30.04 298 P **P** 02 14 20.9 +1.2
SMTH **Samothraki Isl** 30.06 305 P **P** 02 14 19.8 -0.1
SMTH **Samothraki Isl** 30.06 305 P **P** 02 14 19.8 -0.1
CFR **Carcaliu** 30.09 316⇓*i*P **P** 02 14 20.6 +0.5
LIA **Limnos Island** 30.15 304 P **P** 02 14 21.6 +0.9
LIA **Limnos Island** 30.15 304 P **P** 02 14 21.6 +0.9
IMMV **Iera Moni Meta** 30.19 295 P **P** 02 14 22.5 +1.4
SVE **Sverdlovsk** 30.21 3*c*e*P **P** 02 14 20.9 -0.1
SVE *e*S **S** 02 19 19.3 -0.4
SVE pmax pmax
comp=Z,124nm,1.5s
SVE MLR MLR
comp=Z,22μm,12.0s
RDO **Rodhopi** 30.26 307 P **P** 02 14 21.8 +0.2
RDO **Rodhopi** 30.26 307 P **P** 02 14 21.8 +0.2
AMRR **Amara** 30.34 314⇓*i*P **P** 02 14 23.8 +1.5
SHL **Shillong** 30.54 84 *e*P **P** 02 14 22.0 -2.5
SHL IAmb IAmb 02 14 26.8
comp=Z,264nm,2.2s
SHL *i*S **S** 02 19 25.0 -0.8
KIS **Kishinev** 30.58 319 *e*P **P** 02 14 24.0 -0.4
comp=Z,430nm,1.5s
KIS **Kishinev** 30.58 319 *e*PP PP 02 15 28.0 -5.4
KIS **Kishinev** 30.58 319 *e*PcP **PcP** 02 17 24.0 +1.2
KIS *i*S **S** 02 19 22.0 -3.7
comp=Z,7μm,24.0s
KIS **Kishinev** 30.58 319⇑*e*P **P** 02 14 24.0 -0.4
KIS *e* 02 15 28.0
KIS *e* 02 17 24.0
KIS *i*S **S** 02 19 22.0 -3.7
KIS *e*SS **ScP** 02 21 04.0 -0.9
KIS *e* 02 21 20.0
KIS pmax pmax
comp=Z,430nm,1.5s
KIS pmax pmax
comp=Z,2μm,16.0s
KIS MLR MLR
comp=Z,50μm,24.0s
LEHL **Lehliu** 30.62 314⇑*i*P **P** 02 14 26.3 +1.6
LEOM **Leova** 30.65 318⇑*i*P **P** 02 14 26.3 +1.3
DION **Dionisos Attik** 30.66 300 P **P** 02 14 25.6 +0.3
PTL **Penteli** 30.71 300 P **P** 02 14 25.5 -0.2
PTL **Penteli** 30.71 300 P **P** 02 14 25.5 -0.2
VLY **Voula,Athens** 30.73 300 P **P** 02 14 25.5 -0.3
VLY **Voula,Athens** 30.73 300 P **P** 02 14 25.5 -0.3
ATHU **Athens Univers** 30.75 300 P **P** 02 14 26.2 +0.1
ATHU **Athens Univers** 30.75 300 P **P** 02 14 26.2 +0.1
PETR **Petresti** 30.91 316⇑*i*P **P** 02 14 29.8 +2.5
BRDH **Bariadhala** 30.92 90 P **P** 02 14 28.2 +0.6
comp=Z,55nm,0.3s,baz=70,slow=8.0,SNR=5.1
BIR **Birlad** 30.92 317⇑*i*P **P** 02 14 28.9 +1.5
RZN **Rozhen** 31.02 307 P **P** 02 14 29.0 +0.4
SGRR **Singureni** 31.06 313⇑*i*P **P** 02 14 29.3 +0.6
SULR 31.07 314⇑*i*P **P** 02 14 30.4 +1.7
ISR **Istrita** 31.07 315⇑*i*P **P** 02 14 30.5 +1.7
BISRR **Bisoca** 31.15 315⇑*i*P **P** 02 14 32.3 +2.7
PLD **Plovdiv** 31.16 308 P **P** 02 14 29.0 -0.6
MSEY **Mahe Island** 31.23 185 PFAKE 02 14 40.0 +10
MSEY LR LR
comp=Z,23μm,21.0s
ZIMR 31.25 311⇓*i*P P 02 14 34.6 +4.3
VRI **Vrincioaia** 31.29 316⇓*i*P **P** 02 14 31.1 +0.4
PLOR **Plostina** 31.33 316⇑*i*P **P** 02 14 32.5 +1.4
SECR 31.34 314⇓*i*P **P** 02 14 33.0 +1.9
IAS **Iasi** 31.41 319⇑*i*P **P** 02 14 31.7 0.0
IAS **Iasi** 31.41 319 P P 02 14 35.6 +3.9
MLR **Muntele Rosu** 31.61 315 *e*P **P** 02 14 34.3 +0.6
comp=Z,501nm,1.4s
MLR LR LR
comp=Z,31μm,20.0s
MLR **Muntele Rosu** 31.61 315⇓*i*P **P** 02 14 35.4 +1.7
MLR **Muntele Rosu** 31.61 315 *e*P **P** 02 14 34.3 +0.6
MLR pmax pmax
comp=Z,501nm,1.4s
MLR MLR MLR
comp=Z,31μm,20.0s
MLR **Muntele Rosu** 31.61 315 P **P** 02 14 35.4 +1.7
comp=Z,102nm,1.1s,baz=29,slow=1.8,SNR=50
TESR **Tescani** 31.63 317⇓*i*P **P** 02 14 34.2 +0.5
SRS **Serrai** 31.66 306 P **P** 02 14 34.1 +0.1
PGB **Panagyurishte** 31.68 309 P **P** 02 14 34.0 -0.2
MMB **Musomiste** 31.69 307 P **P** 02 14 35.0 +0.7
HUMR **Humele** 31.84 313⇑*i*P **P** 02 14 37.0 +1.5
GOLR 31.97 313⇓*i*P **P** 02 14 39.0 +2.3
VLAD **Vladila** 32.02 311⇓*i*P **P** 02 14 38.1 +1.0
MTUR **Matau** 32.06 314⇑*i*P **P** 02 14 38.3 +0.7
ITM **Ithomi** 32.07 298 *e*P **P** 02 14 37.4 -0.3
comp=Z,624nm,1.6s
ITM LR LR
comp=Z,48μm,22.0s
AGG **Agios Georgios** 32.09 302 *e*P **P** 02 14 37.3 -0.5
comp=Z,184nm,1.0s

AGG LR LR
comp=Z,60μm,21.0s
AGG **Agios Georgios** 32.09 302 *e*P **P** 02 14 37.3 -0.5
AGG pmax pmax
comp=Z,185nm,1.0s
AGG MLR MLR
comp=Z,60μm,21.0s
VOIR 32.16 314⇑*i*P **P** 02 14 39.4 +1.0
BIZ **Bicaz** 32.16 317⇑*i*P **P** 02 14 39.5 +1.1
DOPR **Dopca** 32.17 315⇑*i*P **P** 02 14 39.5 +1.1
LIT **Litokhoron** 32.20 304 *e*P **P** 02 14 38.7 -0.1
comp=Z,135nm,1.0s
LIT **Litokhoron** 32.20 304 *e*P **P** 02 14 38.7 -0.1
LIT pmax pmax
comp=Z,135nm,1.0s
MPEP **Malo Peshtene** 32.25 310 P **P** 02 14 39.8 +0.7
PRAR **RASCA** 32.29 318⇑*i*P **P** 02 14 39.6 +0.1
VTS **Vitosha** 32.35 308 *e*P **P** 02 14 40.8 +0.5
comp=Z,96nm,1.0s
VTS LR LR
comp=Z,58μm,20.0s
VTS **Vitosha** 32.35 308⇑*i*P **P** 02 14 41.2 +0.9
VTS **Vitosha** 32.35 308 P **P** 02 14 38.0 -2.3
DGZ **Jazzator, Alta** 32.36 37 *i*P **P** 02 14 39.5 -0.7
DGZ pmax pmax
comp=Z,19nm,0.7s
OBN **Obninsk** 32.40 337 *e*P **P** 02 14 40.2 0.0
comp=Z,1μm,1.8s
OBN LR LR
comp=Z,27μm,19.0s
OBN **Obninsk** 32.40 337*c*i*P **P** 02 14 40.4 +0.2
OBN *i* 02 17 30.9
OBN *i*S **S** 02 19 50.6 -3.2
OBN pmax pmax
comp=Z,212nm,1.3s
OBN MLR MLR
comp=Z,32μm,16.0s
OBN **Obninsk** 32.40 337 P **P** 02 14 41.0 +0.8
comp=Z,34nm,0.8s,baz=135,slow=4.3,SNR=4.5
ARR **Arges** 32.40 314⇓*i*P **P** 02 14 41.1 +0.6
AKASG **Malin Array Be** 32.44 325 *e*P **P** 02 14 40.3 -0.4
AKASG S **S** 02 19 56.9 +2.3
AKASG ScP **ScP** 02 21 10.4 -0.7
AKASG **Malin Array Be** 32.44 325 P **P** 02 14 39.9 -0.8
comp=Z,82nm,0.8s,baz=128,slow=8.7,SNR=99
AKASG S **S** 02 19 56.9 +2.3
comp=Z,9.5nm,0.9s,baz=124,slow=16,SNR=6.8
AKASG ScP **ScP** 02 21 10.4 -0.7
comp=Z,4.6nm,0.9s,baz=103,slow=2.8,SNR=3.6
AKBB **Malin Array Si** 32.44 325 *e*P **P** 02 14 40.0 -0.7
comp=Z,244nm,0.9s
AKBB LR LR
comp=Z,11μm,22.0s
KIEV **Kiev** 32.44 325 *e*P **P** 02 14 39.3 -1.4
comp=Z,236nm,0.9s
KIEV LR LR
comp=Z,11μm,22.0s
KIEV **Kiev** 32.44 325 *i*P **P** 02 14 40.7 0.0
SNR=29
KIEV **Kiev** 32.44 325 *i*P **P** 02 14 40.7 0.0
KIEV pmax pmax
comp=Z,273nm,1.0s
VAY **Valandovo** 32.45 306 *i*P **P** 02 14 41.7 +0.8
MOS **Moscow** 32.55 339 *e*P **P** 02 14 42.3 +0.8
MOS *e* 02 15 53.9
MOS *e*S **S** 02 19 55.7 -0.5
MOS *e*SS **SnSn** 02 21 57.0 +6.8
MOS pmax pmax
comp=Z,500nm,1.9s
MOS pmax pmax
comp=Z,232nm,1.7s
MOS MLR MLR
comp=Z,19μm,19.0s
MOS MLR MLR
comp=E,11μm,16.0s
MOS MLR MLR
comp=N,17μm,18.0s
CRAR **CRAIOVA** 32.55 312⇑*i*P **P** 02 14 43.8 +2.1
SIMRM **Sittwe** 32.74 94 PFAKE 02 14 50.0 +6.4
SIMRM LR LR
comp=Z,30μm,18.0s
STIP **Stip** 32.83 306 *i*P **P** 02 14 43.0 -1.3
MDB **Medias** 32.88 315⇑*i*P P 02 14 48.9 +4.3
LOT **Lotru** 32.99 314⇑*i*P **P** 02 14 45.7 -0.1
BURAR **Bucovina Array** 33.01 318 *e*P **P** 02 14 45.4 -0.5
BURAR **Bucovina Array** 33.01 318⇑*i*P **P** 02 14 46.8 +0.9
BURAR **Bucovina Array** 33.01 318 *e*P **P** 02 14 45.4 -0.5
BUR08 **Bucovina Ar. S** 33.04 318 *e*P **P** 02 14 46.6 +0.4
comp=Z,174nm,1.4s
SRE **Strehaia** 33.06 312⇑*i*P **P** 02 14 47.8 +1.5
PUNG **Punghina** 33.11 311⇑*i*P **P** 02 14 47.7 +1.0
FNA **Florina** 33.19 304 *e*P **P** 02 14 47.5 0.0
comp=Z,505nm,0.9s
FNA LR LR
comp=Z,59μm,20.0s
FNA **Florina** 33.19 304 *e*P **P** 02 14 47.5 0.0
FNA pmax pmax
comp=Z,505nm,0.9s
FNA MLR MLR
comp=Z,59μm,20.0s
BIA **Bitola** 33.28 305 *i*P **P** 02 14 48.9 +0.6
ARCR **ARCALIA** 33.30 317⇓*i*P **P** 02 14 49.8 +1.5
SKO **Skopje** 33.44 307 *i*P **P** 02 14 49.3 -0.3
CJR **Cluj-Napoca** 33.61 316⇓*i*P **P** 02 14 52.6 +1.5
GZR **Gura Zlata** 33.62 313⇑*i*P **P** 02 14 51.7 +0.5
HERR **Herculane** 33.67 312⇑*i*P **P** 02 14 52.4 +0.9
OHR **Ohrid** 33.69 305 *i*P **P** 02 14 51.7 -0.2
IGT **Igoumenitsa** 33.71 302 P **P** 02 14 52.2 +0.3
DEV **Deva** 33.72 314⇑*i*P **P** 02 14 52.7 +0.7
NVS **Novosibirsk** 33.73 27⇓*i*P **P** 02 14 51.8 -0.1
NVS *e*S **S** 02 20 15.1 +0.5
NVS pmax pmax
comp=Z,410nm,1.8s
NVS pmax pmax
comp=N,299nm,1.7s
NVS smax smax
comp=N,275nm,1.9s
ZAA0 **Zalesovo Array** 33.76 29 *e*P **P** 02 14 51.2 -1.0
comp=N,167nm,1.1s
ZAA0 LR LR
comp=Z,13μm,22.0s
ZALV **Zalesovo Beam** 33.76 29 *e*P **P** 02 14 50.7 -1.5
ZALV *e* 02 45 59.8
ZALV **Zalesovo Beam** 33.76 29 *e*P **P** 02 14 50.7 -1.5
ZALV **Zalesovo Beam** 33.76 29 P **P** 02 14 51.2 -0.9
comp=Z,27nm,0.8s,baz=237,slow=8.2,SNR=71
ZALV LR LR 02 29 36.8
comp=Z,13μm,20.3s,baz=221,slow=38
ZALV P3KPbc 02 45 59.8
comp=Z,0.4nm,0.4s,baz=54,slow=7.3,SNR=1.9
KMBO **Kilima Mbogo** 34.02 219 *i*P P 02 15 01.5 +6.4
KMBO **Kilima Mbogo** 34.02 219 *e*P **P** 02 14 56.5 +1.4
comp=Z,263nm,1.3s
KMBO **Kilima Mbogo** 34.02 219 *i*P **P** 02 14 56.6 +1.4
SNR=94
KMBO **Kilima Mbogo** 34.02 219 *e*P **P** 02 14 56.5 +1.4
KMBO pmax pmax
comp=Z,263nm,1.3s
KMBO **Kilima Mbogo** 34.02 219 *i*P P 02 15 01.5 +6.4
KMBO **Kilima Mbogo** 34.02 219 P **P** 02 14 57.5 +2.4
comp=Z,68nm,1.0s,baz=31,slow=11,SNR=49
KMBO LR LR 02 30 36.9
comp=Z,29μm,19.0s,baz=29,slow=39
BMR **Baia Mare** 34.08 317⇑*i*P **P** 02 14 56.3 +1.2
MDVR **Moldovita** 34.10 312⇓*i*P **P** 02 14 56.0 +0.6
DRGR 34.20 315⇑*i*P **P** 02 14 57.6 +1.4
DRGR 34.20 315 P **P** 02 14 56.7 +0.5
NAI **Nairobi** 34.39 219 *e*P P 02 15 02.3 +3.9
comp=Z,127nm,1.1s
NAI LR LR
comp=Z,33μm,20.0s
TIR **Tirane** 34.43 305 *e*P **P** 02 14 57.9 -0.3
comp=Z,460nm,1.1s
TIR LR LR
comp=Z,54μm,20.0s
TIR **Tirane** 34.43 305⇓*i*P **P** 02 14 57.7 -0.5
TIR **Tirane** 34.43 305 *e*P **P** 02 14 57.9 -0.3
TIR pmax pmax
comp=Z,460nm,1.1s
TIR MLR MLR
comp=Z,54μm,20.0s
BZS **Buzias** 34.46 313⇑*i*P **P** 02 14 59.4 +1.0
SIRR **Siria** 34.66 314⇓*i*P **P** 02 15 01.6 +1.4
PVY **Plav** 34.67 307⇑*i*P **P** 02 14 59.4 -1.0
BANR **Banloc** 34.69 312⇑*i*P **P** 02 15 02.2 +1.8

LVV	**L'vov**	**34.75 321**	*e*P	**P**	**02 15 01.9 +1.0**
LVV			*e*S	**S**	**02 20 28.0 -2.6**
LVV			MLR	MLR	
	comp=Z,26μm,19.0s				
TIM	**Timisoara**	**34.76 313**	⇑*i*P	**P**	**02 15 03.2 +2.2**
IVA	**Berane**	**34.78 308**	⇑*i*P	**P**	**02 15 00.6 -0.8**
TRPA	**Tarpa**	**34.86 317**	⇓*i*P	**P**	**02 15 01.5 -0.3**
TRPA	**Tarpa**	**34.86 317**	*e*P	**P**	**02 15 02.1 +0.3**
TRPA			*e*PP	**PP**	**02 16 29.1 +8.3**
TRPA			*e*S	S	02 20 42.0 +10
TRPA			*e*SS	**SS**	**02 23 09.1 +5.6**
LTVH	**Ltavrtes, Hu**	**34.94 316**	*e*P	**P**	**02 15 03.0 +0.5**
LTVH			*e*S	**S**	**02 20 38.0 +4.5**
LTVH			*e*SS	SS	02 23 23.1 +18
ULC	**Ulcinj**	**35.03 306**	⇑*i*P	**P**	**02 15 01.6 -1.8**
KOME	**Kolasin**	**35.05 307**	⇑*i*P	**P**	**02 15 02.6 -1.0**
DIVS	**Divibare**	**35.06 310**	⇑*i*P	**P**	**02 15 03.4 -0.3**
DRME	**Dracevica, Mon**	**35.12 306**	⇑*i*P	**P**	**02 15 02.6 -1.6**
DRME	**Dracevica, Mon**	**35.12 306**	⇑*i*P	**P**	**02 15 03.5 -0.7**
PDG	**Podgorica**	**35.13 307**	⇑*i*P	**P**	**02 15 03.4 -0.8**
PDG	**Podgorica**	**35.13 307**	⇑*i*P	**P**	**02 15 03.3 -0.9**
TTG	**Podgorica**	**35.13 307**	⇑*i*P	**P**	**02 15 03.1 -1.1**
TTG	**Podgorica**	**35.13 307**	*e*P	**P**	**02 15 02.5 -1.7**
	comp=Z,120nm,1.1s				
TTG			LR	LR	
	comp=Z,73μm,18.0s				
TTG	**Podgorica**	**35.13 307**	*e*P	**P**	**02 15 02.5 -1.7**
TTG			pmax	pmax	
	comp=Z,120nm,1.1s				
TTG			MLR	MLR	
	comp=Z,73μm,18.0s				
H08N2	**Diego Garcia H**	**35.18 157**	P	P	02 15 10.1 +5.6
	baz=308,slow=9.5,SNR=3.9				
H08N3	**Diego Garcia H**	**35.20 157**	P	P	02 15 10.5 +5.9
	baz=308,slow=9.5,SNR=3.8				
H08N1	**Diego Carcia H**	**35.20 157**	P	P	02 15 10.2 +5.5
	baz=308,slow=9.5,SNR=4.3				
UZH	**Uzhgorod**	**35.22 318**	*i* P	**P**	**02 15 06.4 +1.5**
UZH			*e*		02 15 18.6
UZH			*e*		02 16 27.9
UZH			*e*S	**S**	**02 20 35.5 -2.3**
UZH			*e*SS	SS	02 22 55.0 -16
PLE	**Pljevlja**	**35.26 308**	⇑*i*P	**P**	**02 15 04.3 -1.2**
BUM	**Brajici-Budva**	**35.36 306**	⇑*i*P	**P**	**02 15 04.6 -1.7**
KOLS	**Kolonicke sedl**	**35.36 318**	*e*P	**P**	**02 15 07.3 +1.1**
KOLS			pmax	pmax	
	comp=Z,516nm,1.2s				
KOLS	**Kolonicke sedl**	**35.36 318**	*e*P	**P**	**02 15 07.3 +1.1**
KOLS			*e*S	**S**	**02 20 43.9 +3.9**
KOLS			*e*L	L	02 32 52.6
BBLS	**Lazići**	**35.40 309**	⇑*i*P	**P**	**02 15 05.9 -0.7**
CEME	**Cevo**	**35.40 307**	⇑*i*P	**P**	**02 15 04.6 -2.0**
NKY	**Niksic**	**35.41 307**	⇑*i*P	**P**	**02 15 05.5 -1.3**
KWP	**Kalwaria Pacla**	**35.42 320**	*e*P	**P**	**02 15 06.9 +0.3**
KWP			*e*S	**S**	**02 20 41.2 +0.3**
KWP			LMZ	LR	02 33 36.6
	comp=Z,63μm,21.7s				
KWP	**Kalwaria Pacla**	**35.42 320**	*e*P	**P**	**02 15 07.0 +0.3**
	comp=Z,5μm,1.2s				
KWP			LR	LR	
	comp=Z,232μm,19.0s				
KWP	**Kalwaria Pacla**	**35.42 320**	*e*P	**P**	**02 15 07.0 +0.3**
KWP			MLR	MLR	
	comp=Z,232μm,19.0s				
NKME	**Niksic**	**35.43 307**	⇑*i*P	**P**	**02 15 05.4 -1.5**
MICGM	**Minsk**	**35.44 330**	⇑*e*P	**P**	**02 15 06.0 -0.7**
MICGM			⇑*e*P	**P**	**02 15 06.0 -0.7**
MICGM			PM		02 15 08.0
	comp=Z,0.4nm,1.0s				
MICGM			PM		02 15 09.0
	comp=N,0.3nm,1.0s				
MICGM			PM		02 15 09.0
	comp=E,0.4nm,1.0s				
MICGM			*e*PP	**PP**	**02 16 30.0 +2.8**
MICGM			*e*PPP	PPP	02 16 57.0
MICGM			*e*PcP	PcP	02 17 52.0 +16
MICGM			*e*S	**S**	**02 20 36.0 -5.0**
MICGM			SM		02 20 38.0
	comp=N,4.2nm,20.0s				
MICGM			SM		02 20 40.0
	comp=E,2.5nm,16.0s				
MICGM			*e*SS	**SnSn**	**02 22 52.0 -8.5**
MICGM			*e*SSS	SSS	02 23 44.0
MICGM			*e*LQ	LQ	02 26 56.0
MICGM			LQM		02 28 34.0
	comp=E,15nm,18.0s				
MICGM			LQM		02 28 46.0
	comp=N,20nm,18.0s				
MICGM			*e*LR	LR	02 29 20.0
MICGM			LRM	MLR	02 31 16.0
	comp=N,51nm,20.0s				
MICGM			LRM	MLR	02 31 20.0
	comp=Z,102nm,24.0s				
MICGM			LRM	MLR	02 31 20.0
	comp=N,34nm,20.0s				
MICGM			LRM	MLR	02 31 28.0
	comp=Z,72nm,20.0s				
MICGM			LRM	MLR	02 32 08.0
	comp=E,24nm,20.0s				
MICGM			LRM	MLR	02 32 12.0
	comp=E,38nm,24.0s				
MNK	**Minsk**	**35.44 330**	*e*P	**P**	**02 15 06.0 -0.7**
DGPR	**DIGLIPUR**	**35.48 105**	*e*P	**P**	**02 15 04.8 -2.6**
DGPR			IAmb	IAmb	02 15 14.2
	comp=Z,244nm,1.6s				
DGPR			IAMs_20	IAMs_20	02 32 23.7
	comp=Z,93μm,19.7s				
FRGS	**Fruska Gora**	**35.50 311**	⇑*i*P	**P**	**02 15 07.3 -0.1**
UPM	**Unac-Piva**	**35.57 308**	⇑*i*P	**P**	**02 15 06.6 -1.6**
UPM	**Unac-Piva**	**35.57 308**	*e*P	**P**	**02 15 07.2 -1.0**
HCY	**Herceg Novi**	**35.68 306**	⇑*i*P	**P**	**02 15 07.2 -1.8**
HCY	**Herceg Novi**	**35.68 306**	*e*P	**P**	**02 15 06.1 -2.9**
BRY	**Bratogost**	**35.76 307**	⇑*i*P	**P**	**02 15 08.4 -1.4**
BRY	**Bratogost**	**35.76 307**	*e*P	**P**	**02 15 07.8 -2.0**
HAPS	**Han Pijesak,BI**	**35.77 309**	*e*P	**P**	**02 15 08.9 -1.0**
TREB	**Trebinje**	**35.85 307**	*e*P	**P**	**02 15 08.8 -1.6**
PRGR	**Permogore**	**35.93 350**	⇓*i*P	**P**	**02 15 08.9 -1.9**
PRGR			pmax	pmax	
	comp=Z,61nm,0.9s				
PBA	**Port Blair**	**36.04 108**	*e*P	P	02 15 10.6 -1.8
CGL1	**Ceglie Messapi**	**36.06 303**	*e*P	**P**	**02 15 11.5 -0.8**
FASA	**Fasano**	**36.18 303**	*e*P	**P**	**02 15 10.8 -2.5**
TAR1	**Taranto**	**36.19 303**	*e*P	**P**	**02 15 12.7 -0.6**
NACGM	**Naroch**	**36.19 330**	*e*P	**P**	**02 15 14.0 +0.9**
NACGM			*e*PP	**PP**	**02 16 40.0 +4.6**
NACGM			*e*PPP	PPP	02 17 00.0
NACGM			*e*S	**S**	**02 20 50.0 -2.5**
NACGM			*e*SS	**SnSn**	**02 23 10.0 -8.6**
NACGM			*e*SSS	SSS	02 23 26.0
NACGM			*e*LQ	LQ	02 27 33.0
NACGM			*e*LR	LR	02 28 46.0
KECS	**Kecovo**	**36.25 317**	*e*P	**P**	**02 15 15.5 +1.7**
KECS			pmax	pmax	
	comp=Z,732nm,1.2s				
KECS	**Kecovo**	**36.25 317**	*e*P	**P**	**02 15 15.5 +1.7**
MASS	**Massafra**	**36.31 303**	*e*P	**P**	**02 15 13.8 -0.6**
STON	**Ston**	**36.35 307**	P	**P**	**02 15 13.4 -1.2**
STON	**Ston**	**36.35 307**	⇑*i*P	**P**	**02 15 13.9 -0.7**
TIP	**Timpagrande**	**36.38 301**	*e*P	**P**	**02 15 15.4 +0.3**
	comp=Z,1μm,1.4s				
TIP			LR	LR	
	comp=Z,30μm,22.0s				
TIP	**Timpagrande**	**36.38 301**	⇑*i*P	**P**	**02 15 15.2 +0.1**
KLMR	**Klimovskoe**	**36.39 345**	*e*P	**P**	**02 15 13.5 -1.2**
KLMR			pmax	pmax	
	comp=Z,148nm,1.0s				
PSZ	**Piszkesteto**	**36.40 316**	*e*P	**P**	**02 15 15.7 +0.5**
	comp=Z,326nm,1.3s				
PSZ			LR	LR	
	comp=Z,44μm,21.0s				
PSZ	**Piszkesteto**	**36.40 316**	⇓*i*P	**P**	**02 15 16.0 +0.9**
PSZ	**Piszkesteto**	**36.40 316**	*e*P	**P**	**02 15 15.7 +0.5**
PSZ			pmax	pmax	
	comp=Z,326nm,1.3s				
PSZ			MLR	MLR	
	comp=Z,44μm,21.0s				
PSZ	**Piszkesteto**	**36.40 316**	*e*P	**P**	**02 15 14.1 -1.1**
PSZ			*e*PP	**PP**	**02 16 44.0 +6.1**
PSZ			*e*S	**S**	**02 21 02.1 +6.0**
PSZ			*e*SS	**SS**	**02 23 34.1 -0.9**
IDID	**Didziasalis**	**36.47 330**	*e*P	**P**	**02 15 15.5 0.0**
IDID			IAmb	IAmb	02 15 36.2
	comp=Z,93nm,1.0s				
BAI	**Bari**	**36.59 304**	*e*P	**P**	**02 15 16.2 -0.5**
MATE	**Matera**	**36.64 303**	⇑*i*P	**P**	**02 15 17.1 -0.1**
DGAR	**Diego Garcia**	**36.71 155**	PFAKE		02 15 30.0 +12
DGAR			LR	LR	
	comp=Z,49μm,19.0s				
IIGN	**Ignalina**	**36.72 330**	*e*P	**P**	**02 15 18.7 +1.0**
IIGN			IAmb	IAmb	02 15 38.3
	comp=Z,173nm,1.2s				
NIE	**Niedzica**	**36.74 318**	*e*P	**P**	**02 15 18.8 +0.8**
NIE			*e*S	**S**	**02 21 03.0 +1.8**
NIE			LMZ	LR	02 34 18.2
	comp=Z,22μm,17.2s				
NIE	**Niedzica**	**36.74 318**	*e*P	**P**	**02 15 18.8 +0.8**
NIE			*e*S	**S**	**02 21 03.0 +1.8**
NIE			MLR	MLR	
	comp=Z,22μm,17.2s				
BUD	**Budapest**	**36.79 315**	P	**P**	**02 15 19.2 +0.8**
ISAL	**Salakas**	**36.90 330**	*e*P	**P**	**02 15 19.6 +0.4**
ISAL			IAmb	IAmb	02 15 39.9
	comp=Z,78nm,0.9s				
CEL	**Celeste**	**36.95 299**	*e*P	**P**	**02 15 22.6 +2.6**
	comp=Z,185nm,1.1s				
IZAR	**Zarasai**	**36.96 330**	*e*P	**P**	**02 15 20.4 +0.7**
IZAR			IAmb	IAmb	02 15 40.5
	comp=Z,99nm,1.0s				
GTA	**Gaotai**	**37.09 59**	⇓P	**P**	**02 15 22.4 +1.1**
GTA			S	**S**	**02 21 10.0 +3.0**
GTA			pmax	pmax	
	comp=Z,53nm,1.3s				
GTA			pmax	pmax	
	comp=Z,620nm,7.1s				
GTA			LR	LR	
	comp=Z,39μm,15.2s				
GTA			LR	LR	
	comp=Z,59μm,13.7s				
LANS	**Liptovska Anna**	**37.13 318**	*e*P	**P**	**02 15 22.5 +1.2**
LANS	**Liptovska Anna**	**37.13 318**	*e*P	**P**	**02 15 22.5 +1.2**
MGRS	**Mrkonjic Grad**	**37.16 309**	*e*P	**P**	**02 15 21.9 +0.3**
BLY	**Banja Luka**	**37.17 310**	*e*P	**P**	**02 15 21.9 +0.3**
	comp=Z,256nm,1.6s				
BLY			LR	LR	
	comp=Z,36μm,21.0s				
BLY	**Banja Luka**	**37.17 310**	⇑*i*P	**P**	**02 15 22.3 +0.6**
BLY	**Banja Luka**	**37.17 310**	⇑*i*P	**P**	**02 15 22.0 +0.3**
CSKK	**Cskako**	**37.24 314**	*e*P	**P**	**02 15 23.1 +0.9**
CSKK	**Cskako**	**37.24 314**	S	**S**	**02 21 15.1 +6.4**
VYHS	**Vyhne**	**37.27 316**	*e*P	**P**	**02 15 22.5 0.0**
VYHS			pmax	pmax	
	comp=Z,78nm,1.1s				
VYHS	**Vyhne**	**37.27 316**	*e*P	**P**	**02 15 22.5 0.0**
VYHS			*e*S	**S**	**02 21 06.3 -2.9**
VYHS			*e*L	L	02 33 41.0
SRO2	**Moca**	**37.29 315**	*e*P	**P**	**02 15 22.4 -0.2**
SRO2	**Moca**	**37.29 315**	*e*P	**P**	**02 15 22.4 -0.2**
TIH	**Tihany**	**37.32 313**	*e*P	**P**	**02 15 24.0 +1.1**
TIH			*e*S	**S**	**02 21 09.1 -0.9**
TIH			*e*SS	**SS**	**02 24 05.1 +12**
SRO	**Srobarova**	**37.35 315**	*e*P	**P**	**02 15 24.3 +1.1**
SRO	**Srobarova**	**37.35 315**	*e*P	**P**	**02 15 24.3 +1.1**
OJC	**Ojcow**	**37.37 319**	*e*P	**P**	**02 15 23.6 +0.3**
OJC			*e*S	**S**	**02 21 09.3 -1.3**
OJC			LMZ	LR	02 34 46.9
	comp=Z,50μm,21.5s				
OJC	**Ojcow**	**37.37 319**	*e*P	**P**	**02 15 23.0 -0.2**
	comp=Z,344nm,0.9s				
OJC	**Ojcow**	**37.37 319**	*e*P	**P**	**02 15 23.6 +0.3**
OJC			*e*S	**S**	**02 21 09.3 -1.3**
OJC			MLR	MLR	
	comp=Z,50μm,21.5s				
SUW	**Suwalki**	**37.38 326**	*e*P	**P**	**02 15 23.1 -0.2**
SUW			*e*S	**S**	**02 21 09.8 -0.8**
SUW			LMZ	LR	02 32 22.7
	comp=Z,47μm,27.1s				
SUW	**Suwalki**	**37.38 326**	*e*P	**P**	**02 15 23.0 -0.2**
	comp=Z,678nm,1.1s				
SUW			LR	LR	
	comp=Z,13μm,20.0s				
SUW	**Suwalki**	**37.38 326**	*e*P	**P**	**02 15 23.1 -0.2**
SUW			*e*S	**S**	**02 21 09.8 -0.8**
SUW			MLR	MLR	
	comp=Z,47μm,27.0s				
BEL	**Belsk**	**37.52 322**	*e*P	**P**	**02 15 25.8 +1.3**
BEL			*e*S	**S**	**02 21 07.9 -5.0**
BEL			LMZ	LR	02 33 44.0
	comp=Z,62μm,21.5s				
BEL	**Belsk**	**37.52 322**	*e*P	**P**	**02 15 25.8 +1.3**
BEL			*e*S	**S**	**02 21 07.9 -5.0**
BEL			MLR	MLR	
	comp=Z,62μm,21.5s				
MBAR	**Mbarara**	**37.63 228**	*e*P	**P**	**02 15 28.2 +2.1**
	comp=Z,195nm,1.4s				
MBAR			LR	LR	
	comp=Z,44μm,19.0s				
MBAR	**Mbarara**	**37.63 228**	*d i*P	**P**	**02 15 28.4 +2.3**
MBAR			pmax	pmax	
	comp=Z,161nm,1.5s				
MBAR	**Mbarara**	**37.63 228**	P	**P**	**02 15 28.2 +2.1**
	comp=Z,37nm,0.8s,baz=46,slow=8.5,SNR=37				
PABE	**Paberze**	**37.84 329**	*e*P	**P**	**02 15 27.0 -0.2**
PABE			IAmb	IAmb	02 15 50.2
	comp=Z,237nm,0.6s				
WDD	**Wied Dalam**	**37.89 295**	*e*P	**P**	**02 15 28.5 +0.7**
	comp=Z,277nm,1.1s				
WDD			LR	LR	
	comp=Z,25μm,21.0s				
BEHE	**Becsehely**	**37.92 312**	*e*P	**P**	**02 15 29.3 +1.3**
BEHE	**Becsehely**	**37.92 312**	*e*P	**P**	**02 15 28.1 +0.1**
VAE	**Valguarnera**	**38.06 297**	P	**P**	**02 15 31.1 +1.8**
	comp=Z,106nm,0.9s,baz=84,slow=20,SNR=33				
UDBI	**Udbina**	**38.10 309**	P	**P**	**02 15 29.9 +0.3**
JAVC	**Velka Javorina**	**38.12 316**	⇑*i*P	**P**	**02 15 30.8 +1.1**
JAVC			*e*PP	**PnPn**	**02 17 04.0 +5.7**
PUL	**Pulkovo**	**38.14 338**	*i* P	**P**	**02 15 31.0 +1.4**
PUL			pmax	pmax	
	comp=Z,216nm,0.9s				
PUL	**Pulkovo**	**38.14 338**	*e*P	**P**	**02 15 30.6 +1.0**
PUL			IAmb	IAmb	02 15 35.2
	comp=Z,289nm,1.0s				
SMOL	**Smolenice**	**38.15 316**	*e*P	**P**	**02 15 31.8 +1.9**
SMOL	**Smolenice**	**38.15 316**	*e*P	**P**	**02 15 31.8 +1.9**
OKC	**Ostrava-Krasne**	**38.19 318**	*e*P	**P**	**02 15 30.4 +0.2**
OKC			*e*		02 15 34.7
OKC			MLR	MLR	
	comp=Z,16μm,16.4s				
OKC	**Ostrava-Krasne**	**38.19 318**	*e*P	**P**	**02 15 30.4 +0.2**
OKC			*e*pP	**sP**	**02 15 34.7 -2.7**
OKC			AMS	AMS	02 35 00.0
	comp=Z,16μm,16.4s				
MODS	**Modra-Piesok**	**38.20 315**	*e*P	**P**	**02 15 30.3 -0.1**
MODS			pmax	pmax	
	comp=Z,548nm,1.3s				
MODS	**Modra-Piesok**	**38.20 315**	*e*P	**P**	**02 15 30.2 -0.1**
MODS			*e*S	**S**	**02 21 24.4 +1.1**
MODS			*e*L	L	02 34 28.7
ZST	**Bratislava**	**38.25 315**	*e*P	**P**	**02 15 31.0 +0.3**
ZST	**Bratislava**	**38.25 315**	*e*P	**P**	**02 15 31.0 +0.3**
RAC	**Raciborz**	**38.26 318**	*e*P	**P**	**02 15 29.9 -0.9**
RAC			*e*S	**S**	**02 21 20.7 -3.4**
RAC			MLR	MLR	
	comp=Z,33μm,20.4s				
KOGS	**Kog**	**38.27 312**	⇑*i*P	**P**	**02 15 31.1 +0.2**
KOGS			*e*PP	PnPn	02 17 10.3 +10
ZAG	**Zagreb**	**38.27 311**	*e*P	**P**	**02 15 32.3 +1.4**
SOP	**Sopron**	**38.43 314**	P	**P**	**02 15 32.6 +0.3**
SOP	**Sopron**	**38.43 314**	*e*P	**P**	**02 15 33.0 +0.7**
SOP			*e*SS	SS	02 24 19.1 +3.2
VSU	**Vasula**	**38.52 334**	*ce*P	**P**	**02 15 32.7 -0.1**
VSU			pmax	pmax	
	comp=Z,272nm,1.5s				
VSU	**Vasula**	**38.52 334**	*e*P	**P**	**02 15 32.9 +0.1**
VSU			IAmb	IAmb	02 15 49.4
	comp=Z,215nm,0.9s				
MORC	**Moravsky Berou**	**38.53 318**	*e*P	**P**	**02 15 32.9 -0.3**
	comp=Z,144nm,1.1s				
MORC			LR	LR	
	comp=Z,24μm,21.0s				
MORC	**Moravsky Berou**	**38.53 318**	⇓*i*P	**P**	**02 15 33.5 +0.3**
MORC	**Moravsky Berou**	**38.53 318**	*e*P	**P**	**02 15 32.9 -0.3**
MORC			pmax	pmax	
	comp=Z,144nm,1.1s				
MORC			MLR	MLR	
	comp=Z,24μm,21.0s				
MORC	**Moravsky Berou**	**38.53 318**	⇑*i*P	**P**	**02 15 32.9 -0.3**
MORC			*e*PP	**PnPn**	**02 17 07.0 +3.7**
MORC			*e*S	**S**	**02 21 27.5 -0.9**
CHTO	**Chiang Mai**	**38.57 93**	*e*P	**P**	**02 15 34.3 +0.5**
	comp=Z,138nm,1.5s				
CHTO			LR	LR	
	comp=Z,57μm,22.0s				
CHTO	**Chiang Mai**	**38.57 93**	*e*P	**P**	**02 15 34.3 +0.5**
CHTO			pmax	pmax	
	comp=Z,138nm,1.5s				
CHTO			MLR	MLR	
	comp=Z,57μm,22.0s				
CMMT	**Chiang Mai**	**38.58 93**	P	**P**	**02 15 34.6 +0.7**
	comp=Z,28nm,1.3s,comp=Z,798nm				
CRES	**Cresnjev**	**38.63 311**	⇑*i*P	**P**	**02 15 34.3 +0.3**
BOJS	**Bojanci**	**38.69 310**	⇑*i*P	**P**	**02 15 34.5 +0.1**
BOJS			*e*S	**S**	**02 21 30.3 -0.3**
CMAR	**Chiang Mai Arr**	**38.69 93**	*e*P	**P**	**02 15 35.5 +0.7**
CMAR			ScP	**ScP**	**02 21 37.9 +3.5**
CMAR	**Chiang Mai Arr**	**38.69 93**	*ce*P	**P**	**02 15 37.4 +2.6**
CMAR			pmax	pmax	
	comp=Z,8.0nm,0.6s				
CMAR	**Chiang Mai Arr**	**38.69 93**	P	**P**	**02 15 34.8 0.0**
	comp=Z,7.7nm,0.6s,baz=282,slow=10,SNR=19				
CMAR			ScP	**ScP**	**02 21 37.9 +3.5**
	comp=Z,1.5nm,0.6s,baz=308,slow=4.4,SNR=3.8				
CMAR			LR	LR	02 33 40.0
	comp=Z,49μm,21.9s,baz=276,slow=40				
NVLJ	**Novalja**	**38.73 309**	P	**P**	**02 15 34.1 -0.7**
VRAC	**Vranov**	**38.94 317**	⇑*i*P	**P**	**02 15 36.8 +0.2**
VRAC	**Vranov**	**38.94 317**	⇑*i*P	**P**	**02 15 36.7 +0.2**
VRAC			*e*PP	**PnPn**	**02 17 16.0 +7.8**
VRAC	**Vranov**	**38.94 317**	P	**P**	**02 15 35.7 -0.8**
	comp=Z,167nm,1.1s,baz=105,slow=8.7,SNR=54				
CONA	**Conrad Observa**	**38.95 314**	*i* pP	**P**	**02 15 36.7 -0.1**
	comp=Z,348nm,1.7s,SNR=146				
ARSA	**Arzberg**	**38.97 313**	*i* pP	**P**	**02 15 37.2 +0.3**
	comp=Z,281nm,1.4s,SNR=131				
KRUC	**Moravsky**	**38.98 316**	⇑*i*P	**P**	**02 15 36.9 0.0**
KRUC			*e*PP	**PnPn**	**02 17 16.6 +8.0**
KRUC			*e*S	**S**	**02 21 33.6 -1.5**
CLTB	**Caltabellotta**	**39.01 298**	*e*P	**P**	**02 15 39.0 +1.6**
	comp=Z,342nm,1.2s				
CLTB			LR	LR	
	comp=Z,23μm,18.0s				
PERS	**Pernice**	**39.07 312**	⇑*i*P	**P**	**02 15 37.6 -0.1**
PBUR	**Paburg**	**39.09 329**	*e*P	**P**	**02 15 36.4 -1.2**
PBUR			IAmb	IAmb	02 15 42.9
	comp=Z,219nm,0.9s				
KRLC	**Kraliky**	**39.10 318**	*e*P	**P**	**02 15 38.8 +0.9**
KRLC			*e*		02 15 42.4
KRLC	**Kraliky**	**39.10 318**	*e*P	**P**	**02 15 38.8 +0.9**
KRLC			*e*pP	**sP**	**02 15 42.4 -2.7**
SOKA	**Soboth**	**39.14 312**	*i* pP	**P**	**02 15 38.4 +0.1**
	comp=Z,146nm,1.3s,SNR=77				
RIY	**Rijeka**	**39.17 310**	⇑*i*P	**P**	**02 15 38.5 0.0**
KLNR	**Kaliningrad**	**39.17 326**	*d i*P	**P**	**02 15 39.1 +0.8**
KLNR			pmax	pmax	
	comp=Z,650nm,1.1s				
LAMP	**Lampang**	**39.28 93**	P	**P**	**02 15 41.9 +2.1**
	comp=Z,44μm,1.0s,comp=Z,427μm				
CEY	**Cerknica**	**39.30 311**	⇑*i*P	**P**	**02 15 40.5 +0.8**
LJU	**Ljubljana**	**39.31 311**	⇑*e*P	**P**	**02 15 40.2 +0.6**
LJU			*e*PP	**PnPn**	**02 17 20.0 +7.4**
LJU			*e*S	**S**	**02 21 41.1 +1.0**
LJU			*e*SS	**SS**	**02 24 31.4 -2.2**
LJU	**Ljubljana**	**39.31 311**	⇑*i*P	**P**	**02 15 40.0 +0.3**
AQU	**L'Aquila**	**39.36 305**	*e*P	**P**	**02 15 41.0 +0.8**
	comp=Z,459nm,1.0s				
AQU			LR	LR	
	comp=Z,56μm,19.0s				
AQU	**L'Aquila**	**39.36 305**	*e*P	**P**	**02 15 41.0 +0.8**
AQU			pmax	pmax	
	comp=Z,459nm,1.0s				
AQU			MLR	MLR	
	comp=Z,56μm,19.0s				
AQU	**L'Aquila**	**39.36 305**	⇑*i*P	**P**	**02 15 40.8 +0.6**
OBKA	**Obir**	**39.41 312**	*i* pP	**P**	**02 15 41.7 +1.0**
	comp=Z,182nm,1.4s,SNR=58				
UMPA	**Umpang Tak**	**39.42 97**	P	P	02 15 43.8 +2.9
	comp=Z,332μm,1.0s				
DPC	**Dobruska-Polom**	**39.48 318**	*e*P	**P**	**02 15 40.2 -0.8**
DPC			*e*		02 15 45.9
DPC			*e*S	**S**	**02 21 42.5 -0.1**
DPC			MLR	MLR	
	comp=Z,24μm,20.6s				
DPC	**Dobruska-Polom**	**39.48 318**	*e*P	**P**	**02 15 40.2 -0.8**
DPC			*e*pP	**sP**	**02 15 45.9 -2.3**
DPC			*e*S	**S**	**02 21 42.5 -0.1**
DPC			AMS	AMS	02 33 40.0
	comp=Z,24μm,20.6s				
TREC	**Trest**	**39.62 316**	*e*P	**P**	**02 15 42.4 +0.1**
TREC			*e*S	**S**	**02 21 39.9 -4.8**
TREC			MLR	MLR	
	comp=Z,30μm,19.4s				
TREC	**Trest**	**39.62 316**	*e*P	**P**	**02 15 42.4 +0.1**
TREC			*e*S	**S**	**02 21 39.9 -4.8**
TREC			AMS	AMS	02 35 30.0
	comp=Z,30μm,19.4s				
TMCR	**Tamitsa**	**39.64 347**	*e*P	**P**	**02 15 41.3 -0.8**
TMCR			*e*S	**S**	**02 21 43.5 -1.0**
TMCR			pmax	pmax	
	comp=Z,52nm,0.7s				
KSP	**Ksiaz**	**39.67 319**	*e*P	**P**	**02 15 43.0 +0.4**
KSP			*e*S	**S**	**02 21 45.3 -0.1**
KSP			LMZ	LR	02 36 02.7
	comp=Z,36μm,20.8s				
KSP	**Ksiaz**	**39.67 319**	*e*P	**P**	**02 15 43.0 +0.4**
KSP			*e*S	**S**	**02 21 45.3 -0.1**
KSP			MLR	MLR	
	comp=Z,36μm,20.8s				
UPC	**Upice**	**39.72 318**	*e*P	**P**	**02 15 43.0 0.0**
UPC			*e*		02 15 47.8
UPC			*e*S	**S**	**02 21 40.8 -5.3**
UPC			MLR	MLR	
	comp=Z,26μm,21.9s				
UPC	**Upice**	**39.72 318**	*e*P	**P**	**02 15 43.0 0.0**
UPC			*e*pP	**sP**	**02 15 47.8 -2.4**
UPC			*e*S	**S**	**02 21 40.8 -5.3**
UPC			AMS	AMS	02 34 00.0
	comp=Z,26μm,21.9s				
TRI	**Trieste**	**39.75 310**	*e*P	**P**	**02 15 42.9 -0.4**
	comp=Z,656nm,1.2s				
TRI			LR	LR	
	comp=Z,34μm,21.0s				
TRI	**Trieste**	**39.75 310**	*e*P	**P**	**02 15 42.9 -0.4**
TRI			pmax	pmax	
	comp=Z,656nm,1.2s				
TRI			MLR	MLR	
	comp=Z,34μm,21.0s				
SLIT	**Slitere, Latvi**	**39.84 331**	*e*P	**P**	**02 15 43.8 0.0**
SLIT			IAmb	IAmb	02 15 48.8
	comp=Z,399nm,0.9s				
CADS	**Cadrg**	**39.89 311**	⇑*e*P	**P**	**02 15 45.1 +0.5**
CADS			*e*S	**S**	**02 21 49.1 +0.2**
MOA	**Molln**	**39.96 314**	*i* pP	**P**	**02 15 45.2 +0.1**
	comp=Z,469nm,0.8s,SNR=188				
MYKA	**Terra Mystica**	**40.05 312**	*i* pP	**P**	**02 15 46.1 +0.2**
	comp=Z,182nm,1.3s,SNR=42				
LZH	**Lanzhou**	**40.07 65**

CD2			PP	PnPn	02 17 23.1	-0.9
CD2			S	S	02 21 54.1	-0.5
CD2			sS	sS	02 22 02.3	-0.6
CD2			ScS	ScS	02 25 51.9	-2.3
CD2			pmax	pmax		
	comp=Z,40nm,1.1s					
CD2			pmax	pmax		
	comp=Z,1μm,13.9s					
CD2			LR	LR		
	comp=Z,73μm,17.5s					
GOPC	**GO Pecny, Ondr**	**40.25 317**	*e*P	**P**	**02 15 48.5**	**+1.0**
GOPC			*e*S	**S**	**02 21 55.4**	**+1.2**
GOPC			MLR	MLR		
	comp=Z,42μm,19.2s					
GOPC	**GO Pecny, Ondr**	**40.25 317**	*e*P	**P**	**02 15 48.5**	**+1.0**
GOPC			*e*S	**S**	**02 21 55.4**	**+1.2**
GOPC			AMS	AMS	02 36 10.0	
	comp=Z,42μm,19.2s					
KMI	**Kunming**	**40.26 82**	P	**P**	**02 15 49.4**	**+1.3**
KMI			pP	sP	02 15 51.7	-3.6
KMI			sP	pP	02 15 55.8	+2.6
KMI			PP	**PP**	**02 17 19.3**	**-1.5**
KMI			S	**S**	**02 21 57.0**	**+1.7**
KMI			sS	sS	02 22 06.1	+2.5
KMI			SS	**SS**	**02 24 45.7**	**-8.0**
KMI			pmax	pmax		
	comp=Z,100nm,1.7s					
KMI			pmax	pmax		
	comp=Z,1μm,4.3s					
KMI			LR	LR		
	comp=Z,30μm,17.9s					
KMI			LR	LR		
	comp=Z,18μm,15.2s					
KMI			LR	LR		
	comp=Z,35μm,16.9s					
KMI	**Kunming**	**40.26 82**	*e*P	**P**	**02 15 48.9**	**+0.7**
	comp=Z,254nm,1.4s					
KMI			LR	LR		
	comp=Z,24μm,20.0s					
KMI	**Kunming**	**40.26 82**	*e*P	**P**	**02 15 48.9**	**+0.7**
KMI			pmax	pmax		
	comp=Z,254nm,1.4s					
KMI			MLR	MLR		
	comp=Z,24μm,20.0s					
KBA	**Koelnbreinsper**	**40.36 312**	*i* pP	**P**	**02 15 48.7**	**+0.1**
	comp=Z,821nm,1.6s,SNR=179					
KBA	**Koelnbreinsper**	**40.36 312**	P	**P**	**02 15 48.6**	**+0.1**
UTTA	**Uttaradit**	**40.37 94**	P	**P**	**02 15 50.1**	**+1.3**
	comp=Z,72μm,1.0s,comp=Z,629μm					
SRDT	**SRDT**	**40.38 99**	P	P	02 15 52.2	+3.3
	comp=Z,69nm,1.8s,comp=Z,2μm					
PRU	**Pruhonice**	**40.43 317**	*e*P	**P**	**02 15 48.2**	**-0.7**
PRU			*e*		02 15 52.8	
PRU			*e*S	**S**	**02 21 56.3**	**-0.4**
PRU			MLR	MLR		
	comp=Z,44μm,18.5s					
PRU	**Pruhonice**	**40.43 317**	*e*P	**P**	**02 15 48.2**	**-0.7**
PRU			*e*pP	**sP**	**02 15 52.8**	**-3.3**
PRU			*e*S	**S**	**02 21 56.3**	**-0.4**
PRU			AMS	AMS	02 36 20.0	
	comp=Z,44μm,18.5s					
PVCC	**Panska Ves**	**40.59 318**	*e*P	**P**	**02 15 49.7**	**-0.5**
PVCC			*e*		02 15 54.8	
PVCC			*e*S	**S**	**02 21 58.2**	**-0.9**
PVCC			MLR	MLR		
	comp=Z,22μm,17.0s					
PVCC	**Panska Ves**	**40.59 318**	*e*P	**P**	**02 15 49.7**	**-0.5**
PVCC			*e*pP	**sP**	**02 15 54.8**	**-2.6**
PVCC			*e*S	**S**	**02 21 58.2**	**-0.9**
PVCC			AMS	AMS	02 37 40.0	
	comp=Z,22μm,17.0s					
GEC2	**GERESS Array S**	**40.60 315**	*e*P	**P**	**02 15 50.7**	**+0.2**
	comp=Z,247nm,1.0s					
GEC2			LR	LR		
	comp=Z,27μm,22.0s					
GEC2	**GERESS Array S**	**40.60 315**	*e*P	**P**	**02 15 50.7**	**+0.2**
GEC2			pmax	pmax		
	comp=Z,247nm,1.0s					
GEC2			MLR	MLR		
	comp=Z,27μm,22.0s					
GERES	**GERESS Array B**	**40.60 315**	P	**P**	**02 15 50.2**	**-0.2**
	comp=Z,57nm,0.9s,baz=108,slow=8.6,SNR=102					
GERES			ScP	**ScP**	**02 21 44.1**	**+2.7**
	comp=Z,7.3nm,1.1s,baz=80,slow=6.1,SNR=4.3					
GERES			LR	LR	02 36 25.9	
	comp=Z,35μm,20.1s,baz=114,slow=42					
KHC	**Kasperske Hory**	**40.76 315**	*e*P	**P**	**02 15 51.6**	**-0.1**
	comp=Z,112nm,0.9s					
KHC			LR	LR		
	comp=Z,13μm,21.0s					
KHC	**Kasperske Hory**	**40.76 315**	*e*P	**P**	**02 15 51.6**	**-0.1**
KHC			*e*		02 15 56.3	
KHC			*e*S	**S**	**02 22 00.9**	**-0.9**
KHC			MLR	MLR		
	comp=Z,42μm,19.2s					
KHC	**Kasperske Hory**	**40.76 315**	*e*P	**P**	**02 15 51.6**	**-0.1**
KHC			*e*pP	**sP**	**02 15 56.3**	**-2.6**
KHC			*e*S	**S**	**02 22 00.9**	**-0.9**
KHC			AMS	AMS	02 35 50.0	
	comp=Z,42μm,19.2s					
FIA1	**FINESS Array S**	**40.80 337**	*e*P	**P**	**02 15 51.0**	**-0.8**
	comp=Z,134nm,0.9s					
FINES	**FINESS Array B**	**40.80 337**	*e*P	**P**	**02 15 50.9**	**-0.9**
FINES	**FINESS Array B**	**40.80 337**	P	**P**	**02 15 51.2**	**-0.6**
	comp=Z,24nm,0.5s,baz=131,slow=8.7,SNR=63					
ABTA	**Abfaltersbach**	**40.83 312**	*i* pP	**P**	**02 15 52.4**	**0.0**
	comp=Z,487nm,0.9s,SNR=123					
MOY	**Mondy**	**40.91 41**	*e*P	**P**	**02 15 53.8**	**+0.8**
MOY			pmax	pmax		
	comp=Z,149nm,1.8s					
BRG	**Berggiesshubel**	**41.08 318**	*i* P	**P**	**02 15 54.7**	**+0.4**
	comp=Z,80nm,1.2s					
BRG			PP	**PP**	**02 17 29.0**	**0.0**
BRG			*i* SCP	**ScP**	**02 21 49.0**	**+5.9**
	comp=Z,46nm,1.6s					
BRG			S	**S**	**02 22 04.0**	**-2.4**
BRG			SS	**SS**	**02 25 03.0**	**-5.7**
BRG	**Berggiesshubel**	**41.08 318**	*i* P	**P**	**02 15 54.7**	**+0.4**
BRG					02 17 29.0	
BRG			S	**S**	**02 22 04.0**	**-2.4**
BRG			SS	**SS**	**02 25 03.0**	**-5.7**
BRG			pmax	pmax		
	comp=Z,80nm,1.2s					
BRG			pmax	pmax		
	comp=N,46nm,1.6s					
BRG			MLR	MLR		
	comp=N,46μm,22.7s					
BRG			MLR	MLR		
	comp=E,32μm,19.2s					
BRG			MLR	MLR		
	comp=Z,18μm,18.1s					
PHET	**Kaeng Krachan**	**41.44 101**	P	P	02 16 01.1	+3.5
	comp=Z,98μm,0.9s,comp=Z,832μm					
WTTA	**Wattenberg**	**41.53 312**	*i* pP	**P**	**02 15 57.8**	**-0.5**
	comp=Z,973nm,0.9s					
WTTA			*e*S	**S**	**02 22 12.3**	**-1.3**
	comp=Z,88nm,1.3s					
WATA	**Walderalm**	**41.59 312**	*i* pP	**P**	**02 15 57.9**	**-0.8**
	comp=Z,511nm,1.0s,SNR=158					
WATA			*e*S	**S**	**02 22 15.6**	**+1.2**
	comp=Z,28nm,1.1s					
RUE	**Ruedersdorf**	**41.72 320**	*e*P	**P**	**02 16 00.2**	**+0.7**
RUE			IAmb	IAmb	02 16 07.3	
	comp=Z,180nm,1.0s					
CLL	**Collm**	**41.78 318**	*e*P	**P**	**02 16 00.8**	**+0.8**
	comp=Z,175nm,1.1s					
CLL			LR	LR		
	comp=Z,23μm,22.0s					
CLL	**Collm**	**41.78 318**	*e*P	**P**	**02 16 00.8**	**+0.8**
CLL			pmax	pmax		
	comp=Z,175nm,1.1s					
CLL			MLR	MLR		
	comp=Z,23μm,22.0s					
CLL	**Collm**	**41.78 318**	⇓*i*P	**P**	**02 16 01.7**	**+1.7**
	comp=Z,241nm,1.3s					
CLL			*i*		02 16 06.2	
CLL			*i*		02 16 14.9	
CLL			*e*PP	**PP**	**02 17 36.0**	**-0.6**
CLL			*e*		02 17 50.0	
CLL			*e*PcP	**PcP**	**02 17 54.0**	**-2.0**
CLL			*e*PPP	PPP	02 18 04.0	
CLL			*e*S	**S**	**02 22 16.0**	**-0.8**
	comp=N,4μm,29.4s					
CLL			*e*S	**S**	**02 22 16.0**	**-0.8**
	comp=E,6μm,29.4s					
CLL			*i*		02 23 06.1	
CLL			*e*SS	**SS**	**02 25 18.0**	**-4.6**
CLL			*e*SSS	SSS	02 25 48.0	
CLL			Lm	MLR	02 36 00.0	
	comp=Z,28μm,20.6s					
CLL			Lmax		02 37 00.0	
NKC	**Novy Kostel**	**41.79 317**	*e*P	**P**	**02 16 00.7**	**+0.6**
NKC			*e*S	**S**	**02 22 14.1**	**-2.9**
NKC			MLR	MLR		
	comp=Z,37μm,20.2s					
NKC	**Novy Kostel**	**41.79 317**	*e*P	**P**	**02 16 00.7**	**+0.6**
NKC			*e*S	**S**	**02 22 14.1**	**-2.9**
NKC			AMS	AMS	02 37 10.0	
	comp=Z,37μm,20.2s					
SQTA	**Sankt Quirin**	**41.81 312**	*i* pP	**P**	**02 15 59.8**	**-0.7**
	comp=Z,528nm,0.7s,SNR=185					
SQTA			*e*S	**S**	**02 22 16.7**	**-0.9**
	comp=Z,72nm,1.1s					
VLC	**Villacollemand**	**41.81 307**	*e*P	**P**	**02 16 01.2**	**+0.8**
	comp=Z,176nm,1.1s					
VLC			LR	LR		
	comp=Z,31μm,21.0s					
ZAK	**Zakamensk**	**41.85 43**	*e*P	**P**	**02 16 00.4**	**-0.4**
ZAK			pmax	pmax		
	comp=Z,49nm,1.6s					
MOTA	**Moosalm**	**41.91 312**	*i* pP	**P**	**02 16 00.5**	**-0.8**
	comp=Z,539nm,0.9s,SNR=92					
MOTA			*e*S	**S**	**02 22 20.1**	**+1.0**
	comp=Z,48nm,1.2s					
FUR	**Furstenfeldbru**	**41.98 313**	P	**P**	**02 16 01.5**	**-0.2**
FETA	**Feichten**	**42.09 312**	*i* pP	**P**	**02 16 02.4**	**-0.4**
	comp=Z,718nm,1.5s,SNR=216					
FETA			*e*S	**S**	**02 22 21.4**	**-0.4**
	comp=Z,130nm,1.4s					
KEST	**Kesra**	**42.10 295**	P	**P**	**02 16 04.4**	**+1.4**
	comp=Z,32nm,0.6s,baz=239,slow=1.7,SNR=39					
KEST			LR	LR	02 36 57.6	
	comp=Z,25μm,20.3s,baz=40,slow=41					
BSD	**Bornholm Skovb**	**42.12 324**	*i* P	**P**	**02 16 01.2**	**-1.5**
BSD			pmax	pmax		
	comp=Z,230nm,0.9s					
BSD	**Bornholm Skovb**	**42.12 324**	*i* P	**P**	**02 16 01.2**	**-1.5**
	comp=Z,226nm,0.9s					
RETA	**Reutte**	**42.16 312**	*i* pP	**P**	**02 16 02.4**	**-0.9**
	comp=Z,360nm,1.0s,SNR=68					
RETA			S	**S**	**02 22 22.5**	**-0.2**
	comp=Z,74nm,1.7s					
SLVN	**Son La**	**42.24 87**	*e*P	**P**	**02 16 06.0**	**+1.8**
	comp=Z,78nm,1.1s					
SLVN			LR	LR		
	comp=Z,30μm,20.0s					
CHAI	**Chaiyaphum**	**42.32 95**	P	P	02 16 08.0	+3.2
	comp=Z,70μm,0.9s					
FUORN	**Ofenpass-Fuorn**	**42.32 311**	*e*P	**P**	**02 16 05.5**	**+0.7**
	comp=Z,176nm,0.8s					
FUORN			LR	LR		
	comp=Z,29μm,20.0s					
GRA1	**Grafenberg Arr**	**42.40 316**	*e*P	**P**	**02 16 05.2**	**+0.1**
	comp=Z,326nm,0.9s					
GRA1			LR	LR		
	comp=Z,29μm,22.0s					
GRF	**Grafenberg Arr**	**42.40 316**	*e*P	**P**	**02 16 05.2**	**+0.1**
GRF			pmax	pmax		
	comp=Z,328nm,0.9s					
GRF			MLR	MLR		
	comp=Z,29μm,22.0s					
GRFO	**Grafenberg**	**42.40 316**	*e*P	**P**	**02 16 05.2**	**+0.1**
	comp=Z,337nm,1.0s					
GRFO			LR	LR		
	comp=Z,27μm,22.0s					
GRFO	**Grafenberg**	**42.40 316**	*e*P	**P**	**02 16 05.2**	**+0.1**
GRFO			pmax	pmax		
	comp=Z,337nm,1.0s					
GRFO			MLR	MLR		
	comp=Z,27μm,22.0s					
MOX	**Moxa**	**42.41 317**	P	**P**	**02 16 05.6**	**+0.4**
TLY	**Talaya**	**42.47 41**	*e*P	**P**	**02 16 05.9**	**+0.3**
	comp=Z,210nm,1.8s					
TLY			LR	LR		
	comp=Z,35μm,18.0s					
TLY	**Talaya**	**42.47 41**	*ce*P	**P**	**02 16 07.3**	**+1.6**
TLY			pmax	pmax		
	comp=Z,66nm,1.7s					
NONG	**Nongkai**	**42.58 92**	P	**P**	**02 16 07.3**	**+0.4**
	comp=Z,4.1nm,1.0s					
DAVOX	**Davos/Dischmat**	**42.61 311**	P	**P**	**02 16 07.1**	**0.0**
	comp=Z,70nm,0.6s,baz=113,slow=6.3,SNR=93					
PKDT	**Phuket**	**42.69 108**	P	P	02 16 16.1	+8.3
DAVA	**Damuels**	**42.71 312**	*i* pP	**P**	**02 16 07.3**	**-0.6**
	comp=Z,1μm,0.8s,SNR=202					
DAVA			*e*S	**S**	**02 22 29.8**	**-1.1**
	comp=Z,156nm,1.6s					
RGN	**Rugen**	**42.74 323**	*e*P	**P**	**02 16 09.7**	**+2.0**
	comp=Z,543nm,1.1s					
RGN			LR	LR		
	comp=Z,8μm,20.0s					
TUE	**Stuetta**	**42.91 311**	*e*P	**P**	**02 16 09.3**	**-0.3**
	comp=Z,195nm,1.0s					
TUE			LR	LR		
	comp=Z,29μm,20.0s					
LHMI	**Lhok Sumawe**	**42.95 113**	PFAKE		02 16 20.0	+10
LHMI			LR	LR		
	comp=Z,22μm,22.0s					
IRK	**Irkutsk**	**43.01 41**	*e*P	**P**	**02 16 10.4**	**+0.4**
IRK			pmax	pmax		
	comp=Z,238nm,2.4s					
SONM	**Songino Array**	**43.21 48**	*e*P	**P**	**02 16 12.0**	**+0.1**
SONM	**Songino Array**	**43.21 48**	*e*P	**P**	**02 16 12.0**	**+0.1**
SONM	**Songino Array**	**43.21 48**	P	**P**	**02 16 12.2**	**+0.4**
	comp=Z,11nm,0.7s,baz=257,slow=8.6,SNR=50					
SONM			LR	LR	02 36 39.2	
	comp=Z,64μm,19.7s,baz=254,slow=40					
KRAB	**Krabi**	**43.25 107**	P	P	02 16 18.1	+5.7
	comp=Z,198μm,0.9s					
GYA	**Guiyang**	**43.45 79**	⇑*i*P	**P**	**02 16 15.1**	**+1.0**
GYA			PP	**PcP**	**02 17 58.4**	**-3.9**
GYA			S	**S**	**02 22 42.9**	**+0.7**
GYA			SS	**SS**	**02 25 48.1**	**-8.3**
GYA			pmax	pmax		
	comp=Z,50nm,0.9s					
GYA			pmax	pmax		
	comp=Z,830nm,13.6s					
GYA			LR	LR		
	comp=Z,19μm,17.4s					
GYA			LR	LR		
	comp=Z,24μm,18.9s					
GYA			LR	LR		
	comp=Z,40μm,19.3s					
STU	**Stuttgart**	**43.47 314**	*e*P	**P**	**02 16 13.5**	**-0.2**
	comp=Z,175nm,1.0s					
STU			LR	LR		
	comp=Z,23μm,21.0s					
STU	**Stuttgart**	**43.47 314**	*e*P	**P**	**02 16 13.5**	**-0.2**
STU			pmax	pmax		
	comp=Z,175nm,1.0s					
STU			MLR	MLR		
	comp=Z,23μm,21.0s					
APA	**Apatity**	**43.55 347**	⇑*i*P	**P**	**02 16 13.8**	**-0.3**
APA			*i*		02 18 05.0	
APA			*i* PPP	PPP	02 18 35.0	
APA			*i* S	**S**	**02 22 34.0**	**-8.4**
APA			pmax	pmax		
	comp=Z,60nm,1.0s					
LVZ	**Lovozero**	**43.58 348**	*e*P	**P**	**02 16 14.2**	**-0.3**
	comp=Z,49nm,0.8s					
LVZ			LR	LR		
	comp=Z,35μm,19.0s					
LVZ	**Lovozero**	**43.58 348**	*ce*P	**P**	**02 16 15.7**	**+1.2**
LVZ			pmax	pmax		
	comp=Z,72nm,1.7s					
ABSA	**Djebel Ababsia**	**43.60 296**	P	**P**	**02 16 16.6**	**+1.5**
CMAH	**Djebel Manchou**	**43.64 296**	P	**P**	**02 16 17.6**	**+2.2**
ULN	**Ulaanbaatar**	**43.65 48**	*e*P	**P**	**02 16 15.6**	**+0.1**
	comp=Z,136nm,1.3s					
ULN			LR	LR		
	comp=Z,62μm,20.0s					
ULN	**Ulaanbaatar**	**43.65 48**	*ce*P	**P**	**02 16 15.7**	**+0.3**
ULN			pmax	pmax		
	comp=Z,51nm,1.7s					
COP	**Copenhagen**	**43.65 324**	*i* P	**P**	**02 16 16.7**	**+1.6**
COP			pmax	pmax		
	comp=Z,120nm,0.9s					
COP	**Copenhagen**	**43.65 324**	*i* P	**P**	**02 16 16.7**	**+1.6**
	comp=Z,124nm,0.9s					
SKNT	**Sakolnakorn**	**43.70 93**	P	**P**	**02 16 16.9**	**+0.8**
	comp=Z,154nm,1.4s,comp=Z,3μm					
SLE	**Schleitheim**	**43.72 312**	P	**P**	**02 16 15.5**	**-0.4**
TRTT	**Trang**	**43.87 107**	P	P	02 16 21.6	+4.2
	comp=Z,70nm,1.2s,comp=Z,2μm					
SBF	**Sospel**	**43.89 306**	*e*P	**P**	**02 16 16.3**	**-1.0**
SBF			pmax	pmax		
	comp=Z,319nm,1.0s					
TOD	**Tromm**	**43.90 315**	P	**P**	**02 16 16.4**	**-0.9**
BFO	**Black Forest**	**43.94 313**	*e*P	**P**	**02 16 16.2**	**-1.4**
	comp=Z,170nm,1.2s					
BFO			LR	LR		
	comp=Z,20μm,20.0s					
BFO	**Black Forest**	**43.94 313**	*i* P	**P**	**02 16 18.3**	**+0.7**
CAEH	**'Ain El Ouahch**	**44.09 296**	P	**P**	**02 16 20.1**	**+1.1**
TPTI		**44.25 115**	P	P	02 16 31.7	+11
TNS	**Taunus Mts**	**44.26 316**	P	**P**	**02 16 21.2**	**+1.0**
SENIN	**Lac Senin/Sane**	**44.29 310**	*e*P	**P**	**02 16 19.8**	**-0.9**
	comp=Z,796nm,1.8s					
SENIN			LR	LR		
	comp=Z,13μm,19.0s					
KTD	**Kalmit**	**44.30 314**	P	**P**	**02 16 20.6**	**+0.1**
XAN	**Xi'an**	**44.31 68**	P	**P**	**02 16 20.4**	**-0.4**
XAN			PP	**PcP**	**02 18 09.1**	**+4.1**
XAN			S	**S**	**02 22 57.7**	**+3.2**
XAN			pmax	pmax		
	comp=Z,21nm,1.2s					
XAN			pmax	pmax		
	comp=Z,550nm,5.4s					
XAN			LR	LR		
	comp=Z,28μm,15.7s					
XAN			LR	LR		
	comp=Z,48μm,17.9s					
XAN			LR	LR		
	comp=Z,44μm,18.7s					
XAN	**Xi'an**	**44.31 68**	*e*P	**P**	**02 16 21.5**	**+0.6**
	comp=Z,179nm,1.1s					
XAN			LR	LR		
	comp=Z,75μm,21.0s					
XAN	**Xi'an**	**44.31 68**	*e*P	**P**	**02 16 21.5**	**+0.6**
XAN			pmax	pmax		
	comp=Z,179nm,1.1s					
XAN			MLR	MLR		
	comp=Z,75μm,21.0s					
CASM	**Ain Smara**	**44.40 296**	P	**P**	**02 16 21.9**	**+0.4**
LANF	**Langenberg**	**44.41 314**	P	**P**	**02 16 21.2**	**-0.1**
FRF	**La Foret Royal**	**44.43 306**	*e*P	**P**	**02 16 22.5**	**+0.9**
FRF			pmax	pmax		
	comp=Z,100nm,1.2s					
MBDF	**Montbardon**	**44.45 308**	*e*P	**P**	**02 16 20.9**	**-1.0**
MBDF			pmax	pmax		
	comp=Z,82nm,0.7s					
CTEI	**Djebel Teioual**	**44.48 295**	P	**P**	**02 16 23.1**	**+0.9**
LMR	**La Mourre**	**44.51 306**	*e*P	**P**	**02 16 24.1**	**+1.9**
LMR			pmax	pmax		
	comp=Z,37nm,1.0s					
BNI	**Bardonecchia**	**44.56 308**	*e*P	**P**	**02 16 22.1**	**-0.6**
	comp=Z,624nm,1.4s					
BNI			LR	LR		
	comp=Z,18μm,19.0s					
BNI	**Bardonecchia**	**44.56 308**	*e*P	**P**	**02 16 22.1**	**-0.6**
BNI			pmax	pmax		
	comp=Z,625nm,1.4s					
BNI			MLR	MLR		
	comp=Z,18μm,19.0s					
LPG	**La Plagne**	**44.56 309**	*e*P	**P**	**02 16 21.5**	**-1.4**
LPG			pmax	pmax		
	comp=Z,229nm,1.2s					
LPL	**La Plagne**	**44.57 309**	*e*P	**P**	**02 16 21.7**	**-1.3**
LPL			pmax	pmax		
	comp=Z,121nm,0.9s					
CDF	**Champ du Feu**	**44.64 313**	*e*P	**P**	**02 16 21.8**	**-1.5**
CDF			pmax	pmax		
	comp=Z,157nm,1.0s					
ECH	**Echery**	**44.69 313**	*e*P	**P**	**02 16 23.2**	**-0.4**
	comp=Z,316nm,0.9s					
ECH			LR	LR		
	comp=Z,19μm,21.0s					
ECH	**Echery**	**44.69 313**	*e*P	**P**	**02 16 23.2**	**-0.4**
ECH			pmax	pmax		
	comp=Z,316nm,0.9s					
ECH			MLR	MLR		
	comp=Z,19μm,21.0s					
LOMF	**Lomont**	**44.76 311**	P	**P**	**02 16 24.4**	**+0.1**
HINF	**Hinteralfeld**	**44.82 312**	*e*P	**P**	**02 16 23.4**	**-1.3**
HINF			pmax	pmax		
	comp=Z,140nm,1.0s					
DFRA	**Djebel Bou Aff**	**44.88 296**	P	**P**	**02 16 24.9**	**-0.5**
HFS	**Hagfors**	**44.95 330**	P	**P**	**02 16 25.1**	**-0.3**
	comp=Z,18nm,0.4s,baz=128,slow=9.6,SNR=43					
BTO	**Baotou**	**45.00 58**	*e*P	**P**	**02 16 27.0**	**+0.7**
SKLT	**Songkhla**	**45.00 108**	P	P	02 16 29.6	+3.2
	comp=Z,23nm,1.2s,comp=Z,560nm					
ORIF	**Oris-en-Rattie**	**45.10 308**	*e*P	**P**	**02 16 29.8**	**+2.7**
ORIF			pmax	pmax		
	comp=Z,56nm,1.0s					
CABF	**La Chapelle**	**45.16 310**	*e*P	**P**	**02 16 26.7**	**-0.7**
CABF			pmax	pmax		
	comp=Z,774nm,1.4s					
HAU	**Haudompre**	**45.19 312**	*e*P	**P**	**02 16 25.5**	**-2.1**
HAU			pmax	pmax		
	comp=Z,107nm,0.8s					
CKHR	**Kef el Ahmar**	**45.20 295**	P	**P**	**02 16 27.1**	**-0.9**
ENH	**Enshi**	**45.23 73**	*e*P	**P**	**02 16 30.2**	**+2.0**
	comp=Z,183nm,1.0s					
ENH			LR	LR		
	comp=Z,24μm,20.0s					
SET	**Setif**	**45.28 296**	P	P	02 16 32.0	+3.4
WLF	**Walferdange**	**45.60 314**	*e*P	**P**	**02 16 31.2**	**+0.4**
	comp=Z,883nm,0.9s					
WLF			LR	LR		
	comp=Z,87μm,20.0s					
WLF	**Walferdange**	**45.60 314**	*e*P	**P**	**02 16 31.2**	**+0.4**
WLF			pmax	pmax		
	comp=Z,883nm,0.9s					
WLF			MLR	MLR		
	comp=Z,87μm,20.0s					
WLF	**Walferdange**	**45.60 314**	⇑P	**P**	**02 16 31.1**	**+0.3**
WLF			⇓pP	**sP**	**02 16 34.7**	**-3.3**
WLF			⇓sP	**pP**	**02 16 37.8**	**+1.8**
	comp=Z,166nm,1.1s					
MUD	**Monsted U'grnd**	**45.63 324**	*i* P	**P**	**02 16 33.5**	**+2.6**
MUD			pmax	pmax		
	comp=Z,220nm,1.2s					
MUD	**Monsted U'grnd**	**45.63 324**	*i* P	**P**	**02 16 33.5**	**+2.6**
	comp=Z,222nm,1.2s					
WTSB	**Winterswijk**	**45.68 318**	*e*P	**P**	**02 16 32.8**	**+1.4**
	comp=Z,199nm,1.2s					
GSI	**Gunungsitoli**	**45.72 117**	PFAKE		02 16 40.0	+7.8
GSI			LR	LR		
	comp=Z,28μm,19.0s					
MEM	**Membach**	**45.87 316**	P	**P**	**02 16 35.4**	**+2.5**
MEM	**Membach**	**45.87 316**	⇑P	**P**	**02 16 33.8**	**+0.9**
MEM			⇓sP	**sP**	**02 16 38.1**	**-2.1**
	comp=Z,151nm,1.4s					
PSI	**Prapat**	**45.94 114**	*e*P	**P**	**02 16 35.3**	**+1.3**
	comp=Z,67nm,1.0s					
PSI			LR	LR		
	comp=Z,20μm,18.0s					
HGN	**Heimansgroeve**	**45.95 316**	*e*P	**P**	**02 16 35.1**	**+1.6**
	comp=Z,318nm,1.2s					
HGN			*e*S	**S**	**02 23 23.1**	**+5.5**
HGN			*e*SS	**SS**	**02 26 49.2**	**+7.0**
VIVF	**Saint-Julien-l**	**45.95 308**	*e*P	**P**	**02 16 32.4**	**-1.3**
VIVF			pmax	pmax		
	comp=Z,124nm,1.0s					
KULM	**Kulim**	**46.00 110**	*e*P	**P**	**02 16 34.8**	**+0.4**
	comp=Z,172nm,1.4s					
KULM			LR	LR		
	comp=Z,31μm,21.0s					
KULM	**Kulim**	**46.00 110**	P	**P**	**02 16 36.0**	**+1.6**
MAHO	**Mahon**	**46.06 301**	⇑*i*P	**P**	**02 16 35.5**	**+1.0**
MAHO			*e*S	**S**	**02 23 19.9**	**+0.3**
SSB	**Saint Sauveur**	**46.08 308**	*e*P	**P**	**02 16 33.5**	**-1.2**
SSB			pmax	pmax		
	comp=Z,259nm,1.0s					
SSB			LR	LR		
	comp=Z,14μm,19.0s					
SSB	**Saint Sauveur**	**46.08 308**	*e*P	**P**	**02 16 33.5**	**-1.2**
SSB			pmax	pmax		
	comp=Z,259nm,1.0s					
SSB			MLR	MLR		
	comp=Z,14μm,19.0s					
BEBN	**Eben Emael**	**46.11 316**	⇑P	**P**	**02 16 36.0**	**+1.2**
BEBN			⇑pP	**sP**	**02 16 39.6**	**-2.4**
NRIK	**Noril'sk**	**46.13 14**	P	**P**	**02 16 34.4**	**-0.3**
	comp=Z,40nm,1.0s,baz=212,slow=5.6,SNR=39					
NRIK			LR	LR	02 39 17.7	
	comp=Z,57μm,18.4s,baz=211,slow=41					

OPO	Ambohidratompo	46.13 194	P	P	02 16 37.7 +2.3
	comp=Z,21nm,0.9s,baz=20,slow=8.2,SNR=17				
HHC	Hu-ho-hao-te	46.17 58	eP	P	02 16 36.4 +0.8
HHC			sP	sP	02 16 44.8 +2.1
HHC			PP	PP	02 18 25.3 +1.4
HHC			S	S	02 23 19.2 -2.2
HHC			SS	SS	02 26 37.9 -8.6
HHC			pmax	pmax	
	comp=Z,18nm,0.9s				
HHC			pmax	pmax	
	comp=Z,660nm,5.7s				
HHC			LR	LR	
	comp=Z,24μm,19.2s				
HHC			LR	LR	
	comp=Z,30μm,20.8s				
NC602	NORSAR Array S	46.17 331	eP	P	02 16 37.0 +1.9
	comp=Z,228nm,1.4s				
NORES	NORESS Array B	46.17 331	P	P	02 16 37.6 +2.5
OSL	Oslo	46.20 329	eP	P	02 16 35.4 +0.1
NC405	NORSAR Array S	46.27 331	eP	P	02 16 35.7 -0.2
	comp=Z,176nm,1.0s				
BCLA	Clavier	46.28 315	⇑P	P	02 16 36.7 +0.6
BCLA			⇓sP	sP	02 16 41.3 -2.1
	comp=Z,167nm,1.4s				
NB201	NORSAR Array S	46.42 331	eP	P	02 16 39.1 +1.9
	comp=Z,160nm,1.0s				
NB201	NORSAR Array S	46.42 331	eP	P	02 16 37.0 -0.1
NB2	NORSAR Subarra	46.45 331	P	P	02 16 36.5 -0.9
	comp=Z,57nm,1.2s,baz=117,slow=7.9				
NB2	NORSAR Subarra	46.45 331	P	P	02 16 36.5 -0.9
	baz=117,slow=7.9				
NOA	NORSAR Array B	46.45 331	P	P	02 16 36.6 -0.7
	comp=Z,13nm,0.9s,baz=121,slow=7.7,SNR=21				
NOA			LR	LR	02 39 10.1
	comp=Z,21μm,21.3s,baz=120,slow=40				
NC303	NORSAR Array S	46.47 331	eP	P	02 16 39.6 +2.2
	comp=Z,146nm,1.1s				
GIVF	Givet	46.52 315	eP	P	02 16 38.5 +0.5
GIVF			pmax	pmax	
	comp=Z,495nm,1.2s				
ABPO	Ambohimpanom	46.56 194	eP	P	02 16 40.3 +1.5
	comp=Z,328nm,1.9s				
ABPO			LR	LR	
	comp=Z,14μm,20.0s				
KONO	Kongsberg	46.60 329	eP	P	02 16 39.0 +0.5
	comp=Z,85nm,1.1s				
KONO			LR	LR	
	comp=Z,36μm,22.0s				
KONO	Kongsberg	46.60 329	ceP	P	02 16 38.7 +0.2
KONO			pmax	pmax	
	comp=Z,51nm,1.3s				
KONO	Kongsberg	46.60 329	eP	P	02 16 37.8 -0.7
HOMB	Homborsund	46.61 327	eP	P	02 16 41.2 +2.7
NBO00	NORSAR Array S	46.64 331	eP	P	02 16 38.4 -0.4
	comp=Z,144nm,1.0s				
DOU	Dourbes	46.67 315	⇑P	P	02 16 39.3 +0.2
DOU			⇑pP	sP	02 16 43.7 -2.7
	comp=Z,186nm,1.4s				
SMF	Signal de Mont	46.70 310	eP	P	02 16 38.6 -0.9
SMF			pmax	pmax	
	comp=Z,494nm,0.8s				
KEV	Kevo	46.70 346	eP	P	02 16 38.6 -0.4
	comp=Z,151nm,1.2s				
KEV			LR	LR	
	comp=Z,24μm,18.0s				
KEV	Kevo	46.70 346	eP	P	02 16 38.7 -0.4
KEV			pmax	pmax	
	comp=Z,151nm,1.2s				
KEV			MLR	MLR	
	comp=Z,24μm,18.0s				
IPM	Ipoh	46.75 110	eP	P	02 16 39.9 -0.4
	comp=Z,209nm,1.4s				
IPM			LR	LR	
	comp=Z,27μm,20.0s				
LOR	Lormes	46.75 311	eP	P	02 16 38.9 -1.0
LOR			pmax	pmax	
	comp=Z,268nm,0.9s				
NC204	NORSAR Array S	46.76 331	eP	P	02 16 41.7 +1.9
	comp=Z,156nm,1.1s				
ARCES	ARCESS Array B	46.87 345	eP	P	02 16 40.0 -0.5
ARCES	ARCESS Array B	46.87 345	eP	P	02 16 40.0 -0.5
ARCES	ARCESS Array B	46.87 345	P	P	02 16 40.3 -0.2
	comp=Z,21nm,0.8s,baz=139,slow=8.1,SNR=35				
ARCES			LR	LR	02 39 15.7
	comp=Z,32μm,19.7s,baz=133,slow=40				
ARE0	ARCESS Array S	46.87 345	eP	P	02 16 40.5 0.0
	comp=Z,4.7nm,1.0s				
ARE0			LR	LR	
	comp=Z,2μm,18.0s				
ARE0	ARCESS Array S	46.87 345	eP	P	02 16 39.3 -1.2
TIY	Taiyuan	46.92 62	eP	P	02 16 42.9 +1.5
TIY			sS	sS	02 23 43.3 +2.9
TIY			pmax	pmax	
	comp=Z,85nm,1.2s				
TIY			pmax	pmax	
	comp=Z,510nm,5.7s				
TIY			LR	LR	
	comp=Z,18μm,13.1s				
TIY			LR	LR	
	comp=Z,4μm,11.2s				
TIY			LR	LR	
	comp=Z,26μm,25.2s				
SNF	Seneffe	46.93 315	⇓P	P	02 16 42.4 +1.1
SNF			⇑pP	sP	02 16 45.9 -2.5
	comp=Z,146nm,1.3s				
UCC	Uccle	46.94 316	eP	P	02 16 43.7 +2.5
	comp=Z,124nm,1.1s				
UCC			LR	LR	
	comp=Z,30μm,21.0s				
UCC	Uccle	46.94 316	eP	P	02 16 43.7 +2.5
UCC			pmax	pmax	
	comp=Z,124nm,1.1s				
UCC			MLR	MLR	
	comp=Z,30μm,21.0s				
UCC	Uccle	46.94 316	⇑P	P	02 16 41.4 +0.1
	comp=Z,65nm,1.6s				
SSF	Saint Saulge	46.97 311	eP	P	02 16 40.8 -0.8
SSF			pmax	pmax	
	comp=Z,543nm,0.9s				
KTK1	Kautokeino	47.03 344	eP	P	02 16 41.5 -0.2
AVF	Avril sur Loir	47.05 310	eP	P	02 16 41.1 -1.1
AVF			pmax	pmax	
	comp=Z,192nm,0.8s				
SNART	Snartemo	47.27 326	eP	P	02 16 45.0 +1.2
BGF	Bois d'Agland	47.37 310	eP	P	02 16 44.2 -0.6
BGF			pmax	pmax	
	comp=Z,388nm,0.9s				
TAM	Tamanrasset	47.41 277	eP	P	02 16 45.7 +0.1
	comp=Z,193nm,1.1s				
TAM			LR	LR	
	comp=Z,25μm,22.0s				
TAM	Tamanrasset	47.41 277	eP	P	02 16 45.7 +0.1
TAM			pmax	pmax	
	comp=Z,193nm,1.1s				
TAM			MLR	MLR	
	comp=Z,25μm,22.0s				
SKAR	Skarslia	47.60 330	eP	P	02 16 47.0 +0.6
MTLF	Montolieu	47.64 305	eP	P	02 16 46.6 -0.3
MTLF			pmax	pmax	
	comp=Z,230nm,1.0s				
TCF	Toulx Ste Croi	47.79 309	eP	P	02 16 47.4 -0.7
TCF			pmax	pmax	
	comp=Z,176nm,0.9s				
NSS	Namsos	47.80 335	eP	P	02 16 47.1 -0.6
CAF	Calviac	47.81 308	eP	P	02 16 47.7 -0.5
CAF			pmax	pmax	
	comp=Z,289nm,1.0s				
DOMB	Dombas	47.82 331	eP	P	02 16 50.5 +2.5
BLS5	Blasjo	48.01 327	eP	P	02 16 51.3 +1.8
ODD1	Odda	48.09 328	eP	P	02 16 52.8 +2.6
HAMF	Hammerfest	48.11 345	eP	P	02 16 49.8 -0.3
RJF	Les Rejaudoux	48.22 308	eP	P	02 16 51.1 -0.2
RJF			pmax	pmax	
	comp=Z,385nm,1.0s				
QIZ	Qiongzhong	48.25 88	P	P	02 16 53.3 +1.4
QIZ			S	S	02 23 53.9 +2.6
QIZ			ScS	ScS	02 26 42.7 -2.3
QIZ			pmax	pmax	
	comp=Z,22nm,1.1s				
QIZ			pmax	pmax	
	comp=Z,1μm,5.5s				
QIZ			LR	LR	
	comp=Z,37μm,22.1s				
QIZ			LR	LR	
	comp=Z,12μm,16.2s				
QIZ			LR	LR	
	comp=Z,25μm,21.4s				
QIZ	Qiongzhong	48.25 88	eP	P	02 16 53.7 +1.8
	comp=Z,163nm,1.3s				
QIZ			LR	LR	
	comp=Z,27μm,20.0s				
EBNR	Beni Rached	48.40 296	P	P	02 16 55.0 +2.1
KONS	Konsvik	48.41 338	eP	P	02 16 50.5 -2.0
CIT	Chita	48.52 43	eP	P	02 16 59.4 +5.8
CIT			e		02 17 08.0
CIT			pmax	pmax	
	comp=Z,182nm,1.6s				
ECHA	Ech Chlef	48.54 296	P	P	02 16 56.0 +2.1
STEI	Steigen	48.54 340	eP	P	02 16 54.1 +0.7
TRO	Tromso	48.56 343	eP	P	02 16 52.9 -0.7
HYA	Hoyanger	48.74 330	eP	P	02 16 56.0 +0.9
LFF	La Frestale	48.75 308	eP	P	02 16 55.0 -0.4
LFF			pmax	pmax	
	comp=Z,267nm,0.9s				
AKN	Aaknes	48.76 331	eP	P	02 16 58.2 +3.0
EANR	'Ain N'Sour	48.77 296	P	P	02 16 57.0 +1.2
BER	Bergen	48.86 328	eP	P	02 16 57.4 +1.4
ASK	Askoy	48.96 329	eP	P	02 16 56.2 -0.6
BKNI	Bangkinang	49.09 115	eP	P	02 16 58.5 +0.1
	comp=Z,261nm,1.1s				
BKNI			LR	LR	
	comp=Z,18μm,21.0s				
LOF	Lofoten	49.18 340	eP	P	02 16 58.1 -0.2
WHN	Wuhan	49.33 72	⇑P	P	02 17 02.4 +2.3
WHN			S	S	02 24 10.4 +4.2
WHN			LR	LR	
	comp=Z,37μm,14.0s				
WHN			LR	LR	
	comp=Z,37μm,12.4s				
FOO	Floro	49.41 330	eP	P	02 17 03.0 +2.8
MFF	Saint Martin d	49.44 310	eP	P	02 17 01.1 +0.4
MFF			pmax	pmax	
	comp=Z,410nm,1.4s				
WACR	West Acre	49.54 318	eP	P	02 17 04.2 +2.9
WACR			IAmb	IAmb	02 17 10.6
	comp=Z,343nm,1.0s				
WACR			IAMs_20	IAMs_20	02 42 03.2
	comp=Z,29μm,18.4s				
LDF	La Druitiere	49.54 312	eP	P	02 17 00.4 -1.0
LDF			pmax	pmax	
	comp=Z,172nm,0.9s				
ETSF	Etsaut	49.67 305	eP	P	02 17 02.5 -0.1
ETSF			pmax	pmax	
	comp=Z,123nm,1.0s				
DLV	T Lat	49.67 97	eP	P	02 17 05.5 +2.4
	comp=Z,124nm,1.1s				
DLV			LR	LR	
	comp=Z,21μm,21.0s				
BJT	Baijiatuau	49.71 59	eP	P	02 17 04.5 +1.7
	comp=Z,65nm,1.2s				
BJT			LR	LR	
	comp=Z,28μm,19.0s				
BJT	Baijiatuau	49.71 59	eP	P	02 17 04.5 +1.7
BJT			pmax	pmax	
	comp=Z,65nm,1.2s				
BJT			MLR	MLR	
	comp=Z,28μm,19.0s				
BJI	Beijing	49.71 59	P	P	02 17 04.4 +1.6
BJI			S	S	02 24 16.3 +5.0
BJI			SS	SS	02 27 39.4 -4.1
BJI			pmax	pmax	
	comp=Z,18nm,1.8s				
BJI			LR	LR	
	comp=Z,3μm,22.8s				
BJI			LR	LR	
	comp=Z,6μm,21.6s				
FLN	La Foliniere	49.80 312	eP	P	02 17 02.4 -0.9
FLN			pmax	pmax	
	comp=Z,247nm,0.9s				
BOD	Bodaibo	49.93 36	⇓iP	P	02 17 03.4 -0.9
BOD			eS	S	02 24 14.8 +0.9
BOD			pmax	pmax	
	comp=Z,455nm,1.5s				
GRR	Gorron	50.02 312	eP	P	02 17 04.4 -0.6
GRR			pmax	pmax	
	comp=Z,310nm,1.3s				
GZH	Guangzhou	50.15 81	P	P	02 17 10.4 +4.0
GZH			S	S	02 24 24.1 +6.3
GZH			LR	LR	
	comp=Z,17μm,17.3s				
SJPF	Ste Jean	50.15 305	eP	P	02 17 07.4 +1.2
SJPF			pmax	pmax	
	comp=Z,175nm,1.0s				
CART	Cartagena	50.29 298	eP	P	02 17 08.8 +1.5
	comp=Z,51nm,0.9s				
CART			LR	LR	
	comp=Z,14μm,18.0s				
CART	Cartagena	50.29 298	⇑iP	P	02 17 05.2 -2.1
CART			eS	S	02 24 17.2 -2.3
WOL	Wolverton	50.49 316	eP	P	02 17 10.9 +2.3
WOL			IAMs_20	IAMs_20	02 42 24.6
	comp=Z,23μm,21.3s				
MYKOM	Kota Tinggi	50.57 111	eP	P	02 17 11.3 +1.6
	comp=Z,50nm,1.0s				
MYKOM			LR	LR	
	comp=Z,17μm,20.0s				
MYKOM	Kota Tinggi	50.57 111	P	P	02 17 11.0 +1.3
LSZ	Lusaka	50.68 218	iP	P	02 17 13.3 +2.8
LSZ	Lusaka	50.68 218	eP	P	02 17 11.9 +1.4
	comp=Z,100nm,1.3s				
LSZ			LR	LR	
	comp=Z,34μm,19.0s				
LSZ	Lusaka	50.68 218	eP	P	02 17 11.9 +1.4
LSZ			pmax	pmax	
	comp=Z,100nm,1.3s				
LSZ			MLR	MLR	
	comp=Z,34μm,19.0s				
LSZ	Lusaka	50.68 218	iP	P	02 17 13.3 +2.8
CWF	Charnwood Fore	50.70 318	eP	P	02 17 11.3 +1.1
CWF			IAmb	IAmb	02 17 17.1
	comp=Z,65nm,1.0s				
CWF			IAMs_20	IAMs_20	02 44 01.0
	comp=Z,18μm,17.5s				
TIA	Tai'an	50.79 64	P	P	02 17 12.6 +1.5
TIA			S	S	02 24 30.3 +3.9
TIA			pmax	pmax	
	comp=Z,28nm,1.2s				
TIA			pmax	pmax	
	comp=Z,520nm,6.1s				
TIA			LR	LR	
	comp=Z,17μm,22.0s				
TIA			LR	LR	
	comp=Z,15μm,36.8s				
JQE	Queens East	50.85 313	eP	P	02 17 11.5 +0.2
SWN1	Swindon	50.88 316	eP	P	02 17 13.9 +2.5
SWN1			IAmb	IAmb	02 17 16.9
	comp=Z,508nm,1.3s				
SWN1			IAMs_20	IAMs_20	02 42 36.8
	comp=Z,25μm,21.1s				
JRS	Jersey	50.88 313	eP	P	02 17 12.9 +1.4
JSA	Saint Aubin	50.93 313	eP	P	02 17 13.2 +1.3
JSA			IAmb	IAmb	02 17 16.8
	comp=Z,260nm,1.1s				
JSA			IAMs_20	IAMs_20	02 43 54.7
	comp=Z,22μm,19.3s				
LBWR	Ladybower, Pea	51.04 318	eP	P	02 17 14.1 +1.4
LBWR			IAmb	IAmb	02 17 19.7
	comp=Z,95nm,0.9s				
LBWR			IAMs_20	IAMs_20	02 44 23.3
	comp=Z,23μm,20.0s				
HKPS	Hong Kong Po S	51.09 82	PFAKE		02 17 20.0 +6.5
HKPS			LR	LR	
	comp=Z,23μm,19.0s				
STRD	Stroud	51.12 316	eP	P	02 17 15.3 +2.0
STRD			IAmb	IAmb	02 17 20.0
	comp=Z,111nm,0.7s				
STRD			IAMs_20	IAMs_20	02 42 44.8
	comp=Z,29μm,20.2s				
SGMF	Saint Gilles	51.14 312	eP	P	02 17 14.4 +0.8
SGMF			pmax	pmax	
	comp=Z,325nm,1.0s				
FIGM	Figuig	51.24 291	P	P	02 17 17.0 +2.3
FIGM	Figuig	51.24 291	P	P	02 17 20.0 +5.3
STNC	Stoke	51.29 318	IAMs_20	IAMs_20	02 43 05.0
	comp=Z,26μm,18.8s				
OLDB	Oldbury-Upon-S	51.35 316	eP	P	02 17 16.7 +1.7
OLDB			IAMs_20	IAMs_20	02 42 51.1
	comp=Z,29μm,20.9s				
EDMD	Edmundbyers	51.36 320	eP	P	02 17 16.2 +1.1
EDMD			IAMs_20	IAMs_20	02 41 01.6
	comp=Z,23μm,24.7s				
SESP	Santiago Espad	51.46 299	P	P	02 17 16.9 +0.6
MONM	Monmouth	51.53 316	eP	P	02 17 16.5 +0.2
MONM			IAmb	IAmb	02 17 21.1
	comp=Z,129nm,1.0s				
MONM			IAMs_20	IAMs_20	02 42 56.1
	comp=Z,28μm,21.3s				
QUIF	Quistinic	51.54 311	eP	P	02 17 17.1 +0.6
QUIF			pmax	pmax	
	comp=Z,289nm,1.0s				
ROSF	Rostrenen	51.62 312	eP	P	02 17 17.9 +0.7
ROSF			pmax	pmax	
	comp=Z,348nm,1.1s				
MCH1	Michaelchurch	51.66 316	eP	P	02 17 17.6 +0.3
MCH1			IAmb	IAmb	02 17 22.1
	comp=Z,171nm,0.9s				
MCH1			IAMs_20	IAMs_20	02 43 00.6
	comp=Z,27μm,20.7s				
TDRA	Tendrara	51.72 292	P	P	02 17 24.0 +5.6
TDRA	Tendrara	51.72 292	P	P	02 17 20.0 +1.6
TAF	Taforalt	51.76 295	P	P	02 17 24.0 +5.5
TAF	Taforalt	51.76 295	P	P	02 17 20.0 +1.5
UCM	Universidad Co	51.80 302	⇑iP	P	02 17 20.5 +1.9
UCM			eS	S	02 24 42.6 +2.2
BJO	Bjornoya	51.85 348	eP	P	02 17 17.7 -0.7
FOEL	Foel Wylfa	51.86 318	eP	P	02 17 20.6 +1.7
FOEL			IAmb	IAmb	02 17 28.5
	comp=Z,143nm,0.9s				
FOEL			IAMs_20	IAMs_20	02 44 36.5
	comp=Z,17μm,18.0s				
ESY	Stoneypath	51.89 322	eP	P	02 17 19.7 +0.7
LRW	Lerwick	51.91 327	eP	P	02 17 19.6 +0.5
LRW			IAmb	IAmb	02 17 26.2
	comp=Z,65nm,1.0s				
LRW			IAMs_20	IAMs_20	02 42 39.3
	comp=Z,20μm,21.2s				
JBK	JBK	51.96 294	P	P	02 17 23.1 +3.0
JBK	JBK	51.96 294	P	P	02 17 22.0 +1.9
DRUM	Mains of Drumt	51.97 323	eP	P	02 17 20.2 +0.6
DRUM			IAMs_20	IAMs_20	02 41 41.0
	comp=Z,27μm,22.6s				
EKA	Eskdalemuir Ar	52.11 321	P	P	02 17 20.0 -0.7
EKA			pmax	pmax	
	comp=Z,3.0nm,0.4s				
EKA	Eskdalemuir Ar	52.11 321	P	P	02 17 20.0 -0.7
	comp=Z,2.5nm,0.4s,baz=98,slow=6.8,SNR=29				
MELI	Melilla	52.12 295	⇑iP	P	02 17 21.4 +0.4
MELI			eS	S	02 24 47.9 +3.1
ESK	Eskdalemuir	52.14 321	eP	P	02 17 21.6 +0.7
	comp=Z,71nm,1.1s				
ESK			LR	LR	
	comp=Z,28μm,22.0s				
ESK	Eskdalemuir	52.14 321	eP	P	02 17 21.6 +0.7
ESK			pmax	pmax	
	comp=Z,71nm,1.1s				
ESK			MLR	MLR	
	comp=Z,28μm,22.0s				
DYA	Yadsworthy	52.14 314	eP	P	02 17 23.3 +2.4
DYA			IAmb	IAmb	02 17 27.9
	comp=Z,104nm,0.9s				
DYA			IAMs_20	IAMs_20	02 42 38.5
	comp=Z,18μm,19.0s				
GOG	Mont Gurugu	52.18 295	P	P	02 17 24.0 +2.4
GOG	Mont Gurugu	52.18 295	P	P	02 17 26.0 +4.4
EDI	Edinburgh	52.20 321	eP	P	02 17 23.1 +1.8
EDI			IAmb	IAmb	02 17 28.5
	comp=Z,52nm,0.9s				
EDI			IAMs_20	IAMs_20	02 42 44.9
	comp=Z,36μm,21.3s				
ESDC	Sonseca Array	52.41 301	eP	P	02 17 22.8 -0.4
ESDC	Sonseca Array	52.41 301	P	P	02 17 23.1 -0.1
	comp=Z,11nm,0.6s,baz=66,slow=7.2,SNR=51				
ESDC			LR	LR	02 43 49.4
	comp=Z,8μm,18.5s,baz=100,slow=41				
ESLA	Sonseca Array	52.41 301	eP	P	02 17 23.5 +0.3
	comp=Z,104nm,1.0s				
ESLA			LR	LR	
	comp=Z,12μm,22.0s				
WME	Myndd Eilian	52.57 318	eP	P	02 17 25.4 +1.3
MLA1	Latheron	52.66 324	eP	P	02 17 25.9 +1.2
WPS	Cemaes, Angles	52.69 318	eP	P	02 17 25.6 +0.6
WPS			IAmb	IAmb	02 17 32.6
	comp=Z,86nm,0.9s				
WPS			IAMs_20	IAMs_20	02 45 22.3
	comp=Z,37μm,19.1s				
PAB	San Pablo	52.71 301	eP	P	02 17 25.8 +0.3
	comp=Z,202nm,0.9s				
PAB			LR	LR	
	comp=Z,13μm,22.0s				
PAB	San Pablo	52.71 301	eP	P	02 17 25.8 +0.3
PAB			pmax	pmax	
	comp=Z,203nm,0.9s				
PAB			MLR	MLR	
	comp=Z,13μm,22.0s				
RSBS	Rosebush, Pemb	52.73 316	eP	P	02 17 27.4 +2.0
RSBS			IAMs_20	IAMs_20	02 45 00.3
	comp=Z,9μm,18.1s				
INVG	Invergeldie, C	52.75 322	eP	P	02 17 26.3 +0.9
INVG			IAMs_20	IAMs_20	02 43 12.2
	comp=Z,39μm,22.1s				
NJ2	Nanjing	52.84 69	eP	P	02 17 28.1 +1.6
NJ2			S	S	02 24 57.4 +2.6
NJ2			sS	sS	02 25 01.7 -1.6
NJ2			pmax	pmax	
	comp=Z,31nm,0.9s				
NJ2			pmax	pmax	
	comp=Z,670nm,3.5s				
NJ2			LR	LR	
	comp=Z,35μm,16.3s				
NJ2			LR	LR	
	comp=Z,39μm,18.4s				
NJ2			LR	LR	
	comp=Z,51μm,20.6s				
PALE	Palemas	52.94 295	P	P	02 17 29.0 +1.8
PALE	Palemas	52.94 295	P	P	02 17 30.0 +2.8
EMAL	Malaga-Limoner	53.11 297	⇑iP	P	02 17 28.3 0.0
EMAL			eS	S	02 24 55.1 -3.2
MNAI	Manna	53.41 118	PFAKE		02 17 40.0 +9.2
MNAI			LR	LR	
	comp=Z,10μm,21.0s				
LAWE	Loch Awe, Argy	53.48 322	eP	P	02 17 32.2 +1.5
LAWE			IAmb	IAmb	02 17 38.3
	comp=Z,68nm,0.8s				
LAWE			IAMs_20	IAMs_20	02 43 34.0
	comp=Z,37μm,22.2s				
KAC	Achnashellach	53.56 323	eP	P	02 17 32.7 +1.3
RSC	Scourie	53.61 324	eP	P	02 17 31.3 -0.3
HORN	Hornachuelos	53.62 299	P	P	02 17 33.2 +1.1
HORN	Hornachuelos	53.62 299	P	P	02 17 33.2 +1.1
HORN	Hornachuelos	53.62 299	P	P	02 17 31.7 -0.4
KPL	Plockton	53.74 323	eP	P	02 17 34.1 +1.5
KPL			IAMs_20	IAMs_20	02 44 05.0
	comp=Z,26μm,22.6s				
DSB	Dublin	53.80 318	eP	P	02 17 33.1 -0.1
DSB			eS	S	02 25 07.1 -0.1
DSB	Dublin	53.80 318	eP	P	02 17 38.0 +4.9
	comp=Z,112nm,1.2s				
DSB			LR	LR	
	comp=Z,16μm,22.0s				
ARF	Arif	53.84 291	P	P	02 17 37.0 +3.0
ARF	Arif	53.84 291	P	P	02 17 39.0 +5.0
MDT	Midelt	53.90 292	P	P	02 17 34.9 +0.6
	comp=Z,32nm,1.0s,baz=91,slow=8.3,SNR=24				
MDT	Midelt	53.90 292	P	P	02 17 35.6 +1.2
MDT	Midelt	53.90 292	P	P	02 17 35.4 +1.0
LCRM	LCR	53.94 294	P	P	02 17 38.1 +3.3
LCRM	LCR	53.94 294	P	P	02 17 37.0 +2.2
CEUT	Ceuta	53.95 296	P	P	02 17 41.7 +7.1
CEUT	Ceuta	53.95 296	P	P	02 17 37.9 +3.4
CEUT	Ceuta	53.95 296	P	P	02 17 38.0 +3.4
CEUT	Ceuta	53.95 296	P	P	02 17 41.7 +7.1
CEU	Ceuta	53.99 296	⇑iP	P	02 17 33.6 -1.2
CEU			eS	S	02 25 09.7 -0.6
IWEX	Carrickbyrne,	54.00 317	eP	P	02 17 34.3 -0.4
IWEX			eS	S	02 25 09.9 -0.1
DL2	Dalian	54.02 60	P	P	02 17 34.0 -1.0
DL2			S	S	02 25 12.1 +1.6
DL2			pmax	pmax	
	comp=Z,70nm,1.1s				
DL2			pmax	pmax	
	comp=Z,560nm,7.1s				
DL2			LR	LR	
	comp=Z,55μm,23.3s				
DL2			LR	LR	
	comp=Z,7μm,23.2s				
DL2			LR	LR	

comp=Z,42µm,18.7s
SMIR Smir Dam 54.03 296 P **P 02 17 35.1 -0.1**
SMIR Smir Dam 54.03 296 P P 02 17 40.0 +4.8
TOC2 Torodi Ar. Sit 54.07 267 PFAKE 02 17 40.0 +4.3
TOC2 LR LR
comp=Z,18µm,21.0s
TOC3 Torodi Ar. Sit 54.08 267 PFAKE 02 17 40.0 +4.3
TOC3 LR LR
comp=Z,22µm,18.0s
TOC1 Torodi Ar. Sit 54.08 267 PFAKE 02 17 40.0 +4.2
TOC1 LR LR
comp=Z,21µm,18.0s
TOB2 Torodi Ar. Sit 54.08 267 PFAKE 02 17 40.0 +4.2
TOB2 LR LR
comp=Z,22µm,18.0s
TOA2 Torodi Ar. Sit 54.09 267 PFAKE 02 17 40.0 +4.2
TOA2 LR LR
comp=Z,18µm,18.0s
TOB3 Torodi Ar. Sit 54.09 267 PFAKE 02 17 40.0 +4.2
TOB3 LR LR
comp=Z,22µm,18.0s
TOA0 Torodi Ar. Sit 54.09 267 *e*P **P 02 17 34.8 -1.1**
comp=Z,197nm,0.8s
TOA0 LR LR
comp=Z,18µm,21.0s
TORD Torodi Ar. Bea 54.09 267 *e*P **P 02 17 33.4 -2.5**
TORD Torodi Ar. Bea 54.09 267 P **P 02 17 33.5 -2.3**
comp=Z,54nm,0.8s,baz=49,slow=6.9,SNR=141
TORD LR LR 02 43 06.7
comp=Z,16µm,18.0s,baz=5.0,slow=39
COCO West Island 54.09 131 PFAKE 02 17 40.0 +4.3
COCO LR LR
comp=Z,18µm,21.0s
TOA1 Torodi Ar. Sit 54.09 267 PFAKE 02 17 40.0 +4.1
TOA1 LR LR
comp=Z,17µm,18.0s
TOA3 Torodi Ar. Sit 54.10 267 PFAKE 02 17 40.0 +4.1
TOA3 LR LR
comp=Z,18µm,22.0s
TOC4 Torodi Ar. Sit 54.10 267 PFAKE 02 17 40.0 +4.1
TOC4 LR LR
comp=Z,19µm,21.0s
TOC7 Torodi Ar. Sit 54.10 267 PFAKE 02 17 40.0 +4.1
TOC7 LR LR
comp=Z,18µm,18.0s
TOB5 Torodi Ar. Sit 54.10 267 PFAKE 02 17 40.0 +4.1
TOB5 LR LR
comp=Z,19µm,21.0s
TOB4 Torodi Ar. Sit 54.11 267 PFAKE 02 17 40.0 +4.0
TOB4 LR LR
comp=Z,18µm,21.0s
TOC5 Torodi Ar. Sit 54.12 267 PFAKE 02 17 40.0 +3.9
TOC5 LR LR
comp=Z,21µm,21.0s
IFR Ifrane 54.20 293⇑ *i*P **P 02 17 36.6 0.0**
IFR *e*S **S 02 25 18.1 +4.6**
HSPB Hornsund (broa 54.23 349 *e*P **P 02 17 38.7 +2.7**
HSPB *e*S **S 02 25 12.2 -0.2**
HSPB MLR MLR
comp=Z,95µm,21.9s
HSPB Hornsund (broa 54.23 349 *e*P **P 02 17 37.4 +1.4**
SICH Sidi Chahed 54.24 294 P P 02 17 50.0 +13
QZH Quanzhou 54.26 77⇑ *i*P **P 02 17 39.2 +2.3**
QZH S **S 02 25 18.9 +4.8**
QZH pmax pmax
comp=Z,810nm,5.5s
QZH LR LR
comp=Z,37µm,18.4s
QZH LR LR
comp=Z,7µm,17.4s
QZH LR LR
comp=Z,35µm,19.2s
PBRG Braganca 54.30 304 *e*P **P 02 17 37.8 +0.7**
comp=Z,242nm,1.8s
RRH Rhenigidale 54.35 324 *e*P **P 02 17 38.5 +1.4**
GOLM Goulmima 54.40 291 P **P 02 17 40.0 +1.9**
GOLM Goulmima 54.40 291 P P 02 17 44.0 +5.9
BLWY Bulawayo 54.48 214 *i* P **P 02 17 39.9 +1.2**
BLWY Bulawayo 54.48 214 *i* P **P 02 17 39.9 +1.2**
RSA Sarsar 54.52 295 P **P 02 17 39.2 +0.4**
RSA Sarsar 54.52 295 P P 02 17 45.0 +6.2
SFS San Fernando 54.57 297 *e*P P 02 17 44.1 +5.1
comp=Z,189nm,0.9s
SFS LR LR
comp=Z,8µm,21.0s
IDGL Inch Island, C 54.57 320 *e*P **P 02 17 38.4 -0.3**
IDGL *e*S **S 02 25 17.4 -0.1**
MVO Moncorvo 54.58 303 *e*P **P 02 17 40.2 +1.0**
comp=Z,315nm,1.1s
MVO Moncorvo 54.58 303 *e*PP PP 02 19 41.4 -0.1
MVO *e*S **S 02 25 14.9 -3.4**
MVO *e*SS SS 02 29 44.2 +43
MVO *e*LR LR 02 38 25.1
comp=Z,9µm,20.0s
MATP Matopo 54.77 214 *i* P **P 02 17 42.5 +1.8**
MATP Matopo 54.77 214 *i* P **P 02 17 42.5 +1.8**
SPA0 Spitsbergen Ar 54.91 350 *e*P **P 02 17 42.1 +1.2**
comp=Z,204nm,1.3s
SPA0 Spitsbergen Ar 54.91 350 *e*P **P 02 17 41.1 +0.2**
SPITS Spitsbergen Ar 54.91 350 P **P 02 17 40.6 -0.3**
comp=Z,4.8nm,0.4s,baz=123,slow=12,SNR=36
SSE Sheshan 54.99 69 P **P 02 17 42.3 +0.2**
SSE S **S 02 25 25.2 +1.4**
SSE pmax pmax
comp=Z,33nm,0.7s
SSE pmax pmax
comp=Z,310nm,9.4s
SSE LR LR
comp=Z,6µm,18.2s
SSE LR LR
comp=Z,9µm,18.4s
SSE Sheshan 54.99 69 PFAKE 02 17 50.0 +7.9
SSE LR LR
comp=Z,44µm,19.0s
MTE Manteigas 55.06 302 *e*P **P 02 17 44.0 +1.4**
comp=Z,456nm,1.3s
MTE Manteigas 55.06 302 *e*PP PP 02 19 49.2 +3.5
MTE *e*S **S 02 25 23.8 -0.9**
MTE *e*SS SS 02 29 56.6 +48
MTE Manteigas 55.06 302 *e*LR LR 02 40 35.5
comp=Z,13µm,18.0s
MTE Manteigas 55.06 302 *e*P **P 02 17 43.7 +1.1**
comp=Z,247nm,1.1s
MTE LR LR
comp=Z,14µm,20.0s
PMRV Marv??o 55.07 301 *e*P **P 02 17 43.4 +0.7**
comp=Z,295nm,1.4s
PMRV Marv??o 55.07 301 *e*PP PP 02 19 52.4 +6.6
PMRV *e*S **S 02 25 25.4 +0.7**
PMRV *e*SS SS 02 29 23.4 +15
PMRV *e*LQ LQ 02 35 44.6
PMRV *e*LR LR 02 41 36.0
comp=Z,10µm,20.0s
PCBR Castelo Branco 55.08 301 *e*P **P 02 17 43.6 +0.9**
comp=Z,488nm,1.3s
PVRL Vila Real 55.09 303 *e*P **P 02 17 44.1 +1.3**
comp=Z,533nm,1.4s
POLO Lamas de Olo 55.13 303 *e*P **P 02 17 44.4 +1.2**
comp=Z,226nm,1.3s
PCAB Cabril 55.27 304 *e*P **P 02 17 45.8 +1.7**
comp=Z,425nm,1.3s
PVIS Viseu 55.29 303 *e*P **P 02 17 45.4 +1.1**
comp=Z,432nm,1.3s
PGAV Gavieira, Arco 55.42 304 *e*P **P 02 17 46.2 +0.9**
comp=Z,650nm,1.2s
PGAV *e*S **S 02 25 33.3 +3.7**
PGAV *e*SS SS 02 30 08.2 +54
PGAV Gavieira, Arco 55.42 304 *e*LR LR 02 40 55.7
comp=Z,14µm,18.0s
ZHG ZHG 55.45 294 P P 02 17 52.0 +6.4
RTC Rabat Centre 55.52 294 *e*P P 02 17 51.1 +5.1
comp=Z,2µm,1.1s
RTC LR LR
comp=Z,71µm,18.0s
RTC Rabat Centre 55.52 294 P P 02 17 51.0 +5.0
RTC Rabat Centre 55.52 294 P P 02 17 51.0 +5.0
RTC Rabat Centre 55.52 294 P P 02 17 52.5 +6.5
IGLA Glengowla, Co 55.60 318 *e*P **P 02 17 46.1 -0.1**
IGLA *e*S **S 02 25 30.1 -1.3**
PVAQ Vaqueiros 55.61 299 *e*S **S 02 25 28.9 -3.2**
PVAQ *e*SS **SS 02 29 23.7 +6.7**
PBEJ Beja 55.63 299 *e*P P 02 17 50.2 +3.5
comp=Z,239nm,1.7s
MSNA Messina 55.66 212 *i* P **P 02 17 48.5 +1.4**
MSNA Messina 55.66 212 *i* P **P 02 17 48.5 +1.4**

EVO Evora 55.67 300 *e*P **P 02 17 47.6 +0.6**
comp=Z,291nm,1.5s
EVO Evora 55.67 300⇑ *i*P **P 02 17 47.6 +0.6**
EVO *e*S **S 02 25 38.7 +5.9**
COI Coimbra 55.74 302 *e*P **P 02 17 48.3 +0.8**
comp=Z,387nm,1.3s
PMTG Montargil 55.76 301 *e*P P 02 17 50.8 +3.2
comp=Z,162nm,1.3s
PTO Porto 55.77 303 *e*P P 02 17 52.3 +4.7
comp=Z,293nm,1.3s
PBDV Barranco-do-Ve 55.81 298 *e*P **P 02 17 48.3 +0.3**
comp=Z,135nm,2.0s
PTOM Tomar 55.82 301 *e*P **P 02 17 49.5 +1.4**
comp=Z,602nm,1.4s
PCAS Casmilo, Conde 55.83 302 *e*P **P 02 17 49.2 +1.1**
comp=Z,256nm,1.6s
PCVE Castro Verde 55.83 299 *e*P **P 02 17 50.1 +1.9**
comp=Z,212nm,1.7s
MESJ Messejana 55.94 299 *e*P **P 02 17 49.2 +0.3**
MESJ *e*S **S 02 25 37.3 +0.9**
MESJ AMS AMS 02 44 08.9
comp=N,16µm,17.0s
MESJ Messejana 55.94 299 *e*P **P 02 17 51.2 +2.3**
comp=N,116nm,1.5s
MESJ Messejana 55.94 299 *e*P **P 02 17 49.2 +0.3**
MESJ *e*S **S 02 25 37.3 +0.9**
CBTN Chibotane 55.99 209 *e*P **P 02 17 51.0 +1.7**
CBTN *e* 02 17 51.1
baz=140,slow=18
CBTN IAML 02 17 59.5
comp=Z,69nm,0.5s
KBS Kingsbay 56.07 350 *e*P **P 02 17 49.5 +0.4**
comp=Z,71nm,0.9s
KBS LR LR
comp=Z,17µm,20.0s
KBS Kingsbay 56.07 350 *e*P **P 02 17 49.6 +0.4**
KBS pmax pmax
comp=Z,71nm,0.9s
KBS MLR MLR
comp=Z,17µm,20.0s
KBS Kingsbay 56.07 350 *e*P **P 02 17 48.4 -0.8**
OUZM OUZ 56.08 291 P P 02 17 59.3 +9.0
OUZM OUZ 56.08 291 P **P 02 17 52.0 +1.7**
AVE Averroes 56.11 294⇑ *i*P **P 02 17 50.0 -0.2**
AVE *e*S **S 02 25 38.8 -0.1**
AVE Averroes 56.11 294 P P 02 17 55.8 +5.5
PNCL Nicolau / Gran 56.14 300 *e*P **P 02 17 52.3 +2.0**
comp=Z,264nm,1.4s
VAL Valentia 56.14 316 *e*S **S 02 25 39.1 +0.6**
KSM Kuching 56.19 107 *e*P P 02 17 54.7 +3.7
comp=Z,76nm,1.3s
KSM LR LR
comp=Z,31µm,21.0s
KSM Kuching 56.19 107 P **P 02 17 53.0 +2.0**
CN2 Changchun 56.31 54 *e*P **P 02 17 51.3 -0.2**
CN2 *e*S **S 02 25 34.0 -7.2**
CN2 *e*SS **SS 02 29 20.5 -7.3**
CN2 pmax pmax
comp=Z,30nm,1.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,32µm,18.0s
CN2 LR LR
comp=Z,9µm,18.0s
CN2 LR LR
comp=Z,42µm,18.0s
MORF Marmelete 56.36 299 *e*P **P 02 17 52.4 +0.3**
MORF *e*S **S 02 25 43.0 +0.7**
MORF AMS AMS 02 45 53.6
comp=E,12µm,20.6s
MORF Marmelete 56.36 299 *e*P P 02 17 55.1 +3.1
comp=E,174nm,1.7s
MORF Marmelete 56.36 299 *e*P **P 02 17 52.3 +0.3**
MORF *e*S **S 02 25 42.9 +0.7**
PTEO Sao Teotonio 56.38 299 *e*P P 02 17 57.6 +5.5
comp=E,236nm,1.5s
LIS Lisbon 56.52 300 *e*P **P 02 17 53.4 +0.3**
LIS *e*S **S 02 25 44.9 +0.8**
LIS AMS AMS 02 44 14.0
comp=N,13µm,21.7s
LIS Lisbon 56.52 300 *e*P P 02 17 59.4 +6.3
comp=N,305nm,2.1s
LIS Lisbon 56.52 300 *e*P **P 02 17 53.3 +0.3**
LIS *e*S **S 02 25 44.9 +0.8**
PFVI Vila Bisbo 56.53 298 *e*P **P 02 17 55.5 +2.3**
comp=N,241nm,1.2s
PFVI Vila Bisbo 56.53 298 *e*P **P 02 17 55.8 +2.6**
comp=N,161nm,0.9s
PFVI LR LR
comp=Z,8µm,21.0s
PFVI Vila Bisbo 56.53 298 P **P 02 17 55.9 +2.7**
PMAFR Mafra 56.59 301 *e*P P 02 17 58.3 +4.7
comp=Z,583nm,1.4s
SSLB Suanglung 56.65 78 PFAKE 02 18 00.0 +5.8
SSLB LR LR
comp=Z,14µm,20.0s
SRHM Skhour des Reh 56.69 293 P P 02 17 59.0 +4.6
SRHM Skhour des Reh 56.69 293 P P 02 17 59.0 +4.6
SRHM Skhour des Reh 56.69 293 P P 02 18 00.0 +5.6
YHNB Yeheng 56.76 77 *e*P P 02 17 58.8 +3.7
comp=Z,204nm,1.2s
YHNB LR LR
comp=Z,37µm,19.0s
TATO Taipei 56.77 76 PFAKE 02 18 10.0 +15
TATO LR LR
comp=Z,38µm,18.0s
ZEA Zeya 56.91 42 *e*P **P 02 17 55.8 +0.2**
ZEA *e*S **S 02 25 52.0 +3.2**
ZEA pmax pmax
comp=E,47nm,1.0s
ZEA pmax pmax
comp=Z,170nm,1.4s
ZEA smax smax
comp=E,2µm,13.0s
OUK Oukaimeden 56.94 291 P P 02 18 03.0 +6.4
TWG Pinlang 57.04 79 PFAKE 02 18 10.0 +13
TWG LR LR
comp=Z,64µm,19.0s
YULB Yu-li 57.07 78 PFAKE 02 18 10.0 +13
YULB LR LR
comp=Z,25µm,19.0s
NACB Ninganchiao 57.10 77 PFAKE 02 18 10.0 +13
NACB LR LR
comp=Z,47µm,20.0s
SBUM Sibu 57.34 105 *e*P **P 02 18 00.1 +1.0**
comp=Z,55nm,1.8s
SBUM LR LR
comp=Z,9µm,20.0s
SBUM Sibu 57.34 105 P **P 02 18 01.0 +1.9**
TTIG Tnine Tigouga, 57.58 291 P P 02 18 08.0 +7.2
TTIG Tnine Tigouga, 57.58 291 P P 02 18 07.0 +6.2
YOJ Yonaguni jima 58.25 77 PFAKE 02 18 20.0 +15
YOJ LR LR
comp=Z,25µm,19.0s
YAK Yakutsk 58.33 32*d* *i*P **P 02 18 03.6 -1.8**
YAK *e**PP **sP 02 18 11.8 -0.8**
YAK *e* 02 18 55.9
YAK *e* 02 20 10.9
YAK *e*S **S 02 26 03.7 -3.4**
YAK *e**SS **sS 02 26 19.4 +3.7**
YAK *e* 02 27 51.8
YAK *e*SS **SS 02 29 56.6 -2.1**
YAK pmax pmax
comp=Z,543nm,1.0s
YAK pmax pmax
comp=N,63nm,1.0s
YAK pmax pmax
comp=E,404nm,1.2s
YAK pmax pmax
comp=Z,797nm,1.9s
YAK pmax pmax
comp=N,235nm,1.5s
YAK pmax pmax
comp=E,743nm,1.6s
YAK smax smax
comp=E,6µm,3.8s
YAK smax smax
comp=N,1µm,2.4s
YAK MLR MLR
comp=N,49µm,13.0s
TJN Taejon 58.92 62*ce*P **P 02 18 10.7 +0.7**
TIXI Tiksi 58.97 20 *e*P **P 02 18 08.9 -0.9**
comp=N,146nm,1.4s
TIXI LR LR

comp=Z,38µm,18.0s
TIXI Tiksi 58.97 20*ce*P **P 02 18 08.0 -1.7**
TIXI pmax pmax
comp=Z,48nm,1.7s
KKM Kota Kinabalu 59.11 99 *e*P **P 02 18 12.9 +1.2**
comp=Z,121nm,1.5s
KKM LR LR
comp=Z,34µm,22.0s
KKM Kota Kinabalu 59.11 99 P **P 02 18 14.0 +2.3**
KS15 Wonju Array Si 59.12 61 *e*P **P 02 18 13.1 +1.8**
comp=Z,148nm,1.4s
KSAR Wonju Array Be 59.12 61 *e*P **P 02 18 09.6 -1.7**
KSAR *es*P **P 02 18 11.2 -0.1**
KSAR Wonju Array Be 59.12 61 *e*P **P 02 18 09.6 -1.7**
KSAR *e**SP **P 02 18 11.2 -0.1**
KSRS Korea Array 59.14 61 P **P 02 18 11.5 0.0**
comp=Z,14nm,0.9s,baz=274,slow=7.2,SNR=40
KSRS LR LR 02 47 53.7
comp=Z,16µm,21.3s,baz=282,slow=40
MDJ Mudanjiang 59.17 52 P P 02 18 21.6 +10
MDJ pP PcP 02 18 41.9 -18
MDJ sP sP 02 18 48.6 +30
MDJ PP PP 02 20 34.6 +12
MDJ ScP **ScP 02 23 05.5 +5.2**
MDJ PcS PcS 02 23 46.5 +45
MDJ S **S 02 26 16.5 -2.1**
MDJ ScS **ScS 02 27 56.8 -4.4**
MDJ Mudanjiang 59.17 52 SS SS 02 30 22.6 +10
MDJ Mudanjiang 59.17 52 PFAKE 02 18 20.0 +8.4
MDJ LR LR
comp=Z,30µm,22.0s
CISI Cisompet, Garu 59.18 118 PFAKE 02 18 20.0 +7.9
CISI LR LR
comp=Z,9µm,19.0s
XMIS Christmas Isla 59.30 122 PFAKE 02 18 20.0 +7.1
XMIS LR LR
comp=Z,14µm,19.0s
KLR Kul'dur 60.02 47 *i* P **P 02 18 16.2 -1.2**
KLR pmax pmax
comp=Z,39nm,1.2s
TSUM Tsumeb 60.03 225 *i* P P 02 18 22.6 +4.6
TSUM Tsumeb 60.03 225 *e*P **P 02 18 19.1 +1.2**
comp=Z,72nm,1.1s
TSUM LR LR
comp=Z,39µm,19.0s
TSUM Tsumeb 60.03 225 *i* P P 02 18 22.6 +4.6
LBTB Lobatse 60.06 214 *e*P **P 02 18 19.7 +1.7**
comp=Z,144nm,1.2s
LBTB Lobatse 60.06 214 *e*P **P 02 18 19.7 +1.7**
LBTB pmax pmax
comp=Z,144nm,1.2s
USRK Ussuriysk Ar. 60.93 52 *e*P **P 02 18 22.8 -0.9**
USRK *es*P **P 02 18 23.3 -0.3**
USRK Ussuriysk Ar. 60.93 52 P **P 02 18 23.1 -0.5**
comp=Z,5.5nm,0.7s,baz=265,slow=7.2,SNR=8.8
USRK LR LR 02 47 42.2
comp=Z,32µm,18.3s,baz=266,slow=39
SMRI Semarang 60.98 116 PFAKE 02 18 30.0 +5.6
SMRI LR LR
comp=Z,10µm,19.0s
DAG Danmarks Havn 61.16 345 *i* P **P 02 18 24.0 -0.7**
DAG Danmarks Havn 61.16 345 *i* P **P 02 18 24.0 -0.7**
UGM Wanagama 61.55 116 PFAKE 02 18 40.0 +12
UGM LR LR
comp=Z,9µm,21.0s
BORG Borgarnes 61.62 331 P **P 02 18 28.9 +0.9**
BORG LR LR
comp=Z,12µm,20.0s
BORG Borgarnes 61.62 331 P **P 02 18 28.9 +0.9**
comp=Z,15nm,1.0s,baz=135,slow=5.7,SNR=2.5
SCO Scoresbysund 61.73 338 *e*P **P 02 18 28.9 +0.3**
comp=Z,108nm,1.2s
SCO LR LR
comp=Z,20µm,22.0s
SCO Scoresbysund 61.73 338 *i* P **P 02 18 29.6 +1.0**
SCO Scoresbysund 61.73 338 *i* P **P 02 18 29.6 +1.0**
JOW Kunigami 62.08 72 PFAKE 02 18 40.0 +8.3
JOW LR LR
comp=Z,13µm,20.0s
JNU Nakatsue 62.49 65 *e*P **P 02 18 34.7 +0.2**
JNU *ep*P **P 02 18 36.5 +2.0**
DBIC Dimbokro 62.66 264 *e*P **P 02 18 36.8 +1.0**
comp=Z,98nm,1.0s
DBIC Dimbokro 62.66 264 *e*P **P 02 18 36.8 +1.0**
DBIC pmax pmax
comp=Z,98nm,1.0s
DBIC Dimbokro 62.66 264 P **P 02 18 35.4 -0.4**
comp=Z,59nm,0.9s,baz=44,slow=7.8,SNR=25
DBIC LR LR 02 46 41.5
comp=Z,14µm,19.1s,baz=39,slow=37
KIC Kosan Boka 62.70 263 *e*P **P 02 18 38.3 +2.3**
comp=Z,268nm,1.1s
GRNR Gornyy 62.79 44 *e*P **P 02 18 36.2 +0.1**
GRNR pmax pmax
comp=Z,25nm,1.1s
TIC Toumodi 62.82 264 *e*P **P 02 18 37.6 +0.7**
LIC Lamto 63.02 263 *e*P **P 02 18 40.3 +2.2**
comp=Z,298nm,1.0s
BOSA Boshof 63.23 212 *i* P **P 02 18 40.0 +0.6**
BOSA Boshof 63.23 212 *e*P **P 02 18 40.0 +0.6**
comp=Z,112nm,1.2s
BOSA Boshof 63.23 212 *i* P **P 02 18 40.0 +0.6**
BOSA Boshof 63.23 212 P **P 02 18 40.0 +0.6**
comp=Z,44nm,1.0s,baz=5.6,slow=5.3,SNR=20
BOSA LR LR 02 49 53.6
comp=Z,14µm,18.4s,baz=27,slow=40
PMPST Porto Santo, M 63.43 295 *e*P P 02 18 45.9 +5.3
comp=Z,571nm,1.4s
PMPS Porto Santo 63.44 295 *e*P P 02 18 46.4 +5.8
comp=Z,479nm,1.4s
PMAR Madeira 64.00 295 *e*P **P 02 18 46.0 +1.4**
comp=Z,1µm,1.4s
TEY Ternei 64.00 51⇑ *e*P **P 02 18 43.8 -0.3**
TEY pmax pmax
comp=Z,20nm,1.2s
TEY MLR MLR
comp=E,2µm,17.0s
TEY MLR MLR
comp=Z,3µm,16.0s
FUL Funchal 64.00 295 *e*P P 02 18 49.3 +4.9
comp=Z,363nm,1.5s
PMOZ Porto Moniz, M 64.20 295 *e*P P 02 18 51.5 +5.7
comp=Z,1µm,1.4s
PMOZ *e*S **S 02 27 25.5 +2.6**
PMOZ Porto Moniz, M 64.20 295 *e*LR LR 02 39 31.3
comp=Z,8µm,18.0s
PMOZ Porto Moniz, M 64.20 295 P P 02 18 51.7 +5.9
JAGI Jajag, Banyuwa 64.80 115 PFAKE 02 19 00.0 +10
JAGI LR LR
comp=Z,8µm,19.0s
NKL Nikolayevsk 64.95 41 *e*P **P 02 18 48.7 -1.5**
NKL *e* 02 27 32.0
NKL pmax pmax
comp=E,46nm,1.0s
NKL pmax pmax
comp=Z,43nm,1.0s
NKL pmax pmax
comp=Z,700nm,12.0s
NKL MLR MLR
comp=N,13µm,14.0s
NKL MLR MLR
comp=E,22µm,14.0s
NKL MLR MLR
comp=Z,28µm,14.0s
TYV Tymovskoe 66.64 43 *e*P **P 02 19 01.4 +0.2**
TYV *e*S **S 02 27 50.5 -1.5**
TYV pmax pmax
comp=Z,500nm,4.8s
TYV pmax pmax
comp=Z,33nm,1.1s
TYV smax smax
comp=E,3µm,8.7s
SUMG Summit 66.67 341 *e*P **P 02 19 01.8 +0.3**
comp=E,219nm,1.1s
SUMG LR LR
comp=Z,14µm,22.0s
SUMG Summit 66.67 341 *e*P **P 02 19 01.8 +0.3**
SUMG pmax pmax
comp=Z,219nm,1.1s
SUMG MLR MLR
comp=Z,14µm,22.0s
SUMG Summit 66.67 341 *i* P **P 02 19 01.9 +0.4**
INU Inuyama 66.77 61 *e*P **P 02 19 02.4 +0.1**
comp=Z,108nm,0.9s
INU LR LR
comp=Z,28µm,20.0s

DAV Davao City (W) 66.98 94 PFAKE 02 19 10.0 +6.1
DAV LR LR
comp=Z,19μm,20.0s
DAV Davao City (W) 66.98 94‖ *e*P **P 02 19 03.9 -0.1**
MJB9 Matsu-Tunnel 67.34 59 *e*P **P 02 19 06.8 +0.8**
comp=Z,69nm,1.0s
MJB9 LR LR
comp=Z,18μm,19.0s
MAJO Matsushiro 67.34 59 *e*P **P 02 19 06.2 +0.2**
comp=Z,66nm,1.0s
MAJO LR LR
comp=Z,17μm,19.0s
MAJO Matsushiro 67.34 59 *e*P **P 02 19 06.2 +0.2**
MAJO pmax pmax
comp=Z,66nm,1.0s
MAJO MLR MLR
comp=Z,17μm,19.0s
MAT Matsushiro 67.34 59 P **P 02 19 05.7 -0.3**
MAT S **S 02 28 03.2 +2.1**
MJAR Matsushiro Arr 67.34 59 *e*P **P 02 19 08.9 +3.0**
MJAR Matsushiro Arr 67.34 59 P **P 02 19 06.2 +0.3**
comp=Z,5.1nm,0.8s,baz=281,slow=10,SNR=17
MJAR LR LR 02 52 03.2
comp=Z,16μm,19.0s,baz=300,slow=39
KAPI Kappang 67.60 108 *e*P **P 02 19 09.8 +2.0**
comp=Z,121nm,1.3s
KAPI LR LR
comp=Z,13μm,20.0s
YSS Yuzh-Sakhalins 67.70 48 *e*P **P 02 19 07.7 -0.3**
comp=Z,149nm,0.9s
YSS LR LR
comp=Z,32μm,18.0s
YSS Yuzh-Sakhalins 67.70 48⇑ *e*P **P 02 19 07.6 -0.3**
YSS *e* 02 19 11.8
YSS *e**PP **sP 02 19 16.8 +1.6**
YSS *e*S **S 02 28 03.8 -1.1**
YSS *e*SS **SS 02 32 23.5 -2.0**
YSS pmax pmax
comp=Z,40nm,0.6s
YSS MLR MLR
comp=E,35μm,16.0s
YSS MLR MLR
comp=Z,32μm,16.0s
LUWI Luwuk 68.22 103 PFAKE 02 19 20.0 +8.3
LUWI LR LR
comp=Z,17μm,21.0s
ANGG Ammassalik, Gr 68.25 334 *e*P P 02 19 15.2 +4.2
comp=Z,446nm,1.9s
ANGG LR LR
comp=Z,14μm,22.0s
SUR Sutherland 68.49 213 *e*P **P 02 19 15.2 +2.0**
comp=Z,68nm,1.1s
SUR LR LR
comp=Z,17μm,21.0s
SUR Sutherland 68.49 213 P **P 02 19 15.3 +2.0**
comp=Z,22nm,1.0s,baz=43,slow=5.4
SEY Seymchan 68.63 29 P **P 02 19 13.7 +0.2**
comp=Z,41nm,0.6s,baz=282,slow=7.2,SNR=52
MA2 Magadan 68.84 33 *e*P **P 02 19 13.8 -1.2**
comp=Z,52nm,0.9s
MA2 LR LR
comp=Z,26μm,18.0s
MA2 Magadan 68.84 33*ce*P **P 02 19 14.7 -0.2**
MA2 pmax pmax
comp=Z,77nm,1.7s
BART Pico Bartolome 68.99 303 *e*S **S 02 28 15.1 -5.7**
PSMN Pico do Norte, 69.15 302 *e*S **S 02 28 17.2 -5.4**
PSMN Pico do Norte, 69.15 302 *e*LR LR 02 41 41.5
comp=Z,635nm,23.9s
PSMA Santa Maria 69.20 302 *e*S **S 02 28 17.6 -5.6**
CMLA Cha da Macela 69.26 303 *e*S **S 02 28 18.4 -5.5**
CMLA Cha da Macela 69.26 303 *e*LR LR 02 41 53.6
comp=Z,898nm,21.8s
ERM Erimo 69.39 53 PFAKE 02 19 30.0 +11
ERM LR LR
comp=Z,28μm,18.0s
JHJ2 Mitsune 69.67 62 PFAKE 02 19 30.0 +10
JHJ2 LR LR
comp=Z,21μm,20.0s
YUK Yuzh-Kuril'sk 70.64 50*d i*P **P 02 19 26.2 -0.1**
YUK *e* 02 19 45.9
YUK *e*PPP PPP 02 23 49.5
YUK *i* S **S 02 28 37.0 -2.8**
YUK *e* 02 29 27.7
YUK *e*SS **SS 02 33 07.5 -3.5**
YUK *e*SSS SSS 02 36 21.8
YUK pmax pmax
comp=Z,410nm,1.1s
YUK pmax pmax
comp=Z,311nm,1.1s
YUK pmax pmax
comp=E,234nm,0.9s
YUK pmax pmax
comp=N,119nm,0.6s
YUK MLR MLR
comp=E,31μm,17.0s
YUK MLR MLR
comp=Z,25μm,17.0s
YUK MLR MLR
comp=N,2μm,14.0s
PGRA Graciosa 70.69 305 *e*S **S 02 28 35.0 -5.6**
PGRA Graciosa 70.69 305 *e*LR LR 02 41 29.3
comp=N,313nm,17.3s
KULLO Kullorsuaq 70.82 345 *i* P **P 02 19 25.9 -0.9**
KULLO pmax pmax
comp=Z,310nm,1.2s
KULLO Kullorsuaq 70.82 345 *i* P **P 02 19 25.9 -0.9**
comp=Z,313nm,1.2s
ROSA Rosais 70.99 304 *e*S **S 02 28 40.0 -4.0**
ROSA Rosais 70.99 304 *e*LR LR 02 41 33.4
comp=Z,622nm,22.3s
ROSA Rosais 70.99 304 PFAKE 02 19 40.0 +11
ROSA LR LR
comp=Z,7μm,22.0s
TNTI Ternate 71.40 99 *e*P P 02 19 34.8 +3.4
comp=Z,81nm,1.1s
MMRI Maumere 71.59 110 PFAKE 02 19 40.0 +7.6
MMRI LR LR
comp=Z,9μm,21.0s
KUR Kuril'sk 71.61 48 *e*P P 02 19 43.5 +11
KUR *i* S **S 02 28 51.6 +0.7**
KUR *e*SS **SS 02 33 28.4 +2.7**
KUR pmax pmax
comp=Z,229nm,1.5s
KUR pmax pmax
comp=Z,1μm,3.1s
KUR MLR MLR
comp=N,12μm,17.0s
KUR MLR MLR
comp=Z,17μm,17.0s
KUR MLR MLR
comp=E,4μm,18.0s
ILULI Ilulissat 71.75 339 *e*P **P 02 19 32.5 0.0**
comp=E,274nm,1.5s
ILULI LR LR
comp=Z,19μm,22.0s
ILULI Ilulissat 71.75 339 *e*P **P 02 19 32.5 0.0**
ILULI pmax pmax
comp=Z,274nm,1.5s
ILULI MLR MLR
comp=Z,19μm,22.0s
ILULI Ilulissat 71.75 339 *i* P **P 02 19 32.3 -0.2**
TULEG Thule 72.02 349 *e*P **P 02 19 33.3 -0.7**
comp=Z,241nm,1.0s
TULEG LR LR
comp=Z,14μm,21.0s
BILL Bilibino 72.12 22 *e*P **P 02 19 35.0 +0.2**
comp=Z,71nm,1.1s
BILL LR LR
comp=Z,28μm,18.0s
BILL Bilibino 72.12 22*d i*P **P 02 19 34.2 -0.6**
BILL *i* 02 19 39.9
BILL *i* 02 19 47.9
BILL *i* S **S 02 28 49.6 -6.5**
BILL pmax pmax
comp=Z,44nm,1.1s
BILL MLR MLR
comp=Z,24μm,15.0s
SFJD Kangerlussuaq 72.61 337 *e*P **P 02 19 38.9 +1.2**
comp=Z,167nm,1.4s
SFJD LR LR
comp=Z,27μm,22.0s
SFJD Kangerlussuaq 72.61 337 *e*P **P 02 19 38.9 +1.2**
SFJD pmax pmax
comp=Z,167nm,1.4s
SFJD MLR MLR
comp=Z,27μm,22.0s
SFJD Kangerlussuaq 72.61 337 P **P 02 19 37.0 -0.7**
comp=Z,7.0nm,0.5s,baz=103,slow=8.3,SNR=7.8
SFJD Kangerlussuaq 72.61 337 *i* P **P 02 19 36.5 -1.2**
NRS Narsarsuaq 73.10 330 *e*P **P 02 19 40.9 +0.2**
comp=Z,67nm,0.9s
NRS LR LR
comp=Z,18μm,22.0s
NRS Narsarsuaq 73.10 330 *e*P **P 02 19 40.9 +0.2**
NRS pmax pmax
comp=Z,67nm,0.9s
NRS MLR MLR
comp=Z,18μm,22.0s
GIRL Giralia 73.33 127 PFAKE 02 19 50.0 +7.4
GIRL LR LR
comp=Z,10μm,21.0s
SOEI Soe 73.88 110 *e*P **P 02 19 46.9 +0.7**
comp=Z,580nm,1.3s
SOEI LR LR
comp=Z,15μm,21.0s
IVI Ivigtut 74.28 331 *e*P **P 02 19 47.3 -0.3**
comp=Z,146nm,1.2s
IVI LR LR
comp=Z,15μm,22.0s
PEA0B Petropavlovsk- 74.71 38 PFAKE 02 20 00.0 +10
PEA0B LR LR
comp=Z,24μm,20.0s
PETK Petropavlovsk- 74.71 38 P **P 02 19 48.6 -1.7**
comp=Z,15nm,0.8s,baz=158,slow=1.0,SNR=11
PETK LR LR 02 56 12.5
comp=Z,20μm,18.7s,baz=284,slow=39
SHEL Horse Pasture 74.87 243 PFAKE 02 20 00.0 +8.2
SHEL LR LR
comp=Z,11μm,20.0s
PET Petropavlovsk 75.27 38 PFAKE 02 20 00.0 +6.5
PET LR LR
comp=Z,21μm,18.0s
PET Petropavlovsk 75.27 38 *e*P **P 02 19 54.2 +0.7**
PET *e*S **S 02 29 28.5 -3.6**
PET *e*SS **SS 02 34 22.7 +1.6**
PET *e*SSS SSS 02 37 38.7
PET pmax pmax
comp=Z,271nm,20.8s
MBWA Marble Bar 76.50 122 PFAKE 02 20 10.0 +9.0
MBWA LR LR
comp=Z,29μm,18.0s
PSAD1 Pilbara Seismi 76.75 122 PFAKE 02 20 10.0 +7.6
PSAD1 LR LR
comp=Z,27μm,18.0s
PSAC1 Pilbara Seismi 76.78 122 PFAKE 02 20 10.0 +7.4
PSAC1 LR LR
comp=Z,23μm,18.0s
PSAB1 Pilbara Seismi 76.81 122 PFAKE 02 20 10.0 +7.3
PSAB1 LR LR
comp=Z,21μm,18.0s
PSAD3 Pilbara Seismi 76.82 123 PFAKE 02 20 10.0 +7.2
PSAD3 LR LR
comp=Z,24μm,22.0s
PSAA1 Pilbara Seismi 76.82 122 PFAKE 02 20 10.0 +7.2
PSAA1 LR LR
comp=Z,21μm,18.0s
PSAA2 Pilbara Seismi 76.82 122 PFAKE 02 20 10.0 +7.2
PSAA2 LR LR
comp=Z,22μm,18.0s
PSA00 Pilbara Seismi 76.83 122 PFAKE 02 20 10.0 +7.2
PSA00 LR LR
comp=Z,21μm,18.0s
PSAB2 Pilbara Seismi 76.83 122 PFAKE 02 20 10.0 +7.1
PSAB2 LR LR
comp=Z,22μm,19.0s
PSAA3 Pilbara Seismi 76.84 122 PFAKE 02 20 10.0 +7.1
PSAA3 LR LR
comp=Z,24μm,22.0s
PSAC3 Pilbara Seismi 76.84 122 PFAKE 02 20 10.0 +7.1
PSAC3 LR LR
comp=Z,18μm,18.0s
PSAB3 Pilbara Seismi 76.85 122 PFAKE 02 20 10.0 +7.0
PSAB3 LR LR
comp=Z,25μm,22.0s
PSAC2 Pilbara Seismi 76.86 122 PFAKE 02 20 10.0 +7.0
PSAC2 LR LR
comp=Z,23μm,18.0s
PSAD2 Pilbara Seismi 76.94 122 PFAKE 02 20 10.0 +6.5
PSAD2 LR LR
comp=Z,22μm,18.0s
RES Resolute Bay 77.36 353 *e*P **P 02 20 04.8 -0.2**
comp=Z,82nm,1.7s
RES LR LR
comp=Z,18μm,21.0s
RES Resolute Bay 77.36 353 *e*P **P 02 20 04.8 -0.2**
RES pmax pmax
comp=Z,82nm,1.7s
RES MLR MLR
comp=Z,18μm,21.0s
RES Resolute Bay 77.36 353 P **P 02 20 04.4 -0.6**
comp=Z,2.6nm,0.5s,baz=24,slow=8.8,SNR=19
FAKI Fak Fak 77.43 100 *e*P **P 02 20 07.6 +1.1**
comp=Z,144nm,1.2s
FAKI LR LR
comp=Z,5μm,20.0s
ASCN Ascension 77.89 255 PFAKE 02 20 20.0 +11
ASCN LR LR
comp=Z,7μm,21.0s
MORW Morawa 78.63 131 *e*P **P 02 20 12.4 -0.3**
comp=Z,85nm,1.2s
MORW *e*pP PcP 02 20 28.8 +7.2
MORW LR LR
comp=Z,27μm,22.0s
MORW Morawa 78.63 131 P **P 02 20 15.0 +2.2**
baz=79,SNR=4.0
SAUI Saumlaki 79.00 105 PFAKE 02 20 20.0 +4.9
SAUI LR LR
comp=Z,8μm,20.0s
FITZ Fitzroy Crossi 79.41 116 *e*P **P 02 20 16.9 -0.3**
comp=Z,33nm,0.9s
FITZ Fitzroy Crossi 79.41 116 P **P 02 20 17.6 +0.4**
baz=80,SNR=24
FITZ Fitzroy Crossi 79.41 116 P **P 02 20 17.1 -0.1**
comp=Z,15nm,0.9s,baz=280,slow=4.9,SNR=16
BLDU Ballidu 80.05 131 P **P 02 20 21.6 +1.2**
baz=80,SNR=10
FRB Frobisher Bay 80.58 339 P **P 02 20 22.5 -0.3**
comp=Z,16nm,0.7s,baz=57,slow=11
KNRA Kununurra 80.68 113 P **P 02 20 25.0 +0.9**
baz=81,SNR=5.2
RDOG Red Dog Mine 80.87 14 *e*P **P 02 20 25.1 +0.7**
comp=Z,88nm,1.1s
RDOG LR LR
comp=Z,26μm,21.0s
MTN Manton Dam 81.23 109 PFAKE 02 20 40.0 +13
MTN LR LR
comp=Z,6μm,22.0s
KLBR Kellerberrin 81.36 132 P P 02 20 30.8 +3.3
baz=82,SNR=6.1
GUMO Guam 81.41 79 LR LR 02 59 00.5
comp=Z,5μm,21.9s,baz=309,slow=38
NWAO Narrogin (SRO) 81.85 133 *e*P **P 02 20 30.9 +0.9**
comp=Z,98nm,1.0s
NWAO LR LR
comp=Z,9μm,20.0s
NWAO Narrogin (SRO) 81.85 133 P **P 02 20 30.9 +0.9**
baz=82,SNR=5.4
NWAO Narrogin (SRO) 81.85 133 *e*P **P 02 20 30.9 +0.9**
NWAO pmax pmax
comp=Z,98nm,1.0s
NWAO MLR MLR
comp=Z,9μm,20.0s
NWAO Narrogin (SRO) 81.85 133 P **P 02 20 30.6 +0.6**
comp=Z,48nm,0.9s,baz=290,slow=7.7,SNR=5.0
KDU Kakadu 82.29 108 P **P 02 20 33.2 +0.5**
baz=82,SNR=6.9
TOLK Toolik Lake Re 82.86 10 *e*P **P 02 20 35.1 +0.2**
comp=Z,92nm,0.8s
TOLK LR LR
comp=Z,24μm,20.0s
TOLK Toolik Lake Re 82.86 10 P **P 02 20 35.1 +0.2**
baz=336
ANM Nome 83.06 17 *e*P **P 02 20 36.8 +0.9**
comp=Z,248nm,1.5s
ANM LR LR
comp=Z,22μm,21.0s
ANM Nome 83.06 17 *e*P **P 02 20 36.8 +0.9**
ANM pmax pmax
comp=Z,248nm,1.5s
ANM MLR MLR
comp=Z,22μm,21.0s
IMAR Indian Mountai 84.54 12 *e*P **P 02 20 42.7 -0.8**
BMAR Burnt Mountain 84.70 9 *e*P **P 02 20 44.9 +0.5**
INK Inuvik 84.95 4 *e*P **P 02 20 44.9 -0.5**
comp=Z,90nm,1.1s
INK LR LR
comp=Z,19μm,22.0s
INK Inuvik 84.95 4 *e*P **P 02 20 44.9 -0.5**
INK pmax pmax
comp=Z,90nm,1.1s
INK MLR MLR
comp=Z,19μm,22.0s
INK Inuvik 84.95 4 P **P 02 20 45.0 -0.4**
comp=Z,11nm,1.0s,baz=7.1,slow=7.0,SNR=29
WRKA Warakurna 85.19 121 P **P 02 20 49.0 +1.6**
baz=85,SNR=11
FYU Fort Yukon 85.43 9 PFAKE 02 21 00.0 +12
FYU LR LR
comp=Z,10μm,18.0s
MLY Manley 85.96 12 *e*P **P 02 20 50.8 +0.1**
comp=Z,55nm,1.0s
MLY LR LR
comp=Z,17μm,19.0s
SCHQ Schefferville 86.02 332 *e*P **P 02 20 52.1 +1.0**
comp=Z,79nm,1.4s
SCHQ Schefferville 86.02 332 P **P 02 20 50.2 -1.0**
comp=Z,4.8nm,0.5s,baz=35,slow=6.7,SNR=4.5
SCHQ LR LR 03 00 18.7
comp=Z,6μm,19.6s,baz=47,slow=36
PRP Porcupine Dome 86.37 10 *e*P **P 02 20 53.1 +0.3**
comp=Z,74nm,1.1s
PRP LR LR
comp=Z,14μm,20.0s
POKR Poker Plat Res 86.45 10 P **P 02 20 53.6 +0.6**
baz=338
MDM Murphy Dome 86.46 11 *e*P **P 02 20 53.0 -0.1**
comp=Z,87nm,0.9s
MDM LR LR
comp=Z,21μm,20.0s
EPYK Eagle Plains 86.60 6 *e*P **P 02 20 53.5 -0.3**
comp=Z,83nm,1.0s
EPYK LR LR
comp=Z,8μm,22.0s
EPYK Eagle Plains 86.60 6 P **P 02 20 53.4 -0.3**
baz=347
COLA College 86.60 11 *e*P **P 02 20 53.8 +0.1**
comp=Z,40nm,0.8s
COLA LR LR
comp=Z,24μm,21.0s
COLA College 86.60 11 P P 02 20 57.1 +3.4
BPAW Bear Paw Mtn. 86.75 12 *e*P **P 02 20 54.2 -0.3**
comp=Z,123nm,0.9s
BPAW LR LR
comp=Z,17μm,20.0s
CCB Clear Creek Bu 86.82 11 *e*P **P 02 20 53.8 -1.1**
comp=Z,21nm,1.0s
CCB LR LR
comp=Z,21μm,21.0s
ILAR Eielson Array 86.86 10 *e*P **P 02 20 53.5 -1.5**
ILAR PKKPbc **PKKPbc 02 38 50.0 +0.2**
ILAR Eielson Array 86.86 10 P **P 02 20 53.8 -1.2**
comp=Z,1.7nm,0.6s,baz=332,slow=2.9,SNR=20
ILAR PKKPbc **PKKPbc 02 38 50.0 +0.2**
comp=Z,1.2nm,1.0s,baz=175,slow=2.7,SNR=4.1
ILAR LR LR 03 04 58.3
comp=Z,12μm,20.5s,baz=331,slow=39
ILB Eielson Array 86.86 10 *e*P **P 02 20 54.8 -0.2**
comp=Z,28nm,1.0s
WRH Wood River Hil 86.94 11 *e*P **P 02 20 55.0 -0.4**
comp=Z,34nm,0.9s
WRH LR LR
comp=Z,14μm,20.0s
BWN Browne 86.97 12 *e*P P 02 21 00.0 +4.4
comp=Z,83nm,0.8s
BWN LR LR
comp=Z,20μm,20.0s
CAST Castle Rocks 87.15 13 *e*P **P 02 20 55.8 -0.7**
comp=Z,114nm,0.9s
CAST LR LR
comp=Z,15μm,18.0s
HDA Harding Lake 87.18 11 *e*P **P 02 20 55.6 -1.0**
comp=Z,36nm,0.8s
HDA LR LR
comp=Z,24μm,21.0s
HDA Harding Lake 87.18 11 P **P 02 20 55.4 -1.2**
baz=338
WB6 Warramunga Arr 87.38 114 PFAKE 02 21 10.0 +12
WB6 LR LR
comp=Z,7μm,22.0s
WB5 Warramunga Arr 87.39 114 PFAKE 02 21 10.0 +12
WB5 LR LR
comp=Z,6μm,20.0s
WC1 Warramunga Arr 87.39 114 PFAKE 02 21 10.0 +12
WC1 LR LR
comp=Z,5μm,20.0s
WB4 Warramunga Arr 87.40 114 PFAKE 02 21 10.0 +12
WB4 LR LR
comp=Z,6μm,20.0s
WRA Warramunga Arr 87.40 114 P **P 02 20 58.9 +0.5**
comp=Z,14nm,0.8s,baz=312,slow=4.0,SNR=38
WRA LR LR 03 04 41.5
comp=Z,5μm,18.2s,baz=300,slow=39
WB3 Warramunga Arr 87.41 114 PFAKE 02 21 10.0 +12
WB3 LR LR
comp=Z,6μm,20.0s
WRAB Tennant Creek 87.41 114 *e*P **P 02 20 59.0 +0.6**
comp=Z,101nm,1.1s
WRAB LR LR
comp=Z,8μm,22.0s
WRAB Tennant Creek 87.41 114*ce*P **P 02 21 00.8 +2.4**
WRAB pmax pmax
comp=Z,82nm,1.7s
WB2 Warramunga Arr 87.41 114 *e*P **P 02 20 59.0 +0.5**
comp=Z,131nm,1.3s
WB2 LR LR
comp=Z,9μm,22.0s
WC4 Warramunga Arr 87.41 114 PFAKE 02 21 10.0 +12
WC4 LR LR
comp=Z,6μm,22.0s
WC2 Warramunga Arr 87.42 114 PFAKE 02 21 10.0 +12
WC2 LR LR
comp=Z,7μm,22.0s
WC3 Warramunga Arr 87.44 114 PFAKE 02 21 10.0 +11
WC3 LR LR
comp=Z,6μm,20.0s
MCK McKinley 87.47 12 *e*P **P 02 20 57.4 -0.6**
comp=Z,97nm,0.9s
MCK LR LR
comp=Z,20μm,20.0s
MCK McKinley 87.47 12 *e*P **P 02 20 57.4 -0.6**
MCK pmax pmax
comp=Z,97nm,0.9s
MCK MLR MLR
comp=Z,20μm,20.0s
WR5 Warramunga Arr 87.48 114 PFAKE 02 21 10.0 +11
WR5 LR LR
comp=Z,6μm,21.0s
WR6 Warramunga Arr 87.50 114 PFAKE 02 21 10.0 +11
WR6 LR LR
comp=Z,6μm,22.0s
WR7 Warramunga Arr 87.52 114 PFAKE 02 21 10.0 +11
WR7 LR LR
comp=Z,7μm,22.0s
WR9 Warramunga Arr 87.56 114 PFAKE 02 21 10.0 +11
WR9 LR LR
comp=Z,6μm,22.0s
WR0 Warramunga Arr 87.58 114 PFAKE 02 21 10.0 +11
WR0 LR LR
comp=Z,5μm,20.0s
EGAK Eagle 87.67 8 *e*P **P 02 20 58.4 -0.5**
comp=Z,73nm,0.9s
EGAK LR LR
comp=Z,13μm,21.0s
RND Reindeer 87.78 12 *e*P **P 02 20 59.0 -0.6**
comp=Z,73nm,1.2s
RND LR LR
comp=Z,24μm,20.0s
RND Reindeer 87.78 12 *e*P **P 02 20 59.0 -0.6**
RND pmax pmax
comp=Z,73nm,1.2s
RND MLR MLR
comp=Z,24μm,20.0s
SCRK Sand Creek 88.05 9 *e*P **P 02 21 01.0 +0.1**
comp=Z,91nm,1.0s
SCRK LR LR
comp=Z,11μm,20.0s
FORT Forrest 88.08 126 PFAKE 02 21 10.0 +8.6
FORT LR LR
comp=Z,13μm,22.0s

RIDG Independent Ri 88.14 10 *e*P **P 02 21 01.1 -0.2**
comp=Z,33nm,0.9s
RIDG LR LR
comp=Z,16μm,22.0s
DHY Denali Highway 88.35 11 *e*P **P 02 21 02.7 +0.2**
comp=Z,52nm,1.1s
DHY LR LR
comp=Z,13μm,20.0s
ADK Adak 88.38 30 PFAKE 02 21 10.0 +7.5
ADK LR LR
comp=Z,13μm,21.0s
SVW2 Sparrevohn 88.44 16 *e*P **P 02 21 03.3 +0.6**
DAWY Dawson 88.57 7 *e*P **P 02 21 03.1 -0.2**
comp=Z,77nm,1.0s
DAWY LR LR
comp=Z,14μm,20.0s
AS31 Alice Springs 88.88 117 *e*P **P 02 21 06.5 +1.1**
comp=Z,30nm,1.4s
AS31 LR LR
comp=Z,100nm,20.0s
ASAR Alice Springs 88.88 117 *e*P **P 02 21 05.5 +0.2**
ASAR Alice Springs 88.88 117 P **P 02 21 05.7 +0.3**
comp=Z,11nm,0.8s,baz=301,slow=4.5,SNR=36
ASAR LR LR 03 04 09.6
comp=Z,5μm,18.2s,baz=293,slow=38
BCAR Beaver Creek A 89.23 9 *e*P **P 02 21 06.2 -0.2**
GHO Glory Hole Cre 89.27 12 PFAKE 02 21 20.0 +13
GHO LR LR
comp=Z,18μm,21.0s
HARP HAARP 89.35 10 *e*P **P 02 21 09.9 +2.9**
comp=Z,163nm,1.5s
HARP LR LR
comp=Z,17μm,22.0s
SML Sawmill 89.35 12 *e*P **P 02 21 07.7 +0.7**
comp=Z,71nm,0.9s
SML LR LR
comp=Z,11μm,20.0s
SML Sawmill 89.35 12 *e*P **P 02 21 07.7 +0.7**
SML pmax pmax
comp=Z,71nm,0.9s
SML MLR MLR
comp=Z,11μm,20.0s
SCM Sheep Creek Mo 89.51 12 *e*P **P 02 21 10.3 +2.5**
comp=Z,33nm,0.8s
SCM LR LR
comp=Z,13μm,20.0s
SCM Sheep Creek Mo 89.51 12 *e*P **P 02 21 10.3 +2.5**
SCM pmax pmax
comp=Z,33nm,0.8s
SCM MLR MLR
comp=Z,13μm,20.0s
GBN Guysborough 89.56 322 *e*pP pP 02 21 18.9 +5.1
GBN LR LR
comp=Z,10μm,22.0s
RSO Redoubt South 89.66 15 *e*P **P 02 21 10.2 +1.5**
KNK Knik Glacier 89.69 12 *e*P **P 02 21 09.7 +1.1**
comp=Z,97nm,1.3s
KNK LR LR
comp=Z,15μm,20.0s
RC01 Rabbit Creek A 89.74 13 *e*P **P 02 21 09.5 +0.8**
comp=Z,44nm,0.8s
RC01 LR LR
comp=Z,10μm,20.0s
KLU Klutina 90.08 11 *e*P **P 02 21 11.9 +1.4**
comp=Z,120nm,1.7s
KLU LR LR
comp=Z,13μm,22.0s
DIV Divide 90.44 11 *e*P P 02 21 16.5 +4.4
MANU Manus Island 90.48 92 PFAKE 02 21 20.0 +6.9
MANU LR LR
comp=Z,3μm,20.0s
HOM Homer 90.63 14 PFAKE 02 21 20.0 +7.1
HOM LR LR
comp=Z,19μm,18.0s
BRLK Bradley Lake 90.70 14 *e*P **P 02 21 13.5 +0.2**
comp=Z,38nm,0.9s
BRLK LR LR
comp=Z,19μm,19.0s
YKW3 Yellowknife Ar 90.89 357 *e*P **P 02 21 14.0 0.0**
YKW3 LR LR
comp=Z,11μm,21.0s
YKA Yellowknife Ar 90.95 357 *e*P **P 02 21 14.2 -0.2**
YKA Yellowknife Ar 90.95 357 P **P 02 21 14.3 0.0**
comp=Z,1.8nm,0.7s,baz=1.1,slow=5.0,SNR=40
YKA PKKPbc **PKKPbc 02 38 38.4 -1.3**
comp=Z,1.1nm,0.9s,baz=178,slow=2.5,SNR=7.9
EYAK Cordova Ski Ar 90.99 11 *e*P P 02 21 18.6 +4.1
LMN Caledonia Moun 91.05 324 PFAKE 02 21 20.0 +4.8
LMN LR LR
comp=Z,11μm,21.0s
BALM Baldy 91.09 10 *e*P **P 02 21 17.1 +1.9**
comp=Z,32nm,1.2s
BALM LR LR
comp=Z,16μm,22.0s
BALM Baldy 91.09 10 *e*P **P 02 21 17.1 +1.9**
BALM pmax pmax
comp=Z,32nm,1.2s
BALM MLR MLR
comp=Z,16μm,22.0s
HAL Halifax 91.19 322 PFAKE 02 21 20.0 +4.2
HAL LR LR
comp=Z,7μm,21.0s
HMT Hamilton 91.45 11 PFAKE 02 21 30.0 +13
HMT LR LR
comp=Z,10μm,19.0s
FCC Fort Churchill 91.76 346 *e*P **P 02 21 18.2 +0.1**
comp=Z,72nm,1.2s
FCC LR LR
comp=Z,20μm,22.0s
FCC Fort Churchill 91.76 346 *e*P **P 02 21 18.2 +0.1**
FCC pmax pmax
comp=Z,72nm,1.2s
FCC MLR MLR
comp=Z,20μm,22.0s
HYT Haines Junctio 91.94 7 *e*P **P 02 21 20.8 +1.7**
comp=Z,44nm,1.0s
QIS Mount Isa 92.04 112 P **P 02 21 22.1 +1.9**
baz=92,SNR=4.3
COEN Coen 92.08 104 PFAKE 02 21 30.0 +10
COEN LR LR
comp=Z,5μm,21.0s
KDAK Kodiak Island 92.09 16 *e*P **P 02 21 21.0 +1.3**
comp=Z,102nm,1.3s
KDAK LR LR
comp=Z,13μm,19.0s
KDAK Kodiak Island 92.09 16 *e*P **P 02 21 21.0 +1.3**
KDAK pmax pmax
comp=Z,103nm,1.3s
KDAK MLR MLR
comp=Z,13μm,19.0s
KDAK Kodiak Island 92.09 16 P **P 02 21 20.3 +0.5**
comp=Z,21nm,0.9s,baz=347,slow=5.4,SNR=7.6
PQI Presque Isle 92.14 326 *e*P P 02 21 24.9 +4.7
comp=Z,43nm,1.4s
PQI LR LR
comp=Z,12μm,20.0s
WHY Whitehorse 92.38 6 *e*P **P 02 21 21.4 +0.3**
comp=Z,23nm,1.1s
OHAK Old Harbor 92.42 16 *e*pP pP 02 21 34.6 +7.9
BCPM Bancas Point 92.52 9 PFAKE 02 21 30.0 +8.3
BCPM LR LR
comp=Z,12μm,20.0s
SII Sitkinak Islan 92.78 17 PFAKE 02 21 30.0 +7.0
SII LR LR
comp=Z,27μm,21.0s
EMMW East Machias 93.20 324 PFAKE 02 21 30.0 +4.9
EMMW LR LR
comp=Z,9μm,20.0s
PMG Port Moresby 93.55 99 PFAKE 02 21 40.0 +13
PMG LR LR
comp=Z,3μm,21.0s
PKME Peaks-Kenny Pk 93.76 326 *e*P P 02 21 32.4 +4.7
comp=Z,59nm,1.4s
PKME LR LR
comp=Z,12μm,22.0s
MAW Mawson 94.05 178 P **P 02 21 30.4 +2.2**
MAW LR LR
comp=Z,2μm,18.0s
MAW Mawson 94.05 178 P **P 02 21 30.4 +2.2**
comp=Z,3.5nm,0.9s,baz=30,slow=6.6,SNR=3.7
MAW LR LR 02 58 19.4
comp=Z,5μm,19.7s,baz=352,slow=32
MATQ Matagami 94.25 333 P **P 02 21 29.7 -0.1**
baz=39
BESE Bessie Mountai 94.43 7 *e*P **P 02 21 33.7 +3.1**
WVL Waterville 94.44 325 PFAKE 02 21 40.0 +9.2
WVL LR LR
comp=Z,13μm,21.0s
LSQQ Lebel-sur-Quev 94.52 332 P **P 02 21 30.7 -0.4**
baz=40
JIS Juneau Island 94.78 6 PFAKE 02 21 40.0 +8.0
JIS LR LR
comp=Z,10μm,19.0s
DLBC Dease Lake 94.97 4 *e*P **P 02 21 34.8 +1.6**
comp=Z,38nm,1.3s
DLBC LR LR
comp=Z,12μm,19.0s
DLBC Dease Lake 94.97 4 P **P 02 21 34.0 +0.9**
comp=Z,5.1nm,1.2s,baz=341,slow=7.4,SNR=9.1
BBOO Buckleboo 94.98 124 PFAKE 02 21 40.0 +6.6
BBOO LR LR
comp=Z,14μm,20.0s
MOQ Mont Orford 95.19 327 *e*P **P 02 21 34.5 +0.1**
VLDQ Val d'Or 95.45 332 *e*P P 02 21 40.2 +4.8
comp=Z,56nm,1.6s
VLDQ LR LR
comp=Z,8μm,21.0s
RABL Rabaul 95.72 92 PFAKE 02 21 50.0 +13
RABL LR LR
comp=Z,6μm,22.0s
LBNH Lisbon 95.81 326 *e*P P 02 21 42.1 +5.0
comp=Z,29nm,1.0s
LBNH LR LR
comp=Z,12μm,21.0s
LBNH Lisbon 95.81 326 *e*P P 02 21 42.1 +5.0
LBNH pmax pmax
comp=Z,29nm,1.0s
LBNH MLR MLR
comp=Z,12μm,21.0s
RCBR Riachuelo 95.92 266 PFAKE 02 21 50.0 +12
RCBR LR LR
comp=Z,36μm,19.0s
RCBR Riachuelo 95.92 266 *e*P **P 02 21 40.4 +2.2**
VT1 Waterbury 96.15 327 PFAKE 02 21 50.0 +11
VT1 LR LR
comp=Z,12μm,22.0s
FRNY Flat Rock 96.19 328 *e*P P 02 21 42.6 +3.8
comp=Z,35nm,1.3s
FRNY LR LR
comp=Z,11μm,20.0s
ALFO Alfred 96.21 329 P **P 02 21 40.1 +1.2**
baz=41
PATS Pohnpei 96.24 79 PFAKE 02 21 50.0 +10
PATS LR LR
comp=Z,4μm,21.0s
SYO Syowa Base 96.32 187|| *e*P **P 02 21 41.0 +2.4**
HNH Hanover 96.37 326 PFAKE 02 21 50.0 +10
HNH LR LR
comp=Z,10μm,19.0s
BCX Boston College 96.79 325 PFAKE 02 21 50.0 +8.4
BCX LR LR
comp=Z,12μm,22.0s
WRAK Wrangell Islan 96.80 6 PFAKE 02 21 50.0 +8.7
WRAK LR LR
comp=Z,9μm,21.0s
LONY Lake Ozonia 96.82 328 *e*P **P 02 21 41.8 +0.1**
comp=Z,52nm,1.1s
LONY LR LR
comp=Z,12μm,22.0s
LONY Lake Ozonia 96.82 328 P **P 02 21 41.8 +0.1**
baz=42
WES Weston 96.83 325 PFAKE 02 21 50.0 +8.2
WES LR LR
comp=Z,10μm,22.0s
HRV Adam Dziewonsk 96.87 325 PFAKE 02 21 50.0 +8.0
HRV LR LR
comp=Z,10μm,20.0s
FFC Flin Flon 97.11 348 *e*P Pdif 02 21 43.4 +0.5
comp=Z,43nm,1.5s
FFC LR LR
comp=Z,11μm,19.0s
FFC Flin Flon 97.11 348 *i* P Pdif 02 21 43.5 +0.6
NCB Newcomb 97.13 327 *e*P Pdif 02 21 47.0 +3.8
comp=Z,17nm,1.0s
NCB LR LR
comp=Z,5μm,20.0s
WAKE Wake Island 97.24 64 PFAKE 02 21 50.0 +5.9
WAKE LR LR
comp=Z,5μm,21.0s
BRYW Bryant College 97.28 324 PFAKE 02 21 50.0 +6.1
BRYW LR LR
comp=Z,16μm,21.0s
ACCN Adirondack Com 97.30 327 *e*P Pdif 02 21 48.5 +4.6
comp=Z,70nm,1.6s
ACCN LR LR
comp=Z,10μm,19.0s
CTAO Charters Tower 97.41 109 PFAKE 02 21 50.0 +5.2
CTAO LR LR
comp=Z,6μm,20.0s
QUA2 Belchertown 97.44 325 PFAKE 02 21 50.0 +5.4
QUA2 LR LR
comp=Z,8μm,20.0s
PLVO Plevna 97.66 330 *e*pP **pP 02 21 54.8 +3.7**
PLVO LR LR
comp=Z,8μm,19.0s
TRY Troy 97.78 326 PFAKE 02 21 50.0 +3.9
TRY LR LR
comp=Z,15μm,20.0s
YLE Yale 98.44 325 PFAKE 02 22 00.0 +11
YLE LR LR
comp=Z,19μm,22.0s
STKA Stephens Creek 98.72 121 LR LR 03 03 53.5
comp=Z,13μm,21.5s,baz=287,slow=34
PAL Palisades 99.17 325 PFAKE 02 22 00.0 +7.7
PAL LR LR
comp=Z,15μm,21.0s
BINY Binghamton 99.31 327 PFAKE 02 22 00.0 +7.0
BINY LR LR
comp=Z,14μm,22.0s
ODNJ Ogdensburg 99.47 326 PFAKE 02 22 00.0 +6.4
ODNJ LR LR
comp=Z,9μm,21.0s
KSPA Keystone Colle 99.69 327 *e*P **Pdif 02 21 59.5 +4.9**
comp=Z,61nm,1.9s
KSPA LR LR
comp=Z,14μm,20.0s
MEDO Medina 99.74 329 PFAKE 02 22 00.0 +5.2
MEDO LR LR
comp=Z,12μm,21.0s
BRNJ Basking Ridge 99.74 325 PFAKE 02 22 00.0 +5.1
BRNJ LR LR
comp=Z,16μm,21.0s
MMNY Mt. Morris Dam 99.82 329 PFAKE 02 22 00.0 +4.8
MMNY LR LR
comp=Z,10μm,20.0s
ULM Lac du Bonnet 99.96 343 P **Pdif 02 21 56.4 +0.7**
comp=Z,1.9nm,1.0s,baz=297,slow=6.8,SNR=2.8
ULM LR LR 03 10 22.9
comp=Z,8μm,19.4s,baz=32,slow=37
DIB Dawson Inlet, 99.97 6 PFAKE 02 22 00.0 +4.4
DIB LR LR
comp=Z,11μm,22.0s
E44A Grand Marais A 100.03 336 PFAKE 02 22 00.0 +3.9
E44A LR LR
comp=Z,15μm,21.0s
C40A Isle Royale Na 100.06 338 PFAKE 02 22 00.0 +3.9
C40A LR LR
comp=Z,13μm,21.0s
N59A State Game Lan 100.17 326 PFAKE 02 22 10.0 +13
N59A LR LR
comp=Z,12μm,19.0s
LUPA Lehigh Univers 100.21 326 PFAKE 02 22 10.0 +13
LUPA LR LR
comp=Z,900nm,21.0s
D41A Chassel 100.60 337 PFAKE 02 22 10.0 +11
D41A LR LR
comp=Z,12μm,20.0s
E43A Lone Tree Farm 100.63 336 PFAKE 02 22 10.0 +11
E43A LR LR
comp=Z,8μm,20.0s
PSUB Penn St. - Bra 100.76 325 PFAKE 02 22 10.0 +11
PSUB LR LR
comp=Z,14μm,20.0s
EYMN Ely 100.79 340 PFAKE 02 22 10.0 +11
EYMN LR LR
comp=Z,13μm,22.0s
CASY Casey 100.88 161 PFAKE 02 22 10.0 +11
CASY LR LR
comp=Z,6μm,22.0s
GLMI Grayling 101.04 334 PFAKE 02 22 10.0 +9.4
GLMI LR LR
comp=Z,9μm,20.0s
I49A Point Hope 101.04 332 PFAKE 02 22 10.0 +9.4
I49A LR LR
comp=Z,8μm,20.0s
MVL Millersville 101.16 326 PFAKE 02 22 10.0 +8.8
MVL LR LR
comp=Z,16μm,22.0s
PAGS Pennsylvania G 101.17 326 PFAKE 02 22 10.0 +8.8
PAGS LR LR
comp=Z,15μm,20.0s
ERPA Erie 101.26 329 PFAKE 02 22 10.0 +8.4
ERPA LR LR
comp=Z,8μm,19.0s
SSPA Standing Stone 101.43 327 PFAKE 02 22 10.0 +7.6
SSPA LR LR
comp=Z,19μm,22.0s
M54A Oil Creek Stat 101.59 329 PFAKE 02 22 10.0 +6.8
M54A LR LR
comp=Z,14μm,20.0s
COWI Conover 101.63 337 PFAKE 02 22 10.0 +6.8
COWI LR LR
comp=Z,11μm,21.0s
ALLY Alegheny Colle 101.70 329 PFAKE 02 22 10.0 +6.4
ALLY LR LR
comp=Z,14μm,21.0s
AGMN Agassiz Nation 101.74 342 PFAKE 02 22 10.0 +6.3
AGMN LR LR
comp=Z,15μm,21.0s
G43A Wallace 101.84 336 PFAKE 02 22 10.0 +5.9
G43A LR LR
comp=Z,14μm,22.0s
SDMD Soldier's Deli 101.85 326 PFAKE 02 22 10.0 +5.7
SDMD LR LR
comp=Z,6μm,21.0s
F41A Three Lakes 101.93 337 PFAKE 02 22 10.0 +5.4
F41A LR LR
comp=Z,12μm,20.0s
E38A The Farm, Brul 101.99 339 PFAKE 02 22 10.0 +5.2
E38A LR LR
comp=Z,9μm,20.0s
O56A Blue Knob Stat 102.04 327 PFAKE 02 22 10.0 +4.8
O56A LR LR
comp=Z,17μm,21.0s
G42A Mountain 102.12 336 PFAKE 02 22 10.0 +4.6
G42A LR LR
comp=Z,10μm,19.0s
N54A Moraine State 102.17 329 PFAKE 02 22 10.0 +4.3
N54A LR LR
comp=Z,8μm,19.0s
M52A Chesterland 102.34 330 PFAKE 02 22 20.0 +14
M52A LR LR
comp=Z,9μm,20.0s
H43A Windswept, Lux 102.55 336 PFAKE 02 22 10.0 +2.7
H43A LR LR
comp=Z,12μm,20.0s
N53A Lisbon 102.69 329 PFAKE 02 22 20.0 +12
N53A LR LR
comp=Z,13μm,19.0s
G40A Rib Lake 102.72 337 PFAKE 02 22 20.0 +12
G40A LR LR
comp=Z,11μm,19.0s
AAM Ann Arbor 102.73 332 PFAKE 02 22 20.0 +12
AAM LR LR
comp=Z,12μm,19.0s
H42A Shiocton 102.79 336 PFAKE 02 22 20.0 +12
H42A LR LR
comp=Z,16μm,22.0s
CBN Corbin Frederi 103.03 325 PFAKE 02 22 20.0 +10
CBN LR LR
comp=Z,9μm,19.0s
H41A Junction City 103.10 337 PFAKE 02 22 20.0 +10
H41A LR LR
comp=Z,12μm,18.0s
MDND Maddock 103.11 345 PFAKE 02 22 20.0 +10
MDND LR LR
comp=Z,9μm,22.0s
MCWV Mont Chateau 103.13 328 PFAKE 02 22 20.0 +10
MCWV LR LR
comp=Z,5μm,21.0s
M50A Fremont 103.20 331 PFAKE 02 22 20.0 +10
M50A LR LR
comp=Z,14μm,21.0s
N51A Ashland 103.30 330 PFAKE 02 22 20.0 +9.3
N51A LR LR
comp=Z,11μm,21.0s
KWAJ Kwajalein Atol 103.38 73 PFAKE 02 22 20.0 +8.5
KWAJ LR LR
comp=Z,3μm,19.0s
I42A Draeger Farm, 103.46 336 PFAKE 02 22 20.0 +8.6
I42A LR LR
comp=Z,14μm,22.0s
R58B Mineral 103.48 325 PFAKE 02 22 20.0 +8.4
R58B LR LR
comp=Z,8μm,18.0s
DGMT Dagmar 103.50 348 PFAKE 02 22 20.0 +8.5
DGMT LR LR
comp=Z,8μm,19.0s
SPMN Marine on St. 103.62 339 PFAKE 02 22 20.0 +7.9
SPMN LR LR
comp=Z,12μm,19.0s
EIDS Eidsvold 103.64 112 PFAKE 02 22 20.0 +7.6
EIDS LR LR
comp=Z,6μm,19.0s
I41A Arkdale 103.66 337 PFAKE 02 22 20.0 +7.7
I41A LR LR
comp=Z,14μm,18.0s
O52A Adamsville 103.70 329 PFAKE 02 22 20.0 +7.5
O52A LR LR
comp=Z,9μm,19.0s
M48A Edgerton 103.85 332 PFAKE 02 22 20.0 +6.8
M48A LR LR
comp=Z,12μm,20.0s
MIDW Midway 103.93 48 PFAKE 02 22 20.0 +6.3
MIDW LR LR
comp=Z,5μm,22.0s
TOO Toolangi 103.99 125 PFAKE 02 22 20.0 +6.3
TOO LR LR
comp=Z,15μm,19.0s
P53A Whipple 104.00 329 PFAKE 02 22 20.0 +6.1
P53A LR LR
comp=Z,15μm,21.0s
N49A Columbus Grove 104.09 331 PFAKE 02 22 20.0 +5.8
N49A LR LR
comp=Z,13μm,20.0s
ACSO Alum Creek Sta 104.12 330 PFAKE 02 22 20.0 +5.6
ACSO LR LR
comp=Z,11μm,21.0s
Q54A Coxs Mills 104.14 328 PFAKE 02 22 20.0 +5.5
Q54A LR LR
comp=Z,7μm,21.0s
K43A Burlington 104.27 335 PFAKE 02 22 20.0 +5.0
K43A LR LR
comp=Z,9μm,22.0s
I39A Houston 104.42 338 PFAKE 02 22 20.0 +4.4
I39A LR LR
comp=Z,13μm,21.0s
M46A Old House Fiel 104.59 333 PFAKE 02 22 30.0 +14
M46A LR LR
comp=Z,16μm,20.0s
O49A Covington 104.75 331 PFAKE 02 22 30.0 +13
O49A LR LR
comp=Z,8μm,19.0s
P51A Williamsport 104.77 330 PFAKE 02 22 30.0 +13
P51A LR LR
comp=Z,10μm,20.0s
JFWS Jewell Farm 104.79 336 PFAKE 02 22 30.0 +13
JFWS LR LR
comp=Z,13μm,20.0s
EGMT Eagleton 104.83 351 PFAKE 02 22 30.0 +12
EGMT LR LR
comp=Z,11μm,22.0s
HNR Honiara 104.94 93 PFAKE 02 26 40.0 +6.5
HNR LR LR
comp=Z,7μm,22.0s
B06A Marblemount 105.17 360 PFAKE 02 26 40.0 +6.9
B06A LR LR
comp=Z,11μm,19.0s
Q51A Peebles 105.27 330 PFAKE 02 26 40.0 +6.4
Q51A LR LR
comp=Z,8μm,20.0s
M44A Midewin, Midew 105.28 334 PFAKE 02 26 40.0 +6.5
M44A LR LR
comp=Z,15μm,21.0s
B08A Colville Reser 105.28 358 PFAKE 02 26 40.0 +6.6
B08A LR LR
comp=Z,7μm,20.0s
NEW Newport 105.29 357 Pdif **Pdif 02 22 21.6 +2.1**

NEW PKiKP **PKiKP** **02 26 34.6 +1.2**
NEW LR LR
comp=Z,11μm,20.0s
NEW Newport 105.29 357 Pdiff **Pdif** **02 22 21.5 +2.1**
comp=Z,0.7nm,0.5s,baz=58,slow=15,SNR=1.8
NEW PKiKP **PKiKP** **02 26 34.6 +1.2**
comp=Z,0.6nm,0.3s,baz=86,slow=13,SNR=2.2
BLA Blacksburg 105.33 327 PFAKE 02 26 40.0 +6.2
BLA LR LR
comp=Z,11μm,22.0s
L42A Oliver, Polo 105.37 335 PFAKE 02 26 40.0 +6.3
L42A LR LR
comp=Z,9μm,19.0s
CNNC Cliffs of the 105.56 324 PFAKE 02 26 40.0 +5.8
CNNC LR LR
comp=Z,13μm,20.0s
LAO LASA Array 105.59 349 PFAKE 02 26 40.0 +5.9
LAO LR LR
comp=Z,10μm,20.0s
CAN Canberra 105.76 122 PFAKE 02 26 40.0 +5.5
CAN LR LR
comp=Z,12μm,22.0s
SFIN Lafayette 105.76 333 PFAKE 02 26 40.0 +5.6
SFIN LR LR
comp=Z,15μm,20.0s
C09A Chrisman Ranch 105.80 357 PFAKE 02 26 40.0 +5.6
C09A LR LR
comp=Z,12μm,22.0s
L40A Anamosa 105.89 337 PFAKE 02 26 40.0 +5.4
L40A LR LR
comp=Z,12μm,21.0s
ARMA Armidale 106.01 116 PFAKE 02 26 40.0 +4.8
ARMA LR LR
comp=Z,14μm,21.0s
ECSD EROS Data Cent 106.13 341 PFAKE 02 26 40.0 +4.9
ECSD LR LR
comp=Z,14μm,21.0s
NLWA Neilton Lookou 106.28 1 PFAKE 02 26 40.0 +4.7
NLWA LR LR
comp=Z,15μm,22.0s
LTY Liberty 106.42 359 PFAKE 02 26 40.0 +4.4
LTY LR LR
comp=Z,10μm,21.0s
HDIL Hopedale 106.48 334 PFAKE 02 26 40.0 +4.2
HDIL LR LR
comp=Z,13μm,22.0s
MSO Missoula 106.48 354 PFAKE 02 26 40.0 +4.2
MSO LR LR
comp=Z,16μm,21.0s
D05A Enumclaw 106.50 360 PFAKE 02 26 40.0 +4.4
D05A LR LR
comp=Z,9μm,22.0s
S51A Beattyville 106.51 329 PFAKE 02 26 40.0 +4.1
S51A LR LR
comp=Z,10μm,21.0s
BLO Bloomington 106.54 332 PFAKE 02 26 40.0 +4.1
BLO LR LR
comp=Z,13μm,21.0s
SNAA Sanae 106.54 197 PKiKP **PKiKP** **02 26 38.9 +4.0**
SNAA Sanae 106.54 197 PFAKE 02 26 40.0 +5.1
SNAA LR LR
comp=Z,6μm,21.0s
D08A Wollman Farm, 106.57 358 PFAKE 02 26 40.0 +4.2
D08A LR LR
comp=Z,10μm,21.0s
ANWB Willy Bob 106.69 300 PFAKE 02 26 50.0 +13
ANWB LR LR
comp=Z,6μm,20.0s
SCIA State Center 106.72 338 PFAKE 02 26 40.0 +3.8
SCIA LR LR
comp=Z,13μm,22.0s
P45A Graceland, Par 106.75 333 PFAKE 02 26 40.0 +3.7
P45A LR LR
comp=Z,16μm,20.0s
N41A Harden Midland 106.94 336 PFAKE 02 26 50.0 +13
N41A LR LR
comp=Z,12μm,20.0s
E09A Wood Farm, Sta 107.08 357 PFAKE 02 26 50.0 +13
E09A LR LR
comp=Z,11μm,20.0s
E07A Sunnyside 107.10 358 PFAKE 02 26 50.0 +13
E07A LR LR
comp=Z,8μm,21.0s
E03A Lebam 107.13 1 PFAKE 02 26 50.0 +13
E03A LR LR
comp=Z,17μm,20.0s
E08A Dider Farm, El 107.14 358 PFAKE 02 26 50.0 +13
E08A LR LR
comp=Z,9μm,22.0s
WCI Wyandotte Cave 107.23 331 PFAKE 02 26 50.0 +13
WCI LR LR
comp=Z,17μm,20.0s
HAWA Hanford 107.26 358 PFAKE 02 26 50.0 +13
HAWA LR LR
comp=Z,8μm,21.0s
TAU Tasmania Unive 107.26 130 PFAKE 02 26 50.0 +13
TAU LR LR
comp=Z,8μm,19.0s
TZTN Tazewell 107.37 328 PFAKE 02 26 50.0 +12
TZTN LR LR
comp=Z,13μm,20.0s
KMSC Kings Mountain 107.41 326 PFAKE 02 26 50.0 +12
KMSC LR LR
comp=Z,11μm,22.0s
VNA1 Neumayer--Stat 107.45 199 PKiKP PKiKP 02 26 27.9 -8.6
BOZ Bozeman (W) 107.45 352 PFAKE 02 26 50.0 +12
BOZ LR LR
comp=Z,12μm,21.0s
SMRT St. Maarten 107.46 301 PFAKE 02 26 50.0 +12
SMRT LR LR
comp=Z,8μm,20.0s
BBGH Gun Hill 107.48 295 PFAKE 02 26 50.0 +12
BBGH LR LR
comp=Z,9μm,22.0s
OLIL Olney 107.56 333 PFAKE 02 26 50.0 +12
OLIL LR LR
comp=Z,13μm,22.0s
F10A Beach Ranch, E 107.58 356 PFAKE 02 26 50.0 +12
F10A LR LR
comp=Z,14μm,22.0s
RLMT Red Lodge 107.60 350 PFAKE 02 26 50.0 +12
RLMT LR LR
comp=Z,10μm,21.0s
RSSD Black Hills 107.63 346 PFAKE 02 26 50.0 +12
RSSD LR LR
comp=Z,16μm,21.0s
SEUS St. Eustatius 107.72 301 PFAKE 02 26 50.0 +11
SEUS LR LR
comp=Z,6μm,20.0s
V53A Saluda 107.72 327 PFAKE 02 26 50.0 +12
V53A LR LR
comp=Z,11μm,20.0s
F07A Phinny Hill Vi 107.76 358 PFAKE 02 26 50.0 +12
F07A LR LR
comp=Z,11μm,21.0s
DLMT Dillon 107.80 353 PFAKE 02 26 50.0 +12
DLMT LR LR
comp=Z,9μm,22.0s
T49A Edmonton 107.83 330 PFAKE 02 26 50.0 +12
T49A LR LR
comp=Z,13μm,21.0s
FDF Fort de France 107.87 297 PFAKE 02 26 50.0 +11
FDF LR LR
comp=Z,5μm,21.0s
PAULI Pauline 107.91 326 PFAKE 02 26 50.0 +11
PAULI LR LR
comp=Z,10μm,22.0s
V52A Sevierville 107.96 328 PFAKE 02 26 50.0 +11
V52A LR LR
comp=Z,9μm,22.0s
ABVI Anegada Island 108.01 302 PFAKE 02 26 50.0 +11
ABVI LR LR
comp=Z,3μm,20.0s
USIN University of 108.03 332 PFAKE 02 26 50.0 +11
USIN LR LR
comp=Z,18μm,20.0s
JSC Jenkinsville 108.05 325 PFAKE 02 26 50.0 +11
JSC LR LR
comp=Z,8μm,19.0s
VNA3 Neumayer Olymp 108.15 198 PKiKP PKiKP 02 26 26.2 -12
LKWY Lake 108.31 351 PFAKE 02 26 50.0 +11
LKWY LR LR
comp=Z,24μm,22.0s
BG3 Lake Jocassee 108.33 327 PFAKE 02 26 50.0 +11
BG3 LR LR
comp=Z,15μm,22.0s
G08A Pilot Rock 108.34 358 PFAKE 02 26 50.0 +11
G08A LR LR
comp=Z,8μm,18.0s
V51A Loudon 108.35 328 PFAKE 02 26 50.0 +11
V51A LR LR
comp=Z,16μm,20.0s
NHSC New Hope 108.41 324 PFAKE 02 26 50.0 +10
NHSC LR LR
comp=Z,13μm,21.0s
G06A Carlson Farm, 108.44 359 PFAKE 02 26 50.0 +11
G06A LR LR
comp=Z,9μm,20.0s
H17A Grant Village 108.50 351 PFAKE 02 26 50.0 +10
H17A LR LR
comp=Z,15μm,20.0s
SLM Saint Louis 108.50 334 PFAKE 02 26 50.0 +10
SLM LR LR
comp=Z,12μm,20.0s
HODGE Hodges 108.60 326 PFAKE 02 26 50.0 +10
HODGE LR LR
comp=Z,10μm,22.0s
T47A Sharon Grove 108.62 331 PFAKE 02 26 50.0 +10
T47A LR LR
comp=Z,8μm,21.0s
BMO Blue Mountains 108.70 356 PFAKE 02 26 50.0 +10
BMO LR LR
comp=Z,12μm,22.0s
STVI Saint Thomas 108.71 303 PFAKE 02 26 50.0 +10
STVI LR LR
comp=Z,5μm,22.0s
BGNE Belgrade 108.72 341 PFAKE 02 26 50.0 +10
BGNE LR LR
comp=Z,12μm,20.0s
CPCT Cooper Cave 108.72 328 PFAKE 02 26 50.0 +10
CPCT LR LR
comp=Z,15μm,21.0s
W52A Murphy 108.73 328 PFAKE 02 26 50.0 +10
W52A LR LR
comp=Z,10μm,21.0s
FLWY Flagg Ranch 108.83 351 PFAKE 02 26 50.0 +10
FLWY LR LR
comp=Z,10μm,22.0s
SIUC Southern Illin 108.89 333 PFAKE 02 26 50.0 +10
SIUC LR LR
comp=Z,10μm,20.0s
CUPR Culebra, Puert 108.98 303 PFAKE 02 26 50.0 +9.0
CUPR LR LR
comp=Z,5μm,22.0s
H04A Detroit Lake 109.00 0 PFAKE 02 26 50.0 +10
H04A LR LR
comp=Z,8μm,22.0s
IMW Indian Meadow 109.04 351 PFAKE 02 26 50.0 +9.1
IMW LR LR
comp=Z,12μm,22.0s
COR Corvallis 109.09 1 PFAKE 02 26 50.0 +9.5
COR LR LR
comp=Z,8μm,21.0s
FVM French Village 109.14 334 PFAKE 02 26 50.0 +9.2
FVM LR LR
comp=Z,14μm,20.0s
MOOW Moose Ponds 109.16 351 PFAKE 02 26 50.0 +9.0
MOOW LR LR
comp=Z,11μm,20.0s
T45A Paducah 109.25 332 PFAKE 02 26 50.0 +9.0
T45A LR LR
comp=Z,19μm,20.0s
LOHW Long Hollow 109.27 351 PFAKE 02 26 50.0 +8.8
LOHW LR LR
comp=Z,14μm,21.0s
W50A Signal Mountai 109.29 329 PFAKE 02 26 50.0 +8.7
W50A LR LR
comp=Z,15μm,21.0s
MTP Monte Pirata 109.31 303 PFAKE 02 26 50.0 +8.4
MTP LR LR
comp=Z,4μm,20.0s
CCM Cathedral Cave 109.40 335 PFAKE 02 26 50.0 +8.7
CCM LR LR
comp=Z,10μm,20.0s
CBYP Canovanas 109.44 303 PFAKE 02 26 50.0 +8.1
CBYP LR LR
comp=Z,5μm,22.0s
SNOW Snow King Moun 109.44 351 PFAKE 02 26 50.0 +8.4
SNOW LR LR
comp=Z,14μm,20.0s
TPAW Teton Pass 109.44 351 PFAKE 02 26 50.0 +8.4
TPAW LR LR
comp=Z,9μm,21.0s
HUMP Col San Antoni 109.51 303 PFAKE 02 26 50.0 +8.0
HUMP LR LR
comp=Z,5μm,22.0s
V48A Smith Brothers 109.54 330 PFAKE 02 26 50.0 +8.4
V48A LR LR
comp=Z,9μm,20.0s
K22A Casper 109.55 348 PFAKE 02 26 50.0 +8.3
K22A LR LR
comp=Z,14μm,20.0s
REDW Red Top Meadow 109.55 351 PFAKE 02 26 50.0 +8.2
REDW LR LR
comp=Z,12μm,20.0s
I07A Izee 109.56 358 PFAKE 02 26 50.0 +8.4
I07A LR LR
comp=Z,7μm,19.0s
SWET Sewanee 109.57 329 PFAKE 02 26 50.0 +8.2
SWET LR LR
comp=Z,11μm,21.0s
X51A Calhoun 109.60 328 PFAKE 02 26 50.0 +8.2
X51A LR LR
comp=Z,11μm,22.0s
WVT Waverly 109.65 331 PFAKE 02 26 50.0 +8.2
WVT LR LR
comp=Z,8μm,20.0s
257A Skidaway Islan 109.74 324 PFAKE 02 26 50.0 +7.9
257A LR LR
comp=Z,8μm,21.0s
GRGR Grenville 109.74 295 PFAKE 02 26 50.0 +7.5
GRGR LR LR
comp=Z,4μm,22.0s
SJG San Juan 109.75 303 PFAKE 02 26 50.0 +7.6
SJG LR LR
comp=Z,4μm,22.0s
HLID Hailey 109.76 354 PFAKE 02 26 50.0 +7.9
HLID LR LR
comp=Z,14μm,20.0s
Y52A Lilburn 109.79 327 PFAKE 02 26 50.0 +7.8
Y52A LR LR
comp=Z,8μm,19.0s
EMPR Esperanza - Ma 109.81 304 PFAKE 02 26 50.0 +7.5
EMPR LR LR
comp=Z,6μm,22.0s
GOGA Godfrey 109.86 326 PFAKE 02 26 50.0 +7.7
GOGA LR LR
comp=Z,12μm,21.0s
PINE Pine Mountain 109.89 359 PFAKE 02 26 50.0 +7.7
PINE LR LR
comp=Z,10μm,22.0s
BW06 Boulder Array 109.95 350 PFAKE 02 26 50.0 +7.5
BW06 LR LR
comp=Z,10μm,22.0s
PDAR Pinedale Array 109.95 350 PKiKP **PKiKP** **02 26 42.2 -0.3**
comp=Z,0.8nm,0.7s,baz=77,slow=5.6,SNR=3.7
PDAR PKKP **PKKPdf** **02 37 58.9 -1.8**
comp=Z,0.6nm,0.7s,baz=190,slow=4.5,SNR=4.4
PARMO Parma 110.01 333 PFAKE 02 26 50.0 +7.5
PARMO LR LR
comp=Z,14μm,20.0s
GLAT Glass 110.16 332 PFAKE 02 26 50.0 +7.2
GLAT LR LR
comp=Z,12μm,20.0s
AHID Auburn Hatcher 110.17 351 PFAKE 02 26 50.0 +7.1
AHID LR LR
comp=Z,10μm,21.0s
ICMP Isla Caja de M 110.17 303 PFAKE 02 26 50.0 +6.8
ICMP LR LR
comp=Z,3μm,22.0s
PBMO Poplar Bluff 110.19 333 PFAKE 02 26 50.0 +7.2
PBMO LR LR
comp=Z,10μm,20.0s
OGNE Ogallala 110.19 344 PFAKE 02 26 50.0 +7.1
OGNE LR LR
comp=Z,11μm,22.0s
PVMO Portageville 110.20 333 PFAKE 02 26 50.0 +7.2
PVMO LR LR
comp=Z,14μm,20.0s
J08A Circle Bar Ran 110.25 357 PFAKE 02 26 50.0 +7.1
J08A LR LR
comp=Z,11μm,20.0s
AGP Aguadilla 110.31 304 PFAKE 02 26 50.0 +6.5
AGP LR LR
comp=Z,5μm,20.0s
154A Montrose 110.31 325 PFAKE 02 26 50.0 +6.8
154A LR LR
comp=Z,8μm,22.0s
KSU1 Kansas State U 110.36 339 PFAKE 02 26 50.0 +6.9
KSU1 LR LR
comp=Z,8μm,18.0s
MPR Mayaguez 110.43 304 PFAKE 02 26 50.0 +6.3
MPR LR LR
comp=Z,4μm,20.0s
HALT Halls 110.48 332 PFAKE 02 26 50.0 +6.6
HALT LR LR
comp=Z,7μm,19.0s
255A Hazlehurst 110.53 325 PFAKE 02 26 50.0 +6.4
255A LR LR
comp=Z,12μm,21.0s
CRPR Cabo Rojo, PR 110.53 304 PFAKE 02 26 50.0 +6.1
CRPR LR LR
comp=Z,6μm,21.0s
RWWY Rawlins 110.60 348 PFAKE 02 26 50.0 +6.2
RWWY LR LR
comp=Z,13μm,22.0s
PHWY Pilot Hill 110.63 347 PFAKE 02 26 50.0 +6.0
PHWY LR LR
comp=Z,11μm,21.0s
X48A Hartselle 110.71 329 PFAKE 02 26 50.0 +6.1
X48A LR LR
comp=Z,18μm,21.0s
GNAR Gosnell 110.72 333 PFAKE 02 26 50.0 +6.2
GNAR LR LR
comp=Z,12μm,21.0s
PLAL Pickwick Lake 110.73 331 PFAKE 02 26 50.0 +6.1
PLAL LR LR
comp=Z,7μm,21.0s
KEBM Edson Butte 110.79 2 PFAKE 02 26 50.0 +6.1
KEBM LR LR
comp=Z,9μm,22.0s
BDFB Brasilia 110.80 262 PFAKE 02 26 50.0 +5.5
BDFB LR LR
comp=Z,8μm,20.0s
Y49A Blount Mountai 110.91 329 PFAKE 02 26 50.0 +5.7
Y49A LR LR
comp=Z,14μm,21.0s
K05A Summer Lake 110.95 359 PFAKE 02 26 50.0 +5.6
K05A LR LR
comp=Z,10μm,22.0s
152A Waverly Hall 111.08 327 PFAKE 02 26 50.0 +5.4
152A LR LR
comp=Z,13μm,21.0s
HUMO Hull Mountain 111.08 1 PFAKE 02 26 50.0 +5.6
HUMO LR LR
comp=Z,10μm,19.0s
N23A Red Feather La 111.12 347 PFAKE 02 26 50.0 +5.1
N23A LR LR
comp=Z,12μm,20.0s
WVOR Wild Horse Val 111.18 357 PFAKE 02 26 50.0 +5.3
WVOR LR LR
comp=Z,11μm,20.0s
Z50A Ashland 111.18 328 PFAKE 02 26 50.0 +5.2
Z50A LR LR
comp=Z,16μm,22.0s
GRTK Grand Turk 111.19 309 PFAKE 02 26 50.0 +4.9
GRTK LR LR
comp=Z,9μm,21.0s
456A Hilliard 111.24 323 PFAKE 02 26 50.0 +5.0
456A LR LR
comp=Z,12μm,22.0s
253A Americus 111.27 326 PFAKE 02 26 50.0 +5.0
253A LR LR
comp=Z,8μm,20.0s
HBAR Harrisburg 111.34 333 PFAKE 02 26 50.0 +5.0
HBAR LR LR
comp=Z,11μm,21.0s
HWUT Hardware Ranch 111.38 351 PFAKE 02 26 50.0 +4.8
HWUT LR LR
comp=Z,8μm,21.0s
MET Memphis--Engin 111.41 332 PFAKE 02 26 50.0 +4.8
MET LR LR
comp=Z,9μm,20.0s
TIGA Tifton 111.50 325 PFAKE 02 26 50.0 +4.6
TIGA LR LR
comp=Z,13μm,20.0s
CBKS Cedar Bluff 111.58 341 PFAKE 02 26 50.0 +4.5
CBKS LR LR
comp=Z,10μm,20.0s
TARA Tarawa 111.64 77 PFAKE 02 27 00.0 +14
TARA LR LR
comp=Z,8μm,22.0s
OXF Oxford 111.71 331 PFAKE 02 26 50.0 +4.3
OXF LR LR
comp=Z,8μm,20.0s
MOD Modoc Plateau 111.76 359 PFAKE 02 26 50.0 +4.1
MOD LR LR
comp=Z,7μm,22.0s
658A Bunnell 111.84 322 PFAKE 02 26 50.0 +3.9
658A LR LR
comp=Z,6μm,20.0s
LRAL Lakeview Retre 111.87 329 PFAKE 02 26 50.0 +3.9
LRAL LR LR
comp=Z,15μm,20.0s
YBH Yreka Blue Hor 111.95 0 PFAKE 02 26 50.0 +3.8
YBH LR LR
comp=Z,9μm,22.0s
HHAR Hobbs 111.98 336 PFAKE 02 27 00.0 +14
HHAR LR LR
comp=Z,11μm,19.0s
ISCO Idaho Springs 112.11 346 PFAKE 02 27 00.0 +13
ISCO LR LR
comp=Z,8μm,19.0s
352A Blakely 112.14 326 PFAKE 02 27 00.0 +13
352A LR LR
comp=Z,8μm,21.0s
KSCO Kaye Shedlock' 112.17 344 PFAKE 02 27 00.0 +13
KSCO LR LR
comp=Z,15μm,22.0s
555A McAlpin 112.22 324 PFAKE 02 27 00.0 +13
555A LR LR
comp=Z,10μm,22.0s
WHAR Wooly Hollow 112.22 334 PFAKE 02 27 00.0 +13
WHAR LR LR
comp=Z,12μm,21.0s
O20A White River Ci 112.30 349 PFAKE 02 27 00.0 +13
O20A LR LR
comp=Z,13μm,22.0s
W41B Gary Mavity, V 112.31 334 PFAKE 02 27 00.0 +13
W41B LR LR
comp=Z,13μm,20.0s
SDD Santo Domingo 112.31 306 PFAKE 02 27 00.0 +13
SDD LR LR
comp=Z,6μm,22.0s
X43A Marvell 112.32 332 PFAKE 02 27 00.0 +13
X43A LR LR
comp=Z,10μm,22.0s
453A Whigham 112.34 325 PFAKE 02 27 00.0 +13
453A LR LR
comp=Z,11μm,20.0s
LHI Lord Howe Isla 112.39 115 PFAKE 02 27 00.0 +13
LHI LR LR
comp=Z,8μm,22.0s
250A Grady 112.39 327 PFAKE 02 27 00.0 +13
250A LR LR
comp=Z,11μm,21.0s
656A Willston 112.58 323 PFAKE 02 27 00.0 +12
656A LR LR
comp=Z,8μm,20.0s
ELK Elko 112.63 354 PFAKE 02 27 00.0 +12
ELK LR LR
comp=Z,13μm,22.0s
UALR University of 112.69 334 PFAKE 02 27 00.0 +12
UALR LR LR
comp=Z,12μm,20.0s
147A Livingston 112.75 329 PFAKE 02 27 00.0 +12
147A LR LR
comp=Z,14μm,21.0s
KHMM Horse Mountain 112.80 1 PFAKE 02 27 00.0 +12
KHMM LR LR
comp=Z,9μm,19.0s
Q24A Divide 112.81 346 PFAKE 02 27 00.0 +12
Q24A LR LR
comp=Z,14μm,22.0s
JCC Jacoby Creek, 112.85 2 PFAKE 02 27 00.0 +12

JCC LR LR
comp=Z,9μm,21.0s
W39A Magazine 112.88 335 PFAKE 02 27 00.0 +12
W39A LR LR
comp=Z,11μm,20.0s
DUG Dugway, Tooele 112.92 352 PFAKE 02 27 00.0 +12
DUG LR LR
comp=Z,9μm,19.0s
DWPF Disney Wildern 112.95 321 PFAKE 02 27 00.0 +12
DWPF LR LR
comp=Z,6μm,22.0s
SDDR Presa de Saban 112.96 307 PFAKE 02 27 00.0 +11
SDDR LR LR
comp=Z,5μm,20.0s
TUL1 Leonard 112.97 337 PFAKE 02 27 00.0 +12
TUL1 LR LR
comp=Z,10μm,20.0s
SMCO Snowmass 112.99 347 PFAKE 02 27 00.0 +11
SMCO LR LR
comp=Z,12μm,22.0s
BMN Battle Mountai 113.10 356 PFAKE 02 27 00.0 +12
BMN LR LR
comp=Z,8μm,19.0s
WDC Whiskeytown Da 113.11 0 PFAKE 02 27 00.0 +12
WDC LR LR
comp=Z,9μm,21.0s
X40A Basin Creek Fa 113.14 334 PFAKE 02 27 00.0 +12
X40A LR LR
comp=Z,10μm,20.0s
060A Indiantown 113.16 320 PFAKE 02 27 00.0 +11
060A LR LR
comp=Z,6μm,21.0s
SPB Sao Paulo 113.20 254 PFAKE 02 27 00.0 +11
SPB LR LR
comp=Z,9μm,21.0s
CCAR Cane Creek 113.21 333 PFAKE 02 27 00.0 +11
CCAR LR LR
comp=Z,12μm,21.0s
451A Vernon 113.25 326 PFAKE 02 27 00.0 +11
451A LR LR
comp=Z,10μm,21.0s
MIAR Mount Ida 113.38 335 PFAKE 02 27 00.0 +11
MIAR LR LR
comp=Z,15μm,20.0s
BRAL Brewton 113.44 328 PFAKE 02 27 00.0 +11
BRAL LR LR
comp=Z,12μm,21.0s
KMRM Mail Ridge 113.45 1 PFAKE 02 27 00.0 +11
KMRM LR LR
comp=Z,9μm,22.0s
OK023 East Waterloo 113.61 338 PFAKE 02 27 00.0 +11
OK023 LR LR
comp=Z,9μm,21.0s
059A Moore Haven 113.66 320 PFAKE 02 27 00.0 +10
059A LR LR
comp=Z,9μm,21.0s
SRU San Rafael Swe 113.67 350 PFAKE 02 27 00.0 +10
SRU LR LR
comp=Z,9μm,22.0s
957A Wimauma 113.74 322 PFAKE 02 27 00.0 +10
957A LR LR
comp=Z,7μm,20.0s
BEKR Beckworth 113.80 358 PFAKE 02 27 00.0 +10
BEKR LR LR
comp=Z,8μm,20.0s
PAHR Pah Rah Range 113.93 358 PFAKE 02 27 00.0 +10
PAHR LR LR
comp=Z,9μm,20.0s
PV22 Blue Mesa, Par 113.95 349 PFAKE 02 27 00.0 +10
PV22 LR LR
comp=Z,12μm,21.0s
WLAR White Oak Lake 113.95 334 PFAKE 02 27 00.0 +10
WLAR LR LR
comp=Z,8μm,22.0s
PV21 Cone Mtn., Par 113.96 349 PFAKE 02 27 00.0 +10
PV21 LR LR
comp=Z,12μm,20.0s
KCPM Cahto Peak 113.98 1 PFAKE 02 27 00.0 +10
KCPM LR LR
comp=Z,9μm,19.0s
X37A Clayton 114.01 336 PFAKE 02 27 00.0 +10
X37A LR LR
comp=Z,14μm,19.0s
PV07 Paradox Valley 114.02 348 PFAKE 02 27 00.0 +10
PV07 LR LR
comp=Z,8μm,20.0s
SDCO Great Sand Dun 114.06 346 PFAKE 02 27 00.0 +9.4
SDCO LR LR
comp=Z,13μm,21.0s
PV23 Carpenter Ridg 114.07 349 PFAKE 02 27 00.0 +9.4
PV23 LR LR
comp=Z,15μm,21.0s
PV04 Paradox Valley 114.11 349 PFAKE 02 27 00.0 +9.5
PV04 LR LR
comp=Z,13μm,20.0s
ORV Oroville 114.13 359 PFAKE 02 27 00.0 +10
ORV LR LR
comp=Z,8μm,19.0s
VBMS Vicksburg 114.14 331 PFAKE 02 27 00.0 +10
VBMS LR LR
comp=Z,8μm,20.0s
PV10 Paradox Valley 114.15 349 PFAKE 02 27 00.0 +9.3
PV10 LR LR
comp=Z,13μm,21.0s
PV14 Lion Creek, Pa 114.15 349 PFAKE 02 27 00.0 +9.3
PV14 LR LR
comp=Z,14μm,21.0s
PV12 Saucer Basin, 114.16 349 PFAKE 02 27 00.0 +9.3
PV12 LR LR
comp=Z,12μm,20.0s
PV16 Nyswonger Mesa 114.19 349 PFAKE 02 27 00.0 +9.3
PV16 LR LR
comp=Z,11μm,21.0s
PV11 David Mesa, Pa 114.19 349 PFAKE 02 27 00.0 +9.3
PV11 LR LR
comp=Z,12μm,20.0s
PV19 Morning Glory 114.20 349 PFAKE 02 27 00.0 +9.3
PV19 LR LR
comp=Z,10μm,20.0s
Z41A Richland Creek 114.20 333 PFAKE 02 27 00.0 +9.5
Z41A LR LR
comp=Z,11μm,22.0s
PV17 East Wray Mesa 114.23 349 PFAKE 02 27 00.0 +9.2
PV17 LR LR
comp=Z,12μm,21.0s
PV03 Paradox Valley 114.23 349 PFAKE 02 27 00.0 +9.2
PV03 LR LR
comp=Z,10μm,20.0s
PV18 Skein Mesa, Pa 114.25 349 PFAKE 02 27 00.0 +9.2
PV18 LR LR
comp=Z,10μm,20.0s
PV02 Paradox Valley 114.26 348 PFAKE 02 27 00.0 +9.1
PV02 LR LR
comp=Z,11μm,21.0s
PV01 Paradox Valley 114.30 348 PFAKE 02 27 00.0 +9.0
PV01 LR LR
comp=Z,10μm,18.0s
PV13 Radium Mtn., P 114.32 348 PFAKE 02 27 00.0 +9.0
PV13 LR LR
comp=Z,8μm,20.0s
S22A 4UR Ranch, Cre 114.34 347 PFAKE 02 27 00.0 +8.9
S22A LR LR
comp=Z,10μm,19.0s
VCNR Virginia City 114.35 358 PFAKE 02 27 00.0 +9.0
VCNR LR LR
comp=Z,7μm,20.0s
061Z Ochoppi 114.37 319 PFAKE 02 27 00.0 +9.0
061Z LR LR
comp=Z,8μm,22.0s
T25A Trinidad 114.38 344 PFAKE 02 27 00.0 +8.9
T25A LR LR
comp=Z,13μm,22.0s
PV05 Paradox Valley 114.45 349 PFAKE 02 27 00.0 +8.8
PV05 LR LR
comp=Z,10μm,20.0s
KVN Kaiserville 114.52 357 PFAKE 02 27 00.0 +8.7
KVN LR LR
comp=Z,8μm,20.0s
PNTR Pine Nut 114.55 358 PFAKE 02 27 00.0 +8.6
PNTR LR LR
comp=Z,7μm,20.0s
RUBR Rubicon Trail 114.61 358 PFAKE 02 27 00.0 +8.5
RUBR LR LR
comp=Z,11μm,22.0s
YERR Yerington 114.64 358 PFAKE 02 27 00.0 +8.5
YERR LR LR
comp=Z,9μm,22.0s
HOPS Hopland Field 114.69 1 PFAKE 02 27 00.0 +8.6
HOPS LR LR
comp=Z,8μm,20.0s
AFDM Forest Hills D 114.73 359 PFAKE 02 27 00.0 +8.5
AFDM LR LR
comp=Z,8μm,21.0s
GDXM Geysers 114.87 1 PFAKE 02 27 00.0 +8.2
GDXM LR LR
comp=Z,10μm,19.0s
RYN Ryan 114.97 357 PFAKE 02 27 00.0 +7.9
RYN LR LR
comp=Z,11μm,21.0s
GTBY Guantanamo Bay 115.00 311 PFAKE 02 27 00.0 +7.6
GTBY LR LR
comp=Z,3μm,21.0s
PTGA Pitinga 115.03 283 PFAKE 02 27 00.0 +7.4
PTGA LR LR
comp=Z,8μm,21.0s
R11A Troy Canyon, C 115.04 354 PFAKE 02 27 00.0 +7.7
R11A LR LR
comp=Z,9μm,21.0s
WMOK Wichita Mounta 115.05 339 PFAKE 02 27 00.0 +7.8
WMOK LR LR
comp=Z,11μm,20.0s
WMOK Wichita Mounta 115.05 339 P **PKPdf 02 26 54.0 +1.8**
baz=23
WAKR Walker 115.13 358 PFAKE 02 27 00.0 +7.5
WAKR LR LR
comp=Z,10μm,21.0s
NV11 Mina Array Sit 115.14 357 PFAKE 02 27 00.0 +7.5
NV11 LR LR
comp=Z,700nm,22.0s
NVAR Mina Array Bea 115.15 357 PKP **PKPdf 02 26 53.3 +0.8**
comp=Z,2.8nm,0.8s,baz=41,slow=1.7,SNR=13
NVAR PKKPbc **PKKPab 02 37 35.7 -0.6**
comp=Z,0.8nm,0.8s,baz=192,slow=5.5,SNR=3.7
MVCO Mesa Verde 115.19 348 PFAKE 02 27 00.0 +7.3
MVCO LR LR
comp=Z,8μm,21.0s
MCCM Marconi Confer 115.53 1 PFAKE 02 27 00.0 +7.0
MCCM LR LR
comp=Z,5μm,20.0s
DZM Mont Dzumac 115.56 103 *e*SP SP 02 37 44.6 +10
comp=Z,3μm,27.8s
DZM *e*SS SS 02 44 11.2 +16
comp=Z,3μm,28.8s
DZM Mont Dzumac 115.56 103 *e*LR LR 03 01 38.3
comp=Z,15μm,38.9s
CCUT Cedar City 115.60 352 PFAKE 02 27 00.0 +6.5
CCUT LR LR
comp=Z,15μm,22.0s
CMB Columbia Colle 115.63 358 PFAKE 02 27 00.0 +6.7
CMB LR LR
comp=Z,10μm,21.0s
AMTX Amarillo 115.80 341 PFAKE 02 27 00.0 +6.3
AMTX LR LR
comp=Z,16μm,22.0s
MDPB Devils Postpil 115.98 357 PFAKE 02 27 00.0 +5.8
MDPB LR LR
comp=Z,10μm,21.0s
OMMB Old Mammoth Mi 116.00 357 PFAKE 02 27 00.0 +5.7
OMMB LR LR
comp=Z,12μm,21.0s
NATX Nacogdoches 116.26 334 PFAKE 02 27 00.0 +5.4
NATX LR LR
comp=Z,8μm,19.0s
QSPA South Pole Qui 116.50 180 *e*PKPdf **PKiKP 02 26 54.2 +0.3**
QSPA LR LR
comp=Z,9μm,22.0s
U15A North Rim 116.57 351 PFAKE 02 27 00.0 +4.6
U15A LR LR
comp=Z,7μm,20.0s
PINNC Pines Island, 116.62 103 PFAKE 02 27 00.0 +4.7
PINNC LR LR
comp=Z,7μm,19.0s
MARNC Mare, Loyalty 116.75 102 PFAKE 02 27 00.0 +4.4
MARNC LR LR
comp=Z,5μm,20.0s
SHPR Sheep Range 116.83 354 PFAKE 02 27 00.0 +4.2
SHPR LR LR
comp=Z,8μm,19.0s
SAO San Andreas Ge 116.91 359 PFAKE 02 27 00.0 +4.3
SAO LR LR
comp=Z,9μm,18.0s
JOHN Johnston Islan 116.94 52 PFAKE 02 27 10.0 +14
JOHN LR LR
comp=Z,6μm,20.0s
ANMO Albuquerque 116.95 346 PKKPbc PKKPbc 02 37 21.9 +0.1
ANMO LR LR
comp=Z,10μm,21.0s
ANMO Albuquerque 116.95 346 *c i*PKIKP **PKiKP 02 26 56.2 +0.1**
ANMO pmax pmax
comp=Z,3.0nm,2.5s
ANMO Albuquerque 116.95 346 PKKPbc PKKPbc 02 37 21.9 +0.1
comp=Z,0.3nm,0.4s,baz=311,slow=20,SNR=2.6
TASM ASL Pad, Albuq 116.95 346 P **PKiKP 02 26 56.5 +0.4**
baz=16
TASM ASL Pad, Albuq 116.95 346 P **PKiKP 02 26 56.4 +0.4**
baz=16
MSTX Muleshoe 116.96 342 PFAKE 02 27 00.0 +4.0
MSTX LR LR
comp=Z,17μm,20.0s
WHTX Lake Whitney, 117.10 336 PFAKE 02 27 00.0 +3.8
WHTX LR LR
comp=Z,12μm,21.0s
DAC Darwin (Calif) 117.25 356 PFAKE 02 27 10.0 +13
DAC LR LR
comp=Z,10μm,20.0s
ABTX Abilene, Hawle 117.27 339 PFAKE 02 27 10.0 +13
ABTX LR LR
comp=Z,12μm,20.0s
WUAZ Wupatki 117.33 350 PFAKE 02 27 10.0 +13
WUAZ LR LR
comp=Z,12μm,22.0s
W18A Petrified Fore 117.44 349 PFAKE 02 27 10.0 +13
W18A LR LR
comp=Z,8μm,20.0s
MPMC Manual Prospec 117.47 356 P **PKiKP 02 26 57.9 +0.8**
baz=4.8
MCQ Macquarie Isla 117.59 140 PFAKE 02 27 00.0 +3.8
MCQ LR LR
comp=Z,5μm,20.0s
MTDJ Mount Denham 117.82 311 PFAKE 02 27 10.0 +12
MTDJ LR LR
comp=Z,4μm,20.0s
Y22D IRIS PASSCAL I 117.89 346 PFAKE 02 27 10.0 +12
Y22D LR LR
comp=Z,8μm,19.0s
ISA Isabella, Lake 117.92 357 PFAKE 02 27 10.0 +12
ISA LR LR
comp=Z,11μm,22.0s
PAGB Antelope Grade 117.92 358 PFAKE 02 27 10.0 +12
PAGB LR LR
comp=Z,12μm,19.0s
X18A Snowflake 118.06 349 PFAKE 02 27 10.0 +12
X18A LR LR
comp=Z,9μm,22.0s
W13A Hualapai Mount 118.08 352 PFAKE 02 27 10.0 +12
W13A LR LR
comp=Z,6μm,20.0s
GSC Goldstone, Bar 118.17 355 PFAKE 02 27 10.0 +12
GSC LR LR
comp=Z,7μm,21.0s
LDFC Landfair 118.24 353 PFAKE 02 27 10.0 +12
LDFC LR LR
comp=Z,8μm,19.0s
435B Jarrell 118.24 336 PFAKE 02 27 10.0 +12
435B LR LR
comp=Z,10μm,20.0s
HKT Hockley 118.33 334 PFAKE 02 27 10.0 +11
HKT LR LR
comp=Z,12μm,19.0s
X16A Lo Mia Camp, P 118.41 350 PFAKE 02 27 10.0 +11
X16A LR LR
comp=Z,12μm,20.0s
SDV Santo Domingo 118.80 298 PFAKE 02 27 10.0 +10
SDV LR LR
comp=Z,5μm,22.0s
VNDA Vanda 118.86 166 PKKPbc PKKPbc 02 37 17.4 +2.1
comp=Z,2.2nm,1.0s,baz=86,slow=1.3,SNR=6.6
OSI Osito Audit: C 118.97 357 PFAKE 02 27 10.0 +10
OSI LR LR
comp=Z,11μm,20.0s
Y14A Wickenburg 119.11 351 PFAKE 02 27 10.0 +10
Y14A LR LR
comp=Z,10μm,22.0s
JCT Junction City 119.29 338 PFAKE 02 27 10.0 +9.4
JCT LR LR
comp=Z,8μm,20.0s
MWC Mount Wilson 119.33 356 PFAKE 02 27 10.0 +9.3
MWC LR LR
comp=Z,11μm,21.0s
PASC Pasadena Art C 119.39 356 PFAKE 02 27 10.0 +9.4
PASC LR LR
comp=Z,10μm,22.0s
BELC Belle Mtn. Jos 119.39 354 P **PKiKP 02 27 01.8 +1.0**
baz=6.4
Y12C Blythe 119.49 353 PFAKE 02 27 10.0 +9.2
Y12C LR LR
comp=Z,7μm,22.0s
KEKH Kekaha 119.50 41 PFAKE 02 27 10.0 +8.9
KEKH LR LR
comp=Z,9μm,22.0s
BC3 Big Chuckawall 119.68 354 P **PKPdf 02 26 59.3 -1.9**
baz=7.0
MNTX Cornudas Mount 119.80 344 *e*PKPdf **PKiKP 02 27 01.9 +0.4**
MNTX LR LR
comp=Z,10μm,21.0s
PFO Pinyon Flats O 119.82 355 PFAKE 02 27 10.0 +8.4
PFO LR LR
comp=Z,8μm,18.0s
SBA Scott Base 119.84 167 PFAKE 02 27 10.0 +10
SBA LR LR
comp=Z,6μm,19.0s
EPT El Paso 120.01 345 PFAKE 02 27 10.0 +8.0
EPT LR LR
comp=Z,14μm,21.0s
GLA Glamis 120.21 353 PFAKE 02 27 10.0 +7.7
GLA LR LR
comp=Z,5μm,22.0s
113A Mohawk Valley, 120.36 352 PFAKE 02 27 10.0 +7.5
113A LR LR
comp=Z,7μm,21.0s
TUC Tucson 120.37 349 *e*PKPdf **PKiKP 02 27 05.0 +2.3**
TUC LR LR
comp=Z,6μm,20.0s
TUC Tucson 120.37 349 *e*PKIKP **PKiKP 02 27 05.0 +2.3**
TUC MLR MLR
comp=Z,6μm,20.0s
TUC Tucson 120.37 349 P **PKiKP 02 27 03.1 +0.4**
baz=12
SNCC San Nicolas Is 120.37 357 PFAKE 02 27 10.0 +7.5
SNCC LR LR
comp=Z,10μm,22.0s
CPE Camp Elliot 120.59 355 PFAKE 02 27 10.0 +7.0
CPE LR LR
comp=Z,6μm,21.0s
OPA Opana 120.71 39 PFAKE 02 27 10.0 +6.5
OPA LR LR
comp=Z,6μm,21.0s
BAR Barrett 120.76 355 PFAKE 02 27 10.0 +6.6
BAR LR LR
comp=Z,6μm,20.0s
KIP Kipapa 120.91 40 PFAKE 02 27 10.0 +6.2
KIP LR LR
comp=Z,6μm,20.0s
319A Douglas 121.00 347 PFAKE 02 27 10.0 +6.0
319A LR LR
comp=Z,13μm,22.0s
HON Honolulu 121.00 40 PFAKE 02 27 10.0 +6.0
HON LR LR
comp=Z,7μm,21.0s
833A Chaparral WMA, 121.12 337 PFAKE 02 27 10.0 +5.9
833A LR LR
comp=Z,12μm,19.0s
KVTX Kingsville 121.27 335 PFAKE 02 27 10.0 +5.6
KVTX LR LR
comp=Z,8μm,20.0s
TX31 Lajitas Ar. Si 121.57 341 *e*PKPdf **PKiKP 02 27 05.4 +0.3**
TXAR Lajitas Array 121.57 341 *e*PKPdf **PKiKP 02 27 05.0 -0.1**
TXAR Lajitas Array 121.57 341 PKIKP **PKiKP 02 27 05.0 -0.1**
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR Lajitas Array 121.57 341 PKP **PKiKP 02 27 05.0 -0.1**
comp=Z,7.2nm,1.0s,baz=150,slow=2.7,SNR=9.3
DCZ Deep Cove 121.69 129 PFAKE 02 27 10.0 +5.5
DCZ LR LR
comp=Z,4μm,21.0s
WHZ Wether Hill Ro 122.29 129 PFAKE 02 27 10.0 +4.2
WHZ LR LR
comp=Z,5μm,19.0s
OGAUY Aigu 122.32 245 *e*P **PKiKP 02 27 08.0 +1.8**
MLZ Mavora Lakes 122.35 128 PFAKE 02 27 10.0 +4.1
MLZ LR LR
comp=Z,7μm,22.0s
HLK Haleakala 122.43 38 PFAKE 02 27 20.0 +13
HLK LR LR
comp=Z,5μm,21.0s
CPUP Villa Florida 122.58 255 PKP **PKiKP 02 27 08.0 +1.1**
comp=Z,2.7nm,0.8s,baz=85,slow=11,SNR=3.2
CPUP Villa Florida 122.58 255 *e*P **PKiKP 02 27 09.1 +2.2**
WKZ Wanaka 122.93 128 PFAKE 02 27 20.0 +13
WKZ LR LR
comp=Z,9μm,22.0s
TEIG Tepich 122.98 321 PFAKE 02 27 20.0 +12
TEIG LR LR
comp=Z,6μm,22.0s
MYIG Mrida 123.19 323 PFAKE 02 27 20.0 +12
MYIG LR LR
comp=Z,11μm,21.0s
HPAH Hawaii Prepara 123.32 38 PFAKE 02 27 20.0 +11
HPAH LR LR
comp=Z,7μm,21.0s
FOZ Fox Glacier 123.35 126 PFAKE 02 27 20.0 +12
FOZ LR LR
comp=Z,10μm,19.0s
HUH Hualalai 123.52 39 PFAKE 02 27 20.0 +11
HUH LR LR
comp=Z,6μm,22.0s
KHLU Kahalu`u 123.56 39 PFAKE 02 27 20.0 +11
KHLU LR LR
comp=Z,4μm,20.0s
HSIG 123.61 348 PFAKE 02 27 20.0 +11
HSIG LR LR
comp=Z,9μm,19.0s
POHA Pohakuloa 123.64 38 PFAKE 02 27 20.0 +10
POHA LR LR
comp=Z,7μm,22.0s
LBZ Lake Benmore 123.71 127 PFAKE 02 27 20.0 +11
LBZ LR LR
comp=Z,7μm,19.0s
HMH Humu'ula Sheep 123.79 39 PFAKE 02 27 20.0 +10
HMH LR LR
comp=Z,7μm,21.0s
MLOA Mauna Loa Obse 123.79 39 PFAKE 02 27 20.0 +10
MLOA LR LR
comp=Z,7μm,22.0s
MWH Moku'aweowe 123.82 39 PFAKE 02 27 20.0 +10
MWH LR LR
comp=Z,6μm,22.0s
MLH Mauna Loa 123.93 39 PFAKE 02 27 20.0 +10
MLH LR LR
comp=Z,8μm,22.0s
AIN Ainahou 123.98 39 PFAKE 02 27 20.0 +10
AIN LR LR
comp=Z,7μm,21.0s
KHU Kahuku 124.00 39 PFAKE 02 27 20.0 +10
KHU LR LR
comp=Z,6μm,22.0s
UWE Uwekahuna 124.04 39 PFAKE 02 27 20.0 +10
UWE LR LR
comp=Z,8μm,22.0s
UWB Uwekahuna B 124.04 38 PFAKE 02 27 20.0 +10
UWB LR LR
comp=Z,4μm,21.0s
OBL Observatory Le 124.05 38 PFAKE 02 27 20.0 +10
OBL LR LR
comp=Z,7μm,21.0s
WRMHI West Rim 124.05 39 PFAKE 02 27 20.0 +10
WRMHI LR LR
comp=Z,7μm,21.0s
NPH North Pit 124.05 39 PFAKE 02 27 20.0 +10
NPH LR LR
comp=Z,7μm,20.0s
SDHHI Sand Hill 124.06 39 PFAKE 02 27 20.0 +10
SDHHI LR LR
comp=Z,9μm,22.0s
RIM Rim 124.07 39 PFAKE 02 27 20.0 +10
RIM LR LR

comp=Z,9μm,22.0s
ODZ Otahua Downs 124.10 128 PFAKE 02 27 20.0 +11
ODZ LR LR
comp=Z,7μm,19.0s
PUH Pauahi 124.12 38 PFAKE 02 27 20.0 +10
PUH LR LR
comp=Z,8μm,22.0s
HLP Hilina Pali 124.13 39 PFAKE 02 27 20.0 +10
HLP LR LR
comp=Z,9μm,22.0s
ROSC El Rosal 124.14 297 PKP **PKiKP 02 27 12.0 +1.1**
ROSC LR LR
comp=Z,5μm,21.0s
ROSC El Rosal 124.14 297 PKP **PKiKP 02 27 12.0 +1.1**
comp=Z,4.2nm,0.4s,baz=136,slow=19,SNR=2.9
STCH Steam Cracks 124.16 38 PFAKE 02 27 20.0 +10
STCH LR LR
comp=Z,8μm,22.0s
LNIG Linares 124.26 335 *e*PKPdf **PKiKP 02 27 13.1 +2.7**
LNIG LR LR
comp=Z,6μm,20.0s
RPZ Rata Peaks 124.27 126 PFAKE 02 27 20.0 +10
RPZ LR LR
comp=Z,12μm,20.0s
HPIG 124.40 342 PFAKE 02 27 20.0 +9.1
HPIG LR LR
comp=Z,11μm,21.0s
OXZ Oxford 124.94 126 PFAKE 02 27 20.0 +8.9
OXZ LR LR
comp=Z,10μm,20.0s
LTZ Lake Taylor 125.06 125 PFAKE 02 27 20.0 +8.6
LTZ LR LR
comp=Z,11μm,19.0s
OUZ Omahuta 125.07 116 PFAKE 02 27 20.0 +8.4
OUZ LR LR
comp=Z,8μm,22.0s
CRLZ Canterbury Las 125.39 126 PFAKE 02 27 20.0 +8.1
CRLZ LR LR
comp=Z,8μm,20.0s
MQZ McQueen's Vall 125.42 126 PFAKE 02 27 20.0 +8.0
MQZ LR LR
comp=Z,8μm,19.0s
THZ Tophouse 125.43 124 PFAKE 02 27 20.0 +7.8
THZ LR LR
comp=Z,8μm,22.0s
SRIG Santa Rosalia 125.49 349 PFAKE 02 27 20.0 +7.2
SRIG LR LR
comp=Z,7μm,20.0s
BCIP Isla Barro Col 125.64 305 PFAKE 02 27 20.0 +6.6
BCIP LR LR
comp=Z,3μm,22.0s
KHZ Kahutara 125.96 124 PFAKE 02 27 20.0 +6.9
KHZ LR LR
comp=Z,8μm,18.0s
EFI East Falkland 126.35 224 PFAKE 02 27 20.0 +6.4
EFI LR LR
comp=Z,7μm,18.0s
HIZ Hauiti 126.56 120 PFAKE 02 27 20.0 +5.6
HIZ LR LR
comp=Z,6μm,18.0s
ESPN Las Esperanzas 126.67 312 PFAKE 02 27 20.0 +4.6
ESPN LR LR
comp=Z,5μm,22.0s
SNZO South Karori 126.73 123 PFAKE 02 27 20.0 +5.3
SNZO LR LR
comp=Z,6μm,19.0s
TGUH Tegucigalpa,Un 127.21 316 PFAKE 02 27 20.0 +3.6
TGUH LR LR
comp=Z,2μm,20.0s
PMSA Palmer Station 127.29 207 PFAKE 02 27 20.0 +5.0
PMSA LR LR
comp=Z,6μm,19.0s
ZAIG Zacatecas 127.33 337 *e*PKPdf **PKiKP 02 27 18.6 +1.6**
ACON Acoyapa 127.42 312 PFAKE 02 27 30.0 +13
ACON LR LR
comp=Z,6μm,22.0s
LVIG Laguna Verde 127.57 329 PFAKE 02 27 30.0 +13
LVIG LR LR
comp=Z,3μm,22.0s
BFZ Birch Farm 127.84 122 PFAKE 02 27 30.0 +13
BFZ LR LR
comp=Z,7μm,20.0s
BKZ Black Stump Fm 127.90 120 PFAKE 02 27 30.0 +13
BKZ LR LR
comp=Z,8μm,22.0s
HDC Heredia 128.11 310 PFAKE 02 27 30.0 +12
HDC LR LR
comp=Z,5μm,21.0s
URZ Urewera 128.29 119 PFAKE 02 27 30.0 +12
URZ LR LR
comp=Z,9μm,22.0s
CCIG Comitan 128.30 322 PFAKE 02 27 30.0 +11
CCIG LR LR
comp=Z,8μm,22.0s
APG El Apazote 128.39 320 PKP **PKiKP 02 27 17.6 -1.5**
comp=Z,2.5nm,0.7s,baz=342,slow=17,SNR=2.5
JTS Las Juntas de 128.48 311 PFAKE 02 27 30.0 +11
JTS LR LR
comp=Z,4μm,20.0s
SLBS Sierra La Lagu 128.58 346 PFAKE 02 27 30.0 +11
SLBS LR LR
comp=Z,11μm,21.0s
TRQA Tornquist 128.70 241 *e*PKPdf **PKiKP 02 27 19.4 +0.7**
TRQA LR LR
comp=Z,11μm,22.0s
TRQA Tornquist 128.70 241 *e*PKIKP **PKiKP 02 27 19.5 +0.7**
TRQA MLR MLR
comp=Z,11μm,22.0s
TRQA Tornquist 128.70 241 *e*P **PKiKP 02 27 20.7 +1.9**
LPAZ La Paz 128.99 270 PKP **PKiKP 02 27 21.2 +0.5**
comp=Z,3.1nm,0.9s,baz=40,slow=1.3,SNR=4.8
LPAZ La Paz 128.99 270 *e*P **PKiKP 02 27 21.6 +0.9**
CMIG Matias Romero 129.08 326 PKP **PKiKP 02 27 20.2 +0.1**
comp=Z,10nm,0.8s,baz=259,slow=1.7,SNR=9.8
MXZ Matakaoa Point 129.16 118 PFAKE 02 27 30.0 +10
MXZ LR LR
comp=Z,7μm,22.0s
MOIG Morelia 129.65 334 PFAKE 02 27 30.0 +8.4
MOIG LR LR
comp=Z,5μm,20.0s
OTAV Otavalo 130.17 295 *e*PKPdf **PKiKP 02 27 25.4 +2.4**
OTAV LR LR
comp=Z,100nm,19.0s
OTAV Otavalo 130.17 295 *e*PKIKP **PKiKP 02 27 25.4 +2.4**
OTAV MLR MLR
comp=Z,100nm,19.0s
OTAV Otavalo 130.17 295 *e*P **PKiKP 02 27 24.0 +0.9**
TLIG Tlapa 130.43 330 PFAKE 02 27 30.0 +7.0
TLIG LR LR
comp=Z,5μm,22.0s
RAO Raoul Island 131.07 107 PFAKE 02 27 30.0 +6.2
RAO LR LR
comp=Z,7μm,19.0s
GO01 Chusmiza 131.09 266 PFAKE 02 27 30.0 +5.3
GO01 LR LR
comp=Z,7μm,19.0s
MNMC Minye Minye 131.28 267 PFAKE 02 27 30.0 +5.2
MNMC LR LR
comp=Z,9μm,20.0s
PB11 IPOC Station P 131.53 267 *e*PKPdf **PKiKP 02 27 23.5 -1.7**
PB11 *e*PKPdf **sPKPdf 02 27 27.6 -4.0**
PB11 LR LR
comp=Z,7μm,18.0s
LVC Limon Verde 131.71 263 PFAKE 02 27 30.0 +4.3
LVC LR LR
comp=Z,5μm,20.0s
LVC Limon Verde 131.71 263 *e*P **PKiKP 02 27 26.0 +0.3**
PB01 IPOC Station P 131.78 265 PFAKE 02 27 30.0 +4.5
PB01 LR LR
comp=Z,6μm,21.0s
PB04 IPOC Station P 132.74 263 PFAKE 02 27 40.0 +12
PB04 LR LR
comp=Z,4μm,20.0s
GO02 Mina Guanaco 132.97 260 PFAKE 02 27 40.0 +12
GO02 LR LR
comp=Z,9μm,21.0s
CFA Coronel Fontan 133.03 251 PKP **PKiKP 02 27 28.0 +0.3**
comp=Z,1.7nm,0.3s,baz=136,slow=3.1,SNR=4.8
PB10 IPOC Station P 133.41 262 PFAKE 02 27 40.0 +11
PB10 LR LR
comp=Z,8μm,21.0s
GO03 Copiap 134.06 256 PFAKE 02 27 40.0 +10
GO03 LR LR
comp=Z,6μm,20.0s
LCO Las Campanas 134.73 255 PFAKE 02 27 40.0 +8.4
LCO LR LR
comp=Z,5μm,19.0s
LCO Las Campanas 134.73 255 *e*P **PKiKP 02 27 32.3 +0.7**
GO04 Tololo Observa 135.00 253 PFAKE 02 27 40.0 +8.0
GO04 LR LR
comp=Z,8μm,22.0s
NNA Nana 135.06 280 PFAKE 02 27 40.0 +7.7
NNA LR LR
comp=Z,6μm,21.0s
GO09 Cerro Castillo 135.23 223 PFAKE 02 27 40.0 +8.5
GO09 LR LR
comp=Z,9μm,19.0s
PEL Peldehue 135.28 249 PFAKE 02 27 40.0 +7.7
PEL LR LR
comp=Z,14μm,21.0s
PLCA Paso Flores 135.43 238 *e*P **PKiKP 02 27 32.9 +0.5**
XMAS Kiritimati 135.58 56 PFAKE 02 27 40.0 +6.6
XMAS LR LR
comp=Z,9μm,22.0s
GO06 Curarrehue 136.17 240 PFAKE 02 27 40.0 +6.0
GO06 LR LR
comp=Z,10μm,22.0s
GO05 Huala 136.46 246 PFAKE 02 27 40.0 +5.4
GO05 LR LR
comp=Z,11μm,22.0s
GO07 Milladeo Hill, 137.58 234 PFAKE 02 27 40.0 +3.5
GO07 LR LR
comp=Z,10μm,19.0s
PAYG Puerto Ayora 139.92 305 PFAKE 02 27 50.0 +7.7
PAYG LR LR
comp=Z,3μm,19.0s
PPT2 Papeete2 153.09 76 *e*SS SS 02 51 30.0 +2.4
comp=Z,3μm,29.5s
PPT2 Papeete2 153.09 76 *e*LR LR 03 19 14.5
comp=Z,10μm,23.8s
TBI Tubuai 155.05 88 *e*SS SS 02 51 50.5 +1.4
comp=Z,2μm,31.8s
TBI Tubuai 155.05 88 *e*LR LR 03 20 00.3
comp=Z,11μm,24.8s
TAOE Nuku Hiva Isla 155.42 47 *e*LR LR 03 20 12.2
comp=Z,12μm,22.4s
TAOE Nuku Hiva Isla 155.42 47 PFAKE 02 28 10.0 +4.8
TAOE LR LR
comp=Z,8μm,22.0s
RKT Rikitea 167.84 76 *e*LR LR 03 25 56.7
comp=Z,10μm,25.5s

ISCJB ***11*** *02:19:11.5±0.5, 15°.92S±0°.03×72°.16W±0°.05, h91km±5km, mb4.6/23, Error ellipse: s-maj=8.3km s-min=4.2km az=157.4*
VAO ***11*** *02:19:12.6±0.5, 15°.89S×72°.25W, h90km, mb4.6*
NEIC ***11*** *02:19:12.1±0.7, 15°.87S×72°.17W, h85km±6km, mb4.7/17, Error ellipse: s-maj=9.7km s-min=5.5km az=89.0*
IDC ***11*** *02:19:15.2±0.7, 15°.91S×72°.21W, h108km±6km, mb4.2/14, mb1 4.3/20, mb1mx4.0/51, mbtmp4.6/20, MS3.1/3, Ms1 3.1/3, ms1mx3.0/26, Error ellipse: s-maj=12.9km s-min=9.9km az=51.0*
GUC ***11*** *02:19:15.8±0.5, 16°.49S×72°.48W, h42km±310km, ML4.8*
ISC 11 02:19:13.5±0.6,**16°.05S**±0°.04×**72°.39W**±0°.05,**h108**km±5km,
h108km**:pP-P,n164,**o**19**70/188,**mb4.7**/23,**3C-12D,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**3.23**	**143**	*e*P	**Pn**	**02 20 02.4**	**-0.1**
PB12	**IPOC Station P**	**3.23**	**143⇑**	*e*P	**Pn**	**02 20 01.9**	**-0.6**
PB12				*i* S	**Sn**	**02 20 37.0**	**-3.4**
PB12				IAML		02 20 50.0	
	comp=E,2μm,0.6s						
PB16	**IPOC Station P**	**3.58**	**130**	*e*P	**Pn**	**02 20 08.8**	**+1.2**
PB16				*e*S	**Sn**	**02 20 50.0**	**+0.6**
PB16	**IPOC Station P**	**3.58**	**130⇓**	*i*P	**Pn**	**02 20 08.6**	**+1.0**
PB16				*i* S	**Sn**	**02 20 49.8**	**+0.4**
PB16				IAML		02 21 01.3	
	comp=N,1μm,0.3s						
MNMC	**Minye Minye**	**4.07**	**139**	*e*Pn	**Pn**	**02 20 13.5**	**-0.4**
MNMC	**Minye Minye**	**4.07**	**139⇓**	*i*P	**Pn**	**02 20 13.7**	**-0.2**
MNMC				*i* S	**Sn**	**02 20 58.3**	**-2.5**
MNMCX	**Minye Minye**	**4.07**	**139**	*e*P	**Pn**	**02 20 01.9**	**-0.6**
LPAZ	**La Paz**	**4.10**	**94**	*e*Pn	**Pn**	**02 20 15.1**	**+0.3**
LPAZ				*e*Sn	**Sn**	**02 21 02.7**	**+0.5**
LPAZ	**La Paz**	**4.10**	**94⇓**	*e*P	**Pn**	**02 20 16.2**	**+1.4**
LPAZ				IAML		02 20 16.6	
LPAZ	**La Paz**	**4.10**	**94⇑**	*i*P	**Pn**	**02 20 16.1**	**+1.3**
LPAZ				*i* S	**Sn**	**02 21 02.9**	**+0.7**
LPAZ	**La Paz**	**4.10**	**94**	P	**Pn**	**02 20 16.2**	**+1.4**
	comp=N,13nm,0.3s,baz=281,slow=11,SNR=550						
LPAZ				S	**Sn**	**02 21 02.7**	**+0.5**
	comp=N,6.8nm,0.3s,baz=200,slow=24,SNR=6.5						
PSGC	**Pisagua**	**4.14**	**149**	*i*P	**Pn**	**02 20 13.9**	**-0.8**
PSGC				*i* S	**Sn**	**02 20 57.9**	**-4.4**
PSGC				IAML		02 21 19.6	
	comp=E,1μm,0.6s						
PSGCX	**Pisagua**	**4.14**	**149**	*e*P	**Pn**	**02 20 14.1**	**-0.7**
PSGCX				⇓*e*S	**Sn**	**02 21 00.2**	**-2.1**
PB11	**IPOC Station P**	**4.52**	**145**	*e*Pn	**Pn**	**02 20 19.1**	**-0.9**
PB11	**IPOC Station P**	**4.52**	**145**	*e*P	**Pn**	**02 20 19.6**	**-0.4**
PB11	**IPOC Station P**	**4.52**	**145⇓**	*i*P	**Pn**	**02 20 19.0**	**-0.9**
PB11				*i* S	**Sn**	**02 21 08.2**	**-3.4**
PB11				IAML		02 21 28.9	
	comp=E,832nm,0.4s						
GO01	**Chusmiza**	**4.72**	**140**	*e*Pn	**Pn**	**02 20 22.7**	**-0.2**
PB08	**IPOC Station P**	**5.11**	**143**	*e*P	**Pn**	**02 20 28.0**	**-0.1**
PB08				*e*S	**Sn**	**02 21 22.6**	**-3.5**
PB08	**IPOC Station P**	**5.11**	**143⇓**	*i*P	**Pn**	**02 20 27.7**	**-0.3**
PB08				*i* S	**Sn**	**02 21 23.6**	**-2.5**
PB01	**IPOC Station P**	**5.68**	**151**	*e*Pn	**Pn**	**02 20 34.5**	**-1.2**
PB02	**IPOC Station P**	**5.75**	**156⇓**	*e*P	**Pn**	**02 20 36.2**	**-0.3**
PB02	**IPOC Station P**	**5.75**	**156⇑**	*i*P	**Pn**	**02 20 36.3**	**-0.3**
PB02				*i* S	**Sn**	**02 21 35.5**	**-5.9**
NNA	**Nana**	**5.91**	**313**	P	**Pn**	**02 20 39.4**	**+0.7**
	comp=E,26nm,0.3s,baz=157,slow=11,SNR=41						
NNA				S	**Sn**	**02 21 41.8**	**-3.3**
	comp=E,12nm,0.3s,baz=216,slow=19,SNR=4.0						
NNA				LR	LR	02 23 06.6	
	comp=E,124nm,21.2s,baz=157,slow=39						
PB07	**IPOC Station P**	**6.13**	**158**	*e*P	**Pn**	**02 20 41.1**	**-0.6**
PB09	**IPOC Station P**	**6.45**	**153**	*e*P	**Pn**	**02 20 46.4**	**+0.3**
PB03	**IPOC Station P**	**6.47**	**158⇓**	*e*P	**Pn**	**02 20 45.9**	**-0.4**
PB04	**IPOC Station P**	**6.60**	**162**	*e*Pn	**Pn**	**02 20 47.2**	**-1.0**
PB04	**IPOC Station P**	**6.60**	**162⇓**	*e*P	**Pn**	**02 20 47.5**	**-0.7**
PB05	**IPOC Station P**	**7.08**	**163**	*e*P	**Pn**	**02 20 53.3**	**-1.3**
PB06	**IPOC Station P**	**7.14**	**159**	*e*P	**Pn**	**02 20 54.3**	**-1.1**
LVC	**Limon Verde**	**7.31**	**154**	*e*Pn	**Pn**	**02 20 57.6**	**-0.3**
LVC				S	**Sn**	**02 22 17.0**	**-2.6**
LVC	**Limon Verde**	**7.31**	**154**	*e*P	**Pn**	**02 20 58.1**	**+0.2**
LVC	**Limon Verde**	**7.31**	**154**	P	**Pn**	**02 20 58.5**	**+0.6**
	comp=E,11nm,0.3s,baz=346,slow=9.1,SNR=95						
LVC				S	**Sn**	**02 22 17.0**	**-2.6**
	comp=E,18nm,0.3s,baz=115,slow=18,SNR=14						
LVC	**Limon Verde**	**7.31**	**154**	*e*P	**Pn**	**02 20 57.7**	**-0.3**
PB10	**IPOC Station P**	**7.63**	**167**	*e*Pn	**Pn**	**02 21 00.8**	**-1.1**
PB10	**IPOC Station P**	**7.63**	**167**	*e*P	**Pn**	**02 21 01.1**	**-0.8**
PB15	**IPOC Station P**	**7.64**	**159**	*e*P	**Pn**	**02 21 01.5**	**-0.8**
GO02	**Mina Guanaco**	**9.44**	**164**	*e*Pn	**Pn**	**02 21 26.2**	**-0.6**
HJA	**Humahuaca**	**9.70**	**138⇓**	*e*P	**Pn**	**02 21 30.0**	**-0.4**
HJA				IAML		02 21 34.5	
	comp=Z,17nm,0.6s						
ATAH	**Atahualpa**	**10.63**	**326**	P	Pn	02 21 48.6	+5.5
	comp=Z,1.4nm,0.3s,baz=333,slow=16,SNR=11						
ATAH				LR	LR	02 25 49.0	
	comp=Z,76nm,20.2s,baz=158,slow=37						
SIV	**San Ignacio**	**10.89**	**91**	P	**Pn**	**02 21 42.1**	**-4.1**
	comp=Z,8.7nm,0.3s,baz=286,slow=9.9,SNR=90						
SIV				LR	LR	02 26 34.3	
	comp=Z,156nm,19.6s,baz=290,slow=41						
LCO	**Las Campanas**	**13.00**	**173**	*e*Pn	**Pn**	**02 22 15.1**	**+0.8**
LCO	**Las Campanas**	**13.00**	**173**	*e*P	**Pn**	**02 22 15.5**	**+1.2**
VCA	**Vinchina**	**13.21**	**164**	*e*P	**Pn**	**02 22 17.6**	**+0.6**
GO04	**Tololo Observa**	**14.14**	**174**	*e*Pn	**Pn**	**02 22 30.2**	**+1.1**
CFA	**Coronel Fontan**	**15.95**	**167**	P	**P**	**02 22 54.5**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=344,slow=13,SNR=28						
AQDB	**Aquidauana**	**16.45**	**108**	*e*P	**Pn**	**02 22 57.2**	**-0.9**
TCA	**Tanti**	**16.80**	**156**	*e*P	**P**	**02 23 03.3**	**+0.6**
ROC1	**El Roble**	**16.90**	**176**	*e*Pn	**P**	**02 23 06.9**	**+2.9**
ROC1				*e*Sn	**Sn**	**02 26 12.2**	**+0.4**
CLDB	**Colider**	**16.94**	**74**	*e*P	**Pn**	**02 23 01.9**	**-2.1**
PEL	**Peldehue**	**17.09**	**175**	*e*Pn	**P**	**02 23 06.8**	**+0.9**
	comp=Z,91nm,1.9s						
OTAV	**Otavalo**	**17.25**	**339**	*e*Pn	**P**	**02 23 06.9**	**-1.2**
	comp=Z,26nm,1.9s						
CPUP	**Villa Florida**	**17.36**	**129**	*e*P	**P**	**02 23 08.6**	**-0.2**
	comp=Z,5.4nm,1.0s						
CPUP	**Villa Florida**	**17.36**	**129**	P	**Pn**	**02 23 09.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=308,slow=11,SNR=8.1						
CPUP	**Villa Florida**	**17.36**	**129**	*e*P	**Pn**	**02 23 09.4**	**+0.3**
FLOC	**Florencia**	**17.81**	**349**	*e*P	**P**	**02 23 13.8**	**-0.1**
FLOC	**Florencia**	**17.81**	**349**	*e*P	**P**	**02 23 13.8**	**-0.1**
GCUF	**Volcan Galeras**	**17.85**	**344**	*e*P	**P**	**02 23 11.5**	**-3.2**
GCUF	**Volcan Galeras**	**17.85**	**344**	*e*P	**P**	**02 23 11.5**	**-3.2**
SOTA	**Rioblanco**	**18.54**	**347**	*e*P	**Pn**	**02 23 23.7**	**-0.1**
SOTA	**Rioblanco**	**18.54**	**347**	*e*P	**Pn**	**02 23 23.7**	**-0.1**
BBAC	**Balboa, Cauca**	**18.58**	**345**	*e*P	**Pn**	**02 23 25.0**	**+0.9**
BBAC	**Balboa, Cauca**	**18.58**	**345**	*e*P	**Pn**	**02 23 25.0**	**+0.9**
PCON	**Cinco Dias**	**18.68**	**347**	*e*P	**Pn**	**02 23 29.1**	**+3.5**
PCON	**Cinco Dias**	**18.68**	**347**	*e*P	**Pn**	**02 23 29.1**	**+3.5**
C2SB	**Chapadao do Su**	**18.86**	**101**	*e*P	**P**	**02 23 25.4**	**+0.1**
POPC	**Popayan, Colom**	**18.95**	**347**	*e*P	**Pn**	**02 23 28.7**	**+0.3**
POPC	**Popayan, Colom**	**18.95**	**347**	*e*P	**Pn**	**02 23 28.7**	**+0.3**
PTGA	**Pitinga**	**19.54**	**40**	P	**P**	**02 23 30.2**	**-2.5**
	comp=Z,9.2nm,0.3s,baz=218,slow=13,SNR=48						
PTGA	**Pitinga**	**19.54**	**40**	*e*P	**P**	**02 23 30.2**	**-2.5**
PRAC	**Prado**	**19.79**	**353**	*e*P	**Pn**	**02 23 37.0**	**-1.0**
PRAC	**Prado**	**19.79**	**353**	*e*P	**Pn**	**02 23 37.0**	**-1.0**
TRCB	**Terra Rica**	**19.80**	**113**	*e*P	**P**	**02 23 35.5**	**-0.1**
YOTC	**Yotoco, Valle**	**20.28**	**349**	*e*P	**P**	**02 23 42.0**	**+1.1**
YOTC	**Yotoco, Valle**	**20.28**	**349**	*e*P	**P**	**02 23 42.0**	**+1.1**
ROSC	**El Rosal**	**20.84**	**355**	*e*P	**P**	**02 23 46.3**	**-0.9**
	comp=Z,7.7nm,0.8s						
ROSC	**El Rosal**	**20.84**	**355**	P	Pn	02 23 49.0	-1.6
	comp=Z,10nm,0.7s,baz=110,slow=11,SNR=6.0						
PTGB	**Pitanga**	**20.90**	**118**	*e*P	**P**	**02 23 47.2**	**-0.3**
PLMC	**San Jos del P**	**21.17**	**349**	*e*P	**P**	**02 23 52.4**	**+2.1**
PLMC	**San Jos del P**	**21.17**	**349**	*e*P	**P**	**02 23 52.4**	**+2.1**
ITRB	**Iturama**	**21.28**	**103**	*e*P	**P**	**02 23 50.5**	**-1.0**
NORC	**Norcasia**	**21.61**	**353**	*e*P	**P**	**02 23 53.3**	**-1.8**
NORC	**Norcasia**	**21.61**	**353**	*e*P	**P**	**02 23 53.3**	**-1.8**
RUSC	**La Rusia**	**21.81**	**358**	*e*P	**P**	**02 23 54.6**	**-3.0**
RUSC	**La Rusia**	**21.81**	**358**	*e*P	**P**	**02 23 54.6**	**-3.0**
ITAB	**Concordia**	**21.84**	**124**	*e*P	**P**	**02 23 58.8**	**+1.4**
HELC	**Santa Helena**	**22.31**	**352**	*e*P	**P**	**02 24 02.9**	**+0.2**
HELC	**Santa Helena**	**22.31**	**352**	*e*P	**P**	**02 24 02.9**	**+0.2**
PTBC	**PUERTO BERRIO,**	**22.53**	**355**	*e*P	**P**	**02 24 01.5**	**-3.2**
PTBC	**PUERTO BERRIO,**	**22.53**	**355**	*e*P	**P**	**02 24 01.5**	**-3.2**
FRTB	**Fartura**	**22.67**	**112**	*e*P	**P**	**02 24 06.0**	**-0.1**
BB19B	**Bebedouro**	**23.16**	**106**	*e*P	**P**	**02 24 09.9**	**-0.9**
BDFB	**Brasilia**	**23.45**	**92**	P	**P**	**02 24 12.7**	**-0.9**
	comp=Z,21nm,0.6s,baz=269,slow=12,SNR=38						
GO06	**Curarrehue**	**23.46**	**178**	*e*P	**P**	**02 24 15.0**	**+1.5**
	comp=Z,123nm,1.8s						
TIJ01	**Guaruva-PR**	**23.72**	**117**	*e*P	**P**	**02 24 16.0**	**0.0**
TRQA	**Tornquist**	**23.77**	**159**	*e*P	**P**	**02 24 17.2**	**+1.1**
	comp=Z,9.5nm,0.8s						
TRQA	**Tornquist**	**23.77**	**159**	*e*P	**P**	**02 24 16.7**	**+0.6**
CNLB	**Canela**	**23.81**	**127**	*e*P	**P**	**02 24 16.6**	**-0.1**
OGAUY	**Aigu**	**24.17**	**142**	*e*P	**P**	**02 24 20.7**	**+1.0**
RCLB	**Rio Claro- Sao**	**24.30**	**109**	*e*P	**P**	**02 24 20.3**	**-0.8**
SPB	**Sao Paulo**	**24.63**	**112**	*e*P	**P**	**02 24 24.7**	**+0.7**
PLCA	**Paso Flores**	**24.65**	**177**	*e*P	**P**	**02 24 26.0**	**+1.8**
	comp=Z,28nm,0.8s						
PLCA	**Paso Flores**	**24.65**	**177**	P	**P**	**02 24 27.4**	**+3.2**
	comp=Z,22nm,0.8s,baz=13,slow=11,SNR=43						
PLCA	**Paso Flores**	**24.65**	**177**	*e*P	**P**	**02 24 26.3**	**+2.1**
SMLC	**San Martn de**	**24.74**	**356**	*e*P	**P**	**02 24 22.4**	**-2.7**
SMLC	**San Martn de**	**24.74**	**356**	*e*P	**P**	**02 24 22.4**	**-2.7**
TER01	**Tubaro-SC**	**24.80**	**124**	*e*P	**P**	**02 24 25.9**	**+0.3**
SDV	**Santo Domingo**	**24.83**	**4**	*e*P	**P**	**02 24 25.4**	**-0.7**
	comp=Z,25nm,1.1s						
SDV	**Santo Domingo**	**24.83**	**4**	*e*P	**P**	**02 24 26.0**	**-0.2**
SDV	**Santo Domingo**	**24.83**	**4**	*e*P	**P**	**02 24 26.0**	**-0.2**
SDV	**Santo Domingo**	**24.83**	**4**	P	**P**	**02 24 26.4**	**+0.2**
	comp=Z,11nm,0.9s,baz=202,slow=9.4,SNR=10.0						
PMNB	**Patos De Minas**	**24.90**	**100**	*e*P	**P**	**02 24 27.1**	**+0.4**
SJCC	**San Jacinto, C**	**25.92**	**354**	*e*P	**P**	**02 24 35.2**	**-0.7**
SJCC	**San Jacinto, C**	**25.92**	**354**	*e*P	**P**	**02 24 35.2**	**-0.7**
DUB01	**Friburgo-RJ**	**28.97**	**107**	*e*P	**P**	**02 25 02.9**	**-0.3**
BSFB	**Barra de Sao F**	**30.20**	**100**	*e*P	**P**	**02 25 13.7**	**-0.3**
ESPN	**Las Esperanzas**	**30.43**	**337**	*e*P	**P**	**02 25 13.7**	**-2.3**
	comp=Z,30nm,1.3s						
USHA	**Ushuaia**	**38.83**	**176**	P	**P**	**02 26 30.6**	**+2.8**
	comp=Z,23nm,0.7s,baz=100,slow=1.2,SNR=10						
TXAR	**Lajitas Array**	**54.29**	**326**	P	**P**	**02 28 30.3**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=100,slow=3.7,SNR=2.1						
VNA3	**Neumayer Olymp**	**66.27**	**162**	P	**P**	**02 29 51.8**	**+2.0**
VNA1	**Neumayer--Stat**	**66.50**	**161**	P	**P**	**02 29 52.1**	**+0.9**
SNAA	**Sanae**	**68.48**	**161**	P	**P**	**02 30 05.8**	**+2.0**
SNAA	**Sanae**	**68.48**	**161**	*e*P	**P**	**02 30 05.0**	**+1.3**
	comp=Z,12nm,0.8s						
SNAA	**Sanae**	**68.48**	**161**	P	**P**	**02 30 06.0**	**+2.2**
	comp=Z,12nm,0.7s,baz=269,slow=8.0,SNR=20						
AHID	**Auburn Hatcher**	**68.49**	**330**	*e*P	**P**	**02 30 01.4**	**-3.0**
	comp=Z,9.2nm,0.7s						
LIC	**Lamto**	**70.23**	**77**	*e*P	**P**	**02 30 13.7**	**-1.8**
	comp=Z,75nm,1.6s						
TIC	**Toumodi**	**70.37**	**77**	*e*P	**P**	**02 30 14.5**	**-1.9**
DBIC	**Dimbokro**	**70.53**	**77**	*e*P	**P**	**02 30 16.1**	**-1.2**
	comp=Z,70nm,1.9s						
DBIC	**Dimbokro**	**70.53**	**77**	P	**P**	**02 30 16.1**	**-1.2**
	comp=Z,8.0nm,0.6s,baz=231,slow=7.5,SNR=14						
KIC	**Kosan Boka**	**70.54**	**77**	*e*P	**P**	**02 30 15.9**	**-1.5**
	comp=Z,24nm,0.6s						
QSPA	**South Pole Qui**	**74.11**	**180**	*e*P	**P**	**02 30 39.5**	**+1.7**
	comp=Z,11nm,0.8s						
TOA1	**Torodi Ar. Sit**	**78.77**	**73**	*e*P	**P**	**02 31 02.7**	**-2.2**
TOA0	**Torodi Ar. Sit**	**78.77**	**73**	*e*P	**P**	**02 31 04.1**	**-0.8**
	comp=Z,9.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.77**	**73**	*e*P	**P**	**02 31 02.4**	**-2.5**
TORD	**Torodi Ar. Bea**	**78.77**	**73**	P	**P**	**02 31 02.7**	**-2.2**
	comp=Z,6.3nm,0.6s,baz=260,slow=4.7,SNR=67						
VNDA	**Vanda**	**81.61**	**190**	P	**P**	**02 31 22.1**	**+3.1**
	comp=Z,1.8nm,0.7s,baz=135,slow=4.5,SNR=6.0						
SYO	**Syowa Base**	**82.73**	**160⇓**	*e*P	**P**	**02 31 25.6**	**+0.6**
ESDC	**Sonseca Array**	**84.37**	**46**	P	**P**	**02 31 34.5**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=258,slow=5.0,SNR=17						
YKA	**Yellowknife Ar**	**84.99**	**342**	P	**P**	**02 31 37.5**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=136,slow=5.0,SNR=23						
YKA				pP	**pP**	**02 32 06.3**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=135,slow=5.1,SNR=4.4						
YKB5	**Yellowknife Ar**	**84.99**	**342**	*e*P	**P**	**02 31 37.5**	**+1.1**
DLBC	**Dease Lake**	**87.87**	**334**	*e*P	**P**	**02 31 52.7**	**+2.0**
	comp=Z,3.1nm,0.9s						
DLBC				pP	**pP**	**02 32 21.4**	**+1.6**
DLBC	**Dease Lake**	**87.87**	**334**	P	**P**	**02 31 52.7**	**+2.0**
	comp=Z,1.9nm,0.8s,baz=137,slow=4.9,SNR=4.2						
DLBC				pP	**pP**	**02 32 21.4**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=171,slow=6.8,SNR=3.1						
BOSA	**Boshof**	**88.95**	**119**	P	**P**	**02 31 57.2**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=224,slow=3.7,SNR=5.8						
MAW	**Mawson**	**90.46

KS15	Wonju Array Si	152.15	324	*e*PKPbc	PKiKP	02 38 59.0	+1.9
KSAR	Wonju Array Be	152.15	324	PKPbc	PKiKP	02 38 59.0	+1.9
LZH	Lanzhou	159.76	9	*e*PKP	PKPdf	02 38 57.8	-2.5
LZH				pPKP	pPKPdf	02 39 23.0	-7.7
LZH				sPKP		02 39 32.9	
LZH				PKP	PKPab	02 39 39.3	-0.2
CD2	Chengdu	164.79	13	PKP	PKPdf	02 39 03.0	-2.4

IDC 11 02:19:45.6±6.2, 2°.54S×101°.94E, $h0^{km}$, mb3.8/4, mb1 3.9/4, mb1mx3.5/52, mbtmp3.8/4, Error ellipse: s-maj=318.8km s-min=22.6km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.05	121	P	P	02 26 49.4	+0.2
	0.3nm,0.4s,baz=300,slow=8.6,SNR=10.0						
ASAR	Alice Springs	37.38	127	P	P	02 26 60.0	-0.5
	0.6nm,0.7s,baz=299,slow=8.1,SNR=3.4						
MKAR	Makanchi Array	52.09	343	P	P	02 28 57.2	-0.3
	0.5nm,0.4s,baz=153,slow=8.1,SNR=6.5						
ZALV	Zalesovo Beam	58.07	348	P	P	02 29 40.6	+0.1
	1.4nm,0.5s,baz=179,slow=5.8,SNR=6.3						

IDC 11 02:25:11.6±1.6, 26°.89N×58°.54E, $h0^{km}$, mb3.4/3, mb1 3.5/4, mb1mx3.2/52, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=36.2km s-min=29.4km az=124.0
DSN 11 02:25:16.1±4.0, 26°.60N×58°.18E, $h10^{km}$, ML3.7/2, Error ellipse: s-maj=55.9km s-min=15.6km az=9.0
OMAN 11 02:25:20.0±4.3, 26°.50N×58°.02E, $h23^{km}$±78^{km}, ml3.4/3, Error ellipse: s-maj=64.3km s-min=14.3km az=25.0
TEH 11 02:25:21.3, 26°.75N×57°.61E, $h27^{km}$, ML3.7
ISC 11 02:25:09.4±1.0, 26°.44N±0°.03×58°.31E±0°.05, $h10^{km}$, n32, σ1§62/35, mb3.5/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.73	311	*e*Pg	Pg	02 25 42.7	+0.1
NIAN				IAMB	IAmb	02 26 07.1	
	comp=N,0.0nm,0.4s						
SHME	Shamm	1.99	259	*e*P	Pg	02 25 48.9	+1.4
	SNR=36						
SHME				S	Sg	02 26 13.7	+0.4
SHME	Shamm	1.99	259	*e*Pn	Pg	02 25 48.3	+0.8
GENO	Geno	2.14	297	*e*Pn	Pb	02 25 48.2	-0.1
GENO				*e*Sg	Sn	02 26 11.0	-1.0
GENO				IAMB	IAmb	02 26 17.0	
	comp=Z,0.0nm,0.3s						
MDH	Madha	2.14	238	*e*P	Pg	02 25 49.1	-1.3
	SNR=9.1						
MDH	Madha	2.14	238	P	Pg	02 25 48.7	-1.8
	SNR=19						
MDH				S	Sb	02 26 14.5	-0.3
MDH	Madha	2.14	238	*e*Pn	Pg	02 25 48.9	-1.5
MSFE	Esma-Masafi	2.22	242	*e*Pn	Pg	02 25 50.3	-1.6
HATD	Hatta, Dubai	2.54	231	*e*Pn	Pg	02 25 55.8	-2.3
ASHO	Ashiyiah	2.68	230	*e*P	Pg	02 25 58.9	-2.0
	SNR=12						
ASHO	Ashiyiah	2.68	230	P	Pg	02 25 58.3	-2.5
	SNR=12						
ASHO	Ashiyiah	2.68	230	*e*Pn	Pg	02 25 59.1	-1.7
NAZ	Nazwa, Dubai	2.79	239	*e*Pn	Pg	02 26 04.1	+1.2
BIDO	Bidbid	2.91	183	P	Pg	02 26 05.8	+0.6
	SNR=11						
BIDO				S	Sg	02 26 42.3	-0.5
BIDO	Bidbid	2.91	183	*e*Pn	Pg	02 26 05.2	+0.1
FAQ	Al Faqa, Dubai	2.98	236	P	Pg	02 26 04.1	-2.4
FAQ	Al Faqa, Dubai	2.98	236	*e*Pn	Pg	02 26 04.1	-2.4
HOQ	Hoqain	2.98	198	*e*Pn	Pg	02 26 06.9	+0.3
WSAR	Wadi Sarin	3.20	175	Pn	Pg	02 26 10.7	0.0
	comp=Z,9.9nm,0.3s,baz=344,slow=6.3,SNR=55						
WSAR				Sn	Sg	02 26 50.0	-2.1
	comp=Z,14nm,0.3s,baz=123,slow=19,SNR=14						
ASUD	Al Ashush, Dub	3.24	237	*i* P	Pb	02 26 07.9	+0.8
	SNR=6.5						
ASUD	Al Ashush, Dub	3.24	237	P	Pb	02 26 08.1	+1.1
	SNR=6.5						
ALNE	Al Ain	3.32	225	*i* P	Pb	02 26 09.6	+1.3
	SNR=6.0						
CHMN	Cheshme madani	3.48	349	*e*Pn	Pb	02 26 11.7	+0.4
CHMN				IAMB	IAmb	02 27 11.5	
	comp=Z,0.0nm,0.8s						
NGRK	Negar Kerman	3.49	337	*e*Pn	Pb	02 26 09.5	-1.9
NGRK				IAMB	IAmb	02 27 08.7	
	comp=Z,0.0nm,1.0s						
TVBK	TV Kerman	3.79	339	*e*Pn	Pb	02 26 15.2	-1.4
TVBK				IAMB	IAmb	02 27 15.4	
	comp=N,0.0nm,0.4s						
BSY	Bisya	3.81	196	P	Pg	02 26 20.7	-1.7
	SNR=6.3						
JLN	Jalan Bani Buh	4.38	167	P	Pb	02 26 26.9	+0.3
	SNR=11						
JLN				S	Sb	02 27 19.4	-0.1
IKOO	Kooshah	6.00	6	*e*Pn	Pb	02 26 44.5	-10
ITEG	Tejag	6.45	3	*e*Pn	Pb	02 26 54.3	-7.5
ITEG				IAMB	IAmb	02 28 55.9	
	comp=N,272nm,0.6s						
BRTR	Keskin Array B	24.46	309	P	P	02 30 33.2	+4.5
	comp=N,0.3nm,0.6s,baz=126,slow=10,SNR=3.1						
MKAR	Makanchi Array	27.79	37	P	P	02 30 57.6	-1.0
	comp=N,1.2nm,1.1s,baz=251,slow=9.0,SNR=2.6						
TORD	Torodi Ar. Bea	54.50	268	P	P	02 34 41.5	+3.8
	comp=N,0.2nm,0.4s,baz=60,slow=7.5,SNR=3.7						

NEIC 11 02:29:36.9±0.0, 26°.66N×57°.89E, $h11^{km}$, mb4.6/39, ML4.6(THR), MN4.8(TEH), After TEH.
TEH 11 02:29:36.9, 26°.66N×57°.90E, $h5^{km}$, ML4.8
DSN 11 02:29:36.0±3.9, 26°.81N×58°.00E, $h10^{km}$, ML4.8/10, Error ellipse: s-maj=57.6km s-min=17.7km az=179.0
IDC 11 02:29:37.3±0.6, 26°.76N×57°.90E, $h0^{km}$, mb3.9/27, mb1 4.0/30, mb1mx4.0/46, mbtmp4.0/30, ML4.3/3, Error ellipse: s-maj=14.3km s-min=12.5km az=161.0
THR 11 02:29:37.2, 26°.60N×57°.80E, $h16^{km}$, ML4.6
ISCJB 11 02:29:38.2±0.2, 26°.63N±0°.02×57°.94E±0°.03, $h10^{km}$, mb4.5/103, MS5.5/1, Error ellipse: s-maj=3.4km s-min=2.6km az=3.6
OMAN 11 02:29:44.1±0.7, 26°.41N×57°.79E, $h35^{km}$, ml4.5/18, Error ellipse: s-maj=11.6km s-min=6.1km az=18.0
MOS 11 02:29:46.4±1.6, 26°.77N×58°.30E, $h13^{km}$, mb4.7/51, Error ellipse: s-maj=8.2km s-min=4.9km az=120.5
ISC 11 02:29:39.2±0.3, 26°.59N±0°.04×57°.81E±0°.04, $h10^{km}$, n345, σ2§11/319, mb4.6/108, 7C-15D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.30	318	Pg	Pn	02 30 02.5	-0.9
NIAN	Nian	1.30	318	*e*Pg	Pn	02 30 02.9	-0.6
NIAN				*e*Sg	Sn	02 30 20.8	-0.1
NIAN				IAMB	IAmb	02 30 33.3	
	comp=Z,0.0nm,0.6s						
SHME	Shamm	1.59	251	*e*P	Pn	02 30 06.5	-0.9
	SNR=60						
SHME				S	Sg	02 30 31.7	+1.4
BNDS	Bandar-Abbas	1.67	299	*e*AML	AML	02 30 34.7	
	comp=N,6μm,0.5s						
GENO	Geno	1.67	299	*e*Pn	Pn	02 30 08.4	-0.3
MDH	Madha	1.87	227	*e*P	Pn	02 30 09.4	-1.8
	SNR=49						
MDH	Madha	1.87	227	P	Pn	02 30 09.7	-1.6
	SNR=59						
MDH				S	Sn	02 30 33.4	-1.5
MDH	Madha	1.87	227	*e*Pn	Pn	02 30 10.0	-1.3
MSFE	Esma-Masafi	1.92	231	*e*P	Pn	02 30 11.1	-1.0
	SNR=11						
MSFE	Esma-Masafi	1.92	231	*e*Pn	Pn	02 30 12.5	+0.5
UMQ	Umm Al-Quwin	2.20	242	*e*P	Pb	02 30 17.7	-1.4
	SNR=11						
UMQ	Umm Al-Quwin	2.20	242	P	Pb	02 30 18.3	-0.8
	SNR=11						
UMQ	Umm Al-Quwin	2.20	242	*e*Pn	Pb	02 30 18.0	-1.1
HATD	Hatta, Dubai	2.31	221	*e*P	Pn	02 30 16.9	-0.6
	SNR=17						
HATD	Hatta, Dubai	2.31	221	P	Pn	02 30 17.1	-0.4
	SNR=11						
HATD				S	Sn	02 30 41.3	-4.7
HATD	Hatta, Dubai	2.31	221	*e*Pn	Pn	02 30 17.2	-0.2
ASHO	Ashiyiah	2.47	220	Pn	Pn	02 30 20.4	+0.9
ASHO	Ashiyiah	2.47	220	*e*P	Pn	02 30 21.3	+1.8
	SNR=42						
ASHO	Ashiyiah	2.47	220	P	Pn	02 30 21.2	+1.6
	SNR=11						
ASHO	Ashiyiah	2.47	220	*e*Pn	Pn	02 30 20.5	+0.9
NAZ	Nazwa, Dubai	2.50	231	*e*P	Pn	02 30 21.8	+1.8
	SNR=33						
NAZ	Nazwa, Dubai	2.50	231	P	Pb	02 30 22.2	-2.1
	SNR=25						
NAZ	Nazwa, Dubai	2.50	231	*e*Pn	Pb	02 30 22.8	-1.5
CHBR	Chabahar	2.60	112	Pn	Pn	02 30 20.0	-1.4
CHBR	Chabahar	2.60	112	*e*Pn	Pn	02 30 20.8	-0.5
CHBR	Chabahar	2.60	112	*e*Pn	Pn	02 30 20.8	-0.5
SOHO	SOHO	2.70	205	P	Pn	02 30 20.4	-2.3
	SNR=35						
FAQ	Al Faqa, Dubai	2.71	228	*e*P	Pn	02 30 24.9	+2.0
	SNR=20						
FAQ	Al Faqa, Dubai	2.71	228	P	Pn	02 30 24.4	+1.5
	SNR=11						
FAQ	Al Faqa, Dubai	2.71	228	*e*Pn	Pn	02 30 24.7	+1.8
ASUD	Al Ashush, Dub	2.97	229	Pn	Pn	02 30 28.3	+1.9
ASUD	Al Ashush, Dub	2.97	229	*i* P	Pn	02 30 28.3	+1.9
	SNR=22						
ASUD	Al Ashush, Dub	2.97	229	P	Pn	02 30 28.3	+1.9
	SNR=22						
ASUD	Al Ashush, Dub	2.97	229	*e*Pn	Pn	02 30 28.4	+2.0
HOQ	Hoqain	3.03	189	P	Pn	02 30 25.6	-1.7
	SNR=17						
HOQ	Hoqain	3.03	189	*e*Pn	Pn	02 30 25.5	-1.7
BIDO	Bidbid	3.07	174	Pn	Pn	02 30 25.9	-1.9
BIDO	Bidbid	3.07	174	P	Pn	02 30 26.1	-1.7
	SNR=28						
BIDO				S	Sn	02 31 06.0	+1.5
BIDO	Bidbid	3.07	174	*e*Pn	Pn	02 30 25.9	-1.9
ALNE	Al Ain	3.13	217	*i* P	Pn	02 30 29.7	+1.0
	SNR=17						
ALNE	Al Ain	3.13	217	*e*Pn	Pn	02 30 30.5	+1.8
NGRK	Negar Kerman	3.19	343	*e*Pn	Pn	02 30 30.1	+0.3
NGRK				IAMB	IAmb	02 31 36.1	
	comp=Z,0.0nm,0.6s						
AJN	Ajban	3.25	232	*e*Pn	Pn	02 30 31.6	+1.4
CHMN	Cheshme madani	3.27	356	*e*Pn	Pn	02 30 31.4	+0.5
CHMN				IAMB	IAmb	02 31 36.9	
	comp=Z,0.0nm,1.0s						
WSAR	Wadi Sarin	3.42	167	Pn	Pn	02 30 31.8	-0.8
	comp=Z,50nm,0.3s,baz=5.7,slow=11,SNR=59						
WSAR				Sn	Sn	02 31 10.2	-3.0
	comp=Z,52nm,0.3s,baz=15,slow=7.9,SNR=8.5						
ARQ	Araqi	3.44	200	P	Pn	02 30 34.3	+1.4
	SNR=17						
TVBK	TV Kerman	3.51	345	*e*Pn	Pn	02 30 35.0	+0.8
TVBK				IAMB	IAmb	02 31 52.6	
	comp=Z,0.0nm,0.7s						
SMDO	Samad	3.52	176	P	Pn	02 30 33.4	-0.7
	SNR=46						
SMDO				S	Sn	02 31 18.8	+2.9
BSY	Bisya	3.87	188	P	Pn	02 30 39.6	+0.8
	SNR=23						
KHGB	Koh Gabri	3.95	343	*e*Pn	Pn	02 30 41.0	+0.9
KHGB				IAMB	IAmb	02 31 52.9	
	comp=N,0.0nm,0.7s						
ZHSF	Zahedan	3.99	40	Pn	Pn	02 30 39.0	-1.7
ZHSF	Zahedan	3.99	40	*e*Pn	Pn	02 30 39.8	-0.9
ZHSF	Zahedan	3.99	40	*e*Pn	Pn	02 30 39.8	-0.9
WBK	Wadi Bani Khal	4.10	165	P	Pn	02 30 43.0	+1.0
	SNR=6.7						
JMDO	Jabal Madar	4.21	176	P	Pn	02 30 44.9	+1.4
	SNR=12						
GHIR	Ghir-Karzin	4.60	293	*e*Pn	Pn	02 30 48.5	-0.5
GHIR	Ghir-Karzin	4.60	293	*e*Pn	Pn	02 30 48.5	-0.5
JLN	Jalan Bani Buh	4.65	161	P	Pn	02 30 48.4	-1.2
	SNR=22						
JLN				S	Sn	02 31 41.4	-2.2
ISRV	Sarvestan	5.00	305	Pn	Pn	02 30 55.5	+0.9
ISRV	Sarvestan	5.00	305	*e*Pn	Pn	02 30 55.5	+0.9
IMEH	Mehriz	5.54	330	Pn	Pn	02 31 02.7	+0.7
IMEH	Mehriz	5.54	330	*e*Pn	Pn	02 31 02.7	+0.7
IKOO	Kooshah	5.91	10	*e*Pn	Pn	02 31 05.9	-1.2
IKAZ	Kazeroun	6.15	303	*e*Pn	Pn	02 31 09.6	-0.9
ITEG	Tejag	6.34	7	Pn	Pn	02 31 11.9	-1.0
ITEG	Tejag	6.34	7	*e*Pn	Pn	02 31 12.0	-1.0
ISAD	Sadrabad	6.41	327	Pn	Pn	02 31 14.4	+0.4
ISAD	Sadrabad	6.41	327	*e*Pn	Pn	02 31 14.5	+0.4
YZKH	Yazd	6.42	335	*e*Pn	Pn	02 31 13.7	-0.3
YZKH	Yazd	6.42	335	*e*Pn	Pn	02 31 13.7	-0.3
TPRV	Parvadeh(Tabas	6.49	352	*e*Pn	Pn	02 31 15.0	+0.1
TKDS	Koohdasht(Taba	7.03	355	*e*Pn	Pn	02 31 22.0	-0.3
IRAM	Ramesheh	7.04	319	Pn	Pn	02 31 21.9	-0.6
IRAM	Ramesheh	7.04	319	*e*Pn	Pn	02 31 22.0	-0.6
SHRT	Shahrakht	7.36	16	Pn	Pn	02 31 26.0	-0.8
SHRT	Shahrakht	7.36	16	*e*Pn	Pn	02 31 26.8	0.0
SHRT	Shahrakht	7.36	16	*e*Pn	Pn	02 31 26.8	0.0
TNSJ	Nastanj	7.42	352	*e*Pn	Pn	02 31 27.8	+0.1
IGAR	Gharneh	7.67	320	*e*Pn	Pn	02 31 31.6	+0.4
IZEF	Zefreh	7.88	324	Pn	Pn	02 31 33.0	-1.2
IZEF	Zefreh	7.88	324	*e*Pn	Pn	02 31 33.1	-1.2
ZNGN	Zangian	8.19	314	*e*Pn	Pn	02 31 37.3	-1.2
JHBN	Jahan bin	8.39	314	*e*Pn	Pn	02 31 39.4	-1.8
IPIR	Pirpir	8.55	317	Pn	Pn	02 31 42.2	-1.1
IPIR	Pirpir	8.55	317	*e*Pn	Pn	02 31 42.3	-1.1
IKLH	Kolahrood	8.61	323	*e*Pn	Pn	02 31 45.3	+1.1
IANJ	Anjilo	9.46	340	*e*Pn	Pn	02 31 55.4	-0.4
SHRO	Shahrood	9.50	351	*e*Pn	Pn	02 31 56.2	0.0
SHRO	Shahrood	9.50	351	*e*Pn	Pn	02 31 56.2	0.0
KHMZ	Khomeyn	9.84	318	Pn	Pn	02 32 00.0	-1.0
KHMZ	Khomeyn	9.84	318	*e*Pn	Pn	02 32 00.9	-0.1
KHMZ	Khomeyn	9.84	318	*e*Pn	Pn	02 32 00.9	-0.1
IPAY	Payeh	9.88	6	*e*Pn	Pn	02 32 01.9	+0.3
IMYA	Miami	9.92	11	*e*Pn	Pn	02 32 03.4	+1.4
IAKL	Akhelmad	10.02	4	Pn	Pn	02 32 04.3	+0.8
IAKL	Akhelmad	10.02	4	*e*Pn	Pn	02 32 04.4	+0.9
HAGD	Aghdareh	11.08	320	*e*Pn	Pn	02 32 16.8	-1.2
GEYT	Alibeck	11.31	1	Pn	Pn	02 32 18.3	-2.7
	comp=N,0.9nm,0.3s,baz=160,slow=22,SNR=1.8						
GYA0B	ALIBECK ARRAY	11.31	1	*e*Pn	Pn	02 32 22.1	+1.1
IVIS	Veis	12.31	313	Pn	Pn	02 32 30.7	-4.0
IVIS	Veis	12.31	313	*e*Pn	Pn	02 32 30.7	-4.0
IGHG	Ghaleghazi	12.38	311	*e*Pn	Pn	02 32 32.8	-3.0
NIL	Nilore	15.10	59	*e*Pn	Pn	02 33 11.3	-1.3
NIL	Nilore	15.10	59	*e*P	Pn	02 33 11.3	-1.3
NIL	Nilore	15.10	59	*e*Pn	Pn	02 33 13.8	+1.1
CHGR	Chuyangaron	15.36	36	*e*Pn	Pn	02 33 15.5	-0.6
	comp=N,64nm,1.4s						
ISHB	Shabestar	15.53	322	*e*Pn	Pn	02 33 20.1	+1.5
IMRD	Marand	15.79	323	Pn	P	02 33 23.5	-2.3
IMRD	Marand	15.79	323	*e*Pn	P	02 33 23.5	-2.3
BTK	Batken	17.26	36	*e*Pn	Pn	02 33 39.1	-1.2
	comp=N,15nm,0.8s						
BTK	Batken	17.26	36	*e*P	Pn	02 33 39.2	-1.2
BTK				pmax	pmax		
	comp=Z,15nm,0.8s						
DAMY	Dhamar	17.32	229	*e*Pn	P	02 33 44.0	+1.0
	comp=Z,42nm,0.9s						
GNI	Garni	17.35	324	*e*Pn	P	02 33 44.5	+1.4
	comp=Z,39nm,1.1s						
GNI	Garni	17.35	324	P	P	02 33 45.8	+2.8
GNI				pmax	pmax		
	comp=Z,39nm,1.2s						
GNI	Garni	17.35	324	P	Pn	02 33 40.5	-1.1
	comp=Z,0.2nm,0.3s,baz=45,slow=20,SNR=2.0						
ASF	Jabal al Asfar	19.04	292	P	P	02 34 01.5	-0.1
	comp=Z,21nm,1.3s						
ASF	Jabal al Asfar	19.04	292	P	P	02 34 01.6	-0.1
	comp=Z,0.8nm,0.3s,baz=35,slow=3.6,SNR=6.8						
KK31	Karatay Array	19.46	29	*e*P	Pn	02 34 05.8	-1.5
	comp=Z,20nm,0.8s						
KK31	Karatay Array	19.46	29	*e*P	Pn	02 34 05.8	-1.5
KK31				pmax	pmax		
	comp=Z,20nm,0.8s						
KKAR	Karatay Array	19.46	29	*e*P	P	02 34 05.6	-0.5
	comp=Z,20nm,0.8s						
KKAR	Karatay Array	19.46	29	*e*P	P	02 34 05.6	-0.5
KKAR				pmax	pmax		
	comp=Z,20nm,0.8s						
ZEI	Tsey	19.75	328	*e*P	P	02 34 07.5	-2.0
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WALJ	Wala	19.84	290	P	Pn	02 34 12.9	+1.0
	comp=Z,58nm,0.9s						
JDRJ	Daraweish	19.86	287	P	P	02 34 09.0	-1.6
	comp=Z,62nm,0.9s						
KSH	Kashi	19.91	45	P	P	02 34 09.4	-1.7
KSH				pP	sP	02 34 17.5	+1.8
KSH				S	S	02 37 37.1	-18
KSH				SS	SnSn	02 38 03.9	-7.1
KSH				pmax	pmax		
	comp=Z,34nm,0.7s						
SHMJ	Saham	20.09	293	P	Pn	02 34 15.0	+0.1
	comp=Z,90nm,1.0s						
AQBJ	Aqaba	20.30	284	P	P	02 34 15.2	-0.1
	comp=Z,59nm,0.8s						
EIL	Elat	20.38	284	P	Pn	02 34 33.0	+15
EIL	Elat	20.38	284	P	P	02 34 16.7	+0.5
	comp=Z,13nm,0.8s,baz=94,slow=4.3,SNR=11						
MMAI	Mount Meron Ar	20.45	294	P	P	02 34 17.2	+0.2
	comp=Z,3.9nm,0.7s,baz=99,slow=16,SNR=12						
ATD	Arta Tunnel	20.56	226	P	Pn	02 34 20.7	+0.2
	comp=Z,5.5nm,0.7s,baz=315,slow=6.2,SNR=4.2						
KBZ	Khabaz	20.94	329	P	P	02 34 21.5	-0.6
	comp=Z,0.8nm,0.6s,baz=121,slow=5.9,SNR=1.7						
AAK	Ala-Archa	21.03	36	*e*P	P	02 34 23.1	-0.2
	comp=Z,13nm,0.6s						
AAK	Ala-Archa	21.03	36	P	P	02 34 25.6	+2.3
AAK				pmax	pmax		
	comp=Z,13nm,0.6s						
AAK	Ala-Archa	21.03	36	P	P	02 34 20.6	-2.7
	comp=Z,2.5nm,0.4s,baz=198,slow=14,SNR=3.7						
NRN	Naryn	21.07	41	*e*P	P	02 34 23.0	-1.0
	comp=Z,14nm,0.8s						
NRN	Naryn	21.07	41	*e*P	P	02 34 23.0	-1.0
NRN				pmax	pmax		
	comp=Z,14nm,0.8s						
KVAR	Kislovodsk Arr	21.21	329	P	P	02 34 28.9	+3.7
	comp=Z,3.3nm,0.7s,baz=90,slow=20,SNR=2.9						
KIV	Kislovodsk	21.22	329	*e*P	P	02 34 28.0	+2.8
	comp=Z,14nm,0.7s						
KIV	Kislovodsk	21.22	329	*e*P	P	02 34 28.0	+2.8
KIV				pmax	pmax		
	comp=Z,14nm,0.7s						
HYB	Hyderabad	21.27	111	*i* P	P	02 34 25.5	-0.4
KDJ	Kajisay	22.20	41	*e*P	P	02 34 34.8	-1.1
	comp=Z,21nm,0.8s						
KDJ	Kajisay	22.20	41	*e*P	P	02 34 34.8	-1.1
KDJ				pmax	pmax		
	comp=Z,21nm,0.8s						
PYUN	Piuthan	22.41	80	*e*P	P	02 34 42.6	+4.2
	comp=Z,57nm,1.0s						
SOC	Sochi	22.43	324	*e*P	P	02 34 45.1	+7.0
SOC				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ABKAR	Akbulak array	22.69	4	*e*P	P	02 34 41.9	+1.0
	comp=Z,16nm,0.8s						
KOLN	Koldanda	22.97	81	*e*P	P	02 34 47.5	+3.3
	comp=Z,30nm,1.1s						
DANN	Dangsing	23.08	80	*e*P	P	02 34 49.0	+3.5
	comp=Z,133nm,1.1s						
AKTO	Aktyubinsk	23.81	0	P	P	02 34 49.1	-3.1
	comp=Z,2.8nm,0.7s,baz=170,slow=9.0,SNR=10						
BRTR	Keskin Array B	24.01	309	*e*P	P	02 34 54.0	-0.4
BRTR	Keskin Array B	24.01	309	P	P	02 34 53.0	-1.4
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRTR	Keskin Array B	24.01	309	P	P	02 34 53.0	-1.4
	comp=Z,5.3nm,0.8s,baz=132,slow=11,SNR=14						
BR101	Keskin Array S	24.02	309	*e*P	P	02 34 53.0	-1.4
BR131	Keskin Array S	24.02	309	*e*P	P	02 34 54.4	0.0
	comp=Z,16nm,0.8s						
PDGK	Podgornoye	24.28	41	P	P	02 35 01.2	+4.4
PDGK				pmax	pmax		
	comp=Z,13nm,1.3s						
OTUK	Ortayu	24.43	24	P	P	02 35 03.2	+5.2
OTUK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ANN	Anapa	24.46	323	⇑*i* P	P	02 35 04.0	+5.7
ANN				pmax	pmax		
	comp=Z,30nm,0.8s						
PKI	Pulchoki	24.58	81	*e*P	P	02 35 03.9	+4.0
ANTO	Ankara	24.66	309	*e*P	P	02 35 04.6	+4.3
	comp=Z,28nm,1.1s						
ANTO	Ankara	24.66	309	*e*P	P	02 35 04.6	+4.3
ANTO				pmax	pmax		
	comp=Z,28nm,1.1s						
BR231	Keskin MP Arra	24.67	309	*e*P	P	02 35 04.9	+4.6
	comp=Z,15nm,0.8s						
JIRN	Jiri	25.27	81	*e*P	P	02 35 10.3	+4.1
RAMN	Ramite	25.69	83	*e*P	P	02 35 13.1	+3.2
MK31	Makanchi Array	27.95	37	*e*P	P	02 35 27.0	-2.8
	comp=Z,3.4nm,1.0s						
MK31	Makanchi Array	27.95	37	*e*P	P	02 35 27.0	-2.8
MK31				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK32	Makanchi Array	27.95	37	*e*P	P	02 35 29.2	-0.6
MKAR	Makanchi Array	27.95	37	*e*P	P	02 35 32.3	+2.5
MKAR	Makanchi Array	27.95	37	P	P	02 35 29.2	-0.6
	comp=Z,1.1nm,0.7s,baz=220,slow=5.1,SNR=11						
BVAR	Borovoye Array	28.03	16	P	P	02 35 27.3	-3.1
	comp=Z,1.0nm,0.5s,baz=205,slow=6.6,SNR=8.4						
BRVK	Borovoye	28.04	16	*e*P	P	02 35 30.4	0.0
	comp=Z,5.2nm,0.9s						
BRVK	Borovoye	28.04	16	*i* P	P	02 35 38.2	+7.7
BRVK				pmax	pmax		
	comp=

TRPA	Tarpa	34.89 317	‖ i P	P	02 36 32.6	+1.9
KOLS	Kolonicke sedl	35.39 319	eP	P	02 36 34.5	-0.6
KOLS	Kolonicke sedl	35.39 319	eP	P	02 36 34.5	-0.6
KOLS			esP	sP	02 36 40.7	+0.7
KWP	Kalwaria Pacla	35.45 320	eP	P	02 36 38.4	+2.8
comp=Z,159nm,1.1s						
KWP	Kalwaria Pacla	35.45 320	eP	P	02 36 38.4	+2.8
TIP	Timpagrande	36.39 301	eP	P	02 36 47.1	+3.2
comp=Z,24nm,1.4s						
PSZ	Piszkesteto	36.43 316	eP	P	02 36 47.1	+3.0
comp=Z,6.9nm,1.0s						
PSZ	Piszkesteto	36.43 316	‖ i P	P	02 36 48.4	+4.3
PSZ	Piszkesteto	36.43 316	eP	P	02 36 47.1	+3.0
PSZ			pmax	pmax		
comp=Z,7.0nm,1.0s						
KLMR	Klimovskoe	36.45 345	eP	P	02 36 45.0	+1.0
KLMR			pmax	pmax		
comp=Z,12nm,1.3s						
IDID	Didziasalis	36.51 330	eP	P	02 36 48.4	+3.8
IDID			IAmb	IAmb	02 36 55.4	
comp=Z,6.6nm,0.5s						
IIGN	Ignalina	36.77 330	eP	P	02 36 50.7	+3.9
IIGN			IAmb	IAmb	02 36 57.0	
comp=Z,3.3nm,0.7s						
BUD	Budapest	36.82 315	P	P	02 36 53.4	+6.1
BUD			pmax	pmax		
comp=Z,16nm,0.9s						
ISAL	Salakas	36.95 330	eP	P	02 36 52.5	+4.2
ISAL			IAmb	IAmb	02 36 59.6	
comp=Z,23nm,1.5s						
GTA	Gaotai	37.16 59	eP	P	02 36 58.9	+8.4
GTA			pP	sP	02 37 08.6	+13
GTA			sP	pP	02 37 12.4	+18
GTA			pmax	pmax		
comp=Z,6.0nm,1.7s						
LANS	Liptovska Anna	37.16 318	eP	P	02 36 54.9	+4.6
LANS	Liptovska Anna	37.16 318	eP	P	02 36 54.9	+4.6
VYHS	Vyhne	37.30 316	eP	P	02 36 54.8	+3.4
VYHS	Vyhne	37.30 316	eP	P	02 36 54.8	+3.4
OJC	Ojcow	37.40 319	eP	P	02 36 55.3	+3.1
comp=Z,16nm,1.0s						
OJC	Ojcow	37.40 319	eP	P	02 36 55.3	+3.1
OJC			pmax	pmax		
comp=Z,16nm,1.0s						
SUW	Suwalki	37.41 326	eP	P	02 36 54.9	+2.6
comp=Z,39nm,1.1s						
SUW	Suwalki	37.41 326	eP	P	02 36 54.9	+2.6
SUW			pmax	pmax		
comp=Z,39nm,1.1s						
PABE	Paberze	37.88 329	eP	P	02 36 59.5	+3.3
JAVC	Velka Javorina	38.15 316	eP	P	02 37 03.1	+4.4
MODS	Modra-Piesok	38.23 316	eP	P	02 37 01.7	+2.4
MODS	Modra-Piesok	38.23 316	eP	P	02 37 01.7	+2.4
SOP	Sopron	38.46 314	P	P	02 37 06.9	+5.7
SOP			pmax	pmax		
comp=Z,29nm,0.9s						
MORC	Moravsky Berou	38.56 318	‖ i P	P	02 37 04.2	+2.1
MORC	Moravsky Berou	38.56 318	‖ P	P	02 37 04.2	+2.1
MORC	Moravsky Berou	38.56 318	eP	P	02 37 06.1	+4.0
VSU	Vasula	38.57 334	eP	P	02 37 05.7	+3.8
VRAC	Vranov	38.97 317	eP	P	02 37 10.0	+4.5
CONA	Conrad Observa	38.98 314	eP	P	02 37 07.2	+1.5
comp=Z,8.2nm,1.0s						
ARSA	Arzberg	38.99 313	eP	P	02 37 07.8	+2.0
comp=Z,7.9nm,1.0s						
KRUC	Moravsky	39.01 316	eP	P	02 37 10.3	+4.5
SOKA	Soboth	39.16 312	eP	P	02 37 09.7	+2.5
comp=Z,5.6nm,1.0s						
AQU	L'Aquila	39.38 305	eP	P	02 37 12.2	+3.2
comp=Z,14nm,1.0s						
AQU	L'Aquila	39.38 305	eP	P	02 37 12.2	+3.2
AQU			pmax	pmax		
comp=Z,14nm,1.0s						
DPC	Dobruska-Polom	39.51 318	eP	P	02 37 12.8	+2.8
DPC	Dobruska-Polom	39.51 318	eP	P	02 37 12.8	+2.8
DPC			ex	x	02 37 17.1	
TREC	Trest	39.65 316	eP	P	02 37 16.0	+4.8
TREC	Trest	39.65 316	eP	P	02 37 16.0	+4.8
TREC			ex	x	02 37 22.8	
MOA	Molln	39.98 314	eP	P	02 37 15.7	+1.7
comp=Z,15nm,1.0s						
LZH	Lanzhou	40.13 65	eP	P	02 37 17.5	+1.9
LZH			pP	sP	02 37 28.6	+8.2
LZH			sP	pP	02 37 32.7	+14
LZH			ePP	PnPn	02 38 54.3	+3.0
LZH			pmax	pmax		
comp=Z,20nm,1.3s						
LZH			pmax	pmax		
comp=Z,78nm,5.4s						
CD2	Chengdu	40.30 73	eP	P	02 37 17.8	+0.9
KBA	Koelnbreinsper	40.38 312	eP	P	02 37 19.2	+1.8
comp=Z,8.8nm,1.0s						
KBA	Koelnbreinsper	40.38 312	P	P	02 37 21.9	+4.4
KBA			pmax	pmax		
comp=Z,13nm,0.8s						
PRU	Pruhonice	40.46 317	eP	P	02 37 20.5	+2.7
PRU	Pruhonice	40.46 317	eP	P	02 37 20.5	+2.7
GEC2	GERESS Array S	40.63 315	eP	P	02 37 21.5	+2.1
comp=Z,8.4nm,1.0s						
GERES	GERESS Array B	40.63 315	eP	P	02 37 18.4	-1.0
GERES	GERESS Array B	40.63 315	P	P	02 37 17.8	-1.6
GERES			pmax	pmax		
comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	40.63 315	P	P	02 37 17.8	-1.6
comp=Z,1.9nm,0.7s,baz=116,slow=9.1,SNR=10						
KHC	Kasperske Hory	40.79 315	eP	P	02 37 19.5	-1.2
comp=Z,5.7nm,1.0s						
KHC	Kasperske Hory	40.79 315	P	P	02 37 23.3	+2.6
KHC			pmax	pmax		
comp=Z,6.0nm,1.0s						
KHC	Kasperske Hory	40.79 315	eP	P	02 37 19.2	-1.5
KHC			epP	pP	02 37 24.1	-0.1
ABTA	Abfaltersbach	40.85 312	eP	P	02 37 23.0	+1.7
comp=Z,14nm,1.0s						
FIA0	FINESS Array S	40.85 337	eP	P	02 37 18.4	-2.5
FIA0	FINESS Array S	40.85 337	eP	P	02 37 18.4	-2.5
FINES	FINESS Array B	40.85 337	eP	P	02 37 21.7	+0.7
FINES	FINESS Array B	40.85 337	ceP	P	02 37 35.2	+14
FINES			pmax	pmax		
comp=Z,3.0nm,0.7s						
FINES	FINESS Array B	40.85 337	P	P	02 37 18.4	-2.5
comp=Z,1.6nm,0.6s,baz=141,slow=9.1,SNR=10						
BRG	Berggiesshubel	41.11 318	eP	P	02 37 32.8	+10
comp=Z,3.5nm,1.0s						
BRG	Berggiesshubel	41.11 318	eP	P	02 37 32.8	+10
BRG			pmax	pmax		
comp=Z,4.0nm,1.0s						
WTTA	Wattenberg	41.56 312	eP	P	02 37 28.3	+1.1
comp=Z,28nm,1.1s						
CLL	Collm	41.81 318	eP	P	02 37 34.0	+5.0
CLL	Collm	41.81 318	eP	P	02 37 34.0	+5.0
CLL			e		02 37 44.0	
SQTA	Sankt Quirin	41.83 312	eP	P	02 37 31.0	+1.7
comp=Z,14nm,0.5s						
MOTA	Moosalm	41.93 312	eP	P	02 37 31.8	+1.6
comp=Z,36nm,1.1s,SNR=5.7						
KEST	Kesra	42.10 295	eP	P	02 37 31.6	0.0
comp=Z,6.1nm,1.0s						
KEST	Kesra	42.10 295	P	P	02 37 31.6	0.0
comp=Z,1.4nm,0.7s,baz=274,slow=16,SNR=2.9						
FETA	Feichten	42.11 312	P	P	02 37 32.9	+1.3
comp=Z,15nm,0.6s						
FUORN	Ofenpass-Fuorn	42.34 311	eP	P	02 37 36.1	+2.4
comp=Z,11nm,1.0s						
GRFO	Grafenberg	42.42 316	eP	P	02 37 36.4	+2.4
comp=Z,12nm,0.9s						
GRFO	Grafenberg	42.42 316	eP	P	02 37 36.4	+2.4
GRFO			pmax	pmax		
comp=Z,12nm,0.9s						
DAVA	Damuels	42.73 312	P	P	02 37 38.5	+1.8
comp=Z,23nm,0.5s,SNR=19						
TUE	Stuetta	42.93 311	eP	P	02 37 41.5	+3.0
comp=Z,7.7nm,0.7s						
SONA0	Songino Array	43.28 47	eP	P	02 37 39.5	-1.6
SONM	Songino Array	43.28 47	P	P	02 37 39.5	-1.6
comp=Z,0.4nm,0.7s,baz=253,slow=8.9,SNR=2.3						
APA	Apatity	43.61 347	‖ i P	P	02 37 54.7	+11
APA			pmax	pmax		
comp=Z,8.0nm,0.8s						
APA			MLR	MLR		
comp=Z,4μm,16.0s						
ULN	Ulaanbaatar	43.72 48	ceP	P	02 37 54.8	+10
ULN			pmax	pmax		
comp=Z,10.0nm,2.5s						
SENIN	Lac Senin/Sane	44.31 310	eP	P	02 37 52.0	+2.4
comp=Z,9.1nm,1.0s						
LPG	La Plagne	44.58 309	eP	P	02 37 56.4	+4.6
LPG			pmax	pmax		
comp=Z,7.0nm,0.8s						
LPL	La Plagne	44.59 309	eP	P	02 37 54.2	+2.4
LPL			pmax	pmax		
comp=Z,18nm,1.2s						
CDF	Champ du Feu	44.67 313	eP	P	02 37 55.3	+3.1
CDF			pmax	pmax		
comp=Z,5.0nm,0.9s						
ECH	Echery	44.71 313	eP	P	02 37 55.3	+2.8
comp=Z,12nm,0.9s						
ECH	Echery	44.71 313	eP	P	02 37 55.3	+2.8
ECH			pmax	pmax		
comp=Z,12nm,0.9s						
HINF	Hinteralfeld	44.84 312	eP	P	02 37 56.9	+3.3
HINF			pmax	pmax		
comp=Z,11nm,1.2s						
WLF	Walferdange	45.62 315	⇑P	P	02 38 02.4	+2.7
HHC	Hu-ho-hao-te	46.24 58	eP	P	02 38 08.2	+3.4
HHC			pmax	pmax		
comp=Z,53nm,1.0s						
NB2	NORSAR Subarra	46.50 331	P	P	02 38 06.6	+0.1
comp=Z,1.1nm,0.6s,baz=115,slow=8.6						
NB200	NORSAR Array S	46.50 331	eP	P	02 38 05.9	-0.6
NOA	NORSAR Array B	46.50 331	P	P	02 38 05.9	-0.6
comp=Z,1.8nm,0.9s,baz=116,slow=7.9,SNR=4.0						
GIVF	Givet	46.55 315	eP	P	02 38 12.9	+5.9
GIVF			pmax	pmax		
comp=Z,29nm,1.3s						
DOU	Dourbes	46.69 315	‖ P	P	02 38 10.9	+2.8
LOR	Lormes	46.77 311	eP	P	02 38 10.1	+1.3
LOR			pmax	pmax		
comp=Z,8.0nm,0.8s						
ARA0	ARCESS Array S	46.93 345	eP	P	02 38 08.7	-1.0
ARCES	ARCESS Array B	46.93 345	P	P	02 38 08.7	-1.0
comp=Z,1.6nm,0.8s,baz=142,slow=8.0,SNR=3.3						
BAIF	Baives	46.93 315	eP	P	02 38 15.7	+5.7
BAIF			pmax	pmax		
comp=Z,15nm,1.1s						
AVF	Avril sur Loir	47.07 310	eP	P	02 38 12.4	+1.3
AVF			pmax	pmax		
comp=Z,9.0nm,0.8s						
BGF	Bois d'Agland	47.39 310	eP	P	02 38 17.5	+3.9
BGF			pmax	pmax		
comp=Z,14nm,0.8s						
CAF	Calviac	47.83 308	eP	P	02 38 21.2	+4.1
CAF			pmax	pmax		
comp=Z,5.0nm,0.7s						
RJF	Les Rejaudoux	48.23 308	eP	P	02 38 21.8	+1.6
RJF			pmax	pmax		
comp=Z,23nm,1.2s						
LFF	La Frestale	48.77 308	eP	P	02 38 26.5	+2.2
LFF			pmax	pmax		
comp=Z,5.0nm,0.5s						
LDF	La Druitiere	49.57 312	eP	P	02 38 31.8	+1.5
LDF			pmax	pmax		
comp=Z,27nm,1.2s						
FLN	La Foliniere	49.82 313	eP	P	02 38 35.7	+3.5
FLN			pmax	pmax		
comp=Z,35nm,1.4s						
BOD	Bodaibo	50.01 35	eP	P	02 38 30.8	-2.8
BOD			pmax	pmax		
comp=Z,9.0nm,1.2s						
GRR	Gorron	50.04 312	eP	P	02 38 37.7	+3.8
GRR			pmax	pmax		
comp=Z,90nm,2.2s						
SJPF	Ste Jean	50.16 305	eP	P	02 38 39.6	+4.6
SJPF			pmax	pmax		
comp=Z,17nm,1.1s						
QUIF	Quistinic	51.56 311	eP	P	02 38 50.0	+4.6
ESDC	Sonseca Array	52.41 301	P	P	02 38 50.1	-1.9
comp=Z,0.3nm,0.5s,baz=77,slow=7.5,SNR=4.0						
NJ2	Nanjing	52.90 69	eP	P	02 38 57.9	+2.3
NJ2	Nanjing	52.90 69	eP	P	02 39 00.5	+4.9
NJ2			pmax	pmax		
comp=Z,8.0nm,0.8s						
TOA0	Torodi Ar. Sit	54.06 267	eP	P	02 39 07.1	+2.8
comp=Z,6.3nm,0.8s						
TOA1	Torodi Ar. Sit	54.06 267	eP	P	02 39 00.7	-3.7
TORD	Torodi Ar. Bea	54.06 267	P	P	02 39 00.7	-3.7
comp=Z,0.7nm,0.6s,baz=65,slow=7.2,SNR=20						
TIXI	Tiksi	59.05 20	i P	P	02 39 50.0	+11
TIXI			pmax	pmax		
comp=Z,2.0nm,0.9s						
KS15	Wonju Array Si	59.18 61	eP	P	02 39 39.2	-1.3
comp=Z,18nm,0.8s						
KSAR	Wonju Array Be	59.18 61	P	P	02 39 39.2	-1.3
KSAR	Wonju Array Be	59.18 61	P	P	02 39 39.2	-1.3
KSRS	Korea Array	59.21 61	P	P	02 39 39.2	-1.5
comp=Z,0.4nm,0.5s,baz=336,slow=2.7,SNR=2.3						
KLR	Kul'dur	60.10 47	i P	P	02 39 56.8	+10
KLR			pmax	pmax		
comp=Z,3.0nm,0.9s						
DBIC	Dimbokro	62.62 264	eP	P	02 40 04.7	+0.5
comp=Z,58nm,1.8s						
DBIC	Dimbokro	62.62 264	P	P	02 40 04.7	+0.5
comp=Z,4.2nm,0.9s,baz=78,slow=18,SNR=2.6						
BOSA	Boshof	63.16 212	P	P	02 40 08.6	+1.0
comp=Z,1.8nm,0.7s,baz=143,slow=15,SNR=4.3						
SUMG	Summit	66.73 341	i P	P	02 40 29.3	-1.3
SUMG	Summit	66.73 341	i P	P	02 40 29.3	-1.3
TULEG	Thule	72.08 349	eP	P	02 41 04.7	+1.5
comp=Z,8.9nm,0.9s						
TOLK	Toolik Lake Re	82.94 10	eP	P	02 42 05.7	+1.6
comp=Z,4.7nm,0.9s						
IMAR	Indian Mountai	84.61 12	eP	P	02 42 14.2	+1.6
ILAR	Eielson Array	86.93 10	P	P	02 42 23.9	-0.3
comp=Z,0.4nm,0.7s,baz=320,slow=2.7,SNR=2.8						
ILB	Eielson Array	86.93 10	eP	P	02 42 23.9	-0.3
comp=Z,11nm,1.9s						
WR1	Warramunga Arr	87.41 114	eP	P	02 42 27.0	-0.1
WRA	Warramunga Arr	87.41 114	P	P	02 42 27.0	-0.1
comp=Z,1.0nm,0.9s,baz=304,slow=4.4,SNR=4.1						
AS31	Alice Springs	88.88 117	eP	P	02 42 33.5	-0.7
comp=Z,2.9nm,1.4s						
ASAR	Alice Springs	88.88 117	P	P	02 42 33.5	-0.7
comp=Z,0.2nm,0.6s,baz=295,slow=5.0,SNR=2.9						
YKA	Yellowknife Ar	91.02 356	P	P	02 42 43.3	-0.1
comp=Z,0.2nm,0.8s,baz=0.9,slow=4.0,SNR=3.1						
YKB5	Yellowknife Ar	91.02 356	eP	P	02 42 43.3	-0.1

DSN ***11*** *02:32:39.9±2.8, 27°.01N×57°.95E, h10km, ML4.6/8, Error ellipse: s-maj=41.7km s-min=14.4km az=172.0*
ISCJB ***11*** *02:32:40.9±0.2, 26°.70N±0°.02×57°.91E±0°.03, h10km, mb4.3/66, Error ellipse: s-maj=3.4km s-min=3.2km az=159.8*
TEH ***11*** *02:32:40.8, 26°.64N×57°.82E, h5km, ML4.7*
THR ***11*** *02:32:41.6, 26°.57N×57°.78E, h15km, ML4.5*
IDC ***11*** *02:32:41.1±0.6, 26°.75N×57°.92E, h0km, mb4.1/28, mb1 4.2/30, mb1mx4.1/45, mbtmp4.1/30, ML4.4/2, Error ellipse: s-maj=14.5km s-min=12.1km az=136.0*
NEIC ***11*** *02:32:44.5±0.0, 26°.67N×57°.69E, h23km, mb4.5/32, ML4.5(THR), MN4.6(TEH), After TEH.*
OMAN ***11*** *02:32:45.8±0.8, 26°.48N×57°.99E, h25km, ml4.4/9, Error ellipse: s-maj=13.2km s-min=5.0km az=25.0*
MOS ***11*** *02:32:45.9±1.0, 26°.80N×57°.87E, h18km, mb4.5/32, Error ellipse: s-maj=8.3km s-min=5.5km az=97.7*

ISC 11 02:32:42.1±0.3, 26°.64N±0°.03×57°.90E±0°.03, h10km, n215, σ1§43/218, mb4.4/66, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.32	314	Pg	Pg	02 33 07.2	-0.2
NIAN				Sg	Sg	02 33 25.1	+0.5
NIAN	Nian	1.32	314	eSg	Sg	02 33 25.0	+0.5
NIAN				ePg	Pg	02 33 07.3	-0.2
NIAN				IAMB	IAmb	02 33 32.1	
comp=Z,0.0nm,0.3s							
SHME	Shamm	1.68	250	P	Pb	02 33 12.5	-0.6
SHME				S	Sg	02 33 36.8	+0.7
GENO	Geno	1.72	297	Pn	Pb	02 33 13.4	-0.4
GENO				Sg	Sb	02 33 36.0	+0.5
GENO	Geno	1.72	297	ePn	Pb	02 33 13.4	-0.4
GENO				IAMB	IAmb	02 33 41.3	
comp=Z,0.0nm,0.4s							
BNDS	Bandar-Abbas	1.72	297	eAML	AML	02 33 35.9	
comp=N,5μm,0.5s							
MDH	Madha	1.96	228	eP	Pn	02 33 16.0	+0.6
SNR=18							
MDH	Madha	1.96	228	P	Pn	02 33 14.7	-0.7
SNR=64							
MSFE	Esma-Masafi	2.02 231	P	Pn	02 33 16.5	+0.3
HATD	Hatta, Dubai	2.41 222	P	Pb	02 33 24.2	-1.3
HATD	Hatta, Dubai	2.41 222	P	Pn	02 33 21.2	-0.3
CHBR	Chabahar	2.54 113	Pn	Pn	02 33 25.3	+1.9
CHBR	Chabahar	2.54 113	ePn	Pn	02 33 25.4	+1.9
CHBR	Chabahar	2.54 113	ePn	Pn	02 33 25.4	+1.9
ASHO	Ashiyiah	2.56 221	P	Pb	02 33 26.7	-1.4
NAZ	Nazwa, Dubai	2.60 231	P	Pn	02 33 25.4	+1.3
SOHO	SOHO	2.78 207	P	Pn	02 33 25.8	-0.9
SNR=47						
SOHO			S	Sn	02 33 57.1	-3.1
ASUD	Al Ashush, Dub	3.06 230	i P	Pb	02 33 34.0	-2.7
SNR=11						
HOQ	Hoqain	3.09 190	P	Pn	02 33 30.3	-0.6
SNR=13						
BIDO	Bidbid	3.11 176	P	Pn	02 33 31.2	0.0
BIDO			S	Sn	02 34 07.9	-0.5
NGRK	Negar Kerman	3.17 341	ePn	Pn	02 33 34.7	+2.3
NGRK			IAMB	IAmb	02 34 30.9	
comp=Z,0.0nm,1.2s						
ALNE	Al Ain	3.22 218	i P	Pn	02 33 35.0	+2.2
SNR=16						
CHMN	Cheshme madani	3.23 354	Pn	Pb	02 33 36.5	-3.2
CHMN	Cheshme madani	3.23 354	ePn	Pb	02 33 36.5	-3.2
CHMN			IAMB	IAmb	02 34 45.6	
comp=Z,0.0nm,0.9s						
WSAR	Wadi Sarin	3.45 169	Pn	Pn	02 33 36.6	+0.7
comp=Z,44nm,0.3s,baz=346,slow=6.3,SNR=14						
WSAR			Sn	Sn	02 34 15.0	-1.9
comp=Z,94nm,0.3s,baz=62,slow=8.1,SNR=9.9						
TVBK	TV Kerman	3.48 344	ePn	Pn	02 33 40.3	+3.6
TVBK			IAMB	IAmb	02 34 44.1	
comp=Z,0.0nm,0.9s						
SMDO	Samad	3.56 178	P	Pn	02 33 38.2	+0.7
SNR=16						
ZHSF	Zahedan	3.90 40	Pn	Pn	02 33 44.5	+2.3
ZHSF	Zahedan	3.90 40	ePn	Pn	02 33 44.6	+2.3
ZHSF	Zahedan	3.90 40	ePn	Pn	02 33 44.6	+2.3
BSY	Bisya	3.93 189	P	Pn	02 33 45.1	+2.6
SNR=14						
BSY			P	Pn	02 33 45.1	+2.6
SNR=14						
KHGB	Koh Gabri	3.93 342	ePn	Pn	02 33 46.0	+3.3
KHGB			IAMB	IAmb	02 34 56.6	
comp=Z,0.0nm,0.8s						
GHIR	Ghir-Karzin	4.66 292	Pn	Pn	02 33 52.3	-0.3
GHIR	Ghir-Karzin	4.66 292	ePn	Pn	02 33 52.3	-0.3
GHIR	Ghir-Karzin	4.66 292	eP	Pn	02 33 52.3	-0.3
JLN	Jalan Bani Buh	4.67 163	P	Pn	02 33 53.8	+1.1
SNR=8.0						
IKOO	Kooshah	5.85 9	Pn	Pn	02 34 11.0	+1.9
IKOO	Kooshah	5.85 9	ePn	Pn	02 34 11.0	+1.9
IKAZ	Kazeroun	6.19 302	ePn	Pn	02 34 13.3	-0.6
ITEG	Tejag	6.28 7	ePn	Pn	02 34 17.2	+2.2
YZKH	Yazd	6.42 334	ePn	Pn	02 34 18.9	+2.2
YZKH	Yazd	6.42 334	eP	Pn	02 34 18.9	+2.2
IRAM	Ramesheh	7.05 318	Pn	Pn	02 34 27.6	+2.0
IRAM	Ramesheh	7.05 318	ePn	Pn	02 34 27.6	+2.0
IGAR	Garneh	7.68 320	ePn	Pn	02 34 35.8	+1.5
KHMZ	Khomeyn	9.86 318	Pn	Pn	02 35 05.0	+0.9
KHMZ	Khomeyn	9.86 318	ePn	Pn	02 35 05.9	+1.8
KHMZ	Khomeyn	9.86 318	eP	Pn	02 35 05.9	+1.8
GEYT	Alibeck	11.26 1	Pn	Pn	02 35 24.4	+1.2
comp=Z,1.2nm,0.3s,baz=206,slow=13,SNR=3.7						
IGHG	Ghaleghazi	12.41 311	Pn	Pn	02 35 37.1	-2.0
IGHG	Ghaleghazi	12.41 311	ePn	Pn	02 35 37.1	-2.0
NIL	Nilore	15.00 59	ePn	P	02 36 17.4	-2.3
comp=Z,99nm,1.4s						
NIL	Nilore	15.00 59	eP	P	02 36 17.4	-2.3
NIL			pmax	pmax		
comp=Z,99nm,1.4s						
NIL	Nilore	15.00 59	ePn	P	02 36 17.4	-2.3
AKT	Akhty	17.01 333	i P	Pn	02 36 39.0	-1.2
BTK	Batken	17.17 36	ePn	Pn	02 36 42.0	-0.2
comp=Z,19nm,0.8s						
BTK	Batken	17.17 36	eP	Pn	02 36 42.0	-0.2
BTK			pmax	pmax		
comp=Z,19nm,0.8s						
GNI	Garni	17.36 324	i P	Pn	02 36 44.1	-0.5
GNI	Garni	17.36 324	P	P	02 36 47.3	+1.3
comp=Z,0.6nm,0.3s,baz=24,slow=20,SNR=2.4						
ASF	Jabal al Asfar	19.10 292	P	P	02 37 04.6	-0.6
comp=Z,0.8nm,0.3s,baz=63,slow=5.7,SNR=3.5						
ARSB	Arslanbob	19.22 37	eP	Pn	02 37 07.4	0.0
comp=Z,15nm,0.8s						
KK31	Karatay Array	19.38 29	eP	P	02 37 08.4	+0.4
comp=Z,19nm,0.9s						
KKAR	Karatay Array	19.38 29	eP	P	02 37 08.4	+0.4
comp=Z,19nm,0.9s						
KKAR	Karatay Array	19.38 29	eP	P	02 37 08.4	+0.4
KKAR			pmax	pmax		
comp=Z,19nm,0.9s						
ZEI	Tsey	19.75 328	eP	P	02 37 12.5	+0.2
ZEI			pmax	pmax		
comp=Z,3.0nm,0.4s						
KSH	Kashi	19.81 45	P	P	02 37 11.5	-1.4
NCK	Nalchik	20.44 329	i P	P	02 37 18.4	-1.2
NCK			pmax	pmax		
comp=Z,11nm,0.9s						
EIL	Elat	20.45 284	P	P	02 37 20.4	+0.6
comp=Z,16nm,0.7s,baz=105,slow=4.8,SNR=6.9						
MMAI	Mount Meron Ar	20.51 293	P	Pn	02 37 21.8	-0.8
comp=Z,2.3nm,0.4s,baz=99,slow=15,SNR=7.8						
ATD	Arta Tunnel	20.66 226	eP	Pn	02 37 24.8	+0.3
comp=Z,25nm,1.1s						
ATD	Arta Tunnel	20.66 226	P	Pn	02 37 25.1	+0.7
comp=Z,13nm,0.8s,baz=246,slow=20,SNR=4.5						
NEY	Neytrino	20.67 327	i P	P	02 37 20.9	-1.3
AAK	Ala-Archa	20.95 36	eP	P	02 37 26.2	+1.0
comp=Z,16nm,0.8s						
AAK	Ala-Archa	20.95 36	i P	P	02 37 24.6	-0.6
AAK			pmax	pmax		
comp=Z,16nm,1.0s						
AAK	Ala-Archa	20.95 36	P	P	02 37 25.0	-0.2
comp=Z,5.5nm,0.7s,baz=206,slow=8.7,SNR=5.1						
KBZ	Khabaz	20.95 328	P	Pn	02 37 29.4	+1.9
comp=Z,1.2nm,0.5s,baz=132,slow=12,SNR=2.8						
NRN	Naryn	20.98 41	eP	P	02 37 26.1	+0.3
comp=Z,18nm,1.0s						
NRN	Naryn	20.98 41	eP	P	02 37 26.1	+0.3
NRN			pmax	pmax		
comp=Z,18nm,1.0s						
HYB	Hyderabad	21.21 111	i P	P	02 37 30.0	+1.9
KIV	Kislovodsk	21.22 328	eP	P	02 37 26.8	-1.3
KIV			pmax	pmax		
comp=Z,38nm,1.1s						
BOOM	Boomskoye usch	21.63 38	eP	P	02 37 32.8	+0.2
comp=Z,29nm,1.1s						
BOOM	Boomskoye usch	21.63 38	eP	P	02 37 32.8	+0.2
BOOM			pmax	pmax		
comp=Z,29nm,1.1s						
KDJ	Kajisay	22.11 41	eP	P	02 37 38.3	+0.5
comp=Z,36nm,1.1s						
KDJ	Kajisay	22.11 41	eP	P	02 37 38.3	+0.5
KDJ			pmax	pmax		
comp=

comp=Z,2.9nm,0.7s,baz=191,slow=7.2,SNR=6.6
BRVK Borovoye 27.97 16 *i* P **P 02 38 31.5 -1.2**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
VSR Storozhevoye 28.38 335 *i* P **P 02 38 36.2 -0.2**
VSR pmax pmax
comp=Z,8.0nm,0.9s
KURBB Kurchatov Arra 28.68 28 P **P 02 38 38.9 -0.1**
comp=Z,1.6nm,0.8s,baz=228,slow=7.9,SNR=5.2
KURK Kurchatov 28.79 28 P **P 02 38 38.9 -1.1**
KURK pmax pmax
comp=Z,2.0nm,0.8s
IDI Anoyia 29.48 295 P **P 02 38 46.5 0.0**
comp=Z,6.6nm,0.8s,baz=81,slow=5.8,SNR=5.3
WMQ Urumqi 29.55 47 *e*P P 02 38 41.1 -5.9
WMQ Urumqi 29.55 47 *e*P **P 02 38 49.5 +2.5**
WMQ pP sP 02 38 56.2 +4.4
WMQ sP pP 02 38 59.1 +8.7
ARU Arti 29.77 1 *i* P **P 02 38 48.0 -0.7**
ARU pmax pmax
comp=Z,3.0nm,1.0s
VOIR 32.21 314 ⇑P **P 02 39 11.7 +1.3**
OBN Obninsk 32.43 337 *i* P **P 02 39 13.2 +1.1**
OBN pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 32.48 325 *e*P **P 02 39 13.1 +0.4**
AKASG Malin Array Be 32.48 325 *e*P **P 02 39 14.6 +2.0**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 32.48 325 P **P 02 39 11.4 -1.2**
comp=Z,4.0nm,0.7s,baz=126,slow=8.4,SNR=7.2
AKBB Malin Array Si 32.48 325 *e*P **P 02 39 13.1 +0.5**
comp=Z,6.3nm,0.8s
AKBB Malin Array Si 32.48 325 *e*P **P 02 39 13.1 +0.5**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 32.49 325 *e*P **P 02 39 11.7 -1.0**
comp=Z,6.8nm,0.9s
KIEV Kiev 32.49 325 *i* P **P 02 39 11.2 -1.5**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
BURAR Bucovina Array 33.06 318 *e*P **P 02 39 17.9 0.0**
BURAR Bucovina Array 33.06 318 *e*P **P 02 39 17.9 0.0**
FNA Florina 33.24 304 *e*P **P 02 39 20.3 +0.8**
comp=Z,8.1nm,0.7s
FNA Florina 33.24 304 *e*P **P 02 39 20.3 +0.8**
FNA pmax pmax
comp=Z,8.0nm,0.7s
ZALV Zalesovo Beam 33.76 29 *e*P **P 02 39 23.0 -0.7**
ZALV Zalesovo Beam 33.76 29 P **P 02 39 23.2 -0.5**
comp=Z,1.8nm,0.3s,baz=228,slow=11,SNR=5.3
ZAA1 Zalesovo Array 33.76 29 *e*P **P 02 39 23.2 -0.5**
KMBO Kilima Mbogo 34.03 219 *e*P **P 02 39 28.7 +1.9**
comp=Z,1.3nm,1.8s
KMBO Kilima Mbogo 34.03 219 P **P 02 39 28.7 +1.9**
comp=Z,0.8nm,0.3s,baz=158,slow=12,SNR=3.0
KOLS Kolonicke sedl 35.41 318 *e*P **P 02 39 39.3 +1.2**
KOLS Kolonicke sedl 35.41 318 *e*P **P 02 39 39.3 +1.2**
KOLS *e*pP **sP 02 39 44.0 +1.0**
KLMR Klimovskoe 36.42 345 *e*P **P 02 39 49.8 +3.2**
KLMR pmax pmax
comp=Z,4.0nm,0.7s
TIP Timpagrande 36.44 301 *e*P **P 02 39 45.6 -1.5**
comp=Z,9.6nm,1.1s
GTA Gaotai 37.06 59 *e*P **P 02 39 54.0 +1.4**
GTA pP sP 02 40 01.0 +3.7
GTA sP pP 02 40 04.8 +8.8
VYHS Vyhne 37.32 316 *e*P **P 02 39 56.3 +1.8**
VYHS Vyhne 37.32 316 *e*P **P 02 39 56.2 +1.8**
MBAR Mbarara 37.66 228 *e*P **P 02 39 59.0 +1.2**
comp=Z,7.1nm,1.1s
MBAR Mbarara 37.66 228 P **P 02 39 59.0 +1.2**
comp=Z,1.6nm,0.3s,baz=229,slow=19,SNR=2.0
CONA Conrad Observa 39.00 314 *e*P **P 02 40 08.8 0.0**
comp=Z,1.8nm,0.8s
ARSA Arzberg 39.02 313 *e*P **P 02 40 09.5 +0.7**
comp=Z,4.0nm,0.9s
DPC Dobruska-Polom 39.52 318 *e*P **P 02 40 16.9 +3.9**
DPC Dobruska-Polom 39.52 318 *e*P **P 02 40 16.9 +3.9**
DPC *ex* x 02 40 24.9
MOA Molln 40.01 314 *e*P **P 02 40 17.2 +0.2**
comp=Z,7.2nm,1.0s,SNR=4.5
CD2 Chengdu 40.21 73 *e*P **P 02 40 18.9 -0.1**
KBA Koelnbreinsper 40.41 312 *e*P **P 02 40 20.8 +0.3**
comp=Z,4.4nm,0.8s,SNR=4.8
PRU Pruhonice 40.48 317 *e*P **P 02 40 24.4 +3.5**
PRU Pruhonice 40.48 317 *e*P **P 02 40 24.4 +3.5**
GEC2 GERESS Array S 40.65 315 *e*P **P 02 40 22.4 0.0**
comp=Z,20nm,1.9s
GEC2 GERESS Array S 40.65 315 *e*P **P 02 40 22.4 0.0**
GEC2 pmax pmax
comp=Z,20nm,1.9s
GERES GERESS Array B 40.65 315 *e*P **P 02 40 21.8 -0.6**
GERES GERESS Array B 40.65 315 *e*P **P 02 40 21.8 -0.6**
GERES GERESS Array B 40.65 315 P **P 02 40 22.4 0.0**
comp=Z,1.9nm,0.8s,baz=113,slow=8.8,SNR=9.8
KHC Kasperske Hory 40.81 315 *e*P **P 02 40 23.5 -0.2**
comp=Z,2.6nm,0.9s
KHC Kasperske Hory 40.81 315 *e*P **P 02 40 23.7 0.0**
KHC Kasperske Hory 40.81 315 *e*P **P 02 40 23.7 0.0**
KHC *e*pP **pP 02 40 27.1 -0.1**
FIA0 FINESS Array S 40.84 337 *e*P **P 02 40 23.1 -0.6**
FIA0 FINESS Array S 40.84 337 *e*P **P 02 40 23.1 -0.6**
FINES FINESS Array B 40.84 337 *e*P **P 02 40 26.0 +2.3**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 40.84 337 P **P 02 40 23.1 -0.6**
comp=Z,2.2nm,0.5s,baz=136,slow=9.2,SNR=8.8
WTTA Wattenberg 41.58 312 *e*P **P 02 40 29.9 -0.4**
comp=Z,8.0nm,0.5s
WATA Walderalm 41.64 312 *e*P **P 02 40 30.5 -0.1**
comp=Z,5.8nm,0.7s
CLL Collm 41.83 318 *e*P **P 02 40 36.0 +4.0**
CLL Collm 41.83 318 *e*(pP) **P 02 40 36.0 +4.0**
SQTA Sankt Quirin 41.86 312 *e*P **P 02 40 31.8 -0.6**
comp=Z,12nm,0.5s
MOTA Moosalm 41.95 312 *i* P **P 02 40 32.8 -0.5**
comp=Z,6.2nm,0.6s
FETA Feichten 42.14 312 P **P 02 40 34.4 -0.4**
comp=Z,17nm,1.0s,SNR=11
KEST Kesra 42.16 295 P **P 02 40 36.3 +1.3**
comp=Z,1.7nm,0.7s,baz=218,slow=2.0,SNR=5.0
BSD Bornholm Skovb 42.17 324 *i* P **P 02 40 32.1 -2.5**
BSD Bornholm Skovb 42.17 324 *i* P **P 02 40 32.1 -2.5**
RETA Reutte 42.21 312 *e*P **P 02 40 33.8 -1.5**
comp=Z,4.9nm,0.7s
FUORN Ofenpass-Fuorn 42.37 311 *e*P **P 02 40 37.1 +0.4**
comp=Z,5.3nm,0.6s
TLY Talaya 42.45 41 *i* P **P 02 40 37.0 -0.1**
DAVA Damuels 42.76 312 *e*P **P 02 40 39.1 -0.7**
comp=Z,19nm,0.5s,SNR=17
SONA0 Songino Array 43.19 48 *e*P **P 02 40 43.9 +0.7**
SONM Songino Array 43.19 48 *e*P **P 02 40 44.3 +1.1**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 43.19 48 P **P 02 40 43.9 +0.7**
comp=Z,1.2nm,0.6s,baz=260,slow=8.9,SNR=4.5
NRIK Noril'sk 46.14 14 *e*P **P 02 41 07.5 +1.2**
NRIK pmax pmax
comp=Z,2.0nm,0.3s
NRIK Noril'sk 46.14 14 P **P 02 41 05.8 -0.4**
comp=Z,1.7nm,0.3s,baz=215,slow=4.9,SNR=3.6
HHC Hu-ho-hao-te 46.15 58 *e*P **P 02 41 08.1 +1.2**
NB2 NORSAR Subarra 46.49 331 P **P 02 41 08.1 -1.2**
comp=Z,0.5nm,0.5s,baz=117,slow=7.9
NB200 NORSAR Array S 46.49 331 *e*P **P 02 41 10.0 +0.7**
NOA NORSAR Array B 46.49 331 P **P 02 41 10.0 +0.7**
comp=Z,0.6nm,0.5s,baz=117,slow=7.9,SNR=4.6
ARA0 ARCESS Array S 46.90 345 *e*P **P 02 41 11.2 -1.1**
ARCES ARCESS Array B 46.90 345 *e*P **P 02 41 12.2 -0.1**
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 46.90 345 P **P 02 41 11.2 -1.1**
comp=Z,1.6nm,0.7s,baz=138,slow=8.2,SNR=5.3
BOD Bodaibo 49.92 35 *e*P **P 02 41 35.1 -0.6**
BOD pmax pmax
comp=Z,11nm,0.9s
ESDC Sonseca Array 52.46 301 P **P 02 41 55.1 0.0**
comp=Z,0.5nm,0.5s,baz=69,slow=7.2,SNR=8.0
NJ2 Nanjing 52.81 69 *e*P **P 02 41 59.6 +1.8**
COCO West Island 54.05 131 *i* P **P 02 42 07.6 +0.7**
TOA1 Torodi Ar. Sit 54.14 267 *e*P **P 02 42 05.8 -2.0**
TORD Torodi Ar. Bea 54.14 267 *e*P **P 02 42 07.5 -0.3**
comp=Z,2.2nm,0.8s
TORD Torodi Ar. Bea 54.14 267 P **P 02 42 05.8 -2.0**
comp=Z,2.7nm,0.6s,baz=66,slow=7.1,SNR=12
TIXI Tiksi 58.98 20 *i* P **P 02 42 39.7 -1.6**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
KS15 Wonju Array Si 59.09 61 *e*P **P 02 42 43.6 +1.0**
comp=Z,50nm,1.6s
KSAR Wonju Array Be 59.09 61 P **P 02 42 43.6 +1.0**
KSAR Wonju Array Be 59.09 61 P **P 02 42 43.7 +1.0**
KSRS Korea Array 59.11 61 P **P 02 42 43.6 +0.8**
comp=Z,0.6nm,0.3s,baz=270,slow=6.1,SNR=3.3
KLR Kul'dur 60.01 47 *i* P **P 02 42 47.0 -1.8**
KLR pmax pmax
comp=Z,3.0nm,1.1s
BOSA Boshof 63.24 212 P **P 02 43 13.1 +2.1**
comp=Z,2.4nm,0.8s,baz=53,slow=3.4,SNR=3.1
SUMG Summit 66.71 341 *e*P **P 02 43 33.4 0.0**
comp=Z,15nm,1.2s
SUMG Summit 66.71 341 *e*P **P 02 43 33.4 0.0**
SUMG pmax pmax
comp=Z,15nm,1.2s
SEY Seymchan 68.62 29 *i* P **P 02 43 44.2 -0.9**
ILULI Ilulissat 71.79 339 *e*P **P 02 44 02.7 -1.6**
comp=Z,34nm,1.0s
ILULI Ilulissat 71.79 339 *e*P **P 02 44 02.7 -1.6**
ILULI pmax pmax
comp=Z,34nm,1.0s
BILL Bilibino 72.12 22 *i* P **P 02 44 05.6 -0.8**
BILL *i* 02 46 44.4
BILL pmax pmax
comp=Z,2.0nm,0.9s
TOLK Toolik Lake Re 82.88 10 *e*P **P 02 45 07.4 +0.8**
comp=Z,3.8nm,0.6s
IMAR Indian Mountai 84.55 12 *e*P **P 02 45 14.7 -0.4**
BMAR Burnt Mountain 84.72 9 *e*P **P 02 45 16.7 +0.7**
ILAR Eielson Array 86.87 10 P **P 02 45 25.9 -0.8**
comp=Z,0.4nm,0.7s,baz=328,slow=3.2,SNR=3.3
ILB Eielson Array 86.87 10 *e*P **P 02 45 25.9 -0.8**
comp=Z,14nm,1.8s
CAST Castle Rocks 87.16 13 *e*P **P 02 45 28.9 +0.7**
comp=Z,6.9nm,1.1s
WR1 Warramunga Arr 87.35 114 *e*P **P 02 45 29.8 0.0**
WRA Warramunga Arr 87.35 114 P **P 02 45 29.8 0.0**
comp=Z,0.4nm,0.6s,baz=310,slow=4.0,SNR=3.3
ASAR Alice Springs 88.83 117 P **P 02 45 36.7 -0.1**
comp=Z,0.5nm,0.9s,baz=308,slow=4.6,SNR=2.9
AS31 Alice Springs 88.83 117 *e*P **P 02 45 36.6 -0.1**
comp=Z,3.2nm,1.4s
YKA Yellowknife Ar 90.98 357 P **P 02 45 44.8 -1.3**
comp=Z,0.2nm,0.7s,baz=2.0,slow=5.0,SNR=2.9
YKB5 Yellowknife Ar 90.98 357 *e*P **P 02 45 44.8 -1.3**

IDC 11 02:38:00.6±1.4, 26°.26N×57°.18E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.1/39, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=31.8km s-min=25.1km az=58.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**3.29**	**156**	Pn	Pn	02 38 54.6	+1.2
	7.3nm,0.3s,baz=351,slow=13,SNR=26						
WSAR				Sn	Sn	02 39 34.4	+1.1
	7.2nm,0.3s,baz=137,slow=16,SNR=9.4						
BRTR	**Keskin Array B**	**23.79**	**310**	P	P	02 43 16.8	+1.6
	0.4nm,0.7s,baz=140,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**28.54**	**38**	P	P	02 43 57.6	-0.5
	0.3nm,0.7s,baz=241,slow=9.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**53.48**	**267**	P	P	02 47 21.9	-1.2
	0.6nm,0.9s,baz=69,slow=8.0,SNR=3.4						

BUC 11 02:38:36.4±1.0, 45°.66N×26°.39E, h158km±8km, MD3.2/5, 13C-12D, Error ellipse: s-maj=8.5km s-min=7.2km az=75.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.26**	**44**	⇓*i*P	Pn	02 38 57.8	-0.1
PLOR				*i* S	Sn	02 39 13.0	-1.4
PLOR	**Plostina**	**0.26**	**44**	⇓*i*P	Pn	02 38 57.8	-0.1
VRI	**Vrincioaia**	**0.31**	**49**	⇑*i*P	Pn	02 38 57.9	-0.1
VRI				*i* S	Sn	02 39 13.0	-1.5
VRI	**Vrincioaia**	**0.31**	**49**	⇑*i*P	Pn	02 38 57.9	-0.1
MLR	**Muntele Rosu**	**0.36**	**241**	⇓*i*P	Pn	02 38 57.8	-0.5
MLR				*i* S	Sn	02 39 13.5	-1.5
MLR	**Muntele Rosu**	**0.36**	**241**	⇓*i*P	Pn	02 38 57.8	-0.5
ODBI	**Odobesti**	**0.48**	**78**	⇑*i*P	Pn	02 38 59.2	+0.6
ODBI				*i* S	Sn	02 39 15.3	-0.2
PETR	**Petresti**	**0.59**	**84**	⇑*i*P	Pn	02 38 59.3	+0.2
PETR				*i* S	Sn	02 39 15.4	-1.1
PETR	**Petresti**	**0.59**	**84**	⇑*i*P	Pn	02 38 59.3	+0.2
DOPR	**Dopca**	**0.76**	**294**	⇑*i*P	Pn	02 38 59.8	-0.4
DOPR				*i* S	Sn	02 39 17.6	-0.9
DOPR	**Dopca**	**0.76**	**294**	⇑*i*P	Pn	02 38 59.8	-0.4
DOPR				S	Sn	02 39 17.6	-0.9
TESR	**Tescani**	**0.87**	**12**	⇑*i*P	Pn	02 39 00.6	-0.3
TESR	**Tescani**	**0.87**	**12**	⇑*i*P	Pn	02 39 00.6	-0.3
SULR		**0.99**	**186**	⇓*i*P	Pn	02 39 02.6	+0.7
SULR				*i* S	Sn	02 39 20.5	-0.9
SULR		**0.99**	**186**	⇓*i*P	Pn	02 39 02.6	+0.7
SULR				S	Sn	02 39 20.5	-0.9
BIR	**Birlad**	**1.05**	**55**	⇑*i*P	Pn	02 39 02.1	-0.2
BIR				*i* S	Sn	02 39 21.6	-0.7
BIR	**Birlad**	**1.05**	**55**	⇑*i*P	Pn	02 39 02.1	-0.2
BIR				S	Sn	02 39 21.6	-0.7
LEHL	**Lehliu**	**1.23**	**166**	*i* S	Sn	02 39 24.2	-0.8
LEHL	**Lehliu**	**1.23**	**166**	S	Sn	02 39 24.2	-0.8
CFR	**Carcaliu**	**1.32**	**111**	⇑*i*P	Pn	02 39 04.2	-0.6
CFR				*i* S	Sn	02 39 24.6	-1.9
CFR	**Carcaliu**	**1.32**	**111**	⇑*i*P	Pn	02 39 04.2	-0.6
TLB	**Topalu**	**1.59**	**132**	⇓*i*P	Pn	02 39 07.1	-0.4
TLB				*i* S	Sn	02 39 28.5	-2.9
TLB	**Topalu**	**1.59**	**132**	⇓*i*P	Pn	02 39 07.1	-0.4
CVDA	**Cernavoda**	**1.77**	**138**	*i* S	Sn	02 39 32.7	-2.1
CVDA	**Cernavoda**	**1.77**	**138**	S	Sn	02 39 32.7	-2.1
TLCR		**1.77**	**105**	*i* S	Sn	02 39 33.8	-1.0
TLCR		**1.77**	**105**	S	Sn	02 39 33.8	-1.0
MILM	**Milestii Mici**	**2.10**	**52**	⇓*i*P	Pn	02 39 13.2	+0.1
MILM				*i* S	Sn	02 39 39.7	-1.7
MILM	**Milestii Mici**	**2.10**	**52**	⇓*i*P	Pn	02 39 13.2	+0.1
MILM				S	Sn	02 39 39.7	-1.7
BURAR	**Bucovina Array**	**2.11**	**338**	⇓*i*P	Pn	02 39 15.2	+1.8
BURAR	**Bucovina Array**	**2.11**	**338**	⇓*i*P	Pn	02 39 15.2	+1.8

*IDC **11** 02:45:45.5±1.4, 26°.56N×57°.62E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/48, mbtmp3.7/9, ML3.9/1, Error ellipse: s-maj=28.8km s-min=22.8km az=129.0*
*ISCJB **11** 02:45:45.6±0.4, 26°.60N±0°.03×57°.82E±0°.05, h10km, mb3.5/8, Error ellipse: s-maj=5.9km s-min=4.3km az=1.9*
*THR **11** 02:45:46.9, 26°.64N×57°.48E, h15km, ML3.7*
*NEIC **11** 02:45:48.5±0.0, 26°.67N×57°.66E, h23km, mb4.1/4, ML3.7(THR), MN4.0(TEH), After TEH.*
*TEH **11** 02:45:49.5, 26°.77N×57°.72E, h15km, ML4.0*
*OMAN **11** 02:45:53.7±2.5, 26°.04N×57°.64E, h16km, ml3.3/4, Error ellipse: s-maj=33.5km s-min=10.3km az=37.0*
ISC 11 02:45:46.7±0.6, 26°.51N±0°.03×57°.65E±0°.04, h10km, n71, σ1§05/73, mb3.6/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.27**	**325**	Pg	**Pg**	**02 46 11.1**	**-0.1**
NIAN	**Nian**	**1.27**	**325**	*e*Pg	**Pg**	**02 46 11.1**	**-0.1**
NIAN				IAMB	IAmb	02 46 44.5	
	comp=Z,0.0nm,0.5s						
GENO	**Geno**	**1.59**	**304**	Pn	**Pg**	**02 46 17.8**	**+0.6**
GENO				Sg	**Sg**	**02 46 40.3**	**+2.4**
GENO	**Geno**	**1.59**	**304**	*e*Pn	**Pg**	**02 46 17.9**	**+0.7**
GENO				IAMB	IAmb	02 46 43.4	
	comp=N,0.0nm,0.7s						
BNDS	**Bandar-Abbas**	**1.59**	**304**	*e*AML	AML	02 46 36.6	
	comp=N,1μm,0.5s						
BNDS				*e*AML	AML	02 46 39.7	
	comp=E,902nm,0.5s						
MDH	**Madha**	**1.71**	**226**	P	**Pb**	**02 46 17.9**	**-0.3**
	SNR=9.2						
MDH				P	**Pg**	**02 46 19.3**	**-0.2**
MDH	**Madha**	**1.71**	**226**	*e*Pn	**Pn**	**02 46 17.2**	**+0.6**
MSFE	**Esma-Masafi**	**1.77**	**230**	Pn	**Pg**	**02 46 21.8**	**+1.3**
MSFE	**Esma-Masafi**	**1.77**	**230**	*e*Pn	**Pg**	**02 46 21.8**	**+1.3**
UMQ	**Umm Al-Quwin**	**2.04**	**242**	*e*Pn	**Pg**	**02 46 26.0**	**+0.2**
HATD	**Hatta, Dubai**	**2.17**	**220**	Pn	**Pb**	**02 46 27.0**	**+1.0**
HATD	**Hatta, Dubai**	**2.17**	**220**	*e*Pn	**Pb**	**02 46 27.0**	**+1.0**
ASHO	**Ashiyiah**	**2.32**	**219**	Pn	**Pb**	**02 46 29.0**	**+0.4**
ASHO	**Ashiyiah**	**2.32**	**219**	*e*Pn	**Pb**	**02 46 29.0**	**+0.4**
NAZ	**Nazwa, Dubai**	**2.35**	**230**	*e*Pn	**Pg**	**02 46 31.5**	**-0.2**
FAQ	**Al Faqa, Dubai**	**2.56**	**227**	*e*Pn	**Pb**	**02 46 32.9**	**+0.2**
SOHO	**SOHO**	**2.57**	**203**	P	**Pn**	**02 46 28.8**	**+0.4**
	SNR=18						
CHBR	**Chabahar**	**2.70**	**109**	Pn	**Pb**	**02 46 34.0**	**-1.1**
CHBR	**Chabahar**	**2.70**	**109**	*e*Pn	**Pb**	**02 46 34.5**	**-0.6**
CHBR	**Chabahar**	**2.70**	**109**	*e*Pn	**Pb**	**02 46 34.5**	**-0.6**
ASUD	**Al Ashush, Dub**	**2.81**	**229**	Pn	**Pb**	**02 46 35.0**	**-2.0**
ASUD	**Al Ashush, Dub**	**2.81**	**229**	*e*Pn	**Pb**	**02 46 35.0**	**-2.0**
HOQ	**Hoqain**	**2.93**	**186**	*e*Pn	**Pn**	**02 46 32.1**	**-1.3**
ALNE	**Al Ain**	**2.99**	**216**	Pn	**Pn**	**02 46 36.7**	**+2.6**
ALNE	**Al Ain**	**2.99**	**216**	*e*Pn	**Pn**	**02 46 36.8**	**+2.6**
BIDO	**Bidbid**	**3.01**	**172**	Pn	**Pn**	**02 46 34.3**	**-0.1**
BIDO	**Bidbid**	**3.01**	**172**	P	**Pn**	**02 46 34.7**	**+0.3**
	SNR=9.0						
BIDO	**Bidbid**	**3.01**	**172**	*e*Pn	**Pn**	**02 46 34.4**	**0.0**
CHMN	**Cheshme madani**	**3.34**	**358**	*e*Pn	**Pn**	**02 46 40.1**	**+0.8**
WSAR	**Wadi Sarin**	**3.38**	**165**	Pn	**Pn**	**02 46 40.3**	**+0.9**
	comp=E,12nm,0.3s,baz=357,slow=11,SNR=43						
WSAR				Sn	**Sn**	**02 47 18.4**	**-1.2**
	comp=E,10nm,0.3s,baz=253,slow=18,SNR=12						
TVBK	**TV Kerman**	**3.55**	**347**	Pn	**Pn**	**02 46 43.1**	**+0.9**
TVBK	**TV Kerman**	**3.55**	**347**	*e*Pn	**Pn**	**02 46 42.9**	**+0.7**
TVBK				IAMB	IAmb	02 46 55.4	
	comp=Z,0.0nm,0.3s						
KHGB	**Koh Gabri**	**3.99**	**345**	*e*Pn	**Pn**	**02 46 49.0**	**+0.9**
KHGB				IAMB	IAmb	02 47 00.5	
	comp=Z,0.0nm,0.4s						
SZD1	**Zahaedan-tmp**	**4.11**	**43**	*e*Pn	**Pn**	**02 46 52.1**	**+2.5**
ZHSF	**Zahedan**	**4.14**	**41**	Pn	**Pn**	**02 46 51.8**	**+1.6**
ZHSF	**Zahedan**	**4.14**	**41**	*e*Pn	**Pn**	**02 46 51.8**	**+1.6**
ZHSF	**Zahedan**	**4.14**	**41**	*e*Pn	**Pn**	**02 46 51.8**	**+1.6**
GHIR	**Ghir-Karzin**	**4.51**	**294**	Pn	**Pn**	**02 46 54.0**	**-1.1**
GHIR	**Ghir-Karzin**	**4.51**	**294**	*e*Pn	**Pn**	**02 46 54.1**	**-1.1**
GHIR	**Ghir-Karzin**	**4.51**	**294**	*e*P	**Pn**	**02 46 54.1**	**-1.1**
JLN	**Jalan Bani Buh**	**4.63**	**159**	P	**Pn**	**02 46 56.7**	**0.0**
	SNR=9.9						
IMEH	**Mehriz**	**5.54**	**332**	Pn	**Pn**	**02 47 10.2**	**+0.7**
IMEH	**Mehriz**	**5.54**	**332**	*e*Pn	**Pn**	**02 47 10.2**	**+0.7**
IKOO	**Kooshah**	**6.01**	**11**	Pn	**Pn**	**02 47 14.3**	**-1.6**
IKOO	**Kooshah**	**6.01**	**11**	*e*Pn	**Pn**	**02 47 15.5**	**-0.4**
IKAZ	**Kazeroun**	**6.08**	**304**	Pn	**Pn**	**02 47 15.8**	**-1.1**
IKAZ	**Kazeroun**	**6.08**	**304**	*e*Pn	**Pn**	**02 47 15.9**	**-1.0**
ISAD	**Sadrabad**	**6.40**	**328**	Pn	**Pn**	**02 47 21.0**	**-0.3**
ISAD	**Sadrabad**	**6.40**	**328**	*e*Pn	**Pn**	**02 47 21.1**	**-0.3**
ITEG	**Tejag**	**6.44**	**8**	*e*Pn	**Pn**	**02 47 21.4**	**-0.3**
YZKH	**Yazd**	**6.44**	**336**	*e*Pn	**Pn**	**02 47 21.7**	**+0.1**
YZKH	**Yazd**	**6.44**	**336**	*e*P	**Pn**	**02 47 21.7**	**+0.1**
IRAM	**Ramesheh**	**7.01**	**320**	Pn	**Pn**	**02 47 30.1**	**+0.5**
IRAM	**Ramesheh**	**7.01**	**320**	*e*Pn	**Pn**	**02 47 30.2**	**+0.6**
NIL	**Nilore**	**15.26**	**58**	*e*Pn	**Pn**	**02 49 21.6**	**-0.6**
	comp=Z,24nm,1.8s						
ARSB	**Arslanbob**	**19.45**	**37**	*e*P	**P**	**02 50 11.4**	**-2.1**
	comp=Z,5.8nm,0.5s						
KKAR	**Karatay Array**	**19.59**	**29**	*e*P	**P**	**02 50 14.0**	**-1.0**
AAK	**Ala-Archa**	**21.18**	**36**	P	**P**	**02 50 31.7**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=248,slow=19,SNR=2.7						
ABKAR	**Akbulak array**	**22.78**	**4**	*e*P	**P**	**02 50 49.3**	**+0.1**
AKTO	**Aktyubinsk**	**23.89**	**1**	P	**P**	**02 50 59.9**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=178,slow=13,SNR=10.0						
BR101	**Keskin Array S**	**23.96**	**309**	*e*P	**P**	**02 51 01.4**	**+0.1**
BR131	**Keskin Array S**	**23.96**	**309**	*e*P	**P**	**02 51 02.5**	**+1.2**
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**23.96**	**309**	P	**P**	**02 51 01.4**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=135,slow=11,SNR=8.2						
BVAR	**Borovoye Array**	**28.15**	**16**	P	**P**	**02 51 39.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=210,slow=8.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**28.89**	**28**	P	**P**	**02 51 46.2**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=227,slow=8.4,SNR=3.0						
GEC2	**GERESS Array S**	**40.58**	**315**	*e*P	**P**	**02 53 26.1**	**-0.4**
	comp=Z,8.0nm,1.6s						
GERES	**GERESS Array B**	**40.58**	**315**	P	**P**	**02 53 26.1**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=103,slow=8.6,SNR=5.2						
FIA0	**FINESS Array S**	**40.87**	**337**	*e*P	**P**	**02 53 28.6**	**+0.1**
FINES	**FINESS Array B**	**40.87**	**337**	P	**P**	**02 53 28.7**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=134,slow=14,SNR=4.6						
TOA1	**Torodi Ar. Sit**	**53.91**	**267**	*e*P	**P**	**02 55 10.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**53.91**	**267**	P	**P**	**02 55 10.9**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=54,slow=7.2,SNR=8.0						

*ISCJB **11** 02:49:13.1±1.0, 21°.9S±0°.1×179°.1W±0°.2, h602km, mb4.1/9, Error ellipse: s-maj=19.8km s-min=16.2km az=153.8*
*IDC **11** 02:49:13.6±2.0, 21°.71S×179°.13W, h588km±22km, mb3.5/9, mb1 3.7/10, mb1mx3.4/32, mbtmp4.5/10, Error ellipse: s-maj=17.3km s-min=16.2km az=166.0*
ISC 11 02:49:14.4±1.0, 21°.8S±0°.1×179°.1W±0°.1, h602km, n15, σ1§30/17, mb4.2/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.41**	**266**	P	**P**	**02 52 06.2**	**-1.4**
	1.0nm,0.3s,baz=77,slow=20,SNR=10						
URZ	**Urewera**	**16.73**	**190**	P	**P**	**02 52 35.5**	**-2.6**
	5.9nm,0.3s,baz=286,slow=3.3,SNR=35						
RPZ	**Rata Peaks**	**23.33**	**198**	P	**P**	**02 53 37.8**	**+0.2**
	6.6nm,0.5s,baz=206,slow=9.5,SNR=5.9						
STKA	**Stephens Creek**	**36.30**	**246**	P	**P**	**02 55 29.3**	**+0.3**
	3.1nm,0.5s,baz=98,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**43.23**	**258**	P	**P**	**02 56 24.6**	**+0.3**
	16nm,0.8s,baz=97,slow=7.9,SNR=136						
ASAR				ScP	**ScP**	**03 00 57.2**	**+2.8**
	0.6nm,0.9s,baz=101,slow=4.8,SNR=3.2						
ASAR				S	**S**	**03 02 09.9**	**+0.8**
	1.7nm,0.9s,baz=93,slow=17,SNR=8.2						
WRA	**Warramunga Arr**	**43.42**	**264**	P	**P**	**02 56 25.4**	**-0.4**
	7.0

HATD S **Sb** **02 50 41.3 +0.3**
ASHO Ashiyiah 2.40 220 Pn **Pb** **02 50 14.9 -0.9**
ASHO Ashiyiah 2.40 220 P **Pb** **02 50 16.3 +0.5**
SNR=9.7
ASHO S **Sn** **02 50 43.7 +2.4**
NAZ Nazwa, Dubai 2.43 231 *e*P **Pb** **02 50 15.7 -0.6**
SNR=11
SOHO SOHO 2.64 205 S **Sn** **02 50 41.9 -5.3**
FAQ Al Faqa, Dubai 2.64 228 *i* P **Pb** **02 50 18.7 -1.2**
SNR=11
FAQ Al Faqa, Dubai 2.64 228 P **Pg** **02 50 23.3 +0.1**
SNR=11
CHBR Chabahar 2.64 110 *e*AML AML 02 51 35.0
comp=N,2μm,0.9s
CHBR *e*Pn **Pb** **02 50 21.0 +1.1**
ASUD Al Ashush, Dub 2.90 229 P **Pb** **02 50 22.5 -1.8**
HOQ Hoqain 2.98 188 P **Pn** **02 50 22.5 +2.6**
HOQ S Sn 02 50 47.0 -8.7
BIDO Bidbid 3.03 173 P **Pn** **02 50 20.7 +0.1**
SNR=12
BIDO S Sn 02 50 48.0 -9.0
ALNE Al Ain 3.06 216 P **Pn** **02 50 24.4 +3.3**
CHMN Cheshme madani 3.31 357 Pn **Pn** **02 50 26.1 +1.4**
ARQ Araqi 3.38 199 P **Pb** **02 50 30.4 -2.2**
SNR=9.1
WSAR Wadi Sarin 3.39 166 Pn **Pn** **02 50 26.1 +0.6**
comp=N,15nm,0.3s,baz=360,slow=14,SNR=50
SMDO Samad 3.48 175 P **Pn** **02 50 27.8 +0.9**
SNR=16
SMDO S Sn 02 50 54.5 -14
ZHSF Zahedan 4.06 41 Pn **Pn** **02 50 38.1 +3.2**
ZHSF Zahedan 4.06 41 *e*Pn **Pn** **02 50 38.2 +3.2**
GHIR Ghir-Karzin 4.56 293 Pn **Pn** **02 50 42.7 +1.0**
GHIR Ghir-Karzin 4.56 293 *e*P **Pn** **02 50 42.8 +1.0**
JLN Jalan Bani Buh 4.64 160 P **Pn** **02 50 43.2 +0.6**
SNR=12
ISRV Sarvestan 4.97 306 Pn **Pn** **02 50 49.0 +1.5**
IMEH Mehriz 5.55 331 Pn **Pn** **02 50 55.5 +0.1**
IKOO Kooshah 5.96 10 Pn **Pn** **02 51 03.6 +2.6**
IKAZ Kazeroun 6.12 303 Pn **Pn** **02 51 04.9 +1.6**
YZKH Yazd 6.43 336 *e*P **Pn** **02 51 08.5 +1.1**
IRAM Ramesheh 7.03 319 Pn **Pn** **02 51 16.4 +0.7**
NIL Nilore 15.17 58 *e*Pn **Pn** **02 53 04.2 -2.7**
comp=N,14nm,1.1s
KKAR Karatay Array 19.52 29 *e*P **P** **02 53 59.0 -1.1**
comp=N,4.6nm,1.1s
EIL Elat 20.34 284 P **P** **02 54 09.7 +0.7**
comp=N,5.8nm,0.9s,baz=112,slow=3.0,SNR=5.3
AAK Ala-Archa 21.10 36 P **P** **02 54 19.5 +2.2**
comp=N,2.5nm,0.9s,baz=193,slow=11,SNR=4.5
ABKAR Akbulak array 22.74 4 *e*P **P** **02 54 34.5 -0.1**
comp=N,1.8nm,0.8s
AKTO Aktyubinsk 23.85 0 P **P** **02 54 45.5 -0.4**
comp=N,1.9nm,0.7s,baz=184,slow=9.7,SNR=4.8
BR101 Keskin Array S 23.99 309 *e*P **P** **02 54 47.1 -0.4**
BR131 Keskin Array S 23.99 309 *e*P **P** **02 54 47.6 +0.1**
comp=N,3.0nm,0.9s
BRTR Keskin Array B 23.99 309 *e*P **P** **02 54 46.9 -0.5**
BRTR Keskin Array B 23.99 309 P **P** **02 54 47.1 -0.4**
comp=N,2.1nm,0.8s,baz=131,slow=7.7,SNR=14
BVAR Borovoye Array 28.09 16 P **P** **02 55 25.2 +0.9**
comp=N,0.2nm,0.4s,baz=190,slow=7.3,SNR=3.3
KURBB Kurchatov Arra 28.82 28 P **P** **02 55 32.3 +1.6**
comp=N,0.3nm,0.6s,baz=230,slow=9.0,SNR=3.8
ARR Arges 32.41 314 ⇓*i*P **P** **02 56 02.4 -0.2**
BURAR Bucovina Array 33.03 318 *e*P **P** **02 56 07.4 -0.7**
BUR08 Bucovina Ar. S 33.06 318 *e*P **P** **02 56 07.4 -0.9**
comp=N,1.0nm,1.0s
FNA Florina 33.17 305 *e*P **P** **02 56 09.8 +0.4**
comp=N,2.6nm,0.7s
OJC Ojcow 37.39 319 *e*P **P** **02 56 45.0 -0.4**
comp=N,4.4nm,0.9s
CONA Conrad Observa 38.96 314 *e*P **P** **02 56 58.9 +0.1**
comp=N,1.8nm,0.9s
ARSA Arzberg 38.98 313 *e*P **P** **02 56 59.2 +0.3**
comp=N,3.4nm,1.0s
MOA Molln 39.97 314 *e*P **P** **02 57 06.1 -1.0**
comp=N,2.9nm,0.6s
GEC2 GERESS Array S 40.61 315 *e*P **P** **02 57 12.0 -0.6**
comp=N,2.3nm,0.9s
GERES GERESS Array B 40.61 315 P **P** **02 57 12.0 -0.6**
comp=N,1.2nm,0.8s,baz=114,slow=9.8,SNR=12
KHC Kasperske Hory 40.77 316 *e*P **P** **02 57 13.6 -0.2**
FIA0 FINESS Array S 40.87 337 *e*P **P** **02 57 12.5 -1.8**
FINES FINESS Array B 40.87 337 P **P** **02 57 12.5 -1.8**
comp=N,1.2nm,0.9s,baz=146,slow=10,SNR=5.1
WTTA Wattenberg 41.54 312 *e*P **P** **02 57 19.3 -1.0**
comp=N,8.0nm,0.9s
WATA Walderalm 41.59 312 *e*P **P** **02 57 20.2 -0.5**
comp=N,9.9nm,1.2s
SQTA Sankt Quirin 41.81 312 *e*P **P** **02 57 21.2 -1.3**
comp=N,6.1nm,0.8s
MOTA Moosalm 41.91 312 *e*P **P** **02 57 22.3 -1.0**
comp=N,4.3nm,0.9s
FETA Feichten 42.09 312 *e*P **P** **02 57 23.0 -1.8**
comp=N,6.4nm,0.8s
DAVA Damuels 42.71 312 *e*P **P** **02 57 28.9 -1.0**
comp=N,9.8nm,0.8s
ESDC Sonseca Array 52.38 301 P **P** **02 58 44.3 -0.7**
comp=N,0.3nm,0.6s,baz=65,slow=9.5,SNR=3.5
TOA1 Torodi Ar. Sit 53.99 267 *e*P **P** **02 58 56.7 -0.4**
TORD Torodi Ar. Bea 53.99 267 P **P** **02 58 56.7 -0.4**
comp=N,0.5nm,0.7s,baz=68,slow=7.2,SNR=4.9

ISCJB ***11*** *02:49:57.9±0.2, 26°.55N±0°.03×57°.88E±0°.03, h10km, mb4.5/98, Error ellipse: s-maj=4.2km s-min=3.4km az=6.8*
IDC ***11*** *02:49:58.0±0.6, 26°.60N×57°.91E, h0km, mb4.2/33, mb1 4.4/37, mb1mx4.3/53, mbtmp4.3/37, ML4.4/2, MS5.2/2, Ms1 5.2/2, ms1mx4.1/55, Error ellipse: s-maj=13.8km s-min=11.4km az=150.0*
NEIC ***11*** *02:50:00.1±2.6, 26°.59N×57°.93E, h13km±16km, mb4.6/52, Error ellipse: s-maj=6.9km s-min=4.8km az=159.0*
TEH ***11*** *02:50:00.0, 26°.67N×57°.80E, h11km, ML4.8*
MOS ***11*** *02:50:01.8±1.4, 26°.60N×57°.96E, h18km, mb4.6/47, Error ellipse: s-maj=7.0km s-min=4.8km az=96.9*
BJI ***11*** *02:50:05.6±0.0, 26°.77N×58°.56E, h26km, mb4.7/20, mB4.7/3, Ms4.5/1, Ms7 4.3/1*
ISC 11 02:49:59.6±0.4, 26°.58N±0°.05×57°.90E±0°.05, h10km, n280, σ1§46/270, mb4.5/96, 15C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.36**	**316**	*e*Pg	**Pn**	**02 50 24.2**	**-0.5**
NIAN				IAMB	IAmb	02 50 55.1	
comp=Z,0.0nm,0.6s							
GENO	**Geno**	**1.74**	**298**	IAMB	IAmb	02 51 05.5	
comp=E,0.0nm,0.5s							
NGRK	**Negar Kerman**	**3.22**	**342**	*e*Pn	**Pn**	**02 50 52.4**	**+1.8**
NGRK				IAMB	IAmb	02 51 50.5	
comp=Z,0.0nm,1.2s							
CHMN	**Cheshme madani**	**3.28**	**355**	*e*Pn	**Pn**	**02 50 54.1**	**+2.6**
CHMN				IAMB	IAmb	02 51 52.4	
comp=Z,0.0nm,0.7s							
WSAR	**Wadi Sarin**	**3.40**	**169**	Pn	**Pn**	**02 50 53.4**	**+0.7**
comp=Z,35nm,0.3s,baz=347,slow=6.7,SNR=29							
WSAR				Sn	**Sn**	**02 51 31.9**	**-1.2**
comp=Z,147nm,0.3s,baz=72,slow=10,SNR=19							
TVBK	**TV Kerman**	**3.54**	**344**	*e*Pn	**Pn**	**02 50 56.9**	**+1.9**
TVBK				IAMB	IAmb	02 52 03.0	
comp=Z,0.0nm,1.0s							
SZD1	**Zahaedan-tmp**	**3.91**	**42**	*e*Pn	**Pn**	**02 51 02.9**	**+3.0**
KHGB	**Koh Gabri**	**3.98**	**342**	*e*Pn	**Pn**	**02 51 02.4**	**+1.4**
KHGB				IAMB	IAmb	02 52 14.8	
comp=Z,0.0nm,0.8s							
SHI	**Shiraz**	**5.65**	**304**	*e*Pn	**Pn**	**02 51 23.3**	**-0.5**
IKOO	**Kooshah**	**5.90**	**9**	*e*Pn	**Pn**	**02 51 29.5**	**+2.1**
ITEG	**Tejag**	**6.34**	**7**	*e*Pn	**Pn**	**02 51 35.0**	**+1.7**
IDAH	**Dahanechah**	**6.37**	**15**	*e*Pn	**Pn**	**02 51 36.5**	**+2.7**
ISAD	**Sadrabad**	**6.46**	**326**	*e*Pn	**Pn**	**02 51 34.3**	**-0.8**
TPRV	**Parvadeh(Tabas**	**6.51**	**351**	*e*Pn	**Pn**	**02 51 36.7**	**+1.1**
IMON	**Monand**	**6.76**	**13**	*e*Pn	**Pn**	**02 51 41.3**	**+2.1**
TKDS	**Koohdasht(Taba**	**7.04**	**355**	*e*Pn	**Pn**	**02 51 44.2**	**+1.3**
IRAM	**Ramesheh**	**7.09**	**319**	*e*Pn	**Pn**	**02 51 44.3**	**+0.5**
TNSJ	**Nastanj**	**7.44**	**352**	*e*Pn	**Pn**	**02 51 48.7**	**+0.3**
ANAR	**Anarak**	**7.51**	**332**	*e*Pn	**Pn**	**02 51 49.3**	**-0.1**
IZEF	**Zefreh**	**7.94**	**324**	*e*Pn	**Pn**	**02 51 54.0**	**-1.3**
ZNGN	**Zangian**	**8.26**	**314**	*e*Pn	**Pn**	**02 52 00.7**	**+0.9**
ISFB	**Sefidab**	**9.15**	**329**	*e*Pn	**Pn**	**02 52 10.6**	**-1.2**
IMYA	**Miami**	**9.91**	**10**	*e*Pn	**Pn**	**02 52 24.7**	**+2.4**
IAKL	**Akhelmad**	**10.02**	**4**	*e*Pn	**Pn**	**02 52 25.1**	**+1.2**
IKRD	**Kardeh**	**10.18**	**3**	*e*Pn	Pn	02 52 31.0	+5.0
GEYT	**Alibeck**	**11.32**	**1**	Pn	**Pn**	**02 52 42.4**	**+1.0**
baz=158,slow=12,SNR=6.5							
GYA0B	**ALIBECK ARRAY**	**11.32**	**1**	*e*Pn	**Pn**	**02 52 42.9**	**+1.4**
IKOM	**Komasi**	**11.73**	**313**	*e*Pn	**Pn**	**02 52 44.6**	**-2.6**
IVIS	**Veis**	**12.38**	**312**	*e*Pn	**Pn**	**02 52 52.8**	**-3.2**
IGHG	**Ghaleghazi**	**12.45**	**311**	*e*Pn	**Pn**	**02 52 54.6**	**-2.5**
KBL	**Kabul**	**12.45**	**48**	*e*Pn	**Pn**	**02 52 59.7**	**+2.6**
KBL	**Kabul**	**12.45**	**48**	*e*P	**Pn**	**02 52 59.7**	**+2.6**
NIL	**Nilore**	**15.03**	**58**	*e*Pn	**Pn**	**02 53 29.8**	**-2.4**
comp=Z,55nm,0.6s							
NIL	**Nilore**	**15.03**	**58**	*e*P	**Pn**	**02 53 29.8**	**-2.4**
NIL				pmax	pmax		
comp=Z,55nm,0.6s							
CHGR	**Chuyangaron**	**15.31**	**35**	*e*Pn	**Pn**	**02 53 33.7**	**-2.2**
comp=Z,28nm,0.9s							
ISHB	**Shabestar**	**15.59**	**321**	*e*Pn	**Pn**	**02 53 39.6**	**-0.1**
GAR	**Garm**	**16.18**	**37**	*e*Pn	**Pn**	**02 53 46.2**	**-1.0**
GAR	**Garm**	**16.18**	**37**	*e*P	**Pn**	**02 53 46.2**	**-1.0**
AKT	**Akhty**	**17.06**	**333**	*i* P	**P**	**02 54 00.1**	**-0.1**
BTK	**Batken**	**17.21**	**35**	*e*Pn	**Pn**	**02 53 58.8**	**-1.5**
comp=Z,22nm,0.6s							
BTK	**Batken**	**17.21**	**35**	*e*P	**Pn**	**02 53 58.8**	**-1.5**
BTK				pmax	pmax		
comp=Z,22nm,0.6s							
DAMY	**Dhamar**	**17.38**	**229**	*e*Pn	**P**	**02 54 03.9**	**-0.2**
comp=Z,53nm,0.9s							
GNI	**Garni**	**17.40**	**324**	*e*Pn	**Pn**	**02 54 03.3**	**+0.6**
comp=Z,26nm,0.9s							
GNI	**Garni**	**17.40**	**324**	*ce*P	**Pn**	**02 54 03.3**	**+0.6**
GNI				pmax	pmax		
comp=Z,134nm,1.3s							
GNI	**Garni**	**17.40**	**324**	P	**P**	**02 54 03.8**	**-0.2**
comp=Z,1.0nm,0.3s,baz=67,slow=3.9,SNR=7.7							
ASF	**Jabal al Asfar**	**19.12**	**292**	P	**P**	**02 54 22.6**	**-0.3**
comp=Z,20nm,0.8s							
ASF	**Jabal al Asfar**	**19.12**	**292**	P	**P**	**02 54 22.2**	**-0.7**
comp=Z,1.2nm,0.3s,baz=60,slow=12,SNR=7.1							
GROC	**Groznyy**	**19.29**	**332**	*e*P	**Pn**	**02 54 26.4**	**+0.8**
GROC				*e*S	**S**	**02 58 03.8**	**+0.9**
GROC				pmax	pmax		
comp=Z,13nm,1.1s							
KK31	**Karatay Array**	**19.43**	**29**	*e*P	**P**	**02 54 26.0**	**-0.1**
comp=Z,27nm,1.0s							
KK31	**Karatay Array**	**19.43**	**29**	*e*P	**P**	**02 54 26.0**	**-0.1**
KK31				pmax	pmax		
comp=Z,27nm,1.0s							
KKAR	**Karatay Array**	**19.43**	**29**	*e*P	**Pn**	**02 54 27.3**	**0.0**
comp=Z,27nm,1.0s							
KKAR	**Karatay Array**	**19.43**	**29**	*e*P	**Pn**	**02 54 27.3**	**0.0**
KKAR				pmax	pmax		
comp=Z,27nm,1.0s							
ZEI	**Tsey**	**19.80**	**328**	*e*P	P	02 54 19.8	-11
ZEI				pmax	pmax		
comp=Z,8.0nm,0.7s							
KSH	**Kashi**	**19.85**	**45**	P	**P**	**02 54 25.3**	**-5.6**
KSH				sP	pP	02 54 33.4	-0.7
KSH				S	S	02 57 52.7	-22
KSH				pmax	pmax		
comp=Z,50nm,0.5s							
WALJ	**Wala**	**19.92**	**290**	P	**Pn**	**02 54 33.7**	**+0.5**
comp=Z,58nm,0.7s							
JDRJ	**Daraweish**	**19.93**	**287**	P	**P**	**02 54 30.2**	**-1.7**
comp=Z,72nm,0.9s							
SHMJ	**Saham**	**20.17**	**293**	P	Pn	02 54 35.8	-0.4
comp=Z,85nm,0.7s							
AML	**Almayashu**	**20.21**	**36**	P	**P**	**02 54 35.2**	**0.0**
SNR=20							
EIL	**Elat**	**20.46**	**284**	P	**P**	**02 54 35.1**	**-2.4**
comp=Z,27nm,0.8s							
EIL	**Elat**	**20.46**	**284**	P	**P**	**02 54 37.2**	**-0.3**
comp=Z,22nm,0.9s,baz=54,slow=1.8,SNR=17							
NCK	**Nalchik**	**20.49**	**329**	*i* P	Pn	02 54 39.7	-0.1
NCK				pmax	pmax		
comp=Z,14nm,0.9s							
MMAI	**Mount Meron Ar**	**20.53**	**294**	P	**P**	**02 54 38.0**	**-0.3**
comp=Z,18nm,0.8s,baz=97,slow=12,SNR=10							
ATD	**Arta Tunnel**	**20.62**	**226**	*e*P	**P**	**02 54 40.3**	**+1.0**
comp=Z,24nm,0.8s							
ATD	**Arta Tunnel**	**20.62**	**226**	P	**P**	**02 54 39.8**	**+0.5**
comp=Z,11nm,0.6s,baz=20,slow=7.2,SNR=11							
EKS2	**Erkin-Say**	**20.63**	**35**	P	**P**	**02 54 37.8**	**-1.6**
SNR=9.3							
NEY	**Neytrino**	**20.71**	**327**	*i* P	Pn	02 54 44.8	+2.2
UCH	**Uchtor**	**20.71**	**37**	P	Pn	02 54 42.7	-0.3
SNR=11							
AAK	**Ala-Archa**	**20.99**	**36**	P	**P**	**02 54 43.8**	**+0.5**
SNR=7.9							
AAK	**Ala-Archa**	**20.99**	**36**	*e*P	**P**	**02 54 43.1**	**-0.2**
comp=Z,31nm,1.3s							
AAK	**Ala-Archa**	**20.99**	**36**	*ce*P	**P**	**02 54 42.7**	**-0.6**
AAK				pmax	pmax		
comp=Z,28nm,1.3s							
AAK	**Ala-Archa**	**20.99**	**36**	P	**P**	**02 54 43.7**	**+0.5**
comp=Z,6.7nm,0.4s,baz=199,slow=11,SNR=18							
KBZ	**Khabaz**	**20.99**	**328**	P	Pn	02 54 45.5	-0.2
comp=Z,2.3nm,0.7s,baz=282,slow=19,SNR=7.4							
KZA	**Kyzart**	**21.02**	**38**	P	**P**	**02 54 47.2**	**+3.3**
SNR=16							
NRN	**Naryn**	**21.02**	**41**	*e*P	**P**	**02 54 43.3**	**-0.5**
comp=Z,18nm,0.8s							
NRN	**Naryn**	**21.02**	**41**	*e*P	**P**	**02 54 43.3**	**-0.5**
NRN				pmax	pmax		
comp=Z,18nm,0.8s							
HYB	**Hyderabad**	**21.19**	**111**	*i* P	**P**	**02 54 45.0**	**-0.5**
KBK	**Karagaybulak**	**21.24**	**37**	P	**P**	**02 54 46.5**	**+0.5**
SNR=14							
KVAR	**Kislovodsk Arr**	**21.26**	**329**	P	**P**	**02 54 47.7**	**+1.6**
comp=Z,2.3nm,0.5s,baz=318,slow=17,SNR=3.6							
KIV	**Kislovodsk**	**21.26**	**328**	*e*P	**P**	**02 54 47.0**	**+0.8**
comp=Z,20nm,0.9s							
KIV	**Kislovodsk**	**21.26**	**328**	*e*P	**P**	**02 54 49.3**	**+3.2**
KIV				pmax	pmax		
comp=Z,37nm,1.0s							
BOOM	**Boomskoye usch**	**21.67**	**38**	*e*P	**P**	**02 54 51.1**	**+0.5**
comp=Z,42nm,1.1s							
BOOM	**Boomskoye usch**	**21.67**	**38**	*e*P	**P**	**02 54 51.1**	**+0.5**
BOOM				pmax	pmax		
comp=Z,42nm,1.1s							
ULHL	**Ulahol**	**21.68**	**39**	P	**P**	**02 54 51.6**	**+0.8**
SNR=6.9							
TKM2	**Tokmak 2**	**21.77**	**37**	P	**P**	**02 54 51.2**	**-0.5**
SNR=12							
KDJ	**Kajisay**	**22.15**	**41**	*e*P	**P**	**02 54 56.6**	**+0.8**
comp=Z,46nm,0.9s							
KDJ	**Kajisay**	**22.15**	**41**	*e*P	**P**	**02 54 56.5**	**+0.8**
KDJ				pmax	pmax		
comp=Z,46nm,0.9s							
TARG	**Taragay, Kyrgy**	**22.27**	**42**	*e*P	**P**	**02 54 58.2**	**+0.8**
comp=Z,20nm,1.0s							
PYUN	**Piuthan**	**22.33**	**80**	*e*P	**P**	**02 54 58.1**	**+0.2**
comp=Z,39nm,0.8s							
CSS	**Mathiatis**	**22.66**	**298**	*e*P	**P**	**02 55 01.0**	**-0.1**
comp=Z,68nm,1.4s							
ABKAR	**Akbulak array**	**22.69**	**3**	*e*P	**P**	**02 54 59.7**	**-1.6**
KOLN	**Koldanda**	**22.89**	**81**	*e*P	**P**	**02 55 03.0**	**-0.8**
comp=Z,25nm,0.9s							
DANN	**Dangsing**	**23.00**	**80**	*e*P	**P**	**02 55 04.7**	**-0.4**
comp=Z,120nm,1.0s							
AKTO	**Aktyubinsk**	**23.82**	**0**	P	**P**	**02 55 12.5**	**-0.2**
AKTO				pmax	pmax		
comp=Z,14nm,0.6s							
AKTO	**Aktyubinsk**	**23.82**	**0**	P	**P**	**02 55 12.5**	**-0.2**
comp=Z,9.1nm,0.6s,baz=166,slow=9.7,SNR=20							
BR101	**Keskin Array S**	**24.08**	**309**	*e*P	**P**	**02 55 16.5**	**+1.0**
BR131	**Keskin Array S**	**24.08**	**309**	*e*P	**P**	**02 55 15.0**	**-0.5**
comp=Z,12nm,0.8s							
BRTR	**Keskin Array B**	**24.08**	**309**	*e*P	**P**	**02 55 15.3**	**-0.1**
BRTR	**Keskin Array B**	**24.08**	**309**	*e*P	**P**	**02 55 15.2**	**-0.3**
BRTR	**Keskin Array B**	**24.08**	**309**	P	**P**	**02 55 16.5**	**+1.0**
comp=Z,7.6nm,0.7s,baz=130,slow=10.0,SNR=23							
PDGK	**Podgornoye**	**24.23**	**41**	P	**P**	**02 55 17.2**	**+0.4**
PDGK				pmax	pmax		
comp=Z,18nm,0.9s							
OTUK	**Ortayu**	**24.40**	**24**	P	**P**	**02 55 19.1**	**+1.0**
OTUK				pmax	pmax		
comp=Z,14nm,1.0s							
PKI	**Pulchoki**	**24.50**	**81**	*e*P	**P**	**02 55 18.5**	**-1.1**
comp=Z,17nm,0.9s							
ANN	**Anapa**	**24.52**	**323**	*e*P	**P**	**02 55 23.0**	**+3.8**
ANN				pmax	pmax		
comp=Z,31nm,1.2s							
ANTO	**Ankara**	**24.73**	**309**	*e*P	**P**	**02 55 21.9**	**+0.6**
comp=Z,61nm,1.6s							
ANTO	**Ankara**	**24.73**	**309**	*e*P	**P**	**02 55 21.9**	**+0.6**
ANTO				pmax	pmax		
comp=Z,61nm,1.6s							
JIRN	**Jiri**	**25.19**	**81**	*e*P	**P**	**02 55 24.7**	**-1.2**
comp=Z,74nm,1.1s							
RAMN	**Ramite**	**25.61**	**83**	*e*P	**P**	**02 55 29.0**	**-0.6**
comp=Z,26nm,0.8s							
MAKZ	**Makanchi**	**27.74**	**37**	*e*P	**P**	**02 55 48.0**	**-0.4**
comp=Z,6.2nm,0.8s							
MAKZ	**Makanchi**	**27.74**	**37**	*e*P	**P**	**02 55 48.0**	**-0.4**
MAKZ				pmax	pmax		
comp=Z,6.0nm,0.8s							
MK31	**Makanchi Array**	**27.90**	**37**	*e*P	**P**	**02 55 49.8**	**0.0**
comp=Z,4.1nm,0.8s							
MK32	**Makanchi Array**	**27.90**	**37**	*e*P	**P**	**02 55 50.2**	**+0.4**
MKAR	**Makanchi Array**	**27.90**	**37**	*e*P	**P**	**02 55 50.1**	**+0.2**
MKAR	**Makanchi Array**	**27.90**	**37**	*ce*P	**P**	**02 55 51.7**	**+1.9**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**27.90**	**37**	P	**P**	**02 55 50.2**	**+0.4**
comp=Z,2.5nm,0.7s,baz=228,slow=8.3,SNR=12							
BVAR	**Borovoye Array**	**28.02**	**16**	P	**P**	**02 55 49.5**	**-1.2**
comp=Z,4.6nm,0.6s,baz=198,slow=7.6,SNR=23							
BRVK	**Borovoye**	**28.02**	**16**	*e*P	**P**	**02 55 49.9**	**-0.9**
comp=Z,8.0nm,1.1s							
BRVK	**Borovoye**	**28.02**	**16**	*i* P	**P**	**02 55 51.8**	**+1.1**
BRVK				pmax	pmax		
comp=Z,5.0nm,1.1s							
VSR	**Storozhevoye**	**28.43**	**335**	*i* P	**P**	**02 55 59.1**	**+4.7**
VSR				pmax	pmax		
comp=Z,5.0nm,0.7s							
KURBB	**Kurchatov Arra**	**28.73**	**28**	P	**P**	**02 55 56.7**	**-0.3**
comp=Z,2.1nm,0.7s,baz=227,slow=8.5,SNR=18							
KURK	**Kurchatov**	**28.84**	**28**	*e*P	**P**	**02 55 57.8**	**-0.2**
comp=Z,4.8nm,1.0s							
KURK	**Kurchatov**	**28.84**	**28**	*ce*P	**P**	**02 55 58.8**	**+0.8**
KURK				pmax	pmax		
comp=Z,4.0nm,1.3s							
IDI	**Anoyia**	**29.50**	**295**	P	**P**	**02 56 03.6**	**-0.7**
comp=Z,5.0nm,0.8s,baz=69,slow=11,SNR=5.6							
WMQ	**Urumqi**	**29.59**	**47**	*e*P	**P**	**02 56 06.9**	**+2.0**
WMQ				pP	sP	02 56 11.9	+2.2
WMQ				sP	pP	02 56 18.9	+11
WMQ				pmax	pmax		
comp=Z,50nm,0.7s							
KIS	**Kishinev**	**30.66**	**319**	*e*P	P	02 56 24.0	+10
KIS	**Kishinev**	**30.66**	**319**	*e*P	P	02 56 24.0	+10
MLR	**Muntele Rosu**	**31.70**	**315**	P	**P**	**02 56 23.8**	**+0.3**
comp=Z,2.9nm,0.9s,baz=112,slow=5.8,SNR=4.9							
ITM	**Ithomi**	**32.15**	**298**	*e*P	**P**	**02 56 26.4**	**-1.1**
comp=Z,7.1nm,0.8s							
DOPR	**Dopca**	**32.26**	**315**	⇑*i*P	**P**	**02 56 27.0**	**-1.3**
VTS	**Vitosha**	**32.44**	**308**	⇓*i*P	**P**	**02 56 28.7**	**-1.4**
VTS	**Vitosha**	**32.44**	**308**	⇓P	**P**	**02 56 28.7**	**-1.4**
OBN	**Obninsk**	**32.48**	**337**	*i* P	**P**	**02 56 31.7**	**+1.6**
OBN				pmax	pmax		
comp=Z,6.0nm,0.9s							
AKASG	**Malin Array Be**	**32.53**	**325**	*e*P	**P**	**02 56 30.6**	**0.0**
AKASG	**Malin Array Be**	**32.53**	**325**	⇑*e*P	P	02 56 36.6	+6.0
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**32.53**	**325**	P	**P**	**02 56 29.4**	**-1.2**
comp=Z,4.5nm,0.7s,baz=124,slow=8.1,SNR=9.6							
AKBB	**Malin Array Si**	**32.53**	**325**	*e*P	**P**	**02 56 30.2**	**-0.4**
comp=Z,9.8nm,0.8s							
AKBB	**Malin Array Si**	**32.53**	**325**	*e*P	**P**	**02 56 30.2**	**-0.4**
AKBB				pmax	pmax		
comp=Z,10.0nm,0.8s							
KIEV	**Kiev**	**32.53**	**325**	*e*P	**P**	**02 56 29.4**	**-1.2**
comp=Z,10.0nm,0.9s							
KIEV	**Kiev**	**32.53**	**325**	⇑*i*P	**P**	**02 56 29.7**	**-0.9**
KIEV	**Kiev**	**32.53**	**325**	⇑P	**P**	**02 56 29.7**	**-0.9**
BURAR	**Bucovina Array**	**33.10**	**318**	*e*P	**P**	**02 56 36.8**	**+1.0**
BURAR	**Bucovina Array**	**33.10**	**318**	⇓*i*P	**P**	**02 56 36.8**	**+1.0**
BURAR	**Bucovina Array**	**33.10**	**318**	⇓P	**P**	**02 56 36.8**	**+1.0**
BUR08	**Bucovina Ar. S**	**33.12**	**318**	*e*P	**P**	**02 56 38.0**	**+2.0**
comp=Z,3.3nm,1.0s							
FNA	**Florina**	**33.27**	**305**	*e*P	**P**	**02 56 37.0**	**-0.3**
comp=Z,12nm,0.7s							
FNA	**Florina**	**33.27**	**305**	*e*P	**P**	**02 56 37.0**	**-0.3**
FNA				pmax	pmax		
comp=Z,12nm,0.7s							
NVS	**Novosibirsk**	**33.77**	**26**	*e*P	**P**	**02 56 40.7**	**-0.7**
ZAA0	**Zalesovo Array**	**33.80**	**29**	*e*P	**P**	**02 56 42.1**	**+0.5**
comp=Z,5.2nm,0.9s							
ZALV	**Zalesovo Beam**	**33.80**	**29**	*e*P	**P**	**02 56 42.1**	**+0.4**
ZALV	**Zalesovo Beam**	**33.80**	**29**	*e*P	**P**	**02 56 42.1**	**+0.4**
ZALV	**Zalesovo Beam**	**33.80**	**29**	P	**P**	**02 56 38.7**	**-3.0**
comp=Z,2.3nm,0.3s,baz=225,slow=12,SNR=11							
ZAA1	**Zalesovo Array**	**33.80**	**29**	*e*P	**P**	**02 56 38.7**	**-3.0**
KMBO	**Kilima Mbogo**	**33.99**	**219**	*e*P	**P**	**02 56 44.3**	**+0.3**
comp=Z,10nm,1.5s							
KMBO	**Kilima Mbogo**	**33.99**	**219**	P	**P**	**02 56 44.3**	**+0.3**
comp=Z,1.9nm,0.7s,baz=36,slow=8.0,SNR=4.3			

KHC	Kasperske Hory	40.85	315	eP	P	02 57 39.1 -2.5
FIA0	FINESS Array S	40.89	337	eP	P	02 57 40.9 -0.8
FIA0	FINESS Array S	40.89	337	eP	P	02 57 40.9 -0.8
FIA1	FINESS Array S	40.89	337	eP	P	02 57 41.3 -0.4
	comp=Z,30nm,1.8s					
FINES	FINESS Array B	40.89	337	eP	P	02 57 41.0 -0.7
FINES	FINESS Array B	40.89	337	ceP	P	02 57 43.7 +2.0
FINES				pmax	pmax	
	comp=Z,3.0nm,0.5s					
FINES	FINESS Array B	40.89	337	P	P	02 57 40.9 -0.8
	comp=Z,2.6nm,0.5s,baz=123,slow=10,SNR=16					
ABTA	Abfaltersbach	40.92	312	eP	P	02 57 41.4 -0.9
	comp=Z,15nm,1.0s,SNR=5.7					
BRG	Berggiesshubel	41.17	318	eP	P	02 57 51.3 +7.2
	comp=Z,3.9nm,1.0s					
BRG				e		02 57 56.7
	comp=Z,3.8nm,1.1s					
BRG	Berggiesshubel	41.17	318	eP	P	02 57 51.3 +7.2
BRG				pmax	pmax	
	comp=Z,4.0nm,1.0s					
WTTA	Wattenberg	41.62	312	eP	P	02 57 46.7 -1.5
	comp=Z,40nm,1.5s					
WATA	Walderalm	41.68	312	eP	P	02 57 46.8 -1.8
	comp=Z,9.4nm,0.7s					
CLL	Collm	41.87	318	eP	P	02 57 52.3 +2.5
	comp=Z,4.8nm,0.9s					
CLL	Collm	41.87	318	eP	P	02 57 52.3 +2.5
CLL				pmax	pmax	
	comp=Z,5.0nm,0.9s					
CLL	Collm	41.87	318	eP	P	02 57 49.0 -0.9
CLL				e(sP)	sP	02 57 56.0 +1.3
	comp=Z,8.0nm,1.1s					
SQTA	Sankt Quirin	41.89	312	eP	P	02 57 48.7 -1.6
	comp=Z,17nm,0.6s,SNR=10.0					
MOTA	Moosalm	41.99	312	eP	P	02 57 49.7 -1.4
	comp=Z,11nm,0.7s,SNR=7.2					
FETA	Feichten	42.17	312	eP	P	02 57 51.3 -1.3
	comp=Z,18nm,1.0s					
KEST	Kesra	42.18	295	eP	P	02 57 54.2 +1.5
	comp=Z,6.9nm,0.9s					
KEST	Kesra	42.18	295	P	P	02 57 52.2 -0.5
	comp=Z,5.6nm,0.8s,baz=302,slow=1.3,SNR=10					
BSD	Bornholm Skovb	42.21	324	iP	P	02 57 50.9 -1.7
BSD				pmax	pmax	
	comp=Z,14nm,0.7s					
BSD	Bornholm Skovb	42.21	324	iP	P	02 57 50.9 -1.7
	comp=Z,14nm,0.7s					
FUORN	Ofenpass-Fuorn	42.41	311	eP	P	02 57 53.2 -1.4
	comp=Z,8.0nm,0.7s					
GRA1	Grafenberg Arr	42.48	316	eP	P	02 57 55.2 +0.3
	comp=Z,12nm,1.0s					
GRF	Grafenberg Arr	42.48	316	eP	P	02 57 55.2 +0.3
GRF				pmax	pmax	
	comp=Z,12nm,1.0s					
DAVOX	Davos/Dischmat	42.70	311	LR	LR	03 18 29.2
	comp=Z,3μm,19.1s,baz=36,slow=40					
DAVA	Damuels	42.79	312	eP	P	02 57 56.2 -1.5
	comp=Z,27nm,0.8s,SNR=6.8					
SONA0	Songino Array	43.22	47	eP	P	02 57 59.6 -1.5
SONM	Songino Array	43.22	47	eP	P	02 58 01.0 -0.1
SONM	Songino Array	43.22	47	P	P	02 57 59.6 -1.5
	comp=Z,1.6nm,0.8s,baz=257,slow=9.8,SNR=8.4					
APA	Apatity	43.64	347	iP	P	02 58 04.2 +0.2
APA				pmax	pmax	
	comp=Z,5.0nm,0.8s					
ULN	Ulaanbaatar	43.66	48	ceP	P	02 58 05.2 +0.5
ULN				pmax	pmax	
	comp=Z,3.0nm,1.0s					
BFO	Black Forest	44.02	313	ceP	P	02 58 13.3 +5.9
ECH	Echery	44.77	313	eP	P	02 58 12.3 -1.1
	comp=Z,9.3nm,1.0s					
ECH	Echery	44.77	313	eP	P	02 58 12.3 -1.1
ECH				pmax	pmax	
	comp=Z,9.0nm,1.0s					
HFS	Hagfors	45.04	330	LR	LR	03 18 15.4
	comp=Z,3μm,19.1s,baz=46,slow=38					
SSB	Saint Sauveur	46.17	308	eP	P	02 58 24.9 +0.4
	comp=Z,43nm,1.8s					
SSB	Saint Sauveur	46.17	308	eP	P	02 58 24.9 +0.4
SSB				pmax	pmax	
	comp=Z,43nm,1.8s					
HHC	Hu-ho-hao-te	46.17	58	eP	P	02 58 26.0 +1.3
HHC				pmax	pmax	
	comp=Z,60nm,1.0s					
NRIK	Noril'sk	46.19	14	P	P	02 58 23.4 -0.8
	comp=Z,3.1nm,0.6s,baz=195,slow=6.8,SNR=4.5					
NB2	NORSAR Subarra	46.54	331	P	P	02 58 24.9 -2.3
	comp=Z,1.1nm,0.6s,baz=114,slow=7.9					
NB200	NORSAR Array S	46.54	331	eP	P	02 58 25.9 -1.3
NOA	NORSAR Array B	46.54	331	P	P	02 58 25.9 -1.3
	comp=Z,0.5nm,0.6s,baz=133,slow=7.8,SNR=4.2					
ARA0	ARCESS Array S	46.95	345	eP	P	02 58 31.1 +0.8
ARCES	ARCESS Array B	46.95	345	P	P	02 58 31.1 +0.8
	comp=Z,1.9nm,0.6s,baz=144,slow=8.6,SNR=15					
TAM	Tamanrasset	47.47	277	eP	P	02 58 35.6 +0.4
	comp=Z,5.5nm,1.0s					
TAM	Tamanrasset	47.47	277	eP	P	02 58 35.6 +0.4
TAM				pmax	pmax	
	comp=Z,6.0nm,1.0s					
BOD	Bodaibo	49.97	35	eP	P	02 58 51.0 -2.7
BOD				pmax	pmax	
	comp=Z,10.0nm,1.7s					
ESDC	Sonseca Array	52.48	301	P	P	02 59 11.3 -1.6
	comp=Z,2.1nm,0.7s,baz=62,slow=7.9,SNR=16					
NJ2	Nanjing	52.83	69	eP	P	02 59 16.0 +0.5
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
TOA0	Torodi Ar. Sit	54.14	267	eP	P	02 59 25.2 -0.2
	comp=Z,12nm,1.0s					
TOA1	Torodi Ar. Sit	54.14	267	eP	P	02 59 23.9 -1.4
TORD	Torodi Ar. Bea	54.14	267	P	P	02 59 23.9 -1.4
	comp=Z,5.4nm,0.6s,baz=51,slow=7.3,SNR=15					
TIXI	Tiksi	59.03	20	iP	P	02 59 59.1 -0.2
TIXI				pmax	pmax	
	comp=Z,2.0nm,1.0s					
TIXI	Tiksi	59.03	20	P	P	02 59 58.5 -0.8
	comp=Z,0.6nm,0.3s,baz=329,slow=3.6,SNR=4.2					
KS15	Wonju Array Si	59.11	61	eP	P	03 00 01.1 +0.7
	comp=Z,14nm,0.7s					
KSAR	Wonju Array Be	59.11	61	P	P	03 00 01.1 +0.7
KSAR	Wonju Array Be	59.11	61	P	P	03 00 01.1 +0.7
KSRS	Korea Array	59.14	61	P	P	03 00 01.1 +0.5
	comp=Z,1.6nm,0.8s,baz=274,slow=7.7,SNR=4.6					
KLR	Kul'dur	60.04	47	iP	P	03 00 07.0 +0.3
KLR				pmax	pmax	
	comp=Z,3.0nm,1.0s					
DBIC	Dimbokro	62.70	264	eP	P	03 00 27.1 +1.9
	comp=Z,29nm,1.5s					
DBIC	Dimbokro	62.70	264	P	P	03 00 27.1 +1.9
	comp=Z,5.9nm,0.9s,baz=308,slow=6.2,SNR=3.6					
BOSA	Boshof	63.20	212	P	P	03 00 30.4 +2.1
	comp=Z,1.3nm,0.6s,baz=2.1,slow=9.1,SNR=3.1					
SUMG	Summit	66.76	341	eP	P	03 00 51.3 0.0
	comp=Z,10nm,1.0s					
SUMG	Summit	66.76	341	eP	P	03 00 51.3 0.0
SUMG				pmax	pmax	
	comp=Z,11nm,1.0s					
SEY	Seymchan	68.67	29	ceP	P	03 01 02.6 -0.3
SEY	Seymchan	68.67	29	P	P	03 01 03.5 +0.6
	comp=Z,4.7nm,0.7s,baz=267,slow=8.1,SNR=12					
BILL	Bilibino	72.17	22	iP	P	03 01 21.8 -2.5
BILL				pmax	pmax	
	comp=Z,2.0nm,0.9s					
IMAR	Indian Mountai	84.60	12	eP	P	03 02 33.8 +0.8
INK	Inuvik	85.02	4	eP	P	03 02 36.0 +1.0
	comp=Z,4.4nm,1.2s					
INK	Inuvik	85.02	4	P	P	03 02 34.3 -0.7
	comp=Z,1.5nm,0.6s,baz=180,slow=1.5,SNR=5.9					
MLY	Manley	86.02	12	eP	P	03 02 40.8 +0.7
	comp=Z,2.2nm,0.8s					
BPAW	Bear Paw Mtn.	86.82	12	eP	P	03 02 45.7 +1.6
	comp=Z,9.3nm,1.1s					
ILAR	Eielson Array	86.92	10	P	P	03 02 44.7 +0.1
	comp=Z,0.6nm,0.8s,baz=336,slow=4.2,SNR=4.8					
ILB	Eielson Array	86.92	10	eP	P	03 02 44.7 +0.1
	comp=Z,5.2nm,1.4s					
CAST	Castle Rocks	87.22	13	eP	P	03 02 47.6 +1.5
	comp=Z,5.7nm,0.9s					
WRA	Warramunga Arr	87.33	114	P	P	03 02 45.9 -1.3
	comp=Z,1.4nm,0.7s,baz=315,slow=4.0,SNR=11					
WR1	Warramunga Arr	87.33	114	eP	P	03 02 45.9 -1.3
MCK	McKinley	87.53	12	eP	P	03 02 48.1 +0.6
	comp=Z,17nm,1.4s					
MCK	McKinley	87.53	12	eP	P	03 02 48.1 +0.6
MCK				pmax	pmax	
	comp=Z,17nm,1.4s					
DAWY	Dawson	88.64	8	eP	P	03 02 53.3 +0.5
	comp=Z,6.5nm,1.2s					
AS31	Alice Springs	88.80	117	eP	P	03 02 53.1 -1.1
	comp=Z,4.6nm,1.6s					
ASAR	Alice Springs	88.80	117	P	P	03 02 53.1 -1.1
	comp=Z,0.6nm,0.7s,baz=309,slow=4.6,SNR=5.5					
YKA	Yellowknife Ar	91.03	357	eP	P	03 03 06.3 +2.4
YKA				pmax	pmax	
	comp=Z,1.0nm,0.7s					
YKA	Yellowknife Ar	91.03	357	P	P	03 03 05.4 +1.4
	comp=Z,0.5nm,0.7s,baz=357,slow=4.8,SNR=7.7					
YKB5	Yellowknife Ar	91.03	357	eP	P	03 03 05.4 +1.4

*ISCJB **11** 02:55:02.9±0.6, 26°.47N±0°.05×57°.5E±0°.1, h10km, mb3.5/7, Error ellipse: s-maj=16.8km s-min=7.1km az=166.4*
*IDC **11** 02:55:03.0±1.4, 26°.48N×57°.43E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.4/53, mbtmp3.6/8, ML3.6/1, Error ellipse: s-maj=28.4km s-min=24.7km az=126.0*
*OMAN **11** 02:55:12.1±1.1, 26°.02N×57°.57E, h25km, Error ellipse: s-maj=25.4km s-min=6.7km az=232.0*

ISC 11 02:55:04.2±0.8, 26°.47N±0°.07×57°.5E±0°.1, h10km, n13, σ1§05/14, mb3.5/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MDH	Madha	1.62	224	P	Pn	Pg	02 55 35.9	+0.6
	SNR=9.1							
SOHO	SOHO	2.50	202	P	Pn		02 55 45.7	+0.8
	SNR=20							
BIDO	Bidbid	2.98	170	P	Pn		02 55 51.5	-0.1
	SNR=14							
WSAR	Wadi Sarin	3.37	163	Pn	Pn		02 55 57.2	+0.3
	5.4nm,0.3s,baz=341,slow=6.3,SNR=24							
WSAR				Sn	Sn		02 56 35.6	-1.4
	4.2nm,0.3s,baz=90,slow=20,SNR=6.6							
JLN	Jalan Bani Buh	4.63	158	P	Pn		02 56 15.0	+0.8
	SNR=11							
AAK	Ala-Archa	21.27	36	P	P		02 59 52.0	+1.2
	1.1nm,0.6s,baz=180,slow=11,SNR=2.4							
BRTR	Keskin Array B	23.91	310	P	P		03 00 19.0	+0.7
	1.5nm,0.8s,baz=127,slow=11,SNR=6.3							
AKTO	Aktyubinsk	23.93	1	P	P		03 00 19.3	+1.1
	1.6nm,0.7s,baz=146,slow=10,SNR=4.2							
KURBB	Kurchatov Arra	28.97	28	P	P		03 01 04.5	+0.8
	0.3nm,0.5s,baz=217,slow=7.2,SNR=2.9							
GERES	GERESS Array B	40.54	315	P	P		03 02 43.0	-0.6
	0.8nm,0.8s,baz=115,slow=9.0,SNR=6.4							
KHC	Kasperske Hory	40.70	316	eP	P		03 02 44.4	-0.5
FINES	FINESS Array B	40.87	337	P	P		03 02 44.0	-2.0
	0.5nm,0.5s,baz=129,slow=11,SNR=3.7							
TORD	Torodi Ar. Bea	53.82	267	P	P		03 04 27.2	-0.3
	1.5nm,0.9s,baz=73,slow=7.3,SNR=4.9							

*DSN **11** 03:03:23.0±4.0, 26°.90N×58°.15E, h10km, ML4.8/9, Error ellipse: s-maj=62.1km s-min=17.1km az=177.0*
*ISCJB **11** 03:03:25.8±0.1, 26°.63N±0°.02×57°.83E±0°.02, h10km, mb4.7/168, Error ellipse: s-maj=2.7km s-min=2.4km az=170.9*
*IDC **11** 03:03:25.8±0.6, 26°.72N×57°.92E, h0km, mb4.3/30, mb1 4.4/33, mb1mx4.3/46, mbtmp4.4/33, ML4.3/2, Error ellipse: s-maj=13.6km s-min=12.0km az=146.0*
*THR **11** 03:03:26.5, 26°.66N×57°.76E, h15km, ML4.7*
*MOS **11** 03:03:26.3±1.0, 26°.71N×57°.85E, h12km, mb5.0/90, Error ellipse: s-maj=5.9km s-min=3.3km az=120.8*
*TEH **11** 03:03:27.1, 26°.66N×57°.92E, h15km, ML5.0*
*NEIC **11** 03:03:27.2±0.0, 26°.68N×57°.90E, h16km, mb4.8/72, ML4.7(THR), MN4.8(TEH), After TEH.*
*BJI **11** 03:03:29.8±0.0, 26°.82N×58°.01E, h17km, mb4.7/25, mB5.0/11, Ms5.2/6, Ms7 5.0/6*
*OMAN **11** 03:03:32.5±0.7, 26°.32N×57°.74E, h24km, ml4.7/13, Error ellipse: s-maj=13.7km s-min=3.9km az=232.0*

ISC 11 03:03:27.6±0.3, 26°.61N±0°.03×57°.83E±0°.03, h10km, n528, σ1§46/537, mb4.8/174, 18C-17D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.30	317	Pg	Pb		03 03 52.4	+0.2
NIAN	Nian	1.30	317	ePg	Pn		03 03 52.3	+0.4
NIAN				eSg	Sg		03 04 12.5	+3.0
NIAN				IAMB	IAmb		03 04 35.5	
	comp=Z,0.0nm,2.0s							
SHME	Shamm	1.62	250	Pn	Pg		03 03 59.4	+0.8
SHME	Shamm	1.62	250	eP	Pn		03 03 56.2	-0.1
	SNR=106							
SHME				S	Sg		03 04 22.6	+2.9
SHME	Shamm	1.62	250	ePn	Pg		03 03 59.5	+0.8
GENO	Geno	1.68	298	Pn	Pb		03 03 58.6	-0.2
GENO	Geno	1.68	298	ePn	Pb		03 03 59.3	+0.5
BNDS	Bandar-Abbas	1.68	298	eAML	AML		03 04 24.9	
	comp=N,8μm,0.6s							
MDH	Madha	1.90	227	P	Pn		03 03 59.3	-0.8
	SNR=111							
MDH	Madha	1.90	227	ePn	Pn		03 03 59.0	-1.1
MSFE	Esma-Masafi	1.95	231	eP	Pn		03 04 00.0	-0.8
	SNR=91							
MSFE	Esma-Masafi	1.95	231	ePn	Pn		03 04 00.1	-0.8
UMQ	Umm Al-Quwin	2.23	242	P	Pb		03 04 08.6	+0.5
	SNR=13							
UMQ	Umm Al-Quwin	2.23	242	ePn	Pb		03 04 09.0	+1.0
HATD	Hatta, Dubai	2.35	221	Pn	Pn		03 04 05.4	-0.9
HATD	Hatta, Dubai	2.35	221	eP	Pn		03 04 04.8	-1.5
	SNR=20							
HATD	Hatta, Dubai	2.35	221	ePn	Pn		03 04 05.4	-0.9
ASHO	Ashiyiah	2.50	220	Pn	Pn		03 04 04.5	-3.8
ASHO	Ashiyiah	2.50	220	eP	Pn		03 04 09.0	+0.6
	SNR=59							
ASHO	Ashiyiah	2.50	220	ePn	Pn		03 04 04.6	-3.8
NAZ	Nazwa, Dubai	2.54	231	eP	Pn		03 04 10.7	+1.9
	SNR=52							
NAZ	Nazwa, Dubai	2.54	231	P	Pn		03 04 11.2	+2.3
	SNR=75							
NAZ	Nazwa, Dubai	2.54	231	ePn	Pn		03 04 11.2	+2.3
CHBR	Chabahar	2.59	112	Pn	Pn		03 04 10.9	+1.4
CHBR	Chabahar	2.59	112	ePn	Pn		03 04 10.9	+1.4
CHBR	Chabahar	2.59	112	ePn	Pn		03 04 10.9	+1.4
SOHO	SOHO	2.73	206	P	Pn		03 04 10.4	-1.2
	SNR=38							
FAQ	Al Faqa, Dubai	2.74	228	iP	Pn		03 04 14.0	+2.3
	SNR=75							
FAQ	Al Faqa, Dubai	2.74	228	P	Pn		03 04 14.2	+2.4
	SNR=12							
FAQ	Al Faqa, Dubai	2.74	228	ePn	Pn		03 04 14.2	+2.4
ASUD	Al Ashush, Dub	3.00	229	Pn	Pn		03 04 18.3	+3.0
ASUD	Al Ashush, Dub	3.00	229	iP	Pn		03 04 17.9	+2.6
	SNR=26							
ASUD	Al Ashush, Dub	3.00	229	P	Pn		03 04 18.0	+2.8
	SNR=18							
ASUD	Al Ashush, Dub	3.00	229	ePn	Pn		03 04 18.4	+3.1
HOQ	Hoqain	3.05	189	P	Pn		03 04 15.4	-0.6
	SNR=20							
HOQ				S	Sn		03 04 50.3	-2.2
HOQ	Hoqain	3.05	189	ePn	Pn		03 04 15.2	-0.8
BIDO	Bidbid	3.08	175	Pn	Pn		03 04 15.6	-0.8
BIDO	Bidbid	3.08	175	P	Pn		03 04 15.8	-0.6
	SNR=20							
BIDO				S	Sn		03 04 51.3	-2.1
BIDO	Bidbid	3.08	175	ePn	Pn		03 04 15.6	-0.8
ALNE	Al Ain	3.16	217	Pn	Pn		03 04 19.6	+2.1
ALNE	Al Ain	3.16	217	iP	Pn		03 04 19.4	+1.8
	SNR=13							
ALNE	Al Ain	3.16	217	ePn	Pn		03 04 19.7	+2.2
NGRK	Negar Kerman	3.18	342	Pn	Pn		03 04 19.4	+1.4
NGRK	Negar Kerman	3.18	342	ePn	Pn		03 04 19.5	+1.4
NGRK				IAMB	IAmb		03 05 20.3	
	comp=Z,0.0nm,1.4s							
CHMN	Cheshme madani	3.25	355	Pn	Pn		03 04 21.7	+2.7
CHMN	Cheshme madani	3.25	355	ePn	Pn		03 04 21.7	+2.7
CHMN				IAMB	IAmb		03 11 46.9	
	comp=N,0.0nm,1.4s							
AJN	Ajban	3.28	232	iP	Pn		03 04 20.4	+1.3
	SNR=11							
AJN	Ajban	3.28	232	ePn	Pn		03 04 21.1	+2.0
WSAR	Wadi Sarin	3.43	168	Pn	Pn		03 04 21.6	+0.4
	comp=N,46nm,0.3s,baz=7.4,slow=9.9,SNR=65							
WSAR				Sn	Sn		03 04 59.4	-2.6
	comp=N,71nm,0.3s,baz=290,slow=18,SNR=4.9							
TVBK	TV Kerman	3.50	345	Pn	Pn		03 04 24.7	+2.3
TVBK	TV Kerman	3.50	345	IAMB	IAmb		03 05 45.7	
	comp=Z,0.0nm,1.4s							
SMDO	Samad	3.54	177	P	Pn		03 04 22.9	+0.2
	SNR=17							
SMDO				S	Sn		03 05 05.1	+0.3
SZD1	Zahaedan-tmp	3.92	42	ePn	Pn		03 04 29.0	+0.9
KHGB	Koh Gabri	3.94	343	ePn	Pn		03 04 30.2	+1.8
KHGB				IAMB	IAmb		03 05 44.9	
	comp=Z,0.0nm,0.9s							
ZHSF	Zahedan	3.96	40	Pn	Pn		03 04 28.9	+0.3
ZHSF	Zahedan	3.96	40	eP	Pn		03 04 29.0	+0.3
ZHSF	Zahedan	3.96	40	ePn	Pn		03 04 28.9	+0.3
WBK	Wadi Bani Khal	4.11	165	P	Pn		03 04 32.3	+1.7
	SNR=15							
WBK				S	Sn		03 05 15.3	-3.5
JHRM	Jahrom	4.22	298	ePn	Pn		03 04 34.0	+1.8
GHIR	Ghir-Karzin	4.62	292	Pn	Pn		03 04 37.4	-0.2
GHIR	Ghir-Karzin	4.62	292	ePn	Pn		03 04 37.5	-0.2
GHIR	Ghir-Karzin	4.62	292	eP	Pn		03 04 37.5	-0.2
JLN	Jalan Bani Buh	4.67	162	P	Pn		03 04 37.7	-0.5
	SNR=20							
ISRV	Sarvestan	5.00	305	Pn	Pn		03 04 43.9	+0.8
ISRV	Sarvestan	5.00	305	ePn	Pn		03 04 43.6	+0.5
IMEH	Mehriz	5.54	330	ePn	Pn		03 04 50.5	+0.1
SHI	Shiraz	5.59	304	ePn	Pn		03 04 50.6	-0.4
IKAZ	Kazeroun	6.16	302	Pn	Pn		03 04 58.8	-0.2
IKAZ	Kazeroun	6.16	302	ePn	Pn		03 04 58.9	-0.1
ITEG	Tejag	6.32	7	Pn	Pn		03 05 01.4	+0.4
ITEG	Tejag	6.32	7	ePn	Pn		03 05 01.8	+0.8
IDAH	Dahanechah	6.36	16	Pn	Pn		03 05 06.1	+4.4
IDAH	Dahanechah	6.36	16	ePn	Pn		03 05 06.2	+4.5
ICHK	Chekchek	6.36	333	ePn	Pn		03 05 01.9	+0.2
ISAD	Sadrabad	6.41	327	ePn	Pn		03 05 03.0	+0.6
YZKH	Yazd	6.42	335	ePn	Pn		03 05 02.3	0.0
YZKH	Yazd	6.42	335	ePn	Pn		03 05 02.3	0.0
TPRV	Parvadeh(Tabas	6.48	351	ePn	Pn		03 05 03.8	+0.7
TKDS	Koohdasht(Taba	7.01	355	ePn	Pn		03 05 12.1	+1.6
IRAM	Ramesheh	7.04	319	ePn	Pn		03 05 09.9	-1.1
TNSJ	Nastanj	7.41	352	ePn	Pn		03 05 16.2	+0.3
ANAR	Anarak	7.46	332	ePn	Pn		03 05 16.9	+0.2
IZEF	Zefreh	7.88	324	Pn	Pn		03 05 22.3	-0.3
IZEF	Zefreh	7.88	324	ePn	Pn		03 05 22.1	-0.5
ZNGN	Zangian	8.20	314	ePn	Pn		03 05 26.6	-0.4
ROKH	ROKH	8.23	316	ePn	Pn		03 05 25.8	-1.6
JHBN	Jahan bin	8.39	314	ePn	Pn		03 05 29.0	-0.6
IPIR	Pirpir	8.55	317	Pn	Pn		03 05 32.1	+0.3
IPIR	Pirpir	8.55	317	ePn	Pn		03 05 32.2	+0.4
IKLH	Kolahrood	8.61	322	Pn	Pn		03 05 34.3	+1.7
IKLH	Kolahrood	8.61	322	ePn	Pn		03 05 34.4	+1.8
ISFB	Sefidab	9.10	329	ePn	Pn		03 05 39.8	+0.7
DMTO	DMTO	9.24	197	P	Pn		03 05 40.1	-1.0
	SNR=7.7							
WHFO	Wadi Hawf	9.43	204	P	Pn		03 05 42.4	-1.3
	SNR=8.9							
IANJ	Anjilo	9.45	340	Pn	Pn		03 05 44.7	+0.7
IANJ	Anjilo	9.45	340	ePn	Pn		03 05 44.8	+0.7
JRKH	Jarkhoshk	9.52	12	ePn	Pn		03 05 47.3	+2.4
RBK	Rabkut	9.66	201	P	Pn		03 05 47.1	+0.3
	SNR=6.0							
SBZV	Sabzevar	9.75	359	ePn	Pn		03 05 49.3	+1.1
IPAY	Payeh	9.86	5	ePn	Pn		03 05 52.0	+2.3
IVRN	Varamin	9.87	329	ePn	Pn		03 05 50.3	+0.6
IMYA	Miami	9.89	11	ePn	Pn		03 05 52.9	+2.8
IAKL	Akhelmad	9.99	4	Pn	Pn		03 05 53.9	+2.3
IAKL	Akhelmad	9.99	4	ePn	Pn		03 05 53.9	+2.3
ABTO	Aybut	10.12	205	P	Pn		03 05 51.9	-1.3
	SNR=6.2							
ABTO				S	Sn		03 07 39.2	-7.7
IKRD	Kardeh	10.15	3	ePn	Pn		03 05 56.1	+2.4
IKIA	Kiasar	10.20	341	ePn	Pn		03 05 55.8	+1.4
IDMV	Damavand	10.23	332	Pn	Pn		03 05 56.8	+2.0
IDMV	Damavand	10.23	332	ePn	Pn		03 05 56.8	+2.0
ISFR	Sfrayin	10.42	1	ePn	Pn		03 05 58.9	+1.6
IKMR	Kamar-syah	10.70	312	ePn	Pn		03 05 59.6	-1.3
IDOB	Doab	10.99	313	ePn	Pn		03 06 04.0	-1.2
HAGD	Aghdareh	11.09	320	ePn	Pn		03 06 06.7	+0.2
GEYT	Alibeck	11.29	1	Pn	Pn		03 06 10.1	+1.0
	comp=Z,0.6nm,0.3s,baz=190,slow=13,SNR=11							
GEYT				Lg	Lg		03 09 22.7	
	comp=Z,0.4nm,0.3s,baz=247,slow=19,SNR=2.3							
GYA0B	ALIBECK ARRAY	11.29	1	ePn	Pn		03 06 08.4	-0.7
QABG	Abgarm-Qazvin	11.49	324	ePn	Pn		03 06 12.6	+0.6
QALM	Alamut, Qazvin	11.55	330	ePn	Pn		03 06 13.5	+0.7
IKOM	Komasi	11.67	313	Pn	Pn		03 06 12.9	-1.5
IKOM	Komasi	11.67	313	ePn	Pn		03 06 12.9	-1.5
IGZV	Ghazvin	11.71	328	ePn	Pn		03 06 15.0	0.0
IVIS	Veis	12.32	312	ePn	Pn		03 06 20.5	-2.7
IGHG	Ghaleghazi	12.39	311	ePn	Pn		03 06 23.3	-1.0
KBL	Kabul	12.47	48	ePn	Pn		03 06 25.6	+0.1
KBL	Kabul	12.47	48	eP	Pn		03 06 25.6	+0.1
ILIN	Lien	12.48	314	ePn	Pn		03 06 22.8	-2.8
IDHR	Dehrash	12.73	312	ePn	Pn		03 06 25.9

comp=Z,700nm,8.9s
KSH LR LR
comp=Z,9μm,15.5s
KSH LR LR
comp=Z,4μm,11.8s
KSH LR LR
comp=Z,6μm,14.4s
KARJ 19.93 288 P **Pn** **03 08 03.2 +1.9**
comp=Z,81nm,0.8s
GHAJ Ghor Haditha 20.03 289 P **P** **03 08 01.1 +0.4**
comp=Z,79nm,1.2s
SHMJ Saham 20.11 293 P Pn 03 08 05.2 +1.7
comp=Z,151nm,0.9s
AML Almayashu 20.22 36 P **P** **03 08 01.7 -1.5**
SNR=12
AQBJ Aqaba 20.32 284 P Pn 03 08 05.8 -0.2
comp=Z,103nm,0.8s
EIL Elat 20.40 284 P Pn 03 08 16.6 +10
EIL Elat 20.40 284 P **P** **03 08 05.5 +0.6**
comp=Z,42nm,0.8s,baz=81,slow=2.6,SNR=33
NCK Nalchik 20.44 329 *i* P **P** **03 08 05.4 +0.3**
NCK pmax pmax
comp=Z,33nm,1.0s
MMAI Mount Meron Ar 20.46 294 P **P** **03 08 06.1 +0.5**
comp=Z,21nm,0.8s,baz=96,slow=13,SNR=26
MMAI S **S** **03 11 48.1 -6.6**
comp=Z,7.6nm,0.7s,baz=101,slow=32,SNR=5.1
ATD Arta Tunnel 20.60 226 *eP* **P** **03 08 08.0 +0.9**
comp=Z,282nm,2.0s
ATD Arta Tunnel 20.60 226 P **P** **03 08 08.2 +1.1**
comp=Z,36nm,0.9s,baz=15,slow=5.9,SNR=18
AMAZ Amatzia 20.61 289 P **P** **03 08 07.3 +0.2**
comp=Z,116nm,1.2s
EKS2 Erkin-Say 20.64 35 P **P** **03 08 06.6 -0.9**
SNR=13
UCH Uchtor 20.73 37 P **P** **03 08 07.4 -1.4**
SNR=11
KBZ Khabaz 20.94 328 P **P** **03 08 11.2 +0.7**
comp=Z,2.0nm,0.8s,baz=121,slow=12,SNR=3.1
AAK Ala-Archa 21.00 36 P **P** **03 08 10.8 -0.7**
SNR=10
AAK Ala-Archa 21.00 36 *eP* **P** **03 08 10.7 -0.7**
comp=Z,174nm,2.0s
AAK Ala-Archa 21.00 36 *i* P **P** **03 08 09.6 -1.8**
AAK pmax pmax
comp=Z,21nm,1.1s
AAK Ala-Archa 21.00 36 P **P** **03 08 10.7 -0.7**
comp=Z,12nm,0.8s,baz=205,slow=9.6,SNR=19
KZA Kyzart 21.03 38 P **P** **03 08 12.8 +0.8**
SNR=27
NRN Naryn 21.04 41 *eP* **P** **03 08 10.8 -1.2**
comp=Z,16nm,0.8s
NRN Naryn 21.04 41 *eP* **P** **03 08 10.8 -1.2**
NRN pmax pmax
comp=Z,16nm,0.8s
KIV Kislovodsk 21.21 329 *eP* **P** **03 08 13.2 -0.3**
comp=Z,85nm,1.6s
KIV Kislovodsk 21.21 329 *eP* **P** **03 08 13.4 -0.2**
KIV pmax pmax
comp=Z,90nm,1.1s
HYB Hyderabad 21.25 111 *i* P **P** **03 08 15.0 +0.9**
BOOM Boomskoye usch 21.69 38 *eP* **P** **03 08 18.2 -0.6**
comp=Z,58nm,1.3s
BOOM Boomskoye usch 21.69 38 *eP* **P** **03 08 18.2 -0.6**
BOOM pmax pmax
comp=Z,58nm,1.3s
TKM2 Tokmak 2 21.79 37 P **P** **03 08 23.8 +3.9**
SNR=7.6
KDJ Kajisay 22.16 41 *eP* **P** **03 08 22.6 -1.3**
comp=Z,67nm,0.9s
KDJ Kajisay 22.16 41 *eP* **P** **03 08 22.6 -1.3**
KDJ pmax pmax
comp=Z,67nm,0.9s
TARG Taragay, Kyrgy 22.29 42 *eP* **P** **03 08 24.9 -0.7**
comp=Z,14nm,0.9s
PYUN Piuthan 22.39 80 *eP* **P** **03 08 29.7 +3.2**
comp=Z,149nm,1.5s
SOC Sochi 22.43 324 *eP* **P** **03 08 25.0 -1.5**
SOC *eS* **S** **03 12 30.1 -2.6**
SOC pmax pmax
comp=Z,33nm,1.0s
CSS Mathiatis 22.60 298 *eP* **P** **03 08 27.6 -0.8**
comp=Z,37nm,1.0s
ABKAR Akbulak array 22.67 4 *eP* **P** **03 08 27.3 -1.8**
KOLN Koldanda 22.94 81 *eP* **P** **03 08 33.6 +1.3**
comp=Z,67nm,1.2s
DANN Dangsing 23.06 80 *eP* **P** **03 08 34.4 +0.8**
comp=Z,268nm,1.1s
AKTO Aktyubinsk 23.79 0 P **P** **03 08 39.2 -1.2**
comp=Z,23nm,0.7s,baz=176,slow=9.4,SNR=44
BR101 Keskin Array S 24.02 309 *eP* **P** **03 08 42.5 -0.3**
BR131 Keskin Array S 24.02 309 *eP* **P** **03 08 43.0 +0.1**
comp=Z,28nm,0.9s
BRTR Keskin Array B 24.02 309 *eP* **P** **03 08 41.7 -1.2**
BRTR Keskin Array B 24.02 309 P **P** **03 08 42.5 -0.3**
comp=Z,16nm,0.8s,baz=120,slow=11,SNR=70
SNOP Sinop 24.10 315 *eP* **P** **03 08 43.8 +0.4**
comp=Z,53nm,1.1s
PDGK Podgornoye 24.25 41 P **P** **03 08 44.3 -0.6**
PDGK pmax pmax
comp=Z,36nm,1.3s
OTUK Ortayu 24.40 24 P **P** **03 08 45.7 -0.4**
OTUK pmax pmax
comp=Z,23nm,1.3s
ANN Anapa 24.46 323 *eP* **P** **03 08 46.5 -0.2**
ANN *eS* **S** **03 13 05.3 -1.4**
ANN pmax pmax
comp=Z,104nm,1.4s
PKI Pulchoki 24.55 81 *eP* **P** **03 08 48.2 +0.1**
comp=Z,54nm,1.1s
ILGA Ilgaz 24.57 312 *eP* **P** **03 08 48.3 +0.3**
comp=Z,39nm,1.3s
ANTO Ankara 24.67 309 *eP* **P** **03 08 48.6 -0.2**
comp=Z,34nm,1.0s
ANTO Ankara 24.67 309 ⇓*iP* **P** **03 08 48.6 -0.2**
ANTO Ankara 24.67 309 ⇓P **P** **03 08 48.6 -0.2**
BR231 Keskin MP Arra 24.67 309 *eP* **P** **03 08 49.3 +0.5**
comp=Z,26nm,0.8s
JIRN Jiri 25.24 81 *eP* **P** **03 08 53.7 -0.6**
comp=Z,40nm,0.9s
RAMN Ramite 25.66 83 *eP* **P** **03 08 56.4 -1.7**
ARG Arkhangelos 27.01 298 P **P** **03 09 10.6 +0.7**
ARG pmax pmax
comp=Z,25nm,1.0s
VRH Novokhopyorsk 27.45 338 *eP* **P** **03 09 13.6 0.0**
VRH pmax pmax
comp=Z,10.0nm,0.7s
MAKZ Makanchi 27.76 37 *eP* **P** **03 09 16.1 -0.4**
comp=Z,16nm,1.3s
MK31 Makanchi Array 27.92 37 *eP* **P** **03 09 17.2 -0.7**
comp=Z,4.5nm,0.9s
MK32 Makanchi Array 27.92 37 *eP* **P** **03 09 17.4 -0.5**
MKAR Makanchi Array 27.92 37 *eP* **P** **03 09 16.9 -1.0**
MKAR Makanchi Array 27.92 37 *eP* **P** **03 09 16.9 -1.0**
MKAR Makanchi Array 27.92 37 P **P** **03 09 17.4 -0.5**
comp=Z,0.9nm,0.7s,baz=222,slow=8.5,SNR=4.2
BVAR Borovoye Array 28.01 16 P **P** **03 09 16.9 -1.7**
comp=Z,2.3nm,0.4s,baz=201,slow=7.9,SNR=15
BRVK Borovoye 28.01 16 *eP* **P** **03 09 18.3 -0.4**
comp=Z,12nm,1.2s
BRVK Borovoye 28.01 16 *i* P **P** **03 09 20.6 +2.0**
BRVK pmax pmax
comp=Z,7.0nm,1.1s
VSR Storozhevoye 28.38 335 *i* P **P** **03 09 20.9 -1.0**
VSR pmax pmax
comp=Z,8.0nm,0.8s
KURBB Kurchatov Arra 28.73 28 P **P** **03 09 23.9 -1.2**
comp=Z,5.1nm,1.0s,baz=228,slow=8.3,SNR=12
KURK Kurchatov 28.84 28 *i* P **P** **03 09 28.5 +2.5**
KURK pmax pmax
comp=Z,6.0nm,0.9s
SANT Santorini 29.16 297 *eP* **P** **03 09 28.4 -0.7**
comp=Z,27nm,0.7s
IDI Anoyia 29.44 295 P **P** **03 09 31.5 -0.2**
comp=Z,15nm,0.8s,baz=95,slow=9.6,SNR=11
LPSR Galich'ya Gora 29.58 336 *eP* **P** **03 09 33.4 +0.8**
LPSR pmax pmax
comp=Z,8.0nm,0.7s
WMQ Urumqi 29.61 47 *eP* **P** **03 09 35.9 +2.8**
WMQ sP sP 03 09 45.0 +7.1
WMQ PP **PnPn** **03 10 32.6 +4.9**
WMQ pmax pmax
comp=Z,42nm,0.9s
WMQ pmax pmax
comp=Z,280nm,8.7s
WMQ LR LR
comp=Z,25μm,26.5s
WMQ LR LR
comp=Z,19μm,26.5s
WMQ LR LR
comp=Z,8μm,26.5s
ARU Arti 29.80 1 P **P** **03 09 36.0 +1.5**
ARU 03 10 29.0
ARU S **S** **03 14 31.9 +1.0**
ARU SS **SnSn** **03 16 02.1 +1.2**
SVE Sverdlovsk 30.26 3 *eP* **P** **03 09 37.8 -0.8**
PAIG Paliouri 31.30 304 P **P** **03 09 52.1 +4.2**
PAIG pmax pmax
comp=Z,10.0nm,1.1s
PLOR Plostina 31.36 316 ⇑*iP* **P** **03 09 49.0 +0.6**
PLOR Plostina 31.36 316 ⇑P **P** **03 09 49.0 +0.6**
MLR Muntele Rosu 31.64 315 *eP* **P** **03 09 50.9 -0.1**
comp=Z,13nm,1.1s
MLR Muntele Rosu 31.64 315 ⇑*iP* **P** **03 09 52.4 +1.4**
MLR Muntele Rosu 31.64 315 *eP* **P** **03 09 50.9 -0.1**
MLR pmax pmax
comp=Z,13nm,1.1s
TESR Tescani 31.66 317 ⇓*iP* **P** **03 09 50.4 -0.7**
SRS Serrai 31.68 306 P **P** **03 09 51.5 +0.2**
SRS pmax pmax
comp=Z,17nm,1.0s
SOH Sokhos 31.77 305 P **P** **03 09 53.4 +1.3**
SOH pmax pmax
comp=Z,13nm,0.9s
HUMR Humele 31.87 313 ⇑*iP* **P** **03 09 50.5 -2.4**
ITM Ithomi 32.09 298 *eP* **P** **03 09 54.4 -0.6**
comp=Z,10nm,0.6s
AGG Agios Georgios 32.10 302 *eP* **P** **03 09 53.5 -1.6**
comp=Z,7.8nm,0.9s
AGG Agios Georgios 32.10 302 *eP* **P** **03 09 53.5 -1.6**
AGG pmax pmax
comp=Z,8.0nm,0.9s
VOIR 32.19 314 ⇓*iP* **P** **03 09 56.3 +0.5**
VOIR 32.19 314 ⇓P **P** **03 09 56.3 +0.5**
KNT Kendrikon 32.19 306 P **P** **03 09 57.3 +1.5**
KNT pmax pmax
comp=Z,6.0nm,1.1s
BIZ Bicaz 32.20 317 ⇓*iP* **P** **03 09 54.4 -1.3**
DOPR Dopca 32.20 315 ⇑*iP* **P** **03 09 55.2 -0.6**
VTS Vitosha 32.38 308 ⇑*iP* **P** **03 09 57.5 -0.1**
VTS Vitosha 32.38 308 ⇑P **P** **03 09 57.5 -0.1**
ARR Arges 32.43 314 ⇑*iP* **P** **03 09 58.2 +0.3**
OBN Obninsk 32.44 337 *eP* **P** **03 09 57.1 -0.6**
comp=Z,26nm,1.2s
OBN Obninsk 32.44 337 *i* P **P** **03 09 56.6 -1.1**
OBN *i* 03 10 03.1
OBN pmax pmax
comp=Z,13nm,1.0s
OBN Obninsk 32.44 337 P **P** **03 09 57.1 -0.6**
comp=Z,2.9nm,0.4s,baz=100,slow=22,SNR=3.8
VAY Valandovo 32.47 306 *i* P P 03 09 51.2 -7.1
AKASG Malin Array Be 32.48 325 *eP* **P** **03 09 57.3 -0.8**
AKASG Malin Array Be 32.48 325 *eP* **P** **03 09 57.5 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 32.48 325 P **P** **03 09 56.6 -1.5**
comp=Z,3.2nm,0.5s,baz=126,slow=8.0,SNR=26
AKBB Malin Array Si 32.48 325 *eP* **P** **03 09 56.9 -1.2**
comp=Z,14nm,0.8s
AKBB Malin Array Si 32.48 325 *eP* **P** **03 09 56.9 -1.2**
AKBB pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 32.48 325 *eP* **P** **03 09 56.8 -1.3**
comp=Z,14nm,0.8s
KIEV Kiev 32.48 325 ⇓*iP* **P** **03 09 57.0 -1.2**
KIEV Kiev 32.48 325 *i* P **P** **03 09 55.7 -2.5**
KIEV pmax pmax
comp=Z,14nm,0.9s
MOS Moscow 32.59 339 *eP* **P** **03 09 55.7 -3.3**
STIP Stip 32.85 306 *i* P **P** **03 09 59.8 -1.8**
BURAR Bucovina Array 33.05 318 *eP* **P** **03 10 02.0 -1.2**
BURAR Bucovina Array 33.05 318 ⇑*iP* **P** **03 10 02.1 -1.2**
BURAR Bucovina Array 33.05 318 ⇑P **P** **03 10 02.1 -1.2**
BUR08 Bucovina Ar. S 33.07 318 *eP* **P** **03 10 02.9 -0.6**
comp=Z,6.9nm,1.1s
SRE Strehaia 33.09 312 ⇓*iP* **P** **03 10 04.1 +0.5**
SRE Strehaia 33.09 312 ⇓P **P** **03 10 04.1 +0.5**
FNA Florina 33.21 305 *eP* **P** **03 10 04.1 -0.7**
comp=Z,22nm,0.8s
FNA Florina 33.21 305 *eP* **P** **03 10 04.1 -0.7**
FNA pmax pmax
comp=Z,22nm,0.8s
BIA Bitola 33.31 305 *i* P **P** **03 10 06.2 +0.6**
SKO Skopje 33.47 307 *i* P **P** **03 10 06.9 -0.1**
HERR Herculane 33.70 312 ⇑*iP* **P** **03 10 07.1 -1.8**
OHR Ohrid 33.71 305 *i* P **P** **03 10 08.9 -0.3**
IGT Igoumenitsa 33.73 302 P **P** **03 10 08.1 -1.1**
NVS Novosibirsk 33.78 27 *eP* **P** **03 10 08.2 -1.2**
NVS *eS* **S** **03 15 28.0 -5.0**
NVS pmax pmax
comp=Z,19nm,1.2s
NVS pmax pmax
comp=N,11nm,1.0s
NVS smax smax
comp=N,6.0nm,1.0s
ZAA0 Zalesovo Array 33.81 29 *eP* **P** **03 10 08.7 -1.0**
comp=N,13nm,0.9s
ZALV Zalesovo Beam 33.81 29 *eP* **P** **03 10 08.0 -1.8**
ZALV Zalesovo Beam 33.81 29 P **P** **03 10 08.1 -1.6**
comp=N,1.8nm,0.3s,baz=235,slow=9.5,SNR=10
ZAA1 Zalesovo Array 33.81 29 *eP* **P** **03 10 08.1 -1.7**
KMBO Kilima Mbogo 33.98 219 *eP* **P** **03 10 14.0 +2.2**
comp=N,7.1nm,1.0s
KMBO Kilima Mbogo 33.98 219 P **P** **03 10 12.6 +0.7**
comp=N,3.4nm,0.8s,baz=24,slow=12,SNR=7.2
DRGR 34.23 315 ⇓*iP* **P** **03 10 13.5 -0.1**
DRGR 34.23 315 ⇓P **P** **03 10 13.5 -0.1**
TIR Tirane 34.45 305 *eP* **P** **03 10 16.2 +0.8**
comp=N,16nm,0.8s
TIR Tirane 34.45 305 *eP* **P** **03 10 16.3 +0.8**
TIR pmax pmax
comp=Z,16nm,0.8s
BZS Buzias 34.48 313 ⇑*iP* **P** **03 10 15.7 0.0**
BZS Buzias 34.48 313 ⇑P **P** **03 10 15.7 0.0**
SIRR Siria 34.69 314 ⇓*iP* **P** **03 10 18.0 +0.4**
UZH Uzhgorod 35.25 318 *eP* **P** **03 10 23.7 +1.4**
UZH *e* 03 10 27.3
KOLS Kolonicke sedl 35.40 319 *eP* **P** **03 10 24.0 +0.4**
KOLS pmax pmax
comp=Z,25nm,1.0s
KOLS Kolonicke sedl 35.40 319 *eP* **P** **03 10 24.0 +0.4**
KWP Kalwaria Pacla 35.45 320 *eP* **P** **03 10 24.3 +0.2**
KWP Kalwaria Pacla 35.45 320 *eP* **P** **03 10 23.4 -0.6**
comp=Z,213nm,1.1s
KWP Kalwaria Pacla 35.45 320 *eP* **P** **03 10 23.5 -0.6**
PRGR Permogore 35.98 350 P **P** **03 10 26.2 -2.1**
PRGR pmax pmax
comp=Z,4.0nm,0.6s
TIP Timpagrande 36.40 301 *eP* **P** **03 10 32.5 +0.1**
comp=Z,33nm,1.3s
PSZ Piszkesteto 36.43 316 *eP* **P** **03 10 32.6 +0.1**
comp=Z,14nm,1.1s
PSZ Piszkesteto 36.43 316 ⇓*iP* **P** **03 10 30.5 -2.0**
PSZ Piszkesteto 36.43 316 ⇓P **P** **03 10 30.5 -2.0**
PSZ Piszkesteto 36.43 316 *eP* **P** **03 10 32.0 -0.5**
KLMR Klimovskoe 36.44 345 *eP* **P** **03 10 31.9 -0.4**
KLMR pmax pmax
comp=Z,12nm,1.1s
IDID Didziasalis 36.51 330 *eP* **P** **03 10 33.5 +0.5**
IDID IAmb IAmb 03 10 37.6
comp=Z,5.3nm,0.8s
IIGN Ignalina 36.76 330 *eP* **P** **03 10 35.7 +0.6**
IIGN IAmb IAmb 03 10 39.9
comp=Z,9.2nm,0.5s
NIE Niedzica 36.77 318 *eP* **P** **03 10 35.6 +0.2**
NIE Niedzica 36.77 318 *eP* **P** **03 10 35.6 +0.2**
BUD Budapest 36.82 315 P **P** **03 10 36.7 +1.0**
BUD pmax pmax
comp=Z,27nm,1.0s
ISAL Salakas 36.94 330 *eP* **P** **03 10 36.9 +0.3**
ISAL IAmb IAmb 03 10 43.1
comp=Z,6.4nm,1.0s
GTA Gaotai 37.13 59 *eP* **P** **03 10 39.4 +0.7**
GTA pP sP 03 10 45.4 +1.9
GTA sP pP 03 10 48.6 +6.5
GTA pmax pmax
comp=Z,4.0nm,1.1s
CSKK Cskako 37.27 314 *eP* **P** **03 10 40.0 +0.5**
VYHS Vyhne 37.30 316 *eP* **P** **03 10 40.1 +0.2**
VYHS pmax pmax
comp=Z,4.0nm,1.1s
VYHS Vyhne 37.30 316 *eP* **P** **03 10 40.1 +0.2**
TIH Tihany 37.35 313 *eP* P 03 10 47.1 +6.8
OJC Ojcow 37.40 319 *eP* **P** **03 10 40.6 0.0**
OJC Ojcow 37.40 319 *eP* **P** **03 10 39.8 -0.9**
comp=Z,26nm,1.2s
OJC Ojcow 37.40 319 *eP* **P** **03 10 39.8 -0.9**
OJC pmax pmax
comp=Z,26nm,1.2s
SUW Suwalki 37.41 326 *eP* **P** **03 10 38.1 -2.6**
SUW Suwalki 37.41 326 *eP* **P** **03 10 38.4 -2.3**
comp=Z,44nm,1.1s
SUW Suwalki 37.41 326 *eP* **P** **03 10 38.4 -2.3**
SUW pmax pmax
comp=Z,44nm,1.1s
PABE Paberze 37.88 329 *eP* **P** **03 10 43.6 -1.0**
PABE IAmb IAmb 03 10 48.6
comp=Z,20nm,0.7s
BEHE Becsehely 37.95 312 *eP* **P** **03 10 46.0 +0.7**
JAVC Velka Javorina 38.15 316 *eP* **P** **03 10 47.9 +0.8**
OKC Ostrava-Krasne 38.23 318 *eP* **P** **03 10 48.0 +0.4**
OKC Ostrava-Krasne 38.23 318 *eP* **P** **03 10 48.0 +0.4**
MODS Modra-Piesok 38.23 316 *eP* **P** **03 10 46.9 -0.8**
MODS pmax pmax
comp=Z,20nm,1.3s
MODS Modra-Piesok 38.23 316 *eP* **P** **03 10 46.9 -0.8**
ZST Bratislava 38.28 315 *eP* **P** **03 10 47.0 -1.1**
ZST Bratislava 38.28 315 *eP* **P** **03 10 47.0 -1.1**
KOGS Kog 38.29 312 *i* P **P** **03 10 48.1 -0.1**
SOP Sopron 38.46 314 P **P** **03 10 50.4 +0.8**
SOP pmax pmax
comp=Z,41nm,1.0s
SOP Sopron 38.46 314 *eP* **P** **03 10 49.1 -0.6**
VSU Vasula 38.56 334 *eP* **P** **03 10 50.4 +0.1**
VSU IAmb IAmb 03 10 55.6
comp=Z,18nm,0.7s
MORC Moravsky Berou 38.56 318 *eP* **P** **03 10 50.0 -0.6**
comp=Z,4.9nm,0.9s
MORC Moravsky Berou 38.56 318 *eP* **P** **03 10 50.0 -0.6**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 38.56 318 *eP* **P** **03 10 49.7 -0.9**
BOJS Bojanci 38.71 310 *i* P **P** **03 10 51.8 0.0**
VRAC Vranov 38.97 317 ⇑*iP* **P** **03 10 53.6 -0.4**
VRAC Vranov 38.97 317 ⇑P **P** **03 10 53.6 -0.4**
VRAC Vranov 38.97 317 *eP* **P** **03 10 53.5 -0.4**
CONA Conrad Observa 38.98 314 *i* P **P** **03 10 53.4 -0.8**
comp=Z,8.4nm,0.9s,SNR=7.3
ARSA Arzberg 39.00 313 *i* P **P** **03 10 53.9 -0.3**
comp=Z,15nm,0.9s,SNR=9.4
KRUC Moravsky 39.01 316 *eP* **P** **03 10 53.8 -0.5**
SOKA Soboth 39.16 312 *i* P **P** **03 10 55.3 -0.4**
comp=Z,8.7nm,1.0s,SNR=5.7
LJU Ljubljana 39.34 311 *i* P **P** **03 10 57.1 +0.1**
AQU L'Aquila 39.38 305 *eP* **P** **03 10 57.2 -0.3**
comp=Z,28nm,1.0s
AQU L'Aquila 39.38 305 *eP* **P** **03 10 57.2 -0.3**
AQU pmax pmax
comp=Z,28nm,1.0s
OBKA Obir 39.44 312 *i* P **P** **03 10 57.9 -0.1**
comp=Z,13nm,1.1s,SNR=6.5
DPC Dobruska-Polom 39.51 318 *eP* **P** **03 10 57.2 -1.2**
DPC Dobruska-Polom 39.51 318 *eP* **P** **03 10 57.2 -1.2**
TREC Trest 39.65 316 *eP* **P** **03 10 59.9 +0.3**
TREC Trest 39.65 316 *eP* **P** **03 10 59.9 +0.3**
TREC *ex* x 03 11 10.9
KSP Ksiaz 39.70 319 *eP* **P** **03 11 00.0 0.0**
KSP Ksiaz 39.70 319 *eP* **P** **03 11 00.0 0.0**
UPC Upice 39.75 318 *eP* **P** **03 11 00.5 +0.1**
UPC Upice 39.75 318 *eP* **P** **03 11 00.5 +0.1**
TRI Trieste 39.77 310 *eP* **P** **03 10 60.0 -0.7**
comp=Z,20nm,0.9s
TRI Trieste 39.77 310 *eP* **P** **03 11 00.0 -0.7**
TRI pmax pmax
comp=Z,20nm,0.9s
MOA Molln 39.99 314 *i* P **P** **03 11 02.1 -0.3**
comp=Z,21nm,0.9s,SNR=9.6
MYKA Terra Mystica 40.08 312 *eP* **P** **03 11 03.0 -0.3**
comp=Z,6.2nm,0.7s
LZH Lanzhou 40.10 65 *eP* **P** **03 11 03.6 -0.1**
LZH pP sP 03 11 10.5 +1.9
LZH sP pP 03 11 13.7 +6.5
LZH *ePP* **PnPn** **03 12 39.4 +0.1**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,92nm,5.2s
LZH LR LR
comp=Z,340nm,13.0s
LZH LR LR
comp=Z,370nm,13.2s
LZH LR LR
comp=Z,500nm,16.6s
CD2 Chengdu 40.27 73 *eP* **P** **03 11 04.4 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KMI Kunming 40.28 82 P **P** **03 11 06.8 +1.4**
KMI LR LR
comp=Z,1μm,18.3s
KMI LR LR
comp=Z,1μm,16.7s
KMI LR LR
comp=Z,1μm,15.9s
KBA Koelnbreinsper 40.38 312 *i* P **P** **03 11 05.5 -0.4**
comp=Z,20nm,0.9s,SNR=12
KBA Koelnbreinsper 40.38 312 P **P** **03 11 06.6 +0.7**
KBA pmax pmax
comp=Z,23nm,1.1s
GEC2 GERESS Array S 40.63 315 *eP* **P** **03 11 07.4 -0.5**
comp=Z,10nm,0.9s
GEC2 GERESS Array S 40.63 315 *eP* **P** **03 11 07.4 -0.5**
GEC2 pmax pmax
comp=Z,11nm,0.9s
GERES GERESS Array B 40.63 315 *eP* **P** **03 11 07.4 -0.5**
GERES pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 40.63 315 P **P** **03 11 06.8 -1.0**
comp=Z,6.8nm,0.8s,baz=108,slow=8.6,SNR=55
KHC Kasperske Hory 40.79 315 *eP* **P** **03 11 08.1 -1.0**
comp=Z,7.2nm,0.9s
KHC Kasperske Hory 40.79 315 *eP* **P** **03 11 08.8 -0.3**
KHC Kasperske Hory 40.79 315 *eP* **P** **03 11 08.8 -0.3**
KHC *ex* x 03 11 19.7
FIA0 FINESS Array S 40.85 337 *eP* **P** **03 11 07.4 -1.9**
FIA0 FINESS Array S 40.85 337 *eP* **P** **03 11 07.4 -1.9**
FIA1 FINESS Array S 40.85 337 *eP* **P** **03 11 08.7 -0.6**
comp=Z,15nm,1.3s
FINES FINESS Array B 40.85 337 *eP* **P** **03 11 08.3 -1.0**
FINES FINESS Array B 40.85 337 *eP* **P** **03 11 08.2 -1.0**
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES FINESS Array B 40.85 337 P **P** **03 11 07.4 -1.9**
comp=Z,4.7nm,0.5s,baz=137,slow=9.1,SNR=34
ABTA Abfaltersbach 40.86 312 *i* P **P** **03 11 09.3 -0.4**
comp=Z,29nm,1.0s,SNR=10
BRG Berggiesshubel 41.11 318 *eP* **P** **03 11 14.1 +2.5**
comp=Z,3.4nm,0.9s
BRG *e* 03 11 22.1
comp=Z,28nm,2.1s
BRG Berggiesshubel 41.11 318 *eP* **P** **03 11 14.1 +2.5**
BRG *e* 03 11 22.0
BRG pmax pmax
comp=Z,3.0nm,0.9s
WET Wettzell 41.23 315 P **P** **03 11 13.1 +0.4**
WET pmax pmax
comp=Z,10.0nm,1.6s
WTTA Wattenberg 41.56 312 *i* P **P** **03 11 14.7 -0.9**
comp=Z,30nm,0.7s
WATA Walderalm 41.62 312 *i* P **P** **03 11 14.7 -1.4**
comp=Z,40nm,1.1s,SNR=17
CLL Collm 41.81 318 *eP* **P** **03 11 17.8 +0.4**
comp=Z,12nm,1.2s
CLL Collm 41.81 318 *i* P **P** **03 11 16.8 -0.6**
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 41.81 318 *i* P **P** **03 11 16.8 -0.6**
comp=Z,7.0nm,1.2s
CLL *e* 03 11 27.0
SQTA Sankt Quirin 41.84 312 *i* P **P** **03 11 16.8 -1.0**
comp=Z,26nm,0.6s,SNR=21
MOTA Moosalm 41.93 312 *i* P **P** **03 11 17.3 -1.3**
comp=Z,25nm,0.8s,SNR=25
FETA Feichten 42.11 312 *i* P **P** **03 11 19.3 -0.8**
comp=Z,47nm,1.0s,SNR=27
KEST Kesra 42.12 295 *eP* **P** **03 11 21.4 +1.2**
comp=Z,10nm,1.0s

KEST	Kesra	42.12	295	P	P	03 11 21.4	+1.2
	comp=Z,4.3nm,0.8s,baz=311,slow=4.5,SNR=7.5						
BSD	Bornholm Skovb	42.16	324	*i* P	P	03 11 17.7	-2.4
BSD				pmax	pmax		
	comp=Z,23nm,1.0s						
BSD	Bornholm Skovb	42.16	324	*i* P	P	03 11 17.7	-2.4
	comp=Z,23nm,1.0s						
RETA	Reutte	42.19	312	*i* P	P	03 11 19.2	-1.5
	comp=Z,11nm,0.7s,SNR=6.5						
FUORN	Ofenpass-Fuorn	42.34	311	*e*P	P	03 11 22.1	0.0
	comp=Z,14nm,0.8s						
GRA1	Grafenberg Arr	42.43	316	*e*P	P	03 11 22.4	0.0
	comp=Z,26nm,1.1s						
GRF	Grafenberg Arr	42.43	316	P	P	03 11 22.4	0.0
GRF				pmax	pmax		
	comp=Z,26nm,1.1s						
GRFO	Grafenberg	42.43	316	*e*P	P	03 11 22.4	-0.1
	comp=Z,23nm,1.1s						
GRFO	Grafenberg	42.43	316	*e*P	P	03 11 22.4	-0.1
GRFO				pmax	pmax		
	comp=Z,23nm,1.1s						
NONG	Nongkai	42.59	92	P	P	03 11 26.6	+2.5
	comp=Z,0.3nm,0.7s						
DAVA	Damuels	42.73	312	*i* P	P	03 11 24.1	-1.0
	comp=Z,57nm,0.8s,SNR=22						
TUE	Stuetta	42.94	311	*e*P	P	03 11 26.3	-0.6
	comp=Z,11nm,0.7s						
SONA0	Songino Array	43.25	47	*e*P	P	03 11 28.4	-0.8
SONM	Songino Array	43.25	47	*e*P	P	03 11 29.0	-0.3
SONM	Songino Array	43.25	47	*e*P	P	03 11 29.0	-0.3
SONM	Songino Array	43.25	47	P	P	03 11 28.4	-0.8
	comp=Z,1.4nm,0.7s,baz=262,slow=9.9,SNR=7.1						
MSF	Maaselka	43.26	343	P	P	03 11 33.1	+4.1
MSF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
OUL	Oulu	43.50	341	P	P	03 11 34.5	+3.6
OUL				pmax	pmax		
	comp=Z,11nm,2.0s						
APA	Apatity	43.60	347	⇑*i*P	P	03 11 28.8	-2.8
APA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
APA				MLR	MLR		
	comp=Z,2μm,16.0s						
CHBT	CHBT	43.88	99	P	P	03 11 39.8	+5.2
BFO	Black Forest	43.97	313	*e*P	P	03 11 34.4	-0.5
	comp=Z,6.8nm,0.9s						
BFO	Black Forest	43.97	313	*e*P	P	03 11 34.4	-0.5
BFO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SENIN	Lac Senin/Sane	44.32	310	*e*P	P	03 11 37.3	-0.8
	comp=Z,43nm,1.8s						
MBDF	Montbardon	44.48	308	*e*P	P	03 11 39.4	+0.1
MBDF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BNI	Bardonecchia	44.58	308	*e*P	P	03 11 39.1	-0.9
	comp=Z,17nm,1.1s						
BNI	Bardonecchia	44.58	308	*e*P	P	03 11 39.1	-0.9
BNI				pmax	pmax		
	comp=Z,17nm,1.1s						
LPG	La Plagne	44.58	309	*e*P	P	03 11 40.6	+0.4
LPG				pmax	pmax		
	comp=Z,18nm,1.1s						
LPL	La Plagne	44.60	309	*e*P	P	03 11 38.7	-1.6
LPL				pmax	pmax		
	comp=Z,11nm,0.8s						
CDF	Champ du Feu	44.67	313	*e*P	P	03 11 39.7	-1.0
CDF				pmax	pmax		
	comp=Z,11nm,1.0s						
ECH	Echery	44.71	313	*e*P	P	03 11 40.3	-0.6
	comp=Z,20nm,1.0s						
ECH	Echery	44.71	313	*e*P	P	03 11 40.3	-0.6
ECH				pmax	pmax		
	comp=Z,20nm,1.0s						
HINF	Hinteralfeld	44.85	312	*e*P	P	03 11 40.4	-1.6
HINF				pmax	pmax		
	comp=Z,11nm,1.0s						
CABF	La Chapelle	45.18	310	*e*P	P	03 11 43.8	-1.0
CABF				pmax	pmax		
	comp=Z,21nm,1.0s						
HAU	Haudompre	45.21	312	*e*P	P	03 11 44.0	-0.9
HAU				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WLF	Walferdange	45.63	315	*e*P	P	03 11 48.1	0.0
	comp=Z,71nm,1.0s						
WLF	Walferdange	45.63	315	*e*P	P	03 11 48.1	0.0
WLF				pmax	pmax		
	comp=Z,71nm,1.0s						
WLF	Walferdange	45.63	315	⇓P	P	03 11 47.8	-0.4
	comp=Z,11nm,1.0s						
MEM	Membach	45.90	316	⇓P	P	03 11 50.5	+0.3
	comp=Z,6.4nm,0.9s						
VIVF	Saint-Julien-l	45.98	308	*e*P	P	03 11 49.5	-1.5
VIVF				pmax	pmax		
	comp=Z,13nm,1.2s						
SSB	Saint Sauveur	46.11	308	*e*P	P	03 11 50.7	-1.4
	comp=Z,14nm,1.0s						
SSB	Saint Sauveur	46.11	308	*e*P	P	03 11 50.7	-1.4
SSB				pmax	pmax		
	comp=Z,14nm,1.0s						
NRIK	Noril'sk	46.18	14	*e*P	P	03 11 53.5	+1.3
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NRIK	Noril'sk	46.18	14	P	P	03 11 50.4	-1.7
	comp=Z,1.9nm,0.4s,baz=200,slow=4.8,SNR=4.4						
HHC	Hu-ho-hao-te	46.21	58	*e*P	P	03 11 54.1	+1.1
HHC				pmax	pmax		
	comp=Z,66nm,1.0s						
HHC				pmax	pmax		
	comp=Z,250nm,6.0s						
BCLA	Clavier	46.31	315	⇑P	P	03 11 54.0	+0.6
	comp=Z,7.8nm,1.1s						
NB2	NORSAR Subarra	46.49	331	P	P	03 11 53.3	-1.5
	comp=Z,5.6nm,1.1s,baz=115,slow=7.9						
NB2	NORSAR Subarra	46.49	331	P	P	03 11 58.7	+3.9
NB200	NORSAR Array S	46.49	331	*e*P	P	03 11 52.8	-2.0
NOA	NORSAR Array B	46.49	331	*e*P	P	03 11 55.2	+0.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	46.49	331	P	P	03 11 52.8	-2.0
	comp=Z,1.3nm,0.6s,baz=116,slow=7.8,SNR=7.4						
GIVF	Givet	46.55	315	*e*P	P	03 11 56.4	+1.0
GIVF				pmax	pmax		
	comp=Z,24nm,1.0s						
DOU	Dourbes	46.70	315	⇓P	P	03 11 57.3	+0.7
SMF	Signal de Mont	46.73	310	*e*P	P	03 11 55.6	-1.2
SMF				pmax	pmax		
	comp=Z,34nm,0.8s						
LOR	Lormes	46.78	311	*e*P	P	03 11 55.9	-1.4
LOR				pmax	pmax		
	comp=Z,11nm,0.7s						
ARA0	ARCESS Array S	46.91	345	*e*P	P	03 11 56.6	-1.3
ARCES	ARCESS Array B	46.91	345	P	P	03 11 56.6	-1.3
	comp=Z,2.1nm,0.5s,baz=133,slow=8.3,SNR=18						
BAIF	Baives	46.94	315	*e*P	P	03 11 59.6	+1.2
BAIF				pmax	pmax		
	comp=Z,25nm,1.0s						
SNF	Seneffe	46.96	315	⇑P	P	03 11 57.4	-1.2
SSF	Saint Saulge	47.00	311	*e*P	P	03 11 57.8	-1.1
SSF				pmax	pmax		
	comp=Z,14nm,0.5s						
AVF	Avril sur Loir	47.07	310	*e*P	P	03 11 58.1	-1.4
AVF				pmax	pmax		
	comp=Z,14nm,0.9s						
BGF	Bois d'Agland	47.40	310	*e*P	P	03 12 00.9	-1.2
BGF				pmax	pmax		
	comp=Z,17nm,0.8s						
TAM	Tamanrasset	47.41	277	*e*P	P	03 12 02.9	+0.2
	comp=Z,8.6nm,1.0s						
TAM	Tamanrasset	47.41	277	*e*P	P	03 12 02.9	+0.2
TAM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MTLF	Montolieu	47.66	305	*e*P	P	03 12 04.7	+0.5
MTLF				pmax	pmax		
	comp=Z,22nm,1.2s						
TCF	Toulx Ste Croi	47.82	309	*e*P	P	03 12 04.4	-1.0
TCF				pmax	pmax		
	comp=Z,13nm,0.9s						
CAF	Calviac	47.83	308	*e*P	P	03 12 04.8	-0.7
CAF				pmax	pmax		
	comp=Z,18nm,1.0s						
RJF	Les Rejaudoux	48.24	308	*e*P	P	03 12 08.2	-0.4
RJF				pmax	pmax		
	comp=Z,22nm,1.0s						
LFF	La Frestale	48.77	308	*e*P	P	03 12 12.1	-0.6
LFF				pmax	pmax		
	comp=Z,18nm,0.8s						
LDF	La Druitiere	49.57	312	*e*P	P	03 12 17.5	-1.3
LDF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ETSF	Etsaut	49.69	305	*e*P	P	03 12 22.9	+3.0
ETSF				pmax	pmax		
	comp=Z,15nm,0.9s						
FLN	La Foliniere	49.82	313	*e*P	P	03 12 20.4	-0.3
FLN				pmax	pmax		
	comp=Z,31nm,1.2s						
BOD	Bodaibo	49.98	35	*e*P	P	03 12 19.5	-2.2
BOD				pmax	pmax		
	comp=Z,16nm,1.5s						
GRR	Gorron	50.05	312	*e*P	P	03 12 24.9	+2.5
GRR				pmax	pmax		
	comp=Z,25nm,1.1s						
SJPF	Ste Jean	50.17	305	*e*P	P	03 12 24.2	+0.7
SJPF				pmax	pmax		
	comp=Z,20nm,1.2s						
TIA	Tai'an	50.82	64	P	P	03 12 36.3	+7.9
SGMF	Saint Gilles	51.17	312	*e*P	P	03 12 33.1	+2.2
SGMF				pmax	pmax		
	comp=Z,38nm,1.2s						
EKA	Eskdalemuir Ar	52.15	321	P	P	03 12 37.9	-0.2
EKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ESDC	Sonseca Array	52.42	301	*e*P	P	03 12 40.1	-0.4
ESDC	Sonseca Array	52.42	301	P	P	03 12 39.7	-0.8
	comp=Z,2.7nm,0.8s,baz=73,slow=7.3,SNR=15						
PAB	San Pablo	52.73	301	*e*P	P	03 12 42.7	-0.1
	comp=Z,7.3nm,0.8s						
PAB	San Pablo	52.73	301	*e*P	P	03 12 42.7	-0.1
PAB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NJ2	Nanjing	52.87	69	*e*P	P	03 12 45.2	+1.4
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
TOA0	Torodi Ar. Sit	54.08	267	*e*P	P	03 12 52.4	-0.6
	comp=Z,9.3nm,0.9s						
TOA1	Torodi Ar. Sit	54.08	267	*e*P	P	03 12 50.5	-2.4
TORD	Torodi Ar. Bea	54.08	267	P	P	03 12 50.5	-2.4
	comp=Z,2.9nm,0.4s,baz=55,slow=7.4,SNR=45						
PBRG	Braganca	54.32	304	*e*P	P	03 12 54.9	+0.5
	comp=Z,24nm,1.9s						
MVO	Moncorvo	54.60	303	*e*P	P	03 12 58.3	+1.8
	comp=Z,29nm,1.9s						
SPITS	Spitsbergen Ar	54.95	350	P	P	03 12 59.7	+1.3
PMRV	Marv??o	55.09	301	*e*P	P	03 13 02.5	+2.6
PCBR	Castelo Branco	55.10	301	*e*P	P	03 12 59.5	-0.5
PVRL	Vila Real	55.11	303	*e*P	P	03 13 01.6	+1.5
	comp=Z,49nm,1.4s						
POLO	Lamas de Olo	55.15	303	*e*P	P	03 13 01.4	+0.9
	comp=Z,16nm,2.2s						
PVIS	Viseu	55.30	303	*e*P	P	03 13 03.1	+1.6
PGAV	Gavieira, Arco	55.44	304	*e*P	P	03 13 03.5	+0.9
	comp=Z,49nm,1.5s						
PTOM	Tomar	55.84	301	*e*P	P	03 13 08.9	+3.6
TIXI	Tiksi	59.02	20	*i* P	P	03 13 29.0	+1.8
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KS15	Wonju Array Si	59.15	61	*e*P	P	03 13 27.3	-1.4
	comp=Z,98nm,1.9s						
KSAR	Wonju Array Be	59.15	61	P	P	03 13 27.3	-1.4
KSAR	Wonju Array Be	59.15	61	P	P	03 13 27.3	-1.4
KSRS	Korea Array	59.18	61	*e*P	P	03 13 30.8	+1.9
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	Korea Array	59.18	61	P	P	03 13 27.3	-1.6
	comp=Z,1.3nm,0.3s,baz=276,slow=7.4,SNR=5.4						
KLR	Kul'dur	60.07	47	*i* P	P	03 13 36.3	+1.5
KLR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
DAG	Danmarks Havn	61.20	345	*i* P	P	03 13 41.6	-0.5
DAG	Danmarks Havn	61.20	345	*i* P	P	03 13 41.6	-0.5
DBIC	Dimbokro	62.65	264	*e*P	P	03 13 53.2	+0.4
	comp=Z,23nm,1.3s						
DBIC	Dimbokro	62.65	264	P	P	03 13 53.2	+0.4
	comp=Z,6.2nm,1.1s,baz=70,slow=5.9,SNR=3.7						
BOSA	Boshof	63.19	212	P	P	03 13 57.6	+1.5
	comp=Z,2.2nm,0.7s,baz=24,slow=4.7,SNR=4.6						
SUMG	Summit	66.72	341	*e*P	P	03 14 18.0	-1.0
	comp=Z,9.3nm,0.7s						
SUMG	Summit	66.72	341	*e*P	P	03 14 18.0	-1.0
SUMG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SUMG	Summit	66.72	341	*i* P	P	03 14 18.8	-0.2
BILL	Bilibino	72.17	22	*i* P	P	03 14 51.3	-0.9
BILL				*i*		03 15 15.3	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
IMAR	Indian Mountai	84.59	12	*e*P	P	03 16 00.6	-0.3
INK	Inuvik	85.00	4	*e*P	P	03 16 02.7	-0.2
	comp=Z,3.7nm,1.1s						
INK	Inuvik	85.00	4	*e*P	P	03 16 02.7	-0.2
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MLY	Manley	86.01	12	*e*P	P	03 16 06.0	-2.1
	comp=Z,3.7nm,1.0s						
MDM	Murphy Dome	86.51	11	*e*P	P	03 16 10.3	-0.2
	comp=Z,7.0nm,1.1s						
BPAW	Bear Paw Mtn.	86.81	12	*e*P	P	03 16 12.5	+0.5
	comp=Z,24nm,1.5s						
ILAR	Eielson Array	86.91	10	*e*P	P	03 16 12.7	+0.3
ILAR	Eielson Array	86.91	10	*e*P	P	03 16 12.7	+0.3
ILAR	Eielson Array	86.91	10	P	P	03 16 11.7	-0.7
	comp=Z,0.6nm,0.7s,baz=324,slow=4.2,SNR=12						
ILB	Eielson Array	86.91	10	*e*P	P	03 16 11.7	-0.7
	comp=Z,1.1nm,1.8s						
CAST	Castle Rocks	87.20	13	*e*P	P	03 16 15.2	+1.2
	comp=Z,8.1nm,1.0s						
WR1	Warramunga Arr	87.39	114	*e*P	P	03 16 14.5	-1.1
WRA	Warramunga Arr	87.39	114	*e*P	P	03 16 15.9	+0.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	87.39	114	P	P	03 16 14.5	-1.1
	comp=Z,1.2nm,0.6s,baz=314,slow=4.0,SNR=10						
EGAK	Eagle	87.72	8	*e*P	P	03 16 16.3	0.0
	comp=Z,5.0nm,1.0s						
ASAR	Alice Springs	88.86	117	P	P	03 16 22.5	0.0
	comp=Z,1.0nm,0.7s,baz=305,slow=5.0,SNR=10						
AS31	Alice Springs	88.87	117	*e*P	P	03 16 22.5	0.0
	comp=Z,4.3nm,1.7s						
YKA	Yellowknife Ar	91.00	356	P	P	03 16 31.4	-0.4
	comp=Z,0.3nm,0.7s,baz=1.4,slow=4.7,SNR=7.3						
YKB5	Yellowknife Ar	91.00	356	*e*P	P	03 16 31.4	-0.4
SNAA	Sanae	106.49	197	PKiKP	PKiKP	03 21 54.6	+2.6
VNA2	Neumayer--Watz	107.30	198	PKiKP	PKiKP	03 21 51.3	-2.1
	baz=341,slow=1.4						
VNA1	Neumayer--Stat	107.40	199	PKiKP	PKiKP	03 21 55.2	+1.6
VNA3	Neumayer Olymp	108.10	198	PKiKP	PKiKP	03 21 52.4	-2.6

DSN ***11*** *03:09:45.8±3.5, 26°.71N×58°.30E, h10km, ML5.8/11, Error ellipse: s-maj=51.3km s-min=15.6km az=5.0*
ISCJB ***11*** *03:09:47.8±0.6, 26°.63N±0°.02×57°.93E±0°.02, h0km±4km, mb5.2/247, MS5.3/184, Error ellipse: s-maj=2.6km s-min=2.4km az=25.8*
NEIC ***11*** *03:09:47.4±0.0, 26°.55N×57°.93E, h9km, mb5.3/117, MS5.4/132, MN5.5(TEH), After TEH.*
TEH ***11*** *03:09:47.4, 26°.55N×57°.93E, h9km, ML5.5*
THR ***11*** *03:09:48.1, 26°.52N×57°.87E, h15km, Ms5.7*
IDC ***11*** *03:09:48.9±0.5, 26°.66N×57°.97E, h0km, mb4.8/43, mb1 4.9/46, mb1mx4.8/53, mbtmp4.8/46, ML5.0/2, MS5.1/37, Ms1 5.1/37, ms1mx5.0/54, Error ellipse: s-maj=11.9km s-min=9.6km az=174.0*
OMAN ***11*** *03:09:49.2±0.8, 26°.71N×58°.30E, h24km, ml5.5/16, ms5.0/2, Mwp5.7/5, Error ellipse: s-maj=10.6km s-min=5.6km az=28.0*
MOS ***11*** *03:09:51.9±1.2, 26°.68N×57°.96E, h28km, mb5.3/110, MS5.2/33, Error ellipse: s-maj=6.2km s-min=3.2km az=120.6*
GCMT ***11*** *03:09:51.4±0.2, 26°.53N±0°.01×57°.85E±0°.01, h18km, MW5.5/105, Moment Tension Solution. s57, c74; s105, c204; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.27±.05; $M_{\theta\theta}$-1.32±.04; $M_{\phi\phi}$1.58±.04; $M_{r\theta}$0.00±.09; $M_{r\phi}$1.57±.04; $M_{\theta r}$-0.52±.10; Best double couple: $M_0$2.19300×10^{17} NP1:ϕ_s159.00000°, δ88.00000°, λ168.00000°. NP2:ϕ_s249.00000°, δ78.00000°, λ2.00000°. Principal axes: T 2.3530, Plg10.0000°, Azm113.0000°; N -0.3270, Plg78.0000°, Azm328.0000°; P -2.0330, Plg7.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

Triangular moment-rate function
BJI ***11*** *03:09:54.4±0.0, 26°.87N×58°.39E, h16km, mb4.9/53, mB5.6/25, Ms5.6/35, Ms7 5.4/35*
ISC 11 03:09:51.1±0.5, 26°.60N±0°.03×57°.92E±0°.03, h12km±2km, h13km:pP-P, n1090, σ1°57/1002, mb5.2/270, MS5.3/188, 62C-30D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.36	315	P	Pn	03 10 14.5	-1.4
NIAN	Nian	1.36	315	*e*Pg	Pn	03 10 14.5	-1.4
NIAN				IAMB	IAmb	03 10 46.2	
	comp=E,0.0nm,0.8s						
SHME	Shamm	1.69	252	Pn	Pn	03 10 20.3	-0.1
SHME	Shamm	1.69	252	*e*P	Pn	03 10 19.9	-0.5
	SNR=73						
SHME				S	Sg	03 10 46.8	+1.4
SHME	Shamm	1.69	252	*e*Pn	Pn	03 10 20.4	0.0
GENO	Geno	1.75	298	Pn	Pn	03 10 20.9	-0.5
GENO	Geno	1.75	298	*e*Pn	Pn	03 10 20.9	-0.5
GENO				IAMB	IAmb	03 10 55.9	
	comp=Z,0.0nm,0.5s						
MDH	Madha	1.95	229	*e*P	Pn	03 10 21.9	-2.0
	SNR=67						
MDH	Madha	1.95	229	P	Pn	03 10 22.1	-1.9
	SNR=67						
MDH				S	Sb	03 10 52.5	+1.7
MDH	Madha	1.95	229	*e*Pn	Pn	03 10 22.0	-2.0
MSFE	Esma-Masafi	2.01	233	Pn	Pn	03 10 23.2	-1.6
MSFE	Esma-Masafi	2.01	233	*e*P	Pn	03 10 22.9	-1.9
	SNR=52						
MSFE	Esma-Masafi	2.01	233	*e*Pn	Pn	03 10 23.2	-1.6
UMQ	Umm Al-Quwin	2.29	243	*e*P	Pn	03 10 29.0	+0.3
	SNR=38						
UMQ	Umm Al-Quwin	2.29	243	*e*Pn	Pb	03 10 30.9	-1.5
HATD	Hatta, Dubai	2.39	223	*e*P	Pn	03 10 27.7	-2.3
	SNR=12						
HATD	Hatta, Dubai	2.39	223	P	Pn	03 10 29.0	-1.1
	SNR=15						
HATD				P	Pn	03 10 29.0	-1.1
	SNR=15						
HATD	Hatta, Dubai	2.39	223	*e*Pn	Pn	03 10 28.2	-1.8
CHBR	Chabahar	2.51	113	Pn	Pn	03 10 30.4	-1.3
CHBR	Chabahar	2.51	113	*e*Pn	Pn	03 10 30.4	-1.3
CHBR	Chabahar	2.51	113	*e*Pn	Pn	03 10 30.4	-1.3
ASHO	Ashiyiah	2.54	222	Pn	Pn	03 10 31.4	-0.7
ASHO	Ashiyiah	2.54	222	*e*P	Pn	03 10 30.9	-1.2
	SNR=50						
ASHO	Ashiyiah	2.54	222	P	Pn	03 10 34.0	+1.9
	SNR=49						
ASHO	Ashiyiah	2.54	222	*e*Pn	Pn	03 10 31.4	-0.7
NAZ	Nazwa, Dubai	2.59	232	*e*P	Pn	03 10 33.4	+0.6
	SNR=126						
NAZ	Nazwa, Dubai	2.59	232	P	Pn	03 10 34.5	+1.8
	SNR=18						
NAZ				P	Pn	03 10 34.5	+1.8
	SNR=18						
NAZ	Nazwa, Dubai	2.59	232	*e*Pn	Pn	03 10 35.1	+2.3
SOHO	SOHO	2.75	207	P	Pn	03 10 32.9	-2.1
	SNR=376						
SOHO				P	Pn	03 10 32.9	-2.1
	SNR=376						
FAQ	Al Faqa, Dubai	2.79	229	*i* P	Pn	03 10 36.7	+1.1
	SNR=36						
FAQ	Al Faqa, Dubai	2.79	229	P	Pn	03 10 37.4	+1.8
	SNR=36						
FAQ				S	Sb	03 11 15.6	+0.5
FAQ	Al Faqa, Dubai	2.79	229	*e*Pn	Pn	03 10 37.3	+1.7
HOQ	Hoqain	3.05	191	P	Pn	03 10 38.2	-1.0
	SNR=53						
HOQ				S	Sn	03 11 15.9	+0.3
HOQ	Hoqain	3.05	191	*e*Pn	Pn	03 10 38.2	-1.0
ASUD	Al Ashush, Dub	3.05	231	Pn	Pn	03 10 41.2	+2.0
ASUD	Al Ashush, Dub	3.05	231	*i* P	Pn	03 10 40.6	+1.5
	SNR=72						
ASUD	Al Ashush, Dub	3.05	231	P	Pn	03 10 41.1	+2.0
	SNR=72						
ASUD				P	Pn	03 10 41.1	+2.0
	SNR=72						
ASUD	Al Ashush, Dub	3.05	231	*e*Pn	Pn	03 10 41.3	+2.0
BIDO	Bidbid	3.07	176	Pn	Pn	03 10 38.4	-1.0
BIDO	Bidbid	3.07	176	P	Pn	03 10 38.4	-1.0
	SNR=124						
BIDO				S	Sn	03 11 16.7	+0.7
BIDO	Bidbid	3.07	176	*e*Pn	Pn	03 10 38.4	-1.0
ALNE	Al Ain	3.20	218	Pn	Pn	03 10 42.4	+1.2
ALNE	Al Ain	3.20	218	*i* P	Pn	03 10 41.5	+0.3
	SNR=36						
ALNE	Al Ain	3.20	218	*e*Pn	Pn	03 10 42.5	+1.2
NGRK	Negar Kerman	3.21	341	*e*Pn	Pn	03 10 41.8	+0.1
NGRK				IAMB	IAmb	03 11 38.2	
	comp=Z,0.0nm,1.6s						
CHMN	Cheshme madani	3.27	354	Pn	Pn	03 10 43.5	+1.0
CHMN	Cheshme madani	3.27	354	*e*Pn	Pn	03 10 43.5	+1.0
CHMN				IAMB	IAmb	03 11 54.2	
	comp=Z,0.0nm,1.7s						
AJN	Ajban	3.33	233	*i* P	Pn	03 10 43.2	+0.1
	SNR=23						
AJN	Ajban	3.33	233	*e*Pn	Pn	03 10 44.2	+1.2
WSAR	Wadi Sarin	3.41	169	Pn	Pn	03 10 44.0	-0.1
	comp=Z,161nm,0.3s,baz=346,slow=7.3,SNR=153						
WSAR				Sn	Sn	03 11 23.9	-0.4
	comp=Z,340nm,0.3s,baz=84,slow=4.2,SNR=12						
ARQ	Araqi	3.48	202	P	Pn	03 10 46.8	+1.6
	SNR=54						
SMDO	Samad	3.52	178	P	Pn	03 10 45.5	-0.2
	SNR=42						
TVBK	TV Kerman	3.53	343	Pn	Pn	03 10 47.5	+1.5
TVBK	TV Kerman	3.53	343	*e*Pn	Pn	03 10 47.5	+1.5
TVBK				IAMB	IAmb	03 11 54.8	
	comp=Z,0.0nm,0.7s						
SZD1	Zahaedan-tmp	3.88	41	*e*Pn	Pn	03 10 51.4	+0.7
BSY	Bisya	3.89	190	P	Pn	03 10 52.1	+1.4
	SNR=77						
ZHSF	Zahedan	3.92	39	Pn	Pn	03 10 51.2	0.0
ZHSF	Zahedan	3.92	39	*e*Pn	Pn	03 10 51.3	0.0
ZHSF	Zahedan	3.92	39	*e*Pn	Pn	03 10 51.2	0.0
KHGB	Koh Gabri	3.97	342	*e*Pn	Pn	03 10 52.4	+0.4
KHGB				IAMB	IAmb	03 12 03.0	
	comp=Z,0.0nm,1.1s						
WBK	Wadi Bani Khal	4.08	166	P	Pn	03 10 55.3	+1.9
	SNR=32						
WBK				S	Sn	03 11 39.1	-2.0
JHRM	Jahrom	4.30	297	*e*Pn	Pn	03 10 56.2	-0.2
JLN	Jalan Bani Buh	4.63	163	P	Pn	03

ISFB	Sefidab	9.15	329	Pn	Pn	03 12 01.9	-1.0
ISFB	Sefidab	9.15	329	*e*Pn	Pn	03 12 02.0	-1.0
DMTO	DMTO	9.26	198	P	Pn	03 12 03.3	-1.1
	SNR=33						
SHRO	Shahrood	9.51	351	*e*Pn	Pn	03 12 08.2	+0.3
SHRO	Shahrood	9.51	351	*e*Pn	Pn	03 12 08.2	+0.3
SHRO				*e*AML	AML	03 15 57.7	
	comp=Z,7μm,0.4s						
JRKH	Jarkhoshk	9.51	12	*e*Pn	Pn	03 12 09.5	+1.5
SBZV	Sabzevar	9.77	359	*e*Pn	Pn	03 12 16.2	+4.7
IPAY	Payeh	9.87	5	Pn	Pn	03 12 13.9	+1.0
IPAY	Payeh	9.87	5	*e*Pn	Pn	03 12 13.9	+1.0
IMYA	Miami	9.89	10	*e*Pn	Pn	03 12 14.3	+1.1
IVRN	Varamin	9.92	329	Pn	Pn	03 12 14.7	+1.2
IVRN	Varamin	9.92	329	*e*Pn	Pn	03 12 14.7	+1.2
ISHM	Shahmirzad	10.00	338	*e*Pn	Pn	03 12 14.6	-0.2
ABTO	Aybut	10.15	206	P	Pn	03 12 17.2	+0.5
	SNR=11						
IKRD	Kardeh	10.16	3	Pn	Pn	03 12 19.5	+2.6
IKRD	Kardeh	10.16	3	*e*Pn	Pn	03 12 19.6	+2.6
IKIA	Kiasar	10.24	340	Pn	Pn	03 12 18.9	+0.8
IKIA	Kiasar	10.24	340	*e*Pn	Pn	03 12 18.9	+0.8
ISFR	Sfrayin	10.43	0	*e*Pn	Pn	03 12 23.8	+3.2
IPRN	Peran	10.73	335	*e*Pn	Pn	03 12 26.1	+1.4
IKMR	Kamar-syah	10.76	312	*e*Pn	Pn	03 12 22.9	-2.0
IMND	Minoodasht	10.84	349	*e*Pn	Pn	03 12 28.1	+2.1
IMHD	Mahdasht	10.98	327	Pn	Pn	03 12 29.2	+1.2
IMHD	Mahdasht	10.98	327	*e*Pn	Pn	03 12 29.3	+1.2
IKFM	Kafar-mosalman	11.12	311	*e*Pn	Pn	03 12 26.6	-3.3
BHJ	Bhuj	11.16	105	*e*P	Pn	03 12 27.6	-2.8
BHJ				IAmb	IAmb	03 12 31.8	
	comp=Z,105nm,0.9s						
GEYT	Alibeck	11.30	1	*e*Pn	Pn	03 12 33.3	+0.9
GEYT				Lg	Lg	03 15 51.8	
GEYT	Alibeck	11.30	1	Pn	Pn	03 12 34.9	+2.5
	comp=Z,2.6nm,0.3s,baz=185,slow=24,SNR=12						
GEYT				Lg	Lg	03 15 51.8	
	comp=Z,2.0nm,0.3s,baz=256,slow=37,SNR=3.1						
GEYT				LR	LR	03 17 35.7	
	comp=Z,14μm,18.2s,baz=190,slow=42						
GYA0B	ALIBECK ARRAY	11.30	1	*e*Pn	Pn	03 12 34.8	+2.4
QABG	Abgarm-Qazvin	11.55	324	*e*Pn	Pn	03 12 38.1	+2.1
QALM	Alamut, Qazvin	11.60	329	*e*Pn	Pn	03 12 37.3	+0.6
IKOM	Komasi	11.73	313	Pn	Pn	03 12 35.3	-3.1
IKOM	Komasi	11.73	313	*e*Pn	Pn	03 12 35.3	-3.1
KCHF	Cheshme Sefid,	12.11	312	*e*Pn	Pn	03 12 39.8	-3.7
IVIS	Veis	12.38	312	Pn	Pn	03 12 42.8	-4.4
IVIS	Veis	12.38	312	*e*Pn	Pn	03 12 42.8	-4.4
KBL	Kabul	12.42	48	*e*Pn	Pn	03 12 47.9	-0.1
KBL	Kabul	12.42	48	*e*P	Pn	03 12 47.9	-0.1
ILIN	Lien	12.55	314	Pn	Pn	03 12 46.2	-3.4
ILIN	Lien	12.55	314	*e*Pn	Pn	03 12 46.2	-3.4
THW	Thamme Wali	13.50	60	P	Pn	03 12 59.6	-2.9
CEP	Cherat	14.07	56	P	Pn	03 13 08.0	-2.3
ISRB	Sarab	14.15	325	Pn	Pn	03 13 12.1	+0.6
ISRB	Sarab	14.15	325	*e*Pn	Pn	03 13 12.1	+0.6
NIL	Nilore	15.01	58	*e*Pn	Pn	03 13 20.6	-2.4
NIL	Nilore	15.01	58	*e*P	Pn	03 13 20.6	-2.4
CHCP	Chirah Chowk	15.02	58	P	Pn	03 13 18.4	-4.8
ISHB	Shabestar	15.59	321	Pn	Pn	03 13 29.9	-1.0
ISHB	Shabestar	15.59	321	*e*Pn	Pn	03 13 29.9	-1.0
IMRD	Marand	15.85	323	Pn	Pn	03 13 35.5	+1.4
IMRD	Marand	15.85	323	*e*Pn	Pn	03 13 35.6	+1.4
CUKT	Cukurca	16.12	315	P	Pn	03 13 34.1	-3.5
POO	Poona	16.75	115	*e*P	Pn	03 13 43.4	-2.2
DHRM	DHARAMSHALA	16.97	66	*e*P	Pn	03 13 45.6	-2.9
DHRM				IAmb	IAmb	03 13 54.7	
AKT	Akhty	17.06	333	*i* P	Pn	03 13 47.8	-1.7
VANB	Van	17.09	318	P	Pn	03 13 50.2	+0.3
CLDR	Caldiran	17.15	320	P	P	03 13 52.4	0.0
AKDM	Akdamar-Van	17.17	317	P	Pn	03 13 50.5	-0.5
BTK	Batken	17.19	35	*e*Pn	Pn	03 13 48.6	-2.4
	comp=Z,695nm,2.0s						
BTK	Batken	17.19	35	*e*P	Pn	03 13 48.7	-2.4
BTK				pmax	pmax		
	comp=Z,695nm,2.0s						
DAMY	Dhamar	17.40	229	*e*Pn	P	03 13 55.6	+0.2
	comp=Z,341nm,1.0s						
GNI	Garni	17.40	324	*e*Pn	Pn	03 13 54.2	+0.4
	comp=Z,208nm,1.0s						
GNI	Garni	17.40	324	*ce*P	Pn	03 13 54.5	+0.6
GNI				pmax	pmax		
	comp=Z,711nm,1.7s						
GNI	Garni	17.40	324	Pn	P	03 13 55.4	+0.3
	comp=Z,2.6nm,0.3s,baz=160,slow=4.1,SNR=15						
GNI				LR	LR	03 21 46.9	
	comp=Z,7μm,19.4s,baz=115,slow=41						
SMLA	Simla	17.45	71	*e*P	Pn	03 13 50.2	-4.1
SMLA				IAmb	IAmb	03 13 57.0	
	comp=Z,343nm,1.6s						
TASB	TASBURUN-IGDIR	17.55	323	P	P	03 13 57.8	+1.1
GURO	Guroymak-BITLI	17.90	316	P	Pn	03 13 58.6	-1.4
AGRB	Hanur-Agry	17.97	320	P	P	03 14 02.9	+1.5
BHPL	Bhopal	18.00	96	*e*P	Pn	03 13 58.6	-2.7
DDI	Dehra Dun	18.09	73	*e*P	Pn	03 13 58.8	-3.5
DDI				IAmb	IAmb	03 14 09.4	
	comp=Z,226nm,0.3s						
GNBR	Gunib	18.13	333	*i* P	P	03 14 04.4	+1.3
SVAN	Silvan-Diyarba	18.20	313	P	Pn	03 14 00.6	-2.9
MAK	Makhachkala	18.41	335	*e*P	P	03 14 05.2	-0.8
MAK				*e*S	Sn	03 17 29.2	-2.2
MAK				pmax	pmax		
	comp=Z,498nm,2.0s						
MAK				MLR	MLR		
	comp=Z,4μm,17.0s						
GOA	Goa	18.48	124	*e*P	P	03 14 03.2	-3.8
TBLG	Delisi	18.59	328	*e*P	P	03 14 07.9	-0.1
	comp=Z,192nm,1.4s						
TBLG	Delisi	18.59	328	*e*P	P	03 14 07.9	-0.1
TBLG				pmax	pmax		
	comp=Z,192nm,1.4s						
DYBB	Diyarbakir	18.79	311	P	Pn	03 14 11.3	+0.5
KARO	Karliova-Bingo	18.96	316	P	P	03 14 11.9	-0.5
AKH	Akhalkalaki	18.97	325	*e*P	P	03 14 12.7	+0.3
	comp=Z,60nm,1.0s						
AKH	Akhalkalaki	18.97	325	*e*P	P	03 14 12.7	+0.3
AKH				pmax	pmax		
	comp=Z,60nm,1.0s						
BNGB	Bingl	19.01	315	P	P	03 14 13.2	+0.4
ASF	Jabal al Asfar	19.13	292	P	P	03 14 13.2	-1.0
	comp=Z,4.4nm,0.3s,baz=56,slow=2.0,SNR=15						
ASF				S	Sn	03 17 35.1	-14
	comp=Z,0.8nm,0.3s,baz=45,slow=20,SNR=3.5						
ASF				LR	LR	03 23 28.1	
	comp=Z,3μm,20.3s,baz=64,slow=43						
ARSB	Arslanbob	19.24	36	*e*P	P	03 14 12.8	-2.6
	comp=Z,194nm,1.4s						
GROC	Groznyy	19.29	332	*e*P	P	03 14 13.9	-1.7
GROC				*e*S	Sn	03 17 53.0	+0.2
GROC				pmax	pmax		
	comp=Z,48nm,0.8s						
YEDI	Yedisu-Bingol	19.36	316	P	P	03 14 17.2	+0.6
KK31	Karatay Array	19.40	29	*e*P	P	03 14 16.1	-0.8
	comp=Z,125nm,1.1s						
KK31	Karatay Array	19.40	29	*e*P	P	03 14 16.2	-0.8
KK31				pmax	pmax		
	comp=Z,125nm,1.1s						
KKAR	Karatay Array	19.40	29	*e*P	P	03 14 16.1	-0.8
	comp=Z,125nm,1.1s						
KKAR	Karatay Array	19.40	29	*e*P	P	03 14 16.2	-0.8
KKAR				pmax	pmax		
	comp=Z,125nm,1.1s						
URFA	Urfa	19.43	308	P	P	03 14 17.2	-0.2
SVRC	Sivrice-ELAZID	19.57	311	P	P	03 14 19.2	+0.2
ZEI	Tsey	19.80	328	*e*P	P	03 14 21.9	+0.4
ZEI				pmax	pmax		
	comp=Z,67nm,0.9s						
KSH	Kashi	19.83	45	P	P	03 14 15.8	-6.0
KSH				pP	Pn	03 14 21.8	-1.5
KSH				S	S	03 17 44.3	-21
KSH				SS	Sn	03 18 07.6	+1.5
KSH				pmax	pmax		
	comp=Z,260nm,0.8s						
KSH				pmax	pmax		
	comp=Z,4μm,7.7s						
KSH				LR	LR		
	comp=Z,10μm,9.3s						
KSH				LR	LR		
	comp=Z,9μm,9.7s						
KSH				LR	LR		
	comp=Z,13μm,13.2s						
BCA	Borcka	20.00	322	P	Pn	03 14 24.9	-0.3
NGP	Nagpur	20.06	101	*e*P	P	03 14 22.6	-1.7
NGP				IAmb	IAmb	03 14 27.7	
GHAJ	Ghor Haditha	20.11	289	P	P	03 14 24.2	-0.5
AML	Almayashu	20.19	36	P	P	03 14 23.8	-2.1
	SNR=46						
RCY	Rachaya	20.30	295	*e*P	P	03 14 26.6	-0.3
SHBL	Chebaa	20.34	295	*e*P	P	03 14 26.5	-0.9
HWQ	Hawqa	20.41	297	*e*P	P	03 14 28.0	-0.1
EIL	Elat	20.48	284	P	P	03 14 28.7	-0.1
	comp=Z,124nm,0.8s,baz=123,slow=4.6,SNR=35						
EIL				LR	LR	03 24 08.3	
	comp=Z,7μm,20.2s,baz=100,slow=42						
NCK	Nalchik	20.49	329	*i* P	P	03 14 29.5	+0.7
NCK				pmax	pmax		
	comp=Z,58nm,1.0s						
MMAI	Mount Meron Ar	20.54	294	P	P	03 14 29.4	-0.1
	comp=Z,50nm,0.8s,baz=94,slow=11,SNR=40						
MMAI				S	S	03 18 12.9	-6.3
	comp=Z,21nm,0.8s,baz=110,slow=42,SNR=5.3						
MMAI				LR	LR	03 24 09.5	
	comp=Z,5μm,18.3s,baz=115,slow=42						
BHL	Bhannes	20.54	296	*e*P	P	03 14 29.8	+0.2
EKS2	Erkin-Say	20.61	35	P	P	03 14 28.9	-1.4
	SNR=65						
ATD	Arta Tunnel	20.64	226	*e*P	P	03 14 31.3	+0.6
	comp=Z,148nm,1.1s						
ATD	Arta Tunnel	20.64	226	P	P	03 14 31.2	+0.5
	comp=Z,41nm,0.5s,baz=38,slow=8.1,SNR=16						
ATD				LR	LR	03 23 22.9	
	comp=Z,3μm,20.2s,baz=49,slow=39						
AMAZ	Amatzia	20.69	289	P	P	03 14 30.9	-0.2
UCH	Uchtor	20.69	37	P	Pn	03 14 34.6	+0.8
	SNR=52						
NEY	Neytrino	20.71	327	*e*P	P	03 14 32.1	+0.7
NEY				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KTUT	Trabzon	20.77	318	P	P	03 14 32.1	+0.3
KMRS	Kahramanmaras	20.83	307	P	Pn	03 14 34.8	-0.2
DARE	Darende-Malaty	20.90	310	P	P	03 14 33.8	+0.4
TAHT	Tahtakopru-Hat	20.90	303	P	Pn	03 14 35.3	-0.6
AAK	Ala-Archa	20.96	36	P	Pn	03 14 35.8	-0.9
	SNR=38						
AAK	Ala-Archa	20.96	36	*e*P	P	03 14 33.5	-0.6
	comp=Z,258nm,1.5s						
AAK				LR	LR		
	comp=Z,2μm,19.0s						
AAK	Ala-Archa	20.96	36	*ce*P	P	03 14 33.9	-0.2
AAK				pmax	pmax		
	comp=Z,236nm,2.5s						
AAK	Ala-Archa	20.96	36	P	P	03 14 34.5	+0.4
	comp=Z,40nm,0.6s,baz=200,slow=6.6,SNR=42						
AAK				LR	LR	03 22 42.0	
	comp=Z,3μm,19.4s,baz=192,slow=37						
KBZ	Khabaz	20.99	328	P	Pn	03 14 38.0	+1.2
KBZ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KBZ	Khabaz	20.99	328	P	Pn	03 14 38.0	+1.2
	comp=Z,10nm,0.6s,baz=142,slow=9.2,SNR=19						
KZA	Kyzart	20.99	38	P	P	03 14 34.1	-0.6
	SNR=68						
NRN	Naryn	21.00	41	*e*P	P	03 14 32.9	-1.8
	comp=Z,63nm,0.8s						
NRN	Naryn	21.00	41	*e*P	P	03 14 32.9	-1.8
NRN				pmax	pmax		
	comp=Z,63nm,0.8s						
SHA1	Shidzhatmaz	21.11	328	*i* P	P	03 14 36.2	+0.4
HYB	Hyderabad	21.18	111	*i* P	P	03 14 36.0	-0.4
	comp=Z,110nm,1.0s						
HYB	Hyderabad	21.18	111	*e*P	P	03 14 33.1	-3.4
HYB				IAmb	IAmb	03 14 37.9	
	comp=Z,128nm,1.5s						
HYB				IAMs_20	IAMs_20	03 26 33.8	
	comp=Z,6μm,14.2s						
KBK	Karagaybulak	21.22	37	P	P	03 14 37.5	+0.6
	SNR=49						
KVAR	Kislovodsk Arr	21.26	328	P	P	03 14 40.1	+2.9
	comp=Z,8.1nm,0.6s,baz=75,slow=20,SNR=14						
KIV	Kislovodsk	21.26	328	*e*P	P	03 14 38.5	+1.3
	comp=Z,191nm,1.2s						
KIV				LR	LR		
	comp=Z,2μm,19.0s						
KIV	Kislovodsk	21.26	328	*e*P	P	03 14 39.0	+1.8
KIV				pmax	pmax		
	comp=Z,216nm,1.1s						
KIV				MLR	MLR		
	comp=Z,4μm,14.0s						
CHMS	Chumysh	21.35	36	P	P	03 14 40.4	+2.2
	SNR=15						
USP	Ospenovka	21.41	35	P	P	03 14 40.6	+1.8
	SNR=17						
CEYT	Ceyhan	21.47	304	P	P	03 14 39.8	+0.4
YURE	YUREGIR	21.48	304	P	P	03 14 41.0	+1.4
KOZT	Kozan	21.59	306	P	P	03 14 41.0	+0.2
ULHL	Ulahol	21.66	39	P	P	03 14 44.2	+2.5
	SNR=22						
TKM2	Tokmak 2	21.75	37	P	P	03 14 40.8	-1.8
	SNR=39						
SVSK	Karacayir	21.90	313	P	P	03 14 44.8	+0.8
RSDY	Resadiye-TOKAT	21.94	314	P	P	03 14 45.8	+1.3
KARA	Karaisali	22.07	304	P	P	03 14 44.8	-1.1
KDJ	Kajisay	22.12	41	*e*P	P	03 14 46.5	0.0
	comp=Z,388nm,1.4s						
KDJ	Kajisay	22.12	41	*e*P	P	03 14 46.6	0.0
KDJ				pmax	pmax		
	comp=Z,388nm,1.4s						
BNN	Bunyan	22.17	309	P	P	03 14 48.6	+1.6
TARG	Taragay, Kyrgy	22.25	42	*e*P	P	03 14 48.8	+0.6
	comp=Z,68nm,0.9s						
PYUN	Piuthan	22.31	80	*e*P	P	03 14 49.1	+0.3
	comp=Z,287nm,1.1s						
MERS	Mersin	22.33	303	P	P	03 14 48.3	-0.4
TOKT	Tokat	22.41	313	P	P	03 14 50.6	+1.1
SOC	Sochi	22.48	324	*e*P	P	03 14 50.3	+0.1
SOC				*e*		03 15 10.9	
SOC				*e*S	S	03 18 51.7	-5.0
SOC				*e*SS	SnSn	03 19 26.9	+1.6
SOC				pmax	pmax		
	comp=Z,66nm,1.3s						
SOC				MLR	MLR		
	comp=Z,6μm,15.0s						
KIZK	Mersin	22.48	302	P	P	03 14 49.8	-0.5
LFK	Lefkose	22.59	298	P	P	03 14 53.6	+2.0
CSS	Mathiatis	22.67	298	*e*P	P	03 14 52.4	+0.1
	comp=Z,125nm,0.9s						
CSS	Mathiatis	22.67	298	P	P	03 14 52.5	+0.1
CSS	Mathiatis	22.67	298	P	P	03 14 47.2	-5.1
ABKAR	Akbulak array	22.68	3	*e*P	P	03 14 51.1	-1.1
IKL	Isikli	22.75	301	P	P	03 14 51.8	-1.4
KEBE	Keben-Mersin	22.80	301	P	P	03 14 54.6	+0.9
MAMC	Mammari	22.81	298	P	P	03 14 53.7	-0.1
AKKU	Akkuyu-Mersin	22.83	301	P	P	03 14 54.3	+0.3
KOLN	Koldanda	22.86	81	*e*P	P	03 14 54.5	-0.2
	comp=Z,158nm,1.2s						
YOZ	Yozgat	22.89	310	P	P	03 14 55.8	+1.0
SZAC	Souni	22.98	297	P	P	03 14 56.2	+0.6
DANN	Dangsing	22.98	80	*e*P	P	03 14 56.2	+0.2
	comp=Z,798nm,1.2s						
TEVE	Tevekalti-Mers	23.00	301	P	P	03 14 57.6	+1.7
LEF	Lefka	23.06	298	P	P	03 14 59.1	+2.7
KVT	Kavak	23.12	314	P	P	03 14 59.1	+2.0
BERE	Bereket-Mersin	23.14	301	P	P	03 14 57.1	-0.3
TEKE	Tekeli-Mersin	23.17	300	P	P	03 14 57.3	-0.2
MNCY	Minicoy	23.20	139	*e*P	P	03 14 53.4	-4.5
ALFC	Alefka	23.30	298	P	P	03 14 59.5	+0.6
PPCY	Paphos	23.44	297	P	P	03 15 00.3	+0.1
SULT	Sultanhani-AKS	23.56	305	P	P	03 15 03.4	+1.9
CORM	Corum	23.61	311	P	P	03 15 01.1	-0.9
YAYX	Yaylak	23.64	307	P	P	03 15 00.4	-1.9
AKTO	Aktyubinsk	23.80	0	P	P	03 15 01.5	-2.1
	comp=Z,50nm,0.6s,baz=172,slow=10,SNR=57						
AKTO				LR	LR	03 25 53.0	
	comp=Z,3μm,18.5s,baz=158,slow=41						
SERE	Sereflikochisa	23.82	307	P	P	03 15 04.6	+0.6
DIKM	Dikmen	23.93	315	P	P	03 15 06.9	+2.0
BR131	Keskin Array S	24.09	309	*e*P	P	03 15 05.7	-0.9
	comp=Z,370nm,1.7s						
BRTR	Keskin Array B	24.09	309	*e*P	P	03 15 06.5	-0.1
BRTR	Keskin Array B	24.09	309	P	P	03 15 05.5	-1.1
	comp=Z,34nm,0.6s,baz=127,slow=11,SNR=76						
BRTR				LR	LR	03 27 12.8	
	comp=Z,7μm,19.6s,baz=99,slow=43						
ANKE	Ethiopia-Afar	24.13	229	*e*P	P	03 15 07.5	+0.1
SNOP	Sinop	24.16	315	P	P	03 15 06.9	-0.1
SNOP	Sinop	24.16	315	*e*P	P	03 15 07.9	+0.9
	comp=Z,796nm,1.9s						
PDGK	Podgornoye	24.20	41	P	P	03 15 08.0	+0.4
PDGK				pmax	pmax		
	comp=Z,79nm,1.1s						
DMN	Daman	24.21	81	*e*P	P	03 15 08.0	0.0
	comp=Z,131nm,1.1s						
KONT	Konya--Tatoy	24.32	304	P	P	03 15 10.6	+2.0
KKN	Kakani	24.35	81	*e*P	P	03 15 09.1	-0.1
OTUK	Ortayu	24.38	24	P	P	03 15 10.1	+1.1
OTUK				pmax	pmax		
	comp=Z,62nm,1.6s						
LADK	Ladik-KONYA	24.40	305	P	P	03 15 10.6	+1.1
PKIN	Phulchoki	24.47	81	*e*P	P	03 15 10.0	-0.3
PKI	Pulchoki	24.48	81	*e*P	P	03 15 10.1	-0.4
CANT	Cankiri	24.49	311	P	P	03 15 10.1	-0.1
ANN	Anapa	24.52	323	*e*P	P	03 15 09.8	-0.5
ANN				*e*		03 15 40.9	
ANN				*e*PPP	PPP	03 15 56.7	
ANN				*e*S	S	03 19 31.0	+0.6
ANN				*e*SSS	SSS	03 20 37.6	
ANN				pmax	pmax		
	comp=Z,106nm,1.4s						
ANN				pmax	pmax		
	comp=Z,376nm,4.3s						
ANN				MLR	MLR		
	comp=Z,6μm,17.0s						
ANN				MLR	MLR		
	comp=E,4μm,17.0s						
ANN				MLR	MLR		
	comp=N,5μm,17.0s						
ILGA	Ilgaz	24.64	312	*e*P	P	03 15 11.4	-0.3
	comp=N,464nm,1.8s						
ANTO	Ankara	24.74	309	*e*P	P	03 15 11.8	-0.6
ANTO				LR	LR		
	comp=Z,6μm,19.0s						
ANTO	Ankara	24.74	309	⇑*i*P	P	03 15 14.3	+1.8
ANTO	Ankara	24.74	309	*e*P	P	03 15 11.8	-0.6
ANTO				MLR	MLR		
	comp=Z,6μm,19.0s						
BR231	Keskin MP Arra	24.74	309	*e*P	P	03 15 14.0	+1.5
	comp=Z,517nm,1.8s						
LOD	Lodumlu	24.77	309	P	P	03 15 14.7	+2.0
BZK	Bozkurt	24.89	314	P	P	03 15 16.4	+2.7
BZK	Bozkurt	24.89	314	⇓*i*P	P	03 15 16.9	+3.2
JIRN	Jiri	25.16	81	*e*P	P	03 15 16.5	-0.2
	comp=Z,186nm,0.9s						
BOK	Bokaro	25.44	90	*e*P	P	03 15 15.6	-3.3
BOK				IAmb	IAmb	03 15 22.6	
BOK				IAMs_20	IAMs_20	03 26 16.1	
	comp=Z,7μm,10.8s						
SVRH	Sivrihisar-ESK	25.47	307	P	P	03 15 19.7	+0.6
TRD	Trivandrum	25.49	131	*e*P	P	03 15 16.1	-3.2
KORT	Korkueli	25.54	301	P	P	03 15 20.7	+0.9
RAMN	Ramite	25.59	83	*e*P	P	03 15 19.7	-0.8
	comp=Z,116nm,1.1s						
ISP	Isparta	25.65	303	*e*P	P	03 15 23.5	+2.7
	comp=Z,724nm,2.0s						
ISP	Isparta	25.65	303	P	P	03 15 22.0	+1.2
ISP	Isparta	25.65	303	*e*P	P	03 15 23.5	+2.7
ISP				pmax	pmax		
	comp=Z,724nm,2.0s						
KURC	Kurucasile-Bar	25.66	313	P	P	03 15 20.9	+0.3
CIFT	Cifteler, Eski	25.77	306	P	P	03 15 22.7	+0.9
ELL	Elmali	25.82	300	P	P	03 15 22.4	+0.1
SHUT	Suhut-Afyon	25.86	304	P	P	03 15 24.2	+1.5
KSL	Kastellorizon	25.92	299	P	P	03 15 23.3	+0.2
KSL	Kastellorizon	25.92	299	P	P	03 15 23.3	+0.2
AKAS	Kas	25.93	299	P	P	03 15 23.2	-0.1
SRCK	Saricakaya, Es	26.34	307	P	P	03 15 26.7	-0.1
FETY	Fethiye	26.43	299	P	P	03 15 26.9	-0.9
FETY	Fethiye	26.43	299	P	P	03 15 28.5	+0.7
FETY	Fethiye	26.43	299	P	P	03 15 28.5	+0.7
SIM	Simferopol'	26.46	320	*d i*P	P	03 15 28.3	+0.4
SIM				*i* S	S	03 19 58.3	-3.1
SIM				pmax	pmax		
	comp=Z,130nm,1.8s						
SIM				MLR	MLR		
	comp=Z,714nm,11.7s						
GULT	Gulveren	26.56	308	P	P	03 15 30.7	+1.7
DALY	Dalyan (Mula)	26.81	300	P	P	03 15 30.9	-0.2
TURN	Turunc	26.86	300	P	P	03 15 33.7	+2.1
GEDZ	Gediz	26.86	305	P	P	03 15 32.5	+0.8
TVSB	Tavsanli	26.96	306	P	P	03 15 32.7	+0.1
KULA	Kula-Manisa	27.26	303	P	P	03 15 35.2	-0.1
HRT	Hereke	27.31	308	P	P	03 15 34.7	-1.0
MANT	Manisa	27.33	303	*e*P	P	03 15 38.4	+2.3
	comp=Z,279nm,1.2s						
YLV	Yalova	27.42	308	⇓*i*P	P	03 15 39.0	+2.3
YLV	Yalova	27.42	308	⇓P	P	03 15 39.0	+2.3
VRH	Novokhopyorsk	27.49	338	*e*P	P	03 15 39.2	+2.1
VRH				pmax	pmax		
	comp=Z,100nm,1.6s						
DAT	Datca	27.63	299	P	P	03 15 39.5	+0.9
AYDB	Zeytinkoy-Aydi	27.68	302	P	P	03 15 41.0	+1.9
MAKZ	Makanchi	27.72	37	*e*P	P	03 15 39.2	0.0
	comp=Z,27nm,0.8s						
MAKZ	Makanchi	27.72	37	*e*P	P	03 15 39.2	0.0
MAKZ				pmax	pmax		
	comp=Z,27nm,0.8s						
KARP	Karpathos	27.73	296	P	P	03 15 39.0	-0.4
KARP	Karpathos	27.73	296	P	P	03 15 39.0	-0.4
ARMT	Armutlu	27.78	307	P	P	03 15 38.7	-1.2
MK31	Makanchi Array	27.88	37	*e*P	P	03 15 41.6	+0.9
	comp=Z,19nm,0.9s						
MKAR	Makanchi Array	27.88	37	*e*P	P	03 15 39.8	-0.9
MKAR	Makanchi Array	27.88	37	P	P

IDI LR LR 03 31 40.7
comp=Z,3μm,21.6s,baz=68,slow=44
WMQ Urumqi 29.57 47 *eP* **P 03 15 57.1 +1.3**
WMQ pP sP 03 16 03.2 +1.7
WMQ sP pP 03 16 09.3 +9.5
WMQ pmax pmax
comp=Z,120nm,1.1s
WMQ pmax pmax
comp=Z,470nm,3.8s
WMQ LR LR
comp=Z,24μm,23.7s
WMQ LR LR
comp=Z,20μm,24.9s
WMQ LR LR
comp=Z,12μm,31.9s
BOZC Bozcaada 29.58 305 P **P 03 15 57.3 +1.4**
LPSR Galich'ya Gora 29.62 336 *eP* **P 03 15 56.9 +0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
PRD Provadia 29.80 312 *eP* **P 03 15 58.0 +0.3**
ARU Arti 29.81 1 PFAKE 03 16 10.0 +12
ARU LR LR
comp=Z,2μm,20.0s
ARU Arti 29.81 1 P **P 03 15 57.7 0.0**
ARU 03 16 52.7
ARU S **S 03 20 53.5 -0.4**
ARU SS **SnSn 03 22 23.5 -0.6**
ALN Alexandroupoli 29.91 307 *eP* **P 03 15 58.9 +0.2**
comp=Z,26nm,1.2s
ALN Alexandroupoli 29.91 307 *eP* **P 03 15 58.9 +0.2**
ALN pmax pmax
comp=Z,26nm,1.2s
TLB Topalu 29.97 315⇑*iP* **P 03 15 59.4 +0.2**
TLB Topalu 29.97 315⇑P **P 03 15 59.4 +0.2**
GVD Gavdhos 30.11 294 P **P 03 16 02.3 +1.7**
GVD Gavdhos 30.11 294 P **P 03 16 02.3 +1.7**
CFR Carcaliu 30.18 316⇓*iP* **P 03 16 00.7 -0.4**
CFR Carcaliu 30.18 316⇓P **P 03 16 00.7 -0.4**
LIA Limnos Island 30.24 304 P **P 03 16 02.7 +1.0**
LIA Limnos Island 30.24 304 P **P 03 16 02.7 +1.0**
SVE Sverdlovsk 30.27 3 *eP* **P 03 16 01.8 +0.1**
SVE pmax pmax
comp=Z,27nm,1.3s
SVE MLR MLR
comp=Z,3μm,12.0s
RDO Rodhopi 30.35 307 P **P 03 16 04.0 +1.4**
RDO Rodhopi 30.35 307 P **P 03 16 04.0 +1.4**
SHL Shillong 30.47 84 *eP* **P 03 16 00.4 -3.7**
KIS Kishinev 30.67 319 *eP* **P 03 16 05.0 -0.4**
comp=Z,90nm,1.5s
KIS *eL* L 03 25 30.0
KIS LRM MLR 03 30 58.0
comp=Z,7μm,23.0s
KIS Kishinev 30.67 319 *eP* **P 03 16 05.0 -0.4**
KIS *e* 03 16 20.0
KIS pmax pmax
comp=Z,90nm,1.5s
KIS MLR MLR
comp=Z,7μm,23.0s
DION Dionisos Attik 30.75 300 P **P 03 16 07.5 +1.2**
PTL Penteli 30.80 300 P **P 03 16 07.5 +0.8**
PTL Penteli 30.80 300 P **P 03 16 07.5 +0.8**
SZH Strazhica 30.81 311 *eP* **P 03 16 06.0 -0.7**
VLY Voula,Athens 30.81 300 P **P 03 16 07.1 +0.3**
VLY Voula,Athens 30.81 300 P **P 03 16 07.1 +0.3**
EREA Eretria 30.82 301 P **P 03 16 09.4 +2.5**
BRDH Bariadhala 30.85 90 LR LR 03 30 37.0
comp=Z,9μm,20.4s,baz=300,slow=40
ANKY Antikythira Is 30.88 296 P **P 03 16 08.8 +1.4**
ANKY Antikythira Is 30.88 296 P **P 03 16 08.8 +1.4**
AOS Alonnisos 31.03 302 P **P 03 16 10.3 +1.6**
AOS Alonnisos 31.03 302 P **P 03 16 10.3 +1.6**
MRKA Markates 31.15 301 P **P 03 16 11.4 +1.6**
MSEY Mahe Island 31.18 185 PFAKE 03 16 20.0 +10
MSEY LR LR
comp=Z,3μm,20.0s
DID Didima 31.18 299 P **P 03 16 09.5 -0.6**
DID Didima 31.18 299 P **P 03 16 09.5 -0.6**
KRND KRANIDI 31.23 299 P **P 03 16 11.0 +0.6**
PLD Plovdiv 31.25 308 P **P 03 16 13.7 +3.1**
VLI Veliai 31.29 298 P **P 03 16 11.2 +0.2**
VLI Veliai 31.29 298 P **P 03 16 11.2 +0.2**
VRI Vrincioaia 31.38 316⇑*iP* **P 03 16 14.3 +2.6**
VRI Vrincioaia 31.38 316⇑P **P 03 16 14.3 +2.6**
PLOR Plostina 31.42 316⇑*iP* **P 03 16 12.2 +0.1**
PLOR Plostina 31.42 316⇑P **P 03 16 12.2 +0.1**
SMIA Simia 31.48 302 P **P 03 16 14.6 +2.0**
ATAL Atalanti 31.58 301 P **P 03 16 14.4 +0.9**
ATAL Atalanti 31.58 301 P **P 03 16 14.4 +0.9**
XOR Xorichti 31.60 303 P **P 03 16 14.3 +0.6**
XOR Xorichti 31.60 303 P **P 03 16 14.3 +0.6**
NVR Nevrokopi 31.62 306 P **P 03 16 16.4 +2.5**
NVR Nevrokopi 31.62 306 P **P 03 16 16.4 +2.5**
PLG Polygyros 31.65 305 P **P 03 16 14.5 +0.3**
PLG Polygyros 31.65 305 P **P 03 16 14.5 +0.3**
PLG Polygyros 31.65 305 P **P 03 16 14.5 +0.3**
MLR Muntele Rosu 31.70 315⇓*iP* **P 03 16 16.6 +1.9**
MLR Muntele Rosu 31.70 315 P **P 03 16 15.1 +0.4**
comp=Z,6.1nm,0.6s,baz=132,slow=4.9,SNR=14
TESR Tescani 31.72 317⇑*iP* **P 03 16 13.7 -1.0**
SRS Serrai 31.75 306 P **P 03 16 16.0 +1.0**
SRS Serrai 31.75 306 P **P 03 16 16.0 +1.0**
SRS Serrai 31.75 306 P **P 03 16 16.0 +1.0**
PGB Panagyurishte 31.77 309 *eP* **P 03 16 15.0 -0.3**
MMB Musomiste 31.78 307 *eP* **P 03 16 15.0 -0.3**
VLX Vlachokerasia 31.83 299 P **P 03 16 16.0 +0.1**
VLX Vlachokerasia 31.83 299 P **P 03 16 16.0 +0.1**
SOH Sokhos 31.84 305 P **P 03 16 17.5 +1.7**
SOH Sokhos 31.84 305 P **P 03 16 17.5 +1.7**
SOH Sokhos 31.84 305 P **P 03 16 17.5 +1.7**
AXAR Agios Charalam 31.87 301 P **P 03 16 19.5 +3.4**
AXAR Agios Charalam 31.87 301 P **P 03 16 19.5 +3.4**
DSF Desfina 31.90 301 P **P 03 16 15.8 -0.6**
DSF Desfina 31.90 301 P **P 03 16 15.8 -0.6**
HUMR Humele 31.93 313⇑*iP* **P 03 16 17.1 +0.6**
GUR Goura 31.96 300 P **P 03 16 16.8 -0.2**
GUR Goura 31.96 300 P **P 03 16 16.8 -0.2**
KLV Kalavryta, Ach 32.13 300 P **P 03 16 18.7 +0.3**
KLV Kalavryta, Ach 32.13 300 P **P 03 16 18.7 +0.3**
MTUR Matau 32.16 314⇑*iP* **P 03 16 19.5 +0.9**
MTUR Matau 32.16 314⇑P **P 03 16 19.5 +0.9**
ITM Ithomi 32.16 298 *eP* **P 03 16 18.4 -0.3**
comp=Z,51nm,0.7s
AGG Agios Georgios 32.17 302 *eP* **P 03 16 17.9 -0.9**
comp=Z,29nm,1.0s
AGG Agios Georgios 32.17 302 P **P 03 16 18.4 -0.4**
AGG Agios Georgios 32.17 302 *eP* **P 03 16 17.9 -0.9**
AGG pmax pmax
comp=Z,29nm,1.0s
TRIZ Trizonia 32.24 300 P **P 03 16 20.0 +0.7**
VOIR 32.25 314⇑*iP* **P 03 16 19.7 +0.2**
VOIR 32.25 314⇑P **P 03 16 19.7 +0.2**
DOPR Dopca 32.26 315⇑*iP* **P 03 16 19.3 -0.2**
KNT Kendrikon 32.26 306 P **P 03 16 21.4 +1.9**
KNT Kendrikon 32.26 306 P **P 03 16 21.4 +1.9**
PYL PYLOS 32.27 298 P **P 03 16 19.1 -0.5**
PYL PYLOS 32.27 298 P **P 03 16 19.1 -0.5**
SERG Sergoula 32.27 300 P **P 03 16 18.6 -1.0**
LIT Litokhoron 32.29 304 *eP* **P 03 16 20.2 +0.4**
comp=Z,18nm,0.9s
LAKA Lakka 32.30 300 P **P 03 16 19.6 -0.3**
LAKA Lakka 32.30 300 P **P 03 16 19.6 -0.3**
MPEP Malo Peshtene 32.34 310 P P 03 16 31.6 +11
EFP Efpalio 32.38 300 P **P 03 16 20.6 0.0**
AMT Artemida-Makis 32.39 299 P **P 03 16 20.8 +0.1**
VTS Vitosha 32.45 308 *eP* **P 03 16 22.5 +1.2**
comp=Z,13nm,0.9s
VTS Vitosha 32.45 308 P **P 03 16 20.5 -0.8**
VTS Vitosha 32.45 308⇑*iP* **P 03 16 23.8 +2.5**
VTS Vitosha 32.45 308⇑P **P 03 16 23.8 +2.5**
VTS Vitosha 32.45 308 *eP* **P 03 16 21.0 -0.3**
DRO Drossia 32.45 300 P **P 03 16 21.8 +0.6**
OBN Obninsk 32.48 337 *eP* **P 03 16 21.3 +0.2**
comp=Z,113nm,1.4s
OBN LR LR
comp=Z,2μm,20.0s
OBN Obninsk 32.48 337⇑*iP* **P 03 16 24.8 +3.6**
OBN Obninsk 32.48 337 *iP* **P 03 16 21.8 +0.6**
OBN pmax pmax
comp=Z,19nm,0.8s
OBN MLR MLR
comp=Z,3μm,19.0s
OBN Obninsk 32.48 337 P **P 03 16 20.4 -0.7**
comp=Z,5.2nm,0.5s,baz=132,slow=4.1,SNR=9.4
OBN LR LR 03 30 58.0
comp=Z,800nm,20.1s,baz=112,slow=39
ARR Arges 32.49 314⇓*iP* **P 03 16 21.2 -0.3**
AKASG Malin Array Be 32.53 325 *eP* **P 03 16 20.6 -1.1**
AKASG Malin Array Be 32.53 325 P **P 03 16 20.4 -1.3**
comp=Z,9.4nm,0.6s,baz=126,slow=8.1,SNR=21
AKASG LR LR 03 32 19.3
comp=Z,4μm,21.4s,baz=105,slow=42
AKBB Malin Array Si 32.53 325 *eP* **P 03 16 20.1 -1.6**
comp=Z,50nm,0.8s
THL Klokotos Trika 32.53 303 P **P 03 16 22.6 +0.8**
KIEV Kiev 32.53 325 *eP* **P 03 16 19.8 -1.9**
comp=Z,47nm,0.8s
KIEV LR LR
comp=Z,3μm,22.0s
KIEV Kiev 32.53 325⇑*iP* **P 03 16 19.7 -2.0**
KIEV Kiev 32.53 325 *eP* **P 03 16 19.8 -1.9**
KIEV pmax pmax
comp=Z,47nm,0.8s
KIEV MLR MLR
comp=Z,3μm,22.0s
VAY Valandovo 32.54 306 *iP* **P 03 16 23.9 +2.0**
GRG Griva 32.57 305 P **P 03 16 23.7 +1.5**
GRG Griva 32.57 305 P **P 03 16 23.7 +1.5**
GRG Griva 32.57 305 P **P 03 16 23.7 +1.5**
MOS Moscow 32.63 339 *eP* **P 03 16 23.8 +1.3**
MOS *e* 03 17 36.5
MOS *eS* **S 03 21 37.9 0.0**
MOS pmax pmax
comp=Z,27nm,0.8s
MOS MLR MLR
comp=Z,2μm,19.0s
MOS MLR MLR
comp=E,3μm,17.0s
RLS Riolos of Patr 32.66 300 P **P 03 16 24.0 +1.0**
RLS Riolos of Patr 32.66 300 P **P 03 16 24.0 +1.0**
PVO Paravola 32.71 301 P **P 03 16 24.9 +1.4**
STIP Stip 32.92 306 *iP* **P 03 16 23.4 -1.9**
LOT Lotru 33.08 314⇑*iP* **P 03 16 26.2 -0.6**
BURAR Bucovina Array 33.10 318 *eP* **P 03 16 26.1 -0.8**
BURAR Bucovina Array 33.10 318⇓*iP* **P 03 16 27.4 +0.5**
BURAR Bucovina Array 33.10 318 *eP* **P 03 16 26.1 -0.8**
BUR08 Bucovina Ar. S 33.13 318 *eP* **P 03 16 27.3 +0.2**
comp=E,16nm,1.1s
SRE Strehaia 33.16 312⇑*iP* **P 03 16 25.4 -1.9**
SRE Strehaia 33.16 312⇑P **P 03 16 25.4 -1.9**
KFL Anninata 33.20 300 P **P 03 16 27.0 -0.7**
FNA Florina 33.28 305 *eP* **P 03 16 27.9 -0.6**
comp=E,76nm,0.6s
FNA Florina 33.28 305 *eP* **P 03 16 27.9 -0.6**
FNA pmax pmax
comp=Z,76nm,0.6s
BIA Bitola 33.38 305 *iP* **P 03 16 30.5 +1.2**
SKO Skopje 33.53 307 *iP* **P 03 16 29.5 -1.1**
GZR Gura Zlata 33.71 313⇓*iP* **P 03 16 30.8 -1.4**
NVS Novosibirsk 33.75 26⇑*iP* **P 03 16 32.6 +0.3**
NVS *eS* **S 03 21 56.1 +0.6**
NVS pmax pmax
comp=N,42nm,1.2s
NVS pmax pmax
comp=Z,53nm,1.2s
NVS smax smax
comp=N,65nm,2.1s
HERR Herculane 33.76 312⇑*iP* **P 03 16 30.5 -2.0**
ZAA0 Zalesovo Array 33.78 29 *eP* **P 03 16 30.1 -2.5**
comp=N,35nm,0.9s
ZALV Zalesovo Beam 33.78 29 *eP* **P 03 16 30.4 -2.2**
ZALV Zalesovo Beam 33.78 29 *eP* **P 03 16 33.1 +0.5**
ZALV pmax pmax
comp=Z,13nm,0.4s
ZALV Zalesovo Beam 33.78 29 P **P 03 16 29.9 -2.7**
comp=Z,8.2nm,0.4s,baz=241,slow=11,SNR=22
ZALV LR LR 03 30 43.6
comp=Z,2μm,18.6s,baz=65,slow=37
OHR Ohrid 33.78 305 *iP* **P 03 16 33.0 +0.1**
IGT Igoumenitsa 33.80 302 P **P 03 16 32.9 0.0**
DEV Deva 33.81 314⇓*iP* **P 03 16 33.1 +0.1**
DEV Deva 33.81 314⇓P **P 03 16 33.1 +0.1**
KMBO Kilima Mbogo 34.02 219 *eP* **P 03 16 36.7 +1.4**
comp=Z,38nm,1.3s
KMBO LR LR
comp=Z,3μm,20.0s
KMBO Kilima Mbogo 34.02 219 P **P 03 16 35.9 +0.6**
comp=Z,13nm,0.9s,baz=27,slow=9.0,SNR=10
KMBO LR LR 03 31 56.0
comp=Z,3μm,19.8s,baz=34,slow=39
MDVR Moldovita 34.20 312⇓*iP* **P 03 16 35.3 -1.1**
DRGR 34.29 315⇑*iP* **P 03 16 36.5 -0.7**
DRGR 34.29 315⇑P **P 03 16 36.5 -0.7**
TIR Tirane 34.52 305 *eP* **P 03 16 38.9 -0.4**
comp=Z,96nm,1.2s
TIR Tirane 34.52 305⇓*iP* **P 03 16 39.1 -0.1**
TIR Tirane 34.52 305⇓P **P 03 16 39.1 -0.1**
BZS Buzias 34.55 313⇑*iP* **P 03 16 38.5 -0.9**
BZS Buzias 34.55 313⇑P **P 03 16 38.5 -0.9**
SIRR Siria 34.76 314⇑*iP* **P 03 16 41.2 0.0**
BANR Banloc 34.78 312⇓*iP* **P 03 16 42.6 +1.2**
LVV L'vov 34.84 321 *eP* **P 03 16 43.0 +1.1**
LVV *eS* **S 03 22 09.0 -3.5**
LVV MLR MLR
comp=Z,1μm,18.0s
TRPA Tarpa 34.95 317⇑*iP* **P 03 16 41.3 -1.5**
TRPA Tarpa 34.95 317⇑*eP* **P 03 16 43.1 +0.3**
LTVH Ltavrtes, Hu 35.03 316⇑*eP* **P 03 16 45.0 +1.5**
DIVS Divibare 35.15 310 *eP* **P 03 16 45.5 +0.8**
DRME Dracevica, Mon 35.21 306 *eP* **P 03 16 44.2 -1.0**
PDG Podgorica 35.22 307⇓*iP* **P 03 16 45.3 +0.1**
PDG Podgorica 35.22 307 *eP* **P 03 16 45.3 +0.1**
TTG Podgorica 35.22 307 *eP* **P 03 16 45.1 -0.1**
comp=Z,24nm,0.9s
TTG Podgorica 35.22 307 *eP* **P 03 16 45.1 -0.1**
TTG pmax pmax
comp=Z,24nm,0.9s
UZH Uzhgorod 35.31 318 *eP* **P 03 16 45.4 -0.5**
UZH *e* 03 16 56.8
DGPR DIGLIPUR 35.40 105 *eP* **P 03 16 43.1 -3.8**
DGPR IAmb IAmb 03 16 46.8
comp=Z,36nm,1.6s
DGPR IAMs_20 IAMs_20 03 33 02.8
comp=Z,6μm,18.1s
KOLS Kolonicke sedl 35.45 319 *eP* **P 03 16 47.0 -0.2**
KOLS pmax pmax
comp=Z,74nm,1.1s
KOLS Kolonicke sedl 35.45 319 *eP* **P 03 16 47.0 -0.2**
BBLS Lazići 35.49 309 *eP* **P 03 16 47.6 0.0**
KWP Kalwaria Pacla 35.51 320 *eP* **P 03 16 47.4 -0.2**
KWP Kalwaria Pacla 35.51 320 *eP* **P 03 16 47.4 -0.2**
comp=Z,628nm,1.1s
KWP Kalwaria Pacla 35.51 320 *eP* **P 03 16 47.4 -0.2**
MICGM Minsk 35.53 330 *e* **P 03 16 46.0 -1.7**
MNK Minsk 35.53 330 *eP* **P 03 16 46.0 -1.7**
FRGS Fruska Gora 35.59 311 *eP* **P 03 16 47.0 -1.4**
UPM Unac-Piva 35.66 308 *eP* **P 03 16 50.9 +1.7**
HCY Herceg Novi 35.77 306 *eP* **P 03 16 47.0 -3.0**
BRY Bratogost 35.85 307 *eP* **P 03 16 49.8 -1.0**
HAPS Han Pijesak,BI 35.87 309 *eP* **P 03 16 49.3 -1.6**
TREB Trebinje 35.94 307 *eP* **P 03 16 49.1 -2.3**
PBA Port Blair 35.96 108 *eP* P 03 16 47.5 -4.3
PRGR Permogore 36.00 350 *eP* **P 03 16 51.5 -0.1**
PRGR pmax pmax
comp=Z,9.0nm,0.7s
KECS Kecovo 36.34 317 *eP* **P 03 16 57.4 +2.6**
KECS pmax pmax
comp=Z,117nm,1.3s
KECS Kecovo 36.34 317 *eP* **P 03 16 57.4 +2.6**
STON Ston 36.44 307 *eP* **P 03 16 53.6 -2.0**
KLMR Klimovskoe 36.47 345 *eP* **P 03 16 54.9 -0.7**
KLMR pmax pmax
comp=Z,27nm,0.8s
TIP Timpagrande 36.48 301 *eP* **P 03 16 55.7 -0.4**
comp=Z,184nm,1.5s
TIP Timpagrande 36.48 301⇓*iP* **P 03 16 53.9 -2.2**
PSZ Piszkesteto 36.49 316 *eP* **P 03 16 55.6 -0.5**
comp=Z,46nm,1.3s
PSZ Piszkesteto 36.49 316⇑*iP* **P 03 16 52.2 -3.9**
PSZ Piszkesteto 36.49 316⇑P **P 03 16 52.2 -3.9**
PSZ Piszkesteto 36.49 316 *eP* **P 03 16 55.1 -1.1**
IDID Didziasalis 36.56 330 *eP* **P 03 16 56.7 +0.2**
IDID IAmb IAmb 03 17 01.5
comp=Z,8.2nm,0.6s
MATE Matera 36.73 303⇑*iP* **P 03 16 57.4 -0.8**
IIGN Ignalina 36.81 330 *eP* **P 03 16 58.7 +0.1**
IIGN IAmb IAmb 03 17 03.0
comp=Z,14nm,0.7s
NIE Niedzica 36.83 318 *eP* **P 03 16 58.1 -0.9**
NIE Niedzica 36.83 318 *eP* **P 03 16 58.1 -0.9**
BUD Budapest 36.88 315 P **P 03 17 01.5 +2.1**
ISAL Salakas 36.99 330 *eP* **P 03 17 00.4 +0.2**
ISAL IAmb IAmb 03 17 06.7
comp=Z,8.8nm,0.8s
GTA Gaotai 37.07 59 P **P 03 17 01.9 +0.7**
GTA pP sP 03 17 07.2 +0.2
GTA sP pP 03 17 10.5 +5.1
GTA LR LR
comp=Z,2μm,14.7s
GTA LR LR
comp=Z,3μm,14.7s
GTA LR LR
comp=Z,4μm,13.7s
LANS Liptovska Anna 37.23 318 *eP* **P 03 17 03.8 +1.5**
LANS Liptovska Anna 37.23 318 *eP* **P 03 17 03.8 +1.5**
MGRS Mrkonjic Grad 37.25 309 *eP* **P 03 17 02.8 +0.2**
BLY Banja Luka 37.26 310 *eP* **P 03 17 04.8 +2.2**
comp=Z,86nm,1.9s
BLY Banja Luka 37.26 310⇓*iP* **P 03 17 02.1 -0.5**
BLY Banja Luka 37.26 310 *eP* **P 03 17 03.8 +1.2**
CSKK Cskako 37.33 314⇑*eP* **P 03 17 04.0 +0.9**
VYHS Vyhne 37.36 316 *eP* **P 03 17 03.2 -0.3**
VYHS pmax pmax
comp=Z,123nm,2.8s
VYHS Vyhne 37.36 316 *eP* **P 03 17 03.2 -0.3**
SRO2 Moca 37.38 315 *eP* **P 03 17 03.4 -0.2**
SRO2 Moca 37.38 315 *eP* **P 03 17 03.4 -0.2**
TIH Tihany 37.41 313⇑*eP* **P 03 17 05.1 +1.2**
SRO Srobarova 37.45 315 *eP* **P 03 17 06.3 +2.2**
SRO Srobarova 37.45 315 *eP* **P 03 17 06.3 +2.2**
OJC Ojcow 37.46 319 *eP* **P 03 17 04.0 -0.3**
OJC Ojcow 37.46 319 *eP* **P 03 17 03.4 -0.9**
comp=Z,60nm,0.9s
OJC Ojcow 37.46 319 *eP* **P 03 17 04.0 -0.3**
SUW Suwalki 37.46 326 *eP* **P 03 17 03.8 -0.4**
SUW Suwalki 37.46 326 *eP* **P 03 17 03.8 -0.4**
comp=Z,112nm,1.0s
SUW Suwalki 37.46 326 *eP* **P 03 17 03.8 -0.4**
PABE Paberze 37.93 329 *eP* **P 03 17 07.5 -0.7**
PABE IAmb IAmb 03 17 11.1
comp=Z,65nm,0.8s
BEHE Becsehely 38.02 312 *eP* **P 03 17 09.6 +0.6**
VAE Valguarnera 38.15 298 P **P 03 17 11.7 +1.4**
comp=Z,47nm,1.0s,baz=90,slow=20,SNR=12
UDBI Udbina 38.19 309 P **P 03 17 11.9 +1.3**
JAVC Velka Javorina 38.21 316 *eP* **P 03 17 10.9 +0.2**
SMOL Smolenice 38.24 316 P **P 03 17 14.1 +3.2**
OKC Ostrava-Krasne 38.28 318 *eP* **P 03 17 11.1 -0.1**
OKC Ostrava-Krasne 38.28 318 *eP* **P 03 17 11.1 -0.1**
MODS Modra-Piesok 38.29 316 *eP* **P 03 17 12.0 +0.7**
MODS pmax pmax
comp=Z,99nm,1.5s
MODS Modra-Piesok 38.29 316 *eP* **P 03 17 12.0 +0.7**
ZST Bratislava 38.34 315 *eP* **P 03 17 12.8 +1.1**
ZST Bratislava 38.34 315 *eP* **P 03 17 12.8 +1.1**
KOGS Kog 38.36 312 *iP* **P 03 17 10.3 -1.6**
ZAG Zagreb 38.36 311 *eP* **P 03 17 13.0 +1.1**
CHTO Chiang Mai 38.50 93 *eP* **P 03 17 13.5 +0.1**
comp=Z,18nm,1.3s
CHTO LR LR
comp=Z,4μm,22.0s
CMMT Chiang Mai 38.50 93 P **P 03 17 15.9 +2.4**
comp=Z,5.8nm,1.5s
SOP Sopron 38.52 314 P **P 03 17 13.2 0.0**
SOP Sopron 38.52 314 *eP* **P 03 17 14.0 +0.8**
VSU Vasula 38.61 334*ceP* **P 03 17 14.3 +0.5**
VSU pmax pmax
comp=Z,83nm,1.0s
VSU Vasula 38.61 334 *eP* **P 03 17 13.7 -0.1**
VSU IAmb IAmb 03 17 32.7
comp=Z,125nm,1.0s
CM31 Chiang Mai Arr 38.62 93 *eP* **P 03 17 12.9 -1.5**
comp=Z,17nm,1.3s
CMAR Chiang Mai Arr 38.62 93 P **P 03 17 12.9 -1.5**
comp=Z,2.1nm,0.6s,baz=277,slow=8.8,SNR=7.4
CMAR LR LR 03 35 15.5
comp=Z,3μm,21.6s,baz=281,slow=40
MORC Moravsky Berou 38.62 318 *eP* **P 03 17 13.5 -0.6**
comp=Z,17nm,0.9s
MORC Moravsky Berou 38.62 318⇓*iP* **P 03 17 13.9 -0.2**
MORC Moravsky Berou 38.62 318⇓P **P 03 17 13.9 -0.2**
MORC Moravsky Berou 38.62 318 *eP* **P 03 17 12.5 -1.6**
CRES Cresnjev 38.72 311 *eP* **P 03 17 13.8 -1.2**
BOJS Bojanci 38.78 310 *eP* **P 03 17 14.0 -1.5**
NVLJ Novalja 38.82 309 P **P 03 17 16.0 +0.2**
VRAC Vranov 39.03 317⇑*iP* **P 03 17 15.9 -1.7**
VRAC Vranov 39.03 317 *eP* **P 03 17 16.9 -0.7**
VRAC Vranov 39.03 317 P **P 03 17 16.0 -1.5**
comp=Z,5.8nm,0.5s,baz=98,slow=9.0,SNR=25
CONA Conrad Observa 39.05 314 *epP* **P 03 17 17.4 -0.4**
comp=Z,64nm,1.5s,SNR=21
ARSA Arzberg 39.06 313 *epP* **P 03 17 17.6 -0.2**
comp=Z,62nm,1.4s,SNR=30
KRUC Moravsky 39.07 316 *eP* **P 03 17 17.2 -0.7**
CLTB Caltabellotta 39.10 298 *eP* **P 03 17 20.5 +2.1**
comp=Z,134nm,1.6s
PBUR Paburg 39.17 329 *eP* **P 03 17 16.4 -2.1**
PBUR IAmb IAmb 03 17 21.2
comp=Z,39nm,0.9s
KRLC Kraliky 39.19 318 *eP* **P 03 17 19.3 +0.4**
SOKA Soboth 39.23 312 *epP* **P 03 17 18.9 -0.3**
comp=Z,28nm,1.3s,SNR=11
RIY Rijeka 39.26 310 *eP* **P 03 17 17.2 -2.3**
UMPA Umpang Tak 39.34 97 P P 03 17 26.4 +5.9
comp=Z,42μm,1.3s
CEY Cerknica 39.40 311 *eP* **P 03 17 19.1 -1.5**
LJU Ljubljana 39.40 311 *eP* **P 03 17 19.7 -0.9**
LJU Ljubljana 39.40 311 *eP* **P 03 17 19.4 -1.3**
AQU L'Aquila 39.45 305 *eP* **P 03 17 21.9 +0.7**
comp=Z,92nm,1.1s
AQU L'Aquila 39.45 305 *eP* **P 03 17 21.9 +0.7**
AQU pmax pmax
comp=Z,92nm,1.1s
AQU L'Aquila 39.45 305 *eP* **P 03 17 23.1 +1.9**
OBKA Obir 39.51 312 *epP* **P 03 17 21.3 -0.3**
comp=Z,48nm,1.5s,SNR=11
DPC Dobruska-Polom 39.57 318 *eP* **P 03 17 22.1 +0.1**
DPC Dobruska-Polom 39.57 318 *eP* **P 03 17 22.1 +0.1**
TREC Trest 39.71 316 *eP* **P 03 17 23.5 +0.3**
TREC Trest 39.71 316 *eP* **P 03 17 23.5 +0.3**
TMCR Tamitsa 39.72 347 *eP* **P 03 17 24.8 +1.8**
TMCR pmax pmax
comp=Z,42nm,1.3s
KSP Ksiaz 39.76 319 *eP* **P 03 17 23.4 -0.2**
KSP Ksiaz 39.76 319 *eP* **P 03 17 23.4 -0.2**
UPC Upice 39.81 318 *eP* **P 03 17 23.4 -0.6**
UPC Upice 39.81 318 *eP* **P 03 17 23.4 -0.6**
TRI Trieste 39.84 310 *eP* **P 03 17 23.1 -1.2**
comp=Z,206nm,1.6s
TRI Trieste 39.84 310 *eP* **P 03 17 23.1 -1.2**
TRI pmax pmax
comp=Z,206nm,1.6s
SLIT Slitere, Latvi 39.92 331 *eP* **P 03 17 26.3 +1.5**
SLIT IAmb IAmb 03 17 43.4
comp=Z,159nm,1.0s
LZH Lanzhou 40.04 65 *eP* **P 03 17 26.7 +0.4**
LZH pP sP 03 17 33.2 +1.1
LZH sP pP 03 17 38.8 +8.4
LZH PP **PnPn 03 19 04.4 +2.7**
LZH pmax pmax
comp=Z,57nm,1.3s
LZH pmax pmax
comp=Z,270nm,5.4s
LZH LR LR
comp=Z,9μm,15.2s
LZH LR LR
comp=Z,4μm,15.3s
LZH LR LR
comp=Z,4μm,17.4s
MOA Molln 40.05 314 *epP* **P 03 17 25.8 -0.3**
comp=Z,23nm,0.8s,SNR=24
UTHA Uthaitani 40.11 97 P **P 03 17 27.8 +0.9**
comp=Z,35μm,1.2s,comp=Z,495μm
MYKA Terra Mystica 40.14 312 *eP* **P 03 17 26.7 -0.1**
comp=Z,20nm,0.9s,SNR=9.9
CD2 Chengdu 40.20 73 P P 03 17 36.1 +8.5
KMI Kunming 40.20 82 P **P 03 17 28.5 +0.6**
KMI pmax pmax
comp=Z,12nm,0.6s
KMI pmax pmax

comp=Z,1μm,7.9s
KMI LR LR
comp=Z,3μm,14.8s
KMI LR LR
comp=Z,2μm,17.4s
KMI LR LR
comp=Z,3μm,16.7s
UTTA Uttaradit 40.30 94 P **P 03 17 32.2 +3.8**
comp=Z,15μm,0.7s
SRDT SRDT 40.31 99 P P 03 17 34.5 +6.0
comp=Z,11nm,2.2s,comp=Z,4μm
KBA Koelnbreinsper 40.45 312 *eP* **P 03 17 29.3 -0.3**
comp=Z,98nm,1.5s,SNR=37
KBA Koelnbreinsper 40.45 312 P **P 03 17 29.3 -0.3**
PRU Pruhonice 40.52 317 *eP* **P 03 17 29.1 -0.8**
PRU Pruhonice 40.52 317 *eP* **P 03 17 29.1 -0.8**
PVCC Panska Ves 40.68 318 *eP* **P 03 17 31.2 0.0**
PVCC *e* 03 17 35.2
PVCC Panska Ves 40.68 318 *eP* **P 03 17 31.2 0.0**
PVCC *ex* x 03 17 35.2
GEC2 GERESS Array S 40.69 315 *eP* **P 03 17 30.4 -1.0**
comp=Z,108nm,1.5s
GEC2 GERESS Array S 40.69 315 *eP* **P 03 17 30.5 -1.0**
GEC2 pmax pmax
comp=Z,108nm,1.5s
GERES GERESS Array B 40.69 315 *eP* **P 03 17 29.9 -1.6**
GERES GERESS Array B 40.69 315 *eP* **P 03 17 30.6 -0.8**
GERES pmax pmax
comp=Z,8.0nm,0.6s
GERES GERESS Array B 40.69 315 P **P 03 17 30.0 -1.4**
comp=Z,8.3nm,0.6s,baz=111,slow=9.1,SNR=40
GERES LR LR 03 38 02.6
comp=Z,3μm,19.8s,baz=93,slow=42
KHC Kasperske Hory 40.85 315 *eP* **P 03 17 31.1 -1.6**
comp=Z,62nm,1.5s
KHC Kasperske Hory 40.85 315 *eP* **P 03 17 31.1 -1.6**
KHC pmax pmax
comp=Z,62nm,1.5s
KHC Kasperske Hory 40.85 315 *eP* **P 03 17 31.0 -1.6**
KHC *ex* x 03 17 34.6
FIA1 FINESS Array S 40.89 337 *eP* **P 03 17 32.1 -0.6**
comp=Z,94nm,1.6s
FINES FINESS Array B 40.89 337 *eP* **P 03 17 31.7 -1.0**
FINES FINESS Array B 40.89 337 *eP* **P 03 17 32.0 -0.7**
FINES pmax pmax
comp=Z,14nm,0.5s
FINES FINESS Array B 40.89 337 P **P 03 17 31.9 -0.8**
comp=Z,14nm,0.5s,baz=136,slow=7.9,SNR=32
MOY Mondy 40.91 41 *eP* **P 03 17 34.6 +1.4**
MOY pmax pmax
comp=Z,33nm,1.8s
ABTA Abfaltersbach 40.92 312 *ep*P **P 03 17 33.1 -0.3**
comp=Z,40nm,0.7s,SNR=28
BRG Berggiesshubel 41.17 318 *eP* **P 03 17 36.0 +0.8**
comp=Z,13nm,1.1s
BRG Berggiesshubel 41.17 318 *eP* **P 03 17 36.0 +0.8**
BRG pmax pmax
comp=Z,13nm,1.1s
BRG MLR MLR
comp=N,3μm,22.4s
BRG MLR MLR
comp=E,3μm,18.1s
BRG MLR MLR
comp=Z,2μm,19.1s
WTTA Wattenberg 41.63 312 *ep*P **P 03 17 38.5 -0.8**
comp=Z,176nm,1.3s
WATA Walderalm 41.68 312 *ep*P **P 03 17 38.5 -1.1**
comp=Z,56nm,0.7s,SNR=35
ZAK Zakamensk 41.85 43 *eP* **P 03 17 39.6 -1.4**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
CLL Collm 41.87 318 *eP* **P 03 17 40.5 -0.5**
comp=Z,29nm,1.0s
CLL Collm 41.87 318 *eP* **P 03 17 41.0 0.0**
CLL pmax pmax
comp=Z,48nm,1.3s
CLL MLR MLR
comp=Z,2μm,19.7s
CLL Collm 41.87 318 *eP* **P 03 17 41.0 0.0**
comp=Z,6.0nm,1.1s
CLL ⇓*i*Pmax 03 17 43.3
comp=Z,48nm,1.3s
CLL *i* 03 17 49.1
CLL LmV 03 38 00.0
comp=Z,2μm,19.7s
CLL Lmax 03 38 00.0
NKC Novy Kostel 41.88 317 *eP* **P 03 17 41.1 0.0**
NKC Novy Kostel 41.88 317 *eP* **P 03 17 41.1 0.0**
SQTA Sankt Quirin 41.90 312 *i* pP **P 03 17 40.1 -1.3**
comp=Z,108nm,0.6s,SNR=65
VLC Villacollemand 41.91 307 *eP* **P 03 17 42.1 +0.7**
comp=Z,58nm,1.3s
MOTA Moosalm 42.00 312 *ep*P **P 03 17 40.9 -1.4**
comp=Z,77nm,0.9s,SNR=53
FETA Feichten 42.18 312 *ep*P **P 03 17 42.2 -1.5**
comp=Z,114nm,0.9s,SNR=30
KEST Kesra 42.19 295 *eP* **P 03 17 44.7 +0.8**
comp=Z,25nm,0.8s
KEST Kesra 42.19 295 P **P 03 17 44.9 +1.0**
comp=Z,22nm,0.8s,baz=352,slow=1.2,SNR=25
KEST LR LR 03 38 44.6
comp=Z,2μm,20.5s,baz=14,slow=41
BSD Bornholm Skovb 42.21 324 *i* P **P 03 17 41.8 -1.9**
BSD pmax pmax
comp=Z,77nm,0.6s
BSD Bornholm Skovb 42.21 324 *i* P **P 03 17 41.8 -1.9**
comp=Z,77nm,0.6s
RETA Reutte 42.26 312 *ep*P **P 03 17 43.0 -1.3**
comp=Z,25nm,0.6s,SNR=10
FUORN Ofenpass-Fuorn 42.41 311 *eP* **P 03 17 45.0 -0.7**
comp=Z,36nm,0.6s
TLY Talaya 42.47 41 PFAKE 03 17 50.0 +4.1
TLY LR LR
comp=Z,2μm,21.0s
GRA1 Grafenberg Arr 42.49 316 *eP* **P 03 17 45.8 -0.2**
comp=Z,139nm,1.3s
GRF Grafenberg Arr 42.49 316 *eP* **P 03 17 45.8 -0.2**
GRF pmax pmax
comp=Z,139nm,1.3s
GRFO Grafenberg 42.49 316 *eP* **P 03 17 45.9 -0.2**
comp=Z,125nm,1.3s
GRFO Grafenberg 42.49 316 *eP* **P 03 17 45.9 -0.2**
GRFO pmax pmax
comp=Z,125nm,1.3s
NONG Nongkai 42.51 92 P **P 03 17 46.3 -0.3**
comp=Z,1.2nm,1.1s
DAVOX Davos/Dischmat 42.70 311 P **P 03 17 47.5 -0.5**
comp=Z,43nm,0.6s,baz=129,slow=5.3,SNR=58
DAVA Damuels 42.80 312 *ep*P **P 03 17 47.6 -1.2**
comp=Z,112nm,0.5s,SNR=65
RGN Rugen 42.83 323 *eP* **P 03 17 48.5 -0.2**
comp=Z,55nm,0.7s
TUE Stuetta 43.01 311 *eP* **P 03 17 50.5 0.0**
comp=Z,43nm,1.0s
IRK Irkutsk 43.01 41 *eP* **P 03 17 51.1 +0.8**
IRK pmax pmax
comp=Z,65nm,2.8s
SONM Songino Array 43.20 47 *eP* **P 03 17 52.0 0.0**
SONM Songino Array 43.20 47 *eP* **P 03 17 52.0 0.0**
SONM Songino Array 43.20 47 P **P 03 17 52.9 +0.9**
comp=Z,11nm,1.0s,baz=260,slow=8.9,SNR=32
SONM LR LR 03 39 37.0
comp=Z,3μm,19.8s,baz=268,slow=42
GYA Guiyang 43.40 79 *eP* P 03 17 59.9 +6.1
GYA pmax pmax
comp=Z,10.0nm,0.6s
STU Stuttgart 43.56 314 *eP* **P 03 17 55.8 +1.1**
comp=Z,30nm,1.0s
STU Stuttgart 43.56 314 P **P 03 17 56.5 +1.8**
STU pmax pmax
comp=Z,66nm,1.0s
APA Apatity 43.63 347 ⇑*i*P **P 03 17 56.0 +1.0**
APA pmax pmax
comp=Z,19nm,1.0s
SKNT Sakolnakorn 43.63 93 P **P 03 17 56.2 +0.5**
comp=Z,21nm,1.2s
ULN Ulaanbaatar 43.64 48 *eP* **P 03 17 55.6 +0.1**
comp=Z,21nm,1.2s
ULN LR LR
comp=Z,3μm,19.0s
ULN Ulaanbaatar 43.64 48 *ceP* **P 03 17 57.8 +2.2**
ULN pmax pmax
comp=Z,16nm,1.0s
LVZ Lovozero 43.66 347 PFAKE 03 18 00.0 +4.7
LVZ LR LR
comp=Z,2μm,19.0s
BFO Black Forest 44.03 313 *eP* **P 03 17 58.8 +0.2**
comp=Z,60nm,1.6s
BFO LR LR
comp=Z,53nm,20.0s
BFO Black Forest 44.03 313 *eP* **P 03 17 58.8 +0.2**
BFO pmax pmax
comp=Z,60nm,1.6s
XAN Xi'an 44.27 68 P **P 03 18 00.3 -0.4**
XAN pmax pmax
comp=Z,360nm,7.9s
XAN Xi'an 44.27 68 *eP* **P 03 17 59.8 -0.9**
comp=Z,150nm,1.8s
XAN Xi'an 44.27 68 *eP* **P 03 17 59.8 -0.9**
XAN pmax pmax
comp=Z,150nm,1.8s
SENIN Lac Senin/Sane 44.39 310 *eP* **P 03 18 00.4 -1.2**
comp=Z,28nm,0.8s
MBDF Montbardon 44.55 308 *eP* **P 03 18 02.6 -0.3**
MBDF pmax pmax
comp=Z,17nm,0.6s
LMR La Mourre 44.60 306 *eP* **P 03 18 04.2 +1.1**
LMR pmax pmax
comp=Z,14nm,1.0s
BNI Bardonecchia 44.65 308 *eP* **P 03 18 03.0 -0.7**
comp=Z,43nm,1.0s
BNI Bardonecchia 44.65 308 *eP* **P 03 18 03.0 -0.7**
BNI pmax pmax
comp=Z,43nm,1.0s
LPG La Plagne 44.65 309 *eP* **P 03 18 02.4 -1.5**
LPG pmax pmax
comp=Z,86nm,1.4s
LPL La Plagne 44.66 309 *eP* **P 03 18 02.5 -1.4**
LPL pmax pmax
comp=Z,57nm,1.1s
CDF Champ du Feu 44.73 313 *eP* **P 03 18 04.0 -0.3**
CDF pmax pmax
comp=Z,23nm,1.0s
ECH Echery 44.78 313 *eP* **P 03 18 03.3 -1.2**
comp=Z,54nm,1.0s
ECH Echery 44.78 313 *eP* **P 03 18 03.3 -1.2**
ECH pmax pmax
comp=Z,54nm,1.0s
HINF Hinteralfeld 44.91 312 *eP* **P 03 18 04.4 -1.2**
HINF pmax pmax
comp=Z,55nm,1.2s
BTO Baotou 44.97 58 *eP* **P 03 18 05.9 -0.4**
HFS Hagfors 45.04 330 P **P 03 18 05.8 -0.5**
comp=Z,3.8nm,0.4s,baz=128,slow=9.6,SNR=37
ENH Enshi 45.18 73 *eP* **P 03 18 07.9 -0.1**
ENH LR LR
comp=Z,212nm,22.0s
CABF La Chapelle 45.25 310 *eP* **P 03 18 07.3 -1.1**
CABF pmax pmax
comp=Z,248nm,1.6s
HAU Haudompre 45.28 312 *eP* **P 03 18 07.1 -1.4**
HAU pmax pmax
comp=Z,15nm,0.5s
WLF Walferdange 45.69 314 *eP* **P 03 18 12.1 +0.4**
comp=Z,126nm,0.8s
WLF Walferdange 45.69 314 *eP* **P 03 18 12.1 +0.4**
WLF pmax pmax
comp=Z,126nm,0.8s
WLF Walferdange 45.69 314 ⇓P **P 03 18 11.8 +0.1**
WLF ⇑pP **sP 03 18 19.7 +2.1**
comp=Z,25nm,0.9s
WTSB Winterswijk 45.77 318 *eP* **P 03 18 13.5 +1.2**
comp=Z,29nm,0.8s
MEM Membach 45.96 316 ⇑P **P 03 18 13.8 -0.1**
MEM ⇓pP **pP 03 18 16.8 -1.2**
HGN Heimansgroeve 46.04 316 *eP* **P 03 18 16.0 +1.6**
comp=Z,93nm,1.8s
VIVF Saint-Julien-l 46.05 308 *eP* **P 03 18 13.3 -1.3**
VIVF pmax pmax
comp=Z,14nm,0.8s
HHC Hu-ho-hao-te 46.15 58 *eP* **P 03 18 16.2 +0.6**
HHC sP sP 03 18 26.7 +5.2
HHC S **S 03 25 03.5 +2.0**
HHC SS **ScS 03 28 14.4 +3.1**
HHC pmax pmax
comp=Z,130nm,1.0s
HHC pmax pmax
comp=Z,430nm,5.8s
HHC LR LR
comp=Z,2μm,14.0s
HHC LR LR
comp=Z,1μm,15.0s
HHC LR LR
comp=Z,3μm,14.3s
NRIK Noril'sk 46.17 14 *eP* **P 03 18 16.9 +1.7**
NRIK Noril'sk 46.17 14 P **P 03 18 15.8 +0.6**
comp=Z,19nm,0.8s,baz=213,slow=5.3,SNR=20
NRIK LR LR 03 39 44.1
comp=Z,3μm,21.6s,baz=204,slow=39
SSB Saint Sauveur 46.17 308 *eP* **P 03 18 13.9 -1.7**
comp=Z,140nm,1.7s
SSB Saint Sauveur 46.17 308 *eP* **P 03 18 13.9 -1.7**
SSB pmax pmax
comp=Z,140nm,1.7s
NC602 NORSAR Array S 46.26 331 *eP* **P 03 18 18.1 +2.1**
comp=Z,71nm,1.4s
NC602 NORSAR Array S 46.26 331 *eP* **P 03 18 13.2 -2.8**
NC602 *es*P **pP 03 18 17.4 -2.9**
NORES NORESS Array B 46.26 331 P **P 03 18 15.7 -0.3**
NC405 NORSAR Array S 46.35 331 *eP* **P 03 18 16.1 -0.7**
comp=Z,82nm,1.3s
BCLA Clavier 46.37 315 ⇑P **P 03 18 17.6 +0.6**
BCLA ⇑pP **sP 03 18 25.6 +2.7**
BCLA ⇑sP pP 03 18 30.1 +8.8
comp=Z,32nm,1.5s
NB201 NORSAR Array S 46.51 331 *eP* **P 03 18 19.4 +1.3**
comp=Z,94nm,1.4s
ABPO Ambohimpanom 46.52 194 PFAKE 03 18 30.0 +11
ABPO LR LR
comp=Z,944nm,20.0s
NB2 NORSAR Subarra 46.54 331 P **P 03 18 17.6 -0.7**
comp=Z,2.5nm,0.7s,baz=114,slow=7.9
NB2 NORSAR Subarra 46.54 331 pP **P 03 18 17.6 -0.7**
baz=114,slow=7.9
NOA NORSAR Array B 46.54 331 P **P 03 18 16.9 -1.4**
comp=Z,3.8nm,0.7s,baz=121,slow=7.7,SNR=17
NOA LR LR 03 40 05.2
comp=Z,2μm,21.6s,baz=125,slow=39
GIVF Givet 46.61 315 *eP* **P 03 18 19.4 +0.4**
GIVF pmax pmax
comp=Z,43nm,0.9s
KONO Kongsberg 46.69 329 *eP* **P 03 18 16.5 -2.9**
NBO00 NORSAR Array S 46.73 331 *eP* **P 03 18 21.1 +1.4**
comp=Z,252nm,2.0s
DOU Dourbes 46.76 315 ⇑P **P 03 18 19.4 -0.7**
DOU ⇑pP **sP 03 18 27.4 +1.4**
DOU ⇑sP pP 03 18 33.1 +8.8
comp=Z,39nm,1.2s
KEV Kevo 46.78 346 *eP* **P 03 18 19.4 -0.6**
comp=Z,32nm,0.9s
KEV LR LR
comp=Z,5μm,20.0s
KEV Kevo 46.78 346 *eP* **P 03 18 19.4 -0.6**
KEV pmax pmax
comp=Z,32nm,0.9s
KEV MLR MLR
comp=Z,5μm,20.0s
SMF Signal de Mont 46.79 310 *eP* **P 03 18 18.7 -1.7**
SMF pmax pmax
comp=Z,178nm,1.1s
LOR Lormes 46.84 311 *eP* **P 03 18 19.0 -1.9**
LOR pmax pmax
comp=Z,59nm,1.0s
TIY Taiyuan 46.88 62 *eP* P 03 18 27.4 +6.0
TIY pmax pmax
comp=Z,62nm,1.0s
TIY LR LR
comp=Z,1μm,12.4s
TIY LR LR
comp=Z,260nm,9.8s
TIY LR LR
comp=Z,2μm,21.6s
ARCES ARCESS Array B 46.95 345 *eP* **P 03 18 21.0 -0.3**
ARCES ARCESS Array B 46.95 345 P **P 03 18 19.1 -2.1**
comp=Z,8.3nm,0.7s,baz=134,slow=6.9,SNR=23
ARCES LR LR 03 41 11.7
comp=Z,3μm,19.3s,baz=120,slow=40
ARE0 ARCESS Array S 46.95 345 *eP* **P 03 18 22.1 +0.8**
comp=Z,1.2nm,1.1s
ARE0 ARCESS Array S 46.95 345 *eP* **P 03 18 19.1 -2.1**
BAIF Baives 47.00 315 *eP* **P 03 18 22.6 +0.6**
BAIF pmax pmax
comp=Z,143nm,1.6s
SNF Seneffe 47.02 315 ⇑P **P 03 18 23.8 +1.6**
SNF ⇑pP **sP 03 18 31.3 +3.2**
comp=Z,38nm,1.3s
UCC Uccle 47.03 316 *eP* **P 03 18 25.2 +3.0**
comp=Z,33nm,1.3s
UCC Uccle 47.03 316 *eP* **P 03 18 25.2 +3.0**
UCC pmax pmax
comp=Z,33nm,1.3s
UCC Uccle 47.03 316 ⇑P **P 03 18 22.6 +0.4**
SSF Saint Saulge 47.06 311 *eP* **P 03 18 20.9 -1.6**
SSF pmax pmax
comp=Z,219nm,1.3s
KTK1 Kautokeino 47.10 344 *eP* **P 03 18 19.7 -2.8**
KTK1 *es*P **pP 03 18 24.1 -2.6**
AVF Avril sur Loir 47.14 310 *eP* **P 03 18 21.2 -1.9**
AVF pmax pmax
comp=Z,76nm,1.3s
BGF Bois d'Agland 47.47 310 *eP* **P 03 18 25.8 +0.1**
BGF pmax pmax
comp=Z,64nm,1.0s
TAM Tamanrasset 47.49 277 *eP* **P 03 18 26.5 +0.1**
comp=Z,23nm,1.0s
TAM Tamanrasset 47.49 277 *eP* **P 03 18 26.5 +0.1**
TAM pmax pmax
comp=Z,23nm,1.0s
SKAR Skarslia 47.69 330 *eP* **P 03 18 23.9 -3.4**
SKAR *es*P **pP 03 18 28.7 -2.8**
MTLF Montolieu 47.73 305 *eP* **P 03 18 27.6 -0.2**
MTLF pmax pmax
comp=Z,54nm,1.2s
NSS Namsos 47.88 335 *eP* **P 03 18 25.8 -2.8**
NSS *es*P **pP 03 18 29.8 -3.0**
TCF Toulx Ste Croi 47.88 309 *eP* **P 03 18 28.3 -0.7**
TCF pmax pmax
comp=Z,51nm,1.1s
CAF Calviac 47.90 308 *eP* **P 03 18 27.3 -1.8**
CAF pmax pmax
comp=Z,50nm,1.1s
DOMB Dombas 47.90 331 *eP* **P 03 18 26.9 -2.0**
BLS5 Blasjo 48.09 327 *eP* **P 03 18 27.5 -2.9**
QIZ Qiongzhong 48.19 88 PFAKE 03 18 40.0 +8.4
QIZ LR LR
comp=Z,272nm,20.0s
HAMF Hammerfest 48.19 345 *eP* **P 03 18 28.4 -2.6**
RJF Les Rejaudoux 48.31 308 *eP* **P 03 18 32.0 -0.2**
RJF pmax pmax
comp=Z,80nm,1.1s
KONS Konsvik 48.49 338 *eP* **P 03 18 31.0 -2.3**
KONS *es*P **pP 03 18 34.5 -3.0**
STEI Steigen 48.62 340 *eP* **P 03 18 31.7 -2.6**
STEI *es*P **pP 03 18 36.0 -2.5**
TRO Tromso 48.64 343 *eP* **P 03 18 31.6 -2.8**
TRO *es*P **pP 03 18 36.0 -2.6**
HYA Hoyanger 48.83 330 *eP* **P 03 18 34.1 -1.9**
HYA *es*P **pP 03 18 37.8 -2.4**
LFF La Frestale 48.84 308 *eP* **P 03 18 36.3 0.0**
LFF pmax pmax
comp=Z,29nm,0.6s
AKN Aaknes 48.85 331 *eP* **P 03 18 33.2 -2.9**
BER Bergen 48.95 328 *eP* **P 03 18 34.7 -2.2**
ASK Askoy 49.05 329 *eP* **P 03 18 35.3 -2.4**
EPF Esparros 49.10 305 *eP* **P 03 18 39.8 +1.4**
EPF pmax pmax
comp=Z,7.0nm,0.8s
LOF Lofoten 49.26 340 *eP* **P 03 18 36.9 -2.2**
LOF *ep*P **pP 03 18 39.6 -3.8**
WHN Wuhan 49.28 72 P **P 03 18 43.8 +3.9**
WHN S **S 03 25 50.8 +4.8**
WHN LR LR
comp=Z,4μm,14.0s
WHN LR LR
comp=Z,4μm,14.6s
WHN LR LR
comp=Z,7μm,18.4s
FOO Floro 49.50 330 *eP* **P 03 18 38.4 -2.7**
FOO *ep*P **pP 03 18 41.1 -4.2**
MFF Saint Martin d 49.53 310 *eP* **P 03 18 42.8 +1.2**
MFF pmax pmax
comp=Z,24nm,1.2s
LDF La Druitiere 49.64 312 *eP* **P 03 18 41.7 -0.7**
LDF pmax pmax
comp=Z,22nm,0.8s
BJT Baijiatuau 49.68 59 PFAKE 03 18 50.0 +7.2
BJT LR LR
comp=Z,3μm,20.0s
BJI Beijing 49.68 59 P P 03 18 48.4 +5.6
BJI pmax pmax
comp=Z,9.0nm,1.3s
ETSF Etsaut 49.76 305 *eP* **P 03 18 45.8 +2.3**
ETSF pmax pmax
comp=Z,37nm,1.1s
FLN La Foliniere 49.89 313 *eP* **P 03 18 43.1 -1.2**
FLN pmax pmax
comp=Z,83nm,1.2s
BOD Bodaibo 49.94 35 *eP* **P 03 18 42.7 -1.8**
BOD pmax pmax
comp=Z,49nm,1.4s
GRR Gorron 50.11 312 *eP* **P 03 18 45.9 -0.1**
GRR pmax pmax
comp=Z,56nm,1.4s
SJPF Ste Jean 50.24 305 *eP* **P 03 18 46.8 -0.3**
SJPF pmax pmax
comp=Z,25nm,1.0s
LSZ Lusaka 50.67 218 *eP* **P 03 18 51.5 +0.8**
comp=Z,10nm,0.9s
LSZ LR LR
comp=Z,3μm,21.0s
LSZ Lusaka 50.67 218 *eP* **P 03 18 51.5 +0.8**
LSZ pmax pmax
comp=Z,10.0nm,0.9s
LSZ MLR MLR
comp=Z,3μm,21.0s
TIA Tai'an 50.75 64 P **P 03 18 51.7 +0.7**
TIA pmax pmax
comp=Z,5.0nm,0.4s
SGMF Saint Gilles 51.23 312 *eP* **P 03 18 56.1 +1.6**
SGMF pmax pmax
comp=Z,89nm,1.3s
SESP Santiago Espad 51.55 299 P **P 03 18 58.3 +1.1**
QUIF Quistinic 51.63 311 *eP* **P 03 18 57.7 +0.3**
QUIF pmax pmax
comp=Z,109nm,1.4s
ROSF Rostrenen 51.72 312 *eP* **P 03 19 00.1 +2.0**
ROSF pmax pmax
comp=Z,266nm,1.8s
TAF Taforalt 51.85 295 P **P 03 19 02.0 +2.6**
JBK JBK 52.05 294 P **P 03 19 04.0 +3.0**
EKA Eskdalemuir Ar 52.20 321 P **P 03 19 00.4 -1.2**
comp=Z,3.3nm,0.5s,baz=99,slow=7.5,SNR=17
ESK Eskdalemuir 52.23 321 PFAKE 03 19 10.0 +8.3
ESK LR LR
comp=Z,2μm,22.0s
ESDC Sonseca Array 52.49 301 *eP* **P 03 19 03.8 -0.3**
ESDC Sonseca Array 52.49 301 P **P 03 19 02.7 -1.4**
comp=Z,6.9nm,0.6s,baz=65,slow=7.5,SNR=34
ESDC LR LR 03 45 04.9
comp=Z,896nm,19.5s,baz=0.0,slow=40
ESLA Sonseca Array 52.49 301 *eP* **P 03 19 04.9 +0.8**
comp=Z,14nm,0.7s
NJ2 Nanjing 52.80 69 *eP* **P 03 19 07.0 +0.6**
NJ2 pmax pmax
comp=Z,16nm,0.5s
PAB San Pablo 52.80 301 *eP* **P 03 19 06.5 +0.1**
comp=Z,27nm,0.8s
PAB LR LR
comp=Z,2μm,19.0s
PAB San Pablo 52.80 301 *eP* **P 03 19 06.5 +0.1**
PAB pmax pmax
comp=Z,27nm,0.8s
PAB MLR MLR
comp=Z,2μm,19.0s
HORN Hornachuelos 53.71 299 P **P 03 19 13.9 +0.9**
MDT Midelt 53.98 293 P **P 03 19 15.5 +0.3**
comp=Z,10.0nm,0.6s,baz=94,slow=12,SNR=37
DL2 Dalian 53.99 60 P **P 03 19 15.1 +0.1**
DL2 *es* **S 03 26 50.7 +0.1**
DL2 pmax pmax
comp=Z,53nm,1.1s
DL2 LR LR
comp=Z,3μm,24.4s
DL2 LR LR
comp=Z,740nm,24.9s
DL2 LR LR
comp=Z,3μm,19.2s

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LCRM LCR          54.03 294  P      P      03 19 18.4 +2.8
SMIR Smir Dam     54.12 296  P      P      03 19 18.0 +2.0
TOA0 Torodi Ar. Sit 54.16 267 eP     P      03 19 15.4 -1.1
     comp=Z,58nm,0.8s
TORD Torodi Ar. Bea 54.16 267 P      P      03 19 14.3 -2.2
     comp=Z,10nm,0.4s,baz=71,slow=6.8,SNR=111
TORD                           LR     LR     03 44 20.5
     comp=Z,2µm,19.8s,baz=10.0,slow=38
TOA1 Torodi Ar. Sit 54.16 267 eP     P      03 19 14.3 -2.2
PBRG Braganca     54.39 304  eP     P      03 19 19.5 +1.5
     comp=Z,38nm,1.6s
RSA  Sarsar       54.61 295  P      P      03 19 21.3 +1.6
MVO  Moncorvo     54.67 303  eP     P      03 19 21.8 +1.7
     comp=Z,50nm,2.5s
SSE  Sheshan      54.94  69  PFAKE
SSE                            LR     LR     03 19 30.0 +7.9
     comp=Z,4µm,20.0s
SPA0 Spitsbergen Ar 54.98 350 eP     P      03 19 19.4 -2.2
SPITS Spitsbergen Ar 54.98 350 P     P      03 19 19.3 -2.3
     comp=Z,1.4nm,0.4s,baz=132,slow=8.0,SNR=21
SPITS                          LR     LR     03 46 30.3
     comp=Z,2µm,18.8s,baz=30,slow=40
MTE  Manteigas    55.15 302  eP     P      03 19 26.2 +2.7
     comp=Z,74nm,1.6s
MTE  Manteigas    55.15 302  eP     P      03 19 26.4 +2.9
     comp=Z,72nm,1.4s
PMRV Marv??o      55.16 301  eP     P      03 19 24.8 +1.3
     comp=Z,33nm,2.2s
PCBR Castelo Branco 55.17 301 eP     P      03 19 24.3 +0.7
     comp=Z,62nm,1.6s
PVRL Vila Real    55.18 303  eP     P      03 19 23.8 +0.1
     comp=Z,81nm,1.5s
POLO Lamas de Olo 55.22 303  eP     P      03 19 27.2 +3.1
     comp=Z,33nm,1.3s
PVIS Viseu        55.38 303  eP     P      03 19 27.5 +2.4
     comp=Z,88nm,1.2s
PGAV Gavieira, Arco 55.51 304 eP     P      03 19 28.3 +2.2
     comp=Z,108nm,1.2s
PBEJ Beja         55.72 299  eP     P      03 19 29.8 +2.2
     comp=Z,44nm,1.8s
EVO  Evora        55.76 300  eP     P      03 19 30.7 +2.8
     comp=Z,35nm,1.3s
PTO  Porto        55.86 303  eP     P      03 19 32.2 +3.7
     comp=Z,74nm,1.3s
PTOM Tomar        55.91 301  eP     P      03 19 30.9 +2.0
     comp=Z,92nm,1.5s
PCAS Casmilo, Conde 55.92 302 eP     P      03 19 31.0 +2.0
PCVE Castro Verde 55.92 299  eP     P      03 19 30.1 +1.1
     comp=Z,46nm,2.0s
KBS  Kingsbay     56.14 350  PFAKE
KBS                            LR     LR     03 19 40.0 +10
     comp=Z,2µm,20.0s
PNCL Nicolau / Gran 56.23 300 eP     P      03 19 31.8 +0.6
     comp=Z,46nm,2.0s
CN2  Changchun    56.29  54  eP     P      03 19 32.3 +0.7
CN2                            ePP    PP     03 21 37.7 +0.9
CN2                            eS     S      03 27 15.9 -5.5
CN2                            pmax   pmax
     comp=Z,20nm,1.4s
CN2                            LR     LR
     comp=Z,2µm,18.0s
CN2                            LR     LR
     comp=Z,1µm,18.0s
CN2                            LR     LR
     comp=Z,3µm,19.0s
PFVI Vila Bisbo   56.62 298  eP     P      03 19 34.9 +0.9
     comp=Z,96nm,1.4s
PMAFR Mafra       56.68 301  eP     P      03 19 37.3 +2.9
     comp=Z,111nm,1.3s
TATO Taipei       56.72  76  PFAKE
TATO                           LR     LR
     comp=Z,2µm,19.0s
ZEA  Zeya         56.91  42  eP     P      03 19 37.8 +2.0
ZEA                            pmax   pmax
     comp=Z,48nm,1.6s
YAK  Yakutsk      58.34  32  eP     P      03 19 45.4 -0.3
YAK                            e*PP   sP     03 19 55.1 +3.5
YAK                            e      03 20 34.7
YAK                            e      03 21 59.0
YAK                            eS     S      03 27 47.7 -0.1
YAK                            e*SS   sS     03 28 14.1 +19
YAK                            e      03 29 34.2
YAK                            pmax   pmax
     comp=Z,225nm,0.8s
YAK                            pmax   pmax
     comp=E,83nm,1.1s
YAK                            pmax   pmax
     comp=N,30nm,0.8s
YAK                            pmax   pmax
     comp=Z,740nm,3.4s
YAK                            pmax   pmax
     comp=E,690nm,3.4s
YAK                            smax   smax
     comp=E,1µm,3.8s
YAK                            smax   smax
     comp=N,1µm,4.1s
YAK                            MLR    MLR
     comp=Z,12µm,15.0s
YAK                            MLR    MLR
     comp=E,5µm,13.0s
YAK                            MLR    MLR
     comp=N,2µm,11.0s
TIXI Tiksi        59.01  20  eP     P      03 19 51.0 +0.8
     comp=N,12nm,0.6s
TIXI                           LR     LR
     comp=Z,2µm,19.0s
TIXI Tiksi        59.01  20ceP     P      03 19 49.7 -0.5
TIXI                           pmax   pmax
     comp=Z,29nm,2.5s
KS15 Wonju Array Si 59.09  61  eP     P      03 19 54.1 +2.7
     comp=Z,98nm,1.9s
KSAR Wonju Array Be 59.09  61  eP     P      03 19 51.9 +0.5
KSAR Wonju Array Be 59.09  61  eP     P      03 19 51.9 +0.5
KSRS Korea Array  59.11  61  eP     P      03 19 53.6 +2.1
KSRS                           pmax   pmax
     comp=Z,10.0nm,0.9s
KSRS Korea Array  59.11  61  P      P      03 19 50.7 -0.8
     comp=Z,10nm,0.9s,baz=280,slow=6.8,SNR=18
KSRS                           LR     LR     03 46 35.8
     comp=Z,1µm,19.4s,baz=290,slow=37
MDJ  Mudanjiang   59.15  52  PFAKE
MDJ                            LR     LR     03 20 00.0 +8.3
     comp=Z,2µm,20.0s
KLR  Kul'dur      60.02  47  LR     LR     03 47 14.2
     comp=Z,1µm,21.8s,baz=275,slow=38
TSUM Tsumeb       60.04 225  PFAKE
TSUM                           LR     LR     03 20 10.0 +12
     comp=Z,3µm,22.0s
LBTB Lobatse      60.05 214  eP     P      03 20 00.8 +2.7
     comp=Z,26nm,1.1s
LBTB Lobatse      60.05 214  eP     P      03 20 00.8 +2.7
LBTB                           pmax   pmax
     comp=Z,26nm,1.1s
USRK Ussuriysk Ar. 60.91  52  P      P      03 20 01.3 -2.4
     comp=Z,1.2nm,0.6s,baz=262,slow=6.5,SNR=2.6
USRK                           LR     LR     03 48 33.1
     comp=Z,2µm,21.3s,baz=280,slow=38
DAG  Danmarks Havn 61.23 345 i P     P      03 20 06.5 +1.1
DAG  Danmarks Havn 61.23 345 i P     P      03 20 06.5 +1.1
BORG Borgarnes    61.71 331  PFAKE
BORG                           LR     LR     03 20 20.0 +11
     comp=Z,980nm,22.0s
BORG Borgarnes    61.71 331  LR     LR     03 48 31.3
     comp=Z,2µm,21.2s,baz=92,slow=38
SCO  Scoresbysund 61.81 338  eP     P      03 20 12.4 +3.0
     comp=Z,36nm,1.4s
SCO  Scoresbysund 61.81 338  eP     P      03 20 12.4 +3.0
SCO                            pmax   pmax
     comp=Z,36nm,1.4s
JNU  Nakatsue     62.46  65  LR     LR     03 51 36.4
     comp=Z,2µm,20.1s,baz=287,slow=40
DBIC Dimbokro     62.73 264  eP     P      03 20 19.0 +2.6
     comp=Z,43nm,0.9s
DBIC Dimbokro     62.73 264  P      P      03 20 17.6 +1.2
     comp=Z,23nm,0.8s,baz=54,slow=6.9,SNR=14
KIC  Kosan Boka   62.76 263  eP     P      03 20 19.7 +3.0
     comp=Z,69nm,0.9s
GRNR Gornyy       62.78  44  eP     P      03 20 18.4 +2.1
GRNR                           pmax   pmax
     comp=Z,11nm,1.0s
TIC  Toumodi      62.88 264  eP     P      03 20 20.4 +2.9
LIC  Lamto        63.08 263  eP     P      03 20 21.7 +3.0
     comp=Z,106nm,0.9s
BOSA Boshof       63.22 212  eP     P      03 20 21.5 +2.0
     comp=Z,28nm,1.1s
BOSA Boshof       63.22 212  P      P      03 20 19.3 -0.2
     comp=Z,7.7nm,0.7s,baz=20,slow=7.1,SNR=11
BOSA                           LR     LR     03 50 54.5
     comp=Z,1µm,19.1s,baz=20,slow=39
PMAR Madeira      64.08 295  eP     P      03 20 27.1 +1.7
     comp=Z,193nm,1.8s
TYV  Tymovskoe    66.64  43  eP     P      03 20 43.3 +1.9
TYV                            eS     S      03 29 33.5 +1.0
TYV                            pmax   pmax
     comp=Z,15nm,1.0s
TYV                            smax   smax
     comp=E,2µm,9.3s
SUMG Summit       66.75 341  eP     P      03 20 41.2 -1.1
     comp=E,99nm,1.4s
SUMG Summit       66.75 341  eP     P      03 20 41.2 -1.1
SUMG                           pmax   pmax
     comp=Z,99nm,1.4s
SUMG Summit       66.75 341  i P    P      03 20 41.4 -0.9
     comp=Z,88nm,0.8s
DAV  Davao City (W) 66.91  94  PFAKE
DAV                            LR     LR     03 20 50.0 +6.3
     comp=Z,845nm,20.0s
MAJO Matsushiro   67.32  59  eP     P      03 20 47.2 +1.3
MAJO                           LR     LR
     comp=Z,1µm,20.0s
MAJO Matsushiro   67.32  59  eP     P      03 20 47.3 +1.3
MAJO                           MLR    MLR
     comp=Z,1µm,20.0s
MJAR Matsushiro Arr 67.32  59  P      P      03 20 47.3 +1.2
     comp=Z,1.3nm,0.7s,baz=297,slow=7.9,SNR=5.1
MJAR                           LR     LR     03 54 46.5
     comp=Z,890nm,18.0s,baz=300,slow=40
KAPI Kappang      67.52 108  PFAKE
KAPI                           LR     LR     03 21 00.0 +12
     comp=Z,1µm,21.0s
YSS  Yuzh-Sakhalins 67.69  48  PFAKE
YSS                            LR     LR     03 21 00.0 +12
     comp=Z,1µm,19.0s
YSS  Yuzh-Sakhalins 67.69  48⇑ eP     P      03 20 49.6 +1.5
YSS                            e      03 21 19.6
YSS                            pmax   pmax
     comp=Z,20nm,1.2s
YSS                            MLR    MLR
     comp=Z,2µm,16.0s
YSS                            MLR    MLR
     comp=E,2µm,14.0s
SUR  Sutherland   68.48 213  PFAKE
SUR                            LR     LR     03 21 00.0 +6.6
     comp=Z,3µm,21.0s
SEY  Seymchan     68.65  29ceP     P      03 20 53.6 -0.2
MA2  Magadan      68.86  33  eP     P      03 20 55.5 +0.3
     comp=Z,17nm,0.9s
MA2                            LR     LR
     comp=Z,1µm,22.0s
MA2  Magadan      68.86  33ceP     P      03 20 57.0 +1.8
MA2                            pmax   pmax
     comp=Z,15nm,1.0s
ERM  Erimo        69.37  53  PFAKE
ERM                            LR     LR     03 21 10.0 +11
     comp=Z,813nm,19.0s
TULEG Thule       72.10 349  eP     P      03 21 15.3 +0.6
     comp=Z,27nm,0.8s
BILL Bilibino     72.15  22  eP     P      03 21 15.1 -0.1
     comp=Z,16nm,0.9s
BILL                           LR     LR
     comp=Z,1µm,21.0s
BILL Bilibino     72.15  22c i P    P      03 21 15.1 -0.1
BILL                           i      03 21 37.1
BILL                           i      03 23 54.1
BILL                           pmax   pmax
     comp=Z,21nm,1.0s
SFJD Kangerlussuaq 72.69 337  P      P      03 21 18.8 +0.4
SFJD                           LR     LR
     comp=Z,2µm,22.0s
SFJD Kangerlussuaq 72.69 337  P      P      03 21 18.7 +0.4
     comp=Z,9.8nm,0.9s,baz=79,slow=5.7,SNR=3.7
SOEI Soe          73.79 110  P      P      03 21 41.1 +15
PETK Petropavlovsk- 74.72  38  P      P      03 21 30.8 +0.2
     comp=Z,3.5nm,0.8s,baz=263,slow=3.6,SNR=3.8
PETK                           LR     LR     03 57 39.0
     comp=Z,1µm,19.4s,baz=287,slow=38
SHEL Horse Pasture 74.91 243  PFAKE
SHEL                           LR     LR     03 21 40.0 +7.8
     comp=Z,782nm,20.0s
PET  Petropavlovsk 75.28  38  PFAKE
PET                            LR     LR     03 21 40.0 +6.2
     comp=Z,1µm,20.0s
MBWA Marble Bar   76.41 122  PFAKE
MBWA                           LR     LR     03 21 50.0 +9.3
     comp=Z,3µm,20.0s
FAKI Fak Fak      77.35 100  P      P      03 22 00.0 +14
RES  Resolute Bay 77.43 353  eP     P      03 21 47.3 +1.7
     comp=Z,13nm,1.5s
RES  Resolute Bay 77.43 353  eP     P      03 21 47.3 +1.7
RES                            pmax   pmax
     comp=Z,13nm,1.5s
RDOG Red Dog Mine 80.91  14  eP     P      03 22 06.4 +1.6
     comp=Z,36nm,1.4s
GUMO Guam         81.36  79  PFAKE
GUMO                           LR     LR     03 22 20.0 +12
     comp=Z,990nm,19.0s
TOLK Toolik Lake Re 82.91  10  eP     P      03 22 16.5 +1.1
     comp=Z,88nm,1.6s
IMAR Indian Mountai 84.58  12  eP     P      03 22 22.3 -1.6
INK  Inuvik       85.00   4  P      P      03 22 27.0 +1.0
INK                            pmax   pmax
     comp=Z,13nm,1.0s
INK  Inuvik       85.00   4  P      P      03 22 26.9 +1.0
     comp=Z,13nm,1.0s,baz=346,slow=7.4,SNR=6.3
INK                            LR     LR     04 05 45.6
     comp=Z,882nm,20.1s,baz=356,slow=40
MLY  Manley       86.00  12  eP     P      03 22 31.8 +0.7
     comp=Z,24nm,1.2s
PRP  Porcupine Dome 86.42  10  eP     P      03 22 35.5 +2.3
     comp=Z,49nm,1.7s
MDM  Murphy Dome  86.51  11  eP     P      03 22 35.4 +1.8
     comp=Z,127nm,1.8s
COLA College      86.65  11  PFAKE
COLA                           LR     LR     03 22 40.0 +5.8
     comp=Z,1µm,20.0s
EPYK Eagle Plains 86.66   6  eP     P      03 22 35.8 +1.5
     comp=Z,54nm,1.4s
BPAW Bear Paw Mtn. 86.80  12  eP     P      03 22 34.7 -0.3
     comp=Z,253nm,1.8s
CCB  Clear Creek Bu 86.87  11  eP     P      03 22 36.2 +0.9
     comp=Z,8.2nm,1.1s
ILAR Eielson Array 86.90  10  eP     P      03 22 36.2 +0.7
ILAR Eielson Array 86.90  10  eP     P      03 22 36.1 +0.7
ILAR                           pmax   pmax
     comp=Z,2.0nm,0.7s
ILAR Eielson Array 86.90  10  P      P      03 22 35.8 +0.3
     comp=Z,2.0nm,0.7s,baz=314,slow=3.4,SNR=26
ILAR                           LR     LR     04 07 17.4
     comp=Z,950nm,19.6s,baz=12,slow=40
ILB  Eielson Array 86.90  10  eP     P      03 22 36.7 +1.2
     comp=Z,5.5nm,0.8s
WRH  Wood River Hil 86.98  11  eP     P      03 22 37.2 +1.3
     comp=Z,21nm,1.4s
CAST Castle Rocks 87.20  13  eP     P      03 22 36.5 -0.5
     comp=Z,134nm,1.6s
HDA  Harding Lake 87.23  11  eP     P      03 22 38.0 +0.9
     comp=Z,6.6nm,0.8s
WRA  Warramunga Arr 87.32 114  eP     P      03 22 37.5 -0.7
WRA                            pmax   pmax
     comp=Z,5.0nm,0.8s
WRA  Warramunga Arr 87.32 114  P      P      03 22 36.4 -1.8
     comp=Z,1.9nm,0.8s,baz=314,slow=4.0,SNR=18
WRAB Tennant Creek 87.32 114  PFAKE
WRAB                           LR     LR     03 22 50.0 +12
     comp=Z,1µm,19.0s
WB2  Warramunga Arr 87.33 114  eP     P      03 22 38.0 -0.3
     comp=Z,76nm,1.9s
MCK  McKinley     87.52  12  eP     P      03 22 40.3 +1.8
     comp=Z,70nm,1.3s
MCK  McKinley     87.52  12  eP     P      03 22 40.3 +1.8
MCK                            pmax   pmax
     comp=Z,70nm,1.3s
EGAK Eagle        87.72   8  eP     P      03 22 41.2 +1.8
     comp=Z,48nm,1.3s
EGAK                           LR     LR
     comp=Z,904nm,19.0s
RND  Reindeer     87.83  12  eP     P      03 22 41.5 +1.4
     comp=Z,40nm,1.3s
RND  Reindeer     87.83  12  eP     P      03 22 41.5 +1.4
RND                            pmax   pmax
     comp=Z,40nm,1.3s
SCRK Sand Creek   88.10   9  eP     P      03 22 42.9 +1.5
     comp=Z,56nm,1.4s
RIDG Independent Ri 88.19  10  eP     P      03 22 43.0 +1.2
     comp=Z,25nm,1.4s
ADK  Adak         88.40  30  PFAKE
ADK                            LR     LR     03 22 50.0 +7.1
     comp=Z,935nm,20.0s
DHY  Denali Highway 88.40  11  eP     P      03 22 42.8  0.0
     comp=Z,17nm,1.2s
DAWY Dawson       88.62   8  eP     P      03 22 44.5 +0.7
     comp=Z,42nm,1.3s
AS31 Alice Springs 88.79 117  eP     P      03 22 43.9 -1.4
     comp=Z,1.8nm,0.8s
ASAR Alice Springs 88.79 117  eP     P      03 22 44.2 -1.0
ASAR Alice Springs 88.79 117  P      P      03 22 43.9 -1.3
ASAR                           pmax   pmax
     comp=Z,6.0nm,1.0s
ASAR Alice Springs 88.79 117  P      P      03 22 43.9 -1.3
     comp=Z,2.0nm,0.7s,baz=306,slow=4.9,SNR=14
BCAR Beaver Creek A 89.28   9  eP     P      03 22 47.3 +0.4
SML  Sawmill      89.40  12  eP     P      03 22 50.3 +2.8
     comp=Z,29nm,1.1s
SML  Sawmill      89.40  12  eP     P      03 22 50.3 +2.8
SML                            pmax   pmax
     comp=Z,29nm,1.1s
RSO  Redoubt South 89.70  15  eP     P      03 22 51.5 +2.3
YKW3 Yellowknife Ar 90.95 357 eP     P      03 22 56.2 +1.6
YKA  Yellowknife Ar 91.02 357 eP     P      03 22 55.1 +0.2
YKA  Yellowknife Ar 91.02 357 eP     P      03 22 55.1 +0.2
YKA  Yellowknife Ar 91.02 357 P      P      03 22 55.7 +0.8
     comp=Z,2.4nm,0.8s,baz=358,slow=4.8,SNR=29
YKA                            LR     LR     04 11 31.0
     comp=Z,71nm,18.6s,baz=358,slow=41
FCC  Fort Churchill 91.83 346 eP     P      03 22 59.3 +0.6
     comp=Z,10nm,1.0s
FCC  Fort Churchill 91.83 346 eP     P      03 22 59.3 +0.6
FCC                            pmax   pmax
     comp=Z,10.0nm,1.0s
KDAK Kodiak Island 92.13  16  PFAKE
KDAK                           LR     LR     03 23 10.0 +10
     comp=Z,590nm,21.0s
KDAK Kodiak Island 92.13  16ceP     P      03 23 03.8 +3.6
PMG  Port Moresby 93.47  99  PFAKE
PMG                            LR     LR     03 23 20.0 +13
     comp=Z,1µm,19.0s
PKME Peaks-Kenny Pk 93.85 326 PFAKE
PKME                           LR     LR     03 23 20.0 +12
     comp=Z,1µm,19.0s
SYO  Syowa Base   96.27 187⇑ eX     P      03 23 39.7 +21
WRAK Wrangell Islan 96.86   6  PFAKE
WRAK                           LR     LR     03 23 30.0 +8.2
     comp=Z,1µm,20.0s
LONY Lake Ozonia  96.91 328  PFAKE
LONY                           LR     LR     03 23 30.0 +7.6
     comp=Z,1µm,21.0s
FFC  Flin Flon    97.18 348  PFAKE
FFC                            LR     LR     03 23 30.0 +6.6
     comp=Z,1µm,21.0s
WAKE Wake Island  97.21  64  PFAKE
WAKE                           LR     LR     03 23 30.0 +5.8
     comp=Z,2µm,19.0s
CTAO Charters Tower 97.33 109 PFAKE
CTAO                           LR     LR     03 23 30.0 +5.3
     comp=Z,2µm,20.0s
STKA Stephens Creek 98.63 121 LR     LR     04 09 21.5
     comp=Z,868nm,19.3s,baz=335,slow=36
BINY Binghamton   99.40 327  PFAKE
BINY                           LR     LR     03 23 40.0 +6.4
     comp=Z,1µm,20.0s
CASY Casey        100.80 161 PFAKE
CASY                           LR     LR     03 23 50.0 +11
     comp=Z,185nm,20.0s
EYMN Ely          100.87 340 PFAKE
EYMN                           LR     LR     03 23 50.0 +10
     comp=Z,1µm,22.0s
GLMI Grayling     101.12 334 PFAKE
GLMI                           LR     LR     03 23 50.0 +8.8
     comp=Z,1µm,19.0s
COWI Conover      101.71 337 PFAKE
COWI                           LR     LR     03 23 50.0 +6.2
     comp=Z,1µm,20.0s
AGMN Agassiz Nation 101.82 342 PFAKE
AGMN                           LR     LR     03 23 50.0 +5.8
     comp=Z,1µm,21.0s
AAM  Ann Arbor    102.81 332 PFAKE
AAM                            LR     LR     03 24 00.0 +11
     comp=Z,1µm,20.0s
CBN  Corbin Frederi 103.12 325 PFAKE
CBN                            LR     LR     03 24 00.0 +10
     comp=Z,1µm,21.0s
DGMT Dagmar       103.58 348 PFAKE
DGMT                           LR     LR     03 24 00.0 +7.9
     comp=Z,1µm,20.0s
MIDW Midway       103.92  48 PFAKE
MIDW                           LR     LR     03 24 00.0 +6.1
     comp=Z,1µm,19.0s
ACSO Alum Creek Sta 104.21 330 PFAKE
ACSO                           LR     LR     03 24 00.0 +5.0
     comp=Z,2µm,21.0s
HNR  Honiara      104.87  93 PFAKE
HNR                            LR     LR     03 24 10.0 +12
     comp=Z,1µm,22.0s
JFWS Jewell Farm  104.88 336 PFAKE
JFWS                           LR     LR     03 24 10.0 +12
     comp=Z,1µm,19.0s
EGMT Eagleton     104.90 351 PFAKE
EGMT                           LR     LR     03 24 10.0 +12
     comp=Z,1µm,20.0s
NEW  Newport      105.35 357 PFAKE
NEW                            LR     LR     03 28 20.0 +6.2
     comp=Z,1µm,22.0s
BLA  Blacksburg   105.42 327 PFAKE
BLA                            LR     LR     03 28 20.0 +5.8
     comp=Z,2µm,22.0s
CNNC Cliffs of the 105.65 324 PFAKE
CNNC                           LR     LR     03 28 20.0 +5.4
     comp=Z,1µm,19.0s
LAO  LASA Array   105.66 349 PFAKE
LAO                            LR     LR     03 28 20.0 +5.6
     comp=Z,1µm,22.0s
ECSD EROS Data Cent 106.21 341 PFAKE
ECSD                           LR     LR     03 28 20.0 +4.5
     comp=Z,1µm,20.0s
NLWA Neilton Lookou 106.34   1 PFAKE
NLWA                           LR     LR     03 28 20.0 +4.4
     comp=Z,2µm,20.0s
HDIL Hopedale     106.57 335 PFAKE
HDIL                           LR     LR     03 28 20.0 +3.8
     comp=Z,1µm,19.0s
ANWB Willy Bob    106.78 300 PFAKE
ANWB                           LR     LR     03 28 30.0 +13
     comp=Z,1µm,20.0s
SCIA State Center 106.80 338 PFAKE
SCIA                           LR     LR     03 28 20.0 +3.4
     comp=Z,2µm,21.0s
TAU  Tasmania Unive 107.17 130 PFAKE
TAU                            LR     LR     03 28 30.0 +13
     comp=Z,1µm,20.0s
VNA2 Neumayer--Watz 107.31 198 PKiKP PKiKP 03 28 15.8 -0.7
     baz=356,slow=9.0
HAWA Hanford      107.32 358 PFAKE
HAWA                           LR     LR     03 28 30.0 +13
     comp=Z,1µm,19.0s
VNA1 Neumayer--Stat 107.42 199 PKiKP PKiKP 03 28 15.2 -1.4
BOZ  Bozeman (W)  107.53 352 PFAKE
BOZ                            LR     LR     03 28 30.0 +12
     comp=Z,1µm,20.0s
BBGH Gun Hill     107.57 295 PFAKE
BBGH                           LR     LR     03 28 30.0 +11
     comp=Z,3µm,21.0s
RLMT Red Lodge    107.68 351 PFAKE
RLMT                           LR     LR     03 28 30.0 +12
     comp=Z,2µm,19.0s
VNA3 Neumayer Olymp 108.11 198 PKiKP PKiKP 03 28 14.9 -3.2
LKWY Lake         108.38 351 PFAKE
LKWY                           LR     LR     03 28 30.0 +10
     comp=Z,2µm,20.0s
NHSC New Hope     108.50 324 PFAKE
NHSC                           LR     LR     03 28 30.0 +10
     comp=Z,2µm,19.0s
BMO  Blue Mountains 108.76 356 PFAKE
BMO                            LR     LR     03 28 30.0 +10
     comp=Z,2µm,20.0s
GRGR Grenville    109.83 295 PFAKE
GRGR                           LR     LR     03 28 30.0 +7.1
     comp=Z,1µm,20.0s
HLID Hailey       109.83 354 PFAKE          03 28 30.0 +7.5
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HLID				LR	LR	
	comp=Z,1μm,20.0s					
SJG	**San Juan**	**109.84 303**		PFAKE		03 28 30.0 +7.2
SJG				LR	LR	
	comp=Z,1μm,20.0s					
GOGA	**Godfrey**	**109.95 326**		PFAKE		03 28 30.0 +7.3
GOGA				LR	LR	
	comp=Z,1μm,21.0s					
BW06	**Boulder Array**	**110.02 350**		PFAKE		03 28 30.0 +7.1
BW06				LR	LR	
	comp=Z,2μm,21.0s					
AHID	**Auburn Hatcher**	**110.25 351**		PFAKE		03 28 30.0 +6.7
AHID				LR	LR	
	comp=Z,2μm,20.0s					
OGNE	**Ogallala**	**110.27 344**		PFAKE		03 28 30.0 +6.7
OGNE				LR	LR	
	comp=Z,1μm,21.0s					
KSU1	**Kansas State U**	**110.44 339**		PFAKE		03 28 30.0 +6.5
KSU1				LR	LR	
	comp=Z,2μm,20.0s					
WVOR	**Wild Horse Val**	**111.24 357**		PFAKE		03 28 30.0 +4.9
WVOR				LR	LR	
	comp=Z,2μm,21.0s					
GRTK	**Grand Turk**	**111.28 309**		PFAKE		03 28 30.0 +4.5
GRTK				LR	LR	
	comp=Z,1μm,22.0s					
HWUT	**Hardware Ranch**	**111.44 352**		PFAKE		03 28 30.0 +4.4
HWUT				LR	LR	
	comp=Z,1μm,21.0s					
CBKS	**Cedar Bluff**	**111.66 341**		PFAKE		03 28 30.0 +4.1
CBKS				LR	LR	
	comp=Z,2μm,20.0s					
ISCO	**Idaho Springs**	**112.19 346**		PFAKE		03 28 40.0 +13
ISCO				LR	LR	
	comp=Z,2μm,20.0s					
DUG	**Dugway, Tooele**	**112.99 352**		PFAKE		03 28 40.0 +11
DUG				LR	LR	
	comp=Z,1μm,20.0s					
SDDR	**Presa de Saban**	**113.06 307**		PFAKE		03 28 40.0 +11
SDDR				LR	LR	
	comp=Z,1μm,19.0s					
MIAR	**Mount Ida**	**113.46 335**		PFAKE		03 28 40.0 +11
MIAR				LR	LR	
	comp=Z,1μm,21.0s					
BRAL	**Brewton**	**113.52 328**		PFAKE		03 28 40.0 +10
BRAL				LR	LR	
	comp=Z,1μm,20.0s					
SDCO	**Great Sand Dun**	**114.13 346**		PFAKE		03 28 40.0 +9.0
SDCO				LR	LR	
	comp=Z,2μm,22.0s					
GTBY	**Guantanamo Bay**	**115.09 311**		PFAKE		03 28 40.0 +7.2
GTBY				LR	LR	
	comp=Z,1μm,20.0s					
PTGA	**Pitinga**	**115.11 283**		PFAKE		03 28 40.0 +7.0
PTGA				LR	LR	
	comp=Z,9μm,20.0s					
WMOK	**Wichita Mounta**	**115.13 339**		PFAKE		03 28 40.0 +7.4
WMOK				LR	LR	
	comp=Z,1μm,20.0s					
NV01	**Mina Array Sit**	**115.22 357**	*e*PKiKP	**PKiKP**		**03 28 32.7 -0.2**
NVAR	**Mina Array Bea**	**115.22 357**	PKP	**PKiKP**		**03 28 32.7 -0.2**
	comp=Z,0.5nm,0.7s,baz=359,slow=1.7,SNR=5.1					
MVCO	**Mesa Verde**	**115.26 348**		PFAKE		03 28 40.0 +6.9
MVCO				LR	LR	
	comp=Z,2μm,20.0s					
NATX	**Nacogdoches**	**116.35 334**		PFAKE		03 28 40.0 +5.0
NATX				LR	LR	
	comp=Z,1μm,20.0s					
QSPA	**South Pole Qui**	**116.44 180**		PFAKE		03 28 40.0 +6.0
QSPA				LR	LR	
	comp=Z,2μm,19.0s					
JOHN	**Johnston Islan**	**116.92 52**		PFAKE		03 28 40.0 +3.6
JOHN				LR	LR	
	comp=Z,194nm,19.0s					
ANMO	**Albuquerque**	**117.03 346**		PFAKE		03 28 40.0 +3.5
ANMO				LR	LR	
	comp=Z,2μm,20.0s					
WUAZ	**Wupatki**	**117.40 350**		PFAKE		03 28 50.0 +13
WUAZ				LR	LR	
	comp=Z,1μm,20.0s					
MTDJ	**Mount Denham**	**117.91 311**		PFAKE		03 28 50.0 +12
MTDJ				LR	LR	
	comp=Z,2μm,22.0s					
SDV	**Santo Domingo**	**118.89 298**		PFAKE		03 28 50.0 +9.4
SDV				LR	LR	
	comp=Z,1μm,20.0s					
JCT	**Junction City**	**119.38 338**		PFAKE		03 28 50.0 +9.0
JCT				LR	LR	
	comp=Z,1μm,21.0s					
SBA	**Scott Base**	**119.76 167**		PFAKE		03 28 50.0 +10
SBA				LR	LR	
	comp=Z,2μm,19.0s					
MNTX	**Cornudas Mount**	**119.88 344**		PFAKE		03 28 50.0 +8.1
MNTX				LR	LR	
	comp=Z,2μm,19.0s					
PFO	**Pinyon Flats O**	**119.89 355**		PFAKE		03 28 50.0 +8.0
PFO				LR	LR	
	comp=Z,1μm,19.0s					
TUC	**Tucson**	**120.44 349**		PFAKE		03 28 50.0 +6.9
TUC				LR	LR	
	comp=Z,2μm,19.0s					
KIP	**Kipapa**	**120.92 40**		PFAKE		03 28 50.0 +5.9
KIP				LR	LR	
	comp=Z,3μm,20.0s					
KVTX	**Kingsville**	**121.36 335**		PFAKE		03 28 50.0 +5.2
KVTX				LR	LR	
	comp=Z,2μm,19.0s					
TXAR	**Lajitas Array**	**121.65 341**	PKP	**PKiKP**		**03 28 46.4 +0.9**
	comp=Z,0.6nm,0.5s,baz=270,slow=1.3,SNR=4.4					
FUNA	**Funafuti**	**121.69 83**		PFAKE		03 28 50.0 +4.2
FUNA				LR	LR	
	comp=Z,2μm,21.0s					
TEIG	**Tepich**	**123.07 321**		PFAKE		03 29 00.0 +12
TEIG				LR	LR	
	comp=Z,1μm,21.0s					
POHA	**Pohakuloa**	**123.64 39**		PFAKE		03 29 00.0 +10
POHA				LR	LR	
	comp=Z,2μm,21.0s					
BCIP	**Isla Barro Col**	**125.73 305**		PFAKE		03 29 00.0 +6.2
BCIP				LR	LR	
	comp=Z,2μm,21.0s					
EFI	**East Falkland**	**126.35 224**		PFAKE		03 29 00.0 +6.2
EFI				LR	LR	
	comp=Z,3μm,22.0s					
SNZO	**South Karori**	**126.64 123**		PFAKE		03 29 00.0 +5.3
SNZO				LR	LR	
	comp=Z,3μm,19.0s					
PMSA	**Palmer Station**	**127.27 207**		PFAKE		03 29 00.0 +4.8
PMSA				LR	LR	
	comp=Z,2μm,22.0s					
JTS	**Las Juntas de**	**128.57 311**		PFAKE		03 29 10.0 +10
JTS				LR	LR	
	comp=Z,1μm,20.0s					
OTAV	**Otavalo**	**130.26 295**		PFAKE		03 29 10.0 +6.5
OTAV				LR	LR	
	comp=Z,82nm,21.0s					
LVC	**Limon Verde**	**131.77 263**		PFAKE		03 29 10.0 +3.9
LVC				LR	LR	
	comp=Z,1μm,20.0s					
LCO	**Las Campanas**	**134.78 255**		PFAKE		03 29 20.0 +8.1
LCO				LR	LR	
	comp=Z,2μm,19.0s					
NNA	**Nana**	**135.14 280**		PFAKE		03 29 20.0 +7.3
NNA				LR	LR	
	comp=Z,706nm,22.0s					
PAYG	**Puerto Ayora**	**140.01 305**		PFAKE		03 29 30.0 +7.3
PAYG				LR	LR	
	comp=Z,1μm,20.0s					

JSO 11 03:14:05.2±1.7, 32°N±5°×3°7E±1°7, h28km±5km, M2.9/10, Mjma3.5/10, ML1.8/6, MLv3.2/10, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASF	**Jabal al Asfar**	**0.35**	**338**	P	Pn	03 14 14.3	-0.2
HSUJ	**Al Zarqa**	**0.77**	**289**	P	Pn	03 14 20.6	+0.3
SWQJ	**Swaqa**	**1.04**	**235**	P	Pn	03 14 22.1	-1.9
WALJ	**Wala**	**1.09**	**255**	P	Pb	03 14 25.1	-0.4
SHMJ	**Saham**	**1.40**	**309**	P	Pn	03 14 27.9	-1.0
KARJ		**1.40**	**239**	P	Pn	03 14 28.1	-0.7
LISJ	**El Lisan**	**1.47**	**246**	P	Pn	03 14 29.3	-0.5
EIL	**Elat**	**2.83**	**220**	P	Pn	03 14 50.8	+2.3

ROM 11 03:14:06.8±0.1, 42°487N±0°004×13°479E±0°005, h16km±1km, ML0.5/2, Error ellipse: s-maj=0.4km s-min=0.1km az=52.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.07**	**313**	P	Pg	03 14 10.2	+0.1
CAMP	**Campotosto**	**0.07**	**313**	P	Pg	03 14 10.2	+0.1
CAMP				S	Sg	03 14 12.6	+0.2
CAMP	**Campotosto**	**0.07**	**313**	S	Sg	03 14 12.4	+0.1
AQU	**L'Aquila**	**0.14**	**203**	P	Pg	03 14 10.9	0.0
AQU				S	Sb	03 14 13.8	-0.3
AQU	**L'Aquila**	**0.14**	**203**	P	Pg	03 14 10.9	+0.1
AQU	**L'Aquila**	**0.14**	**203**	P	Pg	03 14 10.9	+0.1
AQU	**L'Aquila**	**0.14**	**203**	S	Sg	03 14 13.8	+0.3
TERO	**Teramo**	**0.16**	**34**	P	Pg	03 14 11.2	+0.1
TERO				S	Sb	03 14 14.4	-0.3
TERO				AML	AML		
	comp=E,10μm,1.1s						
TERO				AML	AML		
	comp=N,9μm,1.1s						
TERO				AML	AML		
	comp=E,10μm,1.1s						
TERO				AML	AML		
	comp=N,9μm,1.1s						
TERO	**Teramo**	**0.16**	**34**	P	Pg	03 14 11.2	+0.1
TERO	**Teramo**	**0.16**	**34**	S	Sb	03 14 14.4	-0.3
SMA1	**SAN MARTINO**	**0.18**	**323**	P	Pb	03 14 11.6	-0.2
SMA1	**SAN MARTINO**	**0.18**	**323**	P	Pb	03 14 11.6	-0.2
SMA1				S	Sb	03 14 15.0	-0.1
SMA1	**SAN MARTINO**	**0.18**	**323**	S	Sb	03 14 15.1	0.0
FAGN	**Fagnano**	**0.23**	**161**	P	Pg	03 14 12.4	+0.3
FAGN	**Fagnano**	**0.23**	**161**	P	Pg	03 14 12.4	+0.3
FAGN				S	Sb	03 14 16.8	+0.1
FAGN				AML	AML		
	comp=E,40μm,0.4s						
FAGN				AML	AML		
	comp=N,30μm,1.3s						
FAGN				AML	AML		
	comp=E,40μm,0.4s						
FAGN				AML	AML		
	comp=N,30μm,1.3s						
FAGN	**Fagnano**	**0.23**	**161**	P	Pb	03 14 12.4	-0.3
FAGN	**Fagnano**	**0.23**	**161**	S	Sb	03 14 16.8	+0.1
VCEL	**Villa Celiera**	**0.28**	**109**	P	Pg	03 14 12.9	0.0
VCEL				S	Sb	03 14 18.1	-0.1
VCEL	**Villa Celiera**	**0.28**	**109**	P	Pg	03 14 13.3	+0.3
VCEL	**Villa Celiera**	**0.28**	**109**	S	Sb	03 14 18.1	0.0
NRCA	**Norcia**	**0.44**	**322**	P	Pg	03 14 15.7	0.0
NRCA				S	Sb	03 14 22.5	-0.1
NRCA	**Norcia**	**0.44**	**322**	P	Pg	03 14 16.0	+0.3
NRCA	**Norcia**	**0.44**	**322**	P	Pb	03 14 16.0	-0.2
NRCA	**Norcia**	**0.44**	**322**	S	Sb	03 14 23.0	+0.4

*IDC **11** 03:17:19.8±0.7, 26°68N×57°82E, h0km, mb4.2/34, mb1 4.3/36, mb1mx4.2/56, mbtmp4.2/36, ML4.4/2, Error ellipse: s-maj=16.1km s-min=12.7km az=168.0*

*DSN **11** 03:17:19.5±3.4, 26°62N×58°11E, h10km, ML4.3/9, Error ellipse: s-maj=49.6km s-min=14.6km az=6.0*

*ISCJB **11** 03:17:19.9±0.2, 26°66N±0°02×57°80E±0°03, h10km, mb4.7/130, MS4.9/2, Error ellipse: s-maj=3.4km s-min=2.9km az=170.0*

*MOS **11** 03:17:20.1±0.9, 26°71N×57°77E, h11km, mb4.9/54, Error ellipse: s-maj=7.6km s-min=3.8km az=124.4*

*TEH **11** 03:17:21.8, 26°64N×57°72E, h5km, ML4.6*

*NEIC **11** 03:17:21.5±0.0, 26°66N×57°72E, h8km, mb4.7/44, ML4.4(THR), MN4.6(TEH), After TEH.*

*THR **11** 03:17:22.2, 26°67N×57°68E, h15km, ML4.4*

*BJI **11** 03:17:23.6±0.0, 26°48N×58°05E, h10km, mb4.7/15, mB5.2/3, Ms5.1/3, Ms7 5.0/4*

*OMAN **11** 03:17:25.2±0.5, 26°47N×57°82E, h25km, ml4.3/10, Error ellipse: s-maj=8.9km s-min=4.5km az=13.0*

ISC 11 03:17:21.2±0.3, 26°63N±0°03×57°76E±0°03, h10km, n375, σ1§41/381, mb4.7/131, 20C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.24**	**319**	Pn	**Pg**	**03 17 45.8**	**+0.7**
NIAN	**Nian**	**1.24**	**319**	*e*Pg	**Pg**	**03 17 45.8**	**+0.7**
NIAN				IAMB	IAmb	03 18 13.8	
	comp=Z,0.0nm,0.6s						
SHME	**Shamm**	**1.56**	**249**	Pn	**Pg**	**03 17 51.4**	**+0.1**
SHME	**Shamm**	**1.56**	**249**	*e*P	**Pg**	**03 17 51.2**	**-0.1**
	SNR=49						
SHME				S	**Sg**	**03 18 15.7**	**+4.1**
SHME	**Shamm**	**1.56**	**249**	*e*Pn	**Pg**	**03 17 51.4**	**+0.1**
GENO	**Geno**	**1.61**	**299**	Pn	**Pg**	**03 17 52.1**	**-0.1**
GENO				Sg	**Sg**	**03 18 14.7**	**+1.5**
GENO	**Geno**	**1.61**	**299**	*e*Pn	**Pg**	**03 17 52.1**	**-0.1**
GENO				IAMB	IAmb	03 18 20.4	
	comp=Z,0.0nm,0.6s						
BNDS	**Bandar-Abbas**	**1.61**	**299**	*e*AML	AML	03 18 11.6	
	comp=N,5μm,0.3s						
MDH	**Madha**	**1.87**	**225**	*e*P	**Pn**	**03 17 53.0**	**-0.2**
	SNR=80						
MDH	**Madha**	**1.87**	**225**	P	**Pn**	**03 17 53.1**	**-0.2**
	SNR=56						
MDH				S	**Sn**	**03 18 17.5**	**+0.5**
MDH	**Madha**	**1.87**	**225**	*e*Pn	**Pn**	**03 17 53.3**	**0.0**
MSFE	**Esma-Masafi**	**1.92**	**229**	Pn	**Pn**	**03 17 54.5**	**+0.5**
MSFE	**Esma-Masafi**	**1.92**	**229**	*e*P	**Pn**	**03 17 53.6**	**-0.4**
	SNR=20						
MSFE	**Esma-Masafi**	**1.92**	**229**	*e*Pn	**Pn**	**03 17 54.6**	**+0.5**
UMQ	**Umm Al-Quwin**	**2.19**	**240**	*e*P	**Pb**	**03 18 00.0**	**-0.8**
	SNR=8.0						
UMQ	**Umm Al-Quwin**	**2.19**	**240**	*e*Pn	**Pb**	**03 18 01.7**	**+0.8**
HATD	**Hatta, Dubai**	**2.32**	**220**	Pn	**Pn**	**03 18 00.4**	**+0.9**
HATD	**Hatta, Dubai**	**2.32**	**220**	*e*P	**Pn**	**03 17 59.2**	**-0.3**
	SNR=6.9						
HATD	**Hatta, Dubai**	**2.32**	**220**	*e*Pn	**Pn**	**03 18 00.4**	**+0.9**
ASHO	**Ashiyiah**	**2.47**	**219**	Pn	**Pn**	**03 18 03.5**	**+1.9**
ASHO	**Ashiyiah**	**2.47**	**219**	*e*P	**Pn**	**03 18 03.7**	**+2.0**
	SNR=23						
ASHO	**Ashiyiah**	**2.47**	**219**	P	**Pb**	**03 18 05.3**	**-0.5**
	SNR=21						
ASHO	**Ashiyiah**	**2.47**	**219**	*e*Pn	**Pn**	**03 18 03.5**	**+1.9**
NAZ	**Nazwa, Dubai**	**2.50**	**230**	*e*P	**Pn**	**03 18 04.0**	**+2.0**
	SNR=12						
NAZ	**Nazwa, Dubai**	**2.50**	**230**	P	**Pb**	**03 18 06.4**	**+0.2**
NAZ	**Nazwa, Dubai**	**2.50**	**230**	*e*Pn	**Pb**	**03 18 06.5**	**+0.2**
CHBR	**Chabahar**	**2.65**	**112**	Pn	**Pb**	**03 18 07.3**	**-1.5**
CHBR	**Chabahar**	**2.65**	**112**	*e*Pn	**Pb**	**03 18 07.4**	**-1.5**
CHBR	**Chabahar**	**2.65**	**112**	*e*Pn	**Pb**	**03 18 07.4**	**-1.5**
FAQ	**Al Faqa, Dubai**	**2.71**	**227**	*e*P	**Pb**	**03 18 08.0**	**-1.8**
	SNR=6.9						
FAQ	**Al Faqa, Dubai**	**2.71**	**227**	*e*Pn	**Pb**	**03 18 08.7**	**-1.1**
SOHO	**SOHO**	**2.72**	**204**	P	**Pn**	**03 18 04.0**	**-1.0**
	SNR=42						
SOHO				S	**Sn**	**03 18 36.3**	**-1.6**
ASUD	**Al Ashush, Dub**	**2.97**	**228**	Pn	**Pb**	**03 18 12.7**	**-1.5**
ASUD	**Al Ashush, Dub**	**2.97**	**228**	*i* P	**Pn**	**03 18 10.5**	**+2.2**
	SNR=29						
ASUD	**Al Ashush, Dub**	**2.97**	**228**	P	**Pb**	**03 18 13.7**	**-0.5**
	SNR=29						
ASUD	**Al Ashush, Dub**	**2.97**	**228**	*e*Pn	**Pb**	**03 18 12.7**	**-1.5**
HOQ	**Hoqain**	**3.06**	**188**	P	**Pn**	**03 18 09.7**	**0.0**
HOQ	**Hoqain**	**3.06**	**188**	*e*Pn	**Pn**	**03 18 10.1**	**+0.4**
BIDO	**Bidbid**	**3.11**	**174**	Pn	**Pn**	**03 18 10.4**	**0.0**
BIDO	**Bidbid**	**3.11**	**174**	P	**Pn**	**03 18 10.2**	**-0.2**
	SNR=41						
BIDO				S	**Sn**	**03 18 47.6**	**0.0**
BIDO	**Bidbid**	**3.11**	**174**	*e*Pn	**Pn**	**03 18 10.4**	**0.0**
ALNE	**Al Ain**	**3.14**	**216**	Pn	**Pb**	**03 18 14.2**	**-3.0**
ALNE	**Al Ain**	**3.14**	**216**	*e*Pn	**Pb**	**03 18 14.3**	**-3.0**
NGRK	**Negar Kerman**	**3.14**	**343**	Pn	**Pn**	**03 18 13.1**	**+2.0**
NGRK	**Negar Kerman**	**3.14**	**343**	*e*Pn	**Pn**	**03 18 13.4**	**+2.3**
NGRK				IAMB	IAmb	03 19 10.9	
	comp=Z,0.0nm,0.7s						
CHMN	**Cheshme madani**	**3.23**	**357**	Pn	**Pn**	**03 18 15.3**	**+3.0**
CHMN	**Cheshme madani**	**3.23**	**357**	*e*Pn	**Pn**	**03 18 15.6**	**+3.3**
CHMN				IAMB	IAmb	03 19 23.5	
	comp=Z,0.0nm,0.6s						
AJN	**Ajban**	**3.24**	**231**	*i* P	**Pn**	**03 18 14.0**	**+1.8**
	SNR=6.2						
AJN	**Ajban**	**3.24**	**231**	*e*Pn	**Pn**	**03 18 15.3**	**+3.1**
TVBK	**TV Kerman**	**3.46**	**345**	Pn	**Pn**	**03 18 18.9**	**+3.4**
TVBK	**TV Kerman**	**3.46**	**345**	*e*Pn	**Pn**	**03 18 18.9**	**+3.4**
TVBK				IAMB	IAmb	03 19 04.3	
	comp=Z,0.0nm,0.4s						
WSAR	**Wadi Sarin**	**3.46**	**167**	Pn	**Pn**	**03 18 15.7**	**+0.4**
	comp=Z,79nm,0.3s,baz=349,slow=6.3,SNR=61						
WSAR				Sn	**Sn**	**03 18 55.7**	**-0.7**
	comp=Z,100nm,0.3s,baz=100,slow=19,SNR=18						
SMDO	**Samad**	**3.56**	**176**	P	**Pn**	**03 18 17.2**	**+0.5**
	SNR=15						
BSY	**Bisya**	**3.90**	**188**	P	**Pn**	**03 18 25.0**	**+3.7**
	SNR=24						
KHGB	**Koh Gabri**	**3.90**	**343**	*e*Pn	**Pn**	**03 18 24.7**	**+3.2**
KHGB				IAMB	IAmb	03 18 35.9	
	comp=Z,0.0nm,0.4s						
SZD1	**Zahaedan-tmp**	**3.95**	**43**	*e*Pn	**Pb**	**03 18 28.2**	**-2.9**
ZHSF	**Zahedan**	**3.99**	**41**	Pn	**Pn**	**03 18 25.8**	**+3.2**
ZHSF	**Zahedan**	**3.99**	**41**	*e*Pn	**Pn**	**03 18 25.8**	**+3.2**
ZHSF	**Zahedan**	**3.99**	**41**	*e*Pn	**Pn**	**03 18 25.8**	**+3.2**
GHIR	**Ghir-Karzin**	**4.55**	**292**	Pn	**Pn**	**03 18 32.2**	**+1.9**
GHIR	**Ghir-Karzin**	**4.55**	**292**	*e*Pn	**Pn**	**03 18 32.2**	**+1.9**
GHIR	**Ghir-Karzin**	**4.55**	**292**	*e*Pn	**Pn**	**03 18 32.2**	**+1.9**
JLN	**Jalan Bani Buh**	**4.70**	**161**	P	**Pn**	**03 18 33.0**	**+0.7**
	SNR=39						
JLN				S	**Sn**	**03 19 24.8**	**-2.1**
IMEH	**Mehriz**	**5.49**	**331**	Pn	**Pn**	**03 18 44.6**	**+1.3**
IMEH	**Mehriz**	**5.49**	**331**	*e*Pn	**Pn**	**03 18 44.6**	**+1.3**
IKOO	**Kooshah**	**5.88**	**10**	Pn	**Pn**	**03 18 49.7**	**+1.0**
IKOO	**Kooshah**	**5.88**	**10**	*e*Pn	**Pn**	**03 18 50.2**	**+1.5**
IKAZ	**Kazeroun**	**6.10**	**302**	Pn	**Pn**	**03 18 52.3**	**+0.6**
IKAZ	**Kazeroun**	**6.10**	**302**	*e*Pn	**Pn**	**03 18 52.3**	**+0.6**
ITEG	**Tejag**	**6.31**	**8**	*e*Pn	**Pn**	**03 18 56.2**	**+1.7**
ICHK	**Chekchek**	**6.32**	**333**	*e*Pn	**Pn**	**03 18 57.0**	**+2.3**
ISAD	**Sadrabad**	**6.36**	**327**	Pn	**Pn**	**03 18 57.3**	**+2.0**
ISAD	**Sadrabad**	**6.36**	**327**	*e*Pn	**Pn**	**03 18 57.3**	**+2.0**
IDAH	**Dahanechah**	**6.36**	**16**	Pn	**Pn**	**03 18 59.0**	**+3.7**
IDAH	**Dahanechah**	**6.36**	**16**	*e*Pn	**Pn**	**03 18 58.6**	**+3.3**
YZKH	**Yazd**	**6.37**	**335**	*e*Pn	**Pn**	**03 18 56.5**	**+1.2**
YZKH	**Yazd**	**6.37**	**335**	*e*Pn	**Pn**	**03 18 56.5**	**+1.2**
IRAM	**Ramesheh**	**6.98**	**319**	Pn	**Pn**	**03 19 05.0**	**+1.2**
IRAM	**Ramesheh**	**6.98**	**319**	*e*Pn	**Pn**	**03 19 05.0**	**+1.2**
IKLH	**Kolahrood**	**8.56**	**323**	Pn	**Pn**	**03 19 26.7**	**+1.3**
IKLH	**Kolahrood**	**8.56**	**323**	*e*Pn	**Pn**	**03 19 26.8**	**+1.3**
SHRO	**Shahrood**	**9.45**	**351**	*e*Pn	**Pn**	**03 19 39.7**	**+2.1**
SHRO	**Shahrood**	**9.45**	**351**	*e*Pn	**Pn**	**03 19 39.7**	**+2.1**
KHMZ	**Khomeyn**	**9.79**	**318**	Pn	**Pn**	**03 19 43.5**	**+1.3**
KHMZ	**Khomeyn**	**9.79**	**318**	*e*Pn	**Pn**	**03 19 43.6**	**+1.3**
KHMZ	**Khomeyn**	**9.79**	**318**	*e*Pn	**Pn**	**03 19 43.6**	**+1.3**
IVIS	**Veis**	**12.26**	**313**	Pn	**Pn**	**03 20 14.7**	**-1.3**
IVIS	**Veis**	**12.26**	**313**	*e*Pn	**Pn**	**03 20 15.0**	**-1.0**
ILIN	**Lien**	**12.42**	**314**	Pn	**Pn**	**03 20 16.5**	**-1.9**
ILIN	**Lien**	**12.42**	**314**	*e*Pn	**Pn**	**03 20 16.9**	**-1.5**
NIL	**Nilore**	**15.11**	**59**	*e*Pn	**Pn**	**03 20 54.7**	**-0.1**
	comp=Z,41nm,0.9s						
NIL	**Nilore**	**15.11**	**59**	*e*P	**Pn**	**03 20 54.7**	**-0.1**
NIL				pmax	pmax		
	comp=Z,41nm,0.9s						
AKT	**Akhty**	**16.97**	**333**	*i* P	**Pn**	**03 21 18.0**	**-0.8**
GNI	**Garni**	**17.30**	**324**	*e*Pn	**Pn**	**03 21 23.4**	**+0.4**
	comp=Z,27nm,0.9s						
GNI	**Garni**	**17.30**	**324**	*i* P	**Pn**	**03 21 22.3**	**-0.7**
GNI				pmax	pmax		
	comp=Z,61nm,1.0s						
GNI	**Garni**	**17.30**	**324**	P	**P**	**03 21 25.3**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=220,slow=2.8,SNR=7.6						
GNBR	**Gunib**	**18.04**	**333**	*i* P	**Pn**	**03 21 32.1**	**0.0**
ASF	**Jabal al Asfar**	**18.99**	**292**	P	**P**	**03 21 43.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=45,slow=20,SNR=4.0						
ASF				S	Sn	03 25 04.4	-12
	comp=Z,0.3nm,0.3s,baz=17,slow=20,SNR=2.9						
GROC	**Groznyy**	**19.19**	**333**	*e*P	**P**	**03 21 41.5**	**-3.6**
GROC				*e*S	**Sn**	**03 25 13.8**	**-7.3**
GROC				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KK31	**Karatay Array**	**19.45**	**29**	*e*P	**Pn**	**03 21 48.5**	**-0.6**
	comp=Z,13nm,1.0s						
KK31	**Karatay Array**	**19.45**	**29**	*e*P	**Pn**	**03 21 48.5**	**-0.6**
KK31				pmax	pmax		
	comp=Z,13nm,1.0s						
KKAR	**Karatay Array**	**19.45**	**29**	*e*P	**Pn**	**03 21 48.7**	**-0.4**
	comp=Z,13nm,1.0s						
KKAR	**Karatay Array**	**19.45**	**29**	*e*P	**Pn**	**03 21 48.7**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,13nm,1.0s						
ZEI	**Tsey**	**19.70**	**328**	*e*P	**P**	**03 21 51.2**	**+0.3**
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KSH	**Kashi**	**19.91**	**45**	P	**P**	**03 21 50.1**	**-3.0**
KSH				sP	sP	03 22 00.3	+2.4
KSH				PP	**PnPn**	**03 22 07.5**	**-1.2**
KSH				S	S	03 25 19.2	-18
KSH				SS	**SnSn**	**03 25 46.6**	**-6.4**
KSH				pmax	pmax		
	comp=Z,30nm,0.6s						
KSH				LR	LR		
	comp=Z,4μm,13.3s						
KSH				LR	LR		
	comp=Z,3μm,9.3s						
KSH				LR	LR		
	comp=Z,5μm,13.6s						
NCK	**Nalchik**	**20.39**	**329**	*i* P	**P**	**03 21 56.4**	**-1.8**
NCK				pmax	pmax		
	comp=Z,16nm,1.0s						
MMAI	**Mount Meron Ar**	**20.40**	**294**	P	Pn	03 21 59.8	-0.8
	comp=Z,13nm,0.7s,baz=93,slow=12,SNR=9.4						
ATD	**Arta Tunnel**	**20.56**	**226**	P	Pn	03 22 03.0	+0.4
	comp=Z,15nm,0.8s,baz=347,slow=4.6,SNR=3.6						
NEY	**Neytrino**	**20.61**	**327**	*i* P	Pn	03 22 02.1	-0.9
KBZ	**Khabaz**	**20.89**	**329**	P	Pn	03 22 08.2	+2.1
	comp=Z,1.9nm,0.6s,baz=270,slow=2.0,SNR=3.3						
SHA1	**Shidzhatmaz**	**21.01**	**328**	*i* P	**P**	**03 22 04.5**	**-0.7**
AAK	**Ala-Archa**	**21.02**	**36**	*e*P	**P**	**03 22 06.3**	**+1.0**
	comp=Z,12nm,0.9s						

comp=Z,2.0nm,0.9s
IDI Anoyia 29.38 295 P **P 03 23 26.1 +1.5**
comp=Z,12nm,0.7s,baz=82,slow=9.9,SNR=9.1
WMQ Urumqi 29.65 47 *eP* **P 03 23 31.0 +4.0**
WMQ pP sP 03 23 36.7 +4.8
WMQ sP pP 03 23 40.2 +10
WMQ LR LR
comp=Z,7μm,21.1s
VRI Vrincioaia 31.26 316⇓*iP* **P 03 23 42.2 +1.1**
PLOR Plostina 31.30 316⇑*iP* **P 03 23 42.9 +1.4**
MLR Muntele Rosu 31.58 315 *eP* **P 03 23 44.4 +0.3**
comp=Z,13nm,1.1s
MLR Muntele Rosu 31.58 315⇑*iP* **P 03 23 45.7 +1.6**
MLR Muntele Rosu 31.58 315 *eP* **P 03 23 44.4 +0.3**
MLR pmax pmax
comp=Z,13nm,1.1s
MLR Muntele Rosu 31.58 315 P **P 03 23 45.6 +1.5**
comp=Z,6.0nm,0.8s,baz=59,slow=4.3,SNR=7.9
TESR Tescani 31.61 317⇑*iP* **P 03 23 44.6 +0.4**
SRS Serrai 31.61 306 P **P 03 23 46.6 +2.3**
MTUR Matau 32.03 314⇑*iP* **P 03 23 49.7 +1.6**
VOIR 32.13 314⇑*iP* **P 03 23 50.0 +1.1**
BIZ Bicaz 32.14 317⇓*iP* **P 03 23 48.9 0.0**
DOPR Dopca 32.14 315⇑*iP* **P 03 23 49.7 +0.8**
OBN Obninsk 32.40 337 *i* P **P 03 23 49.9 -1.0**
OBN pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 32.40 337 P **P 03 23 52.4 +1.4**
comp=Z,2.8nm,0.4s,baz=124,slow=14,SNR=2.5
OBN Obninsk 32.40 337 *i* SS **P 03 23 52.1 +1.2**
AKASG Malin Array Be 32.42 325 *eP* **P 03 23 51.0 -0.3**
AKASG Malin Array Be 32.42 325 *eP* **P 03 23 48.9 -2.4**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 32.42 325 P **P 03 23 50.3 -1.0**
comp=Z,4.6nm,0.6s,baz=134,slow=8.1,SNR=4.7
AKBB Malin Array Si 32.42 325 *eP* **P 03 23 51.0 -0.2**
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 32.42 325 *eP* **P 03 23 51.1 -0.2**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 32.43 325 *eP* **P 03 23 51.0 -0.3**
comp=Z,10nm,0.9s
KIEV Kiev 32.43 325⇑*iP* **P 03 23 51.0 -0.3**
KIEV Kiev 32.43 325 *i* P **P 03 23 49.3 -2.0**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
BURAR Bucovina Array 32.99 318 *eP* **P 03 23 56.6 +0.2**
BURAR Bucovina Array 32.99 318⇑*iP* **P 03 23 57.2 +0.8**
BURAR Bucovina Array 32.99 318 *eP* **P 03 23 56.6 +0.2**
BUR08 Bucovina Ar. S 33.01 318 *eP* **P 03 23 56.8 +0.2**
comp=Z,7.4nm,1.1s
FNA Florina 33.15 305 *eP* **P 03 23 58.2 +0.4**
comp=Z,13nm,0.7s
FNA Florina 33.15 305 *eP* **P 03 23 58.2 +0.4**
FNA pmax pmax
comp=Z,13nm,0.7s
GZR Gura Zlata 33.58 313⇑*iP* **P 03 24 02.1 +0.5**
HERR Herculane 33.63 312⇓*iP* **P 03 24 02.7 +0.7**
NVS Novosibirsk 33.79 27 *eP* P 03 24 11.2 +8.1
ZALV Zalesovo Beam 33.82 29 *eP* **P 03 24 04.1 +0.7**
ZALV Zalesovo Beam 33.82 29 *eP* **P 03 24 04.5 +1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV Zalesovo Beam 33.82 29 P **P 03 24 02.4 -1.0**
comp=Z,2.1nm,0.5s,baz=230,slow=8.8,SNR=6.8
ZAA1 Zalesovo Array 33.82 29 *eP* **P 03 24 02.4 -1.0**
MDVR Moldovita 34.07 312⇓*iP* **P 03 24 06.8 +1.0**
DRGR 34.17 315⇑*iP* **P 03 24 07.7 +1.0**
DRGR 34.17 315 P **P 03 24 07.9 +1.2**
DRGR pmax pmax
comp=Z,31nm,1.5s
BZS Buzias 34.42 313⇑*iP* **P 03 24 09.5 +0.7**
BZS Buzias 34.42 313 P **P 03 24 09.8 +1.0**
BZS pmax pmax
comp=Z,15nm,0.9s
SIRR Siria 34.63 314⇑*iP* **P 03 24 12.3 +1.6**
TRPA Tarpa 34.83 317⇑*iP* **P 03 24 12.9 +0.6**
TRPA Tarpa 34.83 317 *eP* **P 03 24 12.1 -0.2**
TRPA *eS* **S 03 29 38.1 -4.9**
KOLS Kolonicke sedl 35.34 319 *eP* **P 03 24 18.1 +1.4**
KOLS pmax pmax
comp=Z,27nm,0.8s
KOLS Kolonicke sedl 35.34 319 *eP* **P 03 24 18.1 +1.4**
TIP Timpagrande 36.34 301 *eP* **P 03 24 25.6 +0.2**
comp=Z,12nm,1.1s
TIP Timpagrande 36.34 301⇑*iP* **P 03 24 26.2 +0.7**
PSZ Piszkesteto 36.37 316 *eP* **P 03 24 25.8 +0.2**
comp=Z,10nm,1.0s
PSZ Piszkesteto 36.37 316⇑*iP* **P 03 24 26.2 +0.6**
PSZ Piszkesteto 36.37 316 *eP* **P 03 24 25.8 +0.2**
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 36.37 316 *eP* **P 03 24 26.0 +0.4**
LANS Liptovska Anna 37.11 318 *eP* **P 03 24 33.3 +1.5**
LANS Liptovska Anna 37.11 318 *eP* **P 03 24 33.3 +1.5**
GTA Gaotai 37.17 59 P **P 03 24 35.6 +2.9**
GTA pP sP 03 24 42.7 +5.1
GTA sP pP 03 24 46.0 +10
GTA pmax pmax
comp=Z,5.0nm,1.1s
CSKK Cskako 37.21 314⇓*eP* **P 03 24 33.0 +0.4**
VYHS Vyhne 37.24 316 *eP* **P 03 24 33.5 +0.5**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 37.24 316 *eP* **P 03 24 33.5 +0.5**
SRO2 Moca 37.26 315 *eP* **P 03 24 33.3 +0.3**
SRO2 Moca 37.26 315 *eP* **P 03 24 33.3 +0.3**
TIH Tihany 37.29 313 *eP* P 03 24 43.1 +10
SRO Srobarova 37.33 315 *eP* **P 03 24 34.6 +1.0**
SRO Srobarova 37.33 315 *eP* **P 03 24 34.6 +1.0**
OJC Ojcow 37.35 319 *eP* **P 03 24 34.6 +0.8**
OJC Ojcow 37.35 319 *eP* **P 03 24 34.5 +0.7**
comp=Z,18nm,0.7s
OJC Ojcow 37.35 319 *eP* **P 03 24 34.6 +0.8**
SUW Suwalki 37.36 326 *eP* **P 03 24 34.1 +0.3**
comp=Z,33nm,1.2s
SUW Suwalki 37.36 326 *eP* **P 03 24 34.2 +0.3**
SUW pmax pmax
comp=Z,33nm,1.2s
JAVC Velka Javorina 38.09 316 *eP* **P 03 24 41.5 +1.3**
MODS Modra-Piesok 38.17 316 *eP* **P 03 24 41.0 +0.2**
MODS pmax pmax
comp=Z,14nm,1.2s
MODS Modra-Piesok 38.17 316 *eP* **P 03 24 41.0 +0.2**
SOP Sopron 38.40 314 P **P 03 24 43.4 +0.7**
SOP pmax pmax
comp=Z,42nm,0.8s
SOP Sopron 38.40 314 *eP* **P 03 24 43.0 +0.3**
MORC Moravsky Berou 38.51 318⇑*iP* **P 03 24 43.6 -0.1**
MORC Moravsky Berou 38.51 318 *eP* **P 03 24 43.5 -0.1**
VRAC Vranov 38.92 317⇑*iP* **P 03 24 47.7 +0.6**
VRAC Vranov 38.92 317 *eP* **P 03 24 47.3 +0.2**
CONA Conrad Observa 38.92 314 *eP* **P 03 24 47.5 +0.2**
comp=Z,6.0nm,0.7s
ARSA Arzberg 38.94 313 *eP* **P 03 24 48.0 +0.7**
comp=Z,9.7nm,0.7s
KRUC Moravsky 38.95 316 *eP* **P 03 24 47.7 +0.3**
SOKA Soboth 39.10 312 *eP* **P 03 24 49.4 +0.7**
comp=Z,6.2nm,0.8s
AQU L'Aquila 39.32 305 *eP* **P 03 24 50.7 +0.1**
comp=Z,12nm,0.8s
AQU L'Aquila 39.32 305 *eP* **P 03 24 50.7 +0.1**
AQU pmax pmax
comp=Z,12nm,0.8s
DPC Dobruska-Polom 39.45 318 *eP* **P 03 24 51.6 0.0**
DPC Dobruska-Polom 39.45 318 *eP* **P 03 24 51.6 0.0**
TREC Trest 39.59 316 *eP* **P 03 24 53.1 +0.4**
TREC Trest 39.59 316 *eP* **P 03 24 53.1 +0.4**
UPC Upice 39.69 318 *eP* **P 03 24 54.3 +0.8**
UPC Upice 39.69 318 *eP* **P 03 24 54.3 +0.8**
MOA Molln 39.93 314 *eP* **P 03 24 56.2 +0.6**
comp=Z,17nm,0.6s,SNR=8.6
LZH Lanzhou 40.15 65 *eP* **P 03 24 59.6 +1.9**
LZH pP sP 03 25 07.2 +4.5
LZH sP pP 03 25 10.5 +9.2
LZH *ePP* **PnPn 03 26 36.4 +2.9**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,78nm,5.4s
LZH LR LR
comp=Z,340nm,13.3s
LZH LR LR
comp=Z,360nm,13.2s
LZH LR LR
comp=Z,460nm,16.7s
KBA Koelnbreinsper 40.33 312 *ep*P **P 03 24 59.7 +0.6**
comp=Z,14nm,0.8s,SNR=7.2
KBA Koelnbreinsper 40.33 312 P **P 03 24 59.7 +0.6**
KBA pmax pmax
comp=Z,20nm,1.0s
CD2 Chengdu 40.33 73 *eP* **P 03 25 00.0 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KMI Kunming 40.34 82 P **P 03 25 02.3 +2.8**
KMI pmax pmax
comp=Z,25nm,0.5s
KMI pmax pmax
comp=Z,2μm,14.6s
PRU Pruhonice 40.40 317 *eP* **P 03 24 59.9 +0.5**
PRU Pruhonice 40.40 317 *eP* **P 03 24 59.9 +0.5**
GEC2 GERESS Array S 40.57 315 *eP* **P 03 25 00.9 0.0**
GEC2 pmax pmax
comp=Z,9.5nm,0.8s
GEC2 GERESS Array S 40.57 315 *eP* **P 03 25 01.0 0.0**
GEC2 pmax pmax
comp=Z,10.0nm,0.8s
GERES GERESS Array B 40.57 315 *eP* **P 03 25 00.4 -0.6**
GERES GERESS Array B 40.57 315 *eP* **P 03 25 01.3 +0.3**
GERES pmax pmax
comp=Z,6.0nm,0.7s
GERES GERESS Array B 40.57 315 P **P 03 25 01.1 +0.1**
comp=Z,6.0nm,0.7s,baz=113,slow=8.8,SNR=41
KHC Kasperske Hory 40.73 315 *eP* **P 03 25 01.9 -0.4**
comp=Z,6.0nm,0.7s
KHC Kasperske Hory 40.73 315 *eP* **P 03 25 02.0 -0.2**
KHC Kasperske Hory 40.73 315 *eP* **P 03 25 02.0 -0.2**
ABTA Abfaltersbach 40.80 312 *eP* **P 03 25 03.4 +0.5**
comp=Z,17nm,0.6s,SNR=5.3
FIA0 FINESS Array S 40.80 337 *eP* **P 03 25 02.0 -0.5**
FIA0 FINESS Array S 40.80 337 *eP* **P 03 25 02.0 -0.5**
FINES FINESS Array B 40.80 337 P **P 03 25 02.0 -0.5**
comp=Z,2.1nm,0.5s,baz=138,slow=8.9,SNR=20
BRG Berggiesshubel 41.05 318 *eP* P 03 25 19.0 +14
comp=Z,3.2nm,0.9s
WET Wettzell 41.18 315 P **P 03 25 06.3 +0.4**
WET pmax pmax
comp=Z,6.0nm,0.9s
WTTA Wattenberg 41.50 312 *i* P **P 03 25 08.8 0.0**
comp=Z,28nm,0.9s
WATA Walderalm 41.56 312 *i* P **P 03 25 08.9 -0.3**
comp=Z,14nm,0.5s,SNR=7.2
CLL Collm 41.76 318 *i* P **P 03 25 10.6 +0.1**
CLL pmax pmax
comp=Z,13nm,1.4s
CLL Collm 41.76 318 *i* P **P 03 25 10.6 +0.1**
comp=Z,13nm,1.4s
SQTA Sankt Quirin 41.77 312 *i* P **P 03 25 10.8 -0.1**
comp=Z,39nm,0.5s,SNR=13
MOTA Moosalm 41.87 312 *i* P **P 03 25 11.1 -0.6**
comp=Z,20nm,0.5s,SNR=9.2
KEST Kesra 42.05 295 *eP* **P 03 25 13.5 +0.2**
comp=Z,6.3nm,0.9s
KEST Kesra 42.05 295 P **P 03 25 14.7 +1.4**
comp=Z,3.7nm,0.7s,baz=27,slow=7.4,SNR=7.2
FETA Feichten 42.05 312 *i* P **P 03 25 13.4 +0.2**
comp=Z,28nm,0.6s,SNR=8.0
BSD Bornholm Skovb 42.10 324 *i* P **P 03 25 11.8 -1.5**
BSD Bornholm Skovb 42.10 324 *i* P **P 03 25 11.8 -1.5**
FUORN Ofenpass-Fuorn 42.28 311 *eP* **P 03 25 15.3 0.0**
comp=Z,13nm,0.8s
GRA1 Grafenberg Arr 42.37 316 *eP* **P 03 25 16.0 +0.4**
comp=Z,16nm,0.7s
GRF Grafenberg Arr 42.37 316 P **P 03 25 16.0 +0.4**
GRF pmax pmax
comp=Z,16nm,0.7s
GRFO Grafenberg 42.37 316 *eP* **P 03 25 15.6 0.0**
comp=Z,15nm,0.8s
GRFO Grafenberg 42.37 316 *eP* **P 03 25 15.6 0.0**
GRFO pmax pmax
comp=Z,15nm,0.8s
DAVA Damuels 42.67 312 *i* P **P 03 25 18.2 -0.1**
comp=Z,67nm,0.6s,SNR=12
SONA0 Songino Array 43.28 48 *eP* **P 03 25 23.0 -0.2**
SONM Songino Array 43.28 48 P **P 03 25 23.0 -0.2**
comp=Z,0.8nm,0.6s,baz=272,slow=10.0,SNR=4.2
SBF Sospel 43.85 307 *eP* **P 03 25 27.6 -0.1**
SBF pmax pmax
comp=Z,27nm,0.9s
MBDF Montbardon 44.42 308 *eP* **P 03 25 32.6 +0.2**
MBDF pmax pmax
comp=Z,7.0nm,0.7s
LPG La Plagne 44.52 309 *eP* **P 03 25 33.3 -0.1**
LPG pmax pmax
comp=Z,9.0nm,0.8s
LPL La Plagne 44.54 309 *eP* **P 03 25 32.7 -0.7**
LPL pmax pmax
comp=Z,5.0nm,0.6s
CDF Champ du Feu 44.61 313 *eP* **P 03 25 33.1 -0.7**
CDF pmax pmax
comp=Z,3.0nm,0.6s
ECH Echery 44.65 313 *eP* **P 03 25 34.1 +0.1**
comp=Z,16nm,0.9s
ECH Echery 44.65 313 *eP* **P 03 25 34.1 +0.1**
ECH pmax pmax
comp=Z,16nm,0.9s
HINF Hinteralfeld 44.79 312 *eP* **P 03 25 33.9 -1.3**
HINF pmax pmax
comp=Z,7.0nm,0.8s
HFS Hagfors 44.94 330 P **P 03 25 35.5 -0.7**
comp=Z,2.1nm,0.4s,baz=128,slow=9.7,SNR=21
CABF La Chapelle 45.12 310 *eP* **P 03 25 37.3 -0.6**
CABF pmax pmax
comp=Z,14nm,1.0s
HAU Haudompre 45.15 312 *eP* **P 03 25 37.4 -0.6**
HAU pmax pmax
comp=Z,9.0nm,0.6s
WLF Walferdange 45.57 315 *eP* **P 03 25 41.4 +0.1**
comp=Z,52nm,0.9s
WLF Walferdange 45.57 315 *eP* **P 03 25 41.4 +0.1**
WLF pmax pmax
comp=Z,53nm,0.9s
WLF Walferdange 45.57 315 P **P 03 25 42.0 +0.7**
comp=Z,12nm,1.0s
MEM Membach 45.84 316 ⇓P **P 03 25 44.9 +1.5**
VIVF Saint-Julien-l 45.92 308 *eP* **P 03 25 45.0 +0.9**
VIVF pmax pmax
comp=Z,10.0nm,1.3s
NRIK Noril'sk 46.17 14 *eP* **P 03 25 49.5 +3.7**
NRIK pmax pmax
comp=Z,2.0nm,0.5s
NRIK Noril'sk 46.17 14 P **P 03 25 45.8 0.0**
comp=Z,2.3nm,0.5s,baz=144,slow=7.4,SNR=4.3
BCLA Clavier 46.25 315 ⇑P **P 03 25 47.9 +1.3**
HHC Hu-ho-hao-te 46.25 58 *eP* **P 03 25 49.7 +2.8**
HHC pmax pmax
comp=Z,67nm,0.9s
HHC pmax pmax
comp=Z,250nm,6.1s
NB2 NORSAR Subarra 46.45 331 P **P 03 25 46.8 -1.3**
comp=Z,0.7nm,0.5s,baz=118,slow=7.9
NB200 NORSAR Array S 46.45 331 *eP* **P 03 25 46.8 -1.3**
NOA NORSAR Array B 46.45 331 *eP* **P 03 25 47.6 -0.5**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 46.45 331 P **P 03 25 46.8 -1.3**
comp=Z,1.0nm,0.6s,baz=121,slow=7.7,SNR=5.6
GIVF Givet 46.49 315 *eP* **P 03 25 49.0 +0.4**
GIVF pmax pmax
comp=Z,13nm,0.8s
DOU Dourbes 46.64 315 ⇑P **P 03 25 51.0 +1.3**
SMF Signal de Mont 46.66 310 *eP* **P 03 25 49.2 -0.8**
SMF pmax pmax
comp=Z,39nm,0.8s
LOR Lormes 46.72 311 *eP* **P 03 25 49.1 -1.3**
LOR pmax pmax
comp=Z,16nm,0.7s
BAIF Baives 46.88 315 *eP* **P 03 25 52.1 +0.6**
BAIF pmax pmax
comp=Z,67nm,1.8s
ARA0 ARCESS Array S 46.88 345 *eP* **P 03 25 50.5 -0.8**
ARA0 *ePcP* **PcP 03 27 24.1 +0.1**
ARCES ARCESS Array B 46.88 345 *eP* **P 03 25 53.5 +2.2**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 46.88 345 P **P 03 25 50.5 -0.8**
comp=Z,3.1nm,0.9s,baz=130,slow=8.2,SNR=9.0
ARCES PcP **PcP 03 27 24.1 +0.1**
comp=Z,2.2nm,0.8s,baz=163,slow=1.3,SNR=3.8
SSF Saint Saulge 46.94 311 *eP* **P 03 25 51.3 -0.8**
SSF pmax pmax
comp=Z,25nm,0.6s
AVF Avril sur Loir 47.01 310 *eP* **P 03 25 51.7 -1.0**
AVF pmax pmax
comp=Z,11nm,0.6s
BGF Bois d'Agland 47.34 310 *eP* **P 03 25 54.5 -0.7**
BGF pmax pmax
comp=Z,17nm,0.7s
TAM Tamanrasset 47.35 277 *eP* **P 03 25 56.1 +0.3**
comp=Z,5.2nm,1.0s
TAM Tamanrasset 47.35 277 *eP* **P 03 25 56.1 +0.3**
TAM pmax pmax
comp=Z,5.0nm,1.0s
MTLF Montolieu 47.60 305 *eP* **P 03 25 57.7 +0.4**
MTLF pmax pmax
comp=Z,8.0nm,0.8s
TCF Toulx Ste Croi 47.76 309 *eP* **P 03 25 57.9 -0.6**
TCF pmax pmax
comp=Z,10.0nm,0.7s
CAF Calviac 47.77 308 *eP* **P 03 25 58.2 -0.5**
CAF pmax pmax
comp=Z,3.0nm,0.5s
RJF Les Rejaudoux 48.18 308 *eP* **P 03 26 01.8 0.0**
RJF pmax pmax
comp=Z,21nm,1.0s
LFF La Frestale 48.71 308 *eP* **P 03 26 06.4 +0.5**
LFF pmax pmax
comp=Z,5.0nm,0.5s
MFF Saint Martin d 49.40 310 *eP* **P 03 26 10.7 -0.4**
MFF pmax pmax
comp=Z,27nm,1.5s
LDF La Druitiere 49.51 312 *eP* **P 03 26 10.9 -1.0**
LDF pmax pmax
comp=Z,37nm,1.3s
ETSF Etsaut 49.62 305 *eP* **P 03 26 15.3 +2.3**
ETSF pmax pmax
comp=Z,16nm,1.2s
FLN La Foliniere 49.76 313 *eP* **P 03 26 13.0 -0.8**
FLN pmax pmax
comp=Z,17nm,0.9s
GRR Gorron 49.98 312 *eP* **P 03 26 17.5 +2.0**
GRR pmax pmax
comp=Z,41nm,1.5s
BOD Bodaibo 50.00 36 *eP* **P 03 26 14.7 -0.8**
BOD pmax pmax
comp=Z,11nm,1.7s
SJPF Ste Jean 50.11 305 *eP* **P 03 26 17.2 +0.6**
SJPF pmax pmax
comp=Z,6.0nm,0.5s
SGMF Saint Gilles 51.11 312 *eP* **P 03 26 24.7 +0.7**
SGMF pmax pmax
comp=Z,54nm,1.6s
ROSF Rostrenen 51.59 312 *eP* **P 03 26 26.9 -0.8**
ROSF pmax pmax
comp=Z,52nm,1.2s
EKA Eskdalemuir Ar 52.09 321 P **P 03 26 30.6 -0.6**
comp=Z,1.0nm,0.6s,baz=98,slow=7.8,SNR=5.0
ESDC Sonseca Array 52.36 301 *eP* **P 03 26 33.0 -0.6**
ESDC Sonseca Array 52.36 301 P **P 03 26 33.9 +0.3**
comp=Z,1.4nm,0.5s,baz=67,slow=7.4,SNR=19
PAB San Pablo 52.67 301 *eP* **P 03 26 36.1 +0.2**
comp=Z,9.9nm,0.9s
PAB San Pablo 52.67 301 *eP* **P 03 26 36.1 +0.2**
PAB pmax pmax
comp=Z,10.0nm,0.9s
NJ2 Nanjing 52.92 69 *eP* **P 03 26 40.0 +2.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MDT Midelt 53.84 292 P **P 03 26 45.1 +0.4**
comp=Z,4.0nm,1.0s,baz=88,slow=4.5,SNR=6.8
TOA0 Torodi Ar. Sit 54.02 267 *eP* **P 03 26 45.5 -0.5**
comp=Z,16nm,1.4s
TORD Torodi Ar. Bea 54.02 267 *eP* **P 03 26 45.2 -0.9**
comp=Z,3.2nm,0.8s
TORD Torodi Ar. Bea 54.02 267 P **P 03 26 44.8 -1.3**
comp=Z,3.7nm,0.5s,baz=60,slow=6.2,SNR=31
TOA1 Torodi Ar. Sit 54.02 267 *eP* **P 03 26 44.8 -1.3**
PBRG Braganca 54.26 304 *eP* **P 03 26 48.4 +0.9**
comp=Z,26nm,1.7s
MVO Moncorvo 54.54 303 *eP* **P 03 26 50.6 +1.0**
comp=Z,34nm,2.1s
SPA0 Spitsbergen Ar 54.92 350 *eP* **P 03 26 51.0 -0.7**
comp=Z,100nm,1.9s
SPITS Spitsbergen Ar 54.92 350 P **P 03 26 51.1 -0.7**
SPITS pmax pmax
comp=Z,1.0nm,0.5s
SPITS Spitsbergen Ar 54.92 350 P **P 03 26 51.1 -0.7**
comp=Z,1.9nm,0.8s,baz=144,slow=8.7,SNR=8.0
MTE Manteigas 55.01 302 *eP* **P 03 26 54.2 +1.1**
PMRV Marv??o 55.02 301 *eP* **P 03 26 53.3 +0.2**
comp=Z,26nm,1.5s
PCBR Castelo Branco 55.03 301 *eP* **P 03 26 54.7 +1.6**
comp=Z,27nm,1.5s
PVRL Vila Real 55.04 303 *eP* **P 03 26 54.6 +1.4**
comp=Z,30nm,1.4s
PTOM Tomar 55.77 301 *eP* **P 03 26 59.7 +1.2**
PCAS Casmilo, Conde 55.78 302 *eP* **P 03 27 00.6 +2.1**
TIXI Tiksi 59.03 20 *i* P **P 03 27 20.2 -0.7**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
KS15 Wonju Array Si 59.19 61 *eP* **P 03 27 22.9 +0.3**
comp=Z,76nm,1.8s
KSAR Wonju Array Be 59.19 61 P **P 03 27 22.9 +0.3**
KSAR Wonju Array Be 59.19 61 P **P 03 27 22.9 +0.3**
KSRS Korea Array 59.22 61 P **P 03 27 22.9 +0.2**
comp=Z,1.1nm,0.6s,baz=280,slow=6.8,SNR=4.2
KLR Kul'dur 60.10 47 *i* P **P 03 27 27.9 -0.8**
KLR pmax pmax
comp=Z,3.0nm,1.3s
DAG Danmarks Havn 61.17 345 *i* P **P 03 27 32.8 -2.7**
DAG Danmarks Havn 61.17 345 *i* P **P 03 27 32.8 -2.7**
DBIC Dimbokro 62.59 264 *eP* **P 03 27 45.6 -0.4**
comp=Z,42nm,1.6s
DBIC Dimbokro 62.59 264 P **P 03 27 45.6 -0.4**
comp=Z,3.5nm,0.9s,baz=14,slow=4.2,SNR=3.6
SUMG Summit 66.68 341 *eP* **P 03 28 12.1 -0.2**
comp=Z,12nm,0.6s
SUMG Summit 66.68 341 *i* P **P 03 28 12.8 +0.5**
SUMG pmax pmax
comp=Z,29nm,0.7s
SUMG Summit 66.68 341 *i* P **P 03 28 12.8 +0.5**
comp=Z,29nm,0.7s
SEY Seymchan 68.69 29 *ceP* **P 03 28 23.7 -1.0**
TULEG Thule 72.04 349 *eP* **P 03 28 44.3 -0.6**
comp=Z,9.4nm,0.8s
BILL Bilibino 72.17 22 *i* P **P 03 28 44.7 -1.2**
BILL pmax pmax
comp=Z,2.0nm,1.0s
TOLK Toolik Lake Re 82.91 10 *eP* **P 03 29 45.3 -0.6**
comp=Z,3.6nm,0.8s
IMAR Indian Mountai 84.58 12 *eP* **P 03 29 53.9 -0.6**
INK Inuvik 84.98 4 *eP* **P 03 29 56.1 -0.3**
comp=Z,3.3nm,1.1s
INK Inuvik 84.98 4 P **P 03 29 56.1 -0.3**
comp=Z,1.1nm,0.7s,baz=321,slow=8.0,SNR=6.3
SCHQ Schefferville 86.01 331 *eP* **P 03 30 01.8 -0.1**
comp=Z,42nm,1.8s
SCHQ Schefferville 86.01 331 P **P 03 30 01.8 -0.1**
comp=Z,5.2nm,0.6s,baz=248,slow=16,SNR=3.6
ILAR Eielson Array 86.90 10 P **P 03 30 05.2 -0.8**
comp=Z,0.4nm,0.6s,baz=323,slow=4.2,SNR=7.0
ILB Eielson Array 86.90 10 *eP* **P 03 30 05.2 -0.8**
comp=Z,9.0nm,1.6s
WR1 Warramunga Arr 87.46 114 *eP* **P 03 30 09.0 -0.4**
WRA Warramunga Arr 87.46 114 *eP* **P 03 30 11.5 +2.0**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 87.46 114 P **P 03 30 09.0 -0.4**
comp=Z,0.6nm,0.8s,baz=314,slow=3.9,SNR=5.6
AS31 Alice Springs 88.93 117 *eP* **P 03 30 16.8 +0.4**
comp=Z,4.4nm,1.8s
ASAR Alice Springs 88.93 117 P **P 03 30 16.8 +0.4**
comp=Z,1.1nm,0.9s,baz=305,slow=5.1,SNR=5.7
YKA Yellowknife Ar 90.98 356 P **P 03 30 24.9 -0.4**
comp=Z,0.3nm,0.7s,baz=4.4,slow=5.3,SNR=5.2
YKB5 Yellowknife Ar 90.98 356 *eP* **P 03 30 24.9 -0.4**

*THR **11** 03:41:26.2,26°.52N×57°.85E,h15km,ML4.9*
*ISCJB **11** 03:41:27.5±0.1,26°.64N±0°.01×57°.96E±0°.02,h10km,*
mb5.0/221,MS4.6/30,Error ellipse: s-maj=2.2km
s-min=2.0km az=144.5
*TEH **11** 03:41:27.1,26°.53N×57°.92E,h16km,ML5.2*
*IDC **11** 03:41:27.5±0.5,26°.75N×57°.94E,h0km,mb4.6/42,*
mb1 4.7/44,mb1mx4.6/59,mbtmp4.6/44,ML4.6/2,MS4.6/22,

Ms1 4.6/22, ms1mx4.4/54, Error ellipse: s-maj=12.3km s-min=10.1km az=170.0
NEIC ***11*** *03:41:27.1±0.0, 26°.53N×57°.94E, h10km, mb5.1/92, ML4.9(THR), MN5.2(TEH), After TEH.*
MOS ***11*** *03:41:27.8±1.3, 26°.67N×58°.00E, h12km, mb5.2/100, Error ellipse: s-maj=5.2km s-min=2.9km az=119.4*
DSN ***11*** *03:41:28.3±0.7, 26°.50N×58°.16E, h10km, mb5.2/6, ML5.1/11, Error ellipse: s-maj=13.4km s-min=6.7km az=138.0*
GCMT ***11*** *03:41:30.1±0.4, 26°.54N±0°.02×57°.96E±0°.02, h16km±2km, MW5.2/81, Moment Tensor Solution. s15,c17; s81,c113; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr=1.02±.37; Mθθ=3.77±.27; Mφφ=4.79±.31; Mrθ=3.43±1.11; Mθφ=5.19±.30; Mφr=1.62±.99; Best double couple: M0=7.72900×10^16 NP1:φs=69.00000°, δ=87.00000°, λ=-30.00000°. NP2:φs=160.00000°, δ=60.00000°, λ=-176.00000°. Principal axes: T 8.2090, Plg=18.0000°, Azm=118.0000°; N -0.9600, Plg=60.0000°, Azm=243.0000°; P -7.2490, Plg=23.0000°, Azm=20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
OMAN ***11*** *03:41:31.1±1.2, 26°.50N×58°.05E, h20km, ml4.9/16, ms4.3/1 Error ellipse: s-maj=19.6km s-min=7.3km az=34.0*
BJI ***11*** *03:41:37.1±0.0, 27°.22N×58°.61E, h20km, mb4.8/56, mB5.2/30, Ms4.9/31, Ms7 4.7/31*

ISC 11 03:41:28.9±0.3,**26°.61N**±0°.03×**57°.95E**±0°.03,**h10**km,**n746**, σ1§**68**/742,**mb5.0**/233,**MS4.5**/31,**68C-20D**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.37**	**314**		IAMB	IAmb	03 42 33.1	
	comp=Z,0.0nm,0.9s							
SHME	**Shamm**	**1.72**	**251**	Pn		**Pn**	**03 41 58.6**	**-0.3**
SHME	**Shamm**	**1.72**	**251**	*e*P		**Pn**	**03 41 57.9**	**-1.0**
	SNR=184							
SHME				S		**Sg**	**03 42 25.9**	**+1.8**
SHME	**Shamm**	**1.72**	**251**	*e*Pn		**Pn**	**03 41 58.6**	**-0.3**
GENO	**Geno**	**1.77**	**297**	Pn		**Pn**	**03 41 59.0**	**-0.7**
GENO	**Geno**	**1.77**	**297**	*e*Pn		**Pn**	**03 41 59.1**	**-0.7**
GENO				IAMB		IAmb	03 42 41.3	
	comp=Z,0.0nm,1.2s							
MDH	**Madha**	**1.98**	**229**	P		**Pn**	**03 42 00.2**	**-2.3**
	SNR=55							
MDH				S		**Sn**	**03 42 26.8**	**-0.5**
MDH	**Madha**	**1.98**	**229**	*e*Pn		**Pn**	**03 42 00.1**	**-2.3**
MSFE	**Esma-Masafi**	**2.04**	**233**	Pn		**Pn**	**03 42 01.1**	**-2.2**
MSFE	**Esma-Masafi**	**2.04**	**233**	*e*P		**Pn**	**03 42 01.7**	**-1.5**
	SNR=40							
MSFE	**Esma-Masafi**	**2.04**	**233**	*e*Pn		**Pn**	**03 42 01.2**	**-2.1**
UMQ	**Umm Al-Quwin**	**2.33**	**243**	*e*P		**Pn**	**03 42 09.0**	**+1.9**
	SNR=21							
UMQ	**Umm Al-Quwin**	**2.33**	**243**	*e*Pn		**Pb**	**03 42 09.4**	**-1.5**
HATD	**Hatta, Dubai**	**2.42**	**223**	Pn		**Pn**	**03 42 06.2**	**-2.2**
HATD	**Hatta, Dubai**	**2.42**	**223**	*e*P		**Pn**	**03 42 06.7**	**-1.8**
	SNR=26							
HATD	**Hatta, Dubai**	**2.42**	**223**	*e*Pn		**Pn**	**03 42 06.3**	**-2.2**
CHBR	**Chabahar**	**2.49**	**113**	*e*AML		AML	03 42 54.9	
	comp=N,5μm,0.8s							
CHBR				*e*Pn		**Pn**	**03 42 08.9**	**-0.6**
ASHO	**Ashiyiah**	**2.57**	**222**	Pn		**Pn**	**03 42 09.6**	**-1.0**
ASHO	**Ashiyiah**	**2.57**	**222**	*e*P		**Pn**	**03 42 09.6**	**-1.0**
	SNR=31							
ASHO	**Ashiyiah**	**2.57**	**222**	P		**Pn**	**03 42 10.8**	**+0.3**
	SNR=31							
ASHO	**Ashiyiah**	**2.57**	**222**	*e*Pn		**Pn**	**03 42 09.7**	**-0.9**
NAZ	**Nazwa, Dubai**	**2.62**	**232**	*e*P		**Pn**	**03 42 12.3**	**+1.1**
	SNR=11							
NAZ	**Nazwa, Dubai**	**2.62**	**232**	P		**Pn**	**03 42 12.8**	**+1.5**
	SNR=9.5							
NAZ	**Nazwa, Dubai**	**2.62**	**232**	*e*Pn		**Pn**	**03 42 12.8**	**+1.5**
SOHO	**SOHO**	**2.78**	**208**	P		**Pn**	**03 42 11.1**	**-2.3**
	SNR=374							
FAQ	**Al Faqa, Dubai**	**2.82**	**229**	*e*P		**Pn**	**03 42 15.1**	**+1.0**
	SNR=21							
FAQ	**Al Faqa, Dubai**	**2.82**	**229**	P		**Pn**	**03 42 14.9**	**+0.9**
	SNR=21							
FAQ	**Al Faqa, Dubai**	**2.82**	**229**	*e*Pn		**Pn**	**03 42 15.4**	**+1.3**
HOQ	**Hoqain**	**3.07**	**191**	P		**Pn**	**03 42 16.5**	**-1.0**
	SNR=52							
HOQ	**Hoqain**	**3.07**	**191**	*e*Pn		**Pn**	**03 42 15.9**	**-1.6**
BIDO	**Bidbid**	**3.08**	**177**	Pn		**Pn**	**03 42 16.6**	**-1.0**
BIDO	**Bidbid**	**3.08**	**177**	P		**Pn**	**03 42 17.2**	**-0.4**
	SNR=54							
BIDO	**Bidbid**	**3.08**	**177**	*e*Pn		**Pn**	**03 42 16.7**	**-0.9**
ASUD	**Al Ashush, Dub**	**3.08**	**231**	Pn		**Pn**	**03 42 19.4**	**+1.8**
ASUD	**Al Ashush, Dub**	**3.08**	**231**	*i* P		**Pn**	**03 42 19.0**	**+1.4**
	SNR=38							
ASUD	**Al Ashush, Dub**	**3.08**	**231**	P		**Pn**	**03 42 19.5**	**+1.8**
	SNR=38							
ASUD	**Al Ashush, Dub**	**3.08**	**231**	*e*Pn		**Pn**	**03 42 19.4**	**+1.8**
NGRK	**Negar Kerman**	**3.21**	**341**	Pn		**Pn**	**03 42 19.9**	**+0.2**
NGRK	**Negar Kerman**	**3.21**	**341**	*e*Pn		**Pn**	**03 42 20.0**	**+0.2**
NGRK				IAMB		IAmb	03 43 21.9	
	comp=Z,0.0nm,1.1s							
ALNE	**Al Ain**	**3.23**	**219**	Pn		**Pn**	**03 42 20.5**	**+0.8**
ALNE	**Al Ain**	**3.23**	**219**	*i* P		**Pn**	**03 42 20.2**	**+0.6**
	SNR=9.0							
ALNE	**Al Ain**	**3.23**	**219**	*e*Pn		**Pn**	**03 42 20.5**	**+0.8**
CHMN	**Cheshme madani**	**3.26**	**354**	Pn		**Pn**	**03 42 21.8**	**+1.4**
CHMN	**Cheshme madani**	**3.26**	**354**	*e*Pn		**Pn**	**03 42 21.8**	**+1.4**
CHMN				IAMB		IAmb	03 43 22.2	
	comp=Z,0.0nm,1.0s							
AJN	**Ajban**	**3.37**	**233**	*i* P		**Pn**	**03 42 22.5**	**+1.0**
	SNR=21							
AJN	**Ajban**	**3.37**	**233**	*e*Pn		**Pn**	**03 42 24.5**	**+3.0**
WSAR	**Wadi Sarin**	**3.41**	**169**	Pn		**Pn**	**03 42 22.1**	**-0.1**
	comp=Z,76nm,0.3s,baz=357,slow=12,SNR=125							
WSAR				Sn		**Sn**	**03 43 01.4**	**-1.3**
	comp=Z,206nm,0.3s,baz=147,slow=23,SNR=16							
ARQ	**Araqi**	**3.51**	**202**	P		**Pn**	**03 42 25.5**	**+2.0**
	SNR=12							
TVBK	**TV Kerman**	**3.52**	**343**	Pn		**Pn**	**03 42 25.2**	**+1.2**
TVBK	**TV Kerman**	**3.52**	**343**	*e*Pn		**Pn**	**03 42 25.2**	**+1.2**
TVBK				IAMB		IAmb	03 43 45.3	
	comp=Z,0.0nm,1.2s							
SMDO	**Samad**	**3.54**	**179**	P		**Pn**	**03 42 23.9**	**-0.1**
	SNR=26							
SMDO				S		**Sn**	**03 43 07.1**	**+1.2**
SZD1	**Zahaedan-tmp**	**3.85**	**41**	*e*Pn		**Pn**	**03 42 30.0**	**+1.6**
ZHSF	**Zahedan**	**3.89**	**39**	Pn		**Pn**	**03 42 29.3**	**+0.4**
ZHSF	**Zahedan**	**3.89**	**39**	*e*Pn		**Pn**	**03 42 29.4**	**+0.4**
ZHSF	**Zahedan**	**3.89**	**39**	*e*Pn		**Pn**	**03 42 29.4**	**+0.4**
BSY	**Bisya**	**3.91**	**190**	P		**Pn**	**03 42 31.6**	**+2.6**
	SNR=51							
KHGB	**Koh Gabri**	**3.97**	**341**	*e*Pn		**Pn**	**03 42 31.1**	**+1.1**
KHGB				IAMB		IAmb	03 43 51.2	
	comp=Z,0.0nm,1.1s							
WBK	**Wadi Bani Khal**	**4.09**	**167**	P		**Pn**	**03 42 33.2**	**+1.7**
	SNR=12							
WBK				S		**Sn**	**03 43 17.5**	**-2.0**
JMDO	**Jabal Madar**	**4.22**	**178**	P		**Pn**	**03 42 34.9**	**+1.6**
	SNR=14							
JHRM	**Jahrom**	**4.32**	**297**	*e*Pn		**Pn**	**03 42 34.6**	**-0.1**
JLN	**Jalan Bani Buh**	**4.63**	**163**	P		**Pn**	**03 42 38.6**	**-0.4**
	SNR=102							
JLN				S		**Sn**	**03 43 31.7**	**-1.2**
GHIR	**Ghir-Karzin**	**4.72**	**292**	Pn		**Pn**	**03 42 38.3**	**-1.8**
GHIR	**Ghir-Karzin**	**4.72**	**292**	*e*Pn		**Pn**	**03 42 38.4**	**-1.8**
GHIR	**Ghir-Karzin**	**4.72**	**292**	*e*Pn		**Pn**	**03 42 38.4**	**-1.8**
IPAR	**Pars**	**5.39**	**308**	Pn		**Pn**	**03 42 49.4**	**-0.2**
IPAR	**Pars**	**5.39**	**308**	*e*Pn		**Pn**	**03 42 49.5**	**-0.2**
MZR	**Muzera**	**5.42**	**229**	*i* P		**Pn**	**03 42 51.8**	**+2.0**
	SNR=17							
MZR	**Muzera**	**5.42**	**229**	*e*Pn		**Pn**	**03 42 51.7**	**+1.9**
IMEH	**Mehriz**	**5.59**	**329**	Pn		**Pn**	**03 42 50.8**	**-1.5**
IMEH	**Mehriz**	**5.59**	**329**	*e*Pn		**Pn**	**03 42 50.9**	**-1.4**
MHTO	**MHTO**	**5.60**	**180**	P		**Pn**	**03 42 52.7**	**+0.5**
	SNR=12							
MHTO				S		**Sn**	**03 43 56.3**	**-0.4**
SHI	**Shiraz**	**5.67**	**303**	*e*Pn		**Pn**	**03 42 51.6**	**-1.8**
IKOO	**Kooshah**	**5.87**	**9**	Pn		**Pn**	**03 42 55.5**	**-0.6**
IKOO	**Kooshah**	**5.87**	**9**	*e*Pn		**Pn**	**03 42 55.5**	**-0.6**
IKAZ	**Kazeroun**	**6.25**	**302**	Pn		**Pn**	**03 42 59.7**	**-1.8**
IKAZ	**Kazeroun**	**6.25**	**302**	*e*Pn		**Pn**	**03 42 59.7**	**-1.8**
ITEG	**Tejag**	**6.30**	**6**	*e*Pn		**Pn**	**03 43 01.3**	**-0.8**
IDAH	**Dahanechah**	**6.33**	**15**	Pn		**Pn**	**03 43 05.1**	**+2.6**
IDAH	**Dahanechah**	**6.33**	**15**	*e*Pn		**Pn**	**03 43 05.2**	**+2.7**
ICHK	**Chekchek**	**6.41**	**332**	*e*Pn		**Pn**	**03 43 04.1**	**+0.6**
YZKH	**Yazd**	**6.46**	**334**	*e*Pn		**Pn**	**03 43 03.3**	**-0.9**
YZKH	**Yazd**	**6.46**	**334**	*e*Pn		**Pn**	**03 43 03.3**	**-0.9**
ISAD	**Sadrabad**	**6.46**	**326**	Pn		**Pn**	**03 43 04.2**	**-0.1**
ISAD	**Sadrabad**	**6.46**	**326**	*e*Pn		**Pn**	**03 43 04.3**	**-0.1**
TPRV	**Parvadeh(Tabas**	**6.49**	**351**	*e*Pn		**Pn**	**03 43 04.3**	**-0.2**
TKDS	**Koohdasht(Taba**	**7.02**	**354**	*e*Pn		**Pn**	**03 43 12.1**	**+0.3**
IRAM	**Ramesheh**	**7.11**	**318**	Pn		**Pn**	**03 43 11.6**	**-1.5**
IRAM	**Ramesheh**	**7.11**	**318**	*e*Pn		**Pn**	**03 43 11.7**	**-1.4**
SHRT	**Shahrakht**	**7.30**	**16**	Pn		**Pn**	**03 43 16.9**	**+1.3**
SHRT	**Shahrakht**	**7.30**	**16**	*e*Pn		**Pn**	**03 43 16.9**	**+1.3**
SHRT	**Shahrakht**	**7.30**	**16**	*e*Pn		**Pn**	**03 43 16.9**	**+1.3**
TNSJ	**Nastanj**	**7.42**	**351**	*e*Pn		**Pn**	**03 43 17.8**	**+0.5**
ANAR	**Anarak**	**7.51**	**332**	*e*Pn		**Pn**	**03 43 18.6**	**0.0**
IGAR	**Gharneh**	**7.73**	**320**	*e*Pn		**Pn**	**03 43 20.9**	**-0.9**
IZEF	**Zefreh**	**7.94**	**323**	Pn		**Pn**	**03 43 23.6**	**-1.1**
IZEF	**Zefreh**	**7.94**	**323**	*e*Pn		**Pn**	**03 43 23.7**	**-0.9**
ZNGN	**Zangian**	**8.27**	**313**	*e*Pn		**Pn**	**03 43 27.8**	**-1.4**
ROKH	**ROKH**	**8.30**	**315**	*e*Pn		**Pn**	**03 43 27.5**	**-2.1**
JHBN	**Jahan bin**	**8.47**	**313**	*e*Pn		**Pn**	**03 43 29.6**	**-2.3**
IPIR	**Pirpir**	**8.62**	**316**	Pn		**Pn**	**03 43 33.1**	**-0.9**
IPIR	**Pirpir**	**8.62**	**316**	*e*Pn		**Pn**	**03 43 33.2**	**-0.8**
IKLH	**Kolahrood**	**8.67**	**322**	Pn		**Pn**	**03 43 35.4**	**+0.7**
IKLH	**Kolahrood**	**8.67**	**322**	*e*Pn		**Pn**	**03 43 35.4**	**+0.7**
ISFB	**Sefidab**	**9.15**	**329**	Pn		**Pn**	**03 43 40.3**	**-0.8**
ISFB	**Sefidab**	**9.15**	**329**	*e*Pn		**Pn**	**03 43 40.3**	**-0.8**
IANJ	**Anjilo**	**9.48**	**340**	Pn		**Pn**	**03 43 45.8**	**+0.1**
IANJ	**Anjilo**	**9.48**	**340**	*e*Pn		**Pn**	**03 43 45.8**	**+0.1**
JRKH	**Jarkhoshk**	**9.49**	**12**	*e*Pn		**Pn**	**03 43 46.5**	**+0.7**
SBZV	**Sabzevar**	**9.75**	**358**	*e*Pn		**Pn**	**03 43 49.7**	**+0.3**
IPAY	**Payeh**	**9.85**	**5**	*e*Pn		**Pn**	**03 43 52.2**	**+1.4**
IMYA	**Miami**	**9.87**	**10**	Pn		**Pn**	**03 43 51.6**	**+0.6**
IMYA	**Miami**	**9.87**	**10**	*e*Pn		**Pn**	**03 43 51.6**	**+0.6**
IVRN	**Varamin**	**9.92**	**329**	Pn		**Pn**	**03 43 51.7**	**+0.1**
IVRN	**Varamin**	**9.92**	**329**	*e*Pn		**Pn**	**03 43 51.8**	**+0.1**
IAKL	**Akhelmad**	**9.99**	**4**	Pn		**Pn**	**03 43 53.4**	**+0.8**
IAKL	**Akhelmad**	**9.99**	**4**	*e*Pn		**Pn**	**03 43 53.5**	**+0.8**
ISHM	**Shahmirzad**	**10.00**	**338**	*e*Pn		**Pn**	**03 43 55.1**	**+2.3**
IFIR	**Firoozkooh**	**10.04**	**335**	Pn		**Pn**	**03 43 53.5**	**+0.1**
IFIR	**Firoozkooh**	**10.04**	**335**	*e*Pn		**Pn**	**03 43 53.6**	**+0.1**
IKRD	**Kardeh**	**10.15**	**3**	Pn		**Pn**	**03 43 56.5**	**+1.7**
IKRD	**Kardeh**	**10.15**	**3**	*e*Pn		**Pn**	**03 43 56.5**	**+1.7**
ABTO	**Aybut**	**10.17**	**206**	P		**Pn**	**03 43 53.0**	**-2.0**
	SNR=7.4							
IKIA	**Kiasar**	**10.24**	**340**	Pn		**Pn**	**03 43 57.5**	**+1.4**
IKIA	**Kiasar**	**10.24**	**340**	*e*Pn		**Pn**	**03 43 57.5**	**+1.4**
IDMV	**Damavand**	**10.28**	**332**	Pn		**Pn**	**03 43 57.4**	**+0.8**
IDMV	**Damavand**	**10.28**	**332**	*e*Pn		**Pn**	**03 43 57.4**	**+0.8**
ISFR	**Sfrayin**	**10.41**	**0**	Pn		**Pn**	**03 43 59.2**	**+0.7**
ISFR	**Sfrayin**	**10.41**	**0**	*e*Pn		**Pn**	**03 43 59.3**	**+0.7**
IHSB	**Hasanabad**	**10.49**	**329**	*e*Pn		**Pn**	**03 44 00.6**	**+1.1**
IPRN	**Peran**	**10.73**	**335**	*e*Pn		**Pn**	**03 44 05.2**	**+2.5**
IKMR	**Kamar-syah**	**10.77**	**312**	*e*Pn		**Pn**	**03 44 00.7**	**-2.5**
IEMG	**Emamgholi**	**10.79**	**3**	Pn		**Pn**	**03 44 05.7**	**+2.0**
IEMG	**Emamgholi**	**10.79**	**3**	*e*Pn		**Pn**	**03 44 05.7**	**+2.0**
IMND	**Minoodasht**	**10.83**	**349**	*e*Pn		**Pn**	**03 44 03.7**	**-0.3**
IDOB	**Doab**	**11.07**	**313**	*e*Pn		**Pn**	**03 44 03.9**	**-3.6**
BHJ	**Bhuj**	**11.13**	**105**	*e*P		**Pn**	**03 44 06.9**	**-1.2**
IKFM	**Kafar-mosalman**	**11.13**	**311**	*e*Pn		**Pn**	**03 44 06.9**	**-1.2**
HAGD	**Aghdareh**	**11.15**	**319**	*e*Pn		**Pn**	**03 44 07.9**	**-0.7**
GEYT	**Alibeck**	**11.29**	**1**	Pn		**Pn**	**03 44 13.6**	**+3.4**
	comp=Z,2.8nm,0.3s,baz=187,slow=9.6,SNR=23							
GEYT				Lg		Lg	03 47 22.1	
	comp=Z,1.3nm,0.3s,baz=255,slow=32,SNR=5.4							
GEYT				LR		LR	03 49 14.6	
	comp=Z,4μm,18.6s,baz=220,slow=42							
GYA0B	**ALIBECK ARRAY**	**11.29**	**1**	*e*Pn		**Pn**	**03 44 10.9**	**+0.7**
QABG	**Abgarm-Qazvin**	**11.55**	**324**	*e*Pn		**Pn**	**03 44 12.8**	**-1.3**
QALM	**Alamut, Qazvin**	**11.60**	**329**	*e*Pn		**Pn**	**03 44 15.8**	**+1.0**
IBZA	**Bozab**	**11.70**	**314**	*e*Pn		**Pn**	**03 44 14.9**	**-1.2**
IKOM	**Komasi**	**11.74**	**312**	Pn		**Pn**	**03 44 13.4**	**-3.2**
IKOM	**Komasi**	**11.74**	**312**	*e*Pn		**Pn**	**03 44 13.4**	**-3.2**
IGZV	**Ghazvin**	**11.76**	**328**	*e*Pn		**Pn**	**03 44 17.6**	**+0.6**
KCHF	**Cheshme Sefid,**	**12.12**	**312**	*e*Pn		**Pn**	**03 44 19.1**	**-2.7**
IVIS	**Veis**	**12.39**	**312**	Pn		**Pn**	**03 44 20.9**	**-4.5**
IVIS	**Veis**	**12.39**	**312**	*e*Pn		**Pn**	**03 44 21.0**	**-4.5**
KBL	**Kabul**	**12.39**	**48**	*e*Pn		**Pn**	**03 44 25.1**	**-0.5**
KBL	**Kabul**	**12.39**	**48**	*e*P		**Pn**	**03 44 25.1**	**-0.5**
KBL	**Kabul**	**12.39**	**48**	*e*Pn		**Pn**	**03 44 25.1**	**-0.5**
IGHG	**Ghaleghazi**	**12.47**	**311**	Pn		**Pn**	**03 44 23.6**	**-3.0**
IGHG	**Ghaleghazi**	**12.47**	**311**	*e*Pn		**Pn**	**03 44 23.7**	**-2.9**
ILIN	**Lien**	**12.56**	**314**	Pn		**Pn**	**03 44 23.2**	**-4.6**
ILIN	**Lien**	**12.56**	**314**	*e*Pn		**Pn**	**03 44 23.3**	**-4.6**
IDHR	**Dehrash**	**12.80**	**312**	*e*Pn		**Pn**	**03 44 27.3**	**-3.9**
IAZR	**Azarshahr**	**14.97**	**320**	Pn		**Pn**	**03 45 00.3**	**-0.5**
IAZR	**Azarshahr**	**14.97**	**320**	*e*Pn		**Pn**	**03 45 00.4**	**-0.4**
NIL	**Nilore**	**14.97**	**58**	*e*Pn		**Pn**	**03 44 59.8**	**-0.9**
NIL	**Nilore**	**14.97**	**58**	*e*P		**Pn**	**03 44 59.8**	**-0.9**
NIL	**Nilore**	**14.97**	**58**	*e*Pn		**Pn**	**03 44 59.8**	**-0.9**
CHGR	**Chuyangaron**	**15.26**	**35**	*e*Pn		**Pn**	**03 45 01.1**	**-3.4**
	comp=Z,438nm,1.5s							
GAR	**Garm**	**16.13**	**37**	*e*Pn		**Pn**	**03 45 13.1**	**-2.7**
	comp=Z,167nm,1.1s							
GAR	**Garm**	**16.13**	**37**	*e*P		**Pn**	**03 45 13.1**	**-2.7**
GAR				pmax		pmax		
	comp=Z,167nm,1.1s							
POO	**Poona**	**16.73**	**115**	*e*P		**Pn**	**03 45 20.9**	**-2.6**
POO				IAmb		IAmb	03 45 30.8	
	comp=Z,52nm,0.9s							
DHRM	**DHARAMSHALA**	**16.94**	**66**	*e*P		**Pn**	**03 45 25.1**	**-1.1**
DHRM				IAmb		IAmb	03 45 37.0	
	comp=Z,1μm,1.6s							
AKT	**Akhty**	**17.06**	**333**	*e*P		**Pn**	**03 45 27.9**	**+0.3**
BTK	**Batken**	**17.16**	**35**	*e*Pn		**Pn**	**03 45 26.6**	**-2.2**
	comp=Z,86nm,0.8s							
BTK	**Batken**	**17.16**	**35**	*e*P		**Pn**	**03 45 26.7**	**-2.2**
BTK				pmax		pmax		
	comp=Z,86nm,0.8s							
NDI	**New Delhi**	**17.20**	**79**	*e*P		**Pn**	**03 45 27.5**	**-1.8**
NDI				*ex*		x	03 49 28.0	
GNI	**Garni**	**17.41**	**324**	*e*Pn		**Pn**	**03 45 31.8**	**-0.3**
	comp=Z,96nm,1.0s							
GNI	**Garni**	**17.41**	**324**	*i* P		**P**	**03 45 34.1**	**+0.8**
	SNR=19							
GNI	**Garni**	**17.41**	**324**	*ce*P		**P**	**03 45 33.9**	**+0.6**
GNI				pmax		pmax		
	comp=Z,454nm,1.7s							
GNI	**Garni**	**17.41**	**324**	P		**P**	**03 45 33.8**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=157,slow=3.4,SNR=17							
GNI				LR		LR	03 53 23.7	
	comp=Z,2μm,18.3s,baz=93,slow=41							
TAS	**Tashkent**	**17.41**	**30**	P		**P**	**03 45 33.8**	**+0.7**
TAS				pmax		pmax		
	comp=Z,205nm,1.0s							
SMLA	**Simla**	**17.42**	**71**	*e*P		**Pn**	**03 45 32.3**	**+0.3**
SMLA				IAmb		IAmb	03 45 35.0	
	comp=Z,1μm,2.7s							
DAMY	**Dhamar**	**17.43**	**229**	*e*Pn		**Pn**	**03 45 31.6**	**-1.0**
	comp=Z,116nm,0.9s							
BHPL	**Bhopal**	**17.98**	**97**	*e*P		**Pn**	**03 45 38.6**	**-0.4**
BHPL				IAML			03 45 43.4	
	comp=Z,191nm,0.2s							
DDI	**Dehra Dun**	**18.06**	**74**	*e*P		**P**	**03 45 40.5**	**+0.1**
DDI				IAmb		IAmb	03 45 48.0	
	comp=Z,131nm,1.2s							
GNBR	**Gunib**	**18.13**	**333**	‖*e*P		**P**	**03 45 42.6**	**+1.4**
MAK	**Makhachkala**	**18.41**	**335**	*e*P		**P**	**03 45 43.3**	**-0.8**
MAK				*e*S		**Sn**	**03 49 07.2**	**-2.5**
MAK				pmax		pmax		
	comp=Z,195nm,1.3s							
MAK				MLR		MLR		
	comp=Z,957nm,15.0s							
GOA	**Goa**	**18.47**	**124**	*e*P		**P**	**03 45 43.7**	**-1.2**
GOA				IAmb		IAmb	03 45 50.3	
	comp=Z,94nm,1.5s							
TBLG	**Delisi**	**18.59**	**328**	*e*P		**P**	**03 45 45.5**	**-0.7**
	comp=Z,43nm,1.1s							
TBLG	**Delisi**	**18.59**	**328**	*e*P		**P**	**03 45 45.5**	**-0.7**
TBLG				pmax		pmax		
	comp=Z,43nm,1.1s							
BTLR	**Botlikh**	**18.67**	**332**	‖*e*P		**Pn**	**03 45 47.7**	**+0.3**
DVE	**Vedeno**	**18.95**	**332**	‖*e*P		**Pn**	**03 45 51.3**	**+0.5**
AKH	**Akhalkalaki**	**18.98**	**325**	*e*P		**P**	**03 45 50.2**	**-0.4**
	comp=Z,28nm,1.0s							
AKH	**Akhalkalaki**	**18.98**	**325**	⇑*i* P		**Pn**	**03 45 52.2**	**+1.0**
AKH	**Akhalkalaki**	**18.98**	**325**	*e*P		**P**	**03 45 50.2**	**-0.4**
AKH				pmax		pmax		
	comp=Z,28nm,1.0s							
ASF	**Jabal al Asfar**	**19.15**	**292**	P		**P**	**03 45 52.1**	**-0.4**
	comp=Z,75nm,1.0s							
ASF	**Jabal al Asfar**	**19.15**	**292**	P		**P**	**03 45 52.1**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=52,slow=8.9,SNR=14							
ASF				S		Sn	03 49 13.9	-14
	comp=Z,0.5nm,0.3s,baz=49,slow=20,SNR=3.8							
ASF				LR		LR	03 55 31.8	
	comp=Z,2μm,18.6s,baz=62,slow=44							
ARSB	**Arslanbob**	**19.21**	**36**	*e*P		**P**	**03 45 50.9**	**-2.3**
	comp=Z,127nm,1.0s							
GROC	**Groznyy**	**19.29**	**332**	*e*P		**P**	**03 45 53.6**	**-0.2**
GROC				*e*S		**Sn**	**03 49 29.3**	**-1.7**
GROC				pmax		pmax		
	comp=Z,47nm,0.8s							
KK31	**Karatay Array**	**19.38**	**29**	*e*P		**P**	**03 45 53.1**	**-1.7**
	comp=Z,106nm,0.9s							
KK31	**Karatay Array**	**19.38**	**29**	*e*P		**P**	**03 45 53.1**	**-1.7**
KK31				pmax		pmax		
	comp=Z,106nm,0.9s							
KKAR	**Karatay Array**	**19.38**	**29**	*e*P		**P**	**03 45 53.0**	**-1.8**
KKAR	**Karatay Array**	**19.38**	**29**	*e*P		**P**	**03 45 53.0**	**-1.8**
SWQJ	**Swaqa**	**19.70**	**289**	P		**Pn**	**03 46 00.4**	**+0.5**
	comp=Z,259nm,0.9s							
HSUJ	**Al Zarqa**	**19.73**	**291**	P		**Pn**	**03 46 00.3**	**+0.1**
	comp=Z,181nm,0.9s							
KSH	**Kashi**	**19.80**	**45**	P		**P**	**03 45 53.4**	**-6.1**
KSH				pP		Pn	03 46 01.3	+0.2
KSH				PP		**PnPn**	**03 46 10.8**	**-4.1**
KSH				S		S	03 49 20.6	-22
KSH				pmax		pmax		
	comp=Z,260nm,0.9s							
KSH				LR		LR		
	comp=Z,2μm,11.0s							
KSH				LR		LR		
	comp=Z,2μm,10.3s							
KSH				LR		LR		
	comp=Z,3μm,14.4s							
ZEI	**Tsey**	**19.80**	**328**	*e*P		**Pn**	**03 46 00.9**	**-0.3**
ZEI				pmax		pmax		
	comp=Z,44nm,1.2s							
HSNJ	**Maan**	**19.91**	**286**	P		**Pn**	**03 46 03.7**	**+1.3**
	comp=Z,261nm,0.9s							
WALJ	**Wala**	**19.96**	**290**	P		**Pn**	**03 46 03.6**	**+0.7**
	comp=Z,161nm,0.8s							
JDRJ	**Daraweish**	**19.97**	**287**	P		**P**	**03 46 00.3**	**-1.2**
	comp=Z,196nm,0.9s							
BCA	**Borcka**	**20.00**	**322**	⇑*i* P	

BRTR Keskin Array B 24.10 309 P **P 03 46 43.1 -1.8**
comp=Z,29nm,0.8s,baz=120,slow=9.5,SNR=66
BRTR LR LR 03 58 30.2
comp=Z,2μm,19.4s,baz=92,slow=43
SNOP Sinop 24.17 315 *eP* **P 03 46 44.6 -0.6**
comp=Z,53nm,0.9s
PDGK Podgornoye 24.18 41 P **P 03 46 44.7 -0.8**
PDGK pmax pmax
comp=Z,99nm,1.4s
DMN Daman 24.18 81 *eP* **P 03 46 45.9 +0.1**
comp=Z,104nm,1.0s
KKN Kakani 24.32 81 *eP* **P 03 46 47.9 +0.8**
comp=Z,84nm,0.8s
OTUK Ortayu 24.35 24 P **P 03 46 45.7 -1.2**
OTUK pmax pmax
comp=Z,39nm,1.2s
PKIN Phulchoki 24.44 81 *eP* **P 03 46 48.8 +0.6**
comp=Z,104nm,1.2s
PKI Pulchoki 24.45 81 *eP* **P 03 46 48.9 +0.5**
comp=Z,142nm,1.2s
ANN Anapa 24.52 323 *eP* **P 03 46 46.7 -1.7**
ANN *eS* **S 03 51 03.9 -5.0**
ANN pmax pmax
comp=N,67nm,1.5s
ANN pmax pmax
comp=Z,132nm,1.5s
ANN pmax pmax
comp=E,39nm,1.5s
ANN MLR MLR
comp=N,1μm,16.0s
ANN MLR MLR
comp=Z,2μm,16.0s
ANN MLR MLR
comp=E,846nm,16.0s
ILGA Ilgaz 24.65 312 *eP* **P 03 46 48.9 -1.0**
comp=E,96nm,1.5s
ANTO Ankara 24.75 309 *eP* **P 03 46 50.1 -0.6**
comp=E,102nm,1.1s
ANTO Ankara 24.75 309 *eP* **P 03 46 50.1 -0.6**
ANTO pmax pmax
comp=Z,102nm,1.1s
BR231 Keskin MP Arra 24.75 309 *eP* **P 03 46 51.7 +0.9**
comp=Z,58nm,0.9s
BZK Bozkurt 24.90 314⇑ *iP* **P 03 46 52.7 +0.8**
JIRN Jiri 25.13 81 *eP* **P 03 46 54.5 -0.1**
BOK Bokaro 25.41 90 *eP* **P 03 46 56.7 0.0**
BOK IAmb IAmb 03 47 00.6
comp=Z,24nm,0.8s
TRD Trivandrum 25.48 132 *eP* **P 03 46 53.9 -3.5**
RAMN Ramite 25.56 83 *eP* **P 03 46 58.4 +0.1**
comp=Z,60nm,0.8s
ISP Isparta 25.67 303⇑ *iP* **P 03 46 59.5 +0.4**
ISP Isparta 25.67 303⇑ *P* **P 03 46 59.5 +0.4**
BWNR Bhubaneshwar 26.28 98 *ex* **P 03 47 06.9 +2.2**
BWNR IAmb IAmb 03 47 10.5
comp=Z,667nm,3.5s
FETY Fethiye 26.45 299 P P 03 46 55.2 -11
FETY Fethiye 26.45 299 P P 03 46 55.2 -11
SIM Simferopol' 26.46 320*c iP* **P 03 47 07.7 +1.6**
SIM *eS* S 03 51 27.9 -12
SIM pmax pmax
comp=Z,70nm,1.1s
ARG Arkhangelos 27.11 298 P **P 03 47 13.8 +1.9**
ARG pmax pmax
comp=Z,61nm,1.3s
MANT Manisa 27.34 303 *eP* **P 03 47 16.0 +1.7**
comp=Z,220nm,1.3s
YLV Yalova 27.43 308⇑ *iP* **P 03 47 15.9 +1.0**
YLV Yalova 27.43 308⇑ *P* **P 03 47 15.9 +1.0**
VRH Novokhopyorsk 27.49 338 *eP* **P 03 47 17.3 +2.1**
VRH pmax pmax
comp=Z,30nm,0.7s
MAKZ Makanchi 27.69 37 *eP* **P 03 47 16.1 -1.0**
comp=Z,38nm,0.9s
MAKZ Makanchi 27.69 37 *eP* **P 03 47 16.1 -1.0**
MAKZ pmax pmax
comp=Z,38nm,0.9s
KARP Karpathos 27.75 296 P **P 03 47 17.8 +0.1**
KARP Karpathos 27.75 296 P **P 03 47 17.8 +0.1**
MK31 Makanchi Array 27.85 37 *eP* **P 03 47 19.1 +0.5**
comp=Z,21nm,1.1s
MKAR Makanchi Array 27.85 37 *eP* **P 03 47 18.1 -0.4**
MKAR Makanchi Array 27.85 37 P **P 03 47 18.6 0.0**
comp=Z,10nm,0.8s,baz=224,slow=8.5,SNR=30
MKAR LR LR 04 00 05.7
comp=Z,832nm,18.7s,baz=108,slow=40
BODT Bodrum 27.93 299 P **P 03 47 20.5 +1.1**
BODT Bodrum 27.93 299 P **P 03 47 20.5 +1.1**
BVAR Borovoye Array 27.98 16 P **P 03 47 17.6 -2.0**
comp=Z,13nm,0.8s,baz=198,slow=8.3,SNR=37
BRVK Borovoye 27.98 16 *eP* **P 03 47 18.7 -0.9**
comp=Z,20nm,0.9s
BRVK Borovoye 27.98 16*ceP* **P 03 47 20.2 +0.6**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 28.42 335 *eP* **P 03 47 22.7 -0.8**
VSR pmax pmax
comp=Z,20nm,1.7s
KURBB Kurchatov Arra 28.68 28 P **P 03 47 24.2 -1.7**
comp=Z,8.7nm,0.9s,baz=227,slow=8.6,SNR=43
VORR Voronezh 28.77 335 P **P 03 47 29.0 +2.4**
VORR pmax pmax
comp=Z,250nm,1.2s
KURK Kurchatov 28.79 28 *eP* **P 03 47 27.0 +0.2**
comp=Z,67nm,1.8s
KURK Kurchatov 28.79 28*d iP* **P 03 47 28.1 +1.3**
KURK pmax pmax
comp=Z,23nm,1.7s
PHSR Pinarhisar 29.12 309⇑ *iP* **P 03 47 31.1 +1.2**
SANT Santorini 29.25 297 *eP* **P 03 47 32.4 +1.3**
comp=Z,83nm,1.3s
SANT Santorini 29.25 297⇑ *iP* **P 03 47 30.3 -0.8**
APE Apeiranthos 29.32 299⇑ *iP* **P 03 47 31.7 -0.1**
APE Apeiranthos 29.32 299⇑ *eP* **P 03 47 32.2 +0.4**
APE pmax pmax
comp=Z,20nm,0.9s
WMQ Urumqi 29.54 47 *eP* **P 03 47 35.3 +1.7**
WMQ pP sP 03 47 42.2 +3.8
WMQ sP pP 03 47 46.0 +9.0
WMQ pmax pmax
comp=Z,3μm,11.1s
IDI Anoyia 29.54 295 P **P 03 47 32.9 -0.8**
comp=Z,15nm,0.8s,baz=98,slow=7.8,SNR=14
IDI LR LR 04 03 42.1
comp=Z,877nm,20.6s,baz=64,slow=45
LPSR Galich'ya Gora 29.62 336 *eP* **P 03 47 34.6 +0.4**
LPSR pmax pmax
comp=Z,10.0nm,1.6s
ARU Arti 29.80 1*d iP* **P 03 47 37.7 +2.0**
ARU 03 48 28.7
ARU S **S 03 52 33.1 +1.0**
ARU SS **SnSn 03 54 00.4 -1.6**
ARU pmax pmax
comp=Z,12nm,1.4s
CFR Carcaliu 30.19 316⇑ *iP* **P 03 47 40.3 +1.0**
CFR Carcaliu 30.19 316⇑ *P* **P 03 47 40.3 +1.0**
SVE Sverdlovsk 30.26 3 *eP* **P 03 47 38.0 -1.7**
SVE pmax pmax
comp=Z,11nm,1.0s
SVE MLR MLR
comp=Z,1μm,13.0s
SHL Shillong 30.44 84 *eP* **P 03 47 41.1 -0.8**
KIS Kishinev 30.68 319 *eP* **P 03 47 43.0 -0.6**
comp=Z,110nm,1.5s
KIS *eS* **S 03 52 42.0 -4.1**
KIS *e*LR LR 04 03 12.0
comp=Z,700nm,20.0s
KIS Kishinev 30.68 319 *eP* **P 03 47 43.0 -0.6**
KIS *e* 03 48 53.0
KIS *eS* **S 03 52 42.0 -4.1**
KIS pmax pmax
comp=Z,110nm,1.5s
DION Dionisos Attik 30.77 300 P **P 03 47 45.2 +0.6**
BRDH Bariadhala 30.82 90 LR LR 04 00 02.5
comp=Z,1μm,18.6s,baz=304,slow=36
ANKY Antikythira Is 30.90 296 P **P 03 47 47.2 +1.5**
ANKY Antikythira Is 30.90 296 P **P 03 47 47.2 +1.5**
AOS Alonnisos 31.05 302 P **P 03 47 47.7 +0.7**
AOS Alonnisos 31.05 302 P **P 03 47 47.7 +0.7**
VRI Vrincioaia 31.39 316⇑ *iP* **P 03 47 50.4 +0.5**
VRI Vrincioaia 31.39 316⇑ *P* **P 03 47 47.6 -2.3**
PLOR Plostina 31.43 316⇑ *iP* **P 03 47 52.3 +2.0**
PLOR Plostina 31.43 316⇑ *P* **P 03 47 52.3 +2.0**
XOR Xorichti 31.61 303 P **P 03 47 52.6 +0.6**
XOR Xorichti 31.61 303 P **P 03 47 52.6 +0.6**

MLR Muntele Rosu 31.71 315 *eP* **P 03 47 54.0 +1.1**
comp=Z,38nm,1.3s
MLR Muntele Rosu 31.71 315⇓ *iP* **P 03 47 54.3 +1.4**
MLR Muntele Rosu 31.71 315⇓ *P* **P 03 47 54.3 +1.4**
MLR Muntele Rosu 31.71 315 P **P 03 47 55.2 +2.3**
comp=Z,6.9nm,0.8s,baz=99,slow=2.6,SNR=16
TESR Tescani 31.73 317⇑ *iP* **P 03 47 54.4 +1.5**
SRS Serrai 31.76 306 P **P 03 47 53.5 +0.3**
SRS Serrai 31.76 306 P **P 03 47 53.5 +0.3**
SRS Serrai 31.76 306 P **P 03 47 53.5 +0.3**
AXAR Agios Charalam 31.89 301 P **P 03 47 57.4 +3.0**
AXAR Agios Charalam 31.89 301 P **P 03 47 57.4 +3.0**
GUR Goura 31.98 300 P **P 03 47 54.4 -0.9**
GUR Goura 31.98 300 P **P 03 47 54.4 -0.9**
KLV Kalavryta, Ach 32.14 300 P **P 03 47 56.5 -0.2**
KLV Kalavryta, Ach 32.14 300 P **P 03 47 56.5 -0.2**
MTUR Matau 32.17 314⇑ *iP* **P 03 47 59.1 +2.2**
MTUR Matau 32.17 314⇑ *P* **P 03 47 59.1 +2.2**
ITM Ithomi 32.18 298 *eP* **P 03 47 56.3 -0.7**
comp=Z,19nm,0.8s
AGG Agios Georgios 32.19 302 *eP* **P 03 47 57.7 +0.6**
comp=Z,14nm,1.1s
AGG Agios Georgios 32.19 302 *eP* **P 03 47 57.7 +0.6**
AGG pmax pmax
comp=Z,14nm,1.1s
VOIR 32.26 314⇑ *iP* **P 03 47 59.8 +2.1**
VOIR 32.26 314⇑ *P* **P 03 47 59.8 +2.1**
BIZ Bicaz 32.26 317⇑ *iP* **P 03 47 59.2 +1.6**
DOPR Dopca 32.27 315⇑ *iP* **P 03 47 59.4 +1.7**
LIT Litokhoron 32.31 304 *eP* **P 03 47 59.5 +1.4**
comp=Z,13nm,1.0s
DGZ Jazzator, Alta 32.34 37*c iP* **P 03 47 59.4 +1.0**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
AMT Artemida-Makis 32.40 299 P **P 03 47 59.8 +0.8**
ANX Ano Chora 32.42 301 P **P 03 47 58.5 -0.7**
VTS Vitosha 32.46 308 *eP* **P 03 48 01.1 +1.6**
comp=Z,8.2nm,1.0s
VTS Vitosha 32.46 308⇑ *iP* **P 03 48 01.1 +1.6**
VTS Vitosha 32.46 308⇑ *P* **P 03 48 01.1 +1.6**
DRO Drossia 32.47 299 P **P 03 47 59.9 +0.4**
OBN Obninsk 32.48 337 *eP* **P 03 48 01.0 +1.7**
comp=Z,94nm,1.5s
OBN Obninsk 32.48 337 *i P* **P 03 48 01.0 +1.7**
OBN *i* 03 49 09.2
OBN pmax pmax
comp=Z,37nm,1.3s
OBN MLR MLR
comp=Z,916nm,17.0s
OBN Obninsk 32.48 337 P **P 03 48 01.0 +1.7**
comp=Z,2.0nm,0.4s,baz=4.6,slow=1.6,SNR=9.5
ARR Arges 32.50 314⇑ *iP* **P 03 47 59.5 -0.3**
KIRV Kirov 32.52 352 P **P 03 47 59.9 +0.3**
comp=Z,7.7nm,0.7s,baz=175,slow=11,SNR=7.9
AKASG Malin Array Be 32.53 325 *eP* **P 03 47 59.2 -0.6**
AKASG Malin Array Be 32.53 325*ceP* **P 03 47 59.2 -0.6**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 32.53 325 P **P 03 47 58.3 -1.6**
comp=Z,7.7nm,0.8s,baz=128,slow=8.1,SNR=36
AKASG LR LR 04 03 57.5
comp=Z,1μm,21.7s,baz=65,slow=42
AKBB Malin Array Si 32.53 325 *eP* **P 03 47 57.8 -2.1**
comp=Z,18nm,0.8s
AKBB Malin Array Si 32.53 325 *eP* **P 03 47 57.8 -2.1**
AKBB pmax pmax
comp=Z,18nm,0.8s
KIEV Kiev 32.54 325 *eP* **P 03 47 58.3 -1.6**
comp=Z,18nm,0.8s
KIEV Kiev 32.54 325⇑ *iP* **P 03 47 59.3 -0.6**
KIEV Kiev 32.54 325 *i P* **P 03 47 58.9 -1.0**
SNR=14
KIEV Kiev 32.54 325*ceP* **P 03 48 00.2 +0.3**
KIEV pmax pmax
comp=Z,19nm,0.9s
VAY Valandovo 32.56 306 *i P* **P 03 48 01.4 +1.2**
GRG Griva 32.59 305 P **P 03 48 01.3 +0.8**
GRG Griva 32.59 305 P **P 03 48 01.3 +0.8**
GRG Griva 32.59 305 P **P 03 48 01.3 +0.8**
STIP Stip 32.94 306 *eP* **P 03 48 03.2 -0.4**
BURAR Bucovina Array 33.11 318 *eP* **P 03 48 04.7 -0.4**
BURAR Bucovina Array 33.11 318⇑ *iP* **P 03 48 06.9 +1.8**
BURAR Bucovina Array 33.11 318 *eP* **P 03 48 04.7 -0.4**
BUR08 Bucovina Ar. S 33.14 318 *eP* **P 03 48 06.9 +1.5**
comp=Z,7.8nm,0.9s
KFL Anninata 33.22 300 P **P 03 48 05.4 -0.6**
FNA Florina 33.30 304 *eP* **P 03 48 05.8 -1.0**
comp=Z,33nm,0.9s
FNA Florina 33.30 304 P **P 03 48 06.7 -0.1**
FNA Florina 33.30 304 *eP* **P 03 48 05.8 -1.0**
FNA pmax pmax
comp=Z,33nm,0.9s
BIA Bitola 33.39 305 *i P* **P 03 48 07.5 -0.1**
SKO Skopje 33.55 307 *i P* **P 03 48 10.2 +1.3**
GZR Gura Zlata 33.72 313⇓ *iP* **P 03 48 11.7 +1.3**
NVS Novosibirsk 33.73 26 *eP* **P 03 48 09.2 -1.0**
NVS *eS* **S 03 53 29.4 -4.0**
NVS pmax pmax
comp=Z,44nm,1.1s
NVS pmax pmax
comp=N,42nm,1.5s
NVS pmax pmax
comp=E,11nm,1.0s
NVS smax smax
comp=N,17nm,1.5s
ZAA0 Zalesovo Array 33.76 29 *eP* **P 03 48 09.1 -1.4**
comp=N,46nm,1.4s
ZALV Zalesovo Beam 33.76 29 *eP* **P 03 48 08.0 -2.5**
ZALV Zalesovo Beam 33.76 29 P **P 03 48 08.4 -2.1**
ZALV pmax pmax
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 33.76 29 P **P 03 48 08.3 -2.1**
comp=Z,9.4nm,0.6s,baz=229,slow=9.4,SNR=28
HERR Herculane 33.77 312⇑ *iP* **P 03 48 12.1 +1.3**
OHR Ohrid 33.80 305 *i P* **P 03 48 12.1 +0.9**
IGT Igoumenitsa 33.81 302 P **P 03 48 12.6 +1.4**
KMBO Kilima Mbogo 34.04 219 *eP* **P 03 48 15.5 +1.8**
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 34.04 219 *i P* **P 03 48 14.8 +1.1**
SNR=7.3
KMBO Kilima Mbogo 34.04 219*ceP* **P 03 48 17.2 +3.5**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 34.04 219 P **P 03 48 15.4 +1.8**
comp=Z,6.4nm,0.9s,baz=23,slow=10,SNR=13
KMBO LR LR 04 02 47.1
comp=Z,856nm,21.4s,baz=16,slow=38
MDVR Moldovita 34.21 312⇑ *iP* **P 03 48 16.2 +1.6**
DRGR 34.30 315⇑ *iP* **P 03 48 17.2 +1.8**
DRGR 34.30 315⇑ *P* **P 03 48 17.2 +1.8**
TIR Tirane 34.54 305 *eP* **P 03 48 17.1 -0.4**
comp=Z,34nm,0.9s
TIR Tirane 34.54 305 *eP* **P 03 48 17.1 -0.4**
TIR pmax pmax
comp=Z,34nm,0.9s
BZS Buzias 34.56 313⇑ *iP* **P 03 48 19.3 +1.7**
BZS Buzias 34.56 313⇑ *P* **P 03 48 19.3 +1.7**
SIRR Siria 34.77 314⇓ *iP* **P 03 48 19.2 -0.2**
LVV L'vov 34.85 321 *eP* **P 03 48 20.8 +0.7**
LVV *eS* **S 03 53 47.2 -3.8**
LVV MLR MLR
comp=Z,600nm,19.0s
TRPA Tarpa 34.96 317⇑ *eP* **P 03 48 22.1 +1.1**
LTVH Ltavrtes, Hu 35.04 316 *eP* **P 03 48 24.1 +2.3**
UZH Uzhgorod 35.32 318 *eP* **P 03 48 23.3 -0.8**
DGPR DIGLIPUR 35.37 105 *eP* **P 03 48 20.6 -4.3**
KOLS Kolonicke sedl 35.46 318 *eP* **P 03 48 25.4 0.0**
KOLS pmax pmax
comp=Z,62nm,1.2s
KOLS Kolonicke sedl 35.46 318 *eP* **P 03 48 25.4 0.0**
KWP Kalwaria Pacla 35.52 320 *eP* **P 03 48 27.5 +1.7**
KWP Kalwaria Pacla 35.52 320 *eP* **P 03 48 27.5 +1.7**
PBA Port Blair 35.93 108 *eP* P 03 48 27.6 -2.2
PRGR Permogore 35.99 350 P **P 03 48 30.5 +0.8**
PRGR pmax pmax
comp=Z,6.0nm,0.6s
KLMR Klimovskoe 36.46 345 *eP* **P 03 48 33.9 +0.2**
KLMR pmax pmax
comp=Z,21nm,1.2s
TIP Timpagrande 36.49 301 *eP* **P 03 48 34.0 -0.4**
comp=Z,64nm,1.2s
TIP Timpagrande 36.49 301 P **P 03 48 35.9 +1.5**
PSZ Piszkesteto 36.50 316 *eP* **P 03 48 35.6 +1.2**
comp=Z,22nm,1.1s

PSZ Piszkesteto 36.50 316⇑ *iP* **P 03 48 35.9 +1.5**
PSZ Piszkesteto 36.50 316 *eP* **P 03 48 35.6 +1.2**
PSZ pmax pmax
comp=Z,22nm,1.1s
PSZ Piszkesteto 36.50 316⇑ *eP* **P 03 48 35.1 +0.7**
IDID Didziasalis 36.56 330 *eP* **P 03 48 33.1 -1.5**
IDID IAmb IAmb 03 48 47.7
comp=Z,7.5nm,0.8s
IIGN Ignalina 36.81 330 *eP* **P 03 48 35.2 -1.6**
IIGN IAmb IAmb 03 48 43.5
comp=Z,9.2nm,1.0s
NIE Niedzica 36.84 318 *eP* **P 03 48 38.4 +1.2**
NIE Niedzica 36.84 318 *eP* **P 03 48 38.4 +1.2**
BUD Budapest 36.89 315 P **P 03 48 39.6 +2.0**
ISAL Salakas 36.99 330 *eP* **P 03 48 36.8 -1.5**
ISAL IAmb IAmb 03 48 49.1
comp=Z,10nm,1.1s
GTA Gaotai 37.04 59 P **P 03 48 39.9 +0.8**
GTA pP sP 03 48 45.1 +1.2
GTA sP pP 03 48 48.7 +6.2
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=Z,960nm,13.7s
GTA LR LR
comp=Z,980nm,15.2s
GTA LR LR
comp=Z,1μm,14.2s
IZAR Zarasai 37.05 330 *eP* **P 03 48 37.3 -1.5**
IZAR IAmb IAmb 03 48 51.1
comp=Z,6.5nm,0.8s
LANS Liptovska Anna 37.23 318 *eP* **P 03 48 42.5 +2.0**
LANS Liptovska Anna 37.23 318 *eP* **P 03 48 42.5 +2.0**
BLY Banja Luka 37.28 310 *eP* **P 03 48 41.2 +0.3**
comp=Z,21nm,1.4s
CSKK Cskako 37.34 314⇑ *eP* **P 03 48 43.0 +1.6**
VYHS Vyhne 37.37 316 *eP* **P 03 48 42.1 +0.4**
VYHS pmax pmax
comp=Z,12nm,1.1s
VYHS Vyhne 37.37 316 *eP* **P 03 48 42.1 +0.4**
SRO2 Moca 37.39 315 *eP* **P 03 48 42.5 +0.7**
SRO2 Moca 37.39 315 *eP* **P 03 48 42.5 +0.7**
TIH Tihany 37.42 313 *eP* **P 03 48 43.0 +0.9**
SRO Srobarova 37.46 315 *eP* **P 03 48 44.4 +2.0**
SRO Srobarova 37.46 315 *eP* **P 03 48 44.4 +2.0**
OJC Ojcow 37.47 319 *eP* **P 03 48 44.4 +1.9**
OJC Ojcow 37.47 319 *eP* **P 03 48 41.8 -0.6**
comp=Z,67nm,1.3s
OJC Ojcow 37.47 319 *eP* **P 03 48 44.4 +1.9**
SUW Suwalki 37.47 326 *eP* **P 03 48 41.9 -0.6**
SUW Suwalki 37.47 326 *eP* **P 03 48 41.8 -0.6**
comp=Z,63nm,1.1s
SUW Suwalki 37.47 326 *eP* **P 03 48 41.8 -0.6**
SUW pmax pmax
comp=Z,63nm,1.1s
MBAR Mbarara 37.67 228 *eP* **P 03 48 45.9 +1.1**
comp=Z,10nm,1.1s
MBAR Mbarara 37.67 228 *eP* **P 03 48 45.9 +1.1**
MBAR pmax pmax
comp=Z,11nm,1.1s
PABE Paberze 37.93 329 *eP* **P 03 48 44.7 -1.6**
PABE IAmb IAmb 03 48 52.6
comp=Z,22nm,0.6s
PUL Pulkovo 38.22 338⇓ *eP* **P 03 48 50.6 +2.0**
PUL pmax pmax
comp=Z,30nm,0.7s
JAVC Velka Javorina 38.22 316 *eP* **P 03 48 48.3 -0.6**
SMOL Smolenice 38.25 316 P **P 03 48 51.6 +2.5**
OKC Ostrava-Krasne 38.29 318 *eP* **P 03 48 48.2 -1.2**
OKC Ostrava-Krasne 38.29 318 *eP* **P 03 48 48.2 -1.2**
MODS Modra-Piesok 38.30 315 *eP* **P 03 48 50.1 +0.6**
MODS pmax pmax
comp=Z,58nm,1.4s
MODS Modra-Piesok 38.30 315 *eP* **P 03 48 50.1 +0.6**
ZST Bratislava 38.35 315 *eP* **P 03 48 50.9 +1.0**
ZST Bratislava 38.35 315 *eP* **P 03 48 50.9 +1.0**
CMMT Chiang Mai 38.48 93 P **P 03 48 54.7 +3.3**
comp=Z,3.5nm,1.1s
SOP Sopron 38.53 314 P **P 03 48 52.2 +0.7**
SOP Sopron 38.53 314⇑ *eP* **P 03 48 52.1 +0.6**
CM31 Chiang Mai Arr 38.59 93 *eP* **P 03 48 53.2 +0.9**
comp=Z,8.5nm,0.4s
CMAR Chiang Mai Arr 38.59 93 P **P 03 48 53.2 +0.9**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR MLR MLR
comp=Z,597nm,18.0s
CMAR Chiang Mai Arr 38.59 93 P **P 03 48 53.2 +0.9**
comp=Z,1.1nm,0.3s,baz=282,slow=10,SNR=8.0
CMAR LR LR 04 08 32.3
comp=Z,597nm,18.0s,baz=278,slow=42
VSU Vasula 38.61 334⇑ *eP* **P 03 48 52.0 +0.1**
VSU pmax pmax
comp=Z,69nm,1.3s
VSU Vasula 38.61 334 *eP* **P 03 48 49.8 -2.1**
VSU IAmb IAmb 03 49 07.5
comp=Z,39nm,0.7s
MORC Moravsky Berou 38.63 318 *eP* **P 03 48 50.8 -1.6**
comp=Z,16nm,1.1s
MORC Moravsky Berou 38.63 318⇓ *iP* **P 03 48 52.6 +0.2**
MORC Moravsky Berou 38.63 318 *eP* **P 03 48 50.8 -1.6**
MORC pmax pmax
comp=Z,16nm,1.1s
MORC Moravsky Berou 38.63 318 *eP* **P 03 48 49.7 -2.7**
VRAC Vranov 39.04 317⇑ *iP* **P 03 48 57.5 +1.7**
VRAC Vranov 39.04 317 *eP* **P 03 48 54.4 -1.4**
VRAC Vranov 39.04 317 P **P 03 48 55.4 -0.4**
comp=Z,12nm,1.0s,baz=101,slow=8.7,SNR=20
CONA Conrad Observa 39.06 314 *eP* **P 03 48 55.2 -0.7**
comp=Z,42nm,1.6s,SNR=14
ARSA Arzberg 39.07 313 *ep*P **P 03 48 55.9 -0.2**
comp=Z,42nm,1.2s,SNR=22
KRUC Moravsky 39.08 316 *eP* **P 03 48 55.0 -1.1**
CLTB Caltabellotta 39.12 298 *eP* **P 03 48 59.3 +2.6**
comp=Z,26nm,1.1s
KRLC Kraliky 39.20 318 *eP* **P 03 48 57.3 +0.2**
KRLC Kraliky 39.20 318 *eP* **P 03 48 57.3 +0.2**
KRLC *ex* x 03 49 10.7
SOKA Soboth 39.24 312 *eP* **P 03 48 56.9 -0.6**
comp=Z,15nm,0.9s,SNR=8.9
UMPA Umpang Tak 39.32 97 P P 03 49 03.9 +5.4
comp=Z,27μm,1.2s
AQU L'Aquila 39.47 305 *eP* **P 03 49 01.2 +1.7**
comp=Z,53nm,0.9s
AQU L'Aquila 39.47 305 *eP* **P 03 49 01.2 +1.7**
AQU pmax pmax
comp=Z,53nm,0.9s
OBKA Obir 39.52 312 *ep*P **P 03 49 00.3 +0.5**
comp=Z,25nm,1.1s,SNR=10
DPC Dobruska-Polom 39.58 318 *eP* **P 03 49 00.2 0.0**
DPC smax smax
comp=N,7.0nm,0.5s
DPC Dobruska-Polom 39.58 318 *eP* **P 03 49 00.2 0.0**
TMCR Tamitsa 39.71 346 *eP* **P 03 49 00.1 -0.9**
TMCR pmax pmax
comp=Z,10.0nm,0.6s
TREC Trest 39.72 316 *eP* **P 03 49 00.5 -0.9**
TREC Trest 39.72 316 *eP* **P 03 49 00.5 -0.9**
KSP Ksiaz 39.77 319 *eP* **P 03 49 03.4 +1.5**
KSP Ksiaz 39.77 319 *eP* **P 03 49 03.3 +1.5**
UPC Upice 39.82 318 *eP* **P 03 49 02.8 +0.6**
UPC Upice 39.82 318 *eP* **P 03 49 02.8 +0.6**
TRI Trieste 39.85 310 *eP* **P 03 49 03.1 +0.6**
comp=Z,52nm,0.9s
TRI Trieste 39.85 310 *eP* **P 03 49 03.1 +0.6**
TRI pmax pmax
comp=Z,52nm,0.9s
SLIT Slitere, Latvi 39.93 331 *eP* **P 03 49 01.0 -1.9**
SLIT IAmb IAmb 03 49 13.3
comp=Z,208nm,1.3s
LZH Lanzhou 40.01 65 *eP* **P 03 49 04.7 +0.6**
LZH pP sP 03 49 13.8 +4.8
LZH sP pP 03 49 17.0 +9.4
LZH PP **PnPn 03 50 42.0 +2.6**
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,160nm,5.0s
LZH LR LR
comp=Z,680nm,14.0s
LZH LR LR
comp=Z,520nm,13.8s
LZH LR LR
comp=Z,740nm,16.9s

MOA	Molln	40.06	314	eP	P	03 49 03.6	-0.6
	comp=Z,49nm,1.1s,SNR=15						
UTHA	Uthaitani	40.09	97	P	P	03 49 09.3	+4.5
	comp=Z,27µm,0.9s						
MYKA	Terra Mystica	40.15	312	eP	P	03 49 03.7	-1.4
	comp=Z,16nm,1.0s,SNR=8.3						
CD2	Chengdu	40.17	73	P	P	03 49 12.6	+7.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CD2				LR	LR		
	comp=Z,9µm,27.1s						
CD2				LR	LR		
	comp=Z,2µm,19.4s						
CD2				LR	LR		
	comp=Z,2µm,16.1s						
KMI	Kunming	40.17	82	P	P	03 49 05.6	-0.1
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
KMI				pmax	pmax		
	comp=Z,220nm,5.5s						
KMI				LR	LR		
	comp=Z,900nm,18.7s						
KMI				LR	LR		
	comp=Z,490nm,15.5s						
KMI				LR	LR		
	comp=Z,680nm,14.9s						
UTTA	Uttaradit	40.27	94	P	P	03 49 10.7	+4.4
GOPC	GO Pecny, Ondr	40.35	317	eP	P	03 49 07.2	+0.5
GOPC	GO Pecny, Ondr	40.35	317	eP	P	03 49 07.2	+0.5
KBA	Koelnbreinsper	40.46	312	eP	P	03 49 07.1	-0.7
	comp=Z,56nm,1.1s,SNR=22						
KBA	Koelnbreinsper	40.46	312	P	P	03 49 09.3	+1.5
PRU	Pruhonice	40.53	317	eP	P	03 49 08.9	+0.8
PRU	Pruhonice	40.53	317	eP	P	03 49 08.9	+0.8
GEC2	GERESS Array S	40.70	315	eP	P	03 49 08.9	-0.8
	comp=Z,26nm,1.0s						
GEC2	GERESS Array S	40.70	315	eP	P	03 49 08.9	-0.8
GEC2				pmax	pmax		
	comp=Z,26nm,1.0s						
GERES	GERESS Array B	40.70	315	eP	P	03 49 07.5	-2.2
GERES	GERESS Array B	40.70	315	eP	P	03 49 07.5	-2.2
GERES	GERESS Array B	40.70	315	P	P	03 49 08.8	-0.8
	comp=Z,12nm,0.9s,baz=116,slow=8.0,SNR=51						
GERES				LR	LR	04 07 52.1	
	comp=Z,615nm,19.1s,baz=77,slow=39						
KHC	Kasperske Hory	40.86	315	eP	P	03 49 09.4	-1.6
	comp=Z,18nm,1.1s						
KHC	Kasperske Hory	40.86	315	eP	P	03 49 09.8	-1.1
KHC				e		03 49 12.0	
KHC	Kasperske Hory	40.86	315	eP	P	03 49 09.8	-1.1
KHC				epP	pP	03 49 12.0	-2.4
KHC				ex	x	03 49 21.3	
MOY	Mondy	40.88	41	eP	P	03 49 13.6	+2.5
MOY				pmax	pmax		
	comp=Z,22nm,2.5s						
FIA1	FINESS Array S	40.88	337	eP	P	03 49 09.7	-1.1
	comp=Z,15nm,0.9s						
FINES	FINESS Array B	40.88	337	eP	P	03 49 09.3	-1.5
FINES	FINESS Array B	40.88	337	i P	P	03 49 11.8	+1.0
FINES				pmax	pmax		
	comp=Z,14nm,0.9s						
FINES	FINESS Array B	40.88	337	P	P	03 49 08.7	-2.1
	comp=Z,14nm,0.9s,baz=134,slow=7.2,SNR=26						
ABTA	Abfaltersbach	40.94	312	eP	P	03 49 10.9	-0.7
	comp=Z,59nm,1.0s,SNR=21						
BRG	Berggiesshubel	41.18	318	eP	P	03 49 12.1	-1.3
	comp=Z,2.1nm,0.8s						
BRG	Berggiesshubel	41.18	318	eP	P	03 49 12.1	-1.3
BRG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WTTA	Wattenberg	41.64	312	eP	P	03 49 16.5	-1.0
	comp=Z,111nm,1.0s						
WATA	Walderalm	41.69	312	eP	P	03 49 17.2	-0.7
	comp=Z,52nm,1.1s,SNR=19						
ZAK	Zakamensk	41.82	43	eP	P	03 49 20.2	+1.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
CLL	Collm	41.88	318	eP	P	03 49 18.2	-0.9
	comp=Z,35nm,1.3s						
CLL	Collm	41.88	318	eP	P	03 49 18.0	-1.2
CLL				i		03 49 20.6	
CLL				pmax	pmax		
	comp=Z,36nm,1.3s						
CLL	Collm	41.88	318	eP	P	03 49 18.0	-1.2
CLL				i Pmax		03 49 20.6	
	comp=Z,36nm,1.3s						
CLL				e		03 49 33.0	
CLL				ePP	PP	03 50 56.0	+0.1
CLL				e		03 51 42.0	
NKC	Novy Kostel	41.89	317	eP	P	03 49 20.3	+1.0
NKC	Novy Kostel	41.89	317	eP	P	03 49 20.3	+1.0
NKC				ex	x	03 49 34.8	
SQTA	Sankt Quirin	41.91	312	eP	P	03 49 18.1	-1.5
	comp=Z,64nm,0.9s,SNR=19						
MOTA	Moosalm	42.01	312	eP	P	03 49 18.7	-1.8
	comp=Z,60nm,0.9s,SNR=28						
SLVN	Son La	42.15	87	eP	P	03 49 22.2	+0.4
	comp=Z,36nm,1.8s						
FETA	Feichten	42.19	312	eP	P	03 49 19.9	-2.1
	comp=Z,69nm,1.0s,SNR=27						
KEST	Kesra	42.21	295	P	P	03 49 21.3	-0.9
	comp=Z,9.8nm,1.1s,baz=73,slow=7.2,SNR=16						
KEST				LR	LR	04 10 23.5	
	comp=Z,815nm,19.5s,baz=331,slow=41						
BSD	Bornholm Skovb	42.22	324	eP	P	03 49 20.3	-1.5
BSD				pmax	pmax		
	comp=Z,38nm,0.8s						
BSD	Bornholm Skovb	42.22	324	i P	P	03 49 20.3	-1.5
	comp=Z,38nm,0.8s						
RETA	Reutte	42.27	312	epP	P	03 49 22.2	-0.3
	comp=Z,30nm,0.9s,SNR=9.9						
FUORN	Ofenpass-Fuorn	42.42	311	eP	P	03 49 25.4	+1.4
	comp=Z,42nm,1.1s						
TLY	Talaya	42.44	41⇓	eP	P	03 49 26.1	+2.3
NONG	Nongkai	42.48	92	P	P	03 49 27.5	+3.0
	comp=Z,0.6nm,0.8s						
GRA1	Grafenberg Arr	42.50	316	eP	P	03 49 23.2	-1.1
	comp=Z,68nm,1.3s						
GRF	Grafenberg Arr	42.50	316	eP	P	03 49 23.2	-1.1
GRF				pmax	pmax		
	comp=Z,68nm,1.3s						
GRFO	Grafenberg	42.50	316	eP	P	03 49 23.2	-1.0
	comp=Z,52nm,1.2s						
GRFO	Grafenberg	42.50	316	eP	P	03 49 23.3	-1.0
GRFO				pmax	pmax		
	comp=Z,52nm,1.2s						
DAVOX	Davos/Dischmat	42.71	311	P	P	03 49 25.3	-0.9
	comp=Z,31nm,0.8s,baz=125,slow=9.4,SNR=23						
DAVA	Damuels	42.81	312	eP	P	03 49 26.0	-1.1
	comp=Z,125nm,0.9s,SNR=32						
TUE	Stuetta	43.02	311	eP	P	03 49 28.0	-0.8
	comp=Z,24nm,0.9s						
SONA0	Songino Array	43.17	47	eP	P	03 49 29.5	-0.4
SONM	Songino Array	43.17	47	eP	P	03 49 28.9	-1.0
SONM	Songino Array	43.17	47	eP	P	03 49 28.9	-1.0
SONM	Songino Array	43.17	47	P	P	03 49 29.5	-0.4
	comp=Z,6.5nm,1.0s,baz=265,slow=9.4,SNR=15						
SONM				LR	LR	04 11 16.2	
	comp=Z,1µm,20.4s,baz=268,slow=42						
GYA	Guiyang	43.37	79	eP	P	03 49 38.8	+7.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
STU	Stuttgart	43.57	314	P	P	03 49 33.4	+0.5
STU				pmax	pmax		
	comp=Z,19nm,0.9s						
SKNT	Sakolnakorn	43.61	93	P	P	03 49 37.4	+3.8
	comp=Z,25nm,1.3s						
ULN	Ulaanbaatar	43.61	48⇑	eP	P	03 49 33.0	-0.5
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LVZ	Lovozero	43.65	347⇑	eP	P	03 49 35.4	+2.0
LVZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SBF	Sospel	43.99	307	eP	P	03 49 36.2	-0.3
SBF				pmax	pmax		
	comp=Z,20nm,0.9s						
BFO	Black Forest	44.04	313	eP	P	03 49 36.2	-0.6
	comp=Z,11nm,1.0s						
BFO	Black Forest	44.04	313	eP	P	03 49 36.2	-0.6
BFO				pmax	pmax		
	comp=Z,11nm,1.0s						
XAN	Xi'an	44.24	68	P	P	03 49 42.1	+3.5
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				pmax	pmax		
	comp=Z,350nm,7.9s						
SENIN	Lac Senin/Sane	44.40	310	eP	P	03 49 39.1	-0.8
	comp=Z,29nm,1.1s						
MBDF	Montbardon	44.56	308	eP	P	03 49 42.3	+1.2
MBDF				pmax	pmax		
	comp=Z,13nm,0.7s						
BNI	Bardonecchia	44.66	308	eP	P	03 49 41.8	-0.2
	comp=Z,117nm,1.7s						
LPG	La Plagne	44.66	309	eP	P	03 49 42.0	-0.1
LPG				pmax	pmax		
	comp=Z,50nm,1.3s						
LPL	La Plagne	44.68	309	eP	P	03 49 40.4	-1.8
LPL				pmax	pmax		
	comp=Z,46nm,1.4s						
ECH	Echery	44.79	313	eP	P	03 49 41.3	-1.5
	comp=Z,36nm,1.0s						
ECH	Echery	44.79	313	eP	P	03 49 41.3	-1.5
ECH				pmax	pmax		
	comp=Z,36nm,1.0s						
BTO	Baotou	44.94	58	eP	P	03 49 47.0	+2.8
HFS	Hagfors	45.04	330	P	P	03 49 43.9	-0.6
	comp=Z,2.6nm,0.4s,baz=127,slow=9.2,SNR=17						
CABF	La Chapelle	45.26	310	eP	P	03 49 45.7	-0.9
CABF				pmax	pmax		
	comp=Z,88nm,1.3s						
HAU	Haudompre	45.29	312	eP	P	03 49 47.0	+0.3
HAU				pmax	pmax		
	comp=Z,27nm,1.2s						
WLF	Walferdange	45.70	314	eP	P	03 49 49.3	-0.6
	comp=Z,163nm,1.3s						
WLF	Walferdange	45.70	314	eP	P	03 49 49.3	-0.6
WLF				pmax	pmax		
	comp=Z,163nm,1.3s						
WLF	Walferdange	45.70	314	⇑P	P	03 49 51.1	+1.2
	comp=Z,16nm,1.5s						
MEM	Membach	45.97	316	⇑P	P	03 49 54.2	+2.2
MEM				⇓pP	sP	03 49 58.9	+2.0
	comp=Z,13nm,0.9s						
VIVF	Saint-Julien-l	46.06	308	eP	P	03 49 53.3	+0.4
VIVF				pmax	pmax		
	comp=Z,35nm,1.6s						
OPO	Ambohidratompo	46.11	194	LR	LR	04 08 17.9	
	comp=Z,468nm,20.1s,baz=167,slow=35						
HHC	Hu-ho-hao-te	46.12	58	eP	P	03 49 59.3	+5.8
HHC				S	S	03 56 37.6	-1.9
HHC				pmax	pmax		
	comp=Z,87nm,1.1s						
HHC				pmax	pmax		
	comp=Z,300nm,5.8s						
HHC				LR	LR		
	comp=Z,910nm,14.2s						
HHC				LR	LR		
	comp=Z,540nm,15.6s						
HHC				LR	LR		
	comp=Z,930nm,15.6s						
NRIK	Noril'sk	46.15	14	P	P	03 49 53.7	+0.5
	comp=Z,16nm,0.9s,baz=211,slow=5.6,SNR=12						
NRIK				LR	LR	04 11 23.2	
	comp=Z,1µm,20.3s,baz=223,slow=39						
SSB	Saint Sauveur	46.19	308	eP	P	03 49 54.6	+0.7
	comp=Z,17nm,1.0s						
SSB	Saint Sauveur	46.19	308	eP	P	03 49 54.6	+0.7
SSB				pmax	pmax		
	comp=Z,17nm,1.0s						
NORES	NORESS Array B	46.27	330	P	P	03 49 55.6	+1.4
NC405	NORSAR Array S	46.36	331	eP	P	03 49 55.7	+0.8
	comp=Z,64nm,1.4s						
BCLA	Clavier	46.38	315	⇑P	P	03 49 57.6	+2.3
BCLA				⇓pP	sP	03 50 03.5	+3.4
	comp=Z,20nm,1.6s						
NB2	NORSAR Subarra	46.54	331	P	P	03 49 55.7	-0.8
	comp=Z,9.0nm,0.9s,baz=113,slow=7.9						
NOA	NORSAR Array B	46.54	331	P	P	03 49 54.7	-1.8
	comp=Z,1.4nm,0.7s,baz=116,slow=7.9,SNR=5.3						
NOA				LR	LR	04 11 43.3	
	comp=Z,670nm,21.3s,baz=120,slow=39						
GIVF	Givet	46.62	315	eP	P	03 49 58.4	+1.2
GIVF				pmax	pmax		
	comp=Z,55nm,1.2s						
DOU	Dourbes	46.77	315	⇓P	P	03 50 00.2	+1.9
	comp=Z,24nm,1.4s						
SMF	Signal de Mont	46.80	310	eP	P	03 49 57.7	-1.0
SMF				pmax	pmax		
	comp=Z,85nm,1.1s						
TIY	Taiyuan	46.85	62	eP	P	03 50 04.9	+5.6
TIY				pmax	pmax		
	comp=Z,33nm,0.9s						
TIY				LR	LR		
	comp=Z,650nm,13.4s						
TIY				LR	LR		
	comp=Z,270nm,10.3s						
TIY				LR	LR		
	comp=Z,550nm,21.7s						
LOR	Lormes	46.86	311	eP	P	03 49 57.9	-1.2
LOR				pmax	pmax		
	comp=Z,44nm,1.3s						
ARCES	ARCESS Array B	46.94	345	eP	P	03 49 58.2	-1.2
ARCES	ARCESS Array B	46.94	345	eP	P	03 49 58.2	-1.2
ARCES	ARCESS Array B	46.94	345	P	P	03 49 58.6	-0.8
	comp=Z,11nm,0.8s,baz=134,slow=6.9,SNR=26						
ARE0	ARCESS Array S	46.94	345	eP	P	03 50 01.8	+2.4
	comp=Z,0.7nm,0.8s						
BAIF	Baives	47.01	315	eP	P	03 50 02.5	+2.3
BAIF				pmax	pmax		
	comp=Z,61nm,1.3s						
SNF	Seneffe	47.03	315	⇑P	P	03 50 01.7	+1.3
SSF	Saint Saulge	47.08	311	eP	P	03 49 59.9	-0.9
SSF				pmax	pmax		
	comp=Z,80nm,1.2s						
AVF	Avril sur Loir	47.15	310	eP	P	03 50 00.1	-1.3
AVF				pmax	pmax		
	comp=Z,94nm,1.7s						
BGF	Bois d'Agland	47.48	310	eP	P	03 50 03.9	0.0
BGF				pmax	pmax		
	comp=Z,61nm,1.2s						
TAM	Tamanrasset	47.52	277	eP	P	03 50 04.8	+0.1
	comp=Z,15nm,1.0s						
TAM	Tamanrasset	47.52	277	eP	P	03 50 04.8	+0.1
TAM				pmax	pmax		
	comp=Z,15nm,1.0s						
MTLF	Montolieu	47.74	305	eP	P	03 50 07.7	+1.6
MTLF				pmax	pmax		
	comp=Z,49nm,1.6s						
TCF	Toulx Ste Croi	47.90	309	eP	P	03 50 06.2	-1.0
TCF				pmax	pmax		
	comp=Z,47nm,1.2s						
CAF	Calviac	47.91	308	eP	P	03 50 06.2	-1.2
CAF				pmax	pmax		
	comp=Z,29nm,1.2s						
RJF	Les Rejaudoux	48.32	308	eP	P	03 50 11.1	+0.6
RJF				pmax	pmax		
	comp=Z,67nm,1.3s						
LFF	La Frestale	48.85	308	eP	P	03 50 15.1	+0.5
LFF				pmax	pmax		
	comp=Z,31nm,1.0s						
WHN	Wuhan	49.25	72	P	P	03 50 21.8	+4.0
LDF	La Druitiere	49.65	312	eP	P	03 50 21.3	+0.7
LDF				pmax	pmax		
	comp=Z,26nm,1.1s						
BJI	Beijing	49.65	59	P	P	03 50 26.2	+5.5
BJI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
FLN	La Foliniere	49.90	313	eP	P	03 50 23.4	+0.9
FLN				pmax	pmax		
	comp=Z,54nm,1.2s						
BOD	Bodaibo	49.92	35	eP	P	03 50 20.0	-2.5
BOD				pmax	pmax		
	comp=Z,43nm,1.7s						
GRR	Gorron	50.12	312	eP	P	03 50 26.1	+1.9
GRR				pmax	pmax		
	comp=Z,28nm,1.1s						
SJPF	Ste Jean	50.26	305	eP	P	03 50 26.1	+0.7
SJPF				pmax	pmax		
	comp=Z,100nm,2.0s						
LSZ	Lusaka	50.70	218	eP	P	03 50 29.9	+0.9
	comp=Z,8.4nm,1.1s						
LSZ	Lusaka	50.70	218	eP	P	03 50 29.9	+0.9
LSZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TIA	Tai'an	50.72	64	P	P	03 50 32.6	+3.6
TIA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SGMF	Saint Gilles	51.25	312	eP	P	03 50 34.0	+1.3
SGMF				pmax	pmax		
	comp=Z,49nm,1.3s						
SESP	Santiago Espad	51.56	299	P	P	03 50 38.1	+2.6
TDRA	Tendrara	51.83	292	P	P	03 50 42.0	+4.4
TAF	Taforalt	51.87	295	P	P	03 50 41.2	+3.5
EKA	Eskdalemuir Ar	52.21	321	P	P	03 50 38.9	-0.9
	comp=Z,1.1nm,0.4s,baz=95,slow=7.7,SNR=7.7						
ESDC	Sonseca Array	52.51	301	eP	P	03 50 41.6	-0.8
ESDC	Sonseca Array	52.51	301	P	P	03 50 41.2	-1.2
	comp=Z,4.7nm,0.8s,baz=65,slow=7.5,SNR=25						
ESLA	Sonseca Array	52.51	301	eP	P	03 50 44.7	+2.3
	comp=Z,47nm,1.8s						
NJ2	Nanjing	52.77	69	eP	P	03 50 43.2	-1.1
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
PAB	San Pablo	52.82	301	eP	P	03 50 44.0	-0.6
	comp=Z,13nm,0.8s						
PAB	San Pablo	52.82	301	eP	P	03 50 44.1	-0.6
PAB				pmax	pmax		
	comp=Z,13nm,0.8s						
HORN	Hornachuelos	53.73	299	P	P	03 50 52.9	+1.6
MDT	Midelt	54.01	293	P	P	03 50 56.5	+3.0
LCRM	LCR	54.05	294	P	P	03 50 58.1	+4.2
TOA0	Torodi Ar. Sit	54.19	267	eP	P	03 50 54.2	-0.7
	comp=Z,26nm,1.0s						
TORD	Torodi Ar. Bea	54.19	267	eP	P	03 50 54.5	-0.4
TORD	Torodi Ar. Bea	54.19	267	P	P	03 50 52.3	-2.6
	comp=Z,6.7nm,0.7s,baz=67,slow=8.0,SNR=31						
PBRG	Braganca	54.41	304	eP	P	03 50 57.9	+1.6
	comp=Z,35nm,2.3s						
RSA	Sarsar	54.62	295	P	P	03 51 01.0	+3.1
MVO	Moncorvo	54.69	303	eP	P	03 51 00.1	+1.8
	comp=Z,38nm,1.0s						
SPITS	Spitsbergen Ar	54.97	350	P	P	03 50 58.0	-1.7
SPITS	Spitsbergen Ar	54.97	350	P	P	03 50 58.0	-1.7
SPITS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SPITS	Spitsbergen Ar	54.97	350	P	P	03 50 58.0	-1.7
	comp=Z,4.4nm,0.7s,baz=138,slow=6.8,SNR=9.6						
MTE	Manteigas	55.17	302	eP	P	03 51 04.7	+2.9
	comp=Z,57nm,1.4s						
PMRV	Marv??o	55.17	301	eP	P	03 51 04.0	+2.2
	comp=Z,35nm,2.1s						
PCBR	Castelo Branco	55.19	301	eP	P	03 51 04.4	+2.6
	comp=Z,49nm,1.7s						
PVRL	Vila Real	55.19	303	eP	P	03 51 04.1	+2.2
	comp=Z,44nm,1.4s						
POLO	Lamas de Olo	55.24	303	eP	P	03 51 06.1	+3.8
	comp=Z,29nm,2.0s						
PVIS	Viseu	55.39	303	eP	P	03 51 06.9	+3.5
	comp=Z,61nm,2.6s						
PGAV	Gavieira, Arco	55.53	304	eP	P	03 51 08.4	+4.0
	comp=Z,51nm,1.5s						
PBEJ	Beja	55.74	299	eP	P	03 51 08.9	+3.0
	comp=Z,29nm,1.4s						
EVO	Evora	55.78	300	eP	P	03 51 08.6	+2.5
	comp=Z,34nm,1.4s						
PTO	Porto	55.87	303	eP	P	03 51 11.6	+4.9
	comp=Z,64nm,1.7s						
PTOM	Tomar	55.93	301	eP	P	03 51 10.2	+3.0
	comp=Z,67nm,1.5s						
PCAS	Casmilo, Conde	55.94	302	eP	P	03 51 10.6	+3.4
	comp=Z,47nm,1.6s						
PCVE	Castro Verde	55.94	299	eP	P	03 51 09.2	+1.9
	comp=Z,38nm,1.8s						
PNCL	Nicolau / Gran	56.24	300	eP	P	03 51 12.3	+2.8
CN2	Changchun	56.26	54	eP	P	03 51 12.9	+3.4
CN2				ePP	PP	03 53 19.4	+4.7
CN2				eS	S	03 58 59.0	-0.4
CN2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CN2				pmax	pmax		
	comp=Z,770nm,12.0s						
CN2				LR	LR		
	comp=Z,790nm,20.0s						
CN2				LR	LR		
	comp=Z,790nm,20.0s						
CN2				LR	LR		
	comp=Z,820nm,21.0s						
ZEA	Zeya	56.88	42	eP	P	03 51 05.2	-8.5
YAK	Yakutsk	58.32	32	eP	P	03 51 23.0	-0.7
YAK				pmax	pmax		
	comp=Z,198nm,1.0s						
YAK				pmax	pmax		
	comp=N,19nm,0.8s						
YAK				pmax	pmax		
	comp=E,67nm,1.1s						
TJN	Taejon	58.86	62⇑	eP	P	03 51 31.4	+3.5
TIXI	Tiksi	58.98	20⇑	eP	P	03 51 29.8	+1.6
TIXI				pmax	pmax		
	comp=Z,11nm,1.3s						
TIXI	Tiksi	58.98	20	P	P	03 51 28.3	+0.1
	comp=Z,6.1nm,0.8s,baz=320,slow=3.3,SNR=9.9						
KSAR	Wonju Array Be	59.06	61	eP	P	03 51 29.6	+0.3
KSAR	Wonju Array Be	59.06	61	eP	P	03 51 29.6	+0.3
KSRS	Korea Array	59.08	61	P	P	03 51 28.5	-0.9
KSRS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,432nm,18.0s						
KSRS	Korea Array	59.08	61	P	P	03 51 28.5	-0.9
	comp=Z,3.0nm,0.8s,baz=276,slow=6.7,SNR=14						
KSRS				LR	LR	04 22 17.4	
	comp=Z,432nm,18.0s,baz=95,slow=42						
KLR	Kul'dur	59.99	47⇓	eP	P	03 51 37.0	+1.5
KLR	Kul'dur	59.99	47	P	P	03 51 35.6	+0.1
	comp=Z,6.7nm,0.9s,baz=277,slow=7.5,SNR=7.4						
LBTB	Lobatse	60.08	214	eP	P	03 51 37.9	+1.4
	comp=Z,15nm,0.9s						
DAG	Danmarks Havn	61.23	345	i P	P	03 51 45.4	+1.9
DAG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DAG	Danmarks Havn	61.23	345	i P	P	03 51 45.4	+1.9
	comp=Z,6.8nm,0.8s						
DBIC	Dimbokro	62.76	264	eP	P	03 51 53.4	-1.4
	comp=Z,23nm,1.1s						
DBIC	Dimbokro	62.76	264	eP	P	03 51 53.4	-1.4
DBIC				pmax	pmax		
	comp=Z,23nm,1.1s						
DBIC	Dimbokro	62.76	264	P	P	03 51 56.3	+1.6
	comp=Z,5.2nm,0.8s,baz=47,slow=3.6,SNR=4.2						
GRNR	Gornyy	62.76	44	eP	P	03 51 54.4	+0.2
BOSA	Boshof	63.24	212	P	P	03 51 59.0	+1.2
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BOSA	Boshof	63.24	212	P	P	03 51 59.0	+1.2
	comp=Z,4.7nm,0.9s,baz=42,slow=5.5,SNR=4.9						
MPSI	Mapaga	64.94	103	P	P	03 52 11.5	+2.4
TYV	Tymovskoe	66.61	43	eP	P	03 52 22.6	+3.2
TYV				pmax	pmax		
	comp=Z,13nm,1.1s						
SUMG	Summit	66.75	341	eP	P	03 52 18.7	-1.7
	comp=Z,17nm,0.9s						
SUMG	Summit	66.75	341	eP	P	03 52 18.7	-1.7
SUMG				pmax	pmax		
	comp=Z,17nm,0.9s						
SUMG	Summit	66.75	341	i P	P	03 52 19.4	-1.0
YSS	Yuzh-Sakhalins	67.66	48	eP	P	03 52 26.2	+0.1
YSS				e		03 52 31.1	
SEY	Seymchan	68.62	29⇑	eP	P	03 52 30.8	-1.0
SEY	Seymchan	68.62	29	P	P	03 52 30.9	-0.9
	comp=Z,19nm,0.8s,baz=268,slow=12,SNR=14						
MA2	Magadan	68.83	33	eP	P	03 52 32.7	-0.5
	comp=Z,12nm,0.8s						
MA2	Magadan	68.83	33⇓	eP	P	03 52 35.6	+2.4
MA2				pmax	pmax		
	comp=Z,15nm,1.0s						
MA2	Magadan	68.83	33	P	P	03 52 33.9	+0.7
	comp=Z,11nm,0.8s,baz=297,slow=9.0,SNR=12						
TULEG	Thule	72.09	349	eP	P	03 52 52.5	-0.4
	comp=Z,26nm,1.0s						
BILL	Bilibino	72.12	22	i P	P	03 52 51.0	-2.2
BILL				i		03 53 08.8	
BILL				pmax	pmax		
	comp=Z,12nm,1.0s						
SOEI	Soe	73.77	110	P	P	03 53 06.4	+2.5
PETK	Petropavlovsk-	74.69

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
COLA	**College**	**86.63**	**11**	*cP*	**P**	**03 54 15.3**	**+3.0**
COLA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BPAW	**Bear Paw Mtn.**	**86.78**	**12**	*eP*	**P**	**03 54 12.2**	**-0.9**
	comp=Z,23nm,1.0s						
CCB	**Clear Creek Bu**	**86.85**	**11**	*eP*	**P**	**03 54 16.6**	**+3.3**
	comp=Z,4.7nm,1.0s						
ILAR	**Eielson Array**	**86.89**	**10**	*eP*	**P**	**03 54 12.9**	**-0.6**
ILAR	**Eielson Array**	**86.89**	**10**	P	**P**	**03 54 14.0**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=327,slow=4.1,SNR=14						
ILB	**Eielson Array**	**86.89**	**10**	*eP*	**P**	**03 54 16.4**	**+2.8**
	comp=Z,3.6nm,0.8s						
WRH	**Wood River Hil**	**86.97**	**11**	*eP*	**P**	**03 54 17.2**	**+3.3**
	comp=Z,15nm,1.6s						
CAST	**Castle Rocks**	**87.18**	**13**	*eP*	**P**	**03 54 15.4**	**+0.4**
	comp=Z,29nm,1.1s						
WR1	**Warramunga Arr**	**87.30**	**114**	*eP*	**P**	**03 54 15.3**	**-1.0**
WRA	**Warramunga Arr**	**87.30**	**114**	P	**P**	**03 54 15.3**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=313,slow=4.2,SNR=12						
WRAB	**Tennant Creek**	**87.30**	**114⇑**	*eP*	**P**	**03 54 19.6**	**+3.3**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MCK	**McKinley**	**87.50**	**12**	*eP*	**P**	**03 54 19.8**	**+3.2**
	comp=Z,22nm,1.1s						
MCK	**McKinley**	**87.50**	**12**	*eP*	**P**	**03 54 19.8**	**+3.2**
MCK				pmax	pmax		
	comp=Z,22nm,1.1s						
EGAK	**Eagle**	**87.70**	**8**	*eP*	**P**	**03 54 21.0**	**+3.5**
	comp=Z,19nm,1.1s						
RND	**Reindeer**	**87.81**	**12**	*eP*	**P**	**03 54 21.2**	**+3.1**
	comp=Z,10nm,1.0s						
RND	**Reindeer**	**87.81**	**12**	*eP*	**P**	**03 54 21.2**	**+3.1**
RND				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SCRK	**Sand Creek**	**88.08**	**9**	*eP*	**P**	**03 54 21.8**	**+2.4**
	comp=Z,14nm,1.0s						
RIDG	**Independent Ri**	**88.17**	**10**	*eP*	**P**	**03 54 23.3**	**+3.4**
	comp=Z,5.5nm,1.0s						
DAWY	**Dawson**	**88.61**	**8**	*eP*	**P**	**03 54 24.0**	**+2.1**
	comp=Z,18nm,1.4s						
ASAR	**Alice Springs**	**88.77**	**117**	*eP*	**P**	**03 54 24.0**	**+0.8**
ASAR	**Alice Springs**	**88.77**	**117**	P	**P**	**03 54 22.7**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=304,slow=4.9,SNR=16						
AS31	**Alice Springs**	**88.77**	**117**	*eP*	**P**	**03 54 22.7**	**-0.6**
	comp=Z,2.0nm,1.0s						
BCAR	**Beaver Creek A**	**89.26**	**9**	*eP*	**P**	**03 54 23.6**	**-1.4**
YKA	**Yellowknife Ar**	**91.01**	**357**	*eP*	**P**	**03 54 31.4**	**-1.7**
YKA	**Yellowknife Ar**	**91.01**	**357**	*i P*	**P**	**03 54 37.7**	**+4.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**91.01**	**357**	P	**P**	**03 54 34.2**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=360,slow=4.7,SNR=15						
SNAA	**Sanae**	**106.52**	**197**	PKiKP	**PKiKP**	**03 59 48.9**	**-4.3**
VNA2	**Neumayer--Watz**	**107.33**	**198**	PKiKP	PKiKP	03 59 46.2	-8.5
	baz=262,slow=1.5						
VNA1	**Neumayer--Stat**	**107.44**	**199**	PKiKP	PKiKP	03 59 44.8	-10
VNA3	**Neumayer Olymp**	**108.14**	**198**	PKiKP	PKiKP	03 59 43.9	-12
KIP	**Kipapa**	**120.89**	**40⇑**	*i* PKIKP	**PKPdf**	**04 00 20.4**	**-1.7**
KIP				pmax	pmax		
	comp=Z,132nm,2.5s						

NEIC ***11*** *03:44:34.0±0.4, 44°.64N×148°.19E, h35km, mb4.7/23, Error ellipse: s-maj=11.7km s-min=5.6km az=158.0*
MOS ***11*** *03:44:36.0±0.8, 44°.23N×148°.60E, h105km, mb4.5/25, Error ellipse: s-maj=10.9km s-min=9.9km az=63.3*
SKHL ***11*** *03:44:38.5±0.2, 44°.32N×148°.39E, h101km±8km, mb4.8/7, msh5.8/5*
ISCJB ***11*** *03:44:38.2±0.5, 44°.38N±0°.04×148°.28E±0°.05, h102km±3km, mb4.3/53, Error ellipse: s-maj=7.6km s-min=4.5km az=136.9*
JMA ***11*** *03:44:39.1±0.3, 44°.09N×148°.42E, h60km, M4.9*
IDC ***11*** *03:44:40.7±2.2, 44°.74N×148°.18E, h94km±16km, mb4.0/26, mb1 4.1/31, mb1mx3.9/56, mbtmp4.3/31, Error ellipse: s-maj=31.9km s-min=11.0km az=166.0*
ISC 11 03:44:38.1±0.9, 44°.34N±0°.05×148°.34E±0°.06, h93km±7km, n184,σ1§43/204, mb4.4/59, 7C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.96**	**340**	*d i* PN	**Pn**	**03 44 57.9**	**+0.5**
KUR				*i* S	**Sn**	**03 45 12.0**	**0.0**
KUR				pmax	pmax		
	comp=N,53nm,0.1s						
KUR				pmax	pmax		
	comp=E,103nm,0.1s						
KUR				pmax	pmax		
	comp=Z,782nm,0.1s						
KUR				smax	smax		
	comp=N,4μm,0.5s						
KUR				smax	smax		
	comp=E,1μm,0.6s						
KUR	**Kuril'sk**	**0.96**	**340**	*i* P	**Pn**	**03 44 58.0**	**+0.5**
KUR				AMB	AMB	03 44 58.5	
	comp=E,300nm,0.4s						
KUR				AMB	AMB	03 44 58.5	
	comp=E,140nm,0.4s						
KUR				AMB	AMB	03 44 58.5	
	comp=E,680nm,0.4s						
KUR				*i* S	**Sn**	**03 45 12.5**	**+0.5**
KUR				A	A	03 45 17.0	
	comp=E,2μm,0.6s						
KUR				A	A	03 45 17.0	
	comp=E,3μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**261**	*d i* PN	**Pn**	**03 45 08.9**	**+1.1**
YUK				*i* S	**Sn**	**03 45 30.9**	**+0.4**
YUK				pmax	pmax		
	comp=Z,932nm,0.2s						
YUK				pmax	pmax		
	comp=E,454nm,0.3s						
YUK				pmax	pmax		
	comp=N,262nm,0.4s						
YUK				smax	smax		
	comp=N,3μm,0.2s						
YUK				smax	smax		
	comp=E,699nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**261**	*i* P	**Pn**	**03 45 09.0**	**+1.1**
YUK				AMB	AMB	03 45 10.0	
	comp=E,240nm,0.5s						
YUK				AMB	AMB	03 45 10.0	
	comp=E,490nm,0.5s						
YUK				AMB	AMB	03 45 10.0	
	comp=E,630nm,0.5s						
YUK				*i* S	**Sn**	**03 45 31.8**	**+1.3**
YUK				A	A	03 45 36.7	
	comp=E,2μm,0.5s						
YUK				A	A	03 45 36.7	
	comp=E,2μm,0.5s						
LAGR	**Lagunnoye**	**1.86**	**262⇑**	*i* PN	**Pn**	**03 45 09.9**	**+1.4**
LAGR				*i* S	**Sn**	**03 45 32.4**	**+0.7**
LAGR				pmax	pmax		
	comp=N,222nm,0.2s						
LAGR				pmax	pmax		
	comp=E,137nm,0.2s						
LAGR				pmax	pmax		
	comp=Z,367nm,0.2s						
LAGR				smax	smax		
	comp=E,2μm,0.4s						
LAGR				smax	smax		
	comp=N,2μm,0.2s						
LAGR	**Lagunnoye**	**1.86**	**262**	*i* P	**Pn**	**03 45 09.0**	**+0.5**
LAGR				AMB	AMB	03 45 11.0	
	comp=N,220nm,0.4s						
LAGR				AMB	AMB	03 45 11.0	
	comp=N,120nm,0.4s						
LAGR				AMB	AMB	03 45 11.0	
	comp=N,370nm,0.4s						
LAGR				*i* S	**Sn**	**03 45 32.0**	**+0.3**
LAGR				A	A	03 45 34.0	
	comp=N,2μm,0.4s						
LAGR				A	A	03 45 34.0	
	comp=N,220nm,0.4s						
GRPR	**Tuman**	**1.88**	**260⇓**	*i* PN	**Pn**	**03 45 09.9**	**+1.1**
GRPR				*i* S	**Sn**	**03 45 32.4**	**+0.2**
GRPR				pmax	pmax		
	comp=N,520nm,0.2s						
GRPR				pmax	pmax		
	comp=E,255nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,1μm,0.2s						
GRPR				smax	smax		
	comp=N,3μm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.2s						
GRPR	**Tuman**	**1.88**	**260**	*i* P	**Pn**	**03 45 09.0**	**+0.2**
GRPR				AMB	AMB	03 45 11.0	
	comp=E,500nm,0.2s						
GRPR				AMB	AMB	03 45 11.0	
	comp=E,250nm,0.2s						
GRPR				AMB	AMB	03 45 11.0	
	comp=E,270nm,0.2s						
GRPR				*i* S	**Sn**	**03 45 32.0**	**-0.2**
GRPR				A	A	03 45 33.0	
	comp=E,2μm,0.4s						
GRPR				A	A	03 45 33.0	
	comp=E,1μm,0.4s						
NEM2	**Nemuro 2**	**2.12**	**244**	P	**Pn**	**03 45 12.3**	**+0.4**
NEM2				*e* S	**Sn**	**03 45 36.9**	**-0.8**
GLVR	**Golovnino**	**2.12**	**255**	*c i* PN	**Pn**	**03 45 13.4**	**+1.5**
GLVR				*i* S	**Sn**	**03 45 38.6**	**+0.8**
GLVR				pmax	pmax		
	comp=N,335nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,305nm,0.3s						
GLVR				pmax	pmax		
	comp=E,254nm,0.2s						
GLVR				smax	smax		
	comp=E,3μm,0.2s						
GLVR				smax	smax		
	comp=N,6μm,0.3s						
GLVR	**Golovnino**	**2.12**	**255**	*i* P	**Pn**	**03 45 13.0**	**+1.1**
GLVR				AMB	AMB	03 45 16.0	
	comp=N,330nm,0.4s						
GLVR				AMB	AMB	03 45 16.0	
	comp=N,230nm,0.4s						
GLVR				AMB	AMB	03 45 16.0	
	comp=N,310nm,0.4s						
GLVR				*i* S	**Sn**	**03 45 38.0**	**+0.2**
GLVR				A	A	03 45 43.0	
	comp=N,560nm,0.4s						
GLVR				A	A	03 45 43.0	
	comp=N,1μm,0.4s						
JRA	**Rausu**	**2.35**	**261**	P	**Pn**	**03 45 16.8**	**+1.8**
JRA				*e* S	**Sn**	**03 45 45.3**	**+2.1**
JKHN	**Kushirohamanak**	**2.62**	**243**	P	**Pn**	**03 45 19.4**	**+0.8**
JKHN				*e* S	**Sn**	**03 45 49.1**	**-0.6**
JNK	**Nakash**	**2.72**	**255**	P	**Pn**	**03 45 21.2**	**+1.3**
JNK				*e* S	**Sn**	**03 45 52.8**	**+0.8**
JAK	**Akkeshi**	**2.96**	**244**	P	**Pn**	**03 45 23.7**	**+0.6**
JAK				*e* S	**Sn**	**03 45 57.1**	**-0.8**
JTKR	**Abashiri--Toko**	**3.21**	**265**	P	**Pn**	**03 45 28.4**	**+2.0**
JAR	**Ashorobuto**	**3.47**	**254**	P	**Pn**	**03 45 32.0**	**+2.1**
JAR				*e* S	**Sn**	**03 46 12.0**	**+2.0**
JCH	**Churui**	**4.01**	**246**	P	**Pn**	**03 45 38.2**	**+0.9**
JCH				*e* S	**Sn**	**03 46 21.8**	**-1.4**
JKK2	**Kamakawa 2**	**4.05**	**265**	P	**Pn**	**03 45 40.6**	**+2.7**
JKA	**Kamikawa-asahi**	**4.13**	**269**	*e* P	**Pn**	**03 45 41.6**	**+2.7**
ASAJ	**Asahikawa**	**4.13**	**269**	P	**Pn**	**03 45 41.5**	**+2.6**
	comp=N,8.0nm,0.3s,baz=74,slow=20,SNR=31						
ASAJ				S	**Sn**	**03 46 26.2**	**0.0**
	comp=N,3.4nm,0.3s,baz=30,slow=20,SNR=3.3						
JSE	**Soyaes**	**4.15**	**281**	P	**Pn**	**03 45 41.3**	**+2.1**
JFR	**Furan**	**4.33**	**256**	P	**Pn**	**03 45 43.9**	**+2.3**
JFR				*e* S	**Sn**	**03 46 32.0**	**+1.2**
ERM	**Erimo**	**4.45**	**240**	*e* Pn	**Pn**	**03 45 45.2**	**+2.1**
ERM	**Erimo**	**4.45**	**240**	*d i* PN	**Pn**	**03 45 45.8**	**+2.7**
JNBK	**Urakawa-nobuka**	**4.57**	**245**	P	**Pn**	**03 45 45.3**	**+0.5**
YSS	**Yuzh-Sakhalins**	**4.71**	**306**	*e* Pn	**Pn**	**03 45 49.1**	**+2.4**
YSS	**Yuzh-Sakhalins**	**4.71**	**306**	*e* PN	**Pn**	**03 45 48.9**	**+2.2**
YSS				*e* S	**Sn**	**03 46 38.9**	**-1.2**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax	smax		
	comp=N,200nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,13.0s						
YSS				MLR	MLR		
	comp=E,600nm,14.0s						
YSS	**Yuzh-Sakhalins**	**4.71**	**306**	*e* P	**Pn**	**03 45 48.9**	**+2.2**
YSS				AMB	AMB	03 45 49.5	
	comp=E,20nm,1.0s						
YSS				*e* S	**Sn**	**03 46 38.9**	**-1.2**
YSS				A	A	03 46 42.9	
	comp=E,200nm,1.0s						
JKB	**Kayabe**	**5.88**	**248**	P	**Pn**	**03 46 03.5**	**+0.8**
JKB				*e* S	**Sn**	**03 47 05.8**	**-2.9**
JOT	**Ohata**	**6.12**	**244**	P	**Pn**	**03 46 06.0**	**+0.1**
JOT				*e* S	**Sn**	**03 47 10.3**	**-4.1**
UGL	**Uglegorsk**	**6.41**	**320**	*e* P	**Pn**	**03 46 11.3**	**+1.5**
JANG	**Nango**	**6.42**	**234**	*e* S	**Sn**	**03 47 16.3**	**-5.6**
TYV	**Tymovskoe**	**7.57**	**332**	*e* PN	**Pn**	**03 46 27.3**	**+1.7**
TYV				pmax	pmax		
	comp=Z,13nm,0.9s						
TYV	**Tymovskoe**	**7.57**	**332**	*e* P	**Pn**	**03 46 27.3**	**+1.7**
TYV				AMB	AMB	03 46 29.5	
	comp=Z,10.0nm,0.9s						
TYV				*e* S	**Sn**	**03 47 50.4**	**+0.6**
TYV				A	A	03 47 50.6	
	comp=Z,10.0nm,0.9s						
PETK	**Petropavlovsk-**	**10.73**	**32**	P	**Pn**	**03 47 07.3**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=208,slow=13,SNR=8.0						
PEA1	**Petropavlovsk-**	**10.73**	**32**	*e* Pn	**Pn**	**03 47 07.3**	**-1.3**
MJAR	**Matsushiro Arr**	**10.96**	**228**	P	**Pn**	**03 47 10.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=6.1						
MAJO	**Matsushiro**	**10.96**	**228**	*e* Pn	**Pn**	**03 47 10.6**	**-1.3**
MAJO	**Matsushiro**	**10.96**	**228**	*e* PN	**Pn**	**03 47 10.6**	**-1.3**
USRK	**Ussuriysk Ar.**	**11.73**	**275**	P	**Pn**	**03 47 23.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=82,slow=15,SNR=5.7						
KLR	**Kul'dur**	**12.37**	**299⇓**	*e* PN	**Pn**	**03 47 31.8**	**+1.1**
KLR	**Kul'dur**	**12.37**	**299**	P	**Pn**	**03 47 32.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=100,slow=12,SNR=3.0						
KLR	**Kul'dur**	**12.37**	**299**	*e* P	**Pn**	**03 47 31.8**	**+1.1**
EKMR	**Ekimchan**	**13.38**	**316**	*e* P	**Pn**	**03 47 43.0**	**-1.0**
EKMR				AMB	AMB	03 47 52.5	
	comp=Z,10.0nm,1.0s						
MA2	**Magadan**	**15.33**	**5**	*e* Pn	**Pn**	**03 48 10.4**	**+1.3**
	comp=Z,12nm,0.7s						
MA2	**Magadan**	**15.33**	**5**	*d e* P	**Pn**	**03 48 10.7**	**+1.6**
MA2	**Magadan**	**15.33**	**5**	P	**Pn**	**03 48 08.2**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=191,slow=10.0,SNR=8.5						
BMKR	**Bomnak**	**16.31**	**316**	*e* P	**Pn**	**03 48 21.8**	**+0.4**
BMKR				AMB	AMB	03 48 24.8	
	comp=Z,20nm,0.8s						
CN2	**Changchun**	**16.46**	**276**	*e* P	**Pn**	**03 48 23.3**	**+0.1**
KROS	**Kirovskiy**	**17.12**	**314**	*e* P	**Pn**	**03 48 26.8**	**-4.6**
KROS				AMB	AMB	03 48 27.4	
	comp=Z,10.0nm,0.8s						
SEY	**Seymchan**	**18.78**	**6⇓**	*e* P	**P**	**03 48 48.7**	**-1.0**
SEY	**Seymchan**	**18.78**	**6**	P	**P**	**03 48 48.2**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=190,slow=6.4,SNR=11						
YAK	**Yakutsk**	**20.81**	**335**	*e* P	**P**	**03 49 09.0**	**-2.7**
YAK				pmax	pmax		
	comp=Z,274nm,0.9s						
YAK				pmax	pmax		
	comp=N,68nm,1.0s						
YAK				pmax	pmax		
	comp=E,52nm,0.9s						
BOD	**Bodaibo**	**25.12**	**315**	*e* P	**P**	**03 49 50.9**	**-3.1**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BILL	**Bilibino**	**25.56**	**16**	*i* P	**P**	**03 49 57.4**	**-0.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BILL	**Bilibino**	**25.56**	**16**	*e* P	**P**	**03 49 57.4**	**-0.5**
NJ2	**Nanjing**	**26.07**	**252**	*e* P	**P**	**03 50 04.0**	**+1.1**
HHC	**Hu-ho-hao-te**	**27.15**	**276**	*e* P	**P**	**03 50 13.2**	**+0.5**
TIXI	**Tiksi**	**28.97**	**347**	P	**P**	**03 50 25.4**	**-2.8**
	comp=Z,1.7nm,0.4s,baz=139,slow=6.6,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**29.01**	**142**	T	T	04 21 26.3	
	baz=331,slow=75,SNR=121						
H11N1	**WAKE ISLAND Hy**	**29.02**	**142**	T	T	04 21 31.1	
	baz=331,slow=75,SNR=102						
H11N3	**WAKE ISLAND Hy**	**29.02**	**142**	T	T	04 21 35.7	
	baz=331,slow=75,SNR=104						
SONA0	**Songino Array**	**29.04**	**292**	*e* P	**P**	**03 50 30.2**	**+0.8**
SONM	**Songino Array**	**29.04**	**292**	*e* P	**P**	**03 50 30.4**	**+1.0**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SONM	**Songino Array**	**29.04**	**292**	P	**P**	**03 50 30.2**	**+0.8**
	comp=Z,4.6nm,0.6s,baz=79,slow=8.7,SNR=12						
H11S1	**WAKE ISLAND Hy**	**30.00**	**143**	T	T	04 22 42.0	
	baz=333,slow=76,SNR=223						
H11S3	**WAKE ISLAND Hy**	**30.01**	**143**	T	T	04 22 42.2	
	baz=333,slow=76,SNR=147						
H11S2	**WAKE ISLAND Hy**	**30.02**	**143**	T	T	04 22 44.2	
	baz=333,slow=76,SNR=116						
LZH	**Lanzhou**	**34.61**	**272**	*e* P	**P**	**03 51 18.6**	**+0.2**
LZH				pP	pP	03 51 42.8	+3.3
LZH				sP	sP	03 51 55.0	+4.8
LZH				PP	**PnPn**	**03 52 37.5**	**+0.7**
GTA	**Gaotai**	**36.04**	**279**	*e* P	**P**	**03 51 33.0**	**+2.4**
GTA				pP	sP	03 51 59.7	-2.8
GTA				sP	pP	03 52 10.8	+19
CD2	**Chengdu**	**37.32**	**264**	*e* P	**P**	**03 51 40.4**	**-1.0**
IMAR	**Indian Mountai**	**37.67**	**35**	*e* P	**P**	**03 51 44.2**	**+0.3**
COLD	**Coldfoot**	**39.19**	**33**	*e* P	**P**	**03 51 57.8**	**+1.2**
COLA	**College**	**40.09**	**37**	*c e* P	**P**	**03 52 06.1**	**+2.1**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**40.51**	**37**	*e* P	**P**	**03 52 07.5**	**+0.1**
ILAR	**Eielson Array**	**40.51**	**37**	*e* P	**P**	**03 52 09.3**	**+1.8**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**40.51**	**37**	P	**P**	**03 52 08.1**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=275,slow=7.7,SNR=13						
ILB	**Eielson Array**	**40.51**	**37**	*e* P	**P**	**03 52 08.8**	**+1.4**
	comp=Z,2.1nm,0.9s						
DGZ	**Jazzator, Alta**	**40.87**	**300⇑**	*e* P	**P**	**03 52 12.5**	**+1.7**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PRP	**Porcupine Dome**	**41.05**	**35**	*e* P	**P**	**03 52 13.2**	**+1.0**
	comp=Z,3.2nm,0.8s						
ZAA1	**Zalesovo Array**	**41.33**	**307**	*e* P	**P**	**03 52 14.6**	**+0.2**
ZALV	**Zalesovo Beam**	**41.33**	**307**	P	**P**	**03 52 14.6**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=62,slow=6.7,SNR=3.3						
BMAR	**Burnt Mountain**	**41.38**	**33**	*e* P	**P**	**03 52 15.8**	**+1.2**
WMQ	**Urumqi**	**42.68**	**291**	*e* P	**P**	**03 52 26.9**	**+1.3**
BCAR	**Beaver Creek A**	**42.90**	**39**	*e* P	**P**	**03 52 28.8**	**+1.7**
EGAK	**Eagle**	**42.95**	**36**	*e* P	**P**	**03 52 28.7**	**+1.3**
	comp=Z,13nm,1.7s						
EPYK	**Eagle Plains**	**44.56**	**34**	*e* P	**P**	**03 52 42.1**	**+1.8**
	comp=Z,12nm,1.1s						
MK32	**Makanchi Array**	**45.07**	**298**	*e* P	**P**	**03 52 45.2**	**+0.6**
MKAR	**Makanchi Array**	**45.07**	**298**	*e* P	**P**	**03 52 45.5**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,11nm,0.6s						
MKAR	**Makanchi Array**	**45.07**	**298**	P	**P**	**03 52 45.2**	**+0.6**
	comp=Z,10nm,0.7s,baz=76,slow=8.2,SNR=26						
MKAR	**Makanchi Array**	**45.07**	**298**	*e* P	**P**	**03 52 45.5**	**+0.8**
INK	**Inuvik**	**45.46**	**31**	*e* P	**P**	**03 52 48.5**	**+1.2**
	comp=Z,11nm,1.1s						
INK	**Inuvik**	**45.46**	**31**	P	**P**	**03 52 48.5**	**+1.2**
	comp=Z,2.6nm,0.5s,baz=302,slow=7.1,SNR=27						
KURK	**Kurchatov**	**45.91**	**304⇑**	*e* P	**P**	**03 52 50.7**	**-0.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KURK	**Kurchatov**	**45.91**	**304**	*e* P	**P**	**03 52 50.7**	**-0.5**
KURBB	**Kurchatov Arra**	**46.00**	**304**	P	**P**	**03 52 51.4**	**-0.4**
	comp=Z,3.3nm,0.4s,baz=72,slow=8.2,SNR=15						
BVAR	**Borovoye Array**	**49.79**	**309**	P	**P**	**03 53 19.3**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=115,slow=6.8,SNR=3.6						
BRVK	**Borovoye**	**49.84**	**309⇓**	*e* P	**P**	**03 53 22.8**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**49.84**	**309**	*e* P	**P**	**03 53 22.8**	**+1.4**
AAK	**Ala-Archa**	**51.88**	**296⇓**	*e* P	**P**	**03 53 39.5**	**+2.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**51.88**	**296**	P	**P**	**03 53 37.7**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=77,slow=5.8,SNR=4.0						
AAK	**Ala-Archa**	**51.88**	**296**	*e* P	**P**	**03 53 39.5**	**+2.4**
KSH	**Kashi**	**52.44**	**292**	P	**P**	03 53 47.8	+6.5
ARSB	**Arslanbob**	**53.50**	**295**	*e* P	**P**	**03 53 49.1**	**+0.1**
	comp=Z,14nm,1.0s						
RES	**Resolute Bay**	**54.16**	**17**	*e* P	**P**	**03 53 52.2**	**-0.9**
	comp=Z,5.7nm,1.0s						
RES	**Resolute Bay**	**54.16**	**17**	*e* P	**P**	**03 53 52.2**	**-0.9**
RES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KK31	**Karatay Array**	**54.20**	**298**	*e* P	**P**	**03 53 54.5**	**+0.6**
	comp=Z,7.7nm,0.6s						
KK31	**Karatay Array**	**54.20**	**298**	*e* P	**P**	**03 53 54.5**	**+0.6**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KKAR	**Karatay Array**	**54.20**	**298**	*e* P	**P**	**03 53 54.5**	**+0.6**
	comp=Z,7.7nm,0.6s						
KKAR	**Karatay Array**	**54.20**	**298**	*e* P	**P**	**03 53 54.5**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ARU	**Arti**	**54.50**	**317**	*e* P	**P**	**03 53 54.9**	**-1.0**
	comp=Z,14nm,1.1s						
ARU	**Arti**	**54.50**	**317**	*c i* P	**P**	**03 53 54.8**	**-1.1**
ARU				S	**S**	**04 01 27.9**	**+0.4**
ARU				SS	**SS**	**04 05 04.8**	**-5.7**
ARU				pmax	pmax		
	comp=Z,14nm,1.1s						
ARU	**Arti**	**54.50**	**317**	*e* P	**P**	**03 53 54.8**	**-1.1**
YKA	**Yellowknife Ar**	**54.83**	**34**	P	**P**	**03 53 58.9**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=299,slow=6.8,SNR=14						
YKB5	**Yellowknife Ar**	**54.83**	**34**	*e* P	**P**	**03 53 58.9**	**+0.8**
ABKAR	**Akbulak array**	**57.36**	**309**	*e* P	**P**	**03 54 16.8**	**+0.4**
	comp=Z,6.9nm,0.6s						
AKTO	**Aktyubinsk**	**57.80**	**311**	P	**P**	**03 54 18.4**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=67,slow=8.0,SNR=6.4						
ARA0	**ARCESS Array S**	**58.99**	**340**	*e* P	**P**	**03 54 25.8**	**-1.7**
ARCES	**ARCESS Array B**	**58.99**	**340**	P	**P**	**03 54 25.8**	**-1.7**
	comp=Z,2.0nm,0.8s,baz=50,slow=7.4,SNR=4.9						
LTY	**Liberty**	**59.90**	**52**	*e* P	**P**	**03 54 35.2**	**+1.0**
	comp=Z,4.2nm,0.4s						
FIA1	**FINESS Array S**	**64.74**	**333**	*e* P	**P**	**03 55 05.5**	**-0.5**
	comp=Z,14nm,0.6s						
FIA0	**FINESS Array S**	**64.74**	**333**	*e* P	**P**	**03 55 05.1**	**-0.9**
FIA0	**FINESS Array S**	**64.74**	**333

comp=Z,12nm,0.8s
TBLG Delisi 70.39 309 *e*P **P 03 55 43.1 +1.1**
TBLG pmax pmax
comp=Z,12nm,0.8s
AKASG Malin Array Be 71.61 324 *e*P **P 03 55 49.9 +0.8**
AKASG Malin Array Be 71.61 324 *e*P **P 03 55 49.1 0.0**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 71.61 324 P **P 03 55 48.8 -0.4**
comp=Z,3.5nm,0.7s,baz=39,slow=6.5,SNR=19
AKBB Malin Array Si 71.61 324 *e*P **P 03 55 49.3 +0.2**
comp=Z,6.4nm,0.9s
KIEV Kiev 71.62 324 *e*P **P 03 55 48.8 -0.4**
comp=Z,4.5nm,0.7s
KIEV Kiev 71.62 324 *e*P **P 03 55 48.8 -0.4**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
BUR08 Bucovina Ar. S 75.65 324 *e*P **P 03 56 13.8 +0.8**
comp=Z,3.2nm,0.7s
BURAR Bucovina Array 75.67 324 *e*P **P 03 56 13.0 -0.1**
BURAR Bucovina Array 75.67 324 *e*P **P 03 56 13.0 -0.1**
CLL Collm 77.18 333 *e*P **P 03 56 21.0 -0.4**
CLL pmax pmax
comp=Z,2.0nm,0.5s
CLL Collm 77.18 333 *e*P **P 03 56 21.0 -0.4**
CLL *i* 03 56 23.0
comp=Z,4.0nm,0.5s
VYHS Vyhne 77.50 328 *e*P **P 03 56 24.0 +0.7**
VYHS Vyhne 77.50 328 *e*P **P 03 56 24.0 +0.7**
BR101 Keskin Array S 77.75 314 *e*P **P 03 56 25.4 +0.3**
BR131 Keskin Array S 77.75 314 *e*P **P 03 56 25.5 +0.5**
comp=Z,2.2nm,0.9s
BRTR Keskin Array B 77.75 314 *e*P **P 03 56 25.5 +0.5**
BRTR Keskin Array B 77.75 314 *e*P **P 03 56 25.8 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 77.75 314 P **P 03 56 25.4 +0.3**
comp=Z,1.5nm,0.8s,baz=86,slow=3.4,SNR=8.8
EKA Eskdalemuir Ar 77.80 344 P **P 03 56 25.0 +0.2**
comp=Z,0.5nm,0.4s,baz=21,slow=5.2,SNR=6.2
KHC Kasperske Hory 78.86 332 *e*P **P 03 56 31.6 +0.8**
KHC Kasperske Hory 78.86 332 *e*P **P 03 56 31.6 +0.8**
GEC2 GERESS Array S 79.06 331 *e*P **P 03 56 32.0 0.0**
comp=Z,12nm,1.9s
GEC2 GERESS Array S 79.06 331 *e*P **P 03 56 32.0 0.0**
GEC2 pmax pmax
comp=Z,12nm,1.9s
GERES GERESS Array B 79.06 331 *e*P **P 03 56 32.2 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 79.06 331 P **P 03 56 32.0 0.0**
comp=Z,0.6nm,0.4s,baz=35,slow=6.2,SNR=8.7
BCLA Clavier 80.30 337 ⇑P **P 03 56 41.4 +2.8**
comp=Z,9.7nm,2.1s
TX31 Lajitas Ar. Si 81.61 57 *e*P **P 03 56 47.2 +1.2**
comp=Z,11nm,1.9s
TXAR Lajitas Array 81.61 57 *e*P **P 03 56 46.8 +0.7**
TXAR Lajitas Array 81.61 57 P **P 03 56 47.1 +1.1**
comp=Z,1.3nm,0.6s,baz=296,slow=4.2,SNR=6.9
MMAI Mount Meron Ar 81.79 309 P **P 03 56 46.8 -0.1**
comp=Z,0.7nm,0.5s,baz=40,slow=6.6,SNR=5.1
IDI Anoyia 85.59 317 P **P 03 57 08.3 +2.1**
comp=Z,3.5nm,0.6s,baz=315,slow=5.7,SNR=6.1

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*ISCJB **11** 03:57:31.8±0.8, 37°.88N±0°.05×72°.9E±0°.1, h127km, mb3.7/1, Error ellipse: s-maj=16.5km s-min=5.6km az=160.2*
*IDC **11** 03:57:38.2±7.9, 38°.25N×72°.96E, h158km±58km, mb3.2/1, mb1 3.0/5, mb1mx2.8/54, mbtmp3.5/5, Error ellipse: s-maj=70.6km s-min=49.6km az=3.0*
ISC 11 03:57:32.3±1.2, 37°.90N±0°.09×72°.8E±0°.1, h127km, n20, σ1§45/23, 4C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=35	**4.28**	**9**	P	**Pn**	**03 58 36.9**	**+0.9**
UCH	**Uchtor** SNR=11	**4.52**	**16**	P	**Pn**	**03 58 40.3**	**+1.0**
KZA	**Kyzart** SNR=14	**4.58**	**23**	P	**Pn**	**03 58 40.9**	**+0.8**
EKS2	**Erkin-Say** SNR=5.9	**4.82**	**9**	P	**Pn**	**03 58 44.1**	**+1.1**
AAK	**Ala-Archa** SNR=5.7	**4.91**	**15**	P	**Pn**	**03 58 45.9**	**+1.7**
AAK	**Ala-Archa** 2.9nm,0.4s	**4.91**	**15**	⇑Pn	**Pn**	**03 58 45.6**	**+1.4**
AAK	12nm,0.7s			⇑Sn	**Sn**	**03 59 39.1**	**-1.0**
AAK	**Ala-Archa** 2.6nm,0.3s,baz=140,slow=4.3,SNR=12	**4.91**	**15**	P	**Pn**	**03 58 45.8**	**+1.6**
AAK	1.5nm,0.3s,baz=353,slow=17,SNR=11			S	**Sn**	**03 59 39.1**	**-1.0**
KK31	**Karatay Array** 5.6nm,0.5s,baz=167,slow=13,SNR=42	**5.49**	**342**	⇑Pn	**Pn**	**03 58 52.5**	**+0.6**
KK31	8.6nm,0.3s,baz=174,slow=24,SNR=6.2			⇑Sn	**Sn**	**03 59 49.5**	**-4.4**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=220,slow=13,SNR=3.3	**11.31**	**35**	P	**Pn**	**04 00 10.7**	**+0.5**
PYUN	**Piuthan**	**12.97**	**136**	*e*P	**Pn**	**04 00 31.3**	**-0.8**
DANN	**Dangsing** 5.1nm,0.2s	**13.21**	**133**	*e*P	**Pn**	**04 00 33.8**	**-1.5**
KOLN	**Koldanda** 5.1nm,0.3s	**13.56**	**135**	*e*P	**Pn**	**04 00 38.6**	**-1.1**
KKN	**Kakani**	**14.53**	**130**	*e*P	**Pn**	**04 00 50.8**	**-1.2**
PKIN	**Phulchoki** 7.0nm,0.5s	**14.75**	**131**	*e*P	**Pn**	**04 00 54.6**	**-0.3**
PKI	**Pulchoki** 7.0nm,0.5s	**14.76**	**131**	*e*P	**Pn**	**04 00 54.9**	**-0.2**
JIRN	**Jiri** 14nm,0.5s	**15.18**	**128**	*e*P	**Pn**	**04 00 59.6**	**-0.7**
RAMN	**Ramite** 6.3nm,0.4s	**15.94**	**129**	*e*P	**Pn**	**04 01 09.3**	**-0.4**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=122,slow=11,SNR=4.5	**16.39**	**325**	P	**P**	**04 01 16.5**	**+1.3**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=230,slow=9.1,SNR=3.9	**18.05**	**23**	P	**P**	**04 01 33.5**	**0.0**
FINES	**FINESS Array B** 0.7nm,0.7s,baz=115,slow=10,SNR=3.7	**37.16**	**325**	P	**P**	**04 04 31.4**	**+1.0**

PRU 11 03:57:35.1±0.0, 50°.06N×18°.44E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.29**	**220**	*e*PG	Pg	03 57 40.9	+0.2
OKC				*e*SG	Sg	03 57 45.5	+1.1
MORC	**Moravsky Berou**	**0.65**	**244**	*e*PG	Pg	03 57 47.5	0.0
MORC				*e*SG	Sg	03 57 56.2	+0.4
KRLC	**Kraliky**	**1.07**	**271**	*e*PG	Pg	03 57 54.4	-1.2
KRLC				*e*SG	Sg	03 58 08.3	-1.1
LANS	**Liptovska Anna**	**1.13**	**143**	*e*PG	Pg	03 57 57.1	+0.4
LANS				*e*SG	Sg	03 58 11.3	0.0
JAVC	**Velka Javorina**	**1.30**	**203**	*e*PG	Pg	03 58 00.1	+0.1
DPC	**Dobruska-Polom**	**1.39**	**283**	*e*PG	Pg	03 58 00.9	-0.9
DPC				*e*SG	Sg	03 58 18.9	-0.9
DPC	**Dobruska-Polom**	**1.39**	**283**	*e*	Sg	03 58 18.9	-0.9
VRAC	**Vranov**	**1.42**	**239**	*e*PN	Pn	03 58 01.2	-0.9
VRAC				*e*SG	Sg	03 58 19.6	-0.9
VYHS	**Vyhne**	**1.59**	**170**	*e*PG	Pn	03 58 03.8	-0.7
VYHS				*e*SG	Sn	03 58 25.5	-0.2
UPC	**Upice**	**1.62**	**287**	*e*SG	Sn	03 58 26.0	-0.5
UPC	**Upice**	**1.62**	**287**	*e*	Sn	03 58 26.0	-0.5
KRUC	**Moravsky**	**1.67**	**234**	*e*PN	Pn	03 58 05.2	-0.3
KRUC				*e*SG	Sn	03 58 27.6	0.0
KHC	**Kasperske Hory**	**3.30**	**255**	*e*SG	Sg	03 59 20.1	-0.9

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*DSN **11** 03:58:08.7±3.6, 26°.89N×58°.16E, h10km, ML4.7/8, Error ellipse: s-maj=54.6km s-min=15.0km az=177.0*
*IDC **11** 03:58:10.7±0.8, 26°.62N×57°.83E, h0km, mb3.9/21, mb1 4.1/23, mb1mx3.9/50, mbtmp4.0/23, ML4.0/2, Error ellipse: s-maj=18.7km s-min=14.1km az=179.0*
*MOS **11** 03:58:11.9±1.2, 26°.68N×57°.79E, h13km, mb4.6/42, Error ellipse: s-maj=7.2km s-min=4.8km az=113.1*
*ISCJB **11** 03:58:11.5±0.2, 26°.66N±0°.02×57°.82E±0°.03, h10km, mb4.4/82, Error ellipse: s-maj=3.5km s-min=2.6km az=177.7*
*OMAN **11** 03:58:13.7±1.6, 26°.72N×58°.18E, h34km±26km, ml4.6/12, Error ellipse: s-maj=21.6km s-min=2.6km az=27.0*
*NEIC **11** 03:58:14.6±0.0, 26°.69N×57°.68E, h20km, mb4.3/29, ML4.1(THR), MN4.4(TEH), After TEH.*
*THR **11** 03:58:14.1, 26°.77N×57°.68E, h15km, ML4.1*
*TEH **11** 03:58:14.8, 26°.67N×57°.69E, h13km, ML4.4*
ISC 11 03:58:12.6±0.4, 26°.52N±0°.03×57°.76E±0°.03, h10km, n271, σ1§51/271, mb4.4/83, 16C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.32**	**322**	Pg	**Pb**	**03 58 37.5**	**0.0**
NIAN	**Nian**	**1.32**	**322**	*e*Pg	**Pb**	**03 58 37.6**	**0.0**
NIAN				IAMB	IAmb	03 59 01.6	
SHME	**Shamm** SNR=35	**1.53**	**252**	*e*P	**Pg**	**03 58 42.1**	**+0.1**
SHME				S	**Sg**	**03 59 08.5**	**+6.7**
BNDS	**Bandar-Abbas** comp=E,2μm,0.4s	**1.67**	**302**	*e*AML	AML	03 59 04.0	
BNDS	comp=N,3μm,0.5s			*e*AML	AML	03 59 09.1	
GENO	**Geno**	**1.67**	**302**	Pn	**Pb**	**03 58 43.7**	**+0.2**
GENO				Sg	**Sg**	**03 59 06.3**	**0.0**
GENO	**Geno**	**1.67**	**302**	*e*Pn	**Pb**	**03 58 43.7**	**+0.2**
GENO				*e*Sg	**Sg**	**03 59 06.3**	**0.0**
GENO				IAMB	IAmb	03 59 10.5	
MDH	**Madha** SNR=33	**1.79**	**228**	P	**Pn**	**03 58 44.5**	**+0.9**
MDH				S	**Sg**	**03 59 13.4**	**+3.1**
MSFE	**Esma-Masafi** SNR=10	**1.85**	**232**	*e*P	**Pb**	**03 58 45.6**	**-0.9**
HATD	**Hatta, Dubai** SNR=26	**2.24**	**221**	*e*P	**Pb**	**03 58 52.5**	**-0.6**
ASHO	**Ashiyiah** SNR=22	**2.39**	**220**	*e*P	**Pn**	**03 58 53.7**	**+1.8**
ASHO	**Ashiyiah** SNR=22	**2.39**	**220**	P	**Pb**	**03 58 56.0**	**+0.2**
NAZ	**Nazwa, Dubai** SNR=70	**2.43**	**232**	*e*P	**Pb**	**03 58 57.3**	**+0.8**
CHBR	**Chabahar**	**2.62**	**110**	*e*Pn	**Pb**	**03 59 00.0**	**+0.4**
CHBR	**Chabahar** comp=E,709nm,0.6s	**2.62**	**110**	*e*AML	AML	04 00 01.3	
CHBR	**Chabahar** comp=N,565nm,0.6s	**2.62**	**110**	*e*AML	AML	03 59 48.9	
CHBR				*e*Pn	**Pb**	**03 58 60.0**	**+0.4**
SOHO	**SOHO** SNR=89	**2.62**	**205**	P	**Pn**	**03 58 55.7**	**+0.6**
FAQ	**Al Faqa, Dubai** SNR=54	**2.64**	**228**	*i* P	**Pb**	**03 58 59.4**	**-0.6**
FAQ	**Al Faqa, Dubai** SNR=13	**2.64**	**228**	P	**Pb**	**03 58 59.4**	**-0.6**
ASUD	**Al Ashush, Dub** SNR=25	**2.90**	**230**	*i* P	**Pb**	**03 59 02.9**	**-1.4**
ASUD	**Al Ashush, Dub** SNR=25	**2.90**	**230**	P	**Pb**	**03 59 03.5**	**-0.9**
BIDO	**Bidbid** SNR=20	**3.00**	**174**	P	**Pn**	**03 59 01.2**	**+0.9**
BIDO				S	**Sn**	**03 59 39.0**	**+2.6**
ALNE	**Al Ain** SNR=15	**3.05**	**217**	*i* P	**Pb**	**03 59 04.7**	**-2.4**
NGRK	**Negar Kerman**	**3.24**	**344**	Pn	**Pn**	**03 59 04.6**	**+0.7**
NGRK	**Negar Kerman**	**3.24**	**344**	*e*Pn	**Pn**	**03 59 04.7**	**+0.8**
NGRK	comp=Z,0.0nm,0.8s			IAMB	IAmb	04 00 06.7	
CHMN	**Cheshme madani**	**3.33**	**357**	Pn	**Pn**	**03 59 06.6**	**+1.4**
CHMN	**Cheshme madani** comp=Z,0.0nm,0.5s	**3.33**	**357**	IAMB	IAmb	03 59 15.0	
CHMN				*e*Pn	**Pn**	**03 59 06.7**	**+1.5**
WSAR	**Wadi Sarin** comp=Z,34nm,0.3s,baz=342,slow=6.3,SNR=129	**3.36**	**166**	Pn	**Pn**	**03 59 06.8**	**+1.6**
WSAR	comp=Z,100nm,0.3s,baz=20,slow=11,SNR=23			Sn	**Sn**	**03 59 45.0**	**-0.2**
ARQ	**Araqi** SNR=10.0	**3.36**	**200**	P	**Pb**	**03 59 09.2**	**-3.2**
ARQ				S	**Sb**	**03 59 51.3**	**-2.1**
SMDO	**Samad** SNR=14	**3.46**	**176**	P	**Pn**	**03 59 08.4**	**+1.8**
SMDO				S	**Sn**	**03 59 50.4**	**+2.7**
TVBK	**TV Kerman**	**3.56**	**346**	Pn	**Pn**	**03 59 10.3**	**+2.0**
TVBK	**TV Kerman**	**3.56**	**346**	*e*Pn	**Pn**	**03 59 10.3**	**+2.0**
TVBK	comp=Z,0.0nm,1.0s			IAMB	IAmb	04 00 31.0	
BSY	**Bisya** SNR=21	**3.79**	**188**	P	**Pn**	**03 59 14.4**	**+3.2**
BSY				S	**Sb**	**04 00 02.0**	**-3.8**
KHGB	**Koh Gabri**	**4.00**	**344**	*e*Pn	**Pn**	**03 59 16.1**	**+1.8**
KHGB	comp=Z,0.0nm,0.9s			IAMB	IAmb	04 00 30.1	
SZD1	**Zahaedan-tmp**	**4.03**	**42**	*e*Pn	**Pn**	**03 59 18.0**	**+3.4**
WBK	**Wadi Bani Khal** SNR=9.7	**4.05**	**164**	P	**Pn**	**03 59 17.6**	**+2.9**
GHIR	**Ghir-Karzin**	**4.59**	**294**	Pn	**Pn**	**03 59 23.0**	**+0.8**
GHIR	**Ghir-Karzin**	**4.59**	**294**	*e*Pn	**Pn**	**03 59 23.1**	**+0.8**
GHIR	**Ghir-Karzin**	**4.59**	**294**	*e*Pn	**Pn**	**03 59 23.1**	**+0.8**
JLN	**Jalan Bani Buh** SNR=31	**4.60**	**161**	P	**Pn**	**03 59 23.6**	**+1.3**
JLN	SNR=8.9			S	**Sn**	**04 00 15.1**	**-0.8**
IPAR	**Pars**	**5.31**	**310**	Pn	**Pn**	**03 59 32.6**	**+0.2**
IPAR	**Pars**	**5.31**	**310**	*e*Pn	**Pn**	**03 59 32.6**	**+0.2**
IMEH	**Mehriz**	**5.58**	**331**	Pn	**Pn**	**03 59 36.6**	**+0.6**
IMEH	**Mehriz**	**5.58**	**331**	*e*Pn	**Pn**	**03 59 36.6**	**+0.6**
IKOO	**Kooshah**	**5.98**	**10**	Pn	**Pn**	**03 59 41.4**	**0.0**
IKOO	**Kooshah**	**5.98**	**10**	*e*Pn	**Pn**	**03 59 41.5**	**0.0**
IKAZ	**Kazeroun**	**6.15**	**303**	Pn	**Pn**	**03 59 44.1**	**+0.2**
IKAZ	**Kazeroun**	**6.15**	**303**	*e*Pn	**Pn**	**03 59 44.1**	**+0.2**
ITEG	**Tejag**	**6.41**	**7**	*e*Pn	**Pn**	**03 59 47.5**	**+0.2**
ISAD	**Sadrabad**	**6.45**	**327**	Pn	**Pn**	**03 59 48.1**	**+0.2**
ISAD	**Sadrabad**	**6.45**	**327**	*e*Pn	**Pn**	**03 59 48.2**	**+0.3**
IDAH	**Dahanechah**	**6.46**	**16**	Pn	**Pn**	**03 59 50.5**	**+2.5**
IDAH	**Dahanechah**	**6.46**	**16**	*e*Pn	**Pn**	**03 59 50.6**	**+2.5**
YZKH	**Yazd**	**6.47**	**335**	*e*Pn	**Pn**	**03 59 47.6**	**-0.4**
YZKH	**Yazd**	**6.47**	**335**	*e*Pn	**Pn**	**03 59 47.6**	**-0.4**
TPRV	**Parvadeh(Tabas**	**6.55**	**352**	*e*Pn	**Pn**	**03 59 50.9**	**+1.7**
IRAM	**Ramesheh**	**7.06**	**320**	Pn	**Pn**	**03 59 55.9**	**-0.4**
IRAM	**Ramesheh**	**7.06**	**320**	*e*Pn	**Pn**	**03 59 55.9**	**-0.4**
TKDS	**Koohdasht(Taba**	**7.09**	**356**	*e*Pn	**Pn**	**03 59 59.1**	**+2.5**
SHRT	**Shahrakht**	**7.43**	**17**	Pn	**Pn**	**04 00 01.4**	**+0.2**
SHRT	**Shahrakht**	**7.43**	**17**	*e*Pn	**Pn**	**04 00 01.5**	**+0.2**
SHRT	**Shahrakht**	**7.43**	**17**	*e*Pn	**Pn**	**04 00 01.4**	**+0.2**
ANAR	**Anarak**	**7.51**	**333**	*e*Pn	**Pn**	**04 00 02.1**	**-0.3**
IGAR	**Gharneh**	**7.69**	**321**	*e*Pn	**Pn**	**04 00 06.0**	**+1.0**
IZEF	**Zefreh**	**7.92**	**325**	Pn	**Pn**	**04 00 07.9**	**-0.1**
IZEF	**Zefreh**	**7.92**	**325**	*e*Pn	**Pn**	**04 00 07.9**	**-0.1**
ZNGN	**Zangian**	**8.21**	**314**	*e*Pn	**Pn**	**04 00 11.8**	**-0.3**
ROKH	**ROKH**	**8.25**	**316**	*e*Pn	**Pn**	**04 00 12.9**	**+0.3**
JHBN	**Jahan bin**	**8.41**	**314**	*e*Pn	**Pn**	**04 00 15.0**	**+0.2**
IKLH	**Kolahroud**	**8.64**	**323**	Pn	**Pn**	**04 00 19.6**	**+1.6**
IKLH	**Kolahroud**	**8.64**	**323**	*e*Pn	**Pn**	**04 00 19.7**	**+1.7**
DMTO	**DMTO** SNR=24	**9.14**	**197**	P	**Pn**	**04 00 26.5**	**+1.9**
ISFB	**Sefidab**	**9.14**	**330**	*e*Pn	**Pn**	**04 00 25.0**	**+0.3**
IANJ	**Anjilo**	**9.51**	**341**	Pn	**Pn**	**04 00 30.8**	**+0.9**
IANJ	**Anjilo**	**9.51**	**341**	*e*Pn	**Pn**	**04 00 30.8**	**+0.9**
SHRO	**Shahrood**	**9.56**	**351**	*e*Pn	**Pn**	**04 00 30.8**	**+0.4**
SHRO	**Shahrood**	**9.56**	**351**	*e*Pn	**Pn**	**04 00 30.8**	**+0.4**
SBZV	**Sabzevar**	**9.84**	**359**	*e*Pn	**Pn**	**04 00 36.6**	**+2.2**
KHMZ	**Khomeyn**	**9.86**	**319**	Pn	**Pn**	**04 00 34.5**	**-0.2**
KHMZ	**Khomeyn**	**9.86**	**319**	*e*Pn	**Pn**	**04 00 34.6**	**-0.2**
KHMZ	**Khomeyn**	**9.86**	**319**	*e*Pn	**Pn**	**04 00 34.6**	**-0.2**
IKIA	**Kiasar**	**10.26**	**341**	Pn	**Pn**	**04 00 42.0**	**+1.8**
IKIA	**Kiasar**	**10.26**	**341**	*e*Pn	**Pn**	**04 00 42.0**	**+1.8**
IDOB	**Doab**	**11.01**	**313**	*e*Pn	**Pn**	**04 00 48.5**	**-1.9**
IKFM	**Kafar-mosalman**	**11.06**	**311**	*e*Pn	**Pn**	**04 00 50.8**	**-0.1**
GEYT	**Alibeck** comp=Z,0.4nm,0.3s,baz=183,slow=5.8,SNR=3.0	**11.38**	**1**	Pn	**Pn**	**04 00 56.5**	**+1.2**
GYA0B	**ALIBECK ARRAY**	**11.38**	**1**	*e*Pn	**Pn**	**04 00 53.7**	**-1.6**
IKOM	**Komasi**	**11.68**	**313**	Pn	**Pn**	**04 00 57.8**	**-1.7**
IKOM	**Komasi**	**11.68**	**313**	*e*Pn	**Pn**	**04 00 57.9**	**-1.6**
IVIS	**Veis**	**12.33**	**313**	Pn	**Pn**	**04 01 06.2**	**-2.1**
IVIS	**Veis**	**12.33**	**313**	*e*Pn	**Pn**	**04 01 06.2**	**-2.1**
IGHG	**Ghaleghazi**	**12.40**	**312**	*e*Pn	**Pn**	**04 01 07.9**	**-1.5**
ILIN	**Lien**	**12.50**	**315**	Pn	**Pn**	**04 01 08.7**	**-2.1**
ILIN	**Lien**	**12.50**	**315**	*e*Pn	**Pn**	**04 01 08.7**	**-2.1**
KBL	**Kabul**	**12.58**	**48**	*e*Pn	**Pn**	**04 01 11.9**	**0.0**
KBL	**Kabul**	**12.58**	**48**	*e*P	**Pn**	**04 01 11.9**	**0.0**
IDHR	**Dehrash**	**12.74**	**313**	Pn	**Pn**	**04 01 11.4**	**-2.6**
IDHR	**Dehrash**	**12.74**	**313**	*e*Pn	**Pn**	**04 01 11.4**	**-2.6**
NIL	**Nilore** comp=Z,74nm,1.4s	**15.17**	**58**	*e*Pn	**Pn**	**04 01 46.6**	**-0.4**
NIL	**Nilore**	**15.17**	**58**	*e*P	**Pn**	**04 01 46.6**	**-0.4**
NIL				pmax	pmax		
GAR	**Garm** comp=Z,22nm,1.2s	**16.30**	**37**	*e*Pn	**Pn**	**04 02 01.0**	**-0.8**
GAR	**Garm**	**16.30**	**37**	*e*P	**Pn**	**04 02 01.0**	**-0.8**
GAR	comp=Z,23nm,1.2s			pmax	pmax		
AKT	**Akhty**	**17.06**	**334**	⇓*e*P	**Pn**	**04 02 11.8**	**+0.4**
DAMY	**Dhamar** comp=Z,32nm,1.1s	**17.25**	**229**	*e*Pn	**Pn**	**04 02 13.5**	**-0.5**
BTK	**Batken** comp=Z,15nm,0.9s	**17.33**	**36**	*e*Pn	**Pn**	**04 02 14.8**	**0.0**
BTK	**Batken**	**17.33**	**36**	*e*P	**Pn**	**04 02 14.8**	**0.0**
BTK	comp=Z,15nm,0.9s			pmax	pmax		
GNI	**Garni** comp=Z,24nm,1.2s	**17.38**	**325**	*e*Pn	**Pn**	**04 02 13.1**	**-2.3**
GNI	**Garni**	**17.38**	**325**	⇑*e*P	**Pn**	**04 02 12.3**	**-3.1**
ASF	**Jabal al Asfar** comp=Z,0.2nm,0.3s,baz=43,slow=6.8,SNR=6.7	**19.03**	**292**	P	**P**	**04 02 35.2**	**+0.3**
ARSB	**Arslanbob** comp=Z,8.2nm,0.8s	**19.39**	**37**	*e*P	**P**	**04 02 36.8**	**-2.0**
KK31	**Karatay Array** comp=Z,13nm,1.0s	**19.54**	**29**	*e*P	**P**	**04 02 39.5**	**-0.8**
KK31	**Karatay Array**	**19.54**	**29**	*e*P	**P**	**04 02 39.5**	**-0.8**
KK31	comp=Z,13nm,1.0s			pmax	pmax		
KKAR	**Karatay Array** comp=Z,13nm,1.0s	**19.54**	**29**	*e*P	**P**	**04 02 39.9**	**-0.4**
KKAR	**Karatay Array**	**19.54**	**29**	*e*P	**P**	**04 02 39.9**	**-0.4**
KKAR	comp=Z,13nm,1.0s			pmax	pmax		
ZEI	**Tsey**	**19.79**	**329**	*e*P	Pn	04 02 52.4	+7.6
ZEI	comp=Z,5.0nm,0.8s			pmax	pmax		
KSH	**Kashi**	**19.98**	**45**	P	**P**	**04 02 43.4**	**-1.9**
EIL	**Elat** comp=Z,15nm,0.7s,baz=58,slow=3.1,SNR=19	**20.36**	**284**	P	Pn	04 02 50.6	-0.8
MMAI	**Mount Meron Ar** comp=Z,6.2nm,0.7s,baz=100,slow=14,SNR=11	**20.44**	**294**	P	Pn	04 02 51.8	-0.6
ATD	**Arta Tunnel** comp=Z,11nm,0.8s,baz=15,slow=12,SNR=7.4	**20.49**	**226**	P	Pn	04 02 56.1	+3.0
NEY	**Neytrino**	**20.70**	**328**	⇑*e*P	**P**	**04 02 52.8**	**-0.3**
KBZ	**Khabaz** comp=Z,5.6nm,1.2s,baz=177,slow=6.7,SNR=4.1	**20.98**	**329**	P	Pn	04 03 00.5	+2.0
AAK	**Ala-Archa** comp=Z,5.6nm,0.8s	**21.11**	**36**	*e*P	**P**	**04 02 55.8**	**-1.7**
AAK	**Ala-Archa**	**21.11**	**36**	⇓*i*P	**P**	**04 02 56.3**	**-1.3**
AAK	comp=Z,3.0nm,1.0s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,1.8nm,0.4s,baz=201,slow=11,SNR=4.4	**21.11**	**36**	P	**P**	**04 02 56.6**	**-1.0**
NRN	**Naryn** comp=Z,9.0nm,1.1s	**21.15**	**41**	*e*P	**P**	**04 02 56.6**	**-1.6**
NRN	**Naryn**	**21.15**	**41**	*e*P	**P**	**04 02 56.6**	**-1.6**
NRN	comp=Z,9.0nm,1.1s			pmax	pmax		
KIV	**Kislovodsk** comp=Z,35nm,0.9s	**21.25**	**329**	*e*P	**P**	**04 02 57.3**	**-1.7**
KIV				pmax	pmax		
DOMR	**Dombai** comp=Z,3.0nm,0.9s	**21.27**	**326**	⇑*e*P	**P**	**04 02 56.4**	**-2.9**
DOMR				pmax	pmax		
BOOM	**Boomskoye usch** comp=Z,22nm,1.2s	**21.80**	**38**	*e*P	**P**	**04 03 03.9**	**-1.1**
BOOM	**Boomskoye usch**	**21.80**	**38**	*e*P	**P**	**04 03 03.9**	**-1.1**
BOOM	comp=Z,22nm,1.2s			pmax	pmax		
KDJ	**Kajisay** comp=Z,15nm,0.9s	**22.27**	**41**	*e*P	**P**	**04 03 09.6**	**-0.5**
KDJ	**Kajisay**	**22.27**	**41**	*e*P	**P**	**04 03 09.6**	**-0.5**
KDJ	comp=Z,15nm,0.9s			pmax	pmax		
ABKAR	**Akbulak array**	**22.76**	**4**	*e*P	**P**	**04 03 13.3**	**-1.7**
AKTO	**Aktyubinsk** comp=Z,6.1nm,0.7s,baz=167,slow=11,SNR=16	**23.88**	**0**	P	**P**	**04 03 24.7**	**-1.5**
BRTR	**Keskin Array B**	**24.02**	**309**	*ce*P	**P**	**04 03 28.2**	**+0.3**
BRTR	comp=Z,5.0nm,0.8s			pmax	pmax		
BRTR	**Keskin Array B** comp=Z,4.6nm,0.8s,baz=124,slow=11,SNR=32	**24.02**	**309**	P	**P**	**04 03 27.7**	**-0.2**
BR101	**Keskin Array S**	**24.03**	**309**	*e*P	**P**	**04 03 27.7**	**-0.2**
BR131	**Keskin Array S** comp=Z,8.0nm,0.8s	**24.03**	**309**	*e*P	**P**	**04 03 27.4**	**-0.5**
PDGK	**Podgornoye** comp=Z,13nm,1.2s	**24.36**	**41**	P	**P**	**04 03 36.0**	**+5.1**
PDGK				pmax	pmax		
ANN	**Anapa** comp=Z,40nm,1.4s	**24.49**	**323**	*e*P	**P**	**04 03 32.8**	**+0.9**
ANN				pmax	pmax		
MAKZ	**Makanchi** comp=Z,8.0nm,1.3s	**27.87**	**37**	*e*P	**P**	**04 04 02.0**	**-0.4**
MAKZ	**Makanchi**	**27.87**	**37**	*e*P	**P**	**04 04 02.0**	**-0.4**
MAKZ	comp=Z,8.0nm,1.3s			pmax	pmax		
MK32	**Makanchi Array**	**28.03**	**37**	*e*P	**P**	**04 04 02.2**	**-1.7**
MKAR	**Makanchi Array**	**28.03**	**37**	*e*P	**P**	**04 04 03.0**	**-0.9**
MKAR	**Makanchi Array**	**28.03**	**37**	*i* P	**P**	**04 04 05.5**	**+1.6**
MKAR				pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=246,slow=7.2,SNR=11	**28.03**	**37**	P	**P**	**04 04 02.2**	**-1.7**
BVAR	**Borovoye Array** comp=Z,0.7nm,0.4s,baz=220,slow=8.5,SNR=5.1	**28.11**	**16**	P	**P**	**04 04 02.2**	**-2.3**
BRVK	**Borovoye** comp=Z,1.0nm,1.0s	**28.11**	**16**	⇓*e*P	**P**	**04 04 04.7**	**+0.2**
BRVK				pmax	pmax		
VSR	**Storozhevoye** comp=Z,3.0nm,0.9s	**28.43**	**335**	⇓*i*P	**P**	**04 04 06.1**	**-1.3**
VSR				pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,0.7nm,0.7s,baz=228,slow=8.3,SNR=12	**28.84**	**28**	P	**P**	**04 04 09.5**	**-1.5**
KURK	**Kurchatov** comp=Z,2.0nm,1.0s	**

TIP	Timpagrande	36.39	301⇑	*i* P	P	04 05 14.4	-2.9
PSZ	Piszkesteto	36.45	316	*e*P	P	04 05 18.1	+0.4
KLMR	Klimovskoe	36.50	345	*e*P	P	04 05 19.2	+1.4
KLMR				pmax	pmax		
	comp=Z,12nm,1.9s						
LANS	Liptovska Anna	37.19	318	*e*P	P	04 05 24.8	+0.9
LANS	Liptovska Anna	37.19	318	*e*P	P	04 05 24.8	+0.9
CSKK	Cskako	37.28	314	*e*P	P	04 05 26.0	+1.4
VYHS	Vyhne	37.32	316	*e*P	P	04 05 25.5	+0.5
VYHS	Vyhne	37.32	316	*e*P	P	04 05 25.5	+0.5
OJC	Ojcow	37.43	319	P	P	04 05 29.0	+3.1
OJC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BEHE	Becsehely	37.96	313	*e*P	P	04 05 38.1	+7.7
SOP	Sopron	38.47	314	*e*P	P	04 05 33.1	-1.7
CONA	Conrad Observa	39.00	314	*i* P	P	04 05 39.4	+0.1
	comp=Z,5.2nm,0.8s						
ARSA	Arzberg	39.01	313	*i* P	P	04 05 39.8	+0.5
	comp=Z,4.8nm,0.9s						
AQU	L'Aquila	39.38	305	*e*P	P	04 05 42.7	+0.2
	comp=Z,9.0nm,0.8s						
AQU	L'Aquila	39.38	305	*e*P	P	04 05 42.7	+0.2
AQU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DPC	Dobruska-Polom	39.53	318	*e*P	P	04 05 47.1	+3.5
DPC	Dobruska-Polom	39.53	318	*e*P	P	04 05 47.1	+3.5
TREC	Trest	39.67	316	*e*P	P	04 05 48.3	+3.5
TREC				*e*		04 05 56.7	
TREC	Trest	39.67	316	*e*P	P	04 05 48.3	+3.5
TREC				*ex*	x	04 05 56.7	
MOA	Molln	40.00	314	*e*P	P	04 05 47.9	+0.4
	comp=Z,7.6nm,0.8s,SNR=7.6						
LZH	Lanzhou	40.20	65	*e*P	P	04 05 44.2	-5.3
LZH				pP	pP	04 05 52.6	-0.4
LZH				sP	sP	04 05 56.0	+1.6
CD2	Chengdu	40.36	73	*e*P	P	04 05 53.0	+2.2
KBA	Koelnbreinsper	40.40	312	*e*P	P	04 05 51.1	+0.1
	comp=Z,4.3nm,0.7s,SNR=5.5						
KBA	Koelnbreinsper	40.40	312	P	P	04 05 51.6	+0.6
KBA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GEC2	GERESS Array S	40.65	315	*e*P	P	04 05 53.3	+0.3
	comp=Z,4.7nm,1.0s						
GERES	GERESS Array B	40.65	315	*e*P	P	04 05 52.0	-0.9
GERES	GERESS Array B	40.65	315	P	P	04 05 52.9	-0.1
	comp=Z,2.4nm,0.8s,baz=110,slow=8.5,SNR=20						
KHC	Kasperske Hory	40.81	316	*e*P	P	04 05 53.1	-1.1
	comp=Z,8.9nm,1.6s						
KHC	Kasperske Hory	40.81	316	*e*P	P	04 05 53.1	-1.1
KHC				pmax	pmax		
	comp=Z,9.0nm,1.6s						
KHC	Kasperske Hory	40.81	316	*e*P	P	04 05 53.8	-0.4
KHC				*ex*	x	04 06 05.0	
ABTA	Abfaltersbach	40.87	312	*i* P	P	04 05 55.1	+0.3
	comp=Z,8.5nm,1.0s						
FIA0	FINESS Array S	40.90	337	*e*P	P	04 05 53.2	-1.5
FIA0	FINESS Array S	40.90	337	*e*P	P	04 05 53.2	-1.5
FINES	FINESS Array B	40.90	337	P	P	04 05 53.2	-1.5
	comp=Z,2.8nm,0.8s,baz=128,slow=12,SNR=13						
WTTA	Wattenberg	41.57	312	*i* P	P	04 06 00.4	-0.3
	comp=Z,10nm,0.6s						
WATA	Walderalm	41.63	312	*e*P	P	04 06 00.8	-0.4
	comp=Z,17nm,1.2s						
CLL	Collm	41.83	318	*e*P	P	04 06 05.0	+2.4
CLL	Collm	41.83	318	*e*(P)	P	04 06 05.0	+2.4
CLL				*e*		04 06 16.0	
CLL				*e*PP	PP	04 07 41.0	+1.8
SQTA	Sankt Quirin	41.84	312	*i* P	P	04 06 02.5	-0.4
	comp=Z,11nm,0.5s,SNR=9.2						
MOTA	Moosalm	41.94	312	*i* P	P	04 06 03.2	-0.5
	comp=Z,7.2nm,0.6s,SNR=6.8						
FETA	Feichten	42.12	312	*i* P	P	04 06 05.0	-0.2
	comp=Z,17nm,1.0s,SNR=13						
FUORN	Ofenpass-Fuorn	42.35	311	*e*P	P	04 06 07.0	-0.2
	comp=Z,8.8nm,1.1s						
DAVA	Damuels	42.74	312	*i* P	P	04 06 09.8	-0.4
	comp=Z,18nm,0.6s,SNR=15						
SONA0	Songino Array	43.35	47	*e*P	P	04 06 14.1	-1.0
SONM	Songino Array	43.35	47	P	P	04 06 14.1	-1.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	Songino Array	43.35	47	P	P	04 06 14.1	-1.0
	comp=Z,0.3nm,0.5s,baz=252,slow=8.8,SNR=2.4						
CDF	Champ du Feu	44.68	313	*e*P	P	04 06 27.4	+1.7
CDF				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ECH	Echery	44.72	313	*e*P	P	04 06 25.2	-0.8
	comp=Z,11nm,1.2s						
ECH	Echery	44.72	313	*e*P	P	04 06 25.2	-0.8
ECH				pmax	pmax		
	comp=Z,11nm,1.2s						
HINF	Hinteralfeld	44.86	312	*e*P	P	04 06 26.3	-0.8
HINF				pmax	pmax		
	comp=Z,15nm,1.4s						
CABF	La Chapelle	45.19	310	*e*P	P	04 06 29.3	-0.5
CABF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HAU	Haudompre	45.22	312	*e*P	P	04 06 28.3	-1.7
HAU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HHC	Hu-ho-hao-te	46.31	58	*e*P	P	04 06 40.8	+2.0
NB2	NORSAR Subarra	46.54	331	P	P	04 06 39.7	-0.5
	comp=Z,6.7nm,1.4s,baz=117,slow=7.9						
NB200	NORSAR Array S	46.54	331	*e*P	P	04 06 39.9	-0.3
NOA	NORSAR Array B	46.54	331	P	P	04 06 39.9	-0.3
	comp=Z,0.8nm,0.8s,baz=117,slow=8.4,SNR=3.8						
GIVF	Givet	46.57	315	*e*P	P	04 06 42.4	+1.9
GIVF				pmax	pmax		
	comp=Z,25nm,1.3s						
SMF	Signal de Mont	46.73	310	*e*P	P	04 06 40.6	-1.3
SMF				pmax	pmax		
	comp=Z,12nm,0.8s						
LOR	Lormes	46.79	311	*e*P	P	04 06 40.9	-1.4
LOR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BAIF	Baives	46.95	315	*e*P	P	04 06 44.6	+1.1
BAIF				pmax	pmax		
	comp=Z,19nm,1.3s						
ARA0	ARCESS Array S	46.98	345	*e*P	P	04 06 43.4	-0.1
ARCES	ARCESS Array B	46.98	345	P	P	04 06 43.4	-0.1
	comp=Z,0.7nm,0.7s,baz=130,slow=9.5,SNR=5.4						
SSF	Saint Saulge	47.00	311	*e*P	P	04 06 42.9	-1.1
SSF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AVF	Avril sur Loir	47.08	310	*e*P	P	04 06 43.2	-1.4
AVF				pmax	pmax		
	comp=Z,34nm,1.9s						
TAM	Tamanrasset	47.36	277	*e*P	P	04 06 48.6	+1.3
	comp=Z,3.0nm,1.0s						
TAM	Tamanrasset	47.36	277	*e*P	P	04 06 48.6	+1.3
TAM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BGF	Bois d'Agland	47.41	310	*e*P	P	04 06 46.0	-1.1
BGF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MTLF	Montolieu	47.66	306	*e*P	P	04 06 48.7	-0.4
MTLF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TCF	Toulx Ste Croi	47.82	309	*e*P	P	04 06 49.5	-0.9
TCF				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CAF	Calviac	47.83	308	*e*P	P	04 06 49.9	-0.6
CAF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
RJF	Les Rejaudoux	48.24	308	*e*P	P	04 06 53.2	-0.4
RJF				pmax	pmax		
	comp=Z,14nm,1.2s						
LFF	La Frestale	48.77	308	*e*P	P	04 06 57.2	-0.5
LFF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ETSF	Etsaut	49.69	305	*e*P	P	04 07 07.9	+3.1
ETSF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BOD	Bodaibo	50.09	35	*e*P	P	04 07 05.5	-2.1
BOD				pmax	pmax		
	comp=Z,6.0nm,2.2s						
SJPF	Ste Jean	50.17	305	*e*P	P	04 07 10.0	+1.5
SJPF				pmax	pmax		
	comp=Z,19nm,1.3s						
SGMF	Saint Gilles	51.18	312	*e*P	P	04 07 18.5	+2.6
SGMF				pmax	pmax		
	comp=Z,199nm,2.4s						
ESDC	Sonseca Array	52.41	301	P	P	04 07 24.7	-0.7
	comp=Z,0.8nm,0.6s,baz=74,slow=7.2,SNR=11						
TOA1	Torodi Ar. Sit	54.01	267	*e*P	P	04 07 35.6	-1.9
TORD	Torodi Ar. Bea	54.01	267	*e*P	P	04 07 36.8	-0.6
	comp=Z,2.4nm,0.9s						
TORD	Torodi Ar. Bea	54.01	267	P	P	04 07 35.6	-1.8
	comp=Z,1.4nm,0.5s,baz=44,slow=5.8,SNR=31						
TIXI	Tiksi	59.13	20⇑	*i* *e*P	P	04 08 15.6	+2.7
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
DAG	Danmarks Havn	61.27	345	P	P	04 08 29.1	+1.5
DAG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SEY	Seymchan	68.78	29⇑	*e*P	P	04 09 15.9	-0.7
BILL	Bilibino	72.27	22	*i* P	P	04 09 41.5	+3.7
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BPAW	Bear Paw Mtn.	86.91	12	*e*P	P	04 11 02.8	+5.4
	comp=Z,5.7nm,1.1s						
WR1	Warramunga Arr	87.42	114	*e*P	P	04 11 00.5	-0.1
WRA	Warramunga Arr	87.42	114	P	P	04 11 00.5	-0.1
	comp=Z,0.8nm,1.1s,baz=321,slow=3.9,SNR=3.7						
SCRK	Sand Creek	88.20	9	*e*P	P	04 11 09.8	+6.0
	comp=Z,6.8nm,1.5s						
ASAR	Alice Springs	88.88	117	P	P	04 11 07.6	0.0
	comp=Z,0.4nm,0.9s,baz=304,slow=5.5,SNR=3.0						
AS31	Alice Springs	88.89	117	*e*P	P	04 11 07.5	0.0
	comp=Z,1.4nm,1.0s						
YKA	Yellowknife Ar	91.09	356	P	P	04 11 15.7	-1.5
	comp=Z,0.1nm,0.5s,baz=356,slow=4.4,SNR=2.9						
YKB5	Yellowknife Ar	91.09	356	*e*P	P	04 11 15.7	-1.5

MEX 11 04:03:33.8±0.4, 14°.70N×94°.29W, h16km±6km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.44	46	*e*P	Pn	04 03 55.6	-3.6
PCIG				*e*S	Sn	04 04 12.6	-5.2
HUIG	Huatulco	2.05	301	*e*P	Pn	04 04 04.4	-3.2
HUIG				*e*S	Sn	04 04 28.4	-4.6
CCIG	Comitan	2.60	53	*e*P	Pn	04 04 12.7	-2.7
CCIG				*e*S	Sn	04 04 43.1	-3.7

*ISCJB **11** 04:05:48.6±3.9, 63°.6S±0°.3×17°.1E±°, h10km, mb3.8/4, MS4.6/1, Error ellipse: s-maj=136.8km s-min=16.8km az=164.1*
*IDC **11** 04:05:49.8±2.1, 63°.65S×171°.02E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.9/30, mbtmp4.0/5, ML4.0/1, MS4.6/1, Ms1 4.6/1, ms1mx4.0/20, Error ellipse: s-maj=91.1km s-min=26.9km az=72.0*

ISC 11 04:05:50.8±1.8, 63°.6S±0°.2×171°.2E±0°.5, h10km, n15, σ1°35/8, mb3.9/4, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	14.28	188	Pn	Pn	04 09 13.0	+0.3
	0.7nm,0.3s,baz=29,slow=17,SNR=57						
QSPA	South Pole Qui	26.48	180	P	P	04 11 27.7	-0.2
	1.4nm,0.8s,baz=60,slow=5.4,SNR=3.0						
DZM	Mont Dzumac	41.64	353	LR	LR	04 28 51.9	
	comp=Z,845nm,20.2s,baz=141,slow=33						
H01W1	Cape Leeuwin H	44.82	282	T	T	05 02 27.8	
	baz=146,slow=76,SNR=55						
H01W2	Cape Leeuwin H	44.82	282	T	T	05 02 28.1	
	baz=146,slow=76,SNR=42						
H01W3	Cape Leeuwin H	44.83	282	T	T	05 02 29.0	
	baz=146,slow=76,SNR=50						
ASAR	Alice Springs	46.91	311	P	P	04 14 22.1	+0.8
	1.4nm,0.8s,baz=161,slow=7.3,SNR=6.5						
WRA	Warramunga Arr	50.22	313	P	P	04 14 45.3	-1.4
	0.5nm,0.9s,baz=154,slow=6.8,SNR=1.6						
BOSA	Boshof	84.22	210	P	P	04 18 20.9	-1.4
	1.4nm,0.8s,baz=153,slow=11,SNR=3.5						
H08S2	Diego Garcia H	87.06	259	T	T	05 55 27.4	
	baz=153,slow=76,SNR=56						
H08S1	Diego Garcia H	87.06	259	T	T	05 55 27.1	
	baz=153,slow=76,SNR=50						
H08S3	Diego Garcia H	87.08	259	T	T	05 55 28.9	
	baz=153,slow=76,SNR=44						
ILAR	Eielson Array	131.74	23	PKP	PKPdf	04 25 02.1	-0.1
	0.5nm,0.9s,baz=221,slow=3.6,SNR=3.3						
KBZ	Khabaz	144.78	261	PKP	PKPdf	04 25 28.1	+1.4
	3.6nm,1.0s,baz=117,slow=2.3,SNR=5.9						
BRTR	Keskin Array B	145.46	247	PKPbc	PKPab	04 25 30.0	+1.4
	1.7nm,1.1s,baz=124,slow=2.6,SNR=5.8						

MEX 11 04:09:04.1±0.6, 16°.75N×99°.60W, h13km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.70	295	*e*P	Pg	04 09 15.4	-2.2
CAIG				*i* S	Sg	04 09 24.9	-2.2
MEIG	Mezcala	1.17	359	*e*P	Pb	04 09 22.2	-4.0
MEIG				*e*S	Sb	04 09 36.4	-4.9
TLIG	Tlapa	1.27	51	*e*P	Pn	04 09 23.9	-3.8
TLIG				*e*S	Sb	04 09 39.0	-5.4
PLIG	Platanillo	1.63	3	*e*P	Pn	04 09 29.0	-3.7
PLIG				*e*S	Sn	04 09 48.9	-4.7
ARIG	Puente Sto Nin	1.68	335	*e*P	Pn	04 09 30.1	-3.1
ARIG				*e*S	Sn	04 09 50.1	-4.6
ZIIG	Zihuatanejo	1.98	296	*e*P	Pn	04 09 34.4	-3.0
ZIIG				*i* S	Sn	04 09 57.2	-4.8

*DSN **11** 04:09:26.8±2.8, 26°.78N×58°.14E, h10km, ML4.9/10, Error ellipse: s-maj=40.7km s-min=12.9km az=2.0*
*NEIC **11** 04:09:27.2±0.0, 26°.53N×57°.89E, h10km, mb4.7/54, MN4.7(TEH), After TEH.*
*TEH **11** 04:09:27.3, 26°.52N×57°.88E, h10km, ML4.7*
*ISCJB **11** 04:09:28.0±0.2, 26°.67N±0°.02×57°.86E±0°.02, h10km, mb4.5/121, Error ellipse: s-maj=3.1km s-min=2.4km az=0.5*
*THR **11** 04:09:27.9, 26°.55N×57°.80E, h15km, ML4.7*
*MOS **11** 04:09:28.1±0.9, 26°.64N×57°.88E, h14km, mb4.9/64, Error ellipse: s-maj=6.7km s-min=3.7km az=122.3*
*IDC **11** 04:09:28.1±0.7, 26°.74N×57°.91E, h0km, mb4.1/25, mb1 4.3/27, mb1mx4.2/52, mbtmp4.2/27, ML4.5/2, MS3.9/2, Ms1 3.9/2, ms1mx3.3/44, Error ellipse: s-maj=16.1km s-min=13.2km az=180.0*
*BJI **11** 04:09:30.6±0.0, 26°.80N×57°.80E, h20km, mb4.6/21, mB4.9/14, Ms4.4/6, Ms7 4.2/5*
*OMAN **11** 04:09:30.6±0.8, 26°.66N×58°.03E, h22km±28km, Error ellipse: s-maj=37.6km s-min=7.2km az=24.0*

ISC 11 04:09:28.4±0.3, 26°.44N±0°.03×57°.98E±0°.03, h10km, n438, σ1°60/442, mb4.7/139, 33C-10D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.51	318	IAMB	IAmb	04 10 21.0	
	comp=Z,0.0nm,0.4s						
SHME	Shamm	1.69	257	Pn	Pb	04 09 59.7	+0.1
SHME	Shamm	1.69	257	*e*P	Pb	04 09 59.5	-0.2
	SNR=34						
SHME				S	Sg	04 10 25.1	+2.2
SHME	Shamm	1.69	257	*e*Pn	Pb	04 09 59.8	+0.1
GENO	Geno	1.87	301	Pn	Pn	04 10 00.6	-0.1
GENO	Geno	1.87	301	*e*Pn	Pn	04 10 00.6	-0.1
GENO				IAMB	IAmb	04 10 27.8	
	comp=Z,0.0nm,0.6s						
MDH	Madha	1.89	233	P	Pb	04 10 01.5	-1.6
	SNR=21						
MDH				S	Sg	04 10 29.9	+0.7
MDH	Madha	1.89	233	*e*Pn	Pb	04 10 01.5	-1.6
MSFE	Esma-Masafi	1.96	237	Pn	Pn	04 10 02.4	+0.7
MSFE	Esma-Masafi	1.96	237	*e*P	Pn	04 10 02.4	+0.7
	SNR=17						
MSFE	Esma-Masafi	1.96	237	*e*Pn	Pn	04 10 02.5	+0.7
UMQ	Umm Al-Quwin	2.27	247	*e*P	Pb	04 10 08.8	-0.8
	SNR=5.5						
UMQ	Umm Al-Quwin	2.27	247	*e*Pn	Pg	04 10 13.1	+1.1
HATD	Hatta, Dubai	2.31	226	Pn	Pn	04 10 07.4	+0.8
HATD	Hatta, Dubai	2.31	226	*e*P	Pb	04 10 09.6	-0.7
	SNR=67						
HATD	Hatta, Dubai	2.31	226	*e*Pn	Pn	04 10 07.4	+0.8
CHBR	Chabahar	2.41	110	*e*AML	AML	04 11 16.7	
	comp=E,3μm,0.9s						
CHBR				*e*Pn	Pb	04 10 11.2	-0.7
ASHO	Ashiyiah	2.46	225	Pn	Pb	04 10 11.7	-1.1
ASHO	Ashiyiah	2.46	225	*e*P	Pn	04 10 10.2	+1.5
	SNR=44						
ASHO	Ashiyiah	2.46	225	P	Pb	04 10 12.9	+0.1
	SNR=44						
ASHO	Ashiyiah	2.46	225	*e*Pn	Pb	04 10 11.8	-1.1
NAZ	Nazwa, Dubai	2.54	236	*e*P	Pb	04 10 13.5	-0.6
	SNR=128						
NAZ	Nazwa, Dubai	2.54	236	P	Pb	04 10 14.9	+0.8
	SNR=7.6						
NAZ	Nazwa, Dubai	2.54	236	*e*Pn	Pb	04 10 14.4	+0.3
SOHO	SOHO	2.64	210	P	Pn	04 10 12.4	+1.3
	SNR=108						
FAQ	Al Faqa, Dubai	2.74	232	*i* P	Pb	04 10 16.1	-1.4
	SNR=91						
FAQ	Al Faqa, Dubai	2.74	232	P	Pb	04 10 16.3	-1.2
	SNR=13						
FAQ	Al Faqa, Dubai	2.74	232	*e*Pn	Pb	04 10 16.5	-0.9
HOQ	Hoqain	2.91	192	P	Pb	04 10 17.6	-2.9
	SNR=14						
HOQ	Hoqain	2.91	192	*e*Pn	Pb	04 10 17.5	-2.9
BIDO	Bidbid	2.91	177	Pn	Pb	04 10 18.2	-2.2
BIDO	Bidbid	2.91	177	P	Pb	04 10 17.9	-2.5
	SNR=36						
BIDO				S	Sb	04 10 55.3	-0.8
BIDO	Bidbid	2.91	177	*e*Pn	Pb	04 10 18.2	-2.2
ASUD	Al Ashush, Dub	3.00	233	Pn	Pb	04 10 20.4	-1.5
ASUD	Al Ashush, Dub	3.00	233	P	Pb	04 10 19.4	-2.5
ASUD	Al Ashush, Dub	3.00	233	P	Pb	04 10 20.1	-1.8
	SNR=19						
ASUD	Al Ashush, Dub	3.00	233	*e*Pn	Pb	04 10 20.4	-1.5
ALNE	Al Ain	3.11	221	Pn	Pb	04 10 21.7	-2.2
ALNE	Al Ain	3.11	221	P	Pb	04 10 21.5	-2.4
ALNE	Al Ain	3.11	221	*e*Pn	Pb	04 10 21.7	-2.2
WSAR	Wadi Sarin	3.24	169	Pn	Pb	04 10 23.6	-2.5
	comp=E,58nm,0.3s,baz=341,slow=5.9,SNR=148						
WSAR				Sn	Sb	04 11 02.1	-3.6
	comp=E,52nm,0.3s,baz=349,slow=15,SNR=4.4						
AJN	Ajban	3.29	236	*i* P	Pn	04 10 22.6	+2.6
	SNR=13						
AJN	Ajban	3.29	236	*e*Pn	Pb	04 10 24.9	-1.9
ARQ	Araqi	3.36	203	P	Pb	04 10 26.1	-2.0
	SNR=22						
ARQ				S	Sb	04 11 08.1	-1.0
SMDO	Samad	3.37	179	P	Pb	04 10 25.2	-3.1
	SNR=28						
SMDO				S	Sb	04 11 07.2	-2.2
NGRK	Negar Kerman	3.38	341	Pn	Pn	04 10 21.6	+0.1
NGRK	Negar Kerman	3.38	341	*e*Pn	Pn	04 10 21.6	+0.1
NGRK				IAMB	IAmb	04 11 13.6	
	comp=Z,0.0nm,1.1s						
CHMN	Cheshme madani	3.43	354	Pn	Pn	04 10 23.5	+1.2
CHMN	Cheshme madani	3.43	354	*e*Pn	Pn	04 10 23.5	+1.2
CHMN				IAMB	IAmb	04 10 31.8	
	comp=Z,0.0nm,0.6s						
TVBK	TV Kerman	3.69	343	Pn	Pn	04 10 26.7	+0.9
TVBK	TV Kerman	3.69	343	*e*Pn	Pn	04 10 26.8	+0.9
TVBK				IAMB	IAmb	04 11 47.8	
	comp=Z,0.0nm,1.1s						
BSY	Bisya	3.75	191	P	Pb	04 10 31.5	-3.2
	SNR=24						
BSY				S	Sb	04 11 17.5	-2.7
WBK	Wadi Bani Khal	3.92	166	P	Pb	04 10 34.0	-3.7
	SNR=9.9						
SZD1	Zahaedan-tmp	3.97	39	*e*Pn	Pb	04 10 34.7	-3.8
ZHSF	Zahedan	4.01	37	Pn	Pb	04 10 31.4	+1.3
ZHSF	Zahedan	4.01	37	*e*Pn	Pn	04 10 31.4	+1.3
ZHSF	Zahedan	4.01	37	*e*Pn	Pn	04 10 31.4	+1.3
KHGB	Koh Gabri	4.14	342	*e*Pn	Pn	04 10 32.7	+0.8
KHGB				IAMB	IAmb	04 11 47.0	
	comp=Z,0.0nm,1.0s						
JHRM	Jahrom	4.42	299	*e*Pn	Pn	04 10 38.5	+2.9
JLN	Jalan Bani Buh	4.47	163	P	Pn	04 10 40.2	+3.9
	SNR=58						
GHIR	Ghir-Karzin	4.80	294	Pn	Pn	04 10 39.4	-1.5
GHIR	Ghir-Karzin	4.80	294	*e*Pn	Pn	04 10 39.5	-1.5
GHIR	Ghir-Karzin	4.80	294	*e*Pn	Pn	04 10 39.5	-1.5
MZR	Muzera	5.33	231	*e*Pn	Pb	04 10 56.4	-5.3
IPAR	Pars	5.51	309	Pn	Pn	04 10 51.3	+0.4
IPAR	Pars	5.51	309	*e*Pn	Pn	04 10 51.4	+0.5
IMEH	Mehriz	5.74	330	Pn	Pn	04 10 52.9	-1.0
IMEH	Mehriz	5.74	330	*e*Pn	Pn	04 10 53.0	-1.0
SHI	Shiraz	5.78	305	*e*Pn	Pn	04 10 52.7	-1.8
IKOO	Kooshah	6.03	8	Pn	Pn	04 10 57.4	-0.5
IKOO	Kooshah	6.03	8	*e*Pn	Pn	04 10 57.5	-0.5
IKAZ	Kazeroun	6.36	303	Pn	Pn	04 11 00.6	-1.9
IKAZ	Kazeroun	6.36	303	*e*Pn	Pn	04 11 00.7	-1.8
ITEG	Tejag	6.47	6	*e*Pn	Pn	04 11 04.1	+0.2
IDAH	Dahanechah	6.49	14	Pn	Pn	04 11 08.4	+4.2
IDAH	Dahanechah	6.49	14	*e*Pn	Pn	04 11 08.4	+4.2
ICHK	Chekchek	6.57	333	*e*Pn	Pn	04 11 04.7	-0.6
ISAD	Sadrabad	6.62	326	Pn	Pn	04 11 04.9	-1.1
ISAD	Sadrabad	6.62	326	*e*Pn	Pn	04 11 04.9	-1.1
YZKH	Yazd	6.62	334	*e*Pn	Pn	04 11 04.8	-1.1
YZKH	Yazd	6.62	334	*e*Pn	Pn	04 11 04.8	-1.1
TPRV	Parvadeh(Tabas	6.66	351	*e*Pn	Pn	04 11 06.4	0.0
TKDS	Koohdasht(Taba	7.19	354	*e*Pn	Pn	04 11 16.0	+2.3
IRAM	Ramesheh	7.25	319	Pn	Pn	04 11 13.0	-1.6
IRAM	Ramesheh	7.25	319	*e*Pn	Pn	04 11 13.1	-1.6
ANAR	Anarak	7.67	332	*e*Pn	Pn	04 11 19.0	-1.3
IGAR	Gharneh	7.88	320	*e*Pn	Pn	04 11 22.8	-0.5
IZEF	Zefreh	8.09	324	Pn	Pn	04 11 24.1	-2.1
IZEF	Zefreh	8.09	324	*e*Pn	Pn	04 11 24.2	-2.0
ZNGN	Zangian	8.40	314	*e*Pn	Pn	04 11 28.6	-2.0
ROKH	ROKH	8.44	316	*e*Pn	Pn	04 11 29.0	-2.0
JHBN	Jahan bin	8.60	314	*e*Pn	Pn	04 11 30.6	-2.7
IPIR	Pirpir	8.76	317

comp=Z,30nm,1.0s
AKT Akhty 17.22 333⇑ eP Pn 04 13 27.8 -1.3
DAMY Dhamar 17.34 230 ePn P 04 13 34.2 +1.8
comp=Z,36nm,0.8s
GNI Garni 17.56 324 ePn Pn 04 13 31.5 -1.9
comp=Z,28nm,0.9s
GNI Garni 17.56 324⇑ eP Pn 04 13 33.1 -0.3
GNI Garni 17.56 324 P P 04 13 34.3 -0.2
comp=Z,0.6nm,0.3s,baz=359,slow=1.2,SNR=7.9
ASF Jabal al Asfar 19.24 292 P P 04 13 52.0 -1.0
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF Jabal al Asfar 19.24 292 P P 04 13 52.1 -1.0
comp=Z,18nm,0.8s
ASF Jabal al Asfar 19.24 292 P P 04 13 52.0 -1.0
comp=Z,0.8nm,0.3s,baz=48,slow=11,SNR=11
ASF S Sn 04 17 12.3 -17
comp=Z,0.2nm,0.3s,baz=60,slow=16,SNR=3.4
ARSB Arslanbob 19.34 36 eP P 04 13 53.6 -0.5
comp=Z,15nm,0.8s
KK31 Karatay Array 19.52 28 eP P 04 13 55.6 -0.3
comp=Z,21nm,1.0s
KK31 Karatay Array 19.52 28 eP P 04 13 55.6 -0.3
KK31 pmax pmax
comp=Z,21nm,1.0s
KKAR Karatay Array 19.52 28 eP P 04 13 56.0 +0.1
comp=Z,21nm,1.0s
KKAR Karatay Array 19.52 28 eP P 04 13 56.0 +0.1
KKAR pmax pmax
comp=Z,21nm,1.0s
SWQJ Swaqa 19.78 289 P Pn 04 13 59.8 -0.6
comp=Z,144nm,0.8s
KSH Kashi 19.90 45 P P 04 13 54.0 -6.2
KSH sP sP 04 14 04.5 -0.2
KSH PP PnPn 04 14 12.4 -3.5
KSH S S 04 17 20.7 -24
KSH pmax pmax
comp=Z,47nm,0.8s
KSH pmax pmax
comp=Z,580nm,7.5s
KSH LR LR
comp=Z,950nm,12.2s
ZEI Tsey 19.96 328 eP P 04 13 59.3 -1.6
ZEI pmax pmax
comp=Z,9.0nm,0.7s
WALJ Wala 20.04 290 P Pn 04 14 04.4 +1.1
comp=Z,94nm,0.7s
JDRJ Daraweish 20.04 287 P P 04 14 00.5 -1.4
comp=Z,75nm,0.8s
SHMJ Saham 20.29 293 P Pn 04 14 05.7 -0.7
comp=Z,87nm,0.9s
AQBJ Aqaba 20.48 284 P Pn 04 14 07.8 -0.9
comp=Z,67nm,0.8s
EIL Elat 20.57 284 P P 04 14 07.2 -0.3
comp=Z,28nm,0.7s,baz=117,slow=5.0,SNR=34
EIL S Sn 04 18 12.6 +11
comp=Z,3.5nm,0.7s,baz=288,slow=20,SNR=2.2
ATD Arta Tunnel 20.57 227 eP Pn 04 14 09.9 +0.1
comp=Z,26nm,0.9s
ATD Arta Tunnel 20.57 227 P Pn 04 14 13.6 +3.7
comp=Z,10.0nm,0.5s,baz=22,slow=7.0,SNR=9.2
NCK Nalchik 20.64 329⇑ eP P 04 14 08.0 -0.1
MMAI Mount Meron Ar 20.65 294 P P 04 14 08.5 +0.2
comp=Z,14nm,0.8s,baz=100,slow=14,SNR=21
MMAI LR LR 04 22 43.3
comp=Z,410nm,20.7s,baz=195,slow=39
NEY Neytrino 20.87 327⇑ eP P 04 14 11.3 +0.5
AAK Ala-Archa 21.06 36 eP P 04 14 12.9 0.0
comp=Z,11nm,0.7s
AAK Ala-Archa 21.06 36 ceP P 04 14 12.7 -0.1
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 21.06 36 P P 04 14 12.4 -0.4
comp=Z,8.4nm,0.6s,baz=180,slow=12,SNR=11
NRN Naryn 21.09 40 eP P 04 14 13.1 -0.2
comp=Z,13nm,1.0s
NRN Naryn 21.09 40 eP P 04 14 13.1 -0.2
NRN pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 21.15 328 P P 04 14 17.3 +3.8
comp=Z,6.6nm,0.9s,baz=183,slow=9.2,SNR=5.8
KVAR Kislovodsk Arr 21.41 329 P P 04 14 14.9 -1.7
comp=Z,1.6nm,0.3s,baz=250,slow=23,SNR=2.4
KIV Kislovodsk 21.42 329 eP P 04 14 15.2 -1.4
comp=Z,38nm,1.4s
KIV Kislovodsk 21.42 329 eP P 04 14 17.3 +0.7
KIV pmax pmax
comp=Z,54nm,1.1s
DOMR Dombai 21.44 326⇑ eP P 04 14 13.3 -3.6
DOMR pmax pmax
comp=Z,5.0nm,0.9s
BOOM Boomskoye usch 21.74 38 eP P 04 14 19.4 -0.7
comp=Z,59nm,1.4s
BOOM Boomskoye usch 21.74 38 eP P 04 14 19.4 -0.7
BOOM pmax pmax
comp=Z,59nm,1.4s
KDJ Kajisay 22.21 40 eP P 04 14 25.0 -0.2
comp=Z,25nm,0.9s
KDJ Kajisay 22.21 40 eP P 04 14 25.0 -0.2
KDJ pmax pmax
comp=Z,25nm,0.9s
TARG Taragay, Kyrgy 22.33 42 eP P 04 14 27.4 +0.6
comp=Z,6.6nm,0.7s
CSS Mathiatis 22.79 298 eP P 04 14 30.6 -0.6
CSS Mathiatis 22.79 298 P P 04 14 28.9 -2.3
ABKAR Akbulak array 22.83 3 eP P 04 14 29.6 -1.9
AKTO Aktyubinsk 23.96 0 P P 04 14 42.0 -0.7
comp=Z,9.0nm,0.7s,baz=180,slow=8.1,SNR=19
BR101 Keskin Array S 24.22 309 eP P 04 14 44.7 -0.9
BR131 Keskin Array S 24.22 309 eP P 04 14 44.7 -0.8
comp=Z,16nm,0.9s
BRTR Keskin Array B 24.22 309 eP P 04 14 44.6 -1.0
BRTR Keskin Array B 24.22 309 P P 04 14 44.7 -0.8
comp=Z,12nm,0.8s,baz=122,slow=11,SNR=62
PDGK Podgornoye 24.29 41 P P 04 14 47.7 +1.6
PDGK pmax pmax
comp=Z,24nm,1.2s
SNOP Sinop 24.30 316 eP P 04 14 44.6 -1.4
comp=Z,28nm,0.7s
OTUK Ortayu 24.50 24 P P 04 14 47.9 +0.1
OTUK pmax pmax
comp=Z,11nm,1.3s
ANN Anapa 24.67 323 eP P 04 14 48.1 -1.2
ANN eS S 04 19 08.1 -2.7
ANN pmax pmax
comp=Z,37nm,1.0s
ILGA Ilgaz 24.78 312 eP P 04 14 50.2 -0.5
comp=Z,50nm,1.8s
ANTO Ankara 24.87 309 eP P 04 14 50.5 -0.8
comp=Z,21nm,0.9s
ANTO Ankara 24.87 309 eP P 04 14 50.6 -0.8
ANTO pmax pmax
comp=Z,21nm,0.9s
MK31 Makanchi Array 27.97 37 eP P 04 15 19.2 0.0
comp=Z,4.6nm,1.1s
MK32 Makanchi Array 27.97 37 eP P 04 15 18.8 -0.4
MKAR Makanchi Array 27.97 37 eP P 04 15 19.2 0.0
MKAR Makanchi Array 27.97 37 P P 04 15 18.8 -0.4
comp=Z,0.6nm,0.6s,baz=216,slow=7.1,SNR=3.3
BVAR Borovoye Array 28.13 16 P P 04 15 19.0 -1.5
comp=Z,1.9nm,0.6s,baz=204,slow=6.8,SNR=6.7
BRVK Borovoye 28.14 16⇑ eP P 04 15 22.9 +2.4
BRVK pmax pmax
comp=Z,5.0nm,1.1s
VSR Storozhevoye 28.59 335⇓ eP P 04 15 23.1 -1.4
VSR pmax pmax
comp=Z,6.0nm,0.9s
KURBB Kurchatov Arra 28.82 28 P P 04 15 25.9 -0.8
comp=Z,0.6nm,0.6s,baz=227,slow=8.3,SNR=6.8
KURK Kurchatov 28.93 28⇑ eP P 04 15 26.4 -1.2
KURK pmax pmax
comp=Z,1.0nm,0.9s
SANT Santorini 29.35 298 eP P 04 15 30.9 -0.6
comp=Z,24nm,0.9s
IDI Anoyia 29.63 295 P P 04 15 34.4 +0.3
comp=Z,13nm,0.7s,baz=87,slow=6.8,SNR=15
WMQ Urumqi 29.64 47 eP P 04 15 36.4 +2.3
WMQ pP sP 04 15 43.6 +4.9
WMQ sP pP 04 15 47.8 +10
WMQ pmax pmax
comp=Z,840nm,11.5s
WMQ LR LR
comp=Z,2μm,30.1s
WMQ LR LR
comp=Z,2μm,25.1s
WMQ LR LR
comp=Z,2μm,21.7s
ARU Arti 29.97 1 P P 04 15 35.0 -1.7
ARU S S 04 20 29.8 -4.5
SVE Sverdlovsk 30.42 3 eP P 04 15 44.1 +3.3
PLOR Plostina 31.57 316⇑ iP P 04 15 51.1 0.0
PLOR Plostina 31.57 316 P P 04 15 51.0 0.0
MLR Muntele Rosu 31.85 315⇑ iP P 04 15 53.3 -0.3
TESR Tescani 31.87 317⇑ iP P 04 15 52.0 -1.7
SOH Sokhos 31.97 305 P P 04 15 54.6 -0.1
SOH pmax pmax
comp=Z,11nm,0.7s
ITM Ithomi 32.28 298 eP P 04 15 56.7 -0.7
comp=Z,12nm,0.6s
AGG Agios Georgios 32.30 302 eP P 04 15 56.3 -1.3
comp=Z,5.5nm,0.9s
AGG Agios Georgios 32.30 302 eP P 04 15 56.3 -1.3
AGG pmax pmax
comp=Z,6.0nm,0.9s
VOIR 32.40 314⇓ iP P 04 15 58.3 -0.1
VOIR 32.40 314 P P 04 15 58.4 0.0
VOIR pmax pmax
comp=Z,12nm,1.0s
BIZ Bicaz 32.40 318⇓ iP P 04 15 57.7 -0.7
DGZ Jazzator, Alta 32.46 37⇑ eP P 04 15 58.6 -0.4
VTS Vitosha 32.58 309⇑ iP P 04 15 57.8 -2.4
ARR Arges 32.63 314⇑ iP P 04 16 00.2 -0.3
OBN Obninsk 32.64 337 i P P 04 16 00.5 +0.2
OBN i 04 16 07.2
OBN pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 32.68 325 eP P 04 15 59.6 -1.1
AKASG Malin Array Be 32.68 325 ceP P 04 15 59.7 -1.0
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 32.68 325 P P 04 15 58.7 -2.0
comp=Z,3.6nm,0.6s,baz=130,slow=8.0,SNR=26
AKBB Malin Array Si 32.68 325 eP P 04 15 59.0 -1.7
comp=Z,12nm,0.8s
AKBB Malin Array Si 32.68 325 eP P 04 15 59.1 -1.7
AKBB pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 32.69 325 eP P 04 15 59.0 -1.7
comp=Z,11nm,0.8s
KIEV Kiev 32.69 325⇓ eP P 04 15 58.9 -1.9
KIEV pmax pmax
comp=Z,8.0nm,0.8s
GRG Griva 32.70 305 P P 04 16 01.0 -0.1
GRG pmax pmax
comp=Z,11nm,0.9s
STIP Stip 33.05 307 i P P 04 16 01.9 -2.2
LOT Lotru 33.22 314⇓ iP P 04 16 04.7 -1.0
BURAR Bucovina Array 33.25 318 eP P 04 16 04.0 -1.9
comp=Z,28nm,1.1s
BURAR Bucovina Array 33.25 318⇑ iP P 04 16 05.3 -0.6
BURAR Bucovina Array 33.25 318 eP P 04 16 04.0 -1.9
BURAR pmax pmax
comp=Z,28nm,1.1s
SRE Strehaia 33.30 312⇑ iP P 04 16 06.6 +0.4
SRE Strehaia 33.30 312 P P 04 16 06.6 +0.4
FNA Florina 33.41 305 eP P 04 16 06.7 -0.6
comp=Z,19nm,0.8s
FNA Florina 33.41 305 eP P 04 16 06.7 -0.6
FNA pmax pmax
comp=Z,19nm,0.8s
BIA Bitola 33.51 305 i P P 04 16 08.2 +0.1
SKO Skopje 33.67 307 i P P 04 16 08.4 -1.1
GZR Gura Zlata 33.85 313⇓ iP P 04 16 09.7 -1.4
NVS Novosibirsk 33.87 26 eP P 04 16 00.1 -1.1
ZAA0 Zalesovo Array 33.89 29 eP P 04 16 11.7 +0.5
comp=Z,7.7nm,0.8s
ZALV Zalesovo Beam 33.89 29 eP P 04 16 10.8 -0.5
ZALV Zalesovo Beam 33.89 29 i P P 04 16 13.3 +2.1
ZALV pmax pmax
comp=Z,6.0nm,0.6s
ZALV Zalesovo Beam 33.89 29 P P 04 16 09.7 -1.5
comp=Z,6.4nm,0.6s,baz=235,slow=9.9,SNR=6.5
ZAA1 Zalesovo Array 33.90 29 eP P 04 16 09.7 -1.6
HERR Herculane 33.90 312⇓ iP P 04 16 10.7 -0.7
OHR Ohrid 33.91 305 i P P 04 16 10.8 -0.9
IGT Igoumenitsa 33.92 302 P P 04 16 11.3 -0.4
MDVR Moldovita 34.34 312⇑ iP P 04 16 14.9 -0.4
DRGR 34.43 315⇑ iP P 04 16 15.5 -0.7
DRGR 34.43 315 P P 04 16 16.0 -0.1
DRGR pmax pmax
comp=Z,19nm,1.1s
TIR Tirane 34.65 305⇑ iP P 04 16 17.0 -1.1
TIR Tirane 34.65 305 P P 04 16 16.9 -1.1
BZS Buzias 34.69 313⇑ iP P 04 16 17.9 -0.4
BZS Buzias 34.69 313 P P 04 16 17.6 -0.7
BZS pmax pmax
comp=Z,17nm,1.2s
SIRR Siria 34.90 314⇑ iP P 04 16 20.1 0.0
KOLS Kolonicke sedl 35.60 319 eP P 04 16 26.1 0.0
KOLS pmax pmax
comp=Z,16nm,0.9s
KOLS Kolonicke sedl 35.60 319 eP P 04 16 26.1 0.0
KWP Kalwaria Pacla 35.66 320 eP P 04 16 26.0 -0.6
KWP Kalwaria Pacla 35.66 320 eP P 04 16 26.0 -0.6
TIP Timpagrande 36.60 301 eP P 04 16 34.8 0.0
comp=Z,24nm,1.4s
TIP Timpagrande 36.60 301 iP P 04 16 34.3 -0.5
KLMR Klimovskoe 36.63 345 eP P 04 16 34.9 +0.2
KLMR pmax pmax
comp=Z,8.0nm,1.3s
PSZ Piszkesteto 36.64 316 eP P 04 16 34.7 -0.4
comp=Z,9.9nm,1.1s
PSZ Piszkesteto 36.64 316 eP P 04 16 34.7 -0.4
PSZ pmax pmax
comp=Z,10.0nm,1.1s
PSZ Piszkesteto 36.64 316 eP P 04 16 32.1 -3.0
IDID Didziasalis 36.72 330 eP P 04 16 35.0 -0.5
IDID IAmb IAmb 04 16 42.1
comp=Z,3.0nm,0.7s
MATE Matera 36.86 303⇑ iP P 04 16 35.6 -1.3
IIGN Ignalina 36.97 330 eP P 04 16 37.0 -0.7
IIGN IAmb IAmb 04 16 42.6
comp=Z,4.7nm,0.9s
GTA Gaotai 37.10 59 eP P 04 16 41.3 +2.1
GTA pP sP 04 16 47.2 +3.3
GTA sP pP 04 16 50.4 +7.8
GTA pmax pmax
comp=Z,4.0nm,1.2s
CSKK Cskako 37.47 314 eP P 04 16 42.1 0.0
VYHS Vyhne 37.51 316 eP P 04 16 41.7 -0.7
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 37.51 316 eP P 04 16 41.7 -0.7
SRO2 Moca 37.52 315 eP P 04 16 41.6 -0.9
SRO2 Moca 37.52 315 eP P 04 16 41.6 -0.9
SRO Srobarova 37.59 315 eP P 04 16 42.9 -0.2
SRO Srobarova 37.59 315 eP P 04 16 42.9 -0.2
OJC Ojcow 37.61 319 eP P 04 16 42.8 -0.4
OJC Ojcow 37.61 319 eP P 04 16 43.2 0.0
comp=Z,26nm,1.3s
OJC Ojcow 37.61 319 eP P 04 16 42.8 -0.4
SUW Suwalki 37.62 327 eP P 04 16 41.8 -1.4
SUW Suwalki 37.62 327 eP P 04 16 43.5 +0.3
comp=Z,34nm,1.1s
SUW Suwalki 37.62 327 eP P 04 16 41.8 -1.4
PABE Paberze 38.09 329 eP P 04 16 45.7 -1.4
PABE IAmb IAmb 04 16 51.4
comp=Z,12nm,0.9s
JAVC Velka Javorina 38.36 317 eP P 04 16 49.6 0.0
MODS Modra-Piesok 38.44 316 eP P 04 16 49.1 -1.1
MODS pmax pmax
comp=Z,11nm,1.2s
MODS Modra-Piesok 38.44 316 eP P 04 16 49.1 -1.1
ZST Bratislava 38.49 315 eP P 04 16 49.4 -1.2
ZST Bratislava 38.49 315 eP P 04 16 49.4 -1.2
SOP Sopron 38.67 314 P P 04 16 52.6 +0.5
SOP pmax pmax
comp=Z,27nm,0.9s
SOP Sopron 38.67 314 eP P 04 16 51.0 -1.1
VSU Vasula 38.77 334 eP P 04 16 52.1 -0.6
VSU IAmb IAmb 04 16 58.3
comp=Z,12nm,0.8s
MORC Moravsky Berou 38.77 318 eP P 04 16 52.5 -0.5
comp=Z,4.0nm,0.9s
MORC Moravsky Berou 38.77 318⇑ iP P 04 16 52.6 -0.5
MORC Moravsky Berou 38.77 318 eP P 04 16 52.5 -0.5
MORC pmax pmax
comp=Z,4.0nm,0.9s
MORC Moravsky Berou 38.77 318 eP P 04 16 52.6 -0.5
VRAC Vranov 39.18 317⇓ iP P 04 16 55.7 -0.8
VRAC Vranov 39.18 317 eP P 04 16 55.6 -0.9
VRAC Vranov 39.18 317 eP P 04 16 55.5 -0.9
CONA Conrad Observa 39.19 314 i pP P 04 16 55.7 -1.0
comp=Z,9.2nm,1.3s,SNR=7.9
ARSA Arzberg 39.20 313 epP P 04 16 56.2 -0.5
comp=Z,8.7nm,0.9s
KRUC Moravsky 39.22 316 eP P 04 16 55.8 -1.0
SOKA Soboth 39.37 312 epP P 04 16 57.5 -0.7
comp=Z,7.7nm,1.2s
KLNR Kaliningrad 39.41 326⇑ eP P 04 16 55.4 -2.9
KLNR pmax pmax
comp=Z,63nm,0.9s
AQU L'Aquila 39.58 305 eP P 04 17 00.4 +0.4
comp=Z,25nm,1.0s
AQU L'Aquila 39.58 305 eP P 04 17 00.4 +0.4
AQU pmax pmax
comp=Z,25nm,1.0s
OBKA Obir 39.65 312 epP P 04 17 00.1 -0.4
comp=Z,9.3nm,1.0s
DPC Dobruska-Polom 39.72 318 eP P 04 17 00.2 -0.7
DPC Dobruska-Polom 39.72 318 eP P 04 17 00.2 -0.7
DPC ex x 04 17 12.4
TREC Trest 39.86 316 eP P 04 17 01.9 -0.2
TREC Trest 39.86 316 eP P 04 17 01.9 -0.2
UPC Upice 39.96 318 eP P 04 17 02.4 -0.5
UPC Upice 39.96 318 eP P 04 17 02.4 -0.5
UPC ex x 04 17 14.4
LZH Lanzhou 40.06 65 eP P 04 17 10.2 +6.1
LZH pP sP 04 17 17.5 +8.7
LZH sP pP 04 17 22.1 +15
LZH pmax pmax
comp=Z,18nm,1.3s
MOA Molln 40.19 314 epP P 04 17 04.2 -0.8
comp=Z,14nm,0.8s,SNR=9.4
CD2 Chengdu 40.20 73 eP P 04 17 06.0 +0.7
CD2 pmax pmax
comp=Z,10.0nm,0.9s
KBA Koelnbreinsper 40.59 312 epP P 04 17 07.5 -0.9
comp=Z,10nm,0.8s,SNR=8.5
KBA Koelnbreinsper 40.59 312 P P 04 17 08.6 +0.2
KBA pmax pmax
comp=Z,15nm,0.9s
GEC2 GERESS Array S 40.84 315 eP P 04 17 09.8 -0.5
comp=Z,7.3nm,0.8s
GERES GERESS Array B 40.84 315 eP P 04 17 09.0 -1.4
GERES GERESS Array B 40.84 315 P P 04 17 09.4 -1.0
comp=Z,4.4nm,0.7s,baz=108,slow=8.6,SNR=43
KHC Kasperske Hory 41.00 316 eP P 04 17 10.3 -1.3
comp=Z,5.2nm,0.9s
KHC Kasperske Hory 41.00 316 eP P 04 17 10.5 -1.1
KHC Kasperske Hory 41.00 316 eP P 04 17 10.5 -1.1
KHC ex x 04 17 23.2
FIA0 FINESS Array S 41.05 337 eP P 04 17 09.6 -2.1
FIA0 FINESS Array S 41.05 337 eP P 04 17 09.6 -2.1
FIA1 FINESS Array S 41.05 337 eP P 04 17 10.5 -1.2
comp=Z,32nm,1.8s
FINES FINESS Array B 41.05 337 eP P 04 17 10.2 -1.5
FINES FINESS Array B 41.05 337 i P P 04 17 10.6 -1.1
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 41.05 337 P P 04 17 09.6 -2.1
comp=Z,4.0nm,0.6s,baz=132,slow=9.6,SNR=22
ABTA Abfaltersbach 41.06 312 epP P 04 17 11.6 -0.6
comp=Z,23nm,1.1s,SNR=7.8
BRG Berggiesshubel 41.32 318 eP P 04 17 16.2 +2.1
comp=Z,2.8nm,1.0s
BRG e 04 17 25.5
comp=Z,5.9nm,1.2s
BRG Berggiesshubel 41.32 318 eP P 04 17 16.2 +2.1
BRG e 04 17 25.5
BRG pmax pmax
comp=Z,3.0nm,1.0s
WET Wettzell 41.44 315 P P 04 17 15.5 +0.3
WET pmax pmax
comp=Z,7.0nm,1.3s
WTTA Wattenberg 41.77 312 epP P 04 17 16.9 -1.2
comp=Z,24nm,0.6s
WATA Walderalm 41.82 312 eP P 04 17 16.9 -1.6
comp=Z,17nm,0.8s,SNR=11
CLL Collm 42.02 318 eP P 04 17 19.9 +0.1
comp=Z,15nm,1.5s
CLL Collm 42.02 318 eP P 04 17 19.9 +0.1
CLL pmax pmax
comp=Z,15nm,1.5s
CLL Collm 42.02 318 eP P 04 17 20.0 +0.1
comp=Z,6.0nm,1.1s
CLL e(pP) pP 04 17 23.0 -0.2
comp=Z,9.0nm,1.3s
CLL e 04 17 32.0
CLL e 04 17 46.0
CLL ePP PP 04 18 59.0 +2.0
SQTA Sankt Quirin 42.04 312 epP P 04 17 19.0 -1.2
comp=Z,28nm,0.5s,SNR=16
MOTA Moosalm 42.14 312 eP P 04 17 19.1 -2.0
comp=Z,7.8nm,0.5s,SNR=20
KEST Kesra 42.30 295 eP P 04 17 23.4 +0.9
comp=Z,6.9nm,0.9s
KEST Kesra 42.30 295 P P 04 17 23.4 +0.9
comp=Z,3.5nm,0.8s,baz=300,slow=5.0,SNR=5.6
FETA Feichten 42.32 312 epP P 04 17 21.4 -1.1
comp=Z,20nm,0.7s,SNR=19
BSD Bornholm Skovb 42.37 324 i P P 04 17 20.3 -2.3
BSD Bornholm Skovb 42.37 324 i P P 04 17 20.3 -2.3
RETA Reutte 42.40 312 i pP P 04 17 21.8 -1.3
comp=Z,9.7nm,0.7s,SNR=5.7
FUORN Ofenpass-Fuorn 42.55 311 eP P 04 17 23.9 -0.7
comp=Z,12nm,0.8s
GRA1 Grafenberg Arr 42.63 316 eP P 04 17 25.1 +0.2
comp=Z,24nm,1.2s
GRF Grafenberg Arr 42.63 316 eP P 04 17 25.1 +0.2
GRF pmax pmax
comp=Z,24nm,1.2s
GRFO Grafenberg 42.63 316 eP P 04 17 24.1 -0.8
comp=Z,22nm,1.2s
GRFO Grafenberg 42.63 316 eP P 04 17 24.1 -0.8
GRFO pmax pmax
comp=Z,22nm,1.2s
DAVA Damuels 42.94 312 epP P 04 17 26.3 -1.3
comp=Z,45nm,0.6s,SNR=26
TUE Stuetta 43.14 311 eP P 04 17 28.4 -1.0
comp=Z,16nm,1.3s
SONA0 Songino Array 43.27 47 eP P 04 17 31.0 +0.8
SONM Songino Array 43.27 47 P P 04 17 31.0 +0.8
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 43.27 47 P P 04 17 31.0 +0.8
comp=Z,1.1nm,0.7s,baz=254,slow=8.5,SNR=6.9
ULN Ulaanbaatar 43.71 47⇑ eP P 04 17 34.0 +0.2
ULN pmax pmax
comp=Z,1.0nm,0.8s
APA Apatity 43.79 347⇑ iP P 04 17 34.0 0.0
APA pmax pmax
comp=Z,6.0nm,0.8s
XAN Xi'an 44.29 67 P P 04 17 40.1 +1.6
XAN pmax pmax
comp=Z,2.0nm,0.7s
XAN pmax pmax
comp=Z,210nm,6.2s
SENIN Lac Senin/Sane 44.52 310 eP P 04 17 39.5 -0.9
comp=Z,45nm,2.0s
MBDF Montbardon 44.68 308 eP P 04 17 41.3 -0.4
MBDF pmax pmax
comp=Z,8.0nm,0.8s
BNI Bardonecchia 44.78 308 eP P 04 17 41.0 -1.4
comp=Z,9.9nm,0.9s
BNI Bardonecchia 44.78 308 eP P 04 17 41.0 -1.4
BNI pmax pmax
comp=Z,10.0nm,0.9s
LPL La Plagne 44.80 309 eP P 04 17 40.6 -2.1
LPL pmax pmax
comp=Z,12nm,1.0s
CDF Champ du Feu 44.88 313 eP P 04 17 42.4 -0.7
CDF pmax pmax
comp=Z,8.0nm,0.9s
ECH Echery 44.92 313 eP P 04 17 42.4 -1.0
comp=Z,14nm,0.9s
ECH Echery 44.92 313 eP P 04 17 42.4 -1.0
ECH pmax pmax
comp=Z,14nm,0.9s
HINF Hinteralfeld 45.05 312 eP P 04 17 42.4 -2.0
HINF pmax pmax
comp=Z,5.0nm,0.8s
CABF La Chapelle 45.39 310 eP P 04 17 45.7 -1.5
CABF pmax pmax
comp=Z,43nm,1.4s
HAU Haudompre 45.42 312 eP P 04 17 45.9 -1.4

HAU pmax pmax
comp=Z,7.0nm,0.7s
WLF Walferdange 45.83 315 ⇑P P 04 17 50.1 -0.5
VIVF Saint-Julien-l 46.18 308 eP P 04 17 52.2 -1.2
VIVF pmax pmax
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 46.19 58 eP P 04 17 54.2 +0.6
HHC pP sP 04 18 02.2 +3.9
HHC S S 04 24 42.5 +2.5
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.0s
HHC LR LR
comp=Z,620nm,14.6s
HHC LR LR
comp=Z,800nm,15.3s
SSB Saint Sauveur 46.31 308 eP P 04 17 53.2 -1.2
comp=Z,9.9nm,1.0s
SSB Saint Sauveur 46.31 308 eP P 04 17 53.2 -1.2
SSB pmax pmax
comp=Z,10.0nm,1.0s
BCLA Clavier 46.51 315 ⇑P P 04 17 56.6 +0.7
NB2 NORSAR Subarra 46.70 331 P P 04 17 55.1 -2.1
comp=Z,14nm,1.7s,baz=117,slow=7.9
NB200 NORSAR Array S 46.70 331 eP P 04 17 54.5 -2.7
NOA NORSAR Array B 46.70 331 P P 04 17 54.5 -2.7
comp=Z,1.3nm,0.8s,baz=121,slow=7.7,SNR=8.3
GIVF Givet 46.76 315 eP P 04 17 58.3 +0.5
GIVF pmax pmax
comp=Z,18nm,1.0s
DOU Dourbes 46.90 315 ⇑P P 04 17 59.8 +0.9
comp=Z,8.0nm,1.1s
SMF Signal de Mont 46.93 310 eP P 04 17 57.5 -1.7
SMF pmax pmax
comp=Z,27nm,0.7s
LOR Lormes 46.98 311 eP P 04 17 57.7 -2.0
LOR pmax pmax
comp=Z,13nm,1.0s
ARA0 ARCESS Array S 47.11 345 eP P 04 17 59.1 -1.1
ARCES ARCESS Array B 47.11 345 P P 04 17 59.1 -1.1
comp=Z,2.7nm,0.8s,baz=132,slow=8.4,SNR=9.0
BAIF Baives 47.14 315 eP P 04 18 01.5 +0.7
BAIF pmax pmax
comp=Z,21nm,1.2s
SNF Seneffe 47.17 315 ⇑P P 04 18 01.7 +0.7
SSF Saint Saulge 47.20 311 eP P 04 17 59.7 -1.6
SSF pmax pmax
comp=Z,16nm,0.7s
AVF Avril sur Loir 47.28 310 eP P 04 18 00.0 -1.9
AVF pmax pmax
comp=Z,9.0nm,0.7s
TAM Tamanrasset 47.56 277 eP P 04 18 04.7 +0.1
comp=Z,5.8nm,1.0s
TAM Tamanrasset 47.56 277 eP P 04 18 04.7 +0.1
TAM pmax pmax
comp=Z,6.0nm,1.0s
BGF Bois d'Agland 47.60 310 eP P 04 18 02.9 -1.6
BGF pmax pmax
comp=Z,15nm,0.8s
MTLF Montolieu 47.86 306 eP P 04 18 05.9 -0.6
MTLF pmax pmax
comp=Z,12nm,1.1s
TCF Toulx Ste Croi 48.02 310 eP P 04 18 06.3 -1.4
TCF pmax pmax
comp=Z,14nm,1.0s
CAF Calviac 48.03 308 eP P 04 18 06.7 -1.2
CAF pmax pmax
comp=Z,15nm,1.0s
RJF Les Rejaudoux 48.44 308 eP P 04 18 10.0 -1.0
RJF pmax pmax
comp=Z,13nm,0.8s
LFF La Frestale 48.97 308 eP P 04 18 14.8 -0.3
LFF pmax pmax
comp=Z,9.0nm,0.7s
ETSF Etsaut 49.89 305 eP P 04 18 23.1 +0.9
ETSF pmax pmax
comp=Z,10.0nm,0.9s
BOD Bodaibo 50.04 35 eP P 04 18 22.3 -0.7
BOD pmax pmax
comp=Z,12nm,1.5s
SJPF Ste Jean 50.37 305 eP P 04 18 26.0 +0.2
SJPF pmax pmax
comp=Z,41nm,1.6s
SGMF Saint Gilles 51.38 312 eP P 04 18 32.7 -0.5
SGMF pmax pmax
comp=Z,45nm,1.5s
QUIF Quistinic 51.77 311 eP P 04 18 35.4 -0.8
QUIF pmax pmax
comp=Z,190nm,2.0s
ESDC Sonseca Array 52.62 301 P P 04 18 42.1 -0.6
comp=Z,1.1nm,0.5s,baz=74,slow=7.2,SNR=20
NJ2 Nanjing 52.81 69 eP P 04 18 46.8 +2.6
NJ2 pmax pmax
comp=Z,13nm,0.7s
TOA0 Torodi Ar. Sit 54.20 267 eP P 04 18 54.4 -0.2
comp=Z,42nm,1.9s
TOA1 Torodi Ar. Sit 54.20 267 eP P 04 18 52.4 -2.2
TORD Torodi Ar. Bea 54.20 267 eP P 04 18 52.7 -1.9
comp=Z,4.0nm,0.9s
TORD Torodi Ar. Bea 54.20 267 P P 04 18 52.4 -2.2
comp=Z,2.8nm,0.5s,baz=41,slow=6.4,SNR=44
KS15 Wonju Array Si 59.12 61 eP P 04 19 29.7 +0.4
comp=Z,94nm,2.0s
KSAR Wonju Array Be 59.12 61 P P 04 19 29.7 +0.4
KSAR Wonju Array Be 59.12 61 P P 04 19 29.7 +0.4
TIXI Tiksi 59.13 20⇑eP P 04 19 28.9 +0.1
TIXI pmax pmax
comp=Z,1.0nm,1.0s
KSRS Korea Array 59.15 61 P P 04 19 29.7 +0.3
comp=Z,0.9nm,0.7s,baz=274,slow=6.5,SNR=4.5
DAG Danmarks Havn 61.40 345 eP P 04 19 46.6 +2.4
DAG Danmarks Havn 61.40 345 i P P 04 19 46.6 +2.4
BOSA Boshof 63.12 212 P P 04 19 59.3 +2.8
comp=Z,2.7nm,1.1s,baz=27,slow=6.8,SNR=4.3
SUMG Summit 66.92 341 eP P 04 20 21.1 +0.1
comp=Z,18nm,1.4s
SUMG Summit 66.92 341 eP P 04 20 21.1 +0.1
SUMG pmax pmax
comp=Z,18nm,1.4s
SUMG Summit 66.92 341 i P P 04 20 20.9 -0.1
SEY Seymchan 68.76 29⇑eP P 04 20 32.7 +0.5
BILL Bilibino 72.27 22⇓iP P 04 20 53.4 -0.2
BILL i 04 21 11.3
BILL pmax pmax
comp=Z,1.0nm,0.8s
TOLK Toolik Lake Re 83.06 10 eP P 04 21 53.6 -0.2
comp=Z,22nm,1.8s
ILAR Eielson Array 87.05 10 P P 04 22 12.5 -1.4
comp=Z,0.3nm,0.7s,baz=327,slow=4.6,SNR=3.1
ILB Eielson Array 87.05 10 eP P 04 22 12.5 -1.4
comp=Z,4.1nm,1.4s
WRA Warramunga Arr 87.21 114 P P 04 22 17.9 +2.5
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 87.21 114 P P 04 22 17.9 +2.5
comp=Z,0.2nm,0.4s,baz=314,slow=3.9,SNR=5.2
WR1 Warramunga Arr 87.21 114 eP P 04 22 17.9 +2.4
ASAR Alice Springs 88.68 117 P P 04 22 24.2 +1.8
comp=Z,0.5nm,0.8s,baz=312,slow=5.1,SNR=4.9
AS31 Alice Springs 88.68 117 eP P 04 22 24.2 +1.8
comp=Z,2.1nm,1.3s
YKA Yellowknife Ar 91.18 357 P P 04 22 34.1 +0.7
comp=Z,0.4nm,0.7s,baz=0.5,slow=5.1,SNR=8.9
YKB5 Yellowknife Ar 91.18 357 eP P 04 22 34.1 +0.7

*ISCJB **11** 04:11:33.8±0.5, 26°.52N±0°.05×57°.57E±0°.08, h10km, mb4.0/19, Error ellipse: s-maj=10.8km s-min=7.3km az=161.1*
*IDC **11** 04:11:34.5±1.3, 26°.61N×57°.50E, h0km, mb3.8/14, mb1 3.9/15, mb1mx3.8/54, mbtmp3.9/15, ML4.2/1, Error ellipse: s-maj=26.4km s-min=18.1km az=157.0*
*NEIC **11** 04:11:35.8±0.6, 26°.57N×57°.50E, h10km, mb4.2/3, Error ellipse: s-maj=11.5km s-min=9.8km az=164.0*
ISC 11 04:11:35.4±0.7, 26°.52N±0°.08×57°.6E±0°.1, h10km, n38, σ0.996/39, mb4.1/24, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**3.41**	**163**	Pn		**Pn**	**04 12 29.1**	**+0.5**
	22nm,0.3s,baz=4.8,slow=12,SNR=4.3							
WSAR				Sn		**Sn**	**04 13 08.1**	**-1.1**
	32nm,0.3s,baz=72,slow=20,SNR=7.6							
MMAI	**Mount Meron Ar**	**20.29**	**294**	P		**P**	**04 16 10.8**	**-0.7**
	0.6nm,0.4s,baz=95,slow=12,SNR=1.7							
AAK	**Ala-Archa**	**21.21**	**36**	P		**P**	**04 16 21.8**	**+0.4**
	3.0nm,0.7s,baz=204,slow=10.0,SNR=2.2							
AKTO	**Aktyubinsk**	**23.88**	**1**	P		**P**	**04 16 47.6**	**-1.4**
	2.6nm,0.6s,baz=194,slow=12,SNR=2.8							
BRTR	**Keskin Array B**	**23.90**	**309**	eP		**P**	**04 16 49.2**	**-0.3**
BRTR	**Keskin Array B**	**23.90**	**309**	P		**P**	**04 16 49.5**	**0.0**
	3.6nm,0.7s,baz=133,slow=8.6,SNR=4.5							
BR101	**Keskin Array S**	**23.90**	**309**	eP		**P**	**04 16 49.5**	**0.0**
BR131	**Keskin Array S**	**23.90**	**309**	eP		**P**	**04 16 48.7**	**-0.7**
	5.7nm,0.8s							
MK32	**Makanchi Array**	**28.13**	**38**	eP		**P**	**04 17 29.7**	**+2.2**
MKAR	**Makanchi Array**	**28.13**	**38**	P		**P**	**04 17 29.7**	**+2.2**
	0.2nm,0.4s,baz=233,slow=9.2,SNR=2.3							
BVAR	**Borovoye Array**	**28.15**	**16**	P		**P**	**04 17 28.7**	**+1.1**
	0.6nm,0.4s,baz=185,slow=9.6,SNR=3.1							
KURBB	**Kurchatov Arra**	**28.91**	**28**	P		**P**	**04 17 34.6**	**+0.1**
	0.7nm,0.6s,baz=230,slow=7.9,SNR=3.0							
AKASG	**Malin Array Be**	**32.42**	**326**	eP		**P**	**04 18 06.2**	**+0.9**
AKASG	**Malin Array Be**	**32.42**	**326**	P		**P**	**04 18 05.1**	**-0.2**
	1.5nm,0.6s,baz=133,slow=8.3,SNR=3.9							
AKBB	**Malin Array Si**	**32.42**	**326**	eP		**P**	**04 18 05.1**	**-0.2**
	3.3nm,0.7s							
ZALV	**Zalesovo Beam**	**33.99**	**29**	P		**P**	**04 18 18.4**	**-0.7**
	1.2nm,0.3s,baz=239,slow=8.5,SNR=2.9							
ZAA1	**Zalesovo Array**	**34.00**	**29**	eP		**P**	**04 18 18.4**	**-0.7**
KOLS	**Kolonicke sedl**	**35.31**	**319**	ePP		**P**	**04 18 32.4**	**+1.8**
MOA	**Molln**	**39.88**	**314**	ePP		**P**	**04 19 10.1**	**+0.8**
	4.1nm,0.7s							
KBA	**Konbreinsper**	**40.27**	**312**	*i* pP		**P**	**04 19 13.6**	**+0.8**
	3.7nm,0.8s							
GEC2	**GERESS Array S**	**40.53**	**315**	eP		**P**	**04 19 15.1**	**+0.4**
	18nm,1.9s							
GERES	**GERESS Array B**	**40.53**	**315**	eP		**P**	**04 19 14.4**	**-0.4**
GERES	**GERESS Array B**	**40.53**	**315**	P		**P**	**04 19 15.1**	**+0.4**
	1.5nm,0.7s,baz=111,slow=7.3,SNR=6.3							
KHC	**Kasperske Hory**	**40.69**	**316**	eP		**P**	**04 19 16.5**	**+0.4**
	1.7nm,0.9s							
ABTA	**Abfaltersbach**	**40.74**	**312**	ePP		**P**	**04 19 17.3**	**+0.7**
	5.3nm,0.8s							
FIA0	**FINESS Array S**	**40.84**	**337**	eP		**P**	**04 19 15.6**	**-1.3**
FINES	**FINESS Array B**	**40.84**	**337**	P		**P**	**04 19 15.6**	**-1.3**
	1.2nm,0.6s,baz=126,slow=9.3,SNR=3.8							
WTTA	**Wattenberg**	**41.45**	**312**	*i* pP		**P**	**04 19 22.9**	**+0.5**
	6.3nm,0.5s							
WATA	**Walderalm**	**41.50**	**312**	eP		**P**	**04 19 23.2**	**+0.3**
	3.5nm,0.5s							
SQTA	**Sankt Quirin**	**41.72**	**312**	eP		**P**	**04 19 24.8**	**+0.2**
	10nm,0.5s							
MOTA	**Moosalm**	**41.82**	**312**	*i* P		**P**	**04 19 25.7**	**+0.3**
	5.6nm,0.6s							
FETA	**Feichten**	**42.00**	**312**	*i* pP		**P**	**04 19 27.4**	**+0.5**
	7.5nm,0.6s							
DAVA	**Damuels**	**42.62**	**312**	*i* P		**P**	**04 19 32.2**	**+0.2**
	13nm,0.5s							
NB200	**NORSAR Array S**	**46.45**	**331**	eP		**P**	**04 20 00.7**	**-1.6**
NOA	**NORSAR Array B**	**46.45**	**331**	P		**P**	**04 20 00.7**	**-1.6**
	0.4nm,0.6s,baz=119,slow=7.6,SNR=2.5							
ESDC	**Sonseca Array**	**52.27**	**301**	P		**P**	**04 20 47.9**	**+0.8**
	0.3nm,0.5s,baz=71,slow=7.9,SNR=4.1							
TOA1	**Torodi Ar. Sit**	**53.85**	**267**	eP		**P**	**04 20 59.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**53.85**	**267**	P		**P**	**04 20 59.3**	**+0.4**
	1.3nm,0.7s,baz=61,slow=7.3,SNR=5.3							

IDC 11 04:16:52.5±1.5, 2°.14N×126°.74E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/36, mbtmp3.9/6, Error ellipse: s-maj=119.0km s-min=17.7km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.14**	**183**	P		Pn	04 21 30.3	+0.2
	0.7nm,0.6s,baz=15,slow=12,SNR=3.5							
WRA	**Warramunga Arr**	**23.18**	**162**	P		P	04 22 01.1	+0.2
	1.3nm,0.5s,baz=338,slow=11,SNR=25							
ASAR	**Alice Springs**	**26.58**	**165**	P		P	04 22 31.5	-1.0
	0.3nm,0.3s,baz=343,slow=11,SNR=9.2							
MKAR	**Makanchi Array**	**58.86**	**326**	P		P	04 26 53.8	+0.6
	2.4nm,0.5s,baz=122,slow=8.4,SNR=21							
KURBB	**Kurchatov Arra**	**63.08**	**328**	P		P	04 27 21.4	-0.3
	2.3nm,0.4s,baz=129,slow=6.1,SNR=29							
BVAR	**Borovoye Array**	**68.65**	**327**	P		P	04 27 57.1	-0.5
	0.4nm,0.4s,baz=162,slow=10,SNR=3.5							

*IDC **11** 04:37:41.8±0.6, 18°.73S×173°.50W, h0km, mb4.4/15, mb1 4.6/15, mb1mx4.5/25, mbtmp4.4/15, MS4.4/11, Ms1 4.4/11, ms1mx4.1/34, Error ellipse: s-maj=27.3km s-min=15.6km az=137.0*
*ISCJB **11** 04:37:42.0±0.2, 18°.70S±0°.05×173°.51W±0°.06, h10km, mb4.7/76, MS4.5/9, Error ellipse: s-maj=10.0km s-min=5.5km az=39.1*
*NEIC **11** 04:37:43.5±0.2, 18°.64S×173°.52W, h10km, mb4.9/65, Error ellipse: s-maj=8.5km s-min=4.4km az=132.0*
ISC 11 04:37:43.1±0.4, 18°.76S±0°.09×173°.4W±0°.1, h10km, n190, σ1.524/187, mb4.8/76, MS4.5/9, 20C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.04**	**103**	ePn		Pn	04 40 40.3	-8.2
RAR	**Rarotonga**	**13.04**	**103**	Pn		Pn	04 40 40.0	-8.5
	16nm,0.3s,baz=244,slow=4.0,SNR=35							
RAR				Sn		Sn	04 42 51.5	-22
	0.9nm,0.3s,baz=79,slow=18,SNR=2.1							
RAR				LR		LR	04 45 19.6	
	comp=Z,622nm,18.6s,baz=254,slow=35							
DZM	**Mont Dzumac**	**19.18**	**257**	eP		**Pn**	**04 42 07.2**	**-0.9**
	29nm,0.8s							
DZM	**Mont Dzumac**	**19.18**	**257**	P		**Pn**	**04 42 09.4**	**+1.3**
	0.8nm,0.3s,baz=83,slow=17,SNR=10							
DZM				LR		LR	04 48 45.7	
	comp=Z,2μm,18.3s,baz=94,slow=35							
URZ	**Urewera**	**21.12**	**201**	eP		**P**	**04 42 29.2**	**+1.2**
	30nm,0.8s							
URZ	**Urewera**	**21.12**	**201**	P		**P**	**04 42 28.0**	**0.0**
	18nm,0.5s,baz=12,slow=1.6,SNR=30							
BKZ	**Black Stump Fm**	**22.14**	**201**	eP		**P**	**04 42 39.8**	**+0.7**
	26nm,0.7s							
HIZ	**Hauiti**	**22.18**	**205**	eP		**P**	**04 42 41.5**	**+2.1**
	95nm,1.0s							
THZ	**Tophouse**	**25.73**	**204**	eP		**P**	**04 43 15.4**	**+1.6**
	386nm,2.0s							
LTZ	**Lake Taylor**	**26.84**	**204**	eP		**P**	**04 43 26.1**	**+2.2**
	148nm,1.7s							
OXZ	**Oxford**	**27.40**	**204**	eP		**P**	**04 43 30.3**	**+1.5**
	131nm,1.5s							
HNR	**Honiara**	**27.43**	**286**	LR		LR	04 52 53.2	
	comp=Z,1μm,18.1s,baz=70,slow=33							
RPZ	**Rata Peaks**	**28.11**	**204**	P		**P**	**04 43 39.9**	**+4.7**
	19nm,0.6s,baz=269,slow=0.6,SNR=14							
RPZ				LR		LR	04 54 54.7	
	comp=Z,230nm,19.0s,baz=36,slow=37							
FOZ	**Fox Glacier**	**28.46**	**206**	eP		**P**	**04 43 40.4**	**+2.1**
	98nm,1.1s							
CTA	**Charters Tower**	**38.01**	**261**	P		**P**	**04 44 59.7**	**-2.1**
	14nm,0.8s,baz=85,slow=11,SNR=8.8							
CTAO	**Charters Tower**	**38.01**	**261**	eP		**P**	**04 45 00.8**	**-1.0**
	16nm,0.7s							
STKA	**Stephens Creek**	**42.44**	**243**	eP		**P**	**04 45 37.3**	**-1.1**
	4.9nm,1.5s							
STKA	**Stephens Creek**	**42.44**	**243**	P		**P**	**04 45 36.9**	**-1.5**
	2.9nm,0.5s,baz=91,slow=12,SNR=8.3							
STKA				LR		LR	05 02 00.8	
	comp=Z,819nm,18.2s,baz=123,slow=34							
AS31	**Alice Springs**	**49.15**	**255**	eP		**P**	**04 46 30.2**	**-1.4**
	6.4nm,0.8s							
AS31				ePcP		**PcP**	**04 47 55.7**	**+0.7**
WB2	**Warramunga Arr**	**49.15**	**260**	eP		**P**	**04 46 30.5**	**-1.1**
	13nm,0.8s							
ASAR	**Alice Springs**	**49.15**	**255**	P		**P**	**04 46 30.2**	**-1.3**
	27nm,0.8s,baz=95,slow=7.9,SNR=239							
ASAR				PcP		**PcP**	**04 47 55.7**	**+0.7**
	2.2nm,0.6s,baz=95,slow=4.3,SNR=4.3							
ASAR				LR		LR	05 06 45.0	
	comp=Z,527nm,18.6s,baz=138,slow=36							
WRAB	**Tennant Creek**	**49.15**	**260**	eP		**P**	**04 46 30.4**	**-1.2**
	12nm,0.7s							
WR1	**Warramunga Arr**	**49.16**	**260**	eP		**P**	**04 46 29.9**	**-1.8**
WR1				ePcP		**PcP**	**04 47 55.5**	**+0.4**
WRA	**Warramunga Arr**	**49.16**	**260**	P		**P**	**04 46 29.9**	**-1.8**
	5.6nm,0.4s,baz=97,slow=5.9,SNR=118							
WRA				PcP		**PcP**	**04 47 55.5**	**+0.4**
	1.4nm,0.6s,baz=99,slow=3.0,SNR=2.3							
WRA				LR		LR	05 06 27.4	
	comp=Z,922nm,19.1s,baz=90,slow=35							
SBA	**Scott Base**	**59.92**	**185**	eP		**P**	**04 47 51.3**	**+2.4**
	43nm,2.0s							
VNDA	**Vanda**	**60.05**	**186**	P		**P**	**04 47 51.2**	**+1.4**
	1.5nm,0.8s,baz=351,slow=8.1,SNR=5.6							
QSPA	**South Pole Qui**	**71.30**	**180**	eP		**P**	**04 49 02.3**	**-0.5**
	28nm,1.7s							
MJAR	**Matsushiro Arr**	**71.51**	**321**	P		**P**	**04 49 04.4**	**0.0**
	1.5nm,0.6s,baz=146,slow=5.5,SNR=5.0							
MAJO	**Matsushiro**	**71.51**	**321**	eP		**P**	**04 49 04.4**	**0.0**
KKM	**Kota Kinabalu**	**73.57**	**282**	eP		**P**	**04 49 18.3**	**+1.1**
	8.1nm,0.8s							
PETK	**Petropavlovsk-**	**75.82**	**343**	P		**P**	**04 49 28.9**	**-0.3**
	2.5nm,0.7s,baz=117,slow=8.7,SNR=3.5							
PEA1	**Petropavlovsk-**	**75.82**	**343**	eP		**P**	**04 49 28.9**	**-0.4**
YBH	**Yreka Blue Hor**	**76.27**	**37**	eP		**P**	**04 49 32.3**	**+0.1**
	4.3nm,1.0s							
RYN	**Ryan**	**76.81**	**41**	eP		**P**	**04 49 35.2**	**-0.2**
	4.6nm,1.1s							
NV01	**Mina Array Sit**	**76.82**	**41**	eP		**P**	**04 49 35.4**	**-0.2**
NVAR	**Mina Array Bea**	**76.82**	**41**	eP		**P**	**04 49 34.5**	**-1.1**
NVAR	**Mina Array Bea**	**76.82**	**41**	P		**P**	**04 49 35.4**	**-0.2**
	2.2nm,0.9s,baz=229,slow=9.9,SNR=12							
NVAR				LR		LR	05 16 14.4	
	comp=Z,168nm,19.9s,baz=188,slow=30							
NV11	**Mina Array Sit**	**76.92**	**41**	eP		**P**	**04 49 35.9**	**-0.1**
	0.4nm,1.2s							
KSM	**Kuching**	**77.51**	**276**	eP		**P**	**04 49 40.9**	**+1.2**
	25nm,0.9s							
MOD	**Modoc Plateau**	**77.76**	**38**	eP		**P**	**04 49 40.8**	**+0.2**
	20nm,1.9s							
Y14A	**Wickenburg**	**77.79**	**48**	eP		**P**	**04 49 40.9**	**0.0**
	3.4nm,1.1s							
K05A	**Summer Lake**	**77.94**	**37**	eP		**P**	**04 49 42.3**	**+0.6**
	11nm,1.3s							
KSRS	**Korea Array**	**78.56**	**316**	P		**P**	**04 49 46.1**	**+1.2**
	1.4nm,0.7s,baz=131,slow=6.3,SNR=5.7							
KS15	**Wonju Array Si**	**78.58**	**316**	eP		**P**	**04 49 46.1**	**+1.1**
	71nm,1.8s							
KSAR	**Wonju Array Be**	**78.58**	**316**	P		**P**	**04 49 46.1**	**+1.1**
KSAR				ePP		**PcP**	**04 49 55.6**	**+1.6**
PINE	**Pine Mountain**	**78.60**	**36**	eP		**P**	**04 49 45.9**	**+0.6**
	11nm,1.3s							
X16A	**Lo Mia Camp, P**	**79.14**	**48**	eP		**P**	**04 49 49.0**	**+0.5**
	4.1nm,1.0s							
X16A				ePP		**PcP**	**04 49 58.8**	**+1.9**
319A	**Douglas**	**79.15**	**52**	eP		**P**	**04 49 49.3**	**+0.7**
	4.1nm,0.8s							
CCUT	**Cedar City**	**79.51**	**44**	eP		**P**	**04 49 51.4**	**+0.9**
	3.1nm,1.1s							
I07A	**Izee**	**79.58**	**36**	eP		**P**	**04 49 51.0**	**+0.4**
	17nm,2.0s							
U15A	**North Rim**	**79.62**	**46**	eP		**P**	**04 49 52.0**	**+0.8**
	8.0nm,1.4s							
F10A	**Beach Ranch, E**	**82.02**	**36**	eP		**P**	**04 50 03.4**	**-0.2**
	9.5nm,1.4s							
HLID	**Hailey**	**82.22**	**39**	eP		**P**	**04 50 05.3**	**+0.6**
	5.9nm,1.4s							
MNTX	**Cornudas Mount**	**82.23**	**53**	eP		**P**	**04 50 05.5**	**+0.6**
	4.6nm,1.2s							
LTX	**Lajitas**	**82.48**	**56**	eP		**P**	**04 50 06.6**	**+0.2**
TX31	**Lajitas Ar. Si**	**82.48**	**56**	eP		**P**	**04 50 07.2**	**+0.8**
	14nm,1.5s							
TXAR	**Lajitas Array**	**82.48**	**56**	eP		**P**	**04 50 06.8**	**+0.4**
TXAR	**Lajitas Array**	**82.48**	**56**	P		**P**	**04 50 06.6**	**+0.2**
	1.2nm,0.8s,baz=214,slow=6.4,SNR=6.5							
TXAR				LR		LR	05 18 31.4	
	comp=Z,107nm,21.5s,baz=0.0,slow=30							
GHO	**Glory Hole Cre**	**82.60**	**11**	eP		**P**	**04 50 06.2**	**0.0**
	13nm,1.1s							
ANMO	**Albuquerque**	**82.96**	**50**	eP		**P**	**04 50 10.1**	**+1.2**
	3.9nm,1.1s							
PV12	**Saucer Basin,**	**82.97**	**46**	eP		**P**	**04 50 08.8**	**-0.1**
	5.8nm,1.0s							
PV01	**Paradox Valley**	**83.04**	**46**	eP		**P**	**04 50 09.7**	**+0.5**
	3.9nm,0.9s							
BALM	**Baldy**	**83.35**	**15**	eP		**P**	**04 50 10.3**	**+0.2**
	8.2nm,1.2s							
CAST	**Castle Rocks**	**83.59**	**9**	eP		**P**	**04 50 10.1**	**-1.2**
	3.7nm,1.0s							
SKAG	**Skagway**	**83.91**	**18**	eP		**P**	**04 50 12.7**	**-0.1**
S22A	**4UR Ranch, Cre**	**84.04**	**47**	eP		**P**	**04 50 14.8**	**+0.3**
	18nm,1.8s							
RND	**Reindeer**	**84.12**	**11**	eP		**P**	**04 50 14.6**	**+0.6**
	28nm,1.4s							
MCK	**McKinley**	**84.41**	**11**	eP		**P**	**04 50 15.5**	**+0.1**
	18nm,1.0s							
SMCO	**Snowmass**	**84.64**	**46**	eP		**P**	**04 50 17.5**	**-0.1**
	7.7nm,1.3s							
BW06	**Boulder Array**	**84.76**	**42**	eP		**P**	**04 50 17.5**	**-0.4**
	2.1nm,0.9s							
PD31	**Pinedale Array**	**84.76**	**42**	eP		**P**	**04 50 17.6**	**-0.4**
	2.1nm,1.0s							
PDAR	**Pinedale Array**	**84.76**	**42**	eP		**P**	**04 50 17.1**	**-0.9**
PDAR	**Pinedale Array**	**84.76**	**42**	P		**P**	**04 50 17.0**	**-1.0**
	1.4nm,0.8s,baz=206,slow=3.3,SNR=10.0							
BOZ	**Bozeman (W)**	**85.01**	**38**	eP		**P**	**04 50 19.0**	**0.0**
	3.3nm,1.1s							
RIDG	**Independent Ri**	**85.19**	**12**	eP		**P**	**04 50 19.9**	**+0.6**
	11nm,1.2s							
MSTX	**Muleshoe**	**85.21**	**52**	eP		**P**	**04 50 20.7**	**+0.4**
	30nm,1.8s							
WRH	**Wood River Hil**	**85.24**	**11**	eP		**P**	**04 50 19.6**	**+0.1**
	32nm,1.2s							
BCAR	**Beaver Creek A**	**85.25**	**14**	eP		**P**	**04 50 19.4**	**-0.2**
DOT	**Dot Lake**	**85.27**	**13**	eP		**P**	**04 50 20.1**	**+0.4**
MLY	**Manley**	**85.32**	**9**	eP		**P**	**04 50 19.6**	**-0.3**
	6.1nm,1.0s							
HDA	**Harding Lake**	**85.39**	**11**	eP		**P**	**04 50 20.4**	**+0.1**
	9.9nm,0.9s							
CCB	**Clear Creek Bu**	**85.45**	**11**	eP		**P**	**04 50 20.2**	**-0.4**
	17nm,1.2s							
SCRK	**Sand Creek**	**85.57**	**13**	eP		**P**	**04 50 21.8**	**+0.4**
	6.2nm,1.0s							
COLA	**College**	**85.65**	**11**	eP		**P**	**04 50 21.4**	**-0.1**
	19nm,0.8s							
MDM	**Murphy Dome**	**85.66**	**10**	eP		**P**	**04 50 21.6**	**0.0**
	19nm,1.1s							
ILAR	**Eielson Array**	**85.73**	**11**	eP		**P**	**04 50 21.1**	**-0.9**
ILAR	**Eielson Array**	**85.73**	**11**	P		**P**	**04 50 21.4**	**-0.6**
	1.7nm,0.7s,baz=221,slow=5.6,SNR=18							
ILB	**Eielson Array**	**85.73**	**11**	eP		**P**	**04 50 21.6**	**-0.4**
	5.0nm,0.9s							
IMAR	**Indian Mountai**	**85.78**	**8**	eP		**P**	**04 50 22.4**	**+0.2**
AMTX	**Amarillo**	**86.42**	**51**	eP		**P**	**04 50 26.6**	**+0.4**
	6.9nm,0.9s							
PRP	**Porcupine Dome**	**86.65**	**11**	eP		**P**	**04 50 26.6**	**-0.1**
	8.3nm,1.1s							
DAWY	**Dawson**	**86.66**	**14**	eP		**P**	**04 50 27.0**	**+0.3**
	14nm

KURBB	Kurchatov Arra	115.70	318	PKP	PKiKP	04 56 24.1	-1.6
	0.7nm,0.8s,baz=100,slow=1.9,SNR=4.0						
KSH	Kashi	117.44	305	PKP	PKPdf	04 56 28.5	-1.0
KSH				sPKP		04 56 42.7	
KSH				PP	PP	04 57 44.4	+3.0
KSH				SKS	SKSdf	05 03 34.1	-7.9
KSH	Kashi	117.44	305	SS	SS	05 13 49.6	-3.1
BVAR	Borovoye Array	120.51	321	PKP	PKiKP	04 56 35.1	+0.2
	1.4nm,0.7s,baz=95,slow=3.3,SNR=7.4						
ARA0	ARCESS Array S	127.92	352	ePKPdf	PKPdf	04 56 48.7	+0.1
ARCES	ARCESS Array B	127.92	352	PKP	PKPdf	04 56 48.7	+0.1
	0.9nm,0.8s,baz=28,slow=2.1,SNR=3.3						
AKASG	Malin Array Be	143.41	336	PKP	PKPbc	04 57 15.5	+0.6
	1.3nm,0.6s,baz=38,slow=4.0,SNR=12						
AKBB	Malin Array Si	143.41	336	ePKPpre	PKPbc	04 57 15.5	+0.6
KWP	Kalwaria Pacla	146.60	341	ePKP	PKiKP	04 57 26.8	-0.9
KWP	Kalwaria Pacla	146.60	341	ePKPdf	PKPab	04 57 26.0	0.0
OJC	Ojcow	146.89	344	ePKP	PKPab	04 57 26.4	-0.6
OJC	Ojcow	146.89	344	ePKPbc	PKPbc	04 57 26.1	+0.4
KSP	Ksiaz	147.08	349	ePKP	PKPab	04 57 27.6	-0.1
CLL	Collm	147.13	353	⇑iPKPbc	PKPab	04 57 27.3	-0.6
	comp=Z,17nm,0.9s						
CLL				iPKiKP	pPKPab	04 57 30.2	+0.5
CLL				i		04 57 36.7	
CLL				i		04 57 41.9	
	comp=Z,41nm,1.3s						
KOLS	Kolonicke sedl	147.35	341	ePKP	PKiKP	04 57 30.9	+1.6
BUR08	Bucovina Ar. S	147.44	336	ePKPbc	PKPab	04 57 28.9	-0.5
UPC	Upice	147.45	349	ePKP	PKPab	04 57 28.5	-0.7
UPC				ex	x	04 57 41.2	
BURAR	Bucovina Array	147.46	336	⇑iP	PKPab	04 57 28.8	-0.7
NIE	Niedzica	147.49	343	ePKP	PKiKP	04 57 29.6	-0.1
DPC	Dobruska-Polom	147.54	348	ePKP	PKPab	04 57 29.1	-0.5
DPC				ex	x	04 57 38.7	
BIZ	Bicaz	147.66	335	⇓iP	PKPab	04 57 29.8	-0.4
PVCC	Panska Ves	147.68	350	ePKP	PKPab	04 57 29.0	-1.1
TLCR		147.82	330	⇑iP	PKPbc	04 57 28.9	+0.5
MORC	Moravsky Berou	147.84	347	ePKPbc	PKPbc	04 57 29.4	+1.0
MORC	Moravsky Berou	147.84	347	⇑iP	PKiKP	04 57 29.8	-0.6
MORC	Moravsky Berou	147.84	347	ePKP	PKiKP	04 57 29.8	-0.6
TRPA	Tarpa	147.97	340	⇓iP	PKiKP	04 57 30.1	-0.5
CFR	Carcaliu	148.15	331	⇑iP	PKPbc	04 57 30.2	+0.9
PRU	Pruhonice	148.21	350	ePKP	PKiKP	04 57 30.5	-0.5
PRU				ex	x	04 57 42.7	
MEM	Membach	148.22	1	⇑pPKP	PKPab	04 57 42.5	+10
GOPC	GO Pecny, Ondr	148.24	350	ePKP	PKiKP	04 57 30.4	-0.8
VRI	Vrincioaia	148.25	333	⇑iP	PKPbc	04 57 28.4	-1.2
NKC	Novy Kostel	148.26	353	ePKP	PKiKP	04 57 30.6	-0.6
NKC				ex	x	04 57 45.7	
BCLA	Clavier	148.40	2	⇑pPKP	PKPab	04 57 48.7	+16
VRAC	Vranov	148.48	347	ePKP	PKiKP	04 57 31.4	-0.3
TLB	Topalu	148.64	330	⇑iP	PKiKP	04 57 31.6	-0.5
JAVC	Velka Javorina	148.67	346	ePKP	PKiKP	04 57 33.0	+0.9
BR101	Keskin Array S	148.70	318	ePKPbc	PKiKP	04 57 32.2	-0.4
BRTR	Keskin Array B	148.70	318	PKPbc	PKiKP	04 57 32.2	-0.4
	comp=Z,4.3nm,0.8s,baz=123,slow=2.7,SNR=15						
DOU	Dourbes	148.70	2	⇑pPKP	PKPab	04 57 46.2	+12
TREC	Trest	148.71	349	ePKP	PKPbc	04 57 31.5	+0.8
TREC				ex	x	04 57 41.7	
VYHS	Vyhne	148.73	344	ePKP	PKiKP	04 57 32.1	-0.1
KRUC	Moravsky	148.76	348	ePKP	PKiKP	04 57 31.9	-0.3
MLR	Muntele Rosu	148.89	333	⇑iP	PKiKP	04 57 32.7	-0.1
PSZ	Piszkesteto	148.97	343	ePKPbc	PKPbc	04 57 31.9	+0.4
PSZ	Piszkesteto	148.97	343	⇓iP	PKiKP	04 57 32.5	-0.3
DRGR		149.07	338	⇑iP	PKiKP	04 57 32.9	-0.1
WLF	Walferdange	149.17	1	⇑pPKP	PKPab	04 57 48.6	+13
KHC	Kasperske Hory	149.19	351	ePKPbc	PKiKP	04 57 32.9	-0.3
KHC	Kasperske Hory	149.19	351	ePKP	PKiKP	04 57 33.2	0.0
KHC				ex	x	04 57 47.2	
MODS	Modra-Piesok	149.22	346	ePKP	PKPbc	04 57 32.7	+0.7
VOIR		149.31	334	⇑iP	PKPbc	04 57 32.2	-0.2
GEC2	GERESS Array S	149.45	351	ePKPbc	PKiKP	04 57 33.6	-0.2
GERES	GERESS Array B	149.45	351	PKPbc	PKiKP	04 57 33.8	0.0
	comp=Z,2.8nm,0.8s,baz=29,slow=3.0,SNR=17						
ARR	Arges	149.53	335	⇑iP	PKiKP	04 57 35.1	+1.1
SIRR	Siria	149.89	339	⇑iP	PKiKP	04 57 35.0	+0.3
CONA	Conrad Observa	149.95	348	ePKiKP	PKiKP	04 57 35.4	+0.5
	comp=Z,11nm,1.4s						
MOA	Molln	150.32	350	ePKiKP	PKiKP	04 57 35.7	+0.2
	comp=Z,3.0nm,0.9s						
MMAI	Mount Meron Ar	150.58	305	PKPbc	PKiKP	04 57 37.2	+0.6
	comp=Z,6.5nm,0.7s,baz=78,slow=4.4,SNR=7.3						
ARSA	Arzberg	150.66	348	ePKiKP	PKPbc	04 57 35.6	+0.1
	comp=Z,3.2nm,0.9s						
HERR	Herculane	150.81	337	⇑iP	PKiKP	04 57 37.0	+0.4
RETA	Reutte	151.15	354	ePKiKP	PKiKP	04 57 37.6	+0.2
	comp=Z,3.6nm,0.8s						
MDVR	Moldovita	151.15	337	⇑iP	PKPdf	04 57 24.7	-6.3
KBA	Koelnbreinsper	151.22	350	ePKiKP	PKiKP	04 57 38.1	+0.5
	comp=Z,3.9nm,0.8s						
MOTA	Moosalm	151.26	354	ePKiKP	PKiKP	04 57 37.7	+0.1
	comp=Z,5.4nm,0.9s						
WTTA	Wattenberg	151.28	353	iPKiKP	PKPbc	04 57 37.4	+0.2
	comp=Z,8.2nm,0.6s						
SOKA	Soboth	151.31	348	iPKiKP	PKiKP	04 57 37.6	-0.1
	comp=Z,5.7nm,1.0s						
SQTA	Sankt Quirin	151.37	353	ePKiKP	PKiKP	04 57 38.4	+0.5
	comp=Z,5.0nm,0.7s						
DAVA	Damuels	151.43	355	ePKiKP	PKiKP	04 57 38.4	+0.4
	comp=Z,4.5nm,0.8s						
MYKA	Terra Mystica	151.61	350	ePKPbc	PKPbc	04 57 37.4	-0.4
	comp=Z,3.8nm,0.7s						
FETA	Feichten	151.61	354	iPKiKP	PKiKP	04 57 38.8	+0.4
	comp=Z,5.2nm,0.9s						
ABTA	Abfaltersbach	151.67	351	iPKiKP	PKiKP	04 57 38.4	-0.1
	comp=Z,14nm,1.2s						
FUORN	Ofenpass-Fuorn	152.06	355	ePKPbc	PKiKP	04 57 40.0	+0.5
VTS	Vitosha	152.36	333	⇑iP	PKiKP	04 57 41.2	+1.1

IDC ***11*** *04:42:35.7±0.6, 32°.74N×12°.31E, h0km, mb4.2/22, mb1 4.3/31, mb1mx4.2/49, mbtmp4.2/31, ML4.0/8, MS3.6/2, Ms1 3.6/2, ms1mx3.0/67, Error ellipse: s-maj=14.9km s-min=13.1km az=149.0*

ISCJB ***11*** *04:42:36.4±0.2, 32°.75N±0°.03×12°.45E±0°.03, h10km, mb4.6/95, MS4.8/2, Error ellipse: s-maj=4.4km s-min=3.3km az=145.1*

NEIC ***11*** *04:42:37.8±0.2, 32°.77N×12°.35E, h10km, mb4.7/63, Error ellipse: s-maj=4.4km s-min=3.0km az=151.0*

NEIC Felt at Az Zawiyah, Sabratah and Tripoli.

MOS ***11*** *04:42:37.1±1.3, 32°.76N×12°.39E, h16km, mb4.7/43, Error ellipse: s-maj=9.4km s-min=3.6km az=69.5*

BJI ***11*** *04:42:38.1±0.0, 32°.87N×12°.87E, h7km, mb4.9/17, mB5.1/11, Ms4.7/4, Ms7 4.6/4*

CRAAG ***11*** *04:42:39.0, 32°.80N×12°.33E, Mb4.7*

MED_RC ***11*** *04:42:39.0±1.3, 32°.80N×12°.33E, h10km, MW4.8/10, Moment Tensor Solution.Mantle waves: s10,c11; Duration: 1§1 Moment tensor: Scale 10^16Nm; Mrr=1.88±.22; Mθθ0.15±.14; Mφφ1.73±.20; Mrθ0.55±.43; Mθφ0.31±.23; Mφr=0.26±.81; Best double couple: M0=1.92000×10^16 NP1:φs355.00000°, δ50.00000°, λ=-110.00000°. NP2:φs205.00000°, δ44.00000°, λ=-68.00000°. Principal axes: T 1.7900, Plg3.0000°, Azm100.0000°; N 0.2600, Plg15.0000°, Azm9.0000°; P -2.0500, Plg74.0000°, Azm199.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ISC 11 04:42:37.8±0.4, 32°.81N±0°.05×12°.30E±0°.05, h10km, n367, σ1§**44**/376, **mb4.6**/99, **19C-20D, Near coast of Libya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPDG	Lampedusa Capo	2.72	6	P	Pn	04 43 21.9	+0.4
LPDG				S	Sn	04 43 53.5	-1.0
LPDG	Lampedusa Capo	2.72	6	P	Pn	04 43 21.9	+0.4
WDD	Wied Dalam	3.54	31	ePn	Pn	04 43 31.3	-1.5
WDD	Wied Dalam	3.54	31	P	Pn	04 43 31.2	-1.6
WDD				S	Sn	04 44 11.7	-3.1
WDD	Wied Dalam	3.54	31	P	Pn	04 43 31.3	-1.5
KEST	Kesra	3.81	321	Pn	Pn	04 43 37.0	+0.3
	3.0nm,0.3s,baz=92,slow=3.4,SNR=47						
KEST				Sn	Sn	04 44 20.9	-0.6
	9.5nm,0.3s,baz=269,slow=22,SNR=6.7						
HAVL	Avola	4.75	28	P	Pn	04 43 48.2	-1.3
HAVL	Avola	4.75	28	P	Pn	04 43 48.4	-1.1
HVZN	Vizzini	4.79	24	P	Pn	04 43 49.4	-0.7
HVZN	Vizzini	4.79	24	P	Pn	04 43 49.5	-0.5
CLTB	Caltabellotta	4.82	9	ePn	Pn	04 43 50.5	0.0
CLTB	Caltabellotta	4.82	9	P	Pn	04 43 50.5	0.0
CLTB	Caltabellotta	4.82	9	P	Pn	04 43 51.0	+0.5
SSY	Sortino	4.90	27	P	Pn	04 43 51.2	-0.4
SSY	Sortino	4.90	27	P	Pn	04 43 51.4	-0.1
VAE	Valguarnera	4.97	20	Pn	Pn	04 43 53.8	+1.2
	11nm,0.3s,baz=85,slow=20,SNR=13						
VAE				Sn	Sn	04 44 48.9	-1.3
	18nm,0.3s,baz=270,slow=20,SNR=3.8						
HCRL	Carlentini	5.00	26	P	Pn	04 43 52.3	-0.5
HCRL	Carlentini	5.00	26	P	Pn	04 43 53.1	+0.2
HLNI	Lentini	5.00	24	P	Pn	04 43 51.8	-1.1
HLNI	Lentini	5.00	24	P	Pn	04 43 52.1	-0.8
CRJA	Costa Raja	5.02	6	P	Pn	04 43 54.1	+0.9
RESU	Resuttano	5.04	16	P	Pn	04 43 54.3	+0.8
RESU	Resuttano	5.04	16	P	Pn	04 43 55.1	+1.6
HAGA	Augusta	5.04	27	P	Pn	04 43 52.6	-0.9
HAGA	Augusta	5.04	27	P	Pn	04 43 53.0	-0.5
ALJA	Alia	5.07	13	P	Pn	04 43 55.1	+1.2
ALJA	Alia	5.07	13	P	Pn	04 43 55.5	+1.5
CORL	Corleone	5.14	9	P	Pn	04 43 56.2	+1.3
PETRA	Petralia Sopra	5.23	16	P	Pn	04 43 57.8	+1.5
GALF	Gagliano Caste	5.23	20	P	Pn	04 43 56.7	+0.5
GALF	Gagliano Caste	5.23	20	P	Pn	04 43 56.9	+0.7
ABSA	Djebel Ababsia	5.27	312	P	Pn	04 43 50.3	-6.5
GIB	Gibilmanna	5.36	15	P	Pn	04 43 59.0	+1.0
SN1	Capo Mulini Ma	5.37	27	P	Pn	04 43 57.8	+0.1
SN1	Capo Mulini Ma	5.37	27	P	Pn	04 43 57.9	+0.2
MPG	Monte Pellegri	5.41	9	P	Pn	04 43 59.1	+0.4
MUCR	Ucria	5.63	21	P	Pn	04 44 02.3	+0.6
AIO	Antillo	5.68	24	P	Pn	04 44 02.5	+0.2
MCSR	Castroreale	5.77	24	P	Pn	04 44 03.7	+0.1
CKFL	Kef-Lekhel	5.83	309	P	Pn	04 44 00.6	-3.9
MPNC	Port Mandanici	5.88	24	P	Pn	04 44 05.5	+0.4
CASM	Ain Smara	5.91	307	P	Pn	04 44 03.9	-1.5
LLI	Lipari	6.03	20	P	Pn	04 44 05.1	-1.9
MSRU	Castanea	6.04	25	P	Pn	04 44 07.5	+0.3
SOI	Samo	6.08	29	P	Pn	04 44 07.3	-0.5
MSCL	Scilla	6.12	27	P	Pn	04 44 08.9	+0.6
CEL	Celeste	6.18	27	ePn	Pn	04 44 09.1	-0.1
DFRA	Djebel Bou Aff	6.47	307	P	Pn	04 44 05.0	-8.3
PLAC	Placanica	6.56	30	P	Pn	04 44 14.1	-0.3
SET	Setif	6.63	303	P	Pn	04 44 18.0	+2.6
TIP	Timpagrande	7.31	28	ePn	Pn	04 44 24.5	-0.2
TIP	Timpagrande	7.31	28	P	Pn	04 44 24.4	-0.3
TIP	Timpagrande	7.31	28	P	Pn	04 44 25.4	+0.6
VLS	Valsamata	8.62	49	P	Pn	04 44 39.1	-3.6
VLS	Valsamata	8.62	49	P	Pn	04 44 39.1	-3.6
VLS	Valsamata	8.62	49	P	Pn	04 44 39.1	-3.6
KFL	Anninata	8.71	50	P	Pn	04 44 42.0	-1.9
PYL	PYLOS	8.77	60	P	Pn	04 44 44.6	0.0
PYL	PYLOS	8.77	60	P	Pn	04 44 44.6	0.0
AMUR	Altamura	8.79	22	P	Pn	04 44 43.4	-1.6
ITM	Ithomi	9.02	58	ePn	Pn	04 44 49.1	+1.0
ITM	Ithomi	9.02	58	P	Pn	04 44 48.3	+0.2
AMT	Artemida-Makis	9.03	56	P	Pn	04 44 52.6	+4.4
LKD2	Lefkada island	9.04	46	P	Pn	04 44 45.8	-2.5
LKD2	Lefkada island	9.04	46	P	Pn	04 44 45.8	-2.5
KEK	Kerkira	9.17	39	P	Pn	04 44 51.1	+0.9
KEK	Kerkira	9.17	39	P	Pn	04 44 51.1	+0.9
IGT	Igoumenitsa	9.34	42	P	Pn	04 44 53.4	+1.0
LPEL	Lama dei Pelig	9.35	9	P	Pn	04 44 48.8	-3.8
AQU	L'Aquila	9.57	5	ePn	Pn	04 44 55.6	-0.1
AQU	L'Aquila	9.57	5	eP	Pn	04 44 55.6	-0.1
KLV	Kalavryta, Ach	9.58	54	P	Pn	04 44 57.7	+1.8
KLV	Kalavryta, Ach	9.58	54	P	Pn	04 44 57.7	+1.8
GUR	Goura	9.66	55	P	Pn	04 45 00.8	+3.8
ALIK	Aliki, Aigiali	9.67	53	P	Pn	04 44 59.7	+2.8
ANX	Ano Chora	9.72	51	P	Pn	04 44 56.9	-0.9
GVD	Gavdhos	10.01	75	P	Pn	04 45 00.0	-1.7
GVD	Gavdhos	10.01	75	P	Pn	04 45 00.0	-1.7
IMMV	Iera Moni Meta	10.04	71	P	Pn	04 45 00.7	-1.3
DID	Didima	10.10	59	P	Pn	04 45 01.6	-1.4
DID	Didima	10.10	59	P	Pn	04 45 01.6	-1.4
KPRO	Kipourio	10.21	43	P	Pn	04 45 04.4	0.0
AGG	Agios Georgios	10.22	50	ePn	Pn	04 45 03.1	-1.5
AGG	Agios Georgios	10.22	50	P	Pn	04 45 05.5	+0.9
AGG	Agios Georgios	10.22	50	eP	Pn	04 45 03.2	-1.5
NEST	Nestorio	10.34	40	P	Pn	04 45 07.0	+0.7
THL	Klokotos Trika	10.35	47	P	Pn	04 45 04.3	-1.9
MHLO	Agia Marina, M	10.68	65	P	Pn	04 45 10.7	-0.1
IDI	Anoyia	10.73	73	Pn	Pn	04 45 09.2	-2.4
	2.4nm,0.3s,baz=295,slow=14,SNR=15						
IDI				Sn	Sn	04 46 59.9	-12
	2.1nm,0.3s,baz=284,slow=19,SNR=4.7						
FNA	Florina	10.78	40	ePn	Pn	04 45 12.0	-0.2
FNA	Florina	10.78	40	eP	Pn	04 45 12.0	-0.2
BIA	Bitola	10.92	39	iPn	Pn	04 45 16.8	+2.6
LIT	Litokhoron	10.96	46	ePn	Pn	04 45 13.4	-1.3
LIT	Litokhoron	10.96	46	eP	Pn	04 45 13.4	-1.3
BRY	Bratogost	11.22	24	P	Pn	04 45 20.2	+1.9
SANT	Santorini	11.41	68	ePn	Pn	04 45 19.3	-1.6
TAM	Tamanrasset	11.63	213	ePn	Pn	04 45 23.4	-0.7
TAM	Tamanrasset	11.63	213	eP	Pn	04 45 23.4	-0.7
APE	Apeiranthos	11.66	65	ceP	Pn	04 45 22.0	-2.3
SKO	Skopje	11.68	36	iPn	Pn	04 45 24.3	-0.2
VAY	Valandovo	11.80	41	iPn	Pn	04 45 20.3	-5.9
STIP	Stip	11.86	39	iPn	Pn	04 45 28.1	+1.2
SOH	Sokhos	11.93	45	P	Pn	04 45 28.4	+0.5
SOH				pmax	pmax		
	comp=Z,16nm,0.8s						
SRS	Serrai	12.25	44	P	Pn	04 45 35.4	+3.0
SRS				pmax	pmax		
	comp=Z,15nm,0.8s						
BLY	Banja Luka	12.52	16	ePn	Pn	04 45 35.8	-0.1
VTS	Vitosha	13.06	38	ePn	Pn	04 45 43.4	-0.1
VTS	Vitosha	13.06	38	eP	Pn	04 45 43.4	-0.1
OBKA	Obir	13.79	7	eP	P	04 45 59.0	-3.0
	comp=Z,23nm,0.8s,SNR=4.2						
TUE	Stuetta	13.84	351	ePn	Pn	04 45 54.1	0.0
ABTA	Abfaltersbach	13.93	1	eP	P	04 46 02.4	-1.1
	comp=Z,17nm,0.8s						
SOKA	Soboth	14.01	8	eP	P	04 46 01.3	-3.1
	comp=Z,11nm,1.0s,SNR=4.1						
DAVOX	Davos/Dischmat	14.08	353	Pn	P	04 46 04.3	-1.0
	comp=Z,0.7nm,0.3s,baz=160,slow=14,SNR=16						
MDT	Midelt	14.22	275	Pn	Pn	04 46 00.0	+0.6
	comp=Z,0.2nm,0.3s,baz=72,slow=9.6,SNR=10						
FETA	Feichten	14.25	356	eP	P	04 46 04.3	-2.8
	comp=Z,14nm,0.8s						
KBA	Koelnbreinsper	14.28	3	eP	Pn	04 46 03.5	+3.4
	comp=Z,8.0nm,0.7s						
HERR	Herculane	14.39	30	⇑iP	Pn	04 46 04.0	+2.5
SQTA	Sankt Quirin	14.42	357	eP	P	04 46 09.0	0.0
	comp=Z,28nm,0.8s						
WTTA	Wattenberg	14.45	358	eP	P	04 46 09.8	+0.4
	comp=Z,28nm,0.8s						
WATA	Walderalm	14.53	358	eP	P	04 46 09.3	-0.8
	comp=Z,16nm,0.7s						
MOTA	Moosalm	14.55	357	eP	P	04 46 08.1	-2.4
	comp=Z,16nm,1.0s						
DAVA	Damuels	14.58	353	eP	P	04 46 10.3	-0.5
	comp=Z,13nm,0.8s						
ARSA	Arzberg	14.64	9	eP	P	04 46 08.5	-2.8
	comp=Z,13nm,0.9s,SNR=4.9						
BZS	Buzias	14.68	27	⇓iP	Pn	04 46 07.1	+1.7
BZS	Buzias	14.68	27	⇓pP	Pn	04 46 07.1	+1.7
ESDC	Sonseca Array	14.80	302	Pn	Pn	04 46 06.5	-0.6
	comp=Z,0.4nm,0.3s,baz=111,slow=13,SNR=9.7						
GZR	Gura Zlata	14.95	30	⇓iP	Pn	04 46 10.0	+0.8
MOA	Molln	15.10	5	eP	P	04 46 15.8	-0.6
	comp=Z,4.7nm,0.7s						
SOP	Sopron	15.21	11	ePn	Pn	04 46 15.0	+2.5
SIRR	Siria	15.24	25	⇓iP	P	04 46 15.7	-2.3
CONA	Conrad Observa	15.35	9	eP	P	04 46 19.0	-0.2
	comp=Z,5.5nm,0.9s,SNR=6.6						
ARR	Arges	15.76	34	⇓iP	P	04 46 26.0	+2.2
ECH	Echery	15.88	347	ePn	Pn	04 46 20.8	-0.5
	comp=Z,9.3nm,0.8s						
ECH	Echery	15.88	347	eP	Pn	04 46 20.8	-0.5
ECH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VOIR		16.00	34	⇑iP	Pn	04 46 22.1	-0.9
VOIR		16.00	34	⇑pP	Pn	04 46 22.1	-0.9
GEC2	GERESS Array S	16.06	3	ePn	Pn	04 46 24.7	+1.0
GEC2	GERESS Array S	16.06	3	eP	Pn	04 46 24.7	+1.0
GERES	GERESS Array B	16.06	3	Pn	Pn	04 46 24.7	+1.0
	comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=17						
DRGR		16.07	27	⇑iP	P	04 46 30.5	+3.2
DRGR		16.07	27	⇑pP	P	04 46 30.5	+3.2
PSZ	Piszkesteto	16.15	19	ePn	Pn	04 46 26.3	+1.4
	comp=Z,12nm,1.3s						
PSZ	Piszkesteto	16.15	19	⇑iP	P	04 46 27.4	-0.8
PSZ	Piszkesteto	16.15	19	eP	Pn	04 46 26.3	+1.4
PSZ				pmax	pmax		
	comp=Z,12nm,1.3s						
PSZ	Piszkesteto	16.15	19	ePn	Pn	04 46 26.1	+1.2
WET	Wettzell	16.33	1	P	P	04 46 29.3	-0.8
WET				pmax	pmax		
	comp=Z,20nm,1.1s						
KHC	Kasperske Hory	16.34	3	ePn	P	04 46 29.0	-1.2
	comp=Z,4.5nm,0.9s						
KHC	Kasperske Hory	16.34	3	eP	P	04 46 29.0	-1.2
KHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KHC	Kasperske Hory	16.34	3	eP	Pn	04 46 28.6	+1.4
KHC				epP	pP	04 46 32.7	-0.3
VYHS	Vyhne	16.43	16	eP	P	04 46 33.2	+2.1
VYHS	Vyhne	16.43	16	eP	P	04 46 33.2	+2.1
MLR	Muntele Rosu	16.48	36	ePn	Pn	04 46 29.1	+0.1
	comp=Z,16nm,1.1s						
MLR	Muntele Rosu	16.48	36	⇑iP	P	04 46 31.5	-0.3
MLR	Muntele Rosu	16.48	36	eP	Pn	04 46 29.2	+0.1
MLR				pmax	pmax		
	comp=Z,16nm,1.1s						
MLR	Muntele Rosu	16.48	36	Pn	P	04 46 31.4	-0.5
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=5.1						
MLR				LR	LR	04 53 24.5	
	comp=Z,225nm,18.9s,baz=339,slow=39						
KRUC	Moravsky	16.53	9	eP	P	04 46 33.4	+1.2
JAVC	Velka Javorina	16.54	13	eP	P	04 46 31.9	-0.5
DOPR	Dopca	16.56	34	⇓iP	P	04 46 33.0	+0.4
TREC	Trest	16.65	7	eP	P	04 46 35.5	+1.9
TREC	Trest	16.65	7	eP	P	04 46 35.5	+1.9
VRAC	Vranov	16.80	10	⇓iP	Pn	04 46 31.3	-1.7
VRAC	Vranov	16.80	10	⇓pP	Pn	04 46 31.3	-1.7
VRAC	Vranov	16.80	10	eP	P	04 46 36.1	+0.9
VRAC	Vranov	16.80	10	Pn	P	04 46 35.0	-0.3
	comp=Z,0.5nm,0.3s,baz=180,slow=10.0,SNR=14						
PLOR	Plostina	17.08	36	⇑iP	Pn	04 46 37.0	+0.3
PLOR	Plostina	17.08	36	⇑pP	Pn	04 46 37.0	+0.3
TIRR	Tirgusor	17.11	43	ePn	Pn	04 46 36.2	-0.7
	comp=Z,286nm,0.7s						
TIRR	Tirgusor	17.11	43	eP	Pn	04 46 36.2	-0.7
TIRR				pmax	pmax		
	comp=Z,286nm,0.7s						
TRPA	Tarpa	17.15	24	⇑iP	P	04 46 40.0	+0.9
TRPA	Tarpa	17.15	24	ePn	P	04 46 41.1	+2.0
GOPC	GO Pecny, Ondr	17.19	5	eP	P	04 46 40.0	+0.4
GOPC	GO Pecny, Ondr	17.19	5	eP	P	04 46 40.0	+0.4
PRU	Pruhonice	17.25	5	eP	P	04 46 40.5	+0.3
PRU	Pruhonice	17.25	5	eP	P	04 46 40.5	+0.3
MORC	Moravsky Berou	17.40	11	ePn	Pn	04 46 41.0	+0.4
	comp=Z,34nm,2.0s						
MORC	Moravsky Berou	17.40	11	⇓iP	P	04 46 42.5	+0.6
MORC	Moravsky Berou	17.40	11	eP	Pn	04 46 41.0	+0.4
MORC				pmax	pmax		
	comp=Z,34nm,2.0s						
MORC	Moravsky Berou	17.40	11	eP	P	04 46 42.1	+0.2
NKC	Novy Kostel	17.41	0	eP	P	04 46 44.3	+2.2
NKC	Novy Kostel	17.41	0	eP	P	04 46 44.3	+2.2
NKC				epP	sP	04 46 47.6	+1.4
UZH	Uzhgorod	17.50	22	eP	P	04 46 46.9	+3.9
MVO	Moncorvo	17.53	304	eP	P	04 46 44.7	+1.3
	comp=Z,26nm,1.7s						
PBRG	Braganca	17.58	306	eP	P	04 46 44.6

ZEI	**Tsey**	**26.75**	**59**	*e*P	**P**	**04 48 21.9**	**+4.1**
ZEI				pmax	pmax		
comp=Z,6.0nm,0.6s							
VSR	**Storozhevoye**	**26.91**	**39**⇓	*e*P	**P**	**04 48 17.7**	**-1.2**
VSR				pmax	pmax		
comp=Z,6.0nm,0.7s							
GNI	**Garni**	**26.99**	**65**⇑	*e*P	**P**	**04 48 21.8**	**+1.8**
GNI				pmax	pmax		
comp=Z,10.0nm,0.9s							
HFS	**Hagfors**	**27.35**	**2**	P	**P**	**04 48 22.0**	**-0.8**
HFS				pmax	pmax		
comp=Z,2.0nm,0.7s							
HFS	**Hagfors**	**27.35**	**2**	P	**P**	**04 48 22.0**	**-0.8**
comp=Z,1.8nm,0.7s,baz=188,slow=8.7,SNR=8.4							
VSU	**Vasula**	**27.45**	**17**⇑	*e*P	**P**	**04 48 23.0**	**-0.7**
VSU				pmax	pmax		
comp=Z,39nm,0.9s							
VSU	**Vasula**	**27.45**	**17**	*e*P	**P**	**04 48 23.9**	**+0.2**
VSU				IAmb	IAmb	04 48 30.5	
comp=Z,33nm,0.8s							
NB2	**NORSAR Subarra**	**28.26**	**359**	P	**P**	**04 48 32.2**	**+1.3**
comp=Z,0.3nm,0.5s,baz=178,slow=9.3							
NB200	**NORSAR Array S**	**28.26**	**359**	*e*P	**P**	**04 48 30.5**	**-0.4**
NOA	**NORSAR Array B**	**28.26**	**359**	P	**P**	**04 48 30.5**	**-0.4**
comp=Z,1.3nm,0.9s,baz=185,slow=6.7,SNR=3.9							
FIA0	**FINESS Array S**	**30.01**	**13**	*e*P	**P**	**04 48 46.0**	**-0.5**
FIA0				*e*PcP	**PcP**	**04 51 47.6**	**-0.6**
FIA0	**FINESS Array S**	**30.01**	**13**	*e*P	**P**	**04 48 46.0**	**-0.5**
FIA0				*e*		04 51 47.7	
FINES	**FINESS Array B**	**30.01**	**13**	P	**P**	**04 48 46.0**	**-0.5**
comp=Z,1.1nm,0.8s,baz=190,slow=9.7,SNR=6.1							
FINES				PcP	**PcP**	**04 51 47.6**	**-0.6**
comp=Z,1.5nm,0.6s,baz=207,slow=1.6,SNR=6.8							
KLMR	**Klimovskoe**	**33.20**	**24**	*e*P	**P**	**04 49 12.3**	**-2.1**
KLMR				pmax	pmax		
comp=Z,7.0nm,0.8s							
GEYT	**Alibeck**	**37.42**	**69**	P	**P**	**04 49 51.0**	**-0.2**
comp=Z,32nm,0.7s,baz=262,slow=1.0,SNR=2.4							
ARA0	**ARCESS Array S**	**37.52**	**8**	*e*P	**P**	**04 49 50.7**	**-0.8**
ARCES	**ARCESS Array B**	**37.52**	**8**	P	**P**	**04 49 50.7**	**-0.8**
comp=Z,6.6nm,0.8s,baz=186,slow=8.1,SNR=16							
ABKAR	**Akbulak array**	**38.82**	**51**	*e*P	**P**	**04 50 02.7**	**0.0**
comp=Z,3.3nm,0.8s							
ARU	**Arti**	**39.48**	**39***d*	*i*P	**P**	**04 50 08.0**	**-0.2**
ARU				S	**S**	**04 56 11.4**	**+1.3**
ARU				SS	**SS**	**04 58 56.7**	**-7.5**
ARU				pmax	pmax		
comp=Z,4.0nm,0.7s							
SVE	**Sverdlovsk**	**40.70**	**39**	*e*P	**P**	**04 50 17.7**	**-0.5**
BRVK	**Borovoye**	**45.62**	**46**	*e*P	**P**	**04 50 58.7**	**+0.6**
comp=Z,8.2nm,1.0s							
BRVK	**Borovoye**	**45.62**	**46***de*P		**P**	**04 50 58.3**	**+0.2**
BRVK				pmax	pmax		
comp=Z,5.0nm,0.8s							
KK31	**Karatay Array**	**46.21**	**60**	*e*P	**P**	**04 51 04.0**	**+1.1**
comp=Z,7.0nm,0.8s							
KK31	**Karatay Array**	**46.21**	**60**	*e*P	**P**	**04 51 04.1**	**+1.1**
KK31				pmax	pmax		
comp=Z,7.0nm,0.8s							
KKAR	**Karatay Array**	**46.21**	**60**	*e*P	**P**	**04 51 04.0**	**+1.1**
comp=Z,7.0nm,0.8s							
KKAR	**Karatay Array**	**46.21**	**60**	*e*P	**P**	**04 51 04.1**	**+1.1**
KKAR				pmax	pmax		
comp=Z,7.0nm,0.8s							
GAR	**Garm**	**46.72**	**65**	*e*P	**P**	**04 51 08.6**	**+1.4**
comp=Z,19nm,0.8s							
GAR	**Garm**	**46.72**	**65**	*e*P	**P**	**04 51 08.6**	**+1.4**
GAR				pmax	pmax		
comp=Z,19nm,0.8s							
AAK	**Ala-Archa**	**49.17**	**60**	*e*P	**P**	**04 51 27.3**	**+1.1**
comp=Z,5.8nm,1.0s							
AAK	**Ala-Archa**	**49.17**	**60**⇓	*e*P	**P**	**04 51 28.8**	**+2.7**
AAK				pmax	pmax		
comp=Z,6.0nm,1.0s							
AAK	**Ala-Archa**	**49.17**	**60**	P	**P**	**04 51 25.8**	**-0.3**
comp=Z,2.6nm,0.6s,baz=337,slow=5.1,SNR=6.5							
NIL	**Nilore**	**50.32**	**71**	*e*P	**P**	**04 51 35.9**	**+1.0**
comp=Z,14nm,0.8s							
NIL	**Nilore**	**50.32**	**71**	*e*P	**P**	**04 51 35.9**	**+1.0**
NIL				pmax	pmax		
comp=Z,14nm,0.8s							
NRN	**Naryn**	**50.50**	**61**	*e*P	**P**	**04 51 36.6**	**+0.2**
comp=Z,9.5nm,0.9s							
NRN	**Naryn**	**50.50**	**61**	*e*P	**P**	**04 51 36.7**	**+0.2**
NRN				pmax	pmax		
comp=Z,10.0nm,0.9s							
KURK	**Kurchatov**	**50.86**	**49**	*e*P	**P**	**04 51 38.6**	**0.0**
comp=Z,9.6nm,0.8s							
KURK	**Kurchatov**	**50.86**	**49***d*	*i*P	**P**	**04 51 38.1**	**-0.5**
KURK				pmax	pmax		
comp=Z,10.0nm,0.8s							
KSH	**Kashi**	**50.90**	**63**	P	**P**	**04 51 36.8**	**-2.5**
DRLN	**Deer Lake**	**53.29**	**310**	*e*P	**P**	**04 51 56.3**	**-0.4**
comp=Z,221nm,1.9s							
MK31	**Makanchi Array**	**53.86**	**53**	*e*P	**P**	**04 52 00.7**	**-0.3**
comp=Z,3.6nm,0.7s							
MK31	**Makanchi Array**	**53.86**	**53**	*e*P	**P**	**04 52 00.7**	**-0.3**
MK31				pmax	pmax		
comp=Z,4.0nm,0.7s							
MK32	**Makanchi Array**	**53.86**	**53**	*e*P	**P**	**04 52 00.8**	**-0.2**
MKAR	**Makanchi Array**	**53.86**	**53**	P	**P**	**04 52 00.8**	**-0.2**
comp=Z,3.9nm,0.6s,baz=281,slow=6.5,SNR=40							
ZAA0	**Zalesovo Array**	**54.23**	**44**	*e*P	**P**	**04 52 03.6**	**0.0**
comp=Z,6.0nm,0.4s							
ZAA1	**Zalesovo Array**	**54.23**	**44**	*e*P	**P**	**04 52 03.0**	**-0.6**
ZALV	**Zalesovo Beam**	**54.23**	**44**	P	**P**	**04 52 03.0**	**-0.6**
ZALV				pmax	pmax		
comp=Z,4.0nm,0.6s							
ZALV	**Zalesovo Beam**	**54.23**	**44**	P	**P**	**04 52 03.0**	**-0.6**
comp=Z,3.7nm,0.6s,baz=275,slow=9.3,SNR=15							
DGZ	**Jazzator, Alta**	**56.60**	**49**⇑	*i*P	**P**	**04 52 20.8**	**-0.1**
DGZ				pmax	pmax		
comp=Z,1.0nm,0.9s							
SCHQ	**Schefferville**	**57.88**	**318**	*e*P	**P**	**04 52 29.4**	**-0.3**
comp=Z,11nm,0.8s							
SCHQ	**Schefferville**	**57.88**	**318**	P	**P**	**04 52 29.2**	**-0.5**
comp=Z,9.9nm,0.7s,baz=89,slow=5.0,SNR=6.6							
WMQ	**Urumqi**	**58.28**	**55**	*e*P	**P**	**04 52 34.4**	**+1.7**
WMQ				sP	sP	04 52 41.3	+4.1
WMQ				pmax	pmax		
comp=Z,100nm,0.9s							
WMQ				LR	LR		
comp=Z,1μm,20.7s							
WMQ				LR	LR		
comp=Z,770nm,21.9s							
WMQ				LR	LR		
comp=Z,730nm,21.9s							
BOSA	**Boshof**	**62.31**	**167**	P	**P**	**04 52 59.0**	**-1.3**
comp=Z,2.6nm,0.7s,baz=356,slow=6.3,SNR=5.4							
RES	**Resolute Bay**	**63.02**	**343**	*e*P	**P**	**04 53 05.5**	**+1.1**
comp=Z,2.9nm,0.9s							
RES	**Resolute Bay**	**63.02**	**343**	*e*P	**P**	**04 53 05.5**	**+1.1**
RES				pmax	pmax		
comp=Z,3.0nm,0.9s							
TLY	**Talaya**	**65.82**	**43***ce*P		**P**	**04 53 25.4**	**+2.2**
TLY				pmax	pmax		
comp=Z,8.0nm,0.7s							
GTA	**Gaotai**	**68.33**	**56**	P	**P**	**04 53 40.0**	**+0.5**
GTA				pP	sP	04 53 44.0	0.0
GTA				sP	pP	04 53 46.2	+3.4
GTA				pmax	pmax		
comp=Z,5.0nm,1.0s							
SONA0	**Songino Array**	**69.03**	**46**	*e*P	**P**	**04 53 43.8**	**+0.1**
SONM	**Songino Array**	**69.03**	**46**	*e*P	**P**	**04 53 43.6**	**0.0**
SONM	**Songino Array**	**69.03**	**46**	*e*P	**P**	**04 53 43.7**	**0.0**
SONM	**Songino Array**	**69.03**	**46**	P	**P**	**04 53 43.8**	**+0.1**
comp=Z,3.2nm,0.8s,baz=291,slow=7.7,SNR=19							
ULN	**Ulaanbaatar**	**69.41**	**46**⇓	*e*P	**P**	**04 53 46.0**	**-0.1**
ULN				pmax	pmax		
comp=Z,4.0nm,1.7s							
SSPA	**Standing Stone**	**69.66**	**306**	*e*P	**P**	**04 53 48.3**	**+0.8**
comp=Z,17nm,1.2s							
N55A	**Marion Center**	**70.34**	**306**	*e*P	**P**	**04 53 51.8**	**0.0**
comp=Z,14nm,1.1s							
Q54A	**Coxs Mills**	**72.43**	**305**	*e*P	**P**	**04 54 05.3**	**+0.9**
comp=Z,8.5nm,0.9s							
LZH	**Lanzhou**	**72.67**	**58**	*e*P	**P**	**04 54 06.7**	**+0.6**
LZH				pP	sP	04 54 11.5	+0.9
LZH				sP	pP	04 54 13.9	+4.5
LZH				*e*PP	**PP**	**04 56 50.1**	**+2.7**
LZH				pmax	pmax		
comp=Z,20nm,1.3s							
LZH				pmax	pmax		
comp=Z,79nm,7.0s							
LZH				LR	LR		
comp=Z,170nm,15.7s							
LZH				LR	LR		
comp=Z,180nm,16.1s							
LZH				LR	LR		
comp=Z,280nm,18.2s							
COWI	**Conover**	**74.27**	**315**	*e*P	**P**	**04 54 15.9**	**+0.7**
comp=Z,8.5nm,0.8s							
BDFB	**Brasilia**	**75.09**	**240**	P	**P**	**04 54 20.6**	**+0.2**
comp=Z,10nm,0.7s,baz=48,slow=6.5,SNR=21							
CD2	**Chengdu**	**75.09**	**63**	*e*P	**P**	**04 54 18.7**	**-1.6**
CD2				pmax	pmax		
comp=Z,10.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**75.61**	**51**	*e*P	**P**	**04 54 23.4**	**+0.3**
HHC				pmax	pmax		
comp=Z,41nm,1.1s							
HHC				pmax	pmax		
comp=Z,150nm,6.8s							
ULM	**Lac du Bonnet**	**75.83**	**321**	P	**P**	**04 54 24.1**	**0.0**
comp=Z,3.0nm,0.8s,baz=26,slow=5.6,SNR=6.0							
YKA	**Yellowknife Ar**	**75.95**	**337**	P	**P**	**04 54 25.1**	**+0.6**
comp=Z,1.3nm,0.8s,baz=46,slow=5.8,SNR=28							
YKB5	**Yellowknife Ar**	**75.95**	**337**	*e*P	**P**	**04 54 25.1**	**+0.6**
INK	**Inuvik**	**76.02**	**348**	*e*P	**P**	**04 54 25.4**	**+0.6**
comp=Z,2.8nm,1.1s							
INK	**Inuvik**	**76.02**	**348**	*e*P	**P**	**04 54 25.4**	**+0.6**
INK				pmax	pmax		
comp=Z,3.0nm,1.1s							
FFC	**Flin Flon**	**76.21**	**327**	*e*P	**P**	**04 54 27.0**	**+0.9**
comp=Z,7.0nm,1.3s							
FFC	**Flin Flon**	**76.21**	**327**	*i*P	**P**	**04 54 27.4**	**+1.2**
CM31	**Chiang Mai Arr**	**77.50**	**76**	*e*P	**P**	**04 54 33.2**	**-0.8**
comp=Z,8.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**77.50**	**76**	P	**P**	**04 54 33.2**	**-0.8**
comp=Z,1.7nm,0.8s,baz=304,slow=7.5,SNR=10							
BILL	**Bilibino**	**77.59**	**10**	*i*P	**P**	**04 54 33.5**	**-0.2**
BILL				*i*		04 54 42.1	
BILL				pmax	pmax		
comp=Z,3.0nm,1.1s							
T47A	**Sharon Grove**	**77.71**	**306**	*e*P	**P**	**04 54 34.8**	**-0.2**
comp=Z,8.4nm,0.6s							
TOLK	**Toolik Lake Re**	**77.97**	**353**	*e*P	**P**	**04 54 36.0**	**+0.2**
comp=Z,6.6nm,1.0s							
X48A	**Hartselle**	**79.01**	**304**	*e*P	**P**	**04 54 42.2**	**+0.1**
comp=Z,6.3nm,0.8s							
ECSD	**EROS Data Cent**	**80.01**	**316**	*e*P	**P**	**04 54 47.9**	**+0.4**
comp=Z,6.2nm,0.8s							
PBMO	**Poplar Bluff**	**80.07**	**307**	*e*P	**P**	**04 54 48.1**	**+0.3**
comp=Z,4.1nm,0.8s							
OXF	**Oxford**	**80.62**	**305**	*e*P	**P**	**04 54 50.3**	**-0.6**
comp=Z,20nm,1.0s							
OXF	**Oxford**	**80.62**	**305**	*e*P	**P**	**04 54 50.3**	**-0.6**
OXF				pmax	pmax		
comp=Z,20nm,1.0s							
DAWY	**Dawson**	**80.89**	**348**	*e*P	**P**	**04 54 53.5**	**+1.6**
comp=Z,3.7nm,0.9s							
IMAR	**Indian Mountai**	**80.94**	**354**	*e*P	**P**	**04 54 51.4**	**-0.6**
SCRK	**Sand Creek**	**81.73**	**350**	*e*P	**P**	**04 54 57.0**	**+0.5**
comp=Z,3.4nm,1.0s							
HDA	**Harding Lake**	**81.74**	**351**	*e*P	**P**	**04 54 56.5**	**+0.2**
comp=Z,2.6nm,0.8s							
MA2	**Magadan**	**81.76**	**20**	*e*P	**P**	**04 54 56.8**	**+0.3**
comp=Z,7.0nm,0.8s							
MA2	**Magadan**	**81.76**	**20**⇓	*e*P	**P**	**04 54 56.9**	**+0.4**
MA2				pmax	pmax		
comp=Z,12nm,1.3s							
DOT	**Dot Lake**	**82.06**	**350**	*e*P	**P**	**04 54 59.0**	**+1.0**
KLR	**Kul'dur**	**82.20**	**35**⇑	*e*P	**P**	**04 54 59.5**	**+0.5**
KLR				pmax	pmax		
comp=Z,3.0nm,0.9s							
BCAR	**Beaver Creek A**	**82.24**	**348**	*e*P	**P**	**04 55 00.5**	**+1.5**
DHY	**Denali Highway**	**83.07**	**351**	*e*P	**P**	**04 55 05.1**	**+1.6**
comp=Z,5.4nm,1.0s							
LAO	**LASA Array**	**83.44**	**322**	*e*P	**P**	**04 55 07.3**	**+1.8**
comp=Z,8.2nm,0.8s							
HYT	**Haines Junctio**	**83.49**	**346**	*e*P	**P**	**04 55 06.7**	**+1.0**
comp=Z,6.1nm,1.1s							
EGMT	**Eagleton**	**84.28**	**325**	*e*P	**P**	**04 55 10.5**	**+0.6**
comp=Z,9.9nm,0.8s							
NJ2	**Nanjing**	**85.35**	**55**	*e*P	**P**	**04 55 16.4**	**+1.0**
NJ2				pmax	pmax		
comp=Z,13nm,0.5s							
USRK	**Ussuriysk Ar.**	**85.72**	**39**	P	**P**	**04 55 16.7**	**-0.3**
comp=Z,4.6nm,0.7s,baz=313,slow=4.8,SNR=8.5							
RLMT	**Red Lodge**	**86.06**	**323**	*e*P	**P**	**04 55 20.6**	**+1.6**
comp=Z,34nm,1.8s							
K22A	**Casper**	**86.31**	**320**	*e*P	**P**	**04 55 21.1**	**+0.9**
comp=Z,11nm,1.0s							
PHWY	**Pilot Hill**	**86.62**	**318**	*e*P	**P**	**04 55 22.4**	**+0.4**
comp=Z,13nm,1.1s							
WMOK	**Wichita Mounta**	**86.77**	**310**	*e*P	**P**	**04 55 22.7**	**+0.2**
comp=Z,3.5nm,1.0s							
WMOK	**Wichita Mounta**	**86.77**	**310**	*e*P	**P**	**04 55 22.7**	**+0.2**
WMOK				pmax	pmax		
comp=Z,4.0nm,1.0s							
BOZ	**Bozeman (W)**	**86.91**	**324**	*e*P	**P**	**04 55 23.6**	**+0.5**
comp=Z,6.1nm,0.8s							
BOZ	**Bozeman (W)**	**86.91**	**324**	*e*P	**P**	**04 55 23.6**	**+0.5**
BOZ				pmax	pmax		
comp=Z,6.0nm,0.8s							
LKWY	**Lake**	**87.03**	**323**	*e*P	**P**	**04 55 24.1**	**+0.2**
comp=Z,5.7nm,1.1s							
LKWY	**Lake**	**87.03**	**323**	*e*P	**P**	**04 55 24.1**	**+0.2**
LKWY				pmax	pmax		
comp=Z,6.0nm,1.1s							
H17A	**Grant Village**	**87.24**	**323**	*e*P	**P**	**04 55 24.4**	**-0.5**
comp=Z,4.7nm,0.9s							
DLMT	**Dillon**	**87.55**	**325**	*e*P	**P**	**04 55 26.8**	**+0.6**
comp=Z,3.8nm,1.1s							
ISCO	**Idaho Springs**	**87.71**	**317**	*e*P	**P**	**04 55 27.4**	**+0.1**
comp=Z,7.8nm,1.4s							
ISCO	**Idaho Springs**	**87.71**	**317**	*e*P	**P**	**04 55 27.4**	**+0.1**
ISCO				pmax	pmax		
comp=Z,8.0nm,1.4s							
PD31	**Pinedale Array**	**87.85**	**321**	*e*P	**P**	**04 55 27.8**	**-0.1**
comp=Z,7.4nm,1.7s							
PDAR	**Pinedale Array**	**87.85**	**321**	*e*P	**P**	**04 55 27.7**	**-0.1**
PDAR	**Pinedale Array**	**87.85**	**321**	P	**P**	**04 55 28.1**	**+0.2**
comp=Z,0.5nm,0.5s,baz=63,slow=6.5,SNR=7.8							
FXWY	**Fox Creek**	**88.00**	**323**	*e*P	**P**	**04 55 28.9**	**+0.4**
comp=Z,1.9nm,0.9s							
SMCO	**Snowmass**	**88.90**	**317**	*e*P	**P**	**04 55 33.3**	**+0.2**
comp=Z,2.1nm,0.9s							
SDCO	**Great Sand Dun**	**89.01**	**315**	*e*P	**P**	**04 55 33.5**	**0.0**
comp=Z,3.4nm,0.8s							
F10A	**Beach Ranch, E**	**89.28**	**327**	*e*P	**P**	**04 55 34.6**	**+0.3**
comp=Z,3.7nm,0.9s							
BMO	**Blue Mountains**	**90.17**	**327**	*e*P	**P**	**04 55 38.6**	**+0.1**
comp=Z,3.8nm,1.0s							
BMO	**Blue Mountains**	**90.17**	**327**	*e*P	**P**	**04 55 38.6**	**+0.1**
BMO				pmax	pmax		
comp=Z,4.0nm,1.0s							
PV09	**Paradox Valley**	**90.59**	**318**	*e*P	**P**	**04 55 41.2**	**+0.3**
SRU	**San Rafael Swe**	**90.94**	**319**	*e*P	**P**	**04 55 42.9**	**+0.6**
comp=Z,4.4nm,0.8s							
SRU	**San Rafael Swe**	**90.94**	**319**	*e*P	**P**	**04 55 42.9**	**+0.6**
SRU				pmax	pmax		
comp=Z,4.0nm,0.8s							
MAJO	**Matsushiro**	**94.48**	**41**	*e*P	**P**	**04 55 58.1**	**-0.4**
MAJO	**Matsushiro**	**94.48**	**41**	*e*P	**P**	**04 55 58.1**	**-0.4**
MJAR	**Matsushiro Arr**	**94.48**	**41**	P	**P**	**04 55 58.1**	**-0.4**
comp=Z,0.7nm,0.5s,baz=310,slow=5.7,SNR=4.3							
NV01	**Mina Array Sit**	**95.55**	**323**	*e*P	**P**	**04 56 03.8**	**+0.1**
NVAR	**Mina Array Bea**	**95.55**	**323**	P	**P**	**04 56 03.8**	**+0.1**
comp=Z,0.4nm,0.8s,baz=60,slow=5.3,SNR=4.1							
WR1	**Warramunga Arr**	**127.09**	**91**	*e*PKPdf	**PKPdf**	**05 01 42.3**	**-0.5**
WRA	**Warramunga Arr**	**127.09**	**91**	PKP	**PKPdf**	**05 01 42.3**	**-0.5**
comp=Z,1.3nm,1.0s,baz=273,slow=2.5,SNR=4.8							
ASAR	**Alice Springs**	**128.31**	**96**	PKP	**PKPdf**	**05 01 44.9**	**-0.1**
comp=Z,0.8nm,0.7s,baz=309,slow=1.2,SNR=7.8							
AS31	**Alice Springs**	**128.31**	**96**	*e*PKPdf	**PKPdf**	**05 01 44.9**	**-0.1**

ISC 11 04:46:52.6±1.4, 50°.28N±0°.07×18°.77E±0°.05, h0km, n6, σ0s57/12, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.14**	**86**	*e*Pg	**Pg**	**04 46 55.5**	**+0.2**
CHZP				*e*Sg	**Sg**	**04 46 57.2**	**0.0**
OJC	**Ojcow**	**0.66**	**95**	*e*Pg	**Pg**	**04 47 05.6**	**+0.3**
OJC				*e*Sg	**Sg**	**04 47 13.8**	**0.0**
MORC	**Moravsky Berou**	**0.94**	**238**	*e*PG	**Pb**	**04 47 12.1**	**+0.3**
MORC				*e*SG	**Sg**	**04 47 23.2**	**+0.5**
LANS	**Liptovska Anna**	**1.22**	**158**	*e*PG	**Pg**	**04 47 15.9**	**0.0**
LANS				*e*SG	**Sg**	**04 47 32.5**	**+0.8**
NIE	**Niedzica**	**1.31**	**131**	*e*Pg	**Pg**	**04 47 18.0**	**+0.3**
NIE				*e*Sg	**Sb**	**04 47 36.0**	**+0.4**
VYHS	**Vyhne**	**1.79**	**179**	*e*PN	**Pn**	**04 47 23.8**	**-0.9**
VYHS				*e*SN	**Sn**	**04 47 47.4**	**-0.7**

*DSN **11** 04:51:02.3±1.7, 26°.63N×58°.09E, h10km, ML4.0/7, Error ellipse: s-maj=23.3km s-min=11.5km az=170.0*
*THR **11** 04:51:02.1, 26°.67N×57°.69E, h14km, ML3.6*
*IDC **11** 04:51:02.6±1.4, 26°.60N×57°.61E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.6/48, mbtmp3.8/11, ML3.8/1, Error ellipse: s-maj=26.8km s-min=20.6km az=151.0*
*ISCJB **11** 04:51:03.1±0.4, 26°.66N±0°.03×57°.76E±0°.05, h10km, mb3.7/8, Error ellipse: s-maj=6.0km s-min=4.8km az=11.0*
*TEH **11** 04:51:04.3, 26°.64N×57°.65E, h10km, ML3.9*

ISC 11 04:51:03.7±0.7, 26°.61N±0°.03×57°.76E±0°.04, h10km, n42, σ1s56/46, mb3.8/9, 1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.26**	**319**	*e*Pg	**Pn**	**04 51 27.4**	**0.0**
NIAN				IAMB	IAmb	04 51 52.4	
comp=Z,0.0nm,0.3s							
SHME	**Shamm**	**1.56**	**249**	*e*P	**Pg**	**04 51 34.6**	**+1.1**
SHME=27							
SHME				S	**Sg**	**04 51 58.1**	**+4.3**
SHME	**Shamm**	**1.56**	**249**	*e*Pn	**Pg**	**04 51 33.4**	**-0.1**
GENO	**Geno**	**1.62**	**300**	*e*Pn	**Pb**	**04 51 33.9**	**0.0**
GENO				*e*Sg	**Sg**	**04 51 55.9**	**-0.1**
GENO				IAMB	IAmb	04 52 06.2	
comp=Z,0.0nm,0.4s							
BNDS	**Bandar-Abbas**	**1.62**	**299**	*e*AML	AML	04 51 57.4	
comp=N,746nm,0.5s							
BNDS				*e*Pg	**Pn**	**04 51 30.3**	**-2.3**
MDH	**Madha**	**1.85**	**226**	*e*Pn	**Pn**	**04 51 34.8**	**-0.7**
MSFE	**Esma-Masafi**	**1.90**	**230**	*e*P	**Pn**	**04 51 36.0**	**-0.2**
SNR=12							
MSFE				S	**Sg**	**04 52 06.1**	**+1.3**
MSFE	**Esma-Masafi**	**1.90**	**230**	*e*Pn	**Pn**	**04 51 35.3**	**-0.9**
HATD	**Hatta, Dubai**	**2.30**	**220**	*e*P	**Pn**	**04 51 43.4**	**+1.7**
SNR=16							
HATD	**Hatta, Dubai**	**2.30**	**220**	*e*Pn	**Pn**	**04 51 42.4**	**+0.7**
ASHO	**Ashiyiah**	**2.46**	**219**	*e*P	**Pn**	**04 51 44.9**	**+1.0**
SNR=21							
ASHO	**Ashiyiah**	**2.46**	**219**	*e*Pn	**Pb**	**04 51 46.3**	**-1.6**
NAZ	**Nazwa, Dubai**	**2.48**	**230**	*e*P	**Pb**	**04 51 47.6**	**-0.9**
SNR=23							
CHBR	**Chabahar**	**2.65**	**112**	*e*P	**Pn**	**04 51 47.4**	**+1.0**
FAQ	**Al Faqa, Dubai**	**2.69**	**227**	*e*P	**Pn**	**04 51 49.4**	**+2.3**
SNR=14							
FAQ	**Al Faqa, Dubai**	**2.69**	**227**	*e*Pn	**Pb**	**04 51 50.8**	**-1.2**
ASUD	**Al Ashush, Dub**	**2.95**	**229**	*i*P	**Pn**	**04 51 53.3**	**+2.6**
SNR=9.5							
BIDO	**Bidbid**	**3.09**	**174**	*e*Pn	**Pn**	**04 51 51.1**	**-1.4**
ALNE	**Al Ain**	**3.12**	**216**	*e*Pn	**Pn**	**04 51 54.8**	**+1.8**
NGRK	**Negar Kerman**	**3.16**	**343**	*e*Pn	**Pn**	**04 51 55.1**	**+1.2**
NGRK				IAMB	IAmb	04 52 50.4	
comp=Z,0.0nm,1.2s							
CHMN	**Cheshme madani**	**3.25**	**357**	*e*Pn	**Pn**	**04 51 56.4**	**+1.3**
CHMN				IAMB	IAmb	04 52 26.2	
comp=Z,0.0nm,0.6s							
WSAR	**Wadi Sarin**	**3.44**	**167**	Pn	**Pn**	**04 51 57.2**	**-0.2**
comp=Z,8.1nm,0.3s,baz=344,slow=7.2,SNR=42							
WSAR				Sn	**Sn**	**04 52 35.1**	**-3.2**
comp=Z,19nm,0.3s,baz=241,slow=22,SNR=17							
TVBK	**TV Kerman**	**3.48**	**346**	*e*Pn	**Pn**	**04 51 59.1**	**+0.9**
TVBK				IAMB	IAmb	04 53 12.8	
comp=Z,0.0nm,0.6s							
KHGB	**Koh Gabri**	**3.92**	**344**	*e*Pn	**Pn**	**04 52 05.8**	**+1.6**
KHGB				IAMB	IAmb	04 53 21.9	
comp=Z,0.0nm,1.2s							
ZHSF	**Zahedan**	**4.01**	**41**	*e*Pn	**Pn**	**04 52 05.1**	**-0.2**
GHIR	**Ghir-Karzin**	**4.56**	**293**	*e*Pn	**Pn**	**04 52 11.8**	**-1.1**
IKOO	**Kooshah**	**5.90**	**10**	*e*Pn	**Pn**	**04 52 31.3**	**-0.1**
ITEG	**Tejag**	**6.33**	**8**	*e*Pn	**Pn**	**04 52 37.5**	**+0.3**
ISAD	**Sadrabad**	**6.38**	**327**	*e*Pn	**Pn**	**04 52 38.3**	**+0.3**
YZKH	**Yazd**	**6.39**	**335**	*e*Pn	**Pn**	**04 52 37.5**	**-0.5**
EIL	**Elat**	**20.34**	**284**	P	**P**	**04 55 40.9**	**+0.6**
comp=Z,3.9nm,0.7s,baz=135,slow=8.6,SNR=4.3							
MMAI	**Mount Meron Ar**	**20.41**	**294**	P	**P**	**04 55 41.3**	**+0.3**
comp=Z,3.2nm,0.8s,baz=110,slow=12,SN

TVBK				IAMB	IAmb	04 55 38.1	
	comp=Z,0.0nm,0.5s						
KHGB	**Koh Gabri**	**3.93**	**344**	*e*Pn	**Pn**	**04 54 38.2**	**+2.2**
KHGB				IAMB	IAmb	04 54 49.8	
	comp=Z,0.0nm,0.4s						
ZHSF	**Zahedan**	**4.02**	**41**	*e*Pn	**Pn**	**04 54 38.9**	**+1.6**
ZHSF	**Zahedan**	**4.02**	**41**	*e*Pn	**Pn**	**04 54 38.9**	**+1.6**
GHIR	**Ghir-Karzin**	**4.55**	**293**	*e*Pn	**Pn**	**04 54 44.5**	**0.0**
GHIR	**Ghir-Karzin**	**4.55**	**293**	*e*P	**Pn**	**04 54 44.5**	**0.0**
IKOO	**Kooshah**	**5.91**	**10**	*e*Pn	**Pn**	**04 55 04.0**	**+0.7**
IKAZ	**Kazeroun**	**6.10**	**303**	*e*Pn	**Pn**	**04 55 06.5**	**+0.5**
IKAZ				IAMB	IAmb	04 56 24.1	
	comp=Z,2μm,0.6s						
YZKH	**Yazd**	**6.39**	**335**	*e*Pn	**Pn**	**04 55 10.1**	**+0.3**
YZKH	**Yazd**	**6.39**	**335**	*e*Pn	**Pn**	**04 55 10.1**	**+0.3**
IRAM	**Ramesheh**	**7.00**	**319**	*e*Pn	**Pn**	**04 55 19.3**	**+1.1**
ZNGN	**Zangian**	**8.15**	**314**	*e*Pn	**Pn**	**04 55 34.9**	**+0.8**
NIL	**Nilore**	**15.14**	**59**	*e*Pn	**Pn**	**04 57 10.2**	**+0.7**
	comp=Z,11nm,0.7s						
KK31	**Karatay Array**	**19.48**	**29**	*e*P	**Pn**	**04 58 05.0**	**+1.3**
	comp=Z,5.2nm,1.0s						
KKAR	**Karatay Array**	**19.48**	**29**	*e*P	**Pn**	**04 58 05.0**	**+1.3**
	comp=Z,5.2nm,1.0s						
EIL	**Elat**	**20.33**	**284**	P	Pn	04 58 12.9	-0.9
	comp=Z,6.2nm,0.7s,baz=52,slow=5.7,SNR=5.7						
MMAI	**Mount Meron Ar**	**20.40**	**294**	P	Pn	04 58 13.7	-1.0
	comp=Z,4.5nm,0.8s,baz=94,slow=13,SNR=3.6						
AAK	**Ala-Archa**	**21.06**	**36**	P	**P**	**04 58 19.2**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=222,slow=12,SNR=3.0						
AB31	**Akbulak array**	**22.69**	**4**	⇓S	**P**	**04 58 35.6**	**-1.4**
	comp=Z,3.6nm,0.8s,baz=192,slow=9.9,SNR=21						
ABKAR	**Akbulak array**	**22.69**	**4**	*e*P	**P**	**04 58 37.9**	**+0.8**
	comp=Z,3.3nm,0.8s						
AKTO	**Aktyubinsk**	**23.80**	**0**	P	**P**	**04 58 48.2**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=156,slow=11,SNR=7.5						
AKTO	**Aktyubinsk**	**23.80**	**0**	⇑⇑S	**P**	**04 58 50.2**	**+1.9**
	comp=Z,2.5nm,0.9s						
BR101	**Keskin Array S**	**23.97**	**309**	*e*P	**P**	**04 58 50.1**	**-0.1**
BR131	**Keskin Array S**	**23.97**	**309**	*e*P	**P**	**04 58 50.0**	**-0.1**
BRTR	**Keskin Array B**	**23.97**	**309**	P	**P**	**04 58 50.1**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=123,slow=10,SNR=7.2						
MK32	**Makanchi Array**	**27.98**	**37**	*e*P	**P**	**04 59 28.2**	**+2.0**
MKAR	**Makanchi Array**	**27.98**	**37**	P	**P**	**04 59 28.3**	**+2.0**
	comp=Z,0.6nm,0.8s,baz=222,slow=6.4,SNR=4.0						
BVAR	**Borovoye Array**	**28.04**	**16**	P	**P**	**04 59 27.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=210,slow=8.1,SNR=3.6						
BVAR				LR	LR	05 11 57.8	
	comp=Z,108nm,18.8s,baz=339,slow=39						
KURBB	**Kurchatov Arra**	**28.78**	**28**	P	**P**	**04 59 32.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=228,slow=8.1,SNR=5.1						
IDI	**Anoyia**	**29.38**	**295**	P	**P**	**04 59 39.0**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=76,slow=12,SNR=4.5						
VOIR		**32.14**	**314**	⇑*i*P	**P**	**05 00 04.3**	**+1.1**
ARR	**Arges**	**32.38**	**314**	⇓*i*P	**P**	**05 00 05.8**	**+0.5**
AKASG	**Malin Array Be**	**32.44**	**326**	P	**P**	**05 00 05.2**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=131,slow=8.0,SNR=7.2						
AKBB	**Malin Array Si**	**32.44**	**326**	*e*P	**P**	**05 00 06.1**	**+0.5**
	comp=Z,3.8nm,0.8s						
KIEV	**Kiev**	**32.44**	**326**	*e*P	**P**	**05 00 04.5**	**-1.1**
	comp=Z,3.7nm,0.8s						
KIEV	**Kiev**	**32.44**	**326**	⇑*i*P	**P**	**05 00 05.9**	**+0.3**
FNA	**Florina**	**33.15**	**305**	*e*P	**P**	**05 00 13.2**	**+1.1**
	comp=Z,5.5nm,0.8s						
GZR	**Gura Zlata**	**33.59**	**313**	⇓*i*P	**P**	**05 00 15.6**	**-0.3**
ZALV	**Zalesovo Beam**	**33.86**	**29**	P	**P**	**05 00 17.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=233,slow=8.9,SNR=2.5						
ZAA1	**Zalesovo Array**	**33.86**	**29**	*e*P	**P**	**05 00 17.7**	**-0.3**
MDVR	**Moldovita**	**34.08**	**312**	⇓*i*P	**P**	**05 00 20.4**	**+0.3**
BZS	**Buzias**	**34.43**	**313**	⇑*i*P	**P**	**05 00 24.0**	**+0.9**
SIRR	**Siria**	**34.64**	**314**	⇓*i*P	**P**	**05 00 25.8**	**+0.9**
CONA	**Conrad Observa**	**38.93**	**314**	*i* P	**P**	**05 01 01.7**	**+0.2**
	comp=Z,2.4nm,0.7s						
ARSA	**Arzberg**	**38.95**	**313**	*e*P	**P**	**05 01 01.9**	**+0.3**
	comp=Z,3.0nm,0.9s						
MOA	**Molln**	**39.94**	**314**	*e*P	**P**	**05 01 09.3**	**-0.6**
	comp=Z,3.2nm,0.6s						
KBA	**Koelnbreinsper**	**40.33**	**312**	*i* P	**P**	**05 01 13.5**	**+0.2**
	comp=Z,3.7nm,0.7s						
GEC2	**GERESS Array S**	**40.58**	**315**	*e*P	**P**	**05 01 14.3**	**-1.0**
	comp=Z,6.6nm,1.4s						
GERES	**GERESS Array B**	**40.58**	**315**	P	**P**	**05 01 14.3**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=110,slow=7.7,SNR=13						
KHC	**Kasperske Hory**	**40.74**	**315**	*e*P	**P**	**05 01 16.4**	**-0.1**
ABTA	**Abfaltersbach**	**40.81**	**312**	*i* P	**P**	**05 01 17.0**	**-0.1**
	comp=Z,5.1nm,0.7s						
FIA0	**FINESS Array S**	**40.83**	**337**	*e*P	**P**	**05 01 15.3**	**-1.6**
FINES	**FINESS Array B**	**40.83**	**337**	P	**P**	**05 01 15.3**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=141,slow=9.4,SNR=8.7						
WTTA	**Wattenberg**	**41.51**	**312**	*e*P	**P**	**05 01 22.7**	**-0.3**
	comp=Z,8.7nm,0.6s						
WATA	**Walderalm**	**41.57**	**312**	*e*P	**P**	**05 01 23.1**	**-0.4**
	comp=Z,2.6nm,0.4s						
SQTA	**Sankt Quirin**	**41.78**	**312**	*e*P	**P**	**05 01 24.7**	**-0.5**
	comp=Z,1.1nm,0.5s,SNR=7.4						
MOTA	**Moosalm**	**41.88**	**312**	*e*P	**P**	**05 01 25.2**	**-0.9**
	comp=Z,5.3nm,0.8s,SNR=6.1						
FETA	**Feichten**	**42.06**	**312**	*e*P	**P**	**05 01 26.9**	**-0.6**
	comp=Z,7.6nm,0.6s						
RETA	**Reutte**	**42.14**	**312**	*e*P	**P**	**05 01 27.6**	**-0.4**
	comp=Z,5.4nm,0.8s,SNR=4.4						
DAVA	**Damuels**	**42.68**	**312**	*e*P	**P**	**05 01 32.1**	**-0.4**
	comp=Z,17nm,0.5s,SNR=14						
HFS	**Hagfors**	**44.96**	**330**	P	**P**	**05 01 50.0**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=120,slow=10,SNR=6.5						
NB200	**NORSAR Array S**	**46.47**	**331**	*e*P	**P**	**05 02 00.7**	**-1.7**
NOA	**NORSAR Array B**	**46.47**	**331**	P	**P**	**05 02 00.7**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=116,slow=7.9,SNR=2.1						
ESDC	**Sonseca Array**	**52.36**	**301**	P	**P**	**05 02 47.6**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=69,slow=7.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**54.00**	**267**	P	**P**	**05 02 58.1**	**-2.1**
	comp=Z,1.1nm,0.5s,baz=66,slow=8.0,SNR=11						
TOA1	**Torodi Ar. Sit**	**54.00**	**267**	*e*P	**P**	**05 02 58.1**	**-2.1**
ILAR	**Eielson Array**	**86.93**	**10**	P	**P**	**05 06 20.5**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=322,slow=5.1,SNR=3.2						
ILB	**Eielson Array**	**86.93**	**10**	*e*P	**P**	**05 06 20.5**	**+0.1**
	comp=Z,7.1nm,0.6s						

ISK ***11*** *05:08:51.8, 38.°93N×43.°60E, h5km, ML2.2/3*
DDA ***11*** *05:08:52.6, 38.°93N×43.°63E, h10km, ML2.8*
ISCJB ***11*** *05:08:53.6±0.9, 38.°96N±0.°04×43.°62E±0.°07, h11km±6km, Error ellipse: s-maj=9.8km s-min=5.9km az=24.9*
ISC 11 05:08:52.6±1.1,**38.°95N**±0.°04×**43.°64E**±0.°04,**h14**km±7km,
n7, σ0§**77**/13,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**311**	*i* P	**Pg**	**05 08 55.8**	**+0.2**
VMUR				*i* S	**Sg**	05 08 57.4	-0.3
CLDR	**Caldiran**	**0.29**	**48**	PG	**Pg**	**05 08 59.2**	**+0.3**
CLDR				SG	**Sb**	**05 09 05.2**	**+0.5**
CLDR	**Caldiran**	**0.29**	**48**	IAML_P			
	comp=Z,9μm,0.1s						
CLDR				*i* P	**Pb**	**05 08 59.5**	**-0.4**
CLDR				*i* S	**Sb**	**05 09 04.8**	**+0.1**
VANB	**Van**	**0.40**	**209**	PG	**Pb**	**05 09 01.5**	**-0.1**
VANB				SG	**Sb**	**05 09 09.3**	**+1.7**
TVAN	**Van**	**0.45**	**203**	IAML_P			
	comp=Z,3μm,0.2s						
TVAN				*i* P	**Pb**	**05 09 02.1**	**-0.4**
TVAN				*i* S	**Sb**	**05 09 08.4**	**-0.9**
TUTA	**Tutak**	**0.79**	**306**	*i* P	**Pg**	**05 09 07.6**	**-0.3**
TUTA				*i* S	**Sb**	**05 09 19.8**	**+0.9**
AGRB	**Hanur-Agry**	**0.80**	**322**	PG	**Pb**	**05 09 08.3**	**-0.2**

IDC ***11*** *05:10:02.7±1.4, 29.°89N×51.°56E, h0km, mb3.7/10, mb1 3.8/14, mb1mx3.6/44, mbtmp3.8/14, ML3.9/4, Error ellipse: s-maj=28.2km s-min=20.8km az=169.0*
TEH ***11*** *05:10:03.7, 30.°17N×51.°70E, h9km, ML3.8*
ISCJB ***11*** *05:10:03.8±0.3, 30.°01N±0.°03×51.°61E±0.°03, h15km, mb3.9/16, Error ellipse: s-maj=4.9km s-min=2.9km az=140.1*
NEIC ***11*** *05:10:05.1±0.0, 30.°15N×51.°79E, h18km, mb4.1/12, ML4.0(THR), MN3.9(TEH), After TEH.*
THR ***11*** *05:10:05.4, 30.°21N×51.°66E, h18km, ML4.0*
DSN ***11*** *05:10:09.6±0.9, 29.°90N×52.°09E, h10km, ML4.3/7, Error ellipse: s-maj=37.2km s-min=6.8km az=45.0*
OMAN ***11*** *05:10:10.8±1.4, 29.°53N×51.°52E, h20km, ms3.1/1, Error ellipse: s-maj=22.4km s-min=7.3km az=35.0*
ISC 11 05:10:05.4±0.5,**30.°12N**±0.°03×**51.°67E**±0.°05,**h15**km,**n114,**
σ1§**68**/121,**mb4.1**/16,**3C-1D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.36**	**157**	*e*Pg	**Pg**	**05 10 13.2**	**+0.2**
IKAZ				*e*Sg	**Sb**	**05 10 19.6**	**+0.2**
IKAZ	**Kazeroun**	**0.36**	**157**	*e*Pg	**Pg**	**05 10 13.2**	**+0.2**
SHI	**Shiraz**	**0.87**	**123**	*e*Pg	**Pb**	**05 10 20.7**	**-1.6**
SHI				IAMB	IAmb	05 10 37.1	
	comp=Z,54μm,0.4s						
KLNJ	**Kolanjah**	**0.89**	**355**	*e*Pg	**Pg**	**05 10 20.0**	**-2.8**
KLNJ				*e*Sg	**Sg**	**05 10 32.8**	**-1.8**
IPAR	**Pars**	**1.22**	**103**	*e*Pn	**Pn**	**05 10 26.5**	**-1.8**
IPAR	**Pars**	**1.22**	**103**	*e*Pg	**Pn**	**05 10 26.4**	**-1.8**
IPAR				IAMB	IAmb	05 10 57.6	
	comp=Z,16μm,0.8s						
IRAM	**Ramesheh**	**1.79**	**20**	*e*Pn	**Pn**	**05 10 35.9**	**-0.1**
IRAM	**Ramesheh**	**1.79**	**20**	*e*Pg	**Pn**	**05 10 35.5**	**-0.5**
IRAM				IAMB	IAmb	05 11 07.1	
	comp=Z,10μm,0.4s						
GHIR	**Ghir-Karzin**	**2.15**	**147**	*e*Sn	**Sg**	**05 11 15.0**	**+0.3**
GHIR	**Ghir-Karzin**	**2.15**	**147**	*e*AML	AML	05 11 21.8	
	comp=N,956nm,0.4s						
GHIR				*e*Sg	**Sg**	**05 11 16.0**	**+1.3**
GHIR				*e*AML	AML	05 11 22.8	
	comp=E,1μm,0.4s						
IGAR	**Gharneh**	**2.30**	**8**	*e*Pn	**Pn**	**05 10 44.1**	**+1.1**
JHRM	**Jahrom**	**2.31**	**134**	*e*Pn	**Pn**	**05 10 43.8**	**+0.8**
ISAD	**Sadrabad**	**2.49**	**43**	*e*Pn	**Pb**	**05 10 47.7**	**-2.3**
ISAD	**Sadrabad**	**2.49**	**43**	*e*Pn	**Pn**	**05 10 47.1**	**+1.5**
ISAD				IAMB	IAmb	05 11 29.3	
	comp=Z,4μm,0.6s						
IPIR	**Pirpir**	**2.65**	**346**	*e*Pn	**Pn**	**05 10 48.3**	**+0.5**
IPIR				IAMB	IAmb	05 11 38.3	
	comp=Z,3μm,0.5s						
IZEF	**Zefreh**	**2.83**	**11**	*e*Pn	**Pn**	**05 10 50.8**	**+0.5**
IZEF	**Zefreh**	**2.83**	**11**	*e*Pn	**Pn**	**05 10 50.9**	**+0.6**
IZEF				IAMB	IAmb	05 10 57.5	
	comp=Z,4μm,0.5s						
IMEH	**Mehriz**	**2.83**	**63**	*e*Pn	**Pn**	**05 10 52.6**	**+2.3**
IMEH	**Mehriz**	**2.83**	**63**	*e*Pn	**Pn**	**05 10 51.4**	**+1.1**
IMEH				IAMB	IAmb	05 11 37.8	
	comp=Z,3μm,0.5s						
ICHK	**Chekchek**	**3.16**	**47**	*e*Pn	**Pn**	**05 10 55.6**	**+0.8**
ICHK				IAMB	IAmb	05 11 17.4	
	comp=Z,1μm,0.5s						
IKLH	**Kolahrood**	**3.19**	**359**	*e*Pn	**Pn**	**05 10 56.4**	**+1.1**
IKLH				IAMB	IAmb	05 11 09.5	
	comp=Z,3μm,0.7s						
YZKH	**Yazd**	**3.37**	**47**	*e*Pn	**Pn**	**05 10 59.0**	**+1.4**
YZKH	**Yazd**	**3.37**	**47**	*e*Pn	**Pn**	**05 10 59.0**	**+1.4**
ANAR	**Anarak**	**3.53**	**29**	*e*Pn	**Pn**	**05 11 00.8**	**+1.0**
KHMZ	**Khomeyn**	**3.90**	**338**	*e*Pn	**Pn**	**05 11 05.0**	**+0.1**
KHMZ	**Khomeyn**	**3.90**	**338**	*e*Pn	**Pn**	**05 11 05.3**	**+0.4**
KHGB	**Koh Gabri**	**4.16**	**85**	*e*Pn	**Pn**	**05 11 09.5**	**+0.9**
ISFB	**Sefidab**	**4.25**	**6**	*e*Pn	**Pn**	**05 11 09.6**	**-0.1**
IKMR	**Kamar-syah**	**4.40**	**321**	*e*Pn	**Pn**	**05 11 11.9**	**+0.3**
TVBK	**TV Kerman**	**4.41**	**90**	*e*Pn	**Pn**	**05 11 13.3**	**+1.2**
NGRK	**Negar Kerman**	**4.42**	**95**	*e*Pn	**Pn**	**05 11 13.3**	**+1.1**
IKFM	**Kafar-mosalman**	**4.71**	**317**	*e*Pn	**Pn**	**05 11 16.9**	**+1.1**
IDOB	**Doab**	**4.71**	**322**	*e*Pn	**Pn**	**05 11 16.4**	**+0.2**
GENO	**Geno**	**4.79**	**123**	*e*Pn	**Pn**	**05 11 16.9**	**-0.2**
CHMN	**Cheshme madani**	**5.09**	**91**	*e*Pn	**Pn**	**05 11 22.5**	**+1.0**
TPRV	**Parvadeh(Tabas**	**5.17**	**55**	*e*Pn	**Pn**	**05 11 23.1**	**+0.8**
NIAN	**Nian**	**5.19**	**118**	*e*Pn	**Pn**	**05 11 22.0**	**-0.6**
NIAN	**Nian**	**5.19**	**118**	*e*Pn	**Pn**	**05 11 22.5**	**-0.1**
ILAS	**Lasjerd**	**5.36**	**11**	*e*Pn	**Pn**	**05 11 26.7**	**+1.6**
IKOM	**Komasi**	**5.37**	**320**	*e*Pn	**Pn**	**05 11 25.2**	**+0.1**
IDMV	**Damavand**	**5.46**	**3**	*e*Pn	**Pn**	**05 11 27.0**	**+0.6**
IFIR	**Firoozkooh**	**5.58**	**9**	*e*Pn	**Pn**	**05 11 29.2**	**+1.0**
SHME	**Shamm**	**5.66**	**135**	*e*Pn	**Pn**	**05 11 27.8**	**-1.2**
IANJ	**Anjilo**	**5.66**	**19**	*e*Pn	**Pn**	**05 11 29.7**	**+0.5**
TKDS	**Koohdasht(Taba**	**5.80**	**52**	*e*Pn	**Pn**	**05 11 32.7**	**+1.7**
TABS	**Tabas**	**5.82**	**51**	*e*Pn	**Pn**	**05 11 32.0**	**+0.8**
TABS	**Tabas**	**5.82**	**51**	*e*Pn	**Pn**	**05 11 32.3**	**+1.1**
TABS	**Tabas**	**5.82**	**51**	*e*Pn	**Pn**	**05 11 32.3**	**+1.1**
IGHG	**Ghaleghazi**	**6.03**	**315**	*e*Pn	**Pn**	**05 11 35.5**	**+1.2**
MSFE	**Esma-Masafi**	**6.18**	**139**	*i* P	**Pn**	**05 11 36.2**	**0.0**
	SNR=17						
MSFE				S	**Sn**	**05 12 43.3**	**-3.4**
MSFE	**Esma-Masafi**	**6.18**	**139**	*e*Pn	**Pn**	**05 11 36.2**	**0.0**
NAZ	**Nazwa, Dubai**	**6.21**	**144**	*i* P	**Pn**	**05 11 35.7**	**-0.9**
	SNR=7.6						
NAZ	**Nazwa, Dubai**	**6.21**	**144**	P	**Pn**	**05 11 37.0**	**+0.4**
	SNR=7.9						
NAZ				S	**Sn**	**05 12 44.3**	**-3.1**
NAZ	**Nazwa, Dubai**	**6.21**	**144**	*e*Pn	**Pn**	**05 11 36.8**	**+0.2**
MDH	**Madha**	**6.31**	**138**	P	**Pn**	**05 11 37.1**	**-0.9**
MDH	**Madha**	**6.31**	**138**	*e*Pn	**Pn**	**05 11 37.9**	**0.0**
ASUD	**Al Ashush, Dub**	**6.36**	**148**	*i* P	**Pn**	**05 11 38.7**	**0.0**
	SNR=20						
ASUD	**Al Ashush, Dub**	**6.36**	**148**	P	**Pn**	**05 11 39.0**	**+0.4**
	SNR=20						
ASUD	**Al Ashush, Dub**	**6.36**	**148**	*e*Pn	**Pn**	**05 11 39.0**	**+0.4**
FAQ	**Al Faqa, Dubai**	**6.38**	**146**	P	**Pn**	**05 11 38.7**	**-0.2**
FAQ	**Al Faqa, Dubai**	**6.38**	**146**	P	**Pn**	**05 11 39.4**	**+0.5**
FAQ				S	**Sn**	**05 12 48.8**	**-2.7**
FAQ	**Al Faqa, Dubai**	**6.38**	**146**	*e*Pn	**Pn**	**05 11 39.2**	**+0.3**
HATD	**Hatta, Dubai**	**6.59**	**142**	P	**Pn**	**05 11 41.6**	**-0.2**
HATD	**Hatta, Dubai**	**6.59**	**142**	*e*Pn	**Pn**	**05 11 43.0**	**+1.2**
ASHO	**Ashiyiah**	**6.67**	**143**	*i* P	**Pn**	**05 11 42.4**	**-0.5**
	SNR=29						
ASHO	**Ashiyiah**	**6.67**	**143**	P	**Pn**	**05 11 43.3**	**+0.5**
	SNR=29						
ASHO				S	**Sn**	**05 12 55.1**	**-3.5**
ASHO	**Ashiyiah**	**6.67**	**143**	*e*Pn	**Pn**	**05 11 43.1**	**+0.2**
IKOO	**Kooshah**	**6.68**	**68**	*e*Pn	**Pn**	**05 11 44.5**	**+1.2**
SOHO	**SOHO**	**7.36**	**143**	P	**Pn**	**05 11 51.9**	**-0.5**
	SNR=6.4						
WSAR	**Wadi Sarin**	**9.25**	**136**	Pn	**Pn**	**05 12 17.2**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=331,slow=5.2,SNR=17						
WSAR				Sn	**Sn**	**05 13 55.0**	**-7.1**
	comp=Z,1.7nm,0.3s,baz=276,slow=23,SNR=9.7						
GEYT	**Alibeck**	**9.45**	**33**	Pn	Pn	05 12 26.8	+5.8
	comp=Z,0.6nm,0.3s,baz=200,slow=13,SNR=3.6						
ASF	**Jabal al Asfar**	**12.82**	**283**	Pn	**Pn**	**05 13 04.6**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=312,slow=5.5,SNR=6.7						
MMAI	**Mount Meron Ar**	**14.17**	**286**	Pn	**Pn**	**05 13 23.1**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=98,slow=19,SNR=3.7						
CSS	**Mathiatis**	**16.20**	**292**	*e*Pn	**Pn**	**05 13 52.2**	**-0.4**
	comp=Z,12nm,1.1s						
CHGR	**Chuyangaron**	**16.74**	**55**	*e*Pn	**Pn**	**05 13 56.6**	**-2.8**
	comp=Z,3.7nm,0.7s						
BR101	**Keskin Array S**	**17.60**	**308**	*e*P	**Pn**	**05 14 10.6**	**+0.3**
BR131	**Keskin Array S**	**17.60**	**308**	*e*Pn	**Pn**	**05 14 10.2**	**0.0**
	comp=Z,2.5nm,0.9s						
BRTR	**Keskin Array B**	**17.60**	**308**	P	**Pn**	**05 14 10.6**	**+0.3**
BRTR				*e*Pn	**P**	**05 14 10.7**	**-0.5**
BRTR	**Keskin Array B**	**17.60**	**308**	P	**Pn**	**05 14 10.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=126,slow=14,SNR=10						
GAR	**Garm**	**17.70**	**55**	*e*Pn	**P**	**05 14 13.7**	**+1.4**
	comp=Z,5.0nm,0.5s						
NIL	**Nilore**	**18.66**	**74**	*e*P	**Pn**	**05 14 24.8**	**+1.6**
	comp=Z,2.4nm,0.6s						
ABKAR	**Akbulak array**	**20.12**	**16**	*e*P	Pn	05 14 40.5	0.0
AKTO	**Aktyubinsk**	**20.85**	**11**	P	Pn	05 14 48.5	-0.5
	comp=Z,0.6nm,0.5s,baz=184,slow=13,SNR=3.2						
MLR	**Muntele Rosu**	**25.32**	**314**	⇑*i*P	**P**	**05 15 33.8**	**+2.2**
MLR	**Muntele Rosu**	**25.32**	**314**	P	**P**	**05 15 33.6**	**+2.0**
	comp=Z,3.3nm,0.7s,baz=210,slow=7.0,SNR=6.8						
AGG	**Agios Georgios**	**25.66**	**298**	*e*P	**P**	**05 15 35.0**	**+0.4**
	comp=Z,4.6nm,1.1s						
ITM	**Ithomi**	**25.68**	**294**	*e*P	**P**	**05 15 37.5**	**+2.7**
	comp=Z,5.3nm,0.7s						
VOIR		**25.86**	**314**	⇓*i*P	**P**	**05 15 38.9**	**+2.5**
ARR	**Arges**	**26.09**	**313**	⇑*i*P	**P**	**05 15 44.3**	**+5.8**
AKASG	**Malin Array Be**	**26.55**	**327**	P	**P**	**05 15 44.7**	**+2.2**
	comp=Z,0.5nm,0.4s,baz=135,slow=9.2,SNR=5.3						
AKBB	**Malin Array Si**	**26.55**	**327**	*e*P	**P**	**05 15 44.7**	**+2.2**
	comp=Z,7.8nm,1.5s						
KIEV	**Kiev**	**26.55**	**327**	*e*P	**P**	**05 15 44.6**	**+2.1**
	comp=Z,7.7nm,1.5s						
BVAR	**Borovoye Array**	**26.67**	**26**	P	**P**	**05 15 47.2**	**+3.6**
	comp=Z,0.8nm,0.6s,baz=212,slow=7.8,SNR=4.4						
BURAR	**Bucovina Array**	**26.82**	**318**	⇑*i*P	**P**	**05 15 50.0**	**+4.9**
KURBB	**Kurchatov Arra**	**28.69**	**37**	P	**P**	**05 16 02.3**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=238,slow=9.9,SNR=2.8						
WMQ	**Urumqi**	**31.60**	**54**	*e*P	**P**	**05 16 30.0**	**+2.4**
ZALV	**Zalesovo Beam**	**33.74**	**36**	P	**P**	**05 16 47.6**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=232,slow=9.0,SNR=3.4						
ZAA1	**Zalesovo Array**	**33.75**	**36**	*e*P	**P**	**05 16 47.6**	**+1.5**
KHC	**Kasperske Hory**	**34.48**	**314**	*e*P	**P**	**05 16 51.5**	**-1.1**
FIA0	**FINESS Array S**	**35.58**	**339**	*e*P	**P**	**05 17 01.8**	**-0.1**
FINES	**FINESS Array B**	**35.58**	**339**	P	**P**	**05 17 01.8**	**-0.1**
FINES				*e*P	**P**	**05 17 03.5**	**+1.7**
FINES	**FINESS Array B**	**35.58**	**339**	P	**P**	**05 17 01.8**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=143,slow=9.8,SNR=6.0						
GRA1	**Grafenberg Arr**	**36.12**	**314**	*e*P	**P**	**05 17 08.6**	**+1.9**
	comp=Z,12nm,1.4s						
ARA0	**ARCESS Array S**	**42.20**	**347**	*e*P	**P**	**05 17 57.6**	**+0.4**
ARCES	**ARCESS Array B**	**42.20**	**347**	P	**P**	**05 17 57.6**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=156,slow=9.8,SNR=2.6						
CD2	**Chengdu**	**44.53**	**75**	*e*P	**P**	**05 18 16.1**	**-0.6**
TOA0	**Torodi Ar. Sit**	**49.03**	**261**	*e*P	**P**	**05 18 51.4**	**-0.6**
	comp=Z,3.2nm,0.9s						
TOA1	**Torodi Ar. Sit**	**49.03**	**261**	*e*P	**P**	**05 18 50.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**49.03**	**261**	*e*P	**P**	**05 18 49.8**	**-2.3**
TORD				P	**P**	**05 18 50.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**49.03**	**261**	P	**P**	**05 18 50.4**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=51,slow=8.7,SNR=12						
HHC	**Hu-ho-hao-te**	**49.08**	**60**	*e*P	**P**	**05 18 53.1**	**+0.9**
TOLK	**Toolik Lake Re**	**80.29**	**8**	*e*P	**P**	**05 22 16.7**	**+1.3**
	comp=Z,4.4nm,1.5s						
YKA	**Yellowknife Ar**	**87.06**	**354**	P	**P**	**05 22 50.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=12,slow=5.5,SNR=3.3						
YKB5	**Yellowknife Ar**	**87.06**	**354**	*e*P	**P**	**05 22 50.0**	**-0.1**

THE ***11*** *05:13:37.8, 38.°94N×24.°08E, h4km±1km, ML2.0/12, Error ellipse: s-maj=1.7km s-min=0.5km az=231.0*
ATH 11 05:13:37.0, 38.°95N×24.°09E, h24km±1km,**ML2.1**/11,**Error ellipse: s-maj=1.7km s-min=0.8km az=40.0, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALNA	**Alonissos**	**0.26**	**320**	P	Pb	05 13 43.3	-0.1
ALNA				S	Sb	05 13 47.6	-0.2
ALNA				AML	AML	05

SHME				S	Sg	05 22 21.1	+6.1
GENO	**Geno**	**1.56**	**302**	*e*Pn	**Pb**	05 21 57.4	+0.4
GENO				*e*Sn	**Sg**	05 22 20.4	+2.3
GENO	**Geno**	**1.56**	**302**	*e*Pn	**Pg**	05 21 58.0	+0.1
GENO				*e*Sg	**Sg**	05 22 20.5	+2.3
GENO				IAMB	IAmb	05 22 26.0	
	comp=Z,0.0nm,0.4s						
BNDS	**Bandar-Abbas**	**1.56**	**302**	*e*AML	AML	05 22 21.4	
	comp=N,2μm,0.6s						
BNDS				*e*Pg	**Pn**	05 21 53.5	-2.4
MDH	**Madha**	**1.77**	**224**	*e*Pn	**Pn**	05 21 58.2	-0.4
	SNR=9.8						
MDH	**Madha**	**1.77**	**224**	*e*Pn	**Pn**	05 21 58.8	+0.2
MSFE	**Esma-Masafi**	**1.82**	**228**	*e*P	**Pn**	05 21 59.6	+0.3
	SNR=9.2						
MSFE	**Esma-Masafi**	**1.82**	**228**	*e*Pn	**Pn**	05 22 00.2	+0.9
UMQ	**Umm Al-Quwin**	**2.08**	**240**	*e*Pn	**Pg**	05 22 07.4	-0.5
HATD	**Hatta, Dubai**	**2.23**	**219**	*e*P	**Pn**	05 22 04.6	-0.3
	SNR=10						
HATD	**Hatta, Dubai**	**2.23**	**219**	*e*Pn	**Pn**	05 22 05.0	+0.1
ASHO	**Ashiyiah**	**2.38**	**218**	*e*P	**Pn**	05 22 07.8	+0.7
	SNR=19						
ASHO	**Ashiyiah**	**2.38**	**218**	*e*Pn	**Pb**	05 22 10.0	-0.9
NAZ	**Nazwa, Dubai**	**2.40**	**229**	*e*P	**Pn**	05 22 08.8	+1.5
	SNR=27						
NAZ	**Nazwa, Dubai**	**2.40**	**229**	*e*Pn	**Pb**	05 22 12.3	+1.1
FAQ	**Al Faqa, Dubai**	**2.61**	**226**	*e*Pn	**Pb**	05 22 14.1	-0.7
CHBR	**Chabahar**	**2.72**	**111**	*e*Pn	**Pn**	05 22 13.0	+1.4
CHBR	**Chabahar**	**2.72**	**111**	*e*Pn	**Pn**	05 22 13.5	+1.8
CHBR	**Chabahar**	**2.72**	**111**	*e*Pn	**Pn**	05 22 13.5	+1.8
ASUD	**Al Ashush, Dub**	**2.87**	**228**	*i* P	**Pn**	05 22 16.5	+2.8
	SNR=7.3						
ASUD	**Al Ashush, Dub**	**2.87**	**228**	*e*Pn	**Pb**	05 22 17.3	-1.9
HOQ	**Hoqain**	**3.00**	**186**	*e*Pn	**Pn**	05 22 16.5	+0.9
ALNE	**Al Ain**	**3.05**	**215**	*e*Pn	**Pn**	05 22 19.1	+2.9
BIDO	**Bidbid**	**3.08**	**172**	*e*Pn	**Pn**	05 22 17.4	+0.8
AJN	**Ajban**	**3.14**	**231**	*e*Pn	**Pb**	05 22 22.9	-1.0
NGRK	**Negar Kerman**	**3.16**	**345**	*e*Pn	**Pn**	05 22 18.9	+0.8
NGRK	**Negar Kerman**	**3.16**	**345**	*e*Pn	**Pn**	05 22 19.1	+1.0
NGRK				IAMB	IAmb	05 23 12.8	
	comp=Z,0.0nm,0.6s						
CHMN	**Cheshme madani**	**3.27**	**358**	*e*Pn	**Pn**	05 22 20.7	+1.1
CHMN	**Cheshme madani**	**3.27**	**358**	*e*Pn	**Pn**	05 22 21.2	+1.6
WSAR	**Wadi Sarin**	**3.44**	**165**	Pn	**Pn**	05 22 21.2	-0.4
	comp=Z,12nm,0.3s,baz=355,slow=11,SNR=77						
WSAR				Sn	**Sn**	05 22 59.5	-3.0
	comp=Z,4.1nm,0.3s,baz=9.2,slow=11,SNR=4.0						
TVBK	**TV Kerman**	**3.48**	**347**	*e*Pn	**Pn**	05 22 24.0	+1.5
TVBK				IAMB	IAmb	05 23 24.0	
	comp=Z,0.0nm,0.4s						
KHGB	**Koh Gabri**	**3.92**	**345**	*e*Pn	**Pn**	05 22 28.6	+0.2
KHGB				IAMB	IAmb	05 22 41.7	
	comp=Z,0.0nm,0.5s						
ZHSF	**Zahedan**	**4.08**	**42**	*e*Pn	**Pn**	05 22 31.0	+0.4
ZHSF	**Zahedan**	**4.08**	**42**	*e*Pn	**Pn**	05 22 31.9	+1.3
ZHSF	**Zahedan**	**4.08**	**42**	*e*Pn	**Pn**	05 22 31.9	+1.3
GHIR	**Ghir-Karzin**	**4.49**	**293**	*e*Pn	**Pn**	05 22 35.0	-1.1
GHIR	**Ghir-Karzin**	**4.49**	**293**	*e*Pn	**Pn**	05 22 35.2	-0.9
GHIR	**Ghir-Karzin**	**4.49**	**293**	*e*P	**Pn**	05 22 35.2	-0.9
IPAR	**Pars**	**5.21**	**310**	*e*Pn	**Pn**	05 22 48.7	+2.5
IMEH	**Mehriz**	**5.49**	**332**	*e*Pn	**Pn**	05 22 50.1	+0.2
IKOO	**Kooshah**	**5.94**	**11**	*e*Pn	**Pn**	05 22 55.2	-1.0
IKAZ	**Kazeroun**	**6.05**	**303**	*e*Pn	**Pn**	05 22 57.8	+0.1
ISAD	**Sadrabad**	**6.35**	**328**	*e*Pn	**Pn**	05 23 02.8	+1.0
ISAD	**Sadrabad**	**6.35**	**328**	*e*Pn	**Pn**	05 23 02.9	+1.1
ITEG	**Tejag**	**6.37**	**8**	*e*Pn	**Pn**	05 23 01.4	-0.6
TPRV	**Parvadeh(Tabas**	**6.48**	**353**	*e*Pn	**Pn**	05 23 04.6	+1.1
IRAM	**Ramesheh**	**6.96**	**320**	*e*Pn	**Pn**	05 23 10.4	+0.2
TKDS	**Koohdasht(Taba**	**7.03**	**356**	*e*Pn	**Pn**	05 23 10.8	-0.2
IGAR	**Gharneh**	**7.59**	**321**	*e*Pn	**Pn**	05 23 20.2	+1.3
NIL	**Nilore**	**15.21**	**59**	*e*Pn	**Pn**	05 25 03.2	+0.3
	comp=Z,8.6nm,0.8s						
BTK	**Batken**	**17.34**	**36**	*e*P	**P**	05 25 31.4	-0.1
	comp=Z,3.9nm,0.7s						
KK31	**Karatay Array**	**19.53**	**29**	*e*P	**P**	05 25 54.8	-0.7
	comp=Z,3.3nm,0.6s						
KKAR	**Karatay Array**	**19.53**	**29**	*e*P	**P**	05 25 55.0	-0.5
	comp=Z,3.3nm,0.6s						
EIL	**Elat**	**20.26**	**284**	P	Pn	05 26 05.4	-0.1
	comp=Z,7.2nm,1.1s,baz=278,slow=7.2,SNR=4.1						
MMAI	**Mount Meron Ar**	**20.34**	**294**	P	**P**	05 26 03.7	-0.7
	comp=Z,1.3nm,0.5s,baz=107,slow=14,SNR=3.2						
AAK	**Ala-Archa**	**21.12**	**36**	P	**P**	05 26 14.6	+1.7
	comp=Z,1.5nm,0.5s,baz=195,slow=11,SNR=4.1						
ABKAR	**Akbulak array**	**22.71**	**4**	*e*P	**P**	05 26 27.1	-2.6
AKTO	**Aktyubinsk**	**23.82**	**1**	P	**P**	05 26 41.4	+0.4
	comp=Z,2.0nm,0.5s,baz=171,slow=12,SNR=6.1						
BR101	**Keskin Array S**	**23.92**	**309**	*e*P	**P**	05 26 43.0	+0.8
BR131	**Keskin Array S**	**23.92**	**309**	*e*P	**P**	05 26 43.7	+1.6
	comp=Z,4.4nm,0.8s						
BRTR	**Keskin Array B**	**23.92**	**309**	*e*P	**P**	05 26 43.7	+1.5
BRTR	**Keskin Array B**	**23.92**	**309**	P	**P**	05 26 43.0	+0.8
	comp=Z,3.1nm,0.7s,baz=124,slow=8.9,SNR=22						
MK32	**Makanchi Array**	**28.03**	**38**	*e*P	**P**	05 27 20.1	+0.9
MKAR	**Makanchi Array**	**28.03**	**38**	P	**P**	05 27 20.1	+0.9
	comp=Z,0.3nm,0.6s,baz=224,slow=8.1,SNR=3.1						
BVAR	**Borovoye Array**	**28.08**	**16**	P	**P**	05 27 21.0	+1.5
	comp=Z,0.4nm,0.5s,baz=198,slow=8.6,SNR=4.8						
AKASG	**Malin Array Be**	**32.41**	**326**	*e*P	**P**	05 27 57.7	-0.2
AKASG	**Malin Array Be**	**32.41**	**326**	P	**P**	05 27 56.3	-1.6
	comp=Z,0.8nm,0.5s,baz=130,slow=8.3,SNR=5.2						
AKBB	**Malin Array Si**	**32.41**	**326**	*e*P	**P**	05 27 58.4	+0.6
	comp=Z,3.0nm,1.0s						
KIEV	**Kiev**	**32.42**	**326**	*e*P	**P**	05 27 58.3	+0.4
	comp=Z,2.6nm,0.9s						
ZALV	**Zalesovo Beam**	**33.91**	**29**	*e*P	**P**	05 28 13.2	+2.4
ZALV	**Zalesovo Beam**	**33.91**	**29**	P	**P**	05 28 11.7	+0.9
	comp=Z,0.7nm,0.3s,baz=236,slow=8.2,SNR=5.1						
ZAA1	**Zalesovo Array**	**33.91**	**29**	*e*P	**P**	05 28 11.7	+0.8
MOA	**Molln**	**39.89**	**314**	*i* P	**P**	05 29 01.9	0.0
	comp=Z,4.2nm,0.7s						
KBA	**Koelnbreinsper**	**40.29**	**312**	*e*P	**P**	05 29 05.4	0.0
	comp=Z,4.1nm,0.8s						
GEC2	**GERESS Array S**	**40.54**	**315**	*e*P	**P**	05 29 06.7	-0.7
	comp=Z,3.7nm,1.1s						
GERES	**GERESS Array B**	**40.54**	**315**	*e*P	**P**	05 29 06.4	-1.0
GERES	**GERESS Array B**	**40.54**	**315**	P	**P**	05 29 06.7	-0.7
	comp=Z,1.3nm,0.7s,baz=106,slow=7.2,SNR=13						
KHC	**Kasperske Hory**	**40.70**	**316**	*e*P	**P**	05 29 08.4	-0.2
	comp=Z,1.1nm,0.7s						
ABTA	**Abfaltersbach**	**40.76**	**312**	*e*P	**P**	05 29 09.3	+0.1
	comp=Z,4.0nm,0.5s						
FIA0	**FINESS Array S**	**40.81**	**337**	*e*P	**P**	05 29 07.6	-1.6
FINES	**FINESS Array B**	**40.81**	**337**	*e*P	**P**	05 29 08.3	-0.9
FINES	**FINESS Array B**	**40.81**	**337**	P	**P**	05 29 07.6	-1.6
	comp=Z,0.6nm,0.5s,baz=127,slow=9.5,SNR=7.2						
WTTA	**Wattenberg**	**41.47**	**312**	*i* P	**P**	05 29 14.6	-0.5
	comp=Z,7.2nm,0.6s						
CLL	**Collm**	**41.73**	**318**	*e*pP	pP	05 29 22.0	+1.6
SQTA	**Sankt Quirin**	**41.74**	**312**	*i* P	**P**	05 29 16.7	-0.6
	comp=Z,6.5nm,0.5s						
MOTA	**Moosalm**	**41.84**	**312**	*i* P	**P**	05 29 18.0	-0.2
	comp=Z,4.6nm,0.6s						
FETA	**Feichten**	**42.02**	**312**	*e*P	**P**	05 29 19.2	-0.4
	comp=Z,5.8nm,0.6s						
RETA	**Reutte**	**42.09**	**312**	*i* P	**P**	05 29 19.1	-1.0
	comp=Z,2.9nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**42.25**	**311**	*e*P	**P**	05 29 22.5	+0.8
	comp=Z,5.2nm,1.1s						
DAVA	**Damuels**	**42.64**	**312**	*i* P	**P**	05 29 24.0	-0.6
	comp=Z,12nm,0.6s						
NRIK	**Noril'sk**	**46.24**	**14**	LR	LR	05 49 41.8	
	comp=Z,338nm,21.6s,baz=232,slow=37						
NB200	**NORSAR Array S**	**46.44**	**331**	*e*P	**P**	05 29 52.9	-1.8
NOA	**NORSAR Array B**	**46.44**	**331**	P	**P**	05 29 52.9	-1.8
	comp=Z,0.3nm,0.6s,baz=120,slow=7.4,SNR=2.1						
ARA0	**ARCESS Array S**	**46.90**	**345**	*e*P	**P**	05 29 56.9	-1.3
ARCES	**ARCESS Array B**	**46.90**	**345**	P	**P**	05 29 56.8	-1.3
	comp=Z,1.6nm,0.9s,baz=130,slow=9.8,SNR=2.8						
ESDC	**Sonseca Array**	**52.30**	**301**	P	**P**	05 30 39.8	-0.1
	comp=Z,0.2nm,0.4s,baz=72,slow=7.4,SNR=2.8						
TOA0	**Torodi Ar. Sit**	**53.93**	**267**	*e*P	**P**	05 30 51.7	-0.4
	comp=Z,7.6nm,1.3s						
TOA1	**Torodi Ar. Sit**	**53.93**	**267**	*e*P	**P**	05 30 51.5	-0.5
TORD	**Torodi Ar. Bea**	**53.93**	**267**	*e*P	**P**	05 30 51.8	-0.3
TORD	**Torodi Ar. Bea**	**53.93**	**267**	P	**P**	05 30 51.5	-0.5
	comp=Z,0.8nm,0.6s,baz=61,slow=7.9,SNR=6.0						
SUMG	**Summit**	**66.69**	**341**	*e*P	**P**	05 32 18.9	-0.2
IMAR	**Indian Mountai**	**84.65**	**12**	*e*P	**P**	05 34 00.3	-1.1
BMAR	**Burnt Mountain**	**84.80**	**8**	*e*P	**P**	05 34 01.9	-0.4
WR1	**Warramunga Arr**	**87.52**	**114**	*e*P	**P**	05 34 18.2	+1.8
WRA	**Warramunga Arr**	**87.52**	**114**	P	**P**	05 34 18.2	+1.8
	comp=Z,0.6nm,1.0s,baz=315,slow=4.2,SNR=3.5						

ISCJB ***11*** *05:29:45.6±0.6, 14°.14N±0°.06×91°.54W±0°.04, h63km±6km, mb3.7/3, Error ellipse: s-maj=11.5km s-min=4.0km az=32.3*
SNET ***11*** *05:29:46.6±1.1, 14°.08N×91°.30W, h10km±12km, ML3.9*
UCR ***11*** *05:29:46.8±1.6, 13°.99N×91°.46W, h35km±999km, MD3.7, ML3.8, mb4.0(NEIC)*
NEIC ***11*** *05:29:46.8±2.7, 14°.03N×91°.72W, h36km±6km, mb4.0/11, MD4.0(MEX), Error ellipse: s-maj=17.6km s-min=10.2km az=196.0*
MEX ***11*** *05:29:48.1±0.5, 14°.27N×91°.45W, h71km±11km, MD4.0*
IDC ***11*** *05:29:48.5±1.9, 14°.27N×91°.39W, h88km±14km, mb3.3/2, mb1 3.6/5, mb1mx3.2/40, mbtmp3.6/5, Error ellipse: s-maj=28.0km s-min=11.9km az=27.0*

ISC 11 05:29:46.8±1.1, 14°.09N±0°.07×91°.54W±0°.04, h62km±11km, n52, σ1°.74/67, mb3.8/3, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.76**	**62**	‖ *i*P	**Pn**	**05 30 01.4**	**-0.7**
PCG	**Pacaya**	**0.95**	**71**	*e*P	**Pn**	**05 30 04.1**	**-0.5**
IXG	**Ixpaco**	**1.05**	**85**	*e*P	**Pn**	**05 30 05.3**	**-0.4**
THIG		**1.08**	**319**	*e*Pn	**Pn**	**05 30 05.5**	**-0.5**
THIG				*e*Sn	**Sn**	**05 30 17.7**	**-2.5**
THIG		**1.08**	**319**	*e*P	**Pn**	**05 30 05.5**	**-0.5**
THIG				*i* S	**Sn**	**05 30 19.0**	**-1.1**
NBG	**Las Nubes**	**1.25**	**67**	*e*P	**Pn**	**05 30 08.4**	**-0.1**
APG	**El Apazote**	**1.38**	**49**	P	**Pn**	**05 30 08.7**	**-1.5**
	34nm,0.3s,baz=198,slow=14,SNR=273						
APG				S	**Sn**	**05 30 27.0**	**-0.6**
	72nm,0.3s,baz=308,slow=19,SNR=24						
RTR	**El Retiro**	**1.84**	**96**	*e*P	**Pn**	**05 30 15.3**	**-1.1**
RTR	**El Retiro**	**1.84**	**96**	*e*P	**Pn**	**05 30 15.3**	**-1.1**
CEVE	**Cerro Verde**	**1.87**	**98**	*e*P	**Pn**	**05 30 15.6**	**-1.2**
CEVE				*e*S	**Sn**	**05 30 38.2**	**-1.4**
CEVE				IAML		05 30 46.3	
	comp=Z,3μm,0.4s						
CEVE	**Cerro Verde**	**1.87**	**98**	*e*P	**Pn**	**05 30 15.6**	**-1.2**
CEVE				*e*S	**Sn**	**05 30 38.2**	**-1.4**
CEVE				IAML		05 30 46.3	
	comp=Z,3μm,0.4s						
SBLS	**San Blas**	**1.87**	**97**	*e*P	**Pn**	**05 30 16.0**	**-0.8**
SBLS	**San Blas**	**1.87**	**97**	*e*P	**Pn**	**05 30 16.0**	**-0.8**
SNJE	**San Jose**	**1.89**	**97**	*e*P	**Pn**	**05 30 15.9**	**-1.1**
SNJE	**San Jose**	**1.89**	**97**	*e*P	**Pn**	**05 30 15.9**	**-1.1**
MRL	**Marmol**	**2.03**	**61**	*e*P	**Pn**	**05 30 18.5**	**-0.4**
BOQS	**Boqueron**	**2.22**	**99**	*e*P	**Pn**	**05 30 20.6**	**-0.9**
BOQS				*e*S	**Sn**	**05 30 48.1**	**+0.1**
CCIG	**Comitan**	**2.25**	**345**	*e*Pn	**Pn**	**05 30 22.2**	**+0.2**
CCIG				*e*Sn	**Sn**	**05 30 52.2**	**+3.5**
CCIG	**Comitan**	**2.25**	**345**	*e*P	**Pn**	**05 30 20.5**	**-1.4**
CCIG				*e*S	**Sn**	**05 30 45.0**	**-3.8**
PCIG		**2.29**	**315**	*e*Pn	**Pn**	**05 30 22.0**	**-0.2**
PCIG				*e*Sn	**Sn**	**05 30 47.4**	**-1.9**
PCIG		**2.29**	**315**	*e*P	**Pn**	**05 30 22.0**	**-0.2**
PCIG				*e*S	**Sn**	**05 30 47.4**	**-1.9**
LFU	**La Fuente**	**2.38**	**98**	*e*P	**Pn**	**05 30 22.0**	**-1.5**
LFU	**La Fuente**	**2.38**	**98**	*e*P	**Pn**	**05 30 22.0**	**-1.5**
LBRS	**Las Brisas**	**2.44**	**98**	*e*P	**Pn**	**05 30 23.3**	**-1.1**
LFRS	**El Faro**	**2.45**	**101**	*e*P	**Pn**	**05 30 23.9**	**-0.6**
PAVA	**Las Pavas**	**2.55**	**98**	*e*P	**Pn**	**05 30 24.6**	**-1.3**
PAVA	**Las Pavas**	**2.55**	**98**	*e*P	**Pn**	**05 30 24.6**	**-1.3**
LCND	**La Caada**	**3.63**	**102**	*e*P	**Pn**	**05 30 39.5**	**-1.1**
LCND	**La Caada**	**3.63**	**102**	*e*P	**Pn**	**05 30 39.5**	**-1.1**
TGUH	**Tegucigalpa,Un**	**4.13**	**90**	*e*Pn	**Pn**	**05 30 49.2**	**+1.7**
CMIG	**Matias Romero**	**4.39**	**313**	*e*Pn	**Pn**	**05 30 50.9**	**-0.2**
CMIG				*e*Sn	**Sn**	**05 31 39.9**	**-1.1**
CMIG	**Matias Romero**	**4.39**	**313**	*e*P	**Pn**	**05 30 50.9**	**-0.2**
CMIG				*e*S	**Sn**	**05 31 39.9**	**-1.1**
CMIG	**Matias Romero**	**4.39**	**313**	P	**Pn**	**05 30 52.0**	**+0.9**
	comp=Z,6.2nm,0.3s,baz=124,slow=9.0,SNR=31						
CMIG				S	**Sn**	**05 31 43.0**	**+2.0**
	comp=Z,5.4nm,0.3s,baz=262,slow=21,SNR=5.0						
ACON	**Acoyapa**	**6.55**	**108**	*e*Pn	**Pn**	**05 31 22.2**	**+1.7**
TEIG	**Tepich**	**6.85**	**27**	*e*Pn	**Pn**	**05 31 23.6**	**-1.1**
MYIG	**Mrida**	**7.04**	**14**	*e*Pn	**Pn**	**05 31 25.8**	**-1.4**
JTS	**Las Juntas de**	**7.46**	**120**	*e*Pn	**Pn**	**05 31 35.3**	**+2.1**
JTS	**Las Juntas de**	**7.46**	**120**	P	**Pn**	**05 31 34.1**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=341,slow=9.8,SNR=8.8						
JTS				S	**Sn**	**05 32 59.0**	**+2.7**
	comp=Z,0.4nm,0.3s,baz=38,slow=19,SNR=2.3						
451A	**Vernon**	**17.29**	**17**	*e*Pn	**Pn**	**05 33 43.5**	**-0.6**
	comp=Z,266nm,1.4s						
656A	**Willston**	**17.34**	**27**	*e*Pn	**Pn**	**05 33 45.0**	**+0.3**
	comp=Z,22nm,1.2s						
147A	**Livingston**	**18.74**	**9**	*e*P	**Pn**	**05 34 07.1**	**+5.5**
	comp=Z,10nm,0.6s						
TXAR	**Lajitas Array**	**18.87**	**325**	P	**P**	**05 34 03.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=149,slow=11,SNR=2.4						
TX31	**Lajitas Ar. Si**	**18.87**	**325**	*e*P	**Pn**	**05 34 03.9**	**+0.4**
	comp=Z,0.9nm,1.1s						
LRAL	**Lakeview Retre**	**19.30**	**12**	*e*P	**Pn**	**05 34 14.4**	**+6.0**
	comp=Z,5.5nm,1.1s						
152A	**Waverly Hall**	**19.51**	**17**	*e*P	**Pn**	**05 34 12.3**	**+1.5**
	comp=Z,3.3nm,1.0s						
Z50A	**Ashland**	**19.75**	**14**	*e*P	**P**	**05 34 10.7**	**-1.1**
	comp=Z,11nm,1.4s						
SLBS	**Sierra La Lagu**	**19.84**	**301**	*e*P	**P**	**05 34 13.8**	**+0.9**
	comp=Z,23nm,1.5s						
GOGA	**Godfrey**	**20.59**	**20**	*e*P	**P**	**05 34 21.3**	**+0.5**
	comp=Z,8.2nm,1.4s						
WHAR	**Wooly Hollow**	**21.12**	**358**	*e*P	**P**	**05 34 26.9**	**+0.4**
	comp=Z,11nm,1.4s						
NVAR	**Mina Array Bea**	**33.88**	**321**	P	**P**	**05 36 24.6**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=133,slow=8.9,SNR=11						
NVAR				PcP	**PcP**	**05 39 00.9**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=145,slow=3.3,SNR=3.9						
YKA	**Yellowknife Ar**	**51.04**	**346**	P	P	05 38 38.4	-4.1
	comp=Z,0.3nm,0.6s,baz=150,slow=7.3,SNR=7.7						
YKA				PcP	**PcP**	**05 39 54.1**	**-3.5**
	comp=Z,0.1nm,0.6s,baz=151,slow=3.7,SNR=6.3						
CMAR	**Chiang Mai Arr**	**146.05**	**342**	PKPbc	**PKPdf**	**05 49 17.8**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=342,slow=3.0,SNR=7.2						

ISCJB ***11*** *05:34:12.8±0.2, 26°.66N±0°.02×57°.78E±0°.03, h10km, mb4.2/65, MS3.7/4, Error ellipse: s-maj=3.7km s-min=3.4km az=20.1*
OMAN ***11*** *05:34:12.8±11.0, 26°.89N×57°.88E, h20km, ml4.4/8, Error ellipse: s-maj=121.0km s-min=48.2km az=13.0*
IDC ***11*** *05:34:12.8±0.7, 26°.65N×57°.68E, h0km, mb3.9/24, mb1 4.1/26, mb1mx4.0/47, mbtmp4.0/26, ML4.2/2, MS3.8/4, Ms1 3.8/4, ms1mx3.2/59, Error ellipse: s-maj=16.9km s-min=13.6km az=2.0*
TEH ***11*** *05:34:12.7, 26°.62N×57°.82E, h8km, ML4.4*
NEIC ***11*** *05:34:14.5±0.0, 26°.65N×57°.76E, h11km, mb4.4/35, ML4.2(THR), MN4.4(TEH), After TEH.*
THR ***11*** *05:34:14.0, 26°.66N×57°.77E, h18km, ML4.2*
MOS ***11*** *05:34:14.6±1.2, 26°.75N×57°.85E, h18km, mb4.4/30, Error ellipse: s-maj=7.8km s-min=5.3km az=105.9*

ISC 11 05:34:14.3±0.4, 26°.58N±0°.04×57°.82E±0°.04, h10km, n235, σ1°.53/236, mb4.3/66, MS3.6/4, 18C-7D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.31**	**318**	*e*Pn	**Pn**	**05 34 37.9**	**-0.7**
NIAN	**Nian**	**1.31**	**318**	*e*Pg	**Pn**	**05 34 38.0**	**-0.7**
NIAN				IAMB	IAmb	05 35 06.3	
	comp=Z,0.0nm,0.2s						
GENO	**Geno**	**1.68**	**299**	*e*Pn	**Pn**	**05 34 44.1**	**+0.2**
GENO				*e*Sn	**Sb**	**05 35 08.3**	**+1.6**
GENO	**Geno**	**1.68**	**299**	*e*Pn	**Pn**	**05 34 44.1**	**+0.2**
GENO				IAMB	IAmb	05 35 19.6	
	comp=Z,0.0nm,0.4s						
BNDS	**Bandar-Abbas**	**1.68**	**299**	*e*AML	AML	05 35 08.0	
	comp=N,3μm,0.6s						
BNDS				*e*AML	AML	05 35 13.5	
	comp=E,2μm,0.4s						
MDH	**Madha**	**1.87**	**227**	P	**Pn**	**05 34 45.3**	**-1.0**
	SNR=60						
MDH				S	**Sg**	**05 35 15.5**	**+1.1**
MDH	**Madha**	**1.87**	**227**	*e*Pn	**Pn**	**05 34 45.4**	**-1.0**
MSFE	**Esma-Masafi**	**1.92**	**231**	*e*Pn	**Pn**	**05 34 46.5**	**-0.6**
UMQ	**Umm Al-Quwin**	**2.21**	**242**	*e*Pn	**Pb**	**05 34 55.0**	**+0.8**
HATD	**Hatta, Dubai**	**2.31**	**221**	*e*Pn	**Pn**	**05 34 53.0**	**+0.5**
ASHO	**Ashiyiah**	**2.47**	**220**	P	**Pn**	**05 34 57.2**	**+2.5**
	SNR=18						
ASHO	**Ashiyiah**	**2.47**	**220**	*e*Pn	**Pn**	**05 34 56.7**	**+2.1**
NAZ	**Nazwa, Dubai**	**2.51**	**231**	*e*Pn	**Pb**	**05 34 58.5**	**-0.9**
CHBR	**Chabahar**	**2.59**	**112**	*e*Pn	**Pn**	**05 34 57.0**	**+0.8**
CHBR	**Chabahar**	**2.59**	**112**	*e*Pn	**Pn**	**05 34 58.0**	**+1.7**
CHBR	**Chabahar**	**2.59**	**112**	*e*Pn	**Pn**	**05 34 58.0**	**+1.7**
SOHO	**SOHO**	**2.70**	**206**	P	**Pn**	**05 34 56.0**	**-1.8**
	SNR=22						
FAQ	**Al Faqa, Dubai**	**2.71**	**228**	*e*Pn	**Pn**	**05 35 00.6**	**+2.6**
ASUD	**Al Ashush, Dub**	**2.97**	**230**	P	**Pn**	**05 35 04.2**	**+2.7**
	SNR=20						
ASUD	**Al Ashush, Dub**	**2.97**	**230**	*e*Pn	**Pn**	**05 35 04.2**	**+2.7**
HOQ	**Hoqain**	**3.02**	**189**	*e*Pn	**Pn**	**05 35 02.1**	**-0.1**
ALNE	**Al Ain**	**3.13**	**217**	*e*Pn	**Pn**	**05 35 04.7**	**+1.0**
NGRK	**Negar Kerman**	**3.20**	**343**	*e*Pn	**Pn**	**05 35 05.1**	**+0.1**
NGRK	**Negar Kerman**	**3.20**	**343**	*e*Pn	**Pn**	**05 35 05.6**	**+0.6**
NGRK				IAMB	IAmb	05 36 01.8	
	comp=Z,0.0nm,0.8s						
AJN	**Ajban**	**3.25**	**232**	*e*Pn	**Pn**	**05 35 09.7**	**+4.4**
CHMN	**Cheshme madani**	**3.28**	**356**	*e*Pn	**Pn**	**05 35 07.4**	**+1.3**
CHMN	**Cheshme madani**	**3.28**	**356**	*e*Pn	**Pn**	**05 35 07.9**	**+1.8**
CHMN				IAMB	IAmb	05 36 09.2	
	comp=Z,0.0nm,0.7s						
WSAR	**Wadi Sarin**	**3.41**	**167**	Pn	**Pn**	**05 35 07.5**	**0.0**
	comp=Z,42nm,0.3s,baz=354,slow=4.9,SNR=112						
WSAR				Sn	**Sn**	**05 35 47.5**	**-0.5**
	comp=Z,19nm,0.3s,baz=306,slow=19,SNR=12						
ARQ	**Araqi**	**3.44**	**200**	P	**Pn**	**05 35 10.4**	**+2.4**
TVBK	**TV Kerman**	**3.52**	**345**	*e*Pn	**Pn**	**05 35 11.0**	**+1.6**
TVBK				IAMB	IAmb	05 36 31.7	
	comp=Z,0.0nm,0.7s						
BSY	**Bisya**	**3.86**	**189**	P	**Pn**	**05 35 17.1**	**+3.3**
	SNR=13						
SZD1	**Zahaedan-tmp**	**3.96**	**42**	*e*Pn	**Pn**	**05 35 19.1**	**+3.9**
KHGB	**Koh Gabri**	**3.96**	**343**	*e*Pn	**Pn**	**05 35 16.6**	**+1.2**
KHGB				IAMB	IAmb	05 35 27.9	
	comp=Z,0.0nm,0.5s						
ZHSF	**Zahedan**	**3.99**	**40**	*e*Pn	**Pn**	**05 35 16.0**	**+0.4**
ZHSF	**Zahedan**	**3.99**	**40**	*e*Pn	**Pn**	**05 35

comp=Z,7.7nm,0.9s
AKTO Aktyubinsk 23.82 0 P P 05 39 26.9 -0.4
comp=Z,4.5nm,0.6s,baz=169,slow=10.0,SNR=17
BR101 Keskin Array S 24.03 309 *eP* **P 05 39 28.9 -0.7**
BR131 Keskin Array S 24.03 309 *eP* **P 05 39 28.7 -0.9**
comp=Z,7.3nm,0.8s
BRTR Keskin Array B 24.03 309 *i* P **P 05 39 28.8 -0.8**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 24.03 309 P P 05 39 28.9 -0.7
comp=Z,5.7nm,0.7s,baz=133,slow=11,SNR=17
BRTR LR LR 05 50 49.1
comp=Z,194nm,18.5s,baz=76,slow=42
PDGK Podgornoye 24.28 41 P P 05 39 35.0 +3.1
PDGK pmax pmax
comp=Z,7.0nm,1.1s
OTUK Ortayu 24.43 24 P P 05 39 36.0 +2.9
ANTO Ankara 24.68 309 *eP* **P 05 39 35.7 +0.2**
comp=Z,10nm,0.8s
ANTO Ankara 24.68 309 *eP* **P 05 39 35.7 +0.2**
ANTO pmax pmax
comp=Z,11nm,0.8s
BR231 Keskin MP Arra 24.68 309 *eP* **P 05 39 35.4 -0.1**
comp=Z,9.8nm,0.6s
MK32 Makanchi Array 27.95 37 *eP* **P 05 40 05.9 +1.0**
MKAR Makanchi Array 27.95 37 P **P 05 40 05.9 +1.0**
comp=Z,0.5nm,0.7s,baz=218,slow=9.0,SNR=3.0
BVAR Borovoye Array 28.04 16 P **P 05 40 05.5 0.0**
comp=Z,1.1nm,0.6s,baz=195,slow=8.2,SNR=6.5
BRVK Borovoye 28.04 16⇑ *eP* **P 05 40 03.4 -2.2**
comp=Z,3.4nm,0.6s
BRVK Borovoye 28.04 16⇑ *eP* **P 05 40 04.7 -0.9**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
VSR Storozhevoye 28.40 335⇓ *eP* **P 05 40 07.7 -1.1**
VSR pmax pmax
comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra 28.76 28 P **P 05 40 12.6 +0.6**
comp=Z,1.2nm,0.8s,baz=226,slow=8.5,SNR=8.3
KURK Kurchatov 28.87 28⇓ *eP* **P 05 40 14.3 +1.4**
KURK pmax pmax
comp=Z,1.0nm,0.8s
IDI Anoyia 29.44 295 P **P 05 40 17.7 -0.6**
comp=Z,4.3nm,0.7s,baz=114,slow=12,SNR=3.8
WMQ Urumqi 29.64 47 *eP* **P 05 40 22.2 +2.2**
MLR Muntele Rosu 31.65 315⇓ *iP* **P 05 40 38.8 +1.0**
MLR Muntele Rosu 31.65 315⇓ P **P 05 40 38.8 +1.0**
ITM Ithomi 32.09 298 *eP* **P 05 40 40.6 -1.0**
comp=Z,6.3nm,0.7s
VOIR 32.20 314⇑ *iP* **P 05 40 42.6 +0.1**
VOIR 32.20 314 P **P 05 40 42.6 +0.1**
ARR Arges 32.44 314⇑ *iP* **P 05 40 44.0 -0.6**
OBN Obninsk 32.46 337 *i* P **P 05 40 43.5 -1.0**
OBN *i* 05 41 51.0
OBN pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 32.49 325 *eP* **P 05 40 45.0 +0.1**
AKASG Malin Array Be 32.49 325 *i* P **P 05 40 44.7 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 32.49 325 P **P 05 40 42.4 -2.5**
comp=Z,1.8nm,0.6s,baz=129,slow=8.4,SNR=13
AKBB Malin Array Si 32.49 325 *eP* **P 05 40 45.1 +0.2**
comp=Z,5.9nm,0.8s
KIEV Kiev 32.49 325 *eP* **P 05 40 44.3 -0.7**
comp=Z,5.6nm,0.7s
KIEV Kiev 32.49 325⇑ *iP* **P 05 40 43.3 -1.6**
KIEV Kiev 32.49 325⇑ *eP* **P 05 40 43.1 -1.8**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
GRG Griva 32.51 305 P **P 05 40 47.3 +2.1**
GRG pmax pmax
comp=Z,5.0nm,0.9s
FNA Florina 33.22 305 *eP* **P 05 40 51.4 -0.1**
comp=Z,5.4nm,0.7s
GZR Gura Zlata 33.65 313⇓ *iP* **P 05 40 54.3 -0.9**
NVS Novosibirsk 33.81 26 *eP* **P 05 40 57.7 +1.3**
ZAA0 Zalesovo Array 33.84 29 *eP* **P 05 40 57.7 +1.0**
comp=Z,3.8nm,0.8s
ZALV Zalesovo Beam 33.84 29 *eP* **P 05 40 56.2 -0.4**
ZALV Zalesovo Beam 33.84 29 *i* P **P 05 40 57.9 +1.3**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 33.84 29 P **P 05 40 56.9 +0.3**
comp=Z,1.6nm,0.4s,baz=230,slow=11,SNR=7.5
ZAA1 Zalesovo Array 33.84 29 *eP* **P 05 40 56.9 +0.3**
MDVR Moldovita 34.14 312⇑ *iP* **P 05 40 59.8 +0.3**
DRGR 34.24 315⇓ *iP* **P 05 40 59.4 -0.9**
DRGR 34.24 315⇓ P **P 05 40 59.4 -0.9**
BZS Buzias 34.49 313⇑ *iP* **P 05 41 01.1 -1.3**
BZS Buzias 34.49 313⇑ P **P 05 41 01.1 -1.3**
SIRR Siria 34.70 314⇑ *iP* **P 05 41 04.5 +0.2**
KOLS Kolonicke sedl 35.41 319 *eP* **P 05 41 10.5 +0.2**
KOLS Kolonicke sedl 35.41 319 *eP* **P 05 41 10.5 +0.2**
KWP Kalwaria Pacla 35.47 320 *eP* **P 05 41 10.2 -0.7**
comp=Z,78nm,1.0s
PSZ Piszkesteto 36.44 316⇑ *iP* **P 05 41 18.6 -0.7**
PSZ Piszkesteto 36.44 316⇑ P **P 05 41 18.6 -0.7**
KLMR Klimovskoe 36.46 345 *eP* **P 05 41 17.9 -1.2**
KLMR pmax pmax
comp=Z,5.0nm,1.0s
GTA Gaotai 37.16 59 *eP* **P 05 41 28.8 +3.3**
GTA pP sP 05 41 33.2 +2.8
GTA sP pP 05 41 35.9 +6.9
LANS Liptovska Anna 37.18 318 *eP* **P 05 41 26.0 +0.5**
LANS Liptovska Anna 37.18 318 *eP* **P 05 41 26.0 +0.5**
VYHS Vyhne 37.31 316 *eP* **P 05 41 25.9 -0.7**
VYHS Vyhne 37.31 316 *eP* **P 05 41 25.9 -0.7**
OJC Ojcow 37.41 319 *eP* **P 05 41 25.7 -1.7**
OJC Ojcow 37.41 319 *eP* **P 05 41 25.4 -2.1**
comp=Z,8.9nm,0.8s
OJC Ojcow 37.41 319 *eP* **P 05 41 25.7 -1.7**
SOP Sopron 38.47 314 P **P 05 41 37.2 +0.8**
SOP pmax pmax
comp=Z,14nm,0.8s
MORC Moravsky Berou 38.58 318⇑ *iP* **P 05 41 36.6 -0.7**
MORC Moravsky Berou 38.58 318⇑ P **P 05 41 36.6 -0.7**
CMAR Chiang Mai Arr 38.71 93 P **P 05 41 39.3 +0.6**
comp=Z,0.8nm,0.3s,baz=292,slow=9.5,SNR=4.0
CMAR LR LR 06 00 16.0
comp=Z,87nm,21.1s,baz=290,slow=40
CONA Conrad Observa 38.99 314 *eP* **P 05 41 39.9 -0.9**
comp=Z,3.7nm,0.8s
ARSA Arzberg 39.01 313 *eP* **P 05 41 40.3 -0.6**
comp=Z,4.0nm,0.8s
KRUC Moravsky 39.02 316 P **P 05 41 43.8 +2.8**
KRUC pmax pmax
comp=Z,4.0nm,1.0s
MOA Molln 39.99 314 *eP* **P 05 41 48.3 -0.8**
comp=Z,8.1nm,0.8s,SNR=8.6
MYKA Terra Mystica 40.08 312 *i* P **P 05 41 48.8 -1.1**
comp=Z,3.7nm,0.8s
LZH Lanzhou 40.13 65 *eP* **P 05 41 49.7 -0.9**
LZH pP sP 05 41 57.3 +1.9
LZH sP pP 05 42 00.6 +6.6
LZH *ePP* **PnPn 05 43 26.9 +0.6**
CD2 Chengdu 40.30 73 *eP* **P 05 41 51.1 -0.8**
KBA Koelnbreinsper 40.39 312 *iP* **P 05 41 51.9 -0.8**
comp=Z,5.8nm,0.8s,SNR=4.2
KBA Koelnbreinsper 40.39 312 P **P 05 41 53.0 +0.3**
KBA pmax pmax
comp=Z,8.0nm,0.9s
GEC2 GERESS Array S 40.64 315 *eP* **P 05 41 53.1 -1.4**
comp=Z,3.8nm,0.9s
GERES GERESS Array B 40.64 315 *eP* **P 05 41 53.1 -1.4**
GERES GERESS Array B 40.64 315 P **P 05 41 53.3 -1.2**
comp=Z,2.3nm,0.8s,baz=115,slow=7.8,SNR=22
KHC Kasperske Hory 40.80 315 *eP* **P 05 41 54.5 -1.4**
comp=Z,1.9nm,0.8s
KHC Kasperske Hory 40.80 315 *eP* **P 05 41 54.6 -1.2**
KHC *e* 05 41 57.4
KHC Kasperske Hory 40.80 315 *eP* **P 05 41 54.6 -1.2**
KHC *ex* x 05 41 57.4
ABTA Abfaltersbach 40.87 312 *eP* **P 05 41 55.7 -0.8**
comp=Z,8.7nm,0.9s
FIA0 FINESS Array S 40.87 337 *eP* **P 05 41 54.1 -2.0**
FINES FINESS Array B 40.87 337 *eP* **P 05 41 54.7 -1.4**
FINES FINESS Array B 40.87 337 *iP* **P 05 41 56.2 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 40.87 337 P **P 05 41 54.2 -1.9**
comp=Z,1.9nm,0.6s,baz=136,slow=6.6,SNR=12
WET Wettzell 41.24 315 P **P 05 42 01.3 +1.8**
WET pmax pmax
comp=Z,4.0nm,0.8s

WTTA Wattenberg 41.57 312 *eP* **P 05 42 00.7 -1.6**
comp=Z,11nm,0.7s
WATA Walderalm 41.63 312 *eP* **P 05 42 00.9 -1.8**
comp=Z,5.1nm,0.6s
CLL Collm 41.82 318 *eP* **P 05 42 06.0 +1.9**
CLL Collm 41.82 318 *ep*P **P 05 42 06.0 +1.9**
SQTA Sankt Quirin 41.84 312 *i* P **P 05 42 02.9 -1.6**
comp=Z,13nm,0.6s,SNR=7.9
MOTA Moosalm 41.94 312 *i* P **P 05 42 03.4 -1.9**
comp=Z,6.4nm,0.6s,SNR=6.7
FETA Feichten 42.12 312 *eP* **P 05 42 05.6 -1.2**
comp=Z,15nm,0.8s,SNR=14
RETA Reutte 42.20 312 *i* P **P 05 42 05.1 -2.3**
comp=Z,7.0nm,0.8s
FUORN Ofenpass-Fuorn 42.35 311 *eP* **P 05 42 08.0 -0.9**
comp=Z,5.0nm,0.7s
DAVA Damuels 42.74 312 *eP* **P 05 42 10.1 -1.8**
comp=Z,18nm,0.7s,SNR=16
SONA0 Songino Array 43.28 47 *eP* **P 05 42 15.9 -0.3**
SONM Songino Array 43.28 47 P **P 05 42 15.9 -0.3**
comp=Z,0.2nm,0.3s,baz=248,slow=7.6,SNR=3.4
ECH Echery 44.72 313 *eP* **P 05 42 26.0 -1.6**
comp=Z,6.9nm,1.0s
ECH Echery 44.72 313 P **P 05 42 29.5 +1.9**
ECH pmax pmax
comp=Z,7.0nm,0.9s
HHC Hu-ho-hao-te 46.23 58 *eP* **P 05 42 40.8 +0.9**
NB2 NORSAR Subarra 46.51 331 P **P 05 42 38.7 -2.9**
comp=Z,0.5nm,0.6s,baz=117,slow=7.9
NB200 NORSAR Array S 46.51 331 *eP* **P 05 42 38.9 -2.8**
NOA NORSAR Array B 46.51 331 P **P 05 42 38.8 -2.8**
comp=Z,0.7nm,0.8s,baz=116,slow=8.0,SNR=3.1
ARA0 ARCESS Array S 46.94 345 *eP* **P 05 42 44.1 -0.7**
ARCES ARCESS Array B 46.94 345 P **P 05 42 44.1 -0.7**
comp=Z,1.5nm,0.8s,baz=138,slow=8.4,SNR=4.1
BOD Bodaibo 50.01 35 *eP* **P 05 43 07.0 -1.6**
BOD pmax pmax
comp=Z,5.0nm,0.9s
ESK Eskdalemuir 52.18 321 *iP* **P 05 43 26.5 +1.5**
ESDC Sonseca Array 52.42 301 P **P 05 43 26.1 -1.0**
comp=Z,0.5nm,0.5s,baz=63,slow=7.4,SNR=6.9
TOA0 Torodi Ar. Sit 54.07 267 *eP* **P 05 43 38.2 -1.3**
comp=Z,5.8nm,0.9s
TOA1 Torodi Ar. Sit 54.07 267 *eP* **P 05 43 37.7 -1.8**
TORD Torodi Ar. Bea 54.07 267 *eP* **P 05 43 38.0 -1.4**
TORD Torodi Ar. Bea 54.07 267 P **P 05 43 37.7 -1.8**
comp=Z,1.2nm,0.4s,baz=61,slow=7.3,SNR=10
TIXI Tiksi 59.05 20 LR LR 06 15 17.7
comp=Z,135nm,18.0s,baz=280,slow=42
SUMG Summit 66.74 341 *eP* **P 05 45 04.3 -1.4**
comp=Z,5.2nm,1.0s
SUMG Summit 66.74 341 *eP* **P 05 45 04.4 -1.4**
SUMG pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 72.20 22 *i* P **P 05 45 40.0 +0.9**
BILL *i* 05 45 54.9
BILL pmax pmax
comp=Z,2.0nm,1.1s
TOLK Toolik Lake Re 82.95 10 *eP* **P 05 46 38.4 -0.7**
comp=Z,3.6nm,1.0s
IMAR Indian Mountai 84.62 12 *eP* **P 05 46 47.1 -0.6**
BMAR Burnt Mountain 84.78 8 *eP* **P 05 46 47.9 -0.6**
ILAR Eielson Array 86.94 10 P **P 05 46 58.5 -0.8**
comp=Z,0.3nm,0.8s,baz=306,slow=3.0,SNR=4.4
ILB Eielson Array 86.94 10 *eP* **P 05 46 58.5 -0.8**
comp=Z,4.7nm,1.4s
WR1 Warramunga Arr 87.39 114 *eP* **P 05 47 03.0 +0.8**
WRA Warramunga Arr 87.39 114 P **P 05 47 03.0 +0.8**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 87.39 114 P **P 05 47 03.0 +0.8**
comp=Z,0.8nm,0.7s,baz=312,slow=4.0,SNR=9.5
ASAR Alice Springs 88.87 117 P **P 05 47 10.5 +1.3**
comp=Z,0.5nm,0.7s,baz=305,slow=5.2,SNR=4.6
YKA Yellowknife Ar 91.03 356 P **P 05 47 18.9 +0.3**
comp=Z,0.1nm,0.6s,baz=353,slow=3.4,SNR=3.7
YKB5 Yellowknife Ar 91.03 356 *eP* **P 05 47 18.9 +0.3**
SYO Syowa Base 96.24 187⇑ *ePcP* **PcP 05 47 45.3 +3.1**

SOME ***11*** *05:39:51.3, 44.°68N×82.°22E, h20km*
ISCJB ***11*** *05:39:52.6±1.2, 44.°68N±0.°07×82.°4E±0.°1, h10km, Error ellipse: s-maj=12.8km s-min=6.7km az=37.7*
NNC ***11*** *05:39:52.2±1.2, 44.°69N×82.°07E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=13.2km s-min=5.8km az=128.0*
ISC 11 05:39:50.6±1.7,**44.°65N**±0.°06×**82.°32E**±0.°08,**h10km**,**n21,**
σ**1§34**/33,**4C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.84**	**261**	P	**Pn**	**05 40 24.0**	**+1.6**
	20nm,0.2s						
DJR				S	**Sn**	**05 40 47.2**	**+1.5**
	5.3nm,0.2s						
DJR	**Jarkent**	**1.84**	**261**	*eP*	**Pn**	**05 40 24.0**	**+1.6**
	20nm,0.2s						
DJR				*eS*	**Sn**	**05 40 47.2**	**+1.5**
	5.3nm,0.2s						
KTMS	**Ketmen**	**1.86**	**230**	*eP*	**Pb**	**05 40 24.9**	**+0.1**
	8.1nm,0.1s						
KTMS				*eS*	**Sb**	**05 40 49.3**	**+1.1**
	32nm,0.3s						
MK31	**Makanchi Array**	**2.15**	**359**	⇓Pn	**Pb**	**05 40 29.1**	**-0.5**
	5.7nm,0.3s,baz=182,slow=14,SNR=129						
MK31				⇑Lg	Lg	05 40 57.6	
	1.5nm,0.2s,baz=185,slow=26,SNR=7.2						
MAKZ	**Makanchi**	**2.17**	**354**	⇑Pn	**Pb**	**05 40 29.1**	**-0.9**
	3.7nm,0.5s						
MAKZ				⇑Lg	Lg	05 40 57.3	
	9.0nm,0.5s						
KAPS	**Kapalarasan**	**2.20**	**288**	Pg	**Pb**	**05 40 29.7**	**-0.8**
	2.9nm,0.1s						
KAPS				Lg	Lg	05 40 57.4	
	8.8nm,0.1s						
KAPS	**Kapalarasan**	**2.20**	**288**	*eP*	**Pb**	**05 40 29.8**	**-0.8**
	2.9nm,0.1s						
KAPS				*eS*	**Sb**	**05 40 57.4**	**-0.4**
	8.8nm,0.1s						
PDGK	**Podgornoye**	**2.43**	**238**	Pg	**Pn**	**05 40 32.9**	**+2.3**
	3.3nm,0.2s						
PDGK				Lg	Lg	05 41 02.6	
	4.8nm,0.4s						
PDGK	**Podgornoye**	**2.43**	**238**	⇓Pn	**Pn**	**05 40 32.6**	**+2.1**
	1.4nm,0.2s						
PDGK				⇑Lg	Lg	05 41 06.0	
	8.0nm,0.5s						
SHLS	**Shalkode**	**2.55**	**235**	Pg	**Pn**	**05 40 31.9**	**-0.2**
	12nm,0.2s						
SHLS				Lg	Lg	05 41 01.0	
	40nm,0.3s						
SHLS	**Shalkode**	**2.55**	**235**	*eP*	**Pn**	**05 40 31.9**	**-0.2**
	12nm,0.2s						
SHLS				*eS*	**Sn**	**05 41 01.0**	**-2.2**
	40nm,0.3s						
UZB	**Uzynbulak**	**2.82**	**239**	Pg	**Pb**	**05 40 40.2**	**-1.0**
	3.5nm,0.2s						
UZB				Lg	Lg	05 41 15.4	
	4.3nm,0.2s						
UZB	**Uzynbulak**	**2.82**	**239**	*eP*	**Pb**	**05 40 40.2**	**-1.0**
	3.5nm,0.2s						
UZB				*eS*	**Sb**	**05 41 15.4**	**-0.3**
	4.3nm,0.2s						
MNBS	**Baschi**	**2.87**	**260**	*eP*	**Pb**	**05 40 41.1**	**-0.9**
	4.1nm,0.1s						
MNBS				*eS*	**Sb**	**05 41 16.8**	**-0.3**
	13nm,0.2s						
KPKS	**Kokpek**	**2.88**	**247**	*eP*	**Pb**	**05 40 41.3**	**-0.8**
	9.6nm,0.1s						
KPKS				*eS*	**Sb**	**05 41 17.0**	**-0.3**
	21nm,0.2s						
SATY	**Saty**	**3.25**	**242**	Pg	**Pb**	**05 40 48.0**	**-0.4**
	4.8nm,0.1s						
SATY				Lg	Lg	05 41 28.6	
	14nm,0.2s						
SATY	**Saty**	**3.25**	**242**	*eP*	**Pb**	**05 40 47.0**	**-1.4**
	4.8nm,0.1s						
SATY				*eS*	**Sb**	**05 41 26.3**	**-1.7**
	14nm,0.2s						
ARXS	**Arharly**	**3.25**	**264**	Pg	**Pb**	**05 40 47.8**	**-0.6**
	1.7nm,0.3s						
ARXS				Lg	Lg	05 41 28.1	
	12nm,0.5s						
ARXS	**Arharly**	**3.25**	**264**	*eP*	**Pb**	**05 40 47.8**	**-0.6**
	1.7nm,0.3s						
ARXS				*eS*	**Sb**	**05 41 28.1**	**+0.1**
	12nm,0.5s						
CHKK	**Chushkaly**	**3.91**	**260**	*eP*	**Pb**	**05 40 59.7**	**0.0**
	1.4nm,0.2s						
CHKK				*eS*	**Sb**	**05 41 48.5**	**+1.4**
	5.1nm,0.2s						
TNSS	**Tian-Shan**	**4.21**	**249**	*eP*	**Pb**	**05 41 07.6**	**+2.7**
	1.2nm,0.2s						
TNSS				*eS*	**Sg**	**05 42 03.1**	**-2.6**
	4.0nm,0.4s						

DSN ***11*** *05:45:25.9±4.0, 26.°93N×58.°16E, h10km, ML4.0/8, Error ellipse: s-maj=65.9km s-min=16.6km az=175.0*
OMAN ***11*** *05:45:26.6±6.2, 26.°70N×58.°48E, h20km, ml4.0/8, Error ellipse: s-maj=73.9km s-min=22.3km az=84.0*
NEIC ***11*** *05:45:29.0±0.0, 26.°52N×57.°57E, h14km, mb4.2/6, ML4.0(THR), MN4.0(TEH), After THR.*
THR ***11*** *05:45:29.0, 26.°52N×57.°57E, h14km, ML4.0*
IDC ***11*** *05:45:29.7±1.3, 26.°53N×57.°58E, h0km, mb3.6/10, mb1 3.7/11, mb1mx3.5/52, mbtmp3.7/11, ML3.7/1, Error ellipse: s-maj=26.3km s-min=21.4km az=157.0*
TEH ***11*** *05:45:30.0, 26.°57N×57.°76E, h14km, ML4.0*
ISCJB ***11*** *05:45:30.4±0.3, 26.°61N±0.°03×57.°82E±0.°04, h10km, mb3.6/11, Error ellipse: s-maj=5.6km s-min=3.6km az=13.2*
ISC 11 05:45:30.9±0.5,**26.°48N**±0.°03×**57.°72E**±0.°04,**h10km**,**n90,**
σ**1§87**/92,**mb3.8**/11,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.34**	**324**	*e*Pn	**Pn**	**05 45 55.1**	**-0.6**
NIAN	**Nian**	**1.34**	**324**	*e*Pg	**Pn**	**05 45 55.3**	**-0.4**
NIAN				IAMB	IAmb	05 46 19.2	
	comp=Z,0.0nm,0.5s						
SHME	**Shamm**	**1.48**	**254**	*eP*	**Pg**	**05 45 60.0**	**+0.6**
	SNR=44						
SHME				S	**Sg**	**05 46 26.0**	**+7.4**
SHME	**Shamm**	**1.48**	**254**	*e*Pn	**Pg**	**05 46 02.2**	**+2.8**
BNDS	**Bandar-Abbas**	**1.66**	**304**	*e*Pn	**Pn**	**05 45 56.8**	**-3.5**
BNDS	**Bandar-Abbas**	**1.66**	**304**	*e*Pg	**Pn**	**05 45 56.8**	**-3.5**
GENO	**Geno**	**1.66**	**304**	*e*Pn	**Pb**	**05 46 01.1**	**-0.7**
GENO				*e*Sn	**Sg**	**05 46 25.3**	**+0.8**
GENO	**Geno**	**1.66**	**304**	*e*Pn	**Pb**	**05 46 01.2**	**-0.6**
GENO				IAMB	IAmb	05 46 28.2	
	comp=Z,0.0nm,0.6s						
MDH	**Madha**	**1.74**	**228**	*eP*	**Pn**	**05 46 02.0**	**+0.8**
	SNR=11						
MDH	**Madha**	**1.74**	**228**	P	**Pb**	**05 46 02.1**	**-0.8**
	SNR=16						
MDH	**Madha**	**1.74**	**228**	*e*Pn	**Pb**	**05 46 03.6**	**+0.7**
MSFE	**Esma-Masafi**	**1.79**	**232**	*eP*	**Pb**	**05 46 03.3**	**-0.6**
	SNR=19						
MSFE	**Esma-Masafi**	**1.79**	**232**	*e*Pn	**Pg**	**05 46 06.0**	**+0.7**
UMQ	**Umm Al-Quwin**	**2.08**	**243**	*e*Pn	Pg	05 46 16.6	+5.7
HATD	**Hatta, Dubai**	**2.18**	**222**	*eP*	**Pb**	**05 46 10.6**	**+0.1**
	SNR=18						
ASHO	**Ashiyiah**	**2.33**	**220**	*eP*	**Pb**	**05 46 12.8**	**-0.3**
	SNR=20						
ASHO	**Ashiyiah**	**2.33**	**220**	*e*Pn	**Pb**	**05 46 13.0**	**-0.1**
NAZ	**Nazwa, Dubai**	**2.38**	**232**	*eP*	**Pb**	**05 46 13.4**	**-0.5**
	SNR=20						
NAZ	**Nazwa, Dubai**	**2.38**	**232**	P	**Pg**	**05 46 15.7**	**-0.8**
	SNR=8.5						
NAZ				S	**Sg**	**05 46 53.1**	**+5.7**
NAZ	**Nazwa, Dubai**	**2.38**	**232**	*e*Pn	**Pg**	**05 46 16.0**	**-0.5**
SOHO	**SOHO**	**2.57**	**205**	P	**Pn**	**05 46 13.1**	**+0.5**
	SNR=40						
FAQ	**Al Faqa, Dubai**	**2.58**	**229**	P	**Pb**	**05 46 17.1**	**-0.2**
FAQ	**Al Faqa, Dubai**	**2.58**	**229**	P	**Pb**	**05 46 17.1**	**-0.2**
	SNR=5.6						
FAQ				S	**Sg**	**05 46 54.9**	**+1.0**
FAQ	**Al Faqa, Dubai**	**2.58**	**229**	*e*Pn	**Pb**	**05 46 17.2**	**-0.2**
CHBR	**Chabahar**	**2.63**	**109**	*e*Pn	**Pn**	**05 46 15.0**	**+1.5**
CHBR	**Chabahar**	**2.63**	**109**	*e*Pn	**Pn**	**05 46 15.2**	**+1.7**
CHBR	**Chabahar**	**2.63**	**109**	*e*Pn	**Pn**	**05 46 15.2**	**+1.7**
ASUD	**Al Ashush, Dub**	**2.84**	**230**	*i* P	**Pb**	**05 46 20.8**	**-0.9**
	SNR=8.0						
ASUD	**Al Ashush, Dub**	**2.84**	**230**	P	**Pb**	**05 46 20.9**	**-0.8**
	SNR=8.0						
ASUD	**Al Ashush, Dub**	**2.84**	**230**	*e*Pn	**Pb**	**05 46 20.8**	**-0.9**
HOQ	**Hoqain**	**2.90**	**187**	*e*Pn	**Pb**	**05 46 18.5**	**+1.2**
BIDO	**Bidbid**	**2.96**	**173**	*e*Pn	**Pn**	**05 46 18.7**	**+0.6**
ALNE	**Al Ain**	**3.00**	**217**	*e*Pn	**Pb**	**05 46 22.1**	**-2.4**
NGRK	**Negar Kerman**	**3.28**	**345**	*e*Pn	**Pn**	**05 46 21.6**	**-1.1**
NGRK	**Negar Kerman**	**3.28**	**345**	*e*Pn	**Pn**	**05 46 22.4**	**-0.3**
NGRK				IAMB	IAmb	05 47 17.7	
	comp=Z,0.0nm,0.9s						
ARQ	**Araqi**	**3.31**	**199**	S	**Sb**	**05 47 08.8**	**-1.4**
WSAR	**Wadi Sarin**	**3.33**	**165**	Pn	**Pn**	**05 46 24.3**	**+1.2**
	comp=Z,7.9nm,0.3s,baz=340,slow=6.2,SNR=42						
WSAR				Sn	**Sn**	**05 47 02.9**	**+0.3**
	comp=Z,27nm,0.3s,baz=146,slow=19,SNR=16						
CHMN	**Cheshme madani**	**3.38**	**357**	*e*Pn	**Pn**	**05 46 25.1**	**+1.0**
CHMN				IAMB	IAmb	05 46 30.8	
	comp=Z,0.0nm,0.6s						
SMDO	**Samad**	**3.41**	**175**	S	**Sn**	**05 47 07.0**	**+2.0**
TVBK	**TV Kerman**	**3.60**	**347**	*e*Pn	**Pn**	**05 46 29.5**	**+2.4**
TVBK				IAMB	IAmb	05 47 23.1	
	comp=Z,0.0nm,0.5s						
KHGB	**Koh Gabri**	**4.04**	**345**	*e*Pn	**Pn**	**05 46 30.1**	**-3.0**
KHGB				IAMB	IAmb	05 46 47.2	
	comp=Z,0.0nm,0.6s						
SZD1	**Zahaedan-tmp**	**4.09**	**42**	*e*Pn	**Pn**	**05 46 36.3**	**+2.6**
ZHSF	**Zahedan**	**4.13**	**40**	*e*Pn	**Pn**	**05 46 34.0**	**-0.2**
ZHSF	**Zahedan**	**4.13**	**40**	*e*Pn	**Pn**	**05 46 34.5**	**+0.3**
ZHSF	**Zahedan**	**4.13**	**40**	*e*Pn	**Pn**	**05 46 34.5**	**+0.3**
GHIR	**Ghir-Karzin**	**4.58**	**294**	*e*Pn	**Pn**	**05 46 38.0**	**-2.4**
GHIR	**Ghir-Karzin**	**4.58**	**294**	*e*Pn	**Pn**	**05 46 38.3**	**-2.1**
GHIR	**Ghir-Karzin**	**4.58**	**294**	*e*Pn	**Pn**	**05 46 38.3**	**-2.1**
BSRN	**Basiran**	**5.61**	**12**	*e*Pn	**Pn**	**05 46 53.9**	**-0.7**
BSRN	**Basiran**	**5.61**	**12**	*e*Pn	**Pn**	**05 46 53.9**	**-0.7**
IKOO	**Kooshah**	**6.03**	**10**	*e*Pn	**Pn**	**05 46 58.3**	**-2.2**
ITEG	**Tejag**	**6.46**	**8**	*e*Pn	**Pn**	**05 47 06.4**	**+0.1**
ISAD	**Sadrabad**	**6.47**	**328**	*e*Pn	**Pn**	**05 47 06.3**	**-0.2**
YZKH	**Yazd**	**6.50**	**336**	*e*Pn	**Pn**	**05 47 06.0**	**-0.7**
YZKH	**Yazd**	**6.50**	**336**	*e*Pn	**Pn**	**05 47 06.0**	**-0.7**
YZKH				*e*Sg	**Sb**	**05 48 47.0**	**+5.2**
IDAH	**Dahanechah**	**6.52**	**16**	*e*Pn	**Pn**	**05 47 10.6**	**+3.5**
SHRO	**Shahrood**	**9.60**	**352**	*e*Pn	**Pn**	**05 47 48.5**	**-0.8**
SHRO	**Shahrood**	**9.60**	**352**	*e*Pn	**Pn**	**05 47 48.5**	**-0.8**
KHMZ	**Khomeyn**	**9.88**	**319**	*e*Pn	**Pn**	**05 47 51.0**	**-2.1**
KHMZ	**Khomeyn**	**9.88**	**319**	*e*Pn	**Pn**	**05 47 51.1**	**-2.1**
KHMZ	**Khomeyn**	**9.88**	**319**	*e*Pn	**Pn**	**05 47 51.1**	**-2.1**
KHMZ	**Khomeyn**	**9.88**	**319**	*e*AML	AML	05 48 14.0	
	comp=N,5.0nm,0.6s						
KHMZ				*e*AML	AML	05 48 14.5	
	comp=E,4.0nm,0.4s						
NIL	**Nilore**	**15.22**	**58**	*e*Pn	**Pn**	**05 49 06.3**	**+0.3**
	comp=E,8.6nm,0.8s						
CHGR	**Chuyangaron**	**15.49**	**36**	*e*Pn	**Pn**	**05 49 07.0**	**-2.5**
	comp=E,17nm,0.5s						
BTK	**Batken**	**17.39**	**36**	*e*Pn	**Pn**	**05 49 30.5**	**-3.3**
	comp=E,22nm,0.5s						
KSH	**Kashi**	**20.04**	**45**	P	**P**	**05 50 01.0**	**-3.2**
EIL	**Elat**	**20.34**	**284**	P	Pn	05 50 09.4	-0.1
	comp=E,4.3nm,0.7s,baz=101,slow=3.2,SNR=5

FINES	FINESS Array B	40.93	337	*e*P	P	05 53 13.0	-0.3
FINES	FINESS Array B	40.93	337	P	P	05 53 11.8	-1.5
	comp=E,0.6nm,0.7s,baz=134,slow=11,SNR=4.5						
CLL	Collm	41.85	319	*e*pP	pP	05 53 23.0	-1.5
HHC	Hu-ho-hao-te	46.36	58	*e*P	P	05 53 58.6	+1.1
TORD	Torodi Ar. Bea	53.98	267	P	P	05 54 54.7	-0.7
	comp=E,0.6nm,0.6s,baz=68,slow=7.4,SNR=5.7						

MAN 11 05:47:14.2, 17°.78N×122°.49E, h36km, mb4.1, ML2.8, MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	Palanan	0.06	254	*e*P	Pn	05 47 20.6	+0.4
PALP				*e*S	Sn	05 47 25.6	+1.3
CAUP	Cauayan	0.65	258	*e*P	Pn	05 47 29.1	+2.1
CAUP				*e*S	Sn	05 47 41.2	+5.2
BALP	Baler	1.59	213	*e*P	Pn	05 47 40.5	+0.6
BALP				*e*S	Sn	05 48 00.1	+0.9
SMPP	San Manuel, Pa	1.97	242	*e*P	Pn	05 47 48.6	+3.6

NNC 11 05:48:15.5±2.1, 37°.78N×71°.60E, h0km, mb4.0, mpv3.6, 4C-1D, Error ellipse: s-maj=16.6km s-min=14.0km az=15.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.63	20	P	Pn	05 49 27.9	+0.8
	SNR=13						
UCH	Uchtor	4.97	26	P	Pn	05 49 32.2	+0.4
	SNR=7.8						
EKS2	Erkin-Say	5.15	18	P	Pn	05 49 35.2	+1.2
	SNR=7.8						
AAK	Ala-Archa	5.33	24	P	Pn	05 49 37.0	+0.5
	SNR=7.2						
AAK	Ala-Archa	5.33	24	⇓Pn	Pn	05 49 36.7	+0.2
	3.0nm,0.4s						
AAK				⇑Sn	Sn	05 50 39.7	+1.0
	3.8nm,0.5s						
KK31	Karatay Array	5.38	351	⇑Pn	Pn	05 49 37.3	+0.3
	3.3nm,0.4s,baz=177,slow=13,SNR=47						
KK31				⇑Sn	Sn	05 50 40.8	+1.1
	1.3nm,0.4s,baz=171,slow=24,SNR=5.7						
CHMS	Chumysh	5.74	24	P	Pn	05 49 42.3	+0.3
	SNR=6.3						
TKM2	Tokmak 2	5.97	29	P	Pn	05 49 45.1	-0.2
	SNR=5.9						
TKM2	Tokmak 2	5.97	29	⇑Pn	Pn	05 49 44.7	-0.6
	2.4nm,0.5s						

SGS 11 05:49:33, 14°.97N×41°.75E, h25km, Ml3.3
ISCJB 11 05:49:34.8±0.6, 15°.23N±0°.04×42°.03E±0°.09, h10km, mb3.7/9, Error ellipse: s-maj=12.7km s-min=5.6km az=179.5
IDC 11 05:49:34.0±1.2, 14°.95N×42°.09E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/57, mbtmp3.7/10, ML3.7/1, Error ellipse: s-maj=26.2km s-min=23.4km az=179.0
ISC 11 05:49:36.7±0.8, 15°.26N±0°.05×42°.0E±0°.1, h10km, n18, σ1§26/22, mb3.8/9, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRSS	Farasan al Kab	1.47	3	P	Pn	05 50 01.4	-2.0
FRSS				S	Sg	05 50 22.8	-1.3
DRBS	Ad Darb	2.56	6	P	Pn	05 50 15.5	-2.9
DRBS				S	Sn	05 50 49.3	-0.4
DJNS	Zahran al Janu	2.83	31	P	Pn	05 50 21.0	-1.3
DJNS				S	Sn	05 50 57.0	+0.3
NJRNS	Najran	3.16	41	P	Pn	05 50 25.9	-0.9
AMGES	AMGES	3.22	352	P	Pn	05 50 26.0	-1.4
AMGES				S	Sn	05 51 05.4	-0.5
KNGHS	KNGHS	3.33	25	P	Pn	05 50 28.4	-0.7
ATD	Arta Tunnel	3.80	168	Pn	Pn	05 50 29.3	-6.1
	7.6nm,0.3s,baz=109,slow=8.0,SNR=20						
ATD				Sn	Sn	05 51 19.1	-1.1
	11nm,0.3s,baz=128,slow=21,SNR=6.0						
ENMS	ENMS	3.82	8	P	Pn	05 50 36.4	+0.5
TATS	Tathlith	4.48	18	P	Pn	05 50 44.9	+0.1
AKASG	Malin Array Be	36.83	346	P	P	05 56 46.0	+1.0
	0.1nm,0.3s,baz=160,slow=7.2,SNR=4.2						
TORD	Torodi Ar. Bea	39.11	272	P	P	05 57 04.0	-0.7
	0.7nm,0.9s,baz=66,slow=8.1,SNR=3.3						
GERES	GERESS Array B	40.74	331	P	P	05 57 19.6	+1.6
	2.5nm,0.7s,baz=132,slow=7.2,SNR=23						
MKAR	Makanchi Array	45.89	38	P	P	05 57 59.6	+0.1
	0.8nm,0.8s,baz=224,slow=7.4,SNR=5.2						
KURBB	Kurchatov Arra	45.91	32	P	P	05 57 58.8	-0.6
	0.2nm,0.3s,baz=239,slow=8.2,SNR=2.3						
FINES	FINESS Array B	47.52	350	P	P	05 58 13.0	+1.1
	0.6nm,0.7s,baz=153,slow=9.4,SNR=3.9						
ZALV	Zalesovo Beam	50.98	31	P	P	05 58 40.3	+1.7
	0.8nm,0.6s,baz=249,slow=7.8,SNR=4.3						
CMAR	Chiang Mai Arr	54.38	78	P	P	05 59 03.4	-0.9
	0.5nm,0.3s,baz=276,slow=8.6,SNR=4.0						
SONM	Songino Array	61.67	44	P	P	05 59 55.3	+0.2
	0.5nm,0.5s,baz=268,slow=4.2,SNR=3.4						

ARO 11 05:57:43.0, 16°N±11°×4°2E±5°1, h15km±99km, Ml3.5, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	Malaho	3.83	175	*e*P	Pn	05 58 42.5	+1.0
OBO	Obock	4.15	161	*e*P	Pn	05 58 47.3	+1.4
TDD	Tadjoura Ara	4.22	166	*e*P	Pn	05 58 47.7	+0.9
ATD	Arta Tunnel	4.47	168	*e*P	Pn	05 58 51.8	+1.4
ATD	Arta Tunnel	4.47	168	*e*P	Pn	05 58 51.8	+1.4
ATD				*e*S	Sn	05 59 48.1	+5.8
SGH	Sud-Ghoubbet	4.53	171	*e*P	Pn	05 58 52.7	+1.6

DSN 11 05:59:28.2±2.0, 26°.64N×58°.65E, h10km, ML4.2/7, Error ellipse: s-maj=33.8km s-min=8.4km az=5.0
IDC 11 05:59:34.9±1.2, 26°.66N×57°.83E, h0km, mb3.7/17, mb1 3.7/18, mb1mx3.6/65, mbtmp3.7/18, ML4.0/3, MS3.4/3, Ms1 3.5/3, ms1mx2.9/47, Error ellipse: s-maj=24.5km s-min=15.8km az=159.0
NEIC 11 05:59:34.9±0.0, 26°.61N×57°.91E, h16km, mb4.3/21, ML4.1(THR), MN4.2(TEH), After TEH.
ISCJB 11 05:59:35.9±0.2, 26°.69N±0°.02×57°.94E±0°.03, h10km, mb4.0/28, MS3.5/2, Error ellipse: s-maj=4.4km s-min=3.0km az=18.9
TEH 11 05:59:35.4, 26°.62N×57°.86E, h12km, ML4.1
THR 11 05:59:37.1, 26°.69N×57°.87E, h15km, ML4.1
OMAN 11 05:59:37.2±4.8, 26°.75N×58°.10E, h20km, ml4.1/7, Error ellipse: s-maj=51.6km s-min=18.1km az=46.0
ISC 11 05:59:37.5±0.5, 26°.65N±0°.04×57°.92E±0°.04, h10km, n126, σ1§64/131, mb4.0/28, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.32	313	*e*Pn	Pn	06 00 01.3	-0.8
NIAN	Nian	1.32	313	*e*Pg	Pn	06 00 01.2	-0.8
NIAN				IAMB	IAmb	06 00 27.8	
	comp=Z,0.0nm,0.3s						
SHME	Shamm	1.70	250	*e*P	Pn	06 00 06.8	-0.5
	SNR=17						
SHME				S	Sg	06 00 36.2	+3.9
GENO	Geno	1.73	296	*e*Pn	Pn	06 00 07.6	-0.2
GENO				*e*Sn	Sg	06 00 33.9	+0.8
GENO	Geno	1.73	296	IAMB	IAmb	06 00 38.2	
	comp=Z,0.0nm,0.5s						
GENO				*e*Pn	Pn	06 00 07.4	-0.4
BNDS	Bandar-Abbas	1.73	296	*e*AML	AML	06 00 40.2	
	comp=E,2μm,0.5s						
BNDS				*e*AML	AML	06 00 44.4	
	comp=N,2μm,0.8s						
MDH	Madha	1.98	228	*e*P	Pn	06 00 08.2	-2.9
	SNR=9.5						
MDH	Madha	1.98	228	S	Sb	06 00 38.5	-0.1
MDH	Madha	1.98	228	*e*Pn	Pn	06 00 09.0	-2.2
MSFE	Esma-Masafi	2.04	231	*e*P	Pn	06 00 09.5	-2.5
	SNR=10						
MSFE	Esma-Masafi	2.04	231	*e*Pn	Pn	06 00 12.5	+0.5
UMQ	Umm Al-Quwin	2.32	242	*e*Pn	Pn	06 00 16.6	+0.9
HATD	Hatta, Dubai	2.43	222	*e*P	Pn	06 00 15.2	-2.1
	SNR=9.2						
HATD	Hatta, Dubai	2.43	222	*e*Pn	Pn	06 00 15.0	-2.3
CHBR	Chabahar	2.53	114	*e*Pn	Pn	06 00 20.0	+1.3
CHBR	Chabahar	2.53	114	*e*Pn	Pn	06 00 20.3	+1.6
ASHO	Ashiyiah	2.58	221	P	Pn	06 00 20.3	+0.9
	SNR=8.4						
ASHO	Ashiyiah	2.58	221	*e*Pn	Pn	06 00 19.5	+0.1
NAZ	Nazwa, Dubai	2.62	231	*i* P	Pn	06 00 18.8	-1.1
	SNR=14						
NAZ	Nazwa, Dubai	2.62	231	*e*Pn	Pn	06 00 21.1	+1.2
FAQ	Al Faqa, Dubai	2.83	228	*i* P	Pn	06 00 20.2	-2.5
	SNR=10.0						
FAQ	Al Faqa, Dubai	2.83	228	*e*Pn	Pn	06 00 23.7	+0.9
ASUD	Al Ashush, Dub	3.09	230	*i* P	Pn	06 00 24.3	-2.0
	SNR=14						
ASUD	Al Ashush, Dub	3.09	230	P	Pn	06 00 27.6	+1.2
	SNR=14						
ASUD	Al Ashush, Dub	3.09	230	*e*Pn	Pn	06 00 27.5	+1.2
HOQ	Hoqain	3.11	190	*e*Pn	Pn	06 00 25.0	-1.6
BIDO	Bidbid	3.12	176	P	Pn	06 00 26.7	-0.1
BIDO				S	Sn	06 01 03.1	-1.1
BIDO	Bidbid	3.12	176	*e*Pn	Pn	06 00 25.5	-1.3
NGRK	Negar Kerman	3.16	341	*e*Pn	Pn	06 00 27.0	-0.7
NGRK	Negar Kerman	3.16	341	*e*Pn	Pn	06 00 28.2	+0.5
NGRK				IAMB	IAmb	06 00 38.2	
	comp=Z,0.0nm,0.4s						
CHMN	Cheshme madani	3.21	354	*e*Pn	Pn	06 00 28.9	+0.5
CHMN	Cheshme madani	3.21	354	*e*Pn	Pn	06 00 30.2	+1.8
CHMN				IAMB	IAmb	06 01 34.9	
	comp=Z,0.0nm,0.8s						
ALNE	Al Ain	3.24	218	*e*Pn	Pn	06 00 28.7	+0.2
AJN	Ajban	3.37	232	*e*Pn	Pn	06 00 33.5	+3.3
WSAR	Wadi Sarin	3.46	169	Pn	Pn	06 00 30.5	-0.9
	comp=Z,58nm,0.3s,baz=348,slow=7.7,SNR=157						
WSAR				Sn	Sn	06 01 09.8	-2.8
	comp=Z,28nm,0.3s,baz=315,slow=22,SNR=13						
TVBK	TV Kerman	3.47	343	*e*Pn	Pn	06 00 32.7	+0.7
TVBK				IAMB	IAmb	06 00 43.7	
	comp=Z,0.0nm,0.5s						
SMDO	Samad	3.58	178	S	Sn	06 01 17.6	+1.9
SZD1	Zahaedan-tmp	3.84	42	*e*Pn	Pn	06 00 39.2	+2.4
ZHSF	Zahedan	3.88	40	*e*Pn	Pn	06 00 38.0	+0.6
ZHSF	Zahedan	3.88	40	*e*Pn	Pn	06 00 38.8	+1.4
ZHSF	Zahedan	3.88	40	*e*Pn	Pn	06 00 38.8	+1.4
KHGB	Koh Gabri	3.92	341	*e*Pn	Pn	06 00 38.3	+0.3
KHGB				IAMB	IAmb	06 01 52.1	
	comp=Z,0.0nm,0.8s						
BSY	Bisya	3.94	190	P	Pn	06 00 39.3	+1.2
	SNR=17						
GHIR	Ghir-Karzin	4.67	291	*e*Pn	Pn	06 00 48.0	-0.3
GHIR	Ghir-Karzin	4.67	291	*e*Pn	Pn	06 00 48.4	+0.1
GHIR	Ghir-Karzin	4.67	291	*e*P	Pn	06 00 48.4	+0.1
IPAR	Pars	5.34	308	*e*Pn	Pn	06 00 59.2	+1.6
BSRN	Basiran	5.40	11	*e*Pn	Pn	06 00 59.0	+0.8
BSRN	Basiran	5.40	11	*e*P	Pn	06 00 59.0	+0.8
MZR	Muzera	5.43	229	*e*Pn	Pn	06 01 02.0	+3.5
IMEH	Mehriz	5.54	329	*e*Pn	Pn	06 00 59.4	-0.8
IKOO	Kooshah	5.83	9	*e*Pn	Pn	06 01 03.7	-0.6
IKAZ	Kazeroun	6.20	302	*e*Pn	Pn	06 01 09.4	0.0
ITEG	Tejag	6.26	6	*e*Pn	Pn	06 01 11.2	+1.0
YZKH	Yazd	6.41	334	*e*Pn	Pn	06 01 12.0	-0.1
YZKH	Yazd	6.41	334	*e*P	Pn	06 01 12.0	-0.1
ISAD	Sadrabad	6.41	326	*e*Pn	Pn	06 01 12.0	-0.3
TPRV	Parvadeh(Tabas	6.44	351	*e*Pn	Pn	06 01 13.3	+0.8
TKDS	Koohdasht(Taba	6.97	355	*e*Pn	Pn	06 01 22.1	+2.3
IRAM	Ramesheh	7.06	318	*e*Pn	Pn	06 01 20.2	-0.9
IZEF	Zefreh	7.89	323	*e*Pn	Pn	06 01 31.2	-1.4
GEYT	Alibeck	11.25	1	Pn	Pn	06 02 17.8	-0.6
	comp=Z,0.5nm,0.3s,baz=192,slow=11,SNR=3.6						
GEYT				LR	LR	06 07 28.6	
	comp=Z,132nm,19.3s,baz=160,slow=42						
GYA0B	ALIBECK ARRAY	11.25	1	*e*Pn	Pn	06 02 18.4	+0.1
NIL	Nilore	14.98	59	*e*Pn	Pn	06 03 09.3	0.0
	comp=Z,14nm,0.9s						
GAR	Garm	16.11	37	*e*Pn	Pn	06 03 25.3	+1.1
	comp=Z,6.7nm,0.8s						
BTK	Batken	17.14	36	*e*P	Pn	06 03 36.6	-0.7
	comp=Z,5.0nm,0.6s						
ASF	Jabal al Asfar	19.11	292	P	P	06 04 00.5	-0.2
	comp=Z,0.3nm,0.3s,baz=214,slow=3.6,SNR=2.2						
ARSB	Arslanbob	19.20	37	*e*P	P	06 04 01.2	-0.5
	comp=Z,9.2nm,1.0s						
KKAR	Karatay Array	19.36	29	*e*P	P	06 04 03.7	+0.5
KSH	Kashi	19.79	45	P	P	06 04 03.7	-4.4
KSH				pP	Pn	06 04 07.1	-2.5
KSH				PP	PnPn	06 04 19.4	-4.0
KSH				S	S	06 07 33.7	-17
EIL	Elat	20.47	284	P	P	06 04 15.0	-0.4
	comp=Z,6.8nm,0.6s,baz=41,slow=3.0,SNR=10.0						
MMAI	Mount Meron Ar	20.52	293	P	P	06 04 14.7	-1.3
	comp=Z,1.3nm,0.5s,baz=90,slow=13,SNR=3.7						
AAK	Ala-Archa	20.92	36	*e*P	P	06 04 20.9	+0.5
	comp=Z,5.2nm,0.8s						
AAK	Ala-Archa	20.92	36	P	P	06 04 20.5	+0.1
	comp=Z,3.1nm,0.5s,baz=223,slow=9.4,SNR=9.3						
NRN	Naryn	20.96	41	*e*P	P	06 04 20.2	-0.8
	comp=Z,5.3nm,0.9s						
BOOM	Boomskoye usch	21.61	38	*e*P	P	06 04 27.9	+0.1
	comp=Z,16nm,1.3s						
AB31	Akbulak array	22.62	3	⇑P	P	06 04 36.4	-2.0
	comp=Z,6.6nm,1.1s,baz=194,slow=13,SNR=38						
ABKAR	Akbulak array	22.62	3	*e*P	P	06 04 36.2	-2.2
AKTO	Aktyubinsk	23.75	0	⇓P	P	06 04 47.3	-2.6
	comp=Z,4.5nm,0.8s						
AKTO	Aktyubinsk	23.75	0	P	P	06 04 47.1	-2.7
	comp=Z,2.0nm,0.6s,baz=179,slow=10,SNR=7.1						
AKTO				LR	LR	06 15 11.2	
	comp=Z,75nm,19.9s,baz=110,slow=39						
BR101	Keskin Array S	24.05	309	*e*P	P	06 04 51.5	-1.6
BR131	Keskin Array S	24.05	309	*e*P	P	06 04 54.5	+1.4
	comp=Z,3.5nm,0.9s						
BRTR	Keskin Array B	24.05	309	*e*P	P	06 04 54.8	+1.7
BRTR	Keskin Array B	24.05	309	P	P	06 04 51.5	-1.6
	comp=Z,1.1nm,0.6s,baz=123,slow=10,SNR=8.9						
MK32	Makanchi Array	27.84	37	*e*P	P	06 05 25.9	-1.2
MKAR	Makanchi Array	27.84	37	*e*P	P	06 05 31.7	+4.7
MKAR	Makanchi Array	27.84	37	P	P	06 05 25.9	-1.2
	comp=Z,0.2nm,0.5s,baz=224,slow=4.0,SNR=2.8						
BVAR	Bovoye Array	27.94	16	P	P	06 05 26.9	-1.0
	comp=Z,0.9nm,0.7s,baz=217,slow=4.5,SNR=3.5						
KURBB	Kurchatov Arra	28.66	28	P	P	06 05 33.0	-1.2
	comp=Z,0.7nm,0.6s,baz=226,slow=8.3,SNR=4.1						
SANT	Santorini	29.20	297	*e*P	P	06 05 42.3	+2.9
	comp=Z,14nm,1.0s						
WMQ	Urumqi	29.53	47	*e*P	P	06 05 43.8	+1.6
ITM	Ithomi	32.13	298	*e*P	P	06 06 07.3	+2.1
	comp=Z,14nm,1.4s						
AKASG	Malin Array Be	32.48	325	P	P	06 06 06.6	-1.4
	comp=Z,0.3nm,0.4s,baz=130,slow=7.8,SNR=3.9						
AKBB	Malin Array Si	32.48	325	*e*P	P	06 06 07.6	-0.5
	comp=Z,2.6nm,0.8s						
KIEV	Kiev	32.49	325	*e*P	P	06 06 07.4	-0.7
	comp=Z,2.5nm,0.8s						
ZALV	Zalesovo Beam	33.73	29	*e*P	P	06 06 18.6	-0.3
ZALV	Zalesovo Beam	33.73	29	P	P	06 06 17.8	-1.2
	comp=Z,0.7nm,0.3s,baz=226,slow=9.8,SNR=3.3						
ZAA1	Zalesovo Array	33.73	29	*e*P	P	06 06 17.8	-1.2
	comp=Z,11nm,1.4s						
KOLS	Kolonicke sedl	35.41	318	*e*P	P	06 06 35.4	+1.8
LZH	Lanzhou	40.01	65	*e*P	P	06 07 12.5	-0.4
LZH				pP	pP	06 07 15.6	-0.7
LZH				sP	sP	06 07 17.3	-0.4
LZH				*e*PP	PnPn	06 08 48.7	+0.5
CD2	Chengdu	40.19	73	*e*P	P	06 07 13.4	-0.8
KMI	Kunming	40.20	82	*e*P	P	06 07 13.8	-0.8
	comp=Z,20nm,0.4s						
GERES	GERESS Array B	40.65	315	*e*P	P	06 07 18.4	+0.6
GERES	GERESS Array B	40.65	315	P	P	06 07 14.7	-3.2
	comp=Z,0.4nm,0.7s,baz=96,slow=10.0,SNR=2.9						
KHC	Kasperske Hory	40.81	315	*e*P	P	06 07 20.8	+1.7
FIA1	FINESS Array S	40.83	337	*e*P	P	06 07 19.7	+0.7
	comp=Z,1.1nm,1.4s						
FIA0	FINESS Array S	40.84	337	*e*P	P	06 07 16.4	-2.7
FINES	FINESS Array B	40.84	337	P	P	06 07 16.4	-2.7
	comp=Z,0.5nm,0.5s,baz=134,slow=10,SNR=9.5						
SONA0	Songino Array	43.16	48	*e*P	P	06 07 39.4	+1.0
SONM	Songino Array	43.16	48	P	P	06 07 39.4	+1.0
	comp=Z,0.2nm,0.5s,baz=261,slow=9.9,SNR=3.8						
LVZ	Lovozero	43.60	347	*e*P	P	06 07 42.6	+1.0
	comp=Z,6.2nm,0.9s						
HFS	Hagfors	44.99	330	P	P	06 07 52.8	0.0
	comp=Z,1.0nm,0.6s,baz=120,slow=10,SNR=5.6						
HHC	Hu-ho-hao-te	46.12	58	*e*P	P	06 08 02.6	+0.4
ARA0	ARCESS Array S	46.89	345	*e*P	P	06 08 08.1	+0.5
ARCES	ARCESS Array B	46.89	345	P	P	06 08 08.1	+0.5
	comp=Z,0.9nm,0.7s,baz=138,slow=8.2,SNR=4.4						
ARCES				LR	LR	06 31 42.1	
	comp=Z,94nm,18.5s,baz=150,slow=41						
ESDC	Sonseca Array	52.47	301	P	P	06 08 48.4	-2.3
	comp=Z,0.2nm,0.5s,baz=80,slow=7.3,SNR=2.8						
ESLA	Sonseca Array	52.47	301	*e*P	P	06 08 51.2	+0.6
	comp=Z,13nm,1.4s						
PAB	San Pablo	52.77	301	*e*P	P	06 08 53.5	+0.5
	comp=Z,12nm,1.4s						
TOA0	Torodi Ar. Sit	54.16	267	*e*P	P	06 09 03.1	-0.3
	comp=Z,4.5nm,1.0s						
TORD	Torodi Ar. Bea	54.16	267	*e*P	P	06 09 06.4	+3.0
TORD	Torodi Ar. Bea	54.16	267	P	P	06 09 00.7	-2.6
	comp=Z,0.6nm,0.4s,baz=80,slow=8.6,SNR=6.9						
TOA1	Torodi Ar. Sit	54.16	267	*e*P	P	06 09 00.7	-2.6
TSUM	Tsumeb	60.08	225	*e*P	P	06 09 48.6	+3.4
	comp=Z,4.3nm,1.0s						
BMAR	Burnt Mountain	84.70	9	*e*P	P	06 12 10.2	-1.2
RIDG	Independent Ri	88.14	10	*e*P	P	06 12 27.5	-0.8
	comp=Z,4.9nm,1.2s						

DSN 11 06:01:41.5±2.4, 26°.68N×58°.22E, h10km, ML3.8/3, Error ellipse: s-maj=37.1km s-min=10.1km az=4.0
ISCJB 11 06:01:44.2±0.7, 26°.56N±0°.05×57°.93E±0°.09, h10km, mb3.5/10, MS3.4/1, Error ellipse: s-maj=11.6km s-min=7.2km az=0.3
IDC 11 06:01:44.2±1.1, 26°.45N×57°.61E, h0km, mb3.6/11, mb1 3.7/13, mb1mx3.5/60, mbtmp3.6/13, ML3.4/2, MS3.4/1, Ms1 3.5/1, ms1mx2.7/40, Error ellipse: s-maj=21.7km s-min=20.3km az=155.0
ISC 11 06:01:45.5±0.8, 26°.54N±0°.07×57°.90E±0°.07, h10km, n21, σ2§15/22, mb3.7/11, 2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	Shamm	1.65	253	*e*P	Pb	06 02 15.5	-0.5
	SNR=7.7						
SHME				S	Sg	06 02 40.6	+2.1
MDH	Madha	1.90	230	*e*P	Pn	06 02 17.4	-0.5
	SNR=7.5						
MSFE	Esma-Masafi	1.96	233	P	Pn	06 02 18.7	-0.1
HATD	Hatta, Dubai	2.33	223	P	Pn	06 02 24.9	+0.9
WSAR	Wadi Sarin	3.35	168	Pn	Pn	06 02 37.1	-0.9
	2.5nm,0.3s,baz=9.9,slow=11,SNR=7.6						
WSAR				Sn	Sn	06 03 18.1	+0.2
	20nm,0.3s,baz=181,slow=17,SNR=8.3						
ASF	Jabal al Asfar	19.13	292	P	P	06 06 07.4	-1.5
	0.2nm,0.3s,baz=27,slow=4.5,SNR=2.2						
MMAI	Mount Meron Ar	20.54	294	P	P	06 06 23.7	-0.6
	0.9nm,0.4s,baz=91,slow=12,SNR=3.6						
AB31	Akbulak array	22.73	3	⇓S	P	06 06 42.3	-5.2
	2.4nm,0.9s,baz=196,slow=10,SNR=12						
AKTO	Aktyubinsk	23.86	0	P	P	06 06 59.2	+0.4
	1.5nm,0.5s,baz=164,slow=12,SNR=4.7						
AKTO	Aktyubinsk	23.86	0	⇓S	P	06 07 03.2	+4.3
	2.6nm,1.0s						
BRTR	Keskin Array B	24.11	309	P	P	06 07 01.2	-0.3
	1.3nm,0.8s,baz=134,slow=10,SNR=3.7						
MKAR	Makanchi Array	27.94	37	P	P	06 07 38.5	+2.6
	0.2nm,0.4s,baz=231,slow=9.9,SNR=2.2						
KURBB	Kurchatov Arra	28.76	28	P	P	06 07 45.6	+2.4
	0.2nm,0.3s,baz=229,slow=8.3,SNR=3.2						
AKASG	Malin Array Be	32.56	325	P	P	06 08 15.3	-1.4
	0.4nm,0.4s,baz=130,slow=8.5,SNR=2.9						
ZALV	Zalesovo Beam	33.84	29	P	P	06 08 30.5	+2.7
	0.9nm,0.7s,baz=224,slow=8.1,SNR=2.8						
GERES	GERESS Array B	40.72	315	P	P	06 09 24.8	-1.5
	0.6nm,0.8s,baz=112,slow=7.5,SNR=4.0						
KHC	Kasperske Hory	40.88	315	*e*P	P	06 09 30.0	+2.4
FINES	FINESS Array B	40.93	337	P	P	06 09 27.2	-0.6
	0.7nm,0.7s,baz=134,slow=8.0,SNR=3.7						
HFS	Hagfors	45.08	330	P	P	06 10 01.6	+0.2
	0.9nm,0.7s,baz=134,slow=10,SNR=2.1						
NOA	NORSAR Array B	46.58	331	LR	LR	06 32 31.0	
	comp=Z,35nm,18.1s,baz=15,slow=40						
TORD	Torodi Ar. Bea	54.13	267	P	P	06 11 09.6	-1.6
	0.5nm,0.6s,baz=85,slow=7.4,SNR=2.6						

GRAL 11 06:10:08.3±0.3, 33°.88N×35°.86E, h5km±9km, MD2.7
NSSC 11 06:10:09.9±0.4, 33°.76N×35°.85E, h8km±6km, ML1.6
ISC 11 06:10:06.9±1.3, 33°.91N±0°.06×35°.9E±0°.1, h13km±18km, n7, σ0§62/13, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.18	268	*e*P	Pg	06 10 11.4	+0.3
BHL				*e*S	Sg	06 10 13.8	-0.3
DQRL	Deir Qamar	0.32	231	*e*P	Pg	06 10 13.7	+0.1
DQRL				*e*S	Sg	06 10 17.7	-0.3

L04D	**Klamath Falls**	**2.61**	**43**	Pb	**Pn**	**06 11 40.3 +2.0**
	baz=223,SNR=78					
L04D				Sb	**Sn**	**06 12 10.2 +1.1**
	baz=223					
HUMO	**Hull Mountain**	**2.63**	**29**	*e*Pn	**Pn**	**06 11 39.1 +0.7**
J01E	**Myrtle Point**	**2.89**	**11**	P	**Pn**	**06 11 43.1 +1.1**
	baz=190,SNR=12					
J01E				S	**Sn**	**06 12 14.3 -1.5**
	baz=190					
AFDM	**Forest Hills D**	**3.18**	**114**	*e*Pn	**Pn**	**06 11 47.0 +1.0**
AFDM				*e*Sn	**Sn**	**06 12 22.8 -0.2**
K04D	**Chiloquin, OR**	**3.19**	**43**	S	**Sn**	**06 12 20.2 -3.1**
	baz=224					
BEKR	**Beckworth**	**3.35**	**96**	*e*Pn	**Pn**	**06 11 50.0 +1.5**
I03D	**Drain, OR**	**3.52**	**16**	P	**Pn**	**06 11 52.1 +1.6**
	baz=196,SNR=23					
I03D				S	**Sn**	**06 12 29.2 -2.0**
	baz=196					
MOD	**Modoc Plateau**	**3.67**	**63**	*e*Pn	**Pn**	**06 11 53.4 +0.5**
RUBR	**Rubicon Trail**	**3.72**	**108**	*e*Pn	**Pn**	**06 11 56.4 +2.8**
K05A	**Summer Lake**	**3.73**	**49**	*e*Pn	**Pn**	**06 11 54.8 +1.1**
I02D	**Swisshome**	**3.83**	**9**	P	**Pn**	**06 11 56.5 +1.6**
	baz=189,SNR=19					
I02D				S	**Sn**	**06 12 37.5 -1.4**
	baz=189					
I04A	**Tendick Farm,**	**3.86**	**25**	P	**Pn**	**06 11 57.7 +2.3**
	baz=206,SNR=25					
I04A				S	**Sn**	**06 12 38.5 -1.3**
	baz=206					
J05D	**Fort Rock, OR**	**3.93**	**40**	P	**Pn**	**06 11 58.8 +2.4**
	baz=221,SNR=8.3					
J05D				S	**Sn**	**06 12 39.4 -2.1**
	baz=221					
SAO	**San Andreas Ge**	**4.37**	**143**	*e*Pn	**Pn**	**06 12 01.8 -0.5**
COR	**Corvallis**	**4.38**	**13**	*e*Pn	**Pn**	**06 12 04.7 +2.2**
H04D	**Lebanon**	**4.44**	**18**	S	**Sn**	**06 12 52.5 -1.4**
	baz=199					
PINE	**Pine Mountain**	**4.45**	**38**	*e*Pn	**Pn**	**06 12 06.6 +2.9**
H04A	**Detroit Lake**	**4.74**	**22**	*e*Pn	**Pn**	**06 12 09.6 +2.2**
H04A				*e*Sn	**Sn**	**06 13 00.2 -1.1**
G03D	**McMinnville, O**	**5.00**	**12**	S	**Sn**	**06 13 07.5 -0.2**
	baz=192					
KVN	**Kaiserville**	**5.24**	**102**	*e*Pn	**Pn**	**06 12 15.9 +1.4**
MLAC	**Mammoth, Mammo**	**5.30**	**119**	Pb	**Pb**	**06 12 30.7 +0.8**
	baz=303					
I07A	**Izee**	**5.38**	**44**	*e*Pn	**Pn**	**06 12 19.0 +2.7**
J08A	**Circle Bar Ran**	**5.55**	**55**	*e*Pn	**Pn**	**06 12 18.8 +0.2**
PAGB	**Antelope Grade**	**5.77**	**141**	*e*Pn	**Pn**	**06 12 21.9 +0.3**

MAN 11 06:25:33.2, 6°.73N×125°.95E, h22km, mb4.3, ML3.1, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.37**	**56**	*e*P	Pn	06 25 42.7	-0.6
MATI				*e*S	Sn	06 25 51.0	+1.1
DMPH	**Davao City--Mi**	**0.56**	**309**	⇑*e*P	Pb	06 25 44.7	+0.4
DMPH				*e*S	Sn	06 25 55.1	+0.7
DDMP	**Don Marcelino,**	**0.67**	**200**	*e*P	Pb	06 25 46.4	+0.2
DDMP				*e*S	Sb	06 25 53.3	-1.7
BUKP	**Musuan**	**1.44**	**322**	*e*P	Pn	06 25 57.5	-0.5
BUKP				*e*S	Sb	06 26 17.1	-0.1

*DSN **11** 06:34:31.9±4.4, 27°.07N×58°.09E, h10km, ML3.4/7, Error ellipse: s-maj=75.7km s-min=19.3km az=169.0*
*IDC **11** 06:34:35.9±1.4, 26°.51N×57°.66E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.3/50, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=41.5km s-min=23.2km az=65.0*
*OMAN **11** 06:34:38.5±2.8, 26°.19N×58°.26E, h20km, ml3.0/5, Error ellipse: s-maj=28.3km s-min=20.8km az=13.0*
ISC 11 06:34:33.5±1.3, 26°.19N±0°.07×58°.23E±0°.07, h10km, n15, σ0$69/18, mb3.6/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.88**	**266**	*e*P	**Pn**	**06 35 06.2**	**+0.4**
	SNR=25						
SHME				S	**Sb**	**06 35 32.3**	**+0.8**
MDH	**Madha**	**1.95**	**243**	*e*P	**Pb**	**06 35 08.7**	**-0.4**
	SNR=8.8						
MDH	**Madha**	**1.95**	**243**	P	**Pg**	**06 35 10.4**	**-0.6**
	SNR=10						
MDH				S	**Sg**	**06 35 37.4**	**+1.1**
MSFE	**Esma-Masafi**	**2.04**	**246**	P	**Pb**	**06 35 10.2**	**-0.4**
HATD	**Hatta, Dubai**	**2.33**	**235**	P	**Pg**	**06 35 18.3**	**+0.1**
ASHO	**Ashiyiah**	**2.47**	**233**	*i* P	**Pg**	**06 35 19.8**	**-1.1**
	SNR=8.0						
ASHO	**Ashiyiah**	**2.47**	**233**	P	**Pg**	**06 35 21.1**	**+0.2**
SOHO	**SOHO**	**2.56**	**217**	P	**Pb**	**06 35 19.2**	**-0.3**
SOHO				S	**Sb**	**06 35 49.8**	**-1.3**
NAZ	**Nazwa, Dubai**	**2.61**	**243**	P	**Pb**	**06 35 20.7**	**+0.4**
WSAR	**Wadi Sarin**	**2.96**	**173**	Pn	**Pg**	**06 35 30.3**	**0.0**
	3.3nm,0.3s,baz=346,slow=5.7,SNR=18						
WSAR				Sn	**Sg**	**06 36 09.8**	**+1.0**
	8.1nm,0.3s,baz=287,slow=18,SNR=9.9						
ASUD	**Al Ashush, Dub**	**3.05**	**240**	*i* P	**Pb**	**06 35 27.9**	**0.0**
	SNR=5.4						
AKTO	**Aktyubinsk**	**24.21**	**360**	P	**P**	**06 39 50.4**	**+0.2**
	0.9nm,0.5s,baz=148,slow=12,SNR=3.8						
BRTR	**Keskin Array B**	**24.55**	**309**	P	**P**	**06 39 53.1**	**-0.5**
	0.4nm,0.7s,baz=123,slow=9.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**54.41**	**268**	P	**P**	**06 44 01.0**	**-0.2**
	0.3nm,0.6s,baz=62,slow=7.8,SNR=4.1						
WRA	**Warramunga Arr**	**86.90**	**114**	P	P	06 47 26.4	+7.4
	1.3nm,1.1s,baz=304,slow=4.0,SNR=3.5						

IDC 11 06:51:32.5±4.6, 0°.88N×129°.96E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/24, mbtmp3.6/3, Error ellipse: s-maj=358.3km s-min=25.3km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.13**	**168**	P	P	06 56 18.1	-1.1
	0.7nm,0.4s,baz=348,slow=11,SNR=23						
ASAR	**Alice Springs**	**24.70**	**171**	P	P	06 56 56.2	+0.7
	0.9nm,0.4s,baz=353,slow=10,SNR=15						
MKAR	**Makanchi Array**	**61.72**	**325**	P	P	07 01 52.7	-0.1
	0.3nm,0.8s,baz=111,slow=8.2,SNR=2.8						

*SOME **11** 06:59:57.2, 41°.03N×70°.93E, h0km*
*NNC **11** 07:00:01.7±5.0, 41°.11N×70°.78E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=41.2km s-min=19.7km az=28.0*
*KRNET **11** 07:00:03.1±0.1, 41°.42N×70°.89E, h17km, mb2.3*
ISC 11 07:00:04.4±1.2, 41°.36N±0°.04×70°.98E±0°.04, h12km±11km, n15, σ1$71/27, 11C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.86**	**59**	⇑*i*P	**Pg**	**07 00 20.6**	**-0.4**
	baz=66						
ARK				⇑*i*S	**Sb**	**07 00 33.0**	**+0.1**
	baz=66						
IUG	**luzhnay**	**1.06**	**318**	P	**Pg**	**07 00 22.9**	**-1.8**
	4.1nm,0.3s						
IUG				S	**Sn**	**07 00 39.3**	**-0.6**
	8.8nm,0.5s						
IUG	**luzhnay**	**1.06**	**318**	*e*P	**Pg**	**07 00 22.9**	**-1.8**
	4.1nm,0.3s						
IUG				*e*S	**Sn**	**07 00 39.3**	**-0.6**
	8.8nm,0.5s						
BTK	**Batken**	**1.31**	**185**	⇑*i*P	**Pb**	**07 00 28.5**	**-0.5**
	baz=82						
BTK				⇑*i*S	**Sg**	**07 00 48.2**	**+1.7**
	baz=82						
ARSB	**Arslanbob**	**1.51**	**91**	⇓*i*P	**Pb**	**07 00 32.3**	**-0.2**
	baz=93						
ARSB				⇓*i*S	**Sg**	**07 00 54.0**	**+1.0**
	baz=93						
KK31	**Karatay Array**	**1.77**	**349**	⇓Pn	**Pb**	**07 00 37.0**	**+0.1**
	3.0nm,0.4s,baz=168,slow=16,SNR=40						
KK31				⇓Sn	**Sg**	**07 01 04.8**	**+3.4**
	7.3nm,0.6s,baz=164,slow=26,SNR=13						
MRKS	**Merke**	**2.17**	**50**	Pg	**Pb**	**07 00 43.4**	**-0.3**
	4.1nm,0.4s						
MRKS				Lg	Lg	07 01 14.6	
	3.6nm,0.3s						
MRKS	**Merke**	**2.17**	**50**	*e*P	**Pb**	**07 00 43.4**	**-0.3**
	4.1nm,0.4s						
MRKS				*e*S	**Sg**	**07 01 14.6**	**+0.4**
	3.6nm,0.3s						
AML	**Almayashu**	**2.17**	**68**	⇑*i*P	**Pn**	**07 00 42.1**	**+1.3**
	baz=70						
AML				⇑*i*S	**Sb**	**07 01 12.1**	**+1.1**
	baz=70						
ARLS	**Aral**	**2.56**	**78**	⇓*i*P	**Pn**	**07 00 47.8**	**+1.9**
	baz=79						
ARLS				⇓*i*S	**Sb**	**07 01 21.0**	**-0.8**
	baz=79						
UCH	**Uchtor**	**2.78**	**71**	⇑*i*P	**Pn**	**07 00 50.6**	**+1.4**
	baz=72						
UCH				⇑*i*S	**Sb**	**07 01 26.5**	**-2.1**
	baz=72						
AAK	**Ala-Archa**	**2.92**	**63**	⇓Pn	**Pb**	**07 00 54.8**	**-1.6**
	1.1nm,0.4s						
AAK				⇑Lg	Lg	07 01 44.0	
	1.9nm,0.7s						
KZA	**Kyzart**	**3.28**	**76**	⇑*i*P	**Pn**	**07 00 58.1**	**+2.1**
	baz=77						
KZA				⇑*i*S	**Sb**	**07 01 39.1**	**-3.7**
	baz=77						
DGS	**Degeres**	**4.02**	**61**	Pg	**Pb**	**07 01 13.4**	**-1.9**
	25nm,0.2s						
DGS				Lg	Lg	07 02 05.6	
	1.5nm,0.2s						
DGS	**Degeres**	**4.02**	**61**	*e*P	**Pb**	**07 01 13.4**	**-1.9**
	2.6nm,0.5s						
DGS				*e*S	**Sb**	**07 02 05.6**	**+1.7**
	1.5nm,0.8s						

IDC 11 07:11:07.8±14.0, 7°.72S×130°.35E, h146km±164km, mb3.4/1, mb1 3.4/4, mb1mx3.1/33, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=94.8km s-min=45.6km az=8.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.28**	**204**	P	Pn	07 13 46.5	+1.6
	0.4nm,0.3s,baz=24,slow=10.0,SNR=22						
FITZ				S	Sn	07 15 50.6	+1.0
	1.0nm,0.3s,baz=86,slow=19,SNR=9.6						
WRA	**Warramunga Arr**	**12.75**	**163**	P	Pn	07 14 02.7	-1.3
	0.4nm,0.3s,baz=338,slow=13,SNR=25						
WRA				S	Sn	07 16 21.1	-3.9
	1.3nm,0.3s,baz=344,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.22**	**168**	P	P	07 14 49.4	+1.6
	0.3nm,0.3s,baz=359,slow=12,SNR=22						
ASAR				S	S	07 17 43.8	-4.4
	0.1nm,0.3s,baz=358,slow=30,SNR=2.4						
MKAR	**Makanchi Array**	**69.02**	**327**	P	P	07 21 57.2	-0.3
	0.4nm,0.4s,baz=115,slow=7.7,SNR=3.8						

IDC 11 07:17:33.4±12.0, 20°.74S×178°.54W, h493km±121km, mb3.3/4, mb1 3.4/5, mb1mx3.0/35, mbtmp4.2/5, Error ellipse: s-maj=117.4km s-min=38.7km az=32.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.86**	**191**	P	P	07 21 12.4	-0.3
	0.4nm,0.3s,baz=172,slow=23,SNR=0.9						
CTA	**Charters Tower**	**32.97**	**265**	P	P	07 23 27.2	+0.4
	4.1nm,0.6s,baz=80,slow=9.4,SNR=3.6						
STKA	**Stephens Creek**	**37.23**	**244**	P	P	07 24 02.5	+0.1
	1.1nm,0.5s,baz=81,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**43.97**	**257**	P	P	07 24 56.5	0.0
	4.3nm,0.8s,baz=93,slow=8.0,SNR=49						
ASAR				PcP	pwP	07 26 32.0	+0.2
	0.3nm,0.7s,baz=104,slow=3.9,SNR=3.8						
WRA	**Warramunga Arr**	**44.07**	**262**	P	P	07 24 56.8	-0.4
	1.0nm,0.3s,baz=95,slow=7.7,SNR=22						
WRA				PcP	PcP	07 26 29.9	-2.1
	0.8nm,1.0s,baz=101,slow=6.7,SNR=2.7						
AKASG	**Malin Array Bea**	**142.97**	**331**	PKP	PKPdf	07 36 10.7	+0.4
	0.2nm,0.3s,baz=41,slow=4.2,SNR=4.9						

MEX 11 07:29:50.8±1.0, 16°.18N×98°.26W, h5km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**30**	*e*P	Pg	07 29 54.6	-1.1
PNIG				*e*S	Sg	07 29 59.7	+0.8

*IDC **11** 07:47:53.4±0.9, 12°.52N×86°.34W, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.6/37, mbtmp3.5/7, ML2.7/2, MS2.3/1, Ms1 2.3/1, ms1mx2.1/30, Error ellipse: s-maj=63.9km s-min=15.8km az=49.0*
*UCR **11** 07:47:54.6±2.1, 11°.47N×87°.52W, h67km±55km, MD4.2, ML3.7, mb4.2(NEIC)*
*ISCJB **11** 07:47:55.4±0.8, 11°.51N±0°.06×87°.46W±0°.05, h36km±6km, mb4.0/21, Error ellipse: s-maj=12.4km s-min=4.0km az=41.5*
*SNET **11** 07:47:56.3±1.0, 11°.72N×87°.69W, h2km±16km, ML3.8*
*NEIC **11** 07:47:56.9±2.3, 11°.56N×87°.43W, h35km±6km, mb4.2/23, Error ellipse: s-maj=21.1km s-min=1.8km az=188.0*
ISC 11 07:47:57.6±1.3, 11°.56N±0°.06×87°.40W±0°.05, h43km±12km, n60, σ1$72/76, mb4.2/21, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.00**	**52**	*e*P	**Pn**	**07 48 14.8**	**-0.5**
COPN				IAML		07 48 38.0	
	comp=Z,2μm,0.7s						
CRUN	**El Crucero**	**1.16**	**68**	*e*P	**Pn**	**07 48 16.7**	**-0.7**
CNGN	**Cerro Negro**	**1.16**	**36**	*e*P	**Pn**	**07 48 15.7**	**-1.8**
TELN	**Telica**	**1.18**	**28**	*e*P	**Pn**	**07 48 17.0**	**-0.7**
CRIN	**San Cristobal**	**1.19**	**17**	*e*P	**Pn**	**07 48 17.2**	**-0.6**
CRIN				*e*S	**Sn**	**07 48 37.1**	**+4.2**
MOMN	**Momotombo**	**1.19**	**45**	*e*P	**Pn**	**07 48 17.0**	**-0.9**
APYN	**Apoyeque**	**1.23**	**57**	*e*P	**Pn**	**07 48 17.4**	**-0.9**
MGAN	**Managua**	**1.27**	**62**	*e*P	**Pn**	**07 48 18.0**	**-0.9**
CONN	**Concepcion**	**1.74**	**90**	*e*P	**Pn**	**07 48 23.7**	**-1.6**
CNCH	**Conchagua**	**1.76**	**346**	*e*P	**Pn**	**07 48 24.3**	**-1.5**
LCND	**La Caada**	**1.81**	**345**	*e*P	**Pn**	**07 48 24.9**	**-1.4**
LCND				*e*S	**Sn**	**07 48 48.0**	**-0.1**
LCND	**La Caada**	**1.81**	**345**	*e*P	**Pn**	**07 48 24.9**	**-1.4**
LCND				*e*S	**Sn**	**07 48 48.0**	**-0.1**
LCND				*e*S	**Sn**	**07 48 48.4**	**+0.4**
MATN	**Matagalpa**	**1.98**	**46**	*e*P	**Pn**	**07 48 28.1**	**-0.7**
NY14	**Universidad de**	**2.04**	**116**	*i* P	**Pn**	**07 48 28.1**	**-1.4**
NY14				*i* S	**Sn**	**07 48 52.4**	**-1.3**
ACON	**Acoyapa**	**2.21**	**79**	*e*Pn	**Pn**	**07 48 31.0**	**-0.9**
ACON	**Acoyapa**	**2.21**	**79**	*e*P	**Pn**	**07 48 30.5**	**-1.4**
LIM1	**Limonal**	**2.27**	**112**	*i* P	**Pn**	**07 48 32.6**	**-0.1**
CUI	**Cuipilapa**	**2.37**	**112**	*i* P	**Pn**	**07 48 34.0**	**0.0**
CUI				*i* S	**Sn**	**07 49 02.5**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.49**	**3**	*e*P	**Pn**	**07 48 35.4**	**-0.2**
ACAL	**Aguas Claras**	**2.49**	**111**	*i* P	**Pn**	**07 48 35.6**	**-0.1**
PAVA	**Las Pavas**	**2.62**	**325**	*e*P	**Pn**	**07 48 36.3**	**-1.3**
PAVA				*e*S	**Sn**	**07 49 06.0**	**-2.2**
PAVA	**Las Pavas**	**2.62**	**325**	*e*P	**Pn**	**07 48 36.3**	**-1.3**
PAVA				*e*S	**Sn**	**07 49 06.0**	**-2.2**
JTS	**Las Juntas de**	**2.71**	**117**	*e*Pn	**Pn**	**07 48 38.6**	**-0.1**
JTS	**Las Juntas de**	**2.71**	**117**	Pn	**Pn**	**07 48 36.9**	**-1.8**
	comp=Z,1.8nm,0.3s,baz=6.8,slow=23,SNR=18						
JTS				Sn	**Sn**	**07 49 09.1**	**-1.2**
	comp=Z,24nm,0.3s,baz=298,slow=20,SNR=13						
JTS				LR	LR	07 49 11.7	
	comp=Z,58nm,21.6s,baz=353,slow=30						
JTS	**Las Juntas de**	**2.71**	**117**	*e*P	**Pn**	**07 48 36.6**	**-2.2**
ESPN	**Las Esperanzas**	**3.10**	**78**	*e*Pn	**Pn**	**07 48 42.2**	**-1.8**
ESPN	**Las Esperanzas**	**3.10**	**78**	*e*P	**Pn**	**07 48 42.2**	**-1.8**
CEVE	**Cerro Verde**	**3.13**	**316**	*e*P	**Pn**	**07 48 43.5**	**-1.2**
CEVE				*e*S	**Sn**	**07 49 19.8**	**-1.2**
CEVE				IAML		07 49 30.0	
	comp=Z,298nm,0.4s						
CEVE	**Cerro Verde**	**3.13**	**316**	*e*P	**Pn**	**07 48 43.5**	**-1.2**
CEVE				*e*S	**Sn**	**07 49 19.8**	**-1.2**
CEVE				IAML		07 49 30.0	
	comp=Z,298nm,0.4s						
HDC	**Heredia**	**3.58**	**115**	*e*Pn	**Pn**	**07 48 52.7**	**+2.0**
HDC				*e*Sn	**Sn**	**07 49 33.7**	**+1.9**
APG	**El Apazote**	**4.54**	**319**	Pn	**Pn**	**07 49 06.5**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=94,slow=15,SNR=2.5						
APG				Sn	**Sn**	**07 50 02.6**	**+6.7**
	comp=Z,0.8nm,0.3s,baz=355,slow=18,SNR=3.7						
CMIG	**Matias Romero**	**9.10**	**308**	Pn	**Pn**	**07 50 05.7**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=131,slow=8.3,SNR=4.0						
453A	**Whigham**	**19.41**	**8**	*e*P	**Pn**	**07 52 22.8**	**+1.1**
	comp=Z,21nm,1.1s						
BRAL	**Brewton**	**19.52**	**1**	*e*P	**P**	**07 52 21.9**	**+0.5**
	comp=Z,55nm,1.0s						
147A	**Livingston**	**21.03**	**358**	*e*P	**P**	**07 52 40.9**	**+3.1**
	comp=Z,17nm,0.6s						
152A	**Waverly Hall**	**21.16**	**6**	*e*P	**P**	**07 52 41.6**	**+2.5**
	comp=Z,8.3nm,0.8s						
LRAL	**Lakeview Retre**	**21.38**	**1**	*e*P	**P**	**07 52 36.2**	**-5.3**
	comp=Z,6.3nm,0.8s						
Y49A	**Blount Mountai**	**22.22**	**2**	*e*P	**P**	**07 52 50.2**	**-0.3**
	comp=Z,7.9nm,0.6s						
Y52A	**Lilburn**	**22.41**	**7**	*e*P	**P**	**07 52 53.5**	**+0.9**
	comp=Z,9.7nm,1.0s						
WLAR	**White Oak Lake**	**22.64**	**348**	*e*P	**P**	**07 52 55.6**	**+0.6**
	comp=Z,13nm,1.0s						
TXAR	**Lajitas Array**	**23.30**	**322**	P	**P**	**07 53 01.7**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=135,slow=10,SNR=10						
TX31	**Lajitas Ar. Si**	**23.30**	**322**	*e*P	**P**	**07 53 01.9**	**0.0**
	comp=Z,3.8nm,1.1s						
MIAR	**Mount Ida**	**23.57**	**347**	*e*P	**P**	**07 53 03.4**	**-0.9**
	comp=Z,3.8nm,0.8s						
W52A	**Murphy**	**23.64**	**7**	*e*P	**P**	**07 53 05.2**	**+0.1**
	comp=Z,6.9nm,0.8s						
CPCT	**Cooper Cave**	**23.93**	**6**	*e*P	**P**	**07 53 08.2**	**+0.5**
	comp=Z,5.7nm,1.0s						
X37A	**Clayton**	**24.05**	**344**	*e*P	**P**	**07 53 09.5**	**+0.7**
	comp=Z,9.0nm,0.8s						
T47A	**Sharon Grove**	**25.32**	**1**	*e*P	**P**	**07 53 19.0**	**-1.3**
	comp=Z,6.9nm,0.8s						
TUL1	**Leonard**	**25.41**	**344**	*e*P	**P**	**07 53 21.9**	**+0.8**
	comp=Z,15nm,0.8s						
MSTX	**Muleshoe**	**26.36**	**330**	*e*P	**P**	**07 53 29.3**	**-0.7**
	comp=Z,4.7nm,1.0s						
Q51A	**Peebles**	**27.59**	**7**	*e*P	**P**	**07 53 40.2**	**-0.6**
	comp=Z,12nm,0.6s						
PDAR	**Pinedale Array**	**36.58**	**332**	P	**P**	**07 54 58.7**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=123,slow=9.9,SNR=5.1						
PDAR				PcP	**PcP**	**07 57 22.6**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=81,slow=5.6,SNR=3.0						
REDW	**Red Top Meadow**	**37.64**	**332**	*e*P	**P**	**07 55 08.5**	**-0.3**
	comp=Z,2.3nm,0.7s						
NVAR	**Mina Array Bea**	**38.41**	**320**	P	**P**	**07 55 17.1**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=147,slow=8.6,SNR=2.5						
NVAR				PcP	**PcP**	**07 57 29.6**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=147,slow=5.4,SNR=3.9						
BDFB	**Brasilia**	**47.44**	**124**	*e*P	**P**	**07 56 28.7**	**+0.3**
	comp=Z,4.1nm,0.6s						
BDFB	**Brasilia**	**47.44**	**124**	P	**P**	**07 56 28.0**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=295,slow=8.5,SNR=7.6						
YKA	**Yellowknife Ar**	**54.48**	**345**	P	**P**	**07 57 17.8**	**-2.8**
	comp=Z,0.2nm,0.6s,baz=143,slow=6.8,SNR=8.0						
YKA				PcP	**PcP**	**07 58 22.7**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=140,slow=4.0,SNR=5.2						
LZH	**Lanzhou**	**131.44**	**348**	*e*PKP	**PKPdf**	**08 07 05.2**	**-0.9**
LZH				pPKP	pPKPdf	08 07 16.5	-3.0
LZH				sPKP		08 07 20.3	
CD2	**Chengdu**	**136.44**	**346**	PKP	**PKPdf**	**08 07 14.2**	**-1.3**
WRA	**Warramunga Arr**	**139.07**	**253**	PKP	**PKiKP**	**08 07 25.9**	**+3.2**
	comp=Z,0.6nm,0.8s,baz=82,slow=1.4,SNR=4.5						
CMAR	**Chiang Mai Arr**	**149.53**	**348**	PKPbc	**PKPbc**	**08 07 43.8**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=350,slow=4.6,SNR=5.1						

*IDC **11** 07:55:24.4±1.4, 29°.17N×141°.76E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.5/45, mbtmp3.6/8, ML2.7/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/40, Error ellipse: s-maj=45.7km s-min=25.2km az=67.0*
*ISCJB **11** 07:55:27.4±1.1, 29°.1N±0°.1×141°.6E±0°.3, h30km, mb3.6/7, Error ellipse: s-maj=35.5km s-min=12.4km az=162.7*
ISC 11 07:55:28.7±1.2, 29°.1N±0°.1×141°.8E±0°.3, h30km, n10, σ1$58/9, mb3.7/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.97**	**339**	Pn	**Pn**	**07 57 20.1**	**-2.4**
	0.1nm,0.3s,baz=151,slow=11,SNR=5.8						
MJAR				Sn	**Sn**	**07 58 54.5**	**+2.8**
	0.0nm,0.3s,baz=175,slow=24,SNR=3.0						
JNU	**Nakatsue**	**10.13**	**296**	LR	LR	08 01 59.2	
	comp=Z,73nm,18.0s,baz=156,slow=39						
KSRS	**Korea Array**	**14.23**	**309**	LR	LR	08 04 15.9	
	comp=Z,33nm,18.8s,baz=145,slow=37						
SONM	**Songino Array**	**33.01**	**314**	P	**P**	**08 02 00.8**	**-0.4**
	0.2nm,0.4s,baz=106,slow=9.1,SNR=4.1						
MKAR	**Makanchi Array**	**48.91**	**308**	P	**P**	**08 04 11.9**	**0.0**
	0.7nm,0.9s,baz=99,slow=9.3,SNR=4.2						
WRA	**Warramunga Arr**	**49.30**	**189**	P	**P**	**08 04 15.7**	**+0.6**
	0.3nm,0.6s,baz=6.4,slow=7.6,SNR=4.4						
KURBB	**Kurchatov Arra**	**51.36**	**313**	P	**P**	**08 04 30.3**	**-0.1**
	1.2nm,0.7s,baz=90,slow=6.7,SNR=9.3						
BVAR	**Borovoye Array**	**56.30**	**317**	P	**P**	**08 05 07.2**	**+0.7**
	0.8nm,0.8s,baz=67,slow=5.9,SNR=3.5						
NVAR	**Mina Array Bea**	**79.57**	**52**	P	**P**	**08 07 33.7**	**+0.4**
	0.3nm,0.7s,baz=285,slow=7.1,SNR=2.4						
BRTR	**Keskin Array B**	**84.35**	**313**	P	**P**	**08 07 58.1**	**-0.3**
	0.6nm,0.7s,baz=69,slow=7.9,SNR=3.7						

*NEIC **11** 07:58:38.3±0.0, 26°.44N×57°.79E, h15km, mb3.9/10, ML3.8(THR), MN4.2(TEH), After TEH.*
*OMAN **11** 07:58:39.2±4.6, 26°.79N×58°.16E, h24km±136km, ml3.8/

n106,σ1°15/150,16C-5D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAQ	**Al Faqa, Dubai**	**2.69**	**227**	*e*Pn	**Pb**	**07 59 28.8**	**-0.2**
SOHO	**SOHO**	**2.69**	**205**	P	**Pn**	**07 59 24.1**	**-0.1**
ASUD	**Al Ashush, Dub**	**2.94**	**229**	*i* P	**Pb**	**07 59 32.0**	**-1.4**
	SNR=14						
ASUD	**Al Ashush, Dub**	**2.94**	**229**	*e*Pn	**Pb**	**07 59 31.9**	**-1.4**
HOQ	**Hoqain**	**3.03**	**188**	*e*Pn	**Pn**	**07 59 29.8**	**+1.0**
BIDO	**Bidbid**	**3.08**	**174**	*e*Pn	**Pn**	**07 59 30.0**	**+0.5**
ALNE	**Al Ain**	**3.12**	**216**	*i* P	**Pn**	**07 59 31.6**	**+1.6**
	SNR=8.0						
ALNE	**Al Ain**	**3.12**	**216**	*e*Pn	**Pb**	**07 59 33.4**	**-2.9**
NGRK	**Negar Kerman**	**3.17**	**344**	*e*Pn	**Pn**	**07 59 33.1**	**+2.1**
NGRK	**Negar Kerman**	**3.17**	**344**	*e*Pn	**Pn**	**07 59 33.2**	**+2.2**
NGRK				IAMB	IAmb	08 00 27.3	
	comp=Z,0.0nm,0.4s						
AJN	**Ajban**	**3.22**	**232**	*e*Pn	**Pb**	**07 59 37.5**	**-0.6**
CHMN	**Cheshme madani**	**3.26**	**357**	*e*Pn	**Pb**	**07 59 35.6**	**-3.3**
CHMN				IAMB	IAmb	08 00 39.5	
	comp=Z,0.0nm,0.6s						
ARQ	**Araqi**	**3.44**	**199**	P	**Pb**	**07 59 38.0**	**-3.7**
	SNR=6.5						
ARQ				S	**Sb**	**08 00 20.1**	**-3.5**
WSAR	**Wadi Sarin**	**3.44**	**166**	Pn	**Pn**	**07 59 35.9**	**+1.5**
	comp=Z,24nm,0.3s,baz=356,slow=11,SNR=77						
WSAR				Sn	**Sn**	**08 00 14.0**	**-1.3**
	comp=Z,28nm,0.3s,baz=276,slow=22,SNR=11						
TVBK	**TV Kerman**	**3.49**	**346**	*e*Pn	**Pb**	**07 59 38.9**	**-3.9**
TVBK				IAMB	IAmb	07 59 50.7	
	comp=Z,0.0nm,0.3s						
SMDO	**Samad**	**3.53**	**176**	P	**Pn**	**07 59 37.3**	**+1.4**
	SNR=15						
SMDO				S	**Sn**	**08 00 17.0**	**-0.8**
KHGB	**Koh Gabri**	**3.93**	**344**	*e*Pn	**Pn**	**07 59 44.6**	**+3.2**
KHGB				IAMB	IAmb	07 59 55.9	
	comp=Z,0.0nm,0.6s						
SZD1	**Zahaedan-tmp**	**3.98**	**43**	*e*Pn	**Pb**	**07 59 46.8**	**-4.3**
ZHSF	**Zahedan**	**4.01**	**41**	*e*Pn	**Pn**	**07 59 46.0**	**+3.5**
ZHSF	**Zahedan**	**4.01**	**41**	*e*Pn	**Pb**	**07 59 47.0**	**-4.7**
ZHSF	**Zahedan**	**4.01**	**41**	*e*Pn	**Pb**	**07 59 47.0**	**-4.7**
GHIR	**Ghir-Karzin**	**4.56**	**293**	*e*Pn	**Pn**	**07 59 49.0**	**-1.0**
GHIR	**Ghir-Karzin**	**4.56**	**293**	*e*Pn	**Pn**	**07 59 49.2**	**-0.8**
GHIR	**Ghir-Karzin**	**4.56**	**293**	*e*P	**Pn**	**07 59 49.2**	**-0.8**
IPAR	**Pars**	**5.26**	**309**	*e*Pn	**Pn**	**08 00 01.0**	**+1.2**
MZR	**Muzera**	**5.29**	**228**	*e*Pn	**Pn**	**08 00 00.0**	**+0.2**
IMEH	**Mehriz**	**5.51**	**331**	*e*Pn	**Pn**	**08 00 06.1**	**+2.9**
ITEG	**Tejag**	**6.33**	**8**	*e*Pn	**Pn**	**08 00 15.6**	**+1.2**
ITEG	**Tejag**	**6.33**	**8**	*e*Pn	**Pn**	**08 00 16.5**	**+2.1**
ISAD	**Sadrabad**	**6.38**	**327**	*e*Pn	**Pn**	**08 00 16.8**	**+1.7**
ISAD	**Sadrabad**	**6.38**	**327**	*e*Pn	**Pn**	**08 00 17.7**	**+2.6**
YZKH	**Yazd**	**6.40**	**335**	*e*Pn	**Pn**	**08 00 17.0**	**+1.8**
YZKH	**Yazd**	**6.40**	**335**	*e*P	**Pn**	**08 00 17.0**	**+1.8**
TPRV	**Parvadeh(Tabas**	**6.47**	**352**	*e*Pn	**Pn**	**08 00 18.8**	**+2.5**
IRAM	**Ramesheh**	**7.00**	**319**	*e*Pn	**Pn**	**08 00 25.5**	**+1.9**
IZEF	**Zefreh**	**7.85**	**324**	*e*Pn	**Pn**	**08 00 36.3**	**+1.0**
IANJ	**Anjilo**	**9.43**	**340**	*e*Pn	**Pn**	**08 01 00.4**	**+3.4**
GEYT	**Alibeck**	**11.30**	**1**	LR	LR	08 06 26.4	
	comp=Z,51nm,20.3s,baz=200,slow=42						
KBL	**Kabul**	**12.53**	**48**	*e*Pn	**Pn**	**08 01 41.9**	**+2.5**
NIL	**Nilore**	**15.13**	**59**	*e*Pn	**Pn**	**08 02 15.6**	**+1.0**
	comp=Z,8.0nm,0.7s						
GNI	**Garni**	**17.32**	**325**	LR	LR	08 10 30.2	
	comp=Z,69nm,19.3s,baz=137,slow=42						
ASF	**Jabal al Asfar**	**19.00**	**292**	P	**P**	**08 03 02.5**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=122,slow=15,SNR=2.2						
ARSB	**Arslanbob**	**19.33**	**37**	*e*P	**Pn**	**08 03 09.1**	**+1.8**
	comp=Z,5.1nm,1.0s						
KK31	**Karatay Array**	**19.47**	**29**	*e*P	**Pn**	**08 03 12.3**	**+3.3**
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**19.47**	**29**	*e*P	**Pn**	**08 03 11.5**	**+2.6**
EIL	**Elat**	**20.34**	**284**	P	Pn	08 03 19.0	-0.4
	comp=Z,4.5nm,0.6s,baz=59,slow=4.5,SNR=7.5						
MMAI	**Mount Meron Ar**	**20.41**	**294**	P	**P**	**08 03 17.8**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=101,slow=15,SNR=2.6						
AAK	**Ala-Archa**	**21.05**	**36**	P	**P**	**08 03 25.4**	**+0.3**
AAK				*e*P	**P**	**08 03 28.9**	**+3.8**
AAK	**Ala-Archa**	**21.05**	**36**	P	**P**	**08 03 25.4**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=207,slow=6.8,SNR=2.7						
KDJ	**Kajisay**	**22.22**	**41**	*e*P	**P**	**08 03 39.3**	**+1.6**
	comp=Z,7.4nm,1.0s						
ABKAR	**Akbulak array**	**22.68**	**4**	*e*P	**P**	**08 03 41.5**	**-0.9**
	comp=Z,2.8nm,1.0s						
AKTO	**Aktyubinsk**	**23.80**	**0**	P	**P**	**08 03 52.5**	**-1.2**
	comp=Z,1.3nm,0.4s,baz=158,slow=9.2,SNR=6.6						
AKTO				LR	LR	08 14 44.0	
	comp=Z,43nm,18.7s,baz=168,slow=41						
BRTR	**Keskin Array B**	**23.97**	**309**	*e*P	**P**	**08 03 54.0**	**-1.5**
BRTR	**Keskin Array B**	**23.97**	**309**	LR	LR	08 15 08.9	
	comp=Z,37nm,18.7s,baz=91,slow=42						
BVAR	**Borovoye Array**	**28.04**	**16**	P	**P**	**08 04 30.5**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=194,slow=9.6,SNR=4.8						
AKASG	**Malin Array Be**	**32.45**	**326**	P	**P**	**08 05 10.0**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=129,slow=8.3,SNR=6.3						
AKBB	**Malin Array Si**	**32.45**	**326**	*e*P	**P**	**08 05 09.3**	**-1.7**
	comp=Z,2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**33.85**	**29**	P	**P**	**08 05 21.6**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=236,slow=11,SNR=3.5						
ZAA1	**Zalesovo Array**	**33.85**	**29**	*e*P	**P**	**08 05 21.6**	**-1.6**
CONA	**Conrad Observa**	**38.94**	**314**	*e*pP	**P**	**08 06 07.3**	**+0.3**
	comp=Z,2.0nm,0.7s						
ARSA	**Arzberg**	**38.96**	**313**	*i* pP	**P**	**08 06 08.0**	**+1.0**
	comp=Z,3.3nm,0.8s						
MOA	**Molln**	**39.94**	**314**	*e*pP	**P**	**08 06 16.2**	**+0.9**
	comp=Z,3.9nm,0.6s						
MYKA	**Terra Mystica**	**40.03**	**312**	*e*pP	**P**	**08 06 17.6**	**+1.6**
	comp=Z,2.7nm,0.6s						
KBA	**Koelnbreinsper**	**40.34**	**312**	*e*pP	**P**	**08 06 19.5**	**+0.8**
	comp=Z,3.6nm,0.8s						
GEC2	**GERESS Array S**	**40.59**	**315**	*e*P	**P**	**08 06 20.5**	**-0.2**
	comp=Z,1.9nm,0.6s						
GERES	**GERESS Array B**	**40.59**	**315**	P	**P**	**08 06 20.1**	**-0.5**
GERES				*e*P	**P**	**08 06 20.6**	**0.0**
GERES	**GERESS Array B**	**40.59**	**315**	P	**P**	**08 06 20.1**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=110,slow=8.4,SNR=14						
KHC	**Kasperske Hory**	**40.75**	**315**	*e*P	**P**	**08 06 21.6**	**-0.3**
	comp=Z,1.7nm,0.6s						
KHC	**Kasperske Hory**	**40.75**	**315**	*e*P	**P**	**08 06 23.5**	**+1.6**
ABTA	**Abfaltersbach**	**40.81**	**312**	*e*pP	**P**	**08 06 22.3**	**-0.2**
	comp=Z,8.0nm,1.0s						
FIA0	**FINESS Array S**	**40.83**	**337**	*e*P	**P**	**08 06 21.6**	**-0.7**
FINES	**FINESS Array B**	**40.83**	**337**	*e*P	**P**	**08 06 21.5**	**-0.8**
FINES				P	**P**	**08 06 21.6**	**-0.7**
FINES	**FINESS Array B**	**40.83**	**337**	P	**P**	**08 06 21.6**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=141,slow=9.0,SNR=5.1						
WTTA	**Wattenberg**	**41.52**	**312**	*e*pP	**P**	**08 06 28.8**	**+0.4**
	comp=Z,7.4nm,0.5s						
SQTA	**Sankt Quirin**	**41.79**	**312**	*e*pP	**P**	**08 06 30.8**	**+0.2**
	comp=Z,11nm,0.5s						
MOTA	**Moosalm**	**41.89**	**312**	*i* pP	**P**	**08 06 31.8**	**+0.3**
	comp=Z,4.7nm,0.5s						
FETA	**Feichten**	**42.07**	**312**	*i* pP	**P**	**08 06 33.5**	**+0.6**
	comp=Z,8.2nm,0.6s						
RETA	**Reutte**	**42.15**	**312**	*e*pP	**P**	**08 06 33.4**	**0.0**
	comp=Z,4.3nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**42.30**	**311**	*e*P	**P**	**08 06 36.4**	**+1.5**
	comp=Z,3.8nm,0.9s						
DAVA	**Damuels**	**42.69**	**312**	*e*pP	**P**	**08 06 38.2**	**+0.3**
	comp=Z,16nm,0.5s						
NB200	**NORSAR Array S**	**46.47**	**331**	*e*P	**P**	**08 07 05.5**	**-2.3**
NOA	**NORSAR Array B**	**46.47**	**331**	P	**P**	**08 07 05.5**	**-2.3**
	comp=Z,0.5nm,0.8s,baz=126,slow=11,SNR=2.3						
ESDC	**Sonseca Array**	**52.37**	**301**	P	**P**	**08 07 53.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=67,slow=9.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**54.01**	**267**	P	**P**	**08 08 04.1**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=64,slow=7.3,SNR=8.4						
TOA1	**Torodi Ar. Sit**	**54.02**	**267**	*e*P	**P**	**08 08 04.1**	**-1.5**
WR1	**Warramunga Arr**	**87.45**	**114**	*e*P	**P**	**08 11 30.6**	**+1.6**
WRA	**Warramunga Arr**	**87.45**	**114**	P	**P**	**08 11 30.6**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=315,slow=4.5,SNR=3.4						
ASAR	**Alice Springs**	**88.92**	**117**	P	**P**	**08 11 39.0**	**+3.1**
	comp=Z,0.2nm,0.7s,baz=319,slow=4.1,SNR=1.6						
SYO	**Syowa Base**	**96.25**	**186⇑**	*e*P	**P**	**08 12 10.0**	**+1.4**

ATH ***11*** *07:59:07.5, 41°.36N×20°.17E, h18km±1km, ML2.5/8, Error ellipse: s-maj=3.2km s-min=1.0km az=11.0*
SKO ***11*** *07:59:08.3, 41°.13N×20°.02E, h0km*
THE ***11*** *07:59:08.8, 41°.31N×20°.18E, h0km±2km, ML2.5/5, Error ellipse: s-maj=2.2km s-min=0.8km az=3.0*
TIR ***11*** *07:59:08.2, 41°.27N×20°.22E, h4km, Md3.1/6*
BEO ***11*** *07:59:08.7±0.7, 41°.18N×20°.12E, h2km±3km, ML2.7/6*
PDG ***11*** *07:59:09.6±0.6, 41°.29N×20°.05E, h4km±1km, ML3.1/13, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
ISC 11 07:59:09.0±1.0,41°.27N±0°.01×20°.16E±0°.02,h5km±9km,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.23**	**288**	*e*Pg	**Pg**	**07 59 12.6**	**-1.0**
TIR				*e*Sg	**Sg**	**07 59 18.4**	**+1.7**
TIR	**Tirane**	**0.23**	**288**	P	**Pg**	**07 59 12.8**	**-0.8**
TIR				S	**Sg**	**07 59 17.3**	**+0.6**
TIR	**Tirane**	**0.23**	**288⇑**	*i* P	**Pg**	**07 59 13.1**	**-0.5**
TIR				S	**Sg**	**07 59 19.0**	**+2.3**
TIR	**Tirane**	**0.23**	**288⇑**	*i* Pg	**Pg**	**07 59 12.8**	**-0.8**
TIR	**Tirane**	**0.23**	**288**	*i* PG	**Pg**	**07 59 12.9**	**-0.7**
TIR				*i* SG	**Sg**	**07 59 19.2**	**+2.5**
TIR	**Tirane**	**0.23**	**288**	P	**Pg**	**07 59 12.9**	**-0.7**
TIR				S	**Sg**	**07 59 17.0**	**+0.3**
TIR				AML	AML	07 59 22.5	
	comp=E,9432μm,0.7s						
TIR				AML	AML	07 59 23.1	
	comp=N,8823μm,0.6s						
PHP	**Peshkopia**	**0.46**	**27**	P	**Pg**	**07 59 17.5**	**-0.4**
OHR	**Ohrid**	**0.51**	**108**	*i* Pg	**Pg**	**07 59 18.3**	**-0.5**
OHR				*i* Sg	**Sb**	**07 59 26.6**	**-1.7**
PUK	**Puka**	**0.79**	**345**	*i* PG	**Pg**	**07 59 24.1**	**-0.2**
PUK				*i* SG	**Sb**	**07 59 37.1**	**+0.6**
BIA	**Bitola**	**0.92**	**106**	P	**Pg**	**07 59 26.0**	**-0.6**
BIA				S	**Sb**	**07 59 39.8**	**-0.2**
BIA	**Bitola**	**0.92**	**106**	*i* Pg	**Pg**	**07 59 26.2**	**-0.4**
BIA				*i* Sg	**Sb**	**07 59 40.1**	**+0.1**
VLO	**Vlora**	**0.95**	**212**	*i* PG	**Pn**	**07 59 29.0**	**0.0**
VLO				*i* SG	**Sn**	**07 59 43.4**	**+0.4**
ULC	**Ulcinj**	**0.97**	**315⇓**	*i* Pg	**Pg**	**07 59 26.0**	**-1.7**
ULC				*e*Sg	**Sb**	**07 59 40.8**	**-0.8**
TPE	**Tepelena**	**0.98**	**187**	P	**Pg**	**07 59 27.8**	**-0.1**
TPE	**Tepelena**	**0.98**	**187**	*i* PG	**Pg**	**07 59 27.4**	**-0.5**
TPE				*i* SG	**Sb**	**07 59 43.0**	**+1.1**
FNA	**Florina**	**1.04**	**118**	P	**Pg**	**07 59 27.8**	**-1.2**
FNA				S	**Sn**	**07 59 44.4**	**-1.0**
FNA	**Florina**	**1.04**	**118**	*i* Pg	**Pg**	**07 59 27.8**	**-1.2**
FNA				*i* Sg	**Sn**	**07 59 44.4**	**-1.0**
FNA	**Florina**	**1.04**	**118**	P	**Pg**	**07 59 28.0**	**-1.0**
FNA				S	**Sb**	**07 59 43.6**	**-0.1**
FNA				AML	AML	07 59 47.5	
	comp=E,1163μm,0.7s						
FNA				AML	AML	07 59 50.2	
	comp=N,1060μm,0.6s						
NEST	**Nestorio**	**1.09**	**142**	P	**Pg**	**07 59 28.9**	**-1.1**
NEST				S	**Sn**	**07 59 45.8**	**-0.9**
NEST	**Nestorio**	**1.09**	**142**	P	**Pg**	**07 59 29.1**	**-0.8**
NEST				AML	AML	07 59 52.1	
	comp=E,271μm,0.6s						
NEST				AML	AML	07 59 57.0	
	comp=N,356μm,0.5s						
BCI	**Bajram Curri**	**1.09**	**356**	*i* PN	**Pn**	**07 59 30.5**	**-0.6**
BCI				*i* SN	**Sn**	**07 59 47.9**	**+1.2**
DRME	**Dracevica, Mon**	**1.17**	**322⇑**	*i* Pg	**Pg**	**07 59 29.8**	**-1.6**
DRME				*e*Sg	**Sn**	**07 59 47.9**	**-0.6**
DRME	**Dracevica, Mon**	**1.17**	**322**	*e*Pn	**Pg**	**07 59 29.2**	**-2.2**
SKO	**Skopje**	**1.19**	**54**	P	**Pg**	**07 59 31.1**	**-0.7**
SKO				S	**Sn**	**07 59 50.0**	**+1.1**
SKO	**Skopje**	**1.19**	**54**	*i* Pg	**Pn**	**07 59 32.5**	**+0.2**
SKO				*i* Sg	**Sn**	**07 59 49.9**	**+1.0**
PENT	**Pentalofos**	**1.31**	**145**	P	**Pb**	**07 59 34.5**	**+0.3**
PENT				AML	AML	07 59 58.4	
	comp=E,160μm,0.4s						
PENT				AML	AML	08 00 01.2	
	comp=N,91μm,0.2s						
PVY	**Plav**	**1.33**	**354⇓**	*i* Pg	**Pg**	**07 59 33.5**	**-1.0**
PVY				*e*Sg	**Sn**	**07 59 54.2**	**+1.6**
PDG	**Podgorica**	**1.34**	**330**	*e*Pg	**Pn**	**07 59 33.7**	**-0.7**
PDG				*e*Sg	**Sn**	**07 59 54.0**	**+1.4**
PDG	**Podgorica**	**1.34**	**330⇑**	*i* P	**Pn**	**07 59 34.1**	**-0.3**
PDG	**Podgorica**	**1.34**	**330**	S	**Sn**	**07 59 54.9**	**+2.3**
PDG	**Podgorica**	**1.34**	**330**	*i* Pn	**Pn**	**07 59 33.4**	**-1.1**
PDG	**Podgorica**	**1.34**	**330**	*e*Pn	**Pn**	**07 59 32.4**	**-2.0**
TTG	**Podgorica**	**1.34**	**330⇑**	*i* Pg	**Pn**	**07 59 34.1**	**-0.3**
TTG				*e*Sg	**Sn**	**07 59 54.7**	**+2.1**
BUM	**Brajici-Budva**	**1.40**	**318⇓**	*i* Pg	**Pn**	**07 59 34.4**	**-0.9**
BUM				*e*Sg	**Sn**	**07 59 55.1**	**+0.9**
SRN	**Sarande**	**1.40**	**185**	*i* PN	**Pb**	**07 59 35.5**	**-0.1**
SRN				S	**Sn**	**07 59 56.3**	**+2.2**
SRN	**Sarande**	**1.40**	**185**	P	**Pg**	**07 59 36.8**	**+1.0**
SRN				*i* SN	**Sn**	**07 59 57.2**	**+3.1**
KZN	**Kozani**	**1.56**	**128**	P	**Pn**	**07 59 36.9**	**-0.6**
KZN	**Kozani**	**1.56**	**128**	P	**Pn**	**07 59 37.3**	**-0.2**
KZN				AML	AML	08 00 11.4	
	comp=E,292μm,0.6s						
KZN				AML	AML	08 00 14.9	
	comp=N,192μm,0.7s						
CEME	**Cevo**	**1.57**	**324⇑**	*i* Pg	**Pn**	**07 59 37.5**	**-0.2**
CEME				*e*Sg	**Sg**	**08 00 01.9**	**+2.3**
STIP	**Stip**	**1.58**	**74**	*i* Pn	**Pg**	**07 59 39.9**	**+0.6**
KEK	**Kerkira**	**1.58**	**190**	P	**Pn**	**07 59 38.2**	**+0.4**
KEK				S	**Sg**	**08 00 00.1**	**+0.2**
KEK	**Kerkira**	**1.58**	**190**	P	**Pb**	**07 59 38.4**	**-0.4**
KEK				AML	AML	08 00 08.2	
	comp=N,218μm,0.7s						
KEK				AML	AML	08 00 08.8	
	comp=E,270μm,0.4s						
KPRO	**Kipourio**	**1.60**	**145**	P	**Pn**	**07 59 38.2**	**0.0**
KPRO				S	**Sb**	**07 59 59.7**	**-0.1**
KPRO	**Kipourio**	**1.60**	**145**	P	**Pn**	**07 59 37.1**	**-1.0**
BEY	**Berane**	**1.61**	**353**	*i* Pn	**Pn**	**07 59 38.3**	**+0.1**
IVA	**Berane**	**1.61**	**353⇑**	*i* Pn	**Pg**	**07 59 39.2**	**-0.7**
IVA				*e*Sn	**Sg**	**08 00 03.5**	**+2.8**
KOME	**Kolasin**	**1.65**	**343⇑**	*i* Pn	**Pb**	**07 59 39.1**	**-0.9**
KOME				*e*Sn	**Sg**	**08 00 04.6**	**+2.6**
JAN	**Janina**	**1.70**	**162**	P	**Pn**	**07 59 39.0**	**-0.4**
HCY	**Herceg Novi**	**1.71**	**314⇑**	*i* Pn	**Pn**	**07 59 39.4**	**-0.2**
HCY				*e*Sn	**Sg**	**08 00 05.3**	**+1.3**
HCY	**Herceg Novi**	**1.71**	**314**	*e*Pn	**Pn**	**07 59 39.2**	**-0.4**
GRG	**Griva**	**1.72**	**100**	P	**Pn**	**07 59 39.4**	**-0.4**
GRG	**Griva**	**1.72**	**100**	*i* Pn	**Pn**	**07 59 39.4**	**-0.4**
GRG	**Griva**	**1.72**	**100**	P	**Pn**	**07 59 38.9**	**-0.8**
NKME	**Niksic**	**1.74**	**329⇓**	*i* Pn	**Pb**	**07 59 40.6**	**-1.0**
NKME				*e*Sn	**Sg**	**08 00 05.8**	**+0.8**
IGT	**Igoumenitsa**	**1.75**	**176**	P	**Pn**	**07 59 40.6**	**+0.6**
IGT				S	**Sg**	**08 00 05.2**	**+0.1**
IGT	**Igoumenitsa**	**1.75**	**176**	P	**Pn**	**07 59 40.3**	**+0.3**
IGT				AML	AML	08 00 12.7	
	comp=E,225μm,1.2s						
IGT				AML	AML	08 00 17.9	
	comp=N,166μm,0.6s						
SCTE	**Santa Cesarea**	**1.76**	**228**	P	**Pn**	**07 59 40.8**	**+0.6**
SCTE				AML	AML	08 00 06.8	
	comp=E,79μm,0.8s						
SCTE				AML	AML	08 00 15.0	
	comp=N,72μm,0.4s						
NKY	**Niksic**	**1.77**	**331⇑**	*i* Pn	**Pn**	**07 59 40.7**	**+0.3**
NKY				*e*Sn	**Sg**	**08 00 06.6**	**+0.8**
VAY	**Valandovo**	**1.82**	**88**	P	**Pn**	**07 59 40.9**	**-0.1**
VAY	**Valandovo**	**1.82**	**88**	*i* Pn	**Pb**	**07 59 42.0**	**-0.8**
BARS	**Barje**	**1.97**	**38**	*e*Pg	**Pg**	**07 59 46.0**	**-0.9**
BARS				*e*Sg	**Sg**	**08 00 13.4**	**+1.0**
TREB	**Trebinje**	**1.98**	**317**	*e*Pg	**Pn**	**07 59 43.9**	**+0.7**
TREB				*e*Sg	**Sg**	**08 00 12.6**	**+0.1**
TREB	**Trebinje**	**1.98**	**317**	*e*Pn	**Pn**	**07 59 43.2**	**0.0**
SJES	**Sjenica**	**1.99**	**356**	*e*Pg	**Pg**	**07 59 46.3**	**-0.9**
SJES				*e*Sg	**Sg**	**08 00 14.8**	**+1.8**
BRY	**Bratogost**	**2.02**	**324⇓**	*i* Pn	**Pn**	**07 59 44.8**	**+0.7**
BRY				*e*Sn	**Sg**	**08 00 12.8**	**-1.3**
BRY	**Bratogost**	**2.02**	**324**	*e*Pn	**Pn**	**07 59 44.7**	**+0.7**
KNT	**Kendrikon**	**2.07**	**92**	P	**Pn**	**07 59 43.9**	**-0.6**
KNT	**Kendrikon**	**2.07**	**92**	P	**Pn**	**07 59 43.8**	**-0.6**
SELS	**Selova**	**2.07**	**20**	*e*Pg	**Pb**	**07 59 46.5**	**-0.6**
BOSS	**Bosilegrad**	**2.12**	**54**	*e*Pn	**Pb**	**07 59 46.3**	**-1.7**
PLE	**Pljevlja**	**2.13**	**345⇑**	*i* Pn	**Pb**	**07 59 47.6**	**-0.7**
PLE				*e*Sn	**Sb**	**08 00 15.7**	**+0.6**
UPM	**Unac-Piva**	**2.14**	**335**	*e*Pn	**Pb**	**07 59 46.9**	**-1.5**
UPM				*e*Sn	**Sb**	**08 00 15.8**	**+0.4**
UPM	**Unac-Piva**	**2.14**	**335**	*e*Pn	**Pb**	**07 59 47.1**	**-1.3**
THL	**Klokotos Trika**	**2.22**	**140**	P	**Pn**	**07 59 46.9**	**+0.4**
IVAS	**Ivanjica**	**2.30**	**360**	*e*Pg	**Pb**	**07 59 51.0**	**-0.1**
IVAS				*e*Sg	**Sg**	**08 00 25.1**	**+2.2**
STON	**Ston**	**2.43**	**312**	*e*Pn	**Pn**	**07 59 49.2**	**-0.2**
STON	**Ston**	**2.43**	**312**	*e*Pn	**Pn**	**07 59 49.3**	**-0.2**
STON				Sn	**Sn**	**08 00 21.2**	**+1.7**
STON	**Ston**	**2.43**	**312**	*e*Pn	**Pn**	**07 59 48.7**	**-0.7**
LKD2	**Lefkada island**	**2.51**	**171**	P	**Pn**	**07 59 50.6**	**0.0**
BOVS	**Bovan**	**2.62**	**25**	*e*Pn	**Pn**	**07 59 53.8**	**+1.7**
GRUS	**Gruza**	**2.65**	**9**	*e*Pn	**Pn**	**07 59 53.9**	**+1.5**
BBLS	**Lazići**	**2.65**	**348**	*e*Pn	**Pn**	**07 59 53.8**	**+1.3**
BBLS	**Lazići**	**2.65**	**348**	*e*Pn	**Pn**	**07 59 53.8**	**+1.3**
VTS	**Vitosha**	**2.66**	**59**	*e*Pn	**Pn**	**07 59 53.7**	**+1.0**
VTS	**Vitosha**	**2.66**	**59⇑**	*i* P	**Pn**	**07 59 54.4**	**+1.7**
VTS	**Vitosha**	**2.66**	**59**	S	**Sb**	**08 00 28.7**	**-1.5**
MATE	**Matera**	**2.69**	**258⇑**	*i* P	**Pn**	**07 59 52.1**	**-0.9**
MATE	**Matera**	**2.69**	**258**	S	**Sn**	**08 00 24.2**	**-1.8**
ZAPS	**Zavoj**	**2.71**	**42**	*e*Pn	**Pn**	**07 59 55.2**	**+1.8**
AGG	**Agios Georgios**	**2.80**	**143**	P	**Pn**	**07 59 53.5**	**-1.0**
DIVS	**Divibare**	**2.83**	**358**	*e*Pn	**Pb**	**07 59 57.3**	**-2.7**
DIVS	**Divibare**	**2.83**	**358**	*e*Pn	**Pn**	**07 59 55.6**	**+0.6**
FSK	**Fiskardo**	**2.83**	**174**	P	**Pn**	**07 59 54.6**	**-0.3**
HAPS	**Han Pijesak,BI**	**2.95**	**343**	*e*Pn	**Pn**	**07 59 56.8**	**+0.1**
TRUS	**Trudelj**	**2.95**	**3**	*e*Pn	**Pn**	**07 59 57.2**	**+0.6**
ZAGS	**Zajecar**	**2.96**	**30**	*e*Pn	**Pb**	**07 59 59.2**	**-3.1**
ANX	**Ano Chora**	**3.00**	**153**	P	**Pn**	**07 59 57.4**	**0.0**
XOR	**Xorichti**	**3.00**	**128**	P	**Pn**	**07 59 57.3**	**0.0**
TEKS	**Tekeris**	**3.31**	**352**	*e*Pn	**Pn**	**08 00 02.0**	**+0.5**
KLV	**Kalavryta, Ach**	**3.57**	**154**	P	**Pn**	**08 00 06.5**	**+1.3**
HERR	**Herculane**	**3.96**	**24⇑**	*i* P	**Pn**	**08 00 12.0**	**+1.5**
BZS	**Buzias**	**4.47**	**13⇑**	*i* P	**Pn**	**08 00 18.1**	**+0.7**
UDBI	**Udbina**	**4.58**	**317**	*e*Pn	**Pn**	**08 00 20.2**	**+1.1**
NVLJ	**Novalja**	**5.09**	**312**	*e*Pn	**Pn**	**08 00 25.5**	**-0.4**
NVLJ				Sn	**Sn**	**08 01 24.1**	**-1.0**
ARR	**Arges**	**5.23**	**37⇑**	*i* P	**Pn**	**08 00 28.6**	**+0.6**
CRES	**Cresnjev**	**5.69**	**325**	*e*Pn	**Pn**	**08 00 32.8**	**-1.4**

KRNET ***11*** *08:18:00.8±0.1, 40°.41N×79°.88E, mb2.6*
SOME ***11*** *08:18:01.3, 40°.63N×79°.97E, h10km*
ISC 11 08:18:03.2±3.9,40°.2N±0°.2×79°.9E±0°.1,h35km,n8,
σ0°63/16,8C,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**2.19**	**314⇑

IKOO	Kooshah	6.06	10	*e*Pn	Pn	08 39 55.6	+0.4
IKAZ	Kazeroun	6.19	304	*e*Pn	Pn	08 39 56.0	-1.0
YZKH	Yazd	6.53	336	*e*Pn	Pn	08 40 02.7	+1.2
IDAH	Dahanechah	6.54	16	*e*Pn	Pn	08 40 04.4	+2.7
IRAM	Ramesheh	7.11	320	*e*Pn	Pn	08 40 08.9	-0.7
GEYT	Alibeck	11.46	1	Pn	Pn	08 41 08.0	-0.9
	comp=Z,3.3nm,0.3s,baz=63,slow=36,SNR=7.8						
NIL	Nilore	15.22	58	*e*Pn	Pn	08 41 58.8	-1.5
	comp=Z,12nm,1.2s						
CHGR	Chuyangaron	15.50	35	*e*Pn	Pn	08 42 05.5	+1.5
	comp=Z,43nm,0.9s						
BTK	Batken	17.40	35	*e*Pn	Pn	08 42 27.6	-0.7
	comp=Z,4.9nm,0.8s						
KK31	Karatay Array	19.61	29	*e*P	P	08 42 48.9	-4.8
	comp=Z,5.8nm,0.8s						
KKAR	Karatay Array	19.61	29	*e*P	P	08 42 49.2	-4.5
EIL	Elat	20.37	284	P	P	08 43 01.4	-0.7
	comp=Z,1.5nm,0.7s,baz=98,slow=7.1,SNR=2.2						
MMAI	Mount Meron Ar	20.46	294	P	P	08 43 02.4	-0.8
	comp=Z,0.1nm,0.2s,baz=96,slow=12,SNR=2.2						
AAK	Ala-Archa	21.18	36	P	P	08 43 12.8	+1.8
	comp=Z,1.2nm,0.4s,baz=203,slow=13,SNR=1.8						
BOOM	Boomskoye usch	21.86	38	*e*P	P	08 43 19.0	+0.7
	comp=Z,28nm,1.0s						
KDJ	Kajisay	22.34	41	*e*P	P	08 43 25.0	+1.6
	comp=Z,10nm,1.4s						
ABKAR	Akbulak array	22.84	4	*e*P	P	08 43 28.8	+0.4
	comp=Z,2.2nm,0.8s						
ABKAR				*e*P	P	08 43 29.1	+0.7
AKTO	Aktyubinsk	23.96	0	P	P	08 43 38.9	-0.7
	comp=Z,1.6nm,0.6s,baz=134,slow=8.3,SNR=5.9						
BRTR	Keskin Array B	24.07	309	*e*P	P	08 43 43.5	+2.6
BRTR	Keskin Array B	24.07	309	P	P	08 43 40.0	-0.9
	comp=Z,1.8nm,0.7s,baz=127,slow=11,SNR=11						
BR101	Keskin Array S	24.07	309	*e*P	P	08 43 40.0	-0.9
BR131	Keskin Array S	24.07	309	*e*P	P	08 43 43.6	+2.7
	comp=Z,2.5nm,0.8s						
MANT	Manisa	27.28	303	*e*P	P	08 44 07.9	-2.3
	comp=Z,17nm,0.6s						
BVAR	Borovoye Array	28.18	16	P	P	08 44 19.6	+1.8
	comp=Z,0.8nm,0.7s,baz=222,slow=7.6,SNR=3.1						
KURBB	Kurchatov Arra	28.91	28	P	P	08 44 26.3	+2.0
	comp=Z,0.4nm,0.6s,baz=224,slow=7.7,SNR=4.2						
AKASG	Malin Array Be	32.57	326	P	P	08 44 56.6	+0.1
	comp=Z,0.4nm,0.4s,baz=129,slow=8.4,SNR=2.7						
ZALV	Zalesovo Beam	33.99	29	P	P	08 45 11.0	+2.1
	comp=Z,0.4nm,0.3s,baz=216,slow=11,SNR=3.1						
ZAA1	Zalesovo Array	33.99	29	*e*P	P	08 45 11.0	+2.1
GERES	GERESS Array B	40.69	315	*e*P	P	08 46 07.1	+1.1
GERES	GERESS Array B	40.69	315	P	P	08 46 04.5	-1.4
	comp=Z,0.8nm,0.7s,baz=112,slow=7.9,SNR=6.8						
KHC	Kasperske Hory	40.85	316	*e*P	P	08 46 09.0	+1.8
FIA0	FINESS Array S	40.97	337	*e*P	P	08 46 06.7	-1.2
FINES	FINESS Array B	40.97	337	P	P	08 46 06.6	-1.2
	comp=Z,0.7nm,0.8s,baz=124,slow=12,SNR=4.3						
CLL	Collm	41.88	319	*e*pP	pP	08 46 19.0	0.0
TOA1	Torodi Ar. Sit	54.00	267	*e*P	P	08 47 48.8	-1.1
TORD	Torodi Ar. Bea	54.00	267	P	P	08 47 48.8	-1.1
	comp=Z,0.5nm,0.6s,baz=70,slow=7.9,SNR=3.0						

NEIC ***11*** *08:42:34.3±0.0,26°.52N×57°.67E,h15km,mb5.0/93, ML4.8(THR),MN5.1(TEH),After THR.*

NEIC Felt at Bawshar, Oman.

IDC ***11*** *08:42:34.4±0.5,26°.66N×57°.88E,h0km,mb4.4/35, mb1 4.6/38,mb1mx4.5/55,mbtmp4.5/38,ML3.9/4,MS4.1/33, Ms1 4.1/33,ms1mx4.0/54,Error ellipse: s-maj=12.3km s-min=10.5km az=166.0*

TEH ***11*** *08:42:34.9,26°.55N×57°.89E,h5km,ML5.1*

MOS ***11*** *08:42:35.2±1.0,26°.69N×57°.89E,h13km,mb5.2/91, MS4.2/22,Error ellipse: s-maj=5.6km s-min=3.1km az=120.8*

DSN ***11*** *08:42:35.5±0.6,26°.50N×58°.14E,h10km,mb5.2/2, ML5.2/11,Error ellipse: s-maj=12.6km s-min=5.6km az=146.0*

ISCJB ***11*** *08:42:37.3±0.7,26°.63N±0°.02×57°.86E±0°.01,h28km±4km, mb4.9/204,MS4.2/51,Error ellipse: s-maj=3.5km s-min=2.9km az=169.9*

GCMT ***11*** *08:42:37.3±0.3,26°.49N±0°.02×57°.71E±0°.01,h15km±1km, MW4.9/93,Moment Tensor Solution. s31,c34; s93,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.54±.10; $M_{\theta\theta}$-0.72±.09; $M_{\phi\phi}$ 1.26±.10; $M_{r\theta}$0.60±.30; $M_{\theta\phi}$2.71±.09; $M_{\phi r}$-0.02±.30; Best double couple: $M_0$2.95800×10^{16} NP1:ϕ_s259.00000°,δ84.00000°,λ-13.00000°. NP2: ϕ_s350.00000°,δ77.00000°,λ-174.00000°. Principal axes: T 3.1850, Plg5.0000°, Azm305.0000°; N -0.4500, Plg76.0000°, Azm56.0000°; P -2.7310, Plg13.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***11*** *08:42:42.7±0.0,26°.97N×58°.51E,h12km,mb4.9/47, mB4.8/32,Ms4.7/36,Ms7 4.4/34*

ISC 11 08:42:38.2±0.5,26°.62N±0°.04×57°.80E±0°.03,h23km±3km, h23km:pP-P,n680,σ1§48/672,mb5.0/226,MS4.2/53, 63C-27D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.27	318	*e*Pn	Pb	08 43 01.6	0.0
NIAN				*e*Sg	Sb	08 43 21.0	+3.5
NIAN	Nian	1.27	318	*e*Pg	Pb	08 43 01.4	-0.2
NIAN				IAMB	IAmb	08 43 27.5	
	comp=Z,0.0nm,0.5s						
SHME	Shamm	1.59	250	*e*P	Pb	08 43 06.6	-0.4
	SNR=87						
SHME				S	Sb	08 43 32.1	+5.3
BNDS	Bandar-Abbas	1.65	298	*e*Pg	Pn	08 43 03.5	-2.5
GENO	Geno	1.65	298	*e*Pn	Pb	08 43 07.5	-0.5
GENO	Geno	1.65	298	IAMB	IAmb	08 43 09.9	
	comp=Z,0.0nm,0.8s						
GENO				*e*Pn	Pb	08 43 07.6	-0.5
MDH	Madha	1.89	226	*e*P	Pn	08 43 08.4	-0.7
	SNR=68						
MSFE	Esma-Masafi	1.94	230	*e*P	Pn	08 43 09.3	-0.6
	SNR=174						
UMQ	Umm Al-Quwin	2.21	241	*e*P	Pb	08 43 16.0	-1.5
	SNR=43						
HATD	Hatta, Dubai	2.34	221	*e*P	Pn	08 43 14.0	-1.2
	SNR=143						
ASHO	Ashiyiah	2.49	220	*e*P	Pn	08 43 17.4	0.0
	SNR=111						
ASHO	Ashiyiah	2.49	220	*e*Pn	Pn	08 43 17.7	+0.3
NAZ	Nazwa, Dubai	2.52	230	*e*P	Pn	08 43 19.7	+1.9
	SNR=301						
NAZ	Nazwa, Dubai	2.52	230	*e*Pn	Pn	08 43 20.1	+2.3
CHBR	Chabahar	2.62	112	*e*Pn	Pn	08 43 19.0	-0.1
CHBR	Chabahar	2.62	112	*e*Pn	Pn	08 43 19.0	-0.1
FAQ	Al Faqa, Dubai	2.73	227	*e*P	Pn	08 43 22.4	+1.7
	SNR=250						
ASUD	Al Ashush, Dub	2.99	229	*i* P	Pn	08 43 25.7	+1.5
	SNR=26						
HOQ	Hoqain	3.06	188	*e*Pn	Pn	08 43 24.3	-0.9
BIDO	Bidbid	3.10	174	*e*Pn	Pn	08 43 25.0	-0.8
ALNE	Al Ain	3.16	216	*i* P	Pn	08 43 27.7	+1.1
	SNR=58						
ALNE	Al Ain	3.16	216	*e*Pn	Pn	08 43 28.7	+2.1
NGRK	Negar Kerman	3.16	343	*e*Pn	Pn	08 43 28.4	+1.5
NGRK	Negar Kerman	3.16	343	*e*Pn	Pn	08 43 28.8	+1.9
NGRK				IAMB	IAmb	08 44 24.3	
	comp=Z,0.0nm,1.2s						
CHMN	Cheshme madani	3.24	356	*e*Pn	Pn	08 43 30.4	+2.4
CHMN	Cheshme madani	3.24	356	*e*Pn	Pn	08 43 30.9	+2.9
CHMN				IAMB	IAmb	08 44 32.7	
	comp=Z,0.0nm,0.9s						
AJN	Ajban	3.27	232	*i* P	Pn	08 43 29.9	+1.9
	SNR=47						
WSAR	Wadi Sarin	3.45	167	Pn	Pn	08 43 30.3	-0.3
	comp=Z,107nm,0.3s,baz=342,slow=6.0,SNR=183						
WSAR				Sn	Sn	08 44 08.9	-1.9
	comp=Z,75nm,0.3s,baz=353,slow=15,SNR=5.8						
WSAR				Lg	Lg	08 44 21.6	
	comp=Z,134nm,0.3s,baz=310,slow=21,SNR=3.8						
TVBK	TV Kerman	3.48	345	*e*Pn	Pn	08 43 34.2	+2.9
TVBK				IAMB	IAmb	08 43 45.8	
	comp=Z,0.0nm,0.9s						
KHGB	Koh Gabri	3.92	343	*e*Pn	Pn	08 43 39.7	+2.4
KHGB				IAMB	IAmb	08 44 45.6	
	comp=Z,0.0nm,0.9s						
SZD1	Zahaedan-tmp	3.94	43	*e*Pn	Pn	08 43 41.4	+4.0
ZHSF	Zahedan	3.97	41	*e*Pn	Pn	08 43 38.0	+0.1
ZHSF	Zahedan	3.97	41	*e*Pn	Pn	08 43 39.0	+1.1
JHRM	Jahrom	4.20	298	*e*Pn	Pn	08 43 42.8	+1.9
IPAR	Pars	5.28	309	*e*Pn	Pn	08 43 56.7	+0.7
BSRN	Basiran	5.45	12	*e*Pn	Pn	08 43 58.7	+0.5
IMEH	Mehriz	5.51	330	*e*Pn	Pn	08 43 59.9	+0.7
SHI	Shiraz	5.56	304	*e*Pn	Pn	08 43 59.1	-0.6
IKOO	Kooshah	5.88	10	*e*Pn	Pn	08 44 07.0	+2.8
IKAZ	Kazeroun	6.13	302	*e*Pn	Pn	08 44 07.9	+0.2
ITEG	Tejag	6.31	7	*e*Pn	Pn	08 44 10.4	+0.3
ITEG	Tejag	6.31	7	*e*Pn	Pn	08 44 10.8	+0.7
ICHK	Chekchek	6.34	333	*e*Pn	Pn	08 44 12.0	+1.5
IDAH	Dahanechah	6.36	16	*e*Pn	Pn	08 44 16.2	+5.4
ISAD	Sadrabad	6.38	327	*e*Pn	Pn	08 44 11.7	+0.5
YZKH	Yazd	6.39	335	*e*Pn	Pn	08 44 11.8	+0.7
TPRV	Parvadeh(Tabas	6.46	352	*e*Pn	Pn	08 44 13.8	+1.8
KLNJ	Kolanjah	6.99	310	*e*Pn	Pn	08 44 19.3	-0.2
TKDS	Koohdasht(Taba	7.00	355	*e*Pn	Pn	08 44 22.4	+3.0
IRAM	Ramesheh	7.01	319	*e*Pn	Pn	08 44 19.9	+0.2
TNSJ	Nastanj	7.39	352	*e*Pn	Pn	08 44 26.9	+2.1
ANAR	Anarak	7.44	333	*e*Pn	Pn	08 44 25.8	+0.3
IGAR	Gharneh	7.64	320	*e*Pn	Pn	08 44 28.6	+0.2
IZEF	Zefreh	7.86	324	*e*Pn	Pn	08 44 31.1	-0.3
IPIR	Pirpir	8.52	317	*e*Pn	Pn	08 44 41.0	+0.5
IKLH	Kolahrood	8.58	323	*e*Pn	Pn	08 44 42.6	+1.3
ISFB	Sefidab	9.08	329	*e*Pn	Pn	08 44 48.7	+0.8
IANJ	Anjilo	9.43	340	*e*Pn	Pn	08 44 53.5	+0.6
JRKH	Jarkhoshk	9.51	13	*e*Pn	Pn	08 44 55.8	+1.9
IMOG	Moghan	9.55	8	*e*Pn	Pn	08 44 58.5	+3.9
SBZV	Sabzevar	9.74	359	*e*Pn	Pn	08 45 00.2	+3.0
IMYA	Miami	9.89	11	*e*Pn	Pn	08 45 03.1	+4.0
ISHM	Shahmirzad	9.94	338	*e*Pn	Pn	08 45 01.4	+1.5
IFIR	Firoozkooh	9.98	336	*e*Pn	Pn	08 45 02.5	+2.0
IAKL	Akhelmad	9.99	4	*e*Pn	Pn	08 45 02.6	+2.0
IKRD	Kardeh	10.14	3	*e*Pn	Pn	08 45 08.3	+5.6
IKIA	Kiasar	10.18	341	*e*Pn	Pn	08 45 05.4	+2.2
ISFR	Sfrayin	10.40	1	*e*Pn	Pn	08 45 09.7	+3.4
IKMR	Kamar-syah	10.67	312	*e*Pn	Pn	08 45 08.4	-1.2
IEMG	Emamgholi	10.79	4	*e*Pn	Pn	08 45 16.2	+4.6
IDOB	Doab	10.97	313	*e*Pn	Pn	08 45 12.6	-1.3
HAGD	Aghdareh	11.06	320	*e*Pn	Pn	08 45 14.8	-0.4
GEYT	Alibeck	11.28	1	Pn	Pn	08 45 17.8	-0.3
	comp=Z,0.3nm,0.3s,baz=182,slow=13,SNR=3.3						
GEYT				Lg	Lg	08 48 28.9	
	baz=207,slow=40,SNR=1.2						
GEYT				LR	LR	08 50 22.1	
	comp=Z,2μm,18.6s,baz=200,slow=42						
GYA0B	ALIBECK ARRAY	11.28	1	*e*Pn	Pn	08 45 20.2	+2.1
QABG	Abgarm-Qazvin	11.47	324	*e*Pn	Pn	08 45 22.2	+1.4
QALM	Alamut, Qazvin	11.53	330	*e*Pn	Pn	08 45 23.4	+1.8
IBZA	Bozab	11.60	315	*e*Pn	Pn	08 45 22.7	+0.1
IKOM	Komasi	11.64	313	*e*Pn	Pn	08 45 21.6	-1.5
IVIS	Veis	12.29	313	*e*Pn	Pn	08 45 29.7	-2.2
IGHG	Ghaleghazi	12.36	311	*e*Pn	Pn	08 45 31.2	-1.8
KBL	Kabul	12.49	48	*e*Pn	Pn	08 45 36.2	+1.5
KBL	Kabul	12.49	48	*e*P	Pn	08 45 36.2	+1.5
KBL	Kabul	12.49	48	*e*Pn	Pn	08 45 36.2	+1.5
IDHR	Dehrash	12.70	312	*e*Pn	Pn	08 45 35.1	-2.5
THW	Thamme Wali	13.58	60	P	Pn	08 45 48.2	-1.4
CEP	Cherat	14.14	56	P	Pn	08 45 55.8	-1.5
NIL	Nilore	15.08	59	*e*Pn	Pn	08 46 08.3	-1.6
	comp=Z,349nm,1.3s						
NIL	Nilore	15.08	59	*e*P	Pn	08 46 08.4	-1.6
NIL				pmax	pmax		
	comp=Z,349nm,1.3s						
NIL	Nilore	15.08	59	*e*Pn	Pn	08 46 08.4	-1.6
CHCP	Chirah Chowk	15.10	59	P	Pn	08 46 08.5	-1.6
CHGR	Chuyangaron	15.33	36	*e*Pn	Pn	08 46 09.5	-3.8
	comp=Z,47nm,0.9s						
ISHB	Shabestar	15.51	322	*e*Pn	Pn	08 46 15.6	-0.1
IMRD	Marand	15.77	323	*e*Pn	P	08 46 21.1	-1.7
GAR	Garm	16.20	37	*e*Pn	Pn	08 46 22.1	-2.4
	comp=Z,88nm,1.0s						
GAR	Garm	16.20	37	*e*P	Pn	08 46 22.1	-2.4
GAR				pmax	pmax		
	comp=Z,88nm,1.0s						
AKT	Akhty	16.99	333	*e*P	P	08 46 35.8	-0.4
VANB	Van	17.00	318	P	Pn	08 46 34.8	+0.1
CLDR	Caldiran	17.06	320	P	Pn	08 46 36.3	+0.8
AKDM	Akdamar-Van	17.08	317	P	Pn	08 46 35.9	+0.2
BTK	Batken	17.23	36	*e*Pn	Pn	08 46 35.7	-1.8
	comp=Z,82nm,0.9s						
BTK	Batken	17.23	36	*e*P	Pn	08 46 35.7	-1.8
BTK				pmax	pmax		
	comp=Z,82nm,0.9s						
GNI	Garni	17.32	324	P	P	08 46 41.5	+1.5
GNI	Garni	17.32	324	*e*Pn	P	08 46 41.1	+1.1
	comp=Z,68nm,1.0s						
GNI	Garni	17.32	324	*i* P	P	08 46 40.5	+0.5
	SNR=7.5						
GNI	Garni	17.32	324	*de*P	P	08 46 40.3	+0.3
GNI	Garni	17.32	324	P	P	08 46 39.5	-0.5
	comp=Z,2.4nm,0.3s,baz=166,slow=2.3,SNR=14						
GNI				LR	LR	08 54 35.1	
	comp=Z,806nm,21.5s,baz=112,slow=42						
DAMY	Dhamar	17.34	229	*e*P	Pn	08 46 36.0	-3.2
	comp=Z,136nm,1.0s						
TASB	TASBURUN-IGDIR	17.47	323	P	P	08 46 41.5	0.0
GURO	Guroymak-BITLI	17.81	316	P	Pn	08 46 44.6	-0.1
AGRB	Hanur-Agry	17.88	320	P	P	08 46 46.7	+0.5
SVAN	Silvan-Diyarba	18.10	314	P	P	08 46 48.9	+0.4
TBLG	Delisi	18.51	328	*e*P	P	08 46 51.9	-1.1
	comp=Z,24nm,0.9s						
TBLG	Delisi	18.51	328	*e*P	P	08 46 51.9	-1.1
TBLG				pmax	pmax		
	comp=Z,24nm,0.9s						
VRTB	Varto-Mus	18.53	316	P	Pn	08 46 55.6	+2.0
DYBB	Diyarbakir	18.69	312	P	Pn	08 46 55.9	+0.4
KARO	Karliova-Bingo	18.87	316	P	Pn	08 46 58.4	+0.6
AKH	Akhalkalaki	18.89	325	*e*P	Pn	08 46 58.4	+0.5
	comp=Z,24nm,1.0s						
AKH	Akhalkalaki	18.89	325	⇑*i*P	Pn	08 47 00.6	+2.7
AKH	Akhalkalaki	18.89	325	*e*P	Pn	08 46 58.4	+0.5
AKH				pmax	pmax		
	comp=Z,24nm,1.0s						
SENK	Senkaya-Erzuru	18.91	321	P	Pn	08 46 59.3	+1.1
BNGB	Bingl	18.92	315	P	Pn	08 46 58.6	+0.4
ASF	Jabal al Asfar	19.03	292	P	P	08 46 59.1	+0.4
	comp=Z,76nm,1.0s						
ASF	Jabal al Asfar	19.03	292	P	P	08 46 58.5	-0.3
	comp=Z,1.1nm,0.3s,baz=54,slow=12,SNR=16						
ASF				S	Sn	08 50 20.8	-11
	comp=Z,0.8nm,0.3s,baz=61,slow=12,SNR=4.1						
GROC	Groznyy	19.22	332	*e*P	P	08 46 58.5	-2.1
GROC				pmax	pmax		
	comp=Z,20nm,0.7s						
YEDI	Yedisu-Bingol	19.27	316	P	Pn	08 47 02.4	0.0
ARSB	Arslanbob	19.29	37	*e*P	P	08 46 59.2	-2.4
	comp=Z,61nm,1.0s						
URFA	Urfa	19.34	309	P	Pn	08 47 03.6	+0.3
KK31	Karatay Array	19.43	29	*e*P	P	08 47 02.9	-0.1
	comp=Z,53nm,0.9s						
KK31	Karatay Array	19.43	29	*e*P	P	08 47 02.9	-0.1
KK31				pmax	pmax		
	comp=Z,53nm,0.9s						
KKAR	Karatay Array	19.43	29	*e*P	P	08 47 03.0	0.0
	comp=Z,53nm,0.9s						
KKAR	Karatay Array	19.43	29	*e*P	P	08 47 03.0	0.0
KKAR				pmax	pmax		
	comp=Z,53nm,0.9s						
SVRC	Sivrice-ELAZID	19.48	312	P	Pn	08 47 04.9	-0.1
SWQJ	Swaqa	19.57	289	P	Pn	08 47 05.8	-0.3
	comp=Z,451nm,0.8s						
ZEI	Tsey	19.72	328	*e*P	P	08 47 06.9	+0.5
ZEI				pmax	pmax		
	comp=Z,38nm,0.9s						
HSNJ	Maan	19.78	286	P	Pn	08 47 08.7	+0.1
	comp=Z,308nm,1.0s						
ONI	Oni	19.79	327	P	Pn	08 47 08.5	0.0
KSH	Kashi	19.89	45	P	P	08 47 02.2	-5.9
KSH				pP	Pn	08 47 07.1	-2.7
KSH				PP	sP	08 47 18.2	+0.2
KSH				S	S	08 50 31.1	-20
KSH				SS	Sn	08 50 56.0	+3.2
KSH				pmax	pmax		
	comp=Z,160nm,0.7s						
KSH				pmax	pmax		
	comp=Z,190nm,3.3s						
KSH				LR	LR		
	comp=Z,1μm,11.6s						
KSH				LR	LR		
	comp=Z,1μm,9.3s						
KSH				LR	LR		
	comp=Z,2μm,12.3s						
BCA	Borcka	19.91	322	P	P	08 47 08.7	+0.4
BCA	Borcka	19.91	322	⇑*i*P	Pn	08 47 10.2	+0.2
BATM	Batumi	19.98	322	P	P	08 47 09.8	+0.8
BATM	Batumi	19.98	322	⇓*i*P	Pn	08 47 10.4	-0.4
GHAJ	Ghor Haditha	20.00	289	P	P	08 47 09.9	+0.7
	comp=Z,153nm,0.9s						
LISJ	El Lisan	20.06	289	P	Pn	08 47 11.8	0.0
	comp=Z,49nm,0.9s						
SHMJ	Saham	20.08	293	P	P	08 47 10.5	+0.4
	comp=Z,229nm,1.2s						
RCY	Rachaya	20.19	295	*e*P	P	08 47 12.4	+0.9
AML	Almayashu	20.23	36	P	P	08 47 11.0	-1.1
	SNR=21						
AQBJ	Aqaba	20.29	284	P	Pn	08 47 14.5	0.0
MMLI	Mount Malkishu	20.30	292	P	Pn	08 47 14.4	-0.3
HWQ	Hawqa	20.30	297	*e*P	Pn	08 47 14.2	-0.6
HRFI	Mount Harif	20.32	285	P	Pn	08 47 14.3	-0.6
GAZ	Gaziantep	20.36	306	P	Pn	08 47 14.8	-0.6
EIL	Elat	20.37	284	P	Pn	08 47 34.2	+19
EIL	Elat	20.37	284	P	P	08 47 14.3	+1.0
	comp=Z,60nm,0.8s,baz=87,slow=3.5,SNR=46						
EIL				S	S	08 51 01.9	+1.3
	comp=Z,9.3nm,0.7s,baz=74,slow=20,SNR=1.9						
EIL				LR	LR	08 56 54.8	
	comp=Z,527nm,20.3s,baz=96,slow=42						
NCK	Nalchik	20.41	329	⇓*e*P	P	08 47 12.8	-0.9
NCK				pmax	pmax		
	comp=Z,48nm,0.2s						
MMAI	Mount Meron Ar	20.43	294	P	P	08 47 15.0	+0.9
	comp=Z,40nm,0.8s,baz=101,slow=14,SNR=50						
MMAI				LR	LR	08 55 31.3	
	comp=Z,366nm,21.1s,baz=105,slow=38						
BHL	Bhannes	20.44	296	*e*P	Pn	08 47 15.4	-1.0
DQRL	Deir Qamar	20.46	296	*e*P	Pn	08 47 16.0	-0.6
KELT	Kelkit	20.49	316	*i* P	Pn	08 47 16.7	-0.3
ATD	Arta Tunnel	20.58	226	*e*P	P	08 47 16.2	+0.4
	comp=Z,54nm,0.9s						
ATD	Arta Tunnel	20.58	226	P	P	08 47 16.7	+1.0
	comp=Z,43nm,0.9s,baz=28,slow=14,SNR=12						
ATD				LR	LR	08 55 42.4	
	comp=Z,534nm,20.9s,baz=58,slow=38						
NEY	Neytrino	20.64	327	*i* P	Pn	08 47 19.1	+0.5
EKS2	Erkin-Say	20.65	35	P	P	08 47 15.8	-0.6
	SNR=22						
KTUT	Trabzon	20.68	318	P	Pn	08 47 17.8	-1.1
KTUT	Trabzon	20.68	318	⇑*i*P	Pn	08 47 17.9	-1.0
KMRS	Kahramanmaras	20.73	307	P	Pn	08 47 18.8	-0.8
UCH	Uchtor	20.74	37	P	P	08 47 16.4	-1.3
	SNR=17						
TAHT	Tahtakopru-Hat	20.80	303	P	Pn	08 47 19.6	-0.8
DARE	Darende-Malaty	20.81	310	P	Pn	08 47 19.9	-0.7
KBZ	Khabaz	20.91	329	P	P	08 47 19.6	+0.5
	comp=Z,4.6nm,1.0s,baz=109,slow=5.7,SNR=3.2						
KBZ				LR	LR	08 55 22.7	
	comp=Z,401nm,18.1s,baz=130,slow=37						
KZIT	Kziot	20.95	287	P	P	08 47 21.0	+1.4
AAK	Ala-Archa	21.01	36	P	P	08 47 19.6	-0.7
	SNR=8.1						
AAK	Ala-Archa	21.01	36	*e*P	P	08 47 18.9	-1.4
	comp=Z,36nm,0.8s						
AAK	Ala-Archa	21.01	36	*i* P	P	08 47 19.1	-1.2
	SNR=17						
AAK	Ala-Archa	21.01	36	*d i*P	P	08 47 19.3	-1.0
AAK				pmax	pmax		
	comp=Z,26nm,1.3s						
AAK	Ala-Archa	21.01	36	P	P	08 47 19.1	-1.2
	comp=Z,9.8nm,0.8s,baz=201,slow=5.6,SNR=16						
SHA1	Shidzhatmaz	21.04	328	*i* P	P	08 47 21.4	+0.8
KZA	Kyzart	21.04	38	P	P	08 47 23.3	+2.4
	SNR=40						
NRN	Naryn	21.05	41	*e*P	P	08 47 19.9	-1.0
	comp=Z,58nm,1.1s						
NRN	Naryn	21.05	41	*e*P	P	08 47 19.9	-1.0
NRN				pmax	pmax		
	comp=Z,58nm,1.1s						
PYA1	Pyatigorsk	21.08	329	⇑*e*P	P	08 47 22.2	+1.3
KVAR	Kislovodsk Arr	21.18	329	P	P	08 47 22.5	+0.4
	comp=Z,3.0nm,0.4s,baz=90,slow=20,SNR=4.5						
KIV	Kislovodsk	21.19	329	*e*P	P	08 47 24.3	+2.1
	comp=Z,57nm,0.8s						
KIV	Kislovodsk	21.19	329	⇑*i*P	P	08 47 22.8	+0.7
KIV	Kislovodsk	21.19	329	*e*P	P	08 47 20.9	-1.2
KIV				*e*		08 51 13.8	
KIV		

comp=Z,62nm,0.8s
KONT Konya--Tatoy 24.22 304 P P 08 47 55.1 +1.8
PDGK Podgornoye 24.25 41 P P 08 47 53.0 -0.7
PDGK pmax pmax
comp=Z,71nm,1.2s
LADK Ladik-KONYA 24.30 305 P P 08 47 55.8 +1.6
DMN Daman 24.31 81 *eP* **P 08 47 58.0 +3.5**
comp=Z,125nm,1.5s
ANN Anapa 24.43 323 *eP* **P 08 47 55.1 0.0**
ANN *e*PPP PPP 08 48 40.4
ANN *e*S **S 08 52 14.3 +0.6**
ANN pmax pmax
comp=Z,123nm,1.4s
ANN pmax pmax
comp=N,64nm,1.4s
ANN pmax pmax
comp=E,28nm,1.4s
ANN pmax pmax
comp=Z,61nm,3.5s
ANN MLR MLR
comp=Z,489nm,16.0s
KKN Kakani 24.45 81 *eP* **P 08 47 58.7 +3.0**
comp=Z,39nm,0.8s
ILGA Ilgaz 24.54 312 *eP* **P 08 47 55.6 -0.9**
comp=Z,127nm,1.7s
PKIN Phulchoki 24.57 81 *eP* **P 08 48 01.0 +4.1**
comp=Z,39nm,0.8s
PKI Pulchoki 24.58 81 *eP* **P 08 48 00.3 +3.3**
comp=Z,79nm,1.1s
ANTO Ankara 24.64 309 P **P 08 47 58.3 +1.1**
ANTO Ankara 24.64 309 *eP* **P 08 47 58.4 +1.2**
comp=Z,48nm,0.9s
ANTO Ankara 24.64 309⇓*iP* **P 08 47 58.1 +0.9**
ANTO Ankara 24.64 309 P **P 08 47 58.4 +1.2**
ANTO pmax pmax
comp=Z,48nm,0.9s
BR231 Keskin MP Arra 24.64 309 *eP* **P 08 47 58.0 +0.8**
comp=Z,41nm,0.8s
BZK Bozkurt 24.80 314⇑*iP* **P 08 47 59.3 +0.8**
JIRN Jiri 25.26 81 *eP* **P 08 48 06.6 +3.3**
comp=Z,93nm,1.0s
ISP Isparta 25.55 303 *eP* **P 08 48 06.4 +0.9**
comp=Z,66nm,1.0s
ISP Isparta 25.55 303⇑*iP* **P 08 48 06.4 +0.9**
ISP Isparta 25.55 303 *i* P **P 08 48 06.0 +0.5**
ISP pmax pmax
comp=Z,57nm,1.0s
KURC Kurucasile-Bar 25.56 313 P **P 08 48 06.4 +1.0**
RAMN Ramite 25.69 83 *eP* **P 08 48 12.0 +5.0**
comp=Z,47nm,0.8s
MANT Manisa 27.23 303 *eP* **P 08 48 21.2 +0.4**
comp=Z,87nm,1.0s
YLV Yalova 27.32 308⇓*iP* **P 08 48 23.2 +1.8**
MAKZ Makanchi 27.77 37 *eP* **P 08 48 28.5 +3.2**
comp=Z,26nm,1.2s
MK31 Makanchi Array 27.93 37 *eP* **P 08 48 28.4 +1.8**
comp=Z,11nm,1.2s
MK32 Makanchi Array 27.93 37 *eP* **P 08 48 25.5 -1.2**
MKAR Makanchi Array 27.93 37 *eP* **P 08 48 28.7 +2.1**
MKAR Makanchi Array 27.93 37 P **P 08 48 25.5 -1.2**
comp=Z,1.4nm,0.6s,baz=228,slow=7.7,SNR=8.5
BVAR Borovoye Array 28.00 16 P **P 08 48 26.0 -1.3**
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 28.00 16 P **P 08 48 26.0 -1.3**
comp=Z,5.6nm,0.7s,baz=190,slow=7.4,SNR=21
BRVK Borovoye 28.01 16 *eP* **P 08 48 26.0 -1.3**
comp=Z,24nm,1.1s
BRVK Borovoye 28.01 16 *ceP* **P 08 48 26.7 -0.6**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BALB Balikesir 28.08 305 *eP* **P 08 48 28.9 +0.8**
comp=Z,80nm,1.1s
VSR Storozhevoye 28.36 335 *ceP* **P 08 48 28.8 -1.6**
VSR pmax pmax
comp=Z,18nm,0.5s
VORR Voronezh 28.71 336 P **P 08 48 35.0 +1.5**
VORR pmax pmax
comp=Z,300nm,1.2s
KURBB Kurchatov Arra 28.73 28 P **P 08 48 32.8 -0.9**
comp=Z,1.3nm,0.6s,baz=229,slow=8.0,SNR=11
KURK Kurchatov 28.84 28 *eP* P 08 48 39.5 +4.8
comp=Z,10nm,0.9s
KURK Kurchatov 28.84 28 *ceP* **P 08 48 35.8 +1.1**
KURK pmax pmax
comp=Z,2.0nm,0.7s
SANT Santorini 29.13 297 *eP* **P 08 48 37.4 -0.1**
comp=Z,47nm,0.7s
SANT Santorini 29.13 297⇑*iP* **P 08 48 37.5 0.0**
APE Apeiranthos 29.20 299⇑*iP* **P 08 48 38.6 +0.4**
APE Apeiranthos 29.20 299 *ceP* **P 08 48 38.1 -0.1**
APE pmax pmax
comp=Z,18nm,1.0s
IDI Anoyia 29.41 295 P **P 08 48 40.0 -0.1**
IDI Anoyia 29.41 295 P **P 08 48 40.1 0.0**
comp=Z,28nm,0.7s,baz=99,slow=8.4,SNR=20
LPSR Galich'ya Gora 29.56 336 *eP* **P 08 48 41.1 0.0**
LPSR pmax pmax
comp=Z,20nm,0.9s
WMQ Urumqi 29.63 47 *eP* **P 08 48 44.3 +2.4**
WMQ pP pP 08 48 49.7 +0.5
WMQ sP sP 08 48 54.8 +2.6
WMQ pmax pmax
comp=Z,89nm,1.1s
WMQ pmax pmax
comp=Z,310nm,3.7s
WMQ LR LR
comp=Z,2μm,13.5s
WMQ LR LR
comp=Z,1μm,13.5s
WMQ LR LR
comp=Z,2μm,18.7s
WMQ Urumqi 29.63 47 *eP* **P 08 48 38.7 -3.2**
comp=Z,48nm,1.1s
ARU Arti 29.79 1 *d iP* **P 08 48 43.2 +0.1**
ARU 08 49 36.8
ARU S **S 08 53 38.9 +0.8**
ARU SS **SnSn 08 55 07.7 -1.2**
ARU pmax pmax
comp=Z,2.0nm,0.7s
ARU MLR MLR
comp=Z,439nm,25.0s
ALN Alexandroupoli 29.81 307 *eP* **P 08 48 43.2 -0.2**
comp=Z,3.6nm,0.7s
ICOR Ion Corvin 29.83 314⇑*iP* **P 08 48 41.1 -2.4**
TLB Topalu 29.88 315⇑*iP* **P 08 48 44.5 +0.5**
CFR Carcaliu 30.09 316⇓*iP* **P 08 48 45.6 -0.3**
IMMV Iera Moni Meta 30.17 295 P **P 08 48 46.8 +0.1**
SVE Sverdlovsk 30.25 3⇓*eP* P 08 48 53.9 +6.7
SVE pmax pmax
comp=Z,14nm,1.0s
SVE MLR MLR
comp=Z,487nm,11.0s
KIS Kishinev 30.58 319 *eP* **P 08 48 49.0 -1.2**
KIS LRM MLR 09 05 16.0
comp=Z,600nm,18.0s
KIS Kishinev 30.58 319 *eP* **P 08 48 49.0 -1.2**
KIS MLR MLR
comp=Z,600nm,18.0s
ANKY Antikythira Is 30.77 296 P **P 08 48 53.7 +1.7**
AOS Alonnisos 30.93 302 P **P 08 48 54.5 +1.1**
PAIG Paliouri 31.27 304 P **P 08 48 59.1 +2.8**
PAIG pmax pmax
comp=Z,14nm,1.2s
VRI Vrincioaia 31.29 316⇑*iP* **P 08 48 56.8 +0.3**
PLOR Plostina 31.33 316⇓*iP* **P 08 48 58.3 +1.4**
XOR Xorichti 31.50 303 P **P 08 48 59.0 +0.6**
MLR Muntele Rosu 31.61 315 *eP* **P 08 49 01.1 +1.6**
comp=Z,25nm,1.1s
MLR Muntele Rosu 31.61 315⇑*iP* **P 08 49 01.1 +1.6**
TESR Tescani 31.64 317⇓*iP* **P 08 49 00.1 +0.6**
SRS Serrai 31.65 306 P **P 08 49 00.4 +0.7**
SRS Serrai 31.65 306 P **P 08 49 01.3 +1.6**
SRS pmax pmax
comp=Z,31nm,1.0s
VLX Vlachokerasia 31.73 299 P **P 08 49 00.1 -0.5**
SOH Sokhos 31.74 305 P **P 08 49 02.3 +1.8**
SOH pmax pmax
comp=Z,25nm,0.9s
GUR Goura 31.86 300 P **P 08 49 01.8 +0.1**
KLV Kalavryta, Ach 32.02 300 P **P 08 49 03.2 +0.1**
ITM Ithomi 32.06 298 *eP* **P 08 49 02.5 -0.9**
comp=Z,23nm,0.7s
MTUR Matau 32.06 314⇑*iP* **P 08 49 04.8 +1.4**
AGG Agios Georgios 32.07 302 *eP* **P 08 49 02.6 -0.9**
comp=Z,10nm,0.7s
VOIR 32.16 314⇓*iP* **P 08 49 05.3 +1.1**
VOIR 32.16 314 P **P 08 49 05.9 +1.7**
KNT Kendrikon 32.16 306 P **P 08 49 05.8 +1.6**
KNT pmax pmax
comp=Z,8.0nm,0.8s
BIZ Bicaz 32.17 317⇓*iP* **P 08 49 05.0 +0.8**
DOPR Dopca 32.17 315⇑*iP* **P 08 49 04.8 +0.6**
LAKA Lakka 32.19 300 P **P 08 49 04.2 -0.3**
LIT Litokhoron 32.19 304 *eP* **P 08 49 03.9 -0.6**
comp=Z,10nm,0.8s
ANX Ano Chora 32.30 301 P **P 08 49 05.3 -0.3**
VTS Vitosha 32.35 308 *eP* **P 08 49 06.5 +0.5**
comp=Z,9.9nm,1.0s
VTS Vitosha 32.35 308⇓*iP* **P 08 49 06.5 +0.5**
VTS Vitosha 32.35 308 P **P 08 49 07.0 +1.0**
VTS pmax pmax
comp=Z,10.0nm,1.0s
ARR Arges 32.40 314⇑*iP* **P 08 49 07.3 +1.0**
OBN Obninsk 32.42 337 *eP* **P 08 49 06.2 0.0**
comp=Z,73nm,1.3s
OBN Obninsk 32.42 337 *i* P **P 08 49 06.3 +0.1**
OBN *e* 08 49 14.2
OBN pmax pmax
comp=Z,19nm,1.0s
OBN MLR MLR
comp=Z,280nm,18.0s
OBN Obninsk 32.42 337 LR LR 09 03 45.2
comp=Z,84nm,19.4s,baz=172,slow=39
AKASG Malin Array Be 32.45 325 *ceP* **P 08 49 06.0 -0.6**
AKASG pmax pmax
comp=Z,20nm,0.8s
AKASG Malin Array Be 32.45 325 P **P 08 49 05.6 -1.0**
comp=Z,14nm,0.7s,baz=127,slow=8.2,SNR=43
AKASG LR LR 09 05 05.6
comp=Z,422nm,20.6s,baz=115,slow=42
AKBB Malin Array Si 32.45 325 *eP* **P 08 49 05.1 -1.5**
comp=Z,41nm,0.8s
KIEV Kiev 32.45 325 *eP* **P 08 49 05.5 -1.1**
comp=Z,38nm,0.8s
KIEV Kiev 32.45 325⇑*iP* **P 08 49 06.4 -0.2**
KIEV Kiev 32.45 325 *d iP* **P 08 49 05.8 -0.8**
KIEV pmax pmax
comp=Z,24nm,0.8s
GRG Griva 32.47 305 P **P 08 49 07.3 +0.3**
GRG Griva 32.47 305 *eP* **P 08 49 08.4 +1.4**
KIRV Kirov 32.49 352 LR LR 09 04 33.5
comp=Z,447nm,20.0s,baz=187,slow=41
MOS Moscow 32.57 339 *eP* **P 08 49 07.3 -0.2**
MOS pmax pmax
comp=Z,38nm,1.1s
STIP Stip 32.82 306 *i* P **P 08 49 09.0 -1.0**
LOT Lotru 32.99 314⇑*iP* **P 08 49 11.8 +0.3**
BURAR Bucovina Array 33.02 318 *eP* **P 08 49 11.4 -0.3**
BURAR Bucovina Array 33.02 318⇑*iP* **P 08 49 11.7 0.0**
BURAR Bucovina Array 33.02 318 P **P 08 49 11.4 -0.3**
BURAR pmax pmax
comp=Z,62nm,0.9s
BUR08 Bucovina Ar. S 33.04 318 *eP* **P 08 49 11.5 -0.4**
comp=Z,10nm,1.1s
SRE Strehaia 33.06 312⇑*iP* **P 08 49 13.7 +1.6**
FNA Florina 33.18 305 *eP* **P 08 49 13.5 +0.3**
comp=Z,46nm,0.8s
FNA Florina 33.18 305 P **P 08 49 13.6 +0.4**
FNA Florina 33.18 305 P **P 08 49 14.0 +0.8**
FNA pmax pmax
comp=Z,46nm,0.8s
BIA Bitola 33.28 305 *i* P **P 08 49 15.3 +1.3**
LKD2 Lefkada island 33.31 301 P **P 08 49 13.6 -0.7**
FSK Fiskardo 33.33 300 P **P 08 49 13.2 -1.2**
SKO Skopje 33.44 307 *i* P **P 08 49 15.6 +0.2**
GZR Gura Zlata 33.62 313⇓*iP* **P 08 49 16.9 0.0**
HERR Herculane 33.67 312⇑*iP* **P 08 49 17.1 -0.2**
OHR Ohrid 33.68 305 *i* P **P 08 49 18.0 +0.4**
IGT Igoumenitsa 33.70 302 P **P 08 49 18.3 +0.7**
DEV Deva 33.72 314⇑*iP* **P 08 49 17.6 -0.1**
NVS Novosibirsk 33.78 27 *eP* **P 08 49 17.6 -0.5**
NVS *e*S **S 08 54 40.0 -0.4**
NVS pmax pmax
comp=Z,36nm,1.2s
NVS pmax pmax
comp=N,23nm,1.4s
NVS smax smax
comp=N,14nm,1.5s
ZAA0 Zalesovo Array 33.81 29 *eP* **P 08 49 17.2 -1.2**
comp=N,25nm,1.0s
ZALV Zalesovo Beam 33.81 29 *eP* **P 08 49 16.5 -1.9**
ZALV Zalesovo Beam 33.81 29 P **P 08 49 16.9 -1.5**
comp=N,3.0nm,0.5s,baz=238,slow=8.5,SNR=12
ZAA1 Zalesovo Array 33.81 29 *eP* **P 08 49 16.9 -1.6**
KMBO Kilima Mbogo 33.97 219 *eP* **P 08 49 22.2 +1.7**
comp=N,9.2nm,0.9s
KMBO Kilima Mbogo 33.97 219 P **P 08 49 22.3 +1.8**
comp=N,1.7nm,0.3s,baz=18,slow=13,SNR=6.4
KMBO LR LR 09 04 06.5
comp=N,292nm,19.7s,baz=80,slow=38
PHP Peshkopia 34.08 306 P **P 08 49 21.2 +0.2**
MDVR Moldovita 34.10 312⇑*iP* **P 08 49 21.9 +0.8**
DRGR 34.20 315⇓*iP* **P 08 49 22.7 +0.7**
DRGR 34.20 315 P **P 08 49 23.1 +1.1**
TIR Tirane 34.42 305 *eP* **P 08 49 23.6 -0.3**
comp=N,30nm,0.8s
TIR Tirane 34.42 305 P **P 08 49 23.9 0.0**
TIR pmax pmax
comp=Z,30nm,0.8s
BZS Buzias 34.46 313⇑*iP* **P 08 49 25.0 +0.9**
BZS Buzias 34.46 313 P **P 08 49 24.6 +0.5**
SIRR Siria 34.66 314⇑*iP* **P 08 49 27.3 +1.3**
LVV L'vov 34.76 321 *eP* **P 08 49 26.9 +0.2**
TRPA Tarpa 34.86 317 *eP* **P 08 49 26.1 -1.5**
DIVS Divibare 35.05 310 *eP* **P 08 49 28.9 -0.5**
DRME Dracevica, Mon 35.11 306⇑*iP* **P 08 49 28.8 -1.1**
PDG Podgorica 35.12 307⇑*iP* **P 08 49 29.6 -0.3**
TTG Podgorica 35.12 307 *eP* **P 08 49 28.4 -1.6**
comp=Z,7.5nm,0.7s
UZH Uzhgorod 35.22 318 *eP* **P 08 49 31.2 +0.5**
UZH *e* 08 49 39.0
KOLS Kolonicke sedl 35.37 319 *eP* **P 08 49 33.2 +1.2**
KOLS pmax pmax
comp=Z,50nm,1.0s
KOLS Kolonicke sedl 35.37 319 *eP* **P 08 49 33.2 +1.2**
KWP Kalwaria Pacla 35.43 320 *eP* **P 08 49 32.8 +0.3**
KWP Kalwaria Pacla 35.43 320 *eP* **P 08 49 32.0 -0.5**
comp=Z,312nm,0.9s
KWP Kalwaria Pacla 35.43 320 *eP* **P 08 49 32.8 +0.3**
FRGS Fruska Gora 35.50 311⇑*iP* **P 08 49 33.5 +0.3**
UPM Unac-Piva 35.56 308 *eP* **P 08 49 33.2 -0.8**
HCY Herceg Novi 35.67 306 P **P 08 49 34.9 +0.2**
HCY Herceg Novi 35.67 306 *eP* **P 08 49 33.7 -1.0**
BRY Bratogost 35.75 307 *eP* **P 08 49 34.7 -0.8**
HAPS Han Pijesak,BI 35.77 309⇑*iP* **P 08 49 35.0 -0.6**
TREB Trebinje 35.84 307 *eP* **P 08 49 33.9 -2.2**
PRGR Permogore 35.96 350 P **P 08 49 36.6 -0.2**
PRGR pmax pmax
comp=Z,8.0nm,0.6s
KECS Kecovo 36.26 317 *eP* **P 08 49 40.7 +1.1**
KECS pmax pmax
comp=Z,73nm,1.2s
KECS Kecovo 36.26 317 *eP* **P 08 49 40.7 +1.1**
STON Ston 36.34 307 *eP* **P 08 49 39.1 -1.3**
TIP Timpagrande 36.37 301 *eP* **P 08 49 41.1 +0.3**
comp=Z,47nm,1.2s
TIP Timpagrande 36.37 301 P **P 08 49 41.1 +0.3**
TIP Timpagrande 36.37 301⇑*iP* **P 08 49 40.8 0.0**
PSZ Piszkesteto 36.40 316 *eP* **P 08 49 40.8 -0.1**
comp=Z,22nm,1.0s
PSZ Piszkesteto 36.40 316⇑*iP* **P 08 49 41.2 +0.3**
PSZ Piszkesteto 36.40 316⇑*eP* **P 08 49 40.1 -0.9**
PSZ *e*S **S 08 55 24.0 +2.9**
KLMR Klimovskoe 36.42 345 *eP* **P 08 49 38.1 -2.7**
KLMR pmax pmax
comp=Z,26nm,1.5s
IDID Didziasalis 36.48 330 *eP* **P 08 49 43.0 +1.6**
IDID IAmb IAmb 08 49 49.2
comp=Z,9.5nm,0.5s
MATE Matera 36.63 303⇓*iP* **P 08 49 42.6 -0.3**
IIGN Ignalina 36.74 330 *eP* **P 08 49 45.5 +1.9**
IIGN IAmb IAmb 08 49 51.6
comp=Z,15nm,0.8s
NIE Niedzica 36.75 318 *eP* **P 08 49 44.2 +0.4**
NIE Niedzica 36.75 318 *eP* **P 08 49 44.2 +0.4**
BUD Budapest 36.79 315 P **P 08 49 46.0 +1.8**
BUD pmax pmax
comp=Z,50nm,0.9s
ISAL Salakas 36.92 330 *eP* **P 08 49 46.7 +1.6**
ISAL IAmb IAmb 08 49 53.1
comp=Z,9.7nm,0.6s
IZAR Zarasai 36.98 331 *eP* **P 08 49 47.8 +2.1**
IZAR IAmb IAmb 08 49 56.8
comp=Z,13nm,0.8s
LANS Liptovska Anna 37.14 318 *eP* **P 08 49 48.1 +1.0**
LANS Liptovska Anna 37.14 318 *eP* **P 08 49 48.1 +1.0**
GTA Gaotai 37.15 59 P **P 08 49 48.5 +1.0**
GTA pP pP 08 49 54.4 -0.5
GTA sP sP 08 49 57.5 -0.3
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,57nm,5.5s
GTA LR LR
comp=Z,690nm,19.9s
GTA LR LR
comp=Z,360nm,20.4s
GTA LR LR
comp=Z,620nm,20.4s
MGRS Mrkonjic Grad 37.15 309 *eP* **P 08 49 47.9 +0.6**
CSKK Cskako 37.24 314⇓*eP* **P 08 49 48.0 +0.1**
VYHS Vyhne 37.27 316 *eP* **P 08 49 49.1 +0.8**
VYHS pmax pmax
comp=Z,8.0nm,0.8s
VYHS Vyhne 37.27 316 *eP* **P 08 49 49.1 +0.8**
SRO2 Moca 37.29 315 *eP* **P 08 49 48.7 +0.3**
SRO2 Moca 37.29 315 *eP* **P 08 49 48.7 +0.3**
SRO Srobarova 37.36 315 *eP* **P 08 49 50.1 +1.2**
SRO Srobarova 37.36 315 *eP* **P 08 49 50.1 +1.2**
OJC Ojcow 37.38 319 *eP* **P 08 49 49.4 +0.3**
OJC Ojcow 37.38 319 *eP* **P 08 49 48.1 -1.0**
comp=Z,35nm,0.7s
OJC Ojcow 37.38 319 *eP* **P 08 49 49.4 +0.3**
SUW Suwalki 37.39 326 *eP* **P 08 49 49.4 +0.3**
SUW Suwalki 37.39 326 *eP* **P 08 49 48.9 -0.2**
comp=Z,105nm,1.1s
SUW Suwalki 37.39 326 *eP* **P 08 49 49.4 +0.3**
PABE Paberze 37.86 329 *eP* **P 08 49 52.6 -0.5**
PABE IAmb IAmb 08 49 58.5
comp=Z,41nm,0.8s
BEHE Becsehely 37.92 312⇑*iP* **P 08 49 54.6 +0.8**
JAVC Velka Javorina 38.12 316 *eP* **P 08 49 56.5 +1.0**
SMOL Smolenice 38.15 316 P **P 08 49 58.6 +2.9**
SMOL pmax pmax
comp=Z,34nm,0.9s
OKC Ostrava-Krasne 38.20 318 *eP* **P 08 49 55.7 -0.3**
OKC Ostrava-Krasne 38.20 318 *eP* **P 08 49 55.7 -0.3**
MODS Modra-Piesok 38.20 316 *eP* **P 08 49 55.9 -0.2**
MODS pmax pmax
comp=Z,27nm,1.1s
MODS Modra-Piesok 38.20 316 *eP* **P 08 49 55.9 -0.2**
ZST Bratislava 38.25 315 *eP* **P 08 49 56.2 -0.3**
ZST Bratislava 38.25 315 *eP* **P 08 49 56.1 -0.4**
KOGS Kog 38.26 312⇑*iP* **P 08 49 57.2 +0.6**
SOP Sopron 38.43 314 P **P 08 49 59.5 +1.5**
SOP Sopron 38.43 314 *eP* **P 08 49 58.0 0.0**
SOP *e*S **S 08 55 51.1 -0.7**
MORC Moravsky Berou 38.54 318 *eP* **P 08 49 57.9 -1.1**
comp=Z,8.2nm,0.7s
MORC Moravsky Berou 38.54 318⇓*iP* **P 08 49 58.3 -0.7**
MORC Moravsky Berou 38.54 318 P **P 08 49 59.3 +0.3**
MORC pmax pmax
comp=Z,68nm,1.0s
MORC Moravsky Berou 38.54 318 *eP* **P 08 49 58.4 -0.6**
VSU Vasula 38.54 334⇑*eP* **P 08 49 57.7 -1.1**
VSU pmax pmax
comp=Z,51nm,0.8s
VSU Vasula 38.54 334 *eP* **P 08 49 58.6 -0.2**
VSU IAmb IAmb 08 50 03.6
comp=Z,49nm,0.7s
CRES Cresnjev 38.62 311⇑*iP* **P 08 50 00.3 +0.6**
BOJS Bojanci 38.68 310⇑*iP* **P 08 50 00.8 +0.6**
CMAR Chiang Mai Arr 38.72 93 LR LR 09 08 03.6
comp=Z,392nm,21.9s,baz=272,slow=40
VRAC Vranov 38.95 317⇓*iP* **P 08 50 03.6 +1.2**
VRAC Vranov 38.95 317 *eP* **P 08 50 02.4 0.0**
CONA Conrad Observa 38.95 314 *i* pP **P 08 50 02.6 +0.1**
comp=Z,24nm,1.1s,SNR=19
ARSA Arzberg 38.97 313 *i* pP **P 08 50 03.2 +0.6**
comp=Z,31nm,0.9s,SNR=15
KRUC Moravsky 38.98 316 *eP* **P 08 50 02.9 +0.2**
CLTB Caltabellotta 39.00 298 *eP* **P 08 50 04.3 +1.2**
comp=Z,19nm,0.8s
PERS Pernice 39.07 312⇑*iP* **P 08 50 03.8 +0.3**
KRLC Kraliky 39.10 318 *eP* **P 08 50 04.7 +1.0**
KRLC Kraliky 39.10 318 *eP* **P 08 50 04.7 +1.0**
SOKA Soboth 39.13 312 *i* pP **P 08 50 04.4 +0.4**
comp=Z,15nm,0.9s,SNR=7.9
KLNR Kaliningrad 39.18 326 *ceP* **P 08 50 02.6 -1.6**
KLNR pmax pmax
comp=Z,73nm,1.1s
CEY Cerknica 39.30 311⇑*iP* **P 08 50 05.8 +0.4**
LJU Ljubljana 39.31 311⇑*iP* **P 08 50 06.3 +0.9**
LJU Ljubljana 39.31 311⇑*iP* **P 08 50 06.1 +0.7**
AQU L'Aquila 39.35 305 *eP* **P 08 50 06.9 +1.0**
comp=Z,66nm,1.0s
AQU L'Aquila 39.35 305 P **P 08 50 07.2 +1.3**
AQU pmax pmax
comp=Z,66nm,1.0s
AQU L'Aquila 39.35 305 *eP* **P 08 50 06.6 +0.7**
OBKA Obir 39.41 312 *i* pP **P 08 50 07.0 +0.6**
comp=Z,23nm,1.0s,SNR=6.4
DPC Dobruska-Polom 39.48 318 *eP* **P 08 50 07.5 +0.7**
DPC MLR MLR
comp=Z,200nm,17.5s
DPC Dobruska-Polom 39.48 318 *eP* **P 08 50 07.5 +0.7**
DPC AMS AMS 09 10 10.0
comp=Z,200nm,17.5s
TREC Trest 39.62 316 *eP* **P 08 50 09.2 +1.2**
TREC Trest 39.62 316 *eP* **P 08 50 09.2 +1.2**
TMCR Tamitsa 39.67 347 *eP* **P 08 50 09.1 +1.0**
TMCR pmax pmax
comp=Z,12nm,0.5s
KSP Ksiaz 39.68 319 *eP* **P 08 50 08.7 +0.3**
KSP Ksiaz 39.68 319 *eP* **P 08 50 08.7 +0.3**
UPC Upice 39.72 318 *eP* **P 08 50 08.8 0.0**
UPC Upice 39.72 318 *eP* **P 08 50 08.8 0.0**
TRI Trieste 39.75 310 P **P 08 50 08.9 -0.1**
TRI pmax pmax
comp=Z,45nm,0.8s
SLIT Slitere, Latvi 39.85 331 *eP* **P 08 50 12.7 +2.9**
SLIT IAmb IAmb 08 50 18.8
comp=Z,235nm,1.3s
MOA Molln 39.96 314 *i* pP **P 08 50 11.2 +0.4**
comp=Z,47nm,0.9s,SNR=19
MYKA Terra Mystica 40.05 312 *i* pP **P 08 50 12.1 +0.4**
comp=Z,13nm,0.7s,SNR=8.1
LZH Lanzhou 40.12 65 *eP* **P 08 50 14.2 +1.7**
LZH pP pP 08 50 19.7 -0.2
LZH sP sP 08 50 23.3 +0.4
LZH pmax pmax
comp=Z,42nm,1.3s
LZH pmax pmax
comp=Z,170nm,4.5s
LZH LR LR
comp=Z,860nm,14.0s
LZH LR LR
comp=Z,810nm,14.2s
LZH LR LR
comp=Z,1μm,16.8s
UTHA Uthaitani 40.22 97 P P 08 50 18.4 +5.1
comp=Z,16μm,0.8s
CD2 Chengdu 40.30 73 *eP* **P 08 50 12.7 -1.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,1μm,27.3s
CD2 LR LR
comp=Z,780nm,19.8s
CD2 LR LR
comp=Z,950nm,16.6s
KMI Kunming 40.31 82 P **P 08 50 15.9 +1.6**
KMI pP pP 08 50 22.3 +0.6
KMI sP sP 08 50 24.8 +0.2
KMI PP **PnPn 08 51 49.6 -1.3**
KMI S **S 08 56 21.7 +0.8**
KMI sS sS 08 56 32.6 -0.5
KMI pmax pmax
comp=Z,12nm,0.5s
KMI pmax pmax
comp=Z,120nm,4.1s
KMI LR LR

comp=Z,420nm,17.0s
KMI LR LR
comp=Z,320nm,15.3s
KMI LR LR
comp=Z,450nm,16.2s
KBA Koelnbreinsper 40.36 312 *i* pP **P 08 50 14.7 +0.4**
comp=Z,38nm,0.9s,SNR=22
KBA Koelnbreinsper 40.36 312 P **P 08 50 15.4 +1.1**
UTTA Uttaradit 40.41 94 P P 08 50 20.7 +5.8
comp=Z,6μm,0.8s
PRU Pruhonice 40.43 317 *e*P **P 08 50 14.8 +0.1**
PRU *e* 08 50 18.4
PRU MLR MLR
comp=Z,300nm,16.0s
PRU Pruhonice 40.43 317 *e*P **P 08 50 14.8 +0.1**
PRU *e*pP **pP 08 50 18.4 -3.8**
PRU AMS AMS 09 10 50.0
comp=Z,300nm,16.0s
PVCC Panska Ves 40.59 318 *e*P **P 08 50 16.1 +0.1**
PVCC MLR MLR
comp=Z,200nm,15.4s
PVCC Panska Ves 40.59 318 *e*P **P 08 50 16.1 +0.1**
PVCC AMS AMS 09 10 40.0
comp=Z,200nm,15.4s
GEC2 GERESS Array S 40.60 315 *e*P **P 08 50 16.3 +0.1**
comp=Z,21nm,0.8s
GERES GERESS Array B 40.60 315 *e*P **P 08 50 16.2 -0.1**
GERES GERESS Array B 40.60 315 P **P 08 50 15.6 -0.6**
comp=Z,14nm,0.8s,baz=108,slow=8.6,SNR=109
GERES LR LR 09 10 59.3
comp=Z,276nm,18.8s,baz=116,slow=42
KHC Kasperske Hory 40.76 315 *e*P **P 08 50 17.4 -0.2**
comp=Z,15nm,0.9s
KHC Kasperske Hory 40.76 315 *e*P **P 08 50 17.7 +0.2**
KHC MLR MLR
comp=Z,400nm,20.3s
KHC Kasperske Hory 40.76 315 *e*P **P 08 50 17.7 +0.2**
KHC AMS AMS 09 10 30.0
comp=Z,400nm,20.3s
FIA0 FINESS Array S 40.82 337 *e*P **P 08 50 16.8 -1.0**
FIA1 FINESS Array S 40.82 337 *e*P **P 08 50 19.6 +1.8**
comp=Z,13nm,0.8s
FINES FINESS Array B 40.82 337 *e*P **P 08 50 16.3 -1.4**
FINES FINESS Array B 40.82 337 *i* P **P 08 50 17.2 -0.5**
FINES pmax pmax
comp=Z,10.0nm,0.6s
FINES FINESS Array B 40.82 337 P **P 08 50 16.8 -1.0**
comp=Z,10nm,0.6s,baz=130,slow=8.5,SNR=30
ABTA Abfaltersbach 40.83 312 *i* pP **P 08 50 18.5 +0.4**
comp=Z,60nm,1.0s,SNR=19
MOY Mondy 40.96 41 *e*P **P 08 50 23.4 +4.2**
BRG Berggiesshubel 41.08 318 *e*P **P 08 50 19.8 -0.3**
comp=Z,8.1nm,1.2s
BRG *e* 08 50 32.6
comp=Z,22nm,1.5s
BRG Berggiesshubel 41.08 318 P **P 08 50 21.8 +1.7**
BRG pmax pmax
comp=Z,12nm,1.1s
WET Wettzell 41.21 315 P **P 08 50 22.0 +0.8**
WET pmax pmax
comp=Z,17nm,1.2s
WTTA Wattenberg 41.53 312 *e*pP **P 08 50 23.8 -0.2**
comp=Z,125nm,1.1s
WATA Walderalm 41.59 312 *i* pP **P 08 50 25.2 +0.7**
comp=Z,51nm,0.7s,SNR=13
SUF Sumiainen 41.70 339 P **P 08 50 29.2 +4.3**
SUF pmax pmax
comp=Z,18nm,0.9s
RUE Ruedersdorf 41.73 320 *e*P **P 08 50 25.0 -0.3**
CLL Collm 41.78 318 *e*P **P 08 50 26.0 +0.2**
comp=Z,28nm,1.3s
CLL Collm 41.78 318⇑*i*P **P 08 50 25.9 +0.1**
CLL *i* 08 50 29.6
CLL *e*S **S 08 56 39.0 -2.8**
CLL pmax pmax
comp=Z,19nm,1.3s
CLL Collm 41.78 318⇑*i*P **P 08 50 25.9 +0.1**
comp=Z,19nm,1.3s
CLL *i* pP **pP 08 50 29.6 -3.7**
CLL *i* 08 50 38.0
CLL *e* 08 50 54.0
CLL *e*PcP **PcP 08 52 20.0 -1.7**
CLL *e*PPP PPP 08 52 31.0
CLL *e*S **S 08 56 39.0 -2.8**
CLL *e*SS **SS 08 59 48.0 0.0**
CLL *e*SSS SSS 09 00 30.0
CLL *e* 09 01 12.0
CLL LmV 09 11 00.0
comp=Z,200nm,20.9s
NKC Novy Kostel 41.79 317 P **P 08 50 28.6 +2.7**
NKC pmax pmax
comp=Z,7.0nm,1.2s
SQTA Sankt Quirin 41.81 312 *i* pP **P 08 50 25.9 -0.3**
comp=Z,69nm,0.6s,SNR=29
MOTA Moosalm 41.90 312 *i* pP **P 08 50 26.3 -0.7**
comp=Z,45nm,0.7s,SNR=36
ZAK Zakamensk 41.91 43 *e*P **P 08 50 25.1 -1.9**
ZAK pmax pmax
comp=Z,2.0nm,1.5s
FETA Feichten 42.08 312 *i* pP **P 08 50 28.4 -0.1**
comp=Z,93nm,0.9s,SNR=42
KEST Kesra 42.09 295 *e*P **P 08 50 30.4 +1.8**
comp=Z,12nm,1.0s
KEST Kesra 42.09 295 P **P 08 50 29.9 +1.3**
comp=Z,10.0nm,0.8s,baz=4.9,slow=4.1,SNR=8.1
KEST LR LR 09 11 21.0
comp=Z,363nm,19.6s,baz=350,slow=41
BSD Bornholm Skovb 42.13 324 *i* P **P 08 50 26.9 -1.6**
BSD pmax pmax
comp=Z,58nm,0.7s
BSD Bornholm Skovb 42.13 324 *i* P **P 08 50 26.9 -1.6**
comp=Z,58nm,0.7s
RETA Reutte 42.16 312 *i* pP **P 08 50 28.5 -0.6**
comp=Z,25nm,0.7s,SNR=10.0
FUORN Ofenpass-Fuorn 42.32 311 *e*P **P 08 50 30.6 +0.1**
comp=Z,27nm,0.8s
GRA1 Grafenberg Arr 42.40 316 *e*P **P 08 50 31.8 +0.9**
comp=Z,47nm,1.0s
GRF Grafenberg Arr 42.40 316 P **P 08 50 31.2 +0.3**
GRF pmax pmax
comp=Z,47nm,1.0s
GRFO Grafenberg 42.40 316 *e*P **P 08 50 31.4 +0.6**
comp=Z,41nm,1.0s
MOX Moxa 42.42 317 P **P 08 50 35.7 +4.7**
MOX pmax pmax
comp=Z,8.0nm,1.2s
NONG Nongkai 42.62 92 P **P 08 50 36.0 +3.0**
DAVA Damuels 42.70 312 *i* pP **P 08 50 33.3 -0.2**
comp=Z,112nm,0.6s,SNR=40
RGN Rugen 42.75 323 *e*P **P 08 50 34.8 +1.2**
comp=Z,47nm,1.0s
TUE Stuetta 42.91 311 *e*P **P 08 50 34.8 -0.5**
comp=Z,25nm,0.9s
MSF Maaselka 43.24 343 P **P 08 50 41.3 +3.9**
MSF pmax pmax
comp=Z,15nm,2.2s
SONA0 Songino Array 43.26 48 *e*P **P 08 50 38.0 0.0**
SONM Songino Array 43.26 48 *e*P **P 08 50 38.2 +0.2**
SONM Songino Array 43.26 48 P **P 08 50 38.0 0.0**
comp=Z,2.9nm,0.8s,baz=259,slow=9.4,SNR=11
SONM LR LR 09 12 27.5
comp=Z,471nm,20.0s,baz=253,slow=42
STU Stuttgart 43.47 314 *e*P **P 08 50 38.9 -0.6**
comp=Z,21nm,1.0s
STU Stuttgart 43.47 314 P **P 08 50 38.9 -0.6**
STU pmax pmax
comp=Z,21nm,1.0s
OUL Oulu 43.48 341 P **P 08 50 42.5 +3.2**
OUL pmax pmax
comp=Z,19nm,1.4s
GYA Guiyang 43.49 79 *e*P **P 08 50 44.4 +4.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
APA Apatity 43.58 347⇓*i*P **P 08 50 36.2 -3.9**
APA pmax pmax
comp=Z,11nm,0.9s
APA MLR MLR
comp=Z,500nm,15.0s
LVZ Lovozero 43.61 348⇑*e*P **P 08 50 39.7 -0.8**
LVZ pmax pmax
comp=Z,11nm,1.1s
ULN Ulaanbaatar 43.70 48 *e*P **P 08 50 41.2 -0.5**
comp=Z,5.7nm,1.0s
ULN Ulaanbaatar 43.70 48 *de*P **P 08 50 41.1 -0.5**
ULN pmax pmax
comp=Z,4.0nm,0.8s

SKNT Sakolnakorn 43.74 93 P P 08 50 52.9 +11
comp=Z,7.0nm,1.1s
SBF Sospel 43.88 307 *e*P **P 08 50 43.1 +0.1**
SBF pmax pmax
comp=Z,19nm,1.4s
BFO Black Forest 43.94 313 *e*P **P 08 50 43.0 -0.3**
comp=Z,20nm,1.3s
BFO Black Forest 43.94 313 *i* P **P 08 50 45.0 +1.7**
TNS Taunus Mts 44.27 316 P **P 08 50 48.3 +2.3**
TNS pmax pmax
comp=Z,27nm,1.1s
SENIN Lac Senin/Sane 44.29 310 *e*P **P 08 50 45.3 -1.1**
comp=Z,14nm,0.8s
XAN Xi'an 44.36 68 P **P 08 50 48.2 +1.2**
XAN pP sP 08 50 57.9 +0.5
XAN sP pP 08 51 02.0 +7.6
XAN PP **PP 08 52 30.3 -0.2**
XAN ScS ScS 09 00 45.0 +0.9
XAN pmax pmax
comp=Z,4.0nm,0.5s
XAN pmax pmax
comp=Z,51nm,4.6s
XAN LR LR
comp=Z,340nm,14.1s
XAN LR LR
comp=Z,560nm,16.3s
XAN LR LR
comp=Z,330nm,18.7s
BNI Bardonecchia 44.55 308 *e*P **P 08 50 48.4 0.0**
comp=Z,22nm,1.0s
LPG La Plagne 44.55 309 *e*P **P 08 50 47.6 -1.0**
LPG pmax pmax
comp=Z,24nm,0.9s
LPL La Plagne 44.57 309 *e*P **P 08 50 47.7 -1.0**
LPL pmax pmax
comp=Z,18nm,0.7s
CDF Champ du Feu 44.64 313 *e*P **P 08 50 48.7 -0.4**
CDF pmax pmax
comp=Z,15nm,0.8s
ECH Echery 44.68 313 *e*P **P 08 50 48.5 -0.9**
comp=Z,40nm,0.9s
ECH Echery 44.68 313 P **P 08 50 49.3 0.0**
ECH pmax pmax
comp=Z,42nm,1.0s
HINF Hinteralfeld 44.82 312 *e*P **P 08 50 49.5 -0.9**
HINF pmax pmax
comp=Z,27nm,1.1s
BTO Baotou 45.05 58 *e*P **P 08 50 56.2 +3.8**
ORIF Oris-en-Rattie 45.10 308 *e*P **P 08 50 54.6 +1.8**
ORIF pmax pmax
comp=Z,7.0nm,0.7s
HAU Haudompre 45.18 312 *e*P **P 08 50 53.0 -0.3**
HAU pmax pmax
comp=Z,16nm,0.7s
BUG Bochum--Univer 45.27 317 P P 08 50 58.9 +5.0
BUG pmax pmax
comp=Z,25nm,1.0s
WLF Walferdange 45.60 315 P **P 08 50 57.6 +1.1**
WLF pmax pmax
comp=Z,163nm,1.0s
WLF Walferdange 45.60 315⇑P **P 08 50 57.2 +0.7**
comp=Z,28nm,1.1s
WLF ⇑sP **pP 08 51 04.9 +0.8**
MEM Membach 45.87 316⇑P **P 08 51 00.0 +1.4**
comp=Z,15nm,0.9s
VIVF Saint-Julien-l 45.95 308 *e*P **P 08 50 59.4 0.0**
VIVF pmax pmax
comp=Z,11nm,1.0s
SSB Saint Sauveur 46.08 308 *e*P **P 08 50 59.8 -0.7**
comp=Z,14nm,0.7s
SSB Saint Sauveur 46.08 308 *e*P **P 08 51 00.8 +0.4**
SSB pmax pmax
comp=Z,23nm,0.9s
OPO Ambohidratompo 46.09 194 LR LR 09 07 06.7
comp=Z,232nm,20.3s,baz=199,slow=32
NRIK Noril'sk 46.17 14 P **P 08 51 00.3 -0.4**
comp=Z,5.2nm,0.8s,baz=239,slow=11,SNR=3.6
NRIK LR LR 09 13 39.4
comp=Z,458nm,21.1s,baz=208,slow=40
HHC Hu-ho-hao-te 46.23 58 *e*P **P 08 51 02.6 +0.8**
HHC pP pP 08 51 09.7 +0.4
HHC S **S 08 57 42.2 -4.9**
HHC SS **ScS 09 01 00.5 +4.5**
HHC pmax pmax
comp=Z,79nm,1.0s
HHC pmax pmax
comp=Z,310nm,5.6s
HHC LR LR
comp=Z,690nm,14.3s
HHC LR LR
comp=Z,780nm,15.2s
HHC LR LR
comp=Z,770nm,14.1s
BCLA Clavier 46.28 315⇑P **P 08 51 03.2 +1.3**
comp=Z,20nm,1.1s
NB2 NORSAR Subarra 46.47 331 P **P 08 51 01.9 -1.4**
comp=Z,20nm,1.1s,baz=117,slow=7.9
NB200 NORSAR Array S 46.47 331 *e*P **P 08 51 01.9 -1.4**
NOA NORSAR Array B 46.47 331 P **P 08 51 01.9 -1.4**
comp=Z,3.2nm,0.7s,baz=117,slow=7.8,SNR=18
NOA LR LR 09 13 34.0
comp=Z,204nm,19.1s,baz=130,slow=40
GIVF Givet 46.52 315 *e*P **P 08 51 05.4 +1.6**
GIVF pmax pmax
comp=Z,46nm,1.0s
DOU Dourbes 46.67 315 P **P 08 51 07.7 +2.8**
DOU pmax pmax
comp=Z,35nm,1.3s
DOU Dourbes 46.67 315⇓P **P 08 51 05.8 +0.8**
comp=Z,19nm,1.0s
SMF Signal de Mont 46.70 310 *e*P **P 08 51 04.6 -0.6**
SMF pmax pmax
comp=Z,71nm,0.8s
KEV Kevo 46.73 346 *e*P **P 08 51 07.1 +2.0**
comp=Z,19nm,0.8s
KEV Kevo 46.73 346 P **P 08 51 07.1 +2.0**
KEV pmax pmax
comp=Z,19nm,0.8s
LOR Lormes 46.75 311 P **P 08 51 04.9 -0.8**
LOR pmax pmax
comp=Z,35nm,0.8s
ARA0 ARCESS Array S 46.90 345 *e*P **P 08 51 05.6 -0.8**
ARCES ARCESS Array B 46.90 345 *e*P **P 08 51 08.0 +1.5**
ARCES ARCESS Array B 46.90 345 P **P 08 51 05.6 -0.8**
comp=Z,4.5nm,0.8s,baz=132,slow=7.3,SNR=12
BAIF Baives 46.91 315 *e*P **P 08 51 08.5 +1.7**
BAIF pmax pmax
comp=Z,49nm,1.0s
SNF Seneffe 46.94 315⇑P **P 08 51 08.4 +1.4**
comp=Z,18nm,1.2s
SNF ⇑pP **pP 08 51 12.3 -2.2**
SSF Saint Saulge 46.97 311 *e*P **P 08 51 06.8 -0.5**
SSF pmax pmax
comp=Z,65nm,1.0s
TIY Taiyuan 46.97 62 *e*P P 08 51 14.2 +6.6
TIY pmax pmax
comp=Z,29nm,0.6s
TIY LR LR
comp=Z,310nm,12.2s
TIY LR LR
comp=Z,100nm,5.8s
TIY LR LR
comp=Z,490nm,23.1s
AVF Avril sur Loir 47.05 310 *e*P **P 08 51 07.2 -0.7**
AVF pmax pmax
comp=Z,19nm,0.7s
BGF Bois d'Agland 47.37 310 *e*P **P 08 51 10.0 -0.5**
BGF pmax pmax
comp=Z,39nm,0.9s
TAM Tamanrasset 47.38 277 *e*P **P 08 51 11.4 +0.3**
comp=Z,11nm,0.9s
TAM Tamanrasset 47.38 277 P **P 08 51 11.4 +0.3**
TAM pmax pmax
comp=Z,11nm,0.9s
MTLF Montolieu 47.63 305 *e*P **P 08 51 13.7 +1.1**
MTLF pmax pmax
comp=Z,22nm,1.0s
TCF Toulx Ste Croi 47.79 309 *e*P **P 08 51 13.4 -0.4**
TCF pmax pmax
comp=Z,26nm,0.9s
CAF Calviac 47.80 308 *e*P **P 08 51 13.8 -0.1**
CAF pmax pmax
comp=Z,29nm,0.9s
RJF Les Rejaudoux 48.21 308 *e*P **P 08 51 17.2 +0.2**
RJF pmax pmax
comp=Z,49nm,1.0s

QIZ Qiongzhong 48.29 88 P **P 08 51 15.4 -2.6**
QIZ S **S 08 58 17.4 +0.6**
MFF Saint Martin d 49.43 310 *e*P **P 08 51 25.6 -0.8**
MFF pmax pmax
comp=Z,28nm,1.2s
LDF La Druitiere 49.54 312 *e*P **P 08 51 27.2 0.0**
LDF pmax pmax
comp=Z,23nm,0.9s
ETSF Etsaut 49.66 305 *e*P **P 08 51 28.5 +0.2**
ETSF pmax pmax
comp=Z,25nm,1.0s
FLN La Foliniere 49.79 313 *e*P **P 08 51 29.3 +0.2**
FLN pmax pmax
comp=Z,45nm,1.0s
BOD Bodaibo 49.99 35 *e*P **P 08 51 29.4 -1.0**
BOD pmax pmax
comp=Z,33nm,1.6s
SJPF Ste Jean 50.14 305 *e*P **P 08 51 33.1 +1.2**
SJPF pmax pmax
comp=Z,12nm,0.7s
TIA Tai'an 50.84 64 P P 08 51 44.1 +6.9
TIA pmax pmax
comp=Z,15nm,1.3s
SGMF Saint Gilles 51.14 312 *e*P **P 08 51 39.9 +0.6**
SGMF pmax pmax
comp=Z,30nm,0.9s
QUIF Quistinic 51.54 311 *e*P **P 08 51 42.7 +0.5**
QUIF pmax pmax
comp=Z,33nm,0.9s
HIA Hailar 52.22 47⇓*e*P **P 08 51 44.5 -2.9**
HIA pmax pmax
comp=Z,16nm,0.8s
ESDC Sonseca Array 52.39 301 *e*P **P 08 51 48.1 -0.8**
ESDC Sonseca Array 52.39 301 P **P 08 51 47.9 -1.0**
comp=Z,2.9nm,0.6s,baz=74,slow=7.0,SNR=18
ESDC LR LR 09 16 24.2
comp=Z,91nm,21.4s,baz=115,slow=39
PAB San Pablo 52.70 301 *e*P **P 08 51 51.6 +0.4**
comp=Z,11nm,0.9s
NJ2 Nanjing 52.89 69 *e*P **P 08 51 52.6 0.0**
NJ2 pmax pmax
comp=Z,11nm,0.7s
TOA0 Torodi Ar. Sit 54.05 267 *e*P **P 08 52 00.6 -0.7**
comp=Z,14nm,0.7s
TORD Torodi Ar. Bea 54.05 267 *e*P **P 08 51 59.3 -2.0**
TORD Torodi Ar. Bea 54.05 267 P **P 08 51 59.7 -1.6**
comp=Z,5.8nm,0.6s,baz=38,slow=6.3,SNR=43
TORD LR LR 09 19 11.4
comp=Z,214nm,19.3s,baz=0.0,slow=41
TOA1 Torodi Ar. Sit 54.06 267 *e*P **P 08 51 59.7 -1.6**
PBRG Braganca 54.29 304 *e*P **P 08 52 03.8 +1.0**
comp=Z,23nm,1.4s
MVO Moncorvo 54.57 303 *e*P **P 08 52 05.9 +1.1**
comp=Z,31nm,1.3s
PMRV Marv??o 55.05 301 *e*P **P 08 52 09.3 +1.0**
comp=Z,16nm,1.1s
PCBR Castelo Branco 55.07 301 *e*P **P 08 52 08.9 +0.6**
comp=Z,34nm,1.2s
POLO Lamas de Olo 55.12 303 *e*P **P 08 52 09.8 +0.9**
comp=Z,23nm,1.4s
PGAV Gavieira, Arco 55.41 304 *e*P **P 08 52 12.3 +1.4**
comp=Z,43nm,1.2s
PBEJ Beja 55.62 299 *e*P **P 08 52 13.7 +1.3**
comp=Z,20nm,1.5s
EVO Evora 55.66 300 *e*P **P 08 52 13.7 +1.1**
comp=Z,25nm,2.0s
PCAS Casmilo, Conde 55.82 302 *e*P **P 08 52 16.3 +2.5**
PCVE Castro Verde 55.82 299 *e*P **P 08 52 14.2 +0.4**
comp=Z,42nm,1.5s
PNCL Nicolau / Gran 56.12 300 *e*P **P 08 52 16.5 +0.5**
comp=Z,41nm,1.4s
ZEA Zeya 56.96 42 *e*P **P 08 52 26.0 +4.3**
YAK Yakutsk 58.38 32 *e*P **P 08 52 30.1 -1.4**
YAK *e**PP **pP 08 52 37.7 -1.4**
YAK *e* 08 53 19.1
YAK *e* 08 54 37.2
YAK *e*S **S 09 00 26.9 -5.8**
YAK *e**SS **sS 09 00 46.7 +1.4**
YAK *e* 09 02 18.4
YAK pmax pmax
comp=Z,71nm,0.9s
YAK pmax pmax
comp=E,26nm,0.9s
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=Z,448nm,3.6s
YAK pmax pmax
comp=N,225nm,2.9s
YAK pmax pmax
comp=E,299nm,3.5s
YAK smax smax
comp=E,421nm,2.7s
YAK smax smax
comp=N,214nm,2.5s
YAK MLR MLR
comp=Z,1μm,12.0s
YAK MLR MLR
comp=E,1μm,11.0s
YAK MLR MLR
comp=N,589nm,12.0s
TIXI Tiksi 59.02 20⇓*e*P **P 08 52 34.1 -1.7**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
KSRS Korea Array 59.20 61 P **P 08 52 36.3 -1.3**
comp=Z,1.8nm,0.6s,baz=280,slow=6.9,SNR=8.4
KLR Kul'dur 60.08 47⇑*e*P **P 08 52 43.1 -0.4**
KLR pmax pmax
comp=Z,3.0nm,1.1s
USRK Ussuriysk Ar. 60.98 52 P **P 08 52 48.8 -0.9**
comp=Z,1.0nm,0.6s,baz=268,slow=8.7,SNR=2.2
USRK LR LR 09 23 25.8
comp=Z,128nm,19.8s,baz=282,slow=40
DAG Danmarks Havn 61.19 345⇑*i*P **P 08 52 50.0 -0.6**
DAG pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 61.19 345⇑*i*P **P 08 52 50.0 -0.6**
comp=Z,8.2nm,0.8s
DBIC Dimbokro 62.62 264 P **P 08 53 01.4 +0.2**
comp=Z,4.3nm,0.7s,baz=25,slow=7.9,SNR=5.6
DBIC LR LR 09 21 03.9
comp=Z,210nm,18.7s,baz=40,slow=37
BOSA Boshof 63.18 212 P **P 08 53 05.4 +0.7**
comp=Z,3.0nm,0.9s,baz=22,slow=5.9,SNR=4.0
BOSA LR LR 09 24 42.3
comp=Z,129nm,18.1s,baz=32,slow=40
SUMG Summit 66.70 341 *e*P **P 08 53 27.5 +0.1**
comp=Z,18nm,0.9s
SUMG Summit 66.70 341 *e*P **P 08 53 27.5 +0.1**
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 66.70 341 *i* P **P 08 53 28.0 +0.6**
comp=Z,27nm,0.7s
MAJO Matsushiro 67.39 59 *e*P **P 08 53 31.8 -0.2**
MAJO Matsushiro 67.39 59 *e*P **P 08 53 31.8 -0.2**
MJAR Matsushiro Arr 67.40 59 P **P 08 53 31.8 -0.2**
comp=Z,1.1nm,0.8s,baz=281,slow=6.9,SNR=3.3
YSS Yuzh-Sakhalins 67.75 47 *e*P **P 08 53 33.1 -0.9**
YSS *e* 08 53 38.9
YSS MLR MLR
comp=Z,400nm,15.0s
SEY Seymchan 68.68 29⇑*i*P **P 08 53 39.9 +0.4**
MA2 Magadan 68.90 33 *e*P **P 08 53 40.1 -0.8**
comp=Z,9.5nm,1.1s
MA2 Magadan 68.90 33⇓*e*P **P 08 53 41.0 0.0**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
TULEG Thule 72.05 349 *e*P **P 08 53 59.7 -0.2**
comp=Z,16nm,0.8s
BILL Bilibino 72.17 22 *i* P **P 08 54 00.9 +0.1**
BILL *i* 08 54 19.0
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,257nm,16.0s
PEA1 Petropavlovsk- 74.76 38 *e*P **P 08 54 16.9 +0.6**
PETK Petropavlovsk- 74.76 38 P **P 08 54 17.0 +0.7**
PETK pmax pmax
comp=Z,4.0nm,0.9s
PETK Petropavlovsk- 74.76 38 P **P 08 54 16.9 +0.7**
comp=Z,3.9nm,0.9s,baz=307,slow=11,SNR=4.3
RES Resolute Bay 77.39 353 LR LR 09 33 31.5
comp=Z,195nm,20.5s,baz=354,slow=40
FITZ Fitzroy Crossi 79.42 116 P **P 08 54 41.6 -1.3**
comp=Z,2.9nm,0.9s,baz=260,slow=11,SNR=2.2
FRB Frobisher Bay 80.61 339 LR LR 09 33 19.5

comp=Z,92nm,19.2s,baz=25,slow=38
GUMO Guam 81.45 79 LR LR 09 33 01.6
comp=Z,55nm,21.5s,baz=294,slow=37
IMAR Indian Mountai 84.58 12 eP P 08 55 09.5 +0.2
BMAR Burnt Mountain 84.75 8 eP P 08 55 11.4 +1.2
JAY Jayapura 84.77 95 LR LR 09 36 57.5
comp=Z,58nm,18.6s,baz=280,slow=38
INK Inuvik 84.99 4 eP P 08 55 11.2 -0.1
comp=Z,10nm,1.3s
INK Inuvik 84.99 4 eP P 08 55 11.2 -0.1
INK pmax pmax
comp=Z,10.0nm,1.3s
SCHQ Schefferville 86.04 331 LR LR 09 36 43.2
comp=Z,71nm,18.4s,baz=330,slow=38
EPYK Eagle Plains 86.64 6 eP P 08 55 21.0 +1.3
comp=Z,9.7nm,1.0s
BPAW Bear Paw Mtn. 86.80 12 eP P 08 55 20.6 +0.1
comp=Z,28nm,1.3s
ILAR Eielson Array 86.90 10 eP P 08 55 22.8 +1.9
ILAR Eielson Array 86.90 10 P P 08 55 21.2 +0.3
comp=Z,0.8nm,0.6s,baz=322,slow=4.5,SNR=14
ILAR LR LR 09 37 28.2
comp=Z,128nm,21.9s,baz=335,slow=38
HDA Harding Lake 87.23 10 eP P 08 55 24.2 +1.7
comp=Z,4.9nm,0.8s
WRA Warramunga Arr 87.42 114 P P 08 55 23.9 -0.3
comp=Z,2.0nm,0.9s,baz=317,slow=4.1,SNR=7.3
WR1 Warramunga Arr 87.42 114 eP P 08 55 23.9 -0.3
MCK McKinley 87.51 12 eP P 08 55 25.8 +1.9
comp=Z,21nm,1.3s
MCK McKinley 87.51 12 eP P 08 55 25.8 +1.9
MCK pmax pmax
comp=Z,21nm,1.3s
EGAK Eagle 87.71 8 eP P 08 55 27.1 +2.3
comp=Z,12nm,0.9s
RND Reindeer 87.83 12 eP P 08 55 28.3 +2.8
comp=Z,24nm,1.6s
RND Reindeer 87.83 12 P P 08 55 28.9 +3.4
RND pmax pmax
comp=Z,24nm,1.6s
SCRK Sand Creek 88.09 9 eP P 08 55 26.8 0.0
comp=Z,11nm,1.0s
ASAR Alice Springs 88.90 117 eP P 08 55 32.3 +1.2
ASAR Alice Springs 88.90 117 eP P 08 55 32.3 +1.2
ASAR Alice Springs 88.90 117 P P 08 55 30.9 -0.3
comp=Z,1.7nm,0.8s,baz=305,slow=4.7,SNR=11
ASAR LR LR 09 38 34.6
comp=Z,56nm,18.0s,baz=270,slow=38
BCAR Beaver Creek A 89.27 9 eP P 08 55 31.8 -0.5
YKA Yellowknife Ar 90.99 356 eP P 08 55 42.3 +2.1
YKA Yellowknife Ar 90.99 356 P P 08 55 39.8 -0.4
comp=Z,0.5nm,0.7s,baz=0.7,slow=4.6,SNR=6.1
YKA LR LR 09 43 07.2
comp=Z,8.4nm,18.9s,baz=1.0,slow=40
YKB5 Yellowknife Ar 90.99 356 eP P 08 55 39.8 -0.4
STKA Stephens Creek 98.73 121 LR LR 09 38 07.5
comp=Z,138nm,21.6s,baz=234,slow=34
ULM Lac du Bonnet 99.99 343 LR LR 09 44 55.5
comp=Z,101nm,18.2s,baz=66,slow=37
ACON Acoyapa 127.41 312 ePKPdf PKPdf 09 01 39.0 -3.0

*ISCJB **11** 08:51:55.9±0.4,36°.06N±0°.05×71°.27E±0°.06,h100km, mb3.6/8,Error ellipse: s-maj=8.6km s-min=4.8km az=139.8*
*IDC **11** 08:51:56.5±3.3,36°.13N×71°.22E,h75km±28km,mb3.5/8, mb1 3.6/13,mb1mx3.3/50,mbtmp3.7/13,MS3.9/1, Ms1 3.9/1,ms1mx3.0/33,Error ellipse: s-maj=25.7km s-min=18.6km az=154.0*
*NNC **11** 08:51:59.2±3.1,36°.70N×70°.79E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=29.8km s-min=14.3km az=151.0*
ISC 11 08:51:58.1±0.7,36°.22N±0°.07×71°.19E±0°.06,h100km,n32, σ2§62/39,mb3.6/8,7C-5D,Afghanistan-Tajikistan border region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KK31 Karatay Array 6.90 356 ⇓P Pn 08 53 37.4 +0.9
4.6nm,0.2s,baz=180,slow=11,SNR=162
KK31 ⇑S Sn 08 54 51.4 -2.0
12nm,0.5s,baz=186,slow=24,SNR=10
AAK Ala-Archa 6.90 21 ⇓P Pn 08 53 37.5 +0.8
3.7nm,0.5s
AAK ⇑S Sn 08 54 52.1 -1.6
8.7nm,0.7s
AAK Ala-Archa 6.90 21 P Pn 08 53 37.5 +0.8
1.5nm,0.3s,baz=130,slow=2.4,SNR=6.7
AAK S Sn 08 54 51.5 -2.2
1.0nm,0.3s,baz=330,slow=20,SNR=3.7
TKM2 Tokmak 2 7.51 26 ⇑P Pn 08 53 46.7 +1.7
2.9nm,0.5s
TKM2 ⇑S Sn 08 55 09.3 +0.8
3.5nm,0.8s
GEYT Alibeck 10.59 283 P Pn 08 54 26.4 -0.3
0.7nm,0.3s,baz=116,slow=9.8,SNR=3.5
GEYT S Sn 08 56 20.4 -2.9
3.3nm,0.3s,baz=10,slow=27,SNR=7.2
GYA0B ALIBECK ARRAY 10.59 283 ⇑P Pn 08 54 25.7 -1.1
GYA0B ⇓S Sn 08 56 20.5 -2.8
PYUN Piuthan 12.85 126 eP Pn 08 54 53.0 -4.2
25nm,0.3s
DANN Dangsing 13.20 123 eP Pn 08 54 58.8 -3.1
25nm,0.4s
MKAR Makanchi Array 13.43 35 P Pn 08 55 05.5 +1.0
0.0nm,0.3s,baz=224,slow=10,SNR=3.0
KOLN Koldanda 13.47 125 eP Pn 08 55 01.6 -3.7
12nm,0.5s
GKN Gorkha 14.02 122 eP Pn 08 55 09.2 -3.2
15nm,0.2s
DMN Daman 14.59 122 eP Pn 08 55 16.3 -3.5
17nm,0.7s
KKN Kakani 14.60 121 eP Pn 08 55 16.5 -3.4
30nm,0.6s
PKIN Phulchoki 14.81 122 eP Pn 08 55 19.7 -3.0
20nm,0.7s
PKI Pulchoki 14.82 122 eP Pn 08 55 19.9 -3.0
20nm,0.7s
JIRN Jiri 15.31 120 eP Pn 08 55 25.8 -3.3
62nm,0.6s
KURBB Kurchatov Arra 15.34 18 P P 08 55 30.4 -1.0
0.1nm,0.3s,baz=206,slow=10,SNR=4.7
AB31 Akbulak array 15.41 331 ⇓P Pn 08 55 29.6 -0.1
0.7nm,0.3s,baz=140,slow=13,SNR=74
AB31 ⇑S Sn 08 58 13.9 -5.9
1.9nm,0.5s,baz=152,slow=23,SNR=11
RAMN Ramite 16.04 121 eP Pn 08 55 34.3 -3.7
7.6nm,0.3s
BVAR Borovoye Array 16.82 358 P P 08 55 48.7 +1.0
0.2nm,0.3s,baz=158,slow=11,SNR=4.1
AKTO Aktyubinsk 17.10 330 ⇓P P 08 55 53.9 +3.0
3.8nm,0.7s
AKTO ⇑S Sn 08 58 56.8 -3.9
3.8nm,0.6s
AKTO Aktyubinsk 17.10 330 P P 08 55 52.8 +1.9
0.9nm,0.3s,baz=135,slow=7.6,SNR=13
AKASG Malin Array Be 33.24 309 P P 08 58 27.0 +1.5
0.4nm,0.4s,baz=83,slow=7.1,SNR=3.2
FINES FINESS Array B 37.80 326 P P 08 59 06.6 +2.3
0.5nm,0.5s,baz=107,slow=7.7,SNR=4.4
ARCES ARCESS Array B 41.47 338 P P 08 59 36.9 +2.3
0.9nm,0.6s,baz=105,slow=6.8,SNR=6.5
NB2 NORSAR Subarra 44.70 323 P P 09 00 02.5 +1.7
comp=Z,0.4nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 44.70 323 P P 09 00 02.5 +1.7
comp=Z,0.4nm,0.5s,baz=96,slow=7.6,SNR=4.4
DAV Davao City (W) 57.37 107 LR LR 09 25 21.1
comp=Z,97nm,19.4s,baz=299,slow=35
TORD Torodi Ar. Bea 65.87 269 P P 09 02 32.7 -0.6
comp=Z,0.2nm,0.3s,baz=62,slow=6.1,SNR=4.2
BOSA Boshof 77.63 220 P P 09 03 46.0 +2.5
comp=Z,2.3nm,0.8s,baz=60,slow=4.7,SNR=3.0
YKA Yellowknife Ar 81.52 3 P P 09 04 05.3 +1.3
comp=Z,0.4nm,0.4s,baz=349,slow=5.5,SNR=13
WRA Warramunga Arr 81.71 122 P P 09 04 05.8 +0.2
comp=Z,0.7nm,1.0s,baz=328,slow=5.4,SNR=4.2

IDC 11 08:55:30.9±2.8,54°.21N×87°.28E,h0km,mb1 3.1/2, mb1mx2.9/40,mbtmp3.1/2,ML2.7/2,Error ellipse: s-maj=22.8km s-min=16.4km az=57.0,Southwestern Siberia
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.47 261 *i* 09 05 06.3
baz=83,slow=336,SNR=5.5
ZALV Zalesovo Beam 1.48 261 Pg Pn 08 55 56.8 -2.0
3.5nm,0.3s,baz=79,slow=15,SNR=30
ZALV Lg Lg 08 56 18.0
2.9nm,0.3s,baz=74,slow=26,SNR=11
KURBB Kurchatov Arra 6.44 240 Pn Pn 08 57 07.8 +0.8
0.1nm,0.3s,baz=55,slow=14,SNR=7.0
KURBB Sn Sn 08 58 20.4 -0.8
0.0nm,0.3s,baz=56,slow=20,SNR=2.7
KURBB Lg Lg 08 58 55.8
0.1nm,0.3s,baz=53,slow=34,SNR=4.6
MKAR Makanchi Array 8.07 205 Pn Pn 08 57 30.6 +1.2
0.2nm,0.3s,baz=28,slow=14,SNR=9.0
MKAR Sn Sn 08 59 01.1 -0.3
0.1nm,0.3s,baz=30,slow=27,SNR=3.3
MKAR Lg Lg 08 59 47.0
0.1nm,0.3s,baz=20,slow=28,SNR=3.0

IDC 11 08:57:12.5±2.1,54°.05N×87°.18E,h0km,mb1 3.2/4, mb1mx3.0/41,mbtmp3.2/4,ML3.1/4,Error ellipse: s-maj=18.6km s-min=14.3km az=49.0,Southwestern Siberia
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.40 267 *i* 09 06 44.5
baz=81,slow=342
ZALV Zalesovo Beam 1.40 267 Pg Pn 08 57 37.6 -1.6
4.7nm,0.3s,baz=83,slow=16,SNR=16
ZALV Lg Lg 08 57 58.0
3.8nm,0.3s,baz=78,slow=24,SNR=7.9
KURBB Kurchatov Arra 6.31 241 Pn Pn 08 58 47.2 +0.4
0.2nm,0.3s,baz=54,slow=14,SNR=6.0
KURBB Sn Sn 08 59 59.4 -0.2
0.1nm,0.3s,baz=49,slow=21,SNR=2.8
KURBB Lg Lg 09 00 33.1
0.0nm,0.3s,baz=51,slow=32,SNR=2.7
MKAR Makanchi Array 7.91 205 Pn Pn 08 59 09.7 +1.0
0.2nm,0.3s,baz=27,slow=14,SNR=5.0
MKAR Sn Sn 09 00 37.0 -1.8
0.1nm,0.3s,baz=19,slow=37,SNR=2.5
MKAR Lg Lg 09 01 23.8
0.2nm,0.3s,baz=357,slow=21,SNR=3.6
BVAR Borovoye Array 10.05 271 Pn Pn 08 59 38.4 +0.4
0.2nm,0.3s,baz=63,slow=13,SNR=2.7
BVAR Sn Sn 09 01 25.0 -6.3
0.2nm,0.3s,baz=75,slow=28,SNR=2.9
SONM Songino Array 13.60 109 Pn Pn 09 00 27.3 +0.7
0.2nm,0.3s,baz=330,slow=2.3,SNR=3.1

MAN 11 09:08:30.3,6°.82N×123°.70E,h3km,mb3.9,ML2.6,MS2.2, 1D,Mindanao
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CTBH Cotabato--PC H 0.67 54 ⇓*i*P Pg 09 08 43.8 +0.6
CTBH *i* S Sg 09 08 51.4 -0.6
SKMP Bagumbayan, Su 0.89 110 eP Pg 09 08 47.8 +0.3
SKMP eS Sg 09 08 58.7 -0.3
PAGZ Pagadian 1.07 343 eP Pb 09 08 51.7 +0.3
PAGZ eS Sg 09 08 52.5 -12
IPIL Ipil 1.48 311 eP Pn 09 08 57.3 -0.5
IPIL eS Sg 09 09 18.2 +0.5
BUKP Musuan 1.71 52 eP Pn 09 09 01.6 +0.5
BUKP eS Sn 09 09 23.5 0.0
DDMP Don Marcelino, 2.12 110 eP Pn 09 09 04.8 -1.9
DDMP eS Sb 09 09 36.4 +0.2

*WEL **11** 09:19:47.7,36°S±12°×17°8E±°,h209km±9km*
*ISCJB **11** 09:19:50.0±0.5,36°.13S±0°.04×178°.33E±0°.07,h226km±4km, mb4.0/7,Error ellipse: s-maj=9.1km s-min=7.1km az=14.8*
*NEIC **11** 09:19:49.0±2.9,36°.09S×178°.30E,h218km±10km,mb4.3/3, ML4.2(WEL),Error ellipse: s-maj=25.2km s-min=21.8km az=146.0*
*IDC **11** 09:19:52.2±1.6,36°.65S×178°.56E,h249km±18km,mb3.8/5, mb1 4.0/6,mb1mx3.5/36,mbtmp4.3/6,Error ellipse: s-maj=43.8km s-min=23.1km az=164.0*
ISC 11 09:19:50.0±0.9,36°.02S±0°.06×178°.23E±0°.07,h218km±6km, n144,σ1§61/155,mb4.0/7,Off east coast of North Island
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MXZ Matakaoa Point 1.54 178 ePn Pn 09 20 24.2 -1.4
MXZ eS S 09 20 50.9 -2.6
MXZ Matakaoa Point 1.54 178 P Pn 09 20 24.4 -1.2
MXZ S S 09 20 51.4 -2.0
WIZ White Island 1.71 209 P Pn 09 20 26.5 -0.7
HAZ Te Kaha 1.77 191 P Pn 09 20 26.7 -0.9
HAZ S S 09 20 55.6 -1.4
WMGZ Waiomatatini S 1.80 175 P Pn 09 20 27.7 -0.2
WMGZ S S 09 20 57.2 -0.3
PKGZ Pakihiroa 1.86 184 P Pn 09 20 28.2 -0.4
RUGZ Raukumara Rang 1.99 193 P Pn 09 20 29.1 -0.8
MYRZ Mayor Island 2.03 231 P Pn 09 20 29.9 -0.3
PUZ Puketiti 2.04 179 P Pn 09 20 29.9 -0.5
PUZ S S 09 21 00.7 -1.1
WHRZ Whale Island 2.08 208 P Pn 09 20 32.1 +1.4
KUZ Kuaotunu 2.15 250 P Pn 09 20 29.7 -1.6
TWGZ Tauwhareparae 2.16 185 P Pn 09 20 31.8 +0.3
GRZ Great Barrier 2.25 263 P Pn 09 20 29.7 -2.7
OPRZ Ohinepanea 2.26 216 P Pn 09 20 32.7 +0.3
MARZ Manawahe 2.32 212 P Pn 09 20 34.8 +1.7
TGRZ Tauranga 2.32 222 P Pn 09 20 33.2 +0.2
MWZ Matawai 2.37 193 P Pn 09 20 34.1 +0.4
EDRZ Edgecumbe 2.40 209 P Pn 09 20 35.0 +1.0
URZ Urewera 2.40 201 ePn Pn 09 20 34.2 +0.3
URZ eS S 09 21 08.8 +0.6
URZ Urewera 2.40 201 P Pn 09 20 34.0 +0.1
53nm,0.3s,baz=108,slow=9.6,SNR=873
URZ S S 09 21 08.0 -0.3
106nm,0.3s,baz=90,slow=20,SNR=13
URZ Urewera 2.40 201 P Pn 09 20 33.7 -0.2
TKGZ Te Karaka 2.43 187 P Pn 09 20 34.3 +0.1
CNGZ Carnagh Statio 2.46 180 P Pn 09 20 34.8 +0.3
LIRZ Lichensteins R 2.46 216 P Pn 09 20 36.9 +2.3
MKRZ Makatiti 2.54 213 P Pn 09 20 37.4 +1.9
KARZ Kaharoa 2.55 218 P Pn 09 20 36.6 +1.1
RAGZ Rawiri 2.55 194 P Pn 09 20 36.4 +0.7
OMRZ Omania 2.55 215 P Pn 09 20 37.0 +1.4
KMRZ Kaimai 2.58 224 P Pn 09 20 36.7 +0.8
TARZ Mount Tarawera 2.60 211 P Pn 09 20 38.3 +2.1
WIAZ Waiheke Island 2.61 252 P Pn 09 20 35.1 -1.1
NGRZ Ngongotaha 2.64 218 P Pn 09 20 38.1 +1.5
HLRZ Highlands Stat 2.68 213 P Pn 09 20 38.3 +1.3
RRRZ Republican Roa 2.69 210 P Pn 09 20 38.4 +1.3
MKAZ Moumakai 2.69 245 P Pn 09 20 36.8 -0.3
UTU Utuhina 2.69 216 P Pn 09 20 39.2 +2.0
RIGZ Rimuhau 2.70 188 P Pn 09 20 37.3 0.0
MUGZ Murupara 2.71 205 P Pn 09 20 37.8 +0.5
TOZ Tahuroa Road 2.77 231 P Pn 09 20 38.8 +0.8
RTZ Ruatahuna 2.77 201 P Pn 09 20 37.9 -0.1
HSRZ Hossack Road 2.78 214 P Pn 09 20 39.9 +1.8
MBAZ Motutapu North 2.79 254 P Pn 09 20 37.3 -0.8
ABAZ Army Bay 2.80 257 P Pn 09 20 37.3 -1.0
ETAZ East Tamaki Re 2.81 250 P Pn 09 20 38.1 -0.3
HRRZ Handcock Road 2.83 213 P Pn 09 20 40.2 +1.6
SNGZ Shannon Statio 2.84 194 P Pn 09 20 39.3 +0.5
GRRZ Galatos Road 2.87 215 P Pn 09 20 41.7 +2.5
PRRZ Plateau Road 2.87 210 P Pn 09 20 40.2 +1.1
KBAZ Karaka Road Bo 2.89 247 P Pn 09 20 39.6 +0.3
PRGZ Paritu Road 2.91 185 P Pn 09 20 40.2 +0.7
EPAZ Eden Park BICE 2.93 252 P Pn 09 20 39.7 -0.1
ALRZ Allen Road 2.94 210 P Pn 09 20 41.0 +1.1
WPRZ Whakapapatarin 2.99 213 P Pn 09 20 42.3 +1.9
KNZ Kokohu 3.02 188 P Pn 09 20 40.8 0.0
RAHZ Arahi 3.03 197 P Pn 09 20 41.4 +0.5
MTHZ Maungataniwha 3.03 201 P Pn 09 20 41.0 +0.1
WTAZ Waiatarua 3.08 252 P Pn 09 20 41.4 -0.2
KUTZ Kaahu Road 3.12 217 P Pn 09 20 44.4 +2.4
MHGZ Mahia Peninsul 3.13 185 P Pn 09 20 42.4 +0.4
TLZ Tolley Road 3.15 222 P Pn 09 20 44.1 +1.9
WCZ Waipu Caves 3.15 270 P Pn 09 20 40.0 -2.3
WHHZ Waihua 3.15 194 P Pn 09 20 43.0 +0.8
MRHZ Matea Rd 3.15 207 P Pn 09 20 43.0 +0.6
WHTZ Whakaora 3.20 214 P Pn 09 20 45.2 +2.3
NMHZ Naumai 3.27 200 P Pn 09 20 44.5 +0.8
HATZ Hinemaiaia 3.33 210 P Pn 09 20 45.4 +1.0
WATZ Wairara 3.33 216 P Pn 09 20 46.5 +2.1
ARHZ Aropaoanui 3.38 196 P Pn 09 20 45.5 +0.5
BKZ Black Stump Fm 3.42 203 ePn Pn 09 20 45.9 +0.3
BKZ eS S 09 21 30.9 +1.8
BKZ Black Stump Fm 3.42 203 P Pn 09 20 45.5 0.0
RATZ Rangitukua 3.44 214 P Pn 09 20 47.4 +1.6
RITZ Rihia Road 3.50 212 P Pn 09 20 47.9 +1.6
KATZ Kakaramea 3.57 214 P Pn 09 20 48.6 +1.2
MCHZ McNeill Hill 3.62 199 P Pn 09 20 48.3 +0.4
HIZ Hauiti 3.66 226 ePn Pn 09 20 50.6 +2.3
HIZ Hauiti 3.66 226 P Pn 09 20 50.7 +2.4
KWHZ Kaweka Forest 3.68 202 P Pn 09 20 48.8 +0.2
OTVZ Oturere 3.74 212 P Pn 09 20 50.3 +0.9
CKHZ Cape Kidnapper 3.74 194 P Pn 09 20 49.2 -0.1
OUZ Omahuta 3.85 281 ePn Pn 09 20 48.1 -2.5
FWVZ Far West T-bar 3.86 213 P Pn 09 20 51.9 +1.0
BHHZ Black Hill Sta 3.86 206 P Pn 09 20 50.6 -0.1
TRVZ Turoa 3.90 212 P Pn 09 20 51.9 +0.5
MOVZ Moawhango 3.91 209 P Pn 09 20 51.2 -0.1
PKVZ Pokaka 3.98 214 P Pn 09 20 53.1 +0.8
VRZ Vera Road 4.14 221 P Pn 09 20 56.8 +2.6
WPHZ Waipukurau 4.27 199 P Pn 09 20 55.5 -0.3
TSZ Takapari Road 4.41 203 P Pn 09 20 56.5 -0.9
PRHZ Porangahau 4.42 196 P Pn 09 20 57.2 -0.3
WAZ Wanganui 4.52 214 P Pn 09 20 59.6 +0.8
DVHZ Dannevirke 4.57 200 P Pn 09 20 58.5 -0.8
LREZ Lake Rotokare 4.58 220 P Pn 09 21 01.8 +2.3
PKE Pukeiti 4.62 225 P Pn 09 21 02.8 +2.8
ANWZ Angora Road 4.64 197 P Pn 09 20 59.9 -0.3
NBEZ Newall Road No 4.74 226 P Pn 09 21 04.7 +3.2
OHWZ Ohakea 4.76 208 P Pn 09 21 02.2 +0.4
POWZ Post Office Ro 4.77 203 P Pn 09 21 01.3 -0.6
NMEZ Namu Road 4.83 224 P Pn 09 21 05.1 +2.4
PRWZ Pori Road 4.86 201 P Pn 09 21 02.6 -0.4
BFZ Birch Farm 4.90 198 ePn Pn 09 21 02.8 -0.8
BFZ Birch Farm 4.90 198 P Pn 09 21 02.7 -0.8
MRZ Mangatainoka R 5.08 203 P Pn 09 21 04.3 -1.5
TIWZ Tintock 5.09 200 P Pn 09 21 05.2 -0.7
HOWZ Holdsworth Sta 5.31 203 P Pn 09 21 07.1 -1.6
TMWZ Te Maipa 5.39 199 P Pn 09 21 08.7 -1.1
TRWZ Traveller 5.72 200 P Pn 09 21 12.4 -1.5
SNZO South Karori 5.95 206 ePn Pn 09 21 15.2 -1.6
SNZO eS S 09 22 24.4 -1.3
TCW Tory Channel 6.03 210 P Pn 09 21 16.4 -1.4
TUWZ Tuamarina 6.35 211 P Pn 09 21 20.1 -1.8
NNZ Nelson 6.42 215 P Pn 09 21 21.1 -1.7
BSWZ Blackbirch Sta 6.62 210 P Pn 09 21 23.7 -1.6
THZ Tophouse 7.07 214 ePn Pn 09 21 29.6 -1.7
THZ eS S 09 22 52.6 +0.6
THZ Tophouse 7.07 214 P Pn 09 21 29.5 -1.7
KHZ Kahutara 7.35 208 ePn Pn 09 21 32.6 -2.1
KHZ eS S 09 22 55.3 -2.9
KHZ Kahutara 7.35 208 P Pn 09 21 32.8 -1.9
DSZ Denniston Nort 7.59 219 P Pn 09 21 37.9 0.0
LTZ Lake Taylor 8.17 213 ePn Pn 09 21 41.9 -3.4
LTZ eS S 09 23 16.3 -1.4
LTZ Lake Taylor 8.17 213 P Pn 09 21 43.3 -2.1
OKCZ Okains Bay 8.65 206 P Pn 09 21 50.7 -0.8
CRLZ Canterbury Las 8.68 208 ePn Pn 09 21 49.7 -2.2
CRLZ Canterbury Las 8.68 208 P Pn 09 21 50.2 -1.7
OXZ Oxford 8.71 211 ePn Pn 09 21 50.0 -2.3
OXZ Oxford 8.71 211 P Pn 09 21 49.7 -2.6
MQZ McQueen's Vall 8.79 207 ePn Pn 09 21 50.3 -2.9
MQZ McQueen's Vall 8.79 207 P Pn 09 21 50.5 -2.7
RPZ Rata Peaks 9.45 213 ePn Pn 09 22 00.8 -1.1
RPZ Rata Peaks 9.45 213 P Pn 09 21 59.9 -1.9
2.7nm,0.3s,baz=358,slow=18,SNR=20
RPZ S S 09 23 41.2 -6.8
7.8nm,0.3s,baz=120,slow=19,SNR=11
RPZ Rata Peaks 9.45 213 P Pn 09 22 00.7 -1.1
ODZ Otahua Downs 10.69 210 eS S 09 24 13.8 -3.5
AS31 Alice Springs 40.05 275 eP P 09 27 07.2 +3.1
1.0nm,0.5s
ASAR Alice Springs 40.05 275 P P 09 27 07.2 +3.0
1.7nm,0.5s,baz=116,slow=8.0,SNR=57
WB2 Warramunga Arr 41.56 281 eP P 09 27 19.1 +2.6
10nm,0.4s
WR1 Warramunga Arr 41.57 281 eP P 09 27 19.0 +2.5
WRA Warramunga Arr 41.57 281 P P 09 27 19.0 +2.5
4.3nm,0.4s,baz=117,slow=7.8,SNR=131
FITZ Fitzroy Crossi 49.51 277 eP P 09 28 17.2 -1.5
23nm,1.6s
FITZ Fitzroy Crossi 49.51 277 P P 09 28 19.1 +0.4
3.2nm,1.0s,baz=128,slow=10,SNR=3.2
PETK Petropavlovsk- 90.54 348 P P 09 32 27.0 +0.4
2.6nm,0.8s,baz=99,slow=9.2,SNR=3.7
PEA1 Petropavlovsk- 90.55 348 eP P 09 32 27.0 +0.4
NV01 Mina Array Sit 94.48 45 eP P 09 32 45.8 +0.4
NVAR Mina Array Bea 94.48 45 P P 09 32 45.8 +0.4
0.9nm,1.0s,baz=229,slow=4.2,SNR=5.8
ARA0 ARCESS Array S 143.28 344 ePKPdf PKPbc 09 38 55.6 +0.8
ARCES ARCESS Array B 143.28 344 PKP PKPbc 09 38 55.6 +0.8
0.7nm,0.7s,baz=32,slow=3.7,SNR=4.9
FIA0 FINESS Array S 149.08 334 ePKPbc PKPbc 09 39 11.5 +0.1
FINES FINESS Array B 149.08 334 PKPbc PKPbc 09 39 11.5 +0.1
1.3nm,0.5s,baz=49,slow=4.6,SNR=13

IDC 11 09:47:51.4±8.1,20°.90S×178°.06W,h510km±92km, mb2.9/4,mb1 3.2/5,mb1mx2.9/28,mbtmp3.9/5,Error ellipse: s-maj=53.5km s-min=32.9km az=7.0,Fiji Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 17.80 193 P P 09 51 29.0 -0.2
0.2nm,0.3s,baz=343,slow=18,SNR=2.6
ASAR Alice Springs 44.37 257 P P 09 55 16.4 +0.1
1.2nm,0.8s,baz=89,slow=8.3,SNR=22
ASAR PcP PcP 09 56 49.7 +0.3
0.3nm,0.6s,baz=95,slow=3.6,SNR=4.5
WRA Warramunga Arr 44.49 262 P P 09 55 16.9 -0.4
0.4nm,0.3s,baz=96,slow=6.8,SNR=22
FITZ Fitzroy Crossi 52.92 263 P P 09 56 19.7 -0.2
0.9nm,0.7s,baz=60,slow=8.1,SNR=2.6
ILAR Eielson Array 88.72 13 P P 09 59 50.1 +0.5
0.2nm,0.5s,baz=225,slow=4.7,SNR=3.7
AKASG Malin Array Be 143.33 331 PKP PKPab 10 06 25.1 -0.1
1.1nm,0.4s,baz=43,slow=4.2,SNR=6.6

*ISCJB **11** 10:03:01.8±0.2,26°.65N±0°.02×57°.80E±0°.02,h10km, mb4.7/165,MS3.9/30,Error ellipse: s-maj=2.6km s-min=2.6km az=39.0*
*DSN **11** 10:03:01.9±3.0,26°.59N×58°.07E,h10km,ML4.8/11,Error ellipse: s-maj=41.4km s-min=12.7km az=9.0*
*IDC **11** 10:03:02.2±0.5,26°.77N×57°.75E,h0km,mb4.3/29, mb1 4.4/33,mb1mx4.3/53,mbtmp4.3/33,ML3.5/3,MS3.9/26, Ms1 3.9/26,ms1mx3.7/44,Error ellipse: s-maj=12.3km s-min=9.6km az=3.0*
*MOS **11** 10:03:03.0±1.2,26°.73N×57°.81E,h16km,mb4.8/74,Error ellipse: s-maj=5.9km s-min=3.3km az=121.9*
*NEIC **11** 10:03:04.9±0.0,26°.79N×57°.64E,h14km,mb4.6/98, ML4.7(THR),MN4.8(TEH),After THR.*
*TEH **11** 10:03:06.0,26°.70N×57°.67E,h21km,ML4.7*
*OMAN **11** 10:03:07.9±1.4,26°.41N×57°.81E,h25km,ml4.5/16,Error ellipse: s-maj=27.1km s-min=9.8km az=27.0*
ISC 11 10:03:03.1±0.3,26°.58N±0°.03×57°.81E±0°.03,h10km,n491, σ1§54/500,mb4.7/168,MS3.9/31,29C-23D,Southern Iran
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NIAN Nian 1.31 319 ePg Pb 10 03 27.7 -0.1
NIAN ePn Pg 10 03 28.0 -0.2
NIAN Nian 1.31 319 ePg Pg 10 03 28.1 -0.2
NIAN IAMB IAmb 10 03 52.0
comp=Z,0.0nm,0.4s
SHME Shamm 1.59 251 eP Pb 10 03 32.8 +0.3
SNR=419
SHME S Sg 10 03 57.0 +2.8
SHME Shamm 1.59 251 ePn Pb 10 03 33.2 +0.6
GENO Geno 1.68 300 ePn Pb 10 03 33.7 -0.4
GENO ePg Pn 10 03 34.0 +1.4
GENO eSn Sg 10 03 57.8 +0.8
GENO eSg Sb 10 03 58.0 +2.6
GENO Geno 1.68 300 ePn Pb 10 03 34.2 +0.1
GENO IAMB IAmb 10 04 05.8
comp=Z,0.0nm,0.4s
BNDS Bandar-Abbas 1.68 300 ePg Pn 10 03 31.6 -1.0
MDH Madha 1.86 227 eP Pn 10 03 34.7 -0.4
SNR=270
MDH Madha 1.86 227 P Pn 10 03 35.2 +0.2
SNR=40
MDH S Sn 10 03 59.9 +1.2

MDH Madha 1.86 227 *e*Pn **Pn 10 03 34.9 -0.2**
MSFE Esma-Masafi 1.92 231 *e*P **Pn 10 03 35.4 -0.4**
SNR=74
MSFE Esma-Masafi 1.92 231 *e*Pn **Pn 10 03 35.9 0.0**
UMQ Umm Al-Quwin 2.20 242 *e*P **Pb 10 03 42.1 -0.9**
SNR=18
UMQ Umm Al-Quwin 2.20 242 P **Pb 10 03 43.7 +0.8**
SNR=14
UMQ Umm Al-Quwin 2.20 242 *e*Pn **Pb 10 03 44.1 +1.2**
HATD Hatta, Dubai 2.31 221 *e*P **Pn 10 03 41.0 -0.2**
SNR=107
HATD Hatta, Dubai 2.31 221 P **Pn 10 03 40.9 -0.3**
SNR=27
HATD Hatta, Dubai 2.31 221 *e*Pn **Pn 10 03 41.0 -0.2**
ASHO Ashiyiah 2.46 220 *e*P **Pn 10 03 44.7 +1.3**
SNR=27
ASHO Ashiyiah 2.46 220 P **Pn 10 03 44.3 +1.0**
SNR=27
ASHO Ashiyiah 2.46 220 *e*Pn **Pn 10 03 44.8 +1.5**
NAZ Nazwa, Dubai 2.50 231 *e*P **Pn 10 03 46.0 +2.2**
SNR=117
NAZ Nazwa, Dubai 2.50 231 P **Pb 10 03 46.6 -1.5**
SNR=76
NAZ Nazwa, Dubai 2.50 231 *e*Pn **Pb 10 03 47.0 -1.1**
CHBR Chabahar 2.59 112 *e*Pn **Pb 10 03 51.5 +1.9**
CHBR Chabahar 2.59 112 *e*Pn **Pb 10 03 51.6 +1.9**
SOHO SOHO 2.69 206 P **Pn 10 03 46.0 -0.5**
SNR=59
FAQ Al Faqa, Dubai 2.71 228 *e*P **Pn 10 03 48.7 +2.0**
SNR=154
FAQ Al Faqa, Dubai 2.71 228 P **Pb 10 03 50.0 -1.7**
SNR=29
FAQ Al Faqa, Dubai 2.71 228 *e*Pn **Pb 10 03 50.1 -1.6**
ASUD Al Ashush, Dub 2.97 230 *i* P **Pn 10 03 52.5 +2.3**
SNR=84
ASUD Al Ashush, Dub 2.97 230 P **Pn 10 03 53.4 +3.1**
SNR=84
ASUD Al Ashush, Dub 2.97 230 *e*Pn **Pb 10 03 53.9 -2.1**
HOQ Hoqain 3.02 189 P **Pn 10 03 51.3 +0.4**
SNR=8.9
BIDO Bidbid 3.06 175 P **Pn 10 03 52.0 +0.5**
SNR=45
BIDO Bidbid 3.06 175 *e*Pn **Pn 10 03 52.0 +0.5**
ALNE Al Ain 3.13 217 *i* P **Pn 10 03 54.1 +1.7**
SNR=28
ALNE Al Ain 3.13 217 *e*Pn **Pn 10 03 55.4 +2.9**
NGRK Negar Kerman 3.20 343 *e*Pn **Pn 10 03 55.0 +1.3**
NGRK Negar Kerman 3.20 343 *e*Pn **Pn 10 03 55.1 +1.3**
NGRK IAMB IAmb 10 04 56.2
comp=Z,0.0nm,0.9s
AJN Ajban 3.25 232 *i* P **Pn 10 03 56.3 +2.2**
SNR=16
AJN Ajban 3.25 232 *e*Pn **Pn 10 03 57.4 +3.3**
CHMN Cheshme madani 3.28 356 *e*Pn **Pn 10 03 56.0 +1.1**
CHMN Cheshme madani 3.28 356 *e*Pn **Pn 10 03 57.1 +2.2**
CHMN IAMB IAmb 10 05 06.7
comp=Z,0.0nm,0.9s
WSAR Wadi Sarin 3.41 167 Pn **Pn 10 03 57.5 +1.2**
comp=Z,108nm,0.3s,baz=347,slow=6.4,SNR=153
WSAR Sn **Sn 10 04 36.2 -0.6**
comp=Z,166nm,0.3s,baz=27,slow=9.6,SNR=18
WSAR LR LR 10 05 44.4
comp=Z,880nm,18.1s,baz=6.0,slow=45
SMDO Samad 3.51 176 P **Pn 10 03 59.1 +1.2**
SNR=22
TVBK TV Kerman 3.52 345 *e*Pn **Pn 10 04 00.2 +2.0**
TVBK IAMB IAmb 10 05 18.2
comp=Z,0.0nm,0.8s
BSY Bisya 3.86 188 P **Pn 10 04 05.4 +2.9**
SNR=44
SZD1 Zahaedan-tmp 3.96 42 *e*Pn **Pn 10 04 08.2 +4.2**
KHGB Koh Gabri 3.96 343 *e*Pn **Pn 10 04 06.1 +2.0**
KHGB IAMB IAmb 10 05 12.4
comp=Z,0.0nm,0.9s
ZHSF Zahedan 4.00 40 *e*Pn **Pn 10 04 07.7 +3.1**
ZHSF Zahedan 4.00 40 *e*Pn **Pn 10 04 07.7 +3.1**
WBK Wadi Bani Khal 4.09 165 P **Pn 10 04 08.0 +2.2**
SNR=9.1
GHIR Ghir-Karzin 4.61 293 *e*Pn **Pn 10 04 13.3 +0.3**
GHIR Ghir-Karzin 4.61 293 *e*Pn **Pn 10 04 13.3 +0.3**
JLN Jalan Bani Buh 4.64 161 P **Pn 10 04 14.2 +0.9**
SNR=15
JLN S **Sn 10 05 06.4 -0.9**
SNR=6.7
MZR Muzera 5.31 229 *e*Pn **Pn 10 04 26.8 +4.4**
IPAR Pars 5.31 309 *e*Pn **Pn 10 04 24.0 +1.2**
BSRN Basiran 5.49 12 *e*Pn **Pn 10 04 25.6 +0.5**
IMEH Mehriz 5.55 330 *e*Pn **Pn 10 04 26.5 +0.5**
SHI Shiraz 5.58 304 *e*Pn **Pn 10 04 25.8 -0.6**
IKOO Kooshah 5.92 10 *e*Pn **Pn 10 04 31.5 +0.5**
IKAZ Kazeroun 6.16 303 *e*Pn **Pn 10 04 34.1 -0.3**
ITEG Tejag 6.35 7 *e*Pn **Pn 10 04 38.0 +1.1**
ICHK Chekchek 6.38 333 *e*Pn **Pn 10 04 35.7 -1.6**
IDAH Dahanechah 6.39 16 *e*Pn **Pn 10 04 38.9 +1.3**
ISAD Sadrabad 6.42 327 *e*Pn **Pn 10 04 38.8 +0.8**
TPRV Parvadeh(Tabas 6.50 352 *e*Pn **Pn 10 04 40.6 +1.7**
IMON Monand 6.79 13 *e*Pn **Pn 10 04 44.1 +1.1**
TKDS Koohdasht(Taba 7.04 355 *e*Pn **Pn 10 04 47.9 +1.6**
IRAM Ramesheh 7.05 319 *e*Pn **Pn 10 04 46.4 -0.1**
TNSJ Nastanj 7.43 352 *e*Pn **Pn 10 04 53.7 +2.0**
ANAR Anarak 7.48 333 *e*Pn **Pn 10 04 52.3 -0.1**
IGAR Gharneh 7.68 320 *e*Pn **Pn 10 04 54.6 -0.6**
IZEF Zefreh 7.89 324 *e*Pn **Pn 10 04 57.9 -0.3**
IPIR Pirpir 8.56 317 *e*Pn **Pn 10 05 07.5 +0.2**
IKLH Kolahrood 8.62 323 *e*Pn **Pn 10 05 08.2 0.0**
ISFB Sefidab 9.12 330 *e*Pn **Pn 10 05 15.5 +0.7**
IANJ Anjilo 9.47 340 *e*Pn **Pn 10 05 20.8 +1.0**
SBZV Sabzevar 9.78 359 *e*Pn **Pn 10 05 26.4 +2.4**
IPAY Payeh 9.89 6 *e*Pn **Pn 10 05 27.3 +1.7**
IMYA Miami 9.93 11 *e*Pn **Pn 10 05 27.7 +1.7**
ISHM Shahmirzad 9.98 338 *e*Pn **Pn 10 05 28.5 +1.7**
IAKL Akhelmad 10.03 4 *e*Pn **Pn 10 05 28.8 +1.4**
ISFR Sfrayin 10.45 1 *e*Pn **Pn 10 05 34.7 +1.5**
IKMR Kamar-syah 10.70 313 *e*Pn **Pn 10 05 34.8 -1.6**
IEMG Emamgholi 10.83 4 *e*Pn **Pn 10 05 40.1 +1.7**
IDOB Doab 11.00 313 *e*Pn **Pn 10 05 39.3 -1.4**
IKFM Kafar-mosalman 11.06 311 *e*Pn **Pn 10 05 39.7 -1.6**
GEYT Alibeck 11.32 1 Pn **Pn 10 05 42.8 -2.1**
comp=Z,0.4nm,0.3s,baz=186,slow=13,SNR=2.1
GEYT LR LR 10 11 10.2
comp=Z,269nm,20.9s,baz=190,slow=44
GYA0B ALIBECK ARRAY 11.32 1 *e*Pn **Pn 10 05 43.5 -1.5**
QABG Abgarm-Qazvin 11.51 324 *e*Pn **Pn 10 05 48.9 +1.3**
QALM Alamut, Qazvin 11.56 330 *e*Pn **Pn 10 05 51.2 +2.7**
IKOM Komasi 11.67 313 *e*Pn **Pn 10 05 48.4 -1.5**
IGZV Ghazvin 11.72 328 *e*Pn **Pn 10 05 50.5 -0.1**
KBL Kabul 12.51 48 *e*Pn **Pn 10 06 02.3 +0.9**
KBL Kabul 12.51 48 *e*P **Pn 10 06 02.3 +0.9**
KBL Kabul 12.51 48 *e*Pn **Pn 10 06 02.7 +1.3**
IDHR Dehrash 12.73 312 *e*Pn **Pn 10 06 01.8 -2.6**
THW Thamme Wali 13.60 60 P **Pn 10 06 14.8 -1.3**
CEP Cherat 14.16 56 P **Pn 10 06 23.4 -0.5**
NIL Nilore 15.10 58 *e*Pn **Pn 10 06 36.1 -0.4**
comp=Z,224nm,1.6s
NIL Nilore 15.10 58 *e*P **Pn 10 06 36.1 -0.4**
NIL pmax pmax
comp=Z,224nm,1.6s
CHGR Chuyangaron 15.36 36 *e*Pn **Pn 10 06 39.5 -0.5**
comp=Z,49nm,1.4s
CUKT Cukurca 16.06 315 P **Pn 10 06 46.2 -2.9**
GAR Garm 16.23 37 *e*Pn **Pn 10 06 51.0 -0.3**
comp=Z,24nm,0.9s
GAR Garm 16.23 37 *e*P **Pn 10 06 51.0 -0.3**
GAR pmax pmax
comp=Z,24nm,0.9s
AKT Akhty 17.03 333⇑*i*P **P 10 07 03.6 +0.3**
VANB Van 17.04 318 P **Pn 10 07 00.9 -0.7**
CLDR Caldiran 17.10 321 P **Pn 10 07 02.8 +0.4**
AKDM Akdamar-Van 17.12 317 P **Pn 10 07 00.6 -2.0**
BTK Batken 17.26 36 *e*Pn **Pn 10 07 03.0 -1.3**
comp=Z,21nm,0.8s
BTK Batken 17.26 36 *e*P **Pn 10 07 03.0 -1.3**
BTK pmax pmax
comp=Z,21nm,0.8s
DAMY Dhamar 17.32 229 *e*Pn **Pn 10 07 03.6 -1.8**
comp=Z,46nm,0.9s
GNI Garni 17.36 324 P **P 10 07 08.1 +1.1**
GNI Garni 17.36 324 *e*Pn **Pn 10 07 02.3 -3.3**
comp=Z,33nm,0.9s
GNI Garni 17.36 324*d i*P **P 10 07 07.8 +0.8**
GNI Garni 17.36 324 P **Pn 10 07 02.7 -2.9**
comp=Z,0.8nm,0.3s,baz=153,slow=18,SNR=1.8
GNI LR LR 10 15 00.3
comp=Z,466nm,20.4s,baz=124,slow=42

GURO Guroymak-BITLI 17.84 316 P **P 10 07 13.9 +1.6**
AGRB Hanur-Agry 17.92 320 P **Pn 10 07 12.6 0.0**
GNBR Gunib 18.10 333 *i* P **P 10 07 16.5 +1.4**
TBLG Delisi 18.55 328 *e*Pn **P 10 07 16.9 -3.0**
comp=Z,12nm,0.9s
TBLG Delisi 18.55 328 *e*P **P 10 07 17.0 -3.0**
TBLG pmax pmax
comp=Z,12nm,0.9s
DYBB Diyarbakir 18.73 312 P **P 10 07 21.9 -0.1**
KOPR Koprukoy-ERZUR 18.85 319 P **Pn 10 07 24.6 +0.6**
AKH Akhalkalaki 18.93 325 *e*P **P 10 07 22.6 -1.7**
comp=Z,20nm,1.2s
AKH Akhalkalaki 18.93 325⇑*i*P **Pn 10 07 25.4 +0.5**
AKH Akhalkalaki 18.93 325 *e*P **P 10 07 22.6 -1.7**
AKH pmax pmax
comp=Z,20nm,1.2s
BNGB Bingl 18.95 315 P **P 10 07 24.4 -0.1**
ASF Jabal al Asfar 19.05 292 P **P 10 07 24.3 -1.3**
comp=Z,1.0nm,0.3s,baz=48,slow=16,SNR=3.4
ASF S Sn 10 10 45.1 -15
comp=Z,0.4nm,0.3s,baz=60,slow=20,SNR=4.1
GROC Groznyy 19.26 333 *e*P **Pn 10 07 30.6 +2.0**
GROC pmax pmax
comp=Z,22nm,0.7s
YEDI Yedisu-Bingol 19.30 316 P **Pn 10 07 29.2 -0.2**
ARSB Arslanbob 19.31 37 *e*P **P 10 07 28.2 -0.3**
comp=Z,27nm,0.9s
URFA Urfa 19.37 309 P **Pn 10 07 30.1 0.0**
KK31 Karatay Array 19.47 29 *e*P **Pn 10 07 31.0 -0.2**
comp=Z,18nm,0.8s
KK31 Karatay Array 19.47 29 *e*P **Pn 10 07 31.0 -0.2**
KK31 pmax pmax
comp=Z,18nm,0.8s
KKAR Karatay Array 19.47 29 *e*P **P 10 07 30.6 +0.6**
KKAR *e*P **Pn 10 07 31.0 -0.2**
KKAR Karatay Array 19.47 29 *e*P **P 10 07 30.6 +0.6**
SVRC Sivrice-ELAZIĞ 19.51 312 P **P 10 07 31.2 +0.5**
ZEI Tsey 19.76 328 *e*P **Pn 10 07 35.1 +0.2**
ZEI pmax pmax
comp=Z,12nm,0.6s
KSH Kashi 19.91 45 P **P 10 07 32.5 -2.5**
KSH pP Pn 10 07 37.3 +0.7
KSH PP **PnPn 10 07 48.5 -2.1**
KSH S S 10 11 04.6 -15
KSH SS **SnSn 10 11 29.1 -5.8**
BCA Borcka 19.95 322⇓*i*P **Pn 10 07 37.0 +0.1**
AML Almayashu 20.26 36 P Pn 10 07 40.1 -0.9
SNR=13
EIL Elat 20.39 284 P **P 10 07 41.2 +1.1**
comp=Z,22nm,0.7s,baz=117,slow=3.7,SNR=17
EIL S **S 10 11 28.1 -0.6**
comp=Z,5.1nm,0.8s,baz=115,slow=14,SNR=2.3
EIL LR LR 10 17 11.1
comp=Z,273nm,18.1s,baz=78,slow=42
GAZ Gaziantep 20.39 306 P **P 10 07 41.2 +1.0**
NCK Nalchik 20.45 329⇑*e*P **P 10 07 39.6 -1.1**
NCK pmax pmax
comp=Z,14nm,0.8s
MMAI Mount Meron Ar 20.46 294 P **P 10 07 41.3 +0.4**
comp=Z,7.1nm,0.5s,baz=94,slow=14,SNR=14
MMAI S **S 10 11 22.1 -8.0**
comp=Z,4.1nm,0.7s,baz=95,slow=34,SNR=3.1
ATD Arta Tunnel 20.56 226 *e*P **P 10 07 42.8 +0.6**
comp=Z,32nm,1.0s
ATD Arta Tunnel 20.56 226 P Pn 10 07 44.7 +0.3
comp=Z,6.9nm,0.3s,baz=334,slow=5.3,SNR=5.3
ATD LR LR 10 16 32.2
comp=Z,185nm,21.3s,baz=51,slow=39
NEY Neytrino 20.67 327⇓*e*P Pn 10 07 46.1 +0.5
NEY pmax pmax
comp=Z,3.0nm,0.7s
EKS2 Erkin-Say 20.68 35 P **P 10 07 43.5 +0.2**
SNR=16
KTUT Trabzon 20.71 318 P **P 10 07 44.2 +0.7**
KTUT Trabzon 20.71 318⇑*i*P Pn 10 07 45.0 -0.9
KMRS Kahramanmaras 20.76 307 P **P 10 07 45.1 +1.0**
UCH Uchtor 20.76 37 P **P 10 07 45.8 +1.2**
SNR=14
KBZ Khabaz 20.95 329 P **P 10 07 44.7 -1.4**
comp=Z,0.6nm,0.4s,baz=141,slow=6.5,SNR=2.5
AAK Ala-Archa 21.04 36 P **P 10 07 47.4 +0.2**
SNR=7.1
AAK Ala-Archa 21.04 36 *e*P **P 10 07 46.5 -0.7**
comp=Z,22nm,0.9s
AAK Ala-Archa 21.04 36⇑*e*P **P 10 07 47.7 +0.5**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 21.04 36 P **P 10 07 47.4 +0.2**
comp=Z,12nm,0.7s,baz=206,slow=9.1,SNR=14
KZA Kyzart 21.07 38 P **P 10 07 50.1 +2.3**
SNR=18
SHA1 Shidzhatmaz 21.07 328⇑*e*P **P 10 07 48.1 +0.4**
NRN Naryn 21.08 41 *e*P **P 10 07 46.9 -1.0**
comp=Z,19nm,0.9s
NRN Naryn 21.08 41 *e*P **P 10 07 46.9 -1.0**
NRN pmax pmax
comp=Z,19nm,0.9s
PYA1 Pyatigorsk 21.12 329⇑*e*P **P 10 07 49.2 +1.2**
KIV Kislovodsk 21.23 329 P **P 10 07 51.6 +2.4**
KIV Kislovodsk 21.23 329 *e*P **P 10 07 47.7 -1.4**
comp=Z,72nm,1.6s
KIV Kislovodsk 21.23 329 *e*P **P 10 07 50.7 +1.5**
KIV pmax pmax
comp=Z,94nm,1.1s
HYB Hyderabad 21.26 111 *i* P **P 10 07 52.0 +2.3**
KOZT Kozan 21.52 306 P **P 10 07 53.6 +1.2**
BOOM Boomskoye usch 21.72 38 *e*P **P 10 07 54.1 -0.4**
comp=Z,24nm,0.9s
BOOM Boomskoye usch 21.72 38 *e*P **P 10 07 54.2 -0.4**
BOOM pmax pmax
comp=Z,24nm,0.9s
TKM2 Tokmak 2 21.82 37 P **P 10 07 58.2 +2.5**
SNR=14
SVSK Karacayir 21.84 313 P **P 10 07 56.7 +1.0**
CUSAR Sarkisla-SIVAS 22.09 311 *i* P **P 10 07 59.7 +1.1**
KDJ Kajisay 22.20 41 *e*P **P 10 07 59.9 +0.1**
comp=Z,28nm,0.9s
KDJ Kajisay 22.20 41 *e*P **P 10 07 59.9 +0.1**
KDJ pmax pmax
comp=Z,28nm,0.9s
TARG Taragay, Kyrgy 22.33 42 *e*P **P 10 08 00.3 -1.1**
comp=Z,12nm,0.9s
TOKT Tokat 22.35 313 P **P 10 08 00.9 -0.3**
SOC Sochi 22.44 324 *e*P **P 10 08 00.8 -1.3**
SOC *e*PPP PPP 10 08 36.0
SOC *e*S **S 10 12 06.5 -1.9**
SOC *e*SS **SnSn 10 12 47.1 +10**
SOC pmax pmax
comp=Z,19nm,0.9s
SOC MLR MLR
comp=Z,303nm,12.0s
CSS Mathiatis 22.59 298 *e*P **P 10 08 03.8 0.0**
comp=Z,64nm,1.4s
ABKAR Akbulak array 22.70 4 *e*P **P 10 08 02.8 -2.0**
ABKAR *e*P **P 10 08 03.0 -1.8**
PRZ Przheval'sk 23.13 41 *e*P **P 10 08 10.1 +0.5**
comp=Z,21nm,0.4s
PRZ Przheval'sk 23.13 41 *e*P **P 10 08 10.1 +0.5**
PRZ pmax pmax
comp=Z,21nm,0.4s
AKTO Aktyubinsk 23.82 0 P **P 10 08 15.2 -1.0**
comp=Z,6.1nm,0.5s,baz=171,slow=9.0,SNR=21
AKTO LR LR 10 19 04.5
comp=Z,359nm,18.3s,baz=171,slow=41
BRTR Keskin Array B 24.02 309 *e*P **P 10 08 18.1 -0.2**
BRTR Keskin Array B 24.02 309 P **P 10 08 18.4 +0.1**
comp=Z,16nm,0.8s,baz=125,slow=13,SNR=51
BRTR LR LR 10 19 30.0
comp=Z,520nm,18.8s,baz=104,slow=41
BR101 Keskin Array S 24.02 309 *e*P **P 10 08 18.4 +0.1**
BR131 Keskin Array S 24.02 309 *e*P **P 10 08 18.0 -0.4**
SNOP Sinop 24.10 315 *e*P **P 10 08 19.5 +0.6**
comp=Z,40nm,0.8s
PDGK Podgornoye 24.28 41 P **P 10 08 23.7 +3.0**
PDGK pmax pmax
comp=Z,16nm,1.6s
OTUK Ortayu 24.43 24 P **P 10 08 22.4 +0.5**
OTUK pmax pmax
comp=Z,12nm,1.0s
ANN Anapa 24.47 323 *e*P **P 10 08 21.5 -0.7**
ANN pmax pmax
comp=Z,79nm,1.5s
ANN MLR MLR
comp=Z,263nm,16.0s
ILGA Ilgaz 24.57 312 *e*P **P 10 08 22.1 -1.4**
comp=Z,57nm,1.5s
ANTO Ankara 24.67 309 *e*P **P 10 08 24.1 -0.1**
comp=Z,33nm,1.0s
ANTO Ankara 24.67 309⇑*i*P **P 10 08 24.7 +0.5**
ANTO Ankara 24.67 309 P **P 10 08 26.2 +2.0**
ANTO pmax pmax
comp=Z,24nm,0.9s
BR231 Keskin MP Arra 24.68 309 *e*P **P 10 08 25.2 +1.0**
comp=Z,26nm,0.8s
AUSIV SIVRIHISAR 25.39 307 *i* P **P 10 08 31.5 +0.8**
ISP Isparta 25.58 303 *e*P **P 10 08 32.9 +0.4**
comp=Z,26nm,0.6s
ISP Isparta 25.58 303 *e*P **P 10 08 32.6 +0.1**
ISP pmax pmax
comp=Z,24nm,0.9s
AUMIH MIHALICIK 25.59 308 *i* P **P 10 08 33.4 +0.7**
MDUB Mudurnu 26.04 309 *e*P **P 10 08 37.3 +0.7**
comp=Z,278nm,0.8s
MANT Manisa 27.26 303 *e*P **P 10 08 46.8 -1.0**
comp=Z,52nm,1.1s
VRH Novokhopyorsk 27.47 338 *e*P **P 10 08 48.3 -0.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
MK31 Makanchi Array 27.95 37 *e*P **P 10 08 53.8 +0.1**
comp=Z,2.9nm,0.9s
MK32 Makanchi Array 27.95 37 *e*P **P 10 08 53.4 -0.3**
MKAR Makanchi Array 27.95 37 P **P 10 08 53.4 -0.3**
comp=Z,0.7nm,0.6s,baz=227,slow=8.5,SNR=3.3
MKAR LR LR 10 20 26.6
comp=Z,169nm,19.0s,baz=240,slow=38
BVAR Borovoye Array 28.04 16 P **P 10 08 52.8 -1.6**
comp=Z,1.9nm,0.5s,baz=199,slow=7.8,SNR=12
BRVK Borovoye 28.05 16 *e*P **P 10 08 53.6 -0.7**
comp=Z,3.4nm,0.6s
BRVK Borovoye 28.05 16⇑*e*P **P 10 08 53.0 -1.4**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BALB Balikesir 28.11 305 *e*P **P 10 08 55.8 +0.7**
comp=Z,54nm,1.0s
VSR Storozhevoye 28.40 335 *e*P **P 10 08 55.6 -1.9**
VSR pmax pmax
comp=Z,6.0nm,0.6s
KURBB Kurchatov Arra 28.77 28 P **P 10 09 00.2 -0.6**
comp=Z,1.9nm,0.6s,baz=226,slow=8.5,SNR=11
KURK Kurchatov 28.87 28 *e*P **P 10 08 59.5 -2.3**
comp=Z,4.2nm,1.1s
KURK Kurchatov 28.87 28⇑*e*P **P 10 09 00.0 -1.8**
KURK pmax pmax
comp=Z,1.0nm,1.2s
APE Apeiranthos 29.23 299⇓*i*P **P 10 09 05.4 +0.2**
APE Apeiranthos 29.23 299 P **P 10 09 05.4 +0.2**
EZN Ezine 29.31 305⇓*i*P **P 10 09 06.3 +0.5**
EZN Ezine 29.31 305 P **P 10 09 06.3 +0.5**
IDI Anoyia 29.44 295 P **P 10 09 06.7 -0.3**
comp=Z,14nm,0.7s,baz=106,slow=9.1,SNR=12
LPSR Galich'ya Gora 29.60 336 *e*P **P 10 09 11.0 +2.8**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
WMQ Urumqi 29.65 47 *e*P **P 10 09 11.3 +2.4**
WMQ pP sP 10 09 19.2 +5.6
ARU Arti 29.83 1 *e*P **P 10 09 10.1 -0.1**
comp=Z,9.0nm,1.5s
ARU Arti 29.83 1*d i*P **P 10 09 13.1 +2.9**
ARU 10 10 05.6
ARU S **S 10 14 11.1 +4.3**
ARU SS **SnSn 10 15 40.8 +3.8**
ARU pmax pmax
comp=Z,4.0nm,1.2s
ALN Alexandroupoli 29.84 307 *e*P **P 10 09 09.4 -1.0**
comp=Z,4.2nm,1.2s
MSEY Mahe Island 31.15 184 *e*P **P 10 09 24.6 +2.3**
comp=Z,24nm,0.8s
VRI Vrincioaia 31.32 316⇑*i*P **P 10 09 24.0 +0.5**
VRI Vrincioaia 31.32 316 P **P 10 09 24.0 +0.5**
PLOR Plostina 31.36 316⇓*i*P **P 10 09 24.2 +0.3**
PLOR Plostina 31.36 316 P **P 10 09 24.1 +0.2**
MLR Muntele Rosu 31.65 315 *e*P **P 10 09 25.0 -1.6**
comp=Z,12nm,1.0s
MLR Muntele Rosu 31.65 315⇑*i*P **P 10 09 27.5 +1.0**
TESR Tescani 31.67 317⇓*i*P **P 10 09 26.7 +0.1**
SRS Serrai 31.68 306 P **P 10 09 27.5 +0.8**
SRS pmax pmax
comp=Z,14nm,0.9s
SOH Sokhos 31.77 305 P **P 10 09 28.4 +0.8**
SOH pmax pmax
comp=Z,12nm,0.8s
ITM Ithomi 32.08 298 *e*P **P 10 09 29.3 -1.0**
comp=Z,12nm,0.7s
MTUR Matau 32.10 314⇓*i*P **P 10 09 31.6 +1.1**
AGG Agios Georgios 32.10 302 *e*P **P 10 09 28.0 -2.5**
comp=Z,5.4nm,0.7s
KNT Kendrikon 32.19 306 P **P 10 09 33.9 +2.6**
KNT pmax pmax
comp=Z,5.0nm,0.8s
VOIR 32.19 314⇓*i*P **P 10 09 32.5 +1.2**
VOIR 32.19 314 P **P 10 09 32.2 +0.9**
VOIR pmax pmax
comp=Z,18nm,1.1s
LIT Litokhoron 32.22 304 *e*P **P 10 09 30.6 -1.0**
comp=Z,4.8nm,0.8s
LIT Litokhoron 32.22 304 P **P 10 09 34.0 +2.5**
LIT pmax pmax
comp=Z,8.0nm,1.2s
VTS Vitosha 32.38 309 *e*P **P 10 09 31.9 -1.1**
comp=Z,2.9nm,0.8s
ARR Arges 32.43 314⇓*i*P **P 10 09 34.1 +0.7**
DGZ Jazzator, Alta 32.44 37⇑*e*P **P 10 09 32.5 -1.0**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 32.46 337 *e*P **P 10 09 33.9 +0.6**
comp=Z,16nm,0.5s
OBN Obninsk 32.46 337 *i* P **P 10 09 33.0 -0.3**
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN MLR MLR
comp=Z,155nm,15.0s
AKASG Malin Array Be 32.49 325 *e*P **P 10 09 32.0 -1.6**
AKASG Malin Array Be 32.49 325 P **P 10 09 32.6 -1.1**
comp=Z,4.7nm,0.5s,baz=125,slow=8.1,SNR=23
AKASG LR LR 10 25 32.0
comp=Z,198nm,21.5s,baz=115,slow=42
AKBB Malin Array Si 32.49 325 *e*P **P 10 09 32.6 -1.1**
comp=Z,12nm,0.6s
KIEV Kiev 32.49 325 *e*P **P 10 09 32.6 -1.1**
comp=Z,11nm,0.7s
KIEV Kiev 32.49 325⇑*i*P **P 10 09 33.1 -0.6**
KIEV Kiev 32.49 325⇑*e*P **P 10 09 32.4 -1.3**
KIEV pmax pmax
comp=Z,9.0nm,0.6s
GRG Griva 32.50 305 P **P 10 09 35.2 +1.2**
GRG pmax pmax
comp=Z,11nm,0.7s
MOS Moscow 32.61 339 *e*P **P 10 09 33.6 -1.1**
MOS *e* 10 10 50.4
STIP Stip 32.85 306 *i* P **P 10 09 36.0 -1.0**
LOT Lotru 33.02 314⇓*i*P **P 10 09 38.3 -0.3**
BURAR Bucovina Array 33.05 318 *e*P **P 10 09 37.0 -1.8**
BURAR Bucovina Array 33.05 318⇓*i*P **P 10 09 38.5 -0.4**
BURAR Bucovina Array 33.05 318 P **P 10 09 38.4 -0.4**
BUR08 Bucovina Ar. S 33.08 318 *e*P **P 10 09 37.2 -1.8**
comp=Z,3.0nm,0.8s
FNA Florina 33.21 305 *e*P **P 10 09 40.3 +0.1**
comp=Z,20nm,0.7s
FNA Florina 33.21 305 P **P 10 09 40.7 +0.5**
FNA pmax pmax
comp=Z,31nm,0.8s
GZR Gura Zlata 33.65 313⇑*i*P **P 10 09 43.9 -0.1**
HERR Herculane 33.70 312⇑*i*P **P 10 09 44.2 -0.2**
OHR Ohrid 33.71 305 *i* P **P 10 09 44.7 +0.1**
NVS Novosibirsk 33.81 27 *e*P **P 10 09 47.3 +2.1**
ZAA0 Zalesovo Array 33.84 29 *e*P **P 10 09 44.9 -0.5**
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 33.84 29 *e*P **P 10 09 43.1 -2.3**
ZALV Zalesovo Beam 33.84 29 P **P 10 09 43.4 -2.1**
comp=Z,3.3nm,0.6s,baz=265,slow=8.8,SNR=10
ZALV LR LR 10 23 22.2
comp=Z,65nm,19.0s,baz=250,slow=36
KMBO Kilima Mbogo 33.94 219 *e*P **P 10 09 48.0 +1.0**
comp=Z,4.3nm,0.8s
KMBO Kilima Mbogo 33.94 219 P **P 10 09 48.5 +1.5**
comp=Z,1.9nm,0.3s,baz=72,slow=16,SNR=3.1
MDVR Moldovita 34.13 312⇓*i*P **P 10 09 48.9 +0.7**
DRGR 34.23 315 P **P 10 09 49.8 +0.7**
DRGR pmax pmax
comp=Z,31nm,1.1s

NAI	Nairobi	34.31 219	eP	P	10 09 50.7	+0.5
	comp=Z,27nm,0.6s					
TIR	Tirane	34.45 305	eP	P	10 09 49.9	-1.1
	comp=Z,20nm,0.5s					
BZS	Buzias	34.49 313⇑	iP	P	10 09 51.4	+0.2
SIRR	Siria	34.70 314⇓	iP	P	10 09 54.3	+1.3
LVV	L'vov	34.80 321	eP	P	10 09 50.7	-3.1
TRPA	Tarpa	34.90 317⇑	iP	P	10 09 54.8	+0.1
TRPA	Tarpa	34.90 317	eP	P	10 09 55.0	+0.4
ULC	Ulcinj	35.05 306	P	P	10 09 55.7	-0.4
TTG	Podgorica	35.15 307	eP	P	10 09 55.8	-1.2
	comp=Z,4.3nm,0.8s					
UZH	Uzhgorod	35.26 318	eP	P	10 09 59.2	+1.4
UZH			e		10 10 10.2	
KOLS	Kolonicke sedl	35.40 319	eP	P	10 10 00.0	+0.9
KOLS			pmax	pmax		
	comp=Z,32nm,0.9s					
KOLS	Kolonicke sedl	35.40 319	eP	P	10 10 00.0	+0.9
KECS	Kecovo	36.29 317	eP	P	10 10 07.2	+0.5
KECS			pmax	pmax		
	comp=Z,40nm,0.8s					
KECS	Kecovo	36.29 317	eP	P	10 10 07.2	+0.5
TIP	Timpagrande	36.40 301	eP	P	10 10 05.2	-2.6
	comp=Z,14nm,0.9s					
TIP	Timpagrande	36.40 301⇑	iP	P	10 10 08.8	+1.0
PSZ	Piszkesteto	36.44 316	eP	P	10 10 07.2	-0.9
	comp=Z,9.8nm,0.8s					
PSZ	Piszkesteto	36.44 316⇓	iP	P	10 10 08.4	+0.4
PSZ	Piszkesteto	36.44 316⇑	eP	P	10 10 07.0	-1.0
KLMR	Klimovskoe	36.46 345	eP	P	10 10 05.2	-2.7
KLMR			pmax	pmax		
	comp=Z,20nm,1.4s					
IDID	Didziasalis	36.52 330	eP	P	10 10 07.2	-1.3
IDID			IAmb	IAmb	10 10 09.6	
	comp=Z,8.6nm,0.4s					
IIGN	Ignalina	36.78 330	eP	P	10 10 09.4	-1.3
BUD	Budapest	36.83 315	P	P	10 10 12.4	+1.2
ISAL	Salakas	36.96 330	eP	P	10 10 10.7	-1.5
ISAL			IAmb	IAmb	10 10 17.5	
	comp=Z,13nm,1.1s					
GTA	Gaotai	37.16 59	eP	P	10 10 18.9	+4.5
GTA			pP	sP	10 10 24.7	+5.5
GTA			sP	pP	10 10 27.6	+10
LANS	Liptovska Anna	37.17 318	eP	P	10 10 14.7	+0.5
LANS	Liptovska Anna	37.17 318	eP	P	10 10 14.6	+0.4
VYHS	Vyhne	37.31 316	eP	P	10 10 15.3	-0.1
VYHS			pmax	pmax		
	comp=Z,4.0nm,1.1s					
VYHS	Vyhne	37.31 316	eP	P	10 10 15.3	-0.1
OJC	Ojcow	37.41 319	eP	P	10 10 16.4	+0.2
OJC	Ojcow	37.41 319	eP	P	10 10 14.9	-1.3
	comp=Z,25nm,0.9s					
OJC	Ojcow	37.41 319	eP	P	10 10 16.4	+0.2
JAVC	Velka Javorina	38.16 316	eP	P	10 10 23.0	+0.4
MODS	Modra-Piesok	38.23 316	eP	P	10 10 23.0	-0.2
MODS			pmax	pmax		
	comp=Z,15nm,1.1s					
MODS	Modra-Piesok	38.23 316	eP	P	10 10 23.0	-0.2
ZST	Bratislava	38.28 315	eP	P	10 10 22.6	-1.0
ZST	Bratislava	38.28 315	eP	P	10 10 22.6	-1.0
KOGS	Kog	38.30 312	iP	P	10 10 23.8	+0.1
SOP	Sopron	38.47 314	P	P	10 10 25.3	+0.2
SOP	Sopron	38.47 314⇑	eP	P	10 10 24.1	-1.1
MORC	Moravsky Berou	38.57 318	eP	P	10 10 25.3	-0.7
	comp=Z,5.6nm,0.8s					
MORC	Moravsky Berou	38.57 318⇑	iP	P	10 10 25.4	-0.7
MORC	Moravsky Berou	38.57 318	P	P	10 10 25.3	-0.7
MORC	Moravsky Berou	38.57 318	eP	P	10 10 25.2	-0.9
VSU	Vasula	38.58 334⇑	eP	P	10 10 26.9	+1.0
VSU			pmax	pmax		
	comp=Z,22nm,1.0s					
VSU	Vasula	38.58 334	eP	P	10 10 24.3	-1.6
VSU			IAmb	IAmb	10 10 31.1	
	comp=Z,23nm,0.8s					
CMAR	Chiang Mai Arr	38.71 93	P	P	10 10 27.6	+0.1
	comp=Z,0.6nm,0.5s,baz=293,slow=9.4,SNR=3.5					
CMAR			LR	LR	10 28 40.9	
	comp=Z,158nm,21.2s,baz=262,slow=40					
BOJS	Bojanci	38.72 310	iP	P	10 10 27.6	+0.3
NVLJ	Novalja	38.75 309	P	P	10 10 26.8	-0.7
VRAC	Vranov	38.98 317⇑	iP	P	10 10 29.9	+0.4
VRAC	Vranov	38.98 317	P	P	10 10 29.8	+0.3
VRAC	Vranov	38.98 317	eP	P	10 10 28.7	-0.8
CONA	Conrad Observa	38.99 314	iP	P	10 10 29.1	-0.5
	comp=Z,8.0nm,0.6s,SNR=10.0					
ARSA	Arzberg	39.00 313	iP	P	10 10 29.8	+0.1
	comp=Z,16nm,0.8s,SNR=7.6					
KRUC	Moravsky	39.02 316	eP	P	10 10 29.2	-0.6
SOKA	Soboth	39.17 312	iP	P	10 10 30.9	-0.2
	comp=Z,8.1nm,0.7s,SNR=5.8					
AQU	L'Aquila	39.38 305	eP	P	10 10 31.6	-1.3
	comp=Z,19nm,0.9s					
AQU	L'Aquila	39.38 305	P	P	10 10 33.2	+0.2
DPC	Dobruska-Polom	39.52 318	eP	P	10 10 33.9	0.0
DPC	Dobruska-Polom	39.52 318	eP	P	10 10 33.9	0.0
TREC	Trest	39.66 316	eP	P	10 10 35.2	+0.1
TREC	Trest	39.66 316	eP	P	10 10 35.2	+0.1
KSP	Ksiaz	39.71 319	eP	P	10 10 36.0	+0.5
KSP	Ksiaz	39.71 319	eP	P	10 10 36.0	+0.5
UPC	Upice	39.76 318	eP	P	10 10 38.6	+2.7
UPC	Upice	39.76 318	eP	P	10 10 38.6	+2.7
MOA	Molln	39.99 314	iP	P	10 10 37.8	-0.2
	comp=Z,25nm,0.7s,SNR=16					
MYKA	Terra Mystica	40.08 312	iP	P	10 10 38.6	-0.1
	comp=Z,9.4nm,0.7s,SNR=6.2					
LZH	Lanzhou	40.13 65	eP	P	10 10 39.6	+0.2
LZH			pP	sP	10 10 47.0	+2.7
LZH			sP	pP	10 10 50.5	+7.6
LZH			ePP	PnPn	10 12 16.7	+1.6
GOPC	GO Pecny, Ondr	40.29 317	AMS	AMS	10 31 10.0	
	comp=Z,200nm,14.9s					
CD2	Chengdu	40.30 73	eP	P	10 10 39.6	-1.1
KBA	Koelnbreinsper	40.39 312	iP	P	10 10 41.4	0.0
	comp=Z,17nm,0.7s,SNR=12					
KBA	Koelnbreinsper	40.39 312	P	P	10 10 42.3	+0.9
KBA			pmax	pmax		
	comp=Z,27nm,0.9s					
PRU	Pruhonice	40.47 317	eP	P	10 10 41.5	-0.3
PRU			MLR	MLR		
	comp=Z,200nm,15.3s					
PRU	Pruhonice	40.47 317	eP	P	10 10 41.5	-0.3
PRU			AMS	AMS	10 31 10.0	
	comp=Z,200nm,15.3s					
GEC2	GERESS Array S	40.64 315	eP	P	10 10 42.7	-0.6
	comp=Z,5.4nm,1.5s					
GERES	GERESS Array B	40.64 315	eP	P	10 10 42.8	-0.5
GERES	GERESS Array B	40.64 315	P	P	10 10 43.2	-0.1
	comp=Z,8.2nm,0.8s,baz=108,slow=8.6,SNR=66					
GERES			LR	LR	10 31 04.6	
	comp=Z,126nm,19.1s,baz=120,slow=42					
KHC	Kasperske Hory	40.80 315	eP	P	10 10 44.0	-0.6
	comp=Z,8.1nm,0.8s					
KHC	Kasperske Hory	40.80 315	eP	P	10 10 43.9	-0.7
KHC			MLR	MLR		
	comp=Z,200nm,19.1s					
KHC	Kasperske Hory	40.80 315	eP	P	10 10 43.9	-0.7
KHC			AMS	AMS	10 30 50.0	
	comp=Z,200nm,19.1s					
ABTA	Abfaltersbach	40.86 312	iP	P	10 10 45.1	-0.1
	comp=Z,21nm,0.6s,SNR=10					
FIA0	FINESS Array S	40.87 337	eP	P	10 10 43.6	-1.2
FIA1	FINESS Array S	40.87 337	eP	P	10 10 44.1	-0.7
	comp=Z,6.3nm,0.8s					
FINES	FINESS Array B	40.87 337	eP	P	10 10 43.7	-1.2
FINES	FINESS Array B	40.87 337	ceP	P	10 10 46.7	+1.8
FINES			pmax	pmax		
	comp=Z,4.0nm,0.5s					
FINES	FINESS Array B	40.87 337	P	P	10 10 43.6	-1.2
	comp=Z,3.6nm,0.5s,baz=134,slow=9.0,SNR=27					
BRG	Berggiesshubel	41.12 318	eP	P	10 10 47.0	-0.2
	comp=Z,12nm,1.6s					
BRG	Berggiesshubel	41.12 318	eP	P	10 10 47.0	-0.2
BRG			pmax	pmax		
	comp=Z,12nm,1.6s					
WET	Wettzell	41.24 315	P	P	10 10 48.7	+0.5
WET			pmax	pmax		
	comp=Z,9.0nm,1.3s					
WTTA	Wattenberg	41.56 312	eP	P	10 10 50.5	-0.6
	comp=Z,40nm,0.6s					
WATA	Walderalm	41.62 312	iP	P	10 10 52.0	+0.5
	comp=Z,14nm,0.5s					
CLL	Collm	41.82 318⇓	iP	P	10 10 53.2	+0.3
CLL			pmax	pmax		
	comp=Z,17nm,1.2s					
CLL	Collm	41.82 318⇓	iP	P	10 10 53.2	+0.3
	comp=Z,17nm,1.2s					
CLL			ePP	PP	10 12 29.0	-0.5
CLL			eSS	SS	10 20 18.0	+1.7
CLL			Lm	MLR	10 31 00.0	
	comp=Z,100nm,21.1s					
SQTA	Sankt Quirin	41.84 312	iP	P	10 10 52.7	-0.6
	comp=Z,50nm,0.5s,SNR=24					
MOTA	Moosalm	41.94 312	iP	P	10 10 53.0	-1.1
	comp=Z,27nm,0.6s,SNR=25					
KEST	Kesra	42.11 295	eP	P	10 10 55.0	-0.5
	comp=Z,11nm,1.5s					
KEST	Kesra	42.11 295	P	P	10 10 55.0	-0.5
	comp=Z,5.9nm,0.8s,baz=52,slow=1.5,SNR=6.3					
KEST			LR	LR	10 31 46.3	
	comp=Z,135nm,19.6s,baz=307,slow=41					
FETA	Feichten	42.12 312	iP	P	10 10 55.1	-0.5
	comp=Z,36nm,0.6s,SNR=26					
RETA	Reutte	42.19 312	iP	P	10 10 55.1	-1.0
	comp=Z,15nm,0.6s,SNR=8.4					
FUORN	Ofenpass-Fuorn	42.35 311	eP	P	10 10 56.8	-0.8
	comp=Z,16nm,0.8s					
GRA1	Grafenberg Arr	42.43 316	eP	P	10 10 56.9	-1.1
	comp=Z,20nm,0.8s					
GRF	Grafenberg Arr	42.43 316	P	P	10 10 58.2	+0.2
GRFO	Grafenberg	42.43 316	eP	P	10 10 57.0	-0.9
	comp=Z,20nm,0.9s					
DAVA	Damuels	42.74 312	iP	P	10 10 59.9	-0.8
	comp=Z,85nm,0.6s,SNR=32					
TUE	Stuetta	42.94 311	eP	P	10 11 01.5	-0.9
	comp=Z,11nm,0.8s					
SONA0	Songino Array	43.28 47	eP	P	10 11 05.9	+0.8
SONM	Songino Array	43.28 47	P	P	10 11 05.9	+0.8
	comp=Z,0.4nm,0.3s,baz=251,slow=9.0,SNR=4.8					
SONM			LR	LR	10 31 04.0	
	comp=Z,213nm,19.3s,baz=255,slow=39					
ULN	Ulaanbaatar	43.72 48⇑	iP	P	10 11 08.0	-0.6
ULN			pmax	pmax		
	comp=Z,1.0nm,0.9s					
SBF	Sospel	43.91 307	eP	P	10 11 11.8	+1.7
SBF			pmax	pmax		
	comp=Z,31nm,0.8s					
BFO	Black Forest	43.97 313	eP	P	10 11 09.7	-0.7
	comp=Z,6.3nm,0.8s					
BFO	Black Forest	43.97 313	ceP	P	10 11 11.9	+1.5
SENIN	Lac Senin/Sane	44.32 310	eP	P	10 11 12.6	-0.9
	comp=Z,9.6nm,0.8s					
XAN	Xi'an	44.37 68	P	P	10 11 18.8	+4.9
XAN			S	S	10 17 40.0	-8.5
MBDF	Montbardon	44.48 308	eP	P	10 11 15.1	+0.4
MBDF			pmax	pmax		
	comp=Z,8.0nm,0.7s					
BNI	Bardonecchia	44.58 308	eP	P	10 11 14.2	-1.3
	comp=Z,13nm,0.9s					
BNI	Bardonecchia	44.58 308	P	P	10 11 14.7	-0.8
LPG	La Plagne	44.58 309	eP	P	10 11 15.6	-0.1
LPG			pmax	pmax		
	comp=Z,10.0nm,0.8s					
LPL	La Plagne	44.60 309	eP	P	10 11 14.7	-1.0
LPL			pmax	pmax		
	comp=Z,10.0nm,0.7s					
CDF	Champ du Feu	44.67 313	eP	P	10 11 15.3	-0.8
CDF			pmax	pmax		
	comp=Z,10.0nm,1.0s					
ECH	Echery	44.72 313	eP	P	10 11 15.1	-1.3
	comp=Z,19nm,0.8s					
ECH	Echery	44.72 313	P	P	10 11 16.2	-0.2
ECH			pmax	pmax		
	comp=Z,27nm,0.9s					
HINF	Hinteralfeld	44.85 312	eP	P	10 11 16.2	-1.3
HINF			pmax	pmax		
	comp=Z,12nm,0.9s					
CABF	La Chapelle	45.19 310	eP	P	10 11 19.6	-0.6
CABF			pmax	pmax		
	comp=Z,17nm,0.8s					
HAU	Haudompre	45.22 312	eP	P	10 11 19.0	-1.4
HAU			pmax	pmax		
	comp=Z,15nm,0.7s					
WLF	Walferdange	45.63 315	eP	P	10 11 23.1	-0.5
	comp=Z,82nm,1.0s					
WLF	Walferdange	45.63 315	P	P	10 11 25.5	+1.9
WLF			pmax	pmax		
	comp=Z,84nm,1.2s					
WLF	Walferdange	45.63 315	⇑P	P	10 11 24.0	+0.3
MEM	Membach	45.91 316	⇓P	P	10 11 25.6	-0.2
VIVF	Saint-Julien-l	45.98 308	eP	P	10 11 25.1	-1.4
VIVF			pmax	pmax		
	comp=Z,6.0nm,1.0s					
SSB	Saint Sauveur	46.11 308	eP	P	10 11 26.7	-0.8
	comp=Z,6.9nm,0.8s					
SSB	Saint Sauveur	46.11 308	eP	P	10 11 26.7	-0.8
NRIK	Noril'sk	46.21 14	LR	LR	10 34 06.4	
	comp=Z,256nm,19.6s,baz=212,slow=40					
HHC	Hu-ho-hao-te	46.24 58	eP	P	10 11 28.9	+0.2
HHC			S	S	10 18 06.6	-8.8
BCLA	Clavier	46.31 315	⇓P	P	10 11 29.4	+0.5
NB2	NORSAR Subarra	46.51 331	P	P	10 11 28.4	-2.0
	comp=Z,3.2nm,0.8s,baz=118,slow=7.9					
NB200	NORSAR Array S	46.51 331	eP	P	10 11 28.5	-1.9
NOA	NORSAR Array B	46.51 331	P	P	10 11 28.5	-1.9
	comp=Z,1.6nm,0.7s,baz=117,slow=7.7,SNR=5.9					
NOA			LR	LR	10 34 00.3	
	comp=Z,82nm,19.4s,baz=130,slow=40					
GIVF	Givet	46.56 315	eP	P	10 11 31.2	+0.3
GIVF			pmax	pmax		
	comp=Z,30nm,1.0s					
DOU	Dourbes	46.70 315	⇓P	P	10 11 32.9	+0.9
	comp=Z,12nm,1.3s					
SMF	Signal de Mont	46.73 310	eP	P	10 11 31.4	-0.9
SMF			pmax	pmax		
	comp=Z,46nm,0.7s					
LOR	Lormes	46.78 311	eP	P	10 11 31.6	-1.1
LOR			pmax	pmax		
	comp=Z,22nm,0.8s					
ARA0	ARCESS Array S	46.94 345	eP	P	10 11 32.6	-0.9
ARCES	ARCESS Array B	46.94 345	P	P	10 11 32.6	-0.9
	comp=Z,4.9nm,0.9s,baz=131,slow=9.2,SNR=12					
BAIF	Baives	46.94 315	eP	P	10 11 34.4	+0.5
BAIF			pmax	pmax		
	comp=Z,19nm,1.0s					
SSF	Saint Saulge	47.00 311	eP	P	10 11 33.6	-0.8
SSF			pmax	pmax		
	comp=Z,38nm,0.7s					
AVF	Avril sur Loir	47.08 310	eP	P	10 11 33.9	-1.1
AVF			pmax	pmax		
	comp=Z,15nm,0.6s					
TAM	Tamanrasset	47.40 277	eP	P	10 11 37.3	-0.7
	comp=Z,4.2nm,0.7s					
TAM	Tamanrasset	47.40 277	P	P	10 11 39.7	+1.7
TAM			pmax	pmax		
	comp=Z,8.0nm,0.9s					
BGF	Bois d'Agland	47.40 310	eP	P	10 11 36.7	-0.9
BGF			pmax	pmax		
	comp=Z,24nm,0.6s					
MTLF	Montolieu	47.66 305	eP	P	10 11 39.4	-0.2
MTLF			pmax	pmax		
	comp=Z,8.0nm,0.6s					
TCF	Toulx Ste Croi	47.82 309	eP	P	10 11 40.2	-0.6
TCF			pmax	pmax		
	comp=Z,13nm,0.7s					
CAF	Calviac	47.83 308	eP	P	10 11 40.5	-0.5
CAF			pmax	pmax		
	comp=Z,16nm,1.0s					
RJF	Les Rejaudoux	48.24 308	eP	P	10 11 43.9	-0.2
RJF			pmax	pmax		
	comp=Z,18nm,0.8s					
QIZ	Qiongzhong	48.28 88	P	P	10 11 43.1	-1.7
QIZ			S	S	10 18 43.5	-1.3
LFF	La Frestale	48.77 308	eP	P	10 11 48.7	+0.5
LFF			pmax	pmax		
	comp=Z,11nm,0.6s					
EPF	Esparros	49.03 305	eP	P	10 11 49.2	-1.0
EPF			pmax	pmax		
	comp=Z,4.0nm,0.8s					
LDF	La Druitiere	49.58 312	eP	P	10 11 53.1	-1.2
LDF			pmax	pmax		
	comp=Z,13nm,0.8s					
ETSF	Etsaut	49.69 305	eP	P	10 11 57.6	+2.3
ETSF			pmax	pmax		
	comp=Z,5.0nm,0.6s					
FLN	La Foliniere	49.83 313	eP	P	10 11 55.2	-1.0
FLN			pmax	pmax		
	comp=Z,14nm,0.7s					
BOD	Bodaibo	50.02 35	eP	P	10 11 56.9	-0.6
BOD			pmax	pmax		
	comp=Z,16nm,1.1s					
SJPF	Ste Jean	50.17 305	eP	P	10 11 58.8	-0.1
SJPF			pmax	pmax		
	comp=Z,6.0nm,0.6s					
LSZ	Lusaka	50.59 218	LR	LR	10 36 04.8	
	comp=Z,126nm,19.7s,baz=71,slow=39					
SGMF	Saint Gilles	51.17 312	eP	P	10 12 05.8	-0.6
SGMF			pmax	pmax		
	comp=Z,91nm,1.6s					
QUIF	Quistinic	51.57 311	eP	P	10 12 09.2	-0.1
QUIF			pmax	pmax		
	comp=Z,4.0nm,0.9s					
EKA	Eskdalemuir Ar	52.16 321	P	P	10 12 12.5	-1.1
EKA			pmax	pmax		
	comp=Z,1.0nm,0.3s					
ESDC	Sonseca Array	52.42 301	eP	P	10 12 15.5	-0.4
ESDC			eP	P	10 12 15.9	0.0
ESDC	Sonseca Array	52.42 301	P	P	10 12 15.9	0.0
	comp=Z,2.0nm,0.6s,baz=66,slow=7.7,SNR=18					
PAB	San Pablo	52.73 301	eP	P	10 12 17.5	-0.7
	comp=Z,8.2nm,0.8s					
NJ2	Nanjing	52.90 69	eP	P	10 12 20.0	+0.5
TOA0	Torodi Ar. Sit	54.06 267	eP	P	10 12 27.4	-0.8
	comp=Z,9.0nm,0.6s					
TORD	Torodi Ar. Bea	54.06 267	eP	P	10 12 27.8	-0.4
TORD	Torodi Ar. Bea	54.06 267	P	P	10 12 26.6	-1.6
	comp=Z,4.6nm,0.6s,baz=63,slow=7.7,SNR=35					
TORD			LR	LR	10 39 54.3	
	comp=Z,82nm,18.1s,baz=0.0,slow=41					
MVO	Moncorvo	54.60 303	eP	P	10 12 32.7	+0.8
	comp=Z,30nm,2.0s					
PMRV	Marv??o	55.08 301	eP	P	10 12 35.8	+0.5
PCBR	Castelo Branco	55.09 301	eP	P	10 12 35.2	-0.2
	comp=Z,33nm,2.3s					
PVRL	Vila Real	55.10 303	eP	P	10 12 36.8	+1.3
POLO	Lamas de Olo	55.15 303	eP	P	10 12 37.4	+1.5
	comp=Z,12nm,1.9s					
PVIS	Viseu	55.30 303	eP	P	10 12 38.5	+1.5
	comp=Z,18nm,1.4s					
EVO	Evora	55.69 300	eP	P	10 12 40.9	+1.2
	comp=Z,25nm,1.5s					
PNCL	Nicolau / Gran	56.15 300	eP	P	10 12 44.0	+1.0
	comp=Z,34nm,1.7s					
TIXI	Tiksi	59.06 20⇓	eP	P	10 13 04.5	+1.6
TIXI			pmax	pmax		
	comp=Z,2.0nm,0.9s					
KSRS	Korea Array	59.21 61	P	P	10 13 04.3	-0.2
	comp=Z,1.1nm,0.6s,baz=284,slow=7.5,SNR=3.7					
KSRS			LR	LR	10 42 31.5	
	comp=Z,110nm,20.8s,baz=268,slow=40					
USRK	Ussuriysk Ar.	61.00 52	LR	LR	10 42 22.9	
	comp=Z,94nm,19.1s,baz=272,slow=39					
DBIC	Dimbokro	62.63 264	LR	LR	10 43 31.5	
	comp=Z,74nm,18.2s,baz=42,slow=39					
BOSA	Boshof	63.15 212	P	P	10 13 33.8	+2.4
	comp=Z,1.4nm,0.6s,baz=26,slow=7.4,SNR=1.9					
BOSA			LR	LR	10 42 01.0	
	comp=Z,100nm,19.2s,baz=34,slow=37					
SUMG	Summit	66.74 341	eP	P	10 13 54.7	+0.2
	comp=Z,13nm,0.7s					
SUMG	Summit	66.74 341	eP	P	10 13 54.7	+0.2
SUMG			pmax	pmax		
	comp=Z,13nm,0.7s					
MJAR	Matsushiro Arr	67.41 59	LR	LR	10 46 54.6	
	comp=Z,75nm,21.3s,baz=295,slow=39					
SEY	Seymchan	68.71 29⇓	eP	P	10 14 06.5	-0.1
TULEG	Thule	72.09 349	eP	P	10 14 26.1	-1.0
	comp=Z,10nm,1.0s					
BILL	Bilibino	72.20 22	iP	P	10 14 26.7	-1.2
BILL			i		10 14 44.4	
BILL			pmax	pmax		
	comp=Z,2.0nm,0.9s					
BILL			MLR	MLR		
	comp=Z,145nm,17.0s					
PETK	Petropavlovsk-	74.79 38	LR	LR	10 51 02.6	
	comp=Z,69nm,18.5s,baz=285,slow=39					
FITZ	Fitzroy Crossi	79.40 116	eP	P	10 15 12.1	+2.3
	comp=Z,14nm,1.6s					
FITZ	Fitzroy Crossi	79.40 116	P	P	10 15 12.1	+2.3
	comp=Z,2.2nm,0.9s,baz=291,slow=8.6,SNR=3.7					
TOLK	Toolik Lake Re	82.95 10	eP	P	10 15 27.3	-0.7
	comp=Z,5.5nm,1.1s					
IMAR	Indian Mountai	84.62 12	eP	P	10 15 35.9	-0.6
BMAR	Burnt Mountain	84.78 8	eP	P	10 15 37.5	+0.1
INK	Inuvik	85.03 4	eP	P	10 15 38.2	-0.2
	comp=Z,2.8nm,0.9s					
INK	Inuvik	85.03 4	eP	P	10 15 38.3	-0.2
INK			pmax	pmax		
	comp=Z,3.0nm,0.9s					
MLY	Manley	86.04 12	eP	P	10 15 43.4	-0.3
	comp=Z,3.6nm,1.2s					
MDM	Murphy Dome	86.55 11	eP	P	10 15 46.7	+0.6
	comp=Z,3.5nm,0.9s					
BPAW	Bear Paw Mtn.	86.84 12	eP	P	10 15 47.3	-0.3
	comp=Z,5.3nm,0.8s					
ILAR	Eielson Array	86.94 10	P	P	10 15 47.6	-0.4
	comp=Z,0.6nm,0.7s,baz=338,slow=4.5,SNR=6.2					
ILAR			LR	LR	10 59 46.1	
	comp=Z,55nm,20.1s,baz=326,slow=39					
ILB	Eielson Array	86.94 10	eP	P	10 15 47.9	-0.1
	comp=Z,2.3nm,1.1s					
CAST	Castle Rocks	87.24 13	eP	P	10 15 48.7	-0.8
	comp=Z,6.1nm,0.8s					
WRA	Warramunga Arr	87.40 114	P	P	10 15 52.0	+1.0
	comp=Z,0.6nm,0.6s,baz=315,slow=4.2,SNR=10					
AS31	Alice Springs	88.87 117	eP	P	10 15 59.1	+1.1
	comp=Z,1.4nm,1.1s					
ASAR	Alice Springs	88.87 117	P	P	10 16 00.1	+2.2
	comp=Z,1.7nm,1.0s,baz=303,slow=5.3,SNR=6.6					
YKA	Yellowknife Ar	91.03 356	P	P	10 16 08.0	+0.7
	comp=Z,0.3nm,0.6s,baz=0.2,slow=5.1,SNR=11					
YKB5	Yellowknife Ar	91.03 356	eP	P	10 16 08.1	+0.7
STKA	Stephens Creek	98.71 121	eP	Pdif	10 16 43.8	+0.9
	comp=Z,1.4nm,1.4s					
STKA	Stephens Creek	98.71 121	eP	Pdif	10 16 43.8	+0.9
STKA			pmax	pmax		
	comp=Z,1.0nm,1.4s					
STKA	Stephens Creek	98.71 121	LR	LR	10 57 45.9	
	comp=Z,91nm,20.0s,baz=206,slow=33					
TXAR	Lajitas Array	121.64 341	PKP	PKPdf	10 21 57.2	-0.5
	comp=Z,0.4nm,0.7s,baz=48,slow=1.3,SNR=2.9					

ISCJB **11** *10:10:48.8±0.8, 11°.92S±0°.09×167°.1E±0°.2, h220km, mb3.6/8, Error ellipse: s-maj=22.5km s-min=11.5km az=9.7*

IDC **11** *10:11:05.2±5.9, 12°.69S×167°.24E, h385km±69km, mb3.3/8, mb1 3.5/9, mb1mx3.2/34, mbtmp4.0/9, Error ellipse: s-maj=56.5km s-min=19.7km az=163.0*

ISC 11 10:10:49.6±0.8, 12°.05±0°.1×167°.1E±0°.2, h220km, n10, σ19 14/11, mb3.7/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.02	184	P	P	10 13 17.5	+1.4
	0.1nm,0.3s,baz=301,slow=9.3,SNR=3.4						
DZM				S	S	10 15 01.0	-0.6
	0.6nm,0.3s,baz=35,slow=9.3,SNR=37						
STKA	Stephens Creek	30.72	226	P	P	10 16 42.4	-1.8
	2.0nm,0.8s,baz=66,slow=12,SNR=3.2						
WRA	Warramunga Arr	32.46	252	P	P	10 17 00.1	+0.4
	0.3nm,0.3s,baz=78,slow=8.1,SNR=18						
ASAR	Alice Springs	33.60	245	P	P	10 17 09.8	+0.3
	0.8

s-min=14.1km az=175.0
MOS ***11*** *10:25:31.3s 1.2,26°.64N×57°.85E,h12km,mb4.7/31,Error ellipse: s-maj=7.4km s-min=4.9km az=116.9*
NEIC ***11*** *10:25:33.8s 0.0,26°.79N×57°.57E,h14km,mb4.3/56, ML4.3(THR),MN4.5(TEH),After THR.*
TEH ***11*** *10:25:34.7,26°.69N×57°.71E,h24km,ML4.4*
OMAN ***11*** *10:25:43.3s 2.0,26°.03N×57°.80E,h60km±240km,ml4.0/6, Error ellipse: s-maj=78.0km s-min=21.2km az=23.0*
ISC 11 10:25:32.6s 0.4,26°.62N±0°.04×57°.75E±0°.03,h10km,n267, σ1**9**60/259**,mb4.4**/97**,MS3.4**/13**,16C-6D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIAN	**Nian**	**1.24**	**319**	*e*Pg	**Pg**	**10 25 57.9**	**+1.4**
SHME	**Shamm**	**1.55**	**249**	*e*P	**Pn**	**10 25 59.8**	**-0.5**
	SNR=170						
SHME				S	**Sg**	**10 26 27.2**	**+4.8**
SHME	**Shamm**	**1.55**	**249**	*e*Pn	**Pg**	**10 26 02.9**	**+0.6**
BNDS	**Bandar-Abbas**	**1.61**	**299**	*e*Pg	**Pn**	**10 25 59.4**	**-1.8**
GENO	**Geno**	**1.61**	**299**	*e*Pn	**Pg**	**10 26 03.8**	**+0.3**
GENO				IAMB	IAmb	10 26 37.1	
	comp=Z,0.0nm,0.5s						
MDH	**Madha**	**1.85**	**225**	*e*Pn	**Pn**	**10 26 01.1**	**-3.3**
MSFE	**Esma-Masafi**	**1.90**	**229**	*e*P	**Pn**	**10 26 04.7**	**-0.5**
	SNR=45						
MSFE	**Esma-Masafi**	**1.90**	**229**	*e*Pn	**Pn**	**10 26 04.9**	**-0.2**
UMQ	**Umm Al-Quwin**	**2.17**	**240**	*e*P	**Pn**	**10 26 10.8**	**+2.0**
	SNR=6.1						
UMQ	**Umm Al-Quwin**	**2.17**	**240**	*e*Pn	**Pb**	**10 26 11.8**	**-0.1**
HATD	**Hatta, Dubai**	**2.30**	**220**	*e*P	**Pn**	**10 26 11.0**	**+0.3**
	SNR=44						
HATD	**Hatta, Dubai**	**2.30**	**220**	P	**Pn**	**10 26 10.4**	**-0.2**
HATD	**Hatta, Dubai**	**2.30**	**220**	*e*Pn	**Pn**	**10 26 10.4**	**-0.2**
ASHO	**Ashiyiah**	**2.45**	**219**	*e*P	**Pn**	**10 26 13.7**	**+0.9**
	SNR=12						
ASHO	**Ashiyiah**	**2.45**	**219**	P	**Pn**	**10 26 13.1**	**+0.3**
	SNR=12						
ASHO				S	**Sn**	**10 26 40.1**	**-2.8**
	SNR=62						
ASHO	**Ashiyiah**	**2.45**	**219**	*e*Pn	**Pn**	**10 26 13.6**	**+0.9**
NAZ	**Nazwa, Dubai**	**2.48**	**230**	*e*P	**Pn**	**10 26 15.1**	**+2.0**
	SNR=33						
NAZ	**Nazwa, Dubai**	**2.48**	**230**	P	**Pb**	**10 26 18.7**	**+1.4**
NAZ	**Nazwa, Dubai**	**2.48**	**230**	*e*Pn	**Pb**	**10 26 16.4**	**-0.9**
CHBR	**Chabahar**	**2.66**	**112**	*e*Pn	**Pb**	**10 26 21.1**	**+0.7**
CHBR	**Chabahar**	**2.66**	**112**	*e*Pn	**Pb**	**10 26 21.1**	**+0.7**
FAQ	**Al Faqa, Dubai**	**2.69**	**227**	*i* P	**Pn**	**10 26 18.7**	**+2.7**
	SNR=106						
FAQ	**Al Faqa, Dubai**	**2.69**	**227**	P	**Pb**	**10 26 19.5**	**-1.4**
	SNR=7.7						
FAQ	**Al Faqa, Dubai**	**2.69**	**227**	*e*Pn	**Pb**	**10 26 19.5**	**-1.4**
ASUD	**Al Ashush, Dub**	**2.95**	**228**	*i* P	**Pn**	**10 26 22.5**	**+3.0**
	SNR=19						
ASUD	**Al Ashush, Dub**	**2.95**	**228**	P	**Pn**	**10 26 22.9**	**+3.3**
	SNR=19						
ASUD				S	**Sn**	**10 26 54.7**	**-0.3**
ASUD	**Al Ashush, Dub**	**2.95**	**228**	*e*Pn	**Pb**	**10 26 23.4**	**-1.9**
HOQ	**Hoqain**	**3.05**	**188**	*e*Pn	**Pn**	**10 26 20.8**	**-0.1**
BIDO	**Bidbid**	**3.10**	**174**	P	**Pn**	**10 26 21.6**	**0.0**
	SNR=8.6						
BIDO	**Bidbid**	**3.10**	**174**	*e*Pn	**Pn**	**10 26 21.4**	**-0.2**
ALNE	**Al Ain**	**3.12**	**216**	*i* P	**Pn**	**10 26 24.5**	**+2.6**
	SNR=12						
ALNE	**Al Ain**	**3.12**	**216**	*e*Pn	**Pn**	**10 26 25.0**	**+3.0**
NGRK	**Negar Kerman**	**3.15**	**344**	*e*Pn	**Pn**	**10 26 25.1**	**+2.5**
NGRK				IAMB	IAmb	10 27 18.6	
	comp=Z,0.0nm,0.4s						
AJN	**Ajban**	**3.22**	**231**	*e*Pn	**Pb**	**10 26 27.8**	**-2.2**
CHMN	**Cheshme madani**	**3.24**	**357**	*e*Pn	**Pn**	**10 26 26.8**	**+2.9**
CHMN				IAMB	IAmb	10 27 31.1	
	comp=N,0.0nm,0.7s						
WSAR	**Wadi Sarin**	**3.46**	**166**	Pn	**Pn**	**10 26 27.8**	**+1.2**
	comp=N,32nm,0.3s,baz=3.8,slow=11,SNR=109						
WSAR				Sn	**Sn**	**10 27 05.7**	**-1.9**
	comp=N,41nm,0.3s,baz=338,slow=16,SNR=14						
TVBK	**TV Kerman**	**3.47**	**346**	*e*Pn	**Pn**	**10 26 30.1**	**+3.1**
TVBK				IAMB	IAmb	10 26 42.1	
	comp=Z,0.0nm,0.4s						
KHGB	**Koh Gabri**	**3.91**	**344**	*e*Pn	**Pn**	**10 26 36.0**	**+3.0**
KHGB				IAMB	IAmb	10 26 47.3	
	comp=Z,0.0nm,0.5s						
SZD1	**Zahaedan-tmp**	**3.97**	**43**	*e*Pn	**Pn**	**10 26 37.0**	**+3.2**
ZHSF	**Zahedan**	**4.01**	**41**	*e*Pn	**Pn**	**10 26 36.8**	**+2.5**
ZHSF	**Zahedan**	**4.01**	**41**	*e*Pn	**Pn**	**10 26 36.8**	**+2.5**
GHIR	**Ghir-Karzin**	**4.54**	**293**	*e*Pn	**Pn**	**10 26 41.3**	**-0.3**
GHIR	**Ghir-Karzin**	**4.54**	**293**	*e*Pn	**Pn**	**10 26 41.3**	**-0.3**
JLN	**Jalan Bani Buh**	**4.70**	**161**	P	**Pn**	**10 26 42.8**	**-0.8**
IPAR	**Pars**	**5.24**	**309**	*e*Pn	**Pn**	**10 26 53.8**	**+2.4**
MZR	**Muzera**	**5.29**	**228**	*e*Pn	Pn	10 26 58.7	+7.0
BSRN	**Basiran**	**5.46**	**12**	*e*Pn	**Pn**	**10 26 55.0**	**+0.7**
IMEH	**Mehriz**	**5.49**	**331**	*e*Pn	**Pn**	**10 26 56.6**	**+1.9**
IKOO	**Kooshah**	**5.89**	**10**	*e*Pn	**Pn**	**10 27 01.2**	**+1.0**
IKAZ	**Kazeroun**	**6.09**	**303**	*e*Pn	**Pn**	**10 27 03.9**	**+0.8**
ISAD	**Sadrabad**	**6.36**	**327**	*e*Pn	**Pn**	**10 27 08.6**	**+1.9**
IDAH	**Dahanechah**	**6.38**	**16**	*e*Pn	**Pn**	**10 27 08.7**	**+1.8**
TPRV	**Parvadeh(Tabas**	**6.46**	**352**	*e*Pn	**Pn**	**10 27 09.6**	**+1.7**
IRAM	**Ramesheh**	**6.98**	**319**	*e*Pn	**Pn**	**10 27 16.1**	**+0.9**
TKDS	**Koohdasht(Taba**	**7.00**	**356**	*e*Pn	**Pn**	**10 27 17.0**	**+1.7**
IGAR	**Gharneh**	**7.61**	**321**	*e*Pn	**Pn**	**10 27 25.5**	**+1.6**
IZEF	**Zefreh**	**7.83**	**324**	*e*Pn	**Pn**	**10 27 27.4**	**+0.5**
ISFB	**Sefidab**	**9.05**	**330**	*e*Pn	**Pn**	**10 27 44.9**	**+1.4**
JRKH	**Jarkhoshk**	**9.53**	**13**	*e*Pn	**Pn**	**10 27 52.4**	**+2.4**
SBZV	**Sabzevar**	**9.74**	**359**	*e*Pn	**Pn**	**10 27 56.0**	**+2.9**
IPAY	**Payeh**	**9.86**	**6**	*e*Pn	**Pn**	**10 27 56.8**	**+2.1**
ISFR	**Sfrayin**	**10.41**	**1**	*e*Pn	**Pn**	**10 28 04.5**	**+2.3**
IKMR	**Kamar-syah**	**10.63**	**313**	*e*Pn	**Pn**	**10 28 04.7**	**-0.3**
GEYT	**Alibeck**	**11.29**	**2**	Pn	**Pn**	**10 28 14.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=2.7						
GEYT				Lg	Lg	10 31 21.0	
	comp=Z,0.4nm,0.3s,baz=208,slow=28,SNR=2.0						
GEYT				LR	LR	10 33 48.4	
	comp=Z,83nm,18.0s,baz=195,slow=44						
GYA0B	**ALIBECK ARRAY**	**11.29**	**2**	*e*Pn	**Pn**	**10 28 11.7**	**-2.3**
QABG	**Abgarm-Qazvin**	**11.44**	**324**	*e*Pn	**Pn**	**10 28 18.6**	**+2.3**
QALM	**Alamut, Qazvin**	**11.50**	**330**	*e*Pn	**Pn**	**10 28 20.6**	**+3.4**
KBL	**Kabul**	**12.53**	**48**	*e*Pn	**Pn**	**10 28 32.4**	**+1.2**
KBL	**Kabul**	**12.53**	**48**	*e*P	**Pn**	**10 28 32.4**	**+1.2**
KBL	**Kabul**	**12.53**	**48**	*e*Pn	**Pn**	**10 28 32.4**	**+1.2**
IDHR	**Dehrash**	**12.66**	**312**	*e*Pn	**Pn**	**10 28 31.6**	**-1.4**
NIL	**Nilore**	**15.13**	**59**	*e*Pn	**Pn**	**10 29 05.5**	**-1.0**
	comp=Z,19nm,0.8s						
NIL	**Nilore**	**15.13**	**59**	*e*P	**Pn**	**10 29 05.5**	**-1.0**
NIL				pmax	pmax		
	comp=Z,19nm,0.8s						
NIL	**Nilore**	**15.13**	**59**	*e*Pn	**Pn**	**10 29 08.0**	**+1.5**
CHGR	**Chuyangaron**	**15.36**	**36**	*e*Pn	**Pn**	**10 29 08.4**	**-1.2**
	comp=Z,16nm,1.2s						
GAR	**Garm**	**16.23**	**37**	*e*Pn	**Pn**	**10 29 20.9**	**0.0**
	comp=Z,8.9nm,0.9s						
GAR	**Garm**	**16.23**	**37**	*e*P	**Pn**	**10 29 20.9**	**0.0**
GAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AKT	**Akhty**	**16.97**	**333⇑**	*e*P	**P**	**10 29 33.3**	**+1.1**
BTK	**Batken**	**17.27**	**36**	*e*Pn	**Pn**	**10 29 32.0**	**-1.9**
	comp=Z,6.4nm,0.6s						
BTK	**Batken**	**17.27**	**36**	*e*P	**Pn**	**10 29 32.0**	**-1.9**
BTK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GNI	**Garni**	**17.30**	**325**	*e*Pn	**Pn**	**10 29 31.6**	**-2.8**
	comp=Z,14nm,0.9s						
GNI	**Garni**	**17.30**	**325⇓**	*e*P	**P**	**10 29 37.5**	**+1.7**
GNI	**Garni**	**17.30**	**325**	P	**P**	**10 29 35.7**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=122,slow=15,SNR=2.7						
DAMY	**Dhamar**	**17.30**	**229**	*e*Pn	**P**	**10 29 41.5**	**+5.3**
	comp=Z,22nm,0.9s						
AKH	**Akhalkalaki**	**18.86**	**325**	*e*P	**Pn**	**10 29 55.8**	**+2.1**
	comp=Z,19nm,1.4s						
AKH	**Akhalkalaki**	**18.86**	**325**	*e*P	**Pn**	**10 29 55.8**	**+2.1**
AKH				pmax	pmax		
	comp=Z,19nm,1.4s						
ASF	**Jabal al Asfar**	**18.98**	**292**	P	**Pn**	**10 29 55.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=114,slow=15,SNR=3.7						
ASF				S	Sn	10 33 14.7	-13
	comp=Z,0.2nm,0.3s,baz=73,slow=19,SNR=3.0						
ARSB	**Arslanbob**	**19.32**	**37**	*e*P	**P**	**10 29 57.4**	**-0.7**
	comp=Z,8.1nm,0.8s						
KK31	**Karatay Array**	**19.46**	**29**	*e*P	**P**	**10 29 57.0**	**-2.5**
	comp=Z,8.3nm,0.8s						
KK31	**Karatay Array**	**19.46**	**29**	*e*P	**P**	**10 29 57.0**	**-2.5**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KKAR	**Karatay Array**	**19.46**	**29**	*e*P	**P**	**10 29 57.5**	**-2.0**
KKAR				*e*P	**Pn**	**10 29 59.3**	**-1.4**
KKAR	**Karatay Array**	**19.46**	**29**	*e*P	**P**	**10 29 57.5**	**-2.0**
ZEI	**Tsey**	**19.70**	**328**	*e*P	P	10 29 54.8	-7.5
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH	**Kashi**	**19.92**	**45**	P	**P**	**10 30 01.1**	**-3.6**
EIL	**Elat**	**20.32**	**284**	P	**P**	**10 30 10.0**	**+1.0**
	comp=Z,7.2nm,0.7s,baz=79,slow=2.8,SNR=6.9						
EIL				S	Sn	10 34 07.9	+7.9
	comp=Z,2.8nm,0.8s,baz=110,slow=7.1,SNR=2.2						
MMAI	**Mount Meron Ar**	**20.39**	**294**	P	**P**	**10 30 10.1**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=86,slow=14,SNR=7.4						
ATD	**Arta Tunnel**	**20.55**	**226**	*e*P	**P**	**10 30 11.2**	**-0.4**
	comp=Z,11nm,0.8s						
ATD	**Arta Tunnel**	**20.55**	**226**	LR	LR	10 40 28.4	
	comp=Z,53nm,18.3s,baz=20,slow=44						
NEY	**Neytrino**	**20.61**	**327⇑**	*e*P	Pn	10 30 14.8	+0.4
KBZ	**Khabaz**	**20.89**	**329**	P	**P**	**10 30 14.5**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=60,slow=8.1,SNR=2.1						
SHA1	**Shidzhatmaz**	**21.01**	**328⇑**	*e*P	**P**	**10 30 17.6**	**+1.0**
AAK	**Ala-Archa**	**21.04**	**36**	*e*P	**P**	**10 30 16.7**	**-0.2**
	comp=Z,7.2nm,0.8s						
AAK	**Ala-Archa**	**21.04**	**36⇓**	*e*P	**P**	**10 30 18.2**	**+1.4**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AAK	**Ala-Archa**	**21.04**	**36**	P	**P**	**10 30 17.5**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=203,slow=10,SNR=4.1						
NRN	**Naryn**	**21.09**	**41**	*e*P	**P**	**10 30 18.2**	**+0.8**
	comp=Z,4.0nm,0.7s						
NRN	**Naryn**	**21.09**	**41**	*e*P	**P**	**10 30 18.3**	**+0.8**
NRN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIV	**Kislovodsk**	**21.16**	**329**	*e*P	**P**	**10 30 13.8**	**-4.3**
	comp=Z,9.1nm,0.5s						
KIV	**Kislovodsk**	**21.16**	**329**	*e*P	**P**	**10 30 22.6**	**+4.5**
KIV				pmax	pmax		
	comp=Z,33nm,1.1s						
KDJ	**Kajisay**	**22.21**	**41**	*e*P	**P**	**10 30 29.6**	**+0.1**
	comp=Z,12nm,0.9s						
KDJ	**Kajisay**	**22.21**	**41**	*e*P	**P**	**10 30 29.6**	**+0.1**
KDJ				pmax	pmax		
	comp=Z,12nm,0.9s						
TARG	**Taragay, Kyrgy**	**22.34**	**42**	*e*P	**P**	**10 30 30.3**	**-0.8**
	comp=Z,7.2nm,1.1s						
CSS	**Mathiatis**	**22.52**	**298**	*e*P	**P**	**10 30 30.1**	**-2.6**
	comp=Z,12nm,0.7s						
ABKAR	**Akbulak array**	**22.67**	**4**	*e*P	**P**	**10 30 31.9**	**-2.2**
	comp=Z,5.5nm,0.9s						
ABKAR				*e*P	**P**	**10 30 32.1**	**-1.9**
MNCI	**Minicoy**	**23.32**	**139**	*e*P	P	10 30 54.8	+14
	comp=Z,131nm,1.2s						
AKTO	**Aktyubinsk**	**23.79**	**0**	P	**P**	**10 30 44.6**	**-0.7**
	comp=Z,3.3nm,0.4s,baz=175,slow=8.8,SNR=14						
AKTO				LR	LR	10 41 34.7	
	comp=Z,86nm,18.2s,baz=170,slow=41						
BR101	**Keskin Array S**	**23.95**	**309**	*e*P	**P**	**10 30 48.1**	**+0.9**
BR131	**Keskin Array S**	**23.95**	**309**	*e*P	**P**	**10 30 46.1**	**-1.2**
	comp=Z,8.0nm,0.7s						
BRTR	**Keskin Array B**	**23.95**	**309**	*e*P	**P**	**10 30 47.2**	**0.0**
BRTR	**Keskin Array B**	**23.95**	**309**	P	**P**	**10 30 48.1**	**+0.9**
	comp=Z,6.9nm,0.7s,baz=128,slow=13,SNR=42						
BRTR				LR	LR	10 41 59.3	
	comp=Z,134nm,19.0s,baz=114,slow=41						
OTUK	**Ortayu**	**24.42**	**24**	P	**P**	**10 30 54.6**	**+3.3**
OTUK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILGA	**Ilgaz**	**24.51**	**312**	*e*P	**P**	**10 30 53.6**	**+1.2**
	comp=Z,12nm,1.2s						
ANTO	**Ankara**	**24.61**	**309**	*e*P	**P**	**10 30 53.8**	**+0.6**
	comp=Z,11nm,0.6s						
ANTO	**Ankara**	**24.61**	**309**	P	**P**	**10 30 53.8**	**+0.6**
MDUB	**Mudurnu**	**25.97**	**309**	*e*P	**P**	**10 31 07.2**	**+1.6**
	comp=Z,98nm,0.8s						
MANT	**Manisa**	**27.19**	**303**	*e*P	**P**	**10 31 17.7**	**+1.0**
	comp=Z,21nm,1.0s						
MAKZ	**Makanchi**	**27.80**	**37**	*e*P	**P**	**10 31 23.7**	**+1.9**
	comp=Z,4.0nm,0.9s						
MK31	**Makanchi Array**	**27.96**	**37**	*e*P	**P**	**10 31 23.5**	**+0.2**
	comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**27.96**	**37**	*e*P	**P**	**10 31 22.8**	**-0.5**
MKAR	**Makanchi Array**	**27.96**	**37**	P	**P**	**10 31 23.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=241,slow=7.7,SNR=2.4						
BVAR	**Borovoye Array**	**28.02**	**16**	P	**P**	**10 31 22.8**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=198,slow=8.9,SNR=7.9						
BRVK	**Borovoye**	**28.02**	**16**	*e*P	**P**	**10 31 23.0**	**-0.7**
	comp=Z,1.6nm,0.8s						
BRVK	**Borovoye**	**28.02**	**16⇓**	*e*P	**P**	**10 31 23.1**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**28.76**	**28**	P	**P**	**10 31 29.7**	**-0.7**
	comp=Z,0.3nm,0.2s,baz=225,slow=8.4,SNR=4.6						
KURK	**Kurchatov**	**28.87**	**28**	P	**P**	**10 31 29.7**	**-1.6**
PALK	**Pallekele**	**29.09**	**127**	LR	LR	10 43 26.1	
	comp=Z,70nm,18.4s,baz=298,slow=37						
IDI	**Anoyia**	**29.37**	**295**	P	**P**	**10 31 36.1**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=146,slow=10.0,SNR=4.1						
WMQ	**Urumqi**	**29.67**	**47**	*e*P	**P**	**10 31 41.0**	**+2.4**
ALN	**Alexandroupoli**	**29.77**	**307**	*e*P	**P**	**10 31 37.2**	**-2.2**
	comp=Z,6.9nm,1.6s						
ARU	**Arti**	**29.80**	**1⇑**	*e*P	**P**	**10 31 41.8**	**+2.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MLR	**Muntele Rosu**	**31.58**	**315**	*e*P	**P**	**10 31 57.7**	**+2.2**
	comp=Z,4.1nm,0.9s						
MLR	**Muntele Rosu**	**31.58**	**315**	⇑*i*P	**P**	**10 31 57.1**	**+1.6**
MLR	**Muntele Rosu**	**31.58**	**315**	⇑P	**P**	**10 31 57.1**	**+1.6**
MLR	**Muntele Rosu**	**31.58**	**315**	LR	LR	10 47 30.4	
	comp=Z,66nm,19.4s,baz=118,slow=42						
TESR	**Tescani**	**31.60**	**317**	⇑*i*P	**P**	**10 31 54.4**	**-1.2**
AGG	**Agios Georgios**	**32.03**	**302**	*e*P	**P**	**10 31 58.2**	**-1.3**
	comp=Z,3.3nm,0.9s						
VOIR		**32.13**	**314**	⇑*i*P	**P**	**10 32 00.7**	**+0.4**
VOIR		**32.13**	**314**	⇑P	**P**	**10 32 00.7**	**+0.4**
LIT	**Litokhoron**	**32.15**	**304**	*e*P	**P**	**10 31 58.0**	**-2.5**
	comp=Z,2.2nm,0.8s						
VTS	**Vitosha**	**32.31**	**309**	*e*P	**P**	**10 32 00.1**	**-1.9**
	comp=Z,2.2nm,0.7s						
ARR	**Arges**	**32.37**	**314**	⇑*i*P	**P**	**10 32 03.5**	**+1.2**
AKASG	**Malin Array Be**	**32.42**	**326**	*e*P	**P**	**10 32 01.3**	**-1.3**
AKASG	**Malin Array Be**	**32.42**	**326**	P	**P**	**10 32 01.8**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=132,slow=8.5,SNR=12						
AKBB	**Malin Array Si**	**32.42**	**326**	*e*P	**P**	**10 32 00.8**	**-1.9**
	comp=Z,4.7nm,0.6s						
KIEV	**Kiev**	**32.43**	**325**	*e*P	**P**	**10 32 00.9**	**-1.8**
	comp=Z,4.7nm,0.6s						
KIEV	**Kiev**	**32.43**	**325**	⇓*i*P	**P**	**10 32 02.0**	**-0.7**
KIEV	**Kiev**	**32.43**	**325**	⇓*i*P	**P**	**10 32 02.1**	**-0.7**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GRG	**Griva**	**32.43**	**305**	P	**P**	**10 32 05.2**	**+2.3**
GRG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BURAR	**Bucovina Array**	**32.99**	**318**	*e*P	**P**	**10 32 07.3**	**-0.5**
BURAR	**Bucovina Array**	**32.99**	**318**	⇑*i*P	P	10 32 02.8	-5.0
BURAR	**Bucovina Array**	**32.99**	**318**	P	**P**	**10 32 07.3**	**-0.5**
BUR08	**Bucovina Ar. S**	**33.01**	**318**	*e*P	**P**	**10 32 07.2**	**-0.8**
	comp=Z,5.5nm,1.6s						
FNA	**Florina**	**33.14**	**305**	*e*P	**P**	**10 32 07.7**	**-1.5**
	comp=Z,6.5nm,0.7s						
FNA	**Florina**	**33.14**	**305**	P	**P**	**10 32 10.6**	**+1.4**
FNA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GZR	**Gura Zlata**	**33.58**	**313**	⇑*i*P	**P**	**10 32 12.7**	**-0.3**
HERR	**Herculane**	**33.63**	**312**	⇑*i*P	P	10 32 20.1	+6.8
NVS	**Novosibirsk**	**33.81**	**27**	*e*P	**P**	**10 32 16.8**	**+2.1**
ZAA0	**Zalesovo Array**	**33.84**	**29**	*e*P	**P**	**10 32 13.4**	**-1.6**
	comp=Z,8.8nm,1.4s						
ZALV	**Zalesovo Beam**	**33.84**	**29**	*e*P	**P**	**10 32 13.9**	**-1.0**
ZALV	**Zalesovo Beam**	**33.84**	**29**	P	**P**	**10 32 14.9**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=243,slow=9.8,SNR=8.2						
ZAA1	**Zalesovo Array**	**33.84**	**29**	*e*P	**P**	**10 32 14.9**	**-0.1**
MDVR	**Moldovita**	**34.07**	**312**	⇑*i*P	**P**	**10 32 17.6**	**+0.4**
TIR	**Tirane**	**34.38**	**305**	*e*P	**P**	**10 32 20.8**	**+0.9**
	comp=Z,13nm,0.6s						
TIR	**Tirane**	**34.38**	**305**	P	**P**	**10 32 20.8**	**+0.9**
BZS	**Buzias**	**34.42**	**313**	⇑*i*P	**P**	**10 32 20.2**	**0.0**
BZS	**Buzias**	**34.42**	**313**	P	**P**	**10 32 21.6**	**+1.4**
BZS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SIRR	**Siria**	**34.63**	**314**	⇓*i*P	**P**	**10 32 23.6**	**+1.6**
TTG	**Podgorica**	**35.08**	**307**	*e*P	**P**	**10 32 24.6**	**-1.3**
	comp=Z,6.1nm,1.3s						
KOLS	**Kolonicke sedl**	**35.34**	**319**	*e*P	**P**	**10 32 29.4**	**+1.3**
KOLS				pmax	pmax		
	comp=Z,13nm,0.9s						
KOLS	**Kolonicke sedl**	**35.34**	**319**	*e*P	**P**	**10 32 29.4**	**+1.3**
KWP	**Kalwaria Pacla**	**35.40**	**320**	*e*P	**P**	**10 32 27.3**	**-1.3**
	comp=Z,72nm,0.8s						
TIP	**Timpagrande**	**36.33**	**301⇑**	*i*P	**P**	**10 32 32.9**	**-3.9**
KLMR	**Klimovskoe**	**36.41**	**345**	*e*P	**P**	**10 32 35.6**	**-1.4**
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LANS	**Liptovska Anna**	**37.11**	**318**	*e*P	**P**	**10 32 44.6**	**+1.4**
LANS	**Liptovska Anna**	**37.11**	**318**	*e*P	**P**	**10 32 44.6**	**+1.4**
GTA	**Gaotai**	**37.19**	**59**	*e*P	P	10 32 51.1	+6.9
GTA				pP	sP	10 32 58.1	+9.0
GTA				sP	pP	10 33 02.0	+14
VYHS	**Vyhne**	**37.24**	**316**	*e*P	**P**	**10 32 44.9**	**+0.6**
VYHS	**Vyhne**	**37.24**	**316**	*e*P	**P**	**10 32 44.9**	**+0.6**
OJC	**Ojcow**	**37.34**	**319**	*e*P	**P**	**10 32 46.4**	**+1.2**
OJC	**Ojcow**	**37.34**	**319**	*e*P	**P**	**10 32 43.4**	**-1.8**
	comp=Z,9.7nm,0.7s						
OJC	**Ojcow**	**37.34**	**319**	*e*P	**P**	**10 32 46.4**	**+1.2**
SOP	**Sopron**	**38.40**	**314**	P	**P**	**10 32 55.1**	**+1.0**
SOP				pmax	pmax		
	comp=Z,19nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.77**	**93**	LR	LR	10 50 36.7	
	comp=Z,60nm,18.6s,baz=320,slow=39						
VRAC	**Vranov**	**38.91**	**317**	P	**P**	**10 33 02.6**	**+4.1**
VRAC				pmax	pmax		
	comp=Z,4.0nm,2.9s						
CONA	**Conrad Observa**	**38.92**	**314**	*e*pP	**P**	**10 32 58.8**	**+0.1**
	comp=Z,2.9nm,0.6s						
ARSA	**Arzberg**	**38.94**	**313**	*e*pP	**P**	**10 32 59.3**	**+0.6**
	comp=Z,6.2nm,0.8s						
MOA	**Molln**	**39.92**	**314**	*i* pP	**P**	**10 33 07.2**	**+0.3**
	comp=Z,10nm,0.7s,SNR=6.2						
MYKA	**Terra Mystica**	**40.01**	**312**	*e*pP	**P**	**10 33 08.0**	**+0.2**
	comp=Z,3.8nm,0.6s						
LZH	**Lanzhou**	**40.17**	**65**	*e*P	**P**	**10 33 10.5**	**+1.2**
LZH				pP	sP	10 33 18.7	+4.5
LZH				sP	pP	10 33 23.0	+10
LZH				PP	**PnPn**	**10 34 47.6**	**+2.5**
KBA	**Koelnbreinsper**	**40.32**	**312**	*e*pP	**P**	**10 33 10.8**	**+0.4**
	comp=Z,8.4nm,0.8s,SNR=5.4						
KBA	**Koelnbreinsper**	**40.32**	**312**	P	**P**	**10 33 11.3**	**+0.9**
KBA				pmax	pmax		
	comp=Z,12nm,0.8s						
CD2	**Chengdu**	**40.35**	**73**	*e*P	**P**	**10 33 10.9**	**+0.2**
GEC2	**GERESS Array S**	**40.57**	**315**	*e*P	**P**	**10 33 12.6**	**+0.3**
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**40.57**	**315**	*e*P	**P**	**10 33 10.9**	**-1.4

comp=Z,50nm,1.6s
KSRS Korea Array 59.24 61 P **P 10 35 35.1 +0.8**
comp=Z,0.7nm,0.8s,baz=282,slow=8.0,SNR=2.8
KSRS LR LR 11 05 00.9
comp=Z,41nm,20.4s,baz=285,slow=40
BOSA Boshof 63.15 212 P **P 10 36 03.2 +2.3**
comp=Z,1.5nm,0.7s,baz=51,slow=6.5,SNR=2.2
SUMG Summit 66.69 341 *e*P **P 10 36 22.1 -1.6**
comp=Z,6.3nm,0.8s
SUMG Summit 66.69 341 *e*P **P 10 36 22.1 -1.6**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
BILL Bilibino 72.19 22 *i* P P 10 37 03.9 +6.5
BILL *i* 10 37 12.6
BILL pmax pmax
comp=Z,1.0nm,1.0s
TOLK Toolik Lake Re 82.92 10 *e*P **P 10 37 56.9 -0.5**
comp=Z,2.2nm,0.6s
ILAR Eielson Array 86.91 10 P **P 10 38 16.5 -1.0**
comp=Z,0.2nm,0.7s,baz=318,slow=4.5,SNR=3.1
ILB Eielson Array 86.91 10 *e*P **P 10 38 16.4 -1.0**
comp=Z,1.4nm,0.9s
WRA Warramunga Arr 87.47 114 P **P 10 38 20.2 -0.7**
comp=Z,0.5nm,0.8s,baz=316,slow=4.1,SNR=5.3
ASAR Alice Springs 88.94 117 P **P 10 38 26.3 -1.5**
comp=Z,0.3nm,0.9s,baz=312,slow=5.8,SNR=3.0
AS31 Alice Springs 88.94 117 *e*P **P 10 38 29.3 +1.5**
comp=Z,0.9nm,0.9s
YKA Yellowknife Ar 90.99 356 P **P 10 38 36.5 -0.2**
comp=Z,0.1nm,0.3s,baz=358,slow=5.1,SNR=3.9
PMG Port Moresby 93.63 99 LR LR 11 26 01.9
comp=Z,144nm,20.8s,baz=56,slow=39

MEX 11 10:38:28.1±0.5, 16°.94N×100°.31W, h6km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.12**	**20**	*e*P	Pg	10 38 29.5	-1.0
CAIG				*e*S	Sg	10 38 32.1	-0.1
MEIG	**Mezcala**	**1.18**	**34**	*e*P	Pg	10 38 47.0	-3.8
MEIG				*i* S	Sg	10 39 02.0	-4.2
ARIG	**Puente Sto Nin**	**1.34**	**358**	*e*P	Pn	10 38 49.7	-3.7
ARIG				*e*S	Sb	10 39 06.0	-5.0
PLIG	**Platanillo**	**1.64**	**28**	*e*P	Pn	10 38 54.3	-3.3
PLIG				*e*S	Sn	10 39 14.2	-4.8
TLIG	**Tlapa**	**1.78**	**69**	*i* P	Pn	10 38 55.9	-3.6
TLIG				*i* S	Sn	10 39 18.0	-4.6

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*IDC **11** 10:42:17.8±3.4, 26°.26N×57°.73E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/45, mbtmp3.6/8, Error ellipse: s-maj=65.7km s-min=30.2km az=147.0*
*DSN **11** 10:42:21.4±3.0, 26°.51N×58°.11E, h10km, ML3.7/8, Error ellipse: s-maj=42.4km s-min=11.5km az=11.0*
*OMAN **11** 10:42:22.3±3.6, 26°.77N×57°.71E, h2km±80km, ml3.7/11, Error ellipse: s-maj=133.7km s-min=24.7km az=23.0*
ISC 11 10:42:18.7±0.8, 26°.32N±0°.06×58°.06E±0°.06, h10km, n27, σ1§41/28, mb3.7/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.75**	**261**	*e*P	**Pg**	**10 42 53.1**	**+0.9**
	SNR=11						
SHME				S	**Sg**	**10 43 16.9**	**+2.0**
MDH	**Madha**	**1.89**	**238**	*e*P	**Pb**	**10 42 54.0**	**+0.7**
	SNR=33						
MDH	**Madha**	**1.89**	**238**	P	**Pb**	**10 42 54.1**	**+0.8**
MSFE	**Esma-Masafi**	**1.97**	**241**	*e*P	**Pb**	**10 42 55.4**	**+0.7**
	SNR=12						
HATD	**Hatta, Dubai**	**2.29**	**230**	*e*P	**Pg**	**10 43 01.6**	**-1.1**
	SNR=11						
HATD	**Hatta, Dubai**	**2.29**	**230**	P	**Pg**	**10 43 02.5**	**-0.2**
ASHO	**Ashiyiah**	**2.44**	**228**	*e*P	**Pb**	**10 43 03.5**	**+0.8**
	SNR=15						
ASHO	**Ashiyiah**	**2.44**	**228**	P	**Pg**	**10 43 05.1**	**-0.4**
NAZ	**Nazwa, Dubai**	**2.54**	**239**	*e*P	**Pb**	**10 43 04.8**	**+0.4**
	SNR=21						
NAZ	**Nazwa, Dubai**	**2.54**	**239**	P	**Pb**	**10 43 04.8**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.73**	**235**	P	**Pb**	**10 43 08.1**	**+0.5**
BIDO	**Bidbid**	**2.79**	**179**	P	**Pg**	**10 43 12.7**	**+0.6**
HOQ	**Hoqain**	**2.81**	**194**	P	**Pg**	**10 43 12.4**	**-0.2**
ASUD	**Al Ashush, Dub**	**2.99**	**236**	*i* P	**Pb**	**10 43 11.9**	**-0.3**
	SNR=6.3						
ASUD	**Al Ashush, Dub**	**2.99**	**236**	P	**Pb**	**10 43 14.0**	**+1.8**
	SNR=13						
SMDO	**Samad**	**3.25**	**180**	P	**Pb**	**10 43 18.5**	**+1.9**
ARQ	**Araqi**	**3.29**	**206**	P	**Pb**	**10 43 19.3**	**+2.1**
BSY	**Bisya**	**3.65**	**193**	P	**Pg**	**10 43 27.0**	**-1.6**
	SNR=7.0						
WBK	**Wadi Bani Khal**	**3.79**	**167**	P	**Pg**	**10 43 29.6**	**-1.7**
MMAI	**Mount Meron Ar**	**20.77**	**294**	P	**P**	**10 46 59.2**	**-0.7**
	1.2nm,0.5s,baz=96,slow=13,SNR=3.6						
AKTO	**Aktyubinsk**	**24.07**	**360**	P	**P**	**10 47 36.4**	**+2.2**
	1.2nm,0.6s,baz=183,slow=11,SNR=5.7						
BRTR	**Keskin Array B**	**24.36**	**309**	P	**P**	**10 47 36.9**	**-0.2**
	1.1nm,0.7s,baz=123,slow=10.0,SNR=9.5						
AKASG	**Malin Array Be**	**32.83**	**326**	P	**P**	**10 48 51.6**	**-0.6**
	0.3nm,0.4s,baz=126,slow=8.0,SNR=2.3						
ZALV	**Zalesovo Beam**	**33.96**	**28**	P	**P**	**10 49 04.9**	**+2.8**
	0.8nm,0.4s,baz=225,slow=11,SNR=2.6						
GERES	**GERESS Array B**	**40.98**	**315**	P	**P**	**10 49 59.9**	**-1.9**
	0.4nm,0.6s,baz=112,slow=7.5,SNR=5.2						
FINES	**FINESS Array B**	**41.19**	**337**	P	**P**	**10 50 01.4**	**-1.7**
	1.0nm,0.7s,baz=165,slow=7.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**54.28**	**268**	P	**P**	**10 51 43.7**	**-1.7**
	0.5nm,0.5s,baz=58,slow=7.8,SNR=7.0						

JMA 11 10:59:31.1, 34°.03N×135°.27E, h6km, M1.8, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.19**	**159**	P	Pg	10 59 35.1	+0.2
JWM				S	Sg	10 59 37.9	+0.4
JWY	**Kouya**	**0.33**	**55**	P	Pg	10 59 37.6	+0.1
JWY				S	Sg	10 59 42.3	+0.4
JTNC	**Tanabenakahech**	**0.35**	**127**	P	Pg	10 59 38.3	+0.3
JTNC				S	Sg	10 59 43.0	+0.4
JAJ2	**Tsuna**	**0.50**	**321**	S	Sg	10 59 47.7	+0.3
JHE	**Heguri**	**0.71**	**29**	S	Sg	10 59 54.2	+0.2
JAI	**Aioi**	**0.72**	**251**	P	Pg	10 59 44.7	-0.2
JAI				S	Sg	10 59 53.9	-0.4
JKN2	**Miekihoku**	**0.86**	**76**	P	Pg	10 59 47.4	-0.2
JKN2				S	Sg	10 59 59.0	+0.3

JMA 11 11:00:42.5, 36°.47N×138°.02E, h14km±1km, 1C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.09**	**134**	P	Pg	11 00 45.4	-0.2
JNG				S	Sg	11 00 47.4	-0.3
MAT	**Matsushiro**	**0.17**	**64**	⇑P	Pg	11 00 46.3	-0.3
MAT				S	Sg	11 00 49.0	-0.3
MAT	**Matsushiro**	**0.17**	**64**	P	Pg	11 00 46.3	-0.3
MAT				S	Sg	11 00 49.0	-0.3

IDC 11 11:21:14.4±1.3, 30°.28N×103°.36E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/35, mbtmp3.5/5, Error ellipse: s-maj=100.1km s-min=23.2km az=60.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**23.20**	**321**	P	P	11 26 21.5	-1.4
	0.2nm,0.5s,baz=121,slow=11,SNR=3.5						
ZALV	**Zalesovo Beam**	**27.20**	**336**	P	P	11 27 01.2	+1.6
	0.4nm,0.5s,baz=155,slow=14,SNR=1.8						
WRA	**Warramunga Arr**	**58.16**	**145**	P	P	11 31 10.0	-0.2
	1.0nm,0.8s,baz=337,slow=7.2,SNR=5.3						
ASAR	**Alice Springs**	**61.13**	**148**	P	P	11 31 30.9	+0.2
	0.3nm,0.7s,baz=340,slow=6.9,SNR=4.2						
YKA	**Yellowknife Ar**	**82.67**	**17**	P	P	11 33 39.1	-0.4
	0.2nm,0.8s,baz=318,slow=4.9,SNR=3.6						

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*DRS **11** 11:21:52.7±0.0, 41°.80N×46°.24E, h15km, ML2.6/4*
*TIF **11** 11:21:52.5, 41°.71N×46°.33E, h33km*
*ISCJB **11** 11:21:53.6±0.5, 41°.76N±0°.03×46°.32E±0°.03, h16km±8km, Error ellipse: s-maj=5.5km s-min=3.3km az=158.4*

*NORS **11** 11:21:53.2±0.0, 41°.86N×46°.43E, h15km, MPVA3.6*
ISC 11 11:21:54.0±1.0, 41°.79N±0°.04×46°.32E±0°.02, h30km±7km, n23, σ1§04/42, 1C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.07**	**304**	P	**Pb**	**11 21 59.1**	**-0.1**
LGD				S	**Sb**	**11 22 03.9**	**+1.1**
DDFL	**Dedoflistskaro**	**0.38**	**204**	P	**Pb**	**11 22 00.7**	**-2.0**
KMKR	**Kumukh**	**0.67**	**59**	*e*Pg	**Pb**	**11 22 06.0**	**-1.4**
KMKR				*e*Sg	**Sb**	**11 22 16.0**	**-0.5**
GNBR	**Gunib**	**0.76**	**38**	*e*Pg	**Pb**	**11 22 07.4**	**-1.5**
GNBR				⇓*e*Sg	**Sb**	**11 22 18.1**	**-0.8**
	391nm,0.5s						
XNZR	**Khunzakh**	**0.80**	**21**	*i* Pg	**Pb**	**11 22 08.3**	**-1.2**
XNZR				*e*Sg	**Sb**	**11 22 19.9**	**-0.2**
BTLR	**Botlikh**	**0.87**	**355**	*i* Pg	**Pn**	**11 22 08.6**	**-1.7**
BTLR				⇑*e*Sg	**Sb**	**11 22 21.3**	**-0.8**
	88nm,0.8s						
ARKR	**Arakani**	**0.95**	**31**	*e*Pg	**Pn**	**11 22 11.0**	**-0.4**
ARKR				*e*Sg	**Sb**	**11 22 24.0**	**-0.2**
UNCR	**Uncukul**	**0.98**	**21**	*e*Pg	**Pn**	**11 22 12.0**	**+0.1**
UNCR				*e*Sg	**Sb**	**11 22 26.0**	**+0.8**
URKR	**Urkarakh**	**1.04**	**69**	*i* Pg	**Pn**	**11 22 13.0**	**+0.2**
URKR				*e*Sg	**Sb**	**11 22 27.8**	**+0.8**
AKT	**Akhty**	**1.10**	**106**	*e*Pg	**Pb**	**11 22 14.6**	**+0.1**
AKT				⇓*e*Sg	**Sb**	**11 22 31.4**	**+2.8**
	211nm,0.6s						
KRNR	**Karanay**	**1.12**	**23**	*e*Pg	**Pn**	**11 22 13.0**	**-0.8**
BTNK	**Botanikuri**	**1.15**	**265**	P	**Pn**	**11 22 13.8**	**-0.3**
BTNK				S	**Sb**	**11 22 29.9**	**0.0**
DVE	**Vedeno**	**1.17**	**353**	*e*Pg	**Pn**	**11 22 14.2**	**-0.3**
DVE				*e*Sg	**Sb**	**11 22 30.7**	**+0.1**
BUJR	**Buynaksk**	**1.18**	**29**	*e*Pg	**Pn**	**11 22 15.0**	**+0.4**
BUJR				*e*Sg	**Sb**	**11 22 32.0**	**+1.1**
TBLG	**Delisi**	**1.19**	**268**	P	**Pn**	**11 22 14.5**	**-0.1**
TBLG				S	**Sb**	**11 22 30.9**	**0.0**
TBLG	**Delisi**	**1.19**	**268**	*e*Pg	**Pn**	**11 22 14.5**	**-0.1**
TBLG				*e*Sg	**Sb**	**11 22 30.9**	**0.0**
GROC	**Groznyy**	**1.46**	**345**	*e*Pg	**Pb**	**11 22 22.2**	**+1.6**
GROC				*e*Sg	**Sb**	**11 22 40.2**	**+1.5**
KZRT	**Kazreti**	**1.50**	**255**	P	**Pn**	**11 22 18.5**	**-0.4**
KZRT				S	**Sn**	**11 22 37.9**	**+0.4**
DRN	**Derbent**	**1.52**	**80**	*e*Pg	**Pb**	**11 22 20.9**	**-0.6**
DRN				⇓*e*Sg	**Sb**	**11 22 40.8**	**+0.5**
	80nm,0.5s						
GUDG	**Gudauri**	**1.53**	**297**	P	**Pb**	**11 22 20.8**	**-1.0**
GUDG				S	**Sb**	**11 22 41.1**	**+0.2**
LACR	**Lac**	**1.82**	**305**	*e*Pg	**Pn**	**11 22 24.9**	**+1.4**
LACR				*e*Sg	**Sb**	**11 22 48.9**	**-0.4**
ONI	**Oni**	**2.28**	**291**	P	**Pn**	**11 22 31.2**	**+1.5**
ONI	**Oni**	**2.28**	**291**	*e*Pn	**Pn**	**11 22 31.2**	**+1.5**

MEX 11 11:29:27.8±0.4, 18°.07N×101°.73W, h59km±11km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.52**	**152**	*e*P	Pn	11 29 38.9	-1.1
ZIIG				*e*S	Sn	11 29 46.8	-1.9
ARIG	**Puente Sto Nin**	**1.33**	**81**	*e*P	Pn	11 29 48.8	-1.4
ARIG				*e*S	Sn	11 30 04.8	-2.2
MMIG	**Aquila**	**1.56**	**278**	*e*P	Pn	11 29 51.5	-1.7
MMIG				*e*S	Sn	11 30 10.6	-1.8
CAIG	**El Cayaco**	**1.72**	**126**	*i* P	Pn	11 29 54.2	-1.3
CAIG				*i* S	Sn	11 30 13.6	-2.9
MEIG	**Mezcala**	**2.01**	**94**	*i* P	Pn	11 29 58.0	-1.5
MEIG				*i* S	Sn	11 30 21.9	-1.7

MAN 11 11:30:06.6, 6°.68N×126°.83E, h28km, mb3.9, ML2.7, MS2.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.63**	**295**	*e*P	Pn	11 30 19.5	-0.1
MATI				*e*S	Sb	11 30 27.6	0.0
DDMP	**Don Marcelino,**	**1.25**	**243**	*e*P	Pn	11 30 27.9	-0.4
DMPH	**Davao City--Mi**	**1.37**	**287**	⇑*e*P	Pn	11 30 29.8	-0.1
DMPH				*e*S	Sn	11 30 48.0	+0.7
BUKP	**Musuan**	**2.12**	**304**	*e*P	Pn	11 30 40.9	+0.7
BUKP				*e*S	Sn	11 31 06.1	+0.4

IDC 11 11:33:54.6±2.9, 7°.43S×149°.72E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/33, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=98.0km s-min=36.1km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.20**	**232**	Pn	Pn	11 34 48.1	+1.9
	5.2nm,0.3s,baz=48,slow=5.3,SNR=15						
PMG				Sn	Sn	11 35 27.6	+2.5
	6.6nm,0.3s,baz=111,slow=21,SNR=9.6						
WRA	**Warramunga Arr**	**19.42**	**229**	P	Pn	11 38 23.5	-0.2
	0.1nm,0.3s,baz=54,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.16**	**221**	P	P	11 38 51.0	-1.2
	0.3nm,0.7s,baz=59,slow=8.9,SNR=5.9						
FITZ	**Fitzroy Crossi**	**25.73**	**243**	P	P	11 39 26.3	-0.7
	1.2nm,0.4s,baz=60,slow=8.3,SNR=16						
TORD	**Torodi Ar. Bea**	**148.05**	**283**	PKPbc	PKPbc	11 53 42.8	-0.4
	0.2nm,0.6s,baz=85,slow=2.3,SNR=3.1						

IDC 11 11:39:22.6±7.4, 18°.30S×177°.07W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/31, mbtmp3.6/2, Error ellipse: s-maj=317.9km s-min=63.7km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.81**	**260**	P	P	11 47 47.1	+0.5
	0.3nm,0.3s,baz=96,slow=7.7,SNR=7.4						
ASAR	**Alice Springs**	**45.91**	**255**	P	P	11 47 46.6	-0.8
	0.4nm,0.9s,baz=90,slow=8.3,SNR=4.1						
BRTR	**Keskin Array B**	**145.96**	**315**	PKPbc	PKPdf	11 59 03.8	-0.3
	0.4nm,0.6s,baz=85,slow=3.2,SNR=2.5						

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*ISCJB **11** 11:44:21.6±0.3, 5°.43S±0°.06×151°.72E±0°.07, h50km, mb4.3/28, MS3.3/5, Error ellipse: s-maj=11.3km s-min=5.9km az=37.1*
*IDC **11** 11:44:22.5±3.0, 5°.39S×151°.72E, h50km±25km, mb3.9/10, mb1 4.1/11, mb1mx3.9/32, mbtmp4.2/11, ML2.1/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/29, Error ellipse: s-maj=35.2km s-min=18.3km az=125.0*
*NEIC **11** 11:44:25.1±1.2, 5°.43S×151°.73E, h70km±7km, mb4.5/21, Error ellipse: s-maj=12.6km s-min=10.2km az=207.0*
ISC 11 11:44:22.9±0.5, 5°.45S±0°.06×151°.77E±0°.09, h50km, n60, σ1§14/58, mb4.3/28, MS3.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.31**	**17**	*e*Pn	**Pn**	**11 44 45.6**	**+0.7**
RABL				*e*Sn	**Sn**	**11 45 04.9**	**+3.6**
MANU	**Manus Island**	**5.54**	**307**	*e*Pn	**Pn**	**11 45 44.5**	**+1.6**
PMG	**Port Moresby**	**6.03**	**229**	*e*Pn	**Pn**	**11 45 51.9**	**+2.3**
PMG				*e*Sn	**Sn**	**11 46 58.9**	**+1.5**
PMG	**Port Moresby**	**6.03**	**229**	P	**Pn**	**11 45 51.1**	**+1.5**
	2.9nm,0.3s,baz=51,slow=4.9,SNR=7.0						
PMG				S	**Sn**	**11 46 56.9**	**-0.5**
	1.8nm,0.3s,baz=319,slow=20,SNR=3.6						
JAY	**Jayapura**	**11.42**	**284**	LR	LR	11 51 03.0	
	comp=Z,128nm,21.5s,baz=122,slow=35						
EIDS	**Eidsvold**	**19.82**	**182**	*e*P	**P**	**11 48 50.1**	**+0.5**
	32nm,1.5s						
GUMO	**Guam**	**20.12**	**340**	LR	LR	11 54 56.2	
	comp=Z,60nm,22.0s,baz=126,slow=32						
MTN	**Manton Dam**	**21.65**	**249**	*e*P	**P**	**11 49 10.3**	**+1.0**
	24nm,1.3s						
DZM	**Mont Dzumac**	**21.79**	**141**	*e*P	**P**	**11 49 12.8**	**+1.9**
	36nm,1.4s						
DZM	**Mont Dzumac**	**21.79**	**141**	LR	LR	11 55 03.7	
	comp=Z,96nm,20.1s,baz=293,slow=29						
WRAB	**Tennant Creek**	**22.24**	**228**	*e*P	**P**	**11 49 15.6**	**-0.1**
	11nm,0.9s						
WB2	**Warramunga Arr**	**22.24**	**228**	*e*P	**P**	**11 49 14.9**	**-0.8**
	15nm,1.3s						
WR1	**Warramunga Arr**	**22.25**	**228**	*e*P	**P**	**11 49 15.6**	**-0.3**
WRA	**Warramunga Arr**	**22.25**	**228**	P	**P**	**11 49 15.6**	**-0.3**
	3.6nm,0.6s,baz=52,slow=10.0,SNR=41						
WRA				ScP	**ScP**	**11 56 44.9**	**+0.6**
	0.7nm,0.9s,baz=49,slow=2.7,SNR=4.7						
AS31	**Alice Springs**	**24.98**	**222**	*e*P	**P**	**11 49 42.1**	**-0.1**
	2.1nm,0.6s						
ASAR	**Alice Springs**	**24.99**	**222**	*e*P	**P**	**11 49 43.0**	**+0.8**
ASAR	**Alice Springs**	**24.99**	**222**	P	**P**	**11 49 42.0**	**-0.1**
	3.6nm,0.7s,baz=62,slow=8.2,SNR=35						
ASAR				PcP	**PcP**	**11 53 14.6**	**-1.9**
	0.5nm,0.9s,baz=35,slow=3.7,SNR=2.9						
STKA	**Stephens Creek**	**27.97**	**199**	*e*P	**P**	**11 50 08.4**	**-0.5**
	1.8nm,1.4s						
STKA	**Stephens Creek**	**27.97**	**199**	LR	LR	12 01 38.0	
	comp=Z,90nm,18.1s,baz=76,slow=37						
FITZ	**Fitzroy Crossi**	**28.45**	**242**	P	**P**	**11 50 12.8**	**-0.5**
	9.5nm,0.9s,baz=48,slow=11,SNR=25						
DAV	**Davao City (W)**	**28.95**	**295**	LR	LR	12 01 35.9	
	comp=Z,54nm,19.8s,baz=128,slow=36						
MORW	**Morawa**	**41.14**	**231**	*e*P	**P**	**11 52 03.6**	**+1.1**
	32nm,1.3s						
RAR	**Rarotonga**	**49.46**	**113**	LR	LR	12 14 06.3	
	comp=Z,114nm,18.3s,baz=292,slow=36						
CMAR	**Chiang Mai Arr**	**57.23**	**296**	*e*P	**P**	**11 54 05.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**57.23**	**296**	P	**P**	**11 54 05.2**	**-0.4**
	0.6nm,0.5s,baz=130,slow=6.2,SNR=5.9						
SONA0	**Songino Array**	**66.33**	**328**	*e*P	**P**	**11 55 07.2**	**+0.7**
SONM	**Songino Array**	**66.33**	**328**	*e*P	**P**	**11 55 06.4**	**-0.1**
SONM	**Songino Array**	**66.33**	**328**	P	**P**	**11 55 07.2**	**+0.7**
	1.7nm,0.5s,baz=143,slow=4.6,SNR=7.0						
MK32	**Makanchi Array**	**80.14**	**319**	*e*P	**P**	**11 56 26.4**	**-1.4**
MKAR	**Makanchi Array**	**80.14**	**319**	P	**P**	**11 56 26.4**	**-1.4**
	0.6nm,0.5s,baz=103,slow=6.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**81.12**	**327**	P	**P**	**11 56 30.6**	**-2.3**
	0.8nm,0.4s,baz=74,slow=5.3,SNR=4.1						
ZAA1	**Zalesovo Array**	**81.12**	**327**	*e*P	**P**	**11 56 30.6**	**-2.3**
IMAR	**Indian Mountai**	**81.33**	**20**	*e*P	**P**	**11 56 33.7**	**0.0**
MLY	**Manley**	**81.85**	**21**	*e*P	**P**	**11 56 36.2**	**-0.4**
	1.7nm,0.9s						
ILAR	**Eielson Array**	**83.14**	**22**	*e*P	**P**	**11 56 43.0**	**-0.3**
ILAR	**Eielson Array**	**83.14**	**22**	P	**P**	**11 56 41.1**	**-2.2**
	0.9nm,0.7s,baz=246,slow=5.5,SNR=8.2						
TOLK	**Toolik Lake Re**	**84.15**	**18**	*e*P	**P**	**11 56 48.6**	**+0.2**
	4.4nm,1.4s						
QSPA	**South Pole Qui**	**84.52**	**180**	*e*P	**P**	**11 56 50.5**	**+0.1**
	6.3nm,1.2s						
ARSB	**Arslanbob**	**85.20**	**312**	*e*P	**P**	**11 56 54.4**	**0.0**
	6.9nm,1.0s						
EGAK	**Eagle**	**85.35**	**23**	*e*P	**P**	**11 56 55.5**	**+1.0**
	2.2nm,1.0s						
KKAR	**Karatay Array**	**87.33**	**314**	*e*P	**P**	**11 57 04.7**	**0.0**
	4.4nm,1.6s						
HUMO	**Hull Mountain**	**90.17**	**47**	*e*P	**P**	**11 57 17.6**	**-0.5**
	4.7nm,1.0s						
YBH	**Yreka Blue Hor**	**90.25**	**48**	*e*P	**P**	**11 57 18.7**	**+0.2**
	4.9nm,1.5s						
PINE	**Pine Mountain**	**91.77**	**46**	*e*P	**P**	**11 57 25.7**	**0.0**
	4.1nm,0.9s						
MOD	**Modoc Plateau**	**92.05**	**48**	*e*P	**P**	**11 57 26.0**	**-1.0**
	2.6nm,0.9s						
I07A	**Izee**	**92.83**	**46**	*e*P	**P**	**11 57 30.1**	**-0.5**
	3.6nm,1.0s						
NVAR	**Mina Array Bea**	**93.29**	**52**	*e*P	**P**	**11 57 33.0**	**+0.1**
NVAR	**Mina Array Bea**	**93.29**	**52**	P	**P**	**11 57 33.9**	**+1.0**
	2.0nm,0.8s,baz=250,slow=6.9,SNR=13						
NV01	**Mina Array Sit**	**93.29**	**52**	*e*P	**P**	**11 57 33.9**	**+1.0**
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**11 57 46.7**	**+0.1**
	0.1nm,0.7s,baz=268,slow=4.6,SNR=3.6						
YKB5	**Yellowknife Ar**	**96.47**	**28**	*e*P	**P**	**11 57 46.7**	**+0.1**
PDAR	**Pinedale Array**	**100.04**	**48**	P	**Pdif**	**11 58 03.2**	**-0.2**
	0.7nm,0.7s,baz=236,slow=1.6,SNR=6.3						
AKASG	**Malin Array Be**	**114.42**	**324**	PKP	PKPdf	12 02 56.1	-1.1
	0.4nm,0.4s,baz=51,slow=2.5,SNR=2.9						
BRTR	**Keskin Array B**	**114.96**	**311**	PKP	**PKiKP**	**12 02 58.1**	**-0.8**
	0.4nm,0.7s,baz=101,slow=2.9,SNR=3.0						
NB200	**NORSAR Array S**	**117.17**	**340**	*e*PKPdf	**PKPdf**	**12 03 01.6**	**-0.8**
NOA	**NORSAR Array B**	**117.17**	**340**	PKP	**PKPdf**	**12 03 01.6**	**-0.8**
	0.3nm,0.6s,baz=49,slow=2.1,SNR=2.7						
CLL	**Collm**	**122.91**	**330**	*e*PKPdf	**PKiKP**	**12 03 14.0**	**+0.2**
GERES	**GERESS Array B**	**124.06**	**328**	PKP	**PKiKP**	**12 03 15.7**	**-0.6**
	0.9nm,0.5s,baz=84,slow=1.4,SNR=12						
TORD	**Torodi Ar. Bea**	**149.52**	**287**	PKPbc	**PKPbc**	**12 04 06.1**	**-1.7**
	4.1nm,0.7s,baz=88,slow=3.1,SNR=26						
TOA1	**Torodi Ar. Sit**	**149.52**	**287**	*e*PKPbc	**PKPbc**	**12 04 06.1**	**-1.7**

IDC 11 11:45:41.9±2.3, 35°.56S×53°.56E, h0km, mb3.9/2, mb1 4.3/2, mb1mx3.5/29, mbtmp3.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/31, Error ellipse: s-maj=95.1km s-min=53.5km az=30.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**32.74**	**36**	T	T	12 26 40.6	
	baz=212,slow=76						
H08S2	**Diego Garcia H**	**32.75**	**36**	T	T	12 26 42.5	
	baz=212						
H08S3	**Diego Garcia H**	**32.76**	**36**	T	T	12 26 43.0	
	baz=212,slow=76						
H08N3	**Diego Garcia H**	**33.20**	**33**	T	T	12 27 12.2	
	baz=205,slow=75,SNR=3.9						
H08N1	**Diego Carcia H**	**33.21**	**33**	T	T	12 27 13.6	
	baz=205,slow=75,SNR=4.7						
H08N2	**Diego Garcia H**	**33.22**	**33**	T	T	12 27

EKS2	**Erkin-Say**	**3.78**	**62**	⇑*i*P		**Pn**	**11 48 42.1**	**+0.8**
	baz=62							
EKS2				⇑*i*S		**Sn**	**11 49 27.1**	**+1.1**
	baz=62							
ARLS	**Aral**	**3.91**	**75**	⇑*e*P		**Pn**	**11 48 44.3**	**+1.1**
	baz=75							
ARLS				⇑*i*S		**Sn**	**11 49 28.6**	**-0.6**
	baz=75							
UCH	**Uchtor**	**4.14**	**70**	⇓*i*P		**Pn**	**11 48 46.9**	**+0.4**
	baz=71							
UCH				⇓*i*S		**Sn**	**11 49 35.8**	**+0.6**
	baz=71							
AAK	**Ala-Archa**	**4.26**	**65**	⇑Pg		**Pb**	**11 48 57.2**	**-0.8**
	3.8nm,0.5s							
AAK				⇓Lg		Lg	11 49 49.2	
	6.3nm,0.6s							
TKM2	**Tokmak 2**	**5.12**	**65**	⇓Pg		**Pb**	**11 49 13.3**	**+0.7**
	2.8nm,0.7s							
TKM2				⇑Lg		Lg	11 50 16.9	
	6.5nm,0.7s							
DGS	**Degeres**	**5.36**	**63**	Pg		**Pb**	**11 49 16.5**	**0.0**
	7.4nm,0.5s							
DGS				Lg		Lg	11 50 17.6	
	7.0nm,0.7s							
DGS	**Degeres**	**5.36**	**63**	*e*P		**Pb**	**11 49 20.4**	**+3.9**
	4.9nm,0.3s							
DGS				*e*S		**Sb**	**11 50 21.8**	**+0.9**
	7.0nm,0.7s							
BTLS	**Baital**	**5.39**	**39**	Pg		**Pg**	**11 49 21.9**	**-4.1**
	2.6nm,0.3s							
BTLS				Lg		Lg	11 50 26.8	
	10nm,0.5s							
BTLS	**Baital**	**5.39**	**39**	*e*P		**Pg**	**11 49 23.1**	**-2.9**
	2.6nm,0.3s							
BTLS				*e*S		**Sb**	**11 50 24.5**	**+2.8**
	10nm,0.5s							
KTBS	**Karatobe**	**6.15**	**61**	Pg		**Pb**	**11 49 31.6**	**+1.5**
	2.2nm,0.6s							
KTBS				Lg		Lg	11 50 44.4	
	11nm,0.5s							

NIED ***11*** *12:15:00,37.°80N×143.°80E,h5km,Mw4.2 Best double couple: M0=2.34000×10^15 NP1:φs=5.00000°,δ27.00000°, λ-98.00000°. NP2:φs=193.00000°,δ63.00000°, λ-86.00000°.*
IDC ***11*** *12:15:41.7±0.6,37.°68N×143.°88E,h0km,mb3.9/21, mb1 4.1/27,mb1mx4.0/46,mbtmp3.9/27,ML3.7/5,MS3.2/15, Ms1 3.2/15,ms1mx3.0/41,Error ellipse: s-maj=16.7km s-min=13.1km az=128.0*
ISCJB ***11*** *12:15:41.6±1.1,37.°77N±0.°03×143.°79E±0.°03,h7km±7km, mb4.2/75,MS3.2/9,Error ellipse: s-maj=5.4km s-min=3.5km az=166.5*
JMA ***11*** *12:15:44.1±0.1,37.°82N×143.°82E,h48km,M3.9*
MOS ***11*** *12:15:46.4±2.1,37.°98N×143.°83E,h37km,mb4.4/25,Error ellipse: s-maj=9.6km s-min=5.6km az=94.1*
NEIC ***11*** *12:15:47.0±1.1,37.°75N×143.°84E,h33km±5km,mb4.4/50, Error ellipse: s-maj=17.0km s-min=10.5km az=125.0*
ISC 11 12:15:44.4±2.2,37.°84N±0.°05×143.°86E±0.°05,h13km±13km, n167,σ1§97/185,mb4.3/75,MS3.3/9,5C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.95**	**285**	P	**Pn**	**12 16 15.4**	**-1.8**
JIKH				*e*S	**Sn**	**12 16 38.1**	**-3.4**
JIO	**Ouri**	**2.07**	**288**	P	**Pn**	**12 16 17.2**	**-1.7**
JIO				*e*S	**Sn**	**12 16 41.7**	**-2.9**
JKMT	**Kesennumamotoy**	**2.11**	**298**	P	**Pn**	**12 16 17.8**	**-1.7**
JKMT				*e*S	**Sn**	**12 16 42.3**	**-3.3**
OFUJ	**Ofunato**	**2.12**	**306**	P	**Pn**	**12 16 17.8**	**-1.8**
JMK	**Ichinoseki**	**2.35**	**299**	P	**Pn**	**12 16 21.4**	**-1.4**
JMK				*e*S	**Sn**	**12 16 48.9**	**-2.6**
JOM	**Ohasama**	**2.59**	**310**	P	**Pn**	**12 16 25.0**	**-1.0**
JOM				S	**Sn**	**12 16 55.1**	**-2.2**
JFT	**Otama**	**2.82**	**264**	P	**Pn**	**12 16 27.8**	**-1.4**
JFT				*e*S	**Sn**	**12 16 59.9**	**-3.1**
JYK	**Kaneyama**	**2.96**	**292**	P	**Pn**	**12 16 30.2**	**-0.9**
JYK				*e*S	**Sn**	**12 17 04.6**	**-1.8**
JANG	**Nango**	**3.12**	**325**	P	**Pn**	**12 16 32.9**	**-0.4**
JAW	**Awa shima**	**3.69**	**281**	P	**Pn**	**12 16 40.7**	**-0.4**
BSO1	**Boso 1**	**3.95**	**217**	P	**Pn**	**12 16 41.6**	**-2.6**
BSO1				S	**Sn**	**12 17 26.8**	**-3.3**
ERM	**Erimo**	**4.20**	**353**	*e*Pn	**Pn**	**12 16 48.1**	**-0.1**
ERM				*e*Sn	**Sn**	**12 17 34.1**	**-3.0**
ERM	**Erimo**	**4.20**	**353**	*d i*P	**Pn**	**12 16 47.8**	**-0.4**
JRY	**Ryogami san**	**4.37**	**247**	P	**Pn**	**12 16 48.7**	**-1.9**
JRY				S	**Sn**	**12 17 35.9**	**-5.5**
JOD2	**Odawara 2**	**4.63**	**238**	P	**Pn**	**12 16 52.9**	**-1.2**
JOD2				*e*S	**Sn**	**12 17 41.6**	**-6.1**
MJAR	**Matsushiro Arr**	**4.70**	**256**	Pn	**Pn**	**12 16 54.2**	**-0.8**
	1.4nm,0.3s,baz=86,slow=14,SNR=77						
MJAR				Sn	**Sn**	**12 17 47.2**	**-2.3**
	0.4nm,0.3s,baz=99,slow=15,SNR=4.0						
MJAR				LR	LR	12 18 53.4	
	comp=Z,371nm,21.0s,baz=75,slow=41						
MAJO	**Matsushiro**	**4.70**	**256**	*e*Pn	**Pn**	**12 16 54.8**	**-0.3**
MAJO	**Matsushiro**	**4.70**	**256**	*c i*P	**Pn**	**12 16 54.7**	**-0.3**
MAT	**Matsushiro**	**4.70**	**256**	P	**Pn**	**12 16 55.1**	**0.0**
MAT				*e*S	**Sn**	**12 17 50.8**	**+1.3**
JCH	**Churui**	**4.78**	**356**	P	**Pn**	**12 16 54.9**	**-1.2**
JCH				*e*S	**Sn**	**12 17 47.3**	**-4.1**
NEM2	**Nemuro 2**	**5.70**	**14**	P	**Pn**	**12 17 05.9**	**-2.8**
NEM2				*e*S	**Sn**	**12 18 07.4**	**-6.6**
JHJ2	**Mitsune**	**5.76**	**216**	*e*Pn	**Pn**	**12 17 07.5**	**-2.1**
JHJ2				*e*Sn	**Sn**	**12 18 10.9**	**-4.7**
JHJ	**Hachijo jima 2**	**5.77**	**216**	Pn	**Pn**	**12 17 06.8**	**-2.9**
	12nm,0.3s,baz=53,slow=20,SNR=5.7						
JHJ				Sn	Sn	12 18 06.1	-10
	7.6nm,0.3s,baz=72,slow=20,SNR=2.6						
GLVR	**Golovnino**	**6.02**	**12**	*e*P	**Pn**	**12 17 10.4**	**-2.8**
GLVR				*i*S	**Sn**	**12 18 17.4**	**-4.5**
GLVR				pmax	pmax		
	comp=Z,76nm,0.4s						
GLVR				smax	smax		
	comp=N,363nm,0.3s						
GLVR				smax	smax		
	comp=E,197nm,0.4s						
INU	**Inuyama**	**6.04**	**248**	*e*Pn	**Pn**	**12 17 12.9**	**-0.7**
GRPR	**Tuman**	**6.31**	**13**	*e*P	**Pn**	**12 17 13.5**	**-3.6**
GRPR				*i*S	**Sn**	**12 18 22.9**	**-6.2**
GRPR				pmax	pmax		
	comp=Z,87nm,0.4s						
GRPR				pmax	pmax		
	comp=N,34nm,0.2s						
GRPR				pmax	pmax		
	comp=E,30nm,0.1s						
GRPR				smax	smax		
	comp=N,176nm,0.4s						
GRPR				smax	smax		
	comp=E,236nm,0.4s						
ASAJ	**Asahikawa**	**6.34**	**352**	Pn	**Pn**	**12 17 17.7**	**+0.1**
	comp=E,4.3nm,0.3s,baz=249,slow=9.1,SNR=23						
ASAJ				Sn	**Sn**	**12 18 28.2**	**-1.5**
	baz=75,slow=20,SNR=2.3						
YUK	**Yuzh-Kuril'sk**	**6.37**	**13**	*e*P	Pn	12 17 13.8	-4.1
YUK				*e*S	**Sn**	**12 18 23.6**	**-6.8**
YUK				pmax	pmax		
	comp=Z,85nm,0.5s						
YUK				pmax	pmax		
	comp=N,34nm,0.2s						
YUK				pmax	pmax		
	comp=E,37nm,0.7s						
YUK				smax	smax		
	comp=E,68nm,0.4s						
YUK				smax	smax		
	comp=N,199nm,0.3s						
LAGR	**Lagunnoye**	**6.37**	**13**	*e*P	**Pn**	**12 17 14.8**	**-3.2**
LAGR				*e*S	**Sn**	**12 18 25.3**	**-5.3**
LAGR				pmax	pmax		
	comp=Z,165nm,0.5s						
LAGR				pmax	pmax		
	comp=E,122nm,0.4s						
LAGR				pmax	pmax		
	comp=N,121nm,0.6s						
LAGR				smax	smax		
	comp=E,425nm,0.5s						
LAGR				smax	smax		
	comp=N,252nm,0.3s						
KUR	**Kuril'sk**	**7.97**	**21**	P	**Pn**	**12 17 40.0**	**+0.1**
KUR				*i*S	Sn	12 19 01.8	-8.1
KUR				pmax	pmax		
	comp=Z,37nm,0.6s						
KUR				pmax	pmax		
	comp=E,20nm,0.5s						
KUR				pmax	pmax		
	comp=N,15nm,0.4s						
KUR				smax	smax		
	comp=E,41nm,0.5s						
KUR				smax	smax		
	comp=N,22nm,0.4s						
USRK	**Ussuriysk Ar.**	**10.98**	**309**	*e*Pn	**Pn**	**12 18 22.5**	**+1.3**
USRK	**Ussuriysk Ar.**	**10.98**	**309**	Pn	**Pn**	**12 18 21.6**	**+0.4**
	comp=N,0.3nm,0.3s,baz=108,slow=15,SNR=4.1						
USRK				LR	LR	12 22 12.8	
	comp=N,174nm,21.0s,baz=155,slow=35						
JNU	**Nakatsue**	**11.58**	**250**	*e*Pn	**Pn**	**12 18 28.8**	**-0.7**
JNU	**Nakatsue**	**11.58**	**250**	LR	LR	12 23 16.1	
	comp=N,116nm,19.3s,baz=56,slow=39						
KSRS	**Korea Array**	**12.64**	**273**	Pn	**Pn**	**12 18 43.2**	**-0.7**
	comp=N,0.2nm,0.3s,baz=86,slow=14,SNR=6.2						
KSRS				LR	LR	12 23 30.6	
	comp=N,141nm,18.3s,baz=60,slow=37						
KSAR	**Wonju Array Be**	**12.68**	**273**	*e*Pn	**Pn**	**12 18 43.7**	**-0.6**
KLR	**Kul'dur**	**14.36**	**326**	Pn	**Pn**	**12 19 06.1**	**-1.2**
	comp=N,0.2nm,0.3s,baz=119,slow=7.1,SNR=4.5						
KLR				LR	LR	12 24 23.0	
	comp=N,64nm,21.6s,baz=120,slow=36						
PETK	**Petropavlovsk-**	**18.04**	**28**	LR	LR	12 28 56.4	
	comp=N,24nm,18.1s,baz=172,slow=44						
ZEA	**Zeya**	**19.59**	**330**	*e*P	**P**	**12 20 10.4**	**-1.7**
ZEA				pmax	pmax		
	comp=Z,28nm,1.2s						
NJ2	**Nanjing**	**21.27**	**262**	*e*P	**P**	**12 20 30.8**	**+0.3**
BJT	**Baijiatuau**	**21.62**	**284**	*e*P	**P**	**12 20 33.8**	**-0.4**
	comp=Z,8.3nm,0.4s						
MA2	**Magadan**	**22.20**	**9**	LR	LR	12 29 40.0	
	comp=Z,10nm,18.2s,baz=185,slow=38						
HHC	**Hu-ho-hao-te**	**25.08**	**287**	*e*P	**P**	**12 21 08.3**	**-0.5**
HHC				sP	sP	12 21 16.2	+5.0
HHC				S	**S**	**12 25 30.6**	**-2.4**
HHC				SS	**SnSn**	**12 26 24.6**	**+2.5**
SEY	**Seymchan**	**25.65**	**9**	⇑*e*P	**P**	**12 21 15.3**	**+1.7**
SEY	**Seymchan**	**25.65**	**9**	P	**P**	**12 21 14.4**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=161,slow=10,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**26.96**	**126**	T	T	12 49 33.4	
	baz=318,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**26.97**	**126**	T	T	12 49 33.0	
	baz=318,slow=75,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**26.98**	**126**	T	T	12 49 33.6	
	baz=318,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**27.73**	**128**	T	T	12 50 37.2	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**27.74**	**128**	T	T	12 50 35.6	
	baz=316,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**27.75**	**128**	T	T	12 50 36.7	
	baz=316						
BOD	**Bodaibo**	**27.93**	**325**	*e*P	**P**	**12 21 37.5**	**+3.4**
BOD				pmax	pmax		
	comp=Z,13nm,2.0s						
ULN	**Ulaanbaatar**	**28.54**	**302**	*e*P	**P**	**12 21 40.2**	**+0.3**
	comp=Z,8.8nm,1.4s						
ULN	**Ulaanbaatar**	**28.54**	**302**	⇑*e*P	**P**	**12 21 41.8**	**+1.9**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.7s						
SONM	**Songino Array**	**28.98**	**302**	*e*P	**P**	**12 21 44.2**	**+0.4**
SONM	**Songino Array**	**28.98**	**302**	P	**P**	**12 21 44.9**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=106,slow=11,SNR=4.8						
SONM				LR	LR	12 33 41.9	
	comp=Z,35nm,21.5s,baz=90,slow=37						
ENH	**Enshi**	**29.34**	**265**	*e*P	**P**	**12 21 46.7**	**-0.4**
	comp=Z,6.9nm,0.6s						
ZAK	**Zakamensk**	**31.32**	**307**	*e*P	**P**	**12 22 06.7**	**+2.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
LZH	**Lanzhou**	**31.86**	**279**	*e*P	**P**	**12 22 09.2**	**-0.2**
LZH				pP	pP	12 22 12.1	+0.8
LZH				sP	sP	12 22 14.0	+2.2
LZH				*e*PP	**PnPn**	**12 23 15.3**	**+1.5**
BILL	**Bilibino**	**32.72**	**15**	⇓*e*P	**P**	**12 22 16.9**	**+0.6**
BILL				pmax	pmax		
	comp=Z,6.0nm,2.5s						
CD2	**Chengdu**	**33.62**	**270**	*e*P	**P**	**12 22 23.5**	**-1.2**
GTA	**Gaotai**	**34.20**	**287**	*e*P	**P**	**12 22 33.5**	**+3.8**
GTA				pP	pwP	12 22 41.4	+1.4
GTA				sP	sP	12 22 45.6	+13
WMQ	**Urumqi**	**42.22**	**297**	*e*P	**P**	**12 23 38.1**	**+0.9**
WMQ				pP	sP	12 23 41.9	+2.2
WMQ				sP	pwP	12 23 44.9	-2.5
ZAA0	**Zalesovo Array**	**42.82**	**312**	*e*P	**P**	**12 23 42.6**	**+0.8**
	comp=Z,2.8nm,0.6s						
ZAA1	**Zalesovo Array**	**42.82**	**312**	*e*P	**P**	**12 23 42.5**	**+0.7**
ZAA1				*e*PcP	**PcP**	**12 25 32.8**	**0.0**
ZALV	**Zalesovo Beam**	**42.82**	**312**	*e*P	**P**	**12 23 43.1**	**+1.3**
ZALV	**Zalesovo Beam**	**42.82**	**312**	P	**P**	**12 23 42.5**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=76,slow=6.8,SNR=2.6						
ZALV				PcP	**PcP**	**12 25 32.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=104,slow=4.6,SNR=3.3						
ZALV				LR	LR	12 42 02.2	
	comp=Z,46nm,18.9s,baz=66,slow=37						
NRIK	**Noril'sk**	**43.36**	**335**	LR	LR	12 42 47.5	
	comp=Z,39nm,18.4s,baz=64,slow=37						
CMAR	**Chiang Mai Arr**	**43.59**	**256**	P	**P**	**12 23 48.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=42,slow=7.3,SNR=3.9						
CMAR				LR	LR	12 42 14.2	
	comp=Z,32nm,19.1s,baz=186,slow=37						
IMAR	**Indian Mountai**	**44.96**	**31**	*e*P	**P**	**12 23 59.3**	**+0.5**
KDAK	**Kodiak Island**	**45.19**	**43**	*e*P	**P**	**12 24 00.4**	**-0.4**
	comp=Z,34nm,1.5s						
KDAK	**Kodiak Island**	**45.19**	**43**	P	**P**	**12 24 00.5**	**-0.3**
	comp=Z,6.0nm,0.9s,baz=270,slow=7.1,SNR=3.4						
MK31	**Makanchi Array**	**45.34**	**302**	*e*P	**P**	**12 24 02.0**	**-0.2**
	comp=Z,2.6nm,0.6s						
MK32	**Makanchi Array**	**45.34**	**302**	*e*P	**P**	**12 24 00.9**	**-1.3**
MKAR	**Makanchi Array**	**45.34**	**302**	*e*P	**P**	**12 24 02.0**	**-0.2**
MKAR	**Makanchi Array**	**45.34**	**302**	P	**P**	**12 24 00.9**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=80,slow=9.2,SNR=6.2						
MKAR				LR	LR	12 43 40.1	
	comp=Z,25nm,18.4s,baz=53,slow=37						
CAST	**Castle Rocks**	**45.46**	**35**	*e*P	**P**	**12 24 03.9**	**+1.0**
	comp=Z,4.9nm,1.2s						
MLY	**Manley**	**46.13**	**32**	*e*P	**P**	**12 24 09.0**	**+0.9**
	comp=Z,6.5nm,1.2s						
BWN	**Browne**	**46.64**	**34**	*e*P	**P**	**12 24 13.7**	**+1.5**
	comp=Z,25nm,1.3s						
TOLK	**Toolik Lake Re**	**46.86**	**27**	*e*P	**P**	**12 24 14.8**	**+1.0**
	comp=Z,6.0nm,1.4s						
MCK	**McKinley**	**46.87**	**34**	*e*P	**P**	**12 24 14.4**	**+0.4**
	comp=Z,8.7nm,1.4s						
GHO	**Glory Hole Cre**	**46.90**	**37**	*e*P	**P**	**12 24 14.7**	**+0.4**
	comp=Z,13nm,1.2s						
RND	**Reindeer**	**46.91**	**35**	*e*P	**P**	**12 24 14.5**	**+0.1**
	comp=Z,10.0nm,1.2s						
RND	**Reindeer**	**46.91**	**35**	P	**P**	**12 24 14.3**	**0.0**
RND				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KURK	**Kurchatov**	**46.97**	**308**	*e*P	**P**	**12 24 14.9**	**0.0**
	comp=Z,6.2nm,1.0s						
KURK	**Kurchatov**	**46.97**	**308**	*de*P	**P**	**12 24 15.7**	**+0.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MDM	**Murphy Dome**	**47.19**	**33**	*e*P	**P**	**12 24 17.7**	**+1.2**
	comp=Z,7.6nm,1.1s						
HDA	**Harding Lake**	**47.74**	**33**	*e*P	**P**	**12 24 20.8**	**0.0**
	comp=Z,7.6nm,1.4s						
ILAR	**Eielson Array**	**47.76**	**33**	P	**P**	**12 24 21.5**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=264,slow=6.1,SNR=13						
ILB	**Eielson Array**	**47.76**	**33**	*e*P	**P**	**12 24 21.0**	**+0.1**
	comp=Z,4.9nm,1.1s						
KLU	**Klutina**	**48.35**	**37**	*e*P	**P**	**12 24 25.7**	**+0.1**
	comp=Z,6.8nm,1.0s						
BMAR	**Burnt Mountain**	**48.68**	**29**	*e*P	**P**	**12 24 29.3**	**+1.3**
RIDG	**Independent Ri**	**48.69**	**34**	*e*P	**P**	**12 24 28.4**	**+0.3**
	comp=Z,8.2nm,1.5s						
SCRK	**Sand Creek**	**49.05**	**34**	*e*P	**P**	**12 24 31.3**	**+0.3**
	comp=Z,7.4nm,1.3s						
BCAR	**Beaver Creek A**	**50.12**	**35**	*e*P	**P**	**12 24 40.1**	**+1.0**
EGAK	**Eagle**	**50.21**	**33**	*e*P	**P**	**12 24 39.7**	**0.0**
	comp=Z,2.6nm,1.4s						
AAK	**Ala-Archa**	**51.82**	**299**	*e*P	**P**	**12 24 52.6**	**+0.4**
	comp=Z,2.9nm,1.1s						
AAK	**Ala-Archa**	**51.82**	**299**	⇑*e*P	**P**	**12 24 53.5**	**+1.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
EPYK	**Eagle Plains**	**51.85**	**30**	*e*P	**P**	**12 24 52.6**	**+0.6**
	comp=Z,13nm,1.4s						
KSH	**Kashi**	**51.85**	**294**	P	**P**	**12 24 56.2**	**+3.7**
KSH				pP	sP	12 25 00.6	+5.6
KSH				S	**S**	**12 32 19.4**	**+4.6**
HYT	**Haines Junctio**	**52.48**	**37**	*e*P	**P**	**12 24 57.6**	**+0.8**
	comp=Z,10.0nm,1.1s						
INK	**Inuvik**	**52.77**	**28**	*e*P	**P**	**12 24 59.7**	**+1.0**
	comp=Z,3.7nm,1.4s						
INK	**Inuvik**	**52.77**	**28**	P	**P**	**12 24 58.5**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=288,slow=6.2,SNR=7.2						
ARSB	**Arslanbob**	**53.33**	**297**	*e*P	**P**	**12 25 03.3**	**-0.2**
	comp=Z,6.8nm,1.0s						
KK31	**Karatay Array**	**54.40**	**300**	*e*P	**P**	**12 25 11.2**	**+0.1**
	comp=Z,2.1nm,0.6s						
GAR	**Garm**	**56.11**	**296**	*e*P	**P**	**12 25 23.3**	**-0.3**
	comp=Z,6.6nm,0.9s						
ARU	**Arti**	**57.04**	**319**	*e*P	**P**	**12 25 30.3**	**+0.5**
ARU	**Arti**	**57.04**	**319**	*c i*P	**P**	**12 25 29.6**	**-0.2**
ARU				S	**S**	**12 33 25.7**	**+1.8**
ARU				SS	**SS**	**12 37 04.9**	**-7.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WB2	**Warramunga Arr**	**58.17**	**191**	*e*P	**P**	**12 25 36.2**	**-1.9**
	comp=Z,23nm,1.4s						
WR1	**Warramunga Arr**	**58.17**	**191**	*e*P	**P**	**12 25 36.2**	**-1.9**
WRA	**Warramunga Arr**	**58.17**	**191**	P	**P**	**12 25 36.2**	**-1.9**
	comp=Z,4.8nm,1.0s,baz=10.0,slow=7.3,SNR=16						
FITZ	**Fitzroy Crossi**	**58.23**	**200**	*e*P	**P**	**12 25 37.2**	**-1.2**
	comp=Z,2.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**58.23**	**200**	P	**P**	**12 25 36.0**	**-2.5**
	comp=Z,1.4nm,0.9s,baz=22,slow=11,SNR=4.5						
ABKAR	**Akbulak array**	**58.90**	**310**	*e*P	**P**	**12 25 42.8**	**-0.2**
RES	**Resolute Bay**	**61.32**	**15**	*e*P	**P**	**12 25 59.4**	**+0.3**
	comp=Z,2.2nm,1.1s						
AS31	**Alice Springs**	**61.89**	**190**	*e*P	**P**	**12 26 02.3**	**-1.3**
	comp=Z,1.2nm,1.0s						
ASAR	**Alice Springs**	**61.90**	**190**	*e*P	**P**	**12 26 02.2**	**-1.4**
ASAR	**Alice Springs**	**61.90**	**190**	P	**P**	**12 26 02.0**	**-1.7**
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ASAR	**Alice Springs**	**61.90**	**190**	P	**P**	**12 26 01.9**	**-1.7**
	comp=Z,1.8nm,1.0s,baz=348,slow=2.8,SNR=6.2						
YKA	**Yellowknife Ar**	**62.12**	**31**	*e*P	**P**	**12 26 05.0**	**+0.3**
YKA	**Yellowknife Ar**	**62.12**	**31**	P	**P**	**12 26 04.9**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=302,slow=6.6,SNR=7.7						
ARA0	**ARCESS Array S**	**63.92**	**340**	*e*P	**P**	**12 26 17.5**	**+0.9**
ARCES	**ARCESS Array B**	**63.92**	**340**	P	**P**	**12 26 17.5**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=68,slow=9.6,SNR=5.0						
SGF	**Sodankyl**	**64.95**	**338**	*e*P	**P**	**12 26 23.6**	**+0.3**
SGF				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MSF	**Maaselka**	**65.12**	**336**	*e*P	**P**	**12 26 25.0**	**+0.5**
MSF				pmax	pmax		
	comp=Z,6.0nm,2.4s						
DAG	**Danmarks Havn**	**65.13**	**356**	P	**P**	**12 26 27.2**	**+2.9**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GEYT	**Alibeck**	**65.14**	**300**	P	**P**	**12 26 25.3**	**+0.2**
	comp=Z,89nm,0.6s,baz=111,slow=7.9,SNR=2.4						
JOF	**Joensuu**	**66.16**	**332**	P	**P**	**12 26 30.8**	**-0.4**
JOF				pmax	pmax		
	comp=Z,4.0nm,1.1s						
H04A	**Detroit Lake**	**67.09**	**51**	*e*P	**P**	**12 26 38.4**	**+0.8**
	comp=Z,3.3nm,0.9s						
YBH	**Yreka Blue Hor**	**68.30**	**54**	*e*P	**P**	**12 26 45.4**	**+0.1**
	comp=Z,2.7nm,1.1s						
YBH	**Yreka Blue Hor**	**68.30**	**54**	P	**P**	**12 26 44.8**	**-0.5**
YBH				pmax	pmax		
	comp=Z,3.0nm,1.2s						
PINE	**Pine Mountain**	**68.32**	**51**	*e*P	**P**	**12 26 46.0**	**+0.5**
	comp=Z,3.2nm,0.9s						
K05A	**Summer Lake**	**68.92**	**52**	*e*P	**P**	**12 26 49.6**	**+0.3**
	comp=Z,10nm,1.4s						
FIA1	**FINESS Array S**	**68.99**	**333**	*e*P	**P**	**12 26 49.6**	**+0.5**
	comp=Z,4.9nm,0.8s						
FINES	**FINESS Array B**	**68.99**	**333**	*i*P	**P**	**12 26 49.7**	**+0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**68.99**	**333**	P	**P**	**12 26 49.4**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=48,slow=8.5,SNR=8.0						
FINES				LR	LR	12 58 39.0	
	comp=Z,34nm,19.1s,baz=78,slow=37						
KIV	**Kislovodsk**	**71.84**	**312**	*e*P	**P**	**12 27 10.1**	**+3.1**
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
KBZ	**Khabaz**	**71.84**	**311**	P	**P**	**12 27 07.9**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=76,slow=4.2,SNR=3.8						
KBZ				LR	LR	13 01 34.0	
	comp=Z,25nm,18.0s,baz=60,slow=38						
FFC	**Flin Flon**	**71.96**	**34**	*e*P	**P**	**12 27 07.2**	**-0.2**
	comp=Z,5.1nm,1.2s						
FFC	**Flin Flon**	**71.96**	**34**	*i*P	**P**	**12 27 08.6**	**+1.2**
FCC	**Fort Churchill**	**72.39**	**28**	*e*P	**P**	**12 27 09.9**	**+0.1**
	comp=Z,4.9nm,1.1s						
NV01	**Mina Array Sit**	**72.94**	**54**	*e*P	**P**	**12 27 14.0**	**+0.1**
NVAR	**Mina Array Bea**	**72.94**	**54**	P	**P**	**12 27 14.0**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=293,slow=4.9,SNR=4.8						
NV11	**Mina Array Sit**	**73.03**	**54**	*e*P	**P**	**12 27 14.4**	**+0.1**
	comp

OTUK				⇑Lg		Lg	12 23 22.1	
	8.8nm,0.5s							
BRVK	**Borovoye**	**4.46**	**11**	⇓Pn		Pn	12 23 16.0	+0.7
	1.4nm,0.7s							
BRVK				⇑Sn		Sn	12 24 09.2	+1.3
	5.3nm,0.6s							
KURBB	**Kurchatov Arra**	**6.55**	**69**	⇓Pg		Pb	12 24 05.5	+4.2
	5.7nm,1.2s,baz=124,slow=15							
KURBB				⇑Lg		Lg	12 25 36.5	
	8.5nm,0.7s,baz=273,slow=26							
KURK	**Kurchatov**	**6.63**	**69**	⇓Pg		Pb	12 24 05.5	+2.9
	7.9nm,1.1s							
KURK				⇑Lg		Lg	12 25 37.3	
	3.1nm,0.6s							

*DSN **11** 12:55:54.7±3.6,26°.76N×58°.05E,h10km,ML3.5/7,Error ellipse: s-maj=54.3km s-min=14.6km az=1.0*
*TEH **11** 12:55:57.8,26°.63N×57°.74E,h10km,ML3.6*
ISC 11 12:55:56.6±1.0,**26°.39N**±0°.06×**57°.82E**±0°.04,**h10**km,**n30,**
σ1§68/32,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.46**	**323**	*e*Pg	**Pn**	**12 56 21.7**	**-1.3**
NIAN	comp=Z,0.0nm,0.4s			IAMB	IAmb	12 56 51.3	
SHME	**Shamm**	**1.55**	**258**	*e*P	**Pg**	**12 56 26.5**	**+0.2**
	SNR=8.6						
SHME				S	**Sg**	**12 56 50.9**	**+4.5**
SHME	**Shamm**	**1.55**	**258**	*e*Pn	**Pg**	**12 56 28.9**	**+2.6**
BNDS	**Bandar-Abbas**	**1.79**	**305**	*e*Pg	**Pn**	**12 56 23.1**	**-4.5**
GENO	**Geno**	**1.79**	**305**	*e*Pn	**Pn**	**12 56 27.4**	**-0.3**
GENO				*e*Sg	**Sb**	**12 56 51.6**	**-0.4**
GENO	comp=Z,0.0nm,0.6s			IAMB	IAmb	12 56 54.2	
MSFE	**Esma-Masafi**	**1.82**	**236**	P	**Pb**	**12 56 29.7**	**-0.3**
MSFE	**Esma-Masafi**	**1.82**	**236**	*e*Pn	**Pb**	**12 56 28.7**	**-1.3**
HATD	**Hatta, Dubai**	**2.18**	**225**	P	**Pb**	**12 56 36.5**	**+0.3**
HATD	**Hatta, Dubai**	**2.18**	**225**	*e*Pn	**Pg**	**12 56 38.1**	**-0.3**
ASHO	**Ashiyiah**	**2.33**	**224**	*e*P	**Pb**	**12 56 38.6**	**-0.1**
	SNR=6.2						
ASHO	**Ashiyiah**	**2.33**	**224**	*e*Pn	**Pb**	**12 56 38.1**	**-0.6**
NAZ	**Nazwa, Dubai**	**2.40**	**235**	*e*P	**Pg**	**12 56 40.9**	**-1.6**
	SNR=6.7						
NAZ	**Nazwa, Dubai**	**2.40**	**235**	*e*Pn	**Pn**	**12 56 36.2**	**+0.3**
CHBR	**Chabahar**	**2.52**	**108**	*e*Pn	**Pg**	**12 56 43.8**	**-1.1**
FAQ	**Al Faqa, Dubai**	**2.60**	**231**	*e*P	**Pb**	**12 56 43.2**	**-0.1**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**2.60**	**231**	*e*Pn	**Pb**	**12 56 42.9**	**-0.4**
ASUD	**Al Ashush, Dub**	**2.86**	**233**	P	**Pb**	**12 56 46.4**	**-1.3**
ASUD	**Al Ashush, Dub**	**2.86**	**233**	*e*Pn	**Pb**	**12 56 46.9**	**-0.8**
BIDO	**Bidbid**	**2.87**	**174**	*e*Pn	**Pb**	**12 56 48.7**	**+0.8**
ALNE	**Al Ain**	**2.99**	**219**	*e*Pn	**Pb**	**12 56 47.6**	**-2.3**
NGRK	**Negar Kerman**	**3.38**	**344**	*e*Pn	**Pn**	**12 56 49.1**	**-0.7**
NGRK				IAMB	IAmb	12 56 54.2	
	comp=Z,0.0nm,0.2s						
CHMN	**Cheshme madani**	**3.47**	**356**	*e*Pn	**Pn**	**12 56 50.9**	**0.0**
ZHSF	**Zahedan**	**4.13**	**38**	*e*Pn	**Pn**	**12 57 00.8**	**+0.8**
KHGB	**Koh Gabri**	**4.14**	**344**	*e*Pn	**Pn**	**12 57 00.7**	**+0.6**
KHGB				IAMB	IAmb	12 57 13.0	
	comp=Z,0.0nm,0.5s						
IPAR	**Pars**	**5.44**	**310**	*e*Pn	**Pn**	**12 57 18.5**	**+0.5**
BSRN	**Basiran**	**5.67**	**11**	*e*Pn	**Pn**	**12 57 19.7**	**-1.3**
IKOO	**Kooshah**	**6.10**	**9**	*e*Pn	**Pn**	**12 57 29.3**	**+2.2**
IKAZ	**Kazeroun**	**6.27**	**304**	*e*Pn	**Pn**	**12 57 27.1**	**-2.4**
ISAD	**Sadrabad**	**6.58**	**328**	*e*Pn	**Pn**	**12 57 33.2**	**-0.6**
IRAM	**Ramesheh**	**7.20**	**320**	*e*Pn	**Pn**	**12 57 40.5**	**-1.6**

*IDC **11** 13:10:10.8±2.9, 17°.79S×172°.68E,h0km,mb4.2/4, mb1 4.4/5,mb1mx3.9/31,mbtmp4.2/5,ML3.0/1,MS3.5/10, Ms1 3.5/10,ms1mx3.2/28,Error ellipse: s-maj=55.1km s-min=38.3km az=37.0*
*NEIC **11** 13:10:23.7±4.1,19°.09S×172°.66E,h97km±28km,mb4.4/9, Error ellipse: s-maj=38.6km s-min=17.6km az=53.0*
ISC 11 13:10:15.0±1.3,**18°.8S**±0°.2×**173°.2E**±0°.2,**h35**km,**n26,**
σ1§81/16,mb4.5/12,MS3.6/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.09**	**241**	Pn	**Pn**	**13 11 57.8**	**+1.5**
	0.3nm,0.3s,baz=14,slow=12,SNR=2.9						
DZM				LR	LR	13 14 33.0	
	comp=Z,257nm,18.9s,baz=26,slow=36						
HNR	**Honiara**	**15.82**	**304**	LR	LR	13 18 32.4	
	comp=Z,69nm,20.9s,baz=140,slow=34						
URZ	**Urewera**	**19.70**	**171**	P	Pn	13 14 53.8	+11
	8.5nm,0.8s,baz=341,slow=11,SNR=3.8						
URZ				LR	LR	13 20 35.6	
	comp=Z,286nm,21.2s,baz=46,slow=30						
RPZ	**Rata Peaks**	**24.91**	**184**	LR	LR	13 23 20.9	
	comp=Z,183nm,19.8s,baz=38,slow=30						
ODZ	**Otahua Downs**	**26.26**	**184**	*e*P	**P**	**13 15 46.3**	**-0.6**
	39nm,1.5s						
WHZ	**Wether Hill Ro**	**27.37**	**188**	*e*P	**P**	**13 15 55.2**	**-1.7**
	11nm,1.1s						
STKA	**Stephens Creek**	**31.23**	**239**	*e*P	**P**	**13 16 29.3**	**-2.0**
	1.5nm,1.2s						
STKA	**Stephens Creek**	**31.23**	**239**	P	**P**	**13 16 33.2**	**+1.9**
	4.0nm,1.0s,baz=102,slow=9.3,SNR=4.5						
WB2	**Warramunga Arr**	**36.57**	**262**	*e*P	**P**	**13 17 15.8**	**-2.0**
	7.4nm,1.0s						
WRAB	**Tennant Creek**	**36.57**	**262**	*e*P	P	13 17 11.7	-6.2
	3.7nm,0.8s						
WR1	**Warramunga Arr**	**36.58**	**262**	*e*P	**P**	**13 17 16.3**	**-1.6**
WRA	**Warramunga Arr**	**36.58**	**262**	P	**P**	**13 17 16.3**	**-1.6**
	2.2nm,1.0s,baz=98,slow=8.7,SNR=12						
AS31	**Alice Springs**	**36.82**	**255**	*e*P	**P**	**13 17 18.6**	**-1.4**
	1.4nm,0.8s						
ASAR	**Alice Springs**	**36.83**	**255**	*e*P	**P**	**13 17 17.4**	**-2.6**
ASAR	**Alice Springs**	**36.83**	**255**	P	**P**	**13 17 19.8**	**-0.3**
	4.1nm,0.8s,baz=82,slow=9.1,SNR=35						
ANA2	**Anatahan**	**44.13**	**321**	*e*P	**P**	**13 18 21.8**	**+1.5**
	93nm,0.9s						
FITZ	**Fitzroy Crossi**	**44.97**	**263**	*e*P	**P**	**13 18 26.6**	**-0.5**
	9.3nm,1.1s						
VNDA	**Vanda**	**59.03**	**183**	LR	LR	13 41 08.8	
	comp=Z,57nm,21.5s,baz=47,slow=31						
JNU	**Nakatsue**	**65.53**	**322**	LR	LR	13 45 04.4	
	comp=Z,23nm,18.9s,baz=118,slow=32						
ASAJ	**Asahikawa**	**68.56**	**337**	LR	LR	13 45 53.8	
	comp=Z,30nm,20.2s,baz=167,slow=32						
QSPA	**South Pole Qui**	**71.26**	**180**	*e*P	**P**	**13 21 33.1**	**+2.5**
	17nm,1.4s						
PETK	**Petropavlovsk-**	**72.84**	**350**	LR	LR	13 47 57.3	
	comp=Z,45nm,19.4s,baz=133,slow=32						
NVAR	**Mina Array Bea**	**85.76**	**47**	LR	LR	13 55 46.6	
	comp=Z,30nm,18.6s,baz=214,slow=32						
SNAA	**Sanae**	**89.73**	**181**	*e*P	**P**	**13 23 08.9**	**-0.4**
	3.7nm,1.0s						
TXAR	**Lajitas Array**	**93.32**	**60**	LR	LR	13 56 33.1	
	comp=Z,18nm,21.5s,baz=0.0,slow=30						
GERES	**GERESS Array B**	**145.73**	**336**	PKP	**PKPdf**	**13 29 48.2**	**-1.7**
	0.4nm,0.6s,baz=30,slow=4.5,SNR=4.5						

*SOME **11** 13:11:53.9,40°.82N×79°.77E,h5km*
*NNC **11** 13:11:53.7±3.6,40°.76N×79°.57E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=24.6km s-min=18.0km az=148.0*
*KRNET **11** 13:11:54.9±0.1,40°.79N×79°.81E,mb2.7*
ISC 11 13:11:53.4±3.4,**40°.8N**±0°.1×**79.73E**±0°.09,**h3**km±18km,**n19,**
σ1§54/28,9C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.75**	**305**	⇓*i*P	**Pg**	**13 12 28.1**	**+1.2**
	baz=2.0						
TARG				⇓*i*S	**Sg**	**13 12 52.8**	**+3.3**
	baz=2.0						
KDJ	**Kajisay**	**2.35**	**307**	⇓*i*P	**Pb**	**13 12 37.7**	**+1.1**
	baz=5.0						
KDJ				⇓*i*S	**Sg**	**13 13 08.8**	**-0.3**
	baz=5.0						
SHLS	**Shalkode**	**2.41**	**355**	Pg	**Pg**	**13 12 38.6**	**-0.9**
	15nm,0.2s						
SHLS				Lg	Lg	13 13 10.8	
	25nm,0.4s						
SHLS	**Shalkode**	**2.41**	**355**	*e*P	**Pg**	**13 12 38.6**	**-0.9**
	15nm,0.2s						
SHLS				*e*S	**Sg**	**13 13 10.8**	**0.0**
	25nm,0.4s						
UZB	**Uzynbulak**	**2.45**	**348**	Pg	**Pb**	**13 12 38.5**	**+0.4**
	4.5nm,0.2s						
UZB				Lg	Lg	13 13 10.7	
	11nm,0.8s						
UZB	**Uzynbulak**	**2.45**	**348**	*e*P	**Pb**	**13 12 38.5**	**+0.4**
	4.5nm,0.2s						
UZB				*e*S	**Sg**	**13 13 10.7**	**-1.3**
	11nm,0.8s						
PDGK	**Podgornoye**	**2.58**	**356**	Pg	**Pb**	**13 12 40.4**	**+0.1**
	4.9nm,0.3s						
PDGK				Lg	Lg	13 13 13.8	
	7.3nm,0.8s						
PDGK	**Podgornoye**	**2.58**	**356**	⇑Pg	**Pb**	**13 12 40.4**	**+0.1**
	3.3nm,0.3s						
PDGK				⇑Lg	Lg	13 13 13.8	
	21nm,1.1s						
PDGK	**Podgornoye**	**2.58**	**356**	⇑*i*P	**Pb**	**13 12 40.0**	**-0.3**
	baz=55						
PDGK				⇑*i*S	**Sb**	**13 13 12.5**	**+0.1**
	baz=55						
KPKS	**Kokpek**	**2.82**	**344**	*e*P	**Pb**	**13 12 45.3**	**+1.0**
	7.2nm,0.3s						
KPKS				*e*S	**Sg**	**13 13 22.2**	**-1.7**
	19nm,0.3s						
NRN	**Naryn**	**2.90**	**285**	⇑*i*P	**Pb**	**13 12 45.7**	**-0.2**
	baz=84						
NRN				⇑*i*S	**Sb**	**13 13 22.1**	**+0.3**
	baz=84						
TNSS	**Tian-Shan**	**3.08**	**319**	Pg	**Pb**	**13 12 51.0**	**+1.9**
	4.7nm,0.2s						
TNSS				Lg	Lg	13 13 32.3	
	6.0nm,0.5s						
TNSS	**Tian-Shan**	**3.08**	**319**	*e*P	**Pb**	**13 12 51.0**	**+1.9**
	4.7nm,0.2s						
TNSS				*e*S	**Sg**	**13 13 32.3**	**-0.1**
	6.0nm,0.5s						
MDOK	**Medeo**	**3.13**	**321**	⇑Pg	**Pb**	**13 12 48.1**	**-1.6**
	2.7nm,0.8s						
MDOK				Lg	Lg	13 13 28.5	
	7.4nm,1.0s						
BOOM	**Boomskoye usch**	**3.33**	**303**	⇑*i*P	**Pb**	**13 12 51.5**	**-1.6**
	baz=2.0						
BOOM				⇑*i*S	**Sb**	**13 13 31.3**	**-2.7**
	baz=2.0						
DJR	**Jarkent**	**3.58**	**1**	Pg	**Pb**	**13 12 57.8**	**+0.5**
	1.5nm,0.3s						
DJR				Lg	Lg	13 13 43.9	
	3.9nm,0.4s						
DJR	**Jarkent**	**3.58**	**1**	*e*P	**Pb**	**13 12 57.8**	**+0.5**
	1.5nm,0.3s						
DJR				*e*S	**Sb**	**13 13 43.9**	**+2.8**
	3.9nm,0.4s						
TKM2	**Tokmak 2**	**3.77**	**306**	⇓Pg	**Pb**	**13 12 57.8**	**-2.8**
	2.7nm,1.1s						
TKM2				⇓Lg	Lg	13 13 53.3	
	1.4nm,0.6s						
KK31	**Karatay Array**	**7.26**	**292**	⇓Pn	Pg	13 14 22.7	+10
	0.4nm,0.3s,baz=203,slow=17,SNR=18						
KK31				Lg	Lg	13 14 56.5	
	0.8nm,0.3s,baz=197,slow=29,SNR=9.5						

*DSN **11** 13:20:34.3±2.1,27°.09N×58°.19E,h10km,ML3.8/9,Error ellipse: s-maj=54.4km s-min=19.5km az=139.0*
*TEH **11** 13:20:41.4,26°.71N×57°.80E,h8km,ML3.8*
ISC 11 13:20:40.3±0.9,**26°.82N**±0°.05×**58°.00E**±0°.05,**h10**km,**n47,**
σ2§08/47,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.27**	**306**	IAMB	IAmb	13 21 30.9	
	comp=Z,0.0nm,0.4s						
NIAN				*e*Pg	**Pg**	**13 21 05.2**	**+0.5**
GENO	**Geno**	**1.72**	**290**	*e*Pn	**Pb**	**13 21 11.5**	**-0.7**
GENO				*e*Sg	**Sg**	**13 21 37.5**	**+1.7**
GENO				IAMB	IAmb	13 21 41.3	
	comp=Z,0.0nm,0.4s						
SHME	**Shamm**	**1.83**	**246**	*e*P	**Pn**	**13 21 09.8**	**-2.2**
	SNR=9.2						
SHME	**Shamm**	**1.83**	**246**	*e*Pn	**Pn**	**13 21 11.1**	**-0.8**
MDH	**Madha**	**2.15**	**226**	*e*P	**Pn**	**13 21 12.2**	**-4.1**
	SNR=5.1						
MDH	**Madha**	**2.15**	**226**	P	**Pn**	**13 21 12.9**	**-3.4**
	SNR=8.5						
MDH	**Madha**	**2.15**	**226**	*e*Pn	**Pn**	**13 21 12.9**	**-3.4**
MSFE	**Esma-Masafi**	**2.20**	**229**	*e*P	**Pn**	**13 21 13.0**	**-4.0**
	SNR=16						
MSFE				S	**Sb**	**13 21 46.9**	**-0.8**
MSFE	**Esma-Masafi**	**2.20**	**229**	*e*Pn	**Pn**	**13 21 14.3**	**-2.7**
CHBR	**Chabahar**	**2.55**	**118**	*e*Pn	**Pb**	**13 21 27.2**	**+1.1**
HATD	**Hatta, Dubai**	**2.60**	**221**	*e*P	**Pn**	**13 21 21.2**	**-1.3**
	SNR=10						
HATD	**Hatta, Dubai**	**2.60**	**221**	P	**Pn**	**13 21 21.1**	**-1.3**
HATD	**Hatta, Dubai**	**2.60**	**221**	*e*Pn	**Pn**	**13 21 19.0**	**-3.5**
ASHO	**Ashiyiah**	**2.75**	**220**	*i* P	**Pn**	**13 21 22.8**	**-1.8**
	SNR=26						
ASHO	**Ashiyiah**	**2.75**	**220**	P	**Pn**	**13 21 23.2**	**-1.4**
ASHO	**Ashiyiah**	**2.75**	**220**	*e*Pn	**Pn**	**13 21 23.2**	**-1.4**
NAZ	**Nazwa, Dubai**	**2.78**	**230**	*i* P	**Pn**	**13 21 22.4**	**-2.6**
	SNR=11						
NAZ	**Nazwa, Dubai**	**2.78**	**230**	P	**Pn**	**13 21 25.6**	**+0.6**
	SNR=5.8						
NAZ	**Nazwa, Dubai**	**2.78**	**230**	*e*Pn	**Pn**	**13 21 25.6**	**+0.6**
SOHO	**SOHO**	**2.98**	**207**	P	**Pn**	**13 21 23.7**	**-4.1**
FAQ	**Al Faqa, Dubai**	**3.00**	**227**	P	**Pn**	**13 21 27.3**	**-0.6**
FAQ	**Al Faqa, Dubai**	**3.00**	**227**	P	**Pn**	**13 21 27.7**	**-0.2**
	SNR=6.6						
FAQ	**Al Faqa, Dubai**	**3.00**	**227**	*e*Pn	**Pn**	**13 21 28.0**	**+0.1**
NGRK	**Negar Kerman**	**3.02**	**339**	*e*Pn	**Pb**	**13 21 33.1**	**-1.4**
NGRK				IAMB	IAmb	13 21 42.2	
	comp=Z,0.0nm,0.4s						
CHMN	**Cheshme madani**	**3.05**	**353**	IAMB	IAmb	13 19 00.2	
	comp=Z,0.0nm,1.0s						
CHMN				*e*Pn	**Pb**	**13 21 33.7**	**-1.3**
ASUD	**Al Ashush, Dub**	**3.25**	**228**	P	**Pn**	**13 21 30.9**	**-0.5**
ASUD	**Al Ashush, Dub**	**3.25**	**228**	P	**Pn**	**13 21 31.7**	**+0.3**
ASUD	**Al Ashush, Dub**	**3.25**	**228**	*e*Pn	**Pn**	**13 21 32.6**	**+1.2**
HOQ	**Hoqain**	**3.29**	**191**	P	**Pn**	**13 21 28.8**	**-3.1**
HOQ	**Hoqain**	**3.29**	**191**	*e*Pn	**Pn**	**13 21 28.7**	**-3.1**
BIDO	**Bidbid**	**3.29**	**178**	*e*Pn	**Pn**	**13 21 29.8**	**-2.1**
ALNE	**Al Ain**	**3.42**	**217**	P	**Pn**	**13 21 32.4**	**-1.4**
ALNE	**Al Ain**	**3.42**	**217**	*e*Pn	**Pn**	**13 21 32.6**	**-1.2**
SZD1	**Zahaedan-tmp**	**3.67**	**43**	*e*Pn	**Pb**	**13 21 44.2**	**-1.2**
ZHSF	**Zahedan**	**3.71**	**41**	*e*Pn	**Pb**	**13 21 43.8**	**-2.2**
ARQ	**Araqi**	**3.72**	**201**	P	**Pn**	**13 21 38.2**	**+0.3**
SMDO	**Samad**	**3.75**	**179**	P	**Pn**	**13 21 38.3**	**0.0**
	SNR=6.8						
KHGB	**Koh Gabri**	**3.78**	**340**	*e*Pn	**Pb**	**13 21 44.0**	**-3.4**
KHGB				IAMB	IAmb	13 22 56.1	
	comp=Z,0.0nm,0.7s						
BSY	**Bisya**	**4.12**	**190**	P	**Pn**	**13 21 42.2**	**-1.2**
JMDO	**Jabal Madar**	**4.43**	**179**	P	**Pn**	**13 21 48.2**	**+0.5**
GHIR	**Ghir-Karzin**	**4.68**	**289**	*e*Pn	**Pn**	**13 21 50.2**	**-0.9**
BSRN	**Basiran**	**5.22**	**11**	*e*Pn	Pn	13 22 03.4	+4.8
IMEH	**Mehriz**	**5.43**	**328**	*e*Pn	**Pn**	**13 22 03.7**	**+2.1**
MZR	**Muzera**	**5.59**	**228**	*e*Pn	**Pn**	**13 22 06.2**	**+2.6**
IDAH	**Dahanechah**	**6.12**	**15**	*e*Pn	Pn	13 22 16.5	+5.5
IKAZ	**Kazeroun**	**6.17**	**300**	*e*Pn	**Pn**	**13 22 11.6**	**-0.3**
CLL	**Collm**	**41.75**	**318**	*e*(P)	**P**	**13 28 32.0**	**+2.5**

*JSO **11** 13:23:44.7±0.5,32°N±4°×3°6E±°,h10km±5km,M2.5/7, Mjma2.4/7,ML2.3/4,MLv2.6/7*
*ISCJB **11** 13:23:45.1±0.6,32°.42N±0°.03×35°.85E±0°.10,h10km,Error ellipse: s-maj=11.7km s-min=4.3km az=6.3*
*NSSC **11** 13:23:45.7±0.3,32°.43N×36°.08E,h6km±135km,ML2.0*
ISC 11 13:23:44.5±0.9,**32°.42N**±0°.03×**35°.88E**±0°.08,**h10**km,**n12,**
σ0§39/15,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	**Saham**	**0.32**	**342**	P	**Pg**	**13 23 51.1**	**+0.2**
HSUJ	**Al Zarqa**	**0.41**	**140**	P	**Pb**	**13 23 54.0**	**+0.1**
WALJ	**Wala**	**0.86**	**184**	P	**Pg**	**13 24 01.3**	**+0.2**
ASF	**Jabal al Asfar**	**0.90**	**106**	P	**Pn**	**13 24 03.1**	**-0.1**
BRBR	**Barbar**	**0.99**	**3**	*e*P	**Pb**	**13 24 04.3**	**+0.5**
BRBR				*e*S	**Sn**	**13 24 18.2**	**-0.5**
BRBR				AML	AML	13 24 27.6	
	comp=N,50nm,0.6s						
BRBR				AML	AML	13 24 32.7	
	comp=E,40nm,0.7s						
TOTH	**TOTAH**	**1.04**	**26**	*e*S	**Sg**	**13 24 17.7**	**-0.4**
TOTH				AML	AML	13 24 21.7	
	comp=N,43nm,0.5s						
TOTH				AML	AML	13 24 23.5	
	comp=E,35nm,0.4s						
RCY	**Rachaya**	**1.07**	**358**	*e*P	**Pg**	**13 24 04.7**	**-0.4**
GHAJ	**Ghor Haditha**	**1.15**	**194**	P	**Pb**	**13 24 06.7**	**+0.3**
QASN	**Qassioun**	**1.15**	**17**	*e*P	**Pn**	**13 24 07.0**	**+0.1**
QASN				*e*P	**Pg**	**13 24 07.2**	**+0.6**
QASN				*e*S	**Sb**	**13 24 21.7**	**0.0**
QASN				AML	AML	13 24 26.7	
	comp=E,47nm,0.3s						
QASN				AML	AML	13 24 32.8	
	comp=N,114nm,0.4s						
LISJ	**El Lisan**	**1.23**	**196**	P	**Pg**	**13 24 08.5**	**+0.4**
HWQ	**Hawqa**	**1.85**	**2**	*e*P	**Pg**	**13 24 20.2**	**+0.2**
AQBJ	**Aqaba**	**2.78**	**195**	P	**Pn**	**13 24 28.6**	**-0.5**

ARO 11 13:25:44.2,16°N±46°×4°2E±10°0,h15km±99km,MI3.6, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**3.84**	**174**	*e*P	**Pn**	13 26 44.0	+1.1
OBO	**Obock**	**4.19**	**160**	*e*P	Pn	13 26 48.9	+1.3
TDD	**Tadjoura Ara**	**4.25**	**165**	*e*P	Pn	13 26 49.5	+1.0
KSDD	**Koussour**	**4.42**	**172**	*e*P	Pn	13 26 52.2	+1.4
ATD	**Arta Tunnel**	**4.50**	**167**	*e*P	Pn	13 26 53.5	+1.6
ATD	**Arta Tunnel**	**4.50**	**167**	*e*P	Pn	13 26 53.5	+1.6
ATD				*e*S	Sn	13 27 49.9	+5.8
SGH	**Sud-Ghoubbet**	**4.55**	**170**	*e*P	Pn	13 26 54.2	+1.6
ATA	**Atar**	**4.66**	**163**	*e*P	Pn	13 26 56.4	+2.2

*IDC **11** 13:28:51.3±2.2,32°.52S×178°.12W,h0km,mb4.0/2, mb1 4.2/3,mb1mx3.8/27,mbtmp4.0/3,ML3.4/1,Error ellipse: s-maj=60.5km s-min=33.8km az=126.0*
*NEIC **11** 13:29:07.8±6.2,31°.59S×179°.15W,h90km±44km,mb4.5/10, Error ellipse: s-maj=59.8km s-min=25.6km az=221.0*
ISC 11 13:29:08.9±1.4,**31°.6S**±0°.2×**179°.3W**±0°.2,**h100**km,**n20,**
σ1§58/19,mb4.4/12,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	**Omahuta**	**7.01**	**237**	*e*Pn	**Pn**	**13 30 47.4**	**-1.4**
URZ	**Urewera**	**7.32**	**203**	Pn	Pn	13 30 33.9	-19
	0.7nm,0.3s,baz=26,slow=8.0,SNR=6.1						
URZ				Sn	Sn	13 31 53.9	-21
	2.6nm,0.3s,baz=138,slow=14,SNR=10.0						
KHZ	**Kahutara**	**12.27**	**206**	*e*Pn	**Pn**	**13 32 00.2**	**+0.2**
CTAO	**Charters Tower**	**32.96**	**282**	*e*P	**P**	**13 35 35.9**	**+1.7**
	38nm,1.4s						
STKA	**Stephens Creek**	**33.19**	**259**	*e*P	**P**	**13 35 35.2**	**-0.9**
	1.9nm,1.3s						
BBOO	**Buckleboo**	**37.64**	**256**	*e*P	**P**	**13 36 12.4**	**-1.8**
	34nm,1.3s						
AS31	**Alice Springs**	**41.99**	**269**	*e*P	**P**	**13 36 52.2**	**+1.7**
	1.3nm,1.1s						
ASAR	**Alice Springs**	**42.00**	**269**	P	**P**	**13 36 52.2**	**+1.7**
	1.1nm,0.6s,baz=107,slow=7.7,SNR=17						
WB2	**Warramunga Arr**	**43.08**	**274**	*e*P	**P**	**13 37 01.4**	**+2.1**
	9.0nm,1.3s						
WRAB	**Tennant Creek**	**43.09**	**274**	*e*P	**P**	**13 37 01.1**	**+1.8**
	4.1nm,0.8s						
WR1	**Warramunga Arr**	**43.09**	**274**	*e*P	**P**	**13 37 01.5**	**+2.2**
WRA	**Warramunga Arr**	**43.09**	**274**	P	**P**	**13 37 01.5**	**+2.2**
	1.2nm,0.3s,baz=112,slow=8.0,SNR=55						
FORT	**Forrest**	**44.73**	**257**	*e*P	**P**	**13 37 12.3**	**0.0**
	37nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.30**	**271**	*e*P	**P**	**13 38 02.7**	**-0.4**
	0.6nm,0.6s						
MBWA	**Marble Bar**	**55.05**	**265**	*e*P	**P**	**13 38 30.2**	**-0.3**
	30nm,1.5s						
QSPA	**South Pole Qui**	**58.55**	**180**	*e*P	**P**	**13 38 55.6**	**+0.8**
	3.8nm,1.0s						
FIA0	**FINESS Array S**	**145.85**	**339**	*e*PKPdf	**PKPbc**	**13 48 35.0**	**-0.9**
FINES	**FINESS Array B**	**145.85**	**339**	PKPbc	**PKPbc**	**13 48 35.0**	**-0.9**
	1.7nm,0.5s,baz=50,slow=3.1,SNR=26						
BR101	**Keskin Array S**	**152.18**	**296**	*e*PKPbc	**PKPbc**	**13 48 51.4**	**-1.6**
BRTR	**Keskin Array B**	**152.18**	**296**	PKPbc	**PKPbc**	**13 48 51.4**	**-1.6**
	0.4nm,0.8s,baz=123,slow=4.0,SNR=3.1						

*ARO **11** 13:49:52.5,16°N±129°×4°2E±10°0,h15km±99km,MI4.1*
*ISCJB **11** 13:50:10.2±0.7,14°.75N±0°.07×42°.1E±0°.3,h10km,mb3.6/4, MS3.1/2,Error ellipse: s-maj=36.5km s-min=8.1km az=168.4*
*IDC **11** 13:50:16.0±16.0,15°.51N×42°.21E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.4/44,mbtmp3.7/4,MS3.0/4,Ms1 3.0/4, ms1mx2.6/38,Error ellipse: s-maj=345.0km s-min=51.8km az=9.0*
ISC 11 13:50:11.9±0.9,**14°.76N**±0°.09×**42°.0E**±0°.2,**h10**km,**n17,**
σ1§26/14,mb3.8/4,Ethiopia

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

KZIL comp=Z,311nm,0.2s *i* P **Pn** **14 07 59.4 +0.2**

ISCJB ***11*** *14:16:24.9±1.9, 33°.59N±0°.09×35°.95E±0°.05, h15km±24km, Error ellipse: s-maj=15.5km s-min=5.3km az=22.5*
GRAL ***11*** *14:16:24.0±0.3, 33°.61N×36°.10E, h2km±49km, MD2.5*
NSSC ***11*** *14:16:25.4±0.3, 33°.60N×35°.94E, h10km±3km, ML1.4*
ISC 11 14:16:24.5±1.6, 33°.6N±0°.1×35°.97E±0°.09, h13km±16km, n6, σ1§49/11, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.18**	**219**	*e*P	**Pg**	**14 16 28.5**	**-0.2**
RCY				*e*S	**Sg**	**14 16 31.8**	**+0.2**
BRBR	**Barbar**	**0.23**	**184**	*e*P	**Pg**	**14 16 29.5**	**0.0**
BRBR				*e*S	**Sg**	**14 16 32.5**	**-0.3**
BRBR				AML	AML	14 16 37.0	
	comp=E,84nm,0.5s						
BRBR				AML	AML	14 16 40.1	
	comp=N,113nm,0.5s						
QASN	**Qassioun**	**0.28**	**112**	*e*P	**Pb**	**14 16 31.6**	**+0.2**
QASN				*e*S	**Sb**	**14 16 35.6**	**-0.4**
QASN				AML	AML	14 16 37.5	
	comp=N,99nm,0.3s						
QASN				AML	AML	14 16 39.0	
	comp=E,52nm,0.4s						
DQRL	**Deir Qamar**	**0.34**	**281**	*e*P	**Pg**	**14 16 32.1**	**+0.7**
DQRL				*e*S	**Sb**	**14 16 38.1**	**+0.2**
BHL	**Bhannes**	**0.37**	**315**	*e*P	**Pb**	**14 16 32.5**	**-0.6**
TOTH	**TOTAH**	**0.47**	**126**	*e*P	**Pb**	**14 16 35.2**	**+0.5**
TOTH				*e*S	**Sb**	**14 16 41.2**	**-0.4**
TOTH				AML	AML	14 16 47.3	
	comp=E,19nm,0.4s						
TOTH				AML	AML	14 16 48.0	
	comp=N,12nm,0.7s						

DSN ***11*** *14:23:16.5±3.5, 26°.67N×58°.07E, h10km, ML4.4/10, Error ellipse: s-maj=49.3km s-min=15.3km az=5.0*
ISCJB ***11*** *14:23:16.9±0.2, 26°.62N±0°.03×57°.72E±0°.03, h10km, mb4.3/69, MS3.3/13, Error ellipse: s-maj=4.3km s-min=3.8km az=3.6*
IDC ***11*** *14:23:16.6±0.8, 26°.71N×57°.68E, h0km, mb3.9/18, mb1 4.1/20, mb1mx3.9/48, mbtmp4.0/20, ML4.2/2, MS3.4/15, Ms1 3.4/15, ms1mx3.2/47, Error ellipse: s-maj=19.0km s-min=14.6km az=176.0*
TEH ***11*** *14:23:16.5, 26°.54N×57°.80E, h5km, ML4.4*
NEIC ***11*** *14:23:17.0±0.0, 26°.56N×57°.72E, h25km, mb4.3/29, MN4.4(TEH), After TEH.*
MOS ***11*** *14:23:18.6±1.2, 26°.69N×57°.77E, h22km, mb4.7/40, Error ellipse: s-maj=7.9km s-min=5.0km az=121.0*
OMAN ***11*** *14:23:18.8±99.0, 26°.70N×58°.23E, h33km±999km, ml4.3/13, Error ellipse: s-maj=220.8km s-min=29.1km az=27.0*
ISC 11 14:23:17.5±0.5, 26°.58N±0°.04×57°.82E±0°.04, h10km, n227, σ1§55/225, mb4.5/78, MS3.3/13, 7C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.31**	**318**	*e*Pg	**Pg**	**14 23 42.7**	**0.0**
NIAN				IAMB	IAmb	14 24 16.5	
	comp=Z,0.0nm,0.8s						
SHME	**Shamm**	**1.60**	**251**	*e*P	**Pb**	**14 23 47.6**	**+0.4**
	SNR=81						
SHME				S	**Sg**	**14 24 12.3**	**+3.3**
SHME	**Shamm**	**1.60**	**251**	*e*Pn	**Pg**	**14 23 48.0**	**-0.2**
BNDS	**Bandar-Abbas**	**1.68**	**299**	*e*Pg	**Pn**	**14 23 44.5**	**-2.6**
GENO	**Geno**	**1.68**	**299**	*e*Pn	**Pb**	**14 23 48.7**	**0.0**
GENO				IAMB	IAmb	14 24 18.3	
	comp=Z,0.0nm,0.6s						
MSFE	**Esma-Masafi**	**1.93**	**231**	*e*P	**Pn**	**14 23 49.7**	**-0.7**
	SNR=15						
MSFE	**Esma-Masafi**	**1.93**	**231**	*e*Pn	**Pn**	**14 23 51.0**	**+0.6**
UMQ	**Umm Al-Quwin**	**2.21**	**242**	*e*P	**Pb**	**14 23 56.9**	**-0.6**
	SNR=6.1						
UMQ	**Umm Al-Quwin**	**2.21**	**242**	P	**Pg**	**14 24 00.5**	**+0.6**
	SNR=7.2						
UMQ	**Umm Al-Quwin**	**2.21**	**242**	*e*Pn	**Pb**	**14 23 58.5**	**+1.0**
HATD	**Hatta, Dubai**	**2.32**	**221**	*e*P	**Pn**	**14 23 57.3**	**+1.5**
	SNR=21						
HATD	**Hatta, Dubai**	**2.32**	**221**	P	**Pb**	**14 23 59.5**	**+0.1**
	SNR=21						
HATD	**Hatta, Dubai**	**2.32**	**221**	*e*Pn	**Pn**	**14 23 56.2**	**+0.5**
ASHO	**Ashiyiah**	**2.47**	**221**	*e*P	**Pn**	**14 23 59.3**	**+1.4**
	SNR=8.1						
ASHO	**Ashiyiah**	**2.47**	**221**	P	**Pb**	**14 24 02.5**	**+0.5**
	SNR=8.6						
ASHO	**Ashiyiah**	**2.47**	**221**	*e*Pn	**Pn**	**14 23 58.6**	**+0.8**
NAZ	**Nazwa, Dubai**	**2.51**	**231**	*e*P	**Pn**	**14 24 00.8**	**+2.4**
	SNR=42						
NAZ	**Nazwa, Dubai**	**2.51**	**231**	P	**Pb**	**14 24 03.5**	**+0.9**
	SNR=19						
NAZ	**Nazwa, Dubai**	**2.51**	**231**	*e*Pn	**Pb**	**14 24 02.6**	**-0.1**
CHBR	**Chabahar**	**2.58**	**112**	*e*Pn	**Pn**	**14 24 01.1**	**+1.7**
SOHO	**SOHO**	**2.70**	**206**	P	**Pn**	**14 24 00.6**	**-0.3**
	SNR=43						
FAQ	**Al Faqa, Dubai**	**2.72**	**228**	*e*P	**Pb**	**14 24 04.2**	**-2.0**
	SNR=9.3						
FAQ	**Al Faqa, Dubai**	**2.72**	**228**	P	**Pb**	**14 24 05.0**	**-1.2**
	SNR=9.4						
FAQ	**Al Faqa, Dubai**	**2.72**	**228**	*e*Pn	**Pb**	**14 24 04.5**	**-1.7**
ASUD	**Al Ashush, Dub**	**2.98**	**230**	*i* P	**Pb**	**14 24 08.2**	**-2.3**
	SNR=10						
ASUD	**Al Ashush, Dub**	**2.98**	**230**	P	**Pb**	**14 24 09.1**	**-1.5**
	SNR=10						
ASUD	**Al Ashush, Dub**	**2.98**	**230**	*e*Pn	**Pb**	**14 24 08.3**	**-2.3**
HOQ	**Hoqain**	**3.02**	**189**	P	**Pn**	**14 24 06.1**	**+0.7**
	SNR=10						
HOQ	**Hoqain**	**3.02**	**189**	*e*Pn	**Pn**	**14 24 06.0**	**+0.6**
BIDO	**Bidbid**	**3.06**	**175**	P	**Pn**	**14 24 06.5**	**+0.6**
	SNR=24						
BIDO	**Bidbid**	**3.06**	**175**	*e*Pn	**Pn**	**14 24 06.3**	**+0.4**
ALNE	**Al Ain**	**3.14**	**217**	*i* P	**Pn**	**14 24 08.9**	**+1.9**
	SNR=10						
ALNE	**Al Ain**	**3.14**	**217**	*e*Pn	**Pn**	**14 24 09.5**	**+2.5**
NGRK	**Negar Kerman**	**3.20**	**343**	*e*Pn	**Pn**	**14 24 10.3**	**+2.1**
AJN	**Ajban**	**3.25**	**233**	*i* P	**Pb**	**14 24 12.6**	**-2.7**
	SNR=11						
AJN	**Ajban**	**3.25**	**233**	P	**Pb**	**14 24 16.6**	**+1.2**
	SNR=9.0						
AJN	**Ajban**	**3.25**	**233**	*e*Pn	**Pn**	**14 24 11.8**	**+3.2**
CHMN	**Cheshme madani**	**3.28**	**356**	*e*Pn	**Pn**	**14 24 11.8**	**+2.6**
CHMN				IAMB	IAmb	14 25 13.8	
	comp=Z,0.0nm,0.8s						
WSAR	**Wadi Sarin**	**3.41**	**167**	Pn	**Pn**	**14 24 12.1**	**+1.4**
	comp=Z,30nm,0.3s,baz=344,slow=6.4,SNR=38						
WSAR				Sn	**Sn**	**14 24 50.2**	**-1.0**
	comp=Z,36nm,0.3s,baz=35,slow=9.9,SNR=13						
SMDO	**Samad**	**3.51**	**177**	P	**Pn**	**14 24 13.8**	**+1.5**
	SNR=19						
TVBK	**TV Kerman**	**3.52**	**345**	*e*Pn	**Pn**	**14 24 15.5**	**+2.9**
TVBK				IAMB	IAmb	14 24 45.7	
	comp=Z,0.0nm,0.7s						
SZD1	**Zahaedan-tmp**	**3.95**	**42**	*e*Pn	**Pb**	**14 24 24.2**	**-3.1**
KHGB	**Koh Gabri**	**3.96**	**343**	*e*Pn	**Pn**	**14 24 20.8**	**+2.3**
KHGB				IAMB	IAmb	14 24 34.6	
	comp=Z,0.0nm,0.5s						
ZHSF	**Zahedan**	**3.99**	**40**	*e*Pn	**Pn**	**14 24 19.7**	**+0.8**
GHIR	**Ghir-Karzin**	**4.62**	**293**	*e*Pn	**Pn**	**14 24 26.2**	**-1.3**
MZR	**Muzera**	**5.32**	**229**	*e*Pn	**Pn**	**14 24 37.8**	**+0.8**
IPAR	**Pars**	**5.32**	**309**	*e*Pn	**Pn**	**14 24 41.1**	**+3.8**
IMEH	**Mehriz**	**5.56**	**330**	*e*Pn	**Pn**	**14 24 41.1**	**+0.6**
IKAZ	**Kazeroun**	**6.17**	**302**	*e*Pn	**Pn**	**14 24 48.9**	**0.0**
ICHK	**Chekchek**	**6.38**	**333**	*e*Pn	**Pn**	**14 24 53.7**	**+1.9**
IDAH	**Dahanechah**	**6.39**	**16**	*e*Pn	Pn	14 24 56.6	+4.7
ISAD	**Sadrabad**	**6.43**	**327**	*e*Pn	**Pn**	**14 24 53.5**	**+1.0**
TPRV	**Parvadeh(Tabas**	**6.50**	**352**	*e*Pn	**Pn**	**14 24 54.1**	**+0.8**
IMON	**Monand**	**6.78**	**13**	*e*Pn	**Pn**	**14 25 01.7**	**+4.4**
TKDS	**Koohdasht(Taba**	**7.04**	**355**	*e*Pn	**Pn**	**14 25 02.8**	**+2.1**
IRAM	**Ramesheh**	**7.05**	**319**	*e*Pn	**Pn**	**14 25 01.6**	**+0.6**
ANAR	**Anarak**	**7.48**	**333**	*e*Pn	**Pn**	**14 25 07.8**	**+1.0**
IZEF	**Zefreh**	**7.90**	**324**	*e*Pn	**Pn**	**14 25 13.1**	**+0.4**
IKLH	**Kolahrood**	**8.62**	**323**	*e*Pn	**Pn**	**14 25 23.7**	**+1.1**
ISFB	**Sefidab**	**9.12**	**329**	*e*Pn	**Pn**	**14 25 29.4**	**+0.2**
IANJ	**Anjilo**	**9.47**	**340**	*e*Pn	**Pn**	**14 25 35.9**	**+1.7**
SBZV	**Sabzevar**	**9.78**	**359**	*e*Pn	**Pn**	**14 25 41.5**	**+3.1**
IDOB	**Doab**	**11.01**	**313**	*e*Pn	**Pn**	**14 25 54.5**	**-0.7**
GEYT	**Alibeck**	**11.32**	**1**	LR	LR	14 31 02.5	
	comp=Z,189nm,18.4s,baz=185,slow=42						
IVIS	**Veis**	**12.33**	**313**	*e*Pn	**Pn**	**14 26 10.8**	**-2.4**
NIL	**Nilore**	**15.09**	**58**	*e*Pn	**Pn**	**14 26 50.3**	**-0.5**
	comp=Z,66nm,1.5s						
NIL	**Nilore**	**15.09**	**58**	*e*P	**Pn**	**14 26 50.3**	**-0.5**
NIL				pmax	pmax		
	comp=Z,66nm,1.5s						
CHGR	**Chuyangaron**	**15.35**	**36**	*e*Pn	**P**	**14 26 57.6**	**-1.5**
	comp=Z,27nm,1.4s						
GAR	**Garm**	**16.22**	**37**	*e*Pn	**P**	**14 27 08.4**	**-0.3**
	comp=Z,9.1nm,0.9s						
GAR	**Garm**	**16.22**	**37**	*e*P	**P**	**14 27 08.4**	**-0.3**
GAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BTK	**Batken**	**17.25**	**36**	*e*Pn	**P**	**14 27 21.3**	**+1.2**
	comp=Z,11nm,0.8s						
BTK	**Batken**	**17.25**	**36**	*e*P	**P**	**14 27 21.3**	**+1.2**
BTK				pmax	pmax		
	comp=Z,11nm,0.8s						
GNI	**Garni**	**17.36**	**324**	P	**P**	**14 27 21.6**	**+0.2**
GNI				pmax	pmax		
	comp=Z,17nm,0.9s						
GNI	**Garni**	**17.36**	**324**	LR	LR	14 35 15.3	
	comp=Z,108nm,20.4s,baz=116,slow=42						
TBLG	**Delisi**	**18.56**	**328**	*e*P	**P**	**14 27 30.5**	**-3.9**
	comp=Z,12nm,0.4s						
KARS	**Kars**	**18.59**	**323**	*e*P	**P**	**14 27 29.2**	**-5.8**
KARS	**Kars**	**18.59**	**323**	*e*P	**P**	**14 27 29.2**	**-5.8**
ASF	**Jabal al Asfar**	**19.06**	**292**	P	**P**	**14 27 40.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=34,slow=12,SNR=3.1						
ASF				S	Sn	14 31 01.4	-13
	comp=Z,0.4nm,0.3s,baz=58,slow=19,SNR=2.5						
ARSB	**Arslanbob**	**19.31**	**37**	*e*P	**Pn**	**14 27 46.6**	**+2.8**
	comp=Z,7.8nm,0.8s						
KK31	**Karatay Array**	**19.46**	**29**	*e*P	**Pn**	**14 27 47.3**	**+1.8**
	comp=Z,8.3nm,0.9s						
KK31	**Karatay Array**	**19.46**	**29**	*e*P	**Pn**	**14 27 47.3**	**+1.8**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KKAR	**Karatay Array**	**19.46**	**29**	*e*P	**P**	**14 27 43.3**	**-1.0**
KKAR	**Karatay Array**	**19.46**	**29**	*e*P	**P**	**14 27 43.3**	**-1.0**
ZEI	**Tsey**	**19.77**	**328**	*e*P	**Pn**	**14 27 49.4**	**0.0**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
EIL	**Elat**	**20.40**	**284**	P	**P**	**14 27 54.5**	**-0.1**
	comp=Z,8.2nm,0.7s,baz=88,slow=6.2,SNR=9.3						
EIL				LR	LR	14 37 26.7	
	comp=Z,47nm,19.6s,baz=73,slow=42						
MMAI	**Mount Meron Ar**	**20.47**	**294**	P	Pn	14 27 57.5	-0.1
	comp=Z,2.6nm,0.6s,baz=94,slow=12,SNR=7.9						
MMAI				LR	LR	14 36 12.8	
	comp=Z,54nm,20.9s,baz=175,slow=38						
KBZ	**Khabaz**	**20.96**	**329**	P	Pn	14 28 02.5	-0.6
	comp=Z,1.0nm,0.7s,baz=117,slow=4.5,SNR=2.6						
AAK	**Ala-Archa**	**21.03**	**36**	P	**P**	**14 28 01.0**	**-0.5**
AAK				*e*P	**P**	**14 28 01.2**	**-0.3**
AAK	**Ala-Archa**	**21.03**	**36**	P	**P**	**14 28 01.0**	**-0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AAK	**Ala-Archa**	**21.03**	**36**	P	**P**	**14 28 01.0**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=203,slow=5.7,SNR=11						
KIV	**Kislovodsk**	**21.23**	**329**	*e*P	**P**	**14 28 04.8**	**+1.2**
KIV				pmax	pmax		
	comp=Z,34nm,1.0s						
BOOM	**Boomskoye usch**	**21.71**	**38**	*e*P	**P**	**14 28 11.5**	**+2.6**
	comp=Z,27nm,1.4s						
BOOM	**Boomskoye usch**	**21.71**	**38**	*e*P	**P**	**14 28 11.5**	**+2.6**
BOOM				pmax	pmax		
	comp=Z,27nm,1.4s						
KDJ	**Kajisay**	**22.19**	**41**	*e*P	**P**	**14 28 14.9**	**+0.8**
	comp=Z,28nm,1.2s						
KDJ	**Kajisay**	**22.19**	**41**	*e*P	**P**	**14 28 14.9**	**+0.8**
KDJ				pmax	pmax		
	comp=Z,28nm,1.2s						
ABKAR	**Akbulak array**	**22.70**	**4**	*e*P	**P**	**14 28 17.7**	**-1.5**
AKTO	**Aktyubinsk**	**23.82**	**0**	P	**P**	**14 28 29.7**	**-0.8**
	comp=Z,4.4nm,0.6s,baz=164,slow=11,SNR=12						
AKTO				LR	LR	14 39 19.3	
	comp=Z,98nm,18.5s,baz=171,slow=41						
BR101	**Keskin Array S**	**24.03**	**309**	*e*P	**P**	**14 28 33.0**	**+0.2**
BR131	**Keskin Array S**	**24.03**	**309**	*e*P	**P**	**14 28 32.7**	**-0.1**
	comp=Z,7.2nm,0.8s						
BRTR	**Keskin Array B**	**24.03**	**309**	*e*P	**P**	**14 28 32.9**	**+0.1**
BRTR				P	**P**	**14 28 33.0**	**+0.2**
BRTR	**Keskin Array B**	**24.03**	**309**	P	**P**	**14 28 33.0**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR				MLR	MLR		
	comp=Z,105nm,19.5s						
BRTR	**Keskin Array B**	**24.03**	**309**	P	**P**	**14 28 33.0**	**+0.2**
	comp=Z,5.2nm,0.9s,baz=352,slow=15,SNR=36						
BRTR				LR	LR	14 39 45.2	
	comp=Z,105nm,19.5s,baz=108,slow=41						
SNOP	**Sinop**	**24.11**	**315**	*e*P	**P**	**14 28 33.9**	**+0.5**
	comp=Z,16nm,0.9s						
PDGK	**Podgornoye**	**24.27**	**41**	P	**P**	**14 28 32.4**	**-2.6**
PDGK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
MDUB	**Mudurnu**	**26.04**	**309**	*e*P	**P**	**14 28 54.4**	**+3.4**
	comp=Z,111nm,0.7s						
MK31	**Makanchi Array**	**27.95**	**37**	*e*P	**P**	**14 29 12.2**	**+4.2**
	comp=Z,1.2nm,0.9s						
MKAR	**Makanchi Array**	**27.95**	**37**	P	**P**	**14 29 08.7**	**+0.7**
MKAR				*e*P	**P**	**14 29 13.7**	**+5.6**
MKAR	**Makanchi Array**	**27.95**	**37**	P	**P**	**14 29 08.7**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=224,slow=8.1,SNR=2.5						
BVAR	**Borovoye Array**	**28.04**	**16**	P	**P**	**14 29 08.1**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=197,slow=4.5,SNR=4.1						
KURBB	**Kurchatov Arra**	**28.76**	**28**	P	**P**	**14 29 14.6**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=217,slow=5.7,SNR=3.4						
KURK	**Kurchatov**	**28.87**	**28**	*e*P	**P**	**14 29 16.7**	**+0.6**
	comp=Z,4.6nm,1.4s						
KURK	**Kurchatov**	**28.87**	**28**	*e*P	**P**	**14 29 16.7**	**+0.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SANT	**Santorini**	**29.16**	**298**	*e*P	**P**	**14 29 16.8**	**-2.2**
	comp=Z,24nm,1.1s						
IDI	**Anoyia**	**29.45**	**295**	P	**P**	**14 29 20.8**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=68,slow=11,SNR=3.1						
IDI				LR	LR	14 45 07.0	
	comp=Z,45nm,19.5s,baz=96,slow=45						
PLOR	**Plostina**	**31.37**	**316**	⇑*i*P	**P**	**14 29 40.0**	**+1.6**
PLOR	**Plostina**	**31.37**	**316**	P	**P**	**14 29 39.9**	**+1.6**
MLR	**Muntele Rosu**	**31.65**	**315**	⇓*i*P	**P**	**14 29 41.8**	**+0.8**
MLR	**Muntele Rosu**	**31.65**	**315**	P	**P**	**14 29 41.7**	**+0.8**
TESR	**Tescani**	**31.68**	**317**	⇑*i*P	**P**	**14 29 41.5**	**+0.5**
ITM	**Ithomi**	**32.09**	**298**	*e*P	**P**	**14 29 44.8**	**0.0**
	comp=Z,7.7nm,0.9s						
AGG	**Agios Georgios**	**32.11**	**302**	*e*P	**P**	**14 29 44.6**	**-0.4**
	comp=Z,5.1nm,1.1s						
AGG	**Agios Georgios**	**32.11**	**302**	*e*P	**P**	**14 29 44.6**	**-0.4**
AGG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VOIR		**32.20**	**314**	⇓*i*P	**P**	**14 29 46.9**	**+1.2**
VOIR		**32.20**	**314**	P	**P**	**14 29 45.8**	**+0.1**
VOIR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DOPR	**Dopca**	**32.21**	**315**	⇑*i*P	**P**	**14 29 46.2**	**+0.4**
ARR	**Arges**	**32.44**	**314**	⇓*i*P	**P**	**14 29 49.1**	**+1.3**
AKASG	**Malin Array Be**	**32.49**	**325**	P	**P**	**14 29 46.7**	**-1.4**
	comp=Z,1.4nm,0.5s,baz=128,slow=8.5,SNR=10						
AKBB	**Malin Array Si**	**32.49**	**325**	*e*P	**P**	**14 29 48.3**	**+0.2**
	comp=Z,5.8nm,0.8s						
AKBB	**Malin Array Si**	**32.49**	**325**	*e*P	**P**	**14 29 48.3**	**+0.2**
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIEV	**Kiev**	**32.50**	**325**	⇑*i*P	**P**	**14 29 49.1**	**+1.0**
GRG	**Griva**	**32.51**	**305**	P	**P**	**14 29 48.2**	**-0.2**
GRG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KIRV	**Kirov**	**32.53**	**352**	LR	LR	14 45 14.2	
	comp=Z,73nm,18.4s,baz=182,slow=41						
BURAR	**Bucovina Array**	**33.06**	**318**	*e*P	**P**	**14 29 53.8**	**+0.5**
BURAR	**Bucovina Array**	**33.06**	**318**	⇑*i*P	**P**	**14 29 54.3**	**+1.0**
BURAR	**Bucovina Array**	**33.06**	**318**	*e*P	**P**	**14 29 53.8**	**+0.5**
BUR08	**Bucovina Ar. S**	**33.08**	**318**	*e*P	**P**	**14 29 51.4**	**-2.1**
	comp=Z,5.5nm,1.4s						
FNA	**Florina**	**33.22**	**305**	*e*P	**P**	**14 29 55.1**	**+0.4**
	comp=Z,8.9nm,0.7s						
FNA	**Florina**	**33.22**	**305**	*e*P	**P**	**14 29 55.1**	**+0.4**
FNA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GZR	**Gura Zlata**	**33.66**	**313**	⇑*i*P	**P**	**14 29 58.3**	**-0.1**
ZAA0	**Zalesovo Array**	**33.84**	**29**	*e*P	**P**	**14 30 01.6**	**+1.8**
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**33.84**	**29**	P	**P**	**14 30 01.1**	**+1.3**
ZALV				*e*P	**P**	**14 30 02.9**	**+3.1**
ZALV	**Zalesovo Beam**	**33.84**	**29**	P	**P**	**14 30 01.1**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=234,slow=9.8,SNR=4.4						
DRGR		**34.24**	**315**	⇓*i*P	**P**	**14 30 04.5**	**+1.0**
DRGR		**34.24**	**315**	P	**P**	**14 30 04.3**	**+0.8**
BZS	**Buzias**	**34.50**	**313**	⇓*i*P	**P**	**14 30 06.2**	**+0.6**
BZS	**Buzias**	**34.50**	**313**	P	**P**	**14 30 06.3**	**+0.6**
BZS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SIRR	**Siria**	**34.70**	**314**	⇑*i*P	**P**	**14 30 08.8**	**+1.3**
KOLS	**Kolonicke sedl**	**35.41**	**319**	*e*P	**P**	**14 30 14.7**	**+1.2**
KOLS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KOLS	**Kolonicke sedl**	**35.41**	**319**	*e*P	**P**	**14 30 14.7**	**+1.2**
TIP	**Timpagrande**	**36.41**	**301**	*e*P	**P**	**14 30 23.0**	**+0.7**
	comp=Z,6.9nm,1.1s						
GTA	**Gaotai**	**37.15**	**59**	*e*P	P	14 30 35.0	+6.3
GTA				pP	sP	14 30 39.6	+6.1
GTA				sP	pP	14 30 42.0	+10
VYHS	**Vyhne**	**37.31**	**316**	*e*P	**P**	**14 30 30.2**	**+0.4**
VYHS	**Vyhne**	**37.31**	**316**	*e*P	**P**	**14 30 30.2**	**+0.4**
OJC	**Ojcow**	**37.42**	**319**	*e*P	**P**	**14 30 31.1**	**+0.5**
OJC	**Ojcow**	**37.42**	**319**	*e*P	**P**	**14 30 31.1**	**+0.5**
SOP	**Sopron**	**38.47**	**314**	P	**P**	**14 30 40.3**	**+0.7**
SOP				pmax	pmax		
	comp=Z,17nm,0.9s						
CMAR	**Chiang Mai Arr**	**38.70**	**93**	LR	LR	14 48 22.8	
	comp=Z,55nm,21.8s,baz=290,slow=39						
CONA	**Conrad Observa**	**38.99**	**314**	*e*pP	**P**	**14 30 44.5**	**+0.4**
	comp=Z,2.6nm,0.6s						
ARSA	**Arzberg**	**39.01**	**313**	*i* pP	**P**	**14 30 44.9**	**+0.8**
	comp=Z,6.6nm,0.8s						
KRUC	**Moravsky**	**39.02**	**316**	P	**P**	**14 30 44.6**	**+0.4**
KRUC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
DPC	**Dobruska-Polom**	**39.52**	**318**	*e*P	**P**	**14 30 50.6**	**+2.2**
DPC	**Dobruska-Polom**	**39.52**	**318**	*e*P	**P**	**14 30 50.6**	**+2.2**
MOA	**Molln**	**40.00**	**314**	*e*pP	**P**	**14 30 52.9**	**+0.5**
	comp=Z,6.4nm,0.7s						
KBA	**Koelnbreinsper**	**40.40**	**312**	*i* pP	**P**	**14 30 56.4**	**+0.5**
	comp=Z,7.6nm,0.8s,SNR=5.1						
KBA	**Koelnbreinsper**	**40.40**	**312**	P	**P**	**14 30 54.9**	**-1.0**
KBA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GERES	**GERESS Array B**	**40.64**	**315**	P	**P**	**14 30 57.0**	**-0.8**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES				MLR	MLR		
	comp=Z,33nm,18.8s						
GERES	**GERESS Array B**	**40.64**	**315**	P	**P**	**14 30 57.0**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=116,slow=8.0,SNR=27						
GERES				LR	LR	14 51 19.4	
	comp=Z,33nm,18.8s,baz=88,slow=42						
KHC	**Kasperske Hory**	**40.80**	**315**	*e*P	**P**	**14 30 58.8**	**-0.2**
	comp=Z,2.9nm,0.8s						
KHC	**Kasperske Hory**	**40.80**	**315**	*e*P	**P**	**14 30 59.0**	**0.0**
KHC				*e*		14 31 02.1	
KHC	**Kasperske Hory**	**40.80**	**315**	*e*P	**P**	**14 30 59.0**	**0.0**
KHC				*e*pP	**pP**	**14 31 02.1**	**-0.5**
FIA0	**FINESS Array S**	**40.87**	**337**	*e*P	**P**	**14 30 57.8**	**-1.5**
FIA0	**FINESS Array S**	**40.87**	**337**	*e*P	**P**	**14 30 57.8**	**-1.5**
FINES	**FINESS Array B**	**40.87**	**337**	P	**P**	**14 30 57.8**	**-1.5**
FINES				*e*P	**P**	**14 30 59.1**	**-0.2**
FINES	**FINESS Array B**	**40.87**	**337**	P	**P**	**14 30 57.8**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=134,slow=10,SNR=9.2						
ABTA	**Abfaltersbach**	**40.87**	**312**	*e*pP	**P**	**14 30 60.0**	**+0.3**
	comp=Z,11nm,1.0s						
WTTA	**Wattenberg**	**41.57**	**312**	*e*pP	**P**	**14 31 05.6**	**0.0**
	comp=Z,13nm,0.6s						
WATA	**Walderalm**	**41.63**	**312**	*i* pP	**P**	**14 31 06.1**	**+0.1**
	comp=Z,1.9nm,0.3s,SNR=5.7						
CLL	**Collm**	**41.83**	**318**	*e*P	**P**	**14 31 07.0**	**-0.3**
CLL				*e*		14 31 10.0	
CLL				pmax	pmax		
	comp=Z,4.0nm,1.0s						

BOD	**Bodaibo**	**50.01**	**35**	*eP*	**P**	**14 32 10.1**	**-1.7**
SJPF	**Ste Jean**	**50.18**	**305**	*eP*	**P**	**14 32 10.2**	**-3.2**
SJPF				pmax	pmax		
	comp=Z,44nm,1.8s						
ESDC	**Sonseca Array**	**52.43**	**301**	P	**P**	**14 32 29.9**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=66,slow=7.4,SNR=8.3						
TORD	**Torodi Ar. Bea**	**54.07**	**267**	P	**P**	**14 32 41.2**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=68,slow=7.3,SNR=14						
TOA1	**Torodi Ar. Sit**	**54.07**	**267**	*eP*	**P**	**14 32 41.2**	**-1.5**
USRK	**Ussuriysk Ar.**	**60.99**	**52**	LR	LR	15 02 45.5	
	comp=Z,87nm,19.4s,baz=303,slow=39						
PETK	**Petropavlovsk-**	**74.78**	**38**	LR	LR	15 11 59.9	
	comp=Z,47nm,18.6s,baz=208,slow=39						
ILAR	**Eielson Array**	**86.94**	**10**	P	**P**	**14 36 02.5**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=318,slow=5.2,SNR=3.7						
ILB	**Eielson Array**	**86.94**	**10**	*eP*	**P**	**14 36 02.5**	**+0.1**
	comp=Z,2.0nm,1.1s						
WRA	**Warramunga Arr**	**87.39**	**114**	P	**P**	**14 36 08.5**	**+3.1**
	comp=Z,1.0nm,0.9s,baz=310,slow=4.1,SNR=4.6						
WR1	**Warramunga Arr**	**87.39**	**114**	*eP*	**P**	**14 36 08.5**	**+3.1**
ASAR	**Alice Springs**	**88.86**	**117**	P	**P**	**14 36 13.7**	**+1.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**88.86**	**117**	P	**P**	**14 36 13.7**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=308,slow=4.6,SNR=3.9						
AS31	**Alice Springs**	**88.86**	**117**	*eP*	**P**	**14 36 13.7**	**+1.3**
	comp=Z,0.7nm,0.9s						

*DDA **11** 14:27:51.2, 38.°69N×43.°52E, h7km±6km, ML2.6*
*ISK **11** 14:27:51.1, 38.°73N×43.°44E, h14km, ML2.4/4*
ISC 11 14:27:51.5±1.3, 38.°75N±0.°04×43.°45E±0.°05, h13km±12km, n10, σ0.°53/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**198**	PG	**Pb**	**14 27 56.3**	**-0.1**
VANB				SG	**Sb**	**14 28 00.5**	**+0.8**
TVAN	**Van**	**0.22**	**189**	IAML_P			
	comp=Z,17μm,0.3s						
TVAN				*i* P	**Pg**	**14 27 56.5**	**+0.1**
VMUR	**Van-Muradiye**	**0.26**	**21**	*i* P	**Pb**	**14 27 57.9**	**-0.3**
GEVA	**Gevas**	**0.53**	**215**	IAML_P			
	comp=Z,1μm,0.2s						
GEVA				*i* P	**Pg**	**14 28 01.1**	**-0.8**
CLDR	**Caldiran**	**0.54**	**42**	PG	**Pg**	**14 28 01.9**	**-0.2**
CLDR				SG	**Sb**	**14 28 10.9**	**+0.2**
CLDR	**Caldiran**	**0.54**	**42**	IAML_P			
	comp=Z,3μm,0.1s						
CLDR				*i* P	**Pb**	**14 28 02.7**	**-0.2**
CLDR				*i* S	**Sb**	**14 28 11.5**	**+0.8**
AKDM	**Akdamar-Van**	**0.56**	**222**	PG	**Pg**	**14 28 02.4**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.57**	**276**	IAML_P			
	comp=Z,451nm,0.1s						
ADCV				*i* P	**Pb**	**14 28 03.6**	**+0.1**
ADCV				*i* S	**Sn**	**14 28 14.1**	**-0.8**
TUTA	**Tutak**	**0.82**	**323**	*i* P	**Pg**	**14 28 07.6**	**+0.2**
GURO	**Guroymak-BITLI**	**1.13**	**260**	PN	**Pb**	**14 28 12.8**	**-0.1**
GURO				SN	**Sn**	**14 28 28.8**	**+0.2**

*TEH **11** 14:28:02.6, 26.°70N×57.°75E, h10km, ML3.6*
*OMAN **11** 14:28:05.1±5.4, 26.°31N×57.°30E, h181km±112km, ml2.8/7, Error ellipse: s-maj=146.2km s-min=34.0km az=78.0*
ISC 11 14:28:00.2±0.9, 26.°34N±0.°06×57.°82E±0.°04, h10km, n20, σ1.°57/22, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.50**	**324**	*eP*g	**Pn**	**14 28 25.7**	**-1.5**
NIAN				IAMB	IAmb	14 28 32.0	
	comp=Z,0.0nm,0.4s						
SHME	**Shamm**	**1.54**	**259**	*eP*n	**Pg**	**14 28 31.8**	**+2.1**
MSFE	**Esma-Masafi**	**1.79**	**237**	*eP*n	**Pg**	**14 28 37.2**	**+2.7**
BNDS	**Bandar-Abbas**	**1.81**	**306**	*eP*n	**Pn**	**14 28 28.0**	**-3.6**
GENO	**Geno**	**1.81**	**306**	*eP*n	**Pn**	**14 28 31.9**	**+0.3**
GENO				*eS*g	**Sn**	**14 28 56.0**	**+1.2**
GENO				IAMB	IAmb	14 29 03.7	
	comp=Z,0.0nm,0.4s						
HATD	**Hatta, Dubai**	**2.15**	**226**	P	**Pg**	**14 28 42.6**	**+1.3**
HATD	**Hatta, Dubai**	**2.15**	**226**	*eP*n	**Pg**	**14 28 42.9**	**+1.6**
ASHO	**Ashiyiah**	**2.29**	**224**	P	**Pg**	**14 28 45.0**	**+0.8**
SOHO	**SOHO**	**2.49**	**208**	P	**Pb**	**14 28 43.8**	**-1.2**
	SNR=28						
SOHO				S	**Sb**	**14 29 16.6**	**+0.9**
CHBR	**Chabahar**	**2.51**	**107**	*eP*n	**Pg**	**14 28 49.1**	**+0.8**
HOQ	**Hoqain**	**2.79**	**190**	P	**Pb**	**14 28 49.2**	**-0.9**
	SNR=5.0						
HOQ	**Hoqain**	**2.79**	**190**	*eP*n	**Pg**	**14 28 54.0**	**+0.4**
SMDO	**Samad**	**3.27**	**176**	P	**Pb**	**14 28 58.6**	**+0.2**
NGRK	**Negar Kerman**	**3.43**	**344**	*eP*n	**Pn**	**14 28 52.6**	**-1.5**
NGRK				IAMB	IAmb	14 29 01.6	
	comp=Z,0.0nm,0.3s						
CHMN	**Cheshme madani**	**3.52**	**356**	*eP*n	**Pn**	**14 28 54.5**	**-0.7**
ZHSF	**Zahedan**	**4.17**	**38**	*eP*n	**Pn**	**14 29 04.8**	**+0.7**
GHIR	**Ghir-Karzin**	**4.72**	**295**	*eP*n	**Pn**	**14 29 09.6**	**-1.9**
IKAZ	**Kazeroun**	**6.30**	**304**	*eP*n	**Pn**	**14 29 32.3**	**-1.1**
IRAM	**Ramesheh**	**7.23**	**320**	*eP*n	**Pn**	**14 29 45.1**	**-1.1**
CLL	**Collm**	**42.00**	**319**	*eP*	**P**	**14 35 51.0**	**-0.5**

MEX 11 14:30:09.4±0.4, 16.°36N×98.°29W, h22km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**79**	*i* P	Pb	14 30 13.3	-1.9
PNIG				*eS*	Sb	14 30 16.2	-3.0

*BEO **11** 14:30:14.7±0.6, 43.°06N×18.°92E, h13km, ML1.4/5*
SAR 11 14:30:14.7±0.3, 43.°08N×18.°93E, h4km±3km, ML1.6/7, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.13**	**351**	⇑*i*Pg	Pg	14 30 16.8	-0.5
UPM				*eS*g	Sg	14 30 19.6	+0.5
BRY	**Bratogost**	**0.34**	**239**	⇓*i*Pg	Pg	14 30 20.5	-0.8
BRY				*eS*g	Sg	14 30 26.2	+0.5
TREB	**Trebinje**	**0.56**	**230**	*eP*g	Pg	14 30 25.2	-0.2
TREB				*eS*g	Sg	14 30 33.8	+1.1
TREB	**Trebinje**	**0.56**	**230**	*eP*g	Pg	14 30 25.3	-0.1
TREB				*eS*g	Sg	14 30 33.8	+1.1
PDG	**Podgorica**	**0.69**	**160**	⇑*i*P	Pg	14 30 26.8	-1.1
PDG	**Podgorica**	**0.69**	**160**	*eP*g	Pg	14 30 26.9	-1.0
PDG				*eS*g	Sg	14 30 37.2	+0.4
HCY	**Herceg Novi**	**0.71**	**207**	*eP*g	Pg	14 30 27.0	-1.3
HCY				*eS*g	Sg	14 30 37.2	-0.3
SJES	**Sjenica**	**0.78**	**76**	*eP*g	Pg	14 30 28.9	-0.8
SJES				*eS*g	Sg	14 30 40.5	+0.6
BBLS	**Lazići**	**0.86**	**23**	*eP*g	Pg	14 30 30.6	-0.6
BBLS				*eS*g	Sb	14 30 43.3	-0.8
BBLS	**Lazići**	**0.86**	**23**	*eP*g	Pg	14 30 30.1	-1.1
BBLS				*eS*g	Sg	14 30 42.6	+0.2
DRME	**Dracevica, Mon**	**0.91**	**168**	*eP*g	Pg	14 30 31.2	-0.9
DRME				*eS*g	Sg	14 30 44.0	+0.1
STON	**Ston**	**0.93**	**258**	*eP*g	Pg	14 30 31.2	-1.3
STON				*eS*g	Sg	14 30 43.3	-1.2
STON	**Ston**	**0.93**	**258**	*eP*g	Pg	14 30 30.8	-1.7
STON				Sg	Sb	14 30 45.7	-0.3
STON	**Ston**	**0.93**	**258**	*eP*g	Pg	14 30 31.5	-1.0
STON				*eS*g	Sg	14 30 44.6	+0.1
HAPS	**Han Pijesak,BI**	**1.01**	**1**	*eP*g	Pg	14 30 32.3	-1.7
HAPS				*eS*g	Sg	14 30 47.0	-0.1
IVAS	**Ivanjica**	**1.02**	**60**	*eP*g	Pg	14 30 34.1	-0.2
DIVS	**Divibare**	**1.28**	**37**	*eP*g	Pg	14 30 38.0	-1.2
DIVS				*eS*g	Sb	14 30 56.1	-0.1
DIVS	**Divibare**	**1.28**	**37**	*eP*g	Pg	14 30 37.9	-1.3
DIVS				*eS*g	Sg	14 30 55.4	-0.4

*MOS **11** 14:34:20.6±1.2, 36.°17N×70.°82E, h88km, mb4.3/39, Error ellipse: s-maj=7.5km s-min=4.2km az=90.8*
*IDC **11** 14:34:21.7±2.6, 36.°09N×70.°75E, h92km±23km, mb3.9/20, mb1 4.1/25, mb1mx3.9/51, mbtmp4.3/25, Error ellipse: s-maj=16.4km s-min=11.7km az=18.0*
*ISCJB **11** 14:34:22.0±0.2, 36.°14N±0.°02×70.°93E±0.°03, h110km, mb4.2/52, Error ellipse: s-maj=4.0km s-min=2.9km az=153.5*
*NEIC **11** 14:34:22.9±0.6, 36.°18N×70.°79E, h102km±5km, mb4.4/15, Error ellipse: s-maj=6.9km s-min=6.4km az=172.0*
*BJI **11** 14:34:22.0±0.0, 36.°20N×70.°90E, h103km, mb4.6/16, mB4.6/14*
*NNC **11** 14:34:23.6±2.4, 36.°76N×70.°18E, h0km, mb5.2, mpv4.9, Error ellipse: s-maj=24.2km s-min=11.6km az=158.0*
ISC 11 14:34:22.6±0.4, 36.°11N±0.°04×70.°65E±0.°04, h110km, n188, σ2.°45/203, mb4.2/52, 19C-14D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.04**	**221**	*eP*n	**Pn**	**14 34 59.0**	**+2.6**
KBL	**Kabul**	**2.04**	**221**	*eP*N	**Pn**	**14 34 59.0**	**+2.6**
CEP	**Cherat**	**2.50**	**155**	P	**Pn**	**14 35 04.0**	**+1.8**
CEP				S	**Sn**	**14 35 35.0**	**+2.4**
GAR	**Garm**	**2.90**	**355**	*eP*n	**Pn**	**14 35 07.2**	**-0.1**
GAR	**Garm**	**2.90**	**355**	*eP*N	**Pn**	**14 35 07.2**	**-0.1**
CHCP	**Chirah Chowk**	**3.25**	**138**	P	**Pn**	**14 35 13.4**	**+1.4**
NIL	**Nilore**	**3.25**	**138**	*eP*n	**Pn**	**14 35 13.5**	**+1.5**
NIL	**Nilore**	**3.25**	**138**	*eP*N	**Pn**	**14 35 13.5**	**+1.5**
THW	**Thamme Wali**	**3.43**	**164**	P	**Pn**	**14 35 15.8**	**+1.5**
BTK	**Batken**	**3.94**	**2**	*eP*n	**Pn**	**14 35 22.1**	**+0.8**
BTK	**Batken**	**3.94**	**2**	*eP*N	**Pn**	**14 35 22.1**	**+0.8**
SARP	**Sargodha**	**4.50**	**158**	P	**Pn**	**14 35 28.9**	**+0.2**
KSH	**Kashi**	**5.41**	**49**	P	**Pn**	**14 35 36.8**	**-4.3**
KSH				S	Sn	14 36 32.1	-10
KSH				smax	smax		
	comp=N,940nm,0.6s						
KSH				smax	smax		
	comp=E,700nm,1.0s						
ARSB	**Arslanbob**	**5.52**	**19**	*eP*n	**Pn**	**14 35 41.0**	**-1.5**
DHRM	**DHARAMSHALA**	**6.06**	**128**	*eP*	**Pn**	**14 35 49.5**	**-0.4**
DHRM				*eS*	**Sn**	**14 36 54.8**	**-3.3**
DHRM				IAML		14 36 57.5	
	comp=E,684nm,1.2s						
DHRM				IAML		14 36 58.7	
	comp=N,577nm,0.6s						
AML	**Almayashu**	**6.46**	**21**	P	**Pn**	**14 35 54.5**	**-1.0**
	SNR=215						
BHK	**Bhakra**	**6.70**	**133**	*ex*	**Pn**	**14 35 56.0**	**-2.5**
BHK				*eS*	**Sn**	**14 37 05.8**	**-7.6**
NRN	**Naryn**	**6.76**	**37**	*eP*n	**Pn**	**14 35 57.6**	**-1.9**
NRN	**Naryn**	**6.76**	**37**	*eP*N	**Pn**	**14 35 57.6**	**-1.9**
UCH	**Uchtor**	**6.81**	**25**	P	**Pn**	**14 35 59.1**	**-1.1**
	SNR=69						
KZA	**Kyzart**	**6.95**	**30**	P	**Pn**	**14 36 01.3**	**-0.8**
	SNR=39						
EKS2	**Erkin-Say**	**6.98**	**19**	P	**Pn**	**14 36 01.4**	**-0.8**
	SNR=34						
KK31	**Karatay Array**	**6.99**	**359**	*eP*n	**Pn**	**14 36 01.4**	**-0.8**
KK31	**Karatay Array**	**6.99**	**359**	⇑P	**Pn**	**14 36 00.8**	**-1.4**
	comp=N,40nm,0.5s,baz=187,slow=14,SNR=409						
KK31				⇓S	**Sn**	**14 37 13.3**	**-6.9**
	comp=N,24nm,0.4s,baz=194,slow=22,SNR=4.8						
KK31	**Karatay Array**	**6.99**	**359**	*eP*N	**Pn**	**14 36 01.5**	**-0.8**
KKAR	**Karatay Array**	**6.99**	**359**	*eP*n	**Pn**	**14 36 01.4**	**-0.8**
KKAR	**Karatay Array**	**6.99**	**359**	*eP*N	**Pn**	**14 36 01.4**	**-0.8**
AAK	**Ala-Archa**	**7.17**	**23**	P	**Pn**	**14 36 04.2**	**-0.7**
	SNR=29						
AAK	**Ala-Archa**	**7.17**	**23**	P	**Pn**	**14 36 03.8**	**-1.0**
	comp=N,28nm,0.6s						
AAK				S	**Sn**	**14 37 21.1**	**-3.7**
	comp=N,66nm,0.8s						
AAK	**Ala-Archa**	**7.17**	**23**	*d i*PN	**Pn**	**14 36 03.9**	**-1.0**
AAK				pmax	pmax		
	comp=Z,28nm,0.6s						
AAK	**Ala-Archa**	**7.17**	**23**	P	**Pn**	**14 36 04.0**	**-0.8**
	comp=Z,7.2nm,0.3s,baz=178,slow=6.2,SNR=69						
AAK				S	**Sn**	**14 37 20.9**	**-3.8**
	comp=Z,8.4nm,0.3s,baz=337,slow=20,SNR=12						
KBK	**Kargaybulak**	**7.33**	**26**	P	**Pn**	**14 36 07.0**	**-0.1**
	SNR=34						
FRU1	**Bishkek**	**7.37**	**23**	PN	**Pn**	**14 36 06.0**	**-1.4**
ULHL	**Ulahol**	**7.51**	**34**	P	**Pn**	**14 36 09.3**	**-0.2**
	SNR=11						
CHMS	**Chumysh**	**7.57**	**23**	P	**Pn**	**14 36 09.1**	**-1.1**
	SNR=62						
BOOM	**Boomskoye usch**	**7.58**	**31**	*eP*n	**Pn**	**14 36 09.4**	**-0.9**
BOOM	**Boomskoye usch**	**7.58**	**31**	*eP*N	**Pn**	**14 36 09.5**	**-0.9**
USP	**Ospenovka**	**7.74**	**21**	P	**Pn**	**14 36 10.8**	**-1.7**
	SNR=21						
TKM2	**Tokmak 2**	**7.80**	**28**	P	**Pn**	**14 36 12.6**	**-0.9**
	SNR=74						
TKM2	**Tokmak 2**	**7.80**	**28**	⇓P	**Pn**	**14 36 12.9**	**-0.6**
	comp=Z,66nm,0.7s						
TKM2				⇓S	**Sn**	**14 37 41.0**	**+0.8**
	comp=Z,24nm,0.8s						
TKM2	**Tokmak 2**	**7.80**	**28**	PN	**Pn**	**14 36 12.9**	**-0.6**
TKM2				S	**Sn**	**14 37 41.4**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,66nm,0.6s						
TKM2				smax	smax		
	comp=N,24nm,0.7s						
KDJ	**Kajisay**	**7.87**	**38**	*eP*n	**Pn**	**14 36 13.6**	**-0.8**
KDJ	**Kajisay**	**7.87**	**38**	*eP*N	**Pn**	**14 36 13.6**	**-0.8**
TARG	**Taragay, Kyrgy**	**7.91**	**43**	*eP*n	**Pn**	**14 36 14.5**	**-0.6**
DDI	**Dehra Dun**	**8.47**	**131**	*eP*	**Pn**	**14 36 22.2**	**-0.3**
DDI				*eS*	**Sn**	**14 37 48.4**	**-8.0**
MDOK	**Medeo**	**8.60**	**33**	⇑P	**Pn**	**14 36 27.3**	**+3.0**
	comp=N,51nm,0.7s						
MDOK				⇑S	**Sn**	**14 37 58.2**	**-1.3**
	comp=N,24nm,1.2s						
MDOK	**Medeo**	**8.60**	**33**	PN	**Pn**	**14 36 27.3**	**+3.0**
MDOK				pmax	pmax		
	comp=Z,51nm,0.7s						
NDI	**New Delhi**	**9.25**	**141**	*eP*	**Pn**	**14 36 29.0**	**-4.0**
NDI				*ex*	x	14 38 05.0	
JOSI	**Joshimath**	**9.28**	**124**	*eP*	**Pn**	**14 36 32.3**	**-1.3**
JOSI				*ex*	x	14 38 03.4	
JOSI				IAML		14 38 20.5	
	comp=E,193nm,0.3s						
KUDL	**Kundal**	**9.36**	**146**	*eP*	Pn	14 36 27.4	-7.1
KUDL				*eS*	Sn	14 38 04.7	-13
SONA	**Sohna**	**9.54**	**143**	*eP*	**Pn**	**14 36 32.6**	**-4.3**
SONA				*eS*	Sn	14 38 08.9	-13
PDGK	**Podgornoye**	**9.91**	**41**	⇓P	**Pn**	**14 36 42.3**	**+0.3**
	comp=E,22nm,0.9s						
PDGK				⇑S	**Sn**	**14 38 36.1**	**+4.7**
	comp=E,28nm,1.0s						
PDGK	**Podgornoye**	**9.91**	**41**	P	**Pn**	**14 36 42.3**	**+0.3**
PDGK				S	**Sn**	**14 38 36.1**	**+4.7**
PDGK				pmax	pmax		
	comp=Z,22nm,0.9s						
PDGK				smax	smax		
	comp=N,28nm,1.0s						
GEYT	**Alibeck**	**10.19**	**284**	P	**Pn**	**14 36 44.2**	**-1.5**
	comp=N,2.9nm,0.3s,baz=104,slow=9.8,SNR=19						
GEYT				S	**Sn**	**14 38 33.4**	**-4.6**
	comp=N,5.5nm,0.3s,baz=141,slow=18,SNR=9.9						
GYA0B	**ALIBECK ARRAY**	**10.19**	**284**	*eP*n	**Pn**	**14 36 44.8**	**-1.0**
GYA0B	**ALIBECK ARRAY**	**10.19**	**284**	⇓P	**Pn**	**14 36 43.3**	**-2.4**
GYA0B				⇓S	**Sn**	**14 38 33.5**	**-4.5**
OTUK	**Ortayu**	**12.19**	**5**	P	**Pn**	**14 37 09.6**	**-2.8**
OTUK				pmax	pmax		
	comp=Z,11nm,0.8s						
BHJ	**Bhuj**	**12.84**	**184**	*eP*	Pn	14 37 10.9	-10
PYUN	**Piuthan**	**13.15**	**124**	*eP*	**Pn**	**14 37 21.3**	**-4.0**
	comp=Z,83nm,0.8s						
DANN	**Dangsing**	**13.52**	**121**	*eP*	**Pn**	**14 37 26.5**	**-3.7**
	comp=Z,68nm,0.5s						
MAKZ	**Makanchi**	**13.64**	**35**	*eP*n	**Pn**	**14 37 29.5**	**-1.8**
MAKZ	**Makanchi**	**13.64**	**35**	*eP*	**Pn**	**14 37 29.5**	**-1.8**
MK31	**Makanchi Array**	**13.77**	**36**	*eP*n	**Pn**	**14 37 31.6**	**-1.5**
MK31	**Makanchi Array**	**13.77**	**36**	*eP*	**Pn**	**14 37 31.6**	**-1.5**
MKAR	**Makanchi Array**	**13.77**	**36**	*eP*n	**Pn**	**14 37 30.4**	**-2.7**
MKAR	**Makanchi Array**	**13.77**	**36**	*i* P	**Pn**	**14 37 32.7**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MKAR	**Makanchi Array**	**13.77**	**36**	P	**Pn**	**14 37 31.6**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=217,slow=13,SNR=26						
KOLN	**Koldanda**	**13.77**	**123**	*eP*	**Pn**	**14 37 29.8**	**-3.6**
	comp=Z,34nm,0.4s						
BHPL	**Bhopal**	**14.10**	**154**	*eP*	**Pn**	**14 37 35.2**	**-2.3**
BHPL				IAmb	IAmb	14 37 38.5	
	comp=Z,17nm,0.6s						
BHPL				*ex*	x	14 40 01.9	
GKN	**Gorkha**	**14.34**	**120**	*eP*	**Pn**	**14 37 36.9**	**-3.7**
	comp=Z,23nm,0.2s						
DMN	**Daman**	**14.91**	**121**	*eP*	**Pn**	**14 37 44.0**	**-4.0**
	comp=Z,103nm,0.8s						
KKN	**Kakani**	**14.92**	**120**	*eP*	**Pn**	**14 37 44.6**	**-3.5**
	comp=Z,45nm,0.7s						
PKIN	**Phulchoki**	**15.13**	**120**	*eP*	**Pn**	**14 37 47.4**	**-3.4**
	comp=Z,43nm,0.5s						
PKI	**Pulchoki**	**15.14**	**120**	*eP*	**Pn**	**14 37 47.6**	**-3.4**
	comp=Z,48nm,0.5s						
WMQ	**Urumqi**	**15.15**	**54**	*eP*	**Pn**	**14 37 49.8**	**-0.9**
WMQ				pmax	pmax		
	comp=Z,23nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,410nm,5.3s						
WMQ				LR	LR		
	comp=Z,910nm,31.1s						
WMQ				LR	LR		
	comp=Z,560nm,24.7s						
WMQ				LR	LR		
	comp=Z,320nm,18.3s						
AB31	**Akbulak array**	**15.29**	**333**	⇑P	**Pn**	**14 37 51.1**	**-1.3**
	comp=Z,20nm,0.3s,baz=143,slow=11,SNR=1242						
AB31				⇑S	**Sn**	**14 40 32.4**	**-9.0**
	comp=Z,22nm,0.6s,baz=157,slow=22,SNR=12						
AB31	**Akbulak array**	**15.29**	**333**	P	**Pn**	**14 37 51.1**	**-1.3**
AB31				S	**Sn**	**14 40 32.3**	**-9.0**
AB31				pmax	pmax		
	comp=Z,20nm,0.4s						
AB31				smax	smax		
	comp=N,22nm,0.5s						
ABKAR	**Akbulak array**	**15.29**	**333**	*eP*n	**Pn**	**14 37 51.1**	**-1.3**
KURBB	**Kurchatov Arra**	**15.58**	**19**	P	**Pn**	**14 37 52.7**	**-3.2**
	comp=N,0.1nm,0.3s,baz=216,slow=11,SNR=13						
JIRN	**Jiri**	**15.64**	**118**	*eP*	**Pn**	**14 37 53.5**	**-3.8**
	comp=N,112nm,0.5s						
KURK	**Kurchatov**	**15.69**	**19**	*eP*n	**Pn**	**14 37 55.8**	**-1.5**
	comp=N,23nm,0.9s						
KURK	**Kurchatov**	**15.69**	**19**	⇓*eP*	**P**	**14 37 58.3**	**-0.7**
KURK				pmax	pmax		
	comp=Z,26nm,1.0s						
RAMN	**Ramite**	**16.36**	**119**	*eP*	**Pn**	**14 38 02.2**	**-3.9**
	comp=Z,58nm,0.6s						
BVAR	**Borovoye Array**	**16.91**	**359**	P	**Pn**	**14 38 11.7**	**-0.7**
	comp=Z,4.3nm,0.3s,baz=170,slow=11,SNR=44						
BRVK	**Borovoye**	**16.95**	**359**	*eP*n	**Pn**	**14 38 11.5**	**-1.2**
	comp=Z,12nm,0.6s						
BRVK	**Borovoye**	**16.95**	**359**	⇓*iP*	**Pn**	**14 38 11.6**	**-1.2**
AKTO	**Aktyubinsk**	**16.98**	**331**	⇓P	**P**	**14 38 14.8**	**+1.4**
	comp=Z,52nm,0.8s						
AKTO				⇓S	**Sn**	**14 41 13.3**	**-8.7**
	comp=Z,36nm,1.1s						
AKTO	**Aktyubinsk**	**16.98**	**331**	P	**P**	**14 38 13.8**	**+0.4**
	comp=Z,3.2nm,0.3s,baz=145,slow=14,SNR=93						
AKTO				S	Sn	14 41 09.2	-13
	comp=Z,0.8nm,0.3s,baz=173,slow=23,SNR=5.6						
BOK	**Bokaro**	**18.00**	**129**	*eP*	**Pn**	**14 38 25.6**	**0.0**
BOK				IAmb	IAmb	14 38 26.4	
	comp=Z,14nm,1.2s						
DGZ	**Jazzator, Alta**	**18.26**	**37**	*c iP*	**P**	**14 38 27.3**	**-0.3**
LSA	**Lhasa**	**18.35**	**105**	*eP*	**P**	**14 38 26.9**	**-2.1**
	comp=Z,6.5nm,0.8s						
LSA	**Lhasa**	**18.35**	**105**	*eP*	**P**	**14 38 26.9**	**-2.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HYB	**Hyderabad**	**19.89**	**157**	*i* P	**Pn**	**14 38 48.0**	**-0.1**
HYB	**Hyderabad**	**19.89**	**157**	*eP*	**P**	**14 38 46.1**	**+0.6**
HYB				IAmb	IAmb	14 38 47.5	
	comp=Z,17nm,0.6s						
BTLR	**Botlikh**	**19.95**	**297**	⇓*eP*	**Pn**	**14 38 50.6**	**+2.0**
BTLR				pmax	pmax		
	comp=Z,15nm,0.9s						
DVE	**Vedeno**	**20.07**	**297**	⇑*eP*	Pn	14 38 51.3	+1.3
DVE				pmax	pmax		
	comp=Z,21nm,0.9s						
ZAA0	**Zalesovo Array**	**20.39**	**25**	*eP*	**P**	**14 38 50.9**	**+0.5**
	comp=Z,22nm,0.8s						
ZALV	**Zalesovo Beam**	**20.39**	**25**	*eP*	**P**	**14 38 50.6**	**+0.2**
ZALV	**Zalesovo Beam**	**20.39**	**25**	P	**P**	**14 38 50.3**	**-0.1**
	comp=Z,20nm,0.4s,baz=220,slow=11,SNR=70						
ZAA1	**Zalesovo Array**	**20.39**	**25**	*eP*	**P**	**14 38 50.3**	**-0.1**
NVS	**Novosibirsk**	**20.65**	**21**	*eP*	**P**	**14 38 53.7**	**+0.5**
NVS				pmax	pmax		
	comp=Z,26nm,1.2s						
NVS				pmax	pmax		
	comp=N,20nm,1.2s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.0s						
GNI	**Garni**	**20.75**	**289**	⇑*eP*	Pn	14 38 59.4	+1.3
GNI				pmax	pmax		
	comp=Z,50nm,0.7s						
GNI	**Garni**	**20.75**	**289**	P	Pn	14 38 59.3	+1.3
	comp=Z,17nm,0.7s,baz=347,slow=11,SNR=7.0						
ZEI	**Tsey**	**21.65**	**296**	*eP*	**P**	**14 39 01.0**	**-3.3**
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SVE	**Sverdlovsk**	**21.80**	**345**	⇓*eP*	**P**	**14 39 07.4**	**+2.0**
SVE				*eS*	**S**	**14 42 59.1**	**-0.5**
SVE				pmax	pmax		
	comp=Z,18n

AKBB pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 32.98 309⇑ eP P 14 40 50.1 +3.4
KIEV pmax pmax
comp=Z,1.0nm,0.8s
NRIK Noril'sk 34.56 10 P P 14 41 01.8 +1.6
comp=Z,9.6nm,0.8s,baz=207,slow=6.1,SNR=18
BURAR Bucovina Array 35.26 303 eP P 14 41 07.3 +0.7
BURAR Bucovina Array 35.26 303 eP P 14 41 07.3 +0.7
KOLS Kolonicke sedl 37.27 306 eP P 14 41 24.0 +0.4
KOLS Kolonicke sedl 37.27 306 eP P 14 41 24.0 +0.4
FIA1 FINESS Array S 37.65 326 eP P 14 41 28.3 +1.8
comp=Z,5.3nm,1.1s
FIA0 FINESS Array S 37.65 326 eP P 14 41 28.0 +1.4
FIA0 FINESS Array S 37.65 326 eP P 14 41 28.0 +1.4
FINES FINESS Array B 37.65 326 eP P 14 41 28.4 +1.8
FINES FINESS Array B 37.65 326 P P 14 41 28.0 +1.4
comp=Z,1.8nm,0.5s,baz=120,slow=9.5,SNR=21
SUF Sumiainen 38.11 328 P P 14 41 34.4 +4.0
SUF pmax pmax
comp=Z,11nm,1.2s
KEV Kevo 41.06 339 eP P 14 41 55.2 +0.4
comp=Z,3.2nm,0.6s
KEV Kevo 41.06 339 eP P 14 41 55.2 +0.4
KEV pmax pmax
comp=Z,3.0nm,0.6s
ARA0 ARCESS Array S 41.40 338 eP P 14 41 59.5 +1.9
ARCES ARCESS Array B 41.40 338 eP P 14 42 00.1 +2.5
ARCES ARCESS Array B 41.40 338 P P 14 41 59.5 +1.9
comp=Z,2.9nm,0.6s,baz=113,slow=8.1,SNR=31
ARE0 ARCESS Array S 41.40 338 eP P 14 41 59.4 +1.8
comp=Z,0.3nm,0.8s
NC405 NORSAR Array S 44.29 323 eP P 14 42 22.6 +1.6
comp=Z,6.7nm,1.0s
NORES NORESS Array B 44.33 323 P P 14 42 24.2 +2.9
NORES pmax pmax
comp=Z,1.0nm,0.3s
NC303 NORSAR Array S 44.47 324 eP P 14 42 24.7 +2.2
comp=Z,24nm,1.1s
NB2 NORSAR Subarra 44.52 323 P P 14 42 23.7 +0.8
comp=Z,2.6nm,0.5s,baz=99,slow=7.9
NB2 NORSAR Subarra 44.52 323 P P 14 42 22.8 -0.1
NB2 pmax pmax
comp=Z,13nm,1.1s
NOA NORSAR Array B 44.52 323 P P 14 42 24.1 +1.2
NOA pmax pmax
comp=Z,3.0nm,0.5s
NOA NORSAR Array B 44.52 323 P P 14 42 24.1 +1.2
comp=Z,1.4nm,0.8s,baz=104,slow=7.3,SNR=21
KS15 Wonju Array Si 45.25 70 eP P 14 42 29.2 +0.3
comp=Z,8.9nm,1.1s
KSRS Korea Array 45.27 70 P P 14 42 29.2 +0.1
comp=Z,1.2nm,0.5s,baz=275,slow=7.0,SNR=8.7
KLR Kul'dur 45.60 53 P P 14 42 32.1 +0.5
KLR pmax pmax
comp=Z,2.0nm,0.6s
KLR Kul'dur 45.60 53 P P 14 42 32.1 +0.5
comp=Z,0.4nm,0.3s,baz=294,slow=5.5,SNR=4.1
TIXI Tiksi 46.24 22 eP P 14 42 37.0 +0.8
comp=Z,4.1nm,0.9s
TIXI Tiksi 46.24 22⇑ iP P 14 42 36.6 +0.4
TIXI pmax pmax
comp=Z,4.0nm,0.9s
TGY Tagaytay City 49.90 103 P P 14 43 05.0 -0.3
TGY Tagaytay City 49.90 103 P P 14 43 05.0 -0.3
comp=Z,106nm,0.3s,baz=346,slow=12,SNR=3.7
SEY Seymchan 54.90 34⇑ eP P 14 43 41.9 +0.5
DAG Danmarks Havn 55.02 344 P P 14 43 45.1 +3.0
DAG pmax pmax
comp=Z,5.0nm,0.8s
BILL Bilibino 59.08 26 iP P 14 44 12.3 +1.5
BILL i 14 45 01.2
BILL i 14 46 21.9
BILL pmax pmax
comp=Z,2.0nm,1.0s
PEA1 Petropavlovsk- 60.44 44 eP P 14 44 19.9 -0.4
PETK Petropavlovsk- 60.44 44 P P 14 44 19.9 -0.4
comp=Z,1.5nm,0.7s,baz=314,slow=2.7,SNR=4.2
TOA1 Torodi Ar. Sit 65.43 269 eP P 14 44 52.1 -1.8
TORD Torodi Ar. Bea 65.43 269 P P 14 44 52.1 -1.8
comp=Z,1.4nm,0.5s,baz=53,slow=5.2,SNR=15
TOLK Toolik Lake Re 71.37 14 eP P 14 45 30.9 +0.7
BMAR Burnt Mountain 73.39 13 eP P 14 45 44.0 +1.9
INK Inuvik 74.33 9 P P 14 45 48.7 +1.2
comp=Z,4.3nm,0.6s,baz=352,slow=6.3,SNR=49
BPAW Bear Paw Mtn. 74.85 18 eP P 14 45 51.5 +0.9
comp=Z,4.3nm,1.2s
COLA College 74.93 16⇑ eP P 14 45 51.8 +0.8
COLA pmax pmax
comp=Z,4.0nm,0.8s
ILAR Eielson Array 75.23 16 P P 14 45 52.9 +0.1
comp=Z,1.1nm,0.9s,baz=296,slow=4.7,SNR=10
BOSA Boshof 77.27 220 P P 14 46 06.2 +1.3
comp=Z,1.1nm,0.6s,baz=0.0,slow=1.0,SNR=2.5
HARP HAARP 77.67 16 eP P 14 46 07.8 +1.2
comp=Z,10nm,0.7s
YKA Yellowknife Ar 81.65 2 eP P 14 46 27.0 -1.1
YKA Yellowknife Ar 81.65 2 P P 14 46 28.8 +0.7
comp=Z,1.1nm,0.5s,baz=349,slow=5.3,SNR=29
WR1 Warramunga Arr 82.03 122 eP P 14 46 30.7 0.0
WRA Warramunga Arr 82.03 122 P P 14 46 30.7 0.0
comp=Z,2.0nm,1.0s,baz=325,slow=4.8,SNR=4.2
AS31 Alice Springs 84.26 125 eP P 14 46 42.7 +0.5
comp=Z,0.9nm,0.7s
ASAR Alice Springs 84.26 125 P P 14 46 42.7 +0.5
comp=Z,1.1nm,0.6s,baz=322,slow=4.8,SNR=2.9

*IDC **11** 14:36:30.2±0.6, 3°.78S×129°.76E, h0km, mb4.2/16, mb1 4.3/18, mb1mx4.2/42, mbtmp4.3/18, ML3.1/2, MS3.5/13, Ms1 3.5/13, ms1mx3.3/29, Error ellipse: s-maj=28.2km s-min=12.9km az=69.0*
*ISCJB **11** 14:36:32.4±0.2, 3°.84S±0°.03×129°.76E±0°.03, h33km, mb4.3/27, MS3.6/9, Error ellipse: s-maj=4.6km s-min=4.0km az=153.0*
*DJA **11** 14:36:33.3±0.7, 4°.S±2°×13°.0E±°, h12km±5km, M4.7/22, mB5.1/12, mb4.7/22, MLv5.1/3, Mw(mB)4.5/12*
*NEIC **11** 14:36:34.9±0.9, 3°.90S×129°.79E, h44km±10km, mb4.5/19, Error ellipse: s-maj=10.5km s-min=6.5km az=67.0*
ISC 11 14:36:34.7±0.4, 3°.82S±0°.04×129°.73E±0°.05, h35km, n98, σ1°.88/99, mb4.4/27, MS3.6/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.72**	**166**	P	**Pn**	**14 36 48.7**	**+0.2**
BNDI				S	**Sn**	**14 37 01.1**	**+2.7**
FAKI	**Fak Fak**	**2.67**	**71**	ePn	**Pn**	14 37 16.7	+1.4
FAKI	**Fak Fak**	**2.67**	**71**	P	**Pn**	14 37 16.5	+1.2
FAKI				S	**Sn**	14 37 48.0	+1.6
SWI	**Sorong**	**3.31**	**28**	P	**Pn**	14 37 23.1	-1.0
SWI				S	**Sn**	14 38 01.3	-0.9
SANI	**Sanana**	**4.13**	**295**	P	**Pn**	14 37 33.2	-2.1
SANI				S	**Sn**	14 38 19.7	-2.7
SAUI	**Saumlaki**	**4.42**	**159**	ePn	**Pn**	14 37 38.3	-1.2
SAUI	**Saumlaki**	**4.42**	**159**	P	**Pn**	14 37 43.5	+4.1
RKPI	**Ransiki, Papua**	**5.00**	**63**	P	**Pn**	14 37 48.5	+1.2
TNTI	**Ternate**	**5.13**	**333**	ePn	**Pn**	14 37 49.2	0.0
TNTI	**Ternate**	**5.13**	**333**	P	**Pn**	14 37 48.9	-0.3
KMSI	**Cibinong** 108nm,0.5s,2μm	**7.21**	**307**	P	**Pn**	**14 38 14.6**	**-3.2**
BBSI	**Bau Bau**	**7.33**	**257**	P	**Pn**	**14 38 23.8**	**+4.5**
LUWI	**Luwuk**	**7.48**	**291**	ePn	**Pn**	**14 38 23.1**	**+1.7**
LUWI	**Luwuk** 66nm,0.9s,3μm0.3nm	**7.48**	**291**	P	**Pn**	**14 38 22.2**	**+0.8**
SOEI	**Soe** 64nm,1.0s	**8.01**	**222**	P	**Pn**	**14 38 32.9**	**+4.0**
APSI	**Ampana** 93nm,1.1s,1μm	**8.57**	**289**	P	**Pn**	**14 38 37.8**	**+1.3**
BATI	**Baumata**	**8.75**	**223**	P	**Pn**	**14 38 43.0**	**+4.1**
MMRI	**Maumere**	**8.85**	**237**	P	Pn	14 38 47.6	+7.3
MRSI	**Marisa** 20nm,0.7s,377nm	**8.88**	**299**	P	**Pn**	**14 38 39.3**	**-1.3**
MTN	**Manton Dam**	**9.08**	**171**	ePn	**Pn**	**14 38 44.9**	**+1.5**
BSSI	**Bau Bau, Buton** 138nm,1.0s,1μm	**9.49**	**256**	P	**Pn**	**14 38 51.5**	**+2.5**
BNSI	**Bone** 52nm,0.9s	**9.62**	**266**	P	**Pn**	**14 38 53.7**	**+2.9**
BKSI	**Bulukumba** 25nm,0.9s,329nm	**9.69**	**261**	P	**Pn**	**14 38 55.1**	**+3.3**
TTSI	**Tana Toraja** 50nm,1.3s,701nm	**9.92**	**274**	P	**Pn**	**14 38 57.1**	**+2.1**
SPSI	**Sidrap Palu** 25nm,1.5s,439nm	**9.94**	**269**	P	**Pn**	**14 38 57.6**	**+2.4**
GENI	**Genyem**	**10.49**	**84**	P	**Pn**	**14 39 02.5**	**-0.3**
MPSI	**Mapaga** 28nm,1.1s	**10.66**	**293**	P	**Pn**	**14 39 06.1**	**+1.1**
FITZ	**Fitzroy Crossi** 9.2nm,0.9s	**14.75**	**195**	ePn	**Pn**	**14 40 00.3**	**-0.7**
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=37,slow=13,SNR=14	**14.75**	**195**	Pn	**Pn**	**14 39 59.8**	**-1.1**
FITZ				LR	LR	14 46 41.2	
WRAB	**Tennant Creek** 11nm,0.7s	**16.64**	**165**	ePn	**Pn**	**14 40 22.1**	**-3.4**
WR1	**Warramunga Arr**	**16.65**	**165**	ePn	**Pn**	**14 40 21.7**	**-3.8**
WR1				eSn	Sn	14 43 19.1	-10
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=350,slow=14,SNR=25	**16.65**	**165**	Pn	**Pn**	**14 40 21.7**	**-3.8**
WRA				Sn	Sn	14 43 19.1	-10
WRA	0.8nm,0.3s,baz=341,slow=22,SNR=4.7			LR	LR	14 47 17.4	
WB2	**Warramunga Arr** 9.8nm,0.7s	**16.65**	**165**	ePn	**Pn**	**14 40 21.7**	**-3.9**
COEN	**Coen** 42nm,1.0s	**16.66**	**128**	ePn	**Pn**	**14 40 24.1**	**-1.6**
PMG	**Port Moresby** 0.2nm,0.3s,baz=194,slow=17,SNR=2.4	**18.18**	**109**	P	**Pn**	**14 40 42.6**	**-1.9**
PMG				LR	LR	14 49 52.6	
MBWA	**Marble Bar** 26nm,1.0s	**19.79**	**209**	eP	**P**	**14 41 00.9**	**-1.3**
TGY	**Tagaytay City** comp=Z,43nm,18.4s,baz=358,slow=44	**19.82**	**334**	LR	LR	14 51 09.6	
PSA00	**Pilbara Seismi** 20nm,0.8s	**20.09**	**208**	eP	**P**	**14 41 06.0**	**+0.5**
KSM	**Kuching** 27nm,1.2s	**20.11**	**285**	eP	**P**	**14 41 06.4**	**+0.6**
AS31	**Alice Springs** 8.9nm,0.4s	**20.14**	**169**	eP	**P**	**14 41 06.7**	**+0.6**
ASAR	**Alice Springs**	**20.14**	**169**	eP	**P**	**14 41 06.6**	**+0.5**
ASAR	**Alice Springs** 10nm,0.4s,baz=347,slow=10,SNR=169	**20.14**	**169**	P	**P**	**14 41 06.4**	**+0.3**
ASAR				S	**S**	**14 44 45.0**	**-5.6**
ASAR	1.5nm,0.6s,baz=338,slow=16,SNR=5.0			LR	LR	14 49 25.0	
CTA	**Charters Tower** 15nm,1.0s,baz=300,slow=10,SNR=10	**22.83**	**136**	P	**P**	**14 41 35.8**	**+0.8**
CTAO	**Charters Tower** 32nm,1.3s	**22.83**	**136**	eP	**P**	**14 41 32.0**	**-2.9**
BBOO	**Buckleboo** 32nm,1.4s	**29.45**	**169**	eP	**P**	**14 42 32.2**	**-3.2**
IPM	**Ipoh** 13nm,0.9s	**29.84**	**286**	eP	**P**	**14 42 37.1**	**-1.9**
STKA	**Stephens Creek** 2.8nm,1.4s	**30.06**	**160**	eP	**P**	**14 42 39.9**	**-0.8**
STKA	**Stephens Creek** 2.7nm,1.0s,baz=335,slow=9.9,SNR=6.3	**30.06**	**160**	P	**P**	**14 42 40.5**	**-0.2**
STKA				LR	LR	14 54 32.5	
NONG	**Nongkai** comp=Z,220nm,21.9s,baz=349,slow=36	**34.05**	**311**	P	**P**	**14 43 16.6**	**+0.7**
CAN	**Canberra** 0.2nm,0.9s	**36.07**	**153**	eP	**P**	**14 43 31.4**	**-1.8**
NJ2	**Nanjing** 38nm,1.5s	**37.14**	**345**	eP	**P**	**14 43 41.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**37.55**	**307**	eP	**P**	**14 43 46.2**	**+0.3**
CMAR	**Chiang Mai Arr** 3.7nm,0.8s,baz=136,slow=7.5,SNR=27	**37.55**	**307**	P	**P**	**14 43 46.5**	**+0.6**
CMMT	**Chiang Mai** 6.2nm,0.9s	**37.74**	**308**	P	**P**	**14 43 48.5**	**+0.9**
CHTO	**Chiang Mai** 9.1nm,0.8s	**37.74**	**308**	eP	**P**	**14 43 47.5**	**-0.1**
INU	**Inuyama** 31nm,1.5s	**39.55**	**9**	eP	**P**	**14 44 01.0**	**-1.5**
MAJO	**Matsushiro**	**40.92**	**10**	eP	**P**	**14 44 12.6**	**-1.3**
MAT	**Matsushiro**	**40.92**	**10**	P	**P**	**14 44 12.9**	**-1.0**
MJAR	**Matsushiro Arr** 4.1nm,0.9s,baz=187,slow=11,SNR=8.0	**40.92**	**10**	P	**P**	**14 44 12.6**	**-1.3**
MJAR				LR	LR	14 58 56.1	
KS15	**Wonju Array Si** 11nm,1.3s	**41.08**	**358**	eP	**P**	**14 44 15.1**	**-0.1**
KSRS	**Korea Array** 1.6nm,0.5s,baz=176,slow=9.7,SNR=15	**41.09**	**358**	P	**P**	**14 44 15.1**	**-0.1**
XAN	**Xi'an**	**42.46**	**334**	P	**P**	**14 44 27.4**	**+0.8**
CD2	**Chengdu**	**42.51**	**326**	eP	**P**	**14 44 27.1**	**+0.1**
LZH	**Lanzhou**	**46.50**	**331**	eP	**P**	**14 45 00.1**	**+1.2**
LZH				pP	sP	14 45 11.7	-0.4
LZH				sP	pwP	14 45 16.5	+3.9
LZH				ePP	**PP**	**14 46 49.3**	**+0.6**
HHC	**Hu-ho-hao-te**	**47.46**	**341**	eP	**P**	**14 45 08.0**	**+1.7**
USRK	**Ussuriysk Ar.** 1.6nm,0.6s,baz=183,slow=6.8,SNR=5.4	**47.84**	**2**	P	**P**	**14 45 09.9**	**+0.9**
GTA	**Gaotai**	**51.08**	**330**	eP	**P**	**14 45 34.6**	**+0.6**
GTA				pP	sP	14 45 46.7	-0.6
GTA				sP	pwP	14 45 52.5	+4.7
RAMN	**Ramite** 24nm,0.7s	**51.67**	**309**	eP	**P**	**14 45 38.6**	**-0.2**
JIRN	**Jiri** 12nm,0.3s	**52.33**	**309**	eP	**P**	**14 45 40.9**	**-3.0**
KOLN	**Koldanda** 24nm,0.7s	**54.40**	**308**	eP	**P**	**14 45 58.3**	**-0.6**
DANN	**Dangsing** 36nm,0.8s	**54.55**	**309**	eP	**P**	**14 45 57.7**	**-2.4**
PYUN	**Piuthan** 32nm,0.8s	**55.03**	**308**	eP	**P**	**14 46 02.5**	**-1.0**
SONA0	**Songino Array**	**55.36**	**341**	eP	**P**	**14 46 05.7**	**+0.4**
SONM	**Songino Array**	**55.36**	**341**	eP	**P**	**14 46 05.0**	**-0.4**
SONM	**Songino Array** 2.4nm,1.0s,baz=156,slow=7.4,SNR=9.7	**55.36**	**341**	P	**P**	**14 46 05.7**	**+0.4**
WMQ	**Urumqi**	**60.60**	**326**	eP	**P**	**14 46 44.0**	**+1.9**
PETK	**Petropavlovsk-** 1.1nm,0.7s,baz=152,slow=5.1,SNR=4.6	**61.41**	**19**	P	**P**	**14 46 48.9**	**+1.6**
PEA1	**Petropavlovsk-**	**61.41**	**19**	eP	**P**	**14 46 48.9**	**+1.6**
MKAR	**Makanchi Array** 1.6nm,0.4s,baz=112,slow=7.8,SNR=26	**65.44**	**326**	P	**P**	**14 47 14.2**	**0.0**
MKAR				LR	LR	15 17 37.9	
KSH	**Kashi** comp=Z,18nm,21.7s,baz=97,slow=38	**65.52**	**317**	P	**P**	**14 47 16.1**	**+1.2**
MAKZ	**Makanchi** 6.1nm,1.1s	**65.62**	**326**	eP	**P**	**14 47 15.2**	**-0.2**
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=95,slow=4.8,SNR=3.7	**68.63**	**333**	P	**P**	**14 47 34.2**	**0.0**
KURBB	**Kurchatov Arra** 5.5nm,0.8s,baz=129,slow=5.8,SNR=38	**69.68**	**328**	P	**P**	**14 47 41.0**	**+0.2**
KURK	**Kurchatov** 16nm,1.0s	**69.68**	**328**	eP	**P**	**14 47 40.6**	**-0.2**
RAR	**Rarotonga** comp=Z,57nm,18.5s,baz=272,slow=37	**70.45**	**111**	LR	LR	15 20 24.4	
BVAR	**Borovoye Array** 1.9nm,0.8s,baz=131,slow=11,SNR=9.7	**75.25**	**327**	P	**P**	**14 48 14.7**	**+0.8**
BRVK	**Borovoye** 10nm,1.4s	**75.32**	**327**	eP	**P**	**14 48 15.1**	**+0.8**
TIXI	**Tiksi** 7.5nm,1.5s	**75.33**	**360**	eP	**P**	**14 48 14.1**	**+0.1**
VNDA	**Vanda**	**75.62**	**173**	eP	**P**	**14 48 14.9**	**-0.7**
VNDA	**Vanda** 0.5nm,0.8s,baz=311,slow=9.3,SNR=2.4	**75.62**	**173**	P	**P**	**14 48 16.1**	**+0.4**
VNDA				LR	LR	15 21 36.6	
GEYT	**Alibeck** comp=Z,16nm,21.0s,baz=125,slow=39	**77.97**	**310**	LR	LR	15 27 34.5	
NRIK	**Noril'sk** 1.2nm,0.4s,baz=181,slow=5.2,SNR=4.2	**78.42**	**346**	P	**P**	**14 48 32.8**	**+1.3**
NRIK				LR	LR	15 28 39.3	
ABKAR	**Akbulak array** comp=Z,28nm,18.4s,baz=42,slow=40	**79.87**	**321**	eP	**P**	**14 48 39.7**	**-0.1**
PPT	**Papeete** comp=Z,30nm,18.4s,baz=302,slow=35	**79.99**	**107**	LR	LR	15 22 40.5	
AKTO	**Aktyubinsk** 0.9nm,0.4s,baz=76,slow=7.6,SNR=5.2	**81.41**	**322**	P	**P**	**14 48 49.0**	**+1.0**
TORD	**Torodi Ar. Bea** 0.5nm,0.7s,baz=99,slow=2.7,SNR=2.7	**127.87**	**284**	PKP	**PKiKP**	**14 55 40.9**	**+2.5**
TOA1	**Torodi Ar. Sit**	**127.87**	**284**	ePKPdf	**PKiKP**	**14 55 40.9**	**+2.5**
CPUP	**Villa Florida** 5.0nm,1.0s,baz=145,slow=1.4,SNR=5.0	**149.26**	**168**	PKPbc	**PKiKP**	**14 56 22.7**	**+0.9**

RSNC 11 14:40:25.5±1.0, 6°.82N×73°.17W, h150km±4km, ML3.0, Mw3.6, 5C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**183**	⇑ iP	Pn	14 40 45.8	-0.4
BARC				eS	Sn	14 41 01.2	-0.6
BARC				i		14 41 03.7	
	comp=Z,224nm,0.3s						
GIRC	**Giron, Santand**	**0.26**	**355**	⇑ eP	Pn	14 40 45.8	-0.3
GIRC				eS	Sn	14 41 01.6	-0.3
GIRC				i		14 41 04.2	
	comp=Z,79nm,0.5s						
BRRC	**Barranca, Sant**	**0.61**	**298**	⇑ iP	Pn	14 40 47.6	+0.2
BRRC				eS	Sn	14 41 05.1	+1.0
BRRC				i		14 41 12.6	
	comp=Z,84nm,0.2s						
PAMC	**Pamplona, Colo**	**0.69**	**42**	⇑ eP	Pn	14 40 48.5	-0.1
PAMC				i		14 40 48.8	
	comp=Z,255nm,0.2s						
PAMC				eS	Sn	14 41 05.9	-0.1
RUSC	**La Rusia**	**0.93**	**175**	⇓ iP	Pn	14 40 49.6	-0.7
RUSC				eS	Sn	14 41 08.6	-0.5
RUSC				i		14 41 11.2	
	comp=Z,112nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.31**	**258**	eP	Pn	14 40 52.4	-0.7
PTBC				eS	Sn	14 41 13.9	-0.3
PTBC				i		14 41 19.7	
	comp=Z,175nm,0.5s						
OCAC	**Ocana**	**1.42**	**354**	eP	Pn	14 40 54.3	-0.1
OCAC				eS	Sn	14 41 16.3	-0.2
OCAC				i		14 41 21.5	
	comp=Z,158nm,0.4s						
TAMC	**Tame, Arauca**	**1.42**	**106**	⇑ iP	Pn	14 40 53.9	-0.4
TAMC				i		14 40 54.0	
	comp=Z,159nm,0.3s						
TAMC				eS	Sn	14 41 15.7	-0.6
YOPC	**Yopal, Colombi**	**1.64**	**153**	eP	Pn	14 40 55.8	-0.9
NORC	**Norcasia**	**2.10**	**234**	eP	Pn	14 41 01.5	-0.4
NORC				eS	Sn	14 41 29.9	+0.1
NORC				i		14 41 33.5	
	comp=Z,140nm,0.2s						
SMLC	**San Martn de**	**2.16**	**336**	eP	Pn	14 41 02.6	+0.1
SMLC				eS	Sn	14 41 30.5	-0.6
SMLC				i		14 41 34.3	
	comp=Z,154nm,0.1s						
CHIC	**Chingaza**	**2.25**	**194**	eP	Pn	14 41 03.7	-0.3
CHIC				i		14 41 05.9	
	comp=Z,51nm,0.2s						
CHIC				eS	Sn	14 41 32.8	-0.8
ROSC	**El Rosal**	**2.28**	**210**	eP	Pn	14 41 05.3	+0.9
ROSC				i		14 41 43.4	
	comp=Z,127nm,0.4s						
HELC	**Santa Helena**	**2.43**	**255**	eP	Pn	14 41 06.5	+0.4
HELC				i		14 41 44.0	
	comp=Z,45nm,0.3s						
UREC	**San Jos de Ur**	**2.52**	**292**	eP	Pn	14 41 05.5	-1.4
UREC				eS	Sn	14 41 36.6	-2.2
UREC				i		14 41 50.7	
	comp=Z,54nm,0.2s						
VILC	**Villavicencio,**	**2.74**	**191**	eP	Pn	14 41 09.5	-0.3
CODC	**Agustn Codazz**	**3.11**	**355**	eP	Pn	14 41 13.5	-0.8
CODC				eS	Sn	14 41 50.9	-1.1
CODC				i		14 41 58.2	
	comp=Z,20nm,0.6s						
SDV	**Santo Domingo**	**3.24**	**51**	eP	Pn	14 41 15.1	-1.1
SDV				i		14 41 15.9	
	comp=Z,35nm,0.3s						
SDV				eS	Sn	14 41 52.9	-2.5
PRAC	**Prado**	**3.53**	**209**	eP	Pn	14 41 19.1	-0.6
PRAC				eS	Sn	14 42 02.6	+0.8
PRAC				i		14 42 06.5	
	comp=Z,49nm,0.5s						
SJCC	**San Jacinto, C**	**3.65**	**327**	eP	Pn	14 41 19.5	-1.7
SJCC				eS	Sn	14 42 01.2	-3.3
SJCC				i		14 42 05.8	
	comp=Z,21nm,0.3s						

*ISCJB **11** 14:56:29.6±0.7, 36°.69N±0°.05×140°.53E±0°.06, h107km±5km, mb3.5/2, Error ellipse: s-maj=8.8km s-min=6.4km az=136.7*
*JMA **11** 14:56:31.2±0.1, 36°.67N×140°.49E, h97km±1km, M3.3*
*IDC **11** 14:56:32.7±4.6, 36°.75N×140°.19E, h129km±53km, mb3.1/2, mb1 3.5/2, mb1mx2.8/28, mbtmp3.5/2, Error ellipse: s-maj=84.5km s-min=25.4km az=108.0*
ISC 11 14:56:30.3±1.0, 36°.68N±0°.05×140°.54E±0°.06, h103km±7km, n22, σ0°.60/29, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.07**	**159**	P	**Pn**	**14 56 44.8**	**+0.2**
JHO				S	**Sn**	**14 56 55.0**	**-0.3**
JHYU	**Hitachinakayam**	**0.34**	**173**	P	**Pn**	**14 56 45.8**	**+0.3**
JHYU				S	**Sn**	**14 56 56.7**	**-0.1**
JFFD	**Fukushimafurud**	**0.41**	**3**	P	**Pn**	**14 56 46.2**	**+0.3**
JFFD				S	**Sn**	**14 56 57.0**	**-0.6**
JFK	**Kawauchi**	**0.74**	**21**	P	**Pn**	**14 56 48.7**	**+0.3**
JFK				S	**Sn**	**14 57 01.6**	**-0.4**
JFT	**Otama**	**0.85**	**349**	P	**Pn**	**14 56 50.0**	**+0.6**
JFT				eS	**Sn**	**14 57 03.8**	**-0.1**
JAG	**Ashikaga**	**0.91**	**254**	P	**Pn**	**14 56 50.3**	**+0.3**
JAG				S	**Sn**	**14 57 04.5**	**-0.3**
JFY	**Yanaizu**	**0.98**	**318**	P	**Pn**	**14 56 51.3**	**+0.5**
JFY				S	**Sn**	**14 57 06.3**	**0.0**
JKT	**Katashina**	**1.04**	**275**	P	**Pn**	**14 56 51.9**	**+0.5**
JMM	**Marumori**	**1.20**	**10**	P	**Pn**	**14 56 53.4**	**+0.3**
JMM				S	**Sn**	**14 57 09.7**	**-0.7**
JHK	**Hiroka**	**1.34**	**295**	P	**Pn**	**14 56 55.3**	**+0.5**
JHK				eS	**Sn**	**14 57 13.7**	**+0.3**
JRY	**Ryogami san**	**1.48**	**244**	P	**Pn**	**14 56 57.1**	**+0.6**
JRY				eS	**Sn**	**14 57 16.3**	**0.0**
JNS	**Sasagawa**	**1.50**	**320**	P	**Pn**	**14 56 56.9**	**+0.3**
JNS				eS	**Sn**	**14 57 16.3**	**-0.3**
MJAR	**Matsushiro Arr** 0.7nm,0.3s,baz=75,slow=7.9,SNR=42	**1.88**	**266**	P	**Pn**	**14 57 02.1**	**+0.7**
MJAR				S	**Sn**	**14 57 23.6**	**-1.6**
	0.6nm,0.3s,baz=90,slow=16,SNR=9.1						
MAT	**Matsushiro**	**1.88**	**266**	P	**Pn**	**14 57 02.0**	**+0.6**
MAT				S	**Sn**	**14 57 23.7**	**-1.5**
H11N2	**WAKE ISLAND Hy** baz=314,SNR=4.1	**28.58**	**119**	T	T	15 32 23.0	
H11N1	**WAKE ISLAND Hy** baz=314	**28.59**	**119**	T	T	15 32 23.0	
H11N3	**WAKE ISLAND Hy** baz=314	**28.60**	**119**	T	T	15 32 21.8	
H11S1	**WAKE ISLAND Hy** baz=308,slow=74,SNR=5.3	**29.27**	**121**	T	T	15 33 21.2	
H11S3	**WAKE ISLAND Hy** baz=308,slow=74,SNR=3.6	**29.27**	**121**	T	T	15 33 22.8	
H11S2	**WAKE ISLAND Hy** baz=308,SNR=1.8	**29.29**	**121**	T	T	15 33 24.0	
ILAR	**Eielson Array** 0.5nm,1.0s,baz=270,slow=6.3,SNR=4.9	**50.17**	**32**	P	**P**	**15 05 14.8**	**-0.1**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=4.0,slow=7.5,SNR=8.1	**56.62**	**187**	P	**P**	**15 06 02.5**	**0.0**

MEX 11 14:59:17.1±0.6, 16°.33N×98°.14W, h16km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.06**	**7**	i P	Pg	14 59 18.9	-1.2
PNIG				i S	Sg	14 59 21.7	-0.5

*SOME **11** 15:07:53.7, 43°.07N×80°.90E, h15km*
*NNC **11** 15:07:54.7±1.3, 43°.11N×80°.79E, h0km, mb2.9, mpv2.9, Error ellipse: s-maj=8.1km s-min=6.2km az=145.0*
*KRNET **11** 15:07:55.2±0.1, 43°.15N×80°.82E, h25km, mb2.8*
ISC 11 15:07:54.9±2.2, 43°.07N±0°.05×80°.76E±0°.09, h14km±10km, n27, σ2°.20/47, 2C-7D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 3.0nm,0.1s	**0.48**	**322**	P	**Pg**	**15 08 04.5**	**0.0**
KTMS				S	**Sb**	**15 08 11.8**	**-0.4**
	8.8nm,0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS				*e*S	**Sb**	**15 08 18.5**	**-7.4**
	baz=71						
SHLS	**Shalkode**	**0.95**	**276**	*e*P	Pb	15 08 08.0	-5.3
	6.9nm,0.2s						
SHLS				*e*S	**Sb**	**15 08 18.5**	**-7.4**
	16nm,0.3s						
PDGK	**Podgornoye**	**0.96**	**286**	P	**Pb**	**15 08 13.3**	**-0.2**
	1.6nm,0.1s						
PDGK				S	**Sg**	**15 08 27.1**	**+0.8**
	3.6nm,0.1s						
PDGK	**Podgornoye**	**0.96**	**286**	⇓P	**Pb**	**15 08 13.1**	**-0.4**
	0.9nm,0.3s						
PDGK				⇑S	**Sg**	**15 08 26.8**	**+0.6**
	3.2nm,0.3s						
PDGK	**Podgornoye**	**0.96**	**286**	⇓*i*P	**Pb**	**15 08 13.1**	**-0.4**
	baz=81						
PDGK				⇓*i*S	**Sg**	**15 08 26.8**	**+0.6**
	baz=81						
UZB	**Uzynbulak**	**1.28**	**274**	P	**Pn**	**15 08 18.7**	**+0.2**
	1.5nm,0.1s						
UZB				S	**Sn**	**15 08 36.6**	**+1.1**
	9.3nm,0.1s						
UZB	**Uzynbulak**	**1.28**	**274**	*e*P	**Pn**	**15 08 18.7**	**+0.2**
	baz=71						
UZB				*e*S	**Sn**	**15 08 36.6**	**+1.1**
	baz=71						
UZB	**Uzynbulak**	**1.28**	**274**	*e*P	**Pn**	**15 08 18.7**	**+0.2**
	1.5nm,0.1s						
UZB				*e*S	**Sn**	**15 08 36.6**	**+1.1**
	9.3nm,0.1s						
DJR	**Jarkent**	**1.45**	**331**	P	**Pb**	**15 08 21.1**	**-0.6**
	2.5nm,0.2s						
DJR				S	**Sg**	**15 08 40.6**	**-0.9**
	6.5nm,0.2s						
DJR	**Jarkent**	**1.45**	**331**	*e*P	**Pb**	**15 08 21.1**	**-0.6**
	2.5nm,0.2s						
DJR				*e*S	**Sg**	**15 08 40.6**	**-0.9**
	6.5nm,0.2s						
KPKS	**Kokpek**	**1.57**	**285**	*e*P	**Pb**	**15 08 23.4**	**-0.4**
	baz=81						
KPKS				*e*S	**Sb**	**15 08 44.9**	**+1.4**
	baz=81						
KPKS	**Kokpek**	**1.57**	**285**	*e*P	**Pb**	**15 08 23.4**	**-0.4**
	4.1nm,0.2s						
KPKS				*e*S	**Sb**	**15 08 44.9**	**+1.4**
	16nm,0.4s						
SATY	**Saty**	**1.73**	**270**	P	**Pb**	**15 08 27.5**	**+1.0**
	5.2nm,0.1s						
SATY				S	**Sg**	**15 08 52.1**	**+1.6**
	14nm,0.2s						
SATY	**Saty**	**1.73**	**270**	*e*P	**Pb**	**15 08 27.1**	**+0.7**
	5.2nm,0.1s						
SATY				*e*S	**Sg**	**15 08 51.4**	**+0.9**
	14nm,0.2s						
MNBS	**Baschi**	**1.99**	**301**	Pg	**Pb**	**15 08 30.0**	**-1.0**
	2.2nm,0.1s						
MNBS				Lg	Lg	15 08 56.7	
	15nm,0.2s						
MNBS	**Baschi**	**1.99**	**301**	*e*P	**Pb**	**15 08 30.0**	**-1.0**
	2.2nm,0.1s						
MNBS				*e*S	**Sb**	**15 08 56.7**	**+1.0**
	15nm,0.2s						
KAPS	**Kapalarasan**	**2.43**	**336**	Pg	**Pb**	**15 08 37.9**	**-0.7**
	1.2nm,0.2s						
KAPS				Lg	Lg	15 09 09.8	
	5.0nm,0.3s						
KAPS	**Kapalarasan**	**2.43**	**336**	*e*P	**Pb**	**15 08 37.9**	**-0.7**
	1.2nm,0.2s						
KAPS				*e*S	**Sb**	**15 09 09.8**	**+1.4**
	5.0nm,0.3s						
TARG	**Taragay, Kyrgy**	**2.57**	**240**	⇓*i*P	**Pb**	**15 08 40.4**	**-0.6**
	baz=39						
TARG				⇓*i*S	**Sb**	**15 09 14.1**	**+1.6**
	baz=39						
KOTS	**Kotyrbulak**	**2.67**	**275**	Pg	**Pb**	**15 08 43.1**	**+0.4**
	1.0nm,0.3s						
KOTS				Lg	Lg	15 09 18.3	
	7.7nm,0.4s						
KOTS	**Kotyrbulak**	**2.67**	**275**	*e*P	**Pb**	**15 08 43.1**	**+0.4**
	1.0nm,0.3s						
KOTS				*e*S	**Sb**	**15 09 18.3**	**+2.9**
	7.7nm,0.4s						
MDOK	**Medeo**	**2.72**	**273**	⇑Pg	**Pb**	**15 08 45.5**	**+2.0**
	2.0nm,0.9s						
MDOK				Lg	Lg	15 09 22.0	
	3.8nm,1.0s						
KDJ	**Kajisay**	**2.81**	**252**	⇓*i*P	**Pb**	**15 08 42.9**	**-2.0**
	baz=50						
KDJ				⇓*i*S	**Sb**	**15 09 18.5**	**-0.7**
	baz=50						

ARO 11 15:13:50.2, 16°N±29°×4°2E±10°0, h15km±99km, MI3.8, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**3.68**	**175**	*e*P	Pn	15 14 47.4	+0.9
OBO	**Obock**	**4.01**	**160**	*e*P	Pn	15 14 52.2	+1.2
TDD	**Tadjoura Ara**	**4.07**	**166**	*e*P	Pn	15 14 53.0	+1.0
KSDD	**Koussour**	**4.25**	**173**	*e*P	Pn	15 14 55.5	+1.1
ATD	**Arta Tunnel**	**4.32**	**167**	*e*P	Pn	15 14 56.9	+1.4
ATD	**Arta Tunnel**	**4.32**	**167**	*e*P	Pn	15 14 56.9	+1.4
ATD				*e*S	Sn	15 15 51.1	+5.4
SGH	**Sud-Ghoubbet**	**4.38**	**170**	*e*P	Pn	15 14 57.6	+1.4
ATA	**Atar**	**4.48**	**163**	*e*P	Pn	15 14 59.0	+1.4

ARO 11 15:23:37.5, 16°N±68°×4°2E±10°0, h15km±99km, MI3.7, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**3.57**	**173**	*e*P	Pn	15 24 33.3	+0.9
OBO	**Obock**	**3.94**	**158**	*e*P	Pn	15 24 38.3	+0.9
TDD	**Tadjoura Ara**	**3.98**	**164**	*e*P	Pn	15 24 39.0	+0.9
KSDD	**Koussour**	**4.15**	**171**	*e*P	Pn	15 24 41.0	+0.6
ATD	**Arta Tunnel**	**4.23**	**166**	*e*P	Pn	15 24 43.0	+1.4
ATD	**Arta Tunnel**	**4.23**	**166**	*e*P	Pn	15 24 43.0	+1.4
ATD				*e*S	Sn	15 25 36.1	+5.3
SGH	**Sud-Ghoubbet**	**4.27**	**169**	*e*P	Pn	15 24 43.5	+1.3
ATA	**Atar**	**4.40**	**161**	*e*P	Pn	15 24 45.5	+1.6

MEX 11 15:29:25.7±0.5, 16°.64N×99°.39W, h16km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.53**	**296**	*i*P	Pg	15 29 34.0	-2.2
ACP2				*i*S	Sg	15 29 41.7	-1.6
CAIG	**El Cayaco**	**0.93**	**296**	*e*P	Pb	15 29 40.7	-2.8
CAIG				*e*S	Sb	15 29 51.3	-4.3
TLIG	**Tlapa**	**1.21**	**41**	*e*P	Pn	15 29 43.8	-4.3
TLIG				*i*S	Sb	15 29 58.6	-5.2
PNIG	**Pinotepa**	**1.24**	**101**	*e*P	Pn	15 29 44.5	-3.9
PNIG				*e*S	Sb	15 29 58.9	-5.6
PLIG	**Platanillo**	**1.74**	**357**	*e*P	Pn	15 29 51.9	-3.5
PLIG				*e*S	Sn	15 30 12.1	-5.3

NEIC ***11*** *15:39:21.0±0.0, 26°.16S×69°.19W, h20km, mb5.4/57, ML5.4(GUC), After GUC.*
NEIC Felt [III] at Copiapo and Tierra Amarilla and [II] at Taltal.
GUC ***11*** *15:39:23.3±0.5, 26°.20S×69°.24W, h10km, ML5.0*
SJA ***11*** *15:39:23.5±0.6, 26°.13S×69°.32W, h6km±3km, ML4.7, MW3.9*
MOS ***11*** *15:39:24.3±1.3, 26°.11S×69°.17W, h16km, mb5.5/34, Error ellipse: s-maj=12.0km s-min=5.9km az=100.2*
BJI ***11*** *15:39:26.0±0.0, 26°.20S×69°.30W, h15km, mB5.3/12, Ms5.3/15, Ms7 5.1/16*
VAO ***11*** *15:39:26.3±0.3, 26°.13S×69°.19W, h10km, mb4.9*
ISCJB ***11*** *15:39:26.6±0.3, 26°.05S±0°.02×69°.17W±0°.03, h34km±3km, mb5.2/101, MS4.6/23, Error ellipse: s-maj=4.5km s-min=2.9km az=165.3*
IDC ***11*** *15:39:28.3±2.6, 26°.15S×69°.04W, h33km±19km, mb4.7/23, mb1 4.8/30, mb1mx4.7/38, mbtmp4.9/30, ML4.4/7, MS4.6/23, Ms1 4.6/23, ms1mx4.5/27, Error ellipse: s-maj=11.8km s-min=9.7km az=79.0*
GCMT ***11*** *15:39:29.0±0.2, 26°.20S±0°.01×69°.40W±0°.01, h15km, MW5.3/105, Moment Tensor Solution. s73,c94; s105,c168; Duration: 1s1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.92±.02; Mθθ-0.28±.01; Mφφ-0.63±.02;*
Mrθ-0.55±.05; Mrφ-0.45±.01; Mθφ0.27±.06; Best double couple: M0=1.08800×10¹⁷ NP1:φ=240.00000°, δ54.00000°, λ124.00000°. NP2:φ=11.00000°, δ48.00000°, λ53.00000°. Principal axes: T 1.2250, Plg63.0000°, Azm210.0000°; N -0.2750, Plg27.0000°, Azm38.0000°; P -0.9500, Plg3.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 11 15:39:24.4±1.1, 26°.14S±0°.02×69°.37W±0°.04, h9km±6km, n902, σ1⇕31/943, mb5.3/100, MS4.7/25, 18C-11D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.00**	**348**	*e*Pg	**Pg**	**15 39 42.0**	**-1.6**
GO02				*e*Sg	**Sb**	**15 39 57.0**	**-0.3**
GO02	**Mina Guanaco**	**1.00**	**348**	⇓*i*P	**Pg**	**15 39 41.8**	**-1.7**
GO02				*i* S	**Sn**	**15 39 58.7**	**-0.4**
GO02				IAML		15 40 10.1	
	comp=N,37μm,0.5s						
GO02	**Mina Guanaco**	**1.00**	**348**	⇓*i*P	**Pg**	**15 39 41.9**	**-1.7**
GO02				*i* S	**Sb**	**15 39 57.8**	**+0.5**
GO03	**Copiap**	**1.64**	**208**	*e*Pn	**Pn**	**15 39 52.4**	**-1.1**
GO03				*e*Sn	**Sn**	**15 40 15.0**	**+0.3**
GO03	**Copiap**	**1.64**	**208**	⇑*i*P	**Pn**	**15 39 52.2**	**-1.3**
GO03				*i* S	**Sn**	**15 40 14.4**	**-0.3**
GO03				IAML		15 40 19.6	
	comp=N,19μm,0.5s						
GO03	**Copiap**	**1.64**	**208**	*i* P	**Pn**	**15 39 52.1**	**-1.4**
GO03				*i* S	**Sn**	**15 40 14.3**	**-0.3**
GO03				IAML		15 40 19.9	
	comp=N,18μm,0.6s						
PB14	**IPOC Station P**	**1.78**	**328**	*e*P	**Pg**	**15 39 57.4**	**-1.1**
PB14				*e*S	**Sg**	**15 40 22.5**	**+1.0**
PB14	**IPOC Station P**	**1.78**	**328**	⇓*i*P	**Pn**	**15 39 55.7**	**+0.2**
PB14				*i* S	**Sg**	**15 40 21.6**	**+0.1**
PB14	**IPOC Station P**	**1.78**	**328**	⇓*i*P	**Pn**	**15 39 55.7**	**+0.2**
PB14				*i* S	**Sg**	**15 40 21.3**	**-0.2**
PB14				IAML		15 40 25.3	
	comp=E,92μm,0.4s						
VCA	**Vinchina**	**2.78**	**158**	IAML		15 40 20.2	
	comp=Z,1μm,0.6s						
PB10	**IPOC Station P**	**2.83**	**337**	*e*Pn	**Pn**	**15 40 11.3**	**+1.5**
PB10				*e*Sn	**Sn**	**15 40 43.6**	**-0.4**
PB10	**IPOC Station P**	**2.83**	**337**	⇑*e*P	**Pn**	**15 40 11.2**	**+1.5**
PB10				*e*S	**Sb**	**15 40 48.5**	**-1.3**
PB10				IAML		15 40 57.9	
	comp=N,19μm,0.8s						
PB10	**IPOC Station P**	**2.83**	**337**	⇑*i*P	**Pn**	**15 40 11.3**	**+1.5**
PB10				*i* S	**Sb**	**15 40 48.1**	**-1.7**
PB10				IAML		15 40 57.9	
	comp=N,11μm,0.5s						
PB15	**IPOC Station P**	**2.92**	**358**	⇑*i*P	**Pn**	**15 40 12.6**	**+1.4**
PB15				*e*S	**Sb**	**15 40 52.2**	**-0.5**
PB15	**IPOC Station P**	**2.92**	**358**	⇑*i*P	**Pn**	**15 40 12.8**	**+1.6**
PB15				*i* S	**Sg**	**15 40 55.8**	**-2.5**
LCO	**Las Campanas**	**3.09**	**202**	*e*Pn	**Pn**	**15 40 13.8**	**+0.2**
LCO	**Las Campanas**	**3.09**	**202**	*e*P	**Pn**	**15 40 13.8**	**+0.2**
LCO	**Las Campanas**	**3.09**	**202**	⇓*e*P	**Pn**	**15 40 14.1**	**+0.5**
LCO				*i* S	**Sn**	**15 40 53.4**	**+2.5**
LCO	**Las Campanas**	**3.09**	**202**	*i* P	**Pn**	**15 40 13.6**	**0.0**
LCO				*i* S	**Sn**	**15 40 52.1**	**+1.2**
LCO				IAML		15 41 06.3	
	comp=E,8μm,0.2s						
LCO	**Las Campanas**	**3.09**	**202**	*e*P	**Pn**	**15 40 14.9**	**+1.3**
PB05	**IPOC Station P**	**3.36**	**347**	⇑*i*P	**Pn**	**15 40 18.2**	**+1.0**
PB05				*i* S	**Sn**	**15 41 00.8**	**+3.5**
PB05				IAML		15 41 22.1	
	comp=E,12μm,0.5s						
AGUA	**GUANDACOL**	**3.42**	**167**	*e*P	**Pn**	**15 40 20.8**	**+2.8**
PB06	**IPOC Station P**	**3.43**	**357**	*e*P	**Pn**	**15 40 20.1**	**+2.0**
PB06				*e*S	**Sn**	**15 41 02.2**	**+3.3**
PB06	**IPOC Station P**	**3.43**	**357**	*i* P	**Pn**	**15 40 18.2**	**+0.1**
PB06				*i* S	**Sn**	**15 41 01.1**	**+2.1**
LVC	**Limon Verde**	**3.54**	**7**	*e*P	**Pn**	**15 40 23.0**	**+3.1**
LVC	**Limon Verde**	**3.54**	**7**	⇑*e*P	**Pn**	**15 40 21.2**	**+1.3**
LVC				*e*S	**Sn**	**15 41 02.9**	**+0.9**
LVC	**Limon Verde**	**3.54**	**7**	Pn	**Pn**	**15 40 22.9**	**+3.0**
	comp=E,178nm,0.3s,baz=181,slow=9.2,SNR=452						
LVC				Lg	Lg	15 41 12.0	
	comp=E,664nm,0.3s,baz=37,slow=19,SNR=17						
LVC				LR	LR	15 42 06.0	
	comp=E,10μm,22.0s,baz=198,slow=45						
LVC	**Limon Verde**	**3.54**	**7**	*e*P	**Pn**	**15 40 21.8**	**+2.0**
AHML	**Horco Molle**	**3.67**	**101**	*e*P	**Pn**	**15 40 23.6**	**+2.2**
PB04	**IPOC Station P**	**3.86**	**349**	*e*Pn	**Pn**	**15 40 25.6**	**+1.5**
CYA	**Choya**	**3.92**	**127**	*e*P	**Pn**	**15 40 24.3**	**-0.4**
AROD	**Rodeo**	**4.01**	**181**	*e*P	**Pn**	**15 40 30.1**	**+3.8**
ACDV	**Cuesta del Vie**	**4.02**	**177**	*e*P	**Pn**	**15 40 29.4**	**+3.1**
GO04	**Tololo Observa**	**4.21**	**197**	*e*Pn	**Pn**	**15 40 29.2**	**+0.3**
GO04	**Tololo Observa**	**4.21**	**197**	⇓*e*P	**Pn**	**15 40 28.9**	**0.0**
GO04				*i* S	**Sn**	**15 41 19.5**	**+1.1**
PB09	**IPOC Station P**	**4.33**	**2**	*e*P	**Pn**	**15 40 33.2**	**+2.7**
PB09				*e*S	**Sn**	**15 41 24.7**	**+3.5**
ACCO	**Cerro Coronel**	**4.44**	**177**	*e*P	**Pn**	**15 40 35.8**	**+3.6**
ACCO				*e*S	**Sn**	**15 41 29.4**	**+5.3**
AMOG	**MOGNA**	**4.84**	**171**	*e*P	**Pn**	**15 40 40.8**	**+3.3**
PB01	**IPOC Station P**	**5.08**	**359**	*e*Pn	**Pn**	**15 40 41.8**	**+1.1**
CFA	**Coronel Fontan**	**5.53**	**170**	Pn	**Pn**	**15 40 48.2**	**+1.2**
	comp=E,14nm,0.3s,baz=352,slow=13,SNR=63						
CFA				Sn	**Sn**	**15 41 50.6**	**-0.1**
	comp=E,29nm,0.3s,baz=264,slow=6.8,SNR=4.6						
CFA				LR	LR	15 43 17.0	
	comp=E,8μm,19.2s,baz=354,slow=42						
RTCV	**Cerro Valdivia**	**5.75**	**173**	*e*P	**Pn**	**15 40 53.2**	**+3.3**
AUSP	**Uspallata**	**6.06**	**180**	*e*P	**Pn**	**15 40 57.6**	**+3.2**
PB11	**IPOC Station P**	**6.36**	**358**	*e*Pn	**Pn**	**15 40 57.5**	**-0.9**
ACAN	**Cantantal**	**6.40**	**163**	*e*P	**Pn**	**15 41 01.1**	**+2.3**
GO01	**Chusmiza**	**6.45**	**1**	*e*Pn	**Pn**	**15 41 00.1**	**+0.2**
ARCO	**CERRO ARCO**	**6.69**	**177**	IAML		15 43 20.4	
	comp=Z,305nm,0.6s						
AAGR	**Agrelo**	**6.94**	**176**	*e*P	**Pn**	**15 41 09.4**	**+3.1**
ROC1	**El Roble**	**6.96**	**191**	*e*Pn	**Pn**	**15 41 06.2**	**-0.5**
MNMC	**Minye Minye**	**6.98**	**358**	*e*Pn	**Pn**	**15 41 07.0**	**-0.1**
PEL	**Peldehue**	**7.07**	**189**	P	**Pn**	**15 41 11.6**	**+3.5**
PEL				pmax	pmax		
	comp=Z,259nm,0.9s						
GO05	**Huala**	**9.11**	**193**	*e*Pn	**Pn**	**15 41 34.5**	**-1.5**
LPAZ	**La Paz**	**9.87**	**7**	*e*Pn	**Pn**	**15 41 48.4**	**+1.2**
LPAZ				Pn	Pn	15 41 48.6	+1.5
LPAZ	**La Paz**	**9.87**	**7**	*e*P	**Pn**	**15 41 48.4**	**+1.2**
LPAZ	**La Paz**	**9.87**	**7**	Pn	**Pn**	**15 41 48.6**	**+1.5**
	comp=Z,5.0nm,0.3s,baz=192,slow=8.5,SNR=47						
LPAZ				LR	LR	15 46 42.0	
	comp=Z,3μm,20.3s,baz=195,slow=44						
LPAZ	**La Paz**	**9.87**	**7**	*e*P	**Pn**	**15 41 48.2**	**+1.2**
CPUP	**Villa Florida**	**10.81**	**94**	Pn	**Pn**	**15 41 57.7**	**-1.7**
CPUP				*e*Pn	Pn	15 41 58.0	-1.4
CPUP				Lg	Lg	15 45 05.3	
CPUP	**Villa Florida**	**10.81**	**94**	Pn	**Pn**	**15 41 57.7**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=275,slow=13,SNR=6.1						
CPUP				Lg	Lg	15 45 05.3	
	comp=Z,0.3nm,0.3s,baz=0.0,slow=20,SNR=1.8						
CPUP				LR	LR	15 46 52.3	
	comp=Z,6μm,18.6s,baz=270,slow=42						
CPUP	**Villa Florida**	**10.81**	**94**	*e*P	**Pn**	**15 41 57.9**	**-1.4**
SIV	**San Ignacio**	**12.72**	**39**	Pn	**Pn**	**15 42 23.3**	**-2.3**
	comp=Z,8.0nm,0.3s,baz=239,slow=12,SNR=125						
SIV				Sn	Sn	15 44 36.9	-11
	baz=220,slow=18,SNR=1.5						
TRQA	**Tornquist**	**13.42**	**154**	*e*Pn	**Pn**	**15 42 35.1**	**+0.1**
TRQA	**Tornquist**	**13.42**	**154**	*e*P	**Pn**	**15 42 35.1**	**+0.1**
AQDB	**Aquidauana**	**13.76**	**69**	*e*P	**Pn**	**15 42 39.0**	**-0.7**
PLCA	**Paso Flores**	**14.59**	**184**	Pn	**Pn**	**15 42 51.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=334,slow=4.5,SNR=3.8						
PLCA				Lg	Lg	15 47 12.4	
	comp=Z,0.1nm,0.3s,baz=49,slow=20,SNR=2.5						
PLCA	**Paso Flores**	**14.59**	**184**	*e*P	**Pn**	**15 42 53.6**	**+2.6**
OGAUY	**Aigu**	**15.06**	**126**	*e*P	**Pn**	**15 42 57.6**	**+0.2**
ITAB	**Concordia**	**15.45**	**98**	*e*P	**Pn**	**15 43 02.6**	**+0.1**
TRCB	**Terra Rica**	**15.60**	**81**	*e*P	**Pn**	**15 43 04.8**	**+0.2**
PTGB	**Pitanga**	**15.70**	**89**	*e*P	**Pn**	**15 43 06.8**	**+0.9**
NNA	**Nana**	**15.74**	**332**	*i* P	**P**	**15 43 12.1**	**+1.6**
NNA	**Nana**	**15.74**	**332**	Pn	**P**	**15 43 10.6**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=212,slow=5.5,SNR=8.0						
NNA				Sn	**Sn**	**15 46 03.9**	**+2.7**
	comp=Z,2.3nm,0.3s,baz=230,slow=17,SNR=3.2						
NNA				LR	LR	15 48 25.8	
	comp=Z,2μm,21.3s,baz=164,slow=34						
CNLB	**Canela**	**16.70**	**105**	*e*P	**Pn**	**15 43 18.8**	**+0.1**
C2SB	**Chapadao do Su**	**16.94**	**68**	*e*P	**Pn**	**15 43 21.8**	**0.0**
TER01	**Tubaro-SC**	**18.14**	**102**	*e*P	**P**	**15 43 36.7**	**-0.2**
FRTB	**Fartura**	**18.20**	**85**	*e*P	**P**	**15 43 38.0**	**+0.3**
TIJ01	**Guaruva-PR**	**18.37**	**92**	*e*P	**Pn**	**15 43 39.1**	**-0.4**
CLDB	**Colider**	**19.88**	**43**	*e*P	**P**	**15 43 55.1**	**-1.0**
SPB	**Sao Paulo**	**20.06**	**87**	*e*P	**P**	**15 43 57.6**	**-0.5**
	comp=Z,25nm,0.8s						
SPB	**Sao Paulo**	**20.06**	**87**	*e*P	**P**	**15 43 58.5**	**+0.4**
PET01	**Itanhaem-SP**	**20.07**	**90**	*e*P	**P**	**15 43 58.3**	**+0.1**
RCLB	**Rio Claro- Sao**	**20.25**	**84**	*e*P	**P**	**15 43 59.7**	**-0.4**
ATAH	**Atahualpa**	**20.77**	**334**	P	Pn	15 44 09.7	+1.2
	comp=Z,20nm,0.7s,baz=164,slow=9.6,SNR=21						
ATAH				S	Sn	15 48 09.7	+6.4
	comp=Z,3.8nm,0.6s,baz=202,slow=19,SNR=2.6						
BDFB	**Brasilia**	**22.49**	**67**	*e*P	**P**	**15 44 22.2**	**-2.1**
BDFB				S	**S**	**15 48 26.4**	**-5.1**
BDFB	**Brasilia**	**22.49**	**67**	*e*P	**P**	**15 44 22.3**	**-2.1**
BDFB				S	**S**	**15 48 26.4**	**-5.1**
BDFB	**Brasilia**	**22.49**	**67**	P	**P**	**15 44 21.9**	**-2.5**
	comp=Z,22nm,0.7s,baz=245,slow=12,SNR=21						
BDFB				S	**S**	**15 48 26.4**	**-5.1**
	comp=Z,5.1nm,0.9s,baz=122,slow=19,SNR=1.9						
BDFB				LR	LR	15 54 00.5	
	comp=Z,2μm,21.5s,baz=242,slow=39						
BSCB	**Bom Sucesso**	**23.10**	**82**	*e*P	**P**	**15 44 30.3**	**-0.5**
VAS01	**Vassouras-RJ**	**23.94**	**86**	*e*P	**P**	**15 44 39.0**	**0.0**
MCI6	**Montes Claros**	**25.42**	**74**	*e*P	**P**	**15 44 52.5**	**-0.1**
PTGA	**Pitinga**	**26.84**	**21**	*e*P	**P**	**15 45 04.0**	**-1.3**
	comp=Z,22nm,0.8s						
PTGA				P	**P**	**15 45 04.7**	**-0.6**
PTGA				S	**S**	**15 49 47.1**	**+5.2**
PTGA	**Pitinga**	**26.84**	**21**	P	**P**	**15 45 04.7**	**-0.6**
	comp=Z,22nm,0.8s,baz=199,slow=11,SNR=28						
PTGA				S	**S**	**15 49 47.1**	**+5.2**
	comp=Z,0.9nm,0.4s,baz=176,slow=19,SNR=2.2						
PTGA				LR	LR	15 56 30.7	
	comp=Z,3μm,18.1s,baz=200,slow=38						
PTGA	**Pitinga**	**26.84**	**21**	*e*P	**P**	**15 45 04.9**	**-0.4**
EFI	**East Falkland**	**26.91**	**164**	⇓*e*P	**P**	**15 45 04.4**	**-1.2**
EFI				pmax	pmax		
	comp=Z,22nm,1.2s						
SJMB	**Sao Joao De Ma**	**27.05**	**80**	*e*P	**P**	**15 45 08.1**	**+0.9**
BSFB	**Barra de Sao F**	**27.30**	**80**	*e*P	**P**	**15 45 09.4**	**-0.1**
OTAV	**Otavalo**	**27.65**	**340**	*e*P	**P**	**15 45 11.3**	**-1.8**
	comp=Z,21nm,1.0s						
OTAV	**Otavalo**	**27.65**	**340**	*e*P	**P**	**15 45 15.4**	**+2.3**
OTAV	**Otavalo**	**27.65**	**340**	*e*P	**P**	**15 45 11.3**	**-1.8**
OTAV				pmax	pmax		
	comp=Z,21nm,1.0s						
OTAV	**Otavalo**	**27.65**	**340**	*e*P	**P**	**15 45 15.4**	**+2.3**
OTAV	**Otavalo**	**27.65**	**340**	*e*P	**P**	**15 45 15.5**	**+2.3**
FLOC	**Florencia**	**28.22**	**347**	*e*P	**P**	**15 45 19.9**	**+2.2**
FLOC	**Florencia**	**28.22**	**347**	*e*P	**P**	**15 45 19.9**	**+2.2**
GCUF	**Volcan Galeras**	**28.28**	**343**	*e*P	**P**	**15 45 22.2**	**+3.4**
GCUF	**Volcan Galeras**	**28.28**	**343**	*e*P	**P**	**15 45 22.2**	**+3.4**
USHA	**Ushuaia**	**28.67**	**179**	P	**P**	**15 45 22.6**	**+1.3**
	comp=Z,32nm,1.1s,baz=14,slow=2.8,SNR=5.2						
USHA				LR	LR	15 56 39.1	
	comp=Z,2μm,21.3s,baz=8.0,slow=36						
SOTA	**Rioblanco**	**28.97**	**345**	*e*P	**P**	**15 45 27.2**	**+2.3**
SOTA	**Rioblanco**	**28.97**	**345**	*e*P	**P**	**15 45 27.2**	**+2.3**
BBAC	**Balboa, Cauca**	**29.02**	**344**	*e*P	**P**	**15 45 26.9**	**+1.9**
BBAC	**Balboa, Cauca**	**29.02**	**344**	*e*P	**P**	**15 45 26.9**	**+1.9**
POPC	**Popayan, Colom**	**29.38**	**345**	*e*P	**P**	**15 45 29.8**	**+1.6**
POPC	**Popayan, Colom**	**29.38**	**345**	*e*P	**P**	**15 45 29.8**	**+1.6**
PRAC	**Prado**	**30.16**	**349**	*e*P	**P**	**15 45 35.8**	**+0.9**
PRAC	**Prado**	**30.16**	**349**	*e*P	**P**	**15 45 35.8**	**+0.9**
CHIC	**Chingaza**	**30.88**	**352**	*e*P	**P**	**15 45 42.5**	**+0.8**
CHIC	**Chingaza**	**30.88**	**352**	*e*P	**P**	**15 45 42.5**	**+0.8**
ROSC	**El Rosal**	**31.17**	**350**	*e*P	**P**	**15 45 42.4**	**-1.8**
	comp=Z,7.8nm,0.6s						
ROSC				P	**P**	**15 45 46.2**	**+2.0**
ROSC	**El Rosal**	**31.17**	**350**	P	**P**	**15 45 46.2**	**+2.0**
	comp=Z,5.0nm,0.4s,baz=228,slow=22,SNR=4.0						
ROSC				LR	LR	15 59 13.3	
	comp=Z,1μm,19.3s,baz=190,slow=38						
RUSC	**La Rusia**	**32.05**	**353**	*e*P	**P**	**15 45 53.4**	**+1.4**
RUSC	**La Rusia**	**32.05**	**353**	*e*P	**P**	**15 45 53.4**	**+1.4**
HELC	**Santa Helena**	**32.69**	**349**	*e*P	**P**	**15 45 58.9**	**+1.3**
HELC	**

555A	McAlpin	57.44 346	P	P	15 49 13.8	+0.3
	baz=185,SNR=5.5					
554A	Perry	57.56 345	P	P	15 49 14.8	+0.5
	baz=165					
553A	Crawfordville	57.84 345	P	P	15 49 17.0	+0.7
	baz=164,SNR=5.4					
552A	Lynn Haven	58.00 344	P	P	15 49 18.0	+0.6
	baz=163					
455A	Stateville	58.05 346	P	P	15 49 18.1	+0.4
	baz=165					
SNAA	Sanae	58.06 160	P	P	15 49 16.3	-1.2
SNAA	Sanae	58.06 160	eP	P	15 49 15.9	-1.6
	comp=Z,34nm,1.2s					
SNAA			P	P	15 49 16.0	-1.5
SNAA	Sanae	58.06 160	c iP	P	15 49 16.3	-1.2
SNAA	Sanae	58.06 160	P	P	15 49 16.0	-1.5
	comp=Z,19nm,1.0s,baz=282,slow=5.7,SNR=27					
454A	Quitman	58.16 346	P	P	15 49 18.9	+0.4
	baz=165					
ZAIG	Zacatecas	58.29 324	eP	P	15 49 23.2	+3.2
356A	Blackshear	58.43 347	P	P	15 49 20.8	+0.4
	baz=166					
453A	Whigham	58.45 345	P	P	15 49 20.7	+0.1
	baz=164,SNR=5.4					
LNIG	Linares	58.48 328	eP	P	15 49 18.2	-2.7
451A	Vernon	58.57 343	P	P	15 49 21.6	+0.2
	baz=163					
355A	Pearson	58.60 346	P	P	15 49 21.7	+0.1
	baz=166					
452A	Marianna	58.66 344	P	P	15 49 22.0	0.0
	baz=163,SNR=5.6					
TIGA	Tifton	58.85 346	P	P	15 49 23.4	+0.1
	baz=165					
257A	Skidaway Islan	58.85 348	P	P	15 49 23.6	+0.3
	baz=168					
353A	Camilla	58.90 345	P	P	15 49 23.8	+0.1
	baz=164,SNR=6.7					
450A	Crestview	58.97 343	P	P	15 49 24.5	+0.3
	baz=162					
256A	Glennville	59.02 348	P	P	15 49 24.4	-0.1
	baz=167					
255A	Hazlehurst	59.08 347	P	P	15 49 24.8	-0.2
	baz=166					
449A	Pace	59.10 342	P	P	15 49 24.9	-0.2
	baz=161					
351A	Pinckard	59.17 344	P	P	15 49 25.6	0.0
	baz=163					
352A	Blakely	59.20 345	P	P	15 49 25.7	0.0
	baz=164					
254A	Abbeville	59.27 346	P	P	15 49 26.3	+0.1
	baz=165					
BRAL	Brewton	59.44 342	P	P	15 49 27.7	+0.3
	baz=161					
158A	Hollywood	59.45 349	P	P	15 49 27.8	+0.3
	baz=169					
350A	Dozier	59.49 343	P	P	15 49 27.7	-0.1
	baz=162					
157A	Early Branch	59.53 349	P	P	15 49 28.7	+0.6
	baz=168					
253A	Americus	59.57 345	P	P	15 49 28.3	0.0
	baz=164					
156A	Sylvania	59.60 348	P	P	15 49 29.0	+0.5
	baz=167					
252A	Lumpkin	59.64 345	P	P	15 49 28.5	-0.3
	baz=164					
349A	Repton	59.65 342	P	P	15 49 29.1	+0.2
	baz=161,SNR=5.7					
155A	Kite	59.76 347	P	P	15 49 29.3	-0.2
	baz=166,SNR=7.5					
Z59A	Georgetown, SC	59.80 350	P	P	15 49 29.6	-0.3
	baz=170					
NHSC	New Hope	59.81 350	P	P	15 49 30.5	+0.5
	baz=169,SNR=6.3					
154A	Montrose	59.88 347	P	P	15 49 30.1	-0.3
	baz=166					
251A	Midway	59.90 344	P	P	15 49 30.3	-0.3
	baz=163,SNR=14					
Z58A	St. Stephen	59.98 350	P	P	15 49 31.6	+0.5
	baz=169,SNR=5.5					
250A	Grady	60.00 343	P	P	15 49 31.1	-0.2
	baz=162,SNR=7.1					
153A	Fort Valley	60.07 346	P	P	15 49 31.6	-0.1
	baz=165					
Z57A	Bowman	60.09 349	P	P	15 49 32.3	+0.5
	baz=168,SNR=6.5					
249A	Camden	60.23 343	P	P	15 49 32.9	+0.1
	baz=162,SNR=8.0					
Z56A	Williston	60.23 348	P	P	15 49 33.0	+0.2
	baz=167					
Z55A	Blythe	60.27 348	P	P	15 49 32.8	-0.3
	baz=167					
152A	Waverly Hall	60.28 345	P	P	15 49 32.8	-0.4
	baz=164,SNR=11					
151A	Opelika	60.29 344	P	P	15 49 32.8	-0.5
	baz=163,SNR=9.8					
Y60A	Bolivia	60.40 352	P	P	15 49 33.9	-0.1
	baz=171					
Z54A	Sparta	60.43 347	P	P	15 49 34.0	-0.2
	baz=166,SNR=9.2					
Y58A	Scranton	60.51 350	P	P	15 49 35.0	+0.3
	baz=169,SNR=5.6					
150A	Eclectic	60.54 344	P	P	15 49 34.5	-0.5
	baz=163,SNR=14					
Z53A	Monticello	60.62 346	P	P	15 49 35.1	-0.4
	baz=165,SNR=5.9					
Y56A	Pelion	60.67 349	P	P	15 49 35.8	-0.1
	baz=168					
Z52A	Williamson	60.72 346	P	P	15 49 35.7	-0.4
	baz=164,SNR=9.2					
GOGA	Godfrey	60.72 346	P	P	15 49 36.4	+0.2
GOGA			pmax	pmax		
	comp=Z,38nm,1.3s					
GOGA	Godfrey	60.72 346	P	P	15 49 36.0	-0.2
	baz=165,SNR=6.2					
149A	Jones	60.73 343	P	P	15 49 35.7	-0.5
	baz=162,SNR=6.7					
Y57A	Sumter	60.74 350	P	P	15 49 36.6	+0.3
	baz=168					
Y55A	Saluda	60.92 348	P	P	15 49 37.6	+0.1
	baz=167,SNR=7.8					
X60A	Albert Glenn T	60.94 352	P	P	15 49 38.2	+0.6
	baz=171					
148A	Greensboro	60.98 342	P	P	15 49 37.7	-0.3
	baz=161					
Y54A	Tignall	61.00 347	P	P	15 49 37.7	-0.4
	baz=166,SNR=11					
Z51A	Franklin	61.01 345	P	P	15 49 37.8	-0.4
	baz=164					
X59A	McDuffie Farm,	61.01 351	P	P	15 49 38.4	+0.3
	baz=170					
X58A	Rowland	61.10 351	P	P	15 49 38.6	-0.1
	baz=170					
X57A	Johnson Farm,	61.13 350	P	P	15 49 39.1	+0.1
	baz=169					
Z50A	Ashland	61.13 344	P	P	15 49 38.7	-0.3
	baz=163,SNR=17					
JSC	Jenkinsville	61.14 349	eP	P	15 49 38.2	-0.8
	comp=Z,34nm,1.0s					
JSC	Jenkinsville	61.14 349	eP	P	15 49 38.2	-0.8
JSC			pmax	pmax		
	comp=Z,34nm,1.0s					
Y53A	Monroe	61.18 347	P	P	15 49 38.9	-0.4
	baz=165,SNR=6.7					
LRAL	Lakeview Retre	61.20 343	P	P	15 49 39.1	-0.3
	baz=162,SNR=7.1					
147A	Livingston	61.20 342	P	P	15 49 39.3	-0.2
	baz=160					
Z49A	Columbiana	61.23 344	P	P	15 49 39.2	-0.4
	baz=162,SNR=11					
HKT	Hockley	61.27 334	i P	P	15 49 40.8	+0.9
HKT			pmax	pmax		
	comp=Z,19nm,1.2s					
Y52A	Lilburn	61.29 346	eP	P	15 49 38.9	-1.2
	comp=Z,29nm,0.9s					
Y52A	Lilburn	61.29 346	P	P	15 49 39.8	-0.2
	baz=165,SNR=7.9					
X56A	White Oak	61.31 349	P	P	15 49 40.2	0.0
	baz=168,SNR=7.1					
833A	Chaparral WMA,	61.36 330	P	P	15 49 42.2	+1.5
	baz=149,SNR=11					
BIRD	Birdtown, Kers	61.36 350	eP	P	15 49 39.8	-0.8
	comp=Z,79nm,1.3s					
W60A	Pink Hill	61.37 352	P	P	15 49 41.1	+0.6
	baz=171					
X55A	Gracelyn & Ava	61.39 348	P	P	15 49 41.0	+0.3
	baz=167,SNR=9.5					
W61A	Ground Anchor	61.41 353	P	P	15 49 41.3	+0.5
	baz=172					
VBMS	Vicksburg	61.44 340	P	P	15 49 41.4	+0.4
	baz=158					
W58A	Raeford	61.54 351	P	P	15 49 42.0	+0.3
	baz=170,SNR=12					
Y51A	Rockmart	61.54 345	P	P	15 49 41.5	-0.3
	baz=164,SNR=16					
W59A	Clinton	61.58 352	P	P	15 49 41.8	-0.2
	baz=171					
X54A	Belton	61.60 348	P	P	15 49 42.2	+0.1
	baz=167,SNR=6.2					
V62A	Hyde County Ai	61.69 354	P	P	15 49 42.4	-0.3
	baz=173					
Y50A	Piedmont	61.69 345	P	P	15 49 42.1	-0.7
	baz=163,SNR=7.3					
X53A	Estanollee	61.74 347	P	P	15 49 43.1	-0.1
	baz=166					
W57A	Gilead	61.79 350	eP	P	15 49 43.3	0.0
	comp=Z,21nm,0.8s					
W57A	Gilead	61.79 350	P	P	15 49 43.4	0.0
	baz=169,SNR=5.6					
Y49A	Blount Mountai	61.83 344	P	P	15 49 43.3	-0.4
	baz=162,SNR=7.3					
W56A	Indian Trail	61.86 350	P	P	15 49 43.7	-0.2
	baz=168,SNR=7.8					
X52A	Dahlonega	61.96 346	P	P	15 49 44.4	-0.3
	baz=165,SNR=7.8					
KMSC	Kings Mountain	61.99 349	P	P	15 49 44.8	0.0
	baz=168,SNR=8.5					
Y48A	Jasper	62.07 343	P	P	15 49 44.8	-0.5
	baz=162					
W54A	Cherokee Point	62.09 348	P	P	15 49 46.0	+0.5
	baz=167,SNR=9.9					
X51A	Calhoun	62.14 346	P	P	15 49 45.8	0.0
	baz=164,SNR=14					
V59A	Middlesex	62.14 352	P	P	15 49 46.1	+0.4
	baz=171,SNR=8.4					
X50B	Fort Payne	62.22 345	P	P	15 49 45.8	-0.5
	baz=163,SNR=11					
V58A	Windy Hill, Pi	62.29 351	P	P	15 49 46.8	+0.1
	baz=170,SNR=6.9					
W53A	Cullowhee	62.36 347	P	P	15 49 47.5	+0.1
	baz=166,SNR=10					
X49A	Woodville	62.43 344	P	P	15 49 47.5	-0.2
	baz=163,SNR=6.0					
NATX	Nacogdoches	62.44 336	P	P	15 49 49.3	+1.5
	baz=154					
W52A	Murphy	62.44 347	P	P	15 49 48.1	+0.3
	baz=165					
V57A	Coltrane Farms	62.47 350	P	P	15 49 48.1	+0.1
	baz=169,SNR=7.0					
V56A	Mocksville	62.51 350	P	P	15 49 48.7	+0.5
	baz=169,SNR=11					
X48A	Hartselle	62.55 344	eP	P	15 49 47.2	-1.3
	comp=Z,46nm,0.9s					
X48A	Hartselle	62.55 344	P	P	15 49 48.6	0.0
	baz=162,SNR=19					
U59A	Littleton	62.66 352	P	P	15 49 49.7	+0.5
	baz=171					
V55A	Taylorsville	62.67 349	P	P	15 49 49.6	+0.3
	baz=168,SNR=8.6					
W51A	Cleveland	62.69 346	P	P	15 49 49.6	+0.1
	baz=164,SNR=10					
435B	Jarrell	62.71 333	P	P	15 49 50.5	+0.9
	baz=151					
U60A	Pendleton	62.71 353	P	P	15 49 50.0	+0.4
	baz=172					
V54A	Nebo	62.72 349	P	P	15 49 49.6	0.0
	baz=167,SNR=14					
V53A	Saluda	62.78 348	P	P	15 49 50.2	+0.1
	baz=166,SNR=7.5					
X47A	Russelville	62.82 343	P	P	15 49 49.7	-0.7
	baz=161,SNR=12					
W50A	Signal Mountai	62.85 345	P	P	15 49 50.6	0.0
	baz=164,SNR=9.5					
CPCT	Cooper Cave	62.91 346	eP	P	15 49 50.1	-0.8
	comp=Z,31nm,0.9s					
U57A	Blanch	62.95 351	P	P	15 49 51.6	+0.5
	baz=170,SNR=7.9					
W49A	Belvidere	62.99 344	P	P	15 49 51.4	0.0
	baz=163,SNR=8.8					
U56A	King	63.02 350	P	P	15 49 52.1	+0.5
	baz=169					
X46A	Booneville	63.06 342	P	P	15 49 51.4	-0.5
	baz=160					
V52A	Sevierville	63.10 347	P	P	15 49 51.9	-0.3
	baz=166,SNR=16					
Z41A	Richland Creek	63.14 338	P	P	15 49 53.6	+1.1
	baz=156					
W48A	Pulaski	63.18 344	P	P	15 49 52.1	-0.6
	baz=162,SNR=12					
SLBS	Sierra La Lagu	63.20 318	eP	P	15 49 54.6	+1.4
	comp=Z,44nm,1.0s					
V51A	Loudon	63.22 346	P	P	15 49 52.5	-0.4
	baz=165,SNR=8.4					
OXF	Oxford	63.24 342	eP	P	15 49 52.8	-0.4
	comp=Z,53nm,0.8s					
OXF	Oxford	63.24 342	eP	P	15 49 52.8	-0.4
OXF			pmax	pmax		
	comp=Z,53nm,0.8s					
OXF	Oxford	63.24 342	P	P	15 49 52.3	-0.8
	baz=160,SNR=8.5					
T59A	Double "B" Far	63.25 353	P	P	15 49 53.1	0.0
	baz=172					
V50A	Pikevile	63.25 346	P	P	15 49 53.2	0.0
	baz=164,SNR=18					
U55A	TA2, Sparta	63.27 349	P	P	15 49 53.6	+0.2
	baz=168					
T58A	Grand View Acr	63.34 352	P	P	15 49 54.0	+0.3
	baz=171,SNR=13					
JCT	Junction City	63.39 331	P	P	15 49 54.7	+0.4
JCT	Junction City	63.39 331	P	P	15 49 55.5	+1.3
	baz=149,SNR=34					
U53A	Fall Branch	63.41 348	P	P	15 49 53.7	-0.6
	baz=167,SNR=8.4					
U54A	Nelsons Funny	63.42 349	eP	P	15 49 54.0	-0.4
	comp=Z,39nm,0.8s					
U54A	Nelsons Funny	63.42 349	P	P	15 49 54.6	+0.2
	baz=167,SNR=12					
W47A	Westpoint	63.45 343	P	P	15 49 53.9	-0.6
	baz=162,SNR=13					
T57A	Hurt	63.49 351	eP	P	15 49 55.4	+0.6
	comp=Z,26nm,1.1s					
T57A	Hurt	63.49 351	P	P	15 49 55.1	+0.4
	baz=170,SNR=7.5					
V49A	McMinnville	63.53 345	P	P	15 49 54.6	-0.4
	baz=163,SNR=16					
W46A	Michie	63.54 343	P	P	15 49 54.2	-0.9
	baz=161					
U52A	Thorn Hill	63.59 347	P	P	15 49 54.7	-0.7
	baz=166,SNR=6.3					
T56A	Rocky Mt	63.63 350	P	P	15 49 56.4	+0.7
	baz=169,SNR=7.3					
WLAR	White Oak Lake	63.63 338	eP	P	15 49 56.6	+0.8
	comp=Z,107nm,0.9s					
X43A	Marvell	63.68 340	P	P	15 49 56.8	+0.8
	baz=158,SNR=7.6					
U51A	La Follette	63.70 347	P	P	15 49 55.5	-0.7
	baz=165,SNR=6.9					
WHTX	Lake Whitney,	63.72 334	P	P	15 49 57.2	+0.9
	baz=152					
V48A	Smith Brothers	63.72 344	P	P	15 49 56.1	-0.1
	baz=162,SNR=19					
TZTN	Tazewell	63.77 347	P	P	15 49 56.4	-0.2
	baz=166,SNR=6.1					
T55A	Pulaski	63.83 350	P	P	15 49 57.2	+0.2
	baz=168,SNR=11					
BLA	Blacksburg	63.87 350	P	P	15 49 57.8	+0.5
	baz=169					
T54A	Tazewell	63.91 349	P	P	15 49 57.3	-0.3
	baz=168,SNR=6.6					
U50A	Jamestown	63.91 346	P	P	15 49 57.0	-0.6
	baz=164,SNR=20					
CLTN	Cedars of Leba	63.94 345	eP	P	15 49 56.4	-1.3
	comp=Z,20nm,0.9s					
S58A	Poland Farm, P	63.94 352	P	P	15 49 58.1	+0.4
	baz=171					
V47A	Nunnelly	63.98 344	P	P	15 49 57.2	-0.7
	baz=162,SNR=5.9					
T53A	Wise	64.00 348	P	P	15 49 57.9	-0.3
	baz=167,SNR=7.3					
V46A	Holladay	64.11 343	P	P	15 49 57.9	-0.9
	baz=161,SNR=11					
S57A	Dark Hollow, R	64.20 352	P	P	15 49 59.9	+0.5
	baz=170,SNR=8.0					
S56A	Natural Bridge	64.20 351	P	P	15 49 59.8	+0.4
	baz=170,SNR=6.2					
T52A	Hallie	64.20 348	P	P	15 49 58.8	-0.6
	baz=166					
U49A	Red Boiling Sp	64.21 345	P	P	15 49 59.0	-0.4
	baz=164,SNR=10					
TXAR	Lajitas Array	64.23 327	eP	P	15 50 00.1	+0.2
TXAR			P	P	15 50 00.5	+0.7
TXAR	Lajitas Array	64.23 327	P	P	15 50 00.5	+0.7
	comp=Z,4.9nm,0.7s,baz=153,slow=7.7,SNR=44					
TXAR			LR	LR	16 13 58.3	
	comp=Z,440nm,21.2s,baz=0.0,slow=32					
T51A	Gray	64.25 347	P	P	15 49 59.5	-0.3
	baz=165,SNR=15					
R58B	Mineral	64.27 353	eP	P	15 50 00.5	+0.7
	comp=Z,39nm,1.1s					
R58B	Mineral	64.27 353	P	P	15 50 00.3	+0.5
	baz=171,SNR=8.6					
X40A	Basin Creek Fa	64.27 339	P	P	15 50 00.3	+0.3
	baz=156					
WVT	Waverly	64.34 343	eP	P	15 49 59.5	-0.8
	comp=Z,32nm,0.9s					
WVT	Waverly	64.34 343	eP	P	15 49 59.5	-0.8
WVT			pmax	pmax		
	comp=Z,32nm,0.9s					
WVT	Waverly	64.34 343	P	P	15 49 59.9	-0.5
	baz=162					
U48A	Cassie Pea, Po	64.39 345	P	P	15 50 00.4	-0.2
	baz=163,SNR=12					
R59A	King George, V	64.42 353	P	P	15 50 01.8	+1.1
	baz=172					
R60A	Leonardtown, M	64.43 354	P	P	15 50 02.0	+1.2
	baz=173					
S55A	Lewisburg	64.43 350	P	P	15 50 01.5	+0.5
	baz=169,SNR=9.7					
CBN	Corbin Frederi	64.45 353	P	P	15 50 01.6	+0.7
	baz=172					
T50A	Nancy	64.49 346	P	P	15 50 00.9	-0.5
	baz=164,SNR=8.0					
U47A	Clarksville	64.50 344	P	P	15 50 01.1	-0.2
	baz=162,SNR=18					
MIAR	Mount Ida	64.57 338	P	P	15 50 02.6	+0.7
MIAR			pmax	pmax		
	comp=Z,54nm,1.3s					
MIAR	Mount Ida	64.57 338	P	P	15 50 02.3	+0.4
	baz=156,SNR=18					
S53A	Williamson	64.61 349	P	P	15 50 01.8	-0.3
	baz=167					
R58A	Rapidan	64.61 352	P	P	15 50 02.8	+0.7
	baz=171					
U46A	Springville	64.65 343	P	P	15 50 01.9	-0.4
	baz=161					
R57A	Stanardsville	64.67 352	P	P	15 50 03.5	+1.0
	baz=171,SNR=12					
W41B	Gary Mavity, V	64.71 339	P	P	15 50 03.1	+0.3
	baz=157,SNR=14					
T49A	Edmonton	64.72 346	P	P	15 50 02.6	-0.3
	baz=164,SNR=20					
S52A	Salyersville	64.78 348	P	P	15 50 02.7	-0.5
	baz=166,SNR=5.9					
S51A	Beattyville	64.84 348	P	P	15 50 03.3	-0.3
	baz=166,SNR=5.4					
R55A	Marlinton	64.87 351	eP	P	15 50 03.0	-0.9
	comp=Z,30nm,1.1s					
R55A	Marlinton	64.87 351	P	P	15 50 04.8	+0.9
	baz=169,SNR=8.3					
R54A	Victor	64.91 350	P	P	15 50 04.1	+0.1
	baz=168,SNR=5.9					
T48A	Bowling Green	64.92 345	P	P	15 50 03.7	-0.4
	baz=163,SNR=9.1					
T47A	Sharon Grove	64.98 344	eP	P	15 50 03.9	-0.6
	comp=Z,65nm,0.9s					
T47A	Sharon Grove	64.98 344	P	P	15 50 04.0	-0.5
	baz=162,SNR=24					
Q59A	Harwood	65.03 354	P	P	15 50 04.2	-0.5
	baz=173					
S50A	Richmond	65.04 347	P	P	15 50 04.6	-0.3
	baz=165,SNR=13					
ABTX	Abilene, Hawle	65.17 332	eP	P	15 50 05.0	-0.9
	comp=Z,91nm,1.0s					
ABTX	Abilene, Hawle	65.17 332	P	P	15 50 06.8	+1.0
	baz=150,SNR=17					
R53A	Hurricane	65.21 349	P	P	15 50 05.9	-0.1
	baz=167					
T46A	Princeton	65.22 344	P	P	15 50 05.8	-0.3
	baz=162,SNR=17					
W39A	Magazine	65.23 338	P	P	15 50 07.2	+1.0
	baz=156,SNR=14					
X37A	Clayton	65.24 337	eP	P	15 50 06.4	+0.2
	comp=Z,54nm,1.1s					
S49A	Springfield	65.32 346	P	P	15 50 05.9	-0.8
	baz=164,SNR=7.6					
R52A	Catlettsburg	65.34 349	P	P	15 50 06.1	-0.6
	baz=167					
S48A	Wiedeman Farm,	65.37 345	P	P	15 50 06.2	-0.8
	baz=163,SNR=12					
Q57A	Strasburg	65.39 352	P	P	15 50 08.2	+1.1
	baz=171,SNR=16					
T45A	Paducah	65.39 343	P	P	15 50 07.0	-0.1
	baz=161					
R51A	Hillsboro	65.47 348	P	P	15 50 07.4	-0.3
	baz=166,SNR=6.4					
S47A	Hartford	65.50 345	P	P	15 50 07.1	-0.7
	baz=163,SNR=13					
Q55A	Buckhannon	65.57 351	P	P	15 50 09.0	+0.7
	baz=169,SNR=7.4					
R50A	Paris	65.60 347	P	P	15 50 07.9	-0.6
	baz=165					
PBMO	Poplar Bluff	65.66 342	eP	P	15 50 06.8	-2.1
	comp=Z,42nm,0.8s					
Q53A	Leroy	65.66 350	P	P	15 50 08.6	-0.3
	baz=168,SNR=7.1					
Q54A	Coxs Mills	65.67 350	P	P	15 50 08.8	-0.1
	baz=169					
U41A	Viola	65.69 340	P	P	15 50 09.1	0.0
	baz=158,SNR=26					
P59A	Jarrettsville	65.74 354	P	P	15 50 10.1	+0.7
	baz=173,SNR=6.0					
R49A	Shelbyville	65.79 346	P	P	15 50 09.1	-0.6
	baz=164,SNR=5.7					
S46A	Don Dixon Farm	65.79 344	P	P	15 50 09.0	-0.7
	baz=162,SNR=7.3					
Q52A	Bidwell	65.88 349	P	P	15 50 10.0	-0.3
	baz=167					
WCI	Wyandotte Cave	65.97 345	eP	P	15 50 10.0	-0.9
	comp=Z,33nm,0.8s					
WCI	Wyandotte Cave	65.97 345	eP	P	15 50 10.0	-0.9
WCI			pmax	pmax		
	comp=Z,33nm,0.8s					
WCI	Wyandotte Cave	65.97 345	P	P	15 50 10.2	-0.7
	baz=163					
U40A	Yellville	65.99 339	P	P	15 50 11.3	+0.2
	baz=157,SNR=34					
S45A	Carrier Mills	66.00 343	P	P	15 50 10.7	-0.3
	baz=161					
P55A	Reedsville	66.04 351	P	P	15 50 11.9	+0.6
	baz=170,SNR=5.6					
R48A	Northridge Ran	66.04 346	P	P	15 50 10.9	-0.5
	baz=164					
Q50A	Georgetown	66.08 348	P	P	15 50 11.1	-0.4
	baz=166					
R47A	Wooly Knot Far	66.09 345	P	P	15 50 10.8	-0.8
	baz=163,SNR=7.1					
Q51A	Peebles	66.13 348	P	P	15 50 11.3	-0.6
	baz=166					
MCWV	Mont Chateau	66.19 351	P	P	15 50 12.7	+0.4
	baz=170					
S44A	Carbondale	66.19 343	P	P	15 50 12.1	-0.2
	baz=160,SNR=7.3					
P54A	Burton	66.22 351	P	P	15 50 12.7	+0.2
	baz=169,SNR=15					
R46A	Gibon Southern	66.24 344	P	P	15 50 11.7	-0.9
	baz=162					
P53A	Whipple	66.25 350	eP	P	15 50 14.1	+1.4
	comp=Z,38nm,1.1s					
P53A	Whipple	66.25 350	P	P	15 50 12.8	+0.1
	baz=168,SNR=6.8					
HHAR	Hobbs	66.28 338	eP	P	15 50 13.4	+0.5
	comp=Z,25nm,1.0s					
O60A	Telford	66.36 355	P	P	15 50 13.9	+0.6
	baz=174					
Q49A	Aurora	66.42 347	P	P	15 50 13.0	-0.7
	baz=165,SNR=7.6					
O59A	Robesonia	66.42 354	P	P	15 50 14.2	+0.5
	baz=173					
R45A	Skylar, Fairfi	66.50 344	P	P	15 50 13.7	-0.6
	baz=161,SNR=13					
P52A	Corning	66.51 349	P	P	15 50 14.0	-0.4
	baz=167					
Q48A	North Vernon	66.52 346	P	P	15 50 13.9	-0.5
	baz=164,SNR=8.5					
P51A	Williamsport	66.52 348	P	P	15 50 13.7	-0.7

baz=166,SNR=6.2
TUL1 Leonard 66.57 337 P P 15 50 15.2 +0.4
baz=154,SNR=10
O56A Blue Knob Stat 66.62 352 P P 15 50 15.9 +0.9
baz=171,SNR=7.7
O55A Ligonier 66.65 352 P P 15 50 15.7 +0.5
baz=170,SNR=8.6
WMOK Wichita Mounta 66.65 334 eP P 15 50 13.4 -2.0
comp=Z,11nm,0.9s
WMOK Wichita Mounta 66.65 334 eP P 15 50 13.4 -2.0
WMOK pmax pmax
comp=Z,11nm,0.9s
WMOK Wichita Mounta 66.65 334 P P 15 50 15.5 +0.1
baz=151,SNR=16
Q47A Bedord North L 66.68 346 P P 15 50 14.7 -0.7
baz=163
O54A Avella 66.78 351 P P 15 50 16.1 +0.1
baz=169
FVM French Village 66.78 342 P P 15 50 15.4 -0.7
P50A Jamestown 66.78 348 P P 15 50 15.6 -0.4
baz=166,SNR=8.7
S41A Jillco Farms, 66.79 341 P P 15 50 16.1 -0.1
baz=158,SNR=58
P49A Miami Univ. Ec 66.89 347 P P 15 50 15.9 -0.9
baz=165,SNR=8.1
SSPA Standing Stone 66.91 353 P P 15 50 17.2 +0.4
baz=172
O52A Adamsville 66.93 350 eP P 15 50 16.6 -0.4
comp=Z,28nm,1.0s
O52A Adamsville 66.93 350 P P 15 50 16.6 -0.4
baz=168,SNR=6.6
PAL Palisades 66.94 356 P P 15 50 17.1 +0.1
baz=175
P48A Milroy 66.96 347 P P 15 50 16.2 -1.0
baz=164
O53A New Philadelph 66.97 350 P P 15 50 16.9 -0.3
baz=168
N59A State Game Lan 66.98 355 P P 15 50 18.0 +0.7
baz=174
MNTX Cornudas Mount 67.01 327 P P 15 50 18.3 +0.6
baz=145,SNR=55
Q45A Warren Harvey, 67.04 344 P P 15 50 16.9 -0.8
baz=162,SNR=9.8
CCM Cathedral Cave 67.08 341 P P 15 50 17.3 -0.7
CCM pmax pmax
comp=Z,79nm,1.1s
CCM Cathedral Cave 67.08 341 P P 15 50 17.8 -0.2
baz=159
O51A Pataskala 67.09 349 P P 15 50 17.5 -0.5
baz=167,SNR=7.1
P47A Martinsville 67.17 346 P P 15 50 17.8 -0.7
baz=163
N55A Marion Center 67.18 352 P P 15 50 19.0 +0.4
baz=170,SNR=19
ACSO Alum Creek Sta 67.24 349 eP P 15 50 16.9 -2.0
comp=Z,54nm,1.0s
ACSO Alum Creek Sta 67.24 349 P P 15 50 18.5 -0.5
baz=167,SNR=14
O50A Cable 67.27 348 P P 15 50 18.6 -0.6
baz=166,SNR=7.3
SRIG Santa Rosalia 67.29 319 eP P 15 50 17.2 -2.4
comp=Z,22nm,0.8s
R41A Rosebud 67.34 341 P P 15 50 19.9 +0.2
baz=158,SNR=32
O49A Covington 67.45 348 P P 15 50 19.8 -0.5
baz=165,SNR=8.1
N53A Lisbon 67.45 351 P P 15 50 20.2 -0.2
baz=169
N54A Moraine State 67.49 351 P P 15 50 20.9 +0.4
baz=170,SNR=8.6
P46A Rosedale 67.50 345 P P 15 50 19.7 -1.0
baz=163
P45A Graceland, Par 67.55 345 P P 15 50 20.0 -0.9
baz=162,SNR=8.3
N52A McGinn's Farm, 67.59 350 P P 15 50 20.9 -0.2
baz=168
KSCT Kent School, K 67.63 357 eP P 15 50 21.3 -0.1
comp=Z,25nm,1.1s
MSTX Muleshoe 67.67 330 P P 15 50 23.0 +1.0
baz=148,SNR=24
O48A Farmland 67.67 347 P P 15 50 21.0 -0.8
baz=165,SNR=6.2
Q42A Golden Eagle 67.68 342 P P 15 50 21.9 +0.1
baz=159,SNR=19
N50A Nevada 67.79 349 P P 15 50 22.0 -0.5
baz=166,SNR=6.7
N51A Ashland 67.80 349 P P 15 50 22.1 -0.4
baz=167
M55A Ridgway 67.83 352 P P 15 50 23.0 +0.3
baz=171,SNR=13
O47A Sheridan 67.87 346 P P 15 50 22.1 -0.8
baz=164,SNR=8.6
AMTX Amarillo 67.97 332 P P 15 50 24.8 +0.9
baz=149
M54A Oil Creek Stat 67.98 352 P P 15 50 23.8 +0.1
baz=170,SNR=9.0
M53A WI Miller and 68.05 351 P P 15 50 23.7 -0.3
baz=169
P43A Skaggs, Pawnee 68.09 343 P P 15 50 24.0 -0.3
baz=160,SNR=9.1
N49A Columbus Grove 68.13 348 P P 15 50 24.3 -0.3
baz=166,SNR=13
M51A Elyria 68.18 350 P P 15 50 24.4 -0.4
baz=168
SFIN Lafayette 68.21 345 P P 15 50 24.0 -1.0
baz=163
O45A Potomac 68.23 345 P P 15 50 24.2 -1.0
baz=162
N48A Decatur 68.23 347 P P 15 50 24.6 -0.6
baz=165,SNR=8.0
M52A Chesterland 68.25 350 P P 15 50 25.1 -0.2
baz=168
BINY Binghamton 68.27 355 P P 15 50 26.3 +0.8
baz=173,SNR=8.6
O44A Mansfield 68.31 344 P P 15 50 24.8 -0.9
baz=162
N47A Urbana 68.38 347 P P 15 50 25.2 -0.9
baz=164,SNR=5.4
M50A Fremont 68.39 349 P P 15 50 25.9 -0.3
baz=167
L55A Hinsdale 68.50 353 P P 15 50 27.5 +0.6
baz=171,SNR=6.9
L53A Girard 68.50 351 P P 15 50 26.8 0.0
baz=169
N46A Monticello 68.62 346 P P 15 50 26.7 -0.9
baz=163,SNR=7.1
ERPA Erie 68.62 352 P P 15 50 27.6 0.0
baz=170
M49A Liberty Center 68.62 348 P P 15 50 27.2 -0.5
baz=166,SNR=7.0
L54A Sinclairville 68.65 352 P P 15 50 28.2 +0.4
baz=170,SNR=9.1
PLIO Pelee Island, 68.66 349 P P 15 50 27.3 -0.5
baz=167
N45A Kentland 68.75 345 P P 15 50 27.5 -0.9
baz=162
M48A Edgerton 68.77 348 P P 15 50 27.8 -0.7
baz=165
M47A Cromwell 68.83 347 P P 15 50 28.5 -0.5
baz=164
N44A Piper City 68.84 345 P P 15 50 28.3 -0.7
baz=162,SNR=6.9
121A Cookes Peak, D 68.88 326 P P 15 50 32.0 +2.4
baz=143,SNR=24
HDIL Hopedale 68.90 344 P P 15 50 28.8 -0.5
baz=161,SNR=6.5
L50A Kingsville 68.97 349 P P 15 50 29.1 -0.7
baz=167
K55A Perry 69.00 353 P P 15 50 30.4 +0.5
baz=172,SNR=7.1
M46A Old House Fiel 69.03 346 P P 15 50 29.5 -0.7
baz=164
L48A N Adams 69.16 348 P P 15 50 30.2 -0.8
baz=165
L49A Milan 69.20 349 P P 15 50 30.9 -0.3
baz=166,SNR=8.0
M45A Boilermakers S 69.20 346 P P 15 50 30.3 -1.0
baz=163
N43A Stutzman Famil 69.23 344 P P 15 50 31.2 -0.2
baz=161,SNR=8.3
L47A Sherwood 69.34 347 P P 15 50 31.3 -0.8
baz=165
AAM Ann Arbor 69.37 349 P P 15 50 31.9 -0.4
baz=166
K52A Tillsonburg 69.37 351 P P 15 50 31.9 -0.4
baz=169
M44A Midewin, Midew 69.38 345 P P 15 50 31.7 -0.7
baz=162

K51A Iona Station 69.43 350 P P 15 50 32.5 -0.1
baz=168
N41A Harden Midland 69.44 343 P P 15 50 32.5 -0.2
baz=159
MEDO Medina 69.47 353 P P 15 50 33.2 +0.3
baz=171
J55A Hilton 69.50 353 P P 15 50 33.4 +0.4
baz=172
TYNO Tyneside 69.57 352 P P 15 50 33.5 +0.1
baz=170
J54A Appleton 69.60 353 P P 15 50 33.9 +0.2
baz=171
L46A Eue Claire 69.60 347 P P 15 50 33.0 -0.7
baz=164
STCO Saint Catharin 69.60 352 P P 15 50 33.9 +0.3
baz=170
M43A Waltham Townsh 69.65 344 P P 15 50 33.7 -0.3
baz=161,SNR=7.2
KSU1 Kansas State U 69.72 338 P P 15 50 35.0 +0.5
baz=154
LENM Lemitar 69.79 327 eP P 15 50 35.4 +0.1
J52A Paris 69.79 351 P P 15 50 34.9 0.0
baz=169,SNR=8.9
N40A Mertquake, Sal 69.81 342 P P 15 50 34.8 -0.2
baz=159,SNR=21
NCB Newcomb 69.91 356 eP P 15 50 33.3 -2.3
comp=Z,18nm,1.2s
K48A Perry 69.94 348 P P 15 50 35.0 -0.7
baz=166,SNR=11
K47A Vermontville 69.97 348 P P 15 50 35.4 -0.5
baz=165
M41A Milan 69.98 343 P P 15 50 35.2 -0.9
baz=160,SNR=5.8
PECO Prince Edward 70.08 354 P P 15 50 36.7 +0.1
baz=173
ACTO Acton 70.10 352 P P 15 50 36.8 +0.1
baz=170
L44A Lake County Fo 70.11 345 P P 15 50 36.4 -0.4
baz=162
K46A Dorr 70.14 347 P P 15 50 36.2 -0.7
baz=164
LIC Lamto 70.14 72 eP P 15 50 36.7 -1.0
comp=Z,50nm,0.9s
ANMO Albuquerque 70.17 328 dP P 15 50 38.9 +1.2
ANMO pmax pmax
comp=Z,58nm,1.7s
ANMO Albuquerque 70.17 328 P P 15 50 39.9 +2.3
baz=145
TASM ASL Pad, Albuq 70.17 328 P P 15 50 39.9 +2.2
baz=145,SNR=34
TASM ASL Pad, Albuq 70.17 328 P P 15 50 39.8 +2.2
baz=145,SNR=31
DRWO Darlington Wes 70.20 353 P P 15 50 37.8 +0.5
baz=171
DRCO St. Marys Ceme 70.20 353 P P 15 50 37.9 +0.6
baz=171
WLVO Wesleyville 70.21 353 P P 15 50 37.3 -0.1
baz=171
I53A Kortright Cn E 70.25 352 P P 15 50 37.5 -0.2
baz=170
TUC Tucson 70.26 323 P P 15 50 40.1 +2.0
TUC pmax pmax
comp=Z,30nm,1.4s
TUC Tucson 70.26 323 P P 15 50 40.3 +2.2
baz=141
L43A Garden Prairie 70.30 345 P P 15 50 37.7 -0.3
baz=161,SNR=8.9
J49A Marlette 70.31 349 P P 15 50 37.1 -0.9
baz=167
PKRO Pickering 70.33 353 P P 15 50 38.2 +0.1
baz=171,SNR=5.5
L42A Oliver, Polo 70.36 344 P P 15 50 37.9 -0.4
baz=161
TIC Toumodi 70.36 72 eP P 15 50 38.1 -0.9
J48A Bridge Port 70.36 349 P P 15 50 37.8 -0.5
baz=166,SNR=8.0
I51A Listowel 70.42 351 P P 15 50 38.7 0.0
baz=169,SNR=8.2
I55A Frankford 70.43 354 P P 15 50 38.9 +0.2
baz=172,SNR=7.1
KIC Kosan Boka 70.45 72 eP P 15 50 38.8 -0.8
comp=Z,51nm,0.7s
J47A Sunmer 70.49 348 P P 15 50 38.7 -0.4
baz=165
DBIC Dimbokro 70.51 72 P P 15 50 39.1 -0.8
comp=Z,14nm,0.6s,baz=221,slow=7.1,SNR=18
DBIC LR LR 16 19 06.6
comp=Z,722nm,21.2s,baz=218,slow=34
I52A Shelburne 70.57 352 P P 15 50 39.6 0.0
baz=170,SNR=6.9
LONY Lake Ozonia 70.58 356 P P 15 50 40.1 +0.4
baz=175,SNR=6.3
CBKS Cedar Bluff 70.59 335 P P 15 50 40.9 +1.0
baz=151,SNR=10
L41A Preston 70.63 343 P P 15 50 39.6 -0.4
baz=160
H56A Elgin 70.67 355 P P 15 50 40.8 +0.6
baz=173,SNR=6.1
K43A Burlington 70.70 345 P P 15 50 40.2 -0.3
baz=162
H55A Tweed 70.71 354 P P 15 50 40.7 +0.3
baz=172,SNR=5.7
BASO Ashfield 70.72 351 P P 15 50 40.6 +0.2
baz=168
DELO Deloro Mine 70.72 354 P P 15 50 40.5 0.0
baz=172
BWLO Walkerton 70.74 351 P P 15 50 40.7 +0.1
baz=169
L40A Anamosa 70.81 343 P P 15 50 40.7 -0.4
baz=159,SNR=22
I49A Point Hope 70.82 350 P P 15 50 40.7 -0.5
baz=167
BRCO Bruce Peninsul 70.91 351 P P 15 50 41.6 -0.1
baz=168
K42A Prairie Point, 71.01 345 P P 15 50 42.2 -0.1
baz=161,SNR=9.5
T25A Trinidad 71.06 331 P P 15 50 45.1 +2.1
baz=147,SNR=39
PKME Peaks-Kenny Pk 71.06 0 eP P 15 50 42.0 -0.6
comp=Z,19nm,1.1s
PKME Peaks-Kenny Pk 71.06 0 P P 15 50 42.0 -0.6
baz=180
L39A Vinton 71.07 342 P P 15 50 42.6 -0.1
baz=158
K41A Shullsburg 71.08 344 P P 15 50 42.7 -0.1
baz=160,SNR=6.7
H52A Wyevale 71.09 352 P P 15 50 42.4 -0.3
baz=170
214A Organ Pipe Nat 71.10 322 P P 15 50 45.7 +2.6
baz=139,SNR=30
I47A Gladwin 71.19 349 P P 15 50 42.7 -0.6
baz=166
PLVO Plevna 71.19 354 P P 15 50 42.5 -0.8
baz=172
SBA Scott Base 71.21 191 P P 15 50 46.2 +3.0
SBA pmax pmax
comp=Z,11nm,2.3s
I48A Sherman Twp 71.21 349 P P 15 50 42.9 -0.6
baz=166,SNR=7.9
BMRO Merivile Lake 71.22 351 P P 15 50 43.5 0.0
baz=169
BANO Bancroft 71.25 354 P P 15 50 43.7 0.0
baz=172
I46A Reed City 71.28 348 P P 15 50 43.2 -0.7
baz=165
JFWS Jewell Farm 71.36 344 P P 15 50 44.5 +0.1
baz=160,SNR=5.7
J43A Natural Harves 71.36 345 P P 15 50 44.5 0.0
baz=162,SNR=7.8
G55A Calabogie 71.37 355 P P 15 50 44.8 +0.4
baz=173,SNR=7.7
K40A Colesburg 71.38 343 P P 15 50 44.2 -0.3
baz=159,SNR=8.5
G53A Haliburton 71.42 353 P P 15 50 45.1 +0.4
baz=171,SNR=15
J42A Columbus 71.47 345 P P 15 50 44.9 -0.1
baz=161,SNR=5.9
I45A Fountain 71.53 347 P P 15 50 44.8 -0.6
baz=164
K39A Oelwein 71.58 343 P P 15 50 45.7 -0.1
baz=159,SNR=8.0
H48A Harrisville 71.64 350 P P 15 50 45.7 -0.4
baz=167
TBI Tubuai 71.65 253 eS S 16 00 02.8 -4.0
comp=Z,244nm,31.8s
TBI Tubuai 71.65 253 eLR LR 16 12 43.2
comp=Z,429nm,29.5s
H47A Mio 71.69 349 P P 15 50 45.9 -0.5

baz=166
J41A Loganville 71.72 344 P P 15 50 46.5 -0.1
baz=160
I43A Langenfeld Bro 71.78 346 P P 15 50 46.7 -0.2
baz=162
H46A Fife Lake 71.81 348 P P 15 50 46.7 -0.5
baz=165,SNR=7.7
BUKO Buck Lake 71.82 353 P P 15 50 47.4 +0.3
baz=170,SNR=11
PEMO Pembroke 71.83 354 P P 15 50 47.4 +0.2
baz=172,SNR=8.1
KLBO Killbear Provi 71.84 352 P P 15 50 47.1 -0.1
baz=170,SNR=14
TOBO Tobermory, Bru 71.88 351 P P 15 50 47.2 -0.3
baz=168
KSCO Kaye Shedlock' 71.89 333 P P 15 50 49.5 +1.6
baz=149,SNR=9.2
W18A Petrified Fore 71.91 326 P P 15 50 50.2 +2.0
baz=142,SNR=12
F55A Otter Lake 71.91 355 P P 15 50 47.7 0.0
baz=173
J40A Soldiers Grove 71.93 344 P P 15 50 47.8 0.0
baz=160,SNR=5.8
I42A Draeger Farm, 71.96 345 P P 15 50 48.1 +0.1
baz=162
GLMI Grayling 71.98 349 P P 15 50 47.6 -0.6
baz=166
SDCO Great Sand Dun 72.04 331 P P 15 50 51.0 +1.9
baz=146,SNR=62
J39A Decorah 72.12 343 P P 15 50 49.0 0.0
baz=159,SNR=14
F52A Sundridge 72.16 353 P P 15 50 49.3 +0.1
baz=170,SNR=6.3
TRQ Mont Tremblant 72.17 356 eP P 15 50 47.2 -2.1
ALGO Algonquin Park 72.19 354 P P 15 50 49.2 -0.1
baz=172,SNR=9.4
G47A Hillman 72.19 349 P P 15 50 49.1 -0.3
baz=166
VNDA Vanda 72.23 190 P P 15 50 50.4 +1.1
comp=Z,4.4nm,1.0s,baz=141,slow=4.7,SNR=15
VNDA LR LR 16 20 04.0
comp=Z,264nm,21.3s,baz=142,slow=34
H43A Windswept, Lux 72.26 346 P P 15 50 49.6 -0.2
baz=163
BGNE Belgrade 72.31 338 P P 15 50 51.2 +0.9
baz=153,SNR=6.1
SYO Syowa Base 72.33 159 eP P 15 50 42.0 -8.0
F51A Arnstein 72.36 352 P P 15 50 50.5 +0.2
baz=170,SNR=7.2
I40A Norwalk 72.37 344 P P 15 50 50.4 -0.1
baz=160
G45A Suttons Bay 72.38 348 P P 15 50 50.1 -0.4
baz=165
H42A Shiocton 72.46 346 P P 15 50 51.0 0.0
baz=162
F49A Sandfield 72.48 351 P P 15 50 50.9 -0.2
baz=168,SNR=9.1
G46A Petoskey 72.50 349 P P 15 50 50.9 -0.3
baz=165
I39A Houston 72.56 343 P P 15 50 51.5 -0.1
baz=159,SNR=8.4
E53A Dumoine, Ponti 72.57 354 P P 15 50 51.7 +0.1
baz=172
E52A Mattawa 72.58 353 P P 15 50 51.3 -0.3
baz=171
E54A Lac Daplat, Po 72.58 354 P P 15 50 51.6 -0.1
baz=172,SNR=8.6
F48A Evansville 72.63 350 P P 15 50 51.7 -0.3
baz=167,SNR=6.7
S22A 4UR Ranch, Cre 72.63 330 P P 15 50 54.5 +1.9
baz=145,SNR=40
H41A Junction City 72.82 345 P P 15 50 53.1 0.0
baz=161
Q24A Divide 72.90 332 P P 15 50 55.6 +1.5
baz=147,SNR=15
E51A G1948 Merrick 72.91 353 P P 15 50 53.9 +0.2
baz=170,SNR=9.3
F46A Macinaw City C 72.93 349 P P 15 50 53.7 0.0
baz=165
E50A Wahnapitae 72.95 352 P P 15 50 53.9 0.0
baz=169,SNR=6.7
MVCO Mesa Verde 72.97 328 P P 15 50 56.5 +2.0
baz=144,SNR=35
F45A CMU Biological 72.98 348 P P 15 50 54.0 0.0
baz=165
G43A Wallace 72.99 347 P P 15 50 54.0 -0.1
baz=163
H40A Chili 73.00 344 P P 15 50 54.2 0.0
baz=160,SNR=7.7
GLA Glamis 73.04 321 P P 15 50 57.3 +2.5
baz=138
WUAZ Wupatki 73.06 325 P P 15 50 57.2 +2.3
baz=141,SNR=48
G42A Mountain 73.14 346 P P 15 50 55.1 +0.1
baz=162,SNR=5.3
E48A Lockeyer 73.20 351 P P 15 50 55.3 -0.1
baz=168,SNR=14
D52A ZEK Kipawa Sen 73.23 354 P P 15 50 54.7 -0.8
baz=171,SNR=9.7
D54A Lac Fusel, La 73.25 355 P P 15 50 55.1 -0.5
baz=173
H39A Augusta 73.27 344 P P 15 50 55.8 0.0
baz=159
G41A Antigo 73.27 346 P P 15 50 55.9 +0.1
baz=161
OGNE Ogallala 73.31 335 P P 15 50 57.6 +1.3
baz=150
E47A Iron Bridge 73.35 350 P P 15 50 56.1 -0.1
baz=167,SNR=16
Y12C Blythe 73.39 322 eP P 15 50 54.6 -2.2
comp=Z,40nm,0.9s
Y12C Blythe 73.39 322 P P 15 50 59.3 +2.5
baz=138,SNR=15
E46A Sault Ste Mari 73.43 349 P P 15 50 56.4 -0.3
baz=166,SNR=17
F44A Big Bay de Noc 73.43 348 P P 15 50 56.3 -0.4
baz=164
F43A Flat Rock, Esc 73.44 347 P P 15 50 56.2 -0.5
baz=163
D51A Lot 18 Range I 73.45 353 P P 15 50 56.7 -0.1
baz=170
IKP In-Ko-Pah, Jac 73.48 320 P P 15 50 59.9 +2.4
baz=137,SNR=11
SWSC Sam W. Stewart 73.52 321 P P 15 51 00.0 +2.5
baz=137,SNR=5.5
H38A Maiden Rock 73.52 343 P P 15 50 57.4 +0.1
baz=158
G40A Rib Lake 73.56 345 P P 15 50 57.6 0.0
baz=160
E45A Wooded Hills, 73.57 349 P P 15 50 57.4 -0.1
baz=165,SNR=7.7
PDMCI Parker Dam,Lak 73.60 323 P P 15 51 00.2 +2.3
baz=139,SNR=7.0
F41A Three Lakes 73.76 346 P P 15 50 58.9 +0.2
baz=162,SNR=6.2
ISCO Idaho Springs 73.79 332 P P 15 51 00.4 +1.0
ISCO pmax pmax
comp=Z,52nm,1.1s
ISCO Idaho Springs 73.79 332 P P 15 51 01.3 +1.9
baz=146,SNR=36
G39A Holcombe 73.81 344 P P 15 50 58.9 -0.1
baz=160,SNR=7.9
D48A Paudash Townsh 73.83 351 P P 15 50 58.8 -0.2
baz=168,SNR=6.3
MONP2 Monument Peak 73.83 320 P P 15 51 01.9 +2.2
baz=137,SNR=12
BC3 Big Chuckawall 73.84 321 P P 15 51 01.8 +2.2
baz=138,SNR=40
D49A Beulah Townshi 73.87 352 P P 15 50 59.3 0.0
baz=169,SNR=9.4
G38A Ridgeland 73.87 344 P P 15 50 59.2 -0.1
baz=159
D46A Sault St. Mari 73.89 350 P P 15 50 59.0 -0.5
baz=166,SNR=6.1
PPT2 Papeete2 73.89 258 eS S 16 00 30.4 -2.3
comp=Z,765nm,25.2s
PPT2 Papeete2 73.89 258 eLR LR 16 13 51.5
comp=Z,687nm,32.0s
ECSD EROS Data Cent 73.89 340 P P 15 50 60.0 +0.4
baz=155,SNR=24
PPT Papeete 73.90 258 P P 15 51 03.7 +3.4
comp=Z,47nm,0.9s,baz=90,slow=14,SNR=4.4
D47A Chapleau 73.91 350 P P 15 50 59.0 -0.5
baz=167,SNR=12
E43A Lone Tree Farm 73.92 347 P P 15 50 59.4 -0.2
baz=163
E44A Grand Marais A 73.95 348 P P 15 51 00.0 +0.2
baz=164

IRM **Iron Mountain** 74.04 322 P P 15 51 02.9 +2.3
baz=138,SNR=25
F40A **Park Falls** 74.16 345 P P 15 51 01.3 +0.3
baz=161,SNR=8.4
E42A **Champion** 74.16 347 P P 15 51 01.3 +0.2
baz=163,SNR=6.6
SPMN **Marine on St.** 74.17 343 P P 15 51 01.1 +0.1
baz=158,SNR=6.2
NEE2 **Needles Airpor** 74.20 323 P P 15 51 03.5 +2.0
baz=138
PV23 **Carpenter Ridg** 74.21 329 *e*P P 15 50 59.6 -2.2
comp=Z,23nm,0.9s
109C **Camp Elliot, M** 74.23 320 P P 15 51 03.8 +2.1
baz=136
F39A **Loretta** 74.34 345 P P 15 51 02.2 +0.1
baz=160,SNR=8.6
PFO **Pinyon Flats O** 74.38 321 *i* P P 15 51 04.8 +2.1
PFO **Pinyon Flats O** 74.38 321 P P 15 51 05.1 +2.4
baz=137,SNR=12
BELC **Belle Mtn. Jos** 74.40 321 P P 15 51 05.2 +2.3
baz=137,SNR=16
E41A **Kenton** 74.41 346 P P 15 51 02.7 +0.2
baz=162
F37A **Hinrichs Farm,** 74.59 343 P P 15 51 03.7 +0.2
baz=158
E40A **Wakefield** 74.60 345 P P 15 51 04.0 +0.4
baz=161,SNR=9.8
F38A **Pierce - Schro** 74.62 344 P P 15 51 04.0 +0.4
baz=159,SNR=7.7
E39A **Mellen** 74.69 345 P P 15 51 04.4 +0.3
baz=160,SNR=9.4
GMRC **Granite Mounta** 74.79 322 P P 15 51 07.7 +2.6
baz=138,SNR=42
MURC **Murrieta** 74.79 320 P P 15 51 07.6 +2.5
baz=136,SNR=11
N23A **Red Feather La** 74.84 332 P P 15 51 07.4 +1.9
baz=146,SNR=26
D41A **Chassel** 74.90 347 *e*P P 15 51 04.5 -0.7
comp=Z,96nm,0.8s
D41A **Chassel** 74.90 347 P P 15 51 05.9 +0.6
baz=162,SNR=10
PHWY **Pilot Hill** 74.98 333 *e*P P 15 51 05.8 -0.4
comp=Z,27nm,0.9s
BBRC **Big Bear Solar** 75.11 321 P P 15 51 09.9 +2.8
baz=137
SCI2 **San Clemente I** 75.14 319 P P 15 51 09.5 +2.5
baz=135
E38A **The Farm, Brul** 75.14 344 P P 15 51 06.8 +0.1
baz=159
LSQQ **Lebel-sur-Quev** 75.17 355 P P 15 51 06.5 -0.2
baz=173
HEC **Hector,Ludlow** 75.20 322 P P 15 51 10.0 +2.6
baz=137,SNR=16
O20A **White River Ci** 75.22 330 P P 15 51 09.6 +2.0
baz=144,SNR=9.1
SUSD **Miller** 75.28 339 P P 15 51 08.3 +0.7
baz=153
CIS **Catalina Islan** 75.36 319 P P 15 51 10.8 +2.5
baz=136
TUQ **Turquoise Moun** 75.42 322 P P 15 51 11.2 +2.5
baz=138
SRU **San Rafael Swe** 75.45 328 P P 15 51 09.9 +1.0
FMP **Fort Macarthur** 75.51 320 P P 15 51 11.8 +2.7
baz=136
BFSC **Mount Baldy Ra** 75.52 320 P P 15 51 11.5 +2.2
baz=136,SNR=8.3
RRX **Edison Barstow** 75.60 321 P P 15 51 12.4 +2.7
baz=137
PAS **Pasadena** 75.75 320 P P 15 51 13.3 +2.8
DRLN **Deer Lake** 75.80 8 *e*P P 15 51 09.0 -1.4
GSC **Goldstone, Bar** 75.81 322 *e*P P 15 51 11.4 +0.5
comp=Z,21nm,0.9s
GSC **Goldstone, Bar** 75.81 322 *e*P P 15 51 11.4 +0.5
GSC pmax pmax
comp=Z,21nm,0.9s
GSC **Goldstone, Bar** 75.81 322 P P 15 51 13.4 +2.5
baz=137,SNR=20
CHGQ **Chibougamau** 75.84 357 P P 15 51 10.5 -0.1
baz=175
SNCC **San Nicolas Is** 75.91 318 P P 15 51 13.9 +2.5
baz=135
MATQ **Matagami** 75.92 354 P P 15 51 10.7 -0.3
baz=172
DECC **Green Verdugo** 75.92 320 P P 15 51 13.8 +2.3
baz=136
SHOC **Shoshone, Teco** 75.95 322 P P 15 51 14.0 +2.4
baz=137
RWWY **Rawlins** 76.04 332 *e*P P 15 51 12.0 -0.3
comp=Z,57nm,0.9s
EDW2 **Edwards Air Fo** 76.17 321 P P 15 51 14.9 +1.9
baz=136,SNR=19
BLG **Laguna Peak, P** 76.24 319 P P 15 51 15.7 +2.3
baz=135
EYMN **Ely** 76.38 345 P P 15 51 13.7 -0.1
baz=160,SNR=6.2
OSI **Osito Audit: C** 76.40 320 P P 15 51 16.5 +2.2
baz=135
LRMC **Laurel Mtn Rad** 76.43 321 P P 15 51 16.8 +2.3
baz=136,SNR=16
SCZ2 **Santa Cruz Isl** 76.50 319 P P 15 51 16.9 +2.1
baz=135
K22A **Casper** 76.54 333 *e*P P 15 51 14.0 -1.0
comp=Z,39nm,1.0s
K22A **Casper** 76.54 333 P P 15 51 16.8 +1.8
baz=146,SNR=20
SUR **Sutherland** 76.64 120 *e*P P 15 51 15.5 -0.5
comp=Z,26nm,1.3s
FURC **Furnace Creek,** 76.69 322 P P 15 51 18.3 +2.6
baz=137,SNR=18
TPNV **Topopah Spring** 76.71 323 P P 15 51 18.5 +2.4
baz=138
MPMC **Manual Prospec** 76.74 322 P P 15 51 18.4 +2.1
baz=137,SNR=13
RSSD **Black Hills** 76.80 335 *e*P P 15 51 16.8 +0.3
comp=Z,28nm,0.9s
RSSD **Black Hills** 76.80 335 *e*P P 15 51 16.8 +0.3
RSSD pmax pmax
comp=Z,28nm,0.9s
RSSD **Black Hills** 76.80 335 P P 15 51 17.9 +1.4
baz=148
ARVC **Arvin** 76.83 320 P P 15 51 19.0 +2.4
baz=136
ISA **Isabella, Lake** 77.01 321 P P 15 51 19.3 +1.6
ISA **Isabella, Lake** 77.01 321 P P 15 51 20.2 +2.5
baz=136,SNR=39
PKM **Mcpherson Peak** 77.23 319 P P 15 51 21.5 +2.4
baz=135,SNR=12
CWC **Cottonwood Cre** 77.34 322 P P 15 51 22.2 +2.5
baz=136
GRAC **Grapevine Rang** 77.35 322 P P 15 51 22.0 +2.5
baz=137,SNR=9.0
R11A **Troy Canyon, C** 77.39 324 P P 15 51 22.3 +2.3
baz=138,SNR=68
DUG **Dugway, Tooele** 77.40 327 P P 15 51 21.2 +1.3
DUG **Dugway, Tooele** 77.40 327 P P 15 51 22.0 +2.1
baz=141,SNR=34
VES **Vestal, Richgr** 77.48 321 P P 15 51 22.6 +2.4
baz=135
SMMC **Simmler** 77.63 320 P P 15 51 23.9 +2.7
baz=135
AGMN **Agassiz Nation** 77.82 342 P P 15 51 22.2 +0.4
baz=156,SNR=7.3
TIN **Tinemaha, Big** 77.87 322 P P 15 51 25.0 +2.5
baz=136,SNR=6.0
HWUT **Hardware Ranch** 77.91 329 *e*P P 15 51 23.5 +0.7
comp=Z,38nm,0.8s
BW06 **Boulder Array** 77.93 331 P P 15 51 24.2 +1.3
baz=144,SNR=28
PDAR **Pinedale Array** 77.93 331 *e*P P 15 51 22.5 -0.4
PDAR P P 15 51 23.2 +0.4
PDAR **Pinedale Array** 77.93 331 P P 15 51 23.2 +0.4
comp=Z,7.1nm,0.8s,baz=133,slow=7.2,SNR=33
PDAR LR LR 16 28 12.7
comp=Z,111nm,19.8s,baz=152,slow=38
VOG **Valley Oaks Go** 77.99 321 P P 15 51 24.5 +1.4
baz=135
MDND **Maddock** 78.51 340 P P 15 51 26.4 +0.7
baz=152
MLAC **Mammoth, Mammo** 78.62 322 P P 15 51 29.2 +2.3
baz=136,SNR=6.1
NVAR **Mina Array Bea** 78.90 323 *e*P P 15 51 28.9 +0.6
NVAR P P 15 51 29.4 +1.0
NVAR **Mina Array Bea** 78.90 323 P P 15 51 29.4 +1.0
comp=Z,20nm,0.8s,baz=149,slow=5.2,SNR=100
NVAR LR LR 16 21 44.1
comp=Z,249nm,21.9s,baz=174,slow=32
KVN **Kaiserville** 79.24 323 P P 15 51 31.0 +0.8
TORD **Torodi Ar. Bea** 79.33 70 P P 15 51 29.3 -1.7
comp=Z,19nm,0.8s,baz=285,slow=6.2,SNR=68
TORD LR LR 16 26 57.4
comp=Z,352nm,18.7s,baz=295,slow=36
ULM **Lac du Bonnet** 79.61 343 P P 15 51 31.0 -0.6
comp=Z,22nm,0.9s,baz=160,slow=5.8,SNR=26
ULM LR LR 16 28 56.2
comp=Z,260nm,20.5s,baz=142,slow=37
H17A **Grant Village** 79.67 331 P P 15 51 34.8 +2.3
baz=143,SNR=11
RLMT **Red Lodge** 79.70 333 P P 15 51 34.3 +1.8
baz=144,SNR=36
CMB **Columbia Colle** 79.77 321 P P 15 51 33.8 +0.9
BMN **Battle Mountai** 79.79 325 P P 15 51 34.6 +1.5
LAO **LASA Array** 79.79 335 P P 15 51 34.0 +1.2
baz=147,SNR=20
MAW **Mawson** 80.03 163 P P 15 51 33.2 -0.6
comp=Z,12nm,0.9s,baz=163,slow=6.2,SNR=10
MAW LR LR 16 26 19.3
comp=Z,320nm,20.4s,baz=233,slow=35
DGMT **Dagmar** 80.56 337 P P 15 51 38.0 +1.1
baz=149
SCHQ **Schefferville** 80.67 1 P P 15 51 36.8 -0.5
comp=Z,4.5nm,0.8s,baz=121,slow=16,SNR=4.0
SCHQ LR LR 16 27 14.7
comp=Z,228nm,21.8s,baz=217,slow=36
HLID **Hailey** 80.75 329 P P 15 51 40.1 +1.9
baz=140,SNR=119
BOZ **Bozeman (W)** 81.08 331 P P 15 51 40.5 +0.6
BOZ **Bozeman (W)** 81.08 331 P P 15 51 41.2 +1.3
baz=142,SNR=18
DLMT **Dillon** 81.32 331 *e*P P 15 51 40.7 -0.5
comp=Z,49nm,1.1s
ORV **Oroville** 81.45 322 P P 15 51 43.6 +1.8
BOSA **Boshof** 81.66 118 P P 15 51 41.5 -2.0
BOSA *e*P P 15 51 42.2 -1.3
BOSA **Boshof** 81.66 118 P P 15 51 41.5 -2.0
BOSA *e* 15 51 42.2
BOSA **Boshof** 81.66 118 P P 15 51 41.5 -2.0
comp=Z,3.2nm,0.7s,baz=261,slow=5.5,SNR=8.3
BOSA LR LR 16 24 02.6
comp=Z,900nm,19.5s,baz=241,slow=33
WVOR **Wild Horse Val** 81.97 325 P P 15 51 46.5 +1.8
WVOR pmax pmax
comp=Z,19nm,1.7s
O03E **Paynes Creek** 82.13 322 P P 15 51 46.0 +0.5
baz=134,SNR=28
EGMT **Eagleton** 82.25 334 P P 15 51 46.6 +0.7
baz=144,SNR=14
O02D **Mt. Diablo Mer** 82.60 322 P P 15 51 49.1 +1.1
baz=133,SNR=12
MSO **Missoula** 83.05 331 P P 15 51 51.7 +1.6
baz=140,SNR=13
BMO **Blue Mountains** 83.09 328 P P 15 51 50.8 +0.4
N02D **Trinity Center** 83.10 322 P P 15 51 51.8 +1.3
baz=133,SNR=20
M04C **Macdoel** 83.19 323 P P 15 51 52.3 +1.3
baz=134,SNR=26
M02C **Callahan** 83.47 323 P P 15 51 53.5 +1.1
baz=133,SNR=13
LBTB **Lobatse** 83.47 115 P P 15 51 52.6 -0.4
LBTB pmax pmax
comp=Z,22nm,0.8s
YBH **Yreka Blue Hor** 83.62 323 P P 15 51 53.3 +0.1
K04D **Chiloquin, OR** 83.73 324 P P 15 51 55.0 +1.2
baz=134
L04D **Klamath Falls** 83.74 323 P P 15 51 54.6 +0.8
baz=134,SNR=12
J05D **Fort Rock, OR** 83.92 325 P P 15 51 56.4 +1.6
baz=135,SNR=28
J04D **Umpqua Nationa** 84.34 324 P P 15 51 58.3 +1.4
baz=134,SNR=10
L02E **Cave Junction** 84.40 323 P P 15 51 58.9 +1.8
baz=133,SNR=15
I05D **Terrebonne, OR** 84.71 325 P P 15 52 00.4 +1.7
baz=135,SNR=11
K02D **Willamette Mer** 84.80 323 P P 15 52 00.9 +1.8
baz=133,SNR=31
I04A **Tendick Farm,** 84.89 324 P P 15 52 00.5 +1.0
baz=134,SNR=11
PTEO **Sao Teotonio** 85.16 44 *e*P P 15 52 02.7 +1.7
comp=Z,84nm,1.2s
J01E **Myrtle Point** 85.26 323 P P 15 52 03.2 +1.9
baz=133,SNR=9.4
FFC **Flin Flon** 85.28 342 *i* P P 15 52 01.5 +0.4
I03D **Drain, OR** 85.31 324 P P 15 52 03.2 +1.6
baz=133,SNR=9.1
G05D **Wamic, OR** 85.34 326 P P 15 52 03.6 +1.9
baz=135,SNR=6.6
PBDV **Barranco-do-Ve** 85.48 45 *e*P P 15 52 03.8 +1.2
comp=Z,52nm,1.5s
NEW **Newport** 85.54 330 P P 15 52 03.0 +0.3
baz=138,SNR=9.6
NEW **Newport** 85.54 330 P P 15 52 02.8 +0.1
comp=Z,6.0nm,0.9s,baz=134,slow=5.4,SNR=14
H04D **Lebanon** 85.56 325 P P 15 52 03.9 +1.1
baz=134
PNCL **Nicolau / Gran** 85.63 44 *e*P P 15 52 04.7 +1.4
comp=Z,38nm,1.8s
PCVE **Castro Verde** 85.65 44 *e*P P 15 52 03.1 -0.3
comp=Z,45nm,2.0s
MESJ **Messejana** 85.66 44 *e*P P 15 52 04.4 +1.0
comp=Z,29nm,1.7s
I02D **Swisshome** 85.85 324 P P 15 52 06.1 +1.9
baz=133,SNR=7.0
F05D **White Salmon** 85.86 326 P P 15 52 05.5 +1.2
baz=135
COR **Corvallis** 85.90 325 P P 15 52 06.9 +2.5
COR pmax pmax
comp=Z,64nm,1.4s
PBEJ **Beja** 86.00 44 *e*P P 15 52 06.9 +1.8
comp=Z,27nm,1.4s
G03D **McMinnville, O** 86.31 325 P P 15 52 07.9 +1.5
baz=133
PMTG **Montargil** 86.41 43 *e*P P 15 52 07.2 +0.1
comp=Z,28nm,1.4s
PTOM **Tomar** 86.63 43 *e*P P 15 52 08.9 +0.7
comp=Z,31nm,1.3s
F04D **Rainier, OR** 86.78 326 P P 15 52 10.2 +1.4
baz=134
PCAS **Casmilo, Conde** 86.85 42 *e*P P 15 52 08.8 -0.5
comp=Z,48nm,1.6s
E04D **Cinebar** 86.88 326 P P 15 52 10.1 +0.9
baz=134
PMRV **Marv??o** 87.14 43 *e*P P 15 52 09.9 -0.8
comp=Z,37nm,1.8s
TAM **Tamanrasset** 87.28 63 P P 15 52 13.3 +1.3
TAM pmax pmax
comp=Z,6.0nm,2.4s
D04E **Lakebay** 87.41 327 P P 15 52 13.3 +1.5
baz=134
MTE **Manteigas** 87.64 42 *e*P P 15 52 13.5 +0.3
comp=Z,34nm,1.3s
D03D **Eldon** 87.81 327 P P 15 52 14.8 +1.1
baz=134,SNR=8.5
B05A **Bryant** 87.84 328 P P 15 52 14.1 +0.3
baz=134,SNR=7.4
A04D **Lummi Island** 88.45 328 P P 15 52 17.7 +1.0
baz=134
ESDC **Sonseca Array** 89.42 45 P P 15 52 20.9 -0.7
comp=Z,1.9nm,0.9s,baz=242,slow=3.5,SNR=6.9
ESDC LR LR 16 32 00.6
comp=Z,134nm,18.4s,baz=320,slow=35
LSZ **Lusaka** 89.96 107 P P 15 52 26.7 +1.8
LSZ pmax pmax
comp=Z,7.0nm,1.2s
URZ **Urewera** 90.70 226 LR LR 16 26 58.1
comp=Z,247nm,19.2s,baz=124,slow=31
YKA **Yellowknife Ar** 95.41 341 P P 15 52 48.6 0.0
comp=Z,5.9nm,0.8s,baz=138,slow=4.4,SNR=80
YKA LR LR 16 38 46.4
comp=Z,31nm,20.3s,baz=128,slow=37
KEST **Kesra** 96.41 53 LR LR 16 38 18.9
comp=Z,804nm,20.0s,baz=194,slow=37
DLBC **Dease Lake** 98.11 332 P Pdif 15 53 02.3 +1.1
comp=Z,2.5nm,0.7s,baz=264,slow=8.8,SNR=6.0
GERES **GERESS Array B** 104.91 43 PKiKP **PKiKP** 15 57 44.2 -2.4
comp=Z,0.1nm,0.3s,baz=277,slow=1.6,SNR=3.3
CLL **Collm** 105.44 40 *e*PKiKP **PKiKP** 15 57 48.0 +0.6
comp=Z,5.0nm,1.2s
CLL *e*SKSac **SKSac** 16 04 12.0 -1.9
CLL *e*(Sdif) 16 05 42.0
CLL *e*PS **PS** 16 07 12.0 +0.5
CLL *e*SS **SS** 16 12 54.0 +0.9
CLL *e*(SSSS) 16 19 42.0
CLL Lm MLR 16 42 00.0
comp=N,100nm,20.3s
CLL Lm MLR 16 42 00.0
comp=E,100nm,20.8s
CLL Lm MLR 16 42 00.0
comp=Z,200nm,19.9s
BRG **Berggiesshubel** 105.83 41 *e*PKP **PKiKP** 15 57 49.2 +1.1
comp=Z,1.3nm,0.8s
DZM **Mont Dzumac** 107.75 234 *e*LR LR 16 29 31.0
comp=Z,242nm,23.1s
ILAR **Eielson Array** 108.22 334 PP PP 15 58 02.2 -14
comp=Z,0.6nm,0.8s,baz=103,slow=5.6,SNR=4.6
KIEV **Kiev** 115.05 44*c* *i*PKIKP **PKPdf** 15 58 05.1 -0.4
AKASG **Malin Array Be** 115.06 44*c* *i*PKIKP **PKPdf** 15 58 04.5 -1.1
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG **Malin Array Be** 115.06 44 PKP **PKPdf** 15 58 03.7 -1.9
comp=Z,1.8nm,0.7s,baz=270,slow=2.6,SNR=11
BRTR **Keskin Array B** 115.78 57 PKP **PKPdf** 15 58 06.3 -1.2
BRTR *e*PKPdf **PKiKP** 15 58 06.4 -1.1
BRTR **Keskin Array B** 115.78 57*c* *i*PKIKP **PKPdf** 15 58 06.1 -1.4
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR **Keskin Array B** 115.78 57 PKP **PKPdf** 15 58 06.3 -1.2
comp=Z,1.7nm,0.8s,baz=191,slow=3.0,SNR=12
OBN **Obninsk** 120.03 40 *i*PKIKP **PKPdf** 15 58 14.7 -0.3
OBN pmax pmax
comp=Z,9.0nm,1.0s
LPSR **Galich'ya Gora** 121.29 43 *e*PKIKP **PKPdf** 15 58 17.5 0.0
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VSR **Storozhevoye** 121.36 44 *e*PKIKP **PKPdf** 15 58 16.3 -1.4
VSR pmax pmax
comp=Z,9.0nm,0.9s
KLMR **Klimovskoe** 121.64 33 *e*PKIKP **PKPdf** 15 58 12.5 -5.4
KLMR pmax pmax
comp=Z,15nm,1.3s
KIV **Kislovodsk** 123.15 53 *i*PKIKP **PKPdf** 15 58 21.2 -0.3
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,275nm,23.0s
KBZ **Khabaz** 123.28 53 PKP **PKPdf** 15 58 21.6 0.0
comp=Z,6.3nm,0.9s,baz=52,slow=0.6,SNR=13
ZEI **Tsey** 123.92 55 *i*PKIKP **PKPdf** 15 58 23.0 -0.2
ZEI pmax pmax
comp=Z,7.0nm,1.0s
PRGR **Permogore** 124.50 32 *e*PKIKP **PKPdf** 15 58 23.3 -0.1
PRGR pmax pmax
comp=Z,7.0nm,0.7s
ASAR **Alice Springs** 125.60 206 PKP **PKPdf** 15 58 25.2 -1.6
comp=Z,7.4nm,0.9s,baz=143,slow=2.0,SNR=40
BILL **Bilibino** 126.64 337 *i*PKIKP **PKiKP** 15 58 27.8 0.0
BILL pmax pmax
comp=Z,3.0nm,1.2s
KIRV **Kirov** 126.87 35 PKP **PKiKP** 15 58 28.3 -0.1
comp=Z,7.5nm,0.6s,baz=135,slow=1.4,SNR=4.6
WRA **Warramunga Arr** 128.73 209 PKP **PKPdf** 15 58 31.9 -1.0
comp=Z,8.3nm,0.8s,baz=155,slow=1.6,SNR=35
WRAB **Tennant Creek** 128.74 209 ||*i*PKIKP **PKPdf** 15 58 33.1 +0.2
WRAB pmax pmax
comp=Z,15nm,1.3s
ARU **Arti** 132.17 36 *i*PKIKP **PKiKP** 15 58 38.9 -0.3
ARU 16 01 00.0
ARU SS SS 16 18 32.6 -5.4
ARU MLR MLR
comp=Z,191nm,20.0s
WSAR **Wadi Sarin** 132.92 82 PKP **PKiKP** 15 58 42.0 +0.2
comp=Z,6.8nm,0.9s,baz=149,slow=5.9,SNR=3.3
AKTO **Aktyubinsk** 133.31 44 PKP **PKPdf** 15 58 40.9 +0.3
comp=Z,2.1nm,0.7s,baz=90,slow=1.0,SNR=8.6
TIXI **Tiksi** 133.32 352 ||*i*PKIKP **PKPdf** 15 58 39.5 -0.4
TIXI pmax pmax
comp=Z,10.0nm,2.5s
SEY **Seymchan** 134.14 335 ||*i*PKIKP **PKiKP** 15 58 42.9 -0.1
GEYT **Alibeck** 134.49 62 PKP **PKPdf** 15 58 43.2 0.0
comp=Z,32nm,0.5s,baz=222,slow=2.0,SNR=7.4
BVAR **Borovoye Array** 139.79 37 PKhKP PKPpre 15 58 49.3
comp=Z,2.4nm,0.8s,baz=59,slow=0.9,SNR=5.9
BVAR PKP **PKPdf** 15 58 53.3 +0.8
comp=Z,2.4nm,0.8s,baz=250,slow=4.3,SNR=14
YAK **Yakutsk** 141.91 346 *e*PKHKP PKPpre 15 58 49.9
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
NKL **Nikolayevsk** 144.93 328 *e*PKIKP **PKPab** 15 59 00.5 -0.2
NKL pmax pmax
comp=N,14nm,1.8s
NKL pmax pmax
comp=E,55nm,1.8s
NKL pmax pmax
comp=Z,330nm,1.8s
NVS **Novosibirsk** 144.99 28⇑ *i*PKIKP PKPbc 15 59 00.8 -0.1
NVS pmax pmax
comp=Z,43nm,0.8s
TYV **Tymovskoe** 145.28 324 *e*PKIKP **PKPbc** 15 59 01.9 -0.1
TYV pmax pmax
comp=Z,600nm,4.1s
TYV pmax pmax
comp=Z,37nm,1.1s
KURK **Kurchatov** 145.37 36*c* *i*PKIKP **PKPbc** 15 59 01.4 -0.9
KURBB **Kurchatov Arra** 145.37 37 PKPbc **PKPbc** 15 59 01.8 -0.5
comp=Z,28nm,0.8s,baz=300,slow=3.6,SNR=139
GUMO **Guam** 145.58 255 PKPbc **PKPab** 15 59 05.0 +0.7
comp=Z,127nm,0.9s,baz=190,slow=23,SNR=6.5
EKS2 **Erkin-Say** 145.73 52 P **PKPdf** 15 59 03.5 0.0
SNR=33
AML **Almayashu** 145.82 53 P **PKPdf** 15 59 04.0 0.0
SNR=40
USP **Ospenovka** 146.06 50 P **PKPdf** 15 59 04.2 +0.3
SNR=15
AAK **Ala-Archa** 146.25 52 P **PKPab** 15 59 06.5 +0.3
SNR=36
AAK **Ala-Archa** 146.25 52*c* *i*PKP2 **PKPdf** 15 59 04.9 +0.5
AAK pmax pmax
comp=Z,74nm,1.3s
AAK **Ala-Archa** 146.25 52 PKPbc **PKPbc** 15 59 05.1 -0.4
comp=Z,34nm,0.9s,baz=202,slow=2.3,SNR=45
ZALV **Zalesovo Beam** 146.28 28 PKPbc **PKPdf** 15 59 03.9 0.0
comp=Z,78nm,0.8s,baz=310,slow=4.1,SNR=155
CHMS **Chumysh** 146.32 51 P **PKPab** 15 59 06.2 -0.2
SNR=15
UCH **Uchtor** 146.38 52 P **PKPab** 15 59 07.2 0.0
SNR=32
KBK **Karagaybulak** 146.56 51 P **PKPbc** 15 59 06.4 -0.1
SNR=20
TKM2 **Tokmak 2** 146.93 51 P **PKPbc** 15 59 07.0 -0.6
SNR=18
KZA **Kyzart** 146.95 52 P **PKiKP** 15 59 10.6 +0.1
SNR=11
YSS **Yuzh-Sakhalins** 147.22 318 *e*PKP2 **PKPdf** 15 59 06.6 +1.0
ULHL **Ulahol** 147.60 52 P **PKPbc** 15 59 08.7 -0.8
SNR=11
KSH **Kashi** 148.18 57 PKPbc **PKPdf** 15 59 09.0 +1.3
KSH PP **PP** 16 02 43.0 +3.5
KSH SKS **SKSdf** 16 06 15.5 -1.0
KSH AMB AMB
comp=Z,260nm,4.5s
KSH LR LR
comp=Z,340nm,9.7s
KSH LR LR
comp=Z,230nm,8.6s
BOD **Bodaibo** 148.25 357 *e*PKP2 **PKPbc** 15 59 09.0 -1.4
BOD pmax pmax
comp=Z,28nm,1.8s
GRNR **Gornyy** 148.48 328 *e*PKP2 **PKiKP** 15 59 12.2 -0.6
GRNR pmax pmax
comp=Z,20nm,1.0s
ASAJ **Asahikawa** 148.57 313 PKPbc **PKPbc** 15 59 11.9 +0.3
comp=Z,16nm,0.9s,baz=171,slow=9.2,SNR=3.6
HYB **Hyderabad** 149.04 100 *i*PKP **PKPdf** 15 59 10.0 +0.4
MK31 **Makanchi Array** 149.54 40 *e*PKPbc **PKPbc** 15 59 13.3 -0.7
MK31 **Makanchi Array** 149.54 40 *e*PKP2 **PKPbc** 15 59 13.4 -0.7
MKAR **Makanchi Array** 149.54 40 PKPbc **PKPbc** 15 59 13.2 -0.9
comp=Z,40nm,0.8s,baz=317,slow=2.3,SNR=86
ZEA **Zeya** 149.79 340 *e*PKHKP **PKPbc** 15 59 12.6 -1.8
ZEA pmax pmax
comp=Z,80nm,1.8s
DGZ **Jazzator, Alta** 150.43 31*c* *i*PKIKP **PKPbc** 15 59 16.0 -0.3
MOY **Mondy** 153.48 14 *e*PKIKP **PKPdf** 15 59 17.4 +1.9
MOY pmax pmax
comp=Z,42nm,3.3s
MJAR **Matsushiro Arr** 154.35 301 PKPbc **PKiKP** 15 59 26.1 +0.7
comp=Z,4.0nm,0.9s,baz=122,slow=0.4,SNR=9.2
MJAR PKPab **PKPab** 15 59 41.3 +1.8
comp=Z,4.1nm,0.9s,baz=110,slow=1.7,SNR=6.9

MAT	Matsushiro	154.35	301	PKP	PKPdf	15 59 12.9	-4.2
WMQ	Urumqi	154.36	41	*e*PKPbc	PKPdf	15 59 12.2	-4.7
WMQ				LR	LR		
	comp=Z,1μm,31.9s						
WMQ				LR	LR		
	comp=Z,2μm,38.8s						
WMQ				LR	LR		
	comp=Z,910nm,25.9s						
ZAK	Zakamensk	155.15	11	*e*PKIKP	PKPdf	15 59 18.6	+0.8
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.9s						
SONM	Songino Array	158.09	8	PKP	PKPdf	15 59 21.9	+0.2
	comp=Z,2.8nm,0.9s,baz=321,slow=1.0,SNR=16						
SONM				PKPab	PKPab	15 59 55.7	+0.5
	comp=Z,2.8nm,0.7s,baz=330,slow=4.5,SNR=9.0						
KSRS	Korea Array	161.51	312	PKP	PKPdf	15 59 26.9	+1.1
	comp=Z,2.1nm,1.0s,baz=85,slow=1.4,SNR=7.4						
KSRS				PKPab	PKPab	16 00 12.0	+1.7
	comp=Z,3.1nm,0.8s,baz=71,slow=4.3,SNR=6.4						
KSAR	Wonju Array Be	161.54	312	PKP	PKPdf	15 59 26.9	+1.1
KSAR				PKPab	PKPab	16 00 12.0	+1.6
KSAR	Wonju Array Be	161.54	312	PKP2	PKPab	16 00 12.0	+1.6
GTA	Gaotai	163.96	32	⇑PKP	PKPdf	15 59 28.8	+0.5
GTA				PKPab	PKPab	16 00 20.1	-1.0
GTA				PP	PP	16 04 06.5	+0.2
GTA				AMB	AMB		
	comp=Z,130nm,5.5s						
GTA				LR	LR		
	comp=Z,150nm,24.2s						
GTA				LR	LR		
	comp=Z,150nm,24.2s						
GTA				LR	LR		
	comp=Z,210nm,22.7s						
HHC	Hu-ho-hao-te	165.31	357	*e*PKP	PKPdf	15 59 29.9	+0.5
HHC				PP	PP	16 04 15.1	+2.4
HHC				AMB	AMB		
	comp=Z,150nm,9.4s						
HHC				LR	LR		
	comp=Z,280nm,20.7s						
HHC				LR	LR		
	comp=Z,160nm,19.6s						
HHC				LR	LR		
	comp=Z,230nm,20.7s						
CMAR	Chiang Mai Arr	166.76	123	PKP	PKPdf	15 59 31.6	+0.5
	comp=Z,1.7nm,0.9s,baz=254,slow=2.3,SNR=12						
CMAR				PKPab	PKPab	16 00 32.9	-1.1
	comp=Z,1.1nm,0.9s,baz=245,slow=4.3,SNR=5.4						
LAMP	Lampang	167.31	124	PKP	PKPdf	15 59 33.0	+1.5
LZH	Lanzhou	168.51	29	*e*PKP	PKPdf	15 59 31.0	-1.0
LZH				pPKP	sPKPdf	15 59 36.1	-1.6
LZH				sPKP		15 59 37.8	
LZH				LR	LR		
	comp=Z,260nm,17.4s						
LZH				LR	LR		
	comp=Z,260nm,18.0s						
LZH				LR	LR		
	comp=Z,340nm,20.1s						
NJ2	Nanjing	170.71	311	*e*PKP	PKPdf	15 59 31.8	-1.4
CD2	Chengdu	172.31	50	PKP	PKPdf	15 59 31.8	-2.3
KMI	Kunming	172.81	96	PKP	PKPdf	15 59 32.2	-2.5
KMI				LR	LR		
	comp=Z,190nm,16.4s						
KMI				LR	LR		
	comp=Z,220nm,17.2s						
KMI				LR	LR		
	comp=Z,280nm,20.5s						
QIZ	Qiongzhong	172.88	174	PKP	PKPdf	15 59 33.0	-1.6
QIZ				PP	PP	16 04 54.2	+3.3
QIZ				SS	SS	16 26 05.3	+1.8
QIZ				LR	LR		
	comp=Z,130nm,18.1s						
QIZ				LR	LR		
	comp=Z,160nm,20.6s						
QIZ				LR	LR		
	comp=Z,250nm,22.6s						
WHN	Wuhan	174.53	324	PKP	PKPdf	15 59 35.4	+0.5
WHN				PKPab	PKPab	16 01 08.2	+0.3
WHN				PP	PP	16 04 59.2	-0.4
WHN				LR	LR		
	comp=Z,840nm,31.7s						

IDC 11 15:45:25.5±4.7, 15°.75S×176°.05W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.7/29, mbtmp4.3/3, Error ellipse: s-maj=158.7km s-min=93.0km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.65	240	P	P	15 53 15.7	-0.2
	1.4nm,0.5s,baz=97,slow=11,SNR=8.5						
WRA	Warramunga Arr	47.27	257	P	P	15 54 01.1	+0.1
	1.0nm,0.5s,baz=92,slow=7.7,SNR=49						
ASAR	Alice Springs	47.57	252	P	P	15 54 03.1	-0.2
	8.3nm,0.6s,baz=89,slow=7.8,SNR=228						
ASAR				PcP	PcP	15 55 33.1	-0.3
	0.2nm,0.6s,baz=98,slow=5.7,SNR=2.9						

ARO 11 15:50:46.2, 16°N±55°×4°2E±10°0, h15km±99km, MI3.8, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	Malaho	3.51	173	*e*P	Pn	15 51 41.2	+0.9
OBO	Obock	3.87	158	*e*P	Pn	15 51 46.1	+0.9
TDD	Tadjoura Ara	3.92	164	*e*P	Pn	15 51 46.6	+0.6
KSDD	Koussour	4.09	171	*e*P	Pn	15 51 48.9	+0.7
ATD	Arta Tunnel	4.17	166	*e*P	Pn	15 51 50.6	+1.2
ATD	Arta Tunnel	4.17	166	*e*P	Pn	15 51 50.6	+1.2
ATD				*e*S	Sn	15 52 43.2	+5.3
SGH	Sud-Ghoubbet	4.21	169	*e*P	Pn	15 51 51.3	+1.3
ATA	Atar	4.34	162	*e*P	Pn	15 51 53.2	+1.6

*UCR **11** 16:19:15.2±3.2, 11°.34N×87°.58W, h6km±26km, MD4.3, ML3.5*
*IDC **11** 16:19:17.0±1.4, 12°.36N×86°.67W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/40, mbtmp3.6/5, ML3.0/2, Error ellipse: s-maj=50.1km s-min=19.3km az=42.0*
*SNET **11** 16:19:21.4±1.1, 11°.83N×87°.46W, h14km±10km, ML3.3*

ISC 11 16:19:19.5±2.3, 11°.64N±0°.09×87°.38W±0°.08, h25km±16km, n28, σ1§30/32, mb3.4/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.94	55	*e*P	Pn	16 19 38.4	+1.3
COPN	Copaltepe	0.94	55	*e*P	Pn	16 19 38.3	+1.2
CNGN	Cerro Negro	1.09	38	*e*P	Pb	16 19 39.4	-0.3
CNGN	Cerro Negro	1.09	38	*e*P	Pb	16 19 39.1	-0.6
TELN	Telica	1.10	29	*e*P	Pb	16 19 40.9	+0.9
CRIN	San Cristobal	1.11	17	*e*P	Pb	16 19 40.9	+0.8
CRIN				*e*S	Sb	16 20 02.4	+8.4
CRIN				IAML		16 20 04.2	
	comp=N,840nm,0.4s						
MOMN	Momotombo	1.12	47	*e*P	Pb	16 19 40.4	+0.1
MOMN	Momotombo	1.12	47	*e*P	Pb	16 19 40.3	-0.1
CNCH	Conchagua	1.69	345	*e*P	Pn	16 19 47.6	+0.1
CNCH	Conchagua	1.69	345	*e*P	Pn	16 19 48.4	+0.8
CNCH				*e*S	Sn	16 20 07.7	-0.8
CONN	Concepcion	1.72	92	*e*P	Pn	16 19 48.0	+0.2
LCND	La Caada	1.74	343	*e*P	Pn	16 19 48.5	+0.4
LCND				IAML		16 20 19.8	
	comp=Z,429nm,0.4s						
MATN	Matagalpa	1.92	48	*e*P	Pb	16 19 51.8	-2.0
MATN				*e*S	Sb	16 20 23.9	+6.4
TECA	Tecapa	2.15	329	*e*P	Pn	16 19 53.9	0.0
TECA				*e*S	Sn	16 20 20.5	+0.6
ACON	Acoyapa	2.18	81	*e*P	Pn	16 19 55.4	+1.1
COLC	Colonia	2.34	114	*i* S	Sn	16 20 24.4	-0.1
CUI	Cuipilapa	2.38	114	*i* P	Pn	16 19 58.2	+1.2
CUI				*i* S	Sn	16 20 26.2	+0.7
TGUH	Tegucigalpa,Un	2.41	2	*e*P	Pn	16 19 58.9	+1.5
TGUH	Tegucigalpa,Un	2.41	2	*e*P	Pn	16 19 57.3	0.0
ACAL	Aguas Claras	2.51	113	*i* P	Pn	16 20 00.1	+1.4
ACAL				*i* S	Sn	16 20 29.4	+0.9
VICT	Victoria	2.62	332	*e*P	Pn	16 20 00.3	0.0
JTS	Las Juntas de	2.73	119	Pn	Pn	16 20 02.0	+0.2
	comp=Z,1.2nm,0.3s,baz=24,slow=19,SNR=4.2						
JTS				Sn	Sn	16 20 33.3	-0.8
	comp=Z,15nm,0.3s,baz=25,slow=17,SNR=13						
CMIG	Matias Romero	9.07	308	Pn	Pn	16 21 30.2	+1.3
	comp=Z,0.4nm,0.3s,baz=135,slow=11,SNR=3.5						
SJG	San Juan	21.49	70	P	P	16 23 57.7	-8.9
	comp=Z,6.3nm,0.3s,baz=336,slow=10.0,SNR=7.1						
TXAR	Lajitas Array	23.25	322	P	P	16 24 25.9	+0.7
	comp=Z,0.9nm,0.7s,baz=138,slow=10.0,SNR=10						
PDAR	Pinedale Array	36.52	332	P	P	16 26 21.2	-2.0
	comp=Z,0.2nm,0.4s,baz=118,slow=7.4,SNR=2.7						
YKA	Yellowknife Ar	54.41	345	P	P	16 28 42.1	-2.1
	comp=Z,0.2nm,0.6s,baz=143,slow=6.7,SNR=3.2						
CMAR	Chiang Mai Arr	149.46	348	PKPbc	PKPdf	16 39 07.2	+4.1
	comp=Z,0.4nm,0.4s,baz=349,slow=2.8,SNR=4.0						

*IDC **11** 16:20:26.7±1.3, 26°.04S×69°.56W, h0km, mb3.6/1, mb1 3.6/2, mb1mx3.3/32, mbtmp3.6/2, ML3.3/1, Error ellipse: s-maj=62.7km s-min=32.4km az=95.0*

ISC 11 16:20:31.7±1.4, 26°.15±0°.1×69°.7W±0°.5, h35km, n6, σ1§28/7, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFA	Coronel Fontan	5.62	167	Pn	Pn	16 21 52.1	-0.7
	1.0nm,0.3s,baz=352,slow=11,SNR=9.1						
CFA				Sn	Sn	16 22 56.7	+0.6
	0.6nm,0.3s,baz=140,slow=4.4,SNR=3.9						
TORD	Torodi Ar. Bea	79.59	70	P	P	16 32 36.2	+0.5
	0.2nm,0.4s,baz=246,slow=7.8,SNR=2.9						
ASAR	Alice Springs	125.50	207	PKP	PKPdf	16 39 29.4	-0.4
	1.3nm,1.2s,baz=124,slow=1.1,SNR=4.7						
WRA	Warramunga Arr	128.62	209	PKP	PKiKP	16 39 38.5	+1.9
	1.3nm,1.1s,baz=150,slow=1.8,SNR=3.4						
ZALV	Zalesovo Beam	146.39	27	PKPbc	PKPdf	16 40 06.1	-1.2
	0.6nm,0.5s,baz=345,slow=4.5,SNR=3.7						
MKAR	Makanchi Array	149.70	40	PKPbc	PKPbc	16 40 17.2	-0.5
	0.5nm,0.7s,baz=306,slow=3.2,SNR=4.0						

MEX 11 16:55:26.7±0.5, 14°.78N×92°.70W, h79km±6km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.44	73	*e*P	Pn	16 55 38.2	-1.6
THIG				*e*S	Sn	16 55 48.2	-1.3
PCIG		1.05	331	*e*P	Pn	16 55 45.0	-1.2
PCIG				*e*S	Sn	16 55 59.0	-1.9
CCIG	Comitan	1.59	20	*e*P	Pn	16 55 52.2	-1.1
CCIG				*i* S	Sn	16 56 11.9	-1.5

*IDC **11** 16:56:58.7±0.3, 13°.90N×144°.85E, h179km±2km, mb3.5/16, mb1 3.7/16, mb1mx3.5/37, mbtmp4.0/16, Error ellipse: s-maj=18.1km s-min=10.9km az=87.0*
*ISCJB **11** 16:56:59.7±0.4, 13°.91N±0°.05×144°.67E±0°.09, h200km, mb3.9/26, Error ellipse: s-maj=12.7km s-min=7.0km az=4.7*
*NEIC **11** 16:57:00.1±0.7, 14°.01N×144°.40E, h185km±8km, mb4.5/11, Error ellipse: s-maj=17.1km s-min=10.1km az=101.0*

ISC 11 16:57:00.9±0.5, 13°.89N±0°.07×144°.6E±0°.1, h200km, n35, σ1§85/36, mb4.0/26, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.40	138	*e*Pn	Pn	16 57 24.0	-3.6
GUMO	Guam	0.40	138	P	Pn	16 57 24.2	-3.5
	212nm,0.3s,baz=296,slow=5.8,SNR=141						
GUMO				S	Sn	16 57 42.4	-6.0
	412nm,0.3s,baz=110,slow=22,SNR=45						
ANA2	Anatahan	2.67	24	*e*Pn	Pn	16 57 45.4	-1.2
SARN	Sarigan	3.02	22	*e*Pn	Pn	16 57 50.1	-0.7
PATS	Pohnpei	15.20	116	*e*Pn	P	17 00 30.0	+3.9
	94nm,0.3s						
RABL	Rabaul	19.47	157	*e*P	P	17 01 14.9	+2.2
	18nm,0.6s						
JOW	Kunigami	19.96	313	P	Pn	17 01 20.5	-1.8
	1.0nm,0.4s,baz=122,slow=13,SNR=5.5						
FAKI	Fak Fak	20.71	217	*e*P	P	17 01 27.6	+1.6
	23nm,0.9s						
JNU	Nakatsue	22.86	329	P	P	17 01 47.9	+0.9
	7.0nm,0.9s,baz=64,slow=5.5,SNR=6.3						
MJAR	Matsushiro Arr	23.27	347	P	P	17 01 50.0	-0.7
	5.6nm,0.8s,baz=172,slow=12,SNR=14						
MAJO	Matsushiro	23.27	347	*e*P	P	17 01 50.4	-0.2
	15nm,0.8s						
MJB9	Matsu-Tunnel	23.28	347	*e*P	P	17 01 50.5	-0.1
	15nm,0.8s						
KSRS	Korea Array	27.77	331	P	P	17 02 31.6	+0.5
	1.5nm,0.9s,baz=147,slow=8.7,SNR=4.4						
WRAB	Tennant Creek	35.09	197	*e*P	P	17 03 36.3	+1.1
	5.7nm,0.7s						
WB2	Warramunga Arr	35.10	197	*e*P	P	17 03 36.4	+1.1
	5.4nm,0.8s						
WRA	Warramunga Arr	35.10	197	P	P	17 03 35.6	+0.3
	4.1nm,0.8s,baz=18,slow=9.8,SNR=39						
KSM	Kuching	36.08	253	*e*P	P	17 03 43.0	-0.8
	5.0nm,1.1s						
KLR	Kul'dur	36.79	346	P	P	17 03 49.6	+0.3
	1.3nm,0.5s,baz=180,slow=8.1,SNR=7.3						
FITZ	Fitzroy Crossi	36.87	211	*e*P	P	17 03 51.1	+0.7
	7.2nm,1.0s						
ASAR	Alice Springs	38.76	196	P	P	17 04 06.2	+0.1
	0.8nm,0.8s,baz=4.4,slow=12,SNR=15						
DZM	Mont Dzumac	41.67	149	P	P	17 04 31.4	+1.3
	3.9nm,0.5s,baz=285,slow=3.7,SNR=7.4						
CMAR	Chiang Mai Arr	43.99	282	P	P	17 04 50.5	+1.7
	0.6nm,0.7s,baz=95,slow=6.2,SNR=7.4						
STKA	Stephens Creek	45.60	184	P	P	17 05 00.1	-1.0
	1.6nm,0.6s,baz=348,slow=10,SNR=5.2						
SONM	Songino Array	46.33	325	P	P	17 05 08.0	+1.1
	0.5nm,0.5s,baz=134,slow=4.3,SNR=3.7						
SEY	Seymchan	49.29	5	P	P	17 05 29.1	-0.1
	1.0nm,0.4s,baz=240,slow=5.0,SNR=4.2						
MKAR	Makanchi Array	61.09	316	P	P	17 06 55.2	+1.4
	0.9nm,0.7s,baz=93,slow=7.8,SNR=6.3						
KNK	Knik Glacier	66.92	29	*e*P	P	17 07 30.4	-1.1
	3.3nm,0.6s						
SML	Sawmill	67.07	28	*e*P	P	17 07 32.1	-0.3
	8.0nm,0.6s						
ILAR	Eielson Array	68.41	25	P	P	17 07 38.2	-2.5
	0.8nm,0.5s,baz=248,slow=5.7,SNR=12						
YKA	Yellowknife Ar	82.72	27	P	P	17 09 01.0	-1.0
	0.3nm,0.5s,baz=285,slow=5.1,SNR=5.8						
NVAR	Mina Array Bea	86.94	51	P	P	17 09 24.7	+0.8
	1.4nm,0.6s,baz=268,slow=6.3,SNR=14						
TPNV	Topopah Spring	88.92	52	*e*P	P	17 09 34.0	+0.9
	3.5nm,0.8s						
FINES	FINESS Array B	90.78	335	P	P	17 09 40.7	-0.4
	0.4nm,0.4s,baz=68,slow=3.0,SNR=7.9						
PDAR	Pinedale Array	91.94	45	P	P	17 09 47.1	-0.1
	0.3nm,0.6s,baz=258,slow=4.4,SNR=3.3						
LPAZ	La Paz	148.33	99	PKPbc	PKiKP	17 16 26.2	-0.5
	0.9nm,0.5s,baz=238,slow=2.8,SNR=4.7						

MAN 11 17:29:22.2, 11°.97N×124°.96E, h23km, mb4.1, ML2.9, MS2.5, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.59	128	*e*P	Pb	17 29 34.5	+0.5
BESP				*e*S	Sn	17 29 44.4	+0.2
CNP	Catarman	0.61	332	*e*P	Pb	17 29 32.7	-1.6
CNP				*e*S	Sb	17 29 41.5	-1.0
PLP	Palo	0.80	179	⇓*e*P	Pn	17 29 39.9	+1.8
PLP				*e*S	Sn	17 29 52.4	+3.1
PVCP	Virac	1.80	334	*e*P	Pn	17 29 52.1	+0.2
MSLP	Maasin	1.83	183	*e*P	Pb	17 29 57.1	+2.1
MSLP				*e*S	Sb	17 30 20.1	+2.7

MAN 11 17:39:07.3, 13°.57N×120°.27E, h32km, mb3.5, ML2.2, MS1.6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.16	353	*e*P	Pn	17 39 14.8	+1.2
LUBP				*e*S	Sb	17 39 19.9	+2.3
PGP	Puerto Galera	0.67	96	⇓*e*P	Pb	17 39 20.9	+0.2
PGP				*i* S	Sn	17 39 31.1	+1.0
SJMP	San Jose	1.38	143	*e*P	Pn	17 39 30.3	-0.1
SJMP				*e*S	Sn	17 39 48.1	+0.5

KRSC 11 18:04:44.4±10.0, 51°.01N×158°.12E, h42km±10km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	0.80	358	*e*P	Pn	18 05 00.3	+1.0
KDTR				*e*S	Sn	18 05 11.4	+1.4
PAU	Pauzhetka	0.94	300	*e*P	Pn	18 05 02.6	+1.5
PAU				*e*S	Sn	18 05 15.7	+2.3
SKR	Severo-Kuril's	1.31	256	*e*P	Pn	18 05 07.5	+1.3
SKR				*e*S	Sn	18 05 24.2	+1.8
ASAK	Asacha	1.38	355	*e*P	Pn	18 05 08.8	+1.5
RUS	Russkaya	1.45	10	*e*P	Pn	18 05 09.1	+1.0
RUS				*e*S	Sn	18 05 27.0	+1.1
MTVR	Mutnovka	1.48	2	*e*P	Pn	18 05 10.1	+1.4
MTVR				*e*S	Sn	18 05 28.6	+1.8
KRMR	Karymshinskiy	1.82	0	*e*P	Pn	18 05 15.6	+2.3
KRMR				*e*S	Sn	18 05 38.5	+3.4
APC	Apacha	2.01	343	*e*P	Pn	18 05 18.4	+2.6
PET	Petropavlovsk	2.04	9	*e*P	Pn	18 05 18.1	+1.8
PET				*e*S	Sn	18 05 42.8	+2.2
DALK	Dalny	2.06	11	*e*P	Pn	18 05 18.1	+1.6
DALK				*e*S	Sn	18 05 42.8	+1.8
UGLR	Uglovaya	2.25	11	*e*P	Pn	18 05 22.5	+3.3
AVH	Avacha	2.29	9	*e*P	Pn	18 05 23.1	+3.3
SMAR	Somma	2.30	10	*e*P	Pn	18 05 22.6	+2.6
KOK	Koryaka	2.31	8	*e*P	Pn	18 05 22.8	+2.8
KRER	Koryakskii	2.33	9	*e*P	Pn	18 05 24.1	+3.7
KRX	Arik	2.38	8	*e*P	Pn	18 05 23.5	+2.5

*IDC **11** 18:06:10.9±0.6, 26°.71N×57°.93E, h0km, mb4.1/30, mb1 4.3/32, mb1mx4.2/54, mbtmp4.2/32, ML4.2/2, MS3.9/29, Ms1 3.9/29, ms1mx3.7/48, Error ellipse: s-maj=13.9km s-min=11.5km az=171.0*
*ISCJB **11** 18:06:10.9±0.1, 26°.65N±0°.02×57°.92E±0°.02, h10km, mb4.5/160, MS4.0/45, Error ellipse: s-maj=2.6km s-min=2.3km az=0.3*
*OMAN **11** 18:06:11.4±0.5, 26°.54N×57°.98E, h1km±17km, ml4.6/15, ms3.8/1, Error ellipse: s-maj=35.4km s-min=5.9km az=19.0*
*DSN **11** 18:06:12.2±2.9, 26°.47N×58°.09E, h10km, ML4.7/10, Error ellipse: s-maj=39.1km s-min=12.1km az=14.0*
*GCMT **11** 18:06:12.9±0.4, 26°.47N±0°.02×57°.80E±0°.02, h17km±2km, MW4.8/70, Moment Tensor Solution. s11,c12; s70,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.28±.09; $M_{\theta\theta}$=-1.05±.08; $M_{\phi\phi}$=1.33±.08; $M_{r\theta}$=0.11±.20; $M_{\theta\phi}$=1.28±.08; $M_{r\phi}$=0.30±.20; Best double couple: M_0=1.77000×10^{16} NP1:ϕ_s=338.00000°, δ85.00000°, λ174.00000°. NP2: ϕ_s=69.00000°, δ84.00000°, λ5.00000°. Principal axes: T 1.9330, Plg8.0000°, Azm294.0000°; N -0.3250, Plg82.0000°, Azm119.0000°; P -1.6080, Plg1.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*TEH **11** 18:06:13.8, 26°.59N×57°.67E, h5km, ML4.7*
*NEIC **11** 18:06:13.9±2.2, 26°.60N×57°.93E, h25km±4km, mb4.7/106, MN4.6(TEH), Error ellipse: s-maj=11.9km s-min=8.9km az=157.0*
*MOS **11** 18:06:14.0±1.5, 26°.86N×58°.06E, h22km, mb4.7/61, Error ellipse: s-maj=6.4km s-min=4.1km az=111.9*
*BJI **11** 18:06:18.2±0.0, 26°.61N×58°.53E, h25km, mb4.6/27, mB4.8/19, Ms4.4/24, Ms7 4.2/24*

ISC 11 18:06:12.2±0.3, 26°.65N±0°.03×57°.91E±0°.03, h10km, n443, σ2§02/441, mb4.7/163, MS3.9/47, 35C-11D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.32	314	*e*Pg	Pg	18 06 37.5	-0.1
NIAN				IAMB	IAmb	18 07 03.1	
	comp=Z,0.0nm,0.5s						
SHME	Shamm	1.69	250	*e*P	Pb	18 06 42.7	-0.8
	SNR=153						
SHME				S	Sg	18 07 06.9	+0.3
SHME	Shamm	1.69	250	*e*Pn	Pn	18 06 41.2	-0.7
GENO	Geno	1.72	296	*e*Pn	Pb	18 06 43.3	-0.7
GENO				IAMB	IAmb	18 07 18.7	
	comp=Z,0.0nm,0.6s						
BNDS	Bandar-Abbas	1.72	296	*e*Pg	Pn	18 06 39.9	-2.5
MSFE	Esma-Masafi	2.03	231	*e*P	Pn	18 06 45.5	-1.0
	SNR=12						
MSFE	Esma-Masafi	2.03	231	*e*Pn	Pn	18 06 45.6	-0.9
UMQ	Umm Al-Quwin	2.31	242	*e*P	Pn	18 06 51.4	+1.2
	SNR=24						
UMQ	Umm Al-Quwin	2.31	242	*e*Pn	Pb	18 06 53.4	-0.5
HATD	Hatta, Dubai	2.42	222	*e*P	Pn	18 06 50.5	-1.4
	SNR=83						
HATD	Hatta, Dubai	2.42	222	P	Pn	18 06 50.6	-1.2
	SNR=36						
HATD				S	Sn	18 07 23.0	+1.5
HATD	Hatta, Dubai	2.42	222	*e*Pn	Pn	18 06 49.8	-2.0
ASHO	Ashiyiah	2.57	221	*e*P	Pn	18 06 52.6	-1.3
	SNR=19						
ASHO	Ashiyiah	2.57	221	P	Pn	18 06 54.1	+0.2
	SNR=19						
ASHO	Ashiyiah	2.57	221	*e*Pn	Pn	18 06 54.2	+0.2
NAZ	Nazwa, Dubai	2.61	231	*e*P	Pn	18 06 55.3	+0.8
	SNR=96						
NAZ	Nazwa, Dubai	2.61	231	P	Pn	18 06 56.0	+1.5
	SNR=80						
NAZ	Nazwa, Dubai	2.61	231	*e*Pn	Pb	18 06 56.8	-2.3
SOHO	SOHO	2.79	207	P	Pn	18 06 55.5	-1.4
	SNR=41						
FAQ	Al Faqa, Dubai	2.82	228	*e*P	Pn	18 06 57.8	+0.5
	SNR=65						
FAQ	Al Faqa, Dubai	2.82	228	P	Pn	18 06 59.4	+2.1
	SNR=47						
FAQ	Al Faqa, Dubai	2.82	228	*e*Pn	Pn	18 06 59.2	+1.9
ASUD	Al Ashush, Dub	3.08	230	*i* P	Pn	18 07 02.8	+1.9
	SNR=20						
ASUD	Al Ashush, Dub	3.08	230	P	Pn	18 07 03.1	+2.3
	SNR=20						
ASUD				S	Sg	18 07 48.9	-2.2
ASUD	Al Ashush, Dub	3.08	230	*e*Pn	Pn	18 07 03.2	+2.3
HOQ	Hoqain	3.10	190	P	Pn	18 07 00.6	-0.5
	SNR=18						
HOQ	Hoqain	3.10	190	*e*Pn	Pn	18 07 00.4	-0.8
BIDO	Bidbid	3.12	176	P	Pn	18 07 00.9	-0.5
	SNR=32						
BIDO	Bidbid	3.12	176	*e*Pn	Pn	18 07 00.9	-0.5
NGRK	Negar Kerman	3.16	341	*e*Pn	Pn	18 07 03.9	+1.5
NGRK				IAMB	IAmb	18 08 05.5	
	comp=Z,0.0nm,0.6s						
CHMN	Cheshme madani	3.22	354	IAMB	IAmb	18 07 13.7	
	comp=Z,0.0nm,0.7s						
CHMN				*e*Pn	Pn	18 07 05.4	+2.2
ALNE	Al Ain	3.23	218	*i* P	Pn	18 07 03.0	-0.1
	SNR=52						
ALNE	Al Ain	3.23	218	*e*Pn	Pn	18 07

IKAZ Kazeroun 6.20 302 *e*Pn **Pn 18 07 43.9 -0.2**
ITEG Tejag 6.27 6 *e*Pn **Pn 18 07 46.7 +1.7**
IDAH Dahanechah 6.31 15 *e*Pn **Pn 18 07 49.8 +4.3**
ICHK Chekchek 6.36 332 *e*Pn **Pn 18 07 47.7 +1.5**
ISAD Sadrabad 6.42 326 *e*Pn **Pn 18 07 48.2 +1.2**
ISAD Sadrabad 6.42 326 *e*Pn **Pn 18 07 48.7 +1.7**
TPRV Parvadeh(Tabas 6.45 351 *e*Pn **Pn 18 07 49.3 +2.0**
DQM DQM 6.69 183 P **Pn 18 07 50.2 -0.4**
DQM S **Sn 18 09 03.5 -3.4**
TKDS Koohdasht(Taba 6.98 355 *e*Pn **Pn 18 07 57.0 +2.4**
IRAM Ramesheh 7.06 318 *e*Pn **Pn 18 07 55.8 0.0**
ANAR Anarak 7.46 332 *e*Pn **Pn 18 08 01.9 +0.7**
IGAR Gharneh 7.68 320 *e*Pn **Pn 18 08 04.7 +0.3**
IZEF Zefreh 7.89 320 *e*Pn **Pn 18 08 07.4 +0.1**
IPIR Pirpir 8.57 316 *e*Pn **Pn 18 08 16.9 +0.3**
IKLH Kolahrood 8.62 322 *e*Pn **Pn 18 08 17.9 +0.6**
DMTO DMTO 9.30 198 P **Pn 18 08 25.1 -1.3**
DMTO S **Sn 18 10 07.5 -3.6**
IANJ Anjilo 9.44 340 *e*Pn **Pn 18 08 30.6 +2.2**
IMOG Moghan 9.51 7 *e*Pn **Pn 18 08 33.9 +4.4**
SBZV Sabzevar 9.72 359 *e*Pn **Pn 18 08 34.6 +2.4**
IPAY Payeh 9.82 5 *e*Pn **Pn 18 08 36.1 +2.5**
IMYA Miami 9.85 10 *e*Pn Pn 18 08 40.4 +6.4
IVRN Varamin 9.87 329 *e*Pn **Pn 18 08 34.9 +0.7**
ISHM Shahmirzad 9.95 338 *e*Pn **Pn 18 08 38.4 +2.9**
IAKL Akhelmad 9.95 4 *e*Pn **Pn 18 08 38.4 +2.9**
IKRD Kardeh 10.11 3 *e*Pn Pn 18 08 45.5 +7.8
ABTO Aybut 10.19 206 P **Pn 18 08 37.0 -1.6**
IKIA Kiasar 10.19 340 *e*Pn **Pn 18 08 42.3 +3.5**
ISFR Sfrayin 10.38 0 *e*Pn **Pn 18 08 43.8 +2.4**
IKMR Kamar-syah 10.72 312 *e*Pn **Pn 18 08 44.9 -0.9**
IEMG Emamgholi 10.76 3 *e*Pn **Pn 18 08 49.2 +2.6**
IDOB Doab 11.02 313 *e*Pn **Pn 18 08 48.7 -1.4**
IKFM Kafar-mosalman 11.08 311 *e*Pn **Pn 18 08 49.5 -1.2**
GEYT Alibeck 11.25 1 Pn **Pn 18 08 56.7 +3.6**
comp=Z,0.5nm,0.3s,baz=167,slow=14,SNR=13
GEYT Lg Lg 18 11 57.8
comp=Z,0.5nm,0.3s,baz=327,slow=45,SNR=3.4
GYA0B ALIBECK ARRAY 11.25 1 *e*Pn **Pn 18 08 54.3 +1.2**
QABG Abgarm-Qazvin 11.50 324 *e*Pn **Pn 18 08 57.6 +0.9**
IKOM Komasi 11.69 312 *e*Pn **Pn 18 08 57.7 -1.6**
IVIS Veis 12.34 312 *e*Pn **Pn 18 09 05.5 -2.6**
KBL Kabul 12.40 48 *e*Pn **Pn 18 09 10.7 +1.8**
KBL Kabul 12.40 48 *e*P **Pn 18 09 10.7 +1.8**
KBL Kabul 12.40 48 *e*Pn Pn 18 09 16.0 +7.0
IDHR Dehrash 12.75 312 *e*Pn **Pn 18 09 11.8 -2.0**
THW Thamme Wali 13.49 60 P **Pn 18 09 22.9 -0.8**
CEP Cherat 14.05 56 P **Pn 18 09 32.2 +0.8**
NIL Nilore 14.99 59 *e*Pn **Pn 18 09 43.3 -0.9**
comp=Z,131nm,1.4s
NIL Nilore 14.99 59 *e*P **Pn 18 09 43.3 -0.9**
NIL pmax pmax
comp=Z,131nm,1.4s
CHCP Chirah Chowk 15.00 59 P **Pn 18 09 44.3 0.0**
CHGR Chuyangaron 15.25 35 *e*Pn **Pn 18 09 46.0 -1.7**
comp=Z,33nm,1.1s
GAR Garm 16.12 37 *e*Pn **Pn 18 09 59.1 +0.1**
comp=Z,29nm,0.9s
GAR Garm 16.12 37 *e*P **Pn 18 09 59.1 +0.1**
GAR pmax pmax
comp=Z,29nm,0.9s
AKT Akhty 17.01 333⇑*e*P **Pn 18 10 09.6 -0.7**
BTK Batken 17.16 36 *e*Pn **Pn 18 10 10.9 -1.2**
BTK Batken 17.16 36 *e*P **Pn 18 10 10.9 -1.2**
GNI Garni 17.36 324 *e*Pn **P 18 10 17.3 +1.2**
comp=Z,26nm,1.0s
GNI Garni 17.36 324⇑*e*P **Pn 18 10 12.7 -2.0**
GNI Garni 17.36 324 P **P 18 10 18.5 +2.4**
comp=Z,0.6nm,0.3s,baz=211,slow=18,SNR=3.3
GNI LR LR 18 18 09.0
comp=Z,390nm,19.4s,baz=113,slow=42
DAMY Dhamar 17.43 229 *e*Pn **Pn 18 10 14.4 -1.5**
comp=Z,48nm,0.8s
TBLG Delisi 18.54 328 *e*P **P 18 10 29.0 0.0**
comp=Z,8.6nm,0.8s
TBLG Delisi 18.54 328 *e*P **P 18 10 29.0 0.0**
TBLG pmax pmax
comp=Z,9.0nm,0.8s
AKH Akhalkalaki 18.93 325 *e*P **P 18 10 32.9 -0.5**
comp=Z,44nm,1.9s
AKH Akhalkalaki 18.93 325⇑*i*P **Pn 18 10 40.7 +6.8**
AKH Akhalkalaki 18.93 325 *e*P **P 18 10 32.9 -0.5**
AKH pmax pmax
comp=Z,44nm,1.9s
ASF Jabal al Asfar 19.11 292 P **P 18 10 35.1 -0.2**
comp=Z,23nm,0.8s
ASF Jabal al Asfar 19.11 292 P **P 18 10 34.8 -0.5**
comp=Z,0.5nm,0.3s,baz=73,slow=5.9,SNR=8.5
ASF S Sn 18 13 59.0 -11
comp=Z,0.3nm,0.3s,baz=253,slow=19,SNR=4.2
ASF LR LR 18 19 43.2
comp=Z,118nm,18.7s,baz=62,slow=42
ARSB Arslanbob 19.21 37 *e*P **Pn 18 10 37.6 +0.3**
comp=Z,48nm,1.2s
GROC Groznyy 19.24 332 *e*P **P 18 10 32.3 -4.3**
GROC *e*S **Sn 18 14 08.6 -4.6**
GROC pmax pmax
comp=Z,7.0nm,0.7s
KK31 Karatay Array 19.36 29 *e*P **P 18 10 38.1 +0.1**
comp=Z,27nm,1.0s
KK31 Karatay Array 19.36 29 *e*P **P 18 10 38.1 +0.1**
KK31 pmax pmax
comp=Z,27nm,1.0s
KKAR Karatay Array 19.36 29 *e*P **P 18 10 38.2 +0.2**
KKAR *e*P **P 18 10 38.2 +0.2**
KKAR Karatay Array 19.36 29 *e*P **P 18 10 38.2 +0.2**
SWQJ Swaqa 19.66 289 P **Pn 18 10 43.5 +0.8**
comp=Z,147nm,0.8s
ZEI Tsey 19.75 328 *e*P **Pn 18 10 43.7 -0.2**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
KSH Kashi 19.80 45 P **P 18 10 41.1 -1.8**
KSH pP sP 18 10 46.6 -0.9
KSH PP **PnPn 18 10 59.2 +1.0**
KSH S S 18 14 12.0 -14
KSH SS **Sn 18 14 37.4 +10**
KSH pmax pmax
comp=Z,42nm,0.5s
KSH LR LR
comp=Z,420nm,12.1s
KSH LR LR
comp=Z,470nm,9.2s
KSH LR LR
comp=Z,550nm,14.3s
WALJ Wala 19.91 289 P **Pn 18 10 46.5 +0.9**
comp=Z,99nm,0.8s
JDRJ Daraweish 19.93 287 P **P 18 10 43.9 -0.5**
BCA Borcka 19.95 322⇑*i*P **Pn 18 10 52.6 +6.5**
KARJ 19.98 288 P Pn 18 10 49.3 +2.8
comp=Z,95nm,0.7s
BATM Batumi 20.02 322⇑*i*P Pn 18 10 53.4 +6.5
GHAJ Ghor Haditha 20.08 289 P **P 18 10 44.7 -1.1**
comp=Z,36nm,0.7s
AML Almayashu 20.15 36 P **P 18 10 46.7 -0.3**
SNR=10
SHMJ Saham 20.16 293 P Pn 18 10 48.7 +0.1
comp=Z,100nm,0.7s
AQBJ Aqaba 20.38 284 P Pn 18 10 52.8 +1.6
comp=Z,112nm,0.8s
NCK Nalchik 20.44 329⇑*e*P **P 18 10 49.6 -0.1**
NCK pmax pmax
comp=Z,4.0nm,1.1s
EIL Elat 20.46 284 P **P 18 10 49.6 -0.4**
comp=Z,26nm,0.8s,baz=64,slow=2.2,SNR=14
EIL LR LR 18 20 29.8
comp=Z,497nm,20.9s,baz=104,slow=42
MMAI Mount Meron Ar 20.51 293 P Pn 18 10 51.8 -1.0
comp=Z,15nm,0.7s,baz=98,slow=13,SNR=33
MMAI S **S 18 14 30.4 -10**
comp=Z,1.2nm,0.5s,baz=104,slow=22,SNR=2.7
MMAI LR LR 18 20 47.6
comp=Z,260nm,19.2s,baz=80,slow=43
EKS2 Erkin-Say 20.57 35 P Pn 18 10 55.1 +1.6
SNR=18
UCH Uchtor 20.66 37 P Pn 18 10 55.1 +0.3
SNR=6.4
NEY Neytrino 20.67 327⇑*e*P **P 18 10 50.5 -1.8**
ATD Arta Tunnel 20.67 226 *e*P Pn 18 10 55.1 +0.4
comp=Z,63nm,1.5s
ATD Arta Tunnel 20.67 226 P **P 18 10 52.4 0.0**
comp=Z,11nm,0.8s,baz=333,slow=9.8,SNR=6.2
ATD LR LR 18 19 19.7
comp=Z,287nm,21.7s,baz=50,slow=38
KTUT Trabzon 20.72 318⇓*i*P Pn 18 10 56.0 +0.9

AAK Ala-Archa 20.93 36 *e*P **P 18 10 55.1 -0.1**
comp=Z,20nm,0.8s
AAK Ala-Archa 20.93 36 *c e*P **P 18 10 54.6 -0.6**
AAK pmax pmax
comp=Z,52nm,2.5s
AAK Ala-Archa 20.93 36 P **P 18 10 55.4 +0.2**
comp=Z,5.9nm,0.8s,baz=139,slow=1.2,SNR=12
AAK LR LR 18 20 37.3
comp=Z,283nm,20.0s,baz=218,slow=42
KBZ Khabaz 20.94 328 P **P 18 10 56.0 +0.9**
comp=Z,1.1nm,0.7s,baz=113,slow=18,SNR=2.4
KZA Kyzart 20.96 38 P Pn 18 11 02.1 +3.8
SNR=35
NRN Naryn 20.97 41 *e*P **P 18 10 54.5 -1.3**
comp=Z,15nm,0.7s
NRN Naryn 20.97 41 *e*P **P 18 10 54.5 -1.3**
NRN pmax pmax
comp=Z,15nm,0.7s
FRU1 Bishkek 21.12 36 *e*P **P 18 10 57.1 0.0**
comp=Z,34nm,1.0s
FRU1 Bishkek 21.12 36 *e*P **P 18 10 57.1 0.0**
FRU1 pmax pmax
comp=Z,34nm,1.0s
KBK Karagaybulak 21.19 37 P **P 18 11 01.3 +3.4**
SNR=9.2
HYB Hyderabad 21.20 111 *i*P **P 18 10 59.0 +0.9**
KIV Kislovodsk 21.22 328 *e*P **P 18 10 57.4 -0.8**
comp=Z,15nm,0.9s
KIV Kislovodsk 21.22 328⇑*i*P **P 18 11 01.9 +3.7**
KIV Kislovodsk 21.22 328 *e*P **P 18 10 57.7 -0.5**
KIV pmax pmax
comp=Z,35nm,1.1s
KIV MLR MLR
comp=Z,340nm,14.0s
CHMS Chumysh 21.32 36 P **P 18 11 03.1 +3.9**
SNR=10
BOOM Boomskoye usch 21.62 38 *e*P **P 18 11 01.7 -0.9**
comp=Z,32nm,0.9s
BOOM Boomskoye usch 21.62 38 *e*P **P 18 11 01.7 -0.9**
BOOM pmax pmax
comp=Z,32nm,0.9s
TKM2 Tokmak 2 21.71 37 P **P 18 11 07.1 +3.4**
SNR=13
KDJ Kajisay 22.09 41 *e*P **P 18 11 07.5 -0.2**
comp=Z,40nm,0.8s
KDJ Kajisay 22.09 41 *e*P **P 18 11 07.5 -0.2**
KDJ pmax pmax
comp=Z,40nm,0.8s
TARG Taragay, Kyrgy 22.22 42 *e*P **P 18 11 08.8 -0.5**
comp=Z,13nm,0.9s
PYUN Piuthan 22.31 81 *e*P **P 18 11 11.3 +1.1**
comp=Z,65nm,1.1s
SOC Sochi 22.44 324 *e*P **P 18 11 07.4 -3.8**
SOC *e*S **S 18 15 10.9 -6.6**
SOC MLR MLR
comp=Z,444nm,16.0s
ABKAR Akbulak array 22.63 3 *e*P **P 18 11 11.0 -2.1**
comp=Z,18nm,0.8s
ABKAR *e*P **P 18 11 11.7 -1.4**
CSS Mathiatis 22.64 297 *e*P **P 18 11 13.1 -0.4**
comp=Z,29nm,0.8s
CSS Mathiatis 22.64 297 P **P 18 11 14.5 +1.1**
KOLN Koldanda 22.87 81 *e*P **P 18 11 16.8 +0.7**
comp=Z,35nm,1.1s
DANN Dangsing 22.98 80 *e*P **P 18 11 18.1 +0.7**
comp=Z,279nm,1.2s
PRZ Przheval'sk 23.03 41 *e*P **P 18 11 19.7 +2.1**
comp=Z,102nm,1.5s
PRZ Przheval'sk 23.03 41 *e*P **P 18 11 19.7 +2.1**
PRZ pmax pmax
comp=Z,102nm,1.5s
ERMK Ermenek 23.44 301 *i*P **P 18 11 19.0 -2.9**
AKTO Aktyubinsk 23.75 0 P **P 18 11 23.8 -0.8**
comp=Z,5.5nm,0.5s,baz=170,slow=9.1,SNR=16
AKTO LR LR 18 21 16.4
comp=Z,402nm,21.9s,baz=170,slow=38
DIKM Dikmen 23.89 315⇑*i*P **P 18 11 29.1 +3.1**
BR101 Keskin Array S 24.05 309 *e*sP sP 18 11 49.1 +17
BR131 Keskin Array S 24.05 309 *e*P **P 18 11 27.3 -0.4**
comp=Z,13nm,0.8s
BRTR Keskin Array B 24.05 309 *e*P **P 18 11 26.7 -1.0**
BRTR Keskin Array B 24.05 309 *e*P **P 18 11 26.7 -1.0**
BRTR Keskin Array B 24.05 309 P **P 18 11 27.5 -0.2**
comp=Z,5.3nm,0.7s,baz=125,slow=12,SNR=39
BRTR PP **PnPn 18 11 49.1 -7.3**
comp=Z,7.4nm,0.8s,baz=133,slow=11,SNR=7.5
BRTR LR LR 18 23 34.7
comp=Z,361nm,18.6s,baz=102,slow=44
SNOP Sinop 24.12 315 *e*P **P 18 11 28.3 +0.2**
comp=Z,29nm,1.0s
PDGK Podgornoye 24.17 41 P **P 18 11 32.0 +3.2**
PDGK pmax pmax
comp=Z,26nm,1.2s
OTUK Ortayu 24.34 24 P **P 18 11 33.8 +3.7**
OTUK pmax pmax
comp=Z,17nm,1.8s
KKN Kakani 24.35 81 *e*P **P 18 11 31.2 +0.5**
comp=Z,28nm,0.9s
PKIN Phulchoki 24.47 82 *e*P **P 18 11 31.8 0.0**
comp=Z,15nm,0.7s
ANN Anapa 24.47 323 *e*P **P 18 11 34.7 +3.4**
ANN *e*S **S 18 15 58.1 +6.7**
ANN pmax pmax
comp=Z,16nm,0.8s
ANN MLR MLR
comp=Z,357nm,17.0s
PKI Pulchoki 24.48 82 *e*P **P 18 11 32.0 0.0**
comp=Z,17nm,0.8s
ILGA Ilgaz 24.60 312 *e*P **P 18 11 32.4 -0.4**
comp=Z,13nm,1.0s
ANTO Ankara 24.70 309 *e*P **P 18 11 33.9 +0.3**
comp=Z,16nm,0.9s
BR231 Keskin MP Arra 24.70 309 *e*P **P 18 11 34.1 +0.4**
comp=Z,14nm,0.6s
FURI Furi 25.37 229 *e*P **P 18 11 41.2 +1.1**
comp=Z,14nm,0.5s
RAMN Ramite 25.59 83 *e*P **P 18 11 42.6 +0.7**
comp=Z,28nm,0.8s
ISP Isparta 25.62 303 *e*P **P 18 11 41.1 -0.8**
comp=Z,19nm,0.7s
AUMIH MIHALICIK 25.62 308 *i*P **P 18 11 43.5 +1.5**
MDUB Mudurnu 26.06 309 *e*P **P 18 11 46.6 +0.7**
comp=Z,150nm,0.9s
MANT Manisa 27.30 303 *e*P **P 18 11 55.2 -2.0**
comp=Z,34nm,0.8s
VRH Novokhopyorsk 27.44 338 *e*P **P 18 11 59.4 +1.3**
VRH pmax pmax
comp=Z,10.0nm,0.7s
MAKZ Makanchi 27.69 37 *e*P **P 18 12 02.8 +2.4**
comp=Z,14nm,1.2s
MK31 Makanchi Array 27.85 37 *e*P **P 18 12 03.1 +1.3**
comp=Z,5.2nm,1.0s
MKAR Makanchi Array 27.85 37 *e*P **P 18 12 03.1 +1.3**
MKAR Makanchi Array 27.85 37 P **P 18 12 01.5 -0.4**
comp=Z,0.5nm,0.5s,baz=217,slow=4.5,SNR=3.5
MKAR LR LR 18 23 18.7
comp=Z,134nm,19.9s,baz=221,slow=37
BVAR Borovoye Array 27.95 16 P **P 18 12 01.6 -1.0**
comp=Z,3.5nm,0.8s,baz=202,slow=7.7,SNR=15
BRVK Borovoye 27.96 16 *e*P **P 18 12 01.6 -1.0**
comp=Z,15nm,1.3s
BRVK Borovoye 27.96 16⇑*e*P **P 18 12 03.4 +0.7**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BALB Balikesir 28.14 305 *e*P **P 18 12 03.0 -1.5**
comp=Z,49nm,1.1s
VSR Storozhevoye 28.38 335 *e*P **P 18 12 07.0 +0.6**
VSR pmax pmax
comp=Z,7.0nm,0.5s
KURBB Kurchatov Arra 28.67 28 P **P 18 12 08.5 -0.5**
comp=Z,1.7nm,0.8s,baz=228,slow=8.4,SNR=16
KURK Kurchatov 28.77 28 *e*P **P 18 12 08.7 -1.3**
comp=Z,6.2nm,1.1s
KURK Kurchatov 28.77 28⇓*e*P **P 18 12 12.0 +2.0**
KURK pmax pmax
comp=Z,6.0nm,1.1s
SANT Santorini 29.20 297 *e*P **P 18 12 13.6 -0.4**
comp=Z,47nm,1.3s
IDI Anoyia 29.49 295 P **P 18 12 17.1 +0.5**
comp=Z,10nm,0.8s,baz=98,slow=12,SNR=5.4
WMQ Urumqi 29.54 47 *e*P **P 18 12 18.5 +1.5**
WMQ pP sP 18 12 25.3 +3.5
WMQ sP pP 18 12 29.7 +9.3
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ pmax pmax
comp=Z,310nm,3.8s

WMQ LR LR
comp=Z,2μm,32.7s
WMQ LR LR
comp=Z,2μm,28.9s
WMQ LR LR
comp=Z,840nm,28.9s
ARU Arti 29.76 1 *e*P **P 18 12 17.0 -1.7**
comp=Z,5.1nm,1.0s
ARU Arti 29.76 1 P **P 18 12 17.5 -1.2**
ARU 18 13 11.4
ARU S **S 18 17 11.7 -3.1**
ARU SS **SnSn 18 18 39.9 -4.6**
HARR Harsova 30.05 315⇑*i*P **P 18 12 24.0 +2.7**
HARR Harsova 30.05 315⇑P **P 18 12 24.0 +2.7**
CFR Carcaliu 30.14 316⇑*i*P P 18 12 34.6 +12
CFR Carcaliu 30.14 316⇑P P 18 12 34.6 +12
SHL Shillong 30.48 84 *e*P **P 18 12 23.2 -2.3**
comp=Z,14nm,1.4s
VRI Vrincioaia 31.34 316⇑*i*P **P 18 12 35.2 +2.4**
VRI Vrincioaia 31.34 316⇑P **P 18 12 35.2 +2.4**
MLR Muntele Rosu 31.66 315⇑*i*P **P 18 12 37.8 +2.0**
MLR Muntele Rosu 31.66 315 P **P 18 12 37.6 +1.8**
comp=Z,1.3nm,0.4s,baz=339,slow=4.0,SNR=4.4
MLR LR LR 18 26 20.6
comp=Z,152nm,20.5s,baz=118,slow=38
TESR Tescani 31.68 317⇑*i*P **P 18 12 36.1 +0.3**
MTUR Matau 32.12 314⇓*i*P P 18 12 48.7 +9.0
MTUR Matau 32.12 314⇓P P 18 12 48.7 +9.0
ITM Ithomi 32.13 298 *e*P **P 18 12 39.6 -0.2**
comp=Z,15nm,0.9s
AGG Agios Georgios 32.14 302 *e*P **P 18 12 37.7 -2.2**
comp=Z,22nm,1.5s
VOIR 32.21 314⇓*i*P **P 18 12 41.1 +0.6**
VOIR 32.21 314 P **P 18 12 43.0 +2.5**
VOIR pmax pmax
comp=Z,5.0nm,0.9s
BIZ Bicaz 32.21 317⇑*i*P **P 18 12 41.0 +0.5**
DOPR Dopca 32.22 315⇑*i*P **P 18 12 40.3 -0.2**
DGZ Jazzator, Alta 32.34 37⇑*e*P **P 18 12 43.3 +1.6**
DGZ pmax pmax
comp=Z,1.0nm,0.4s
VTS Vitosha 32.41 308 *e*P **P 18 12 42.5 +0.2**
comp=Z,2.6nm,0.8s
VTS Vitosha 32.41 308⇑*i*P **P 18 12 43.0 +0.6**
VTS Vitosha 32.41 308⇑P **P 18 12 43.0 +0.6**
OBN Obninsk 32.43 337 *e*P **P 18 12 43.9 +1.7**
comp=Z,13nm,0.6s
OBN Obninsk 32.43 337⇓*i*P **P 18 12 45.1 +2.9**
OBN Obninsk 32.43 337 *i*P **P 18 12 43.1 +0.9**
OBN *i* 18 13 48.2
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN MLR MLR
comp=Z,219nm,16.0s
AKASG Malin Array Be 32.48 325 *e*P **P 18 12 42.1 -0.6**
AKASG Malin Array Be 32.48 325 *i*P **P 18 12 42.2 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 32.48 325 P **P 18 12 41.3 -1.4**
comp=Z,3.3nm,0.7s,baz=130,slow=8.2,SNR=17
AKASG LR LR 18 28 41.3
comp=Z,254nm,21.3s,baz=110,slow=42
AKBB Malin Array Si 32.48 325 *e*P **P 18 12 42.2 -0.5**
comp=Z,8.5nm,0.7s
KIEV Kiev 32.49 325 *e*P **P 18 12 42.1 -0.7**
comp=Z,8.2nm,0.7s
KIEV Kiev 32.49 325⇑*i*P **P 18 12 43.2 +0.4**
KIEV Kiev 32.49 325⇑*e*P **P 18 12 42.1 -0.7**
KIEV pmax pmax
comp=Z,8.0nm,0.7s
GRG Griva 32.54 305 P **P 18 12 47.0 +3.6**
GRG pmax pmax
comp=Z,9.0nm,1.2s
BURAR Bucovina Array 33.06 318 *e*P **P 18 12 48.2 +0.2**
BURAR Bucovina Array 33.06 318⇓*i*P **P 18 12 50.2 +2.2**
BURAR Bucovina Array 33.06 318⇓P **P 18 12 50.2 +2.2**
BUR08 Bucovina Ar. S 33.09 318 *e*P **P 18 12 48.9 +0.6**
comp=Z,5.0nm,1.1s
FNA Florina 33.25 304 *e*P **P 18 12 49.9 +0.3**
comp=Z,21nm,1.2s
FNA Florina 33.25 304 P **P 18 12 53.3 +3.7**
NVS Novosibirsk 33.71 26 *e*P **P 18 12 56.2 +2.8**
NVS *e*S **S 18 18 10.6 -5.9**
NVS pmax pmax
comp=Z,10.0nm,1.0s
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS smax smax
comp=N,8.0nm,1.5s
ZAA0 Zalesovo Array 33.74 29 *e*P **P 18 12 53.2 -0.5**
comp=N,6.6nm,0.8s
ZALV Zalesovo Beam 33.74 29 *e*P **P 18 12 53.2 -0.5**
ZALV Zalesovo Beam 33.74 29 P **P 18 12 52.5 -1.2**
comp=N,2.0nm,0.3s,baz=251,slow=9.2,SNR=4.9
ZALV LR LR 18 27 06.2
comp=N,69nm,18.6s,baz=250,slow=37
KMBO Kilima Mbogo 34.05 219 LR LR 18 27 31.1
comp=N,201nm,21.1s,baz=90,slow=38
MDVR Moldovita 34.16 311⇑*i*P **P 18 12 57.5 0.0**
BZS Buzias 34.51 313⇑*i*P **P 18 13 00.3 -0.2**
BZS Buzias 34.51 313⇑P **P 18 13 00.3 -0.2**
SIRR Siria 34.72 314⇑*i*P **P 18 13 03.3 +1.0**
TTG Podgorica 35.18 307 *e*P **P 18 13 05.0 -1.3**
comp=N,12nm,1.4s
KOLS Kolonicke sedl 35.41 318 *e*P **P 18 13 09.4 +1.2**
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 35.41 318 *e*P **P 18 13 09.4 +1.2**
KWP Kalwaria Pacla 35.47 320 *e*P **P 18 13 09.5 +0.8**
comp=Z,87nm,0.9s
PBA Port Blair 35.98 108 *e*P P 18 13 13.7 +0.3
comp=Z,360nm,1.5s
KLMR Klimovskoe 36.42 345 *e*P **P 18 13 18.3 +1.7**
KLMR pmax pmax
comp=Z,10.0nm,1.5s
TIP Timpagrande 36.44 301 *e*P **P 18 13 16.9 -0.3**
comp=Z,8.4nm,0.8s
PSZ Piszkesteto 36.45 316 *e*P **P 18 13 15.8 -1.4**
comp=Z,3.8nm,0.7s
PSZ Piszkesteto 36.45 316⇑*i*P **P 18 13 15.8 -1.4**
PSZ Piszkesteto 36.45 316⇑P **P 18 13 15.8 -1.4**
PSZ Piszkesteto 36.45 316 *e*P **P 18 13 17.0 -0.2**
IDID Didziasalis 36.51 330 *e*P **P 18 13 19.5 +2.0**
IDID IAmb IAmb 18 13 22.5
comp=Z,2.3nm,0.7s
MORH Mrgy, Hungar 36.67 313 *e*P **P 18 13 18.1 -0.9**
IIGN Ignalina 36.76 330 *e*P **P 18 13 22.3 +2.6**
IIGN IAmb IAmb 18 13 30.1
comp=Z,4.9nm,0.8s
GTA Gaotai 37.05 59 *e*P **P 18 13 24.0 +1.5**
GTA pP sP 18 13 29.6 +2.2
GTA sP pP 18 13 32.5 +6.5
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA LR LR
comp=Z,210nm,15.2s
GTA LR LR
comp=Z,200nm,14.7s
GTA LR LR
comp=Z,240nm,14.2s
VYHS Vyhne 37.32 316 *e*P **P 18 13 26.2 +1.6**
VYHS Vyhne 37.32 316 *e*P **P 18 13 26.2 +1.6**
OJC Ojcow 37.42 319 *e*P **P 18 13 24.2 -1.2**
OJC Ojcow 37.42 319 *e*P **P 18 13 24.4 -1.0**
comp=Z,11nm,0.8s
OJC Ojcow 37.42 319 *e*P **P 18 13 24.2 -1.2**
SUW Suwalki 37.42 326 *e*P **P 18 13 24.6 -0.7**
comp=Z,27nm,1.0s
PABE Paberze 37.88 329 *e*P **P 18 13 30.0 +0.8**
PABE IAmb IAmb 18 13 32.4
comp=Z,11nm,0.8s
JAVC Velka Javorina 38.17 316 *e*P **P 18 13 32.3 +0.5**
OKC Ostrava-Krasne 38.24 318 AMS AMS 18 33 10.0
comp=Z,200nm,15.0s
SOP Sopron 38.48 314 P **P 18 13 37.9 +3.5**
SOP pmax pmax
comp=Z,19nm,0.8s
SOP Sopron 38.48 314 *e*P **P 18 13 35.1 +0.7**
VSU Vasula 38.56 334⇓*e*P **P 18 13 36.1 +1.3**
VSU pmax pmax
comp=Z,20nm,1.4s
VSU Vasula 38.56 334 *e*P **P 18 13 36.4 +1.6**
VSU IAmb IAmb 18 13 45.0
comp=Z,23nm,0.6s
MORC Moravsky Berou 38.58 318 *e*P **P 18 13 36.3 +1.0**

comp=Z,3.2nm,0.8s
MORC Moravsky Berou 38.58 318 ‖ *i* P **P 18 13 37.4 +2.2**
MORC Moravsky Berou 38.58 318 P **P 18 13 39.2 +4.0**
MORC pmax pmax
comp=Z,4.0nm,1.3s
MORC Moravsky Berou 38.58 318 *e*P **P 18 13 34.4 -0.8**
CMAR Chiang Mai Arr 38.63 93 *i* P **P 18 13 36.2 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 38.63 93 P **P 18 13 36.5 +0.5**
comp=Z,0.5nm,0.6s,baz=282,slow=10,SNR=5.9
CMAR LR LR 18 31 27.8
comp=Z,252nm,21.1s,baz=278,slow=39
VRAC Vranov 38.99 317 P **P 18 13 42.0 +3.3**
VRAC pmax pmax
comp=Z,6.0nm,0.7s
CONA Conrad Observa 39.01 314 *i* P **P 18 13 39.3 +0.5**
comp=Z,3.5nm,0.8s
ARSA Arzberg 39.02 313 *i* P **P 18 13 39.6 +0.6**
comp=Z,5.9nm,1.0s
KRUC Moravsky 39.03 316 P **P 18 13 42.2 +3.2**
KRUC pmax pmax
comp=Z,7.0nm,1.3s
KRUC Moravsky 39.03 316 *e*P **P 18 13 38.7 -0.3**
SOKA Soboth 39.19 312 *e*P **P 18 13 40.6 +0.2**
comp=Z,4.5nm,0.9s
DPC Dobruska-Polom 39.52 318 *e*P **P 18 13 45.1 +2.0**
DPC MLR MLR
comp=Z,200nm,18.9s
DPC Dobruska-Polom 39.52 318 *e*P **P 18 13 45.1 +2.0**
DPC AMS AMS 18 33 50.0
comp=Z,200nm,18.9s
MOA Molln 40.01 314 *e*P **P 18 13 47.4 +0.3**
comp=Z,8.4nm,0.8s,SNR=10
LZH Lanzhou 40.02 65 *e*P **P 18 13 46.7 -0.9**
LZH pP sP 18 13 53.6 +1.2
LZH sP pP 18 13 57.2 +6.2
LZH *e*PP **PP 18 15 23.5 +4.0**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,82nm,5.4s
LZH LR LR
comp=Z,340nm,13.4s
LZH LR LR
comp=Z,360nm,13.2s
LZH LR LR
comp=Z,500nm,16.5s
CD2 Chengdu 40.20 73 *e*P **P 18 13 47.8 -1.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,730nm,26.5s
CD2 LR LR
comp=Z,420nm,18.6s
CD2 LR LR
comp=Z,480nm,19.1s
GOPC GO Pecny, Ondr 40.30 317 AMS AMS 18 34 40.0
comp=Z,200nm,21.1s
KBA Koelnbreinsper 40.41 312 *e*P **P 18 13 50.4 -0.3**
comp=Z,8.1nm,0.7s
KBA Koelnbreinsper 40.41 312 P P 18 13 55.4 +4.7
KBA pmax pmax
comp=Z,12nm,0.7s
PRU Pruhonice 40.48 317 *e*P **P 18 13 53.2 +2.2**
PRU MLR MLR
comp=Z,200nm,16.0s
PRU Pruhonice 40.48 317 *e*P **P 18 13 53.2 +2.2**
PRU AMS AMS 18 34 40.0
comp=Z,200nm,16.0s
PVCC Panska Ves 40.64 318 AMS AMS 18 34 20.0
comp=Z,200nm,13.9s
GERES GERESS Array B 40.65 315 P **P 18 13 52.9 +0.4**
comp=Z,3.1nm,0.6s,baz=120,slow=7.8,SNR=14
KHC Kasperske Hory 40.81 315 *e*P **P 18 13 53.7 -0.2**
comp=Z,3.8nm,0.8s
KHC Kasperske Hory 40.81 315 *e*P **P 18 13 53.8 0.0**
KHC *e* 18 13 56.2
KHC MLR MLR
comp=Z,200nm,13.5s
KHC Kasperske Hory 40.81 315 *e*P **P 18 13 53.8 0.0**
KHC *e*x x 18 13 56.2
KHC AMS AMS 18 34 00.0
comp=Z,200nm,13.5s
FIA1 FINESS Array S 40.84 337 *e*P **P 18 13 54.0 +0.3**
comp=Z,27nm,1.6s
FINES FINESS Array B 40.84 337 *i* P **P 18 13 55.4 +1.6**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 40.84 337 P **P 18 13 52.9 -0.9**
comp=Z,2.7nm,0.7s,baz=124,slow=12,SNR=14
ABTA Abfaltersbach 40.89 312 *e*P **P 18 13 53.9 -0.6**
comp=Z,9.5nm,0.9s
BRG Berggiesshubel 41.13 318 *e*P **P 18 13 57.4 +1.1**
comp=Z,2.4nm,0.9s
BRG Berggiesshubel 41.13 318 *e*P **P 18 13 57.4 +1.1**
BRG pmax pmax
comp=Z,2.0nm,0.9s
WET Wettzell 41.26 315 P **P 18 14 01.1 +3.6**
WET pmax pmax
comp=Z,6.0nm,1.2s
WTTA Wattenberg 41.59 312 *e*P **P 18 13 60.0 -0.4**
comp=Z,11nm,0.9s
WATA Walderalm 41.64 312 *e*P **P 18 14 00.4 -0.4**
comp=Z,7.3nm,0.6s
CLL Collm 41.83 318 *e*P **P 18 14 01.7 -0.4**
comp=Z,6.4nm,1.1s
CLL Collm 41.83 318 *e*P **P 18 14 02.0 -0.1**
CLL pmax pmax
comp=Z,8.0nm,1.3s
CLL Collm 41.83 318 *e*P **P 18 14 02.0 -0.1**
CLL *e*Pmax 18 14 05.0
comp=Z,8.0nm,1.3s
CLL *e* 18 14 20.0
CLL *e*PP **PnPn 18 15 42.0 -1.7**
CLL *e*S **S 18 20 24.0 +4.3**
CLL *e*SS **SS 18 23 30.0 +4.4**
CLL Lm MLR 18 33 00.0
comp=N,200nm,18.3s
CLL Lm MLR 18 33 00.0
comp=E,200nm,19.3s
CLL Lm MLR 18 33 00.0
comp=Z,100nm,21.5s
NKC Novy Kostel 41.84 317 AMS AMS 18 35 10.0
comp=Z,200nm,20.9s
SQTA Sankt Quirin 41.86 312 *e*P **P 18 14 02.0 -0.6**
comp=Z,12nm,0.6s
VLC Villacollemand 41.87 307 *e*P **P 18 14 02.5 -0.1**
comp=Z,90nm,1.8s
MOTA Moosalm 41.96 312 *e*P **P 18 14 02.5 -0.9**
comp=Z,13nm,1.0s
FETA Feichten 42.14 312 *e*P **P 18 14 04.2 -0.7**
comp=Z,16nm,0.7s,SNR=8.6
KEST Kesra 42.16 295 *e*P **P 18 14 04.1 -1.0**
comp=Z,20nm,1.5s
KEST Kesra 42.16 295 P **P 18 14 06.2 +1.1**
comp=Z,4.5nm,0.8s,baz=60,slow=5.1,SNR=5.1
KEST LR LR 18 34 56.4
comp=Z,174nm,20.1s,baz=338,slow=41
BSD Bornholm Skovb 42.17 324 *i* P **P 18 14 04.4 -0.3**
BSD Bornholm Skovb 42.17 324 *i* P **P 18 14 04.4 -0.3**
FUORN Ofenpass-Fuorn 42.37 311 *e*P **P 18 14 06.8 -0.1**
comp=Z,6.5nm,0.8s
GRA1 Grafenberg Arr 42.45 316 *e*P **P 18 14 07.7 +0.6**
comp=Z,10nm,0.8s
GRFO Grafenberg 42.45 316 *e*P **P 18 14 07.9 +0.7**
comp=Z,8.8nm,0.8s
NONG Nongkai 42.52 92 P **P 18 14 08.7 +0.6**
comp=Z,0.3nm,0.8s,comp=Z,72nm
DAVA Damuels 42.76 312 *e*P **P 18 14 09.3 -0.6**
comp=Z,24nm,0.6s,SNR=24
LHMI Lhok Sumawe 42.89 113 *e*P **P 18 14 10.3 -0.8**
comp=Z,492nm,1.7s
TUE Stuetta 42.97 311 *e*P **P 18 14 10.5 -1.1**
comp=Z,7.5nm,0.9s
SONM Songino Array 43.17 48 *e*P **P 18 14 13.7 +0.5**
SONM Songino Array 43.17 48 P **P 18 14 13.9 +0.7**
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM MLR MLR
comp=Z,262nm,21.0s
SONM Songino Array 43.17 48 P **P 18 14 13.9 +0.7**
comp=Z,0.6nm,0.5s,baz=249,slow=9.5,SNR=8.7
SONM LR LR 18 34 31.3
comp=Z,262nm,21.0s,baz=257,slow=39
CLZ Clausthal 43.56 318 P P 18 14 22.4 +6.3
CLZ pmax pmax
comp=Z,9.0nm,1.8s
LVZ Lovozero 43.61 347 *e*P **P 18 14 16.4 0.0**
comp=Z,57nm,1.9s
ULN Ulaanbaatar 43.61 48 *e*P **P 18 14 16.3 -0.5**
comp=Z,3.4nm,0.7s
ULN Ulaanbaatar 43.61 48 ‖ *e*P **P 18 14 19.4 +2.6**
ULN pmax pmax
comp=Z,3.0nm,1.1s
XAN Xi'an 44.26 68 P P 18 14 29.0 +6.9
XAN pmax pmax
comp=Z,3.0nm,0.9s
XAN pmax pmax
comp=Z,27nm,4.6s
SENIN Lac Senin/Sane 44.35 310 *e*P **P 18 14 22.8 0.0**
comp=Z,24nm,1.6s
MBDF Montbardon 44.51 308 *e*P **P 18 14 26.2 +2.2**
MBDF pmax pmax
comp=Z,6.0nm,0.7s
BNI Bardonecchia 44.61 308 *e*P **P 18 14 24.9 +0.1**
comp=Z,66nm,2.0s
LPG La Plagne 44.61 309 *e*P **P 18 14 27.2 +2.2**
LPG pmax pmax
comp=Z,9.0nm,0.8s
LPL La Plagne 44.63 309 *e*P **P 18 14 28.0 +2.9**
LPL pmax pmax
comp=Z,10.0nm,1.0s
CDF Champ du Feu 44.70 313 *e*P **P 18 14 27.5 +2.1**
CDF pmax pmax
comp=Z,5.0nm,1.0s
ECH Echery 44.74 313 *e*P **P 18 14 24.8 -0.9**
comp=Z,10nm,1.0s
HAU Haudompre 45.24 312 *e*P **P 18 14 29.7 0.0**
HAU pmax pmax
comp=Z,4.0nm,0.4s
WLF Walferdange 45.65 314 *e*P **P 18 14 32.1 -0.7**
comp=Z,87nm,1.3s
NRIK Noril'sk 46.12 14 LR LR 18 37 14.9
comp=Z,139nm,18.2s,baz=212,slow=40
HHC Hu-ho-hao-te 46.13 58 *e*P **P 18 14 38.1 +1.2**
HHC pmax pmax
comp=Z,54nm,1.0s
HHC pmax pmax
comp=Z,220nm,5.7s
HHC LR LR
comp=Z,610nm,13.7s
HHC LR LR
comp=Z,790nm,14.1s
HHC LR LR
comp=Z,710nm,14.4s
SSB Saint Sauveur 46.14 308 *e*P **P 18 14 37.4 +0.6**
comp=Z,30nm,1.7s
NB2 NORSAR Subarra 46.49 331 P **P 18 14 38.3 -1.1**
comp=Z,2.9nm,0.8s,baz=114,slow=7.9
NOA NORSAR Array B 46.49 331 P **P 18 14 38.3 -1.1**
comp=Z,1.9nm,0.8s,baz=115,slow=7.8,SNR=9.7
NOA LR LR 18 36 27.6
comp=Z,147nm,21.1s,baz=120,slow=39
KEV Kevo 46.73 346 *e*P **P 18 14 40.9 -0.1**
comp=Z,26nm,1.4s
LOR Lormes 46.81 311 *e*P **P 18 14 44.0 +2.0**
LOR pmax pmax
comp=Z,6.0nm,0.8s
ARCES ARCESS Array B 46.90 345 *e*P **P 18 14 40.9 -1.5**
ARCES ARCESS Array B 46.90 345 P **P 18 14 41.0 -1.4**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 46.90 345 P **P 18 14 41.0 -1.4**
comp=Z,2.9nm,0.8s,baz=132,slow=7.3,SNR=8.2
ARE0 ARCESS Array S 46.90 345 *e*P **P 18 14 42.6 +0.3**
comp=Z,0.9nm,1.4s
AVF Avril sur Loir 47.10 310 *e*P **P 18 14 47.8 +3.5**
AVF pmax pmax
comp=Z,6.0nm,0.7s
BGF Bois d'Agland 47.43 310 *e*P **P 18 14 49.1 +2.2**
BGF pmax pmax
comp=Z,13nm,0.9s
TAM Tamanrasset 47.48 277 *e*P **P 18 14 47.3 -0.4**
comp=Z,5.8nm,0.8s
TAM Tamanrasset 47.48 277 P **P 18 14 52.1 +4.4**
TAM pmax pmax
comp=Z,8.0nm,0.9s
MTLF Montolieu 47.69 305 *e*P **P 18 14 51.6 +2.6**
MTLF pmax pmax
comp=Z,6.0nm,0.9s
TCF Toulx Ste Croi 47.85 309 *e*P **P 18 14 53.6 +3.5**
TCF pmax pmax
comp=Z,22nm,1.4s
CAF Calviac 47.86 308 *e*P **P 18 14 54.2 +3.9**
CAF pmax pmax
comp=Z,7.0nm,1.0s
QIZ Qiongzhong 48.19 88 P **P 18 14 53.8 +0.7**
QIZ S **S 18 21 53.9 +1.3**
QIZ LR LR
comp=Z,220nm,16.7s
QIZ LR LR
comp=Z,130nm,15.7s
QIZ LR LR
comp=Z,150nm,23.5s
LDF La Druitiere 49.60 312 *e*P **P 18 15 06.7 +3.2**
LDF pmax pmax
comp=Z,64nm,1.6s
ETSF Etsaut 49.72 305 *e*P **P 18 15 07.3 +2.6**
ETSF pmax pmax
comp=Z,8.0nm,1.0s
BOD Bodaibo 49.91 35 *e*P **P 18 15 04.5 -1.2**
BOD pmax pmax
comp=Z,14nm,1.1s
SJPF Ste Jean 50.21 305 *e*P **P 18 15 12.8 +4.5**
SJPF pmax pmax
comp=Z,7.0nm,0.7s
SGMF Saint Gilles 51.20 312 *e*P **P 18 15 18.1 +2.5**
SGMF pmax pmax
comp=Z,36nm,1.3s
ESDC Sonseca Array 52.46 301 *e*P **P 18 15 25.9 +0.6**
ESDC Sonseca Array 52.46 301 P **P 18 15 25.3 0.0**
comp=Z,0.6nm,0.5s,baz=59,slow=8.3,SNR=6.8
ESLA Sonseca Array 52.46 301 *e*P **P 18 15 24.9 -0.4**
comp=Z,17nm,1.7s
PAB San Pablo 52.77 301 *e*P **P 18 15 27.2 -0.4**
comp=Z,6.8nm,1.1s
NJ2 Nanjing 52.79 69 *e*P **P 18 15 28.2 +0.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
TOA0 Torodi Ar. Sit 54.15 267 *e*P **P 18 15 38.0 0.0**
comp=Z,7.0nm,0.8s
TORD Torodi Ar. Bea 54.15 267 P **P 18 15 36.6 -1.4**
comp=Z,2.4nm,0.6s,baz=63,slow=8.9,SNR=11
TORD LR LR 18 40 42.5
comp=Z,174nm,19.5s,baz=15,slow=38
MVO Moncorvo 54.64 303 *e*P P 18 15 47.5 +6.2
comp=Z,25nm,1.2s
SPA0 Spitsbergen Ar 54.93 350 *e*P **P 18 15 44.9 +2.2**
comp=Z,42nm,1.6s
MTE Manteigas 55.12 302 *e*P **P 18 15 46.9 +2.2**
comp=Z,40nm,1.6s
PTOM Tomar 55.88 301 *e*P **P 18 15 50.7 +0.6**
KBS Kingsbay 56.09 350 *e*P **P 18 15 51.7 +0.7**
comp=Z,21nm,1.4s
PNCL Nicolau / Gran 56.20 300 *e*P **P 18 15 55.0 +2.6**
comp=Z,30nm,1.3s
YAK Yakutsk 58.31 32 *e*P **P 18 16 05.5 -1.4**
YAK *e**PP **sP 18 16 15.8 +3.9**
YAK *e* 18 16 58.8
YAK *e* 18 18 17.5
YAK *e*S **S 18 24 02.7 -6.3**
YAK *e**SS **sS 18 24 15.2 +0.3**
YAK *e* 18 25 53.5
YAK *e*SS **SS 18 27 53.3 -7.2**
YAK pmax pmax
comp=Z,37nm,1.3s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,357nm,4.4s
YAK pmax pmax
comp=E,316nm,3.8s
YAK pmax pmax
comp=N,269nm,4.1s
YAK smax smax
comp=N,265nm,3.7s
YAK smax smax
comp=E,249nm,3.8s
YAK MLR MLR
comp=Z,471nm,18.0s
YAK MLR MLR
comp=N,460nm,19.0s
YAK MLR MLR
comp=E,302nm,21.0s
TIXI Tiksi 58.96 20 *e*P **P 18 16 11.9 +0.5**
comp=E,3.6nm,1.0s
TIXI Tiksi 58.96 20 ‖ *e*P **P 18 16 09.1 -2.2**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
KSAR Wonju Array Be 59.07 61 *e*P **P 18 16 11.3 -1.3**
KSRS Korea Array 59.10 61 P **P 18 16 12.8 0.0**
comp=Z,0.5nm,0.5s,baz=272,slow=6.7,SNR=3.2
KSRS LR LR 18 42 59.4
comp=Z,82nm,18.9s,baz=286,slow=37
KLR Kul'dur 59.99 47 ‖ *e*P **P 18 16 19.7 +0.9**
KLR pmax pmax
comp=Z,3.0nm,1.4s
DBIC Dimbokro 62.72 264 *e*P **P 18 16 39.4 +1.6**
comp=Z,29nm,1.6s
DBIC Dimbokro 62.72 264 P **P 18 16 39.4 +1.6**
comp=Z,4.9nm,0.8s,baz=106,slow=7.4,SNR=3.0
DBIC LR LR 18 44 41.9
comp=Z,122nm,18.3s,baz=44,slow=37
BOSA Boshof 63.26 212 P **P 18 16 42.8 +1.6**
comp=Z,2.4nm,0.9s,baz=16,slow=7.1,SNR=3.9
BOSA LR LR 18 44 51.5
comp=Z,114nm,19.1s,baz=20,slow=37
SUMG Summit 66.71 341 *e*P **P 18 17 01.9 -1.5**
SUMG Summit 66.71 341 *i* P **P 18 17 01.9 -1.5**
MJAR Matsushiro Arr 67.30 59 LR LR 18 50 33.4
comp=Z,68nm,18.4s,baz=295,slow=40
SEY Seymchan 68.61 29 ‖ *e*P **P 18 17 14.6 -0.5**
MA2 Magadan 68.82 33 LR LR 18 51 01.8
comp=Z,48nm,20.1s,baz=283,slow=39
TULEG Thule 72.05 349 *e*P **P 18 17 36.0 +0.1**
comp=Z,6.3nm,0.8s
BILL Bilibino 72.11 22 *i* P **P 18 17 36.6 +0.2**
BILL *i* 18 17 45.4
BILL *i* 18 17 52.7
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,129nm,16.0s
COLD Coldfoot 84.06 11 *e*P **P 18 18 43.8 +1.1**
IMAR Indian Mountai 84.54 12 *e*P **P 18 18 44.6 -0.6**
BMAR Burnt Mountain 84.71 9 *e*P **P 18 18 44.9 -1.2**
INK Inuvik 84.95 4 *e*P **P 18 18 47.1 0.0**
comp=Z,2.3nm,0.9s
INK Inuvik 84.95 4 *e*P **P 18 18 47.2 0.0**
INK pmax pmax
comp=Z,2.0nm,0.9s
MLY Manley 85.96 12 *e*P **P 18 18 52.8 +0.4**
comp=Z,3.7nm,1.1s
SCHQ Schefferville 86.06 332 LR LR 18 57 05.0
comp=Z,32nm,21.0s,baz=104,slow=36
BPAW Bear Paw Mtn. 86.75 12 *e*P **P 18 18 57.1 +0.9**
comp=Z,5.8nm,1.0s
ILAR Eielson Array 86.86 10 *e*P **P 18 18 55.4 -1.4**
ILAR Eielson Array 86.86 10 P **P 18 18 58.2 +1.5**
comp=Z,0.7nm,0.7s,baz=314,slow=3.5,SNR=6.0
ILAR LR LR 19 03 49.5
comp=Z,64nm,19.0s,baz=337,slow=40
ILB Eielson Array 86.86 10 *e*P **P 18 18 56.7 0.0**
comp=Z,7.1nm,1.7s
CAST Castle Rocks 87.15 13 *e*P **P 18 18 58.3 0.0**
comp=Z,5.6nm,0.8s
WRA Warramunga Arr 87.34 114 *i* P **P 18 19 00.0 +0.2**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 87.34 114 P **P 18 18 59.7 -0.2**
comp=Z,0.9nm,0.6s,baz=313,slow=4.1,SNR=7.0
WB2 Warramunga Arr 87.35 114 *e*P **P 18 19 00.0 +0.1**
comp=Z,23nm,1.6s
MCK McKinley 87.47 12 *e*P **P 18 19 00.7 +0.9**
comp=Z,12nm,1.4s
PPLA Purkeypile 87.60 13 *e*P **P 18 18 59.8 -0.7**
EGAK Eagle 87.67 8 *e*P **P 18 19 02.3 +1.6**
comp=Z,3.4nm,0.9s
RND Reindeer 87.78 12 *e*P **P 18 19 00.3 -1.0**
comp=Z,11nm,1.5s
RND Reindeer 87.78 12 *e*P **P 18 19 00.3 -1.0**
RND pmax pmax
comp=Z,11nm,1.5s
SCRK Sand Creek 88.05 9 *e*P **P 18 19 02.0 -0.6**
comp=Z,3.4nm,1.0s
DOT Dot Lake 88.35 10 *e*P **P 18 19 04.1 +0.2**
ASAR Alice Springs 88.82 117 P **P 18 19 06.5 -0.3**
comp=Z,0.3nm,0.6s,baz=308,slow=5.5,SNR=4.0
YKA Yellowknife Ar 90.97 357 P **P 18 19 17.8 +1.7**
comp=Z,0.3nm,0.7s,baz=353,slow=4.2,SNR=3.5
YKA LR LR 19 07 42.7
comp=Z,5.1nm,18.2s,baz=8.0,slow=41
STKA Stephens Creek 98.67 121 LR LR 18 59 51.1
comp=Z,115nm,21.1s,baz=227,slow=33
ULM Lac du Bonnet 99.99 343 LR LR 19 08 12.7
comp=Z,65nm,18.6s,baz=32,slow=37
WVOR Wild Horse Val 111.19 357 *e*Pdif **Pdif 18 20 48.0 +0.3**
WVOR Wild Horse Val 111.19 357 *e*P **Pdif 18 20 48.0 +0.3**

IDC 11 18:08:44.9±1.1, 2.72S×138.30E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.6/34, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=31.7km s-min=22.9km az=93.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.41**	**85**	Pn	Pn	18 09 25.8	+0.1
WRA	**Warramunga Arr**	**17.55**	**192**	P	Pn	18 12 51.0	-0.3
	0.3nm,0.3s,baz=16,slow=13,SNR=21						
FITZ	**Fitzroy Crossi**	**19.69**	**218**	P	P	18 13 15.6	-0.4
	0.0nm,0.3s,baz=63,slow=6.8,SNR=2.8						
ASAR	**Alice Springs**	**21.26**	**191**	P	P	18 13 33.3	+0.3
	1.8nm,0.6s,baz=17,slow=11,SNR=27						
MKAR	**Makanchi Array**	**69.55**	**323**	P	P	18 19 56.2	+0.4
	0.4nm,0.6s,baz=113,slow=7.4,SNR=4.7						
KURBB	**Kurchatov Arra**	**73.50**	**325**	P	P	18 20 19.3	-0.1
	0.1nm,0.4s,baz=126,slow=4.8,SNR=2.6						
BVAR	**Borovoye Array**	**79.08**	**325**	P	P	18 20 51.1	-0.1
	0.6nm,0.6s,baz=98,slow=4.5,SNR=3.9						

TAP 11 18:18:26.9, 22.81N×120.90E, h5km, ML2.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.16**	**86**	*i* P	Pg	18 18 31.2	+1.1
	baz=88						
TWG				S	Sg	18 18 33.6	+1.4
	baz=88						
TWGBT	**Beinan**	**0.16**	**88**	*e*P	Pg	18 18 31.2	+1.0
	baz=88						
TWGBT				*e*S	Sg	18 18 33.6	+1.2
	baz=88						
ECL	**Taimali**	**0.22**	**168**	*i* P	Pg	18 18 31.9	+0.7
	baz=167						
ECL				*e*S	Sg	18 18 35.0	+0.9
	baz=167						
TTN	**Taitung**	**0.23**	**104**	P	Pg	18 18 33.5	+2.0
	baz=115						
TTN				*e*S	Sg	18 18 37.6	+3.0
	baz=115						
SLGT	**Liugui**	**0.30**	**308**	P	Pg	18 18 33.2	+0.5
	baz=306						
SLGT				*e*S	Sg	18 18 37.0	+0.3
	baz=306						
MASBT	**Mashibuluo**	**0.32**	**232**	*e*P	Pg	18 18 33.5	+0.4
	baz=237						
MASBT				*e*S	Sg	18 18 37.4	+0.1
	baz=237						
STYT	**Tauyuan**	**0.38**	**339**	*i* P	Pg	18 18 35.1	+0.9
	baz=338						
STYT				S	Sg	18 18 40.1	+0.9
	baz=338						
SGLT	**Jiouru**	**0.39**	**257**	P	Pb	18 18 36.0	-0.4
	baz=265						
ELDTW	**Lidau**	**0.39**	**16**	*i* P	Pg	18 18 35.1	+0.5
	baz=29						
ELDTW				*e*S	Sg	18 18 41.0	+1.2
	baz=29						
SGST	**Jiashian**	**0.40**	**313**	P	Pg	18 18 35.5	+0.8
	baz=313						
EAST	**Anshuo**	**0.43**	**187**	*i* P	Pg	18 18 36.0	+0.7
	baz=185						
TWM1	**Shoushan**	**0.44**	**272**	P	Pb	18 18 37.0	-0.3
	baz=271						

TWM1				*e*S	Sb	18 18 44.4	+0.1
	baz=271						
SSPT	**Xinbi**	**0.45**	**224**	P	Pb	18 18 36.6	-0.8
	baz=213						
SSPT				*e*S	Sg	18 18 42.8	+1.3
	baz=213						
TAW	**Tawu**	**0.45**	**181**	*i* P	Pg	18 18 36.4	+0.7
	baz=182						
TAW				*e*S	Sg	18 18 42.6	+1.1
	baz=182						
CHN1	**Nanshi**	**0.51**	**317**	*e*P	Pb	18 18 38.9	+0.4
	baz=321						
CHN1				*e*S	Sb	18 18 46.2	0.0
	baz=321						
WTP	**Ta-pu**	**0.51**	**328**	*i* P	Pb	18 18 38.3	-0.1
	baz=327						
WTP				S	Sb	18 18 46.1	-0.1
	baz=327						
SCZT	**Fangliau**	**0.51**	**211**	P	Pg	18 18 37.1	+0.4
	baz=212						
SCZT				*e*S	Sg	18 18 44.4	+1.0
	baz=212						
CHKT	**Chengkung**	**0.51**	**56**	P	Pb	18 18 38.4	-0.1
	baz=74						
CHKT				*e*S	Sb	18 18 46.4	+0.1
	baz=74						
SNST	**Tainan City**	**0.55**	**318**	*e*P	Pb	18 18 39.2	0.0
	baz=321						
SNST				*e*S	Sb	18 18 48.1	+0.7
	baz=321						
TWK	**Hsinying**	**0.59**	**320**	P	Pb	18 18 40.6	+0.7
	baz=325						
TWK				S	Sb	18 18 50.0	+1.3
	baz=325						
CHN4	**Tsaushan**	**0.61**	**332**	P	Pb	18 18 40.8	+0.6
	baz=338						
CHN4				*e*S	Sn	18 18 50.8	-1.8
	baz=338						
TWF1	**Yuli**	**0.65**	**34**	*i* P	Pg	18 18 39.8	+0.3
	baz=33						
TWF1				S	Sg	18 18 48.5	+0.6
	baz=33						
YULB	**Yu-li**	**0.68**	**32**	*e*P	Pg	18 18 40.1	0.0
	baz=30						
YULB				*e*S	Sb	18 18 50.7	-0.5
	baz=30						
EHY	**Hungye**	**0.79**	**29**	P	Pg	18 18 42.3	+0.1
	baz=28						
EHY				*e*S	Sb	18 18 53.4	-0.9
	baz=28						
CHN5	**Tsauling**	**0.81**	**345**	P	Pb	18 18 44.1	+0.5
	baz=353						
CHN5				*e*S	Sb	18 18 56.1	+1.2
	baz=353						
HGSD	**Ruisui**	**0.83**	**35**	*e*P	Pb	18 18 43.8	-0.1
	baz=24						
HGSD				*e*S	Sb	18 18 55.3	-0.1
	baz=24						
WHYT	**Xinyi Township**	**0.88**	**357**	*e*P	Pg	18 18 44.1	+0.2
	baz=4.0						
WHYT				*e*S	Sb	18 18 57.0	0.0
	baz=4.0						
EGFH	**Guangfu**	**0.98**	**29**	*e*P	Pg	18 18 45.4	-0.4
	baz=39						
EGFH				*e*S	Sb	18 18 59.7	-0.1
	baz=39						
WJS	**Zhushan**	**1.02**	**351**	*e*P	Pn	18 18 48.7	+0.7
	baz=352						
WSF	**Szhu**	**1.03**	**323**	S	Sn	18 19 04.2	+1.1
	baz=321						
WNT	**Mingjian**	**1.08**	**349**	*e*S	Sn	18 19 06.2	+2.0
	baz=347						
TYC	**Yuchr**	**1.09**	**358**	P	Pn	18 18 49.6	+0.7
	baz=5.0						
TYC				*e*S	Sn	18 19 05.0	+0.6
	baz=5.0						
ESL	**Shilin**	**1.11**	**26**	*e*P	Pn	18 18 49.0	-0.2
	baz=39						
OWD	**Renai**	**1.17**	**12**	*e*P	Pn	18 18 50.2	+0.1
	baz=4.0						
DPDB	**Guoxing**	**1.22**	**1**	*e*P	Pn	18 18 51.9	+1.1
	baz=358						
DPDB				*e*S	Sn	18 19 08.5	+0.9
	baz=358						
WDGT	**Dungji**	**1.23**	**292**	*e*P	Pn	18 18 51.2	+0.3
	baz=292						
WDGT				*e*S	Sn	18 19 08.7	+0.8
	baz=292						
CHGB	**Renai**	**1.27**	**11**	*e*P	Pn	18 18 52.0	+0.4
	baz=9.0						
WHF	**Hehuan Shan**	**1.37**	**14**	P	Pb	18 18 53.8	+0.4
	baz=28						
TDCB	**Techi**	**1.46**	**9**	*e*P	Pb	18 18 54.7	+0.1
	baz=11						
TWT	**Tachien**	**1.46**	**10**	P	Pg	18 18 55.9	+1.0
	baz=11						
WHP	**Taichung City**	**1.46**	**2**	*e*P	Pg	18 18 55.4	+0.4
	baz=14						

TAP 11 18:18:54.6, 24°.41N×121°.44E, h11km, ML1.3, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan**	**0.07**	**298**	*i* P	Pg	18 18 57.4	+0.4
	baz=298						
NNS				S	Sg	18 18 58.8	0.0
	baz=298						
NDT	**Datong Townshi**	**0.20**	**19**	P	Pb	18 19 00.0	-0.4
	baz=19						
NDT				S	Sg	18 19 03.6	+1.6
	baz=19						
ENTT	**Nioudou**	**0.26**	**27**	*e*P	Pb	18 19 01.1	-0.3
	baz=28						
ENTT				*e*S	Sb	18 19 05.6	-0.3
	baz=28						
YHNB	**Yeheng**	**0.27**	**348**	*e*P	Pb	18 19 01.7	+0.2
	baz=15						
YHNB	**Yeheng**	**0.27**	**348**	*e*P	Pb	18 19 01.8	+0.2
	baz=347						
YHNB				*e*S	Sb	18 19 05.6	-0.6
	baz=347						
NACB	**Ninganchiao**	**0.27**	**149**	*e*S	Sb	18 19 05.8	-0.5
	baz=148						
NSK	**Sanguang**	**0.28**	**345**	*e*P	Pb	18 19 01.2	-0.5
	baz=346						
NSK				S	Sb	18 19 05.8	-0.6
	baz=346						
ENA	**Nanau**	**0.28**	**86**	*e*P	Pb	18 19 01.7	0.0
	baz=86						
ENA				S	Sb	18 19 05.8	-0.5
	baz=86						
TWT	**Tachien**	**0.28**	**237**	*e*S	Sb	18 19 06.5	-0.2
	baz=237						
TDCB	**Techi**	**0.30**	**239**	*e*S	Sb	18 19 06.4	-0.7
	baz=238						
WHF	**Hehuan Shan**	**0.31**	**211**	*e*S	Sb	18 19 07.1	-0.5
	baz=209						
NWLT	**Wulai**	**0.37**	**9**	*e*S	Sb	18 19 08.2	-1.0
	baz=9.0						
TWE	**Neicheng**	**0.37**	**34**	*e*P	Pb	18 19 03.0	-0.3
	baz=37						
TWE	**Neicheng**	**0.37**	**34**	*e*P	Pb	18 19 03.0	-0.3
	baz=35						
CHGB	**Renai**	**0.42**	**215**	*e*S	Sb	18 19 10.2	-0.6
	baz=214						
CHGB	**Renai**	**0.42**	**215**	*e*S	Sb	18 19 09.7	-1.0
	baz=9.0						
LIOB	**Emei**	**0.45**	**302**	*e*S	Sb	18 19 11.3	-0.2
	baz=301						

*ISCJB **11** 18:21:21.9±0.3, 43°.75N±0°.03×105°.18W±0°.04, h0km, mb4.2/1, Error ellipse: s-maj=4.7km s-min=4.1km az=175.7*
*IDC **11** 18:21:23.6±1.5, 43°.90N×105°.50W, h0km, mb4.1/1, mb1 3.6/6, mb1mx3.3/44, mbtmp3.3/6, ML2.8/4, MS2.8/1, Ms1 2.8/1, ms1mx2.1/46, Error ellipse: s-maj=42.7km s-min=8.8km az=147.0*
*NEIC **11** 18:21:23.9±0.3, 43°.75N×105°.19W, h0km, ML3.4, Error ellipse: s-maj=4.0km s-min=3.5km az=106.0, Suspected Mining explosion.*
NEIC 66 km [41 miles] SSE of Gillette.
ISC 11 18:21:23.9±0.9, 43°.79N±0°.06×105°.18W±0°.06, h0km, n67, σ1°14/68, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.89**	**68**	*e*Pg	**Pn**	**18 21 42.5**	**-1.3**
K22A	**Casper**	**1.50**	**221**	*e*Pn	**Pn**	**18 21 49.1**	**-3.1**
PHWY	**Pilot Hill**	**2.50**	**185**	*e*Pn	**Pn**	**18 22 05.4**	**-0.6**
RWWY	**Rawlins**	**2.58**	**216**	*e*Pn	**Pn**	**18 22 06.7**	**-0.4**
N23A	**Red Feather La**	**2.95**	**191**	*e*Pn	**Pn**	**18 22 11.9**	**-0.3**
LAO	**LASA Array**	**2.99**	**346**	*e*Pn	**Pn**	**18 22 13.0**	**+0.4**
RLMT	**Red Lodge**	**3.21**	**296**	*e*Pn	**Pn**	**18 22 15.2**	**-0.6**
BW06	**Boulder Array**	**3.35**	**254**	*e*Pn	**Pn**	**18 22 17.1**	**-0.7**
PD31	**Pinedale Array**	**3.35**	**254**	*e*Pn	**Pn**	**18 22 16.8**	**-1.0**
PDAR	**Pinedale Array**	**3.35**	**254**	*e*Pn	**Pn**	**18 22 16.8**	**-1.0**
PDAR				Pg	**Pb**	**18 22 25.9**	**+1.5**
PDAR				Lg	Lg	18 23 01.8	
PDAR	**Pinedale Array**	**3.35**	**254**	Pn	**Pn**	**18 22 17.1**	**-0.6**
	6.2nm,0.3s,baz=74,slow=16,SNR=59						
PDAR				Pg	**Pb**	**18 22 25.9**	**+1.5**
	13nm,0.3s,baz=73,slow=16,SNR=33						
PDAR				Lg	Lg	18 23 01.8	
	6.1nm,0.3s,baz=68,slow=31,SNR=6.0						
OGNE	**Ogallala**	**3.68**	**140**	*e*Pn	**Pn**	**18 22 21.2**	**-0.9**
LKWY	**Lake**	**3.83**	**283**	*e*Pn	**Pn**	**18 22 24.9**	**+0.6**
H17A	**Grant Village**	**3.93**	**281**	*e*Pn	**Pn**	**18 22 26.6**	**+0.9**
LOHW	**Long Hollow**	**3.93**	**269**	*e*Pn	**Pn**	**18 22 25.9**	**+0.2**
FLWY	**Flagg Ranch**	**3.99**	**276**	*e*Pn	**Pn**	**18 22 29.1**	**+2.6**
ISCO	**Idaho Springs**	**4.00**	**185**	*e*Pn	**Pn**	**18 22 26.8**	**0.0**
MOOW	**Moose Ponds**	**4.03**	**271**	*e*Pn	**Pn**	**18 22 29.6**	**+2.6**
SNOW	**Snow King Moun**	**4.06**	**267**	*e*Pn	**Pn**	**18 22 27.3**	**-0.1**
REDW	**Red Top Meadow**	**4.14**	**266**	*e*Pn	**Pn**	**18 22 29.4**	**+0.8**
IMW	**Indian Meadow**	**4.16**	**273**	*e*Pn	**Pn**	**18 22 29.4**	**+0.4**
TPAW	**Teton Pass**	**4.20**	**268**	*e*Pn	**Pn**	**18 22 29.2**	**-0.1**
FXWY	**Fox Creek**	**4.24**	**270**	*e*Pn	**Pn**	**18 22 29.9**	**0.0**
O20A	**White River Ci**	**4.31**	**213**	*e*Pn	**Pn**	**18 22 29.5**	**-1.4**
AHID	**Auburn Hatcher**	**4.44**	**259**	*e*Pn	**Pn**	**18 22 31.5**	**-1.2**
DGMT	**Dagmar**	**4.73**	**8**	*e*Pn	**Pn**	**18 22 35.7**	**-0.7**
SMCO	**Snowmass**	**4.80**	**197**	*e*Pn	**Pn**	**18 22 38.6**	**+0.8**
Q24A	**Divide**	**4.83**	**180**	*e*Pn	**Pn**	**18 22 37.8**	**-0.2**
BOZ	**Bozeman (W)**	**4.94**	**294**	*e*Pn	**Pn**	**18 22 38.2**	**-1.2**
KSCO	**Kaye Shedlock'**	**5.15**	**157**	*e*Pn	**Pn**	**18 22 40.7**	**-1.6**
HWUT	**Hardware Ranch**	**5.18**	**247**	*e*Pn	**Pn**	**18 22 42.3**	**-0.5**
EGMT	**Eagleton**	**5.30**	**325**	*e*Pn	**Pn**	**18 22 43.9**	**-0.4**
MDND	**Maddock**	**5.62**	**42**	*e*Pn	**Pn**	**18 22 51.9**	**+3.2**
BGNE	**Belgrade**	**5.71**	**112**	*e*Pn	**Pn**	**18 22 49.5**	**-0.4**
PV22	**Blue Mesa, Par**	**5.92**	**209**	*e*Pn	**Pn**	**18 22 51.8**	**-1.1**
PV07	**Paradox Valley**	**5.96**	**207**	*e*Pn	**Pn**	**18 22 53.9**	**+0.4**
PV21	**Cone Mtn., Par**	**5.96**	**210**	*e*Pn	**Pn**	**18 22 53.3**	**-0.2**
SDCO	**Great Sand Dun**	**6.05**	**182**	*e*Pn	**Pn**	**18 22 53.1**	**-1.7**
PV23	**Carpenter Ridg**	**6.07**	**210**	*e*Pn	**Pn**	**18 22 53.3**	**-1.7**
PV09	**Paradox Valley**	**6.07**	**211**	*e*Pn	**Pn**	**18 22 54.9**	**-0.2**
PV04	**Paradox Valley**	**6.08**	**209**	*e*Pn	**Pn**	**18 22 54.5**	**-0.7**
PV12	**Saucer Basin,**	**6.12**	**208**	*e*Pn	**Pn**	**18 22 55.2**	**-0.5**
PV14	**Lion Creek, Pa**	**6.14**	**209**	*e*Pn	**Pn**	**18 22 55.9**	**-0.2**
PV20	**West Nyswonger**	**6.15**	**209**	*e*Pn	**Pn**	**18 22 55.7**	**-0.4**
PV11	**David Mesa, Pa**	**6.16**	**208**	*e*Pn	**Pn**	**18 22 55.3**	**-0.9**
PV16	**Nyswonger Mesa**	**6.16**	**208**	*e*Pn	**Pn**	**18 22 55.0**	**-1.3**
S22A	**4UR Ranch, Cre**	**6.17**	**192**	*e*Pn	**Pn**	**18 22 55.4**	**-1.1**
PV03	**Paradox Valley**	**6.19**	**208**	*e*Pn	**Pn**	**18 22 55.9**	**-0.7**
PV02	**Paradox Valley**	**6.19**	**207**	*e*Pn	**Pn**	**18 22 56.7**	**0.0**
PV17	**East Wray Mesa**	**6.20**	**209**	*e*Pn	**Pn**	**18 22 55.4**	**-1.4**
ECSD	**EROS Data Cent**	**6.21**	**88**	*e*Pn	**Pn**	**18 22 58.0**	**+1.3**
PV01	**Paradox Valley**	**6.21**	**206**	*e*Pn	**Pn**	**18 22 56.3**	**-0.7**
PV18	**Skein Mesa, Pa**	**6.22**	**208**	*e*Pn	**Pn**	**18 22 56.8**	**-0.2**
PV13	**Radium Mtn., P**	**6.26**	**207**	*e*Pn	**Pn**	**18 22 57.5**	**-0.3**
PV05	**Paradox Valley**	**6.43**	**209**	*e*Pn	**Pn**	**18 22 57.7**	**-2.3**
CBKS	**Cedar Bluff**	**6.45**	**139**	*e*Pn	**Pn**	**18 22 59.5**	**-0.6**
T25A	**Trinidad**	**6.67**	**175**	*e*Pn	**Pn**	**18 23 02.2**	**-1.2**
DUG	**Dugway, Tooele**	**6.72**	**240**	*e*Pn	**Pn**	**18 23 02.9**	**-1.1**
ELK	**Elko**	**8.05**	**251**	Pn	**Pn**	**18 23 22.1**	**-0.2**
	0.2nm,0.3s,baz=80,slow=11,SNR=3.6						
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**18 23 33.9**	**-1.9**
	0.6nm,0.3s,baz=236,slow=12,SNR=5.7						
ULM				Lg	Lg	18 26 12.3	
	0.2nm,0.3s,baz=319,slow=20,SNR=3.0						
NV01	**Mina Array Sit**	**11.25**	**246**	*e*Pn	**Pn**	**18 24 05.9**	**-0.2**
NVAR	**Mina Array Bea**	**11.25**	**246**	Pn	**Pn**	**18 24 05.9**	**-0.2**
	0.2nm,0.3s,baz=52,slow=9.5,SNR=3.4						
YBH	**Yreka Blue Hor**	**13.04**	**267**	LR	LR	18 29 55.7	
	comp=Z,43nm,18.8s,baz=158,slow=40						
YKA	**Yellowknife Ar**	**19.53**	**347**	P	**P**	**18 25 52.2**	**-0.3**
	0.1nm,0.3s,baz=167,slow=12,SNR=4.1						
YKB5	**Yellowknife Ar**	**19.53**	**347**	*e*P	**P**	**18 25 52.2**	**-0.3**
ARA0	**ARCESS Array S**	**61.34**	**18**	*e*P	**P**	**18 31 40.6**	**-0.2**
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**18 31 40.6**	**-0.2**
	1.9nm,0.9s,baz=331,slow=5.2,SNR=3.9						

*TIF **11** 18:34:04.7, 42°.42N×40°.93E, h32km±2km*
*NORS **11** 18:34:08.7±0.0, 42°.62N×41°.14E, h2km, MPVA3.3*
*DDA **11** 18:34:21.1, 41°.50N×41°.87E, h7km, ML2.2*
ISC 11 18:34:04.1±1.3, 42°.44N±0°.03×41°.02E±0°.03, h5km±12km, n22, σ1°20/39, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.96**	**27**	*e*Pg	Pg	18 34 16.4	-6.1
DOMR				*e*Sg	**Sg**	**18 34 28.9**	**-6.1**
BATM	**Batumi**	**0.98**	**149**	P	**Pn**	**18 34 24.6**	**+0.1**
BATM				S	**Sn**	**18 34 38.6**	**-0.1**
ARXR	**Arkhyz**	**1.13**	**9**	*e*Pg	**Pn**	**18 34 27.1**	**+0.2**
ARXR				*e*Sg	**Sn**	**18 34 41.8**	**-1.1**
DBOC	**Borcka**	**1.20**	**156**	IAML_P			
	comp=Z,2μm,0.1s						
DBOC				*i* P	**Pb**	**18 34 27.2**	**-0.1**
TKB	**Tkibuli**	**1.47**	**93**	P	**Pg**	**18 34 32.3**	**0.0**
TKB				S	**Sg**	**18 34 52.2**	**+1.0**
SOC	**Sochi**	**1.49**	**320**	*e*Pg	**Pg**	**18 34 33.0**	**+0.3**
SOC				*e*Sg	**Sb**	**18 34 51.5**	**0.0**
NEY	**Neytrino**	**1.49**	**57**	*e*Pg	**Pg**	**18 34 33.3**	**+0.7**
NEY				*e*Sg	**Sg**	**18 34 52.1**	**+0.1**
EPOS	**Posof**	**1.58**	**126**	*i* P	**Pb**	**18 34 34.4**	**+0.4**
DDEM	**Demirkent**	**1.64**	**160**	IAML_P			
	comp=Z,653nm,0.2s						
DDEM				*i* P	**Pn**	**18 34 33.6**	**-0.2**
GUZR	**Guzeripl'**	**1.69**	**337**	*e*Pg	**Pb**	**18 34 36.2**	**+0.5**
GUZR				*e*Sg	**Sb**	**18 34 57.9**	**+0.7**
SRKG	**Sareki**	**1.73**	**93**	P	**Pb**	**18 34 35.8**	**-0.7**
SRKG				S	**Sb**	**18 34 58.6**	**+0.1**
SHA1	**Shidzhatmaz**	**1.77**	**42**	*e*Pg	**Pg**	**18 34 39.0**	**+1.0**
SHA1				*e*Sg	**Sg**	**18 35 01.1**	**+0.3**
ONI	**Oni**	**1.81**	**85**	P	**Pb**	**18 34 38.2**	**+0.5**
ONI				S	**Sg**	**18 35 01.8**	**-0.3**
ONI	**Oni**	**1.81**	**85**	*e*Pg	**Pb**	**18 34 38.2**	**+0.5**
ONI				*e*Sg	**Sg**	**18 35 01.8**	**-0.3**
LZRR	**Lazarevskoye**	**1.91**	**322**	*e*Pg	**Pg**	**18 34 42.3**	**+1.5**
LZRR				*e*Sg	**Sg**	**18 35 05.4**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.94**	**76**	*e*Pg	**Pn**	**18 34 37.3**	**-0.7**
DIGR				*e*Sg	**Sb**	**18 35 05.4**	**+0.6**
KIV0	**Kislovodsk Arr**	**1.95**	**38**	*i* Pg	**Pg**	**18 34 41.6**	**+0.2**
KIV0				*i* Sg	**Sg**	**18 35 06.7**	**0.0**
BEYR	**Belyy Ugol+**	**2.05**	**39**	*e*Pg	**Pb**	**18 34 41.8**	**0.0**
BEYR				*i* Sg	**Sg**	**18 35 09.8**	**0.0**
KRIK	**Erzurum-spir**	**2.10**	**182**	*i* P	**Pb**	**18 34 42.0**	**-0.9**
ZEI	**Tsey**	**2.15**	**80**	*e*Pg	**Pb**	**18 34 44.5**	**+0.7**
ZEI				*e*Sg	**Sb**	**18 35 11.7**	**+0.8**
LSNR	**Lesken**	**2.23**	**67**	*e*Pg	**Pb**	**18 34 45.6**	**+0.7**
LSNR				*e*Sg	**Sg**	**18 35 14.6**	**-1.0**
LACR	**Lac**	**2.45**	**80**	*e*Pn	**Pg**	**18 34 51.3**	**+0.3**
LACR				*e*Sn	**Sg**	**18 35 22.2**	**-0.6**

*ISCJB **11** 19:21:41.3±0.4, 11°.51S±0°.05×166°.20E±0°.06, h59km, mb4.2/22, Error ellipse: s-maj=8.4km s-min=6.5km az=160.4*
*IDC **11** 19:21:41.3±3.2, 11°.39S×166°.29E, h44km±28km, mb3.7/11, mb1 3.9/13, mb1mx3.7/44, mbtmp4.0/13, ML4.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/30, Error ellipse: s-maj=24.4km s-min=16.8km az=57.0*
*NEIC **11** 19:21:42.6±0.5, 11°.43S×166°.25E, h56km±5km, mb4.4/12, Error ellipse: s-maj=19.5km s-min=17.2km az=94.0*
ISC 11 19:21:42.9±0.6, 11°.44S±0°.07×166°.26E±0°.08, h59km, n40, σ0°66/46, mb4.2/23, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.52**	**287**	*e*Pn	**Pn**	**19 23 15.3**	**-0.9**
HNR				*e*Sn	**Sn**	**19 24 29.8**	**+0.5**
HNR	**Honiara**	**6.52**	**287**	P	**Pn**	**19 23 15.4**	**-0.8**
	8.2nm,0.3s,baz=242,slow=6.3,SNR=3.6						
HNR				S	**Sn**	**19 24 28.2**	**-1.1**
	3.8nm,0.3s,baz=149,slow=21,SNR=3.3						

MARNC	**Mare, Loyalty**	**10.13**	**171**	*e*Pn	**Pn**	**19 24 05.4**	**-0.2**
DZM	**Mont Dzumac**	**10.57**	**179**	*e*Pn	**Pn**	**19 24 11.6**	**-0.2**
DZM				*e*Sn	**Sn**	**19 26 07.5**	**-1.3**
DZM	**Mont Dzumac**	**10.57**	**179**	P	**Pn**	**19 24 12.2**	**+0.4**
	0.4nm,0.3s,baz=304,slow=22,SNR=5.5						
DZM				S	**Sn**	**19 26 07.9**	**-0.9**
	0.4nm,0.3s,baz=179,slow=22,SNR=4.1						
DZM				LR	LR	19 27 30.4	
	comp=Z,58nm,18.3s,baz=42,slow=33						
PMG	**Port Moresby**	**18.89**	**274**	LR	LR	19 32 12.5	
	comp=Z,98nm,20.3s,baz=108,slow=33						
CTA	**Charters Tower**	**21.07**	**243**	P	**P**	**19 26 23.4**	**+1.0**
	4.6nm,0.9s,baz=65,slow=17,SNR=2.3						
URZ	**Urewera**	**28.42**	**162**	P	**P**	**19 27 32.1**	**+0.2**
	4.3nm,0.7s,baz=227,slow=5.8,SNR=3.0						
CAN	**Canberra**	**28.47**	**211**	*e*P	**P**	**19 27 33.1**	**+0.6**
	31nm,1.3s						
BKZ	**Black Stump Fm**	**29.07**	**163**	*e*P	**P**	**19 27 37.8**	**0.0**
	27nm,1.2s						
THZ	**Tophouse**	**30.76**	**170**	*e*P	**P**	**19 27 53.0**	**+0.2**
	18nm,1.2s						
WB2	**Warramunga Arr**	**31.81**	**251**	*e*P	**P**	**19 28 02.1**	**-0.1**
	7.4nm,1.1s						
WR1	**Warramunga Arr**	**31.82**	**251**	*e*P	**P**	**19 28 02.3**	**0.0**
WR1				*e*PcP	**PcP**	**19 30 53.7**	**+1.4**
WRA	**Warramunga Arr**	**31.82**	**251**	P	**P**	**19 28 02.3**	**-0.1**
	1.6nm,0.8s,baz=83,slow=9.3,SNR=6.4						
WRA				PcP	**PcP**	**19 30 53.7**	**+1.4**
	0.3nm,0.6s,baz=79,slow=2.9,SNR=4.7						
AS31	**Alice Springs**	**33.07**	**244**	*e*P	**P**	**19 28 12.6**	**-0.6**
	1.0nm,0.9s						
ASAR	**Alice Springs**	**33.07**	**244**	P	**P**	**19 28 12.7**	**-0.6**
	2.4nm,0.6s,baz=67,slow=10.0,SNR=37						
ASAR				PcP	**PcP**	**19 30 56.2**	**+0.5**
	0.6nm,0.5s,baz=78,slow=2.4,SNR=8.5						
FITZ	**Fitzroy Crossi**	**39.76**	**255**	*e*P	**P**	**19 29 10.7**	**+0.4**
	8.6nm,1.5s						
VNDA	**Vanda**	**66.11**	**181**	*e*P	**P**	**19 32 23.5**	**+0.1**
VNDA	**Vanda**	**66.11**	**181**	P	**P**	**19 32 23.4**	**0.0**
	0.4nm,0.7s,baz=1.9,slow=8.5,SNR=4.1						
CASY	**Casey**	**66.19**	**201**	*e*P	**P**	**19 32 24.3**	**+0.2**
	2.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**72.73**	**293**	P	**P**	**19 33 06.2**	**+0.9**
	0.8nm,0.9s,baz=111,slow=4.4,SNR=4.6						
QSPA	**South Pole Qui**	**78.57**	**180**	*e*P	**P**	**19 33 38.2**	**+0.2**
	6.4nm,1.1s						
SONA0	**Songino Array**	**79.28**	**324**	*e*P	**P**	**19 33 42.3**	**+0.2**
SONM	**Songino Array**	**79.28**	**324**	P	**P**	**19 33 42.3**	**+0.2**
	0.4nm,0.5s,baz=125,slow=6.1,SNR=3.6						
RND	**Reindeer**	**82.15**	**19**	*e*P	**P**	**19 33 57.7**	**+0.7**
	1.8nm,0.8s						
IMAR	**Indian Mountai**	**82.67**	**15**	*e*P	**P**	**19 33 59.8**	**+0.2**
HDA	**Harding Lake**	**83.46**	**19**	*e*P	**P**	**19 34 03.5**	**-0.3**
	3.0nm,0.7s						
ILAR	**Eielson Array**	**83.73**	**18**	P	**P**	**19 34 04.8**	**-0.4**
	0.4nm,0.6s,baz=260,slow=5.4,SNR=7.7						
SCRK	**Sand Creek**	**84.12**	**20**	*e*P	**P**	**19 34 07.4**	**+0.2**
	2.2nm,1.0s						
EGAK	**Eagle**	**85.58**	**20**	*e*P	**P**	**19 34 14.6**	**+0.2**
	1.7nm,0.6s						
NV01	**Mina Array Sit**	**85.89**	**50**	*e*P	**P**	**19 34 17.1**	**+0.2**
NVAR	**Mina Array Bea**	**85.89**	**50**	P	**P**	**19 34 17.1**	**+0.2**
	0.2nm,0.5s,baz=239,slow=8.1,SNR=3.8						
MK32	**Makanchi Array**	**94.15**	**317**	*e*P	**P**	**19 34 55.3**	**0.0**
MKAR	**Makanchi Array**	**94.15**	**317**	P	**P**	**19 34 55.3**	**0.0**
	0.9nm,0.5s,baz=88,slow=5.9,SNR=14						
YKA	**Yellowknife Ar**	**95.09**	**27**	P	**P**	**19 34 57.8**	**-1.4**
	0.1nm,0.5s,baz=261,slow=4.2,SNR=3.6						
YKB5	**Yellowknife Ar**	**95.09**	**27**	*e*P	**P**	**19 34 57.8**	**-1.4**
ARA0	**ARCESS Array S**	**116.84**	**346**	*e*PKPdf	**PKPdf**	**19 40 19.7**	**-0.6**
ARCES	**ARCESS Array B**	**116.84**	**346**	PKP	**PKPdf**	**19 40 19.7**	**-0.6**
	1.4nm,0.9s,baz=103,slow=2.9,SNR=4.1						
FIA0	**FINESS Array S**	**122.32**	**339**	*e*PKPdf	**PKPdf**	**19 40 30.5**	**-0.5**
FINES	**FINESS Array B**	**122.32**	**339**	PKP	**PKPdf**	**19 40 30.5**	**-0.5**
	0.5nm,0.7s,baz=76,slow=5.9,SNR=4.1						

*ISK **11** 19:29:40.4, 38°.84N×43°.66E, h29km, ML2.0/4*
*ISCJB **11** 19:29:41.1±2.0, 38°.89N±0°.07×43°.7E±0°.1, h37km±20km, Error ellipse: s-maj=20.6km s-min=7.6km az=28.1*
*DDA **11** 19:29:42.1, 38°.93N×43°.53E, h7km±4km, ML2.6*
ISC 11 19:29:41.1±1.1, 38°.88N±0°.05×43°.61E±0°.06, h27km±11km, n9, σ0°52/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.11**	**345**	*i* P	**Pb

SNR=11
TKM2 Tokmak 2 5.62 38 P **Pn 19 31 26.3 +1.7**
SNR=7.7
TKM2 Tokmak 2 5.62 38 ⇓Pn **Pn 19 31 26.2 +1.7**
3.2nm,0.5s
TKM2 ⇑Sn **Sn 19 32 28.9 -0.3**
6.8nm,0.7s
TKM2 ⇑Lg Lg 19 32 53.1
11nm,0.8s
KST Kastek 5.88 39 *e*P Pn 19 31 37.4 +9.2
2.9nm,0.5s
KST *e*S Sn 19 32 46.8 +11
6.5nm,0.8s
GEYT Alibeck 10.06 270 Pn **Pn 19 32 25.7 +0.4**
0.4nm,0.3s,baz=112,slow=9.8,SNR=6.2
MKAR Makanchi Array 11.72 42 Pn **Pn 19 32 47.2 -0.9**
0.0nm,0.3s,baz=224,slow=12,SNR=2.5
KURBB Kurchatov Arra 13.20 22 Pn Pn 19 33 04.3 -3.8
0.0nm,0.3s,baz=207,slow=3.9,SNR=3.3
AB31 Akbulak array 13.24 327 Pn **Pn 19 33 09.3 +0.5**
0.3nm,0.3s,baz=135,slow=14,SNR=30
AB31 ⇑Sn **Sn 19 35 34.9 -1.0**
2.6nm,0.7s,baz=146,slow=22,SNR=13
BVAR Borovoye Array 14.44 359 Pn Pn 19 33 21.3 -3.8
0.1nm,0.3s,baz=167,slow=15,SNR=3.4
AKTO Aktyubinsk 14.95 327 ⇓Pn **Pn 19 33 33.7 +1.7**
3.6nm,0.9s
AKTO ⇓Sn **Sn 19 36 15.2 -2.4**
2.9nm,1.0s
AKTO Aktyubinsk 14.95 327 Pn **Pn 19 33 31.4 -0.7**
0.1nm,0.3s,baz=110,slow=12,SNR=3.0
ZALV Zalesovo Beam 18.08 27 P **Pn 19 34 09.6 -2.2**
0.2nm,0.3s,baz=209,slow=17,SNR=2.4
TORD Torodi Ar. Bea 65.69 268 P **P 19 40 45.1 -0.6**
0.2nm,0.4s,baz=51,slow=6.1,SNR=4.3

NIED ***11*** *19:31:00, 24°.90N×123°.30E, h5km, Mw4.7 Best double couple: M0 1.16000×10^16 NP1:φs=211.00000°, δ38.00000°, λ-141.00000°. NP2:φs=90.00000°, δ67.00000°, λ-58.00000°.*
JMA ***11*** *19:31:42.9±0.2, 24°.89N×123°.31E, h26km, M4.9*
ISCJB ***11*** *19:31:44.7±0.4, 24°.73N±0°.03×123°.27E±0°.02, h33km±3km, mb4.6/76, MS4.1/24, Error ellipse: s-maj=4.4km s-min=3.4km az=15.1*
BJI ***11*** *19:31:44.0±0.0, 24°.70N×123°.30E, h25km, mb4.4/44, mB4.7/38, Ms4.6/47, Ms7 4.6/40*
GCMT ***11*** *19:31:45.3±0.4, 24°.76N±0°.02×123°.26E±0°.02, h15km±1km, MW4.7/65, Moment Tensor Solution. s11,c12; s65,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.31±.09; Mθθ0.56±.07; Mφφ-0.25±.07; Mrθ-0.02±.20; Mφθ 1.26±.06; Mφr-0.86±.28; Best double couple: M0 1.60200×10^16 NP1:φs 12.00000°, δ81.00000°, λ-146.00000°. NP2: φs 276.00000°, δ56.00000°, λ-11.00000°. Principal axes: T 1.6330, Plg16.0000°, Azm140.0000°; N -0.0620, Plg55.0000°, Azm26.0000°; P -1.5710, Plg30.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***11*** *19:31:46.3±1.1, 24°.76N×123°.18E, h31km±4km, mb4.6/48 Error ellipse: s-maj=10.9km s-min=8.2km az=115.0*
IDC ***11*** *19:31:51.0±2.1, 24°.87N×123°.29E, h68km±20km, mb3.8/32, mb1 4.0/35, mb1mx3.9/61, mbtmp4.1/35, MS4.0/25, Ms1 4.0/25, ms1mx3.8/38, Error ellipse: s-maj=14.2km s-min=9.1km az=64.0*

ISC 11 19:31:45.9±0.9, 24°.74N±0°.04×123°.33E±0°.03, h26km±7km, n164, σ2s 25/178, mb4.4/76, MS4.1/24, 1C-1D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.40**	**227**	*e*Pg		**Pb**	**19 31 53.0**	**-1.5**
YOJ	**Yonaguni jima**	**0.40**	**227**	P		**Pb**	**19 31 53.0**	**-1.5**
YOJ				*e*S		**Sb**	**19 31 59.5**	**-0.9**
JYNG	**Yonagunijimaku**	**0.45**	**231**	P		**Pb**	**19 31 53.7**	**-1.7**
JYNG				S		**Sb**	**19 32 01.1**	**-0.7**
IRIF	**Iriomote-Funau**	**0.54**	**138**	P		**Pb**	**19 31 55.8**	**-1.1**
IRIF				S		**Sb**	**19 32 05.4**	**+1.1**
JKRS	**Kuro-shima**	**0.79**	**129**	P		**Pb**	**19 31 59.7**	**-1.4**
JKRS				S		**Sb**	**19 32 11.3**	**-0.2**
HATJ	**Hateruma jima**	**0.80**	**147**	P		**Pb**	**19 32 00.3**	**-1.0**
JIJ	**Ishigaki jima**	**0.83**	**117**	P		**Pb**	**19 31 59.3**	**-2.4**
JISG	**Ishigakijimahi**	**0.91**	**99**	P		**Pb**	**19 32 00.2**	**-2.8**
JTJ	**Tarama**	**1.25**	**94**	P		**Pn**	**19 32 05.9**	**-1.8**
JIRB	**Irabujima**	**1.68**	**87**	P		**Pn**	**19 32 12.2**	**-1.3**
NACB	**Ninganchiao**	**1.68**	**251**	*e*Pn		**Pn**	**19 32 12.2**	**-1.3**
TATO	**Taipei**	**1.69**	**278**	*e*Pn		**Pn**	**19 32 11.8**	**-2.0**
JIKM	**Ikemajima**	**1.75**	**84**	P		**Pn**	**19 32 13.5**	**-1.1**
YHNB	**Yeheng**	**1.78**	**268**	*e*Pn		**Pn**	**19 32 13.2**	**-1.8**
YHNB				*e*Sn		**Sn**	**19 32 31.3**	**-5.5**
JMJ2	**Miyako jima3**	**1.82**	**89**	P		**Pn**	**19 32 14.6**	**-0.9**
JOGS	**Gusukube**	**1.89**	**89**	P		**Pn**	**19 32 15.7**	**-0.7**
YULB	**Yu-li**	**2.29**	**235**	*e*Pn		**Pn**	**19 32 20.7**	**-1.3**
SSLB	**Suanglung**	**2.37**	**247**	*e*Pn		**Pn**	**19 32 22.2**	**-0.8**
TWG	**Pinlang**	**2.81**	**228**	*e*Pn		**Pn**	**19 32 27.9**	**-1.3**
QZH	**Quanzhou**	**4.31**	**274**	⇓*i*P		Pn	19 32 43.0	-6.7
QZH				S		**Sn**	**19 33 34.5**	**-4.7**
KNMB	**Chin-men Tao**	**4.51**	**268**	*e*Pn		**Pn**	**19 32 50.9**	**-1.6**
JOW	**Kunigami**	**4.92**	**64**	*e*Pn		**Pn**	**19 32 58.5**	**+0.3**
JOW	**Kunigami**	**4.92**	**64**	P		**Pn**	**19 33 00.5**	**+2.3**
0.5nm,0.3s,baz=198,slow=14,SNR=13								
NJ2	**Nanjing**	**8.28**	**333**	*e*P		**Pn**	**19 33 43.4**	**-0.9**
NJ2				pmax		pmax		
comp=Z,8.0nm,0.7s								
HKPS	**Hong Kong Po S**	**8.78**	**256**	*e*Pn		**Pn**	**19 33 52.1**	**+0.9**
GZH	**Guangzhou**	**9.28**	**262**	P		**Pn**	**19 33 54.8**	**-3.3**
GZH				S		**Sn**	**19 35 38.7**	**-3.0**
GZH				smax		smax		
comp=N,71nm,1.0s								
GZH				smax		smax		
comp=E,42nm,1.0s								
JNU	**Nakatsue**	**10.65**	**37**	*e*Pn		**Pn**	**19 34 19.8**	**+3.0**
JNU	**Nakatsue**	**10.65**	**37**	P		**Pn**	**19 34 20.9**	**+4.1**
0.2nm,0.3s,baz=139,slow=5.5,SNR=4.1								
JNU				LR		LR	19 38 24.7	
comp=Z,489nm,20.2s,baz=220,slow=37								
TGY	**Tagaytay City**	**10.82**	**192**	P		Pn	19 34 25.6	+6.4
23nm,0.3s,baz=136,slow=17,SNR=2.1								
TGY				LR		LR	19 38 58.4	
comp=Z,688nm,18.8s,baz=40,slow=39								
TIA	**Tai'an**	**12.62**	**336**	P		P	19 35 00.5	+5.6
TIA				S		**Sn**	**19 37 11.2**	**+7.8**
KS15	**Wonju Array Si**	**13.25**	**16**	*e*Pn		**Pn**	**19 34 54.7**	**+2.4**
KSAR	**Wonju Array Be**	**13.25**	**16**	*e*Pn		**Pn**	**19 34 52.2**	**0.0**
KSRS	**Korea Array**	**13.27**	**16**	P		**Pn**	**19 34 55.6**	**+3.0**
0.1nm,0.3s,baz=207,slow=14,SNR=4.0								
KSRS				LR		LR	19 40 43.6	
comp=Z,454nm,18.4s,baz=200,slow=41								
QIZ	**Qiongzhong**	**13.74**	**248**	P		**Pn**	**19 34 56.3**	**-2.9**
QIZ				S		**Sn**	**19 37 30.7**	**-0.3**
QIZ				LR		LR		
comp=N,750nm,15.2s								
QIZ				LR		LR		
comp=E,600nm,17.7s								
QIZ				LR		LR		
comp=Z,490nm,15.2s								
GYA	**Guiyang**	**15.13**	**280**	⇑*i*P		**P**	**19 35 28.9**	**+5.9**
GYA				pP		sP	19 35 34.3	+1.5
GYA				sP		pwP	19 35 40.4	+8.6
GYA				PP		pP	19 35 45.1	+15
GYA				S		**S**	**19 38 24.9**	**+3.2**
GYA				sS		sS	19 38 34.7	+2.5
XAN	**Xi'an**	**15.59**	**310**	P		**P**	**19 35 31.1**	**+3.1**
XAN				pP		pP	19 35 34.9	+0.3
XAN				sP		sP	19 35 38.1	+0.3
XAN				PP		pwP	19 35 44.8	+7.8
XAN				S		**S**	**19 38 32.2**	**+1.3**
XAN				sS		sS	19 38 38.5	-2.9
XAN				SS		SnSn	19 38 52.6	+24
XAN	**Xi'an**	**15.59**	**310**	*e*Pn		**Pn**	**19 35 25.3**	**+1.3**
32nm,0.8s								
BJT	**Baijiatuau**	**16.38**	**340**	*e*Pn		**Pn**	**19 35 33.5**	**-0.5**
7.1nm,0.8s								
MAJO	**Matsushiro**	**17.36**	**44**	*e*Pn		**P**	**19 35 47.8**	**+0.2**
MJAR	**Matsushiro Arr**	**17.36**	**44**	P		**P**	**19 35 47.7**	**+0.2**
0.0nm,0.3s,baz=231,slow=12,SNR=6.6								
MJAR				LR		LR	19 42 54.3	
comp=Z,233nm,21.0s,baz=240,slow=38								
DAV	**Davao City (W)**	**17.70**	**173**	LR		LR	19 42 51.8	
comp=Z,452nm,20.2s,baz=341,slow=37								
SLVN	**Son La**	**18.20**	**263**	*e*Pn		**Pn**	**19 35 55.9**	**-0.9**
20nm,1.4s								
CD2	**Chengdu**	**18.36**	**294**	P		**Pn**	**19 35 59.0**	**+0.2**
CD2				pP		pP	19 36 04.0	-1.4
CD2				S		**Sn**	**19 39 20.9**	**-2.3**
CD2				pmax		pmax		
comp=Z,20nm,0.8s								
CD2				pmax		pmax		
comp=Z,330nm,6.9s								
CD2				LR		LR		
comp=N,2μm,15.5s								
CD2				LR		LR		
comp=E,2μm,12.2s								
CD2				LR		LR		
comp=Z,2μm,10.4s								
KMI	**Kunming**	**18.68**	**276**	P		**P**	**19 36 00.7**	**-1.7**
KMI				pP		pP	19 36 08.5	-0.6
KMI				sP		sP	19 36 11.9	-0.6
KMI				PP		**PnPn**	**19 36 18.3**	**+3.3**
KMI				S		Sn	19 39 19.2	-12
KMI				SS		**SnSn**	**19 39 47.9**	**+2.8**
KMI				pmax		pmax		
comp=Z,9.0nm,0.5s								
KMI				pmax		pmax		
comp=Z,140nm,5.4s								
KMI				LR		LR		
comp=N,1μm,8.9s								
KMI				LR		LR		
comp=E,2μm,11.8s								
KMI				LR		LR		
comp=Z,2μm,12.6s								
KMI	**Kunming**	**18.68**	**276**	*e*P		**P**	**19 35 60.0**	**-2.4**
9.4nm,0.8s								
HHC	**Hu-ho-hao-te**	**18.84**	**331**	*e*P		**Pn**	**19 36 04.4**	**-0.1**
HHC				sP		sP	19 36 14.7	+1.1
HHC				S		**Sn**	**19 39 31.7**	**-2.9**
HHC				SS		**SnSn**	**19 39 59.7**	**+11**
HHC				pmax		pmax		
comp=Z,65nm,0.7s								
HHC				pmax		pmax		
comp=Z,310nm,3.8s								
HHC				LR		LR		
comp=N,1μm,9.0s								
HHC				LR		LR		
comp=E,570nm,8.9s								
HHC				LR		LR		
comp=Z,1μm,8.2s								
CN2	**Changchun**	**19.10**	**5**	*e*P		**Pn**	**19 36 07.4**	**-0.1**
CN2				pmax		pmax		
comp=Z,10.0nm,0.6s								
BTO	**Baotou**	**19.35**	**328**	*e*P		**Pn**	**19 36 14.3**	**+3.6**
SKNT	**Sakolnakorn**	**19.65**	**251**	P		**Pn**	**19 36 20.5**	**+6.2**
16nm,1.1s								
KKM	**Kota Kinabalu**	**19.80**	**201**	*e*P		**P**	**19 36 13.3**	**-1.3**
19nm,0.9s								
NONG	**Nongkai**	**19.92**	**254**	P		**Pn**	**19 36 22.0**	**+4.5**
0.9nm,1.1s								
LZH	**Lanzhou**	**20.22**	**309**	*e*P		Pn	19 36 21.5	+0.4
LZH				pP		sP	19 36 29.3	+0.3
LZH				sP		pwP	19 36 33.4	+5.3
LZH				PP		pP	19 36 41.2	+15
LZH				*e*S		**S**	**19 40 00.8**	**-4.0**
LZH				sS		sS	19 40 11.7	-3.8
LZH				SS		**SnSn**	**19 40 31.8**	**+9.1**
LZH				pmax		pmax		
comp=Z,51nm,1.3s								
LZH				pmax		pmax		
comp=Z,390nm,4.6s								
LZH				LR		LR		
comp=N,1μm,12.6s								
LZH				LR		LR		
comp=E,2μm,12.1s								
LZH				LR		LR		
comp=Z,2μm,15.2s								
USRK	**Ussuriysk Ar.**	**20.66**	**18**	*e*P		**P**	**19 36 24.1**	**+0.5**
USRK	**Ussuriysk Ar.**	**20.66**	**18**	P		Pn	19 36 25.2	-0.8
4.0nm,0.8s,baz=209,slow=8.5,SNR=4.8								
USRK				LR		LR	19 44 31.1	
comp=Z,325nm,18.1s,baz=179,slow=37								
KHON	**Khomkaen**	**20.92**	**250**	P		Pn	19 36 34.3	+5.0
25μm,0.6s								
CHAI	**Chaiyaphum**	**21.84**	**250**	P		**P**	**19 36 40.5**	**+4.0**
40μm,1.0s,337μm								
GUMO	**Guam**	**23.14**	**115**	LR		LR	19 45 55.5	
comp=Z,122nm,18.4s,baz=310,slow=36								
CMAR	**Chiang Mai Arr**	**23.50**	**259**	P		**P**	**19 36 56.6**	**+2.7**
3.8nm,0.9s,baz=68,slow=8.1,SNR=2.4								
CMAR				PcP		**PcP**	**19 40 39.6**	**+0.3**
0.6nm,0.8s,baz=45,slow=1.4,SNR=4.5								
CMAR				LR		LR	19 47 14.1	
comp=Z,432nm,18.1s,baz=70,slow=39								
TNTI	**Ternate**	**24.14**	**170**	*e*P		**P**	**19 37 00.1**	**+0.2**
32nm,1.0s								
TNTI	**Ternate**	**24.14**	**170**	P		P	19 37 07.6	+7.7
MRSI	**Marisa**	**24.16**	**183**	P		**P**	**19 37 04.9**	**+4.9**
UTHA	**Uthaitani**	**24.18**	**252**	P		**P**	**19 37 04.6**	**+4.3**
30μm,1.0s,247μm								
UMPA	**Umpang Tak**	**24.41**	**254**	P		**P**	**19 37 08.3**	**+5.8**
49μm,1.1s,382μm								
SBUM	**Sibu**	**24.61**	**208**	*e*P		**P**	**19 37 03.9**	**-0.4**
17nm,1.2s								
GTA	**Gaotai**	**24.62**	**312**	P		**P**	**19 37 03.7**	**-0.6**
GTA				pP		pP	19 37 09.8	-1.8
GTA				sP		pwP	19 37 12.7	-1.0
GTA				S		**S**	**19 41 21.1**	**-3.1**
GTA				sS		pS	19 41 32.0	+0.2
GTA				SS		**SnSn**	**19 42 14.2**	**+3.6**
GTA				pmax		pmax		
comp=Z,5.0nm,1.3s								
GTA				pmax		pmax		
comp=Z,61nm,5.6s								
GTA				LR		LR		
comp=N,410nm,16.1s								
GTA				LR		LR		
comp=E,780nm,13.7s								
GTA				LR		LR		
comp=Z,830nm,13.7s								
HIA	**Hailar**	**24.65**	**354**	*e*P		**P**	**19 37 03.7**	**-0.6**
25nm,1.1s								
ASAJ	**Asahikawa**	**24.92**	**34**	LR		LR	19 47 31.8	
comp=Z,272nm,18.1s,baz=64,slow=38								
SRDT	**SRDT**	**25.00**	**250**	P		P	19 37 15.6	+7.8
11nm,1.1s,782nm								
KLR	**Kul'dur**	**25.32**	**13**	P		**P**	**19 37 10.8**	**+0.5**
6.4nm,0.8s,baz=228,slow=4.1,SNR=18								
KLR				LR		LR	19 47 21.6	
comp=Z,322nm,18.5s,baz=196,slow=37								
APSI	**Ampana**	**25.55**	**184**	P		**P**	**19 37 15.5**	**+2.8**
LUWI	**Luwuk**	**25.63**	**181**	*e*P		**P**	**19 37 13.4**	**0.0**
84nm,1.1s								
KSM	**Kuching**	**26.33**	**211**	*e*P		**P**	**19 37 19.3**	**-0.5**
16nm,0.9s								
ULN	**Ulaanbaatar**	**26.44**	**335**	*e*P		**P**	**19 37 19.7**	**-1.0**
16nm,1.2s								
SONM	**Songino Array**	**26.67**	**334**	*e*P		**P**	**19 37 21.9**	**-0.9**
SONM	**Songino Array**	**26.67**	**334**	P		**P**	**19 37 22.6**	**-0.2**
5.5nm,0.8s,baz=147,slow=8.6,SNR=29								
SONM				LR		LR	19 48 58.4	
comp=Z,523nm,19.4s,baz=145,slow=39								
SHL	**Shillong**	**28.45**	**278**	*e*P		**P**	**19 37 38.3**	**-0.7**
9.8nm,0.8s								
FAKI	**Fak Fak**	**28.82**	**161**	*e*P		**P**	**19 37 41.8**	**-0.3**
14nm,1.0s								
LSA	**Lhasa**	**28.98**	**287**	*e*P		**P**	**19 37 42.7**	**-1.3**
4.4nm,0.7s								
TLY	**Talaya**	**30.83**	**336**	*e*P		**P**	**19 37 58.0**	**-1.6**
14nm,1.1s								
WMQ	**Urumqi**	**34.71**	**312**	*e*P		**P**	**19 38 33.3**	**-0.4**
WMQ				pP		pwP	19 38 42.4	-0.7
WMQ				sP		sP	19 38 44.6	+0.6
WMQ				pmax		pmax		
comp=Z,350nm,5.7s								
WMQ				LR		LR		
comp=E,760nm,11.5s								
WMQ				LR		LR		
comp=Z,1μm,14.7s								
WMQ	**Urumqi**	**34.71**	**312**	*e*P		**P**	**19 38 32.9**	**-0.8**
11nm,0.4s								
PETK	**Petropavlovsk-**	**38.33**	**33**	LR		LR	19 54 28.5	
comp=Z,75nm,21.0s,baz=214,slow=36								
MK31	**Makanchi Array**	**39.32**	**315**	*e*P		**P**	**19 39 11.4**	**-1.5**
11nm,1.5s								
MK32	**Makanchi Array**	**39.32**	**315**	*e*P		**P**	**19 39 11.9**	**-0.9**
MKAR	**Makanchi Array**	**39.32**	**315**	*e*P		**P**	**19 39 11.4**	**-1.4**
MKAR	**Makanchi Array**	**39.32**	**315**	P		**P**	**19 39 11.9**	**-0.9**
1.4nm,0.6s,baz=104,slow=9.0,SNR=13								
MKAR				LR		LR	19 56 27.5	
comp=Z,217nm,18.2s,baz=108,slow=38								
MAKZ	**Makanchi**	**39.53**	**315**	*e*P		**P**	**19 39 13.5**	**-1.1**
12nm,1.4s								
RABL	**Rabaul**	**40.16**	**132**	*e*P		**P**	**19 39 20.5**	**+0.4**
19nm,0.6s								
ZAA0	**Zalesovo Array**	**40.87**	**326**	*e*P		**P**	**19 39 23.8**	**-1.7**
9.5nm,1.3s								
ZALV	**Zalesovo Beam**	**40.87**	**326**	*e*P		**P**	**19 39 23.8**	**-1.7**
ZALV	**Zalesovo Beam**	**40.87**	**326**	P		**P**	**19 39 24.0**	**-1.5**
1.8nm,0.5s,baz=112,slow=8.5,SNR=8.3								
ZALV				LR		LR	19 57 29.9	
comp=Z,486nm,18.3s,baz=70,slow=38								
ZAA1	**Zalesovo Array**	**40.87**	**326**	*e*P		**P**	**19 39 24.0**	**-1.5**
PMG	**Port Moresby**	**41.13**	**143**	P		**P**	**19 39 29.4**	**+1.4**
21nm,1.1s,baz=327,slow=15,SNR=2.3								
KSH	**Kashi**	**42.25**	**302**	P		**P**	**19 39 37.0**	**-0.2**
KSH				pP		pwP	19 39 45.9	-0.9
KSH				PP		**PP**	**19 41 18.0**	**+2.8**
KSH				S		**S**	**19 45 55.2**	**-1.1**
KSH				SS		**SS**	**19 48 59.7**	**-5.2**
KSH				pmax		pmax		
comp=Z,230nm,5.2s								
KSH				LR		LR		
comp=E,460nm,10.8s								
KSH				LR		LR		
comp=Z,1μm,13.7s								
NRN	**Naryn**	**42.46**	**305**	*e*P		**P**	**19 39 38.9**	**-0.2**
7.1nm,1.0s								
FITZ	**Fitzroy Crossi**	**42.64**	**177**	*e*P		**P**	**19 39 39.5**	**-0.8**
12nm,1.4s								
KURK	**Kurchatov**	**42.94**	**319**	*e*P		**P**	**19 39 41.0**	**-1.4**
5.4nm,0.9s								
KURBB	**Kurchatov Arra**	**42.96**	**319**	P		**P**	**19 39 41.4**	**-1.2**
2.2nm,0.8s,baz=110,slow=8.3,SNR=14								
COEN	**Coen**	**43.06**	**151**	*e*P		**P**	**19 39 44.2**	**+0.4**
46nm,1.4s								
AAK	**Ala-Archa**	**43.74**	**307**	P		**P**	**19 39 48.7**	**-0.5**
0.6nm,0.4s,baz=23,slow=11,SNR=3.3								
NIL	**Nilore**	**44.25**	**294**	*e*pP		pP	19 40 01.0	+0.2
WRAB	**Tennant Creek**	**45.68**	**165**	*e*P		**P**	**19 40 04.4**	**-0.2**
15nm,0.8s								
WR1	**Warramunga Arr**	**45.69**	**165**	*e*P		**P**	**19 40 05.1**	**+0.4**
WR1				*e*PcP		**PcP**	**19 41 42.7**	**+0.1**
WRA	**Warramunga Arr**	**45.69**	**165**	P		**P**	**19 40 05.1**	**+0.4**
8.1nm,0.7s,baz=347,slow=8.6,SNR=63								
WRA				PcP		**PcP**	**19 41 42.7**	**+0.1**
1.0nm,0.8s,baz=345,slow=3.4,SNR=2.6								
WB2	**Warramunga Arr**	**45.69**	**165**	*e*P		**P**	**19 40 05.0**	**+0.3**
MBWA	**Marble Bar**	**45.76**	**185**	*e*P		**P**	**19 40 04.9**	**-0.3**
58nm,1.5s								
TIXI	**Tiksi**	**47.05**	**2**	*e*P		**P**	**19 40 14.3**	**-0.5**
7.2nm,0.9s								
TIXI	**Tiksi**	**47.05**	**2**	P		**P**	**19 40 13.5**	**-1.3**
4.8nm,0.6s,baz=162,slow=4.5,SNR=13								
KBL	**Kabul**	**47.70**	**295**	*e*P		**P**	**19 40 18.3**	**-2.4**
6.6nm,0.9s								
BVAR	**Borovoye Array**	**48.50**	**320**	P		**P**	**19 40 25.5**	**-0.8**
0.7nm,0.5s,baz=108,slow=9.5,SNR=5.6								
BRVK	**Borovoye**	**48.57**	**320**	*e*P		**P**	**19 40 25.8**	**-1.1**
11nm,1.4s								
AS31	**Alice Springs**	**49.20**	**167**	*e*P		**P**	**19 40 32.3**	**+0.3**
1.6nm,0.7s								
ASAR	**Alice Springs**	**49.20**	**167**	*e*P		**P**	**19 40 32.5**	**+0.4**
ASAR	**Alice Springs**	**49.20**	**167**	P		**P**	**19 40 33.6**	**+1.6**
2.4nm,0.6s,baz=349,slow=7.3,SNR=38								
ASAR				PcP		**PcP**	**19 41 54.9**	**-0.1**
0.7nm,0.7s,baz=336,slow=3.4,SNR=3.0								
ASAR				LR		LR	20 02 29.1	
comp=Z,37nm,21.0s,baz=352,slow=37								
HNR	**Honiara**	**49.28**	**129**	P		**P**	**19 40 34.7**	**+2.0**
76nm,0.9s,baz=343,slow=2.0,SNR=2.4								
NRIK	**Noril'sk**	**49.39**	**344**	P		**P**	**19 40 32.9**	**-0.1**
9.5nm,1.0s,baz=132,slow=6.0,SNR=8.0								
NRIK				LR		LR	20 03 26.8	
comp=Z,472nm,18.0s,baz=150,slow=38								
MORW	**Morawa**	**53.95**	**188**	*e*P		**P**	**19 41 07.3**	**-0.2**
44nm,1.3s								
ABKAR	**Akbulak array**	**54.46**	**314**	*e*P		**P**	**19 41 09.8**	**-1.2**
4.8nm,1.1s								
ABKAR				*e*P		**P**	**19 41 09.9**	**-1.1**
FORT	**Forrest**	**55.39**	**175**	*e*P		**P**	**19 41 17.9**	**+0.1**
84nm,1.4s								
AKTO	**Aktyubinsk**	**55.75**	**315**	P		**P**	**19 41 19.6**	**-0.7**
1.4nm,0.9s,baz=51,slow=4.7,SNR=4.1								
ARU	**Arti**	**55.85**	**323**	*e*P		**P**	**19 41 19.6**	**-1.3**
5.2nm,0.9s								
GEYT	**Alibeck**	**56.21**	**300**	P		**P**	**19 41 22.2**	**-1.6**
46nm,0.7s,baz=24,slow=44,SNR=2.5								
GEYT				LR		LR	20 09 47.8	
comp=Z,166nm,18.2s,baz=120,slow=41								
BBOO	**Buckleboo**	**58.50**	**167**	*e*P		**P**	**19 41 39.8**	**-0.1**
18nm,1.0s								
STKA	**Stephens Creek**	**58.94**	**162**	*e*P		**P**	**19 41 43.5**	**+0.6**
2.3nm,1.1s								
STKA	**Stephens Creek**	**58.94**	**162**	P		**P**	**19 41 43.9**	**+1.0**
2.4nm,0.5s,baz=350,slow=5.9,SNR=12								
STKA				LR		LR	20 08 18.5	
comp=Z,169nm,19.1s,baz=212,slow=37								
KIRV	**Kirov**	**60.89**	**325**	P		**P**	**19 41 55.6**	**-0.4**
9.2nm,0.6s,baz=237,slow=13,SNR=2.5								
ARMA	**Armidale**	**61.19**	**152**	*e*P		**P**	**19 41 59.7**	**+1.2**
28nm,1.6s								
CAN	**Canberra**	**64.49**	**157**	*e*P		**P**	**19 42 21.2**	**+0.9**
34nm,1.5s								
GNI	**Garni**	**66.10**	**305**	P		**P**	**19 42 32.0**	**+0.9**
2.9nm,0.7s,baz=57,slow=13,SNR=2.2								
KBZ	**Khabaz**	**66.66**	**309**	P		**P**	**19 42 34.3**	**0.0**
1.6nm,0.9s,baz=183,slow=5.9,SNR=3.3								
KBZ				LR		LR	20 14 56.0	
comp=Z,129nm,18.8s,baz=64,slow=39								
RND	**Reindeer**	**67.22**	**29**	*e*P		**P**	**19 42 36.6**	**-1.1**
7.7nm,1.2s								
MDM	**Murphy Dome**	**67.23**	**27**	*e*P		**P**	**19 42 37.9**	**+0.3**
9.7nm,1.6s				

3.0nm,0.7s
YKA Yellowknife Ar 81.69 23 eP P 19 44 00.2 -1.5
YKA Yellowknife Ar 81.69 23 P P 19 44 00.7 -1.0
1.6nm,0.6s,baz=306,slow=5.1,SNR=39
FFC Flin Flon 91.83 24 eP P 19 44 50.6 -0.9
4.4nm,0.9s
KEST Kesra 93.37 312 LR LR 20 31 59.1
comp=Z,51nm,18.6s,baz=290,slow=39
NV01 Mina Array Sit 94.69 44 eP P 19 45 05.5 +0.2
NVAR Mina Array Bea 94.69 44 P P 19 45 05.5 +0.2
0.6nm,0.7s,baz=305,slow=6.2,SNR=5.2

MEX 11 19:32:24.8±0.5, 16°.28N×98°.17W, h17km±9km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.12	23	i P	Pg	19 32 27.7	-0.9
PNIG				eS	Sg	19 32 30.4	-0.7

SNET 11 19:37:25.9±0.5, 11°.79N×87°.15W, h14km±15km, ML3.8, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	Cerro Negro	0.83	32	eP	Pg	19 37 40.9	-1.3
CNGN				eS	Sg	19 37 53.2	+0.1
MOMN	Momotombo	0.86	44	eP	Pg	19 37 41.5	-1.1
MOMN				eS	Sg	19 37 53.6	-0.3
CNCH	Conchagua	1.62	336	eP	Pn	19 37 54.2	-0.1
CNCH				eS	Sb	19 38 16.0	-0.2
CNCH				IAML		19 38 18.5	
comp=Z,1μm,0.4s
LCND La Caada 1.68 335 eP Pn 19 37 54.6 -0.3
PACA Pacayal 2.03 326 eP Pn 19 37 59.7 -0.1

*ISCJB **11** 19:38:26.7±0.4, 15°.79S±0°.03×71°.56W±0°.05, h150km, mb3.8/9, Error ellipse: s-maj=7.0km s-min=4.1km az=152.1*
*NEIC **11** 19:38:27.6±1.7, 15°.80S×71°.57W, h158km±21km, mb4.3/5, Error ellipse: s-maj=28.6km s-min=23.0km az=198.0*
*VAO **11** 19:38:32.9±0.5, 15°.83S×71°.12W, h162km, mb4.5*
*IDC **11** 19:38:32.8±1.6, 15°.57S×71°.04W, h185km±13km, mb3.5/8, mb1 3.7/14, mb1mx3.5/43, mbtmp4.2/14, Error ellipse: s-maj=20.5km s-min=12.6km az=60.0*
ISC 11 19:38:27.2±0.5, 15°.82S±0°.04×71°.57W±0°.06, h150km, n69, σ1§91/89, mb4.0/9, 6C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	IPOC Station P	3.02	157	eP	Pn	19 39 16.8	+1.9
PB12				eS	Sn	19 39 51.5	-0.3
PB12	IPOC Station P	3.02	157	⇑iP	Pn	19 39 16.2	+1.3
PB12				i S	Sn	19 39 52.0	+0.2
PB16	IPOC Station P	3.18	142	eP	Pn	19 39 18.6	+1.1
PB16	IPOC Station P	3.18	142	⇑iP	Pn	19 39 19.7	+2.3
PB16				eS	Sn	19 39 57.5	+1.2
LPAZ	La Paz	3.34	98	ePn	Pn	19 39 20.4	+1.0
LPAZ				eSn	Sn	19 40 00.2	+0.4
LPAZ	La Paz	3.34	98	eP	Pn	19 39 20.2	+0.7
LPAZ	La Paz	3.34	98	⇑iP	Pn	19 39 20.7	+1.3
LPAZ				i S	Sn	19 39 59.1	-0.7
LPAZ	La Paz	3.34	98	P	Pn	19 39 20.8	+1.3
32nm,0.3s,baz=324,slow=6.7,SNR=1256
LPAZ S Sn 19 39 59.1 -0.7
15nm,0.3s,baz=105,slow=11,SNR=7.0
LPAZ La Paz 3.34 98 eP Pn 19 39 20.9 +1.5
MNMC Minye Minye 3.79 151 ePn Pn 19 39 26.4 +1.4
MNMC eSn Sn 19 40 05.9 -4.0
MNMC Minye Minye 3.79 151 ⇑iP Pn 19 39 26.4 +1.4
MNMC i S Sn 19 40 10.2 +0.3
MNMCX Minye Minye 3.79 151 eP Pn 19 39 25.8 +0.9
PSGCX Pisagua 4.00 160 eP Pn 19 39 28.6 +1.1
PSGCX eS Sn 19 40 12.7 -1.7
PB11 IPOC Station P 4.32 155 ePn Pn 19 39 32.3 +0.5
PB11 eSn Sn 19 40 15.7 -6.4
PB11 IPOC Station P 4.32 155 eP Pn 19 39 32.5 +0.7
GO01 Chusmiza 4.44 150 ePn Pn 19 39 35.5 +1.8
GO01 eSn Sn 19 40 24.2 -1.2
GO01 Chusmiza 4.44 150 ⇑iP Pn 19 39 35.9 +2.2
GO01 i S Sn 19 40 27.3 +1.8
PB01 IPOC Station P 5.55 159 ePn Pn 19 39 48.6 +0.6
PB01 eSn Sn 19 40 46.8 -4.5
PB07 IPOC Station P 6.08 165 eP Pn 19 39 56.0 +0.8
NNA Nana 6.38 306 ePn Pn 19 39 59.3 +0.2
NNA Nana 6.38 306 P Pn 19 39 59.8 +0.7
62nm,0.3s,baz=133,slow=11,SNR=76
NNA S Sn 19 41 10.3 -0.8
15nm,0.3s,baz=11,slow=16,SNR=5.1
PB04 IPOC Station P 6.61 169 ePn Pn 19 40 03.1 +0.9
PB04 eSn Sn 19 41 14.7 -2.0
LVC Limon Verde 7.20 160 ePn Pn 19 40 11.1 +0.8
LVC eSn Sn 19 41 29.0 -2.1
LVC Limon Verde 7.20 160 P Pn 19 40 11.9 +1.6
17nm,0.3s,baz=357,slow=6.9,SNR=214
LVC S Sn 19 41 28.2 -2.9
24nm,0.3s,baz=169,slow=20,SNR=22
PB10 IPOC Station P 7.71 173 ePn Pn 19 40 18.1 +1.4
PB10 eSn Sn 19 41 39.0 -3.8
HJA Humahuaca 9.36 143 eP Pn 19 40 37.9 -1.2
HJA IAML 19 40 43.5
comp=Z,43nm,0.6s
GO02 Mina Guanaco 9.47 169 ePn Pn 19 40 41.7 +1.2
GO02 eSn Sn 19 42 23.7 -2.1
SIV San Ignacio 10.10 92 P Pn 19 40 45.3 -3.4
comp=Z,3.1nm,0.3s,baz=290,slow=10.0,SNR=37
ATAH Atahualpa 10.92 321 P Pn 19 41 06.4 +6.5
comp=Z,0.9nm,0.3s,baz=265,slow=16,SNR=4.8
LCO Las Campanas 13.15 177 ePn Pn 19 41 28.5 0.0
LCO Las Campanas 13.15 177 eP P 19 41 32.8 -0.4
CYA Choya 13.64 158 eP Pn 19 41 32.1 -2.5
CYA IAML 19 41 42.6
comp=Z,10nm,0.5s
AQDB Aquidauana 15.77 109 eP Pn 19 42 00.6 -0.6
CFA Coronel Fontan 16.00 170 P P 19 42 08.6 +4.1
comp=Z,0.7nm,0.3s,baz=352,slow=11,SNR=7.5
CLDB Colider 16.11 74 eP Pn 19 42 04.3 -1.1
CPUP Villa Florida 16.89 131 eP Pn 19 42 14.8 -0.1
comp=Z,12nm,1.0s
CPUP Villa Florida 16.89 131 P Pn 19 42 14.7 -0.1
comp=Z,0.4nm,0.3s,baz=313,slow=11,SNR=13
CPUP Villa Florida 16.89 131 eP Pn 19 42 15.2 +0.5
OTAV Otavalo 17.35 336 eP Pn 19 42 20.2 -0.6
comp=Z,9.4nm,0.9s
C2SB Chapadao do Su 18.12 102 eP Pn 19 42 29.1 -0.4
PTGA Pitinga 18.87 38 eP P 19 42 33.7 -2.3
comp=Z,12nm,0.6s
PTGA Pitinga 18.87 38 P P 19 42 33.9 -2.1
comp=Z,2.2nm,0.3s,baz=216,slow=11,SNR=25
TRCB Terra Rica 19.16 114 eP P 19 42 39.8 +0.6
PTGB Pitanga 20.30 119 eP P 19 42 51.8 +0.3
ITRB Iturama 20.56 104 eP P 19 42 54.8 +0.5
ITAB Concordia 21.32 125 eP P 19 43 04.1 +1.8
FRTB Fartura 22.02 113 eP P 19 43 09.8 0.0
BB19B Bebedouro 22.46 107 eP P 19 43 14.8 +0.7
BDFB Brasilia 22.67 93 P P 19 43 14.1 -2.1
comp=Z,5.0nm,0.4s,baz=269,slow=9.3,SNR=9.8
TIJ01 Guaruva-PR 23.11 118 eP P 19 43 21.8 +1.6
CNLB Canela 23.32 129 eP P 19 43 23.7 +1.7
RCLB Rio Claro- Sao 23.62 110 eP P 19 43 25.7 +0.8
OGAUY Aigu 23.87 144 eP P 19 43 28.9 +2.0
SPB Sao Paulo 23.98 113 eP P 19 43 28.1 +0.2
comp=Z,30nm,1.1s
SPB Sao Paulo 23.98 113 eP P 19 43 29.2 +1.3
SDV Santo Domingo 24.57 2 eP P 19 43 33.4 -0.1
comp=Z,7.7nm,0.8s
SDV Santo Domingo 24.57 2 P P 19 43 34.4 +0.9
comp=Z,4.7nm,0.4s,baz=168,slow=12,SNR=11
TXAR Lajitas Array 54.55 325 P P 19 47 42.8 +2.7
comp=Z,0.1nm,0.5s,baz=146,slow=9.8,SNR=2.2
SNAA Sanae 68.44 162 P P 19 49 15.2 +2.6
comp=Z,0.5nm,0.4s,baz=270,slow=9.1,SNR=7.8
QSPA South Pole Qui 74.33 180 P P 19 49 51.6 +3.5
comp=Z,1.1nm,0.8s,baz=355,slow=0.2,SNR=4.5
TORD Torodi Ar. Bea 77.95 73 P P 19 50 07.7 -1.6
comp=Z,2.1nm,0.6s,baz=252,slow=5.1,SNR=18
SUR Sutherland 83.65 122 P P 19 50 40.0 +0.4
comp=Z,2.2nm,0.7s,baz=88,slow=4.9,SNR=3.4
YKA Yellowknife Ar 85.03 341 P P 19 50 44.9 -0.5
comp=Z,0.2nm,0.6s,baz=134,slow=5.2,SNR=7.3

ASAR Alice Springs 133.52 213 PKP PKiKP 19 57 27.0 -0.9
comp=Z,0.2nm,0.7s,baz=137,slow=1.1,SNR=2.8
WRA Warramunga Arr 136.28 216 PKP PKiKP 19 57 33.1 -0.4
comp=Z,0.2nm,0.5s,baz=130,slow=1.7,SNR=7.4
KSH Kashi 143.13 44 PKP PKPab 19 57 38.6 -1.0
KSH pPKP pPKPdf 19 58 22.4 -2.9
KSH PP PP 20 00 55.4 +0.1
KSH SKS SKSdf 20 04 33.8 -5.9
SONM Songino Array 148.03 3 PKPbc PKiKP 19 57 56.5 -0.4
comp=Z,0.4nm,0.5s,baz=344,slow=3.7,SNR=4.2
LZH Lanzhou 159.41 11 ⇑PKP PKPdf 19 58 06.1 -2.3
LZH PKP PKPab 19 58 47.0 +0.3
LZH pPKP pPKPdf 19 58 48.2 -1.8
LZH sPKP 19 59 05.0
CD2 Chengdu 164.38 15 PKP PKPdf 19 58 10.8 -2.7

ARO 11 19:45:08.8, 15°N±43°×4°2E±10°0, h15km±99km, MI3.5, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	Malaho	2.83	176	eP	Pn	19 45 53.3	-0.2
OBO	Obock	3.18	157	eP	Pn	19 45 58.1	-0.2
TDD	Tadjoura Ara	3.23	165	eP	Pn	19 45 58.7	-0.3
LDLD	Lac de Lave	3.36	172	eP	Pn	19 46 00.9	+0.1
KSDD	Koussour	3.40	173	eP	Pn	19 46 01.4	0.0
ATD	Arta Tunnel	3.48	167	eP	Pn	19 46 03.0	+0.5
ATD				eS	Sn	19 46 46.7	+3.2
ATD	Arta Tunnel	3.48	167	eP	Pn	19 46 03.0	+0.5
SGH	Sud-Ghoubbet	3.53	170	eP	Pn	19 46 03.5	+0.3
ATA	Atar	3.65	162	eP	Pn	19 46 05.8	+1.1

*ISCJB **11** 19:47:26.8±0.4, 59°.18S±0°.07×25°.6W±0°.2, h50km, mb4.3/15, MS3.2/4, Error ellipse: s-maj=13.6km s-min=7.9km az=147.0*
*NEIC **11** 19:47:29.6±1.2, 59°.15S×25°.72W, h62km±6km, mb4.5/10, Error ellipse: s-maj=21.4km s-min=15.6km az=219.0*
*IDC **11** 19:47:29.3±0.8, 59°.11S×25°.72W, h56km±7km, mb4.0/10, mb1 4.1/11, mb1mx3.9/23, mbtmp4.3/11, MS3.2/5, Ms1 3.2/5, ms1mx3.1/23, Error ellipse: s-maj=19.2km s-min=15.5km az=70.0*
ISC 11 19:47:28.8±0.5, 59°.17S±0°.09×25°.5W±0°.1, h50km, n48, σ1§12/47, mb4.4/15, MS3.2/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.78	304	ePn	Pn	19 49 22.3	+3.1
VNA1	Neumayer--Stat	13.56	155	P	Pn	19 50 37.5	-0.6
VNA1				S	Sn	19 52 59.3	-7.6
VNA3	Neumayer Olymp	13.74	158	P	Pn	19 50 39.6	-1.0
VNA3				S	Sn	19 53 00.9	-10
VNA2	Neumayer--Watz	13.96	155	P	Pn	19 50 43.0	-0.5
baz=313,slow=15
VNA2 S Sn 19 53 07.2 -10
baz=313,slow=26
SNAA Sanae 15.53 153 P Pn 19 51 03.7 -0.3
SNAA S Sn 19 53 45.1 -10
SNAA Sanae 15.53 153 ePn Pn 19 51 03.3 -0.8
10nm,0.5s
SNAA eSn Sn 19 53 43.5 -11
SNAA Sanae 15.53 153 P Pn 19 51 03.8 -0.3
2.9nm,0.3s,baz=317,slow=16,SNR=59
SNAA S Sn 19 53 44.4 -10
0.5nm,0.3s,baz=320,slow=20,SNR=5.4
SNAA LR LR 19 55 54.2
comp=Z,108nm,19.0s,baz=4.0,slow=32
QSPA South Pole Qui 31.07 180 eP P 19 53 42.2 +0.4
5.3nm,0.8s
QSPA South Pole Qui 31.07 180 P P 19 53 42.4 +0.6
3.8nm,0.6s,baz=206,slow=2.2,SNR=32
TRQA Tornquist 31.45 296 eP P 19 53 43.6 -1.6
13nm,1.5s
PLCA Paso Flores 33.53 283 P P 19 54 02.5 -1.0
3.4nm,0.8s,baz=174,slow=5.3,SNR=6.3
PLCA LR LR 20 06 00.4
comp=Z,41nm,18.8s,baz=214,slow=33
MAW Mawson 37.12 141 eP P 19 54 34.5 +0.7
1.5nm,1.3s
MAW Mawson 37.12 141 P P 19 54 34.9 +1.0
1.2nm,0.6s,baz=229,slow=9.3,SNR=3.8
GO05 Huala 38.66 288 eP P 19 54 45.9 -1.3
18nm,1.3s
CPUP Villa Florida 39.57 312 LR LR 20 11 10.1
comp=Z,28nm,18.4s,baz=190,slow=36
CFA Coronel Fontan 39.67 295 P P 19 54 54.5 -1.2
5.7nm,0.6s,baz=156,slow=8.6,SNR=12
SUR Sutherland 40.72 70 eP P 19 55 05.4 +0.8
14nm,1.3s
SUR Sutherland 40.72 70 P P 19 55 05.5 +1.0
3.6nm,1.0s,baz=145,slow=6.7,SNR=7.3
VNDA Vanda 43.49 182 eP P 19 55 27.3 +0.9
VNDA Vanda 43.49 182 P P 19 55 27.4 +1.0
2.1nm,0.6s,baz=186,slow=7.4,SNR=22
H10S2 ASCENSION HYDR 50.77 14 T T 20 50 56.4
baz=188,slow=74,SNR=8.9
H10S3 ASCENSION HYDR 50.78 14 T T 20 51 00.5
baz=188,slow=74,SNR=9.8
H10S1 ASCENSION HYDR 50.79 14 T T 20 50 59.9
baz=188,slow=74,SNR=9.0
LPAZ La Paz 52.93 305 eP P 19 56 39.4 -1.1
LPAZ La Paz 52.93 305 P P 19 56 39.3 -1.3
0.8nm,0.5s,baz=207,slow=8.3,SNR=4.6
LPAZ LR LR 20 19 50.1
comp=Z,13nm,20.5s,baz=138,slow=37
MATP Matopo 54.45 69 LR LR 20 16 17.0
comp=Z,44nm,20.6s,baz=240,slow=32
LSZ Lusaka 58.74 65 eP P 19 57 22.4 +0.8
7.3nm,1.4s
DBIC Dimbokro 67.67 22 eP P 19 58 20.7 +0.3
14nm,1.4s
DBIC Dimbokro 67.67 22 P P 19 58 21.1 +0.7
2.4nm,0.7s,baz=179,slow=9.2,SNR=3.6
TOA0 Torodi Ar. Sit 75.37 27 eP P 19 59 07.1 +0.4
6.0nm,0.6s
TORD Torodi Ar. Bea 75.37 27 P P 19 59 06.1 -0.6
4.1nm,0.5s,baz=192,slow=6.5,SNR=42
TORD pP pwP 19 59 22.9 -0.5
2.5nm,0.6s,baz=205,slow=5.8,SNR=7.5
TOA1 Torodi Ar. Sit 75.37 27 eP P 19 59 06.1 -0.6
ASAR Alice Springs 95.73 161 P P 20 00 48.5 -0.7
0.8nm,0.7s,baz=180,slow=4.1,SNR=11
ASAR pP pP 20 01 05.0 +2.2
0.3nm,0.6s,baz=173,slow=2.8,SNR=1.8
AS31 Alice Springs 95.73 161 eP P 20 00 48.8 -0.5
1.6nm,1.3s
CMAR Chiang Mai Arr 123.11 111 PKP PKPdf 20 06 19.3 -0.1
0.6nm,0.8s,baz=224,slow=3.8,SNR=4.4
FIA0 FINESS Array S 126.72 28 ePKPdf PKPdf 20 06 24.2 -0.7
FINES FINESS Array B 126.72 28 PKP PKPdf 20 06 24.2 -0.7
0.9nm,0.8s,baz=134,slow=25,SNR=5.0
ABKAR Akbulak array 128.36 56 ePKPdf PKPdf 20 06 27.6 -0.9
ABKAR ePKPdf PKiKP 20 06 28.1 -1.0
ARA0 ARCESS Array S 133.50 22 ePKPdf PKPdf 20 06 36.9 -0.7
ARCES ARCESS Array B 133.50 22 PKP PKPdf 20 06 36.9 -0.7
1.2nm,0.8s,baz=197,slow=2.8,SNR=5.1
YKA Yellowknife Ar 139.07 315 PKP PKPdf 20 06 47.1 -1.0
1.4nm,0.7s,baz=127,slow=2.3,SNR=29
YKA pPKP pPKPdf 20 07 03.0 +0.6
0.7nm,0.7s,baz=129,slow=2.3,SNR=4.1
YKB5 Yelloknife Ar 139.07 315 ePKPdf PKPdf 20 06 47.1 -1.0
ZALV Zalesovo Beam 142.85 67 PKP PKPdf 20 06 53.5 -1.7
0.8nm,0.7s,baz=262,slow=5.2,SNR=4.0
ZAA1 Zalesovo Array 142.85 67 ePKPdf PKPdf 20 06 53.5 -1.7
SONA0 Songino Array 149.89 91 ePKPbc PKPbc 20 07 12.2 -0.2
SONM Songino Array 149.89 91 PKPbc PKPbc 20 07 12.2 -0.2
2.2nm,0.8s,baz=224,slow=3.7,SNR=12
ILAR Eielson Array 152.80 307 PKPbc PKPbc 20 07 17.2 -1.2
0.5nm,0.6s,baz=138,slow=6.2,SNR=6.0
ILB Eielson Array 152.80 307 ePKPdf PKPdf 20 07 13.9 +2.6

IDC 11 19:59:44.4±4.0, 4°.76N×95°.22E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/43, mbtmp3.3/3, ML6.6/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/26, Error ellipse: s-maj=181.7km s-min=29.4km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.18	118	Pn	Pn	20 00 50.2	+0.7
4μm,0.3s,SNR=1.5
PSI Sn Sn 20 01 35.1 -4.1
4μm,0.3s,baz=356,slow=0.0,SNR=2.6

H08S2 Diego Garcia H 25.80 242 T T 20 32 32.9
baz=62,slow=75,SNR=8.5
H08S3 Diego Garcia H 25.80 242 T T 20 32 32.9
baz=62,slow=75,SNR=5.2
H08S1 Diego Garcia H 25.80 242 T T 20 32 32.9
baz=62,slow=75,SNR=4.0
MKAR Makanchi Array 43.35 347 P P 20 07 48.3 -0.1
0.1nm,0.3s,baz=168,slow=7.4,SNR=2.2
WRA Warramunga Arr 45.62 124 P P 20 08 07.1 +0.2
0.4nm,0.7s,baz=302,slow=9.0,SNR=3.5
ASAR Alice Springs 47.12 129 P P 20 08 18.4 -0.3
0.7nm,0.8s,baz=300,slow=7.5,SNR=7.2
BVAR Borovoye Array 52.27 341 LR LR 20 34 07.7
comp=Z,86nm,19.9s,baz=161,slow=40
KMBO Kilima Mbogo 58.20 266 LR LR 20 31 54.1
comp=Z,30nm,19.4s,baz=80,slow=33

*ISCJB **11** 20:12:22.0±1.2, 14°.77S±0°.09×167°.2E±0°.1, h100km, mb3.8/7, Error ellipse: s-maj=22.4km s-min=7.8km az=152.5*
*IDC **11** 20:12:25.1±3.2, 14°.79S×167°.15E, h117km±24km, mb3.7/7, mb1 3.8/9, mb1mx3.5/39, mbtmp4.2/9, MS3.0/2, Ms1 3.0/2, ms1mx2.7/36, Error ellipse: s-maj=33.6km s-min=14.6km az=59.0*
ISC 11 20:12:23.0±1.2, 14°.7S±0°.1×167°.3E±0°.2, h100km, n10, σ1§10/13, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.36	186	P	Pn	20 14 08.7	+0.9
6.5nm,0.3s,baz=15,slow=17,SNR=38
DZM S Sn 20 15 30.0 +0.2
1.8nm,0.3s,baz=128,slow=24,SNR=2.1
DZM LR LR 20 16 47.3
comp=Z,92nm,18.1s,baz=60,slow=36
HNR Honiara 8.92 305 P Pn 20 14 29.5 +0.5
5.4nm,0.3s,baz=242,slow=23,SNR=2.5
HNR S Sn 20 16 08.6 +0.8
4.4nm,0.3s,baz=359,slow=24,SNR=2.2
HNR LR LR 20 17 41.1
comp=Z,81nm,18.7s,baz=126,slow=36
URZ Urewera 25.00 162 P P 20 17 38.8 +1.4
5.2nm,0.8s,baz=347,slow=14,SNR=3.9
STKA Stephens Creek 29.03 230 P P 20 18 14.2 +0.5
2.4nm,0.5s,baz=57,slow=9.2,SNR=9.7
WRA Warramunga Arr 31.87 256 P P 20 18 37.6 -1.3
1.5nm,1.2s,baz=85,slow=10.0,SNR=3.4
ASAR Alice Springs 32.72 249 P P 20 18 44.3 -2.0
0.5nm,0.6s,baz=76,slow=8.8,SNR=6.1
ASAR PcP PcP 20 21 29.4 -0.4
0.4nm,0.7s,baz=68,slow=2.5,SNR=4.1
VNDA Vanda 62.87 181 P P 20 22 37.5 -0.4
0.7nm,0.5s,baz=353,slow=7.3,SNR=12
QSPA South Pole Qui 75.31 180 P P 20 23 54.3 -0.8
2.3nm,0.8s,baz=358,slow=2.2,SNR=6.3
MKAR Makanchi Array 97.23 316 P P 20 25 45.3 +0.8
0.1nm,0.5s,baz=102,slow=6.2,SNR=2.4
ARCES ARCESS Array B 120.25 345 PKP PKPdf 20 31 01.0 -0.8
1.0nm,0.8s,baz=63,slow=3.3,SNR=4.6

ARO 11 20:13:41.0, 15°N±15°×4°2E±7°7, h1km±41km, MI3.7, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	Malaho	2.48	180	eP	Pn	20 14 21.1	-1.5
OBO	Obock	2.79	158	eP	Pn	20 14 26.0	-0.8
TDD	Tadjoura Ara	2.85	166	eP	Pn	20 14 26.4	-1.2
KSDD	Koussour	3.05	176	eP	Pn	20 14 29.6	-0.7
ATD	Arta Tunnel	3.10	169	eP	Pn	20 14 30.7	-0.4
ATD	Arta Tunnel	3.10	169	eP	Pn	20 14 30.7	-0.5
ATD				eS	Sn	20 15 11.2	+2.3
SGH	Sud-Ghoubbet	3.16	173	eP	Pn	20 14 31.3	-0.6
ATA	Atar	3.26	163	eP	Pn	20 14 32.4	-0.8

*IDC **11** 20:28:15.9±1.1, 26°.39N×57°.65E, h0km, mb3.4/11, mb1 3.5/12, mb1mx3.4/45, mbtmp3.5/12, ML3.6/1, Error ellipse: s-maj=23.1km s-min=20.4km az=121.0*
*DSN **11** 20:28:15.8±2.9, 26°.78N×57°.97E, h10km, ML3.8/7, Error ellipse: s-maj=45.4km s-min=14.2km az=177.0*
*TEH **11** 20:28:16.2, 26°.51N×57°.59E, h13km, ML3.8*
*OMAN **11** 20:28:25.7±3.7, 26°.36N×57°.75E, h30km, Error ellipse: s-maj=36.1km s-min=23.1km az=13.0*
ISC 11 20:28:17.4±0.7, 26°.45N±0°.04×57°.71E±0°.05, h10km, n56, σ1§72/60, mb3.4/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.35	325	ePg	Pn	20 28 40.5	-1.9
NIAN				IAMB	IAmb	20 29 02.0	
comp=Z,0.0nm,0.4s
SHME Shamm 1.46 254 eP Pg 20 28 45.9 +0.4
SNR=5.2
SHME S Sg 20 29 10.5 +6.0
SHME Shamm 1.46 254 ePn Pg 20 28 46.2 +0.7
BNDS Bandar-Abbas 1.66 305 ePg Pn 20 28 43.3 -3.6
GENO Geno 1.66 305 ePg Pn 20 28 46.7 -0.2
GENO eSg Sb 20 29 08.6 -0.8
GENO IAMB IAmb 20 29 14.5
comp=Z,0.0nm,0.4s
MSFE Esma-Masafi 1.77 232 eP Pg 20 28 50.3 -1.1
SNR=5.4
MSFE Esma-Masafi 1.77 232 ePn Pg 20 28 51.9 +0.5
UMQ Umm Al-Quwin 2.06 244 P Pg 20 28 56.5 -0.5
HATD Hatta, Dubai 2.15 222 P Pg 20 28 57.9 -0.9
HATD Hatta, Dubai 2.15 222 ePn Pg 20 28 58.2 -0.6
ASHO Ashiyiah 2.31 221 P Pg 20 29 00.3 -1.4
SNR=14
NAZ Nazwa, Dubai 2.35 232 eP Pg 20 29 00.9 -1.6
SNR=13
NAZ Nazwa, Dubai 2.35 232 P Pg 20 29 06.2 +3.7
SNR=13
SOHO SOHO 2.54 205 P Pn 20 28 58.8 0.0
SOHO S Sn 20 29 30.6 +0.8
FAQ Al Faqa, Dubai 2.56 229 eP Pb 20 29 02.6 -0.9
SNR=8.0
FAQ Al Faqa, Dubai 2.56 229 P Pg 20 29 09.0 +2.6
SNR=8.1
FAQ Al Faqa, Dubai 2.56 229 ePn Pb 20 29 02.7 -0.7
CHBR Chabahar 2.64 108 ePn Pn 20 29 01.1 +1.0
ASUD Al Ashush, Dub 2.81 230 P Pb 20 29 05.4 -2.4
ASUD Al Ashush, Dub 2.81 230 P Pb 20 29 06.9 -0.9
SNR=8.1
ASUD Al Ashush, Dub 2.81 230 ePn Pb 20 29 07.5 -0.3
HOQ Hoqain 2.88 187 P Pn 20 29 03.9 +0.5
HOQ Hoqain 2.88 187 ePn Pn 20 29 04.2 +0.8
BIDO Bidbid 2.94 172 P Pn 20 29 04.4 +0.1
BIDO Bidbid 2.94 172 ePn Pn 20 29 04.6 +0.3
ALNE Al Ain 2.97 217 ePn Pn 20 29 06.3 +1.6
ARQ Araqi 3.28 199 P Pb 20 29 13.3 -2.5
ARQ S Sb 20 29 54.8 -1.1
NGRK Negar Kerman 3.29 345 IAMB IAmb 20 29 59.2
comp=Z,0.0nm,0.6s
NGRK ePn Pn 20 29 07.5 -2.0
WSAR Wadi Sarin 3.31 165 Pn Pn 20 29 09.8 +0.5
comp=Z,6.6nm,0.3s,baz=338,slow=4.8,SNR=78
WSAR Sn Sn 20 29 47.0 -1.7
comp=Z,8.5nm,0.3s,baz=48,slow=23,SNR=12
SMDO Samad 3.39 175 P Pn 20 29 11.6 +1.0
SNR=12
CHMN Cheshme madani 3.40 358 ePn Pn 20 29 10.0 -0.9
TVBK TV Kerman 3.62 347 ePn Pn 20 29 12.9 -1.0
TVBK IAMB IAmb 20 29 23.7
comp=Z,0.0nm,0.5s
BSY Bisya 3.72 187 P Pb 20 29 21.0 -2.3
SNR=7.3
KHGB Koh Gabri 4.06 345 ePn Pn 20 29 18.6 -1.2
KHGB IAMB IAmb 20 29 30.8
comp=Z,0.0nm,0.6s
ZHSF Zahedan 4.15 40 ePn Pn 20 29 21.1 0.0
GHIR Ghir-Karzin 4.58 295 ePn Pn 20 29 24.5 -2.4
ISRV Sarvestan 5.00 307 ePn Pn 20 29 32.8 -0.1
IMEH Mehriz 5.62 332 ePn Pn 20 29 39.9 -1.4
BSRN Basiran 5.63 12 ePn Pn 20 29 40.4 -1.0
IKOO Kooshah 6.06 10 ePn Pn 20 29 43.7 -3.7
IKAZ Kazeroun 6.15 304 ePn Pn 20 29 46.9 -1.8
ISAD Sadrabad 6.48 328 ePn Pn 20 29 52.4 -0.8
IDAH Dahanechah 6.54 16 ePn Pn 20 29 54.7 +0.7
IRAM Ramesheh 7.08 320 ePn Pn 20 29 59.9 -1.5
GEYT Alibeck 11.45 2 Pn Pn 20 31 04.5 +3.4
comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=2.4

MMAI	Mount Meron Ar	20.42 294	P		Pn	20 32 56.0	-1.0
	comp=Z,0.8nm,0.6s,baz=92,slow=16,SNR=3.2						
AAK	Ala-Archa	21.19 36	P		P	20 33 03.0	-0.3
	comp=Z,0.5nm,0.4s,baz=225,slow=8.6,SNR=3.3						
AKTO	Aktyubinsk	23.95 0	P		P	20 33 32.4	+0.7
	comp=Z,1.0nm,0.5s,baz=164,slow=14,SNR=5.9						
BRTR	Keskin Array B	24.03 309	P		P	20 33 33.5	+0.7
	comp=Z,1.1nm,0.7s,baz=130,slow=10,SNR=9.1						
MKAR	Makanchi Array	28.11 37	P		P	20 34 11.4	+1.9
	comp=Z,0.1nm,0.3s,baz=252,slow=13,SNR=2.9						
BVAR	Borovoye Array	28.19 16	P		P	20 34 09.5	-0.6
	comp=Z,0.3nm,0.5s,baz=209,slow=5.7,SNR=3.9						
KURBB	Kurchatov Arra	28.92 28	P		P	20 34 17.6	+1.0
	comp=Z,0.3nm,0.6s,baz=232,slow=8.4,SNR=4.2						
AKASG	Malin Array Be	32.54 326	P		P	20 34 49.1	+0.6
	comp=Z,0.2nm,0.4s,baz=125,slow=8.0,SNR=2.4						
ZALV	Zalesovo Beam	34.00 29	P		P	20 35 02.2	+1.0
	comp=Z,0.8nm,0.7s,baz=237,slow=10,SNR=3.7						
FINES	FINESS Array B	40.95 337	P		P	20 35 59.5	-0.5
	comp=Z,0.6nm,0.7s,baz=148,slow=11,SNR=3.3						
TORD	Torodi Ar. Bea	53.96 267	P		P	20 37 40.4	-1.5
	comp=Z,0.3nm,0.5s,baz=60,slow=8.4,SNR=6.4						

MOS ***11*** *20:46:55.0±1.0, 17°.85S×175°.22W, h191km, mb5.9/63, Error ellipse: s-maj=6.7km s-min=5.9km az=91.0*
BJI ***11*** *20:46:56.0±0.0, 17°.94S×175°.08W, h200km, mb5.7/61, mB6.4/67*
ISCJB ***11*** *20:46:56.8±0.6, 17°.85S±0°.02×175°.15W±0°.02, h212km±5km, mb5.7/430, Error ellipse: s-maj=3.5km s-min=2.2km az=145.1*
NEIC ***11*** *20:46:56.0±0.0, 17°.94S×174°.97W, h250km, Moment Tensor Solution. s25 Moment tensor: Scale 10^18^Nm; M_{rr}=2.59; $M_{\theta\theta}$2.46; $M_{\phi\phi}$0.13; $M_{r\theta}$-0.84; $M_{\theta\phi}$ 1.59; $M_{\phi r}$-3.33; Best double couple: M_0=4.50000×10^18^ NP1:ϕ_s=31.00000°, δ71.00000°, λ-116.00000°. NP2:ϕ_s=268.00000°, δ32.00000°, λ-37.00000°. Principal axes: T 4.2100, Plg22.0000°, Azm140.0000°; N 0.6300, Plg24.0000°, Azm39.0000°; P -4.8300, Plg55.0000°, Azm267.0000°;*
NEIC ***11*** *20:46:57.6±1.1, 17°.97S×175°.11W, h213km±3km, mb5.8/373, MW6.4, MW6.4 Error ellipse: s-maj=11.6km s-min=10.2km az=140.0, Moment Tensor Solution. s98 Moment tensor: Scale 10^18^Nm; M_{rr}-3.66; $M_{\theta\theta}$2.19; $M_{\phi\phi}$1.48; $M_{r\theta}$-0.36; $M_{\theta\phi}$1.53; $M_{\phi r}$-2.77; Best double couple: M_0=4.50000×10^18^ NP1:ϕ_s=29.00000°, δ64.00000°, λ-109.00000°. NP2:ϕ_s=247.00000°, δ32.00000°, λ-56.00000°. Principal axes: T 4.0100, Plg17.0000°, Azm133.0000°; N 0.8800, Plg17.0000°, Azm37.0000°; P -4.8900, Plg66.0000°, Azm264.0000°;*
NEIC Felt at Neiafu. Also felt in American Samoa.
IDC ***11*** *20:46:57.3±1.2, 17°.92S×175°.09W, h203km±10km, mb5.4/39, mb1 5.5/42, mb1mx5.4/45, mbtmp5.9/42, MS5.2/6, Ms1 5.2/6, ms1mx4.7/33 Error ellipse: s-maj=7.8km s-min=7.5km az=141.0*
GCMT ***11*** *20:47:04.6±0.0, 17°.89S×174°.74W, h242km, MW6.3/142, Moment Tensor Solution. s137, c338; s142, c611; Duration: 3s6 Moment tensor: Scale 10^18^Nm; M_{rr}-2.13±.01; $M_{\theta\theta}$1.95±.02; $M_{\phi\phi}$0.18±.02; $M_{r\theta}$-0.92±.02; $M_{\theta\phi}$1.71±.01; $M_{\phi r}$-3.03±.01; Best double couple: M_0=4.13700×10^18^ NP1:ϕ_s=28.00000°, δ73.00000°, λ-116.00000°. NP2:ϕ_s=267.00000°, δ30.00000°, λ-35.00000°. Principal axes: T 4.0470, Plg24.0000°, Azm138.0000°; N 0.1780, Plg24.0000°, Azm36.0000°; P -4.2260, Plg55.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 11 20:46:57.3±0.3, 17°.94S±0°.03×175°.12W±0°.03, h210km±2km, h210km:pP-P, n2204, σ1s60/2348, mb5.8/424, 48C-143D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.05	104	*e*Pn	Pn	20 48 13.2	+0.5
NIUE				*e*S	S	20 49 10.9	-1.0
FUNA	Funafuti	10.87	329	*e*Pn	Pn	20 49 29.8	+2.2
RAO	Raoul Island	11.55	192	*e*Pn	Pn	20 49 36.2	+0.1
RAO				*e*S	S	20 51 41.6	-2.4
RAO	Raoul Island	11.55	192	P	Pn	20 49 36.5	+0.4
	127nm,0.3s,baz=59,slow=15,SNR=5.2						
RAO				S	S	20 51 40.2	-3.7
	508nm,0.3s,baz=51,slow=23,SNR=10						
GLKZ	Green Lake	11.56	192	P	Pn	20 49 35.7	-0.5
GLKZ				S	S	20 51 39.2	-5.0
RAR	Rarotonga	14.82	105	*e*Pn	Pn	20 50 16.8	-0.1
RAR				*e*S	S	20 52 59.0	-2.2
RAR	Rarotonga	14.82	105	P	Pn	20 50 17.0	0.0
	11nm,0.3s,baz=252,slow=6.9,SNR=103						
RAR				S	S	20 52 56.9	-4.3
	baz=76,slow=11,SNR=1.6						
KNTN	Kanton	15.44	13	*e*P	P	20 50 24.3	-0.1
	619nm,1.0s						
MARNC	Mare, Loyalty	16.25	255	*e*P	Pn	20 50 34.7	+0.5
	5μm,1.5s						
PINNC	Pines Island,	17.00	251	*e*P	Pn	20 50 42.7	-0.4
	636nm,0.9s						
DZM	Mont Dzumac	17.80	254	*e*P	Pn	20 50 51.9	-0.8
	2μm,1.1s						
DZM	Mont Dzumac	17.80	254	*e*P	Pn	20 50 51.8	-0.9
	726nm,1.0s						
DZM	Mont Dzumac	17.80	254	P	Pn	20 50 51.7	-0.9
	5.3nm,0.3s,baz=80,slow=16,SNR=54						
DZM				S	S	20 54 03.3	-1.0
	baz=92,slow=22,SNR=1.2						
DZM				LR	LR	20 56 51.5	
	comp=Z,12μm,19.2s,baz=94,slow=33						
ONTNC	Ouen Toro	17.84	253	*e*P	P	20 50 51.7	+1.0
	5μm,1.9s						
OUZ	Omahuta	19.92	208	*e*P	P	20 51 14.4	+1.3
	1μm,1.2s						
OUZ	Omahuta	19.92	208	P	Pn	20 51 16.9	-0.6
GRZ	Great Barrier	20.05	203	P	Pn	20 51 16.9	-2.2
WCZ	Waipu Caves	20.21	205	P	P	20 51 17.8	+1.7
MXZ	Matakaoa Point	20.39	195	*e*P	P	20 51 18.3	+0.3
	184nm,0.6s						
MXZ				*e*S	S	20 54 55.6	+1.2
MXZ	Matakaoa Point	20.39	195	P	P	20 51 17.8	-0.1
MXZ	Matakaoa Point	20.39	195	P	S	20 55 00.9	+6.5
KUZ	Kuaotunu	20.40	202	P	Pn	20 51 21.0	-2.4
WMGZ	Waiomatatini S	20.60	195	P	P	20 51 22.9	+2.6
WMGZ	Waiomatatini S	20.60	195	P	S	20 55 04.2	+5.7
WIAZ	Waiheke Island	20.66	203	P	P	20 51 22.9	+2.1
HAZ	Te Kaha	20.70	196	P	P	20 51 23.1	+1.8
PKGZ	Pakihiroa	20.75	195	P	P	20 51 22.7	+0.8
PKGZ	Pakihiroa	20.75	195	P	S	20 55 04.9	+3.5
ETAZ	East Tamaki Re	20.87	203	P	P	20 51 25.4	+2.2
PUZ	Puketiti	20.88	195	P	P	20 51 24.8	+1.5
PUZ	Puketiti	20.88	195	P	S	20 55 03.7	+0.1
MKAZ	Moumakai	20.92	202	P	P	20 51 25.7	+2.0
RUGZ	Raukumara Rang	20.93	196	P	P	20 51 25.2	+1.3
RUGZ	Raukumara Rang	20.93	196	P	S	20 55 05.6	+1.0
WTAZ	Waiatarua	20.99	204	P	P	20 51 26.7	+2.3
WHRZ	Whale Island	21.02	198	P	S	20 55 19.0	+13
TWGZ	Tauwhareparae	21.05	195	P	S	20 55 08.7	+2.1
OPRZ	Ohinepanea	21.13	199	P	P	20 51 27.3	+1.5
MARZ	Manawahe	21.23	198	P	P	20 51 31.7	+4.9
CNGZ	Carnagh Statio	21.28	195	P	P	20 51 29.8	+2.4
CNGZ	Carnagh Statio	21.28	195	P	S	20 55 16.9	+6.4
MWZ	Matawai	21.31	196	P	P	20 51 30.6	+2.8
MWZ				S	S	20 55 13.9	+2.9
EDRZ	Edgecumbe	21.32	198	P	P	20 51 31.4	+3.5
EDRZ	Edgecumbe	21.32	198	P	S	20 55 18.9	+7.7
TKGZ	Te Karaka	21.33	195	P	S	20 55 12.2	+1.1
URZ	Urewera	21.36	197	*e*P	P	20 51 28.4	+0.3
	610nm,0.8s						
URZ	Urewera	21.36	197	P	P	20 51 29.3	+1.1
	464nm,0.4s,baz=318,slow=0.8,SNR=197						
URZ				S	S	20 55 08.7	-2.9
	83nm,0.7s,baz=205,slow=21,SNR=7.5						
URZ	Urewera	21.36	197	P	P	20 51 29.3	+1.1
URZ				S	S	20 55 07.0	-4.6
URZ	Urewera	21.36	197	P	S	20 55 17.2	+5.6
KARZ	Kaharoa	21.39	199	P	P	20 51 32.9	+4.3
OMRZ	Omania	21.43	199	P	P	20 51 31.8	+2.9
MKRZ	Makatiti	21.43	198	P	P	20 51 33.8	+4.8
RAGZ	Rawiri	21.50	196	P	P	20 51 32.7	+3.1
RAGZ				S	S	20 55 15.9	+1.9
RAGZ	Rawiri	21.50	196	P	S	20 55 18.8	+4.8
TARZ	Mount Tarawera	21.51	198	P	P	20 51 34.1	+4.3
HLRZ	Highlands Stat	21.57	199	P	P	20 51 34.2	+3.9
RRRZ	Republican Roa	21.60	198	P	P	20 51 37.4	+6.7
RIGZ	Rimuhau	21.60	195	P	P	20 51 33.1	+2.4
MUGZ	Murupara	21.66	197	P	P	20 51 31.9	+0.7
HRRZ	Handcock Road	21.72	199	P	P	20 51 34.4	+2.6
RTZ	Ruatahuna	21.73	197	P	P	20 51 33.7	+1.8
GRRZ	Galatos Road	21.73	199	P	P	20 51 36.8	+4.8
PRGZ	Paritu Road	21.78	195	P	P	20 51 35.8	+3.3
SNGZ	Shannon Statio	21.78	196	P	P	20 51 34.6	+2.2
PRRZ	Plateau Road	21.79	198	P	P	20 51 36.1	+3.6
ALRZ	Allen Road	21.86	198	P	P	20 51 35.7	+2.5
WPRZ	Whakapapatarin	21.87	199	P	P	20 51 36.7	+3.4
TLZ	Tolley Road	21.90	200	P	P	20 51 36.7	+3.1
KUTZ	Kaahu Road	21.95	199	P	P	20 51 39.9	+5.8
RAHZ	Arahi	21.98	196	P	P	20 51 34.7	+0.3
MHGZ	Matia Peninsul	21.99	195	P	P	20 51 39.3	+4.8
MRHZ	Matea Rd	22.09	198	P	P	20 51 35.8	+0.3
WHHZ	Waihua	22.09	196	P	P	20 51 39.8	+4.5
NMHZ	Naumai	22.22	197	P	P	20 51 37.6	+0.9
HATZ	Hinemaiaia	22.24	198	P	P	20 51 39.0	+2.2
HIZ	Hauiti	22.29	201	*e*P	P	20 51 38.5	+1.2
	3μm,1.5s						
HIZ	Hauiti	22.29	201	P	P	20 51 40.6	+3.4
RATZ	Rangitukua	22.31	199	P	P	20 51 38.5	+1.0
BKZ	Black Stump Fm	22.37	197	*e*P	P	20 51 37.5	-0.6
	137nm,0.8s						
BKZ				*e*S	S	20 55 26.6	-1.4
BKZ	Black Stump Fm	22.37	197	P	P	20 51 37.6	-0.5
RITZ	Rihia Road	22.39	199	P	P	20 51 40.6	+2.5
TARA	Tarawa	22.50	327	*e*P	P	20 51 39.4	0.0
	346nm,0.8s						
MCHZ	McNeill Hill	22.58	197	P	P	20 51 41.6	+1.8
WTVZ	West Tongariro	22.60	199	P	P	20 51 42.7	+2.6
TWVZ	Taurewa	22.60	199	P	P	20 51 41.6	+1.4
KWHZ	Kaweka Forest	22.63	197	P	P	20 51 41.7	+1.2
CKHZ	Cape Kidnapper	22.68	196	P	P	20 51 47.7	+7.0
TUVZ	Tukino	22.72	199	P	P	20 51 44.8	+3.6
FWVZ	Far West T-bar	22.74	199	P	P	20 51 47.9	+6.4
WHVZ	Whangaehu Hut	22.75	199	P	P	20 51 42.8	+1.2
BHHZ	Black Hill Sta	22.80	198	P	P	20 51 41.7	-0.2
MOVZ	Moawhango	22.81	198	P	P	20 51 42.8	+0.7
PKVZ	Pokaka	22.83	199	P	P	20 51 43.6	+1.4
KRHZ	Kereru	22.85	197	P	P	20 51 43.7	+1.3
KAHZ	Kahuranaki	22.86	196	P	P	20 51 45.3	+2.9
VRZ	Vera Road	22.87	201	P	P	20 51 47.2	+4.7
MTVZ	Mangateitei	22.88	199	P	P	20 51 49.3	+6.6
PXZ	Pawanui	23.08	196	P	P	20 51 47.4	+3.0
PNHZ	Pukenui	23.15	197	P	P	20 51 47.1	+2.0
PKE	Pukeiti	23.20	202	P	P	20 51 49.9	+4.4
WPHZ	Waipukurau	23.23	197	P	P	20 51 51.2	+5.5
PREZ	Palmer Road	23.27	201	P	P	20 51 51.7	+5.6
KHEZ	Kahui Hut	23.28	202	P	P	20 51 52.9	+6.6
LREZ	Lake Rotokare	23.30	201	P	P	20 51 51.7	+5.4
NBEZ	Newall Road No	23.31	202	P	P	20 51 52.0	+5.6
TSZ	Takapari Road	23.36	197	P	P	20 51 47.9	+1.0
PRHZ	Porangahau	23.36	196	P	P	20 51 51.3	+4.4
WAZ	Wanganui	23.37	200	P	P	20 51 50.1	+3.1
NMEZ	Namu Road	23.43	202	P	P	20 51 53.4	+5.8
DVHZ	Dannevirke	23.52	197	P	P	20 51 49.9	+1.5
ANWZ	Angora Road	23.59	196	P	P	20 51 51.6	+2.7
POWZ	Post Office Ro	23.72	198	P	P	20 51 52.7	+2.5
PRWZ	Pori Road	23.81	197	P	P	20 51 53.5	+2.5
BFZ	Birch Farm	23.86	196	*e*P	P	20 51 52.2	+0.8
	476nm,0.9s						
BFZ				*e*S	S	20 55 51.4	-0.3
BFZ	Birch Farm	23.86	196	P	P	20 51 52.9	+1.5
MRZ	Mangatainoka R	24.02	198	P	P	20 51 52.6	-0.4
TIWZ	Tintock	24.04	197	P	P	20 51 56.4	+3.3
HOWZ	Holdsworth Sta	24.26	197	P	P	20 51 56.0	+0.9
OGWZ	Otaki Gorge	24.29	198	P	P	20 51 57.2	+1.9
PAE	Paea	24.31	93	⇑*i*P	P	20 51 55.8	0.0
	133nm,1.2s						
PAE	Paea	24.31	93	*e*T	T	21 15 57.0	
	40nm,0.3s						
PPT2	Papeete2	24.32	93	⇑*i*P	P	20 51 56.2	+0.2
	1μm,1.2s						
PPT2	Papeete2	24.32	93	*e*T	T	21 15 57.8	
	26nm,0.3s						
PPT	Papeete	24.32	93	*e*P	P	20 51 55.3	-0.6
PPT				*e*P	P	20 51 56.1	+0.2
PPT	Papeete	24.32	93	P	P	20 51 55.3	-0.6
PPT				pmax	pmax		
	comp=Z,804nm,1.1s						
PPT	Papeete	24.32	93	P	P	20 51 55.3	-0.6
	comp=Z,1μm,1.1s,baz=210,slow=5.8,SNR=27						
PPTF	Pamatai, Papee	24.33	93	*e*P	P	20 51 55.6	-0.4
	comp=Z,1μm,1.1s						
TMWZ	Te Maipa	24.35	197	P	P	20 51 58.6	+2.7
KIW	Kapiti Island	24.40	199	P	P	20 51 57.8	+1.4
MTW	Mount Morrison	24.50	197	P	P	20 51 59.5	+2.2
TIAR	Tiarei	24.55	93	⇑*i*P	P	20 51 58.0	+0.1
	comp=Z,199nm,1.2s						
CAW	Cannon Point	24.58	198	P	P	20 51 59.2	+1.2
TBI	Tubuai	24.59	107	⇑*i*P	P	20 51 58.5	+0.2
	comp=Z,1μm,1.3s						
TBI	Tubuai	24.59	107	*e*T	T	21 16 37.0	
	comp=Z,51nm,0.2s						
TVO	Taravao	24.62	94	⇑*i*P	P	20 51 58.7	+0.1
	comp=Z,262nm,1.3s						
TVO	Taravao	24.62	94	*e*T	T	21 16 19.8	
	comp=Z,12nm,0.4s						
DUWZ	D'Urville Isla	24.66	200	P	P	20 51 59.8	+1.1
TRWZ	Traveller	24.68	197	P	P	20 52 01.9	+3.1
PAWZ	Paruwai Farm	24.73	197	P	P	20 52 01.2	+1.8
MSWZ	Moikau Station	24.81	197	P	P	20 52 03.3	+3.2
SNZO	South Karori	24.88	198	*e*P	P	20 52 00.3	-0.3
	comp=Z,358nm,0.9s						
BHW	Baring Head	24.92	198	P	P	20 52 05.6	+4.6
TCW	Tory Channel	24.92	199	P	P	20 52 03.6	+2.5
PLWZ	Palliser	24.95	197	P	P	20 52 03.7	+2.3
CMWZ	Cape Campbell	25.43	199	P	P	20 52 12.0	+6.4
BSWZ	Blackbirch Sta	25.50	199	P	P	20 52 09.1	+2.8
HNR	Honiara	25.63	286	*e*P	P	20 52 10.0	+2.2
HNR	Honiara	25.63	286	*e*P	P	20 52 07.8	0.0
	comp=Z,708nm,0.9s						
HNR	Honiara	25.63	286	P	P	20 52 09.6	+1.8
	comp=Z,264nm,0.7s,baz=97,slow=0.9,SNR=7.4						
MEH	Mehetia	25.73	94	*e*P	P	20 52 08.7	0.0
	comp=Z,166nm,1.2s						
THZ	Tophouse	25.86	201	*e*P	P	20 52 10.0	+0.4
	comp=Z,169nm,0.8s						
KHZ	Kahutara	26.24	199	*e*P	P	20 52 13.4	+0.6
	comp=Z,280nm,0.9s						
PMOR	Pomariorio Ree	26.26	88	⇑*i*P	P	20 52 13.7	+0.3
	comp=Z,1μm,1.2s						
PMOR	Pomariorio Ree	26.26	88	*e*T	T	21 18 07.6	
	comp=Z,11nm,0.2s						
XMAS	Kiritimati	26.41	43	*e*P	P	20 52 14.8	+0.1
	comp=Z,335nm,0.8s						
VAH	Vaihoa	26.48	88	⇑*i*P	P	20 52 15.2	-0.1
	comp=Z,571nm,1.1s						
VAH	Vaihoa	26.48	88	*e*T	T	21 18 24.7	
	comp=Z,20nm,0.3s						
LTZ	Lake Taylor	26.98	201	*e*P	P	20 52 19.0	-0.6
	comp=Z,388nm,0.9s						
LTZ				*e*S	S	20 56 40.1	-1.1
LHI	Lord Howe Isla	26.98	235	*e*P	P	20 52 19.6	-0.1
	comp=Z,333nm,1.0s						
LHI	Lord Howe Isla	26.98	235	P	P	20 52 20.4	+0.7
	baz=27,SNR=3.9						
OXZ	Oxford	27.55	201	*e*P	P	20 52 24.2	-0.3
	comp=Z,483nm,1.0s						
OXZ				*e*S	S	20 56 49.1	-0.8
CRLZ	Canterbury Las	27.58	199	*e*P	P	20 52 24.4	-0.4
	comp=Z,314nm,1.3s						
MQZ	McQueen's Vall	27.68	199	*e*P	P	20 52 25.8	0.0
	comp=Z,95nm,0.9s						
RPZ	Rata Peaks	28.22	201	*e*P	P	20 52 30.0	-0.6
	comp=Z,113nm,0.7s						
RPZ	Rata Peaks	28.22	201	P	P	20 52 30.4	-0.2
	comp=Z,35nm,0.4s,baz=234,slow=1.2,SNR=22						
RPZ				S	S	20 56 59.2	-1.4
	comp=Z,38nm,1.1s,baz=72,slow=8.5,SNR=3.2						
FOZ	Fox Glacier	28.52	203	*e*P	P	20 52 32.8	-0.3
	comp=Z,306nm,1.2s						
LBZ	Lake Benmore	29.12	202	*e*P	P	20 52 37.9	-0.6
	comp=Z,61nm,0.9s						
ODZ	Otahua Downs	29.53	201	*e*P	P	20 52 42.4	+0.3
	comp=Z,201nm,1.7s						
WKZ	Wanaka	29.92	203	*e*P	P	20 52 45.6	0.0
	comp=Z,99nm,0.9s						
MLZ	Mavora Lakes	30.71	203	*e*P	P	20 52 52.4	-0.1
	comp=Z,500nm,1.4s						
DCZ	Deep Cove	31.17	204	*e*P	P	20 52 56.5	+0.1
	comp=Z,347nm,0.9s						
WHZ	Wether Hill Ro	31.22	203	*e*P	P	20 52 57.0	+0.1
	comp=Z,954nm,1.2s						
KWAJ	Kwajalein Atol	31.57	326	*e*P	P	20 53 00.3	0.0
	comp=Z,426nm,1.3s						
KWAJ	Kwajalein Atol	31.57	326	*e*P	P	20 53 00.3	0.0
KWAJ				pmax	pmax		
	comp=Z,426nm,1.3s						
EIDS	Eidsvold	32.21	251	*e*P	P	20 53 05.6	-0.2
	comp=Z,512nm,1.4s						
EIDS	Eidsvold	32.21	251	P	P	20 53 05.8	0.0
	baz=32,SNR=24						
ARMA	Armidale	32.66	241	*e*P	P	20 53 10.2	+0.4
	comp=Z,248nm,0.6s						
ARMA	Armidale	32.66	241	P	P	20 53 10.9	+1.1
	baz=33,SNR=276						
MGCD	Mangrove Creek	33.87	237	P	P	20 53 21.3	+1.1
	baz=34,SNR=26						
RIV	Riverview	34.03	236	P	P	20 53 22.6	+1.2
	baz=34,SNR=12						
RMQ	Roma	34.41	249	P	P	20 53 25.7	+0.8
	baz=34,SNR=71						
RABL	Rabaul	34.81	289	*e*P	P	20 53 27.4	-1.0
	comp=Z,274nm,0.4s						
TAOE	Nuku Hiva Isla	35.14	80	*e*P	P	20 53 31.5	+0.2
	comp=Z,602nm,1.4s						
TAOE	Nuku Hiva Isla	35.14	80	*e*T	T	21 28 53.9	
	comp=Z,135nm,0.2s						
TAOE	Nuku Hiva Isla	35.14	80	*e*P	P	20 53 30.5	-0.9
	comp=Z,435nm,1.5s						
CNB	Canberra Magne	35.92	234	P	P	20 53 38.2	+0.5
	baz=36,SNR=79						
PATS	Pohnpei	35.98	311	*e*P	P	20 53 38.6	+0.3
	comp=Z,175nm,1.2s						
PATS				*e*PcP	PcP	20 56 01.1	+0.8
PATS	Pohnpei	35.98	311	P	P	20 53 40.1	+1.8
	baz=36,SNR=4.7						
CAN	Canberra	36.20	234	*e*P	P	20 53 40.0	-0.1
	comp=Z,268nm,1.2s						
CAN	Canberra	36.20	234	*e*P	P	20 53 40.0	-0.1
CAN				pmax	pmax		
	comp=Z,269nm,1.2s						
YNG	Young	36.35	236	P	P	20 53 42.0	+0.7
	baz=36,SNR=11						
CTA	Charters Tower	36.53	260	P	P	20 53 42.9	-0.1
	comp=Z,224nm,0.7s,baz=93,slow=11,SNR=64						
CTA				PcP	PcP	20 56 03.9	+1.9
	comp=Z,28nm,0.7s,baz=96,slow=6.2,SNR=3.5						
CTAO	Charters Tower	36.53	260	*e*P	P	20 53 43.0	-0.1
	comp=Z,254nm,0.8s						
CTAO	Charters Tower	36.53	260	*e*P	P	20 53 43.0	-0.1
CTAO				pmax	pmax		
	comp=Z,254nm,0.8s						
MILA	Mila	36.68	231	P	P	20 53 44.6	+0.5
	baz=37,SNR=6.0						
PMG	Port Moresby	37.56	278	*e*P	P	20 53 52.3	+0.6
	comp=Z,466nm,0.9s						
PMG	Port Moresby	37.56	278	*d i*P	P	20 53 52.6	+0.9
PMG				pmax	pmax		
	comp=Z,2μm,0.9s						
PMG	Port Moresby	37.56	278	P	P	20 53 52.8	+1.1
	comp=Z,398nm,0.8s,baz=80,slow=6.4,SNR=26						
RKT	Rikitea	37.86	105	⇑*i*P	P	20 53 54.2	+0.1
	comp=Z,293nm,1.1s						
RKT	Rikitea	37.86	105	*e*T	T	21 33 20.7	
	comp=Z,15nm,0.3s						
CMSA	Cobar Meteorol	37.87	242	P	P	20 53 54.6	+0.5
	baz=38,SNR=331						
TOO	Toolangi	39.60	232	*e*P	P	20 54 08.2	-0.3
TOO	Toolangi	39.60	232	P	P	20 54 08.7	+0.2
	baz=40,SNR=68						
TOO	Toolangi	39.60	232	*e*P	P	20 54 08.2	-0.3
MANU	Manus Island	40.05	289	*e*P	P	20 54 12.7	+0.3
	comp=Z,2μm,1.9s						
MOO	Moorlands	40.23	224	P	P	20 54 14.2	+0.7
	baz=40,SNR=5.8						
COEN	Coen	40.24	269	*e*P	P	20 54 13.8	-0.1
	comp=Z,366nm,0.8s						
COEN	Coen	40.24	269	P	P	20 54 14.6	+0.7
	baz=40,SNR=176						
TAU	Tasmania Unive	40.35	224	*e*P	P	20 54 13.9	-0.5
	comp=Z,68nm,0.8s						
TAU	Tasmania Unive	40.35	224	*e*P	P	20 54 13.9	-0.5
TAU				pmax	pmax		
	comp=Z,68nm,0.8s						
WAKE	Wake Island	41.10	333	*e*P	P	20 54 21.0	+0.3
	comp=Z,476nm,0.8s						
STKA	Stephens Creek	41.37	242	*e*P	P	20 54 23.3	+0.3
	comp=Z,153nm,1.1s						
STKA				*e*S	S	21 00 19.2	-2.5
STKA	Stephens Creek	41.37	242	P	P	20 54 23.6	+0.6
	baz=42,SNR=422						
STKA	Stephens Creek	41.37	242	P	P	20 54 23.7	+0.8
	comp=Z,944nm,1.1s,baz=86,slow=9.1,SNR=227						
STKA				S	S	21 00 19.3	-2.5
	comp=Z,5.6nm,0.6s,baz=239,slow=20,SNR=2.0						
MCQ	Macquarie Isla

WRAB Tennant Creek 47.70 259 *d iP* **P 20 55 12.3 -0.9**
WRAB pmax pmax
comp=Z,567nm,1.0s
WR1 Warramunga Arr 47.70 259 *e*P **P 20 55 12.4 -0.8**
WR1 *e*PcP **PcP 20 56 41.5 +2.3**
WR1 *e*ScP **ScP 21 00 14.6 +1.3**
WR1 *e*S **S 21 01 50.4 -2.9**
WRA Warramunga Arr 47.70 259 P **P 20 55 12.4 -0.8**
comp=Z,388nm,0.7s,baz=98,slow=6.7,SNR=513
WRA PcP **PcP 20 56 41.5 +2.3**
comp=Z,38nm,0.6s,baz=95,slow=3.3,SNR=4.1
WRA ScP **ScP 21 00 14.6 +1.3**
comp=Z,12nm,1.0s,baz=95,slow=4.4,SNR=4.8
WRA S **S 21 01 50.4 -2.9**
comp=Z,12nm,0.9s,baz=98,slow=14,SNR=4.6
WRA P4KPbc 21 32 54.3
comp=Z,0.6nm,0.8s,baz=92,slow=3.8,SNR=6.1
AS31 Alice Springs 47.80 254 *e*P **P 20 55 14.0 +0.1**
comp=Z,720nm,0.8s
AS31 *e*PcP **PcP 20 56 39.5 0.0**
AS31 *e*S **S 21 01 49.5 -5.0**
ASAR Alice Springs 47.80 254 *e*P **P 20 55 12.9 -1.0**
ASAR Alice Springs 47.80 254 P **P 20 55 14.3 +0.4**
comp=Z,3μm,0.7s,baz=93,slow=7.5,SNR=3509
ASAR PcP **PcP 20 56 41.1 +1.7**
comp=Z,69nm,0.7s,baz=95,slow=4.5,SNR=4.1
ASAR ScP **ScP 21 00 15.4 +1.7**
comp=Z,7.1nm,0.9s,baz=116,slow=4.2,SNR=3.4
ASAR S **S 21 01 51.0 -3.5**
comp=Z,27nm,0.9s,baz=88,slow=15,SNR=12
ASAR PKPPKP **P'P'df 21 26 19.6 -5.2**
comp=Z,1.0nm,0.9s,baz=311,slow=2.1,SNR=2.6
ASAR P4KPbc 21 32 55.9
comp=Z,1.1nm,0.7s,baz=98,slow=4.6,SNR=12
GUMO Guam 50.39 306 *e*P **P 20 55 34.0 +0.4**
comp=Z,184nm,0.6s
GUMO Guam 50.39 306 P **P 20 55 34.4 +0.8**
comp=Z,137nm,0.4s,baz=144,slow=6.3,SNR=9.4
GUMO PcP **PcP 20 56 50.0 +1.2**
comp=Z,97nm,0.8s,baz=159,slow=3.5,SNR=4.4
KDU Kakadu 50.69 268 P **P 20 55 35.5 -0.3**
baz=51,SNR=161
ANA2 Anatahan 51.46 309 *e*P **P 20 55 41.8 +0.3**
comp=Z,960nm,1.7s
MTN Manton Dam 51.93 268 *e*P **P 20 55 44.6 -0.4**
comp=Z,404nm,0.8s
MTN Manton Dam 51.93 268 P **P 20 55 44.5 -0.5**
baz=52,SNR=216
WRKA Warakurna 52.81 252 P **P 20 55 51.6 +0.1**
baz=53,SNR=360
FORT Forrest 52.83 245 *e*P **P 20 55 50.8 -0.6**
comp=Z,396nm,0.8s
FORT Forrest 52.83 245 P **P 20 55 51.1 -0.3**
baz=53,SNR=58
KNRA Kununurra 53.60 263 P **P 20 55 57.1 -0.1**
baz=54,SNR=286
FAKI Fak Fak 53.66 280 *e*P **P 20 55 57.4 -0.3**
comp=Z,55nm,0.5s
FAKI Fak Fak 53.66 280 P **P 20 55 58.8 +1.0**
comp=Z,78nm,1.6s,comp=Z,7μmcomp=Z,25μm
SWI Sorong 55.31 282 P **P 20 56 10.1 +0.5**
SWI pmax pmax
comp=Z,887nm,0.7s
SWI Sorong 55.31 282 P **P 20 56 10.1 +0.5**
comp=Z,888nm,0.7s,comp=Z,9μm
BNDI Bandanaira 55.34 277 P **P 20 56 13.3 +3.5**
comp=Z,401nm,1.1s,comp=Z,10μmcomp=Z,22μm
PALU Palau 55.74 292 P **P 20 56 13.9 +1.3**
baz=56,SNR=48
FITZ Fitzroy Crossi 56.11 260 *e*P **P 20 56 15.0 -0.2**
comp=Z,675nm,1.6s
FITZ *e*S **S 21 03 45.6 -2.2**
FITZ Fitzroy Crossi 56.11 260 P **P 20 56 15.5 +0.3**
baz=56,SNR=154
FITZ Fitzroy Crossi 56.11 260 S **S 21 03 47.3 -0.5**
comp=Z,9.0nm,1.0s,baz=268,slow=19,SNR=7.0
KMBL Kambalda 58.11 244 P **P 20 56 28.5 -0.5**
baz=58,SNR=25
SOEI Soe 59.20 269 *e*P **P 20 56 37.3 +0.3**
comp=Z,1μm,0.9s
SOEI Soe 59.20 269 P **P 20 56 38.3 +1.3**
comp=Z,2μm,1.0s,comp=Z,19μm
TNTI Ternate 59.53 282 *e*P **P 20 56 38.6 -0.4**
comp=Z,190nm,0.8s
TNTI Ternate 59.53 282 P **P 20 56 39.6 +0.6**
comp=Z,336nm,1.0s,comp=Z,5μmcomp=Z,12μm
SANI Sanana 59.84 278 P **P 20 56 40.9 -0.3**
comp=Z,265nm,0.8s,comp=Z,7μmcomp=Z,24μm
SBA Scott Base 60.60 184 *e*P **P 20 56 45.6 +0.3**
comp=Z,257nm,1.2s
SBA Scott Base 60.60 184 *e*P **P 20 56 45.6 +0.3**
SBA pmax pmax
comp=Z,257nm,1.2s
VNDA Vanda 60.70 186 *e*P **P 20 56 46.0 0.0**
comp=Z,122nm,0.9s
VNDA Vanda 60.70 186 P **P 20 56 47.6 +1.7**
comp=Z,99nm,0.9s,baz=8.1,slow=6.7,SNR=258
VNDA PKP2bc 21 26 12.7
comp=Z,14nm,1.3s,baz=227,slow=4.5,SNR=4.5
PSA00 Pilbara Seismi 60.93 255 *e*P **P 20 56 47.9 -0.5**
comp=Z,443nm,0.9s
MBWA Marble Bar 61.10 255 *e*P **P 20 56 49.4 -0.3**
comp=Z,601nm,1.4s
MEEK Meekatharra 61.35 249 P **P 20 56 50.6 -0.6**
baz=61,SNR=59
MMRI Maumere 61.43 270 *e*P **P 20 56 51.3 -0.6**
comp=Z,299nm,0.7s
MMRI Maumere 61.43 270 P **P 20 56 51.6 -0.3**
comp=Z,466nm,0.8s,comp=Z,8μm
KLBR Kellerberrin 61.62 243 P **P 20 56 52.7 -0.2**
baz=62,SNR=150
NWAO Narrogin (SRO) 61.96 242 *e*P **P 20 56 55.3 +0.1**
comp=Z,114nm,0.8s
NWAO Narrogin (SRO) 61.96 242 P **P 20 56 55.2 0.0**
baz=62,SNR=25
NWAO Narrogin (SRO) 61.96 242 *e*P **P 20 56 55.3 +0.1**
NWAO pmax pmax
comp=Z,113nm,0.8s
RKGY Rocky Gully 62.07 240 P **P 20 56 56.0 +0.1**
baz=62,SNR=10
MNI Manado 62.12 282 P **P 20 56 55.9 -0.6**
MNI pmax pmax
comp=Z,282nm,0.6s
SGSI Sangihe 62.31 284 P **P 20 56 58.9 +1.2**
comp=Z,257nm,0.5s,comp=Z,3μm
BLDU Ballidu 62.59 244 P **P 20 56 59.0 -0.4**
baz=63,SNR=132
KMSI Cibinong 62.62 280 P **P 20 57 00.2 +0.4**
comp=Z,376nm,0.7s,comp=Z,4μm
MUN Mundaring 62.90 243 P **P 20 57 01.4 0.0**
baz=63,SNR=52
MATI Mati 62.92 288 *e*P **P 20 57 02.7 +0.9**
WSI Waingapu 63.00 268 P **P 20 57 03.0 +0.7**
comp=Z,1μm,1.2s
DDMP Don Marcelino, 63.08 287 *e*P **P 20 57 01.8 -1.0**
LUWI Luwuk 63.21 278 *e*P **P 20 57 03.8 +0.1**
comp=Z,489nm,1.2s
LUWI Luwuk 63.21 278 P **P 20 57 04.7 +1.0**
comp=Z,338nm,1.1s,comp=Z,8μmcomp=Z,19μm
MORW Morawa 63.33 246 *e*P **P 20 57 04.1 -0.3**
comp=Z,108nm,1.0s
MORW Morawa 63.33 246 P **P 20 57 04.0 -0.3**
baz=63,SNR=27
DAV Davao City (W) 63.58 288 *e*P **P 20 57 06.4 +0.2**
comp=Z,693nm,1.0s
DAV Davao City (W) 63.58 288 ‖ *i*P **P 20 57 05.9 -0.2**
DAV Davao City (W) 63.58 288 P **P 20 57 07.6 +1.4**
comp=Z,545nm,0.9s,baz=47,slow=1.3,SNR=13
BSSI Bau Bau, Buton 63.79 272 P **P 20 57 07.7 +0.2**
comp=Z,253nm,0.8s,comp=Z,5μm
SKMP Bagumbayan, Su 64.31 287 *e*P **P 20 57 10.5 -0.4**
APSI Ampana 64.31 278 P **P 20 57 12.6 +1.7**
comp=Z,239nm,1.1s,comp=Z,5μm
BUTP Butuan 64.32 290 *e*P **P 20 57 11.9 +1.0**
H01W1 Cape Leeuwin H 64.37 239 P **P 20 57 12.6 +2.0**
baz=103,slow=6.8,SNR=18
BUKP Musuan 64.38 288 *e*P **P 20 57 13.1 +1.7**
BKSI Bulukumba 64.38 273 P **P 20 57 11.5 +0.2**
comp=Z,59nm,0.9s,comp=Z,2μm
H01W3 Cape Leeuwin H 64.38 239 P **P 20 57 12.7 +2.0**
baz=103,slow=6.8,SNR=25
H01W2 Cape Leeuwin H 64.38 239 P **P 20 57 12.7 +2.0**
baz=103,slow=6.8,SNR=18
MRSI Marisa 64.50 279 P **P 20 57 12.2 +0.1**
comp=Z,102nm,1.3s,comp=Z,4μmcomp=Z,10μm
BNSI Bone 64.67 274 P **P 20 57 13.6 +0.4**
comp=Z,406nm,1.0s,comp=Z,7μmcomp=Z,14μm

KAPI Kappang 64.82 273 *e*P **P 20 57 14.1 -0.1**
comp=Z,97nm,1.0s
KAPI Kappang 64.82 273 *e*P **P 20 57 14.1 -0.1**
KAPI pmax pmax
comp=Z,97nm,1.0s
CTBH Cotabato--PC H 64.85 287 ‖ *i*P **P 20 57 15.3 +0.9**
SPSI Sidrap Palu 65.12 274 P **P 20 57 15.5 -0.6**
comp=Z,90nm,0.9s,comp=Z,2μm
TTSI Tana Toraja 65.36 275 P **P 20 57 18.3 +0.7**
comp=Z,83nm,1.1s,comp=Z,3μmcomp=Z,18μm
MSLP Maasin 65.49 290 *e*P **P 20 57 19.1 +0.7**
PLAI Plampang 65.62 268 P **P 20 57 19.0 -0.4**
comp=Z,720nm,1.0s,comp=Z,12μm
PLP Palo 65.82 291 ‖ *e*P **P 20 57 17.3 -3.3**
GIRL Giralia 65.88 253 P **P 20 57 22.1 +1.3**
baz=66,SNR=36
PAGZ Pagadian 65.89 287 *e*P **P 20 57 21.8 +0.8**
OCLP Ormoc 66.10 291 *e*P **P 20 57 22.8 +0.4**
LLP Lapu-Lapu 66.36 290 ‖ *e*P **P 20 57 27.7 +3.7**
MPSI Mapaga 66.37 278 P **P 20 57 24.1 0.0**
comp=Z,76nm,1.1s,comp=Z,3μmcomp=Z,9μm
JHJ2 Mitsune 66.55 320 *e*P **P 20 57 24.8 -0.1**
comp=Z,829nm,1.0s
JHJ Hachijo jima 2 66.58 320 P **P 20 57 25.5 +0.5**
comp=Z,432nm,0.8s,baz=189,slow=5.2,SNR=14
CNP Catarman 66.68 293 *e*P **P 20 57 26.9 +0.9**
CASY Casey 67.42 205 *e*P **P 20 57 30.4 +0.5**
comp=Z,205nm,0.9s
PVCP Virac 67.60 293 *e*P **P 20 57 33.0 +1.2**
GUIM Jordan 67.72 290 *e*P **P 20 57 31.8 -0.8**
RCP Roxas 67.97 291 ‖ *e*P **P 20 57 34.6 +0.5**
DNP Denpasar 68.11 268 P **P 20 57 33.9 -1.1**
SGKI Sangatta, Kali 68.25 277 P **P** 20 57 43.9 +7.9
SMKI Samarinda 68.65 277 P **P** 20 57 44.0 +5.6
BKB Balikpapan 68.69 276 P **P 20 57 42.2 +3.6**
comp=Z,192nm,0.7s,comp=Z,9μmcomp=Z,25μm
JAGI Jajag, Banyuwa 69.17 268 *e*P **P 20 57 40.6 -1.0**
comp=Z,562nm,1.0s
JAGI Jajag, Banyuwa 69.17 268 P **P 20 57 40.6 -1.0**
comp=Z,553nm,1.0s,comp=Z,8μmcomp=Z,15μm
KIWB Kanaga Island 69.52 359 *e*P **P 20 57 42.3 -0.5**
ADK Adak 69.54 359 *e*P **P 20 57 43.0 +0.1**
comp=Z,443nm,1.0s
ADK Adak 69.54 359 *e*P **P 20 57 43.0 +0.1**
ADK pmax pmax
comp=Z,443nm,1.0s
BOAC Boac 69.57 292 *e*P **P 20 57 45.1 +1.2**
GSTR Great Sitkin T 69.74 359 *e*P **P 20 57 44.7 +0.5**
KMMI Kalianget 69.74 269 P **P 20 57 46.2 +1.1**
comp=Z,196nm,0.9s,comp=Z,2μm
INU Inuyama 69.77 320 *e*P **P 20 57 44.7 -0.1**
comp=Z,214nm,1.4s
SJMP San Jose 69.79 291 *e*P **P 20 57 46.3 +1.0**
MJAR Matsushiro Arr 69.84 321 *e*P **P 20 57 45.3 +0.1**
MJAR Matsushiro Arr 69.84 321 P **P 20 57 45.5 +0.3**
comp=Z,78nm,0.7s,baz=166,slow=6.4,SNR=209
MJAR PKP2bc 21 25 47.5
comp=Z,2.9nm,1.1s,baz=273,slow=4.6,SNR=5.6
MAJO Matsushiro 69.85 321 *e*P **P 20 57 45.4 +0.1**
comp=Z,124nm,0.8s
MAJO Matsushiro 69.85 321 *d i*P **P 20 57 45.6 +0.4**
MAJO pmax pmax
comp=Z,107nm,0.9s
MAT Matsushiro 69.85 321 P **P 20 57 45.7 +0.5**
MAT S **S 21 06 37.8 +0.2**
ATKA Atka Island 69.85 1 *e*P **P 20 57 44.5 -0.3**
MJB9 Matsu-Tunnel 69.85 321 *e*P **P 20 57 45.1 -0.2**
comp=Z,131nm,0.9s
BUSP Coron 70.42 290 *e*P **P 20 57 49.6 +0.5**
PALP Palanan 70.62 296 *e*P **P 20 57 48.0 -2.3**
TGY Tagaytay City 70.64 292 P **P 20 57 52.0 +1.5**
comp=Z,520nm,0.5s,baz=204,slow=1.0,SNR=29
JOW Kunigami 70.69 308 *e*P **P 20 57 51.0 +0.4**
comp=Z,156nm,1.2s
BALP Baler 70.77 294 *e*P **P 20 57 52.0 +0.8**
ENPP El Nido 70.80 289 *e*P **P 20 57 52.3 +0.9**
SMY Shemya 70.99 353 *e*P **P 20 57 51.8 +0.1**
SMY Shemya 70.99 353 P **P 20 57 53.3 +1.6**
SMY pmax pmax
comp=Z,726nm,1.1s
ERM Erimo 71.01 328 *de*P **P 20 57 54.3 +2.2**
ERM pmax pmax
comp=Z,91nm,1.1s
CAUP Cauayan 71.08 296 *e*P **P 20 57 54.8 +1.8**
LUBP Lubang 71.09 292 *e*P **P 20 57 53.1 -0.1**
GRJI Gresik 71.19 269 P **P 20 57 56.3 +2.4**
comp=Z,257nm,0.7s,comp=Z,3μm
YUK Yuzh-Kuril'sk 71.25 331 *d iP* **P 20 57 54.1 +0.6**
YUK *i* *PP **pP 20 58 39.9 -2.5**
YUK *i* PPP PPP 21 02 20.3
YUK *i* S **S 21 06 52.8 -0.6**
YUK *i* 21 07 33.0
YUK pmax pmax
comp=Z,916nm,3.8s
YUK pmax pmax
comp=Z,330nm,0.9s
YUK pmax pmax
comp=N,140nm,0.8s
YUK pmax pmax
comp=E,195nm,0.8s
KUR Kuril'sk 71.31 333 *d iP* **P 20 57 54.8 +1.0**
KUR *i* S **S 21 06 55.1 +1.1**
KUR *i* 21 07 59.4
KUR pmax pmax
comp=Z,549nm,1.1s
KUR pmax pmax
comp=N,136nm,1.5s
KUR pmax pmax
comp=E,87nm,1.3s
KUR pmax pmax
comp=Z,5μm,4.8s
KUR pmax pmax
comp=E,1μm,5.0s
KUR pmax pmax
comp=N,2μm,4.4s
KUR MLR MLR
comp=Z,781nm,14.0s
BATP Bataraza 71.34 286 *e*P **P 20 57 56.0 +1.3**
PWJI Pagerwojo 71.53 267 P **P 20 57 55.9 0.0**
comp=Z,448nm,0.8s,comp=Z,7μm
SMPP San Manuel, Pa 71.73 294 *e*P **P 20 57 56.8 -0.2**
KKM Kota Kinabalu 71.80 283 *e*P **P 20 57 57.9 +0.3**
comp=Z,308nm,1.0s
KKM Kota Kinabalu 71.80 283 P **P 20 57 59.0 +1.4**
UNV Unalaska Valle 71.87 5 *e*P **P 20 57 56.8 -0.1**
APYP Conner 71.98 296 *e*P **P 20 57 59.0 +0.5**
PCJI Pacitan 72.07 267 P **P 20 57 59.6 +0.5**
comp=Z,2μm,0.6s,comp=Z,17μm
QSPA South Pole Qui 72.12 180 *e*P **P 20 57 59.4 +0.8**
comp=Z,205nm,0.9s
QSPA South Pole Qui 72.12 180 P **P 20 58 00.3 +1.7**
comp=Z,159nm,0.9s,baz=39,slow=2.1,SNR=213
QSPA S **S 21 07 04.6 +1.4**
comp=Z,2.5nm,0.9s,baz=66,slow=18,SNR=11
SCZP Santa Cruz 72.24 294 *e*P **P 20 57 59.4 -0.6**
JNU Nakatsue 72.36 315 *e*P **P 20 58 01.1 +0.7**
comp=Z,238nm,0.8s
WOJI Wonogiri, Jawa 72.42 267 P **P 20 58 01.5 +0.4**
comp=Z,434nm,0.9s,comp=Z,7μm
BOLP Bolinao 72.49 294 *e*P **P 20 58 00.8 -0.7**
BBP Basco 72.53 299 *e*P **P 20 58 00.6 -1.1**
UGM Wanagama 72.78 267 *e*P **P 20 58 03.4 +0.1**
comp=Z,410nm,0.7s
UGM Wanagama 72.78 267 P **P 20 58 03.8 +0.5**
comp=Z,537nm,0.6s,comp=Z,12μmcomp=Z,17μm
ASAJ Asahikawa 72.85 330 P **P 20 58 04.2 +1.2**
comp=Z,132nm,0.9s,baz=218,slow=5.5,SNR=41
SKR Severo-Kuril's 72.86 341 *e*P **P 20 58 02.9 0.0**
SKR *e*S **S 21 07 08.6 -2.9**
SKR *e**SS **SKKSac 21 07 48.0 0.0**
SKR pmax pmax
comp=Z,3μm,4.9s
SKR pmax pmax
comp=Z,390nm,0.9s
SKR pmax pmax
comp=Z,2μm,8.9s
SKR MLR MLR
comp=Z,2μm,17.0s
YOGI Yogyakarta 73.02 267 P **P 20 58 05.4 +0.7**
comp=Z,1μm,0.9s,comp=Z,17μm
SMRI Semarang 73.10 268 *e*P **P 20 58 05.1 -0.1**
comp=Z,310nm,0.8s
SMRI Semarang 73.10 268 P **P 20 58 06.0 +0.8**
comp=Z,420nm,1.6s,comp=Z,12μm
FALS False Pass 73.19 7 *e*P **P 20 58 04.7 0.0**

PBKI Pangkalan Bun 73.20 273 P **P 20 58 07.5 +1.7**
comp=Z,695nm,1.1s,comp=Z,10μm
SNCC San Nicolas Is 73.52 46 *e*P **P 20 58 07.1 -0.1**
comp=Z,120nm,1.1s
SNCC San Nicolas Is 73.52 46 P **P 20 58 08.4 +1.2**
baz=235,SNR=6.7
SNCC S **S 21 07 24.0 +4.3**
baz=235
YOJ Yonaguni jima 73.56 303 *e*P **P 20 58 08.3 +0.7**
comp=Z,302nm,0.6s
YOJ Yonaguni jima 73.56 303 P **P 20 58 08.4 +0.7**
YOJ pmax pmax
comp=Z,471nm,0.8s
SCZ2 Santa Cruz Isl 73.87 45 P **P 20 58 10.3 +1.1**
baz=235,SNR=31
SCI2 San Clemente I 74.04 47 P **P 20 58 11.0 +0.8**
baz=236,SNR=10
SBC Santa Barbara 74.08 45 P **P 20 58 11.4 +1.0**
baz=234,SNR=5.6
PET Petropavlovsk 74.22 344 *e*P **P 20 58 10.8 0.0**
comp=Z,298nm,1.4s
PET Petropavlovsk 74.22 344 *d iP* **P 20 58 10.3 -0.5**
PET *e*S **S 21 07 21.8 -4.8**
PET pmax pmax
comp=Z,161nm,1.4s
PET pmax pmax
comp=Z,2μm,9.6s
PET pmax pmax
comp=Z,3μm,13.4s
MCCM Marconi Confer 74.25 40 *e*P **P 20 58 11.7 +0.4**
comp=Z,173nm,1.1s
PKM Mcpherson Peak 74.27 45 P **P 20 58 12.9 +1.1**
baz=234,SNR=28
SAO San Andreas Ge 74.31 42 *e*P **P 20 58 12.1 +0.4**
comp=Z,190nm,1.0s
SBUM Sibu 74.31 278 *e*P **P 20 58 12.8 +0.6**
comp=Z,111nm,1.0s
SBUM Sibu 74.31 278 P **P 20 58 14.0 +1.8**
BLG Laguna Peak, P 74.32 46 P **P 20 58 12.5 +0.6**
baz=235,SNR=7.2
TWG Pinlang 74.36 301 *e*P **P 20 58 11.7 -0.6**
comp=Z,463nm,0.8s
CIS Catalina Islan 74.37 47 P **P 20 58 12.7 +0.6**
baz=236,SNR=10
SMMC Simmler 74.39 44 P **P 20 58 13.5 +1.2**
baz=234,SNR=18
YULB Yu-li 74.44 301 *e*P **P 20 58 12.4 -0.3**
comp=Z,96nm,0.7s
PAGB Antelope Grade 74.47 44 *e*P **P 20 58 13.0 +0.3**
comp=Z,161nm,1.2s
PEA0B Petropavlovsk- 74.56 343 *e*P **P 20 58 13.1 +0.4**
comp=Z,354nm,1.0s
PETK Petropavlovsk- 74.56 343 *e*P **P 20 58 12.9 +0.2**
PETK Petropavlovsk- 74.56 343 P **P 20 58 13.5 +0.7**
comp=Z,222nm,0.8s,baz=104,slow=5.3,SNR=146
PETK PKIKP **PKiKP 21 04 03.2 +0.1**
comp=Z,6.1nm,0.8s,baz=116,slow=5.4,SNR=5.0
PETK LR LR 21 28 52.4
comp=Z,927nm,19.2s,baz=166,slow=34
NACB Ninganchiao 74.56 302 *e*P **P 20 58 13.4 0.0**
comp=Z,289nm,1.1s
FMP Fort Macarthur 74.63 46 P **P 20 58 14.4 +0.9**
baz=236
HOPS Hopland Field 74.67 40 *e*P **P 20 58 14.6 +0.9**
comp=Z,280nm,1.1s
GDXM Geysers 74.72 40 *e*P **P 20 58 14.1 0.0**
comp=Z,118nm,1.3s
KCPM Cahto Peak 74.80 39 *e*P **P 20 58 15.5 +0.9**
comp=Z,270nm,1.2s
OSI Osito Audit: C 74.84 45 P **P 20 58 16.0 +1.1**
baz=235
YSS Yuzh-Sakhalins 74.89 332 *e*P **P 20 58 15.6 +0.8**
comp=Z,350nm,1.0s
YSS Yuzh-Sakhalins 74.89 332 ‖ *i*P **P 20 58 16.0 +1.2**
YSS *e* 21 01 07.1
YSS *e*S **S 21 07 34.5 +0.2**
YSS *e* 21 08 07.7
YSS *e*PS **PnS 21 08 42.9 +2.2**
YSS *e*SS **SS 21 12 29.3 +1.5**
YSS pmax pmax
comp=Z,5μm,5.2s
YSS pmax pmax
comp=Z,300nm,1.0s
SSLB Suanglung 74.90 302 *e*P **P 20 58 15.2 -0.2**
comp=Z,177nm,1.2s
DECC Green Verdugo 74.91 46 P **P 20 58 15.8 +0.6**
baz=235,SNR=8.4
PASC Pasadena Art C 74.96 46 *e*P **P 20 58 15.7 +0.2**
comp=Z,115nm,1.0s
YHNB Yeheng 74.97 303 *e*P **P 20 58 15.8 0.0**
comp=Z,314nm,1.2s
109C Camp Elliot, M 75.00 48 P **P 20 58 16.5 +0.8**
baz=237
CPE Camp Elliot 75.00 48 *e*P **P 20 58 15.9 +0.2**
comp=Z,159nm,1.6s
TATO Taipei 75.03 303 *e*P **P 20 58 16.2 +0.2**
comp=Z,401nm,1.2s
ARVC Arvin 75.06 45 P **P 20 58 17.0 +0.9**
baz=235,SNR=9.6
KMRM Mail Ridge 75.06 38 *e*P **P 20 58 16.6 +0.6**
comp=Z,511nm,1.0s
MWC Mount Wilson 75.08 46 *e*P **P 20 58 16.4 0.0**
comp=Z,127nm,1.0s
BAR Barrett 75.19 48 *e*P **P 20 58 16.8 -0.1**
comp=Z,95nm,1.5s
JCC Jacoby Creek, 75.26 38 *e*P **P 20 58 17.4 +0.5**
comp=Z,148nm,1.1s
VES Vestal, Richgr 75.30 44 P **P 20 58 18.2 +0.8**
baz=235,SNR=66
JCJI Jatiwangi 75.32 268 P **P 20 58 18.3 +0.3**
comp=Z,508nm,1.3s,comp=Z,13μm
MURC Murrieta 75.33 47 P **P 20 58 18.4 +0.8**
baz=236,SNR=20
BFSC Mount Baldy Ra 75.36 46 P **P 20 58 18.4 +0.4**
baz=236,SNR=34
VOG Valley Oaks Go 75.39 44 P **P 20 58 18.5 +0.7**
baz=234
CISI Cisompet, Garu 75.45 267 *e*P **P 20 58 18.0 -0.8**
comp=Z,362nm,0.6s
CISI Cisompet, Garu 75.45 267 P **P 20 58 18.3 -0.5**
comp=Z,509nm,0.6s,comp=Z,9μm
KHMM Horse Mountain 75.47 38 *e*P **P 20 58 19.2 +0.8**
comp=Z,174nm,1.1s
MONP2 Monument Peak 75.48 48 P **P 20 58 19.6 +0.8**
baz=237,SNR=32
EDW2 Edwards Air Fo 75.49 45 P **P 20 58 19.5 +0.9**
baz=236,SNR=140
IKP In-Ko-Pah, Jac 75.57 48 P **P 20 58 20.0 +0.9**
baz=237,SNR=22
O02D Mt. Diablo Mer 75.58 39 P **P 20 58 20.4 +1.4**
baz=231,SNR=114
ISA Isabella, Lake 75.61 45 *e*P **P 20 58 19.4 +0.1**
comp=Z,219nm,1.1s
ISA Isabella, Lake 75.61 45 P **P 20 58 20.3 +1.0**
baz=235,SNR=171
SRIG Santa Rosalia 75.74 55 *e*P **P 20 58 19.9 -0.2**
comp=Z,50nm,1.0s
CMB Columbia Colle 75.75 42 *e*P **P 20 58 20.3 +0.4**
comp=Z,118nm,1.0s
KSM Kuching 75.80 276 *e*P **P 20 58 21.6 +0.9**
comp=Z,875nm,1.0s
KSM Kuching 75.80 276 P **P 20 58 23.0 +2.3**
LEM Lembang 75.84 267 P **P 20 58 21.7 +0.5**
LEM pmax pmax
comp=Z,445nm,0.9s
PFO Pinyon Flats O 75.85 47 *e*P **P 20 58 21.1 +0.4**
comp=Z,81nm,1.3s
PFO Pinyon Flats O 75.85 47 P **P 20 58 21.6 +0.8**
baz=237,SNR=27
PFO Pinyon Flats O 75.85 47 P **P 20 58 21.9 +1.2**
comp=Z,28nm,1.0s,baz=244,slow=3.9,SNR=42
BBRC Big Bear Solar 75.88 47 P **P 20 58 21.7 +0.7**
baz=236
AFDM Forest Hills D 75.93 41 *e*P **P 20 58 21.1 +0.2**
comp=Z,112nm,1.1s
SWSC Sam W. Stewart 75.95 48 P **P 20 58 21.8 +0.6**
baz=237,SNR=18
ORV Oroville 75.97 40 *e*P **P 20 58 21.4 +0.3**
comp=Z,106nm,1.1s
WDC Whiskeytown Da 75.98 39 *e*P **P 20 58 21.8 +0.7**
comp=Z,176nm,1.1s
LRMC Laurel Mtn Rad 76.04 45 P **P 20 58 22.7 +0.9**
baz=236,SNR=94
N02D Trinity Center 76.13 38 P **P 20 58 23.4 +1.3**
baz=231,SNR=140
RRX Edison Barstow 76.17 46 P **P 20 58 23.0 +0.7**
baz=236
O03E Paynes Creek 76.25 39 P **P 20 58 23.2 +0.5**

baz=232,SNR=53
M02C Callahan 76.31 38 P **P 20 58 24.4 +1.3**
baz=231,SNR=146
CWC Cottonwood Cre 76.31 44 P **P 20 58 24.3 +1.0**
baz=235
MDPB Devils Postpil 76.34 43 *e*P **P 20 58 24.2 +0.6**
comp=Z,118nm,1.0s
L02E Cave Junctlen 76.36 37 P **P 20 58 24.6 +1.3**
baz=230,SNR=84
BELC Belle Mtn. Jos 76.38 47 P **P 20 58 24.6 +0.8**
baz=237,SNR=24
OMMB Old Mammoth Mi 76.39 43 *e*P **P 20 58 24.2 +0.3**
comp=Z,90nm,1.1s
KEBM Edson Butte 76.41 36 *e*P **P 20 58 24.2 +0.6**
comp=Z,268nm,1.2s
MPMC Manual Prospec 76.49 45 P **P 20 58 25.5 +1.1**
baz=236,SNR=228
RUBR Rubicon Trail 76.50 41 *e*P **P 20 58 24.7 +0.3**
comp=Z,80nm,1.0s
MLAC Mammoth, Mammo 76.50 43 P **P 20 58 25.7 +1.3**
baz=234
TEY Ternei 76.51 327⇓*e*P **P 20 58 25.4 +1.4**
TEY *e* 21 07 45.5
TEY *e* 21 08 50.2
GSC Goldstone, Bar 76.53 46 *e*P **P 20 58 25.0 +0.5**
comp=Z,141nm,1.1s
GSC Goldstone, Bar 76.53 46 P **P 20 58 25.2 +0.7**
baz=236,SNR=112
DAC Darwin (Calif) 76.54 45 *e*P **P 20 58 25.4 +0.8**
comp=Z,112nm,1.3s
TIN Tinemaha, Big 76.56 44 P **P 20 58 25.9 +1.3**
baz=235,SNR=29
BC3 Big Chuckawall 76.58 48 P **P 20 58 25.9 +1.1**
baz=238,SNR=30
HEC Hector,Ludlow 76.59 46 P **P 20 58 25.6 +0.7**
baz=237,SNR=56
TJN Taejon 76.60 316*d i*P **P 20 58 25.6 +0.9**
YBH Yreka Blue Hor 76.61 38 *e*P **P 20 58 25.4 +0.7**
comp=Z,155nm,1.0s
YBH Yreka Blue Hor 76.61 38 P **P 20 58 26.0 +1.2**
YBH pmax pmax
comp=Z,78nm,0.8s
YBH Yreka Blue Hor 76.61 38 P **P 20 58 26.0 +1.2**
comp=Z,78nm,0.8s,baz=189,slow=2.6,SNR=169
WAKR Walker 76.63 42 *e*P **P 20 58 25.7 +0.6**
comp=Z,156nm,1.1s
K02D Willamette Mer 76.67 36 P **P 20 58 26.4 +1.3**
baz=230,SNR=96
XMIS Christmas Isla 76.69 263 *e*P **P 20 58 25.8 +0.1**
comp=Z,184nm,0.8s
GLA Glamis 76.70 49 *e*P **P 20 58 26.0 +0.6**
comp=Z,133nm,1.3s
GLA Glamis 76.70 49 P **P 20 58 26.7 +1.2**
baz=238,SNR=21
SKJI Sukabumi 76.80 267 P **P 20 58 26.2 -0.2**
comp=Z,1μm,0.8s,comp=Z,14μm
J01E Myrtle Point 76.82 36 P **P 20 58 26.8 +1.0**
baz=230,SNR=56
KSRS Korea Array 76.84 317 P **P 20 58 28.0 +2.0**
KSRS pmax pmax
comp=Z,107nm,0.9s
KSRS Korea Array 76.84 317 P **P 20 58 27.9 +2.0**
comp=Z,107nm,0.9s,baz=134,slow=6.8,SNR=196
KSRS PKiKP **PKiKP 21 04 07.6 +0.6**
comp=Z,1.5nm,0.7s,baz=112,slow=1.3,SNR=4.4
KS15 Wonju Array Si 76.86 317 *e*P **P 20 58 27.5 +1.4**
comp=Z,210nm,1.0s
KSAR Wonju Array Be 76.86 317 *e*P **P 20 58 27.1 +1.0**
BEKR Beckworth 76.86 40 *e*P **P 20 58 26.8 +0.5**
comp=Z,142nm,1.2s
PNTR Pine Nut 76.87 41 *e*P **P 20 58 26.6 +0.1**
comp=Z,259nm,1.1s
PNTR *e*S **S 21 07 56.8 -0.1**
VCNR Virginia City 76.96 41 *e*P **P 20 58 27.2 +0.2**
comp=Z,129nm,1.1s
HUMO Hull Mountain 77.02 37 *e*P **P 20 58 27.7 +0.8**
comp=Z,108nm,1.0s
YERR Yerington 77.03 41 *e*P **P 20 58 27.5 +0.1**
comp=Z,196nm,1.2s
GMRC Granite Mounta 77.04 47 P **P 20 58 28.1 +0.7**
baz=237,SNR=70
IRM Iron Mountain 77.06 47 P **P 20 58 28.5 +1.1**
baz=238,SNR=97
GRAC Grapevine Rang 77.10 44 P **P 20 58 28.9 +1.3**
baz=236,SNR=47
FURC Furnace Creek, 77.14 45 P **P 20 58 28.5 +0.8**
baz=236,SNR=59
M04C Macdoel 77.14 38 P **P 20 58 28.7 +0.9**
baz=231,SNR=69
L04D Klamath Falls 77.15 37 P **P 20 58 28.7 +0.9**
baz=231,SNR=100
TUQ Turquoise Moun 77.21 46 P **P 20 58 29.3 +1.0**
baz=237,SNR=10.0
SHOC Shoshone, Teco 77.22 45 P **P 20 58 29.1 +0.8**
baz=236,SNR=23
RYN Ryan 77.28 42 *e*P **P 20 58 29.3 +0.6**
comp=Z,163nm,1.2s
Y12C Blythe 77.28 48 *e*P **P 20 58 28.9 +0.3**
comp=Z,72nm,1.1s
Y12C Blythe 77.28 48 P **P 20 58 29.7 +1.1**
baz=238,SNR=26
KNMB Chin-men Tao 77.29 301 *e*P **P 20 58 29.5 +0.7**
comp=Z,536nm,1.6s
NVAR Mina Array Bea 77.31 42 *e*P **P 20 58 29.1 +0.1**
NVAR *e*S **S 21 08 00.4 -1.2**
NVAR Mina Array Bea 77.31 42 P **P 20 58 29.7 +0.8**
comp=Z,127nm,1.0s,baz=226,slow=8.6,SNR=317
NVAR S **S 21 08 03.9 +2.3**
comp=Z,0.1nm,0.4s,baz=218,slow=11,SNR=3.3
NVAR PKKPbc **PKKPbc 21 17 37.1 +2.4**
comp=Z,1.3nm,0.7s,baz=94,slow=2.6,SNR=8.2
NVAR PKPPKP **P'P'df 21 25 33.1 -2.3**
comp=Z,0.7nm,0.8s,baz=92,slow=3.8,SNR=5.1
NVAR LR LR 21 28 19.8
comp=Z,1μm,18.1s,baz=238,slow=32
113A Mohawk Valley, 77.31 49 *e*P **P 20 58 29.3 +0.5**
comp=Z,182nm,1.6s
QZH Quanzhou 77.34 302⇓*i*P **P 20 58 30.4 +1.3**
QZH S **S 21 08 02.4 +0.4**
QZH pmax pmax
comp=Z,5μm,5.7s
QZH LR LR
comp=Z,1μm,26.9s
QZH LR LR
comp=Z,1μm,23.2s
QZH LR LR
comp=Z,2μm,19.6s
PAHR Pah Rah Range 77.37 41 *e*P **P 20 58 29.7 +0.6**
comp=Z,149nm,1.2s
NV11 Mina Array Sit 77.40 42 *e*P **P 20 58 29.9 +0.6**
comp=Z,17nm,1.1s
NV11 *e*S **S 21 08 02.0 -0.5**
I02D Swisshome 77.48 35 P **P 20 58 30.6 +1.2**
baz=229,SNR=38
I03D Drain, OR 77.49 36 P **P 20 58 30.5 +1.0**
baz=230,SNR=78
HSIG 77.55 54 *e*P **P 20 58 30.4 +0.2**
comp=Z,63nm,1.3s
LDFC Landfair 77.58 47 *e*P **P 20 58 31.4 +1.1**
comp=Z,308nm,1.1s
214A Organ Pipe Nat 77.59 50 P **P 20 58 31.5 +1.1**
baz=240
K04D Chiloquin, OR 77.72 37 P **P 20 58 32.0 +1.0**
baz=231,SNR=9.6
KDAK Kodiak Island 77.73 12 *e*P **P 20 58 30.8 +0.4**
comp=Z,465nm,1.4s
KDAK Kodiak Island 77.73 12 *i* P **P 20 58 30.7 +0.2**
KDAK Kodiak Island 77.73 12 P **P 20 58 31.0 +0.6**
comp=Z,132nm,0.9s,baz=233,slow=2.9,SNR=34
NEE2 Needles Airpor 77.75 47 P **P 20 58 32.3 +1.1**
baz=238,SNR=6.8
KVN Kaiserville 77.79 42 *e*P **P 20 58 32.0 +0.5**
comp=Z,138nm,1.1s
TPNV Topopah Spring 77.82 45 *e*P **P 20 58 32.4 +0.7**
comp=Z,117nm,1.0s
TPNV *e*S **S 21 08 07.7 +0.7**
TPNV Topopah Spring 77.82 45 P **P 20 58 32.6 +0.9**
baz=236
VLA Vladivostok 77.82 323*d i*P **P 20 58 32.7 +1.4**
VLA pmax pmax
comp=Z,65nm,1.0s
PDMCI Parker Dam,Lak 77.84 48 P **P 20 58 32.9 +1.2**
baz=238,SNR=22
TYV Tymovskoe 77.88 334 *e*P **P 20 58 32.2 +0.7**
TYV *e*S **S 21 08 04.3 -2.4**
TYV pmax pmax
comp=Z,126nm,1.6s
TYV pmax pmax
comp=Z,4μm,5.3s
TYV smax smax
comp=E,18nm,1.8s
TYV smax smax
comp=E,3μm,5.6s
MSHR Mys Shultsa 77.90 322*d i*P **P 20 58 33.2 +1.4**
J04D Umpqua Nationa 77.90 37 P **P 20 58 33.0 +1.0**
baz=231,SNR=46
I04A Tendick Farm, 78.08 36 P **P 20 58 33.3 +0.5**
baz=231,SNR=50
COR Corvallis 78.09 35 *e*P **P 20 58 33.4 +0.6**
comp=E,149nm,1.1s
COR Corvallis 78.09 35 P **P 20 58 33.8 +1.0**
COR pmax pmax
comp=Z,126nm,1.1s
MOD Modoc Plateau 78.12 39 *e*P **P 20 58 33.8 +0.6**
comp=Z,202nm,1.2s
SSE Sheshan 78.20 308 P **P 20 58 34.7 +1.0**
SSE sP **sP 20 59 50.1 +4.7**
SSE S **S 21 08 12.0 +1.1**
SSE pmax pmax
comp=Z,2μm,7.8s
SSE LR LR
comp=Z,1μm,24.9s
K05A Summer Lake 78.28 38 *e*P **P 20 58 35.1 +1.0**
comp=Z,307nm,1.1s
SHPR Sheep Range 78.31 45 *e*P **P 20 58 34.6 +0.2**
comp=Z,134nm,1.1s
SHPR *e*S **S 21 08 09.4 -2.9**
H04D Lebanon 78.36 35 P **P 20 58 35.0 +0.7**
baz=230,SNR=57
J05D Fort Rock, OR 78.43 37 P **P 20 58 35.9 +1.0**
baz=232,SNR=157
W13A Hualapai Mount 78.44 47 *e*P **P 20 58 35.3 +0.1**
comp=Z,91nm,1.2s
W13A *e*S **S 21 08 14.0 +0.2**
USA0B Ussuriysk Arra 78.44 324 *e*P **P 20 58 35.6 +0.9**
comp=Z,134nm,1.1s
USRK Ussuriysk Ar. 78.44 324 *e*P **P 20 58 35.4 +0.7**
USRK Ussuriysk Ar. 78.44 324 P **P 20 58 36.0 +1.3**
USRK Ussuriysk Ar. 78.44 324 P **P 20 58 36.0 +1.3**
comp=Z,58nm,1.0s,baz=106,slow=4.2,SNR=32
Y14A Wickenburg 78.46 49 *e*P **P 20 58 35.7 +0.5**
comp=Z,80nm,1.1s
G03D McMinnville, O 78.52 35 P **P 20 58 36.0 +0.9**
baz=230,SNR=61
H04A Detroit Lake 78.77 35 *e*P **P 20 58 36.5 -0.1**
comp=Z,217nm,1.3s
F03A Seaside 78.82 34 *e*P **P 20 58 37.1 +0.3**
comp=Z,239nm,1.2s
PINE Pine Mountain 78.91 37 *e*P **P 20 58 37.9 +0.3**
comp=Z,272nm,1.1s
I05D Terrebonne, OR 79.02 36 P **P 20 58 38.7 +0.7**
baz=231,SNR=57
R11A Troy Canyon, C 79.03 44 *e*P **P 20 58 38.5 +0.2**
comp=Z,87nm,1.4s
R11A *e*S **S 21 08 18.3 -1.6**
R11A Troy Canyon, C 79.03 44 P **P 20 58 39.1 +0.8**
baz=237,SNR=72
BMN Battle Mountai 79.14 41 *e*P **P 20 58 39.4 +0.6**
comp=Z,179nm,1.1s
F04D Rainier, OR 79.21 34 P **P 20 58 40.1 +1.2**
baz=230,SNR=6.1
E03A Lebam 79.22 33 *e*P **P 20 58 39.5 +0.6**
comp=Z,246nm,1.0s
TUC Tucson 79.26 51 *e*P **P 20 58 40.5 +0.9**
comp=Z,165nm,1.5s
TUC Tucson 79.26 51 P **P 20 58 40.8 +1.2**
TUC pmax pmax
comp=Z,75nm,1.8s
TUC Tucson 79.26 51 P **P 20 58 41.1 +1.5**
baz=241
WVOR Wild Horse Val 79.43 39 *e*P **P 20 58 40.7 +0.4**
comp=Z,179nm,1.1s
WVOR Wild Horse Val 79.43 39 P **P 20 58 40.7 +0.4**
WVOR pmax pmax
comp=Z,200nm,1.1s
G05D Wamic, OR 79.60 35 P **P 20 58 41.7 +0.6**
baz=231,SNR=32
NLWA Neilton Lookou 79.62 33 *e*P **P 20 58 41.6 +0.6**
comp=Z,160nm,1.2s
E04D Cinebar 79.75 34 P **P 20 58 43.0 +1.2**
baz=230,SNR=88
DIB Dawson Inlet, 79.82 24 *e*P **P 20 58 42.1 +0.2**
comp=Z,137nm,1.3s
X16A Lo Mia Camp, P 79.82 49 *e*P **P 20 58 42.9 +0.2**
comp=Z,112nm,1.1s
HKC Hong Kong Obse 79.88 297 ⇑P **P 20 58 45.0 +2.0**
HKPS Hong Kong Po S 79.89 297 *e*P **P 20 58 43.7 +0.6**
comp=Z,172nm,0.8s
BRLK Bradley Lake 79.90 12 *e*P **P 20 58 42.6 +0.2**
comp=Z,260nm,1.0s
I07A Izee 79.91 37 *e*P **P 20 58 43.5 +0.6**
comp=Z,155nm,1.1s
F05D White Salmon 79.92 35 P **P 20 58 43.4 +0.7**
baz=231,SNR=25
319A Douglas 79.94 52 *e*P **P 20 58 44.3 +0.9**
comp=Z,59nm,1.0s
G06A Carlson Farm, 79.97 36 *e*P **P 20 58 43.4 +0.3**
comp=Z,147nm,1.3s
D04E Lakebay 80.05 33 P **P 20 58 44.8 +1.5**
baz=230,SNR=21
MDJ Mudanjiang 80.05 323 P **P 20 58 45.0 +1.6**
MDJ pP pP 20 59 33.8 +0.5
MDJ sP sP 20 59 50.8 -4.5
MDJ PP **PP 21 01 52.8 +4.0**
MDJ S **S 21 08 32.2 +2.4**
MDJ SS **SS 21 13 54.0 +8.5**
MDJ pmax pmax
comp=Z,180nm,1.4s
MDJ pmax pmax
comp=Z,7μm,5.2s
MDJ LR LR
comp=Z,2μm,27.6s
MDJ LR LR
comp=Z,2μm,25.0s
MDJ LR LR
comp=Z,2μm,34.2s
MDJ Mudanjiang 80.05 323 *e*P **P 20 58 44.8 +1.4**
comp=Z,245nm,1.3s
J08A Circle Bar Ran 80.08 38 *e*P **P 20 58 44.4 +0.6**
comp=Z,241nm,1.2s
D03D Eldon 80.11 33 P **P 20 58 44.6 +0.9**
baz=230,SNR=55
RSO Redoubt South 80.19 11 *e*P **P 20 58 43.7 -0.4**
U15A North Rim 80.23 47 *e*P **P 20 58 46.0 +1.0**
comp=Z,173nm,1.1s
U15A *e*S **S 21 08 32.9 +0.1**
MCO Taipa Grande 80.33 297 P **P 20 58 48.0 +2.6**
NJ2 Nanjing 80.40 308⇓*i*P **P 20 58 47.2 +1.6**
NJ2 S **S 21 08 34.1 +0.1**
NJ2 pmax pmax
comp=Z,81nm,0.9s
NJ2 pmax pmax
comp=Z,5μm,4.9s
NJ2 LR LR
comp=Z,3μm,24.9s
NJ2 LR LR
comp=Z,2μm,21.7s
NJ2 LR LR
comp=Z,3μm,23.9s
NKL Nikolayevsk 80.41 335 *i* P **P 20 58 45.0 -0.1**
NKL *e*S **S 21 08 31.0 -2.1**
NKL pmax pmax
comp=N,34nm,1.6s
NKL pmax pmax
comp=E,76nm,1.6s
NKL pmax pmax
comp=Z,390nm,1.6s
NKL pmax pmax
comp=N,900nm,8.0s
NKL pmax pmax
comp=E,900nm,8.0s
NKL pmax pmax
comp=Z,3μm,8.0s
NKL smax smax
comp=E,2μm,13.0s
WUAZ Wupatki 80.42 48 *e*P **P 20 58 46.5 +0.7**
comp=E,171nm,1.4s
WUAZ Wupatki 80.42 48 P **P 20 58 47.2 +1.4**
baz=240
D05A Enumclaw 80.46 34 *e*P **P 20 58 46.2 +0.7**
comp=E,442nm,1.3s
SEW Seward 80.51 13 *e*P **P 20 58 45.3 -0.2**
GRNR Gornyy 80.54 331⇓*i*P **P 20 58 47.2 +1.3**
GRNR pmax pmax
comp=N,42nm,1.0s
GRNR pmax pmax
comp=Z,100nm,1.0s
PGC Sidney 80.65 32 *e*P **P 20 58 47.2 +0.8**
comp=Z,144nm,0.8s
F07A Phinny Hill Vi 80.77 36 *e*P **P 20 58 47.8 +0.6**
comp=Z,129nm,1.1s
HPIG 80.77 58 *e*P **P 20 58 48.4 +0.5**
BBB Bella Bella 80.88 27 *e*P **P 20 58 48.0 +0.3**
comp=Z,176nm,1.3s
GZH Guangzhou 80.89 298 P **P 20 58 50.0 +1.6**
GZH PP **PP 21 01 55.9 -0.3**
GZH S **S 21 08 41.6 +2.1**
GZH sS **sS 21 10 01.4 -5.4**
GZH pmax pmax
comp=Z,6μm,6.9s
G08A Pilot Rock 80.94 36 *e*P **P 20 58 48.9 +0.6**
comp=Z,216nm,1.0s
X18A Snowflake 80.95 49 *e*P **P 20 58 49.2 +0.5**
comp=Z,94nm,1.4s
MNAI Manna 81.00 268 *e*P **P 20 58 49.4 +0.2**
comp=Z,559nm,0.9s
A04D Lummi Island 81.07 32 P **P 20 58 49.7 +0.9**
baz=230,SNR=88
B05A Bryant 81.09 33 P **P 20 58 49.6 +0.8**
baz=230,SNR=65
LTY Liberty 81.20 34 *e*P **P 20 58 49.6 0.0**
comp=Z,89nm,1.1s
E07A Sunnyside 81.22 35 *e*P **P 20 58 50.1 +0.6**
comp=Z,152nm,0.9s
HAWA Hanford 81.29 35 *e*P **P 20 58 50.1 +0.2**
comp=Z,319nm,1.3s
CRAG Craig 81.30 23 *e*P **P 20 58 51.0 +1.2**
RC01 Rabbit Creek A 81.35 12 *e*P **P 20 58 50.0 +0.1**
comp=Z,319nm,1.3s
W18A Petrified Fore 81.39 49 *e*P **P 20 58 52.0 +1.0**
comp=Z,120nm,1.3s
W18A Petrified Fore 81.39 49 P **P 20 58 52.2 +1.2**
baz=241
GAMB Gambell 81.49 2 *e*P **P 20 58 51.5 +0.9**
C06D Leavenworth 81.50 33 P **P 20 58 51.4 +0.3**
baz=231
B06A Marblemount 81.57 33 *e*P **P 20 58 51.4 0.0**
comp=Z,73nm,1.0s
121A Cookes Peak, D 81.60 52 P **P 20 58 53.8 +1.7**
baz=242,SNR=25
E08A Dider Farm, El 81.61 35 *e*P **P 20 58 52.1 +0.5**
comp=Z,220nm,1.2s
BMO Blue Mountains 81.63 37 *e*P **P 20 58 52.1 +0.2**
comp=Z,137nm,1.1s
EYAK Cordova Ski Ar 81.73 14 *e*P **P 20 58 51.4 -0.5**
SIT Sitka 81.76 21 *e*P **P 20 58 52.0 -0.1**
KLR Kul'dur 81.77 328*d i*P **P 20 58 53.5 +1.1**
KLR pmax pmax
comp=Z,63nm,1.1s
KLR Kul'dur 81.77 328 P **P 20 58 53.7 +1.3**
comp=Z,31nm,0.9s
KLR PKKPbc **PKKPbc 21 17 25.1 +0.1**
comp=Z,0.9nm,0.7s,baz=311,slow=4.1,SNR=4.2
DL2 Dalian 81.79 315⇓*i*P **P 20 58 53.6 +0.9**
DL2 sP **sP 20 59 59.2 -5.6**
DL2 S **S 21 08 49.7 +1.6**
DL2 pmax pmax
comp=Z,130nm,1.4s
DL2 pmax pmax
comp=Z,4μm,7.0s
DUG Dugway, Tooele 81.83 43 P **P 20 58 53.6 +0.5**
DUG pmax pmax
comp=Z,93nm,1.4s
DUG Dugway, Tooele 81.83 43 P **P 20 58 53.8 +0.7**
baz=238
HMT Hamilton 81.90 15 *e*P **P 20 58 53.0 +0.2**
comp=Z,310nm,1.6s
KNK Knik Glacier 81.91 13 *e*P **P 20 58 53.0 +0.1**
comp=Z,106nm,0.7s
PMR Palmer 81.93 12 *e*P **P 20 58 52.0 -0.9**
CN2 Changchun 81.99 321 *e*P **P 20 58 54.0 +0.3**
CN2 *e*sP sP 21 00 06.0 +0.3
CN2 *e*S **S 21 08 50.2 +0.3**
CN2 *e*SS **SS 21 14 18.4 +4.0**
CN2 pmax pmax
comp=Z,190nm,1.6s
CN2 pmax pmax
comp=Z,5μm,7.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,16.0s
MYKOM Kota Tinggi 82.02 274 *e*P **P 20 58 55.0 +0.5**
comp=Z,660nm,1.8s
MYKOM Kota Tinggi 82.02 274 P **P 20 58 57.0 +2.5**
D08A Wollman Farm, 82.03 35 *e*P **P 20 58 54.2 +0.4**
comp=Z,288nm,1.3s
MA2 Magadan 82.09 343 *e*P **P 20 58 53.7 -0.1**
comp=Z,258nm,1.3s
MA2 Magadan 82.09 343*d i*P **P 20 58 53.3 -0.5**
MA2 pmax pmax
comp=Z,227nm,1.3s
MA2 Magadan 82.09 343 P **P 20 58 53.7 -0.1**
comp=Z,210nm,1.2s,baz=146,slow=5.4,SNR=72
E09A Wood Farm, Sta 82.13 36 *e*P **P 20 58 54.6 +0.3**
comp=Z,197nm,1.2s
GHO Glory Hole Cre 82.14 12 *e*P **P 20 58 54.2 0.0**
comp=Z,180nm,0.8s
DIV Divide 82.24 14 *e*P **P 20 58 54.7 +0.1**
SML Sawmill 82.29 12 *e*P **P 20 58 54.3 -0.5**
comp=Z,514nm,1.6s
WRAK Wrangell Islan 82.31 22 *e*P **P 20 58 55.0 0.0**
comp=Z,171nm,1.2s
QIZ Qiongzhong 82.34 293 P **P 20 58 56.8 +0.8**
QIZ S **S 21 08 56.1 +1.6**
QIZ pmax pmax
comp=Z,4μm,4.8s
QIZ Qiongzhong 82.34 293 *e*P **P 20 58 55.5 -0.5**
comp=Z,297nm,1.8s
SCM Sheep Creek Mo 82.52 13 *e*P **P 20 58 56.2 0.0**
comp=Z,203nm,0.8s
KLU Klutina 82.53 14 *e*P **P 20 58 56.2 +0.1**
comp=Z,299nm,1.6s
PLID Pearl Lake 82.53 38 *e*P **P 20 58 56.9 +0.2**
comp=Z,160nm,1.4s
PMSA Palmer Station 82.53 156 P **P 20 58 58.0 +1.8**
comp=Z,48nm,1.0s,baz=335,slow=0.4,SNR=4.0
PPLA Purkeypile 82.56 10 *e*P **P 20 58 55.5 -0.9**
ANM Nome 82.58 4 *e*P **P 20 58 57.2 +1.0**
comp=Z,127nm,1.0s
B08A Colville Reser 82.59 34 *e*P **P 20 58 56.6 -0.2**
comp=Z,113nm,1.1s
HLID Hailey 82.62 40 *e*P **P 20 58 57.5 +0.3**
comp=Z,157nm,1.1s
HLID Hailey 82.62 40 P **P 20 58 58.4 +1.2**
baz=237
LLLB Lillooet 82.70 31 *e*P **P 20 58 57.7 +0.4**
comp=Z,146nm,1.2s
C09A Chrisman Ranch 82.82 35 *e*P **P 20 58 58.1 +0.2**
comp=Z,124nm,1.1s
Y22D IRIS PASSCAL I 82.95 51 *e*P **P 20 58 59.5 +0.4**
comp=Z,183nm,1.2s
Y22D IRIS PASSCAL I 82.95 51 P **P 20 59 00.8 +1.7**
baz=243,SNR=6.9
BALM Baldy 82.98 15 *e*P **P 20 58 58.7 +0.2**
comp=Z,473nm,1.7s
JIS Juneau Island 83.04 20 *e*P **P 20 58 58.9 +0.2**
comp=Z,116nm,1.2s
MNTX Cornudas Mount 83.05 54 *e*P **P 20 59 00.3 +0.8**
comp=Z,86nm,1.3s
MNTX Cornudas Mount 83.05 54 P **P 20 59 01.0 +1.5**
baz=244
CAST Castle Rocks 83.07 10 *e*P **P 20 58 57.8 -1.0**
comp=Z,144nm,1.2s
WHN Wuhan 83.17 305 P **P 20 59 01.6 +1.5**
WHN PP **PP 21 02 14.6 -0.1**
WHN S **S 21 09 00.7 -1.7**
WHN pmax pmax
comp=Z,200nm,1.1s
WHN LR LR
comp=Z,4μm,23.6s
WHN LR LR
comp=Z,4μm,23.6s
WHN LR LR
comp=Z,10μm,28.7s
CTGM Chitina Glacie 83.18 16 *e*P **P 20 58 59.5 -0.1**
comp=Z,169nm,1.2s
BNM Barren Site 83.20 51 *e*P **P 20 59 01.3 +0.9**
MVCO Mesa Verde 83.27 48 *e*P **P 20 59 01.0 +0.2**

comp=Z,263nm,1.9s
MVCO Mesa Verde 83.27 48 P **P 20 59 01.6 +0.9**
baz=242
HWUT Hardware Ranch 83.37 43 *e*P **P 20 59 00.2 -0.9**
comp=Z,44nm,1.0s
TX31 Lajitas Ar. Si 83.38 56 *e*P **P 20 59 02.3 +1.0**
comp=Z,150nm,1.5s
LTX Lajitas 83.38 56 *e*P **P 20 59 02.9 +1.6**
TXAR Lajitas Array 83.38 56 *e*P **P 20 59 01.9 +0.5**
TXAR Lajitas Array 83.38 56 P **P 20 59 02.9 +1.6**
comp=Z,15nm,0.8s,baz=219,slow=5.8,SNR=99
TXAR PKKPbc **PKKPbc 21 17 22.2 +2.0**
comp=Z,1.5nm,0.8s,baz=50,slow=2.1,SNR=5.9
TXAR LR LR 21 30 07.8
comp=Z,967nm,18.9s,baz=0.0,slow=31
PV03 Paradox Valley 83.52 46 *e*P **P 20 59 02.4 +0.4**
comp=Z,166nm,1.2s
TIA Tai'an 83.61 311 P **P 20 59 03.4 +1.2**
TIA SKS **S 21 09 06.6 0.0**
TIA pmax pmax
comp=Z,130nm,1.0s
TIA pmax pmax
comp=Z,4μm,5.3s
TIA LR LR
comp=Z,810nm,18.6s
TIA LR LR
comp=Z,660nm,23.5s
TIA LR LR
comp=Z,940nm,17.4s
DHY Denali Highway 83.63 12 *e*P **P 20 59 01.7 -0.1**
comp=Z,416nm,1.7s
RND Reindeer 83.64 12 *e*P **P 20 59 01.7 -0.1**
comp=Z,475nm,1.2s
PV01 Paradox Valley 83.66 47 *e*P **P 20 59 02.8 +0.1**
comp=Z,126nm,1.1s
SKAG Skagway 83.67 19 *e*P **P 20 59 03.0 +1.1**
TASM ASL Pad, Albuq 83.68 50 P **P 20 59 03.9 +1.1**
baz=243,SNR=99
TASM ASL Pad, Albuq 83.68 50 P **P 20 59 04.1 +1.2**
baz=243,SNR=97
ANMO Albuquerque 83.68 50 *e*P **P 20 59 03.4 +0.5**
comp=Z,114nm,1.1s
ANMO Albuquerque 83.68 50*d i*P **P 20 59 03.9 +1.0**
ANMO pmax pmax
comp=Z,123nm,1.2s
ANMO Albuquerque 83.68 50 P **P 20 59 04.3 +1.4**
baz=243
NEW Newport 83.72 35 *e*P **P 20 59 02.6 +0.1**
comp=Z,60nm,1.1s
NEW Newport 83.72 35 P **P 20 59 02.7 +0.1**
baz=234
NEW Newport 83.72 35 P **P 20 59 02.6 +0.1**
comp=Z,39nm,0.9s,baz=245,slow=4.3,SNR=48
BPAW Bear Paw Mtn. 83.89 10 *e*P **P 20 59 01.9 -1.1**
comp=Z,101nm,1.2s
MCK McKinley 83.92 11 *e*P **P 20 59 02.8 -0.3**
comp=Z,624nm,1.4s
PAX Paxson 83.93 13 *e*P **P 20 59 03.0 -0.3**
GO10 Punta Arenas 83.97 144 *e*P **P 20 59 03.5 -0.3**
comp=Z,316nm,1.1s
HYT Haines Junctio 84.11 17 *e*P **P 20 59 05.0 +0.7**
comp=Z,286nm,1.5s
HYT *e*S **S 21 09 11.1 +0.2**
BWN Browne 84.22 11 *e*P **P 20 59 04.6 0.0**
comp=Z,983nm,1.3s
BWN *e*S **S 21 09 11.8 +0.3**
BKNI Bangkinang 84.24 272 *e*P **P 20 59 06.2 +0.3**
comp=Z,1μm,1.5s
AHID Auburn Hatcher 84.26 42 *e*P **P 20 59 06.1 +0.5**
comp=Z,232nm,1.3s
MENT Mentasta 84.30 14 *e*P **P 20 59 05.5 +0.4**
SEY Seymchan 84.55 346*d i*P **P 20 59 06.4 +0.2**
SEY Seymchan 84.55 346 P **P 20 59 06.7 +0.4**
comp=Z,282nm,1.0s,baz=148,slow=6.0,SNR=138
DLBC Dease Lake 84.66 22 *e*P **P 20 59 07.4 +0.4**
comp=Z,241nm,1.4s
DLMT Dillon 84.69 39 *e*P **P 20 59 07.9 +0.3**
comp=Z,186nm,1.3s
DLMT *e*S **S 21 09 16.7 -0.6**
MSO Missoula 84.69 37 *e*P **P 20 59 07.2 -0.4**
comp=Z,162nm,1.4s
MSO *e*S **S 21 09 15.1 -2.1**
MSO Missoula 84.69 37 P **P 20 59 07.3 -0.2**
baz=237,SNR=62
S22A 4UR Ranch, Cre 84.69 48 *e*P **P 20 59 07.8 -0.2**
comp=Z,341nm,1.5s
S22A 4UR Ranch, Cre 84.69 48 P **P 20 59 09.3 +1.3**
baz=242
TPAW Teton Pass 84.72 41 *e*P **P 20 59 08.6 +0.6**
comp=Z,126nm,1.1s
USHA Ushuaia 84.75 146 P **P 20 59 08.6 +0.9**
comp=Z,41nm,0.8s,baz=254,slow=6.2,SNR=14
WRH Wood River Hil 84.75 11 *e*P **P 20 59 07.3 +0.1**
comp=Z,629nm,1.0s
RIDG Independent Ri 84.75 13 *e*P **P 20 59 07.5 +0.1**
comp=Z,190nm,1.0s
FXWY Fox Creek 84.75 41 *e*P **P 20 59 08.6 +0.5**
comp=Z,113nm,1.3s
WHY Whitehorse 84.75 19 *e*P **P 20 59 08.1 +0.6**
comp=Z,183nm,1.3s
MLY Manley 84.79 10 *e*P **P 20 59 06.7 -0.8**
comp=Z,278nm,1.0s
MLY *e*S **SKSac 21 09 12.6 +1.4**
O20A White River Ci 84.83 45 *e*P **P 20 59 08.9 +0.4**
comp=Z,255nm,1.5s
O20A White River Ci 84.83 45 P **P 20 59 09.3 +0.7**
baz=241
SNOW Snow King Moun 84.83 41 *e*P **P 20 59 08.9 +0.3**
comp=Z,140nm,1.0s
DOT Dot Lake 84.84 13 *e*P **P 20 59 08.1 +0.3**
BCAR Beaver Creek A 84.86 15 *e*P **P 20 59 08.0 +0.1**
MAW Mawson 84.87 199 *e*P **P 20 59 08.8 +0.8**
comp=Z,25nm,0.7s
MAW Mawson 84.87 199 P **P 20 59 09.0 +1.0**
baz=85,SNR=239
MAW Mawson 84.87 199 P **P 20 59 09.0 +1.0**
MAW pmax pmax
comp=Z,119nm,0.7s
MAW Mawson 84.87 199 P **P 20 59 09.0 +1.0**
comp=Z,119nm,0.7s,baz=130,slow=6.0,SNR=112
HDA Harding Lake 84.91 12 *e*P **P 20 59 08.2 +0.1**
comp=Z,299nm,0.8s
HDA Harding Lake 84.91 12 P **P 20 59 08.2 +0.1**
baz=207
IMW Indian Meadow 84.94 41 *e*P **P 20 59 09.4 +0.3**
comp=Z,171nm,1.3s
CCB Clear Creek Bu 84.96 11 *e*P **P 20 59 08.2 -0.1**
comp=Z,414nm,0.9s
MOOW Moose Ponds 84.98 41 *e*P **P 20 59 09.5 +0.3**
comp=Z,64nm,1.3s
LOHW Long Hollow 85.00 41 *e*P **P 20 59 09.8 +0.5**
comp=Z,101nm,1.3s
LNIG Linares 85.06 62 *e*P **P 20 59 10.1 +0.3**
comp=Z,116nm,1.1s
SCRK Sand Creek 85.14 13 *e*P **P 20 59 09.8 +0.4**
comp=Z,114nm,0.8s
TCOL CIGO, UAF Yank 85.15 11 P **P 20 59 09.3 +0.1**
baz=206
COLA College 85.16 11 *e*P **P 20 59 09.0 -0.2**
comp=Z,648nm,0.9s
COLA College 85.16 11*d i*P **P 20 59 09.1 -0.2**
COLA pmax pmax
comp=Z,591nm,0.9s
MDM Murphy Dome 85.16 11 *e*P **P 20 59 09.1 -0.3**
comp=Z,575nm,1.2s
FLWY Flagg Ranch 85.18 41 *e*P **P 20 59 10.5 +0.3**
comp=Z,178nm,1.2s
IMAR Indian Mountai 85.21 9 *e*P **P 20 59 09.8 +0.3**
BW06 Boulder Array 85.24 42 *e*P **P 20 59 10.3 -0.3**
comp=Z,85nm,1.4s
BW06 Boulder Array 85.24 42 P **P 20 59 10.7 +0.2**
baz=240
PD31 Pinedale Array 85.24 42 *e*P **P 20 59 10.4 -0.2**
comp=Z,79nm,1.4s
PDAR Pinedale Array 85.24 42 *e*P **P 20 59 10.0 -0.5**
PDAR Pinedale Array 85.24 42 P **P 20 59 10.9 +0.4**
comp=Z,29nm,0.9s,baz=207,slow=3.0,SNR=101
PDAR PP **PP 21 02 30.1 -1.5**
comp=Z,4.2nm,1.0s,baz=241,slow=3.1,SNR=3.3
PDAR PKKPbc **PKKPbc 21 17 16.1 -0.6**
comp=Z,2.5nm,0.7s,baz=86,slow=4.7,SNR=13
PDAR PKPPKP **P'P'df 21 25 17.5 -3.4**
comp=Z,0.7nm,0.9s,baz=46,slow=4.3,SNR=4.9
PDAR LR LR 21 33 49.3
comp=Z,1μm,18.0s,baz=249,slow=33
ILAR Eielson Array 85.25 12 *e*P **P 20 59 09.4 -0.3**
ILAR Eielson Array 85.25 12 P **P 20 59 09.5 -0.2**
ILAR 21 02 33.5
ILAR pmax pmax
comp=Z,361nm,1.2s
ILAR Eielson Array 85.25 12 P **P 20 59 09.5 -0.2**
comp=Z,357nm,1.2s,baz=218,slow=4.9,SNR=394
ILAR PP **PP 21 02 33.5 +2.6**
comp=Z,8.8nm,1.0s,baz=222,slow=7.3,SNR=4.4
ILAR PKiKP **PKiKP 21 04 19.4 0.0**
comp=Z,2.4nm,0.9s,baz=270,slow=2.9,SNR=6.5
ILAR S **SKSac 21 09 17.5 +3.5**
comp=Z,1.2nm,1.0s,baz=197,slow=8.4,SNR=5.1
ILAR PKKPbc **PKKPbc 21 17 14.1 -3.5**
comp=Z,1.0nm,0.9s,baz=324,slow=1.9,SNR=4.8
ILB Eielson Array 85.25 12 *e*P **P 20 59 09.4 -0.3**
comp=Z,450nm,1.3s
SMCO Snowmass 85.25 46 *e*P **P 20 59 11.1 +0.2**
comp=Z,127nm,1.3s
BOZ Bozeman (W) 85.39 39 *e*P **P 20 59 11.7 +0.6**
comp=Z,145nm,1.3s
BOZ Bozeman (W) 85.39 39 P **P 20 59 11.7 +0.6**
baz=239,SNR=120
H17A Grant Village 85.42 40 *e*P **P 20 59 12.5 +1.1**
comp=Z,76nm,1.2s
H17A Grant Village 85.42 40 P **P 20 59 13.2 +1.8**
baz=240
POKR Poker Plat Res 85.45 11 P **P 20 59 10.7 0.0**
baz=206
IPM Ipoh 85.54 276 *e*P **P 20 59 13.0 +0.6**
comp=Z,904nm,1.5s
IPM Ipoh 85.54 276 P **P 20 59 15.0 +2.6**
LKWY Lake 85.61 40 *e*P **P 20 59 13.3 +0.9**
comp=Z,117nm,1.3s
SDCO Great Sand Dun 85.63 48 *e*P **P 20 59 12.8 +0.1**
comp=Z,122nm,1.7s
SDCO Great Sand Dun 85.63 48 P **P 20 59 13.2 +0.6**
baz=243,SNR=79
WALA Waterton Lakes 85.93 35 *e*P **P 20 59 13.8 +0.2**
comp=Z,227nm,1.4s
MSTX Muleshoe 86.00 53 *e*P **P 20 59 14.8 +0.5**
comp=Z,122nm,1.1s
MSTX Muleshoe 86.00 53 P **P 20 59 15.2 +0.9**
baz=245
BJT Baijiatuau 86.03 314 *e*P **P 20 59 15.2 +1.0**
comp=Z,663nm,1.9s
BJT Baijiatuau 86.03 314 P **P 20 59 15.4 +1.3**
BJT pmax pmax
comp=Z,145nm,2.0s
BJI Beijing 86.03 314 P **P 20 59 15.6 +1.5**
BJI sP **sP 21 00 27.2 +0.7**
BJI SKS **SKSac 21 09 19.4 -0.5**
BJI S **S 21 09 33.1 +2.9**
BJI LR LR
comp=Z,780nm,19.2s
T25A Trinidad 86.14 49 *e*P **P 20 59 15.2 +0.1**
comp=Z,46nm,1.3s
T25A Trinidad 86.14 49 P **P 20 59 15.1 +0.1**
baz=244,SNR=15
KULM Kulim 86.14 277 *e*P **P 20 59 16.2 +0.9**
comp=Z,484nm,1.7s
KULM Kulim 86.14 277 P **P 20 59 17.0 +1.7**
PRP Porcupine Dome 86.18 12 *e*P **P 20 59 14.5 0.0**
comp=Z,260nm,1.1s
RDOG Red Dog Mine 86.21 5 *e*P **P 20 59 14.8 +0.3**
comp=Z,73nm,1.1s
RWWY Rawlins 86.25 44 *e*P **P 20 59 15.3 -0.3**
comp=Z,184nm,1.6s
DAWY Dawson 86.28 15 *e*P **P 20 59 15.3 +0.4**
comp=Z,222nm,0.9s
Q24A Divide 86.42 47 *e*P **P 20 59 16.9 +0.4**
comp=Z,75nm,1.4s
Q24A Divide 86.42 47 P **P 20 59 17.0 +0.4**
baz=244,SNR=8.4
833A Chaparral WMA, 86.42 59 *e*P **P 20 59 16.6 +0.2**
comp=Z,108nm,1.0s
833A Chaparral WMA, 86.42 59 P **P 20 59 17.4 +1.1**
baz=247,SNR=16
EGAK Eagle 86.46 14 *e*P **P 20 59 16.1 +0.4**
comp=Z,175nm,0.9s
ISCO Idaho Springs 86.47 46 *e*P **P 20 59 16.6 -0.1**
comp=Z,18nm,1.1s
ISCO Idaho Springs 86.47 46 P **P 20 59 17.1 +0.4**
ISCO pmax pmax
comp=Z,19nm,1.5s
ISCO Idaho Springs 86.47 46 P **P 20 59 17.0 +0.3**
baz=243,SNR=16
RLMT Red Lodge 86.59 40 *e*P **P 20 59 17.4 +0.4**
comp=Z,75nm,1.4s
RLMT Red Lodge 86.59 40 P **P 20 59 17.9 +0.8**
baz=240,SNR=29
N23A Red Feather La 86.74 45 *e*P **P 20 59 18.1 +0.2**
comp=Z,46nm,1.0s
N23A Red Feather La 86.74 45 P **P 20 59 18.5 +0.6**
baz=243,SNR=27
SKLT Songkhla 86.76 279 P **P 20 59 20.4 +2.1**
ZEA Zeya 86.76 330*de*P **P 20 59 18.2 +0.8**
ZEA *e* 21 02 38.0
ZEA *e*S **SKSac 21 09 25.0 +1.2**
ZEA *e* 21 11 12.0
ZEA *e* 21 15 29.0
ZEA pmax pmax
comp=N,140nm,1.0s
ZEA pmax pmax
comp=E,140nm,1.0s
ZEA pmax pmax
comp=Z,420nm,1.2s
ZEA pmax pmax
comp=E,800nm,6.0s
ZEA pmax pmax
comp=Z,4μm,6.0s
ZEA pmax pmax
comp=N,2μm,5.0s
ZEA pmax pmax
comp=Z,1μm,10.0s
ZEA smax smax
comp=E,2μm,9.0s
ZEA smax smax
comp=N,2μm,10.0s
BILL Bilibino 86.81 353 *e*P **P 20 59 17.5 +0.2**
comp=N,324nm,1.1s
BILL Bilibino 86.81 353*d i*P **P 20 59 17.4 +0.1**
BILL *i* 21 02 41.6
BILL *i* S **SKSac 21 09 16.5 -7.0**
BILL *i* *SS **pS 21 10 36.9 -3.4**
BILL pmax pmax
comp=Z,310nm,1.1s
SKNT Sakolnakorn 86.83 289 P **P 20 59 19.7 +1.1**
ENH Enshi 86.90 303 *e*P **P 20 59 19.8 +1.2**
comp=Z,1μm,1.8s
COLD Coldfoot 86.90 9 *e*P **P 20 59 18.2 +0.4**
JCT Junction City 86.92 57 *e*P **P 20 59 18.9 +0.1**
comp=Z,64nm,1.0s
JCT Junction City 86.92 57 P **P 20 59 19.5 +0.7**
baz=247
PSI Prapat 87.01 274 *e*P **P 20 59 19.4 -0.3**
comp=Z,329nm,1.0s
PSI Prapat 87.01 274 P **P 20 59 21.4 +1.7**
comp=Z,10μm,0.3s,baz=210,slow=0.0,SNR=23
K22A Casper 87.15 43 *e*P **P 20 59 19.0 -0.8**
comp=Z,76nm,1.5s
K22A Casper 87.15 43 P **P 20 59 19.7 0.0**
baz=242,SNR=11
AMTX Amarillo 87.20 52 P **P 20 59 20.5 +0.4**
baz=246
PHWY Pilot Hill 87.25 45 *e*P **P 20 59 19.8 -0.6**
comp=Z,19nm,0.9s
TIY Taiyuan 87.64 311 *e*P **P 20 59 24.0 +1.9**
TIY SS SS 21 15 42.6 +4.8
TIY pmax pmax
comp=Z,190nm,1.2s
TIY pmax pmax
comp=Z,3μm,4.8s
KHON Khomkaen 87.67 288 P **P 20 59 24.2 +1.7**
EGMT Eagleton 87.74 38 *e*P **P 20 59 22.3 0.0**
comp=Z,110nm,1.3s
EGMT Eagleton 87.74 38 P **P 20 59 22.9 +0.6**
baz=240
GYA Guiyang 87.79 299⇓*i*P **P 20 59 24.6 +1.5**
GYA pP pwP 21 00 15.7 -1.6
GYA PP **PP 21 02 49.7 -2.6**
GYA SKS **SKSac 21 09 31.4 -0.2**
GYA S **S 21 09 50.1 +2.1**
GYA sS sS 21 11 15.2 -1.6
GYA pmax pmax
comp=Z,100nm,1.2s
GYA pmax pmax
comp=Z,4μm,5.9s
GYA LR LR
comp=Z,820nm,19.6s
GYA LR LR
comp=Z,980nm,19.4s
GYA LR LR
comp=Z,1μm,20.5s
GSI Gunungsitoli 87.83 272 *e*P **P 20 59 24.5 +1.0**
comp=Z,488nm,1.0s
TRTT Trang 87.84 279 P **P 20 59 25.6 +2.1**
ABTX Abilene, Hawle 87.87 55 *e*P **P 20 59 23.5 +0.3**
comp=Z,229nm,1.3s
ABTX Abilene, Hawle 87.87 55 P **P 20 59 24.3 +1.0**
baz=247
NONG Nongkai 87.95 290 P **P 20 59 25.3 +1.5**
BMAR Burnt Mountain 88.05 11 *e*P **P 20 59 23.6 +0.4**
KSCO Kaye Shedlock' 88.21 48 *e*P **P 20 59 24.9 +0.1**
comp=Z,105nm,1.4s
KSCO Kaye Shedlock' 88.21 48 P **P 20 59 25.2 +0.4**
baz=245
CHAI Chaiyaphum 88.28 287 P **P 20 59 26.6 +1.1**
TOLK Toolik Lake Re 88.29 9 *e*P **P 20 59 24.1 -0.3**
comp=Z,64nm,0.8s
TOLK Toolik Lake Re 88.29 9 P **P 20 59 25.0 +0.6**
baz=204
SLVN Son La 88.37 293 *e*P **P 20 59 25.9 0.0**
comp=Z,258nm,1.9s
KRAB Krabi 88.43 279 P **P 20 59 28.5 +2.3**
CCIG Comitan 88.49 72 *e*P **P 20 59 27.5 +0.9**
comp=Z,29nm,1.0s
XAN Xi'an 88.78 306 P **P 20 59 29.0 +1.5**
XAN pP pP 21 00 19.3 +0.9
XAN sP sP 21 00 40.6 +0.4
XAN pmax pmax
comp=Z,100nm,1.4s
XAN pmax pmax
comp=Z,2μm,4.1s
XAN LR LR
comp=Z,770nm,16.3s
XAN LR LR
comp=Z,1μm,17.4s
XAN LR LR
comp=Z,800nm,18.7s
XAN Xi'an 88.78 306 *e*P **P 20 59 28.5 +1.0**
comp=Z,602nm,1.6s
435B Jarrell 88.80 57 *e*P **P 20 59 27.9 +0.3**
comp=Z,137nm,1.3s
435B Jarrell 88.80 57 P **P 20 59 28.9 +1.3**
baz=248,SNR=8.8
GO06 Curarrehue 88.81 131 *e*P **P 20 59 27.2 -0.6**
comp=Z,42nm,1.3s
EPYK Eagle Plains 88.82 15 *e*P **P 20 59 27.0 +0.1**
comp=Z,377nm,1.6s
EPYK Eagle Plains 88.82 15 P **P 20 59 27.4 +0.4**
baz=216
PLCA Paso Flores 89.02 133 *e*P **P 20 59 29.0 +0.3**
comp=Z,68nm,1.5s
PLCA Paso Flores 89.02 133 P **P 20 59 30.2 +1.5**
comp=Z,14nm,1.0s,baz=263,slow=3.8,SNR=13
PLCA PKKPbc **PKKPbc 21 17 06.5 0.0**
comp=Z,8.5nm,0.9s,baz=115,slow=1.0,SNR=9.0
LAO LASA Array 89.20 40 *e*P **P 20 59 30.1 +0.9**
comp=Z,167nm,1.3s
LAO LASA Array 89.20 40 P **P 20 59 30.6 +1.4**
baz=243
WMOK Wichita Mounta 89.34 53 *e*P **P 20 59 29.8 -0.3**
comp=Z,34nm,1.6s
WMOK Wichita Mounta 89.34 53 P **P 20 59 29.8 -0.3**
WMOK pmax pmax
comp=Z,12nm,1.0s
WMOK Wichita Mounta 89.34 53 P **P 20 59 30.1 0.0**
baz=248
WHTX Lake Whitney, 89.34 56 *e*P **P 20 59 30.4 +0.3**
comp=Z,195nm,1.5s
WHTX Lake Whitney, 89.34 56 P **P 20 59 31.2 +1.1**
baz=248
OGNE Ogallala 89.43 46 P **P 20 59 30.4 -0.1**
baz=246
RSSD Black Hills 89.43 43 *e*P **P 20 59 30.1 -0.4**
comp=Z,45nm,0.9s
RSSD Black Hills 89.43 43 P **P 20 59 30.5 0.0**
RSSD pmax pmax
comp=Z,67nm,1.0s
RSSD Black Hills 89.43 43 P **P 20 59 30.6 +0.1**
baz=244
PHET Kaeng Krachan 89.49 284 P **P 20 59 34.0 +2.8**
HHC Hu-ho-hao-te 89.55 313 *e*P **P 20 59 32.6 +1.6**
HHC sP sP 21 00 40.3 -3.4
HHC PP **PP 21 03 04.0 -2.0**
HHC SKS **SKSac 21 09 43.7 +2.4**
HHC S **ScS 21 10 07.5 -0.2**
HHC sS sS 21 11 26.3 -6.7
HHC pmax pmax
comp=Z,720nm,1.2s
HHC pmax pmax
comp=Z,2μm,7.2s
LHMI Lhok Sumawe 89.63 276 *e*P **P 20 59 32.2 +0.4**
comp=Z,140nm,0.9s
SYO Syowa Base 89.79 192⇑*i*P **P 20 59 30.0 -1.5**
SYO Syowa Base 89.79 192⇑*e*P **P 20 59 35.4 +3.9**
SYO Syowa Base 89.79 192⇑*i*P P 20 59 39.8 +8.3
SYO Syowa Base 89.79 192 *e*SH **SKKSac 21 09 53.0 -2.4**
HKT Hockley 89.91 59 *e*P **P 20 59 33.3 +0.6**
comp=Z,179nm,1.6s
HKT Hockley 89.91 59 *i* P **P 20 59 33.6 +0.9**
HKT pmax pmax
comp=Z,43nm,1.4s
UTTA Uttaradit 90.17 288 P **P 20 59 36.1 +1.8**
CBKS Cedar Bluff 90.19 49 *e*P **P 20 59 33.4 -0.6**
comp=Z,70nm,1.3s
CBKS Cedar Bluff 90.19 49 P **P 20 59 34.2 +0.2**
baz=247
GO05 Huala 90.20 127 *e*P **P 20 59 33.9 -0.3**
comp=Z,169nm,1.5s
SNAA Sanae 90.46 178 P **P 20 59 35.2 +0.6**
SNAA Sanae 90.46 178 *e*P **P 20 59 34.8 0.0**
comp=Z,89nm,1.4s
SNAA Sanae 90.46 178*d i*P **P 20 59 34.7 0.0**
SNAA Sanae 90.46 178 P **P 20 59 35.3 +0.6**
comp=Z,21nm,0.8s,baz=227,slow=4.6,SNR=47
VNA3 Neumayer Olymp 90.48 175 P **P 20 59 35.5 +0.7**
BTO Baotou 90.53 313 *e*P **P 20 59 37.6 +2.0**
KMI Kunming 90.65 296 P **P 20 59 39.0 +2.4**
KMI pP pwP 21 00 29.7 -1.1
KMI sP sP 21 00 44.8 -4.4
KMI PP **PP 21 03 16.4 +1.3**
KMI SKS **SKSac 21 09 48.3 -0.3**
KMI S **ScS 21 10 19.3 +1.6**
KMI sS sS 21 11 46.6 +2.4
KMI SS **SS 21 16 26.3 +4.2**
KMI pmax pmax
comp=Z,83nm,1.2s
KMI pmax pmax
comp=Z,3μm,4.3s
KMI LR LR
comp=Z,3μm,27.0s
KMI LR LR
comp=Z,2μm,32.4s
KMI LR LR
comp=Z,3μm,26.3s
KMI Kunming 90.65 296 *e*P **P 20 59 38.1 +1.5**
comp=Z,208nm,1.5s
YAK Yakutsk 90.79 337*d i*P **P 20 59 35.3 -0.8**
YAK *e**PP **pP 21 00 25.9 -1.2**
YAK *e* 21 03 11.9
YAK *e*S **SKSac 21 09 46.3 -0.9**
YAK *e* 21 10 07.0
YAK *e**SS **pS 21 11 19.7 +0.6**
YAK pmax pmax
comp=E,187nm,1.1s
YAK pmax pmax
comp=N,110nm,1.0s
YAK pmax pmax
comp=Z,5μm,4.0s
YAK pmax pmax
comp=N,2μm,3.5s
YAK pmax pmax
comp=E,1μm,2.9s
YAK smax smax
comp=E,2μm,4.9s
VNA2 Neumayer--Watz 90.96 176 P **P 20 59 38.1 +1.1**
baz=202,slow=3.5
INK Inuvik 91.12 14 *e*P **P 20 59 37.4 0.0**
comp=E,144nm,1.0s
INK Inuvik 91.12 14 P **P 20 59 37.1 -0.4**
INK pmax pmax
comp=Z,148nm,1.0s
VNA1 Neumayer--Stat 91.17 176 P **P 20 59 39.0 +1.1**

DGMT	Dagmar	91.23	39	eP	P	20 59 38.8	+0.3
	comp=Z,512nm,1.3s						
DGMT	Dagmar	91.23	39	P	P	20 59 39.7	+1.1
	baz=244						
UMPA	Umpang Tak	91.23	287	P	P	20 59 41.2	+2.0
PAYA	Payao	91.30	290	P	P	20 59 41.1	+1.6
NATX	Nacogdoches	91.48	57	eP	P	20 59 41.0	+0.9
	comp=Z,196nm,1.3s						
NATX	Nacogdoches	91.48	57	P	P	20 59 41.4	+1.3
	baz=250,SNR=7.7						
CD2	Chengdu	91.73	302	⇓iP	P	20 59 42.9	+1.6
CD2				PP	PP	21 03 30.7	+7.3
CD2				pmax	pmax		
	comp=Z,80nm,1.4s						
CD2				pmax	pmax		
	comp=Z,5μm,6.4s						
CD2				LR	LR		
	comp=Z,3μm,39.7s						
CD2				LR	LR		
	comp=Z,3μm,22.6s						
CD2				LR	LR		
	comp=Z,3μm,29.9s						
CM31	Chiang Mai Arr	91.85	289	eP	P	20 59 43.0	+0.9
	comp=Z,111nm,1.1s						
CMAR	Chiang Mai Arr	91.85	289	eP	P	20 59 42.8	+0.7
CMAR	Chiang Mai Arr	91.85	289	P	P	20 59 43.9	+1.8
	comp=Z,49nm,0.9s,baz=105,slow=2.7,SNR=150						
CMAR				PP	PP	21 03 36.3	+12
	comp=Z,4.7nm,1.0s,baz=112,slow=6.7,SNR=4.3						
CMAR				PKiKP	PKiKP	21 04 32.8	+1.0
	comp=Z,2.3nm,0.8s,baz=128,slow=0.2,SNR=5.7						
CMAR				PKKPbc	PKKPbc	21 17 00.5	+1.5
	comp=Z,2.0nm,0.9s,baz=287,slow=4.2,SNR=7.4						
PEL	Peldehue	91.86	126	P	P	20 59 45.0	+3.0
PEL				pmax	pmax		
	comp=Z,48nm,1.3s						
X37A	Clayton	91.90	54	eP	P	20 59 41.9	0.0
	comp=Z,53nm,1.0s						
CMMT	Chiang Mai	91.96	289	P	P	20 59 43.8	+1.2
CHTO	Chiang Mai	91.96	289	eP	P	20 59 43.3	+0.7
	comp=Z,78nm,0.9s						
CHTO	Chiang Mai	91.96	289	P	P	20 59 43.9	+1.3
CHTO				pmax	pmax		
	comp=Z,102nm,1.0s						
TUL1	Leonard	92.04	53	eP	P	20 59 43.0	+0.4
	comp=Z,91nm,1.3s						
TUL1	Leonard	92.04	53	P	P	20 59 43.4	+0.9
	baz=249						
BGNE	Belgrade	92.31	47	eP	P	20 59 44.4	+0.6
	comp=Z,270nm,1.2s						
BGNE	Belgrade	92.31	47	P	P	20 59 44.3	+0.6
	baz=248						
KSU1	Kansas State U	92.56	50	P	P	20 59 45.6	+0.7
	baz=249						
SUSD	Miller	92.90	44	P	P	20 59 46.3	0.0
	baz=248						
GO04	Tololo Observa	92.91	123	eP	P	20 59 47.3	+0.2
	comp=Z,81nm,0.9s						
YKA	Yellowknife Ar	93.07	24	eP	P	20 59 46.0	-0.6
YKA	Yellowknife Ar	93.07	24	P	P	20 59 46.7	+0.1
	comp=Z,41nm,0.9s,baz=237,slow=4.2,SNR=145						
YKA				PP	PP	21 03 31.2	-1.8
	comp=Z,1.3nm,0.9s,baz=235,slow=7.6,SNR=3.9						
YKA				PKiKP	PKiKP	21 04 32.7	+0.2
	comp=Z,1.8nm,0.9s,baz=256,slow=1.7,SNR=5.9						
YKA				ScS	S	21 10 34.4	+0.2
	comp=Z,0.1nm,0.5s,baz=236,slow=9.5,SNR=4.0						
YKA				PKKPbc	PKKPdf	21 16 54.6	-1.3
	comp=Z,1.7nm,0.5s,baz=43,slow=2.2,SNR=29						
YKA				PKPPKP	P'P'df	21 25 02.2	-2.7
	comp=Z,0.7nm,0.9s,baz=40,slow=3.5,SNR=6.7						
YKB5	Yellowknife Ar	93.07	24	eP	P	20 59 46.7	+0.1
YKB5				ePP	PP	21 03 31.2	-1.8
YKW3	Yellowknife Ar	93.11	24	eP	P	20 59 46.5	-0.3
	comp=Z,59nm,1.1s						
JTS	Las Juntas de	93.27	80	eP	P	20 59 49.3	+0.6
	comp=Z,32nm,1.0s						
JTS	Las Juntas de	93.27	80⇑	eP	P	20 59 46.4	-2.3
JTS				pmax	pmax		
	comp=Z,15nm,1.2s						
MIAR	Mount Ida	93.28	55	eP	P	20 59 48.8	+0.5
	comp=Z,56nm,1.1s						
MIAR	Mount Ida	93.28	55	P	P	20 59 49.3	+1.0
MIAR				pmax	pmax		
	comp=Z,74nm,1.7s						
MIAR	Mount Ida	93.28	55	P	P	20 59 49.3	+1.0
	baz=250,SNR=31						
W39A	Magazine	93.34	54	eP	P	20 59 49.2	+0.7
	comp=Z,132nm,1.3s						
W39A	Magazine	93.34	54	P	P	20 59 49.5	+0.9
	baz=250,SNR=32						
WLAR	White Oak Lake	93.36	56	eP	P	20 59 49.6	+1.0
	comp=Z,186nm,1.2s						
LZH	Lanzhou	93.41	307	⇓P	P	20 59 50.8	+1.7
LZH				pP	pwP	21 00 42.6	-0.6
LZH				sP	sP	21 01 04.3	+2.5
LZH				PP	PP	21 03 37.2	+0.7
LZH				SKS	SKSac	21 10 03.4	0.0
LZH				S	S	21 10 38.5	-0.3
LZH				sS	sS	21 12 01.2	-7.4
LZH				SS	SS	21 17 04.2	+3.1
LZH				pmax	pmax		
	comp=Z,150nm,1.5s						
LZH				pmax	pmax		
	comp=Z,2μm,7.3s						
LZH				LR	LR		
	comp=Z,2μm,17.3s						
LZH				LR	LR		
	comp=Z,2μm,17.9s						
LZH				LR	LR		
	comp=Z,3μm,19.8s						
LCO	Las Campanas	93.44	122	eP	P	20 59 49.7	+0.1
	comp=Z,72nm,1.0s						
LCO	Las Campanas	93.44	122	P	P	20 59 52.2	+2.6
LCO				pmax	pmax		
	comp=Z,91nm,0.9s						
Z41A	Richland Creek	93.47	56	eP	P	20 59 49.7	+0.5
	comp=Z,87nm,1.0s						
Z41A	Richland Creek	93.47	56	P	P	20 59 50.4	+1.2
	baz=251,SNR=8.3						
HHAR	Hobbs	93.58	53	eP	P	20 59 49.4	-0.3
	comp=Z,49nm,1.2s						
MDND	Maddock	93.78	41	eP	P	20 59 50.8	+0.5
	comp=Z,158nm,0.8s						
MDND	Maddock	93.78	41	P	P	20 59 50.4	+0.2
	baz=247						
X40A	Basin Creek Fa	93.84	55	eP	P	20 59 51.3	+0.4
	comp=Z,35nm,1.4s						
X40A	Basin Creek Fa	93.84	55	P	P	20 59 51.5	+0.7
	baz=251,SNR=8.7						
ECSD	EROS Data Cent	94.21	45	eP	P	20 59 52.2	-0.1
	comp=Z,120nm,1.4s						
ECSD	EROS Data Cent	94.21	45	P	P	20 59 52.3	-0.1
	baz=249						
UALR	University of	94.32	55	eP	P	20 59 53.7	+0.7
	comp=Z,74nm,1.1s						
U40A	Yellville	94.43	53	P	P	20 59 53.9	+0.3
	baz=251,SNR=34						
W41B	Gary Mavity, V	94.52	55	eP	P	20 59 54.5	+0.6
	comp=Z,114nm,1.2s						
W41B	Gary Mavity, V	94.52	55	P	P	20 59 55.2	+1.2
	baz=251,SNR=37						
WHAR	Wooly Hollow	94.52	55	eP	P	20 59 54.4	+0.4
	comp=Z,112nm,1.1s						
VBMS	Vicksburg	94.96	58	P	P	20 59 57.7	+1.7
	baz=252						
FFC	Flin Flon	95.12	34	eP	P	20 59 55.7	-0.5
	comp=Z,53nm,1.4s						
FFC	Flin Flon	95.12	34	iP	P	20 59 55.8	-0.5
U41A	Viola	95.14	54	P	P	20 59 57.3	+0.5
	baz=252,SNR=10						
ULN	Ulaanbaatar	95.23	319	eP	P	20 59 57.1	0.0
	comp=Z,29nm,1.0s						
ULN	Ulaanbaatar	95.23	319	diP	P	20 59 57.5	+0.4
ULN				pmax	pmax		
	comp=Z,30nm,1.0s						
BOD	Bodaibo	95.26	329	⇑iP	P	20 59 56.1	-0.7
BOD				pmax	pmax		
	comp=Z,34nm,1.7s						
X43A	Marvell	95.38	56	P	P	20 59 59.4	+1.5
	baz=252						
PBA	Port Blair	95.52	280	eP	P	20 59 59.9	+1.0
SONA0	Songino Array	95.64	318	eP	P	20 59 59.0	+0.1
SONA0				ePP	PP	21 03 51.9	-1.5
SONM	Songino Array	95.64	318	eP	P	20 59 58.3	-0.7
SONM	Songino Array	95.64	318	P	P	20 59 59.0	+0.1
	comp=Z,7.4nm,0.9s,baz=120,slow=2.5,SNR=36						
SONM				PP	PP	21 03 51.9	-1.5
	comp=Z,6.1nm,1.1s,baz=97,slow=6.3,SNR=8.4						
SONM				PKiKP	PKiKP	21 04 37.9	+0.3
	comp=Z,2.6nm,0.9s,baz=129,slow=3.9,SNR=2.7						
SONM				PKKPbc	PKKPdf	21 16 50.9	-0.1
	comp=Z,0.9nm,0.9s,baz=266,slow=4.3,SNR=3.3						
SONM				PKPPKP	P'P'df	21 25 01.2	0.0
	comp=Z,0.8nm,0.9s,baz=242,slow=3.2,SNR=5.6						
S41A	Jillco Farms,	95.66	52	P	P	20 59 59.3	+0.2
	baz=252,SNR=36						
DGPR	DIGLIPUR	95.79	282	eP	P	20 59 58.8	-1.3
DGPR				IAMs_20	IAMs_20	21 58 12.3	
	comp=Z,4μm,1.5s						
HBAR	Harrisburg	95.87	55	eP	P	21 00 00.1	0.0
	comp=Z,184nm,1.3s						
SCIA	State Center	95.95	48	P	P	21 00 00.7	+0.4
	baz=251						
R41A	Rosebud	96.16	52	P	P	21 00 01.0	-0.3
	baz=252,SNR=11						
TRQA	Tornquist	96.17	133	eP	P	21 00 06.1	+4.5
CCM	Cathedral Cave	96.18	52	eP	P	21 00 01.0	-0.4
	comp=Z,26nm,1.0s						
CCM	Cathedral Cave	96.18	52	P	P	21 00 01.2	-0.3
	baz=252						
AGMN	Agassiz Nation	96.28	41	eP	P	21 00 01.0	-0.7
	comp=Z,93nm,1.3s						
AGMN	Agassiz Nation	96.28	41	P	P	21 00 00.9	-0.7
	baz=250,SNR=15						
PBMO	Poplar Bluff	96.42	54	eP	P	21 00 02.6	0.0
	comp=Z,50nm,1.2s						
OTAV	Otavalo	96.42	92	eP	P	21 00 06.7	+3.0
GNAR	Gosnell	96.49	54	eP	P	21 00 03.9	+1.0
	comp=Z,61nm,0.9s						
OXF	Oxford	96.54	56	P	P	21 00 03.4	+0.3
	baz=253						
M39A	Webster	96.56	49	P	P	21 00 03.2	+0.2
	baz=252						
FVM	French Village	96.78	52	eP	P	21 00 04.4	+0.2
	comp=Z,48nm,1.1s						
N40A	Mertquake, Sal	96.80	49	P	P	21 00 04.2	+0.1
	baz=252,SNR=9.7						
L39A	Vinton	96.88	48	P	P	21 00 04.4	-0.1
	baz=252,SNR=8.3						
147A	Livingston	96.91	58	eP	P	21 00 04.8	-0.1
	comp=Z,48nm,1.4s						
147A	Livingston	96.91	58	P	P	21 00 05.8	+0.9
	baz=253						
ULM	Lac du Bonnet	96.93	39	eP	P	21 00 03.8	-0.8
	comp=Z,50nm,1.3s						
ULM	Lac du Bonnet	96.93	39	P	P	21 00 03.9	-0.6
	comp=Z,27nm,1.2s,baz=248,slow=5.2,SNR=19						
ULM				PP	PP	21 04 01.0	-2.2
	comp=Z,1.6nm,0.6s,baz=232,slow=5.8,SNR=3.3						
ULM				LR	LR	21 40 39.5	
	comp=Z,2μm,18.1s,baz=246,slow=33						
Q42A	Golden Eagle	96.97	51	P	P	21 00 05.2	+0.2
	baz=253						
TIXI	Tiksi	97.00	345	eP	P	21 00 03.8	-0.5
	comp=Z,76nm,1.0s						
TIXI				ePP	PP	21 04 00.7	-2.5
TIXI	Tiksi	97.00	345	diP	P	21 00 03.8	-0.5
TIXI				pmax	pmax		
	comp=Z,86nm,1.0s						
TIXI	Tiksi	97.00	345	PP	PP	21 04 00.6	-2.5
	comp=Z,11nm,1.0s,baz=119,slow=9.3,SNR=8.3						
TIXI				PKiKP	PKiKP	21 04 39.3	+0.2
	comp=Z,1.9nm,0.5s,baz=143,slow=2.0,SNR=6.1						
K39A	Oelwein	97.13	48	P	P	21 00 05.3	-0.4
	baz=252						
X46A	Booneville	97.20	56	P	Pdif	21 00 06.5	+0.3
	baz=253						
N41A	Harden Midland	97.27	50	P	Pdif	21 00 06.4	0.0
	baz=253						
SPMN	Marine on St.	97.28	45	eP	Pdif	21 00 06.6	+0.3
	comp=Z,69nm,1.0s						
SPMN	Marine on St.	97.28	45	P	Pdif	21 00 06.3	0.0
	baz=252,SNR=6.6						
LVC	Limon Verde	97.38	117	eP	Pdif	21 00 11.4	+3.5
L40A	Anamosa	97.41	48	eP	Pdif	21 00 07.3	+0.4
	comp=Z,55nm,1.0s						
L40A	Anamosa	97.41	48	P	P	21 00 06.7	-0.2
	baz=253,SNR=12						
J39A	Decorah	97.45	47	P	P	21 00 06.8	-0.2
	baz=252,SNR=14						
H38A	Maiden Rock	97.46	46	P	P	21 00 07.0	-0.1
	baz=252						
148A	Greensboro	97.47	58	P	Pdif	21 00 07.6	+0.1
	baz=254						
BRAL	Brewton	97.48	60	P	P	21 00 07.3	-0.2
	baz=254						
GTA	Gaotai	97.48	309	⇓P	Pdif	21 00 07.9	+0.4
GTA				pP	pP	21 00 58.2	-0.4
GTA				sP	sP	21 01 19.4	-0.9
GTA				SKS	SKSac	21 10 23.5	-1.2
GTA				S	ScS	21 11 14.3	+0.4
GTA				sS	sS	21 12 36.2	-7.7
GTA				pmax	pmax		
	comp=Z,1μm,6.9s						
GTA				LR	LR		
	comp=Z,2μm,24.6s						
GTA				LR	LR		
	comp=Z,2μm,22.7s						
GTA				LR	LR		
	comp=Z,1μm,24.2s						
W46A	Michie	97.53	56	P	Pdif	21 00 07.9	+0.3
	baz=253						
F37A	Hinrichs Farm,	97.55	44	P	Pdif	21 00 07.8	+0.3
	baz=252						
S44A	Carbondale	97.58	53	P	Pdif	21 00 08.4	+0.6
	baz=253						
SIUC	Southern Illin	97.61	53	eP	Pdif	21 00 08.5	+0.5
	comp=Z,45nm,1.5s						
249A	Camden	97.64	59	P	Pdif	21 00 08.5	+0.3
	baz=254						
K40A	Colesburg	97.66	48	P	P	21 00 07.6	-0.4
	baz=253						
M41A	Milan	97.69	49	Pdiff	P	21 00 08.0	-0.2
	baz=253						
I39A	Houston	97.73	47	eP	P	21 00 07.9	-0.4
	comp=Z,51nm,1.0s						
I39A	Houston	97.73	47	Pdiff	P	21 00 08.1	-0.2
	baz=253						
X47A	Russelville	97.77	56	Pdiff	Pdif	21 00 08.8	0.0
	baz=254						
T45A	Paducah	97.86	54	Pdiff	Pdif	21 00 09.4	+0.4
	baz=254						
G38A	Ridgeland	97.90	45	Pdiff	P	21 00 08.7	-0.3
	baz=253						
V46A	Holladay	97.92	55	Pdiff	P	21 00 09.3	0.0
	baz=254						
L41A	Preston	97.93	48	Pdiff	P	21 00 09.1	-0.1
	baz=253						
P43A	Skaggs, Pawnee	97.94	51	Pdiff	Pdif	21 00 09.8	+0.4
	baz=253						
U46A	Springville	98.03	54	Pdiff	Pdif	21 00 10.0	+0.1
	baz=254						
LRAL	Lakeview Retre	98.04	58	Pdiff	Pdif	21 00 10.0	0.0
	baz=254						
149A	Jones	98.09	58	Pdiff	Pdif	21 00 10.6	+0.4
	baz=254						
S45A	Carrier Mills	98.09	53	Pdiff	Pdif	21 00 10.5	+0.4
	baz=254						
MNMC	Minye Minye	98.11	113	eP	P	21 00 10.7	-0.3
	comp=Z,14nm,0.8s						
F38A	Pierce - Schro	98.12	44	Pdiff	Pdif	21 00 10.3	+0.3
	baz=253						
H39A	Augusta	98.14	46	Pdiff	Pdif	21 00 10.2	+0.1
	baz=253						
J40A	Soldiers Grove	98.14	47	Pdiff	P	21 00 10.2	0.0
	baz=253						
Y48A	Jasper	98.14	57	Pdiff	P	21 00 10.4	0.0
	baz=254						
W47A	Westpoint	98.18	56	Pdiff	Pdif	21 00 10.7	+0.2
	baz=254						
K41A	Shullsburg	98.22	48	Pdiff	P	21 00 10.5	0.0
	baz=253						
WVT	Waverly	98.24	55	eP	Pdif	21 00 10.9	+0.1
	comp=Z,15nm,1.3s						
WVT	Waverly	98.24	55	P	Pdif	21 00 12.1	+1.3
WVT				pmax	pmax		
	comp=Z,13nm,1.2s						
WVT	Waverly	98.24	55	Pdiff	Pdif	21 00 11.0	+0.2
	baz=254						
250A	Grady	98.34	59	Pdiff	Pdif	21 00 11.5	+0.2
	baz=254						
JFWS	Jewell Farm	98.35	48	eP	Pdif	21 00 11.4	+0.3
	comp=Z,38nm,1.1s						
JFWS	Jewell Farm	98.35	48	Pdiff	P	21 00 10.7	-0.4
	baz=253						
HDIL	Hopedale	98.36	50	Pdiff	P	21 00 11.0	-0.3
	baz=254						
I40A	Norwalk	98.37	47	Pdiff	P	21 00 11.1	0.0
	baz=253						
IRK	Irkutsk	98.39	322	eP	Pdif	21 00 11.5	+0.4
IRK				e		21 04 17.6	
X48A	Hartselle	98.39	57	eP	P	21 00 11.5	0.0
	comp=Z,20nm,1.4s						
X48A	Hartselle	98.39	57	Pdiff	Pdif	21 00 11.5	0.0
	baz=254						
G39A	Holcombe	98.39	45	Pdiff	P	21 00 11.0	-0.3
	baz=253						
V47A	Nunnelly	98.39	55	Pdiff	Pdif	21 00 11.8	+0.3
	baz=254						
451A	Vernon	98.40	61	Pdiff	Pdif	21 00 12.5	+0.8
	baz=254						
ZAK	Zakamensk	98.40	320	eP	P	21 00 10.7	-0.6
ZAK				e		21 04 18.2	
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.6s						
T46A	Princeton	98.44	54	Pdiff	Pdif	21 00 12.3	+0.7
	baz=254						
Z49A	Columbiana	98.46	58	Pdiff	P	21 00 11.5	-0.3
	baz=254						
R45A	Skylar, Fairfi	98.49	53	Pdiff	P	21 00 11.3	-0.5
	baz=254						
L42A	Oliver, Polo	98.50	49	Pdiff	P	21 00 11.4	-0.4
	baz=254						
E38A	The Farm, Brul	98.52	44	Pdiff	P	21 00 11.7	-0.1
	baz=253						
N43A	Stutzman Famil	98.56	50	Pdiff	P	21 00 12.0	0.0
	baz=254						
TLY	Talaya	98.58	322	eP	Pdif	21 00 12.2	+0.2
	comp=Z,9.4nm,0.9s						
TLY	Talaya	98.58	322	diP	Pdif	21 00 12.0	0.0
J41A	Loganville	98.64	47	Pdiff	P	21 00 12.0	-0.4
	baz=254						
W48A	Pulaski	98.67	56	Pdiff	Pdif	21 00 12.8	+0.1
	baz=254						
351A	Pinckard	98.70	60	Pdiff	P	21 00 12.8	-0.1
	baz=254						
150A	Eclectic	98.72	59	Pdiff	Pdif	21 00 13.7	+0.7
	baz=254						
H40A	Chili	98.73	46	Pdiff	P	21 00 12.8	0.0
	baz=254						
Y49A	Blount Mountai	98.74	57	Pdiff	Pdif	21 00 13.5	+0.4
	baz=254						
U47A	Clarksville	98.74	55	Pdiff	Pdif	21 00 13.4	+0.4
	baz=254						
F39A	Loretta	98.74	45	Pdiff	P	21 00 12.6	-0.2
	baz=253						
Q45A	Warren Harvey,	98.75	52	Pdiff	P	21 00 12.9	0.0
	baz=254						
S46A	Don Dixon Farm	98.75	53	Pdiff	Pdif	21 00 13.5	+0.5
	baz=254						
M43A	Waltham Townsh	98.85	49	Pdiff	Pdif	21 00 13.2	-0.2
	baz=254						
O44A	Mansfield	98.86	51	Pdiff	Pdif	21 00 13.4	-0.1
	baz=254						
V48A	Smith Brothers	98.92	55	Pdiff	P	21 00 13.8	0.0
	baz=254						
I41A	Arkdale	98.93	47	Pdiff	Pdif	21 00 13.6	-0.1
	baz=254						
K42A	Prairie Point,	98.95	48	Pdiff	Pdif	21 00 13.6	-0.2
	baz=254						
EYMN	Ely	98.95	43	Pdiff	Pdif	21 00 13.2	-0.5
	baz=253						
Z50A	Ashland	98.97	58	Pdiff	P	21 00 14.5	+0.4
	baz=254						
X49A	Woodville	98.98	57	Pdiff	P	21 00 14.2	+0.1
	baz=254						
T47A	Sharon Grove	99.03	54	Pdiff	Pdif	21 00 14.7	+0.5
	baz=254						
G40A	Rib Lake	99.05	45	ePdif	Pdif	21 00 14.9	+0.7
	comp=Z,29nm,1.2s						
G40A	Rib Lake	99.05	45	Pdiff	Pdif	21 00 14.1	0.0
	baz=254						
R46A	Gibon Southern	99.05	53	Pdiff	Pdif	21 00 14.5	+0.1
	baz=254						
251A	Midway	99.08	59	Pdiff	Pdif	21 00 14.7	+0.1
	baz=254						
E39A	Mellen	99.12	44	Pdiff	Pdif	21 00 14.3	-0.2
	baz=254						
W49A	Belvidere	99.19	56	Pdiff	Pdif	21 00 15.2	+0.2
	baz=254						
L43A	Garden Prairie	99.21	49	Pdiff	Pdif	21 00 15.1	+0.2
	baz=254						
P45A	Graceland, Par	99.23	52	Pdiff	Pdif	21 00 14.9	-0.2
	baz=254						
H41A	Junction City	99.24	46	Pdiff	Pdif	21 00 14.2	-0.8
	baz=254						
J42A	Columbus	99.25	48	Pdiff	Pdif	21 00 14.8	-0.3
	baz=254						
151A	Opelika	99.26	59	Pdiff	Pdif	21 00 15.4	0.0
	baz=255						
F40A	Park Falls	99.28	45	Pdiff	Pdif	21 00 15.1	-0.1
	baz=254						
N44A	Piper City	99.28	50	Pdiff	Pdif	21 00 15.3	0.0
	baz=254						
Y50A	Piedmont	99.29	57	Pdiff	Pdif	21 00 14.1	-1.4
	baz=255						
352A	Blakely	99.31	60	Pdiff	Pdif	21 00 16.3	+0.6
	baz=255						
U48A	Cassie Pea, Po	99.34	55	Pdiff	Pdif	21 00 15.8	+0.1
	baz=255						
S47A	Hartford	99.37	54	Pdiff	Pdif	21 00 16.1	+0.3
	baz=255						
Q46A	CEJHS Indians,	99.38	52	Pdiff	Pdif	21 00 15.8	0.0
	baz=254						
O45A	Potomac	99.43	51	Pdiff	Pdif	21 00 15.9	-0.1
	baz=254						
M44A	Midewin, Midew	99.50	50	Pdiff	Pdif	21 00 16.0	-0.2
	baz=254						
X50B	Fort Payne	99.51	57	Pdiff	Pdif	21 00 16.2	-0.4
	baz=255						
I42A	Draeger Farm,	99.55	47	Pdiff	Pdif	21 00 16.4	-0.1
	baz=254						
E40A	Wakefield	99.57	44	Pdiff	Pdif	21 00 16.8	+0.3
	baz=254						
252A	Lumpkin	99.60	60	Pdiff	Pdif	21 00 17.1	+0.2
	baz=255						
T48A	Bowling Green	99.61	54	Pdiff	Pdif	21 00 16.8	0.0
	baz=255						
K43A	Burlington	99.64	48	Pdiff	Pdif	21 00 16.7	-0.2
	baz=254						
V49A	McMinnville	99.64	56	Pdiff	Pdif	21 00 17.0	-0.1
	baz=255						
P46A	Rosedale	99.65	52	Pdiff	Pdif	21 00 17.0	+0.1
	baz=255						
G41A	Antigo	99.72	46	Pdiff	Pdif	21 00 17.0	-0.1
	baz=254						
N45A	Kentland	99.75	50	Pdiff	Pdif	21 00 18.0	+0.6
	baz=255						
J43A	Natural Harves	99.76	48	Pdiff	Pdif	21 00 17.0	-0.4
	baz=255						
152A	Waverly Hall	99.79	59	Pdiff	Pdif	21 00 18.0	+0.2
	baz=255						
L44A	Lake County Fo	99.81	49	Pdiff	Pdif	21 00 17.7	+0.1
	baz=255						
R47A	Wooly Knot Far	99.82	53	Pdiff	Pdif	21 00 17.8	0.0
	baz=255						
Y51A	Rockmart	99.83	58	Pdiff	Pdif	21 00 17.6	-0.4
	baz=255						
353A	Camilla	99.86	60	Pdiff	Pdif	21 00 17.6	-0.5
	baz=255						
F41A	Three Lakes	99.92	45	Pdiff	Pdif	21 00 18.0	0.0
	baz=254						
SFIN	Lafayette	99.93	51	Pdiff	Pdif	21 00 18.3	+0.1
	baz=255						
U49A	Red Boiling Sp	99.93	55	Pdiff	Pdif

I43A **Langenfeld Bro** 100.09 47 Pdiff **Pdif** 21 00 18.8 0.0
baz=255
253A **Americus** 100.12 60 Pdiff **Pdif** 21 00 19.4 +0.2
baz=255
SHL **Shillong** 100.16 294 *e*P **Pdif** 21 00 18.9 -0.9
SHL IAMs_20 IAMs_20 22 12 34.2
comp=Z,949nm,11.9s
MOY **Mondy** 100.16 321 *e*P **Pdif** 21 00 19.0 -0.1
MOY pmax pmax
comp=Z,51nm,3.7s
X51A **Calhoun** 100.17 57 Pdiff **Pdif** 21 00 19.5 +0.2
baz=255
Z52A **Williamson** 100.17 58 Pdiff **Pdif** 21 00 19.8 +0.4
baz=255
454A **Quitman** 100.19 61 Pdiff **Pdif** 21 00 18.9 -0.6
baz=255
E41A **Kenton** 100.20 44 Pdiff **Pdif** 21 00 19.0 -0.3
baz=255
G42A **Mountain** 100.24 46 Pdiff **Pdif** 21 00 18.9 -0.6
baz=255
V50A **Pikevile** 100.25 56 Pdiff **Pdif** 21 00 19.6 -0.2
baz=255
T49A **Edmonton** 100.28 54 Pdiff **Pdif** 21 00 19.5 -0.3
baz=255
P47A **Martinsville** 100.32 52 Pdiff **Pdif** 21 00 19.6 -0.3
baz=255
N46A **Monticello** 100.33 50 Pdiff **Pdif** 21 00 19.7 -0.3
baz=255
R48A **Northridge Ran** 100.34 53 Pdiff **Pdif** 21 00 19.8 -0.3
baz=255
W51A **Cleveland** 100.39 56 Pdiff **Pdif** 21 00 19.8 -0.6
baz=255
TIGA **Tifton** 100.41 60 Pdiff **Pdif** 21 00 20.9 +0.4
baz=255
C40A **Isle Royale Na** 100.46 43 Pdiff **Pdif** 21 00 19.9 -0.4
baz=255
LPAZ **La Paz** 100.47 111 *e*Pdif **Pdif** 21 00 21.3 -0.7
LPAZ *e*PP **PP** 21 04 29.9 -1.3
LPAZ **La Paz** 100.47 111 P **Pdif** 21 00 23.4 +1.4
comp=Z,1.1nm,0.7s,baz=248,slow=5.4,SNR=4.0
LPAZ PP **PP** 21 04 32.5 +1.2
comp=Z,19nm,1.2s,baz=241,slow=6.7,SNR=10
LPAZ PKKPbc **PKKPbc** 21 16 35.8 -0.5
comp=Z,1.9nm,0.6s,baz=141,slow=2.6,SNR=5.8
H43A **Windswept, Lux** 100.50 47 Pdiff **Pdif** 21 00 20.2 -0.4
baz=255
153A **Fort Valley** 100.51 59 Pdiff **Pdif** 21 00 21.3 +0.4
baz=255
O47A **Sheridan** 100.58 51 Pdiff **Pdif** 21 00 20.7 -0.4
baz=255
Q48A **North Vernon** 100.58 53 Pdiff **Pdif** 21 00 21.0 -0.2
baz=256
555A **McAlpin** 100.59 62 Pdiff **Pdif** 21 00 21.9 +0.5
baz=255
957A **Wimauma** 100.60 64 Pdiff **Pdif** 21 00 21.7 +0.3
baz=255
FCC **Fort Churchill** 100.60 32 *e*Pdif **Pdif** 21 00 20.5 -0.2
D41A **Chassel** 100.62 44 Pdiff **Pdif** 21 00 21.3 +0.2
baz=255
Y52A **Lilburn** 100.63 58 *e*Pdif **Pdif** 21 00 21.5 0.0
Y52A **Lilburn** 100.63 58 Pdiff **Pdif** 21 00 22.0 +0.5
baz=256
S49A **Springfield** 100.64 54 Pdiff **Pdif** 21 00 21.1 -0.3
baz=256
U50A **Jamestown** 100.64 55 Pdiff **Pdif** 21 00 21.6 +0.1
baz=256
M46A **Old House Fiel** 100.74 50 Pdiff **Pdif** 21 00 22.1 +0.3
baz=256
G43A **Wallace** 100.75 46 Pdiff **Pdif** 21 00 22.0 +0.3
baz=255
254A **Abbeville** 100.78 60 Pdiff **Pdif** 21 00 22.7 +0.5
baz=256
T50A **Nancy** 100.79 55 Pdiff **Pdif** 21 00 21.5 -0.6
baz=256
058A **Arcadia** 100.81 65 Pdiff **Pdif** 21 00 21.4 -1.0
baz=255
R49A **Shelbyville** 100.85 53 Pdiff **Pdif** 21 00 22.9 +0.6
baz=256
V51A **Loudon** 100.88 56 Pdiff **Pdif** 21 00 21.9 -0.6
baz=256
Z53A **Monticello** 100.88 59 Pdiff **Pdif** 21 00 21.7 -0.8
baz=256
E42A **Champion** 100.89 45 Pdiff **Pdif** 21 00 22.6 +0.2
baz=256
L46A **Eue Claire** 100.93 49 Pdiff **Pdif** 21 00 23.0 +0.4
baz=256
P48A **Milroy** 100.94 52 Pdiff **Pdif** 21 00 22.9 +0.1
baz=256
059Z **Ave Maria** 100.94 66 Pdiff **Pdif** 21 00 22.3 -0.7
baz=255
X52A **Dahlonega** 100.94 57 Pdiff **Pdif** 21 00 22.9 0.0
baz=256
958A **Wauchula** 100.99 65 Pdiff **Pdif** 21 00 23.5 +0.3
baz=255
355A **Pearson** 100.99 61 Pdiff **Pdif** 21 00 24.1 +1.0
baz=256
GOGA **Godfrey** 101.00 58 Pdiff **Pdif** 21 00 23.7 +0.6
baz=256
Y53A **Monroe** 101.01 58 Pdiff **Pdif** 21 00 23.8 +0.6
baz=256
556A **Lake Butler** 101.03 62 Pdiff **Pdif** 21 00 23.5 +0.2
baz=256
W52A **Murphy** 101.04 57 Pdiff **Pdif** 21 00 23.7 +0.4
baz=256
N47A **Urbana** 101.09 51 Pdiff **Pdif** 21 00 23.5 +0.2
baz=256
154A **Montrose** 101.09 59 Pdiff **Pdif** 21 00 24.1 +0.6
baz=256
Q49A **Aurora** 101.23 53 Pdiff **Pdif** 21 00 23.8 -0.3
baz=256
F43A **Flat Rock, Esc** 101.25 45 Pdiff **Pdif** 21 00 23.3 -0.6
baz=256
M47A **Cromwell** 101.26 50 Pdiff **Pdif** 21 00 24.0 -0.1
baz=256
U51A **La Follette** 101.28 55 Pdiff **Pdif** 21 00 24.1 -0.2
baz=256
S50A **Richmond** 101.29 54 Pdiff **Pdif** 21 00 24.1 -0.2
baz=256
061Z **Ochoppi** 101.29 66 Pdiff **Pdif** 21 00 24.7 +0.1
baz=255
O48A **Farmland** 101.34 51 Pdiff **Pdif** 21 00 24.4 -0.1
baz=256
059A **Moore Haven** 101.36 65 Pdiff **Pdif** 21 00 24.0 -0.9
baz=256
DWPF **Disney Wildern** 101.39 64 Pdiff **Pdif** 21 00 24.7 -0.3
baz=256
X53A **Estanollee** 101.39 57 Pdiff **Pdif** 21 00 25.4 +0.5
baz=256
Z54A **Sparta** 101.46 59 Pdiff **Pdif** 21 00 25.7 +0.6
baz=256
T51A **Gray** 101.47 55 Pdiff **Pdif** 21 00 25.7 +0.5
baz=256
V52A **Sevierville** 101.48 56 Pdiff **Pdif** 21 00 25.0 -0.2
baz=256
R50A **Paris** 101.49 53 Pdiff **Pdif** 21 00 25.2 0.0
baz=256
P49A **Miami Univ. Ec** 101.49 52 Pdiff **Pdif** 21 00 25.6 +0.4
baz=256
E43A **Lone Tree Farm** 101.50 45 Pdiff **Pdif** 21 00 24.8 -0.2
baz=256
N48A **Decatur** 101.58 51 Pdiff **Pdif** 21 00 25.6 +0.1
baz=256
W53A **Cullowhee** 101.66 57 Pdiff **Pdif** 21 00 26.5 +0.3
baz=256
TZTN **Tazewell** 101.68 55 Pdiff **Pdif** 21 00 26.3 +0.2
baz=256
L47A **Sherwood** 101.71 50 Pdiff **Pdif** 21 00 26.2 +0.1
baz=256
Y54A **Tignall** 101.73 58 Pdiff **Pdif** 21 00 26.2 -0.2
baz=256
F44A **Big Bay de Noc** 101.79 45 Pdiff **Pdif** 21 00 26.4 +0.1
baz=256
U52A **Thorn Hill** 101.79 55 Pdiff **Pdif** 21 00 26.4 -0.2
baz=256
LSA **Lhasa** 101.82 297 *e*Pdif **Pdif** 21 00 27.6 +0.1
859A **Kempfer Cattle** 101.84 64 Pdiff **Pdif** 21 00 26.6 -0.4
baz=256
Q50A **Georgetown** 101.89 53 Pdiff **Pdif** 21 00 26.8 -0.2
baz=256
S51A **Beattyville** 101.91 54 Pdiff **Pdif** 21 00 27.1 0.0
baz=256
O49A **Covington** 101.93 52 Pdiff **Pdif** 21 00 27.0 -0.2
baz=257
M48A **Edgerton** 101.95 50 Pdiff **Pdif** 21 00 26.8 -0.4
baz=257
I46A **Reed City** 101.99 48 Pdiff **Pdif** 21 00 26.8 -0.5
baz=257
K47A **Vermontville** 102.02 49 Pdiff **Pdif** 21 00 27.7 +0.3
baz=257
V53A **Saluda** 102.06 56 Pdiff **Pdif** 21 00 27.9 +0.1
baz=256
R51A **Hillsboro** 102.06 54 Pdiff **Pdif** 21 00 28.1 +0.3
baz=257
X54A **Belton** 102.15 57 Pdiff **Pdif** 21 00 27.4 -0.8
baz=256
P50A **Jamestown** 102.20 52 Pdiff **Pdif** 21 00 28.0 -0.3
baz=257
N49A **Columbus Grove** 102.21 51 Pdiff **Pdif** 21 00 28.3 0.0
baz=257
T52A **Hallie** 102.25 55 Pdiff **Pdif** 21 00 27.5 -1.2
baz=257
L48A **N Adams** 102.26 50 Pdiff **Pdif** 21 00 28.5 0.0
baz=257
E44A **Grand Marais A** 102.28 45 Pdiff **Pdif** 21 00 28.0 -0.5
baz=257
S52A **Salyersville** 102.31 54 Pdiff **Pdif** 21 00 28.0 -0.8
baz=257
F45A **CMU Biological** 102.34 46 Pdiff **Pdif** 21 00 28.7 0.0
baz=257
U53A **Fall Branch** 102.40 56 Pdiff **Pdif** 21 00 29.1 -0.3
baz=257
Q51A **Peebles** 102.41 53 Pdiff **Pdif** 21 00 29.0 -0.3
baz=257
W54A **Cherokee Point** 102.42 57 Pdiff **Pdif** 21 00 29.8 +0.4
baz=257
Y55A **Saluda** 102.42 58 Pdiff **Pdif** 21 00 29.4 -0.1
baz=257
O50A **Cable** 102.46 52 Pdiff **Pdif** 21 00 29.1 -0.4
baz=257
T53A **Wise** 102.58 55 Pdiff **Pdif** 21 00 29.9 -0.3
baz=257
I47A **Gladwin** 102.67 48 Pdiff **Pdif** 21 00 30.3 +0.1
baz=257
K48A **Perry** 102.68 49 Pdiff **Pdif** 21 00 30.9 +0.5
baz=257
Z56A **Williston** 102.68 59 Pdiff **Pdif** 21 00 30.7 +0.1
baz=257
G46A **Petoskey** 102.71 46 Pdiff **Pdif** 21 00 30.7 +0.3
baz=257
E45A **Wooded Hills,** 102.72 45 Pdiff **Pdif** 21 00 30.2 -0.2
baz=257
X55A **Gracelyn & Ava** 102.73 58 Pdiff **Pdif** 21 00 30.9 +0.1
baz=257
P51A **Williamsport** 102.73 52 Pdiff **Pdif** 21 00 30.4 -0.3
baz=257
GLMI **Grayling** 102.77 47 Pdiff **Pdif** 21 00 30.7 0.0
baz=257
V54A **Nebo** 102.77 56 Pdiff **Pdif** 21 00 31.1 +0.1
baz=257
L49A **Milan** 102.78 50 Pdiff **Pdif** 21 00 31.1 +0.3
baz=257
R52A **Catlettsburg** 102.79 54 Pdiff **Pdif** 21 00 31.0 0.0
baz=257
157A **Early Branch** 102.84 60 Pdiff **Pdif** 21 00 31.6 +0.3
baz=257
F46A **Macinaw City C** 102.88 46 Pdiff **Pdif** 21 00 31.7 +0.5
baz=258
AAM **Ann Arbor** 102.90 50 Pdiff **Pdif** 21 00 31.0 -0.4
baz=257
N50A **Nevada** 102.94 51 Pdiff **Pdif** 21 00 31.4 -0.3
baz=257
ACSO **Alum Creek Sta** 102.95 52 Pdiff **Pdif** 21 00 31.8 +0.1
baz=257
U54A **Nelsons Funny** 103.03 56 Pdiff **Pdif** 21 00 32.3 +0.1
baz=257
S53A **Williamson** 103.05 54 Pdiff **Pdif** 21 00 31.9 -0.3
baz=257
KMSC **Kings Mountain** 103.12 57 Pdiff **Pdif** 21 00 32.4 -0.1
baz=257
K49A **Clarkson** 103.15 49 Pdiff **Pdif** 21 00 32.0 -0.5
baz=258
M50A **Fremont** 103.16 51 Pdiff **Pdif** 21 00 32.5 0.0
baz=258
O51A **Pataskala** 103.22 52 Pdiff **Pdif** 21 00 32.5 -0.3
baz=258
X56A **White Oak** 103.22 58 Pdiff **Pdif** 21 00 32.3 -0.7
baz=257
Q52A **Bidwell** 103.22 53 Pdiff **Pdif** 21 00 32.4 -0.5
baz=258
Z57A **Bowman** 103.22 59 Pdiff **Pdif** 21 00 32.7 -0.3
baz=257
I48A **Sherman Twp** 103.27 48 Pdiff **Pdif** 21 00 32.8 -0.1
baz=258
E46A **Sault Ste Mari** 103.31 45 Pdiff **Pdif** 21 00 33.2 +0.1
baz=258
R53A **Hurricane** 103.32 54 Pdiff **Pdif** 21 00 33.9 +0.5
baz=258
T54A **Tazewell** 103.34 55 Pdiff **Pdif** 21 00 33.4 -0.2
baz=258
G47A **Hillman** 103.37 47 Pdiff **Pdif** 21 00 33.8 +0.5
baz=258
L50A **Kingsville** 103.46 50 Pdiff **Pdif** 21 00 34.2 +0.4
baz=258
N51A **Ashland** 103.55 51 Pdiff **Pdif** 21 00 34.3 0.0
baz=258
NHSC **New Hope** 103.61 59 Pdiff **Pdif** 21 00 34.3 -0.4
baz=257
H48A **Harrisville** 103.64 47 Pdiff **Pdif** 21 00 35.6 +1.0
baz=258
W56A **Indian Trail** 103.72 57 Pdiff **Pdif** 21 00 34.8 -0.4
baz=258
M51A **Elyria** 103.78 51 Pdiff **Pdif** 21 00 35.4 +0.1
baz=258
O52A **Adamsville** 103.78 52 Pdiff **Pdif** 21 00 35.3 0.0
baz=258
T55A **Pulaski** 103.97 55 Pdiff **Pdif** 21 00 36.1 -0.2
baz=258
P53A **Whipple** 103.99 53 Pdiff **Pdif** 21 00 36.0 -0.3
baz=258
E47A **Iron Bridge** 104.02 45 Pdiff **Pdif** 21 00 36.5 +0.2
baz=259
R54A **Victor** 104.03 54 Pdiff **Pdif** 21 00 36.7 +0.2
baz=258
W57A **Gilead** 104.19 57 Pdiff **Pdif** 21 00 37.8 +0.5
baz=258
D47A **Chapleau** 104.26 45 Pdiff **Pdif** 21 00 37.4 +0.1
baz=259
BWNR **Bhubaneshwar** 104.27 287 *e*P **Pdif** 21 00 39.4 +1.5
BLA **Blacksburg** 104.28 55 Pdiff **Pdif** 21 00 37.8 +0.1
baz=258
O53A **New Philadelph** 104.28 52 Pdiff **Pdif** 21 00 37.9 +0.4
baz=258
Q54A **Coxs Mills** 104.31 53 Pdiff **Pdif** 21 00 38.3 +0.6
baz=258
Z59A **Georgetown, SC** 104.37 59 Pdiff **Pdif** 21 00 38.3 +0.2
baz=258
M52A **Chesterland** 104.43 51 Pdiff **Pdif** 21 00 38.7 +0.5
baz=259
RES **Resolute Bay** 104.61 16 *e*Pdif **Pdif** 21 00 38.3 +0.1
RES **Resolute Bay** 104.61 16 P **Pdif** 21 00 38.3 +0.1
RES pmax pmax
comp=Z,13nm,1.0s
BASO **Ashfield** 104.68 48 Pdiff **Pdif** 21 00 39.6 +0.4
baz=259
F49A **Sandfield** 104.74 46 Pdiff **Pdif** 21 00 39.6 +0.2
baz=259
E48A **Lockeyer** 104.78 46 Pdiff **Pdif** 21 00 39.9 +0.3
baz=259
Q55A **Buckhannon** 104.89 53 Pdiff **Pdif** 21 00 40.3 0.0
baz=259
O54A **Avella** 104.89 52 Pdiff **Pdif** 21 00 40.3 0.0
baz=259
U57A **Blanch** 104.97 56 PKiKP **PKiKP** 21 04 54.4 -0.1
baz=259
BOK **Bokaro** 105.02 290 *e*P **Pdif** 21 00 38.2 -3.0
RAMN **Ramite** 105.09 294 *e*P **PKiKP** 21 04 55.2 -0.2
comp=Z,99nm,1.4s
CPUP **Villa Florida** 105.26 125 PKKPbc PKKPbc 21 16 21.8 0.0
comp=Z,3.8nm,1.1s,baz=90,slow=2.0,SNR=2.8
L53A **Girard** 105.31 50 PKiKP **PKiKP** 21 04 54.9 -0.2
baz=260
D49A **Beulah Townshi** 105.47 45 PKiKP **PKiKP** 21 04 55.4 +0.2
baz=260
JIRN **Jiri** 105.60 294 *e*P **PKiKP** 21 04 55.9 -0.6
comp=Z,70nm,1.1s
V59A **Middlesex** 105.72 57 PKiKP **PKiKP** 21 04 56.5 +0.5
baz=259
N55A **Marion Center** 106.05 52 PKiKP **PKiKP** 21 04 57.5 +1.1
baz=260
F51A **Arnstein** 106.23 46 PKiKP **PKiKP** 21 04 58.1 +1.5
baz=261
PKI **Pulchoki** 106.26 294 *e*P **PKiKP** 21 04 56.5 -1.1
comp=Z,44nm,1.0s
PKIN **Phulchoki** 106.27 294 *e*P **PKiKP** 21 04 57.6 0.0
comp=Z,26nm,0.9s
KKN **Kakani** 106.42 294 *e*P **PKiKP** 21 04 57.0 -0.8
comp=Z,23nm,0.8s
T59A **Double "B" Far** 106.48 56 PKiKP **PKiKP** 21 04 58.3 +1.0
baz=260
DMN **Daman** 106.53 294 *e*P **PKiKP** 21 04 58.8 +0.7
comp=Z,38nm,1.0s
L55A **Hinsdale** 106.69 50 PKiKP **PKiKP** 21 04 58.1 +0.4
baz=261
GKN **Gorkha** 107.02 294 *e*P **PKiKP** 21 04 59.2 +0.4
comp=Z,16nm,0.5s
WMQ **Urumqi** 107.30 311 Pdif **Pdif** 21 00 51.2 +0.2
WMQ PP **PP** 21 05 20.0 -1.0
WMQ S **Sdif** 21 12 32.2 -3.3
WMQ SS **SS** 21 20 15.7 +2.3
WMQ AMB AMB
comp=Z,2μm,8.1s
WMQ LR LR
comp=Z,5μm,24.3s
WMQ LR LR
comp=Z,3μm,26.7s
WMQ LR LR
comp=Z,6μm,24.3s
DELO **Deloro Mine** 107.63 48 PKiKP **PKiKP** 21 05 00.2 +1.0
baz=262
DANN **Dangsing** 107.85 295 *e*P **PKiKP** 21 04 59.9 -0.6
comp=Z,45nm,0.6s
KOLN **Koldanda** 107.87 294 *e*P **PKiKP** 21 04 59.5 -1.0
comp=Z,20nm,0.5s
PYUN **Piuthan** 108.47 294 *e*P **PKiKP** 21 05 00.6 -1.0
comp=Z,52nm,0.8s
NRIK **Noril'sk** 109.23 338 Pdiff **Pdif** 21 00 59.0 +0.2
comp=Z,3.7nm,0.8s,baz=172,slow=1.8,SNR=7.5
NRIK SKS **SKSdf** 21 11 52.4 -0.6
comp=Z,5.0nm,0.7s,baz=101,slow=3.7,SNR=5.1
TRD **Trivandrum** 109.56 273 *e*P **Pdif** 21 01 01.0 -0.6
TRD IAMs_20 IAMs_20 22 08 26.2
comp=Z,630nm,10.3s
ZSN **Zaisan** 109.71 315 *e*PP **PP** 21 05 36.2 -2.0
JBP **Jabalpur** 110.18 289 *e*P **PKiKP** 21 05 04.3 -0.3
JBP AMB AMB 21 05 42.2
comp=Z,27nm,5.8s
JBP *e*x x 21 16 24.2
JBP AMS AMS 22 05 38.2
comp=Z,1μm,20.9s
ZAA0 **Zalesovo Array** 110.20 322 *e*Pdif **Pdif** 21 01 03.6 +0.1
ZAA1 **Zalesovo Array** 110.20 322 *e*Pdif **Pdif** 21 01 04.7 +1.2
ZAA1 *e*PKiKP **PKiKP** 21 05 03.4 -0.4
ZAA1 *e*PP **PP** 21 05 40.8 -0.8
ZAA1 *e*PKKPbc **PKKPbc** 21 16 07.0 -0.4
ZAA1 *e*PKKPab **PKKPab** 21 16 16.6 +0.4
ZALV **Zalesovo Beam** 110.20 322 *e*Pdif **Pdif** 21 01 03.5 0.0
ZALV **Zalesovo Beam** 110.20 322 Pdiff **Pdif** 21 01 04.7 +1.2
comp=Z,0.2nm,0.3s,baz=85,slow=3.6,SNR=5.2
ZALV PKiKP **PKiKP** 21 05 03.4 -0.4
comp=Z,15nm,0.7s,baz=161,slow=1.2,SNR=27
ZALV PP **PP** 21 05 40.7 -0.8
comp=Z,7.9nm,1.0s,baz=72,slow=4.8,SNR=4.6
ZALV PKKPbc **PKKPbc** 21 16 06.9 -0.4
comp=Z,0.5nm,0.3s,baz=329,slow=2.5,SNR=3.0
ZALV PKKPab **PKKPab** 21 16 16.6 +0.4
comp=Z,0.7nm,0.7s,baz=224,slow=4.0,SNR=3.8
HYB **Hyderabad** 110.28 282 *i* Pdiff **Pdif** 21 01 06.0 +1.2
HYB *e* 21 05 05.0
HYB *e*PP **PP** 21 05 42.0 -1.1
HYB *e* 21 07 02.0
HYB *e*SKS **SKSac** 21 11 22.0 -2.2
HYB *e* 21 13 08.0
HYB **Hyderabad** 110.28 282 *e*P **PKiKP** 21 05 01.4 -3.7
NGP **Nagpur** 110.62 286 *e*P **PKiKP** 21 05 05.4 -0.2
NVS **Novosibirsk** 111.16 323 ⇑ *i*PKIKP **PKiKP** 21 05 04.9 -0.6
NVS *e*S **SKSac** 21 11 26.7 +0.7
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=E,14nm,1.2s
NVS pmax pmax
comp=Z,7.0nm,1.2s
NVS smax smax
comp=N,53nm,2.5s
NVS smax smax
comp=E,128nm,2.5s
MK32 **Makanchi Array** 111.41 314 *e*Pdif **Pdif** 21 01 10.9 +1.7
MK32 *e*PKiKP **PKiKP** 21 05 05.7 -0.6
MK32 *e*PKKPbc **PKKPbc** 21 16 03.2 0.0
MKAR **Makanchi Array** 111.41 314 *e*Pdif **Pdif** 21 01 09.3 +0.2
MKAR **Makanchi Array** 111.41 314 *c i*PKiKP **PKiKP** 21 05 05.6 -0.7
MKAR pmax pmax
comp=Z,18nm,0.6s
MKAR **Makanchi Array** 111.41 314 Pdiff **Pdif** 21 01 10.9 +1.7
comp=Z,1.8nm,0.8s,baz=91,slow=6.1,SNR=3.6
MKAR PKiKP **PKiKP** 21 05 05.7 -0.6
comp=Z,18nm,0.7s,baz=94,slow=1.4,SNR=45
MKAR PKKPbc **PKKPbc** 21 16 03.2 0.0
comp=Z,4.3nm,0.8s,baz=275,slow=3.4,SNR=16
BHPL **Bhopal** 112.51 288 *e*P **PKiKP** 21 05 08.6 -0.6
BHPL IAMs_20 IAMs_20 22 04 26.1
comp=Z,3μm,3.6s
DDI **Dehra Dun** 113.08 296 *e*P **PKiKP** 21 05 09.7 -0.3
DDI IAMs_20 IAMs_20 22 04 04.7
comp=Z,3μm,17.1s
SHLS **Shalkode** 113.20 310 *e*PP **PP** 21 05 56.6 -6.8
MNCY **Minicoy** 113.23 271 *e*P **PKiKP** 21 05 08.7 -2.0
UZB **Uzynbulak** 113.52 310 *e*PP **PP** 21 06 01.9 -3.8
KPKS **Kokpek** 113.78 310 *e*PP **PP** 21 06 02.4 -5.2
KURK **Kurchatov** 113.94 318 *d i*PKIKP **PKiKP** 21 05 10.2 -0.8
KURK pmax pmax
comp=Z,79nm,1.3s
ZHN **Zhinishke** 113.95 310 *e*PP **PP** 21 06 04.8 -3.9
SATY **Saty** 113.96 310 *e*PP **PP** 21 06 05.1 -3.7
KURBB **Kurchatov Arra** 114.00 318 Pdiff **Pdif** 21 01 22.2 +1.7
comp=Z,0.1nm,0.3s,baz=117,slow=3.2,SNR=3.8
KURBB PKiKP 21 05 10.4
comp=Z,30nm,0.9s,baz=90,slow=1.7,SNR=50
KURBB PP **PP** 21 06 03.4 -5.2
comp=Z,5.3nm,0.9s,baz=90,slow=6.8,SNR=5.2
KULLO **Kullorsuaq** 114.47 15 *i* PKIKP **PKiKP** 21 05 11.8 +0.5
KULLO **Kullorsuaq** 114.47 15 *i* P **PKiKP** 21 05 11.8 +0.5
DHRM **DHARAMSHALA** 114.81 298 *e*P PKPdf 21 05 13.2 -0.3
DHRM IAMs_20 IAMs_20 22 02 52.5
comp=Z,2μm,22.6s
POO **Poona** 114.89 283 *e*P PKPdf 21 05 13.2 -0.6
MDOK **Medeo** 114.96 310 *e*PP PP 21 06 07.9 -8.0
SCHQ **Schefferville** 114.99 37 PKP **PKiKP** 21 05 12.3 -0.6
comp=Z,7.1nm,0.7s,baz=298,slow=4.3,SNR=3.0
KUU **Kurty** 115.49 311 *e*PP **PP** 21 06 14.7 -4.7
ULHL **Ulahol** 115.53 309 P **PKiKP** 21 05 14.9 +0.3
SNR=22
KSH **Kashi** 115.64 306 PKP **PKiKP** 21 05 15.7 +0.9
KSH PP **PP** 21 06 23.0 +2.3
KSH sPKP 21 06 32.7
KSH AMB AMB
comp=Z,3μm,5.2s
KSH LR LR
comp=Z,2μm,10.0s
KSH LR LR
comp=Z,1μm,10.3s
KSH LR LR
comp=Z,3μm,11.8s
NRN **Naryn** 115.69 308 *e*PKPdf **PKPdf** 21 05 14.4 -0.6
TKM2 **Tokmak 2** 116.02 310 P **PKPdf** 21 05 15.0 -0.5
SNR=38
KZA **Kyzart** 116.26 309 P **PKiKP** 21 05 16.6 +0.3
SNR=31
KBK **Karagaybulak** 116.50 309 P **PKPdf** 21 05 16.3 -0.1
SNR=49
CHMS **Chumysh** 116.64 310 P **PKPdf** 21 05 16.2 -0.3
SNR=46
FRU1 **Bishkek** 116.73 309 *e*PKPdf **PKPdf** 21 05 16.1 -0.6
UCH **Uchtor** 116.81 309 P **PKiKP** 21 05 17.8 +0.4
SNR=56
USP **Ospenovka** 116.83 310 P **PKPdf** 21 05 16.6 -0.3
SNR=35
AAK **Ala-Archa** 116.83 309 P **PKPdf** 21 05 16.9 -0.1
SNR=20
AAK **Ala-Archa** 116.83 309 *e*PKPdf **PKPdf** 21 05 16.6 -0.4
AAK **Ala-Archa** 116.83 309 *i* PKPdf **PKPdf** 21 05 16.9 -0.1
SNR=25
AAK **Ala-Archa** 116.83 309 PKP **PKPdf** 21 05 16.8 -0.3
comp=Z,22nm,0.8s,baz=120,slow=2.8,SNR=25
BTLS **Baital** 117.13 312 *e*PP PP 21 06 24.7 -6.0
EKS2 **Erkin-Say** 117.36 309 P **PKiKP** 21 05 18.1 +0.1
SNR=32
AML **Almayashu** 117.42 309 P **PKiKP** 21 05 18.7 +0.2
SNR=53
NIL **Nilore** 117.49 299 *e*PKPdf **PKPdf** 21 05 17.6 -0.8
BDFB **Brasilia** 118.12 119 PKP **PKiKP** 21 05 20.7 +0.4

comp=Z,7.3nm,0.9s,baz=236,slow=4.9,SNR=7.7
BDFB PKKPbc **PKKPbc** **21 15 40.7 +1.1**
comp=Z,5.0nm,0.6s,baz=287,slow=3.2,SNR=7.8
ILULI Ilulissat 118.43 20 *e*PKPdf **PKPdf** **21 05 18.5 -0.5**
ILULI Ilulissat 118.43 20 *i* PKIKP **PKiKP** **21 05 19.6 +0.5**
ILULI Ilulissat 118.43 20 *i P* **PKiKP** **21 05 19.6 +0.5**
BVAR Borovoye Array 118.84 321 PKP **PKiKP** **21 05 20.6 +0.2**
comp=Z,58nm,0.7s,baz=104,slow=1.3,SNR=73
KBS Kingsbay 118.88 358 *e*PKPdf **PKiKP** **21 05 20.1 +0.2**
KBS Kingsbay 118.88 358 *d i*PKIKP **PKiKP** **21 05 20.0 +0.2**
KBS pmax pmax
comp=Z,349nm,1.3s
KBS Kingsbay 118.88 358 *e*PKPdf **PKiKP** **21 05 19.9 +0.1**
KBS *e*SP SP 21 16 07.8 +1.6
BRVK Borovoye 118.90 321 *e*PKPdf **PKPdf** **21 05 20.1 -0.4**
BRVK Borovoye 118.90 321 *i* PKIKP **PKiKP** **21 05 19.8 -0.6**
GBN Guysborough 119.07 48 *e*PKPdf **PKPdf** **21 05 20.7 -0.3**
SPA0 Spitsbergen Ar 119.47 357 *e*PKPdf **PKPdf** **21 05 20.9 -0.1**
SPA0 Spitsbergen Ar 119.47 357 *e*PKPdf **PKPdf** **21 05 20.8 -0.1**
BHJ Bhuj 119.56 287 *e*P **PKPdf** **21 05 20.9 -1.7**
BHJ IAMs_20 IAMs_20 22 00 34.4
comp=Z,2μm,11.3s
SFJD Kangerlussuaq 119.56 22 *e*PKPdf **PKPdf** **21 05 21.1 -0.1**
SFJD Kangerlussuaq 119.56 22 *i* PKIKP **PKPdf** **21 05 21.2 -0.1**
SFJD Kangerlussuaq 119.56 22 *i P* **PKPdf** **21 05 21.2 -0.1**
BTK Batken 119.61 306 *e*PKPdf **PKPdf** **21 05 22.0 -0.4**
KK31 Karatay Array 119.75 310 *e*PKPdf **PKPdf** **21 05 21.5 -0.9**
KKAR Karatay Array 119.75 310 *e*PKPdf **PKPdf** **21 05 21.8 -0.7**
KKAR *e*PKPdf **PKPdf** **21 05 21.8 -0.7**
JBG Jabagly 119.75 309 *i* PKIKP **PKPdf** **21 05 22.5 -0.1**
DAG Danmarks Havn 119.93 6 *i* PKIKP **PKPdf** **21 05 20.7 -1.1**
DAG Danmarks Havn 119.93 6 *i P* **PKPdf** **21 05 20.7 -1.1**
SUMG Summit 120.03 14 *e*PKPdf **PKPdf** **21 05 22.2 -0.4**
SUMG Summit 120.03 14 *i* PKIKP **PKiKP** **21 05 23.1 +0.4**
SUMG Summit 120.03 14 *i P* **PKiKP** **21 05 23.1 +0.4**
IUG Iuzhnay 120.14 309 *i* PKIKP **PKPdf** **21 05 22.8 -0.5**
IUG *e* 21 06 51.9
IUG Iuzhnay 120.14 309 *i* PKP **PKPdf** **21 05 22.8 -0.5**
IUG *e*PP **PP** **21 06 52.0 +0.2**
HSPB Hornsund (broa 120.66 357 *e*PKPdf **PKPdf** **21 05 22.7 -0.5**
MCI8 Montes Claros 120.92 123 *e*P **PKiKP** **21 05 31.2 +5.6**
KBL Kabul 121.02 300 *e*PKPdf **PKPdf** **21 05 25.4 0.0**
SJMB Sao Joao De Ma 121.90 126 *e*P **PKiKP** **21 05 32.8 +5.3**
RIB01 Linhares ES 122.14 128 *e*P **PKiKP** **21 05 33.3 +5.4**
IVI Ivigtut 123.02 27 *e*PKPdf **PKPdf** **21 05 27.8 -0.2**
SVE Sverdlovsk 123.38 327 *e*PKIKP **PKPdf** **21 05 28.9 0.0**
SVE pmax pmax
comp=Z,136nm,1.1s
NRS Narsarsuaq 124.23 27 *i* PKIKP **PKiKP** **21 05 30.8 +0.1**
NRS Narsarsuaq 124.23 27 *i P* **PKiKP** **21 05 30.8 +0.1**
ABPO Ambohimpanom 124.51 231 *e*PKPdf **PKiKP** **21 05 32.9 0.0**
ARU Arti 124.60 327 *e*PKPdf **PKPdf** **21 05 30.8 -0.5**
ARU Arti 124.60 327 *i* PKIKP **PKPdf** **21 05 31.1 -0.2**
ARU 21 07 18.7
ARU 21 12 15.2
ARU SP SP 21 16 57.0 -0.9
SCO Scoresbysund 125.02 11 *e*PKPdf **PKPdf** **21 05 31.6 0.0**
SCO Scoresbysund 125.02 11 *i* PKIKP **PKiKP** **21 05 32.5 +0.5**
SCO Scoresbysund 125.02 11 *i P* **PKiKP** **21 05 32.5 +0.5**
ABKAR Akbulak array 126.05 318 *e*PKPdf **PKPdf** **21 05 33.5 -0.8**
ABKAR *e*PKPdf **PKiKP** **21 05 33.7 -1.0**
HAMF Hammerfest 126.09 352 *e*PKPdf **PKPdf** **21 05 33.3 -0.4**
KEV Kevo 126.44 351 *e*PKPdf **PKPdf** **21 05 34.2 -0.2**
LVZ Lovozero 126.59 346 *e*PKPdf **PKPdf** **21 05 34.3 -0.6**
LVZ Lovozero 126.59 346 *d i*PKIKP **PKPdf** **21 05 34.3 -0.6**
LVZ pmax pmax
comp=Z,105nm,1.3s
ARA0 ARCESS Array S 126.86 351 *e*PKPdf **PKPdf** **21 05 35.5 +0.2**
ARCES ARCESS Array B 126.86 351 *e*PKPdf **PKPdf** **21 05 34.6 -0.7**
ARCES ARCESS Array B 126.86 351 PKP **PKPdf** **21 05 35.5 +0.2**
comp=Z,108nm,0.8s,baz=60,slow=0.6,SNR=13
ARE0 ARCESS Array S 126.87 351 *e*PKPdf **PKPdf** **21 05 34.8 -0.5**
ARE0 ARCESS Array S 126.87 351 *e*PKPdf **PKPdf** **21 05 35.4 +0.1**
AKTO Aktyubinsk 126.91 320 PKP **PKPdf** **21 05 35.8 -0.1**
comp=Z,41nm,1.0s,baz=77,slow=2.7,SNR=45
APA Apatity 127.14 347 ⇓ *i*PKIKP **PKPdf** **21 05 34.8 -1.0**
APA pmax pmax
comp=Z,66nm,0.9s
TRO Tromso 127.60 354 *e*PKPdf **PKPdf** **21 05 36.1 -0.5**
KTK1 Kautokeino 127.67 352 *e*PKPdf **PKPdf** **21 05 36.1 -0.7**
SUR Sutherland 127.69 197 *e*PKPdf **PKPdf** **21 05 38.5 +0.2**
PRGR Permogore 127.84 337 ⇓ *i*PKIKP **PKPdf** **21 05 33.0 -4.3**
PRGR *i* 21 07 38.2
PRGR pmax pmax
comp=Z,125nm,0.9s
KIRV Kirov 128.04 332 PKP **PKPdf** **21 05 37.9 +0.1**
comp=Z,112nm,0.9s,baz=35,slow=1.1,SNR=49
KIRV PP **PP** **21 07 42.1 -1.4**
comp=Z,15nm,0.9s,baz=64,slow=8.4,SNR=4.7
TMCR Tamitsa 128.64 342 *e*PKIKP **PKPdf** **21 05 37.0 -1.7**
TMCR pmax pmax
comp=Z,116nm,1.1s
LOF Lofoten 129.53 356 *e*PKPdf **PKPdf** **21 05 39.6 -0.7**
STEI Steigen 129.59 355 *e*PKPdf **PKPdf** **21 05 39.5 -0.9**
WSAR Wadi Sarin 129.64 286 PKP **PKPdf** **21 05 42.2 +0.2**
comp=Z,15nm,0.7s,baz=138,slow=1.5,SNR=9.1
GEYT Alibeck 129.64 305 PKhKP PKPpre 21 05 29.3
comp=Z,4.1nm,0.7s,baz=222,slow=2.0,SNR=11
GEYT PKP **PKPdf** **21 05 41.8 +0.3**
comp=Z,35nm,0.8s,baz=172,slow=1.0,SNR=32
GEYT PP **PP** **21 07 53.2 -1.7**
comp=Z,14nm,1.1s,baz=81,slow=3.8,SNR=5.3
GEYT SKPbc SKPbc 21 08 44.2 +0.5
comp=Z,32nm,1.3s,baz=180,slow=0.4,SNR=5.0
GYA0B ALIBECK ARRAY 129.64 305 *e*PKPdf **PKiKP** **21 05 42.0 -0.4**
BOSA Boshof 129.70 203 *e*PKPdf **PKiKP** **21 05 42.9 -0.1**
BOSA Boshof 129.70 203 PKP **PKiKP** **21 05 43.2 +0.2**
comp=Z,16nm,0.6s,baz=169,slow=3.3,SNR=12
BOSA PKKP **PKKPdf** **21 15 46.7 +1.1**
comp=Z,3.2nm,0.8s,baz=17,slow=2.1,SNR=4.0
DQM DQM 130.32 281 sPKiKP **PKSab** **21 09 11.1 +2.4**
KLMR Klimovskoe 130.57 339 ⇑ *i*PKIKP **PKPdf** **21 05 42.0 -0.5**
KLMR *e* 21 07 56.7
KLMR pmax pmax
comp=Z,212nm,1.2s
NBMO Morrinhos-CE 130.95 111 *e*P **PKiKP** **21 05 49.8 +4.1**
KONS Konsvik 131.17 356 *e*PKPdf **PKPdf** **21 05 43.8 +0.3**
SOHO SOHO 131.61 287 sPKiKP **SKPbc** **21 08 51.3 -0.1**
MSFE Esma-Masafi 132.00 288 *i* PKPdf **PKPdf** **21 05 44.9 -1.5**
SNR=21
HATD Hatta, Dubai 132.01 287 *i* PKPdf **PKPdf** **21 05 44.7 -1.7**
SNR=17
SHME Shamm 132.04 289 *i* PKPdf **PKPdf** **21 05 45.0 -1.4**
SNR=6.0
ASHO Ashiyiah 132.07 287 *i* PKPdf **PKPdf** **21 05 45.3 -1.2**
SNR=26
ASHO Ashiyiah 132.07 287 sPKiKP **PKSab** **21 09 13.0 -3.2**
ALNE Al Ain 132.32 286 *i* PKPdf **PKPdf** **21 05 45.0 -2.0**
SNR=11
NBPA Parau_RN 132.34 116 *e*P **PKiKP** **21 05 52.9 +4.4**
NAZ Nazwa, Dubai 132.44 288 *i* PKPdf **PKPdf** **21 05 44.8 -2.4**
SNR=18
FAQ Al Faqa, Dubai 132.50 287 *i* PKPdf **PKPdf** **21 05 43.9 -3.4**
SNR=11
ASUD Al Ashush, Dub 132.73 287 *i* PKPdf **PKPdf** **21 05 45.7 -2.0**
SNR=8.5
LBTB Lobatse 132.78 206 *e*PKPdf **PKPdf** **21 05 48.0 -0.1**
AJN Ajban 133.04 287 *i* PKPdf **PKPdf** **21 05 44.8 -3.5**
SNR=6.0
NSS Namsos 133.20 356 *e*PKPdf **PKPdf** **21 05 47.2 -0.1**
RCBR Riachuelo 133.34 117 *e*P **PKiKP** **21 05 55.3 +4.8**
FIA1 FINESS Array S 134.02 346 *e*PKPdf **PKPdf** **21 05 48.9 -0.2**
FIA0 FINESS Array S 134.03 346 *e*PP PP 21 08 21.2 -0.4
FINES FINESS Array B 134.03 346 PKhKP PKPpre 21 05 33.9
comp=Z,1.7nm,0.6s,baz=68,slow=4.5,SNR=8.5
FINES PKP **PKPdf** **21 05 49.4 +0.4**
comp=Z,54nm,0.8s,baz=64,slow=4.4,SNR=40
FINES PP **PP** **21 08 21.2 -0.4**
comp=Z,6.6nm,1.0s,baz=27,slow=9.6,SNR=3.9
FINES SKPbc **SKPbc** **21 08 59.2 +0.8**
comp=Z,18nm,0.9s,baz=64,slow=4.4,SNR=9.9
PUL Pulkovo 134.35 342 ⇑ *i*PKIKP **PKiKP** **21 05 50.4 -0.7**
MOS Moscow 134.86 334 *e*PKIKP **PKPdf** **21 05 47.6 -3.1**
MOS *e* 21 12 41.1
MOS pmax pmax
comp=Z,700nm,3.0s
MOS pmax pmax
comp=Z,120nm,1.0s
MOL Molde 135.38 358 *e*PKPdf **PKPdf** **21 05 51.6 +0.1**
OBN Obninsk 135.72 334 *e*PKPpre PKPpre 21 05 41.7
OBN *e*PKPdf **PKPdf** **21 05 52.0 -0.3**
OBN Obninsk 135.72 334 *i* PKHKP PKPpre 21 05 40.0
OBN *i* 21 05 51.9
OBN pmax pmax
comp=Z,19nm,1.0s
AKN Aaknes 135.78 359 *e*PKPdf **PKPdf** **21 05 52.8 +0.5**
VRH Novokhopyorsk 135.83 327 *e*PKIKP **PKPdf** **21 05 51.9 -0.8**
VRH *e*PS **SP** **21 18 28.4 -6.4**
VRH *e*SS **SS** **21 26 08.8 -5.7**
VRH pmax pmax
comp=Z,90nm,1.0s
DOMB Dombas 135.85 357 *e*PKPdf **PKPdf** **21 05 52.4 -0.1**
MAK Makhachkala 136.23 314 *ce*P **Pdif** **21 02 56.1 -3.4**
MAK *i* 21 05 54.0
MAK *e* 21 08 36.8
MAK *e*PPP PPP 21 11 33.7
MAK *e* 21 12 42.2
MAK pmax pmax
comp=Z,207nm,1.1s
LPSR Galich'ya Gora 136.36 330 *e*PKIKP **PKPdf** **21 05 52.2 -1.5**
LPSR *e*PS **SP** **21 18 32.2 -6.9**
LPSR pmax pmax
comp=Z,90nm,1.1s
FOO Floro 136.39 360 *e*PKPdf **PKPdf** **21 05 53.2 -0.2**
VSU Vasula 136.46 344 *de*PKIKP **PKPdf** **21 05 53.4 -0.2**
VSU Vasula 136.46 344 *e*P **PKPdf** **21 05 49.9 -3.7**
VSU IAmb IAmb 21 05 56.4
comp=Z,334nm,1.1s
NC303 NORSAR Array S 136.52 355 *e*PKPpre PKPpre 21 05 44.1
NC303 *e*PKPdf **PKPdf** **21 05 54.0 +0.2**
NB2 NORSAR Subarra 136.71 356 PKP PKPpre 21 05 43.5
comp=Z,201nm,3.3s,baz=10,slow=3.2
NB200 NORSAR Array S 136.71 356 *e*PKPpre PKPpre 21 05 42.7
NB200 *e*PKPdf **PKPdf** **21 05 54.8 +0.7**
NB200 *e*SKPbc **SKPbc** **21 09 07.5 +0.6**
NOA NORSAR Array B 136.71 356 PKhKP PKPpre 21 05 42.7
comp=Z,6.5nm,0.8s,baz=9.4,slow=2.4,SNR=15
NOA PKP **PKPdf** **21 05 54.8 +0.7**
comp=Z,27nm,0.8s,baz=13,slow=4.0,SNR=28
NOA PP **PP** **21 08 35.1 -3.4**
comp=Z,6.8nm,1.0s,baz=8.4,slow=6.2,SNR=5.3
NOA SKPbc **SKPbc** **21 09 07.5 +0.6**
comp=Z,11nm,1.0s,baz=3.1,slow=2.3,SNR=9.1
NBO00 NORSAR Array S 136.75 356 *e*PKPpre PKPpre 21 05 44.5
NBO00 *e*PKPdf **PKPdf** **21 05 54.1 -0.1**
VORR Voronezh 136.81 329 *e*PKIKP **PKPdf** **21 05 54.0 -0.5**
VORR pmax pmax
comp=Z,300nm,1.4s
HYA Hoyanger 136.81 359 *e*PKPdf **PKPdf** **21 05 54.8 +0.6**
SUE Sulen 136.93 0 *e*PKPdf **PKPdf** **21 05 54.2 -0.2**
NC602 NORSAR Array S 136.99 355 *e*PKPpre PKPpre 21 05 44.1
NC602 *e*PKPdf **PKPdf** **21 05 55.0 +0.4**
NC602 NORSAR Array S 136.99 355 *e*PKPdf **PKPdf** **21 05 54.7 +0.1**
VSR Storozhevoye 137.12 329 *e*PKIKP **PKPdf** **21 05 52.8 -2.3**
VSR *e*PS **SP** **21 18 39.8 -5.7**
VSR pmax pmax
comp=Z,170nm,1.2s
SKAR Skarslia 137.24 358 *e*PKPdf **PKPdf** **21 05 55.2 0.0**
SKAR *e*PP **PP** **21 08 40.6 -1.1**
GROC Groznyy 137.30 315 *e*PKIKP **PKPdf** **21 05 53.2 -2.5**
GROC *e* 21 08 41.5
GROC pmax pmax
comp=Z,153nm,1.5s
ASK Askoy 137.51 360 *e*PKPdf **PKPdf** **21 05 55.3 -0.2**
KONO Kongsberg 138.21 356 *e*PKPpre PKPpre 21 05 48.6
KONO *e*PKPdf **PKPdf** **21 05 57.0 +0.1**
KONO Kongsberg 138.21 356 *c i*PKIKP **PKiKP** **21 05 59.1 +0.1**
KONO pmax pmax
comp=Z,102nm,1.7s
SLIT Slitere, Latvi 138.31 346 *e*P PKPpre 21 05 51.7
SLIT IAmb IAmb 21 06 00.7
comp=Z,508nm,1.4s
BLS5 Blasjo 138.56 359 *e*PKPdf **PKPdf** **21 05 58.0 +0.5**
TBLG Delisi 138.59 314 *e*PKPpre PKPpre 21 05 49.6
NCK Nalchik 138.64 316 *c i*PKIKP **PKiKP** **21 06 00.6 +0.2**
ZEI Tsey 138.74 315 *i* PKHKP PKPpre 21 05 51.9
ZEI pmax pmax
comp=Z,24nm,0.8s
IZAR Zarasai 138.92 342 *e*P PKPpre 21 05 50.3
IZAR IAmb IAmb 21 06 01.4
comp=Z,26nm,0.8s
KBZ Khabaz 138.99 317 PKhKP PKPpre 21 05 51.7
comp=Z,9.8nm,0.9s,baz=132,slow=3.6,SNR=14
KBZ PKP **PKiKP** **21 06 01.1 +0.1**
comp=Z,17nm,0.9s,baz=42,slow=2.8,SNR=12
KBZ PP **PP** **21 08 51.8 -1.6**
comp=Z,14nm,1.1s,baz=58,slow=5.8,SNR=7.5
KIV Kislovodsk 139.02 318 ⇑ *i*P **PKPdf** **21 05 56.2 -2.8**
KIV Kislovodsk 139.02 318 *i* PKPdf **PKPdf** **21 05 56.0 -3.0**
SNR=9.4
KIV Kislovodsk 139.02 318 *i* PKIKP **PKPdf** **21 05 59.2 +0.2**
KIV *e* 21 08 52.5
KIV pmax pmax
comp=Z,111nm,1.0s
ISAL Salakas 139.11 342 *e*P **PKPdf** **21 05 51.2 -7.4**
ISAL IAmb IAmb 21 06 04.6
comp=Z,34nm,1.1s
IDID Didziasalis 139.14 341 *e*P **PKPdf** **21 05 52.0 -6.6**
IDID IAmb IAmb 21 06 01.7
comp=Z,27nm,0.9s
GNI Garni 139.18 311 *i* PKPdf PKPdf 21 05 51.7 -7.8
SNR=14
GNI Garni 139.18 311 *de*PKIKP **PKPdf** **21 05 59.1 -0.4**
GNI Garni 139.18 311 PKhKP PKPpre 21 05 54.7
baz=90,slow=4.9
GNI PKP **PKiKP** **21 06 01.0 -0.8**
comp=Z,66nm,1.2s,baz=209,slow=0.5
IIGN Ignalina 139.26 341 *e*P **PKPdf** **21 05 52.6 -6.3**
IIGN IAmb IAmb 21 06 03.9
comp=Z,36nm,1.0s
NEY Neytrino 139.32 317 ⇑ *e*PKIKP **PKPdf** **21 05 56.9 -2.8**
RRR Rubha Reidh 139.36 9 *e*P **PKPdf** **21 05 51.5 -7.5**
MICGM Minsk 139.44 339 *e*PKP PKPdf 21 05 51.0 -8.3
MICGM *e*PKP PKiKP 21 05 52.0 -10
MICGM *ep*PKP pPKPdf 21 06 34.0 -19
MICGM *e*SKP 21 08 50.0
MICGM *e*PKS PP 21 09 16.0 +21
MICGM *e*PP PP 21 10 10.0 +75
MICGM *e*PPP PPP 21 10 48.0
MICGM *e*PPS PPS 21 19 18.0
MICGM *e*SS SS 21 26 20.0 -37
MICGM *e*LQ LQ 21 50 28.0
MICGM *e*LR LR 21 58 50.0
MNK Minsk 139.44 339 *e*PKHKP PKPpre 21 05 51.0
NACGM Naroch 139.47 341 *e*PKP **PKPdf** **21 05 55.0 -4.3**
NACGM *ep*PKP **pPKPdf** **21 06 56.0 +3.1**
NACGM *e*PP **PP** **21 08 50.0 -5.6**
NACGM *e*PKS 21 09 36.0
NACGM *e*PPP PPP 21 11 08.0
NACGM *e*SKS SKSdf 21 13 08.0 +19
NACGM *e*PS 21 19 50.0
NACGM *e*PPS PPS 21 22 16.0
NACGM *e*SS SS 21 26 40.0 -17
NACGM *e*SSS SSS 21 32 00.0
AKH Akhalkalaki 139.58 314 *e*PKPpre PKPpre 21 05 52.5
AKH Akhalkalaki 139.58 314 ⇓ *i*P **PKPdf** **21 06 01.1 +0.9**
TASB TASBURUN-IGDIR 139.60 311 P **PKPdf** **21 06 01.3 +1.2**
PABE Paberze 139.78 343 *e*P **PKPdf** **21 05 52.7 -7.1**
PABE IAmb IAmb 21 06 05.7
comp=Z,190nm,1.0s
LSZ Lusaka 139.79 216 *e*PKPpre PKPpre 21 05 53.1
PBUR Paburg 139.85 345 *e*P PKPdf 21 05 51.9 -8.1
PBUR IAmb IAmb 21 06 02.7
comp=Z,176nm,1.1s
CLDR Caldiran 140.13 310 P **PKPdf** **21 05 53.6 -7.7**
KARS Kars 140.17 313 P **PKiKP** **21 06 09.0 +5.2**
AGRB Hanur-Agry 140.64 311 P **PKPdf** **21 05 56.9 -5.3**
SENK Senkaya-Erzuru 140.71 313 P **PKPdf** **21 05 57.4 -4.9**
VANB Van 140.71 310 P **PKPdf** **21 05 57.1 -5.2**
BATM Batumi 140.72 315 ⇑ *i*P **PKPdf** **21 06 01.6 -0.4**
BCA Borcka 140.84 315 P **PKPdf** **21 05 57.1 -5.2**
BCA Borcka 140.84 315 ⇓ *i*P **PKPdf** **21 06 02.0 -0.3**
CUKT Cukurca 141.00 308 P **PKPdf** **21 05 55.5 -7.3**
TSUM Tsumeb 141.04 199 PP PP 21 09 06.2 +1.0
comp=Z,15nm,0.9s,baz=155,slow=5.1,SNR=5.4
TSUM SKPbc **SKPbc** **21 09 21.0 +0.6**
comp=Z,22nm,1.1s,baz=154,slow=4.8,SNR=3.8
SOC Sochi 141.09 319 *c i*PKHKP PKPpre 21 05 56.4
SOC *i* 21 06 02.4
SOC *e* 21 09 02.7
SOC pmax pmax
comp=Z,14nm,0.5s
SOC pmax pmax
comp=Z,54nm,1.0s
AKDM Akdamar-Van 141.10 309 P **PKPdf** **21 05 58.3 -4.8**
MLAZ Malazgirt-MUS 141.12 311 P **PKPdf** **21 05 58.8 -4.3**
KOPR Koprukoy-ERZUR 141.29 312 P **PKPdf** **21 05 57.0 -6.3**
SUW Suwalki 141.31 343 *e*PKP **PKPdf** **21 05 57.1 -5.5**
SUW *ep*PKPdf **pPKPdf** **21 07 00.7 +4.5**
SUW *e*PP **PP** **21 08 59.9 -6.9**
SUW Suwalki 141.31 343 *e*PKPpre PKPpre 21 05 57.2
SUW Suwalki 141.31 343 *e*PKHKP PKPpre 21 05 57.1
MUD Monsted U'grnd 141.41 356 *i P* **PKPdf** **21 05 58.2 -4.5**
KLNR Kaliningrad 141.55 346 ⇑ *e*PKIKP **PKPdf** **21 06 01.3 -1.7**
ESY Stoneypath 141.66 7 *e*P **PKPdf** **21 05 59.2 -4.0**
IDGL Inch Island, C 141.74 11 *e*PKPDF **PKPdf** **21 05 57.2 -6.2**
ANN Anapa 141.84 322 *d i*PKHKP PKPpre 21 05 57.1
ANN *e* 21 09 12.2
ANN *e*SS SS 21 27 22.5 -2.9
ANN *e*SSS SSS 21 32 54.9
ANN pmax pmax
comp=Z,1μm,6.8s
ANN pmax pmax
comp=N,41nm,1.3s
ANN pmax pmax
comp=Z,129nm,1.4s
VRTB Varto-Mus 141.90 311 P **PKPdf** **21 06 01.5 -2.9**
AKASG Malin Array Be 141.98 335 PKhKP PKPpre 21 05 58.6
comp=Z,88nm,0.9s,baz=40,slow=4.2,SNR=85
AKASG PKP **PKiKP** **21 06 05.9 -1.1**
comp=Z,54nm,0.9s,baz=40,slow=3.5,SNR=34
AKBB Malin Array Si 141.98 335 *e*PKPpre PKPpre 21 05 58.0
KIEV Kiev 141.99 335 *e*PKPpre **PKPdf** **21 05 58.2 -5.7**
KIEV Kiev 141.99 335 ⇓ *i P* **PKPdf** **21 05 58.0 -6.0**
KIEV Kiev 141.99 335 *i* PKPdf **PKPdf** **21 05 57.2 -6.8**
SNR=66
BSD Bornholm Skovb 142.11 351 *i P* **PKPdf** **21 05 58.9 -5.1**
KARO Karliova-Bingo 142.13 312 P **PKPdf** **21 06 01.2 -3.7**
EKA Eskdalemuir Ar 142.17 7 PKhKP PKPpre 21 05 59.1
comp=Z,16nm,0.7s,baz=333,slow=2.4,SNR=25
EKA PP **PP** **21 09 12.6 +0.8**
comp=Z,6.5nm,0.9s,baz=359,slow=5.7,SNR=2.8
BNGL BINGOL 142.20 311 *i P* **PKPdf** **21 06 02.1 -2.9**
KTUT Trabzon 142.30 315 P **PKPdf** **21 06 01.3 -3.6**
KTUT Trabzon 142.30 315 ⇓ *i P* **PKPdf** **21 06 00.6 -4.3**
BAYT Aydıntepe-Bayb 142.31 314 P **PKPdf** **21 06 02.2 -2.9**
YEDI Yedisu-Bingol 142.43 312 P **PKPdf** **21 06 01.3 -4.1**
SVAN Silvan-Diyarba 142.47 310 P **PKPdf** **21 06 01.8 -3.5**
BTMN Batman 142.52 310 *i P* **PKPdf** **21 06 03.3 -2.2**
BNGB Bingl 142.52 311 P **PKPdf** **21 06 02.3 -3.2**
ATD Arta Tunnel 142.78 265 *e*PKPdf **PKPdf** **21 06 05.7 -0.9**
IGLA Glengowla, Co 142.89 14 *e*PKPDF **PKPdf** **21 06 01.9 -3.6**
KMBO Kilima Mbogo 142.93 243 *e*PKPdf **PKPdf** **21 06 05.1 -2.0**
KMBO Kilima Mbogo 142.93 243 *i* PKPdf **PKPdf** **21 06 02.7 -4.4**
SNR=35
KMBO Kilima Mbogo 142.93 243 PKhKP **PKPdf** **21 06 04.9 -2.3**
comp=Z,77nm,1.0s,baz=109,slow=3.0,SNR=48
NAI Nairobi 143.23 242 *e*PKPdf **PKPdf** **21 06 06.6 -1.0**
DYBB Diyarbakir 143.32 310 P PKPbc 21 06 05.1 +0.5
GKP Gorka Klasztor 143.45 348 *e*PKP PKPab 21 06 03.3 +0.1
GKP *ep*PKPdf pPKPdf 21 07 04.0 +3.9
GKP *e*PP **PP** **21 09 17.5 -2.1**
SIM Simferopol' 143.65 324 *d i*PKIKP PKPbc 21 06 05.6 +0.4
SIM pmax pmax
comp=Z,179nm,0.8s
DSB Dublin 143.69 11 *e*PKPDF PKPab 21 06 02.6 -1.5
SVRC Sivrice-ELAZID 143.75 311 P **PKPdf** **21 06 07.1 -0.7**
WPS Cemaes, Angles 143.86 10 *e*P PKPab 21 06 03.2 -1.6
WME Myndd Eilian 143.90 9 *e*P PKPbc 21 06 06.2 +0.6
BEL Belsk 143.92 343 *e*PKP PKPbc 21 06 06.0 +0.2
BEL *ep*PKPdf PKPdf 21 07 06.9 +6.0
BEL *e*PP **PP** **21 09 20.3 -2.1**
BEL Belsk 143.92 343 *e*PKIKP PKPbc 21 06 06.0 +0.3
BEL *e* 21 09 20.3
WLF1 Llynfaes 143.99 9 *e*P PKPbc 21 06 05.7 -0.2
YRC Rhoscolyn 144.00 10 *e*P **PKPab** **21 06 04.6 -0.7**
VAL Valentia 144.03 16 *e*PKPDF **PKPab** **21 06 04.1 -1.4**
CUZAR Zara_SIVAS 144.16 314 *i P* **PKPdf** **21 06 08.6 +0.3**
YLL Llanberis 144.17 9 *e*P PKPbc 21 06 06.2 -0.2
RSDY Resadiye-TOKAT 144.21 316 P **PKPdf** **21 06 08.3 0.0**
LBWR Ladybower, Pea 144.24 7 *e*P **PKPab** **21 06 05.4 -0.9**
PCED Cedros 144.24 48 *e*PKP **PKPab** **21 06 06.6 -0.2**
IWEX Carrickbyrne, 144.44 12 *e*PKPDF **PKPab** **21 06 03.5 -3.5**
PCAN Candelaria 144.47 48 *e*PKP **PKPab** **21 06 07.2 -0.5**
URFA Urfa 144.48 310 P **PKPdf** **21 06 09.1 +0.2**
STNC Stoke 144.49 7 *e*P **PKPab** **21 06 05.8 -1.4**
PICO Pico 144.49 48 *e*PKP **PKPab** **21 06 07.4 -0.5**
ROSA Rosais 144.53 47 *e*PKP **PKPab** **21 06 07.7 -0.2**
FOEL Foel Wylfa 144.55 8 *e*P **PKPab** **21 06 06.5 -1.0**
PGRA Graciosa 144.57 47 *e*PKP **PKPab** **21 06 07.5 -0.5**
LVV L'vov 144.66 338 *e*PKIKP PKPbc 21 06 08.3 +0.2
SVSK Karacayir 144.66 315 P **PKPdf** **21 06 09.7 +0.7**
PMAN Manadas 144.67 47 *e*PKP **PKPab** **21 06 07.8 -0.6**
KVT Kavak 144.71 317 P **PKPdf** **21 06 09.9 +0.7**
SHEL Horse Pasture 144.73 162 *i* PKIKP **PKPdf** **21 06 11.7 +1.8**
SNOP Sinop 144.73 319 P **PKPdf** **21 06 09.5 +0.4**
SNOP Sinop 144.73 319 *e*PKPbc **PKPdf** **21 06 08.8 -0.3**
TOKT Tokat 144.77 316 P **PKPdf** **21 06 09.6 +0.3**
RUE Ruedersdorf 144.83 351 *e*P PKPbc 21 06 08.3 -0.1
RUE IAmb IAmb 21 06 11.1
comp=Z,404nm,1.0s
DIKM Dikmen 144.91 319 P **PKPdf** **21 06 10.3 +0.9**
DIKM Dikmen 144.91 319 ⇓ *i P* **PKPab** **21 06 09.2 0.0**
CWF Charnwood Fore 144.94 7 *e*P PKPbc 21 06 07.2 -1.6
DARE Darende-Malaty 144.96 313 P **PKPdf** **21 06 10.5 +0.8**
HLM1 Long Mynd 144.96 8 *e*P PKPbc 21 06 07.0 -2.0
KIS Kishinev 144.96 331 ⇑ *i*PKP PKPbc 21 06 08.0 -1.1
comp=Z,680nm,1.8s
KIS *ep*P' 21 06 56.0
KIS *es*P' 21 07 11.0
KIS Kishinev 144.96 331 *e*PP PP 21 09 25.0 -4.0
KIS *e*LR LR 21 55 50.0
comp=Z,1μm,23.0s
KIS Kishinev 144.96 331 ⇑ *i*PKIKP PKPbc 21 06 08.0 -1.1
KIS *e* 21 06 56.0
KIS *e* 21 09 25.0
KIS pmax pmax
comp=Z,680nm,1.8s
KIS pmax pmax
comp=N,2μm,4.0s
KIS pmax pmax
comp=Z,5μm,14.0s
CUGUR Gurin_SVAS 145.04 313 *i P* **PKiKP** **21 06 12.2 -1.7**
WACR West Acre 145.13 5 *e*P **PKPbc** **21 06 08.1 -1.3**
CUALT Altinyayla-SIV 145.14 314 *i P* **PKPab** **21 06 11.6 +1.2**
RSBS Rosebush, Pemb 145.22 10 *e*P **PKPdf** **21 06 08.4 -1.2**
KWP Kalwaria Pacla 145.27 340 *e*PKP **PKPab** **21 06 10.3 -0.1**
KWP Kalwaria Pacla 145.27 340 *e*PKPdf **PKPbc** **21 06 10.0 0.0**
KWP Kalwaria Pacla 145.27 340 *e*PKP2 **PKPab** **21 06 10.3 -0.1**
PSCM Serra do Cume 145.32 47 *e*PKP **PKPdf** **21 06 10.0 -0.2**
IAS Iasi 145.38 332 ⇓ *i P* **PKPbc** **21 06 10.3 -0.1**
CUSAR Sarkisla-SIVAS 145.41 315 *i P* **PKPab** **21 06 11.3 -0.1**
MCH1 Michaelchurch 145.45 9 *e*P **PKPdf** **21 06 08.4 -1.6**
BZK Bozkurt 145.51 320 P **PKPbc** **21 06 10.9 0.0**
BZK Bozkurt 145.51 320 ⇓ *i P* **PKPbc** **21 06 10.9 0.0**
LEOM Leova 145.61 331 ⇑ *i P* **PKPab** **21 06 11.6 -0.1**
LEOM Leova 145.61 331 PKP2 **PKPab** **21 06 12.0 +0.3**
MONM Monmouth 145.63 8 *e*P **PKPdf** **21 06 09.9 -0.3**
OJC Ojcow 145.65 343 *e*PKP **PKPbc** **21 06 10.9 -0.2**
OJC *ep*PKPdf **pPKPdf** **21 07 08.6 +4.6**
OJC *e*PP **PP** **21 09 31.5 -1.2**
OJC Ojcow 145.65 343 *e*PKPdf **PKPdf** **21 06 10.6 +0.2**
OJC Ojcow 145.65 343 *e*PKP2 **PKPbc** **21 06 10.9 -0.2**
OJC *e* 21 09 31.5
GAZ Gaziantep 145.76 311 P **PKPdf** **21 06 11.5 +0.4**
STRD Stroud 145.78 8 *e*P **PKPdf** **21 06 09.6 -0.9**
OLDB Oldbury-Upon-S 145.84 8 *e*P **PKPdf** **21 06 11.1 +0.5**
KMRS Kahramanmaras 145.84 311 P **PKPdf** **21 06 11.6 +0.4**
YOZ Yozgat 145.93 316 P **PKPdf** **21 06 11.5 +0.1**
KSP Ksiaz 145.93 347 *e*PKP **PKPbc** **21 06 11.5 -

CLL pmax pmax
comp=Z,971nm,1.1s
CLL Collm 146.09 351 *e*PKPdf **PKPbc 21 06 12.0 -0.4**
CLL ⇓*i*PKPbc **PKPab 21 06 12.9 -0.4**
comp=Z,971nm,1.1s
CLL *e* 21 06 20.0
CLL *e*pPKiKP pPKPab 21 07 13.0 +7.6
CLL *e* 21 07 19.0
CLL *e*sPKiKP **sPKiKP 21 07 36.0 +6.1**
CLL *e*PP **PP 21 09 32.0 -3.2**
comp=Z,47nm,1.4s
CLL *e*sPP 21 10 53.0
CLL *e*PPP PPP 21 12 50.0
CLL *e*sPPP 21 14 04.0
CLL *e* 21 15 39.0
CLL *e*sSKKSac 21 17 36.0
CLL *e*PSKS 21 19 48.0
CLL *e*sPSKS 21 21 00.0
CLL *e*SS SS 21 28 06.0 -6.5
CLL *e*SSP SSP 21 29 06.0
CLL *e*sSS 21 29 38.0
CLL *e*sSSP 21 30 36.0
CLL *e*SSS SSS 21 33 42.0
CLL *e*sSSS 21 35 21.0
CLL *e* 21 38 30.0
CORM Corum 146.10 317 P **PKPbc 21 06 12.4 -0.6**
HTL Hartland 146.19 11 *e*P **PKPdf 21 06 09.1 -2.1**
RAC Raciborz 146.20 345 *e*PKP2 **PKPbc 21 06 12.3 -0.4**
RAC MLR MLR
comp=Z,1μm,21.7s
ILGA Ilgaz 146.20 319 *e*PKPdf **PKPdf 21 06 12.4 +0.4**
BIZ Bicaz 146.21 334⇓*i*P **PKPbc 21 06 12.4 -0.5**
NIE Niedzica 146.22 342 *e*PKP **PKPbc 21 06 12.5 -0.4**
NIE *e*PP **PP 21 09 33.3 -2.9**
NIE Niedzica 146.22 342 *e*PKP2 **PKPbc 21 06 12.5 -0.4**
NIE *e* 21 09 33.3
HEX Exmoor 146.23 10 *e*P **PKPbc 21 06 12.2 -0.6**
UZH Uzhgorod 146.27 339 *e*PKIKP **PKPdf 21 06 10.6 -0.9**
UZH *i* 21 06 13.9
UZH *e* 21 07 21.9
UZH *e* 21 09 35.6
TESR Tescani 146.30 333⇓*i*P **PKPdf 21 06 11.4 -0.3**
UPC Upice 146.31 347 *e*PKIKP **PKPdf 21 06 11.9 +0.4**
UPC Upice 146.31 347 *e*PKP **PKPdf 21 06 11.9 +0.4**
UPC *e*pPKP pPKPab 21 07 10.8 +4.5
UPC *e*PP **PP 21 09 29.9 -6.7**
KURC Kurucasile-Bar 146.34 321 P **PKPab 21 06 14.3 -0.3**
WOL Wolverton 146.35 7 *e*P **PKPdf 21 06 12.2 +0.6**
BRG Berggiesshubel 146.35 350 *i* PKP **PKPdf 21 06 12.1 +0.5**
comp=Z,896nm,1.7s
BRG pPKP pPKPab 21 07 07.0 +0.5
BRG sPKP 21 07 20.4
comp=Z,176nm,1.7s
BRG PP **PP 21 09 39.0 +2.2**
BRG SS SS 21 28 13.0 -2.6
BRG Berggiesshubel 146.35 350 *i* PKIKP **PKPdf 21 06 12.1 +0.5**
BRG 21 07 07.0
BRG 21 07 20.4
BRG 21 09 39.0
BRG SS SS 21 28 13.0 -2.6
BRG pmax pmax
comp=Z,896nm,1.7s
DPC Dobruska-Polom 146.39 347 *e*PKIKP **PKPdf 21 06 12.4 +0.7**
DPC *e* 21 07 07.0
DPC Dobruska-Polom 146.39 347 *e*PKP **PKPdf 21 06 12.4 +0.7**
DPC *ex* x 21 06 16.6
DPC *e*pPKP pPKPab 21 07 07.0 +0.3
DPC *e*PP **PP 21 09 32.1 -5.0**
DPC *e*SKKS 21 21 04.8
OKC Ostrava-Krasne 146.43 344 *e*PKIKP **PKPdf 21 06 12.2 +0.5**
OKC *e* 21 06 16.4
OKC Ostrava-Krasne 146.43 344 *e*PKP **PKPdf 21 06 12.2 +0.5**
OKC *ex* x 21 06 16.4
OKC *e*pPKP pPKPab 21 07 10.6 +3.9
OKC *e*PP **PP 21 09 32.1 -5.2**
CANT Cankiri 146.51 318 P **PKPdf 21 06 12.9 +0.6**
KRLC Kraliky 146.54 346 *e*PKIKP **PKPdf 21 06 12.6 +0.6**
KRLC *e* 21 06 16.3
KRLC Kraliky 146.54 346 *e*PKP **PKPdf 21 06 12.6 +0.6**
KRLC *ex* x 21 06 16.3
PVCC Panska Ves 146.57 349 *e*PKIKP **PKPdf 21 06 12.7 +0.7**
PVCC *e* 21 06 16.5
PVCC Panska Ves 146.57 349 *e*PKP **PKPdf 21 06 12.7 +0.7**
PVCC *ex* x 21 06 16.5
PVCC *e*SKKS 21 21 05.4
TRPA Tarpa 146.62 338⇓*i*P **PKPdf 21 06 12.5 +0.4**
TRPA Tarpa 146.62 338⇓*e*P **PKPdf 21 06 12.1 0.0**
TRPA *e*SS SS 21 28 08.1 -11
KOZT Kozan 146.62 312 P **PKPdf 21 06 12.6 +0.1**
CFR Carcaliu 146.62 329⇓*i*P **PKPdf 21 06 12.6 +0.4**
MORC Moravsky Berou 146.64 345 *e*PKPdf **PKPdf 21 06 12.1 -0.1**
MORC Moravsky Berou 146.64 345⇓*i*P **PKPdf 21 06 12.9 +0.7**
MORC Moravsky Berou 146.64 345⇓*i*PKP **PKPdf 21 06 12.2 0.0**
MORC *e* 21 07 12.4
BMR Baia Mare 146.65 337⇓*i*P **PKPdf 21 06 12.7 +0.5**
LANS Liptovska Anna 146.70 342 *e*PKP2 **PKPbc 21 06 13.9 -0.4**
LANS Liptovska Anna 146.70 342 *e*PKP **PKPbc 21 06 13.9 -0.4**
LANS *e* 21 06 16.0
PSET Sete Cidades 146.70 47 *e*PKP **PKPdf 21 06 11.4 -1.2**
ELSH Elham, Standar 146.73 4 *e*P **PKPbc 21 06 13.5 -0.7**
VRI Vrincioaia 146.76 332⇓*i*P **PKPdf 21 06 12.2 -0.3**
VRI Vrincioaia 146.76 332 PKIKP **PKPdf 21 06 12.2 -0.3**
ARCR ARCALIA 146.81 335⇑*i*P **PKPdf 21 06 12.1 -0.4**
PLOR Plostina 146.81 332⇓*i*P **PKPdf 21 06 12.0 -0.6**
TAHT Tahtakopru-Hat 146.85 310 P **PKPdf 21 06 13.5 +0.6**
GRON Grota Negra 146.86 47 *e*PKP **PKPdf 21 06 12.0 -0.9**
CMLA Cha da Macela 146.87 47 *e*PKP **PKPdf 21 06 11.8 -1.1**
CMLA Cha da Macela 146.87 47 *i*PKP2 **PKiKP 21 06 17.3 -0.2**
PCALD Caldeiras da R 146.88 47 *e*PKP **PKiKP 21 06 17.5 0.0**
CEYT Ceyhan 146.89 311 P **PKPdf 21 06 13.6 +0.7**
MOX Moxa 146.93 352 PKIKP **PKPdf 21 06 12.9 +0.3**
BR101 Keskin Array S 146.98 317 *e*PKPbc **PKPbc 21 06 15.6 0.0**
BR101 *e*SKPbc **SKPbc 21 09 33.4 -0.4**
BR131 Keskin Array S 146.98 317 *e*PKPdf **PKPdf 21 06 12.8 -0.4**
BRTR Keskin Array B 146.98 317 *e*PKPdf **PKPdf 21 06 12.5 -0.7**
BRTR Keskin Array B 146.98 317 PKPbc **PKPbc 21 06 15.6 0.0**
comp=Z,168nm,0.9s,baz=135,slow=5.0,SNR=115
BRTR SKPbc **SKPbc 21 09 33.4 -0.4**
comp=Z,5.6nm,0.9s,baz=85,slow=2.1,SNR=2.6
KECS Kecovo 146.99 341 *e*PKP2 **PKPab 21 06 16.1 -0.9**
KECS Kecovo 146.99 341 *e*PKP **PKPab 21 06 16.1 -0.9**
YURE YUREGIR 147.05 311 P **PKPbc 21 06 16.4 +0.7**
YURE YUREGIR 147.05 311 *i* P **PKPbc 21 06 16.6 +1.0**
PRU Pruhonice 147.10 348 *e*PKIKP **PKPdf 21 06 13.2 +0.3**
PRU *e* 21 06 17.6
PRU Pruhonice 147.10 348 *e*PKP **PKPdf 21 06 13.2 +0.3**
PRU *ex* x 21 06 17.6
PRU *e*pPKP **pPKPab 21 07 11.5 +2.2**
PRU *e*PP **PP 21 09 36.3 -4.8**
PRU *e*SKKS 21 21 12.8
TLB Topalu 147.10 329 PKIKP **PKPdf 21 06 14.1 +1.1**
GOPC GO Pecny, Ondr 147.12 348 *e*PKIKP **PKPdf 21 06 13.0 +0.1**
GOPC GO Pecny, Ondr 147.12 348 *e*PKP **PKPdf 21 06 13.0 +0.1**
GOPC *e*pPKP **pPKPab 21 07 09.5 +0.1**
GOPC *e*PP **PP 21 09 36.3 -5.0**
MFTR Murfatlar 147.20 328⇓*i*P **PKPdf 21 06 13.8 +0.6**
BEBN Eben Emael 147.21 359⇓PKP **PKPbc 21 06 15.9 +0.4**
BEBN ⇑pPKP **pPKPab 21 07 16.4 +6.7**
UCC Uccle 147.21 1 *e*PKPdf **PKPdf 21 06 13.2 +0.1**
UCC Uccle 147.21 1 ⇓PKPdf **PKPdf 21 06 13.1 +0.1**
UCC ⇓PKPbc **PKPbc 21 06 16.0 +0.4**
UCC ⇓pPKP **sPKPdf 21 07 18.9 -8.8**
NKC Novy Kostel 147.22 351 *e*PKIKP **PKPdf 21 06 13.6 +0.5**
NKC Novy Kostel 147.22 351 *e*PKP **PKPdf 21 06 13.6 +0.5**
NKC *e*pPKP **pPKPab 21 07 10.4 +0.6**
HGN Heimansgroeve 147.24 359 *e*PKP **PKPdf 21 06 13.2 +0.2**
comp=Z,708nm,1.4s
HGN *e*pPKP **pPKPab 21 07 15.3 +5.5**
KARA Karaisali 147.27 312 P **PKPdf 21 06 13.8 +0.2**
DOPR Dopca 147.28 333⇓*i*P **PKPdf 21 06 14.1 +0.8**
YAYX Yaylak 147.29 316 P **PKPdf 21 06 13.9 +0.2**
VRAC Vranov 147.31 346⇑*i*P **PKPdf 21 06 13.5 +0.2**
VRAC Vranov 147.31 346⇓*i*PKP **PKPdf 21 06 13.4 +0.2**
VRAC *e* 21 07 15.0
VRAC Vranov 147.31 346 PKPbc **PKPbc 21 06 15.8 -0.1**
comp=Z,156nm,1.1s,baz=22,slow=1.8,SNR=28
KRTS Karatas 147.35 311 P **PKiKP 21 06 17.9 -0.6**
MEM Membach 147.39 359⇑PKPdf **PKPdf 21 06 14.0 +0.7**
MEM ⇓PKPbc **PKPbc 21 06 16.6 +0.5**
MEM ⇑PKPab **PKPab 21 06 18.6 +0.1**

MLR Muntele Rosu 147.40 332 *e*PKPdf **PKPdf 21 06 13.2 -0.5**
MLR Muntele Rosu 147.40 332⇓*i*P **PKPdf 21 06 13.4 -0.3**
MLR Muntele Rosu 147.40 332 PKPbc **PKPbc 21 06 16.2 -0.2**
comp=Z,106nm,1.1s,baz=349,slow=2.3,SNR=51
CJR Cluj-Napoca 147.41 336⇓*i*P **PKPdf 21 06 14.0 +0.4**
ISR Istrita 147.42 331⇓*i*P **PKPdf 21 06 13.9 +0.3**
AMRR Amara 147.42 330⇑*i*P **PKPdf 21 06 14.0 +0.5**
ANTO Ankara 147.45 318 *e*PKPdf **PKPdf 21 06 14.0 +0.1**
ANTO Ankara 147.45 318⇓*i*P **PKPdf 21 06 14.3 +0.4**
SERE Sereflikochisa 147.45 316 P **PKPdf 21 06 14.0 0.0**
LOD Lodumlu 147.46 318 P **PKPdf 21 06 14.3 +0.4**
JAVC Velka Javorina 147.46 344⇓*i*PKP **PKPbc 21 06 15.0 -1.4**
JAVC *e* 21 07 16.6
VYHS Vyhne 147.47 343 *e*PKIKP **PKPdf 21 06 14.0 +0.4**
VYHS *e* 21 06 17.7
VYHS Vyhne 147.47 343 *e*PKP **PKPdf 21 06 14.0 +0.4**
VYHS *e* 21 06 17.7
BR231 Keskin MP Arra 147.47 318 *e*PKPdf **PKPdf 21 06 14.4 +0.4**
LTVH Ltavrtes, Hu 147.48 338⇓*e*P **PKPdf 21 06 14.0 +0.5**
SNF Seneffe 147.50 1⇑⇑PKPdf **PKPdf 21 06 13.7 +0.3**
SNF ⇓PKPbc **PKPbc 21 06 16.1 -0.3**
SNF ⇑⇑PKPab **PKiKP 21 06 18.1 -0.2**
KOLL Kolacno 147.52 343 *e*PKP **PKPdf 21 06 14.5 +0.9**
KOLL *e* 21 06 17.2
ICOR Ion Corvin 147.56 328⇓*i*P **PKPdf 21 06 14.4 +0.6**
TREC Trest 147.57 347 *e*PKIKP **PKPdf 21 06 13.9 +0.2**
TREC Trest 147.57 347 *e*PKP **PKPdf 21 06 13.9 +0.2**
TREC *e*pPKP **pPKPbc 21 07 09.5 -0.1**
KRUC Moravsky 147.58 346 PKIKP **PKPdf 21 06 14.0 +0.3**
KRUC Moravsky 147.58 346⇓*i*PKP **PKPdf 21 06 13.8 +0.1**
KRUC *e* 21 07 15.2
BCLA Clavier 147.59 359⇑⇑PKPdf **PKPdf 21 06 14.2 +0.6**
BCLA ⇑⇑PKPbc **PKPbc 21 06 17.3 +0.7**
BCLA ⇓PKPab **PKPab 21 06 20.6 +1.3**
PSN Preselentsi 147.67 328 P **PKPdf 21 06 14.1 +0.1**
PSZ Piszkesteto 147.68 341 *e*PKPdf **PKPdf 21 06 13.5 -0.5**
PSZ Piszkesteto 147.68 341⇓*i*P **PKPdf 21 06 14.3 +0.3**
PSZ Piszkesteto 147.68 341 *e*P **PKPdf 21 06 14.0 0.0**
PSZ *e*SS SS 21 28 30.0 -1.0
PSZ *e*SS **SS 21 28 31.0 +0.1**
DRGR 147.69 337⇓*i*P **PKPdf 21 06 14.5 +0.5**
LEHL Lehliu 147.77 330⇓*i*P **PKPdf 21 06 14.6 +0.5**
MERS Mersin 147.82 312 P **PKPdf 21 06 14.5 -0.1**
SMOL Smolenice 147.84 344 *e*PKP2 **PKPab 21 06 20.9 +0.5**
SMOL Smolenice 147.84 344 *e*PKP **PKPab 21 06 20.8 +0.4**
VOIR 147.84 333⇓*i*P **PKPdf 21 06 14.4 0.0**
VOIR 147.84 333 PKIKP **PKPdf 21 06 15.2 +0.8**
ASF Jabal al Asfar 147.86 302 P **PKPdf 21 06 15.3 +0.5**
ASF Jabal al Asfar 147.86 302 PKPbc **PKPbc 21 06 17.9 -0.1**
comp=Z,35nm,0.9s,baz=240,slow=1.3,SNR=23
SULT Sultanhani-AKS 147.87 315 P **PKPdf 21 06 14.5 -0.1**
SULR 147.88 331⇓*i*P **PKPdf 21 06 13.7 -0.6**
QASN Qassioun 147.90 305 *e*P **PKPdf 21 06 15.2 +0.4**
GIVF Givet 147.91 0 *e*PKIKP **PKPdf 21 06 15.3 +1.1**
GIVF pmax pmax
comp=Z,312nm,0.9s
GRA1 Grafenberg Arr 147.91 352 *e*PKPdf **PKPdf 21 06 14.7 +0.4**
GRFO Grafenberg 147.92 352 *e*PKPdf **PKPdf 21 06 14.5 +0.3**
DOU Dourbes 147.92 0⇓PKPdf **PKPdf 21 06 14.3 +0.1**
DOU ⇓PKPbc **PKPbc 21 06 18.2 +0.7**
BAIF Baives 147.95 1 *e*PKIKP **PKPbc 21 06 16.5 -1.1**
BAIF pmax pmax
comp=Z,335nm,1.0s
MODS Modra-Piesok 148.01 344 *e*PKIKP **PKPdf 21 06 14.8 +0.3**
MODS Modra-Piesok 148.01 344 *e*PKP **PKPdf 21 06 14.8 +0.3**
H10N3 ASCENSION HYDR 148.02 142 PKPbc **PKiKP 21 06 19.4 -0.7**
baz=211,slow=5.1,SNR=7.5
H10N1 ASCENSION HYDR 148.03 142 PKPbc **PKiKP 21 06 19.5 -0.7**
baz=211,slow=5.1,SNR=6.7
ASCN Ascension 148.03 142 *e*PKPdf **PKPdf 21 06 14.3 -1.2**
H10N2 ASCENSION HYDR 148.04 142 PKPbc **PKiKP 21 06 19.5 -0.7**
baz=211,slow=5.1,SNR=6.3
ARR Arges 148.07 333⇓*i*P **PKPdf 21 06 15.4 +0.7**
CHBY Cihanbeyli 148.09 316 P **PKPdf 21 06 15.6 +0.6**
KHC Kasperske Hory 148.10 349 *e*PKPdf **PKPdf 21 06 13.8 -0.8**
KHC Kasperske Hory 148.10 349 *e*PKIKP **PKPdf 21 06 14.8 +0.2**
KHC *e* 21 06 19.3
KHC Kasperske Hory 148.10 349 *e*PKP **PKPdf 21 06 14.8 +0.2**
KHC *ex* x 21 06 19.3
KHC *e*pPKP **pPKPab 21 07 15.1 +1.8**
KHC *e*PP **PP 21 09 40.6 -6.4**
KHC *e*SKKS 21 21 18.0
BRBR Barbar 148.19 305 *e*P **PKPdf 21 06 16.6 +1.1**
WET Wettzell 148.21 350 PKIKP **PKPdf 21 06 15.0 +0.2**
ZST Bratislava 148.22 344 *e*PKIKP **PKPdf 21 06 15.5 +0.7**
ZST Bratislava 148.22 344 *e*PKP **PKPdf 21 06 15.5 +0.7**
SRO Srobarova 148.24 343 *e*PKIKP **PKPbc 21 06 17.4 -1.0**
SRO Srobarova 148.24 343 *e*PKP **PKPbc 21 06 17.4 -1.0**
BHL Bhannes 148.24 306 *e*P **PKPdf 21 06 15.6 +0.2**
RCY Rachaya 148.25 305 *e*P **PKPdf 21 06 15.7 +0.2**
SRO2 Moca 148.26 343 *e*PKP2 **PKPbc 21 06 18.5 +0.1**
SRO2 Moca 148.26 343 *e*PKP **PKPbc 21 06 18.5 +0.1**
JLP Les Platons 148.27 9 *e*P **PKPdf 21 06 14.6 -0.2**
KIZK Mersin 148.28 311 P **PKPdf 21 06 16.5 +1.3**
JVM Valle D.L. Mar 148.28 9 *e*P **PKPdf 21 06 15.7 +0.9**
JSA Saint Aubin 148.31 9 *e*P **PKPdf 21 06 13.8 -1.0**
WLF Walferdange 148.34 358 *e*PKPdf **PKPdf 21 06 14.3 -0.6**
WLF Walferdange 148.34 358⇑⇑PKPdf **PKPdf 21 06 15.6 +0.7**
WLF ⇑⇑PKPbc **PKiKP 21 06 19.4 -0.7**
WLF ⇑⇑PKPab **PKPab 21 06 24.0 +1.7**
GEC2 GERESS Array S 148.35 349 *e*PKPbc **PKPbc 21 06 19.2 +0.4**
GERES GERESS Array B 148.35 349 PKPbc **PKPbc 21 06 19.2 +0.4**
comp=Z,31nm,0.7s,baz=0.0,slow=1.3,SNR=60
QRWL Qaraoun 148.35 305 *e*P **PKPdf 21 06 15.7 +0.1**
DEV Deva 148.37 336⇓*i*P **PKPdf 21 06 15.4 +0.3**
LOT Lotru 148.38 334⇑*i*P **PKPdf 21 06 14.1 -1.2**
SHBL Chebaa 148.38 305 *e*P **PKPdf 21 06 16.4 +0.7**
DQRL Deir Qamar 148.38 306 *e*P **PKPdf 21 06 16.1 +0.5**
PRD Provadia 148.42 328 P **PKPdf 21 06 15.7 +0.5**
HSUJ Al Zarqa 148.45 303 P **PKiKP 21 06 20.6 -0.4**
SAUV Serdivan-Sakar 148.45 321 P **PKPdf 21 06 16.1 +0.7**
SILI Silifke-Mersin 148.48 311 P **PKPdf 21 06 16.8 +1.2**
SVRH Sivrihisar-ESK 148.50 318 P **PKPdf 21 06 15.5 -0.1**
SPNC Sapanca-Adapaz 148.50 321 P **PKPdf 21 06 16.8 +1.3**
SIRR Siria 148.52 337⇓*i*P **PKPdf 21 06 15.7 +0.4**
GULT Gulveren 148.53 321 P **PKPdf 21 06 15.8 +0.2**
SHMJ Saham 148.58 304 P **PKiKP 21 06 21.3 +0.1**
HUMR Humele 148.58 332⇑*i*P **PKPdf 21 06 14.7 -0.8**
MBAR Mbarara 148.59 237 *e*PKPdf **PKPdf 21 06 16.1 -0.6**
KEBE Keben-Mersin 148.60 312 P **PKPdf 21 06 15.6 -0.3**
LADK Ladik-KONYA 148.64 316 P **PKPdf 21 06 15.3 -0.6**
CSKK Cskako 148.66 342 *e*P **PKPdf 21 06 17.1 +1.6**
EREN Erenkoy 148.69 311 P **PKPdf 21 06 16.6 +0.7**
SRCK Saricakaya, Es 148.70 320 P **PKPdf 21 06 15.7 -0.1**
IKL Isikli 148.72 311 P **PKPdf 21 06 15.9 0.0**
MMAI Mount Meron Ar 148.76 305 PKPbc **PKPbc 21 06 20.9 +0.6**
comp=Z,79nm,0.6s,baz=70,slow=4.8,SNR=59
CONA Conrad Observa 148.77 346 *i* PKPdf **PKPdf 21 06 16.0 +0.2**
comp=Z,554nm,1.1s,SNR=127
KONT Konya--Tatoy 148.78 315 P **PKPdf 21 06 15.7 -0.4**
HRT Hereke 148.79 322 P **PKPdf 21 06 15.9 -0.1**
TEVE Tevekalti-Mers 148.79 312 P **PKPdf 21 06 16.5 +0.3**
GZR Gura Zlata 148.82 335⇑⇑*i*P **PKPdf 21 06 16.0 +0.1**
SOP Sopron 148.83 345⇓*e*P **PKPdf 21 06 16.0 +0.2**
SOP ⇓*i* 21 11 47.0
SOP *e*SS SS 21 28 40.0 -3.5
CIFT Cifteler, Eski 148.84 319 P **PKPdf 21 06 16.0 -0.2**
AKKU Akkuyu-Mersin 148.85 311 P **PKPdf 21 06 17.4 +1.2**
KLYT Kilyos 148.87 323 P **PKPdf 21 06 16.2 +0.2**
WALJ Wala 148.93 302 P **PKiKP 21 06 22.0 +0.1**
FLN La Foliniere 148.95 7 *e*PKIKP **PKPdf 21 06 15.4 -0.5**
FLN pmax pmax
comp=Z,520nm,0.9s
ISK Istanbul-Kandi 148.99 323 P **PKPdf 21 06 15.9 -0.3**
ISK Istanbul-Kandi 148.99 323 P **PKPdf 21 06 15.2 -1.0**
KAVV Kandilli-Istan 148.99 323 P **PKPdf 21 06 16.2 0.0**
BERE Bereket-Mersin 148.99 312 P **PKPdf 21 06 16.5 -0.1**
ADVT Abdulvahap 149.00 321 P **PKPdf 21 06 16.2 -0.1**
PHNC Paralimni 149.02 309 P **PKPbc 21 06 19.8 -1.0**
STU Stuttgart 149.05 354 *e*PKPdf **PKPdf 21 06 15.7 -0.4**
BGKT Bogazkoy 149.07 324 P **PKPdf 21 06 16.2 -0.1**
CAVI Cavuskoy 149.08 321 P **PKPdf 21 06 16.6 +0.1**
BZS Buzias 149.08 337⇓*i*P **PKPdf 21 06 16.4 +0.1**
BUY Buyukada 149.09 323 P **PKPdf 21 06 16.2 -0.2**
SZH Strazhica 149.10 329 P **PKPdf 21 06 16.1 -0.3**
YLV Yalova 149.12 322 P **PKPdf 21 06 16.3 -0.3**
YLV Yalova 149.12 322⇓*i*P **PKPdf 21 06 16.2 -0.3**
TIM Timisoara 149.13 337⇓*i*P **PKPdf 21 06 17.7 +1.4**
LDF La Druitiere 149.15 6 *e*PKIKP **PKPdf 21 06 15.7 -0.6**
LDF pmax pmax

comp=Z,298nm,0.9s
SGMF Saint Gilles 149.16 10 *e*PKHKP **PKPdf 21 06 17.1 +0.8**
SGMF pmax pmax
comp=Z,316nm,1.0s
TEKE Tekeli-Mersin 149.17 312 P **PKPdf 21 06 16.1 -0.6**
CTKS Kestanelik-??a 149.19 324 P **PKPdf 21 06 16.2 -0.3**
TIH Tihany 149.19 342 *e*P **PKPdf 21 06 16.0 -0.3**
MOA Molln 149.19 348 *i* PKPdf **PKPdf 21 06 16.3 -0.1**
comp=Z,266nm,1.2s,SNR=76
GHAJ Ghor Haditha 149.21 301 P **PKPdf 21 06 17.1 +0.2**
SRE Strehaia 149.25 334⇑⇑*i*P **PKPdf 21 06 16.4 -0.2**
VLAD Vladila 149.25 332⇑⇑*i*P **PKPdf 21 06 16.7 +0.1**
CRAR CRAIOVA 149.26 333⇓*i*P **PKPdf 21 06 17.3 +0.7**
LFK Lefkose 149.26 310 P **PKPdf 21 06 16.9 -0.1**
GRR Gorron 149.27 7 *e*PKIKP **PKPdf 21 06 16.1 -0.3**
GRR pmax pmax
comp=Z,497nm,1.0s
GEMT Gemlik 149.32 322 P **PKPdf 21 06 16.9 +0.1**
SLVT Silivri 149.36 324 P **PKPdf 21 06 17.0 +0.2**
JMB Yambol 149.36 328 P **PKPdf 21 06 17.4 +0.6**
QUIF Quistinic 149.38 11 *e*PKHKP **PKPdf 21 06 17.6 +1.0**
QUIF pmax pmax
comp=Z,222nm,1.1s
HERR Herculane 149.39 335⇓*i*P **PKPdf 21 06 16.8 0.0**
FUR Furstenfeldbru 149.40 352 PKHKP **PKPdf 21 06 17.1 +0.4**
ARMT Armutlu 149.42 323 P **PKPdf 21 06 16.6 -0.4**
PHSR Pinarhisar 149.46 325 P **PKPdf 21 06 17.7 +0.7**
PHSR Pinarhisar 149.46 325⇓*i*P **PKPdf 21 06 16.5 -0.5**
ARSA Arzberg 149.49 346 *i* PKPdf **PKPdf 21 06 16.7 -0.1**
comp=Z,201nm,1.2s,SNR=107
MDNY Mudanya-Bursa 149.54 322 P **PKPdf 21 06 17.2 +0.1**
CDF Champ du Feu 149.54 357 *e*PKIKP **PKPdf 21 06 16.4 -0.6**
CDF pmax pmax
comp=Z,354nm,1.0s
MAMC Mammari 149.54 310 P **PKPbc 21 06 20.4 -1.7**
CSS Mathiatis 149.56 309 *e*PKPdf **PKPdf 21 06 16.1 -1.3**
CSS Mathiatis 149.56 309 P **PKPdf 21 06 16.1 -1.3**
CSS Mathiatis 149.56 309 PKP **PKPdf 21 06 17.2 -0.2**
BFO Black Forest 149.56 355 *e*PKPdf **PKPdf 21 06 16.1 -0.9**
MORH Mrgy, Hungar 149.58 341⇓*i*P **PKPdf 21 06 16.6 -0.4**
MORH Mrgy, Hungar 149.58 341⇓*e*P **PKPdf 21 06 16.1 -0.9**
MORH *e*SS SS 21 28 48.0 -4.0
MORH *e*SS **SS 21 28 54.1 +2.1**
SHUT Suhut-Afyon 149.63 318 P **PKPdf 21 06 17.7 +0.2**
AMAZ Amatzia 149.66 302 PKP **PKPdf 21 06 18.0 +0.3**
PUNG Punghina 149.67 334⇓*i*P **PKPdf 21 06 16.6 -0.6**
CRLT Corlu 149.69 324 P **PKPdf 21 06 18.3 +0.9**
EDRB Edirne 149.72 327 P **PKPdf 21 06 17.0 -0.4**
EDRB Edirne 149.72 327 P **PKPdf 21 06 17.0 -0.4**
ECH Echery 149.75 357 *e*PKPdf **PKPdf 21 06 17.4 +0.2**
MDVR Moldovita 149.75 336⇓*i*P **PKPdf 21 06 17.5 +0.1**
TVSB Tavsanli 149.77 320 P **PKPdf 21 06 17.6 -0.1**
LEF Lefka 149.81 310 P **PKPdf 21 06 17.5 -0.2**
LEF Lefka 149.81 310⇓*i*P **PKPdf 21 06 17.3 -0.4**
BEHE Becsehely 149.89 344⇓*i*P **PKPdf 21 06 17.7 +0.2**
BEHE Becsehely 149.89 344⇓*e*P **PKPdf 21 06 18.0 +0.5**
BEHE *e*SS SS 21 29 30.0 +35
KCTX Karacabey (Bur 149.91 323 P **PKPdf 21 06 17.5 -0.3**
SZAC Souni 149.98 309 P **PKPbc 21 06 23.2 0.0**
HAU Haudompre 149.99 358 *e*PKHKP **PKPdf 21 06 18.6 +0.9**
HAU pmax pmax
comp=Z,381nm,1.0s
ALFC Alefka 150.00 310 P **PKPbc 21 06 22.8 -0.4**
GEDZ Gediz 150.05 320 P **PKPdf 21 06 19.2 +1.1**
MPEP Malo Peshtene 150.06 332 P **PKPdf 21 06 18.1 +0.2**
ISP Isparta 150.06 317 *e*PKPdf **PKPdf 21 06 17.3 -0.9**
ISP *e*PKPdf **PKPbc 21 06 17.7 -5.7**
ISP Isparta 150.06 317 P **PKPdf 21 06 17.3 -0.9**
ISP Isparta 150.06 317⇓*i*P **PKPdf 21 06 17.3 -0.9**
KBA Koelnbreinsper 150.12 348 *i* PKPdf **PKPdf 21 06 17.5 -0.6**
comp=Z,130nm,0.8s,SNR=37
KBA Koelnbreinsper 150.12 348 PKIKP **PKPdf 21 06 17.4 -0.6**
FRGS Fruska Gora 150.13 339⇓*i*P **PKPdf 21 06 17.9 -0.1**
RETA Reutte 150.14 352 *i* PKPdf **PKPdf 21 06 17.9 -0.1**
comp=Z,287nm,0.9s,SNR=37
SOKA Soboth 150.14 346 *i* PKPdf **PKPdf 21 06 17.7 -0.3**
comp=Z,353nm,1.2s,SNR=56
EDC Edincik 150.14 323 P **PKPdf 21 06 18.3 +0.2**
HINF Hinteralfeld 150.16 357 *e*PKIKP **PKPdf 21 06 18.8 +0.8**
HINF pmax pmax
comp=Z,128nm,0.9s
WATA Walderalm 150.17 351 *i* PKPdf **PKPdf 21 06 17.9 -0.2**
comp=Z,377nm,1.2s,SNR=32
EIL Elat 150.20 299 PKP **PKPdf 21 06 18.5 0.0**
comp=Z,31nm,1.2s,baz=186,slow=1.2,SNR=10
EIL PKPbc **PKiKP 21 06 24.6 0.0**
comp=Z,320nm,1.0s,baz=2.8,slow=1.6,SNR=40
BCK Bucak 150.22 316 P **PKPdf 21 06 17.7 -0.7**
MOTA Moosalm 150.23 351 *i* PKPdf **PKPdf 21 06 17.8 -0.5**
comp=Z,448nm,1.0s,SNR=55
WTTA Wattenberg 150.23 351 *i* PKPdf **PKPdf 21 06 18.3 +0.1**
comp=Z,388nm,0.7s
RKY Sarkoy-Tekirda 150.30 324 P **PKPdf 21 06 17.7 -0.7**
PPCY Paphos 150.31 310 P **PKPbc 21 06 22.7 -1.2**
SQTA Sankt Quirin 150.34 351 *i* PKPdf **PKPdf 21 06 18.4 0.0**
comp=Z,396nm,1.0s,SNR=48
OBKA Obir 150.41 346 *i* PKPdf **PKPdf 21 06 18.1 -0.4**
comp=Z,145nm,1.0s
KRBG Karabiga-Canak 150.43 324 P **PKPdf 21 06 18.2 -0.3**
DAVA Damuels 150.44 353 *i* PKPdf **PKPdf 21 06 18.8 +0.2**
comp=Z,572nm,0.9s,SNR=60
MYKA Terra Mystica 150.49 348 *i* PKPdf **PKPdf 21 06 18.0 -0.6**
comp=Z,190nm,0.8s,SNR=31
PGB Panagyurishte 150.49 330 P **PKPdf 21 06 18.2 -0.5**
KDZ Kurdzhali 150.55 328 P **PKPbc 21 06 22.1 -2.2**
PLD Plovdiv 150.57 329 P **PKPdf 21 06 17.7 -1.0**
ABTA Abfaltersbach 150.59 349 *i* PKPdf **PKPdf 21 06 18.3 -0.4**
comp=Z,493nm,0.9s,SNR=57
BALB Balikesir 150.60 322 P **PKPdf 21 06 18.5 -0.3**
BALB Balikesir 150.60 322 *e*PKPdf **PKPdf 21 06 18.0 -0.8**
FETA Feichten 150.60 352 *i* PKPdf **PKPdf 21 06 19.1 +0.3**
comp=Z,473nm,1.0s,SNR=51
KORT Korkueli 150.63 315 P **PKPdf 21 06 18.7 -0.5**
ERIK Erikli-Kesan 150.67 325 P **PKPdf 21 06 18.4 -0.5**
ZAG Zagreb 150.70 344 *e*P **PKPdf 21 06 14.7 -4.1**
LOR Lormes 150.74 1 *e*PKIKP **PKPdf 21 06 18.7 -0.1**
LOR pmax pmax
comp=Z,314nm,0.9s
LPK Lapseki 150.75 324 P **PKPdf 21 06 18.7 -0.3**
ALN Alexandroupoli 150.77 326 *e*PKPdf **PKPdf 21 06 18.4 -0.6**
ALN Alexandroupoli 150.77 326 P **PKPdf 21 06 18.0 -1.0**
ENEZ Enez 150.82 326 P **PKPdf 21 06 18.8 -0.3**
CRES Cresnjev 150.84 345⇓*i*P **PKPdf 21 06 18.9 -0.1**
KULA Kula-Manisa 150.84 320 P **PKPdf 21 06 19.6 +0.2**
LJU Ljubljana 150.85 346 *i* PKPdf **PKPdf 21 06 19.2 +0.2**
LJU *i* PKPbc **PKiKP 21 06 25.2 -0.2**
LJU *e*PP **PP 21 10 00.5 -2.4**
**LJU Ljubljana 150

BOJS				*i* PKPbc	**PKiKP**	**21 06 26.4**	**+0.3**
BOJS				*e*PKPab	**PKPab**	**21 06 35.8**	**+1.6**
BOJS				*e*		21 18 14.6	
AVF	**Avril sur Loir**	**151.20**	**2**	*e*PKIKP	**PKPdf**	**21 06 19.1**	**-0.4**
AVF				pmax	pmax		
comp=Z,438nm,1.5s							
TUE	**Stuetta**	**151.31**	**354**	*e*PKPdf	**PKPdf**	**21 06 20.4**	**+0.4**
TRI	**Trieste**	**151.34**	**347**	*e*PKPdf	**PKPdf**	**21 06 19.7**	**0.0**
SMTH	**Samothraki Isl**	**151.35**	**326**	*e*PKPdf	**PKPdf**	**21 06 18.0**	**-2.0**
SMTH	**Samothraki Isl**	**151.35**	**326**	P	**PKPdf**	**21 06 18.0**	**-2.0**
BLY	**Banja Luka**	**151.35**	**342**	*e*PKPdf	**PKPdf**	**21 06 19.6**	**-0.2**
BLY	**Banja Luka**	**151.35**	**342**	⇓*i* P	**PKPdf**	**21 06 19.8**	**0.0**
BLY	**Banja Luka**	**151.35**	**342**	⇓*i* P	**PKPdf**	**21 06 19.8**	**0.0**
SMF	**Signal de Mont**	**151.36**	**1**	*e*PKIKP	**PKPdf**	**21 06 19.4**	**-0.4**
SMF				pmax	pmax		
comp=Z,188nm,1.2s							
EZN	**Ezine**	**151.36**	**324**	P	**PKPdf**	**21 06 19.5**	**-0.5**
EZN	**Ezine**	**151.36**	**324**	*e*PKPdf	**PKPdf**	**21 06 18.9**	**-1.1**
EZN	**Ezine**	**151.36**	**324**	P	**PKPdf**	**21 06 18.9**	**-1.1**
HAPS	**Han Pijesak,BI**	**151.37**	**339**	*e*P	**PKPdf**	**21 06 20.8**	**+0.8**
CABF	**La Chapelle**	**151.39**	**358**	*e*PKIKP	**PKPdf**	**21 06 20.2**	**+0.2**
CABF				pmax	pmax		
comp=Z,385nm,1.0s							
BBLS	**Lazići**	**151.40**	**338**	⇓*i* P	**PKPdf**	**21 06 19.9**	**-0.1**
BGF	**Bois d'Agland**	**151.41**	**3**	*e*PKIKP	**PKPdf**	**21 06 19.7**	**-0.2**
BGF				pmax	pmax		
comp=Z,572nm,1.2s							
MMB	**Musomiste**	**151.44**	**330**	P	**PKPdf**	**21 06 19.2**	**-0.9**
KAVA	**Kavala**	**151.49**	**328**	*e*PKPdf	**PKPdf**	**21 06 18.9**	**-1.2**
KAVA	**Kavala**	**151.49**	**328**	P	**PKPdf**	**21 06 18.9**	**-1.2**
BOZC	**Bozcaada**	**151.50**	**324**	P	**PKPdf**	**21 06 19.5**	**-0.7**
KKB	**Krupnik**	**151.53**	**331**	P	**PKPdf**	**21 06 19.7**	**-0.5**
RIY	**Rijeka**	**151.54**	**346**	⇓*i* P	**PKPdf**	**21 06 19.9**	**-0.2**
NVR	**Nevrokopi**	**151.55**	**329**	P	**PKPdf**	**21 06 18.0**	**-2.3**
AKAS	**Kas**	**151.56**	**315**	P	**PKPdf**	**21 06 20.1**	**-0.5**
SENIN	**Lac Senin/Sane**	**151.59**	**356**	*e*PKPdf	**PKPdf**	**21 06 20.5**	**+0.1**
KSL	**Kastellorizon**	**151.62**	**315**	P	**PKPdf**	**21 06 19.8**	**-0.7**
TCF	**Toulx Ste Croi**	**151.64**	**4**	*e*PKIKP	**PKPdf**	**21 06 19.9**	**-0.4**
TCF				pmax	pmax		
comp=Z,135nm,0.8s							
AYDB	**Zeytinkoy-Aydi**	**151.67**	**319**	P	**PKPdf**	**21 06 20.5**	**-0.2**
THAS	**Thassos island**	**151.68**	**327**	P	**PKPdf**	**21 06 18.9**	**-1.5**
MGRS	**Mrkonjic Grad**	**151.68**	**341**	*e*P	**PKPdf**	**21 06 23.3**	**+2.9**
FETY	**Fethiye**	**151.68**	**316**	P	**PKPdf**	**21 06 21.0**	**+0.4**
FETY	**Fethiye**	**151.68**	**316**	*e*PKPdf	**PKPdf**	**21 06 19.8**	**-0.8**
FETY	**Fethiye**	**151.68**	**316**	P	**PKPdf**	**21 06 19.8**	**-0.8**
PRK	**Paraskevi**	**151.79**	**323**	P	**PKPdf**	**21 06 20.8**	**+0.2**
DALY	**Dalyan (Mula)**	**151.86**	**317**	P	**PKPdf**	**21 06 20.9**	**+0.1**
SRS	**Serrai**	**151.86**	**329**	P	**PKPdf**	**21 06 18.0**	**-2.7**
TURN	**Turunc**	**151.86**	**317**	P	**PKPdf**	**21 06 21.5**	**+0.7**
PLE	**Pljevlja**	**151.87**	**337**	⇓*i* PKP	**PKPdf**	**21 06 20.4**	**-0.4**
BLCB	**Balcova**	**151.91**	**321**	P	**PKPdf**	**21 06 20.4**	**-0.4**
LIA	**Limnos Island**	**151.94**	**325**	P	**PKPdf**	**21 06 18.9**	**-1.9**
UDBI	**Udbina**	**151.96**	**343**	P	**PKPdf**	**21 06 20.6**	**-0.2**
SIGR	**SIGRI**	**152.05**	**324**	P	**PKPdf**	**21 06 19.6**	**-1.4**
IVA	**Berane**	**152.07**	**336**	⇓*i* PKP	**PKPdf**	**21 06 20.8**	**-0.3**
STIP	**Stip**	**152.07**	**332**	*i* P	**PKPdf**	**21 06 19.2**	**-1.8**
UPM	**Unac-Piva**	**152.15**	**338**	⇓*i* PKP	**PKPdf**	**21 06 20.4**	**-0.9**
UPM	**Unac-Piva**	**152.15**	**338**	*e*P	**PKPdf**	**21 06 22.1**	**+0.8**
KNT	**Kendrikon**	**152.16**	**330**	P	**PKPdf**	**21 06 20.8**	**-0.4**
NVLJ	**Novalja**	**152.16**	**345**	P	**PKPdf**	**21 06 20.4**	**-0.5**
SKO	**Skopje**	**152.18**	**333**	*e*PKPdf	**PKPdf**	**21 06 20.5**	**-0.7**
SKO	**Skopje**	**152.18**	**333**	P	**PKPdf**	**21 06 20.5**	**-0.7**
SKO	**Skopje**	**152.18**	**333**	*i* P	**PKPdf**	**21 06 20.9**	**-0.2**
URLA	**Izmir**	**152.19**	**321**	P	**PKPdf**	**21 06 20.8**	**-0.5**
VAY	**Valandovo**	**152.19**	**331**	*e*PKPdf	**PKPdf**	**21 06 19.3**	**-1.9**
VAY	**Valandovo**	**152.19**	**331**	P	**PKPdf**	**21 06 19.3**	**-1.9**
VAY	**Valandovo**	**152.19**	**331**	*i* P	**PKPdf**	**21 06 20.2**	**-0.9**
GCAM	**G?zelcaml?**	**152.23**	**320**	P	**PKPdf**	**21 06 20.7**	**-0.6**
KOME	**Kolasin**	**152.23**	**336**	⇓*i* PKP	**PKPdf**	**21 06 21.0**	**-0.3**
OUR	**Ouranopolis**	**152.25**	**327**	*e*PKPdf	**PKPdf**	**21 06 19.8**	**-1.5**
OUR	**Ouranopolis**	**152.25**	**327**	P	**PKPdf**	**21 06 19.8**	**-1.5**
PVY	**Plav**	**152.28**	**336**	⇓*i* PKP	**PKPdf**	**21 06 20.9**	**-0.6**
BCI	**Bajram Curri**	**152.43**	**335**	*i* P	**PKPdf**	**21 06 21.3**	**-0.2**
LPL	**La Plagne**	**152.46**	**357**	*e*PKIKP	**PKPdf**	**21 06 22.8**	**+1.0**
LPL				pmax	pmax		
comp=Z,108nm,1.0s							
NKY	**Niksic**	**152.46**	**337**	⇓*i* PKP	**PKPdf**	**21 06 21.2**	**-0.5**
SMG	**Samos**	**152.47**	**320**	P	**PKPdf**	**21 06 20.8**	**-0.9**
LPG	**La Plagne**	**152.48**	**357**	*e*PKIKP	**PKPdf**	**21 06 23.2**	**+1.3**
LPG				pmax	pmax		
comp=Z,214nm,1.2s							
CHOS	**Chios island**	**152.49**	**322**	P	**PKPdf**	**21 06 20.8**	**-1.0**
PLG	**Polygyros**	**152.50**	**328**	P	**PKPdf**	**21 06 19.8**	**-1.9**
NKME	**Niksic**	**152.51**	**337**	⇓*i* PKP	**PKPdf**	**21 06 21.2**	**-0.5**
BRY	**Bratogost**	**152.55**	**338**	*e*PKP	**PKPdf**	**21 06 21.1**	**-0.8**
BRY	**Bratogost**	**152.55**	**338**	*e*P	**PKPdf**	**21 06 21.4**	**-0.5**
GRG	**Griva**	**152.56**	**330**	P	**PKPdf**	**21 06 18.9**	**-2.9**
RJF	**Les Rejaudoux**	**152.57**	**5**	*e*PKIKP	**PKPdf**	**21 06 21.4**	**-0.2**
RJF				pmax	pmax		
comp=Z,56nm,1.0s							
BODT	**Bodrum**	**152.58**	**318**	P	**PKPdf**	**21 06 21.3**	**-0.6**
BODT	**Bodrum**	**152.58**	**318**	*e*PKPdf	**PKPdf**	**21 06 19.8**	**-2.1**
BODT	**Bodrum**	**152.58**	**318**	P	**PKPdf**	**21 06 19.8**	**-2.1**
DAT	**Datca**	**152.61**	**318**	P	**PKPdf**	**21 06 21.2**	**-0.9**
PDG	**Podgorica**	**152.69**	**336**	⇓*i* P	**PKPdf**	**21 06 21.7**	**-0.2**
PDG	**Podgorica**	**152.69**	**336**	⇓*i* P	**PKPdf**	**21 06 21.4**	**-0.5**
TTG	**Podgorica**	**152.69**	**336**	⇓*i* PKP	**PKPdf**	**21 06 21.9**	**0.0**
TTG	**Podgorica**	**152.69**	**336**	*e*PKPdf	**PKPdf**	**21 06 21.2**	**-0.7**
CEME	**Cevo**	**152.72**	**337**	⇓*i* PKP	**PKPdf**	**21 06 21.9**	**-0.1**
SSB	**Saint Sauveur**	**152.74**	**1**	*e*PKPdf	**PKPdf**	**21 06 21.8**	**-0.1**
LFF	**La Frestale**	**152.86**	**6**	*e*PKIKP	**PKPdf**	**21 06 23.4**	**+1.4**
LFF				pmax	pmax		
comp=Z,790nm,1.0s							
STON	**Ston**	**152.87**	**339**	P	**PKPdf**	**21 06 21.2**	**-0.9**
STON	**Ston**	**152.87**	**339**	⇓*i* P	**PKPdf**	**21 06 21.1**	**-0.9**
BNI	**Bardonecchia**	**152.93**	**357**	*e*PKPdf	**PKPdf**	**21 06 22.4**	**0.0**
DRME	**Dracevica, Mon**	**152.93**	**336**	⇓*i* PKP	**PKPdf**	**21 06 22.3**	**+0.1**
DRME	**Dracevica, Mon**	**152.93**	**336**	⇓*i* P	**PKPdf**	**21 06 21.8**	**-0.4**
BUM	**Brajici-Budva**	**152.94**	**337**	⇓*i* PKP	**PKPdf**	**21 06 21.7**	**-0.7**
HCY	**Herceg Novi**	**152.96**	**337**	⇓*i* PKP	**PKPdf**	**21 06 21.9**	**-0.4**
HCY	**Herceg Novi**	**152.96**	**337**	*e*P	**PKPdf**	**21 06 21.7**	**-0.6**
CAF	**Calviac**	**152.99**	**4**	*e*PKIKP	**PKPdf**	**21 06 22.2**	**-0.1**
CAF				pmax	pmax		
comp=Z,78nm,1.3s							
BIA	**Bitola**	**153.00**	**332**	*i* P	**PKPdf**	**21 06 22.8**	**+0.3**
ORIF	**Oris-en-Rattie**	**153.09**	**358**	*e*PKIKP	**PKPdf**	**21 06 24.6**	**+2.1**
ORIF				pmax	pmax		
comp=Z,56nm,0.8s							
ULC	**Ulcinj**	**153.09**	**336**	⇓*i* PKP	**PKPdf**	**21 06 21.9**	**-0.6**
OHR	**Ohrid**	**153.16**	**333**	*i* P	**PKPdf**	**21 06 23.1**	**+0.4**
VIVF	**Saint-Julien-l**	**153.16**	**0**	*e*PKIKP	**PKPdf**	**21 06 22.7**	**+0.1**
VIVF				pmax	pmax		
comp=Z,50nm,1.2s							
FNA	**Florina**	**153.17**	**331**	*e*PKPdf	**PKPdf**	**21 06 22.0**	**-0.7**
FNA				*e*PKPbc	**PKPbc**	**21 06 30.3**	**0.0**
FNA	**Florina**	**153.17**	**331**	P	**PKPdf**	**21 06 20.8**	**-1.9**
LIT	**Litokhoron**	**153.18**	**329**	*e*PKPdf	**PKPdf**	**21 06 22.0**	**-0.7**
LIT				*e*PKPbc	**PKPbc**	**21 06 29.7**	**-0.7**
LIT				*e*PKPab	**PKPab**	**21 06 43.4**	**+0.6**
LIT	**Litokhoron**	**153.18**	**329**	P	**PKPdf**	**21 06 20.8**	**-1.9**
MBDF	**Montbardon**	**153.25**	**357**	*e*PKIKP	**PKPdf**	**21 06 23.2**	**+0.4**
MBDF				pmax	pmax		
comp=Z,31nm,0.7s							
TIR	**Tirane**	**153.36**	**334**	*e*PKPdf	**PKPdf**	**21 06 22.4**	**-0.5**
TIR				*e*PKPbc	**PKPbc**	**21 06 30.6**	**0.0**
TIR				*e*PKPab	**PKPab**	**21 06 44.6**	**+1.1**
TIR	**Tirane**	**153.36**	**334**	⇓*i* P	**PKPdf**	**21 06 22.9**	**0.0**
TIR	**Tirane**	**153.36**	**334**	*i* P	**PKPdf**	**21 06 22.7**	**-0.2**
XOR	**Xorichti**	**153.38**	**327**	P	**PKPdf**	**21 06 20.8**	**-2.2**
VLC	**Villacollemand**	**153.45**	**351**	*e*PKPdf	**PKPdf**	**21 06 22.3**	**-0.7**
PGAV	**Gavieira, Arco**	**153.55**	**22**	*e*PKPdf	**PKPdf**	**21 06 23.6**	**+0.3**
PGAV	**Gavieira, Arco**	**153.55**	**22**	*e*PKPbc	**PKPbc**	**21 06 30.7**	**-0.5**
NEST	**Nestorio**	**153.61**	**331**	P	**PKPdf**	**21 06 20.8**	**-2.6**
MRKA	**Markates**	**153.66**	**326**	P	**PKPdf**	**21 06 20.8**	**-2.6**
APE	**Apeiranthos**	**153.67**	**321**	⇓*i* P	**PKPdf**	**21 06 22.2**	**-1.3**
EREA	**Eretria**	**153.68**	**325**	P	**PKPdf**	**21 06 21.7**	**-1.8**
SMIA	**Simia**	**153.73**	**326**	P	**PKPdf**	**21 06 20.8**	**-2.7**
THL	**Klokotos Trika**	**153.82**	**329**	P	**PKPdf**	**21 06 19.8**	**-3.8**
KPRO	**Kipourio**	**153.83**	**330**	P	**PKPdf**	**21 06 20.8**	**-2.9**
PCAB	**Cabril**	**153.86**	**22**	*e*PKPdf	**PKPdf**	**21 06 24.5**	**+0.9**
PCAB	**Cabril**	**153.86**	**22**	*e*PKPbc	**PKiKP**	**21 06 31.9**	**+0.1**
PCAB	**Cabril**	**153.86**	**22**	*e*PKPab	**PKPab**	**21 06 46.3**	**+0.7**
ATAL	**Atalanti**	**153.97**	**326**	P	**PKPdf**	**21 06 21.7**	**-2.2**
PTL	**Penteli**	**153.97**	**324**	P	**PKPdf**	**21 06 21.7**	**-2.2**
SBF	**Sospel**	**154.07**	**356**	*e*PKIKP	**PKPdf**	**21 06 25.8**	**+1.9**
SBF				pmax	pmax		
comp=Z,65nm,0.9s							
AGG	**Agios Georgios**	**154.08**	**328**	*e*PKPdf	**PKPdf**	**21 06 23.2**	**-0.9**
AGG	**Agios Georgios**	**154.08**	**328**	P	**PKPdf**	**21 06 20.8**	**-3.2**
SANT	**Santorini**	**154.17**	**319**	*e*PKPdf	**PKPdf**	**21 06 23.6**	**-0.7**
SANT				*e*PKPbc	**PKPbc**	**21 06 32.0**	**-0.5**
SANT	**Santorini**	**154.17**	**319**	⇓*i* P	**PKPdf**	**21 06 22.7**	**-1.6**
TPE	**Tepelena**	**154.17**	**333**	*i* P	**PKPdf**	**21 06 24.0**	**0.0**
PBRG	**Braganca**	**154.22**	**20**	*e*PKPdf	**PKPdf**	**21 06 24.6**	**+0.4**
PBRG	**Braganca**	**154.22**	**20**	*e*PKPbc	**PKPbc**	**21 06 32.3**	**-0.2**
PBRG	**Braganca**	**154.22**	**20**	*e*PKPab	**PKPab**	**21 06 47.5**	**+0.4**
POLO	**Lamas de Olo**	**154.24**	**22**	*e*PKPdf	**PKPdf**	**21 06 22.9**	**-1.4**
POLO	**Lamas de Olo**	**154.24**	**22**	*e*PKPab	**PKPab**	**21 06 46.8**	**-0.5**
VLO	**Vlora**	**154.25**	**334**	*i* P	**PKPdf**	**21 06 24.6**	**+0.4**
PVRL	**Vila Real**	**154.35**	**22**	*e*PKPdf	**PKPdf**	**21 06 26.4**	**+2.0**
PVRL	**Vila Real**	**154.35**	**22**	*e*PKPbc	**PKiKP**	**21 06 33.1**	**+0.3**
PVRL	**Vila Real**	**154.35**	**22**	*e*PKPab	**PKPab**	**21 06 48.4**	**+0.7**
PVRL	**Vila Real**	**154.35**	**22**	*e*PP	PP	21 10 24.2	+1.3
SJPF	**Ste Jean**	**154.38**	**10**	*e*PKIKP	**PKPdf**	**21 06 24.5**	**+0.2**
SJPF				pmax	pmax		
comp=Z,30nm,1.1s							
EVR	**Evrytania**	**154.42**	**328**	P	**PKPdf**	**21 06 23.5**	**-1.1**
SRN	**Sarande**	**154.52**	**332**	P	**PKPdf**	**21 06 22.6**	**-1.9**
SRN	**Sarande**	**154.52**	**332**	*i* P	**PKPdf**	**21 06 24.0**	**-0.5**
MTLF	**Montolieu**	**154.58**	**5**	*e*PKIKP	**PKPdf**	**21 06 25.8**	**+1.2**
MTLF				pmax	pmax		
comp=Z,109nm,2.0s							
AQU	**L'Aquila**	**154.60**	**345**	*e*PKPdf	**PKPdf**	**21 06 24.5**	**-0.3**
AQU	**L'Aquila**	**154.60**	**345**	⇓*i* P	**PKPdf**	**21 06 24.4**	**-0.3**
ANX	**Ano Chora**	**154.61**	**328**	P	**PKPdf**	**21 06 23.5**	**-1.4**
LMR	**La Mourre**	**154.65**	**357**	*e*PKIKP	**PKPdf**	**21 06 25.8**	**+1.2**
LMR				pmax	pmax		
comp=Z,121nm,1.6s							
IGT	**Igoumenitsa**	**154.65**	**331**	*e*PKPdf	**PKPdf**	**21 06 23.5**	**-1.3**
IGT	**Igoumenitsa**	**154.65**	**331**	P	**PKPdf**	**21 06 23.5**	**-1.3**
EPF	**Esparros**	**154.69**	**8**	*e*PKIKP	**PKPdf**	**21 06 25.4**	**+0.6**
EPF				pmax	pmax		
comp=Z,910nm,1.8s							
MVO	**Moncorvo**	**154.69**	**21**	*e*PKPdf	**PKPdf**	**21 06 25.2**	**+0.3**
MVO	**Moncorvo**	**154.69**	**21**	*e*PKPbc	**PKiKP**	**21 06 33.8**	**+0.2**
MVO	**Moncorvo**	**154.69**	**21**	*e*PKPab	**PKPab**	**21 06 48.7**	**-0.5**
MVO	**Moncorvo**	**154.69**	**21**	*e*PP	PP	21 10 25.7	+0.9
ETSF	**Etsaut**	**154.69**	**9**	*e*PKIKP	**PKPdf**	**21 06 25.1**	**+0.3**
ETSF				pmax	pmax		
comp=Z,15nm,0.8s							
DID	**Didima**	**154.71**	**324**	P	**PKPdf**	**21 06 21.7**	**-3.3**
BAI	**Bari**	**154.71**	**338**	*e*(P)	**PKPdf**	**21 06 27.2**	**+2.4**
KEK	**Kerkira**	**154.74**	**332**	*e*PKPdf	**PKPdf**	**21 06 23.5**	**-1.4**
KEK	**Kerkira**	**154.74**	**332**	P	**PKPdf**	**21 06 23.5**	**-1.4**
EFP	**Efpalio**	**154.75**	**327**	P	**PKPdf**	**21 06 24.5**	**-0.4**
PVIS	**Viseu**	**154.77**	**23**	*e*PKPdf	**PKPdf**	**21 06 24.8**	**-0.2**
PVIS	**Viseu**	**154.77**	**23**	*e*PKPab	**PKPab**	**21 06 49.6**	**0.0**
PVIS	**Viseu**	**154.77**	**23**	*e*PP	PP	21 10 26.1	+0.8
PVO	**Paravola**	**154.80**	**328**	P	**PKPdf**	**21 06 25.4**	**+0.4**
FASA	**Fasano**	**154.80**	**337**	*e*P	**PKPdf**	**21 06 24.8**	**-0.1**
GUR	**Goura**	**154.89**	**326**	*e*PKPdf	**PKPdf**	**21 06 23.5**	**-1.8**
GUR	**Goura**	**154.89**	**326**	P	**PKPdf**	**21 06 23.5**	**-1.8**
CGL1	**Ceglie Messapi**	**154.89**	**337**	*e*P	**PKPdf**	**21 06 24.7**	**-0.4**
KLV	**Kalavryta, Ach**	**154.91**	**326**	P	**PKPdf**	**21 06 22.6**	**-2.7**
COI	**Coimbra**	**155.01**	**25**	*e*PKPdf	**PKPdf**	**21 06 24.3**	**-0.9**
COI	**Coimbra**	**155.01**	**25**	*e*PKPbc	PKPbc	21 06 36.7	
COI	**Coimbra**	**155.01**	**25**	*e*PKPab	**PKPab**	**21 06 50.7**	**+0.2**
COI	**Coimbra**	**155.01**	**25**	*e*PP	PP	21 10 26.8	+0.2
COI	**Coimbra**	**155.01**	**25**	*e*PKPdf	**PKPdf**	**21 06 25.0**	**-0.2**
COI				*e*PKPab	**PKPab**	**21 06 50.7**	**+0.2**
MASS	**Massafra**	**155.03**	**337**	*e*P	**PKPdf**	**21 06 24.7**	**-0.6**
TAR1	**Taranto**	**155.08**	**337**	*e*P	**PKPdf**	**21 06 24.8**	**-0.5**
LKD2	**Lefkada island**	**155.09**	**330**	P	**PKPdf**	**21 06 23.5**	**-1.9**
PCAS	**Casmilo, Conde**	**155.11**	**25**	*e*PKPdf	**PKPdf**	**21 06 24.4**	**-1.0**
PCAS	**Casmilo, Conde**	**155.11**	**25**	*e*PKPab	**PKPab**	**21 06 50.0**	**-1.0**
PCAS	**Casmilo, Conde**	**155.11**	**25**	*e*PP	PP	21 10 26.4	-0.8
MATE	**Matera**	**155.18**	**338**	⇓*i* P	**PKPdf**	**21 06 25.0**	**-0.4**
MTE	**Manteigas**	**155.18**	**23**	*e*PKPdf	**PKPdf**	**21 06 24.2**	**-1.4**
MTE	**Manteigas**	**155.18**	**23**	*e*PKPab	**PKPab**	**21 06 51.5**	**+0.2**
MTE	**Manteigas**	**155.18**	**23**	*e*PP	PP	21 10 27.5	-0.1
MTE	**Manteigas**	**155.18**	**23**	*e*PKPdf	**PKPdf**	**21 06 25.5**	**0.0**
MTE				*e*PKPab	**PKPab**	**21 06 51.8**	**+0.5**
IDI	**Anoyia**	**155.21**	**318**	PKP	**PKPdf**	**21 06 27.1**	**+1.4**
IDI				PKPab	**PKPab**	**21 06 52.3**	**+0.6**
comp=Z,34nm,0.9s,baz=78,slow=3.6,SNR=8.5							
IDI				PKPab	**PKPab**	**21 06 52.3**	**+0.6**
comp=Z,42nm,0.9s,baz=21,slow=9.5,SNR=8.9							
PGF	**Pioggiola**	**155.22**	**353**	*e*PKIKP	**PKPdf**	**21 06 28.7**	**+3.1**
PGF				pmax	pmax		
comp=Z,60nm,1.0s							
PTOM	**Tomar**	**155.51**	**25**	*e*PKPdf	**PKPdf**	**21 06 26.7**	**+0.8**
PTOM	**Tomar**	**155.51**	**25**	*e*PKPab	**PKPab**	**21 06 53.1**	**+0.4**
PTOM	**Tomar**	**155.51**	**25**	*e*PP	PP	21 10 30.8	+1.4
ITM	**Ithomi**	**155.67**	**325**	*e*PKPdf	**PKPdf**	**21 06 25.5**	**-0.8**
ITM				*e*PKPab	**PKPab**	**21 06 53.6**	**+0.1**
PCBR	**Castelo Branco**	**155.69**	**24**	*e*PKPdf	**PKPdf**	**21 06 26.3**	**+0.1**
PCBR	**Castelo Branco**	**155.69**	**24**	*e*PKPab	**PKPab**	**21 06 53.6**	**+0.2**
PCBR	**Castelo Branco**	**155.69**	**24**	*e*PP	PP	21 10 31.6	+1.3
PMAFR	**Mafra**	**155.70**	**28**	*e*PKPdf	**PKPdf**	**21 06 26.4**	**+0.2**
PMAFR	**Mafra**	**155.70**	**28**	*e*PKPab	**PKPab**	**21 06 53.9**	**+0.4**
PMAFR	**Mafra**	**155.70**	**28**	*e*PP	PP	21 10 30.9	+0.4
LIS	**Lisbon**	**155.95**	**28**	*e*PKPdf	**PKPdf**	**21 06 25.8**	**-0.8**
PMTG	**Montargil**	**156.06**	**26**	*e*PKPdf	**PKPdf**	**21 06 26.5**	**-0.2**
PMTG	**Montargil**	**156.06**	**26**	*e*PKPab	**PKPab**	**21 06 55.2**	**+0.2**
PMTG	**Montargil**	**156.06**	**26**	*e*PP	PP	21 10 30.2	-2.2
PMRV	**Marv??o**	**156.08**	**24**	*e*PKPdf	**PKPdf**	**21 06 26.9**	**+0.2**
PMRV	**Marv??o**	**156.08**	**24**	*e*PKPab	**PKPab**	**21 06 55.4**	**+0.2**
PMRV	**Marv??o**	**156.08**	**24**	*e*PP	PP	21 10 32.7	+0.2
TIP	**Timpagrande**	**156.45**	**336**	*e*PKPdf	**PKPdf**	**21 06 26.6**	**-0.6**
TIP				*e*PKPab	**PKPab**	**21 06 56.6**	**-0.2**
TIP	**Timpagrande**	**156.45**	**336**	P	**PKPdf**	**21 06 26.1**	**-1.2**
TIP	**Timpagrande**	**156.45**	**336**	⇓*i* P	**PKPdf**	**21 06 27.1**	**-0.2**
EVO	**Evora**	**156.60**	**26**	*e*PKPdf	**PKPdf**	**21 06 27.3**	**-0.1**
EVO	**Evora**	**156.60**	**26**	*e*PKPab	**PKPab**	**21 06 56.8**	**-0.6**
EVO	**Evora**	**156.60**	**26**	*e*PP	PP	21 10 35.1	-0.3
EVO	**Evora**	**156.60**	**26**	PKP	**PKPdf**	**21 06 27.4**	**0.0**
EVO	**Evora**	**156.60**	**26**	PKS	**PP**	**21 10 36.2**	**+0.8**
UCM	**Universidad Co**	**156.63**	**16**	PKP	**PKPdf**	**21 06 26.4**	**-1.0**
UCM	**Universidad Co**	**156.63**	**16**	PKS	**PP**	**21 10 35.0**	**-0.3**
PNCL	**Nicolau / Gran**	**156.73**	**28**	*e*PKPdf	**PKPdf**	**21 06 28.1**	**+0.5**
PNCL	**Nicolau / Gran**	**156.73**	**28**	*e*PKPab	**PKPab**	**21 06 57.6**	**-0.3**
PNCL	**Nicolau / Gran**	**156.73**	**28**	*e*PP	PP	21 10 36.2	0.0
ESDC	**Sonseca Array**	**157.02**	**18**	*e*PKPdf	**PKPdf**	**21 06 28.1**	**+0.2**
ESDC				*e*PKPab	**PKPab**	**21 06 59.7**	**+0.5**
ESDC				*e*PP	**PP**	**21 10 39.5**	**+1.9**
ESDC	**Sonseca Array**	**157.02**	**18**	PKP	**PKPdf**	**21 06 28.6**	**+0.7**
comp=Z,16nm,0.9s,baz=343,slow=2.1,SNR=44							
ESDC				PKPab	**PKPab**	**21 06 59.7**	**+0.5**
comp=Z,67nm,1.0s,baz=338,slow=3.5,SNR=6.4							
ESDC				PP	**PP**	**21 10 39.5**	**+1.9**
comp=Z,5.0nm,1.1s,baz=342,slow=4.9,SNR=4.2							
ESLA	**Sonseca Array**	**157.02**	**18**	*e*PKPdf	**PKPdf**	**21 06 27.9**	**-0.1**
ESLA				*e*PKPab	**PKPab**	**21 06 59.0**	**-0.2**
PAB	**San Pablo**	**157.03**	**19**	*e*PKPdf	**PKPdf**	**21 06 27.9**	**-0.2**
PAB				*e*PKPab	**PKPab**	**21 07 00.0**	**+0.7**
PBEJ	**Beja**	**157.09**	**27**	*e*PKPdf	**PKPdf**	**21 06 28.6**	**+0.6**
PBEJ	**Beja**	**157.09**	**27**	*e*PKPab	**PKPab**	**21 07 00.4**	**+0.9**
MESJ	**Messejana**	**157.09**	**27**	*e*PKPdf	**PKPdf**	**21 06 27.3**	**-0.8**
MESJ				*e*SS	SS	21 30 16.8	+2.6
MESJ	**Messejana**	**157.09**	**27**	*e*PKPdf	**PKPdf**	**21 06 28.8**	**+0.8**
MESJ	**Messejana**	**157.09**	**27**	*e*PKPab	**PKPab**	**21 06 58.6**	**-0.9**
MESJ	**Messejana**	**157.09**	**27**	*e*PP	PP	21 10 38.2	0.0
PTEO	**Sao Teotonio**	**157.10**	**29**	*e*PKPdf	**PKPdf**	**21 06 28.4**	**+0.3**
PTEO	**Sao Teotonio**	**157.10**	**29**	*e*PKPab	**PKPab**	**21 07 00.1**	**+0.5**
MORF	**Marmelete**	**157.33**	**29**	*e*PKPdf	**PKPdf**	**21 06 27.7**	**-0.7**
MORF				*e*SS	SS	21 30 19.7	+2.7
MORF	**Marmelete**	**157.33**	**29**	*e*PKPdf	**PKPdf**	**21 06 28.1**	**-0.3**
MORF	**Marmelete**	**157.33**	**29**	*e*PKPab	**PKPab**	**21 07 00.2**	**-0.5**
MORF	**Marmelete**	**157.33**	**29**	*e*PP	PP	21 10 40.0	+0.4
PCVE	**Castro Verde**	**157.34**	**27**	*e*PKPdf	**PKPdf**	**21 06 28.8**	**+0.4**
PCVE	**Castro Verde**	**157.34**	**27**	*e*PKPab	**PKPab**	**21 07 00.9**	**+0.3**
PFVI	**Vila Bisbo**	**157.39**	**30**	*e*PKPdf	**PKPdf**	**21 06 27.9**	**-0.5**
PFVI	**Vila Bisbo**	**157.39**	**30**	*e*PKPab	**PKPab**	**21 07 00.8**	**-0.1**
PFVI	**Vila Bisbo**	**157.39**	**30**	*e*PKPdf	**PKPdf**	**21 06 28.6**	**+0.1**
PFVI				*e*PKPab	**PKPab**	**21 07 01.6**	**+0.8**
PBDV	**Barranco-do-Ve**	**157.71**	**28**	*e*PKPdf	**PKPdf**	**21 06 29.6**	**+0.7**
PBDV	**Barranco-do-Ve**	**157.71**	**28**	*e*PKPab	**PKPab**	**21 07 02.7**	**+0.4**
PBDV	**Barranco-do-Ve**	**157.71**	**28**	*e*PP	PP	21 10 42.5	+0.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.72**	**289**	Pg	**Pb**	**20 58 23.2**	**+0.4**
KTMS				Lg	Lg	20 59 02.8	
KTMS	**Ketmen**	**2.72**	**289**	*e*P	**Pb**	**20 58 23.2**	**+0.4**
KTMS	9.5nm,0.3s			*e*S	**Sg**	**20 59 02.8**	**+1.3**
SHLS	**Shalkode**	**3.30**	**281**	Pg	**Pn**	**20 58 27.4**	**+1.6**
SHLS	36nm,0.3s 8.1nm,0.4s			Lg	Lg	20 59 10.8	
SHLS	**Shalkode**	**3.30**	**281**	*e*P	**Pn**	**20 58 28.1**	**+2.3**
SHLS	60nm,0.7s 10nm,0.3s			*e*S	**Sb**	**20 59 11.2**	**-1.6**
PDGK	**Podgornoye**	**3.31**	**284**	Pg	**Pb**	**20 58 34.1**	**+1.4**
PDGK	60nm,0.7s 0.9nm,0.2s			Lg	Lg	20 59 20.9	
PDGK	**Podgornoye**	**3.31**	**284**	⇓Pg	**Pg**	**20 58 35.4**	**-1.8**
PDGK	10nm,0.4s 2.2nm,0.4s			⇓Lg	Lg	20 59 21.0	
DJR	**Jarkent**	**3.44**	**301**	Pg	**Pg**	**20 58 38.2**	**-1.7**
DJR	13nm,0.5s 6.9nm,0.4s			Lg	Lg	20 59 27.2	
DJR	**Jarkent**	**3.44**	**301**	*e*P	**Pg**	**20 58 38.2**	**-1.7**
DJR	12nm,0.4s 6.9nm,0.4s			*e*S	**Sg**	**20 59 27.2**	**+2.7**
UZB	**Uzynbulak**	**3.62**	**280**	Pg	**Pb**	**20 58 38.3**	**+0.2**
UZB	12nm,0.4s 1.6nm,0.4s			Lg	Lg	20 59 28.0	
UZB	**Uzynbulak**	**3.62**	**280**	*e*P	**Pb**	**20 58 38.3**	**+0.2**
UZB	9.4nm,0.3s 1.6nm,0.4s			*e*S	**Sg**	**20 59 28.0**	**-2.1**
KPKS	**Kokpek**	**3.91**	**284**	*e*P	**Pb**	**20 58 45.5**	**+2.5**
KPKS	9.4nm,0.3s 4.3nm,0.4s			*e*S	**Sg**	**20 59 40.3**	**+0.9**
SATY	**Saty**	**4.06**	**278**	Pg	**Pb**	**20 58 47.8**	**+2.3**
SATY	24nm,0.4s 3.4nm,0.3s			Lg	Lg	20 59 43.9	
SATY	**Saty**	**4.06**	**278**	*e*P	**Pb**	**20 58 47.8**	**+2.3**
SATY	7.5nm,0.3s 3.4nm,0.3s			*e*S	**Sg**	**20 59 43.9**	**-0.3**
KAPS	**Kapalarasan**	**4.22**	**311**	Pg	**Pb**	**20 58 50.6**	**+2.2**
KAPS	7.5nm,0.3s 0.9nm,0.3s			Lg	Lg	20 59 49.5	
KAPS	**Kapalarasan**	**4.22**	**311**	*e*P	**Pb**	**20 58 50.6**	**+2.2**
KAPS	11nm,0.9s 0.9nm,0.3s			*e*S	**Sg**	**20 59 49.5**	**0.0**
KURS	**Kuram**	**4.28**	**284**	Pg	**Pb**	**20 58 50.8**	**+1.5**
KURS	11nm,0.9s 1.8nm,0.6s			Lg	Lg	20 59 50.5	
KURS	**Kuram**	**4.28**	**284**	*e*P	**Pb**	**20 58 50.8**	**+1.5**
KURS	8.9nm,0.7s 1.8nm,0.6s			*e*S	**Sg**	**20 59 50.5**	**-0.9**
MK31	**Makanchi Array**	**4.33**	**345**	⇓Pn	**Pn**	**20 58 39.4**	**-0.5**
MK31	8.9nm,0.7s 0.1nm,0.2s,baz=243,slow=13,SNR=12 1.5nm,0.6s,baz=156,slow=16,SNR=9.9			⇑Pg	**Pg**	**20 58 55.1**	**-1.8**
MK31	9.9nm,0.5s,baz=167,slow=30,SNR=13			⇑Lg	Lg	20 59 53.6	
MAKZ	**Makanchi**	**4.41**	**343**	⇑Pg	**Pg**	**20 58 55.6**	**-2.8**
MAKZ	3.0nm,1.1s 4.9nm,0.6s			⇑Lg	Lg	20 59 56.3	
MDOK	**Medeo**	**5.06**	**279**	Pg	**Pg**	**20 59 07.0**	**-3.8**
MDOK	1.7nm,0.3s 6.1nm,0.9s			Lg	Lg	21 00 17.2	
MDOK	**Medeo**	**5.06**	**279**	*e*P	**Pg**	**20 59 07.0**	**-3.8**
MDOK	1.7nm,0.3s 6.1nm,0.9s			*e*S	**Sg**	**21 00 17.2**	**+0.9**
KTBS	**Karatobe**	**5.38**	**284**	Pg	**Pb**	**20 59 12.1**	**+3.9**
KTBS	0.6nm,0.3s 4.3nm,0.5s			Lg	Lg	21 00 25.8	
KTBS	**Karatobe**	**5.38**	**284**	*e*P	**Pb**	**20 59 12.1**	**+3.9**
KTBS	0.6nm,0.3s 4.3nm,0.5s			*e*S	**Sg**	**21 00 25.9**	**-0.9**
KST	**Kastek**	**5.84**	**277**	Pg	**Pb**	**20 59 19.4**	**+3.4**
KST	3.2nm,0.6s 5.3nm,0.9s			Lg	Lg	21 00 40.2	
TKM2	**Tokmak 2**	**6.11**	**276**	⇓Pn	**Pn**	**20 59 04.8**	**+0.3**
TKM2	1.7nm,0.8s 4.8nm,0.9s			⇑Lg	Lg	21 00 51.3	
KURBB	**Kurchatov Arra**	**8.82**	**337**	⇑Lg	Lg	21 02 18.0	
KURK	**Kurchatov**	**8.87**	**338**	⇑Lg	Lg	21 02 20.4	
	2.2nm,0.8s						

*ISCJB **11** 20:57:49.0±0.3, 19°.77S±0°.06×175°.71W±0°.05, h204km, mb4.4/34, Error ellipse: s-maj=8.1km s-min=6.3km az=156.0*
*NEIC **11** 20:57:50.1±2.0, 19°.73S×175°.69W, h199km±4km, mb4.8/33, Error ellipse: s-maj=20.5km s-min=15.6km az=135.0*
*IDC **11** 20:57:52.2±4.3, 19°.89S×175°.84W, h214km±38km, mb3.9/13, mb1 4.0/14, mb1mx3.7/43, mbtmp4.4/14, Error ellipse: s-maj=21.7km s-min=12.0km az=99.0*
ISC 11 20:57:50.4±0.4, 19°.82S±0°.09×175°.61W±0°.06, h204km, n74, σ1ˢ11/78, mb4.6/34, 8C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.41**	**83**	*e*Pn	**Pn**	**20 59 10.9**	**+0.7**
NIUE				*e*Sn	**S**	**21 00 11.4**	**-1.4**
RAR	**Rarotonga**	**14.90**	**98**	*e*Pn	**P**	**21 01 12.7**	**+0.7**
MARNC	**Mare, Loyalty**	**15.40**	**261**	*e*Pn	**P**	**21 01 18.4**	**+0.9**
PINNC	**Pines Island,**	**16.04**	**257**	*e*P	**Pn**	**21 01 24.9**	**-0.1**
DZM	**Mont Dzumac**	**16.91**	**259**	*e*P	**Pn**	**21 01 36.3**	**+0.7**
DZM	**Mont Dzumac**	**16.91**	**259**	P	**Pn**	**21 01 35.5**	**-0.1**
KNTN	**Kanton**	**17.36**	**13**	*e*P	**P**	**21 01 36.5**	**-2.6**
URZ	**Urewera**	**19.43**	**197**	*e*P	**P**	**21 02 00.1**	**-1.2**
URZ	**Urewera**	**19.43**	**197**	P	**P**	**21 02 01.1**	**-0.3**
URZ	1.7nm,0.3s,baz=39,slow=6.5,SNR=7.6 0.9nm,0.3s,baz=109,slow=19,SNR=7.8			S	**S**	**21 05 28.4**	**-1.5**
HIZ	**Hauiti**	**20.38**	**202**	*e*P	**P**	**21 02 10.2**	**-1.3**
BKZ	**Black Stump Fm**	**20.45**	**198**	*e*P	**P**	**21 02 11.0**	**-1.3**
BFZ	**Birch Farm**	**21.93**	**197**	*e*P	**P**	**21 02 27.7**	**+0.2**
THZ	**Tophouse**	**23.95**	**202**	*e*P	**P**	**21 02 46.8**	**+0.8**
LTZ	**Lake Taylor**	**25.07**	**201**	*e*P	**P**	**21 02 57.1**	**+1.0**
RPZ	**Rata Peaks**	**26.32**	**202**	*e*P	**P**	**21 03 08.1**	**+0.8**
RPZ	**Rata Peaks**	**26.32**	**202**	P	**P**	**21 03 07.4**	**+0.2**
FOZ	**Fox Glacier**	**26.62**	**204**	*e*P	**P**	**21 03 10.6**	**+0.7**
WKZ	**Wanaka**	**28.02**	**204**	*e*P	**P**	**21 03 23.6**	**+1.2**
DCZ	**Deep Cove**	**29.28**	**205**	*e*P	**P**	**21 03 35.1**	**+1.6**
EIDS	**Eidsvold**	**31.19**	**254**	*e*P	**P**	**21 03 49.9**	**-0.7**
CTA	**Charters Tower**	**35.80**	**263**	P	**P**	**21 04 29.8**	**-0.7**
CTAO	**Charters Tower**	**35.80**	**263**	*e*P	**P**	**21 04 29.7**	**-0.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**39.79**	**272**	*e*P	**P**	**21 05 03.6**	**-0.3**
	18nm,0.8s 17nm,0.9s						
STKA	**Stephens Creek**	**40.10**	**244**	*e*P	**P**	**21 05 05.4**	**-0.9**
	2.7nm,1.3s						
STKA	**Stephens Creek**	**40.10**	**244**	P	**P**	**21 05 04.9**	**-1.4**
	4.3nm,0.9s,baz=81,slow=14,SNR=3.1						
JAY	**Jayapura**	**45.98**	**286**	P	**P**	**21 05 54.4**	**+0.8**
	16nm,0.6s,baz=113,slow=5.0						
AS31	**Alice Springs**	**46.86**	**256**	*e*P	**P**	**21 05 59.8**	**-0.6**
	3.0nm,0.6s						
AS31				*e*PcP	**PcP**	**21 07 29.9**	**0.0**
ASAR	**Alice Springs**	**46.86**	**256**	*e*P	**P**	**21 05 59.4**	**-1.0**
ASAR				*e*PcP	**PcP**	**21 07 29.8**	**-0.1**
ASAR	**Alice Springs**	**46.86**	**256**	P	**P**	**21 05 59.2**	**-1.1**
	5.3nm,0.4s,baz=89,slow=8.3,SNR=36						
ASAR				PcP	**PcP**	**21 07 29.7**	**-0.2**
	1.0nm,0.5s,baz=102,slow=3.7,SNR=5.0						
WB2	**Warramunga Arr**	**46.91**	**261**	*e*P	**P**	**21 05 59.4**	**-1.3**
	12nm,1.0s						
WRAB	**Tennant Creek**	**46.91**	**261**	*e*P	**P**	**21 05 59.4**	**-1.4**
	5.4nm,0.6s						
WR1	**Warramunga Arr**	**46.92**	**261**	*e*P	**P**	**21 05 58.4**	**-2.4**
WRA	**Warramunga Arr**	**46.92**	**261**	P	**P**	**21 05 58.4**	**-2.4**
	3.2nm,0.3s,baz=96,slow=7.5,SNR=35						
MTN	**Manton Dam**	**51.41**	**269**	*e*P	**P**	**21 06 33.7**	**-1.2**
	29nm,1.4s						
FAKI	**Fak Fak**	**53.55**	**281**	*e*P	**P**	**21 06 50.5**	**-0.1**
	24nm,1.5s						
FITZ	**Fitzroy Crossi**	**55.34**	**261**	*e*P	**P**	**21 07 03.0**	**-0.4**
	18nm,1.4s						
FITZ	**Fitzroy Crossi**	**55.34**	**261**	P	**P**	**21 07 02.2**	**-1.3**
	3.0nm,0.6s,baz=84,slow=4.8,SNR=9.1						
SOEI	**Soe**	**58.73**	**270**	*e*P	**P**	**21 07 27.8**	**+0.3**
	36nm,1.1s						
PSA00	**Pilbara Seismi**	**60.01**	**256**	*e*P	**P**	**21 07 34.6**	**-1.3**
	18nm,1.1s						
MBWA	**Marble Bar**	**60.19**	**256**	*e*P	**P**	**21 07 35.8**	**-1.4**
	45nm,1.4s						
GIRL	**Giralia**	**64.89**	**254**	*e*P	**P**	**21 08 08.0**	**-0.3**
	348nm,1.4s						
QSPA	**South Pole Qui**	**70.25**	**180**	*e*P	**P**	**21 08 42.5**	**+1.2**
	0.4nm,0.6s						
MJAR	**Matsushiro Arr**	**71.02**	**322**	P	**P**	**21 08 45.9**	**-0.2**
	1.7nm,0.6s,baz=165,slow=6.4,SNR=10						
MAJO	**Matsushiro**	**71.02**	**322**	*e*P	**P**	**21 08 45.9**	**-0.3**
	12nm,1.3s						
KKM	**Kota Kinabalu**	**71.77**	**284**	*e*P	**P**	**21 08 50.5**	**-0.6**
	8.8nm,0.9s						
PETK	**Petropavlovsk-**	**76.21**	**344**	P	**P**	**21 09 16.3**	**+0.4**
	3.9nm,0.9s,baz=126,slow=7.3,SNR=3.7						
PEA1	**Petropavlovsk-**	**76.22**	**344**	*e*P	**P**	**21 09 16.3**	**+0.3**
SEY	**Seymchan**	**86.24**	**346**	P	**P**	**21 10 09.0**	**+0.6**
	1.0nm,0.4s,baz=117,slow=8.6,SNR=3.1						
ILAR	**Eielson Array**	**87.17**	**12**	P	**P**	**21 10 13.5**	**+0.7**
	0.3nm,0.5s,baz=210,slow=7.1,SNR=3.9						
ILB	**Eielson Array**	**87.17**	**12**	*e*P	**P**	**21 10 13.6**	**+0.7**
RWWY	**Rawlins**	**87.92**	**44**	*e*P	**P**	**21 10 18.3**	**+1.0**
	27nm,1.0s						
CMAR	**Chiang Mai Arr**	**92.01**	**289**	P	**P**	**21 10 36.6**	**0.0**
	1.1nm,0.8s,baz=116,slow=3.2,SNR=4.5						
YKA	**Yellowknife Ar**	**94.97**	**24**	P	**P**	**21 10 50.1**	**+1.0**
	0.1nm,0.5s,baz=248,slow=3.9,SNR=3.1						
YKB5	**Yellowknife Ar**	**94.97**	**24**	*e*P	**P**	**21 10 50.1**	**+1.0**
ARA0	**ARCESS Array S**	**128.63**	**351**	*e*PKPdf	**PKPdf**	**21 16 32.0**	**-0.5**
ARCES	**ARCESS Array B**	**128.63**	**351**	PKP	**PKPdf**	**21 16 32.0**	**-0.5**
	1.4nm,0.8s,baz=343,slow=1.3,SNR=4.8						
AKASG	**Malin Array Be**	**143.46**	**333**	PKhKP	PKPab	21 16 57.7	+0.5
	0.6nm,0.4s,baz=38,slow=4.2,SNR=4.6						
EKA	**Eskdalemuir Ar**	**144.08**	**7**	PKP	PKPbc	21 16 60.0	0.0
	1.3nm,0.5s,baz=304,slow=2.9,SNR=7.5						
BURAR	**Bucovina Array**	**147.51**	**333**	⇑*i*P	**PKiKP**	**21 17 12.1**	**-0.3**
BIZ	**Bicaz**	**147.65**	**332**	⇓*i*P	**PKiKP**	**21 17 11.8**	**-0.8**
BRTR	**Keskin Array B**	**148.00**	**315**	PKPbc	**PKPbc**	**21 17 12.0**	**-0.1**
	1.7nm,1.1s,baz=147,slow=5.7,SNR=5.2						
TRPA	**Tarpa**	**148.16**	**337**	⇑*i*P	**PKPbc**	**21 17 11.8**	**-0.2**
TLB	**Topalu**	**148.43**	**327**	⇑*i*P	**PKPbc**	**21 17 13.1**	**+0.3**
DOPR	**Dopca**	**148.71**	**331**	⇑*i*P	**PKPdf**	**21 17 09.4**	**-0.1**
MLR	**Muntele Rosu**	**148.81**	**330**	⇑*i*P	**PKPdf**	**21 17 07.5**	**-2.3**
MLR	**Muntele Rosu**	**148.81**	**330**	PKPbc	**PKiKP**	**21 17 14.6**	**-0.6**
	0.8nm,0.4s,baz=329,slow=8.9,SNR=5.8						
MMAI	**Mount Meron Ar**	**149.40**	**302**	PKPbc	**PKiKP**	**21 17 16.7**	**-0.1**
	1.8nm,0.6s,baz=72,slow=5.4,SNR=5.3						
ARR	**Arges**	**149.51**	**331**	⇑*i*P	**PKiKP**	**21 17 17.0**	**+0.4**
GEC2	**GERESS Array S**	**150.08**	**348**	*e*PKPbc	**PKiKP**	**21 17 17.5**	**-0.1**
GERES	**GERESS Array B**	**150.08**	**348**	PKPbc	**PKiKP**	**21 17 17.5**	**-0.1**
	1.0nm,0.6s,baz=302,slow=2.5,SNR=3.7						
BZS	**Buzias**	**150.60**	**335**	⇑*i*P	**PKPbc**	**21 17 17.4**	**-0.7**
SRE	**Strehaia**	**150.70**	**332**	⇑*i*P	**PKPbc**	**21 17 17.8**	**-0.5**
HERR	**Herculane**	**150.87**	**333**	⇓*i*P	**PKPdf**	**21 17 15.2**	**+2.3**
DAVOX	**Davos/Dischmat**	**152.73**	**352**	PKPbc	**PKiKP**	**21 17 24.0**	**+0.7**
	1.9nm,0.6s,baz=289,slow=4.3,SNR=8.8						

*ISCJB **11** 20:57:55.1±0.6, 26°.48S±0°.04×27°.71E±0°.04, h11km±4km, Error ellipse: s-maj=6.1km s-min=5.4km az=166.5*
*PRE **11** 20:57:55.2±1.7, 26°.45S×27°.71E, h2km, ML2.9*
ISC 11 20:57:55.4±0.9, 26°.44S±0°.03×27°.70E±0°.04, h14km±6km, n18, σ1ˢ70/36, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.12**	**319**	*e*P	**Pg**	**20 57 59.0**	**0.0**
KLOF				*e*S	**Sg**	**20 58 00.0**	**-1.5**
KLOF				AML	AML	20 58 01.7	
	comp=Z,16μm,0.2s						
WDLM	**Western Deep L**	**0.25**	**274**	*e*P	**Pg**	**20 58 01.5**	**+0.6**
WDLM				*e*S	**Sg**	**20 58 04.2**	**-0.4**
WDLM				AML	AML	20 58 04.6	
	comp=Z,3μm,0.1s						
ERPM	**east rand prop**	**0.49**	**79**	*e*P	**Pb**	**20 58 06.2**	**+0.3**
ERPM				*e*S	**Sg**	**20 58 11.8**	**-0.2**
ERPM				AML	AML	20 58 14.7	
	comp=Z,404nm,0.2s						
PRYS	**Parys**	**0.57**	**212**	*e*P	**Pg**	**20 58 06.1**	**-0.6**
PRYS				*e*S	**Sg**	**20 58 14.2**	**-0.1**
PRYS				AML	AML	20 58 20.9	
	comp=Z,609nm,0.8s						
KSR	**Koster**	**0.93**	**309**	*e*P	**Pg**	**20 58 13.2**	**-0.2**
KSR				*e*S	**Sg**	**20 58 25.6**	**-0.1**
KSR				AML	AML	20 58 32.3	
	comp=Z,78nm,0.2s						
SWZ	**Schweizer**	**2.24**	**250**	*e*P	**Pn**	**20 58 33.4**	**+1.2**
SWZ				*e*S	**Sb**	**20 59 03.5**	**+0.1**
SWZ				AML	AML	20 59 15.7	
	comp=Z,172nm,0.5s						
LBTB	**Lobatse**	**2.37**	**306**	*e*P	**Pn**	**20 58 36.0**	**+2.1**
LBTB				*e*S	**Sn**	**20 59 05.2**	**+2.4**
LBTB				AML	AML	20 59 10.2	
	comp=Z,239nm,0.2s						
BOSA	**Boshof**	**3.06**	**225**	*i*P	**Pn**	**20 58 45.9**	**+2.4**
BOSA				*i*S	**Sb**	**20 59 25.4**	**-1.7**
BOSA	**Boshof**	**3.06**	**225**	*e*P	**Pn**	**20 58 45.3**	**+1.8**
BOSA				*e*S	**Sn**	**20 59 21.4**	**+1.4**
BOSA				AML	AML	20 59 41.8	
	comp=Z,39nm,0.3s						
BOSA	**Boshof**	**3.06**	**225**	*i*P	**Pn**	**20 58 45.9**	**+2.4**
BOSA				*i*S	**Sb**	**20 59 25.4**	**-1.7**
PKA	**Prieska**	**5.42**	**233**	*e*P	**Pn**	**20 59 17.2**	**+1.3**
PKA				*e*S	**Sn**	**21 00 18.6**	**+0.4**
PKA				AML	AML	21 00 51.2	
	comp=Z,12nm,0.5s						
MATP	**Matopo**	**6.03**	**7**	*i*P	**Pn**	**20 59 26.8**	**+2.5**
MATP				*i*S	**Sn**	**21 00 33.1**	**-0.1**
MATP	**Matopo**	**6.03**	**7**	*i*P	**Pn**	**20 59 26.8**	**+2.5**
MATP				*i*S	**Sn**	**21 00 33.1**	**-0.1**
BLWY	**Bulawayo**	**6.33**	**8**	*i*P	**Pn**	**20 59 30.6**	**+2.2**
BLWY				*i*S	**Sn**	**21 00 38.9**	**-1.7**
BLWY	**Bulawayo**	**6.33**	**8**	*i*P	**Pn**	**20 59 30.6**	**+2.2**
BLWY				*i*S	**Sn**	**21 00 38.9**	**-1.7**
BUFB	**Buffelsbos**	**8.10**	**198**	*e*P	**Pn**	**20 59 54.8**	**+2.3**
BUFB				*e*S	**Sn**	**21 01 22.9**	**-1.0**
BUFB				AML	AML	21 01 25.1	
	comp=Z,7.6nm,0.7s						
CVNA	**Calvinia**	**8.58**	**232**	*e*P	**Pn**	**21 00 00.2**	**+1.0**
CVNA				*e*S	**Sn**	**21 01 33.1**	**-2.7**
CVNA				AML	AML	21 01 34.8	
	comp=Z,17nm,0.6s						
KOMG	**Komaggas**	**9.62**	**247**	*e*P	**Pn**	**21 00 15.2**	**+1.8**
KOMG				*e*S	**Sn**	**21 01 58.4**	**-2.9**
KOMG				AML	AML	21 02 55.3	
	comp=Z,6.7nm,0.6s						

*NORS **11** 20:58:11.1±0.0, 42°.16N×47°.83E, h10km, MPVA3.5*
DRS 11 20:58:11.1±0.0, 42°.32N×47°.87E, h9km, ML2.4/4, 3C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URKR	**Urkarakh**	**0.23**	**230**	*i*Pg	Pg	20 58 16.5	+0.6
URKR				*e*Sg	Sg	20 58 20.4	+1.3
DRN	**Derbent**	**0.44**	**130**	*e*Pg	Pg	20 58 20.2	+0.5
	56nm,0.5s						
DRN				⇑*e*Sg	Sb	20 58 26.8	-1.0
	115nm,0.7s						
KMKR	**Kumukh**	**0.60**	**252**	*i*Pg	Pb	20 58 24.0	0.0
	39nm,0.1s						
KMKR				*e*Sg	Sb	20 58 33.0	+0.3
	130nm,0.2s						
GNBR	**Gunib**	**0.68**	**276**	*e*Pg	Pn	20 58 26.2	-0.8
GNBR				⇑*e*Sg	Sn	20 58 36.5	-1.2
	200nm,0.2s						
AKT	**Akhty**	**0.84**	**187**	*e*Pg	Pg	20 58 26.1	-1.2
	20nm,0.3s						
AKT				⇓*e*Sg	Sg	20 58 36.4	-1.9
	107nm,0.3s						
KRNR	**Karanay**	**0.88**	**306**	*e*Pg	Pn	20 58 30.0	+0.3
KRNR				*e*Sg	Sn	20 58 43.5	+0.8
UNCR	**Uncukul**	**0.89**	**297**	*e*Pg	Pn	20 58 31.0	+1.1
UNCR				*e*Sg	Sn	20 58 45.0	+2.1
XNZR	**Khunzakh**	**0.89**	**285**	*e*Pg	Pn	20 58 30.6	+0.6
XNZR				*e*Sg	Sn	20 58 43.1	0.0
BTLR	**Botlikh**	**1.27**	**286**	*e*Pg	Pg	20 58 36.0	+0.5
	7.0nm,0.8s						
BTLR				⇑*e*Sg	Sn	20 58 53.7	+1.4
	37nm,0.5s						

*DSN **11** 21:00:23.9±1.8, 26°.98N×58°.06E, h10km, ML3.5/4, Error ellipse: s-maj=26.4km s-min=7.2km az=175.0*
*TEH **11** 21:00:29.2, 26°.55N×57°.52E, h16km, ML3.4*
ISC 11 21:00:28.3±1.2, 26°.45N±0°.06×57°.76E±0°.06, h10km, n19, σ1ˢ92/21, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.38**	**324**	*e*Pg	**Pn**	**21 00 52.3**	**-1.4**
NIAN				IAMB	IAmb	21 01 17.8	
	comp=Z,0.0nm,0.9s						
SHME	**Shamm**	**1.50**	**255**	*e*P	**Pg**	**21 00 57.0**	**-0.2**
	SNR=6.3						
SHME				S	**Sg**	**21 01 22.5**	**+5.8**
GENO	**Geno**	**1.71**	**304**	*e*Pg	**Pn**	**21 00 58.0**	**-0.3**
GENO				*e*Sg	**Sn**	**21 01 19.7**	**-0.6**
GENO				IAMB	IAmb	21 01 27.6	
	comp=Z,0.0nm,0.6s						
MSFE	**Esma-Masafi**	**1.80**	**233**	*e*Pn	**Pb**	**21 01 00.3**	**-1.1**
HATD	**Hatta, Dubai**	**2.18**	**223**	P	**Pb**	**21 01 08.3**	**+0.4**
HATD	**Hatta, Dubai**	**2.18**	**223**	*e*Pn	**Pb**	**21 01 07.0**	**-0.9**
ASHO	**Ashiyiah**	**2.33**	**222**	*e*P	**Pb**	**21 01 11.0**	**+0.5**
	SNR=8.9						
ASHO	**Ashiyiah**	**2.33**	**222**	*e*Pn	**Pg**	**21 01 11.9**	**-1.1**
HOQ	**Hoqain**	**2.88**	**188**	*e*Pn	**Pn**	**21 01 15.6**	**+1.3**
BIDO	**Bidbid**	**2.93**	**173**	*e*Pn	**Pb**	**21 01 18.6**	**-2.1**
ALNE	**Al Ain**	**3.00**	**218**	*i*P	**Pb**	**21 01 19.0**	**-2.8**
	SNR=5.8						
ALNE	**Al Ain**	**3.00**	**218**	*e*Pn	**Pb**	**21 01 22.0**	**+0.2**
NGRK	**Negar Kerman**	**3.31**	**344**	*e*Pn	**Pn**	**21 01 19.2**	**-1.4**
NGRK				IAMB	IAmb	21 02 08.0	
	comp=Z,0.0nm,0.8s						
CHMN	**Cheshme madani**	**3.41**	**357**	*e*Pn	**Pn**	**21 01 22.2**	**+0.4**
CHMN				IAMB	IAmb	21 01 28.2	
	comp=Z,0.0nm,0.9s						
TVBK	**TV Kerman**	**3.63**	**346**	*e*Pn	**Pn**	**21 01 24.2**	**-0.8**
TVBK				IAMB	IAmb	21 01 34.8	
	comp=Z,0.0nm,0.5s						
KHGB	**Koh Gabri**	**4.07**	**344**	*e*Pn	**Pn**	**21 01 29.9**	**-1.0**
KHGB				IAMB	IAmb	21 02 50.0	
	comp=Z,0.0nm,0.7s						
SZD1	**Zahaedan-tmp**	**4.09**	**42**	*e*Pn	**Pn**	**21 01 33.5**	**+2.5**
IKAZ	**Kazeroun**	**6.19**	**304**	*e*Pn	**Pn**	**21 01 58.3**	**-1.8**
IRAM	**Ramesheh**	**7.12**	**320**	*e*Pn	**Pn**	**21 02 12.6**	**-0.1**

JMA 11 21:21:08.7, 34°.23N×135°.26E, h5km±1km, M0.1, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.28**	**92**	P	Pg	21 21 14.1	0.0
JWY				S	Sg	21 21 18.3	+0.5

JMA 11 21:21:17.7, 33°.66N×135°.47E, h17km, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTNC	**Tanabenakahech**	**0.20**	**37**	S	Sg	21 21 25.8	0.0
JTNC	**Tanabenakahech**	**0.20**	**37**	P	Pg	21 21 22.5	0.0
JTNC				S	Sg	21 21 25.8	0.0
JWM	**Minabe**	**0.21**	**333**	P	Pg	21 21 22.7	0.0
JWM				S	Sg	21 21 26.1	-0.1
JWY	**Kouya**	**0.57**	**10**	S	Sg	21 21 36.2	-0.4

MEX 11 21:40:05.7±0.7, 16°.91N×95°.28W, h101km±9km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.42**	**64**	*e*P	Pn	21 40 19.5	-1.5
CMIG				*e*S	Sn	21 40 30.9	-1.6
HUIG	**Huatulco**	**1.39**	**215**	*e*P	Pn	21 40 29.2	-1.4
HUIG				*e*S	Sn	21 40 48.3	-1.2

*BJI **11** 21:51:26.4±0.0, 26°.76N×57°.17E, h6km, mb4.5/42, mB5.1/31, Ms4.8/30, Ms7 4.7/28*
*TEH **11** 21:51:29.6, 26°.54N×57°.79E, h5km, ML5.0*
*OMAN **11** 21:51:29.8±0.5, 26°.68N×58°.13E, h10km, ml5.1/17, Error ellipse: s-maj=8.8km s-min=8.1km az=341.0*
*IDC **11** 21:51:29.3±0.5, 26°.65N×57°.82E, h0km, mb4.4/34, mb1 4.5/38, mb1mx4.5/48, mbtmp4.4/38, ML4.3/3, MS4.3/11, Ms1 4.3/11, ms1mx4.1/41, Error ellipse: s-maj=12.3km s-min=10.3km az=161.0*
*DSN **11** 21:51:30.2±3.4, 26°.56N×58°.08E, h10km, ML5.1/10, Error ellipse: s-maj=46.2km s-min=14.3km az=10.0*
*MOS **11** 21:51:30.5±1.1, 26°.61N×57°.82E, h18km, mb5.0/127, Error ellipse: s-maj=5.4km s-min=2.8km az=121.4*
*ISCJB **11** 21:51:30.2±0.1, 26°.65N±0°.02×57°.78E±0°.02, h10km, mb4.8/206, MS4.5/21, Error ellipse: s-maj=2.4km s-min=2.3km az=142.9*
*NEIC **11** 21:51:31.1±0.0, 26°.72N×57°.62E,

ASHO	Ashiyiah	2.48	220	P	Pn	21 52 13.4 +1.4
	SNR=78					
ASHO	Ashiyiah	2.48	220	ePn	Pn	21 52 12.6 +0.6
NAZ	Nazwa, Dubai	2.51	231	eP	Pn	21 52 14.0 +1.6
	SNR=165					
NAZ	Nazwa, Dubai	2.51	231	P	Pb	21 52 15.7 -1.0
	SNR=13					
NAZ	Nazwa, Dubai	2.51	231	ePn	Pn	21 52 14.6 +2.2
SOHO	SOHO	2.71	205	P	Pn	21 52 14.0 -1.2
	SNR=470					
FAQ	Al Faqa, Dubai	2.72	227	eP	Pn	21 52 17.2 +1.9
	SNR=185					
FAQ	Al Faqa, Dubai	2.72	227	P	Pn	21 52 17.8 +2.5
	SNR=43					
FAQ	Al Faqa, Dubai	2.72	227	ePn	Pn	21 52 17.7 +2.4
ASUD	Al Ashush, Dub	2.98	229	i P	Pn	21 52 21.1 +2.3
	SNR=140					
ASUD	Al Ashush, Dub	2.98	229	P	Pn	21 52 21.7 +2.9
	SNR=140					
ASUD	Al Ashush, Dub	2.98	229	ePn	Pn	21 52 21.7 +2.9
HOQ	Hoqain	3.04	188	P	Pn	21 52 19.3 -0.5
	SNR=37					
HOQ				S	Sn	21 52 55.7 -0.6
HOQ	Hoqain	3.04	188	ePn	Pn	21 52 18.8 -1.0
BIDO	Bidbid	3.09	174	P	Pn	21 52 20.0 -0.4
	SNR=83					
BIDO				S	Sn	21 52 55.6 -1.7
BIDO	Bidbid	3.09	174	ePn	Pn	21 52 19.7 -0.7
ALNE	Al Ain	3.14	217	i P	Pn	21 52 22.3 +1.2
	SNR=86					
ALNE	Al Ain	3.14	217	ePn	Pn	21 52 23.3 +2.2
NGRK	Negar Kerman	3.17	343	ePn	Pn	21 52 22.9 +1.1
NGRK				IAMB	IAmb	21 52 30.3
	comp=Z,0.0nm,0.2s					
CHMN	Cheshme madani	3.25	356	ePn	Pn	21 52 25.4 +2.5
CHMN				IAMB	IAmb	21 53 27.3
	comp=Z,0.0nm,1.0s					
AJN	Ajban	3.25	232	i P	Pn	21 52 23.9 +1.3
	SNR=19					
AJN	Ajban	3.25	232	P	Pn	21 52 25.1 +2.4
	SNR=12					
AJN	Ajban	3.25	232	ePn	Pn	21 52 25.0 +2.4
WSAR	Wadi Sarin	3.44	167	Pn	Pn	21 52 25.5 +0.3
	comp=Z,111nm,0.3s,baz=352,slow=12,SNR=190					
WSAR				Sn	Sn	21 53 02.3 -3.7
	comp=Z,215nm,0.3s,baz=61,slow=23,SNR=22					
ARQ	Araqi	3.46	200	P	Pn	21 52 28.0 +2.6
	SNR=51					
ARQ				S	Sn	21 53 10.8 +4.3
TVBK	TV Kerman	3.49	345	ePn	Pn	21 52 28.5 +2.3
TVBK				IAMB	IAmb	21 52 41.0
	comp=Z,0.0nm,0.7s					
SMDO	Samad	3.54	176	P	Pn	21 52 27.1 +0.4
	SNR=33					
SMDO				S	Sn	21 53 08.6 -0.1
BSY	Bisya	3.88	188	P	Pn	21 52 33.4 +2.0
	SNR=74					
BSY				S	Sn	21 53 20.8 +3.7
KHGB	Koh Gabri	3.93	343	ePn	Pn	21 52 34.2 +2.0
KHGB				IAMB	IAmb	21 53 48.2
	comp=Z,0.0nm,1.3s					
SZD1	Zahaedan-tmp	3.95	43	ePn	Pn	21 52 35.9 +3.6
ZHSF	Zahedan	3.98	41	ePn	Pn	21 52 34.3 +1.4
WBK	Wadi Bani Khal	4.12	165	P	Pn	21 52 35.4 +0.8
	SNR=15					
WBK				S	Sn	21 53 19.1 -3.8
JHRM	Jahrom	4.20	298	ePn	Pn	21 52 38.1 +2.4
GHIR	Ghir-Karzin	4.59	292	ePn	Pn	21 52 39.8 -1.3
JLN	Jalan Bani Buh	4.67	161	P	Pn	21 52 42.0 -0.2
	SNR=13					
JLN				S	Sn	21 53 32.4 -4.2
ISRV	Sarvestan	4.98	305	ePn	Pn	21 52 47.2 +0.6
IPAR	Pars	5.28	309	ePn	Pn	21 52 51.5 +0.7
BSRN	Basiran	5.46	12	ePn	Pn	21 52 53.6 +0.4
IMEH	Mehriz	5.52	330	ePn	Pn	21 52 54.3 +0.3
SHI	Shiraz	5.56	304	ePn	Pn	21 52 54.3 -0.2
IKOO	Kooshah	5.89	10	ePn	Pn	21 52 59.6 +0.5
IKAZ	Kazeroun	6.13	302	ePn	Pn	21 53 02.7 +0.2
ITEG	Tejag	6.32	7	ePn	Pn	21 53 05.6 +0.6
ICHK	Chekchek	6.35	333	ePn	Pn	21 53 05.7 +0.3
IDAH	Dahanechah	6.37	16	ePn	Pn	21 53 07.8 +2.1
ISAD	Sadrabad	6.39	327	ePn	Pn	21 53 06.8 +0.8
TPRV	Parvadeh(Tabas	6.47	352	ePn	Pn	21 53 09.2 +2.2
TKDS	Koohdasht(Taba	7.01	355	ePn	Pn	21 53 15.9 +1.6
IRAM	Ramesheh	7.02	319	ePn	Pn	21 53 15.1 +0.5
TNSJ	Nastanj	7.40	352	ePn	Pn	21 53 21.7 +1.9
ANAR	Anarak	7.45	333	ePn	Pn	21 53 20.6 +0.2
IGAR	Gharneh	7.65	320	ePn	Pn	21 53 23.5 +0.3
IZEF	Zefreh	7.86	324	ePn	Pn	21 53 25.7 -0.5
IPIR	Pirpir	8.53	317	ePn	Pn	21 53 34.9 -0.5
IKLH	Kolahrood	8.59	323	ePn	Pn	21 53 35.9 -0.3
WHFO	Wadi Hawf	9.41	204	P	Sn	21 55 27.2 -6.1
	SNR=8.5					
IANJ	Anjilo	9.44	340	ePn	Pn	21 53 49.5 +1.7
JRKH	Jarkhoshk	9.53	13	ePn	Pn	21 53 51.0 +2.1
SBZV	Sabzevar	9.75	359	ePn	Pn	21 53 53.0 +0.9
IPAY	Payeh	9.87	6	ePn	Pn	21 53 54.9 +1.2
IMYA	Miami	9.90	11	ePn	Pn	21 53 55.6 +1.5
ISHM	Shahmirzad	9.95	338	ePn	Pn	21 53 56.7 +1.9
IAKL	Akhelmad	10.00	4	ePn	Pn	21 53 57.4 +1.9
ABTO	Aybut	10.11	205	P	Sn	21 55 44.6 -5.8
	SNR=6.1					
IKRD	Kardeh	10.16	3	ePn	Pn	21 54 00.4 +2.7
IDMV	Damavand	10.21	333	ePn	Pn	21 53 59.3 +0.8
ISFR	Sfrayin	10.42	1	ePn	Pn	21 54 03.7 +2.5
IKMR	Kamar-syah	10.67	312	ePn	Pn	21 54 02.9 -1.5
IPRN	Peran	10.67	335	ePn	Pn	21 54 06.3 +1.7
IEMG	Emamgholi	10.80	4	ePn	Pn	21 54 07.3 +0.8
IMND	Minoodasht	10.81	350	ePn	Pn	21 54 07.2 +0.8
IDOB	Doab	10.97	313	ePn	Pn	21 54 07.5 -1.3
GEYT	Alibeck	11.29	1	Pn	Pn	21 54 12.8 -0.2
	comp=Z,0.4nm,0.3s,baz=169,slow=16,SNR=20					
GEYT				LR	LR	21 58 40.2
	comp=Z,4µm,18.3s,baz=175,slow=38					
GYA0B	ALIBECK ARRAY	11.29	1	ePn	Pn	21 54 14.0 +1.0
QABG	Abgarm-Qazvin	11.47	324	ePn	Pn	21 54 16.7 +1.0
IKOM	Komasi	11.64	313	ePn	Pn	21 54 15.2 -2.7
IGZV	Ghazvin	11.69	328	ePn	Pn	21 54 19.0 +0.3
IVIS	Veis	12.29	313	ePn	Pn	21 54 24.2 -2.6
KBL	Kabul	12.50	48	ePn	Pn	21 54 30.2 +0.5
KBL	Kabul	12.50	48	eP	Pn	21 54 30.2 +0.5
KBL	Kabul	12.50	48	ePn	Pn	21 54 30.2 +0.5
IDHR	Dehrash	12.70	312	ePn	Pn	21 54 29.8 -2.6
THW	Thamme Wali	13.59	60	P	Pn	21 54 41.7 -2.8
SARP	Sargodha	14.02	64	P	Pn	21 54 47.2 -3.1
ISRB	Sarab	14.08	325	ePn	Pn	21 54 51.6 +0.3
CEP	Cherat	14.16	56	P	Pn	21 54 51.2 -1.1
NIL	Nilore	15.09	59	ePn	Pn	21 55 03.4 -1.5
	comp=Z,292nm,1.3s					
NIL	Nilore	15.09	59	eP	Pn	21 55 03.4 -1.5
NIL				pmax	pmax	
	comp=Z,292nm,1.3s					
NIL	Nilore	15.09	59	ePn	Pn	21 55 03.4 -1.5
CHCP	Chirah Chowk	15.11	59	P	Pn	21 55 03.0 -2.1
CHGR	Chuyangaron	15.34	36	ePn	Pn	21 55 04.9 -3.3
	comp=Z,175nm,1.5s					
ISHB	Shabestar	15.51	322	ePn	Pn	21 55 09.4 -1.2
CUKT	Cukurca	16.03	315	eP	Pn	21 55 13.5 -3.7
GAR	Garm	16.21	37	ePn	Pn	21 55 16.7 -2.8
	comp=Z,68nm,1.1s					
GAR	Garm	16.21	37	eP	Pn	21 55 16.7 -2.8
GAR				pmax	pmax	
	comp=Z,68nm,1.1s					
AKT	Akhty	17.00	333	i P	Pn	21 55 30.2 +0.7
VANB	Van	17.01	318	eP	Pn	21 55 29.4 -0.3
GEVA	Gevas	17.03	317	i P	Pn	21 55 29.1 -0.9
CLDR	Caldiran	17.07	321	eP	Pn	21 55 30.9 +0.4
AKDM	Akdamar-Van	17.09	317	eP	Pn	21 55 30.9 +0.2
BTK	Batken	17.25	36	ePn	Pn	21 55 30.4 -2.2
	comp=Z,104nm,1.4s					
BTK	Batken	17.25	36	eP	Pn	21 55 30.4 -2.2
BTK				pmax	pmax	
	comp=Z,104nm,1.4s					
DAMY	Dhamar	17.33	229	ePn	Pn	21 55 32.3 -1.7
	comp=Z,233nm,1.2s					
GNI	Garni	17.33	324	ePn	Pn	21 55 34.2 +0.5
	comp=Z,130nm,1.3s					
GNI	Garni	17.33	324	deP	Pn	21 55 34.1 +0.4
GNI				pmax	pmax	
	comp=Z,330nm,1.7s					
GNI	Garni	17.33	324	P	P	21 55 35.6 +0.5
	SNR=12					
GNI	Garni	17.33	324	P	Pn	21 55 32.2 -1.5
	comp=Z,1.2nm,0.3s,baz=296,slow=7.8,SNR=16					
TASB	TASBURUN-IGDIR	17.48	323	eP	P	21 55 36.9 +0.3
MLAZ	Malazgirt-MUS	17.86	318	eP	Pn	21 55 40.3 0.0
AGRB	Hanur-Agry	17.89	320	eP	P	21 55 41.5 +0.2
GNBR	Gunib	18.07	333	eP	P	21 55 43.9 +0.7
TBLG	Delisi	18.52	328	ePn	P	21 55 48.2 +0.1
	comp=Z,84nm,1.7s					
TBLG	Delisi	18.52	328	eP	P	21 55 48.2 +0.1
TBLG				pmax	pmax	
	comp=Z,84nm,1.7s					
VRTB	Varto-Mus	18.54	317	eP	Pn	21 55 49.3 +0.7
BTLR	Botlikh	18.60	332⇓	eP	Pn	21 55 50.3 +1.0
DYBB	Diyarbakir	18.70	312	eP	P	21 55 49.8 -0.3
KOPR	Koprukoy-ERZUR	18.82	319	eP	Pn	21 55 52.2 +0.1
DVE	Vedeno	18.89	333	ceP	Pn	21 55 52.7 0.0
AKH	Akhalkalaki	18.90	325	eP	Pn	21 55 53.2 +0.2
	comp=Z,115nm,2.0s					
SENK	Senkaya-Erzuru	18.91	321	eP	Pn	21 55 53.9 +0.7
BNGB	Bingl	18.92	315	eP	Pn	21 55 53.3 +0.1
ASF	Jabal al Asfar	19.03	292	P	P	21 55 53.4 -0.4
	comp=Z,35nm,1.3s					
ASF	Jabal al Asfar	19.03	292	P	P	21 55 53.1 -0.7
	comp=Z,1.6nm,0.3s,baz=80,slow=4.1,SNR=16					
ASF				Sn	Sn	21 59 15.3 -12
	comp=Z,0.5nm,0.3s,baz=35,slow=12,SNR=4.7					
GROC	Groznyy	19.23	333	eP	Pn	21 55 56.7 0.0
GROC				eS	S	21 59 33.6 +0.1
GROC				pmax	pmax	
	comp=Z,39nm,0.9s					
YEDI	Yedisu-Bingol	19.27	316	eP	Pn	21 55 57.2 -0.3
URFA	Urfa	19.34	309	eP	Pn	21 55 58.9 +0.6
EPOS	Posof	19.36	324	i P	Pn	21 55 59.5 +1.0
KK31	Karatay Array	19.45	29	eP	P	21 55 57.5 -0.8
	comp=Z,94nm,1.5s					
KK31	Karatay Array	19.45	29	eP	P	21 55 57.5 -0.8
KK31				pmax	pmax	
	comp=Z,94nm,1.5s					
KKAR	Karatay Array	19.45	29	eP	P	21 55 57.5 -0.8
	comp=Z,94nm,1.5s					
KKAR	Karatay Array	19.45	29	eP	P	21 55 57.5 -0.8
KKAR				pmax	pmax	
	comp=Z,94nm,1.5s					
SVRC	Sivrice-ELAZID	19.48	312	eP	P	21 55 59.4 +0.6
SWQJ	Swaqa	19.57	289	P	Pn	21 56 04.3 +3.2
	comp=Z,213nm,1.2s					
DBAD	Bademkaya	19.59	321	i P	Pn	21 56 01.7 +0.4
HSUJ	Al Zarqa	19.60	291	P	Pn	21 56 01.1 -0.3
	comp=Z,141nm,1.3s					
ZEI	Tsey	19.73	328	eP	Pn	21 56 03.0 0.0
ZEI				pmax	pmax	
	comp=Z,23nm,0.9s					
WALJ	Wala	19.83	290	P	Pn	21 56 06.2 +2.2
	comp=Z,118nm,1.2s					
JDRJ	Daraweish	19.84	287	P	P	21 56 03.2 +0.4
	comp=Z,163nm,1.5s					
KSH	Kashi	19.90	45	P	P	21 55 56.9 -6.4
KSH				pP	Pn	21 56 01.2 -3.7
KSH				PP	PnPn	21 56 15.2 -3.7
KSH				pmax	pmax	
	comp=Z,37nm,0.4s					
KSH				pmax	pmax	
	comp=Z,410nm,3.8s					
KSH				LR	LR	
	comp=Z,780nm,11.2s					
KSH				LR	LR	
	comp=Z,610nm,11.4s					
KSH				LR	LR	
	comp=Z,1µm,17.0s					
BCA	Borcka	19.92	322	eP	P	21 56 03.8 +0.4
BCA	Borcka	19.92	322⇑	iP	Pn	21 56 05.6 +0.6
BATM	Batumi	19.99	323⇑	iP	Pn	21 56 05.8 0.0
GHAJ	Ghor Haditha	20.00	289	P	P	21 56 04.8 +0.5
	comp=Z,86nm,1.2s					
SHMJ	Saham	20.08	293	P	Pn	21 56 08.3 +1.3
	comp=Z,221nm,1.4s					
AML	Almayashu	20.25	36	P	P	21 56 05.8 -1.5
	SNR=28					
AQBJ	Aqaba	20.29	284	P	Pn	21 56 12.0 +2.5
	comp=Z,164nm,0.9s					
GAZ	Gaziantep	20.37	306	eP	P	21 56 09.4 +1.0
EIL	Elat	20.37	284	P	P	21 56 08.2 -0.2
	comp=Z,48nm,0.9s,baz=82,slow=3.6,SNR=15					
EIL				LR	LR	22 05 50.1
	comp=Z,1µm,20.3s,baz=320,slow=42					
NCK	Nalchik	20.42	329⇓	eP	Pn	21 56 10.4 -0.5
NCK				pmax	pmax	
	comp=Z,28nm,1.2s					
MMAI	Mount Meron Ar	20.43	294	P	P	21 56 08.6 -0.5
	comp=Z,25nm,0.9s,baz=98,slow=11,SNR=43					
MMAI				S	S	21 59 51.2 -6.9
	comp=Z,13nm,0.8s,baz=86,slow=22,SNR=7.7					
ATD	Arta Tunnel	20.57	226	eP	P	21 56 11.8 +1.1
	comp=Z,76nm,1.0s					
ATD	Arta Tunnel	20.57	226	P	P	21 56 11.6 +0.9
	comp=Z,68nm,1.0s,baz=18,slow=5.7,SNR=20					
ATD				LR	LR	22 06 36.8
	comp=Z,1µm,18.1s,baz=84,slow=44					
AMAZ	Amatzia	20.58	289	P	P	21 56 11.7 +1.0
	comp=Z,217nm,1.3s					
NEY	Neytrino	20.64	327⇓	eP	Pn	21 56 13.9 +0.2
NEY				pmax	pmax	
	comp=Z,3.0nm,0.8s					
EKS2	Erkin-Say	20.66	35	P	P	21 56 10.8 -0.8
	SNR=28					
KTUT	Trabzon	20.68	318	eP	P	21 56 12.3 +0.6
KTUT	Trabzon	20.68	318⇑	iP	Pn	21 56 13.2 -0.8
UCH	Uchtor	20.75	37	P	P	21 56 11.4 -1.5
	SNR=16					
TAHT	Tahtakopru-Hat	20.80	303	eP	Pn	21 56 14.9 -0.6
DARE	Darende-Malaty	20.81	310	eP	P	21 56 14.4 +1.2
KBZ	Khabaz	20.92	329	P	P	21 56 14.8 +0.6
	comp=Z,1.0nm,0.6s,baz=142,slow=9.7,SNR=4.5					
AAK	Ala-Archa	21.02	36	P	P	21 56 14.8 -0.7
	SNR=7.7					
AAK	Ala-Archa	21.02	36	eP	P	21 56 14.8 -0.7
	comp=Z,36nm,1.0s					
AAK	Ala-Archa	21.02	36	ceP	P	21 56 14.7 -0.8
AAK				pmax	pmax	
	comp=Z,7.0nm,0.9s					
AAK	Ala-Archa	21.02	36	P	P	21 56 14.9 -0.7
	SNR=26					
AAK	Ala-Archa	21.02	36	P	P	21 56 14.8 -0.7
	comp=Z,6.0nm,0.6s,baz=206,slow=8.4,SNR=19					
SHA1	Shidzhatmaz	21.04	328⇑	eP	P	21 56 17.3 +1.5
KZA	Kyzart	21.05	38	P	P	21 56 16.1 0.0
	SNR=54					
NRN	Naryn	21.06	41	eP	P	21 56 14.9 -1.3
	comp=Z,29nm,0.9s					
NRN	Naryn	21.06	41	eP	P	21 56 14.9 -1.3
NRN				pmax	pmax	
	comp=Z,29nm,0.9s					
KVAR	Kislovodsk Arr	21.19	329	P	P	21 56 17.7 +0.5
	comp=Z,1.7nm,0.4s,baz=90,slow=20,SNR=7.1					
KIV	Kislovodsk	21.20	329	eP	P	21 56 17.6 +0.3
	comp=Z,80nm,1.2s					
KIV	Kislovodsk	21.20	329⇓	iP	P	21 56 19.1 +1.8
KIV	Kislovodsk	21.20	329	eP	P	21 56 19.1 +1.8
KIV				pmax	pmax	
	comp=Z,198nm,1.1s					
KIV	Kislovodsk	21.20	329	P	P	21 56 20.7 +3.4
	SNR=22					
FRU1	Bishkek	21.21	36	eP	P	21 56 20.6 +3.1
	comp=Z,52nm,1.0s					
FRU1	Bishkek	21.21	36	eP	P	21 56 20.6 +3.1
FRU1				pmax	pmax	
	comp=Z,53nm,1.0s					
KBK	Karagaybulak	21.28	37	P	P	21 56 18.8 +0.5
	SNR=12					
HYB	Hyderabad	21.28	111	i P	P	21 56 19.0 +0.6
	comp=Z,38nm,0.8s					
CUZAR	Zara_SIVAS	21.29	313	i P	P	21 56 21.0 +2.6
CEYT	Ceyhan	21.37	304	eP	P	21 56 21.7 +2.6
YURE	YUREGIR	21.39	304	eP	P	21 56 21.9 +2.6
USP	Ospenovka	21.47	35	P	P	21 56 31.9 +12
	SNR=5.6					
KOZT	Kozan	21.50	306	eP	P	21 56 21.9 +1.4
CUALT	Altinyayla-SIV	21.65	311	i P	P	21 56 23.9 +1.6
ULHL	Ulahol	21.72	39	P	P	21 56 22.6 -0.5
	SNR=21					
TKM2	Tokmak 2	21.81	37	P	P	21 56 22.8 -1.3
	SNR=12					
SVSK	Karacayir	21.81	313	eP	P	21 56 24.8 +1.0
RSDY	Resadiye-TOKAT	21.85	314	eP	P	21 56 24.6 +0.3
KARA	Karaisali	21.98	304	eP	P	21 56 27.6 +1.9
CUSAR	Sarkisla-SIVAS	22.07	311	i P	P	21 56 27.4 +0.6
KDJ	Kajisay	22.19	41	eP	P	21 56 27.3 -0.8
	comp=Z,68nm,1.0s					
KDJ	Kajisay	22.19	41	eP	P	21 56 27.3 -0.8
KDJ				pmax	pmax	
	comp=Z,68nm,1.0s					
MERS	Mersin	22.23	303	eP	P	21 56 27.4 -1.0
TOKT	Tokat	22.32	313	eP	P	21 56 29.8 +0.5
KIZK	Mersin	22.38	302	eP	P	21 56 30.2 +0.2
SOC	Sochi	22.41	324	eP	P	21 56 28.5 -1.7
SOC				eS	S	22 00 33.8 -2.5
SOC				pmax	pmax	
	comp=Z,80nm,1.3s					
SOC				MLR	MLR	
	comp=Z,1µm,15.0s					
PYUN	Piuthan	22.42	80	eP	P	21 56 33.4 +2.7
	comp=Z,128nm,1.2s					
CSS	Mathiatis	22.57	298	eP	P	21 56 30.6 -1.4
	comp=Z,246nm,1.8s					
IKL	Isikli	22.65	301	eP	P	21 56 36.6 +3.7
ABKAR	Akbulak array	22.67	4	eP	P	21 56 31.1 -1.9
	comp=Z,52nm,1.1s					
KEBE	Keben-Mersin	22.70	302	eP	P	21 56 36.0 +2.5
KERG	Konya-Eregli	22.72	304	i P	P	21 56 35.3 +1.6
AKKU	Akkuyu-Mersin	22.73	301	eP	P	21 56 35.4 +1.7
YOZ	Yozgat	22.80	310	eP	P	21 56 35.4 +0.8
KOLN	Koldanda	22.97	81	eP	P	21 56 38.2 +1.6
	comp=Z,53nm,1.0s					
KVT	Kavak	23.04	314	eP	P	21 56 36.9 0.0
BERE	Bereket-Mersin	23.04	301	eP	P	21 56 38.8 +1.6
DANN	Dangsing	23.09	80	eP	P	21 56 38.9 +1.0
	comp=Z,337nm,1.2s					
PRZ	Przheval'sk	23.12	42	eP	P	21 56 37.8 -0.2
	comp=Z,44nm,1.0s					
PRZ	Przheval'sk	23.12	42	eP	P	21 56 37.8 -0.2
PRZ				pmax	pmax	
	comp=Z,44nm,1.0s					
SULT	Sultanhani-AKS	23.46	306	eP	P	21 56 42.3 +1.0
CORM	Corum	23.52	311	eP	P	21 56 41.2 -0.7
SERE	Sereflikochisa	23.72	307	eP	P	21 56 45.6 +1.7
AKTO	Aktyubinsk	23.79	0	P	P	21 56 43.2 -1.1
	comp=Z,18nm,0.6s,baz=168,slow=10,SNR=35					
DIKM	Dikmen	23.84	315	eP	P	21 56 46.2 +1.3
GKN	Gorkha	23.88	81	eP	P	21 56 46.9 +1.4
	comp=Z,133nm,1.5s					
BR131	Keskin Array S	24.00	309	eP	P	21 56 46.4 -0.1
	comp=Z,37nm,0.9s					
BRTR	Keskin Array B	24.00	309	eP	P	21 56 45.2 -1.3
BRTR				ScP	ScP	22 04 05.9 -1.2
BRTR	Keskin Array B	24.00	309	P	P	21 56 46.3 -0.2
	comp=Z,27nm,0.9s,baz=128,slow=11,SNR=61					
BRTR				ScP	ScP	22 04 05.9 -1.2
	comp=Z,1.1nm,0.8s,baz=124,slow=4.3,SNR=6.2					
BRTR				LR	LR	22 07 59.4
	comp=Z,910nm,19.2s,baz=95,slow=41					
CHBY	Cihanbeyli	24.06	306	eP	P	21 56 47.9 +0.8
SNOP	Sinop	24.07	315	eP	P	21 56 46.5 -0.5
	comp=Z,65nm,1.1s					
KULU	Kulu	24.16	307	eP	P	21 56 48.9 +0.9
PDGK	Podgornoye	24.27	41	P	P	21 56 48.0 -1.0
PDGK				pmax	pmax	
	comp=Z,45nm,1.4s					
LADK	Ladik-KONYA	24.30	305	eP	P	21 56 48.5 -0.9
DMN	Daman	24.32	81	eP	P	21 56 51.2 +1.4
	comp=Z,67nm,1.1s					
CANT	Cankiri	24.40	311	eP	P	21 56 50.2 0.0
OTUK	Ortayu	24.41	24	P	P	21 56 49.6 -0.5
OTUK				pmax	pmax	
	comp=Z,24nm,1.6s					
ANN	Anapa	24.44	323	eP	P	21 56 49.9 -0.5
ANN				e		21 57 21.3
ANN				e		22 00 25.4
ANN				eS	S	22 01 09.0 -1.2
ANN				eSS	SnSn	22 02 06.6 +12
ANN				pmax	pmax	
	comp=Z,108nm,1.4s					
ANN				MLR	MLR	
	comp=E,417nm,15.0s					
ANN				MLR	MLR	
	comp=N,543nm,15.0s					
ANN				MLR	MLR	
	comp=Z,805nm,15.0s					
KKN	Kakani	24.46	81	eP	P	21 56 52.5 +1.5
	comp=Z,93nm,1.4s					
ILGA	Ilgaz	24.55	312	eP	P	21 56 51.8 +0.1
	comp=Z,90nm,1.5s					
PKIN	Phulchoki	24.57	81	eP	P	21 56 53.2 +1.1
	comp=Z,22nm,0.7s					
PKI	Pulchoki	24.59	81	eP	P	21 56 53.2 +0.9
	comp=Z,67nm,1.2s					
ANTO	Ankara	24.65	309	eP	P	21 56 52.4 0.0
	comp=Z,63nm,1.1s					
ANTO	Ankara	24.65	309⇑	iP	P	21 56 52.8 +0.4
ANTO	Ankara	24.65	309	eP	P	21 56 52.4 0.0
ANTO				pmax	pmax	
	comp=Z,63nm,1.1s					
LOD	Lodumlu	24.68	309	eP	P	21 56 54.4 +1.7
BZK	Bozkurt	24.80	314	eP	P	21 56 54.1 +0.4
BZK	Bozkurt	24.80	314⇓	iP	P	21 56 54.2 +0.5
JIRN	Jiri	25.27	81	eP	P	21 56 59.4 +0.9
	comp=Z,70nm,0.9s					
SVRH	Sivrihisar-ESK	25.38	307	eP	P	21 56 59.7 +0.7
KORT	Korkueli	25.44	301	eP	P	21 57 00.5 +0.8
ISP	Isparta	25.55	303	eP	P	21 57 01.1 +0.4
	comp=Z,45nm,1.0s					
ISP	Isparta	25.55	303	eP	P	21 57 01.1 +0.4
ISP				pmax	pmax	
	comp=Z,45nm,1.0s					
KURC	Kurucasile-Bar	25.57	313	eP	P	21 57 01.3 +0.7
RAMN	Ramite	25.70	83	eP	P	21 57 04.4 +2.1
	comp=Z,30nm,0.8s					
ELL	Elmali	25.71	300	eP	P	21 57 03.4 +1.2
SHUT	Suhut-Afyon	25.77	304	eP	P	21 57 03.7 +1.1
SRCK	Saricakaya, Es	26.24	308	eP	P	21 57 07.1 +0.3
GULT	Gulveren	26.47	308	eP	P	21 57 09.9 +1.0
TURN	Turunc	26.76	300	eP	P	21 57 14.6 +3.1
TVSB	Tavsanli	26.86	306	eP	P	21 57 13.2 +0.7
MANT	Manisa	27.23	303	eP	P	21 57 16.6 +0.6
	comp=Z,80nm,1.0

WMQ LR LR
comp=Z,3μm,17.1s
WMQ LR LR
comp=Z,2μm,15.1s
WMQ LR LR
comp=Z,3μm,18.3s
ARU Arti 29.80 1 *eP* **P 21 57 38.5 +0.1**
comp=Z,13nm,1.4s
ARU Arti 29.80 1 *d iP* **P 21 57 40.7 +2.3**
ARU 21 58 32.5
ARU S **S 22 02 34.5 -0.3**
ARU pmax pmax
comp=Z,6.0nm,1.1s
ICOR Ion Corvin 29.83 314⇑ *iP* **P 21 57 38.9 +0.1**
TLB Topalu 29.88 315⇑ *iP* **P 21 57 38.7 -0.5**
TLB Topalu 29.88 315 P **P 21 57 38.6 -0.6**
HARR Harsova 30.00 315⇑ *iP* **P 21 57 39.7 -0.6**
HARR Harsova 30.00 315 P **P 21 57 39.7 -0.6**
CFR Carcaliu 30.10 316⇑ *iP* **P 21 57 41.0 -0.1**
CFR Carcaliu 30.10 316 P **P 21 57 39.6 -1.5**
CFR pmax pmax
comp=Z,7.0nm,1.0s
SVE Sverdlovsk 30.27 3⇓ *eP* **P 21 57 42.1 -0.4**
SVE pmax pmax
comp=Z,11nm,1.4s
SVE MLR MLR
comp=Z,708nm,12.0s
SHL Shillong 30.58 84 P **P 21 57 46.1 +0.2**
SHL pmax pmax
comp=Z,6.0nm,1.2s
SGRR Singureni 31.07 313⇑ *iP* **P 21 57 50.1 +0.4**
SULR 31.07 314⇑ *iP* **P 21 57 50.1 +0.4**
PLD Plovdiv 31.16 308 P **P 21 57 49.3 -1.3**
PLD pmax pmax
comp=Z,26nm,0.8s
VRI Vrincioaia 31.29 316⇓ *iP* **P 21 57 51.4 -0.3**
VRI Vrincioaia 31.29 316 P **P 21 57 51.3 -0.4**
PLOR Plostina 31.34 316⇓ *iP* **P 21 57 53.1 +1.0**
PLOR Plostina 31.34 316 P **P 21 57 53.1 +1.0**
MLR Muntele Rosu 31.62 315 *eP* **P 21 57 54.7 0.0**
comp=Z,21nm,1.1s
MLR Muntele Rosu 31.62 315⇑ *iP* **P 21 57 55.4 +0.7**
MLR Muntele Rosu 31.62 315 *eP* **P 21 57 54.7 0.0**
MLR pmax pmax
comp=Z,21nm,1.1s
TESR Tescani 31.64 317⇑ *iP* **P 21 57 54.1 -0.7**
SRS Serrai 31.65 306 P **P 21 57 55.3 +0.4**
SRS pmax pmax
comp=Z,18nm,1.0s
SOH Sokhos 31.74 305 P **P 21 57 56.4 +0.6**
SOH pmax pmax
comp=Z,12nm,1.0s
HUMR Humele 31.84 313⇓ *iP* **P 21 57 57.1 +0.5**
ITM Ithomi 32.06 298 *eP* **P 21 57 57.5 -1.0**
comp=Z,96nm,1.8s
MTUR Matau 32.07 314⇑ *iP* **P 21 57 58.1 -0.6**
AGG Agios Georgios 32.08 302 *eP* **P 21 57 58.6 -0.1**
comp=Z,14nm,1.1s
AGG Agios Georgios 32.08 302 *eP* **P 21 57 58.6 -0.1**
AGG pmax pmax
comp=Z,14nm,1.1s
VOIR 32.16 314⇓ *iP* **P 21 58 00.2 +0.7**
VOIR 32.16 314 P **P 21 57 59.7 +0.2**
VOIR pmax pmax
comp=Z,26nm,1.3s
KNT Kendrikon 32.17 306 P **P 21 57 58.7 -0.8**
KNT pmax pmax
comp=Z,5.0nm,0.9s
BIZ Bicaz 32.17 317⇑ *iP* **P 21 57 58.8 -0.6**
DOPR Dopca 32.17 315⇓ *iP* **P 21 57 59.7 +0.2**
VTS Vitosha 32.35 309 *eP* **P 21 58 00.9 -0.4**
comp=Z,5.2nm,1.0s
VTS Vitosha 32.35 309⇑ *iP* **P 21 58 01.2 -0.1**
ARR Arges 32.40 314⇑ *iP* **P 21 58 01.9 +0.3**
OBN Obninsk 32.43 337 *eP* **P 21 58 01.2 -0.3**
comp=Z,22nm,0.7s
OBN Obninsk 32.43 337 *i* P **P 21 58 01.0 -0.5**
OBN *i* 21 58 09.8
OBN pmax pmax
comp=Z,28nm,1.1s
DGZ Jazzator, Alta 32.43 37⇓ *eP* **P 21 58 02.7 +0.9**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 32.46 325 *eP* **P 21 58 01.7 -0.2**
comp=Z,3.7nm,0.8s
AKASG Malin Array Be 32.46 325 *ceP* **P 21 58 00.7 -1.2**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 32.46 325 P **P 21 58 00.4 -1.5**
comp=Z,2.0nm,0.4s,baz=125,slow=8.0,SNR=40
AKBB Malin Array Si 32.46 325 *eP* **P 21 58 00.7 -1.2**
comp=Z,16nm,0.7s
AKBB Malin Array Si 32.46 325 *eP* **P 21 58 00.7 -1.2**
AKBB pmax pmax
comp=Z,16nm,0.7s
KIEV Kiev 32.46 325 *eP* **P 21 58 00.2 -1.7**
comp=Z,16nm,0.7s
KIEV Kiev 32.46 325⇑ *iP* **P 21 58 01.2 -0.7**
KIEV Kiev 32.46 325 *deP* **P 21 58 00.8 -1.1**
KIEV pmax pmax
comp=Z,15nm,1.0s
GRG Griva 32.47 305 P **P 21 58 02.4 +0.2**
GRG pmax pmax
comp=Z,18nm,1.1s
MOS Moscow 32.58 339 *eP* **P 21 58 01.2 -1.6**
MOS *e* 21 59 14.7
MOS pmax pmax
comp=Z,27nm,0.9s
MOS MLR MLR
comp=Z,900nm,19.0s
STIP Stip 32.83 306 *i* P **P 21 58 03.7 -1.6**
MDB Medias 32.88 315⇑ *iP* **P 21 58 06.3 +0.6**
LOT Lotru 32.99 314⇑ *iP* **P 21 58 06.2 -0.6**
BURAR Bucovina Array 33.02 318 *eP* **P 21 58 05.8 -1.2**
comp=Z,34nm,0.8s
BURAR Bucovina Array 33.02 318⇓ *iP* **P 21 58 07.4 +0.4**
BURAR Bucovina Array 33.02 318 *eP* **P 21 58 05.8 -1.2**
BURAR pmax pmax
comp=Z,34nm,0.8s
BUR08 Bucovina Ar. S 33.05 318 *eP* **P 21 58 05.5 -1.7**
comp=Z,5.7nm,1.0s
SRE Strehaia 33.07 312⇑ *iP* **P 21 58 07.7 +0.4**
SRE Strehaia 33.07 312 P **P 21 58 07.7 +0.4**
FNA Florina 33.18 305 *eP* **P 21 58 07.4 -1.1**
comp=Z,24nm,0.9s
FNA Florina 33.18 305 *eP* **P 21 58 07.4 -1.1**
FNA pmax pmax
comp=Z,24nm,0.9s
BIA Bitola 33.28 305 *i* P **P 21 58 09.8 +0.5**
SKO Skopje 33.44 307 *i* P **P 21 58 10.3 -0.3**
CJR Cluj-Napoca 33.62 316⇑ *iP* **P 21 58 13.0 +0.8**
CJR Cluj-Napoca 33.62 316 P **P 21 58 12.9 +0.8**
GZR Gura Zlata 33.62 313⇑ *iP* **P 21 58 12.2 0.0**
HERR Herculane 33.67 312⇑ *iP* **P 21 58 11.6 -1.0**
OHR Ohrid 33.69 305 *i* P **P 21 58 12.8 0.0**
IGT Igoumenitsa 33.70 302 P **P 21 58 14.0 +1.1**
DEV Deva 33.72 314⇑ *iP* **P 21 58 12.5 -0.5**
DEV Deva 33.72 314 P **P 21 58 12.3 -0.7**
DEV pmax pmax
comp=Z,25nm,1.2s
NVS Novosibirsk 33.79 27 *eP* **P 21 58 12.0 -1.5**
NVS *eS* **S 22 03 34.5 -2.6**
NVS pmax pmax
comp=Z,25nm,1.2s
NVS pmax pmax
comp=N,16nm,1.3s
NVS smax smax
comp=N,12nm,1.2s
NVS smax smax
comp=E,6.0nm,1.1s
ZAA0 Zalesovo Array 33.82 29 *eP* **P 21 58 12.2 -1.6**
comp=E,20nm,1.1s
ZALV Zalesovo Beam 33.82 29 *eP* **P 21 58 11.8 -2.0**
ZALV *eS* **S 22 03 36.6 -1.0**
ZALV Zalesovo Beam 33.82 29 P **P 21 58 12.2 -1.6**
ZALV S **S 22 03 34.0 -3.6**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV smax smax
comp=N,4.0nm,1.0s
ZALV Zalesovo Beam 33.82 29 P **P 21 58 12.2 -1.6**
comp=N,2.3nm,0.3s,baz=233,slow=10,SNR=14
ZALV S **S 22 03 34.0 -3.6**
comp=N,3.8nm,1.0s,baz=229,slow=15,SNR=5.1

KMBO Kilima Mbogo 33.95 219 *eP* **P 21 58 16.4 +0.9**
comp=N,8.9nm,1.0s
KMBO Kilima Mbogo 33.95 219 *eP* **P 21 58 16.4 +0.9**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 33.95 219 P **P 21 58 16.4 +0.9**
comp=Z,5.2nm,0.9s,baz=27,slow=12,SNR=9.8
MDVR Moldovita 34.10 312⇑ *iP* **P 21 58 16.5 +0.1**
DRGR 34.20 315⇓ *iP* **P 21 58 17.7 +0.4**
BZS Buzias 34.46 313⇑ *iP* **P 21 58 19.2 -0.2**
SIRR Siria 34.67 314⇑ *iP* **P 21 58 21.7 +0.5**
BANR Banloc 34.70 312⇑ *iP* **P 21 58 22.3 +0.9**
LVV L'vov 34.77 321 *eP* **P 21 58 21.7 -0.3**
TRPA Tarpa 34.87 317⇓ *iP* **P 21 58 22.9 0.0**
TRPA Tarpa 34.87 317⇑ *eP* **P 21 58 22.0 -0.9**
LTVH Ltavrtes, Hu 34.95 316 *eP* **P 21 58 24.1 +0.5**
UZH Uzhgorod 35.23 318 *eP* **P 21 58 24.3 -1.7**
KOLS Kolonicke sedl 35.37 319 *eP* **P 21 58 27.8 +0.5**
KOLS pmax pmax
comp=Z,48nm,1.1s
KOLS Kolonicke sedl 35.37 319 *eP* **P 21 58 27.8 +0.5**
KWP Kalwaria Pacla 35.43 320 *eP* **P 21 58 27.9 +0.1**
KWP Kalwaria Pacla 35.43 320 *eP* **P 21 58 27.3 -0.5**
comp=Z,364nm,1.2s
KWP Kalwaria Pacla 35.43 320 *eP* **P 21 58 27.3 -0.5**
PRGR Permogore 35.97 350 *eP* **P 21 58 29.9 -2.2**
PRGR pmax pmax
comp=Z,7.0nm,1.0s
KECS Kecovo 36.26 317 *eP* **P 21 58 35.3 +0.4**
KECS pmax pmax
comp=Z,97nm,1.3s
KECS Kecovo 36.26 317 *eP* **P 21 58 35.3 +0.4**
TIP Timpagrande 36.37 301 *eP* **P 21 58 36.1 +0.1**
comp=Z,49nm,1.4s
TIP Timpagrande 36.37 301⇑ *iP* **P 21 58 36.1 +0.1**
PSZ Piszkesteto 36.41 316 *eP* **P 21 58 35.8 -0.4**
comp=Z,22nm,1.1s
PSZ Piszkesteto 36.41 316⇓ *iP* **P 21 58 36.2 0.0**
PSZ Piszkesteto 36.41 316 *eP* **P 21 58 35.8 -0.4**
PSZ pmax pmax
comp=Z,22nm,1.1s
PSZ Piszkesteto 36.41 316 *eP* **P 21 58 36.0 -0.2**
KLMR Klimovskoe 36.43 345 *eP* **P 21 58 33.1 -3.0**
KLMR pmax pmax
comp=Z,23nm,1.4s
IDID Didziasalis 36.49 330 *eP* **P 21 58 36.4 -0.3**
IDID IAmb IAmb 21 58 50.1
comp=Z,6.5nm,0.7s
MORH Mrgy, Hungar 36.62 313⇑ *eP* **P 21 58 37.0 -0.9**
IIGN Ignalina 36.74 330 *eP* **P 21 58 38.5 -0.4**
IIGN IAmb IAmb 21 58 52.4
comp=Z,9.1nm,0.9s
LANS Liptovska Anna 37.14 318 *eP* **P 21 58 42.4 0.0**
LANS Liptovska Anna 37.14 318 *eP* **P 21 58 42.4 0.0**
GTA Gaotai 37.16 59 *eP* **P 21 58 43.6 +0.8**
GTA pP sP 21 58 47.7 +0.1
GTA sP pP 21 58 51.1 +4.9
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,140nm,5.5s
GTA LR LR
comp=Z,560nm,18.0s
GTA LR LR
comp=Z,520nm,15.6s
GTA LR LR
comp=Z,590nm,14.7s
BLY Banja Luka 37.17 310 *eP* **P 21 58 42.2 -0.5**
comp=Z,23nm,1.7s
CSKK Cskako 37.24 314⇓ *eP* **P 21 58 43.0 -0.2**
VYHS Vyhne 37.28 316 *eP* **P 21 58 43.3 -0.3**
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 37.28 316 *eP* **P 21 58 43.3 -0.3**
SRO2 Moca 37.29 315 *eP* **P 21 58 43.1 -0.5**
SRO2 Moca 37.29 315 *eP* **P 21 58 43.1 -0.5**
OJC Ojcow 37.38 319 *eP* **P 21 58 43.9 -0.5**
OJC Ojcow 37.38 319 *eP* **P 21 58 43.7 -0.6**
comp=Z,44nm,1.2s
OJC Ojcow 37.38 319 *eP* **P 21 58 43.9 -0.5**
SUW Suwalki 37.39 326 *eP* **P 21 58 43.6 -0.8**
SUW Suwalki 37.39 326 *eP* **P 21 58 43.5 -0.8**
comp=Z,59nm,1.1s
SUW Suwalki 37.39 326 *eP* **P 21 58 43.6 -0.8**
PABE Paberze 37.86 329 *eP* **P 21 58 46.9 -1.5**
PABE IAmb IAmb 21 59 00.2
comp=Z,35nm,0.9s
BEHE Becsehely 37.93 312⇑ *eP* **P 21 58 49.0 0.0**
JAVC Velka Javorina 38.13 316 *eP* **P 21 58 51.1 +0.3**
OKC Ostrava-Krasne 38.20 318 *eP* **P 21 58 51.1 -0.2**
OKC Ostrava-Krasne 38.20 318 *eP* **P 21 58 51.1 -0.2**
MODS Modra-Piesok 38.21 316 *eP* **P 21 58 50.0 -1.4**
MODS pmax pmax
comp=Z,32nm,1.3s
MODS Modra-Piesok 38.21 316 *eP* **P 21 58 50.0 -1.4**
ZST Bratislava 38.26 315 *eP* **P 21 58 50.7 -1.1**
ZST Bratislava 38.26 315 *eP* **P 21 58 50.7 -1.1**
KOGS Kog 38.27 312 *i* P **P 21 58 51.8 -0.1**
SOP Sopron 38.44 314 P **P 21 58 53.3 0.0**
SOP pmax pmax
comp=Z,56nm,1.1s
SOP Sopron 38.44 314⇑ *eP* **P 21 58 52.1 -1.3**
MORC Moravsky Berou 38.54 318 *eP* **P 21 58 53.7 -0.6**
comp=Z,16nm,1.3s
MORC Moravsky Berou 38.54 318⇓ *iP* **P 21 58 54.3 0.0**
MORC Moravsky Berou 38.54 318 *eP* **P 21 58 53.7 -0.6**
MORC pmax pmax
comp=Z,16nm,1.3s
MORC Moravsky Berou 38.54 318 *eP* **P 21 58 53.4 -0.9**
VSU Vasula 38.55 334 *deP* **P 21 58 53.0 -1.1**
VSU pmax pmax
comp=Z,55nm,1.7s
VSU Vasula 38.55 334 *eP* **P 21 58 52.7 -1.4**
VSU IAmb IAmb 21 59 08.2
comp=Z,21nm,0.8s
CHTO Chiang Mai 38.61 93 *eP* **P 21 58 57.5 +2.3**
comp=Z,9.1nm,1.4s
CHTO Chiang Mai 38.61 93 P **P 21 58 57.5 +2.3**
CHTO pmax pmax
comp=Z,9.0nm,1.3s
BOJS Bojanci 38.69 310 *i* P **P 21 58 55.5 0.0**
CMAR Chiang Mai Arr 38.73 93 P **P 21 58 57.3 +1.1**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,645nm,21.0s
CMAR Chiang Mai Arr 38.73 93 P **P 21 58 57.2 +1.1**
comp=Z,1.7nm,0.9s,baz=285,slow=11,SNR=6.8
CMAR LR LR 22 16 45.6
comp=Z,645nm,21.0s,baz=264,slow=39
VRAC Vranov 38.95 317⇑ *iP* **P 21 58 58.2 +0.5**
VRAC Vranov 38.95 317 P **P 21 58 57.0 -0.7**
VRAC pmax pmax
comp=Z,14nm,1.2s
VRAC Vranov 38.95 317 *eP* **P 21 58 56.9 -0.7**
CONA Conrad Observa 38.96 314 *i pP* **P 21 58 57.3 -0.5**
comp=Z,16nm,1.1s,SNR=9.4
ARSA Arzberg 38.98 313 *i pP* **P 21 58 57.9 0.0**
comp=Z,26nm,1.1s,SNR=14
KRUC Moravsky 38.99 316 P **P 21 58 58.0 0.0**
KRUC pmax pmax
comp=Z,18nm,1.3s
KRUC Moravsky 38.99 316 *eP* **P 21 58 57.4 -0.6**
PBUR Paburg 39.11 329 *eP* **P 21 58 56.0 -2.8**
PBUR IAmb IAmb 21 59 10.7
comp=Z,46nm,1.0s
SOKA Soboth 39.14 312 *i pP* **P 21 58 59.1 -0.3**
comp=Z,15nm,1.0s,SNR=6.9
KLNR Kaliningrad 39.19 326⇑ *eP* **P 21 58 59.3 -0.2**
KLNR pmax pmax
comp=Z,77nm,1.6s
PAYA Payao 39.26 92 P **P 21 59 04.7 +4.1**
comp=Z,12μm,0.7s
AQU L'Aquila 39.36 305 *eP* **P 21 59 01.7 +0.5**
comp=Z,21nm,0.7s
AQU L'Aquila 39.36 305 *eP* **P 21 59 01.7 +0.5**
AQU pmax pmax
comp=Z,21nm,0.7s
OBKA Obir 39.41 312 *i pP* **P 21 59 01.5 -0.1**
comp=Z,25nm,1.3s
DPC Dobruska-Polom 39.48 318 *eP* **P 21 59 01.4 -0.7**
DPC Dobruska-Polom 39.48 318 *eP* **P 21 59 01.4 -0.7**
TREC Trest 39.63 316 *eP* **P 21 59 03.1 -0.2**
TREC Trest 39.63 316 *eP* **P 21 59 03.1 -0.2**

TMCR Tamitsa 39.68 347 *eP* **P 21 59 04.4 +0.9**
KSP Ksiaz 39.68 319 *eP* **P 21 59 03.3 -0.4**
KSP Ksiaz 39.68 319 *eP* **P 21 59 03.3 -0.4**
UPC Upice 39.73 318 *eP* **P 21 59 04.1 0.0**
UPC Upice 39.73 318 *eP* **P 21 59 04.1 0.0**
TRI Trieste 39.75 310 *eP* **P 21 59 03.6 -0.7**
comp=Z,34nm,1.0s
TRI Trieste 39.75 310 *eP* **P 21 59 03.6 -0.7**
TRI pmax pmax
comp=Z,34nm,1.0s
MOA Molln 39.96 314 *i pP* **P 21 59 05.7 -0.4**
comp=Z,34nm,1.0s,SNR=16
MYKA Terra Mystica 40.05 312 *i pP* **P 21 59 06.6 -0.3**
comp=Z,9.0nm,0.9s,SNR=5.6
LZH Lanzhou 40.13 65 *eP* **P 21 59 08.4 +0.5**
LZH pP sP 21 59 12.8 +0.1
LZH sP pP 21 59 13.8 +2.5
LZH PP **PnPn 22 00 46.4 +2.8**
LZH pmax pmax
comp=Z,30nm,1.2s
LZH pmax pmax
comp=Z,230nm,5.4s
LZH LR LR
comp=Z,1μm,14.7s
LZH LR LR
comp=Z,900nm,15.0s
LZH LR LR
comp=Z,1μm,16.8s
UTHA Uthaitani 40.22 97 P P 21 59 13.5 +4.9
comp=Z,20μm,0.9s
GOPC GO Pecny, Ondr 40.26 317 *eP* **P 21 59 08.4 -0.2**
GOPC GO Pecny, Ondr 40.26 317 *eP* **P 21 59 08.4 -0.2**
JOF Joensuu 40.28 342 P **P 21 59 07.5 -1.0**
JOF pmax pmax
comp=Z,18nm,1.4s
CD2 Chengdu 40.30 73 *eP* **P 21 59 10.0 +0.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,2μm,22.1s
CD2 LR LR
comp=Z,1μm,18.6s
CD2 LR LR
comp=Z,1μm,20.1s
KMI Kunming 40.31 82 P **P 21 59 11.9 +2.3**
KMI pP sP 21 59 14.3 -0.1
KMI sP pP 21 59 16.5 +3.5
KMI PP **PnPn 22 00 48.7 +2.8**
KMI S **S 22 05 19.6 +2.0**
KMI pmax pmax
comp=Z,12nm,0.5s
KMI pmax pmax
comp=Z,110nm,4.3s
KBA Koelnbreinsper 40.36 312 *i pP* **P 21 59 09.2 -0.4**
comp=Z,32nm,1.1s,SNR=15
KBA Koelnbreinsper 40.36 312 P **P 21 59 09.3 -0.4**
KBA pmax pmax
comp=Z,28nm,0.9s
UTTA Uttaradit 40.41 94 P P 21 59 15.0 +4.9
comp=Z,10μm,0.9s
PRU Pruhonice 40.44 317 *eP* **P 21 59 09.8 -0.2**
PRU Pruhonice 40.44 317 *eP* **P 21 59 09.8 -0.2**
PVCC Panska Ves 40.60 318 *eP* **P 21 59 11.1 -0.2**
PVCC Panska Ves 40.60 318 *eP* **P 21 59 11.1 -0.2**
GERES GERESS Array B 40.61 315 P **P 21 59 11.2 -0.3**
comp=Z,9.4nm,0.9s,baz=116,slow=9.1,SNR=38
KHC Kasperske Hory 40.77 315 *eP* **P 21 59 11.8 -1.0**
comp=Z,16nm,1.1s
KHC Kasperske Hory 40.77 315 *eP* **P 21 59 11.8 -1.0**
KHC pmax pmax
comp=Z,16nm,1.1s
KHC Kasperske Hory 40.77 315 *eP* **P 21 59 12.1 -0.7**
KHC *ep*P **pP 21 59 16.9 +0.6**
FIA1 FINESS Array S 40.83 337 *eP* **P 21 59 13.9 +0.9**
comp=Z,11nm,0.9s
FINES FINESS Array B 40.83 337 *eP* **P 21 59 13.6 +0.5**
FINES FINESS Array B 40.83 337 P **P 21 59 12.0 -1.1**
comp=Z,5.4nm,0.5s,baz=132,slow=8.1,SNR=42
ABTA Abfaltersbach 40.83 312 *i pP* **P 21 59 13.0 -0.4**
comp=Z,35nm,0.9s,SNR=15
BRG Berggiesshubel 41.09 318 *eP* **P 21 59 13.7 -1.7**
comp=Z,8.1nm,1.3s
BRG *i* 21 59 18.7
comp=Z,10nm,1.2s
BRG Berggiesshubel 41.09 318 *eP* **P 21 59 13.6 -1.7**
BRG *i* 21 59 18.7
BRG pmax pmax
comp=Z,8.0nm,1.3s
WET Wettzell 41.21 315 P **P 21 59 15.7 -0.7**
WET pmax pmax
comp=Z,14nm,1.4s
WTTA Wattenberg 41.54 312 *ep*P **P 21 59 18.5 -0.8**
comp=Z,75nm,1.1s
WATA Walderalm 41.59 312 *i pP* **P 21 59 18.6 -1.1**
comp=Z,34nm,0.9s,SNR=9.4
CLL Collm 41.79 318 *eP* **P 21 59 21.1 0.0**
comp=Z,15nm,1.1s
CLL Collm 41.79 318 *eP* **P 21 59 20.0 -1.1**
CLL *i* 21 59 25.1
CLL pmax pmax
comp=Z,19nm,1.3s
CLL Collm 41.79 318 *eP* **P 21 59 20.0 -1.1**
comp=Z,19nm,1.3s
CLL *i* sP **pP 21 59 25.1 +0.5**
comp=Z,19nm,1.3s
CLL *e* 21 59 33.0
CLL *e* 21 59 49.0
CLL *e*PP **PP 22 00 57.0 -0.6**
NKC Novy Kostel 41.79 317 P **P 21 59 23.0 +1.8**
NKC pmax pmax
comp=Z,3.0nm,1.4s
NKC Novy Kostel 41.79 317 *eP* **P 21 59 20.8 -0.4**
SQTA Sankt Quirin 41.81 312 *i pP* **P 21 59 20.5 -1.0**
comp=Z,32nm,0.7s,SNR=20
MOTA Moosalm 41.91 312 *i* P **P 21 59 20.9 -1.5**
comp=Z,64nm,1.1s,SNR=43
ZAK Zakamensk 41.92 43 *eP* **P 21 59 26.0 +3.7**
FUR Furstenfeldbru 41.98 313 P **P 21 59 21.7 -1.1**
FUR pmax pmax
comp=Z,29nm,1.6s
KEST Kesra 42.09 295 P **P 21 59 24.2 +0.4**
comp=Z,5.2nm,0.8s,baz=44,slow=5.5,SNR=5.0
FETA Feichten 42.09 312 *i pP* **P 21 59 23.0 -0.8**
comp=Z,64nm,0.9s,SNR=28
BSD Bornholm Skovb 42.14 324 *i* P **P 21 59 21.7 -2.2**
BSD pmax pmax
comp=Z,22nm,0.5s
BSD Bornholm Skovb 42.14 324 *i* P **P 21 59 21.7 -2.2**
comp=Z,22nm,0.5s
BSD Bornholm Skovb 42.14 324 *i* P **P 21 59 22.6 -1.3**
RETA Reutte 42.16 312 *i* P **P 21 59 23.0 -1.3**
comp=Z,21nm,0.9s,SNR=8.1
SLVN Son La 42.29 87 *eP* **P 21 59 28.3 +2.6**
comp=Z,19nm,1.8s
FUORN Ofenpass-Fuorn 42.32 311 *eP* **P 21 59 25.8 0.0**
comp=Z,23nm,1.0s
GRA1 Grafenberg Arr 42.40 316 *eP* **P 21 59 25.9 -0.3**
comp=Z,39nm,1.1s
GRF Grafenberg Arr 42.40 316 *eP* **P 21 59 25.9 -0.3**
GRF pmax pmax
comp=Z,39nm,1.1s
GRFO Grafenberg 42.40 316 *eP* **P 21 59 25.9 -0.2**
comp=Z,35nm,1.1s
GRFO Grafenberg 42.40 316 *eP* **P 21 59 26.0 -0.2**
GRFO pmax pmax
comp=Z,35nm,1.1s
DAVA Damuels 42.71 312 *i pP* **P 21 59 27.9 -1.0**
comp=Z,114nm,1.1s,SNR=25
TUE Stuetta 42.91 311 *eP* **P 21 59 30.2 -0.4**
comp=Z,19nm,1.1s
KHON Khomkaen 42.94 94 P **P 21 59 35.1 +4.2**
VAF Ylistaro 43.09 337 P **P 21 59 30.5 -1.0**
VAF pmax pmax
comp=Z,8.0nm,0.9s
MSF Maaselka 43.25 343 P **P 21 59 36.0 +3.2**
MSF pmax pmax
comp=Z,12nm,1.0s
SONM Songino Array 43.27 47 *eP* **P 21 59 32.9 -0.6**
comp=Z,2.6nm,0.9s
SONM Songino Array 43.27 47 P **P 21 59 32.8 -0.6**
comp=Z,1.9nm,0.7s,baz=261,slow=9.8,SNR=14
STU Stuttgart 43.47 314 P **P 21 59 34.8 0.0**
STU pmax pmax
comp=Z,11nm,1.3s
OUL Oulu 43.49 341 P **P 21 59 33.6 -1.1**
OUL pmax pmax

comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 43.71 48⇑ eP P 21 59 36.6 -0.4
ULN pmax pmax
comp=Z,3.0nm,1.0s
SLE Schleitheim 43.73 312 P P 21 59 36.4 -0.5
SLE pmax pmax
comp=Z,25nm,1.1s
SKNT Sakolnakorn 43.74 93 P P 21 59 41.2 +3.8
BFO Black Forest 43.94 313 eP P 21 59 37.9 -0.7
comp=Z,14nm,1.3s
BFO Black Forest 43.94 313 i P P 21 59 39.6 +1.0
TNS Taunus Mts 44.27 316 P P 21 59 41.7 +0.4
TNS pmax pmax
comp=Z,20nm,1.3s
SENIN Lac Senin/Sane 44.29 310 eP P 21 59 41.2 -0.5
comp=Z,16nm,1.2s
XAN Xi'an 44.37 68 P P 21 59 46.3 +4.0
XAN pmax pmax
comp=Z,3.0nm,1.2s
XAN pmax pmax
comp=Z,62nm,5.1s
XAN Xi'an 44.37 68 eP P 21 59 44.7 +2.4
comp=Z,16nm,1.1s
XAN Xi'an 44.37 68 P P 21 59 44.7 +2.4
XAN pmax pmax
comp=Z,16nm,1.1s
FRF La Foret Royal 44.42 306 P P 21 59 43.4 +0.8
FRF pmax pmax
comp=Z,28nm,1.2s
MBDF Montbardon 44.45 308 eP P 21 59 45.2 +2.3
MBDF pmax pmax
comp=Z,12nm,0.7s
BNI Bardonecchia 44.55 308 eP P 21 59 41.3 -2.5
comp=Z,59nm,1.8s
BNI Bardonecchia 44.55 308 eP P 21 59 41.3 -2.5
BNI pmax pmax
comp=Z,59nm,1.8s
LPG La Plagne 44.56 309 eP P 21 59 44.1 +0.2
LPG pmax pmax
comp=Z,11nm,0.7s
LPL La Plagne 44.57 309 eP P 21 59 42.0 -2.0
LPL pmax pmax
comp=Z,20nm,1.0s
CDF Champ du Feu 44.65 313 eP P 21 59 42.2 -2.2
CDF pmax pmax
comp=Z,16nm,1.0s
ECH Echery 44.69 313 eP P 21 59 42.8 -1.8
comp=Z,33nm,1.0s
ECH Echery 44.69 313 eP P 21 59 42.8 -1.8
ECH pmax pmax
comp=Z,33nm,1.0s
HINF Hinteralfeld 44.82 312 eP P 21 59 43.9 -1.8
HINF pmax pmax
comp=Z,24nm,1.1s
BTO Baotou 45.06 58 eP P 21 59 47.2 -0.6
SGF Sodankyl 45.07 344 eP P 21 59 48.9 +1.6
SGF pmax pmax
comp=Z,13nm,1.0s
CABF La Chapelle 45.16 310 eP P 21 59 47.3 -1.2
CABF pmax pmax
comp=Z,44nm,1.2s
HAU Haudompre 45.19 312 eP P 21 59 46.6 -2.0
HAU pmax pmax
comp=Z,15nm,1.0s
WLF Walferdange 45.60 315 eP P 21 59 51.1 -0.7
comp=Z,71nm,0.9s
WLF Walferdange 45.60 315 eP P 21 59 51.1 -0.7
WLF pmax pmax
comp=Z,71nm,0.9s
WLF Walferdange 45.60 315 ⇑P P 21 59 51.8 0.0
comp=Z,18nm,1.3s
MUD Monsted U'grnd 45.65 324 i P P 21 59 55.2 +3.2
MUD Monsted U'grnd 45.65 324 i P P 21 59 55.2 +3.2
MEM Membach 45.88 316 P P 21 59 54.6 +0.6
MEM pmax pmax
comp=Z,15nm,1.5s
MEM Membach 45.88 316 ⇓P P 21 59 54.6 +0.6
VIVF Saint-Julien-l 45.95 308 eP P 21 59 52.9 -1.8
VIVF pmax pmax
comp=Z,7.0nm,1.0s
SSB Saint Sauveur 46.08 308 eP P 21 59 54.9 -0.8
comp=Z,13nm,1.0s
SSB Saint Sauveur 46.08 308 eP P 21 59 54.9 -0.8
SSB pmax pmax
comp=Z,13nm,1.0s
NRIK Noril'sk 46.19 14 P P 21 59 55.5 -0.6
comp=Z,5.9nm,0.7s,baz=191,slow=3.8,SNR=6.8
NORES NORESS Array B 46.20 331 P P 21 59 57.9 +1.5
HHC Hu-ho-hao-te 46.24 58 eP P 21 59 58.3 +1.2
HHC sP sP 22 00 05.6 +3.6
HHC S **S 22 06 46.4 +2.6**
HHC SS **SS 22 10 06.0 -3.1**
HHC pmax pmax
comp=Z,310nm,5.5s
HHC LR LR
comp=Z,550nm,14.5s
HHC LR LR
comp=Z,530nm,15.0s
HHC LR LR
comp=Z,680nm,14.0s
BCLA Clavier 46.28 315 ⇑P P 21 59 56.2 -1.0
NC405 NORSAR Array S 46.29 331 eP P 21 59 55.4 -1.7
comp=Z,22nm,1.0s
NB2 NORSAR Subarra 46.48 331 P P 21 59 56.5 -2.1
comp=Z,4.6nm,1.0s,baz=117,slow=7.9
NOA NORSAR Array B 46.48 331 P P 21 59 56.9 -1.7
comp=Z,2.1nm,0.9s,baz=116,slow=7.8,SNR=8.0
GIVF Givet 46.53 315 eP P 21 59 59.8 +0.7
GIVF pmax pmax
comp=Z,28nm,1.0s
KONO Kongsberg 46.62 329⇓ eP P 21 59 59.1 -0.6
KONO pmax pmax
comp=Z,36nm,2.5s
NBO00 NORSAR Array S 46.66 331 eP P 22 00 00.8 +0.8
comp=Z,135nm,1.9s
DOU Dourbes 46.67 315 P P 22 00 01.0 +0.7
DOU pmax pmax
comp=Z,34nm,1.3s
DOU Dourbes 46.67 315 ⇓P P 22 00 00.9 +0.7
comp=Z,19nm,1.2s
SMF Signal de Mont 46.70 310 eP P 21 59 59.0 -1.5
SMF pmax pmax
comp=Z,90nm,1.1s
KEV Kevo 46.74 346 eP P 22 00 00.2 -0.2
comp=Z,24nm,1.1s
KEV Kevo 46.74 346 eP P 22 00 00.2 -0.2
KEV pmax pmax
comp=Z,24nm,1.1s
LOR Lormes 46.75 311 P P 21 59 59.3 -1.7
LOR pmax pmax
comp=Z,35nm,1.1s
ARCES ARCESS Array B 46.91 345 eP P 22 00 02.2 +0.4
ARCES PcP **PcP 22 01 34.2 -0.2**
ARCES ARCESS Array B 46.91 345 P P 22 00 00.6 -1.2
comp=Z,6.3nm,0.9s,baz=147,slow=6.9,SNR=18
ARCES PcP **PcP 22 01 34.2 -0.2**
comp=Z,2.3nm,0.7s,baz=146,slow=3.5,SNR=5.6
ARE0 ARCESS Array S 46.91 345 eP P 22 00 02.4 +0.6
comp=Z,0.8nm,1.1s
BAIF Baives 46.91 315 eP P 22 00 03.0 +0.9
BAIF pmax pmax
comp=Z,53nm,1.2s
SSF Saint Saulge 46.97 311 eP P 22 00 01.2 -1.4
SSF pmax pmax
comp=Z,58nm,1.0s
AVF Avril sur Loir 47.05 310 eP P 22 00 01.6 -1.6
AVF pmax pmax
comp=Z,31nm,1.2s
BGF Bois d'Agland 47.37 310 eP P 22 00 04.4 -1.4
BGF pmax pmax
comp=Z,33nm,1.0s
TAM Tamanrasset 47.38 277 eP P 22 00 06.9 +0.6
comp=Z,14nm,1.0s
TAM Tamanrasset 47.38 277 eP P 22 00 06.9 +0.6
TAM pmax pmax
comp=Z,14nm,1.0s
MTLF Montolieu 47.63 305 eP P 22 00 07.1 -0.8
MTLF pmax pmax
comp=Z,18nm,1.0s
TCF Toulx Ste Croi 47.79 309 eP P 22 00 07.8 -1.3
TCF pmax pmax
comp=Z,29nm,1.1s
CAF Calviac 47.81 308 eP P 22 00 08.2 -1.0
CAF pmax pmax
comp=Z,29nm,1.1s
RJF Les Rejaudoux 48.21 308 eP P 22 00 11.6 -0.7
RJF pmax pmax
comp=Z,40nm,1.1s
LFF La Frestale 48.75 308 eP P 22 00 15.5 -0.9
LFF pmax pmax
comp=Z,19nm,1.0s
EPF Esparros 49.00 305 eP P 22 00 20.7 +2.2
EPF pmax pmax
comp=Z,10.0nm,1.2s
WHN Wuhan 49.38 71 P P 22 00 26.1 +4.6
MFF Saint Martin d 49.44 310 eP P 22 00 20.0 -1.7
MFF pmax pmax
comp=Z,36nm,1.3s
LDF La Druitiere 49.55 312 eP P 22 00 20.8 -1.7
LDF pmax pmax
comp=Z,25nm,1.1s
ETSF Etsaut 49.66 305 eP P 22 00 25.4 +1.8
ETSF pmax pmax
comp=Z,14nm,0.8s
FLN La Foliniere 49.80 313 eP P 22 00 22.9 -1.5
FLN pmax pmax
comp=Z,51nm,1.2s
BOD Bodaibo 50.00 35 eP P 22 00 24.0 -1.8
BOD pmax pmax
comp=Z,23nm,1.6s
SJPF Ste Jean 50.15 305 eP P 22 00 28.6 +1.4
SJPF pmax pmax
comp=Z,9.0nm,0.6s
LSZ Lusaka 50.61 218 eP P 22 00 31.6 +0.6
comp=Z,19nm,1.7s
LSZ Lusaka 50.61 218 eP P 22 00 31.6 +0.6
LSZ pmax pmax
comp=Z,19nm,1.7s
TIA Tai'an 50.85 64 P P 22 00 40.2 +7.6
SGMF Saint Gilles 51.15 312 eP P 22 00 33.4 -1.2
SGMF pmax pmax
comp=Z,29nm,1.1s
QUIF Quistinic 51.54 311 eP P 22 00 37.1 -0.5
QUIF pmax pmax
comp=Z,48nm,1.2s
ESDC Sonseca Array 52.39 301 eP P 22 00 43.9 -0.3
comp=Z,3.9nm,1.0s
ESDC Sonseca Array 52.39 301 P P 22 00 42.0 -2.2
comp=Z,3.7nm,0.9s,baz=69,slow=7.5,SNR=18
ESLA Sonseca Array 52.39 301 eP P 22 00 44.2 0.0
comp=Z,7.9nm,1.0s
GUD Guadarrama 52.45 302 P P 22 00 46.1 +1.4
GUD pmax pmax
comp=Z,17nm,2.5s
PAB San Pablo 52.70 301 eP P 22 00 45.6 -0.8
comp=Z,9.5nm,0.9s
PAB San Pablo 52.70 301 eP P 22 00 45.7 -0.8
PAB pmax pmax
comp=Z,10.0nm,0.9s
NJ2 Nanjing 52.90 69 eP P 22 00 48.5 +0.6
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MNAI Manna 53.43 118 eP P 22 00 53.9 +2.0
comp=Z,681nm,1.6s
TOA0 Torodi Ar. Sit 54.05 267 eP P 22 00 56.2 -0.4
comp=Z,31nm,1.3s
TORD Torodi Ar. Bea 54.05 267 P P 22 00 54.4 -2.2
comp=Z,5.0nm,0.6s,baz=46,slow=6.7,SNR=27
MVO Moncorvo 54.57 303 eP P 22 01 01.2 +1.0
comp=Z,6.5nm,0.7s
SPA0 Spitsbergen Ar 54.95 350 eP P 22 01 01.0 -1.2
comp=Z,25nm,1.3s
POLO Lamas de Olo 55.12 303 eP P 22 01 04.0 -0.2
comp=Z,21nm,1.5s
EVO Evora 55.66 300 eP P 22 01 05.7 -2.3
comp=Z,31nm,1.4s
PCAS Casmilo, Conde 55.82 302 eP P 22 01 11.9 +2.8
comp=Z,6.3nm,0.6s
YAK Yakutsk 58.39 32 eP P 22 01 24.8 -2.1
YAK e*PP **sP 22 01 34.5 +2.6**
YAK e 22 02 17.5
YAK e 22 03 34.0
YAK eS **S 22 09 25.0 -4.5**
YAK e*SS sS 22 09 43.5 +8.1
YAK e 22 11 12.5
YAK eSS **SS 22 13 23.3 +2.1**
YAK pmax pmax
comp=Z,51nm,0.9s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,24nm,1.1s
YAK pmax pmax
comp=Z,625nm,4.5s
YAK pmax pmax
comp=N,571nm,4.6s
YAK smax smax
comp=E,328nm,2.7s
YAK smax smax
comp=N,93nm,2.5s
YAK MLR MLR
comp=Z,2μm,21.0s
YAK MLR MLR
comp=N,320nm,19.0s
YAK MLR MLR
comp=E,508nm,11.0s
TIXI Tiksi 59.03 20⇑ eP P 22 01 31.8 +0.6
TIXI pmax pmax
comp=Z,12nm,1.7s
TIXI Tiksi 59.03 20 P P 22 01 29.3 -1.9
comp=Z,3.9nm,0.8s,baz=298,slow=4.5,SNR=11
KSAR Wonju Array Be 59.18 61 eP P 22 01 32.7 -0.1
KSAR Wonju Array Be 59.18 61 eP P 22 01 32.7 -0.1
KSRS Korea Array 59.21 61 P P 22 01 31.6 -1.4
comp=Z,2.1nm,1.0s,baz=286,slow=6.6,SNR=6.9
KSRS LR LR 22 31 50.5
comp=Z,337nm,20.2s,baz=303,slow=41
LBTB Lobatse 60.00 214 P P 22 01 38.5 -0.1
LBTB pmax pmax
comp=Z,13nm,0.9s
KLR Kul'dur 60.09 47⇑ eP P 22 01 37.3 -1.6
KLR pmax pmax
comp=Z,3.0nm,1.1s
KLR Kul'dur 60.09 47 P P 22 01 36.4 -2.5
comp=Z,1.1nm,0.6s,baz=270,slow=6.1,SNR=3.2
USRK Ussuriysk Ar. 60.99 52 LR LR 22 32 29.6
comp=Z,286nm,18.3s,baz=275,slow=40
DAG Danmarks Havn 61.20 345 i P P 22 01 44.4 -1.6
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 61.20 345 i P P 22 01 44.4 -1.6
comp=Z,8.7nm,0.9s
DBIC Dimbokro 62.62 264 P P 22 01 56.2 -0.3
comp=Z,4.4nm,1.0s,baz=333,slow=2.3,SNR=3.3
KIC Kosan Boka 62.65 263 *e*PKP1 P 22 02 06.6 +10
comp=Z,26nm,0.9s
TIC Toumodi 62.77 264 *e*PKP1 P 22 02 06.5 +8.9
LIC Lamto 62.97 263 *e*PKP1 P 22 02 07.5 +8.7
comp=Z,42nm,1.0s
BOSA Boshof 63.17 212 P P 22 01 58.4 -1.6
comp=Z,2.8nm,0.8s,baz=194,slow=1.9,SNR=5.0
SUMG Summit 66.71 341 *eP* **P 22 02 22.5 -0.3**
comp=Z,29nm,1.1s
SUMG Summit 66.71 341 *i P* **P 22 02 22.5 -0.3**
SUMG pmax pmax
comp=Z,32nm,0.8s
SUMG Summit 66.71 341 *i P* **P 22 02 22.5 -0.3**
comp=Z,32nm,0.8s
MJAR Matsushiro Arr 67.41 59 P P 22 02 27.3 -0.1
comp=Z,1.4nm,0.8s,baz=271,slow=7.4,SNR=4.7
MA2 Magadan 68.91 33⇑ eP P 22 02 36.1 -0.3
MA2 pmax pmax
comp=Z,4.0nm,1.0s
TULEG Thule 72.06 349 eP P 22 02 54.3 -1.1
comp=Z,9.9nm,1.0s
BILL Bilibino 72.18 22 *i P* **P 22 02 56.1 -0.1**
BILL *i* 22 03 13.8
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,394nm,17.0s
PETK Petropavlovsk- 74.78 38 LR LR 22 36 35.4
comp=Z,315nm,20.5s,baz=277,slow=36
FRB Frobisher Bay 80.62 339 P P 22 03 44.6 +0.5
FRB pmax pmax
comp=Z,12nm,0.9s
TOLK Toolik Lake Re 82.92 10 eP P 22 03 56.5 +0.2
comp=Z,8.1nm,0.9s
IMAR Indian Mountai 84.60 12 eP P 22 04 04.6 -0.2
INK Inuvik 85.00 4 eP P 22 04 07.8 +1.1
comp=Z,3.8nm,1.0s
INK Inuvik 85.00 4 eP P 22 04 07.9 +1.1
INK pmax pmax
comp=Z,4.0nm,1.0s
MLY Manley 86.02 12 eP P 22 04 12.9 +0.8
comp=Z,9.5nm,1.2s
MDM Murphy Dome 86.52 11 eP P 22 04 16.4 +1.9
comp=Z,15nm,1.1s
BPAW Bear Paw Mtn. 86.81 12 eP P 22 04 16.3 +0.4
comp=Z,18nm,1.1s
ILAR Eielson Array 86.91 10 eP P 22 04 17.2 +0.8
ILAR Eielson Array 86.91 10 eP P 22 04 17.2 +0.8
ILAR Eielson Array 86.91 10 P P 22 04 16.6 +0.3
comp=Z,0.9nm,0.6s,baz=319,slow=3.8,SNR=7.7
CAST Castle Rocks 87.21 13 eP P 22 04 18.6 +0.7
comp=Z,13nm,1.0s
WRA Warramunga Arr 87.42 114 P P 22 04 19.1 -0.5
comp=Z,2.9nm,0.8s,baz=314,slow=3.9,SNR=17
MCK McKinley 87.53 12 eP P 22 04 20.7 +1.3
comp=Z,14nm,1.2s
MCK McKinley 87.53 12 P P 22 04 20.7 +1.3
MCK pmax pmax
comp=Z,14nm,1.2s
ASAR Alice Springs 88.90 117 eP P 22 04 27.5 +0.9
ASAR Alice Springs 88.90 117 P P 22 04 25.4 -1.1
comp=Z,2.0nm,0.8s,baz=306,slow=4.7,SNR=13
ASAR LR LR 22 46 39.1
comp=Z,113nm,20.0s,baz=258,slow=37
YKA Yellowknife Ar 91.00 356 eP P 22 04 37.3 +1.6
YKA Yellowknife Ar 91.00 356 P P 22 04 34.6 -1.0
comp=Z,1.8nm,1.1s,baz=358,slow=4.3,SNR=12
YKA LR LR 22 51 22.4
comp=Z,17nm,19.3s,baz=21,slow=40
FCC Fort Churchill 91.80 346 eP P 22 04 38.6 -0.8
comp=Z,6.2nm,1.1s
FCC Fort Churchill 91.80 346 eP P 22 04 38.6 -0.8
FCC pmax pmax
comp=Z,6.0nm,1.1s
ULM Lac du Bonnet 100.00 343 LR LR 22 53 16.1
comp=Z,138nm,19.5s,baz=62,slow=37

ROM 11 21:56:05.2±0.2, 43°.462N±0°.004×12°.306E±0°.006, h6km±1km, Md1.3/3, Error ellipse: s-maj=0.5km s-min=0.0km az=56.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.05**	**266**	P	Pg	21 56 06.3	-0.3
CDCA	**Citt' di Caste**	**0.05**	**266**	P	Pg	21 56 06.6	-0.1
CDCA				S	Sg	21 56 08.0	+0.2
CDCA				END			
CDCA				END			
CDCA	**Citt' di Caste**	**0.05**	**266**	P	Pg	21 56 06.6	-0.1
CDCA	**Citt' di Caste**	**0.05**	**266**	S	Sg	21 56 07.5	-0.3
BADI	**Badiali**	**0.07**	**317**	P	Pg	21 56 07.1	+0.2
BADI	**Badiali**	**0.07**	**317**	P	Pg	21 56 07.1	+0.2
BADI	**Badiali**	**0.07**	**317**	P	Pg	21 56 07.1	+0.2
BADI				S	Sg	21 56 08.7	+0.5
BADI				END			
BADI				END			
BADI				END			
BADI				END			
BADI	**Badiali**	**0.07**	**317**	S	Sg	21 56 08.6	+0.5
ATPI	**Pietralunga -**	**0.07**	**99**	P	Pg	21 56 07.2	+0.2
ATPI				S	Sg	21 56 08.7	+0.4
ATPI				END			
ATPI				END			
ATPI				END			
ATPI				END			
ATPI	**Pietralunga -**	**0.07**	**99**	P	Pg	21 56 07.2	+0.2
ATPI	**Pietralunga -**	**0.07**	**99**	P	Pg	21 56 07.3	+0.2
ATPI	**Pietralunga -**	**0.07**	**99**	S	Sg	21 56 08.7	+0.4
ATVO	**AVT- Monte Val**	**0.11**	**137**	P	Pg	21 56 07.8	+0.3
ATVO				S	Sg	21 56 09.9	+0.7
ATVO				END			
ATVO				END			
ATVO				END			
ATVO				END			
ATVO	**AVT- Monte Val**	**0.11**	**137**	P	Pg	21 56 07.9	+0.4
ATVO	**AVT- Monte Val**	**0.11**	**137**	S	Sg	21 56 10.0	+0.8
ATMI	**Monte Miggiano**	**0.13**	**192**	P	Pg	21 56 08.3	+0.4
ATMI				S	Sg	21 56 11.1	+1.3
ATMI	**Monte Miggiano**	**0.13**	**192**	P	Pg	21 56 08.4	+0.4
PARC	**Parchiule**	**0.19**	**345**	P	Pg	21 56 09.6	+0.5
PARC				S	Sg	21 56 13.2	+1.5
PARC	**Parchiule**	**0.19**	**345**	P	Pg	21 56 09.7	+0.6

PRU 11 21:57:04.0±0.0, 51°.60N×16°.08E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**170**	*e*Pg	Pg	21 57 18.7	0.0
KSP				*e*Sg	Sg	21 57 28.9	+0.2
UPC	**Upice**	**1.09**	**182**	*e*PG	Pg	21 57 24.4	-0.6
UPC				*e*SG	Sg	21 57 39.0	-0.1
comp=Z,6.7nm,0.2s							
DPC	**Dobruska-Polom**	**1.26**	**173**	*e*PG	Pg	21 57 27.1	-1.0
DPC				*e*SG	Sg	21 57 43.8	-0.7
comp=Z,4.3nm,0.5s							
PVCC	**Panska Ves**	**1.44**	**222**	*e*PG	Pn	21 57 30.8	-0.5
PVCC				*e*SG	Sb	21 57 50.6	+0.2
comp=Z,10.0nm,0.2s							
BRG	**Berggiesshubel**	**1.53**	**242**	PG	Pn	21 57 32.5	-0.1
BRG				SG	Sg	21 57 52.1	-1.0
6.3nm,0.3s							
PRU	**Pruhonice**	**1.89**	**212**	*e*SG	Sb	21 58 03.0	-0.4
CLL	**Collm**	**1.95**	**263**	*e*Pg	Pb	21 57 40.0	-0.3
CLL				*e*Sg	Sg	21 58 06.0	-0.5
MORC	**Moravsky Berou**	**2.05**	**152**	*e*PN	Pn	21 57 38.4	-1.3
MORC				*e*SG	Sb	21 58 08.4	+0.3
OKC	**Ostrava-Krasne**	**2.20**	**143**	*e*SG	Sg	21 58 14.1	-0.5
VRAC	**Vranov**	**2.32**	**172**	*e*PN	Pn	21 57 42.9	-0.5
VRAC				*e*SG	Sb	21 58 16.9	+1.1
KRUC	**Moravsky**	**2.55**	**175**	*e*SG	Sg	21 58 24.2	-1.6
NKC	**Novy Kostel**	**2.67**	**241**	*e*SG	Sg	21 58 29.0	-0.9
KHC	**Kasperske Hory**	**2.95**	**214**	*e*SG	Sg	21 58 37.6	-1.0

ARO 11 22:02:19.1, 16°N±39°×4°2E±10°0, h15km±99km, Ml3.7, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**3.86**	**175**	*e*P	Pn	22 03 19.1	+1.0
OBO	**Obock**	**4.19**	**161**	*e*P	Pn	22 03 23.9	+1.3
TDD	**Tadjoura Ara**	**4.26**	**166**	*e*P	Pn	22 03 24.5	+1.0
ATD	**Arta Tunnel**	**4.51**	**168**	*e*P	Pn	22 03 28.8	+1.7
ATD				*e*S	Sn	22 04 25.3	+6.0
ATD	**Arta Tunnel**	**4.51**	**168**	*e*P	Pn	22 03 28.8	+1.7
SGH	**Sud-Ghoubbet**	**4.56**	**171**	*e*P	Pn	22 03 29.3	+1.6
ATA	**Atar**	**4.67**	**164**	*e*P	Pn	22 03 31.2	+2.1

ARO 11 22:10:20.8, 16°N±35°×4°2E±10°0, h15km±99km, Ml4.0
ISCJB 11 22:10:28.0±0.8, 14°.93N±0°.03×41°.9E±0°.2, h10km, Error ellipse: s-maj=23.8km s-min=4.5km az=179.2
SGS 11 22:10:32, 14°.98N×42°.22E, h19km, Ml3.2

ISC 11 22:10:28.9±1.4, 14°.93N±0°.04×41°.9E±0°.1, h10km, n19, σ1§12/22, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRSS	**Farasan al Kab**	**1.81**	**6**	P	Pn	**22 11 00.2**	**+0.1**
FRSS				S	**Sn**	**22 11 21.3**	**-1.8**
JAZS	**Jizan**	**2.33**	**24**	P	**Pn**	**22 11 06.2**	**-1.2**
BESHS	**BESHS**	**2.58**	**20**	P	**Pn**	**22 11 10.2**	**-0.6**
MAOD	**Malaho**	**2.84**	**174**	*e*P	**Pn**	**22 11 14.2**	**-0.2**
DRBS	**Ad Darb**	**2.90**	**7**	P	**Pn**	**22 11 15.2**	**0.0**
DRBS				S	**Sn**	**22 11 48.3**	**-1.9**
DJNS	**Zahran al Janu**	**3.17**	**29**	P	**Pn**	**22 11 19.9**	**+0.8**
OBO	**Obock**	**3.22**	**155**	*e*P	**Pn**	**22 11 19.3**	**-0.3**
TDD	**Tadjoura Ara**	**3.26**	**163**	*e*P	**Pn**	**22 11 19.7**	**-0.4**
NJRNS	**Najran**	**3.48**	**39**	P	**Pn**	**22 11 24.6**	**+1.2**
ATD	**Arta Tunnel**	**3.50**	**165**	*e*P	**Pn**	**22 11 23.9**	**+0.3**
ATD	**Arta Tunnel**	**3.50**	**165**	*e*P	**Pn**	**22 11 23.9**	**+0.3**
ATD				*e*S	**Sb**	**22 12 14.9**	**+1.1**
AMGES	**AMGES**	**3.53**	**354**	P	**Pn**	**22 11 24.8**	**+0.9**
SGH	**Sud-Ghoubbet**	**3.54**	**169**	*e*P	**Pn**	**22 11 24.3**	**+0.2**
KNGHS	**KNGHS**	**3.67**	**24**	P	**Pn**	**22 11 27.4**	**+1.4**
ATA	**Atar**	**3.68**	**160**	*e*P	**Pn**	**22 11 26.4**	**+0.5**
GBR	**Grand-Bara**	**3.80**	**172**	*e*P	**Pn**	**22 11 28.0**	**+0.4**
ENMS	**ENMS**	**4.16**	**9**	P	**Pn**	**22 11 35.0**	**+2.2**
TATS	**Tathlith**	**4.82**	**18**	P	**Pn**	**22 11 43.3**	**+1.6**

QNFDS Al Qunfudhah 4.93 349 P Pn 22 11 43.7 +0.7

IDC 11 22:15:10.4±20.0, 30°33N×79°80E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.3/45, mbtmp3.7/4, MS3.8/1, Ms1 3.8/1, ms1mx3.1/53, Error ellipse: s-maj=451.7km s-min=43.7km az=179.0, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**2.78**	**235**	*e*P	Pg	22 16 05.5	+1.7
MKAR	**Makanchi Array**	**16.55**	**6**	LR	LR	22 26 20.9	
	comp=Z,296nm,19.5s,baz=296,slow=40						
SONM	**Songino Array**	**26.85**	**42**	P	P	22 20 52.9	+0.2
	1.0nm,1.1s,baz=242,slow=6.2,SNR=5.0						
FINES	**FINESS Array B**	**46.65**	**328**	P	P	22 23 41.4	+1.1
	1.1nm,0.9s,baz=99,slow=8.6,SNR=7.3						
ARCES	**ARCESS Array B**	**49.62**	**338**	P	P	22 24 02.6	-0.6
	0.6nm,0.5s,baz=101,slow=8.3,SNR=7.1						
NOA	**NORSAR Array B**	**53.66**	**326**	P	P	22 24 32.6	-0.9
	0.3nm,0.4s,baz=87,slow=7.2,SNR=3.2						

ISCJB ***11*** *22:23:02.7±0.1, 26°.63N±0°.02×57°.78E±0°.02, h10km, mb4.8/181, MS4.3/18, Error ellipse: s-maj=2.5km s-min=2.5km az=139.7*
DSN ***11*** *22:23:02.9±3.2, 26°.55N×58°.05E, h10km, ML4.8/10, Error ellipse: s-maj=43.5km s-min=13.5km az=10.0*
IDC ***11*** *22:23:02.4±0.5, 26°.63N×57°.74E, h0km, mb4.3/35, mb1 4.4/39, mb1mx4.3/53, mbtmp4.4/39, ML4.1/3, MS4.2/10, Ms1 4.2/10, ms1mx3.8/52, Error ellipse: s-maj=11.7km s-min=10.3km az=131.0*
MOS ***11*** *22:23:03.4±1.0, 26°.68N×57°.78E, h15km, mb5.0/99, Error ellipse: s-maj=5.7km s-min=3.0km az=122.2*
BJI ***11*** *22:23:05.5±0.0, 27°.02N×57°.81E, h11km, mb4.6/35, mB5.0/27, Ms4.6/26, Ms7 4.4/24*
NEIC ***11*** *22:23:05.8±0.0, 26°.75N×57°.58E, h14km, mb4.9/78, ML5.0(THR), After THR.*
TEH ***11*** *22:23:06.2, 26°.70N×57°.62E, h25km, ML4.9*
OMAN ***11*** *22:23:09.2±1.6, 26°.40N×57°.84E, h34km±46km, ml4.8/13, Error ellipse: s-maj=60.3km s-min=10.8km az=16.0*
ISC 11 22:23:04.4±0.3, 26°.59N±0°.03×57°.74E±0°.03, h10km, n578, σ1**47**/591, **mb4.8**/187, **MS4.3**/18, **40C-23D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.26**	**320**	*e*Pg	**Pn**	**22 23 28.2**	**+0.1**
NIAN				IAMB	IAmb	22 24 00.9	
	comp=Z,0.0nm,0.6s						
SHME	**Shamm**	**1.54**	**250**	*e*P	**Pb**	**22 23 33.0**	**-0.1**
	SNR=154						
SHME				S	**Sg**	**22 23 57.4**	**+3.6**
SHME	**Shamm**	**1.54**	**250**	*e*Pn	**Pb**	**22 23 33.7**	**+0.7**
BNDS	**Bandar-Abbas**	**1.62**	**300**	*e*Pg	**Pn**	**22 23 31.5**	**-1.7**
GENO	**Geno**	**1.62**	**300**	*e*Pn	**Pb**	**22 23 34.3**	**-0.2**
GENO				IAMB	IAmb	22 24 02.1	
	comp=Z,0.0nm,0.5s						
MSFE	**Esma-Masafi**	**1.88**	**230**	*e*P	**Pn**	**22 23 35.9**	**-0.8**
	SNR=35						
MSFE	**Esma-Masafi**	**1.88**	**230**	*e*Pn	**Pn**	**22 23 36.4**	**-0.3**
UMQ	**Umm Al-Quwin**	**2.15**	**241**	*e*P	**Pb**	**22 23 43.2**	**-0.2**
	SNR=34						
UMQ	**Umm Al-Quwin**	**2.15**	**241**	*e*Pn	**Pb**	**22 23 44.6**	**+1.1**
HATD	**Hatta, Dubai**	**2.28**	**220**	*e*P	**Pn**	**22 23 41.1**	**-1.1**
	SNR=68						
HATD	**Hatta, Dubai**	**2.28**	**220**	*e*Pn	**Pn**	**22 23 41.6**	**-0.6**
ASHO	**Ashiyiah**	**2.44**	**219**	*e*P	**Pn**	**22 23 44.6**	**+0.3**
	SNR=39						
ASHO	**Ashiyiah**	**2.44**	**219**	P	**Pn**	**22 23 45.1**	**+0.8**
	SNR=39						
ASHO	**Ashiyiah**	**2.44**	**219**	*e*Pn	**Pn**	**22 23 44.2**	**-0.1**
NAZ	**Nazwa, Dubai**	**2.46**	**230**	*e*P	**Pn**	**22 23 46.2**	**+1.6**
	SNR=156						
NAZ	**Nazwa, Dubai**	**2.46**	**230**	*e*Pn	**Pb**	**22 23 47.2**	**-1.6**
CHBR	**Chabahar**	**2.66**	**111**	*e*Pn	**Pb**	**22 23 53.0**	**+0.9**
FAQ	**Al Faqa, Dubai**	**2.67**	**227**	*e*P	**Pn**	**22 23 49.5**	**+1.9**
	SNR=33						
FAQ	**Al Faqa, Dubai**	**2.67**	**227**	P	**Pn**	**22 23 50.1**	**+2.5**
	SNR=33						
FAQ	**Al Faqa, Dubai**	**2.67**	**227**	*e*Pn	**Pn**	**22 23 50.3**	**+2.7**
SOHO	**SOHO**	**2.68**	**204**	P	**Pn**	**22 23 46.2**	**-1.4**
	SNR=359						
ASUD	**Al Ashush, Dub**	**2.93**	**229**	*i* P	**Pn**	**22 23 53.1**	**+2.1**
	SNR=71						
ASUD	**Al Ashush, Dub**	**2.93**	**229**	P	**Pb**	**22 23 54.3**	**-2.5**
	SNR=71						
ASUD	**Al Ashush, Dub**	**2.93**	**229**	*e*Pn	**Pb**	**22 23 54.7**	**-2.1**
HOQ	**Hoqain**	**3.02**	**188**	P	**Pn**	**22 23 51.5**	**-0.9**
	SNR=18						
HOQ	**Hoqain**	**3.02**	**188**	*e*Pn	**Pn**	**22 23 51.5**	**-0.9**
BIDO	**Bidbid**	**3.08**	**173**	P	**Pn**	**22 23 52.1**	**-1.1**
	SNR=55						
BIDO				S	**Sn**	**22 24 26.4**	**-3.6**
ALNE	**Al Ain**	**3.10**	**216**	*i* P	**Pn**	**22 23 54.4**	**+1.0**
	SNR=84						
ALNE	**Al Ain**	**3.10**	**216**	*e*Pn	**Pn**	**22 23 55.8**	**+2.3**
NGRK	**Negar Kerman**	**3.17**	**344**	*e*Pn	**Pn**	**22 23 55.1**	**+0.4**
NGRK				IAMB	IAmb	22 24 42.0	
	comp=Z,0.0nm,0.3s						
AJN	**Ajban**	**3.21**	**232**	*i* P	**Pn**	**22 23 56.7**	**+1.8**
	SNR=23						
AJN	**Ajban**	**3.21**	**232**	P	**Pn**	**22 23 57.5**	**+2.6**
	SNR=6.9						
AJN				S	**Sn**	**22 24 33.4**	**+0.3**
AJN	**Ajban**	**3.21**	**232**	*e*Pn	**Pn**	**22 23 57.7**	**+2.8**
CHMN	**Cheshme madani**	**3.26**	**357**	*e*Pn	**Pn**	**22 23 57.7**	**+1.8**
CHMN				IAMB	IAmb	22 24 27.4	
	comp=Z,0.0nm,0.8s						
WSAR	**Wadi Sarin**	**3.44**	**166**	Pn	**Pn**	**22 23 57.6**	**-0.4**
	comp=Z,53nm,0.3s,baz=349,slow=6.1,SNR=739						
WSAR				Sn	**Sn**	**22 24 36.9**	**-1.9**
	comp=Z,70nm,0.3s,baz=306,slow=22,SNR=20						
TVBK	**TV Kerman**	**3.49**	**346**	*e*Pn	**Pn**	**22 24 00.9**	**+1.8**
TVBK				IAMB	IAmb	22 25 14.0	
	comp=Z,0.0nm,0.8s						
SMDO	**Samad**	**3.53**	**175**	P	**Pn**	**22 23 59.6**	**+0.2**
	SNR=26						
KHGB	**Koh Gabri**	**3.93**	**344**	*e*Pn	**Pn**	**22 24 06.6**	**+1.6**
KHGB				IAMB	IAmb	22 25 17.9	
	comp=Z,0.0nm,0.7s						
SZD1	**Zahaedan-tmp**	**3.99**	**43**	*e*Pn	**Pn**	**22 24 07.9**	**+2.1**
ZHSF	**Zahedan**	**4.03**	**41**	*e*Pn	**Pn**	**22 24 08.8**	**+2.5**
WBK	**Wadi Bani Khal**	**4.12**	**164**	P	**Pn**	**22 24 09.5**	**+2.0**
	SNR=11						
WBK				S	**Sn**	**22 24 52.1**	**-3.6**
JHRM	**Jahrom**	**4.16**	**298**	*e*Pn	**Pn**	**22 24 09.0**	**+0.9**
JMDO	**Jabal Madar**	**4.22**	**175**	P	**Pn**	**22 24 10.2**	**+1.4**
	SNR=19						
JLN	**Jalan Bani Buh**	**4.68**	**161**	P	**Pn**	**22 24 14.7**	**-0.4**
JLN				S	**Sn**	**22 25 05.3**	**-4.2**
BSRN	**Basiran**	**5.49**	**12**	*e*Pn	**Pn**	**22 24 28.0**	**+1.6**
IMEH	**Mehriz**	**5.51**	**331**	*e*Pn	**Pn**	**22 24 27.5**	**+0.7**
SHI	**Shiraz**	**5.53**	**305**	*e*Pn	**Pn**	**22 24 26.0**	**-1.0**
MHTO	**MHTO**	**5.58**	**178**	P	**Pn**	**22 24 28.3**	**+0.7**
MHTO				S	**Sn**	**22 25 30.7**	**-1.2**
IKOO	**Kooshah**	**5.91**	**10**	*e*Pn	**Pn**	**22 24 32.0**	**-0.3**
IKAZ	**Kazeroun**	**6.10**	**303**	*e*Pn	**Pn**	**22 24 34.5**	**-0.5**
ICHK	**Chekchek**	**6.34**	**333**	*e*Pn	**Pn**	**22 24 39.2**	**+1.1**
ITEG	**Tejag**	**6.34**	**8**	*e*Pn	**Pn**	**22 24 37.6**	**-0.6**
ISAD	**Sadrabad**	**6.38**	**327**	*e*Pn	**Pn**	**22 24 39.9**	**+1.2**
IDAH	**Dahanechah**	**6.40**	**16**	*e*Pn	**Pn**	**22 24 41.2**	**+2.2**
TPRV	**Parvadeh(Tabas**	**6.48**	**352**	*e*Pn	**Pn**	**22 24 41.1**	**+1.2**
IRAM	**Ramesheh**	**7.00**	**319**	*e*Pn	**Pn**	**22 24 46.3**	**-0.9**
TKDS	**Koohdasht(Taba**	**7.02**	**356**	*e*Pn	**Pn**	**22 24 48.3**	**+0.9**
TNSJ	**Nastanj**	**7.41**	**353**	*e*Pn	**Pn**	**22 24 53.6**	**+0.8**
ANAR	**Anarak**	**7.44**	**333**	*e*Pn	**Pn**	**22 24 54.0**	**+0.8**
IGAR	**Gharneh**	**7.63**	**321**	*e*Pn	**Pn**	**22 24 55.6**	**-0.3**
IZEF	**Zefreh**	**7.85**	**324**	*e*Pn	**Pn**	**22 24 58.1**	**-0.8**
IPIR	**Pirpir**	**8.51**	**317**	*e*Pn	**Pn**	**22 25 07.6**	**-0.4**
IKLH	**Kolahrood**	**8.57**	**323**	*e*Pn	**Pn**	**22 25 09.2**	**+0.4**
IANJ	**Anjilo**	**9.44**	**341**	*e*Pn	**Pn**	**22 25 21.1**	**+0.5**
JRKH	**Jarkhoshk**	**9.55**	**13**	*e*Pn	**Pn**	**22 25 24.1**	**+2.0**
IMOG	**Moghan**	**9.58**	**8**	*e*Pn	**Pn**	**22 25 24.2**	**+1.5**
SBZV	**Sabzevar**	**9.77**	**359**	*e*Pn	**Pn**	**22 25 23.6**	**-1.6**
IVRN	**Varamin**	**9.84**	**330**	*e*Pn	**Pn**	**22 25 26.1**	**0.0**
IPAY	**Payeh**	**9.88**	**6**	*e*Pn	**Pn**	**22 25 28.1**	**+1.3**
IMYA	**Miami**	**9.92**	**11**	*e*Pn	**Pn**	**22 25 31.1**	**+3.8**
ISHM	**Shahmirzad**	**9.94**	**339**	*e*Pn	**Pn**	**22 25 28.6**	**+1.0**
IFIR	**Firoozkooh**	**9.98**	**336**	*e*Pn	**Pn**	**22 25 28.3**	**+0.2**
IAKL	**Akhelmad**	**10.02**	**5**	*e*Pn	**Pn**	**22 25 31.3**	**+2.7**
IKRD	**Kardeh**	**10.17**	**4**	*e*Pn	**Pn**	**22 25 35.2**	**+4.4**
IKIA	**Kiasar**	**10.19**	**341**	*e*Pn	**Pn**	**22 25 32.5**	**+1.5**
IDMV	**Damavand**	**10.20**	**333**	*e*Pn	**Pn**	**22 25 31.8**	**+0.6**
ISFR	**Sfrayin**	**10.43**	**1**	*e*Pn	Pn	22 25 25.7	-8.6
IKMR	**Kamar-syah**	**10.65**	**313**	*e*Pn	**Pn**	**22 25 35.5**	**-1.5**
IPRN	**Peran**	**10.67**	**336**	*e*Pn	**Pn**	**22 25 39.5**	**+2.1**
IDOB	**Doab**	**10.95**	**313**	*e*Pn	**Pn**	**22 25 39.6**	**-1.7**
GEYT	**Alibeck**	**11.31**	**2**	Pn	**Pn**	**22 25 45.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=163,slow=12,SNR=9.7						
GYA0B	**ALIBECK ARRAY**	**11.31**	**2**	*e*Pn	**Pn**	**22 25 46.5**	**+0.4**
QABG	**Abgarm-Qazvin**	**11.46**	**324**	*e*Pn	**Pn**	**22 25 49.3**	**+1.0**
IKOM	**Komasi**	**11.62**	**313**	*e*Pn	**Pn**	**22 25 48.5**	**-2.0**
IVIS	**Veis**	**12.27**	**313**	*e*Pn	**Pn**	**22 25 57.3**	**-2.0**
KBL	**Kabul**	**12.54**	**48**	*e*Pn	**Pn**	**22 26 03.8**	**+0.6**
KBL	**Kabul**	**12.54**	**48**	*e*P	**Pn**	**22 26 03.8**	**+0.6**
KBL	**Kabul**	**12.54**	**48**	*e*Pn	**Pn**	**22 26 03.8**	**+0.6**
IDHR	**Dehrash**	**12.68**	**312**	*e*Pn	**Pn**	**22 26 02.4**	**-2.6**
THW	**Thamme Wali**	**13.64**	**60**	P	**Pn**	**22 26 14.9**	**-3.1**
SARP	**Sargodha**	**14.07**	**64**	P	**Pn**	**22 26 20.8**	**-3.0**
CEP	**Cherat**	**14.20**	**56**	P	**Pn**	**22 26 24.6**	**-1.2**
NIL	**Nilore**	**15.14**	**59**	*e*Pn	**Pn**	**22 26 35.9**	**-2.5**
	comp=Z,146nm,1.0s						
NIL	**Nilore**	**15.14**	**59**	*e*P	**Pn**	**22 26 35.9**	**-2.5**
NIL				pmax	pmax		
	comp=Z,146nm,1.0s						
NIL	**Nilore**	**15.14**	**59**	*e*Pn	**Pn**	**22 26 35.9**	**-2.5**
CHCP	**Chirah Chowk**	**15.15**	**59**	P	**Pn**	**22 26 35.9**	**-2.7**
CHGR	**Chuyangaron**	**15.38**	**36**	*e*Pn	**Pn**	**22 26 37.6**	**-4.1**
	comp=Z,116nm,1.4s						
ISHB	**Shabestar**	**15.49**	**322**	*e*Pn	**Pn**	**22 26 42.8**	**-0.5**
IMRD	**Marand**	**15.76**	**323**	*e*Pn	**Pn**	**22 26 47.9**	**+1.3**
CUKT	**Cukurca**	**16.01**	**315**	*e*P	**Pn**	**22 26 47.1**	**-2.7**
GAR	**Garm**	**16.25**	**37**	*e*Pn	**Pn**	**22 26 49.8**	**-3.2**
	comp=Z,43nm,1.0s						
GAR	**Garm**	**16.25**	**37**	*e*P	**Pn**	**22 26 49.8**	**-3.2**
GAR				pmax	pmax		
	comp=Z,43nm,1.0s						
VANB	**Van**	**16.99**	**318**	*e*P	**Pn**	**22 27 01.3**	**-1.0**
AKT	**Akhty**	**16.99**	**333**	*e*P	**P**	**22 27 03.4**	**-0.8**
CLDR	**Caldiran**	**17.05**	**321**	*e*P	**Pn**	**22 27 02.6**	**-0.5**
AKDM	**Akdamar-Van**	**17.07**	**317**	*e*P	**Pn**	**22 27 03.2**	**-0.1**
DAMY	**Dhamar**	**17.28**	**229**	*e*Pn	**P**	**22 27 08.7**	**+1.0**
	comp=Z,93nm,1.1s						
BTK	**Batken**	**17.28**	**36**	*e*Pn	**Pn**	**22 27 03.5**	**-2.4**
	comp=Z,36nm,0.8s						
BTK	**Batken**	**17.28**	**36**	*e*P	**Pn**	**22 27 03.6**	**-2.4**
BTK				pmax	pmax		
	comp=Z,36nm,0.8s						
GNI	**Garni**	**17.31**	**325**	*e*Pn	**P**	**22 27 08.3**	**+0.5**
	comp=Z,41nm,1.0s						
GNI	**Garni**	**17.31**	**325**	*d i*P	**P**	**22 27 08.4**	**+0.6**
GNI				pmax	pmax		
	comp=Z,226nm,1.3s						
GNI	**Garni**	**17.31**	**325**	P	**Pn**	**22 27 06.1**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=140,slow=1.5,SNR=12						
GNI				LR	LR	22 35 13.4	
	comp=Z,577nm,21.0s,baz=136,slow=42						
TASB	**TASBURUN-IGDIR**	**17.46**	**323**	*e*P	**P**	**22 27 09.5**	**+0.2**
TAS	**Tashkent**	**17.52**	**30**	P	**P**	**22 27 10.6**	**+0.7**
MLAZ	**Malazgirt-MUS**	**17.84**	**318**	*e*P	**Pn**	**22 27 12.8**	**-0.2**
AGRB	**Hanur-Agry**	**17.87**	**320**	*e*P	**P**	**22 27 14.1**	**+0.1**
MAK	**Makhachkala**	**18.34**	**336**	*e*P	**Pn**	**22 27 17.4**	**-1.5**
MAK				*e*S	**Sn**	**22 30 42.5**	**-1.2**
MAK				pmax	pmax		
	comp=Z,117nm,1.1s						
MAK				MLR	MLR		
	comp=Z,445nm,16.0s						
TBLG	**Delisi**	**18.51**	**328**	*e*P	**P**	**22 27 20.8**	**0.0**
	comp=Z,22nm,1.2s						
TBLG	**Delisi**	**18.51**	**328**	*e*P	**P**	**22 27 20.8**	**0.0**
TBLG				pmax	pmax		
	comp=Z,22nm,1.2s						
VRTB	**Varto-Mus**	**18.52**	**317**	*e*P	**Pn**	**22 27 21.4**	**+0.2**
BTLR	**Botlikh**	**18.59**	**332**	*e*P	**P**	**22 27 21.3**	**-0.5**
DYBB	**Diyarbakir**	**18.67**	**312**	*e*P	**Pn**	**22 27 23.6**	**+0.6**
KOPR	**Koprukoy-ERZUR**	**18.80**	**319**	*e*P	**Pn**	**22 27 25.1**	**+0.4**
DVE	**Vedeno**	**18.88**	**333**	*c e*P	**Pn**	**22 27 26.1**	**+0.6**
SENK	**Senkaya-Erzuru**	**18.89**	**321**	*e*P	**Pn**	**22 27 25.7**	**-0.2**
BNGB	**Bingl**	**18.90**	**315**	*e*P	**Pn**	**22 27 25.8**	**0.0**
ASF	**Jabal al Asfar**	**18.99**	**292**	P	**P**	**22 27 25.5**	**-0.7**
ASF				S	Sn	22 30 47.0	-13
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF				smax	smax		
	comp=N,1.0nm,0.3s						
ASF				MLR	MLR		
	comp=Z,343nm,20.1s						
ASF	**Jabal al Asfar**	**18.99**	**292**	P	**P**	**22 27 26.4**	**+0.1**
	comp=Z,41nm,1.1s						
ASF	**Jabal al Asfar**	**18.99**	**292**	P	**P**	**22 27 25.5**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=56,slow=14,SNR=15						
ASF				S	Sn	22 30 47.0	-13
	comp=Z,0.7nm,0.3s,baz=74,slow=20,SNR=3.3						
ASF				LR	LR	22 36 13.6	
	comp=Z,343nm,20.1s,baz=100,slow=42						
GROC	**Groznyy**	**19.22**	**333**	*e*P	**P**	**22 27 25.4**	**-3.1**
GROC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
YEDI	**Yedisu-Bingol**	**19.25**	**316**	*e*P	**Pn**	**22 27 30.1**	**0.0**
URFA	**Urfa**	**19.31**	**309**	*e*P	**P**	**22 27 30.2**	**+0.4**
ARSB	**Arslanbob**	**19.34**	**37**	*e*P	**P**	**22 27 27.6**	**-2.5**
	comp=Z,58nm,1.3s						
SVRC	**Sivrice-ELAZID**	**19.45**	**312**	*e*P	**P**	**22 27 31.9**	**+0.5**
KK31	**Karatay Array**	**19.48**	**29**	*e*P	**P**	**22 27 31.3**	**-0.2**
	comp=Z,24nm,0.8s						
KK31	**Karatay Array**	**19.48**	**29**	*e*P	**P**	**22 27 31.3**	**-0.2**
KK31				pmax	pmax		
	comp=Z,24nm,0.8s						
KKAR	**Karatay Array**	**19.48**	**29**	*e*P	**P**	**22 27 30.2**	**-1.3**
KKAR	**Karatay Array**	**19.48**	**29**	*e*P	**P**	**22 27 30.2**	**-1.3**
SWQJ	**Swaqa**	**19.53**	**289**	P	**Pn**	**22 27 34.4**	**+0.9**
	comp=Z,196nm,0.8s						
ZEI	**Tsey**	**19.72**	**329**	*e*P	**P**	**22 27 34.2**	**-0.1**
ZEI				pmax	pmax		
	comp=Z,16nm,0.6s						
WALJ	**Wala**	**19.79**	**290**	P	**Pn**	**22 27 37.3**	**+0.9**
	comp=Z,114nm,0.7s						
JDRJ	**Daraweish**	**19.80**	**287**	P	**P**	**22 27 35.2**	**0.0**
	comp=Z,137nm,1.3s						
KARJ		**19.86**	**288**	P	**Pn**	**22 27 40.5**	**+3.2**
KSH	**Kashi**	**19.94**	**45**	P	**P**	**22 27 29.9**	**-6.8**
KSH				pP	Pn	22 27 35.8	-2.5
KSH				S	S	22 30 56.6	-24
KSH				SS	**Sn**	**22 31 27.0**	**+4.4**
KSH				pmax	pmax		
	comp=Z,17nm,0.5s						
KSH				pmax	pmax		
	comp=Z,140nm,3.2s						
KSH				LR	LR		
	comp=Z,1μm,12.5s						
KSH				LR	LR		
	comp=Z,680nm,9.7s						
KSH				LR	LR		
	comp=Z,1μm,13.8s						
GHAJ	**Ghor Haditha**	**19.96**	**289**	P	**P**	**22 27 37.6**	**+0.9**
	comp=Z,67nm,1.1s						
SHMJ	**Saham**	**20.04**	**293**	P	Pn	22 27 40.1	+0.7
	comp=Z,195nm,1.0s						
AQBJ	**Aqaba**	**20.25**	**284**	P	Pn	22 27 42.4	+0.5
	comp=Z,101nm,0.8s						
AML	**Almayashu**	**20.28**	**36**	P	**P**	**22 27 38.5**	**-2.2**
	SNR=14						
EIL	**Elat**	**20.33**	**284**	P	**P**	**22 27 40.9**	**+0.1**
	comp=Z,28nm,0.8s,baz=50,slow=4.5,SNR=20						
EIL				LR	LR	22 36 27.5	
	comp=Z,579nm,18.0s,baz=294,slow=40						
GAZ	**Gaziantep**	**20.34**	**306**	*e*P	Pn	22 27 42.1	-0.9
MMAI	**Mount Meron Ar**	**20.40**	**294**	P	**P**	**22 27 42.2**	**+0.6**
	comp=Z,19nm,0.8s,baz=97,slow=14,SNR=52						
NCK	**Nalchik**	**20.41**	**329**	‖ *e*P	Pn	22 27 43.6	-0.1
NCK				pmax	pmax		
	comp=Z,27nm,1.0s						
KELT	**Kelkit**	**20.47**	**316**	*i* P	**P**	**22 27 43.1**	**+0.6**
ATD	**Arta Tunnel**	**20.53**	**226**	*e*P	Pn	22 27 44.8	-0.5
	comp=Z,42nm,1.0s						
ATD	**Arta Tunnel**	**20.53**	**226**	P	**P**	**22 27 44.0**	**+0.8**
	comp=Z,25nm,0.8s,baz=344,slow=7.0,SNR=13						
AMAZ	**Amatzia**	**20.54**	**289**	P	**P**	**22 27 44.3**	**+1.2**
	comp=Z,164nm,1.3s						
NEY	**Neytrino**	**20.63**	**327**	*de*P	Pn	22 27 47.1	+0.7
NEY				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KTUT	**Trabzon**	**20.66**	**319**	*e*P	Pn	22 27 45.8	-0.8
KMRS	**Kahramanmaras**	**20.70**	**307**	*e*P	**P**	**22 27 45.6**	**+0.7**
EKS2	**Erkin-Say**	**20.70**	**35**	P	**P**	**22 27 43.5**	**-1.4**
	SNR=18						
TAHT	**Tahtakopru-Hat**	**20.77**	**303**	*e*P	**P**	**22 27 46.3**	**+0.7**
DARE	**Darende-Malaty**	**20.78**	**310**	*e*P	Pn	22 27 47.5	-0.7
UCH	**Uchtor**	**20.79**	**37**	P	**P**	**22 27 44.2**	**-2.0**
	SNR=14						
KBZ	**Khabaz**	**20.91**	**329**	P	**P**	**22 27 47.0**	**0.0**
KBZ	**Khabaz**	**20.91**	**329**	P	**P**	**22 27 47.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=126,slow=10.0,SNR=5.7						
SHA1	**Shidzhatmaz**	**21.03**	**328**	*e*P	**P**	**22 27 51.0**	**+2.4**
AAK	**Ala-Archa**	**21.06**	**36**	P	**P**	**22 27 46.8**	**-2.0**
	SNR=7.6						
AAK	**Ala-Archa**	**21.06**	**36**	*e*P	**P**	**22 27 47.3**	**-1.5**
	comp=Z,21nm,0.8s						
AAK	**Ala-Archa**	**21.06**	**36**	*c e*P	**P**	**22 27 47.2**	**-1.6**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AAK	**Ala-Archa**	**21.06**	**36**	P	**P**	**22 27 47.4**	**-1.5**
	comp=Z,6.4nm,0.9s,baz=191,slow=7.5,SNR=25						
PYA1	**Pyatigorsk**	**21.08**	**330**	‖ *e*P	**P**	**22 27 50.3**	**+1.5**
KZA	**Kyzart**	**21.09**	**38**	P	**P**	**22 27 51.2**	**+1.7**
	SNR=48						
KVAR	**Kislovodsk Arr**	**21.18**	**329**	P	**P**	**22 27 49.9**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=270,slow=20,SNR=6.8						
KIV	**Kislovodsk**	**21.18**	**329**	*e*P	**P**	**22 27 50.7**	**+0.7**
	comp=Z,34nm,0.9s						
KIV	**Kislovodsk**	**21.18**	**329**	*e*P	**P**	**22 27 51.4**	**+1.4**
KIV				pmax	pmax		
	comp=Z,85nm,1.0s						
FRU1	**Bishkek**	**21.25**	**36**	*e*P	**P**	**22 27 49.9**	**-0.9**
	comp=Z,31nm,0.9s						
FRU1	**Bishkek**	**21.25**	**36**	*e*P	**P**	**22 27 49.9**	**-0.9**
FRU1				pmax	pmax		
	comp=Z,31nm,0.9s						
CUZAR	**Zara_SIVAS**	**21.27**	**314**	*i* P	**P**	**22 27 50.7**	**-0.3**
KBK	**Karagaybulak**	**21.32**	**37**	P	**P**	**22 27 50.8**	**-0.8**
	SNR=10						
HYB	**Hyderabad**	**21.32**	**111**	*i* P	**P**	**22 27 51.5**	**-0.2**
CEYT	**Ceyhan**	**21.34**	**305**	*e*P	**P**	**22 27 53.4**	**+1.7**
YURE	**YUREGIR**	**21.35**	**304**	*e*P	**P**	**22 27 54.2**	**+2.3**
KRTS	**Karatas**	**21.45**	**303**	*e*P	**P**	**22 27 57.9**	**+5.0**
KOZT	**Kozan**	**21.47**	**306**	*e*P	**P**	**22 27 54.6**	**+1.5**
CUALT	**Altinyayla-SIV**	**21.62**	**311**	*i* P	**P**	**22 27 56.6**	**+1.7**
ULHL	**Ulahol**	**21.76**	**39**	P	**P**	**22 27 55.3**	**-1.1**
	SNR=18						
SVSK	**Karacayir**	**21.79**	**313**	*e*P	**P**	**22 27 57.4**	**+1.0**
RSDY	**Resadiye-TOKAT**	**21.83**	**314**	*e*P	**P**	**22 27 58.6**	**+1.7**
TKM2	**Tokmak 2**	**21.85**	**37**	P	**P**	**22 27 55.4**	**-1.9**
	SNR=8.4						
CUSAR	**Sarkisla-SIVAS**	**22.04**	**311**	*i* P	**P**	**22 28 00.9**	**+1.5**
MERS	**Mersin**	**22.20**	**303**	*e*P	**P**	**22 27 58.8**	**-2.2**
KDJ	**Kajisay**	**22.23**	**41**	*e*P	**P**	**22 27 60.0**	**-1.4**
	comp=Z,286nm,2.0s						
KDJ	**Kajisay**	**22.23**	**41**	*e*P	**P**	**22 28 00.0**	**-1.4**
KDJ				pmax	pmax		
	comp=Z,287nm,2.0s						
TOKT	**Tokat**	**22.29**	**313**	*e*P	**P**	**22 28 05.1**	**+3.1**
KIZK	**Mersin**	**22.35**	**302**	*e*P	**P**	**22 28 03.8**	**+1.3**
SOC	**Sochi**	**22.39**	**324**	*e*P	**P**	**22 28 01.1**	**-1.8**
SOC				*e*		22 28 26.3	
SOC				*e*S	**S**	**22 32 04.3**	**-4.6**
SOC				*e*SSS	SSS	22 32 51

BRVK Borovoye 28.05 16 *de*P **P 22 28 56.0 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
VSR Storozhevoye 28.36 335⇑ *e*P **P 22 28 57.0 -1.5**
VSR pmax pmax
comp=Z,11nm,0.8s
VORR Voronezh 28.71 336 P **P 22 29 05.0 +3.4**
KURBB Kurchatov Arra 28.78 28 P **P 22 29 02.5 +0.3**
comp=Z,1.6nm,0.6s,baz=226,slow=8.5,SNR=15
KURK Kurchatov 28.89 28 *e*P **P 22 29 04.4 +1.2**
comp=Z,5.8nm,0.9s
KURK Kurchatov 28.89 28⇑ *e*P **P 22 29 04.3 +1.1**
KURK pmax pmax
comp=Z,7.0nm,1.0s
PALK Pallekele 29.08 127 *i* P **P 22 29 06.9 +1.5**
IDI Anoyia 29.38 295 P **P 22 29 07.7 -0.1**
comp=Z,18nm,0.7s,baz=113,slow=6.5,SNR=9.9
IDI LR LR 22 45 27.2
comp=Z,350nm,18.6s,baz=58,slow=46
WMQ Urumqi 29.68 47 *e*P **P 22 29 14.3 +3.8**
WMQ pP sP 22 29 18.0 +2.6
WMQ sP pP 22 29 21.8 +7.8
WMQ PP **PnPn 22 30 06.9 +1.4**
WMQ pmax pmax
comp=Z,780nm,5.9s
WMQ LR LR
comp=Z,2μm,18.7s
WMQ LR LR
comp=Z,2μm,14.1s
WMQ LR LR
comp=Z,2μm,16.5s
ICOR Ion Corvin 29.81 314⇑ *i*P **P 22 29 11.4 -0.1**
ARU Arti 29.82 1 *c i*P **P 22 29 13.2 +1.8**
ARU 22 30 02.8
ARU S **S 22 34 08.7 +0.8**
ARU pmax pmax
comp=Z,3.0nm,0.9s
TLB Topalu 29.86 315⇑ *i*P **P 22 29 11.4 -0.5**
TLB Topalu 29.86 315 P **P 22 29 11.4 -0.5**
CFR Carcaliu 30.07 316 P **P 22 29 13.8 0.0**
CFR pmax pmax
comp=Z,6.0nm,0.8s
SVE Sverdlovsk 30.28 3⇓ *e*P **P 22 29 16.6 +1.1**
SVE pmax pmax
comp=Z,9.0nm,1.4s
SVE MLR MLR
comp=Z,442nm,12.0s
LEHL Lehliu 30.60 314⇑ *i*P **P 22 29 19.0 +0.6**
SGRR Singureni 31.04 313⇑ *i*P **P 22 29 22.4 0.0**
SULR 31.05 314⇑ *i*P **P 22 29 22.8 +0.4**
PLOR Plostina 31.31 316⇑ *i*P **P 22 29 24.8 -0.1**
PLOR Plostina 31.31 316 P **P 22 29 24.7 -0.1**
SECR 31.32 314⇑ *i*P **P 22 29 26.3 +1.4**
MLR Muntele Rosu 31.59 315 *e*P **P 22 29 28.1 +0.7**
comp=Z,14nm,1.0s
MLR *e*S **S 22 34 33.0 -3.3**
MLR Muntele Rosu 31.59 315⇓ *i*P **P 22 29 29.9 +2.5**
MLR Muntele Rosu 31.59 315 *e*P **P 22 29 28.1 +0.7**
MLR *e*S **S 22 34 33.0 -3.3**
MLR pmax pmax
comp=Z,15nm,1.0s
TESR Tescani 31.62 317⇑ *i*P **P 22 29 27.4 -0.1**
SRS Serrai 31.62 306 P **P 22 29 28.8 +1.2**
SRS pmax pmax
comp=Z,21nm,0.9s
SOH Sokhos 31.71 305 P **P 22 29 29.4 +1.0**
SOH pmax pmax
comp=Z,15nm,0.8s
HUMR Humele 31.82 313⇑ *i*P **P 22 29 29.8 +0.6**
VLAD Vladila 32.00 312⇑ *i*P **P 22 29 31.2 +0.4**
ITM Ithomi 32.02 298 *e*P **P 22 29 31.1 -0.1**
comp=Z,14nm,0.6s
AGG Agios Georgios 32.04 302 *e*P **P 22 29 31.2 -0.1**
comp=Z,11nm,1.1s
AGG Agios Georgios 32.04 302 *e*P **P 22 29 31.3 -0.1**
AGG pmax pmax
comp=Z,11nm,1.1s
MTUR Matau 32.05 314⇓ *i*P **P 22 29 31.0 -0.3**
MTUR Matau 32.05 314 P **P 22 29 31.0 -0.3**
VOIR 32.14 314⇑ *i*P **P 22 29 32.6 +0.4**
VOIR 32.14 314 P **P 22 29 32.5 +0.4**
DOPR Dopca 32.15 315⇓ *i*P **P 22 29 32.3 +0.1**
VTS Vitosha 32.33 309 *e*P **P 22 29 34.2 +0.3**
comp=Z,4.1nm,1.0s
VTS Vitosha 32.33 309⇓ *i*P **P 22 29 33.8 -0.1**
ARR Arges 32.38 314⇑ *i*P **P 22 29 34.2 0.0**
OBN Obninsk 32.42 337 *e*P **P 22 29 34.5 +0.1**
comp=Z,22nm,1.1s
OBN Obninsk 32.42 337 *i* P **P 22 29 34.1 -0.2**
OBN *i* 22 29 42.1
OBN *i* 22 30 45.1
OBN *i* 22 32 22.4
OBN pmax pmax
comp=Z,17nm,1.4s
OBN MLR MLR
comp=Z,322nm,15.0s
OBN Obninsk 32.42 337 P **P 22 29 34.2 -0.2**
comp=Z,2.0nm,0.6s,baz=329,slow=3.2,SNR=5.8
AKASG Malin Array Be 32.44 326 *e*P **P 22 29 34.9 +0.2**
comp=Z,4.4nm,0.8s
AKASG *e*S **S 22 34 51.2 +2.1**
AKASG Malin Array Be 32.44 326 *ce*P **P 22 29 33.2 -1.4**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKASG Malin Array Be 32.44 326 P **P 22 29 33.3 -1.4**
comp=Z,7.5nm,0.6s,baz=129,slow=8.2,SNR=48
AKBB Malin Array Si 32.44 326 *e*P **P 22 29 32.9 -1.8**
comp=Z,20nm,0.6s
GRG Griva 32.44 305 P **P 22 29 35.0 +0.2**
GRG pmax pmax
comp=Z,15nm,0.7s
KIEV Kiev 32.45 326 *e*P **P 22 29 32.8 -1.8**
comp=Z,19nm,0.7s
KIEV Kiev 32.45 326⇓ *e*P **P 22 29 33.2 -1.4**
KIEV pmax pmax
comp=Z,18nm,0.7s
DGZ Jazzator, Alta 32.47 37⇑ *e*P **P 22 29 35.3 +0.2**
DGZ pmax pmax
comp=Z,1.0nm,0.7s
MOS Moscow 32.57 339 *e*P **P 22 29 34.8 -0.9**
MOS *e* 22 30 46.1
LOT Lotru 32.97 314⇑ *i*P **P 22 29 39.2 -0.3**
BURAR Bucovina Array 33.00 318 *e*P **P 22 29 38.8 -0.9**
comp=Z,42nm,0.9s
BURAR Bucovina Array 33.00 318⇑ *i*P **P 22 29 39.7 0.0**
BURAR Bucovina Array 33.00 318 P **P 22 29 38.8 -0.9**
BURAR pmax pmax
comp=Z,42nm,1.0s
BUR08 Bucovina Ar. S 33.02 318 *e*P **P 22 29 39.9 0.0**
comp=Z,6.7nm,1.3s
FNA Florina 33.15 305 *e*P **P 22 29 38.6 -2.5**
comp=Z,27nm,0.7s
FNA Florina 33.15 305 P **P 22 29 42.3 +1.2**
FNA pmax pmax
comp=Z,38nm,1.0s
CJR Cluj-Napoca 33.59 316⇑ *i*P **P 22 29 45.2 +0.4**
CJR Cluj-Napoca 33.59 316 P **P 22 29 45.2 +0.4**
GZR Gura Zlata 33.59 313⇓ *i*P **P 22 29 44.3 -0.6**
HERR Herculane 33.65 312⇑ *i*P **P 22 29 45.2 0.0**
IGT Igoumenitsa 33.66 302 P **P 22 29 44.5 -1.0**
DEV Deva 33.70 314⇑ *i*P **P 22 29 45.3 -0.4**
DEV Deva 33.70 314 P **P 22 29 45.3 -0.4**
NVS Novosibirsk 33.83 27 *e*P **P 22 29 45.4 -1.2**
NVS *e* 22 30 57.3
NVS pmax pmax
comp=Z,18nm,1.2s
NVS pmax pmax
comp=N,14nm,1.5s
ZAA0 Zalesovo Array 33.86 29 *e*P **P 22 29 45.9 -1.1**
comp=N,15nm,1.0s
ZALV Zalesovo Beam 33.86 29 P **P 22 29 45.3 -1.7**
comp=N,3.5nm,0.4s,baz=226,slow=9.7,SNR=13
KMBO Kilima Mbogo 33.91 219 *ce*P **P 22 29 50.2 +2.1**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 33.91 219 P **P 22 29 49.4 +1.3**
comp=Z,3.0nm,0.7s,baz=24,slow=13,SNR=6.9
MDVR Moldovita 34.08 312⇑ *i*P **P 22 29 49.5 +0.4**
DRGR 34.18 315⇑ *i*P **P 22 29 49.5 -0.5**
DRGR 34.18 315 P **P 22 29 49.5 -0.5**
TIR Tirane 34.40 305 *e*P **P 22 29 52.0 +0.2**
comp=Z,22nm,0.6s
TIR Tirane 34.40 305 *e*P **P 22 29 52.0 +0.2**
TIR pmax pmax
comp=Z,22nm,0.6s
BZS Buzias 34.44 313⇓ *i*P **P 22 29 52.1 0.0**
BZS Buzias 34.44 313 P **P 22 29 52.0 0.0**
SIRR Siria 34.65 314⇑ *i*P **P 22 29 55.0 +1.1**
TIM Timisoara 34.74 313⇓ *i*P **P 22 29 55.7 +1.0**
TIM Timisoara 34.74 313 P **P 22 29 55.7 +1.0**
LVV L'vov 34.75 321 *e*P **P 22 29 54.1 -0.6**
TRPA Tarpa 34.84 317 *e*P **P 22 29 55.1 -0.5**
LTVH Ltavrtes, Hu 34.93 316 *e*P **P 22 29 57.0 +0.7**
UZH Uzhgorod 35.21 318⇓ *i*P **P 22 29 58.4 -0.3**
UZH *e* 22 30 08.6
KOLS Kolonicke sedl 35.35 319 *e*P **P 22 30 00.7 +0.7**
KOLS pmax pmax
comp=Z,32nm,0.9s
KOLS Kolonicke sedl 35.35 319 *e*P **P 22 30 00.7 +0.7**
KWP Kalwaria Pacla 35.41 320 *e*P **P 22 30 00.4 -0.1**
KWP Kalwaria Pacla 35.41 320 *e*P **P 22 29 59.9 -0.6**
comp=Z,143nm,0.7s
KWP Kalwaria Pacla 35.41 320 *e*P **P 22 30 00.4 -0.1**
PRGR Permogore 35.98 350 P **P 22 30 04.2 -0.9**
KECS Kecovo 36.24 317 *e*P **P 22 30 08.1 +0.5**
KECS pmax pmax
comp=Z,57nm,1.2s
KECS Kecovo 36.24 317 *e*P **P 22 30 08.1 +0.5**
TIP Timpagrande 36.34 301 *e*P **P 22 30 08.7 +0.1**
comp=Z,48nm,1.6s
PSZ Piszkesteto 36.38 316 *e*P **P 22 30 07.0 -1.9**
comp=Z,12nm,0.9s
PSZ Piszkesteto 36.38 316⇑ *i*P **P 22 30 08.4 -0.5**
PSZ Piszkesteto 36.38 316 *e*P **P 22 30 07.0 -1.9**
PSZ pmax pmax
comp=Z,12nm,0.9s
PSZ Piszkesteto 36.38 316⇑ *e*P **P 22 30 09.0 +0.1**
KLMR Klimovskoe 36.43 345 *e*P **P 22 30 05.0 -4.0**
KLMR pmax pmax
comp=Z,12nm,1.1s
IDID Didziasalis 36.48 330 *e*P **P 22 30 08.7 -0.8**
IDID IAmb IAmb 22 30 16.5
comp=Z,4.1nm,0.9s
MORH Mrgy, Hungar 36.59 313⇑ *e*P **P 22 30 09.1 -1.5**
IIGN Ignalina 36.73 330 *e*P **P 22 30 10.8 -0.9**
IIGN IAmb IAmb 22 30 18.8
comp=Z,9.4nm,1.1s
BUD Budapest 36.77 315 P **P 22 30 13.3 +1.2**
BUD pmax pmax
comp=Z,38nm,0.8s
ISAL Salakas 36.91 330 *e*P **P 22 30 13.0 -0.2**
ISAL IAmb IAmb 22 30 27.4
comp=Z,9.3nm,1.1s
LANS Liptovska Anna 37.12 318 *e*P **P 22 30 15.6 +0.5**
LANS Liptovska Anna 37.12 318 *e*P **P 22 30 15.6 +0.5**
GTA Gaotai 37.21 59 *e*P **P 22 30 16.4 +0.3**
GTA pP sP 22 30 20.3 -0.7
GTA sP pP 22 30 23.4 +3.8
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,54nm,4.8s
GTA LR LR
comp=Z,320nm,16.6s
GTA LR LR
comp=Z,370nm,14.2s
GTA LR LR
comp=Z,310nm,13.3s
CSKK Cskako 37.22 314 *e*P **P 22 30 15.0 -0.9**
VYHS Vyhne 37.26 316 *e*P **P 22 30 16.4 +0.1**
VYHS Vyhne 37.26 316 *e*P **P 22 30 16.4 +0.1**
SRO2 Moca 37.27 315 *e*P **P 22 30 16.0 -0.3**
SRO2 Moca 37.27 315 *e*P **P 22 30 16.0 -0.3**
TIH Tihany 37.30 314 *e*P **P 22 30 16.0 -0.6**
SRO Srobarova 37.34 315 *e*P **P 22 30 17.6 +0.7**
SRO Srobarova 37.34 315 *e*P **P 22 30 17.6 +0.7**
OJC Ojcow 37.36 319 *e*P **P 22 30 16.8 -0.3**
OJC Ojcow 37.36 319 *e*P **P 22 30 16.9 -0.3**
comp=Z,19nm,0.7s
OJC *e*PcP **PcP 22 32 35.2 -0.8**
OJC Ojcow 37.36 319 *e*P **P 22 30 16.8 -0.3**
SUW Suwalki 37.38 327 *e*P **P 22 30 16.4 -0.7**
SUW Suwalki 37.38 327 *e*P **P 22 30 16.5 -0.7**
comp=Z,22nm,0.9s
SUW Suwalki 37.38 327 *e*P **P 22 30 16.5 -0.7**
SUW pmax pmax
comp=Z,22nm,0.9s
PABE Paberze 37.85 329 *e*P **P 22 30 19.4 -1.7**
PABE IAmb IAmb 22 30 25.7
comp=Z,20nm,0.8s
JAVC Velka Javorina 38.11 316 *e*P **P 22 30 23.9 +0.4**
OKC Ostrava-Krasne 38.18 318 *e*P **P 22 30 23.8 -0.2**
OKC Ostrava-Krasne 38.18 318 *e*P **P 22 30 23.8 -0.2**
MODS Modra-Piesok 38.18 316 *e*P **P 22 30 23.2 -0.9**
MODS pmax pmax
comp=Z,18nm,1.2s
MODS Modra-Piesok 38.18 316 *e*P **P 22 30 23.2 -0.9**
ZST Bratislava 38.23 315 *e*P **P 22 30 23.6 -0.9**
ZST Bratislava 38.23 315 *e*P **P 22 30 23.6 -0.9**
KOGS Kog 38.24 312 *i* P **P 22 30 24.5 -0.1**
SOP Sopron 38.41 314 P **P 22 30 26.4 +0.4**
SOP Sopron 38.41 314⇓ *e*P **P 22 30 26.0 0.0**
MORC Moravsky Berou 38.52 318 *e*P **P 22 30 26.4 -0.6**
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 38.52 318⇓ *i*P **P 22 30 27.0 0.0**
MORC Moravsky Berou 38.52 318 *e*P **P 22 30 26.4 -0.6**
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 38.52 318 *e*P **P 22 30 26.1 -0.9**
VSU Vasula 38.54 334⇑ *e*P **P 22 30 26.2 -0.7**
VSU pmax pmax
comp=Z,16nm,0.8s
VSU Vasula 38.54 334 *e*P **P 22 30 25.5 -1.4**
VSU IAmb IAmb 22 30 35.5
comp=Z,50nm,1.2s
BOJS Bojanci 38.66 310 *i* P **P 22 30 27.9 -0.2**
CMAR Chiang Mai Arr 38.77 93 P **P 22 30 30.1 +0.7**
comp=Z,0.8nm,0.4s,baz=287,slow=9.3,SNR=3.9
VRAC Vranov 38.93 317⇑ *i*P **P 22 30 30.1 -0.3**
VRAC Vranov 38.93 317 P **P 22 30 30.1 -0.3**
VRAC Vranov 38.93 317 *e*P **P 22 30 29.7 -0.7**
CONA Conrad Observa 38.94 314 *i* P **P 22 30 30.2 -0.3**
comp=Z,15nm,1.1s,SNR=6.9
ARSA Arzberg 38.95 313 *i* P **P 22 30 30.5 -0.1**
comp=Z,17nm,0.9s,SNR=12
CLTB Caltabellotta 38.96 298 *e*P **P 22 30 29.9 -1.0**
comp=Z,56nm,1.5s
KRUC Moravsky 38.97 316 *e*P **P 22 30 30.1 -0.6**
PBUR Paburg 39.09 329 *e*P **P 22 30 29.7 -1.9**
PBUR IAmb IAmb 22 30 44.3
comp=Z,25nm,0.9s
SOKA Soboth 39.11 312 *i* P **P 22 30 31.8 -0.3**
comp=Z,13nm,1.1s,SNR=6.1
AQU L'Aquila 39.33 305 *e*P **P 22 30 33.4 -0.4**
comp=Z,28nm,1.1s
AQU L'Aquila 39.33 305 *e*P **P 22 30 33.4 -0.4**
AQU pmax pmax
comp=Z,28nm,1.1s
OBKA Obir 39.39 312 *e*P **P 22 30 34.3 -0.1**
comp=Z,11nm,0.8s
DPC Dobruska-Polom 39.46 318 *e*P **P 22 30 34.3 -0.6**
DPC Dobruska-Polom 39.46 318 *e*P **P 22 30 34.3 -0.6**
TREC Trest 39.61 316 *e*P **P 22 30 36.4 +0.4**
TREC Trest 39.61 316 *e*P **P 22 30 36.4 +0.4**
TREC *ex* x 22 30 48.3
KSP Ksiaz 39.66 319 P **P 22 30 38.4 +2.0**
KSP pmax pmax
comp=Z,7.0nm,1.4s
TMCR Tamitsa 39.68 347 *e*P **P 22 30 36.0 -0.4**
TRI Trieste 39.72 310 *e*P **P 22 30 35.3 -1.7**
comp=Z,30nm,0.9s
TRI Trieste 39.72 310 *e*P **P 22 30 35.3 -1.7**
TRI pmax pmax
comp=Z,30nm,0.9s
SLIT Slitere, Latvi 39.85 331 *e*P **P 22 30 35.5 -2.3**
SLIT IAmb IAmb 22 30 51.3
comp=Z,41nm,0.9s
MOA Molln 39.94 314 *i* P **P 22 30 38.3 -0.5**
comp=Z,27nm,0.8s,SNR=14
MYKA Terra Mystica 40.03 312 *i* P **P 22 30 39.3 -0.3**
comp=Z,8.6nm,0.7s,SNR=6.3
LZH Lanzhou 40.18 65 *e*P **P 22 30 40.1 -1.1**
LZH pP pP 22 30 43.2 -1.5
LZH PP **PnPn 22 32 17.0 0.0**
LZH pmax pmax
comp=Z,28nm,1.4s
LZH pmax pmax
comp=Z,130nm,5.6s
LZH LR LR
comp=Z,800nm,15.2s
LZH LR LR
comp=Z,640nm,14.8s
LZH LR LR
comp=Z,960nm,17.3s
KBA Koelnbreinsper 40.34 312 *i* P **P 22 30 42.0 -0.3**
comp=Z,24nm,0.8s,SNR=14
KBA Koelnbreinsper 40.34 312 P **P 22 30 43.0 +0.7**
KBA pmax pmax
comp=Z,29nm,0.8s
CD2 Chengdu 40.35 73 *e*P **P 22 30 40.4 -2.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
KMI Kunming 40.36 82 P **P 22 30 42.7 -0.1**
KMI pmax pmax
comp=Z,27nm,0.5s
KMI pmax pmax
comp=Z,130nm,4.5s
KMI LR LR
comp=Z,360nm,16.4s
KMI LR LR
comp=Z,210nm,14.7s
KMI LR LR
comp=Z,340nm,14.5s
KMI Kunming 40.36 82 *e*P **P 22 30 42.8 -0.1**
comp=Z,29nm,0.4s
KMI Kunming 40.36 82 *e*P **P 22 30 42.8 -0.1**
KMI pmax pmax
comp=Z,29nm,0.4s
PRU Pruhonice 40.41 317 *e*P **P 22 30 42.7 0.0**
PRU *e* 22 30 53.3
PRU Pruhonice 40.41 317 *e*P **P 22 30 42.7 0.0**
PRU *ex* x 22 30 53.3
GERES GERESS Array B 40.58 315 P **P 22 30 43.8 -0.5**
comp=Z,8.6nm,0.8s,baz=113,slow=8.8,SNR=54
KHC Kasperske Hory 40.74 315 *e*P **P 22 30 44.5 -1.0**
comp=Z,10nm,0.9s
KHC Kasperske Hory 40.74 315 *e*P **P 22 30 44.5 -1.0**
KHC pmax pmax
comp=Z,10.0nm,0.9s
KHC Kasperske Hory 40.74 315 *e*P **P 22 30 44.8 -0.7**
KHC *ex* x 22 30 55.9
ABTA Abfaltersbach 40.81 312 *i* P **P 22 30 45.8 -0.3**
comp=Z,33nm,1.0s,SNR=11
FIA1 FINESS Array S 40.83 337 *e*P **P 22 30 45.1 -0.8**
comp=Z,9.3nm,0.6s
FINES FINESS Array B 40.83 337 P **P 22 30 44.6 -1.3**
comp=Z,5.8nm,0.4s,baz=135,slow=9.3,SNR=42
BRG Berggiesshubel 41.07 318 *e*P **P 22 30 47.8 -0.3**
comp=Z,7.6nm,1.2s
BRG Berggiesshubel 41.07 318 *e*P **P 22 30 47.8 -0.3**
BRG pmax pmax
comp=Z,8.0nm,1.2s
WET Wettzell 41.19 315 P **P 22 30 49.4 +0.3**
WET pmax pmax
comp=Z,10.0nm,1.3s
WTTA Wattenberg 41.51 312 *i* P **P 22 30 51.2 -0.8**
comp=Z,38nm,0.6s
WATA Walderalm 41.57 312 *i* P **P 22 30 51.6 -0.8**
comp=Z,18nm,0.6s,SNR=18
SUF Sumiainen 41.70 339 P **P 22 30 56.5 +3.4**
SUF pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 41.77 318 *e*P **P 22 30 54.1 +0.3**
comp=Z,8.7nm,1.0s
CLL Collm 41.77 318⇓ *i*P **P 22 30 53.5 -0.3**
CLL pmax pmax
comp=Z,18nm,1.4s
CLL MLR MLR
comp=Z,400nm,21.6s
CLL Collm 41.77 318⇓ *i*P **P 22 30 53.5 -0.3**
comp=Z,18nm,1.4s
CLL *e*PP **PP 22 32 30.0 -0.3**
CLL *e*PcP 22 32 55.0
CLL *e*PPP PPP 22 32 59.0
CLL Lm MLR 22 53 00.0
comp=Z,400nm,21.6s
NKC Novy Kostel 41.77 317 *e*P **P 22 30 54.1 +0.2**
NKC Novy Kostel 41.77 317 *e*P **P 22 30 54.1 +0.2**
SQTA Sankt Quirin 41.78 312 *i* P **P 22 30 53.3 -0.9**
comp=Z,53nm,0.6s,SNR=26
MOTA Moosalm 41.88 312 *i* P **P 22 30 54.0 -1.0**
comp=Z,29nm,0.6s,SNR=35
FUR Furstenfeldbru 41.96 313 P **P 22 30 56.2 +0.7**
FUR pmax pmax
comp=Z,27nm,1.0s
KEST Kesra 42.05 295 *e*P **P 22 30 56.3 -0.1**
comp=Z,11nm,1.1s
KEST Kesra 42.05 295 P **P 22 30 55.8 -0.7**
comp=Z,4.6nm,0.9s,baz=310,slow=1.4,SNR=5.7
FETA Feichten 42.06 312 *i* P **P 22 30 55.8 -0.7**
comp=Z,55nm,0.8s,SNR=32
BSD Bornholm Skovb 42.12 324⇑ *i*P **P 22 30 54.2 -2.4**
BSD pmax pmax
comp=Z,19nm,0.6s
BSD Bornholm Skovb 42.12 324⇑ *i*P **P 22 30 54.2 -2.4**
comp=Z,19nm,0.6s
RETA Reutte 42.14 312 *i* P **P 22 30 55.7 -1.3**
comp=Z,24nm,0.8s,SNR=11
FUORN Ofenpass-Fuorn 42.29 311 *e*P **P 22 30 58.9 +0.4**
comp=Z,13nm,0.7s
GRA1 Grafenberg Arr 42.38 316 *e*P **P 22 30 58.8 -0.1**
comp=Z,26nm,0.9s
GRF Grafenberg Arr 42.38 316 *e*P **P 22 30 58.8 -0.1**
GRF pmax pmax
comp=Z,26nm,0.9s
GRFO Grafenberg 42.38 316 *e*P **P 22 30 58.8 -0.1**
comp=Z,22nm,0.9s
GRFO Grafenberg 42.38 316 *e*P **P 22 30 58.8 -0.1**
GRFO pmax pmax
comp=Z,22nm,0.9s
DAVA Damuels 42.68 312 *i* P **P 22 31 00.6 -0.9**
comp=Z,85nm,0.6s,SNR=30
TUE Stuetta 42.89 311 *e*P **P 22 31 02.1 -1.1**
comp=Z,16nm,1.0s
MSF Maaselka 43.25 343 P **P 22 31 08.8 +3.1**
MSF pmax pmax
comp=Z,9.0nm,1.2s
SONM Songino Array 43.32 47 *e*P **P 22 31 05.7 -0.9**
comp=Z,1.6nm,0.8s
SONM Songino Array 43.32 47 *e*P **P 22 31 05.7 -0.9**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 43.32 47 P **P 22 31 06.1 -0.6**
comp=Z,1.5nm,0.8s,baz=250,slow=9.9,SNR=10
STU Stuttgart 43.45 314 P **P 22 31 04.9 -2.6**
STU pmax pmax
comp=Z,13nm,1.1s
OUL Oulu 43.49 341 P **P 22 31 11.5 +4.0**
OUL pmax pmax
comp=Z,10.0nm,1.5s
ULN Ulaanbaatar 43.76 48⇓ *e*P **P 22 31 09.8 -0.4**
ULN pmax pmax
comp=Z,1.0nm,0.6s
SBF Sospel 43.86 307 *e*P **P 22 31 10.5 -0.5**
SBF pmax pmax
comp=Z,14nm,0.7s
BFO Black Forest 43.92 313 *e*P **P 22 31 11.1 -0.2**
comp=Z,36nm,2.0s
BFO Black Forest 43.92 313 *e*P **P 22 31 11.1 -0.2**
BFO pmax pmax
comp=Z,35nm,2.0s
SENIN Lac Senin/Sane 44.27 310 *e*P **P 22 31 13.6 -0.8**
comp=Z,8.3nm,0.7s
XAN Xi'an 44.42 68 P **P 22 31 18.8 +3.2**
XAN S S 22 37 40.6 -10
XAN pmax pmax
comp=Z,3.0nm,1.1s
XAN pmax pmax
comp=Z,54nm,4.6s
XAN LR LR
comp=Z,370nm,16.5s
XAN LR LR
comp=Z,470nm,16.8s
XAN LR LR
comp=Z,240nm,17.4s
MBDF Montbardon 44.42 308 *e*P **P 22 31 15.8 +0.2**
MBDF pmax pmax
comp=Z,10.0nm,0.7s
BNI Bardonecchia 44.53 308 *e*P **P 22 31 14.7 -1.7**
comp=Z,13nm,0.9s
BNI Bardonecchia 44.53 308 *e*P **P 22 31 14.7 -1.7**
BNI pmax pmax
comp=Z,13nm,0.9s
LPG La Plagne 44.53 309 *e*P **P 22 31 17.2 +0.6**

LPG pmax pmax
comp=Z,14nm,0.9s
LPL La Plagne 44.54 309 *eP* **P 22 31 15.1 -1.5**
LPL pmax pmax
comp=Z,9.0nm,0.6s
CDF Champ du Feu 44.62 313 *eP* **P 22 31 16.1 -1.0**
CDF pmax pmax
comp=Z,11nm,0.9s
ECH Echery 44.66 313 *eP* **P 22 31 16.2 -1.1**
comp=Z,26nm,1.0s
ECH Echery 44.66 313 *eP* **P 22 31 16.2 -1.1**
ECH pmax pmax
comp=Z,26nm,1.0s
HINF Hinteralfeld 44.80 312 *eP* **P 22 31 16.9 -1.5**
HINF pmax pmax
comp=Z,19nm,1.1s
CABF La Chapelle 45.13 310 *eP* **P 22 31 20.3 -0.8**
CABF pmax pmax
comp=Z,33nm,1.1s
HAU Haudompre 45.16 312 *eP* **P 22 31 20.4 -0.9**
HAU pmax pmax
comp=Z,12nm,0.7s
WLF Walferdange 45.58 315 *eP* **P 22 31 23.5 -1.0**
comp=Z,112nm,1.0s
WLF Walferdange 45.58 315 *eP* **P 22 31 23.5 -1.0**
WLF pmax pmax
comp=Z,112nm,1.0s
WLF Walferdange 45.58 315 ⇑P **P 22 31 24.6 +0.1**
comp=Z,19nm,1.1s
MEM Membach 45.85 316 ⇑P **P 22 31 27.3 +0.6**
VIVF Saint-Julien-I 45.92 308 *eP* **P 22 31 25.9 -1.5**
VIVF pmax pmax
comp=Z,14nm,1.3s
SSB Saint Sauveur 46.05 308 *eP* **P 22 31 27.7 -0.7**
comp=Z,22nm,1.3s
SSB Saint Sauveur 46.05 308 *eP* **P 22 31 28.5 +0.1**
SSB pmax pmax
comp=Z,14nm,1.0s
NORES NORESS Array B 46.19 331 P **P 22 31 29.2 0.0**
NRIK Noril'sk 46.21 14 P **P 22 31 28.6 -0.6**
comp=Z,4.8nm,0.8s,baz=184,slow=6.4,SNR=4.4
NRIK LR LR 22 54 15.6
comp=Z,817nm,18.4s,baz=214,slow=41
BCLA Clavier 46.26 315 ⇑P **P 22 31 29.6 -0.3**
NC405 NORSAR Array S 46.28 331 *eP* **P 22 31 29.1 -0.8**
comp=Z,98nm,1.9s
HHC Hu-ho-hao-te 46.28 58 *eP* **P 22 31 30.0 -0.4**
HHC S S 22 38 04.9 -13
HHC pmax pmax
comp=Z,81nm,1.0s
HHC pmax pmax
comp=Z,270nm,5.9s
HHC LR LR
comp=Z,630nm,15.9s
HHC LR LR
comp=Z,420nm,15.9s
HHC LR LR
comp=Z,670nm,14.4s
NB2 NORSAR Subarra 46.47 331 P **P 22 31 29.2 -2.2**
comp=Z,4.7nm,0.9s,baz=118,slow=7.9
NOA NORSAR Array B 46.47 331 P **P 22 31 29.6 -1.8**
comp=Z,1.3nm,0.6s,baz=117,slow=7.8,SNR=8.9
NOA LR LR 22 53 20.2
comp=Z,273nm,20.1s,baz=125,slow=39
GIVF Givet 46.51 315 *eP* **P 22 31 32.0 +0.2**
GIVF pmax pmax
comp=Z,40nm,1.1s
DOU Dourbes 46.65 315 P **P 22 31 35.9 +3.0**
DOU pmax pmax
comp=Z,19nm,1.0s
DOU Dourbes 46.65 315 ⇓P **P 22 31 33.7 +0.8**
comp=Z,11nm,1.0s
LOR Lormes 46.73 311 *eP* **P 22 31 32.3 -1.4**
LOR pmax pmax
comp=Z,16nm,0.8s
KEV Kevo 46.74 346 *eP* **P 22 31 33.2 -0.1**
comp=Z,12nm,1.0s
KEV Kevo 46.74 346 *eP* **P 22 31 33.2 -0.1**
KEV pmax pmax
comp=Z,12nm,1.0s
BAIF Baives 46.89 315 *eP* **P 22 31 35.1 +0.3**
BAIF pmax pmax
comp=Z,34nm,1.1s
ARCES ARCESS Array B 46.91 345 *eP* **P 22 31 35.2 +0.5**
ARCES PcP **PcP 22 33 06.2 -1.0**
ARCES ARCESS Array B 46.91 345 *eP* **P 22 31 35.2 +0.5**
ARCES 22 33 06.2
ARCES ARCESS Array B 46.91 345 P **P 22 31 33.7 -1.0**
comp=Z,1.5nm,0.4s,baz=136,slow=9.3,SNR=22
ARCES PcP **PcP 22 33 06.2 -1.0**
comp=Z,0.7nm,0.4s,baz=165,slow=3.6,SNR=3.5
SSF Saint Saulge 46.95 311 *eP* **P 22 31 34.3 -1.0**
SSF pmax pmax
comp=Z,32nm,0.7s
AVF Avril sur Loir 47.02 310 *eP* **P 22 31 34.6 -1.3**
AVF pmax pmax
comp=Z,18nm,0.7s
TAM Tamanrasset 47.33 277 *eP* **P 22 31 39.4 +0.5**
comp=Z,9.1nm,1.0s
TAM Tamanrasset 47.33 277 *eP* **P 22 31 39.4 +0.5**
TAM pmax pmax
comp=Z,9.0nm,1.0s
BGF Bois d'Agland 47.35 310 *eP* **P 22 31 37.4 -1.1**
BGF pmax pmax
comp=Z,27nm,0.7s
MTLF Montolieu 47.60 305 *eP* **P 22 31 40.1 -0.4**
MTLF pmax pmax
comp=Z,8.0nm,0.7s
TCF Toulx Ste Croi 47.76 309 *eP* **P 22 31 40.9 -0.8**
TCF pmax pmax
comp=Z,14nm,0.7s
CAF Calviac 47.78 308 *eP* **P 22 31 41.3 -0.6**
CAF pmax pmax
comp=Z,19nm,1.0s
RJF Les Rejaudoux 48.18 308 *eP* **P 22 31 44.6 -0.4**
RJF pmax pmax
comp=Z,20nm,0.8s
LFF La Frestale 48.72 308 *eP* **P 22 31 49.3 +0.2**
LFF pmax pmax
comp=Z,18nm,0.7s
EPF Esparros 48.97 305 *eP* **P 22 31 50.3 -0.8**
EPF pmax pmax
comp=Z,5.0nm,1.0s
MFF Saint Martin d 49.41 310 *eP* **P 22 31 54.9 +0.5**
MFF pmax pmax
comp=Z,21nm,1.2s
WHN Wuhan 49.44 71 P **P** 22 32 00.1 +5.3
LDF La Druitiere 49.52 312 *eP* **P 22 31 53.9 -1.3**
LDF pmax pmax
comp=Z,15nm,0.9s
ETSF Etsaut 49.63 305 *eP* **P 22 31 58.4 +2.2**
ETSF pmax pmax
comp=Z,9.0nm,0.8s
FLN La Foliniere 49.77 313 *eP* **P 22 31 56.0 -1.1**
FLN pmax pmax
comp=Z,27nm,0.9s
GRR Gorron 49.99 312 *eP* **P 22 32 00.6 +1.8**
GRR pmax pmax
comp=Z,48nm,1.4s
BOD Bodaibo 50.04 35 *eP* **P 22 31 56.9 -2.1**
BOD pmax pmax
comp=Z,9.0nm,0.7s
SGMF Saint Gilles 51.12 312 *eP* **P 22 32 06.6 -0.7**
SGMF pmax pmax
comp=Z,90nm,1.7s
EKA Eskdalemuir Ar 52.10 321 P **P 22 32 13.1 -1.4**
ESDC Sonseca Array 52.36 301 *eP* **P 22 32 16.4 -0.4**
comp=Z,2.2nm,1.0s
ESDC Sonseca Array 52.36 301 P **P 22 32 16.8 0.0**
comp=Z,1.7nm,0.5s,baz=69,slow=7.5,SNR=30
PAB San Pablo 52.67 301 *eP* **P 22 32 19.6 +0.5**
comp=Z,27nm,1.6s
PAB San Pablo 52.67 301 *eP* **P 22 32 19.6 +0.5**
PAB pmax pmax
comp=Z,27nm,1.6s
NJ2 Nanjing 52.95 69 *eP* **P 22 32 20.9 -0.3**
NJ2 pmax pmax
comp=Z,12nm,0.5s
TOA0 Torodi Ar. Sit 54.00 267 *eP* **P 22 32 28.7 -0.4**
comp=Z,18nm,1.0s
TORD Torodi Ar. Bea 54.00 267 P **P 22 32 26.8 -2.3**
comp=Z,4.9nm,0.6s,baz=62,slow=5.9,SNR=42
PBRG Braganca 54.26 304 *eP* **P 22 32 31.1 +0.3**
MVO Moncorvo 54.54 303 *eP* **P 22 32 33.2 +0.4**
comp=Z,37nm,1.6s
MATP Matopo 54.67 214 P **P 22 32 33.6 -0.3**
comp=Z,5.3nm,0.8s,baz=29,slow=8.8,SNR=9.5
PVRL Vila Real 55.05 303 *eP* **P 22 32 38.9 +2.5**
POLO Lamas de Olo 55.09 303 *eP* **P 22 32 39.1 +2.3**
PTOM Tomar 55.78 301 *eP* **P 22 32 45.3 +3.6**
YAK Yakutsk 58.43 32 *eP* **P 22 32 59.9 -0.1**
YAK *e**PP **sP 22 33 09.9 +4.9**
YAK *e* 22 33 52.3
YAK *e*S **S 22 40 58.3 -4.6**
YAK *e**SS sS 22 41 18.1 +9.2
YAK *e*SS **SS 22 44 48.5 -6.2**
YAK *e*SSS SSS 22 47 19.1
YAK pmax pmax
comp=Z,47nm,0.8s
YAK smax smax
comp=N,94nm,1.5s
YAK smax smax
comp=E,186nm,1.9s
TIXI Tiksi 59.06 20 *eP* **P 22 33 04.7 +0.4**
comp=E,4.9nm,0.9s
TIXI Tiksi 59.06 20⇓*eP* **P 22 33 05.1 +0.8**
TIXI pmax pmax
comp=Z,17nm,2.5s
KSAR Wonju Array Be 59.23 61 P **P 22 33 06.2 +0.2**
KSAR Wonju Array Be 59.23 61 P **P 22 33 06.2 +0.2**
KSRS Korea Array 59.25 61 P **P 22 33 06.2 0.0**
comp=Z,2.8nm,0.9s,baz=280,slow=6.4,SNR=7.0
LBTB Lobatse 59.96 214 *eP* **P 22 33 12.3 +1.1**
comp=Z,14nm,1.2s
LBTB Lobatse 59.96 214 *eP* **P 22 33 12.3 +1.1**
LBTB pmax pmax
comp=Z,14nm,1.2s
LBTB Lobatse 59.96 214 P **P 22 33 09.7 -1.5**
comp=Z,3.8nm,1.0s,baz=217,slow=20,SNR=2.8
USRK Ussuriysk Ar. 61.04 52 *eP* **P 22 33 18.0 -0.4**
DAG Danmarks Havn 61.20 345 *i* P **P 22 33 18.0 -0.9**
DAG Danmarks Havn 61.20 345 *i* P **P 22 33 18.0 -0.9**
DBIC Dimbokro 62.57 264 P **P 22 33 27.8 -1.3**
comp=Z,6.4nm,1.0s,baz=152,slow=17,SNR=2.9
BOSA Boshof 63.13 212 P **P 22 33 32.8 +0.1**
comp=Z,0.7nm,0.5s,baz=31,slow=3.3,SNR=4.0
BOSA LR LR 22 59 48.4
comp=Z,206nm,21.9s,baz=7.5,slow=35
SUMG Summit 66.71 341 *eP* **P 22 33 54.3 -1.3**
comp=Z,14nm,0.8s
SUMG Summit 66.71 341 *i* P **P 22 33 55.1 -0.6**
SUMG pmax pmax
comp=Z,28nm,0.6s
SUMG Summit 66.71 341 *i* P **P 22 33 55.1 -0.6**
comp=Z,28nm,0.6s
MA2 Magadan 68.95 33⇓*eP* **P 22 34 12.7 +3.2**
MA2 pmax pmax
comp=Z,3.0nm,0.9s
TULEG Thule 72.07 349 *eP* **P 22 34 26.6 -1.7**
comp=Z,6.6nm,0.8s
BILL Bilibino 72.21 22 *i* P **P 22 34 32.8 +3.5**
BILL *i* 22 34 39.5
BILL *i* 22 34 51.9
BILL *i* 22 37 16.8
BILL pmax pmax
comp=Z,3.0nm,1.0s
TOLK Toolik Lake Re 82.94 10 *eP* **P 22 35 29.3 0.0**
comp=Z,7.1nm,1.0s
IMAR Indian Mountai 84.62 12 *eP* **P 22 35 37.1 -0.7**
INK Inuvik 85.02 4 *eP* **P 22 35 39.8 0.0**
comp=Z,4.4nm,1.1s
INK Inuvik 85.02 4 *eP* **P 22 35 39.8 0.0**
INK pmax pmax
comp=Z,4.0nm,1.1s
MLY Manley 86.04 12 *eP* **P 22 35 46.4 +1.3**
comp=Z,5.8nm,1.0s
PRP Porcupine Dome 86.45 9 *eP* **P 22 35 47.9 +0.7**
MDM Murphy Dome 86.54 11 *eP* **P 22 35 47.0 -0.5**
comp=Z,14nm,1.1s
COLA College 86.68 11⇑*eP* **P 22 35 52.0 +3.9**
COLA pmax pmax
comp=Z,3.0nm,1.0s
BPAW Bear Paw Mtn. 86.84 12 *eP* **P 22 35 49.8 +0.8**
comp=Z,12nm,1.0s
ILAR Eielson Array 86.94 10 P **P 22 35 48.2 -1.2**
comp=Z,0.5nm,0.6s,baz=339,slow=5.0,SNR=5.3
CAST Castle Rocks 87.24 13 *eP* **P 22 35 52.7 +1.8**
comp=Z,15nm,1.0s
WRA Warramunga Arr 87.46 114 *i* P **P 22 35 52.2 -0.4**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 87.46 114 P **P 22 35 52.3 -0.3**
comp=Z,1.1nm,0.6s,baz=314,slow=3.9,SNR=11
EGAK Eagle 87.75 8 *eP* **P 22 35 57.1 +3.8**
comp=Z,5.3nm,0.9s
SCRK Sand Creek 88.13 9 *eP* **P 22 35 55.5 +0.2**
comp=Z,7.8nm,1.0s
ASAR Alice Springs 88.93 117 P **P 22 35 59.4 -0.2**
comp=Z,0.5nm,0.6s,baz=308,slow=4.8,SNR=8.0
YKA Yellowknife Ar 91.01 356 *i* P **P 22 36 11.0 +2.4**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 91.01 356 P **P 22 36 07.9 -0.7**
comp=Z,0.6nm,0.7s,baz=4.2,slow=5.2,SNR=14
FCC Fort Churchill 91.80 346 *eP* **P 22 36 11.6 -0.7**
comp=Z,5.7nm,1.3s
FCC Fort Churchill 91.80 346 *eP* **P 22 36 11.6 -0.7**
FCC pmax pmax
comp=Z,6.0nm,1.3s
SDPT Sand Point 92.08 21 *eP* **P 22 36 12.1 -1.6**

ISCJB ***11*** *22:25:21.2±0.4, 26°.45N±0°.04×57°.67E±0°.05, h10km, mb4.2/25, Error ellipse: s-maj=7.5km s-min=5.4km az=138.1*
IDC ***11*** *22:25:21.6±0.8, 26°.47N×57°.58E, h0km, mb4.2/17, mb1 4.3/20, mb1mx4.0/51, mbtmp4.2/20, ML4.1/2, MS4.1/3, Ms1 4.1/3, ms1mx3.5/50, Error ellipse: s-maj=18.1km s-min=15.7km az=147.0*
NEIC ***11*** *22:25:21.0±0.0, 26°.47N×57°.68E, h12km, mb4.4/6, MN4.6(TEH), After TEH.*
TEH ***11*** *22:25:27.4, 26°.77N×57°.60E, h20km, ML4.4*
ISC 11 22:25:22.9±0.6,**26°.47N**±0°.06×**57°.67E**±0°.08,**h10km,n62,**
σ1§12/61,mb4.3/36,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.31**	**326**	*e*Pg	**Pb**	**22 25 47.7**	**+0.1**
NIAN				IAMB	IAmb	22 26 08.2	
comp=Z,0.0nm,0.4s							
GENO	**Geno**	**1.62**	**305**	*e*Pn	**Pg**	**22 25 53.5**	**-0.5**
GENO				*e*Sg	**Sg**	**22 26 16.6**	**+1.5**
GENO				IAMB	IAmb	22 26 22.5	
comp=Z,0.0nm,0.6s							
NGRK	**Negar Kerman**	**3.27**	**346**	*e*Pn	**Pn**	**22 26 14.8**	**+0.3**
NGRK				IAMB	IAmb	22 27 09.8	
comp=Z,0.0nm,1.3s							
WSAR	**Wadi Sarin**	**3.34**	**165**	Pn	**Pn**	**22 26 17.0**	**+1.8**
comp=Z,22nm,0.3s,baz=96,slow=9.5,SNR=12							
WSAR				Sn	**Sn**	**22 26 55.1**	**+0.2**
comp=Z,53nm,0.3s,baz=56,slow=21,SNR=6.5							
CHMN	**Cheshme madani**	**3.38**	**358**	*e*Pn	**Pn**	**22 26 18.7**	**+2.7**
TVBK	**TV Kerman**	**3.59**	**347**	*e*Pn	**Pn**	**22 26 20.2**	**+1.3**
TVBK				IAMB	IAmb	22 26 30.2	
comp=Z,0.0nm,0.4s							
GNI	**Garni**	**17.37**	**325**	P	**P**	**22 29 26.4**	**-0.5**
comp=Z,0.8nm,0.3s,baz=152,slow=18,SNR=4.3							
ASF	**Jabal al Asfar**	**18.97**	**292**	P	**Pn**	**22 29 45.0**	**-0.1**
comp=Z,0.4nm,0.3s,baz=72,slow=5.4,SNR=2.9							
KK31	**Karatay Array**	**19.62**	**29**	*e*P	**P**	**22 29 50.4**	**-1.1**
comp=Z,9.7nm,0.9s							
KKAR	**Karatay Array**	**19.62**	**29**	*e*P	**P**	**22 29 51.4**	**0.0**
EIL	**Elat**	**20.29**	**284**	P	**P**	**22 29 59.4**	**+0.5**
comp=Z,8.9nm,0.6s,baz=130,slow=16,SNR=2.9							
MMAI	**Mount Meron Ar**	**20.38**	**294**	P	**P**	**22 30 00.4**	**+0.5**
comp=Z,7.7nm,0.8s,baz=108,slow=9.3,SNR=4.1							
KBZ	**Khabaz**	**20.98**	**329**	LR	LR	22 39 53.8	
comp=Z,534nm,18.9s,baz=147,slow=42							
AAK	**Ala-Archa**	**21.20**	**36**	P	**P**	**22 30 10.7**	**+1.9**
comp=Z,8.7nm,0.8s,baz=119,slow=2.7,SNR=4.4							
NRN	**Naryn**	**21.24**	**41**	*e*P	**P**	**22 30 05.7**	**-3.7**
comp=Z,9.5nm,0.8s							
KDJ	**Kajisay**	**22.36**	**41**	*e*P	**P**	**22 30 19.1**	**-2.2**
comp=Z,24nm,0.9s							
AKTO	**Aktyubinsk**	**23.93**	**1**	P	**P**	**22 30 37.2**	**+0.3**
comp=Z,11nm,0.7s,baz=162,slow=12,SNR=7.7							
BR101	**Keskin Array S**	**23.99**	**309**	*e*P	**P**	**22 30 37.0**	**-0.9**
BRTR	**Keskin Array B**	**23.99**	**309**	P	**P**	**22 30 37.0**	**-0.9**
comp=Z,5.0nm,0.7s,baz=137,slow=7.2,SNR=7.8							
MK32	**Makanchi Array**	**28.11**	**37**	*e*P	**P**	**22 31 16.1**	**+1.2**
MKAR	**Makanchi Array**	**28.11**	**37**	P	**P**	**22 31 16.2**	**+1.2**
comp=Z,1.7nm,0.8s,baz=224,slow=8.1,SNR=3.9							
BVAR	**Borovoye Array**	**28.18**	**16**	P	**P**	**22 31 16.0**	**+0.7**
comp=Z,4.1nm,0.9s,baz=199,slow=8.5,SNR=6.4							
KURBB	**Kurchatov Arra**	**28.92**	**28**	P	**P**	**22 31 23.9**	**+1.9**
comp=Z,2.5nm,0.8s,baz=228,slow=8.3,SNR=4.2							
AKASG	**Malin Array Be**	**32.50**	**326**	*e*P	**P**	**22 31 52.7**	**-0.9**
AKASG	**Malin Array Be**	**32.50**	**326**	P	**P**	**22 31 52.4**	**-1.2**
comp=Z,2.4nm,0.6s,baz=130,slow=8.2,SNR=5.2							
AKBB	**Malin Array Si**	**32.50**	**326**	*e*P	**P**	**22 31 53.4**	**-0.2**
comp=Z,7.6nm,0.8s							
KIEV	**Kiev**	**32.51**	**326**	*e*P	**P**	**22 31 53.4**	**-0.2**
comp=Z,7.4nm,0.8s							
FNA	**Florina**	**33.16**	**305**	*e*P	**P**	**22 32 00.5**	**+0.9**
comp=Z,8.9nm,0.7s							
ZALV	**Zalesovo Beam**	**34.00**	**29**	P	**P**	**22 32 06.7**	**+0.1**
comp=Z,3.1nm,0.5s,baz=235,slow=9.4,SNR=5.5							
ZAA1	**Zalesovo Array**	**34.00**	**29**	*e*P	**P**	**22 32 06.7**	**+0.1**
KOLS	**Kolonicke sedl**	**35.40**	**319**	*e*P	**P**	**22 32 19.5**	**+0.7**
OKC	**Ostrava-Krasne**	**38.22**	**318**	*e*P	**P**	**22 32 45.3**	**+2.5**
CONA	**Conrad Observa**	**38.97**	**315**	*e*pP	**P**	**22 32 48.7**	**-0.5**
comp=Z,2.4nm,0.6s							
ARSA	**Arzberg**	**38.98**	**313**	*e*pP	**P**	**22 32 49.4**	**+0.1**
comp=Z,5.7nm,0.8s							
MOA	**Molln**	**39.97**	**314**	*e*pP	**P**	**22 32 57.2**	**-0.3**
comp=Z,5.6nm,0.6s							
MYKA	**Terra Mystica**	**40.05**	**312**	*e*pP	**P**	**22 32 58.2**	**-0.1**
comp=Z,5.5nm,0.8s							
KBA	**Koelnbreinsper**	**40.36**	**312**	*e*pP	**P**	**22 33 00.8**	**-0.2**
comp=Z,5.9nm,0.7s,SNR=5.5							
GEC2	**GERESS Array S**	**40.62**	**315**	*e*P	**P**	**22 33 02.5**	**-0.5**
GERES	**GERESS Array B**	**40.62**	**315**	P	**P**	**22 33 02.5**	**-0.5**
comp=Z,2.6nm,0.8s,baz=123,slow=11,SNR=6.0							
KHC	**Kasperske Hory**	**40.78**	**316**	*e*P	**P**	**22 33 03.9**	**-0.3**
comp=Z,2.9nm,0.8s							
KHC	**Kasperske Hory**	**40.78**	**316**	*e*P	**P**	**22 33 03.8**	**-0.4**
KHC				*ex*	x	22 33 10.4	
ABTA	**Abfaltersbach**	**40.84**	**312**	*e*pP	**P**	**22 33 04.7**	**-0.1**
comp=Z,5.3nm,0.6s							
FIA0	**FINESS Array S**	**40.91**	**337**	*e*P	**P**	**22 33 04.5**	**-0.5**
FINES	**FINESS Array B**	**40.91**	**337**	P	**P**	**22 33 04.5**	**-0.5**
comp=Z,2.4nm,0.5s,baz=134,slow=8.8,SNR=5.3							
BRG	**Berggiesshubel**	**41.11**	**318**	*e*P	**P**	**22 33 09.2**	**+2.3**
comp=Z,2.2nm,0.8s							
WTTA	**Wattenberg**	**41.54**	**312**	*i* pP	**P**	**22 33 10.0**	**-0.7**
comp=Z,13nm,0.5s							
WATA	**Walderalm**	**41.60**	**312**	*i* pP	**P**	**22 33 10.2**	**-0.9**
comp=Z,6.5nm,0.6s							
CLL	**Collm**	**41.81**	**319**	*e*P	**P**	**22 33 12.0**	**-0.6**
comp=Z,5.0nm,1.0s							
SQTA	**Sankt Quirin**	**41.81**	**312**	*i* pP	**P**	**22 33 12.0**	**-0.9**
comp=Z,20nm,0.5s,SNR=15							
MOTA	**Moosalm**	**41.91**	**312**	*i* P	**P**	**22 33 12.4**	**-1.3**
comp=Z,9.2nm,0.5s,SNR=12							
FETA	**Feichten**	**42.09**	**312**	*i* pP	**P**	**22 33 14.6**	**-0.5**
comp=Z,11nm,0.6s,SNR=13							
RETA	**Reutte**	**42.17**	**312**	*i* P	**P**	**22 33 14.6**	**-1.1**
comp=Z,5.3nm,0.6s							
DAVA	**Damuels**	**42.71**	**312**	*i* pP	**P**	**22 33 19.3**	**-0.9**
comp=Z,30nm,0.5s,SNR=24							
ESDC	**Sonseca Array**	**52.36**	**301**	P	**P**	**22 34 34.4**	**-0.8**
comp=Z,0.8nm,0.5s,baz=70,slow=7.0,SNR=5.9							
TOA1	**Torodi Ar. Sit**	**53.93**	**267**	*e*P	**P**	**22 34 46.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**53.93**	**267**	P	**P**	**22 34 46.8**	**-0.2**
comp=Z,2.8nm,0.6s,baz=65,slow=8.1,SNR=7.2							
MATP	**Matopo**	**54.53**	**214**	P	**P**	**22 34 51.4**	**0.0**
comp=Z,1.7nm,0.7s,baz=41,slow=20,SNR=3.6							
KSRS	**Korea Array**	**59.37**	**61**	LR	LR	23 02 22.0	
comp=Z,205nm,21.5s,baz=335,slow=37							
TGY	**Tagaytay City**	**60.10**	**88**	LR	LR	23 04 32.4	
comp=Z,140nm,18.0s,baz=270,slow=39							
ILAR	**Eielson Array**	**87.06**	**10**	P	**P**	**22 38 08.6**	**+0.1**
comp=Z,0.5nm,0.8s,baz=319,slow=4.2,SNR=3.1							
WR1	**Warramunga Arr**	**87.48**	**114**	*e*P	**P**	**22 38 10.6**	**-0.6**
WRA	**Warramunga Arr**	**87.48**	**114**	P	**P**	**22 38 10.6**	**-0.6**
comp=Z,0.5nm,0.9s,baz=266,slow=5.0,SNR=2.8							

DSN ***11*** *22:28:04.2±1.8, 26°.98N×58°.03E, h10km, ML4.6/7, Error ellipse: s-maj=30.3km s-min=12.9km az=157.0*
IDC ***11*** *22:28:06.8±0.6, 26°.75N×57°.61E, h0km, mb4.0/24, mb1 4.2/27, mb1mx4.0/51, mbtmp4.1/27, ML2.0/1, MS4.1/3, Ms1 4.1/3, ms1mx3.4/52, Error ellipse: s-maj=15.1km s-min=13.8km az=120.0*
ISCJB ***11*** *22:28:07.5±0.2, 26°.66N±0°.03×57°.61E±0°.03, h10km, mb4.5/87, MS4.3/7, Error ellipse: s-maj=4.1km s-min=3.9km az=37.9*
BJI ***11*** *22:28:07.1±0.0, 26°.60N×57°.59E, h8km, mb4.5/17, mB4.9/13, Ms4.5/7, Ms7 4.2/7*
MOS ***11*** *22:28:07.0±1.2, 26°.66N×57°.65E, h10km, mb4.9/43, Error ellipse: s-maj=8.0km s-min=4.8km az=121.1*
NEIC ***11*** *22:28:08.5±0.0, 26°.69N×57°.47E, h14km, mb4.5/40, ML4.4(THR), After THR.*
TEH ***11*** *22:28:11.5, 26°.76N×57°.66E, h20km, ML4.6*
OMAN ***11*** *22:28:12.1±6.1, 26°.49N×57°.81E, h24km, ml4.3/12, Error ellipse: s-maj=128.3km s-min=22.2km az=24.0*
ISC 11 22:28:09.1±0.4,**26°.65N**±0°.04×**57°.71E**±0°.03,**h10km,n243,**
σ1§43/246,mb4.6/100,MS4.3/7,13C-7D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.20**	**319**	*e*Pg	**Pg**	**22 28 32.2**	**0.0**
NIAN				IAMB	IAmb	22 28 58.3	
comp=Z,0.0nm,0.5s							
SHME	**Shamm**	**1.53**	**248**	*e*P	**Pb**	**22 28 37.2**	**-0.4**
SNR=83							
SHME				S	**Sg**	**22 29 02.0**	**+3.6**
GENO	**Geno**	**1.57**	**299**	*e*Pn	**Pb**	**22 28 38.3**	**0.0**
GENO				IAMB	IAmb	22 29 07.8	
comp=Z,0.0nm,0.6s							
BNDS	**Bandar-Abbas**	**1.57**	**299**	*e*Pn	**Pn**	**22 28 33.5**	**-3.7**
MSFE	**Esma-Masafi**	**1.90**	**228**	*e*P	**Pn**	**22 28 40.0**	**-1.6**
SNR=20							
MSFE				S	**Sg**	**22 29 12.5**	**+2.4**
HATD	**Hatta, Dubai**	**2.31**	**219**	P	**Pn**	**22 28 47.9**	**+0.7**
HATD	**Hatta, Dubai**	**2.31**	**219**	P	**Pn**	**22 28 47.8**	**+0.7**
ASHO	**Ashiyiah**	**2.46**	**218**	P	**Pn**	**22 28 51.1**	**+1.8**
SNR=6.5							
NAZ	**Nazwa, Dubai**	**2.48**	**229**	P	**Pb**	**22 28 51.8**	**-2.0**
NAZ	**Nazwa, Dubai**	**2.48**	**229**	P	**Pb**	**22 28 52.0**	**-1.8**
FAQ	**Al Faqa, Dubai**	**2.69**	**226**	*i* P	**Pn**	**22 28 54.1**	**+1.6**
SNR=19							
FAQ	**Al Faqa, Dubai**	**2.69**	**226**	P	**Pn**	**22 28 54.1**	**+1.6**
SNR=19							
CHBR	**Chabahar**	**2.70**	**112**	*e*Pn	**Pb**	**22 28 56.5**	**-1.0**
ASUD	**Al Ashush, Dub**	**2.95**	**227**	*i* P	**Pn**	**22 28 57.7**	**+1.8**
SNR=17							
ASUD	**Al Ashush, Dub**	**2.95**	**227**	P	**Pb**	**22 28 59.4**	**-2.3**
SNR=17							
HOQ	**Hoqain**	**3.07**	**187**	P	**Pn**	**22 28 55.6**	**-2.1**
SNR=12							
NGRK	**Negar Kerman**	**3.11**	**344**	*e*Pn	**Pn**	**22 28 59.2**	**+0.6**
NGRK				IAMB	IAmb	22 29 52.2	
comp=Z,0.0nm,0.4s							
ALNE	**Al Ain**	**3.13**	**215**	*i* P	**Pn**	**22 28 59.3**	**+0.8**
SNR=17							
BIDO	**Bidbid**	**3.13**	**173**	P	**Pn**	**22 28 56.3**	**-2.3**
SNR=26							
CHMN	**Cheshme madani**	**3.21**	**357**	*e*Pn	**Pn**	**22 29 01.5**	**+1.6**
CHMN				IAMB	IAmb	22 30 03.9	
comp=Z,0.0nm,0.6s							
TVBK	**TV Kerman**	**3.43**	**346**	IAMB	IAmb	22 29 17.5	
comp=Z,0.0nm,0.4s							
TVBK				*e*Pn	**Pn**	**22 29 04.5**	**+1.5**
ARQ	**Araqi**	**3.47**	**198**	P	**Pn**	**22 29 05.7**	**+2.5**
SNR=9.0							
WSAR	**Wadi Sarin**	**3.49**	**166**	Pn	**Pn**	**22 29 02.0**	**-1.4**
comp=Z,47nm,0.3s,baz=344,slow=5.5,SNR=28							
WSAR				Sn	**Sn**	**22 29 40.0**	**-4.9**
comp=Z,78nm,0.3s,baz=310,slow=23,SNR=8.5							
SMDO	**Samad**	**3.58**	**175**	P	**Pn**	**22 29 04.4**	**-0.4**
SNR=12							
KHGB	**Koh Gabri**	**3.87**	**344**	*e*Pn	**Pn**	**22 29 10.5**	**+1.6**
KHGB				IAMB	IAmb	22 29 22.6	
comp=Z,0.0nm,0.6s							
SZD1	**Zahaedan-tmp**	**3.97**	**44**	*e*Pn	**Pn**	**22 29 12.4**	**+2.2**
ZHSF	**Zahedan**	**4.00**	**42**	*e*Pn	**Pn**	**22 29 12.9**	**+2.2**
WBK	**Wadi Bani Khal**	**4.18**	**164**	P	**Pn**	**22 29 14.0**	**+1.0**
SNR=8.0							
BSRN	**Basiran**	**5.44**	**13**	*e*Pn	**Pn**	**22 29 32.0**	**+1.6**
IKOO	**Kooshah**	**5.87**	**11**	*e*Pn	**Pn**	**22 29 36.0**	**-0.4**
IRAM	**Ramesheh**	**6.94**	**319**	*e*Pn	**Pn**	**22 29 51.8**	**+0.7**
GEYT	**Alibeck**	**11.26**	**2**	Pn	**Pn**	**22 30 49.3**	**-0.8**
baz=124,slow=21,SNR=1.2							
NIL	**Nilore**	**15.14**	**59**	*e*Pn	**Pn**	**22 31 44.2**	**+1.2**

comp=Z,141nm,1.4s
NIL Nilore 15.14 59 *e*P **Pn 22 31 44.2 +1.2**
NIL pmax pmax
comp=Z,141nm,1.4s
NIL Nilore 15.14 59 *e*Pn **Pn 22 31 44.2 +1.2**
GAR Garm 16.23 37 *e*Pn **Pn 22 31 57.8 +0.5**
comp=Z,23nm,1.0s
GAR Garm 16.23 37 *e*P **Pn 22 31 57.8 +0.5**
GAR pmax pmax
comp=Z,23nm,1.0s
GNI Garni 17.26 325 *e*Pn **P 22 32 13.9 +2.1**
comp=Z,15nm,0.7s
GNI Garni 17.26 325 P **Pn 22 32 09.6 -0.8**
comp=Z,0.3nm,0.3s,baz=24,slow=20,SNR=2.3
BTK Batken 17.26 36 *e*Pn **P 22 32 11.6 -0.2**
comp=Z,14nm,0.7s
BTK Batken 17.26 36 *e*P **P 22 32 11.6 -0.2**
BTK pmax pmax
comp=Z,14nm,0.7s
ARSB Arslanbob 19.31 37 *e*P **Pn 22 32 36.1 +0.7**
comp=Z,16nm,0.9s
KK31 Karatay Array 19.45 29 *e*P **Pn 22 32 37.8 +0.8**
comp=Z,15nm,0.8s
KK31 Karatay Array 19.45 29 *e*P **Pn 22 32 37.8 +0.8**
KK31 pmax pmax
comp=Z,15nm,0.8s
KKAR Karatay Array 19.45 29 *e*P **Pn 22 32 37.8 +0.8**
KKAR Karatay Array 19.45 29 *e*P **Pn 22 32 37.8 +0.8**
ZEI Tsey 19.66 329 *e*P **Pn 22 32 42.8 +3.1**
ZEI pmax pmax
comp=Z,5.0nm,0.5s
BCA Borcka 19.84 322 ⇑*i*P **Pn 22 32 41.5 -0.2**
KSH Kashi 19.92 45 P **P 22 32 38.1 -3.0**
KSH sP sP 22 32 47.4 +1.6
KSH PP **PnPn 22 32 56.6 -0.2**
KSH S S 22 36 09.7 -16
KSH SS **SnSn 22 36 39.1 -2.2**
KSH pmax pmax
comp=Z,440nm,7.1s
KSH LR LR
comp=Z,350nm,9.7s
KSH LR LR
comp=Z,440nm,11.7s
KSH LR LR
comp=Z,640nm,15.2s
MMAI Mount Meron Ar 20.35 293 P **P 22 32 45.5 -0.3**
comp=Z,5.1nm,0.7s,baz=106,slow=18,SNR=2.9
ATD Arta Tunnel 20.55 226 *e*P **P 22 32 48.2 +0.2**
comp=Z,47nm,1.5s
AAK Ala-Archa 21.04 36 *e*P **P 22 32 55.6 +2.4**
comp=Z,13nm,0.8s
AAK Ala-Archa 21.04 36 P **P 22 32 52.8 -0.4**
comp=Z,10nm,0.7s,baz=179,slow=6.7,SNR=9.4
AAK LR LR 22 41 27.4
comp=Z,338nm,18.7s,baz=224,slow=38
KIV Kislovodsk 21.12 329 *e*P **P 22 32 55.3 +1.3**
comp=Z,18nm,0.9s
KIV Kislovodsk 21.12 329 ⇓*i*P **P 22 32 57.6 +3.5**
KIV Kislovodsk 21.12 329 *e*P **P 22 32 55.9 +1.8**
KIV pmax pmax
comp=Z,46nm,1.1s
HYB Hyderabad 21.36 111 *i*P **P 22 32 58.0 +1.2**
KDJ Kajisay 22.21 41 *e*P **P 22 33 04.9 -0.9**
KDJ Kajisay 22.21 41 *e*P **P 22 33 04.9 -0.9**
CSS Mathiatis 22.48 298 *e*P **P 22 33 07.2 -1.5**
comp=Z,14nm,0.8s
ABKAR Akbulak array 22.64 4 *e*P **P 22 33 08.9 -1.3**
ERMK Ermenek 23.29 301 *i*P **P 22 33 19.1 +1.9**
AKTO Aktyubinsk 23.75 0 P **P 22 33 19.4 -2.2**
comp=Z,4.3nm,0.6s,baz=149,slow=11,SNR=6.5
BRTR Keskin Array B 23.91 309 *e*P **P 22 33 22.5 -0.8**
BRTR Keskin Array B 23.91 309 *e*P **P 22 33 22.5 -0.8**
BRTR Keskin Array B 23.91 309 P **P 22 33 22.0 -1.3**
comp=Z,4.8nm,0.6s,baz=138,slow=6.9,SNR=14
BR131 Keskin Array S 23.91 309 *e*P **P 22 33 23.2 -0.2**
comp=Z,8.4nm,0.8s
KAGI orum-Kargı 24.00 313 *i*P **P 22 33 21.3 -2.7**
ILGA Ilgaz 24.47 312 *e*P **P 22 33 27.9 -0.6**
comp=Z,47nm,1.8s
ANTO Ankara 24.57 309 *e*P **P 22 33 29.7 +0.5**
comp=Z,16nm,0.9s
ANTO Ankara 24.57 309 *e*P **P 22 33 29.7 +0.5**
ANTO pmax pmax
comp=Z,16nm,0.9s
PELI Kastamonı-Ara 24.85 312 *i*P **P 22 33 31.6 -0.3**
BCAM Yenicaga 25.47 310 *i*P **P 22 33 38.6 +1.1**
AUMIH MIHALICIK 25.48 308 *i*P **P 22 33 37.9 +0.3**
MAKZ Makanchi 27.79 37 *e*P **P 22 34 00.0 +1.8**
comp=Z,7.1nm,1.0s
MK31 Makanchi Array 27.95 38 *e*P **P 22 34 01.1 +1.4**
comp=Z,2.5nm,0.9s
MK31 Makanchi Array 27.95 38 *e*P **P 22 34 01.1 +1.4**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 27.95 38 *e*P **P 22 34 00.9 +1.2**
MKAR Makanchi Array 27.95 38 *e*P **P 22 34 00.9 +1.2**
MKAR Makanchi Array 27.95 38 P **P 22 33 59.1 -0.6**
comp=Z,0.9nm,0.9s,baz=250,slow=8.6,SNR=3.1
BVAR Borovoye Array 28.00 16 P **P 22 33 57.5 -2.5**
comp=Z,0.9nm,0.4s,baz=207,slow=5.2,SNR=6.5
KURBB Kurchatov Arra 28.75 28 P **P 22 34 07.4 +0.7**
comp=Z,1.0nm,0.6s,baz=227,slow=7.9,SNR=4.8
KURK Kurchatov 28.86 28 P **P 22 34 07.4 -0.2**
KURK pmax pmax
comp=Z,1.0nm,0.4s
WMQ Urumqi 29.67 47 *e*P **P 22 34 17.3 +2.3**
WMQ pP sP 22 34 24.0 +4.1
WMQ sP pP 22 34 25.7 +7.2
WMQ LR LR
comp=Z,1μm,18.9s
PLOR Plostina 31.26 316 ⇓*i*P **P 22 34 29.8 +0.8**
MLR Muntele Rosu 31.54 315 ⇑*i*P **P 22 34 32.1 +0.5**
TESR Tescani 31.56 317 ⇓*i*P **P 22 34 31.1 -0.5**
MTUR Matau 31.99 314 ⇑*i*P P 22 34 26.5 -9.0
VOIR 32.09 314 ⇑*i*P **P 22 34 35.2 -1.2**
BIZ Bicaz 32.09 317 ⇑*i*P **P 22 34 35.8 -0.5**
DOPR Dopca 32.10 315 ⇓*i*P **P 22 34 35.2 -1.2**
ARR Arges 32.33 314 ⇓*i*P **P 22 34 38.3 -0.1**
AKASG Malin Array Be 32.38 326 *e*P **P 22 34 38.6 -0.1**
comp=Z,2.5nm,0.7s
AKASG Malin Array Be 32.38 326 *e*P **P 22 34 38.7 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 32.38 326 P **P 22 34 36.4 -2.4**
comp=Z,4.9nm,0.7s,baz=126,slow=8.3,SNR=14
AKBB Malin Array Si 32.38 326 *e*P **P 22 34 37.7 -1.1**
comp=Z,11nm,0.7s
AKBB Malin Array Si 32.38 326 *e*P **P 22 34 37.7 -1.1**
AKBB pmax pmax
comp=Z,11nm,0.7s
KIEV Kiev 32.39 325 *e*P **P 22 34 38.1 -0.7**
comp=Z,11nm,0.7s
KIEV Kiev 32.39 325 ⇑*i*P **P 22 34 38.7 -0.1**
KIEV Kiev 32.39 325 *e*P **P 22 34 38.1 -0.7**
KIEV pmax pmax
comp=Z,11nm,0.7s
BURAR Bucovina Array 32.95 318 *e*P **P 22 34 43.4 -0.5**
comp=Z,19nm,0.8s
BURAR Bucovina Array 32.95 318 ⇑*i*P **P 22 34 43.6 -0.3**
BURAR Bucovina Array 32.95 318 *e*P **P 22 34 43.4 -0.5**
BURAR pmax pmax
comp=Z,19nm,0.8s
BUR08 Bucovina Ar. S 32.97 318 *e*P **P 22 34 42.9 -1.2**
comp=Z,5.2nm,1.2s
FNA Florina 33.10 305 *e*P **P 22 34 45.3 0.0**
comp=Z,12nm,0.7s
FNA Florina 33.10 305 *e*P **P 22 34 45.3 0.0**
FNA pmax pmax
comp=Z,12nm,0.7s
GZR Gura Zlata 33.54 313 ⇓*i*P **P 22 34 48.1 -1.0**
ZAA0 Zalesovo Array 33.83 29 *e*P **P 22 34 52.1 +0.8**
comp=Z,5.8nm,0.9s
ZALV Zalesovo Beam 33.83 29 *e*P **P 22 34 52.5 +1.1**
ZALV Zalesovo Beam 33.83 29 P **P 22 34 48.5 -2.9**
comp=Z,1.9nm,0.4s,baz=230,slow=9.4,SNR=6.2
MDVR Moldovita 34.02 312 ⇑*i*P **P 22 34 52.3 -1.0**
DRGR 34.12 315 ⇓*i*P **P 22 34 54.2 +0.1**
BZS Buzias 34.38 313 ⇑*i*P **P 22 34 55.9 -0.4**
SIRR Siria 34.59 314 ⇑*i*P **P 22 34 58.2 +0.1**
KOLS Kolonicke sedl 35.30 319 *e*P **P 22 35 04.0 -0.2**
KOLS Kolonicke sedl 35.30 319 *e*P **P 22 35 04.0 -0.2**
KWP Kalwaria Pacla 35.36 320 *e*P **P 22 35 03.5 -1.2**
comp=Z,208nm,1.3s
KWP Kalwaria Pacla 35.36 320 *e*P **P 22 35 03.5 -1.2**
PSZ Piszkesteto 36.33 316 *e*P **P 22 35 12.1 -1.0**
comp=Z,5.1nm,0.9s
PSZ Piszkesteto 36.33 316 ⇑*i*P **P 22 35 12.2 -1.0**
PSZ Piszkesteto 36.33 316 *e*P **P 22 35 12.1 -1.0**
PSZ pmax pmax
comp=Z,5.0nm,0.9s
IDID Didziasalis 36.42 330 *e*P **P 22 35 13.9 +0.2**
IDID IAmb IAmb 22 35 18.3
comp=Z,2.8nm,0.9s
IIGN Ignalina 36.67 330 *e*P **P 22 35 16.1 +0.3**
IIGN IAmb IAmb 22 35 18.2
comp=Z,4.2nm,0.5s
ISAL Salakas 36.86 330 *e*P **P 22 35 17.4 +0.1**
ISAL IAmb IAmb 22 35 18.0
comp=Z,3.8nm,0.9s
LANS Liptovska Anna 37.06 318 *e*P **P 22 35 20.5 +1.2**
LANS Liptovska Anna 37.06 318 *e*P **P 22 35 20.5 +1.2**
VYHS Vyhne 37.20 316 *e*P **P 22 35 19.7 -0.8**
VYHS Vyhne 37.20 316 *e*P **P 22 35 19.7 -0.8**
GTA Gaotai 37.20 59 *e*P **P 22 35 21.3 +0.6**
GTA pP sP 22 35 26.5 +0.8
GTA sP pP 22 35 29.7 +5.5
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,6.0s
GTA LR LR
comp=Z,330nm,16.6s
GTA LR LR
comp=Z,370nm,15.2s
GTA LR LR
comp=Z,320nm,15.2s
OJC Ojcow 37.30 319 *e*P **P 22 35 19.8 -1.5**
comp=Z,11nm,0.7s
OJC Ojcow 37.30 319 *e*P **P 22 35 19.8 -1.5**
OJC pmax pmax
comp=Z,11nm,0.7s
SUW Suwalki 37.32 327 *e*P **P 22 35 19.9 -1.4**
comp=Z,16nm,0.9s
SUW Suwalki 37.32 327 *e*P **P 22 35 20.0 -1.4**
SUW pmax pmax
comp=Z,16nm,0.9s
PABE Paberze 37.79 329 *e*P **P 22 35 24.5 -0.8**
PABE IAmb IAmb 22 35 29.4
comp=Z,11nm,0.8s
JAVC Velka Javorina 38.05 316 *e*P **P 22 35 27.2 -0.5**
OKC Ostrava-Krasne 38.12 318 *e*P **P 22 35 29.5 +1.3**
OKC Ostrava-Krasne 38.12 318 *e*P **P 22 35 29.5 +1.3**
OKC *ex* x 22 35 39.6
SOP Sopron 38.36 314 P **P 22 35 31.2 +1.0**
SOP pmax pmax
comp=Z,24nm,1.0s
MORC Moravsky Berou 38.47 318 *e*P **P 22 35 29.4 -1.8**
comp=Z,2.6nm,0.8s
MORC Moravsky Berou 38.47 318 ⇑*i*P **P 22 35 30.0 -1.2**
MORC Moravsky Berou 38.47 318 *e*P **P 22 35 29.4 -1.8**
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 38.47 318 *e*P **P 22 35 29.6 -1.6**
VSU Vasula 38.48 334 *e*P **P 22 35 30.9 -0.2**
VSU IAmb IAmb 22 35 35.4
comp=Z,28nm,1.1s
VRAC Vranov 38.87 317 ⇑*i*P **P 22 35 33.9 -0.7**
VRAC Vranov 38.87 317 *e*P **P 22 35 33.2 -1.4**
CONA Conrad Observa 38.88 314 *e*pP **P 22 35 34.3 -0.5**
comp=Z,7.3nm,1.1s
ARSA Arzberg 38.90 313 *e*pP **P 22 35 34.1 -0.7**
comp=Z,5.7nm,0.8s
KRUC Moravsky 38.91 316 *e*P **P 22 35 34.0 -0.9**
PBUR Paburg 39.04 329 *e*P **P 22 35 33.4 -2.4**
PBUR IAmb IAmb 22 35 39.9
comp=Z,17nm,0.8s
DPC Dobruska-Polom 39.41 318 *e*P **P 22 35 38.0 -1.1**
DPC Dobruska-Polom 39.41 318 *e*P **P 22 35 38.0 -1.1**
TREC Trest 39.55 316 *e*P **P 22 35 40.5 +0.3**
TREC Trest 39.55 316 *e*P **P 22 35 40.5 +0.3**
MOA Molln 39.88 314 *i*pP **P 22 35 41.9 -1.1**
comp=Z,8.5nm,0.8s
MYKA Terra Mystica 39.97 312 *e*pP **P 22 35 42.8 -1.1**
comp=Z,2.6nm,0.5s
LZH Lanzhou 40.18 65 *e*P **P 22 35 47.3 +1.5**
LZH pP sP 22 35 50.5 -0.2
LZH sP pP 22 35 52.2 +2.9
LZH *e*PP **PnPn 22 37 24.5 +2.8**
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,69nm,5.3s
LZH LR LR
comp=Z,330nm,13.4s
LZH LR LR
comp=Z,340nm,13.6s
LZH LR LR
comp=Z,420nm,16.9s
KBA Koelnbreinsper 40.28 312 *e*pP **P 22 35 45.5 -1.1**
comp=Z,9.6nm,0.8s,SNR=7.1
KBA Koelnbreinsper 40.28 312 P **P 22 35 45.6 -0.9**
PRU Pruhonice 40.36 317 *e*P **P 22 35 48.0 +1.1**
PRU Pruhonice 40.36 317 *e*P **P 22 35 48.0 +1.1**
CD2 Chengdu 40.36 73 *e*P **P 22 35 47.0 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GERES GERESS Array B 40.53 315 P **P 22 35 45.8 -2.6**
comp=Z,2.9nm,0.7s,baz=117,slow=11,SNR=11
KHC Kasperske Hory 40.69 315 *e*P **P 22 35 48.6 -1.1**
comp=Z,16nm,1.7s
KHC Kasperske Hory 40.69 315 *e*P **P 22 35 48.6 -1.1**
KHC pmax pmax
comp=Z,17nm,1.7s
KHC Kasperske Hory 40.69 315 *e*P **P 22 35 48.4 -1.3**
KHC *ex* x 22 36 00.1
ABTA Abfaltersbach 40.75 312 *i*pP **P 22 35 49.4 -0.9**
comp=Z,12nm,1.0s
FIA1 FINESS Array S 40.77 337 *e*P **P 22 35 50.9 +0.7**
comp=Z,7.8nm,1.0s
FINES FINESS Array B 40.77 337 *e*P **P 22 35 50.8 +0.7**
FINES FINESS Array B 40.77 337 P **P 22 35 47.6 -2.5**
comp=Z,2.6nm,0.6s,baz=133,slow=8.7,SNR=9.1
WTTA Wattenberg 41.46 312 *i*P **P 22 35 54.7 -1.5**
comp=Z,22nm,0.8s
WATA Walderalm 41.51 312 *e*P **P 22 35 54.8 -1.8**
comp=Z,10nm,0.8s,SNR=10.0
CLL Collm 41.71 318 *e*P **P 22 35 57.1 -1.0**
comp=Z,16nm,1.7s
CLL Collm 41.71 318 *e*P **P 22 35 57.1 -1.0**
CLL pmax pmax
comp=Z,16nm,1.7s
CLL Collm 41.71 318 *e*P **P 22 35 57.0 -1.0**
comp=Z,10.0nm,1.5s
CLL *e* 22 36 03.0
CLL *e* 22 36 18.0
SQTA Sankt Quirin 41.73 312 *i*P **P 22 35 56.8 -1.6**
comp=Z,14nm,0.5s,SNR=11
MOTA Moosalm 41.83 312 *e*P **P 22 35 57.6 -1.6**
comp=Z,7.9nm,0.7s,SNR=11
FETA Feichten 42.01 312 *e*pP **P 22 35 59.4 -1.3**
comp=Z,20nm,0.7s,SNR=11
BSD Bornholm Skovb 42.06 324 *i*P **P 22 35 58.3 -2.5**
BSD Bornholm Skovb 42.06 324 *i*P **P 22 35 58.3 -2.5**
RETA Reutte 42.09 312 *e*P **P 22 35 59.3 -1.9**
comp=Z,8.2nm,0.8s
FUORN Ofenpass-Fuorn 42.24 311 *e*P **P 22 36 02.6 -0.1**
comp=Z,19nm,1.4s
GRA1 Grafenberg Arr 42.32 316 *e*P **P 22 36 02.7 -0.4**
comp=Z,10nm,0.7s
GRF Grafenberg Arr 42.32 316 *e*P **P 22 36 02.7 -0.4**
GRF pmax pmax
comp=Z,10.0nm,0.7s
GRFO Grafenberg 42.32 316 *e*P **P 22 36 03.0 -0.1**
comp=Z,9.7nm,0.8s
GRFO Grafenberg 42.32 316 *e*P **P 22 36 03.0 -0.1**
GRFO pmax pmax
comp=Z,10.0nm,0.8s
DAVA Damuels 42.63 312 *e*P **P 22 36 04.2 -1.6**
comp=Z,27nm,0.7s,SNR=11
SONM Songino Array 43.30 48 *e*P **P 22 36 12.1 +0.9**
comp=Z,1.0nm,0.8s
SONM Songino Array 43.30 48 P **P 22 36 09.0 -2.2**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 43.30 48 P **P 22 36 09.0 -2.2**
comp=Z,1.0nm,0.7s,baz=270,slow=10,SNR=3.4
BFO Black Forest 43.86 313 *e*P **P 22 36 14.8 -0.8**
comp=Z,15nm,1.5s
BFO Black Forest 43.86 313 *e*P **P 22 36 14.8 -0.8**
BFO pmax pmax
comp=Z,15nm,1.5s
SENIN Lac Senin/Sane 44.21 310 *e*P **P 22 36 18.1 -0.5**
comp=Z,32nm,1.8s
XAN Xi'an 44.43 68 P P 22 36 28.0 +7.7
BNI Bardonecchia 44.47 308 *e*P **P 22 36 19.9 -0.8**
comp=Z,44nm,1.8s
BNI Bardonecchia 44.47 308 *e*P **P 22 36 19.9 -0.8**
BNI pmax pmax
comp=Z,44nm,1.8s
LPG La Plagne 44.48 309 *e*P **P 22 36 20.0 -0.8**
LPG pmax pmax
comp=Z,7.0nm,0.9s
LPL La Plagne 44.49 309 *e*P **P 22 36 20.2 -0.7**
LPL pmax pmax
comp=Z,45nm,1.8s
ECH Echery 44.61 313 *e*P **P 22 36 20.0 -1.5**
comp=Z,11nm,1.1s
ECH Echery 44.61 313 *e*P **P 22 36 20.0 -1.5**
ECH pmax pmax
comp=Z,11nm,1.1s
HINF Hinteralfeld 44.74 312 *e*P **P 22 36 22.5 -0.1**
HINF pmax pmax
comp=Z,25nm,1.7s
CABF La Chapelle 45.08 310 *e*P **P 22 36 23.8 -1.6**
CABF pmax pmax
comp=Z,21nm,1.2s
HAU Haudompre 45.11 312 *e*P **P 22 36 24.2 -1.3**
HAU pmax pmax
comp=Z,6.0nm,0.7s
NRIK Noril'sk 46.17 14 P **P 22 36 32.0 -1.5**
comp=Z,1.6nm,0.6s,baz=90,slow=2.0,SNR=3.3
HHC Hu-ho-hao-te 46.28 58 *e*P **P 22 36 36.5 +1.5**
HHC S **S 22 43 26.3 +4.3**
HHC pmax pmax
comp=Z,200nm,5.8s
HHC LR LR
comp=Z,330nm,15.3s
HHC LR LR
comp=Z,440nm,15.7s
HHC LR LR
comp=Z,560nm,14.0s
NB2 NORSAR Subarra 46.41 331 P **P 22 36 33.5 -2.1**
comp=Z,2.1nm,0.9s,baz=113,slow=7.9
NOA NORSAR Array B 46.41 331 P **P 22 36 33.2 -2.4**
comp=Z,0.8nm,0.6s,baz=115,slow=7.8,SNR=4.7
GIVF Givet 46.45 315 *e*P **P 22 36 35.7 -0.4**
GIVF pmax pmax
comp=Z,43nm,1.6s
SMF Signal de Mont 46.62 310 *e*P **P 22 36 35.8 -1.7**
SMF pmax pmax
comp=Z,16nm,0.7s
LOR Lormes 46.67 311 *e*P **P 22 36 36.1 -1.8**
LOR pmax pmax
comp=Z,5.0nm,0.6s
BAIF Baives 46.83 315 *e*P **P 22 36 39.5 +0.5**
BAIF pmax pmax
comp=Z,19nm,1.2s
ARCES ARCESS Array B 46.85 345 P **P 22 36 36.4 -2.5**
comp=Z,1.4nm,0.8s,baz=139,slow=9.1,SNR=5.4
SSF Saint Saulge 46.89 311 *e*P **P 22 36 38.0 -1.6**
SSF pmax pmax
comp=Z,5.0nm,0.4s
AVF Avril sur Loir 46.97 310 *e*P **P 22 36 38.4 -1.8**
AVF pmax pmax
comp=Z,32nm,1.6s
BGF Bois d'Agland 47.29 310 *e*P **P 22 36 41.2 -1.5**
BGF pmax pmax
comp=Z,9.0nm,0.6s
MTLF Montolieu 47.55 305 *e*P **P 22 36 43.9 -0.9**
MTLF pmax pmax
comp=Z,6.0nm,1.0s
TCF Toulx Ste Croi 47.71 309 *e*P **P 22 36 44.6 -1.4**
TCF pmax pmax
comp=Z,8.0nm,0.9s
CAF Calviac 47.73 308 *e*P **P 22 36 44.6 -1.5**
CAF pmax pmax
comp=Z,8.0nm,1.0s
RJF Les Rejaudoux 48.13 308 *e*P **P 22 36 48.4 -0.9**
RJF pmax pmax
comp=Z,8.0nm,0.9s
LFF La Frestale 48.66 308 *e*P **P 22 36 53.1 -0.2**
LFF pmax pmax
comp=Z,9.0nm,0.7s
ETSF Etsaut 49.58 305 *e*P **P 22 37 02.6 +2.1**
ETSF pmax pmax
comp=Z,19nm,1.5s
GRR Gorron 49.94 312 *e*P **P 22 37 03.9 +0.9**
GRR pmax pmax
comp=Z,86nm,1.8s
BOD Bodaibo 50.01 36 *e*P **P 22 37 01.2 -2.2**
BOD pmax pmax
comp=Z,5.0nm,1.1s
SJPF Ste Jean 50.06 305 *e*P **P 22 37 03.3 -0.8**
SJPF pmax pmax
comp=Z,15nm,1.2s
SGMF Saint Gilles 51.06 312 *e*P **P 22 37 11.5 -0.1**
SGMF pmax pmax
comp=Z,48nm,1.5s
ESDC Sonseca Array 52.31 301 P **P 22 37 19.2 -1.9**
comp=Z,0.4nm,0.5s,baz=70,slow=7.0,SNR=6.6
NJ2 Nanjing 52.96 69 *e*P **P 22 37 28.6 +2.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
TOA0 Torodi Ar. Sit 53.98 267 *e*P **P 22 37 32.9 -0.7**
comp=Z,8.1nm,0.8s
TORD Torodi Ar. Bea 53.98 267 P **P 22 37 31.3 -2.3**
comp=Z,1.7nm,0.6s,baz=71,slow=7.6,SNR=5.8
MATP Matopo 54.70 214 P **P 22 37 38.5 -0.3**
comp=Z,1.4nm,0.6s,baz=14,slow=6.7,SNR=4.0
KSAR Wonju Array Be 59.22 61 P **P 22 38 10.7 0.0**
KSAR Wonju Array Be 59.22 61 P **P 22 38 10.7 0.0**
KSRS Korea Array 59.25 61 P **P 22 38 10.7 -0.1**
comp=Z,0.7nm,0.5s,baz=287,slow=7.6,SNR=3.2
BOSA Boshof 63.16 212 P **P 22 38 37.5 0.0**
comp=Z,2.6nm,1.0s,baz=22,slow=5.4,SNR=2.5
NWAO Narrogin (SRO) 81.92 133 LR LR 23 11 27.3
comp=Z,119nm,20.4s,baz=294,slow=32
TOLK Toolik Lake Re 82.90 10 *e*P **P 22 40 32.8 -1.0**
comp=Z,4.3nm,0.7s
IMAR Indian Mountai 84.58 12 *e*P **P 22 40 43.1 +0.8**
ILAR Eielson Array 86.89 10 P **P 22 40 53.0 -0.8**
comp=Z,0.4nm,0.7s,baz=320,slow=4.4,SNR=4.3
CAST Castle Rocks 87.19 13 *e*P **P 22 40 56.6 +1.3**
comp=Z,6.6nm,0.9s
WRA Warrampa Arr 87.50 114 P **P 22 40 57.8 +0.3**
comp=Z,0.9nm,0.8s,baz=316,slow=4.0,SNR=5.8
ASAR Alice Springs 88.98 117 P **P 22 41 05.0 +0.5**
ASAR Alice Springs 88.98 117 P **P 22 41 04.9 +0.5**
comp=Z,0.4nm,0.7s,baz=311,slow=5.3,SNR=4.5
YKA Yellowknife Ar 90.96 356 P **P 22 41 12.8 -0.2**
comp=Z,0.1nm,0.4s,baz=355,slow=4.3,SNR=3.0
STKA Stephens Creek 98.82 121 LR LR 23 22 25.2
comp=Z,107nm,20.8s,baz=270,slow=33

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*ISCJB **11** 22:48:15.9±0.3, 46°.79N±0°.02×6°.44E±0°.03, h10km±3km,*
Error ellipse: s-maj=3.3km s-min=2.8km az=20.7
*ZUR **11** 22:48:17.5, 46°.77N×6°.58E, h8km±2km, MLh1.4/6, Error*
ellipse: s-maj=5.0km s-min=1.4km az=329.0
*LDG **11** 22:48:17.4±0.1, 46°.79N×6°.53E, h4km, Md2.5/3, Ml2.2/11,*
Error ellipse: s-maj=1.2km s-min=1.1km az=107.0
ISC 11 22:48:16.5±0.9, 46°.79N±0°.02×6°.57E±0°.02, h13km±7km,
n26, σ0°90/48, 4C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYVP	**Yverdon-les-Ba**	**0.05**	**104**	⇑Pg	**Pg**	**22 48 19.2**	**0.0**
BRANT	**Les Verrieres**	**0.16**	**337**	⇓Pg	**Pb**	**22 48 21.6**	**+0.1**
TORNY	**Torny/Romont**	**0.27**	**93**	⇑Pg	**Pb**	**22 48 23.1**	**-0.2**
TORNY				Sg	**Sb**	**22 48 27.1**	**-0.6**
GIMEL	**St. Georges /**	**0.33**	**219**	⇑Pg	**Pb**	**22 48 24.0**	**-0.3**
SCOU	**Cournillens**	**0.37**	**80**	⇑Pg	**Pb**	**22 48 25.0**	**0.0**
CABF	**La Chapelle**	**0.38**	**242**	*e*Pg	**Pg**	**22 48 24.7**	**+0.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 48 29.1**	**-0.1**
	13nm,0.3s,SNR=1.0						
CHMF	**Charmoille**	**0.46**	**7**	Pg	**Pb**	**22 48 27.0**	**+0.4**
CHMF				Sg	**Sb**	**22 48 33.8**	**+0.3**
HINF	**Hinteralfeld**	**1.05**	**11**	*e*Pg	**Pn**	**22 48 37.0**	**+0.1**
	SNR=1.0						
HINF				*e*Sg	**Sb**	**22 48 50.3**	**+0.1**
	7.9nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sn**	**22 48 51.7**	**+0.3**
	SNR=1.0						
HAU	**Haudompre**	**1.23**	**353**	*e*Pn	**Pg**	**22 48 39.7**	**-0.5**

HAU	Haudompre	1.23 353	ePg	Pg	22 48 40.6	+0.4
	SNR=1.0					
HAU			eSg	Sn	22 48 56.6	+0.7
	9.4nm,0.2s,SNR=1.0					
LPL	La Plagne	1.28 175	ePn	Pb	22 48 40.7	+0.2
LPL	La Plagne	1.28 175	ePg	Pg	22 48 41.4	+0.3
LPL			eSg	Sg	22 48 57.7	0.0
	2.3nm,0.2s,SNR=1.0					
LPG	La Plagne	1.30 174	ePg	Pg	22 48 41.9	+0.4
	SNR=1.0					
LPG			eSn	Sg	22 48 58.5	+0.1
	SNR=1.0					
LPG			eSg	Sn	22 49 00.0	+2.1
	2.5nm,0.2s,SNR=1.0					
CDF	Champ du Feu	1.69 16	ePn	Pn	22 48 45.6	-0.3
	SNR=1.0					
CDF			eSn	Sn	22 49 06.8	-0.7
CDF			eSg	Sg	22 49 10.6	-0.5
	3.4nm,0.2s,SNR=1.0					
SFTF	Sexfontaines	1.76 324	ePn	Pn	22 48 47.3	+0.7
SFTF			eSg	Sg	22 49 12.3	-0.7
PAGF	Fort de Pagny	1.86 342	ePn	Pn	22 48 48.3	+0.3
SMF	Signal de Mont	1.88 267	ePg	Pb	22 48 51.6	+0.9
	SNR=1.0					
SMF			eSn	Sn	22 49 10.5	-1.4
	SNR=1.0					
SMF			eSg	Sg	22 49 16.0	-1.0
	2.4nm,0.2s,SNR=1.0					
LOR	Lormes	1.91 286	ePg	Pb	22 48 51.6	+0.3
	SNR=1.0					
LOR			eSn	Sn	22 49 11.6	-1.2
	SNR=1.0					
LOR			eSg	Sb	22 49 16.2	+1.1
	2.7nm,0.2s,SNR=1.0					
ORIF	Oris-en-Rattie	1.93 195	eSg	Sg	22 49 17.5	-1.1
	1.9nm,0.2s,SNR=1.0					
SSF	Saint Saulge	2.12 279	ePg	Pg	22 48 57.0	-0.1
	SNR=1.0					
SSF			eSn	Sn	22 49 16.0	-1.7
SSF			eSg	Sb	22 49 22.6	+1.7
	2.1nm,0.2s,SNR=1.0					
AVF	Avril sur Loir	2.21 271	ePn	Pn	22 48 52.2	-0.6
AVF	Avril sur Loir	2.21 271	ePg	Pb	22 48 56.7	+0.4
	SNR=1.0					
AVF			eSn	Sn	22 49 18.2	-1.8
AVF			eSg	Sb	22 49 25.3	+1.8
	2.3nm,0.6s,SNR=1.0					
VIVF	Saint-Julien-l	2.34 215	ePn	Pn	22 48 54.4	-0.3
VIVF			eSg	Sg	22 49 30.6	-1.2
BGF	Bois d'Agland	2.57 266	ePn	Pn	22 48 57.7	-0.2
BGF			eSn	Sn	22 49 27.1	-1.9
	6.6nm,0.7s,SNR=1.0					
HYF	Humbligny	2.73 282	ePn	Pn	22 48 59.8	-0.2
BAIF	Baives	3.63 335	ePn	Pn	22 49 13.3	+0.9

*IDC **11** 22:49:28.7±3.6,26°.05N×57°.57E,$h0^{km}$,mb3.2/3, mb1 3.3/3,mb1mx3.1/40,mbtmp3.3/3,Error ellipse: s-maj=94.3km s-min=33.4km az=157.0*
*DSN **11** 22:49:30.0±3.7,26°.52N×58°.13E,$h10^{km}$,ML3.4/8,Error ellipse: s-maj=48.3km s-min=13.9km az=13.0*
*OMAN **11** 22:49:34.9±3.1,26°.06N×58°.10E,$h8^{km}$,ml3.2/10,Error ellipse: s-maj=32.3km s-min=26.0km az=166.0*

ISC 11 22:49:27.7±1.6,26°.44N±0°.09×58°.14E±0°.07,h10km,n19, σ1§45/22,mb3.3/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	Shamm	1.83 258		eP	Pb	22 50 01.2	-0.2
	SNR=23						
SHME				S	Sg	22 50 25.9	-0.7
MSFE	Esma-Masafi	2.08 239		P	Pb	22 50 04.3	-1.2
HATD	Hatta, Dubai	2.42 229		eP	Pb	22 50 09.8	-1.5
	SNR=9.6						
HATD	Hatta, Dubai	2.42 229		P	Pb	22 50 11.5	+0.2
ASHO	Ashiyiah	2.56 228		eP	Pb	22 50 12.7	-1.1
	SNR=8.3						
ASHO	Ashiyiah	2.56 228		P	Pg	22 50 15.7	-1.1
	SNR=10						
ASHO				S	Sb	22 50 47.9	+2.5
NAZ	Nazwa, Dubai	2.66 238		eP	Pb	22 50 14.4	-1.0
	SNR=12						
NAZ	Nazwa, Dubai	2.66 238		P	Pb	22 50 15.9	+0.6
SOHO	SOHO	2.71 213		P	Pn	22 50 13.8	+2.5
SOHO				S	Sn	22 50 43.5	-0.7
FAQ	Al Faqa, Dubai	2.85 234		P	Pb	22 50 17.6	-1.0
FAQ	Al Faqa, Dubai	2.85 234		P	Pb	22 50 18.5	-0.1
FAQ				S	Sb	22 50 53.3	-0.3
BIDO	Bidbid	2.90 180		P	Pb	22 50 19.8	+0.3
ASUD	Al Ashush, Dub	3.11 235		i P	Pb	22 50 20.8	-2.3
	SNR=12						
ASUD	Al Ashush, Dub	3.11 235		P	Pb	22 50 21.8	-1.3
	SNR=12						
ALNE	Al Ain	3.21 223		P	Pn	22 50 20.3	+2.1
JLN	Jalan Bani Buh	4.42 164		P	Pb	22 50 43.7	-1.8
BRTR	Keskin Array B	24.34 309		P	P	22 54 47.0	+1.2
	0.6nm,0.8s,baz=122,slow=11,SNR=5.7						
MKAR	Makanchi Array	27.89 37		P	P	22 55 25.8	+8.0
	0.2nm,0.7s,baz=224,slow=5.4,SNR=2.4						
TORD	Torodi Ar. Bea	54.35 267		P	P	22 58 53.6	-1.3
	0.5nm,0.9s,baz=66,slow=7.1,SNR=3.5						

IDC 11 22:50:01.9±3.0,26°.43N×57°.63E,$h0^{km}$,mb3.5/4, mb1 3.5/4,mb1mx3.3/40,mbtmp3.5/4,Error ellipse: s-maj=72.9km s-min=31.6km az=153.0,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	24.00 310		P	P	22 55 18.4	0.0
	0.6nm,0.8s,baz=127,slow=9.4,SNR=4.3						
MKAR	Makanchi Array	28.17 37		P	P	22 55 55.9	0.0
	0.1nm,0.4s,baz=223,slow=5.9,SNR=2.3						
FINES	FINESS Array B	40.94 337		P	P	22 57 45.8	-0.1
	1.2nm,0.9s,baz=145,slow=7.0,SNR=3.4						
TORD	Torodi Ar. Bea	53.90 267		P	P	22 59 27.3	-0.1
	0.6nm,0.8s,baz=78,slow=6.8,SNR=2.9						

IDC 11 22:53:44.4±5.5,2°.62S×131°.25E,$h0^{km}$,mb3.5/2, mb1 3.8/3,mb1mx3.5/37,mbtmp3.5/3,ML3.6/1,Error ellipse: s-maj=396.9km s-min=27.1km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.48 170		P	Pn	22 57 48.5	-1.3
	0.2nm,0.3s,baz=351,slow=12,SNR=13						
WRA				S	Sn	23 00 52.2	-13
	0.0nm,0.3s,baz=335,slow=22,SNR=3.0						
ASAR	Alice Springs	21.09 173		P	P	22 58 31.1	+0.6
	1.5nm,0.6s,baz=348,slow=11,SNR=26						
MKAR	Makanchi Array	65.31 325		P	P	23 04 28.3	0.0
	0.2nm,0.5s,baz=123,slow=8.4,SNR=3.8						

IDC 11 22:56:10.9±8.0,18°.89S×169°.19E,h128km±76km,mb3.1/2, mb1 3.4/3,mb1mx3.1/34,mbtmp3.6/3,Error ellipse: s-maj=114.0km s-min=49.8km az=158.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.08 219		P	Pn	22 57 12.8	+1.0
	4.5nm,0.3s,baz=54,slow=7.5,SNR=78						
DZM				S	Sn	22 57 58.9	-0.2
	5.6nm,0.3s,baz=289,slow=20,SNR=7.9						
WRA	Warramunga Arr	32.85 262		P	P	23 02 32.1	-0.7
	0.3nm,0.7s,baz=89,slow=8.1,SNR=4.6						
ASAR	Alice Springs	33.17 255		P	P	23 02 36.1	+0.6
	0.5nm,0.4s,baz=82,slow=8.7,SNR=14						
ARCES	ARCESS Array B	124.72 345		PKP	PKPdf	23 14 54.1	-0.7
	0.6nm,0.8s,baz=48,slow=1.8,SNR=4.2						

*OMAN **11** 23:10:43.2±3.3,26°.95N×58°.24E,$h10^{km}$,ml3.3/9,Error ellipse: s-maj=45.3km s-min=21.8km az=84.0*
*DSN **11** 23:10:46.8±4.4,26°.64N×57°.99E,$h10^{km}$,ML3.2/7,Error ellipse: s-maj=59.0km s-min=16.4km az=7.0*
*TEH **11** 23:10:52.1,26°.64N×57°.60E,$h24^{km}$,ML3.3*

ISC 11 23:10:39.4±1.2,26°.69N±0°.04×58°.26E±0°.06,h10km,n33, σ1§32/34,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.54 305		ePg	Pg	23 11 12.6	+3.7
NIAN				IAMB	IAmb	23 11 33.9	
	comp=Z,0.0nm,0.5s						
GENO	Geno	1.99 291		ePg	Pg	23 11 19.2	+1.6
GENO				eSg	Sb	23 11 40.8	0.0
GENO				IAMB	IAmb	23 11 51.4	
	comp=Z,0.0nm,0.3s						
SHME	Shamm	2.00 252		eP	Pg	23 11 17.0	-0.9
	SNR=23						
SHME				S	Sb	23 11 40.8	-0.3
SHME	Shamm	2.00 252		ePn	Pg	23 11 17.7	-0.2
MSFE	Esma-Masafi	2.31 235		eP	Pb	23 11 20.6	-0.6
	SNR=5.9						
MSFE	Esma-Masafi	2.31 235		ePn	Pb	23 11 20.9	-0.3
HATD	Hatta, Dubai	2.67 226		P	Pb	23 11 25.6	-1.8
HATD	Hatta, Dubai	2.67 226		ePn	Pb	23 11 27.2	-0.2
ASHO	Ashiyiah	2.82 225		eP	Pb	23 11 29.2	-0.6
	SNR=11						
ASHO	Ashiyiah	2.82 225		P	Pb	23 11 30.0	+0.1
	SNR=8.4						
ASHO	Ashiyiah	2.82 225		ePn	Pb	23 11 29.3	-0.6
NAZ	Nazwa, Dubai	2.89 235		ePn	Pb	23 11 32.5	+1.4
SOHO	SOHO	2.99 212		P	Pb	23 11 30.7	-2.0
	SNR=18						
FAQ	Al Faqa, Dubai	3.09 232		P	Pb	23 11 34.3	-0.2
FAQ	Al Faqa, Dubai	3.09 232		ePn	Pb	23 11 34.5	0.0
BIDO	Bidbid	3.16 182		P	Pb	23 11 37.4	+1.7
BIDO				S	Sb	23 12 13.6	-0.7
HOQ	Hoqain	3.21 196		P	Pb	23 11 36.6	0.0
CHMN	Cheshme madani	3.22 349		ePn	Pg	23 11 42.2	+1.0
CHMN				IAMB	IAmb	23 11 50.9	
	comp=Z,0.0nm,0.4s						
NGRK	Negar Kerman	3.24 336		ePn	Pg	23 11 40.3	-1.2
NGRK				IAMB	IAmb	23 12 37.4	
	comp=Z,0.0nm,0.4s						
ASUD	Al Ashush, Dub	3.35 233		i P	Pb	23 11 37.8	-1.1
	SNR=8.3						
ASUD	Al Ashush, Dub	3.35 233		P	Pb	23 11 38.6	-0.4
	SNR=8.3						
ASUD	Al Ashush, Dub	3.35 233		ePn	Pb	23 11 38.4	-0.5
ALNE	Al Ain	3.47 221		i P	Pb	23 11 39.0	-2.0
	SNR=13						
ALNE	Al Ain	3.47 221		ePn	Pb	23 11 40.4	-0.6
TVBK	TV Kerman	3.54 338		ePn	Pg	23 11 46.3	-1.0
TVBK				IAMB	IAmb	23 12 36.8	
	comp=Z,0.0nm,0.6s						
SZD1	Zahaedan-tmp	3.61 39		ePn	Pg	23 11 55.2	+6.5
SMDO	Samad	3.62 183		P	Pb	23 11 44.1	+0.5
ARQ	Araqi	3.69 206		P	Pb	23 11 44.7	-0.1
KHGB	Koh Gabri	3.99 337		ePn	Pb	23 11 50.2	+0.2
KHGB				IAMB	IAmb	23 12 04.7	
	comp=Z,0.0nm,0.6s						
BSY	Bisya	4.04 194		P	Pb	23 11 50.8	0.0
BSY				S	Sb	23 12 40.9	+1.0
IMEH	Mehriz	5.67 327		ePn	Pb	23 12 12.3	-6.3
IKOO	Kooshah	5.75 6		ePn	Pb	23 12 16.5	-3.5
ISAD	Sadrabad	6.56 324		ePn	Pb	23 12 27.2	-6.6

*IDC **11** 23:12:59.4±0.8, 1°.42N×122°.34E,$h0^{km}$,mb4.0/8, mb1 4.2/10,mb1mx3.9/38,mbtmp4.1/10,ML4.5/2,Error ellipse: s-maj=44.8km s-min=14.6km az=75.0*
*DJA **11** 23:13:00.8±0.5,2°.N±4°.×12°.2E±°.,$h10^{km}$,ML4.5/3,mb4.6/2, mB4.8/2,MLv4.4/3,Mw(mB)4.0/2*
*ISCJB **11** 23:13:03.0±0.5, 1°.51N±0°.05×122°.36E±0°.08,$h38^{km}$, mb3.9/8,Error ellipse: s-maj=12.4km s-min=6.1km az=12.9*
*MAN **11** 23:13:28.8,3°.49N×123°.08E,$h1^{km}$,mb3.2,ML1.1,MS1.1*

ISC 11 23:13:05.1±0.7,1°.55N±0°.06×122°.19E±0°.08,h38km,n21, σ2§23/22,mb3.9/8,1C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.09 193		P	Pn	23 13 21.0	-2.9
KMSI	Cibinong	2.03 118		P	Pn	23 13 39.7	+2.9
APSI	Ampana	2.50 193		P	Pn	23 13 44.7	+1.4
APSI				S	Sn	23 14 18.9	+6.4
MPSI	Mapaga	2.59 242		P	Pn	23 13 44.8	+0.3
LUWI	Luwuk	2.63 167		P	Pn	23 13 45.6	+0.5
TTSI	Tana Toraja	5.14 207		P	Pn	23 14 20.5	+0.9
SANI	Sanana	5.21 133		P	Pn	23 14 18.5	-2.0
	28nm,0.7s,836nm						
SKMP	Bagumbayan, Su	5.47 25		eP	Pn	23 14 22.8	-1.3
DDMP	Don Marcelino,	5.73 38		eP	Pn	23 14 28.3	+0.6
CTBH	Cotabato--PC H	6.00 20		⇑iP	Pn	23 14 30.8	-0.6
PAGZ	Pagadian	6.37 11		eP	Pn	23 14 37.5	+1.0
DAV	Davao City (W)	6.44 31		Pn	Pn	23 14 37.1	-0.4
	22nm,0.3s,baz=322,slow=2.0,SNR=5.1						
FITZ	Fitzroy Crossi	19.81 170		P	P	23 17 30.5	-2.1
	0.6nm,0.3s,baz=358,slow=7.6,SNR=14						
WRA	Warramunga Arr	24.45 151		P	P	23 18 18.3	-2.3
	2.0nm,0.6s,baz=329,slow=11,SNR=20						
ASAR	Alice Springs	27.53 156		P	P	23 18 47.8	-0.7
	0.8nm,0.7s,baz=344,slow=14,SNR=13						
MJAR	Matsushiro Arr	37.84 21		P	P	23 20 17.4	-0.8
	1.5nm,0.8s,baz=201,slow=9.8,SNR=5.0						
STKA	Stephens Creek	37.99 153		P	P	23 20 17.5	-2.1
	3.0nm,0.9s,baz=294,slow=12,SNR=4.5						
SONM	Songino Array	48.10 346		P	P	23 21 43.5	+2.3
	2.1nm,0.7s,baz=163,slow=9.0,SNR=13						
MKAR	Makanchi Array	56.88 328		P	P	23 22 48.1	+1.9
	0.7nm,0.7s,baz=118,slow=9.0,SNR=8.3						
ZALV	Zalesovo Beam	60.58 336		P	P	23 23 11.4	-0.3
	0.7nm,0.6s,baz=125,slow=9.5,SNR=2.4						
VNDA	Vanda	81.88 172		P	P	23 25 18.6	-1.4
	1.1nm,0.8s,baz=320,slow=7.4,SNR=6.8						

IGQ 11 23:16:47.1±0.9,3°.S±5°.×8°.1W±°.,h6km,MLv3.6,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	Salinas	0.51 355		P	Pb	23 16 57.9	-0.5
SALI				S	Sg	23 17 04.2	+0.7
MORR	Playas El Morr	0.61 85		P	Pb	23 17 00.3	+0.2
MORR				S	Sb	23 17 08.4	-0.5
MILO	Milagro-Astudi	1.45 73		P	Pn	23 17 11.1	-2.7
COHC	Cochancay	1.70 82		P	Pn	23 17 15.3	-2.1
MCRA	Macar, Loja	1.94 149		P	Pn	23 17 20.6	0.0
BMOR	Cotopaxi Volca	3.16 52		P	Pn	23 17 38.0	+0.1
BREF	Cotopaxi Volca	3.21 51		P	Pn	23 17 38.8	+0.2
BVC2	Cotopaxi Volca	3.24 51		P	Pn	23 17 39.2	+0.1
BTAM	Cotopaxi Volca	3.24 52		P	Pn	23 17 39.2	+0.2
VC1	Cotopaxi 1	3.25 51		P	Pn	23 17 39.7	+0.5
GGPC	Guagua Pichinc	3.43 43		P	Pn	23 17 41.1	-0.5
ANTG	Antisana-Guama	3.46 51		P	Pn	23 17 42.0	0.0
ANTS	Antisana-Sarah	3.53 52		P	Pn	23 17 42.8	-0.2
CUIC	Cuicocha-Domo	3.94 41		P	Pn	23 17 48.3	-0.2

*DSN **11** 23:27:02.5±3.8,26°.88N×57°.98E,$h10^{km}$,ML3.6/8,Error ellipse: s-maj=57.4km s-min=15.7km az=176.0*
*IDC **11** 23:27:03.8±2.8,26°.51N×57°.49E,$h0^{km}$,mb3.5/6, mb1 3.6/6,mb1mx3.4/29,mbtmp3.5/6,Error ellipse: s-maj=62.5km s-min=27.2km az=156.0*
*OMAN **11** 23:27:04.5±1.9,26°.73N×58°.21E,$h38^{km}$±369^{km},ml3.5/10, Error ellipse: s-maj=57.8km s-min=10.9km az=7.0*
*TEH **11** 23:27:05.7,26°.65N×57°.58E,$h10^{km}$,ML3.6*

ISC 11 23:27:00.0±0.7,26°.26N±0°.04×58°.06E±0°.04,h10km,n51, σ1§74/51,mb3.5/6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.70 320		ePg	Pn	23 27 28.6	-1.1
NIAN				IAMB	IAmb	23 27 56.9	
	comp=Z,0.0nm,0.4s						
SHME	Shamm	1.74 263		eP	Pg	23 27 33.9	+0.5
	SNR=17						
SHME				S	Sg	23 27 58.6	+2.6
SHME	Shamm	1.74 263		ePn	Pg	23 27 34.6	+1.2
MSFE	Esma-Masafi	1.94 243		eP	Pg	23 27 37.3	+0.1
	SNR=14						
MSFE	Esma-Masafi	1.94 243		ePn	Pg	23 27 37.5	+0.3
BNDS	Bandar-Abbas	2.04 304		ePg	Pn	23 27 30.3	-4.2
GENO	Geno	2.04 304		ePg	Pn	23 27 34.4	-0.1
GENO				eSg	Sn	23 27 54.9	-5.2
GENO				IAMB	IAmb	23 28 04.3	
	comp=Z,0.0nm,0.3s						
HATD	Hatta, Dubai	2.25 231		eP	Pg	23 27 43.9	+0.7
	SNR=16						
HATD	Hatta, Dubai	2.25 231		P	Pg	23 27 44.8	+1.6
HATD	Hatta, Dubai	2.25 231		ePn	Pg	23 27 44.3	+1.0
CHBR	Chabahar	2.28 106		ePn	Pg	23 27 52.1	+8.4
UMQ	Umm Al-Quwin	2.28 252		ePn	Pg	23 27 44.1	+0.3
ASHO	Ashiyiah	2.40 230		eP	Pg	23 27 47.7	+1.7
	SNR=16						
ASHO	Ashiyiah	2.40 230		P	Pg	23 27 47.6	+1.6
ASHO	Ashiyiah	2.40 230		ePn	Pg	23 27 45.1	-0.9
NAZ	Nazwa, Dubai	2.51 240		eP	Pg	23 27 47.9	-0.2
	SNR=35						
NAZ	Nazwa, Dubai	2.51 240		ePn	Pg	23 27 48.5	+0.3
SOHO	SOHO	2.53 214		P	Pb	23 27 46.7	+1.2
FAQ	Al Faqa, Dubai	2.69 236		P	Pg	23 27 51.9	+0.3
FAQ	Al Faqa, Dubai	2.69 236		ePn	Pg	23 27 50.8	-0.9
BIDO	Bidbid	2.73 179		P	Pg	23 27 52.3	0.0
BIDO	Bidbid	2.73 179		ePn	Pg	23 27 52.4	0.0
ASUD	Al Ashush, Dub	2.96 237		i P	Pg	23 27 55.0	-1.8
	SNR=8.5						
ASUD	Al Ashush, Dub	2.96 237		P	Pg	23 27 55.0	-1.8
	SNR=7.9						
ASUD	Al Ashush, Dub	2.96 237		ePn	Pg	23 27 54.7	-2.0
ALNE	Al Ain	3.04 224		i P	Pg	23 27 56.2	-2.0
	SNR=6.1						
ALNE	Al Ain	3.04 224		ePn	Pg	23 27 56.1	-2.0
SMDO	Samad	3.19 180		P	Pg	23 27 59.8	-1.3
	SNR=10						
SMDO				S	Sg	23 28 41.4	-1.1
ARQ	Araqi	3.23 206		P	Pg	23 28 02.4	+0.5
AJN	Ajban	3.26 239		ePn	Pb	23 27 59.4	+1.5
NGRK	Negar Kerman	3.57 341		ePn	Pn	23 27 56.0	+0.2
NGRK				IAMB	IAmb	23 28 48.6	
	comp=Z,0.0nm,0.3s						
CHMN	Cheshme madani	3.62 353		ePn	Pn	23 27 58.2	+1.8
CHMN				IAMB	IAmb	23 28 59.8	
	comp=Z,0.0nm,0.6s						
TVBK	TV Kerman	3.89 343		ePn	Pn	23 28 01.0	+0.9
TVBK				IAMB	IAmb	23 29 05.0	
	comp=Z,0.0nm,0.5s						
SZD1	Zahaedan-tmp	4.06 37		ePn	Pb	23 28 08.5	-3.2
JLN	Jalan Bani Buh	4.27 163		P	Pb	23 28 15.7	+0.5
	SNR=7.4						
JLN				S	Sb	23 29 05.3	-1.6
KHGB	Koh Gabri	4.33 342		ePn	Pn	23 28 07.2	+1.0
KHGB				IAMB	IAmb	23 29 12.5	
	comp=Z,0.0nm,1.0s						
GHIR	Ghir-Karzin	4.95 295		ePn	Pn	23 28 12.2	-2.3
BSRN	Basiran	5.76 9		ePn	Pn	23 28 28.4	+2.7
IMEH	Mehriz	5.94 330		ePn	Pn	23 28 28.6	+0.3
IKOO	Kooshah	6.20 7		ePn	Pn	23 28 31.8	0.0
IKAZ	Kazeroun	6.52 304		ePn	Pn	23 28 34.0	-2.4
ITEG	Tejag	6.64 5		ePn	Pn	23 28 41.0	+3.2
ANAR	Anarak	7.87 332		ePn	Pn	23 28 53.2	-1.4
IKLH	Kolahrood	9.01 323		ePn	Pn	23 29 10.2	-0.2
BRTR	Keskin Array B	24.40 309		P	P	23 32 19.2	+0.4
	comp=Z,0.9nm,0.7s,baz=127,slow=10.0,SNR=9.3						
MKAR	Makanchi Array	28.07 37		P	P	23 32 58.1	+6.5
	comp=Z,0.4nm,0.8s,baz=224,slow=10,SNR=3.7						
AKASG	Malin Array Be	32.88 326		P	P	23 33 35.8	+1.7
	comp=Z,0.1nm,0.2s,baz=126,slow=7.5,SNR=4.1						
ZALV	Zalesovo Beam	34.01 28		P	P	23 33 49.5	+5.6
	comp=Z,0.6nm,0.5s,baz=215,slow=12,SNR=2.6						
FINES	FINESS Array B	41.24 337		P	P	23 34 45.4	+0.5
	comp=Z,2.5nm,1.1s,baz=153,slow=9.4,SNR=3.8						
CLL	Collm	42.21 319		epP	pP	23 34 57.0	+0.7
TORD	Torodi Ar. Bea	54.27 268		P	P	23 36 28.2	+1.5
	comp=Z,0.3nm,0.5s,baz=74,slow=7.6,SNR=4.5						

*PDG **11** 23:46:34.8±0.3,43°.75N×17°.12E,$h2^{km}$,ML2.8/11,Error ellipse: s-maj=0.6km s-min=1.2km az=0.0*
*BEO **11** 23:46:35.4±0.8,43°.79N×17°.13E,$h0^{km}$,ML2.5/4*
*SAR **11** 23:46:36.1±0.3,43°.75N×17°.23E,$h4^{km}$±2^{km},ML2.5/1*

ISC 11 23:46:35.3±1.2,43°.78N±0°.02×17°.22E±0°.02,h1km±10km, n59,σ1§43/98,15C-9D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGRS	Mrkonjic Grad	0.64 351		⇑iPg	Pb	23 46 48.6	-0.7
MGRS				eSg	Sb	23 46 57.7	-1.1
BLY	Banja Luka	0.97 358		⇑iP	Pn	23 46 55.9	-0.1
BLY				S	Sn	23 47 11.0	+0.6
BLY	Banja Luka	0.97 358		ePg	Pb	23 46 54.6	-0.2
BLY				eSg	Sb	23 47 08.0	-0.1
STON	Ston	0.97 159		ePg	Pg	23 46 52.5	-1.4
STON				eSg	Sg	23 47 07.2	+0.6
STON	Ston	0.97 159		ePg	Pg	23 46 52.3	-1.7
STON				Sg	Sg	23 47 06.5	-0.1
STON	Ston	0.97 159		⇑iPg	Pg	23 46 52.3	-1.7
STON				eSg	Sg	23 47 06.3	-0.3
DOB	Doboj	1.14 33		ePg	Pg	23 46 57.3	+0.2
DOB				eSg	Sb	23 47 13.3	+0.2
HAPS	Han Pijesak,Bl	1.28 76		ePg	Pg	23 46 58.8	-1.1
HAPS				eSg	Sg	23 47 16.6	+0.1
UDBI	Udbina	1.29 306		ePn	Pg	23 46 59.5	-0.4
TREB	Trebinje	1.35 142		ePg	Pn	23 47 00.3	-0.9
TREB				eSg	Sn	23 47 19.9	+0.1
TREB	Trebinje	1.35 142		⇑iPg	Pn	23 46 59.1	-2.1
TREB				eSg	Sg	23 47 18.5	0.0
UPM	Unac-Piva	1.35 115		⇓iPg	Pn	23 47 00.3	-1.2
UPM				eSg	Sn	23 47 22.8	+2.5
UPM	Unac-Piva	1.35 115		⇑iPg	Pn	23 47 00.6	-0.9
UPM				eSg	Sg	23 47 18.8	0.0
BBLS	Lazići	1.58 86		ePg	Pn	23 47 04.6	+0.1
BBLS				eSg	Sg	23 47 27.4	+1.3
BBLS	Lazići	1.58 86		⇑iPg	Pn	23 47 04.0	-0.5
BBLS				eSg	Sb	23 47 26.1	+0.2
NKY	Niksic	1.62 126		⇓iPn	Pb	23 47 05.5	-0.5
NKY				eSn	Sg	23 47 30.9	+3.7
NKME	Niksic	1.62 128		⇓iPn	Pb	23 47 05.6	-0.4
NKME				eSn	Sg	23 47 31.3	+4.0
HCY	Herceg Novi	1.63 145		⇓iPn	Pb	23 47 05.7	-0.4
HCY				eSn	Sg	23 47 30.4	+2.9
HCY	Herceg Novi	1.63 145		ePn	Pn	23 47 04.5	-0.6
HCY				eSg	Sb	23 47 27.1	0.0
PLE	Plj

CEY				*e*Sn	**Sn**	**23 47 56.2**	**+0.7**
SELS	**Selova**	**2.89**	**100**	*e*Pn	**Pn**	**23 47 23.0**	**+0.5**
MATE	**Matera**	**3.15**	**187** ⇑	*i*P	Pg	23 47 42.8	+7.1
BOVS	**Bovan**	**3.25**	**91**	*e*Pn	**Pn**	**23 47 28.4**	**+0.9**
MDVR	**Moldovita**	**3.38**	**71** ⇑	*i*P	**Pg**	**23 47 39.1**	**-0.8**
MDVR	**Moldovita**	**3.38**	**71**	S	**Sg**	**23 48 24.3**	**+0.6**
BZS	**Buzias**	**3.63**	**58** ⇓	*i*P	**Pb**	**23 47 40.3**	**+0.1**
BZS	**Buzias**	**3.63**	**58**	S	**Sn**	**23 48 14.2**	**-1.9**
ARSA	**Arzberg**	**3.67**	**342**	*i* Pn	**Pn**	**23 47 34.7**	**+1.5**
	1.8nm,0.3s						
CONA	**Conrad Observa**	**4.25**	**348**	*i* Pn	**Pn**	**23 47 42.7**	**+1.5**
	0.3nm,0.2s						
VTS	**Vitosha**	**4.55**	**103** ⇑	*i*P	**Pg**	**23 48 00.5**	**-1.9**
MOA	**Molln**	**4.56**	**334**	*e*Pn	**Pn**	**23 47 47.0**	**+1.5**
	0.2nm,0.1s						
MOA				*i* Sn	**Sn**	**23 48 41.5**	**+2.4**
	1.2nm,0.5s						
VYHS	**Vyhne**	**4.84**	**13**	*e*SN	**Sn**	**23 48 41.2**	**-4.9**
MOTA	**Moosalm**	**5.58**	**312**	*e*Pn	**Pn**	**23 48 01.7**	**+2.1**
	0.5nm,0.2s						

ARO 11 23:48:05.3,16°N±28″×4°2E±10°0,h15km±99km,MI3.8, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**3.70**	**180**	*e*P	Pn	23 49 02.5	+0.5
OBO	**Obock**	**3.94**	**165**	*e*P	Pn	23 49 05.9	+0.6
TDD	**Tadjoura Ara**	**4.04**	**171**	*e*P	Pn	23 49 08.0	+1.3
LDLD	**Lac de Lave**	**4.22**	**177**	*e*P	Pn	23 49 11.2	+2.1
ATD	**Arta Tunnel**	**4.30**	**172**	*e*P	Pn	23 49 12.2	+1.8
ATD				*e*S	Sn	23 50 05.6	+5.3
ATD	**Arta Tunnel**	**4.30**	**172**	*e*P	Pn	23 49 12.2	+1.8
SGH	**Sud-Ghoubbet**	**4.37**	**175**	*e*P	Pn	23 49 12.6	+1.3
ATA	**Atar**	**4.44**	**168**	*e*P	Pn	23 49 16.0	+3.9

IDC 12 00:02:51.6±3.5,5°00S×151°22E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.6/28,mbtmp3.7/3,Error ellipse: s-maj=113.9km s-min=48.7km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.15**	**226**	P	P	00 07 49.1	-0.2
	0.6nm,0.5s,baz=51,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**24.96**	**220**	P	P	00 08 16.7	-0.3
	1.0nm,0.8s,baz=57,slow=8.6,SNR=10						
FITZ	**Fitzroy Crossi**	**28.19**	**240**	P	P	00 08 46.5	+0.4
	2.5nm,0.9s,baz=56,slow=9.9,SNR=8.1						
TORD	**Torodi Ar. Bea**	**148.87**	**287**	PKPbc	PKPbc	00 22 41.9	-0.6
	1.4nm,1.0s,baz=72,slow=2.3,SNR=5.9						

IDC ***12*** *00:06:59.7±0.3,26°.70N×57°.83E,h0km,mb5.1/40, mb1 5.2/44,mb1mx5.2/50,mbtmp5.2/44,ML3.9/3,MS5.2/35, Ms1 5.1/35,ms1mx5.0/46,Error ellipse: s-maj=9.8km s-min=9.1km az=160.0*

NEIC ***12*** *00:06:59.8±0.0,26°.40N×57°.52E,h18km,mb5.5/197, MS5.4/101,MW5.5,ML5.6(THR),MN5.7(TEH),Moment Tensor Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.02; $M_{\theta\theta}$=0.95; $M_{\phi\phi}$0.97; $M_{r\theta}$0.47; $M_{\theta\phi}$ 1.88; $M_{r\phi}$0.02; Best double couple: $M_0$2.20000×10^{17} NP1:ϕ_s347.00000°, δ78.00000°,λ-178.00000°. NP2:ϕ_s256.00000°, δ88.00000°,λ-12.00000°. Principal axes: T 2.1600, Plg7.0000°, Azm302.0000°; N 0.0200, Plg77.0000°, Azm66.0000°; P -2.1800, Plg10.0000°, Azm211.0000°; After THR.*

NEIC Felt at Bandar `Abbas. Also felt at Dubai, United Arab Emirates.

ISCJB ***12*** *00:07:00.4±0.4,26°.71N±0°.02×57°.78E±0°.01,h13km±2km, mb5.5/360,MS5.3/195 Error ellipse: s-maj=2.7km s-min=1.8km az=7.8*

BJI ***12*** *00:07:00.5±0.0,27°.15N×57°.63E,h9km,mb5.1/60, mB5.3/57,Ms5.7/80,Ms7 5.5/74*

GCMT ***12*** *00:07:00.8±0.1,26°.52N±0°.01×57°.66E±0°.01,h15km, MW5.6/114,Moment Tensor Solution. s93,c153; s114,c285; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.12±.04; $M_{\theta\theta}$-0.69±.04; $M_{\phi\phi}$0.80±.04; $M_{r\theta}$1.32±.11; $M_{\theta\phi}$2.56±.03; $M_{r\phi}$0.62±.11; Best double couple: $M_0$3.01900×10^{17} NP1:ϕ_s82.00000°, δ86.00000°, λ27.00000°. NP2:ϕ_s350.00000°, δ63.00000°, λ176.00000°. Principal axes: T 3.2340, Plg21.0000°, Azm310.0000°; N -0.4300, Plg63.0000°, Azm89.0000°; P -2.8040, Plg16.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

MOS ***12*** *00:07:00.6±0.9,26°.74N×57°.80E,h16km,mb5.7/142, MS5.1/69 Error ellipse: s-maj=3.8km s-min=2.5km az=113.7*

DSN ***12*** *00:07:00.7±0.5,26°.65N×57°.97E,h10km,mb6.0/6, ML5.8/10,Ms5.4/5,Error ellipse: s-maj=11.5km s-min=5.2km az=139.0*

TEH ***12*** *00:07:01.9,26°.62N×57°.79E,h15km,ML5.8*

OMAN ***12*** *00:07:08.1±3.0,27°.10N×57°.85E,h30km±21km,mb5.5/6, ms6.0/4,Error ellipse: s-maj=12.4km s-min=6.0km az=12.0*

ISC 12 00:07:03.7±0.4,26°.71N±0°.03×57°.78E±0°.02,h24km±2km, h24km:pP-P,n1429,σ1°.64/1558,mb5.5/383,MS5.3/203, 128C-57D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.20**	**316**	IAMB	IAmb	00 07 58.5	
	comp=Z,0.0nm,0.7s						
GENO	**Geno**	**1.59**	**296**	*e*Pn	**Pb**	**00 07 31.8**	**-0.8**
GENO				IAMB	IAmb	00 08 00.6	
	comp=Z,0.0nm,1.3s						
BNDS	**Bandar-Abbas**	**1.59**	**296**	*e*Pg	**Pn**	**00 07 28.5**	**-2.1**
SHME	**Shamm**	**1.61**	**246**	*e*P	**Pn**	**00 07 30.4**	**-0.2**
	SNR=1975						
SHME				S	**Sb**	**00 07 55.9**	**+3.2**
SHME	**Shamm**	**1.61**	**246**	*e*Pn	**Pn**	**00 07 30.6**	**-0.1**
MSFE	**Esma-Masafi**	**1.98**	**228**	*e*P	**Pn**	**00 07 34.1**	**-1.7**
	SNR=839						
MSFE	**Esma-Masafi**	**1.98**	**228**	*e*Pn	**Pn**	**00 07 33.1**	**-2.7**
UMQ	**Umm Al-Quwin**	**2.24**	**239**	*e*P	**Pn**	**00 07 40.9**	**+1.7**
	SNR=78						
UMQ	**Umm Al-Quwin**	**2.24**	**239**	*e*Pn	**Pb**	**00 07 41.5**	**-1.9**
HATD	**Hatta, Dubai**	**2.39**	**219**	*e*P	**Pn**	**00 07 39.4**	**-1.9**
	SNR=232						
HATD	**Hatta, Dubai**	**2.39**	**219**	*e*Pn	**Pn**	**00 07 38.3**	**-3.1**
ASHO	**Ashiyiah**	**2.54**	**218**	*e*P	**Pn**	**00 07 41.2**	**-2.3**
	SNR=180						
ASHO	**Ashiyiah**	**2.54**	**218**	*e*Pn	**Pn**	**00 07 41.3**	**-2.2**
NAZ	**Nazwa, Dubai**	**2.56**	**229**	*e*P	**Pn**	**00 07 43.1**	**-0.6**
	SNR=1428						
NAZ	**Nazwa, Dubai**	**2.56**	**229**	*e*Pn	**Pn**	**00 07 43.8**	**+0.1**
CHBR	**Chabahar**	**2.67**	**114**	*e*Pn	**Pn**	**00 07 45.6**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.77**	**226**	*e*P	**Pn**	**00 07 46.7**	**0.0**
	SNR=799						
FAQ	**Al Faqa, Dubai**	**2.77**	**226**	*e*Pn	**Pn**	**00 07 47.2**	**+0.5**
ASUD	**Al Ashush, Dub**	**3.03**	**227**	*i* P	**Pn**	**00 07 51.0**	**+0.9**
	SNR=194						
ASUD	**Al Ashush, Dub**	**3.03**	**227**	*e*Pn	**Pn**	**00 07 51.4**	**+1.2**
NGRK	**Negar Kerman**	**3.07**	**343**	*e*Pn	**Pn**	**00 07 53.0**	**+1.9**
NGRK				IAMB	IAmb	00 09 00.2	
	comp=Z,0.0nm,0.7s						
HOQ	**Hoqain**	**3.14**	**188**	*e*Pn	**Pn**	**00 07 48.6**	**-3.1**
CHMN	**Cheshme madani**	**3.15**	**356**	*e*Pn	**Pn**	**00 07 54.4**	**+2.2**
CHMN				IAMB	IAmb	00 08 59.1	
	comp=Z,0.0nm,0.9s						
BIDO	**Bidbid**	**3.19**	**174**	*e*Pn	**Pn**	**00 07 49.5**	**-2.8**
ALNE	**Al Ain**	**3.21**	**215**	*i* P	**Pn**	**00 07 52.7**	**0.0**
	SNR=257						
ALNE	**Al Ain**	**3.21**	**215**	*e*Pn	**Pn**	**00 07 52.9**	**+0.2**
AJN	**Ajban**	**3.30**	**230**	*i* P	**Pn**	**00 07 54.2**	**+0.3**
	SNR=144						
AJN	**Ajban**	**3.30**	**230**	*e*Pn	**Pn**	**00 07 54.4**	**+0.5**
TVBK	**TV Kerman**	**3.39**	**345**	*e*Pn	**Pn**	**00 07 58.3**	**+2.8**
TVBK				IAMB	IAmb	00 09 08.9	
	comp=Z,0.0nm,1.1s						
WSAR	**Wadi Sarin**	**3.54**	**167**	Pn	**Pn**	**00 07 55.5**	**-1.7**
	comp=Z,306nm,0.3s,baz=352,slow=7.2,SNR=2234						
WSAR				Sn	**Sn**	**00 08 34.8**	**-3.5**
	comp=Z,351nm,0.3s,baz=60,slow=7.9,SNR=25						
KHGB	**Koh Gabri**	**3.83**	**343**	*e*Pn	**Pn**	**00 08 04.2**	**+2.8**
KHGB				IAMB	IAmb	00 09 19.1	
	comp=Z,0.0nm,1.2s						
SZD1	**Zahaedan-tmp**	**3.89**	**44**	*e*Pn	**Pn**	**00 08 02.7**	**+0.6**
JHRM	**Jahrom**	**4.14**	**297**	*e*Pn	**Pn**	**00 08 05.8**	**+0.3**
GHIR	**Ghir-Karzin**	**4.54**	**291**	*e*Pn	**Pn**	**00 08 08.7**	**-2.4**
ISRV	**Sarvestan**	**4.91**	**304**	*e*Pn	**Pn**	**00 08 17.3**	**+1.0**
BSRN	**Basiran**	**5.37**	**12**	*e*Pn	**Pn**	**00 08 26.4**	**+3.9**
IMEH	**Mehriz**	**5.43**	**330**	*e*Pn	**Pn**	**00 08 24.2**	**+0.8**
SHI	**Shiraz**	**5.49**	**303**	*e*Pn	**Pn**	**00 08 23.5**	**-0.7**
IKOO	**Kooshah**	**5.80**	**10**	*e*Pn	**Pn**	**00 08 29.1**	**+0.6**
IKAZ	**Kazeroun**	**6.07**	**302**	*e*Pn	**Pn**	**00 08 31.9**	**-0.4**
ITEG	**Tejag**	**6.23**	**8**	*e*Pn	**Pn**	**00 08 35.4**	**+1.1**
ICHK	**Chekchek**	**6.25**	**333**	*e*Pn	**Pn**	**00 08 35.4**	**0.7**
IDAH	**Dahanechah**	**6.28**	**16**	*e*Pn	**Pn**	**00 08 37.4**	**+2.3**
ISAD	**Sadrabad**	**6.30**	**326**	*e*Pn	**Pn**	**00 08 36.3**	**+0.9**
TPRV	**Parvadeh(Tabas**	**6.37**	**352**	*e*Pn	**Pn**	**00 08 38.0**	**+1.8**
TKDS	**Koohdasht(Taba**	**6.91**	**355**	*e*Pn	**Pn**	**00 08 45.2**	**+1.6**
IRAM	**Ramesheh**	**6.93**	**318**	*e*Pn	**Pn**	**00 08 43.8**	**-0.3**
TABS	**Tabas**	**6.94**	**355**	*e*Pn	**Pn**	**00 08 46.6**	**+2.5**
TNSJ	**Nastanj**	**7.30**	**352**	*e*Pn	**Pn**	**00 08 50.9**	**+1.9**
ANAR	**Anarak**	**7.36**	**332**	*e*Pn	**Pn**	**00 08 49.8**	**+0.1**
IGAR	**Gharneh**	**7.56**	**320**	*e*Pn	**Pn**	**00 08 52.2**	**-0.5**
IZEF	**Zefreh**	**7.78**	**324**	*e*Pn	**Pn**	**00 08 54.8**	**-0.8**
IPIR	**Pirpir**	**8.45**	**316**	*e*Pn	**Pn**	**00 09 04.7**	**-0.2**
IKLH	**Kolahrood**	**8.50**	**322**	*e*Pn	**Pn**	**00 09 04.8**	**-0.8**
ISFB	**Sefidab**	**8.99**	**329**	*e*Pn	**Pn**	**00 09 12.7**	**+0.5**
AHWZ	**Ahwaz**	**9.23**	**302**	*e*Pn	**Pn**	**00 09 15.7**	**+0.4**
IANJ	**Anjilo**	**9.34**	**340**	*e*Pn	**Pn**	**00 09 17.9**	**+0.8**
JRKH	**Jarkhoshk**	**9.43**	**13**	*e*Pn	**Pn**	**00 09 20.9**	**+2.7**
IMOG	**Moghan**	**9.47**	**8**	*e*Pn	**Pn**	**00 09 20.6**	**+1.7**
GHVR	**GHOM**	**9.55**	**326**	*e*Pn	**Pn**	**00 09 21.1**	**+1.3**
SBZV	**Sabzevar**	**9.65**	**359**	*e*Pn	**Pn**	**00 09 23.3**	**+1.9**
IVRN	**Varamin**	**9.76**	**329**	*e*Pn	**Pn**	**00 09 23.3**	**+0.6**
IPAY	**Payeh**	**9.77**	**6**	*e*Pn	**Pn**	**00 09 26.0**	**+3.0**
IMYA	**Miami**	**9.81**	**11**	*e*Pn	**Pn**	**00 09 25.6**	**+2.2**
ISHM	**Shahmirzad**	**9.85**	**338**	*e*Pn	**Pn**	**00 09 25.2**	**+1.1**
IFIR	**Firoozkooh**	**9.89**	**335**	*e*Pn	**Pn**	**00 09 26.4**	**+1.7**
IAKL	**Akhelmad**	**9.90**	**5**	*e*Pn	**Pn**	**00 09 26.8**	**+2.0**
IKRD	**Kardeh**	**10.06**	**3**	*e*Pn	**Pn**	**00 09 30.5**	**+3.6**
IDMV	**Damavand**	**10.12**	**332**	*e*Pn	**Pn**	**00 09 28.5**	**+0.7**
ISFR	**Sfrayin**	**10.32**	**1**	*e*Pn	**Pn**	**00 09 33.0**	**+2.5**
IHSB	**Hasanabad**	**10.33**	**329**	*e*Pn	**Pn**	**00 09 31.1**	**+0.5**
IPRN	**Peran**	**10.58**	**335**	*e*Pn	**Pn**	**00 09 35.8**	**+1.9**
IKMR	**Kamar-syah**	**10.59**	**312**	*e*Pn	**Pn**	**00 09 31.6**	**-2.4**
IEMG	**Emamgholi**	**10.71**	**4**	*e*Pn	**Pn**	**00 09 37.0**	**+1.2**
IMND	**Minoodasht**	**10.71**	**350**	*e*Pn	**Pn**	**00 09 37.0**	**+1.4**
IDOB	**Doab**	**10.89**	**313**	*e*Pn	**Pn**	**00 09 35.7**	**-2.6**
IKFM	**Kafar-mosalman**	**10.96**	**311**	*e*Pn	**Pn**	**00 09 36.4**	**-2.6**
GEYT	**Alibeck**	**11.20**	**1**	Pn	**Pn**	**00 09 42.4**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=173,slow=13,SNR=31						
GEYT				Lg	Lg	00 12 45.6	
	comp=Z,3.2nm,0.3s,baz=211,slow=27,SNR=3.8						
GEYT				LR	LR	00 14 46.9	
	comp=Z,20μm,18.4s,baz=195,slow=42						
GYA0B	**ALIBECK ARRAY**	**11.20**	**1**	*e*Pn	**Pn**	**00 09 44.3**	**+2.0**
BHJ	**Bhuj**	**11.31**	**105**	*e*P	**Pn**	**00 09 40.6**	**-3.3**
BHJ				IAmb	IAmb	00 09 51.6	
	comp=Z,11μm,4.2s						
QABG	**Abgarm-Qazvin**	**11.39**	**324**	*e*Pn	**Pn**	**00 09 44.8**	**-0.3**
IBZA	**Bozab**	**11.52**	**315**	*e*Pn	**Pn**	**00 09 44.1**	**-2.9**
IKOM	**Komasi**	**11.57**	**313**	*e*Pn	**Pn**	**00 09 44.8**	**-2.7**
IGZV	**Ghazvin**	**11.60**	**328**	*e*Pn	**Pn**	**00 09 48.9**	**+0.9**
IKCHF	**Cheshme Sefid,**	**11.94**	**312**	*e*Pn	**Pn**	**00 09 49.3**	**-3.3**
IVIS	**Veis**	**12.21**	**312**	*e*Pn	**Pn**	**00 09 53.0**	**-3.3**
IGHG	**Ghaleghazi**	**12.29**	**311**	*e*Pn	**Pn**	**00 09 55.3**	**-2.1**
KBL	**Kabul**	**12.45**	**48**	*e*Pn	**Pn**	**00 10 01.1**	**+1.5**
KBL	**Kabul**	**12.45**	**48**	*e*P	**Pn**	**00 10 01.1**	**+1.5**
KBL	**Kabul**	**12.45**	**48**	*e*Pn	**Pn**	**00 10 01.4**	**+1.8**
IDHR	**Dehrash**	**12.62**	**312**	*e*Pn	**Pn**	**00 09 57.6**	**-4.4**
THW	**Thamme Wali**	**13.56**	**60**	P	**Pn**	**00 10 12.2**	**-2.4**
SARP	**Sargodha**	**13.99**	**65**	P	**Pn**	**00 10 17.8**	**-2.7**
ISRB	**Sarab**	**13.99**	**325**	*e*Pn	**Pn**	**00 10 21.2**	**+0.5**
CEP	**Cherat**	**14.11**	**56**	P	**Pn**	**00 10 20.4**	**-1.9**
MAHB	**Mahabad**	**14.34**	**317**	*e*Pn	**Pn**	**00 10 22.5**	**-2.9**
IHRS	**Heris**	**14.69**	**325**	*e*Pn	**Pn**	**00 10 29.5**	**-0.7**
IAZR	**Azarshahr**	**14.80**	**321**	*e*Pn	**Pn**	**00 10 32.7**	**+1.0**
NIL	**Nilore**	**15.06**	**59**	*e*Pn	**Pn**	**00 10 33.4**	**-1.6**
	comp=Z,2μm,1.3s						
NIL	**Nilore**	**15.06**	**59**	*e*P	**Pn**	**00 10 33.4**	**-1.6**
NIL				pmax	pmax		
	comp=Z,2μm,1.3s						
CHCP	**Chirah Chowk**	**15.07**	**59**	P	**Pn**	**00 10 33.0**	**-2.2**
ITBZ	**Tabriz**	**15.10**	**322**	*e*Pn	**Pn**	**00 10 34.9**	**-0.8**
CHGR	**Chuyangaron**	**15.27**	**36**	*e*Pn	**Pn**	**00 10 34.5**	**-3.4**
	comp=Z,1μm,1.5s						
ISHB	**Shabestar**	**15.43**	**321**	*e*Pn	**Pn**	**00 10 39.8**	**-0.2**
IMRD	**Marand**	**15.69**	**323**	*e*Pn	**Pn**	**00 10 43.7**	**+0.4**
CUKT	**Cukurca**	**15.95**	**315**	P	**Pn**	**00 10 42.5**	**-4.2**
GAR	**Garm**	**16.14**	**37**	*e*Pn	**Pn**	**00 10 47.3**	**-1.8**
	comp=Z,275nm,0.9s						
GAR	**Garm**	**16.14**	**37**	*e*P	**Pn**	**00 10 47.3**	**-1.8**
GAR				pmax	pmax		
	comp=Z,275nm,0.9s						
AKT	**Akhty**	**16.91**	**333**	*i* P	**Pn**	**00 10 58.4**	**-0.4**
POO	**Poona**	**16.91**	**115**	*e*P	**Pn**	**00 10 57.2**	**-1.7**
VANB	**Van**	**16.93**	**318**	P	**Pn**	**00 10 57.6**	**-1.5**
BHK	**Bhakra**	**16.95**	**70**	*ex*	**Pn**	**00 10 56.0**	**-3.4**
BHK				*ex*	x	00 11 29.8	
CLDR	**Caldiran**	**16.98**	**320**	P	**Pn**	**00 10 59.3**	**-0.6**
AKDM	**Akdamar-Van**	**17.01**	**317**	P	**Pn**	**00 10 58.4**	**-1.8**
DHRM	**DHARAMSHALA**	**17.04**	**67**	*e*P	**Pn**	**00 11 01.1**	**+0.4**
DHRM				IAmb	IAmb	00 11 07.4	
BTK	**Batken**	**17.18**	**36**	*e*Pn	**Pn**	**00 11 00.5**	**-1.7**
	comp=Z,319nm,0.8s						
BTK	**Batken**	**17.18**	**36**	*e*P	**Pn**	**00 11 00.5**	**-1.7**
BTK				pmax	pmax		
	comp=Z,319nm,0.8s						
GNI	**Garni**	**17.24**	**324**	*e*Pn	**P**	**00 11 04.1**	**-0.3**
	comp=Z,534nm,1.4s						
GNI				S	**S**	**00 14 24.3**	**+1.4**
GNI	**Garni**	**17.24**	**324**	*i* P	**Pn**	**00 11 03.1**	**+0.1**
	SNR=88						
GNI	**Garni**	**17.24**	**324**	*i* P	**Pn**	**00 11 03.6**	**+0.5**
GNI				pmax	pmax		
	comp=Z,2μm,1.7s						
GNI	**Garni**	**17.24**	**324**	P	**Pn**	**00 11 03.8**	**+0.7**
	SNR=87						
GNI	**Garni**	**17.24**	**324**	P	**Pn**	**00 11 03.6**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=151,slow=2.1,SNR=58						
GNI				S	**S**	**00 14 24.3**	**+1.4**
	baz=153,slow=16,SNR=1.7						
GNI				LR	LR	00 18 59.7	
	comp=Z,9μm,21.5s,baz=114,slow=42						
NDI	**New Delhi**	**17.33**	**79**	*e*P	**Pn**	**00 11 03.5**	**-0.6**
NDI				*ex*	x	00 13 58.0	
DAMY	**Dhamar**	**17.38**	**229**	*e*Pn	**Pn**	**00 11 00.4**	**-4.7**
	comp=Z,648nm,1.2s						
TASB	**TASBURUN-IGDIR**	**17.39**	**323**	P	**P**	**00 11 07.6**	**+1.6**
TAS	**Tashkent**	**17.40**	**30**	P	**Pn**	**00 11 03.8**	**-1.1**
TAS				pmax	pmax		
	comp=Z,372nm,1.1s						
MLAZ	**Malazgirt-MUS**	**17.78**	**318**	P	**Pn**	**00 11 10.1**	**+0.4**
AGRB	**Hanur-Agry**	**17.80**	**320**	P	**P**	**00 11 11.0**	**+0.3**
GNBR	**Gunib**	**17.98**	**333**	*i* P	**Pn**	**00 11 12.1**	**0.0**
SVAN	**Silvan-Diyarba**	**18.03**	**313**	P	**Pn**	**00 11 10.3**	**-2.4**
BHPL	**Bhopal**	**18.14**	**97**	*e*P	**Pn**	**00 11 13.4**	**-0.8**
BHPL				IAmb	IAmb	00 11 22.1	
	comp=Z,11μm,4.2s						
DDI	**Dehra Dun**	**18.18**	**74**	*e*P	**P**	**00 11 15.9**	**+1.2**
DDI				IAmb	IAmb	00 11 22.1	
	comp=Z,2μm,2.1s						
MAK	**Makhachkala**	**18.25**	**335**	*d* iP	**Pn**	**00 11 11.9**	**-3.4**
MAK				*e*S	**Sn**	**00 14 33.9**	**-4.5**
MAK				pmax	pmax		
	comp=Z,498nm,1.2s						
MAK				MLR	MLR		
	comp=Z,6μm,17.0s						
CHM	**Chimkent**	**18.34**	**29**	*e*P	**P**	**00 11 13.9**	**-2.5**
CHM				pmax	pmax		
	comp=Z,78nm,1.0s						
CHM				MLR	MLR		
	comp=Z,1μm,14.0s						
CHM	**Chimkent**	**18.34**	**29**	*e*P	**P**	**00 11 13.1**	**-3.3**
	comp=Z,78nm,1.0s						
CHM				*e*LR	LR	00 19 06.6	
	comp=Z,1μm,13.9s						
IUG	**Iuzhnay**	**18.39**	**30**	*e*P	**P**	**00 11 14.6**	**-2.4**
IUG				*e*S	**Sn**	**00 14 39.9**	**-2.0**
IUG				pmax	pmax		
	comp=Z,199nm,1.9s						
IUG				smax	smax		
	comp=E,601nm,3.7s						
IUG				MLR	MLR		
	comp=Z,2μm,11.0s						
IUG	**Iuzhnay**	**18.39**	**30**	*e*P	**P**	**00 11 14.6**	**-2.4**
	comp=Z,199nm,1.9s						
IUG				*e*S	**Sn**	**00 14 40.0**	**-2.0**
	comp=Z,601nm,3.7s						
IUG				*e*LR	LR	00 19 16.6	
	comp=Z,2μm,11.5s						
TBLG	**Delisi**	**18.43**	**328**	*e*P	**P**	**00 11 17.2**	**-0.2**
	comp=Z,181nm,1.2s						
TBLG	**Delisi**	**18.43**	**328**	*e*P	**P**	**00 11 17.2**	**-0.2**
TBLG				pmax	pmax		
	comp=Z,181nm,1.2s						
VRTB	**Varto-Mus**	**18.46**	**316**	P	**Pn**	**00 11 19.3**	**+1.3**
KARS	**Kars**	**18.47**	**322**	P	**P**	**00 11 13.0**	**-5.0**
KARS	**Kars**	**18.47**	**322**	*e*P	**Pn**	**00 11 18.5**	**+0.3**
KARS	**Kars**	**18.47**	**322**	*e*P	**Pn**	**00 11 18.5**	**+0.3**
BTLR	**Botlikh**	**18.51**	**332**	*i* P	**Pn**	**00 11 19.1**	**+0.5**
DYBB	**Diyarbakir**	**18.62**	**311**	P	**P**	**00 11 19.6**	**0.0**
GOA	**Goa**	**18.65**	**124**	*e*P	**P**	**00 11 17.8**	**-2.1**
GOA				IAmb	IAmb	00 11 22.1	
	comp=Z,4μm,4.2s						
KOPR	**Koprukoy-ERZUR**	**18.74**	**319**	P	**Pn**	**00 11 22.8**	**+1.3**
DVE	**Vedeno**	**18.79**	**333**	*d*eP	**P**	**00 11 21.3**	**-0.1**
KARO	**Karlova-Bingo**	**18.80**	**316**	P	**Pn**	**00 11 22.9**	**+0.7**
AKH	**Akhalkalaki**	**18.81**	**325**	*e*P	**Pn**	**00 11 22.7**	**+0.4**
	comp=Z,191nm,1.1s						
AKH	**Akhalkalaki**	**18.81**	**325** ⇑	*i*P	**Pn**	**00 11 23.6**	**+1.3**
AKH	**Akhalkalaki**	**18.81**	**325**	*e*P	**Pn**	**00 11 22.7**	**+0.4**
AKH				pmax	pmax		
	comp=Z,191nm,1.1s						
SENK	**Senkaya-Erzuru**	**18.83**	**321**	P	**Pn**	**00 11 23.5**	**+0.9**
JBG	**Jabagly**	**18.84**	**30**	*e*P	**P**	**00 11 19.8**	**-2.2**
JBG				*e*S	**Sn**	**00 14 51.1**	**-1.8**
JBG				pmax	pmax		
	comp=Z,291nm,2.7s						
JBG				smax	smax		
	comp=N,226nm,2.7s						
JBG				MLR	MLR		
	comp=Z,2μm,11.0s						
BNGB	**Bingl**	**18.84**	**315**	P	**P**	**00 11 21.4**	**-0.7**
ASF	**Jabal al Asfar**	**18.98**	**292**	P	**P**	**00 11 23.3**	**-0.2**
	comp=Z,240nm,1.4s						
ASF	**Jabal al Asfar**	**18.98**	**292**	P	**P**	**00 11 22.4**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=59,slow=8.3,SNR=44						
ASF				S	Sn	00 14 40.2	-16
	comp=Z,1.9nm,0.3s,baz=342,slow=1.4,SNR=3.8						
ASF				LR	LR	00 20 15.5	
	comp=Z,2μm,19.0s,baz=64,slow=42						
GROC	**Groznyy**	**19.13**	**332**	*e*P	**P**	**00 11 25.7**	**+0.7**
GROC				pmax	pmax		
	comp=Z,349nm,1.4s						
YEDI	**Yedisu-Bingol**	**19.19**	**316**	P	**Pn**	**00 11 26.9**	**0.0**
ARSB	**Arslanbob**	**19.23**	**37**	*e*P	**P**	**00 11 25.1**	**-1.2**
	comp=Z,204nm,0.8s						
URFA	**Urfa**	**19.27**	**308**	P	**P**	**00 11 26.7**	**0.0**
KK31	**Karatay Array**	**19.37**	**29**	*e*P	**P**	**00 11 26.9**	**-0.8**
	comp=Z,165nm,0.9s						
KK31	**Karatay Array**	**19.37**	**29**	*e*P	**P**	**00 11 26.9**	**-0.8**
KK31				pmax	pmax		
	comp=Z,165nm,0.9s						
KKAR	**Karatay Array**	**19.37**	**29**	*e*P	**P**	**00 11 26.9**	**-0.8**
KKAR	**Karatay Array**	**19.37**	**29**	*e*P	**P**	**00 11 26.9**	**-0.8**
SVRC	**Sivrice-ELAZID**	**19.40**	**311**	P	**P**	**00 11 27.6**	**-0.7**
SWQJ	**Swaq

comp=Z,5μm,18.5s,baz=130,slow=37
SHA1 Shidzhatmaz 20.95 328 *i* P **P 00 11 45.3 +0.2**
AAK Ala-Archa 20.95 36 P **P 00 11 44.6 -0.4**
SNR=70
AAK Ala-Archa 20.95 36 *eP* **P 00 11 44.6 -0.4**
comp=Z,222nm,0.9s
AAK S **S 00 15 35.6 -1.9**
AAK LR LR
comp=Z,5μm,20.0s
AAK Ala-Archa 20.95 36 *i* P **P 00 11 43.9 -1.2**
SNR=138
AAK Ala-Archa 20.95 36 *deP* **P 00 11 44.2 -0.9**
AAK pmax pmax
comp=Z,97nm,0.8s
AAK Ala-Archa 20.95 36 P **P 00 11 45.0 -0.1**
SNR=169
AAK Ala-Archa 20.95 36 P **P 00 11 45.1 +0.1**
comp=Z,67nm,0.8s,baz=210,slow=10.0,SNR=112
AAK S **S 00 15 35.6 -1.9**
comp=Z,4.6nm,0.7s,baz=258,slow=10,SNR=1.3
AAK LR LR 00 20 00.4
comp=Z,5μm,20.3s,baz=219,slow=37
CUGUR Gurin_SVAS 20.95 310 *i* P **P 00 11 46.3 +1.2**
KZA Kyzart 20.98 39 P **P 00 11 45.0 -0.6**
SNR=232
PYA1 Pyatigorsk 21.00 329 *eP* **P 00 11 45.6 +0.2**
NRN Naryn 21.00 41 *eP* **P 00 11 44.5 -1.3**
comp=Z,145nm,0.8s
NRN Naryn 21.00 41 *eP* **P 00 11 44.5 -1.3**
NRN pmax pmax
comp=Z,145nm,0.8s
KVAR Kislovodsk Arr 21.10 329 P **P 00 11 46.5 -0.1**
comp=Z,12nm,0.6s,baz=90,slow=20,SNR=15
KVAR S **S 00 15 40.0 -0.2**
comp=Z,13nm,0.9s,baz=163,slow=19,SNR=2.0
KIV Kislovodsk 21.10 329 *eP* **P 00 11 47.5 +1.0**
comp=Z,348nm,1.1s
KIV LR LR
comp=Z,3μm,20.0s
KIV Kislovodsk 21.10 329⇑ *iP* **P 00 11 47.9 +1.3**
KIV Kislovodsk 21.10 329 *i* P **P 00 11 46.6 0.0**
SNR=58
KIV Kislovodsk 21.10 329 *eP* **P 00 11 46.8 +0.2**
KIV *e* 00 15 40.3
KIV pmax pmax
comp=Z,1μm,1.1s
KIV Kislovodsk 21.10 329 P **P 00 11 47.4 +0.8**
SNR=129
FRU1 Bishkek 21.14 36 *eP* **P 00 11 47.1 +0.1**
comp=Z,246nm,1.0s
FRU1 Bishkek 21.14 36 *eP* **P 00 11 47.1 +0.1**
FRU1 pmax pmax
comp=Z,247nm,1.0s
KBK Karagaybulak 21.21 37 P **P 00 11 47.9 +0.1**
SNR=54
CUZAR Zara_SIVAS 21.21 313 *i* P **P 00 11 49.5 +1.6**
CEYT Ceyhan 21.30 304 P **P 00 11 50.7 +2.0**
YURE YUREGIR 21.32 304 P **P 00 11 51.9 +3.0**
YURE YUREGIR 21.32 304 *i* P **P 00 11 52.4 +3.5**
HYB Hyderabad 21.33 111 *i* P **P 00 11 48.5 -0.7**
comp=Z,290nm,1.0s
HYB *eS* **S 00 15 42.0 -3.1**
HYB LR LR
comp=Z,7.1nm,20.0s
CHMS Chumysh 21.34 36 P **P 00 11 48.5 -0.6**
SNR=26
USP Ospenovka 21.40 35 P **P 00 11 48.7 -1.0**
SNR=21
KRTS Karatas 21.42 303 P **P 00 11 52.6 +2.7**
KOZT Kozan 21.43 306 P **P 00 11 51.5 +1.4**
CUALT Altinyayla-SIV 21.57 311 *i* P **P 00 11 53.8 +2.1**
BOOM Boomskoye usch 21.64 39 *eP* **P 00 11 51.1 -1.3**
BOOM Boomskoye usch 21.64 39 *eP* **P 00 11 51.2 -1.3**
ULHL Ulahol 21.65 40 P **P 00 11 52.3 -0.3**
SNR=179
SVSK Karacayir 21.73 313 P **P 00 11 54.4 +1.2**
TKM2 Tokmak 2 21.74 37 P **P 00 11 52.4 -1.1**
SNR=65
RSDY Resadiye-TOKAT 21.77 314 P **P 00 11 54.7 +1.0**
KARA Karaisali 21.91 304 P **P 00 11 56.5 +1.3**
PHNC Paralimni 21.96 298 P **P 00 11 56.8 +1.0**
CUSAR Sarkisla-SIVAS 21.99 311 *i* P **P 00 11 57.0 +0.8**
EREN Erenkoy 22.00 299 P **P 00 11 57.5 +1.3**
KDJ Kajisay 22.12 41 *eP* **P 00 11 57.1 -0.5**
comp=Z,366nm,0.8s
KDJ Kajisay 22.12 41 *eP* **P 00 11 57.2 -0.5**
KDJ pmax pmax
comp=Z,366nm,0.8s
MERS Mersin 22.16 303 P **P 00 11 59.1 +1.1**
TOKT Tokat 22.24 313 P **P 00 11 59.5 +0.7**
KIZK Mersin 22.32 302 P **P 00 12 00.3 +0.7**
SOC Sochi 22.32 324 *c i* P **P 00 11 58.7 -0.8**
SOC *e**PP **pP 00 12 06.3 -0.3**
SOC *e*PPP PPP 00 12 29.0
SOC *eS* **S 00 16 01.6 -2.1**
SOC *e*SSS SSS 00 16 50.8
SOC pmax pmax
comp=Z,262nm,1.3s
SOC MLR MLR
comp=Z,7μm,13.0s
MTBS Maitube 22.33 38 *eP* **P 00 11 58.7 -1.1**
MTBS pmax pmax
comp=Z,93nm,0.7s
MTBS Maitube 22.33 38 *eP* **P 00 11 58.7 -1.1**
comp=Z,93nm,0.7s
PYUN Piuthan 22.42 81 *eP* **P 00 12 01.1 +0.1**
comp=Z,542nm,1.1s
LFK Lefkose 22.43 298 P **P 00 12 01.8 +0.9**
SILI Silifke-Mersin 22.45 301 P **P 00 12 01.7 +0.7**
BTLS Baital 22.48 31 *eP* **P 00 11 59.3 -1.9**
BTLS *eS* **S 00 16 03.9 -2.6**
BTLS pmax pmax
comp=Z,126nm,2.1s
BTLS smax smax
comp=E,80nm,2.8s
BTLS MLR MLR
comp=Z,1μm,10.0s
BTLS Baital 22.48 31 *eP* **P 00 11 59.3 -1.9**
comp=Z,126nm,2.1s
BTLS *eS* **S 00 16 04.0 -2.6**
comp=Z,80nm,2.8s
BTLS *e*LR LR 00 21 58.5
comp=Z,1μm,9.7s
CSS Mathiatis 22.51 297 *eP* **P 00 12 01.9 +0.2**
comp=Z,523nm,1.1s
CSS Mathiatis 22.51 297 P **P 00 12 00.6 -1.1**
TNSS Tian-Shan 22.56 39 *eP* **P 00 12 01.3 -1.3**
TNSS pmax pmax
comp=Z,331nm,1.1s
TNSS Tian-Shan 22.56 39 *eP* **P 00 12 01.4 -1.3**
comp=Z,331nm,1.1s
ABKAR Akbulak array 22.58 4 *eP* **P 00 12 00.9 -1.3**
IKL Isikli 22.59 301 P **P 00 12 02.9 +0.4**
KEBE Keben-Mersin 22.64 301 P **P 00 12 03.9 +0.8**
MAMC Mammari 22.65 298 P **P 00 12 03.8 +0.6**
AAA Alma-Ata 22.65 38 *deP* **P 00 12 02.1 -1.1**
AAA *eS* **S 00 16 09.5 -0.4**
AAA pmax pmax
comp=Z,909nm,1.9s
AAA MLR MLR
comp=Z,4μm,15.0s
AAA Alma-Ata 22.65 38⇓ *eP* **P 00 12 02.1 -1.1**
comp=Z,909nm,1.9s
AAA *eS* **S 00 16 09.6 -0.4**
AAA *e*LR LR 00 20 42.8
comp=Z,4μm,15.1s
AKKU Akkuyu-Mersin 22.67 300 P **P 00 12 03.8 +0.4**
MDOK Medeo 22.70 39 *eP* **P 00 12 02.5 -1.2**
MDOK *eS* **S 00 16 08.5 -2.4**
MDOK MLR MLR
comp=Z,4μm,16.0s
MDOK Medeo 22.70 39 *eP* **P 00 12 02.6 -1.2**
comp=Z,7μm,1.7s
MDOK *eS* **S 00 16 08.6 -2.4**
MDOK *e*LR LR 00 20 27.6
comp=Z,4μm,16.1s
SIRC Yozgat 22.70 309 *i* P **P 00 12 04.6 +0.8**
YOZ Yozgat 22.73 310 P **P 00 12 04.2 +0.1**
KUU Kurty 22.79 36 *eP* **P 00 12 02.9 -1.7**
KUU *eS* **S 00 16 11.7 -0.6**
KUU pmax pmax
comp=Z,566nm,1.8s
KUU smax smax
comp=E,534nm,3.2s
KUU MLR MLR
comp=Z,3μm,11.0s
KUU Kurty 22.79 36 *eP* **P 00 12 02.9 -1.7**
comp=Z,566nm,1.8s
KUU *eS* **S 00 16 11.7 -0.6**
comp=Z,534nm,3.2s
KUU *e*LR LR 00 22 35.9
comp=Z,3μm,11.2s
SZAC Souni 22.82 297 P **P 00 12 04.6 -0.3**
TEVE Tevekalti-Mers 22.84 301 P **P 00 12 05.9 +0.7**
LEF Lefka 22.90 298 P **P 00 12 07.5 +1.8**
LEF Lefka 22.90 298⇑ *iP* **P 00 12 06.8 +1.1**
KVT Kavak 22.96 314 P **P 00 12 06.5 +0.1**
KOLN Koldanda 22.97 81 *eP* **P 00 12 07.2 +0.4**
comp=Z,124nm,0.7s
BERE Bereket-Mersin 22.98 301 P **P 00 12 07.5 +0.7**
TEKE Tekeli-Mersin 23.00 300 P **P 00 12 07.1 +0.3**
PRZ Przheval'sk 23.06 42 *eP* **P 00 12 06.9 -0.7**
comp=Z,149nm,0.9s
PRZ Przheval'sk 23.06 42 *eP* **P 00 12 06.9 -0.7**
PRZ pmax pmax
comp=Z,149nm,0.9s
DESE Dese 23.08 231 *eP* **P 00 12 09.7 +1.6**
DESE *eS* **S 00 16 21.7 +3.5**
DESE Dese 23.08 231 *eP* **P 00 12 09.7 +1.6**
DESE *eS* **S 00 16 21.7 +3.5**
DANN Dangsing 23.09 80 *eP* **P 00 12 08.3 +0.2**
comp=Z,1μm,1.1s
CHKK Chushkaly 23.12 37 *eP* **P 00 12 05.6 -2.3**
CHKK pmax pmax
comp=Z,2μm,1.2s
CHKK Chushkaly 23.12 37 *eP* **P 00 12 05.7 -2.3**
comp=Z,2μm,1.2s
ALFC Alefka 23.14 297 P **P 00 12 08.5 +0.2**
PPCY Paphos 23.27 297 P **P 00 12 09.8 +0.2**
SULT Sultanhani-AKS 23.39 305 P **P 00 12 11.9 +1.1**
SATY Saty 23.41 41 *d i P* **P 00 12 08.6 -2.4**
SATY pmax pmax
comp=Z,166nm,1.5s
SATY MLR MLR
comp=Z,4μm,13.0s
SATY Saty 23.41 41⇓ *iP* **P 00 12 08.7 -2.4**
comp=Z,166nm,1.5s
SATY *e*LR LR 00 22 14.6
comp=Z,4μm,12.8s
CORM Corum 23.45 311 P **P 00 12 11.7 +0.3**
YAYX Yaylak 23.47 307 P **P 00 12 12.3 +0.7**
ZHN Zhinishke 23.49 40 *eP* **P 00 12 09.4 -2.4**
ZHN pmax pmax
comp=Z,32nm,1.0s
ZHN MLR MLR
comp=Z,2μm,13.0s
ZHN Zhinishke 23.49 40 *eP* **P 00 12 09.5 -2.4**
comp=Z,32nm,1.0s
ZHN *e*LR LR 00 22 24.0
comp=Z,2μm,12.9s
SERE Sereflikochisa 23.65 307 P **P 00 12 06.6 -6.8**
AKTO Aktyubinsk 23.70 0 P **P 00 12 13.1 -0.5**
comp=Z,77nm,0.6s,baz=171,slow=9.3,SNR=151
AKTO S **S 00 16 24.9 -2.1**
comp=Z,19nm,0.9s,baz=103,slow=23,SNR=3.6
AKTO LR LR 00 23 03.4
comp=Z,9μm,18.4s,baz=171,slow=41
DIKM Dikmen 23.76 315⇑ *iP* **P 00 12 14.8 +0.5**
KPKS Kokpek 23.82 40 *deP* **P 00 12 12.6 -2.3**
KPKS *i* S **S 00 16 30.7 +1.3**
KPKS pmax pmax
comp=Z,263nm,2.0s
KPKS smax smax
comp=E,126nm,3.2s
KPKS MLR MLR
comp=Z,5μm,14.0s
KPKS Kokpek 23.82 40⇓ *eP* **P 00 12 12.6 -2.3**
comp=Z,264nm,2.0s
KPKS *i* S **S 00 16 30.7 +1.3**
comp=Z,126nm,3.2s
KPKS *e*LR LR 00 22 31.1
comp=Z,5μm,13.6s
UZB Uzynbulak 23.82 41 *d i P* **P 00 12 12.7 -2.3**
UZB *eS* **S 00 16 29.9 +0.4**
UZB pmax pmax
comp=Z,194nm,1.8s
UZB smax smax
comp=E,107nm,2.1s
UZB MLR MLR
comp=Z,2μm,11.0s
UZB Uzynbulak 23.82 41⇓ *iP* **P 00 12 12.7 -2.3**
comp=Z,194nm,1.8s
UZB *eS* **S 00 16 29.9 +0.4**
comp=Z,107nm,2.1s
UZB *e*LR LR 00 22 26.0
comp=Z,2μm,11.4s
GKN Gorkha 23.88 81 *eP* **P 00 12 15.2 -0.5**
BR131 Keskin Array S 23.92 309 *eP* **P 00 12 16.1 +0.1**
comp=Z,468nm,1.4s
BRTR Keskin Array B 23.92 309 *eP* **P 00 12 14.1 -1.9**
BRTR PcP **PcP 00 15 58.4 +0.2**
BRTR S **S 00 16 35.3 +4.1**
BRTR ScP **ScP 00 19 36.0 +0.8**
BRTR Keskin Array B 23.92 309 P **P 00 12 16.0 0.0**
comp=Z,145nm,0.8s,baz=128,slow=11,SNR=188
BRTR PcP **PcP 00 15 58.4 +0.2**
comp=Z,4.9nm,1.1s,baz=119,slow=5.1,SNR=5.8
BRTR S **S 00 16 35.3 +4.1**
comp=Z,2.3nm,0.9s,baz=152,slow=19,SNR=2.8
BRTR ScP **ScP 00 19 36.0 +0.8**
comp=Z,6.1nm,0.8s,baz=139,slow=5.3,SNR=9.8
BRTR LR LR 00 23 29.4
comp=Z,9μm,18.9s,baz=95,slow=41
SNOP Sinop 23.99 315 P **P 00 12 16.4 0.0**
SNOP Sinop 23.99 315 *eP* **P 00 12 16.9 +0.5**
comp=Z,554nm,1.3s
CHBY Cihanbeyli 23.99 306 P **P 00 12 17.8 +1.2**
SHLS Shalkode 24.09 41 *eP* **P 00 12 18.4 +0.9**
SHLS pmax pmax
comp=Z,247nm,2.0s
SHLS MLR MLR
comp=Z,2μm,12.0s
SHLS Shalkode 24.09 41 *eP* **P 00 12 18.4 +0.9**
comp=Z,247nm,2.0s
SHLS *e*LR LR 00 23 09.7
comp=Z,2μm,12.4s
KULU Kulu 24.09 307 P **P 00 12 19.2 +1.7**
ANKE Ethiopia-Afar 24.10 228 *i* P **P 00 12 19.5 +1.3**
ANKE *i* S **S 00 16 40.5 +5.6**
ANKE Ethiopia-Afar 24.10 228 *i* P **P 00 12 19.5 +1.3**
ANKE *i* S **S 00 16 40.5 +5.6**
KONT Konya--Tatoy 24.15 304 P **P 00 12 19.6 +1.6**
PDGK Podgornoye 24.20 41 P **P 00 12 17.7 -0.9**
PDGK pmax pmax
comp=Z,187nm,1.2s
LADK Ladik-KONYA 24.24 305 P **P 00 12 20.1 +1.2**
DMN Daman 24.32 82 *eP* **P 00 12 20.0 +0.1**
comp=Z,262nm,0.9s
CANT Cankiri 24.33 311 P **P 00 12 20.1 +0.5**
OTUK Ortayu 24.33 24 P **P 00 12 19.6 +0.1**
OTUK pmax pmax
comp=Z,126nm,1.0s
ANN Anapa 24.35 323 *c i P* **P 00 12 19.7 0.0**
ANN *i* S **S 00 16 38.6 +0.9**
ANN pmax pmax
comp=N,269nm,1.5s
ANN pmax pmax
comp=Z,696nm,1.4s
ANN pmax pmax
comp=E,158nm,1.5s
ANN pmax pmax
comp=N,545nm,5.1s
ANN pmax pmax
comp=Z,1μm,5.1s
ANN pmax pmax
comp=E,408nm,5.1s
ANN smax smax
comp=N,459nm,3.4s
ANN MLR MLR
comp=N,9μm,21.0s
ANN MLR MLR
comp=Z,8μm,21.0s
KKN Kakani 24.46 81 *eP* **P 00 12 21.1 0.0**
comp=Z,232nm,1.0s
ILGA Ilgaz 24.47 312 *eP* **P 00 12 21.7 +0.6**
comp=Z,472nm,1.4s
ANTO Ankara 24.57 309 *eP* **P 00 12 23.3 +1.4**
comp=Z,381nm,1.2s
ANTO LR LR
comp=Z,8μm,20.0s
ANTO Ankara 24.57 309⇑ *iP* **P 00 12 22.6 +0.7**
ANTO Ankara 24.57 309 *eP* **P 00 12 23.3 +1.4**
ANTO pmax pmax
comp=Z,381nm,1.2s
ANTO MLR MLR
comp=Z,8μm,20.0s
ANTO Ankara 24.57 309 P **P 00 12 23.5 +1.6**
SNR=67
ANTO P **P 00 12 23.5 +1.6**
SNR=67
BR231 Keskin MP Arra 24.57 309 *eP* **P 00 12 22.6 +0.7**
comp=Z,434nm,1.4s
PKIN Phulchoki 24.58 82 *eP* **P 00 12 22.0 -0.3**
comp=Z,188nm,1.0s
PKI Pulchoki 24.59 82 *eP* **P 00 12 22.2 -0.3**
comp=Z,233nm,1.0s
LOD Lodumlu 24.60 309 P **P 00 12 23.1 +0.9**
TDK Taldyqorghan 24.64 37 *eP* **P 00 12 21.7 -0.7**
TDK *eS* **S 00 16 42.0 -0.3**
TDK pmax pmax
comp=Z,492nm,2.0s
TDK MLR MLR
comp=Z,3μm,13.0s
TDK Taldyqorghan 24.64 37 *eP* **P 00 12 21.7 -0.7**
comp=Z,492nm,2.0s
TDK *eS* **S 00 16 42.0 -0.3**
TDK *e*LR LR 00 24 17.7
comp=Z,3μm,12.8s
BZK Bozkurt 24.73 314 P **P 00 12 23.7 +0.6**
BZK Bozkurt 24.73 314⇑ *iP* **P 00 12 23.9 +0.8**
JIRN Jiri 25.27 81 *eP* **P 00 12 28.5 -0.2**
comp=Z,774nm,1.3s
AUSIV SIVRIHISAR 25.29 307 *i* P **P 00 12 29.3 +0.9**
SVRH Sivrihisar-ESK 25.30 307 P **P 00 12 29.4 +0.9**
FURI Furi 25.32 229 *eP* **P 00 12 29.2 +0.1**
comp=Z,196nm,1.0s
BCK Bucak 25.33 302 P **P 00 12 29.8 +1.0**
KORT Korkueli 25.38 301 P **P 00 12 30.2 +0.9**
ISP Isparta 25.49 303 *eP* **P 00 12 30.9 +0.7**
comp=Z,230nm,0.9s
ISP Isparta 25.49 303 P **P 00 12 30.2 0.0**
ISP Isparta 25.49 303⇑ *iP* **P 00 12 31.7 +1.5**
ISP Isparta 25.49 303 *eP* **P 00 12 31.0 +0.7**
ISP pmax pmax
comp=Z,230nm,0.9s
KURC Kurucasile-Bar 25.49 313 P **P 00 12 31.2 +1.1**
AUMIH MIHALICIK 25.50 308 *i* P **P 00 12 31.1 +0.8**
BOK Bokaro 25.57 90 *eP* **P 00 12 30.9 -0.1**
BOK IAmb IAmb 00 12 35.2
CIFT Cifteler, Eski 25.60 306 P **P 00 12 31.8 +0.5**
ELL Elmali 25.65 300 P **P 00 12 32.9 +1.1**
SHUT Suhut-Afyon 25.70 304 P **P 00 12 33.3 +1.1**
RAMN Ramite 25.70 83 *eP* **P 00 12 32.0 -0.4**
comp=Z,190nm,0.8s
KSL Kastellorizon 25.76 298 P **P 00 12 32.0 -0.6**
KSL Kastellorizon 25.76 298 P **P 00 12 32.0 -0.6**
AKAS Kas 25.76 299 P **P 00 12 32.6 -0.2**
BRZS Berezniki 25.92 22 *eP* **P 00 12 33.1 -0.8**
BRZS pmax pmax
comp=Z,75nm,1.1s
BRZS MLR MLR
comp=Z,3μm,12.0s
BRZS Berezniki 25.92 22 *eP* **P 00 12 33.1 -0.8**
comp=Z,75nm,1.1s
BRZS *e*LR LR 00 24 38.5
comp=Z,3μm,12.0s
SRCK Saricakaya, Es 26.17 307 P **P 00 12 36.8 +0.5**
FETY Fethiye 26.27 299 P **P 00 12 37.4 +0.2**
FETY Fethiye 26.27 299 P **P 00 12 35.7 -1.5**
FETY Fethiye 26.27 299 P **P 00 12 35.7 -1.5**
SIM Simferopol' 26.29 320 *c i P* **P 00 12 37.5 +0.2**
SIM *i* S **S 00 17 09.9 +1.3**
SIM pmax pmax
comp=Z,863nm,1.5s
GULT Gulveren 26.40 308 P **P 00 12 39.1 +0.7**
BWNR Bhubaneshwar 26.45 98 *eP* **P 00 12 35.4 -3.6**
BWNR IAmb IAmb 00 12 40.5
comp=Z,3μm,5.2s
SPNC Sapanca-Adapaz 26.64 309 P **P 00 12 42.0 +1.5**
DALY Dalyan (Mula) 26.65 299 P **P 00 12 40.8 +0.2**
SAUV Serdivan-Sakar 26.65 309 P **P 00 12 45.0 +4.4**
TURN Turunc 26.70 300 P **P 00 12 44.3 +3.2**
GEDZ Gediz 26.70 305 P **P 00 12 41.9 +0.7**
CAVI Cavuskoy 26.79 307 P **P 00 12 42.7 +0.8**
TVSB Tavsanli 26.80 305 P **P 00 12 42.8 +0.7**
ARG Arkhangelos 26.93 298 P **P 00 12 42.4 -0.7**
ARG Arkhangelos 26.93 298 P **P 00 12 42.4 -0.7**
ARG Arkhangelos 26.93 298 P **P 00 12 42.4 -0.7**
ADVT Abdulvahap 26.95 308 P **P 00 12 43.8 +0.5**
KULA Kula-Manisa 27.09 303 P **P 00 12 45.2 +0.5**
KULA Kula-Manisa 27.09 303 P **P 00 12 44.8 +0.1**
KULA Kula-Manisa 27.09 303 P **P 00 12 44.8 +0.1**
HRT Hereke 27.14 308 P **P 00 12 45.4 +0.3**
MANT Manisa 27.16 303 *eP* **P 00 12 45.3 -0.3**
comp=Z,594nm,1.3s
YLV Yalova 27.25 308 P **P 00 12 46.4 +0.3**
YLV Yalova 27.25 308⇑ *iP* **P 00 12 46.3 +0.2**
GEMT Gemlik 27.34 307 P **P 00 12 47.2 +0.4**
VRH Novokhopyorsk 27.34 338 *eP* **P 00 12 45.8 -0.9**
VRH *eS* **S 00 17 22.4 -2.6**
VRH pmax pmax
comp=Z,130nm,0.7s
VRH smax smax
comp=E,160nm,5.4s
VRH MLR MLR
comp=Z,2μm,13.0s
MDNY Mudanya-Bursa 27.53 307 P **P 00 12 48.9 +0.4**
BUY Buyukada 27.54 308 P **P 00 12 48.7 +0.1**
KARP Karpathos 27.57 296 P **P 00 12 39.9 -9.0**
ARMT Armutlu 27.62 307 P **P 00 12 49.3 0.0**
KAVV Kandilli-Istan 27.66 308 P **P 00 12 49.3 -0.4**
MAKZ Makanchi 27.71 37 *eP* **P 00 12 49.7 -0.4**
comp=Z,71nm,1.1s
MAKZ Makanchi 27.71 37 *eP* **P 00 12 49.7 -0.4**
MAKZ pmax pmax
comp=Z,71nm,1.1s
KLYT Kilyos 27.75 309 P **P 00 12 50.7 +0.3**
BODT Bodrum 27.75 299 P **P 00 12 50.9 +0.3**
BODT Bodrum 27.75 299 P **P 00 12 50.3 -0.3**
BODT Bodrum 27.75 299 P **P 00 12 50.3 -0.3**
MK31 Makanchi Array 27.87 38 *eP* **P 00 12 51.0 -0.5**
comp=Z,30nm,0.9s
MK31 Makanchi Array 27.87 38 *eP* **P 00 12 51.0 -0.5**
MK31 pmax pmax
comp=Z,30nm,0.9s
MKAR Makanchi Array 27.87 38 *eP* **P 00 12 50.4 -1.1**
MKAR PcP **PcP 00 16 07.3 +0.3**
MKAR S **S 00 17 31.3 -2.2**
MKAR Makanchi Array 27.87 38⇑ *eP* **P 00 12 51.0 -0.6**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 27.87 38 P **P 00 12 51.0 -0.6**
comp=Z,8.1nm,0.6s,baz=224,slow=6.7,SNR=32
MKAR PcP **PcP 00 16 07.3 +0.3**
comp=Z,2.5nm,0.7s,baz=237,slow=4.4,SNR=2.6
MKAR S **S 00 17 31.3 -2.2**
comp=Z,2.8nm,0.9s,baz=248,slow=14,SNR=2.3
KCTX Karacabey (Bur 27.87 306 P **P 00 12 52.2 +0.6**
BGKT Bogazkoy 27.91 309 P **P 00 12 52.2 +0.4**
BVAR Borovoye Array 27.93 16 P **P 00 12 51.5 -0.4**
comp=Z,46nm,0.8s,baz=198,slow=8.9,SNR=91
BVAR PcP **PcP 00 16 06.9 0.0**
comp=Z,6.9nm,0.6s,baz=203,slow=3.7,SNR=5.9
BVAR ScP **ScP 00 19 47.4 +1.1**
comp=Z,2.8nm,0.9s,baz=204,slow=3.3,SNR=3.7
BVAR LR LR 00 25 54.2
comp=Z,338nm,19.8s,baz=345,slow=41
BRVK Borovoye 27.93 16 *eP* **P 00 12 51.6 -0.3**
comp=Z,306nm,1.7s
BRVK LR LR
comp=Z,8μm,19.0s
BRVK Borovoye 27.93 16 *c i P* **P 00 12 51.0 -1.0**
BRVK pmax pmax
comp=Z,36nm,1.0s
BRVK Borovoye 27.93 16 P **P 00 12 52.0 0.0**
SNR=50
BRVK P **P 00 12 52.0 0.0**
SNR=50
GCAM G?zelcaml? 27.96 301 P **P 00 12 53.3 +0.9**
BALB Balikesir 28.02 305 P **P 00 12 53.4 +0.6**
CTKS Kestanelik-??a 28.11 309 P **P 00 12 54.1 +0.4**
EDC Edincik 28.26 306 P **P 00 12 55.4 +0.4**
ZKR Zakros 28.26 295 P **P 00 12 55.7 +0.6**
ZKR Zakros 28.26 295 P **P 00 12 55.7 +0.6**
SMG Samos 28.27 301 P **P 00 12 55.1 0.0**

SMG	**Samos**	**28.27**	301	P	**P**	**00 12 55.1**	**0.0**
VSR	**Storozhevoye**	**28.27**	335	*e*P	**P**	**00 12 53.2**	**-1.8**
VSR				*e*S	**S**	**00 17 37.6**	**-2.1**
VSR				pmax	pmax		
	comp=Z,80nm,0.8s						
VSR				smax	smax		
	comp=N,230nm,5.5s						
VSR				MLR	MLR		
	comp=Z,3μm,13.0s						
BLCB	**Balcova**	**28.28**	302	P	**P**	**00 12 56.3**	**+1.1**
SLVT	**Silivri**	**28.32**	308	P	**P**	**00 12 56.2**	**+0.7**
CTYL	**Yalikoy Yolu**	**28.35**	309	P	**P**	**00 12 55.7**	**-0.1**
CTYL	**Yalikoy Yolu**	**28.35**	309⇑	*i*P	**P**	**00 12 56.0**	**+0.2**
URLA	**Izmir**	**28.61**	302	P	**P**	**00 12 59.2**	**+1.0**
CRLT	**Corlu**	**28.62**	308	P	**P**	**00 12 58.6**	**+0.4**
VORR	**Voronezh**	**28.62**	336	*e*P	**P**	**00 12 58.0**	**-0.1**
VORR				pmax	pmax		
	comp=Z,250nm,1.4s						
KURBB	**Kurchatov Arra**	**28.67**	28	P	**P**	**00 12 58.2**	**-0.3**
	comp=Z,50nm,1.2s,baz=227,slow=8.1,SNR=47						
KURBB				S	**S**	**00 17 45.7**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=221,slow=15,SNR=2.5						
KURBB				ScP	**ScP**	**00 19 50.4**	**+1.8**
	comp=Z,2.1nm,0.8s,baz=218,slow=3.5,SNR=3.4						
KRBG	**Karabiga-Canak**	**28.68**	306	P	**P**	**00 12 58.9**	**+0.2**
NPS	**Neapolis**	**28.77**	295	P	**P**	**00 13 00.6**	**+0.9**
NPS	**Neapolis**	**28.77**	295	P	**P**	**00 13 00.6**	**+0.9**
KURK	**Kurchatov**	**28.78**	28	*e*P	**P**	**00 12 59.5**	**0.0**
	comp=Z,43nm,0.9s						
KURK				LR	LR		
	comp=Z,7μm,22.0s						
KURK	**Kurchatov**	**28.78**	28	*de*P	**P**	**00 12 58.8**	**-0.7**
KURK				pmax	pmax		
	comp=Z,37nm,1.3s						
KURK	**Kurchatov**	**28.78**	28	P	**P**	**00 12 59.8**	**+0.3**
	SNR=20						
AMGA	**Amorgos Island**	**28.81**	298	P	**P**	**00 12 58.1**	**-1.9**
LAST	**Lasithi**	**28.86**	295	P	**P**	**00 13 01.2**	**+0.6**
LAST	**Lasithi**	**28.86**	295	P	**P**	**00 13 01.2**	**+0.6**
RKY	**Sarkoy-Tekirda**	**28.86**	307	P	**P**	**00 12 59.6**	**-0.9**
PHSR	**Pinarhisar**	**28.95**	309	P	**P**	**00 13 01.4**	**+0.3**
PHSR	**Pinarhisar**	**28.95**	309⇑	*i*P	**P**	**00 13 01.6**	**+0.5**
CHOS	**Chios island**	**29.03**	302	P	**P**	**00 13 02.4**	**+0.4**
CHOS	**Chios island**	**29.03**	302	P	**P**	**00 13 02.4**	**+0.4**
SANT	**Santorini**	**29.07**	297	*e*P	**P**	**00 13 02.5**	**+0.2**
	comp=Z,157nm,0.9s						
SANT	**Santorini**	**29.07**	297	⇓*i*P	**P**	**00 13 02.5**	**+0.2**
PRK	**Paraskevi**	**29.09**	303	P	**P**	**00 13 03.0**	**+0.6**
PRK	**Paraskevi**	**29.09**	303	P	**P**	**00 13 03.0**	**+0.6**
APE	**Apeiranthos**	**29.14**	299	P	**P**	**00 13 00.6**	**-2.4**
APE	**Apeiranthos**	**29.14**	299	P	**P**	**00 13 00.6**	**-2.4**
APE	**Apeiranthos**	**29.14**	299	⇓*i*P	**P**	**00 13 03.6**	**+0.6**
APE	**Apeiranthos**	**29.14**	299*c*	*i*P	**P**	**00 13 02.9**	**-0.1**
APE				pmax	pmax		
	comp=Z,43nm,1.0s						
EZN	**Ezine**	**29.21**	305	P	**P**	**00 13 03.9**	**+0.4**
EZN	**Ezine**	**29.21**	305	P	**P**	**00 13 03.0**	**-0.5**
EZN	**Ezine**	**29.21**	305	P	**P**	**00 13 03.0**	**-0.5**
EZN	**Ezine**	**29.21**	305⇑	*i*P	**P**	**00 13 04.2**	**+0.7**
EZN	**Ezine**	**29.21**	305	P	**P**	**00 13 03.0**	**-0.5**
SEM	**Semipalatinsk**	**29.26**	30	*e*LR	LR	00 25 26.1	
	comp=Z,2μm,12.5s						
GELI	**Taytur-Gelibol**	**29.28**	306	P	**P**	**00 13 04.5**	**+0.4**
PSN	**Preselentsi**	**29.31**	313	P	**P**	**00 13 04.0**	**-0.4**
ERIK	**Erikli-Kesan**	**29.33**	306	P	**P**	**00 13 05.1**	**+0.5**
IDI	**Anoyia**	**29.36**	295	P	**P**	**00 13 02.4**	**-2.5**
IDI				S	**S**	**00 17 54.5**	**-2.8**
IDI	**Anoyia**	**29.36**	295	P	**P**	**00 13 02.4**	**-2.5**
IDI	**Anoyia**	**29.36**	295	P	**P**	**00 13 05.4**	**+0.5**
	comp=Z,134nm,0.9s,baz=84,slow=11,SNR=31						
IDI				S	**S**	**00 17 54.5**	**-2.8**
	comp=Z,9.9nm,0.9s,baz=253,slow=13,SNR=1.9						
IDI				LR	LR	00 28 52.3	
	comp=Z,3μm,21.9s,baz=84,slow=45						
MFTR	**Murfatlar**	**29.38**	314	⇓*i*P	**P**	**00 13 05.6**	**+0.7**
SIGR	**SIGRI**	**29.39**	303	P	**P**	**00 13 04.8**	**-0.3**
SIGR	**SIGRI**	**29.39**	303	P	**P**	**00 13 04.8**	**-0.3**
BOZC	**Bozcaada**	**29.42**	304	P	**P**	**00 13 05.7**	**+0.4**
LPSR	**Galich'ya Gora**	**29.48**	336	*e*P	**P**	**00 13 04.4**	**-1.3**
LPSR				*e*S	**S**	**00 17 56.6**	**-1.9**
LPSR				pmax	pmax		
	comp=Z,40nm,1.2s						
LPSR				smax	smax		
	comp=N,170nm,5.2s						
LPSR				MLR	MLR		
	comp=Z,3μm,16.0s						
EDRB	**Edirne**	**29.57**	309	P	**P**	**00 13 06.9**	**+0.3**
EDRB	**Edirne**	**29.57**	309	P	**P**	**00 13 06.7**	**+0.1**
EDRB	**Edirne**	**29.57**	309	P	**P**	**00 13 06.7**	**+0.1**
WMQ	**Urumqi**	**29.58**	47	P	**P**	**00 13 07.6**	**+0.7**
WMQ				pP	pP	00 13 12.3	-2.1
WMQ				sP	sP	00 13 18.1	+0.5
WMQ				PcP	**PcP**	**00 16 13.5**	**+2.1**
WMQ				S	**S**	**00 18 02.2**	**+1.6**
WMQ				ScS	**ScS**	**00 23 42.8**	**-3.7**
WMQ				pmax	pmax		
	comp=Z,350nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,1μm,3.7s						
WMQ				LR	LR		
	comp=Z,21μm,18.3s						
WMQ				LR	LR		
	comp=Z,13μm,14.7s						
WMQ				LR	LR		
	comp=Z,20μm,19.3s						
WMQ	**Urumqi**	**29.58**	47	*e*P	**P**	**00 13 06.8**	**-0.1**
	comp=Z,95nm,0.8s						
WMQ	**Urumqi**	**29.58**	47	*e*P	**P**	**00 13 06.8**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,95nm,0.8s						
ENEZ	**Enez**	**29.61**	306	P	**P**	**00 13 07.0**	**-0.1**
PRD	**Provadia**	**29.63**	312	P	**P**	**00 13 07.1**	**-0.1**
ZSN	**Zaisan**	**29.68**	39	*e*P	**P**	**00 13 05.9**	**-1.7**
ZSN				MLR	MLR		
	comp=Z,1μm,14.0s						
ZSN	**Zaisan**	**29.68**	39	*e*P	**P**	**00 13 05.9**	**-1.7**
	comp=Z,5.2nm,2.3s						
ZSN				*e*LR	LR	00 25 57.1	
	comp=Z,1μm,13.8s						
ARU	**Arti**	**29.71**	1	*e*P	**P**	**00 13 08.1**	**+0.4**
	comp=Z,198nm,2.0s						
ARU				LR	LR		
	comp=Z,2μm,22.0s						
ARU	**Arti**	**29.71**	1*c*	*i*P	**P**	**00 13 06.8**	**-0.9**
ARU						00 14 00.5	
ARU				PPP	PPP	00 14 10.7	
ARU						00 16 09.7	
ARU				S	**S**	**00 18 01.8**	**-0.3**
ARU				SS	ScP	00 19 30.7	-21
ARU				SSS	SSS	00 19 51.4	
ARU				pmax	pmax		
	comp=Z,29nm,0.9s						
ARU				MLR	MLR		
	comp=Z,4μm,20.0s						
ALN	**Alexandroupoli**	**29.74**	307	*e*P	**P**	**00 13 08.8**	**+0.6**
	comp=Z,89nm,1.5s						
ALN	**Alexandroupoli**	**29.74**	307	P	**P**	**00 13 04.2**	**-4.0**
ICOR	**Ion Corvin**	**29.75**	314⇑	*i*P	**P**	**00 13 09.0**	**+0.8**
TLB	**Topalu**	**29.80**	315	⇓*i*P	**P**	**00 13 08.7**	**0.0**
JMB	**Yambol**	**29.90**	310	P	**P**	**00 13 09.9**	**+0.3**
VAM	**Vamos**	**29.93**	295	P	**P**	**00 13 10.3**	**+0.3**
VAM	**Vamos**	**29.93**	295	P	**P**	**00 13 10.3**	**+0.3**
SMTH	**Samothraki Isl**	**29.98**	305	P	**P**	**00 13 09.7**	**-0.7**
SMTH	**Samothraki Isl**	**29.98**	305	P	**P**	**00 13 09.7**	**-0.7**
CFR	**Carcaliu**	**30.02**	316⇑	*i*P	**P**	**00 13 10.5**	**0.0**
LIA	**Limnos Island**	**30.08**	304	P	**P**	**00 13 11.5**	**+0.3**
LIA	**Limnos Island**	**30.08**	304	P	**P**	**00 13 11.5**	**+0.3**
IMMV	**Iera Moni Meta**	**30.12**	295	P	**P**	**00 13 11.7**	**+0.1**
SVE	**Sverdlovsk**	**30.17**	3⇑	*e*P	**P**	**00 13 11.5**	**-0.3**
SVE				*e*S	**S**	**00 18 08.8**	**-0.5**
SVE				pmax	pmax		
	comp=Z,68nm,1.2s						
SVE				MLR	MLR		
	comp=Z,5μm,11.0s						
RDO	**Rodhopi**	**30.19**	307	P	**P**	**00 13 11.5**	**-0.6**
RDO	**Rodhopi**	**30.19**	307	P	**P**	**00 13 11.5**	**-0.6**
AMRR	**Amara**	**30.27**	314⇑	*i*P	**P**	**00 13 14.1**	**+1.3**
KDZ	**Kurdzhali**	**30.43**	308	P	**P**	**00 13 18.6**	**+4.3**
DIM	**Dimitrovgrad**	**30.48**	308	P	**P**	**00 13 14.0**	**-0.7**
KIS	**Kishinev**	**30.50**	319	*e*P	**P**	**00 13 13.0**	**-1.8**
KIS	**Kishinev**	**30.50**	319	*e*PP	PP	00 14 21.0	-2.8
KIS	**Kishinev**	**30.50**	319	*e*PcP	**PcP**	**00 16 16.0**	**+2.5**
KIS				*e*S	**S**	**00 18 12.0**	**-2.8**
KIS				*e*L	L	00 22 45.0	
KIS				LRM	MLR	00 26 40.0	
	comp=Z,3μm,28.0s						
KIS	**Kishinev**	**30.50**	319	*e*P	**P**	**00 13 13.0**	**-1.8**
KIS				*e*		00 14 21.0	
KIS				*e*		00 16 16.0	
KIS				*e*S	**S**	**00 18 12.0**	**-2.8**
KIS				pmax	pmax		
	comp=Z,290nm,1.5s						
LEHL	**Lehliu**	**30.54**	314⇑	*i*P	**P**	**00 13 16.2**	**+1.0**
LEOM	**Leova**	**30.57**	318⇑	*i*P	**P**	**00 13 16.0**	**+0.5**
LEOM	**Leova**	**30.57**	318	P	**P**	**00 13 16.3**	**+0.8**
DION	**Dionisos Attik**	**30.59**	300	P	**P**	**00 13 15.2**	**-0.6**
SHL	**Shillong**	**30.59**	84	*e*P	**P**	**00 13 15.0**	**-1.1**
SHL				IAmb	IAmb	00 13 18.1	
	comp=Z,125nm,2.1s						
SHL				*e*S	**S**	**00 18 20.0**	**+3.0**
PTL	**Penteli**	**30.64**	300	P	**P**	**00 13 15.8**	**-0.4**
PTL	**Penteli**	**30.64**	300	P	**P**	**00 13 15.8**	**-0.4**
SZH	**Strazhica**	**30.64**	311	P	**P**	**00 13 15.5**	**-0.7**
EREA	**Eretria**	**30.66**	301	P	**P**	**00 13 17.0**	**+0.6**
PETR	**Petresti**	**30.83**	316⇑	*i*P	**P**	**00 13 18.5**	**+0.7**
BIR	**Birlad**	**30.85**	317	⇓*i*P	**P**	**00 13 19.2**	**+1.3**
AOS	**Alonnisos**	**30.87**	302	P	**P**	**00 13 18.2**	**0.0**
AOS	**Alonnisos**	**30.87**	302	P	**P**	**00 13 18.2**	**0.0**
RZN	**Rozhen**	**30.94**	307	P	**P**	**00 13 18.3**	**-0.7**
BRDH	**Bariadhala**	**30.97**	90	P	**P**	**00 13 19.1**	**-0.2**
	comp=Z,25nm,0.8s,baz=252,slow=20,SNR=2.6						
MRKA	**Markates**	**30.98**	301	P	**P**	**00 13 19.4**	**+0.2**
SGRR	**Singureni**	**30.99**	313⇑	*i*P	**P**	**00 13 19.8**	**+0.6**
SULR		**30.99**	314	⇓*i*P	**P**	**00 13 20.8**	**+1.6**
DID	**Didima**	**31.02**	299	P	**P**	**00 13 18.2**	**-1.4**
DID	**Didima**	**31.02**	299	P	**P**	**00 13 18.2**	**-1.4**
PVL	**Pavlikeni**	**31.03**	310	P	**P**	**00 13 20.4**	**+0.8**
KRND	**KRANIDI**	**31.07**	299	P	**P**	**00 13 18.2**	**-1.7**
BISRR	**Bisoca**	**31.08**	315	⇓*i*P	**P**	**00 13 21.7**	**+1.6**
OUR	**Ouranopolis**	**31.08**	305	P	**P**	**00 13 21.2**	**+1.2**
OUR	**Ouranopolis**	**31.08**	305	P	**P**	**00 13 21.2**	**+1.2**
PLD	**Plovdiv**	**31.09**	308	P	**P**	**00 13 20.5**	**+0.5**
PLD	**Plovdiv**	**31.09**	308	P	**P**	**00 13 19.6**	**-0.4**
ZIMR		**31.18**	311⇑	*i*P	**P**	**00 13 18.8**	**-2.0**
PAIG	**Paliouri**	**31.20**	304	P	**P**	**00 13 20.6**	**-0.5**
PAIG	**Paliouri**	**31.20**	304	P	**P**	**00 13 20.6**	**-0.5**
PAIG	**Paliouri**	**31.20**	304	P	**P**	**00 13 20.6**	**-0.5**
VRI	**Vrincioaia**	**31.21**	316	⇓*i*P	**P**	**00 13 21.9**	**+0.7**
VRI	**Vrincioaia**	**31.21**	316	P	**P**	**00 13 21.7**	**+0.5**
PLOR	**Plostina**	**31.25**	316	⇓*i*P	**P**	**00 13 22.7**	**+1.1**
PLOR	**Plostina**	**31.25**	316	P	**P**	**00 13 22.3**	**+0.7**
SECR		**31.27**	314	⇓*i*P	**P**	**00 13 23.2**	**+1.6**
MSEY	**Mahe Island**	**31.27**	184	*e*P	**P**	**00 13 21.5**	**-0.4**
	comp=Z,55nm,1.0s						
MSEY				LR	LR		
	comp=Z,4μm,20.0s						
SMIA	**Simia**	**31.31**	302	P	**P**	**00 13 21.2**	**-0.9**
IAS	**Iasi**	**31.34**	319	⇓*i*P	**P**	**00 13 22.8**	**+0.6**
IAS	**Iasi**	**31.34**	319	P	**P**	**00 13 22.4**	**+0.2**
NEO	**Neokhori**	**31.39**	302	P	**P**	**00 13 22.4**	**-0.5**
NEO	**Neokhori**	**31.39**	302	P	**P**	**00 13 22.4**	**-0.5**
ATAL	**Atalanti**	**31.41**	301	P	**P**	**00 13 23.0**	**0.0**
ATAL	**Atalanti**	**31.41**	301	P	**P**	**00 13 23.0**	**0.0**
LKR	**Lokris**	**31.42**	301	P	**P**	**00 13 21.8**	**-1.3**
LKR	**Lokris**	**31.42**	301	P	**P**	**00 13 21.8**	**-1.3**
XOR	**Xorichti**	**31.43**	302	P	**P**	**00 13 22.4**	**-0.8**
XOR	**Xorichti**	**31.43**	302	P	**P**	**00 13 22.4**	**-0.8**
NVR	**Nevrokopi**	**31.45**	306	P	**P**	**00 13 22.3**	**-1.1**
NVR	**Nevrokopi**	**31.45**	306	P	**P**	**00 13 22.3**	**-1.1**
PLG	**Polygyros**	**31.49**	304	P	**P**	**00 13 24.9**	**+1.2**
PLG	**Polygyros**	**31.49**	304	P	**P**	**00 13 24.9**	**+1.2**
PLG	**Polygyros**	**31.49**	304	P	**P**	**00 13 24.9**	**+1.2**
MLR	**Muntele Rosu**	**31.54**	315	*e*P	**P**	**00 13 25.3**	**+1.1**
	comp=Z,140nm,1.0s						
MLR	**Muntele Rosu**	**31.54**	315⇑	*i*P	**P**	**00 13 25.8**	**+1.6**
MLR	**Muntele Rosu**	**31.54**	315	*e*P	**P**	**00 13 25.3**	**+1.1**
MLR				pmax	pmax		
	comp=Z,140nm,1.0s						
TESR	**Tescani**	**31.56**	317	⇓*i*P	**P**	**00 13 24.6**	**+0.4**
SRS	**Serrai**	**31.58**	306	P	**P**	**00 13 24.9**	**+0.4**
SRS	**Serrai**	**31.58**	306	P	**P**	**00 13 24.9**	**+0.4**
SRS	**Serrai**	**31.58**	306	P	**P**	**00 13 24.9**	**+0.4**
PGB	**Panagyurishte**	**31.61**	309	P	**P**	**00 13 25.3**	**+0.6**
MMB	**Musomiste**	**31.62**	307	P	**P**	**00 13 24.5**	**-0.3**
FYTO	**Fytoko, Volos**	**31.63**	302	P	**P**	**00 13 25.5**	**+0.6**
FYTO	**Fytoko, Volos**	**31.63**	302	P	**P**	**00 13 25.5**	**+0.6**
VLX	**Vlachokerasia**	**31.67**	298	P	**P**	**00 13 23.6**	**-1.8**
VLX	**Vlachokerasia**	**31.67**	298	P	**P**	**00 13 23.6**	**-1.8**
SOH	**Sokhos**	**31.67**	305	P	**P**	**00 13 26.1**	**+0.8**
SOH	**Sokhos**	**31.67**	305	P	**P**	**00 13 26.1**	**+0.8**
SOH	**Sokhos**	**31.67**	305	P	**P**	**00 13 26.1**	**+0.8**
AXAR	**Agios Charalam**	**31.71**	301	P	**P**	**00 13 27.3**	**+1.7**
AXAR	**Agios Charalam**	**31.71**	301	P	**P**	**00 13 27.3**	**+1.7**
HUMR	**Humele**	**31.77**	313⇑	*i*P	**P**	**00 13 27.7**	**+1.7**
GUR	**Goura**	**31.80**	300	P	**P**	**00 13 25.5**	**-1.0**
GUR	**Goura**	**31.80**	300	P	**P**	**00 13 25.5**	**-1.0**
HORT	**Hortiatis**	**31.80**	305	P	**P**	**00 13 26.1**	**-0.4**
HORT	**Hortiatis**	**31.80**	305	P	**P**	**00 13 26.1**	**-0.4**
GOLR		**31.90**	313⇑	*i*P	**P**	**00 13 28.4**	**+1.2**
THE	**Thessaloniki**	**31.91**	305	P	**P**	**00 13 27.3**	**0.0**
THE	**Thessaloniki**	**31.91**	305	P	**P**	**00 13 27.3**	**0.0**
THE	**Thessaloniki**	**31.91**	305	P	**P**	**00 13 27.3**	**0.0**
VLAD	**Vladila**	**31.95**	311⇑	*i*P	**P**	**00 13 28.2**	**+0.6**
KLV	**Kalavryta, Ach**	**31.96**	300	P	**P**	**00 13 26.7**	**-1.2**
KLV	**Kalavryta, Ach**	**31.96**	300	P	**P**	**00 13 26.7**	**-1.2**
MTUR	**Matau**	**31.99**	314⇑	*i*P	**P**	**00 13 29.5**	**+1.4**
MTUR	**Matau**	**31.99**	314	P	**P**	**00 13 29.2**	**+1.1**
ITM	**Ithomi**	**32.00**	298	*e*P	**P**	**00 13 28.2**	**0.0**
	comp=Z,109nm,1.1s						
AGG	**Agios Georgios**	**32.01**	302	*e*P	**P**	**00 13 28.1**	**-0.2**
	comp=Z,45nm,1.0s						
AGG	**Agios Georgios**	**32.01**	302	P	**P**	**00 13 27.3**	**-1.0**
VOIR		**32.09**	314	⇓*i*P	**P**	**00 13 30.1**	**+1.2**
BIZ	**Bicaz**	**32.09**	317	⇑*i*P	**P**	**00 13 29.3**	**+0.4**
DOPR	**Dopca**	**32.09**	315	⇓*i*P	**P**	**00 13 29.7**	**+0.8**
KNT	**Kendrikon**	**32.10**	306	P	**P**	**00 13 27.9**	**-1.1**
KNT	**Kendrikon**	**32.10**	306	P	**P**	**00 13 27.9**	**-1.1**
KNT	**Kendrikon**	**32.10**	306	P	**P**	**00 13 27.9**	**-1.1**
SERG	**Sergoula**	**32.10**	300	P	**P**	**00 13 27.9**	**-1.2**
LIT	**Litokhoron**	**32.13**	304	*e*P	**P**	**00 13 29.1**	**-0.2**
	comp=Z,69nm,1.2s						
LIT	**Litokhoron**	**32.13**	304	*e*P	**P**	**00 13 29.1**	**-0.2**
LIT				pmax	pmax		
	comp=Z,69nm,1.2s						
LAKA	**Lakka**	**32.13**	300	P	**P**	**00 13 28.5**	**-0.9**
LAKA	**Lakka**	**32.13**	300	P	**P**	**00 13 28.5**	**-0.9**
KKB	**Krupnik**	**32.16**	307	P	**P**	**00 13 29.8**	**+0.2**
MPEP	**Malo Peshtene**	**32.17**	310	P	**P**	**00 13 30.2**	**+0.6**
PRAR	**RASCA**	**32.22**	318⇑	*i*P	**P**	**00 13 30.2**	**+0.2**
EFP	**Efpalio**	**32.22**	300	P	**P**	**00 13 27.9**	**-2.2**
ANX	**Ano Chora**	**32.24**	301	P	**P**	**00 13 29.7**	**-0.7**
VTS	**Vitosha**	**32.28**	308	*e*P	**P**	**00 13 31.0**	**+0.2**
	comp=Z,35nm,1.1s						
VTS	**Vitosha**	**32.28**	308	P	**P**	**00 13 29.7**	**-1.1**
VTS	**Vitosha**	**32.28**	308	⇓*i*P	**P**	**00 13 31.4**	**+0.6**
VTS	**Vitosha**	**32.28**	308	P	**P**	**00 13 31.2**	**+0.4**
DRO	**Drossia**	**32.29**	299	P	**P**	**00 13 30.9**	**+0.2**
ARR	**Arges**	**32.33**	314⇑	*i*P	**P**	**00 13 31.9**	**+0.9**
OBN	**Obninsk**	**32.33**	337	*e*P	**P**	**00 13 30.5**	**-0.3**
	comp=Z,171nm,1.1s						
OBN				LR	LR		
	comp=Z,2μm,19.0s						
OBN	**Obninsk**	**32.33**	337⇑	*i*P	**P**	**00 13 31.5**	**+0.7**
OBN	**Obninsk**	**32.33**	337*c*	*i*P	**P**	**00 13 30.3**	**-0.5**
OBN				*i*		00 14 37.8	
OBN				*i*S	**S**	**00 18 45.3**	**+2.2**
OBN				*e*SS	**SnSn**	**00 20 36.4**	**+0.5**
OBN				pmax	pmax		
	comp=Z,262nm,1.7s						
OBN				MLR	MLR		
	comp=Z,5μm,17.0s						
DGZ	**Jazzator, Alta**	**32.36**	37*c*	*e*P	**P**	**00 13 31.3**	**-0.1**
DGZ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AKASG	**Malin Array Be**	**32.37**	325	*e*P	**P**	**00 13 30.1**	**-1.1**
	comp=Z,29nm,0.8s						
AKASG				S	**S**	**00 18 41.4**	**-2.5**
AKASG				ScP	**ScP**	**00 20 01.8**	**+1.1**
AKASG	**Malin Array Be**	**32.37**	325	*e*P	**P**	**00 13 30.1**	**-1.1**
AKASG				S	**S**	**00 18 41.4**	**-2.5**
AKASG				pmax	pmax		
	comp=Z,29nm,0.8s						
AKASG	**Malin Array Be**	**32.37**	325	P	**P**	**00 13 29.9**	**-1.3**
	comp=Z,51nm,0.7s,baz=126,slow=8.2,SNR=153						
AKASG				S	**S**	**00 18 41.4**	**-2.5**
	comp=Z,4.0nm,1.0s,baz=133,slow=17,SNR=4.7						
AKASG				ScP	**ScP**	**00 20 01.8**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=116,slow=1.9,SNR=5.3						
AKASG				LR	LR	00 29 30.4	
	comp=Z,5μm,20.9s,baz=120,slow=42						
AKBB	**Malin Array Si**	**32.37**	325	*e*P	**P**	**00 13 30.3**	**-0.9**
	comp=Z,132nm,0.8s						
AKBB	**Malin Array Si**	**32.37**	325	*e*P	**P**	**00 13 30.3**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,132nm,0.8s						
KIEV	**Kiev**	**32.37**	325	*e*P	**P**	**00 13 30.3**	**-1.0**
	comp=Z,136nm,0.9s						
KIEV				LR	LR		
	comp=Z,5μm,20.0s						
KIEV	**Kiev**	**32.37**	325⇑	*i*P	**P**	**00 13 31.2**	**0.0**
KIEV	**Kiev**	**32.37**	325	*i*P	**P**	**00 13 30.7**	**-0.6**
	SNR=20						
KIEV	**Kiev**	**32.37**	325*c*	*i*P	**P**	**00 13 30.1**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,127nm,1.0s						
VAY	**Valandovo**	**32.38**	306	*i*P	**P**	**00 13 31.8**	**+0.3**
GRG	**Griva**	**32.41**	305	P	**P**	**00 13 31.5**	**-0.2**
GRG	**Griva**	**32.41**	305	P	**P**	**00 13 31.5**	**-0.2**
CRAR	**CRAIOVA**	**32.47**	312⇑	*i*P	**P**	**00 13 33.5**	**+1.3**
MOS	**Moscow**	**32.48**	339	*e*P	**P**	**00 13 30.4**	**-1.7**
MOS				*e*		00 14 41.7	
MOS				*e*		00 16 14.9	
MOS				*e*S	**S**	**00 18 46.1**	**+0.6**
MOS				*e*SS	**SnSn**	**00 20 38.0**	**-1.6**
MOS				*e*		00 23 56.7	
MOS				pmax	pmax		
	comp=Z,200nm,1.4s						
MOS				pmax	pmax		
	comp=Z,157nm,1.4s						
MOS				smax	smax		
	comp=N,1μm,3.8s						
MOS				MLR	MLR		
	comp=Z,3μm,16.0s						
RLS	**Riolos of Patr**	**32.50**	300	P	**P**	**00 13 32.1**	**-0.4**
RLS	**Riolos of Patr**	**32.50**	300	P	**P**	**00 13 32.1**	**-0.4**
PVO	**Paravola**	**32.55**	301	P	**P**	**00 13 32.8**	**-0.2**
STIP	**Stip**	**32.76**	306	*i*P	**P**	**00 13 33.3**	**-1.4**
MDB	**Medias**	**32.80**	315⇑	*i*P	**P**	**00 13 36.6**	**+1.5**
LOT	**Lotru**	**32.92**	314	⇓*i*P	**P**	**00 13 36.6**	**+0.4**
KPRO	**Kipourio**	**32.94**	303	P	**P**	**00 13 35.8**	**-0.7**
BURAR	**Bucovina Array**	**32.94**	318	*e*P	**P**	**00 13 35.6**	**-0.8**
	comp=Z,252nm,0.9s						
BURAR	**Bucovina Array**	**32.94**	318⇑	*i*P	**P**	**00 13 36.6**	**+0.2**
BURAR	**Bucovina Array**	**32.94**	318	*e*P	**P**	**00 13 35.6**	**-0.8**
BURAR				pmax	pmax		
	comp=Z,252nm,0.9s						
BUR08	**Bucovina Ar. S**	**32.96**	318	*e*P	**P**	**00 13 36.7**	**+0.1**
	comp=Z,38nm,1.0s						
SRE	**Strehaia**	**32.99**	312	⇓*i*P	**P**	**00 13 38.0**	**+1.2**
KFL	**Anninata**	**33.03**	299	P	**P**	**00 13 36.4**	**-0.8**
PUNG	**Punghina**	**33.04**	311⇑	*i*P	**P**	**00 13 38.0**	**+0.9**
FNA	**Florina**	**33.12**	304	*e*P	**P**	**00 13 38.3**	**+0.3**
	comp=Z,208nm,1.2s						
FNA	**Florina**	**33.12**	304	P	**P**	**00 13 37.6**	**-0.4**
FNA	**Florina**	**33.12**	304	P	**P**	**00 13 38.0**	**0.0**
VLS	**Valsamata**	**33.20**	300	P	**P**	**00 13 37.6**	**-1.1**
VLS	**Valsamata**	**33.20**	300	P	**P**	**00 13 37.6**	**-1.1**
**VL

PLE	**Pljevlja**	**35.19 308**	⇑*iP*	**P**	**00 13 54.4**	**-1.6**
BUM	**Brajici-Budva**	**35.28 306**	⇑*iP*	**P**	**00 13 55.3**	**-1.5**
KOLS	**Kolonicke sedl**	**35.29 318**	*eP*	**P**	**00 13 57.6**	**+0.9**
KOLS	comp=Z,353nm,1.0s		pmax	pmax		
KOLS	**Kolonicke sedl**	**35.29 318**	*eP*	**P**	**00 13 57.6**	**+0.9**
KOLS			*eS*	**S**	**00 19 27.9**	**-1.3**
BBLS	**Lazići**	**35.32 309**	⇑*iP*	**P**	**00 13 56.8**	**-0.3**
CEME	**Cevo**	**35.33 307**	⇑*iP*	**P**	**00 13 55.9**	**-1.2**
NKY	**Niksic**	**35.34 307**	*eP*	**P**	**00 13 56.2**	**-1.1**
KWP	**Kalwaria Pacla**	**35.35 320**	*eP*	**P**	**00 13 57.3**	**+0.1**
KWP	comp=Z,6μm,21.9s		LMZ	LR	00 32 23.2	
KWP	**Kalwaria Pacla**	**35.35 320**	*eP*	**P**	**00 13 57.0**	**-0.1**
KWP	comp=Z,2μm,1.0s		MLR	MLR		
KWP	**Kalwaria Pacla**	**35.35 320**	*eP*	**P**	**00 13 57.3**	**+0.1**
KWP	comp=Z,6μm,21.9s		MLR	MLR		
NKME	**Niksic**	**35.35 307**	⇑*iP*	**P**	**00 13 56.2**	**-1.1**
MICGM	**Minsk**	**35.37 330**	*eP*	**P**	**00 13 56.0**	**-1.3**
MICGM			*e*PP	**PP**	**00 15 19.0**	**+1.3**
MICGM			*e*S	**S**	**00 19 26.0**	**-4.2**
MICGM			*e*SS	SnSn	00 21 20.0	-30
MICGM			*e*SSS	SSS	00 22 15.0	
MICGM			*e*LR	LR	00 26 54.0	
MNK	**Minsk**	**35.37 330**	*eP*	**P**	**00 13 56.0**	**-1.3**
MNK			*e*		00 15 19.0	
MNK			*e*S	**S**	**00 19 26.0**	**-4.2**
MNK			*e*SSS	SSS	00 22 15.0	
FRGS	**Fruska Gora**	**35.43 311**	⇑*iP*	**P**	**00 13 58.0**	**+0.1**
UPM	**Unac-Piva**	**35.50 308**	⇑*iP*	**P**	**00 13 57.4**	**-1.3**
UPM	**Unac-Piva**	**35.50 308**	⇑*iP*	**P**	**00 13 57.4**	**-1.3**
DGPR	**DIGLIPUR**	**35.55 105**	*eP*	**P**	**00 13 57.4**	**-1.8**
HCY	**Herceg Novi**	**35.61 306**	⇑*iP*	**P**	**00 13 57.9**	**-1.5**
HCY	**Herceg Novi**	**35.61 306**	*eP*	**P**	**00 13 58.0**	**-1.5**
BRY	**Bratogost**	**35.68 307**	⇑*iP*	**P**	**00 13 58.9**	**-1.4**
HAPS	**Han Pijesak,BI**	**35.70 309**	*eP*	**P**	**00 13 59.7**	**-0.7**
TREB	**Trebinje**	**35.77 307**	*eP*	**P**	**00 13 59.5**	**-1.4**
PRGR	**Permogore**	**35.87 350**	⇓*iP*	**P**	**00 14 00.2**	**-1.2**
PRGR	comp=Z,33nm,0.9s		pmax	pmax		
PBA	**Port Blair**	**36.11 108**	*eP*	P	00 14 04.8	+0.7
NACGM	**Naroch**	**36.12 330**	*eP*	**P**	**00 14 04.0**	**+0.3**
NACGM			*eP*	**P**	**00 14 04.0**	**+0.3**
NACGM			*e*PP	**PP**	**00 15 30.0**	**+4.1**
NACGM			*e*S	**S**	**00 19 39.0**	**-2.7**
NACGM			*e*SSS	SSS	00 22 20.0	
NACGM			*e*LQ	LQ	00 27 46.0	
NACGM			*e*LR	LR	00 30 32.0	
NACGM			LRM	MLR	00 33 09.0	
NACGM	comp=N,6.3nm,14.0s		LRM	MLR	00 33 44.0	
KECS	**Kecovo**	**36.18 317**	*eP*	**P**	**00 14 05.2**	**+0.9**
KECS	comp=Z,4.2nm,20.0s		pmax	pmax		
KECS	**Kecovo**	**36.18 317**	*eP*	**P**	**00 14 05.2**	**+0.9**
STON	**Ston**	**36.27 307**	P	**P**	**00 14 04.9**	**-0.2**
STON	**Ston**	**36.27 307**	Sn	**S**	**00 19 50.9**	**+6.6**
TIP	**Timpagrande**	**36.31 301**	*eP*	**P**	**00 14 05.4**	**-0.2**
TIP	comp=Z,253nm,1.4s **Timpagrande**	**36.31 301**	⇑*iP*	**P**	**00 14 06.1**	**+0.5**
PSZ	**Piszkesteto**	**36.33 316**	*eP*	**P**	**00 14 05.8**	**+0.2**
PSZ	comp=Z,153nm,1.1s **Piszkesteto**	**36.33 316**	⇑*iP*	**P**	**00 14 05.9**	**+0.2**
PSZ	**Piszkesteto**	**36.33 316**	*eP*	**P**	**00 14 05.8**	**+0.2**
PSZ	comp=Z,153nm,1.1s		pmax	pmax		
PSZ	**Piszkesteto**	**36.33 316**	*eS*	**S**	**00 19 47.1**	**+1.8**
KLMR	**Klimovskoe**	**36.33 345**	⇑*iP*	**P**	**00 14 03.7**	**-1.7**
KLMR			*eS*	**S**	**00 19 43.8**	**-0.9**
KLMR	comp=Z,181nm,1.3s		pmax	pmax		
IDID	**Didziasalis**	**36.40 330**	*eP*	**P**	**00 14 05.9**	**-0.2**
IDID	comp=Z,45nm,1.1s		IAmb	IAmb	00 14 18.1	
MORH	**Mrgy, Hungar**	**36.54 313**	⇑*iP*	**P**	**00 14 07.5**	**+0.1**
MORH	**Mrgy, Hungar**	**36.54 313**	⇑*iP*	**P**	**00 14 07.1**	**-0.3**
MORH			*e*S	**S**	**00 19 52.1**	**+3.8**
MORH			*e*SS	**SS**	**00 22 32.1**	**+3.8**
MATE	**Matera**	**36.57 303**	⇑*iP*	**P**	**00 14 07.8**	**+0.1**
IIGN	**Ignalina**	**36.65 330**	*eP*	P	00 14 14.2	+6.0
IIGN	comp=Z,48nm,0.8s		IAmb	IAmb	00 14 30.8	
NIE	**Niedzica**	**36.67 318**	*eP*	**P**	**00 14 08.8**	**+0.3**
NIE			*e*S	**S**	**00 19 49.4**	**-0.9**
NIE	comp=Z,1μm,22.3s		LMZ	LR	00 30 20.9	
NIE	**Niedzica**	**36.67 318**	*eP*	**P**	**00 14 08.8**	**+0.3**
NIE			*e*S	**S**	**00 19 49.4**	**-0.9**
NIE	comp=Z,1μm,22.3s		MLR	MLR		
BUD	**Budapest**	**36.72 315**	P	**P**	**00 14 09.3**	**+0.4**
DGAR	**Diego Garcia**	**36.78 155**	PFAKE		00 14 20.0	+10
DGAR	comp=Z,2μm,19.0s		LR	LR		
ISAL	**Salakas**	**36.83 330**	*eP*	**P**	**00 14 09.4**	**-0.3**
ISAL	comp=Z,48nm,1.2s		IAmb	IAmb	00 14 31.6	
CEL	**Celeste**	**36.88 299**	*eP*	**P**	**00 14 09.9**	**-0.5**
IZAR	comp=Z,82nm,1.0s **Zarasai**	**36.89 330**	*eP*	**P**	**00 14 09.9**	**-0.3**
IZAR	comp=Z,32nm,0.8s		IAmb	IAmb	00 14 25.9	
LANS	**Liptovska Anna**	**37.06 318**	*eP*	**P**	**00 14 12.4**	**+0.6**
LANS	**Liptovska Anna**	**37.06 318**	*eP*	**P**	**00 14 12.4**	**+0.6**
MGRS	**Mrkonjic Grad**	**37.08 309**	*eP*	**P**	**00 14 12.4**	**+0.3**
BLY	**Banja Luka**	**37.10 310**	*eP*	**P**	**00 14 12.2**	**+0.1**
BLY	comp=Z,112nm,1.6s **Banja Luka**	**37.10 310**	⇓*iP*	**P**	**00 14 12.8**	**+0.7**
BLY	**Banja Luka**	**37.10 310**	⇑*iP*	**P**	**00 14 12.0**	**-0.1**
GTA	**Gaotai**	**37.12 59**	P	**P**	**00 14 13.9**	**+1.3**
GTA			pP	pP	00 14 21.1	+0.8
GTA			sP	sP	00 14 24.2	+0.8
GTA			S	**S**	**00 19 55.1**	**-2.6**
GTA	comp=Z,30nm,1.2s		pmax	pmax		
GTA	comp=Z,210nm,6.2s		pmax	pmax		
GTA	comp=Z,8μm,21.3s		LR	LR		
GTA	comp=Z,4μm,20.3s		LR	LR		
GTA	comp=Z,6μm,21.6s		LR	LR		
CSKK	**Cskako**	**37.16 314**	*eS*	**S**	**00 20 01.1**	**+3.3**
CSKK	**Cskako**	**37.16 314**	*i P*	**P**	**00 14 12.1**	**-0.6**
VYHS	**Vyhne**	**37.20 316**	*eP*	**P**	**00 14 13.0**	**0.0**
VYHS	comp=Z,319nm,2.8s		pmax	pmax		
VYHS	**Vyhne**	**37.20 316**	*eP*	**P**	**00 14 13.0**	**0.0**
VYHS			*e*S	**S**	**00 19 55.9**	**-2.5**
TIH	**Tihany**	**37.25 313**	⇑*iP*	**P**	**00 14 13.1**	**-0.3**
TIH			*e*S	**S**	**00 20 00.1**	**+0.9**
SRO	**Srobarova**	**37.28 315**	*eP*	**P**	**00 14 14.4**	**+0.7**
SRO	**Srobarova**	**37.28 315**	*eP*	**P**	**00 14 14.4**	**+0.7**
OJC	**Ojcow**	**37.30 319**	*eP*	**P**	**00 14 13.7**	**-0.1**
OJC			*e*S	**S**	**00 19 52.5**	**-7.3**
OJC	comp=Z,4μm,21.5s		LMZ	LR	00 33 35.0	
OJC	**Ojcow**	**37.30 319**	*eP*	**P**	**00 14 13.7**	**-0.1**
OJC	comp=Z,291nm,0.9s **Ojcow**	**37.30 319**	*eP*	**P**	**00 14 13.7**	**-0.1**
OJC			*e*S	**S**	**00 19 52.5**	**-7.3**
OJC	comp=Z,4μm,21.5s		MLR	MLR		
SUW	**Suwalki**	**37.30 326**	*eP*	**P**	**00 14 13.0**	**-0.7**
SUW			*e*S	**S**	**00 19 55.9**	**-3.9**
SUW	comp=Z,4μm,25.6s		LMZ	LR	00 31 23.3	
SUW	**Suwalki**	**37.30 326**	*eP*	**P**	**00 14 13.1**	**-0.7**
SUW	comp=Z,212nm,0.9s **Suwalki**	**37.30 326**	*eP*	**P**	**00 14 13.0**	**-0.7**
SUW			*e*S	**S**	**00 19 55.9**	**-3.9**
SUW	comp=Z,4μm,25.6s		MLR	MLR		
BEL	**Belsk**	**37.45 322**	*eP*	**P**	**00 14 14.8**	**-0.2**
BEL	comp=Z,6μm,21.4s		LMZ	LR	00 32 41.3	
BEL	**Belsk**	**37.45 322**	*eP*	**P**	**00 14 14.8**	**-0.2**
BEL	comp=Z,6μm,21.4s		MLR	MLR		
MBAR	**Mbarara**	**37.62 228**	*eP*	**P**	**00 14 17.9**	**+0.8**
MBAR	comp=Z,30nm,1.0s		LR	LR		
MBAR	**Mbarara**	**37.62 228**	*d iP*	**P**	**00 14 17.4**	**+0.3**
MBAR	comp=Z,997nm,22.0s		pmax	pmax		
MBAR	**Mbarara**	**37.62 228**	P	**P**	**00 14 17.8**	**+0.7**
MBAR	comp=Z,23nm,1.1s comp=Z,11nm,0.8s,baz=48,slow=7.7,SNR=16		LR	LR	00 31 19.9	
MBAR	**Mbarara**	**37.62 228**	P	**P**	**00 14 17.8**	**+0.7**
MBAR	comp=Z,5μm,18.2s,baz=39,slow=39		LR	LR	00 31 19.9	
PABE	**Paberze**	**37.77 329**	*eP*	**P**	**00 14 16.2**	**-1.4**
PABE	comp=Z,194nm,1.2s		IAmb	IAmb	00 14 23.2	
BEHE	**Becsehely**	**37.85 312**	⇑*iP*	**P**	**00 14 19.0**	**+0.5**
BEHE	**Becsehely**	**37.85 312**	⇑*iP*	**P**	**00 14 19.0**	**+0.5**
UDBI	**Udbina**	**38.02 309**	P	**P**	**00 14 19.8**	**-0.3**
JAVC	**Velka Javorina**	**38.05 316**	⇑*iP*	**P**	**00 14 21.2**	**+1.0**
PUL	**Pulkovo**	**38.08 338**	*d iP*	**P**	**00 14 22.5**	**+2.3**
PUL	comp=Z,178nm,1.0s		pmax	pmax		
PUL	**Pulkovo**	**38.08 338**	*eP*	**P**	**00 14 19.1**	**-1.1**
PUL	comp=Z,132nm,0.7s		IAmb	IAmb	00 14 23.3	
SMOL	**Smolenice**	**38.08 316**	P	**P**	**00 14 21.7**	**+1.3**
OKC	**Ostrava-Krasne**	**38.12 318**	*eP*	**P**	**00 14 20.7**	**0.0**
OKC			*e*		00 14 23.8	
OKC	comp=Z,2μm,15.7s		MLR	MLR		
OKC	**Ostrava-Krasne**	**38.12 318**	*eP*	**P**	**00 14 20.7**	**0.0**
OKC			*ep*P	**P**	**00 14 23.8**	**+3.1**
OKC	comp=Z,2μm,15.7s		AMS	AMS	00 33 50.0	
MODS	**Modra-Piesok**	**38.13 315**	*eP*	**P**	**00 14 19.9**	**-0.9**
MODS	comp=Z,244nm,1.4s		pmax	pmax		
MODS	**Modra-Piesok**	**38.13 315**	*eP*	**P**	**00 14 19.9**	**-0.9**
MODS			*e*S	**S**	**00 20 08.5**	**-4.0**
ZST	**Bratislava**	**38.18 315**	*eP*	**P**	**00 14 20.5**	**-0.8**
ZST			*e*S	**S**	**00 20 10.9**	**-2.3**
ZST	**Bratislava**	**38.18 315**	*eP*	**P**	**00 14 20.4**	**-0.8**
ZST			*e*S	**S**	**00 20 10.9**	**-2.3**
RAC	**Raciborz**	**38.19 318**	*eP*	**P**	**00 14 21.3**	**0.0**
RAC	comp=Z,3μm,18.9s		MLR	MLR		
ZAG	**Zagreb**	**38.20 311**	⇑*iP*	**P**	**00 14 21.9**	**+0.5**
SOP	**Sopron**	**38.36 314**	P	**P**	**00 14 22.9**	**+0.1**
SOP	**Sopron**	**38.36 314**	⇑*iP*	**P**	**00 14 22.1**	**-0.7**
SOP			*e*SS	SS	00 23 08.0	+3.1
VSU	**Vasula**	**38.45 334**	*c iP*	**P**	**00 14 22.4**	**-1.0**
VSU	comp=Z,392nm,1.7s		pmax	pmax		
VSU	**Vasula**	**38.45 334**	*eP*	**P**	**00 14 22.2**	**-1.2**
VSU	comp=Z,174nm,0.8s		IAmb	IAmb	00 14 26.3	
MORC	**Moravsky Berou**	**38.46 318**	*eP*	**P**	**00 14 23.3**	**-0.4**
MORC	comp=Z,49nm,0.9s **Moravsky Berou**	**38.46 318**	⇓*iP*	**P**	**00 14 23.8**	**+0.1**
MORC	**Moravsky Berou**	**38.46 318**	*eP*	**P**	**00 14 23.3**	**-0.4**
MORC			pmax	pmax		
MORC	comp=Z,49nm,0.9s **Moravsky Berou**	**38.46 318**	⇑*iP*	**P**	**00 14 23.2**	**-0.5**
MORC			*e*S	**S**	**00 20 19.5**	**+1.9**
CRES	**Cresnjev**	**38.55 311**	⇑*iP*	**P**	**00 14 24.9**	**+0.4**
BOJS	**Bojanci**	**38.61 310**	*i P*	**P**	**00 14 25.2**	**+0.3**
CHTO	**Chiang Mai**	**38.63 93**	*eP*	**P**	**00 14 25.4**	**0.0**
CHTO	comp=Z,49nm,1.6s		LR	LR		
CHTO	comp=Z,5μm,19.0s **Chiang Mai**	**38.63 93**	*eP*	**P**	**00 14 25.4**	**0.0**
CHTO			pmax	pmax		
CHTO	comp=Z,49nm,1.6s		MLR	MLR		
CHTO	comp=Z,5μm,19.0s **Chiang Mai**	**38.63 93**	P	**P**	**00 14 28.2**	**+2.8**
CHTO	SNR=5.7		P	**P**	**00 14 28.2**	**+2.8**
CMMT	SNR=5.7 **Chiang Mai**	**38.64 93**	P	**P**	**00 14 25.4**	**-0.1**
NVLJ	comp=Z,8.2nm,0.8s **Novalja**	**38.65 309**	P	**P**	**00 14 24.8**	**-0.5**
CM31	**Chiang Mai Arr**	**38.75 93**	*eP*	**P**	**00 14 23.6**	**-2.8**
CMAR	comp=Z,20nm,1.2s **Chiang Mai Arr**	**38.75 93**	⇑*eP*	**P**	**00 14 26.0**	**-0.5**
CMAR			pmax	pmax		
CMAR	comp=Z,7.0nm,0.8s **Chiang Mai Arr**	**38.75 93**	P	**P**	**00 14 25.9**	**-0.5**
CMAR	comp=Z,7.3nm,0.8s,baz=284,slow=10,SNR=16		PP	**PP**	**00 15 58.6**	**+3.3**
CMAR	comp=Z,2.5nm,0.8s,baz=291,slow=8.8,SNR=2.9		PcP	**PcP**	**00 16 37.2**	**-0.6**
CMAR	comp=Z,3.0nm,0.7s,baz=286,slow=3.9,SNR=3.3		ScP	**ScP**	**00 20 26.2**	**+1.5**
CMAR	comp=Z,0.9nm,0.3s,baz=287,slow=4.4,SNR=4.3		LR	LR	00 32 28.9	
VRAC	comp=Z,4μm,21.9s,baz=272,slow=40 **Vranov**	**38.87 317**	⇓*iP*	**P**	**00 14 27.6**	**+0.5**
VRAC	**Vranov**	**38.87 317**	⇑*iP*	**P**	**00 14 27.1**	**0.0**
CONA	**Conrad Observa**	**38.88 314**	*ep*P	**P**	**00 14 27.1**	**-0.1**
CONA	comp=Z,175nm,1.6s,SNR=75		*e*S	**S**	**00 20 26.0**	**+2.0**
ARSA	comp=Z,6.4nm,1.3s **Arzberg**	**38.90 313**	*ep*P	**P**	**00 14 27.6**	**+0.3**
ARSA	comp=Z,143nm,1.2s,SNR=88		*e*S	**S**	**00 20 25.8**	**+1.6**
KRUC	comp=Z,11nm,1.0s,SNR=5.7 **Moravsky**	**38.91 316**	⇑*iP*	**P**	**00 14 27.5**	**+0.1**
KRUC			*e*S	**S**	**00 20 23.8**	**-0.4**
CLTB	**Caltabellotta**	**38.94 298**	*eP*	**P**	**00 14 28.2**	**+0.3**
VISS	comp=Z,102nm,1.1s **Visnje**	**38.97 311**	*i P*	**P**	**00 14 28.4**	**+0.4**
PERS	**Pernice**	**38.99 312**	*i P*	**P**	**00 14 27.9**	**-0.3**
PBUR	**Paburg**	**39.02 329**	*eP*	**P**	**00 14 26.5**	**-1.6**
PBUR	comp=Z,90nm,0.5s		IAmb	IAmb	00 14 38.1	
KRLC	**Kraliky**	**39.03 318**	*eP*	**P**	**00 14 26.9**	**-1.5**
KRLC	**Kraliky**	**39.03 318**	*eP*	**P**	**00 14 26.9**	**-1.5**
KRLC			*ex*	x	00 14 40.2	
SOKA	**Soboth**	**39.06 312**	*i pP*	**P**	**00 14 28.8**	**0.0**
SOKA	comp=Z,65nm,1.2s,SNR=40		*e*S	**S**	**00 20 27.1**	**+0.4**
KLNR	comp=Z,16nm,1.1s,SNR=5.8 **Kaliningrad**	**39.10 326**	*c iP*	**P**	**00 14 28.1**	**-0.7**
KLNR			pmax	pmax		
CEY	comp=Z,184nm,1.2s **Cerknica**	**39.23 311**	⇑*iP*	**P**	**00 14 30.4**	**+0.2**
LJU	**Ljubljana**	**39.24 311**	⇑*iP*	**P**	**00 14 30.6**	**+0.4**
PAYA	**Payao**	**39.28 92**	P	**P**	**00 14 31.2**	**+0.3**
AQU	comp=Z,48μm,0.8s,comp=Z,472μm **L'Aquila**	**39.29 305**	*eP*	**P**	**00 14 30.9**	**+0.2**
AQU	comp=Z,136nm,1.0s **L'Aquila**	**39.29 305**	*eP*	**P**	**00 14 30.9**	**+0.2**
AQU	comp=Z,136nm,1.0s		pmax	pmax		
AQU	**L'Aquila**	**39.29 305**	⇑*iP*	**P**	**00 14 31.4**	**+0.7**
OBKA	**Obir**	**39.34 312**	*ep*P	**P**	**00 14 31.4**	**+0.3**
LAMP	comp=Z,127nm,1.3s,SNR=42 **Lampang**	**39.34 93**	P	**P**	**00 14 35.2**	**+3.8**
DPC	comp=Z,21μm,0.7s **Dobruska-Polom**	**39.40 318**	*eP*	**P**	**00 14 31.1**	**-0.5**
DPC			*e*		00 14 41.6	
DPC			*e*S	**S**	**00 20 24.9**	**-6.8**
DPC	comp=Z,3μm,15.3s		MLR	MLR		
DPC	**Dobruska-Polom**	**39.40 318**	*eP*	**P**	**00 14 31.1**	**-0.5**
DPC			*ex*	x	00 14 41.6	
DPC			*e*S	**S**	**00 20 24.9**	**-6.8**
DPC	comp=Z,3μm,15.3s		AMS	AMS	00 34 20.0	
UMPA	**Umpang Tak**	**39.48 97**	P	**P**	**00 14 35.1**	**+2.5**
JAVS	comp=Z,90μm,1.0s **Javornik**	**39.51 311**	*i P*	**P**	**00 14 32.6**	**0.0**
TREC	**Trest**	**39.55 316**	*eP*	**P**	**00 14 32.8**	**0.0**
TREC	comp=Z,2μm,18.9s		MLR	MLR		
TREC	**Trest**	**39.55 316**	*eP*	**P**	**00 14 32.8**	**0.0**
TREC			AMS	AMS	00 35 40.0	
TMCR	comp=Z,2μm,18.9s **Tamitsa**	**39.58 347**	*eP*	**P**	**00 14 31.9**	**-0.8**
TMCR			pmax	pmax		
KSP	comp=Z,31nm,0.9s **Ksiaz**	**39.60 319**	*eP*	**P**	**00 14 33.0**	**-0.1**
KSP			LMZ	LR	00 34 59.0	
KSP	comp=Z,4μm,19.8s **Ksiaz**	**39.60 319**	*eP*	**P**	**00 14 33.0**	**-0.1**
KSP			MLR	MLR		
UPC	comp=Z,4μm,19.8s **Upice**	**39.64 318**	*eP*	**P**	**00 14 33.6**	**+0.1**
UPC			MLR	MLR		
UPC	comp=Z,2μm,16.0s **Upice**	**39.64 318**	*eP*	**P**	**00 14 33.6**	**+0.1**
UPC			AMS	AMS	00 33 50.0	
TRI	comp=Z,2μm,16.0s **Trieste**	**39.67 310**	*eP*	**P**	**00 14 33.2**	**-0.6**
TRI	comp=Z,202nm,1.1s **Trieste**	**39.67 310**	*eP*	**P**	**00 14 33.2**	**-0.6**
TRI	comp=Z,202nm,1.1s		pmax	pmax		
SLIT	**Slitere, Latvi**	**39.77 331**	*eP*	**P**	**00 14 33.0**	**-1.4**
SLIT			IAmb	IAmb	00 14 45.4	
MOA	comp=Z,343nm,0.9s **Molln**	**39.88 314**	*epP*	**P**	**00 14 35.6**	**0.0**
MOA	comp=Z,240nm,1.0s,SNR=97		S	**S**	**00 20 40.4**	**+1.4**
MYKA	comp=Z,8.7nm,1.2s **Terra Mystica**	**39.98 312**	*i pP*	**P**	**00 14 36.5**	**+0.1**
MYKA	comp=Z,48nm,1.1s,SNR=22		S	**S**	**00 20 42.5**	**+2.0**
GKP	comp=Z,25nm,1.5s **Gorka Klasztor**	**40.03 323**	*eP*	**P**	**00 14 36.0**	**-0.6**
GKP			LMZ	LR	00 31 51.9	
GKP	comp=Z,5μm,29.1s **Gorka Klasztor**	**40.03 323**	*eP*	**P**	**00 14 36.0**	**-0.6**
LZH	**Lanzhou**	**40.10 65**	⇓*iP*	**P**	**00 14 39.0**	**+1.3**
LZH			pP	pP	00 14 46.5	+1.0
LZH			sP	sP	00 14 50.3	+1.8
LZH			PP	**PnPn**	**00 16 16.3**	**+2.7**
LZH			S	**S**	**00 20 43.6**	**+0.7**
LZH			sS	sS	00 20 55.8	+0.3
LZH			SS	**SS**	**00 23 34.6**	**-6.0**
LZH	comp=Z,95nm,1.3s		pmax	pmax		
LZH	comp=Z,470nm,4.8s		pmax	pmax		
LZH	comp=Z,10μm,13.6s		LR	LR		
LZH	comp=Z,8μm,14.1s		LR	LR		
LZH	comp=Z,10μm,16.8s		LR	LR		
GOPC	**GO Pecny, Ondr**	**40.18 317**	*eP*	**P**	**00 14 38.0**	**0.0**
GOPC			*e*S	**S**	**00 20 37.2**	**-6.1**
GOPC	comp=Z,3μm,21.0s		MLR	MLR		
GOPC	**GO Pecny, Ondr**	**40.18 317**	*eP*	**P**	**00 14 38.0**	**0.0**
GOPC			*e*S	**S**	**00 20 37.2**	**-6.1**
GOPC	comp=Z,3μm,21.0s		AMS	AMS	00 35 10.0	
NANT	**Nan**	**40.21 92**	P	**P**	**00 14 41.8**	**+3.2**
UTHA	comp=Z,33μm,0.8s **Uthaitani**	**40.25 97**	P	**P**	**00 14 40.2**	**+1.3**
KBA	comp=Z,100μm,0.8s,comp=Z,697μm **Koelnbreinsper**	**40.28 312**	*epP*	**P**	**00 14 39.1**	**0.0**
KBA	comp=Z,113nm,1.0s,SNR=87 **Koelnbreinsper**	**40.28 312**	P	**P**	**00 14 39.2**	**+0.1**
CD2	**Chengdu**	**40.29 73**	P	**P**	**00 14 38.3**	**-0.9**
CD2			sP	pP	00 14 44.1	-2.8
CD2			S	**S**	**00 20 43.2**	**-2.3**
CD2			ScS	**ScS**	**00 24 41.3**	**-3.1**
CD2	comp=Z,10.0nm,0.7s		pmax	pmax		
CD2	comp=Z,150nm,4.7s		pmax	pmax		
CD2	comp=Z,16μm,29.4s		LR	LR		
CD2	comp=Z,7μm,17.3s		LR	LR		
CD2	comp=Z,10μm,16.9s		LR	LR		
KMI	**Kunming**	**40.31 82**	P	**P**	**00 14 40.0**	**+0.3**
KMI			pP	pP	00 14 48.0	+0.7
KMI			sP	sP	00 14 52.0	+1.6
KMI			PP	**PnPn**	**00 16 16.1**	**-0.2**
KMI			S	**S**	**00 20 46.4**	**+0.1**
KMI			sS	sS	00 20 58.8	-0.1
KMI			SS	**SS**	**00 23 39.1**	**-6.1**
KMI	comp=Z,290nm,5.2s		pmax	pmax		
KMI	comp=Z,4μm,19.3s		LR	LR		
KMI	comp=Z,3μm,20.0s		LR	LR		
KMI	comp=Z,4μm,16.2s		LR	LR		
KMI	**Kunming**	**40.31 82**	*eP*	**P**	**00 14 40.6**	**+0.9**
KMI	comp=Z,74nm,1.1s **Kunming**	**40.31 82**	*eP*	**P**	**00 14 40.6**	**+0.9**
KMI	comp=Z,75nm,1.1s		pmax	pmax		
PRU	**Pruhonice**	**40.35 317**	*eP*	**P**	**00 14 39.1**	**-0.3**
PRU			*e*S	**S**	**00 20 38.4**	**-7.5**
PRU	**Pruhonice**	**40.35 317**	*eP*	**P**	**00 14 39.1**	**-0.3**
PRU			*e*S	**S**	**00 20 38.4**	**-7.5**
UTTA	**Uttaradit**	**40.43 94**	P	**P**	**00 14 41.6**	**+1.2**
SRDT	comp=Z,43μm,0.8s **SRDT**	**40.45 99**	P	**P**	**00 14 44.7**	**+4.1**
PVCC	comp=Z,18nm,1.0s,comp=Z,1μm **Panska Ves**	**40.52 318**	*eP*	**P**	**00 14 40.7**	**0.0**
PVCC	comp=Z,2μm,14.9s		MLR	MLR		
PVCC	**Panska Ves**	**40.52 318**	*eP*	**P**	**00 14 40.7**	**0.0**
PVCC	comp=Z,2μm,14.9s		AMS	AMS	00 36 20.0	
GERES	**GERESS Array B**	**40.53 315**	P	**P**	**00 14 40.7**	**-0.3**
GERES	comp=Z,51nm,0.8s		pmax	pmax		
GERES	**GERESS Array B**	**40.53 315**	P	**P**	**00 14 40.6**	**-0.3**
GERES	comp=Z,70nm,0.9s,baz=91,slow=11,SNR=20		ScP	**ScP**	**00 20 32.2**	**+1.1**
KHC	comp=Z,6.5nm,1.0s,baz=109,slow=2.4,SNR=14 **Kasperske Hory**	**40.69 315**	*eP*	**P**	**00 14 41.6**	**-0.6**
KHC	comp=Z,84nm,0.9s **Kasperske Hory**	**40.69 315**	*eP*	**P**	**00 14 41.8**	**-0.4**
KHC			*e*		00 14 49.5	
KHC			*e*S	**S**	**00 20 43.7**	**-7.3**
KHC	comp=Z,4μm,18.3s		MLR	MLR		
KHC	**Kasperske Hory**	**40.69 315**	*eP*	**P**	**00 14 41.8**	**-0.4**
KHC			*ex*	x	00 14 49.5	
KHC			*e*S	**S**	**00 20 43.7**	**-7.3**
KHC	comp=Z,4μm,18.3s		AMS	AMS	00 34 50.0	
FIA1	**FINESS Array S**	**40.74 337**	*eP*	**P**	**00 14 41.6**	**-0.8**
FINES	comp=Z,69nm,0.6s **FINESS Array B**	**40.74 337**	P	**P**	**00 14 41.9**	**-0.5**
FINES	comp=Z,52nm,0.6s,baz=131,slow=11,SNR=145		S	**S**	**00 20 48.5**	**-2.8**
ABTA	comp=Z,8.7nm,1.0s,baz=123,slow=21,SNR=4.4 **Abfaltersbach**	**40.76 312**	*i pP*	**P**	**00 14 42.9**	**0.0**
MOY	comp=Z,154nm,1.1s,SNR=62 **Mondy**	**40.91 41**	*eP*	**P**	**00 14 44.8**	**+0.7**
MOY	comp=Z,54nm,2.2s		pmax	pmax		
BRG	**Berggiesshubel**	**41.01 318**	*i P*	**P**	**00 14 44.1**	**-0.7**
BRG	comp=Z,63nm,1.5s		*i pP*	sP	00 15 04.3	+8.6
BRG	comp=Z,28nm,1.2s		*i sP*	pP	00 15 12.1	+20
BRG	comp=Z,44nm,1.2s		PP	**PP**	**00 16 20.0**	**+0.6**
BRG			*e*SCP	**ScP**	**00 20 32.9**	**+0.1**
BRG	comp=Z,19nm,1.4s		S	S	00 20 45.0	-11
BRG			SS	**SS**	**00 23 51.0**	**-6.8**
BRG	**Berggiesshubel**	**41.01 318**	*i P*	**P**	**00 14 44.1**	**-0.7**
BRG					00 16 20.0	
BRG			SS	SS	00 23 51.0	-6.8
BRG			pmax	pmax		
BRG	comp=Z,63nm,1.5s		MLR	MLR		
BRG	comp=N,4μm,22.6s		MLR	MLR		
BRG	comp=E,1μm,20.4s		MLR	MLR		
WTTA	comp=Z,3μm,17.4s **Wattenberg**

comp=Z,43nm,1.4s,SNR=6.5
RUE Ruedersdorf 41.65 320 *e*P **P 00 14 48.4 -1.6**
RUE IAmb IAmb 00 14 54.2
comp=Z,63nm,0.8s
CLL Collm 41.71 318 *e*P **P 00 14 49.9 -0.6**
comp=Z,96nm,1.1s
CLL Collm 41.71 318⇑*i*P **P 00 14 50.4 -0.1**
CLL *e* 00 15 01.0
CLL *e*S **S 00 21 03.0 -3.0**
CLL pmax pmax
comp=Z,166nm,1.4s
CLL MLR MLR
comp=Z,3μm,20.9s
CLL Collm 41.71 318⇑*i*P **P 00 14 50.4 -0.1**
comp=Z,166nm,1.4s
CLL *e* 00 15 01.0
CLL *e*PP **PP 00 16 28.0 +1.0**
CLL *e*PPP PPP 00 16 53.0
CLL *i* PcS **PcS 00 20 36.4 -1.6**
comp=Z,14nm,1.2s
CLL *e*S **S 00 21 03.0 -3.0**
CLL *e*SS **SS 00 24 12.0 +0.3**
CLL *e*SSS SSS 00 24 42.0
CLL Lm MLR 00 36 00.0
comp=Z,3μm,20.9s
CLL Lmax 00 36 00.0
NKC Novy Kostel 41.71 317 *e*P **P 00 14 50.5 -0.1**
NKC *e*S **S 00 21 01.9 -4.2**
NKC MLR MLR
comp=Z,4μm,18.8s
NKC Novy Kostel 41.71 317 *e*P **P 00 14 50.5 -0.1**
NKC *e*S **S 00 21 01.9 -4.2**
NKC AMS AMS 00 36 00.0
comp=Z,4μm,18.8s
SQTA Sankt Quirin 41.73 312 *i* P **P 00 14 50.1 -0.8**
comp=Z,123nm,0.7s,SNR=100
SQTA *e*S **S 00 21 05.6 -1.1**
comp=Z,52nm,1.4s,SNR=8.2
VLC Villacollemand 41.74 307 *e*P **P 00 14 49.1 -1.8**
comp=Z,164nm,1.3s
MOTA Moosalm 41.83 312 *i* P **P 00 14 50.7 -1.1**
comp=Z,189nm,1.0s,SNR=155
MOTA S **S 00 21 07.8 -0.4**
comp=Z,50nm,1.4s
ZAK Zakamensk 41.86 43 *e*P **P 00 14 51.5 -0.4**
ZAK pmax pmax
comp=Z,8.0nm,1.8s
FETA Feichten 42.01 312 *i* pP **P 00 14 52.9 -0.4**
comp=Z,463nm,1.1s,SNR=153
FETA *e*S **S 00 21 10.2 -0.8**
comp=Z,106nm,1.3s,SNR=14
KEST Kesra 42.03 295 *e*P **P 00 14 55.1 +1.6**
comp=Z,121nm,1.3s
KEST Kesra 42.03 295 P **P 00 14 53.7 +0.2**
comp=Z,24nm,0.7s,baz=64,slow=2.2,SNR=28
KEST LR LR 00 35 44.9
comp=Z,4μm,19.6s,baz=31,slow=41
BSD Bornholm Skovb 42.05 324⇑*i*P **P 00 14 51.5 -1.7**
BSD pmax pmax
comp=Z,190nm,0.8s
BSD Bornholm Skovb 42.05 324⇑*i*P **P 00 14 51.5 -1.7**
comp=Z,187nm,0.8s
RETA Reutte 42.09 312 *i* P **P 00 14 52.8 -1.0**
comp=Z,90nm,1.0s,SNR=53
RETA *e*S **S 00 21 11.5 -0.4**
comp=Z,33nm,1.3s,SNR=12
FUORN Ofenpass-Fuorn 42.24 311 *e*P **P 00 14 55.2 -0.1**
comp=Z,131nm,1.0s
FUORN *e*S **S 00 21 17.1 +2.5**
GRA1 Grafenberg Arr 42.32 316 *e*P **P 00 14 54.1 -1.5**
comp=Z,276nm,1.0s
GRF Grafenberg Arr 42.32 316 *e*P **P 00 14 54.1 -1.5**
GRF pmax pmax
comp=Z,276nm,1.0s
GRFO Grafenberg 42.32 316 *e*P **P 00 14 54.1 -1.4**
comp=Z,211nm,0.9s
GRFO Grafenberg 42.32 316 *e*P **P 00 14 54.2 -1.4**
GRFO pmax pmax
comp=Z,211nm,0.9s
CHAI Chaiyaphum 42.38 96 P **P 00 14 59.8 +3.4**
comp=Z,33μm,1.0s
TLY Talaya 42.47 41 *e*P **P 00 14 58.2 +1.4**
comp=Z,14nm,1.1s
TLY LR LR
comp=Z,3μm,22.0s
TLY Talaya 42.47 41 *d*iP **P 00 14 56.6 -0.2**
TLY Talaya 42.47 41 P **P 00 14 57.9 +1.1**
SNR=9.0
DAVA Damuels 42.63 312 *e*pP **P 00 14 57.7 -0.6**
comp=Z,184nm,0.6s,SNR=154
DAVA *e*S **S 00 21 19.9 -0.2**
comp=Z,90nm,1.4s,SNR=12
RGN Rugen 42.67 323 *e*P **P 00 14 58.0 -0.3**
comp=Z,175nm,0.8s
TUE Stuetta 42.84 310 *e*P **P 00 14 59.8 -0.3**
comp=Z,229nm,1.5s
TUE *e*S **S 00 21 23.2 -0.1**
KHON Khomkaen 42.96 94 P **P 00 15 02.3 +1.1**
comp=Z,78μm,0.8s
SONM Songino Array 43.22 48 *e*P **P 00 15 03.2 +0.1**
comp=Z,17nm,0.9s
SONM Songino Array 43.22 48 P **P 00 15 03.5 +0.4**
comp=Z,17nm,0.8s,baz=257,slow=8.5,SNR=67
SONM LR LR 00 36 53.5
comp=Z,5μm,20.5s,baz=254,slow=42
STU Stuttgart 43.39 314 *e*P **P 00 15 03.2 -1.0**
comp=Z,101nm,1.0s
STU Stuttgart 43.39 314 P **P 00 15 03.5 -0.8**
STU pmax pmax
comp=Z,104nm,1.2s
APA Apatity 43.49 347⇓*i*P **P 00 15 05.7 +0.9**
APA pmax pmax
comp=Z,50nm,0.9s
GYA Guiyang 43.50 79⇑*i*P **P 00 15 07.0 +1.4**
GYA pP sP 00 15 16.7 +0.3
GYA PP **PcP 00 16 53.0 -0.4**
GYA S **S 00 21 32.2 -1.0**
GYA SS **SS 00 24 47.4 -0.5**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,7.1s
GYA LR LR
comp=Z,5μm,21.7s
GYA LR LR
comp=Z,3μm,14.4s
GYA LR LR
comp=Z,5μm,18.3s
LVZ Lovozero 43.53 348 *e*P **P 00 15 05.5 +0.4**
comp=Z,31nm,1.0s
LVZ LR LR
comp=Z,2μm,20.0s
LVZ Lovozero 43.53 348 *de*P **P 00 15 05.1 0.0**
LVZ pmax pmax
comp=Z,18nm,1.0s
COP Copenhagen 43.58 324⇑*i*P **P 00 15 05.8 +0.2**
COP pmax pmax
comp=Z,93nm,0.9s
COP Copenhagen 43.58 324⇑*i*P **P 00 15 05.8 +0.2**
comp=Z,93nm,0.9s
ULN Ulaanbaatar 43.66 48 *e*P **P 00 15 07.2 +0.5**
comp=Z,25nm,1.1s
ULN Ulaanbaatar 43.66 48 *d*iP **P 00 15 06.4 -0.2**
ULN pmax pmax
comp=Z,39nm,1.7s
ULN Ulaanbaatar 43.66 48 P **P 00 15 07.3 +0.6**
SNR=12
SKNT Sakolnakorn 43.77 93 P **P 00 15 08.2 +0.5**
comp=Z,46nm,1.5s
SBF Sospel 43.81 306 *e*P **P 00 15 06.5 -1.3**
SBF pmax pmax
comp=Z,77nm,0.8s
BFO Black Forest 43.86 313 *e*P **P 00 15 06.9 -1.2**
comp=Z,67nm,1.2s
BFO LR LR
comp=Z,97nm,19.0s
BFO Black Forest 43.86 313 *ce*P **P 00 15 07.4 -0.7**
SENIN Lac Senin/Sane 44.22 310 *e*P **P 00 15 10.4 -0.9**
comp=Z,84nm,0.9s
SENIN *e*S **S 00 21 42.7 -0.7**
XAN Xi'an 44.35 68 P **P 00 15 12.4 +0.2**
XAN pP pP 00 15 16.9 -3.1
XAN sP sP 00 15 19.6 -3.4
XAN PP **PcP 00 16 58.0 +1.9**
XAN S **S 00 21 47.5 +2.2**
XAN sS pS 00 21 54.6 +0.3

XAN SS **SS 00 25 01.4 -2.9**
XAN ScS **ScS 00 25 09.0 -0.3**
XAN pmax pmax
comp=Z,62nm,3.5s
XAN LR LR
comp=Z,3μm,14.4s
XAN LR LR
comp=Z,6μm,17.9s
XAN LR LR
comp=Z,3μm,18.4s
XAN Xi'an 44.35 68 *e*P **P 00 15 13.3 +1.1**
comp=Z,46nm,0.9s
XAN Xi'an 44.35 68 *e*P **P 00 15 13.3 +1.1**
XAN pmax pmax
comp=Z,46nm,0.9s
FRF La Foret Royal 44.35 306 *e*P **P 00 15 14.0 +1.9**
FRF pmax pmax
comp=Z,52nm,1.1s
MBDF Montbardon 44.38 308 *e*P **P 00 15 12.0 -0.4**
MBDF pmax pmax
comp=Z,61nm,0.8s
LMR La Mourre 44.44 306 *e*P **P 00 15 12.1 -0.6**
LMR pmax pmax
comp=Z,24nm,1.1s
BNI Bardonecchia 44.48 308 *e*P **P 00 15 12.2 -1.1**
comp=Z,131nm,1.2s
BNI Bardonecchia 44.48 308 *e*P **P 00 15 12.2 -1.1**
BNI pmax pmax
comp=Z,131nm,1.2s
LPG La Plagne 44.48 309 *e*P **P 00 15 11.9 -1.5**
LPG pmax pmax
comp=Z,97nm,0.8s
LPL La Plagne 44.50 309 *e*P **P 00 15 13.2 -0.3**
LPL pmax pmax
comp=Z,125nm,0.9s
CDF Champ du Feu 44.57 313 *e*P **P 00 15 12.0 -1.8**
CDF pmax pmax
comp=Z,83nm,1.0s
ECH Echery 44.61 313 *e*P **P 00 15 13.2 -0.9**
comp=Z,181nm,1.0s
ECH Echery 44.61 313 *e*P **P 00 15 13.2 -0.9**
ECH pmax pmax
comp=Z,181nm,1.0s
HINF Hinteralfeld 44.75 312 *e*P **P 00 15 13.7 -1.5**
HINF pmax pmax
comp=Z,120nm,1.1s
BTO Baotou 45.02 58 *e*P **P 00 15 14.2 -3.4**
ORIF Oris-en-Rattie 45.03 308 *e*P **P 00 15 17.0 -0.6**
ORIF pmax pmax
comp=Z,35nm,1.0s
CABF La Chapelle 45.08 310 *e*P **P 00 15 17.2 -0.8**
CABF pmax pmax
comp=Z,302nm,1.2s
HAU Haudompre 45.11 312 *e*P **P 00 15 16.4 -1.7**
HAU pmax pmax
comp=Z,71nm,0.8s
ENH Enshi 45.27 73 *e*P **P 00 15 21.3 +1.7**
comp=Z,130nm,1.4s
WLF Walferdange 45.52 314 *e*P **P 00 15 21.4 +0.1**
comp=Z,604nm,0.9s
WLF Walferdange 45.52 314 *e*P **P 00 15 21.4 +0.1**
WLF pmax pmax
comp=Z,604nm,0.9s
WLF Walferdange 45.52 314⇓P **P 00 15 21.3 0.0**
WLF ⇑pP **P 00 15 24.1 +2.8**
comp=Z,125nm,1.1s
MUD Monsted U'grnd 45.56 324 *i* P **P 00 15 21.8 +0.4**
MUD pmax pmax
comp=Z,50nm,0.7s
MUD Monsted U'grnd 45.56 324 *i* P **P 00 15 21.8 +0.4**
comp=Z,50nm,0.7s
WTSB Winterswijk 45.60 318 *e*P **P 00 15 21.6 -0.3**
comp=Z,202nm,1.6s
MEM Membach 45.80 316⇑P **P 00 15 24.2 +0.7**
MEM ⇓pP **P 00 15 26.4 +3.0**
comp=Z,65nm,0.8s
HGN Heimansgroeve 45.88 316 *e*P **P 00 15 24.4 +0.4**
comp=Z,214nm,1.5s
HGN *e*S **S 00 22 12.7 +5.9**
HGN *e*SS **SS 00 25 34.0 +2.7**
VIVF Saint-Julien-l 45.88 308 *e*P **P 00 15 22.7 -1.5**
VIVF pmax pmax
comp=Z,35nm,0.8s
MAHO Mahon 45.99 301 *i* P P 00 15 31.9 +6.8
MAHO *i* S **S 00 22 09.2 +0.5**
SSB Saint Sauveur 46.01 308 *e*P **P 00 15 24.5 -0.7**
comp=Z,69nm,0.7s
SSB Saint Sauveur 46.01 308 *e*P **P 00 15 24.5 -0.7**
SSB pmax pmax
comp=Z,69nm,0.7s
PSI Prapat 46.01 114 *e*P **P 00 15 25.5 -0.2**
comp=Z,118nm,1.9s
PSI Prapat 46.01 114 *e*P **P 00 15 25.5 -0.2**
PSI pmax pmax
comp=Z,118nm,1.9s
BEBN Eben Emael 46.04 316⇑P **P 00 15 26.1 +0.8**
KULM Kulim 46.07 110 *e*P **P 00 15 27.1 +1.0**
comp=Z,82nm,1.6s
KULM Kulim 46.07 110 P **P 00 15 28.0 +2.0**
NRIK Noril'sk 46.10 14 P **P 00 15 25.0 -0.5**
comp=Z,77nm,0.9s,baz=219,slow=7.1,SNR=60
NRIK S **S 00 22 10.2 +0.7**
comp=Z,1.5nm,0.6s,baz=114,slow=22,SNR=9.3
NRIK LR LR 00 38 04.8
comp=Z,6μm,20.0s,baz=210,slow=40
NC602 NORSAR Array S 46.11 330 *e*P **P 00 15 25.3 -0.4**
comp=Z,54nm,0.9s
NC602 NORSAR Array S 46.11 330 *e*P **P 00 15 25.0 -0.7**
NORES NORESS Array B 46.11 330 P **P 00 15 26.9 +1.2**
OSL Oslo 46.13 329 *e*P **P 00 15 26.1 +0.2**
OPO Ambohidratompo 46.16 194 P **P 00 15 26.7 -0.1**
comp=Z,13nm,0.9s,baz=28,slow=7.7,SNR=7.4
OPO LR LR 00 31 53.6
comp=Z,2μm,21.3s,baz=176,slow=32
HHC Hu-ho-hao-te 46.20 58 *e*P **P 00 15 28.1 +1.2**
HHC sP sP 00 15 36.5 -1.2
HHC S **S 00 22 12.2 +0.2**
HHC SS **ScS 00 25 27.5 +6.4**
HHC pmax pmax
comp=Z,120nm,1.0s
HHC pmax pmax
comp=Z,430nm,5.4s
HHC LR LR
comp=Z,4μm,14.4s
HHC LR LR
comp=Z,2μm,15.0s
HHC LR LR
comp=Z,4μm,15.1s
NC405 NORSAR Array S 46.20 331 *e*P **P 00 15 25.8 -0.7**
comp=Z,84nm,0.8s
BCLA Clavier 46.20 315⇑P **P 00 15 27.4 +0.8**
comp=Z,117nm,1.3s
NB201 NORSAR Array S 46.35 331 *e*P **P 00 15 26.8 -0.9**
comp=Z,243nm,1.6s
NB2 NORSAR Subarra 46.38 331 P **P 00 15 27.4 -0.6**
comp=Z,26nm,0.8s,baz=115,slow=7.9
NB2 NORSAR Subarra 46.38 331 P **P 00 15 24.1 -3.9**
NB2 pmax pmax
comp=Z,27nm,0.7s
NB2 NORSAR Subarra 46.38 331 P **P 00 15 27.4 -0.6**
baz=115,slow=7.9
NOA NORSAR Array B 46.38 331 P **P 00 15 26.6 -1.4**
NOA 00 17 13.7
NOA pmax pmax
comp=Z,18nm,0.7s
NOA MLR MLR
comp=Z,3μm,21.9s
NOA NORSAR Array B 46.38 331 P **P 00 15 26.6 -1.4**
comp=Z,16nm,0.7s,baz=116,slow=7.8,SNR=65
NOA PP **PP 00 17 13.7 -3.3**
comp=Z,8.7nm,1.1s,baz=115,slow=9.2,SNR=2.0
NOA LR LR 00 37 17.2
comp=Z,3μm,21.9s,baz=130,slow=39
NC303 NORSAR Array S 46.40 331 *e*P **P 00 15 27.9 -0.1**
comp=Z,136nm,1.4s
NAO01 NORSAR Array S 46.44 330 *e*P **P 00 15 27.6 -0.8**
comp=Z,80nm,0.9s
GIVF Givet 46.45 315 *e*P **P 00 15 28.6 0.0**
GIVF pmax pmax
comp=Z,182nm,1.0s
KONO Kongsberg 46.53 329 *e*P **P 00 15 28.8 -0.3**
comp=Z,32nm,0.8s
KONO Kongsberg 46.53 329⇑*e*P **P 00 15 30.8 +1.8**
KONO pmax pmax
comp=Z,43nm,1.3s
KONO Kongsberg 46.53 329 *e*P **P 00 15 29.2 +0.1**

HOMB Homborsund 46.53 327 *e*P **P 00 15 30.4 +1.3**
NBO00 NORSAR Array S 46.57 331 *e*P **P 00 15 28.6 -0.8**
comp=Z,127nm,1.4s
ABPO Ambohimpanom 46.59 194 PFAKE 00 15 40.0 +10
ABPO LR LR
comp=Z,852nm,22.0s
DOU Dourbes 46.59 315⇑P **P 00 15 30.1 +0.4**
comp=Z,107nm,1.6s
SMF Signal de Mont 46.62 310 *e*P **P 00 15 28.9 -1.1**
SMF pmax pmax
comp=Z,258nm,0.8s
KEV Kevo 46.64 346 *e*P **P 00 15 29.6 -0.1**
comp=Z,60nm,0.8s
KEV LR LR
comp=Z,6μm,20.0s
KEV Kevo 46.64 346 *e*P **P 00 15 29.6 -0.1**
KEV pmax pmax
comp=Z,60nm,0.8s
KEV MLR MLR
comp=Z,6μm,20.0s
LOR Lormes 46.68 311 *e*P **P 00 15 29.2 -1.2**
LOR pmax pmax
comp=Z,188nm,1.1s
NC204 NORSAR Array S 46.69 331 *e*P **P 00 15 29.5 -0.8**
comp=Z,89nm,1.3s
ARCES ARCESS Array B 46.81 345 P **P 00 15 30.5 -0.6**
comp=Z,22nm,0.7s,baz=134,slow=6.9,SNR=53
ARCES PcP **PcP 00 17 04.4 +0.5**
comp=Z,14nm,0.9s,baz=154,slow=2.7,SNR=3.8
ARCES LR LR 00 38 13.9
comp=Z,4μm,19.1s,baz=132,slow=40
ARE0 ARCESS Array S 46.81 345 *e*P **P 00 15 31.1 0.0**
comp=Z,2.2nm,1.0s
ARE0 ARCESS Array S 46.81 345 *e*P **P 00 15 29.3 -1.8**
IPM Ipoh 46.82 110 *e*P **P 00 15 31.9 -0.1**
comp=Z,42nm,1.0s
IPM Ipoh 46.82 110 P **P 00 15 34.0 +2.1**
BAIF Baives 46.83 315 *e*P **P 00 15 31.8 +0.2**
BAIF pmax pmax
comp=Z,366nm,1.2s
SNF Seneffe 46.86 315⇓P **P 00 15 32.8 +1.1**
comp=Z,75nm,1.3s
UCC Uccle 46.86 316 *e*P **P 00 15 31.8 0.0**
comp=Z,66nm,1.0s
UCC Uccle 46.86 316⇑P **P 00 15 31.8 0.0**
SSF Saint Saulge 46.90 311 *e*P **P 00 15 31.1 -1.0**
SSF pmax pmax
comp=Z,169nm,0.8s
TIY Taiyuan 46.95 62 *e*P **P 00 15 34.3 +1.5**
TIY S **S 00 22 23.8 +1.1**
TIY SS **SS 00 25 42.3 -7.2**
TIY pmax pmax
comp=Z,39nm,0.5s
TIY LR LR
comp=Z,3μm,13.0s
TIY LR LR
comp=Z,1μm,11.4s
TIY LR LR
comp=Z,5μm,19.7s
KTK1 Kautokeino 46.97 344 *e*P **P 00 15 32.0 -0.4**
AVF Avril sur Loir 46.97 310 *e*P **P 00 15 31.4 -1.3**
AVF pmax pmax
comp=Z,144nm,1.1s
SNART Snartemo 47.20 326 *e*P **P 00 15 36.7 +2.4**
BGF Bois d'Agland 47.30 310 *e*P **P 00 15 34.2 -1.1**
BGF pmax pmax
comp=Z,97nm,0.7s
TAM Tamanrasset 47.35 277 *e*P **P 00 15 35.6 -0.6**
comp=Z,57nm,0.9s
TAM Tamanrasset 47.35 277 *e*P **P 00 15 35.6 -0.6**
TAM pmax pmax
comp=Z,57nm,0.9s
SKAR Skarslia 47.53 330 *e*P **P 00 15 37.1 +0.1**
MTLF Montolieu 47.56 305 *e*P **P 00 15 36.9 -0.5**
MTLF pmax pmax
comp=Z,113nm,1.1s
TCF Toulx Ste Croi 47.72 309 *e*P **P 00 15 37.7 -0.9**
TCF pmax pmax
comp=Z,225nm,1.2s
NSS Namsos 47.73 335 *e*P **P 00 15 37.2 -1.0**
CAF Calviac 47.73 308 *e*P **P 00 15 38.0 -0.7**
CAF pmax pmax
comp=Z,163nm,1.4s
DOMB Dombas 47.75 331 *e*P **P 00 15 38.2 -0.4**
BLS5 Blasjo 47.94 327 *e*P **P 00 15 39.7 -0.3**
ODD1 Odda 48.02 328 *e*P **P 00 15 41.4 +0.7**
HAMF Hammerfest 48.05 345 *e*P **P 00 15 40.0 -0.7**
RJF Les Rejaudoux 48.14 308 *e*P **P 00 15 41.4 -0.4**
RJF pmax pmax
comp=Z,272nm,1.3s
QIZ Qiongzhong 48.31 88 P **P 00 15 43.4 0.0**
QIZ pmax pmax
comp=Z,210nm,3.2s
QIZ LR LR
comp=Z,3μm,22.9s
QIZ LR LR
comp=Z,1μm,16.7s
QIZ LR LR
comp=Z,2μm,17.7s
QIZ Qiongzhong 48.31 88 *e*P **P 00 15 43.5 0.0**
comp=Z,34nm,1.4s
KONS Konsvik 48.35 338 *e*P **P 00 15 42.6 -0.4**
KMY Karmoy 48.45 327 *e*P **P 00 15 43.8 -0.2**
STEI Steigen 48.48 340 *e*P **P 00 15 43.8 -0.2**
TRO Tromso 48.50 343 *e*P **P 00 15 43.5 -0.7**
HYA Hoyanger 48.67 330 *e*P **P 00 15 45.5 -0.1**
LFF La Frestale 48.67 307 *e*P **P 00 15 46.3 +0.4**
LFF pmax pmax
comp=Z,84nm,0.7s
AKN Aaknes 48.69 331 *e*P **P 00 15 46.5 +0.7**
BER Bergen 48.79 328 *e*P **P 00 15 47.3 +0.8**
ASK Askoy 48.89 329 *e*P **P 00 15 47.5 +0.2**
EPF Esparros 48.93 305 *e*P **P 00 15 47.5 -0.5**
EPF pmax pmax
comp=Z,20nm,1.1s
LOF Lofoten 49.12 340 *e*P **P 00 15 48.7 -0.2**
BKNI Bangkinang 49.16 115 P **P 00 15 51.0 +1.0**
MFF Saint Martin d 49.36 310 *e*P **P 00 15 49.9 -1.3**
MFF pmax pmax
comp=Z,140nm,1.2s
WHN Wuhan 49.37 72⇑P **P 00 15 54.5 +3.1**
WHN pP **sP 00 16 03.8 +1.5**
WHN S **S 00 23 02.1 +5.1**
WHN pmax pmax
comp=Z,450nm,4.6s
WHN LR LR
comp=Z,6μm,12.9s
WHN LR LR
comp=Z,2μm,12.0s
WHN LR LR
comp=Z,10μm,16.6s
LDF La Druitiere 49.47 312 *e*P **P 00 15 50.6 -1.4**
LDF pmax pmax
comp=Z,72nm,0.8s
ETSF Etsaut 49.59 305 *e*P **P 00 15 54.1 +1.0**
ETSF pmax pmax
comp=Z,95nm,1.0s
FLN La Foliniere 49.72 312 *e*P **P 00 15 52.6 -1.3**
FLN pmax pmax
comp=Z,181nm,1.0s
BJT Baijiatuau 49.73 59 *e*P **P 00 15 54.7 +0.6**
comp=Z,13nm,0.8s
BJT Baijiatuau 49.73 59 *e*P **P 00 15 54.7 +0.6**
BJT pmax pmax
comp=Z,13nm,0.8s
BJI Beijing 49.74 59 P **P 00 15 55.3 +1.2**
BJI S **S 00 23 06.9 +5.1**
BJI LR LR
comp=Z,1μm,17.7s
BJI LR LR
comp=Z,930nm,12.9s
BJI LR LR
comp=Z,950nm,30.4s
BOD Bodaibo 49.93 36⇓*i*P **P 00 15 54.9 -0.4**
BOD *e*S **S 00 23 04.3 +0.2**
BOD pmax pmax
comp=Z,102nm,1.0s
GRR Gorron 49.94 312 *e*P **P 00 15 55.5 -0.1**
GRR pmax pmax
comp=Z,172nm,1.2s
SJPF Ste Jean 50.08 305 *e*P **P 00 15 56.7 0.0**
SJPF pmax pmax
comp=Z,47nm,0.7s
CART Cartagena 50.22 298 *e*P **P 00 15 56.9 -0.9**
comp=Z,29nm,1.0s

CART	**Cartagena**	**50.22 298**	*i* P	**P**	**00 15 58.3**	**+0.5**
CART			*i* S	**S**	**00 23 09.3**	**+0.6**
MYKOM	**Kota Tinggi**	**50.64 111**	*e*P	**P**	**00 16 01.1**	**-0.2**
	comp=Z,17nm,1.0s					
MYKOM	**Kota Tinggi**	**50.64 111**	P	**P**	**00 16 04.0**	**+2.7**
LSZ	**Lusaka**	**50.68 218**	*i* P	**P**	**00 16 02.2**	**+0.7**
LSZ	**Lusaka**	**50.68 218**	*e*P	**P**	**00 16 01.3**	**-0.3**
	comp=Z,37nm,1.3s					
LSZ			LR	LR		
	comp=Z,3µm,19.0s					
LSZ	**Lusaka**	**50.68 218**	*e*P	**P**	**00 16 01.3**	**-0.3**
LSZ			pmax	pmax		
	comp=Z,37nm,1.3s					
LSZ			MLR	MLR		
	comp=Z,3µm,19.0s					
LSZ	**Lusaka**	**50.68 218**	*i* P	**P**	**00 16 02.2**	**+0.7**
LSZ	**Lusaka**	**50.68 218**	LR	LR	00 38 30.7	
	comp=Z,2µm,19.3s,baz=44,slow=37					
TIA	**Tai'an**	**50.82 64**	P	**P**	**00 16 03.9**	**+1.5**
TIA			S	**S**	**00 23 19.5**	**+2.4**
TIA			pmax	pmax		
	comp=Z,120nm,1.9s					
TIA			LR	LR		
	comp=Z,4µm,20.6s					
TIA			LR	LR		
	comp=Z,2µm,20.6s					
TIA			LR	LR		
	comp=Z,2µm,32.7s					
SGMF	**Saint Gilles**	**51.07 312**	*e*P	**P**	**00 16 03.2**	**-0.9**
SGMF			pmax	pmax		
	comp=Z,140nm,0.9s					
FIGM	**Figuig**	**51.17 291**	P	**P**	**00 16 06.0**	**+0.7**
SESP	**Santiago Espad**	**51.38 299**	P	**P**	**00 16 07.3**	**+0.5**
QUIF	**Quistinic**	**51.47 311**	*e*P	**P**	**00 16 05.9**	**-1.1**
QUIF			pmax	pmax		
	comp=Z,217nm,1.1s					
ROSF	**Rostrenen**	**51.55 312**	*e*P	**P**	**00 16 06.7**	**-1.0**
ROSF			pmax	pmax		
	comp=Z,172nm,1.1s					
TDRA	**Tendrara**	**51.65 292**	P	**P**	**00 16 11.0**	**+2.0**
UCM	**Universidad Co**	**51.73 302**	*i* P	P	00 16 14.6	+5.4
UCM			*i* S	**S**	**00 23 31.8**	**+2.2**
JBK	**JBK**	**51.89 294**	P	**P**	**00 16 12.0**	**+1.3**
EKA	**Eskdalemuir Ar**	**52.04 321**	P	**P**	**00 16 10.1**	**-1.1**
EKA			pmax	pmax		
	comp=Z,3.0nm,0.3s					
MELI	**Melilla**	**52.04 295**	*i* P	**P**	**00 16 10.9**	**-0.6**
MELI			*e*S	**S**	**00 23 30.9**	**-3.1**
ESK	**Eskdalemuir**	**52.06 321**	*e*P	**P**	**00 16 09.9**	**-1.5**
	comp=Z,64nm,1.3s					
ESK			LR	LR		
	comp=Z,2µm,22.0s					
ESK	**Eskdalemuir**	**52.06 321**	*e*P	**P**	**00 16 09.9**	**-1.5**
ESK			pmax	pmax		
	comp=Z,64nm,1.3s					
ESK			MLR	MLR		
	comp=Z,2µm,22.0s					
GOG	**Mont Gurugu**	**52.10 295**	P	**P**	**00 16 14.0**	**+1.9**
HIA	**Hailar**	**52.18 47**	*e*P	**P**	**00 16 12.8**	**+0.4**
	comp=Z,76nm,0.6s					
HIA	**Hailar**	**52.18 47⇑**	*i*P	**P**	**00 16 12.9**	**+0.4**
HIA			pmax	pmax		
	comp=Z,105nm,0.9s					
ESDC	**Sonseca Array**	**52.33 301**	*e*P	**P**	**00 16 13.4**	**-0.4**
	comp=Z,45nm,1.4s					
ESDC	**Sonseca Array**	**52.33 301**	P	**P**	**00 16 13.5**	**-0.2**
	comp=Z,16nm,0.7s,baz=66,slow=7.4,SNR=68					
ESDC			LR	LR	00 40 48.8	
	comp=Z,1µm,21.5s,baz=120,slow=39					
ESLA	**Sonseca Array**	**52.33 301**	*e*P	**P**	**00 16 13.7**	**0.0**
	comp=Z,94nm,1.5s					
PAB	**San Pablo**	**52.64 301**	*e*P	**P**	**00 16 16.5**	**+0.4**
	comp=Z,49nm,0.8s					
PAB			LR	LR		
	comp=Z,1µm,21.0s					
PAB	**San Pablo**	**52.64 301**	*e*P	**P**	**00 16 16.5**	**+0.4**
PAB			pmax	pmax		
	comp=Z,49nm,0.8s					
PAB			MLR	MLR		
	comp=Z,1µm,21.0s					
PALE	**Palemas**	**52.87 295**	P	**P**	**00 16 19.0**	**+1.3**
NJ2	**Nanjing**	**52.88 69**	*e*P	**P**	**00 16 19.4**	**+1.6**
NJ2			pP	**pP**	**00 16 25.4**	**-0.3**
NJ2			sP	**sP**	**00 16 30.5**	**+1.8**
NJ2			S	**S**	**00 23 48.8**	**+3.3**
NJ2			pmax	pmax		
	comp=Z,32nm,0.9s					
NJ2			pmax	pmax		
	comp=Z,250nm,4.7s					
NJ2			LR	LR		
	comp=Z,4µm,17.9s					
NJ2			LR	LR		
	comp=Z,5µm,20.1s					
NJ2			LR	LR		
	comp=Z,5µm,20.1s					
EMAL	**Malaga-Limoner**	**53.04 297**	*i* P	**P**	**00 16 18.8**	**-0.1**
EMAL			*i* S	S	00 23 38.6	-8.9
HORN	**Hornachuelos**	**53.55 299**	P	**P**	**00 16 22.5**	**-0.2**
DSB	**Dublin**	**53.73 318**	*e*P	**P**	**00 16 20.4**	**-3.3**
DSB	**Dublin**	**53.73 318**	*e*P	**P**	**00 16 24.3**	**+0.6**
	comp=Z,60nm,1.0s					
MDT	**Midelt**	**53.83 292**	P	**P**	**00 16 25.7**	**+0.8**
LCRM	**LCR**	**53.87 294**	P	**P**	**00 16 27.1**	**+1.8**
CEU	**Ceuta**	**53.92 296**	*i* P	**P**	**00 16 28.9**	**+3.5**
CEU			*e*S	**S**	**00 24 00.4**	**+0.9**
IWEX	**Carrickbyrne,**	**53.93 317**	*e*P	**P**	**00 16 22.3**	**-2.9**
SMIR	**Smir Dam**	**53.96 296**	P	**P**	**00 16 26.0**	**+0.3**
TOA0	**Torodi Ar. Sit**	**54.04 267**	*e*P	**P**	**00 16 25.8**	**-0.7**
	comp=Z,98nm,1.0s					
TORD	**Torodi Ar. Bea**	**54.04 267**	*e*P	**P**	**00 16 28.8**	**+2.3**
	comp=Z,70nm,1.1s					
TORD	**Torodi Ar. Bea**	**54.04 267**	P	**P**	**00 16 25.6**	**-0.9**
	comp=Z,32nm,0.6s,baz=48,slow=7.2,SNR=86					
TORD			LR	LR	00 43 36.1	
	comp=Z,2µm,19.0s,baz=350,slow=41					
DL2	**Dalian**	**54.04 60**	P	P	00 16 31.2	+5.0
DL2			S	**S**	**00 24 06.8**	**+5.7**
DL2			pmax	pmax		
	comp=Z,40nm,1.4s					
DL2			pmax	pmax		
	comp=Z,250nm,3.9s					
DL2			LR	LR		
	comp=Z,5µm,23.9s					
DL2			LR	LR		
	comp=Z,1µm,22.9s					
DL2			LR	LR		
	comp=Z,4µm,19.2s					
IFR	**Ifrane**	**54.12 293**	*e*P	P	00 16 32.9	+5.7
IFR			*i* S	**S**	**00 24 07.0**	**+4.3**
HSPB	**Hornsund (broa**	**54.18 349**	*e*P	**P**	**00 16 26.8**	**+0.1**
PBRG	**Braganca**	**54.23 304**	*e*P	**P**	**00 16 28.0**	**+0.4**
	comp=Z,99nm,1.5s					
QZH	**Quanzhou**	**54.30 77**	P	**P**	**00 16 31.0**	**+2.7**
QZH			S	**S**	**00 24 09.1**	**+4.1**
QZH			LR	LR		
	comp=Z,4µm,17.9s					
QZH			LR	LR		
	comp=Z,710nm,14.3s					
QZH			LR	LR		
	comp=Z,4µm,18.9s					
RSA	**Sarsar**	**54.45 295**	P	**P**	**00 16 30.0**	**+0.6**
BLWY	**Bulawayo**	**54.48 214**	*i* P	**P**	**00 16 29.7**	**0.0**
BLWY	**Bulawayo**	**54.48 214**	*i* P	**P**	**00 16 29.7**	**0.0**
SFS	**San Fernando**	**54.49 297**	*i* P	**P**	**00 16 29.2**	**-0.4**
SFS			*e*S	**S**	**00 24 07.0**	**-0.3**
IDGL	**Inch Island, C**	**54.50 320**	*e*P	**P**	**00 16 25.8**	**-3.5**
MVO	**Moncorvo**	**54.51 303**	*e*P	**P**	**00 16 29.8**	**+0.1**
	comp=Z,115nm,1.0s					
MVO	**Moncorvo**	**54.51 303**	*e*PP	PP	00 18 39.5	+7.6
MVO			*e*S	**S**	**00 24 07.7**	**+0.2**
MVO			*e*SS	SS	00 28 37.4	+47
MVO			*e*LR	LR	00 36 44.0	
	comp=Z,1µm,18.0s					
PPBI	**Pangkal Pinang**	**54.74 114**	P	P	00 16 25.0	-6.6
MATP	**Matopo**	**54.78 214**	*i* P	**P**	**00 16 32.2**	**+0.3**
MATP	**Matopo**	**54.78 214**	*i* P	**P**	**00 16 32.2**	**+0.3**
SPA0	**Spitsbergen Ar**	**54.85 350**	*e*P	**P**	**00 16 31.5**	**-0.1**
	comp=Z,61nm,1.1s					
SPA0	**Spitsbergen Ar**	**54.85 350**	*e*P	**P**	**00 16 31.5**	**-0.1**
SPITS	**Spitsbergen Ar**	**54.85 350**	P	**P**	**00 16 31.1**	**-0.5**
SPITS			pmax	pmax		
	comp=Z,2.0nm,0.3s					
MTE	**Manteigas**	**54.98 302**	*e*P	**P**	**00 16 33.3**	**+0.1**
	comp=Z,150nm,1.4s					
MTE	**Manteigas**	**54.98 302**	*e*PP	PP	00 18 42.6	+6.4
MTE			*e*S	**S**	**00 24 13.5**	**-0.4**
MTE			*e*SS	**SS**	**00 28 04.7**	**+7.2**
MTE	**Manteigas**	**54.98 302**	*e*LR	LR	00 39 25.3	
	comp=Z,976nm,20.0s					
MTE	**Manteigas**	**54.98 302**	*e*P	**P**	**00 16 34.3**	**+1.1**
	comp=Z,178nm,1.5s					
PMRV	**Marv??o**	**54.99 301**	*e*P	**P**	**00 16 34.0**	**+0.8**
	comp=Z,77nm,1.8s					
PMRV	**Marv??o**	**54.99 301**	*e*PP	PP	00 18 38.7	+2.4
PMRV			*e*S	**S**	**00 24 13.9**	**-0.1**
PMRV			*e*SS	SS	00 28 13.3	+16
PMRV	**Marv??o**	**54.99 301**	*e*LR	LR	00 40 35.3	
	comp=Z,964nm,18.0s					
PCBR	**Castelo Branco**	**55.01 301**	*e*P	**P**	**00 16 32.8**	**-0.4**
	comp=Z,136nm,1.4s					
PVRL	**Vila Real**	**55.01 303**	*e*P	**P**	**00 16 34.5**	**+1.2**
	comp=Z,155nm,1.7s					
SSE	**Sheshan**	**55.02 69**	P	**P**	**00 16 33.7**	**+0.2**
SSE			S	**S**	**00 24 12.2**	**-2.3**
SSE			sS	**pS**	**00 24 25.1**	**+1.1**
SSE			pmax	pmax		
	comp=Z,11nm,0.7s					
SSE			pmax	pmax		
	comp=Z,81nm,3.5s					
SSE			LR	LR		
	comp=Z,1µm,16.8s					
POLO	**Lamas de Olo**	**55.06 303**	*e*P	**P**	**00 16 34.3**	**+0.6**
	comp=Z,64nm,1.4s					
PCAB	**Cabril**	**55.20 304**	*e*P	**P**	**00 16 35.0**	**+0.4**
	comp=Z,150nm,1.4s					
PVIS	**Viseu**	**55.21 303**	*e*P	**P**	**00 16 35.2**	**+0.4**
	comp=Z,124nm,1.3s					
PGAV	**Gavieira, Arco**	**55.35 304**	*e*P	**P**	**00 16 35.8**	**0.0**
	comp=Z,178nm,1.6s					
PGAV	**Gavieira, Arco**	**55.35 304**	*e*PP	PP	00 18 39.5	0.0
PGAV			*e*S	**S**	**00 24 20.7**	**+1.9**
PGAV			*e*SS	SS	00 28 52.9	+50
PGAV			*e*LR	LR	00 38 37.7	
	comp=Z,936nm,18.0s					
IGLA	**Glengowla, Co**	**55.53 318**	*e*P	**P**	**00 16 33.8**	**-3.0**
PVAQ	**Vaqueiros**	**55.54 298**	*e*S	**S**	**00 24 20.1**	**-1.2**
PVAQ			*e*SS	SS	00 28 20.3	+14
PBEJ	**Beja**	**55.56 299**	*e*P	**P**	**00 16 37.8**	**+0.5**
	comp=Z,64nm,1.3s					
EVO	**Evora**	**55.60 300**	*e*P	**P**	**00 16 37.8**	**+0.3**
	comp=Z,78nm,1.8s					
EVO	**Evora**	**55.60 300**	*i* P	**P**	**00 16 42.0**	**+4.5**
EVO			*e*S	**S**	**00 24 24.0**	**+2.0**
COI	**Coimbra**	**55.67 302**	*e*P	**P**	**00 16 39.0**	**+1.0**
	comp=Z,129nm,0.9s					
PMTG	**Montargil**	**55.68 301**	*e*P	**P**	**00 16 38.3**	**+0.2**
	comp=Z,45nm,1.3s					
PBDV	**Barranco-do-Ve**	**55.73 298**	*e*P	**P**	**00 16 37.6**	**-1.0**
	comp=Z,39nm,2.3s					
PTOM	**Tomar**	**55.75 301**	*e*P	**P**	**00 16 38.4**	**-0.2**
	comp=Z,183nm,1.1s					
PCAS	**Casmilo, Conde**	**55.75 302**	*e*P	**P**	**00 16 39.0**	**+0.3**
	comp=Z,70nm,1.1s					
PCVE	**Castro Verde**	**55.76 299**	*e*P	**P**	**00 16 38.4**	**-0.3**
	comp=Z,56nm,1.6s					
MESJ	**Messejana**	**55.87 299**	*e*P	**P**	**00 16 39.2**	**-0.3**
MESJ			AMS	AMS	00 42 36.3	
	comp=N,2µm,21.1s					
MESJ	**Messejana**	**55.87 299**	*e*P	**P**	**00 16 40.3**	**+0.8**
	comp=N,42nm,1.2s					
MESJ	**Messejana**	**55.87 299**	*e*P	**P**	**00 16 39.2**	**-0.3**
KBS	**Kingsbay**	**56.01 350**	*e*P	**P**	**00 16 40.5**	**+0.7**
	comp=N,42nm,0.9s					
KBS			LR	LR		
	comp=Z,3µm,19.0s					
KBS	**Kingsbay**	**56.01 350**	*ce*P	**P**	**00 16 41.3**	**+1.4**
KBS			pmax	pmax		
	comp=Z,169nm,1.0s					
KBS	**Kingsbay**	**56.01 350**	*e*P	**P**	**00 16 39.6**	**-0.2**
AVE	**Averroes**	**56.04 294**	*i* P	P	00 16 47.2	+6.4
AVE			*i* S	**S**	**00 24 29.5**	**+1.4**
PNCL	**Nicolau / Gran**	**56.06 299**	*e*P	**P**	**00 16 40.0**	**-0.9**
	comp=Z,55nm,2.4s					
MORF	**Marmelete**	**56.29 299**	*e*P	**P**	**00 16 42.3**	**-0.4**
MORF			*e*S	**S**	**00 24 31.4**	**0.0**
MORF			AMS	AMS	00 42 56.1	
	comp=N,2µm,21.7s					
MORF	**Marmelete**	**56.29 299**	*e*P	**P**	**00 16 41.6**	**-1.0**
	comp=N,76nm,1.5s					
MORF	**Marmelete**	**56.29 299**	*e*P	**P**	**00 16 42.2**	**-0.4**
MORF			*e*S	**S**	**00 24 31.4**	**0.0**
TPI	**Tanjungpandan**	**56.33 113**	P	**P**	**00 16 47.4**	**+4.4**
CN2	**Changchun**	**56.33 54**	*e*P	**P**	**00 16 42.6**	**-0.1**
CN2			*e*S	**S**	**00 24 35.5**	**+3.9**
CN2			pmax	pmax		
	comp=N,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=N,200nm,4.0s					
CN2			LR	LR		
	comp=N,2µm,19.0s					
CN2			LR	LR		
	comp=N,3µm,19.0s					
CN2			LR	LR		
	comp=N,3µm,19.0s					
LIS	**Lisbon**	**56.45 300**	*e*P	**P**	**00 16 43.2**	**-0.4**
LIS			AMS	AMS	00 39 13.2	
	comp=E,2µm,19.2s					
LIS	**Lisbon**	**56.45 300**	*e*P	**P**	**00 16 43.2**	**-0.4**
PFVI	**Vila Bisbo**	**56.46 298**	*e*P	**P**	**00 16 43.4**	**-0.3**
	comp=E,115nm,1.2s					
PFVI	**Vila Bisbo**	**56.46 298**	*e*P	**P**	**00 16 44.4**	**+0.7**
	comp=E,101nm,1.1s					
SSLB	**Suanglung**	**56.70 78**	*e*P	**P**	**00 16 46.2**	**+0.5**
	comp=E,38nm,1.1s					
YHNB	**Yeheng**	**56.81 77**	*e*P	**P**	**00 16 46.4**	**-0.1**
	comp=E,43nm,0.8s					
ZEA	**Zeya**	**56.91 42**	*e*P	**P**	**00 16 47.4**	**+0.7**
ZEA			*e*S	S	00 24 49.0	+10
ZEA			pmax	pmax		
	comp=E,24nm,1.0s					
ZEA			pmax	pmax		
	comp=N,21nm,0.8s					
ZEA			pmax	pmax		
	comp=Z,43nm,1.2s					
ZEA			MLR	MLR		
	comp=E,2µm,13.0s					
ZEA			MLR	MLR		
	comp=Z,3µm,13.0s					
ZEA			MLR	MLR		
	comp=N,2µm,14.0s					
CGJI	**Cibinong**	**57.01 118**	P	**P**	**00 16 45.5**	**-2.4**
	comp=N,39nm,1.3s					
YULB	**Yu-li**	**57.12 78**	*e*P	**P**	**00 16 49.8**	**+1.2**
	comp=N,33nm,1.2s					
NACB	**Ninganchiao**	**57.14 77**	*e*P	**P**	**00 16 48.6**	**-0.2**
	comp=N,32nm,1.0s					
SBUM	**Sibu**	**57.40 105**	*e*P	**P**	**00 16 50.2**	**-0.5**
	comp=N,7.4nm,1.2s					
YAK	**Yakutsk**	**58.32 32**	*e*P	**P**	**00 16 55.3**	**-1.1**
YAK			*e*		00 19 03.4	
YAK			*e*S	**S**	**00 24 52.7**	**-4.4**
YAK			*e**SS	**sS**	**00 25 13.7**	**+3.4**
YAK			*e*		00 26 37.0	
YAK			pmax	pmax		
	comp=E,239nm,1.1s					
YAK			pmax	pmax		
	comp=N,73nm,1.0s					
YAK			smax	smax		
	comp=E,2µm,2.4s					
YAK			smax	smax		
	comp=N,914nm,2.0s					
YAK			MLR	MLR		
	comp=Z,9µm,20.0s					
YAK			MLR	MLR		
	comp=E,8µm,21.0s					
YAK			MLR	MLR		
	comp=N,5µm,19.0s					
TIXI	**Tiksi**	**58.95 20**	*e*P	**P**	**00 17 00.7**	**+0.1**
	comp=N,29nm,0.9s					
TIXI	**Tiksi**	**58.95 20⇓**	*i*P	**P**	**00 16 59.4**	**-1.2**
TIXI			pmax	pmax		
	comp=Z,22nm,0.8s					
TIXI			MLR	MLR		
	comp=Z,3µm,18.0s					
KS15	**Wonju Array Si**	**59.14 61**	*e*P	**P**	**00 17 01.7**	**-0.9**
	comp=Z,29nm,0.9s					
KSAR	**Wonju Array Be**	**59.14 61**	*e*P	**P**	**00 17 02.1**	**-0.5**
KSAR	**Wonju Array Be**	**59.14 61**	*e*P	**P**	**00 17 02.1**	**-0.5**
KSRS	**Korea Array**	**59.17 61**	P	**P**	**00 17 02.8**	**+0.1**
	comp=Z,12nm,0.6s,baz=276,slow=6.6,SNR=34					
KSRS			LR	LR	00 46 30.1	
	comp=Z,2µm,20.9s,baz=276,slow=40					
TSUM	**Tsumeb**	**60.03 225**	*i* P	**P**	**00 17 10.9**	**+2.0**
TSUM	**Tsumeb**	**60.03 225**	*e*P	**P**	**00 17 08.3**	**-0.6**
	comp=Z,50nm,1.5s					
TSUM	**Tsumeb**	**60.03 225**	*i* P	**P**	**00 17 10.9**	**+2.0**
KLR	**Kul'dur**	**60.03 47**	*c i* P	**P**	**00 17 08.3**	**-0.2**
KLR			pmax	pmax		
	comp=Z,23nm,0.9s					
LBTB	**Lobatse**	**60.07 214**	*e*P	**P**	**00 17 09.2**	**+0.1**
	comp=Z,50nm,0.9s					
LBTB	**Lobatse**	**60.07 214**	*e*P	**P**	**00 17 09.2**	**+0.1**
LBTB			pmax	pmax		
	comp=Z,50nm,0.9s					
USA0B	**Ussuriysk Arra**	**60.95 52**	*e*P	**P**	**00 17 14.5**	**-0.3**
	comp=Z,87nm,1.9s					
USRK	**Ussuriysk Ar.**	**60.95 52**	P	**P**	**00 17 14.5**	**-0.3**
	comp=Z,5.1nm,0.8s,baz=267,slow=4.8,SNR=7.0					
USRK			LR	LR	00 46 21.6	
	comp=Z,2µm,19.8s,baz=271,slow=39					
DAG	**Danmarks Havn**	**61.10 345**	*i* P	**P**	**00 17 14.9**	**-0.4**
DAG			pmax	pmax		
	comp=Z,33nm,0.7s					
DAG	**Danmarks Havn**	**61.10 345**	*i* P	**P**	**00 17 14.9**	**-0.4**
	comp=Z,48nm,0.7s					
MTKI	**Muara Teweh, K**	**61.42 107**	P	**P**	**00 17 18.5**	**0.0**
	comp=Z,104nm,0.5s,comp=Z,8µm					
BORG	**Borgarnes**	**61.56 331**	PFAKE		00 17 30.0	+11
BORG			LR	LR		
	comp=Z,618nm,20.0s					
JNU	**Nakatsue**	**62.53 65**	*e*P	**P**	**00 17 24.9**	**-0.8**
	comp=Z,47nm,1.2s					
DBIC	**Dimbokro**	**62.61 263**	*e*P	**P**	**00 17 26.9**	**+0.5**
	comp=Z,61nm,1.0s					
DBIC	**Dimbokro**	**62.61 263**	P	**P**	**00 17 26.6**	**+0.1**
	comp=Z,28nm,0.8s,baz=43,slow=8.7,SNR=17					
DBIC			LR	LR	00 45 28.4	
	comp=Z,2µm,18.9s,baz=40,slow=37					
KIC	**Kosan Boka**	**62.65 263**	*e*P	**P**	**00 17 26.9**	**+0.2**
	comp=Z,155nm,1.0s					
TIC	**Toumodi**	**62.77 264**	*e*P	**P**	**00 17 27.5**	**-0.1**
GRNR	**Gornyy**	**62.80 44**	*e*P	**P**	**00 17 27.7**	**+0.5**
GRNR			pmax	pmax		
	comp=Z,21nm,1.0s					
LIC	**Lamto**	**62.96 263**	*e*P	**P**	**00 17 28.8**	**0.0**
	comp=Z,172nm,1.1s					
BOSA	**Boshof**	**63.24 212**	*i* P	**P**	**00 17 30.7**	**+0.3**
BOSA	**Boshof**	**63.24 212**	*e*P	**P**	**00 17 29.5**	**-1.0**
	comp=Z,28nm,1.0s					
BOSA	**Boshof**	**63.24 212**	*e*P	**P**	**00 17 29.5**	**-1.0**
BOSA			pmax	pmax		
	comp=Z,28nm,1.0s					
BOSA	**Boshof**	**63.24 212**	*i* P	**P**	**00 17 30.7**	**+0.3**
BOSA	**Boshof**	**63.24 212**	P	**P**	**00 17 30.1**	**-0.3**
	comp=Z,21nm,1.1s,baz=21,slow=7.9,SNR=15					
BOSA			LR	LR	00 45 50.4	
	comp=Z,1µm,20.8s,baz=27,slow=37					
PMOZ	**Porto Moniz, M**	**64.13 295**	*e*S	**S**	**00 26 19.7**	**+7.5**
PMOZ	**Porto Moniz, M**	**64.13 295**	*e*LR	LR	00 43 08.5	
	comp=Z,1µm,20.0s					
NKL	**Nikolayevsk**	**64.95 41**	*e*P	**P**	**00 17 39.0**	**-2.2**
NKL			pmax	pmax		
	comp=Z,25nm,1.0s					
NKL			MLR	MLR		
	comp=N,2µm,13.0s					
NKL			MLR	MLR		
	comp=E,900nm,13.0s					
NKL			MLR	MLR		
	comp=Z,2µm,13.0s					
MPSI	**Mapaga**	**65.11 103**	P	**P**	**00 17 43.3**	**+0.4**
	comp=Z,15nm,1.3s					
SUMG	**Summit**	**66.61 341**	*e*P	**P**	**00 17 52.4**	**+0.3**
	comp=Z,126nm,1.0s					
SUMG	**Summit**	**66.61 341⇑**	*i*P	**P**	**00 17 52.5**	**+0.3**
SUMG			pmax	pmax		
	comp=Z,320nm,1.0s					
SUMG	**Summit**	**66.61 341⇑**	*i*P	**P**	**00 17 52.5**	**+0.3**
	comp=Z,319nm,1.0s					
TYV	**Tymovskoe**	**66.65 43**	*e*P	**P**	**00 17 52.8**	**+0.5**
TYV			*e*S	**S**	**00 26 43.1**	**+0.9**
TYV			pmax	pmax		
	comp=Z,200nm,4.6s					
TYV			pmax	pmax		
	comp=Z,38nm,0.9s					
TYV			smax	smax		
	comp=E,400nm,7.9s					
TYV			MLR	MLR		
	comp=Z,2µm,15.0s					
INU	**Inuyama**	**66.80 61**	*e*P	**P**	**00 17 53.6**	**+0.1**
	comp=Z,34nm,1.0s					
MRSI	**Marisa**	**66.82 102**	P	**P**	**00 17 57.8**	**+3.8**
	comp=Z,15nm,1.2s					
DAV	**Davao City (W)**	**67.04 94**	PFAKE		00 18 10.0	+15
DAV			LR	LR		
	comp=Z,986nm,21.0s					
MJB9	**Matsu-Tunnel**	**67.37 59**	*e*P	**P**	**00 17 57.7**	**+0.6**
	comp=Z,57nm,1.6s					
MAJO	**Matsushiro**	**67.37 59**	*e*P	**P**	**00 17 57.8**	**+0.7**
	comp=Z,58nm,1.6s					
MAJO			LR	LR		
	comp=Z,2µm,22.0s					
MAJO	**Matsushiro**	**67.37 59⇑**	*e*P	**P**	**00 17 56.2**	**-1.0**
MAJO			pmax	pmax		
	comp=Z,6.0nm,0.6s					
MAT	**Matsushiro**	**67.37 59**	P	**P**	**00 17 56.6**	**-0.6**
MAT			S	**S**	**00 26 55.2**	**+3.7**
MJAR	**Matsushiro Arr**	**67.37 59**	P	**P**	**00 17 57.2**	**0.0**
	comp=Z,6.9nm,0.8s,baz=276,slow=7.7,SNR=13					
MJAR			LR	LR	00 50 52.6	
	comp=Z,2µm,21.1s,baz=295,slow=39					
KAPI	**Kappang**	**67.67 108**	*e*P	**P**	**00 17 59.2**	**-0.1**
	comp=Z,43nm,1.3s					
KAPI			LR	LR		
	comp=Z,885nm,20.0s					
YSS	**Yuzh-Sakhalins**	**67.71 48**	*e*P	**P**	**00 17 58.9**	**-0.2**
	comp=Z,88nm,0.9s					
YSS	**Yuzh-Sakhalins**	**67.71 48**	*e*P	**P**	**00 17 59.0**	**-0.1**
YSS			*e*		00 18 01.7	
YSS			*e**SP	**pP**	**00 18 05.7**	**-1.5**
YSS			*e*		00 18 22.2	
YSS			*e*		00 20 30.4	
YSS			*e*PPP	PPP	00 22 08.0	
YSS			*e*S	**S**	**00 26 55.0**	**-0.2**
YSS			*e*SS	**SS**	**00 31 12.8**	**-3.2**
YSS			pmax	pmax		
	comp=Z,40nm,0.8s					
YSS			MLR	MLR		
	comp=Z,2µm,14.0s					
YSS			MLR	MLR		
	comp=N,600nm,15.0s					
ANGG	**Ammassalik, Gr**	**68.19 334**	*e*P	**P**	**00 18 02.7**	**+1.0**
	comp=N,162nm,1.6s					
SUR	**Sutherland**	**68.50 213**	*e*P	**P**	**00 18 04.9**	**+0.6**
	comp=N,39nm,1.2s					
SUR			LR	LR		
	comp=Z,3µm,19.0s					
SEY	**Seymchan**	**68.61 29⇓**	*e*P	**P**	**00 18 04.7**	**+0.2**
MA2	**Magadan**	**68.84 33**	*e*P	**P**	**00 18 05.8**	**-0.1**
	comp=Z,31nm,0.8s					
MA2			LR	LR		
	comp=Z,2µm,19.0s					
MA2	**Magadan**	**68.84 33**	*d i*P	**P**	**00 18 05.3**	**-0.6**
MA2			pmax	pmax		
	comp=Z,33nm,0.8s					
CMLA	**Cha da Macela**	**69.19 303**	PFAKE		00 18 20.0	+11
CMLA			LR	LR		
	comp=Z,785nm,19.0s					
ERM	**Erimo**	**69.40 53**	PFAKE		00 18 20.0	+10
ERM			LR	LR		
	comp=Z,1µm,20.0s					
YUK

KULLO Kullorsuaq 70.76 345 *i* P **P 00 18 17.3 -0.2**
comp=Z,57nm,0.9s
SANI Sanana 71.58 102 P **P 00 18 26.5 +3.1**
comp=Z,18nm,1.2s,comp=Z,733nm
ILULI Ilulissat 71.69 339 *e*P **P 00 18 23.4 +0.2**
comp=Z,24nm,0.7s
ILULI Ilulissat 71.69 339 *e*P **P 00 18 23.4 +0.2**
ILULI pmax pmax
comp=Z,25nm,0.7s
TULEG Thule 71.97 349 *e*P **P 00 18 24.0 -0.7**
comp=Z,111nm,1.2s
BILL Bilibino 72.09 22 *e*P **P 00 18 25.9 +0.3**
comp=Z,26nm,0.9s
BILL LR LR
comp=Z,5μm,19.0s
BILL Bilibino 72.09 22⇓ *i*P **P 00 18 25.9 +0.3**
BILL *i* 00 18 39.8
BILL *e* 00 21 05.8
BILL *e*S **S 00 27 44.3 -1.7**
BILL *i*SS **SS 00 32 30.5 +8.0**
BILL pmax pmax
comp=Z,40nm,1.3s
BILL MLR MLR
comp=Z,3μm,16.0s
SFJD Kangerlussuaq 72.54 337 *e*P **P 00 18 28.0 -0.3**
comp=Z,25nm,1.0s
SFJD Kangerlussuaq 72.54 337 *i* P **P 00 18 28.0 -0.3**
SFJD Kangerlussuaq 72.54 337 *i* P **P 00 18 28.0 -0.3**
NRS Narsarsuaq 73.03 330 *e*P **P 00 18 32.1 +0.8**
comp=Z,79nm,1.0s
NRS Narsarsuaq 73.03 330 *e*P **P 00 18 32.1 +0.8**
NRS pmax pmax
comp=Z,79nm,1.0s
SOEI Soe 73.95 110 *e*P **P 00 18 37.4 -0.3**
comp=Z,80nm,0.9s
SOEI Soe 73.95 110 P **P 00 18 37.3 -0.3**
comp=Z,99nm,1.0s
IVI Ivigtut 74.21 331 *e*P **P 00 18 37.8 -0.4**
comp=Z,99nm,1.2s
PETK Petropavlovsk- 74.71 38 *e*P **P 00 18 40.0 -1.3**
PETK Petropavlovsk- 74.71 38 P **P 00 18 39.5 -1.8**
comp=Z,14nm,0.9s,baz=262,slow=3.6,SNR=9.5
SHEL Horse Pasture 74.84 243 PFAKE 00 18 50.0 +7.3
SHEL LR LR
comp=Z,914nm,22.0s
PET Petropavlovsk 75.27 38 PFAKE 00 19 00.0 +15
PET LR LR
comp=Z,3μm,19.0s
MBWA Marble Bar 76.57 122 PFAKE 00 19 00.0 +7.6
MBWA LR LR
comp=Z,3μm,21.0s
RES Resolute Bay 77.31 353 *e*P **P 00 18 55.5 -0.2**
comp=Z,8.7nm,1.0s
RES Resolute Bay 77.31 353 *e*P **P 00 18 55.5 -0.2**
RES pmax pmax
comp=Z,9.0nm,1.0s
FAKI Fak Fak 77.49 100 *e*P **P 00 18 56.9 -0.9**
comp=Z,72nm,1.3s
ASCN Ascension 77.85 255 PFAKE 00 19 10.0 +10
ASCN LR LR
comp=Z,16μm,21.0s
FITZ Fitzroy Crossi 79.48 116 P **P 00 19 07.7 -0.9**
comp=Z,12nm,0.8s,baz=284,slow=4.6,SNR=13
RDOG Red Dog Mine 80.84 14 *e*P **P 00 19 15.2 0.0**
comp=Z,40nm,1.1s
GUMO Guam 81.46 79 PFAKE 00 19 30.0 +11
GUMO LR LR
comp=Z,965nm,20.0s
GAMB Gambell 81.82 20 *e*P **P 00 19 20.6 +0.2**
comp=Z,22nm,1.0s
NWAO Narrogin (SRO) 81.92 133 P **P 00 19 20.7 -0.7**
NWAO LR LR
comp=Z,743nm,19.0s
NWAO Narrogin (SRO) 81.92 133 P **P 00 19 20.7 -0.7**
comp=Z,21nm,1.0s,baz=316,slow=3.8,SNR=6.9
TOLK Toolik Lake Re 82.83 10 *e*P **P 00 19 26.4 +0.6**
comp=Z,39nm,0.8s
TOLK Toolik Lake Re 82.83 10 P **P 00 19 26.3 +0.6**
baz=336
ANM Nome 83.03 17 *e*P **P 00 19 28.2 +1.4**
comp=Z,37nm,0.9s
ANM Nome 83.03 17 *e*P **P 00 19 28.2 +1.4**
ANM pmax pmax
comp=Z,37nm,0.9s
COLD Coldfoot 84.02 11 *e*P **P 00 19 31.6 -0.2**
comp=Z,14nm,0.9s
GENI Genyem 84.36 96 P **P 00 19 36.9 +2.4**
comp=Z,47nm,0.7s,comp=Z,2μm
IMAR Indian Mountai 84.50 12 *e*P **P 00 19 33.7 -0.6**
INK Inuvik 84.90 4 *e*P **P 00 19 36.0 -0.3**
comp=Z,32nm,1.2s
INK *e*S **S 00 30 03.8 +0.7**
INK PKKP **PKKPdf 00 37 31.4 -4.6**
INK Inuvik 84.90 4 *e*P **P 00 19 36.0 -0.3**
INK *e*S **S 00 30 03.8 +0.7**
INK pmax pmax
comp=Z,32nm,1.2s
INK Inuvik 84.90 4 PKKP **PKKPdf 00 37 31.4 -4.6**
comp=Z,0.8nm,0.8s,baz=348,slow=3.5,SNR=2.5
FYU Fort Yukon 85.39 9 *e*P **P 00 19 39.2 +0.5**
comp=Z,88nm,1.4s
MLY Manley 85.92 12 *e*P **P 00 19 41.7 +0.2**
comp=Z,26nm,0.9s
SCHQ Schefferville 85.95 331 *e*P **P 00 19 41.7 -0.1**
comp=Z,20nm,1.1s
SCHQ Schefferville 85.95 331 LR LR 00 59 16.6
comp=Z,640nm,18.3s,baz=50,slow=36
PRP Porcupine Dome 86.33 10 *e*P **P 00 19 44.1 +0.5**
comp=Z,34nm,1.2s
POKR Poker Plat Res 86.41 10 P **P 00 19 44.4 +0.5**
baz=338
MDM Murphy Dome 86.43 11 *e*P **P 00 19 43.9 -0.1**
comp=Z,60nm,1.0s
EPYK Eagle Plains 86.56 6 *e*P **P 00 19 44.1 -0.5**
comp=Z,40nm,1.0s
EPYK Eagle Plains 86.56 6 P **P 00 19 44.8 +0.2**
baz=347
COLA College 86.57 11 *e*P **P 00 19 44.4 -0.1**
comp=Z,35nm,1.1s
COLA LR LR
comp=Z,2μm,20.0s
COLA College 86.57 11⇑ *e*P **P 00 19 45.0 +0.4**
COLA pmax pmax
comp=Z,6.0nm,1.0s
BPAW Bear Paw Mtn. 86.72 12 *e*P **P 00 19 45.2 -0.2**
comp=Z,120nm,1.3s
CCB Clear Creek Bu 86.79 11 *e*P **P 00 19 46.1 +0.5**
comp=Z,13nm,1.0s
ILAR Eielson Array 86.82 10 *e*P **P 00 19 44.4 -1.4**
ILAR PP **PP 00 23 13.4 +5.7**
ILAR PKKPbc **PKKPbc 00 37 40.6 -0.3**
ILAR Eielson Array 86.82 10 P **P 00 19 45.1 -0.8**
comp=Z,4.7nm,0.7s,baz=333,slow=3.8,SNR=44
ILAR PP **PP 00 23 13.4 +5.7**
comp=Z,2.5nm,1.0s,baz=332,slow=6.5,SNR=4.5
ILAR PKKPbc **PKKPbc 00 37 40.6 -0.3**
comp=Z,0.5nm,0.7s,baz=184,slow=2.2,SNR=6.0
ILAR LR LR 01 03 45.3
comp=Z,1μm,20.1s,baz=329,slow=39
ILB Eielson Array 86.82 10 *e*P **P 00 19 47.0 +1.2**
comp=Z,8.8nm,0.8s
WRH Wood River Hil 86.90 11 *e*P **P 00 19 47.7 +1.4**
comp=Z,30nm,1.2s
CAST Castle Rocks 87.12 13 *e*P **P 00 19 47.3 -0.1**
comp=Z,70nm,1.0s
HDA Harding Lake 87.15 10 *e*P **P 00 19 47.9 +0.4**
comp=Z,17nm,0.8s
HDA Harding Lake 87.15 10 P **P 00 19 48.4 +0.9**
baz=338
MCK McKinley 87.44 12 *e*P **P 00 19 49.4 +0.5**
comp=Z,87nm,1.2s
MCK McKinley 87.44 12 *e*P **P 00 19 49.4 +0.5**
MCK pmax pmax
comp=Z,87nm,1.2s
WRA Warramunga Arr 87.48 114 *ce*P **P 00 19 48.0 -1.8**
WRA pmax pmax
comp=Z,5.0nm,0.6s
WRA Warramunga Arr 87.48 114 P **P 00 19 49.1 -0.6**
comp=Z,4.6nm,0.6s,baz=314,slow=3.8,SNR=36
WRA PKKPbc **PKKPbc 00 37 40.6 +1.8**
comp=Z,0.4nm,0.7s,baz=108,slow=4.2,SNR=5.1
WRA LR LR 01 03 38.0
comp=Z,550nm,18.1s,baz=280,slow=39
WRAB Tennant Creek 87.48 114 *e*P **P 00 19 50.2 +0.5**
comp=Z,64nm,1.4s
WRAB LR LR
comp=Z,1μm,22.0s
WRAB Tennant Creek 87.48 114 *ce*P **P 00 19 49.9 +0.1**
WRAB pmax pmax
comp=Z,52nm,1.7s
WB2 Warramunga Arr 87.49 114 *e*P **P 00 19 50.5 +0.7**
comp=Z,68nm,1.4s
PPLA Purkeypile 87.57 13 *e*P **P 00 19 51.8 +2.1**
comp=Z,31nm,1.0s
EGAK Eagle 87.63 8 *e*P **P 00 19 50.2 +0.5**
comp=Z,58nm,1.1s
RND Reindeer 87.75 12 *e*P **P 00 19 50.1 -0.3**
comp=Z,83nm,1.5s
RND Reindeer 87.75 12 *e*P **P 00 19 50.1 -0.3**
RND pmax pmax
comp=Z,83nm,1.5s
SCRK Sand Creek 88.01 9 *e*P **P 00 19 52.0 +0.3**
comp=Z,50nm,1.0s
RIDG Independent Ri 88.11 10 *e*P **P 00 19 53.1 +1.0**
comp=Z,14nm,0.9s
DOT Dot Lake 88.31 10 *e*P **P 00 19 54.5 +1.5**
comp=Z,25nm,0.9s
DHY Denali Highway 88.32 11 *e*P **P 00 19 54.1 +0.9**
comp=Z,24nm,1.0s
ADK Adak 88.37 30 PFAKE 00 20 00.0 +6.5
ADK LR LR
comp=Z,1μm,20.0s
DAWY Dawson 88.53 7 *e*P **P 00 19 54.8 +0.7**
comp=Z,43nm,1.1s
PAX Paxson 88.73 10 *e*P **P 00 19 57.5 +2.4**
comp=Z,13nm,1.1s
PAX Paxson 88.73 10 *e*P **P 00 19 57.5 +2.4**
PAX pmax pmax
comp=Z,13nm,1.1s
ASAR Alice Springs 88.95 117 *e*P **P 00 19 56.7 0.0**
ASAR Alice Springs 88.95 117 P **P 00 19 56.2 -0.5**
comp=Z,16nm,0.9s,baz=306,slow=4.8,SNR=25
ASAR LR LR 01 02 38.0
comp=Z,273nm,18.2s,baz=292,slow=38
AS31 Alice Springs 88.95 117 *e*P **P 00 19 58.1 +1.4**
comp=Z,3.2nm,0.8s
BCAR Beaver Creek A 89.19 9 *e*P **P 00 19 58.4 +1.1**
HARP HAARP 89.31 10 *e*P **P 00 19 59.4 +1.6**
comp=Z,25nm,0.9s
SML Sawmill 89.32 12 *e*P **P 00 19 58.4 +0.5**
comp=Z,31nm,1.0s
SML Sawmill 89.32 12 *e*P **P 00 19 58.4 +0.5**
SML pmax pmax
comp=Z,31nm,1.0s
PMR Palmer 89.36 12 *e*P **P 00 19 59.7 +1.8**
comp=Z,27nm,1.0s
SCM Sheep Creek Mo 89.48 12 *e*P **P 00 19 59.3 +0.7**
comp=Z,37nm,1.3s
SCM Sheep Creek Mo 89.48 12 *e*P **P 00 19 59.3 +0.7**
SCM pmax pmax
comp=Z,37nm,1.3s
KNK Knik Glacier 89.66 12 *e*P **P 00 20 01.5 +2.1**
comp=Z,49nm,1.4s
RC01 Rabbit Creek A 89.70 13 *e*P **P 00 20 00.9 +1.3**
comp=Z,24nm,0.9s
KLU Klutina 90.04 11 *e*P **P 00 20 02.8 +1.5**
comp=Z,40nm,1.5s
BRLK Bradley Lake 90.67 14 *e*P **P 00 20 04.9 +0.7**
comp=Z,16nm,0.9s
YKW3 Yellowknife Ar 90.84 356 *e*P **P 00 20 05.2 +0.4**
comp=Z,25nm,1.3s
YKA Yellowknife Ar 90.90 356 *e*P **P 00 20 04.6 -0.6**
YKA PP **PP 00 23 45.5 +5.2**
YKA PKKPbc **PKKPbc 00 37 32.1 +1.2**
YKA Yellowknife Ar 90.90 356 P **P 00 20 05.2 +0.1**
comp=Z,3.9nm,0.8s,baz=359,slow=4.7,SNR=44
YKA PP **PP 00 23 45.4 +5.2**
comp=Z,2.0nm,0.9s,baz=1.9,slow=7.4,SNR=4.1
YKA PKKPbc **PKKPbc 00 37 32.1 +1.2**
comp=Z,0.1nm,0.6s,baz=182,slow=3.4,SNR=5.6
YKA LR LR 01 06 39.7
comp=Z,83nm,20.2s,baz=2.0,slow=39
FCC Fort Churchill 91.70 346 *e*P **P 00 20 09.0 +0.1**
comp=Z,30nm,1.1s
FCC Fort Churchill 91.70 346 *e*P **P 00 20 09.0 +0.1**
FCC pmax pmax
comp=Z,30nm,1.1s
HYT Haines Junctio 91.90 7 *e*P **P 00 20 12.3 +2.3**
comp=Z,21nm,1.0s
KDAK Kodiak Island 92.06 16 *e*P **P 00 20 12.2 +1.6**
comp=Z,26nm,0.9s
KDAK LR LR
comp=Z,805nm,22.0s
KDAK Kodiak Island 92.06 16 *ce*P **P 00 20 12.2 +1.6**
PMG Port Moresby 93.61 99 PFAKE 00 20 30.0 +11
PMG LR LR
comp=Z,618nm,22.0s
PKME Peaks-Kenny Pk 93.69 326 PFAKE 00 20 30.0 +12
PKME LR LR
comp=Z,1μm,19.0s
MAW Mawson 94.10 178 LR LR 00 57 17.4
comp=Z,647nm,19.9s,baz=354,slow=32
MATQ Matagami 94.18 333 P **P 00 20 20.0 -0.6**
baz=39
DLBC Dease Lake 94.93 4 *e*P **P 00 20 25.7 +1.7**
comp=Z,14nm,1.3s
MOQ Mont Orford 95.12 327 *e*P **P 00 20 25.1 0.0**
TRQ Mont Tremblant 95.54 329 *e*P **P 00 20 25.9 -1.1**
RCBR Riachuelo 95.87 266 PFAKE 00 20 40.0 +11
RCBR LR LR
comp=Z,20μm,21.0s
RCBR Riachuelo 95.87 266 *e*P **P 00 20 29.8 +0.9**
ALFO Alfred 96.14 329 P **P 00 20 29.7 +0.2**
baz=42
SYO Syowa Base 96.36 186⇑ *e*X P 00 20 39.0 +9.3
LONY Lake Ozonia 96.75 328 *e*P **P 00 20 31.6 -0.8**
comp=Z,21nm,1.0s
LONY LR LR
comp=Z,1μm,22.0s
LONY Lake Ozonia 96.75 328 P **P 00 20 32.2 -0.2**
baz=42
FFC Flin Flon 97.05 348 *e*P **P 00 20 33.8 +0.3**
comp=Z,11nm,1.3s
FFC LR LR
comp=Z,2μm,20.0s
FFC Flin Flon 97.05 348 *e*P **P 00 20 33.8 +0.3**
FFC pmax pmax
comp=Z,11nm,1.3s
FFC MLR MLR
comp=Z,2μm,20.0s
CTAO Charters Tower 97.48 109 PFAKE 00 20 40.0 +3.8
CTAO LR LR
comp=Z,1μm,22.0s
STKA Stephens Creek 98.80 121 LR LR 01 08 09.3
comp=Z,606nm,18.2s,baz=289,slow=37
BINY Binghamton 99.24 327 PFAKE 00 20 50.0 +6.3
BINY LR LR
comp=Z,1μm,22.0s
ULM Lac du Bonnet 99.90 343 LR LR 01 09 19.7
comp=Z,651nm,18.6s,baz=32,slow=37
EYMN Ely 100.72 340 PFAKE 00 21 00.0 +10
EYMN LR LR
comp=Z,2μm,21.0s
CASY Casey 100.94 161 PFAKE 00 21 00.0 +10
CASY LR LR
comp=Z,136nm,21.0s
GLMI Grayling 100.97 334 PFAKE 00 21 00.0 +8.7
GLMI LR LR
comp=Z,1μm,22.0s
COWI Conover 101.56 337 PFAKE 00 21 00.0 +6.1
COWI LR LR
comp=Z,1μm,20.0s
AGMN Agassiz Nation 101.68 342 PFAKE 00 21 00.0 +5.6
AGMN LR LR
comp=Z,1μm,20.0s
AAM Ann Arbor 102.66 332 PFAKE 00 21 10.0 +11
AAM LR LR
comp=Z,1μm,19.0s
CBN Corbin Frederi 102.96 325 PFAKE 00 21 10.0 +10
CBN LR LR
comp=Z,1μm,19.0s
DGMT Dagmar 103.44 348 PFAKE 00 21 10.0 +7.8
DGMT LR LR
comp=Z,1μm,20.0s
EGMT Eagleton 104.78 351 PFAKE 00 25 30.0 +6.5
EGMT LR LR
comp=Z,1μm,21.0s
HNR Honiara 105.00 93 PFAKE 00 25 30.0 +5.4
HNR LR LR
comp=Z,653nm,20.0s
BLA Blacksburg 105.26 327 PFAKE 00 25 30.0 +5.3
BLA LR LR
comp=Z,1μm,21.0s
CNNC Cliffs of the 105.49 324 PFAKE 00 25 30.0 +5.0
CNNC LR LR
comp=Z,1μm,21.0s
LAO LASA Array 105.53 349 PFAKE 00 25 30.0 +5.1
LAO LR LR
comp=Z,1μm,21.0s
ECSD EROS Data Cent 106.07 341 PFAKE 00 25 30.0 +4.1
ECSD LR LR
comp=Z,2μm,21.0s
NLWA Neilton Lookou 106.23 1 PFAKE 00 25 40.0 +14
NLWA LR LR
comp=Z,1μm,21.0s
ANWB Willy Bob 106.62 300 PFAKE 00 25 40.0 +12
ANWB LR LR
comp=Z,912nm,21.0s
SCIA State Center 106.65 338 PFAKE 00 25 40.0 +13
SCIA LR LR
comp=Z,2μm,21.0s
HAWA Hanford 107.21 358 PFAKE 00 25 40.0 +12
HAWA LR LR
comp=Z,1μm,20.0s
BOZ Bozeman (W) 107.40 352 PFAKE 00 25 40.0 +11
BOZ LR LR
comp=Z,1μm,21.0s
RLMT Red Lodge 107.55 350 PFAKE 00 25 40.0 +11
RLMT LR LR
comp=Z,1μm,20.0s
LKWY Lake 108.26 351 PFAKE 00 25 40.0 +10
LKWY LR LR
comp=Z,3μm,20.0s
NHSC New Hope 108.34 324 PFAKE 00 25 40.0 +10
NHSC LR LR
comp=Z,1μm,21.0s
BMO Blue Mountains 108.65 356 PFAKE 00 25 40.0 +9.2
BMO LR LR
comp=Z,2μm,22.0s
GRGR Grenville 109.67 295 PFAKE 00 25 40.0 +6.7
GRGR LR LR
comp=Z,606nm,20.0s
HLID Hailey 109.71 354 PFAKE 00 25 40.0 +7.0
HLID LR LR
comp=Z,2μm,21.0s
GOGA Godfrey 109.79 326 PFAKE 00 25 40.0 +6.9
GOGA LR LR
comp=Z,1μm,21.0s
BW06 Boulder Array 109.89 350 PFAKE 00 25 40.0 +6.6
BW06 LR LR
comp=Z,1μm,19.0s
PDAR Pinedale Array 109.89 350 PKiKP **PKiKP 00 25 33.4 -0.1**
comp=Z,0.5nm,0.6s,baz=5.7,slow=3.0,SNR=4.5
PDAR PP **PP 00 26 04.5 -0.1**
comp=Z,0.9nm,0.8s,baz=67,slow=5.2,SNR=4.4
PDAR PKKP **PKKPab 00 36 50.0 -0.7**
comp=Z,0.3nm,0.6s,baz=194,slow=3.1,SNR=3.8
AHID Auburn Hatcher 110.12 351 PFAKE 00 25 40.0 +6.2
AHID LR LR
comp=Z,1μm,21.0s
OGNE Ogallala 110.13 344 PFAKE 00 25 40.0 +6.3
OGNE LR LR
comp=Z,1μm,22.0s
KSU1 Kansas State U 110.30 339 PFAKE 00 25 40.0 +6.1
KSU1 LR LR
comp=Z,855nm,19.0s
GRTK Grand Turk 111.12 309 PFAKE 00 25 40.0 +4.1
GRTK LR LR
comp=Z,1μm,20.0s
HWUT Hardware Ranch 111.32 351 PFAKE 00 25 50.0 +14
HWUT LR LR
comp=Z,1μm,20.0s
CBKS Cedar Bluff 111.51 341 PFAKE 00 25 50.0 +14
CBKS LR LR
comp=Z,1μm,21.0s
SDDR Presa de Saban 112.89 307 PFAKE 00 25 50.0 +11
SDDR LR LR
comp=Z,656nm,20.0s
BRAL Brewton 113.36 327 PFAKE 00 25 50.0 +10
BRAL LR LR
comp=Z,1μm,21.0s
SDCO Great Sand Dun 114.00 346 PFAKE 00 25 50.0 +8.6
SDCO LR LR
comp=Z,1μm,22.0s
GTBY Guantanamo Bay 114.92 311 PFAKE 00 25 50.0 +6.8
GTBY LR LR
comp=Z,846nm,21.0s
PTGA Pitinga 114.97 283 PFAKE 00 25 50.0 +6.6
PTGA LR LR
comp=Z,8μm,21.0s
NVAR Mina Array Bea 115.10 357 PKP **PKiKP 00 25 43.0 -0.4**
comp=Z,1.5nm,0.7s,baz=318,slow=0.9,SNR=12
NVAR PP **PP 00 26 44.2 +2.4**
comp=Z,1.0nm,0.8s,baz=349,slow=2.8,SNR=2.7
NVAR PKKP **PKKPdf 00 36 43.0 +1.0**
comp=Z,0.5nm,0.9s,baz=186,slow=4.8,SNR=3.8
MVCO Mesa Verde 115.13 348 PFAKE 00 25 50.0 +6.5
MVCO LR LR
comp=Z,2μm,22.0s
NATX Nacogdoches 116.19 334 PFAKE 00 25 50.0 +4.6
NATX LR LR
comp=Z,980nm,19.0s
QSPA South Pole Qui 116.55 180 *e*PKPdf **PKPdf 00 25 44.5 -0.4**
QSPA South Pole Qui 116.55 180 PKP **PKPdf 00 25 43.7 -1.2**
comp=Z,2.2nm,0.6s,baz=113,slow=0.8,SNR=23
ANMO Albuquerque 116.89 346 PFAKE 00 26 00.0 +13
ANMO LR LR
comp=Z,1μm,22.0s
MTDJ Mount Denham 117.74 311 PFAKE 00 26 00.0 +11
MTDJ LR LR
comp=Z,520nm,20.0s
VNDA Vanda 118.92 166 PKP **PKPdf 00 25 48.9 -0.3**
comp=Z,0.4nm,0.7s,baz=180,slow=4.0,SNR=2.3
VNDA PKKPbc **PKKPbc 00 36 05.8 -0.4**
comp=Z,1.3nm,0.9s,baz=146,slow=1.2,SNR=7.0
MNTX Cornudas Mount 119.74 343 *e*PKPdf **PKiKP 00 25 52.9 +0.6**
MNTX LR LR
comp=Z,966nm,20.0s
PFO Pinyon Flats O 119.77 354 PFAKE 00 26 00.0 +7.5
PFO LR LR
comp=Z,786nm,20.0s
SBA Scott Base 119.90 167 PFAKE 00 26 00.0 +8.9
SBA LR LR
comp=Z,995nm,21.0s
TUC Tucson 120.31 349 *e*PKPdf **PKiKP 00 25 54.7 +1.2**
TUC Tucson 120.31 349 *e*PKIKP **PKiKP 00 25 54.7 +1.2**
KVTX Kingsville 121.21 335 PFAKE 00 26 00.0 +4.8
KVTX LR LR
comp=Z,1μm,20.0s
TX31 Lajitas Ar. Si 121.51 341 *e*PKPdf **PKiKP 00 25 56.4 +0.4**
TXAR Lajitas Array 121.51 341 PKiKP **PKPdf 00 25 55.7 -0.1**
TXAR 00 27 30.4
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=Z,3.0nm,1.2s
TXAR Lajitas Array 121.51 341 PKP **PKPdf 00 25 55.7 -0.1**
comp=Z,2.0nm,0.8s,baz=86,slow=0.7,SNR=12
TXAR PP **PP 00 27 30.4 +4.2**
comp=Z,2.5nm,1.1s,baz=60,slow=4.3,SNR=3.6
FUNA Funafuti 121.81 83 PFAKE 00 26 10.0 +13
FUNA LR LR
comp=Z,5μm,19.0s
SIV San Ignacio 122.52 267 PKKPbc PKKPbc 00 35 51.9 +0.5
comp=Z,1.5nm,0.9s,baz=249,slow=3.9,SNR=6.2
CPUP Villa Florida 122.54 255 PKP **PKPdf 00 25 57.2 -0.4**
comp=Z,0.8nm,0.5s,baz=0.0,slow=2.0,SNR=2.8
CHIC Chingaza 123.72 296 *e*P **PKPdf 00 25 59.5 -1.3**
CHIC Chingaza 123.72 296 *e*P **PKPdf 00 25 59.5 -1.3**
ROSC El Rosal 124.06 297 PKP **PKPdf 00 26 01.5 +0.1**
comp=Z,5.7nm,0.6s,baz=90,slow=20,SNR=3.5
PRAC Prado 125.19 296 *e*P **PKPdf 00 26 03.1 0.0**
PRAC Prado 125.19 296 *e*P **PKPdf 00 26 03.1 0.0**
BCIP Isla Barro Col 125.57 305 PFAKE 00 26 10.0 +5.8
BCIP LR LR
comp=Z,345nm,21.0s
YOTC Yotoco, Valle 126.19 297 *e*P **PKPdf 00 26 03.5 -1.7**
YOTC Yotoco, Valle 126.19 297 *e*P **PKPdf 00 26 03.5 -1.7**
EFI East Falkland 126.34 224 PFAKE 00 26 10.0 +5.5
EFI LR LR
comp=Z,2μm,22.0s
FLOC Florencia 127.05 295 *e*P **PKPdf 00 26 06.0 -0.7**
FLOC Florencia 127.05 295 *e*P **PKPdf 00 26 06.0 -0.7**
PCON Cinco Dias 127.22 296 *e*P **PKiKP 00 26 10.0 +1.8**
PCON Cinco Dias 127.22 296 *e*P **PKiKP 00 26 10.0 +1.8**
POPC Popayan, Colom 127.31 296 *e*P **PKPdf 00 26 06.3 -1.2**
POPC Popayan, Colom 127.31 296 *e*P **PKPdf 00 26 06.3 -1.2**
SOTA Rioblanco 127.50 296 *e*P **PKiKP 00 26 09.5 +0.8**

SOTA Rioblanco 127.50 296 *e*P **PKiKP 00 26 09.5 +0.8**
JTS Las Juntas de 128.41 310 PFAKE 00 26 20.0 +10
JTS LR LR
comp=Z,654nm,21.0s
LPAZ La Paz 128.94 270 PKP **PKiKP 00 26 11.8 +0.2**
comp=Z,1.6nm,0.7s,baz=245,slow=3.6,SNR=7.1
OTAV Otavalo 130.10 295 *e*PKPdf **PKiKP 00 26 14.9 +1.0**
OTAV LR LR
comp=Z,79nm,19.0s
OTAV Otavalo 130.10 295 *e*P **PKPdf 00 26 13.2 +0.1**
OTAV Otavalo 130.10 295 *e*PKIKP **PKiKP 00 26 14.9 +1.0**
OTAV MLR MLR
comp=Z,79nm,19.0s
OTAV Otavalo 130.10 295 *e*P **PKPdf 00 26 13.2 +0.1**
LVC Limon Verde 131.66 263 PFAKE 00 26 20.0 +3.4
LVC LR LR
comp=Z,862nm,22.0s
LCO Las Campanas 134.69 255 PFAKE 00 26 30.0 +7.6
LCO LR LR
comp=Z,610nm,19.0s
LCO Las Campanas 134.69 255 *e*P **PKPdf 00 26 19.3 -1.7**
NNA Nana 135.00 280 PFAKE 00 26 30.0 +6.8
NNA LR LR
comp=Z,635nm,21.0s
PLCA Paso Flores 135.41 238 PKhKP PKPpre 00 26 13.0
comp=Z,2.2nm,0.9s,baz=43,slow=9.4,SNR=3.0
PAYG Puerto Ayora 139.85 305 PFAKE 00 26 40.0 +6.9
PAYG LR LR
comp=Z,318nm,19.0s
PPT2 Papeete2 153.14 76 *e*LR LR 01 18 12.9
comp=Z,1μm,24.2s
TBI Tubual 155.11 88 *e*LR LR 01 19 00.4
comp=Z,1μm,26.0s

PDG **12** *00:07:43.4±0.4, 43°.72N×17°.13E, h2km, ML2.9/11, Error ellipse: s-maj=0.6km s-min=1.2km az=0.0*
BEO **12** *00:07:43.5±0.6, 43°.80N×17°.19E, h0km, ML2.7/5*
SAR **12** *00:07:44.5±0.3, 43°.74N×17°.23E, h3km±1km, ML2.8/1*
ISC 12 00:07:44.1±1.1, 43°.76N±0°.02×17°.28E±0°.02, h2km±10km, n77, σ1§55/129, 11C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGRS	**Mrkonjic Grad**	**0.67**	**348**	*e*Pg	**Pg**	**00 07 56.7**	**-0.2**
MGRS				*e*Sg	**Sg**	**00 08 06.1**	**+0.5**
STON	**Ston**	**0.94**	**161**	*e*Pg	**Pg**	**00 08 00.6**	**-1.7**
STON				*e*Sg	**Sb**	**00 08 15.7**	**-0.4**
STON	**Ston**	**0.94**	**161**	*i* Pg	**Pg**	**00 08 00.5**	**-1.7**
STON				Sg	**Sb**	**00 08 15.2**	**-0.9**
STON	**Ston**	**0.94**	**161**	⇑*i*Pg	**Pg**	**00 08 00.5**	**-1.7**
STON				*e*Sg	**Sg**	**00 08 14.9**	**+0.5**
BLY	**Banja Luka**	**0.99**	**356**	⇑*i*P	**Pg**	**00 08 02.5**	**-0.6**
BLY				S	**Sg**	**00 08 16.0**	**+0.1**
BLY	**Banja Luka**	**0.99**	**356**	⇓*i*Pg	**Pg**	**00 08 02.7**	**-0.4**
BLY				*e*Sg	**Sb**	**00 08 17.1**	**-0.3**
DOB	**Doboj**	**1.14**	**31**	*e*Pg	**Pg**	**00 08 05.1**	**-0.8**
DOB				*e*Sg	**Sb**	**00 08 21.9**	**+0.2**
HAPS	**Han Pijesak,BI**	**1.25**	**74**	*e*Pg	**Pg**	**00 08 07.6**	**-0.5**
HAPS				*e*Sg	**Sn**	**00 08 25.8**	**-0.4**
BRY	**Bratogost**	**1.26**	**133**	*e*Pg	**Pg**	**00 08 07.2**	**-1.1**
BRY				*e*Sg	**Sb**	**00 08 25.5**	**+0.1**
TREB	**Trebinje**	**1.31**	**143**	*e*Pg	**Pn**	**00 08 07.2**	**-2.2**
TREB				*e*Sg	**Sn**	**00 08 27.6**	**+0.2**
TREB	**Trebinje**	**1.31**	**143**	*e*Pg	**Pn**	**00 08 07.4**	**-2.0**
TREB				*e*Sg	**Sb**	**00 08 26.7**	**+0.1**
UPM	**Unac-Piva**	**1.31**	**115**	⇓*i*Pg	**Pg**	**00 08 08.6**	**-0.7**
UPM				*e*Sg	**Sn**	**00 08 31.0**	**+3.3**
UPM	**Unac-Piva**	**1.31**	**115**	⇑*i*Pg	**Pg**	**00 08 08.8**	**-0.5**
UPM				*e*Sg	**Sb**	**00 08 27.1**	**+0.2**
UDBI	**Udbina**	**1.33**	**306**	*e*Pn	**Pn**	**00 08 07.6**	**-2.1**
UDBI				Sn	**Sn**	**00 08 29.8**	**+1.7**
BBLS	**Lazići**	**1.54**	**85**	*e*Pg	**Pn**	**00 08 12.5**	**-0.2**
BBLS				*e*Sg	**Sg**	**00 08 34.2**	**+0.5**
BBLS	**Lazići**	**1.54**	**85**	⇑*i*Pg	**Pn**	**00 08 12.3**	**-0.4**
BBLS				*e*Sg	**Sg**	**00 08 34.7**	**+1.0**
NKY	**Niksic**	**1.57**	**127**	⇑*i*Pn	**Pb**	**00 08 13.8**	**-0.2**
NKY				*e*Sn	**Sg**	**00 08 39.0**	**+4.3**
NKME	**Niksic**	**1.58**	**129**	⇑*i*Pn	**Pn**	**00 08 13.5**	**+0.4**
NKME				*e*Sn	**Sg**	**00 08 38.6**	**+3.8**
HCY	**Herceg Novi**	**1.59**	**145**	⇑*i*Pn	**Pn**	**00 08 13.3**	**+0.1**
HCY				*e*Sn	**Sg**	**00 08 38.1**	**+2.9**
HCY	**Herceg Novi**	**1.59**	**145**	*e*Pn	**Pn**	**00 08 13.5**	**+0.3**
HCY				*e*Sn	**Sg**	**00 08 35.2**	**0.0**
PLE	**Pljevlja**	**1.60**	**105**	⇓*i*Pn	**Pn**	**00 08 13.9**	**+0.5**
PLE				*e*Sn	**Sg**	**00 08 39.8**	**+4.4**
CEME	**Cevo**	**1.71**	**135**	⇑*i*Pn	**Pb**	**00 08 15.7**	**-0.6**
CEME				*e*Sn	**Sg**	**00 08 42.2**	**+3.2**
BLJ	**Bijeljina**	**1.76**	**54**	*e*Pn	**Pn**	**00 08 15.0**	**-0.5**
BLJ				*e*Sn	**Sn**	**00 08 38.1**	**-0.3**
KOME	**Kolasin**	**1.87**	**118**	⇓*i*Pn	**Pb**	**00 08 18.6**	**-0.5**
KOME				*e*Sn	**Sg**	**00 08 46.7**	**+2.4**
BUM	**Brajici-Budva**	**1.88**	**140**	⇓*i*Pn	**Pb**	**00 08 19.1**	**-0.1**
BUM				*e*Sn	**Sg**	**00 08 45.5**	**+0.9**
NVLJ	**Novalja**	**1.91**	**296**	*e*Pn	**Pn**	**00 08 18.1**	**+0.6**
NVLJ				Sn	**Sg**	**00 08 45.1**	**-0.3**
PDG	**Podgorica**	**1.97**	**132**	*e*Pg	**Pb**	**00 08 20.4**	**-0.2**
PDG				*e*Sg	**Sg**	**00 08 49.4**	**+2.0**
PDG	**Podgorica**	**1.97**	**132**	⇓*i*P	**Pn**	**00 08 18.8**	**+0.4**
PDG	**Podgorica**	**1.97**	**132**	S	**Sg**	**00 08 49.4**	**+2.0**
PDG	**Podgorica**	**1.97**	**132**	*e*Pn	**Pn**	**00 08 19.2**	**+0.8**
PDG				*e*Sn	**Sn**	**00 08 44.5**	**+0.8**
TTG	**Podgorica**	**1.97**	**132**	⇓*i*Pn	**Pb**	**00 08 19.7**	**-0.9**
TTG				*e*Sn	**Sg**	**00 08 48.1**	**+0.7**
DIVS	**Divibare**	**1.99**	**79**	*e*Pg	**Pb**	**00 08 21.0**	**-0.1**
DIVS				*e*Sg	**Sg**	**00 08 49.6**	**+1.5**
DIVS	**Divibare**	**1.99**	**79**	*e*Pn	**Pn**	**00 08 18.8**	**0.0**
DIVS				*e*Sn	**Sn**	**00 08 45.4**	**+1.0**
SJES	**Sjenica**	**2.03**	**103**	*e*Pg	**Pn**	**00 08 20.1**	**+0.8**
SJES				*e*Sg	**Sg**	**00 08 49.0**	**-0.2**
IVAS	**Ivanjica**	**2.10**	**94**	*e*Pg	**Pn**	**00 08 21.5**	**+1.2**
IVAS				*e*Sg	**Sg**	**00 08 51.7**	**+0.3**
DRME	**Dracevica, Mon**	**2.11**	**138**	⇓*i*Pn	**Pb**	**00 08 22.0**	**-1.0**
DRME				*e*Sn	**Sg**	**00 08 51.8**	**0.0**
DRME	**Dracevica, Mon**	**2.11**	**138**	*e*Pn	**Pn**	**00 08 21.3**	**+0.9**
DRME				*e*Sn	**Sn**	**00 08 47.0**	**-0.1**
IVA	**Berane**	**2.11**	**114**	⇓*i*Pn	**Pb**	**00 08 21.9**	**-1.2**
IVA				*e*Sn	**Sg**	**00 08 52.1**	**+0.3**
ZAG	**Zagreb**	**2.26**	**336**	*e*Sn	**Sn**	**00 08 51.2**	**+0.4**
PVY	**Plav**	**2.28**	**120**	⇓*i*Pn	**Pb**	**00 08 25.0**	**-1.1**
PVY				*e*Sn	**Sg**	**00 08 56.9**	**-0.6**
FRGS	**Fruska Gora**	**2.29**	**52**	*e*Pn	**Pn**	**00 08 24.4**	**+1.5**
FRGS				*e*Sn	**Sn**	**00 08 51.5**	**-0.1**
FRGS	**Fruska Gora**	**2.29**	**52**	*e*Pn	**Pn**	**00 08 24.1**	**+1.2**
FRGS				*e*Sn	**Sn**	**00 08 52.6**	**+1.0**
ULC	**Ulcinj**	**2.31**	**141**	⇓*i*Pn	**Pn**	**00 08 24.1**	**+0.9**
ULC				*e*Sn	**Sb**	**00 08 56.5**	**+1.1**
CRES	**Cresnjev**	**2.44**	**329**	*e*Pn	**Pn**	**00 08 25.0**	**+0.1**
CRES				*e*Sn	**Sn**	**00 08 55.0**	**-0.2**
GRUS	**Gruza**	**2.49**	**86**	*e*Pn	**Pn**	**00 08 25.8**	**+0.1**
RIY	**Rijeka**	**2.54**	**309**	*e*Pn	**Pn**	**00 08 26.8**	**+0.6**
RIY				*e*Sn	**Sn**	**00 08 57.9**	**+0.3**
MORH	**Mrgy, Hungar**	**2.64**	**21**	*e*Sn	**Sn**	**00 09 00.9**	**+0.8**
BEHE	**Becsehely**	**2.73**	**353**	*e*Pn	**Pn**	**00 08 29.0**	**+0.1**
BEHE				*e*Sn	**Sn**	**00 09 03.4**	**+0.9**
CEY	**Cerknica**	**2.83**	**315**	*e*Pn	**Pn**	**00 08 30.7**	**+0.3**
CEY				*e*Sn	**Sn**	**00 09 04.6**	**-0.4**
SELS	**Selova**	**2.85**	**100**	*e*Pn	**Pn**	**00 08 30.5**	**-0.1**
MATE	**Matera**	**3.14**	**188**	S	**Sn**	**00 09 09.5**	**-3.0**
BOVS	**Bovan**	**3.21**	**91**	*e*Pn	**Pn**	**00 08 35.7**	**+0.1**
SOKA	**Soboth**	**3.32**	**332**	*e*Pn	**Pn**	**00 08 38.2**	**+1.2**
SOKA	0.8nm,0.2s			*e*Sn	**Sn**	**00 09 17.6**	**+0.5**
	2.8nm,0.5s						
MDVR	**Moldovita**	**3.35**	**71**	⇑*i*P	**Pn**	**00 08 37.2**	**-0.2**
OBKA	**Obir**	**3.36**	**326**	Pg	**Pg**	**00 08 47.2**	**-1.2**
	2.0nm,0.3s						
BARS	**Barje**	**3.45**	**104**	*e*Pn	**Pn**	**00 08 39.9**	**+1.1**
BZS	**Buzias**	**3.61**	**58**	⇓*i*P	**Pn**	**00 08 40.2**	**-0.8**
BZS	**Buzias**	**3.61**	**58**	S	**Sn**	**00 09 23.3**	**-0.8**
ARSA	**Arzberg**	**3.70**	**341**	*e*Pn	**Pn**	**00 08 42.4**	**+0.1**
	4.0nm,0.3s						
ARSA				*e*Sn	**Sn**	**00 09 25.1**	**-1.3**
	2.2nm,0.3s						
HERR	**Herculane**	**3.85**	**71**	S	**Sn**	**00 09 29.2**	**-1.0**
ZAPS	**Zavoj**	**3.93**	**95**	*e*Pn	**Pn**	**00 08 45.6**	**+0.2**
SIRR	**Siria**	**3.99**	**50**	⇓*i*P	**Pn**	**00 08 45.2**	**-1.1**
SIRR	**Siria**	**3.99**	**50**	S	**Sn**	**00 09 32.7**	**-0.9**
GZR	**Gura Zlata**	**4.25**	**66**	⇓*i*P	**Pn**	**00 08 48.5**	**-1.4**
GZR	**Gura Zlata**	**4.25**	**66**	S	**Sn**	**00 09 40.4**	**+0.2**
CONA	**Conrad Observa**	**4.28**	**347**	*e*Pn	**Pn**	**00 08 50.7**	**+0.4**
	1.3nm,0.3s						
CONA				Sn	**Sn**	**00 09 41.2**	**+0.4**
	2.2nm,0.5s						
VTS	**Vitosha**	**4.50**	**103**	⇑*i*P	**Pn**	**00 08 52.2**	**-1.3**
VTS	**Vitosha**	**4.50**	**103**	S	**Sn**	**00 09 45.3**	**-1.2**
PSZ	**Piszkesteto**	**4.54**	**23**	⇑*i*P	**Pn**	**00 08 52.2**	**-1.7**
PSZ	**Piszkesteto**	**4.54**	**23**	S	**Sn**	**00 09 46.4**	**-0.8**
MOA	**Molln**	**4.60**	**334**	*e*Pn	**Pn**	**00 08 55.6**	**+1.0**
	1.3nm,0.3s						
MOA				*e*Sn	**Sn**	**00 09 50.4**	**+1.8**
	1.2nm,0.3s						
VYHS	**Vyhne**	**4.85**	**12**	*e*PN	**Pn**	**00 08 58.2**	**+0.1**
VYHS				*e*SN	**Sn**	**00 09 47.2**	**-7.7**
WTTA	**Wattenberg**	**5.29**	**313**	*e*Pn	**Pn**	**00 09 05.8**	**+1.6**
	1.8nm,0.2s						
WTTA				*e*Sn	**Sn**	**00 10 09.1**	**+3.3**
	2.7nm,0.5s						
WATA	**Walderalm**	**5.36**	**314**	*e*Pn	**Pn**	**00 09 07.2**	**+2.0**
	2.1nm,0.2s						
SQTA	**Sankt Quirin**	**5.49**	**311**	*i* Pn	**Pn**	**00 09 09.8**	**+2.8**
SQTA				*e*Sn	**Sn**	**00 10 14.3**	**+3.6**
	2.5nm,0.3s						
MOTA	**Moosalm**	**5.62**	**312**	*e*Pn	**Pn**	**00 09 10.6**	**+1.8**
	1.2nm,0.3s						
RETA	**Reutte**	**5.89**	**311**	*e*Pn	**Pn**	**00 09 14.0**	**+1.6**
	1.5nm,0.5s						
RETA				*e*Sn	**Sn**	**00 10 24.2**	**+3.7**
	0.8nm,0.3s						

SAR **12** *00:10:34.0±0.4, 43°.74N×17°.24E, h4km±2km, ML1.9/8*
BEO **12** *00:10:35.4±1.2, 43°.73N×17°.26E, h0km, ML1.7/5*
ISC 12 00:10:32.8±1.2, 43°.73N±0°.02×17°.19E±0°.04, h1km±11km, n21, σ1§32/38, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGRS	**Mrkonjic Grad**	**0.69**	**354**	*e*Pg	**Pg**	**00 10 46.0**	**0.0**
MGRS				*e*Sg	**Sg**	**00 10 55.7**	**+0.7**
STON	**Ston**	**0.94**	**156**	*e*Pg	**Pg**	**00 10 49.9**	**-0.9**
STON				Sg	**Sb**	**00 11 04.7**	**0.0**
STON	**Ston**	**0.94**	**156**	*e*Pg	**Pg**	**00 10 49.9**	**-0.9**
STON				*e*Sg	**Sg**	**00 11 03.6**	**+0.7**
BLY	**Banja Luka**	**1.02**	**360**	*e*Pg	**Pg**	**00 10 52.2**	**-0.1**
BLY				*e*Sg	**Sg**	**00 11 06.1**	**+0.6**
DOB	**Doboj**	**1.20**	**33**	*e*Pg	**Pb**	**00 10 55.5**	**-0.8**
DOB				*e*Sg	**Sb**	**00 11 10.8**	**-1.5**
BRY	**Bratogost**	**1.29**	**130**	*e*Pg	**Pn**	**00 10 56.4**	**-1.7**
BRY				*e*Sg	**Sg**	**00 11 14.6**	**+0.4**
UDBI	**Udbina**	**1.30**	**308**	*e*Pn	**Pn**	**00 10 57.5**	**-0.7**
HAPS	**Han Pijesak,BI**	**1.32**	**74**	*e*Pg	**Pn**	**00 10 57.2**	**-1.3**
HAPS				*e*Sg	**Sb**	**00 11 15.0**	**-1.0**
TREB	**Trebinje**	**1.32**	**140**	*e*Pg	**Pn**	**00 10 56.9**	**-1.5**
TREB				*e*Sg	**Sg**	**00 11 16.8**	**+1.5**
TREB	**Trebinje**	**1.32**	**140**	*e*Pg	**Pn**	**00 10 56.7**	**-1.7**
TREB				*e*Sg	**Sg**	**00 11 15.9**	**+0.6**
HCY	**Herceg Novi**	**1.60**	**143**	*e*Pn	**Pb**	**00 11 03.0**	**-0.2**
HCY				*e*Sn	**Sb**	**00 11 24.1**	**+0.2**
BBLS	**Lazići**	**1.61**	**84**	*e*Pg	**Pb**	**00 11 03.4**	**0.0**
BBLS				*e*Sg	**Sg**	**00 11 25.0**	**+0.4**
BBLS	**Lazići**	**1.61**	**84**	*e*Pn	**Pn**	**00 11 02.2**	**-0.3**
BBLS				*e*Sn	**Sb**	**00 11 22.9**	**-1.4**
NVLJ	**Novalja**	**1.86**	**297**	*e*Pn	**Pb**	**00 11 08.3**	**+0.7**
PDG	**Podgorica**	**2.00**	**130**	*e*Pg	**Pg**	**00 11 11.1**	**0.0**
PDG				*e*Sg	**Sg**	**00 11 37.9**	**+1.0**
PDG	**Podgorica**	**2.00**	**130**	*e*Pn	**Pn**	**00 11 08.3**	**+0.6**
PDG				*e*Sn	**Sn**	**00 11 33.4**	**+0.1**
DIVS	**Divibare**	**2.06**	**79**	*e*Pg	**Pg**	**00 11 12.1**	**-0.2**
DIVS				*e*Sg	**Sg**	**00 11 39.3**	**+0.3**
DIVS	**Divibare**	**2.06**	**79**	*e*Pn	**Pn**	**00 11 08.5**	**-0.1**
DIVS				*e*Sn	**Sn**	**00 11 33.8**	**-1.2**
DRME	**Dracevica, Mon**	**2.13**	**136**	*e*Pn	**Pn**	**00 11 10.5**	**+1.0**
DRME				*e*Sn	**Sb**	**00 11 37.4**	**-1.7**
IVAS	**Ivanjica**	**2.16**	**93**	*e*Sg	**Pn**	**00 11 13.5**	**+3.5**
IVAS	**Ivanjica**	**2.16**	**93**	*e*Pg	**Sn**	**00 11 41.5**	**+4.1**

HEL **12** *00:14:44.0, 67°.81N×20°.03E, h0km, ML1.8, Explosion*
UPP 12 00:14:44.8±0.0, 67°.82N×20°.20E, h0km, ML1.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**20**	P	Pg	00 14 47.9	+0.2
KUA				S	Sg	00 14 49.9	+0.4
KUA	**Kurravaara**	**0.15**	**20**	*i* P	Pg	00 14 47.9	+0.2
KUA				*i* S	Sg	00 14 49.9	+0.4
RATU	**Laukkuluspa**	**0.23**	**272**	P	Pg	00 14 49.5	+0.3
RATU	**Laukkuluspa**	**0.23**	**272**	*i* P	Pg	00 14 49.5	+0.3
NIKU	**Nikkaluokta**	**0.45**	**277**	P	Pg	00 14 53.4	0.0
NIKU	**Nikkaluokta**	**0.45**	**277**	*i* P	Pg	00 14 53.4	0.0
DUNU	**Dundret**	**0.71**	**168**	P	Pg	00 14 58.2	-0.2
DUNU	**Dundret**	**0.71**	**168**	*i* P	Pg	00 14 58.2	-0.2
LANU	**Lannavaara**	**0.71**	**70**	P	Pg	00 14 58.2	-0.2
LANU	**Lannavaara**	**0.71**	**70**	*e*P	Pg	00 14 58.1	-0.3
	baz=261						
LANU				*e*S	Sg	00 15 07.6	-0.1
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 14 59.5	-0.1
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	00 14 59.5	-0.1
SALU	**Saltoluokta**	**0.78**	**237**	P	Pg	00 14 59.6	-0.2
SALU	**Saltoluokta**	**0.78**	**237**	*i* P	Pg	00 14 59.6	-0.2
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*PB	Pb	00 15 08.6	0.0
	baz=184						
KIF				MSG		00 15 22.6	
	comp=Z,7.7nm,0.2s						
KIF				*e*SB	Sg	00 15 24.0	+0.2
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 15 10.1	-1.1
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	00 15 10.1	-1.1
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	00 15 10.7	-1.2
	baz=240						
HEF				MSG		00 15 28.8	
	comp=Z,8.7nm,0.2s						
HEF				*e*SN	Sn	00 15 33.9	+2.5
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	00 15 11.9	-0.8
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	Pn	00 15 12.0	-0.8
	baz=327						
ERTU				*e*SN	Sb	00 15 32.6	0.0
HARU	**Harads**	**1.69**	**169**	P	Pn	00 15 15.6	+0.1
HARU	**Harads**	**1.69**	**169**	*e*P	Pn	00 15 15.6	+0.1
KALU	**Kalix**	**2.33**	**146**	*e*PB	Pb	00 15 26.2	-1.4
	baz=328						
KALU				*e*SG	Sb	00 15 57.5	+0.8
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	00 15 27.9	-1.7
	baz=274						

UPP 12 00:14:47.7±0.1, 67°.82N×20°.24E, h0km, ML1.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**16**	P	Pg	00 14 50.6	+0.2
KUA				S	Sg	00 14 52.8	+0.6
NIKU	**Nikkaluokta**	**0.46**	**277**	P	Pg	00 14 56.4	0.0
DUNU	**Dundret**	**0.71**	**169**	P	Pg	00 15 01.1	-0.2
PAJU	**Pajala**	**1.37**	**124**	P	Pg	00 15 12.9	-0.9
PAJU				S	Sg	00 15 31.2	-0.4

IDC 12 00:21:10.9±2.8, 30°.86S×176°.86W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/38, mbtmp3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.9/11, Error ellipse: s-maj=58.5km s-min=35.8km az=83.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.85**	**330**	Pn	Pn	00 21 43.4	-0.4
	54nm,0.3s,baz=307,slow=20,SNR=1.9						
RAO				Sn	Sb	00 22 09.1	-0.1
	120nm,0.3s,baz=113,slow=21,SNR=2.8						
HNR	**Honiara**	**30.34**	**310**	LR	LR	00 38 47.9	
	comp=Z,71nm,18.4s,baz=85,slow=35						
ASAR	**Alice Springs**	**44.06**	**267**	P	P	00 29 20.5	-0.4
	0.3nm,0.6s,baz=112,slow=6.8,SNR=1.7						
WRA	**Warramunga Arr**	**45.09**	**272**	P	P	00 29 29.2	+0.1
	0.2nm,0.3s,baz=111,slow=8.1,SNR=11						
FINES	**FINESS Array B**	**145.91**	**340**	PKPbc	PKPdf	00 40 50.8	-0.2
	0.5nm,0.6s,baz=69,slow=4.6,SNR=7.0						

IDC **12** *00:24:53.5±0.8, 26°.55N×57°.66E, h0km, mb3.8/22, mb1 3.9/24, mb1mx3.8/58, mbtmp3.9/24, ML3.5/2, Error ellipse: s-maj=16.6km s-min=13.9km az=142.0*
ISCJB **12** *00:24:54.1±0.3, 26°.58N±0°.03×57°.74E±0°.04, h10km, mb4.0/32, Error ellipse: s-maj=4.9km s-min=4.5km az=179.7*
DSN **12** *00:24:55.9±3.0, 26°.64N×58°.00E, h10km, ML4.2/9, Error ellipse: s-maj=41.0km s-min=12.8km az=6.0*
NEIC **12** *00:24:56.0±0.0, 26°.58N×57°.48E, h15km, mb4.2/12, ML4.2(THR), MN4.3(TEH), After THR.*
TEH **12** *00:24:58.1, 26°.67N×57°.66E, h16km, ML4.2*
OMAN **12** *00:24:58.7±87.0, 26°.66N×57°.77E, h20km, ml4.3/6, Error ellipse: s-maj=995.8km s-min=123.1km az=29.0*
ISC 12 00:24:55.0±0.4, 26°.45N±0°.04×57°.73E±0°.04, h10km, n138, σ1§46/141, mb4.1/42, 11C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.36**	**324**	*e*Pg	**Pn**	**00 25 20.5**	**+0.4**
NIAN				IAMB	IAmb	00 25 50.2	
	comp=Z,0.0nm,0.3s						
SHME	**Shamm**	**1.48**	**255**	*e*P	**Pg**	**00 25 25.8**	**+2.4**
	SNR=60						
SHME				S	**Sg**	**00 25 50.0**	**+7.2**
SHME	**Shamm**	**1.48**	**255**	*e*Pn	**Pg**	**00 25 25.9**	**+2.4**
GENO	**Geno**	**1.68**	**304**	*e*Pn	**Pb**	**00 25 26.5**	**+0.3**
GENO				IAMB	IAmb	00 25 59.8	
	comp=Z,0.0nm,0.4s						
BNDS	**Bandar-Abbas**	**1.68**	**304**	*e*Pg	**Pn**	**00 25 21.7**	**-2.9**
MSFE	**Esma-Masafi**	**1.79**	**233**	*e*P	**Pg**	**00 25 29.1**	**-0.2**
	SNR=41						
MSFE	**Esma-Masafi**	**1.79**	**233**	*e*Pn	**Pg**	**00 25 28.8**	**-0.5**
UMQ	**Umm Al-Quwin**	**2.08**	**244**	*e*P	**Pg**	**00 25 36.2**	**+1.4**
	SNR=10						
UMQ	**Umm Al-Quwin**	**2.08**	**244**	*e*Pn	**Pg**	**00 25 36.3**	**+1.4**
HATD	**Hatta, Dubai**	**2.17**	**222**	*e*P	**Pb**	**00 25 35.5**	**+1.1**
	SNR=37						
HATD	**Hatta, Dubai**	**2.17**	**222**	*e*Pn	**Pg**	**00 25 35.7**	**-0.9**
ASHO	**Ashiyiah**	**2.32**	**221**	*e*P	**Pb**	**00 25 38.2**	**+1.2**
	SNR=23						
ASHO	**Ashiyiah**	**2.32**	**221**	*e*Pn	**Pb**	**00 25 36.1**	**-0.9**
NAZ	**Nazwa, Dubai**	**2.37**	**232**	*e*P	**Pb**	**00 25 39.1**	**+1.3**
	SNR=64						
NAZ	**Nazwa, Dubai**	**2.37**	**232**	P	**Pg**	**00 25 41.0**	**+0.5**
	SNR=13						
NAZ	**Nazwa, Dubai**	**2.37**	**232**	*e*Pn	**Pg**	**00 25 41.2**	**+0.8**
FAQ	**Al Faqa, Dubai**	**2.58**	**229**	*e*P	**Pg**	**00 25 43.3**	**-1.1**
	SNR=13						
FAQ	**Al Faqa, Dubai**	**2.58**	**229**	P	**Pg**	**00 25 43.1**	**-1.2**
	SNR=7.9						
FAQ	**Al Faqa, Dubai**	**2.58**	**229**	*e*Pn	**Pb**	**00 25 42.4**	**+1.1**
CHBR	**Chabahar**	**2.62**	**108**	*e*Pn	**Pb**	**00 25 42.9**	**+0.9**
ASUD	**Al Ashush, Dub**	**2.83**	**231**	*i* P	**Pb**	**00 25 46.2**	**+0.5**
	SNR=72						
ASUD	**Al Ashush, Dub**	**2.83**	**231**	*e*Pn	**Pb**	**00 25 46.3**	**+0.6**
ALNE	**Al Ain**	**2.99**	**217**	*i* P	**Pb**	**00 25 47.6**	**-0.6**
	SNR=36						
ALNE	**Al Ain**	**2.99**	**217**	*e*Pn	**Pb**	**00 25 47.7**	**-0.6**
AJN	**Ajban**	**3.12**	**233**	P	**Pb**	**00 25 50.6**	**+0.1**
	SNR=7.9						
AJN	**Ajban**	**3.12**	**233**	*e*Pn	**Pb**	**00 25 50.3**	**-0.2**
ARQ	**Araqi**	**3.29**	**200**	P	**Pb**	**00 25 52.3**	**-1.2**
	SNR=8.4						
NGRK	**Negar Kerman**	**3.30**	**345**	*e*Pn	**Pn**	**00 25 47.3**	**+0.2**
NGRK				IAMB	IAmb	00 26 43.7	
	comp=Z,0.0nm,0.6s						
WSAR	**Wadi Sarin**	**3.30**	**166**	Pn	**Pn**	**00 25 49.7**	**+2.9**
	comp=Z,29nm,0.3s,baz=349,slow=8.0,SNR=117						
WSAR				Sn	**Sn**	**00 26 28.0**	**+1.9**
	comp=Z,24nm,0.3s,baz=357,slow=16,SNR=13						
CHMN	**Cheshme madani**	**3.40**	**357**	*e*Pn	**Pn**	**00 25 49.5**	**+1.1**
CHMN				IAMB	IAmb	00 26 51.6	
	comp=Z,0.0nm,0.7s						
TVBK	**TV Kerman**	**3.62**	**347**	*e*Pn	**Pn**	**00

comp=Z,4.2nm,0.7s
KIEV **Kiev** 32.56 326⇑ *i*P P 00 31 26.6 +0.4
LOT **Lotru** 33.06 314⇓ *i*P P 00 31 30.4 -0.4
FNA **Florina** 33.22 305 *e*P P 00 31 31.3 -1.0
comp=Z,7.1nm,0.8s
GZR **Gura Zlata** 33.68 313⇑ *i*P P 00 31 36.0 -0.2
KMBO **Kilima Mbogo** 33.80 219 P P 00 31 38.5 +0.8
comp=Z,0.6nm,0.4s,baz=68,slow=19,SNR=1.9
ZALV **Zalesovo Beam** 33.98 29 *e*P P 00 31 38.4 -0.2
ZALV **Zalesovo Beam** 33.98 29 P P 00 31 39.4 +0.8
comp=Z,1.8nm,0.4s,baz=229,slow=9.3,SNR=7.3
ZAA1 **Zalesovo Array** 33.99 29 *e*P P 00 31 39.4 +0.7
MDVR **Moldovita** 34.16 312⇑ *i*P P 00 31 40.7 +0.3
DRGR 34.27 316⇓ *i*P P 00 31 42.3 +1.0
SIRR **Siria** 34.74 314⇑ *i*P P 00 31 46.4 +1.1
KOLS **Kolonicke sedl** 35.45 319 *e*P P 00 31 52.1 +0.7
VYHS **Vyhne** 37.35 316 *e*P P 00 32 08.5 +0.9
BOJS **Bojanci** 38.74 311 *i*P P 00 32 19.8 +0.4
CONA **Conrad Observa** 39.03 315 *ep*P P 00 32 22.1 +0.2
comp=Z,2.0nm,0.6s,SNR=4.3
ARSA **Arzberg** 39.04 313 *ep*P P 00 32 22.5 +0.6
comp=Z,3.8nm,0.8s
VISS **Visnje** 39.10 311 *i*P P 00 32 22.1 -0.3
SOKA **Soboth** 39.20 312 *ep*P P 00 32 24.1 +0.8
comp=Z,4.2nm,1.1s
JAVS **Javornik** 39.65 311 *e*P P 00 32 27.0 -0.1
MOA **Molln** 40.03 314 *ep*P P 00 32 30.1 0.0
comp=Z,2.9nm,0.6s
KBA **Koelnbreinsper** 40.42 312 *ep*P P 00 32 33.9 +0.3
comp=Z,5.4nm,0.8s,SNR=5.7
KHC **Kasperske Hory** 40.84 316 *e*P P 00 32 36.3 -0.5
comp=Z,1.9nm,0.8s
KHC **Kasperske Hory** 40.84 316 *e*P P 00 32 36.4 -0.5
ABTA **Abfaltersbach** 40.89 312 *ep*P P 00 32 37.7 +0.3
comp=Z,6.2nm,0.6s
FIA0 **FINESS Array S** 40.95 337 *e*P P 00 32 36.1 -1.4
FINES **FINESS Array B** 40.95 337 P P 00 32 36.1 -1.4
comp=Z,0.6nm,0.4s,baz=137,slow=9.0,SNR=7.5
WTTA **Wattenberg** 41.60 312 *ep*P P 00 32 43.1 -0.2
comp=Z,10nm,0.6s
WATA **Walderalm** 41.65 312 *e*P P 00 32 43.3 -0.4
comp=Z,15nm,1.2s,SNR=5.1
SQTA **Sankt Quirin** 41.87 312 *e*P P 00 32 45.1 -0.3
comp=Z,12nm,0.6s,SNR=12
MOTA **Moosalm** 41.97 312 *ep*P P 00 32 46.1 -0.2
comp=Z,3.2nm,0.5s,SNR=13
FETA **Feichten** 42.15 312 *ep*P P 00 32 47.7 -0.1
comp=Z,9.9nm,0.7s,SNR=15
RETA **Reutte** 42.23 312 *e*P P 00 32 47.6 -0.7
comp=Z,4.2nm,0.7s
FUORN **Ofenpass-Fuorn** 42.38 311 *e*P P 00 32 49.6 -0.2
comp=Z,4.1nm,0.7s
DAVA **Damuels** 42.77 312 *e*P P 00 32 52.4 -0.4
comp=Z,21nm,0.6s
SONA0 **Songino Array** 43.42 47 *e*P P 00 32 57.5 -0.5
SONM **Songino Array** 43.42 47 P P 00 32 57.5 -0.5
comp=Z,0.2nm,0.5s,baz=254,slow=10,SNR=3.3
NRIK **Noril'sk** 46.35 14 P P 00 33 19.7 -1.1
comp=Z,1.3nm,0.6s,baz=199,slow=5.8,SNR=3.5
NB2 **NORSAR Subarra** 46.58 331 P P 00 33 24.8 +1.9
comp=Z,0.5nm,0.6s,baz=110,slow=7.4
NB200 **NORSAR Array S** 46.58 331 *e*P P 00 33 21.8 -1.1
NOA **NORSAR Array B** 46.58 331 P P 00 33 21.8 -1.1
comp=Z,0.7nm,0.7s,baz=132,slow=7.6,SNR=2.6
ARA0 **ARCESS Array S** 47.04 345 *e*P P 00 33 25.3 -1.0
ARCES **ARCESS Array B** 47.04 345 P P 00 33 25.3 -1.0
comp=Z,0.6nm,0.6s,baz=130,slow=8.4,SNR=4.1
ESDC **Sonseca Array** 52.42 301 P P 00 34 06.8 -1.1
comp=Z,0.3nm,0.4s,baz=77,slow=7.0,SNR=6.6
TORD **Torodi Ar. Bea** 53.98 267 P P 00 34 18.6 -0.9
comp=Z,1.3nm,0.5s,baz=63,slow=7.3,SNR=21
TOA1 **Torodi Ar. Sit** 53.99 267 *e*P P 00 34 18.6 -0.9
MATP **Matopo** 54.55 214 P P 00 34 23.6 0.0
comp=Z,1.0nm,0.7s,baz=297,slow=2.3,SNR=2.0
KSAR **Wonju Array Be** 59.30 61 P P 00 34 56.5 -0.6
KSRS **Korea Array** 59.33 61 P P 00 34 56.5 -0.7
comp=Z,0.7nm,0.7s,baz=270,slow=6.5,SNR=3.4
ASAR **Alice Springs** 88.88 117 P P 00 37 49.9 0.0
comp=Z,0.2nm,0.4s,baz=311,slow=5.4,SNR=4.4

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*IDC **12** 00:25:45.9±6.2, 22°.36N×142°.89E, h282km±63km, mb3.1/9, mb1 3.2/10, mb1mx3.0/57, mbtmp3.7/10, Error ellipse: s-maj=28.3km s-min=13.8km az=83.0*
*ISCJB **12** 00:25:46.2±0.8, 22°.3N±0°.1×142°.8E±0°.2, h300km, mb3.3/9, Error ellipse: s-maj=26.4km s-min=16.7km az=172.5*
ISC 12 00:25:47.6±0.9, 22°.4N±0°.2×142°.8E±0°.2, h300km, n10, σ0°54/10, mb3.4/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	19.80	323	P	P	00 29 56.0	-0.3
0.3nm,0.3s,baz=145,slow=8.3,SNR=4.8							
WRA	**Warramunga Arr**	42.85	192	P	P	00 33 17.2	+0.2
0.3nm,0.4s,baz=18,slow=9.1,SNR=20							
ASAR	**Alice Springs**	46.56	191	P	P	00 33 45.7	-0.4
0.4nm,0.8s,baz=19,slow=8.8,SNR=4.1							
MKAR	**Makanchi Array**	54.02	312	P	P	00 34 42.2	+0.8
0.3nm,0.7s,baz=90,slow=7.2,SNR=2.6							
KURBB	**Kurchatov Arra**	56.83	317	P	P	00 35 01.2	+0.1
0.5nm,0.2s,baz=98,slow=7.3,SNR=4.8							
BVAR	**Borovoye Array**	61.96	319	P	P	00 35 36.7	+0.6
0.9nm,0.3s,baz=95,slow=7.6,SNR=6.8							
INK	**Inuvik**	67.10	24	P	P	00 36 08.4	-0.4
0.3nm,0.5s,baz=250,slow=3.6,SNR=3.8							
YKA	**Yellowknife Ar**	76.03	28	P	P	00 37 02.2	+0.3
0.5nm,0.4s,baz=292,slow=6.0,SNR=11							
FINES	**FINESS Array B**	82.45	334	P	P	00 37 35.7	-0.7
0.7nm,0.8s,baz=72,slow=6.2,SNR=4.4							
NVAR	**Mina Array Bea**	82.99	51	P	P	00 37 40.3	+0.3
0.5nm,0.8s,baz=280,slow=3.3,SNR=2.6							

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*IDC **12** 00:37:54.2±1.4, 22°.33S×65°.95W, h258km±18km, mb3.3/2, mb1 3.2/6, mb1mx3.0/24, mbtmp3.7/6, Error ellipse: s-maj=33.4km s-min=22.1km az=112.0*
*ISCJB **12** 00:37:55.0±0.5, 22°.30S±0°.03×66°.15W±0°.04, h251km, mb3.5/2, Error ellipse: s-maj=4.8km s-min=4.6km az=44.1*
*SJA **12** 00:37:55.8±0.9, 22°.29S×66°.11W, h250km±14km, ML2.8, MW3.2*
*GUC **12** 00:37:56.1±0.4, 22°.27S×66°.63W, h313km±12km, ML4.8*
ISC 12 00:37:54.1±0.9, 22°.30S±0°.05×66°.12W±0°.05, h251km, n36, σ1°71/59, 12C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	1.12	144	*e*P	Pn	00 38 33.8	+3.4
HJA				IAML		00 38 36.0	
comp=Z,64nm,0.3s							
HJA				*e*S	S	00 38 56.4	-2.5
AZAP	**Zapla**	2.15	153	*e*P	Pn	00 38 40.8	+2.5
AZAP				*e*S	S	00 39 13.5	+0.4
AZAP				IAML		00 39 16.5	
comp=Z,16nm,0.5s							
LVC	**Limon Verde**	2.60	263	*e*P	Pn	00 38 45.0	+2.2
LVC	**Limon Verde**	2.60	263	P	Pn	00 38 44.9	+2.2
comp=Z,15nm,0.3s,baz=81,slow=1.7,SNR=40							
LVC				S	S	00 39 22.2	+1.0
comp=Z,7.8nm,0.3s,baz=274,slow=23,SNR=14							
PB09	**IPOC Station P**	2.94	279	*e*P	Pn	00 38 48.9	+2.8
PB09	**IPOC Station P**	2.94	279⇑	*i*P	Pn	00 38 48.5	+2.3
PB09				*e*S	S	00 39 28.8	+1.5
PB09				IAML		00 39 31.9	
comp=E,179nm,0.3s							
PB06	**IPOC Station P**	3.21	262	*e*P	Pn	00 38 51.3	+2.1
PB06	**IPOC Station P**	3.21	262⇓	*i*P	Pn	00 38 51.1	+2.0
PB06				*i*S	S	00 39 33.1	+0.4
PB06				IAML		00 39 35.5	
comp=N,497nm,0.1s							
PB15	**IPOC Station P**	3.22	253⇓	*e*P	Pn	00 38 51.9	+2.6
PB15				*e*S	S	00 39 34.0	+1.1
PB15	**IPOC Station P**	3.22	253⇑	*i*P	Pn	00 38 51.3	+2.0
PB15				*e*S	S	00 39 33.2	+0.3
PB01	**IPOC Station P**	3.37	291⇑	*i*P	Pn	00 38 52.3	+1.4
PB01				*i*S	S	00 39 35.6	-0.1
PB01				IAML		00 39 37.6	
comp=E,692nm,0.3s							
PB03	**IPOC Station P**	3.37	274⇑	*i*P	Pn	00 38 52.7	+1.8
PB03				*e*S	S	00 39 35.3	-0.6
PB03				IAML		00 39 36.1	
comp=N,812nm,0.3s							
PB07	**IPOC Station P**	3.54	279⇓	*e*P	Pn	00 38 54.7	+1.9
PB07				*e*S	S	00 39 38.4	-0.9
PB07	**IPOC Station P**	3.54	279⇑	*i*P	Pn	00 38 54.3	+1.5
PB07				*i*S	S	00 39 38.0	-1.3
PB07				IAML		00 39 39.6	
comp=N,528nm,0.4s							
PB08	**IPOC Station P**	3.55	307	*e*P	Pn	00 38 55.8	+2.6
PB08	**IPOC Station P**	3.55	307⇑	*i*P	Pn	00 38 55.6	+2.4
PB08				*i*S	S	00 39 40.9	+0.9
PB08				IAML		00 39 42.7	
comp=N,198nm,0.3s							
PB02	**IPOC Station P**	3.64	285⇑	*i*P	Pn	00 38 55.4	+1.5
PB02				*i*S	S	00 39 40.1	-1.2
PB04	**IPOC Station P**	3.73	269⇑	*i*P	Pn	00 38 56.4	+1.4
PB04				*i*S	S	00 39 41.7	-1.5
PB04				IAML		00 39 43.9	
comp=N,698nm,0.2s							
FSA	**Cafayete**	3.79	178	*e*P	Pn	00 38 58.0	+2.3
PB05	**IPOC Station P**	3.81	261	*e*P	Pn	00 38 57.3	+1.4
PB05	**IPOC Station P**	3.81	261⇑	*i*P	Pn	00 38 57.2	+1.4
PB05				*i*S	S	00 39 43.0	-1.8
PB05				IAML		00 39 47.8	
comp=E,288nm,0.3s							
GO01	**Chusmiza**	3.89	312	*e*P	Pn	00 38 59.7	+2.6
GO01				*i*S	S	00 39 47.8	+0.7
GO01				IAML		00 39 54.5	
comp=E,353nm,0.1s							
PB11	**IPOC Station P**	4.16	307	*e*P	Pn	00 39 01.4	+1.4
PB11	**IPOC Station P**	4.16	307⇑	*e*P	Pn	00 39 01.1	+1.2
PB11				*i*S	S	00 39 51.1	-1.2
PB11				IAML		00 39 53.5	
comp=E,455nm,0.4s							
PB10	**IPOC Station P**	4.26	253	*e*P	Pn	00 39 02.2	+1.2
PB10	**IPOC Station P**	4.26	253⇑	*i*P	Pn	00 39 02.1	+1.2
PB10				*i*S	S	00 39 52.3	-1.9
PB10				IAML		00 39 57.3	
comp=E,182nm,0.3s							
GO02	**Mina Guanaco**	4.27	227⇑	*i*P	Pn	00 39 02.9	+1.5
GO02				*i*S	S	00 39 54.5	-0.3
GO02				IAML		00 39 56.2	
comp=E,852nm,0.4s							
PB14	**IPOC Station P**	4.56	239	*e*P	Pn	00 39 05.9	+1.0
PB14				*e*S	S	00 39 59.0	-2.2
PB14	**IPOC Station P**	4.56	239	*e*P	Pn	00 39 06.1	+1.2
PB14				*i*S	S	00 39 59.0	-2.2
PB14				IAML		00 40 01.0	
comp=E,470nm,0.3s							
LPAZ	**La Paz**	6.28	342	P	Pn	00 39 26.9	+0.5
comp=E,0.2nm,0.3s,baz=159,slow=7.0,SNR=8.0							
LPAZ				S	S	00 40 39.1	-1.0
comp=E,0.1nm,0.3s,baz=216,slow=7.3,SNR=2.8							
VCA	**Vinchina**	6.68	196	*e*P	Pn	00 39 32.7	+1.9
SIV	**San Ignacio**	7.88	38	P	Pn	00 39 46.1	0.0
comp=E,0.4nm,0.3s,baz=238,slow=11,SNR=9.0							
SIV				S	S	00 41 14.3	-1.9
comp=E,0.1nm,0.3s,baz=254,slow=6.2,SNR=1.6							
CFA	**Coronel Fontan**	9.46	191	P	Pn	00 40 05.7	0.0
comp=E,0.7nm,0.3s,baz=3.8,slow=15,SNR=19							
CFA				S	S	00 41 44.1	-8.4
comp=E,1.5nm,0.3s,baz=314,slow=23,SNR=14							
TORD	**Torodi Ar. Bea**	75.21	69	P	P	00 49 07.9	-1.7
comp=E,0.6nm,0.4s,baz=252,slow=5.3,SNR=11							
YKA	**Yellowknife Ar**	92.82	340	P	P	00 50 37.6	0.0
comp=E,0.2nm,0.5s,baz=130,slow=4.7,SNR=6.1							
MKAR	**Makanchi Array**	144.70	39	PKP	PKPab	00 56 59.8	-0.6
comp=E,0.8nm,0.6s,baz=328,slow=1.6,SNR=7.5							

IDC 12 01:01:41.7±1.8, 4°.68S×143°.96E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/36, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=70.8km s-min=25.1km az=115.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	17.83	211	P	Pn	01 05 51.1	-0.3
0.2nm,0.3s,baz=30,slow=13,SNR=13							
ASAR	**Alice Springs**	21.22	206	P	P	01 06 29.6	+0.2
5.3nm,0.8s,baz=29,slow=12,SNR=34							
FITZ	**Fitzroy Crossi**	22.33	232	P	P	01 06 41.0	-0.2
1.2nm,0.8s,baz=61,slow=10,SNR=2.0							
MKAR	**Makanchi Array**	74.56	321	P	P	01 13 23.7	+1.1
0.3nm,0.3s,baz=112,slow=6.4,SNR=4.5							
ILAR	**Eielson Array**	85.48	24	P	P	01 14 20.2	-1.0
0.6nm,0.7s,baz=244,slow=4.8,SNR=6.0							

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*OMAN **12** 01:06:20.7±1.2, 26°.82N×58°.19E, h10km, Error ellipse: s-maj=16.4km s-min=10.3km az=25.0*
*DSN **12** 01:06:21.0±2.6, 26°.87N×58°.09E, h10km, ML4.6/10, Error ellipse: s-maj=40.1km s-min=12.3km az=177.0*
*IDC **12** 01:06:22.4±0.8, 26°.49N×57°.64E, h0km, mb3.9/24, mb1 4.0/28, mb1mx4.0/51, mbtmp3.9/28, ML3.7/3, MS3.8/8, Ms1 3.8/8, ms1mx3.4/52, Error ellipse: s-maj=16.7km s-min=14.2km az=11.0*
*NEIC **12** 01:06:23.5±0.0, 26°.60N×57°.72E, h15km, mb4.4/36, ML4.4(THR), MN4.5(TEH), After TEH.*
*TEH **12** 01:06:24.6, 26°.69N×57°.77E, h14km, ML4.4*
*ISCJB **12** 01:06:24.3±0.2, 26°.65N±0°.02×57°.79E±0°.03, h10km, mb4.3/89, MS3.7/7, Error ellipse: s-maj=3.4km s-min=3.0km az=22.6*
*MOS **12** 01:06:27.4±1.2, 27°.05N×57°.91E, h14km, mb4.6/49, Error ellipse: s-maj=7.8km s-min=4.4km az=115.3*
ISC 12 01:06:25.4±0.4, 26°.66N±0°.03×57°.77E±0°.03, h10km, n323, σ1°85/313, mb4.4/96, MS3.5/7, 29C-8D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	1.22	317	*e*Pg	Pg	01 06 48.5	-0.5
NIAN				IAMB	IAmb	01 07 13.0	
comp=E,0.0nm,0.4s							
SHME	**Shamm**	1.59	248	*e*P	Pn	01 06 53.5	-0.1
SHME				S	Sg	01 07 19.0	+2.6
SHME	**Shamm**	1.59	248	*e*Pn	Pg	01 06 55.0	-0.9
GENO	**Geno**	1.60	298	Pn	Pb	01 06 54.2	-1.1
GENO				Sg	Sg	01 07 17.8	+0.7
GENO	**Geno**	1.60	298	*e*Pn	Pb	01 06 54.5	-0.8
GENO				IAMB	IAmb	01 07 26.7	
comp=Z,0.0nm,0.5s							
BNDS	**Bandar-Abbas**	1.61	298	Pg	Pn	01 06 50.0	-4.0
BNDS	**Bandar-Abbas**	1.61	298	*e*Pg	Pn	01 06 50.9	-3.1
MSFE	**Esma-Masafi**	1.95	229	*e*P	Pn	01 06 56.7	-2.0
SNR=16							
MSFE	**Esma-Masafi**	1.95	229	*e*Pn	Pn	01 06 58.8	+0.2
UMQ	**Umm Al-Quwin**	2.21	240	*e*P	Pn	01 07 02.6	+0.5
SNR=28							
UMQ	**Umm Al-Quwin**	2.21	240	*e*Pn	Pb	01 07 03.8	-1.7
HATD	**Hatta, Dubai**	2.35	219	*e*P	Pn	01 07 04.0	-0.2
SNR=41							
HATD	**Hatta, Dubai**	2.35	219	*e*Pn	Pn	01 07 02.3	-1.9
ASHO	**Ashiyiah**	2.50	219	*e*P	Pn	01 07 06.7	+0.4
SNR=96							
ASHO	**Ashiyiah**	2.50	219	P	Pn	01 07 05.1	-1.1
SNR=9.5							
ASHO	**Ashiyiah**	2.50	219	*e*Pn	Pn	01 07 05.2	-1.1
NAZ	**Nazwa, Dubai**	2.53	229	*e*P	Pb	01 07 08.5	-2.5
SNR=40							
NAZ	**Nazwa, Dubai**	2.53	229	*e*Pn	Pb	01 07 09.1	-1.9
CHBR	**Chabahar**	2.66	113	Pn	Pn	01 07 09.0	+0.7
CHBR	**Chabahar**	2.66	113	*e*Pn	Pn	01 07 09.1	+0.7
FAQ	**Al Faqa, Dubai**	2.74	226	*i*P	Pn	01 07 09.9	+0.4
SNR=59							
FAQ	**Al Faqa, Dubai**	2.74	226	*e*Pn	Pn	01 07 09.9	+0.4
SOHO	**SOHO**	2.75	204	P	Pn	01 07 06.1	-3.6
SNR=26							
ASUD	**Al Ashush, Dub**	3.00	228	*i*P	Pn	01 07 13.5	+0.5
SNR=29							
ASUD	**Al Ashush, Dub**	3.00	228	P	Pn	01 07 14.0	+1.0
SNR=29							
ASUD	**Al Ashush, Dub**	3.00	228	*e*Pn	Pn	01 07 15.3	+2.3
HOQ	**Hoqain**	3.10	188	P	Pn	01 07 11.7	-2.7
SNR=9.2							
HOQ	**Hoqain**	3.10	188	*e*Pn	Pn	01 07 11.7	-2.7
NGRK	**Negar Kerman**	3.11	343	Pn	Pn	01 07 15.2	+0.3
NGRK	**Negar Kerman**	3.11	343	*e*Pn	Pn	01 07 15.3	+0.3
NGRK				IAMB	IAmb	01 08 21.1	
comp=Z,0.0nm,1.2s							
BIDO	**Bidbid**	3.14	174	P	Pn	01 07 11.7	-3.3
SNR=16							
BIDO	**Bidbid**	3.14	174	*e*Pn	Pn	01 07 12.2	-2.9
ALNE	**Al Ain**	3.17	216	*i*P	Pn	01 07 15.7	+0.2
SNR=36							
ALNE	**Al Ain**	3.17	216	*e*Pn	Pn	01 07 15.7	+0.2
CHMN	**Cheshme madani**	3.19	356	Pn	Pn	01 07 17.5	+1.4
CHMN	**Cheshme madani**	3.19	356	*e*Pn	Pb	01 07 18.1	-4.4
CHMN				IAMB	IAmb	01 08 17.3	
comp=Z,0.0nm,0.6s							
AJN	**Ajban**	3.27	231	*i*P	Pn	01 07 18.0	+1.2
SNR=36							
AJN	**Ajban**	3.27	231	P	Pn	01 07 17.5	+0.7
SNR=6.3							
AJN				S	Sb	01 08 01.8	-1.6
AJN	**Ajban**	3.27	231	*e*Pn	Pn	01 07 19.3	+2.5
TVBK	**TV Kerman**	3.43	345	Pn	Pn	01 07 20.9	+1.6
TVBK	**TV Kerman**	3.43	345	*e*Pn	Pn	01 07 20.8	+1.5
TVBK				IAMB	IAmb	01 08 43.7	
comp=Z,0.0nm,1.0s							
WSAR	**Wadi Sarin**	3.50	167	Pn	Pn	01 07 17.3	-2.6
comp=Z,13nm,0.3s,baz=349,slow=5.9,SNR=254							
WSAR				Sn	Sn	01 07 56.6	-4.8
comp=Z,20nm,0.3s,baz=282,slow=16,SNR=2.0							
ARQ	**Araqi**	3.50	199	P	Pn	01 07 20.1	+0.1
SNR=9.3							
ARQ				S	Sn	01 08 04.5	+3.0
SMDO	**Samad**	3.60	176	P	Pn	01 07 19.7	-1.6
SNR=8.8							
KHGB	**Koh Gabri**	3.87	343	*e*Pn	Pn	01 07 26.8	+1.5
KHGB				IAMB	IAmb	01 08 30.4	
comp=Z,0.0nm,1.0s							
SZD1	**Zahaedan-tmp**	3.92	43	*e*Pn	Pn	01 07 27.9	+2.0
BSY	**Bisya**	3.94	188	P	Pn	01 07 25.8	-0.1
SNR=14							
ZHSF	**Zahedan**	3.96	41	P	Pn	01 07 28.0	+1.6
ZHSF	**Zahedan**	3.96	41	*e*Pn	Pn	01 07 28.3	+1.9
JMDO	**Jabal Madar**	4.28	176	P	Pn	01 07 30.7	-0.1
SNR=6.3							
GHIR	**Ghir-Karzin**	4.55	292	Pn	Pn	01 07 33.0	-1.4
GHIR	**Ghir-Karzin**	4.55	292	*e*Pn	Pn	01 07 33.1	-1.4
JLN	**Jalan Bani Buh**	4.73	161	P	Pn	01 07 34.2	-2.8
SNR=40							
ISRV	**Sarvestan**	4.93	304	Pn	Pn	01 07 39.9	0.0
ISRV	**Sarvestan**	4.93	304	*e*Pn	Pn	01 07 40.3	+0.4
BSRN	**Basiran**	5.42	12	P	Pn	01 07 47.0	+0.6
BSRN	**Basiran**	5.42	12	*e*Pn	Pn	01 07 47.4	+1.0
IMEH	**Mehriz**	5.46	330	Pn	Pn	01 07 47.7	+0.5
IMEH	**Mehriz**	5.46	330	*e*Pn	Pn	01 07 47.4	+0.2
SHI	**Shiraz**	5.51	304	*e*Pn	Pn	01 07 48.2	+0.4
IKOO	**Kooshah**	5.84	10	Pn	Pn	01 07 53.4	+1.0
IKOO	**Kooshah**	5.84	10	*e*Pn	Pn	01 07 51.9	-0.5
IKAZ	**Kazeroun**	6.08	302	*e*Pn	Pn	01 07 54.4	-1.4
ITEG	**Tejag**	6.27	8	*e*Pn	Pn	01 08 01.4	+3.2
ICHK	**Chekchek**	6.29	333	*e*Pn	Pn	01 07 58.9	+0.4
IDAH	**Dahanechah**	6.32	16	*e*Pn	Pn	01 08 03.7	+4.7
ISAD	**Sadrabad**	6.33	327	Pn	Pn	01 08 00.3	+1.1
ISAD	**Sadrabad**	6.33	327	*e*Pn	Pn	01 08 01.5	+2.3
TKDS	**Koohdasht(Taba**	6.95	356	*e*Pn	Pn	01 08 11.7	+4.2
IRAM	**Ramesheh**	6.96	319	*e*Pn	Pn	01 08 06.8	-0.9
TNSJ	**Nastanj**	7.35	352	*e*Pn	Pn	01 08 17.0	+4.1
ANAR	**Anarak**	7.39	333	*e*Pn	Pn	01 08 13.3	-0.2
IGAR	**Gharneh**	7.59	320	*e*Pn	Pn	01 08 16.4	0.0
IZEF	**Zefreh**	7.81	324	*e*Pn	Pn	01 08 18.6	-0.8
IPIR	**Pirpir**	8.47	317	*e*Pn	Pn	01 08 27.6	-1.0
IKLH	**Kolahrood**	8.53	322	*e*Pn	Pn	01 08 29.4	+0.1
IANJ	**Anjilo**	9.38	340	*e*Pn	Pn	01 08 43.8	+2.9
JRKH	**Jarkhoshk**	9.48	13	*e*Pn	Pn	01 08 46.9	+4.8
SBZV	**Sabzevar**	9.70	359	*e*Pn	Pn	01 08 47.3	+2.0
IPAY	**Payeh**	9.81	6	*e*Pn	Pn	01 08 49.1	+2.2
IMYA	**Miami**	9.85	11	*e*Pn	Pn	01 08 52.0	+4.7
IKRD	**Kardeh**	10.10	3	*e*Pn	Pn	01 08 52.6	+1.8
ISFR	**Sfrayin**	10.36	1	*e*Pn	Pn	01 08 56.6	+2.2
IKMR	**Kamar-syah**	10.62	312	*e*Pn	Pn	01 08 56.1	-1.5
IEMG	**Emamgholi**	10.75	4	*e*Pn	Pn	01 09 04.0	+4.3
IDOB	**Doab**	10.92	313	*e*Pn	Pn	01 08 59.8	-2.2
IKFM	**Kafar-mosalman**	10.98	311	*e*Pn	Pn	01 08 59.8	-2.8
GEYT	**Alibeck**	11.24	1	Pn	Pn	01 09 08.8	+2.6
comp=Z,0.2nm,0.3s,baz=186,slow=9.9,SNR=12							
GEYT				LR	LR	01 14 57.2	
comp=Z,198nm,19.1s,baz=215,slow=45							
GYA0B	**ALIBECK ARRAY**	11.24	1	*e*Pn	Pn	01 09 06.2	+0.1
IKOM	**Komasi**	11.59	313	*e*Pn	Pn	01 09 08.9	-2.2
IVIS	**Veis**	12.24	312	*e*Pn	Pn	01 09 16.8	-3.2
ILIN	**Lien**	12.40	314	*e*Pn	Pn	01 09 19.1	-3.3
IDHR	**Dehrash**	12.65	312	*e*Pn	Pn	01 09 20.5	-5.1
NIL	**Nilore**	15.08	59	*e*Pn	Pn	01 09 58.6	0.0
NIL	**Nilore**	15.08	59	*e*P	Pn	01 09 58.7	0.0
CHGR	**Chuyangaron**	15.31	36	*e*Pn	Pn	01 10 00.6	-1.2
comp=Z,37nm,1.4s							
GAR	**Garm**	16.18	37	*e*Pn	Pn	01 10 12.7	-0.3
comp=Z,22nm,1.3s							
GAR	**Garm**	16.18	37	*e*P	Pn	01 10 12.7	-0.3
GAR				pmax	pmax		
comp=Z,22nm,1.3s							
AKT	**Akhty**	16.94	333⇑	*e*P	P	01 10 23.1	-1.6
BTK	**Batken**	17.21	36	*e*Pn	P	01 10 26.4	-1.3
comp=Z,14nm,0.8s							
BTK	**Batken**	17.21	36	*e*P	P	01 10 26.4	-1.3
BTK				pmax	pmax		
comp=Z,14nm,0.8s							
GNI	**Garni**	17.27	324	*e*Pn	P	01

comp=Z,14nm,0.9s
KIV Kislovodsk 21.14 329 *e*P **P 01 11 10.5 -0.1**
KIV pmax pmax
comp=Z,54nm,1.1s
HYB Hyderabad 21.32 111 *i* P **P 01 11 14.0 +1.3**
BOOM Boomskoye usch 21.68 39 *e*P **P 01 11 15.4 -1.1**
comp=Z,22nm,1.1s
BOOM Boomskoye usch 21.68 39 *e*P **P 01 11 15.4 -1.1**
BOOM pmax pmax
comp=Z,22nm,1.1s
KDJ Kajisay 22.16 41 *e*P **P 01 11 24.2 +2.5**
comp=Z,23nm,1.1s
KDJ Kajisay 22.16 41 *e*P **P 01 11 24.2 +2.5**
KDJ pmax pmax
comp=Z,23nm,1.1s
CSS Mathiatis 22.52 297 *e*P **P 01 11 27.2 +1.7**
comp=Z,14nm,0.8s
ABKAR Akbulak array 22.62 4 *e*P **P 01 11 26.1 -0.2**
AKTO Aktyubinsk 23.74 0 P **P 01 11 36.5 -1.2**
comp=Z,8.2nm,0.6s,baz=160,slow=12,SNR=16
AKTO S **S 01 15 55.0 +2.1**
comp=Z,0.6nm,0.4s,baz=56,slow=14,SNR=1.6
BRTR Keskin Array B 23.94 309 *e*P **P 01 11 38.4 -1.5**
BRTR S Sn 01 16 07.0 -13
BRTR Keskin Array B 23.94 309 *ce*P **P 01 11 41.5 +1.5**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 23.94 309 P **P 01 11 39.2 -0.8**
comp=Z,5.0nm,0.8s,baz=126,slow=11,SNR=19
BRTR S Sn 01 16 07.0 -13
comp=Z,0.3nm,0.7s,baz=107,slow=9.2,SNR=2.9
BRTR LR LR 01 23 47.1
comp=Z,213nm,18.9s,baz=72,slow=44
BR131 Keskin Array S 23.95 309 *e*P **P 01 11 39.5 -0.5**
comp=Z,14nm,1.2s
PDGK Podgornoye 24.24 41 P **P 01 11 44.8 +2.1**
PDGK pmax pmax
comp=Z,13nm,1.4s
OTUK Ortayu 24.37 24 P **P 01 11 48.2 +4.5**
OTUK pmax pmax
comp=Z,6.0nm,1.3s
SIM Simferopol' 26.32 320 *ce*P **P 01 12 03.4 +2.0**
SIM pmax pmax
comp=Z,20nm,1.0s
MAKZ Makanchi 27.75 37 *e*P **P 01 12 14.8 +0.6**
comp=Z,9.0nm,1.3s
MAKZ Makanchi 27.75 37 *e*P **P 01 12 14.8 +0.6**
MAKZ pmax pmax
comp=Z,9.0nm,1.3s
MKAR Makanchi Array 27.91 38 *e*P **P 01 12 17.1 +1.5**
MKAR Makanchi Array 27.91 38 P **P 01 12 16.7 +1.0**
comp=Z,0.3nm,0.4s,baz=224,slow=8.1,SNR=4.2
BVAR Borovoye Array 27.97 16 P **P 01 12 17.3 +1.2**
BVAR pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 27.97 16 P **P 01 12 17.3 +1.2**
comp=Z,0.9nm,0.5s,baz=190,slow=7.5,SNR=9.8
BRVK Borovoye 27.97 16⇑ *e*P **P 01 12 13.7 -2.4**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
VSR Storozhevoye 28.31 335⇑ *e*P **P 01 12 18.6 -0.5**
VSR pmax pmax
comp=Z,4.0nm,0.8s
KURBB Kurchatov Arra 28.71 28 P **P 01 12 23.7 +1.0**
comp=Z,1.6nm,0.8s,baz=228,slow=8.5,SNR=6.3
KURK Kurchatov 28.82 28⇑ *e*P **P 01 12 22.4 -1.2**
KURK pmax pmax
comp=Z,2.0nm,1.0s
WMQ Urumqi 29.62 47 *e*P **P 01 12 32.6 +1.7**
WMQ sP sP 01 12 38.2 +2.3
ARU Arti 29.75 1 P **P 01 12 28.7 -3.1**
ARU 01 13 21.1
ARU S **S 01 17 23.9 -4.0**
ARU SS **SnSn 01 18 50.1 -7.3**
MLR Muntele Rosu 31.56 315⇑ *i*P **P 01 12 46.6 -1.6**
MLR Muntele Rosu 31.56 315 P **P 01 12 46.3 -1.9**
comp=Z,0.7nm,0.7s,baz=74,slow=7.4,SNR=2.8
TESR Tescani 31.59 317⇑ *i*P **P 01 12 47.2 -1.0**
SRS Serrai 31.60 306 P P 01 12 53.3 +4.9
VOIR 32.11 314⇑ *i*P **P 01 12 52.9 0.0**
VOIR 32.11 314 P **P 01 12 53.6 +0.7**
VOIR pmax pmax
comp=Z,6.0nm,1.0s
DOPR Dopca 32.12 315⇓ *i*P **P 01 12 55.7 +2.7**
ARR Arges 32.35 314⇑ *i*P **P 01 12 54.8 -0.2**
OBN Obninsk 32.37 337⇓ *e*P **P 01 12 54.6 -0.3**
OBN pmax pmax
comp=Z,6.0nm,1.0s
DGZ Jazzator, Alta 32.40 37⇑ *e*P **P 01 12 52.2 -3.3**
AKASG Malin Array Be 32.40 325 *e*P **P 01 12 56.4 +1.2**
comp=Z,1.7nm,0.8s
AKASG Malin Array Be 32.40 325 *i* P **P 01 12 52.7 -2.6**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 32.40 325 P **P 01 12 53.4 -1.8**
comp=Z,1.7nm,0.5s,baz=128,slow=7.7,SNR=8.7
AKASG LR LR 01 28 08.0
comp=Z,105nm,19.3s,baz=25,slow=40
AKBB Malin Array Si 32.40 325 *e*P **P 01 12 56.0 +0.7**
comp=Z,7.7nm,0.8s
AKBB Malin Array Si 32.40 325 *e*P **P 01 12 56.0 +0.7**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 32.40 325 *e*P **P 01 12 56.5 +1.2**
comp=Z,14nm,1.2s
KIEV Kiev 32.40 325⇓ *i*P **P 01 12 56.1 +0.8**
KIEV Kiev 32.40 325⇓ *e*P **P 01 12 54.2 -1.1**
KIEV pmax pmax
comp=Z,10.0nm,1.0s
BURAR Bucovina Array 32.97 318 *e*P **P 01 13 02.2 +1.8**
comp=Z,14nm,0.9s
BURAR Bucovina Array 32.97 318⇑ *i*P **P 01 12 58.5 -1.9**
BURAR Bucovina Array 32.97 318 *e*P **P 01 13 02.2 +1.8**
BURAR pmax pmax
comp=Z,14nm,0.9s
BUR08 Bucovina Ar. S 32.99 318 *e*P **P 01 13 02.3 +1.6**
comp=Z,7.6nm,1.6s
FNA Florina 33.13 304 *e*P **P 01 13 03.7 +1.8**
comp=Z,6.3nm,0.8s
FNA Florina 33.13 304 *e*P **P 01 13 03.7 +1.8**
FNA pmax pmax
comp=Z,6.0nm,0.8s
GZR Gura Zlata 33.57 313⇓ *i*P **P 01 13 05.1 -0.6**
NVS Novosibirsk 33.75 27 *e*P **P 01 13 04.8 -2.2**
NVS pmax pmax
comp=Z,8.0nm,1.3s
ZAA0 Zalesovo Array 33.79 29 *e*P **P 01 13 08.2 +0.9**
comp=Z,5.8nm,1.1s
ZALV Zalesovo Beam 33.79 29 *e*P **P 01 13 07.4 0.0**
ZALV Zalesovo Beam 33.79 29 *e*P **P 01 13 07.4 0.0**
ZALV Zalesovo Beam 33.79 29 P **P 01 13 07.6 +0.3**
comp=Z,1.3nm,0.3s,baz=229,slow=9.0,SNR=11
MDVR Moldovita 34.05 312⇑ *i*P **P 01 13 09.0 -0.9**
DRGR 34.15 315⇑ *i*P **P 01 13 09.5 -1.2**
DRGR 34.15 315 P **P 01 13 11.8 +1.1**
DRGR pmax pmax
comp=Z,11nm,1.0s
BZS Buzias 34.41 313⇑ *i*P **P 01 13 12.0 -0.9**
BZS Buzias 34.41 313⇑⇑ P **P 01 13 12.0 -0.9**
SIRR Siria 34.62 314⇑ *i*P **P 01 13 15.1 +0.4**
UZH Uzhgorod 35.17 318 *e*P P 01 13 23.6 +4.2
UZH *e* 01 13 26.3
UZH *e* 01 13 33.6
KOLS Kolonicke sedl 35.32 319 *e*P **P 01 13 20.9 +0.2**
KOLS Kolonicke sedl 35.32 319 *e*P **P 01 13 20.9 +0.2**
KWP Kalwaria Pacla 35.38 320 *e*P **P 01 13 22.5 +1.3**
comp=Z,169nm,1.2s
KWP Kalwaria Pacla 35.38 320 *e*P **P 01 13 22.5 +1.3**
PSZ Piszkesteto 36.35 316 *e*P **P 01 13 30.6 +0.9**
comp=Z,5.7nm,1.1s
PSZ Piszkesteto 36.35 316⇑ *i*P **P 01 13 31.7 +2.0**
PSZ Piszkesteto 36.35 316 *e*P **P 01 13 30.6 +0.9**
PSZ pmax pmax
comp=Z,6.0nm,1.1s
KLMR Klimovskoe 36.37 345 *e*P **P 01 13 31.1 +1.6**
KLMR pmax pmax
comp=Z,7.0nm,1.3s
IDID Didziasalis 36.43 330 *e*P **P 01 13 32.0 +1.9**
IDID IAmb IAmb 01 13 39.4
comp=Z,3.9nm,0.9s
IIGN Ignalina 36.69 330 *e*P **P 01 13 33.6 +1.3**
IIGN IAmb IAmb 01 13 41.7
comp=Z,5.2nm,1.0s
GTA Gaotai 37.15 59 *e*P P 01 13 41.8 +5.2
GTA pP sP 01 13 46.2 +4.6
GTA sP pP 01 13 49.5 +9.3
VYHS Vyhne 37.22 316 *e*P **P 01 13 39.0 +2.0**
VYHS Vyhne 37.22 316 *e*P **P 01 13 39.0 +2.0**
OJC Ojcow 37.33 319 *e*P **P 01 13 38.2 +0.4**
comp=Z,19nm,1.3s
OJC Ojcow 37.33 319 *e*P **P 01 13 38.3 +0.4**
OJC pmax pmax
comp=Z,19nm,1.3s
SUW Suwalki 37.34 326 *e*P **P 01 13 39.2 +1.4**
comp=Z,40nm,1.2s
SUW Suwalki 37.34 326 *e*P **P 01 13 39.2 +1.4**
SUW pmax pmax
comp=Z,40nm,1.2s
JAVC Velka Javorina 38.08 316 *e*P **P 01 13 47.0 +2.7**
OKC Ostrava-Krasne 38.15 318 *e*P **P 01 13 46.5 +1.7**
OKC Ostrava-Krasne 38.15 318 *e*P **P 01 13 46.5 +1.7**
SOP Sopron 38.38 314 P **P 01 13 49.7 +2.9**
SOP pmax pmax
comp=Z,11nm,0.8s
MORC Moravsky Berou 38.49 318 *e*P **P 01 13 49.0 +1.3**
comp=Z,6.2nm,1.1s
MORC Moravsky Berou 38.49 318⇑ *i*P **P 01 13 49.5 +1.8**
MORC Moravsky Berou 38.49 318⇑⇑ P **P 01 13 49.5 +1.8**
MORC Moravsky Berou 38.49 318 *e*P **P 01 13 49.8 +2.1**
VSU Vasula 38.49 334 *e*P **P 01 13 49.2 +1.7**
VSU IAmb IAmb 01 13 58.7
comp=Z,16nm,0.8s
BOJS Bojanci 38.63 310 *e*P **P 01 13 48.8 -0.1**
CMAR Chiang Mai Arr 38.75 93 LR LR 01 33 07.8
comp=Z,171nm,18.2s,baz=294,slow=41
VRAC Vranov 38.90 317⇓ *i*P **P 01 13 53.6 +2.5**
VRAC Vranov 38.90 317⇓ P **P 01 13 53.6 +2.5**
VRAC Vranov 38.90 317 *e*P **P 01 13 52.6 +1.5**
CONA Conrad Observa 38.91 314 *ep*P **P 01 13 53.0 +1.7**
comp=Z,2.3nm,1.0s
ARSA Arzberg 38.92 313 *e*P **P 01 13 54.5 +3.1**
comp=Z,3.7nm,1.1s
KRUC Moravsky 38.94 316 P **P 01 13 54.0 +2.6**
KRUC pmax pmax
comp=Z,4.0nm,1.3s
KRUC Moravsky 38.94 316 *e*P **P 01 13 52.8 +1.4**
PERS Pernice 39.02 312 *i* P **P 01 13 55.1 +2.9**
PBUR Paburg 39.05 329 *e*P **P 01 13 52.2 -0.1**
PBUR IAmb IAmb 01 14 02.8
comp=Z,13nm,0.9s
DPC Dobruska-Polom 39.43 318 *e*P **P 01 13 57.3 +1.7**
DPC Dobruska-Polom 39.43 318 *e*P **P 01 13 57.3 +1.7**
JAVS Javornik 39.54 311 *e*P **P 01 13 54.4 -2.2**
UPC Upice 39.67 318 *e*P **P 01 13 59.3 +1.7**
UPC Upice 39.67 318 *e*P **P 01 13 59.3 +1.7**
MOA Molln 39.91 314 *ep*P **P 01 14 01.6 +2.0**
comp=Z,3.8nm,0.9s
MYKA Terra Mystica 40.00 312 P P 01 14 04.4 +4.0
comp=Z,2.4nm,0.7s
LZH Lanzhou 40.13 65 *e*P **P 01 14 01.2 -0.6**
LZH pP pP 01 14 04.5 -0.8
LZH sP sP 01 14 05.9 -0.9
LZH *e*PP **PnPn 01 15 38.5 +1.0**
KBA Koelnbreinsper 40.31 312 *ep*P **P 01 14 03.5 +0.3**
comp=Z,4.3nm,1.0s
KBA Koelnbreinsper 40.31 312 P **P 01 14 06.9 +3.8**
KBA pmax pmax
comp=Z,8.0nm,1.0s
CD2 Chengdu 40.31 73 *e*P **P 01 14 02.8 -0.4**
KHC Kasperske Hory 40.71 315 *e*P **P 01 14 06.9 +0.6**
comp=Z,6.0nm,1.3s
KHC Kasperske Hory 40.71 315 *e*P **P 01 14 06.9 +0.6**
KHC pmax pmax
comp=Z,6.0nm,1.3s
KHC Kasperske Hory 40.71 315 *e*P **P 01 14 05.3 -1.0**
KHC *ep*P **P 01 14 07.5 +1.2**
FINES FINESS Array B 40.77 337 *e*P **P 01 14 07.6 +1.1**
FINES FINESS Array B 40.77 337 *i* P **P 01 14 08.3 +1.8**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 40.77 337 P **P 01 14 04.4 -2.1**
comp=Z,2.4nm,0.7s,baz=132,slow=8.3,SNR=14
ABTA Abfaltersbach 40.78 312 *e*P **P 01 14 09.7 +2.7**
comp=Z,3.3nm,0.7s
WTTA Wattenberg 41.48 312 *ep*P **P 01 14 11.7 -1.1**
comp=Z,7.1nm,0.6s
WATA Walderalm 41.54 312 *e*P **P 01 14 11.6 -1.6**
comp=Z,25nm,1.3s
CLL Collm 41.74 318 *e*P **P 01 14 15.9 +1.3**
comp=Z,6.1nm,1.0s
CLL Collm 41.74 318 *e*P **P 01 14 15.9 +1.3**
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 41.74 318 *i* P **P 01 14 16.2 +1.6**
comp=Z,7.0nm,1.0s
CLL *i* 01 14 27.3
CLL *e*PPP PPP 01 16 19.0
SQTA Sankt Quirin 41.76 312 *e*P **P 01 14 13.6 -1.4**
comp=Z,1.2nm,0.4s
MOTA Moosalm 41.85 312 *e*P **P 01 14 14.0 -1.8**
comp=Z,3.4nm,0.5s
FETA Feichten 42.04 312 *e*P **P 01 14 16.0 -1.3**
comp=Z,7.0nm,1.2s
RETA Reutte 42.11 312 *e*P **P 01 14 16.2 -1.6**
comp=Z,7.5nm,1.2s
FUORN Ofenpass-Fuorn 42.27 311 *e*P **P 01 14 20.9 +1.6**
comp=Z,9.8nm,1.2s
FUORN *e*PcP **PcP 01 16 16.9 +3.8**
GRA1 Grafenberg Arr 42.35 316 *e*P **P 01 14 21.4 +1.7**
comp=Z,21nm,1.4s
GRF Grafenberg Arr 42.35 316 *e*P **P 01 14 21.4 +1.7**
GRF pmax pmax
comp=Z,21nm,1.4s
GRFO Grafenberg 42.35 316 *e*P **P 01 14 21.4 +1.7**
comp=Z,24nm,1.5s
GRFO Grafenberg 42.35 316 *e*P **P 01 14 21.4 +1.7**
GRFO pmax pmax
comp=Z,24nm,1.5s
DAVA Damuels 42.66 312 *e*P **P 01 14 21.0 -1.3**
comp=Z,5.5nm,0.5s
SONM Songino Array 43.25 48 P **P 01 14 27.6 +0.5**
comp=Z,0.9nm,0.9s,baz=255,slow=5.5,SNR=3.2
XAN Xi'an 44.37 68 P P 01 14 41.2 +5.0
MBDF Montbardon 44.40 308 *e*P P 01 14 42.4 +5.9
MBDF pmax pmax
comp=Z,12nm,1.0s
LPL La Plagne 44.52 309 *e*P P 01 14 42.6 +5.1
LPL pmax pmax
comp=Z,8.0nm,0.9s
CDF Champ du Feu 44.59 313 *e*P P 01 14 42.6 +4.7
CDF pmax pmax
comp=Z,7.0nm,1.2s
ECH Echery 44.64 313 *e*P **P 01 14 39.3 +1.2**
comp=Z,7.6nm,1.0s
ECH Echery 44.64 313 *e*P **P 01 14 39.3 +1.2**
ECH pmax pmax
comp=Z,8.0nm,1.0s
HINF Hinteralfeld 44.77 312 *e*P **P 01 14 40.5 +1.3**
HINF pmax pmax
comp=Z,7.0nm,1.1s
CABF La Chapelle 45.11 310 *e*P **P 01 14 44.5 +2.5**
CABF pmax pmax
comp=Z,19nm,1.1s
HAU Haudompre 45.14 312 *e*P **P 01 14 42.5 +0.4**
HAU pmax pmax
comp=Z,5.0nm,0.8s
VIVF Saint-Julien-l 45.90 308 *e*P P 01 14 54.2 +6.0
VIVF pmax pmax
comp=Z,15nm,1.5s
HHC Hu-ho-hao-te 46.23 58 *e*P **P 01 14 51.6 +0.7**
NB2 NORSAR Subarra 46.42 331 P **P 01 14 52.5 +0.4**
comp=Z,4.5nm,1.2s,baz=114,slow=7.9
NOA NORSAR Array B 46.42 331 P **P 01 14 49.4 -2.6**
comp=Z,0.8nm,0.8s,baz=116,slow=8.3,SNR=3.1
ARCES ARCESS Array B 46.85 345 *e*P **P 01 14 57.1 +1.8**
ARCES ARCESS Array B 46.85 345 P **P 01 14 55.3 +0.1**
comp=Z,3.1nm,0.8s,baz=129,slow=7.1,SNR=7.0
BAIF Baives 46.86 315 *e*P **P 01 14 58.9 +3.3**
BAIF pmax pmax
comp=Z,18nm,1.2s
TAM Tamanrasset 47.35 277 P **P 01 15 03.3 +3.3**
TAM pmax pmax
comp=Z,3.0nm,1.3s
TCF Toulx Ste Croi 47.74 309 *e*P **P 01 15 05.0 +2.4**
TCF pmax pmax
comp=Z,3.0nm,1.6s
CAF Calviac 47.76 308 *e*P **P 01 15 04.7 +1.9**
CAF pmax pmax
comp=Z,6.0nm,1.0s
RJF Les Rejaudoux 48.16 308 *e*P **P 01 15 08.9 +3.0**
RJF pmax pmax
comp=Z,11nm,1.1s
LFF La Frestale 48.70 308 *e*P **P 01 15 12.8 +2.8**
LFF pmax pmax
comp=Z,7.0nm,0.7s
WHN Wuhan 49.39 72⇑⇑P P 01 15 21.5 +6.0
LDF La Druitiere 49.49 312 *e*P **P 01 15 19.7 +3.7**
LDF pmax pmax
comp=Z,72nm,1.9s
FLN La Foliniere 49.74 312 *e*P **P 01 15 18.8 +0.9**
FLN pmax pmax
comp=Z,94nm,1.7s
BOD Bodaibo 49.97 36 *e*P **P 01 15 20.4 +0.9**
BOD pmax pmax
comp=Z,9.0nm,1.4s
SJPF Ste Jean 50.10 305 *e*P **P 01 15 23.1 +2.4**
SJPF pmax pmax
comp=Z,11nm,1.2s
ESDC Sonseca Array 52.35 301 *e*P **P 01 15 39.4 +1.7**
comp=Z,1.8nm,1.2s
ESDC Sonseca Array 52.35 301 P **P 01 15 36.9 -0.9**
comp=Z,0.4nm,0.5s,baz=80,slow=7.0,SNR=5.1
NJ2 Nanjing 52.90 69 *e*P **P 01 15 43.3 +1.4**
TOA0 Torodi Ar. Sit 54.03 267 *e*P **P 01 15 53.2 +2.8**
comp=Z,5.4nm,0.8s
TORD Torodi Ar. Bea 54.03 267 P **P 01 15 48.5 -1.9**
comp=Z,1.7nm,0.6s,baz=62,slow=8.3,SNR=15
TIXI Tiksi 58.99 20⇑ *e*P **P 01 16 25.1 +0.3**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
TIXI Tiksi 58.99 20 P **P 01 16 24.8 -0.1**
comp=Z,0.4nm,0.3s,baz=292,slow=5.4,SNR=2.1
KSAR Wonju Array Be 59.17 61 P **P 01 16 27.6 +0.9**
KSAR Wonju Array Be 59.17 61 P **P 01 16 27.6 +0.9**
KSRS Korea Array 59.20 61 P **P 01 16 27.6 +0.8**
comp=Z,0.9nm,0.7s,baz=264,slow=5.6,SNR=3.4
DAG Danmarks Havn 61.14 345 *e*P **P 01 16 41.6 +2.1**
DAG pmax pmax
comp=Z,1.0nm,0.7s
DAG Danmarks Havn 61.14 345 *i* P **P 01 16 41.6 +2.1**
comp=Z,1.6nm,0.7s
SUMG Summit 66.65 341 *e*P **P 01 17 17.8 +1.5**
comp=Z,8.2nm,0.6s
SUMG Summit 66.65 341 *e*P **P 01 17 17.8 +1.5**
SUMG pmax pmax
comp=Z,8.0nm,0.6s
SUMG Summit 66.65 341 *i* P **P 01 17 18.1 +1.8**
SEY Seymchan 68.66 29⇓ *e*P **P 01 17 28.0 -0.6**
SEY Seymchan 68.66 29 LR LR 01 51 20.2
comp=Z,509nm,18.9s,baz=139,slow=39
TULEG Thule 72.01 349 *e*P **P 01 17 50.1 +1.1**
comp=Z,8.1nm,0.8s
BILL Bilibino 72.14 22⇑ *e*P **P 01 17 48.8 -1.1**
BILL pmax pmax
comp=Z,2.0nm,1.1s
TOLK Toolik Lake Re 82.87 10 *e*P **P 01 18 51.5 +1.6**
comp=Z,3.6nm,0.6s
IMAR Indian Mountai 84.55 12 *e*P **P 01 18 59.9 +1.4**
INK Inuvik 84.95 4 P **P 01 19 01.0 +0.6**
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 84.95 4 P **P 01 19 01.0 +0.6**
comp=Z,1.1nm,0.8s,baz=24,slow=5.7,SNR=4.4
ILAR Eielson Array 86.86 10 P **P 01 19 09.4 -0.7**
comp=Z,0.2nm,0.5s,baz=336,slow=4.0,SNR=2.9
WRA Warramunga Arr 87.46 114 P **P 01 19 11.8 -1.8**
comp=Z,0.9nm,0.8s,baz=313,slow=4.3,SNR=4.5
ASAR Alice Springs 88.94 117 P **P 01 19 17.9 -2.7**
comp=Z,0.4nm,0.5s,baz=306,slow=5.0,SNR=5.5
YKA Yellowknife Ar 90.95 356 P **P 01 19 31.6 +2.3**
comp=Z,0.3nm,0.8s,baz=1.4,slow=5.1,SNR=4.2

ISCJB ***12*** *01:08:20.5±0.3,26°.69N±0°.04×57°.80E±0°.04,h10km, mb4.4/66,MS3.5/1,Error ellipse: s-maj=5.4km s-min=4.8km az=24.6*
IDC ***12*** *01:08:20.4±0.7,26°.75N×57°.91E,h0km,mb4.0/24, mb1 4.1/27,mb1mx4.0/51,mbtmp4.0/27,ML4.3/2,MS3.6/1, Ms1 3.6/1,ms1mx3.0/48,Error ellipse: s-maj=17.1km s-min=14.1km az=2.0*
MOS ***12*** *01:08:20.7±1.1,26°.66N×57°.84E,h16km,mb4.5/28,Error ellipse: s-maj=9.1km s-min=5.9km az=111.4*
NEIC ***12*** *01:08:21.4±0.3,26°.56N×57°.78E,h10km,mb4.5/33,Error ellipse: s-maj=7.2km s-min=5.2km az=168.0*
OMAN ***12*** *01:08:22.2±11.0,26°.77N×58°.00E,h20km,ml3.6/4,Error ellipse: s-maj=242.3km s-min=41.4km az=33.0*
ISC 12 01:08:21.2±0.4,**26°.56N**±0°.05×**57°.75E**±0°.06,**h10**km,**n172,** σ1§**12**/171,**mb4.4**/67,**13C-5D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Time ISC	Res h m s	Res ISC
ASHO	**Ashiyiah** SNR=5.0	**2.42**	**220**	P	**Pg**	**01 09 09.2**	**+1.6**
SOHO	**SOHO** SNR=14	**2.66**	**205**	P	**Pn**	**01 09 05.0**	**+0.9**
BIDO	**Bidbid** SNR=49	**3.05**	**174**	P	**Pn**	**01 09 10.3**	**+0.8**
WSAR	**Wadi Sarin** 58nm,0.3s,baz=339,slow=4.4,SNR=25	**3.40**	**166**	Pn	**Pn**	**01 09 16.1**	**+1.7**
WSAR	31nm,0.3s,baz=255,slow=20,SNR=2.9			Sn	**Sn**	**01 09 53.5**	**-1.4**
SMDO	**Samad** SNR=12	**3.50**	**176**	P	**Pn**	**01 09 19.2**	**+3.4**
BSY	**Bisya** SNR=11	**3.83**	**188**	P	**Pb**	**01 09 25.3**	**-3.7**
JMDO	**Jabal Madar** SNR=7.8	**4.19**	**176**	P	**Pn**	**01 09 30.0**	**+4.8**
GEYT	**Alibeck** 0.3nm,0.3s,baz=186,slow=12,SNR=3.5	**11.34**	**1**	Pn	**Pn**	**01 11 05.6**	**+2.3**
NIL	**Nilore** 16nm,0.7s	**15.15**	**59**	*e*Pn	**Pn**	**01 11 56.4**	**+1.1**
NIL	**Nilore** comp=Z,16nm,0.7s	**15.15**	**59**	*e*P	**Pn**	**01 11 56.4**	**+1.1**
NIL				pmax	pmax		
GNI	**Garni** comp=Z,20nm,1.1s	**17.34**	**325**	*e*Pn	**P**	**01 12 25.1**	**+0.2**
GNI	**Garni** comp=Z,1.6nm,0.3s,baz=316,slow=20,SNR=3.7	**17.34**	**325**	P	**Pn**	**01 12 24.1**	**+0.6**
ASF	**Jabal al Asfar** comp=Z,0.5nm,0.3s,baz=41,slow=8.1,SNR=3.0	**19.01**	**292**	P	**Pn**	**01 12 44.1**	**+0.1**
ARSB	**Arslanbob** comp=Z,12nm,1.0s	**19.36**	**37**	*e*P	**Pn**	**01 12 48.1**	**-0.1**
KK31	**Karatay Array** comp=Z,6.6nm,0.9s	**19.50**	**29**	*e*P	**Pn**	**01 12 49.6**	**-0.1**
KK31	**Karatay Array**	**19.50**	**29**	*e*P	**Pn**	**01 12 49.7**	**-0.1**
KK31				pmax	pmax		
KKAR	**Karatay Array** comp=Z,6.6nm,0.9s	**19.50**	**29**	*e*P	**Pn**	**01 12 49.6**	**-0.1**
KKAR	**Karatay Array**	**19.50**	**29**	*e*P	**Pn**	**01 12 49.7**	**-0.1**
KKAR				pmax	pmax		
KSH	**Kashi**	**19.96**	**45**	P	**P**	**01 12 49.1**	**-4.5**
EIL	**Elat** comp=Z,13nm,0.7s,baz=72,slow=6.3,SNR=4.8	**20.34**	**284**	P	Pn	01 12 59.8	0.0
MMAI	**Mount Meron Ar** comp=Z,8.2nm,0.8s,baz=96,slow=14,SNR=6.9	**20.42**	**294**	P	Pn	01 13 00.5	-0.3
ATD	**Arta Tunnel** comp=Z,39nm,1.4s	**20.51**	**226**	*e*P	**P**	**01 12 58.8**	**-0.9**
ATD	**Arta Tunnel** comp=Z,17nm,1.1s,baz=53,slow=7.2,SNR=2.5	**20.51**	**226**	P	Pn	01 13 03.3	+1.3
AAK	**Ala-Archa** comp=Z,12nm,1.4s	**21.08**	**36**	*e*P	**P**	**01 13 07.0**	**+1.1**
AAK	**Ala-Archa** comp=Z,1.8nm,0.6s,baz=232,slow=17,SNR=1.9	**21.08**	**36**	P	**P**	**01 13 04.2**	**-1.6**
KVAR	**Kislovodsk Arr** comp=Z,186nm,20.6s,baz=82,slow=43	**21.21**	**329**	LR	LR	01 23 37.9	
KIV	**Kislovodsk** comp=Z,12nm,0.9s	**21.21**	**329**	*e*P	**P**	**01 13 08.1**	**+1.0**
KIV	**Kislovodsk**	**21.21**	**329**	*e*P	**P**	**01 13 09.4**	**+2.2**
KIV				pmax	pmax		
HYB	**Hyderabad** comp=Z,45nm,1.1s	**21.30**	**111**	*i* P	**P**	**01 13 11.5**	**+3.2**
BOOM	**Boomskoye usch** comp=Z,6.6nm,0.7s	**21.77**	**39**	*e*P	**P**	**01 13 13.4**	**+0.1**
BOOM	**Boomskoye usch**	**21.77**	**39**	*e*P	**P**	**01 13 13.4**	**+0.1**
BOOM				pmax	pmax		
KDJ	**Kajisay** comp=Z,7.0nm,0.7s	**22.25**	**41**	*e*P	**P**	**01 13 18.4**	**0.0**
KDJ	**Kajisay** comp=Z,11nm,0.8s	**22.25**	**41**	*e*P	**P**	**01 13 18.4**	**0.0**
KDJ				pmax	pmax		
CSS	**Mathiatis** comp=Z,24nm,1.1s	**22.55**	**298**	*e*P	**P**	**01 13 22.2**	**+0.7**

ABKAR Akbulak array 22.72 4 *eP* **P 01 13 23.1 -0.1**
comp=Z,6.0nm,0.8s
AKTO Aktyubinsk 23.84 0 P **P 01 13 33.4 -1.0**
comp=Z,5.7nm,0.7s,baz=156,slow=9.9,SNR=5.5
BR131 Keskin Array S 23.99 309 *eP* **P 01 13 37.2 +1.0**
comp=Z,11nm,0.8s
BRTR Keskin Array B 23.99 309 *eP* **P 01 13 36.5 +0.3**
BRTR Keskin Array B 23.99 309 P **P 01 13 36.9 +0.7**
comp=Z,9.2nm,0.7s,baz=140,slow=6.4,SNR=15
ANTO Ankara 24.64 309 *eP* **P 01 13 43.6 +1.5**
comp=Z,28nm,1.4s
ANTO Ankara 24.64 309 *eP* **P 01 13 43.6 +1.5**
ANTO pmax pmax
comp=Z,29nm,1.4s
SIM Simferopol' 26.39 320*c i P* **P 01 13 58.2 +0.5**
SIM pmax pmax
comp=Z,30nm,0.6s
MKAR Makanchi Array 28.00 37 P **P 01 14 11.1 -1.1**
comp=Z,0.5nm,0.7s,baz=226,slow=8.5,SNR=2.2
BVAR Borovoye Array 28.07 16 P **P 01 14 12.0 -0.8**
comp=Z,1.7nm,0.6s,baz=206,slow=6.1,SNR=9.4
BVAR PcP **PcP 01 17 27.1 0.0**
comp=Z,0.5nm,0.6s,baz=221,slow=1.5,SNR=3.8
KURBB Kurchatov Arra 28.80 28 P **P 01 14 17.5 -1.8**
comp=Z,0.5nm,0.6s,baz=228,slow=8.4,SNR=2.6
KURK Kurchatov 28.91 28 P **P 01 14 17.5 -2.8**
KURK pmax pmax
comp=Z,1.0nm,0.6s
WMQ Urumqi 29.70 47 *eP* **P 01 14 29.8 +2.4**
MLR Muntele Rosu 31.62 315 ⇓*iP* **P 01 14 46.2 +1.7**
MLR Muntele Rosu 31.62 315 P **P 01 14 45.2 +0.7**
comp=Z,3.4nm,0.8s,baz=130,slow=1.3,SNR=5.5
TESR Tescani 31.65 317 ⇑*iP* **P 01 14 45.1 +0.6**
ITM Ithomi 32.04 298 *eP* **P 01 14 47.8 -0.3**
comp=Z,60nm,1.8s
VOIR 32.17 314 ⇑*iP* **P 01 14 50.4 +1.2**
DOPR Dopca 32.18 315 ⇑*iP* **P 01 14 49.2 0.0**
ARR Arges 32.41 314 ⇑*iP* **P 01 14 52.5 +1.2**
AKASG Malin Array Be 32.47 326 *eP* **P 01 14 51.5 -0.2**
AKASG Malin Array Be 32.47 326 *eP* **P 01 14 51.5 -0.2**
AKASG Malin Array Be 32.47 326 P **P 01 14 51.4 -0.3**
comp=Z,2.4nm,0.5s,baz=131,slow=8.4,SNR=11
AKBB Malin Array Si 32.47 326 *eP* **P 01 14 51.4 -0.3**
AKBB Malin Array Si 32.47 326 *eP* **P 01 14 51.4 -0.3**
KIEV Kiev 32.48 326 *eP* **P 01 14 51.0 -0.7**
KIEV Kiev 32.48 326 ⇑*iP* **P 01 14 51.1 -0.7**
KIEV Kiev 32.48 326 *eP* **P 01 14 51.0 -0.7**
KIEV pmax pmax
comp=Z,9.0nm,1.1s
MDB Medias 32.89 315 ⇑*iP* **P 01 14 57.5 +2.1**
BURAR Bucovina Array 33.03 318 *eP* **P 01 14 56.6 -0.2**
comp=Z,16nm,0.6s
BURAR Bucovina Array 33.03 318 ⇑*iP* **P 01 14 57.5 +0.7**
BURAR Bucovina Array 33.03 318 *eP* **P 01 14 56.6 -0.2**
BURAR pmax pmax
comp=Z,16nm,0.6s
BUR08 Bucovina Ar. S 33.05 318 *eP* **P 01 14 57.7 +0.7**
comp=Z,1.9nm,0.8s
FNA Florina 33.18 305 *eP* **P 01 14 58.7 +0.6**
comp=Z,9.2nm,0.6s
FNA Florina 33.18 305 *eP* **P 01 14 58.7 +0.6**
FNA pmax pmax
comp=Z,9.0nm,0.6s
GZR Gura Zlata 33.62 313 ⇓*iP* **P 01 15 02.3 +0.4**
HERR Herculane 33.67 312 ⇑*iP* **P 01 15 02.3 0.0**
ZALV Zalesovo Beam 33.88 29 P **P 01 15 02.8 -1.2**
comp=Z,1.1nm,0.3s,baz=230,slow=8.6,SNR=4.5
MDVR Moldovita 34.11 312 ⇓*iP* **P 01 15 07.3 +1.2**
DRGR 34.21 315 ⇑*iP* **P 01 15 08.2 +1.2**
BZS Buzias 34.46 313 ⇑*iP* **P 01 15 10.2 +1.1**
SIRR Siria 34.67 314 ⇓*iP* **P 01 15 12.2 +1.2**
TRPA Tarpa 34.87 317 *eP* **P 01 15 13.0 +0.4**
LTVH Ltavrtes, Hu 34.95 316 *eP* **P 01 15 14.1 +0.8**
TTG Podgorica 35.12 307 *eP* **P 01 15 14.6 -0.2**
comp=Z,7.4nm,1.1s
TTG Podgorica 35.12 307 *eP* **P 01 15 14.6 -0.2**
TTG pmax pmax
comp=Z,7.0nm,1.1s
KOLS Kolonicke sedl 35.38 319 *eP* **P 01 15 18.6 +1.6**
KWP Kalwaria Pacla 35.44 320 *eP* **P 01 15 18.0 +0.4**
comp=Z,88nm,0.7s
KWP Kalwaria Pacla 35.44 320 *eP* **P 01 15 18.0 +0.4**
PSZ Piszkesteto 36.41 316 *eP* **P 01 15 26.6 +0.6**
comp=Z,5.8nm,0.9s
PSZ Piszkesteto 36.41 316 ⇓*iP* **P 01 15 25.4 -0.6**
PSZ Piszkesteto 36.41 316 *eP* **P 01 15 26.6 +0.6**
PSZ pmax pmax
comp=Z,6.0nm,0.9s
PSZ Piszkesteto 36.41 316 *eP* **P 01 15 26.0 +0.1**
MORH Mrgy, Hungar 36.62 313 ⇑*eP* **P 01 15 28.0 +0.4**
LANS Liptovska Anna 37.15 318 *eP* **P 01 15 33.8 +1.6**
LANS Liptovska Anna 37.15 318 *eP* **P 01 15 33.8 +1.6**
VYHS Vyhne 37.28 316 *eP* **P 01 15 33.8 +0.5**
OJC Ojcow 37.39 319 *eP* **P 01 15 34.4 +0.3**
comp=Z,14nm,0.8s
OJC Ojcow 37.39 319 *eP* **P 01 15 34.4 +0.3**
OJC pmax pmax
comp=Z,14nm,0.8s
SUW Suwalki 37.41 327 *eP* **P 01 15 34.8 +0.6**
comp=Z,13nm,0.9s
SUW Suwalki 37.41 327 *eP* **P 01 15 34.8 +0.6**
SUW pmax pmax
comp=Z,13nm,0.9s
BEHE Becsehely 37.93 312 *eP* **P 01 15 40.0 +1.3**
JAVC Velka Javorina 38.13 316 *eP* **P 01 15 42.2 +1.6**
SOP Sopron 38.44 314 *eP* **P 01 15 43.1 0.0**
MORC Moravsky Berou 38.55 318 *eP* **P 01 15 44.4 +0.4**
BOJS Bojanci 38.69 311 *eP* **P 01 15 45.6 +0.5**
VRAC Vranov 38.96 317 ⇑*iP* **P 01 15 48.7 +1.3**
VRAC Vranov 38.96 317 *eP* **P 01 15 48.0 +0.6**
CONA Conrad Observa 38.96 314 *eP* **P 01 15 48.0 +0.4**
comp=Z,3.8nm,0.7s
ARSA Arzberg 38.98 313 *eP* **P 01 15 48.6 +1.0**
comp=Z,7.7nm,0.8s,SNR=5.5
KRUC Moravsky 38.99 316 *eP* **P 01 15 48.5 +0.8**
PERS Pernice 39.07 312 *i P* **P 01 15 49.2 +0.7**
SOKA Soboth 39.14 312 *eP* **P 01 15 49.8 +0.8**
comp=Z,2.7nm,0.6s
DPC Dobruska-Polom 39.49 318 *eP* **P 01 15 52.2 +0.3**
DPC Dobruska-Polom 39.49 318 *eP* **P 01 15 52.2 +0.3**
JAVS Javornik 39.59 311 *eP* **P 01 15 53.2 +0.3**
MOA Molln 39.97 314 *eP* **P 01 15 56.6 +0.7**
comp=Z,11nm,0.6s,SNR=8.3
MYKA Terra Mystica 40.05 312 *eP* **P 01 15 57.5 +0.9**
comp=Z,3.8nm,0.6s
LZH Lanzhou 40.19 65 *eP* **P 01 15 57.5 -0.5**
LZH pP sP 01 16 04.1 +1.2
LZH sP pP 01 16 07.3 +5.8
LZH *e*PP PP 01 17 04.6 -26
GOPC GO Pecny, Ondr 40.27 317 *eP* **P 01 15 58.0 -0.3**
GOPC GO Pecny, Ondr 40.27 317 *eP* **P 01 15 58.0 -0.3**
CD2 Chengdu 40.35 73 *eP* **P 01 15 57.9 -1.4**
KBA Koelnbreinsper 40.36 312 *eP* **P 01 16 00.1 +0.8**
comp=Z,4.8nm,0.7s,SNR=6.0
KHC Kasperske Hory 40.77 316 *eP* **P 01 16 01.9 -0.6**
comp=Z,4.3nm,0.7s
KHC Kasperske Hory 40.77 316 *eP* **P 01 16 01.9 -0.6**
KHC pmax pmax
comp=Z,4.0nm,0.7s
KHC Kasperske Hory 40.77 316 *eP* **P 01 16 02.5 0.0**
ABTA Abfaltersbach 40.84 312 *eP* **P 01 16 03.8 +0.7**
comp=Z,6.7nm,0.7s,SNR=5.3
FINES FINESS Array B 40.86 337 *eP* **P 01 16 02.4 -0.6**
FINES FINESS Array B 40.86 337 P **P 01 16 02.6 -0.4**
comp=Z,1.8nm,0.5s,baz=130,slow=9.5,SNR=11
BRG Berggiesshubel 41.09 318 *eP* **P 01 16 05.3 +0.2**
comp=Z,3.6nm,0.8s
BRG Berggiesshubel 41.09 318 *eP* **P 01 16 05.3 +0.2**
BRG pmax pmax
comp=Z,4.0nm,0.8s
WTTA Wattenberg 41.54 312 *eP* **P 01 16 09.2 +0.2**
comp=Z,16nm,0.6s
WATA Walderalm 41.59 312 *eP* **P 01 16 09.7 +0.3**
comp=Z,5.4nm,0.5s
CLL Collm 41.80 318 *i P* **P 01 16 11.7 +0.8**
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 41.80 318 *i P* **P 01 16 11.7 +0.8**
comp=Z,8.0nm,1.2s
CLL Collm 41.80 318 *i* PcP **P 01 16 11.3 +0.4**
SQTA Sankt Quirin 41.81 312 *eP* **P 01 16 11.3 +0.1**
comp=Z,30nm,0.5s,SNR=13
MOTA Moosalm 41.91 312 *eP* **P 01 16 11.7 -0.3**
comp=Z,11nm,0.5s,SNR=12

FETA Feichten 42.09 312 *i P* **P 01 16 13.9 +0.4**
comp=Z,9.2nm,0.6s,SNR=12
RETA Reutte 42.17 312 *eP* **P 01 16 13.6 -0.4**
comp=Z,6.5nm,0.7s
FUORN Ofenpass-Fuorn 42.32 311 *eP* **P 01 16 16.0 +0.5**
comp=Z,8.6nm,0.8s
GRA1 Grafenberg Arr 42.41 316 *eP* **P 01 16 16.6 +0.6**
comp=Z,13nm,0.8s
GRF Grafenberg Arr 42.41 316 *eP* **P 01 16 16.5 +0.6**
GRF pmax pmax
comp=Z,13nm,0.8s
GRFO Grafenberg 42.41 316 *eP* **P 01 16 16.4 +0.5**
comp=Z,11nm,0.8s
GRFO Grafenberg 42.41 316 *eP* **P 01 16 16.4 +0.5**
GRFO pmax pmax
comp=Z,11nm,0.8s
DAVA Damuels 42.71 312 *i P* **P 01 16 18.7 +0.1**
comp=Z,41nm,0.6s,SNR=18
SONM Songino Array 43.33 47 P **P 01 16 23.4 -0.2**
comp=Z,0.5nm,0.6s,baz=263,slow=9.6,SNR=2.6
ECH Echery 44.69 313 *eP* **P 01 16 33.8 -0.5**
comp=Z,11nm,0.9s
ECH Echery 44.69 313 *eP* **P 01 16 33.8 -0.5**
ECH pmax pmax
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 46.29 58 *eP* **P 01 16 48.3 +1.0**
NB2 NORSAR Subarra 46.50 331 P **P 01 16 47.5 -1.0**
comp=Z,0.5nm,0.5s,baz=114,slow=7.9
NOA NORSAR Array B 46.50 331 P **P 01 16 47.6 -0.8**
comp=Z,0.7nm,0.6s,baz=116,slow=7.8,SNR=4.1
ARCES ARCESS Array B 46.94 345 P **P 01 16 51.2 -0.5**
comp=Z,1.9nm,0.8s,baz=182,slow=3.5,SNR=5.7
ARCES PcP **PcP 01 18 24.2 +0.1**
comp=Z,2.0nm,0.8s,baz=145,slow=3.3,SNR=3.7
BOD Bodaibo 50.06 35 *eP* **P 01 17 13.7 -2.2**
BOD pmax pmax
comp=Z,7.0nm,2.1s
ESDC Sonseca Array 52.38 301 *eP* **P 01 17 33.7 0.0**
comp=Z,1.0nm,0.9s
ESDC Sonseca Array 52.38 301 P **P 01 17 34.6 +0.8**
comp=Z,0.6nm,0.4s,baz=70,slow=7.4,SNR=9.6
NJ2 Nanjing 52.95 69 *eP* **P 01 17 38.5 +0.5**
TOA0 Torodi Ar. Sit 54.01 267 *eP* **P 01 17 45.9 -0.1**
comp=Z,13nm,1.4s
TORD Torodi Ar. Bea 54.01 267 P **P 01 17 45.1 -0.9**
comp=Z,2.2nm,0.5s,baz=59,slow=7.5,SNR=11
TIXI Tiksi 59.09 20 P **P 01 18 20.7 -0.6**
comp=Z,0.5nm,0.3s,baz=259,slow=11,SNR=2.7
KSAR Wonju Array Be 59.23 61 P **P 01 18 21.2 -1.6**
KSAR Wonju Array Be 59.23 61 P **P 01 18 21.2 -1.6**
KSRS Korea Array 59.26 61 P **P 01 18 21.2 -1.8**
comp=Z,0.8nm,0.6s,baz=281,slow=6.6,SNR=2.7
DAG Danmarks Havn 61.23 345 *i P* **P 01 18 35.6 -0.3**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 61.23 345 *i P* **P 01 18 35.6 -0.3**
comp=Z,2.6nm,0.8s
SUMG Summit 66.74 341 *eP* **P 01 19 12.8 +0.1**
comp=Z,8.2nm,0.6s
SUMG Summit 66.74 341 *eP* **P 01 19 12.8 +0.1**
SUMG pmax pmax
comp=Z,8.0nm,0.6s
SUMG Summit 66.74 341 *i P* **P 01 19 13.3 +0.6**
comp=Z,22nm,0.6s
TULEG Thule 72.10 349 *eP* **P 01 19 45.1 -0.2**
comp=Z,8.1nm,0.8s
TOLK Toolik Lake Re 82.97 10 *eP* **P 01 20 46.5 +0.3**
comp=Z,3.6nm,0.6s
IMAR Indian Mountai 84.65 12 *eP* **P 01 20 54.3 -0.5**
INK Inuvik 85.05 4 P **P 01 20 56.1 -0.6**
comp=Z,0.5nm,0.5s,baz=352,slow=4.2,SNR=3.4
ILAR Eielson Array 86.96 10 P **P 01 21 06.0 -0.3**
ILAR Eielson Array 86.96 10 P **P 01 21 06.0 -0.3**
comp=Z,0.4nm,0.8s,baz=316,slow=5.5,SNR=3.4
WRA Warramunga Arr 87.44 114 P **P 01 21 10.5 +1.2**
comp=Z,0.7nm,0.9s,baz=319,slow=4.0,SNR=4.0
ASAR Alice Springs 88.91 117 P **P 01 21 17.0 +0.7**
ASAR Alice Springs 88.91 117 P **P 01 21 17.0 +0.7**
comp=Z,0.4nm,0.9s,baz=306,slow=5.4,SNR=4.4
YKA Yellowknife Ar 91.04 356 P **P 01 21 25.8 +0.2**
comp=Z,0.3nm,0.8s,baz=358,slow=5.3,SNR=4.8

IDC 12 01:23:16.6±1.9, 27°.28N×102°.28E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/29, mbtmp3.4/3, ML3.7/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/32, Error ellipse: s-maj=69.3km s-min=31.0km az=68.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.30**	**200**	Pn	Pn	01 25 32.4	+0.3
	0.2nm,0.3s,baz=358,slow=17,SNR=7.4						
CMAR				Sn	Sn	01 27 09.2	-8.3
	0.3nm,0.3s,baz=0.4,slow=29,SNR=6.1						
MKAR	**Makanchi Array**	**25.05**	**326**	P	P	01 28 42.5	0.0
	0.3nm,0.5s,baz=144,slow=7.5,SNR=4.3						
ASF	**Jabal al Asfar**	**56.22**	**292**	LR	LR	02 02 34.7	
	comp=Z,105nm,19.7s,baz=74,slow=42						
WRA	**Warramunga Arr**	**56.29**	**143**	P	P	01 32 59.1	-0.2
	0.5nm,0.9s,baz=332,slow=7.3,SNR=2.6						

ISCJB 12 01:38:37.3±0.4, 10°.44N±0°.03×123°.50E±0°.02, h10km, mb3.6/3, Error ellipse: s-maj=4.3km s-min=3.3km az=17.8
MAN 12 01:38:37.9, 10°.41N×123°.49E, h16km, mb5.2, ML4.2, MS4.3
IDC 12 01:39:00.7±39.0, 7°.67N×124°.94E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/49, mbtmp3.7/3, Error ellipse: s-maj=668.2km s-min=207.3km az=158.0
ISC 12 01:38:37.6±0.7, 10°.42N±0°.03×123°.50E±0°.03, h10km, n23, σ1§69/34, mb3.8/3, 2C-5D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.47**	**103**	⇓*iP*	**Pb**	01 38 48.8	+0.8
LLP				*i* S	**Sb**	01 38 55.0	0.0
TBP	**Tagbilaran**	**0.81**	**154**	*eP*	**Pg**	01 38 51.7	-1.5
TBP				*e*S	**Sg**	01 39 04.2	+0.4
GUIM	**Jordan**	**0.92**	**283**	*eP*	**Pg**	01 38 54.9	-0.5
GUIM				*e*S	**Sb**	01 39 08.0	0.0
SNPH	**Sibulan**	**1.10**	**194**	⇑*iP*	**Pg**	01 38 58.4	-0.5
SNPH				*i* S	**Sb**	01 39 13.8	+0.4
OCLP	**Ormoc**	**1.26**	**60**	*eP*	**Pn**	01 38 59.3	-1.9
OCLP				*e*S	**Sb**	01 39 18.0	+0.4
RCP	**Roxas**	**1.35**	**327**	⇓*eP*	**Pn**	01 39 01.2	-1.4
RCP				*i* S	**Sb**	01 39 20.8	+0.3
MSLP	**Maasin**	**1.37**	**102**	*eP*	**Pn**	01 39 01.8	-1.0
MSLP				*e*S	**Sb**	01 39 20.1	-0.7
JAP	**San Jose, Anti**	**1.56**	**282**	⇓*eP*	**Pg**	01 39 07.3	-0.3
JAP				*e*S	**Sg**	01 39 32.0	+4.0
PLP	**Palo**	**1.63**	**63**	⇑*eP*	**Pn**	01 39 05.0	-1.3
PLP				*e*S	**Sn**	01 39 27.4	-0.1
SCPH	**Surigao**	**2.06**	**108**	*eP*	**Pg**	01 39 20.2	+3.1
BESP	**Borongan**	**2.23**	**58**	*eP*	**Pn**	01 39 15.7	+0.9
CGP	**Cagayan de Oro**	**2.28**	**149**	⇓*eP*	**Pn**	01 39 12.5	-2.9
CNP	**Cataman**	**2.37**	**29**	*eP*	**Pn**	01 39 14.7	-1.9
CNP				*e*S	**Sb**	01 39 52.2	+2.5
OTRP	**Odiongan**	**2.41**	**323**	*eP*	**Pn**	01 39 14.7	-2.5
CUYO	**Cuyo Island**	**2.48**	**280**	*eP*	**Pn**	01 39 18.4	+0.4
CUYO				*e*S	**Sn**	01 39 47.9	-0.6
PAGZ	**Pagadian**	**2.56**	**183**	*eP*	**Pn**	01 39 19.4	+0.2
IPIL	**Ipil**	**2.77**	**199**	*eP*	**Pn**	01 39 22.1	0.0
BUKP	**Musuan**	**2.96**	**148**	*eP*	**Pn**	01 39 25.0	+0.3
SJMP	**San Jose**	**3.09**	**311**	*eP*	**Pn**	01 39 27.5	+1.0
CTBH	**Cotabato--PC H**	**3.26**	**167**	⇓*iP*	**Pn**	01 39 32.4	+3.5
WRA	**Warramunga Arr**	**32.00**	**161**	P	**P**	01 45 01.8	-2.5
	0.3nm,0.8s,baz=342,slow=9.4,SNR=1.3						
ASAR	**Alice Springs**	**35.37**	**163**	P	**P**	01 45 31.6	-2.1
	0.8nm,0.6s,baz=342,slow=7.0,SNR=4.3						
STKA	**Stephens Creek**	**45.49**	**158**	P	**P**	01 46 57.7	+0.5
	0.8nm,0.4s,baz=344,slow=7.4,SNR=1.4						

IDC 12 01:49:26.4±5.6, 6°.16S×104°.23E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/57, mbtmp3.7/6, MS4.3/1, Ms1 4.3/1, ms1mx2.9/32, Error ellipse: s-maj=287.8km s-min=22.5km az=49.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.29**	**118**	P	P	01 55 57.3	0.0
	0.7nm,1.0s,baz=285,slow=9.8,SNR=3.8						
ASAR	**Alice Springs**	**33.42**	**124**	P	P	01 56 07.5	+0.3
	0.5nm,1.0s,baz=301,slow=7.7,SNR=4.2						

PMG Port Moresby 42.63 97 LR LR 02 17 54.3
comp=Z,384nm,19.6s,baz=206,slow=40
MKAR Makanchi Array 56.21 342 P P 01 59 08.6 +0.3
0.6nm,0.7s,baz=142,slow=8.9,SNR=5.9
KURBB Kurchatov Arra 60.76 342 P P 01 59 40.3 +0.4
0.2nm,0.3s,baz=155,slow=7.2,SNR=2.6
ZALV Zalesovo Beam 62.07 347 P P 01 59 48.6 -0.2
1.5nm,0.3s,baz=161,slow=6.0,SNR=7.7
BVAR Borovoye Array 65.55 338 P P 02 00 11.5 -0.3
0.3nm,0.5s,baz=134,slow=8.3,SNR=2.6
TXAR Lajitas Array 145.01 45 PKPbc PKPbc 02 09 04.5 -1.4
0.3nm,0.5s,baz=225,slow=1.2,SNR=5.8

IDC 12 01:57:20.5±1.2, 26°.64N×57°.85E, h0km, mb3.6/16, mb1 3.7/18, mb1mx3.6/49, mbtmp3.7/18, ML3.9/2, Error ellipse: s-maj=24.4km s-min=15.5km az=161.0
OMAN 12 01:57:20.9±0.4, 26°.75N×58°.24E, h18km, ml3.9/12, Error ellipse: s-maj=7.3km s-min=4.3km az=16.0
ISCJB 12 01:57:21.3±0.3, 26°.61N±0°.02×57°.86E±0°.04, h10km, mb3.6/22, Error ellipse: s-maj=4.5km s-min=3.5km az=173.3
DSN 12 01:57:21.4±2.6, 26°.72N×58°.08E, h10km, ML4.0/8, Error ellipse: s-maj=35.9km s-min=12.9km az=4.0
NEIC 12 01:57:22.1±0.0, 26°.55N×57°.78E, h18km, mb3.9/9, ML3.9(THR), MN4.1(TEH), After TEH.
TEH 12 01:57:27.2, 26°.76N×57°.60E, h20km, ML4.0
ISC 12 01:57:21.8±0.5, 26°.52N±0°.03×57°.83E±0°.04, h10km, n108, σ1§54/111, mb3.8/23, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIAN	**Nian**	**1.36**	**320**	Pg	**Pg**	01 57 47.7	-0.2
NIAN	**Nian**	**1.36**	**320**	*e*Pg	**Pg**	01 57 47.7	-0.2
NIAN				IAMB	IAmb	01 58 18.3	
	comp=Z,0.0nm,0.4s						
SHME	**Shamm**	**1.58**	**253**	P	**Pg**	01 57 53.2	+1.0
SHME				S	**Sg**	01 58 17.8	+5.0
BNDS	**Bandar-Abbas**	**1.71**	**301**	Pg	**Pn**	01 57 49.0	-2.9
BNDS	**Bandar-Abbas**	**1.71**	**301**	*e*Pg	**Pn**	01 57 49.8	-2.1
GENO	**Geno**	**1.71**	**301**	Pn	**Pg**	01 57 53.7	-0.9
GENO				Sg	**Sg**	01 58 18.6	+1.6
GENO	**Geno**	**1.71**	**301**	*e*Pn	**Pg**	01 57 53.8	-0.9
GENO				IAMB	IAmb	01 58 25.5	
	comp=Z,0.0nm,0.4s						
MSFE	**Esma-Masafi**	**1.90**	**233**	*e*P	**Pb**	01 57 56.3	-0.3
	SNR=32						
MSFE	**Esma-Masafi**	**1.90**	**233**	*e*Pn	**Pb**	01 57 56.1	-0.4
UMQ	**Umm Al-Quwin**	**2.19**	**243**	*e*Pn	**Pg**	01 58 03.1	-0.6
HATD	**Hatta, Dubai**	**2.28**	**222**	*e*P	**Pb**	01 58 02.2	-0.8
	SNR=12						
HATD	**Hatta, Dubai**	**2.28**	**222**	P	**Pn**	01 58 01.3	+1.8
	SNR=8.1						
HATD	**Hatta, Dubai**	**2.28**	**222**	*e*Pn	**Pn**	01 58 00.7	+1.2
ASHO	**Ashiyiah**	**2.43**	**221**	*e*P	**Pb**	01 58 05.1	-0.5
	SNR=27						
ASHO	**Ashiyiah**	**2.43**	**221**	P	**Pb**	01 58 04.5	-1.1
	SNR=27						
ASHO				S	**Sg**	01 58 41.8	+1.9
ASHO	**Ashiyiah**	**2.43**	**221**	*e*Pn	**Pn**	01 58 03.4	+1.8
NAZ	**Nazwa, Dubai**	**2.48**	**232**	*e*P	**Pb**	01 58 07.5	+1.1
	SNR=42						
NAZ	**Nazwa, Dubai**	**2.48**	**232**	P	**Pg**	01 58 08.2	-1.1
	SNR=42						
NAZ	**Nazwa, Dubai**	**2.48**	**232**	*e*Pn	**Pb**	01 58 07.5	+1.1
CHBR	**Chabahar**	**2.56**	**111**	Pn	**Pn**	01 58 04.0	+0.7
CHBR	**Chabahar**	**2.56**	**111**	*e*Pn	**Pn**	01 58 04.7	+1.4
SOHO	**SOHO**	**2.65**	**206**	P	**Pn**	01 58 05.8	+1.2
	SNR=39						
FAQ	**Al Faqa, Dubai**	**2.68**	**229**	*e*P	**Pb**	01 58 09.7	-0.2
	SNR=30						
FAQ	**Al Faqa, Dubai**	**2.68**	**229**	P	**Pb**	01 58 09.8	-0.1
	SNR=38						
FAQ	**Al Faqa, Dubai**	**2.68**	**229**	*e*Pn	**Pb**	01 58 09.7	-0.2
ASUD	**Al Ashush, Dub**	**2.94**	**231**	*i* P	**Pb**	01 58 13.5	-0.8
	SNR=17						
ASUD	**Al Ashush, Dub**	**2.94**	**231**	P	**Pb**	01 58 13.5	-0.8
	SNR=16						
ASUD	**Al Ashush, Dub**	**2.94**	**231**	*e*Pn	**Pb**	01 58 13.6	-0.7
HOQ	**Hoqain**	**2.97**	**189**	P	**Pn**	01 58 11.0	+2.1
	SNR=8.5						
HOQ	**Hoqain**	**2.97**	**189**	*e*Pn	**Pn**	01 58 11.2	+2.3
BIDO	**Bidbid**	**3.00**	**175**	P	**Pn**	01 58 11.4	+1.9
	SNR=14						
BIDO				S	**Sn**	01 58 46.8	+1.4
ALNE	**Al Ain**	**3.09**	**218**	*i* P	**Pb**	01 58 14.5	-2.4
	SNR=14						
ALNE	**Al Ain**	**3.09**	**218**	*e*Pn	**Pb**	01 58 14.9	-2.0
NGRK	**Negar Kerman**	**3.26**	**343**	Pn	**Pn**	01 58 14.5	+1.3
NGRK	**Negar Kerman**	**3.26**	**343**	*e*Pn	**Pn**	01 58 14.7	+1.5
NGRK				IAMB	IAmb	01 59 13.0	
	comp=Z,0.0nm,1.0s						
CHMN	**Cheshme madani**	**3.33**	**356**	Pn	**Pn**	01 58 16.9	+2.6
CHMN	**Cheshme madani**	**3.33**	**356**	*e*Pn	**Pn**	01 58 16.6	+2.3
CHMN				IAMB	IAmb	01 59 19.5	
	comp=Z,0.0nm,0.7s						
WSAR	**Wadi Sarin**	**3.35**	**167**	Pn	**Pn**	01 58 16.8	+2.6
	comp=Z,15nm,0.3s,baz=337,slow=5.6,SNR=77						
WSAR				Sn	**Sn**	01 58 55.0	+0.9
	comp=Z,31nm,0.3s,baz=311,slow=21,SNR=10						
ARQ	**Araqi**	**3.39**	**201**	P	**Pb**	01 58 20.0	-2.0
	SNR=6.4						
ARQ				S	**Sb**	01 59 02.2	-1.0
SMDO	**Samad**	**3.46**	**177**	P	**Pn**	01 58 18.6	+2.8
	SNR=19						
TVBK	**TV Kerman**	**3.58**	**345**	Pn	**Pn**	01 58 19.9	+2.3
TVBK	**TV Kerman**	**3.58**	**345**	*e*Pn	**Pn**	01 58 20.2	+2.6
TVBK				IAMB	IAmb	01 59 25.3	
	comp=Z,0.0nm,0.6s						
SZD1	**Zahaedan-tmp**	**3.99**	**42**	*e*Pn	**Pb**	01 58 28.7	-3.6
KHGB	**Koh Gabri**	**4.02**	**343**	*e*Pn	**Pn**	01 58 25.9	+2.3
KHGB				IAMB	IAmb	01 59 27.8	
	comp=Z,0.0nm,0.7s						
ZHSF	**Zahedan**	**4.03**	**40**	P	**Pn**	01 58 25.0	+1.3
ZHSF	**Zahedan**	**4.03**	**40**	*e*Pn	**Pn**	01 58 25.6	+1.9
GHIR	**Ghir-Karzin**	**4.65**	**293**	Pn	**Pn**	01 58 30.0	-2.1
GHIR	**Ghir-Karzin**	**4.65**	**293**	*e*Pn	**Pn**	01 58 30.6	-1.5
ISRV	**Sarvestan**	**5.05**	**305**	Pn	**Pn**	01 58 39.2	+1.4
ISRV	**Sarvestan**	**5.05**	**305**	*e*Pn	**Pn**	01 58 39.5	+1.7
BSRN	**Basiran**	**5.54**	**12**	P	**Pn**	01 58 45.0	+0.6
BSRN	**Basiran**	**5.54**	**12**	*e*Pn	**Pn**	01 58 45.3	+0.9
IMEH	**Mehriz**	**5.61**	**331**	Pn	**Pn**	01 58 46.8	+1.4
IMEH	**Mehriz**	**5.61**	**331**	*e*Pn	**Pn**	01 58 47.2	+1.8
IKOO	**Kooshah**	**5.97**	**10**	Pn	**Pn**	01 58 52.1	+1.7
IKOO	**Kooshah**	**5.97**	**10**	*e*Pn	**Pn**	01 58 51.0	+0.6
IKAZ	**Kazeroun**	**6.20**	**303**	*e*Pn	**Pn**	01 58 54.3	+0.6
ITEG	**Tejag**	**6.40**	**7**	*e*Pn	**Pn**	01 58 59.6	+3.3
ICHK	**Chekchek**	**6.43**	**

comp=Z,2.4nm,0.6s,baz=173,slow=9.6,SNR=12
BR101 Keskin Array S 24.07 309 eP P 02 02 37.7 +0.2
BR131 Keskin Array S 24.07 309 eP P 02 02 37.5 0.0
comp=Z,2.5nm,0.8s
BRTR Keskin Array B 24.07 309 eP P 02 02 37.0 -0.5
BRTR Keskin Array B 24.07 309 P P 02 02 37.7 +0.2
comp=Z,1.6nm,0.7s,baz=128,slow=10,SNR=14
MK32 Makanchi Array 27.99 37 eP P 02 03 12.1 -0.6
MKAR Makanchi Array 27.99 37 P P 02 03 12.1 -0.6
comp=Z,0.2nm,0.6s,baz=226,slow=8.2,SNR=2.1
BVAR Borovoye Array 28.09 16 P P 02 03 12.8 -0.7
comp=Z,0.3nm,0.5s,baz=202,slow=10.0,SNR=3.4
KURBB Kurchatov Arra 28.81 28 P P 02 03 19.2 -0.7
comp=Z,0.2nm,0.2s,baz=228,slow=8.5,SNR=2.5
MLR Muntele Rosu 31.70 315 P P 02 03 45.5 -0.2
comp=Z,0.8nm,0.9s,baz=146,slow=18,SNR=1.8
AKASG Malin Array Be 32.54 326 P P 02 03 52.5 -0.3
comp=Z,0.2nm,0.3s,baz=127,slow=8.0,SNR=4.1
AKBB Malin Array Si 32.54 326 eP P 02 03 52.5 -0.3
comp=Z,3.7nm,1.1s
ZALV Zalesovo Beam 33.88 29 P P 02 04 03.0 -1.5
comp=Z,0.3nm,0.3s,baz=220,slow=11,SNR=2.6
ZAA1 Zalesovo Array 33.89 29 eP P 02 04 03.0 -1.5
FIA0 FINESS Array S 40.92 337 eP P 02 05 03.3 -0.7
FINES FINESS Array B 40.92 337 P P 02 05 03.3 -0.7
comp=Z,0.5nm,0.4s,baz=130,slow=9.3,SNR=9.2
WTTA Wattenberg 41.61 312 eP P 02 05 10.6 +0.4
comp=Z,2.0nm,0.5s
WATA Walderalm 41.67 312 eP P 02 05 09.2 -1.4
comp=Z,2.1nm,1.0s
SQTA Sankt Quirin 41.89 312 eP P 02 05 12.3 0.0
comp=Z,2.4nm,0.6s
MOTA Moosalm 41.98 312 eP P 02 05 13.4 +0.3
comp=Z,1.8nm,0.6s
FETA Feichten 42.16 312 eP P 02 05 15.0 +0.3
comp=Z,1.1nm,0.6s
DAVA Damuels 42.78 312 eP P 02 05 19.8 +0.1
comp=Z,4.5nm,0.6s
SONA0 Songino Array 43.31 47 eP P 02 05 23.7 -0.2
SONM Songino Array 43.31 47 P P 02 05 23.7 -0.2
comp=Z,0.3nm,0.6s,baz=251,slow=7.5,SNR=2.6
ESDC Sonseca Array 52.46 301 P P 02 06 34.7 -0.2
comp=Z,0.2nm,0.5s,baz=69,slow=6.4,SNR=4.4
TOA1 Torodi Ar. Sit 54.07 267 eP P 02 06 46.1 -0.9
TORD Torodi Ar. Bea 54.07 267 P P 02 06 46.1 -0.9
comp=Z,0.4nm,0.5s,baz=39,slow=7.5,SNR=15

IDC 12 02:02:59.2±1.4, 19°.11S×169°.61E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.0/29, mbtmp4.2/9, ML3.8/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/25, Error ellipse: s-maj=32.7km s-min=24.4km az=102.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.18	225	Pn	Pn	02 04 04.9	+0.6
5.4nm,0.3s,baz=82,slow=11,SNR=50							
DZM				LR	LR	02 04 49.0	
comp=Z,378nm,20.6s,baz=62,slow=26							
DZM				Sn	Sn	02 04 53.2	-0.8
5.5nm,0.3s,baz=315,slow=19,SNR=3.0							
CTA	Charters Tower	22.02	264	P	P	02 07 55.8	+0.3
3.9nm,0.8s,baz=97,slow=14,SNR=2.8							
STKA	Stephens Creek	28.21	238	P	P	02 08 54.0	+0.2
2.0nm,0.6s,baz=102,slow=9.4,SNR=3.3							
STKA				LR	LR	02 18 43.2	
comp=Z,168nm,21.1s,baz=60,slow=34							
WRA	Warramunga Arr	33.22	263	P	P	02 09 37.4	-0.8
0.8nm,0.7s,baz=91,slow=8.0,SNR=9.8							
ASAR	Alice Springs	33.50	256	P	P	02 09 40.9	+0.3
12nm,0.5s,baz=84,slow=8.8,SNR=160							
ASAR				LR	LR	02 21 55.8	
comp=Z,158nm,20.9s,baz=94,slow=34							
FITZ	Fitzroy Crossi	41.60	264	LR	LR	02 28 31.1	
comp=Z,80nm,18.1s,baz=106,slow=37							
VNDA	Vanda	58.57	182	P	P	02 12 56.9	-0.4
0.8nm,0.8s,baz=5.0,slow=7.5,SNR=6.0							
MJAR	Matsushiro Arr	62.81	332	P	P	02 13 26.5	-0.2
2.2nm,0.9s,baz=172,slow=6.7,SNR=5.7							
MAW	Mawson	78.68	202	P	P	02 15 03.2	+0.3
2.5nm,0.8s,baz=112,slow=9.8,SNR=4.6							
SONM	Songino Array	87.33	323	P	P	02 15 48.0	-0.1
1.4nm,0.9s,baz=132,slow=5.5,SNR=9.0							
NVAR	Mina Array Bea	88.45	48	LR	LR	02 50 27.7	
comp=Z,48nm,18.4s,baz=210,slow=32							
PLCA	Paso Flores	98.39	138	LR	LR	02 50 07.1	
comp=Z,41nm,20.5s,baz=216,slow=29							

*SNET **12** 02:06:54.8±1.4, 13°.84N×91°.56W, h143km±107km, ML4.5*
*UCR **12** 02:06:54.3±1.7, 13°.13N×91°.77W, h36km±999km, MD4.0, ML4.2, mb4.3(NEIC)*
*IDC **12** 02:06:58.3±6.2, 13°.44N×91°.24W, h34km±41km, mb3.9/9, mb1 4.2/10, mb1mx3.8/36, mbtmp4.1/10, ML4.2/1, MS3.9/3, Ms1 3.9/3, ms1mx3.1/31, Error ellipse: s-maj=44.4km s-min=21.8km az=31.0*
*NEIC **12** 02:07:04.1±0.8, 13°.70N×91°.20W, h71km±7km, mb4.3/73, Error ellipse: s-maj=10.1km s-min=5.5km az=218.0*
ISC 12 02:06:57.7±0.7, 13°.48N±0°.08×91°.52W±0°.06, h28km, n281, σ1°.36/286, mb4.4/71, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	1.17	34	eP	Pb	02 07 20.2	+0.8
IXG	Ixpaco	1.26	57	eP	Pb	02 07 20.4	-0.5
PCG	Pacaya	1.27	44	eP	Pb	02 07 21.7	+0.6
NBG	Las Nubes	1.59	46	eP	Pb	02 07 26.9	+0.4
APG	El Apazote	1.83	34	Pg	Pb	02 07 30.2	-0.5
22nm,0.3s,baz=148,slow=11,SNR=191							
APG				LR	LR	02 07 36.2	
comp=Z,188nm,18.4s,baz=212,slow=22							
APG				Lg	Lg	02 07 54.4	
32nm,0.3s,baz=151,slow=14,SNR=6.7							
RTR	El Retiro	1.87	77	eP	Pb	02 07 30.0	-1.3
RTR	El Retiro	1.87	77	eP	Pb	02 07 30.0	-1.3
SBLS	San Blas	1.88	79	eP	Pn	02 07 28.8	+0.5
SBLS	San Blas	1.88	79	eP	Pn	02 07 28.8	+0.5
SNJE	San Jose	1.90	78	eP	Pn	02 07 28.6	+0.1
SNJE				e		02 07 28.6	
SNJE	San Jose	1.90	78	e	Pn	02 07 28.6	+0.1
SNJE				eP	Pn	02 07 28.6	+0.1
BOQS	Boqueron	2.20	83	eP	Pn	02 07 33.0	+0.5
LFU	La Fuente	2.36	83	eP	Pn	02 07 35.4	+0.8
LFU	La Fuente	2.36	83	eP	Pn	02 07 35.4	+0.8
MRL	Marmol	2.39	48	eP	Pb	02 07 38.6	-1.6
LFRS	El Faro	2.40	86	eP	Pn	02 07 36.2	+1.0
LBRS	Las Brisas	2.42	84	eP	Pn	02 07 35.1	-0.4
CCIG	Comitan	2.85	348	ePn	Pn	02 07 44.2	+2.7
TECA	Tecapa	2.94	89	eP	Pn	02 07 43.1	+0.4
TECA	Tecapa	2.94	89	eP	Pn	02 07 43.1	+0.4
PACA	Pacayal	3.11	90	eP	Pn	02 07 45.5	+0.4
PACA				eS	Sn	02 08 24.5	+3.1
PACA				IAML		02 08 30.5	
comp=Z,1μm,0.3s							
PACA	Pacayal	3.11	90	eP	Pn	02 07 45.5	+0.4
PACA				eS	Sn	02 08 24.5	+3.1
PACA				IAML		02 08 30.5	
comp=Z,1μm,0.3s							
TGUH	Tegucigalpa,Un	4.17	82	ePn	Pn	02 08 01.3	+1.8
CMIG	Matias Romero	4.84	318	Pn	Pn	02 08 08.3	-0.4
comp=Z,1.7nm,0.3s,baz=141,slow=8.4,SNR=16							
CMIG				Sn	Sb	02 09 13.7	-5.8
comp=Z,4.5nm,0.3s,baz=56,slow=21,SNR=4.1							
CMIG				LR	LR	02 10 16.8	
comp=Z,302nm,19.8s,baz=146,slow=39							
ESTN	Estel	5.03	94	ePn	Pn	02 08 10.8	-0.6
ESTN	Estel	5.03	94	eP	Pn	02 08 10.7	-0.8
ESTN	Estel	5.03	94	eP	Pn	02 08 10.7	-0.8
JTS	Las Juntas de	7.17	116	ePn	Pn	02 08 43.7	+2.9
JTS				Sn	Sn	02 10 01.0	-0.4
JTS				Lg	Lg	02 10 38.5	
JTS	Las Juntas de	7.17	116	Pn	Pn	02 08 41.8	+1.0
comp=Z,1.2nm,0.3s,baz=340,slow=8.4,SNR=6.9							
JTS				Sn	Sn	02 10 01.0	-0.4
comp=Z,0.3nm,0.3s,baz=336,slow=22,SNR=2.0							
JTS				Lg	Lg	02 10 38.5	
baz=213,slow=20,SNR=2.2							
TEIG	Tepich	7.39	24	ePn	Pn	02 08 45.1	+1.3
435B	Jarrell	18.10	343	eP	P	02 11 09.7	+2.3
comp=Z,7.8nm,0.8s							
JCT	Junction City	18.56	337	eP	Pn	02 11 15.2	+2.3
comp=Z,7.7nm,0.8s							
JCT	Junction City	18.56	337	P	Pn	02 11 14.0	+1.1
baz=153							
ROSC	El Rosal	19.02	115	P	Pn	02 11 20.0	+1.2
comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=1.9							
WHTX	Lake Whitney,	19.21	345	eP	Pn	02 11 21.1	+0.4
comp=Z,8.0nm,0.8s							
WHTX	Lake Whitney,	19.21	345	P	Pn	02 11 20.3	-0.3
baz=161							
TX31	Lajitas Ar. Si	19.38	326	eP	Pn	02 11 24.0	+1.2
comp=Z,5.8nm,0.8s							
TXAR	Lajitas Array	19.38	326	eP	P	02 11 21.0	-0.5
TXAR	Lajitas Array	19.38	326	P	Pn	02 11 24.1	+1.4
comp=Z,0.2nm,0.3s,baz=148,slow=9.8,SNR=24							
148A	Greensboro	19.42	10	P	P	02 11 21.8	+0.1
baz=191							
150A	Eclectic	19.69	14	P	P	02 11 25.0	+0.2
baz=195							
LRAL	Lakeview Retre	19.90	11	P	P	02 11 26.9	-0.1
baz=192							
Z50A	Ashland	20.34	14	eP	P	02 11 32.3	+0.5
comp=Z,11nm,1.0s							
Z50A	Ashland	20.34	14	P	P	02 11 31.5	-0.3
baz=195							
ABTX	Abilene, Hawle	20.45	340	eP	Pn	02 11 34.3	-1.0
comp=Z,19nm,0.8s							
ABTX	Abilene, Hawle	20.45	340	P	P	02 11 33.6	+0.5
baz=156,SNR=9.7							
Y50A	Piedmont	20.99	14	P	P	02 11 38.5	-0.4
baz=195							
SDV	Santo Domingo	20.99	100	eP	Pn	02 11 40.8	-1.1
comp=Z,4.7nm,0.8s							
SDV	Santo Domingo	20.99	100	P	P	02 11 37.6	-1.7
comp=Z,2.6nm,0.3s,baz=285,slow=7.3,SNR=5.3							
Z53A	Monticello	21.00	19	P	P	02 11 38.2	-0.7
baz=201							
MIAR	Mount Ida	21.05	355	eP	P	02 11 39.1	-0.4
comp=Z,5.7nm,0.8s							
MIAR	Mount Ida	21.05	355	P	P	02 11 40.0	+0.5
baz=174							
X46A	Booneville	21.15	7	P	P	02 11 40.9	+0.4
baz=187							
Y51A	Rockmart	21.16	15	P	P	02 11 40.1	-0.6
baz=197							
Z54A	Sparta	21.20	20	P	P	02 11 40.8	-0.4
baz=203							
X47A	Russelville	21.21	8	P	P	02 11 41.9	+0.7
baz=189							
UALR	University of	21.21	358	eP	P	02 11 42.2	+1.0
comp=Z,11nm,0.8s							
X48A	Hartselle	21.27	10	eP	P	02 11 42.1	+0.2
comp=Z,9.4nm,0.8s							
X48A	Hartselle	21.27	10	P	P	02 11 42.1	+0.2
baz=191,SNR=5.7							
157A	Early Branch	21.39	25	P	P	02 11 42.9	-0.3
baz=208							
Y53A	Monroe	21.53	18	P	P	02 11 44.8	+0.1
baz=201							
X50B	Fort Payne	21.55	13	P	P	02 11 44.8	-0.1
baz=195							
W41B	Gary Mavity, V	21.61	358	eP	P	02 11 47.1	+1.6
comp=Z,15nm,1.3s							
W41B	Gary Mavity, V	21.61	358	P	P	02 11 46.1	+0.6
baz=177							
W39A	Magazine	21.72	355	P	P	02 11 48.0	+1.3
baz=173							
WHAR	Wooly Hollow	21.73	358	eP	P	02 11 47.5	+0.8
comp=Z,45nm,1.8s							
X51A	Calhoun	21.84	15	P	P	02 11 48.4	+0.4
baz=197							
W48A	Pulaski	21.96	10	P	P	02 11 49.3	0.0
baz=191							
W47A	Westpoint	21.96	9	P	P	02 11 49.3	0.0
baz=190							
GDL2	Guadalupe Moun	22.03	330	eP	P	02 11 51.8	+1.5
W49A	Belvidere	22.06	12	P	P	02 11 50.6	+0.2
baz=193							
X52A	Dahlonega	22.14	17	P	P	02 11 50.5	-0.7
baz=199							
MNTX	Cornudas Mount	22.15	327	eP	P	02 11 52.5	+1.1
comp=Z,15nm,1.0s							
MNTX	Cornudas Mount	22.15	327	P	P	02 11 52.3	+0.9
baz=141,SNR=12							
WMOK	Wichita Mounta	22.16	344	eP	P	02 11 51.3	-0.2
comp=Z,37nm,2.0s							
WMOK	Wichita Mounta	22.16	344	P	P	02 11 51.9	+0.4
baz=160							
W51A	Cleveland	22.43	15	P	P	02 11 53.2	-1.1
baz=197							
V46A	Holladay	22.43	7	P	P	02 11 53.5	-0.9
baz=188,SNR=7.2							
V48A	Smith Brothers	22.56	10	eP	P	02 11 56.9	+1.1
comp=Z,11nm,0.9s							
V48A	Smith Brothers	22.56	10	P	P	02 11 55.2	-0.6
baz=191							
V49A	McMinnville	22.76	12	P	P	02 11 57.2	-0.6
baz=194,SNR=8.0							
U41A	Viola	22.77	359	P	P	02 11 57.5	-0.5
baz=178							
WVT	Waverly	22.80	8	eP	P	02 11 59.3	+1.1
comp=Z,34nm,1.8s							
WVT	Waverly	22.80	8	P	P	02 11 57.6	-0.5
baz=188							
U40A	Yellville	22.81	357	P	P	02 11 57.9	-0.5
baz=176,SNR=5.8							
V50A	Pikeville	22.84	14	P	P	02 11 58.2	-0.5
baz=196							
U46A	Springville	22.98	7	P	P	02 11 59.2	-0.9
baz=188							
W54A	Cherokee Point	23.11	20	P	P	02 12 00.3	-1.1
baz=203							
V51A	Loudon	23.15	15	P	P	02 12 00.7	-1.1
baz=197							
U47A	Clarksville	23.18	9	P	P	02 12 01.5	-0.6
baz=190							
AMTX	Amarillo	23.20	338	eP	P	02 12 02.2	-0.2
comp=Z,22nm,0.8s							
AMTX	Amarillo	23.20	338	P	P	02 12 02.3	-0.2
baz=153							
PBMO	Poplar Bluff	23.22	2	eP	P	02 12 01.9	-0.6
comp=Z,14nm,0.8s							
U48A	Cassie Pea, Po	23.36	10	P	P	02 12 03.2	-0.8
baz=192							
V52A	Sevierville	23.38	16	P	P	02 12 03.2	-1.0
baz=199							
V53A	Saluda	23.45	18	eP	P	02 12 04.2	-0.6
comp=Z,15nm,1.1s							
V53A	Saluda	23.45	18	P	P	02 12 04.0	-0.8
baz=201							
KMSC	Kings Mountain	23.45	21	P	P	02 12 03.4	-1.5
baz=205							
U49A	Red Boiling Sp	23.51	12	P	P	02 12 04.5	-0.9
baz=193,SNR=6.9							
U50A	Jamestown	23.61	14	P	P	02 12 05.9	-0.5
baz=196							
T47A	Sharon Grove	23.74	9	eP	P	02 12 06.5	-1.1
comp=Z,10.0nm,0.8s							
T47A	Sharon Grove	23.74	9	P	P	02 12 06.6	-1.0
baz=190,SNR=6.1							
U51A	La Follette	23.78	15	P	P	02 12 07.8	-0.2
baz=198							
V54A	Nebo	23.82	20	P	P	02 12 07.3	-1.1
baz=203							
T48A	Bowling Green	23.97	10	P	P	02 12 09.3	-0.5
baz=192							
S41A	Jillco Farms,	24.01	360	P	P	02 12 09.1	-1.1
baz=179,SNR=12							
TZTN	Tazewell	24.05	16	eP	P	02 12 10.1	-0.5
comp=Z,10nm,0.8s							
TZTN	Tazewell	24.05	16	P	P	02 12 09.4	-1.2
baz=199							
T49A	Edmonton	24.13	12	eP	P	02 12 10.7	-0.6
comp=Z,12nm,1.0s							
T49A	Edmonton	24.13	12	P	P	02 12 10.2	-1.0
baz=194,SNR=5.9							
T50A	Nancy	24.19	13	P	P	02 12 10.4	-1.4
baz=195,SNR=5.5							
S44A	Carbondale	24.20	4	P	P	02 12 11.1	-0.8
baz=185,SNR=5.9							
SIUC	Southern Illin	24.22	4	eP	P	02 12 11.9	-0.2
comp=Z,24nm,0.8s							
S45A	Carrier Mills	24.24	6	P	P	02 12 11.3	-1.0
baz=186							
T51A	Gray	24.35	15	P	P	02 12 12.3	-1.0
baz=197							
FVM	French Village	24.42	2	eP	P	02 12 13.4	-0.6
comp=Z,5.5nm,0.6s							
CCM	Cathedral Cave	24.48	1	eP	P	02 12 13.3	-1.1
comp=Z,27nm,0.9s							
CCM	Cathedral Cave	24.48	1	P	P	02 12 13.6	-0.8
baz=180							
S48A	Wiedeman Farm,	24.57	10	P	P	02 12 13.9	-1.3
baz=192							
R41A	Rosebud	24.72	0	P	P	02 12 15.6	-1.0
baz=180,SNR=19							
BNM	Barren Site	24.73	329	eP	P	02 12 19.3	+2.3
T52A	Hallie	24.74	16	P	P	02 12 15.7	-1.1
baz=200							
T53A	Wise	24.75	17	P	P	02 12 15.7	-1.2
baz=201							
S49A	Springfield	24.83	12	P	P	02 12 16.4	-1.2
baz=194							
R45A	Skylar, Fairfi	24.88	6	P	P	02 12 18.0	0.0
baz=187							
LENM	Lemitar	24.91	328	eP	P	02 12 21.2	+2.6
S50A	Richmond	24.92	14	P	P	02 12 18.0	-0.5
baz=196							
S51A	Beattyville	25.08	15	P	P	02 12 19.2	-0.7
baz=198							
SLM	Saint Louis	25.08	2	eP	P	02 12 20.3	+0.4
comp=Z,44nm,0.8s							
WCI	Wyandotte Cave	25.08	10	eP	P	02 12 19.3	-0.6
comp=Z,14nm,0.8s							
WCI	Wyandotte Cave	25.08	10	P	P	02 12 18.9	-1.0
baz=191							
R47A	Wooly Knot Far	25.11	9	P	P	02 12 19.1	-1.1
baz=191							
S52A	Salyersville	25.25	16	P	P	02 12 20.1	-1.3
baz=199							
ANMO	Albuquerque	25.28	330	eP	P	02 12 24.1	+2.1
comp=Z,3.1nm,1.0s							
ANMO	Albuquerque	25.28	330	P	P	02 12 23.3	+1.4
comp=Z,1.1nm,0.6s,baz=123,slow=11,SNR=5.6							
TASM	ASL Pad, Albuq	25.28	330	P	P	02 12 22.9	+1.0
baz=143							
TASM	ASL Pad, Albuq	25.28	330	P	P	02 12 23.3	+1.3
baz=143							
OLIL	Olney	25.33	6	eP	P	02 12 23.9	+1.7
comp=Z,13nm,0.6s							
U57A	Blanch	25.34	23	P	P	02 12 21.1	-1.2
baz=208							
R49A	Shelbyville	25.35	12	P	P	02 12 21.8	-0.5
baz=194							
Q45A	Warren Harvey,	25.49	6	P	P	02 12 23.0	-0.6
baz=187							
R50A	Paris	25.52	13	P	P	02 12 23.1	-0.7
baz=196							
S53A	Williamson	25.52	18	P	P	02 12 23.1	-0.8
baz=201							
R51A	Hillsboro	25.71	15	P	P	02 12 24.4	-1.2
baz=197							
TUC	Tucson	25.73	320	eP	P	02 12 28.3	+2.4
comp=Z,4.0nm,1.0s							
Q47A	Bedord North L	25.75	9	P	P	02 12 25.1	-0.8
baz=191							
Q48A	North Vernon	25.86	10	P	P	02 12 26.2	-0.8
baz=192							
KSU1	Kansas State U	25.91	351	P	P	02 12 27.3	-0.2
baz=168							
Q49A	Aurora	26.09	12	P	P	02 12 27.7	-1.3
baz=194							
R53A	Hurricane	26.17	17	P	P	02 12 28.5	-1.2
baz=201							
T25A	Trinidad	26.23	336	eP	P	02 12 33.2	+2.6
comp=Z,5.4nm,0.8s							
T25A	Trinidad	26.23	336	P	P	02 12 31.5	+0.9
baz=150							
P47A	Martinsville	26.32	9	P	P	02 12 29.8	-1.3
baz=191							
S56A	Natural Bridge	26.35	22	P	P	02 12 29.5	-1.9
baz=206							
P48A	Milroy	26.43	11	P	P	02 12 30.6	-1.5
baz=193							
Q51A	Peebles	26.45	14	P	P	02 12 31.1	-1.2
baz=198							
T59A	Double "B" Far	26.52	26	P	P	02 12 31.6	-1.3
baz=211							
Q52A	Bidwell	26.67	16	P	P	02 12 33.2	-1.1
baz=200							
Q53A	Leroy	26.78	18	P	P	02 12 33.6	-1.7
baz=201							
X18A	Snowflake	26.79	325	eP	P	02 12 38.3	+2.7
comp=Z,3.7nm,0.9s							
P50A	Jamestown	26.90	13	P	P	02 12 34.9	-1.5
baz=196							
P51A	Williamsport	26.95	15	P	P	02 12 35.1	-1.8
baz=198							
O47A	Sheridan	27.06	9	P	P	02 12 37.0	-0.8
baz=191							
Q54A	Coxs Mills	27.11	18	P	P	02 12 37.5	-0.7
baz=203							
N40A	Mertquake, Sal	27.30	360	P	P	02 12 39.6	-0.3
baz=179							
P53A	Whipple	27.40	17	P	P	02 12 39.6	-1.3
baz=201							
X16A	Lo Mia Camp, P	27.57	323	eP	P	02 12 45.6	+2.9
comp=Z,2.9nm,0.9s							
ACSO	Alum Creek Sta	27.68	14	P	P	02 12 41.6	-1.8
baz=198							
O51A	Pataskala	27.70	15	P	P	02 12 42.2	-1.3
baz=198							
S22A	4UR Ranch, Cre	27.75	333	eP	P	02 12 46.3	+1.9
comp=Z,12nm,1.7s							
S22A	4UR Ranch, Cre	27.75	333	P	P	02 12 44.6	+0.2
baz=146							
P54A	Burton	27.78	19	P	P	02 12 42.6	-1.7
baz=203							
N48A	Decatur	27.86	11	P	P	02 12 43.8	-1.1
baz=193							
O52A	Adamsville	27.87	16	P	P	02 12 43.7	-1.3
baz=200							
Q57A	Strasburg	27.97	22	P	P	02 12 45.0	-1.0
baz=208							
MVCO	Mesa Verde	28.08	330	eP	P	02 12 49.2	+2.0
comp=Z,10nm,1.2s							
MVCO	Mesa Verde	28.08	330	P	P	02 12 48.6	+1.3
baz=142							
N50A	Nevada	28.16	14	P	P	02 12 46.9	-0.7
baz=197							
O53A	New Philadelph	28.16	17	P	P	02 12 46.6	-1.1
baz=201							
WUAZ	Wupatki	28.31	324	P	P	02 12 50.5	+1.3
baz=135							
N52A	McGinn's Farm,	28.56	16	P	P	02 12 50.0	-1.1
baz=200							
N53A	Lisbon	28.79	17	P	P	02 12 52.3	-0.9
baz=201							
PV13	Radium Mtn., P	28.99	331	eP	P	02 12 58.3	+2.9
comp=Z,14nm,1.4s							
PV03	Paradox Valley	29.08	331	eP	P	02 12 58.5	+2.4
comp=Z,8.5nm,1.4s							
PV12	Saucer Basin,	29.11	331	eP	P	02 12 58.9	+2.5
comp=Z,5.8nm,0.9s							
PV17	East Wray Mesa	29.15	331	eP	P	02 12 59.1	+2.4
comp=Z,15nm,1.5s							
PV16	Nyswonger Mesa	29.16	331	eP	P	02 12 59.1	+2.3
comp=Z,14nm,1.5s							
N54A	Moraine State	29.18	18	eP	P	02 12 56.6	0.0
comp=Z,70nm,1.8s							
N54A	Moraine State	29.18	18	P	P	02 12 55.7	-1.0
baz=203							
PV04	Paradox Valley	29.22	331	eP	P	02 12 59.7	+2.5
comp=Z,20nm,1.5s							
M53A	WI Miller and	29.42	17	P	P	02 12 57.8	-1.0
baz=201							
U15A	North Rim	29.48	324	eP	P	02 13 02.2	+2.4
comp=Z,2.9nm,1.0s							
W13A	Hualapai Mount	29.51	321	eP	P	02 13 03.2	+3.2
comp=Z,7.1nm,1.4s							
BC3	Big Chuckawall	29.61	317	P	P	02 13 02.0	+1.3
baz=126							
CCUT	Cedar City	30.88	325	eP	P	02 13 15.4	+3.3
comp=Z,4.7nm,1.1s							
TYNO	Tyneside	31.18	17	P	P	02 13 13.1	-1.2
baz=202							

baz=205
SADO **Sadowa** 32.92 16 P P 02 13 28.3 -1.3
comp=Z,7.0nm,0.8s,baz=251,slow=8.6,SNR=4.4
PDAR **Pinedale Array** 33.08 335 P P 02 13 32.2 +0.9
comp=Z,0.3nm,0.6s,baz=129,slow=9.4,SNR=3.6
DELO **Deloro Mine** 33.13 18 P P 02 13 30.0 -1.5
baz=205
G53A **Haliburton** 33.39 17 P P 02 13 31.8 -1.9
baz=203
BUKO **Buck Lake** 33.48 16 P P 02 13 33.0 -1.5
baz=201
H56A **Elgin** 33.63 20 P P 02 13 34.3 -1.6
baz=207
G55A **Calabogie** 34.08 19 P P 02 13 38.0 -1.6
baz=206
REDW **Red Top Meadow** 34.11 335 *e*P P 02 13 41.5 +1.2
comp=Z,7.9nm,0.9s
SNOW **Snow King Moun** 34.15 335 *e*P P 02 13 42.4 +1.8
comp=Z,7.2nm,0.8s
ELK **Elko** 34.18 327 *e*P P 02 13 43.5 +2.6
comp=Z,2.9nm,0.9s
ELK **Elko** 34.18 327 P P 02 13 43.1 +2.2
comp=Z,1.6nm,0.7s,baz=142,slow=6.0,SNR=14
LONY **Lake Ozonia** 34.24 22 P P 02 13 39.5 -1.6
baz=210
TPAW **Teton Pass** 34.25 335 *e*P P 02 13 43.3 +1.7
comp=Z,5.2nm,1.0s
NV11 **Mina Array Sit** 34.27 321 *e*P P 02 13 44.7 +3.0
comp=Z,1.4nm,1.8s
PEMO **Pembroke** 34.30 18 P P 02 13 40.0 -1.6
baz=205
ALGO **Algonquin Park** 34.31 17 P P 02 13 40.1 -1.7
baz=203
NVAR **Mina Array Bea** 34.36 321 *e*P P 02 13 45.0 +2.5
NVAR PcP PcP 02 16 18.1 0.0
NVAR **Mina Array Bea** 34.36 321 P P 02 13 44.6 +2.0
comp=Z,2.7nm,0.7s,baz=129,slow=8.8,SNR=19
NVAR PcP PcP 02 16 18.1 0.0
comp=Z,0.6nm,0.8s,baz=116,slow=4.1,SNR=3.8
E51A **G1948 Merrick** 34.47 15 P P 02 13 41.6 -1.5
baz=200
KVN **Kaiserville** 34.63 322 *e*P P 02 13 47.9 +3.0
comp=Z,5.7nm,1.4s
ORIO **Orleans, Innes** 34.64 20 P P 02 13 42.7 -1.8
baz=208
D49A **Beulah Townshi** 34.75 12 P P 02 13 44.1 -1.4
baz=197
E54A **Lac Daplat, Po** 35.00 17 P P 02 13 46.3 -1.4
baz=204
BMN **Battle Mountai** 35.04 325 *e*P P 02 13 49.9 +1.7
comp=Z,5.0nm,0.8s
D52A **ZEK Kipawa Sen** 35.16 16 P P 02 13 47.7 -1.3
baz=202
D54A **Lac Fusel, La** 35.80 17 P P 02 13 53.1 -1.5
baz=205
HLID **Hailey** 35.85 331 *e*P P 02 13 57.2 +2.0
comp=Z,4.2nm,1.2s
HLID **Hailey** 35.85 331 P P 02 13 55.8 +0.5
baz=139,SNR=5.1
WVOR **Wild Horse Val** 37.18 326 *e*P P 02 14 09.0 +2.4
comp=Z,5.3nm,0.9s
LATQ **La Tuque** 37.25 21 P P 02 14 05.6 -1.3
baz=211
LSQQ **Lebel-sur-Quev** 37.45 16 P P 02 14 06.8 -1.8
baz=203
J08A **Circle Bar Ran** 37.73 327 *e*P P 02 14 13.2 +2.1
comp=Z,11nm,0.8s
MOD **Modoc Plateau** 37.76 324 *e*P P 02 14 13.1 +1.6
comp=Z,3.0nm,1.0s
MATQ **Matagami** 37.93 15 P P 02 14 10.6 -2.0
baz=202,SNR=6.8
O02D **Mt. Diablo Mer** 38.19 320 P P 02 14 15.4 +0.4
baz=125
BMO **Blue Mountains** 38.20 330 *e*P P 02 14 16.3 +1.2
comp=Z,4.5nm,1.3s
M04C **Macdoel** 38.57 323 P P 02 14 19.5 +1.2
baz=128
I07A **Izee** 38.77 327 *e*P P 02 14 21.6 +1.7
comp=Z,4.3nm,1.0s
F10A **Beach Ranch, E** 38.98 331 *e*P P 02 14 22.8 +1.1
comp=Z,9.5nm,0.8s
L04D **Klamath Falls** 39.11 323 P P 02 14 23.4 +0.6
baz=127
J05D **Fort Rock, OR** 39.17 325 P P 02 14 24.1 +0.7
baz=130
PINE **Pine Mountain** 39.34 326 *e*P P 02 14 26.3 +1.5
comp=Z,4.6nm,0.8s
I04A **Tendick Farm,** 40.16 325 P P 02 14 32.2 +0.8
baz=129
G05D **Wamic, OR** 40.50 327 P P 02 14 34.7 +0.4
baz=131
H04A **Detroit Lake** 40.60 326 *e*P P 02 14 36.5 +1.4
comp=Z,6.1nm,0.7s
I03D **Drain, OR** 40.62 324 P P 02 14 35.4 +0.2
baz=128
J01E **Myrtle Point** 40.64 323 P P 02 14 36.0 +0.7
baz=126
NEW **Newport** 40.66 334 P P 02 14 35.9 +0.3
baz=139
KEBM **Edson Butte** 40.70 322 *e*P P 02 14 38.5 +2.6
comp=Z,31nm,1.3s
H04D **Lebanon** 40.80 325 P P 02 14 37.6 +1.0
baz=129
I02D **Swisshome** 41.16 324 P P 02 14 41.2 +1.6
baz=127
G03D **McMinnville, O** 41.53 326 P P 02 14 43.8 +1.2
baz=129
A04D **Lummi Island** 43.55 330 P P 02 14 59.6 +0.6
baz=133
FCC **Fort Churchill** 45.24 358 *e*P P 02 15 11.4 -0.9
comp=Z,5.5nm,1.1s
SCHQ **Schefferville** 45.55 20 LR LR 02 35 28.2
comp=Z,131nm,19.4s,baz=310,slow=38
YKA **Yellowknife Ar** 51.63 347 P P 02 16 01.2 -0.4
comp=Z,2.5nm,0.9s,baz=146,slow=7.9,SNR=36
YKA PcP PcP 02 17 15.0 0.0
comp=Z,0.9nm,0.7s,baz=149,slow=3.7,SNR=11
DLBC **Dease Lake** 53.31 336 *e*P P 02 16 16.7 +2.5
comp=Z,8.2nm,0.9s
BCAR **Beaver Creek A** 60.70 336 *e*P P 02 17 07.3 +1.0
EPYK **Eagle Plains** 60.77 341 P P 02 17 06.8 0.0
baz=127
INK **Inuvik** 61.06 343 *e*P P 02 17 09.1 +0.4
comp=Z,3.0nm,0.8s
PRP **Porcupine Dome** 63.33 338 *e*P P 02 17 25.0 +0.9
comp=Z,4.9nm,0.8s
HDA **Harding Lake** 63.36 336 P P 02 17 23.9 -0.2
baz=116
ILAR **Eielson Array** 63.50 337 *e*P P 02 17 24.8 -0.2
ILAR **Eielson Array** 63.50 337 P P 02 17 25.4 +0.3
comp=Z,5.1nm,1.0s,baz=130,slow=4.8,SNR=26
ILB **Eielson Array** 63.50 337 *e*P P 02 17 25.6 +0.5
comp=Z,6.9nm,1.0s
RND **Reindeer** 63.69 335 *e*P P 02 17 27.5 +1.1
comp=Z,11nm,1.1s
BPAW **Bear Paw Mtn.** 64.84 335 *e*P P 02 17 34.5 +0.6
comp=Z,5.2nm,1.0s
CAST **Castle Rocks** 65.04 334 *e*P P 02 17 35.9 +0.7
comp=Z,5.7nm,1.2s
MLY **Manley** 65.10 336 *e*P P 02 17 36.5 +0.9
comp=Z,9.8nm,0.8s
COLD **Coldfoot** 65.78 339 *e*P P 02 17 41.7 +1.8
TOLK **Toolik Lake Re** 66.16 340 *e*P P 02 17 42.8 +0.3
comp=Z,3.4nm,0.9s
TOLK **Toolik Lake Re** 66.16 340 P P 02 17 42.1 -0.3
baz=115
RAR **Rarotonga** 75.34 244 LR LR 02 44 58.2
comp=Z,320nm,21.7s,baz=153,slow=30
TORD **Torodi Ar. Bea** 90.05 77 P P 02 19 53.6 -2.1
comp=Z,0.5nm,0.8s,baz=318,slow=1.9,SNR=2.9
LZH **Lanzhou** 128.60 344 *e*PKP PKiKP 02 26 03.9 +0.3
LZH pPKP sPKPdf 02 26 20.2 +5.5
LZH sPKP 02 26 26.5
CD2 **Chengdu** 133.48 342 PKP PKPdf 02 26 11.1 -1.0
CMAR **Chiang Mai Arr** 146.63 342 PKPbc PKPdf 02 26 36.1 0.0
comp=Z,1.6nm,0.3s,baz=352,slow=2.9,SNR=7.5

IDC 12 02:19:26.1±1.6, 17°.34S×173°.43W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/30, mbtmp3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/30, Error ellipse: s-maj=49.6km s-min=35.5km az=126.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	13.46	109	LR	LR	02 27 01.5	
	comp=Z,88nm,18.6s,baz=94,slow=34						
WRA	**Warramunga Arr**	49.40	258	P	P	02 28 17.9	-0.1
	0.5nm,0.4s,baz=98,slow=6.9,SNR=5.4						
ASAR	**Alice Springs**	49.51	253	P	P	02 28 18.7	-0.2
	2.3nm,0.6s,baz=89,slow=8.7,SNR=27						
VNDA	**Vanda**	61.46	186	P	P	02 29 44.1	+0.1
	0.6nm,1.0s,baz=27,slow=4.5,SNR=4.6						
ILAR	**Eielson Array**	84.34	11	P	P	02 31 59.6	-0.1
	0.6nm,1.1s,baz=215,slow=4.4,SNR=2.8						

IDC 12 02:20:20.1±3.1, 4°.37S×133°.98E, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.5/27, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=131.0km s-min=28.4km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	15.49	179	Pn	Pn	02 23 60.0	-0.1
	0.1nm,0.3s,baz=359,slow=13,SNR=4.9						
WRA				Sn	Sn	02 26 41.2	-11
	0.1nm,0.3s,baz=356,slow=24,SNR=4.7						
FITZ	**Fitzroy Crossi**	15.90	210	Pn	Pn	02 24 04.9	-0.5
	0.3nm,0.3s,baz=38,slow=12,SNR=9.6						
FITZ				Sn	Sn	02 26 54.9	-7.6
	0.4nm,0.3s,baz=205,slow=16,SNR=7.7						
ASAR	**Alice Springs**	19.19	180	P	P	02 24 45.8	+0.2
	0.1nm,0.3s,baz=7.2,slow=10,SNR=17						
MKAR	**Makanchi Array**	68.30	325	P	P	02 31 23.1	0.0
	0.8nm,0.7s,baz=115,slow=6.5,SNR=4.7						

*IDC **12** 02:23:43.8±8.8, 26°.13N×58°.31E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.3/31, mbtmp3.5/4, Error ellipse: s-maj=177.9km s-min=50.0km az=113.0*
*DSN **12** 02:23:44.0±2.7, 26°.81N×58°.23E, h10km, ML3.7/7, Error ellipse: s-maj=43.5km s-min=11.2km az=179.0*
*OMAN **12** 02:23:46.6±3.0, 26°.79N×57°.99E, h7km±46km, ml3.5/8, Error ellipse: s-maj=44.1km s-min=14.6km az=31.0*
*TEH **12** 02:23:48.2, 26°.54N×57°.66E, h5km, ML3.7*
*ISCJB **12** 02:23:49.5±0.5, 26°.61N±0°.03×57°.72E±0°.05, h10km, mb3.4/4, Error ellipse: s-maj=6.1km s-min=4.8km az=6.4*

ISC 12 02:23:50.1±0.8, 26°.55N±0°.04×57°.78E±0°.04, h10km, n42, σ1§63/44, mb3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	1.31	320	*e*Pg	Pn	02 24 13.4	-1.1
NIAN				IAMB	IAmb	02 24 39.2	
	comp=Z,0.0nm,0.3s						
SHME	**Shamm**	1.56	252	*e*P	Pn	02 24 18.0	+0.2
	SNR=46						
SHME				S	Sg	02 24 44.3	+4.2
BNDS	**Bandar-Abbas**	1.67	301	*e*Pg	Pn	02 24 15.0	-4.5
GENO	**Geno**	1.67	301	*e*Pg	Pn	02 24 19.4	-0.2
GENO				*e*Sg	Sb	02 24 43.3	+1.2
GENO				IAMB	IAmb	02 24 48.2	
	comp=Z,0.0nm,0.3s						
MSFE	**Esma-Masafi**	1.88	231	*e*P	Pn	02 24 21.3	-1.1
	SNR=18						
MSFE	**Esma-Masafi**	1.88	231	*e*Pn	Pn	02 24 21.2	-1.1
UMQ	**Umm Al-Quwin**	2.16	242	*e*Pn	Pn	02 24 27.1	+0.9
HATD	**Hatta, Dubai**	2.27	221	*e*P	Pn	02 24 27.6	-0.2
	SNR=15						
HATD	**Hatta, Dubai**	2.27	221	P	Pn	02 24 26.7	-1.0
	SNR=15						
HATD	**Hatta, Dubai**	2.27	221	*e*Pn	Pn	02 24 25.7	-2.0
ASHO	**Ashiyiah**	2.42	220	*e*P	Pn	02 24 29.5	-0.3
	SNR=11						
ASHO	**Ashiyiah**	2.42	220	P	Pn	02 24 29.0	-0.8
	SNR=11						
ASHO	**Ashiyiah**	2.42	220	*e*Pn	Pn	02 24 29.3	-0.5
NAZ	**Nazwa, Dubai**	2.46	231	P	Pn	02 24 30.9	+0.5
NAZ	**Nazwa, Dubai**	2.46	231	*e*Pn	Pb	02 24 33.3	-1.2
CHBR	**Chabahar**	2.61	111	*e*Pn	Pb	02 24 35.5	-1.5
FAQ	**Al Faqa, Dubai**	2.67	228	P	Pn	02 24 34.6	+1.4
FAQ	**Al Faqa, Dubai**	2.67	228	*e*Pn	Pn	02 24 35.2	+2.0
ASUD	**Al Ashush, Dub**	2.93	230	*i* P	Pn	02 24 37.8	+1.0
	SNR=11						
ASUD	**Al Ashush, Dub**	2.93	230	P	Pn	02 24 38.8	+2.1
	SNR=11						
ASUD	**Al Ashush, Dub**	2.93	230	*e*Pn	Pb	02 24 40.2	-2.2
HOQ	**Hoqain**	2.99	188	*e*Pn	Pn	02 24 35.2	-2.4
BIDO	**Bidbid**	3.03	174	*e*Pn	Pn	02 24 37.7	-0.5
NGRK	**Negar Kerman**	3.22	343	*e*Pn	Pn	02 24 40.1	-1.0
NGRK				IAMB	IAmb	02 24 49.5	
	comp=Z,0.0nm,0.3s						
CHMN	**Cheshme madani**	3.31	356	*e*Pn	Pn	02 24 43.9	+1.7
CHMN				IAMB	IAmb	02 24 52.7	
	comp=Z,0.0nm,0.3s						
ARQ	**Araqi**	3.40	200	P	Pn	02 24 45.9	+2.7
TVBK	**TV Kerman**	3.54	346	*e*Pn	Pn	02 24 45.9	+0.4
TVBK				IAMB	IAmb	02 24 55.4	
	comp=Z,0.0nm,0.2s						
KHGB	**Koh Gabri**	3.98	344	*e*Pn	Pn	02 24 52.5	+1.1
KHGB				IAMB	IAmb	02 25 05.5	
	comp=Z,0.0nm,0.4s						
SZD1	**Zahaedan-tmp**	4.00	42	*e*Pn	Pn	02 24 53.0	+1.4
ZHSF	**Zahedan**	4.04	40	*e*Pn	Pn	02 24 52.0	-0.1
JLN	**Jalan Bani Buh**	4.63	161	P	Pn	02 24 59.0	-1.1
	SNR=13						
ISRV	**Sarvestan**	5.00	305	*e*Pn	Pn	02 25 04.8	-0.7
BSRN	**Basiran**	5.52	12	*e*Pn	Pn	02 25 10.5	-2.0
IKOO	**Kooshah**	5.95	10	*e*Pn	Pn	02 25 18.9	+0.4
IKAZ	**Kazeroun**	6.15	303	*e*Pn	Pn	02 25 19.2	-2.2
ITEG	**Tejag**	6.38	7	*e*Pn	Pn	02 25 26.0	+1.6
ISAD	**Sadrabad**	6.43	327	*e*Pn	Pn	02 25 24.9	-0.3
IRAM	**Ramesheh**	7.05	319	*e*Pn	Pn	02 25 32.9	-0.7
BRTR	**Keskin Array B**	24.02	309	P	P	02 29 06.6	+1.2
	comp=Z,0.9nm,0.7s,baz=129,slow=10,SNR=7.8						
AKASG	**Malin Array Be**	32.50	326	P	P	02 30 21.2	+0.4
	comp=Z,0.1nm,0.3s,baz=127,slow=8.3,SNR=3.4						
FINES	**FINESS Array B**	40.88	337	P	P	02 31 31.9	-0.1
	comp=Z,0.8nm,0.8s,baz=134,slow=14,SNR=4.7						
TORD	**Torodi Ar. Bea**	54.03	267	P	P	02 33 13.6	-1.5
	comp=Z,0.6nm,0.7s,baz=62,slow=7.4,SNR=6.9						

*ISCJB **12** 02:35:30.1±0.7, 6°.88N±0°.03×73°.17W±0°.04, h153km±5km, mb3.2/1, Error ellipse: s-maj=6.6km s-min=4.5km az=178.9*
*IDC **12** 02:35:31.5±6.9, 6°.68N×76°.01W, h114km±77km, mb2.9/1, mb1 3.2/2, mb1mx2.8/22, mbtmp3.4/2, ML2.1/1, Error ellipse: s-maj=137.7km s-min=41.3km az=76.0*
*RSNC **12** 02:35:31.9±0.9, 6°.84N×73°.16W, h146km±5km, ML3.0, Mw3.1*

ISC 12 02:35:31.2±1.0, 6°.87N±0°.03×73°.16W±0°.05, h148km±7km, n22, σ0§98/40, 7C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	0.21	352	⇑*i*P	Pn	02 35 51.4	0.0
GIRC				*e*S	Sn	02 36 06.5	-0.4
GIRC				*i*		02 36 08.2	
	comp=Z,167nm,0.5s						
BARC	**Barichara**	0.28	184	⇓*i*P	Pn	02 35 51.4	-0.3
BARC				*e*S	Sn	02 36 06.5	-0.8
BARC				*i*		02 36 07.3	
	comp=Z,222nm,0.2s						
BRRC	**Barranca, Sant**	0.59	293	⇑*i*P	Pn	02 35 53.2	+0.4
BRRC				*e*S	Sn	02 36 10.2	+1.0
BRRC				*i*		02 36 11.0	
	comp=Z,214nm,0.1s						
PAMC	**Pamplona, Colo**	0.66	45	⇑*i*P	Pn	02 35 54.1	+0.3
PAMC				*e*S	Sn	02 36 11.2	+0.4
PAMC				*i*		02 36 13.3	
	comp=Z,219nm,0.5s						
RUSC	**La Rusia**	0.97	175	⇑*i*P	Pn	02 35 55.4	-0.7
RUSC				*e*S	Sn	02 36 14.4	-0.6
RUSC				*i*		02 36 15.7	
	comp=Z,155nm,0.3s						
PTBC	**PUERTO BERRIO,**	1.33	256	*e*P	Pn	02 35 58.3	-0.5
PTBC				*e*S	Sn	02 36 19.1	-0.7
PTBC				*i*		02 36 26.6	
	comp=Z,134nm,0.5s						
OCAC	**Ocana**	1.37	354	*e*P	Pn	02 36 00.6	+1.1
OCAC				*e*S	Sn	02 36 21.2	+0.2
OCAC				*i*		02 36 24.4	
	comp=Z,152nm,0.2s						
TAMC	**Tame, Arauca**	1.43	107	⇑*i*P	Pn	02 35 59.7	-0.1
TAMC				*i*		02 36 20.4	
	comp=Z,84nm,0.3s						
TAMC				*e*S	Sn	02 36 21.4	-0.4
YOPC	**Yopal, Colombi**	1.68	154	⇑*i*P	Pn	02 36 02.2	-0.4
YOPC				*e*S	Sn	02 36 26.8	+0.1
YOPC				*i*		02 36 30.1	
	comp=Z,72nm,0.4s						
SMLC	**San Martn de**	2.12	335	*e*P	Pn	02 36 08.0	+0.4
SMLC				*e*S	Sn	02 36 35.6	0.0
SMLC				*i*		02 36 45.3	
	comp=Z,81nm,0.2s						
NORC	**Norcasia**	2.13	233	⇑*e*P	Pn	02 36 07.8	0.0
NORC				*e*S	Sn	02 36 35.8	-0.3
NORC				*i*		02 36 41.5	
	comp=Z,107nm,0.2s						
CHIC	**Chingaza**	2.30	194	*e*P	Pn	02 36 09.7	-0.4
CHIC				*e*S	Sn	02 36 38.9	-1.2
CHIC				*i*		02 36 42.5	
	comp=Z,65nm,0.7s						
ROSC	**El Rosal**	2.32	210	*e*P	Pn	02 36 11.1	+0.7
ROSC				*e*S	Sn	02 36 41.9	+1.3
ROSC				*i*		02 36 46.0	
	comp=Z,139nm,0.5s						
ROSC	**El Rosal**	2.32	210	P	Pn	02 36 11.5	+1.1
	comp=Z,8.6nm,0.3s,baz=294,slow=18,SNR=20						
ROSC				S	Sn	02 36 42.0	+1.4
	comp=Z,27nm,0.3s,baz=98,slow=16,SNR=17						
HELC	**Santa Helena**	2.44	254	*e*P	Pn	02 36 12.8	+0.9
HELC				*e*S	Sn	02 36 43.6	+0.4
HELC				*i*		02 36 49.7	
	comp=Z,84nm,0.3s						
UREC	**San Jos de Ur**	2.51	291	*e*S	Sn	02 36 42.5	-1.5
VILC	**Villavicencio,**	2.79	191	*e*P	Pn	02 36 15.3	-0.7
VILC				*e*S	Sn	02 36 50.0	-0.5
VILC				*i*		02 36 58.9	
	comp=Z,78nm,0.5s						
CODC	**Agustn Codazz**	3.06	355	*e*S	Sn	02 36 57.1	+0.7
CODC				*i*		02 37 00.6	
	comp=Z,11nm,0.3s						
PRAC	**Prado**	3.57	209	*e*P	Pn	02 36 25.6	-0.3
PRAC				*e*S	Sn	02 37 08.1	-0.2
PRAC				*i*		02 37 13.8	
	comp=Z,76nm,0.3s						
SJCC	**San Jacinto, C**	3.61	327	*e*P	Pn	02 36 25.3	-1.1
SJCC				*e*S	Sn	02 37 06.5	-2.6
YKA	**Yellowknife Ar**	63.20	340	P	P	02 45 42.1	-1.2
	comp=Z,0.2nm,0.5s,baz=136,slow=6.6,SNR=7.3						
WRA	**Warramunga Arr**	150.32	241	PKPbc	PKPdf	02 55 03.3	+2.7
	comp=Z,0.2nm,0.4s,baz=103,slow=3.0,SNR=5.1						

ARO 12 02:36:50.5, 16°N±23°×4°2E±9°7, h15km±99km, Ml3.6, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	3.58	175	*e*P	Pn	02 37 46.3	+0.7
OBO	**Obock**	3.92	160	*e*P	Pn	02 37 51.2	+1.1
TDD	**Tadjoura Ara**	3.98	166	*e*P	Pn	02 37 51.8	+0.8
LDLD	**Lac de Lave**	4.12	172	*e*P	Pn	02 37 54.1	+1.3
ATD	**Arta Tunnel**	4.23	167	*e*P	Pn	02 37 55.8	+1.3
ATD				*e*S	Sn	02 38 48.9	+5.2
ATD	**Arta Tunnel**	4.23	167	*e*P	Pn	02 37 55.8	+1.3
SGH	**Sud-Ghoubbet**	4.28	170	*e*P	Pn	02 37 56.3	+1.1
ATA	**Atar**	4.39	163	*e*P	Pn	02 37 58.2	+1.5

*IDC **12** 02:37:01.4±0.9, 28°.34N×51°.63E, h0km, mb3.8/14, mb1 3.8/16, mb1mx3.7/37, mbtmp3.7/16, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/42, Error ellipse: s-maj=22.1km s-min=17.9km az=170.0*
*ISCJB **12** 02:37:03.3±0.4, 28°.34N±0°.03×51°.59E±0°.05, h24km, mb3.7/15, MS3.3/1, Error ellipse: s-maj=6.3km s-min=3.5km az=151.1*
*TEH **12** 02:37:04.3, 28°.42N×51°.66E, h24km, ML3.9*
*OMAN **12** 02:37:09.4±2.6, 28°.13N×51°.79E, h20km, ml3.9/4, Error ellipse: s-maj=36.9km s-min=15.7km az=25.0*

ISC 12 02:37:05.2±0.6, 28°.38N±0°.05×51°.67E±0°.06, h24km, n51, σ1§27/57, mb3.6/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	1.41	6	*e*Pg	Pn	02 37 29.9	+0.2
IKAZ				IAMB	IAmb	02 37 58.4	
	comp=Z,16μm,0.4s						
SHI	**Shiraz**	1.46	30	*e*Pg	Pn	02 37 30.6	+0.3
SHI				IAMB	IAmb	02 37 32.6	
	comp=Z,9μm,0.3s						
SHI				*e*Sg	Sb	02 37 50.4	+0.3
ISRV	**Sarvestan**	1.61	51	*e*Pn	Pb	02 37 33.5	-1.1
ISRV				IAMB	IAmb	02 37 47.5	
	comp=Z,8μm,0.3s						
JHRM	**Jahrom**	1.68	85	*e*Pn	Pb	02 37 34.3	-1.3
JHRM				IAMB	IAmb	02 38 10.6	
	comp=Z,0.0nm,0.6s						
IRAM	**Ramesheh**	3.48	10	*e*Pn	Pn	02 37 57.9	-0.2
ISAD	**Sadrabad**	3.94	26	*e*Pn	Pn	02 38 05.3	+0.9
IMEH	**Mehriz**	3.94	40	*e*Pn	Pn	02 38 05.9	+1.4
IGAR	**Gharneh**	4.03	4	*e*Pn	Pn	02 38 05.8	+0.2
ICHK	**Chekchek**	4.52	31	*e*Pn	Pn	02 38 13.1	+0.6
IZEF	**Zefreh**	4.54	7	*e*Pn	Pn	02 38 13.0	+0.3
NGRK	**Negar Kerman**	4.61	73	*e*Pn	Pn	02 38 13.9	+0.2
KHGB	**Koh Gabri**	4.64	63	*e*Pn	Pn	02 38 14.5	+0.4
NAZ	**Nazwa, Dubai**	4.91	132	P	Pn	02 38 19.5	+1.9
	SNR=13						
NAZ				S	Sn	02 39 14.5	+0.8
IKLH	**Kolahrood**	4.93	359	*e*Pn	Pn	02 38 18.0	-0.1
ASUD	**Al Ashush, Dub**	4.97	138	P	Pn	02 38 20.3	+1.9
	SNR=12						
ASUD				S	Sn	02 39 18.4	+3.4
MSFE	**Esma-Masafi**	5.01	126	*e*Pn	Pn	02 38 19.7	+0.7
ANAR	**Anarak**	5.12	20	*e*Pn	Pn	02 38 20.3	-0.2
HATD	**Hatta, Dubai**	5.33	130	*e*Pn	Pn	02 38 24.3	+0.9
CHMN	**Cheshme madani**	5.34	73	*e*Pn	Pn	02 38 24.1	+0.3
ASHO	**Ashiyiah**	5.38	132	P	Pn	02 38 25.4	+1.3
	SNR=14						
ASHO				S	Sn	02 39 24.7	-0.6
ASHO	**Ashiyiah**	5.38	132	*e*Pn	Pn	02 38 25.2	+1.1
ALNE	**Al Ain**	5.65	139	*e*Pn	Pn	02 38 29.4	+1.7
SOHO	**SOHO**	6.07	133	S	Sn	02 39 41.1	-1.2
IDOB	**Doab**	6.17	332	*e*Pn	Pn	02 38 35.5	+0.4
IKOM	**Komasi**	6.79	329	*e*Pn	Pn	02 38 44.1	+0.6
TNSJ	**Nastanj**	6.99	36	*e*Pn	Pn	02 38 46.5	+0.2
TKDS	**Koohdasht(Taba**	7.01	41	*e*Pn	Pn	02 38 46.4	-0.1
IDMV	**Damavand**	7.19	2	*e*Pn	Pn	02 38 48.3	-0.8
IANJ	**Anjilo**	7.32	15	*e*Pn	Pn	02 38 50.9	0.0
IVIS	**Veis**	7.39	327	*e*Pn	Pn	02 38 51.9	+0.2
IDHR	**Dehrash**	7.75	326	*e*Pn	Pn	02 38 56.2	-0.6
WSAR	**Wadi Sarin**	8.09	128	Pn	Pn	02 39 01.3	0.0
	comp=Z,0.6nm,0.3s,baz=312,slow=6.7,SNR=7.1						
WSAR				Sn	Sn	02 40 29.1	-3.0
	comp=Z,1.3nm,0.3s,baz=111,slow=9.8,SNR=5.7						
MHTO	**MHTO**	9.32	141	P	Pn	02 39 18.5	+0.4
	SNR=13						
MHTO				S	Sn	02 40 57.9	-4.3
DMTO	**DMTO**	11.03	163	P	Pn	02 39 43.0	+1.4
	SNR=16						
BRTR	**Keskin Array B**	18.71	312	P	P	02 41 21.4	-0.8
	comp=Z,0.1nm,0.3s,baz=136,slow=12,SNR=5.0						
AKTO	**Aktyubinsk**	22.55	11	P	P	02 42 03.8	+0.3
	comp=Z,0.9nm,0.6s,baz=174,slow=14,SNR=5.1						
AAK	**Ala-Archa**	23.31	46	P	P	02 42 15.4	+3.9
	comp=Z,0.7nm,0.4s,baz=217,slow=15,SNR=3.5						
IDI	**Anoyia**	23.73	294	P	P	02 42 14.9	-0.7
	comp=Z,5.2nm,0.7s,baz=95,slow=11,SNR=3.1						
BVAR	**Borovoye Array**	28.25	24	P	P	02 42 56.5	+0.2
	comp=Z,0.4nm,0.3s,baz=225,slow=14,SNR=4.6						
BVAR				LR	LR	02 56 51.7	
	comp=Z,82nm,20.4s,baz=342,slow=42						
MKAR	**Makanchi Array**	30.17	44	P	P	02 43 13.8	+0.3
	comp

WRA Warramunga Arr 93.12 111 P **P 02 50 17.8 +0.2**
comp=Z,0.7nm,0.8s,baz=310,slow=4.2,SNR=3.1
ASAR Alice Springs 94.56 114 P **P 02 50 23.5 -0.7**
comp=Z,0.2nm,0.5s,baz=301,slow=4.4,SNR=4.5

MAN 12 02:42:21.4, 18.52N×121.23E, h32km, mb3.7, ML2.4, MS1.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.65**	**179**	*e*P	Pn	02 42 34.8	+0.4
APYP				*e*S	Sn	02 42 44.7	+1.0
SGCP	**Mt. Cagua**	**0.82**	**109**	*e*P	Pb	02 42 37.0	-0.2
SGCP				*e*S	Sb	02 42 48.6	+0.6
CVP	**Callao Caves**	**0.99**	**145**	↑*i*P	Pb	02 42 40.1	+0.2
CVP				*i* S	Sb	02 42 52.4	-0.2

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*DSN **12** 02:49:57.7±2.5, 26.62N×58.16E, h10km, ML4.4/10, Error ellipse: s-maj=34.9km s-min=10.8km az=8.0*
*IDC **12** 02:49:59.7±0.9, 26.58N×57.66E, h0km, mb4.0/23, mb1 4.1/27, mb1mx4.0/56, mbtmp4.1/27, ML3.8/3, MS3.3/10, Ms1 3.3/10, ms1mx3.1/49, Error ellipse: s-maj=19.9km s-min=13.4km az=150.0*
*ISCJB **12** 02:49:59.4±0.2, 26.62N±0.02×57.79E±0.03, h10km, mb4.2/59, MS3.4/11, Error ellipse: s-maj=4.0km s-min=3.2km az=8.6*
*OMAN **12** 02:49:59.6±1.2, 26.88N×58.15E, h37km±252km, ml4.3/14, Error ellipse: s-maj=29.9km s-min=9.3km az=9.0*
*TEH **12** 02:50:03.4, 26.74N×57.63E, h14km, ML4.3*
*NEIC **12** 02:50:04.8±0.0, 26.84N×57.65E, h28km, mb4.4/24, ML4.4(THR), MN4.4(TEH), After TEH.*
*MOS **12** 02:50:04.6±1.5, 27.23N×57.73E, h18km, mb4.4/33, Error ellipse: s-maj=8.4km s-min=5.1km az=111.0*
ISC 12 02:50:01.6±0.5, 26.67N±0.05×57.71E±0.04, h10km, n227, σ1.977/216, mb4.3/59, MS3.3/11, 13C-7D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.18**	**319**	Pg	**Pn**	**02 50 25.1**	**+0.9**
NIAN	**Nian**	**1.18**	**319**	*e*Pg	**Pn**	**02 50 24.4**	**+0.2**
NIAN				IAMB	IAmb	02 50 57.1	
comp=Z,0.0nm,0.7s							
SHME	**Shamm**	**1.54**	**247**	*e*P	**Pn**	**02 50 29.7**	**+0.6**
SNR=55							
SHME				S	**Sg**	**02 50 55.0**	**+4.0**
SHME	**Shamm**	**1.54**	**247**	*e*Pn	**Pn**	**02 50 30.3**	**+1.2**
GENO	**Geno**	**1.55**	**298**	Pn	**Pg**	**02 50 31.1**	**-0.3**
GENO				Sg	**Sg**	**02 50 54.7**	**+3.2**
GENO	**Geno**	**1.55**	**298**	*e*Pn	**Pg**	**02 50 31.0**	**-0.3**
GENO				IAMB	IAmb	02 50 58.1	
comp=Z,0.0nm,0.7s							
BNDS	**Bandar-Abbas**	**1.55**	**298**	Pg	**Pn**	**02 50 27.0**	**-2.4**
BNDS	**Bandar-Abbas**	**1.55**	**298**	*e*Pg	**Pn**	**02 50 27.4**	**-2.0**
MSFE	**Esma-Masafi**	**1.91**	**227**	*e*P	**Pn**	**02 50 32.9**	**-1.3**
SNR=34							
MSFE	**Esma-Masafi**	**1.91**	**227**	*e*Pn	**Pn**	**02 50 33.0**	**-1.2**
UMQ	**Umm Al-Quwin**	**2.16**	**239**	*e*P	**Pn**	**02 50 39.1**	**+1.5**
SNR=9.4							
UMQ	**Umm Al-Quwin**	**2.16**	**239**	*e*Pn	**Pb**	**02 50 41.3**	**+0.5**
HATD	**Hatta, Dubai**	**2.32**	**218**	*e*P	**Pn**	**02 50 38.1**	**-1.8**
SNR=27							
HATD	**Hatta, Dubai**	**2.32**	**218**	P	**Pn**	**02 50 37.9**	**-1.9**
SNR=17							
HATD	**Hatta, Dubai**	**2.32**	**218**	*e*Pn	**Pn**	**02 50 37.9**	**-1.9**
ASHO	**Ashiyiah**	**2.48**	**217**	*e*P	**Pn**	**02 50 40.7**	**-1.4**
SNR=27							
ASHO	**Ashiyiah**	**2.48**	**217**	P	**Pn**	**02 50 40.6**	**-1.4**
SNR=27							
ASHO	**Ashiyiah**	**2.48**	**217**	*e*Pn	**Pn**	**02 50 42.5**	**+0.5**
NAZ	**Nazwa, Dubai**	**2.49**	**228**	*e*P	**Pn**	**02 50 42.7**	**+0.5**
SNR=75							
NAZ	**Nazwa, Dubai**	**2.49**	**228**	P	**Pn**	**02 50 45.0**	**+2.8**
SNR=75							
NAZ	**Nazwa, Dubai**	**2.49**	**228**	*e*Pn	**Pn**	**02 50 44.4**	**+2.2**
FAQ	**Al Faqa, Dubai**	**2.71**	**225**	*e*P	**Pn**	**02 50 45.9**	**+0.8**
SNR=66							
FAQ	**Al Faqa, Dubai**	**2.71**	**225**	P	**Pn**	**02 50 46.8**	**+1.7**
SNR=8.6							
FAQ	**Al Faqa, Dubai**	**2.71**	**225**	*e*Pn	**Pn**	**02 50 46.8**	**+1.7**
CHBR	**Chabahar**	**2.71**	**113**	Pn	**Pn**	**02 50 47.0**	**+1.8**
CHBR	**Chabahar**	**2.71**	**113**	*e*Pn	**Pn**	**02 50 47.4**	**+2.2**
SOHO	**SOHO**	**2.74**	**203**	P	Pn	02 50 43.0	-2.6
SNR=55							
ASUD	**Al Ashush, Dub**	**2.96**	**227**	*i* P	**Pn**	**02 50 49.3**	**+0.7**
SNR=29							
ASUD	**Al Ashush, Dub**	**2.96**	**227**	P	**Pn**	**02 50 50.6**	**+2.0**
SNR=29							
ASUD	**Al Ashush, Dub**	**2.96**	**227**	*e*Pn	**Pn**	**02 50 51.0**	**+2.4**
NGRK	**Negar Kerman**	**3.09**	**344**	Pn	**Pn**	**02 50 51.6**	**+0.9**
NGRK	**Negar Kerman**	**3.09**	**344**	*e*Pn	**Pn**	**02 50 52.3**	**+1.6**
NGRK				IAMB	IAmb	02 51 52.7	
comp=Z,0.0nm,1.2s							
HOQ	**Hoqain**	**3.09**	**187**	P	Pn	02 50 48.1	-2.4
SNR=9.9							
HOQ	**Hoqain**	**3.09**	**187**	*e*Pn	Pn	02 50 48.1	-2.4
ALNE	**Al Ain**	**3.15**	**215**	*i* P	**Pn**	**02 50 51.2**	**0.0**
SNR=8.7							
ALNE	**Al Ain**	**3.15**	**215**	*e*Pn	**Pn**	**02 50 52.3**	**+1.1**
BIDO	**Bidbid**	**3.16**	**173**	*e*Pn	Pn	02 50 48.9	-2.4
CHMN	**Cheshme madani**	**3.18**	**357**	Pn	**Pn**	**02 50 53.9**	**+1.9**
CHMN	**Cheshme madani**	**3.18**	**357**	*e*Pn	**Pn**	**02 50 53.7**	**+1.7**
CHMN				IAMB	IAmb	02 51 51.2	
comp=Z,0.0nm,1.2s							
AJN	**Ajban**	**3.23**	**230**	*i* P	**Pn**	**02 50 52.8**	**+0.4**
SNR=14							
AJN	**Ajban**	**3.23**	**230**	*e*Pn	**Pn**	**02 50 55.6**	**+3.3**
TVBK	**TV Kerman**	**3.41**	**346**	Pn	**Pn**	**02 50 57.2**	**+2.1**
TVBK	**TV Kerman**	**3.41**	**346**	*e*Pn	**Pn**	**02 50 57.2**	**+2.1**
TVBK				IAMB	IAmb	02 52 03.5	
comp=Z,0.0nm,0.6s							
ARQ	**Araqi**	**3.49**	**198**	P	**Pn**	**02 50 56.9**	**+1.0**
SNR=19							
WSAR	**Wadi Sarin**	**3.52**	**166**	Pn	Pn	02 50 54.3	-2.0
comp=Z,13nm,0.3s,baz=349,slow=6.3,SNR=142							
WSAR				Sn	Sn	02 51 32.6	-5.3
comp=Z,41nm,0.3s,baz=139,slow=23,SNR=18							
SMDO	**Samad**	**3.61**	**175**	P	**Pn**	**02 50 55.8**	**-1.8**
SNR=10							
KHGB	**Koh Gabri**	**3.85**	**344**	*e*Pn	**Pn**	**02 51 03.0**	**+1.9**
KHGB				IAMB	IAmb	02 52 15.9	
comp=Z,0.0nm,1.3s							
BSY	**Bisya**	**3.93**	**187**	P	**Pn**	**02 51 02.0**	**-0.1**
SNR=11							
SZD1	**Zahaedan-tmp**	**3.96**	**44**	*e*Pn	**Pn**	**02 51 05.5**	**+3.0**
ZHSF	**Zahedan**	**3.99**	**42**	P	**Pn**	**02 51 05.0**	**+2.0**
ZHSF	**Zahedan**	**3.99**	**42**	*e*Pn	**Pn**	**02 51 05.6**	**+2.6**
JHRM	**Jahrom**	**4.10**	**297**	*e*Pn	**Pn**	**02 51 06.1**	**+1.7**
GHIR	**Ghir-Karzin**	**4.49**	**292**	Pn	**Pn**	**02 51 09.0**	**-0.8**
GHIR	**Ghir-Karzin**	**4.49**	**292**	*e*Pn	**Pn**	**02 51 09.4**	**-0.4**
JLN	**Jalan Bani Buh**	**4.76**	**161**	P	Pn	02 51 10.4	-2.9
SNR=38							
ISRV	**Sarvestan**	**4.88**	**305**	*e*Pn	**Pn**	**02 51 16.9**	**+1.6**
BSRN	**Basiran**	**5.42**	**13**	P	**Pn**	**02 51 23.0**	**+0.4**
BSRN	**Basiran**	**5.42**	**13**	*e*Pn	**Pn**	**02 51 23.5**	**+0.9**
IMEH	**Mehriz**	**5.43**	**331**	*e*Pn	**Pn**	**02 51 23.5**	**+0.7**
IKOO	**Kooshah**	**5.84**	**11**	Pn	**Pn**	**02 51 27.4**	**-1.1**
IKOO	**Kooshah**	**5.84**	**11**	*e*Pn	**Pn**	**02 51 28.0**	**-0.5**
IKAZ	**Kazeroun**	**6.03**	**302**	*e*Pn	**Pn**	**02 51 31.4**	**+0.2**
ITEG	**Tejag**	**6.27**	**8**	*e*Pn	**Pn**	**02 51 37.3**	**+3.0**
ISAD	**Sadrabad**	**6.30**	**327**	*e*Pn	**Pn**	**02 51 35.6**	**+0.8**
IDAH	**Dahanechah**	**6.33**	**17**	*e*Pn	**Pn**	**02 51 39.8**	**+4.6**
IMON	**Monand**	**6.72**	**14**	*e*Pn	**Pn**	**02 51 42.9**	**+2.4**
IRAM	**Ramesheh**	**6.92**	**319**	*e*Pn	**Pn**	**02 51 44.0**	**+0.7**
TKDS	**Koohdasht(Taba**	**6.94**	**356**	*e*Pn	**Pn**	**02 51 46.6**	**+3.2**
TNSJ	**Nastanj**	**7.33**	**353**	*e*Pn	**Pn**	**02 51 51.1**	**+2.3**
ANAR	**Anarak**	**7.36**	**333**	*e*Pn	**Pn**	**02 51 49.3**	**+0.1**
IGAR	**Gharneh**	**7.55**	**321**	*e*Pn	**Pn**	**02 51 53.5**	**+1.6**
IZEF	**Zefreh**	**7.77**	**324**	*e*Pn	**Pn**	**02 51 55.4**	**+0.5**
IPIR	**Pirpir**	**8.43**	**317**	*e*Pn	**Pn**	**02 52 05.0**	**+0.9**
IKLH	**Kolahrood**	**8.49**	**323**	*e*Pn	**Pn**	**02 52 08.1**	**+3.2**
IANJ	**Anjilo**	**9.35**	**341**	*e*Pn	**Pn**	**02 52 19.0**	**+2.3**
SBZV	**Sabzevar**	**9.69**	**360**	*e*Pn	**Pn**	**02 52 25.4**	**+4.1**
IMYA	**Miami**	**9.86**	**11**	*e*Pn	**Pn**	**02 52 25.1**	**+1.6**
IAKL	**Akhelmad**	**9.94**	**5**	*e*Pn	Pn	02 52 31.3	+6.5
ISFR	**Sfrayin**	**10.36**	**1**	*e*Pn	**Pn**	**02 52 33.9**	**+3.5**
IKMR	**Kamar-syah**	**10.57**	**312**	*e*Pn	**Pn**	**02 52 33.3**	**+0.2**
GEYT	**Alibeck**	**11.23**	**2**	Pn	**Pn**	**02 52 44.6**	**+2.3**
comp=Z,0.2nm,0.3s,baz=159,slow=13,SNR=7.1							
GEYT				LR	LR	02 57 46.1	
comp=Z,183nm,18.5s,baz=175,slow=41							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA0B	**ALIBECK ARRAY**	**11.23**	**2**	*e*Pn	**Pn**	**02 52 41.5**	**-0.7**
QABG	**Abgarm-Qazvin**	**11.38**	**324**	*e*Pn	**Pn**	**02 52 45.7**	**+1.3**
IKOM	**Komasi**	**11.55**	**313**	*e*Pn	**Pn**	**02 52 45.1**	**-1.5**
IVIS	**Veis**	**12.19**	**313**	*e*Pn	**Pn**	**02 52 52.9**	**-2.5**
ILIN	**Lien**	**12.36**	**314**	*e*Pn	**Pn**	**02 52 55.6**	**-2.2**
IDHR	**Dehrash**	**12.60**	**312**	*e*Pn	**Pn**	**02 52 58.9**	**-2.2**
NIL	**Nilore**	**15.13**	**59**	*e*Pn	**Pn**	**02 53 34.5**	**-0.9**
comp=Z,62nm,1.4s							
NIL	**Nilore**	**15.13**	**59**	*e*P	**Pn**	**02 53 34.5**	**-0.9**
NIL				pmax	pmax		
comp=Z,62nm,1.4s							
NIL	**Nilore**	**15.13**	**59**	*e*Pn	**Pn**	**02 53 34.5**	**-0.9**
GAR	**Garm**	**16.21**	**38**	*e*Pn	**Pn**	**02 53 47.9**	**-1.6**
comp=Z,10nm,0.7s							
GAR	**Garm**	**16.21**	**38**	*e*P	**Pn**	**02 53 47.9**	**-1.6**
GAR				pmax	pmax		
comp=Z,10.0nm,0.7s							
AKT	**Akhty**	**16.91**	**333**	↑*e*P	**Pn**	**02 53 56.4**	**-2.0**
GNI	**Garni**	**17.23**	**325**	*e*Pn	**Pn**	**02 54 01.5**	**-1.0**
comp=Z,9.8nm,0.8s							
GNI	**Garni**	**17.23**	**325**	↑*e*P	**Pn**	**02 53 58.8**	**-3.7**
GNI	**Garni**	**17.23**	**325**	P	**P**	**02 54 04.5**	**+0.4**
comp=Z,0.7nm,0.3s,baz=135,slow=14,SNR=2.7							
DAMY	**Dhamar**	**17.31**	**229**	*e*Pn	**Pn**	**02 54 04.1**	**+0.4**
comp=Z,22nm,0.9s							
GNBR	**Gunib**	**17.98**	**333**	‖*e*P	**Pn**	**02 54 11.5**	**-0.2**
ASF	**Jabal al Asfar**	**18.93**	**292**	P	**P**	**02 54 22.9**	**+0.1**
comp=Z,0.8nm,0.3s,baz=63,slow=7.2,SNR=6.0							
ASF				S	Sn	02 57 43.3	-12
comp=Z,0.2nm,0.3s,baz=73,slow=19,SNR=3.6							
GROC	**Groznyy**	**19.14**	**333**	*e*P	**P**	**02 54 21.6**	**-3.2**
GROC				*e*S	**Sn**	**02 57 53.5**	**-6.5**
GROC				pmax	pmax		
comp=Z,8.0nm,0.5s							
KK31	**Karatay Array**	**19.43**	**29**	*e*P	**P**	**02 54 27.1**	**-1.0**
comp=Z,6.6nm,0.8s							
KK31	**Karatay Array**	**19.43**	**29**	*e*P	**P**	**02 54 27.1**	**-1.0**
KK31				pmax	pmax		
comp=Z,7.0nm,0.8s							
KKAR	**Karatay Array**	**19.43**	**29**	*e*P	**P**	**02 54 26.8**	**-1.3**
KKAR	**Karatay Array**	**19.43**	**29**	*e*P	**P**	**02 54 26.8**	**-1.3**
ZEI	**Tsey**	**19.64**	**328**	*e*P	**Pn**	**02 54 35.3**	**+3.4**
ZEI				pmax	pmax		
comp=Z,4.0nm,0.6s							
EIL	**Elat**	**20.28**	**284**	P	**P**	**02 54 36.4**	**-1.1**
comp=Z,5.8nm,1.0s,baz=84,slow=5.9,SNR=3.5							
NCK	**Nalchik**	**20.33**	**329**	‖*e*P	**P**	**02 54 36.0**	**-1.9**
NCK				pmax	pmax		
comp=Z,2.0nm,0.9s							
MMAI	**Mount Meron Ar**	**20.34**	**293**	P	**P**	**02 54 37.4**	**-0.7**
comp=Z,6.6nm,0.7s,baz=90,slow=12,SNR=13							
ATD	**Arta Tunnel**	**20.56**	**226**	P	**P**	**02 54 39.9**	**-0.7**
comp=Z,8.5nm,0.8s,baz=240,slow=20,SNR=2.6							
KBZ	**Khabaz**	**20.83**	**329**	P	**P**	**02 54 43.6**	**+0.4**
comp=Z,0.9nm,0.8s,baz=135,slow=8.6,SNR=1.9							
SHA1	**Shidzhatmaz**	**20.95**	**328**	↑‖*e*P	**P**	**02 54 42.9**	**-1.9**
AAK	**Ala-Archa**	**21.02**	**36**	*e*P	**P**	**02 54 44.8**	**-0.8**
comp=Z,7.2nm,0.8s							
AAK	**Ala-Archa**	**21.02**	**36**	↑‖*e*P	**P**	**02 54 42.8**	**-2.7**
AAK				pmax	pmax		
comp=Z,3.0nm,0.9s							
AAK	**Ala-Archa**	**21.02**	**36**	P	**P**	**02 54 45.7**	**+0.2**
comp=Z,2.8nm,0.6s,baz=198,slow=9.1,SNR=9.5							
NRN	**Naryn**	**21.07**	**41**	*e*P	**P**	**02 54 46.0**	**-0.3**
comp=Z,8.7nm,0.8s							
NRN	**Naryn**	**21.07**	**41**	*e*P	**P**	**02 54 46.0**	**-0.3**
NRN				pmax	pmax		
comp=Z,9.0nm,0.8s							
KIV	**Kislovodsk**	**21.10**	**329**	*e*P	**P**	**02 54 45.9**	**-0.4**
comp=Z,9.8nm,0.8s							
KIV	**Kislovodsk**	**21.10**	**329**	*e*P	**P**	**02 54 44.7**	**-1.6**
KIV				pmax	pmax		
comp=Z,24nm,1.1s							
KIV				MLR	MLR		
comp=Z,78nm,14.0s							
DOMR	**Dombai**	**21.12**	**326**	↑‖*e*P	**P**	**02 54 44.4**	**-2.2**
DOMR				pmax	pmax		
comp=Z,3.0nm,0.9s							
KDJ	**Kajisay**	**22.19**	**41**	*e*P	**P**	**02 54 56.6**	**-1.6**
comp=Z,21nm,0.8s							
KDJ	**Kajisay**	**22.19**	**41**	*e*P	**P**	**02 54 56.6**	**-1.6**
KDJ				pmax	pmax		
comp=Z,21nm,0.8s							
CSS	**Mathiatis**	**22.47**	**298**	*e*P	**P**	**02 55 01.7**	**+0.7**
comp=Z,15nm,1.1s							
ABKAR	**Akbulak array**	**22.62**	**4**	*e*P	**P**	**02 55 01.4**	**-1.0**
AKTO	**Aktyubinsk**	**23.73**	**0**	P	**P**	**02 55 13.8**	**+0.1**
comp=Z,6.5nm,0.6s,baz=170,slow=9.4,SNR=35							
BR131	**Keskin Array S**	**23.90**	**309**	*e*P	**P**	**02 55 15.2**	**-0.4**
comp=Z,8.8nm,0.8s							
BRTR	**Keskin Array B**	**23.90**	**309**	*e*P	**P**	**02 55 15.0**	**-0.6**
BRTR	**Keskin Array B**	**23.90**	**309**	P	**P**	**02 55 15.2**	**-0.4**
comp=Z,5.4nm,0.7s,baz=126,slow=12,SNR=26							
BRTR				LR	LR	03 05 35.4	
comp=Z,45nm,21.6s,baz=86,slow=39							
ANTO	**Ankara**	**24.55**	**309**	*e*P	**P**	**02 55 21.1**	**-0.5**
comp=Z,8.8nm,0.7s							
ANTO	**Ankara**	**24.55**	**309**	*e*P	**P**	**02 55 21.1**	**-0.5**
ANTO				pmax	pmax		
comp=Z,9.0nm,0.7s							
AUMIH	**MIHALICIK**	**25.47**	**308**	*i* P	**P**	**02 55 29.7**	**-0.3**
YIGI	**Dzce**	**25.94**	**310**	*i* P	**P**	**02 55 36.1**	**+2.0**
SIM	**Simferopol'**	**26.28**	**320**	*e*P	**P**	**02 55 39.3**	**+2.2**
SIM				pmax	pmax		
comp=Z,14nm,0.8s							
MAKZ	**Makanchi**	**27.78**	**37**	*e*P	**P**	**02 55 51.4**	**+0.8**
comp=Z,3.3nm,0.9s							
MAKZ	**Makanchi**	**27.78**	**37**	*e*P	**P**	**02 55 51.4**	**+0.8**
MAKZ				pmax	pmax		
comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**27.94**	**38**	*e*P	**P**	**02 55 53.0**	**+0.9**
MKAR	**Makanchi Array**	**27.94**	**38**	P	**P**	**02 55 53.3**	**+1.2**
comp=Z,0.8nm,0.7s,baz=219,slow=6.6,SNR=6.6							
BVAR	**Borovoye Array**	**27.98**	**16**	P	**P**	**02 55 52.5**	**+0.2**
comp=Z,2.0nm,0.8s,baz=190,slow=7.5,SNR=9.2							
BRVK	**Borovoye**	**27.98**	**16**	‖*e*P	**P**	**02 55 48.8**	**-3.5**
BRVK				pmax	pmax		
comp=Z,1.0nm,1.0s							
KURBB	**Kurchatov Arra**	**28.73**	**28**	P	**P**	**02 55 59.5**	**+0.5**
comp=Z,1.2nm,0.6s,baz=225,slow=8.6,SNR=12							
KURK	**Kurchatov**	**28.84**	**28**	‖*e*P	**P**	**02 55 57.5**	**-2.4**
KURK				pmax	pmax		
comp=Z,1.0nm,1.0s							
IDI	**Anoyia**	**29.32**	**295**	P	**P**	**02 56 05.7**	**+1.2**
comp=Z,14nm,1.1s,baz=85,slow=11,SNR=4.3							
WMQ	**Urumqi**	**29.65**	**47**	*e*P	**P**	**02 56 08.1**	**+0.7**
MLR	**Muntele Rosu**	**31.52**	**315**	↑*i*P	**P**	**02 56 25.9**	**+2.0**
MLR	**Muntele Rosu**	**31.52**	**315**	⇑*i*P	**P**	**02 56 25.9**	**+2.0**
MLR	**Muntele Rosu**	**31.52**	**315**	LR	LR	03 12 18.3	
comp=Z,84nm,19.6s,baz=105,slow=42							
VOIR			**32.07**	**314**	↑*i*P	**P**	**02 56 29.3**	**+0.6**
VOIR			**32.07**	**314**	⇑*i*P	**P**	**02 56 29.3**	**+0.6**
DOPR	**Dopca**		**32.08**	**315**	↑*i*P	**P**	**02 56 26.0**	**-2.7**
ARR	**Arges**		**32.30**	**314**	↑*i*P	**P**	**02 56 30.6**	**-0.1**
OBN	**Obninsk**		**32.34**	**337**	↑‖*e*P	**P**	**02 56 29.5**	**-1.3**
OBN				pmax	pmax		
comp=Z,4.0nm,1.0s							
AKASG	**Malin Array Be**	**32.36**	**325**	*i* P	**P**	**02 56 32.9**	**+1.8**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**32.36**	**325**	P	**P**	**02 56 30.6**	**-0.4**
comp=Z,1.7nm,0.6s,baz=124,slow=8.0,SNR=11							
AKASG				LR	LR	03 12 27.9	
comp=Z,44nm,21.0s,baz=105,slow=42							
AKBB	**Malin Array Si**	**32.36**	**325**	*e*P	**P**	**02 56 30.4**	**-0.7**
comp=Z,5.9nm,0.8s							
AKBB	**Malin Array Si**	**32.36**	**325**	*e*P	**P**	**02 56 30.4**	**-0.7**
AKBB				pmax	pmax		
comp=Z,6.0nm,0.8s							
KIEV	**Kiev**	**32.37**	**325**	*e*P	**P**	**02 56 31.1**	**0.0**
comp=Z,5.7nm,0.8s							
KIEV	**Kiev**	**32.37**	**325**	↑‖*e*P	**P**	**02 56 29.4**	**-1.7**
KIEV				pmax	pmax		
comp=Z,3.0nm,1.0s							
BURAR	**Bucovina Array**	**32.92**	**318**	*e*P	**P**	**02 56 36.7**	**+0.5**
comp=Z,8.1nm,0.7s							
BURAR	**Bucovina Array**	**32.92**	**318**	*e*P	**P**	**02 56 36.7**	**+0.5**
BURAR				pmax	pmax		
comp=Z,8.0nm,0.7s							
FNA	**Florina**	**33.09**	**304**	*e*P	**P**	**02 56 37.1**	**-0.5**
comp=Z,6.1nm,0.7s							
FNA	**Florina**	**33.09**	**304**	*e*P	**P**	**02 56 37.1**	**-0.5**
FNA				pmax	pmax		
comp=Z,6.0nm,0.7s							
ZAA0	**Zalesovo Array**	**33.81**	**29**	*e*P	**P**	**02 56 42.5**	**-1.1**
comp=Z,2.8nm,0.8s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**33.81**	**29**	*e*P	**P**	**02 56 43.0**	**-0.7**
ZALV	**Zalesovo Beam**	**33.81**	**29**	P	**P**	**02 56 44.0**	**+0.4**
comp=Z,4.4nm,0.8s,baz=240,slow=10,SNR=8.7							
BZS	**Buzias**	**34.36**	**313**	‖*i*P	**P**	**02 56 48.2**	**-0.4**
BZS	**Buzias**	**34.36**	**313**	‖P	**P**	**02 56 48.2**	**-0.4**
KOLS	**Kolonicke sedl**	**35.28**	**319**	*e*P	**P**	**02 56 59.9**	**+3.4**
KOLS				pmax	pmax		
comp=Z,8.0nm,0.9s							
KOLS	**Kolonicke sedl**	**35.28**	**319**	*e*P	**P**	**02 56 59.9**	**+3.4**
PSZ	**Piszkesteto**	**36.31**	**316**	*e*P	**P**	**02 57 05.7**	**+0.3**
comp=Z,8.2nm,1.3s							
PSZ	**Piszkesteto**	**36.31**	**316**	*e*P	**P**	**02 57 05.7**	**+0.3**
PSZ				pmax	pmax		
comp=Z,8.0nm,1.3s							
KLMR	**Klimovskoe**	**36.35**	**345**	*e*P	**P**	**02 57 07.4**	**+2.0**
KLMR				pmax	pmax		
comp=Z,5.0nm,1.4s							
VYHS	**Vyhne**	**37.18**	**316**	*e*P	**P**	**02 57 15.7**	**+2.9**
VYHS	**Vyhne**	**37.18**	**316**	*e*P	**P**	**02 57 15.7**	**+2.9**
OJC	**Ojcow**	**37.28**	**319**	*e*P	**P**	**02 57 13.8**	**+0.2**
comp=Z,4.9nm,0.8s							
OJC	**Ojcow**	**37.28**	**319**	*e*P	**P**	**02 57 13.8**	**+0.2**
OJC				pmax	pmax		
comp=Z,5.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**38.81**	**93**	LR	LR	03 16 05.4	
comp=Z,49nm,20.9s,baz=275,slow=40							
VRAC	**Vranov**	**38.85**	**317**	P	**P**	**02 57 31.2**	**+4.3**
VRAC				pmax	pmax		
comp=Z,3.0nm,1.3s							
CONA	**Conrad Observa**	**38.86**	**314**	*e*P	**P**	**02 57 29.7**	**+2.7**
comp=Z,1.5nm,0.7s							
ARSA	**Arzberg**	**38.88**	**313**	*e*P	**P**	**02 57 30.0**	**+2.9**
comp=Z,2.3nm,0.6s							
KRUC	**Moravsky**	**38.89**	**316**	P	**P**	**02 57 30.6**	**+3.4**
KRUC				pmax	pmax		
comp=Z,5.0nm,1.8s							
DPC	**Dobruska-Polom**	**39.39**	**318**	*e*P	**P**	**02 57 32.5**	**+1.1**
DPC				*e*		02 57 35.2	
DPC	**Dobruska-Polom**	**39.39**	**318**	*e*P	**P**	**02 57 32.5**	**+1.1**
DPC				*e*pP	**pP**	**02 57 35.2**	**+0.3**
TREC	**Trest**	**39.53**	**316**	P	**P**	**02 57 32.1**	**-0.4**
TREC				pmax	pmax		
comp=Z,4.0nm,0.9s							
MOA	**Molln**	**39.86**	**314**	*e*P	**P**	**02 57 35.3**	**0.0**
comp=Z,2.5nm,0.7s							
LZH	**Lanzhou**	**40.18**	**65**	*e*P	**P**	**02 57 36.7**	**-1.6**
LZH				pP	pP	02 57 42.6	+0.8
LZH				sP	sP	02 57 45.5	+2.3
LZH				*e*PP	**PP**	**02 59 13.8**	**+3.2**
KBA	**Koelnbreinsper**	**40.26**	**312**	*e*P	**P**	**02 57 40.1**	**+1.3**
comp=Z,6.3nm,1.0s							
KBA	**Koelnbreinsper**	**40.26**	**312**	P	**P**	**02 57 42.8**	**+4.0**
KBA				pmax	pmax		
comp=Z,8.0nm,0.9s							
CD2	**Chengdu**	**40.36**	**73**	*e*P	**P**	**02 57 37.4**	**-2.3**
UTTA	**Uttaradit**	**40.49**	**94**	P	P	02 57 50.7	+10
comp=Z,28μm,0.8s							
GERES	**GERESS Array B**	**40.51**	**315**	P	**P**	**02 57 40.3**	**-0.4**
comp=Z,1.6nm,0.6s,baz=118,slow=7.

CD2					smax	smax		
	comp=N,1μm,0.5s							
CD2					smax	smax		
	comp=E,2μm,0.6s							
GYA	**Guiyang**	**3.12**	**116**	⇑ *i* Pn		**Pn**	**02 53 21.3**	**+1.6**
GYA				Pg		**Pg**	**02 53 29.1**	**-1.0**
GYA				Sn		**Sn**	**02 53 58.2**	**+1.1**
GYA				Sg		**Sg**	**02 54 09.4**	**-1.1**
GYA				smax	smax			
	comp=N,530nm,1.0s							
GYA				smax	smax			
	comp=E,380nm,0.9s							
GYA				LR	LR			
	comp=E,670nm,6.2s							
GYA				LR	LR			
	comp=Z,910nm,7.3s							
XAN	**Xi'an**	**7.71**	**36**	Pn		**Pn**	**02 54 22.4**	**-0.3**
XAN				Sn		**Sn**	**02 55 46.4**	**-3.8**
XAN				Sg		**Sg**	**02 56 35.7**	**-2.1**
XAN				smax	smax			
	comp=N,120nm,1.1s							
XAN				smax	smax			
	comp=E,200nm,1.1s							
LZH	**Lanzhou**	**8.22**	**2**	*e*P		**Pn**	**02 54 28.7**	**-1.1**
LZH				*e*PP		**PnPn**	**02 54 35.6**	**-2.0**
LZH				LR	LR			
	comp=N,200nm,10.0s							
LZH				LR	LR			
	comp=E,210nm,10.2s							
LZH				LR	LR			
	comp=Z,280nm,11.6s							
WHN	**Wuhan**	**9.83**	**72**	⇑ P		**Pn**	**02 54 55.6**	**+3.9**
WHN				sP			02 55 01.2	
WHN				S		**Sn**	**02 56 39.9**	**-2.3**
WHN				LR	LR			
	comp=E,320nm,8.0s							
WHN				LR	LR			
	comp=Z,570nm,14.1s							
CMAR	**Chiang Mai Arr**	**10.26**	**205**	Pn		**Pn**	**02 55 00.1**	**+2.4**
	0.1nm,0.3s,baz=15,slow=14,SNR=4.9							
CMAR				LR	LR		02 59 21.5	
	comp=Z,80nm,19.5s,baz=147,slow=41							
GTA	**Gaotai**	**11.94**	**346**	*e*P		Pn	02 55 12.4	-8.3
GTA				pP			02 55 16.5	
GTA				sP			02 55 19.7	
SONM	**Songino Array**	**20.07**	**6**	P		Pn	02 57 05.2	-0.6
	0.9nm,0.6s,baz=190,slow=10.0,SNR=6.5							
WMQ	**Urumqi**	**20.41**	**325**	*e*P		Pn	02 57 09.4	-0.2
KSRS	**Korea Array**	**22.61**	**59**	P		**P**	**02 57 32.3**	**+1.1**
	0.9nm,0.7s,baz=253,slow=11,SNR=2.9							
MKAR	**Makanchi Array**	**25.22**	**324**	P		**P**	**02 57 57.4**	**+1.1**
	3.2nm,0.8s,baz=131,slow=10,SNR=17							
ZALV	**Zalesovo Beam**	**29.47**	**337**	P		**P**	**02 58 34.5**	**+0.2**
	0.7nm,0.4s,baz=151,slow=9.5,SNR=3.3							
KURBB	**Kurchatov Arra**	**29.61**	**327**	P		**P**	**02 58 36.7**	**+1.2**
	0.6nm,0.6s,baz=130,slow=11,SNR=4.7							
GEYT	**Alibeck**	**39.10**	**297**	P		**P**	**02 59 58.9**	**+0.9**
	0.8nm,0.4s,baz=131,slow=7.9,SNR=3.1							
WRA	**Warramunga Arr**	**56.09**	**145**	P		**P**	**03 02 08.9**	**-1.0**
	0.5nm,0.4s,baz=335,slow=8.2,SNR=16							
BRTR	**Keskin Array B**	**57.95**	**301**	P		**P**	**03 02 24.4**	**+1.1**
	0.2nm,0.6s,baz=124,slow=6.9,SNR=2.8							
ASAR	**Alice Springs**	**59.01**	**147**	P		**P**	**03 02 29.8**	**-0.7**
	0.3nm,0.4s,baz=329,slow=6.6,SNR=7.5							
FINES	**FINESS Array B**	**60.00**	**327**	P		**P**	**03 02 37.9**	**+1.0**
	0.8nm,0.6s,baz=95,slow=6.2,SNR=5.8							
YKA	**Yellowknife Ar**	**84.94**	**17**	P		**P**	**03 05 05.4**	**+0.1**
	0.2nm,0.7s,baz=328,slow=4.8,SNR=3.5							

IDC 12 02:54:34.4±1.9, 26°70N×57°97E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/53, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=51.1km s-min=27.3km az=86.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**3.49**	**170**	Pn	Pn	02 55 30.3	+0.2
	9.7nm,0.3s,baz=353,slow=14,SNR=16						
WSAR				Sn	Sn	02 56 09.5	-2.6
	baz=254,slow=20						
AKTO	**Aktyubinsk**	**23.70**	**0**	P	P	02 59 47.8	0.0
	0.5nm,0.4s,baz=189,slow=13,SNR=3.1						
BRTR	**Keskin Array B**	**24.06**	**309**	P	P	02 59 52.1	+0.6
	1.0nm,0.8s,baz=127,slow=9.9,SNR=6.4						
FINES	**FINESS Array B**	**40.81**	**337**	P	P	03 02 17.0	-0.3
	0.8nm,0.7s,baz=131,slow=8.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**54.21**	**267**	P	P	03 04 01.8	-0.4
	0.4nm,0.6s,baz=52,slow=8.2,SNR=5.0						

IDC 12 03:06:38.3±4.0, 3°91S×148°57E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/29, mbtmp3.5/3, Error ellipse: s-maj=126.4km s-min=49.2km az=111.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.13**	**220**	P	P	03 11 25.0	0.0
	0.8nm,0.7s,baz=45,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**24.21**	**214**	P	P	03 11 57.1	+0.1
	0.4nm,0.8s,baz=47,slow=8.1,SNR=3.8						
FITZ	**Fitzroy Crossi**	**26.50**	**236**	P	P	03 12 17.6	-0.1
	2.4nm,0.9s,baz=51,slow=13,SNR=6.0						
TORD	**Torodi Ar. Bea**	**146.02**	**288**	PKPbc	PKPdf	03 26 20.4	-0.1
	0.1nm,0.3s,baz=81,slow=2.3,SNR=5.1						

*ARO **12** 03:07:15.6, 16°N±50°×4°2E±10°0, h15km±99km, Ml4.0*
*ISCJB **12** 03:07:29.1±0.6, 14°78N±0°06×42°2E±0°2, h9km, mb3.6/7, Error ellipse: s-maj=23.4km s-min=7.3km az=169.5*
*IDC **12** 03:07:31.9±3.0, 15°11N×42°10E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/51, mbtmp3.6/7, Error ellipse: s-maj=64.1km s-min=30.3km az=161.0*
ISC 12 03:07:30.2±0.8, 14°70N±0°07×42°3E±0°2, h9km, n15, σ1°92/16, mb3.9/7, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**2.59**	**181**	*e*P	**Pn**	**03 08 12.3**	**0.0**
OBO	**Obock**	**2.87**	**160**	*e*P	**Pn**	**03 08 17.5**	**+1.4**
TDD	**Tadjoura Ara**	**2.94**	**168**	*e*P	**Pn**	**03 08 18.0**	**+0.9**
LDLD	**Lac de Lave**	**3.10**	**176**	*e*P	**Pn**	**03 08 20.1**	**+0.8**
ATD	**Arta Tunnel**	**3.19**	**170**	*e*P	**Pn**	**03 08 22.1**	**+1.4**
ATD				*e*S	**Sg**	**03 09 16.2**	**+3.3**
ATD	**Arta Tunnel**	**3.19**	**170**	*e*P	**Pn**	**03 08 22.1**	**+1.4**
SGH	**Sud-Ghoubbet**	**3.26**	**174**	*e*P	**Pn**	**03 08 22.7**	**+1.2**
ATA	**Atar**	**3.34**	**164**	*e*P	**Pb**	**03 08 25.1**	**-4.7**
MLR	**Muntele Rosu**	**33.66**	**339**	P	**P**	**03 14 10.4**	**-1.0**
	1.8nm,1.1s,baz=174,slow=10,SNR=3.1						
AKASG	**Malin Array Be**	**37.44**	**346**	P	**P**	**03 14 43.0**	**-0.7**
	0.1nm,0.3s,baz=163,slow=7.3,SNR=6.1						
TORD	**Torodi Ar. Bea**	**39.39**	**273**	P	**P**	**03 15 02.0**	**+1.4**
	0.5nm,0.9s,baz=91,slow=7.6,SNR=4.5						
GERES	**GERESS Array B**	**41.36**	**331**	P	**P**	**03 15 15.7**	**-0.9**
	1.3nm,0.7s,baz=127,slow=8.7,SNR=6.5						
MKAR	**Makanchi Array**	**46.17**	**38**	P	**P**	**03 15 56.8**	**+1.5**
	1.4nm,0.9s,baz=231,slow=7.7,SNR=6.6						
FINES	**FINESS Array B**	**48.12**	**350**	P	**P**	**03 16 10.2**	**0.0**
	0.7nm,0.6s,baz=150,slow=6.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**51.33**	**31**	P	**P**	**03 16 35.5**	**+0.7**
	0.5nm,0.3s,baz=237,slow=5.0,SNR=3.4						

*ISK **12** 03:11:14.9, 38°75N×43°21E, h5km, ML2.1/3*
*ISCJB **12** 03:11:15.4±0.8, 38°71N±0°04×43°25E±0°07, h32km±6km, Error ellipse: s-maj=9.5km s-min=6.6km az=155.3*
*DDA **12** 03:11:15.4, 38°73N×43°15E, h7km±2km, ML2.5*
ISC 12 03:11:15.0±2.0, 38°71N±0°06×43°26E±0°06, h33km±15km, n9, σ0°38/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**138**	PG	**Pb**	**03 11 21.2**	**0.0**
VANB				SG	**Sb**	**03 11 25.5**	**0.0**
TVAN	**Van**	**0.21**	**147**	*i* P	**Pb**	**03 11 26.2**	**-0.4**
TVAN				*i* S	**Sb**	**03 11 26.2**	**-0.4**
VMUR	**Van-Muradiye**	**0.37**	**41**	*i* P	**Pb**	**03 11 24.1**	**+0.3**
VMUR				*i* S	**Sb**	**03 11 30.3**	**+0.4**
GEVA	**Gevas**	**0.43**	**202**	IAML_P			
	comp=Z,3μm,0.2s						
GEVA				*i* P	**Pb**	**03 11 24.8**	**+0.3**
CLDR	**Caldiran**	**0.67**	**50**	PG	**Pb**	**03 11 28.4**	**-0.1**
CLDR				SG	**Sb**	**03 11 38.3**	**+0.6**
CLDR	**Caldiran**	**0.67**	**50**	IAML_P			
	comp=Z,710nm,0.1s						
CLDR				*i* P	**Pb**	**03 11 28.1**	**-0.4**
TUTA	**Tutak**	**0.77**	**333**	*i* P	**Pb**	**03 11 30.3**	**+0.1**
AGRB	**Hanur-Agry**	**0.89**	**347**	PG	**Pb**	**03 11 31.6**	**-0.5**
AGRB				SG	**Sb**	**03 11 43.5**	**-0.3**
BLIS	**Bitlis-Merkez**	**0.94**	**252**	IAML_P			
	comp=Z,688nm,0.1s						
BLIS				*i* P	**Pb**	**03 11 33.0**	**+0.1**
BLIS				*i* S	**Sb**	**03 11 45.2**	**0.0**

IDC 12 03:19:50.1±1.8, 2°89N×124°99E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/44, mbtmp3.8/4, Error ellipse: s-maj=120.1km s-min=24.0km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.86**	**178**	P	P	03 24 35.0	+1.2
	1.4nm,0.4s,baz=2.5,slow=9.3,SNR=13						
WRA	**Warramunga Arr**	**24.47**	**158**	P	P	03 25 11.1	0.0
	1.5nm,0.3s,baz=335,slow=10,SNR=31						
ASAR	**Alice Springs**	**27.78**	**162**	P	P	03 25 40.3	-0.7
	0.3nm,0.4s,baz=335,slow=7.1,SNR=9.7						
MKAR	**Makanchi Array**	**57.27**	**326**	P	P	03 29 39.5	-0.1
	0.3nm,0.4s,baz=117,slow=7.4,SNR=6.6						

IDC 12 03:29:34.4±3.1, 5°83S×153°95E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/36, mbtmp3.8/4, MS3.5/3, Ms1 3.5/3, ms1mx2.9/30, Error ellipse: s-maj=105.0km s-min=32.4km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.94**	**121**	LR	LR	03 33 48.7	
	comp=Z,104nm,18.8s,baz=8.0,slow=37						
PMG	**Port Moresby**	**7.61**	**242**	LR	LR	03 34 51.2	
	comp=Z,127nm,18.4s,baz=38,slow=42						
WRA	**Warramunga Arr**	**23.67**	**232**	P	P	03 34 48.0	+0.1
	7.9nm,0.8s,baz=56,slow=9.6,SNR=21						
ASAR	**Alice Springs**	**26.21**	**225**	P	P	03 35 10.5	-0.6
	0.5nm,0.7s,baz=59,slow=9.2,SNR=8.6						
FITZ	**Fitzroy Crossi**	**30.20**	**244**	P	P	03 35 47.3	+0.4
	2.5nm,0.8s,baz=68,slow=8.1,SNR=5.3						
MKAR	**Makanchi Array**	**81.85**	**319**	P	P	03 41 55.6	0.0
	0.1nm,0.4s,baz=101,slow=7.5,SNR=2.6						
BBB	**Bella Bella**	**87.22**	**37**	LR	LR	04 14 23.8	
	comp=Z,263nm,21.9s,baz=254,slow=31						
TORD	**Torodi Ar. Bea**	**151.71**	**287**	PKPbc	PKPbc	03 49 32.1	0.0
	0.5nm,0.4s,baz=78,slow=2.4,SNR=9.5						

IDC 12 03:43:05.3±2.2, 30°45N×103°97E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/40, mbtmp3.4/3, Error ellipse: s-maj=508.0km s-min=26.9km az=53.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**23.40**	**320**	P	P	03 48 15.8	0.0
	0.3nm,0.6s,baz=119,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**58.00**	**146**	P	P	03 52 60.0	0.0
	0.6nm,0.7s,baz=336,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**60.99**	**148**	P	P	03 53 20.4	-0.2
	0.5nm,0.9s,baz=331,slow=7.4,SNR=5.9						

*ISCJB **12** 04:06:03.5±0.6, 17°4N±0°1×46°4W±0°1, h12km, mb3.9/11, MS3.5/11, Error ellipse: s-maj=19.6km s-min=12.0km az=36.8*
*IDC **12** 04:06:03.4±0.8, 17°37N×46°39W, h0km, mb3.7/10, mb1 4.1/11, mb1mx3.8/40, mbtmp3.8/11, ML3.6/1, MS3.5/13, Ms1 3.6/13, ms1mx3.3/38, Error ellipse: s-maj=25.3km s-min=18.3km az=135.0*
ISC 12 04:06:05.4±0.7, 17°3N±0°1×46°4W±0°1, h12km, n21, σ0°65/12, mb3.9/11, MS3.5/11, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**13.61**	**207**	Pn	**Pn**	**04 09 18.2**	**-0.1**
	0.3nm,0.3s,baz=33,slow=7.5,SNR=3.4						
MDP				LR	LR	04 13 30.8	
	comp=Z,144nm,19.6s,baz=28,slow=33						
SJG	**San Juan**	**18.83**	**275**	LR	LR	04 16 21.9	
	comp=Z,217nm,20.6s,baz=96,slow=33						
PTGA	**Pitinga**	**22.38**	**218**	P	**P**	**04 11 04.4**	**+0.7**
	1.2nm,0.5s,baz=360,slow=8.9,SNR=3.2						
PTGA				LR	LR	04 18 53.6	
	comp=Z,198nm,19.1s,baz=36,slow=34						
SDV	**Santo Domingo**	**25.02**	**253**	LR	LR	04 20 32.2	
	comp=Z,66nm,21.2s,baz=70,slow=35						
ROSC	**El Rosal**	**30.02**	**249**	LR	LR	04 25 32.8	
	comp=Z,42nm,20.1s,baz=54,slow=39						
BDFB	**Brasilia**	**32.80**	**183**	LR	LR	04 25 24.5	
	comp=Z,86nm,18.6s,baz=118,slow=35						
LPAZ	**La Paz**	**39.68**	**214**	P	**P**	**04 13 38.2**	**-0.1**
	3.3nm,0.8s,baz=27,slow=4.9,SNR=11						
LPAZ				LR	LR	04 29 53.0	
	comp=Z,44nm,19.4s,baz=14,slow=36						
H10S3	**ASCENSION HYDR**	**40.82**	**127**	T	T	04 56 58.6	
	baz=310,slow=75,SNR=57						
H10S1	**ASCENSION HYDR**	**40.83**	**127**	T	T	04 56 58.9	
	baz=310,slow=75,SNR=68						
H10S2	**ASCENSION HYDR**	**40.84**	**127**	T	T	04 57 10.3	
	baz=310,slow=75,SNR=48						
DBIC	**Dimbokro**	**41.91**	**99**	LR	LR	04 28 45.0	
	comp=Z,143nm,19.2s,baz=259,slow=32						
ESDC	**Sonseca Array**	**42.92**	**50**	LR	LR	04 29 46.2	
	comp=Z,69nm,18.5s,baz=230,slow=33						
TORD	**Torodi Ar. Bea**	**46.51**	**88**	P	**P**	**04 14 32.5**	**-0.5**
	1.8nm,1.2s,baz=231,slow=5.3,SNR=3.8						
TORD				LR	LR	04 32 16.2	
	comp=Z,184nm,18.8s,baz=305,slow=34						
TXAR	**Lajitas Array**	**53.46**	**294**	P	**P**	**04 15 26.0**	**+0.2**
	0.7nm,0.9s,baz=79,slow=7.8,SNR=4.4						
TXAR				LR	LR	04 39 39.3	
	comp=Z,37nm,18.6s,baz=0.0,slow=38						
CLL	**Collm**	**57.61**	**40**	*i* PKP	**P**	**04 15 56.5**	**+1.3**
	comp=Z,9.0nm,1.3s						
PDAR	**Pinedale Array**	**58.80**	**310**	P	**P**	**04 16 03.8**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=88,slow=10,SNR=6.9						
PDAR				LR	LR	04 39 58.5	
	comp=Z,47nm,20.1s,baz=86,slow=35						
NOA	**NORSAR Array B**	**59.49**	**28**	P	**P**	**04 16 08.7**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=250,slow=6.9,SNR=2.2						
NOA				LR	LR	04 37 42.7	
	comp=Z,24nm,18.1s,baz=135,slow=32						
NEW	**Newport**	**64.46**	**316**	P	**P**	**04 16 41.9**	**0.0**
	comp=Z,2.8nm,1.0s,baz=101,slow=6.1,SNR=4.9						
YKA	**Yellowknife Ar**	**64.72**	**332**	P	**P**	**04 16 42.4**	**-0.8**
	comp=Z,1.1nm,1.0s,baz=102,slow=7.7,SNR=9.5						
AKASG	**Malin Array Be**	**67.71**	**42**	P	**P**	**04 17 02.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=275,slow=5.9,SNR=4.2						
BRTR	**Keskin Array B**	**71.59**	**53**	P	**P**	**04 17 26.6**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=268,slow=3.7,SNR=5.6						

*NEIC **12** 04:11:33.1±0.0, 17°04N×98°95W, h16km, MD4.1(MEX), After MEX.*
MEX 12 04:11:33.3±0.6, 17°05N×98°94W, h16km±6km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**0.62**	**35**	*i* P	Pg	04 11 43.5	-2.2
TLIG				*e*S	Sg	04 11 51.1	-2.9
TLIG	**Tlapa**	**0.62**	**35**	*i* P	Pg	04 11 43.5	-2.2
TLIG				*i* S	Sg	04 11 50.9	-3.1
PNIG	**Pinotepa**	**1.02**	**130**	*e*P	Pb	04 11 49.0	-3.5
PNIG				*e*S	Sb	04 12 00.2	-5.5
PNIG	**Pinotepa**	**1.02**	**130**	*e*P	Pb	04 11 49.0	-3.6
PNIG				*i* S	Sb	04 12 01.2	-4.5
MEIG	**Mezcala**	**1.09**	**323**	*e*P	Pb	04 11 50.3	-3.5
MEIG				*e*S	Sb	04 12 03.5	-4.3
CAIG	**El Cayaco**	**1.27**	**270**	*e*P	Pn	04 11 52.0	-4.3
CAIG				*e*S	Sb	04 12 04.4	-8.6
CAIG	**El Cayaco**	**1.27**	**270**	*e*P	Pn	04 11 52.0	-4.3
CAIG				*i* S	Sb	04 12 08.0	-5.0
PLIG	**Platanillo**	**1.44**	**338**	*e*P	Pn	04 11 55.3	-3.6
PLIG				*e*S	Sn	04 12 12.0	-5.5
PLIG	**Platanillo**	**1.44**	**338**	*e*P	Pn	04 11 55.3	-3.6
PLIG				*e*S	Sn	04 12 12.0	-5.5
ARIG	**Puente Sto Nin**	**1.82**	**313**	*e*P	Pn	04 12 00.8	-3.2
ARIG				*e*S	Sn	04 12 21.6	-5.0
ARIG	**Puente Sto Nin**	**1.82**	**313**	*e*P	Pn	04 12 00.8	-3.2
ARIG				*e*S	Sn	04 12 21.6	-5.0
ZIIG	**Zihuatanejo**	**2.47**	**283**	*e*P	Pn	04 12 09.3	-3.6
ZIIG				*e*S	Sn	04 12 37.5	-5.4
ZIIG	**Zihuatanejo**	**2.47**	**283**	*e*P	Pn	04 12 09.3	-3.6
ZIIG				*i* S	Sn	04 12 38.1	-4.8

*NEIC **12** 04:15:10.7±0.0, 69°74N×146°40W, h20km, mb4.1/1, ML4.2(AEIC), After AEIC.*
*ISCJB **12** 04:15:12.5±0.3, 69°69N±0°03×146°77W±0°09, h10km, mb3.9/19, MS3.4/7, Error ellipse: s-maj=4.7km s-min=3.8km az=4.7*
*IDC **12** 04:15:13.8±0.6, 69°86N×146°94W, h0km, mb3.9/19, mb1 4.1/23, mb1mx3.9/64, mbtmp3.9/23, ML4.0/4, MS3.4/11, Ms1 3.4/11, ms1mx3.0/40, Error ellipse: s-maj=19.0km s-min=11.1km az=45.0*
ISC 12 04:15:14.0±0.5, 69°78N±0°04×146°90W±0°04, h10km, n52, σ2°06/52, mb3.9/19, MS3.4/7, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS01	**TAPS Pump Stn**	**0.76**	**310**	P	**Pn**	**04 15 29.4**	**-1.4**
PS01				S	**Sn**	**04 15 41.1**	**-1.1**
TOLK	**Toolik Lake Re**	**1.49**	**221**	P	**Pn**	**04 15 39.3**	**-1.5**
TOLK				S	**Sn**	**04 15 59.4**	**-0.9**
PS04	**TAPS Pump Stn4**	**1.62**	**214**	P	**Pn**	**04 15 40.9**	**-1.8**
PS04				S	**Sn**	**04 16 01.2**	**-2.4**
COLD	**Coldfoot**	**2.84**	**207**	P	**Pn**	**04 15 58.1**	**-1.2**
COLD				S	**Sn**	**04 16 30.9**	**-2.6**
FYU	**Fort Yukon**	**3.29**	**168**	P	**Pn**	**04 16 04.9**	**-0.6**
PS05	**TAPS Pump Stn5**	**3.29**	**207**	P	**Pn**	**04 16 03.8**	**-1.7**
PS06	**TAPS Pump Stn6**	**4.09**	**197**	P	**Pn**	**04 16 14.8**	**-1.6**
PRP	**Porcupine Dome**	**4.31**	**172**	P	**Pn**	**04 16 19.2**	**-0.5**
MDM	**Murphy Dome**	**4.87**	**187**	P	**Pn**	**04 16 26.0**	**-1.2**
COLA	**College**	**4.94**	**185**	P	**Pn**	**04 16 27.5**	**-0.6**
MLY	**Manley**	**4.99**	**199**	P	**Pn**	**04 16 27.1**	**-1.9**
INK	**Inuvik**	**5.02**	**101**	Pn	**Pn**	**04 16 30.1**	**+0.9**
	3.0nm,0.3s,baz=267,slow=5.2,SNR=137						
INK				Sn	**Sn**	**04 17 25.5**	**-1.8**
	24nm,0.3s,baz=54,slow=27,SNR=9.1						
INK				Lg	Lg	04 17 49.2	
	7.4nm,0.3s,baz=266,slow=5.9,SNR=5.1						
ILAR	**Eielson Array**	**5.03**	**180**	Pn	**Pn**	**04 16 29.1**	**-0.3**
	3.6nm,0.3s,baz=356,slow=15,SNR=105						
ILAR				Sn	**Sn**	**04 17 26.1**	**-1.5**
	8.7nm,0.3s,baz=358,slow=28,SNR=6.2						
ILAR				Lg	Lg	04 17 46.2	
	13nm,0.3s,baz=347,slow=20,SNR=5.6						
CCB	**Clear Creek Bu**	**5.17**	**184**	P	**Pn**	**04 16 30.1**	**-1.1**
NEA	**Nenana**	**5.29**	**190**	P	**Pn**	**04 16 31.3**	**-1.8**
WRH	**Wood River Hil**	**5.35**	**186**	P	**Pn**	**04 16 32.7**	**-1.1**
HDA	**Harding Lake**	**5.39**	**180**	P	**Pn**	**04 16 33.7**	**-0.7**
BPAW	**Bear Paw Mtn.**	**5.92**	**198**	P	**Pn**	**04 16 40.1**	**-1.6**
SCRK	**Sand Creek**	**5.94**	**167**	P	**Pn**	**04 16 41.8**	**-0.2**
RDOG	**Red Dog Mine**	**6.03**	**261**	P	**Pn**	**04 16 41.3**	**-1.8**
MCK	**McKinley**	**6.13**	**189**	P	**Pn**	**04 16 43.8**	**-0.7**
DAWY	**Dawson**	**6.45**	**149**	*e*Pn	**Pn**	**04 16 48.0**	**-0.9**
	19nm,0.6s						
KDAK	**Kodiak Island**	**12.29**	**194**	LR	LR	04 23 12.3	
	comp=Z,241nm,20.2s,baz=21,slow=39						
DLBC	**Dease Lake**	**13.48**	**139**	Pn	**Pn**	**04 18 25.5**	**+0.4**
	0.2nm,0.3s,baz=342,slow=10,SNR=4.1						
DLBC				Lg	Lg	04 22 14.0	
	0.1nm,0.3s,baz=232,slow=18,SNR=4.5						
DLBC				LR	LR	04 24 14.0	
	comp=Z,147nm,20.6s,baz=325,slow=40						
YKA	**Yellowknife Ar**	**14.79**	**104**	Pn	**Pn**	**04 18 38.9**	**-3.9**
	1.4nm,0.3s,baz=309,slow=13,SNR=44						
YKA				Sn	Sn	04 21 12.0	-14
	1.8nm,0.3s,baz=309,slow=22,SNR=8.2						
YKA				Lg	Lg	04 22 55.0	
	baz=323,slow=26,SNR=2.0						
RES	**Resolute Bay**	**16.10**	**49**	Pn	**Pn**	**04 18 56.8**	**-3.2**
	1.5nm,0.3s,baz=269,slow=8.3,SNR=18						
RES				Sn	**Sn**	**04 21 48.5**	**-10**
	0.9nm,0.3s,baz=252,slow=4.8,SNR=4.3						
RES				LR	LR	04 27 24.7	
	comp=Z,53nm,19.8s,baz=96,slow=46						
BILL	**Bilibino**	**16.62**	**286**	*e*Pn	**Pn**	**04 19 04.1**	**-2.6**
	8.1nm,0.6s						
BBB	**Bella Bella**	**19.70**	**144**	LR	LR	04 28 33.5	
	comp=Z,59nm,18.7s,baz=303,slow=40						
SEY	**Seymchan**	**24.28**	**284**	P	**P**	**04 20 31.6**	**+0.7**
	2.1nm,0.6s,baz=66,slow=12,SNR=4.2						
TIXI	**Tiksi**	**25.79**	**314**	P	**P**	**04 20 45.3**	**+0.8**
	0.9nm,0.4s,baz=67,slow=7.4,SNR=5.5						
NEW	**Newport**	**25.94**	**131**	LR	LR	04 32 29.4	
	comp=Z,53nm,21.1s,baz=344,slow=40						
MA2	**Magadan**	**27.22**	**280**	LR	LR	04 32 28.8	
	comp=Z,109nm,18.1s,baz=46,slow=38						
FRB	**Frobisher Bay**	**29.43**	**62**	P	**P**	**04 21 17.3**	**+0.3**
	2.3nm,0.8s,baz=303,slow=8.2,SNR=5.8						
PETK	**Petropavlovsk-**	**29.88**	**265**	LR	LR	04 34 01.6	
	comp=Z,56nm,18.3s,baz=46,slow=38						
ULM	**Lac du Bonnet**	**30.76**	**103**	P	**P**	**04 21 30.6**	**+1.5**
	1.4nm,0.6s,baz=315,slow=10.0,SNR=2.4						
PDAR	**Pinedale Array**	**33.08**	**125**	P	**P**	**04 21 51.4**	**+1.6**
	1.0nm,0.6s,baz=1.0,slow=6.0,SNR=11						
NVAR	**

SNR=38
SHME S Sg 04 23 58.2 +5.3
SHME Shamm 1.56 251 *e*Pn **Pg** 04 23 32.6 0.0
GENO Geno 1.67 301 Pn **Pg** 04 23 33.5 -1.2
GENO Geno 1.67 301 *e*Pn **Pg** 04 23 33.5 -1.2
GENO IAMB IAmb 04 24 01.0
comp=Z,0.0nm,0.6s
MSFE Esma-Masafi 1.89 231 *e*P **Pn** 04 23 35.8 +0.7
SNR=9.0
MSFE Esma-Masafi 1.89 231 *e*Pn **Pb** 04 23 37.3 0.0
UMQ Umm Al-Quwin 2.17 242 *e*P **Pb** 04 23 42.2 +0.1
SNR=12
UMQ Umm Al-Quwin 2.17 242 P **Pg** 04 23 43.5 -0.7
SNR=12
UMQ Umm Al-Quwin 2.17 242 *e*Pn **Pg** 04 23 44.0 -0.3
HATD Hatta, Dubai 2.28 221 *e*P **Pn** 04 23 40.6 +0.2
SNR=58
HATD Hatta, Dubai 2.28 221 *e*Pn **Pn** 04 23 40.7 +0.2
ASHO Ashiyiah 2.43 220 *e*P **Pn** 04 23 43.7 +1.2
SNR=18
ASHO Ashiyiah 2.43 220 P **Pn** 04 23 43.7 +1.2
SNR=17
ASHO Ashiyiah 2.43 220 *e*Pn **Pn** 04 23 43.2 +0.7
NAZ Nazwa, Dubai 2.47 231 *e*P **Pb** 04 23 46.4 -0.8
SNR=104
NAZ Nazwa, Dubai 2.47 231 *e*Pn **Pb** 04 23 48.3 +1.1
CHBR Chabahar 2.61 111 Pn **Pn** 04 23 48.0 +3.1
CHBR Chabahar 2.61 111 *e*Pn **Pn** 04 23 48.9 +4.0
SOHO SOHO 2.67 205 P **Pn** 04 23 45.5 -0.2
SNR=30
FAQ Al Faqa, Dubai 2.68 228 *e*P **Pb** 04 23 49.2 -1.5
SNR=113
FAQ Al Faqa, Dubai 2.68 228 P **Pb** 04 23 49.4 -1.3
FAQ Al Faqa, Dubai 2.68 228 *e*Pn **Pn** 04 23 48.2 +2.3
ASUD Al Ashush, Dub 2.94 230 *i* P **Pb** 04 23 53.1 -2.0
SNR=27
ASUD Al Ashush, Dub 2.94 230 P **Pb** 04 23 53.3 -1.8
SNR=27
ASUD Al Ashush, Dub 2.94 230 *e*Pn **Pb** 04 23 53.6 -1.5
HOQ Hoqain 2.99 188 P **Pn** 04 23 50.8 +0.6
SNR=9.4
HOQ S Sn 04 24 25.7 -0.5
HOQ Hoqain 2.99 188 *e*Pn **Pn** 04 23 50.8 +0.6
BIDO Bidbid 3.04 174 P **Pn** 04 23 51.3 +0.5
BIDO Bidbid 3.04 174 *e*Pn **Pn** 04 23 51.7 +0.8
ALNE Al Ain 3.10 217 *i* P **Pn** 04 23 54.7 +3.0
SNR=18
ALNE Al Ain 3.10 217 *e*Pn **Pb** 04 23 55.0 -2.9
NGRK Negar Kerman 3.21 343 Pn **Pn** 04 23 54.6 +1.0
NGRK Negar Kerman 3.21 343 *e*Pn **Pn** 04 23 54.8 +1.2
NGRK IAMB IAmb 04 24 44.1
comp=Z,0.0nm,0.7s
AJN Ajban 3.21 232 *i* P **Pn** 04 23 56.1 +2.8
SNR=15
CHMN Cheshme madani 3.30 356 Pn **Pn** 04 23 56.4 +1.7
CHMN Cheshme madani 3.30 356 *e*Pn **Pn** 04 23 56.8 +2.1
CHMN IAMB IAmb 04 24 05.0
comp=Z,0.0nm,0.7s
WSAR Wadi Sarin 3.39 167 Pn **Pn** 04 23 57.4 +1.6
comp=Z,27nm,0.3s,baz=357,slow=11,SNR=132
WSAR Sn **Sn** 04 24 35.3 -0.7
comp=Z,69nm,0.3s,baz=274,slow=19,SNR=18
ARQ Araqi 3.41 200 P **Pn** 04 23 59.3 +3.4
SNR=12
ARQ S **Sb** 04 24 42.8 -1.9
TVBK TV Kerman 3.53 345 Pn **Pn** 04 24 00.2 +2.2
TVBK TV Kerman 3.53 345 *e*Pn **Pn** 04 24 00.0 +2.0
TVBK IAMB IAmb 04 25 21.1
comp=Z,0.0nm,0.9s
SZD1 Zahaedan-tmp 3.99 42 *e*Pn **Pn** 04 24 08.6 +4.5
ZHSF Zahedan 4.03 40 Pn **Pn** 04 24 08.0 +3.4
ZHSF Zahedan 4.03 40 *e*Pn **Pn** 04 24 08.2 +3.6
JHRM Jahrom 4.21 298 *e*Pn **Pn** 04 24 07.4 +0.3
GHIR Ghir-Karzin 4.60 293 Pn **Pn** 04 24 13.0 +0.6
GHIR Ghir-Karzin 4.60 293 *e*Pn **Pn** 04 24 13.3 +0.9
JLN Jalan Bani Buh 4.63 161 P **Pn** 04 24 13.4 +0.7
SNR=40
JLN S **Sn** 04 25 04.3 -2.3
MZR Muzera 5.28 229 *e*Pn **Pn** 04 24 25.2 +3.6
IPAR Pars 5.31 309 *e*Pn **Pn** 04 24 23.7 +1.4
MHTO MHTO 5.55 178 P **Pn** 04 24 27.3 +2.0
IMEH Mehriz 5.56 331 *e*Pn **Pn** 04 24 25.9 +0.2
ITEG Tejag 6.37 7 *e*Pn **Pn** 04 24 37.3 +0.4
ICHK Chekchek 6.39 333 *e*Pn **Pn** 04 24 40.1 +3.0
IDAH Dahanechah 6.42 16 *e*Pn **Pn** 04 24 41.0 +3.4
ISAD Sadrabad 6.43 327 *e*Pn **Pn** 04 24 39.1 +1.4
TPRV Parvadeh(Tabas 6.52 352 *e*Pn **Pn** 04 24 40.3 +1.5
IRAM Ramesheh 7.05 319 *e*Pn **Pn** 04 24 47.2 +1.0
TNSJ Nastanj 7.45 352 *e*Pn **Pn** 04 24 53.8 +2.2
ANAR Anarak 7.49 333 *e*Pn **Pn** 04 24 52.2 +0.1
IGAR Gharneh 7.68 321 *e*Pn **Pn** 04 24 55.3 +0.5
IZEF Zefreh 7.90 324 *e*Pn **Pn** 04 24 58.2 +0.3
DMTO DMTO 9.18 197 P **Pn** 04 25 15.2 0.0
SNR=12
WHFO Wadi Hawf 9.37 204 P **Pn** 04 25 18.2 +0.4
SNR=6.4
IANJ Anjilo 9.48 340 *e*Pn **Pn** 04 25 23.4 +3.9
RBK Rabkut 9.60 201 P **Pn** 04 25 23.3 +2.3
SBZV Sabzevar 9.80 359 *e*Pn **Pn** 04 25 26.8 +2.9
ABTO Aybut 10.06 205 P **Pn** 04 25 26.5 -0.9
ASAO Ashtian 10.40 322 Pn **Pn** 04 25 33.0 +0.9
ASAO Ashtian 10.40 322 *e*Pn **Pn** 04 25 33.3 +1.2
ISFR Sfrayin 10.47 1 *e*Pn **Pn** 04 25 35.5 +2.4
IEMG Emamgholi 10.85 4 *e*Pn **Pn** 04 25 40.1 +1.7
IDOB Doab 11.00 313 *e*Pn **Pn** 04 25 39.0 -1.3
GEYT Alibeck 11.34 1 Pn **Pn** 04 25 46.7 +1.8
comp=Z,0.5nm,0.3s,baz=153,slow=11,SNR=2.2
GEYT LR LR 04 30 48.1
comp=Z,413nm,18.4s,baz=180,slow=41
GYA0B ALIBECK ARRAY 11.34 1 *e*Pn **Pn** 04 25 43.5 -1.4
IVIS Veis 12.32 313 *e*Pn **Pn** 04 25 55.7 -2.6
ILIN Lien 12.49 314 *e*Pn **Pn** 04 25 58.7 -2.0
IDHR Dehrash 12.73 312 *e*Pn **Pn** 04 26 00.3 -3.7
NIL Nilore 15.13 58 *e*Pn **Pn** 04 26 37.8 +1.2
comp=Z,62nm,1.2s
NIL Nilore 15.13 58 *e*P **Pn** 04 26 37.8 +1.2
NIL pmax pmax
comp=Z,62nm,1.2s
NIL Nilore 15.13 58 *e*Pn **Pn** 04 26 37.8 +1.2
CHGR Chuyangaron 15.39 36 *e*Pn **Pn** 04 26 38.7 -1.4
comp=Z,14nm,0.9s
GAR Garm 16.26 37 *e*Pn **Pn** 04 26 50.3 -1.0
comp=Z,24nm,1.2s
GAR Garm 16.26 37 *e*P **Pn** 04 26 50.3 -1.0
GAR pmax pmax
comp=Z,24nm,1.2s
AKT Akhty 17.04 333⇑ *e*P **Pn** 04 26 57.8 -3.4
DAMY Dhamar 17.29 229 *e*Pn **P** 04 27 10.5 +4.4
comp=Z,78nm,1.4s
BTK Batken 17.29 36 *e*Pn **Pn** 04 27 02.2 -2.1
comp=Z,23nm,1.1s
BTK Batken 17.29 36 *e*P **Pn** 04 27 02.2 -2.1
BTK pmax pmax
comp=Z,23nm,1.1s
GNI Garni 17.36 325 *e*Pn **Pn** 04 27 04.1 -1.2
comp=Z,19nm,0.9s
GNI Garni 17.36 325⇓ *e*P **Pn** 04 27 01.5 -3.8
GNI Garni 17.36 325 P **Pn** 04 27 05.3 +0.1
comp=Z,1.2nm,0.3s,baz=252,slow=11,SNR=4.2
GNI LR LR 04 35 01.3
comp=Z,176nm,21.6s,baz=116,slow=42
MAK Makhachkala 18.39 335⇑ *e*P **Pn** 04 27 14.8 -2.9
ASF Jabal al Asfar 19.04 292 P **Pn** 04 27 25.5 -0.3
comp=Z,0.3nm,0.3s,baz=77,slow=16,SNR=5.7
ASF S Sn 04 30 46.4 -13
comp=Z,0.3nm,0.3s,baz=92,slow=13,SNR=4.0
ARSB Arslanbob 19.34 37 *e*P **P** 04 27 26.4 -2.1
comp=Z,23nm,1.3s
KK31 Karatay Array 19.50 29 *e*P **P** 04 27 29.9 0.0
comp=Z,9.4nm,0.9s
KK31 Karatay Array 19.50 29 *e*P **P** 04 27 29.9 0.0
KK31 pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 19.50 29 *e*P **P** 04 27 29.2 -0.7
comp=Z,9.4nm,0.9s
KKAR Karatay Array 19.50 29 *e*P **P** 04 27 29.2 -0.7
KKAR pmax pmax
comp=Z,9.0nm,0.9s
ZEI Tsey 19.77 329 *e*P **Pn** 04 27 35.0 +0.4
ZEI pmax pmax
comp=Z,11nm,1.3s
KSH Kashi 19.94 45 P P 04 27 28.7 -6.2
KSH pP Pn 04 27 33.3 -3.3
KSH PP **PnPn** 04 27 47.6 -3.1
KSH S S 04 30 56.7 -23
KSH SS **Sn** 04 31 21.8 +0.9
EIL Elat 20.37 284 P Pn 04 27 40.5 -1.2
comp=Z,12nm,0.7s,baz=8.5,slow=4.3,SNR=9.6
EIL S Sn 04 31 31.5 +0.3
comp=Z,3.0nm,0.5s,baz=0.0,slow=20,SNR=1.7
EIL LR LR 04 37 10.3
comp=Z,136nm,18.4s,baz=62,slow=42
MMAI Mount Meron Ar 20.45 294 P Pn 04 27 41.4 -1.1
comp=Z,7.8nm,0.7s,baz=105,slow=13,SNR=11
MMAI LR LR 04 37 40.0
comp=Z,95nm,18.3s,baz=175,slow=43
NCK Nalchik 20.46 329⇑ *e*P **P** 04 27 36.8 -3.6
NCK pmax pmax
comp=Z,9.0nm,0.4s
ATD Arta Tunnel 20.53 226 *e*P Pn 04 27 46.0 +2.4
comp=Z,18nm,0.9s
ATD Arta Tunnel 20.53 226 P Pn 04 27 43.6 0.0
comp=Z,10.0nm,0.6s,baz=6.2,slow=6.9,SNR=8.6
ATD LR LR 04 36 08.4
comp=Z,105nm,19.5s,baz=37,slow=38
NEY Neytrino 20.68 327⇑ *e*P **P** 04 27 38.0 -5.0
NEY pmax pmax
comp=Z,2.0nm,1.2s
KBZ Khabaz 20.96 329 P Pn 04 27 49.1 +0.8
comp=Z,0.8nm,0.5s,baz=124,slow=7.3,SNR=3.1
AAK Ala-Archa 21.07 36 *e*P **P** 04 27 47.2 0.0
comp=Z,9.7nm,0.8s
AAK Ala-Archa 21.07 36⇓ *e*P **P** 04 27 46.3 -0.9
AAK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 21.07 36 P **P** 04 27 45.9 -1.2
comp=Z,3.8nm,0.7s,baz=201,slow=9.2,SNR=6.7
AAK LR LR 04 36 35.6
comp=Z,108nm,18.1s,baz=221,slow=39
NRN Naryn 21.11 41 *e*P **P** 04 27 45.8 -2.0
comp=Z,10nm,0.8s
NRN Naryn 21.11 41 *e*P **P** 04 27 45.8 -2.0
NRN pmax pmax
comp=Z,10.0nm,0.8s
KVAR Kislovodsk Arr 21.23 329 P **P** 04 27 51.3 +2.5
comp=Z,1.4nm,0.4s,baz=255,slow=20,SNR=3.6
KIV Kislovodsk 21.23 329 *e*P **P** 04 27 47.3 -1.6
comp=Z,10.0nm,0.8s
KIV Kislovodsk 21.23 329 *e*P **P** 04 27 46.4 -2.4
KIV pmax pmax
comp=Z,28nm,0.9s
HYB Hyderabad 21.27 111 *i* P **P** 04 27 50.5 +1.1
BOOM Boomskoye usch 21.75 38 *e*P **P** 04 27 53.6 -1.0
comp=Z,15nm,0.8s
BOOM Boomskoye usch 21.75 38 *e*P **P** 04 27 53.6 -1.0
BOOM pmax pmax
comp=Z,15nm,0.8s
KDJ Kajisay 22.23 41 *e*P **P** 04 27 58.5 -1.2
comp=Z,36nm,1.1s
KDJ Kajisay 22.23 41 *e*P **P** 04 27 58.5 -1.2
KDJ pmax pmax
comp=Z,36nm,1.1s
CSS Mathiatis 22.58 298 *e*P **P** 04 28 03.2 -0.1
comp=Z,68nm,1.6s
ABKAR Akbulak array 22.72 4 *e*P **P** 04 28 02.9 -1.8
AKTO Aktyubinsk 23.84 0 P **P** 04 28 14.8 -1.1
comp=Z,4.7nm,0.6s,baz=167,slow=11,SNR=17
AKTO LR LR 04 38 06.8
comp=Z,228nm,21.6s,baz=171,slow=38
BR131 Keskin Array S 24.02 309 *e*P **P** 04 28 18.0 +0.1
comp=Z,14nm,1.0s
BRTR Keskin Array B 24.02 309 *e*P **P** 04 28 17.3 -0.6
BRTR Keskin Array B 24.02 309⇑ *e*P **P** 04 28 18.0 0.0
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 24.02 309 P **P** 04 28 17.9 0.0
comp=Z,7.6nm,0.8s,baz=126,slow=9.3,SNR=44
BRTR LR LR 04 39 31.1
comp=Z,137nm,18.2s,baz=92,slow=41
PDGK Podgornoye 24.31 41 P **P** 04 28 23.5 +2.9
PDGK pmax pmax
comp=Z,16nm,1.2s
ANN Anapa 24.48 323 *e*P **P** 04 28 21.5 -0.3
ANN pmax pmax
comp=Z,38nm,1.8s
ILGA Ilgaz 24.57 312 *e*P **P** 04 28 23.3 +0.2
comp=Z,7.7nm,0.9s
ANTO Ankara 24.67 309 *e*P **P** 04 28 23.5 -0.3
comp=Z,12nm,0.8s
ANTO Ankara 24.67 309 *e*P **P** 04 28 23.5 -0.3
ANTO pmax pmax
comp=Z,12nm,0.8s
SIM Simferopol' 26.41 320 *e*P **P** 04 28 40.3 +0.9
SIM pmax pmax
comp=Z,35nm,1.7s
MAKZ Makanchi 27.82 37 *e*P **P** 04 28 51.3 -0.9
comp=Z,6.1nm,1.1s
MAKZ Makanchi 27.82 37 *e*P **P** 04 28 51.3 -0.9
MAKZ pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 27.98 37 *e*P **P** 04 28 55.4 +1.8
comp=Z,2.5nm,0.9s
MKAR Makanchi Array 27.98 37 *e*P **P** 04 28 54.9 +1.3
MKAR Makanchi Array 27.98 37 P **P** 04 28 52.2 -1.3
comp=Z,0.2nm,0.4s,baz=220,slow=7.3,SNR=2.9
BVAR Borovoye Array 28.07 16 P **P** 04 28 52.7 -1.5
comp=Z,0.9nm,0.5s,baz=193,slow=6.1,SNR=7.2
BVAR LR LR 04 40 46.2
comp=Z,166nm,21.0s,baz=343,slow=38
BRVK Borovoye 28.07 16 *e*P **P** 04 28 54.5 +0.3
comp=Z,26nm,1.9s
BRVK Borovoye 28.07 16⇓ *e*P **P** 04 28 56.8 +2.6
BRVK pmax pmax
comp=Z,8.0nm,1.2s
KURBB Kurchatov Arra 28.80 28 P **P** 04 28 59.4 -1.3
comp=Z,0.4nm,0.4s,baz=227,slow=8.1,SNR=3.5
KURK Kurchatov 28.90 28 P **P** 04 28 59.4 -2.2
APE Apeiranthos 29.22 299⇑ *i*P **P** 04 29 01.9 -2.8
APE Apeiranthos 29.22 299 P **P** 04 29 01.9 -2.8
IDI Anoyia 29.43 295 P **P** 04 29 06.8 +0.2
comp=Z,14nm,0.9s,baz=153,slow=6.8,SNR=4.0
WMQ Urumqi 29.68 47 *e*P **P** 04 29 11.1 +2.4
CFR Carcaliu 30.13 316⇑ *i*P **P** 04 29 13.6 +1.1
CFR Carcaliu 30.13 316 P **P** 04 29 13.6 +1.1
GIUM Giurgiulesti 30.23 316⇑ *i*P **P** 04 29 15.3 +1.9
MILM Milestii Mici 30.58 319⇑ *i*P **P** 04 29 17.0 +0.5
BRDH Bariadhala 30.97 90 LR LR 04 42 51.7
comp=Z,189nm,21.5s,baz=5.5,slow=39
VRI Vrincioaia 31.32 316⇑ *i*P **P** 04 29 24.9 +1.7
VRI Vrincioaia 31.32 316⇑ P **P** 04 29 24.9 +1.7
PLOR Plostina 31.36 316⇑ *i*P **P** 04 29 24.9 +1.3
PLOR Plostina 31.36 316⇑ P **P** 04 29 24.9 +1.3
MLR Muntele Rosu 31.65 315 *e*P **P** 04 29 25.8 -0.3
comp=Z,5.0nm,1.0s
MLR Muntele Rosu 31.65 315⇓ *i*P **P** 04 29 26.9 +0.8
MLR Muntele Rosu 31.65 315 *e*P **P** 04 29 25.8 -0.3
MLR pmax pmax
comp=Z,5.0nm,1.0s
TESR Tescani 31.67 317⇑ *i*P **P** 04 29 26.5 +0.3
VOIR 32.19 314⇑ *i*P **P** 04 29 31.6 +0.7
VOIR 32.19 314 P **P** 04 29 31.6 +0.7
BIZ Bicaz 32.20 318⇑ *i*P **P** 04 29 31.6 +0.7
ARR Arges 32.43 314⇑ *i*P **P** 04 29 33.4 +0.4
OBN Obninsk 32.47 337⇑ *e*P **P** 04 29 31.7 -1.3
OBN *i* 04 29 41.7
OBN pmax pmax
comp=Z,5.0nm,1.0s
DGZ Jazzator, Alta 32.47 37⇓ *e*P **P** 04 29 33.1 -0.3
AKASG Malin Array Be 32.49 326 *e*P **P** 04 29 32.8 -0.6
comp=Z,2.2nm,0.9s
AKASG Malin Array Be 32.49 326 *ce*P **P** 04 29 32.7 -0.6
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 32.49 326 P **P** 04 29 33.0 -0.3
comp=Z,2.7nm,0.6s,baz=126,slow=8.1,SNR=17
AKASG LR LR 04 45 31.7
comp=Z,94nm,20.3s,baz=100,slow=42
AKBB Malin Array Si 32.49 326 *e*P **P** 04 29 32.8 -0.5
comp=Z,7.7nm,0.8s
AKBB Malin Array Si 32.49 326 *e*P **P** 04 29 32.8 -0.5
AKBB pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 32.50 326 *e*P **P** 04 29 32.8 -0.5
comp=Z,8.0nm,0.9s
KIEV Kiev 32.50 326⇑ *i*P **P** 04 29 33.0 -0.4
KIEV Kiev 32.50 326 *c i*P **P** 04 29 32.7 -0.7
KIEV pmax pmax
comp=Z,7.0nm,0.9s
BURAR Bucovina Array 33.05 318 *e*P **P** 04 29 37.7 -0.7
comp=Z,12nm,0.8s
BURAR Bucovina Array 33.05 318 *e*P **P** 04 29 37.7 -0.7
BURAR pmax pmax
comp=Z,12nm,0.8s
BUR08 Bucovina Ar. S 33.08 318 *e*P **P** 04 29 38.1 -0.5
comp=Z,4.1nm,1.3s
FNA Florina 33.20 305 *e*P **P** 04 29 39.8 0.0
comp=Z,8.0nm,0.8s
FNA Florina 33.20 305 *e*P **P** 04 29 39.8 0.0
FNA pmax pmax
comp=Z,8.0nm,0.8s
GZR Gura Zlata 33.65 313⇓ *i*P **P** 04 29 43.6 0.0
HERR Herculane 33.70 312⇓ *i*P **P** 04 29 44.1 +0.2
ZAA0 Zalesovo Array 33.87 29 *e*P **P** 04 29 45.8 +0.4
comp=Z,7.6nm,1.0s
ZALV Zalesovo Beam 33.87 29 *e*P **P** 04 29 45.8 +0.4
ZALV Zalesovo Beam 33.87 29 P **P** 04 29 44.3 -1.1
comp=Z,1.1nm,0.3s,baz=235,slow=11,SNR=4.3
KMBO Kilima Mbogo 33.91 219 P **P** 04 29 47.4 +1.1
comp=Z,1.8nm,0.7s,baz=42,slow=17,SNR=3.4
MDVR Moldovita 34.13 312⇓ *i*P **P** 04 29 48.0 +0.2
DRGR 34.23 315⇑ *i*P **P** 04 29 49.5 +0.8
DRGR 34.23 315 ⇑P **P** 04 29 49.5 +0.8
BZS Buzias 34.49 313⇓ *i*P **P** 04 29 50.8 0.0
BZS Buzias 34.49 313 ⇓P **P** 04 29 50.8 0.0
SIRR Siria 34.70 314⇑ *i*P **P** 04 29 53.2 +0.6
KOLS Kolonicke sedl 35.40 319 *e*P **P** 04 29 59.6 +0.9
KOLS pmax pmax
comp=Z,9.0nm,0.9s
KOLS Kolonicke sedl 35.40 319 *e*P **P** 04 29 59.6 +0.9
PSZ Piszkesteto 36.44 316 *e*P **P** 04 30 07.0 -0.6
comp=Z,5.5nm,1.0s
PSZ Piszkesteto 36.44 316⇓ *i*P **P** 04 30 06.8 -0.8
PSZ Piszkesteto 36.44 316 *e*P **P** 04 30 07.0 -0.6
PSZ pmax pmax
comp=Z,6.0nm,1.0s
PSZ Piszkesteto 36.44 316 *e*P **P** 04 30 06.1 -1.5
KLMR Klimovskoe 36.47 345 *e*P **P** 04 30 04.7 -2.9
KLMR pmax pmax
comp=Z,13nm,1.7s
MORH Mrgy, Hungar 36.64 313 *e*P **P** 04 30 09.0 -0.3
LANS Liptovska Anna 37.17 318 *e*P **P** 04 30 15.4 +1.6
LANS Liptovska Anna 37.17 318 *e*P **P** 04 30 15.4 +1.6
GTA Gaotai 37.19 59 *e*P P 04 30 20.5 +6.2
GTA pP sP 04 30 24.7 +5.5
GTA sP pP 04 30 27.9 +10
VYHS Vyhne 37.31 316 *e*P **P** 04 30 15.5 +0.5
VYHS Vyhne 37.31 316 *e*P **P** 04 30 15.5 +0.5
OJC Ojcow 37.41 319 *e*P **P** 04 30 15.4 -0.4
comp=Z,7.8nm,0.9s
OJC Ojcow 37.41 319 *e*P **P** 04 30 15.4 -0.4
OJC pmax pmax
comp=Z,8.0nm,0.9s
SOP Sopron 38.46 314 P **P** 04 30 25.3 +0.6
SOP pmax pmax
comp=Z,14nm,1.0s
SOP Sopron 38.46 314 *e*P **P** 04 30 24.1 -0.6
CMAR Chiang Mai Arr 38.74 93 LR LR 04 49 59.3
comp=Z,88nm,18.4s,baz=266,slow=42
CONA Conrad Observa 38.99 314 *e*P **P** 04 30 30.1 +0.9
comp=Z,4.6nm,1.3s
ARSA Arzberg 39.00 313 *e*P **P** 04 30 29.6 +0.3
comp=Z,6.7nm,1.0s
KRUC Moravsky 39.02 316 P **P** 04 30 30.7 +1.3
DPC Dobruska-Polom 39.52 318 *e*P **P** 04 30 33.3 -0.3
DPC Dobruska-Polom 39.52 318 *e*P **P** 04 30 33.3 -0.3
MOA Molln 39.99 314 *e*P **P** 04 30 37.7 +0.2
comp=Z,4.3nm,0.7s,SNR=8.7
MYKA Terra Mystica 40.08 312 *e*P **P** 04 30 38.4 +0.1
comp=Z,3.7nm,0.8s
LZH Lanzhou 40.16 65 *e*P **P** 04 30 40.5 +1.2
LZH pP sP 04 30 46.3 +2.1
LZH sP pP 04 30 49.6 +6.8
LZH *e*PP **PnPn** 04 32 17.2 +2.1
CD2 Chengdu 40.33 73 *e*P **P** 04 30 41.2 +0.6
KBA Koelnbreinsper 40.39 312 *e*P **P** 04 30 41.1 +0.1
comp=Z,5.3nm,0.8s,SNR=6.6
KBA Koelnbreinsper 40.39 312 P **P** 04 30 41.9 +0.9
KBA pmax pmax
comp=Z,7.0nm,0.9s
KHC Kasperske Hory 40.80 315 *e*P **P** 04 30 43.7 -0.5
comp=Z,7.1nm,1.4s
KHC Kasperske Hory 40.80 315 *e*P **P** 04 30 44.2 0.0
KHC Kasperske Hory 40.80 315 *e*P **P** 04 30 44.2 0.0
KHC *ex* x 04 30 56.7
ABTA Abfaltersbach 40.86 312 *e*P **P** 04 30 45.0 +0.2
comp=Z,9.4nm,1.0s
FINES FINESS Array B 40.88 337 *e*P **P** 04 30 43.5 -1.1
FINES FINESS Array B 40.88 337 *i* P **P** 04 30 43.5 -1.1
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 40.88 337 P **P** 04 30 43.9 -0.7
comp=Z,2.2nm,0.7s,baz=135,slow=8.0,SNR=18
WTTA Wattenberg 41.56 312 *e*P **P** 04 30 50.5 -0.2
comp=Z,9.0nm,0.6s
WATA Walderalm 41.62 312 *e*P **P** 04 30 51.2 +0.1
comp=Z,4.6nm,0.5s
CLL Collm 41.82 318 *e*P **P** 04 30 53.0 +0.5
CLL Collm 41.82 318 *e*P **P** 04 30 53.0 +0.5
SQTA Sankt Quirin 41.84 312 *e*P **P** 04 30 52.4 -0.5
comp=Z,11nm,0.7s,SNR=8.5
MOTA Moosalm 41.93 312 *e*P **P** 04 30 53.7 0.0
comp=Z,7.1nm,0.7s,SNR=14
FETA Feichten 42.11 312 *e*P **P** 04 30 55.1 -0.1
comp=Z,8.9nm,0.7s,SNR=11
RETA Reutte 42.19 312 *e*P **P** 04 30 54.9 -0.8
comp=Z,2.9nm,0.7s,SNR=6.3
FUORN Ofenpass-Fuorn 42.35 311 *e*P **P** 04 30 56.7 -0.5
comp=Z,5.2nm,0.8s
DAVA Damuels 42.73 312 *e*P **P** 04 30 59.8 -0.4
comp=Z,15nm,0.7s,SNR=18
SONM Songino Array 43.31 47 P **P** 04 31 04.4 -0.5
comp=Z,0.8nm,0.7s,baz=249,slow=12,SNR=2.8
SONM LR LR 04 52 53.5
comp=Z,94nm,19.1s,baz=210,slow=42
LPL La Plagne 44.59 309 *e*P **P** 04 31 15.4 +0.1
LPL pmax pmax
comp=Z,10.0nm,1.0s
CDF Champ du Feu 44.67 313 *e*P **P** 04 31 15.7 0.0
CDF pmax pmax
comp=Z,4.0nm,1.0s
ECH Echery 44.72 313 *e*P **P** 04 31 15.4 -0.6
comp=Z,9.1nm,1.0s
ECH Echery 44.72 313 *e*P **P** 04 31 15.4 -0.6
ECH pmax pmax
comp=Z,9.0nm,1.0s
HINF Hinteralfeld 44.85 312 *e*P **P** 04 31 18.4 +1.3
HINF pmax pmax
comp=Z,4.0nm,0.8s
CABF La Chapelle 45.18 310 *e*P **P** 04 31 19.0 -0.8
CABF pmax pmax
comp=Z,13nm,1.1s
HAU Haudompre 45.22 312 *e*P **P** 04 31 21.0 +1.0
HAU pmax pmax
comp=Z,10.0nm,1.1s
VIVF Saint-Julien-l 45.97 308 *e*P **P** 04 31 25.5 -0.6
VIVF pmax pmax
comp=Z,6.0nm,1.0s
HHC Hu-ho-hao-te 46.27 58 *e*P **P** 04 31 30.7 +2.1
NB2 NORSAR Subarra 46.52 331 P **P** 04 31 28.9 -1.2
comp=Z,1.7nm,0.8s,baz=119,slow=7.4
NOA NORSAR Array B 46.52 331 P **P** 04 31 29.8 -0.3
comp=Z,1.3nm,0.8s,baz=116,slow=7.8,SNR=5.2
NOA LR LR 04 53 18.0
comp=Z,56nm,20.3s,baz=130,slow=39
GIVF Givet 46.56 315 *e*P **P** 04 31 31.6 +1.1
GIVF pmax pmax
comp=Z,14nm,1.1s
SMF Signal de Mont 46.72 310 *e*P **P** 04 31 31.7 -0.2
SMF pmax pmax
comp=Z,12nm,0.8s
LOR Lormes 46.78 311 *e*P **P** 04 31 32.0 -0.3
LOR pmax pmax
comp=Z,21nm,1.5s
BAIF Baives 46.94 315 *e*P **P** 04 31 35.7 +2.2
BAIF pmax pmax
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 46.95 345 P **P** 04 31 33.9 +0.6
comp=Z,1.7nm,0.8s,baz=129,slow=8.6,SNR=5.5
SSF Saint Saulge 47.00 311 *e*P **P** 04 31 34.0 0.0
SSF pmax pmax
comp=Z,12nm,0.8s
AVF Avril sur Loir 47.07 310 *e*P **P** 04 31 35.7 +1.1
AVF pmax pmax
comp=Z,11nm,1.2s

TAM	Tamanrasset	47.38	277	*e*P	P	04 31 39.3	+1.8
	comp=Z,4.4nm,1.0s						
TAM	Tamanrasset	47.38	277	*e*P	P	04 31 39.3	+1.8
TAM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BGF	Bois d'Agland	47.40	310	*e*P	P	04 31 36.2	-1.0
BGF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MTLF	Montolieu	47.65	305	*e*P	P	04 31 39.8	+0.6
MTLF				pmax	pmax		
	comp=Z,14nm,1.2s						
TCF	Toulx Ste Croi	47.81	309	*e*P	P	04 31 40.5	+0.1
TCF				pmax	pmax		
	comp=Z,15nm,1.4s						
CAF	Calviac	47.83	308	*e*P	P	04 31 40.9	+0.3
CAF				pmax	pmax		
	comp=Z,11nm,1.1s						
RJF	Les Rejaudoux	48.24	308	*e*P	P	04 31 44.3	+0.6
RJF				pmax	pmax		
	comp=Z,25nm,1.5s						
LFF	La Frestale	48.77	308	*e*P	P	04 31 51.8	+4.0
LFF				pmax	pmax		
	comp=Z,13nm,1.0s						
MFF	Saint Martin d	49.46	310	*e*P	P	04 31 51.7	-1.3
MFF				pmax	pmax		
	comp=Z,30nm,1.4s						
BOD	Bodaibo	50.05	35	*e*P	P	04 31 54.7	-2.6
BOD				pmax	pmax		
	comp=Z,6.0nm,1.7s						
SGMF	Saint Gilles	51.17	312	*e*P	P	04 32 04.3	-1.7
SGMF				pmax	pmax		
	comp=Z,53nm,1.4s						
ESDC	Sonseca Array	52.41	301	P	P	04 32 15.3	-0.1
	comp=Z,0.7nm,0.6s,baz=67,slow=7.4,SNR=9.1						
TOA0	Torodi Ar. Sit	54.04	267	*e*P	P	04 32 27.8	+0.1
	comp=Z,4.7nm,0.8s						
TORD	Torodi Ar. Bea	54.04	267	P	P	04 32 26.5	-1.2
	comp=Z,1.2nm,0.5s,baz=50,slow=8.4,SNR=28						
TORD				LR	LR	04 56 58.5	
	comp=Z,65nm,18.7s,baz=35,slow=38						
KSRS	Korea Array	59.24	61	LR	LR	05 03 52.5	
	comp=Z,48nm,18.8s,baz=276,slow=42						
DBIC	Dimbokro	62.60	264	LR	LR	05 01 30.5	
	comp=Z,52nm,19.5s,baz=39,slow=37						
BOSA	Boshof	63.12	212	LR	LR	05 01 51.0	
	comp=Z,60nm,18.3s,baz=20,slow=37						
MJAR	Matsushiro Arr	67.44	59	LR	LR	05 07 03.2	
	comp=Z,37nm,20.7s,baz=200,slow=39						
SEY	Seymchan	68.74	29	LR	LR	05 06 19.0	
	comp=Z,242nm,21.3s,baz=146,slow=38						
PETK	Petropavlovsk-	74.82	38	LR	LR	05 11 46.1	
	comp=Z,69nm,18.2s,baz=286,slow=39						
FRB	Frobisher Bay	80.66	339	P	P	04 35 15.7	+0.2
	comp=Z,1.3nm,0.6s,baz=54,slow=7.6,SNR=5.6						
TOLK	Toolik Lake Re	82.97	10	*e*P	P	04 35 28.0	+0.3
	comp=Z,5.8nm,1.3s						
BPAW	Bear Paw Mtn.	86.86	12	*e*P	P	04 35 49.5	+2.1
	comp=Z,4.2nm,1.1s						
ILAR	Eielson Array	86.97	10	P	P	04 35 47.8	0.0
	comp=Z,0.3nm,0.7s,baz=335,slow=6.0,SNR=3.4						
ILAR				LR	LR	05 19 45.9	
	comp=Z,30nm,20.3s,baz=324,slow=39						
WRA	Warramunga Arr	87.41	114	P	P	04 35 48.3	-2.4
	comp=Z,0.3nm,0.5s,baz=316,slow=4.9,SNR=6.3						
ASAR	Alice Springs	88.88	117	P	P	04 35 57.5	-0.2
	comp=Z,0.9nm,0.9s,baz=314,slow=4.7,SNR=2.7						
YKA	Yellowknife Ar	91.05	356	P	P	04 36 06.6	-0.4
	comp=Z,0.1nm,0.6s,baz=358,slow=4.5,SNR=3.9						

*ISCJB **12** 04:24:38.7±0.5,5°.65N±0°.05×127°.02E±0°.07,h150km, mb4.0/18,Error ellipse: s-maj=9.9km s-min=6.8km az=157.4*
*MAN **12** 04:24:38.1,5°.65N×127°.13E,h129km,mb4.6,ML3.4, MS3.3*
*DJA **12** 04:24:41.2±1.6,5°N±6°×12°7E±1°3,h21km±20km,M4.5/7, mB4.5/1,mb4.5/5,MLv4.5/7,Mw(mB)3.7/1*
*IDC **12** 04:24:48.2±4.8,5°.64N×127°.17E,h226km±47km,mb3.6/17, mb1 3.7/17,mb1mx3.4/58,mbtmp4.2/17,Error ellipse: s-maj=29.3km s-min=12.4km az=77.0*

ISC 12 04:24:40.0±0.6,5°.61N±0°.06×127°.1E±0°.1,h150km,n30, σ1§70/35,mb3.9/18,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	1.43	290	*e*P	Pn	04 25 06.0	-2.8
DDMP				*e*S	Sn	04 25 28.8	-2.1
MATI	Mati	1.55	329	*e*P	Pn	04 25 07.6	-2.5
DMPH	Davao City--Mi	2.13	314⇑	*e*P	Pn	04 25 15.4	-1.2
DMPH				*e*S	Sn	04 25 49.5	+4.6
SGSI	Sangihe	2.44	219	P	Pn	04 25 16.8	-3.6
SKMP	Bagumbayan, Su	2.67	290	*e*P	Pn	04 25 21.6	-1.5
SKMP				*e*S	Sn	04 25 55.6	-0.9
BUKP	Musuan	3.01	319	*e*P	Pn	04 25 26.4	-1.1
BUKP				*e*S	Sn	04 26 01.7	-2.5
MRSI	Marisa	7.22	225	P	Pn	04 26 22.5	-0.5
SANI	Sanana	7.68	188	P	Pn	04 26 26.8	-2.3
APSI	Ampana	8.43	220	P	Pn	04 26 39.3	+0.1
FITZ	Fitzroy Crossi	23.59	183	P	P	04 29 38.9	+1.6
	1.9nm,0.6s,baz=8.0,slow=7.7,SNR=6.6						
WRA	Warramunga Arr	26.38	164	P	P	04 30 04.5	+2.0
	0.9nm,0.5s,baz=346,slow=11,SNR=8.4						
ASAR	Alice Springs	29.85	167	PcP	PcP	04 33 33.5	+0.5
	0.6nm,0.5s,baz=343,slow=2.3,SNR=5.9						
CMAR	Chiang Mai Arr	30.26	297	P	P	04 30 38.0	+0.9
	0.9nm,0.6s,baz=113,slow=7.2,SNR=5.5						
KSRS	Korea Array	31.71	1	P	P	04 30 50.5	+1.1
	1.4nm,0.9s,baz=174,slow=11,SNR=3.7						
XAN	Xi'an	32.92	332	P	P	04 31 00.2	0.0
XAN				pP	pP	04 31 18.7	-13
XAN				sP	pwP	04 31 27.7	-6.3
NWAO	Narrogin (SRO)	39.44	193	P	P	04 31 56.8	+1.3
	11nm,1.1s,baz=22,slow=6.4,SNR=5.9						
SONM	Songino Array	45.64	341	P	P	04 32 46.5	+0.9
	1.1nm,0.6s,baz=160,slow=8.0,SNR=4.3						
SONM				PcP	PcP	04 34 20.2	-1.0
	0.7nm,0.6s,baz=158,slow=1.6,SNR=3.4						
MKAR	Makanchi Array	56.22	324	P	P	04 34 05.3	+0.8
	5.5nm,0.4s,baz=114,slow=7.5,SNR=79						
ZALV	Zalesovo Beam	59.08	332	P	P	04 34 24.4	+0.1
	1.2nm,0.3s,baz=128,slow=6.2,SNR=5.1						
KURBB	Kurchatov Arra	60.36	327	P	P	04 34 33.9	+0.8
	9.2nm,0.7s,baz=126,slow=6.3,SNR=47						
BVAR	Borovoye Array	65.94	326	P	P	04 35 10.6	+0.7
	4.4nm,0.5s,baz=127,slow=8.4,SNR=30						
TIXI	Tiksi	65.97	1	P	P	04 35 09.0	-0.7
	0.6nm,0.3s,baz=260,slow=3.9,SNR=3.7						
GEYT	Alibeck	69.99	308	P	P	04 35 36.2	+0.7
	1.3nm,0.4s,baz=154,slow=4.8,SNR=4.3						
AKTO	Aktyubinsk	72.41	321	P	P	04 35 50.4	+0.6
	4.4nm,0.6s,baz=102,slow=7.2,SNR=21						
ILAR	Eielson Array	83.28	26	P	P	04 36 47.7	-1.9
	0.8nm,1.0s,baz=261,slow=6.2,SNR=4.1						
ARCES	ARCESS Array B	88.81	340	P	P	04 37 16.2	-0.4
	0.7nm,0.4s,baz=81,slow=5.8,SNR=8.8						
BRTR	Keskin Array B	89.09	310	P	P	04 37 18.6	-0.1
	0.5nm,0.7s,baz=131,slow=6.7,SNR=4.4						
FINES	FINESS Array B	90.35	332	P	P	04 37 23.4	-0.5
	0.4nm,0.5s,baz=50,slow=6.0,SNR=8.7						
AKASG	Malin Array Be	90.66	321	P	P	04 37 25.1	-0.5
	0.3nm,0.4s,baz=66,slow=4.7,SNR=2.6						
TORD	Torodi Ar. Bea	122.63	289	PKP	PKiKP	04 43 17.7	-1.4
	0.5nm,0.8s,baz=52,slow=2.4,SNR=3.0						

MAN 12 04:34:57.4,17°.58N×120°.51E,h34km,mb3.6,ML2.3, MS1.7,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	0.75	68	*e*P	Pb	04 35 12.3	+0.1
APYP				*e*S	Sb	04 35 22.9	+0.7
CVP	Callao Caves	1.26	84⇑	*e*P	Pn	04 35 18.7	+0.1
BOLP	Bolinao	1.33	206	*e*P	Pb	04 35 31.1	+9.3
BOLP				*e*S	Sb	04 35 44.7	+6.2
CAUP	Cauayan	1.41	117	*e*P	Pn	04 35 21.6	+1.0
SMPP	San Manuel, Pa	1.44	174	*e*P	Pn	04 35 21.3	+0.2
SMPP				*e*S	Sn	04 35 36.2	-2.6

MAN 12 04:37:38.7,8°.09N×125°.13E,h28km,mb4.2,ML3.0,MS2.7, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.22	198	*e*P	Pn	04 37 45.8	-0.4
BUKP				*e*S	Sb	04 37 49.6	+0.4
CGP	Cagayan de Oro	0.56	311⇑	*i*P	Pn	04 37 51.3	+0.3
CGP				*i*S	Sn	04 38 00.3	+0.9
CTBH	Cotabato--PC H	1.23	226⇑	*i*P	Pn	04 38 00.2	+0.2
CTBH				*i*S	Sn	04 38 13.3	-2.4

MEX 12 04:44:28.4±0.6,13°.97N×92°.32W,h104km±12km,MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.93	3	*i*P	Pn	04 44 47.1	-1.3
THIG				*e*S	Sn	04 45 01.4	-2.1
PCIG		1.93	333	*e*P	Pn	04 44 59.0	-1.3
PCIG				*i*S	Sn	04 45 23.0	-1.5
CCIG	Comitan	2.30	4	*i*P	Pn	04 45 03.5	-1.8
CCIG				*i*S	Sn	04 45 31.5	-1.9

*DSN **12** 04:53:35.7±3.6,26°.88N×58°.20E,h10km,ML3.8/7,Error ellipse: s-maj=58.5km s-min=15.0km az=177.0*
*IDC **12** 04:53:38.6±2.1,26°.55N×57°.93E,h0km,mb3.7/5, mb1 3.8/6,mb1mx3.4/55,mbtmp3.7/6,ML3.4/1,MS3.2/2, Ms1 3.2/2,ms1mx2.5/47,Error ellipse: s-maj=54.8km s-min=23.0km az=73.0*
*ISCJB **12** 04:53:40.7±0.4,26°.59N±0°.02×57°.76E±0°.05,h10km, mb3.5/4,MS3.2/2,Error ellipse: s-maj=6.4km s-min=3.3km az=178.8*
*OMAN **12** 04:53:42.5±3.2,26°.50N×57°.88E,h17km,ml3.6/11,Error ellipse: s-maj=27.7km s-min=19.9km az=67.0*
*TEH **12** 04:53:42.7,26°.66N×57°.65E,h10km,ML3.6*

ISC 12 04:53:41.6±0.8,26°.56N±0°.04×57°.74E±0°.05,h10km,n59, σ1§96/64,mb4.1/10,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.28	321	IAMB	IAmb	04 54 25.8	
	comp=Z,0.0nm,0.2s						
NIAN				*e*Pg	Pn	04 54 05.3	-0.2
SHME	Shamm	1.52	251	*e*P	Pn	04 54 09.5	+0.6
	SNR=5.5						
SHME				S	Sg	04 54 36.1	+5.6
SHME	Shamm	1.52	251	*e*Pn	Pb	04 54 10.1	+0.2
BNDS	Bandar-Abbas	1.62	301	*e*Pg	Pn	04 54 06.2	-4.3
GENO	Geno	1.62	301	*e*Pn	Pb	04 54 10.8	-1.0
GENO				*e*Sg	Sg	04 54 33.9	0.0
GENO				IAMB	IAmb	04 54 40.1	
	comp=Z,0.0nm,0.3s						
MSFE	Esma-Masafi	1.86	230	*e*P	Pn	04 54 12.9	-0.7
	SNR=16						
MSFE	Esma-Masafi	1.86	230	*e*Pn	Pn	04 54 14.3	+0.8
HATD	Hatta, Dubai	2.26	220	*e*P	Pn	04 54 20.1	+1.1
	SNR=12						
HATD	Hatta, Dubai	2.26	220	P	Pn	04 54 17.6	-1.5
	SNR=12						
HATD	Hatta, Dubai	2.26	220	*e*Pn	Pn	04 54 21.8	+2.8
ASHO	Ashiyiah	2.41	219	*e*P	Pn	04 54 20.9	-0.2
	SNR=18						
ASHO	Ashiyiah	2.41	219	P	Pn	04 54 20.6	-0.5
	SNR=14						
ASHO	Ashiyiah	2.41	219	*e*Pn	Pn	04 54 22.1	+1.0
NAZ	Nazwa, Dubai	2.44	230	*e*P	Pn	04 54 23.8	+2.3
	SNR=23						
NAZ	Nazwa, Dubai	2.44	230	*e*Pn	Pb	04 54 25.5	-0.1
FAQ	Al Faqa, Dubai	2.65	227	P	Pn	04 54 26.6	+2.2
FAQ	Al Faqa, Dubai	2.65	227	*e*Pn	Pb	04 54 28.5	-0.7
CHBR	Chabahar	2.65	111	*e*Pn	Pn	04 54 28.5	+4.1
SOHO	SOHO	2.65	204	P	Pn	04 54 22.8	-1.7
	SNR=23						
SOHO				S	Sn	04 54 55.0	-1.7
ASUD	Al Ashush, Dub	2.91	229	*i*P	Pn	04 54 30.3	+2.4
	SNR=11						
ASUD	Al Ashush, Dub	2.91	229	P	Pn	04 54 30.4	+2.5
	SNR=11						
ASUD	Al Ashush, Dub	2.91	229	*e*Pn	Pn	04 54 30.5	+2.5
HOQ	Hoqain	2.99	187	P	Pn	04 54 28.0	-1.1
HOQ				S	Sn	04 55 03.0	-2.2
HOQ	Hoqain	2.99	187	*e*Pn	Pn	04 54 28.8	-0.4
ALNE	Al Ain	3.08	216	*e*Pn	Pn	04 54 32.7	+2.4
NGRK	Negar Kerman	3.19	344	*e*Pn	Pn	04 54 32.4	+0.1
NGRK				IAMB	IAmb	04 54 41.1	
	comp=Z,0.0nm,0.4s						
CHMN	Cheshme madani	3.29	357	*e*Pn	Pn	04 54 35.1	+1.6
CHMN				IAMB	IAmb	04 54 45.6	
	comp=Z,0.0nm,0.6s						
ARQ	Araqi	3.40	199	P	Pn	04 54 36.9	+2.2
	SNR=7.1						
ARQ				S	Sn	04 55 18.8	+3.7
WSAR	Wadi Sarin	3.41	166	Pn	Pn	04 54 34.0	-0.9
	comp=Z,3.4nm,0.3s,baz=351,slow=10,SNR=5.2						
WSAR				Sn	Sn	04 55 12.6	-2.8
	comp=Z,20nm,0.3s,baz=238,slow=18,SNR=14						
SMDO	Samad	3.50	175	P	Pn	04 54 36.1	-0.1
	SNR=9.5						
SMDO				S	Sn	04 55 17.2	-0.5
BSY	Bisya	3.83	187	P	Pn	04 54 43.6	+2.9
	SNR=8.0						
BSY				S	Sn	04 55 29.5	+3.6
KHGB	Koh Gabri	3.96	344	*e*Pn	Pn	04 54 44.0	+1.4
KHGB				IAMB	IAmb	04 54 56.6	
	comp=Z,0.0nm,0.4s						
SZD1	Zahaedan-tmp	4.02	43	*e*Pn	Pn	04 54 45.0	+1.7
ZHSF	Zahedan	4.05	41	*e*Pn	Pn	04 54 46.0	+2.1
GHIR	Ghir-Karzin	4.56	293	*e*Pn	Pn	04 54 47.8	-2.9
JLN	Jalan Bani Buh	4.65	160	P	Pn	04 54 50.6	-1.4
	SNR=9.9						
BSRN	Basiran	5.52	12	*e*Pn	Pn	04 55 04.7	+0.7
IMEH	Mehriz	5.53	331	*e*Pn	Pn	04 55 05.9	+1.6
IKOO	Kooshah	5.94	10	*e*Pn	Pn	04 55 07.8	-2.1
ITEG	Tejag	6.37	8	*e*Pn	Pn	04 55 14.0	-1.8
YZKH	Yazd	6.42	335	*e*Pn	Pn	04 55 15.4	-0.9
IDAH	Dahanechah	6.43	16	*e*Pn	Pn	04 55 18.5	+1.9
TPRV	Parvadeh(Tabas	6.51	352	*e*Pn	Pn	04 55 17.3	-0.2
IRAM	Ramesheh	7.01	319	*e*Pn	Pn	04 55 26.1	+1.5
IGAR	Gharneh	7.65	321	*e*Pn	Pn	04 55 35.2	+1.9
KHMZ	Khomeyn	9.82	319	*e*Pn	Pn	04 56 01.3	-1.8
EIL	Elat	20.33	284	P	Pn	04 58 19.9	-0.1
	comp=Z,6.8nm,0.9s,baz=90,slow=10,SNR=3.3						
BRTR	Keskin Array B	23.98	309	P	P	04 58 57.0	+0.5
	comp=Z,1.8nm,0.8s,baz=122,slow=11,SNR=13						
AKASG	Malin Array Be	32.46	326	P	P	05 00 11.3	-0.7
	comp=Z,0.2nm,0.4s,baz=130,slow=8.2,SNR=3.7						
FINES	FINESS Array B	40.85	337	P	P	05 01 22.2	-1.1
	comp=Z,0.7nm,0.6s,baz=146,slow=7.5,SNR=5.7						
WTTA	Wattenberg	41.53	312	*e*pP	P	05 01 30.4	+1.0
	comp=Z,2.6nm,0.5s						
WATA	Walderalm	41.58	312	*e*pP	P	05 01 31.8	+2.1
	comp=Z,5.1nm,1.0s						
SQTA	Sankt Quirin	41.80	312	*e*pP	P	05 01 32.2	+0.7
	comp=Z,5.2nm,0.5s						
MOTA	Moosalm	41.90	312	*e*pP	P	05 01 32.8	+0.4
	comp=Z,2.2nm,0.5s						
FETA	Feichten	42.08	312	*e*pP	P	05 01 35.0	+1.1
	comp=Z,1.7nm,0.5s						
DAVA	Damuels	42.70	312	*e*pP	P	05 01 39.7	+0.9
	comp=Z,7.3nm,0.5s						
NOA	NORSAR Array B	46.49	331	LR	LR	05 24 55.9	
	comp=Z,6.3nm,18.9s,baz=180,slow=40						
TORD	Torodi Ar. Bea	53.99	267	P	P	05 03 04.6	-1.6
	comp=Z,0.4nm,0.5s,baz=66,slow=6.8,SNR=6.4						
SFJD	Kangerlussuaq	72.65	337	LR	LR	05 40 11.0	
	comp=Z,59nm,18.9s,baz=0.0,slow=38						

*ISK **12** 04:56:52.9,38°.72N×43°.25E,h6km,ML2.2/5*
*ISCJB **12** 04:56:53.4±0.7,38°.72N±0°.03×43°.14E±0°.05,h7km±7km, Error ellipse: s-maj=7.0km s-min=4.8km az=14.7*
*DDA **12** 04:56:53.3,38°.72N×43°.21E,h7km±3km,ML2.5*

ISC 12 04:56:53.7±1.0,38°.71N±0°.04×43°.20E±0°.04,h16km±8km, n12,σ1§13/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	128	PG	Pg	04 56 58.4	+0.2
VANB				SG	Sg	04 57 01.9	+0.6
TVAN	Van	0.24	138	IAML_P			
	comp=Z,8μm,0.1s						
TVAN				*i*P	Pg	04 56 58.8	-0.3
TVAN				*i*S	Sg	04 57 03.2	+0.3
VMUR	Van-Muradiye	0.40	45	*i*P	Pb	04 57 02.2	-0.4
VMUR				*i*S	Sb	04 57 09.4	+0.8
GEVA	Gevas	0.41	196	*i*P	Pg	04 56 59.2	-2.9
AKDM	Akdamar-Van	0.42	205	PG	Pg	04 57 01.4	-0.8
AKDM				SG	Sb	04 57 08.8	-0.1
CLDR	Caldiran	0.71	52	PG	Pg	04 57 06.3	-1.3
CLDR				SG	Sg	04 57 16.1	-0.9
CLDR	Caldiran	0.71	52	IAML_P			
	comp=Z,855nm,0.1s						
CLDR				*i*P	Pb	04 57 07.7	-0.1
CLDR				*i*S	Sn	04 57 19.0	-1.0
TUTA	Tutak	0.76	336	*i*P	Pb	04 57 08.4	-0.2
AGRB	Hanur-Agry	0.88	349	PG	Pg	04 57 10.2	-0.7
AGRB				SG	Sb	04 57 22.9	+0.5
BLIS	Bitlis-Merkez	0.90	251	IAML_P			
	comp=Z,846nm,0.2s						
BLIS				*i*P	Pg	04 57 10.8	-0.4
SRTM	Siirt_Merkez	1.23	235	IAML_P			
	comp=Z,77nm,0.1s						
SRTM				*i*P	Pn	04 57 18.3	+1.9
CUKT	Cukurca	1.49	168	PN	Pn	04 57 20.9	+0.9

KRSC 12 04:58:04.7±10.0,55°.80N×162°.90E,h47km±10km,ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.41	353	*e*P	Pn	04 58 14.1	-0.7
KBTR				*e*S	Sn	04 58 23.5	+1.6
KBG	Krutoberegovo	0.47	346	*e*P	Pn	04 58 15.0	-0.4
KBG				*e*S	Sn	04 58 24.8	+1.8
SMKR	Semkarok	1.12	315	*e*P	Pn	04 58 25.9	+1.8
BDR	Baidarnaya	1.22	310	*e*P	Pn	04 58 26.9	+1.5
BZGR	Bezymyannyi-Gr	1.25	277	*e*P	Pn	04 58 26.8	+0.9
CIRR	Tsirk	1.25	285	*e*P	Pn	04 58 27.2	+1.3
LGNR	Loginova	1.28	284	*e*P	Pn	04 58 27.3	+0.9
SRKR	Sorokina	1.29	312	*e*P	Pn	04 58 27.9	+1.5
SRKR				*e*S	Sn	04 58 46.3	+3.7
KLY	Klyuchi	1.36	293	*e*P	Pn	04 58 26.8	-0.5
BZMR	Bezymyannaya	1.37	277	*e*P	Pn	04 58 28.5	+1.0
BZWR	Bezymyannyi-We	1.37	278	*e*P	Pn	04 58 28.5	+1.0
MKZ	Mys Kozlova	1.42	209	*e*P	Pn	04 58 29.7	+1.7
MKZ				*e*S	Sn	04 58 48.7	+3.2
KIRR	Kirishev	1.45	277	*e*P	Pn	04 58 30.3	+1.7
KPT	Kopyto	1.52	277	*e*P	Pn	04 58 31.3	+1.8
TUMD	Tumrok D	1.55	248	*e*P	Pn	04 58 31.1	+1.3
TUMD				*e*S	Sn	04 58 52.4	+3.7
KZV	Kizimen	1.64	246	*e*P	Pn	04 58 32.6	+1.4
KZV				*e*S	Sn	04 58 54.0	+2.8
KOZ	Kozyrevsk	1.72	280	*e*P	Pn	04 58 34.6	+2.4
BKI	Bering	1.85	108	*e*P	Pn	04 58 36.6	+2.7
BKI				*e*S	Sn	04 59 00.4	+4.4
SPN	Mys Shipunski	3.19	213	*e*P	Pn	04 58 54.7	+2.4
SPN				*e*S	Sn	04 59 30.8	+1.8
SDLR	Sedlovina	3.45	224	*e*P	Pn	04 58 58.1	+2.2
KRER	Koryakskii	3.48	226	*e*P	Pn	04 59 01.3	+4.8
SMAR	Somma	3.49	225	*e*P	Pn	04 58 58.9	+2.3
AVH	Avacha	3.51	225	*e*P	Pn	04 59 01.8	+5.0
UGLR	Uglovaya	3.52	224	*e*P	Pn	04 58 59.8	+2.8
KOK	Koryaka	3.54	226	*e*P	Pn	04 59 00.5	+3.3
DALK	Dalny	3.69	223	*e*P	Pn	04 59 01.8	+2.7
KRMR	Karymshinskiy	4.08	225	*e*P	Pn	04 59 09.4	+4.8

MAN 12 05:02:34.7,13°.79N×120°.40E,h38km,mb4.1,ML2.9, MS2.6,1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.16	249	*e*P	Pn	05 02 43.2	-1.5
LUBP				*e*S	Sn	05 02 48.2	-5.9
PGP	Puerto Galera	0.61	118⇓	*e*P	Pn	05 02 48.2	+1.2
PGP				*e*S	Sn	05 02 57.8	+2.1
SJMP	San Jose	1.50	152	*e*P	Pn	05 02 59.0	0.0
SJMP				*e*S	Sn	05 03 18.7	+1.4

*KRNET **12** 05:05:38.3±0.1,39°.33N×74°.84E,mb3.0*
*SOME **12** 05:05:38.4,39°.62N×74°.42E,h20km*
*NNC **12** 05:05:50.2±1.4,40°.07N×74°.91E,h2km±6km,mb3.5, mpv3.2,Error ellipse: s-maj=10.1km s-min=6.3km az=167.0*

ISC 12 05:05:46.2±1.7,39°.89N±0°.09×74°.90E±0°.04,h10km,n40, σ2§18/62,15C-13D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.76	28⇓	*i*P	Pb	05 06 18.2	-0.6
	baz=22						
NRN				⇓*i*S	Sg	05 06 47.6	+4.8
	baz=22						
ARLS	Aral	2.02	348⇑	*i*P	Pb	05 06 22.9	-0.3
	baz=51						
ARLS				⇑*i*S	Sg	05 06 54.5	+3.3
	baz=51						
KZA	Kyzart	2.21	7	P	Pb	05 06 25.4	-1.1
	SNR=18						
KZA	Kyzart	2.21	7⇓	*i*P	Pb	05 06 25.4	-1.1
	baz=6.0						
KZA				⇓*i*S	Sg	05 07 00.9	+3.7
	baz=6.0						
UCH	Uchtor	2.36	353	P	Pb	05 06 28.8	-0.3
	SNR=11						
UCH	Uchtor	2.36	353⇓	*i*P	Pb	05 06 28.0	-1.1
	baz=55						
UCH				⇓*i*S	Sg	05 07 03.7	+1.6
	baz=55						
AML	Almayashu	2.42	338	P	Pb	05 06 28.9	-1.3
	SNR=7.1						
AML	Almayashu	2.42	338⇓	*i*P	Pb	05 06 28.4	-1.7
	baz=43						
AML				⇓*i*S	Sg	05 07 04.2	+0.1
	baz=43						
ULHL	Ulahol	2.57	23	P	Pb	05 06 31.6	-0.9
	SNR=5.8						
ULHL	Ulahol	2.57	23⇑	*i*P	Pb

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	8.6nm,0.5s						
DGS				eS	Sb	05 07 29.6	+1.1
	5.9nm,0.6s						
TNSS	**Tian-Shan**	**3.50**	**25**	Pg	**Pg**	**05 06 51.4**	**-2.0**
	3.3nm,0.4s						
TNSS				Lg	Lg	05 07 36.1	
	4.6nm,0.3s						
TNSS	**Tian-Shan**	**3.50**	**25**	eP	**Pb**	**05 06 49.2**	**+0.6**
	3.6nm,0.6s						
TNSS				eS	**Sg**	**05 07 40.3**	**+1.5**
	5.0nm,0.8s						
MDOK	**Medeo**	**3.65**	**26**	Pg	**Pg**	**05 06 54.2**	**-2.0**
	3.6nm,0.5s						
MDOK				Lg	Lg	05 07 41.1	
	3.6nm,0.4s						
MDOK	**Medeo**	**3.65**	**26**	eP	**Pb**	**05 06 51.5**	**+0.5**
	3.6nm,0.5s						
MDOK				eS	**Sg**	**05 07 44.1**	**+0.6**
	3.6nm,0.4s						
KOTS	**Kotyrbulak**	**3.73**	**26**	Pg	**Pg**	**05 06 55.3**	**-2.4**
	2.5nm,0.3s						
KOTS				Lg	Lg	05 07 42.9	
	7.7nm,0.4s						
KOTS	**Kotyrbulak**	**3.73**	**26**	eP	**Pb**	**05 06 53.1**	**+0.7**
	3.6nm,0.1s						
KOTS				eS	**Sg**	**05 07 46.9**	**+0.7**
	7.7nm,0.4s						
KTBS	**Karatobe**	**4.05**	**19**	Pg	**Pg**	**05 07 00.5**	**-3.3**
	2.6nm,0.3s						
KTBS				Lg	Lg	05 07 52.0	
	5.2nm,0.5s						
KTBS	**Karatobe**	**4.05**	**19**	eP	**Pb**	**05 06 59.0**	**+1.3**
	2.6nm,0.3s						
KTBS				eS	**Sg**	**05 07 57.0**	**+0.8**
	5.2nm,0.5s						
KUU	**Kurty**	**4.15**	**15**	Pg	**Pg**	**05 07 02.8**	**-2.9**
	1.5nm,0.3s						
KUU				Lg	Lg	05 07 55.8	
	5.4nm,0.4s						
KUU	**Kurty**	**4.15**	**15**	eP	**Pb**	**05 07 00.7**	**+1.4**
	1.1nm,0.4s						
KUU				eS	**Sg**	**05 07 59.8**	**+0.5**
	5.4nm,0.4s						
CHKK	**Chushkaly**	**4.26**	**21**	Pg	**Pg**	**05 07 04.2**	**-3.6**
	2.3nm,0.2s						
CHKK				Lg	Lg	05 07 58.2	
	5.1nm,0.3s						
CHKK	**Chushkaly**	**4.26**	**21**	eP	**Pb**	**05 07 02.3**	**+1.1**
	1.7nm,0.2s						
CHKK				eS	**Sg**	**05 08 02.4**	**-0.6**
	5.1nm,0.3s						
IUG	**Iuzhnay**	**4.32**	**303**	Pg	**Pg**	**05 07 09.1**	**+0.2**
	4.8nm,0.3s						
IUG				Lg	Lg	05 08 06.3	
	7.7nm,0.6s						
IUG	**Iuzhnay**	**4.32**	**303**	eP	**Pn**	**05 06 52.7**	**+0.7**
	5.2nm,0.2s						
IUG				eS	**Sn**	**05 07 46.4**	**+3.9**
	11nm,0.4s						
KK31	**Karatay Array**	**4.60**	**316**	⇑Pn	**Pn**	**05 06 57.1**	**+1.2**
	0.2nm,0.3s,baz=130,slow=13,SNR=5.1						
KK31				⇑Pg	**Pg**	**05 07 10.9**	**-3.4**
	1.8nm,0.8s						
KK31				⇓Sn	**Sn**	**05 07 53.2**	**+3.8**
	0.6nm,0.4s,baz=136,slow=23,SNR=3.6						
KK31				⇓Lg	Lg	05 08 14.0	
	0.8nm,0.4s,baz=126,slow=24,SNR=3.6						
ARXS	**Arharly**	**4.84**	**26**	Pg	**Pg**	**05 07 15.8**	**-3.1**
	1.4nm,0.4s						
ARXS				Lg	Lg	05 08 18.4	
	2.8nm,0.4s						
AB31	**Akbulak array**	**14.17**	**316**	P	**Pn**	**05 09 05.1**	**-1.7**
	0.5nm,0.7s,baz=123,slow=12,SNR=4.7						

IDC 12 05:12:04.8±9.2, 26°33′N×58°42′E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.1/38, mbtmp3.5/3, Error ellipse: s-maj=186.9km s-min=55.5km az=113.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**24.61**	**309**	P	P	05 17 27.0	0.0
	0.8nm,0.8s,baz=121,slow=9.6,SNR=5.7						
FINES	**FINESS Array B**	**41.31**	**337**	P	P	05 19 51.7	-0.2
	0.7nm,0.9s,baz=134,slow=10.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**54.60**	**268**	P	P	05 21 35.4	-0.1
	0.3nm,0.6s,baz=82,slow=7.2,SNR=3.4						

*IDC **12** 05:22:05.5±2.4, 0°.25N×97°.64E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.6/40, mbtmp3.8/7, ML4.2/1, Error ellipse: s-maj=82.7km s-min=20.4km az=61.0*
*ISCJB **12** 05:22:07.4±2.0, 0°.3N±0°.2×97°.6E±0°.4, h25km, mb3.9/6, Error ellipse: s-maj=61.4km s-min=16.4km az=154.3*

ISC 12 05:22:09.5±2.5, 0°.3N±0°.3×97°.7E±0°.5, h25km, n10, σ0§10/7, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.10**	**4**	P	**Pn**	**05 26 19.4**	**0.0**
	0.3nm,0.3s,baz=193,slow=11,SNR=9.1						
H08S2	**Diego Garcia H**	**26.34**	**252**	T	T	05 55 02.2	
	baz=73,slow=75,SNR=404						
H08S3	**Diego Garcia H**	**26.35**	**252**	T	T	05 55 00.3	
	baz=73,slow=75,SNR=306						
H08S1	**Diego Garcia H**	**26.36**	**252**	T	T	05 55 00.9	
	baz=73,slow=75,SNR=412						
WRA	**Warramunga Arr**	**41.13**	**121**	P	**P**	**05 29 51.9**	**-0.1**
	0.5nm,0.5s,baz=312,slow=9.1,SNR=7.5						
ASAR	**Alice Springs**	**42.45**	**127**	P	**P**	**05 30 02.8**	**+0.1**
	0.8nm,0.6s,baz=299,slow=8.2,SNR=10.0						
KSRS	**Korea Array**	**46.32**	**34**	P	**P**	**05 30 33.4**	**0.0**
	1.3nm,0.8s,baz=219,slow=8.9,SNR=4.0						
SONM	**Songino Array**	**47.96**	**8**	P	**P**	**05 30 46.3**	**+0.1**
	0.9nm,0.7s,baz=191,slow=7.9,SNR=5.1						
MKAR	**Makanchi Array**	**48.25**	**346**	P	**P**	**05 30 48.2**	**-0.1**
	0.9nm,0.7s,baz=159,slow=7.5,SNR=9.3						
ZALV	**Zalesovo Beam**	**54.54**	**351**	P	**P**	**05 31 35.3**	**0.0**
	1.7nm,0.4s,baz=180,slow=7.2,SNR=8.4						

ARO 12 05:40:37.1, 16°N±19°×4°2E±8°, h15km±99km, Ml3.9, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**3.92**	**174**	eP	Pn	05 41 37.9	+1.0
OBO	**Obock**	**4.26**	**160**	eP	Pn	05 41 42.9	+1.4
TDD	**Tadjoura Ara**	**4.32**	**165**	eP	Pn	05 41 43.7	+1.3
KSDD	**Koussour**	**4.50**	**172**	eP	Pn	05 41 46.4	+1.6
ATD	**Arta Tunnel**	**4.58**	**167**	eP	Pn	05 41 47.6	+1.7
ATD	**Arta Tunnel**	**4.58**	**167**	eP	Pn	05 41 47.7	+1.8
ATD				eS	Sn	05 42 45.0	+6.1
SGH	**Sud-Ghoubbet**	**4.62**	**170**	eP	Pn	05 41 48.5	+1.8
ATA	**Atar**	**4.74**	**163**	eP	Pn	05 41 50.3	+2.2

*NEIC **12** 05:42:05.8±0.0, 16°.18N×98°.23W, h8km, MD4.0(MEX), After MEX.*

MEX 12 05:42:05.5±0.7, 16°17N×98°23W, h7km±3km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.24**	**25**	ePg	Pg	05 42 09.8	-0.6
PNIG				eSg	Sg	05 42 14.2	+0.5
PNIG	**Pinotepa**	**0.24**	**25**	*i* P	Pg	05 42 09.8	-0.6
PNIG				*i* S	Sg	05 42 14.2	+0.5
TLIG	**Tlapa**	**1.42**	**347**	ePn	Pn	05 42 27.9	-3.9
TLIG				eSn	Sb	05 42 47.0	-3.9
TLIG	**Tlapa**	**1.42**	**347**	eP	Pn	05 42 27.6	-4.3
TLIG				eS	Sb	05 42 45.8	-5.1
CAIG	**El Cayaco**	**2.14**	**294**	ePn	Pn	05 42 39.1	-2.5
CAIG				eSn	Sn	05 43 04.7	-3.7
CAIG	**El Cayaco**	**2.14**	**294**	eP	Pn	05 42 39.1	-2.5
CAIG				eS	Sn	05 43 04.7	-3.7
MEIG	**Mezcala**	**2.19**	**323**	ePn	Pn	05 42 38.1	-4.3
MEIG				eSn	Sn	05 43 05.9	-4.1
MEIG	**Mezcala**	**2.19**	**323**	*i* P	Pn	05 42 38.6	-3.9
MEIG				eS	Sn	05 43 05.9	-4.1
PLIG	**Platanillo**	**2.52**	**331**	ePn	Pn	05 42 44.5	-2.5
PLIG				eSn	Sn	05 43 16.4	-1.7
PLIG	**Platanillo**	**2.52**	**331**	eP	Pn	05 42 44.5	-2.5
PLIG				*i* S	Sn	05 43 13.1	-4.9
LVIG	**Laguna Verde**	**3.94**	**26**	ePn	Pn	05 43 07.1	+0.8
MOIG	**Morelia**	**4.48**	**322**	ePn	Pn	05 43 12.4	-1.7
CCIG	**Comitan**	**5.86**	**88**	ePn	Pn	05 43 32.9	-0.1
CCIG				eSn	Sn	05 44 41.0	+0.5

IDC 12 05:46:50.0±3.8, 4°92S×106°47E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.4/46, mbtmp3.9/3, Error ellipse: s-maj=208.9km s-min=71.4km az=39.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.96**	**121**	P	P	05 53 09.5	+0.4
	0.5nm,0.6s,baz=301,slow=9.2,SNR=10						
WRA				PcP	PcP	05 56 05.5	-0.2
	0.6nm,1.0s,baz=312,slow=2.1,SNR=5.9						
ASAR	**Alice Springs**	**32.35**	**128**	P	P	05 53 21.4	0.0
	0.6nm,0.4s,baz=298,slow=7.5,SNR=14						
STKA	**Stephens Creek**	**42.43**	**133**	P	P	05 54 46.0	-0.7
	1.4nm,0.4s,baz=319,slow=9.8,SNR=5.3						

*MDD **12** 05:53:19.9±0.6, 33°.17N×16°.80W, h32km±10km, mb4.5/9, Error ellipse: s-maj=7.7km s-min=3.5km az=136.0, PRXIMO*
*CNRM **12** 05:53:19.6, 33°.17N×16°.68W, h15km, ml3.4*
*IGIL **12** 05:53:21.0, 33°.20N×16°.83W, h11km, ML2.5*
*INMG **12** 05:53:21.5±1.2, 33°.21N×16°.84W, h0km±5km, MD3.1, ML3.0, Error ellipse: s-maj=4.2km s-min=3.1km az=118.0*

ISC 12 05:53:15.2±1.0, 33°32N±0°.05×16°82W±0°.05, h10km, n73, σ3§42/98, 2C-4D, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**0.48**	**121**	⇓eP	**Pb**	**05 53 28.5**	**+2.8**
PMPST				eS	**Sb**	**05 53 34.6**	**+1.8**
PMPST				A	A	05 53 35.0	
	1μm,0.3s						
PMPS	**Porto Santo**	**0.49**	**123**	⇓eP	**Pb**	**05 53 28.6**	**+2.6**
PMPS				eS	**Sb**	**05 53 34.7**	**+1.5**
PMPS				A	A	05 53 36.1	
	679nm,0.2s						
PMPS	**Porto Santo**	**0.49**	**123**	P	**Pb**	**05 53 28.5**	**+2.6**
PMPS				S	**Sb**	**05 53 34.6**	**+1.4**
	743nm,0.3s						
PMOZ	**Porto Moniz, M**	**0.59**	**212**	⇑eP	**Pg**	**05 53 29.5**	**+2.8**
PMOZ				eS	**Sg**	**05 53 36.2**	**+1.7**
PMOZ				A	A	05 53 41.1	
	2μm,0.3s						
PMOZ	**Porto Moniz, M**	**0.59**	**212**	⇑P	**Pg**	**05 53 29.6**	**+2.8**
	210nm,0.2s,SNR=18						
PMOZ				S	**Sg**	**05 53 36.2**	**+1.7**
	SNR=7.9						
PMOZ	**Porto Moniz, M**	**0.59**	**212**	P	**Pg**	**05 53 29.5**	**+2.8**
PMOZ				S	**Sg**	**05 53 38.0**	**+3.6**
PMAR	**Madeira**	**0.60**	**187**	⇓eP	**Pg**	**05 53 29.6**	**+2.6**
PMAR				eS	**Sg**	**05 53 36.3**	**+1.4**
PMAR				A	A	05 53 38.5	
	2μm,0.2s						
PMAR	**Madeira**	**0.60**	**187**	P	**Pg**	**05 53 29.6**	**+2.6**
PMAR				S	**Sg**	**05 53 36.3**	**+1.4**
	868nm,0.2s						
PMAR	**Madeira**	**0.60**	**187**	P	**Pg**	**05 53 29.5**	**+2.6**
PMAR				S	**Sb**	**05 53 37.4**	**+0.8**
FUL	**Funchal**	**0.68**	**185**	⇓eP	**Pg**	**05 53 30.4**	**+2.1**
FUL				eS	**Sg**	**05 53 38.0**	**+0.8**
FUL				A	A	05 53 39.4	
	1μm,0.2s						
FUL	**Funchal**	**0.68**	**185**	P	**Pg**	**05 53 30.4**	**+2.1**
FUL				S	**Sg**	**05 53 38.0**	**+0.8**
	506nm,0.2s						
TBT	**Taburiente**	**4.72**	**192**	P	**Pn**	**05 54 26.3**	**-0.3**
	15nm,0.2s,SNR=7.9						
TBT				S	Sn	05 55 13.1	-8.3
	37nm,0.2s,SNR=7.9						
EBAJ	**Bajamar**	**4.79**	**175**	P	**Pn**	**05 54 26.3**	**-1.1**
	0.6nm,0.1s,SNR=7.9						
EBAJ				S	**Sn**	**05 55 15.6**	**-7.4**
	SNR=7.9						
EHIG	**Higuera**	**4.83**	**190**	S	**Sn**	**05 55 17.0**	**-7.1**
	14nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**5.16**	**184**	P	**Pn**	**05 54 30.4**	**-2.1**
	3.1nm,0.1s,SNR=6.3						
EGOM				S	Sn	05 55 23.5	-8.6
	15nm,0.2s,SNR=4.8						
CFUE	**Fuerteventura**	**5.28**	**151**	P	**Pn**	**05 54 33.7**	**-0.5**
	7.8nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**05 55 29.0**	**-6.1**
	5.2nm,0.1s,SNR=7.9						
EOSO	**Osorio**	**5.35**	**168**	P	**Pn**	**05 54 34.5**	**-0.7**
	2.0nm,0.1s,SNR=7.9						
EOSO				S	**Sn**	**05 55 29.4**	**-7.5**
	1.7nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**5.43**	**154**	P	**Pn**	**05 54 35.8**	**-0.6**
	1.8nm,0.2s,SNR=7.9						
CFTV				S	**Sn**	**05 55 32.3**	**-6.6**
	1.4nm,0.2s,SNR=7.9						
CTIG	**El Hierro**	**5.60**	**190**	S	**Sn**	**05 55 36.5**	**-6.4**
	14nm,0.2s,SNR=7.9						
CCUM	**Cumbre, El Hie**	**5.66**	**191**	S	**Sn**	**05 55 38.7**	**-5.8**
	10nm,0.1s,SNR=7.9						
CHIE	**El Hierro**	**5.66**	**190**	S	**Sn**	**05 55 38.0**	**-6.6**
	3.0nm,0.2s,SNR=7.9						
CJUL	**El Julon, El H**	**5.68**	**191**	S	**Sn**	**05 55 38.4**	**-6.8**
	17nm,0.1s,SNR=7.9						
CORC	**Orchilla, El H**	**5.71**	**192**	S	**Sn**	**05 55 39.7**	**-6.2**
	26nm,0.2s,SNR=7.9						
SRHM	**Skhour des Reh**	**7.55**	**94**	P	**Pn**	**05 55 05.1**	**-0.4**
SRHM				S	**Sn**	**05 56 30.9**	**-0.3**
PFVI	**Vila Bisbo**	**7.57**	**58**	ePn	**Pn**	**05 55 08.7**	**+3.1**
PFVI				eSn	**Sn**	**05 56 27.0**	**-4.4**
MORF	**Marmelete**	**7.77**	**57**	eP	**Pn**	**05 55 11.5**	**+3.1**
MORF	**Marmelete**	**7.77**	**57**	ePn	**Pn**	**05 55 11.4**	**+3.0**
MORF				eSn	**Sn**	**05 56 33.5**	**-3.0**
MORF				A	A	05 56 37.0	
	5.3nm,0.2s						
MORF	**Marmelete**	**7.77**	**57**	P	**Pn**	**05 55 11.4**	**+3.0**
MORF				S	**Sn**	**05 56 33.5**	**-3.0**
	5.3nm,0.2s						
PTEO	**Sao Teotonio**	**7.84**	**55**	ePn	**Pn**	**05 55 12.7**	**+3.4**
PTEO	**Sao Teotonio**	**7.84**	**55**	P	**Pn**	**05 55 12.7**	**+3.4**
PBDV	**Barranco-do-Ve**	**8.26**	**59**	ePn	**Pn**	**05 55 18.0**	**+2.9**
PBDV				eSn	Sn	05 56 42.6	-5.8
PBDV				A	A	05 56 53.7	
	3.6nm,0.8s						
PBDV	**Barranco-do-Ve**	**8.26**	**59**	P	**Pn**	**05 55 18.0**	**+2.9**
PBDV				S	Sn	05 56 42.6	-5.8
	3.6nm,0.8s						
PNCL	**Nicolau / Gran**	**8.26**	**52**	ePn	**Pn**	**05 55 18.1**	**+3.0**
PNCL				eSn	Sn	05 56 43.5	-5.0
PNCL				A	A	05 56 59.4	
	3.4nm,0.8s						
PNCL	**Nicolau / Gran**	**8.26**	**52**	P	**Pn**	**05 55 18.1**	**+3.0**
PNCL				S	Sn	05 56 43.5	-5.0
	3.4nm,0.8s						
PMAFR	**Mafra**	**8.29**	**45**	ePn	**Pn**	**05 55 17.5**	**+2.0**
PMAFR				eSn	Sn	05 56 42.7	-6.6
PMAFR				A	A	05 56 51.3	
	16nm,0.6s						
PMAFR	**Mafra**	**8.29**	**45**	P	**Pn**	**05 55 16.3**	**+0.7**
	1.0nm,0.1s,SNR=7.9						
PMAFR				S	Sn	05 56 42.5	-6.8
	6.1nm,0.2s,SNR=7.9						
MESJ	**Messejana**	**8.33**	**55**	eP	**Pn**	**05 55 19.3**	**+3.2**
MESJ				eS	Sn	05 56 45.3	-4.9
MESJ				AML	AML	05 56 51.9	
	comp=N,2.9nm,0.7s						
MESJ	**Messejana**	**8.33**	**55**	ePn	**Pn**	**05 55 19.8**	**+3.7**
MESJ				eSn	**Sn**	**05 56 45.5**	**-4.7**
MESJ				A	A	05 56 47.8	
	comp=N,2.8nm,0.6s						
MESJ	**Messejana**	**8.33**	**55**	P	**Pn**	**05 55 19.8**	**+3.7**
MESJ				S	**Sn**	**05 56 45.5**	**-4.7**
	comp=N,2.8nm,0.6s						
PCVE	**Castro Verde**	**8.35**	**57**	ePn	**Pn**	**05 55 20.0**	**+3.6**
PCVE				eSn	Sn	05 56 44.9	-5.9
PCVE				A	A	05 56 52.4	
	comp=N,3.7nm,0.7s						
PCVE	**Castro Verde**	**8.35**	**57**	P	**Pn**	**05 55 20.0**	**+3.6**
PCVE				S	Sn	05 56 44.9	-5.9
	comp=N,3.7nm,0.7s						
PVAQ	**Vaqueiros**	**8.48**	**59**	eSn	Sn	05 56 48.5	-5.3
PVAQ	**Vaqueiros**	**8.48**	**59**	S	Sn	05 56 48.5	-5.3
ZHG	**ZHG**	**8.52**	**86**	P	**Pn**	**05 55 21.5**	**+2.8**
ZHG				S	**Sn**	**05 56 49.9**	**-5.0**
PBEJ	**Beja**	**8.67**	**55**	ePn	**Pn**	**05 55 25.0**	**+4.3**
PBEJ				eSn	**Sn**	**05 56 56.1**	**-2.4**
PBEJ	**Beja**	**8.67**	**55**	P	**Pn**	**05 55 25.0**	**+4.3**
PBEJ				S	**Sn**	**05 56 56.1**	**-2.4**
EGRO	**El Granado**	**8.70**	**59**	P	**Pn**	**05 55 24.0**	**+2.9**
	comp=N,0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	05 56 53.6	-5.7
	comp=N,0.8nm,0.2s,SNR=7.9						
EVO	**Evora**	**8.83**	**51**	ePn	**Pn**	**05 55 25.7**	**+2.7**
EVO				eSn	Sn	05 56 56.2	-6.4
EVO				A	A	05 57 02.2	
	comp=N,2.9nm,0.7s						
EVO	**Evora**	**8.83**	**51**	P	**Pn**	**05 55 25.7**	**+2.7**
EVO				S	Sn	05 56 56.2	-6.4
	comp=N,2.9nm,0.7s						
OUZM	**OUZ**	**8.87**	**103**	P	**Pn**	**05 55 26.1**	**+2.5**
OUZM				S	**Sn**	**05 57 01.7**	**-2.0**
PMTG	**Montargil**	**9.01**	**48**	ePn	**Pn**	**05 55 27.1**	**+1.8**
PMTG				eSn	Sn	05 57 00.7	-6.1
PMTG	**Montargil**	**9.01**	**48**	P	**Pn**	**05 55 27.1**	**+1.8**
PMTG				S	Sn	05 57 00.7	-6.1
PTOM	**Tomar**	**9.24**	**45**	ePn	**Pn**	**05 55 31.8**	**+3.3**
PTOM	**Tomar**	**9.24**	**45**	P	**Pn**	**05 55 31.8**	**+3.3**
EMIN	**Mina Concepcio**	**9.38**	**59**	P	**Pn**	**05 55 33.2**	**+2.7**
	comp=N,0.8nm,0.1s,SNR=8.5						
EMIN				S	**Sn**	**05 57 10.9**	**-5.2**
	comp=N,0.5nm,0.1s,SNR=7.9						
PCAS	**Casmilo, Conde**	**9.47**	**42**	ePn	**Pn**	**05 55 34.2**	**+2.5**
PCAS				eSn	Sn	05 57 11.9	-6.4
PCAS	**Casmilo, Conde**	**9.47**	**42**	P	**Pn**	**05 55 34.2**	**+2.5**
PCAS				S	Sn	05 57 11.9	-6.4
EBAD	**Badajoz**	**9.61**	**53**	P	**Pn**	**05 55 36.7**	**+3.1**
	comp=N,0.6nm,0.1s,SNR=7.5						
EBAD				S	Sn	05 57 15.8	-5.9
	comp=N,0.6nm,0.1s,SNR=7.9						
ESPR	**Espera**	**9.66**	**65**	P	**Pn**	**05 55 37.2**	**+2.9**
	comp=N,1.3nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**05 57 17.1**	**-5.7**
	comp=N,1.4nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**9.74**	**49**	ePn	**Pn**	**05 55 36.9**	**+1.5**
PMRV				eSn	Sn	05 57 16.7	-8.2
PMRV				A	A	05 57 25.7	
	comp=N,2.4nm,0.8s						
PMRV	**Marv??o**	**9.74**	**49**	P	**Pn**	**05 55 36.9**	**+1.5**
PMRV				S	Sn	05 57 16.7	-8.2
	comp=N,2.4nm,0.8s						
PCBR	**Castelo Branco**	**9.94**	**46**	ePn	**Pn**	**05 55 40.2**	**+2.2**
PCBR	**Castelo Branco**	**9.94**	**46**	P	**Pn**	**05 55 40.2**	**+2.2**
MD31	**MD31**	**10.13**	**89**	P	**Pn**	**05 55 43.8**	**+2.9**
MD31				S	**Sn**	**05 57 35.1**	**+0.5**
PVIS	**Viseu**	**10.26**	**41**	eSn	Sn	05 57 31.3	-6.4
PVIS	**Viseu**	**10.26**	**41**	S	Sn	05 57 31.3	-6.4
MDT	**Midelt**	**10.27**	**89**	P	**Pn**	**05 55 46.4**	**+3.7**
MDT				S	**Sn**	**05 57 38.4**	**+0.5**
ECAB	**El Cabril**	**10.41**	**60**	P	**Pn**	**05 55 47.1**	**+2.4**
	comp=N,1.3nm,0.4s,SNR=8.6						
ECAB				S	Sn	05 57 34.5	-6.9
	comp=N,0.3nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**10.97**	**36**	eSn	Sn	05 57 47.3	-7.7
PGAV	**Gavieira, Arco**	**10.97**	**36**	S	Sn	05 57 47.3	-7.7
MVO	**Moncorvo**	**11.05**	**42**	ePn	**Pn**	**05 55 54.5**	**+1.1**
MVO				eSn	Sn	05 57 50.0	-7.0
EADA	**Adamuz**	**11.06**	**61**	P	**Pn**	**05 55 56.1**	**+2.5**
	comp=N,0.0nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**05 57 52.7**	**-4.6**
	comp=N,0.2nm,0.1s,SNR=7.9						
JBK	**JBK**	**11.90**	**81**	P	**Pn**	**05 56 05.4**	**+0.2**
JBK				S	**Sn**	**05 58 17.6**	**-0.5**

*NIED **12** 05:54:00, 36°.50N×140°.70E, h59km, Mw3.6 Best double couple: M0=2.40000×10^14 NP1:φs=198.00000°, δ=19.00000°, λ=137.00000°. NP2:φs=329.00000°, δ=77.00000°, λ=76.00000°.*
*ISCJB **12** 05:54:54.5±0.6, 36°.52N±0°.03×140°.77E±0°.07, h61km±5km, mb3.8/2, Error ellipse: s-maj=9.4km s-min=5.4km az=7.8*
*JMA **12** 05:54:55.7, 36°.53N×140°.70E, h55km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs=323.00000°, δ=79.00000°, λ=79.00000°. NP2: φs=188.00000°, δ=16.00000°, λ=134.00000°. Principal axes: T Plg55.0000°, Azm219.0000°; N Plg11.0000°, Azm325.0000°; P Plg33.0000°, Azm62.0000°;*
JMA Felt II J1.
*IDC **12** 05:54:55.9±2.6, 36°.54N×140°.75E, h57km±24km, mb3.4/2, mb1 3.7/5, mb1mx3.2/43, mbtmp3.8/5, ML3.5/3, MS2.0/2, Ms1 2.0/2, ms1mx1.8/38 Error ellipse: s-maj=44.2km s-min=16.2km az=91.0*

ISC 12 05:54:55.7±1.1, 36°54N±0°.04×140°73E±0°.07, h54km±7km, n24, σ0§72/27, 4C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.15**	**301**	⇑P	**Pn**	**05 55 04.4**	**+0.2**
JHO				eS	**Sn**	**05 55 10.2**	**-0.1**
JHYU	**Hitachinakayam**	**0.23**	**210**	P	**Pn**	**05 55 04.8**	**+0.2**
JHYU				eS	**Sn**	**05 55 11.2**	**+0.2**
JYT	**Yasato**	**0.53**	**234**	⇓P	**Pn**	**05 55 07.4**	**-0.1**
JYT				eS	**Sn**	**05 55 15.5**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.57**	**6**	⇑P	**Pn**	**05 55 07.8**	**-0.3**
ONAJ				eS	**Sn**	**05 55 16.6**	**-0.4**
JSB	**Shiboa**	**0.78**	**304**	⇓P	**Pn**	**05 55 10.8**	**+0.2**
JSB				eS	**Sn**	**05 55 21.8**	**+0.2**
JFK	**Kawauchi**	**0.84**	**8**	⇑P	**Pn**	**05 55 11.0**	**-0.4**
JFT	**Otama**	**1.03**	**343**	P	**Pn**	**05 55 14.2**	**+0.3**
JFT				eS	**Sn**	**05 55 27.7**	**+0.3**
JAG	**Ashikaga**	**1.03**	**264**	⇓P	**Pn**	**05 55 14.0**	**+0.1**
JFY	**Yanaizu**	**1.19**	**317**	P	**Pn**	**05 55 16.7**	**+0.6**
JFY				eS	**Sn**	**05 55 32.2**	**+0.9**
JKT	**Katashina**	**1.21**	**281**	P	**Pn**	**05 55 16.7**	**+0.3**
JKT				eS	**Sn**	**05 55 32.1**	**+0.3

AB31	**Akbulak array**	**5.47**	**278**	⇓Lg	Lg	06 04 16.7	
	1.7nm,0.8s						
KK31	**Karatay Array**	**5.88**	**163**	⇑Sn	Sn	06 03 57.7	-1.5
	0.2nm,0.3s,baz=0.9,slow=12,SNR=4.3						
KK31				⇑Lg	Lg	06 04 27.4	
	0.7nm,0.5s,baz=350,slow=43,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.94**	**71**	⇑Lg	Lg	06 05 02.3	
	5.0nm,0.5s						
KUU	**Kurty**	**7.43**	**128**	Pg	Pg	06 03 42.4	-2.6
	0.7nm,0.2s						
KUU				Lg	Lg	06 05 20.8	
	1.9nm,0.3s						
DGS	**Degeres**	**7.62**	**134**	Pg	Pg	06 03 46.7	-1.9
	1.2nm,0.4s						
DGS				Lg	Lg	06 05 28.4	
	5.9nm,0.8s						
KTBS	**Karatobe**	**7.74**	**128**	Pg	Pg	06 03 48.4	-2.5
	1.3nm,0.7s						
KTBS				Lg	Lg	06 05 31.7	
	5.8nm,0.6s						
CHKK	**Chushkaly**	**7.80**	**126**	Pg	Pg	06 03 49.3	-2.8
	0.9nm,0.3s						
CHKK				Lg	Lg	06 05 33.2	
	5.0nm,0.3s						
MK31	**Makanchi Array**	**9.68**	**96**	⇑Lg	Lg	06 06 27.0	
	0.8nm,0.7s,baz=230,slow=5.6,SNR=3.6						

ISCJB ***12*** *06:13:13.0±0.2,26°.62N±0'.02×57°.94E±0'.03,h10km, mb4.1/40,MS3.1/6,Error ellipse: s-maj=4.5km s-min=3.2km az=20.4*
IDC ***12*** *06:13:13.9±0.9,26°.53N×57°.65E,h0km,mb3.7/16, mb1 3.9/17,mb1mx3.7/43,mbtmp3.8/17,ML4.0/1,MS3.2/7, Ms1 3.2/7,ms1mx2.9/38,Error ellipse: s-maj=19.2km s-min=17.2km az=178.0*
DSN ***12*** *06:13:13.5±3.5,26°.63N×58°.07E,h10km,ML4.1/7,Error ellipse: s-maj=50.1km s-min=13.7km az=5.0*
NEIC ***12*** *06:13:14.4±0.0,26°.60N×57°.92E,h8km,mb4.1/28, MN4.2(TEH),After TEH.*
MOS ***12*** *06:13:14.5±1.4,26°.82N×57°.93E,h10km,mb4.2/18,Error ellipse: s-maj=9.9km s-min=6.9km az=82.3*
OMAN ***12*** *06:13:14.7±0.5,26°.70N×57°.99E,h17km,ml3.8/11,Error ellipse: s-maj=10.1km s-min=7.9km az=11.0*
TEH ***12*** *06:13:17.3,26°.69N×57°.69E,h15km,ML4.0*
ISC 12 06:13:14.1±0.4,**26°.58N**±0'.04×**57°.95E**±0'.04,**h10**km,**n160,** σ1$**51**/158,**mb4.2**/40,**MS3.1**/6,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.40**	**315**	*e*Pn	**Pn**	**06 13 39.1**	**-0.5**
NIAN	**Nian**	**1.40**	**315**	*e*Pg	**Pn**	**06 13 39.1**	**-0.5**
NIAN				IAMB	IAmb	06 14 03.6	
	comp=Z,0.0nm,0.4s						
SHME	**Shamm**	**1.71**	**252**	*e*P	**Pn**	**06 13 44.5**	**+0.6**
	SNR=79						
SHME				S	**Sg**	**06 14 08.9**	**-0.1**
SHME	**Shamm**	**1.71**	**252**	*e*Pn	**Pb**	**06 13 44.7**	**-0.9**
GENO	**Geno**	**1.79**	**298**	*e*Pn	**Pn**	**06 13 44.8**	**-0.4**
GENO	**Geno**	**1.79**	**298**	*e*Pn	**Pn**	**06 13 45.5**	**+0.3**
GENO				IAMB	IAmb	06 14 16.9	
	comp=Z,0.0nm,0.7s						
BNDS	**Bandar-Abbas**	**1.79**	**298**	*e*Pg	Pn	06 13 40.3	-4.9
MDH	**Madha**	**1.96**	**230**	P	**Pn**	**06 13 46.0**	**-1.4**
MDH				S	**Sb**	**06 14 14.5**	**+0.1**
MSFE	**Esma-Masafi**	**2.02**	**233**	*e*P	**Pn**	**06 13 47.9**	**-0.4**
	SNR=30						
MSFE	**Esma-Masafi**	**2.02**	**233**	*e*Pn	**Pn**	**06 13 46.9**	**-1.3**
UMQ	**Umm Al-Quwin**	**2.31**	**244**	*e*Pn	**Pn**	**06 13 53.6**	**+1.4**
HATD	**Hatta, Dubai**	**2.40**	**224**	*e*P	**Pn**	**06 13 53.0**	**-0.4**
	SNR=25						
HATD	**Hatta, Dubai**	**2.40**	**224**	P	**Pn**	**06 13 54.2**	**+0.8**
	SNR=9.9						
HATD	**Hatta, Dubai**	**2.40**	**224**	*e*Pn	**Pn**	**06 13 53.2**	**-0.2**
CHBR	**Chabahar**	**2.48**	**113**	*e*Pn	**Pg**	**06 14 02.0**	**+0.4**
ASHO	**Ashiyiah**	**2.55**	**223**	*e*P	**Pn**	**06 13 56.3**	**+0.9**
	SNR=25						
ASHO	**Ashiyiah**	**2.55**	**223**	P	**Pn**	**06 13 55.3**	**-0.2**
	SNR=17						
ASHO				S	**Sb**	**06 14 33.3**	**+2.0**
ASHO	**Ashiyiah**	**2.55**	**223**	*e*Pn	**Pn**	**06 13 54.8**	**-0.7**
NAZ	**Nazwa, Dubai**	**2.60**	**233**	*e*P	**Pb**	**06 13 58.9**	**-2.0**
	SNR=16						
NAZ	**Nazwa, Dubai**	**2.60**	**233**	P	**Pb**	**06 14 00.1**	**-0.7**
	SNR=28						
NAZ	**Nazwa, Dubai**	**2.60**	**233**	*e*Pn	**Pn**	**06 13 56.8**	**+0.6**
SOHO	**SOHO**	**2.75**	**208**	P	**Pn**	**06 13 56.9**	**-1.4**
	SNR=6.6						
FAQ	**Al Faqa, Dubai**	**2.81**	**230**	*e*P	**Pn**	**06 14 00.7**	**+1.7**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**2.81**	**230**	P	**Pn**	**06 14 01.2**	**+2.2**
FAQ	**Al Faqa, Dubai**	**2.81**	**230**	*e*Pn	**Pn**	**06 14 01.0**	**+2.0**
HOQ	**Hoqain**	**3.04**	**191**	P	**Pn**	**06 14 02.5**	**+0.2**
	SNR=6.9						
BIDO	**Bidbid**	**3.05**	**177**	P	**Pb**	**06 14 05.9**	**-2.6**
	SNR=6.0						
ASUD	**Al Ashush, Dub**	**3.06**	**231**	*i* P	**Pn**	**06 14 04.7**	**+2.1**
	SNR=7.2						
ASUD	**Al Ashush, Dub**	**3.06**	**231**	P	**Pn**	**06 14 05.3**	**+2.7**
	SNR=7.9						
ASUD	**Al Ashush, Dub**	**3.06**	**231**	*e*Pn	**Pn**	**06 14 05.0**	**+2.4**
ALNE	**Al Ain**	**3.21**	**219**	*e*Pn	**Pn**	**06 14 05.4**	**+0.9**
NGRK	**Negar Kerman**	**3.24**	**341**	*e*Pn	**Pn**	**06 14 06.3**	**+1.0**
NGRK	**Negar Kerman**	**3.24**	**341**	*e*Pn	**Pn**	**06 14 06.8**	**+1.5**
NGRK				IAMB	IAmb	06 15 02.8	
	comp=Z,0.0nm,1.2s						
CHMN	**Cheshme madani**	**3.29**	**354**	*e*Pn	**Pn**	**06 14 07.8**	**+1.8**
CHMN	**Cheshme madani**	**3.29**	**354**	IAMB	IAmb	06 14 33.4	
	comp=Z,0.0nm,0.8s						
CHMN				*e*Pn	**Pn**	**06 14 08.2**	**+2.2**
AJN	**Ajban**	**3.35**	**234**	P	**Pb**	**06 14 11.5**	**-2.0**
	SNR=6.1						
WSAR	**Wadi Sarin**	**3.38**	**169**	Pn	**Pn**	**06 14 08.3**	**+1.3**
	comp=Z,16nm,0.3s,baz=349,slow=13,SNR=82						
WSAR				Sn	**Sn**	**06 14 47.0**	**-0.1**
	comp=Z,8.8nm,0.3s,baz=307,slow=23,SNR=12						
TVBK	**TV Kerman**	**3.55**	**343**	*e*Pn	**Pn**	**06 14 12.1**	**+2.5**
TVBK				IAMB	IAmb	06 14 23.9	
	comp=Z,0.0nm,0.4s						
SZD1	**Zahaedan-tmp**	**3.88**	**41**	*e*Pn	**Pb**	**06 14 20.1**	**-2.5**
ZHSF	**Zahedan**	**3.92**	**39**	*e*Pn	**Pb**	**06 14 19.5**	**-3.9**
KHGB	**Koh Gabri**	**4.00**	**341**	*e*Pn	**Pn**	**06 14 17.7**	**+2.0**
KHGB				IAMB	IAmb	06 15 23.5	
	comp=Z,0.0nm,1.3s						
GHIR	**Ghir-Karzin**	**4.73**	**292**	*e*Pn	**Pn**	**06 14 23.0**	**-2.6**
BSRN	**Basiran**	**5.46**	**11**	*e*Pn	**Pn**	**06 14 38.1**	**+2.4**
MHTO	**MHTO**	**5.57**	**180**	P	**Pn**	**06 14 39.3**	**+2.3**
MHTO				S	**Sn**	**06 15 41.9**	**+0.8**
IMEH	**Mehriz**	**5.62**	**329**	*e*Pn	**Pn**	**06 14 40.4**	**+2.5**
IKOO	**Kooshah**	**5.90**	**9**	*e*Pn	Pn	06 14 46.6	+4.8
IKAZ	**Kazeroun**	**6.27**	**302**	*e*Pn	**Pn**	**06 14 45.2**	**-1.7**
IDAH	**Dahanechah**	**6.36**	**15**	*e*Pn	Pn	06 14 54.8	+6.7
YZKH	**Yazd**	**6.49**	**334**	*e*Pn	**Pn**	**06 14 48.9**	**-0.9**
TPRV	**Parvadeh(Tabas**	**6.52**	**351**	*e*Pn	**Pn**	**06 14 53.2**	**+3.0**
TKDS	**Koohdasht(Taba**	**7.05**	**354**	*e*Pn	**Pn**	**06 15 01.1**	**+3.7**
IRAM	**Ramesheh**	**7.13**	**318**	*e*Pn	**Pn**	**06 14 58.4**	**-0.3**
KHMZ	**Khomeyn**	**9.94**	**318**	*e*Pn	**Pn**	**06 15 35.9**	**-1.3**
GEYT	**Alibeck**	**11.32**	**1**	*e*Pn	**Pn**	**06 15 55.8**	**-0.1**
GEYT	**Alibeck**	**11.32**	**1**	LR	LR	06 20 59.6	
	comp=Z,109nm,18.8s,baz=225,slow=41						
GYA0B	**ALIBECK ARRAY**	**11.32**	**1**	*e*Pn	**Pn**	**06 15 56.1**	**+0.1**
KBL	**Kabul**	**12.41**	**48**	*e*Pn	**Pn**	**06 16 10.9**	**-0.2**
KBL	**Kabul**	**12.41**	**48**	*e*P	**Pn**	**06 16 10.9**	**-0.2**
KBL	**Kabul**	**12.41**	**48**	*e*Pn	**Pn**	**06 16 10.6**	**-0.5**
NIL	**Nilore**	**14.99**	**58**	*e*Pn	**Pn**	**06 16 46.4**	**+0.3**
	comp=Z,10nm,0.8s						
NIL	**Nilore**	**14.99**	**58**	*e*P	**Pn**	**06 16 46.4**	**+0.3**
NIL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NIL	**Nilore**	**14.99**	**58**	*e*Pn	**Pn**	**06 16 45.5**	**-0.6**
CHGR	**Chuyangaron**	**15.29**	**35**	*e*Pn	**Pn**	**06 16 49.0**	**-1.0**
	comp=Z,13nm,1.3s						
GAR	**Garm**	**16.15**	**37**	*e*Pn	**Pn**	**06 17 01.4**	**+0.1**
	comp=Z,7.1nm,1.0s						
GAR	**Garm**	**16.15**	**37**	*e*P	**Pn**	**06 17 01.4**	**+0.1**
GAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BTK	**Batken**	**17.19**	**35**	*e*Pn	**Pn**	**06 17 12.9**	**-1.5**
	comp=Z,5.2nm,0.7s						
BTK	**Batken**	**17.19**	**35**	*e*P	**Pn**	**06 17 12.9**	**-1.5**
BTK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DAMY	**Dhamar**	**17.41**	**229**	*e*Pn	**Pn**	**06 17 17.6**	**+0.1**
	comp=Z,10nm,0.4s						
GNI	**Garni**	**17.43**	**324**	*e*Pn	**Pn**	**06 17 17.9**	**+0.4**
	comp=Z,9.1nm,0.4s						
GNI	**Garni**	**17.43**	**324**	*e*P	**Pn**	**06 17 17.9**	**+0.4**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.4s						
AKH	**Akhalkalaki**	**19.00**	**325**	*e*P	**P**	**06 17 34.9**	**-1.2**
	comp=Z,4.7nm,0.9s						
AKH	**Akhalkalaki**	**19.00**	**325**	*e*P	**P**	**06 17 34.9**	**-1.2**
AKH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KK31	**Karatay Array**	**19.41**	**29**	*e*P	**P**	**06 17 40.8**	**+0.5**
	comp=Z,3.7nm,0.9s						
KK31	**Karatay Array**	**19.41**	**29**	*e*P	**P**	**06 17 40.8**	**+0.5**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KKAR	**Karatay Array**	**19.41**	**29**	*e*P	**P**	**06 17 40.9**	**+0.6**
KKAR	**Karatay Array**	**19.41**	**29**	*e*P	**P**	**06 17 40.9**	**+0.6**
EIL	**Elat**	**20.51**	**284**	P	**P**	**06 17 50.9**	**-1.6**
	comp=Z,2.1nm,0.6s,baz=94,slow=15,SNR=2.9						
EIL				LR	LR	06 27 31.0	
	comp=Z,39nm,19.0s,baz=257,slow=42						
MMAI	**Mount Meron Ar**	**20.57**	**294**	P	**P**	**06 17 53.7**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=96,slow=14,SNR=2.3						
ATD	**Arta Tunnel**	**20.65**	**226**	*e*P	**P**	**06 17 51.8**	**-2.3**
	comp=Z,9.1nm,0.7s						
AAK	**Ala-Archa**	**20.96**	**36**	*e*P	**P**	**06 17 56.9**	**-0.5**
	comp=Z,9.0nm,1.4s						
AAK	**Ala-Archa**	**20.96**	**36**	P	Pn	06 18 01.5	+1.5
	comp=Z,0.9nm,0.3s,baz=214,slow=7.6,SNR=3.5						
NRN	**Naryn**	**21.00**	**41**	*e*P	**P**	**06 17 56.8**	**-1.1**
	comp=Z,3.5nm,1.0s						
NRN	**Naryn**	**21.00**	**41**	*e*P	**P**	**06 17 56.8**	**-1.1**
NRN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV	**Kislovodsk**	**21.29**	**328**	*e*P	**P**	**06 17 58.9**	**-2.0**
	comp=Z,7.7nm,1.0s						
KIV	**Kislovodsk**	**21.29**	**328**	*e*P	**P**	**06 18 02.8**	**+1.9**
KIV				pmax	pmax		
	comp=Z,26nm,1.1s						
BOOM	**Boomskoye usch**	**21.64**	**38**	*e*P	**P**	**06 18 04.7**	**-0.1**
	comp=Z,6.9nm,1.0s						
BOOM	**Boomskoye usch**	**21.64**	**38**	*e*P	**P**	**06 18 04.7**	**-0.1**
BOOM				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KDJ	**Kajisay**	**22.12**	**41**	*e*P	**P**	**06 18 10.2**	**+0.3**
	comp=Z,9.9nm,1.1s						
KDJ	**Kajisay**	**22.12**	**41**	*e*P	**P**	**06 18 10.2**	**+0.3**
KDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TARG	**Taragay, Kyrgy**	**22.25**	**42**	*e*P	**P**	**06 18 11.5**	**0.0**
	comp=Z,3.5nm,0.7s						
ABKAR	**Akbulak array**	**22.69**	**3**	*e*P	**P**	**06 18 14.8**	**-0.9**
MNCI	**Minicoy**	**23.17**	**139**	*e*P	**P**	**06 18 20.6**	**-0.3**
	comp=Z,296nm,1.4s						
AKTO	**Aktyubinsk**	**23.82**	**0**	P	**P**	**06 18 28.6**	**+1.5**
	comp=Z,2.3nm,0.6s,baz=175,slow=12,SNR=11						
BRTR	**Keskin Array B**	**24.12**	**309**	*e*P	**P**	**06 18 29.1**	**-1.1**
BRTR	**Keskin Array B**	**24.12**	**309**	P	**P**	**06 18 30.9**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=125,slow=11,SNR=12						
BRTR				LR	LR	06 29 42.0	
	comp=Z,60nm,18.9s,baz=96,slow=41						
BR101	**Keskin Array S**	**24.12**	**309**	*e*P	**P**	**06 18 30.9**	**+0.6**
BR131	**Keskin Array S**	**24.12**	**309**	*e*P	**P**	**06 18 28.7**	**-1.5**
	comp=Z,4.0nm,1.0s						
SNOP	**Sinop**	**24.19**	**315**	*e*P	**P**	**06 18 31.0**	**+0.3**
	comp=Z,46nm,1.4s						
ILGA	**Ilgaz**	**24.67**	**312**	*e*P	**P**	**06 18 35.3**	**0.0**
	comp=Z,18nm,1.6s						
ANTO	**Ankara**	**24.77**	**309**	*e*P	**P**	**06 18 36.6**	**+0.5**
	comp=Z,6.3nm,0.5s						
ANTO	**Ankara**	**24.77**	**309**	*e*P	**P**	**06 18 36.6**	**+0.5**
ANTO				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MDUB	**Mudurnu**	**26.14**	**309**	*e*P	**P**	**06 18 48.8**	**+0.3**
	comp=Z,37nm,0.9s						
MANT	**Manisa**	**27.36**	**303**	*e*P	**P**	**06 18 57.0**	**-2.7**
	comp=Z,16nm,0.9s						
MAKZ	**Makanchi**	**27.72**	**37**	*e*P	**P**	**06 19 00.6**	**-1.9**
	comp=Z,2.2nm,1.0s						
MAKZ				*e*S	**S**	**06 23 43.9**	**-1.0**
MAKZ	**Makanchi**	**27.72**	**37**	*e*P	**P**	**06 19 00.6**	**-1.9**
MAKZ				*e*S	**S**	**06 23 43.9**	**-1.0**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MK32	**Makanchi Array**	**27.88**	**37**	*e*P	**P**	**06 19 07.2**	**+3.2**
MKAR	**Makanchi Array**	**27.88**	**37**	*e*P	**P**	**06 19 04.4**	**+0.4**
MKAR	**Makanchi Array**	**27.88**	**37**	*e*P	**P**	**06 19 04.4**	**+0.4**
MKAR	**Makanchi Array**	**27.88**	**37**	P	**P**	**06 19 07.2**	**+3.2**
	comp=Z,0.3nm,0.7s,baz=229,slow=10,SNR=3.0						
BVAR	**Borovoye Array**	**28.01**	**16**	P	**P**	**06 19 06.9**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=198,slow=9.1,SNR=3.0						
KURBB	**Kurchatov Arra**	**28.71**	**28**	P	**P**	**06 19 14.0**	**+2.7**
	comp=Z,0.5nm,0.6s,baz=227,slow=8.3,SNR=3.1						
KURK	**Kurchatov**	**28.82**	**28**	P	**P**	**06 19 14.0**	**+1.8**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SANT	**Santorini**	**29.27**	**298**	*e*P	**P**	**06 19 13.2**	**-3.2**
	comp=Z,45nm,1.1s						
WMQ	**Urumqi**	**29.56**	**47**	*e*P	**P**	**06 19 19.4**	**+0.4**
AKASG	**Malin Array Be**	**32.56**	**325**	P	**P**	**06 19 44.9**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=124,slow=8.0,SNR=6.5						
AKBB	**Malin Array Si**	**32.56**	**325**	*e*P	**P**	**06 19 45.5**	**+0.2**
	comp=Z,4.1nm,1.1s						
AKBB	**Malin Array Si**	**32.56**	**325**	*e*P	**P**	**06 19 45.5**	**+0.2**
AKBB				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIEV	**Kiev**	**32.56**	**325**	*e*P	**P**	**06 19 45.5**	**+0.2**
	comp=Z,4.0nm,1.1s						
KIEV	**Kiev**	**32.56**	**325**	*e*P	**P**	**06 19 45.5**	**+0.2**
KIEV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BURAR	**Bucovina Array**	**33.14**	**318**	*e*P	**P**	**06 19 50.0**	**-0.5**
BURAR	**Bucovina Array**	**33.14**	**318**	*e*P	**P**	**06 19 50.0**	**-0.5**
BUR08	**Bucovina Ar. S**	**33.16**	**318**	*e*P	**P**	**06 19 49.5**	**-1.2**
	comp=Z,3.3nm,1.5s						
FNA	**Florina**	**33.31**	**305**	*e*P	**P**	**06 19 51.1**	**-1.0**
	comp=Z,7.8nm,1.3s						
FNA	**Florina**	**33.31**	**305**	*e*P	**P**	**06 19 51.1**	**-1.0**
FNA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ZALV	**Zalesovo Beam**	**33.78**	**29**	*e*P	**P**	**06 19 55.0**	**-0.9**
ZALV	**Zalesovo Beam**	**33.78**	**29**	P	**P**	**06 19 59.1**	**+3.1**
	comp=Z,1.0nm,0.3s,baz=224,slow=11,SNR=3.5						
ZAA1	**Zalesovo Array**	**33.78**	**29**	*e*P	**P**	**06 19 59.1**	**+3.1**
TIR	**Tirane**	**34.56**	**305**	*e*P	**P**	**06 20 03.0**	**+0.2**
	comp=Z,12nm,0.6s						
TIR	**Tirane**	**34.56**	**305**	*e*P	**P**	**06 20 03.1**	**+0.2**
TIR				pmax	pmax		
	comp=Z,12nm,0.6s						
KOLS	**Kolonicke sedl**	**35.49**	**319**	*e*P	**P**	**06 20 11.6**	**+0.8**
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KOLS	**Kolonicke sedl**	**35.49**	**319**	*e*P	**P**	**06 20 11.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**38.59**	**93**	LR	LR	06 41 25.1	
	comp=Z,35nm,18.4s,baz=290,slow=44						
MOA	**Molln**	**40.08**	**314**	*e*P	**P**	**06 20 49.5**	**-0.2**
	comp=Z,1.2nm,0.6s						
CD2	**Chengdu**	**40.18**	**73**	*e*P	**P**	**06 20 47.7**	**-3.0**
KHC	**Kasperske Hory**	**40.89**	**315**	*e*P	**P**	**06 20 55.5**	**-0.8**
KHC	**Kasperske Hory**	**40.89**	**315**	*e*P	**P**	**06 20 55.5**	**-0.8**
FIA0	**FINESS Array S**	**40.91**	**337**	*e*P	**P**	**06 20 57.0**	**+0.7**
FIA0	**FINESS Array S**	**40.91**	**337**	*e*P	**P**	**06 20 57.0**	**+0.7**
FINES	**FINESS Array B**	**40.91**	**337**	P	**P**	**06 20 57.0**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**40.91**	**337**	P	**P**	**06 20 57.0**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=144,slow=13,SNR=9.0						
WTTA	**Wattenberg**	**41.66**	**312**	*e*P	**P**	**06 21 02.3**	**-0.6**
	comp=Z,4.6nm,0.8s						
WATA	**Walderalm**	**41.72**	**312**	*e*P	**P**	**06 21 03.2**	**-0.1**
	comp=Z,3.3nm,0.7s						
CLL	**Collm**	**41.91**	**318**	*e*P	**P**	**06 21 05.0**	**+0.4**
SQTA	**Sankt Quirin**	**41.93**	**312**	*e*P	**P**	**06 21 04.3**	**-0.7**
	comp=Z,3.5nm,0.6s						
MOTA	**Moosalm**	**42.03**	**312**	*e*P	**P**	**06 21 04.9**	**-1.0**
	comp=Z,2.8nm,0.7s						
FETA	**Feichten**	**42.21**	**312**	*e*P	**P**	**06 21 06.1**	**-1.2**
	comp=Z,3.9nm,0.7s						
DAVA	**Damuels**	**42.83**	**312**	*e*P	**P**	**06 21 11.4**	**-1.1**
	comp=Z,7.6nm,1.1s						
HHC	**Hu-ho-hao-te**	**46.13**	**58**	*e*P	**P**	**06 21 38.0**	**-0.8**
NOA	**NORSAR Array B**	**46.57**	**331**	LR	LR	06 41 39.1	
	comp=Z,8.6nm,19.6s,baz=120,slow=37						
TOA1	**Torodi Ar. Sit**	**54.19**	**267**	*e*P	**P**	**06 22 38.8**	**-1.4**
TORD	**Torodi Ar. Bea**	**54.19**	**267**	P	**P**	**06 22 38.8**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=73,slow=7.8,SNR=3.9						
DBIC	**Dimbokro**	**62.75**	**264**	LR	LR	06 54 09.7	
	comp=Z,33nm,18.1s,baz=80,slow=39						
BOSA	**Boshof**	**63.22**	**212**	LR	LR	06 52 12.6	
	comp=Z,32nm,18.0s,baz=62,slow=37						
SEY	**Seymchan**	**68.65**	**29**	P	**P**	**06 24 20.7**	**+3.4**
	comp=Z,0.6nm,0.2s,baz=291,slow=8.5,SNR=3.6						
MA2	**Magadan**	**68.86**	**33**	P	**P**	**06 24 21.5**	**+2.9**
	comp=Z,0.8nm,0.3s,baz=323,slow=20,SNR=3.8						
WR1	**Warramunga Arr**	**87.28**	**114**	*e*P	**P**	**06 26 04.1**	**+2.6**
WRA	**Warramunga Arr**	**87.28**	**114**	P	**P**	**06 26 04.1**	**+2.6**
	comp=Z,0.6nm,0.9s,baz=319,slow=4.2,SNR=4.0						
ASAR	**Alice Springs**	**88.76**	**117**	P	**P**	**06 26 11.0**	**+2.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**88.76**	**117**	P	**P**	**06 26 11.0**	**+2.6**
	comp=Z,0.6nm,1.0s,baz=291,slow=5.9,SNR=3.2						
AS31	**Alice Springs**	**88.76**	**117**	*e*P	**P**	**06 26 08.8**	**+0.4**
	comp=Z,0.9nm,1.0s						

IDC ***12*** *06:21:47.6±1.0,41°.13N×76°.78E,h0km,mb3.7/9, mb1 3.8/14,mb1mx3.6/52,mbtmp3.7/14,ML3.4/5,MS2.6/1, Ms1 2.6/1,ms1mx2.1/38,Error ellipse: s-maj=18.7km s-min=14.3km az=18.0*
KRNET ***12*** *06:21:48.3±0.1,41°.35N×76°.82E,h16km,mb4.1*
SOME ***12*** *06:21:48.8,41°.37N×76°.90E,h0km,MS3.2*
BJI ***12*** *06:21:49.0±0.0,41°.42N×76°.69E,h5km,ML3.8/10,Ms3.3/1, Ms7 3.2/1*
NNC ***12*** *06:21:50.5±0.6,41°.38N×76°.87E,h0km,mb4.7,mpv4.5, Error ellipse: s-maj=3.8km s-min=2.8km az=175.0*
KNET ***12*** *06:21:51.1±0.7,41°.43N×76°.66E,h1km±4km,ml3.5,Error ellipse: s-maj=4.8km s-min=3.3km az=84.0*
ISC 12 06:21:49.9±1.2,**41°.39N**±0'.03×**76°.76E**±0'.02,**h3**km±8km, **n106,** σ1$**25**/158,**mb3.7**/9,**42C-37D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.57**	**275**	⇑*i*P	**Pg**	**06 22 00.8**	**-0.1**
	baz=77						
NRN				⇑*i*S	**Sg**	**06 22 09.9**	**+1.5**
	baz=77						
KDJ	**Kajisay**	**0.81**	**23**	⇑*i*P	**Pg**	**06 22 04.5**	**-0.8**
	baz=20						
KDJ				⇑*i*S	**Sg**	**06 22 15.8**	**0.0**
	baz=20						
TARG	**Taragay, Kyrgy**	**0.85**	**66**	⇓*i*P	**Pg**	**06 22 04.6**	**-1.7**
	baz=63						
TARG				⇓*i*S	**Sg**	**06 22 15.9**	**-1.5**
	baz=63						
ULHL	**Ulahol**	**0.94**	**336**	P	**Pg**	**06 22 07.8**	**-0.2**
	127nm,0.3s,SNR=269						
ULHL				⇓S	**Sb**	**06 22 21.6**	**-0.4**
	538nm,0.4s						
ULHL	**Ulahol**	**0.94**	**336**	⇓*e*P	**Pg**	**06 22 07.6**	**-0.4**
	baz=34						
ULHL				⇓*i*S	**Sb**	**06 22 21.4**	**-0.6**
	baz=34						
BOOM	**Boomskoye usch**	**1.26**	**331**	⇓*i*P	**Pg**	**06 22 13.5**	**-0.6**
	baz=30						
BOOM				⇓*i*S	**Sb**	**06 22 31.5**	**+0.3**
	baz=30						
BOOM	**Boomskoye usch**	**1.26**	**331**	*e*S	**Pg**	**06 22 13.4**	**-0.7**
BOOM	**Boomskoye usch**	**1.26**	**331**	*e*S	**Pg**	**06 22 13.4**	**-0.7**
KZA	**Kyzart**	**1.33**	**302**	P	**Pg**	**06 22 14.6**	**-0.7**
	211nm,0.3s,SNR=124						
KZA				⇑S	**Sn**	**06 22 34.1**	**0.0**
	349nm,0.4s						
KZA	**Kyzart**	**1.33**	**302**	⇓*i*P	**Pg**	**06 22 14.6**	**-0.7**
	baz=2.0	

DGS	**Degeres**	1.99	339	*e*P		**Pb**	**06 22 26.8**	**-0.1**
	122nm,0.2s							
DGS				*e*S		**Sg**	**06 22 54.3**	**+0.4**
	640nm,0.5s							
SATY	**Saty**	2.07	36	Pg		**Pb**	**06 22 27.6**	**-0.6**
	346nm,0.5s							
SATY				Lg		Lg	06 22 55.7	
	1µm,0.5s							
SATY	**Saty**	2.07	36	⇑*i*P		**Pb**	**06 22 27.6**	**-0.6**
	313nm,0.5s							
SATY				*e*S		**Sg**	**06 22 55.3**	**-1.0**
	967nm,0.2s							
AAK	**Ala-Archa**	2.10	307	⇓P		**Pb**	**06 22 28.8**	**+0.1**
	84nm,0.2s,SNR=35							
AAK	**Ala-Archa**	2.10	307	⇓Pn		**Pb**	**06 22 28.8**	**+0.1**
	47nm,0.3s							
AAK				⇑Lg		Lg	06 22 59.3	
	233nm,0.6s							
AAK	**Ala-Archa**	2.10	307	⇓*i*P		**Pb**	**06 22 27.7**	**-1.1**
	baz=7.0							
AAK				⇓*i*S		**Sb**	**06 22 56.3**	**+1.0**
	baz=7.0							
AAK	**Ala-Archa**	2.10	307	Pn		**Pb**	**06 22 28.8**	**+0.1**
	18nm,0.3s,baz=119,slow=11,SNR=98							
AAK				Sn		**Sg**	**06 22 57.6**	**+0.2**
	37nm,0.3s,baz=246,slow=20,SNR=13							
FRU1	**Bishkek**	2.13	313	⇑*i*P		**Pb**	**06 22 27.9**	**-1.3**
	baz=13							
FRU1				⇑*i*S		**Sb**	**06 22 56.9**	**+0.8**
	baz=13							
ZHN	**Zhinishke**	2.17	34	*e*P		**Pb**	**06 22 29.3**	**-0.6**
	153nm,0.5s							
ZHN				*e*S		**Sg**	**06 22 58.4**	**-1.2**
	736nm,0.3s							
CHMS	**Chumysh**	2.20	318	⇓P		**Pb**	**06 22 30.7**	**+0.4**
	86nm,0.3s,SNR=84							
CHMS	**Chumysh**	2.20	318	⇓*i*P		**Pn**	**06 22 28.8**	**+1.5**
	baz=18							
CHMS				⇓*i*S		**Sb**	**06 22 58.5**	**+0.6**
	baz=18							
KTBS	**Karatobe**	2.32	359	Pg		**Pb**	**06 22 33.1**	**+0.6**
	110nm,0.3s							
KTBS				Lg		Lg	06 23 04.7	
	1µm,0.6s							
KTBS	**Karatobe**	2.32	359	*e*P		**Pb**	**06 22 33.1**	**+0.6**
	110nm,0.3s							
KTBS				*e*S		**Sg**	**06 23 04.7**	**+0.1**
	1µm,0.6s							
KURS	**Kuram**	2.34	26	Pg		**Pb**	**06 22 32.9**	**+0.1**
	177nm,0.6s							
KURS				Lg		Lg	06 23 04.2	
	308nm,0.7s							
KURS	**Kuram**	2.34	26	⇑*i*P		**Pb**	**06 22 32.9**	**+0.1**
	177nm,0.6s							
KURS				⇑*i*S		**Sg**	**06 23 04.2**	**-1.0**
	308nm,0.6s							
AML	**Almayashu**	2.41	289	⇑P		**Pb**	**06 22 33.4**	**-0.8**
	179nm,0.4s,SNR=53							
AML	**Almayashu**	2.41	289	⇑*i*P		**Pn**	**06 22 32.2**	**+1.6**
	baz=89							
AML				⇑*i*S		**Sb**	**06 23 04.1**	**-0.4**
	baz=89							
UZB	**Uzynbulak**	2.43	43	Pg		**Pb**	**06 22 33.7**	**-0.7**
	197nm,0.4s							
UZB				Lg		Lg	06 23 05.6	
	501nm,0.3s							
UZB	**Uzynbulak**	2.43	43	*e*P		**Pb**	**06 22 33.7**	**-0.7**
	197nm,0.4s							
UZB				*e*S		**Sb**	**06 23 05.6**	**+0.8**
	501nm,0.3s							
CHKK	**Chushkaly**	2.47	4	Pg		**Pb**	**06 22 35.0**	**0.0**
	130nm,0.4s							
CHKK				Lg		Lg	06 23 08.3	
	1µm,0.3s							
CHKK	**Chushkaly**	2.47	4	⇓*i*P		**Pb**	**06 22 35.0**	**0.0**
	130nm,0.4s							
CHKK				*e*S		**Sg**	**06 23 08.3**	**-1.0**
	1µm,0.3s							
KPKS	**Kokpek**	2.52	34	*e*P		**Pb**	**06 22 35.6**	**-0.2**
	322nm,0.3s							
KPKS				*e*S		**Sg**	**06 23 09.0**	**-1.8**
	1µm,0.4s							
USP	**Ospenovka**	2.52	319	⇓*i*P		**Pn**	**06 22 33.4**	**+1.6**
	baz=19							
USP				⇓*i*S		**Sb**	**06 23 06.0**	**-1.2**
	baz=19							
KUU	**Kurty**	2.52	353	Pg		**Pb**	**06 22 36.1**	**+0.2**
	64nm,0.5s							
KUU				Lg		Lg	06 23 09.8	
	439nm,0.4s							
KUU	**Kurty**	2.52	353	*e*P		**Pb**	**06 22 36.1**	**+0.2**
	64nm,0.5s							
KUU				*e*S		**Sg**	**06 23 09.8**	**-1.2**
	439nm,0.4s							
EKS2	**Erkin-Say**	2.56	301	⇑*i*P		**Pn**	**06 22 34.1**	**+1.6**
	baz=1.0							
EKS2				⇑*i*S		**Sb**	**06 23 07.6**	**-0.9**
	baz=1.0							
SHLS	**Shalkode**	2.67	48	*e*P		**Pg**	**06 22 42.2**	**+1.1**
	142nm,0.4s							
SHLS				*e*S		**Sg**	**06 23 20.3**	**+4.5**
	791nm,0.5s							
PDGK	**Podgornoye**	2.80	45	Pg		**Pb**	**06 22 40.1**	**-0.5**
	58nm,0.5s							
PDGK				Lg		Lg	06 23 16.9	
	314nm,0.4s							
PDGK	**Podgornoye**	2.80	45	⇑Pg		**Pb**	**06 22 39.2**	**-1.4**
	76nm,0.4s							
PDGK				⇑Lg		Lg	06 23 17.2	
	620nm,0.8s							
PDGK	**Podgornoye**	2.80	45	⇑*i*P		**Pn**	**06 22 36.7**	**+0.9**
	baz=44							
PDGK				⇑*i*S		**Sn**	**06 23 11.7**	**+1.6**
	baz=44							
ARSB	**Arslanbob**	2.85	270	⇑*e*P		**Pn**	**06 22 36.2**	**-0.2**
	baz=71							
ARSB				⇑*e*S		**Sb**	**06 23 14.9**	**-1.8**
	baz=71							
ARXS	**Arharly**	2.93	15	Pg		**Pb**	**06 22 43.3**	**+0.5**
	131nm,0.6s							
ARXS				Lg		Lg	06 23 22.0	
	782nm,0.4s							
ARXS	**Arharly**	2.93	15	*e*P		**Pb**	**06 22 43.3**	**+0.5**
	131nm,0.6s							
ARXS				*e*S		**Sg**	**06 23 22.0**	**-2.1**
	782nm,0.4s							
MNBS	**Baschi**	2.95	24	Pg		**Pb**	**06 22 43.7**	**+0.5**
	53nm,0.3s							
MNBS				Lg		Lg	06 23 22.9	
	570nm,0.4s							
MNBS	**Baschi**	2.95	24	*e*P		**Pb**	**06 22 43.7**	**+0.5**
	53nm,0.3s							
MNBS				*e*S		**Sg**	**06 23 22.9**	**-1.7**
	570nm,0.4s							
MRKS	**Merke**	2.96	298	Pg		**Pg**	**06 22 45.6**	**-1.0**
	75nm,0.4s							
MRKS				Lg		Lg	06 23 26.2	
	100nm,0.3s							
MRKS	**Merke**	2.96	298	*e*P		**Pg**	**06 22 45.6**	**-1.0**
	60nm,0.5s							
MRKS				*e*S		**Sg**	**06 23 26.2**	**+1.2**
	100nm,0.3s							
KTMS	**Ketmen**	3.36	51	Pg		**Pb**	**06 22 49.0**	**-1.2**
	52nm,0.3s							
KTMS				Lg		Lg	06 23 33.8	
	240nm,0.6s							
KTMS	**Ketmen**	3.36	51	*e*P		**Pb**	**06 22 50.0**	**-0.2**
	52nm,0.3s							
KTMS				*e*S		**Sb**	**06 23 33.8**	**+2.2**
	240nm,0.6s							
DJR	**Jarkent**	3.69	36	Pg		**Pb**	**06 22 56.2**	**+0.4**
	61nm,0.5s							
DJR				Lg		Lg	06 23 44.2	
	114nm,0.3s							
DJR	**Jarkent**	3.69	36	*e*P		**Pb**	**06 22 55.4**	**-0.4**
	61nm,0.5s							
DJR				*e*S		**Sb**	**06 23 43.1**	**+2.2**
	114nm,0.3s							
TDK	**Taldyqorghan**	3.81	18	Pg		**Pb**	**06 22 58.3**	**+0.6**
	173nm,0.6s							
TDK				Lg		Lg	06 23 48.4	
	308nm,0.3s							
TDK	**Taldyqorghan**	3.81	18	*e*P		**Pb**	**06 22 58.3**	**+0.6**
	62nm,0.4s							
TDK				*e*S		**Sg**	**06 23 48.4**	**-3.8**
	308nm,0.3s							
DZA	**Taraz**	4.31	292	Pg		**Pg**	**06 23 10.8**	**-1.6**
	174nm,0.1s							
DZA				Lg		Lg	06 24 09.2	
	80nm,0.1s							
DZA	**Taraz**	4.31	292	*e*P		**Pg**	**06 23 10.8**	**-1.6**
	174nm,0.1s							
DZA				*e*S		**Sg**	**06 24 09.2**	**+0.9**
	80nm,0.1s							
KAPS	**Kapalarasan**	4.33	25	Pg		**Pb**	**06 23 08.1**	**+1.4**
	40nm,0.8s							
KAPS				Lg		Lg	06 24 04.8	
	98nm,0.7s							
KAPS	**Kapalarasan**	4.33	25	*e*P		**Pb**	**06 23 08.1**	**+1.4**
	40nm,0.8s							
KAPS				⇓*i*S		**Sg**	**06 24 04.8**	**-4.1**
	98nm,0.7s							
KK31	**Karatay Array**	4.95	292	⇓Pg		**Pg**	**06 23 21.8**	**-2.8**
	9.7nm,0.7s,baz=103,slow=18,SNR=65							
KK31				⇑Lg		Lg	06 24 30.0	
	7.8nm,0.4s,baz=119,slow=28,SNR=3.3							
IUG	**luzhnay**	5.09	281	*e*P		**Pg**	**06 23 24.6**	**-2.8**
	12nm,0.2s							
IUG				*e*S		**Sg**	**06 24 33.8**	**+0.4**
	83nm,1.1s							
MAKZ	**Makanchi**	6.59	33	⇑Pn		**Pn**	**06 23 28.7**	**+1.0**
	1.7nm,0.5s							
MAKZ				⇑Pg		**Pb**	**06 23 49.3**	**+4.1**
	3.2nm,0.5s							
MAKZ				⇓Lg		Lg	06 25 19.6	
	16nm,0.8s							
MK31	**Makanchi Array**	6.71	35	Pn		**Pn**	**06 23 31.2**	**+1.8**
	5.7nm,0.5s,baz=214,slow=14,SNR=68							
MK31				⇓Lg		Lg	06 25 22.0	
	3.4nm,0.4s,baz=222,slow=29,SNR=3.6							
MKAR	**Makanchi Array**	6.71	35	Pn		**Pn**	**06 23 32.0**	**+2.7**
	2.4nm,0.3s,baz=215,slow=15,SNR=77							
MKAR				Lg		Lg	06 25 18.5	
	1.5nm,0.3s,baz=225,slow=26,SNR=3.5							
OTUK	**Ortayu**	7.54	337	⇑Lg		Lg	06 25 51.4	
	39nm,0.7s							
CHCP	**Chirah Chowk**	8.20	201	P		**Pn**	**06 23 52.3**	**+2.5**
WMQ	**Urumqi**	8.42	70	*e*P		**Pn**	**06 23 53.2**	**+0.3**
WMQ				smax		smax		
	comp=N,45nm,1.1s							
WMQ				smax		smax		
	comp=E,70nm,1.3s							
CEP	**Cherat**	8.47	209	P		**Pn**	**06 23 56.5**	**+2.8**
CEP				S		**Sn**	**06 25 33.0**	**+3.1**
KURBB	**Kurchatov Arra**	9.32	7	⇑Lg		Lg	06 26 46.2	
	62nm,0.8s							
KURBB	**Kurchatov Arra**	9.32	7	Pn		**Pn**	**06 24 05.5**	**+0.4**
	0.1nm,0.3s,baz=189,slow=12,SNR=7.3							
KURBB				Lg		Lg	06 26 40.3	
	0.2nm,0.3s,baz=192,slow=30,SNR=6.0							
THW	**Thamme Wali**	9.46	207	P		**Pn**	**06 24 09.0**	**+1.8**
BVAR	**Borovoye Array**	12.41	342	Pn		**Pn**	**06 24 47.5**	**0.0**
	0.2nm,0.3s,baz=148,slow=14,SNR=4.9							
BVAR				Lg		Lg	06 28 19.6	
	0.5nm,0.3s,baz=155,slow=28,SNR=8.0							
BRVK	**Borovoye**	12.47	342	⇓Lg		Lg	06 28 27.2	
	34nm,1.2s							
ZALV	**Zalesovo Beam**	13.68	21	Pn		**Pn**	**06 25 06.2**	**+1.6**
	0.6nm,0.3s,baz=219,slow=14,SNR=5.7							
ZALV				Lg		Lg	06 29 00.2	
	baz=205,slow=24,SNR=2.9							
ZALV				LR		LR	06 30 10.1	
	comp=Z,27nm,21.1s,baz=252,slow=36							
AB31	**Akbulak array**	14.19	309	Pn		**Pn**	**06 25 13.2**	**+1.5**
	0.5nm,0.5s,baz=116,slow=13,SNR=4.8							
SONM	**Songino Array**	21.97	63	P		**P**	**06 26 43.9**	**-1.0**
	1.2nm,0.7s,baz=257,slow=11,SNR=6.5							
BRTR	**Keskin Array B**	32.56	282	P		**P**	**06 28 22.4**	**0.0**
	1.1nm,0.8s,baz=88,slow=7.0,SNR=7.1							
FINES	**FINESS Array B**	36.23	321	P		**P**	**06 28 54.2**	**+0.5**
	1.0nm,0.8s,baz=82,slow=9.1,SNR=3.8							
ARCES	**ARCESS Array B**	38.54	334	P		**P**	**06 29 13.3**	**+0.1**
	1.1nm,0.7s,baz=104,slow=9.3,SNR=5.2							
INK	**Inuvik**	68.29	12	P		**P**	**06 32 50.6**	**-1.1**
	0.6nm,0.6s,baz=345,slow=5.7,SNR=6.3							
ILAR	**Eielson Array**	68.79	18	P		**P**	**06 32 53.6**	**-1.3**
	0.5nm,0.8s,baz=332,slow=4.8,SNR=5.4							
TORD	**Torodi Ar. Bea**	70.26	270	P		**P**	**06 33 02.5**	**-2.2**
	0.3nm,0.5s,baz=50,slow=4.8,SNR=4.4							
YKA	**Yellowknife Ar**	76.06	5	P		**P**	**06 33 37.5**	**-0.7**
	0.6nm,0.7s,baz=347,slow=5.7,SNR=14							
WRA	**Warramunga Arr**	81.01	126	P		**P**	**06 34 03.9**	**-2.2**
	0.7nm,1.0s,baz=330,slow=4.9,SNR=2.5							

DSN ***12*** *06:24:42.3±1.9, 26°.42N×58°.22E, h10km, ML3.6/6, Error ellipse: s-maj=25.0km s-min=6.9km az=16.0*
ISCJB ***12*** *06:24:43.2±1.0, 26°.55N±0°.06×58°.07E±0°.07, h10km, mb3.3/3, Error ellipse: s-maj=10.5km s-min=6.5km az=142.8*
IDC ***12*** *06:24:44.3±2.5, 26°.60N×57°.93E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.2/47, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=68.2km s-min=29.0km az=74.0*
OMAN ***12*** *06:24:46.6±0.4, 26°.59N×57°.96E, h34km±10km, ml3.5/4, Error ellipse: s-maj=15.9km s-min=3.0km az=20.0*
ISC 12 06:24:45.7±1.2, 26°.55N±0°.08×57°.88E±0°.07, h10km, n14, σ1§28/19, mb3.5/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	1.64	253	*e*P	**Pn**	**06 25 14.9**	**+0.3**
	SNR=25						
SHME				S	**Sg**	**06 25 39.7**	**+1.3**
MDH	**Madha**	1.89	229	P	**Pn**	**06 25 16.6**	**-1.4**
MDH				S	**Sb**	**06 25 45.6**	**+1.6**
MSFE	**Esma-Masafi**	1.95	233	*e*P	**Pn**	**06 25 17.5**	**-1.4**
	SNR=7.3						
HATD	**Hatta, Dubai**	2.33	223	P	**Pn**	**06 25 22.1**	**-1.9**
ASHO	**Ashiyiah**	2.48	222	*e*P	**Pn**	**06 25 25.0**	**-1.2**
	SNR=16						
ASHO	**Ashiyiah**	2.48	222	P	**Pn**	**06 25 25.5**	**-0.7**
	SNR=16						
FAQ	**Al Faqa, Dubai**	2.73	230	P	**Pn**	**06 25 29.1**	**-0.6**
ASUD	**Al Ashush, Dub**	2.99	231	*i*P	**Pn**	**06 25 31.9**	**-1.3**
	SNR=9.9						
WSAR	**Wadi Sarin**	3.36	168	Pn	**Pn**	**06 25 38.7**	**+0.4**
	5.9nm,0.3s,baz=343,slow=5.8,SNR=72						
WSAR				Sn	**Sn**	**06 26 16.8**	**-1.5**
	17nm,0.3s,baz=144,slow=13,SNR=14						
JLN	**Jalan Bani Buh**	4.59	162	P	**Pn**	**06 25 55.5**	**+0.3**
	SNR=9.1						
JLN				S	**Sn**	**06 26 46.3**	**-2.4**
MHTO	**MHTO**	5.53	179	P	**Pn**	**06 26 09.4**	**+1.2**
MHTO				S	**Sn**	**06 27 11.9**	**0.0**
BRTR	**Keskin Array B**	24.09	309	P	**P**	**06 30 01.5**	**-0.1**
	0.7nm,0.8s,baz=122,slow=7.5,SNR=3.6						
FINES	**FINESS Array B**	40.92	337	P	**P**	**06 32 27.7**	**-0.2**
	0.6nm,0.7s,baz=140,slow=8.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	54.12	267	P	**P**	**06 34 11.8**	**+0.5**
	0.2nm,0.4s,baz=79,slow=7.0,SNR=3.4						

IDC ***12*** *06:30:28.8±2.4, 9°.85N×86°.46W, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.6/41, mbtmp3.7/6, ML3.5/2, MS3.0/5, Ms1 3.0/5, ms1mx2.7/28, Error ellipse: s-maj=52.2km s-min=13.1km az=0.0*
ISCJB ***12*** *06:30:30.3±1.3, 10°.02N±0°.05×86°.62W±0°.03, h15km±11km, mb3.5/4, MS2.9/3, Error ellipse: s-maj=8.3km s-min=4.8km az=26.5*
UCR ***12*** *06:30:31.8±2.3, 9°.95N×86°.62W, h46km±9km, MD4.1, ML3.7*
SNET ***12*** *06:30:35.0±0.8, 10°.34N×86°.52W, h137km±97km, ML4.2*
ISC 12 06:30:33.5±2.8, 10°.05N±0°.08×86°.52W±0°.06, h28km±20km, n53, σ0§93/63, mb3.5/4, MS3.0/3, 3C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUEV	**Buena Vista**	1.32	56	*i*P	**Pn**	**06 30 55.1**	**-1.1**
BUEV				*e*S	**Sb**	**06 31 14.2**	**-0.2**
GB1A	**Borinquen Arri**	1.34	55	⇑*e*P	**Pn**	**06 30 55.3**	**-1.2**
GB1A				*e*S	**Sn**	**06 31 14.4**	**+1.0**
BUAI	**Buenos Aires**	1.43	55	*i*P	**Pn**	**06 30 57.3**	**-0.4**
COLC	**Colonia**	1.43	65	*i*P	**Pn**	**06 30 57.0**	**-0.7**
CUI	**Cuipilapa**	1.47	66	*i*P	**Pn**	**06 30 57.3**	**-0.8**
CUI				*i*S	**Sb**	**06 31 18.6**	**+0.2**
JTS	**Las Juntas de**	1.56	81	Pg	**Pn**	**06 30 57.7**	**-1.8**
	22nm,0.3s,baz=303,slow=6.6,SNR=72						
JTS				Lg	Lg	06 31 17.5	
	78nm,0.3s,baz=274,slow=19,SNR=27						
JTS	**Las Juntas de**	1.56	81	*e*P	**Pn**	**06 30 57.6**	**-1.8**
ACAL	**Aguas Claras**	1.57	68	*i*P	**Pn**	**06 30 58.7**	**-0.9**
AMAS	**Alto Masis**	1.60	70	*i*P	**Pn**	**06 30 59.1**	**-1.0**
AMAS				*i*S	**Sb**	**06 31 22.5**	**0.0**
CONN	**Concepcion**	1.74	30	*e*P	**Pn**	**06 31 01.5**	**-0.4**
CONN				*e*S	**Sb**	**06 31 25.6**	**-0.7**
CONN				IAML		06 31 32.1	
	comp=Z,261nm,0.4s						
CASO	**Castillo**	1.80	78	*i*P	**Pn**	**06 31 02.6**	**-0.2**
CEDE	**Laguna Cedeo**	1.84	76	*e*P	**Pn**	**06 31 03.4**	**0.0**
CEDE				*i*P	**Pn**	**06 31 04.2**	**+0.9**
FORC	**Fortuna**	1.87	77	*i*P	**Pn**	**06 31 03.4**	**-0.3**
SRA1	**San Ramn**	2.01	89	*e*P	**Pn**	**06 31 06.2**	**+0.4**
MGAN	**Managua**	2.10	7	*e*P	**Pn**	**06 31 06.7**	**-0.1**
MGAN				*e*S	**Sn**	**06 31 34.0**	**+2.1**
COPN	**Copaltepe**	2.11	358	*e*P	**Pn**	**06 31 06.9**	**-0.2**
ACON	**Acoyapa**	2.32	35	*e*P	**Pn**	**06 31 09.2**	**-0.6**
MOMN	**Momotombo**	2.34	360	*e*P	**Pn**	**06 31 09.7**	**-0.5**
MOMN	**Momotombo**	2.34	360	*e*P	**Pn**	**06 31 09.9**	**-0.3**
HDC	**Heredia**	2.37	91	⇑*e*P	**Pn**	**06 31 11.2**	**+0.5**
CNGN	**Cerro Negro**	2.44	356	*e*P	**Pn**	**06 31 10.1**	**-1.5**
CNGN				*e*S	**Sn**	**06 31 40.7**	**+0.3**
CNGN	**Cerro Negro**	2.44	356	*e*S	**Sn**	**06 31 40.7**	**+0.3**
LCR2	**La Lucha 2**	2.50	97	*e*P	**Pn**	**06 31 11.9**	**-0.7**
CRIN	**San Cristobal**	2.68	349	*e*P	**Pn**	**06 31 14.7**	**-0.2**
MATN	**Matagalpa**	2.92	12	*e*P	**Pn**	**06 31 17.8**	**-0.3**
ESTN	**Estel**	3.03	3	*e*P	**Pn**	**06 31 19.6**	**-0.1**
ESPN	**Las Esperanzas**	3.05	46	*e*P	**Pn**	**06 31 19.4**	**-0.4**
DRK0	**Durika**	3.33	103	*e*P	**Pn**	**06 31 23.1**	**-0.8**
SOMN	**Somoto**	3.35	359	*e*P	**Pn**	**06 31 25.6**	**+1.4**
RCON	**San Juan de Ri**	3.43	6	⇑*e*P	**Pn**	**06 31 25.0**	**-0.2**
CNCH	**Conchagua**	3.45	338	*e*P	**Pn**	**06 31 25.7**	**+0.2**
CNCH				*e*S	**Sn**	**06 32 04.0**	**-1.5**
CNCH	**Conchagua**	3.45	338	*e*P	**Pn**	**06 31 25.7**	**+0.2**
CNCH				*e*S	**Sn**	**06 32 04.0**	**-1.5**
LCND	**La Caada**	3.50	338	*e*P	**Pn**	**06 31 25.9**	**-0.2**
LCND				*e*S	**Sn**	**06 32 05.4**	**-1.3**
LCND				IAML		06 32 10.1	
	comp=Z,412nm,0.4s						
LCND	**La Caada**	3.50	338	*e*P	**Pn**	**06 31 25.9**	**-0.2**
LCND				*e*S	**Sn**	**06 32 05.4**	**-1.3**
LCND				IAML		06 32 10.1	
	comp=Z,412nm,0.4s						
PACA	**Pacayal**	3.82	333	*e*P	**Pn**	**06 31 30.6**	**0.0**
PACA				*e*S	**Sn**	**06 32 13.8**	**-1.0**
PACA	**Pacayal**	3.82	333	*e*P	**Pn**	**06 31 30.6**	**0.0**
PACA				*e*S	**Sn**	**06 32 13.8**	**-1.0**
TECA	**Tecapa**	3.93	331	*e*P	**Pn**	**06 31 32.1**	**-0.1**
TECA	**Tecapa**	3.93	331	*e*P	**Pn**	**06 31 32.1**	**-0.1**
CEVE	**Cerro Verde**	4.82	321	IAML		06 32 48.7	
	comp=Z,399nm,0.4s						
CEVE	**Cerro Verde**	4.82	321	IAML		06 32 48.7	
	comp=Z,399nm,0.4s						
APG	**El Apazote**	6.25	322	Pn	**Pn**	**06 32 05.5**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=129,slow=6.5,SNR=11						
APG				Sn	**Sn**	**06 33 13.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=88,slow=16,SNR=2.8						
CMIG	**Matias Romero**	10.72	312	Pn	**Pn**	**06 33 05.5**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=116,slow=12,SNR=5.6						
CMIG				Sn	**Sn**	**06 35 03.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=22,slow=19,SNR=3.2						
SDV	**Santo Domingo**	15.72	93	LR	LR	06 40 45.2	
	comp=Z,52nm,20.1s,baz=250,slow=39						
ATAH	**Atahualpa**	18.90	154	LR	LR	06 40 53.3	
	comp=Z,50nm,21.7s,baz=62,slow=33						
SJG	**San Juan**	21.31	66	LR	LR	06 43 54.6	
	comp=Z,25nm,19.6s,baz=246,slow=38						
TXAR	**Lajitas Array**	25.00	322	P	**P**	**06 35 56.0**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=142,slow=10,SNR=13						
LPAZ	**La Paz**	31.88	145	LR	LR	06 49 46.9	
	comp=Z,30nm,18.2s,baz=154,slow=37						
SADO	**Sadowa**	35.17	9	LR	LR	06 51 40.9	
	comp=Z,33nm,21.7s,baz=351,slow=36						
PDAR	**Pinedale Array**	38.30	332	P	**P**	**06 37 52.0**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=120,slow=8.6,SNR=4.9						
ELK	**Elko**	39.73	325	P	**P**	**06 38 05.7**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=144,slow=4.5,SNR=4.9						
NVAR	**Mina Array Bea**	40.10	320	P	**P**	**06 38 09.0**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=144,slow=7.8,SNR=6.3						
NVAR				PcP	**PcP**	**06 40 11.5**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=139,slow=4.3,SNR=4.4						
ASAR	**Alice Springs**	139.17	245	PKP	**PKPdf**	**06 49 57.8**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=114,slow=2.2,SNR=3.8						
WRA	**Warramunga Arr**	139.42	251	PKP	**PKPdf**	**06 49 57.3**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=108,slow=1.4,SNR=3.3						

ISCJB ***12*** *06:34:05.8±0.4, 58°.77N±0°.02×153°.90W±0°.04, h10km±3km, mb4.0/30, MS3.5/13, Error ellipse: s-maj=4.2km s-min=2.7km az=41.4*
IDC ***12*** *06:34:05.2±0.5, 58°.49N×154°.24W, h0km, mb3.9/20, mb1 4.1/22, mb1mx4.0/45, mbtmp3.9/22, ML4.1/2, MS3.5/18, Ms1 3.5/18, ms1mx3.4/33, Error ellipse: s-maj

BWN	Browne	5.85	19	*e*Pn	Pn	06 35 36.0	+2.3
PAX	Paxson	5.91	40	*e*Pn	Pn	06 35 35.3	+0.7
GCSA	Galena City Sc	6.20	348	*e*Pn	Pn	06 35 36.8	-1.6
BALM	Baldy	6.25	63	*e*Pn	Pn	06 35 39.8	+0.6
WRH	Wood River Hil	6.38	23	*e*Pn	Pn	06 35 41.9	+0.9
MLY	Manley	6.49	12	*e*Pn	Pn	06 35 43.0	+0.5
MENT	Mentasta	6.51	45	*e*Pn	Pn	06 35 42.8	0.0
HDA	Harding Lake	6.58	27	*e*Pn	Pn	06 35 44.6	+0.9
CCB	Clear Creek Bu	6.59	23	*e*Pn	Pn	06 35 44.4	+0.5
RIDG	Independent Ri	6.65	37	*e*Pn	Pn	06 35 45.9	+1.2
CTGM	Chitina Glacie	6.70	65	*e*Pn	Pn	06 35 47.2	+1.6
PS08	TAPS Pump Stn8	6.72	27	*e*Pn	Pn	06 35 46.5	+0.9
COLA	College	6.79	22	*e*Pn	Pn	06 35 47.5	+0.9
MDM	Murphy Dome	6.79	21	*e*Pn	Pn	06 35 47.7	+1.1
DOT	Dot Lake	6.84	40	*e*Pn	Pn	06 35 47.7	+0.5
ILAR	Eielson Array	6.90	26	Pn	Pn	06 35 48.4	+0.3
	2.6nm,0.3s,baz=209,slow=13,SNR=147						
ILAR				Sn	Sn	06 37 06.0	-0.7
	3.3nm,0.3s,baz=213,slow=23,SNR=4.8						
ILAR				LR	LR	06 38 44.0	
	comp=Z,480nm,20.1s,baz=202,slow=39						
ILB	Eielson Array	6.90	26	*e*Pn	Pn	06 35 48.8	+0.7
SCRK	Sand Creek	7.08	38	*e*Pn	Pn	06 35 50.6	-0.1
IMAR	Indian Mountai	7.28	0	*e*Pn	Pn	06 35 53.2	-0.1
BCAR	Beaver Creek A	7.32	49	*e*Pn	Pn	06 35 53.9	0.0
BCPM	Bancas Point	7.39	74	*e*Pn	Pn	06 35 54.9	+0.1
PNL	Peninsula	7.50	77	*e*Pn	Pn	06 35 56.4	+0.1
PRP	Porcupine Dome	7.84	26	*e*Pn	Pn	06 36 01.8	+0.6
ANM	Nome	8.00	322	*e*Pn	Pn	06 36 03.0	-0.1
HYT	Haines Junctio	8.52	69	*e*Pn	Pn	06 36 12.1	+1.7
EGAK	Eagle	8.54	39	*e*Pn	Pn	06 36 11.0	+0.4
DAWY	Dawson	8.75	46	*e*Pn	Pn	06 36 14.3	+0.8
FYU	Fort Yukon	8.80	23	*e*Pn	Pn	06 36 14.9	+0.8
BMAR	Burnt Mountain	9.68	22	*e*Pn	Pn	06 36 25.5	-0.6
BESE	Bessie Mountai	9.91	83	*e*Pn	Pn	06 36 30.3	+0.8
GAMB	Gambell	9.94	308	*e*Pn	Pn	06 36 30.5	+0.8
TOLK	Toolik Lake Re	10.12	9	*e*Pn	Pn	06 36 34.9	+2.6
EPYK	Eagle Plains	10.98	39	*e*Pn	Pn	06 36 44.4	+0.4
WRAK	Wrangell Islan	11.78	92	*e*Pn	Pn	06 36 58.8	+4.0
DLBC	Dease Lake	12.43	81	*e*Pn	Pn	06 37 04.6	+0.8
DLBC	Dease Lake	12.43	81	Pn	Pn	06 37 05.1	+1.2
	0.5nm,0.3s,baz=295,slow=17,SNR=5.9						
DLBC				Sn	Sn	06 39 19.2	-3.2
	0.1nm,0.3s,baz=159,slow=17,SNR=1.8						
DLBC				LR	LR	06 41 51.5	
	comp=Z,208nm,18.3s,baz=286,slow=37						
INK	Inuvik	13.13	35	*e*Pn	Pn	06 37 14.1	+0.9
INK	Inuvik	13.13	35	Pn	Pn	06 37 13.4	+0.1
	0.2nm,0.3s,baz=230,slow=16,SNR=11						
INK				Lg	Lg	06 40 52.0	
	0.0nm,0.3s,baz=270,slow=19,SNR=2.7						
INK				LR	LR	06 42 25.3	
	comp=Z,693nm,18.1s,baz=224,slow=37						
ATKA	Atka Island	13.22	249	*e*Pn	Pn	06 37 16.2	+1.7
GSTR	Great Sitkin T	14.20	252	*e*Pn	Pn	06 37 30.9	+3.0
ADK	Adak	14.63	252	*e*Pn	Pn	06 37 36.0	+2.1
BBB	Bella Bella	15.95	103	LR	LR	06 43 05.8	
	comp=Z,273nm,18.9s,baz=324,slow=34						
YKW3	Yellowknife Ar	19.40	62	*e*P	P	06 38 33.4	+0.6
	23nm,1.1s						
YKA	Yellowknife Ar	19.41	62	*e*P	P	06 38 32.3	-0.7
YKA	Yellowknife Ar	19.41	62	P	P	06 38 32.9	-0.1
	0.6nm,0.3s,baz=276,slow=9.9,SNR=120						
YKA				PcP	PcP	06 42 53.1	-0.7
	0.1nm,0.3s,baz=283,slow=1.4,SNR=7.7						
YKA				LR	LR	06 46 26.2	
	comp=Z,27nm,18.1s,baz=270,slow=38						
YKB5	Yellowknife Ar	19.41	62	*e*P	P	06 38 32.9	-0.1
YKB5				*e*PcP	PcP	06 42 53.1	-0.7
NEW	Newport	23.94	100	P	P	06 39 19.0	-2.0
	1.2nm,0.8s,baz=325,slow=12,SNR=3.0						
NEW				LR	LR	06 47 57.3	
	comp=Z,273nm,19.2s,baz=302,slow=35						
SEY	Seymchan	25.86	302	P	P	06 39 37.9	-0.5
	0.9nm,0.5s,baz=131,slow=19,SNR=9.1						
YBH	Yreka Blue Hor	25.86	117	P	P	06 39 40.3	+1.6
	0.5nm,0.7s,baz=313,slow=6.1,SNR=2.2						
YBH				LR	LR	06 48 28.0	
	comp=Z,50nm,18.8s,baz=328,slow=33						
RES	Resolute Bay	26.62	31	*e*P	P	06 39 44.1	-1.1
	4.9nm,0.9s						
RES	Resolute Bay	26.62	31	P	P	06 39 43.9	-1.3
	1.7nm,0.6s,baz=263,slow=10,SNR=17						
RES				LR	LR	06 50 52.8	
	comp=Z,167nm,18.4s,baz=124,slow=37						
PEA1	Petropavlovsk-	27.20	279	*e*P	P	06 39 50.3	-0.2
PETK	Petropavlovsk-	27.20	279	P	P	06 39 50.3	-0.3
	2.3nm,0.7s,baz=66,slow=14,SNR=2.9						
MA2	Magadan	27.70	296	LR	LR	06 51 01.3	
	comp=Z,57nm,18.5s,baz=113,slow=37						
FCC	Fort Churchill	30.12	64	*e*P	P	06 40 17.5	+1.0
	15nm,1.3s						
ELK	Elko	30.20	109	P	P	06 40 19.4	+1.7
	0.4nm,0.5s,baz=299,slow=13,SNR=2.1						
NVAR	Mina Array Bea	30.54	116	P	P	06 40 20.9	+0.3
	0.5nm,0.7s,baz=310,slow=7.0,SNR=3.5						
NVAR				LR	LR	06 50 35.6	
	comp=Z,64nm,19.9s,baz=358,slow=32						
PDAR	Pinedale Array	31.57	101	P	P	06 40 31.3	+1.6
	1.2nm,0.7s,baz=317,slow=5.0,SNR=9.2						
PDAR				LR	LR	06 52 43.9	
	comp=Z,52nm,19.4s,baz=324,slow=35						
TIXI	Tiksi	32.25	325	P	P	06 40 35.9	+0.9
	1.1nm,0.3s,baz=63,slow=4.5,SNR=3.1						
RSSD	Black Hills	33.47	94	*e*P	P	06 40 48.3	+1.9
	5.8nm,0.7s						
ULM	Lac du Bonnet	33.74	79	P	P	06 40 49.8	+1.5
	2.4nm,0.9s,baz=315,slow=8.7,SNR=3.0						
BGNE	Belgrade	38.45	92	*e*P	P	06 41 30.7	+1.9
	25nm,0.9s						
ANMO	Albuquerque	39.07	106	*e*P	P	06 41 35.4	+1.2
	3.9nm,1.5s						
ANMO	Albuquerque	39.07	106	P	P	06 41 35.4	+1.2
	0.7nm,0.7s,baz=304,slow=11,SNR=4.4						
KLR	Kul'dur	42.57	291	P	P	06 42 01.6	-1.1
	3.6nm,0.6s,baz=37,slow=10,SNR=3.7						
SCHQ	Schefferville	44.65	55	LR	LR	07 00 19.1	
	comp=Z,80nm,21.0s,baz=9.0,slow=35						
LTX	Lajitas	44.98	108	*e*P	P	06 42 22.7	+0.3
TXAR	Lajitas Array	44.98	108	P	P	06 42 22.7	+0.3
	0.5nm,0.8s,baz=327,slow=6.5,SNR=4.1						
BINY	Binghamton	49.29	73	*e*P	P	06 42 57.6	+1.8
	15nm,1.0s						
KSRS	Korea Array	53.02	283	P	P	06 43 22.7	-1.1
	1.3nm,0.7s,baz=47,slow=7.2,SNR=2.6						
KSRS				LR	LR	07 06 59.0	
	comp=Z,31nm,18.4s,baz=25,slow=37						
KS15	Wonju Array Si	53.05	283	*e*P	P	06 43 22.7	-1.3
	17nm,1.1s						
SONA0	Songino Array	55.17	306	*e*P	P	06 43 39.4	-0.1
SONM	Songino Array	55.17	306	P	P	06 43 39.4	-0.1
	4.9nm,0.8s,baz=43,slow=7.5,SNR=12						
SONM				LR	LR	07 09 13.1	
	comp=Z,87nm,18.4s,baz=86,slow=38						
ZAA1	Zalesovo Array	58.12	324	*e*P	P	06 44 00.8	+0.6
ZALV	Zalesovo Beam	58.13	324	P	P	06 44 00.8	+0.6
	1.3nm,0.4s,baz=27,slow=9.7,SNR=3.4						
HHC	Hu-ho-hao-te	58.37	297	*e*P	P	06 43 55.3	-7.0
NOA	NORSAR Array B	60.00	8	LR	LR	07 11 48.8	
	comp=Z,24nm,19.3s,baz=335,slow=38						
FIA0	FINESS Array S	60.15	0	*e*P	P	06 44 13.2	-0.9
FINES	FINESS Array B	60.15	0	P	P	06 44 13.2	-0.9
	0.6nm,0.7s,baz=356,slow=7.5,SNR=3.2						
FINES				LR	LR	07 10 22.9	
	comp=Z,18nm,19.9s,baz=12,slow=36						
APG	El Apazote	63.57	105	P	P	06 44 38.0	-0.1
	1.8nm,0.9s,baz=332,slow=13,SNR=3.7						
MK32	Makanchi Array	65.14	321	*e*P	P	06 44 47.3	-0.4
MKAR	Makanchi Array	65.14	321	P	P	06 44 47.3	-0.4
	0.4nm,0.5s,baz=40,slow=6.7,SNR=6.6						
MKAR				LR	LR	07 16 55.1	
	comp=Z,51nm,18.5s,baz=23,slow=39						
LZH	Lanzhou	65.76	300	‖P	P	06 44 46.3	-5.8
LZH				pP	PcP	06 45 10.8	-12
LZH				sP	sP	06 45 22.1	+26
LZH				PP	PP	06 47 13.5	-2.8
WMQ	Urumqi	65.86	316	*e*P	P	06 44 46.7	-5.8
CD2	Chengdu	70.11	297	*e*P	P	06 45 09.7	-10
AKASG	Malin Array Be	70.89	358	P	P	06 45 23.3	-0.5
	0.3nm,0.4s,baz=2.6,slow=6.1,SNR=3.9						
AKBB	Malin Array Si	70.89	358	*e*P	P	06 45 23.3	-0.5
	2.6nm,1.0s						
KOLS	Kolonicke sedl	72.65	3	*e*P	P	06 45 34.6	+0.2
KSH	Kashi	73.70	322	P	P	06 45 35.1	-5.8
KSH				pP	PcP	06 45 59.7	+3.0
KSH				PP	PP	06 48 21.5	-3.1
KSH				S	SKiKP	06 54 55.6	-15
KSH	Kashi	73.70	322	SS	SS	06 59 43.0	-11
ESDC	Sonseca Array	78.80	23	P	P	06 46 10.1	+0.3
	0.7nm,0.6s,baz=354,slow=5.0,SNR=6.0						
GEYT	Alibeck	80.07	335	LR	LR	07 27 02.6	
	comp=Z,29nm,18.1s,baz=75,slow=40						
BRTR	Keskin Array B	81.70	354	P	P	06 46 26.0	+0.5
	0.4nm,0.7s,baz=324,slow=3.9,SNR=3.4						
CM31	Chiang Mai Arr	82.97	294	*e*P	P	06 46 32.6	+0.3
	3.4nm,0.9s						
CMAR	Chiang Mai Arr	82.97	294	P	P	06 46 32.6	+0.3
	0.7nm,0.3s,baz=355,slow=4.5,SNR=3.1						
BOSA	Boshof	149.88	2	PKPbc	PKPbc	06 53 55.6	-1.5
	3.3nm,0.6s,baz=358,slow=2.8,SNR=8.0						

NORS ***12*** *07:10:19.5±0.0, 42°.39N×41°.09E, h4km, MPVA3.5*
TIF ***12*** *07:10:20.0, 42°.32N×40°.89E, h33km±4km*
ISC 12 07:10:19.7±2.2, 42°.41N±0°.06×41°.00E±0°.08, h5km±20km, n13, σ0°62/24, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	Batumi	0.96	147	P	Pb	07 10 38.1	-0.7
BATM				S	Sg	07 10 51.2	+0.6
DOMR	Dombai	0.99	27	*e*Pg	Pb	07 10 30.5	-8.9
DOMR				*e*Sg	Sg	07 10 43.6	-8.0
ARXR	Arkhyz	1.17	10	*e*Pg	Pb	07 10 42.0	-0.4
ARXR				*e*Sg	Sb	07 10 57.0	-0.8
NEY	Neytrino	1.52	56	*e*Pg	Pn	07 10 47.3	-0.4
NEY				*e*Sg	Sn	07 11 08.0	+0.1
GUZR	Guzeripl'	1.71	338	*e*Pg	Pb	07 10 51.2	-0.4
GUZR				*e*Sg	Sb	07 11 13.7	+0.3
SHA1	Shidzhatmaz	1.80	42	*e*Pg	Pn	07 10 52.8	+1.2
SHA1				*e*Sg	Sb	07 11 16.2	0.0
ONI	Oni	1.82	84	P	Pn	07 10 52.0	+0.2
ONI				S	Sn	07 11 15.9	+0.6
ONI	Oni	1.82	84	*e*Pg	Pn	07 10 52.0	+0.2
ONI				*e*Sg	Sn	07 11 15.9	+0.6
DIGR	Digorskoe uzhe	1.96	75	*e*Pg	Pn	07 10 53.5	-0.3
DIGR				*e*Sg	Sn	07 11 18.2	-0.8
KIV0	Kislovodsk Arr	1.98	38	*i* Pg	Pb	07 10 55.8	-0.4
KIV0				*e*Sg	Sb	07 11 21.2	0.0
ZEI	Tsey	2.17	79	*e*Pg	Pn	07 10 56.8	0.0
ZEI				*e*Sg	Sn	07 11 23.6	-0.6
KORR	Kora	2.36	72	*e*Pn	Pn	07 10 59.0	-0.1
KORR				*e*Sn	Sn	07 11 28.4	0.0
LACR	Lac	2.47	79	*e*Pn	Pn	07 11 01.4	+0.7
LACR				*e*Sn	Sn	07 11 32.5	+1.2

NNC 12 07:26:03.7±0.3, 50°.01N×78°.70E, h0km, mb3.7, mpv3.3, 16C-9D, Error ellipse: s-maj=3.2km s-min=1.7km az=77.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.59	349	‖P	Pg	07 26 15.2	+0.2
KUR07				‖S	Sg	07 26 23.8	+1.1
KUR06	Kurchatov Arra	0.61	349	⇑P	Pg	07 26 15.5	+0.2
KUR06				⇑S	Sg	07 26 24.5	+1.2
KUR14	Kurchatov Arra	0.61	354	‖P	Pg	07 26 15.3	-0.1
KUR14				‖S	Sg	07 26 24.1	+0.7
KUR15	Kurchatov Arra	0.62	352	⇑P	Pg	07 26 15.7	+0.1
KUR15				‖S	Sg	07 26 25.0	+1.4
KURBB	Kurchatov Arra	0.63	350	⇑P	Pg	07 26 15.7	0.0
	24nm,0.4s						
KURBB				⇑S	Sg	07 26 25.1	+1.3
	73nm,0.5s						
KUR16	Kurchatov Arra	0.64	348	⇑P	Pg	07 26 16.1	+0.2
KUR16				‖S	Sg	07 26 24.9	+0.8
KUR17	Kurchatov Arra	0.64	347	⇑P	Pg	07 26 16.2	+0.2
KUR17				⇑S	Sg	07 26 25.6	+1.2
KUR05	Kurchatov Arra	0.65	351	⇑P	Pg	07 26 15.9	-0.2
KUR05				⇑S	Sg	07 26 25.3	+0.8
KUR04	Kurchatov Arra	0.67	351	⇑P	Pg	07 26 16.4	-0.1
KUR04				⇑S	Sg	07 26 25.7	+0.7
SEM	Semipalatinsk	1.07	67	P	Pg	07 26 24.8	+0.5
	5.8nm,0.1s						
SEM				S	Sg	07 26 38.7	+0.5
	60nm,0.4s						
MAKZ	Makanchi	3.87	144	‖Lg	Lg	07 28 06.3	
	9.8nm,0.7s						
MK31	Makanchi Array	4.01	142	‖Pn	Pn	07 27 08.2	+1.9
	baz=326,slow=9.6,SNR=7.2						
MK31				‖Pg	Pb	07 27 16.8	+1.6
	1.1nm,0.5s,baz=333,slow=15,SNR=9.2						
MK31				Lg	Lg	07 28 10.3	
	9.7nm,0.6s,baz=323,slow=27,SNR=18						
OTUK	Ortayu	4.53	250	⇑Pn	Pn	07 27 15.3	+1.8
	0.7nm,0.3s						
OTUK				⇑Sn	Sn	07 28 07.1	+0.1
	0.8nm,0.4s						
OTUK				⇑Lg	Lg	07 28 27.5	
	4.1nm,0.5s						
ZSN	Zaisan	4.82	120	Pg	Pb	07 27 28.2	-0.8
	2.2nm,0.3s						
ZSN				Lg	Lg	07 28 27.8	
	4.3nm,0.5s						
DJR	Jarkent	5.72	172	Pg	Pb	07 27 48.1	+3.6
	4.0nm,0.8s						
DJR				Lg	Lg	07 29 01.2	
	2.6nm,0.5s						
ARXS	Arharly	5.83	186	Pg	Pg	07 27 51.0	-4.3
	7.6nm,0.6s						
ARXS				Lg	Lg	07 29 06.4	
	11nm,0.6s						
BTLS	Baital	5.88	214	Pg	Pg	07 27 51.8	-4.5
	0.8nm,0.3s						
BTLS				Lg	Lg	07 29 08.0	
	1.8nm,0.3s						
CHKK	Chushkaly	6.26	191	Pg	Pb	07 27 58.5	+4.9
	0.8nm,0.2s						
CHKK				Lg	Lg	07 29 19.0	
	8.8nm,0.5s						
KUU	Kurty	6.33	196	Pg	Pg	07 28 00.0	-4.8
	0.7nm,0.2s						
KUU				Lg	Lg	07 29 21.9	
	6.3nm,0.7s						
KTBS	Karatobe	6.45	193	Pg	Pg	07 28 03.8	-3.4
	0.7nm,0.6s						
KTBS				Lg	Lg	07 29 27.8	
	12nm,0.5s						
PDGK	Podgornoye	6.70	175	‖Lg	Lg	07 29 36.7	
	5.6nm,0.6s						
TNSS	Tian-Shan	7.08	190	Pg	Pg	07 28 15.0	-4.2
	1.5nm,0.4s						
TNSS				Lg	Lg	07 29 47.3	
	3.3nm,0.3s						

ATH ***12*** *07:26:06.6, 36°.92N×26°.84E, h35km±8km, ML2.3/1, Error ellipse: s-maj=8.9km s-min=1.5km az=313.0*
DDA ***12*** *07:26:07.9, 36°.97N×26°.83E, h7km±4km, ML2.6*
ISK ***12*** *07:26:07.1, 36°.99N×26°.80E, h12km, ML2.4/6*
ISCJB ***12*** *07:26:08.2±0.6, 36°.93N±0°.04×26°.81E±0°.03, h23km±5km, Error ellipse: s-maj=7.0km s-min=4.5km az=178.6*
ISC 12 07:26:07.5±1.1, 36°.90N±0°.04×26°.85E±0°.03, h25km±12km, n19, σ1°00/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	Bodrum	0.41	66	PG	Pb	07 26 15.8	-0.4
BODT				SG	Sb	07 26 22.1	+0.1
BDRM	Kayabasi	0.51	70	IAML_P			
	comp=Z,2μm,0.2s						
BDRM				*i* P	Pb	07 26 18.3	+0.5
BDRM				*i* S	Sn	07 26 26.3	-0.8
DAT	Datca	0.61	106	PG	Pn	07 26 21.1	+0.4
DAT				SG	Sn	07 26 30.4	+0.6
DAT	Datca	0.61	106	IAML_P			
	comp=Z,501nm,0.1s						
DAT				*i* P	Pn	07 26 21.6	+0.9
DAT				*i* S	Sn	07 26 30.6	+0.8
AMGA	Amorgos Island	0.77	266	P	Pb	07 26 21.9	-0.3
AMGA				S	Sb	07 26 32.6	+0.3
SMG	Samos	0.81	359	P	Pb	07 26 22.0	-1.0
SMG				S	Sb	07 26 33.5	-0.1
SMG				AML	AML	07 26 36.3	
	comp=N,392μm,0.5s						
SMG				AML	AML	07 26 36.8	
	comp=E,398μm,0.4s						
GCAM	G?zelcaml?	0.86	21	PG	Pb	07 26 22.8	-1.0
GCAM				SG	Sn	07 26 34.8	-1.0
GCAM	G?zelcaml?	0.86	21	IAML_P			
	comp=Z,998nm,0.2s						
GCAM				*i* P	Pb	07 26 23.3	-0.5
GCAM				*i* S	Sn	07 26 36.1	+0.3
APE	Apeiranthos	1.07	280	P	Pn	07 26 26.9	-0.1
APE				S	Sb	07 26 41.4	+0.4
AYDN	Tasoluk	1.12	47	IAML_P			
	comp=Z,525nm,0.2s						
AYDN				*i* P	Pb	07 26 28.9	+0.7
AYDN				*i* S	Sn	07 26 44.2	+1.8
DGB	zmir	1.16	1	*i* P	Pb	07 26 29.6	+0.8
DGB				*i* S	Sb	07 26 45.3	+2.0
AYDB	Zeytinkoy-Aydi	1.34	38	PN	Pb	07 26 31.7	-0.3
TURN	Turunc	1.41	90	PN	Pn	07 26 29.3	-2.2
TURN	Turunc	1.41	90	IAML_P			
	comp=Z,426nm,0.1s						
TURN				*i* P	Pn	07 26 29.5	-2.0
TURN				*i* S	Sn	07 26 47.8	-1.5
DALY	Dalyan (Mula)	1.45	93	PN	Pb	07 26 34.6	+0.8
URLA	Izmir	1.48	352	PN	Pn	07 26 32.5	-0.1
BLCB	Balcova	1.50	6	PN	Pn	07 26 33.1	+0.3
CHOS	Chios island	1.62	337	P	Pn	07 26 34.2	-0.4
FETY	Fethiye	1.81	98	PN	Pb	07 26 39.9	-0.1

SNET ***12*** *07:29:57.1±1.8, 13°.23N×91°.88W, h35km±999km, ML4.8*
UCR ***12*** *07:29:58.3±1.6, 13°.18N×91°.70W, h20km±46km, MD4.5, ML4.5, mb5.2(NEIC)*
NEIC ***12*** *07:29:59.4±2.3, 13°.48N×91°.38W, h11km, mb5.2/407, MS5.5/555, MW5.6, MW5.8, Error ellipse: s-maj=15.9km s-min=11.8km az=228.0, Moment Tensor Solution. s53 Moment tensor: Scale 10^{17}Nm; M_{rr}0.67; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-0.33; $M_{r\theta}$3.01; $M_{\theta\phi}$0.16; $M_{\phi r}$-1.06; Best double couple: $M_0$3.30000×10^{17} NP1:ϕ_s110.00000°, δ85.00000°, λ88.00000°. NP2:ϕ_s313.00000°, δ5.00000°, λ113.00000°. Principal axes: T 3.3600, Plg50.0000°, Azm18.0000°; N -0.2300, Plg2.0000°, Azm110.0000°; P -3.1300, Plg40.0000°, Azm202.0000°;*
MOS ***12*** *07:30:01.6±1.1, 13°.61N×91°.20W, h34km, mb5.2/56, MS5.3/57 Error ellipse: s-maj=8.1km s-min=4.1km az=108.2*
GCMT ***12*** *07:30:02.4±0.1, 13°.25N±0°.01×91°.95W±0°.01, h12km, MW5.7/125, Moment Tensor Solution. s115,c222; s125,c361; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}3.19±.03; $M_{\theta\theta}$-2.37±.03; $M_{\phi\phi}$-0.82±.03; $M_{r\theta}$2.40±.08; $M_{\theta\phi}$1.10±.02; $M_{\phi r}$-2.45±.08; Best double couple: $M_0$4.59200×10^{17} NP1:ϕ_s130.00000°, δ69.00000°, λ98.00000°. NP2:ϕ_s288.00000°, δ22.00000°, λ69.00000°. Principal axes: T 4.7900, Plg65.0000°, Azm54.0000°; N -0.3970, Plg8.0000°, Azm307.0000°; P -4.3940, Plg24.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
BJI ***12*** *07:30:02.0±0.0, 13°.60N×91°.30W, h33km, mB5.7/16, Ms5.8/31, Ms7 5.7/26*
MEX ***12*** *07:30:04.5±0.4, 13°.64N×91°.59W, h71km±33km, MD5.3*
IDC ***12*** *07:30:04.3±2.1, 13°.63N×91°.12W, h48km±19km, mb4.4/36, mb1 4.5/38, mb1mx4.5/49, mbtmp4.7/38, ML4.6/2, MS5.2/22, Ms1 5.2/22, ms1mx5.1/32, Error ellipse: s-maj=18.4km s-min=8.2km az=51.0*
NEIC ***12*** *07:30:04.0±0.0, 13°.23N×91°.77W, h11km, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}3.39; $M_{\theta\theta}$-2.55; $M_{\phi\phi}$-0.84; $M_{r\theta}$3.86; $M_{\theta\phi}$1.34; $M_{\phi r}$-2.48; Best double couple: $M_0$5.70000×10^{17} NP1:ϕ_s122.00000°, δ72.00000°, λ92.00000°. NP2:ϕ_s296.00000°, δ18.00000°, λ84.00000°. Principal axes: T 5.7300, Plg62.0000°, Azm34.0000°; N -0.1100, Plg1.0000°, Azm301.0000°; P -5.6200, Plg26.0000°, Azm210.0000°;*
ISCJB ***12*** *07:30:05.9±0.3, 13°.66N±0°.02×91°.22W±0°.02, h77km±3km, mb5.1/355 Error ellipse: s-maj=3.3km s-min=2.2km az=44.3*
ISC 12 07:30:00.7±0.8, 13°.49N±0°.04×91°.54W±0°.03, h22km±4km, n1702, σ1°79/1472, mb5.2/361, MS5.5/580, 16C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	1.17	35	*e*P	Pb	07 30 24.8	+2.4
IXG	Ixpaco	1.27	57	‖*e*P	Pb	07 30 24.6	+0.5
PCG	Pacaya	1.28	45	*e*P	Pb	07 30 25.7	+1.4
NBG	Las Nubes	1.60	47	⇑*e*P	Pb	07 30 30.9	+1.2
APG	El Apazote	1.84	35	P	Pb	07 30 33.9	+0.1
	158nm,0.3s,baz=208,slow=17,SNR=622						
RTR	El Retiro	1.89	77	*e*P	Pn	07 30 32.8	+0.9
RTR	El Retiro	1.89	77	*e*P	Pn	07 30 32.8	+0.9
CEVE	Cerro Verde	1.90	79	*e*P	Pn	07 30 32.1	+0.1
CEVE				*e*S	Sb	07 31 01.4	+3.2
CEVE				IAML		07 31 15.3	
	comp=Z,6μm,0.5s						
CEVE	Cerro Verde	1.90	79	*e*P	Pn	07 30 32.1	+0.1
CEVE				*e*S	Sb	07 31 01.4	+3.2
CEVE				IAML		07 31 15.3	
	comp=Z,6μm,0.5s						
SBLS	San Blas	1.90	79	*e*P	Pn	07 30 32.5	+0.5

TLIG	Tlapa	7.89	302	ePn	Pn	07 31 57.5	+3.2
HDC	Heredia	8.06	115	ePn	Pn	07 31 54.9	-1.7
MOIG	Morelia	11.11	305	ePn	Pn	07 32 42.5	+4.0
BCIP	Isla Barro Col	12.25	109	ePn	Pn	07 32 53.4	-0.6
BCIP	Isla Barro Col	12.25	109	eP	Pn	07 32 53.4	-0.6
LNIG	Linares	13.59	328	ePn	Pn	07 33 13.9	+1.7
ZAIG	Zacatecas	13.96	313	ePn	Pn	07 33 19.2	+1.6
PAYG	Puerto Ayora	14.12	175	ePn	Pn	07 33 19.9	+0.3
MTDJ	Mount Denham	14.28	69	ePn	Pn	07 33 20.9	-0.9
062Z	Marathon baz=223	14.93	40	P	Pn	07 33 29.3	-1.3
061Z	Ochoppi comp=Z,138nm,1.1s	15.86	37	ePn	Pn	07 33 41.0	-1.7
061Z	Ochoppi baz=220	15.86	37	P	Pn	07 33 40.7	-2.0
059Z	Ave Maria baz=218,SNR=8.8	15.91	35	P	Pn	07 33 41.8	-1.5
058A	Arcadia baz=215	16.29	33	P	Pn	07 33 48.0	-0.2
060Z	West Palm Beac baz=220	16.47	37	P	Pn	07 33 50.7	+0.2
833A	Chaparral WMA, comp=Z,184nm,1.6s	16.47	335	ePn	Pn	07 33 51.3	+0.8
833A	Chaparral WMA, baz=151,SNR=10	16.47	335	P	Pn	07 33 51.0	+0.5
059A	Moore Haven comp=Z,79nm,0.8s	16.57	34	ePn	Pn	07 33 49.3	-2.5
059A	Moore Haven baz=217	16.57	34	P	Pn	07 33 50.7	-1.1
957A	Wimauma comp=Z,248nm,1.4s	16.57	30	ePn	Pn	07 33 50.8	-1.0
957A	Wimauma baz=213	16.57	30	P	Pn	07 33 50.6	-1.1
958A	Wauchula baz=214	16.74	32	P	Pn	07 33 53.8	-0.1
HKT	Hockley comp=Z,222nm,1.6s	16.86	347	ePn	P	07 33 56.9	-0.3
HKT HKT	Hockley comp=Z,222nm,1.6s	16.86	347	eP pmax	P pmax	07 33 56.9	-0.3
060A	Indiantown baz=219	17.06	36	P	Pn	07 33 57.3	-0.6
857A	Zephyrhills baz=212	17.07	29	P	Pn	07 33 56.2	-1.9
SMRC	Santa Marta, M	17.08	96	eP	Pn	07 33 57.2	-1.0
SMRC	Santa Marta, M	17.08	96	eP	Pn	07 33 57.2	-1.0
959A	Okeechobee baz=217	17.15	34	P	Pn	07 33 58.6	-0.5
PLMC	San Jos del P	17.30	118	eP	Pn	07 33 59.2	-1.8
PLMC	San Jos del P	17.30	118	eP	Pn	07 33 59.2	-1.8
ARGC	Ariguani, Magd	17.32	100	eP	Pn	07 33 59.2	-2.0
ARGC	Ariguani, Magd	17.32	100	eP	Pn	07 33 59.2	-2.0
DWPF	Disney Wildern baz=214	17.34	31	P	Pn	07 34 01.5	+0.1
HELC	Santa Helena	17.36	113	eP	P	07 34 02.6	-0.8
HELC	Santa Helena	17.36	113	eP	P	07 34 02.6	-0.8
858A	St. Cloud baz=214	17.45	31	P	Pn	07 34 02.4	-0.4
552A	Lynn Haven baz=200	17.55	18	P	P	07 34 05.5	+0.6
859A	Kempfer Cattle baz=216	17.57	33	P	Pn	07 34 04.3	+0.1
449A	Pace baz=193	17.65	12	P	P	07 34 06.7	+0.7
655A	Horseshoe Beac baz=207	17.70	24	P	Pn	07 34 05.8	-0.1
655A baz=207				S	S	07 37 40.6	+11
757A	Oxford baz=211	17.72	28	P	Pn	07 34 06.4	+0.3
SMLC	San Martn de	17.76	103	eP	Pn	07 34 05.2	-1.5
SMLC	San Martn de	17.76	103	eP	Pn	07 34 05.2	-1.5
450A	Crestview baz=195	17.83	14	P	P	07 34 09.4	+1.4
451A	Vernon comp=Z,334nm,1.4s	17.87	16	ePn	Pn	07 34 08.0	+0.1
451A	Vernon baz=198	17.87	16	P	P	07 34 09.0	+0.6
553A	Crawfordville baz=202,SNR=5.2	17.87	20	P	Pn	07 34 08.0	0.0
656A	Willston comp=Z,231nm,1.5s	17.88	26	ePn	Pn	07 34 08.0	-0.1
656A	Willston baz=209	17.88	26	P	P	07 34 08.9	+0.4
554A	Perry baz=205	18.05	22	P	P	07 34 11.2	+0.8
CODC	Agustn Codazz	18.07	99	eP	Pn	07 34 05.9	-4.7
CODC	Agustn Codazz	18.07	99	eP	Pn	07 34 05.9	-4.7
BRAL	Brewton comp=Z,170nm,1.1s	18.08	12	ePn	Pn	07 34 10.0	-0.5
BRAL	Brewton baz=193	18.08	12	P	P	07 34 12.6	+1.8
435B	Jarrell comp=Z,79nm,0.9s	18.09	343	ePn	P	07 34 12.7	+1.7
435B	Jarrell baz=160,SNR=12	18.09	343	P	P	07 34 11.4	+0.4
758A	Lake Helen baz=213	18.15	30	P	P	07 34 11.8	+0.3
BBAC	Balboa, Cauca	18.16	128	eP	P	07 34 12.1	+0.1
BBAC				eP	P	07 34 14.2	+2.2
BBAC	Balboa, Cauca	18.16	128	eP	P	07 34 12.1	+0.1
BBAC				eP	P	07 34 14.2	+2.2
PTBC	PUERTO BERRIO,	18.18	111	eP	Pn	07 34 10.5	-1.4
PTBC	PUERTO BERRIO,	18.18	111	eP	Pn	07 34 10.5	-1.4
NORC	Norcasia	18.22	114	eP	P	07 34 13.2	+0.6
NORC	Norcasia	18.22	114	eP	P	07 34 13.2	+0.6
349A	Repton baz=193,SNR=5.1	18.23	12	P	P	07 34 13.0	+0.6
452A	Marianna baz=199	18.25	18	P	P	07 34 14.6	+1.9
POPC	Popayan, Colom	18.29	125	eP	Pn	07 34 13.2	-0.2
POPC	Popayan, Colom	18.29	125	eP	Pn	07 34 13.2	-0.2
555A	McAlpin comp=Z,220nm,1.0s	18.36	24	ePn	P	07 34 12.6	-1.2
555A	McAlpin baz=207,SNR=8.7	18.36	24	P	Pn	07 34 14.6	+0.7
657A	Interlachen baz=210	18.36	28	P	Pn	07 34 14.1	+0.1
NATX	Nacogdoches comp=Z,406nm,1.4s	18.41	352	eP	Pn	07 34 15.3	+0.7
NATX	Nacogdoches baz=170,SNR=6.1	18.41	352	P	Pn	07 34 15.5	+0.9
OTAV	Otavalo comp=Z,20nm,1.0s	18.48	134	ePn	P	07 34 15.3	-0.5
OTAV	Otavalo	18.48	134	eP	Pn	07 34 15.8	-0.1
OTAV	Otavalo	18.48	134	eP	P	07 34 15.3	-0.5
OTAV OTAV	Otavalo comp=Z,20nm,1.0s	18.48	134	eP pmax	Pn pmax	07 34 15.8	-0.1
OTAV	Otavalo	18.48	134	eP	Pn	07 34 15.7	-0.3
350A	Dozier baz=195	18.48	14	P	Pn	07 34 16.5	+1.1
556A	Lake Butler baz=208	18.48	26	P	Pn	07 34 15.8	+0.3
ETX06	Route 59 and C comp=Z,225nm,1.6s	18.49	352	eP	Pn	07 34 16.2	+0.6
658A	Bunnell comp=Z,232nm,1.4s	18.50	29	eP	P	07 34 13.4	-2.0
658A	Bunnell baz=212	18.50	29	P	P	07 34 15.3	-0.1
453A	Whigham comp=Z,144nm,1.1s	18.52	20	eP	P	07 34 15.2	-0.5
453A	Whigham baz=202	18.52	20	P	Pn	07 34 17.3	+1.3
351A	Pinckard baz=198	18.53	16	P	Pn	07 34 17.2	+1.2
JCT	Junction City comp=Z,87nm,1.0s	18.55	337	eP	Pn	07 34 17.7	+1.3
JCT JCT	Junction City comp=Z,87nm,1.0s	18.55	337	eP pmax	Pn pmax	07 34 17.7	+1.3
JCT	Junction City baz=153,SNR=44	18.55	337	P	Pn	07 34 17.8	+1.4
SOTA	Rioblanco	18.59	126	eP	P	07 34 16.5	-0.5
SOTA	Rioblanco	18.59	126	eP	P	07 34 16.5	-0.5
GCUF	Volcan Galeras	18.60	130	eP	Pn	07 34 18.5	+1.0
GCUF	Volcan Galeras	18.60	130	eP	Pn	07 34 18.5	+1.0
454A	Quitman baz=204	18.63	22	P	Pn	07 34 18.7	+1.4
PCON	Cinco Dias	18.64	125	eP	Pn	07 34 18.5	+0.5
PCON	Cinco Dias	18.64	125	eP	Pn	07 34 18.5	+0.5
OCAC	Ocana	18.64	104	eP	P	07 34 15.2	-2.0
OCAC	Ocana	18.64	104	eP	P	07 34 15.2	-2.0
VBMS	Vicksburg comp=Z,173nm,1.1s	18.67	3	eP	Pn	07 34 18.6	+0.9
VBMS	Vicksburg	18.67	3	P	Pn	07 34 19.0	+1.3
	baz=182						
CRUC	La Cruz	18.68	128	eP	Pn	07 34 27.2	+8.9
CRUC	La Cruz	18.68	128	eP	Pn	07 34 27.2	+8.9
MARP	Paez Belalcaza	18.69	123	eP	Pn	07 34 18.5	+0.1
MARP	Paez Belalcaza	18.69	123	eP	Pn	07 34 18.5	+0.1
557A	Orange Park baz=210	18.79	27	P	P	07 34 18.5	-0.1
HPIG		18.81	317	eP	Pn	07 34 21.6	+1.9
	comp=Z,129nm,1.6s						
249A	Camden baz=193,SNR=13	18.84	12	P	Pn	07 34 19.9	0.0
455A	Stateville baz=206	18.88	23	P	P	07 34 19.2	-0.4
352A	Blakely comp=Z,305nm,1.4s	18.91	18	eP	P	07 34 19.7	-0.2
352A	Blakely baz=200,SNR=7.6	18.91	18	P	Pn	07 34 21.8	+1.1
353A	Camilla baz=202,SNR=6.0	19.01	20	P	Pn	07 34 22.8	+0.9
250A	Grady comp=Z,225nm,1.6s	19.03	14	eP	Pn	07 34 22.4	+0.4
250A	Grady baz=195,SNR=7.6	19.03	14	P	Pn	07 34 22.7	+0.7
ROSC	El Rosal	19.04	115	eP	Pn	07 34 24.5	+1.8
ROSC	El Rosal	19.04	115	eP	Pn	07 34 24.5	+1.8
ROSC	El Rosal	19.04	115	P	P	07 34 21.9	0.0
	comp=Z,0.5nm,0.3s,baz=317,slow=10,SNR=26						
PRAC	Prado	19.10	119	eP	Pn	07 34 23.2	0.0
PRAC	Prado	19.10	119	eP	Pn	07 34 23.2	0.0
WHTX	Lake Whitney, comp=Z,62nm,0.8s	19.20	345	eP	Pn	07 34 24.0	-0.2
WHTX	Lake Whitney, baz=162,SNR=32	19.20	345	P	Pn	07 34 24.2	+0.1
456A	Hilliard baz=208	19.27	26	P	P	07 34 23.4	-0.5
TIGA	Tifton comp=Z,155nm,1.1s	19.31	21	eP	P	07 34 24.3	0.0
TIGA	Tifton baz=203,SNR=12	19.31	21	P	Pn	07 34 25.0	-0.4
BARC	Barichara	19.32	109	eP	Pn	07 34 27.6	+1.6
BARC	Barichara	19.32	109	eP	Pn	07 34 27.6	+1.6
147A	Livingston comp=Z,256nm,1.3s	19.33	8	eP	Pn	07 34 26.4	+0.7
147A	Livingston baz=189	19.33	8	P	Pn	07 34 25.8	+0.1
H06E1	SOCORRO T-PHAS SNR=34	19.34	288	T	T	07 54 21.8	
251A	Midway baz=198,SNR=16	19.36	16	P	Pn	07 34 25.9	-0.1
LTX	Lajitas	19.37	326	eP	Pn	07 34 27.9	+1.6
LTX	Lajitas	19.37	326	eP	Pn	07 34 27.9	+1.6
TX31	Lajitas Ar. Si comp=Z,225nm,1.5s	19.37	326	eP	Pn	07 34 28.2	+1.9
TXAR	Lajitas Array	19.37	326	eP	Pn	07 34 28.2	+1.9
TXAR	Lajitas Array	19.37	326	eP	Pn	07 34 28.2	+1.9
TXAR	Lajitas Array	19.37	326	P	Pn	07 34 27.9	+1.6
	comp=Z,0.6nm,0.3s,baz=154,slow=8.7,SNR=170						
457A	Yulee baz=210	19.38	27	P	P	07 34 25.6	+0.5
148A	Greensboro baz=191,SNR=12	19.41	10	P	Pn	07 34 26.9	+0.2
252A	Lumpkin baz=200	19.45	18	P	Pn	07 34 27.6	+0.4
355A	Pearson baz=205	19.49	23	P	P	07 34 26.1	-0.1
PAMC	Pamplona, Colo	19.51	106	eP	P	07 34 27.1	0.0
PAMC	Pamplona, Colo	19.51	106	eP	P	07 34 27.1	0.0
149A	Jones baz=193,SNR=20	19.51	12	P	Pn	07 34 28.5	+0.6
CHIC	Chingaza	19.65	115	eP	Pn	07 34 30.9	+0.8
CHIC	Chingaza	19.65	115	eP	Pn	07 34 30.9	+0.8
FLOC	Florencia	19.68	126	eP	Pn	07 34 29.9	-0.1
FLOC	Florencia	19.68	126	eP	Pn	07 34 29.9	-0.1
RUSC	La Rusia	19.69	111	eP	P	07 34 29.1	0.0
RUSC	La Rusia	19.69	111	eP	P	07 34 29.1	0.0
150A	Eclectic baz=195,SNR=22	19.69	14	P	Pn	07 34 30.3	+0.3
253A	Americus baz=201	19.70	19	P	P	07 34 29.4	+0.8
Z41A	Richland Creek comp=Z,185nm,1.3s	19.71	357	eP	Pn	07 34 29.8	-0.5
Z41A	Richland Creek baz=176,SNR=8.7	19.71	357	P	P	07 34 29.4	+0.7
356A	Blackshear baz=207	19.75	24	P	P	07 34 29.5	+0.3
151A	Opelika baz=197,SNR=24	19.79	16	P	Pn	07 34 31.3	+0.2
254A	Abbeville baz=204,SNR=7.9	19.87	21	P	P	07 34 31.3	+0.9
LRAL	Lakeview Retre comp=Z,168nm,1.6s	19.90	11	eP	P	07 34 31.1	+0.4
LRAL	Lakeview Retre baz=192,SNR=19	19.90	11	P	Pn	07 34 32.4	0.0
152A	Waverly Hall comp=Z,356nm,1.5s	20.09	17	eP	P	07 34 32.7	-0.1
152A				LR	LR		
	comp=Z,17µm,20.0s						
152A	Waverly Hall baz=199,SNR=15	20.09	17	P	Pn	07 34 34.0	-0.7
357A	Townsend baz=209	20.11	26	P	P	07 34 32.2	-0.8
Z49A	Columbiana baz=194,SNR=21	20.14	12	P	Pn	07 34 34.8	-0.6
255A	Hazlehurst	20.15	23	PFAKE		07 34 50.0	+15
255A				LR	LR		
	comp=Z,23µm,19.0s						
255A	Hazlehurst baz=206	20.15	23	P	P	07 34 34.2	+0.7
SLBS	Sierra La Lagu comp=Z,60nm,1.1s	20.15	303	eP	P	07 34 35.0	+1.2
SLBS				LR	LR		
	comp=Z,7µm,19.0s						
WLAR	White Oak Lake comp=Z,305nm,1.4s	20.16	356	eP	P	07 34 34.5	+0.9
SDDR	Presa de Saban comp=Z,20nm,1.0s	20.19	72	eP	P	07 34 32.9	-1.3
SDDR				LR	LR		
	comp=Z,20µm,20.0s						
Z50A	Ashland comp=Z,68nm,1.0s	20.33	14	eP	P	07 34 36.2	+0.7
Z50A				LR	LR		
	comp=Z,13µm,20.0s						
Z50A	Ashland baz=195,SNR=21	20.33	14	P	Pn	07 34 36.8	-0.8
153A	Fort Valley baz=201	20.34	19	P	P	07 34 35.8	+0.3
CCAR	Cane Creek comp=Z,143nm,1.1s	20.34	359	eP	P	07 34 36.7	+1.2
256A	Glennville baz=207	20.43	24	P	P	07 34 35.2	-1.2
ABTX	Abilene, Hawle comp=Z,333nm,1.4s	20.44	340	eP	P	07 34 38.0	+1.4
ABTX	Abilene, Hawle baz=156,SNR=55	20.44	340	P	P	07 34 37.8	+1.2
154A	Montrose comp=Z,302nm,1.1s	20.54	21	eP	P	07 34 38.4	+0.6
154A				LR	LR		
	comp=Z,21µm,21.0s						
154A	Montrose baz=203,SNR=7.9	20.54	21	P	P	07 34 38.3	+0.6
Z51A	Franklin baz=197,SNR=20	20.58	15	P	P	07 34 39.1	+1.0
LPIG	La Paz comp=Z,7.6nm,0.3s,baz=146,slow=13,SNR=4.5	20.64	303	P	Pn	07 34 41.6	+0.4
LPIG				LR	LR	07 42 28.1	
	comp=Z,5µm,19.5s,baz=114,slow=36						
Z52A	Williamson baz=199,SNR=14	20.66	17	P	Pn	07 34 40.4	-1.0
Y48A	Jasper baz=191,SNR=17	20.72	10	P	P	07 34 40.4	+0.7
257A	Skidaway Islan	20.78	26	PFAKE		07 34 50.0	+7.3
257A				LR	LR		
	comp=Z,26µm,18.0s						
257A	Skidaway Islan baz=209	20.78	26	P	P	07 34 39.8	-0.5
155A	Kite baz=205,SNR=7.5	20.78	22	P	P	07 34 40.0	-0.3
Y49A	Blount Mountai comp=Z,98nm,1.4s	20.81	12	eP	P	07 34 41.0	+0.4
Y49A				LR	LR		
	comp=Z,14µm,20.0s						
Y49A	Blount Mountai baz=194,SNR=14	20.81	12	P	P	07 34 40.3	-0.4
X40A	Basin Creek Fa comp=Z,160nm,1.6s	20.94	357	eP	P	07 34 42.5	+0.4
X40A				LR	LR		
	comp=Z,4µm,19.0s						
X40A	Basin Creek Fa baz=176,SNR=12	20.94	357	P	P	07 34 42.2	+0.1
X43A	Marvell comp=Z,366nm,1.5s	20.95	2	eP	P	07 34 42.5	+0.4
X43A				LR	LR		
	comp=Z,6µm,22.0s						
X43A	Marvell baz=181	20.95	2	P	P	07 34 41.2	-0.9
Y50A	Piedmont baz=195	20.99	14	P	P	07 34 43.9	+1.3
Z53A	Monticello baz=201,SNR=14	21.00	19	P	P	07 34 42.1	-0.6
SDV	Santo Domingo comp=Z,48nm,1.0s	21.01	100	eP	P	07 34 41.8	-1.4
SDV				LR	LR		
	comp=Z,3µm,19.0s						
SDV	Santo Domingo	21.01	100	eP	P	07 34 40.4	-2.8
SDV	Santo Domingo	21.01	100	eP	P	07 34 40.4	-2.8
SDV	Santo Domingo	21.01	100	P	P	07 34 41.4	-1.8
	comp=Z,22nm,0.7s,baz=293,slow=7.5,SNR=24						
SDV	Santo Domingo	21.01	100	eP	P	07 34 42.6	-0.6
GRTK	Grand Turk comp=Z,80nm,0.9s	21.02	65	eP	P	07 34 41.9	-1.1
GRTK				LR	LR		
	comp=Z,5µm,20.0s						
OXF	Oxford comp=Z,290nm,1.1s	21.02	5	eP	P	07 34 44.0	+1.1
OXF				LR	LR		
	comp=Z,4µm,20.0s						
OXF	Oxford	21.02	5	P	P	07 34 44.0	+1.1
OXF	Oxford baz=185,SNR=12	21.02	5	P	P	07 34 42.6	-0.3
MIAR	Mount Ida comp=Z,103nm,1.2s	21.05	355	eP	P	07 34 43.1	-0.1
MIAR				LR	LR		
	comp=Z,4µm,19.0s						
MIAR	Mount Ida	21.05	355	eP	P	07 34 43.1	-0.1
MIAR				pmax	pmax		
	comp=Z,103nm,1.2s						
MIAR				MLR	MLR		
	comp=Z,4µm,19.0s						
MIAR	Mount Ida baz=174,SNR=27	21.05	355	P	P	07 34 42.9	-0.3
X46A	Booneville baz=187,SNR=24	21.15	7	P	P	07 34 44.1	-0.2
GOGA	Godfrey comp=Z,189nm,1.4s	21.16	19	eP	P	07 34 44.7	+0.3
GOGA				LR	LR		
	comp=Z,20µm,20.0s						
GOGA	Godfrey	21.16	19	eP	P	07 34 44.7	+0.3
GOGA				pmax	pmax		
	comp=Z,189nm,1.4s						
GOGA				MLR	MLR		
	comp=Z,20µm,20.0s						
GOGA	Godfrey baz=202	21.16	19	P	P	07 34 44.7	+0.3
Y51A	Rockmart baz=197,SNR=17	21.16	15	P	P	07 34 45.4	+1.0
156A	Sylvania baz=207	21.18	24	P	P	07 34 44.7	+0.1
Z54A	Sparta baz=203,SNR=8.2	21.20	21	P	P	07 34 45.4	+0.5
X47A	Russelville baz=189,SNR=27	21.20	8	P	P	07 34 44.9	0.0
UALR	University of comp=Z,69nm,0.8s	21.21	358	eP	P	07 34 45.1	+0.2
PTLC	Puerto Leguiza	21.22	127	eP	P	07 34 47.1	+1.9
PTLC	Puerto Leguiza	21.22	127	eP	P	07 34 47.1	+1.9
X48A	Hartselle comp=Z,48nm,0.8s	21.27	10	eP	P	07 34 45.7	+0.1
X48A				LR	LR		
	comp=Z,14µm,21.0s						
X48A	Hartselle baz=191,SNR=27	21.27	10	P	P	07 34 46.0	+0.5
X37A	Clayton comp=Z,170nm,1.2s	21.29	351	eP	P	07 34 46.2	+0.4
X37A				LR	LR		
	comp=Z,5µm,21.0s						
SDD	Santo Domingo	21.37	74	PFAKE		07 35 00.0	+13
SDD				LR	LR		
	comp=Z,30µm,19.0s						
Y52A	Lilburn comp=Z,65nm,1.1s	21.40	17	eP	P	07 34 47.4	+0.5
Y52A				LR	LR		
	comp=Z,19µm,21.0s						
Y52A	Lilburn baz=200,SNR=15	21.40	17	P	P	07 34 47.6	+0.7
157A	Early Branch baz=209	21.40	25	P	P	07 34 47.3	+0.4
Z55A	Blythe baz=205	21.44	22	P	P	07 34 47.6	+0.2
X49A	Woodville baz=193	21.46	12	P	P	07 34 48.2	+0.6
Y53A	Monroe baz=201,SNR=9.1	21.53	18	P	P	07 34 49.3	+0.9
X50B	Fort Payne baz=195,SNR=25	21.55	13	P	P	07 34 49.2	+0.6
MET	Memphis--Engin comp=Z,181nm,1.1s	21.59	4	eP	P	07 34 49.4	+0.3
W41B	Gary Mavity, V comp=Z,137nm,1.4s	21.60	358	eP	P	07 34 48.7	-0.4
W41B	Gary Mavity, V baz=177,SNR=22	21.60	358	P	P	07 34 47.3	-1.8
PLAL	Pickwick Lake comp=Z,81nm,1.3s	21.63	8	eP	P	07 34 49.9	+0.4
W39A	Magazine comp=Z,100nm,1.2s	21.71	355	eP	P	07 34 50.8	+0.5
W39A				LR	LR		
	comp=Z,2µm,18.0s						
W39A	Magazine baz=173,SNR=13	21.71	355	P	P	07 34 50.3	0.0
WHAR	Wooly Hollow comp=Z,157nm,1.4s	21.72	358	eP	P	07 34 50.2	-0.2
WHAR				LR	LR		
	comp=Z,4µm,18.0s						
W46A	Michie baz=188	21.74	7	P	P	07 34 49.8	-0.8
158A	Hollywood baz=210	21.79	27	P	P	07 34 51.2	0.0
Z56A	Williston	21.82	23	PFAKE		07 35 00.0	+8.5
Z56A				LR	LR		
	comp=Z,22µm,20.0s						
Z56A	Williston baz=207	21.82	23	P	P	07 34 51.3	-0.1
Y54A	Tignall baz=203	21.82	20	P	P	07 34 51.3	-0.3
CLNB	Carlsbad	21.84	331	eP	P	07 34 53.8	+2.0
X51A	Calhoun comp=Z,208nm,1.4s	21.84	15	eP	P	07 34 53.8	+2.1
X51A				LR	LR		
	comp=Z,13µm,20.0s						
X51A	Calhoun baz=197,SNR=8.9	21.84	15	P	P	07 34 51.5	-0.2
W48A	Pulaski baz=191,SNR=8.7	21.96	10	P	P	07 34 53.2	+0.2
W47A	Westpoint baz=190,SNR=16	21.96	9	P	P	07 34 52.5	-0.5
HBAR	Harrisburg comp=Z,597nm,1.3s	21.99	2	eP	P	07 34 53.5	+0.3
HBAR				LR	LR		
	comp=Z,4µm,20.0s						
GDL2	Guadalupe Moun	22.02	330	eP	P	07 34 55.7	+1.9
CSU	Charleston Sou	22.05	26	eP	P	07 34 53.3	-0.7
Z57A	Bowman baz=208	22.06	25	P	P	07 34 53.6	-0.5
W49A	Belvidere baz=193,SNR=17	22.06	12	P	P	07 34 54.7	+0.6
NHSC	New Hope comp=Z,194nm,1.1s	22.11	26	eP	P	07 34 53.5	-1.1
NHSC				LR	LR		
	comp=Z,20µm,19.0s						
NHSC	New Hope baz=210	22.11	26	P	P	07 34 54.9	+0.3
MNTX	Cornudas Mount comp=Z,121nm,1.0s	22.14	327	eP	P	07 34 56.5	+1.6
MNTX	Cornudas Mount baz=141,SNR=170	22.14	327	P	P	07 34 56.0	+1.0
X52A	Dahlonega baz=199,SNR=21	22.14	17	P	P	07 34 54.8	-0.1
WMOK	Wichita Mounta comp=Z,59nm,1.1s	22.15	344	eP	P	07 34 53.1	-2.0
WMOK	Wichita Mounta	22.15	344	eP	P	07 34 53.1	-2.0
WMOK				pmax	pmax		
	comp=Z,59nm,1.1s						
WMOK	Wichita Mounta baz=160,SNR=50	22.15	344	P	P	07 34 54.2	-0.9
Y55A	Saluda baz=205	22.18	22	P	P	07 34 55.6	+0.2

X53A	Estanollee	22.22	18	P		P	07 34 55.6	-0.1
	baz=201,SNR=7.6							
SWET	Sewanee	22.22	12	eP		P	07 34 55.9	0.0
	comp=Z,193nm,1.6s							
SWET				LR		LR		
	comp=Z,10µm,20.0s							
Y56A	Pelion	22.26	23	P		P	07 34 56.3	+0.1
	baz=206							
HODGE	Hodges	22.30	21	eP		P	07 34 55.8	-0.9
	comp=Z,77nm,1.3s							
HODGE				LR		LR		
	comp=Z,23µm,20.0s							
W50A	Signal Mountai	22.34	14	eP		P	07 34 58.2	+1.1
	comp=Z,53nm,1.2s							
W50A				LR		LR		
	comp=Z,12µm,20.0s							
W50A	Signal Mountai	22.34	14	P		P	07 34 57.0	-0.1
	baz=196							
HALT	Halls	22.42	5	eP		P	07 34 58.0	+0.1
	comp=Z,273nm,1.1s							
GNAR	Gosnell	22.43	3	eP		P	07 34 57.1	-0.8
	comp=Z,92nm,0.9s							
V46A	Holladay	22.43	7	P		P	07 34 56.9	-1.2
	baz=188,SNR=42							
W51A	Cleveland	22.43	15	P		P	07 34 58.3	+0.2
	baz=197,SNR=7.1							
Z58A	St. Stephen	22.46	26	P		P	07 34 57.3	-1.1
	baz=210							
CPRX	Cap Rock	22.47	332	eP		P	07 35 00.2	+1.5
V47A	Nunnelly	22.54	9	P		P	07 34 58.7	-0.5
	baz=190,SNR=18							
X54A	Belton	22.55	20	P		P	07 34 59.4	0.0
	baz=203,SNR=6.7							
V48A	Smith Brothers	22.56	10	eP		P	07 34 59.2	-0.3
	comp=Z,207nm,1.4s							
V48A				LR		LR		
	comp=Z,14µm,19.0s							
V48A	Smith Brothers	22.56	10	P		P	07 34 59.1	-0.3
	baz=191,SNR=25							
W52A	Murphy	22.59	16	eP		P	07 34 59.6	-0.2
	comp=Z,46nm,1.0s							
W52A				LR		LR		
	comp=Z,16µm,20.0s							
W52A	Murphy	22.59	16	P		P	07 35 00.6	+0.9
	baz=199,SNR=9.2							
Z59A	Georgetown, SC	22.62	28	P		P	07 34 59.2	-0.9
	baz=212							
TUL1	Leonard	22.65	351	eP		P	07 34 58.8	-1.6
	comp=Z,56nm,1.0s							
TUL1	Leonard	22.65	351	P		P	07 34 58.7	-1.8
	baz=169							
OK024	West corner E0	22.69	348	eP		P	07 34 59.2	-1.6
	comp=Z,60nm,0.9s							
JSC	Jenkinsville	22.71	23	eP		P	07 35 01.6	+0.6
	comp=Z,34nm,1.2s							
JSC				LR		LR		
	comp=Z,21µm,20.0s							
X55A	Gracelyn & Ava	22.74	22	P		P	07 35 00.4	-0.9
	baz=205							
V49A	McMinnville	22.76	12	P		P	07 35 01.1	-0.4
	baz=194,SNR=40							
U41A	Viola	22.76	359	P		P	07 35 00.6	-1.0
	baz=178,SNR=25							
CPCT	Cooper Cave	22.77	15	eP		P	07 35 01.9	+0.2
	comp=Z,75nm,1.2s							
GLAT	Glass	22.78	5	eP		P	07 35 01.0	-0.7
	comp=Z,242nm,0.9s							
BG3	Lake Jocassee	22.78	19	eP		P	07 35 01.4	-0.5
	comp=Z,37nm,1.1s							
BG3				LR		LR		
	comp=Z,16µm,20.0s							
WVT	Waverly	22.79	8	eP		P	07 35 01.6	-0.3
	comp=Z,141nm,1.5s							
WVT				LR		LR		
	comp=Z,7µm,21.0s							
WVT	Waverly	22.79	8	eP		P	07 35 01.6	-0.3
WVT				pmax		pmax		
	comp=Z,141nm,1.5s							
WVT				MLR		MLR		
	comp=Z,7µm,21.0s							
WVT	Waverly	22.79	8	P		P	07 35 00.7	-1.2
	baz=189							
EPT	El Paso	22.80	325	PFAKE			07 35 10.0	+7.9
EPT				LR		LR		
	comp=Z,2µm,20.0s							
HHAR	Hobbs	22.80	355	eP		P	07 35 01.3	-0.7
	comp=Z,53nm,1.3s							
MSTX	Muleshoe	22.80	335	eP		P	07 35 02.1	+0.1
	comp=Z,85nm,0.8s							
MSTX				LR		LR		
	comp=Z,3µm,18.0s							
MSTX	Muleshoe	22.80	335	P		P	07 35 02.2	+0.1
	baz=150,SNR=66							
U40A	Yellville	22.80	357	P		P	07 35 01.1	-0.9
	baz=176,SNR=34							
Y57A	Sumter	22.81	24	eP		P	07 35 02.3	+0.2
	comp=Z,92nm,1.4s							
Y57A				LR		LR		
	comp=Z,22µm,19.0s							
Y57A	Sumter	22.81	24	P		P	07 35 01.1	-1.0
	baz=208							
V50A	Pikeville	22.84	14	P		P	07 35 02.2	-0.2
	baz=196,SNR=18							
W53A	Cullowhee	22.88	18	P		P	07 35 03.2	+0.2
	baz=201,SNR=9.9							
UTMT	University of	22.89	6	eP		P	07 35 02.9	0.0
	comp=Z,138nm,0.8s							
PVMO	Portageville	22.89	4	eP		P	07 35 02.5	-0.4
	comp=Z,134nm,0.5s							
U46A	Springville	22.98	7	P		P	07 35 02.4	-1.4
	baz=188,SNR=19							
X56A	White Oak	22.98	23	P		P	07 35 03.1	-0.8
	baz=206,SNR=7.5							
CLTN	Cedars of Leba	22.99	11	eP		P	07 35 04.2	+0.3
	comp=Z,33nm,1.0s							
PAULI	Pauline	22.99	21	eP		P	07 35 03.9	-0.1
	comp=Z,43nm,1.2s							
PAULI				LR		LR		
	comp=Z,22µm,21.0s							
Y58A	Scranton	23.02	26	PFAKE			07 35 10.0	+5.8
Y58A				LR		LR		
	comp=Z,21µm,19.0s							
Y58A	Scranton	23.02	26	P		P	07 35 03.4	-0.8
	baz=210							
W54A	Cherokee Point	23.11	20	P		P	07 35 05.5	+0.4
	baz=203,SNR=11							
PARMO	Parma	23.14	4	eP		P	07 35 05.1	-0.3
	comp=Z,174nm,0.9s							
V51A	Loudon	23.15	15	eP		P	07 35 05.4	-0.1
	comp=Z,132nm,1.3s							
V51A	Loudon	23.15	15	P		P	07 35 05.6	+0.1
	baz=197,SNR=18							
U47A	Clarksville	23.18	9	P		P	07 35 04.9	-0.9
	baz=190,SNR=21							
AMTX	Amarillo	23.19	338	eP		P	07 35 06.5	+0.3
	comp=Z,154nm,0.8s							
AMTX	Amarillo	23.19	338	P		P	07 35 06.4	+0.3
	baz=154							
PBMO	Poplar Bluff	23.22	2	eP		P	07 35 05.4	-0.8
	comp=Z,188nm,1.2s							
PBMO				LR		LR		
	comp=Z,3µm,21.0s							
X57A	Johnson Farm,	23.32	24	P		P	07 35 06.5	-0.8
	baz=209							
BIRD	Birdtown, Kers	23.33	24	eP		P	07 35 06.8	-0.6
	comp=Z,59nm,1.3s							
BIRD				LR		LR		
	comp=Z,21µm,19.0s							
U48A	Cassie Pea, Po	23.36	10	P		P	07 35 07.0	-0.7
	baz=192,SNR=11							
V52A	Sevierville	23.38	16	eP		P	07 35 08.2	+0.3
	comp=Z,84nm,1.2s							
V52A				LR		LR		
	comp=Z,17µm,20.0s							
V52A	Sevierville	23.38	16	P		P	07 35 08.0	+0.1
	baz=199,SNR=17							
V53A	Saluda	23.45	18	eP		P	07 35 09.1	+0.5
	comp=Z,149nm,1.4s							
V53A				LR		LR		
	comp=Z,17µm,20.0s							
V53A	Saluda	23.45	18	P		P	07 35 09.0	+0.5
	baz=201,SNR=18							
KMSC	Kings Mountain	23.45	21	eP		P	07 35 08.6	0.0
	comp=Z,64nm,1.0s							
KMSC				LR		LR		
	comp=Z,22µm,21.0s							
KMSC	Kings Mountain	23.45	21	P		P	07 35 08.0	-0.6
	baz=205,SNR=11							
U49A	Red Boiling Sp	23.50	12	P		P	07 35 08.5	-0.6
	baz=194,SNR=47							
T45A	Paducah	23.58	6	eP		P	07 35 09.9	+0.1
	comp=Z,141nm,0.9s							
T45A	Paducah	23.58	6	P		P	07 35 08.9	-0.9
	baz=186,SNR=5.5							
U50A	Jamestown	23.61	14	P		P	07 35 09.9	-0.2
	baz=196,SNR=23							
T46A	Princeton	23.68	7	P		P	07 35 10.3	-0.5
	baz=188,SNR=12							
X58A	Rowland	23.71	26	eP		P	07 35 10.5	-0.6
	comp=Z,32nm,1.0s							
X58A				LR		LR		
	comp=Z,21µm,19.0s							
X58A	Rowland	23.71	26	P		P	07 35 10.3	-0.8
	baz=210							
W56A	Indian Trail	23.72	23	P		P	07 35 11.0	-0.1
	baz=207							
HSIG		23.73	314	eP		P	07 35 13.7	+2.3
	comp=Z,81nm,1.4s							
HSIG				LR		LR		
	comp=Z,12µm,22.0s							
SRIG	Santa Rosalia	23.73	309	eP		P	07 35 13.3	+1.9
	comp=Z,235nm,1.5s							
SRIG				LR		LR		
	comp=Z,10µm,20.0s							
T47A	Sharon Grove	23.74	9	eP		P	07 35 11.0	-0.3
	comp=Z,186nm,1.3s							
T47A	Sharon Grove	23.74	9	P		P	07 35 10.8	-0.6
	baz=190,SNR=34							
Y60A	Bolivia	23.74	28	PFAKE			07 35 20.0	+8.6
Y60A				LR		LR		
	comp=Z,20µm,19.0s							
Y60A	Bolivia	23.74	28	P		P	07 35 10.3	-1.1
	baz=213							
U51A	La Follette	23.78	15	P		P	07 35 11.4	-0.4
	baz=198,SNR=19							
V54A	Nebo	23.82	20	P		P	07 35 12.1	0.0
	baz=203,SNR=14							
MPR	Mayaguez	23.93	75	PFAKE			07 35 20.0	+6.6
MPR				LR		LR		
	comp=Z,19µm,20.0s							
CRPR	Cabo Rojo, PR	23.93	76	PFAKE			07 35 20.0	+6.6
CRPR				LR		LR		
	comp=Z,22µm,19.0s							
AGP	Aguadilla	23.96	75	eP		P	07 35 12.4	-1.2
	comp=Z,292nm,1.5s							
AGP				LR		LR		
	comp=Z,12µm,19.0s							
U52A	Thorn Hill	23.96	16	P		P	07 35 12.8	-0.7
	baz=199,SNR=11							
W57A	Gilead	23.96	24	eP		P	07 35 12.5	-1.0
	comp=Z,55nm,1.4s							
W57A				LR		LR		
	comp=Z,19µm,20.0s							
W57A	Gilead	23.96	24	P		P	07 35 12.7	-0.8
	baz=208							
T48A	Bowling Green	23.97	10	P		P	07 35 11.9	-1.7
	baz=192,SNR=7.2							
S41A	Jillco Farms,	24.00	360	P		P	07 35 12.5	-1.4
	baz=179,SNR=98							
X59A	McDuffie Farm,	24.04	27	P		P	07 35 12.0	-2.2
	baz=212							
TZTN	Tazewell	24.05	16	eP		P	07 35 14.1	-0.2
	comp=Z,77nm,0.9s							
TZTN				LR		LR		
	comp=Z,15µm,21.0s							
TZTN	Tazewell	24.05	16	P		P	07 35 14.2	-0.2
	baz=199,SNR=21							
121A	Cookes Peak, D	24.08	325	P		P	07 35 17.4	+2.5
	baz=138,SNR=49							
T49A	Edmonton	24.13	12	eP		P	07 35 14.5	-0.5
	comp=Z,56nm,0.9s							
T49A	Edmonton	24.13	12	P		P	07 35 14.0	-1.0
	baz=194,SNR=23							
V55A	Taylorsville	24.13	21	P		P	07 35 15.2	+0.1
	baz=205							
319A	Douglas	24.14	320	eP		P	07 35 18.2	+2.9
	comp=Z,190nm,1.3s							
319A				LR		LR		
	comp=Z,5µm,21.0s							
W58A	Raeford	24.16	25	P		P	07 35 14.7	-0.6
	baz=210							
U53A	Fall Branch	24.16	18	P		P	07 35 15.1	-0.3
	baz=201,SNR=14							
T50A	Nancy	24.19	13	P		P	07 35 14.8	-0.8
	baz=196,SNR=32							
S44A	Carbondale	24.19	4	P		P	07 35 14.8	-0.8
	baz=185,SNR=21							
S45A	Carrier Mills	24.24	6	P		P	07 35 15.2	-0.8
	baz=186,SNR=12							
ATAH	Atahualpa	24.30	147	P		P	07 35 17.5	+0.3
	comp=Z,9.6nm,0.9s,baz=318,slow=11,SNR=12							
ATAH				LR		LR	07 43 46.9	
	comp=Z,6µm,18.1s,baz=329,slow=34							
AOPR	Arecibo Observ	24.31	75	PFAKE			07 35 30.0	+13
AOPR				LR		LR		
	comp=Z,16µm,19.0s							
X60A	Albert Glenn T	24.33	28	P		P	07 35 15.9	-1.0
	baz=213							
S46A	Don Dixon Farm	24.34	7	P		P	07 35 16.1	-0.9
	baz=188,SNR=11							
T51A	Gray	24.35	15	P		P	07 35 16.7	-0.4
	baz=198,SNR=20							
V56A	Mocksville	24.35	22	eP		P	07 35 17.1	0.0
	comp=Z,28nm,1.0s							
V56A				LR		LR		
	comp=Z,22µm,19.0s							
V56A	Mocksville	24.35	22	P		P	07 35 16.0	-1.1
	baz=206							
S47A	Hartford	24.37	9	P		P	07 35 15.8	-1.4
	baz=190,SNR=7.9							
OBIP	Obispado Ponce	24.41	76	PFAKE			07 35 30.0	+12
OBIP				LR		LR		
	comp=Z,18µm,19.0s							
FVM	French Village	24.42	2	P		P	07 35 17.1	-0.6
ICMP	Isla Caja de M	24.47	76	PFAKE			07 35 30.0	+12
ICMP				LR		LR		
	comp=Z,17µm,20.0s							
CCM	Cathedral Cave	24.47	1	eP		P	07 35 17.2	-0.9
	comp=Z,158nm,0.8s							
CCM				LR		LR		
	comp=Z,4µm,19.0s							
CCM	Cathedral Cave	24.47	1	eP		P	07 35 17.2	-0.9
CCM				pmax		pmax		
	comp=Z,158nm,0.8s							
CCM				MLR		MLR		
	comp=Z,4µm,19.0s							
CCM	Cathedral Cave	24.47	1	P		P	07 35 17.0	-1.1
	baz=180							
U54A	Nelsons Funny	24.54	19	eP		P	07 35 19.2	+0.3
	comp=Z,94nm,1.3s							
U54A				LR		LR		
	comp=Z,21µm,21.0s							
U54A	Nelsons Funny	24.54	19	P		P	07 35 18.2	-0.6
	baz=203,SNR=10							
EMPR	Esperanza - Ma	24.54	75	PFAKE			07 35 30.0	+11
EMPR				LR		LR		
	comp=Z,20µm,19.0s							
S48A	Wiedeman Farm,	24.56	11	P		P	07 35 17.8	-1.2
	baz=192,SNR=13							
W59A	Clinton	24.62	26	P		P	07 35 18.3	-1.2
	baz=211							
USIN	University of	24.62	7	eP		P	07 35 19.5	0.0
	comp=Z,128nm,1.4s							
V57A	Coltrane Farms	24.69	23	P		P	07 35 19.1	-1.1
	baz=208							
BNM	Barren Site	24.71	329	eP		P	07 35 23.3	+2.6
R41A	Rosebud	24.71	0	P		P	07 35 19.2	-1.2
	baz=180,SNR=104							
T52A	Hallie	24.74	17	eP		P	07 35 19.5	-1.1
	comp=Z,213nm,1.4s							
T52A				LR		LR		
	comp=Z,15µm,20.0s							
T52A	Hallie	24.74	17	P		P	07 35 20.6	0.0
	baz=200,SNR=16							
T53A	Wise	24.75	17	P		P	07 35 20.2	-0.6
	baz=201,SNR=8.4							
U55A	TA2, Sparta	24.78	21	P		P	07 35 20.4	-0.7
	baz=204,SNR=9.2							
Y22D	IRIS PASSCAL I	24.80	328	eP		P	07 35 25.1	+3.7
	comp=Z,376nm,1.3s							
Y22D	IRIS PASSCAL I	24.80	328	P		P	07 35 24.1	+2.8
	baz=142,SNR=15							
S49A	Springfield	24.83	12	P		P	07 35 20.2	-1.3
	baz=194,SNR=13							
LPM	Los Pinos Moun	24.84	329	eP		P	07 35 23.9	+2.1
W60A	Pink Hill	24.84	28	P		P	07 35 19.8	-1.7
	baz=213							
SJG	San Juan	24.85	76	PFAKE			07 35 30.0	+8.2
SJG				LR		LR		
	comp=Z,16µm,19.0s							
SJG	San Juan	24.85	76	eP		P	07 35 16.3	-5.5
SJG	San Juan	24.85	76	P		P	07 35 18.8	-3.0
SJG				pmax		pmax		
	comp=Z,3.0nm,0.4s							
SJG				MLR		MLR		
	comp=Z,10µm,19.0s							
SJG	San Juan	24.85	76	eP		P	07 35 16.3	-5.5
SJG	San Juan	24.85	76	P		P	07 35 18.8	-3.0
	comp=Z,1.7nm,0.4s,baz=261,slow=9.7,SNR=3.6							
SJG				LR		LR	07 45 29.6	
	comp=Z,10µm,19.0s,baz=264,slow=38							
U56A	King	24.87	22	P		P	07 35 21.1	-0.8
	baz=206							
V58A	Windy Hill, Pi	24.87	25	P		P	07 35 20.8	-1.0
	baz=209,SNR=9.9							
R45A	Skylar, Fairfi	24.88	6	P		P	07 35 21.2	-0.6
	baz=187,SNR=19							
R46A	Gibon Southern	24.89	8	P		P	07 35 21.5	-0.4
	baz=189,SNR=6.6							
LENM	Lemitar	24.90	328	eP		P	07 35 25.0	+2.7
CNNC	Cliffs of the	24.92	27	PFAKE			07 35 30.0	+7.8
CNNC				LR		LR		
	comp=Z,19µm,19.0s							
CNNC	Cliffs of the	24.92	27	P		P	07 35 20.5	-1.7
	baz=212							
S50A	Richmond	24.92	14	P		P	07 35 21.7	-0.6
	baz=196,SNR=19							
S51A	Beattyville	25.08	15	eP		P	07 35 23.3	-0.3
	comp=Z,48nm,0.9s							
S51A	Beattyville	25.08	15	P		P	07 35 22.3	-1.3
	baz=198,SNR=14							
SLM	Saint Louis	25.08	2	eP		P	07 35 23.4	-0.1
	comp=Z,183nm,0.8s							
SLM	Saint Louis	25.08	2	eP		P	07 35 23.5	-0.1
SLM				pmax		pmax		
	comp=Z,183nm,0.8s							
WCI	Wyandotte Cave	25.08	10	eP		P	07 35 23.0	-0.7
	comp=Z,87nm,0.8s							
WCI	Wyandotte Cave	25.08	10	eP		P	07 35 23.0	-0.7
WCI				pmax		pmax		
	comp=Z,87nm,0.8s							
WCI	Wyandotte Cave	25.08	10	P		P	07 35 22.0	-1.6
	baz=192							
R47A	Wooly Knot Far	25.11	9	P		P	07 35 23.0	-0.9
	baz=191,SNR=16							
T54A	Tazewell	25.11	19	P		P	07 35 23.7	-0.3
	baz=203,SNR=12							
HUMP	Col San Antoni	25.14	76	PFAKE			07 35 30.0	+5.6
HUMP				LR		LR		
	comp=Z,16µm,19.0s							
CBYP	Canovanas	25.15	76	PFAKE			07 35 30.0	+5.4
CBYP				LR		LR		
	comp=Z,14µm,20.0s							
V59A	Middlesex	25.21	26	P		P	07 35 22.9	-1.9
	baz=211							
S52A	Salyersville	25.25	16	P		P	07 35 24.6	-0.6
	baz=199,SNR=15							
ANMO	Albuquerque	25.26	330	eP		P	07 35 27.8	+2.2
	comp=Z,43nm,1.3s							
ANMO	Albuquerque	25.26	330	eP		P	07 35 27.8	+2.2
ANMO				pmax		pmax		
	comp=Z,43nm,1.3s							
ANMO	Albuquerque	25.26	330	P		P	07 35 27.4	+1.8
	baz=144							
ANMO	Albuquerque	25.26	330	P		P	07 35 27.5	+1.9
	comp=Z,18nm,1.0s,baz=145,slow=12,SNR=33							
TASM	ASL Pad, Albuq	25.27	330	P		P	07 35 27.6	+2.0
	baz=144,SNR=39							
TASM	ASL Pad, Albuq	25.27	330	P		P	07 35 27.8	+2.2
	baz=144,SNR=38							
W61A	Ground Anchor	25.28	29	P		P	07 35 24.5	-1.0
	baz=214							
R48A	Northridge Ran	25.32	10	P		P	07 35 24.4	-1.4
	baz=192,SNR=12							
OLIL	Olney	25.33	6	eP		P	07 35 25.8	-0.1
	comp=Z,75nm,0.8s							
U57A	Blanch	25.34	23	P		P	07 35 25.2	-0.8
	baz=208							
Q42A	Golden Eagle	25.34	2	P		P	07 35 25.6	-0.4
	baz=182,SNR=12							
R49A	Shelbyville	25.34	12	P		P	07 35 24.8	-1.2
	baz=194,SNR=16							
MTP	Monte Pirata	25.41	76	PFAKE			07 35 40.0	+13
MTP				LR		LR		
	comp=Z,15µm,19.0s							
T55A	Pulaski	25.42	20	P		P	07 35 26.5	-0.4
	baz=204,SNR=6.7							
Q45A	Warren Harvey,	25.48	6	P		P	07 35 26.0	-1.3
	baz=187,SNR=12							
R50A	Paris	25.51	13	P		P	07 35 26.6	-1.0
	baz=196,SNR=13							
S53A	Williamson	25.52	18	P		P	07 35 26.7	-1.0
	baz=201,SNR=13							
T56A	Rocky Mt	25.61	22	P		P	07 35 27.5	-1.0
	baz=206							
U58A	Oxford	25.62	25	P		P	07 35 26.7	-1.9
	baz=210							
BLA	Blacksburg	25.63	21	eP		P	07 35 28.5	-0.2
	comp=Z,37nm,1.1s							
BLA				LR		LR		
	comp=Z,18µm,19.0s							
BLA	Blacksburg	25.63	21	eP		P	07 35 28.5	-0.2
BLA				pmax		pmax		
	comp=Z,37nm,1.1s							
BLA				MLR		MLR		
	comp=Z,18µm,19.0s							
BLA	Blacksburg	25.63	21	P		P	07 35 27.5	-1.3
	baz=205							
V60A	Jim Taylor Roa	25.64	28	PFAKE			07 35 40.0	+11
V60A				LR		LR		
	comp=Z,16µm,18.0s							
V60A	Jim Taylor Roa	25.64	28	P		P	07 35 27.6	-1.2
	baz=213							
CUPR	Culebra, Puert	25.69	76	eP		P	07 35 27.4	-2.0
	comp=Z,18nm,1.0s							
CUPR				LR		LR		
	comp=Z,12µm,20.0s							
Q46A	CEJHS Indians,	25.70	8	P		P	07 35 28.3	-1.0
	baz=189							
R51A	Hillsboro	25.70	15	P		P	07 35 28.5	-0.8
	baz=198,SNR=13							
TUC	Tucson	25.71	320	eP		P	07 35 31.5	+1.9
	comp=Z,22nm,0.9s							
TUC				LR		LR		
	comp=Z,15µm,19.0s							
TUC	Tucson	25.71	320	P		P	07 35 32.6	+3.0
TUC				pmax		pmax		
	comp=Z,40nm,1.8s							
TUC	Tucson	25.71	320	P		P	07 35 30.9	+1.4
	baz=132							
Q47A	Bedord North L	25.75	9	P		P	07 35 28.3	-1.4
	baz=191,SNR=7.2							
Q48A	North Vernon	25.86	10	P		P	07 35 29.3	-1.4
	baz=192,SNR=12							
T57A	Hurt	25.87	23	eP		P	07 35 30.6	-0.2
	comp=Z,48nm,1.4s							
T57A				LR		LR		
	comp=Z,18µm,20.0s							
T57A	Hurt	25.87	23	P		P	07 35 30.1	-0.8
	baz=208							
U59A	Littleton	25.90	26	PFAKE			07 35 40.0	+8.9
U59A				LR		LR		
	comp=Z,24µm,18.0s							
U59A	Littleton	25.90	26	P		P	07 35 30.2	-0.9
	baz=211							
KSU1	Kansas State U	25.90	351	P		P	07 35 29.7	-1.4
	baz=168,SNR=10.0							
BLO	Bloomington	25.97	9	eP		P	07 35 31.1	-0.6
	comp=Z,24nm,0.8s							
BLO	Bloomington	25.97	9	eP		P	07 35 31.1	-0.6
BLO				pmax		pmax		
	comp=Z,24nm,0.8s							
V61A	Roper	25.98	29	PFAKE			07 35 40.0	+8.2
V61A				LR		LR		
	comp=Z,17µm,19.0s							
V61A	Roper	25.98	29	P		P	07 35 30.3	-1.5
	baz=214							
R52A	Catlettsburg	25.98	16	P		P	07 35 30.0	-1.9
	baz=200,SNR=9.5							
STVI	Saint Thomas	26.01	76	PFAKE			07 35 40.0	+7.7
STVI				LR		LR		
	comp=Z,13µm,20.0s							
V62A	Hyde County Ai	26.08	30	PFAKE			07 35 40.0	+7.2

V62A				LR	LR		
	comp=Z,13µm,21.0s						
Q49A	**Aurora**	**26.09**	**12**	P	**P**	**07 35 31.6**	**-1.2**
	baz=194,SNR=9.8						
T58A	**Grand View Acr**	**26.10**	**24**	P	**P**	**07 35 31.6**	**-1.3**
	baz=209						
S55A	**Lewisburg**	**26.11**	**20**	P	**P**	**07 35 32.1**	**-1.0**
	baz=204						
P43A	**Skaggs, Pawnee**	**26.11**	**4**	P	**P**	**07 35 32.0**	**-1.0**
	baz=184,SNR=7.6						
Q50A	**Georgetown**	**26.13**	**13**	P	**P**	**07 35 32.4**	**-0.8**
	baz=196,SNR=7.8						
P45A	**Graceland, Par**	**26.16**	**7**	*eP*	**P**	**07 35 32.8**	**-0.6**
	comp=Z,32nm,0.9s						
P45A	**Graceland, Par**	**26.16**	**7**	P	**P**	**07 35 32.3**	**-1.1**
	baz=188,SNR=8.4						
R53A	**Hurricane**	**26.17**	**17**	*eP*	**P**	**07 35 32.2**	**-1.4**
	comp=Z,58nm,1.1s						
R53A	**Hurricane**	**26.17**	**17**	P	**P**	**07 35 33.1**	**-0.4**
	baz=201,SNR=7.1						
T25A	**Trinidad**	**26.21**	**336**	*eP*	**P**	**07 35 36.1**	**+1.9**
	comp=Z,136nm,1.5s						
T25A	**Trinidad**	**26.21**	**336**	P	**P**	**07 35 36.4**	**+2.2**
	baz=150,SNR=28						
CBKS	**Cedar Bluff**	**26.25**	**345**	*eP*	**P**	**07 35 34.0**	**-0.3**
	comp=Z,25nm,1.1s						
CBKS	**Cedar Bluff**	**26.25**	**345**	*eP*	**P**	**07 35 34.1**	**-0.3**
CBKS				pmax	pmax		
	comp=Z,25nm,1.1s						
CBKS	**Cedar Bluff**	**26.25**	**345**	P	**P**	**07 35 33.2**	**-1.1**
	baz=161						
U60A	**Pendleton**	**26.27**	**27**	P	**P**	**07 35 32.8**	**-1.7**
	baz=212						
P46A	**Rosedale**	**26.31**	**8**	P	**P**	**07 35 33.2**	**-1.6**
	baz=189,SNR=10						
P47A	**Martinsville**	**26.31**	**9**	P	**P**	**07 35 33.7**	**-1.1**
	baz=191,SNR=5.5						
R54A	**Victor**	**26.32**	**19**	P	**P**	**07 35 34.1**	**-0.9**
	baz=203						
S56A	**Natural Bridge**	**26.35**	**22**	P	**P**	**07 35 34.8**	**-0.5**
	baz=206						
P48A	**Milroy**	**26.43**	**11**	P	**P**	**07 35 34.2**	**-1.7**
	baz=193,SNR=18						
Q51A	**Peebles**	**26.45**	**14**	*eP*	**P**	**07 35 36.0**	**-0.2**
	comp=Z,90nm,0.9s						
Q51A	**Peebles**	**26.45**	**14**	P	**P**	**07 35 35.5**	**-0.6**
	baz=198,SNR=20						
U61A	**Possum Corner**	**26.48**	**28**	PFAKE		07 35 50.0	+14
U61A				LR	LR		
	comp=Z,15µm,19.0s						
U61A	**Possum Corner**	**26.48**	**28**	P	**P**	**07 35 35.7**	**-0.7**
	baz=214						
T59A	**Double "B" Far**	**26.52**	**26**	*eP*	**P**	**07 35 35.9**	**-0.9**
	comp=Z,60nm,1.2s						
T59A				LR	LR		
	comp=Z,25µm,19.0s						
T59A	**Double "B" Far**	**26.52**	**26**	P	**P**	**07 35 35.6**	**-1.1**
	baz=211						
P49A	**Miami Univ. Ec**	**26.64**	**12**	P	**P**	**07 35 35.3**	**-2.5**
	baz=194,SNR=7.7						
ABVI	**Anegada Island**	**26.64**	**75**	PFAKE		07 35 50.0	+12
ABVI				LR	LR		
	comp=Z,14µm,19.0s						
S57A	**Dark Hollow, R**	**26.65**	**23**	*eP*	**P**	**07 35 37.1**	**-0.8**
	comp=Z,14nm,1.0s						
S57A				LR	LR		
	comp=Z,17µm,19.0s						
S57A	**Dark Hollow, R**	**26.65**	**23**	P	**P**	**07 35 36.6**	**-1.3**
	baz=208						
Q52A	**Bidwell**	**26.67**	**16**	P	**P**	**07 35 36.9**	**-1.1**
	baz=200,SNR=14						
R55A	**Marlinton**	**26.70**	**20**	*eP*	**P**	**07 35 38.4**	**-0.1**
	comp=Z,115nm,1.4s						
R55A				LR	LR		
	comp=Z,18µm,20.0s						
R55A	**Marlinton**	**26.70**	**20**	P	**P**	**07 35 38.3**	**-0.1**
	baz=205,SNR=7.9						
O44A	**Mansfield**	**26.70**	**5**	P	**P**	**07 35 36.3**	**-2.0**
	baz=186						
X18A	**Snowflake**	**26.77**	**325**	*eP*	**P**	**07 35 42.0**	**+2.8**
	comp=Z,65nm,1.3s						
X18A				LR	LR		
	comp=Z,3µm,19.0s						
Q53A	**Leroy**	**26.78**	**18**	P	**P**	**07 35 38.6**	**-0.4**
	baz=202,SNR=8.6						
214A	**Organ Pipe Nat**	**26.79**	**317**	P	**P**	**07 35 41.2**	**+1.9**
	baz=128,SNR=14						
O45A	**Potomac**	**26.87**	**6**	P	**P**	**07 35 38.6**	**-1.2**
	baz=188						
S58A	**Poland Farm, P**	**26.87**	**24**	*eP*	**P**	**07 35 38.5**	**-1.3**
	comp=Z,37nm,1.3s						
S58A				LR	LR		
	comp=Z,13µm,20.0s						
S58A	**Poland Farm, P**	**26.87**	**24**	P	**P**	**07 35 38.0**	**-1.8**
	baz=210						
P50A	**Jamestown**	**26.90**	**13**	P	**P**	**07 35 38.9**	**-1.3**
	baz=196,SNR=10						
P51A	**Williamsport**	**26.95**	**15**	*eP*	**P**	**07 35 39.6**	**-1.0**
	comp=Z,77nm,1.1s						
P51A	**Williamsport**	**26.95**	**15**	P	**P**	**07 35 39.8**	**-0.8**
	baz=198,SNR=12						
T60A	**Surry**	**27.02**	**27**	*eP*	**P**	**07 35 41.1**	**-0.1**
	comp=Z,68nm,1.0s						
T60A				LR	LR		
	comp=Z,17µm,19.0s						
T60A	**Surry**	**27.02**	**27**	P	**P**	**07 35 39.5**	**-1.7**
	baz=213						
HDIL	**Hopedale**	**27.04**	**4**	*eP*	**P**	**07 35 39.8**	**-1.6**
	comp=Z,116nm,1.4s						
HDIL	**Hopedale**	**27.04**	**4**	P	**P**	**07 35 40.4**	**-1.0**
	baz=184,SNR=5.6						
O47A	**Sheridan**	**27.06**	**9**	P	**P**	**07 35 40.2**	**-1.4**
	baz=191,SNR=8.2						
SFIN	**Lafayette**	**27.07**	**7**	*eP*	**P**	**07 35 40.2**	**-1.5**
	comp=Z,26nm,1.0s						
SFIN	**Lafayette**	**27.07**	**7**	P	**P**	**07 35 39.3**	**-2.3**
	baz=189						
W18A	**Petrified Fore**	**27.09**	**326**	*eP*	**P**	**07 35 44.4**	**+2.3**
	comp=Z,124nm,1.5s						
W18A				LR	LR		
	comp=Z,2µm,18.0s						
W18A	**Petrified Fore**	**27.09**	**326**	P	**P**	**07 35 44.8**	**+2.7**
	baz=138,SNR=13						
Q54A	**Coxs Mills**	**27.11**	**19**	*eP*	**P**	**07 35 41.8**	**-0.2**
	comp=Z,64nm,1.0s						
Q54A				LR	LR		
	comp=Z,18µm,20.0s						
Q54A	**Coxs Mills**	**27.11**	**19**	P	**P**	**07 35 41.5**	**-0.5**
	baz=203,SNR=15						
N41A	**Harden Midland**	**27.12**	**1**	*eP*	**P**	**07 35 39.4**	**-2.7**
	comp=Z,35nm,1.0s						
N41A	**Harden Midland**	**27.12**	**1**	P	**P**	**07 35 40.0**	**-2.2**
	baz=181						
SDCO	**Great Sand Dun**	**27.17**	**335**	*eP*	**P**	**07 35 44.4**	**+1.4**
	comp=Z,67nm,1.4s						
SDCO	**Great Sand Dun**	**27.17**	**335**	P	**P**	**07 35 44.5**	**+1.6**
	baz=149,SNR=36						
R58B	**Mineral**	**27.24**	**24**	*eP*	**P**	**07 35 39.9**	**-3.3**
	comp=Z,73nm,1.6s						
R58B				LR	LR		
	comp=Z,14µm,21.0s						
R58B	**Mineral**	**27.24**	**24**	P	**P**	**07 35 42.7**	**-0.5**
	baz=210						
KSCO	**Kaye Shedlock'**	**27.25**	**341**	*eP*	**P**	**07 35 43.3**	**-0.2**
	comp=Z,30nm,1.0s						
KSCO	**Kaye Shedlock'**	**27.25**	**341**	P	**P**	**07 35 43.9**	**+0.4**
	baz=155						
O48A	**Farmland**	**27.25**	**11**	P	**P**	**07 35 41.4**	**-1.9**
	baz=193,SNR=9.8						
R57A	**Stanardsville**	**27.28**	**23**	P	**P**	**07 35 41.8**	**-1.8**
	baz=208						
N40A	**Mertquake, Sal**	**27.29**	**360**	P	**P**	**07 35 42.0**	**-1.6**
	baz=179						
S59A	**Mechanicsville**	**27.31**	**25**	P	**P**	**07 35 41.9**	**-1.9**
	baz=211						
P52A	**Corning**	**27.34**	**16**	P	**P**	**07 35 43.0**	**-1.0**
	baz=200						
O49A	**Covington**	**27.34**	**12**	*eP*	**P**	**07 35 42.5**	**-1.6**
	comp=Z,39nm,1.0s						
O49A	**Covington**	**27.34**	**12**	P	**P**	**07 35 42.4**	**-1.7**
	baz=195						
Q55A	**Buckhannon**	**27.36**	**20**	P	**P**	**07 35 43.9**	**-0.4**
	baz=204						
N44A	**Piper City**	**27.37**	**6**	P	**P**	**07 35 42.8**	**-1.5**
	baz=187						
P53A	**Whipple**	**27.40**	**17**	*eP*	**P**	**07 35 44.7**	**0.0**
	comp=Z,58nm,1.0s						
P53A				LR	LR		
	comp=Z,19µm,21.0s						
P53A	**Whipple**	**27.40**	**17**	P	**P**	**07 35 44.5**	**-0.2**
	baz=201,SNR=11						
N43A	**Stutzman Famil**	**27.43**	**4**	P	**P**	**07 35 43.7**	**-1.2**
	baz=184						
O50A	**Cable**	**27.46**	**13**	P	**P**	**07 35 44.1**	**-1.0**
	baz=196,SNR=8.7						
R58A	**Rapidan**	**27.48**	**24**	P	**P**	**07 35 44.3**	**-1.0**
	baz=209						
N45A	**Kentland**	**27.48**	**7**	P	**P**	**07 35 43.9**	**-1.5**
	baz=188						
S60A	**Water View**	**27.53**	**26**	P	**P**	**07 35 44.3**	**-1.4**
	baz=212						
X16A	**Lo Mia Camp, P**	**27.55**	**323**	*eP*	**P**	**07 35 49.0**	**+2.7**
	comp=Z,19nm,0.8s						
X16A				LR	LR		
	comp=Z,6µm,18.0s						
N46A	**Monticello**	**27.63**	**8**	P	**P**	**07 35 44.8**	**-1.8**
	baz=190						
CBN	**Corbin Frederi**	**27.65**	**25**	*eP*	**P**	**07 35 46.6**	**-0.2**
	comp=Z,66nm,1.3s						
CBN				LR	LR		
	comp=Z,16µm,19.0s						
CBN	**Corbin Frederi**	**27.65**	**25**	P	**P**	**07 35 46.1**	**-0.8**
	baz=210						
ACSO	**Alum Creek Sta**	**27.68**	**14**	*eP*	**P**	**07 35 46.6**	**-0.5**
	comp=Z,57nm,0.8s						
ACSO	**Alum Creek Sta**	**27.68**	**14**	P	**P**	**07 35 46.3**	**-0.8**
	baz=198,SNR=12						
O51A	**Pataskala**	**27.70**	**15**	P	**P**	**07 35 45.9**	**-1.3**
	baz=198,SNR=11						
S22A	**4UR Ranch, Cre**	**27.73**	**333**	*eP*	**P**	**07 35 50.1**	**+2.1**
	comp=Z,96nm,1.4s						
S22A				LR	LR		
	comp=Z,1µm,19.0s						
S22A	**4UR Ranch, Cre**	**27.73**	**333**	P	**P**	**07 35 50.1**	**+2.1**
	baz=146,SNR=40						
R59A	**King George, V**	**27.75**	**25**	P	**P**	**07 35 47.5**	**-0.3**
	baz=211						
N47A	**Urbana**	**27.77**	**10**	P	**P**	**07 35 45.5**	**-2.4**
	baz=192,SNR=7.5						
P54A	**Burton**	**27.78**	**19**	P	**P**	**07 35 47.4**	**-0.7**
	baz=203,SNR=9.2						
SEUS	**St. Eustatius**	**27.80**	**78**	PFAKE		07 36 00.0	+12
SEUS				LR	LR		
	comp=Z,17µm,18.0s						
SEUS	**St. Eustatius**	**27.80**	**78**	*eP*	**P**	**07 35 47.1**	**-1.3**
M41A	**Milan**	**27.80**	**2**	P	**P**	**07 35 47.2**	**-0.9**
	baz=182,SNR=9.5						
N48A	**Decatur**	**27.86**	**11**	P	**P**	**07 35 47.0**	**-1.7**
	baz=193,SNR=10						
O52A	**Adamsville**	**27.87**	**16**	*eP*	**P**	**07 35 48.0**	**-0.8**
	comp=Z,56nm,0.8s						
O52A				LR	LR		
	comp=Z,16µm,20.0s						
O52A	**Adamsville**	**27.87**	**16**	P	**P**	**07 35 47.9**	**-0.9**
	baz=200,SNR=15						
M39A	**Webster**	**27.89**	**359**	P	**P**	**07 35 47.7**	**-1.3**
	baz=178,SNR=6.9						
P55A	**Reedsville**	**27.90**	**20**	P	**P**	**07 35 47.7**	**-1.5**
	baz=204						
113A	**Mohawk Valley,**	**27.93**	**317**	*eP*	**P**	**07 35 51.0**	**+1.6**
	comp=Z,47nm,1.5s						
113A				LR	LR		
	comp=Z,14µm,18.0s						
M43A	**Waltham Townsh**	**27.94**	**4**	P	**P**	**07 35 48.0**	**-1.4**
	baz=185						
M44A	**Midewin, Midew**	**27.96**	**6**	PFAKE		07 36 00.0	+10
M44A				LR	LR		
	comp=Z,10µm,20.0s						
M44A	**Midewin, Midew**	**27.96**	**6**	P	**P**	**07 35 48.2**	**-1.5**
	baz=187						
Q57A	**Strasburg**	**27.97**	**22**	P	**P**	**07 35 48.0**	**-1.8**
	baz=208						
R60A	**Leonardtown, M**	**28.03**	**26**	P	**P**	**07 35 49.1**	**-1.1**
	baz=212						
MCWV	**Mont Chateau**	**28.03**	**19**	*eP*	**P**	**07 35 49.4**	**-0.9**
	comp=Z,30nm,1.4s						
MCWV				LR	LR		
	comp=Z,10µm,19.0s						
MCWV	**Mont Chateau**	**28.03**	**19**	P	**P**	**07 35 49.1**	**-1.1**
	baz=204						
M45A	**Boilermakers S**	**28.05**	**7**	P	**P**	**07 35 48.9**	**-1.5**
	baz=188						
MVCO	**Mesa Verde**	**28.06**	**330**	*eP*	**P**	**07 35 52.7**	**+1.8**
	comp=Z,107nm,1.3s						
MVCO				LR	LR		
	comp=Z,4µm,18.0s						
MVCO	**Mesa Verde**	**28.06**	**330**	P	**P**	**07 35 53.0**	**+2.2**
	baz=142,SNR=38						
N49A	**Columbus Grove**	**28.08**	**12**	*eP*	**P**	**07 35 49.0**	**-1.7**
	comp=Z,49nm,1.6s						
N49A	**Columbus Grove**	**28.08**	**12**	P	**P**	**07 35 49.0**	**-1.7**
	baz=195						
Q24A	**Divide**	**28.09**	**337**	*eP*	**P**	**07 35 51.0**	**-0.2**
	comp=Z,12nm,1.3s						
Q24A	**Divide**	**28.09**	**337**	P	**P**	**07 35 51.7**	**+0.5**
	baz=150						
N50A	**Nevada**	**28.16**	**14**	P	**P**	**07 35 50.2**	**-1.2**
	baz=197						
O53A	**New Philadelph**	**28.16**	**17**	P	**P**	**07 35 50.8**	**-0.7**
	baz=201,SNR=6.6						
Y14A	**Wickenburg**	**28.18**	**320**	*eP*	**P**	**07 35 54.0**	**+2.3**
	comp=Z,28nm,1.3s						
Y14A				LR	LR		
	comp=Z,7µm,20.0s						
M46A	**Old House Fiel**	**28.18**	**8**	PFAKE		07 36 00.0	+8.4
M46A				LR	LR		
	comp=Z,11µm,20.0s						
M46A	**Old House Fiel**	**28.18**	**8**	P	**P**	**07 35 50.0**	**-1.6**
	baz=190						
M47A	**Cromwell**	**28.25**	**9**	P	**P**	**07 35 49.2**	**-2.9**
	baz=192						
WUAZ	**Wupatki**	**28.29**	**324**	*eP*	**P**	**07 35 55.6**	**+2.8**
	comp=Z,61nm,1.3s						
WUAZ				LR	LR		
	comp=Z,8µm,20.0s						
WUAZ	**Wupatki**	**28.29**	**324**	P	**P**	**07 35 55.1**	**+2.2**
	baz=136,SNR=34						
O54A	**Avella**	**28.34**	**18**	P	**P**	**07 35 52.6**	**-0.5**
	baz=203,SNR=8.0						
SCIA	**State Center**	**28.35**	**357**	PFAKE		07 36 10.0	+17
SCIA				LR	LR		
	comp=Z,3µm,20.0s						
SCIA	**State Center**	**28.35**	**357**	P	**P**	**07 35 51.8**	**-1.3**
	baz=176						
BGNE	**Belgrade**	**28.41**	**350**	P	**P**	**07 35 52.2**	**-1.4**
	baz=166						
L42A	**Oliver, Polo**	**28.46**	**3**	*eP*	**P**	**07 35 53.0**	**-1.0**
	comp=Z,64nm,1.3s						
L42A				LR	LR		
	comp=Z,7µm,22.0s						
L42A	**Oliver, Polo**	**28.46**	**3**	P	**P**	**07 35 52.4**	**-1.7**
	baz=183						
L40A	**Anamosa**	**28.47**	**1**	*eP*	**P**	**07 35 53.3**	**-0.9**
	comp=Z,52nm,1.0s						
L40A	**Anamosa**	**28.47**	**1**	P	**P**	**07 35 53.0**	**-1.1**
	baz=180,SNR=7.4						
N51A	**Ashland**	**28.48**	**15**	*eP*	**P**	**07 35 53.4**	**-0.8**
	comp=Z,34nm,0.9s						
N51A	**Ashland**	**28.48**	**15**	P	**P**	**07 35 53.0**	**-1.2**
	baz=198						
L41A	**Preston**	**28.50**	**2**	P	**P**	**07 35 53.3**	**-1.1**
	baz=182						
MLYT	**Lee's Yard**	**28.51**	**80**	*eP*	**P**	**07 35 53.8**	**-1.0**
Q59A	**Harwood**	**28.51**	**25**	P	**P**	**07 35 53.4**	**-1.1**
	baz=211						
M48A	**Edgerton**	**28.52**	**11**	*eP*	**P**	**07 35 53.3**	**-1.3**
	comp=Z,44nm,1.0s						
M48A	**Edgerton**	**28.52**	**11**	P	**P**	**07 35 52.7**	**-1.9**
	baz=194						
L39A	**Vinton**	**28.54**	**359**	P	**P**	**07 35 53.7**	**-1.0**
	baz=178						
N52A	**McGinn's Farm,**	**28.56**	**16**	P	**P**	**07 35 54.1**	**-0.9**
	baz=200,SNR=9.6						
M49A	**Liberty Center**	**28.65**	**12**	P	**P**	**07 35 54.7**	**-1.1**
	baz=195						
L43A	**Garden Prairie**	**28.70**	**4**	P	**P**	**07 35 55.0**	**-1.2**
	baz=185						
O55A	**Ligonier**	**28.71**	**20**	P	**P**	**07 35 55.1**	**-1.2**
	baz=205						
L44A	**Lake County Fo**	**28.76**	**6**	P	**P**	**07 35 54.7**	**-2.0**
	baz=187						
L46A	**Eue Claire**	**28.79**	**8**	PFAKE		07 36 10.0	+13
L46A				LR	LR		
	comp=Z,11µm,20.0s						
L46A	**Eue Claire**	**28.79**	**8**	P	**P**	**07 35 54.1**	**-2.9**
	baz=190						
M50A	**Fremont**	**28.79**	**13**	*eP*	**P**	**07 35 55.8**	**-1.2**
	comp=Z,24nm,0.8s						
M50A				LR	LR		
	comp=Z,12µm,21.0s						
M50A	**Fremont**	**28.79**	**13**	P	**P**	**07 35 55.2**	**-1.7**
	baz=197						
N53A	**Lisbon**	**28.79**	**17**	*eP*	**P**	**07 35 56.4**	**-0.6**
	comp=Z,51nm,0.8s						
N53A				LR	LR		
	comp=Z,17µm,20.0s						
N53A	**Lisbon**	**28.79**	**17**	P	**P**	**07 35 56.1**	**-0.9**
	baz=202,SNR=9.1						
GLA	**Glamis**	**28.81**	**316**	*eP*	**P**	**07 35 59.6**	**+2.3**
	comp=Z,39nm,1.1s						
GLA				LR	LR		
	comp=Z,13µm,18.0s						
GLA	**Glamis**	**28.81**	**316**	*eP*	**P**	**07 35 59.6**	**+2.3**
GLA				pmax	pmax		
	comp=Z,39nm,1.1s						
GLA				MLR	MLR		
	comp=Z,13µm,18.0s						
GLA	**Glamis**	**28.81**	**316**	P	**P**	**07 35 58.7**	**+1.4**
	baz=127						
PV01	**Paradox Valley**	**28.84**	**331**	*eP*	**P**	**07 36 00.3**	**+2.5**
	comp=Z,102nm,1.5s						
OGNE	**Ogallala**	**28.85**	**343**	P	**P**	**07 35 57.6**	**-0.1**
	baz=158						
SDMD	**Soldier's Deli**	**28.90**	**24**	PFAKE		07 36 10.0	+12
SDMD				LR	LR		
	comp=Z,6µm,19.0s						
L47A	**Sherwood**	**28.91**	**10**	P	**P**	**07 35 56.5**	**-1.6**
	baz=192,SNR=7.6						
M51A	**Elyria**	**28.92**	**15**	P	**P**	**07 35 57.2**	**-1.0**
	baz=199						
ANWB	**Willy Bob**	**28.95**	**78**	PFAKE		07 36 10.0	+11
ANWB				LR	LR		
	comp=Z,7µm,19.0s						
ANWB	**Willy Bob**	**28.95**	**78**	*eP*	**P**	**07 35 54.4**	**-4.3**
PV02	**Paradox Valley**	**28.97**	**331**	*eP*	**P**	**07 36 01.7**	**+2.8**
	comp=Z,158nm,1.6s						
PV13	**Radium Mtn., P**	**28.97**	**331**	*eP*	**P**	**07 36 01.5**	**+2.5**
	comp=Z,82nm,1.3s						
ISCO	**Idaho Springs**	**28.99**	**337**	*eP*	**P**	**07 36 00.7**	**+1.5**
	comp=Z,32nm,1.6s						
ISCO				LR	LR		
	comp=Z,3µm,21.0s						
ISCO	**Idaho Springs**	**28.99**	**337**	*eP*	**P**	**07 36 00.7**	**+1.5**
ISCO				pmax	pmax		
	comp=Z,32nm,1.6s						
ISCO				MLR	MLR		
	comp=Z,3µm,21.0s						
ISCO	**Idaho Springs**	**28.99**	**337**	P	**P**	**07 36 00.2**	**+1.0**
	baz=150						
SMCO	**Snowmass**	**29.00**	**335**	*eP*	**P**	**07 36 00.5**	**+1.2**
	comp=Z,44nm,1.4s						
SMCO				LR	LR		
	comp=Z,2µm,20.0s						
O56A	**Blue Knob Stat**	**29.01**	**21**	*eP*	**P**	**07 35 58.1**	**-1.0**
	comp=Z,74nm,1.4s						
O56A				LR	LR		
	comp=Z,19µm,21.0s						
O56A	**Blue Knob Stat**	**29.01**	**21**	P	**P**	**07 35 57.7**	**-1.3**
	baz=206,SNR=6.4						
L48A	**N Adams**	**29.02**	**11**	P	**P**	**07 35 57.4**	**-1.7**
	baz=194,SNR=9.7						
Y12C	**Blythe**	**29.03**	**318**	*eP*	**P**	**07 36 01.9**	**+2.7**
	comp=Z,32nm,1.4s						
Y12C				LR	LR		
	comp=Z,12µm,18.0s						
Y12C	**Blythe**	**29.03**	**318**	P	**P**	**07 36 01.2**	**+2.0**
	baz=128						
K41A	**Shullsburg**	**29.04**	**2**	P	**P**	**07 35 57.8**	**-1.4**
	baz=182						
PV05	**Paradox Valley**	**29.04**	**331**	*eP*	**P**	**07 36 01.2**	**+1.6**
	comp=Z,125nm,1.4s						
PV05				LR	LR		
	comp=Z,3µm,21.0s						
PV03	**Paradox Valley**	**29.06**	**331**	*eP*	**P**	**07 36 02.3**	**+2.5**
	comp=Z,67nm,1.2s						
PV18	**Skein Mesa, Pa**	**29.09**	**331**	*eP*	**P**	**07 36 02.4**	**+2.5**
	comp=Z,151nm,1.5s						
PV12	**Saucer Basin,**	**29.09**	**331**	*eP*	**P**	**07 36 02.7**	**+2.7**
	comp=Z,213nm,1.6s						
K40A	**Colesburg**	**29.11**	**1**	P	**P**	**07 35 58.0**	**-1.9**
	baz=180						
PV11	**David Mesa, Pa**	**29.11**	**331**	*eP*	**P**	**07 36 02.7**	**+2.5**
	comp=Z,253nm,1.7s						
K39A	**Oelwein**	**29.11**	**359**	P	**P**	**07 35 57.8**	**-2.1**
	baz=179						
PV07	**Paradox Valley**	**29.12**	**332**	*eP*	**P**	**07 36 02.3**	**+2.1**
	comp=Z,67nm,1.4s						
PDMCI	**Parker Dam,Lak**	**29.14**	**319**	P	**P**	**07 36 01.1**	**+0.9**
	baz=130						
PV17	**East Wray Mesa**	**29.14**	**331**	*eP*	**P**	**07 36 02.6**	**+2.3**
	comp=Z,205nm,1.6s						
PV16	**Nyswonger Mesa**	**29.14**	**331**	*eP*	**P**	**07 36 02.7**	**+2.3**
	comp=Z,132nm,1.5s						
PV19	**Morning Glory**	**29.17**	**331**	*eP*	**P**	**07 36 02.8**	**+2.1**
	comp=Z,128nm,1.5s						
N54A	**Moraine State**	**29.18**	**18**	*eP*	**P**	**07 35 59.9**	**-0.6**
	comp=Z,104nm,1.3s						
N54A				LR	LR		
	comp=Z,18µm,22.0s						
N54A	**Moraine State**	**29.18**	**18**	P	**P**	**07 35 59.3**	**-1.2**
	baz=203,SNR=8.8						
PV20	**West Nyswonger**	**29.19**	**331**	*eP*	**P**	**07 36 03.4**	**+2.5**
	comp=Z,64nm,1.2s						
PV04	**Paradox Valley**	**29.20**	**331**	*eP*	**P**	**07 36 03.5**	**+2.6**
	comp=Z,192nm,1.7s						
NNA	**Nana**	**29.21**	**149**	PFAKE		07 36 10.0	+9.0
NNA				LR	LR		
	comp=Z,4µm,21.0s						
PLIO	**Pelee Island,**	**29.21**	**14**	P	**P**	**07 35 59.0**	**-1.7**
	baz=198						
P59A	**Jarrettsville**	**29.23**	**24**	P	**P**	**07 35 59.4**	**-1.6**
	baz=211						
PV14	**Lion Creek, Pa**	**29.24**	**331**	*eP*	**P**	**07 36 03.6**	**+2.3**
	comp=Z,86nm,1.4s						
K43A	**Burlington**	**29.25**	**5**	PFAKE		07 36 10.0	+9.0
K43A				LR	LR		
	comp=Z,10µm,19.0s						
K43A	**Burlington**	**29.25**	**5**	P	**P**	**07 35 59.0**	**-2.0**
	baz=186						
K42A	**Prairie Point,**	**29.25**	**3**	P	**P**	**07 35 59.9**	**-1.1**
	baz=184						
PV10	**Paradox Valley**	**29.25**	**331**	*eP*	**P**	**07 36 03.3**	**+1.9**
	comp=Z,92nm,1.2s						
PV22	**Blue Mesa, Par**	**29.26**	**332**	*eP*	**P**	**07 36 03.9**	**+2.5**
	comp=Z,112nm,1.7s						
PV23	**Carpenter Ridg**	**29.30**	**331**	*eP*	**P**	**07 36 04.3**	**+2.4**
	comp=Z,41nm,1.0s						
L49A	**Milan**	**29.31**	**12**	P	**P**	**07 35 59.6**	**-1.9**
	baz=195						
M52A	**Chesterland**	**29.33**	**16**	PFAKE		07 36 10.0	+8.2
M52A				LR	LR		
	comp=Z,15µm,21.0s						
M52A	**Chesterland**	**29.33**	**16**	P	**P**	**07 36 01.0**	**-0.7**
	baz=200						
DWS	**Wesley**	**29.33**	**82**	*eP*	**P**	**07 36 01.1**	**-0.9**
N55A	**Marion Center**	**29.33**	**20**	*eP*	**P**	**07 36 00.9**	**-0.9**
	comp=Z,30nm,1.2s						
N55A				LR	LR		
	comp=Z,20µm,20.

IKP	In-Ko-Pah, Jac	29.45	314	P	P	07 36 05.4	+2.3
	baz=124,SNR=14						
SVB	Belmont	29.46	87	PFAKE		07 36 10.0	+6.7
SVB				LR	LR		
	comp=Z,4μm,19.0s						
SVB	Belmont	29.46	87	eP	P	07 36 02.8	-0.5
U15A	North Rim	29.46	324	eP	P	07 36 06.1	+2.7
	comp=Z,47nm,1.4s						
U15A				LR	LR		
	comp=Z,8μm,20.0s						
FDF	Fort de France	29.49	84	PFAKE		07 36 10.0	+6.4
FDF				LR	LR		
	comp=Z,7μm,19.0s						
FDF	Fort de France	29.49	84	eP	P	07 36 04.8	+1.2
W13A	Hualapai Mount	29.49	321	eP	P	07 36 06.3	+2.8
	comp=Z,52nm,1.3s						
W13A				LR	LR		
	comp=Z,8μm,19.0s						
AAM	Ann Arbor	29.51	12	eP	P	07 36 03.2	-0.2
	comp=Z,30nm,0.9s						
AAM				LR	LR		
	comp=Z,10μm,20.0s						
AAM	Ann Arbor	29.51	12	eP	P	07 36 03.2	-0.2
AAM				pmax	pmax		
	comp=Z,30nm,0.9s						
AAM				MLR	MLR		
	comp=Z,10μm,20.0s						
AAM	Ann Arbor	29.51	12	P	P	07 36 01.5	-1.9
	baz=195						
K46A	Dorr	29.52	9	P	P	07 36 00.6	-2.9
	baz=191						
SSPA	Standing Stone	29.57	21	eP	P	07 36 04.0	0.0
	comp=Z,33nm,1.0s						
SSPA				LR	LR		
	comp=Z,17μm,21.0s						
SSPA	Standing Stone	29.57	21	P	P	07 36 02.8	-1.2
	baz=207						
BC3	Big Chuckawall	29.59	317	P	P	07 36 06.4	+2.0
	baz=127,SNR=31						
MVL	Millersville	29.60	24	eP	P	07 36 03.0	-1.2
	comp=Z,55nm,1.5s						
MVL				LR	LR		
	comp=Z,14μm,19.0s						
K47A	Vermontville	29.62	10	P	P	07 36 02.0	-2.4
	baz=192						
PAGS	Pennsylvania G	29.65	23	PFAKE		07 36 20.0	+15
PAGS				LR	LR		
	comp=Z,12μm,20.0s						
SLBI	Saint Lucia, B	29.69	85	eP	P	07 36 04.8	-0.5
IRM	Iron Mountain	29.69	318	P	P	07 36 07.3	+2.1
	baz=128,SNR=13						
P60A	Greenville	29.73	25	P	P	07 36 04.5	-0.8
	baz=212						
NEE2	Needles Airpor	29.73	319	P	P	07 36 06.4	+0.9
	baz=129						
MCLT	Moule a Chique	29.74	86	eP	P	07 36 03.7	-2.0
J39A	Decorah	29.74	360	P	P	07 36 04.4	-1.1
	baz=179						
ALLY	Alegheny Colle	29.76	17	PFAKE		07 36 20.0	+14
ALLY				LR	LR		
	comp=Z,19μm,21.0s						
M54A	Oil Creek Stat	29.77	18	PFAKE		07 36 20.0	+14
M54A				LR	LR		
	comp=Z,19μm,21.0s						
M54A	Oil Creek Stat	29.77	18	P	P	07 36 05.2	-0.6
	baz=203						
J42A	Columbus	29.80	4	P	P	07 36 04.3	-1.7
	baz=184						
MONP2	Monument Peak	29.80	315	P	P	07 36 08.3	+1.9
	baz=124						
J41A	Loganville	29.80	2	P	P	07 36 04.6	-1.4
	baz=182						
J40A	Soldiers Grove	29.81	1	P	P	07 36 05.0	-1.1
	baz=181						
BAR	Barrett	29.86	314	PFAKE		07 36 20.0	+13
BAR				LR	LR		
	comp=Z,8μm,22.0s						
PSUB	Penn St. - Bra	29.90	25	PFAKE		07 36 20.0	+13
PSUB				LR	LR		
	comp=Z,16μm,19.0s						
K48A	Perry	29.91	11	P	P	07 36 04.8	-2.2
	baz=194,SNR=6.0						
J43A	Natural Harves	29.91	5	P	P	07 36 04.1	-2.8
	baz=186						
O59A	Robesonia	29.93	24	P	P	07 36 05.8	-1.3
	baz=211						
L53A	Girard	30.01	17	P	P	07 36 06.2	-1.6
	baz=202						
K49A	Clarkson	30.02	12	P	P	07 36 06.2	-1.7
	baz=195,SNR=8.0						
M55A	Ridgway	30.02	19	P	P	07 36 06.5	-1.4
	baz=205						
N23A	Red Feather La	30.07	338	PFAKE		07 36 20.0	+11
N23A				LR	LR		
	comp=Z,3μm,20.0s						
N23A	Red Feather La	30.07	338	P	P	07 36 08.7	0.0
	baz=151						
BELC	Belle Mtn. Jos	30.16	317	P	P	07 36 12.0	+2.6
	baz=126						
J45A	Montague	30.17	7	PFAKE		07 36 20.0	+11
J45A				LR	LR		
	comp=Z,10μm,20.0s						
J45A	Montague	30.17	7	P	P	07 36 06.9	-2.3
	baz=190						
J46A	Howard City	30.19	9	P	P	07 36 07.0	-2.4
	baz=191						
J47A	Sunmer	30.21	10	eP	P	07 36 09.0	-0.6
	comp=Z,29nm,1.0s						
J47A	Sunmer	30.21	10	P	P	07 36 06.6	-2.9
	baz=193						
ERPA	Erie	30.24	17	PFAKE		07 36 20.0	+10
ERPA				LR	LR		
	comp=Z,16μm,20.0s						
ERPA	Erie	30.24	17	P	P	07 36 08.8	-1.1
	baz=202						
PFO	Pinyon Flats O	30.24	316	eP	P	07 36 12.4	+2.3
	comp=Z,23nm,1.4s						
PFO				LR	LR		
	comp=Z,7μm,20.0s						
PFO	Pinyon Flats O	30.24	316	eP	P	07 36 12.4	+2.3
PFO				pmax	pmax		
	comp=Z,23nm,1.4s						
PFO				MLR	MLR		
	comp=Z,7μm,20.0s						
PFO	Pinyon Flats O	30.24	316	P	P	07 36 10.6	+0.4
	baz=125						
PFO	Pinyon Flats O	30.24	316	P	P	07 36 12.9	+2.7
	comp=Z,5.1nm,1.0s,baz=121,slow=11,SNR=5.9						
LDFC	Landfair	30.24	319	eP	P	07 36 13.1	+3.0
	comp=Z,65nm,1.2s						
LDFC				LR	LR		
	comp=Z,14μm,18.0s						
O60A	Telford	30.25	25	P	P	07 36 08.3	-1.6
	baz=212						
PHWY	Pilot Hill	30.25	339	eP	P	07 36 11.0	+0.6
	comp=Z,13nm,1.1s						
I39A	Houston	30.26	0	eP	P	07 36 09.1	-1.0
	comp=Z,27nm,1.1s						
I39A				LR	LR		
	comp=Z,3μm,22.0s						
I39A	Houston	30.26	0	P	P	07 36 08.7	-1.3
	baz=180						
109C	Camp Elliot, M	30.28	314	P	P	07 36 12.2	+1.9
	baz=123						
CPE	Camp Elliot	30.28	314	eP	P	07 36 12.5	+2.2
	comp=Z,42nm,1.4s						
CPE				LR	LR		
	comp=Z,6μm,21.0s						
I40A	Norwalk	30.31	1	P	P	07 36 07.2	-3.2
	baz=181						
O20A	White River Ci	30.33	334	eP	P	07 36 12.9	+2.0
	comp=Z,36nm,1.1s						
O20A	White River Ci	30.33	334	P	P	07 36 12.9	+2.0
	baz=146,SNR=17						
I42A	Draeger Farm,	30.38	4	eP	P	07 36 10.4	-0.7
	comp=Z,34nm,1.1s						
I42A				LR	LR		
	comp=Z,9μm,19.0s						
I42A	Draeger Farm,	30.38	4	P	P	07 36 09.1	-1.9
	baz=185						
K51A	Iona Station	30.40	15	P	P	07 36 09.2	-2.0
	baz=199						
GMRC	Granite Mounta	30.41	318	P	P	07 36 14.4	+2.7
	baz=128,SNR=6.0						
I43A	Langenfeld Bro	30.43	5	P	P	07 36 10.1	-1.4
	baz=186						
J48A	Bridge Port	30.45	11	PFAKE		07 36 30.0	+18
J48A				LR	LR		
	comp=Z,9μm,20.0s						
J48A	Bridge Port	30.45	11	P	P	07 36 09.6	-2.0
	baz=194						
ECSD	EROS Data Cent	30.45	353	eP	P	07 36 11.2	-0.6
	comp=Z,26nm,1.4s						
ECSD	EROS Data Cent	30.45	353	P	P	07 36 09.2	-2.5
	baz=170						
LUPA	Lehigh Univers	30.50	25	eP	P	07 36 12.3	+0.1
	comp=Z,5.6nm,1.3s						
LUPA				LR	LR		
	comp=Z,1μm,19.0s						
I41A	Arkdale	30.50	2	eP	P	07 36 10.0	-2.2
	comp=Z,21nm,0.9s						
I41A				LR	LR		
	comp=Z,10μm,21.0s						
I41A	Arkdale	30.50	2	P	P	07 36 08.9	-3.2
	baz=183						
SRU	San Rafael Swe	30.54	330	P	P	07 36 15.1	+2.3
L54A	Sinclairville	30.55	18	P	P	07 36 09.9	-2.7
	baz=203						
N59A	State Game Lan	30.61	24	eP	P	07 36 13.1	-0.1
	comp=Z,32nm,1.3s						
N59A				LR	LR		
	comp=Z,11μm,21.0s						
N59A	State Game Lan	30.61	24	P	P	07 36 10.5	-2.7
	baz=211						
J49A	Marlette	30.64	12	P	P	07 36 10.6	-2.7
	baz=196						
K52A	Tillsonburg	30.65	16	P	P	07 36 11.2	-2.3
	baz=200						
MURC	Murrieta	30.74	315	P	P	07 36 16.5	+2.1
	baz=124						
L55A	Hinsdale	30.77	19	P	P	07 36 13.7	-0.9
	baz=205						
I45A	Fountain	30.78	7	PFAKE		07 36 30.0	+15
I45A				LR	LR		
	comp=Z,11μm,19.0s						
I45A	Fountain	30.78	7	P	P	07 36 12.0	-2.6
	baz=190						
I46A	Reed City	30.80	9	P	P	07 36 12.1	-2.6
	baz=191						
HEC	Hector,Ludlow	30.88	318	P	P	07 36 18.3	+2.6
	baz=127						
BRNJ	Basking Ridge	30.90	26	eP	P	07 36 14.9	-0.8
	comp=Z,35nm,1.0s						
BRNJ				LR	LR		
	comp=Z,18μm,19.0s						
BBSR	BB Station	30.91	48	PFAKE		07 36 30.0	+14
BBSR				LR	LR		
	comp=Z,4μm,21.0s						
BBRC	Big Bear Solar	30.93	316	P	P	07 36 18.5	+2.2
	baz=126						
TUQ	Turquoise Moun	30.99	319	P	P	07 36 18.7	+2.0
	baz=128,SNR=6.4						
I47A	Gladwin	31.02	10	P	P	07 36 14.6	-2.1
	baz=193						
H42A	Shiocton	31.02	4	PFAKE		07 36 30.0	+13
H42A				LR	LR		
	comp=Z,9μm,18.0s						
H42A	Shiocton	31.02	4	P	P	07 36 14.5	-2.2
	baz=185						
H40A	Chili	31.05	2	P	P	07 36 15.3	-1.6
	baz=182						
H43A	Windswept, Lux	31.05	5	PFAKE		07 36 30.0	+13
H43A				LR	LR		
	comp=Z,9μm,19.0s						
H43A	Windswept, Lux	31.05	5	P	P	07 36 15.2	-1.7
	baz=187						
H41A	Junction City	31.07	3	PFAKE		07 36 30.0	+13
H41A				LR	LR		
	comp=Z,10μm,20.0s						
H41A	Junction City	31.07	3	P	P	07 36 14.1	-3.0
	baz=183						
H39A	Augusta	31.09	0	P	P	07 36 15.7	-1.6
	baz=180						
H38A	Maiden Rock	31.09	359	P	P	07 36 15.8	-1.6
	baz=178						
BBGH	Gun Hill	31.12	87	PFAKE		07 36 30.0	+12
BBGH				LR	LR		
	comp=Z,8μm,20.0s						
BBGH	Gun Hill	31.12	87	eP	P	07 36 18.7	+0.8
J52A	Paris	31.15	16	P	P	07 36 16.5	-1.3
	baz=201,SNR=6.1						
KSPA	Keystone Colle	31.16	23	PFAKE		07 36 30.0	+12
KSPA				LR	LR		
	comp=Z,10μm,20.0s						
TYNO	Tyneside	31.18	17	P	P	07 36 16.5	-1.6
	baz=202						
SHPR	Sheep Range	31.20	321	eP	P	07 36 21.3	+2.7
	comp=Z,41nm,1.3s						
SHPR				LR	LR		
	comp=Z,8μm,19.0s						
ODNJ	Ogdensburg	31.22	25	eP	P	07 36 17.6	-0.9
	comp=Z,69nm,1.6s						
ODNJ				LR	LR		
	comp=Z,16μm,20.0s						
RWWY	Rawlins	31.23	337	eP	P	07 36 20.3	+1.3
	comp=Z,27nm,1.0s						
RWWY				LR	LR		
	comp=Z,4μm,18.0s						
CPNY	Central Park	31.25	26	PFAKE		07 36 30.0	+11
CPNY				LR	LR		
	comp=Z,16μm,19.0s						
I49A	Point Hope	31.26	12	PFAKE		07 36 30.0	+11
I49A				LR	LR		
	comp=Z,11μm,21.0s						
I49A	Point Hope	31.26	12	P	P	07 36 16.3	-2.5
	baz=196						
I48A	Sherman Twp	31.32	11	P	P	07 36 17.5	-1.9
	baz=194						
RRX	Edison Barstow	31.34	317	P	P	07 36 21.9	+2.1
	baz=126						
SCI2	San Clemente I	31.34	313	P	P	07 36 21.3	+1.6
	baz=122						
K55A	Perry	31.38	19	P	P	07 36 18.5	-1.4
	baz=205						
H45A	Beulah	31.39	8	P	P	07 36 17.6	-2.3
	baz=190						
BFSC	Mount Baldy Ra	31.41	316	P	P	07 36 23.0	+2.5
	baz=124,SNR=5.8						
H46A	Fife Lake	31.42	9	P	P	07 36 17.3	-2.9
	baz=191						
MMNY	Mt. Morris Dam	31.44	19	eP	P	07 36 20.2	-0.2
	comp=Z,59nm,1.1s						
MMNY				LR	LR		
	comp=Z,17μm,21.0s						
PAL	Palisades	31.45	26	PFAKE		07 36 30.0	+9.5
PAL				LR	LR		
	comp=Z,16μm,19.0s						
PAL	Palisades	31.45	26	P	P	07 36 18.6	-1.9
	baz=214						
GSC	Goldstone, Bar	31.47	318	eP	P	07 36 23.4	+2.5
	comp=Z,34nm,1.6s						
GSC				LR	LR		
	comp=Z,8μm,19.0s						
GSC	Goldstone, Bar	31.47	318	eP	P	07 36 23.4	+2.5
GSC				pmax	pmax		
	comp=Z,34nm,1.6s						
GSC				MLR	MLR		
	comp=Z,8μm,19.0s						
GSC	Goldstone, Bar	31.47	318	P	P	07 36 23.0	+2.1
	baz=127						
CIS	Catalina Islan	31.48	314	P	P	07 36 22.2	+1.3
	baz=122						
STCO	Saint Catharin	31.48	17	P	P	07 36 18.6	-2.1
	baz=203						
SUSD	Miller	31.50	350	P	P	07 36 19.5	-1.4
	baz=166						
SHOC	Shoshone, Teco	31.50	319	P	P	07 36 23.5	+2.4
	baz=128						
I51A	Listowel	31.53	15	P	P	07 36 19.2	-2.0
	baz=199						
FMP	Fort Macarthur	31.56	314	P	P	07 36 23.0	+1.4
	baz=123						
G38A	Ridgeland	31.58	360	P	P	07 36 19.5	-2.1
	baz=179						
BASO	Ashfield	31.58	14	P	P	07 36 18.6	-3.1
	baz=198						
ACTO	Acton	31.60	16	P	P	07 36 20.5	-1.3
	baz=201						
BINY	Binghamton	31.63	22	eP	P	07 36 20.9	-1.3
	comp=Z,65nm,1.2s						
BINY				LR	LR		
	comp=Z,10μm,18.0s						
BINY	Binghamton	31.63	22	P	P	07 36 21.8	-0.4
	baz=209,SNR=9.2						
H47A	Mio	31.63	10	P	P	07 36 20.0	-2.2
	baz=193						
SPMN	Marine on St.	31.65	358	eP	P	07 36 20.8	-1.4
	comp=Z,27nm,0.8s						
SPMN				LR	LR		
	comp=Z,2μm,19.0s						
SPMN	Marine on St.	31.65	358	P	P	07 36 21.2	-1.1
	baz=177,SNR=11						
MEDO	Medina	31.65	18	eP	P	07 36 20.5	-1.8
	comp=Z,48nm,0.9s						
MEDO				LR	LR		
	comp=Z,22μm,19.0s						
MEDO	Medina	31.65	18	P	P	07 36 20.7	-1.6
	baz=204						
MWC	Mount Wilson	31.68	315	eP	P	07 36 24.9	+2.0
	comp=Z,34nm,1.3s						
MWC				LR	LR		
	comp=Z,6μm,22.0s						
MWC	Mount Wilson	31.68	315	eP	P	07 36 24.9	+2.0
MWC				pmax	pmax		
	comp=Z,34nm,1.3s						
MWC				MLR	MLR		
	comp=Z,6μm,22.0s						
G41A	Antigo	31.68	3	P	P	07 36 20.6	-2.0
	baz=184						
G39A	Holcombe	31.70	1	P	P	07 36 20.8	-1.9
	baz=180						
J54A	Appleton	31.70	18	PFAKE		07 36 30.0	+7.4
J54A				LR	LR		
	comp=Z,23μm,19.0s						
J54A	Appleton	31.70	18	P	P	07 36 20.8	-1.9
	baz=204						
G40A	Rib Lake	31.70	2	PFAKE		07 36 40.0	+17
G40A				LR	LR		
	comp=Z,9μm,21.0s						
G40A	Rib Lake	31.70	2	P	P	07 36 20.5	-2.2
	baz=182						
PASC	Pasadena Art C	31.74	315	eP	P	07 36 25.4	+2.2
	comp=Z,23nm,1.1s						
PASC				LR	LR		
	comp=Z,6μm,21.0s						
G42A	Mountain	31.76	4	PFAKE		07 36 40.0	+17
G42A				LR	LR		
	comp=Z,8μm,21.0s						
G42A	Mountain	31.76	4	P	P	07 36 21.8	-1.4
	baz=185						
GLMI	Grayling	31.79	9	eP	P	07 36 22.2	-1.3
	comp=Z,79nm,0.9s						
GLMI				LR	LR		
	comp=Z,7μm,19.0s						
GLMI	Grayling	31.79	9	P	P	07 36 21.3	-2.1
	baz=192						
BWLO	Walkerton	31.80	14	P	P	07 36 21.6	-2.0
	baz=199						
K22A	Casper	31.82	339	eP	P	07 36 24.5	+0.5
	comp=Z,28nm,1.4s						
K22A				LR	LR		
	comp=Z,2μm,19.0s						
K22A	Casper	31.82	339	P	P	07 36 24.9	+1.0
	baz=151,SNR=7.5						
G43A	Wallace	31.83	5	PFAKE		07 36 40.0	+16
G43A				LR	LR		
	comp=Z,10μm,20.0s						
G43A	Wallace	31.83	5	P	P	07 36 21.3	-2.5
	baz=187						
G45A	Suttons Bay	31.84	8	eP	P	07 36 23.4	-0.6
	comp=Z,80nm,0.9s						
G45A				LR	LR		
	comp=Z,10μm,20.0s						
G45A	Suttons Bay	31.84	8	P	P	07 36 22.2	-1.8
	baz=190						
BRCO	Bruce Peninsul	31.85	14	P	P	07 36 22.8	-1.2
	baz=198						
DECC	Green Verdugo	31.89	315	P	P	07 36 26.6	+2.1
	baz=124						
H48A	Harrisville	31.89	11	eP	P	07 36 22.5	-1.9
	comp=Z,99nm,1.1s						
H48A				LR	LR		
	comp=Z,10μm,19.0s						
H48A	Harrisville	31.89	11	P	P	07 36 22.7	-1.6
	baz=195						
I53A	Kortright Cn E	31.93	16	P	P	07 36 23.4	-1.3
	baz=202						
J55A	Hilton	31.94	19	eP	P	07 36 24.3	-0.5
	comp=Z,32nm,0.9s						
J55A				LR	LR		
	comp=Z,20μm,21.0s						
J55A	Hilton	31.94	19	P	P	07 36 23.5	-1.4
	baz=205						
I52A	Shelburne	32.00	16	P	P	07 36 23.8	-1.6
	baz=201						
EDW2	Edwards Air Fo	32.01	316	P	P	07 36 26.9	+1.3
	baz=125						
YLE	Yale	32.12	27	eP	P	07 36 25.4	-1.1
	comp=Z,74nm,1.5s						
YLE				LR	LR		
	comp=Z,12μm,20.0s						
F37A	Hinrichs Farm,	32.15	359	P	P	07 36 24.5	-2.1
	baz=178						
TPNV	Topopah Spring	32.15	321	eP	P	07 36 30.3	+3.3
	comp=Z,69nm,1.5s						
TPNV				LR	LR		
	comp=Z,8μm,19.0s						
TPNV	Topopah Spring	32.15	321	P	P	07 36 30.5	+3.6
	baz=130						
LRMC	Laurel Mtn Rad	32.15	317	P	P	07 36 29.7	+2.8
	baz=126						
SNCC	San Nicolas Is	32.18	312	PFAKE		07 36 40.0	+13
SNCC				LR	LR		
	comp=Z,6μm,22.0s						
SNCC	San Nicolas Is	32.18	312	P	P	07 36 27.4	+0.2
	baz=121						
PKRO	Pickering	32.20	17	P	P	07 36 25.8	-1.3
	baz=203						
F41A	Three Lakes	32.21	3	PFAKE		07 36 40.0	+13
F41A				LR	LR		
	comp=Z,9μm,21.0s						
F41A	Three Lakes	32.21	3	P	P	07 36 25.0	-2.2
	baz=184						
DRWO	Darlington Wes	32.22	18	P	P	07 36 25.1	-2.1
	baz=203						
FURC	Furnace Creek,	32.22	320	P	P	07 36 29.3	+1.9
	baz=128,SNR=15						
KSCT	Kent School, K	32.23	26	eP	P	07 36 27.0	-0.4
	comp=Z,42nm,1.1s						
KSCT				LR	LR		
	comp=Z,17μm,19.0s						
DRCO	St. Marys Ceme	32.23	18	P	P	07 36 27.1	-0.2
	baz=203						
G46A	Petoskey	32.23	9	P	P	07 36 25.2	-2.1
	baz=192						
BMRO	Meriville Lake	32.23	14	P	P	07 36 25.6	-1.7
	baz=199						
G47A	Hillman	32.25	10	P	P	07 36 25.4	-2.2
	baz=194						
BLG	Laguna Peak, P	32.31	314	P	P	07 36 29.8	+1.6
	baz=122						
F39A	Loretta	32.33	1	P	P	07 36 26.8	-1.4
	baz=181						
F40A	Park Falls	32.35	2	P	P	07 36 26.5	-1.9
	baz=182						
RSSD	Black Hills	32.35	343	eP	P	07 36 29.0	+0.3
	comp=Z,8.6nm,1.0s						
RSSD				LR	LR		
	comp=Z,3μm,21.0s						
RSSD	Black Hills	32.35	343	eP	P	07 36 29.0	+0.3
RSSD				pmax	pmax		
	comp=Z,9.0nm,1.0s						
RSSD				MLR	MLR		
	comp=Z,3μm,21.0s						
RSSD	Black Hills	32.35	343	P	P	07 36 29.0	+0.3
	baz=156						
OSI	Osito Audit: C	32.35	315	PFAKE		07 36 40.0	+11
OSI				LR	LR		
	comp=Z,8μm,22.0s						
OSI	Osito Audit: C	32.35	315	P	P	07 36 30.7	+2.1
	baz=124						
WLVO	Wesleyville	32.36	18	P	P	07 36 26.9	-1.6
	baz=204						
F38A	Pierce - Schro	32.37	360	P	P	07 36 26.7	-1.8
	baz=179,SNR=6.7						
MPMC	Manual Prospec	32.37	319	P	P	07 36 31.1	+2.1
	baz=127,SNR=23						
F43A	Flat Rock, Esc	32.45	6	P	P	07 36 27.3	-2.0
	baz=188						
F45A	CMU Biological	32.50	8	P	P	07 36 27.8	-1.8
	baz=190						
DUG	Dugway, Tooele	32.50	329	eP	P	07 36 32.7	+2.7
	comp=Z,65nm,1.6s						

DUG				LR	LR		
	comp=Z,5μm,21.0s						
DUG	**Dugway, Tooele**	**32.50**	**329**	*eP*	**P**		**07 36 32.7 +2.7**
DUG				pmax	pmax		
	comp=Z,65nm,1.6s						
DUG				MLR	MLR		
	comp=Z,5μm,21.0s						
DUG	**Dugway, Tooele**	**32.50**	**329**	P	**P**		**07 36 32.5 +2.5**
	baz=139,SNR=14						
DAC	**Darwin (Calif)**	**32.57**	**319**	PFAKE			07 36 40.0 +9.3
DAC				LR	LR		
	comp=Z,8μm,20.0s						
DAC	**Darwin (Calif)**	**32.57**	**319**	P	**P**		**07 36 35.0 +4.3**
COWI	**Conover**	**32.57**	**3**	*eP*	**P**		**07 36 29.3 -1.1**
	comp=Z,22nm,0.9s						
COWI				LR	LR		
	comp=Z,8μm,19.0s						
H52A	**Wyevale**	**32.61**	**16**	P	**P**		**07 36 27.8 -2.9**
	baz=201						
SCZ2	**Santa Cruz Isl**	**32.65**	**314**	P	**P**		**07 36 32.5 +1.3**
	baz=122						
F44A	**Big Bay de Noc**	**32.67**	**7**	P	**P**		**07 36 29.9 -1.2**
	baz=189						
R11A	**Troy Canyon, C**	**32.68**	**324**	*eP*	**P**		**07 36 34.5 +2.9**
	comp=Z,40nm,1.3s						
R11A				LR	LR		
	comp=Z,8μm,21.0s						
R11A	**Troy Canyon, C**	**32.68**	**324**	P	**P**		**07 36 34.3 +2.6**
	baz=132,SNR=42						
F46A	**Macinaw City C**	**32.69**	**9**	P	**P**		**07 36 29.5 -1.8**
	baz=192						
ARVC	**Arvin**	**32.71**	**316**	P	**P**		**07 36 34.1 +2.4**
	baz=124						
TOBO	**Tobermory, Bru**	**32.76**	**13**	P	**P**		**07 36 29.5 -2.5**
	baz=198						
ISA	**Isabella, Lake**	**32.78**	**317**	*eP*	**P**		**07 36 34.8 +2.4**
	comp=Z,48nm,1.6s						
ISA				LR	LR		
	comp=Z,8μm,18.0s						
ISA	**Isabella, Lake**	**32.78**	**317**	*eP*	**P**		**07 36 34.8 +2.4**
ISA				pmax	pmax		
	comp=Z,48nm,1.6s						
ISA				MLR	MLR		
	comp=Z,8μm,18.0s						
ISA	**Isabella, Lake**	**32.78**	**317**	P	**P**		**07 36 34.7 +2.3**
	baz=125						
E39A	**Mellen**	**32.80**	**1**	P	**P**		**07 36 30.4 -1.9**
	baz=181						
PECO	**Prince Edward**	**32.81**	**20**	P	**P**		**07 36 31.0 -1.4**
	baz=206						
I55A	**Frankford**	**32.84**	**19**	P	**P**		**07 36 31.8 -1.0**
	baz=205,SNR=12						
GRAC	**Grapevine Rang**	**32.87**	**320**	P	**P**		**07 36 35.7 +2.5**
	baz=128,SNR=7.6						
E40A	**Wakefield**	**32.88**	**2**	P	**P**		**07 36 30.9 -2.2**
	baz=182,SNR=7.1						
SADO	**Sadowa**	**32.92**	**16**	*eP*	**P**		**07 36 32.5 -1.0**
	comp=Z,32nm,0.8s						
SADO				LR	LR		
	comp=Z,15μm,20.0s						
SADO	**Sadowa**	**32.92**	**16**	P	**P**		**07 36 31.8 -1.6**
	comp=Z,35nm,0.9s,baz=248,slow=6.7,SNR=12						
SBC	**Santa Barbara**	**32.94**	**314**	P	**P**		**07 36 35.3 +1.6**
	baz=122						
E41A	**Kenton**	**32.94**	**3**	P	**P**		**07 36 30.3 -3.3**
	baz=184						
E42A	**Champion**	**32.98**	**5**	P	**P**		**07 36 30.3 -3.6**
	baz=186						
CWC	**Cottonwood Cre**	**32.98**	**319**	P	**P**		**07 36 37.0 +2.7**
	baz=127						
TRY	**Troy**	**32.98**	**25**	*eP*	**P**		**07 36 33.1 -0.9**
	comp=Z,77nm,1.2s						
TRY				LR	LR		
	comp=Z,12μm,18.0s						
HWUT	**Hardware Ranch**	**32.99**	**332**	*eP*	**P**		**07 36 36.3 +1.9**
HWUT				LR	LR		
	comp=Z,4μm,18.0s						
E43A	**Lone Tree Farm**	**33.01**	**6**	*eP*	**P**		**07 36 33.9 -0.2**
	comp=Z,53nm,1.4s						
E43A				LR	LR		
	comp=Z,11μm,20.0s						
E43A	**Lone Tree Farm**	**33.01**	**6**	P	**P**		**07 36 32.4 -1.8**
	baz=188						
E38A	**The Farm, Brul**	**33.01**	**360**	*eP*	**P**		**07 36 32.9 -1.3**
	comp=Z,25nm,0.9s						
E38A				LR	LR		
	comp=Z,5μm,20.0s						
E38A	**The Farm, Brul**	**33.01**	**360**	P	**P**		**07 36 33.1 -1.1**
	baz=180						
BW06	**Boulder Array**	**33.07**	**335**	*eP*	**P**		**07 36 35.2 +0.2**
	comp=Z,16nm,1.3s						
BW06				LR	LR		
	comp=Z,3μm,21.0s						
BW06	**Boulder Array**	**33.07**	**335**	P	**P**		**07 36 34.6 -0.4**
	baz=146,SNR=12						
PD31	**Pinedale Array**	**33.07**	**335**	*eP*	**P**		**07 36 35.0 -0.1**
	comp=Z,15nm,1.3s						
PDAR	**Pinedale Array**	**33.07**	**335**	*eP*	**P**		**07 36 35.5 +0.5**
PDAR	**Pinedale Array**	**33.07**	**335**	P	**P**		**07 36 35.2 +0.2**
	comp=Z,1.9nm,0.6s,baz=134,slow=8.5,SNR=19						
PDAR				PcP	**PcP**		**07 39 18.8 +0.5**
	comp=Z,3.1nm,0.9s,baz=141,slow=4.6,SNR=4.9						
F48A	**Evansville**	**33.11**	**11**	P	**P**		**07 36 33.1 -1.9**
	baz=196						
DELO	**Deloro Mine**	**33.13**	**18**	P	**P**		**07 36 33.8 -1.5**
	baz=205,SNR=14						
F49A	**Sandfield**	**33.16**	**12**	P	**P**		**07 36 33.3 -2.2**
	baz=197						
QUA2	**Belchertown**	**33.16**	**26**	*eP*	**P**		**07 36 35.0 -0.5**
	comp=Z,37nm,1.1s						
QUA2				LR	LR		
	comp=Z,8μm,18.0s						
KLBO	**Killbear Provi**	**33.19**	**15**	P	**P**		**07 36 33.7 -2.0**
	baz=200						
E45A	**Wooded Hills,**	**33.20**	**8**	P	**P**		**07 36 34.0 -1.8**
	baz=191						
BRYW	**Bryant College**	**33.23**	**28**	PFAKE			07 36 50.0 +14
BRYW				LR	LR		
	comp=Z,18μm,20.0s						
PKM	**Mcpherson Peak**	**33.25**	**315**	P	**P**		**07 36 38.8 +2.1**
	baz=122						
VES	**Vestal, Richgr**	**33.29**	**317**	P	**P**		**07 36 38.6 +1.8**
	baz=125,SNR=19						
H55A	**Tweed**	**33.30**	**19**	P	**P**		**07 36 35.2 -1.5**
	baz=206,SNR=11						
E46A	**Sault Ste Mari**	**33.34**	**9**	PFAKE			07 36 50.0 +13
E46A				LR	LR		
	comp=Z,7μm,18.0s						
E46A	**Sault Ste Mari**	**33.34**	**9**	P	**P**		**07 36 35.1 -1.9**
	baz=192						
E44A	**Grand Marais A**	**33.37**	**7**	PFAKE			07 36 50.0 +13
E44A				LR	LR		
	comp=Z,10μm,19.0s						
E44A	**Grand Marais A**	**33.37**	**7**	P	**P**		**07 36 35.4 -1.8**
	baz=190						
M65A	**Busby, Falmout**	**33.37**	**29**	P	**P**		**07 36 35.5 -1.8**
	baz=219						
G53A	**Haliburton**	**33.39**	**17**	P	**P**		**07 36 35.8 -1.7**
	baz=203,SNR=8.7						
TIN	**Tinemaha, Big**	**33.45**	**319**	P	**P**		**07 36 40.0 +1.7**
	baz=127						
BUKO	**Buck Lake**	**33.48**	**16**	P	**P**		**07 36 36.4 -1.9**
	baz=201,SNR=6.4						
BANO	**Bancroft**	**33.50**	**18**	P	**P**		**07 36 36.7 -1.7**
	baz=204,SNR=5.4						
ACCN	**Adirondack Com**	**33.53**	**24**	*eP*	**P**		**07 36 37.8 -0.9**
	comp=Z,24nm,1.1s						
ACCN				LR	LR		
	comp=Z,12μm,19.0s						
D41A	**Chassel**	**33.56**	**4**	PFAKE			07 36 50.0 +11
D41A				LR	LR		
	comp=Z,9μm,20.0s						
D41A	**Chassel**	**33.56**	**4**	P	**P**		**07 36 37.2 -1.7**
	baz=185						
E47A	**Iron Bridge**	**33.59**	**10**	P	**P**		**07 36 38.1 -1.2**
	baz=194,SNR=5.8						
SMMC	**Simmler**	**33.61**	**315**	P	**P**		**07 36 42.2 +2.6**
	baz=123						
H56A	**Elgin**	**33.64**	**20**	P	**P**		**07 36 38.1 -1.5**
	baz=207,SNR=9.2						
HRV	**Adam Dziewonsk**	**33.69**	**27**	PFAKE			07 36 50.0 +10
HRV				LR	LR		
	comp=Z,14μm,21.0s						
HRV	**Adam Dziewonsk**	**33.69**	**27**	P	**P**		**07 36 39.2 -1.0**
	baz=216						
WES	**Weston**	**33.70**	**27**	PFAKE			07 36 50.0 +10
WES				LR	LR		
	comp=Z,17μm,21.0s						
AHID	**Auburn Hatcher**	**33.71**	**334**	*eP*	**P**		**07 36 42.1 +1.5**
AHID				LR	LR		
	comp=Z,2μm,21.0s						
BCX	**Boston College**	**33.73**	**28**	PFAKE			07 36 50.0 +10
BCX				LR	LR		
	comp=Z,16μm,20.0s						
VOG	**Valley Oaks Go**	**33.76**	**317**	P	**P**		**07 36 43.2 +2.4**
	baz=125						
PLVO	**Plevna**	**33.77**	**19**	*eP*	**P**		**07 36 39.9 -0.9**
	comp=Z,35nm,1.1s						
PLVO				LR	LR		
	comp=Z,20μm,20.0s						
PLVO	**Plevna**	**33.77**	**19**	P	**P**		**07 36 39.6 -1.2**
	baz=206,SNR=5.6						
F51A	**Arnstein**	**33.80**	**15**	P	**P**		**07 36 39.5 -1.5**
	baz=200						
NCB	**Newcomb**	**33.81**	**23**	*eP*	**P**		**07 36 39.8 -1.5**
	comp=Z,35nm,1.1s						
NCB				LR	LR		
	comp=Z,8μm,21.0s						
E48A	**Lockeyer**	**33.83**	**12**	P	**P**		**07 36 39.8 -1.4**
	baz=196						
F52A	**Sundridge**	**33.83**	**15**	P	**P**		**07 36 39.7 -1.6**
	baz=201						
D46A	**Sault St. Mari**	**33.89**	**9**	P	**P**		**07 36 39.9 -1.9**
	baz=193						
PAGB	**Antelope Grade**	**34.01**	**316**	*eP*	**P**		**07 36 46.2 +3.1**
	comp=Z,74nm,1.3s						
PAGB				LR	LR		
	comp=Z,7μm,21.0s						
E50A	**Wahnapitae**	**34.07**	**13**	P	**P**		**07 36 40.6 -2.8**
	baz=198						
G55A	**Calabogie**	**34.08**	**19**	P	**P**		**07 36 42.0 -1.5**
	baz=206,SNR=10						
REDW	**Red Top Meadow**	**34.09**	**335**	*eP*	**P**		**07 36 45.6 +1.6**
	comp=Z,95nm,1.0s						
REDW				LR	LR		
	comp=Z,2μm,19.0s						
SNOW	**Snow King Moun**	**34.14**	**335**	*eP*	**P**		**07 36 46.1 +1.8**
	comp=Z,67nm,0.9s						
SNOW				LR	LR		
	comp=Z,4μm,20.0s						
ELK	**Elko**	**34.16**	**327**	*eP*	**P**		**07 36 47.2 +2.6**
	comp=Z,25nm,1.0s						
ELK				LR	LR		
	comp=Z,3μm,18.0s						
ELK	**Elko**	**34.16**	**327**	*eP*	**P**		**07 36 47.2 +2.6**
ELK				pmax	pmax		
	comp=Z,25nm,1.0s						
ELK				MLR	MLR		
	comp=Z,3μm,18.0s						
ELK	**Elko**	**34.16**	**327**	P	**P**		**07 36 47.1 +2.5**
	comp=Z,14nm,1.0s,baz=136,slow=5.8,SNR=46						
ELK				PcP	**PcP**		**07 39 22.6 +1.2**
	comp=Z,3.3nm,0.9s,baz=117,slow=4.5,SNR=4.4						
MLAC	**Mammoth, Mammo**	**34.18**	**320**	P	**P**		**07 36 47.9 +3.1**
	baz=127						
LOHW	**Long Hollow**	**34.20**	**335**	*eP*	**P**		**07 36 46.3 +1.5**
	comp=Z,48nm,1.3s						
LOHW				LR	LR		
	comp=Z,1μm,18.0s						
D47A	**Chapleau**	**34.20**	**10**	P	**P**		**07 36 42.1 -2.5**
	baz=194						
LONY	**Lake Ozonia**	**34.24**	**22**	*eP*	**P**		**07 36 43.8 -1.2**
	comp=Z,89nm,1.3s						
LONY				LR	LR		
	comp=Z,13μm,21.0s						
LONY	**Lake Ozonia**	**34.24**	**22**	P	**P**		**07 36 43.8 -1.2**
	baz=210,SNR=14						
TPAW	**Teton Pass**	**34.24**	**335**	*eP*	**P**		**07 36 47.0 +1.7**
	comp=Z,95nm,1.3s						
TPAW				LR	LR		
	comp=Z,2μm,18.0s						
NV11	**Mina Array Sit**	**34.26**	**321**	*eP*	**P**		**07 36 46.3 +1.0**
	comp=Z,6.4nm,1.4s						
NV11				LR	LR		
	comp=Z,500nm,20.0s						
OMMB	**Old Mammoth Mi**	**34.28**	**319**	*eP*	**P**		**07 36 47.4 +1.7**
	comp=Z,41nm,1.3s						
OMMB				LR	LR		
	comp=Z,6μm,21.0s						
PEMO	**Pembroke**	**34.30**	**18**	P	**P**		**07 36 43.9 -1.5**
	baz=205,SNR=6.3						
ALGO	**Algonquin Park**	**34.31**	**17**	P	**P**		**07 36 44.1 -1.4**
	baz=203,SNR=6.2						
PTGA	**Pitinga**	**34.34**	**112**	*eP*	**P**		**07 36 46.1 0.0**
	comp=Z,80nm,1.6s						
PTGA				LR	LR		
	comp=Z,4μm,22.0s						
PTGA	**Pitinga**	**34.34**	**112**	*eP*	**P**		**07 36 43.2 -2.9**
MDPB	**Devils Postpil**	**34.34**	**319**	*eP*	**P**		**07 36 48.5 +2.3**
	comp=Z,56nm,1.5s						
MDPB				LR	LR		
	comp=Z,6μm,18.0s						
NV01	**Mina Array Sit**	**34.35**	**321**	*eP*	**P**		**07 36 48.9 +2.7**
NVAR	**Mina Array Bea**	**34.35**	**321**	P	**P**		**07 36 48.9 +2.7**
	comp=Z,19nm,0.8s,baz=138,slow=8.4,SNR=81						
NVAR				PcP	**PcP**		**07 39 23.3 +1.3**
	comp=Z,3.2nm,0.9s,baz=135,slow=3.9,SNR=3.5						
NVAR				LR	LR		07 51 19.7
	comp=Z,5μm,20.2s,baz=134,slow=37						
EYMN	**Ely**	**34.35**	**0**	*eP*	**P**		**07 36 44.6 -1.3**
	comp=Z,44nm,1.5s						
EYMN				LR	LR		
	comp=Z,8μm,21.0s						
EYMN	**Ely**	**34.35**	**0**	P	**P**		**07 36 44.2 -1.7**
	baz=180						
HNH	**Hanover**	**34.35**	**25**	PFAKE			07 37 00.0 +14
HNH				LR	LR		
	comp=Z,15μm,18.0s						
MOOW	**Moose Ponds**	**34.37**	**335**	*eP*	**P**		**07 36 47.6 +1.3**
	comp=Z,30nm,1.3s						
MOOW				LR	LR		
	comp=Z,3μm,21.0s						
C40A	**Isle Royale Na**	**34.38**	**3**	PFAKE			07 37 00.0 +14
C40A				LR	LR		
	comp=Z,8μm,20.0s						
C40A	**Isle Royale Na**	**34.38**	**3**	P	**P**		**07 36 44.1 -2.0**
	baz=184						
FXWY	**Fox Creek**	**34.39**	**335**	*eP*	**P**		**07 36 48.0 +1.4**
	comp=Z,29nm,1.3s						
E52A	**Mattawa**	**34.45**	**16**	P	**P**		**07 36 43.8 -2.9**
	baz=202						
E51A	**G1948 Merrick**	**34.47**	**15**	P	**P**		**07 36 45.7 -1.1**
	baz=201,SNR=7.7						
D48A	**Paudash Townsh**	**34.56**	**12**	P	**P**		**07 36 45.9 -1.7**
	baz=196						
IMW	**Indian Meadow**	**34.57**	**335**	*eP*	**P**		**07 36 49.5 +1.4**
	comp=Z,19nm,1.0s						
IMW				LR	LR		
	comp=Z,3μm,19.0s						
RYN	**Ryan**	**34.60**	**321**	*eP*	**P**		**07 36 51.2 +2.9**
	comp=Z,46nm,1.4s						
RYN				LR	LR		
	comp=Z,5μm,20.0s						
KVN	**Kaiserville**	**34.62**	**322**	*eP*	**P**		**07 36 51.2 +2.7**
	comp=Z,59nm,1.3s						
KVN				LR	LR		
	comp=Z,10μm,19.0s						
KVN	**Kaiserville**	**34.62**	**322**	*eP*	**P**		**07 36 51.2 +2.7**
KVN				pmax	pmax		
	comp=Z,59nm,1.3s						
KVN				MLR	MLR		
	comp=Z,10μm,19.0s						
FLWY	**Flagg Ranch**	**34.62**	**335**	*eP*	**P**		**07 36 49.5 +1.0**
	comp=Z,27nm,1.1s						
FLWY				LR	LR		
	comp=Z,2μm,20.0s						
ORHO	**Orleans, Herit**	**34.64**	**20**	P	**P**		**07 36 46.8 -1.5**
	baz=208						
ORIO	**Orleans, Innes**	**34.64**	**20**	P	**P**		**07 36 46.8 -1.5**
	baz=208,SNR=10						
VT1	**Waterbury**	**34.69**	**24**	*eP*	**P**		**07 36 47.6 -1.1**
	comp=Z,66nm,1.7s						
VT1				LR	LR		
	comp=Z,14μm,19.0s						
F55A	**Otter Lake**	**34.71**	**19**	P	**P**		**07 36 46.7 -2.2**
	baz=206,SNR=7.0						
D49A	**Beulah Townshi**	**34.74**	**12**	P	**P**		**07 36 47.2 -2.0**
	baz=197,SNR=5.7						
FRNY	**Flat Rock**	**34.79**	**23**	*eP*	**P**		**07 36 48.4 -1.3**
	comp=Z,33nm,1.1s						
FRNY				LR	LR		
	comp=Z,10μm,22.0s						
E53A	**Dumoine, Ponti**	**34.81**	**17**	P	**P**		**07 36 47.6 -2.2**
	baz=204						
H17A	**Grant Village**	**34.83**	**336**	*eP*	**P**		**07 36 53.2 +2.8**
	comp=Z,30nm,1.4s						
H17A				LR	LR		
	comp=Z,6μm,19.0s						
H17A	**Grant Village**	**34.83**	**336**	P	**P**		**07 36 51.4 +1.0**
	baz=146						
AGMN	**Agassiz Nation**	**34.89**	**355**	*eP*	**P**		**07 36 50.1 -0.4**
	comp=Z,11nm,0.7s						
AGMN				LR	LR		
	comp=Z,2μm,21.0s						
AGMN	**Agassiz Nation**	**34.89**	**355**	P	**P**		**07 36 49.4 -1.1**
	baz=172,SNR=8.4						
LKWY	**Lake**	**34.91**	**336**	*eP*	**P**		**07 36 53.3 +2.3**
	comp=Z,37nm,1.5s						
LKWY				LR	LR		
	comp=Z,5μm,21.0s						
LKWY	**Lake**	**34.91**	**336**	*eP*	**P**		**07 36 53.3 +2.3**
LKWY				pmax	pmax		
	comp=Z,37nm,1.5s						
LKWY				MLR	MLR		
	comp=Z,5μm,21.0s						
MDND	**Maddock**	**34.91**	**351**	*eP*	**P**		**07 36 50.5 -0.2**
	comp=Z,83nm,0.9s						
MDND				LR	LR		
	comp=Z,3μm,19.0s						
MDND	**Maddock**	**34.91**	**351**	P	**P**		**07 36 49.7 -1.0**
	baz=166						
LBNH	**Lisbon**	**34.94**	**25**	PFAKE			07 37 00.0 +9.0
LBNH				LR	LR		
	comp=Z,13μm,18.0s						
LBNH	**Lisbon**	**34.94**	**25**	P	**P**		**07 36 48.5 -2.5**
	baz=214						
RLMT	**Red Lodge**	**34.95**	**338**	*eP*	**P**		**07 36 52.0 +0.7**
	comp=Z,13nm,1.3s						
RLMT				LR	LR		
	comp=Z,2μm,20.0s						
RLMT	**Red Lodge**	**34.95**	**338**	P	**P**		**07 36 52.1 +0.7**
	baz=148						
E54A	**Lac Daplat, Po**	**35.00**	**17**	P	**P**		**07 36 49.7 -1.7**
	baz=204,SNR=12						
ALFO	**Alfred**	**35.01**	**21**	P	**P**		**07 36 50.7 -0.8**
	baz=209,SNR=9.1						
D51A	**Lot 18 Range I**	**35.02**	**15**	P	**P**		**07 36 49.8 -1.8**
	baz=200						
BMN	**Battle Mountai**	**35.02**	**325**	*eP*	**P**		**07 36 54.6 +2.7**
	comp=Z,63nm,1.3s						
BMN				LR	LR		
	comp=Z,8μm,19.0s						
BMN	**Battle Mountai**	**35.02**	**325**	*eP*	**P**		**07 36 54.6 +2.7**
BMN				pmax	pmax		
	comp=Z,63nm,1.3s						
BMN				MLR	MLR		
	comp=Z,8μm,19.0s						
WAKR	**Walker**	**35.09**	**320**	*eP*	**P**		**07 36 55.5 +2.9**
	comp=Z,62nm,1.5s						
WAKR				LR	LR		
	comp=Z,7μm,21.0s						
D52A	**ZEK Kipawa Sen**	**35.16**	**16**	P	**P**		**07 36 51.6 -1.2**
	baz=202,SNR=9.6						
YERR	**Yerington**	**35.27**	**321**	*eP*	**P**		**07 36 56.8 +2.7**
	comp=Z,67nm,1.3s						
YERR				LR	LR		
	comp=Z,4μm,18.0s						
LAO	**LASA Array**	**35.32**	**342**	*eP*	**P**		**07 36 55.8 +1.5**
	comp=Z,7.3nm,0.9s						
LAO				LR	LR		
	comp=Z,2μm,22.0s						
LAO	**LASA Array**	**35.32**	**342**	P	**P**		**07 36 53.4 -1.0**
	baz=154						
SAO	**San Andreas Ge**	**35.39**	**316**	PFAKE			07 37 10.0 +15
SAO				LR	LR		
	comp=Z,7μm,18.0s						
CMB	**Columbia Colle**	**35.41**	**319**	*eP*	**P**		**07 36 56.9 +1.7**
	comp=Z,16nm,1.1s						
CMB				LR	LR		
	comp=Z,4μm,19.0s						
CMB	**Columbia Colle**	**35.41**	**319**	*eP*	**P**		**07 36 56.9 +1.7**
CMB				pmax	pmax		
	comp=Z,16nm,1.1s						
CMB				MLR	MLR		
	comp=Z,4μm,19.0s						
PNTR	**Pine Nut**	**35.55**	**321**	*eP*	**P**		**07 36 59.0 +2.4**
	comp=Z,39nm,1.0s						
PNTR				LR	LR		
	comp=Z,5μm,19.0s						
TRQ	**Mont Tremblant**	**35.64**	**20**	*eP*	**P**		**07 36 56.2 -0.8**
VCNR	**Virginia City**	**35.71**	**321**	*eP*	**P**		**07 37 00.7 +2.8**
	comp=Z,25nm,1.1s						
VCNR				LR	LR		
	comp=Z,6μm,20.0s						
D54A	**Lac Fusel, La**	**35.80**	**17**	P	**P**		**07 36 56.9 -1.5**
	baz=205,SNR=11						
PAHR	**Pah Rah Range**	**35.80**	**322**	*eP*	**P**		**07 37 01.5 +2.9**
	comp=Z,67nm,1.5s						
PAHR				LR	LR		
	comp=Z,3μm,18.0s						
HLID	**Hailey**	**35.84**	**331**	*eP*	**P**		**07 37 00.9 +2.0**
	comp=Z,53nm,1.3s						
HLID				LR	LR		
	comp=Z,4μm,18.0s						
HLID	**Hailey**	**35.84**	**331**	P	**P**		**07 37 01.0 +2.0**
	baz=139,SNR=42						
RUBR	**Rubicon Trail**	**35.87**	**320**	*eP*	**P**		**07 37 02.4 +3.1**
	comp=Z,171nm,1.6s						
RUBR				LR	LR		
	comp=Z,8μm,19.0s						
WVL	**Waterville**	**36.17**	**27**	*eP*	**P**		**07 37 00.7 -0.8**
	comp=Z,43nm,1.2s						
WVL				LR	LR		
	comp=Z,13μm,20.0s						
BOZ	**Bozeman (W)**	**36.25**	**336**	*eP*	**P**		**07 37 04.0 +1.6**
	comp=Z,38nm,1.5s						
BOZ				LR	LR		
	comp=Z,4μm,20.0s						
BOZ	**Bozeman (W)**	**36.25**	**336**	*eP*	**P**		**07 37 04.0 +1.6**
BOZ				pmax	pmax		
	comp=Z,38nm,1.5s						
BOZ				MLR	MLR		
	comp=Z,4μm,20.0s						
BOZ	**Bozeman (W)**	**36.25**	**336**	P	**P**		**07 37 03.8 +1.5**
	baz=145,SNR=7.3						
AFDM	**Forest Hills D**	**36.32**	**320**	PFAKE			07 37 20.0 +17
AFDM				LR	LR		
	comp=Z,6μm,18.0s						
DGMT	**Dagmar**	**36.42**	**346**	*eP*	**P**		**07 37 03.0 -0.7**
	comp=Z,22nm,0.9s						
DGMT				LR	LR		
	comp=Z,2μm,22.0s						
DGMT	**Dagmar**	**36.42**	**346**	P	**P**		**07 37 03.0 -0.7**
	baz=159						
DLMT	**Dillon**	**36.45**	**335**	*eP*	**P**		**07 37 06.2 +2.1**
	comp=Z,56nm,1.3s						
DLMT				LR	LR		
	comp=Z,4μm,21.0s						
VLDQ	**Val d'Or**	**36.46**	**16**	*eP*	**P**		**07 37 02.8 -1.1**
	comp=Z,22nm,1.1s						
VLDQ				LR	LR		
	comp=Z,14μm,20.0s						
BEKR	**Beckworth**	**36.49**	**321**	*eP*	**P**		**07 37 07.2 +2.6**
	comp=Z,46nm,1.3s						
BEKR				LR	LR		
	comp=Z,7μm,18.0s						
ULM	**Lac du Bonnet**	**36.83**	**355**	*eP*	**P**		**07 37 05.7 -1.4**
	comp=Z,44nm,1.6s						
ULM				LR	LR		
	comp=Z,3μm,22.0s						
ULM	**Lac du Bonnet**	**36.83**	**355**	*eP*	**P**		**07 37 05.7 -1.4**
ULM				pmax	pmax		
	comp=Z,45nm,1.6s						
ULM				MLR	MLR		
	comp=Z,3μm,22.0s						
ULM	**Lac du Bonnet**	**36.83**	**355**	P	**P**		**07 37 05.5 -1.5**
	comp=Z,8.4nm,0.7s,baz=173,slow=10.0,SNR=16						
ULM				PcP	**PcP**		**07 39 28.9 +0.2**
	comp=Z,6.5nm,0.9s,baz=132,slow=4.9,SNR=4.2						
ULM				LR	LR		07 55 06.3
	comp=Z,1μm,21.8s,baz=174,slow=41						
PKME	**Peaks-Kenny Pk**	**36.88**	**26**	*eP*	**P**		**07 37 07.1 -0.5**
	comp=Z,107nm,1.6s						
PKME				LR	LR		
	comp=Z,11μm,20.0s						
PKME	**Peaks-Kenny Pk**	**36.88**	**26**	P	**P**		**07 37 06.6 -1.0**
	baz=217						
ORV	**Oroville**	**37.01**	**320**	PFAKE			07 37 20.0 +11
ORV				LR	LR		
	comp=Z,5μm,21.0s						
MCCM	**Marconi Confer**	**37.09**	**317**	PFAKE			07 37 20.0 +11
MCCM				LR	LR		
	comp=Z,5μm,20.0s						
**WVO

comp=Z,48nm,1.0s
WVOR LR LR
WVOR Wild Horse Val 37.16 326 *eP* **P 07 37 12.2 +2.0**
WVOR pmax pmax
comp=Z,48nm,1.0s
WVOR MLR MLR
comp=Z,4μm,19.0s
LATQ La Tuque 37.26 21 P **P 07 37 09.1 -1.6**
baz=211,SNR=8.1
EMMW East Machias 37.28 29 PFAKE 07 37 20.0 +9.1
EMMW LR LR
comp=Z,14μm,18.0s
GDXM Geysers 37.40 318 PFAKE 07 37 30.0 +18
GDXM LR LR
comp=Z,7μm,18.0s
LSQQ Lebel-sur-Quev 37.45 16 P **P 07 37 10.4 -1.9**
baz=203
LPAZ La Paz 37.56 141 *eP* **P 07 37 14.5 +0.2**
comp=Z,12nm,1.2s
LPAZ La Paz 37.56 141 P **P 07 37 12.8 -1.5**
comp=Z,2.5nm,0.8s,baz=296,slow=9.7,SNR=11
LPAZ LR LR 07 52 43.2
comp=Z,3μm,18.2s,baz=326,slow=36
LPAZ La Paz 37.56 141 *eP* **P 07 37 15.1 +0.8**
EGMT Eagleton 37.62 340 *eP* **P 07 37 14.7 +0.7**
comp=Z,15nm,0.8s
EGMT LR LR
comp=Z,3μm,22.0s
EGMT Eagleton 37.62 340 P **P 07 37 14.6 +0.7**
baz=150,SNR=14
O03E Paynes Creek 37.63 321 P **P 07 37 15.5 +1.4**
baz=126,SNR=16
HOPS Hopland Field 37.69 318 PFAKE 07 37 30.0 +15
HOPS LR LR
comp=Z,7μm,18.0s
J08A Circle Bar Ran 37.71 327 *eP* **P 07 37 16.9 +2.1**
comp=Z,87nm,0.9s
J08A LR LR
comp=Z,4μm,18.0s
PLID Pearl Lake 37.73 331 *eP* **P 07 37 16.3 +1.1**
comp=Z,101nm,1.3s
PLID LR LR
comp=Z,8μm,21.0s
MOD Modoc Plateau 37.74 324 *eP* **P 07 37 16.8 +1.7**
comp=Z,43nm,1.1s
MOD LR LR
comp=Z,6μm,19.0s
GGN Saint George 37.87 29 PFAKE 07 37 30.0 +14
GGN LR LR
comp=Z,15μm,18.0s
MATQ Matagami 37.93 15 P **P 07 37 14.5 -1.9**
baz=202,SNR=24
O02D Mt. Diablo Mer 38.17 320 P **P 07 37 18.7 0.0**
baz=125
BMO Blue Mountains 38.18 330 *eP* **P 07 37 19.7 +0.9**
comp=Z,46nm,1.3s
BMO LR LR
comp=Z,4μm,20.0s
BMO Blue Mountains 38.18 330 *eP* **P 07 37 19.7 +0.9**
BMO pmax pmax
comp=Z,46nm,1.3s
BMO MLR MLR
comp=Z,4μm,20.0s
MSO Missoula 38.19 335 *eP* **P 07 37 20.1 +1.4**
comp=Z,78nm,1.4s
MSO LR LR
comp=Z,4μm,22.0s
MSO Missoula 38.19 335 P **P 07 37 19.9 +1.1**
baz=143,SNR=25
WDC Whiskeytown Da 38.25 321 *eP* **P 07 37 19.7 +0.4**
comp=Z,15nm,1.4s
WDC LR LR
comp=Z,3μm,20.0s
WDC Whiskeytown Da 38.25 321 *eP* **P 07 37 19.7 +0.4**
WDC pmax pmax
comp=Z,15nm,1.4s
WDC MLR MLR
comp=Z,3μm,20.0s
KCPM Cahto Peak 38.40 319 *eP* **P 07 37 24.2 +3.6**
comp=Z,47nm,1.2s
KCPM LR LR
comp=Z,5μm,18.0s
PQI Presque Isle 38.53 26 PFAKE 07 37 30.0 +8.5
PQI LR LR
comp=Z,12μm,22.0s
M04C Macdoel 38.55 323 P **P 07 37 23.5 +1.5**
baz=128,SNR=30
N02D Trinity Center 38.59 321 P **P 07 37 21.6 -0.5**
baz=126
K05A Summer Lake 38.60 325 *eP* **P 07 37 24.4 +2.0**
comp=Z,54nm,1.4s
K05A LR LR
comp=Z,9μm,19.0s
I07A Izee 38.75 327 *eP* **P 07 37 25.0 +1.5**
comp=Z,44nm,1.2s
I07A LR LR
comp=Z,2μm,19.0s
KMRM Mail Ridge 38.78 319 *eP* **P 07 37 26.9 +3.1**
comp=Z,70nm,1.3s
KMRM LR LR
comp=Z,8μm,18.0s
M02C Callahan 38.92 322 P **P 07 37 25.8 +0.8**
baz=126
CHGQ Chibougamau 38.95 18 P **P 07 37 23.7 -1.3**
baz=207,SNR=7.6
MNMC Minye Minye 38.96 146 *eP* **P 07 37 25.9 +0.2**
comp=Z,43nm,1.2s
MNMC LR LR
comp=Z,4μm,21.0s
F10A Beach Ranch, E 38.97 331 *eP* **P 07 37 26.6 +1.2**
comp=Z,103nm,1.0s
F10A LR LR
comp=Z,4μm,18.0s
K04D Chiloquin, OR 39.03 324 P **P 07 37 27.2 +1.3**
baz=129
YBH Yreka Blue Hor 39.04 322 *eP* **P 07 37 26.5 +0.5**
comp=Z,7.1nm,1.0s
YBH LR LR
comp=Z,7μm,21.0s
YBH Yreka Blue Hor 39.04 322 P **P 07 37 26.2 +0.2**
comp=Z,2.1nm,0.7s,baz=119,slow=4.4,SNR=12
L04D Klamath Falls 39.10 323 P **P 07 37 27.8 +1.3**
baz=128,SNR=31
HAL Halifax 39.13 32 PFAKE 07 37 40.0 +13
HAL LR LR
comp=Z,5μm,19.0s
J05D Fort Rock, OR 39.16 325 P **P 07 37 28.0 +1.0**
baz=130,SNR=25
KHMM Horse Mountain 39.16 320 *eP* **P 07 37 28.8 +1.7**
comp=Z,78nm,1.3s
KHMM LR LR
comp=Z,3μm,18.0s
G08A Pilot Rock 39.31 329 *eP* **P 07 37 29.0 +0.8**
comp=Z,58nm,1.6s
G08A LR LR
comp=Z,4μm,18.0s
JCC Jacoby Creek, 39.32 320 *eP* **P 07 37 30.5 +2.3**
comp=Z,93nm,1.2s
JCC LR LR
comp=Z,5μm,20.0s
PINE Pine Mountain 39.33 326 *eP* **P 07 37 30.0 +1.5**
comp=Z,36nm,0.9s
PINE LR LR
comp=Z,6μm,19.0s
PB11 IPOC Station P 39.44 146 *eP* **P 07 37 29.5 -0.1**
comp=Z,44nm,0.7s
PB11 LR LR
comp=Z,4μm,18.0s
GO01 Chusmiza 39.62 146 *eP* **P 07 37 31.4 0.0**
comp=Z,30nm,1.4s
GO01 LR LR
comp=Z,3μm,18.0s
J04D Umpqua Nationa 39.62 324 P **P 07 37 31.4 +0.4**
baz=129,SNR=48
HUMO Hull Mountain 39.72 323 *eP* **P 07 37 32.5 +0.9**
comp=Z,25nm,1.5s
HUMO LR LR
comp=Z,6μm,20.0s
E09A Wood Farm, Sta 39.80 331 *eP* **P 07 37 33.4 +1.3**
comp=Z,38nm,1.3s
E09A LR LR
comp=Z,4μm,18.0s
L02E Cave Junction 39.83 322 P **P 07 37 33.6 +1.1**
baz=126
BATG Bathurst New B 39.86 27 PFAKE 07 37 40.0 +7.4
BATG LR LR
comp=Z,11μm,20.0s
I05D Terrebonne, OR 39.90 326 P **P 07 37 35.2 +2.1**
baz=131,SNR=12
WALA Waterton Lakes 39.98 337 *eP* **P 07 37 35.1 +1.4**
comp=Z,68nm,1.4s
WALA LR LR
comp=Z,4μm,20.0s
G06A Carlson Farm, 40.13 328 *eP* **P 07 37 36.3 +1.3**
comp=Z,23nm,1.2s
G06A LR LR
comp=Z,5μm,19.0s
I04A Tendick Farm, 40.14 325 P **P 07 37 36.2 +1.1**
baz=129,SNR=35
K02D Willamette Mer 40.19 323 P **P 07 37 36.5 +1.0**
baz=126
E08A Dider Farm, El 40.22 330 PFAKE 07 37 50.0 +14
E08A LR LR
comp=Z,4μm,19.0s
F07A Phinny Hill Vi 40.22 329 PFAKE 07 37 50.0 +14
F07A LR LR
comp=Z,3μm,20.0s
HAWA Hanford 40.38 330 PFAKE 07 37 50.0 +13
HAWA LR LR
comp=Z,2μm,22.0s
G05D Wamic, OR 40.49 327 P **P 07 37 40.5 +2.6**
baz=132,SNR=11
D08A Wollman Farm, 40.56 331 *eP* **P 07 37 39.8 +1.3**
comp=Z,64nm,1.4s
D08A LR LR
comp=Z,4μm,21.0s
H04A Detroit Lake 40.59 326 *eP* **P 07 37 40.2 +1.5**
comp=Z,201nm,1.4s
H04A LR LR
comp=Z,5μm,18.0s
I03D Drain, OR 40.61 324 P **P 07 37 40.6 +1.7**
baz=128,SNR=39
J01E Myrtle Point 40.62 323 P **P 07 37 40.6 +1.7**
baz=127,SNR=31
NEW Newport 40.65 334 *eP* **P 07 37 39.8 +0.6**
comp=Z,24nm,1.2s
NEW LR LR
comp=Z,2μm,20.0s
NEW Newport 40.65 334 *eP* **P 07 37 39.8 +0.6**
NEW pmax pmax
comp=Z,24nm,1.2s
NEW MLR MLR
comp=Z,2μm,20.0s
NEW Newport 40.65 334 P **P 07 37 39.9 +0.6**
baz=140,SNR=12
NEW Newport 40.65 334 P **P 07 37 40.0 +0.8**
comp=Z,9.8nm,0.9s,baz=141,slow=10.0,SNR=9.8
E07A Sunnyside 40.65 330 PFAKE 07 37 50.0 +11
E07A LR LR
comp=Z,3μm,19.0s
KEBM Edson Butte 40.69 322 *eP* **P 07 37 41.0 +1.3**
comp=Z,314nm,1.2s
KEBM LR LR
comp=Z,5μm,18.0s
GBN Guysborough 40.73 33 PFAKE 07 37 50.0 +10
GBN LR LR
comp=Z,5μm,18.0s
H04D Lebanon 40.78 325 P **P 07 37 41.2 +0.9**
baz=129,SNR=21
C09A Chrisman Ranch 40.81 332 *eP* **P 07 37 41.5 +1.0**
comp=Z,93nm,1.4s
F05D White Salmon 40.99 328 P **P 07 37 44.5 +2.5**
baz=132
COR Corvallis 41.14 325 *eP* **P 07 37 45.1 +1.9**
comp=Z,120nm,1.3s
COR LR LR
comp=Z,6μm,20.0s
COR Corvallis 41.14 325 *eP* **P 07 37 45.1 +1.9**
COR pmax pmax
comp=Z,120nm,1.3s
COR MLR MLR
comp=Z,6μm,20.0s
I02D Swisshome 41.15 324 P **P 07 37 45.7 +2.4**
baz=128,SNR=8.0
PB04 IPOC Station P 41.32 149 PFAKE 07 38 00.0 +15
PB04 LR LR
comp=Z,3μm,18.0s
G03D McMinnville, O 41.51 326 P **P 07 37 48.4 +2.1**
baz=129,SNR=17
LTY Liberty 41.54 330 *eP* **P 07 37 48.2 +1.6**
comp=Z,123nm,1.5s
LTY LR LR
comp=Z,3μm,18.0s
B08A Colville Reser 41.70 332 *eP* **P 07 37 48.5 +0.7**
comp=Z,30nm,1.1s
B08A LR LR
comp=Z,3μm,18.0s
F04D Rainier, OR 41.94 327 P **P 07 37 51.6 +1.9**
baz=130,SNR=7.0
FFC Flin Flon 41.95 351 *eP* **P 07 37 49.1 -0.6**
comp=Z,33nm,1.5s
FFC LR LR
comp=Z,3μm,20.0s
FFC Flin Flon 41.95 351 *i P* **P 07 37 50.0 +0.3**
E04D Cinebar 42.01 328 P **P 07 37 52.0 +1.7**
baz=131,SNR=7.7
C06D Leavenworth 42.12 331 P **P 07 37 52.6 +1.4**
baz=134
D05A Enumclaw 42.14 329 *eP* **P 07 37 53.2 +1.7**
comp=Z,129nm,1.3s
D05A LR LR
comp=Z,3μm,18.0s
LVC Limon Verde 42.18 148 PFAKE 07 38 00.0 +7.6
LVC LR LR
comp=Z,2μm,20.0s
LVC Limon Verde 42.18 148 P **P 07 37 52.6 +0.3**
comp=Z,5.0nm,1.0s,baz=311,slow=7.2,SNR=4.8
LVC Limon Verde 42.18 148 *eP* **P 07 37 54.4 +2.1**
D04E Lakebay 42.53 328 P **P 07 37 56.2 +1.7**
baz=132
B06A Marblemount 42.81 331 *eP* **P 07 37 57.9 +1.1**
comp=Z,83nm,1.2s
B06A LR LR
comp=Z,3μm,20.0s
D03D Eldon 42.93 329 P **P 07 37 58.7 +0.9**
baz=131,SNR=6.9
B05A Bryant 42.93 330 P **P 07 37 58.2 +0.4**
baz=133,SNR=7.2
CLDB Colider 42.94 123 *eP* **P 07 37 55.9 -2.4**
NLWA Neilton Lookou 43.23 328 *eP* **P 07 38 02.4 +2.1**
comp=Z,156nm,1.4s
NLWA LR LR
comp=Z,4μm,21.0s
A04D Lummi Island 43.54 330 P **P 07 38 03.9 +1.2**
baz=133,SNR=11
PGC Sidney 43.86 330 *eP* **P 07 38 06.8 +1.6**
RPN Rapa Nui 43.91 203 PFAKE 07 38 20.0 +14
RPN LR LR
comp=Z,5μm,20.0s
GO02 Mina Guanaco 43.98 151 *eP* **P 07 38 07.4 +0.5**
comp=Z,41nm,1.4s
GO02 LR LR
comp=Z,2μm,21.0s
LLLB Lillooet 44.48 333 *eP* **P 07 38 11.9 +1.7**
comp=Z,79nm,1.2s
LLLB LR LR
comp=Z,3μm,18.0s
FCC Fort Churchill 45.23 358 *eP* **P 07 38 15.0 -1.0**
comp=Z,85nm,1.5s
FCC LR LR
comp=Z,10μm,18.0s
FCC Fort Churchill 45.23 358 *eP* **P 07 38 15.0 -1.0**
FCC pmax pmax
comp=Z,85nm,1.5s
FCC MLR MLR
comp=Z,10μm,18.0s
SCHQ Schefferville 45.55 20 *eP* **P 07 38 16.9 -1.8**
SCHQ LR LR
comp=Z,16μm,20.0s
SCHQ Schefferville 45.55 20 P **P 07 38 16.9 -1.8**
comp=Z,33nm,1.0s,baz=208,slow=6.6,SNR=11
SCHQ PcP **PcP 07 39 56.8 -0.3**
comp=Z,8.8nm,0.9s,baz=202,slow=5.4,SNR=2.8
LCO Las Campanas 46.80 155 *eP* **P 07 38 29.9 +0.7**
BBB Bella Bella 48.42 331 PFAKE 07 38 50.0 +8.9
BBB LR LR
comp=Z,4μm,18.0s
AQDB Aquidauana 48.80 133 *eP* **P 07 38 42.9 -1.5**
C2SB Chapadao do Su 49.82 129 *eP* **P 07 38 52.4 0.0**
PEL Peldehue 50.47 157 PFAKE 07 39 10.0 +13
PEL LR LR
comp=Z,4μm,18.0s
DIB Dawson Inlet, 51.16 330 *eP* **P 07 39 04.6 +2.7**
comp=Z,92nm,1.4s
DIB LR LR
comp=Z,3μm,19.0s
YKA Yellowknife Ar 51.62 347 P **P 07 39 05.2 -0.1**
YKA 07 40 19.6
YKA pmax pmax
comp=Z,22nm,1.0s
YKA Yellowknife Ar 51.62 347 P **P 07 39 05.2 -0.1**
comp=Z,22nm,1.0s,baz=149,slow=7.9,SNR=169
YKA PcP **PcP 07 40 19.6 +0.8**
comp=Z,5.4nm,0.8s,baz=146,slow=3.7,SNR=8.0
YKB5 Yellowknife Ar 51.62 347 *eP* **P 07 39 05.2 -0.1**
GO05 Huala 51.70 159 *eP* **P 07 39 06.7 +0.5**
comp=Z,76nm,1.5s
GO05 LR LR
comp=Z,3μm,19.0s
CPUP Villa Florida 51.71 140 P **P 07 39 04.6 -1.8**
comp=Z,3.7nm,1.0s,baz=328,slow=8.4,SNR=6.1
CPUP PcP **PcP 07 40 20.2 +0.5**
comp=Z,2.3nm,0.8s,baz=311,slow=5.3,SNR=3.1
CPUP LR LR 08 01 56.4
comp=Z,2μm,18.3s,baz=332,slow=37
CPUP Villa Florida 51.71 140 *eP* **P 07 39 06.3 -0.1**
BDFB Brasilia 51.87 122 *eP* **P 07 39 06.0 -1.9**
BDFB *eP* **P 07 39 08.1 +0.2**
BDFB LR LR
comp=Z,3μm,20.0s
BDFB Brasilia 51.87 122 P **P 07 39 06.0 -1.9**
comp=Z,2.8nm,0.8s,baz=310,slow=13,SNR=5.2
BDFB LR LR 08 01 10.8
comp=Z,2μm,19.3s,baz=300,slow=36
ITRB Iturama 52.26 128 *eP* **P 07 39 11.9 +1.2**
TRCB Terra Rica 52.46 133 *eP* **P 07 39 10.4 -1.7**
FRB Frobisher Bay 52.71 13 P **P 07 39 11.3 -2.0**
comp=Z,19nm,0.8s,baz=212,slow=8.0,SNR=49
WRAK Wrangell Islan 53.00 333 PFAKE 07 39 30.0 +14
WRAK LR LR
comp=Z,3μm,22.0s
DLBC Dease Lake 53.30 336 *eP* **P 07 39 20.6 +2.7**
comp=Z,58nm,0.9s
DLBC Dease Lake 53.30 336 P **P 07 39 20.2 +2.3**
comp=Z,53nm,1.0s,baz=136,slow=5.2,SNR=58
PTGB Pitanga 54.09 134 *eP* **P 07 39 25.1 +0.9**
BB19B Bebedouro 54.45 128 *eP* **P 07 39 26.7 -0.1**
JANB Januaria 54.67 120 *eP* **P 07 39 28.8 +0.3**
PMNB Patos De Minas 54.68 125 *eP* **P 07 39 29.0 +0.5**
JIS Juneau Island 54.99 334 PFAKE 07 39 40.0 +10
JIS LR LR
comp=Z,4μm,18.0s
FRTB Fartura 55.02 131 *eP* **P 07 39 31.1 +0.3**
BESE Bessie Mountai 55.38 334 *eP* **P 07 39 35.6 +2.7**
comp=Z,46nm,1.4s
ITAB Concordia 55.69 137 *eP* **P 07 39 35.2 -0.4**
MCI8 Montes Claros 55.77 121 *eP* **P 07 39 36.4 -0.1**
MCI9 Montes Claros 55.82 121 *eP* **P 07 39 37.0 +0.2**
RKT Rikitea 55.95 230 *eS* **S 07 47 24.3 -0.2**
comp=Z,1μm,32.5s
RKT *e*LR LR 07 55 59.2
comp=Z,4μm,27.5s
RKT Rikitea 55.95 230 *eT* T 08 39 43.3
comp=Z,3.0nm,0.3s
RCLB Rio Claro- Sao 55.98 129 *eP* **P 07 39 38.2 +0.3**
GO06 Curarrehue 56.01 161 PFAKE 07 39 50.0 +12
GO06 LR LR
comp=Z,4μm,19.0s
WHY Whitehorse 56.62 336 *eP* **P 07 39 43.4 +1.4**
comp=Z,16nm,1.0s
WHY LR LR
comp=Z,2μm,18.0s
TIJ01 Guaruva-PR 56.63 133 *eP* **P 07 39 42.3 -0.1**
SPB Sao Paulo 56.73 130 PFAKE 07 39 50.0 +6.9
SPB LR LR
comp=Z,2μm,19.0s
IVI Ivigtut 56.97 23 PFAKE 07 40 00.0 +16
IVI LR LR
comp=Z,8μm,20.0s
PET01 Itanhaem-SP 57.26 131 *eP* **P 07 39 46.8 -0.1**
BSCB Bom Sucesso 57.31 126 *eP* **P 07 39 48.0 +0.6**
PLCA Paso Flores 57.35 161 *eP* **P 07 39 47.1 -0.2**
comp=Z,47nm,1.4s
PLCA Paso Flores 57.35 161 P **P 07 39 46.5 -0.8**
comp=Z,11nm,1.3s,baz=349,slow=7.7,SNR=5.1
PLCA LR LR 07 59 29.8
comp=Z,3μm,18.7s,baz=20,slow=31
PLCA Paso Flores 57.35 161 *eP* **P 07 39 47.9 +0.6**
HYT Haines Junctio 57.77 335 *eP* **P 07 39 52.5 +2.5**
comp=Z,32nm,1.2s
CNLB Canela 57.91 138 *eP* **P 07 39 51.6 +0.2**
NRS Narsarsuaq 58.02 24 PFAKE 07 40 00.0 +8.4
NRS LR LR
comp=Z,8μm,19.0s
BCPM Bancas Point 58.18 334 PFAKE 07 40 10.0 +17
BCPM LR LR
comp=Z,3μm,19.0s
TRQA Tornquist 58.29 153 *eP* **P 07 39 54.5 +0.7**
comp=Z,37nm,1.5s
TRQA Tornquist 58.29 153 *eP* **P 07 39 54.6 +0.7**
TRQA pmax pmax
comp=Z,37nm,1.5s
RCBR Riachuelo 58.48 106 PFAKE 07 40 10.0 +14
RCBR LR LR
comp=Z,2μm,22.0s
RCBR Riachuelo 58.48 106 *eP* **P 07 39 55.2 -0.5**
SJMB Sao Joao De Ma 59.04 122 *eP* **P 07 39 59.5 0.0**
VAS01 Vassouras-RJ 59.05 126 *eP* **P 07 39 59.3 -0.1**
BSFB Barra de Sao F 59.39 122 *eP* **P 07 40 01.9 0.0**
CTGM Chitina Glacie 59.42 334 *eP* **P 07 40 04.1 +2.5**
comp=Z,70nm,1.4s
CTGM LR LR
comp=Z,3μm,18.0s
SFJD Kangerlussuaq 59.87 17 PFAKE 07 40 20.0 +16
SFJD LR LR
comp=Z,11μm,20.0s
SFJD Kangerlussuaq 59.87 17 *eP* **P 07 40 07.0 +2.6**
SFJD Kangerlussuaq 59.87 17 *i P* **P 07 40 07.0 +2.6**
BALM Baldy 59.89 334 *eP* **P 07 40 07.3 +2.5**
comp=Z,48nm,1.3s
BALM LR LR
comp=Z,3μm,20.0s
BALM Baldy 59.89 334 *eP* **P 07 40 07.3 +2.5**
BALM pmax pmax
comp=Z,48nm,1.3s
BALM MLR MLR
comp=Z,3μm,20.0s
TGL Tana Glacier 59.96 334 *eP* **P 07 40 06.8 +1.5**
comp=Z,50nm,1.2s
TGL LR LR
comp=Z,3μm,20.0s
RIB01 Linhares ES 59.99 122 *eP* **P 07 40 05.5 -0.5**
DAWY Dawson 60.32 338 *eP* **P 07 40 07.8 +0.2**
comp=Z,15nm,1.2s
DAWY LR LR
comp=Z,4μm,18.0s
ALF01 Guarapari-ES 60.36 123 *eP* **P 07 40 07.8 -0.7**
HMT Hamilton 60.39 333 PFAKE 07 40 20.0 +12
HMT LR LR
comp=Z,3μm,22.0s
BCAR Beaver Creek A 60.68 336 *eP* **P 07 40 11.3 +1.1**
EPYK Eagle Plains 60.76 341 *eP* **P 07 40 11.2 +0.7**
comp=Z,19nm,1.3s
EPYK LR LR
comp=Z,2μm,19.0s
EPYK Eagle Plains 60.76 341 P **P 07 40 11.4 +0.9**
baz=128,SNR=8.2
JCUZ Jacuzzi 60.96 285 PFAKE 07 40 30.0 +17
JCUZ LR LR
comp=Z,2μm,19.0s
NPOC North of Pu'u 60.97 285 PFAKE 07 40 30.0 +17
NPOC LR LR
comp=Z,2μm,20.0s
STCH Steam Cracks 60.98 285 PFAKE 07 40 30.0 +17
STCH LR LR
comp=Z,2μm,20.0s
INK Inuvik 61.05 343 *eP* **P 07 40 12.9 +0.5**
comp=Z,46nm,1.4s
INK LR LR
comp=Z,4μm,22.0s
INK Inuvik 61.05 343 P **P 07 40 12.8 +0.4**
comp=Z,14nm,0.8s,baz=119,slow=7.9,SNR=65
BYL Byron's Ledge 61.11 285 PFAKE 07 40 30.0 +16
BYL LR LR
comp=Z,2μm,20.0s
UWB Uwekahuna B 61.13 285 PFAKE 07 40 30.0 +16
UWB LR LR
comp=Z,3μm,19.0s
RES Resolute Bay 61.22 359 *eP* **P 07 40 12.1 -1.4**
comp=Z,7.1nm,0.9s

RES LR LR
comp=Z,7μm,20.0s
RES Resolute Bay 61.22 359 *e*P **P 07 40 12.1 -1.4**
RES pmax pmax
comp=Z,7.0nm,0.9s
RES MLR MLR
comp=Z,7μm,20.0s
RES Resolute Bay 61.22 359 P **P 07 40 12.0 -1.4**
comp=Z,5.6nm,0.8s,baz=188,slow=11,SNR=25
ILULI Ilulissat 61.26 15 PFAKE 07 40 30.0 +16
ILULI LR LR
comp=Z,10μm,20.0s
ILULI Ilulissat 61.26 15 *e*P **P 07 40 15.5 +1.7**
ILULI MLR MLR
comp=Z,10μm,21.0s
ILULI Ilulissat 61.26 15 *i*P **P 07 40 15.5 +1.7**
EGAK Eagle 61.35 338 *e*P **P 07 40 15.0 +0.4**
comp=Z,22nm,1.0s
EGAK LR LR
comp=Z,2μm,20.0s
DIV Divide 61.41 333 *e*P **P 07 40 16.8 +1.7**
comp=Z,63nm,1.2s
KLU Klutina 61.63 334 *e*P **P 07 40 18.2 +1.6**
comp=Z,87nm,1.3s
KLU LR LR
comp=Z,2μm,21.0s
HARP HAARP 61.72 335 PFAKE 07 40 30.0 +13
HARP LR LR
comp=Z,2μm,20.0s
DOT Dot Lake 61.87 336 *e*P **P 07 40 19.6 +1.5**
comp=Z,94nm,1.6s
SCRK Sand Creek 61.99 337 *e*P **P 07 40 20.4 +1.4**
comp=Z,59nm,1.5s
SCRK LR LR
comp=Z,4μm,20.0s
PAX Paxson 62.11 335 *e*P **P 07 40 20.8 +1.0**
comp=Z,47nm,1.3s
PAX Paxson 62.11 335 *e*P **P 07 40 20.8 +1.0**
PAX pmax pmax
comp=Z,47nm,1.3s
RIDG Independent Ri 62.21 336 *e*P **P 07 40 21.9 +1.4**
comp=Z,65nm,1.2s
RIDG LR LR
comp=Z,4μm,19.0s
SCM Sheep Creek Mo 62.38 334 *e*P **P 07 40 23.3 +1.7**
comp=Z,68nm,1.2s
SCM LR LR
comp=Z,2μm,21.0s
SCM Sheep Creek Mo 62.38 334 *e*P **P 07 40 23.3 +1.7**
SCM pmax pmax
comp=Z,68nm,1.2s
SCM MLR MLR
comp=Z,2μm,21.0s
SEW Seward 62.65 331 *e*P **P 07 40 24.7 +1.4**
comp=Z,81nm,1.6s
KNK Knik Glacier 62.70 333 *e*P **P 07 40 25.5 +1.8**
comp=Z,91nm,1.4s
KNK LR LR
comp=Z,2μm,18.0s
SML Sawmill 62.81 333 *e*P **P 07 40 25.2 +0.8**
comp=Z,102nm,1.2s
SML Sawmill 62.81 333 *e*P **P 07 40 25.2 +0.8**
SML pmax pmax
comp=Z,102nm,1.2s
DHY Denali Highway 62.93 335 *e*P **P 07 40 25.5 +0.1**
comp=Z,21nm,1.2s
DHY LR LR
comp=Z,2μm,19.0s
GHO Glory Hole Cre 63.05 333 PFAKE 07 40 40.0 +14
GHO LR LR
comp=Z,2μm,21.0s
PMR Palmer 63.07 333 *e*P **P 07 40 27.1 +1.1**
PMR Palmer 63.07 333 *e*P **P 07 40 27.2 +1.1**
RC01 Rabbit Creek A 63.15 332 *e*P **P 07 40 27.5 +0.9**
comp=Z,52nm,1.0s
RC01 LR LR
comp=Z,2μm,19.0s
BRLK Bradley Lake 63.20 331 *e*P **P 07 40 28.5 +1.4**
comp=Z,129nm,1.6s
BRLK LR LR
comp=Z,2μm,19.0s
PRP Porcupine Dome 63.32 338 *e*P **P 07 40 28.8 +0.9**
comp=Z,32nm,1.0s
PRP LR LR
comp=Z,4μm,18.0s
ANGG Ammassalik, Gr 63.34 22 PFAKE 07 40 40.0 +12
ANGG LR LR
comp=Z,5μm,20.0s
HDA Harding Lake 63.34 336 *e*P **P 07 40 28.6 +0.7**
comp=Z,89nm,1.4s
HDA LR LR
comp=Z,3μm,20.0s
HDA Harding Lake 63.34 336 P **P 07 40 28.8 +0.9**
baz=116
KDAK Kodiak Island 63.38 328 PFAKE 07 40 40.0 +12
KDAK LR LR
comp=Z,2μm,22.0s
ILAR Eielson Array 63.48 337 *e*P **P 07 40 29.4 +0.5**
ILAR Eielson Array 63.48 337 P **P 07 40 29.6 +0.8**
comp=Z,36nm,1.0s,baz=131,slow=4.0,SNR=134
ILAR LR LR 08 13 45.4
comp=Z,2μm,19.3s,baz=136,slow=41
ILB Eielson Array 63.48 337 *e*P **P 07 40 29.6 +0.8**
comp=Z,55nm,1.0s
HOM Homer 63.52 331 PFAKE 07 40 40.0 +11
HOM LR LR
comp=Z,2μm,21.0s
RND Reindeer 63.68 335 *e*P **P 07 40 31.4 +1.2**
comp=Z,126nm,1.2s
RND LR LR
comp=Z,3μm,22.0s
RND Reindeer 63.68 335 *e*P **P 07 40 31.4 +1.2**
RND pmax pmax
comp=Z,126nm,1.2s
RND MLR MLR
comp=Z,3μm,22.0s
FYU Fort Yukon 63.72 339 PFAKE 07 40 40.0 +10
FYU LR LR
comp=Z,2μm,20.0s
CCB Clear Creek Bu 63.78 336 *e*P **P 07 40 31.0 +0.3**
comp=Z,35nm,1.3s
CCB LR LR
comp=Z,3μm,18.0s
WRH Wood River Hil 63.82 336 *e*P **P 07 40 31.4 +0.4**
comp=Z,17nm,1.0s
WRH LR LR
comp=Z,2μm,22.0s
MCK McKinley 63.84 335 *e*P **P 07 40 32.3 +1.0**
comp=Z,61nm,1.2s
MCK LR LR
comp=Z,3μm,19.0s
POKR Poker Plat Res 63.85 337 P **P 07 40 32.1 +0.8**
baz=116,SNR=10.0
SII Sitkinak Islan 63.86 327 PFAKE 07 40 40.0 +8.5
SII LR LR
comp=Z,2μm,21.0s
COLA College 63.90 337 *e*P **P 07 40 32.2 +0.7**
comp=Z,31nm,0.9s
COLA LR LR
comp=Z,3μm,18.0s
COLA College 63.90 337*c i*P **P 07 40 31.7 +0.2**
COLA pmax pmax
comp=Z,29nm,1.0s
TCOL CIGO, UAF Yank 63.90 337 P **P 07 40 31.7 +0.2**
baz=115,SNR=12
BMAR Burnt Mountain 63.92 340 *e*P **P 07 40 33.0 +1.3**
KULLO Kullorsuaq 64.01 10 *e*P **P 07 40 30.9 -1.2**
KULLO MLR MLR
comp=Z,3μm,15.0s
KULLO Kullorsuaq 64.01 10 *i*P **P 07 40 30.9 -1.2**
MDM Murphy Dome 64.08 337 *e*P **P 07 40 33.3 +0.5**
comp=Z,31nm,1.1s
MDM LR LR
comp=Z,3μm,19.0s
TULEG Thule 64.18 6 *e*P **P 07 40 32.1 -1.1**
comp=Z,13nm,1.0s
TULEG LR LR
comp=Z,7μm,19.0s
BWN Browne 64.24 336 *e*P **P 07 40 34.6 +0.8**
comp=Z,323nm,1.1s
BWN LR LR
comp=Z,3μm,19.0s
RSO Redoubt South 64.31 331 *e*P **P 07 40 36.0 +1.4**
BPAW Bear Paw Mtn. 64.83 335 *e*P **P 07 40 38.2 +0.6**
comp=Z,56nm,1.2s
BPAW LR LR
comp=Z,3μm,19.0s

PPLA Purkeypile 64.89 334 *e*P **P 07 40 38.4 +0.2**
comp=Z,137nm,1.6s
CAST Castle Rocks 65.03 334 *e*P **P 07 40 39.1 +0.2**
comp=Z,60nm,1.2s
CAST LR LR
comp=Z,2μm,18.0s
PPT Papeete 65.05 243 LR LR 08 01 19.8
comp=Z,2μm,18.8s,baz=66,slow=29
PPT2 Papeete2 65.06 243 *e*S **S 07 49 21.1 -0.5**
comp=Z,3μm,31.5s
PPT2 *e*LQ LQ 07 57 30.2
comp=Z,2μm,26.2s
PPT2 *e*LR LR 07 59 58.7
comp=Z,5μm,25.0s,baz=56
MLY Manley 65.08 336 *e*P **P 07 40 40.3 +0.9**
comp=Z,53nm,0.8s
MLY LR LR
comp=Z,3μm,19.0s
COLD Coldfoot 65.77 339 *e*P **P 07 40 45.6 +1.9**
comp=Z,24nm,1.0s
XMAS Kiritimati 66.10 266 PFAKE 07 41 00.0 +13
XMAS LR LR
comp=Z,3μm,19.0s
TOLK Toolik Lake Re 66.15 340 *e*P **P 07 40 47.5 +1.3**
comp=Z,33nm,1.3s
TOLK LR LR
comp=Z,3μm,20.0s
TOLK Toolik Lake Re 66.15 340 P **P 07 40 46.9 +0.7**
baz=115,SNR=21
IMAR Indian Mountai 66.60 337 *e*P **P 07 40 48.9 -0.2**
SUMG Summit 66.61 15 *e*P **P 07 40 48.6 -0.8**
comp=Z,26nm,1.2s
SUMG LR LR
comp=Z,8μm,21.0s
SUMG Summit 66.61 15 *i*P **P 07 40 48.2 -1.3**
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG MLR MLR
comp=Z,20μm,20.0s
SUMG Summit 66.61 15 *i*P **P 07 40 48.2 -1.3**
comp=Z,26nm,0.9s
TBI Tubuai 67.45 237 *e*S **S 07 49 51.0 +0.8**
comp=Z,1μm,27.5s
TBI Tubuai 67.45 237 *e*LR LR 08 01 04.2
comp=Z,4μm,28.2s,baz=61
PMOZ Porto Moniz, M 69.76 60 *e*P P 07 41 14.4 +4.8
PMOZ Porto Moniz, M 69.76 60 *e*LR LR 08 02 16.0
comp=Z,2μm,20.0s
PMPST Porto Santo, M 70.47 59 *e*P **P 07 41 15.8 +2.0**
PMPST *e*S S 07 50 38.2 +12
PMPST Porto Santo, M 70.47 59 *e*LR LR 08 02 36.7
comp=Z,2μm,22.0s
SCO Scoresbysund 70.59 20 PFAKE 07 41 30.0 +16
SCO LR LR
comp=Z,11μm,22.0s
SCO Scoresbysund 70.59 20 *e*P **P 07 41 13.5 -0.4**
SCO MLR MLR
comp=Z,10μm,22.0s
SCO Scoresbysund 70.59 20 *i*P **P 07 41 13.5 -0.4**
RDOG Red Dog Mine 70.64 338 *e*P **P 07 41 14.4 +0.3**
comp=Z,29nm,1.2s
RDOG LR LR
comp=Z,2μm,20.0s
ANM Nome 70.97 334 PFAKE 07 41 30.0 +14
ANM LR LR
comp=Z,2μm,19.0s
EFI East Falkland 71.10 159 PFAKE 07 41 30.0 +13
EFI LR LR
comp=Z,2μm,20.0s
DAG Danmarks Havn 73.06 13 *i*P **P 07 41 27.3 -1.3**
DAG MLR MLR
comp=Z,6μm,14.0s
DAG Danmarks Havn 73.06 13 *i*P **P 07 41 27.3 -1.3**
PMAFR Mafra 75.69 53 *e*P **P 07 41 44.8 +0.2**
PMAFR *e*S **S 07 51 26.8 +1.7**
PMAFR Mafra 75.69 53 *e*LR LR 08 05 43.0
comp=Z,1μm,20.0s
LIS Lisbon 75.81 53 *e*P **P 07 41 45.5 +0.1**
LIS AMS AMS 08 11 01.3
comp=Z,2μm,16.4s
LIS Lisbon 75.81 53 *e*P **P 07 41 45.4 +0.1**
PGAV Gavieira, Arco 76.15 50 *e*P **P 07 41 46.1 -1.2**
PGAV *e*S **S 07 51 31.3 +1.0**
PGAV Gavieira, Arco 76.15 50 *e*LR LR 08 05 40.5
comp=Z,2μm,18.0s
PCAS Casmilo, Conde 76.17 52 *e*P **P 07 41 47.3 -0.1**
PCAS *e*S **S 07 51 34.8 +4.4**
PCAS Casmilo, Conde 76.17 52 *e*LR LR 08 05 48.2
comp=Z,3μm,18.0s
COI Coimbra 76.22 52 *e*P **P 07 41 48.0 +0.4**
COI *e*S **S 07 51 37.2 +6.3**
COI Coimbra 76.22 52 *e*LR LR 08 05 53.4
comp=Z,3μm,18.0s
COI Coimbra 76.22 52 PFAKE 07 42 00.0 +12
COI LR LR
comp=Z,3μm,20.0s
PFVI Vila Bisbo 76.24 55 *e*P **P 07 41 47.0 -0.8**
PFVI Vila Bisbo 76.24 55 *e*LR LR 08 05 53.4
comp=Z,2μm,20.0s
PFVI Vila Bisbo 76.24 55 PFAKE 07 42 00.0 +12
PFVI LR LR
comp=Z,3μm,19.0s
MORF Marmelete 76.36 55 *e*P **P 07 41 48.5 0.0**
MORF *e*S **S 07 51 30.9 -1.7**
MORF AMS AMS 08 14 25.9
comp=Z,2μm,17.6s
MORF Marmelete 76.36 55 *e*P **P 07 41 49.5 +0.9**
MORF *e*S **S 07 51 39.6 +7.0**
MORF Marmelete 76.36 55 *e*LR LR 08 06 06.5
comp=Z,2μm,18.0s
MORF Marmelete 76.36 55 *e*P **P 07 41 48.5 0.0**
MORF *e*S **S 07 51 30.9 -1.7**
PNCL Nicolau / Gran 76.36 54 *e*S **S 07 51 35.6 +3.1**
PNCL Nicolau / Gran 76.36 54 *e*LR LR 08 05 13.9
comp=Z,1μm,20.0s
DSB Dublin 76.44 38 PFAKE 07 42 00.0 +11
DSB LR LR
comp=Z,3μm,18.0s
PMTG Montargil 76.49 53 *e*P **P 07 41 49.0 -0.2**
PMTG *e*S **S 07 51 37.9 +4.0**
PMTG Montargil 76.49 53 *e*LR LR 08 05 51.7
comp=Z,1μm,18.0s
ADK Adak 76.53 321 PFAKE 07 42 00.0 +11
ADK LR LR
comp=Z,1μm,20.0s
POLO Lamas de Olo 76.57 50 *e*LR LR 08 05 22.8
comp=Z,694nm,18.0s
MESJ Messejana 76.64 54 *e*P **P 07 41 50.2 +0.1**
MESJ AMS AMS 08 09 47.6
comp=Z,1μm,17.1s
MESJ Messejana 76.64 54 *e*P **P 07 41 50.1 +0.1**
PCVE Castro Verde 76.81 54 *e*P **P 07 41 51.5 +0.5**
PCVE *e*S **S 07 51 43.7 +6.3**
PCVE Castro Verde 76.81 54 *e*LR LR 08 05 42.1
comp=Z,2μm,20.0s
MTE Manteigas 76.86 51 *e*P **P 07 41 51.0 -0.4**
MTE *e*S **S 07 51 41.2 +3.1**
MTE Manteigas 76.86 51 *e*LR LR 08 06 10.3
comp=Z,3μm,18.0s
MTE Manteigas 76.86 51 PFAKE 07 42 00.0 +8.6
MTE LR LR
comp=Z,3μm,19.0s
PBDV Barranco-do-Ve 76.94 55 *e*P **P 07 41 52.4 +0.6**
PBDV *e*S **S 07 51 46.1 +7.2**
PBDV Barranco-do-Ve 76.94 55 *e*LR LR 08 05 41.9
comp=Z,2μm,18.0s
PVAQ Vaqueiros 77.09 54 *e*S **S 07 51 48.5 +8.0**
PMRV Marv??o 77.09 52 *e*P **P 07 41 53.0 +0.4**
PMRV *e*S **S 07 51 46.4 +5.9**
PMRV Marv??o 77.09 52 *e*LR LR 08 06 03.7
comp=Z,2μm,18.0s
MVO Moncorvo 77.16 50 *e*P **P 07 41 52.1 -0.9**
MVO *e*S **S 07 51 47.5 +6.2**
MVO Moncorvo 77.16 50 *e*LR LR 08 06 14.1
comp=Z,1μm,20.0s
PBRG Braganca 77.30 50 *e*P **P 07 41 51.2 -2.6**
PBRG Braganca 77.30 50 *e*LR LR 08 05 58.6
comp=Z,2μm,18.0s
AVE Averroes 77.88 58⇑ *i*P **P 07 41 56.3 -0.8**
AVE *i*S **S 07 51 53.7 +4.5**
ESK Eskdalemuir 78.10 36 PFAKE 07 42 10.0 +12
ESK LR LR
comp=Z,3μm,21.0s
ESK Eskdalemuir 78.10 36 *i*P **P 07 41 56.8 -1.0**
RTC Rabat Centre 78.24 58 PFAKE 07 42 10.0 +11

RTC LR LR
comp=Z,8μm,20.0s
SFS San Fernando 78.41 55 PFAKE 07 42 10.0 +10
SFS LR LR
comp=Z,1μm,20.0s
SFS San Fernando 78.41 55 *i*P **P 07 42 00.7 +0.7**
SFS *e*S **S 07 51 53.0 -1.8**
CEU Ceuta 79.16 56⇑ *i*P **P 07 42 02.0 -2.1**
CEU *e*S **S 07 52 06.0 +3.2**
PAB San Pablo 79.41 52 PFAKE 07 42 20.0 +14
PAB LR LR
comp=Z,3μm,20.0s
KBS Kingsbay 79.42 11 PFAKE 07 42 20.0 +15
KBS LR LR
comp=Z,6μm,18.0s
ASCN Ascension 79.52 101 PFAKE 07 42 20.0 +14
ASCN LR LR
comp=Z,64μm,20.0s
ESDC Sonseca Array 79.69 52 *e*P **P 07 42 05.0 -1.9**
ESDC *e*P pP 07 42 05.1 -9.2
ESDC Sonseca Array 79.69 52 P **P 07 42 05.1 -1.9**
comp=Z,2.4nm,1.0s,baz=295,slow=5.6,SNR=8.5
ESDC LR LR 08 15 16.4
comp=Z,1μm,18.5s,baz=295,slow=34
ESLA Sonseca Array 79.69 52 PFAKE 07 42 20.0 +13
ESLA LR LR
comp=Z,2μm,19.0s
IFR Ifrane 79.74 58⇑ *i*P **P 07 42 06.6 -1.0**
IFR *i*S **S 07 52 14.3 +4.9**
EMAL Malaga-Limoner 79.78 55⇑ *i*P **P 07 42 08.2 +0.8**
EMAL *e*S **S 07 52 11.7 +2.3**
UCM Universidad Co 80.13 51⇑ *i*P **P 07 42 08.0 -1.4**
UCM *i*S **S 07 52 17.7 +4.7**
SPA0 Spitsbergen Ar 80.50 11 *e*P **P 07 42 09.9 -0.7**
comp=Z,44nm,1.4s
SPITS Spitsbergen Ar 80.50 11 P **P 07 42 09.9 -0.7**
comp=Z,2.0nm,0.8s,baz=350,slow=0.9,SNR=6.5
MELI Melilla 81.22 56⇑ *i*P **P 07 42 14.0 -1.3**
MELI *e*S **SKSac 07 52 37.4 +4.0**
BILL Bilibino 82.10 338 *e*P **P 07 42 20.2 +1.0**
comp=Z,162nm,1.6s
BILL Bilibino 82.10 338*c i*P **P 07 42 20.4 +1.2**
BILL *i* 07 42 27.8
BILL *e* 07 45 29.7
BILL pmax pmax
comp=Z,67nm,1.3s
BILL MLR MLR
comp=Z,2μm,16.0s
CART Cartagena 82.33 53 PFAKE 07 42 30.0 +9.0
CART LR LR
comp=Z,2μm,18.0s
CART Cartagena 82.33 53⇑ *i*P **P 07 42 19.6 -1.5**
CART *i*S **SKSac 07 52 40.9 +0.1**
CLF Chambon-Foret 82.62 42 PFAKE 07 42 30.0 +7.7
CLF LR LR
comp=Z,2μm,18.0s
UCC Uccle 83.36 39 PFAKE 07 42 40.0 +14
UCC LR LR
comp=Z,2μm,20.0s
KONO Kongsberg 84.02 30 PFAKE 07 42 40.0 +11
KONO LR LR
comp=Z,2μm,20.0s
NB2 NORSAR Subarra 84.38 28 P **P 07 42 30.4 -0.8**
comp=Z,46nm,1.7s,baz=285,slow=5.1
NB2 NORSAR Subarra 84.38 28 P **P 07 42 30.4 -0.8**
baz=285,slow=5.1
NB200 NORSAR Array S 84.38 28 *e*P **P 07 42 29.1 -2.1**
NOA NORSAR Array B 84.38 28 P **P 07 42 29.1 -2.1**
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 84.38 28 P **P 07 42 29.1 -2.1**
comp=Z,3.6nm,1.1s,baz=289,slow=5.2,SNR=4.9
NOA LR LR 08 17 55.6
comp=Z,1μm,21.9s,baz=285,slow=34
MUD Monsted U'grnd 84.70 33 *e*P **P 07 42 33.7 +0.9**
MUD MLR MLR
comp=Z,2μm,21.0s
MUD Monsted U'grnd 84.70 33 *i*P **P 07 42 33.7 +0.9**
WLF Walferdange 84.75 40 PFAKE 07 42 40.0 +6.8
WLF LR LR
comp=Z,12μm,19.0s
SSB Saint Sauveur 84.76 45 PFAKE 07 42 40.0 +6.5
SSB LR LR
comp=Z,1μm,20.0s
TIC Toumodi 85.11 84 *e*P **P 07 42 35.8 0.0**
LIC Lamto 85.20 85 *e*P **P 07 42 37.1 +0.9**
comp=Z,82nm,1.3s
DBIC Dimbokro 85.26 84 *e*P **P 07 42 34.7 -1.8**
comp=Z,35nm,1.5s
DBIC Dimbokro 85.26 84 P **P 07 42 34.7 -1.8**
comp=Z,7.9nm,0.9s,baz=292,slow=4.3,SNR=4.3
DBIC LR LR 08 18 07.8
comp=Z,2μm,20.3s,baz=260,slow=34
KIC Kosan Boka 85.44 85 *e*P **P 07 42 35.0 -2.4**
comp=Z,155nm,1.8s
ECH Echery 85.77 42 PFAKE 07 42 50.0 +12
ECH LR LR
comp=Z,2μm,18.0s
MAHO Mahon 85.85 50 *i*P **P 07 42 39.4 +0.5**
MAHO *i*S **S 07 53 08.8 -2.3**
BNI Bardonecchia 86.28 45 PFAKE 07 42 50.0 +8.8
BNI LR LR
comp=Z,2μm,21.0s
SENIN Lac Senin/Sane 86.35 43 PFAKE 07 42 50.0 +8.4
SENIN LR LR
comp=Z,2μm,20.0s
ARCES ARCESS Array B 86.48 18 P **P 07 42 40.5 -1.0**
comp=Z,2.5nm,0.8s,baz=283,slow=5.7,SNR=6.2
ARCES PP **PP 07 46 02.7 +0.1**
comp=Z,2.5nm,0.9s,baz=289,slow=8.5,SNR=4.2
ARCES LR LR 08 21 58.5
comp=Z,3μm,19.4s,baz=312,slow=36
ARE0 ARCESS Array S 86.48 18 PFAKE 07 42 50.0 +8.5
ARE0 LR LR
comp=Z,300nm,22.0s
ARA0 ARCESS Array S 86.48 18 *e*P **P 07 42 40.5 -1.0**
ARA0 *e*PP **PP 07 46 02.7 +0.1**
BFO Black Forest 86.49 41 PFAKE 07 42 50.0 +8.1
BFO LR LR
comp=Z,2μm,18.0s
COP Copenhagen 86.68 33 *e*P **P 07 42 42.2 -0.4**
COP MLR MLR
comp=Z,1μm,25.0s
COP Copenhagen 86.68 33 *i*P **P 07 42 42.2 -0.4**
KEV Kevo 86.82 18 PFAKE 07 42 50.0 +6.9
KEV LR LR
comp=Z,5μm,21.0s
STU Stuttgart 86.91 41 PFAKE 07 43 00.0 +16
STU LR LR
comp=Z,2μm,18.0s
RGN Rugen 87.54 34 PFAKE 07 43 00.0 +13
RGN LR LR
comp=Z,2μm,19.0s
TUE Stuetta 87.68 43 PFAKE 07 43 00.0 +12
TUE LR LR
comp=Z,2μm,20.0s
DAVA Damuels 87.79 42 *e*P **P 07 42 47.6 -0.8**
comp=Z,7.7nm,1.0s
GRA1 Grafenberg Arr 87.90 39 PFAKE 07 43 00.0 +11
GRA1 LR LR
comp=Z,2μm,19.0s
GRFO Grafenberg 87.90 39 PFAKE 07 43 00.0 +11
GRFO LR LR
comp=Z,2μm,19.0s
BSD Bornholm Skovb 88.20 33 *i*P **P 07 42 48.7 -1.3**
BSD MLR MLR
comp=Z,2μm,20.0s
BSD Bornholm Skovb 88.20 33 *i*P **P 07 42 48.7 -1.3**
FUORN Ofenpass-Fuorn 88.24 42 *e*P **P 07 42 49.0 -1.8**
comp=Z,12nm,1.2s
FUORN LR LR
comp=Z,3μm,19.0s
RETA Reutte 88.30 42 *e*P **P 07 42 49.4 -1.4**
comp=Z,8.5nm,1.0s
FETA Feichten 88.42 42 *e*P **P 07 42 50.7 -0.8**
comp=Z,3.0nm,0.8s
CLL Collm 88.45 37 PFAKE 07 43 00.0 +8.7
CLL LR LR
comp=Z,2μm,19.0s
CLL Collm 88.45 37 *i*P **P 07 42 50.0 -1.3**
CLL *e* 07 43 02.0
CLL *e*S **S 07 53 28.0 -7.7**
CLL pmax pmax
comp=Z,24nm,1.9s
CLL MLR MLR

comp=Z,2μm,20.0s
CLL Collm 88.45 37 *i* P **P 07 42 50.5 -0.8**
comp=Z,24nm,1.9s
CLL *e* 07 43 02.0
CLL *e* 07 43 13.0
CLL *e* 07 43 34.0
CLL *e*PP **PP 07 46 20.0 +1.1**
CLL *e*SKKSac **S 07 53 28.0 -7.7**
CLL *e*PS PS 07 54 46.0 +4.5
CLL *e*SS SS 07 59 42.0 +17
CLL *e*SSS SSS 08 03 12.0
CLL LmV 08 24 00.0
comp=Z,2μm,20.0s
NKC Novy Kostel 88.48 39 *e*P **P 07 42 49.8 -1.7**
NKC *e* 07 53 26.5
NKC MLR MLR
comp=Z,2μm,18.4s
NKC Novy Kostel 88.48 39 *e*P **P 07 42 49.8 -1.7**
NKC *e*SKS **SKSac 07 53 26.5 +7.2**
NKC AMS AMS 08 23 50.0
comp=Z,2μm,18.4s
RUE Ruedersdorf 88.50 36 *e*P P 07 42 41.7 -10
MOTA Moosalm 88.56 42 *e*P **P 07 42 51.4 -0.8**
comp=Z,2.0nm,0.7s
WTTA Wattenberg 88.93 42 PcP **P 07 42 54.4 +0.5**
comp=Z,7.9nm,1.6s
VLC Villacollemand 89.07 45 PFAKE 07 43 10.0 +16
VLC LR LR
comp=Z,1μm,20.0s
WET Wettzell 89.10 39 P **P 07 42 57.0 +2.5**
WET pmax pmax
comp=Z,8.0nm,1.4s
BRG Berggiesshubel 89.16 38 *e*P **P 07 42 55.9 +1.3**
comp=Z,14nm,1.6s
BRG Berggiesshubel 89.16 38 *e*P **P 07 42 55.9 +1.3**
BRG pmax pmax
comp=Z,14nm,1.6s
SEY Seymchan 89.40 336 *ce*P **P 07 42 57.2 +1.7**
SEY Seymchan 89.40 336 P **P 07 42 54.6 -0.9**
comp=Z,2.9nm,0.8s,baz=40,slow=4.2,SNR=8.0
KHC Kasperske Hory 89.54 39 PFAKE 07 43 10.0 +13
KHC LR LR
comp=Z,800nm,18.0s
KHC Kasperske Hory 89.54 39 *e*P **P 07 42 55.0 -1.5**
KHC *e* 07 53 26.6
KHC MLR MLR
comp=Z,2μm,17.3s
KHC Kasperske Hory 89.54 39 *e*P **P 07 42 55.0 -1.5**
KHC *ex* x 07 43 15.3
KHC *e*SKS **SKSac 07 53 26.6 +0.9**
KHC AMS AMS 08 27 10.0
comp=Z,2μm,17.3s
PVCC Panska Ves 89.65 38 *e*P **P 07 42 55.8 -1.1**
PVCC MLR MLR
comp=Z,3μm,19.6s
PVCC Panska Ves 89.65 38 *e*P **P 07 42 55.8 -1.1**
PVCC *e*SKS **SKSac 07 53 30.2 +4.0**
PVCC AMS AMS 08 23 20.0
comp=Z,3μm,19.6s
GERES GERESS Array B 89.71 40 LR LR 08 18 51.1
comp=Z,1μm,21.8s,slow=33
PRU Pruhonice 89.83 38 *e*SKS **SKSac 07 53 27.8 +0.5**
GOPC GO Pecny, Ondr 90.00 38 *e*P **P 07 42 57.0 -1.6**
GOPC MLR MLR
comp=Z,3μm,18.1s
GOPC GO Pecny, Ondr 90.00 38 *e*P **P 07 42 57.0 -1.6**
GOPC AMS AMS 08 25 40.0
comp=Z,3μm,18.1s
TOC7 Torodi Ar. Sit 90.05 77 PFAKE 07 43 10.0 +11
TOC7 LR LR
comp=Z,2μm,19.0s
TOB5 Torodi Ar. Sit 90.05 77 PFAKE 07 43 10.0 +10
TOB5 LR LR
comp=Z,2μm,19.0s
TOC5 Torodi Ar. Sit 90.05 77 PFAKE 07 43 10.0 +10
TOC5 LR LR
comp=Z,2μm,19.0s
TOB4 Torodi Ar. Sit 90.06 77 PFAKE 07 43 10.0 +10
TOB4 LR LR
comp=Z,2μm,19.0s
TOA1 Torodi Ar. Sit 90.06 77 *e*P **P 07 42 57.5 -2.0**
TOA1 LR LR
comp=Z,2μm,19.0s
TOA0 Torodi Ar. Sit 90.07 77 PFAKE 07 43 10.0 +10
TOA0 LR LR
comp=Z,2μm,19.0s
TOA3 Torodi Ar. Sit 90.07 77 PFAKE 07 43 10.0 +10
TOA3 LR LR
comp=Z,2μm,19.0s
TORD Torodi Ar. Bea 90.07 77 P **P 07 42 57.5 -2.0**
comp=Z,1.8nm,0.9s,baz=304,slow=5.2,SNR=9.7
TORD LR LR 08 21 00.0
comp=Z,1μm,20.8s,baz=305,slow=34
TOC1 Torodi Ar. Sit 90.07 77 PFAKE 07 43 10.0 +10
TOC1 LR LR
comp=Z,2μm,19.0s
TOB2 Torodi Ar. Sit 90.08 77 PFAKE 07 43 10.0 +10
TOB2 LR LR
comp=Z,800nm,19.0s
TOC4 Torodi Ar. Sit 90.08 77 PFAKE 07 43 10.0 +10
TOC4 LR LR
comp=Z,2μm,19.0s
TOB3 Torodi Ar. Sit 90.08 77 PFAKE 07 43 10.0 +10
TOB3 LR LR
comp=Z,2μm,19.0s
TOC2 Torodi Ar. Sit 90.09 77 PFAKE 07 43 10.0 +10
TOC2 LR LR
comp=Z,2μm,18.0s
TOC3 Torodi Ar. Sit 90.09 77 PFAKE 07 43 10.0 +10
TOC3 LR LR
comp=Z,2μm,18.0s
SUF Sumiainen 90.15 24 P **P 07 43 01.3 +2.3**
SUF pmax pmax
comp=Z,18nm,1.3s
LVZ Lovozero 90.17 18 PFAKE 07 43 10.0 +11
LVZ LR LR
comp=Z,6μm,22.0s
UPC Upice 90.52 38 *e*P **P 07 43 00.2 -0.8**
UPC MLR MLR
comp=Z,3μm,19.4s
UPC Upice 90.52 38 *e*P **P 07 43 00.2 -0.8**
UPC *e*SKS **SKSac 07 53 35.3 +4.0**
UPC AMS AMS 08 24 30.0
comp=Z,3μm,19.4s
TREC Trest 90.65 39 *e*P **P 07 43 01.7 0.0**
TREC MLR MLR
comp=Z,3μm,17.8s
TREC Trest 90.65 39 *e*P **P 07 43 01.7 0.0**
TREC *e*SKS **SKSac 07 53 38.2 +6.1**
TREC AMS AMS 08 26 00.0
comp=Z,3μm,17.8s
DPC Dobruska-Polom 90.76 38 *e*P **P 07 43 01.9 -0.3**
DPC MLR MLR
comp=Z,2μm,18.5s
DPC Dobruska-Polom 90.76 38 *e*P **P 07 43 01.9 -0.3**
DPC *e*SKS **SKSac 07 53 37.2 +4.4**
DPC AMS AMS 08 24 30.0
comp=Z,2μm,18.5s
FIA0 FINESS Array S 90.77 25 *e*P **P 07 43 00.3 -1.5**
FIA0 FINESS Array S 90.77 25 *e*P **P 07 43 00.4 -1.5**
FINES FINESS Array B 90.77 25 P **P 07 43 00.3 -1.5**
comp=Z,1.0nm,0.8s,baz=285,slow=7.9,SNR=3.8
FINES LR LR 08 24 06.3
comp=Z,2μm,19.2s,baz=304,slow=36
PET Petropavlovsk 90.83 325 *e*P **P 07 43 07.1 +4.8**
PET *e* 07 46 46.3
PET *e*S **S 07 53 58.9 +1.2**
PET pmax pmax
comp=Z,1μm,20.8s
PET MLR MLR
comp=Z,900nm,20.0s
KEST Kesra 90.85 53 *e*P **P 07 43 01.6 -1.3**
comp=Z,14nm,1.0s
KEST LR LR
comp=Z,900nm,20.0s
KEST Kesra 90.85 53 P **P 07 43 01.6 -1.3**
comp=Z,7.2nm,1.0s,baz=243,slow=9.0,SNR=2.7
KEST LR LR 08 17 39.5
comp=Z,659nm,21.3s,baz=264,slow=32
TIXI Tiksi 90.85 348 *e*P **P 07 43 01.8 -0.3**
TIXI *e*P **P 07 43 01.9 -0.2**
TIXI LR LR
comp=Z,2μm,18.0s
TIXI Tiksi 90.85 348 P **P 07 43 01.8 -0.3**
comp=Z,14nm,0.9s,baz=24,slow=5.2,SNR=23
TIXI LR LR 08 27 13.3
comp=Z,640nm,21.9s,baz=23,slow=38
SLIT Slitere, Latvi 90.92 29 *e*P P 07 42 52.5 -10
KRLC Kraliky 91.14 38 *e*SKS **SKSac 07 53 43.8 +8.8**
TAM Tamanrasset 91.21 66 PFAKE 07 43 20.0 +15
TAM LR LR
comp=Z,2μm,21.0s
PBUR Paburg 91.48 31 *e*P P 07 42 54.3 -11
MORC Moravsky Berou 91.71 38 PFAKE 07 43 20.0 +13
MORC LR LR
comp=Z,3μm,20.0s
AQU L'Aquila 91.74 46 PFAKE 07 43 20.0 +13
AQU LR LR
comp=Z,2μm,21.0s
MA2 Magadan 91.75 333 *e*P **P 07 43 08.0 +1.5**
comp=Z,25nm,1.4s
MA2 LR LR
comp=Z,1μm,20.0s
MA2 Magadan 91.75 333 *c i*P **P 07 43 07.3 +0.8**
MA2 pmax pmax
comp=Z,11nm,1.2s
MA2 Magadan 91.75 333 P **P 07 43 08.0 +1.5**
comp=Z,3.5nm,0.8s,baz=75,slow=9.5,SNR=4.1
OKC Ostrava-Krasne 92.04 38 *e*P **P 07 43 05.9 -2.2**
OKC MLR MLR
comp=Z,2μm,19.0s
OKC Ostrava-Krasne 92.04 38 *e*P **P 07 43 05.9 -2.2**
OKC *e*SKS **SKSac 07 53 44.4 +4.5**
OKC AMS AMS 08 25 30.0
comp=Z,2μm,19.0s
VSU Vasula 92.58 28 *i*P **P 07 43 07.6 -2.8**
VSU pmax pmax
comp=Z,11nm,1.1s
VSU Vasula 92.58 28 *e*P P 07 42 57.7 -13
PABE Paberze 92.74 31 *e*P P 07 43 01.3 -10
VYHS Vyhne 93.00 39 *e*P **P 07 43 15.4 +2.8**
VYHS Vyhne 93.00 39 *e*P **P 07 43 15.4 +2.8**
VYHS *e* 07 43 35.9
SUW Suwalki 93.04 32 PFAKE 07 43 20.0 +7.4
SUW LR LR
comp=Z,2μm,21.0s
CLTB Caltabellotta 93.22 50 PFAKE 07 43 30.0 +16
CLTB LR LR
comp=Z,2μm,18.0s
BLY Banja Luka 93.44 43 PFAKE 07 43 30.0 +15
BLY LR LR
comp=Z,2μm,20.0s
PUL Pulkovo 93.44 25 *e*P **P 07 43 15.3 +1.0**
PSZ Piszkesteto 93.88 39 PFAKE 07 43 30.0 +13
PSZ LR LR
comp=Z,1μm,19.0s
IIGN Ignalina 93.93 30 *e*P P 07 43 06.9 -10
IDID Didziasalis 94.21 30 *e*P P 07 43 07.8 -10
NACGM Naroch 94.44 31 *e*P **P 07 43 19.0 0.0**
NACGM *e*PP **PP 07 47 10.0 +4.0**
NACGM *e*SKS **SKSac 07 53 54.0 +1.1**
NACGM *e*S **ScS 07 54 37.0 +5.9**
NACGM *e*PS **PS 07 55 40.0 -7.6**
NACGM *e*SS **SS 08 00 50.0 -1.2**
NACGM *e*LQ LQ 08 14 48.0
NACGM *e*LR LR 08 21 52.0
WDD Wied Dalam 94.80 52 PFAKE 07 43 30.0 +8.9
WDD LR LR
comp=Z,1μm,20.0s
KWP Kalwaria Pacla 94.80 37 PFAKE 07 43 30.0 +9.2
KWP LR LR
comp=Z,8μm,18.0s
CEL Celeste 94.97 49 PFAKE 07 43 30.0 +8.1
CEL LR LR
comp=Z,800nm,19.0s
UZH Uzhgorod 95.01 38 *e*P **P 07 43 22.0 +0.2**
UZH *e* 07 43 31.9
UZH *e* 07 47 12.8
UZH *e*PPP PPP 07 49 18.2
UZH *e* 07 53 52.2
UZH *e*S **S 07 54 29.1 -6.1**
UZH *e*PS **PS 07 55 57.6 +3.4**
UZH *e*SS **SS 08 00 51.3 -8.5**
UZH *e*SSS SSS 08 04 39.0
TIP Timpagrande 95.26 48 PFAKE 07 43 30.0 +6.8
TIP LR LR
comp=Z,2μm,20.0s
TTG Podgorica 95.74 44 PFAKE 07 43 40.0 +15
TTG LR LR
comp=Z,1μm,22.0s
KLMR Klimovskoe 96.36 22 *e*P **P 07 43 25.5 -2.1**
KLMR *e* 07 47 18.6
KLMR pmax pmax
comp=Z,8.0nm,1.4s
TIR Tirane 96.59 45 PFAKE 07 43 40.0 +11
TIR LR LR
comp=Z,1μm,20.0s
FNA Florina 97.87 45 PFAKE 07 43 50.0 +15
FNA LR LR
comp=Z,2μm,21.0s
KIEV Kiev 97.90 33 PFAKE 07 43 50.0 +15
KIEV LR LR
comp=Z,2μm,20.0s
KIEV Kiev 97.90 33 *i*P **P 07 43 32.1 -2.7**
KIEV pmax pmax
comp=Z,1.0nm,1.0s
AKASG Malin Array Be 97.91 33 LR LR 08 27 44.2
comp=Z,1μm,20.2s,baz=310,slow=36
AKBB Malin Array Si 97.91 33 PFAKE 07 43 50.0 +15
AKBB LR LR
comp=Z,2μm,20.0s
MXZ Matakaoa Point 98.20 233 PFAKE 07 43 50.0 +14
MXZ LR LR
comp=Z,2μm,21.0s
VTS Vitosha 98.31 43 PFAKE 07 43 50.0 +13
VTS LR LR
comp=Z,1μm,19.0s
MLR Muntele Rosu 98.69 39 PFAKE 07 43 50.0 +11
MLR LR LR
comp=Z,2μm,20.0s
LIT Litokhoron 98.93 45 PFAKE 07 43 50.0 +10
LIT LR LR
comp=Z,1μm,20.0s
OBN Obninsk 98.93 27 PFAKE 07 43 50.0 +11
OBN LR LR
comp=Z,2μm,21.0s
OBN Obninsk 98.93 27 *i*P Pdif 07 43 40.0 +0.7
OBN *i* 07 43 47.2
OBN *i* 07 47 37.6
OBN *i*SS SS 08 01 56.4 +1.9
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,2μm,22.0s
MOS Moscow 99.00 26 *e*P **Pdif 07 43 37.4 -2.2**
MOS *e* 07 47 36.6
MOS *e* 07 54 16.5
MOS *e*S **S 07 55 10.1 +1.1**
MOS *e*PS PS 07 56 26.5 -11
MOS MLR MLR
comp=N,2μm,19.0s
MOS MLR MLR
comp=Z,2μm,19.0s
URZ Urewera 99.26 233 PFAKE 07 43 50.0 +8.9
URZ LR LR
comp=Z,1μm,18.0s
AGG Agios Georgios 99.29 46 PFAKE 07 43 50.0 +8.6
AGG LR LR
comp=Z,1μm,20.0s
KIS Kishinev 99.65 37 *e*P **Pdif 07 43 44.0 +1.3**
KIS Kishinev 99.65 37 *e*PP **PP 07 47 42.0 -4.3**
KIS *i*SKS **SKSac 07 54 22.0 +1.8**
KIS Kishinev 99.65 37 *e*PS PS 07 57 00.0 +15
KIS *e*SS SS 08 02 30.0 +25
KIS *e*L L 08 17 04.0
KIS LRM MLR 08 28 40.0
comp=Z,900nm,20.0s
KIS Kishinev 99.65 37 *e*P **Pdif 07 43 44.0 +1.3**
KIS *e* 07 47 42.0
KIS *i* 07 54 22.0
KIS MLR MLR
comp=Z,900nm,20.0s
ITM Ithomi 99.79 48 PFAKE 07 43 50.0 +6.4
ITM LR LR
comp=Z,900nm,21.0s
BKZ Black Stump Fm 99.89 232 PFAKE 07 44 00.0 +16
BKZ LR LR
comp=Z,2μm,20.0s
BFZ Birch Farm 100.31 231 PFAKE 07 44 00.0 +14
BFZ LR LR
comp=Z,2μm,20.0s
KUR Kuril'sk 100.71 322 P **Pdif 07 43 50.4 +2.9**
KUR *e* 07 48 00.5
KUR *e*PPP PPP 07 50 06.6
KUR *e*SS SS 08 02 36.4 +16
TIRR Tirgusor 100.72 39 PFAKE 07 44 00.0 +12
TIRR LR LR
comp=Z,4μm,21.0s
ALN Alexandroupoli 100.97 43 PFAKE 07 44 00.0 +11
ALN LR LR
comp=Z,500nm,18.0s
HIZ Hauiti 101.05 233 PFAKE 07 44 00.0 +11
HIZ LR LR
comp=Z,1μm,20.0s
SNZO South Karori 101.56 230 PFAKE 07 44 00.0 +8.8
SNZO LR LR
comp=Z,2μm,19.0s
SNAA Sanae 102.29 161 PFAKE 07 44 10.0 +16
SNAA LR LR
comp=Z,600nm,20.0s
YUK Yuzh-Kuril'sk 102.56 321 *e*P **Pdif 07 43 59.3 +3.6**
YUK *e* 07 48 08.4
YUK *e*S **SKSac 07 54 36.3 +2.0**
YUK *e*SP SP 07 57 11.4 -1.1
YUK *e*PS PS 07 57 19.3 +3.6
YUK *e*SS **SS 08 02 55.5 +10**
YUK *e*SSS SSS 08 06 42.3
YUK pmax pmax
comp=Z,273nm,2.2s
YUK pmax pmax
comp=Z,393nm,1.2s
YUK pmax pmax
comp=N,129nm,1.0s
YUK pmax pmax
comp=E,161nm,1.0s
YUK MLR MLR
comp=Z,741nm,17.0s
YUK MLR MLR
comp=E,980nm,19.0s
SANT Santorini 102.69 47 PFAKE 07 44 10.0 +13
SANT LR LR
comp=Z,800nm,21.0s
BALB Balikesir 102.81 44 PFAKE 07 44 10.0 +13
BALB LR LR
comp=Z,3μm,18.0s
THZ Tophouse 102.95 230 PFAKE 07 44 10.0 +12
THZ LR LR
comp=Z,2μm,20.0s
MQZ McQueen's Vall 103.35 228 PFAKE 07 44 10.0 +11
MQZ LR LR
comp=Z,2μm,19.0s
QSPA South Pole Qui 103.44 180 PFAKE 07 44 10.0 +11
QSPA LR LR
comp=Z,2μm,20.0s
MANT Manisa 103.84 44 PFAKE 07 44 10.0 +8.1
MANT LR LR
comp=Z,4μm,19.0s
SIM Simferopol' 103.86 36 *e*P **Pdif 07 44 04.5 +3.0**
SIM *e* 07 48 19.0
SIM *e* 07 55 24.0
SIM pmax pmax
comp=Z,40nm,6.6s
MDUB Mudurnu 104.57 42 PFAKE 07 44 20.0 +15
MDUB LR LR
comp=Z,4μm,20.0s
LBZ Lake Benmore 105.18 227 PFAKE 07 48 30.0 +8.4
LBZ LR LR
comp=Z,2μm,19.0s
ISP Isparta 105.51 44 PFAKE 07 48 30.0 +7.3
ISP LR LR
comp=Z,1μm,19.0s
SBA Scott Base 105.56 192 PFAKE 07 48 30.0 +8.6
SBA LR LR
comp=Z,1μm,20.0s
ILGA Ilgaz 105.85 40 PFAKE 07 48 40.0 +17
ILGA LR LR
comp=Z,1μm,20.0s
ANTO Ankara 105.92 41 PFAKE 07 48 40.0 +17
ANTO LR LR
comp=Z,1μm,20.0s
DZM Mont Dzumac 105.92 251 *e*SP SP 07 57 45.2 -4.3
comp=Z,449nm,27.2s
DZM *e*SS **SS 08 03 34.8 +0.4**
comp=Z,1μm,27.4s
DZM Mont Dzumac 105.92 251 *e*LR LR 08 19 10.4
comp=Z,1μm,27.1s
ARU Arti 106.01 17 PFAKE 07 48 30.0 +7.1
ARU LR LR
comp=Z,4μm,21.0s
SNOP Sinop 106.21 38 PFAKE 07 48 40.0 +16
SNOP LR LR
comp=Z,600nm,20.0s
KIV Kislovodsk 109.25 33 PFAKE 07 48 40.0 +11
KIV LR LR
comp=Z,800nm,18.0s
USA0B Ussuriysk Arra 110.26 328 PFAKE 07 48 40.0 +8.8
USA0B LR LR
comp=Z,2μm,18.0s
MDJ Mudanjiang 111.16 330 PFAKE 07 48 50.0 +17
MDJ LR LR
comp=Z,900nm,18.0s
AKH Akhalkalaki 111.41 35 PFAKE 07 48 50.0 +16
AKH LR LR
comp=Z,1μm,22.0s
MAJO Matsushiro 111.64 319 PFAKE 07 48 50.0 +16
MAJO LR LR
comp=Z,1μm,20.0s
MJB9 Matsu-Tunnel 111.64 319 PFAKE 07 48 50.0 +16
MJB9 LR LR
comp=Z,1μm,20.0s
HIA Hailar 111.68 339 PFAKE 07 48 50.0 +16
HIA LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 111.91 12 PFAKE 07 48 50.0 +16
BRVK LR LR
comp=Z,2μm,21.0s
TSUM Tsumeb 112.15 105 PFAKE 07 48 50.0 +14
TSUM LR LR
comp=Z,900nm,21.0s
MAK Makhachkala 112.46 31 *e*P **Pdif 07 44 37.0 -2.8**
MAK *i* 07 48 32.2
MAK *e* 07 49 18.0
MAK *e* 07 55 13.3
MAK *e*PS PKKPbc 07 58 49.1 -37
MAK *e*SS SS 08 04 55.1 -4.2
MAK pmax pmax
comp=Z,226nm,1.0s
GNI Garni 112.96 35 PFAKE 07 48 50.0 +13
GNI LR LR
comp=Z,800nm,20.0s
TLY Talaya 113.78 350 PFAKE 07 48 50.0 +12
TLY LR LR
comp=Z,2μm,20.0s
KURK Kurchatov 115.50 7 PFAKE 07 48 50.0 +9.0
KURK LR LR
comp=Z,2μm,18.0s
KURK Kurchatov 115.50 7 *i* PKIKP **PKiKP 07 48 39.7 -1.3**
RABL Rabaul 116.53 272 PFAKE 07 49 00.0 +16
RABL LR LR
comp=Z,2μm,18.0s
ULN Ulaanbaatar 116.71 346 PFAKE 07 49 00.0 +16
ULN LR LR
comp=Z,1μm,19.0s
ULN Ulaanbaatar 116.71 346 *i* PKIKP **PKiKP 07 48 43.8 +0.2**
SONA0 Songino Array 116.89 347 *e*PKPdf **PKPdf 07 48 42.9 -1.1**
SONM Songino Array 116.89 347 PKP **PKPdf 07 48 42.9 -1.1**
comp=Z,1.8nm,0.8s,baz=321,slow=1.8,SNR=3.4
DGZ Jazzator, Alta 117.08 1 *i* PKIKP **PKiKP 07 48 45.0 +0.7**
JNU Nakatsue 118.46 320 PFAKE 07 49 00.0 +13
JNU LR LR
comp=Z,600nm,22.0s
MAKZ Makanchi 119.70 5 PFAKE 07 49 00.0 +11
MAKZ LR LR
comp=Z,2μm,21.0s
BOSA Boshof 119.74 115 PKP **PKPdf 07 48 48.8 -1.1**
comp=Z,4.1nm,0.9s,baz=3.5,slow=5.1,SNR=5.5
MK32 Makanchi Array 119.74 5 *e*PKPdf **PKPdf 07 48 48.2 -1.1**
MKAR Makanchi Array 119.74 5 *e*PKPdf **PKiKP 07 48 49.5 0.0**
MKAR Makanchi Array 119.74 5 PKP **PKPdf 07 48 48.2 -1.1**
comp=Z,0.4nm,0.6s,baz=2.9,slow=2.4,SNR=4.3
MANU Manus Island 120.68 276 PFAKE 07 49 00.0 +7.9
MANU LR LR
comp=Z,700nm,20.0s
BJT Baijiatuau 120.86 335 PFAKE 07 49 00.0 +8.3

BJT				LR	LR		
	comp=Z,1μm,20.0s						
MBAR	**Mbarara**	**121.46**	**82**	PFAKE		07 49 10.0	+16
MBAR				LR	LR		
	comp=Z,1μm,19.0s						
GEYT	**Alibeck**	**121.47**	**28**	PKP	**PKiKP**	**07 48 53.1**	**0.0**
	comp=Z,1.5nm,0.8s,baz=293,slow=2.6,SNR=4.0						
LSZ	**Lusaka**	**121.75**	**100**	PFAKE		07 49 10.0	+16
LSZ				LR	LR		
	comp=Z,1μm,18.0s						
HHC	**Hu-ho-hao-te**	**121.85**	**339**	*e*PKP	**PKPdf**	**07 48 53.5**	**-0.2**
HHC				PP	**PP**	**07 50 29.2**	**+3.2**
HHC				SKS	**SKSdf**	**07 56 00.4**	**-4.3**
HHC				SKKS	**SKKSac**	**07 57 23.8**	**-1.7**
HHC				SS	**SS**	**08 06 58.8**	**-2.5**
HHC				AMB	AMB		
	comp=Z,150nm,9.2s						
HHC				LR	LR		
	comp=Z,470nm,19.4s						
HHC				LR	LR		
	comp=Z,360nm,18.1s						
HHC				LR	LR		
	comp=Z,420nm,19.0s						
PMG	**Port Moresby**	**122.43**	**267**	PFAKE		07 49 10.0	+15
PMG				LR	LR		
	comp=Z,3μm,18.0s						
FRU1	**Bishkek**	**122.56**	**12**	PFAKE		07 49 10.0	+15
FRU1				LR	LR		
	comp=Z,2μm,20.0s						
AAK	**Ala-Archa**	**122.70**	**12**	PFAKE		07 49 10.0	+14
AAK				LR	LR		
	comp=Z,2μm,22.0s						
AAK	**Ala-Archa**	**122.70**	**12**	*i* PKIKP	**PKiKP**	**07 48 55.6**	**+0.1**
WMQ	**Urumqi**	**122.97**	**1**	*e*PKP	**PKPdf**	**07 48 54.6**	**-1.1**
WMQ				SKS	**SKSdf**	**07 56 02.1**	**-4.5**
WMQ				SS	**SS**	**08 07 18.2**	**+3.3**
WMQ				LR	LR		
	comp=Z,4μm,21.5s						
WMQ	**Urumqi**	**122.97**	**1**	PFAKE		07 49 10.0	+14
WMQ				LR	LR		
	comp=Z,3μm,20.0s						
BOOM	**Boomskoye usch**	**123.12**	**11**	PFAKE		07 49 10.0	+14
BOOM				LR	LR		
	comp=Z,3μm,21.0s						
MAW	**Mawson**	**123.39**	**169**	PFAKE		07 49 10.0	+14
MAW				LR	LR		
	comp=Z,300nm,20.0s						
KDJ	**Kajisay**	**123.69**	**10**	PFAKE		07 49 10.0	+12
KDJ				LR	LR		
	comp=Z,2μm,21.0s						
TOO	**Toolangi**	**124.14**	**234**	PFAKE		07 49 10.0	+12
TOO				LR	LR		
	comp=Z,1μm,19.0s						
NRN	**Naryn**	**124.16**	**11**	PFAKE		07 49 10.0	+11
NRN				LR	LR		
	comp=Z,2μm,21.0s						
TARG	**Taragay, Kyrgy**	**124.19**	**10**	PFAKE		07 49 10.0	+11
TARG				LR	LR		
	comp=Z,2μm,21.0s						
CHGR	**Chuyangaron**	**125.08**	**18**	PFAKE		07 49 10.0	+10
CHGR				LR	LR		
	comp=Z,4μm,21.0s						
GAR	**Garm**	**125.11**	**17**	PFAKE		07 49 10.0	+10
GAR				LR	LR		
	comp=Z,10μm,22.0s						
CASY	**Casey**	**125.21**	**191**	PFAKE		07 49 10.0	+11
CASY				LR	LR		
	comp=Z,1μm,19.0s						
SSE	**Sheshan**	**125.65**	**325**	PFAKE		07 49 10.0	+8.6
SSE				LR	LR		
	comp=Z,1μm,21.0s						
FURI	**Furi**	**125.81**	**68**	PFAKE		07 49 10.0	+7.4
FURI				LR	LR		
	comp=Z,1μm,20.0s						
KSH	**Kashi**	**126.00**	**12**	PKP	**PKiKP**	**07 49 02.9**	**+0.8**
KSH				sPKP		07 49 16.3	
KSH				PP	**PP**	**07 51 00.6**	**+6.9**
KSH				SKS	**SKSdf**	**07 56 10.5**	**-2.1**
KSH				SS	**SS**	**08 07 56.4**	**+2.9**
KSH				LR	LR		
	comp=Z,410nm,12.3s						
KSH				LR	LR		
	comp=Z,560nm,13.4s						
KSH				LR	LR		
	comp=Z,2μm,15.4s						
NJ2	**Nanjing**	**126.17**	**328**	*e*PKP	**PKiKP**	**07 49 03.8**	**+1.4**
GTA	**Gaotai**	**126.32**	**349**	*e*PKP	**PKPdf**	**07 49 00.7**	**-1.6**
GTA				LR	LR		
	comp=Z,830nm,21.0s						
GTA				LR	LR		
	comp=Z,690nm,21.6s						
NAI	**Nairobi**	**127.48**	**81**	PFAKE		07 49 20.0	+14
NAI				LR	LR		
	comp=Z,900nm,18.0s						
KMBO	**Kilima Mbogo**	**127.87**	**81**	PFAKE		07 49 20.0	+13
KMBO				LR	LR		
	comp=Z,1μm,19.0s						
STKA	**Stephens Creek**	**128.19**	**240**	PKP	**PKPdf**	**07 49 05.5**	**-0.4**
	comp=Z,5.2nm,1.0s,baz=30,slow=3.5,SNR=4.6						
DAMY	**Dhamar**	**128.23**	**59**	PFAKE		07 49 20.0	+13
DAMY				LR	LR		
	comp=Z,900nm,21.0s						
ATD	**Arta Tunnel**	**128.38**	**63**	PFAKE		07 49 20.0	+13
ATD				LR	LR		
	comp=Z,1μm,19.0s						
LZH	**Lanzhou**	**128.59**	**344**	PKP	**PKiKP**	**07 49 07.2**	**-0.2**
LZH				sPKP		07 49 22.6	
LZH				PP	**PP**	**07 51 13.3**	**+2.4**
LZH				PKS		07 52 37.5	
LZH				SKS	**SKSdf**	**07 56 15.8**	**-1.8**
LZH				SS	**SS**	**08 08 26.5**	**+0.5**
LZH				AMB	AMB		
	comp=Z,600nm,8.5s						
LZH				LR	LR		
	comp=Z,1μm,16.8s						
LZH				LR	LR		
	comp=Z,3μm,19.5s						
KBL	**Kabul**	**128.80**	**21**	PFAKE		07 49 20.0	+12
KBL				LR	LR		
	comp=Z,1μm,20.0s						
XAN	**Xi'an**	**128.88**	**338**	PKP	**PKPdf**	**07 49 07.1**	**-0.1**
XAN				PP	**PP**	**07 51 12.9**	**+0.1**
XAN				SKS	**SKSdf**	**07 56 14.6**	**-3.4**
XAN				SKKS	**SKKSac**	**07 58 06.7**	**-3.6**
XAN				AMB	AMB		
	comp=Z,240nm,6.5s						
XAN				LR	LR		
	comp=Z,2μm,21.4s						
XAN				LR	LR		
	comp=Z,620nm,22.0s						
XAN				LR	LR		
	comp=Z,1μm,22.8s						
XAN	**Xi'an**	**128.88**	**338**	PFAKE		07 49 20.0	+12
XAN				LR	LR		
	comp=Z,2μm,22.0s						
YHNB	**Yeheng**	**130.30**	**320**	PFAKE		07 49 20.0	+9.0
YHNB				LR	LR		
	comp=Z,500nm,18.0s						
NACB	**Ninganchiao**	**130.51**	**319**	PFAKE		07 49 20.0	+8.6
NACB				LR	LR		
	comp=Z,800nm,21.0s						
NIL	**Nilore**	**130.94**	**17**	PFAKE		07 49 20.0	+8.0
NIL				LR	LR		
	comp=Z,1μm,22.0s						
SSLB	**Suanglung**	**131.19**	**319**	PFAKE		07 49 20.0	+7.2
SSLB				LR	LR		
	comp=Z,500nm,19.0s						
QZH	**Quanzhou**	**131.80**	**322**	PKP	**PKiKP**	**07 49 16.0**	**+2.1**
QZH				SS	SS	08 09 06.0	-0.3
QZH				LR	LR		
	comp=Z,640nm,21.8s						
QZH				LR	LR		
	comp=Z,600nm,18.4s						
QZH				LR	LR		
	comp=Z,850nm,22.8s						
TWG	**Pinlang**	**131.81**	**318**	PFAKE		07 49 30.0	+16
TWG				LR	LR		
	comp=Z,2μm,21.0s						
ENH	**Enshi**	**132.01**	**335**	PFAKE		07 49 30.0	+16
ENH				LR	LR		
	comp=Z,2μm,22.0s						
KNMB	**Chin-men Tao**	**132.28**	**322**	PFAKE		07 49 30.0	+15
KNMB				LR	LR		
	comp=Z,800nm,19.0s						
CD2	**Chengdu**	**133.47**	**342**	PKP	**PKiKP**	**07 49 19.0**	**+1.7**
CD2				PP	**PP**	**07 51 46.8**	**+4.4**
CD2				PKS		07 52 46.6	
CD2				SS	SS	08 09 24.7	-0.9
CD2				AMB	AMB		
	comp=Z,430nm,7.5s						
CD2				LR	LR		
	comp=Z,2μm,26.1s						
CD2				LR	LR		
	comp=Z,3μm,18.6s						
FAKI	**Fak Fak**	**135.48**	**280**	PFAKE		07 49 30.0	+8.3
FAKI				LR	LR		
	comp=Z,2μm,20.0s						
WB5	**Warramunga Arr**	**135.67**	**255**	PFAKE		07 49 30.0	+8.1
WB5				LR	LR		
	comp=Z,1μm,21.0s						
WR1	**Warramunga Arr**	**135.70**	**255**	*e*PKPdf	**PKPdf**	**07 49 20.5**	**+0.1**
WRA	**Warramunga Arr**	**135.70**	**255**	*c i* PKIKP	**PKiKP**	**07 49 22.3**	**+0.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**135.70**	**255**	PKP	**PKPdf**	**07 49 20.5**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=91,slow=2.0,SNR=7.2						
AS31	**Alice Springs**	**135.91**	**250**	*e*PKPdf	**PKiKP**	**07 49 21.6**	**-0.7**
ASAR	**Alice Springs**	**135.91**	**250**	*e*PKPdf	**PKiKP**	**07 49 22.2**	**-0.2**
ASAR	**Alice Springs**	**135.91**	**250**	PKIKP	**PKiKP**	**07 49 21.7**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ASAR	**Alice Springs**	**135.91**	**250**	PKP	**PKiKP**	**07 49 21.6**	**-0.6**
	comp=Z,1.3nm,1.0s,baz=112,slow=2.9,SNR=6.0						
HKPS	**Hong Kong Po S**	**136.44**	**324**	PFAKE		07 49 30.0	+6.6
HKPS				LR	LR		
	comp=Z,900nm,20.0s						
GYA	**Guiyang**	**136.53**	**336**	PKP	**PKPdf**	**07 49 17.9**	**-4.0**
GYA				PKS	**SKPbc**	**07 52 52.8**	**-0.4**
GYA				LR	LR		
	comp=Z,940nm,20.5s						
GYA				LR	LR		
	comp=Z,770nm,22.4s						
GYA				LR	LR		
	comp=Z,1μm,23.3s						
LSA	**Lhasa**	**136.99**	**357**	PFAKE		07 49 40.0	+15
LSA				LR	LR		
	comp=Z,2μm,22.0s						
TNTI	**Ternate**	**138.92**	**287**	PFAKE		07 49 40.0	+11
TNTI				LR	LR		
	comp=Z,300nm,20.0s						
KMI	**Kunming**	**139.17**	**340**	PKP	**PKPdf**	**07 49 28.0**	**+1.0**
KMI				sPKP		07 49 42.4	
KMI				PP	**PP**	**07 52 23.1**	**+4.6**
KMI				LR	LR		
	comp=Z,1μm,22.1s						
KMI				LR	LR		
	comp=Z,700nm,21.5s						
KMI				LR	LR		
	comp=Z,2μm,22.9s						
KMI	**Kunming**	**139.17**	**340**	PFAKE		07 49 40.0	+11
KMI				LR	LR		
	comp=Z,2μm,22.0s						
SHL	**Shillong**	**141.04**	**355**	*e*PKPdf	**PKPdf**	**07 49 30.9**	**+0.6**
SHL	**Shillong**	**141.04**	**355**	*e*PKIKP	**PKPdf**	**07 49 30.9**	**+0.6**
SHL	**Shillong**	**141.04**	**355**	*e*P	**PKPdf**	**07 49 25.0**	**-5.3**
QIZ	**Qiongzhong**	**141.43**	**326**	PKP	**PKPdf**	**07 49 25.5**	**-5.4**
QIZ				PP	**PP**	**07 52 32.1**	**-0.4**
QIZ				AMB	AMB		
	comp=Z,160nm,4.9s						
QIZ				LR	LR		
	comp=Z,340nm,16.5s						
QIZ				LR	LR		
	comp=Z,710nm,23.3s						
QIZ				LR	LR		
	comp=Z,920nm,23.7s						
QIZ	**Qiongzhong**	**141.43**	**326**	PFAKE		07 49 40.0	+6.3
QIZ				LR	LR		
	comp=Z,1μm,21.0s						
SLVN	**Son La**	**142.22**	**336**	PFAKE		07 49 40.0	+4.7
SLVN				LR	LR		
	comp=Z,2μm,21.0s						
FITZ	**Fitzroy Crossi**	**143.97**	**258**	*e*PKPdf	**PKPdf**	**07 49 36.1**	**+0.7**
SOEI	**Soe**	**144.75**	**272**	*e*PKPdf	**PKPdf**	**07 49 38.4**	**+1.4**
CHTO	**Chiang Mai**	**146.28**	**342**	*e*PKPdf	**PKPbc**	**07 49 40.4**	**-0.1**
CHTO				LR	LR		
	comp=Z,1μm,20.0s						
CHTO	**Chiang Mai**	**146.28**	**342**	*e*PKP2	**PKPbc**	**07 49 40.4**	**-0.1**
CHTO				MLR	MLR		
	comp=Z,1μm,20.0s						
SIMRM	**Sittwe**	**146.31**	**352**	PFAKE		07 49 50.0	+6.4
SIMRM				LR	LR		
	comp=Z,200nm,20.0s						
CM31	**Chiang Mai Arr**	**146.62**	**342**	*e*PKPdf	**PKPbc**	**07 49 41.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**146.62**	**342**	*c i* PKP2	**PKPbc**	**07 49 42.0**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,26nm,0.9s						
CMAR	**Chiang Mai Arr**	**146.62**	**342**	PKPbc	**PKPdf**	**07 49 40.6**	**+0.7**
	comp=Z,26nm,0.9s,baz=340,slow=3.1,SNR=59						
HYB	**Hyderabad**	**147.77**	**18**	*i* PKP	**PKPbc**	**07 49 44.0**	**-0.8**
	comp=Z,70nm,1.0s						
DLV	**T Lat**	**147.86**	**321**	PFAKE		07 49 50.0	+2.3
DLV				LR	LR		
	comp=Z,800nm,20.0s						
MORW	**Morawa**	**150.09**	**234**	*e*PKPbc	**PKiKP**	**07 49 53.2**	**+2.0**
SBUM	**Sibu**	**151.60**	**302**	PFAKE		07 50 00.0	-2.9
SBUM				LR	LR		
	comp=Z,300nm,22.0s						
KSM	**Kuching**	**153.72**	**303**	PFAKE		07 50 00.0	+0.8
KSM				LR	LR		
	comp=Z,500nm,21.0s						
PBA	**Port Blair**	**154.66**	**350**	PFAKE		07 50 00.0	-1.0
PBA				LR	LR		
	comp=Z,3μm,22.0s						
KULM	**Kulim**	**157.76**	**326**	PFAKE		07 50 10.0	+13
KULM				LR	LR		
	comp=Z,900nm,20.0s						
PALK	**Pallekele**	**157.99**	**21**	PFAKE		07 50 10.0	+13
PALK				LR	LR		
	comp=Z,1μm,20.0s						
IPM	**Ipoh**	**158.22**	**324**	PFAKE		07 50 10.0	+13
IPM				LR	LR		
	comp=Z,1μm,22.0s						
MYKOM	**Kota Tinggi**	**158.47**	**314**	PFAKE		07 50 10.0	+13
MYKOM				LR	LR		
	comp=Z,1μm,21.0s						

KRSC 12 07:45:37.6±10.0, 49°.57N×158°.50E, h29km±10km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.90**	**307**	*e*P	Pn	07 46 09.7	+1.8
SKR				*e*S	Sn	07 46 32.6	+1.8
PAU	**Pauzhetka**	**2.18**	**331**	*e*S	Sb	07 46 42.3	-0.7
KDTR	**Khodutka, Kamc**	**2.26**	**353**	*e*S	Sn	07 46 42.4	+2.7
ALID	**Alaid**	**2.30**	**306**	*e*S	Sb	07 46 44.0	-2.5
RUS	**Russkaya**	**2.87**	**0**	*e*P	Pn	07 46 24.5	+3.2
MTVR	**Mutnovka**	**2.92**	**356**	*e*S	Sn	07 46 59.3	+2.9
KRMR	**Karymshinskiy**	**3.27**	**356**	*e*P	Pn	07 46 29.8	+2.9
DALK	**Dalny**	**3.47**	**3**	*e*P	Pn	07 46 33.1	+3.6
AVH	**Avacha**	**3.70**	**2**	*e*P	Pn	07 46 37.2	+4.3
SDLR	**Sedlovina**	**3.72**	**4**	*e*P	Pn	07 46 36.9	+3.8
KOK	**Koryaka**	**3.73**	**1**	*e*P	Pn	07 46 37.9	+4.7

*IDC **12** 07:51:15.4±0.8, 22°.77S×174°.91W, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.2/30, mbtmp4.2/9, MS4.5/3, Ms1 4.4/3, ms1mx3.7/32, Error ellipse: s-maj=44.1km s-min=19.2km az=145.0*
*ISCJB **12** 07:51:18.3±0.7, 22°.9S±0°.2×174°.9W±0°.2, h30km, mb4.1/8, MS4.5/3, Error ellipse: s-maj=31.2km s-min=15.0km az=43.9*

ISC 12 07:51:19.8±0.8, 22°.9S±0°.2×174°.9W±0°.2, h30km, n14, σ0.84/11, mb4.1/8, MS4.8/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.13**	**86**	Pn	Pn	07 54 27.4	-11
	1.4nm,0.3s,baz=269,slow=8.1,SNR=24						
RAR				Sn	Sn	07 56 45.6	-28
	0.8nm,0.3s,baz=197,slow=19,SNR=5.2						
URZ	**Urewera**	**16.79**	**202**	Pn	**Pn**	**07 55 11.3**	**-1.4**
	baz=117,slow=14,SNR=2.4						
URZ				Sn	Sn	07 58 03.3	-15
	baz=280,slow=17,SNR=2.7						
HNR	**Honiara**	**27.55**	**295**	LR	LR	08 07 47.8	
	comp=Z,136nm,18.6s,baz=172,slow=36						
STKA	**Stephens Creek**	**39.44**	**247**	P	**P**	**07 58 47.6**	**+0.2**
	2.1nm,0.8s,baz=116,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**46.83**	**258**	P	**P**	**07 59 47.5**	**+0.3**
	3.4nm,0.9s,baz=96,slow=7.3,SNR=22						
WRA	**Warramunga Arr**	**47.16**	**264**	P	**P**	**07 59 49.4**	**-0.5**
	2.7nm,0.7s,baz=92,slow=8.3,SNR=13						
MJAR	**Matsushiro Arr**	**73.84**	**322**	LR	LR	08 33 06.4	
	comp=Z,490nm,19.4s,baz=70,slow=34						
MAW	**Mawson**	**80.29**	**199**	P	**P**	**08 03 29.2**	**+1.7**
	5.0nm,0.8s,baz=140,slow=7.3,SNR=7.6						
MAW				LR	LR	08 36 02.0	
	comp=Z,820nm,21.0s,baz=224,slow=33						
NVAR	**Mina Array Bea**	**80.83**	**42**	P	**P**	**08 03 31.0**	**-0.1**
	1.4nm,0.7s,baz=224,slow=9.3,SNR=13						
TXAR	**Lajitas Array**	**85.95**	**56**	P	**P**	**08 03 57.0**	**-0.4**
	1.1nm,0.9s,baz=210,slow=7.2,SNR=12						
PDAR	**Pinedale Array**	**88.75**	**42**	P	**P**	**08 04 10.7**	**-0.2**
	0.4nm,0.7s,baz=205,slow=4.0,SNR=3.5						
ILAR	**Eielson Array**	**90.02**	**12**	P	**P**	**08 04 16.2**	**+0.3**
	0.9nm,1.0s,baz=207,slow=5.8,SNR=5.9						
AKASG	**Malin Array Be**	**146.47**	**332**	PKPbc	**PKPbc**	**08 10 57.5**	**-0.4**
	1.4nm,0.6s,baz=38,slow=3.8,SNR=8.7						
BRTR	**Keskin Array B**	**150.57**	**311**	PKPbc	**PKPbc**	**08 11 08.8**	**-0.3**
	0.5nm,0.5s,baz=114,slow=3.0,SNR=4.2						

*IDC **12** 08:33:49.7±9.2, 13°.26N×90°.02W, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.5/31, mbtmp3.4/5, Error ellipse: s-maj=217.2km s-min=86.6km az=14.0*
*ISCJB **12** 08:33:55.5±1.6, 13°.1N±0°.2×91°.69W±0°.08, h35km, mb3.4/4, Error ellipse: s-maj=24.5km s-min=9.6km az=15.3*
*UCR **12** 08:33:56.9±1.5, 13°.26N×91°.68W, h38km±20km, MD3.8, ML3.3*
*SNET **12** 08:33:57.4±1.2, 13°.15N×91°.61W, h35km±999km, ML3.5*

ISC 12 08:33:59.1±1.7, 13°.3N±0°.2×91°.6W±0°.1, h35km, n21, σ0.96/22, mb3.5/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.35**	**31**	*e*P	**Pn**	**08 34 20.9**	**-0.7**
IXG	**Ixpaco**	**1.40**	**51**	*e*P	**Pn**	**08 34 21.5**	**-0.8**
PCG	**Pacaya**	**1.43**	**40**	*e*P	**Pn**	**08 34 22.2**	**-0.7**
NBG	**Las Nubes**	**1.75**	**42**	*e*P	**Pn**	**08 34 27.5**	**+0.3**
CEVE	**Cerro Verde**	**1.96**	**74**	*e*P	**Pn**	**08 34 29.3**	**-0.8**
CEVE				IAML		08 35 13.9	
	comp=Z,474nm,0.5s						
CEVE	**Cerro Verde**	**1.96**	**74**	*e*P	**Pn**	**08 34 29.3**	**-0.8**
CEVE				IAML		08 35 13.9	
	comp=Z,474nm,0.5s						
RTR	**El Retiro**	**1.96**	**72**	*e*P	**Pn**	**08 34 30.7**	**+0.6**
RTR	**El Retiro**	**1.96**	**72**	*e*P	**Pn**	**08 34 30.7**	**+0.6**
SBLS	**San Blas**	**1.96**	**74**	*e*P	**Pn**	**08 34 30.5**	**+0.4**
SBLS	**San Blas**	**1.96**	**74**	*e*P	**Pn**	**08 34 30.5**	**+0.4**
LFU	**La Fuente**	**2.42**	**79**	*e*P	**Pn**	**08 34 36.2**	**-0.1**
LFU	**La Fuente**	**2.42**	**79**	*e*P	**Pn**	**08 34 36.2**	**-0.1**
LFRS	**El Faro**	**2.46**	**82**	*e*P	**Pn**	**08 34 36.8**	**0.0**
LBRS	**Las Brisas**	**2.49**	**79**	*e*P	**Pn**	**08 34 37.3**	**+0.1**
LCND	**La Caada**	**3.58**	**89**	*e*P	**Pn**	**08 34 51.5**	**-0.7**
LCND				*e*S	**Sn**	**08 35 33.7**	**+0.5**
LCND				IAML		08 35 36.9	
	comp=Z,65nm,0.3s						
LCND	**La Caada**	**3.58**	**89**	*e*P	**Pn**	**08 34 51.5**	**-0.7**
LCND				*e*S	**Sn**	**08 35 33.7**	**+0.5**
LCND				IAML		08 35 36.9	
	comp=Z,65nm,0.3s						
TXAR	**Lajitas Array**	**19.52**	**327**	P	**Pn**	**08 38 28.2**	**+3.1**
	comp=Z,0.6nm,0.7s,baz=143,slow=11,SNR=11						
NVAR	**Mina Array Bea**	**34.49**	**321**	P	P	08 40 48.5	+4.4
	comp=Z,0.4nm,0.7s,baz=133,slow=8.8,SNR=5.3						
YKA	**Yellowknife Ar**	**51.81**	**347**	P	**P**	**08 43 01.9**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=152,slow=7.7,SNR=4.6						
INK	**Inuvik**	**61.23**	**344**	P	**P**	**08 44 09.8**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=101,slow=2.2,SNR=3.4						
ILAR	**Eielson Array**	**63.65**	**337**	P	**P**	**08 44 25.9**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=123,slow=4.6,SNR=3.4						

*IDC **12** 08:48:24.8±0.4, 6°.37S×154°.44E, h0km, mb4.6/21, mb1 4.7/24, mb1mx4.6/33, mbtmp4.6/24, ML3.6/3, MS4.2/13, Ms1 4.3/13, ms1mx3.9/35, Error ellipse: s-maj=17.8km s-min=11.2km az=84.0*
*DJA **12** 08:48:29.7±1.6, 6°.5±4°×15°.5E±°, h28km±12km, M5.2/30, mB5.7/6, mb5.2/30, MLv5.3/1, Mw(mB)5.2/6*
*ISCJB **12** 08:48:30.4±0.2, 6°.41S±0°.03×154°.36E±0°.03, h48km, mb4.9/141, MS4.3/14, Error ellipse: s-maj=4.6km s-min=3.9km az=146.9*
*BJI **12** 08:48:30.6±0.0, 6°.24S×154°.51E, h45km, mb5.0/45, mB5.4/17, Ms4.8/9, Ms7 4.6/9*
*MOS **12** 08:48:31.0±1.0, 6°.31S×154°.29E, h54km, mb5.0/37, Error ellipse: s-maj=9.6km s-min=8.4km az=105.3*
*NEIC **12** 08:48:33.4±1.5, 6°.36S×154°.27E, h61km±7km, mb4.8/99, Error ellipse: s-maj=15.6km s-min=12.8km az=57.0*

ISC 12 08:48:32.1±0.3, 6°.39S±0°.05×154°.40E±0°.05, h48km, n267, σ1.37/281, mb4.8/139, MS4.3/14, 3C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.12**	**314**	*e*Pn	**Pn**	**08 49 18.6**	**-0.3**
HNR	**Honiara**	**6.27**	**119**	*e*P	Pn	08 50 08.0	+5.9
HNR				*e*S	Sn	08 51 30.0	+18
HNR	**Honiara**	**6.27**	**119**	*e*Pn	**Pn**	**08 50 05.7**	**+3.6**
HNR	**Honiara**	**6.27**	**119**	*e*P	**Pn**	**08 50 05.7**	**+3.6**
HNR	**Honiara**	**6.27**	**119**	Pn	**Pn**	**08 50 06.0**	**+3.9**
	10nm,0.3s,baz=252,slow=3.7,SNR=20						
HNR				Sn	**Sn**	**08 51 13.0**	**+0.5**
	7.5nm,0.3s,baz=299,slow=19,SNR=1.7						
HNR				LR	LR	08 51 37.1	
	comp=Z,340nm,20.1s,baz=295,slow=31						
PMG	**Port Moresby**	**7.77**	**247**	*e*Pn	**Pn**	**08 50 22.5**	**-0.2**
PMG				*e*Sn	**Sn**	**08 51 52.1**	**+2.6**
PMG	**Port Moresby**	**7.77**	**247**	*c i* P	**Pn**	**08 50 23.7**	**+1.0**
PMG	**Port Moresby**	**7.77**	**247**	Pn	**Pn**	**08 50 22.3**	**-0.5**
	11nm,0.3s,baz=61,slow=9.5,SNR=26						
PMG				Sn	**Sn**	**08 51 51.3**	**+1.9**
	5.4nm,0.3s,baz=331,slow=22,SNR=6.7						
PMG				LR	LR	08 53 21.0	
	comp=Z,2μm,20.6s,baz=3.0,slow=38						
MANU	**Manus Island**	**8.24**	**301**	*e*Pn	**Pn**	**08 50 28.9**	**-0.2**
COEN	**Coen**	**13.36**	**235**	P	**P**	**08 51 49.0**	**+1.5**
	baz=13,SNR=11						
PATS	**Pohnpei**	**13.71**	**17**	*e*Pn	**Pn**	**08 51 43.0**	**-0.9**
PATS	**Pohnpei**	**13.71**	**17**	P	**Pn**	**08 51 42.9**	**-1.1**
	baz=14						
JAY	**Jayapura**	**14.18**	**285**	Pn	**Pn**	**08 51 49.9**	**-0.6**
	0.3nm,0.3s,baz=114,slow=4.3,SNR=9.0						
JAY				LR	LR	08 58 24.4	
	comp=Z,2μm,18.2s,baz=188,slow=42						
GENI	**Genyem**	**14.68**	**284**	P	**Pn**	**08 51 54.4**	**-2.6**
CTA	**Charters Tower**	**15.75**	**209**	Pn	**P**	**08 52 13.6**	**-0.5**
	0.8nm,0.3s,baz=36,slow=13,SNR=29						
CTAO	**Charters Tower**	**15.75**	**209**	*e*Pn	**P**	**08 52 14.1**	**+0.1**
	92nm,1.0s						
CTAO	**Charters Tower**	**15.75**	**209**	*e*P	**P**	**08 52 14.1**	**+0.1**
CTAO				pmax	pmax		

comp=Z,655nm,1.2s
WRAB Tennant Creek 23.67 233 *e*P **P 08 53 38.8 -0.8**
comp=Z,147nm,0.9s
WRAB Tennant Creek 23.67 233*d i*P **P 08 53 38.1 -1.5**
WRAB pmax pmax
comp=Z,138nm,1.0s
WB2 Warramunga Arr 23.68 233 *e*P **P 08 53 38.5 -1.1**
comp=Z,180nm,1.0s
WRA Warramunga Arr 23.68 233 *i* P **P 08 53 38.0 -1.7**
WRA pmax pmax
comp=Z,123nm,0.9s
WRA Warramunga Arr 23.68 233 P **P 08 53 38.1 -1.6**
comp=Z,123nm,0.9s,baz=55,slow=9.8,SNR=72
WRA PcP **PcP 08 57 23.8 +0.6**
comp=Z,2.6nm,0.6s,baz=62,slow=2.6,SNR=6.0
WRA ScP **ScP 09 01 01.6 +3.9**
comp=Z,1.5nm,0.7s,baz=61,slow=2.7,SNR=6.5
WRA LR LR 09 03 05.7
comp=Z,892nm,19.3s,baz=25,slow=37
MTN Manton Dam 23.81 253 *e*P **P 08 53 39.4 -1.5**
comp=Z,58nm,1.0s
MTN Manton Dam 23.81 253 P **P 08 53 39.8 -1.0**
baz=24,SNR=7.0
ARMA Armidale 24.04 186 *e*P **P 08 53 43.2 +0.2**
comp=Z,129nm,1.6s
ARMA Armidale 24.04 186 P **P 08 53 43.6 +0.6**
baz=24,SNR=7.3
LHI Lord Howe Isla 25.38 171 *e*P **P 08 53 51.8 -3.1**
comp=Z,216nm,1.4s
AS31 Alice Springs 26.14 227 *e*P **P 08 54 00.7 -1.4**
comp=Z,3.8nm,0.8s
ASAR Alice Springs 26.14 227 *e*P **P 08 54 00.7 -1.4**
ASAR Alice Springs 26.14 227 *e*P **P 08 54 00.7 -1.4**
ASAR Alice Springs 26.14 227 P **P 08 54 00.6 -1.5**
comp=Z,16nm,1.0s,baz=60,slow=8.8,SNR=77
ASAR PcP **PcP 08 57 29.2 +0.6**
comp=Z,1.7nm,0.5s,baz=49,slow=2.5,SNR=7.4
ASAR ScP **ScP 09 01 08.8 +4.3**
comp=Z,1.4nm,0.8s,baz=47,slow=3.5,SNR=7.0
ASAR LR LR 09 03 38.7
comp=Z,1μm,20.1s,baz=74,slow=35
ASPA Alice Springs 26.14 227 P **P 08 54 01.2 -0.8**
baz=26
CMSA Cobar Meteorol 26.31 197 P **P 08 54 02.4 -1.0**
baz=26,SNR=38
KNRA Kununurra 26.77 248 P **P 08 54 07.4 -0.3**
baz=27,SNR=12
TNTI Ternate 27.91 284 *e*P **P 08 54 15.8 -2.2**
comp=Z,15nm,0.7s
STKA Stephens Creek 28.04 204 *e*P **P 08 54 17.6 -1.3**
comp=Z,3.9nm,1.0s
STKA Stephens Creek 28.04 204 P **P 08 54 17.6 -1.3**
baz=28,SNR=4.1
STKA Stephens Creek 28.04 204 *e*P **P 08 54 17.6 -1.3**
STKA pmax pmax
comp=Z,4.0nm,1.0s
STKA Stephens Creek 28.04 204 P **P 08 54 17.3 -1.7**
comp=Z,9.2nm,0.8s,baz=18,slow=9.0,SNR=9.7
STKA PcP **PcP 08 57 33.0 +0.1**
comp=Z,1.7nm,0.5s,baz=90,slow=1.0,SNR=3.2
STKA ScP **ScP 09 01 14.0 +3.9**
comp=Z,13nm,1.1s,baz=66,slow=1.8,SNR=4.7
STKA LR LR 09 04 59.1
comp=Z,620nm,20.2s,baz=22,slow=35
SANI Sanana 28.65 277 P **P 08 54 26.1 +1.5**
SOEI Soe 30.01 262 *e*P **P 08 54 36.8 0.0**
comp=Z,38nm,0.9s
SOEI Soe 30.01 262 P **P 08 54 37.6 +0.8**
FITZ Fitzroy Crossi 30.36 245 *e*P **P 08 54 38.7 -1.0**
comp=Z,32nm,0.8s
FITZ Fitzroy Crossi 30.36 245 P **P 08 54 38.6 -1.0**
baz=30,SNR=24
WRKA Warakurna 31.11 231 P **P 08 54 45.3 -1.1**
baz=31,SNR=17
MMRI Maumere 31.96 264 *e*P **P 08 54 50.2 -3.6**
comp=Z,63nm,0.7s
LUWI Luwuk 31.99 278 *e*P **P 08 54 52.7 -1.5**
comp=Z,103nm,0.9s
MRSI Marisa 33.11 281 P P 08 55 15.3 +11
APSI Ampana 33.12 278 P **P 08 55 04.9 +0.9**
BSSI Bau Bau, Buton 33.70 269 P **P 08 55 09.3 +0.2**
BNSI Bone 34.19 272 P **P 08 55 14.2 +0.8**
KAPI Kappang 34.50 270 *e*P **P 08 55 15.2 -0.8**
comp=Z,26nm,1.1s
KAPI Kappang 34.50 270 *e*P **P 08 55 15.2 -0.8**
KAPI pmax pmax
comp=Z,26nm,1.1s
FORT Forrest 34.63 222 *e*P **P 08 55 15.6 -1.3**
comp=Z,43nm,1.1s
MPSI Mapaga 35.08 280 P **P 08 55 20.1 -0.9**
URZ Urewera 37.82 150 P **P 08 55 44.3 +0.2**
comp=Z,5.2nm,0.6s,baz=315,slow=5.7,SNR=4.0
THZ Tophouse 38.88 158 *e*P **P 08 55 52.9 -0.1**
comp=Z,28nm,0.9s
TGY Tagaytay City 38.95 302 LR LR 09 09 34.2
comp=Z,526nm,20.7s,baz=360,slow=33
KMBL Kambalda 39.27 227 P **P 08 55 55.5 -0.9**
baz=39,SNR=6.5
MEEK Meekatharra 39.56 235 P **P 08 55 58.2 -0.8**
baz=40,SNR=9.1
RPZ Rata Peaks 39.95 161 *e*P **P 08 56 01.4 -0.5**
comp=Z,52nm,1.4s
RPZ Rata Peaks 39.95 161 P **P 08 56 01.7 -0.2**
comp=Z,12nm,0.9s,baz=315,slow=10.0,SNR=3.8
RPZ LR LR 09 12 15.7
comp=Z,349nm,18.9s,baz=92,slow=36
KKM Kota Kinabalu 40.06 287 P **P 08 56 04.0 +0.7**
JOW Kunigami 41.61 324 P **P 08 56 16.3 +0.6**
comp=Z,1.1nm,0.5s,baz=106,slow=17,SNR=4.1
PWJI Pagerwojo 42.28 265 P **P 08 56 20.0 -1.4**
MORW Morawa 42.63 233 *e*P **P 08 56 23.0 -1.1**
comp=Z,38nm,1.0s
PCJI Pacitan 42.90 265 P **P 08 56 25.6 -0.8**
SBUM Sibu 43.02 280 *e*P **P 08 56 28.1 +0.7**
comp=Z,10nm,1.1s
SBUM Sibu 43.02 280 P **P 08 56 29.0 +1.6**
YULB Yu-li 43.84 314 *e*P **P 08 56 34.4 +0.5**
comp=Z,40nm,0.9s
NACB Ninganchiao 44.12 315 *e*P **P 08 56 36.8 +0.7**
comp=Z,90nm,1.2s
SSLB Suanglung 44.33 314 *e*P **P 08 56 37.1 -0.7**
comp=Z,26nm,0.9s
YHNB Yeheng 44.58 315 *e*P **P 08 56 40.8 +0.9**
comp=Z,83nm,1.2s
JNU Nakatsue 45.20 332 *e*P **P 08 56 43.7 -0.9**
comp=Z,31nm,1.0s
MJAR Matsushiro Arr 45.33 342 P **P 08 56 43.7 -1.8**
comp=Z,3.2nm,0.9s,baz=169,slow=8.4,SNR=4.2
MAJO Matsushiro 45.33 342 *i* P **P 08 56 44.5 -1.0**
MAJO pmax pmax
comp=Z,7.0nm,1.1s
CISI Cisompet, Garu 46.24 266 P P 08 56 42.9 -10
LEM Lembang 46.46 267 P **P 08 56 55.0 0.0**
LEM pmax pmax
comp=Z,39nm,0.7s
CBJI Citeko 47.24 267 P **P 08 57 05.1 +4.2**
comp=Z,97nm,1.0s
DLV T Lat 49.16 292 *e*P **P 08 57 15.6 -0.4**
comp=Z,54nm,0.9s
KSRS Korea Array 50.13 332 P **P 08 57 22.1 -0.6**
comp=Z,5.8nm,0.9s,baz=153,slow=8.5,SNR=13
KSAR Wonju Array Be 50.14 332 *e*P **P 08 57 21.0 -1.8**
KSAR Wonju Array Be 50.14 332 *e*P **P 08 57 21.0 -1.8**
NJ2 Nanjing 51.08 321 *e*P **P 08 57 30.8 +0.8**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
WHN Wuhan 53.10 316 ⇑P **P 08 57 46.4 +1.4**
WHN pP **sP 08 57 59.4 -2.2**
WHN pmax pmax
comp=Z,58nm,1.1s
USRK Ussuriysk Ar. 54.27 340 P **P 08 57 52.5 -0.8**
comp=Z,2.4nm,0.7s,baz=174,slow=4.3,SNR=3.6
IPM Ipoh 54.37 280 P **P 08 57 55.0 +0.3**
SKNT Sakolnakorn 54.98 296 P **P 08 57 59.8 +0.8**
comp=Z,22nm,0.8s
PPT2 Papeete2 55.74 107 *e*LR LR 09 14 36.0
comp=Z,201nm,22.5s
NONG Nongkai 56.10 297 P **P 08 58 08.0 +0.9**
comp=Z,0.5nm,1.1s
ENH Enshi 56.40 313 *e*P **P 08 58 09.5 +0.5**
comp=Z,30nm,0.7s
TBI Tubuai 56.46 114 *e*LQ LQ 09 12 28.0
comp=Z,412nm,28.2s
TBI LR LR 09 14 55.1
comp=Z,383nm,33.2s
PHET Kaeng Krachan 57.69 290 P **P 08 58 19.9 +1.5**
comp=Z,48μm,0.9s

NANT Nan 58.54 296 P **P 08 58 25.7 +1.5**
comp=Z,28μm,1.0s,comp=Z,472μm
SRDT SRDT 58.57 291 P **P 08 58 26.5 +2.0**
comp=Z,22nm,0.9s,comp=Z,2μm
KLR Kul'dur 58.82 343 *i* P **P 08 58 25.4 -0.2**
KLR pmax pmax
comp=Z,10.0nm,1.0s
KLR Kul'dur 58.82 343 P **P 08 58 25.3 -0.3**
comp=Z,7.9nm,0.9s,baz=169,slow=4.5
XAN Xi'an 58.87 316 P **P 08 58 26.4 +0.1**
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN Xi'an 58.87 316 *e*P **P 08 58 26.4 +0.1**
comp=Z,55nm,1.6s
XAN Xi'an 58.87 316 *e*P **P 08 58 26.4 +0.1**
XAN pmax pmax
comp=Z,55nm,1.6s
KMI Kunming 59.19 304 P **P 08 58 30.4 +1.5**
KMI pmax pmax
comp=Z,20nm,1.0s
PETK Petropavlovsk- 59.34 2 P **P 08 58 30.1 +1.0**
comp=Z,24nm,1.2s,baz=193,slow=5.9,SNR=5.0
PETK LR LR 09 20 10.2
comp=Z,177nm,21.6s,baz=190,slow=32
LAMP Lampang 59.40 296 P **P 08 58 32.4 +2.2**
comp=Z,21μm,1.0s,comp=Z,472μm
PAYA Payao 59.47 297 P **P 08 58 33.3 +2.6**
comp=Z,32μm,0.8s
CMAR Chiang Mai Arr 59.99 295 *i* P **P 08 58 35.7 +1.4**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 59.99 295 P **P 08 58 35.2 +0.9**
comp=Z,2.6nm,0.4s,baz=114,slow=5.2,SNR=18
CMMT Chiang Mai 60.10 296 P **P 08 58 36.8 +1.7**
comp=Z,6.0nm,1.5s
CHTO Chiang Mai 60.11 296 *e*P **P 08 58 34.1 -1.0**
comp=Z,10nm,1.1s
CHTO Chiang Mai 60.11 296 *e*P **P 08 58 34.1 -1.0**
CHTO pmax pmax
comp=Z,10.0nm,1.1s
CD2 Chengdu 60.98 311⇑*i*P **P 08 58 41.9 +1.0**
CD2 pmax pmax
comp=Z,80nm,1.0s
HHC Hu-ho-hao-te 61.26 324 *e*P **P 08 58 45.2 +2.5**
HHC pmax pmax
comp=Z,69nm,1.1s
HHC pmax pmax
comp=Z,210nm,6.3s
HIA Hailar 63.13 335 *e*P **P 08 58 53.9 -1.0**
comp=Z,20nm,1.0s
HIA Hailar 63.13 335 *e*P **P 08 58 53.9 -1.0**
HIA pmax pmax
comp=Z,20nm,1.0s
LZH Lanzhou 63.47 316 *e*P **P 08 58 57.1 -0.5**
LZH pP pP 08 59 10.5 +1.1
LZH sP pwP 08 59 16.3 -0.6
LZH *e*PP **PP 09 01 18.5 +0.7**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,97nm,8.0s
LZH LR LR
comp=Z,370nm,16.5s
LZH LR LR
comp=Z,370nm,16.2s
LZH LR LR
comp=Z,550nm,18.3s
ZEA Zeya 64.13 342 *e*P **P 08 59 00.5 -0.8**
ZEA pmax pmax
comp=Z,23nm,1.0s
MA2 Magadan 65.82 358 *i* P **P 08 59 11.3 -0.9**
MA2 pmax pmax
comp=Z,3.0nm,0.9s
MA2 Magadan 65.82 358 P **P 08 59 11.8 -0.4**
comp=Z,3.2nm,0.7s,baz=152,slow=6.1,SNR=4.0
CASY Casey 66.98 198 *e*P **P 08 59 18.9 -0.7**
comp=Z,9.7nm,0.9s
ULN Ulaanbaatar 68.18 328 *e*P **P 08 59 27.8 +0.1**
comp=Z,12nm,0.9s
ULN Ulaanbaatar 68.18 328 *i* P **P 08 59 28.0 +0.3**
ULN pmax pmax
comp=Z,5.0nm,1.1s
SHL Shillong 68.48 301 *e*P **P 08 59 30.5 +0.5**
comp=Z,40nm,1.0s
SONM Songino Array 68.51 327 *e*P **P 08 59 29.3 -0.4**
SONM Songino Array 68.51 327 *e*P **P 08 59 29.3 -0.4**
SONM Songino Array 68.51 327 P **P 08 59 29.1 -0.6**
comp=Z,3.1nm,0.6s,baz=113,slow=3.7,SNR=2.8
SEY Seymchan 69.14 359 *i* P **P 08 59 33.0 -0.1**
VNDA Vanda 71.20 178 *e*P **P 08 59 45.8 +0.2**
comp=Z,6.5nm,1.1s
VNDA Vanda 71.20 178 *e*P **P 08 59 45.8 +0.2**
VNDA pmax pmax
comp=Z,7.0nm,1.1s
VNDA Vanda 71.20 178 P **P 08 59 45.5 -0.1**
comp=Z,4.2nm,0.9s,baz=333,slow=7.4,SNR=25
ZAK Zakamensk 71.67 328 *e*P **P 08 59 48.6 -0.4**
ZAK pmax pmax
comp=Z,12nm,1.1s
SBA Scott Base 71.72 177 P **P 08 59 49.9 +1.2**
SBA pmax pmax
comp=Z,8.0nm,1.8s
BOD Bodaibo 71.84 339 *e*P **P 08 59 47.6 -2.1**
BOD pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 72.25 330 *i* P **P 08 59 52.6 +0.3**
TLY pmax pmax
comp=Z,8.0nm,1.1s
JIRN Jiri 73.97 301 *e*P **P 09 00 03.8 +0.4**
comp=Z,156nm,1.6s
GAMB Gambell 74.49 15 *e*P **P 09 00 04.7 -0.5**
PKI Pulchoki 74.61 301 *e*P **P 09 00 07.1 0.0**
comp=Z,96nm,1.4s
PKIN Phulchoki 74.62 301 *e*P **P 09 00 07.1 0.0**
comp=Z,64nm,1.3s
BILL Bilibino 74.73 5 *e*P **P 09 00 04.8 -1.7**
BILL *e* 09 02 52.9
BILL pmax pmax
comp=Z,3.0nm,0.9s
KKN Kakani 74.78 301 *e*P **P 09 00 08.3 +0.3**
comp=Z,16nm,0.6s
DMN Daman 74.88 301 *e*P **P 09 00 08.9 +0.3**
comp=Z,91nm,1.1s
GKN Gorkha 75.39 301 *e*P **P 09 00 11.7 +0.3**
KOLN Koldanda 76.21 300 *e*P **P 09 00 16.2 0.0**
comp=Z,37nm,0.8s
DANN Dangsing 76.22 301 *e*P **P 09 00 16.1 -0.2**
comp=Z,66nm,1.0s
PYUN Piuthan 76.81 301 *e*P **P 09 00 19.2 -0.4**
comp=Z,64nm,0.9s
ANM Nome 76.82 17 *e*P **P 09 00 18.2 -0.4**
comp=Z,14nm,1.0s
ANM Nome 76.82 17 *e*P **P 09 00 18.2 -0.4**
ANM pmax pmax
comp=Z,14nm,1.0s
WMQ Urumqi 77.98 317 *e*P **P 09 00 26.8 +1.2**
TIXI Tiksi 79.68 352 *i* P **P 09 00 34.0 -0.2**
TIXI pmax pmax
comp=Z,2.0nm,1.1s
TIXI Tiksi 79.68 352 P **P 09 00 33.4 -0.8**
comp=Z,0.4nm,0.2s,baz=130,slow=8.4
SUA Susitna One 79.76 24 *e*P **P 09 00 35.2 +0.2**
comp=Z,7.1nm,0.7s
RC01 Rabbit Creek A 79.96 24 *e*P **P 09 00 36.5 +0.6**
comp=Z,27nm,1.3s
RDOG Red Dog Mine 80.09 15 *e*P **P 09 00 36.9 +0.3**
comp=Z,12nm,0.8s
DGZ Jazzator, Alta 80.31 323 *i* P **P 09 00 37.9 -0.4**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
CAST Castle Rocks 80.38 22 *e*P **P 09 00 37.3 -0.9**
comp=Z,8.7nm,0.8s
PMR Palmer 80.48 24 *e*P **P 09 00 37.7 -1.0**
comp=Z,23nm,1.5s
PMR Palmer 80.48 24 *e*P **P 09 00 37.7 -1.0**
PMR pmax pmax
comp=Z,23nm,1.5s
GHO Glory Hole Cre 80.66 24 *e*P **P 09 00 40.1 +0.3**
comp=Z,10nm,1.0s
IMAR Indian Mountai 81.35 19 *e*P **P 09 00 43.0 -0.4**
RND Reindeer 81.58 22 *e*P **P 09 00 43.7 -0.9**
comp=Z,9.7nm,1.1s
RND Reindeer 81.58 22 *e*P **P 09 00 43.7 -0.9**
RND pmax pmax
comp=Z,10.0nm,1.1s
MCK McKinley 81.72 22 *e*P **P 09 00 44.2 -1.1**

comp=Z,18nm,1.0s
MCK McKinley 81.72 22 *e*P **P 09 00 44.2 -1.1**
MCK pmax pmax
comp=Z,18nm,1.0s
KLU Klutina 81.74 25 *e*P **P 09 00 46.0 +0.5**
comp=Z,24nm,1.3s
MLY Manley 81.80 21 *e*P **P 09 00 45.0 -0.7**
comp=Z,8.4nm,1.2s
DHY Denali Highway 81.97 23 *e*P **P 09 00 46.2 -0.6**
comp=Z,5.2nm,0.8s
WRH Wood River Hil 82.44 22 *e*P **P 09 00 51.9 +2.8**
comp=Z,12nm,1.4s
MK31 Makanchi Array 82.56 319 *e*P **P 09 00 50.3 +0.2**
comp=Z,6.6nm,0.9s
MKAR Makanchi Array 82.56 319 P **P 09 00 50.5 +0.3**
comp=Z,3.3nm,0.8s,baz=108,slow=5.1,SNR=24
CCB Clear Creek Bu 82.63 22 *e*P **P 09 00 49.0 -1.0**
comp=Z,4.9nm,1.0s
MDM Murphy Dome 82.65 21 *e*P **P 09 00 50.4 +0.3**
comp=Z,5.9nm,1.2s
COLA College 82.74 21 *e*P **P 09 00 49.0 -1.5**
comp=Z,8.4nm,0.8s
COLA College 82.74 21 *i* P **P 09 00 48.3 -2.2**
COLA pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 82.77 319 *e*P **P 09 00 51.0 -0.2**
comp=Z,12nm,1.1s
ILAR Eielson Array 83.03 22 *e*P **P 09 00 50.0 -2.2**
ILAR Eielson Array 83.03 22 *e*P **P 09 00 50.0 -2.2**
ILAR Eielson Array 83.03 22 P **P 09 00 49.8 -2.3**
comp=Z,1.8nm,0.8s,baz=248,slow=5.4,SNR=17
ILAR LR LR 09 36 35.6
comp=Z,372nm,19.3s,baz=254,slow=35
ILB Eielson Array 83.03 22 *e*P **P 09 00 50.9 -1.2**
comp=Z,3.2nm,0.7s
COLD Coldfoot 83.23 19 *e*PcP **PcP 09 00 58.9 +1.4**
RIDG Independent Ri 83.29 23 *e*P **P 09 00 53.2 -0.3**
comp=Z,9.7nm,1.1s
ZAA0 Zalesovo Array 83.35 326 *e*P **P 09 00 52.7 -1.3**
comp=Z,2.9nm,0.8s
ZALV Zalesovo Beam 83.35 326 *e*P **P 09 00 52.7 -1.3**
ZALV Zalesovo Beam 83.35 326 *i* P **P 09 00 54.2 +0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 83.35 326 P **P 09 00 53.0 -0.9**
comp=Z,1.3nm,0.4s,baz=107,slow=5.1,SNR=7.6
PDGK Podgornoye 83.50 315 P **P 09 00 55.7 +0.5**
PDGK pmax pmax
comp=Z,3.0nm,0.8s
DOT Dot Lake 83.55 23 *e*P **P 09 00 55.1 +0.3**
comp=Z,17nm,1.4s
QSPA South Pole Qui 83.58 180 *e*P **P 09 00 55.5 +0.3**
comp=Z,36nm,1.1s
SCRK Sand Creek 83.73 23 *e*P **P 09 00 55.6 -0.3**
comp=Z,4.0nm,1.0s
BCAR Beaver Creek A 84.19 24 *e*P **P 09 00 58.4 +0.2**
TOLK Toolik Lake Re 84.23 18 *e*P **P 09 00 58.5 +0.3**
comp=Z,7.2nm,0.9s
TARG Taragay, Kyrgy 84.31 313 *e*P **P 09 01 00.2 +0.4**
comp=Z,7.6nm,0.9s
MAW Mawson 84.72 203 *e*P **P 09 01 00.3 -0.4**
comp=Z,7.1nm,1.4s
MAW Mawson 84.72 203 P **P 09 01 01.4 +0.6**
baz=85,SNR=15
MAW Mawson 84.72 203 *e*P **P 09 01 00.3 -0.4**
MAW pmax pmax
comp=Z,7.0nm,1.4s
MAW Mawson 84.72 203 P **P 09 01 00.9 +0.2**
comp=Z,10nm,0.6s,baz=100,slow=6.5,SNR=27
KDJ Kajisay 84.86 313 *e*P **P 09 01 01.1 -1.1**
comp=Z,15nm,0.9s
KDJ Kajisay 84.86 313 *e*P **P 09 01 01.1 -1.1**
KDJ pmax pmax
comp=Z,15nm,0.9s
KSH Kashi 85.17 310 P **P 09 01 06.3 +2.5**
KSH pP sP 09 01 18.9 -1.8
KSH PP **PP 09 04 25.6 +3.8**
KSH S **S 09 11 31.7 +1.3**
KSH SS **SS 09 17 10.4 +5.1**
KSH pmax pmax
comp=Z,58nm,1.2s
KSH pmax pmax
comp=Z,330nm,6.6s
KSH LR LR
comp=Z,260nm,12.9s
KSH LR LR
comp=Z,260nm,12.4s
KSH LR LR
comp=Z,400nm,10.0s
BMAR Burnt Mountain 85.19 20 *e*P **P 09 01 03.4 +0.3**
EGAK Eagle 85.19 23 *e*P **P 09 01 03.0 -0.1**
comp=Z,6.2nm,0.9s
NRN Naryn 85.56 312 *e*P **P 09 01 03.6 -2.3**
comp=Z,14nm,1.4s
NRN Naryn 85.56 312 *e*P **P 09 01 03.6 -2.3**
NRN pmax pmax
comp=Z,14nm,1.4s
KURK Kurchatov 86.00 322 *e*P **P 09 01 06.9 -0.5**
comp=Z,14nm,1.4s
KURK Kurchatov 86.00 322 *i* P **P 09 01 05.5 -1.9**
KURK pmax pmax
comp=Z,5.0nm,1.1s
NIL Nilore 86.18 304 *e*P **P 09 01 07.5 -1.3**
comp=Z,16nm,0.7s
NIL Nilore 86.18 304 *e*P **P 09 01 07.5 -1.3**
NIL pmax pmax
comp=Z,15nm,0.7s
AAK Ala-Archa 86.91 313 *i* P **P 09 01 09.8 -2.5**
AAK pmax pmax
comp=Z,1.0nm,0.8s
EPYK Eagle Plains 87.53 22 *e*P **P 09 01 13.8 -0.8**
comp=Z,13nm,0.8s
ARSB Arslanbob 87.77 312 *e*P **P 09 01 15.3 -1.1**
comp=Z,24nm,1.3s
HUMO Hull Mountain 88.89 47 *e*P **P 09 01 22.1 +0.5**
comp=Z,4.4nm,1.1s
YBH Yreka Blue Hor 88.93 48 *e*P **P 09 01 22.4 +0.5**
comp=Z,3.6nm,1.2s
YBH Yreka Blue Hor 88.93 48 *e*P **P 09 01 22.4 +0.5**
YBH pmax pmax
comp=Z,4.0nm,1.2s
BTK Batken 89.18 310 *e*P **P 09 01 23.3 +0.2**
comp=Z,13nm,1.2s
BTK Batken 89.18 310 *e*P **P 09 01 23.3 +0.2**
BTK pmax pmax
comp=Z,13nm,1.2s
KBL Kabul 89.77 305 P **P 09 01 25.1 -1.0**
KBL pmax pmax
comp=Z,6.0nm,0.5s
AFDM Forest Hills D 89.81 51 *e*P **P 09 01 26.7 +0.7**
comp=Z,4.4nm,1.1s
KK31 Karatay Array 89.87 313 *e*P **P 09 01 25.9 -0.3**
comp=Z,4.4nm,1.1s
KK31 Karatay Array 89.87 313 *e*P **P 09 01 25.9 -0.3**
KK31 pmax pmax
comp=Z,4.0nm,1.1s
KKAR Karatay Array 89.87 313 *e*P **P 09 01 25.9 -0.3**
comp=Z,4.4nm,1.1s
KKAR *e*P **P 09 01 26.1 -0.1**
KKAR Karatay Array 89.87 313 *e*P **P 09 01 25.9 -0.3**
KKAR pmax pmax
comp=Z,4.0nm,1.1s
BEKR Beckworth 90.41 50 *e*P **P 09 01 29.3 +0.4**
comp=Z,2.8nm,0.7s
MOD Modoc Plateau 90.73 48 *e*P **P 09 01 30.2 -0.1**
comp=Z,3.2nm,1.1s
VCNR Virginia City 90.88 51 *e*P **P 09 01 31.8 +0.6**
comp=Z,3.6nm,0.8s
PNTR Pine Nut 90.89 51 *e*P **P 09 01 32.2 +1.0**
comp=Z,7.1nm,0.9s
MWC Mount Wilson 91.52 56 *e*P **P 09 01 35.0 +0.7**
comp=Z,17nm,0.9s
MWC *e*pP **pP 09 01 46.4 -1.5**
MWC Mount Wilson 91.52 56 *e*P **P 09 01 35.0 +0.7**
MWC *e**PP **pP 09 01 46.4 -1.5**
MWC pmax pmax
comp=Z,17nm,0.9s
BRVK Borovoye 91.53 323 *i* P **P 09 01 32.8 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
RYN Ryan 91.67 51 *e*P **P 09 01 35.3 +0.5**
comp=Z,5.2nm,0.9s
NVAR Mina Array Bea 91.81 52 *e*P **P 09 01 36.0 +0.4**
NVAR Mina Array Bea 91.81 52 P **P 09 01 35.5 0.0**
comp=Z,5.6nm,0.8s,baz=254,slow=6.5,SNR=37
NVAR LR LR 09 38 37.8
comp=Z,316nm,18.4s,baz=310,slow=33

NV11	**Mina Array Sit**	**91.93**	**52**	*e*P	**P**	**09 01 35.8**	**-0.3**
	comp=Z,0.4nm,0.9s						
WVOR	**Wild Horse Val**	**92.03**	**48**	*e*P	**P**	**09 01 35.9**	**-0.5**
	comp=Z,2.9nm,0.9s						
KVN	**Kaiserville**	**92.04**	**51**	*e*P	**P**	**09 01 35.4**	**-1.2**
	comp=Z,4.3nm,0.9s						
KVN	**Kaiserville**	**92.04**	**51**	*e*P	**P**	**09 01 35.4**	**-1.2**
KVN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
J08A	**Circle Bar Ran**	**92.25**	**47**	*e*P	**P**	**09 01 37.3**	**0.0**
	comp=Z,3.2nm,1.0s						
BMN	**Battle Mountai**	**92.86**	**50**	*e*P	**P**	**09 01 40.3**	**0.0**
	comp=Z,3.0nm,0.8s						
BMO	**Blue Mountains**	**93.25**	**45**	*e*P	**P**	**09 01 41.5**	**-0.4**
	comp=Z,7.5nm,1.6s						
BMO	**Blue Mountains**	**93.25**	**45**	*e*P	**P**	**09 01 41.5**	**-0.4**
BMO				pmax	pmax		
	comp=Z,8.0nm,1.6s						
TPNV	**Topopah Spring**	**93.28**	**53**	*e*P	**P**	**09 01 42.3**	**0.0**
	comp=Z,5.8nm,1.1s						
TPNV	**Topopah Spring**	**93.28**	**53**	*e*P	**P**	**09 01 42.3**	**0.0**
TPNV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
R11A	**Troy Canyon, C**	**93.93**	**52**	*e*P	**P**	**09 01 46.0**	**+0.7**
	comp=Z,4.1nm,1.1s						
SHPR	**Sheep Range**	**94.11**	**54**	*e*P	**P**	**09 01 47.1**	**+1.0**
	comp=Z,4.1nm,1.0s						
ELK	**Elko**	**94.40**	**50**	*e*P	**P**	**09 01 48.0**	**+0.6**
	comp=Z,3.9nm,1.2s						
ELK	**Elko**	**94.40**	**50**	*e*P	**P**	**09 01 48.0**	**+0.6**
ELK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
W13A	**Hualapai Mount**	**95.03**	**55**	*e*P	**P**	**09 01 50.8**	**+0.4**
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**96.08**	**28**	P	**P**	**09 01 54.3**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=264,slow=4.6,SNR=10						
YKA				LR	LR	09 39 44.3	
	comp=Z,11nm,21.4s,baz=320,slow=32						
PDAR	**Pinedale Array**	**98.73**	**48**	*e*P	**P**	**09 02 05.6**	**-1.5**
PDAR	**Pinedale Array**	**98.73**	**48**	P	**P**	**09 02 05.5**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=225,slow=2.5,SNR=10						
PV23	**Carpenter Ridg**	**99.09**	**52**	*e*P	**Pdif**	**09 02 07.3**	**-1.5**
	comp=Z,4.9nm,0.9s						
PV12	**Saucer Basin,**	**99.25**	**52**	*e*P	**Pdif**	**09 02 09.3**	**-0.2**
	comp=Z,4.1nm,0.9s						
TXAR	**Lajitas Array**	**103.49**	**61**	Pdiff	**Pdif**	**09 02 29.8**	**+1.4**
	comp=Z,0.3nm,0.9s,baz=225,slow=1.1,SNR=2.1						
TXAR				PKPPKP	**P'P'df**	**09 26 38.5**	**-4.2**
	comp=Z,0.3nm,0.9s,baz=96,slow=3.6,SNR=3.4						
BOSA	**Boshof**	**119.93**	**232**	PKP	**PKPdf**	**09 07 17.9**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=76,slow=2.3,SNR=6.8						
VYHS	**Vyhne**	**123.69**	**326**	*e*PKIKP	**PKiKP**	**09 07 29.1**	**+4.1**
VYHS	**Vyhne**	**123.69**	**326**	*e*PKP	**PKiKP**	**09 07 29.1**	**+4.1**
LPAZ	**La Paz**	**132.26**	**119**	PKP	**PKPdf**	**09 07 42.0**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=276,slow=5.5,SNR=6.3						
BDFB	**Brasilia**	**148.82**	**135**	PKPbc	**PKPbc**	**09 08 14.2**	**-1.5**
	comp=Z,4.1nm,0.7s,baz=261,slow=4.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**152.29**	**286**	PKP	**PKPdf**	**09 08 15.9**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=22,slow=1.5,SNR=5.3						
TORD				PKPbc	**PKPbc**	**09 08 21.9**	**-1.9**
	comp=Z,12nm,0.8s,baz=73,slow=2.4,SNR=51						
TORD				PKPab	**PKPab**	**09 08 33.0**	**-0.8**
	comp=Z,10nm,0.8s,baz=58,slow=2.4,SNR=13						

IDC 12 08:54:50.4±7.1, 26°.80N×57°.55E, h0km, mb3.4/3, mb1 3.4/3, mb1mx3.1/46, mbtmp3.4/3, Error ellipse: s-maj=139.6km s-min=54.5km az=115.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**23.70**	**309**	P	P	09 00 04.2	+0.1
	0.4nm,0.7s,baz=122,slow=10,SNR=3.9						
FINES	**FINESS Array B**	**40.57**	**337**	P	P	09 02 31.1	-0.2
	0.4nm,0.6s,baz=142,slow=8.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**53.84**	**267**	P	P	09 04 15.4	-0.1
	0.3nm,0.5s,baz=62,slow=7.8,SNR=4.3						

NIED ***12*** *09:00:00, 46°.80N×152°.90E, h35km, Mw4.6 Best double couple: M0=8.07000×10^15 NP1:φ=224.00000°, δ=56.00000°, λ=-168.00000°. NP2:φ=127.00000°, δ=80.00000°, λ=-35.00000°.*

JMA ***12*** *09:00:33.3±0.7, 46°.78N×152°.94E, h30km, M5.2*

ISCJB ***12*** *09:00:34.9±0.4, 46°.57N±0°.02×152°.77E±0°.03, h46km±3km, mb4.9/210, MS4.3/12, Error ellipse: s-maj=4.3km s-min=2.5km az=155.0*

SKHL ***12*** *09:00:34.7±0.2, 46°.41N×153°.12E, h65km±4km, mb5.2/13, Ms4.0/3, msh4.9/2*

BJI ***12*** *09:00:35.4±0.0, 46°.74N×153°.00E, h69km, mb4.9/42, mB5.0/28, Ms4.7/11, Ms7 4.5/12*

MOS ***12*** *09:00:36.1±0.9, 46°.67N×152°.67E, h51km, mb5.1/82, Error ellipse: s-maj=6.2km s-min=4.2km az=97.4*

IDC ***12*** *09:00:38.8±2.1, 46°.72N×152°.58E, h62km±18km, mb4.2/34, mb1 4.3/40, mb1mx4.2/66, mbtmp4.5/40, MS3.9/13, Ms1 3.9/13, ms1mx3.7/40, Error ellipse: s-maj=13.1km s-min=8.7km az=153.0*

NEIC ***12*** *09:00:39.5±1.6, 46°.69N×152°.59E, h70km±5km, mb4.8/105, Error ellipse: s-maj=17.6km s-min=12.1km az=143.0*

ISC 12 09:00:36.7±0.9, 46°.54N±0°.05×152°.81E±0°.05, h50km±8km, n854, σ1§13/885, mb4.8/211, MS4.4/12, 26C-28D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.69**	**251**	*i* PN	**Pn**	**09 01 32.1**	**+0.9**
KUR				*i* S	**Sn**	**09 02 14.3**	**+0.9**
KUR				pmax	pmax		
	comp=Z,494nm,0.6s						
KUR				pmax	pmax		
	comp=E,37nm,0.2s						
KUR				pmax	pmax		
	comp=N,78nm,0.5s						
KUR				smax	smax		
	comp=N,915nm,0.6s						
KUR				smax	smax		
	comp=E,454nm,0.6s						
KUR	**Kuril'sk**	**3.69**	**251**	*i* P	**Pn**	**09 01 32.0**	**+0.9**
KUR				AMB	AMB	09 01 32.0	
	comp=E,90nm,0.6s						
KUR				AMB	AMB	09 01 32.0	
	comp=E,40nm,0.6s						
KUR				AMB	AMB	09 01 32.0	
	comp=E,490nm,0.6s						
KUR				*i* S	**Sn**	**09 02 14.8**	**+1.4**
KUR				A	A	09 02 22.0	
	comp=E,920nm,0.6s						
KUR				A	A	09 02 22.0	
	comp=E,450nm,0.6s						
KUR				A	A	09 02 31.4	
	comp=E,3μm,2.0s						
KUR				A	A	09 02 31.4	
	comp=E,4μm,2.0s						
KUR				AMS	AMS	09 03 03.5	
	comp=E,500nm,13.0s						
KUR				AMS	AMS	09 03 03.5	
	comp=E,2μm,13.0s						
SKR	**Severo-Kuril's**	**4.69**	**27**	*e*PN	**Pn**	**09 01 45.0**	**+0.2**
SKR				*e*S	**Sn**	**09 02 34.7**	**-3.1**
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				smax	smax		
	comp=N,394nm,0.6s						
SKR				smax	smax		
	comp=E,657nm,0.7s						
SKR				MLR	MLR		
	comp=Z,500nm,14.0s						
SKR	**Severo-Kuril's**	**4.69**	**27**	*e*P	**Pn**	**09 01 43.2**	**-1.6**
SKR				AMB	AMB	09 01 54.0	
	comp=Z,230nm,0.5s						
SKR				*e*S	**Sn**	**09 02 34.7**	**-3.1**
SKR				A	A	09 02 42.0	
	comp=Z,390nm,0.6s						
SKR				A	A	09 02 42.0	
	comp=Z,660nm,0.6s						
SKR				AMS	AMS	09 03 56.7	
	comp=Z,500nm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.51**	**245⇑**	*i* PN	**Pn**	**09 01 57.7**	**+1.7**
YUK				*i* S	**Sn**	**09 03 00.2**	**+2.2**
YUK				pmax	pmax		
	comp=Z,303nm,0.4s						
YUK				pmax	pmax		
	comp=N,77nm,0.3s						
YUK				pmax	pmax		
	comp=E,130nm,0.2s						
YUK				smax	smax		
	comp=N,488nm,0.7s						
YUK				smax	smax		
	comp=E,914nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.51**	**245**	*i* P	**Pn**	**09 01 57.1**	**+1.1**
YUK				AMB	AMB	09 02 00.4	
	comp=E,80nm,0.4s						
YUK				AMB	AMB	09 02 00.4	
	comp=E,130nm,0.4s						
YUK				AMB	AMB	09 02 00.4	
	comp=E,300nm,0.4s						
YUK				*i* S	**Sn**	**09 02 58.5**	**+0.5**
YUK				A	A	09 03 15.3	
	comp=E,490nm,0.7s						
YUK				A	A	09 03 15.3	
	comp=E,900nm,0.7s						
LAGR	**Lagunnoye**	**5.54**	**246**	*e*PN	**Pn**	**09 01 57.5**	**+0.9**
LAGR				*e*S	**Sn**	**09 02 59.9**	**+1.0**
LAGR				pmax	pmax		
	comp=Z,301nm,0.4s						
LAGR				pmax	pmax		
	comp=E,215nm,0.2s						
LAGR				pmax	pmax		
	comp=N,238nm,0.5s						
LAGR				smax	smax		
	comp=N,601nm,0.8s						
LAGR				smax	smax		
	comp=E,2μm,0.6s						
LAGR	**Lagunnoye**	**5.54**	**246**	*e*P	**Pn**	**09 01 57.0**	**+0.4**
LAGR				AMB	AMB	09 02 00.0	
	comp=E,240nm,0.4s						
LAGR				AMB	AMB	09 02 00.0	
	comp=E,220nm,0.4s						
LAGR				AMB	AMB	09 02 00.0	
	comp=E,300nm,0.4s						
LAGR				*e*S	**Sn**	**09 02 59.0**	**+0.1**
LAGR				A	A	09 03 12.0	
	comp=E,600nm,0.7s						
LAGR				A	A	09 03 12.0	
	comp=E,160nm,0.7s						
GRPR	**Tuman**	**5.58**	**245**	*e*PN	**Pn**	**09 01 58.7**	**+1.6**
GRPR				*e*S	**Sn**	**09 03 02.1**	**+2.1**
GRPR				pmax	pmax		
	comp=Z,177nm,0.4s						
GRPR				smax	smax		
	comp=E,434nm,0.4s						
GRPR				smax	smax		
	comp=N,301nm,0.6s						
GRPR	**Tuman**	**5.58**	**245**	*e*P	**Pn**	**09 01 58.0**	**+0.9**
GRPR				AMB	AMB	09 02 04.0	
	comp=N,180nm,0.4s						
GRPR				*e*S	**Sn**	**09 03 02.0**	**+2.1**
GRPR				A	A	09 03 08.0	
	comp=N,300nm,0.5s						
GRPR				A	A	09 03 08.0	
	comp=N,430nm,0.5s						
GLVR	**Golovnino**	**5.87**	**244**	*e*PN	**Pn**	**09 02 02.0**	**+1.0**
GLVR				*e*S	**Sn**	**09 03 07.8**	**+0.9**
GLVR				pmax	pmax		
	comp=E,134nm,0.5s						
GLVR				pmax	pmax		
	comp=Z,345nm,0.5s						
GLVR				pmax	pmax		
	comp=N,125nm,0.3s						
GLVR				smax	smax		
	comp=N,450nm,0.7s						
GLVR				smax	smax		
	comp=E,604nm,0.6s						
GLVR	**Golovnino**	**5.87**	**244**	*e*P	**Pn**	**09 02 02.0**	**+1.0**
GLVR				AMB	AMB	09 02 06.0	
	comp=E,130nm,0.5s						
GLVR				AMB	AMB	09 02 06.0	
	comp=E,350nm,0.5s						
GLVR				*e*S	**Sn**	**09 03 07.0**	**+0.1**
GLVR				A	A	09 03 13.0	
	comp=E,450nm,0.7s						
GLVR				A	A	09 03 13.0	
	comp=E,600nm,0.7s						
NEM2	**Nemuro 2**	**5.94**	**240**	P	**Pn**	**09 02 00.8**	**-1.1**
NEM2				*e*S	**Sn**	**09 03 05.4**	**-3.2**
JRA	**Rausu**	**6.02**	**247**	P	**Pn**	**09 02 04.7**	**+1.6**
JNK	**Nakash**	**6.45**	**246**	P	**Pn**	**09 02 10.0**	**+1.0**
JAK	**Akkeshi**	**6.78**	**241**	P	**Pn**	**09 02 12.1**	**-1.3**
JAK				*e*S	**Sn**	**09 03 25.0**	**-4.2**
JTKR	**Abashiri--Toko**	**6.79**	**251**	P	**Pn**	**09 02 15.2**	**+1.6**
YSS	**Yuzh-Sakhalins**	**6.92**	**277**	*e*Pn	**Pn**	**09 02 17.6**	**+2.1**
YSS	**Yuzh-Sakhalins**	**6.92**	**277⇑**	*e*PN	**Pn**	**09 02 17.7**	**+2.3**
YSS				*e*S	**Sn**	**09 03 32.9**	**+0.1**
YSS				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS				MLR	MLR		
	comp=Z,800nm,13.0s						
YSS	**Yuzh-Sakhalins**	**6.92**	**277**	*e*P	**Pn**	**09 02 18.1**	**+2.7**
YSS				AMB	AMB	09 02 20.6	
	comp=Z,60nm,0.8s						
YSS				*e*S	**Sn**	**09 03 34.1**	**+1.3**
YSS				AMS	AMS	09 04 48.0	
	comp=Z,800nm,13.0s						
JMP	**Maruseppu**	**7.13**	**253**	P	**Pn**	**09 02 20.5**	**+2.1**
JAR	**Ashorobuto**	**7.19**	**246**	P	**Pn**	**09 02 20.0**	**+0.9**
JAR				*e*S	**Sn**	**09 03 39.6**	**+0.2**
PEA0B	**Petropavlovsk-**	**7.29**	**24**	*e*Pn	**Pn**	**09 02 20.9**	**+0.5**
PETK	**Petropavlovsk-**	**7.29**	**24**	*e*Pn	**Pn**	**09 02 20.8**	**+0.3**
PETK	**Petropavlovsk-**	**7.29**	**24**	P	**Pn**	**09 02 20.9**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=190,slow=12,SNR=15						
PETK				S	**Sn**	**09 03 44.4**	**+2.6**
	baz=200,slow=18,SNR=1.9						
PETK				LR	LR	09 05 49.6	
	comp=Z,161nm,18.1s,baz=206,slow=43						
PEA1	**Petropavlovsk-**	**7.29**	**24**	*e*Pn	**Pn**	**09 02 20.9**	**+0.4**
PEA1				*e*Sn	**Sn**	**09 03 44.4**	**+2.5**
JOB	**Onbets**	**7.36**	**244**	P	**Pn**	**09 02 21.1**	**-0.3**
JOB				*e*S	**Sn**	**09 03 41.0**	**-2.4**
PET	**Petropavlovsk**	**7.51**	**28**	*e*Pn	Pn	09 02 31.8	+8.4
PET				*e*Sn	**Sn**	**09 03 46.9**	**-0.1**
PET	**Petropavlovsk**	**7.51**	**28**	*e*PN	Pn	09 02 32.1	+8.7
PET	**Petropavlovsk**	**7.51**	**28**	*e*P	**Pn**	**09 02 23.4**	**0.0**
PET				*e*S	**Sn**	**09 03 43.5**	**-3.5**
PET				A	A	09 04 01.0	
	comp=Z,140nm,0.8s						
JKK2	**Kamakawa 2**	**7.59**	**253**	P	**Pn**	**09 02 26.9**	**+2.3**
JKA	**Kamikawa-asahi**	**7.59**	**255**	*e*P	**Pn**	**09 02 27.2**	**+2.5**
ASAJ	**Asahikawa**	**7.60**	**255**	P	**Pn**	**09 02 27.3**	**+2.6**
ASAJ	**Asahikawa**	**7.60**	**255**	P	**Pn**	**09 02 27.2**	**+2.6**
	comp=Z,4.1nm,0.3s,baz=88,slow=17,SNR=53						
ASAJ				LR	LR	09 05 13.1	
	comp=Z,578nm,20.8s,baz=10,slow=37						
UGL	**Uglegorsk**	**7.67**	**293**	*e*PN	**Pn**	**09 02 27.2**	**+1.6**
UGL				*e*S	**Sn**	**09 03 54.7**	**+3.7**
UGL				pmax	pmax		
	comp=Z,400nm,1.6s						
UGL				pmax	pmax		
	comp=Z,145nm,0.9s						
UGL				smax	smax		
	comp=N,88nm,0.8s						
JCH	**Churui**	**7.80**	**243**	P	**Pn**	**09 02 26.9**	**-0.6**
JCH				*e*S	**Sn**	**09 03 50.8**	**-3.7**
TYV	**Tymovskoe**	**7.99**	**306**	*e*PN	**Pn**	**09 02 31.8**	**+1.8**
TYV				pmax	pmax		
	comp=Z,28nm,0.7s						
TYV	**Tymovskoe**	**7.99**	**306**	*e*P	**Pn**	**09 02 31.8**	**+1.8**
TYV				AMB	AMB	09 02 32.4	
	comp=Z,30nm,0.7s						
TYV				A	A	09 03 54.9	
	comp=Z,150nm,0.6s						
TYV				*e*S	**Sn**	**09 03 58.8**	**-0.1**
TYV				AMS	AMS	09 05 23.8	
	comp=Z,1μm,19.0s						
JFR	**Furan**	**8.01**	**249**	P	**Pn**	**09 02 31.6**	**+1.3**
JAB	**Ashibetsu**	**8.09**	**252**	P	**Pn**	**09 02 34.1**	**+2.6**
JEM	**Erimo**	**8.27**	**240**	P	**Pn**	**09 02 33.9**	**0.0**
JEM				*e*S	**Sn**	**09 04 03.0**	**-2.9**
ERM	**Erimo**	**8.27**	**240**	*e*Pn	**Pn**	**09 02 34.7**	**+0.8**
ERM	**Erimo**	**8.27**	**240**	*c i* PN	**Pn**	**09 02 34.8**	**+0.8**
JBT2	**Biratori 2**	**8.34**	**247**	P	**Pn**	**09 02 34.5**	**-0.4**
JNBK	**Urakawa-nobuka**	**8.37**	**243**	P	**Pn**	**09 02 34.2**	**-1.0**
JEW	**Eniwo**	**8.90**	**250**	P	**Pn**	**09 02 43.6**	**+1.1**
JNB	**Noboribetsu**	**9.35**	**248**	P	**Pn**	**09 02 49.6**	**+1.0**
OKH	**Okha**	**9.46**	**321**	*e*P	**Pn**	**09 02 52.0**	**+1.9**
OKH				*e*S	**Sn**	**09 04 36.1**	**+1.2**
OKH				A	A	09 04 36.4	
	comp=Z,300nm,15.0s						
OKH				AMS	AMS	09 07 05.2	
	comp=Z,400nm,12.0s						
JKB	**Kayabe**	**9.65**	**245**	P	**Pn**	**09 02 51.3**	**-1.5**
JKB				S	**Sn**	**09 04 33.5**	**-6.2**
JSH	**Shimam**	**9.90**	**251**	P	**Pn**	**09 02 57.2**	**+0.9**
JYM2	**Yakumo 2**	**9.95**	**248**	P	**Pn**	**09 02 56.1**	**-0.8**
JSR	**Shiriuchi**	**10.23**	**245**	P	**Pn**	**09 02 58.9**	**-1.8**
NKL	**Nikolayevsk**	**10.24**	**315**	*e*PN	**Pn**	**09 03 00.5**	**-0.3**
NKL				pmax	pmax		
	comp=N,32nm,1.0s						
NKL				pmax	pmax		
	comp=E,69nm,1.0s						
NKL				pmax	pmax		
	comp=Z,86nm,1.0s						
NKL				MLR	MLR		
	comp=N,400nm,14.0s						
NKL				MLR	MLR		
	comp=Z,1μm,14.0s						
NKL	**Nikolayevsk**	**10.24**	**315**	*e*P	**Pn**	**09 03 01.0**	**+0.2**
NKL				AMB	AMB	09 03 04.3	
	comp=Z,30nm,1.0s						
NKL				AMB	AMB	09 03 04.3	
	comp=Z,70nm,1.0s						
NKL				AMB	AMB	09 03 04.3	
	comp=Z,90nm,1.0s						
NKL				AMS	AMS	09 07 56.0	
	comp=Z,400nm,14.0s						
NKL				AMS	AMS	09 07 56.0	
	comp=Z,1μm,14.0s						
JANG	**Nango**	**10.26**	**237**	P	**Pn**	**09 02 57.8**	**-3.4**
JANG				*e*S	Sn	09 04 44.2	-11
JTM	**Tenmabayashi**	**10.27**	**240**	*e*S	Sn	09 04 45.7	-9.1
JTH	**Tanohata**	**10.36**	**234**	*e*S	Sn	09 04 47.3	-10
JOSM	**Okushiri--Mats**	**10.54**	**250**	P	**Pn**	**09 03 04.5**	**-0.5**
OFUJ	**Ofunato**	**11.06**	**232**	P	**Pn**	**09 03 08.7**	**-3.4**
OFUJ				*e*S	Sn	09 05 03.9	-10
JRG	**Rokugo**	**11.42**	**236**	P	**Pn**	**09 03 14.6**	**-2.4**
JRG				*e*S	**Sn**	**09 05 15.9**	**-7.1**
TEY	**Ternei**	**11.42**	**268⇑**	*e*PN	Pn	09 03 22.5	+5.5
TEY				pmax	pmax		
	comp=N,30nm,0.8s						
TEY				pmax	pmax		
	comp=E,40nm,1.0s						
TEY				pmax	pmax		
	comp=Z,60nm,1.0s						
TEY	**Ternei**	**11.42**	**268**	*e*P	**Pn**	**09 03 18.4**	**+1.4**
TEY				AMB	AMB	09 03 20.8	
	comp=Z,30nm,1.0s						
TEY				AMB	AMB	09 03 20.8	
	comp=Z,40nm,1.0s						
TEY				AMB	AMB	09 03 20.8	
	comp=Z,60nm,1.0s						
GRNR	**Gornyy**	**11.63**	**297**	*e*PN	**Pn**	**09 03 24.2**	**+4.4**
GRNR				pmax	pmax		
	comp=Z,29nm,1.0s						
GRNR	**Gornyy**	**11.63**	**297**	*e*P	**Pn**	**09 03 22.0**	**+2.2**
GRNR				AMB	AMB	09 03 24.9	
	comp=Z,30nm,1.0s						
JIO	**Ouri**	**11.69**	**230**	P	**Pn**	**09 03 18.0**	**-2.7**
JIO				*e*S	Sn	09 05 18.3	-11
JYA	**Atsumi**	**12.49**	**235**	P	**Pn**	**09 03 29.3**	**-2.3**
MA2	**Magadan**	**13.11**	**355**	*e*Pn	**Pn**	**09 03 39.4**	**-0.6**
MA2	**Magadan**	**13.11**	**355**	P	**Pn**	**09 03 39.2**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=166,slow=12,SNR=14						
MA2				LR	LR	09 08 18.9	
	comp=Z,403nm,19.3s,baz=175,slow=36						
EKMR	**Ekimchan**	**14.37**	**304**	*e*P	**Pn**	**09 03 57.0**	**0.0**
EKMR				AMB	AMB	09 04 06.9	
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	**14.38**	**288**	*i* P	**Pn**	**09 03 56.9**	**-0.3**
KLR	**Kul'dur**	**14.38**	**288**	P	**Pn**	**09 03 57.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=99,slow=15,SNR=8.7						
KLR				LR	LR	09 09 39.7	
	comp=Z,385nm,18.8s,baz=94,slow=38						
KLR	**Kul'dur**	**14.38**	**288**	*e*P	**Pn**	**09 03 56.9**	**-0.3**
MAJO	**Matsushiro**	**14.79**	**233**	*e*Pn	**Pn**	**09 03 60.0**	**-2.7**
MAJO	**Matsushiro**	**14.79**	**233**	*d i* P	**Pn**	**09 04 00.2**	**-2.5**
MAT	**Matsushiro**	**14.79**	**233**	P	**Pn**	**09 03 59.4**	**-3.2**
MJAR	**Matsushiro Arr**	**14.79**	**233**	P	**Pn**	**09 04 00.0**	**-2.7**
MJAR				MLR	MLR		
	comp=Z,290nm,19.6s						
MJAR	**Matsushiro Arr**	**14.79**	**233**	P	**Pn**	**09 03 60.0**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=20						
MJAR				LR	LR	09 09 30.5	
	comp=Z,290nm,19.6s,baz=85,slow=36						
MJB9	**Matsu-Tunnel**	**14.79**	**233**	*e*Pn	**Pn**	**09 03 59.6**	**-3.0**
USA0B	**Ussuriysk Arra**	**14.82**	**268**	*e*Pn	**Pn**	**09 04 04.2**	**+1.3**
USRK	**Ussuriysk Ar.**	**14.82**	**268**	*e*Pn	**Pn**	**09 04 03.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**14.82**	**268**	P	**Pn**	**09 04 03.6**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=73,slow=13,SNR=12						
USRK				LR	LR	09 09 37.8	
	comp=Z,413nm,19.2s,baz=71,slow=37						
INU	**Inuyama**	**16.32**	**232**	*e*Pn	**Pn**	**09 04 22.9**	**+0.6**
	comp=Z,22nm,0.9s						
MDJ	**Mudanjiang**	**16.36**	**272**	*e*Pn	**Pn**	**09 04 23.5**	**+0.7**
	comp=Z,19nm,0.8s						
SEY	**Seymchan**	**16.43**	**359**	*ce*P	**Pn**	**09 04 22.1**	**-1.3**
SEY	**Seymchan**	**16.43**	**359**	P	**Pn**	**09 04 24.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=178,slow=8.9,SNR=14						
SEY	**Seymchan**	**16.43**	**359**	*e*P	**Pn**	**09 04 22.1**	**-1.3**
BMKR	**Bomnak**	**17.20**	**307**	*e*P	**Pn**	**09 04 33.5**	**+0.4**
BMKR				AMB	AMB	09 04 38.5	
	comp=Z,20nm,0.4s						
ZEA	**Zeya**	**17.83**	**303**	*e*P	**P**	**09 04 43.4**	**+2.3**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
ZEA	**Zeya**	**17.83**	**303**	*e*P	**P**	**09 04 42.0**	**+0.9**
ZEA				AMB	AMB	09 04 45.1	
	comp=Z,20nm,1.0s						
KROS	**Kirovskiy**	**18.16**	**305**	*e*P	**P**	**09 04 44.0**	**-0.7**
KROS				AMB	AMB	09 04 46.0	
	comp=Z,4.0nm,1.0s						
KROS				AMB	AMB	09 04 46.0	
	comp=Z,3.0nm,1.0s						
KROS				AMB	AMB	09 04 46.0	
	comp=Z,40nm,1.0s						
YAK	**Yakutsk**	**20.39**	**328**	*e*P	**P**	**09 05 07.9**	**-1.0**
YAK				*e*		09 05 23.6	
YAK				*e*PPP	PPP	09 05 30.6	
YAK				*e*S	**S**	**09 08 52.9**	**-1.3**
YAK				*e*SSS	SSS	09 09 33.5	
YAK				pmax	pmax		
	comp=Z,87nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,1.0s						
YAK				pmax	pmax		
	comp=E,37nm,1.3s						
YAK				smax	smax		
	comp=N,124nm,1.6s						
YAK				smax	smax		
	comp=E,56nm,1.3s						
YAK				MLR	MLR		
	comp=Z,2μm,19.0s						
YAK				MLR	MLR		
	comp=E,2μm,21.0s						
YAK				MLR	MLR		
	comp=N,809nm,16.0s						
YAK	**Yakuts

comp=Z,0.6nm,0.2s,baz=146,slow=3.6,SNR=2.8
TIXI PcP **PcP** **09 09 35.2 +0.3**
comp=Z,2.7nm,0.7s,baz=110,slow=3.3,SNR=6.4
TIXI LR LR 09 17 40.9
comp=Z,310nm,18.4s,baz=168,slow=37
TIXI Tiksi 27.61 344 *eP* **P** **09 06 18.5 -0.3**
H11N2 WAKE ISLAND Hy 29.13 152 T T 09 37 53.9
baz=340,slow=76,SNR=1315
H11N1 WAKE ISLAND Hy 29.15 152 T T 09 38 04.4
baz=340,slow=76,SNR=871
H11N3 WAKE ISLAND Hy 29.15 152 T T 09 38 04.5
baz=340,slow=76,SNR=1061
NJ2 Nanjing 29.74 253 *eP* **P** **09 06 39.0 +0.9**
NJ2 pmax pmax
comp=Z,13nm,0.5s
HHC Hu-ho-hao-te 30.10 274 *eP* **P** **09 06 41.7 +0.3**
HHC S **S** **09 11 37.7 +1.2**
HHC pmax pmax
comp=Z,92nm,0.9s
HHC pmax pmax
comp=Z,340nm,4.3s
HHC LR LR
comp=Z,770nm,12.4s
HHC LR LR
comp=Z,660nm,11.1s
HHC LR LR
comp=Z,720nm,12.0s
H11S1 WAKE ISLAND Hy 30.21 153 T T 09 39 21.4
baz=340,slow=76,SNR=867
H11S3 WAKE ISLAND Hy 30.22 153 T T 09 39 20.4
baz=340,slow=76,SNR=616
H11S2 WAKE ISLAND Hy 30.23 153 T T 09 39 15.8
baz=340,slow=76,SNR=734
ULN Ulaanbaatar 30.77 289 *eP* **P** **09 06 50.6 +3.3**
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 30.77 289 *ceP* **P** **09 06 45.8 -1.5**
ULN pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 30.77 289 *eP* **P** **09 06 45.8 -1.5**
TLY Talaya 32.09 298 *i P* **P** **09 06 55.4 -3.3**
TLY pmax pmax
comp=Z,8.0nm,1.0s
ZAK Zakamensk 32.58 295 *eP* **P** **09 07 00.0 -3.1**
ZAK *e* 09 09 47.2
ZAK pmax pmax
comp=Z,3.0nm,1.0s
IMAR Indian Mountai 34.06 36 *eP* **P** **09 07 16.1 +0.5**
IMAR *e*PcP **PcP** **09 09 53.2 +1.2**
RSO Redoubt South 34.16 46 *eP* **P** **09 07 19.2 +2.4**
KDAK Kodiak Island 34.40 51 *eP* **P** **09 07 18.9 +0.4**
comp=Z,18nm,0.9s
KDAK Kodiak Island 34.40 51 *i P* **P** **09 07 19.0 +0.4**
KDAK Kodiak Island 34.40 51 P **P** **09 07 18.7 +0.1**
comp=Z,12nm,0.7s,baz=279,slow=4.0,SNR=8.9
SPU Mount Spurr 34.50 45 *eP* **P** **09 07 21.1 +1.6**
CAST Castle Rocks 34.53 41 *eP* **P** **09 07 21.4 +1.6**
comp=Z,6.1nm,1.0s
BPAW Bear Paw Mtn. 35.05 39 *eP* **P** **09 07 25.4 +1.2**
comp=Z,7.8nm,1.0s
SUA Susitna One 35.12 44 *eP* **P** **09 07 25.1 +0.1**
comp=Z,5.9nm,1.0s
BRLK Bradley Lake 35.13 47 *eP* **P** **09 07 25.4 +0.4**
comp=Z,32nm,1.4s
MLY Manley 35.21 38 *eP* **P** **09 07 26.7 +1.1**
comp=Z,7.0nm,1.0s
XAN Xi'an 35.29 265 P **P** **09 07 26.8 +0.1**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN Xi'an 35.29 265 *eP* **P** **09 07 26.0 -0.7**
comp=Z,13nm,0.8s
XAN Xi'an 35.29 265 *eP* **P** **09 07 26.0 -0.7**
XAN pmax pmax
comp=Z,13nm,0.8s
BWN Browne 35.72 39 *eP* **P** **09 07 32.5 +2.5**
comp=Z,44nm,1.1s
RND Reindeer 35.98 41 *eP* **P** **09 07 32.8 +0.5**
comp=Z,9.8nm,1.0s
RND Reindeer 35.98 41 *eP* **P** **09 07 32.8 +0.5**
RND pmax pmax
comp=Z,10.0nm,1.0s
TOLK Toolik Lake Re 36.03 32 P **P** **09 07 33.2 +0.6**
baz=263
SML Sawmill 36.26 43 P **P** **09 07 35.6 +0.9**
SML pmax pmax
comp=Z,26nm,0.9s
TCOL CIGO, UAF Yank 36.42 38 P **P** **09 07 36.5 +0.5**
baz=269
COLA College 36.43 38 *eP* **P** **09 07 36.9 +1.0**
comp=Z,17nm,0.6s
COLA College 36.43 38 *eP* **P** **09 07 36.9 +1.0**
COLA pmax pmax
comp=Z,17nm,0.6s
CCB Clear Creek Bu 36.45 39 *eP* **P** **09 07 37.3 +1.2**
comp=Z,7.4nm,1.1s
POKR Poker Plat Res 36.61 38 P **P** **09 07 38.0 +0.5**
baz=270,SNR=5.0
DHY Denali Highway 36.66 41 *eP* **P** **09 07 38.8 +0.6**
comp=Z,8.0nm,1.0s
HDA Harding Lake 36.81 39 *eP* **P** **09 07 40.0 +0.7**
comp=Z,7.2nm,0.8s
HDA Harding Lake 36.81 39 P **P** **09 07 39.7 +0.3**
baz=271,SNR=6.3
ILAR Eielson Array 36.84 38 P **P** **09 07 39.6 +0.1**
ILAR pmax pmax
comp=Z,5.0nm,1.0s
ILAR Eielson Array 36.84 38 P **P** **09 07 39.6 +0.1**
comp=Z,3.5nm,1.0s,baz=252,slow=7.9,SNR=23
PRP Porcupine Dome 37.41 37 *eP* **P** **09 07 41.5 -3.1**
comp=Z,9.8nm,1.1s
KLU Klutina 37.43 44 *eP* **P** **09 07 45.6 +1.0**
comp=Z,9.9nm,1.0s
FYU Fort Yukon 37.54 35 *eP* **P** **09 07 47.1 +1.7**
comp=Z,22nm,1.0s
LZH Lanzhou 37.69 272 *eP* **P** **09 07 47.5 +0.3**
LZH pP pwP 09 08 04.8 +1.8
LZH sP sP 09 08 13.0 +7.8
LZH *e*PP **PnPn** **09 09 17.6 +2.3**
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,93nm,5.2s
LZH LR LR
comp=Z,430nm,13.0s
LZH LR LR
comp=Z,450nm,12.9s
LZH LR LR
comp=Z,660nm,16.7s
HARP HAARP 37.71 42 *eP* **P** **09 07 48.2 +1.2**
comp=Z,17nm,1.2s
RIDG Independent Ri 37.76 40 *eP* **P** **09 07 47.9 +0.5**
comp=Z,12nm,1.1s
BMAR Burnt Mountain 37.81 34 *eP* **P** **09 07 49.0 +1.3**
DOT Dot Lake 38.12 40 *eP* **P** **09 07 50.5 +0.1**
SCRK Sand Creek 38.13 40 *eP* **P** **09 07 51.2 +0.7**
comp=Z,4.3nm,0.8s
GTA Gaotai 38.80 279 *eP* **P** **09 07 58.7 +2.2**
GTA pP pwP 09 08 13.9 +1.7
GTA sP sP 09 08 21.2 +6.6
GTA pmax pmax
comp=Z,9.0nm,1.0s
BCAR Beaver Creek A 39.19 41 *eP* **P** **09 08 00.9 +1.5**
BALM Baldy 39.20 44 *eP* **P** **09 08 01.3 +1.7**
comp=Z,15nm,1.1s
BALM Baldy 39.20 44 *eP* **P** **09 08 01.3 +1.7**
BALM pmax pmax
comp=Z,15nm,1.1s
EGAK Eagle 39.29 38 *eP* **P** **09 08 00.5 +0.4**
comp=Z,13nm,0.9s
DAWY Dawson 40.13 39 *eP* **P** **09 08 08.2 +1.1**
comp=Z,3.7nm,1.1s
CD2 Chengdu 40.66 265 *⇓i P* **P** **09 08 10.6 -1.3**
CD2 pmax pmax
comp=Z,50nm,0.7s
EPYK Eagle Plains 40.96 35 *eP* **P** **09 08 15.2 +1.3**
comp=Z,9.7nm,0.9s
EPYK Eagle Plains 40.96 35 P **P** **09 08 14.4 +0.4**
baz=277
GYA Guiyang 41.47 257 P **P** **09 08 18.1 -0.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
INK Inuvik 41.94 32 *eP* **P** **09 08 23.2 +1.4**
comp=Z,12nm,1.1s
INK Inuvik 41.94 32 P **P** **09 08 22.8 +0.9**
comp=Z,6.7nm,0.8s,baz=295,slow=6.7,SNR=30
DGZ Jazzator, Alta 42.52 299 *eP* **P** **09 08 25.7 -1.4**
DGZ pmax pmax
comp=Z,2.0nm,1.0s

ZAA1 Zalesovo Array 42.56 306 *eP* **P** **09 08 25.0 -2.1**
ZAA1 *e*PcP **PcP** **09 10 19.1 +0.5**
ZALV Zalesovo Beam 42.56 306 *eP* **P** **09 08 25.2 -2.0**
ZALV Zalesovo Beam 42.56 306 P **P** **09 08 25.0 -2.1**
comp=Z,2.2nm,0.5s,baz=68,slow=7.0,SNR=8.1
ZALV PcP **PcP** **09 10 19.1 +0.5**
comp=Z,5.3nm,0.8s,baz=79,slow=3.2,SNR=9.9
ZALV LR LR 09 27 14.7
comp=Z,375nm,19.9s,baz=68,slow=38
WHY Whitehorse 42.86 44 *eP* **P** **09 08 31.9 +2.3**
comp=Z,6.6nm,0.9s
WMQ Urumqi 44.81 291 *eP* **P** **09 08 46.8 +1.4**
WMQ pP pwP 09 09 00.8 -0.6
WMQ sP sP 09 09 09.8 +6.1
WMQ pmax pmax
comp=Z,81nm,0.7s
WMQ LR LR
comp=Z,500nm,15.7s
WMQ LR LR
comp=Z,870nm,20.3s
KMI Kunming 45.00 259 P **P** **09 08 48.4 +1.1**
KMI pmax pmax
comp=Z,10.0nm,0.6s
KMI pmax pmax
comp=Z,430nm,13.3s
KMI LR LR
comp=Z,240nm,16.4s
KMI LR LR
comp=Z,290nm,20.2s
KMI LR LR
comp=Z,410nm,19.4s
DLBC Dease Lake 45.89 46 P **P** **09 08 56.1 +2.3**
comp=Z,6.5nm,0.8s,baz=300,slow=8.8,SNR=12
MK32 Makanchi Array 46.85 297 *eP* **P** **09 08 59.5 -2.0**
MK32 *e*PcP **PcP** **09 10 33.7 0.0**
MKAR Makanchi Array 46.85 297 *i P* **P** **09 09 00.1 -1.4**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 46.85 297 P **P** **09 08 59.5 -2.0**
comp=Z,3.0nm,0.7s,baz=72,slow=8.0,SNR=15
MKAR PcP **PcP** **09 10 33.7 0.0**
comp=Z,3.5nm,0.8s,baz=60,slow=4.2,SNR=6.9
MKAR LR LR 09 29 48.6
comp=Z,423nm,18.4s,baz=101,slow=38
MKAR Makanchi Array 46.85 297 *eP* **P** **09 09 00.0 -1.4**
KURK Kurchatov 47.31 304 *eP* **P** **09 09 03.6 -1.2**
comp=Z,7.1nm,0.8s
KURK Kurchatov 47.31 304 P **P** **09 09 03.9 -1.0**
KURK 09 10 35.3
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 47.31 304 *eP* **P** **09 09 03.9 -1.0**
KURBB Kurchatov Arra 47.40 304 P **P** **09 09 03.9 -1.7**
comp=Z,6.6nm,0.8s,baz=68,slow=8.2,SNR=18
KURBB PcP **PcP** **09 10 35.3 -0.2**
comp=Z,2.1nm,0.8s,baz=66,slow=3.5,SNR=6.0
NONG Nongkai 49.61 252 P **P** **09 09 24.3 +1.3**
comp=Z,0.8nm,0.8s
SKNT Sakolnakorn 49.85 250 P **P** **09 09 26.1 +1.3**
comp=Z,21nm,1.1s
BVAR Borovoye Array 50.83 309 P **P** **09 09 30.6 -1.2**
comp=Z,3.1nm,0.7s,baz=57,slow=9.3,SNR=6.6
BVAR PcP **PcP** **09 10 48.0 +0.1**
comp=Z,4.8nm,0.7s,baz=56,slow=2.7,SNR=7.0
PAYA Payao 50.86 256 P **P** **09 09 34.3 +1.8**
comp=Z,41μm,0.9s
BRVK Borovoye 50.87 310 *eP* **P** **09 09 31.7 -0.4**
comp=Z,5.8nm,0.6s
BRVK Borovoye 50.87 310 *eP* **P** **09 09 31.7 -0.4**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 50.87 310 *eP* **P** **09 09 30.2 -1.9**
KHON Khomkaen 51.07 251 P **P** **09 09 37.4 +3.4**
comp=Z,27μm,0.8s
RES Resolute Bay 51.10 18 *eP* **P** **09 09 33.6 +0.1**
comp=Z,2.6nm,0.9s
RES Resolute Bay 51.10 18 *eP* **P** **09 09 33.6 +0.1**
RES pmax pmax
comp=Z,3.0nm,0.9s
RES Resolute Bay 51.10 18 P **P** **09 09 33.1 -0.3**
comp=Z,2.1nm,0.9s,baz=280,slow=7.4,SNR=7.9
YKW3 Yellowknife Ar 51.18 36 *eP* **P** **09 09 35.0 +0.8**
comp=Z,5.4nm,1.1s
YKA Yellowknife Ar 51.21 37 *eP* **P** **09 09 34.4 -0.1**
YKA Yellowknife Ar 51.21 37 P **P** **09 09 35.2 +0.7**
comp=Z,1.8nm,0.7s,baz=297,slow=7.3,SNR=22
YKA PcP **PcP** **09 10 49.9 +0.8**
comp=Z,0.9nm,0.6s,baz=303,slow=3.7,SNR=5.9
YKB5 Yellowknife Ar 51.21 37 *eP* **P** **09 09 35.2 +0.7**
YKB5 *e*PcP **PcP** **09 10 49.9 +0.8**
LAMP Lampang 51.61 256 P **P** **09 09 39.9 +1.8**
comp=Z,44μm,0.8s,comp=Z,360μm
CMMT Chiang Mai 51.87 257 P **P** **09 09 41.3 +1.3**
comp=Z,9.6nm,0.9s
CHTO Chiang Mai 51.87 257 *eP* **P** **09 09 41.0 +1.0**
comp=Z,16nm,0.9s
CHTO Chiang Mai 51.87 257 *eP* **P** **09 09 41.0 +1.0**
CHTO pmax pmax
comp=Z,15nm,0.9s
CHAI Chaiyaphum 51.93 251 P **P** **09 09 41.9 +1.4**
comp=Z,20μm,0.8s,comp=Z,899μm
CMAR Chiang Mai Arr 52.12 256 *eP* **P** **09 09 42.7 +0.8**
CMAR Chiang Mai Arr 52.12 256 P **P** **09 09 42.0 +0.1**
comp=Z,9.0nm,0.8s,baz=35,slow=7.7,SNR=32
SHL Shillong 52.16 268 *eP* **P** **09 09 41.3 -1.0**
comp=Z,14nm,0.7s
SHL Shillong 52.16 268 *eP* **P** **09 09 41.3 -1.0**
SHL pmax pmax
comp=Z,14nm,0.7s
KDJ Kajisay 52.34 294 *eP* **P** **09 09 42.7 -0.8**
comp=Z,10nm,1.2s
KDJ Kajisay 52.34 294 *eP* **P** **09 09 42.7 -0.8**
KDJ pmax pmax
comp=Z,11nm,1.2s
BOOM Boomskoye usch 52.92 295 *eP* **P** **09 09 47.6 -0.2**
comp=Z,6.0nm,0.8s
BOOM Boomskoye usch 52.92 295 *eP* **P** **09 09 47.6 -0.2**
BOOM pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 53.74 296 *eP* **P** **09 09 53.5 -0.2**
comp=Z,7.4nm,1.0s
AAK Ala-Archa 53.74 296 *ceP* **P** **09 09 53.2 -0.5**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 53.74 296 P **P** **09 09 53.3 -0.5**
comp=Z,5.1nm,0.8s,baz=137,slow=3.7,SNR=6.5
UMPA Umpang Tak 53.78 254 P **P** **09 09 57.8 +3.7**
comp=Z,23μm,0.9s
TULEG Thule 54.37 11 *eP* **P** **09 09 57.2 -0.4**
comp=Z,7.3nm,0.8s
KSH Kashi 54.54 292 P P 09 10 04.8 +5.2
JIRN Jiri 54.76 274 *eP* **P** **09 10 02.2 +0.6**
comp=Z,169nm,0.8s
RAMN Ramite 54.92 274 *eP* **P** **09 10 03.0 +0.4**
comp=Z,127nm,0.9s
ARU Arti 55.02 317 *d i P* **P** **09 10 00.3 -2.3**
ARU S **S** **09 17 36.2 -4.7**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 55.02 317 *eP* **P** **09 10 00.3 -2.3**
KKN Kakani 55.30 275 *eP* **P** **09 10 05.9 +0.6**
comp=Z,65nm,0.7s
PKI Pulchoki 55.35 275 *eP* **P** **09 10 06.1 +0.3**
comp=Z,37nm,0.8s
PKIN Phulchoki 55.35 275 *eP* **P** **09 10 05.9 +0.1**
comp=Z,31nm,0.8s
DMN Daman 55.53 275 *eP* **P** **09 10 07.8 +0.8**
comp=Z,110nm,0.9s
GKN Gorkha 55.61 276 *eP* **P** **09 10 08.2 +0.8**
comp=Z,143nm,0.9s
PHET Kaeng Krachan 55.67 251 P **P** **09 10 10.3 +2.5**
comp=Z,47μm,0.9s
G03D McMinnville, O 55.70 58 P **P** **09 10 06.5 -1.2**
baz=304
KK31 Karatay Array 55.92 299 *eP* **P** **09 10 07.1 -2.2**
comp=Z,4.9nm,1.0s
KK31 Karatay Array 55.92 299 *eP* **P** **09 10 07.1 -2.2**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 55.92 299 *eP* **P** **09 10 07.2 -2.1**
KKAR Karatay Array 55.92 299 *eP* **P** **09 10 07.2 -2.1**
I02D Swisshome 55.98 60 P **P** **09 10 10.4 +0.7**
baz=304
DANN Dangsing 55.99 277 *eP* **P** **09 10 11.1 +0.7**
comp=Z,103nm,0.7s
H04D Lebanon 56.40 59 P **P** **09 10 13.2 +0.5**
baz=305

J01E Myrtle Point 56.46 61 P **P** **09 10 14.3 +1.2**
baz=305
KOLN Koldanda 56.47 276 *eP* **P** **09 10 14.4 +0.8**
comp=Z,73nm,0.8s
I03D Drain, OR 56.51 60 P **P** **09 10 14.1 +0.7**
baz=305
H04A Detroit Lake 56.63 58 *eP* **P** **09 10 15.9 +1.5**
comp=Z,10.0nm,1.1s
PYUN Piuthan 56.68 277 *eP* **P** **09 10 15.8 +0.7**
comp=Z,128nm,1.0s
G05D Wamic, OR 56.83 57 P **P** **09 10 16.0 +0.2**
baz=305
DAG Danmarks Havn 56.84 358 *i P* **P** **09 10 14.1 -1.2**
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG Danmarks Havn 56.84 358 *i P* **P** **09 10 14.1 -1.2**
comp=Z,7.2nm,1.0s
K02D Willamette Mer 56.89 61 P **P** **09 10 16.1 -0.2**
baz=305
I04A Tendick Farm, 57.01 59 P **P** **09 10 17.6 +0.5**
baz=305
L02E Cave Junction 57.23 61 P **P** **09 10 19.5 +0.8**
baz=306
I05D Terrebonne, OR 57.33 58 P **P** **09 10 20.3 +1.0**
baz=306
PRGR Permogore 57.43 327 P **P** **09 10 19.2 -0.4**
PRGR pmax pmax
comp=Z,7.0nm,0.6s
NEW Newport 57.47 52 P **P** **09 10 20.6 +0.4**
baz=305
NEW Newport 57.47 52 P **P** **09 10 20.9 +0.7**
comp=Z,2.5nm,1.1s,baz=330,slow=3.9,SNR=3.3
J04D Umpqua Nationa 57.51 60 P **P** **09 10 21.3 +0.5**
baz=306
PINE Pine Mountain 57.88 59 *eP* **P** **09 10 25.0 +1.6**
comp=Z,18nm,1.3s
ARA0 ARCESS Array S 57.98 341 *eP* **P** **09 10 22.2 -1.2**
ARCES ARCESS Array B 57.98 341 P **P** **09 10 22.2 -1.2**
comp=Z,1.7nm,0.6s,baz=21,slow=7.0,SNR=6.9
L04D Klamath Falls 57.98 61 P **P** **09 10 24.4 +0.3**
baz=306
J05D Fort Rock, OR 58.00 59 P **P** **09 10 25.3 +1.1**
baz=306
YBH Yreka Blue Hor 58.02 61 P **P** **09 10 25.9 +1.6**
comp=Z,1.0nm,0.7s,baz=301,slow=3.6,SNR=5.4
M02C Callahan 58.14 62 P **P** **09 10 26.7 +1.6**
baz=306
ABKAR Akbulak array 58.40 310 *eP* **P** **09 10 25.1 -1.5**
GAR Garm 58.41 295 *eP* **P** **09 10 26.0 -1.1**
comp=Z,11nm,0.9s
GAR Garm 58.41 295 *eP* **P** **09 10 26.0 -1.1**
GAR pmax pmax
comp=Z,11nm,0.9s
N02D Trinity Center 58.47 62 P **P** **09 10 29.0 +1.5**
baz=307
M04C Macdoel 58.52 61 P **P** **09 10 29.3 +1.4**
baz=307
K05A Summer Lake 58.53 60 *eP* **P** **09 10 29.9 +1.9**
comp=Z,11nm,1.2s
AKTO Aktyubinsk 58.71 312 P **P** **09 10 27.8 -1.1**
comp=Z,1.0nm,0.5s,baz=53,slow=5.1,SNR=2.7
O02D Mt. Diablo Mer 58.90 63 P **P** **09 10 31.8 +1.4**
baz=307
MOD Modoc Plateau 59.37 60 *eP* **P** **09 10 35.0 +1.2**
comp=Z,6.9nm,0.8s
O03E Paynes Creek 59.43 62 P **P** **09 10 34.7 +0.6**
baz=307
NIL Nilore 59.77 288 *eP* **P** **09 10 37.0 +0.5**
comp=Z,34nm,0.9s
NIL Nilore 59.77 288 *eP* **P** **09 10 37.0 +0.5**
NIL pmax pmax
comp=Z,35nm,0.9s
PLID Pearl Lake 59.96 55 *eP* **P** **09 10 39.3 +1.5**
comp=Z,15nm,0.8s
WVOR Wild Horse Val 60.04 59 *eP* **P** **09 10 39.4 +1.1**
comp=Z,6.4nm,0.8s
WVOR Wild Horse Val 60.04 59 *eP* **P** **09 10 39.4 +1.1**
WVOR pmax pmax
comp=Z,6.0nm,0.8s
MSO Missoula 60.05 52 *eP* **P** **09 10 39.1 +0.8**
comp=Z,11nm,1.0s
MSO Missoula 60.05 52 P **P** **09 10 39.4 +1.1**
baz=308,SNR=5.6
KLMR Klimovskoe 60.18 329 *eP* **P** **09 10 35.0 -3.7**
KLMR pmax pmax
comp=Z,8.0nm,1.1s
SUMG Summit 60.92 4 *eP* **P** **09 10 43.6 -0.6**
comp=Z,17nm,0.9s
SUMG Summit 60.92 4 *i P* **P** **09 10 44.4 +0.2**
SUMG pmax pmax
comp=Z,44nm,0.9s
SUMG Summit 60.92 4 *i P* **P** **09 10 44.4 +0.2**
comp=Z,44nm,0.9s
FFC Flin Flon 61.03 40 *eP* **P** **09 10 45.6 +1.0**
comp=Z,12nm,0.9s
FFC Flin Flon 61.03 40 *i P* **P** **09 10 45.8 +1.1**
EGMT Eagleton 61.55 49 P **P** **09 10 49.3 +0.8**
baz=309
MYKOM Kota Tinggi 61.61 239 *eP* **P** **09 10 50.7 +1.6**
comp=Z,41nm,1.5s
YERR Yerington 61.80 62 *eP* **P** **09 10 52.5 +2.2**
comp=Z,10nm,1.1s
HLID Hailey 61.80 55 P **P** **09 10 50.8 +0.5**
baz=309
KBL Kabul 61.95 292 *eP* **P** **09 10 50.6 -0.9**
comp=Z,19nm,1.2s
KBL Kabul 61.95 292 *eP* **P** **09 10 50.6 -0.9**
KBL pmax pmax
comp=Z,19nm,1.2s
BOZ Bozeman (W) 62.08 52 *eP* **P** **09 10 53.3 +1.2**
comp=Z,17nm,1.4s
BOZ Bozeman (W) 62.08 52 *eP* **P** **09 10 53.3 +1.2**
BOZ pmax pmax
comp=Z,17nm,1.4s
BOZ Bozeman (W) 62.08 52 P **P** **09 10 52.4 +0.4**
baz=309,SNR=5.4
KVN Kaiserville 62.45 61 *eP* **P** **09 10 56.0 +1.3**
comp=Z,11nm,1.1s
KVN Kaiserville 62.45 61 *eP* **P** **09 10 56.0 +1.3**
KVN pmax pmax
comp=Z,11nm,1.1s
RYN Ryan 62.45 62 *eP* **P** **09 10 56.2 +1.5**
comp=Z,6.0nm,0.9s
NV01 Mina Array Sit 62.71 62 *eP* **P** **09 10 57.9 +1.4**
NVAR Mina Array Bea 62.71 62 *eP* **P** **09 10 58.1 +1.6**
NVAR Mina Array Bea 62.71 62 P **P** **09 10 57.9 +1.4**
comp=Z,2.7nm,0.8s,baz=289,slow=7.1,SNR=16
NV11 Mina Array Sit 62.80 62 *eP* **P** **09 10 58.4 +1.3**
comp=Z,0.7nm,1.2s
MLAC Mammoth, Mammo 62.89 63 P **P** **09 10 58.6 +0.9**
baz=310
SUF Sumiainen 63.11 336 P **P** **09 10 59.0 +0.5**
SUF pmax pmax
comp=Z,11nm,0.8s
H17A Grant Village 63.42 53 P **P** **09 11 02.4 +1.2**
baz=310
RLMT Red Lodge 63.66 51 P **P** **09 11 02.9 +0.2**
baz=311
TPAW Teton Pass 63.79 54 *eP* **P** **09 11 05.7 +2.1**
comp=Z,14nm,1.0s
VAF Ylistaro 63.82 337 P **P** **09 11 03.4 +0.3**
VAF pmax pmax
comp=Z,10.0nm,1.3s
LOHW Long Hollow 63.91 53 *eP* **P** **09 11 06.4 +2.1**
comp=Z,9.0nm,1.2s
SNOW Snow King Moun 63.92 54 *eP* **P** **09 11 06.2 +1.8**
comp=Z,8.0nm,1.0s
REDW Red Top Meadow 63.93 54 *eP* **P** **09 11 05.6 +1.1**
comp=Z,14nm,1.1s
PKM Mcpherson Peak 64.02 66 P **P** **09 11 06.1 +0.9**
baz=310
DGMT Dagmar 64.10 46 *eP* **P** **09 11 05.9 +0.6**
comp=Z,16nm,0.9s
DGMT Dagmar 64.10 46 P **P** **09 11 05.8 +0.5**
baz=312
CWC Cottonwood Cre 64.11 64 P **P** **09 11 06.3 +0.5**
baz=310
FIA1 FINESS Array S 64.14 335 *eP* **P** **09 11 03.8 -1.4**
comp=Z,13nm,0.8s
FIA0 FINESS Array S 64.14 335 *eP* **P** **09 11 04.2 -1.0**
FIA0 FINESS Array S 64.14 335 *eP* **P** **09 11 04.3 -1.0**
FINES FINESS Array B 64.14 335 *eP* **P** **09 11 04.0 -1.2**
FINES FINESS Array B 64.14 335 *eP* **P** **09 11 04.1 -1.2**
FINES FINESS Array B 64.14 335 P **P** **09 11 04.2 -1.0**
comp=Z,10nm,0.7s,baz=46,slow=8.2,SNR=26
AHID Auburn Hatcher 64.17 54 *eP* **P** **09 11 08.5 +2.4**
comp=Z,8.0nm,0.8s

LAO	LASA Array	64.25	49	eP		P	09 11 07.1 +0.8
	comp=Z,18nm,1.1s						
LAO	LASA Array	64.25	49	P		P	09 11 06.8 +0.5
	baz=312						
ISA	Isabella, Lake	64.37	65	P		P	09 11 07.7 +0.5
	baz=310						
R11A	Troy Canyon, C	64.41	61	eP		P	09 11 08.6 +0.9
	comp=Z,5.7nm,0.9s						
R11A	Troy Canyon, C	64.41	61	P		P	09 11 07.9 +0.2
	baz=310						
MPMC	Manual Prospec	64.72	64	P		P	09 11 10.4 +0.6
	baz=311						
FURC	Furnace Creek,	64.85	63	P		P	09 11 11.8 +1.6
	baz=311						
DUG	Dugway, Tooele	64.86	58	eP		P	09 11 12.1 +1.5
	comp=Z,12nm,1.0s						
DUG	Dugway, Tooele	64.86	58	eP		P	09 11 12.1 +1.5
DUG				pmax	pmax		
	comp=Z,12nm,1.0s						
DUG	Dugway, Tooele	64.86	58	P		P	09 11 11.8 +1.3
	baz=311						
TPNV	Topopah Spring	64.91	62	P		P	09 11 11.9 +0.9
	baz=311						
LRMC	Laurel Mtn Rad	64.98	64	P		P	09 11 12.2 +0.8
	baz=311						
BW06	Boulder Array	65.04	54	P		P	09 11 12.1 +0.4
	baz=311,SNR=5.5						
PDAR	Pinedale Array	65.04	54	eP		P	09 11 12.5 +0.8
PDAR	Pinedale Array	65.04	54	P		P	09 11 12.8 +1.0
	comp=Z,2.2nm,0.9s,baz=333,slow=2.0,SNR=13						
EDW2	Edwards Air Fo	65.17	65	P		P	09 11 13.8 +1.3
	baz=311						
OBN	Obninsk	65.36	325	ceP		P	09 11 11.4 -1.9
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OBN	Obninsk	65.36	325	eP		P	09 11 11.4 -1.9
SHOC	Shoshone, Teco	65.58	63	P		P	09 11 15.5 +0.5
	baz=311						
GSC	Goldstone, Bar	65.64	64	P		P	09 11 16.9 +1.3
	baz=311						
SHPR	Sheep Range	65.86	62	eP		P	09 11 18.2 +1.1
	comp=Z,3.9nm,0.9s						
TUQ	Turquoise Moun	66.09	63	P		P	09 11 19.4 +0.8
	baz=311						
VSU	Vasula	66.30	332	ceP		P	09 11 17.7 -1.6
VSU				pmax	pmax		
	comp=Z,20nm,0.7s						
GEYT	Alibeck	66.53	301	P		P	09 11 21.6 +0.4
	comp=Z,19nm,0.5s,baz=11,slow=1.5,SNR=2.0						
GMRC	Granite Mounta	66.69	64	P		P	09 11 22.6 +0.2
	baz=312						
K22A	Casper	66.78	52	P		P	09 11 23.3 +0.4
	baz=313						
ULM	Lac du Bonnet	66.81	41	P		P	09 11 22.4 -0.3
	comp=Z,3.5nm,0.6s,baz=326,slow=8.4,SNR=9.1						
SRU	San Rafael Swe	66.90	57	P		P	09 11 25.4 +1.7
RSSD	Black Hills	67.11	50	eP		P	09 11 25.6 +0.5
	comp=Z,8.9nm,0.8s						
RSSD	Black Hills	67.11	50	eP		P	09 11 25.6 +0.5
RSSD				pmax	pmax		
	comp=Z,9.0nm,0.8s						
RSSD	Black Hills	67.11	50	P		P	09 11 25.4 +0.4
	baz=314						
IRM	Iron Mountain	67.42	64	P		P	09 11 27.5 +0.6
	baz=312						
O20A	White River Ci	67.53	55	P		P	09 11 27.6 -0.1
	baz=313						
U15A	North Rim	67.65	60	eP		P	09 11 29.6 +1.0
	comp=Z,6.9nm,0.9s						
SWSC	Sam W. Stewart	67.82	65	P		P	09 11 30.2 +0.8
	baz=312						
PDMCI	Parker Dam,Lak	67.94	63	P		P	09 11 30.7 +0.6
	baz=312						
Y12C	Blythe	68.07	64	eP		P	09 11 32.5 +1.6
	comp=Z,8.6nm,0.8s						
Y12C	Blythe	68.07	64	P		P	09 11 31.5 +0.5
	baz=312						
NC303	NORSAR Array S	68.16	341	eP		P	09 11 30.0 -1.0
	comp=Z,19nm,0.9s						
AGMN	Agassiz Nation	68.22	42	eP		P	09 11 31.5 -0.2
	comp=Z,14nm,1.4s						
AGMN	Agassiz Nation	68.22	42	P		P	09 11 31.8 +0.2
	baz=316						
WR1	Warramunga Arr	68.25	199	eP		P	09 11 32.4 +0.4
WRA	Warramunga Arr	68.25	199	P		P	09 11 32.4 +0.3
	comp=Z,2.9nm,0.8s,baz=19,slow=6.9,SNR=10						
N23A	Red Feather La	68.29	53	P		P	09 11 33.1 +0.5
	baz=314						
NB2	NORSAR Subarra	68.36	341	P		P	09 11 31.3 -1.0
	comp=Z,15nm,0.8s,baz=28,slow=6.5						
NB2	NORSAR Subarra	68.36	341	P		P	09 11 31.3 -1.0
	baz=28,slow=6.5						
NB200	NORSAR Array S	68.36	341	eP		P	09 11 31.6 -0.8
NOA	NORSAR Array B	68.36	341	P		P	09 11 31.6 -0.8
	comp=Z,10nm,0.8s,baz=27,slow=6.3,SNR=42						
NOA				LR	LR		09 45 43.8
	comp=Z,64nm,18.8s,baz=115,slow=40						
PV13	Radium Mtn., P	68.53	57	eP		P	09 11 34.6 +0.6
	comp=Z,11nm,0.7s						
NORES	NORESS Array B	68.55	341	P		P	09 11 33.0 -0.5
NORES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WUAZ	Wupatki	68.81	61	P		P	09 11 35.6 -0.1
	baz=313						
FITZ	Fitzroy Crossi	68.86	208	P		P	09 11 37.1 +1.3
	comp=Z,4.9nm,0.8s,baz=27,slow=6.2,SNR=6.5						
ISCO	Idaho Springs	69.23	54	P		P	09 11 40.3 +1.8
ISCO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ISCO	Idaho Springs	69.23	54	P		P	09 11 37.8 -0.6
	baz=314						
S22A	4UR Ranch, Cre	69.96	56	eP		P	09 11 43.2 +0.2
	comp=Z,5.4nm,0.9s						
S22A	4UR Ranch, Cre	69.96	56	P		P	09 11 43.2 +0.2
	baz=314						
OGNE	Ogallala	70.39	51	P		P	09 11 45.6 +0.4
	baz=315						
EYMN	Ely	70.46	40	P		P	09 11 45.7 +0.2
	baz=319						
NCK	Nalchik	70.67	313	i P		P	09 11 47.2 +0.3
NCK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KIV	Kislovodsk	70.80	314	eP		P	09 11 48.1 +0.4
KIV				pmax	pmax		
	comp=Z,33nm,1.0s						
KIV	Kislovodsk	70.80	314	eP		P	09 11 48.1 +0.4
KBZ	Khabaz	70.85	314	P		P	09 11 48.3 +0.4
	comp=Z,5.4nm,0.7s,baz=58,slow=6.5,SNR=11						
ZEI	Tsey	71.03	313	eP		P	09 11 47.6 -1.7
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ECSD	EROS Data Cent	71.18	46	P		P	09 11 50.3 +0.3
	baz=317						
TUC	Tucson	71.36	63	P		P	09 11 51.8 +0.5
	baz=314						
KLNR	Kaliningrad	71.54	333	i P		P	09 11 50.2 -1.6
KLNR				pmax	pmax		
	comp=Z,16nm,0.8s						
AKASG	Malin Array Be	71.60	326	eP		P	09 11 50.9 -1.5
AKASG	Malin Array Be	71.60	326	P		P	09 11 51.4 -1.0
	comp=Z,13nm,0.6s,baz=34,slow=6.3,SNR=43						
AKASG				LR	LR		09 45 17.3
	comp=Z,138nm,20.4s,baz=40,slow=38						
AKBB	Malin Array Si	71.60	326	eP		P	09 11 51.3 -1.1
	comp=Z,14nm,0.7s						
KIEV	Kiev	71.61	326	eP		P	09 11 51.1 -1.3
	comp=Z,14nm,0.7s						
KIEV	Kiev	71.61	326	c iP		P	09 11 51.3 -1.1
KIEV				pmax	pmax		
	comp=Z,11nm,0.8s						
F37A	Hinrichs Farm,	71.62	42	P		P	09 11 52.5 -0.1
	baz=319						
T25A	Trinidad	71.76	55	P		P	09 11 54.3 +0.4
	baz=315						
F38A	Pierce - Schro	71.78	42	P		P	09 11 53.8 +0.3
	baz=319						
SPMN	Marine on St.	71.91	43	P		P	09 11 54.3 +0.1
	baz=319						
AS31	Alice Springs	71.94	198	eP		P	09 11 56.0 +1.3
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	71.95	198	P		P	09 11 56.1 +1.5
	comp=Z,3.4nm,0.6s,baz=11,slow=5.5,SNR=68						
E39A	Mellen	72.07	41	P		P	09 11 55.1 -0.1
	baz=320						
BGNE	Belgrade	72.10	48	P		P	09 11 55.8 +0.3
	baz=317						
TASM	ASL Pad, Albuq	72.12	58	P		P	09 11 56.6 +0.6
	baz=315						
TASM	ASL Pad, Albuq	72.12	58	P		P	09 11 56.5 +0.5
	baz=315						
ANMO	Albuquerque	72.12	58	ceP		P	09 11 57.3 +1.3
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.3s						
ANMO	Albuquerque	72.12	58	P		P	09 11 56.9 +0.9
	baz=315						
F39A	Loretta	72.25	41	P		P	09 11 56.5 +0.1
	baz=320						
E40A	Wakefield	72.31	40	P		P	09 11 57.1 +0.4
	baz=320						
GNI	Garni	72.51	310	i P		P	09 11 59.2 +1.0
GNI				pmax	pmax		
	comp=Z,16nm,1.0s						
F40A	Park Falls	72.61	41	P		P	09 11 58.3 -0.3
	baz=320						
G39A	Holcombe	72.62	42	P		P	09 11 58.5 0.0
	baz=320						
E41A	Kenton	72.71	40	P		P	09 11 59.0 0.0
	baz=321						
G40A	Rib Lake	73.07	41	P		P	09 12 01.1 -0.1
	baz=320						
E42A	Champion	73.19	39	P		P	09 12 02.1 +0.2
	baz=321						
F41A	Three Lakes	73.21	40	P		P	09 12 01.5 -0.5
	baz=321						
H40A	Chili	73.48	42	P		P	09 12 03.2 -0.4
	baz=320						
I39A	Houston	73.54	43	P		P	09 12 04.1 0.0
	baz=320						
H41A	Junction City	73.82	41	P		P	09 12 05.4 -0.2
	baz=321						
J39A	Decorah	73.85	43	P		P	09 12 05.7 -0.2
	baz=320						
I40A	Norwalk	73.94	42	P		P	09 12 06.1 -0.2
	baz=320						
K39A	Oelwein	74.25	44	P		P	09 12 08.0 -0.2
	baz=320						
J40A	Soldiers Grove	74.26	43	P		P	09 12 07.9 -0.3
	baz=320						
LVV	L'vov	74.26	328	eP		P	09 12 07.7 -0.4
H42A	Shiocton	74.42	41	P		P	09 12 08.6 -0.4
	baz=321						
MATQ	Matagami	74.59	31	P		P	09 12 09.5 -0.5
	baz=327						
K40A	Colesburg	74.61	43	P		P	09 12 10.0 -0.3
	baz=320						
J41A	Loganville	74.62	42	P		P	09 12 10.4 0.0
	baz=321						
L39A	Vinton	74.63	44	P		P	09 12 10.1 -0.2
	baz=320						
D47A	Chapleau	74.72	36	P		P	09 12 10.5 -0.4
	baz=324						
KWP	Kalwaria Pacla	74.89	329	eP		P	09 12 12.2 +0.4
KWP	Kalwaria Pacla	74.89	329	eP		P	09 12 11.6 -0.2
	comp=Z,224nm,1.0s						
KWP	Kalwaria Pacla	74.89	329	eP		P	09 12 12.2 +0.4
AMTX	Amarillo	74.92	55	P		P	09 12 13.0 +0.7
	baz=317						
MSTX	Muleshoe	74.95	56	P		P	09 12 13.0 +0.5
	baz=316						
M39A	Webster	75.04	45	P		P	09 12 13.0 +0.2
	baz=320						
MNTX	Cornudas Mount	75.05	60	P		P	09 12 13.4 +0.4
	baz=316						
L40A	Anamosa	75.05	44	P		P	09 12 12.9 +0.1
	baz=320						
J42A	Columbus	75.07	42	P		P	09 12 12.9 0.0
	baz=321						
D49A	Beulah Townshi	75.24	35	P		P	09 12 13.7 -0.1
	baz=325						
J43A	Natural Harves	75.34	41	P		P	09 12 14.3 -0.2
	baz=322						
G46A	Petoskey	75.38	38	P		P	09 12 14.5 -0.2
	baz=323						
K42A	Prairie Point,	75.39	42	P		P	09 12 14.2 -0.5
	baz=321						
OJC	Ojcow	75.40	331	eP		P	09 12 14.5 -0.2
OJC	Ojcow	75.40	331	eP		P	09 12 14.5 -0.2
LSQQ	Lebel-sur-Quev	75.41	31	P		P	09 12 14.4 -0.3
	baz=327						
CHGQ	Chibougamau	75.60	29	P		P	09 12 15.3 -0.5
	baz=329						
BUR08	Bucovina Ar. S	75.63	326	eP		P	09 12 15.7 -0.5
	comp=Z,14nm,0.7s						
KOLS	Kolonicke sedl	75.64	329	eP		P	09 12 16.1 0.0
KOLS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KOLS	Kolonicke sedl	75.64	329	eP		P	09 12 16.1 0.0
BURAR	Bucovina Array	75.65	326	↓↓iP		P	09 12 16.4 +0.1
BURAR	Bucovina Array	75.65	326	P		P	09 12 16.3 0.0
N40A	Mertquake, Sal	75.78	45	P		P	09 12 17.2 +0.2
	baz=320						
L42A	Oliver, Polo	75.84	43	P		P	09 12 16.5 -0.8
	baz=321						
H46A	Fife Lake	75.86	39	P		P	09 12 17.4 0.0
	baz=323						
BIZ	Bicaz	75.86	325	↑↑iP		P	09 12 17.6 +0.2
UZH	Uzhgorod	75.88	329	eP		P	09 12 17.5 +0.1
UZH				e			09 12 29.5
M41A	Milan	75.91	44	P		P	09 12 17.7 0.0
	baz=321						
NIE	Niedzica	75.92	330	eP		P	09 12 17.9 +0.2
NIE	Niedzica	75.92	330	eP		P	09 12 17.9 +0.2
KSP	Ksiaz	75.99	333	eP		P	09 12 18.1 +0.1
KSP	Ksiaz	75.99	333	eP		P	09 12 18.1 +0.1
TESR	Tescani	76.00	325	↓↓iP		P	09 12 18.1 -0.1
VLDQ	Val d'Or	76.03	32	eP		P	09 12 17.4 -0.9
	comp=Z,11nm,0.8s						
TLCR		76.19	323	↑↑iP		P	09 12 19.6 +0.3
TLCR		76.19	323	P		P	09 12 19.5 +0.3
TRPA	Tarpa	76.21	328	eP		P	09 12 19.0 -0.3
I46A	Reed City	76.23	39	P		P	09 12 19.3 -0.3
	baz=323						
H47A	Mio	76.24	38	P		P	09 12 19.7 +0.2
	baz=324						
N41A	Harden Midland	76.27	45	P		P	09 12 19.7 -0.1
	baz=321						
OKC	Ostrava-Krasne	76.28	332	eP		P	09 12 19.8 +0.1
OKC	Ostrava-Krasne	76.28	332	eP		P	09 12 19.8 +0.1
UPC	Upice	76.37	333	eP		P	09 12 20.5 +0.3
UPC	Upice	76.37	333	eP		P	09 12 20.5 +0.3
ARCR	ARCALIA	76.41	327	↑↑iP		P	09 12 21.8 +1.3
DPC	Dobruska-Polom	76.42	333	eP		P	09 12 20.9 +0.4
DPC	Dobruska-Polom	76.42	333	eP		P	09 12 20.9 +0.4
LANS	Liptovska Anna	76.43	331	eP		P	09 12 21.7 +1.1
LANS	Liptovska Anna	76.43	331	eP		P	09 12 21.7 +1.1
ODBI	Odobesti	76.44	324	↑↑iP		P	09 12 21.2 +0.5
BZK	Bozkurt	76.47	318	↓↓iP		P	09 12 21.6 +0.7
CFR	Carcaliu	76.48	323	↓↓iP		P	09 12 20.8 -0.1
CFR	Carcaliu	76.48	323	P		P	09 12 20.7 -0.1
VRI	Vrincioaia	76.49	324	↓↓iP		P	09 12 21.4 +0.4
VRI	Vrincioaia	76.49	324	P		P	09 12 20.3 -0.7
MORC	Moravsky Berou	76.53	332	↓↓iP		P	09 12 21.5 +0.4
MORC	Moravsky Berou	76.53	332	P		P	09 12 20.5 -0.6
MORC				pmax	pmax		
	comp=Z,14nm,0.9s						
MORC	Moravsky Berou	76.53	332	eP		P	09 12 21.0 -0.1
PLOR	Plostina	76.54	325	↑↑iP		P	09 12 21.8 +0.5
PLOR	Plostina	76.54	325	P		P	09 12 21.8 +0.5
CLL	Collm	76.57	335	↓↓iP		P	09 12 20.8 -0.5
CLL				pmax	pmax		
	comp=Z,25nm,0.9s						
CLL	Collm	76.57	335	↓↓iP		P	09 12 20.8 -0.5
	comp=Z,25nm,0.9s						
M43A	Waltham Townsh	76.61	43	P		P	09 12 20.9 -0.8
	baz=322						
D52A	ZEK Kipawa Sen	76.62	33	P		P	09 12 19.8 -1.9
	baz=327						
WMOK	Wichita Mounta	76.65	53	P		P	09 12 22.5 +0.5
	baz=318,SNR=5.1						
BRG	Berggiesshubel	76.68	335	eP		P	09 12 21.4 -0.5
	comp=Z,9.8nm,1.2s						
BRG	Berggiesshubel	76.68	335	eP		P	09 12 21.4 -0.5
BRG				pmax	pmax		
	comp=Z,10.0nm,1.2s						
I48A	Sherman Twp	76.78	38	P		P	09 12 22.7 +0.1
	baz=324						
PVCC	Panska Ves	76.80	334	eP		P	09 12 22.4 -0.2
PVCC	Panska Ves	76.80	334	eP		P	09 12 22.4 -0.2
F51A	Arnstein	76.91	35	P		P	09 12 23.0 -0.3
	baz=326						
HARR	Harsova	76.96	323	↓↓iP		P	09 12 23.7 +0.1
HARR	Harsova	76.96	323	P		P	09 12 23.6 0.0
TLB	Topalu	77.00	323	↑↑iP		P	09 12 24.0 +0.1
TLB	Topalu	77.00	323	P		P	09 12 23.9 +0.1
CJR	Cluj-Napoca	77.01	327	↑↑iP		P	09 12 24.9 +1.0
CJR	Cluj-Napoca	77.01	327	P		P	09 12 24.8 +0.9
J47A	Sunmer	77.06	39	P		P	09 12 23.8 -0.5
	baz=324						
K46A	Dorr	77.08	40	P		P	09 12 24.3 0.0
	baz=323						
MLR	Muntele Rosu	77.11	325	eP		P	09 12 25.4 +0.8
	comp=Z,10nm,0.7s						
MLR	Muntele Rosu	77.11	325	↑↑iP		P	09 12 25.3 +0.6
MLR	Muntele Rosu	77.11	325	P		P	09 12 25.5 +0.8
MLR				pmax	pmax		
	comp=Z,11nm,0.7s						
HDIL	Hopedale	77.14	44	P		P	09 12 24.9 +0.2
	baz=322						
VYHS	Vyhne	77.20	331	eP		P	09 12 25.0 0.0
VYHS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
VYHS	Vyhne	77.20	331	eP		P	09 12 25.0 0.0
VRAC	Vranov	77.24	332	↓↓iP		P	09 12 25.7 +0.6
VRAC	Vranov	77.24	332	P		P	09 12 25.7 +0.6
VRAC	Vranov	77.24	332	eP		P	09 12 25.2 +0.1
F52A	Sundridge	77.26	34	P		P	09 12 24.7 -0.6
	baz=326						
GOPC	GO Pecny, Ondr	77.27	334	eP		P	09 12 25.2 -0.1
GOPC	GO Pecny, Ondr	77.27	334	eP		P	09 12 25.2 -0.1
DRGR		77.28	327	↓↓iP		P	09 12 25.5 0.0
DRGR		77.28	327	P		P	09 12 25.5 0.0
KOLL	Kolacno	77.28	331	eP		P	09 12 25.9 +0.6
JAVC	Velka Javorina	77.28	331	eP		P	09 12 26.3 +0.9
PRU	Pruhonice	77.28	334	eP		P	09 12 25.8 +0.5
PRU	Pruhonice	77.28	334	eP		P	09 12 25.8 +0.5
ILGA	Ilgaz	77.32	317	eP		P	09 12 26.7 +0.7
	comp=Z,20nm,1.0s						
PSZ	Piszkesteto	77.34	330	eP		P	09 12 25.9 +0.2
	comp=Z,13nm,1.0s						
PSZ	Piszkesteto	77.34	330	↓↓iP		P	09 12 26.3 +0.5
PSZ	Piszkesteto	77.34	330	P		P	09 12 26.3 +0.5
PSZ				pmax	pmax		
	comp=Z,13nm,1.0s						
PSZ	Piszkesteto	77.34	330	eP		P	09 12 26.0 +0.2
L46A	Eue Claire	77.39	41	P		P	09 12 25.8 -0.2
	baz=323						
K47A	Vermontville	77.44	40	P		P	09 12 26.9 +0.6
	baz=324						
ICOR	Ion Corvin	77.48	323	↓↓iP		P	09 12 27.5 +1.0
VOIR		77.51	325	↓↓iP		P	09 12 27.5 +0.7
VOIR		77.51	325	P		P	09 12 27.5 +0.7
KRUC	Moravsky	77.52	332	eP		P	09 12 26.6 -0.1
BUKO	Buck Lake	77.52	35	P		P	09 12 24.9 -1.8
	baz=326						
MOX	Moxa	77.56	336	P		P	09 12 27.9 +1.0
MOX				pmax	pmax		
	comp=Z,12nm,1.1s						
ALGO	Algonquin Park	77.62	34	P		P	09 12 26.2 -1.1
	baz=327						
NKC	Novy Kostel	77.69	335	eP		P	09 12 27.9 +0.3
NKC	Novy Kostel	77.69	335	eP		P	09 12 27.9 +0.3
K48A	Perry	77.72	39	P		P	09 12 28.1 +0.2
	baz=324						
ARR	Arges	77.73	325	↓↓iP		P	09 12 28.9 +0.9
TX31	Lajitas Ar. Si	77.77	60	eP		P	09 12 29.2 +0.6
	comp=Z,9.0nm,0.7s						
TXAR	Lajitas Array	77.78	60	P		P	09 12 29.6 +1.0
	comp=Z,1.7nm,0.7s,baz=302,slow=4.0,SNR=22						
TXAR				LR	LR		09 46 25.0
	comp=Z,253nm,18.6s,baz=0.0,slow=35						
BASO	Ashfield	77.78	37	P		P	09 12 28.0 -0.2
	baz=325						
Q42A	Golden Eagle	77.81	46	P		P	09 12 28.3 -0.2
	baz=321						
MODS	Modra-Piesok	77.83	331	eP		P	09 12 28.2 -0.3
MODS				pmax	pmax		
	comp=Z,18nm,1.0s						
MODS	Modra-Piesok	77.83	331	eP		P	09 12 28.2 -0.3
R41A	Rosebud	77.87	46	P		P	09 12 29.0 +0.1
	baz=321						
BUG	Bochum--Univer	77.99	339	P		P	09 12 31.0 +1.8
BUG				pmax	pmax		
	comp=Z,17nm,1.1s						
H52A	Wyevale	77.99	35	P		P	09 12 28.8 -0.6
	baz=326						
BUD	Budapest	78.01	330	P		P	09 12 31.4 +2.0
BUD				pmax	pmax		
	comp=Z,30nm,1.0s						
K49A	Clarkson	78.02	39	P		P	09 12 30.0 +0.4
	baz=324						
ZST	Bratislava	78.04	331	eP		P	09 12 29.5 -0.1
ZST	Bratislava	78.04	331	eP		P	09 12 29.5 -0.1
G53A	Haliburton	78.09	34	P		P	09 12 28.8 -1.2
	baz=327						
SIRR	Siria	78.11	328	↑↑iP		P	09 12 30.2 +0.2
O45A	Potomac	78.12	43	P		P	09 12 29.3 -0.8
	baz=322						
CCM	Cathedral Cave	78.12	47	eP		P	09 12 30.2 0.0
	comp=Z,8.1nm,0.9s						
CCM	Cathedral Cave	78.12	47	P		P	09 12 30.2 0.0
CCM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CCM	Cathedral Cave	78.12	47	P		P	09 12 29.6 -0.6
	baz=321						
S41A	Jillco Farms,	78.23	47	P		P	09 12 30.7 -0.2
	baz=321						
KHC	Kasperske Hory	78.33	334	eP		P	09 12 30.9 -0.3
	comp=Z,6.0nm,0.8s						
KHC	Kasperske Hory	78.33	334	eP		P	09 12 31.7 +0.4
KHC	Kasperske Hory	78.33	334	eP		P	09 12 31.7 +0.4
I52A	Shelburne	78.35	36	P		P	09 12 30.9 -0.5
	baz=326						
CSKK	Cskako	78.38	330	eP		P	09 12 35.1 +3.6
BR101	Keskin Array S	78.40	317	eP		P	09 12 31.9 -0.1
BRTR	Keskin Array B	78.40	317	i P		P	09 12 32.2 +0.3
BRTR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRTR	Keskin Array B	78.40	317	P		P	09 12 31.9 -0.1
	comp=Z,6.7nm,0.8s,baz=72,slow=4.4,SNR=32						
GZR	Gura Zlata	78.43	327	↓↓iP		P	09 12 31.8 -0.1
GZR	Gura Zlata	78.43	327	P		P	09 12 31.8 -0.1
L49A	Milan	78.43	39	P		P	09 12 31.5 -0.4
	baz=324						
GRA1	Grafenberg Arr	78.52	336	eP		P	09 12 32.1 -0.1
	comp=Z,21nm,0.8s						
GRF	Grafenberg Arr	78.52	336	P		P	09 12 32.5 +0.2
GRF				pmax	pmax		
	comp=Z,21nm,0.8s						
GRFO	Grafenberg	78.52	336	eP		P	09 12 32.1 -0.1
	comp=Z,19nm,0.8s						
WET	Wettzell	78.53	334	P		P	09 12 33.6 +1.3
WET				pmax	pmax		
	comp=Z,17nm,1.0s						
U40A	Yellville	78.61	49	P		P	09 12 32.6 -0.4
	baz=320,SNR=7.4						
SOP	Sopron	78.67	332	P		P	09 12 35.1 +2.0
SOP				pmax	pmax		
	comp=Z,28nm,0.9s						
BZS	Buzias	78.68	327	↓↓iP		P	09 12 33.0 -0.2
BZS	Buzias	78.68	327	P		P	09 12 32.9 -0.2
CONA	Conrad Observa	78.68	332	eP		P

Q45A	Warren Harvey,	78.98	44	P	P	09 12 34.8	-0.1
	baz=322						
ORIO	Orleans, Innes	79.00	32	P	P	09 12 34.0	-0.8
	baz=329						
HERR	Herculane	79.00	327⇑	iP	P	09 12 34.8	-0.1
W39A	Magazine	79.01	50	P	P	09 12 34.9	-0.2
	baz=320						
MEM	Membach	79.07	339	⇑P	P	09 12 34.7	-0.4
	comp=Z,17nm,0.9s						
ALFO	Alfred	79.08	32	P	P	09 12 34.2	-1.1
	baz=329						
U41A	Viola	79.10	48	P	P	09 12 35.5	-0.2
	baz=321						
H55A	Tweed	79.13	34	P	P	09 12 34.8	-0.8
	baz=328						
N49A	Columbus Grove	79.21	40	P	P	09 12 35.3	-0.8
	baz=324						
JCT	Junction City	79.21	57	eP	P	09 12 36.5	+0.1
	comp=Z,11nm,1.0s						
JCT	Junction City	79.21	57	P	P	09 12 36.5	+0.1
JCT				pmax	pmax		
	comp=Z,11nm,1.0s						
JCT	Junction City	79.21	57	P	P	09 12 36.6	+0.1
	baz=318						
MORH	Mrgy, Hungar	79.24	330⇑	eP	P	09 12 34.1	-2.1
MOA	Molln	79.26	333	eP	P	09 12 36.7	+0.4
	comp=Z,7.9nm,0.8s,SNR=6.2						
O48A	Farmland	79.31	41	P	P	09 12 35.9	-0.8
	baz=324						
MDVR	Moldovita	79.35	327⇓	iP	P	09 12 36.5	-0.4
ARSA	Arzberg	79.39	332	eP	P	09 12 37.6	+0.6
	comp=Z,6.5nm,0.8s						
S44A	Carbondale	79.39	45	P	P	09 12 36.8	-0.4
	baz=322						
P47A	Martinsville	79.41	42	P	P	09 12 37.3	0.0
	baz=323						
BCLA	Clavier	79.41	340	⇑P	P	09 12 36.8	-0.2
	comp=Z,12nm,1.2s						
WHTX	Lake Whitney,	79.43	54	eP	P	09 12 37.9	+0.4
	comp=Z,14nm,0.8s						
WHTX	Lake Whitney,	79.43	54	P	P	09 12 38.2	+0.7
	baz=319						
PBMO	Poplar Bluff	79.52	47	eP	P	09 12 38.0	+0.1
	comp=Z,9.9nm,1.1s						
MIAR	Mount Ida	79.62	50	P	P	09 12 38.6	+0.1
	baz=320						
PHSR	Pinarhisar	79.63	322	⇓iP	P	09 12 39.1	+0.7
O49A	Covington	79.73	41	P	P	09 12 38.2	-0.8
	baz=324						
S45A	Carrier Mills	79.74	45	P	P	09 12 39.2	+0.1
	baz=322						
Q47A	Bedord North L	79.77	43	P	P	09 12 39.1	-0.2
	baz=323						
N50A	Nevada	79.79	40	P	P	09 12 39.4	+0.1
	baz=325						
P48A	Milroy	79.82	42	P	P	09 12 39.4	-0.1
	baz=324						
W41B	Gary Mavity, V	79.83	49	P	P	09 12 39.6	0.0
	baz=321						
WLF	Walferdange	79.90	339	⇓P	P	09 12 39.8	0.0
STU	Stuttgart	79.92	337	eP	P	09 12 39.7	-0.2
	comp=Z,16nm,0.9s						
STU	Stuttgart	79.92	337	P	P	09 12 39.7	-0.2
STU				pmax	pmax		
	comp=Z,15nm,0.9s						
M52A	Chesterland	79.94	38	P	P	09 12 40.2	0.0
	baz=326						
PARMO	Parma	79.95	46	eP	P	09 12 40.6	+0.4
	comp=Z,60nm,0.8s						
N51A	Ashland	80.01	39	P	P	09 12 40.5	-0.1
	baz=325						
LONY	Lake Ozonia	80.05	32	P	P	09 12 39.9	-0.8
	baz=329						
SOKA	Soboth	80.05	332	eP	P	09 12 41.1	+0.4
	comp=Z,11nm,0.7s,SNR=6.8						
X40A	Basin Creek Fa	80.05	50	P	P	09 12 40.8	0.0
	baz=321						
L53A	Girard	80.06	37	P	P	09 12 40.6	-0.2
	baz=326						
P49A	Miami Univ. Ec	80.09	41	P	P	09 12 40.7	-0.2
	baz=324						
O50A	Cable	80.09	40	P	P	09 12 40.9	0.0
	baz=325						
Q48A	North Vernon	80.10	42	P	P	09 12 40.9	-0.2
	baz=324						
FORT	Forrest	80.15	201	eP	P	09 12 42.6	+1.5
	comp=Z,42nm,1.1s						
S46A	Don Dixon Farm	80.15	45	P	P	09 12 40.6	-0.7
	baz=323						
KBA	Koelnbreinsper	80.23	333	eP	P	09 12 42.5	+0.7
	comp=Z,22nm,1.0s,SNR=12						
KBA	Koelnbreinsper	80.23	333	P	P	09 12 43.3	+1.5
KBA				pmax	pmax		
	comp=Z,35nm,0.9s						
R47A	Wooly Knot Far	80.24	43	P	P	09 12 41.8	+0.1
	baz=323						
MOQ	Mont Orford	80.29	30	eP	P	09 12 41.5	-0.5
ACSO	Alum Creek Sta	80.30	40	P	P	09 12 42.2	+0.1
	baz=325						
K55A	Perry	80.31	35	P	P	09 12 41.5	-0.6
	baz=327						
M53A	Wl Miller and	80.31	38	P	P	09 12 41.9	-0.2
	baz=326						
OBKA	Obir	80.36	332	eP	P	09 12 42.4	0.0
	comp=Z,5.1nm,0.7s						
ALLY	Alegheny Colle	80.36	37	eP	P	09 12 43.1	+0.7
	comp=Z,17nm,0.7s						
WCI	Wyandotte Cave	80.40	43	eP	P	09 12 43.0	+0.4
	comp=Z,11nm,0.8s						
WCI	Wyandotte Cave	80.40	43	P	P	09 12 43.0	+0.4
WCI				pmax	pmax		
	comp=Z,11nm,0.8s						
WCI	Wyandotte Cave	80.40	43	P	P	09 12 42.6	-0.1
	baz=323						
PLD	Plovdiv	80.42	324	P	P	09 12 44.1	+1.4
Q49A	Aurora	80.43	42	P	P	09 12 42.5	-0.3
	baz=324						
P50A	Jamestown	80.44	41	P	P	09 12 42.9	0.0
	baz=325						
R48A	Northridge Ran	80.46	43	P	P	09 12 43.1	+0.2
	baz=324						
MYKA	Terra Mystica	80.54	333	eP	P	09 12 43.1	-0.2
	comp=Z,8.7nm,1.0s						
O51A	Pataskala	80.54	40	P	P	09 12 43.7	+0.3
	baz=325						
WATA	Walderalm	80.54	334	ePcP	P	09 12 44.8	+1.4
	comp=Z,13nm,0.7s,SNR=11						
BFO	Black Forest	80.56	337	eP	P	09 12 42.7	-0.7
	comp=Z,13nm,0.9s						
BFO	Black Forest	80.56	337	iP	P	09 12 43.5	+0.1
T46A	Princeton	80.57	45	P	P	09 12 43.6	0.0
	baz=323,SNR=5.5						
WTTA	Wattenberg	80.59	334	eP	P	09 12 44.6	+0.8
	comp=Z,22nm,0.7s						
VTS	Vitosha	80.59	325	⇓iP	P	09 12 44.3	+0.5
VTS	Vitosha	80.59	325	P	P	09 12 44.7	+0.9
VTS				pmax	pmax		
	comp=Z,35nm,1.0s						
RETA	Reutte	80.64	335	eP	P	09 12 44.4	+0.5
	comp=Z,8.8nm,0.8s						
MOTA	Moosalm	80.67	335	eP	P	09 12 44.6	+0.4
	comp=Z,14nm,0.7s,SNR=15						
M54A	Oil Creek Stat	80.68	37	P	P	09 12 43.7	-0.5
	baz=327						
SQTA	Sankt Quirin	80.75	335	eP	P	09 12 45.3	+0.8
	comp=Z,13nm,0.8s,SNR=6.8						
N53A	Lisbon	80.77	38	P	P	09 12 44.6	0.0
	baz=326						
ABTA	Abfaltersbach	80.78	334	iP	P	09 12 44.6	-0.1
	comp=Z,7.2nm,1.0s						
ALN	Alexandroupoli	80.87	322	P	P	09 12 46.2	+1.1
R49A	Shelbyville	80.88	43	P	P	09 12 45.1	-0.1
	baz=324						
P51A	Williamsport	80.88	40	P	P	09 12 44.8	-0.3
	baz=325						
O52A	Adamsville	80.90	39	P	P	09 12 45.3	-0.1
	baz=326						
S48A	Wiedeman Farm,	80.97	43	P	P	09 12 45.8	+0.1
	baz=324						
ECH	Echery	80.98	338	P	P	09 12 46.2	+0.6
ECH				pmax	pmax		
	comp=Z,14nm,0.9s						
Q50A	Georgetown	80.98	41	P	P	09 12 45.6	-0.1
	baz=324						
N54A	Moraine State	81.00	38	P	P	09 12 45.8	0.0
	baz=326						
T47A	Sharon Grove	81.00	45	P	P	09 12 46.3	+0.4
	baz=323						
O53A	New Philadelph	81.06	39	P	P	09 12 46.4	+0.3
	baz=326						
FETA	Feichten	81.07	335	eP	P	09 12 46.8	+0.5
	comp=Z,6.6nm,0.9s						
DAVA	Damuels	81.08	335	eP	P	09 12 46.6	+0.2
	comp=Z,11nm,1.0s						
M55A	Ridgway	81.08	37	P	P	09 12 46.3	0.0
	baz=327						
Q51A	Pebles	81.12	41	P	P	09 12 46.9	+0.4
	baz=325						
P52A	Corning	81.17	40	P	P	09 12 46.3	-0.4
	baz=325						
S49A	Springfield	81.23	43	P	P	09 12 47.6	+0.5
	baz=324						
T48A	Bowling Green	81.25	44	P	P	09 12 47.0	-0.2
	baz=324						
WVT	Waverly	81.33	46	P	P	09 12 47.8	+0.2
	baz=323						
U47A	Clarksville	81.34	45	P	P	09 12 47.6	-0.1
	baz=323						
V46A	Holladay	81.44	46	P	P	09 12 48.6	+0.4
	baz=323						
O54A	Avella	81.48	38	P	P	09 12 48.1	-0.3
	baz=326						
N55A	Marion Center	81.57	37	P	P	09 12 49.0	+0.1
	baz=327						
BINY	Binghamton	81.58	34	P	P	09 12 48.8	-0.1
	baz=329						
R51A	Hillsboro	81.60	41	P	P	09 12 48.9	-0.1
	baz=325						
P53A	Whipple	81.61	39	P	P	09 12 49.0	0.0
	baz=326						
EZN	Ezine	81.63	321	⇓iP	P	09 12 49.2	0.0
EZN	Ezine	81.63	321	P	P	09 12 49.2	0.0
U48A	Cassie Pea, Po	81.65	44	P	P	09 12 49.2	-0.2
	baz=323						
SRS	Serrai	81.71	324	P	P	09 12 49.7	+0.1
V47A	Nunnelly	81.72	46	P	P	09 12 49.8	+0.1
	baz=323						
S50A	Richmond	81.73	42	P	P	09 12 50.0	+0.2
	baz=324						
OXF	Oxford	81.81	48	P	P	09 12 50.4	+0.2
	baz=322						
O55A	Ligonier	81.91	38	P	P	09 12 50.1	-0.6
	baz=327						
P54A	Burton	81.92	39	P	P	09 12 50.6	-0.1
	baz=326						
KNT	Kendrikon	81.95	324	P	P	09 12 51.8	+1.0
R52A	Catlettsburg	82.00	41	P	P	09 12 51.0	-0.1
	baz=325						
U49A	Red Boiling Sp	82.02	44	P	P	09 12 51.2	0.0
	baz=324						
T50A	Nancy	82.06	43	P	P	09 12 51.4	-0.1
	baz=324						
Q53A	Leroy	82.07	40	P	P	09 12 51.4	-0.2
	baz=326						
V48A	Smith Brothers	82.13	45	P	P	09 12 52.2	+0.3
	baz=323						
S51A	Beattyville	82.14	42	P	P	09 12 51.6	-0.2
	baz=325						
W47A	Westpoint	82.14	46	P	P	09 12 52.0	+0.1
	baz=323						
MCWV	Mont Chateau	82.14	38	P	P	09 12 51.4	-0.4
	baz=327						
SSPA	Standing Stone	82.14	36	P	P	09 12 51.5	-0.3
	baz=329						
O56A	Blue Knob Stat	82.17	37	P	P	09 12 52.0	-0.1
	baz=327						
X46A	Booneville	82.19	47	P	P	09 12 52.5	+0.3
	baz=323						
FLN	La Foliniere	82.27	343	eP	P	09 12 51.8	-0.5
FLN				pmax	pmax		
	comp=Z,16nm,1.0s						
Q54A	Coxs Mills	82.27	39	P	P	09 12 52.4	-0.2
	baz=326						
P55A	Reedsville	82.27	38	P	P	09 12 52.1	-0.5
	baz=327						
PDG	Podgorica	82.28	327	⇓iP	P	09 12 52.2	-0.3
GRG	Griva	82.32	324	eP	P	09 12 54.8	+2.0
S52A	Salyersville	82.34	42	P	P	09 12 52.7	-0.2
	baz=325						
U50A	Jamestown	82.54	43	P	P	09 12 53.8	-0.2
	baz=324						
W48A	Pulaski	82.56	46	P	P	09 12 54.0	-0.1
	baz=323						
V49A	McMinnville	82.56	45	P	P	09 12 53.8	-0.3
	baz=324						
X47A	Russelville	82.59	47	P	P	09 12 54.6	+0.4
	baz=323						
Q55A	Buckhannon	82.59	39	P	P	09 12 53.9	-0.4
	baz=327						
ASF	Jabal al Asfar	82.67	310	P	P	09 12 55.5	+0.7
ASF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASF	Jabal al Asfar	82.67	310	P	P	09 12 55.5	+0.7
	comp=Z,7.9nm,0.9s,baz=330,slow=6.1,SNR=3.5						
GRR	Gorron	82.70	343	eP	P	09 12 54.9	+0.3
GRR				pmax	pmax		
	comp=Z,172nm,2.2s						
CABF	La Chapelle	82.74	338	eP	P	09 12 54.7	-0.3
CABF				pmax	pmax		
	comp=Z,20nm,1.3s						
N59A	State Game Lan	82.76	35	P	P	09 12 54.8	-0.3
	baz=329						
S53A	Williamson	82.77	41	P	P	09 12 55.0	-0.2
	baz=326						
MMAI	Mount Meron Ar	82.80	311	P	P	09 12 56.0	+0.6
	comp=Z,14nm,0.6s,baz=36,slow=5.7,SNR=14						
FNA	Florina	82.88	325	P	P	09 12 55.7	-0.1
FNA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SSF	Saint Saulge	82.98	339	eP	P	09 12 55.6	-0.5
SSF				pmax	pmax		
	comp=Z,17nm,1.5s						
V50A	Pikeville	83.02	44	P	P	09 12 56.6	+0.1
	baz=324						
TZTN	Tazewell	83.05	42	P	P	09 12 56.5	-0.1
	baz=325						
O59A	Robesonia	83.11	36	P	P	09 12 56.1	-0.8
	baz=329						
R55A	Marlinton	83.17	39	P	P	09 12 56.9	-0.4
	baz=327						
SGMF	Saint Gilles	83.17	344	eP	P	09 12 56.5	-0.5
SGMF				pmax	pmax		
	comp=Z,29nm,1.2s						
U52A	Thorn Hill	83.25	42	P	P	09 12 57.5	-0.3
	baz=325						
AVF	Avril sur Loir	83.27	339	eP	P	09 12 57.3	-0.3
AVF				pmax	pmax		
	comp=Z,16nm,1.1s						
V51A	Loudon	83.27	43	P	P	09 12 57.6	-0.2
	baz=325						
SMF	Signal de Mont	83.28	339	eP	P	09 12 57.6	-0.1
SMF				pmax	pmax		
	comp=Z,35nm,1.2s						
W50A	Signal Mountai	83.30	44	P	P	09 12 57.9	-0.1
	baz=324						
X49A	Woodville	83.36	46	P	P	09 12 57.5	-0.7
	baz=324						
PAL	Palisades	83.41	34	P	P	09 12 57.8	-0.6
	baz=330						
O60A	Telford	83.42	35	P	P	09 12 57.7	-0.7
	baz=329						
Y48A	Jasper	83.42	46	P	P	09 12 58.5	-0.1
	baz=323						
T54A	Tazewell	83.53	41	P	P	09 12 59.2	0.0
	baz=326						
LPL	La Plagne	83.58	337	eP	P	09 12 59.6	+0.1
LPL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LPG	La Plagne	83.59	337	eP	P	09 12 59.9	+0.3
LPG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
W51A	Cleveland	83.60	44	P	P	09 12 59.8	+0.3
	baz=324						
V52A	Sevierville	83.60	43	P	P	09 12 59.7	+0.2
	baz=325						
P59A	Jarrettsville	83.61	36	P	P	09 12 59.3	-0.1
	baz=329						
BGF	Bois d'Agland	83.61	340	eP	P	09 13 00.1	+0.8
BGF				pmax	pmax		
	comp=Z,31nm,1.6s						
U53A	Fall Branch	83.64	42	P	P	09 12 59.8	+0.1
	baz=326						
X50B	Fort Payne	83.73	45	P	P	09 13 00.1	-0.1
	baz=324						
P60A	Greenville	83.75	35	P	P	09 12 59.9	-0.2
	baz=329						
Y49A	Blount Mountai	83.84	46	P	P	09 13 01.1	+0.3
	baz=324						
T55A	Pulaski	83.84	40	P	P	09 13 00.8	0.0
	baz=326						
147A	Livingston	83.84	48	P	P	09 13 01.3	+0.5
	baz=323						
U54A	Nelsons Funny	83.86	41	P	P	09 13 00.9	0.0
	baz=326						
BLA	Blacksburg	83.92	40	P	P	09 13 01.5	+0.3
	baz=326						
R58A	Rapidan	84.06	38	P	P	09 13 01.7	-0.1
	baz=328						
V53A	Saluda	84.10	43	P	P	09 13 02.2	+0.1
	baz=325						
S57A	Dark Hollow, R	84.11	39	P	P	09 13 02.2	+0.2
	baz=327						
Y50A	Piedmont	84.14	46	P	P	09 13 02.5	+0.2
	baz=324						
LRAL	Lakeview Retre	84.20	47	P	P	09 13 02.5	-0.1
	baz=324						
U55A	TA2, Sparta	84.23	41	P	P	09 13 02.8	0.0
	baz=326						
MFF	Saint Martin d	84.25	342	eP	P	09 13 04.9	+2.3
MFF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
Z49A	Columbiana	84.31	46	P	P	09 13 03.3	+0.1
	baz=324						
W53A	Cullowhee	84.35	43	P	P	09 13 03.6	+0.1
	baz=325						
ORIF	Oris-en-Rattie	84.36	337	eP	P	09 13 03.5	+0.2
ORIF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SSB	Saint Sauveur	84.38	338	eP	P	09 13 03.9	+0.6
SSB				pmax	pmax		
	comp=Z,12nm,1.0s						
R58B	Mineral	84.40	38	P	P	09 13 03.8	+0.3
	baz=328						
V54A	Nebo	84.42	42	P	P	09 13 02.8	-0.8
	baz=326						
X52A	Dahlonega	84.46	44	P	P	09 13 03.4	-0.6
	baz=325						
Y51A	Rockmart	84.47	45	P	P	09 13 04.0	+0.1
	baz=324						
R59A	King George, V	84.52	37	P	P	09 13 03.8	-0.3
	baz=328						
Z50A	Ashland	84.56	46	P	P	09 13 04.6	+0.2
	baz=324						
T57A	Hurt	84.61	39	P	P	09 13 04.4	-0.2
	baz=327						
S58A	Poland Farm, P	84.62	38	P	P	09 13 04.4	-0.2
	baz=328						
149A	Jones	84.65	47	P	P	09 13 05.1	+0.3
	baz=324						
V55A	Taylorsville	84.69	41	P	P	09 13 05.0	0.0
	baz=326						
VIVF	Saint-Julien-l	84.74	338	eP	P	09 13 05.3	+0.1
VIVF				pmax	pmax		
	comp=Z,20nm,1.5s						
S59A	Mechanicsville	84.81	38	P	P	09 13 06.0	+0.5
	baz=328						
X53A	Estanollee	84.83	44	P	P	09 13 05.8	0.0
	baz=325						
W54A	Cherokee Point	84.87	42	P	P	09 13 05.6	-0.3
	baz=326						
Z51A	Franklin	84.88	45	P	P	09 13 05.8	-0.3
	baz=324						
T58A	Grand View Acr	84.97	39	P	P	09 13 05.7	-0.7
	baz=328						
Y52A	Lilburn	84.98	44	P	P	09 13 06.7	+0.2
	baz=325						
249A	Camden	84.98	48	P	P	09 13 07.0	+0.5
	baz=324						
150A	Eclectic	85.03	46	P	P	09 13 06.9	+0.1
	baz=324						
U57A	Blanch	85.05	40	P	P	09 13 06.4	-0.4
	baz=327						
RJF	Les Rejaudoux	85.10	340	eP	P	09 13 06.9	0.0
RJF				pmax	pmax		
	comp=Z,12nm,1.2s						
Y53A	Monroe	85.22	44	P	P	09 13 07.9	+0.2
	baz=325						
KMSC	Kings Mountain	85.22	42	P	P	09 13 07.7	0.0
	baz=326						
X54A	Belton	85.23	43	P	P	09 13 08.0	+0.3
	baz=326						
Z52A	Williamson	85.36	45	P	P	09 13 08.5	+0.1
	baz=325						
T59A	Double "B" Far	85.37	38	P	P	09 13 08.8	+0.4
	baz=328						
250A	Grady	85.42	47	P	P	09 13 08.7	0.0
	baz=324						
U58A	Oxford	85.43	39	P	P	09 13 08.1	-0.6
	baz=328						
151A	Opelika	85.44	46	P	P	09 13 09.0	+0.1
	baz=324						
152A	Waverly Hall	85.63	46	P	P	09 13 09.8	0.0
	baz=325						
GOGA	Godfrey	85.64	44	P	P	09 13 09.7	0.0
	baz=325						
X55A	Gracelyn & Ava	85.64	42	P	P	09 13 10.5	+0.7
	baz=326						
Y54A	Tignall	85.64	43	P	P	09 13 10.4	+0.6
	baz=326,SNR=8.9						
V58A	Windy Hill, Pi	85.68	40	P	P	09 13 09.8	-0.1
	baz=327						
Z53A	Monticello	85.69	44	P	P	09 13 09.8	-0.3
	baz=325						
W57A	Gilead	85.83	41	P	P	09 13 10.4	-0.2
	baz=327						
X56A	White Oak	85.90	42	P	P	09 13 11.5	+0.5
	baz=326						
Y55A	Saluda	85.97	43	P	P	09 13 11.8	+0.4
	baz=326						
Z54A	Sparta	86.08	44	P	P	09 13 12.2	+0.2
	baz=326						
V59A	Middlesex	86.09	39	P	P	09 13 12.2	+0.2
	baz=328						
252A	Lumpkin	86.17	46	P	P	09 13 12.7	+0.2
	baz=325						
W58A	Raeford	86.28	40	P	P	09 13 13.2	+0.3
	baz=327						
U61A	Possum Corner	86.39	38	P	P	09 13 13.5	+0.1
	baz=329						
154A	Montrose	86.46	44	P	P	09 13 14.2	+0.3
	baz=325						
352A	Blakely	86.49	46	P	P	09 13 14.7	+0.7
	baz=325						
CNNC	Cliffs of the	86.69	39	P	P	09 13 15.4	+0.5
	baz=328						
Z56A	Williston	86.71	43	P	P	09 13 15.4	+0.4
	baz=326						
452A	Marianna	86.87	47	P	P	09 13 15.9	0.0
	baz=324						
254A	Abbeville	86.92	45	P	P	09 13 16.1	0.0
	baz=325						
353A	Camilla	86.95	46	P	P	09 13 16.4	+0.1
	baz=325						
TIGA	Tifton	87.19	45	P	P	09 13 17.9	+0.4
	baz=325						
Y60A	Bolivia	87.58	40	P	P	09 13 19.1	-0.1
	baz=328						
556A	Lake Butler	88.94	45	P	P	09 13 26.9	+1.1
	baz=326						
557A	Orange Park	89.26	45	P	P	09 13 28.4	+1.1
	baz=326						
ESDC	Sonseca Array	91.69	342	eP	P	09 13 37.1	-1.4
ESDC	Sonseca Array	91.69	342	P	P	09 13 37.8	-0.7
	comp=Z,1.9nm,0.8s,baz=10,slow=3.8,SNR=7.3						
TOA1	Torodi Ar. Sit	115.16	329	ePKiKP	PKiKP	09 19 12.3	-0.3
TORD	Torodi Ar. Bea	115.16	329	PKP	PKiKP	09 19 12.3	-0.3
	comp=Z,0.6nm,0.6s,baz=288,slow=1.3,SNR=4.2						
VNDA	Vanda	123.92	178	PKP	PKPdf	09 19 27.7	+0.2
	comp=Z,1.5nm,0.8s,baz=309,slow=4.9,SNR=4.2						
LPAZ	La Paz	134.62	62	ePKPdf	PKPdf	09 19 49.7	-0.7
LPAZ	La Paz	134.62	62	ePKIKP	PKPdf	09 19 49.7	-0.7
LPAZ	La Paz	134.62	62	PKP	PKPdf	09 19 51.0	+0.6
	comp=Z,0.8nm,0.7s,baz=22,slow=5.4,SNR=3.7						
QSPA	South Pole Qui	136.28	180	ePKPpre	PKPpre	09 19 43.6	
QSPA				ePKPdf	PKPdf	09 19 47.7	-3.5
BDFB	Brasilia	144.63	36	PKP	PKPbc	09 20 06.9	+0.1
	comp=Z,4.8nm,0.8s,baz=310,slow=4.8,SNR=8.1						
PLCA	Paso Flores	148.40	95	ePKPbc	PKPbc	09 20 18.0	+0.9
PLCA	Paso Flores	148.40	95	PKP2	PKPbc	09 20 18.0	+0.9
PLCA	Paso Flores	148.40	95	PKPbc	PKiKP	09 20 18.3	-0.4
	comp=Z,4.4nm,0.8s,baz=290,slow=2.2,SNR=8.7						
CPUP	Villa Florida	148.75	60	PKPbc	PKPbc	09 20 18.6	+0.3
	comp=Z,5.8nm,0.8s,baz=330,slow=3.6,SNR=16						

SNAA	Sanae	152.30	196	PKiKP	PKPbc	09 20 25.4	0.0
SNAA	Sanae	152.30	196	*e*PKPbc	PKPbc	09 20 25.2	-0.3
SNAA	Sanae	152.30	196	*e*PKiKP	PKPbc	09 20 25.2	-0.3
PMSA	Palmer Station	152.93	146	*e*PKPdf	PKPdf	09 20 15.8	-3.8
TRQA	Tornquist	153.08	84	*e*PKPbc	PKiKP	09 20 28.8	+0.4
TRQA	Tornquist	153.08	84	*e*PKiKP	PKiKP	09 20 28.8	+0.4
VNA2	Neumayer--Watz	153.75	195	PKiKP	PKiKP	09 20 29.6	+1.0
VNA3	Neumayer Olymp	153.84	193	PKiKP	PKiKP	09 20 29.5	+0.6
VNA1	Neumayer--Stat	154.14	194	PKiKP	PKiKP	09 20 32.4	+2.9

IDC 12 09:01:44.0±2.8, 6°23S×154°44E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.5/44, mbtmp3.9/3, Error ellipse: s-maj=132.1km s-min=43.5km az=135.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.87	246	Pn	Pn	09 03 42.0	+2.2
	baz=83,slow=17						
WRA	**Warramunga Arr**	23.81	233	P	P	09 06 58.1	-0.8
	3.6nm,0.9s,baz=55,slow=9.5,SNR=12						
ASAR	**Alice Springs**	26.27	227	P	P	09 07 20.9	-0.5
	0.9nm,1.0s,baz=60,slow=9.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	152.28	286	PKPbc	PKiKP	09 21 43.2	-0.1
	0.1nm,0.3s,baz=71,slow=3.7,SNR=2.7						

*NEIC **12** 09:02:20.1±0.0, 26°47N×57°67E, h15km, mb4.5/47, ML4.5(THR), MN4.5(TEH), After THR.*
*TEH **12** 09:02:21.4, 26°56N×57°86E, h6km, ML4.5*
*IDC **12** 09:02:22.1±0.9, 26°67N×57°76E, h0km, mb3.9/21, mb1 4.1/23, mb1mx3.9/61, mbtmp4.0/23, ML4.0/2, MS3.6/12, Ms1 3.6/12, ms1mx3.4/49, Error ellipse: s-maj=21.7km s-min=14.3km az=156.0*
*ISCJB **12** 09:02:22.1±0.2, 26°64N±0°02×57°80E±0°03, h10km, mb4.5/93, MS3.5/9, Error ellipse: s-maj=3.7km s-min=2.8km az=179.7*
*OMAN **12** 09:02:23.8±4.0, 26°66N×57°95E, h26km, ml4.2/11, Error ellipse: s-maj=44.1km s-min=15.7km az=27.0*
*DSN **12** 09:02:23.7±3.0, 26°61N×57°94E, h10km, ML4.3/10, Error ellipse: s-maj=40.6km s-min=12.7km az=7.0*
*MOS **12** 09:02:23.1±1.1, 26°75N×57°78E, h14km, mb4.8/55, Error ellipse: s-maj=8.1km s-min=4.3km az=120.6*
ISC 12 09:02:23.3±0.4, 26°61N±0°04×57°85E±0°03, h10km, n298, σ1°50/299, mb4.6/105, MS3.5/9, 6C-12D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	1.31	316	*e*Pn	Pg	09 02 47.9	-0.6
NIAN	**Nian**	1.31	316	*e*Pg	Pb	09 02 47.8	-0.2
NIAN				IAMB	IAmb	09 03 24.7	
	comp=Z,0.0nm,0.6s						
SHME	**Shamm**	1.63	250	*e*P	Pn	09 02 53.1	+0.9
	SNR=56						
SHME				S	Sg	09 03 16.3	+0.4
SHME	**Shamm**	1.63	250	*e*Pn	Pb	09 02 53.4	-0.2
BNDS	**Bandar-Abbas**	1.69	298	*e*Pg	Pn	09 02 49.5	-3.6
GENO	**Geno**	1.69	298	*e*Pn	Pb	09 02 54.1	-0.5
GENO				*e*Sn	Sg	09 03 17.0	-0.7
GENO	**Geno**	1.69	298	*e*Pn	Pb	09 02 54.1	-0.5
GENO				IAMB	IAmb	09 03 25.7	
	comp=Z,0.0nm,0.5s						
MDH	**Madha**	1.91	227	P	Pn	09 02 55.0	-1.0
MDH				S	Sn	09 03 21.4	+1.3
MDH	**Madha**	1.91	227	*e*Pn	Pn	09 02 55.0	-1.0
MSFE	**Esma-Masafi**	1.97	231	*e*P	Pn	09 02 55.8	-1.0
	SNR=15						
MSFE	**Esma-Masafi**	1.97	231	*e*Pn	Pn	09 02 56.0	-0.8
UMQ	**Umm Al-Quwin**	2.25	242	*e*P	Pb	09 03 02.7	-1.3
	SNR=9.2						
UMQ	**Umm Al-Quwin**	2.25	242	*e*Pn	Pb	09 03 04.1	+0.1
HATD	**Hatta, Dubai**	2.36	221	*e*P	Pn	09 03 02.3	+0.1
	SNR=20						
HATD	**Hatta, Dubai**	2.36	221	P	Pn	09 03 01.1	-1.0
	SNR=25						
HATD	**Hatta, Dubai**	2.36	221	*e*Pn	Pn	09 03 01.1	-1.0
ASHO	**Ashiyiah**	2.51	220	*e*P	Pn	09 03 04.7	+0.4
	SNR=38						
ASHO	**Ashiyiah**	2.51	220	P	Pn	09 03 04.0	-0.3
	SNR=12						
ASHO	**Ashiyiah**	2.51	220	*e*Pn	Pn	09 03 05.1	+0.8
NAZ	**Nazwa, Dubai**	2.55	231	*e*P	Pn	09 03 06.3	+1.5
	SNR=49						
NAZ	**Nazwa, Dubai**	2.55	231	P	Pn	09 03 07.0	+2.3
	SNR=63						
NAZ	**Nazwa, Dubai**	2.55	231	*e*Pn	Pb	09 03 07.6	-1.6
CHBR	**Chabahar**	2.58	113	*e*Pn	Pn	09 03 04.0	-1.1
CHBR	**Chabahar**	2.58	113	*e*Pn	Pn	09 03 04.5	-0.6
SOHO	**SOHO**	2.74	206	P	Pn	09 03 06.1	-1.3
	SNR=94						
FAQ	**Al Faqa, Dubai**	2.76	228	*e*P	Pn	09 03 10.0	+2.4
	SNR=87						
FAQ	**Al Faqa, Dubai**	2.76	228	P	Pn	09 03 09.8	+2.2
	SNR=14						
FAQ	**Al Faqa, Dubai**	2.76	228	*e*Pn	Pn	09 03 10.1	+2.5
ASUD	**Al Ashush, Dub**	3.01	230	*i* P	Pn	09 03 13.4	+2.2
	SNR=27						
ASUD	**Al Ashush, Dub**	3.01	230	P	Pn	09 03 13.7	+2.5
	SNR=27						
ASUD	**Al Ashush, Dub**	3.01	230	*e*Pn	Pn	09 03 14.1	+2.9
HOQ	**Hoqain**	3.06	189	*e*Pn	Pn	09 03 11.8	0.0
BIDO	**Bidbid**	3.09	175	P	Pn	09 03 12.3	+0.2
	SNR=12						
BIDO				S	Sn	09 03 49.5	+0.4
BIDO	**Bidbid**	3.09	175	*e*Pn	Pn	09 03 12.2	0.0
ALNE	**Al Ain**	3.17	217	*i* P	Pn	09 03 15.2	+1.9
	SNR=13						
ALNE	**Al Ain**	3.17	217	*e*Pn	Pn	09 03 15.7	+2.3
NGRK	**Negar Kerman**	3.18	342	*e*Pn	Pn	09 03 15.1	+1.3
NGRK	**Negar Kerman**	3.18	342	*e*Pn	Pn	09 03 15.3	+1.5
NGRK				IAMB	IAmb	09 04 12.3	
	comp=Z,0.0nm,0.6s						
CHMN	**Cheshme madani**	3.25	355	*e*Pn	Pn	09 03 17.0	+2.3
CHMN	**Cheshme madani**	3.25	355	*e*Pn	Pn	09 03 17.1	+2.3
CHMN				IAMB	IAmb	09 04 19.3	
	comp=Z,0.0nm,0.8s						
AJN	**Ajban**	3.29	232	*i* P	Pn	09 03 16.4	+1.4
	SNR=13						
AJN	**Ajban**	3.29	232	*e*Pn	Pb	09 03 21.1	-0.8
WSAR	**Wadi Sarin**	3.43	168	Pn	Pn	09 03 17.6	+0.7
	comp=Z,31nm,0.3s,baz=350,slow=5.1,SNR=178						
WSAR				Sn	Sn	09 03 55.9	-1.8
	comp=Z,20nm,0.3s,baz=300,slow=19,SNR=15						
WSAR				LR	LR	09 05 04.8	
	comp=Z,530nm,18.4s,baz=12,slow=46						
TVBK	**TV Kerman**	3.50	344	*e*Pn	Pn	09 03 20.7	+2.6
TVBK				IAMB	IAmb	09 04 37.9	
	comp=Z,0.0nm,0.7s						
SZD1	**Zahaedan-tmp**	3.91	42	*e*Pn	Pb	09 03 29.8	-2.7
KHGB	**Koh Gabri**	3.94	342	*e*Pn	Pn	09 03 26.3	+2.2
KHGB				IAMB	IAmb	09 03 40.0	
	comp=Z,0.0nm,0.5s						
ZHSF	**Zahedan**	3.95	40	*e*Pn	Pn	09 03 25.0	+0.8
ZHSF	**Zahedan**	3.95	40	*e*Pn	Pn	09 03 25.8	+1.6
GHIR	**Ghir-Karzin**	4.63	292	*e*Pn	Pn	09 03 30.0	-3.5
GHIR	**Ghir-Karzin**	4.63	292	*e*Pn	Pn	09 03 30.6	-2.9
JLN	**Jalan Bani Buh**	4.66	162	P	Pn	09 03 34.4	+0.6
	SNR=9.6						
JLN				S	Sn	09 04 29.5	+1.5
IPAR	**Pars**	5.32	308	*e*Pn	Pn	09 03 43.9	+0.8
MZR	**Muzera**	5.36	229	*e*Pn	Pn	09 03 45.3	+1.9
BSRN	**Basiran**	5.45	12	*e*Pn	Pn	09 03 45.1	+0.3
IMEH	**Mehriz**	5.54	330	*e*Pn	Pn	09 03 46.7	+0.6
MHTO	**MHTO**	5.60	179	P	Pn	09 03 47.8	+1.1
IKAZ	**Kazeroun**	6.17	302	*e*Pn	Pn	09 03 53.9	-1.0
ITEG	**Tejag**	6.31	7	*e*Pn	Pn	09 03 57.6	+0.9
IDAH	**Dahanechah**	6.35	16	*e*Pn	Pn	09 04 02.5	+5.2
ICHK	**Chekchek**	6.37	333	*e*Pn	Pn	09 03 58.2	+0.8
YZKH	**Yazd**	6.42	335	*e*Pn	Pn	09 03 57.7	-0.4
TPRV	**Parvadeh(Tabas**	6.47	351	*e*Pn	Pn	09 04 00.6	+1.8
TKDS	**Koohdasht(Taba**	7.01	355	*e*Pn	Pn	09 04 08.1	+1.9
KLNJ	**Kolanjah**	7.02	310	*e*Pn	Pn	09 04 06.6	0.0
IRAM	**Ramesheh**	7.04	319	*e*Pn	Pn	09 04 06.6	-0.2
TNSJ	**Nastanj**	7.41	352	*e*Pn	Pn	09 04 13.6	+2.0
ANAR	**Anarak**	7.47	332	*e*Pn	Pn	09 04 13.1	+0.6
IGAR	**Gharneh**	7.67	320	*e*Pn	Pn	09 04 16.0	+0.6
IZEF	**Zefreh**	7.89	324	*e*Pn	Pn	09 04 17.6	-0.8
IPIR	**Pirpir**	8.56	317	*e*Pn	Pn	09 04 27.3	-0.3
ISFB	**Sefidab**	9.10	329	*e*Pn	Pn	09 04 35.4	+0.5
IANJ	**Anjilo**	9.45	340	*e*Pn	Pn	09 04 41.5	+1.7
KHMZ	**Khomeyn**	9.85	318	*e*Pn	Pn	09 04 43.0	-2.2
KHMZ	**Khomeyn**	9.85	318	*e*Pn	Pn	09 04 43.7	-1.5
IMYA	**Miami**	9.89	11	*e*Pn	Pn	09 04 50.4	+4.7
IAKL	**Akhelmad**	9.99	4	*e*Pn	Pn	09 04 50.0	+2.8
IKMR	**Kamar-syah**	10.70	312	*e*Pn	Pn	09 04 55.8	-0.9
GEYT	**Alibeck**	11.29	1	LR	LR	09 09 31.3	
	comp=Z,304nm,20.2s,baz=230,slow=38						
GYA0B	**ALIBECK ARRAY**	11.29	1	*e*Pn	Pn	09 05 05.4	+0.7
IKOM	**Komasi**	11.68	313	*e*Pn	Pn	09 05 08.6	-1.6
KBL	**Kabul**	12.46	48	*e*Pn	Pn	09 05 26.8	+5.8
KBL	**Kabul**	12.46	48	*e*P	Pn	09 05 26.8	+5.8
KBL	**Kabul**	12.46	48	*e*Pn	Pn	09 05 26.8	+5.8
NIL	**Nilore**	15.05	59	*e*Pn	Pn	09 05 55.2	-1.0
	comp=Z,34nm,1.0s						
NIL	**Nilore**	15.05	59	*e*P	Pn	09 05 55.2	-1.0
NIL				pmax	pmax		
	comp=Z,34nm,1.0s						
CHGR	**Chuyangaron**	15.31	36	*e*Pn	P	09 06 04.6	+0.1
	comp=Z,46nm,1.5s						
GAR	**Garm**	16.18	37	*e*Pn	P	09 06 17.3	+3.1
	comp=Z,18nm,1.0s						
GAR	**Garm**	16.18	37	*e*P	P	09 06 17.3	+3.1
GAR				pmax	pmax		
	comp=Z,18nm,1.0s						
AKT	**Akhty**	17.02	333	*i* P	Pn	09 06 22.0	+0.5
BTK	**Batken**	17.21	36	*e*Pn	P	09 06 25.7	+0.1
	comp=Z,20nm,1.1s						
BTK	**Batken**	17.21	36	*e*P	P	09 06 25.7	+0.1
BTK				pmax	pmax		
	comp=Z,20nm,1.1s						
GNI	**Garni**	17.35	324	*e*Pn	Pn	09 06 25.4	-0.4
	comp=Z,14nm,0.9s						
GNI	**Garni**	17.35	324	*i* P	Pn	09 06 23.3	-2.5
GNI	**Garni**	17.35	324	LR	LR	09 14 22.4	
	comp=Z,204nm,21.4s,baz=70,slow=42						
DAMY	**Dhamar**	17.36	229	*e*Pn	P	09 06 31.3	+3.7
	comp=Z,37nm,1.1s						
DVE	**Vedeno**	18.90	333	*i* P	P	09 06 43.0	-1.1
ASF	**Jabal al Asfar**	19.07	292	P	Pn	09 06 46.5	-0.4
	comp=Z,0.2nm,0.3s,baz=89,slow=7.3,SNR=3.9						
ASF				S	Sn	09 10 03.8	-17
	comp=Z,0.3nm,0.3s,baz=53,slow=20,SNR=4.2						
GROC	**Groznyy**	19.24	332	*e*P	P	09 06 46.4	-1.4
GROC				pmax	pmax		
	comp=Z,16nm,0.6s						
ARSB	**Arslanbob**	19.27	37	*e*P	Pn	09 06 51.9	+2.7
	comp=Z,23nm,1.4s						
KK31	**Karatay Array**	19.42	29	*e*P	Pn	09 06 50.7	-0.2
	comp=Z,16nm,1.0s						
KK31	**Karatay Array**	19.42	29	*e*P	Pn	09 06 50.7	-0.2
KK31				pmax	pmax		
	comp=Z,16nm,1.0s						
KKAR	**Karatay Array**	19.42	29	*e*P	Pn	09 06 50.7	-0.2
KKAR	**Karatay Array**	19.42	29	*e*P	Pn	09 06 50.7	-0.2
ZEI	**Tsey**	19.75	328	*e*P	P	09 06 53.0	-0.6
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSH	**Kashi**	19.86	45	P	P	09 06 52.0	-2.7
KSH				pP	sP	09 06 58.5	-0.8
KSH				PP	PnPn	09 07 11.6	+1.3
KSH				S	S	09 10 23.5	-15
KSH				SS	SnSn	09 10 50.2	-3.8
EIL	**Elat**	20.41	284	P	P	09 07 01.4	+0.7
	comp=Z,13nm,0.9s,baz=33,slow=5.4,SNR=8.5						
NCK	**Nalchik**	20.44	329	*i* P	P	09 06 59.5	-1.4
MMAI	**Mount Meron Ar**	20.48	294	P	P	09 07 02.1	+0.7
	comp=Z,2.0nm,0.4s,baz=57,slow=14,SNR=4.9						
MMAI				LR	LR	09 16 06.1	
	comp=Z,87nm,19.1s,baz=190,slow=40						
ATD	**Arta Tunnel**	20.61	226	*e*P	P	09 07 04.2	+1.3
	comp=Z,17nm,1.1s						
ATD	**Arta Tunnel**	20.61	226	P	P	09 07 04.3	+1.4
	comp=Z,4.4nm,0.6s,baz=334,slow=5.3,SNR=3.7						
NEY	**Neytrino**	20.66	327	*i* P	P	09 07 03.4	-0.1
KBZ	**Khabaz**	20.94	328	LR	LR	09 17 35.8	
	comp=Z,194nm,19.7s,baz=142,slow=44						
AAK	**Ala-Archa**	20.99	36	*e*P	Pn	09 07 09.7	+0.1
	comp=Z,7.7nm,0.8s						
AAK	**Ala-Archa**	20.99	36	*i* P	P	09 07 07.5	+0.5
AAK	**Ala-Archa**	20.99	36	P	P	09 07 06.6	-0.4
	comp=Z,1.5nm,0.5s,baz=207,slow=8.9,SNR=11						
AAK				LR	LR	09 15 55.1	
	comp=Z,124nm,19.2s,baz=272,slow=39						
NRN	**Naryn**	21.03	41	*e*P	P	09 07 09.6	+2.0
	comp=Z,8.9nm,0.8s						
NRN	**Naryn**	21.03	41	*e*P	P	09 07 09.6	+2.0
NRN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SHA1	**Shidzhatmaz**	21.06	328	*i* P	P	09 07 07.3	-0.6
KIV	**Kislovodsk**	21.22	329	*e*P	P	09 07 11.2	+1.8
	comp=Z,15nm,1.0s						
KIV	**Kislovodsk**	21.22	329	*e*P	P	09 07 10.2	+0.9
KIV				pmax	pmax		
	comp=Z,49nm,1.1s						
BOOM	**Boomskoye usch**	21.68	38	*e*P	P	09 07 14.2	-0.2
	comp=Z,12nm,0.8s						
BOOM	**Boomskoye usch**	21.68	38	*e*P	P	09 07 14.2	-0.2
BOOM				pmax	pmax		
	comp=Z,12nm,0.8s						
KDJ	**Kajisay**	22.15	41	*e*P	P	09 07 19.7	+0.1
	comp=Z,18nm,0.9s						
KDJ	**Kajisay**	22.15	41	*e*P	P	09 07 19.7	+0.1
KDJ				pmax	pmax		
	comp=Z,18nm,0.9s						
TARG	**Taragay, Kyrgy**	22.28	42	*e*P	P	09 07 26.0	+4.8
	comp=Z,9.8nm,1.1s						
ABKAR	**Akbulak array**	22.67	4	*e*P	P	09 07 23.3	-1.4
	comp=Z,6.9nm,0.8s						
AKTO	**Aktyubinsk**	23.79	0	P	P	09 07 35.0	-1.0
	comp=Z,3.8nm,0.7s,baz=177,slow=8.0,SNR=13						
AKTO				LR	LR	09 17 38.5	
	comp=Z,336nm,19.9s,baz=168,slow=39						
BR101	**Keskin Array S**	24.03	309	*e*P	P	09 07 38.0	-0.7
BR131	**Keskin Array S**	24.03	309	*e*P	P	09 07 38.3	-0.4
	comp=Z,10.0nm,0.8s						
BRTR	**Keskin Array B**	24.03	309	*e*P	P	09 07 38.5	-0.2
BRTR	**Keskin Array B**	24.03	309	*e*P	P	09 07 38.5	-0.2
BRTR	**Keskin Array B**	24.03	309	P	P	09 07 38.0	-0.7
	comp=Z,5.9nm,0.8s,baz=128,slow=12,SNR=24						
BRTR				LR	LR	09 18 49.8	
	comp=Z,196nm,19.1s,baz=117,slow=41						
PDGK	**Podgornoye**	24.23	41	P	P	09 07 45.3	+4.8
PDGK				pmax	pmax		
	comp=Z,11nm,1.3s						
ILGA	**Ilgaz**	24.58	312	*e*P	P	09 07 44.6	+0.8
	comp=Z,12nm,1.0s						
ANTO	**Ankara**	24.68	309	*e*P	P	09 07 45.9	+1.3
	comp=Z,12nm,0.8s						
ANTO	**Ankara**	24.68	309	P	P	09 07 45.9	+1.3
ANTO				pmax	pmax		
	comp=Z,12nm,0.7s						
ISP	**Isparta**	25.59	303	*e*P	P	09 07 52.5	-0.3
	comp=Z,10nm,0.8s						
ISP	**Isparta**	25.59	303	*i* P	P	09 07 51.9	-0.9
ISP				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDUB	**Mudurnu**	26.04	309	*e*P	P	09 07 58.7	+1.8
	comp=Z,123nm,0.7s						
SIM	**Simferopol'**	26.41	320	*d i*P	P	09 08 01.8	+1.8
SIM				pmax	pmax		
	comp=Z,42nm,0.7s						
MK32	**Makanchi Array**	27.91	37	*e*P	P	09 08 15.6	+2.0
MKAR	**Makanchi Array**	27.91	37	*e*P	P	09 08 17.4	+3.9
MKAR	**Makanchi Array**	27.91	37	P	P	09 08 15.6	+2.0
	comp=Z,0.8nm,0.6s,baz=229,slow=7.4,SNR=6.8						
BVAR	**Borovoye Array**	28.00	16	P	P	09 08 13.2	-1.0
	comp=Z,1.5nm,0.7s,baz=182,slow=5.8,SNR=5.5						
BVAR				LR	LR	09 21 39.4	
	comp=Z,54nm,21.6s,baz=162,slow=41						
BRVK	**Borovoye**	28.00	16	*i* P	P	09 08 15.3	+1.0
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VSR	**Storozhevoye**	28.38	335	*i* P	P	09 08 16.3	-1.4
VSR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURBB	**Kurchatov Arra**	28.72	28	P	P	09 08 22.4	+1.7
	comp=Z,1.2nm,0.7s,baz=225,slow=8.7,SNR=11						
KURK	**Kurchatov**	28.83	28	*i* P	P	09 08 21.9	+0.3
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WMQ	**Urumqi**	29.60	47	*e*P	P	09 08 32.1	+3.4
TIRR	**Tirgusor**	29.62	315	*e*PcP	PcP	09 11 32.7	-0.6
TLB	**Topalu**	29.91	315	||*i*P	P	09 08 31.1	-0.2
PLOR	**Plostina**	31.36	316	||*i*P	P	09 08 41.6	-2.6
MLR	**Muntele Rosu**	31.65	315	*e*P	P	09 08 48.3	+1.5
	comp=Z,6.6nm,1.0s						
MLR	**Muntele Rosu**	31.65	315	||*i*P	P	09 08 47.4	+0.6
VOIR		32.20	314	⇑*i*P	P	09 08 52.7	+1.1
VOIR		32.20	314	P	P	09 08 52.2	+0.6
VOIR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARR	**Arges**	32.44	314	||*i*P	P	09 08 54.2	+0.5
OBN	**Obninsk**	32.44	337	||*e*P	P	09 08 55.1	+1.7
OBN				*e*		09 09 58.6	
OBN				*e*S	S	09 14 05.3	-2.6
OBN				*e*SS	SnSn	09 16 04.4	+3.7
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKASG	**Malin Array Be**	32.48	325	*e*P	P	09 08 54.0	+0.1
AKASG	**Malin Array Be**	32.48	325	*i* P	P	09 08 54.7	+0.8
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	32.48	325	P	P	09 08 52.5	-1.3
	comp=Z,3.3nm,0.7s,baz=129,slow=8.5,SNR=9.2						
AKASG				LR	LR	09 24 12.4	
	comp=Z,84nm,20.4s,baz=35,slow=40						
AKBB	**Malin Array Si**	32.48	325	*e*P	P	09 08 52.5	-1.4
	comp=Z,7.1nm,0.8s						
KIEV	**Kiev**	32.48	325	*e*P	P	09 08 52.8	-1.1
	comp=Z,7.1nm,0.8s						
KIEV	**Kiev**	32.48	325	||*i*P	P	09 08 54.8	+0.9
KIEV	**Kiev**	32.48	325	*i* P	P	09 08 52.3	-1.6
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GRG	**Griva**	32.51	305	P	P	09 08 55.8	+1.5
GRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LOT	**Lotru**	33.03	314	||*i*P	P	09 08 58.7	-0.2
BURAR	**Bucovina Array**	33.05	318	*e*P	P	09 08 58.9	-0.2
BURAR	**Bucovina Array**	33.05	318	⇑*i*P	P	09 08 59.5	+0.4
BURAR	**Bucovina Array**	33.05	318	P	P	09 08 58.9	-0.2
BURAR				pmax	pmax		
	comp=Z,13nm,0.7s						
FNA	**Florina**	33.22	305	*e*P	P	09 09 00.6	0.0
	comp=Z,9.3nm,0.9s						
FNA	**Florina**	33.22	305	P	P	09 09 01.4	+0.8
FNA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GZR	**Gura Zlata**	33.65	313	⇑*i*P	P	09 09 04.4	+0.1
ZALV	**Zalesovo Beam**	33.80	29	*e*P	P	09 09 06.2	+0.9
ZALV	**Zalesovo Beam**	33.80	29	P	P	09 09 05.2	-0.1
	comp=Z,1.7nm,0.5s,baz=236,slow=10,SNR=4.0						
MDVR	**Moldovita**	34.14	312	⇑*i*P	P	09 09 09.2	+0.7
DRGR		34.23	315	||*i*P	P	09 09 09.9	+0.6
DRGR		34.23	315	P	P	09 09 09.8	+0.5
DRGR				pmax	pmax		
	comp=Z,15nm,0.9s						
BZS	**Buzias**	34.49	313	||*i*P	P	09 09 12.0	+0.5
BZS	**Buzias**	34.49	313	P	P	09 09 11.7	+0.2
BZS				pmax	pmax		
	comp=Z,11nm,1.2s						
SIRR	**Siria**	34.70	314	⇑*i*P	P	09 09 14.8	+1.5
KOLS	**Kolonicke sedl**	35.40	319	*e*P	P	09 09 20.0	+0.7
KOLS				pmax	pmax		
	comp=Z,13nm,0.9s						
KOLS	**Kolonicke sedl**	35.40	319	*e*P	P	09 09 20.0	+0.7
KWP	**Kalwaria Pacla**	35.46	320	*e*P	P	09 09 19.5	-0.3
	comp=Z,132nm,1.2s						
KWP	**Kalwaria Pacla**	35.46	320	P	P	09 09 19.5	-0.3
KWP				pmax	pmax		
	comp=Z,132nm,1.2s						
KLMR	**Klimovskoe**	36.44	345	*e*P	P	09 09 26.1	-1.9
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PSZ	**Piszkesteto**	36.44	316	*e*P	P	09 09 27.4	-0.9
	comp=Z,5.2nm,0.9s						
PSZ	**Piszkesteto**	36.44	316	P	P	09 09 27.4	-0.9
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MORH	**Mrgy, Hungar**	36.65	313	*e*P	P	09 09 30.0	0.0
GTA	**Gaotai**	37.12	59	*e*P	P	09 09 35.0	+0.7
GTA				pP	sP	09 09 42.0	+2.9
GTA				sP	pP	09 09 45.7	+8.0
VYHS	**Vyhne**	37.31	316	*e*P	P	09 09 35.9	+0.3
VYHS	**Vyhne**	37.31	316	*e*P	P	09 09 35.9	+0.3
TIH	**Tihany**	37.36	313	*e*P	P	09 09 38.1	+2.1
OJC	**Ojcow**	37.41	319	*e*P	P	09 09 35.6	-0.9
	comp=Z,12nm,0.7s						
JAVC	**Velka Javorina**	38.16	316	*e*P	P	09 09 43.4	+0.5
SOP	**Sopron**	38.47	314	P	P	09 09 45.8	+0.4
SOP				pmax	pmax		
	comp=Z,20nm,0.7s						
SOP

GRFO	Grafenberg	42.43 316	eP	P	09 10 18.9	+0.7
	comp=Z,13nm,1.0s					
DAVA	Damuels	42.74 312	i pP	P	09 10 20.3	-0.7
	comp=Z,29nm,0.6s,SNR=30					
TUE	Stuetta	42.95 311	eP	P	09 10 22.0	-0.7
	comp=Z,5.8nm,0.7s					
SENIN	Lac Senin/Sane	44.33 310	eP	P	09 10 33.4	-0.4
	comp=Z,13nm,1.4s					
MBDF	Montbardon	44.49 308	eP	P	09 10 35.8	+0.8
MBDF			pmax	pmax		
	comp=Z,8.0nm,0.8s					
BNI	Bardonecchia	44.59 308	eP	P	09 10 35.5	-0.3
	comp=Z,3.8nm,0.8s					
BNI	Bardonecchia	44.59 308	P	P	09 10 35.5	-0.3
BNI			pmax	pmax		
	comp=Z,4.0nm,0.8s					
LPG	La Plagne	44.59 309	eP	P	09 10 35.8	-0.2
LPG			pmax	pmax		
	comp=Z,6.0nm,0.8s					
LPL	La Plagne	44.61 309	eP	P	09 10 35.8	-0.3
LPL			pmax	pmax		
	comp=Z,4.0nm,0.6s					
ECH	Echery	44.72 313	eP	P	09 10 36.2	-0.5
	comp=Z,8.4nm,0.9s					
HINF	Hinteralfeld	44.85 312	eP	P	09 10 36.3	-1.5
HINF			pmax	pmax		
	comp=Z,7.0nm,1.0s					
CABF	La Chapelle	45.19 310	eP	P	09 10 39.7	-0.9
CABF			pmax	pmax		
	comp=Z,22nm,1.4s					
HAU	Haudompre	45.22 312	eP	P	09 10 39.8	-0.9
HAU			pmax	pmax		
	comp=Z,8.0nm,0.7s					
WLF	Walferdange	45.63 314	⇓P	P	09 10 44.2	+0.3
	comp=Z,6.4nm,0.8s					
SSB	Saint Sauveur	46.12 308	eP	P	09 10 47.5	-0.4
	comp=Z,16nm,1.5s					
SSB	Saint Sauveur	46.12 308	eP	P	09 10 47.5	-0.4
SSB			pmax	pmax		
	comp=Z,15nm,1.5s					
NRIK	Noril'sk	46.17 14	P	P	09 10 48.8	+1.0
	comp=Z,1.9nm,0.7s,baz=225,slow=7.2,SNR=2.4					
HHC	Hu-ho-hao-te	46.19 58	eP	P	09 10 50.7	+2.1
NB2	NORSAR Subarra	46.50 331	P	P	09 10 49.0	-1.6
	comp=Z,0.6nm,0.7s,baz=116,slow=7.9					
NB200	NORSAR Array S	46.50 331	eP	P	09 10 49.3	-1.3
NOA	NORSAR Array B	46.50 331	P	P	09 10 49.3	-1.3
	comp=Z,1.1nm,0.8s,baz=116,slow=7.7,SNR=4.0					
NOA			LR	LR	09 32 14.6	
	comp=Z,76nm,20.1s,baz=90,slow=39					
GIVF	Givet	46.56 315	eP	P	09 10 51.3	+0.1
GIVF			pmax	pmax		
	comp=Z,18nm,1.1s					
DOU	Dourbes	46.70 315	⇓P	P	09 10 53.0	+0.7
SMF	Signal de Mont	46.73 310	eP	P	09 10 51.5	-1.1
SMF			pmax	pmax		
	comp=Z,18nm,0.7s					
LOR	Lormes	46.79 311	eP	P	09 10 51.7	-1.4
LOR			pmax	pmax		
	comp=Z,8.0nm,0.8s					
SSF	Saint Saulge	47.01 311	eP	P	09 10 53.7	-1.0
SSF			pmax	pmax		
	comp=Z,13nm,0.7s					
AVF	Avril sur Loir	47.08 310	eP	P	09 10 54.0	-1.3
AVF			pmax	pmax		
	comp=Z,6.0nm,0.7s					
BGF	Bois d'Agland	47.41 310	eP	P	09 10 56.8	-1.1
BGF			pmax	pmax		
	comp=Z,14nm,0.8s					
TAM	Tamanrasset	47.42 277	eP	P	09 10 55.6	-2.9
	comp=Z,5.2nm,0.7s					
TAM	Tamanrasset	47.42 277	P	P	09 10 55.6	-2.9
TAM			pmax	pmax		
	comp=Z,5.0nm,0.7s					
MTLF	Montolieu	47.67 305	eP	P	09 10 59.5	-0.5
MTLF			pmax	pmax		
	comp=Z,5.0nm,0.8s					
TCF	Toulx Ste Croi	47.82 309	eP	P	09 11 00.2	-1.0
TCF			pmax	pmax		
	comp=Z,57nm,1.8s					
CAF	Calviac	47.84 308	eP	P	09 10 59.9	-1.4
CAF			pmax	pmax		
	comp=Z,3.0nm,0.6s					
RJF	Les Rejaudoux	48.25 308	eP	P	09 11 04.0	-0.4
RJF			pmax	pmax		
	comp=Z,31nm,1.6s					
LFF	La Frestale	48.78 308	eP	P	09 11 08.7	+0.2
LFF			pmax	pmax		
	comp=Z,23nm,1.0s					
BKNI	Bangkinang	49.06 115	eP	P	09 11 09.9	-1.1
	comp=Z,91nm,1.1s					
LDF	La Druitiere	49.58 312	eP	P	09 11 13.6	-1.0
LDF			pmax	pmax		
	comp=Z,39nm,1.6s					
ETSF	Etsaut	49.70 305	eP	P	09 11 17.7	+2.0
ETSF			pmax	pmax		
	comp=Z,22nm,1.5s					
BOD	Bodaibo	49.97 35	eP	P	09 11 12.8	-4.6
BOD			pmax	pmax		
	comp=Z,6.0nm,1.1s					
SJPF	Ste Jean	50.18 305	eP	P	09 11 20.1	+0.8
SJPF			pmax	pmax		
	comp=Z,24nm,1.4s					
SGMF	Saint Gilles	51.18 312	eP	P	09 11 26.6	-0.1
SGMF			pmax	pmax		
	comp=Z,94nm,1.8s					
ESDC	Sonseca Array	52.43 301	eP	P	09 11 35.3	-0.9
ESDC	Sonseca Array	52.43 301	P	P	09 11 35.9	-0.4
	comp=Z,1.5nm,0.8s,baz=61,slow=7.3,SNR=8.8					
PAB	San Pablo	52.74 301	eP	P	09 11 39.8	+1.2
	comp=Z,4.9nm,0.8s					
NJ2	Nanjing	52.86 69	eP	P	09 11 42.3	+2.9
TOA0	Torodi Ar. Sit	54.10 267	eP	P	09 11 48.5	-0.3
	comp=Z,4.6nm,0.8s					
TOA1	Torodi Ar. Sit	54.10 267	eP	P	09 11 46.6	-2.1
TORD	Torodi Ar. Bea	54.10 267	P	P	09 11 46.6	-2.1
	comp=Z,1.9nm,0.6s,baz=74,slow=7.0,SNR=7.1					
TIXI	Tiksi	59.01 20	i P	P	09 12 25.9	+3.0
TIXI			pmax	pmax		
	comp=Z,1.0nm,0.8s					
TIXI	Tiksi	59.01 20	P	P	09 12 22.4	-0.5
	comp=Z,0.3nm,0.3s,baz=281,slow=6.0,SNR=1.9					
KS15	Wonju Array Si	59.13 61	eP	P	09 12 24.9	+0.6
	comp=Z,17nm,1.3s					
KSRS	Korea Array	59.16 61	P	P	09 12 24.3	-0.2
	comp=Z,0.4nm,0.4s,baz=268,slow=7.5,SNR=2.8					
KLR	Kul'dur	60.05 47	LR	LR	09 41 04.1	
	comp=Z,170nm,18.9s,baz=243,slow=39					
SUMG	Summit	66.72 341	eP	P	09 13 15.6	+0.9
	comp=Z,11nm,1.2s					
SUMG	Summit	66.72 341	eP	P	09 13 15.6	+0.9
SUMG			pmax	pmax		
	comp=Z,11nm,1.2s					
SEY	Seymchan	68.67 29	P	P	09 13 26.3	-0.3
	comp=Z,2.0nm,0.7s,baz=310,slow=14,SNR=5.2					
TOLK	Toolik Lake Re	82.91 10	eP	P	09 14 48.7	+0.7
	comp=Z,4.9nm,1.2s					
IMAR	Indian Mountai	84.58 12	eP	P	09 14 56.6	0.0
ILAR	Eielson Array	86.90 10	P	P	09 15 08.7	+0.5
	comp=Z,0.3nm,0.7s,baz=330,slow=5.2,SNR=3.8					
YKA	Yellowknife Ar	91.00 357	P	P	09 15 28.4	+0.9
	comp=Z,0.1nm,0.6s,baz=8.5,slow=5.7,SNR=4.1					
YKB5	Yellowknife Ar	91.00 357	eP	P	09 15 28.4	+0.9

IDC ***12*** *09:07:17.8±0.6, 6°.43S×154°.30E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.3/36, mbtmp4.3/20, ML3.7/1, MS4.1/5, Ms1 4.1/5, ms1mx3.5/34, Error ellipse: s-maj=22.9km s-min=14.3km az=97.0*

BJI ***12*** *09:07:21.4±0.0, 6°.97S×154°.36E, h44km, mb4.9/25, mB5.2/17, Ms4.8/6, Ms7 4.7/2*

ISCJB ***12*** *09:07:23.7±0.3, 6°.45S±0°.04×154°.26E±0°.04, h48km, mb4.6/55, MS4.4/6, Error ellipse: s-maj=6.3km s-min=5.8km az=150.8*

NEIC ***12*** *09:07:24.1±2.6, 6°.47S×154°.26E, h39km±6km, mb4.8/37, Error ellipse: s-maj=15.6km s-min=12.7km az=54.0*

ISC 12 09:07:25.3±0.4, 6°.41S±0°.06×154°.30E±0°.05, h48km, n106, σ1§48/113, mb4.7/55, MS4.4/6, 2C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.07	316	eP	Pn	09 08 10.3	-1.1
HNR	Honiara	6.34	119	eP	Pn	09 08 58.0	+1.6
HNR				eS	Sn	09 10 04.0	-3.6
HNR	Honiara	6.34	119	ePn	Pn	09 08 59.5	+3.1
HNR	Honiara	6.34	119	Pn	Pn	09 08 58.6	+2.3
	5.9nm,0.3s,baz=267,slow=2.9,SNR=12						
HNR				Sn	Sn	09 10 11.3	+3.8
	7.9nm,0.3s,baz=348,slow=19,SNR=1.8						
HNR				LR	LR	09 11 41.5	
	comp=Z,1μm,18.8s,baz=300,slow=42						
PMG	Port Moresby	7.67	247	ePn	Pn	09 09 15.4	+0.8
PMG				eSn	Sn	09 10 42.1	+1.8
PMG	Port Moresby	7.67	247	Pn	Pn	09 09 14.5	-0.1
	3.6nm,0.3s,baz=40,slow=6.2,SNR=8.6						
PMG				Sn	Sn	09 10 42.1	+1.8
	1.6nm,0.3s,baz=74,slow=18,SNR=1.9						
PMG				LR	LR	09 12 13.4	
	comp=Z,969nm,21.4s,baz=344,slow=38						
COEN	Coen	13.27	235	ePn	P	09 10 40.7	+1.0
PATS	Pohnpei	13.76	17	ePn	Pn	09 10 36.9	-0.9
JAY	Jayapura	14.10	285	Pn	Pn	09 10 41.6	-0.9
	0.2nm,0.3s,baz=202,slow=14,SNR=4.3						
CTA	Charters Tower	15.68	209	Pn	P	09 11 05.9	-0.7
	baz=40,slow=11,SNR=9.4						
CTAO	Charters Tower	15.68	209	ePn	P	09 11 06.5	0.0
	29nm,1.0s						
DZM	Mont Dzumac	19.49	144	eP	P	09 11 48.0	-0.7
	19nm,1.0s						
DZM	Mont Dzumac	19.49	144	P	P	09 11 47.9	-0.8
	0.2nm,0.3s,baz=328,slow=17,SNR=2.5						
WRAB	Tennant Creek	23.58	233	eP	P	09 12 31.6	-0.3
	47nm,1.0s						
WB2	Warramunga Arr	23.59	233	eP	P	09 12 30.5	-1.5
	52nm,1.0s						
WR1	Warramunga Arr	23.59	233	eP	P	09 12 29.9	-2.1
WR1				ePcP	PcP	09 16 16.3	+0.1
WRA	Warramunga Arr	23.60	233	P	P	09 12 29.9	-2.1
	41nm,1.0s,baz=57,slow=9.6,SNR=43						
WRA				PcP	PcP	09 16 16.3	+0.1
	1.5nm,0.9s,baz=52,slow=2.6,SNR=3.8						
ARMA	Armidale	24.01	186	eP	P	09 12 34.4	-1.6
	39nm,1.4s						
AS31	Alice Springs	26.05	227	eP	P	09 12 53.2	-1.3
	4.3nm,1.4s						
ASAR	Alice Springs	26.06	227	eP	P	09 12 52.8	-1.7
ASAR	Alice Springs	26.06	227	P	P	09 12 53.0	-1.6
	1.6nm,0.5s,baz=57,slow=9.6,SNR=14						
ASAR				PcP	PcP	09 16 21.2	-0.4
	0.7nm,0.8s,baz=52,slow=2.3,SNR=4.1						
ASAR				LR	LR	09 22 08.8	
	comp=Z,447nm,21.9s,baz=330,slow=34						
STKA	Stephens Creek	27.98	204	eP	P	09 13 09.7	-2.0
	3.8nm,1.5s						
STKA	Stephens Creek	27.98	204	P	P	09 13 09.7	-2.0
	3.1nm,0.9s,baz=35,slow=14,SNR=4.5						
FITZ	Fitzroy Crossi	30.27	245	eP	P	09 13 30.9	-1.2
	18nm,1.3s						
FITZ	Fitzroy Crossi	30.27	245	P	P	09 13 30.3	-1.8
	6.6nm,0.8s,baz=79,slow=7.4,SNR=8.3						
BKZ	Black Stump Fm	38.27	152	eP	P	09 14 41.9	+0.8
	19nm,1.3s						
YULB	Yu-li	43.78	314	eP	P	09 15 28.0	+1.4
	18nm,0.9s						
SSLB	Suanglung	44.27	314	eP	P	09 15 31.6	+0.9
	14nm,0.7s						
YHNB	Yeheng	44.53	315	eP	P	09 15 34.0	+1.3
	38nm,1.3s						
JNU	Nakatsue	45.17	332	eP	P	09 15 36.7	-1.0
	14nm,0.9s						
JNU	Nakatsue	45.17	332	P	P	09 15 35.9	-1.7
	16nm,0.9s,baz=128,slow=3.9,SNR=7.6						
MJAR	Matsushiro Arr	45.31	342	P	P	09 15 37.3	-1.4
	2.1nm,0.9s,baz=179,slow=9.7,SNR=5.3						
MAJO	Matsushiro	45.31	342	eP	P	09 15 37.3	-1.4
DLV	T Lat	49.08	292	eP	P	09 16 08.8	+0.3
	34nm,1.0s						
KSRS	Korea Array	50.11	333	P	P	09 16 13.8	-2.0
	3.2nm,1.1s,baz=145,slow=5.2,SNR=4.4						
NJ2	Nanjing	51.03	321	eP	P	09 16 23.2	+0.4
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USRK	Ussuriysk Ar.	54.25	340	P	P	09 16 45.4	-1.0
	0.9nm,0.7s,baz=137,slow=5.6,SNR=2.5						
XAN	Xi'an	58.81	316	P	P	09 17 19.0	-0.1
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,79nm,4.6s						
KMI	Kunming	59.12	304	P	P	09 17 24.0	+2.3
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
KMI				pmax	pmax		
	comp=Z,80nm,3.9s						
KMI				LR	LR		
	comp=N,160nm,14.3s						
KMI				LR	LR		
	comp=E,160nm,16.9s						
PETK	Petropavlovsk-	59.36	2	P	P	09 17 22.2	-0.3
	13nm,1.1s,baz=214,slow=12,SNR=3.8						
PEA1	Petropavlovsk-	59.37	2	eP	P	09 17 22.2	-0.3
CM31	Chiang Mai Arr	59.91	296	eP	P	09 17 26.7	-0.3
	5.1nm,0.9s						
CMAR	Chiang Mai Arr	59.91	296	P	P	09 17 27.1	+0.1
	0.5nm,0.4s,baz=110,slow=5.7,SNR=7.2						
CD2	Chengdu	60.91	311	⇑iP	P	09 17 45.8	+12
HHC	Hu-ho-hao-te	61.22	324	eP	P	09 17 38.9	+3.3
HHC				pmax	pmax		
	comp=Z,62nm,1.1s						
HHC				pmax	pmax		
	comp=Z,250nm,6.1s						
HHC				LR	LR		
	comp=N,470nm,15.4s						
HHC				LR	LR		
	comp=E,360nm,16.1s						
HHC				LR	LR		
	comp=Z,420nm,16.4s						
HIA	Hailar	63.11	335	eP	P	09 17 51.3	+3.3
	116nm,1.1s						
LZH	Lanzhou	63.42	316	eP	P	09 17 51.0	+0.5
LZH				pP	sP	09 18 06.1	-0.9
LZH				sP	pwP	09 18 11.2	+1.4
LZH				ePP	PP	09 20 12.3	+1.8
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				pmax	pmax		
	comp=Z,95nm,7.9s						
LZH				LR	LR		
	comp=N,350nm,16.5s						
LZH				LR	LR		
	comp=E,370nm,16.4s						
LZH				LR	LR		
	comp=Z,540nm,18.2s						
GTA	Gaotai	67.85	317	eP	P	09 18 18.9	-0.1
GTA				pP	pP	09 18 32.6	+1.8
GTA				sP	sP	09 18 37.0	+1.5
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ULN	Ulaanbaatar	68.15	328	eP	P	09 18 24.2	+3.5
	9.4nm,0.9s						
SHL	Shillong	68.41	301	eP	P	09 18 22.1	-0.7
	24nm,1.0s						
SONM	Songino Array	68.48	327	eP	P	09 18 25.0	+2.3
LSA	Lhasa	70.38	304	eP	P	09 18 34.6	-0.6
	15nm,0.8s						
VNDA	Vanda	71.18	178	eP	P	09 18 38.0	-0.7
VNDA	Vanda	71.18	178	P	P	09 18 38.0	-0.7
	1.5nm,1.0s,baz=326,slow=5.9,SNR=5.5						
JIRN	Jiri	73.89	301	eP	P	09 18 55.4	-0.8
PKI	Pulchoki	74.54	301	eP	P	09 18 59.8	-0.1
	61nm,1.1s						
PKIN	Phulchoki	74.55	301	eP	P	09 18 59.6	-0.3
	43nm,1.0s						
KKN	Kakani	74.71	301	eP	P	09 18 59.9	-0.9
	43nm,0.8s						
DMN	Daman	74.81	301	eP	P	09 19 01.2	-0.2
	114nm,1.0s						
GKN	Gorkha	75.31	301	eP	P	09 19 04.0	-0.2
	120nm,1.0s						
KOLN	Koldanda	76.14	301	eP	P	09 19 08.6	-0.4
	65nm,0.8s						
DANN	Dangsing	76.15	301	eP	P	09 19 08.7	-0.4
PYUN	Piuthan	76.74	301	eP	P	09 19 11.8	-0.6
	120nm,0.9s						
KDAK	Kodiak Island	76.95	26	LR	LR	09 46 50.6	
	comp=Z,89nm,21.0s,baz=272,slow=31						
WMQ	Urumqi	77.93	317	eP	P	09 19 19.4	+0.9
CAST	Castle Rocks	80.44	22	eP	P	09 19 32.3	+0.5
	4.3nm,0.9s						
IMAR	Indian Mountai	81.40	19	eP	P	09 19 35.2	-1.5
MCK	McKinley	81.78	22	eP	P	09 19 40.3	+1.4
	11nm,1.0s						
KLU	Klutina	81.80	25	eP	P	09 19 41.4	+2.3
	15nm,1.2s						
MK31	Makanchi Array	82.52	319	eP	P	09 19 44.7	+1.6
	2.0nm,0.8s						
MK32	Makanchi Array	82.52	319	eP	P	09 19 43.9	+0.8
MKAR	Makanchi Array	82.52	319	eP	P	09 19 43.6	+0.5
MKAR	Makanchi Array	82.52	319	P	P	09 19 43.9	+0.8
	2.7nm,0.9s,baz=101,slow=6.4,SNR=8.9						
MDM	Murphy Dome	82.70	21	eP	P	09 19 44.8	+1.2
	6.1nm,1.3s						
MAKZ	Makanchi	82.72	319	eP	P	09 19 47.4	+3.2
	3.4nm,0.9s						
ILAR	Eielson Array	83.09	22	eP	P	09 19 46.4	+0.8
ILAR	Eielson Array	83.09	22	P	P	09 19 42.5	-3.2
	1.7nm,0.9s,baz=246,slow=6.7,SNR=5.7						
ILAR				LR	LR	09 56 06.4	
	comp=Z,170nm,18.9s,baz=264,slow=35						
ILB	Eielson Array	83.09	22	eP	P	09 19 44.9	-0.7
	5.4nm,1.2s						
ZALV	Zalesovo Beam	83.31	326	eP	P	09 19 50.2	+3.2
ZALV	Zalesovo Beam	83.31	326	P	P	09 19 46.8	-0.2
	1.4nm,0.6s,baz=108,slow=4.8,SNR=5.8						
ZAA1	Zalesovo Array	83.32	326	eP	P	09 19 46.8	-0.2
RIDG	Independent Ri	83.34	23	eP	P	09 19 49.4	+2.4
	10nm,1.2s						
BCAR	Beaver Creek A	84.25	24	eP	P	09 19 54.2	+2.5
MAW	Mawson	84.67	203	P	P	09 19 53.2	-0.5
	3.5nm,0.8s,baz=124,slow=14,SNR=3.5						
KDJ	Kajisay	84.80	313	eP	P	09 19 55.8	+0.7
	4.6nm,0.8s						
KSH	Kashi	85.11	311	P	P	09 19 57.4	+0.7
KSH				pmax	pmax		
	comp=Z,14nm,0.3s						
EGAK	Eagle	85.25	23	eP	P	09 19 56.8	+0.2
	7.9nm,1.3s						
KURBB	Kurchatov Arra	85.98	322	P	P	09 20 00.2	-0.4
	0.6nm,0.8s,baz=122,slow=4.0,SNR=3.3						
NIL	Nilore	86.11	304	eP	P	09 20 01.5	-0.1
	8.3nm,0.8s						
EPYK	Eagle Plains	87.58	22	eP	P	09 20 07.5	-0.6
	12nm,1.1s						
ARSB	Arslanbob	87.71	312	eP	P	09 20 08.2	-1.1
	16nm,1.4s						
KKAR	Karatay Array	89.82	313	eP	P	09 20 18.7	-0.4
BVAR	Borovoye Array	91.42	323	P	P	09 20 26.3	0.0
	1.6nm,0.8s,baz=116,slow=3.4,SNR=7.9						
NVAR	Mina Array Bea	91.90	52	eP	P	09 20 28.3	-0.9
NVAR	Mina Array Bea	91.90	52	P	P	09 20 28.4	-0.8
	2.2nm,0.9s,baz=252,slow=6.4,SNR=12						
NV01	Mina Array Sit	91.90	52	eP	P	09 20 28.4	-0.8
NV11	Mina Array Sit	92.02	52	eP	P	09 20 28.6	-1.0
	0.3nm,1.2s						
KVN	Kaiserville	92.13	51	eP	P	09 20 29.5	-0.7
	2.8nm,1.0s						
SYO	Syowa Base	92.65	199	⇑eX	P	09 20 25.0	-6.7
YKA	Yellowknife Ar	96.14	28	P	P	09 20 47.3	-0.5
	0.4nm,0.8s,baz=268,slow=5.2,SNR=5.3						
YKB5	Yellowknife Ar	96.14	28	eP	P	09 20 47.3	-0.5
PDAR	Pinedale Array	98.82	48	P	P	09 20 58.7	-1.9
	0.2nm,0.6s,baz=258,slow=4.2,SNR=2.6						
FSCY	Frank Sound, G	124.63	71	ePKPdf	PKPdf	09 26 19.8	-0.7
TOA0	Torodi Ar. Sit	152.21	286	ePKPbc	PKPbc	09 27 15.3	-1.5
TORD	Torodi Ar. Bea	152.21	286	PKPbc	PKPbc	09 27 15.2	-1.6
	0.5nm,0.4s,baz=76,slow=2.6,SNR=14						
TORD				PKPab	PKPab	09 27 27.3	+0.6
	10.0nm,0.9s,baz=39,slow=3.2,SNR=23						
TOA1	Torodi Ar. Sit	152.21	286	ePKPbc	PKPbc	09 27 15.2	-1.6
TOA1				ePKPab	PKPab	09 27 27.3	+0.6

ISCJB ***12*** *09:23:30.9±0.6, 38°.32N±0°.03×38°.80E±0°.03, h4km±6km, Error ellipse: s-maj=4.3km s-min=3.5km az=167.7*

DDA ***12*** *09:23:30.8, 38°.30N×38°.82E, h7km±3km, ML3.6*

ISK ***12*** *09:23:30.3, 38°.31N×38°.79E, h5km, ML3.3/25*

ISC 12 09:23:31.6±1.1, 38°.31N±0°.02×38°.81E±0°.02, h11km±11km, n41, σ0§79/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.40	80	PG	Pg	09 23 38.6	-1.0
SVRC				SG	Sg	09 23 44.7	-0.2
AKCD	Akcadag	0.70	269	i P	Pb	09 23 45.4	-0.5
AKCD				i S	Sb	09 23 55.3	-0.3
URFA	Urfa	0.86	179	PG	Pg	09 23 47.7	-0.6
URFA				SG	Sb	09 23 59.8	-0.5
HEKM	Malatya_Hekimh	0.88	311	IAML_P			
	comp=Z,5μm,0.2s						
HEKM				i P	Pg	09 23 48.2	-0.5
ATAB	Bozova	0.93	206	i P	Pg	09 23 49.3	-0.3
KEMA	Kemaliye	0.99	346	IAML_P			
	comp=Z,9μm,0.1s						
KEMA				i P	Pb	09 23 50.2	-0.7
KEMA				i S	Sn	09 24 05.4	-0.2
DARE	Darende-Malaty	1.08	285	PG	Pb	09 23 51.0	-1.3
DARE				SG	Sb	09 24 06.0	-0.4
DIYA	Diyarbakir	1.10	110	i P	Pg	09 23 52.8	-0.1
DYBB	Diyarbakir	1.11	108	PN	Pb	09 23 52.4	-0.4
SANL	SANLIURFA_Merk	1.14	173	i P	Pg	09 23 53.6	0.0
HANI	Diyarbakir_Han	1.25	85	i P	Pg	09 23 55.5	-0.3
ELBS	KAHRAMANMARAS	1.32	271	IAML_P			
	comp=Z,2μm,0.1s						
ELBS				i P	Pb	09 23 56.1	-0.4
GZT	Gaziantep	1.37	226	i P	Pg	09 23 57.5	-0.5
GZT				i S	Sg	09 24 17.3	+1.5
SURC	SANLIURFA_SURC	1.43	186	i P	Pb	09 23 57.8	-0.6
SURC				i S	Sg	09 24 18.9	+1.1
ERZN	Erzincan	1.46	29	PN	Pb	09 23 58.2	-0.7
EUZM	Uzumlu	1.56	26	IAML_P			
	comp=Z,5μm,0.2s						
EUZM				i P	Pb	09 24 00.5	0.0
EUZM				i S	Sg	09 24 24.3	+2.5
BNGB	Bingl	1.61	64	PN	Pb	09 24 00.9	-0.6
GAZ	Gaziantep	1.70	229	PN	Pn	09 24 01.5	+0.2
KMRS	Kahramanmaras	1.71	243	PN	Pn	09 24 01.7	+0.3
YEDI	Yedisu-Bingol	1.76	50	PN	Pb	09 24 03.0	-1.0
MARD	Mardin	1.85	122	IAML_P			
	comp=Z,7μm,0.3s						
MARD				i P	Pb	09 24 04.9	-0.5
SVAN	Silvan-Diyarba	1.89	94	PN	Pn	09 24 03.8	0.0
SVAN	Silvan-Diyarba	1.89	94	IAML_P			
	comp=Z,3μm,0.1s						
SVAN				i P	Pn	09 24 04.1	+0.2
BTMN	Batman	1.98	101	i P	Pb	09 24 06.3	-1.5
KARO	Karliova-Bingo	2.01	60	PN	Pn	09 24 06.3	+0.6
SVSK	Karacayir	2.14	319	PN	Pn	09 24 07.5	+0.3
VRTB	Varto-Mus	2.24	67	PN	Pn	09 24 09.4	+0.7
BAYT	Aydinteps-Bayb	2.33	26	PN	Pn	09 24 10.3	+0.3
RSDY	Resadiye-TOKAT	2.38	332	PN	Pn	09 24 10.9	+0.3
BNN	Bunyan	2.39	284	PN	Pn	09 24 10.8	0.0

URZ	**Urewera**	**2.99 219**	P	Pn	09 38 27.3	-0.2
URZ			S	Sn	09 39 01.8	-0.6
OPRZ	**Ohinepanea**	**3.03 231**	P	Pn	09 38 28.3	+0.2
RAGZ	**Rawiri**	**3.04 213**	P	Pn	09 38 28.4	+0.1
RAGZ			S	Sn	09 39 04.0	+0.5
MARZ	**Manawahe**	**3.04 228**	P	Pn	09 38 28.6	+0.3
RIGZ	**Rimuhau**	**3.08 207**	P	Pn	09 38 28.7	-0.1
RIGZ			S	Sn	09 39 05.0	+0.6
EDRZ	**Edgecumbe**	**3.09 225**	P	Pn	09 38 29.7	+0.7
KUZ	**Kuaotunu**	**3.17 255**	P	Pn	09 38 29.5	-0.4
PRGZ	**Paritu Road**	**3.23 203**	P	Pn	09 38 30.4	-0.5
MKRZ	**Makatiti**	**3.27 227**	P	Pn	09 38 32.5	+1.0
GRZ	**Great Barrier**	**3.30 264**	P	Pn	09 38 31.2	-0.7
OMRZ	**Omania**	**3.31 229**	P	Pn	09 38 32.1	+0.1
SNGZ	**Shannon Statio**	**3.31 211**	P	Pn	09 38 31.4	-0.5
TARZ	**Mount Tarawera**	**3.31 226**	P	Pn	09 38 32.7	+0.6
KARZ	**Kaharoa**	**3.33 231**	P	Pn	09 38 32.5	+0.2
RTZ	**Ruatahuna**	**3.33 217**	P	Pn	09 38 31.7	-0.7
MUGZ	**Murupara**	**3.33 220**	P	Pn	09 38 31.7	-0.6
RRRZ	**Republican Roa**	**3.38 224**	P	Pn	09 38 32.7	-0.2
KNZ	**Kokohu**	**3.39 205**	P	Pn	09 38 31.6	-1.5
HLRZ	**Highlands Stat**	**3.41 227**	P	Pn	09 38 34.0	+0.6
MHGZ	**Mahia Peninsul**	**3.43 201**	P	Pn	09 38 33.0	-0.6
HSRZ	**Hossack Road**	**3.51 227**	P	Pn	09 38 35.3	+0.6
RAHZ	**Arahi**	**3.53 213**	P	Pn	09 38 34.2	-0.8
HRRZ	**Handcock Road**	**3.54 226**	P	Pn	09 38 35.9	+0.7
PRRZ	**Plateau Road**	**3.56 224**	P	Pn	09 38 34.9	-0.4
MTHZ	**Maungataniwha**	**3.59 216**	P	Pn	09 38 35.2	-0.6
WHHZ	**Waihua**	**3.60 210**	P	Pn	09 38 35.4	-0.6
ALRZ	**Allen Road**	**3.63 223**	P	Pn	09 38 36.0	-0.3
WIAZ	**Waiheke Island**	**3.63 256**	P	Pn	09 38 36.6	+0.2
TOZ	**Tahuroa Road**	**3.67 240**	P	Pn	09 38 37.4	+0.4
NMHZ	**Naumai**	**3.80 214**	P	Pn	09 38 37.8	-0.9
ETAZ	**East Tamaki Re**	**3.83 254**	P	Pn	09 38 39.8	+0.6
WHTZ	**Whakaora**	**3.92 225**	P	Pn	09 38 40.7	+0.3
EPAZ	**Eden Park BICE**	**3.96 255**	P	Pn	09 38 41.8	+0.9
BKZ	**Black Stump Fm**	**4.00 216**	P	Pn	09 38 40.0	-1.5
WATZ	**Wairara**	**4.08 227**	P	Pn	09 38 42.5	0.0
WTAZ	**Waiatarua**	**4.10 255**	P	Pn	09 38 43.9	+1.0
MCHZ	**McNeill Hill**	**4.13 212**	P	Pn	09 38 41.8	-1.5
RATZ	**Rangitukua**	**4.16 225**	P	Pn	09 38 43.5	-0.2
CKHZ	**Cape Kidnapper**	**4.17 207**	P	Pn	09 38 41.6	-2.1
RITZ	**Rihia Road**	**4.19 223**	P	Pn	09 38 43.5	-0.5
WCZ	**Waipu Caves**	**4.20 269**	P	Pn	09 38 44.2	0.0
KWHZ	**Kaweka Forest**	**4.24 214**	P	Pn	09 38 43.6	-1.2
KATZ	**Kakaramea**	**4.28 224**	P	Pn	09 38 45.2	-0.2
KAHZ	**Kahuranaki**	**4.36 208**	P	Pn	09 38 44.3	-2.1
KRVZ	**Karewarewa**	**4.39 223**	P	Pn	09 38 46.6	-0.3
WTVZ	**West Tongariro**	**4.43 224**	P	Pn	09 38 46.9	-0.6
KRHZ	**Kereru**	**4.44 213**	P	Pn	09 38 45.7	-1.8
BHHZ	**Black Hill Sta**	**4.46 217**	P	Pn	09 38 46.6	-1.3
NGZ	**Ngauruhoe**	**4.47 223**	P	Pn	09 38 46.9	-1.1
TWVZ	**Taurewa**	**4.49 225**	P	Pn	09 38 47.7	-0.6
HIZ	**Hauiti**	**4.51 234**	P	Pn	09 38 49.2	+0.8
FWVZ	**Far West T-bar**	**4.55 223**	P	Pn	09 38 48.5	-0.8
MOVZ	**Moawhango**	**4.55 220**	P	Pn	09 38 46.5	-2.6
PXZ	**Pawanui**	**4.57 207**	P	Pn	09 38 46.2	-3.1
PKVZ	**Pokaka**	**4.69 224**	P	Pn	09 38 50.2	-0.8
PNHZ	**Pukenui**	**4.74 213**	P	Pn	09 38 48.3	-3.3
WPHZ	**Waipukurau**	**4.76 210**	P	Pn	09 38 49.4	-2.5
PRHZ	**Porangahau**	**4.86 207**	P	Pn	09 38 50.8	-2.4
OUZ	**Omahuta**	**4.88 277**	P	Pn	09 38 53.2	-0.4
VRZ	**Vera Road**	**4.93 229**	P	Pn	09 38 53.9	-0.3
TSZ	**Takapari Road**	**4.96 213**	P	Pn	09 38 52.0	-2.6
DVHZ	**Dannevirke**	**5.07 210**	P	Pn	09 38 53.0	-3.2
ANWZ	**Angora Road**	**5.09 207**	P	Pn	09 38 53.5	-2.9
WAZ	**Wanganui**	**5.21 222**	P	Pn	09 38 56.1	-2.0
POWZ	**Post Office Ro**	**5.32 213**	P	Pn	09 38 57.5	-2.1
LREZ	**Lake Rotokare**	**5.35 228**	P	Pn	09 38 59.5	-0.5
PRWZ	**Pori Road**	**5.37 210**	P	Pn	09 38 57.5	-2.7
BFZ	**Birch Farm**	**5.37 208**	P	Pn	09 38 56.6	-3.6
KHEZ	**Kahui Hut**	**5.49 231**	P	Pn	09 39 03.6	+1.6
MRZ	**Mangatainoka R**	**5.62 212**	P	Pn	09 38 59.9	-3.8
HOWZ	**Holdsworth Sta**	**5.84 211**	P	Pn	09 39 02.5	-4.2
TMWZ	**Te Maipa**	**5.87 208**	P	Pn	09 39 02.6	-4.6
MTW	**Mount Morrison**	**6.07 210**	P	Pn	09 39 06.0	-3.9
KIW	**Kapiti Island**	**6.08 215**	P	Pn	09 39 06.1	-4.0
CAW	**Cannon Point**	**6.21 213**	P	Pn	09 39 07.1	-4.7
PAWZ	**Paruwai Farm**	**6.29 209**	P	Pn	09 39 08.0	-4.9
MSWZ	**Moikau Station**	**6.39 210**	P	Pn	09 39 10.3	-3.9
PLWZ	**Palliser**	**6.51 209**	P	Pn	09 39 11.0	-5.0

IDC 12 09:38:40.0±57.0, 16°.22S×177°.31W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/38, mbtmp4.0/3, Error ellipse: s-maj=1065.0km s-min=170.0km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.38**	**240**	P	P	09 46 20.0	+0.2
	3.6nm,0.9s,baz=54,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**45.99**	**258**	P	P	09 47 05.8	+0.3
	0.5nm,0.6s,baz=93,slow=7.4,SNR=4.4						
ASAR	**Alice Springs**	**46.28**	**253**	P	P	09 47 07.0	-0.8
	1.9nm,0.6s,baz=87,slow=7.9,SNR=36						

*ISCJB **12** 09:39:19.6±0.5, 26°.53N×0°.03×57°.67E±0°.06, h10km, Error ellipse: s-maj=8.3km s-min=4.0km az=171.2*
*TEH **12** 09:39:21.2, 26°.63N×57°.58E, h12km, ML3.6*
*OMAN **12** 09:39:22.1±0.4, 26°.48N×57°.94E, h28km, ml3.2/10, Error ellipse: s-maj=8.2km s-min=3.2km az=235.0*

ISC 12 09:39:20.6±1.1, 26°.54N±0°.04×57°.73E±0°.06, h10km, n26, σ1§33/34, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.30**	**322**	*e*Pg	**Pn**	**09 39 44.0**	**-0.8**
NIAN				IAMB	IAmb	09 40 12.2	
	comp=Z,0.0nm,0.5s						
SHME	**Shamm**	**1.51**	**252**	*e*Pn	**Pg**	**09 39 49.9**	**+0.3**
GENO	**Geno**	**1.64**	**302**	*e*Pn	**Pn**	**09 39 50.1**	**+0.4**
GENO				*e*Sg	**Sn**	**09 40 10.8**	**-0.1**
MDH	**Madha**	**1.79**	**227**	P	**Pn**	**09 39 51.2**	**-0.3**
MDH				S	**Sg**	**09 40 19.5**	**+1.5**
MDH	**Madha**	**1.79**	**227**	*e*Pn	**Pn**	**09 39 52.6**	**+1.1**
MSFE	**Esma-Masafi**	**1.84**	**231**	*e*Pg	**Pg**	**09 39 55.7**	**-0.2**
HATD	**Hatta, Dubai**	**2.23**	**221**	P	**Pb**	**09 40 00.4**	**-0.7**
HATD	**Hatta, Dubai**	**2.23**	**221**	*e*Pn	**Pb**	**09 40 01.9**	**+0.8**
ASHO	**Ashiyiah**	**2.38**	**220**	P	**Pn**	**09 40 01.3**	**+1.5**
ASHO	**Ashiyiah**	**2.38**	**220**	*e*Pn	**Pb**	**09 40 03.5**	**-0.2**
NAZ	**Nazwa, Dubai**	**2.42**	**231**	*e*Pg	**Pg**	**09 40 07.6**	**+0.5**
SOHO	**SOHO**	**2.63**	**205**	P	**Pn**	**09 40 02.1**	**-1.0**
	SNR=16						
SOHO				S	**Sn**	**09 40 33.5**	**-1.6**
HOQ	**Hoqain**	**2.96**	**188**	P	**Pn**	**09 40 07.3**	**-0.5**
HOQ				S	**Sn**	**09 40 42.4**	**-1.0**
HOQ	**Hoqain**	**2.96**	**188**	*e*Pn	**Pn**	**09 40 10.0**	**+2.2**
BIDO	**Bidbid**	**3.02**	**173**	P	**Pn**	**09 40 07.3**	**-1.3**
BIDO	**Bidbid**	**3.02**	**173**	*e*Pn	**Pn**	**09 40 10.4**	**+1.8**
NGRK	**Negar Kerman**	**3.22**	**344**	*e*Pn	**Pn**	**09 40 11.3**	**-0.4**
NGRK				IAMB	IAmb	09 41 02.8	
	comp=Z,0.0nm,0.4s						
CHMN	**Cheshme madani**	**3.32**	**357**	*e*Pn	**Pn**	**09 40 12.4**	**-0.6**
CHMN				IAMB	IAmb	09 40 20.4	
	comp=Z,0.0nm,0.4s						
SMDO	**Samad**	**3.47**	**175**	P	**Pn**	**09 40 14.6**	**-0.3**
SMDO				S	**Sn**	**09 40 57.3**	**+1.1**
TVBK	**TV Kerman**	**3.54**	**346**	*e*Pn	**Pn**	**09 40 15.5**	**-0.6**
TVBK				IAMB	IAmb	09 40 27.2	
	comp=Z,0.0nm,0.6s						
KHGB	**Koh Gabri**	**3.98**	**344**	*e*Pn	**Pn**	**09 40 21.4**	**-0.6**
KHGB				IAMB	IAmb	09 41 36.5	
	comp=Z,0.0nm,1.0s						
SZD1	**Zahaedan-tmp**	**4.04**	**43**	*e*Pn	**Pn**	**09 40 25.3**	**+2.6**
WBK	**Wadi Bani Khal**	**4.07**	**164**	P	**Pn**	**09 40 23.9**	**+1.0**
WBK				S	**Sn**	**09 41 07.5**	**-3.2**
JLN	**Jalan Bani Buh**	**4.63**	**160**	P	**Pn**	**09 40 30.0**	**-0.6**
	SNR=9.1						
JLN				S	**Sn**	**09 41 21.2**	**-3.2**
MHTO	**MHTO**	**5.53**	**178**	P	**Pn**	**09 40 43.5**	**+0.5**
MHTO				S	**Sn**	**09 41 47.2**	**+0.5**
IKAZ	**Kazeroun**	**6.12**	**303**	*e*Pn	**Pn**	**09 40 50.9**	**-0.6**

*DSN **12** 09:51:59.9±3.3, 26°.63N×58°.18E, h10km, ML3.3/6, Error ellipse: s-maj=49.3km s-min=13.3km az=5.0*
*TEH **12** 09:52:04.2, 26°.51N×57°.66E, h21km, ML3.5*
*OMAN **12** 09:52:04.7±1.4, 26°.46N×57°.91E, h20km, ml3.1/7, Error ellipse: s-maj=14.3km s-min=8.7km az=67.0*

ISC 12 09:51:55.4±1.0, 26°.49N±0°.03×58°.29E±0°.06, h10km, n23, σ1§32/27, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.68**	**310**	*e*Pg	**Pb**	**09 52 27.8**	**+1.4**
SHME	**Shamm**	**1.98**	**258**	*e*P	**Pb**	**09 52 32.9**	**+1.4**
	SNR=46						
SHME				S	**Sb**	**09 52 57.6**	**+1.4**
GENO	**Geno**	**2.10**	**296**	*e*Pn	**Pb**	**09 52 34.0**	**+0.4**
GENO				*e*Sg	**Sn**	**09 52 55.9**	**-1.1**
GENO				IAMB	IAmb	09 53 03.0	
	comp=Z,0.0nm,0.6s						
MDH	**Madha**	**2.15**	**237**	*e*P	**Pb**	**09 52 34.4**	**0.0**
	SNR=29						
MDH	**Madha**	**2.15**	**237**	P	**Pb**	**09 52 34.7**	**+0.4**
	SNR=10						
MSFE	**Esma-Masafi**	**2.22**	**240**	P	**Pb**	**09 52 35.7**	**0.0**
HATD	**Hatta, Dubai**	**2.55**	**230**	*e*P	**Pb**	**09 52 42.8**	**+1.5**
	SNR=7.7						
HATD	**Hatta, Dubai**	**2.55**	**230**	*e*Pn	**Pb**	**09 52 41.3**	**0.0**
ASHO	**Ashiyiah**	**2.70**	**229**	*e*P	**Pb**	**09 52 43.6**	**-0.1**
	SNR=7.5						
ASHO	**Ashiyiah**	**2.70**	**229**	P	**Pb**	**09 52 43.7**	**-0.1**
	SNR=7.3						
ASHO	**Ashiyiah**	**2.70**	**229**	*e*Pn	**Pb**	**09 52 43.7**	**-0.1**
NAZ	**Nazwa, Dubai**	**2.80**	**238**	P	**Pb**	**09 52 45.6**	**+0.1**
SOHO	**SOHO**	**2.83**	**215**	P	**Pb**	**09 52 45.8**	**-0.2**
	SNR=28						
SOHO				S	**Sb**	**09 53 18.3**	**-2.4**
BIDO	**Bidbid**	**2.96**	**183**	*e*Pn	**Pg**	**09 52 52.2**	**+0.2**
HOQ	**Hoqain**	**3.02**	**197**	P	**Pg**	**09 52 51.2**	**-2.2**
HOQ	**Hoqain**	**3.02**	**197**	*e*Pn	**Pb**	**09 52 50.7**	**+1.4**
CHMN	**Cheshme madani**	**3.43**	**349**	*e*Pn	**Pb**	**09 52 56.4**	**0.0**
CHMN				IAMB	IAmb	09 53 52.3	
	comp=N,0.0nm,0.4s						
NGRK	**Negar Kerman**	**3.44**	**337**	*e*Pn	**Pb**	**09 52 55.2**	**-1.4**
NGRK				IAMB	IAmb	09 53 06.3	
	comp=Z,0.0nm,0.3s						
TVBK	**TV Kerman**	**3.74**	**339**	*e*Pn	**Pb**	**09 52 59.2**	**-2.5**
TVBK				IAMB	IAmb	09 53 10.7	
	comp=Z,0.0nm,0.5s						
SZD1	**Zahaedan-tmp**	**3.76**	**37**	*e*Pn	**Pg**	**09 53 08.7**	**+1.3**
WBK	**Wadi Bani Khal**	**3.91**	**171**	P	**Pg**	**09 53 09.7**	**-0.6**
WBK				S	**Sb**	**09 53 52.0**	**+0.2**
KHGB	**Koh Gabri**	**4.19**	**338**	IAMB	IAmb	09 53 17.6	
	comp=Z,0.0nm,0.4s						
KHGB				*e*Pn	**Pb**	**09 53 06.7**	**-2.7**
IKAZ	**Kazeroun**	**6.57**	**301**	*e*Pn	**Pn**	**09 53 34.0**	**+1.6**

*NEIC **12** 09:55:16.6±0.0, 18°.91N×103°.54W, h3km, MD4.0(MEX), After MEX.*

MEX 12 09:55:17.0±0.6, 18°.91N×103°.55W, h8km±3km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.57**	**355**	*e*P	Pg	09 55 27.4	-0.6
EZ5V				*e*S	Sg	09 55 35.0	-0.5
MMIG	**Aquila**	**0.65**	**163**	*e*Pg	Pg	09 55 28.3	-1.2
MMIG				*e*Sg	Sg	09 55 36.9	-1.1
MMIG	**Aquila**	**0.65**	**163**	*e*P	Pg	09 55 28.3	-1.2
MMIG				*e*S	Sg	09 55 36.9	-1.1
CJM	**Chamela**	**1.53**	**293**	*e*Pn	Pn	09 55 41.1	-3.5
CJM				*e*Sn	Sn	09 55 58.9	-5.9
CJM	**Chamela**	**1.53**	**293**	*i* P	Pn	09 55 41.1	-3.5
CJM				*e*S	Sn	09 56 00.1	-4.7
MOIG	**Morelia**	**2.35**	**71**	*e*Pn	Pn	09 55 57.0	+0.8
MOIG				*e*Sn	Sb	09 56 27.2	-1.9
ZIIG	**Zihuatanejo**	**2.37**	**123**	*e*Pn	Pn	09 55 53.2	-2.9
ZIIG	**Zihuatanejo**	**2.37**	**123**	*e*P	Pn	09 55 53.2	-2.9
ZIIG				*i* S	Sn	09 56 21.7	-3.6
ARIG	**Puente Sto Nin**	**3.10**	**101**	*e*P	Pn	09 56 03.4	-2.8
ARIG				*i* S	Sn	09 56 40.5	-2.9
ZAIG	**Zacatecas**	**3.94**	**13**	*e*Pn	Pn	09 56 20.1	+2.0
ZAIG				*e*Pg	Pg	09 56 30.6	-2.1
TXAR	**Lajitas Array**	**10.38**	**359**	*e*Pn	Pn	09 57 50.0	+3.7

MEX 12 10:14:48.0±0.6, 16°.33N×98°.02W, h16km±24km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.12**	**301**	*i* P	Pg	10 14 50.5	-1.1
PNIG				*i* S	Sg	10 14 53.4	-0.6

*IDC **12** 10:17:11.5±3.2, 23°.18S×179°.01E, h545km±34km, mb3.5/17, mb1 3.6/19, mb1mx3.5/33, mbtmp4.4/19, Error ellipse: s-maj=22.1km s-min=13.4km az=72.0*
*ISCJB **12** 10:17:13.2±0.6, 23°.3S±0°.1×178°.8E±0°.1, h579km, mb3.9/17, Error ellipse: s-maj=13.3km s-min=13.1km az=151.1*

ISC 12 10:17:14.1±0.6, 23°.2S±0°.1×178°.9E±0°.1, h579km, n29, σ1§28/30, mb3.9/17, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.55**	**273**	P	**P**	**10 19 46.3**	**-1.9**
	0.2nm,0.3s,baz=108,slow=20,SNR=2.5						
URZ	**Urewera**	**15.05**	**185**	P	**P**	**10 20 20.1**	**-3.1**
	1.0nm,0.3s,baz=12,slow=10,SNR=9.8						
CTA	**Charters Tower**	**30.45**	**270**	P	**P**	**10 22 41.9**	**+1.0**
	9.5nm,0.4s,baz=94,slow=9.6,SNR=20						
PMG	**Port Moresby**	**33.31**	**289**	P	**P**	**10 23 05.5**	**+0.2**
	30nm,0.9s,baz=104,slow=12,SNR=5.8						
STKA	**Stephens Creek**	**34.03**	**247**	P	**P**	**10 23 11.9**	**+0.8**
	4.5nm,0.5s,baz=91,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**41.14**	**260**	P	**P**	**10 24 09.2**	**+0.2**
	9.3nm,0.8s,baz=99,slow=7.2,SNR=82						
ASAR				PcP	**PcP**	**10 25 55.1**	**+0.8**
	1.1nm,0.7s,baz=106,slow=4.1,SNR=6.0						
ASAR				S	**S**	**10 29 41.8**	**+0.4**
	0.4nm,0.9s,baz=99,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**41.43**	**266**	P	**P**	**10 24 11.2**	**-0.2**
	8.4nm,0.6s,baz=96,slow=8.3,SNR=47						
WRA				S	**S**	**10 29 44.6**	**-1.2**
	0.5nm,0.6s,baz=98,slow=14,SNR=2.9						
JAY	**Jayapura**	**42.31**	**293**	P	**P**	**10 24 18.7**	**+0.3**
	4.0nm,0.5s,baz=139,slow=3.7,SNR=6.6						
FITZ	**Fitzroy Crossi**	**49.86**	**265**	P	**P**	**10 25 15.9**	**+0.5**
	2.4nm,0.4s,baz=108,slow=5.5,SNR=13						
NWAO	**Narrogin (SRO)**	**54.58**	**245**	P	**P**	**10 25 49.0**	**0.0**
	7.4nm,0.9s,baz=80,slow=6.1,SNR=3.7						
VNDA	**Vanda**	**54.96**	**184**	P	**P**	**10 25 51.5**	**+0.6**
	0.4nm,0.6s,baz=11,slow=7.3,SNR=3.8						
QSPA	**South Pole Qui**	**66.84**	**180**	P	**P**	**10 27 09.9**	**+0.9**
	3.8nm,0.9s,baz=331,slow=2.3,SNR=12						
MJAR	**Matsushiro Arr**	**70.78**	**326**	P	**P**	**10 27 33.3**	**+0.4**
	2.4nm,0.7s,baz=153,slow=11,SNR=11						
KSRS	**Korea Array**	**77.08**	**321**	P	**P**	**10 28 09.8**	**+1.4**
	1.1nm,0.7s,baz=126,slow=6.2,SNR=4.4						
MAW	**Mawson**	**78.01**	**201**	P	**P**	**10 28 13.7**	**+0.7**
	2.8nm,0.6s,baz=127,slow=5.3,SNR=7.8						
PETK	**Petropavlovsk-**	**78.22**	**347**	P	**P**	**10 28 14.6**	**+0.4**
	3.7nm,1.0s,baz=141,slow=5.9,SNR=3.3						
USRK	**Ussuriysk Ar.**	**79.66**	**328**	P	**P**	**10 28 22.0**	**0.0**
	2.1nm,0.7s,baz=117,slow=18,SNR=4.2						
NVAR	**Mina Array Bea**	**84.99**	**45**	P	**P**	**10 28 49.7**	**+0.4**
	0.3nm,0.6s,baz=231,slow=5.7,SNR=3.4						
ILAR	**Eielson Array**	**91.63**	**14**	P	**P**	**10 29 18.9**	**-0.6**
	0.2nm,0.6s,baz=197,slow=0.9,SNR=3.2						
ARCES	**ARCESS Array B**	**131.03**	**348**	PKP	**PKPdf**	**10 35 20.0**	**+0.2**
	1.2nm,0.8s,baz=343,slow=1.3,SNR=5.2						
FINES	**FINESS Array B**	**137.49**	**341**	PKhKP	PKPpre	10 35 25.1	
	0.8nm,0.8s,baz=64,slow=4.4,SNR=3.8						
FINES				PKP	**PKPdf**	**10 35 31.8**	**-0.2**
	0.3nm,0.4s,baz=52,slow=3.1,SNR=3.9						
NB2	**NORSAR Subarra**	**141.26**	**350**	PKP	**PKPdf**	**10 35 34.4**	**-4.6**
	comp=Z,0.5nm,0.6s,baz=15,slow=3.1						
NOA	**NORSAR Array B**	**141.26**	**350**	PKhKP	PKPpre	10 35 34.6	
	comp=Z,0.5nm,0.6s,baz=16,slow=4.8,SNR=3.6						
AKASG	**Malin Array Be**	**143.86**	**327**	PKP	PKPbc	10 35 43.0	-0.1
	comp=Z,1.1nm,0.5s,baz=42,slow=4.2,SNR=11						
BRTR	**Keskin Array B**	**146.36**	**307**	PKPbc	**PKPbc**	**10 35 50.8**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=124,slow=4.4,SNR=9.7						
EKA	**Eskdalemuir Ar**	**147.91**	**2**	PKPbc	**PKPbc**	**10 35 54.4**	**0.0**
	comp=Z,0.5nm,0.4s,baz=345,slow=2.6,SNR=5.3						
CLL	**Collm**	**149.92**	**342**	PKPbc	**PKiKP**	**10 36 00.3**	**+0.3**
	comp=Z,8.0nm,0.8s						
BRG	**Berggiesshubel**	**150.03**	**341**	*i* PKP	**PKiKP**	**10 36 00.5**	**+0.3**
	comp=Z,5.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**169.62**	**195**	PKPab	**PKPab**	**10 37 35.2**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=153,slow=4.4,SNR=3.9						

*KRNET **12** 10:19:24.7±0.1, 39°.45N×73°.05E, h17km, mb5.0*
*BJI **12** 10:19:24.6±0.0, 39°.65N×72°.83E, h8km, mb4.7/30, mB4.8/20, ML4.6/4, Ms4.2/15, Ms7 4.0/15*
*IDC **12** 10:19:27.1±0.5, 39°.42N×73°.03E, h17km±2km, mb4.3/25, mb1 4.4/31, mb1mx4.3/44, mbtmp4.4/31, ML4.0/7, MS3.6/13, Ms1 3.7/13, ms1mx3.3/50, Error ellipse: s-maj=9.2km s-min=8.5km az=153.0*
*MOS **12** 10:19:28.7±1.2, 39°.52N×73°.03E, h33km, mb4.8/82, Error ellipse: s-maj=5.6km s-min=3.7km az=129.1*
*ISCJB **12** 10:19:30.8±0.3, 39°.47N±0°.02×73°.08E±0°.02, h58km±3km, mb4.7/155, MS3.8/16, Error ellipse: s-maj=3.3km s-min=2.9km az=166.5*
*NEIC **12** 10:19:31.8±1.4, 39°.53N×73°.03E, h50km±5km, mb4.8/57, Error ellipse: s-maj=10.4km s-min=6.3km az=191.0*
*SOME **12** 10:19:32.7, 39°.75N×73°.00E, h10km, MS4.0*
*NNC **12** 10:19:34.4±1.6, 39°.83N×73°.06E, h15km±6km, mb5.1, mpv5.0, Error ellipse: s-maj=11.9km s-min=6.2km az=7.0*

ISC 12 10:19:26.7±0.4, 39°.60N±0°.03×73°.02E±0°.02, h10km±2km, h10km:pP-P, n449, σ1§86/516, mb4.7/155, MS3.7/16, 61C-42D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.95**	**263**	⇓*i*P	**Pg**	**10 19 43.3**	**-1.7**
	baz=72						
DRK				⇓*i*S	**Sg**	**10 19 56.9**	**-0.6**
	baz=72						
ARSB	**Arslanbob**	**1.72**	**359**	*e*Pn	**Pg**	**10 19 60.0**	**+0.2**
ARSB	**Arslanbob**	**1.72**	**359**	⇑*i*P	**Pg**	**10 19 59.6**	**-0.1**
	baz=58						
ARSB				⇑*i*S	**Sg**	**10 20 25.0**	**+2.9**
	baz=58						
BTK	**Batken**	**1.76**	**286**	*e*Pn	**Pb**	**10 19 58.7**	**-0.4**
BTK	**Batken**	**1.76**	**286**	*e*PN	**Pb**	**10 19 58.7**	**-0.4**
BTK	**Batken**	**1.76**	**286**	⇑*i*P	**Pb**	**10 19 58.6**	**-0.5**
	baz=90						
BTK				⇑*i*S	**Sg**	**10 20 23.1**	**-0.1**
	baz=90						
GAR	**Garm**	**2.18**	**255**	*e*Pn	**Pb**	**10 20 05.9**	**-0.5**
GAR				*e*Sn	**Sg**	**10 20 37.2**	**+0.4**
GAR	**Garm**	**2.18**	**255**	*e*PN	**Pb**	**10 20 05.9**	**-0.5**
GAR				*e*		10 20 37.2	
KSH	**Kashi**	**2.28**	**91**	Pn	**Pn**	**10 20 04.8**	**+0.2**
KSH				Sn	**Sn**	**10 20 32.8**	**-0.1**
KSH				smax	smax		
	comp=N,11μm,0.4s						
KSH				smax	smax		
	comp=E,6μm,0.2s						
ARK	**Arkit**	**2.34**	**340**	⇓*i*P	**Pb**	**10 20 08.3**	**-0.7**
	baz=41						
ARK				⇓*i*S	**Sg**	**10 20 39.8**	**-2.0**
	baz=41						
ARLS	**Aral**	**2.47**	**23**	⇓*i*P	**Pb**	**10 20 10.0**	**-1.2**
	baz=21						
ARLS				⇓*i*S	**Sb**	**10 20 43.1**	**+1.3**
	baz=21						
AML	**Almayashu**	**2.58**	**11**	P	**Pb**	**10 20 12.7**	**-0.6**
	SNR=990						
AML	**Almayashu**	**2.58**	**11**	⇓*i*P	**Pb**	**10 20 11.7**	**-1.6**
	baz=10.0						
AML				⇓*i*S	**Sb**	**10 20 47.0**	**+1.8**
	baz=10.0						
UCH	**Uchtor**	**2.86**	**23**	P	**Pb**	**10 20 16.9**	**-1.2**
	SNR=396						
UCH	**Uchtor**	**2.86**	**23**	⇓*i*P	**Pn**	**10 20 15.4**	**+2.6**
	baz=21						
UCH				⇓*i*S	**Sb**	**10 20 53.3**	**0.0**
	baz=21						
NRN	**Naryn**	**2.92**	**

CHM *e*S **Sg** **10 21 25.9 -1.2**
3μm,0.6s
USP Ospenovka 3.83 16 P **Pn** **10 20 29.9 +4.2**
SNR=60
USP Ospenovka 3.83 16⇑*i*P **Pn** **10 20 28.8 +3.0**
baz=15
USP ⇑*i*S **Sb** **10 21 16.3 -4.5**
baz=15
TKM2 Tokmak 2 3.84 30 P **Pb** **10 20 30.8 -3.9**
SNR=80
TKM2 Tokmak 2 3.84 30⇑Pn **Pb** **10 20 30.7 -4.1**
173nm,0.6s
TKM2 ⇓Lg Lg 10 21 29.3
325nm,0.7s
TKM2 Tokmak 2 3.84 30⇓*i*P **Pn** **10 20 28.8 +2.7**
baz=28
TKM2 ⇓*i*S **Sn** **10 21 16.1 +4.6**
baz=28
KK31 Karatay Array 3.98 332 *e*Pn **Pn** **10 20 31.4 +3.6**
KK31 *e*Sn **Sb** **10 21 21.3 -3.8**
KK31 Karatay Array 3.98 332⇑Pn **Pn** **10 20 31.3 +3.6**
50nm,0.5s,baz=141,slow=12,SNR=1332
KK31 ⇑Pg **Pg** **10 20 42.0 -0.8**
88nm,0.4s,baz=142,slow=14,SNR=20
KK31 ⇑Sn **Sb** **10 21 20.1 -5.0**
281nm,0.4s,baz=154,slow=23,SNR=12
KK31 ⇓Lg Lg 10 21 33.4
435nm,0.6s
KK31 Karatay Array 3.98 332 *e*PN **Pn** **10 20 31.4 +3.6**
KK31 *e* 10 21 21.3
KKAR Karatay Array 3.98 332 *e*Pn **Pn** **10 20 31.2 +3.4**
KKAR *e*Sn **Sb** **10 21 21.3 -3.8**
KKAR Karatay Array 3.98 332 *e*PN **Pn** **10 20 31.2 +3.4**
KKAR *e* 10 21 21.3
KDJ Kajisay 4.04 50⇑*i*P **Pn** **10 20 30.5 +1.7**
baz=48
KDJ ⇑*i*S **Sn** **10 21 19.7 +3.4**
baz=48
KST Kastek 4.09 32 Pg **Pg** **10 20 46.3 +1.2**
290nm,0.3s
KST Lg Lg 10 21 37.6
503nm,0.5s
KST Kastek 4.09 32 *e*P **Pg** **10 20 46.3 +1.2**
290nm,0.3s
KST *e*S **Sg** **10 21 37.6 -0.5**
503nm,0.5s
DGS Degeres 4.18 29 Pg **Pg** **10 20 46.9 0.0**
437nm,0.3s
DGS Lg Lg 10 21 38.8
609nm,0.7s
DGS Degeres 4.18 29 *e*P **Pg** **10 20 46.9 0.0**
437nm,0.3s
DGS *e*S **Sg** **10 21 38.8 -2.3**
609nm,0.7s
TARG Taragay, Kyrgy 4.21 58 *e*Pn **Pn** **10 20 35.1 +3.7**
TARG Taragay, Kyrgy 4.21 58⇓*i*P **Pn** **10 20 32.9 +1.5**
baz=56
TARG ⇓*i*S **Sn** **10 21 23.5 +2.6**
baz=56
MTBS Maitube 4.36 35 Pg **Pg** **10 20 51.7 +1.5**
218nm,0.3s
MTBS Lg Lg 10 21 47.1
204nm,0.3s
MTBS Maitube 4.36 35 *e*P **Pg** **10 20 51.7 +1.5**
218nm,0.3s
MTBS *e*S **Sg** **10 21 47.1 +0.4**
204nm,0.3s
TNSS Tian-Shan 4.53 39 Pg **Pg** **10 20 54.7 +1.2**
126nm,0.6s
TNSS Lg Lg 10 21 52.0
284nm,0.8s
TNSS Tian-Shan 4.53 39 *e*P **Pg** **10 20 54.7 +1.2**
126nm,0.6s
TNSS *e*S **Sg** **10 21 52.0 -0.2**
284nm,0.8s
AAA Alma-Ata 4.64 38 *e*PN **Pg** **10 20 53.5 -2.2**
AAA *e*S **Sg** **10 21 56.4 +0.6**
AAA pmax pmax
comp=Z,151nm,0.5s
AAA smax smax
comp=N,532nm,0.9s
MDOK Medeo 4.67 39⇓Pn Pn 10 20 42.5 +5.0
MDOK ⇑Pg **Pg** **10 20 55.6 -0.6**
MDOK ⇓Lg Lg 10 21 55.3
MDOK Medeo 4.67 39 Pg **Pg** **10 20 56.6 +0.4**
comp=N,164nm,0.7s
MDOK Lg Lg 10 21 56.0
comp=N,443nm,0.7s
MDOK Medeo 4.67 39 *e*P **Pg** **10 20 56.6 +0.4**
comp=N,164nm,0.7s
MDOK *e*S **Sg** **10 21 55.3 -1.5**
comp=N,443nm,0.7s
KNDC Almaty 4.67 38⇓Pn Pn 10 20 42.9 +5.4
KNDC ⇑Pg **Pg** **10 20 54.3 -1.9**
KNDC ⇓Lg Lg 10 21 57.2
KOTS Kotyrbulak 4.76 39 Pg **Pg** **10 20 58.5 +0.7**
comp=N,245nm,0.6s
KOTS Lg Lg 10 21 58.9
comp=N,420nm,0.7s
KOTS Kotyrbulak 4.76 39 *e*P **Pg** **10 20 58.5 +0.7**
comp=N,216nm,0.8s
KOTS *e*S **Sg** **10 21 58.5 -1.0**
comp=N,1μm,0.7s
KTBS Karatobe 4.94 33 Pg **Pg** **10 20 59.6 -1.7**
comp=N,143nm,0.9s
KTBS Lg Lg 10 21 59.9
comp=N,289nm,0.5s
KTBS Karatobe 4.94 33 *e*P **Pg** **10 20 59.6 -1.7**
comp=N,143nm,0.9s
KTBS *e*S **Sg** **10 21 59.9 -5.3**
comp=N,289nm,0.5s
KUU Kurty 4.96 29 Pg **Pg** **10 21 01.8 +0.2**
comp=N,121nm,0.7s
KUU Lg Lg 10 22 03.8
comp=N,448nm,0.6s
KUU Kurty 4.96 29 *e*P **Pg** **10 21 01.8 +0.2**
comp=N,121nm,0.7s
KUU *e*S **Sg** **10 22 03.8 -2.0**
comp=N,448nm,0.6s
CHKK Chushkaly 5.18 34 Pg **Pg** **10 21 06.4 +0.4**
comp=N,61nm,0.7s
CHKK Lg Lg 10 22 12.1
comp=N,232nm,0.7s
CHKK Chushkaly 5.18 34 *e*P **Pg** **10 21 06.4 +0.4**
comp=N,61nm,0.7s
CHKK *e*S **Sg** **10 22 12.1 -1.0**
comp=N,232nm,0.7s
SATY Saty 5.33 48 *e*P **Pg** **10 21 08.8 +0.1**
comp=N,146nm,0.8s
SATY *e*S **Sg** **10 22 16.0 -1.7**
comp=N,456nm,1.4s
ZHN Zhinishke 5.41 47 *e*P **Pg** **10 21 09.5 -0.8**
comp=N,49nm,0.7s
ZHN *e*S **Sg** **10 22 17.4 -3.0**
comp=N,73nm,0.6s
KURS Kuram 5.48 43 Pg **Pg** **10 21 12.6 +1.0**
comp=N,96nm,0.5s
KURS Lg Lg 10 22 22.6
comp=N,217nm,1.2s
KURS Kuram 5.48 43 *e*P **Pg** **10 21 12.6 +1.0**
comp=N,96nm,0.5s
KURS *e*S **Sg** **10 22 22.6 0.0**
comp=N,217nm,1.2s
BTLS Baital 5.49 8 Pg **Pg** **10 21 11.1 -0.7**
comp=N,88nm,0.4s
BTLS Lg Lg 10 22 19.7
comp=N,53nm,0.8s
BTLS Baital 5.49 8 *e*P **Pg** **10 21 11.1 -0.7**
comp=N,88nm,0.4s
BTLS *e*S **Sg** **10 22 19.7 -3.2**
comp=N,53nm,0.8s
KPKS Kokpek 5.74 46 *e*P **Pg** **10 21 16.1 -0.6**
comp=N,155nm,0.6s
KPKS *e*S **Sg** **10 22 27.8 -3.2**
comp=N,334nm,0.9s
CEP Cherat 5.83 189 P **Pn** **10 20 56.4 +3.0**
CEP S **Sn** **10 22 06.0 +5.5**
CHCP Chirah Chowk 5.93 178 P **Pn** **10 20 58.5 +3.8**
NIL Nilore 5.94 178 *e*Pn **Pn** **10 20 58.4 +3.6**
KBL Kabul 5.97 213 *e*Pn **Pn** **10 20 58.2 +3.0**
KBL Kabul 5.97 213 *e*PN **Pn** **10 20 58.3 +3.0**
MNBS Baschi 6.01 40 Pg **Pg** **10 21 22.3 +0.4**
comp=N,93nm,0.6s
MNBS Lg Lg 10 22 38.9
comp=N,151nm,0.7s
MNBS Baschi 6.01 40 *e*P **Pg** **10 21 22.2 +0.4**
comp=N,93nm,0.6s

MNBS *e*S **Sg** **10 22 38.9 -0.8**
comp=N,152nm,0.7s
PDGK Podgornoye 6.12 50⇓Pn **Pn** **10 21 01.0 +3.6**
comp=N,20nm,0.7s
PDGK ⇑Pg **Pg** **10 21 21.0 -2.9**
comp=N,201nm,1.4s
PDGK ⇓Lg Lg 10 22 43.0
comp=N,314nm,1.0s
PDGK Podgornoye 6.12 50 PN **Pn** **10 21 02.0 +4.6**
PDGK pmax pmax
comp=Z,94nm,0.9s
KTMS Ketmen 6.71 53 Pg **Pg** **10 21 35.5 +0.3**
comp=Z,15nm,0.5s
KTMS Lg Lg 10 23 01.1
comp=Z,81nm,0.5s
TDK Taldyqorghan 6.71 35 Pg **Pg** **10 21 34.5 -0.7**
comp=Z,276nm,0.7s
TDK Lg Lg 10 22 59.9
comp=Z,520nm,1.1s
THW Thamme Wali 6.87 189 P **Pn** **10 21 09.8 +2.2**
DJR Jarkent 6.91 45 Pg **Pg** **10 21 40.0 +0.9**
comp=Z,58nm,1.1s
DJR Lg Lg 10 23 08.7
comp=Z,97nm,0.9s
KAPS Kapalarasan 7.36 37 Pg **Pg** **10 21 46.8 -0.8**
comp=Z,30nm,0.6s
KAPS Lg Lg 10 23 21.1
comp=Z,90nm,0.6s
SARP Sargodha 7.67 182 P **Pn** **10 21 19.9 +1.4**
BHK Bhakra 8.62 160 *e*P **Pn** **10 21 32.1 +0.5**
BHK *e*S **Sn** **10 23 10.3 +1.4**
OTUK Ortayu 8.66 357⇑Pn **Pn** **10 21 34.4 +2.4**
comp=Z,14nm,0.7s
OTUK ⇑Pg Pg 10 22 06.6 -5.7
comp=Z,47nm,1.1s
OTUK ⇓Lg Lg 10 24 01.1
comp=Z,86nm,0.8s
OTUK Ortayu 8.66 357 P **Pn** **10 21 34.6 +2.6**
OTUK pmax pmax
comp=Z,28nm,0.8s
MAKZ Makanchi 9.72 39 *e*Pn **Pn** **10 21 50.5 +3.8**
MAKZ Makanchi 9.72 39⇓Pn **Pn** **10 21 51.2 +4.5**
comp=Z,8.9nm,0.8s
MAKZ ⇑Pg 10 22 28.2
comp=Z,21nm,1.4s
MAKZ ⇑Lg Lg 10 24 33.7
comp=Z,75nm,1.3s
MAKZ Makanchi 9.72 39 *e*P **Pn** **10 21 50.5 +3.8**
MK31 Makanchi Array 9.87 40 *e*Pn **Pn** **10 21 52.5 +3.8**
MK31 Makanchi Array 9.87 40⇑Pn **Pn** **10 21 51.8 +3.2**
comp=Z,14nm,0.9s,baz=223,slow=13,SNR=25
MK31 ⇑Pg 10 22 27.8
comp=Z,6.8nm,0.7s
MK31 ⇑Lg Lg 10 24 40.9
comp=Z,14nm,0.8s,baz=228,slow=26,SNR=3.8
MK31 Makanchi Array 9.87 40 *e*P **Pn** **10 21 52.5 +3.8**
MK32 Makanchi Array 9.87 40 *e*Pn **Pn** **10 21 52.2 +3.5**
MKAR Makanchi Array 9.87 40 *i*P **Pn** **10 21 52.7 +4.1**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 9.87 40 Pn **Pn** **10 21 52.2 +3.5**
comp=Z,0.2nm,0.3s,baz=231,slow=14,SNR=24
MKAR Lg Lg 10 24 39.5
comp=Z,0.6nm,0.3s,baz=225,slow=26,SNR=3.5
ZSN Zaisan 11.63 44 Pg Pn 10 23 04.6 +52
comp=Z,4.4nm,0.5s
ZSN Lg Lg 10 25 34.9
comp=Z,16nm,1.3s
KURBB Kurchatov Arra 11.68 18⇑Pn **Pn** **10 22 13.0 -0.4**
KURBB ⇑Lg Lg 10 25 40.1
comp=Z,134nm,1.1s
KURBB Kurchatov Arra 11.68 18 Pn **Pn** **10 22 13.9 +0.5**
comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=16
KURBB Lg Lg 10 25 37.5
comp=Z,0.3nm,0.3s,baz=204,slow=28,SNR=5.8
WMQ Urumqi 11.75 64 *e*P **Pn** **10 22 18.3 +3.9**
WMQ LR LR
comp=Z,1μm,6.5s
WMQ LR LR
comp=Z,1μm,8.3s
WMQ LR LR
comp=Z,2μm,11.5s
GEYT Alibeck 11.76 267 Pn **Pn** **10 22 13.7 -0.8**
comp=Z,7.9nm,0.3s,baz=105,slow=9.3,SNR=4.2
GEYT Sn **Sn** **10 24 21.2 -4.6**
comp=Z,3.0nm,0.3s,baz=90,slow=16,SNR=2.1
GEYT LR LR 10 27 32.1
comp=Z,313nm,19.7s,baz=90,slow=41
GYA0B ALIBECK ARRAY 11.76 267 *e*Pn **Pn** **10 22 12.5 -2.0**
KURK Kurchatov 11.79 18 *e*Pn **Pn** **10 22 15.2 +0.3**
KURK Kurchatov 11.79 18 *ce*P **Pn** **10 22 14.9 0.0**
KURK pmax pmax
comp=Z,5.0nm,0.8s
AB31 Akbulak array 13.42 320⇓Pn **Pn** **10 22 36.1 -1.0**
comp=Z,7.2nm,0.4s,baz=126,slow=12,SNR=384
AB31 ⇓Sn **Sn** **10 25 02.4 -3.8**
comp=Z,11nm,0.5s,baz=133,slow=23,SNR=9.3
ABKAR Akbulak array 13.42 320 *e*Pn **Pn** **10 22 36.2 -0.9**
BVAR Borovoye Array 13.55 353 Pn **Pn** **10 22 38.6 -0.3**
comp=Z,0.7nm,0.3s,baz=164,slow=12,SNR=37
BVAR Lg Lg 10 26 37.8
comp=Z,0.7nm,0.3s,baz=157,slow=31,SNR=5.3
BRVK Borovoye 13.59 353 *e*Pn **Pn** **10 22 39.4 -0.1**
BRVK Borovoye 13.59 353 *i*P **Pn** **10 22 39.1 -0.4**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
PYUN Piuthan 14.14 141 *e*P **Pn** **10 22 42.8 -4.4**
comp=Z,92nm,0.5s
DANN Dangsing 14.31 138 *e*P Pn 10 22 44.6 -5.2
comp=Z,91nm,0.5s
DGZ Jazzator, Alta 14.37 41 *i*P **Pn** **10 22 53.1 +2.8**
GKN Gorkha 15.05 137 *e*P **Pn** **10 22 55.1 -4.5**
comp=Z,50nm,0.4s
AKTO Aktyubinsk 15.13 321⇑Pn **Pn** **10 22 59.0 -1.5**
comp=Z,23nm,0.6s
AKTO ⇑Sn **Sn** **10 25 45.2 -2.9**
comp=Z,13nm,0.6s
AKTO Aktyubinsk 15.13 321 Pn **Pn** **10 22 60.0 -0.5**
comp=Z,1.4nm,0.3s,baz=130,slow=14,SNR=20
AKTO Sn **Sn** **10 25 41.7 -6.3**
comp=Z,0.9nm,0.3s,baz=45,slow=8.6,SNR=5.6
DMN Daman 15.61 136 *e*P **Pn** **10 23 02.8 -4.4**
comp=Z,48nm,0.8s
PKIN Phulchoki 15.79 136 *e*P **Pn** **10 23 05.1 -4.4**
comp=Z,60nm,0.9s
PKI Pulchoki 15.81 136 *e*P **Pn** **10 23 05.0 -4.7**
comp=Z,16nm,0.3s
JIRN Jiri 16.17 133 *e*P **Pn** **10 23 10.2 -4.2**
comp=Z,59nm,0.3s
ZAA0 Zalesovo Array 16.44 25 *e*Pn **P** **10 23 19.3 -0.8**
comp=Z,23nm,0.9s
ZAA0 Zalesovo Array 16.44 25⇑Pn **P** **10 23 18.8 -1.3**
comp=Z,6.1nm,1.2s
ZALV Zalesovo Beam 16.44 25 *e*Pn **Pn** **10 23 18.0 +0.7**
ZALV Zalesovo Beam 16.44 25 *i*P **P** **10 23 22.3 +2.2**
ZALV pmax pmax
comp=Z,28nm,0.9s
ZALV Zalesovo Beam 16.44 25 Pn **P** **10 23 18.8 -1.3**
comp=Z,1.4nm,0.3s,baz=224,slow=10,SNR=20
ZALV LR LR 10 30 01.8
comp=Z,291nm,18.0s,baz=262,slow=38
ZAA1 Zalesovo Array 16.44 25 *e*Pn **Pn** **10 23 18.8 +1.4**
NVS Novosibirsk 16.72 21⇓*i*P **P** **10 23 30.0 +6.8**
SVE Sverdlovsk 19.06 339 *e*P **Pn** **10 23 50.2 +0.5**
SVE pmax pmax
comp=Z,33nm,1.3s
AKT Akhty 19.30 284 *i*P **P** **10 23 51.2 -0.6**
ARU Arti 19.35 335 *i*P **Pn** **10 23 53.3 +0.1**
comp=Z,21nm,0.7s
ARU Arti 19.35 335 *d*P **Pn** **10 23 53.6 +0.4**
ARU S **S** **10 27 33.2 +2.3**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU MLR MLR
comp=Z,261nm,12.0s
WSAR Wadi Sarin 20.37 221 P **P** **10 24 02.8 -0.7**
comp=Z,9.4nm,0.6s,baz=48,slow=2.1,SNR=4.8
WSAR LR LR 10 32 13.2
comp=Z,60nm,19.4s,baz=59,slow=38
BTLR Botlikh 20.39 287 *i*P Pn 10 24 05.9 +0.2
DVE Vedeno 20.46 288 *i*P Pn 10 24 06.3 -0.2
GTA Gaotai 20.65 82 *e*P **P** **10 24 06.2 -0.5**
GTA pP sP 10 24 17.1 +5.1
GTA sP pP 10 24 22.4 +12
GTA pmax pmax
comp=Z,4.0nm,0.6s

GROC Groznyy 20.70 289 *e*P **P** **10 24 04.9 -2.1**
GROC *e* 10 24 24.0
GROC *e*S **S** **10 27 56.7 -1.4**
GROC pmax pmax
comp=Z,21nm,0.4s
SHL Shillong 21.12 126 *e*P **P** **10 24 09.4 -2.3**
comp=Z,23nm,0.8s
SHL Shillong 21.12 126 *e*P **P** **10 24 09.5 -2.3**
SHL pmax pmax
comp=Z,23nm,0.8s
TBLG Delisi 21.52 285 *e*P **P** **10 24 16.8 +0.9**
comp=Z,13nm,0.6s
TBLG Delisi 21.52 285 *e*P **P** **10 24 16.8 +0.9**
TBLG pmax pmax
comp=Z,13nm,0.6s
GNI Garni 21.68 281 *e*P **P** **10 24 18.4 +0.7**
comp=Z,55nm,1.0s
GNI Garni 21.68 281 *ce*P **P** **10 24 19.7 +2.0**
GNI pmax pmax
comp=Z,245nm,1.0s
GNI Garni 21.68 281 P **P** **10 24 18.4 +0.7**
comp=Z,24nm,0.8s,baz=81,slow=13,SNR=14
ZEI Tsey 22.09 288 *e*P **P** **10 24 27.2 +5.0**
ZEI pmax pmax
comp=Z,12nm,0.6s
NCK Nalchik 22.31 290 *i*P **P** **10 24 24.5 +0.2**
NCK pmax pmax
comp=Z,11nm,0.8s
AKH Akhalkalaki 22.48 284 *e*P **P** **10 24 27.4 +1.0**
comp=Z,14nm,0.8s
AKH Akhalkalaki 22.48 284⇑*i*P **P** **10 24 28.4 +2.1**
AKH Akhalkalaki 22.48 284 *e*P **P** **10 24 27.4 +1.0**
AKH pmax pmax
comp=Z,14nm,0.8s
HYB Hyderabad 22.62 166 *i*P **P** **10 24 27.5 -0.3**
PYA1 Pyatigorsk 22.67 291 *i*P **P** **10 24 28.9 +0.7**
KBZ Khabaz 22.81 290 P **P** **10 24 29.5 -0.1**
comp=Z,3.8nm,1.0s,baz=103,slow=6.3,SNR=5.3
MOY Mondy 22.83 49 *e*P **P** **10 24 36.3 +6.4**
MOY pmax pmax
comp=Z,18nm,1.6s
NEY Neytrino 22.95 289 *i*P **P** **10 24 32.2 +0.9**
NEY pmax pmax
comp=Z,2.0nm,0.7s
KVAR Kislovodsk Arr 22.96 291 P **P** **10 24 31.4 +0.1**
comp=Z,1.9nm,0.3s,baz=90,slow=20,SNR=3.7
KIV Kislovodsk 22.97 291 *e*P **P** **10 24 31.9 +0.5**
comp=Z,30nm,1.0s
KIV Kislovodsk 22.97 291⇑*i*P **P** **10 24 33.2 +1.8**
KIV Kislovodsk 22.97 291 *e*P **P** **10 24 31.0 -0.4**
KIV pmax pmax
comp=Z,59nm,1.0s
KIV MLR MLR
comp=Z,154nm,14.0s
SHA1 Shidzhatmaz 22.99 290 *i*P **P** **10 24 33.0 +1.3**
BRDH Bariadhala 23.13 131 LR LR 10 35 17.9
comp=Z,185nm,20.9s,baz=331,slow=41
ZAK Zakamensk 23.80 53 *e*P **P** **10 24 40.4 +0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
BCA Borcka 23.88 285⇑*i*P **P** **10 24 42.0 +1.6**
KIRV Kirov 24.27 329 P **P** **10 24 44.3 +0.5**
comp=Z,12nm,0.4s,baz=170,slow=3.7,SNR=5.0
KIRV LR LR 10 35 07.6
comp=Z,188nm,21.3s,baz=58,slow=38
LZH Lanzhou 24.53 88 *e*P **P** **10 24 46.8 +0.1**
LZH pP sP 10 24 57.6 +5.5
LZH *e*PP **PnPn** **10 25 23.0 +5.5**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,63nm,4.9s
LZH LR LR
comp=Z,250nm,12.0s
LZH LR LR
comp=Z,250nm,11.9s
LZH LR LR
comp=Z,380nm,15.2s
VRH Novokhopyorsk 24.66 308 *e*P **P** **10 24 46.5 -0.9**
VRH pmax pmax
comp=Z,10.0nm,0.4s
SONA0 Songino Array 25.33 60 *e*P **P** **10 24 53.4 -0.3**
SONM Songino Array 25.33 60 P **P** **10 24 53.4 -0.3**
comp=Z,2.1nm,0.4s,baz=285,slow=7.2,SNR=3.3
SONM LR LR 10 35 56.0
comp=Z,290nm,19.0s,baz=266,slow=39
ULN Ulaanbaatar 25.77 60 *e*P **P** **10 24 58.8 +1.0**
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 25.77 60 *ce*P **P** **10 24 59.1 +1.3**
ULN pmax pmax
comp=Z,6.0nm,1.0s
VSR Storozhevoye 26.22 308 *i*P **P** **10 25 00.7 -0.8**
VSR pmax pmax
comp=Z,20nm,0.9s
CD2 Chengdu 26.45 100 P **P** **10 25 03.5 -0.5**
CD2 pmax pmax
comp=Z,30nm,0.5s
LPSR Galich'ya Gora 26.70 310 *e*P **P** **10 25 05.3 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
ANN Anapa 26.73 293 *e*P P 10 25 14.6 +8.4
ANN pmax pmax
comp=Z,56nm,1.0s
PRGR Permogore 27.70 332 *e*P **P** **10 25 19.9 +5.1**
PRGR pmax pmax
comp=Z,9.0nm,0.6s
MOS Moscow 28.38 316 *e*P **P** **10 25 20.5 -0.4**
MOS *e* 10 26 15.9
OBN Obninsk 28.75 315⇓*e*P **P** **10 25 25.2 +1.0**
OBN *e* 10 26 17.0
OBN *e*S **S** **10 30 12.5 -0.9**
OBN pmax pmax
comp=Z,13nm,0.6s
OBN MLR MLR
comp=Z,136nm,17.0s
KMI Kunming 28.80 111 P **P** **10 25 27.0 +1.8**
KMI pmax pmax
comp=Z,16nm,0.7s
KMI pmax pmax
comp=Z,96nm,4.5s
SIM Simferopol' 29.08 293 *e*P **P** **10 25 29.0 +1.7**
SIM pmax pmax
comp=Z,13nm,0.9s
HHC Hu-ho-hao-te 29.30 75 *e*P **P** **10 25 30.4 +1.0**
HHC S **S** **10 30 24.5 +1.9**
HHC pmax pmax
comp=Z,92nm,0.8s
HHC pmax pmax
comp=Z,320nm,4.2s
HHC LR LR
comp=Z,770nm,11.4s
HHC LR LR
comp=Z,860nm,12.1s
HHC LR LR
comp=Z,820nm,12.0s
KLMR Klimovskoe 29.66 327 *e*P **P** **10 25 31.3 -0.9**
KLMR pmax pmax
comp=Z,20nm,1.5s
ILGA Ilgaz 29.83 286 *e*P **P** **10 25 35.9 +1.7**
comp=Z,21nm,1.0s
BR101 Keskin Array S 30.15 283 *e*P **P** **10 25 37.0 0.0**
BR131 Keskin Array S 30.15 283 *e*P **P** **10 25 37.8 +0.8**
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 30.15 283 *e*P **P** **10 25 37.6 +0.6**
BRTR Keskin Array B 30.15 283 *i*P **P** **10 25 38.4 +1.4**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 30.15 283 P **P** **10 25 37.0 0.0**
comp=Z,5.1nm,0.7s,baz=90,slow=8.0,SNR=33
ANTO Ankara 30.75 284 *e*P **P** **10 25 44.0 +1.7**
comp=Z,18nm,1.3s
ANTO Ankara 30.75 284 *e*P **P** **10 25 44.0 +1.7**
ANTO pmax pmax
comp=Z,18nm,1.3s
CMAR Chiang Mai Arr 30.75 126 *i*P **P** **10 25 45.4 +3.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 30.75 126 P **P** **10 25 40.6 -1.7**
comp=Z,2.2nm,0.3s,baz=322,slow=7.2,SNR=3.6
CMAR LR LR 10 39 31.3
comp=Z,69nm,19.1s,baz=3.0,slow=39
BR231 Keskin MP Arra 30.77 284 *e*P **P** **10 25 44.9 +2.4**
comp=Z,13nm,0.8s
NRIK Noril'sk 30.80 10 P **P** **10 25 43.8 +1.6**
comp=Z,3.0nm,0.8s,baz=178,slow=7.3,SNR=2.9
NRIK LR LR 10 39 46.8

comp=Z,150nm,18.1s,baz=208,slow=39
LAMP Lampang 31.14 125 P **P 10 25 50.3 +4.6**
comp=Z,21µm,0.8s
BOD Bodaibo 31.96 42 *e*P **P 10 25 52.3 -0.2**
BOD pmax pmax
comp=Z,12nm,1.3s
TMCR Tamitsa 32.00 332 *e*P **P 10 25 54.5 +1.7**
TMCR pmax pmax
comp=Z,19nm,0.7s
AKASG Malin Array Be 32.37 305 *e*P **P 10 25 56.4 +0.2**
AKASG Malin Array Be 32.37 305 *i* P **P 10 25 56.4 +0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG Malin Array Be 32.37 305 P **P 10 25 56.0 -0.2**
comp=Z,0.9nm,0.3s,baz=78,slow=7.3,SNR=40
AKASG pP **sP 10 26 01.7 0.0**
comp=Z,3.0nm,0.5s,baz=79,slow=7.1,SNR=7.0
AKASG PcP **PcP 10 28 42.9 -0.8**
comp=Z,1.6nm,0.4s,baz=73,slow=3.4,SNR=6.5
AKASG LR LR 10 41 37.0
comp=Z,90nm,19.1s,baz=105,slow=41
AKBB Malin Array Si 32.37 305 *e*P **P 10 25 56.0 -0.2**
comp=Z,12nm,0.8s
AKBB Malin Array Si 32.37 305 *e*P **P 10 25 56.0 -0.2**
AKBB pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 32.38 305⇑ *i*P **P 10 25 56.9 +0.6**
KIEV Kiev 32.38 305 *i* P **P 10 25 56.3 0.0**
KIEV pmax pmax
comp=Z,9.0nm,0.8s
BJT Baijiatuau 32.91 75 *e*P **P 10 26 01.7 +0.6**
comp=Z,10nm,0.6s
LEOM Leova 33.08 297⇑ *i*P **P 10 26 03.1 +0.6**
CFR Carcaliu 33.28 295 P **P 10 26 05.8 +1.6**
CFR pmax pmax
comp=Z,11nm,0.9s
TLB Topalu 33.42 293⇑ *i*P **P 10 26 06.6 +1.2**
HARR Harsova 33.48 294⇑ *i*P **P 10 26 07.2 +1.2**
SRDT SRDT 34.02 130 P P 10 26 16.4 +5.4
comp=Z,8.0nm,1.1s,comp=Z,626nm
TESR Tescani 34.18 297⇑ *i*P **P 10 26 12.9 +0.8**
VRI Vrincioaia 34.19 296⇓ *i*P **P 10 26 13.9 +1.7**
GIRR Girov 34.24 298⇑ *i*P **P 10 26 13.4 +0.8**
PLOR Plostina 34.24 296⇓ *i*P **P 10 26 14.6 +1.9**
BIZ Bicaz 34.51 298⇑ *i*P **P 10 26 16.1 +1.1**
MLR Muntele Rosu 34.78 295 *e*P **P 10 26 19.1 +1.6**
comp=Z,18nm,1.0s
MLR Muntele Rosu 34.78 295⇓ *i*P **P 10 26 19.7 +2.3**
MLR Muntele Rosu 34.78 295 P **P 10 26 19.9 +2.5**
MLR pmax pmax
comp=Z,19nm,0.9s
KHON Khomkaen 34.80 123 P P 10 26 23.3 +5.6
comp=Z,42µm,0.8s
VSU Vasula 34.84 318 *ce*P **P 10 26 17.8 +0.2**
VSU pmax pmax
comp=Z,41nm,1.0s
SGRR Singureni 34.94 293⇑ *i*P **P 10 26 20.4 +1.8**
BURAR Bucovina Array 35.05 299 *e*P **P 10 26 20.6 +0.9**
BURAR Bucovina Array 35.05 299⇑ *i*P **P 10 26 21.3 +1.5**
BUR08 Bucovina Ar. S 35.06 299 *e*P **P 10 26 20.1 +0.2**
comp=Z,6.4nm,1.1s
SKNT Sakolnakorn 35.09 121 P **P 10 26 20.9 +0.7**
comp=Z,7.2nm,0.9s
LVZ Lovozero 35.22 336 *e*P **P 10 26 22.2 +1.3**
comp=Z,26nm,1.0s
LVZ Lovozero 35.22 336 *i* P **P 10 26 22.4 +1.5**
LVZ pmax pmax
comp=Z,18nm,0.9s
VOIR 35.41 295 P **P 10 26 25.7 +2.9**
VOIR pmax pmax
comp=Z,6.0nm,0.7s
APA Apatity 35.44 335⇑ *i*P **P 10 26 22.9 +0.2**
APA pmax pmax
comp=Z,4.0nm,0.9s
APA MLR MLR
comp=Z,500nm,13.0s
LVV L'vov 35.70 303 *e*P **P 10 26 26.0 +0.8**
ARR Arges 35.71 295⇑ *i*P **P 10 26 27.3 +1.9**
FIA0 FINESS Array S 35.88 323 *e*P **P 10 26 27.2 +0.7**
FIA1 FINESS Array S 35.88 323 *e*P **P 10 26 27.2 +0.7**
comp=Z,9.9nm,0.6s
FINES FINESS Array B 35.88 323 *e*P **P 10 26 26.9 +0.4**
FINES FINESS Array B 35.88 323 P **P 10 26 27.2 +0.7**
comp=Z,6.7nm,0.6s,baz=108,slow=9.8,SNR=51
FINES pP **sP 10 26 32.8 +0.7**
comp=Z,9.1nm,0.6s,baz=105,slow=11,SNR=16
FINES LR LR 10 41 14.2
comp=Z,70nm,21.5s,baz=104,slow=36
SUF Sumiainen 36.21 325 P **P 10 26 30.5 +1.2**
SUF pmax pmax
comp=Z,14nm,1.0s
KOLS Kolonicke sedl 36.90 302 *e*P **P 10 26 36.6 +1.1**
KOLS Kolonicke sedl 36.90 302 *e*P **P 10 26 36.6 +1.1**
UZH Uzhgorod 36.92 301 *e*P **P 10 26 39.0 +3.5**
UZH *e* 10 26 45.4
UZH *e* 10 26 51.7
GZR Gura Zlata 37.00 296⇑ *i*P **P 10 26 37.5 +1.1**
VTS Vitosha 37.20 291⇑ *i*P **P 10 26 39.8 +1.6**
SRS Serrai 37.29 289 P **P 10 26 39.9 +1.0**
NJ2 Nanjing 37.59 87 *e*P **P 10 26 42.8 +1.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
BZS Buzias 37.77 296⇓ *i*P **P 10 26 44.4 +1.6**
BZS Buzias 37.77 296 P **P 10 26 44.4 +1.6**
BZS pmax pmax
comp=Z,10.0nm,0.9s
KNT Kendrikon 37.79 289 P **P 10 26 44.1 +1.0**
KNT pmax pmax
comp=Z,13nm,0.8s
VAF Ylistaro 37.83 325 P **P 10 26 44.2 +1.1**
VAF pmax pmax
comp=Z,17nm,0.7s
MDVR Moldovita 37.85 295⇓ *i*P **P 10 26 45.0 +1.4**
VAY Valandovo 37.99 289 *i* P **P 10 26 45.8 +1.1**
KLNR Kaliningrad 37.99 311 *i* P **P 10 26 46.9 +2.3**
KLNR pmax pmax
comp=Z,14nm,0.9s
KECS Kecovo 38.13 301 *e*P **P 10 26 47.1 +1.3**
KECS Kecovo 38.13 301 *e*P **P 10 26 47.1 +1.3**
NIE Niedzica 38.15 303 *e*P **P 10 26 47.7 +1.7**
NIE Niedzica 38.15 303 *e*P **P 10 26 47.7 +1.7**
STIP Stip 38.17 290 *i* P **P 10 26 45.9 -0.4**
GRG Griva 38.20 289 P **P 10 26 49.3 +2.7**
OJC Ojcow 38.40 304 *e*P **P 10 26 48.8 +0.7**
OJC Ojcow 38.40 304 *e*P **P 10 26 48.2 +0.1**
comp=Z,21nm,0.6s
OJC Ojcow 38.40 304 *e*P **P 10 26 48.8 +0.7**
PSZ Piszkesteto 38.59 300 *e*P **P 10 26 50.6 +0.7**
comp=Z,7.3nm,1.0s
PSZ Piszkesteto 38.59 300 P **P 10 26 51.6 +1.8**
PSZ pmax pmax
comp=Z,8.0nm,0.9s
ATD Arta Tunnel 38.67 232 *e*P **P 10 26 52.0 +1.2**
comp=Z,22nm,0.9s
LANS Liptovska Anna 38.72 302 *e*P **P 10 26 52.3 +1.5**
LANS Liptovska Anna 38.72 302 *e*P **P 10 26 52.3 +1.5**
ARA0 ARCESS Array S 38.94 336 *e*P **P 10 26 53.1 +0.7**
ARCES ARCESS Array B 38.94 336 P **P 10 26 53.1 +0.7**
comp=Z,5.4nm,0.6s,baz=110,slow=8.9,SNR=40
ARCES pP **sP 10 26 58.7 +0.8**
comp=Z,11nm,0.7s,baz=108,slow=8.6,SNR=14
FNA Florina 39.00 289 *e*P **P 10 26 53.7 +0.3**
comp=Z,7.6nm,0.7s
FNA Florina 39.00 289 P **P 10 26 55.0 +1.7**
VYHS Vyhne 39.21 301 *e*P **P 10 26 56.2 +1.2**
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 39.21 301 *e*P **P 10 26 56.2 +1.2**
MORC Moravsky Berou 39.89 304 *e*P **P 10 27 01.0 +0.4**
comp=Z,8.1nm,0.6s
MORC Moravsky Berou 39.89 304 P **P 10 27 01.7 +1.1**
MORC Moravsky Berou 39.89 304 *e*P **P 10 27 01.5 +0.9**
JAVC Velka Javorina 39.93 302 *e*P **P 10 27 03.1 +2.1**
TTG Podgorica 40.10 292 *e*P **P 10 27 02.9 +0.5**
comp=Z,14nm,0.6s
IGT Igoumenitsa 40.12 287 P **P 10 27 03.2 +0.6**
KRLC Kraliky 40.34 304 *e*P **P 10 27 05.3 +0.9**
KRLC Kraliky 40.34 304 *e*P **P 10 27 05.3 +0.9**
BRY Bratogost 40.50 293 P **P 10 27 07.6 +1.7**
KSP Ksiaz 40.56 305 *e*P **P 10 27 06.3 +0.2**
KSP Ksiaz 40.56 305 *e*P **P 10 27 06.3 +0.2**
VRAC Vranov 40.57 303⇓ *i*P **P 10 27 07.5 +1.3**
VRAC Vranov 40.57 303 *e*P **P 10 27 07.5 +1.3**
DPC Dobruska-Polom 40.60 305 *e*P **P 10 27 07.7 +1.2**
DPC Dobruska-Polom 40.60 305 *e*P **P 10 27 07.7 +1.2**
comp=Z,8.0nm,1.0s
SMF Signal de Mont 49.51 302 *e*P **P 10 28 16.9 -0.4**
SMF pmax pmax
comp=Z,6.0nm,0.8s
VIVF Saint-Julien-l 49.53 300 *e*P **P 10 28 17.6 0.0**
VIVF pmax pmax
comp=Z,3.0nm,0.4s
SSF Saint Saulge 49.59 303 *e*P **P 10 28 17.4 -0.6**
SSF pmax pmax
comp=Z,16nm,1.5s
AVF Avril sur Loir 49.78 302 *e*P **P 10 28 19.0 -0.4**
AVF pmax pmax
comp=Z,15nm,0.8s
MAJO Matsushiro 50.40 72 *e*P **P 10 28 23.9 -0.4**
MJAR Matsushiro Arr 50.40 72 P **P 10 28 23.9 -0.4**
comp=Z,4.0nm,0.8s,baz=289,slow=9.7,SNR=13
TCF Toulx Ste Croi 50.69 302 *e*P **P 10 28 26.3 0.0**
TCF pmax pmax
comp=Z,9.0nm,1.0s
EKA Eskdalemuir Ar 51.21 315 P **P 10 28 29.2 -0.8**
EKA pmax pmax
comp=Z,4.0nm,0.4s
CAF Calviac 51.25 301 *e*P **P 10 28 30.8 +0.2**
CAF pmax pmax
comp=Z,7.0nm,0.9s
RJF Les Rejaudoux 51.48 301 *e*P **P 10 28 32.6 +0.3**
RJF pmax pmax
comp=Z,14nm,1.2s
MTLF Montolieu 51.72 299 *e*P **P 10 28 34.1 0.0**
MTLF pmax pmax
comp=Z,6.0nm,0.8s
GRR Gorron 51.96 306 *e*P **P 10 28 35.0 -0.7**
GRR pmax pmax
comp=Z,48nm,1.8s
KMBO Kilima Mbogo 52.09 228 *e*P **P 10 28 36.8 -0.6**
comp=Z,14nm,1.5s
KMBO Kilima Mbogo 52.09 228 *i* P **P 10 28 37.7 +0.3**
KMBO pmax pmax
comp=Z,3.0nm,0.6s
KMBO Kilima Mbogo 52.09 228 P **P 10 28 37.1 -0.3**
comp=Z,3.0nm,0.6s,baz=39,slow=10,SNR=6.9
MFF Saint Martin d 52.11 303 *e*P **P 10 28 36.3 -0.6**
MFF pmax pmax
comp=Z,20nm,1.2s
LFF La Frestale 52.12 301 *e*P **P 10 28 37.2 +0.2**
LFF pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 52.22 343 *e*P **P 10 28 38.9 +1.6**
DAG Danmarks Havn 52.22 343 *i* P **P 10 28 38.9 +1.6**
SGMF Saint Gilles 53.07 306 *e*P **P 10 28 45.7 +1.7**
SGMF pmax pmax
comp=Z,26nm,1.2s
ETSF Etsaut 53.77 299 *e*P **P 10 28 49.3 0.0**
ETSF pmax pmax
comp=Z,42nm,2.0s
BILL Bilibino 55.12 27 *ce*P **P 10 28 58.4 -0.3**
BILL pmax pmax
comp=Z,1.0nm,0.6s
BILL MLR MLR
comp=Z,431nm,19.0s
ESDC Sonseca Array 57.45 297 P **P 10 29 15.5 -0.3**
comp=Z,2.2nm,0.6s,baz=55,slow=7.2,SNR=22
ESDC pP **sP 10 29 21.0 -0.5**
comp=Z,2.5nm,0.6s,baz=55,slow=7.0,SNR=9.0
SUMG Summit 58.66 341 *e*P **P 10 29 24.3 +0.2**
comp=Z,9.5nm,1.0s
SUMG Summit 58.66 341 *e*P **P 10 29 25.2 +1.0**
SUMG Summit 58.66 341 *i* P **P 10 29 25.2 +1.0**
RES Resolute Bay 65.72 357 *e*P **P 10 30 11.5 +0.6**
comp=Z,6.6nm,1.5s
TOA1 Torodi Ar. Sit 67.39 269 *e*P **P 10 30 19.8 -2.7**
TOA0 Torodi Ar. Sit 67.39 269 *e*P **P 10 30 21.1 -1.5**
comp=Z,8.8nm,0.6s
TORD Torodi Ar. Bea 67.39 269 P **P 10 30 19.8 -2.7**
comp=Z,5.6nm,0.5s,baz=40,slow=5.1,SNR=60
TOLK Toolik Lake Re 67.52 16 *e*P **P 10 30 22.9 +0.2**
comp=Z,9.8nm,0.7s
IMAR Indian Mountai 68.73 19 *e*P **P 10 30 29.9 -0.3**
BMAR Burnt Mountain 69.55 15 *e*P **P 10 30 36.0 +0.6**
MLY Manley 70.25 18 *e*P **P 10 30 39.9 +0.2**
comp=Z,5.3nm,1.2s
INK Inuvik 70.58 10 *e*P **P 10 30 42.0 +0.4**
comp=Z,10nm,0.9s
COLA College 71.05 17 *e*P **P 10 30 44.5 0.0**
comp=Z,11nm,0.8s
CAST Castle Rocks 71.23 20 *e*P **P 10 30 45.6 -0.1**
comp=Z,6.0nm,0.9s
BWN Browne 71.27 18 *e*P **P 10 30 46.1 +0.2**
comp=Z,19nm,0.9s
ILAR Eielson Array 71.36 17 P **P 10 30 45.6 -0.8**
comp=Z,3.7nm,0.8s,baz=320,slow=4.8,SNR=26
ILAR pP **sP 10 30 51.9 -0.3**
comp=Z,3.3nm,0.8s,baz=326,slow=5.4,SNR=9.9
DBIC Dimbokro 76.44 267 *e*P **P 10 31 16.1 -0.8**
comp=Z,17nm,1.5s
DBIC Dimbokro 76.44 267 P **P 10 31 16.0 -0.9**
DBIC pmax pmax
comp=Z,2.0nm,0.5s
DBIC Dimbokro 76.44 267 P **P 10 31 15.9 -0.9**
comp=Z,2.1nm,0.5s,baz=31,slow=5.9,SNR=5.5
KIC Kosan Boka 76.55 267 *e*PKP1 **P 10 31 16.2 -1.3**
comp=Z,41nm,1.3s
TIC Toumodi 76.58 268 *e*PKP1 **P 10 31 16.8 -1.0**
LIC Lamto 76.85 267 *e*PKP1 **P 10 31 17.2 -2.1**
comp=Z,62nm,1.8s
HYT Haines Junctio 76.86 15 *e*P **P 10 31 20.1 +1.4**
comp=Z,12nm,0.8s
YKW3 Yellowknife Ar 78.00 4 *e*P **P 10 31 25.3 +0.5**
comp=Z,6.0nm,0.9s
LBTB Lobatse 78.04 223 *e*P **P 10 31 25.4 -0.2**
comp=Z,14nm,0.6s
LBTB Lobatse 78.04 223 *e*P **P 10 31 25.4 -0.2**
LBTB pmax pmax
comp=Z,14nm,0.6s
YKA Yellowknife Ar 78.07 4 *i* P **P 10 31 25.4 +0.1**
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 78.07 4 P **P 10 31 25.1 -0.1**
comp=Z,2.9nm,0.6s,baz=348,slow=5.6,SNR=50
YKA pP **sP 10 31 30.9 -0.1**
comp=Z,2.0nm,0.6s,baz=347,slow=5.5,SNR=11
YKB5 Yellowknife Ar 78.07 4 *e*P **P 10 31 25.1 -0.1**
BOSA Boshof 81.13 221 P **P 10 31 41.0 -1.5**
comp=Z,2.8nm,0.8s,baz=16,slow=3.7,SNR=6.3
WR1 Warramunga Arr 82.32 124 *e*P **P 10 31 47.5 -1.3**
WRA Warramunga Arr 82.32 124 P **P 10 31 47.5 -1.3**
comp=Z,2.3nm,0.6s,baz=328,slow=5.0,SNR=18
WRA pP **pP 10 31 53.1 0.0**
comp=Z,3.5nm,0.8s,baz=327,slow=5.2,SNR=9.6
ASAR Alice Springs 84.76 126 P **P 10 31 59.8 -1.5**
comp=Z,1.7nm,0.8s,baz=312,slow=4.7,SNR=19
ASAR pP **pP 10 32 05.8 +0.2**
comp=Z,0.9nm,0.7s,baz=314,slow=5.2,SNR=5.1
FFC Flin Flon 85.95 357 *e*P **P 10 32 06.6 -0.2**
comp=Z,6.7nm,1.1s
FFC Flin Flon 85.95 357 *e*P **P 10 32 06.6 -0.2**
FFC pmax pmax
comp=Z,7.0nm,1.1s
ULM Lac du Bonnet 90.00 353 P **P 10 32 26.9 +0.6**
comp=Z,0.4nm,0.3s,baz=338,slow=16,SNR=1.9
NEW Newport 92.05 7 *e*P **P 10 32 35.0 -0.9**
comp=Z,5.6nm,1.0s
NEW Newport 92.05 7 *e*P **P 10 32 35.0 -0.9**
NEW pmax pmax
comp=Z,6.0nm,1.0s
LAO LASA Array 94.09 359 *e*P **P 10 32 44.6 -0.8**
comp=Z,6.2nm,1.1s
CPUP Villa Florida 136.80 272 *e*PKPdf **PKPdf 10 38 48.1 -1.5**
CPUP Villa Florida 136.80 272 PKP **PKPdf 10 38 47.8 -1.8**
comp=Z,1.1nm,0.5s,baz=54,slow=5.5,SNR=3.8
LPAZ La Paz 139.01 293 *e*PKPdf **PKPdf 10 38 54.0 -0.7**
LPAZ La Paz 139.01 293 PKP **PKPdf 10 38 54.4 -0.3**
comp=Z,0.8nm,0.8s,baz=130,slow=4.0,SNR=3.0
TRQA Tornquist 145.19 258 *e*PKPbc **PKPbc 10 39 02.6 -1.4**
TRQA Tornquist 145.19 258 *e*PKIKP **PKPbc 10 39 02.6 -1.4**
PB10 IPOC Station P 145.34 287 *e*PKPbc **PKPbc 10 39 05.0 +0.1**
GO02 Mina Guanaco 145.56 283 *e*PKPdf **PKPdf 10 39 05.8 0.0**
GO03 Copiap 147.35 280 *e*PKPbc **PKPbc 10 39 10.6 -0.2**
LCO Las Campanas 148.42 278 *e*PKPbc **PKPbc 10 39 13.8 -0.1**
LCO Las Campanas 148.42 278 *e*PKP2 **PKPbc 10 39 13.8 -0.1**
GO04 Tololo Observa 149.04 276 *e*PKPbc **PKPbc 10 39 15.1 -0.4**
ROC1 El Roble 150.41 272 *e*PKPbc **PKPbc 10 39 17.9 -0.9**
GO05 Huala 151.86 268 *e*PKPbc **PKPbc 10 39 21.2 -0.6**
GO05 *e*PKPab **PKPab 10 39 30.5 -0.4**
PLCA Paso Flores 152.26 256 *e*PKPbc **PKPbc 10 39 22.3 -0.2**
PLCA Paso Flores 152.26 256 PKPbc **PKPbc 10 39 22.1 -0.5**

comp=Z,2.9nm,0.7s,baz=57,slow=1.3,SNR=13
GO06 Curarrehue 152.74 259 *e*PKPbc **PKPbc 10 39 21.1 -2.6**
GO06 *e*PKPab **PKPab 10 39 33.8 -0.9**

IDC ***12*** *10:31:31.9±0.9,27°.94S×176°.46W,h0km,mb3.9/5, mb1 4.2/6,mb1mx3.9/30,mbtmp3.9/6,ML3.4/1,Error ellipse: s-maj=37.6km s-min=26.6km az=151.0*
ISCJB ***12*** *10:31:35.4±0.8,28°.2S±0°.1×176°.5W±0°.2,h37km,mb3.9/7, Error ellipse: s-maj=24.3km s-min=10.1km az=27.9*
ISC 12 10:31:37.1±0.7,28°.0S±0°.1×176°.4W±0°.2,h37km,n27, σ1§72/29,mb3.9/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.85**	**227**	Sn	**Sn**	**10 32 30.2**	**+1.8**
	185nm,0.3s,baz=74,slow=20,SNR=2.8						
URZ	**Urewera**	**11.59**	**206**	Pn	**Pn**	**10 34 17.2**	**-2.7**
	0.2nm,0.3s,baz=73,slow=19,SNR=4.6						
URZ				Sn	**Sn**	**10 36 26.4**	**-1.7**
	0.8nm,0.3s,baz=14,slow=23,SNR=7.7						
BKZ	**Black Stump Fm**	**12.62**	**206**	*e*P	**Sn**	**10 36 55.9**	**+2.6**
	16nm,1.4s						
AS31	**Alice Springs**	**44.73**	**264**	*e*P	**P**	**10 39 49.5**	**+2.4**
	1.4nm,1.3s						
ASAR	**Alice Springs**	**44.73**	**264**	*e*P	**P**	**10 39 51.0**	**+4.0**
ASAR	**Alice Springs**	**44.73**	**264**	P	**P**	**10 39 46.7**	**-0.4**
	1.2nm,0.9s,baz=105,slow=7.6,SNR=10						
WB2	**Warramunga Arr**	**45.50**	**269**	*e*P	**P**	**10 39 48.8**	**-4.3**
	4.9nm,1.1s						
WR1	**Warramunga Arr**	**45.51**	**269**	*e*P	**P**	**10 39 52.5**	**-0.7**
WRA	**Warramunga Arr**	**45.51**	**269**	P	**P**	**10 39 52.5**	**-0.7**
	1.4nm,0.8s,baz=109,slow=7.3,SNR=4.9						
MJAR	**Matsushiro Arr**	**77.12**	**324**	P	**P**	**10 43 26.3**	**-0.5**
	1.6nm,0.7s,baz=147,slow=7.2,SNR=7.6						
NV01	**Mina Array Sit**	**85.51**	**42**	*e*P	**P**	**10 44 12.5**	**+1.1**
NVAR	**Mina Array Bea**	**85.51**	**42**	*e*P	**P**	**10 44 12.6**	**+1.1**
NVAR	**Mina Array Bea**	**85.51**	**42**	P	**P**	**10 44 12.5**	**+1.1**
	1.0nm,0.9s,baz=215,slow=8.2,SNR=5.9						
TXAR	**Lajitas Array**	**89.89**	**56**	P	**P**	**10 44 32.4**	**-0.1**
	0.6nm,1.0s,baz=210,slow=4.2,SNR=3.7						
MK32	**Makanchi Array**	**117.32**	**311**	*e*PKiKP	**PKPdf**	**10 50 17.8**	**-0.6**
MKAR	**Makanchi Array**	**117.32**	**311**	PKP	**PKPdf**	**10 50 17.8**	**-0.6**
	0.4nm,0.6s,baz=104,slow=3.0,SNR=4.4						
ARA0	**ARCESS Array S**	**136.54**	**349**	*e*PKPpre	**PKPdf**	**10 50 52.5**	**-1.8**
ARCES	**ARCESS Array B**	**136.54**	**349**	PKP	**PKPdf**	**10 50 52.5**	**-1.8**
	1.4nm,0.7s,baz=28,slow=2.9,SNR=4.4						
KBZ	**Khabaz**	**144.89**	**307**	*e*PKPdf	**PKPdf**	**10 51 10.6**	**+0.6**
KBZ	**Khabaz**	**144.89**	**307**	PKP	**PKPdf**	**10 51 10.6**	**+0.6**
	3.0nm,0.9s,baz=62,slow=8.8,SNR=3.0						
NB2	**NORSAR Subarra**	**146.58**	**353**	PKP	**PKPbc**	**10 51 13.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=9.5,slow=3.0						
NB200	**NORSAR Array S**	**146.58**	**353**	*e*PKPdf	**PKPbc**	**10 51 14.2**	**+0.1**
NOA	**NORSAR Array B**	**146.58**	**353**	PKPbc	**PKPbc**	**10 51 14.2**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=16,slow=4.6,SNR=5.7						
AKASG	**Malin Array Be**	**150.18**	**326**	*e*PKPdf	**PKPbc**	**10 51 23.8**	**+0.1**
AKASG	**Malin Array Be**	**150.18**	**326**	PKPbc	**PKPbc**	**10 51 23.9**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=40,slow=3.2,SNR=7.2						
BRTR	**Keskin Array B**	**152.61**	**303**	PKPab	**PKPab**	**10 51 41.2**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=90,slow=5.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**165.11**	**173**	PKP	**PKPdf**	**10 51 39.1**	**+1.0**
	comp=Z,0.7nm,1.1s,baz=208,slow=21,SNR=3.1						
TORD				PKPab	**PKPab**	**10 52 36.3**	**+1.5**
	comp=Z,1.9nm,1.1s,baz=192,slow=5.1,SNR=5.3						

MAN 12 10:35:37.2,8°.31N×122°.88E,h27km,mb3.8,ML2.6,MS2.1, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.54**	**60⇓**	*e*P	Pb	10 35 48.1	-0.2
DCPH				*e*S	Sb	10 35 55.2	-0.5
IPIL	**Ipil**	**0.60**	**210**	*e*P	Pn	10 35 50.4	+0.4
IPIL				*e*S	Sn	10 35 59.7	+0.9
PAGZ	**Pagadian**	**0.68**	**132**	*e*P	Pn	10 35 51.1	+0.1
PAGZ				*e*S	Sn	10 36 01.9	+1.2
SNPH	**Sibulan**	**1.09**	**19⇑**	*i*P	Pn	10 35 56.6	-0.2
SNPH				*i*S	Sn	10 36 10.0	-0.9
BUKP	**Musuan**	**2.21**	**101**	*e*P	Pb	10 36 17.3	+0.9
LLP	**Lapu-Lapu**	**2.27**	**28**	*e*P	Pb	10 36 16.2	-1.2
LLP				*e*S	Sb	10 36 45.9	+0.7
GUIM	**Jordan**	**2.32**	**353**	*e*P	Sn	10 36 43.3	+2.0
MSLP	**Maasin**	**2.67**	**47**	*e*P	Pn	10 36 19.1	+0.7

IDC ***12*** *10:43:49.0±1.8, 0°.22S×123°.65E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.3/46,mbtmp3.5/3,Error ellipse: s-maj=217.4km s-min=25.8km az=62.0*
ISCJB ***12*** *10:43:52.5±1.1, 0°.3N±0°.1×124°.64E±0°.07,h35km,mb3.5/3, Error ellipse: s-maj=15.1km s-min=10.1km az=7.8*
DJA ***12*** *10:43:57.3±0.9, 0°.N±4°×12°.4E±°,h26km±10km,M4.3/11, mb4.6/4,mB4.7/2,MLv4.1/11,Mw(mB)3.9/2*
ISC 12 10:43:54.9±1.3,0°.14N±0°.08×124°.61E±0°.08,h35km,n12, σ1§60/13,mb3.4/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.76**	**305**	P	**Pn**	**10 44 12.0**	**+2.8**
LUWI	**Luwuk**	**2.17**	**237**	P	**Pn**	**10 44 30.0**	**+1.4**
LUWI				S	**Sn**	**10 44 55.1**	**+0.8**
SANI	**Sanana**	**2.57**	**147**	P	**Pn**	**10 44 35.5**	**+1.4**
MRSI	**Marisa**	**2.69**	**277**	P	**Pn**	**10 44 34.5**	**-1.1**
APSI	**Ampana**	**3.13**	**251**	P	**Pn**	**10 44 42.9**	**+1.1**
MPSI	**Mapaga**	**4.71**	**272**	P	**Pn**	**10 45 05.0**	**+1.5**
TTSI	**Tana Toraja**	**5.73**	**237**	P	**Pn**	**10 45 17.9**	**+0.3**
SPSI	**Sidrap Palu**	**6.32**	**230**	P	**Pn**	**10 45 26.3**	**+0.7**
BNSI	**Bone**	**6.36**	**225**	P	**Pn**	**10 45 26.8**	**+0.6**
WRA	**Warramunga Arr**	**22.12**	**155**	P	**P**	**10 48 48.6**	**+1.1**
	1.1nm,0.7s,baz=331,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**25.32**	**160**	P	**P**	**10 49 17.1**	**-1.5**
	0.5nm,0.5s,baz=334,slow=7.8,SNR=13						
MKAR	**Makanchi Array**	**59.35**	**327**	P	**P**	**10 53 51.6**	**-2.0**
	0.3nm,0.4s,baz=125,slow=8.3,SNR=5.3						

IDC 12 10:51:10.9±8.2,22°.66S×177°.08W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.5/29,mbtmp3.7/2,Error ellipse: s-maj=346.0km s-min=61.4km az=147.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.89**	**259**	P	P	10 59 27.6	0.0
	0.6nm,0.8s,baz=94,slow=7.7,SNR=6.6						
WRA	**Warramunga Arr**	**45.19**	**264**	P	P	10 59 29.7	-0.3
	0.7nm,0.4s,baz=103,slow=8.3,SNR=11						
AKASG	**Malin Array Be**	**145.31**	**330**	PKPbc	PKPbc	11 10 49.4	-0.9
	0.4nm,0.4s,baz=42,slow=3.8,SNR=4.3						

DSN ***12*** *10:54:46.9±0.6,26°.68N×57°.93E,h10km,mb5.8/5, ML5.7/11,Error ellipse: s-maj=11.8km s-min=5.6km az=133.0*
MOS ***12*** *10:54:46.5±0.9,26°.73N×57°.80E,h13km,mb5.5/128, MS5.1/80,Error ellipse: s-maj=4.0km s-min=2.6km az=116.1*
IDC ***12*** *10:54:46.6±0.4,26°.83N×57°.73E,h0km,mb5.0/50, mb1 5.0/52,mb1mx5.0/63,mbtmp5.0/52,ML3.3/1,MS5.1/37, Ms1 5.1/37,ms1mx5.0/49,Error ellipse: s-maj=8.6km s-min=7.2km az=174.0*
GCMT ***12*** *10:54:46.6±0.1,26°.51N±0°.01×57°.66E±0°.01,h12km, MW5.5/125,Moment Tensor Solution. s104,c177; s125,c297; Duration: 1§4 Moment tensor: Scale 10^17 Nm; Mrr=0.05±.02; Mθθ=0.65±.03; Mφφ=0.70±.03; Mrθ=0.96±.06; Mrφ=2.17±.02; Mθφ=0.42±.06; Best double couple: M=2.49700×10^17 NP1:φ=82.00000°,δ86.00000°, λ24.00000°. NP2:φ=350.00000°,δ66.00000°,λ176.00000°. Principal axes: T 2.6170, Plg19.0000°, Azm308.0000°; N -0.2400, Plg66.0000°, Azm90.0000°; P -2.3760, Plg14.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISCJB ***12*** *10:54:47.7±0.4,26°.69N±0°.01×57°.77E±0°.01,h19km±2km, mb5.3/297,MS5.3/628 Error ellipse: s-maj=2.3km s-min=1.8km az=9.1*
NEIC ***12*** *10:54:48.6±0.2,26°.72N×57°.77E,h14km,mb5.4/108, MS5.3/297,MW5.5,ML5.5(THR),MN5.5(TEH),Error ellipse: s-maj=4.3km s-min=3.0km az=1.0,Moment Tensor Solution. s66 Moment tensor: Scale 10^17Nm; Mrr0.01; Mθθ-0.74; Mφφ0.73; Mrθ0.49; Mrφ1.80; Mθφ0.30; Best double couple: M=2.00000×10^17 NP1:φ=80.00000°, δ85.00000°,λ15.00000°. NP2:φ=348.00000°,δ75.00000°, λ175.00000°. Principal axes: T 2.0700, Plg14.0000°, Azm305.0000°; N -0.0900, Plg74.0000°, Azm97.0000°; P -1.9800, Plg7.0000°, Azm213.0000°;*
NEIC Felt at Ra's al Khaymah, United Arab Emirates.
TEH ***12*** *10:54:48.3,26°.71N×57°.76E,h16km,ML5.5*
OMAN ***12*** *10:54:49.3±0.5,26°.66N×57°.94E,h26km,ml5.6/19, Mwp5.7/15,Error ellipse: s-maj=10.6km s-min=4.6km az=25.0*
BJI ***12*** *10:54:50.1±0.0,27°.15N×57°.65E,h24km,mb5.0/67, mB5.2/57,Ms5.6/76,Ms7 5.4/70*
ISC 12 10:54:49.1±0.5,26°.73N±0°.02×57°.78E±0°.02,h14km±2km, n1679,σ1§76/1409,mb5.4/309,MS5.4/632,105C-39D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.19**	**315**	*e*Pn	**Pg**	**10 55 12.0**	**0.0**
NIAN	**Nian**	**1.19**	**315**	*e*Pg	**Pg**	**10 55 11.8**	**-0.2**
NIAN				IAMB	IAmb	10 55 38.3	
	comp=Z,0.0nm,0.4s						
GENO	**Geno**	**1.59**	**295**	*e*Pn	**Pg**	**10 55 18.3**	**-1.3**
GENO				*e*Sn	**Sg**	**10 55 41.5**	**+1.2**
GENO	**Geno**	**1.59**	**295**	*e*Pn	**Pb**	**10 55 17.9**	**-0.4**
GENO				IAMB	IAmb	10 55 47.5	
	comp=Z,0.0nm,0.8s						
SHME	**Shamm**	**1.62**	**246**	*e*P	**Pn**	**10 55 17.4**	**+0.2**
	SNR=330						
SHME				S	**Sg**	**10 55 40.2**	**-1.2**
SHME	**Shamm**	**1.62**	**246**	*e*Pn	**Pb**	**10 55 17.8**	**-1.0**
MDH	**Madha**	**1.95**	**224**	*e*P	**Pn**	**10 55 19.1**	**-2.7**
	SNR=123						
MDH	**Madha**	**1.95**	**224**	P	**Pn**	**10 55 19.1**	**-2.7**
	SNR=123						
MDH				P	**Pn**	**10 55 19.1**	**-2.7**
	SNR=123						
MDH	**Madha**	**1.95**	**224**	*e*Pn	**Pn**	**10 55 19.2**	**-2.6**
MSFE	**Esma-Masafi**	**2.00**	**227**	*e*P	**Pn**	**10 55 19.8**	**-2.7**
	SNR=673						
MSFE	**Esma-Masafi**	**2.00**	**227**	*e*Pn	**Pn**	**10 55 19.6**	**-2.8**
UMQ	**Umm Al-Quwin**	**2.25**	**238**	P	**Pb**	**10 55 28.1**	**-1.4**
	SNR=21						
UMQ				P	**Pb**	**10 55 28.1**	**-1.4**
	SNR=21						
UMQ	**Umm Al-Quwin**	**2.25**	**238**	*e*Pn	**Pb**	**10 55 28.4**	**-1.1**
HATD	**Hatta, Dubai**	**2.41**	**219**	*e*P	**Pn**	**10 55 26.0**	**-2.0**
	SNR=930						
HATD	**Hatta, Dubai**	**2.41**	**219**	P	**Pn**	**10 55 25.7**	**-2.4**
	SNR=16						
HATD				P	**Pn**	**10 55 25.7**	**-2.4**
	SNR=16						
HATD	**Hatta, Dubai**	**2.41**	**219**	*e*Pn	**Pn**	**10 55 24.8**	**-3.3**
ASHO	**Ashiyiah**	**2.56**	**218**	*e*P	**Pn**	**10 55 27.9**	**-2.3**
	SNR=131						
ASHO	**Ashiyiah**	**2.56**	**218**	P	**Pn**	**10 55 27.7**	**-2.5**
	SNR=132						
ASHO				P	**Pn**	**10 55 27.7**	**-2.5**
	SNR=132						
ASHO	**Ashiyiah**	**2.56**	**218**	*e*Pn	**Pn**	**10 55 27.6**	**-2.5**
NAZ	**Nazwa, Dubai**	**2.58**	**228**	*e*P	**Pn**	**10 55 30.7**	**+0.3**
	SNR=710						
NAZ	**Nazwa, Dubai**	**2.58**	**228**	P	**Pn**	**10 55 31.0**	**+0.6**
	SNR=12						
NAZ				P	**Pn**	**10 55 31.0**	**+0.6**
	SNR=12						
NAZ	**Nazwa, Dubai**	**2.58**	**228**	*e*Pn	**Pn**	**10 55 30.7**	**+0.3**
CHBR	**Chabahar**	**2.67**	**114**	*e*Pn	**Pn**	**10 55 32.0**	**+0.3**
CHBR	**Chabahar**	**2.67**	**114**	*e*Pn	**Pn**	**10 55 32.5**	**+0.8**
FAQ	**Al Faqa, Dubai**	**2.79**	**226**	*e*P	**Pn**	**10 55 33.7**	**+0.4**
	SNR=533						
FAQ	**Al Faqa, Dubai**	**2.79**	**226**	P	**Pn**	**10 55 34.0**	**+0.7**
	SNR=31						
FAQ				P	**Pn**	**10 55 34.0**	**+0.7**
	SNR=31						
FAQ				S	**Sn**	**10 56 08.0**	**+1.2**
	SNR=491						
FAQ				S	**Sn**	**10 56 08.0**	**+1.2**
	SNR=491						
FAQ	**Al Faqa, Dubai**	**2.79**	**226**	*e*Pn	**Pn**	**10 55 33.8**	**+0.4**
SOHO	**SOHO**	**2.82**	**204**	P	**Pn**	**10 55 30.0**	**-3.7**
	SNR=392						
SOHO				P	**Pn**	**10 55 30.0**	**-3.7**
	SNR=392						
SOHO				S	**Sn**	**10 56 08.5**	**+1.1**
SOHO				S	**Sn**	**10 56 08.5**	**+1.1**
ASUD	**Al Ashush, Dub**	**3.05**	**227**	*i*P	**Pn**	**10 55 37.5**	**+0.7**
	SNR=340						
ASUD	**Al Ashush, Dub**	**3.05**	**227**	P	**Pn**	**10 55 37.9**	**+1.0**
	SNR=27						
ASUD				P	**Pn**	**10 55 37.9**	**+1.0**
	SNR=27						
ASUD	**Al Ashush, Dub**	**3.05**	**227**	*e*Pn	**Pn**	**10 55 37.9**	**+1.0**
NGRK	**Negar Kerman**	**3.05**	**343**	*e*Pn	**Pn**	**10 55 39.4**	**+2.1**
NGRK	**Negar Kerman**	**3.05**	**343**	*e*Pn	**Pn**	**10 55 39.3**	**+2.0**
NGRK				IAMB	IAmb	10 56 39.8	
	comp=Z,0.0nm,1.0s						
CHMN	**Cheshme madani**	**3.13**	**356**	*e*Pn	**Pn**	**10 55 40.7**	**+2.4**
CHMN				IAMB	IAmb	10 56 40.6	
	comp=Z,0.0nm,0.9s						
HOQ	**Hoqain**	**3.16**	**188**	P	**Pn**	**10 55 35.8**	**-2.6**
	SNR=20						
HOQ				S	**Sn**	**10 56 14.9**	**-1.0**
HOQ	**Hoqain**	**3.16**	**188**	*e*Pn	**Pn**	**10 55 35.0**	**-3.4**
BIDO	**Bidbid**	**3.21**	**174**	P	**Pn**	**10 55 36.1**	**-3.0**
	SNR=30						
BIDO	**Bidbid**	**3.21**	**174**	*e*Pn	**Pn**	**10 55 35.9**	**-3.1**
ALNE	**Al Ain**	**3.23**	**215**	*i*P	**Pn**	**10 55 39.2**	**-0.3**
	SNR=158						
ALNE	**Al Ain**	**3.23**	**215**	*e*Pn	**Pn**	**10 55 39.4**	**0.0**
AJN	**Ajban**	**3.32**	**230**	*i*P	**Pn**	**10 55 41.1**	**+0.5**
	SNR=165						
AJN	**Ajban**	**3.32**	**230**	P	**Pn**	**10 55 41.6**	**+1.0**
	SNR=14						
AJN				P	**Pn**	**10 55 41.6**	**+1.0**
	SNR=14						
AJN	**Ajban**	**3.32**	**230**	*e*Pn	**Pn**	**10 55 41.3**	**+0.7**
TVBK	**TV Kerman**	**3.37**	**345**	*e*Pn	**Pb**	**10 55 44.9**	**-3.9**
TVBK				IAMB	IAmb	10 56 55.9	
	comp=Z,0.0nm,0.7s						
WSAR	**Wadi Sarin**	**3.56**	**167**	**Pn**	**Pn**	**10 55 42.5**	**-1.4**
	comp=Z,370nm,0.3s,baz=350,slow=6.2,SNR=744						
WSAR				Sn	**Sn**	**10 56 21.0**	**-4.7**
	comp=Z,714nm,0.3s,baz=74,slow=20,SNR=19						
ARQ	**Araqi**	**3.56**	**199**	P	**Pn**	**10 55 44.3**	**+0.3**
	SNR=30						
SMDO	**Samad**	**3.66**	**176**	P	**Pn**	**10 55 43.5**	**-1.9**
	SNR=72						
KHGB	**Koh Gabri**	**3.81**	**343**	*e*Pn	**Pn**	**10 55 50.4**	**+2.8**
KHGB				IAMB	IAmb	10 57 01.8	
	comp=Z,0.0nm,0.8s						
SZD1	**Zahaedan-tmp**	**3.87**	**44**	*e*Pn	**Pn**	**10 55 50.5**	**+2.2**
ZHSF	**Zahedan**	**3.90**	**42**	*e*Pn	**Pn**	**10 55 50.0**	**+1.2**
ZHSF	**Zahedan**	**3.90**	**42**	*e*Pn	**Pn**	**10 55 51.0**	**+2.2**
BSY	**Bisya**	**4.00**	**188**	P	**Pn**	**10 55 49.6**	**-0.4**
	SNR=83						
JHRM	**Jahrom**	**4.13**	**296**	*e*Pn	**Pn**	**10 55 52.2**	**+0.3**
WBK	**Wadi Bani Khal**	**4.24**	**165**	P	**Pn**	**10 55 51.9**	**-1.4**
	SNR=33						
JMDO	**Jabal Madar**	**4.35**	**176**	P	**Pn**	**10 55 54.3**	**-0.4**
	SNR=41						
GHIR	**Ghir-Karzin**	**4.53**	**291**	*e*Pn	**Pn**	**10 55 57.0**	**-0.4**
GHIR	**Ghir-Karzin**	**4.53**	**291**	*e*Pn	**Pn**	**10 55 57.2**	**-0.2**
JLN	**Jalan Bani Buh**	**4.79**	**162**	P	**Pn**	**10 55 58.2**	**-2.6**
	SNR=18						
IPAR	**Pars**	**5.20**	**308**	*e*Pn	**Pn**	**10 56 07.2**	**+0.4**
MZR	**Muzera**	**5.39**	**227**	*i*P	**Pn**	**10 56 08.5**	**-0.5**
	SNR=39						
MZR	**Muzera**	**5.39**	**227**	*e*Pn	**Pn**	**10 56 08.0**	**-1.1**
IMEH	**Mehriz**	**5.41**	**330**	*e*Pn	**Pn**	**10 56 10.6**	**+1.0**
SHI	**Shiraz**	**5.48**	**303**	*e*Pn	**Pn**	**10 56 10.2**	**-0.3**
MHTO	**MHTO**	**5.72**	**178**	P	**Pn**	**10 56 12.2**	**-1.3**
	SNR=190						
IKOO	**Kooshah**	**5.78**	**10**	*e*Pn	**Pn**	**10 56 16.0**	**+1.4**
IKAZ	**Kazeroun**	**6.06**	**301**	*e*Pn	**Pn**	**10 56 17.5**	**-1.1**
ITEG	**Tejag**	**6.21**	**8**	*e*Pn	**Pn**	**10 56 21.7**	**+1.2**
ICHK	**Chekchek**	**6.24**	**333**	*e*Pn	**Pn**	**10 56 22.9**	**+2.0**
IDAH	**Dahanechah**	**6.26**	**16**	*e*Pn	**Pn**	**10 56 23.4**	**+2.1**
ISAD	**Sadrabad**	**6.29**	**326**	*e*Pn	**Pn**	**10 56 23.2**	**+1.6**
TPRV	**Parvadeh(Tabas**	**6.35**	**352**	*e*Pn	**Pn**	**10 56 24.6**	**+2.2**
IMON	**Monand**	**6.65**	**14**	*e*Pn	**Pn**	**10 56 29.1**	**+2.5**
TKDS	**Koohdasht(Taba**	**6.89**	**355**	*e*Pn	**Pn**	**10 56 32.8**	**+3.0**
KLNJ	**Kolanjah**	**6.90**	**310**	*e*Pn	**Pn**	**10 56 30.0**	**-0.2**
IRAM	**Ramesheh**	**6.92**	**318**	*e*Pn	**Pn**	**10 56 30.3**	**0.0**
TABS	**Tabas**	**6.92**	**355**	*e*Pn	**Pn**	**10 56 32.0**	**+1.8**
TABS	**Tabas**	**6.92**	**355**	*e*Pn	**Pn**	**10 56 32.5**	**+2.3**
TNSJ	**Nastanj**	**7.28**	**352**	*e*Pn	**Pn**	**10 56 38.0**	**+2.8**
ANAR	**Anarak**	**7.34**	**332**	*e*Pn	**Pn**	**10 56 36.8**	**+0.8**
IGAR	**Gharneh**	**7.55**	**320**	*e*Pn	**Pn**	**10 56 39.0**	**+0.1**
IZEF	**Zefreh**	**7.76**	**324**	*e*Pn	**Pn**	**10 56 41.5**	**-0.4**
IPIR	**Pirpir**	**8.43**	**316**	*e*Pn	**Pn**	**10 56 51.1**	**0.0**
IKLH	**Kolahrood**	**8.49**	**322**	*e*Pn	**Pn**	**10 56 52.3**	**+0.4**
ISFB	**Sefidab**	**8.98**	**329**	*e*Pn	**Pn**	**10 56 59.7**	**+1.3**
SHRO	**Shahrood**	**9.36**	**351**	*e*Pn	**Pn**	**10 57 05.7**	**+2.0**
JRKH	**Jarkhoshk**	**9.41**	**13**	*e*Pn	**Pn**	**10 57 07.6**	**+3.2**
IMOG	**Moghan**	**9.45**	**8**	*e*Pn	**Pn**	**10 57 08.3**	**+3.3**
ILAS	**Lasjerd**	**9.57**	**336**	*e*Pn	**Pn**	**10 57 10.1**	**+3.5**
SBZV	**Sabzevar**	**9.63**	**359**	*e*Pn	**Pn**	**10 57 09.6**	**+2.1**
KHMZ	**Khomeyn**	**9.72**	**318**	*e*Pn	**Pn**	**10 57 09.0**	**+0.3**
KHMZ	**Khomeyn**	**9.72**	**318**	*e*Pn	**Pn**	**10 57 09.1**	**+0.3**
IPAY	**Payeh**	**9.75**	**6**	*e*Pn	**Pn**	**10 57 12.6**	**+3.5**
RBK	**Rabkut**	**9.76**	**201**	P	**Pn**	**10 57 05.9**	**-3.2**
	SNR=12						
IMYA	**Miami**	**9.79**	**11**	*e*Pn	**Pn**	**10 57 11.8**	**+2.2**
ISHM	**Shahmirzad**	**9.83**	**338**	*e*Pn	**Pn**	**10 57 13.1**	**+2.8**
IFIR	**Firoozkooh**	**9.87**	**335**	*e*Pn	**Pn**	**10 57 11.9**	**+1.1**
IAKL	**Akhelmad**	**9.88**	**5**	*e*Pn	**Pn**	**10 57 13.2**	**+2.2**
IKRD	**Kardeh**	**10.04**	**3**	*e*Pn	**Pn**	**10 57 16.7**	**+3.6**
IKIA	**Kiasar**	**10.08**	**341**	*e*Pn	**Pn**	**10 57 16.1**	**+2.5**
ABTO	**Aybut**	**10.21**	**205**	P	**Pn**	**10 57 12.3**	**-3.1**
	SNR=15						
ABTO				S	**Sn**	**10 59 02.0**	**-7.7**
	SNR=6.2						
ISFR	**Sfrayin**	**10.30**	**1**	*e*Pn	**Pn**	**10 57 19.3**	**+2.6**
IHSB	**Hasanabad**	**10.32**	**329**	*e*Pn	**Pn**	**10 57 17.9**	**+1.1**
TEH	**Tehran**	**10.52**	**330**	*e*Pn	**Pn**	**10 57 20.8**	**+1.2**
IPRN	**Peran**	**10.56**	**335**	*e*Pn	**Pn**	**10 57 22.7**	**+2.6**
IKMR	**Kamar-syah**	**10.58**	**312**	*e*Pn	**Pn**	**10 57 18.3**	**-2.0**
IEMG	**Emamgholi**	**10.68**	**4**	*e*Pn	**Pn**	**10 57 24.7**	**+2.7**
IMND	**Minoodasht**	**10.69**	**350**	*e*Pn	**Pn**	**10 57 23.6**	**+1.8**
IDOB	**Doab**	**10.88**	**313**	*e*Pn	**Pn**	**10 57 23.8**	**-0.8**
GEYT	**Alibeck**	**11.18**	**1**	Pn	**Pn**	**10 57 30.1**	**+1.7**
	comp=Z,8.1nm,0.3s,baz=183,slow=13,SNR=6.1						
GEYT				Sn	**Sn**	**10 59 41.2**	**+8.1**
	comp=Z,7.3nm,0.3s,baz=209,slow=18,SNR=4.7						
GEYT				Lg	Lg	11 00 48.8	
	comp=Z,8.4nm,0.3s,baz=66,slow=3.7,SNR=8.5						
GEYT				LR	LR	11 02 33.8	
	comp=Z,18μm,18.0s,baz=195,slow=42						
GYA0B	**ALIBECK ARRAY**	**11.18**	**1**	*e*Pn	**Pn**	**10 57 30.2**	**+1.8**
BHJ	**Bhuj**	**11.31**	**105**	*e*P	**Pn**	**10 57 28.2**	**-2.0**
BHJ				IAmb	IAmb	10 57 31.4	
	comp=Z,158nm,1.1s						
QABG	**Abgarm-Qazvin**	**11.37**	**324**	*e*Pn	**Pn**	**10 57 32.1**	**+0.8**
QALM	**Alamut, Qazvin**	**11.43**	**330**	*e*Pn	**Pn**	**10 57 34.0**	**+1.9**
IBZA	**Bozab**	**11.51**	**314**	*e*Pn	**Pn**	**10 57 30.3**	**-3.0**
IKOM	**Komasi**	**11.56**	**312**	*e*Pn	**Pn**	**10 57 32.8**	**-1.0**
IGZV	**Ghazvin**	**11.59**	**328**	*e*Pn	**Pn**	**10 57 36.0**	**+1.7**
KCHF	**Cheshme Sefid,**	**11.93**	**312**	*e*Pn	**Pn**	**10 57 36.0**	**-2.9**
IVIS	**Veis**	**12.20**	**312**	*e*Pn	**Pn**	**10 57 40.5**	**-2.1**
IGHG	**Ghaleghazi**	**12.28**	**311**	*e*Pn	**Pn**	**10 57 41.7**	**-2.0**
KBL	**Kabul**	**12.43**	**48**	*e*Pn	**Pn**	**10 57 48.1**	**+2.3**
KBL	**Kabul**	**12.43**	**48**	*e*P	**Pn**	**10 57 48.1**	**+2.3**
KBL	**Kabul**	**12.43**	**48**	*e*Pn	**Pn**	**10 57 48.1**	**+2.3**
IDHR	**Dehrash**	**12.61**	**312**	*e*Pn	**Pn**	**10 57 44.7**	**-3.6**
THW	**Thamme Wali**	**13.54**	**60**	P	**Pn**	**10 58 01.3**	**+0.5**
SARP	**Sargodha**	**13.

TBLG Delisi 18.41 328 *e*P **P 10 59 02.6 -1.3**
comp=Z,121nm,1.2s
TBLG Delisi 18.41 328 *e*P **P 10 59 02.6 -1.3**
TBLG pmax pmax
comp=Z,121nm,1.2s
VRTB Varto-Mus 18.45 316 *e*P **Pn 10 59 06.1 +1.6**
KARS Kars 18.46 322 *e*P **Pn 10 59 05.4 +0.8**
KARS Kars 18.46 322 *e*P **Pn 10 59 06.0 +1.4**
KARS Kars 18.46 322 *e*P **Pn 10 59 06.0 +1.4**
BTLR Botlikh 18.49 332 *i* P **Pn 10 59 05.3 +0.4**
DYBB Diyarbakir 18.61 311 *e*P **P 10 59 05.6 -0.5**
GOA Goa 18.66 124 *e*P **P 10 59 06.6 0.0**
GOA IAmb IAmb 10 59 08.8
comp=Z,270nm,1.5s
KOPR Koprukoy-ERZUR 18.73 319 *e*P **Pn 10 59 09.1 +1.2**
DVE Vedeno 18.78 333 *i* P **Pn 10 59 08.9 +0.6**
KARO Karliova-Bingo 18.79 316 *e*P **Pn 10 59 09.3 +0.7**
AKH Akhalkalaki 18.79 325 *e*P **Pn 10 59 09.1 +0.4**
AKH Akhalkalaki 18.79 325 *e*P **Pn 10 59 09.1 +0.4**
comp=Z,140nm,1.3s
AKH Akhalkalaki 18.79 325⇑ *i*P **Pn 10 59 10.5 +1.8**
AKH Akhalkalaki 18.79 325 P **Pn 10 59 09.1 +0.4**
AKH pmax pmax
comp=Z,140nm,1.3s
SENK Senkaya-Erzuru 18.82 321 *e*P **Pn 10 59 09.9 +0.9**
JBG Jabagly 18.82 30 *e*P **P 10 59 07.0 -1.5**
JBG *e*S **Sn 11 02 39.6 +0.2**
JBG smax smax
comp=N,158nm,2.4s
JBG MLR MLR
comp=Z,2μm,12.0s
BNGB Bingl 18.83 315 *e*P **Pn 10 59 09.2 +0.1**
BINT Bingol 18.89 314 P **P 10 59 09.1 -0.1**
ASF Jabal al Asfar 18.97 292 P **P 10 59 09.7 -0.4**
ASF Jabal al Asfar 18.97 292 P **P 10 59 06.9 -3.3**
comp=Z,2.5nm,0.3s,baz=84,slow=7.4,SNR=20
ASF LR LR 11 08 02.3
comp=Z,2μm,19.1s,baz=64,slow=42
GROC Groznyy 19.11 332 *e*P **P 10 59 08.5 -3.0**
GROC *e*S **Sn 11 02 41.2 -5.1**
GROC pmax pmax
comp=Z,13nm,0.4s
YEDI Yedisu-Bingol 19.18 316 *e*P **Pn 10 59 13.4 +0.1**
ARSB Arslanbob 19.21 37 *e*P **P 10 59 11.4 -1.3**
comp=Z,153nm,1.0s
URFA Urfa 19.26 308 *e*P **Pn 10 59 14.1 -0.2**
KK31 Karatay Array 19.35 29 *e*P **Pn 10 59 14.7 -0.5**
comp=Z,166nm,1.0s
KK31 Karatay Array 19.35 29 *e*P **Pn 10 59 14.7 -0.5**
KK31 pmax pmax
comp=Z,167nm,1.0s
KKAR Karatay Array 19.35 29 *e*P **Pn 10 59 14.4 -0.8**
comp=Z,166nm,1.0s
KKAR Karatay Array 19.35 29 *e*P **Pn 10 59 14.4 -0.8**
KKAR pmax pmax
comp=Z,167nm,1.0s
SVRC Sivrice-ELAZID 19.39 311 *e*P **Pn 10 59 15.6 -0.3**
SWQJ Swaqa 19.52 288 P **Pn 10 59 19.1 +1.6**
HSUJ Al Zarqa 19.55 291 P **Pn 10 59 19.0 +1.3**
DZA Taraz 19.55 31 *e*LR LR 11 07 36.0
comp=Z,3μm,13.5s
TOTH TOTAH 19.62 295 *e*P **Pn 10 59 18.1 -0.5**
TOTH *e*S S 11 02 11.9 -46
TOTH AMB AMB 11 03 22.1
comp=E,397nm,1.3s
TOTH AMB AMB 11 03 36.5
comp=N,522nm,1.4s
ZEI Tsey 19.62 328 *e*P **Pn 10 59 18.9 +0.2**
ZEI pmax pmax
comp=Z,66nm,0.8s
ONI Oni 19.69 327 *e*P **P 10 59 18.0 +0.1**
ONI Oni 19.69 327 P **P 10 59 18.0 +0.1**
WALJ Wala 19.78 289 P **Pn 10 59 21.5 +1.1**
QASN Qassioun 19.78 295 *e*P **Pn 10 59 20.8 +0.2**
QASN *e*S S 11 02 14.7 -47
QASN AMB AMB 11 03 31.2
comp=E,582nm,1.0s
QASN AMB AMB 11 04 00.7
comp=N,588nm,1.0s
BCA Borcka 19.82 322 *e*P **P 10 59 19.6 +0.3**
BCA Borcka 19.82 322⇑ *i*P **Pn 10 59 21.3 +0.5**
KSH Kashi 19.82 45 P **P 10 59 12.7 -6.7**
KSH pP Pn 10 59 18.2 -2.8
KSH PP **PnPn 10 59 30.5 -4.5**
KSH S S 11 02 41.6 -21
KSH SS **Sn 11 03 07.2 +3.6**
KSH pmax pmax
comp=N,180nm,0.5s
KSH pmax pmax
comp=N,910nm,3.2s
KSH LR LR
comp=N,12μm,9.6s
KSH LR LR
comp=N,17μm,9.4s
KSH LR LR
comp=N,7μm,9.5s
KARJ 19.85 288 P **Pn 10 59 23.2 +1.9**
BATM Batumi 19.89 322 *e*P **P 10 59 20.3 +0.3**
BATM Batumi 19.89 322⇑ *i*P **Pn 10 59 23.2 +1.6**
BATM Batumi 19.89 322 P **P 10 59 20.3 +0.3**
GHAJ Ghor Haditha 19.95 288 P **P 10 59 21.0 +0.3**
PTH Pithoragarh 19.98 77 *ex* **Pn 10 59 25.5 +2.5**
BAYT Aydıntepe-Bayb 20.00 317 *e*P **P 10 59 21.8 +0.4**
LISJ El Lisan 20.01 288 P Pn 10 59 23.3 +0.2
BRBR Barbar 20.02 295 *e*P Pn 10 59 22.6 -0.8
BRBR *e*S S 11 02 20.5 -46
BRBR AMB AMB 11 03 55.0
comp=N,278nm,2.7s
BRBR AMB AMB 11 04 00.7
comp=E,233nm,1.4s
SHMJ Saham 20.02 293 P Pn 10 59 25.0 +1.7
RCY Rachaya 20.13 295 *e*P **P 10 59 23.5 +0.6**
AML Almayashu 20.16 36 P **P 10 59 22.5 -0.9**
SNR=52
SHBL Chebaa 20.17 294 *e*P Pn 10 59 24.1 -1.2
NGP Nagpur 20.21 101⇑ *e*P **P 10 59 23.7 0.0**
NGP *e*S **S 11 03 09.8 -0.3**
MMLI Mount Malkishu 20.25 292 *e*P **P 10 59 24.2 +0.2**
HRFI Mount Harif 20.28 285 *e*P Pn 10 59 25.2 -1.2
GAZ Gaziantep 20.29 306 *e*P Pn 10 59 25.5 -1.0
NCK Nalchik 20.31 329 *i* P Pn 10 59 26.4 -0.3
NCK pmax pmax
comp=Z,76nm,0.8s
EIL Elat 20.33 284 *e*P Pn 10 59 48.3 +21
EIL Elat 20.33 284 P Pn 10 59 48.1 +21
EIL Elat 20.33 284 P **P 10 59 25.4 +0.5**
comp=Z,195nm,1.1s,baz=84,slow=4.0,SNR=33
EIL S **S 11 03 10.8 -1.7**
comp=Z,94nm,1.2s,baz=112,slow=19,SNR=2.8
EIL LR LR 11 08 55.5
comp=Z,6μm,19.1s,baz=100,slow=42
BHL Bhannes 20.38 296 *e*P Pn 10 59 26.6 -1.0
MMAI Mount Meron Ar 20.38 293 P **P 10 59 26.0 +0.5**
comp=Z,105nm,1.0s,baz=97,slow=12,SNR=25
MMAI LR LR 11 07 42.5
comp=Z,4μm,21.5s,baz=85,slow=38
DQRL Deir Qamar 20.40 295 *e*P **P 10 59 26.3 +0.6**
JBP Jabalpur 20.43 95 *e*P **P 10 59 24.5 -1.5**
JBP *ex* x 11 03 09.7
AMAZ Amatzia 20.53 289 P Pn 10 59 30.7 +1.4
NEY Neytrino 20.54 327*d* *i*P Pn 10 59 29.4 0.0
NEY pmax pmax
comp=Z,16nm,0.8s
EKS2 Erkin-Say 20.57 35 P **P 10 59 27.6 +0.1**
SNR=48
KTUT Trabzon 20.59 318 *e*P Pn 10 59 28.5 -1.3
KTUT Trabzon 20.59 318⇓ *i*P Pn 10 59 30.4 +0.6
ATD Arta Tunnel 20.65 226 P **P 10 59 28.3 -0.2**
ATD *e*P **P 10 59 28.5 +0.1**
ATD S **S 11 03 15.6 -3.4**
ATD LR LR
comp=Z,7μm,22.0s
ATD Arta Tunnel 20.65 226 P **P 10 59 28.3 -0.2**
comp=Z,222nm,0.9s,baz=34,slow=6.5,SNR=56
ATD S **S 11 03 15.6 -3.4**
comp=Z,10nm,0.9s,baz=3.2,slow=18,SNR=1.7
ATD LR LR 11 07 53.4
comp=Z,5μm,21.8s,baz=48,slow=38
KMRS Kahramanmaras 20.65 307 *e*P Pn 10 59 29.4 -1.3
UCH Uchtor 20.66 37 P **P 10 59 28.1 -0.8**
SNR=59
DARE Darende-Malaty 20.73 310 *e*P Pn 10 59 30.5 -1.1
TAHT Tahtakopru-Hat 20.73 303 *e*P **P 10 59 29.4 +0.2**
KBZ Khabaz 20.82 328 P **P 10 59 30.1 +0.1**
comp=Z,1.5nm,0.5s,baz=158,slow=8.4,SNR=6.7
KBZ S **S 11 03 17.7 -4.1**
comp=Z,5.6nm,1.0s,baz=153,slow=11,SNR=1.4
KZIT Kziot 20.90 287 *e*P **P 10 59 31.5 +0.4**
AAK Ala-Archa 20.93 36 P **P 10 59 31.6 +0.1**
SNR=29
AAK Ala-Archa 20.93 36 *e*P **P 10 59 31.2 -0.3**
comp=Z,125nm,0.9s
AAK S **S 11 03 19.2 -5.3**
AAK LR LR
comp=Z,5μm,19.0s
AAK Ala-Archa 20.93 36 *i* P **P 10 59 29.4 -2.1**
SNR=78
AAK Ala-Archa 20.93 36*c e*P **P 10 59 31.4 -0.1**
AAK pmax pmax
comp=Z,130nm,1.3s
AAK Ala-Archa 20.93 36 P **P 10 59 31.2 -0.3**
comp=Z,32nm,0.7s,baz=210,slow=10,SNR=25
AAK S **S 11 03 19.2 -5.3**
comp=Z,4.0nm,0.9s,baz=226,slow=18,SNR=1.8
AAK LR LR 11 07 47.5
comp=Z,4μm,20.8s,baz=218,slow=37
SHA1 Shidzhatmaz 20.94 328 *i* P **P 10 59 32.2 +0.6**
KZA Kyzart 20.97 39 P **P 10 59 32.1 -0.1**
SNR=107
PYA1 Pyatigorsk 20.98 329 *i* P Pn 10 59 34.9 +0.4
NRN Naryn 20.98 41 *e*P **P 10 59 31.4 -0.8**
comp=Z,111nm,0.9s
NRN LR LR
comp=Z,7μm,19.0s
NRN Naryn 20.98 41 *e*P **P 10 59 31.4 -0.8**
NRN pmax pmax
comp=Z,111nm,0.9s
NRN MLR MLR
comp=Z,7μm,19.0s
KVAR Kislovodsk Arr 21.08 328 P **P 10 59 33.1 0.0**
comp=Z,4.0nm,0.4s,baz=90,slow=20,SNR=8.7
KVAR S **S 11 03 26.5 -0.9**
comp=Z,6.1nm,0.6s,baz=180,slow=20,SNR=2.3
KIV Kislovodsk 21.09 328 *e*P **P 10 59 33.3 +0.2**
KIV Kislovodsk 21.09 328 *e*P **P 10 59 33.9 +0.8**
comp=Z,211nm,1.1s
KIV LR LR
comp=Z,4μm,21.0s
KIV Kislovodsk 21.09 328⇓ *i*P **P 10 59 35.4 +2.3**
KIV Kislovodsk 21.09 328 *i* P **P 10 59 33.0 -0.1**
SNR=30
KIV Kislovodsk 21.09 328 *e*P **P 10 59 33.4 +0.3**
KIV *e* 11 03 28.4
KIV pmax pmax
comp=Z,540nm,1.1s
DOMR Dombai 21.11 326 *i* P **P 10 59 30.0 -3.4**
DOMR pmax pmax
comp=Z,34nm,0.9s
FRU1 Bishkek 21.13 36 PFAKE 10 59 50.0 +17
FRU1 LR LR
comp=Z,5μm,21.0s
KBK Karagaybulak 21.19 37 P **P 10 59 36.0 +1.7**
SNR=27
CEYT Ceyhan 21.29 304 *e*P **P 10 59 36.7 +1.5**
YURE YUREGIR 21.31 304 *e*P **P 10 59 40.8 +5.3**
CHMS Chumysh 21.32 36 P P 10 59 43.9 +8.4
SNR=5.1
HYB Hyderabad 21.34 111 *i* P **P 10 59 35.0 -0.9**
comp=Z,280nm,1.0s
HYB *e*S **S 11 03 28.0 -4.6**
HYB Hyderabad 21.34 111 *e*P **P 10 59 36.3 +0.4**
HYB IAmb IAmb 10 59 37.9
comp=Z,160nm,0.4s
USP Ospenovka 21.38 35 P **P 10 59 37.2 +1.0**
SNR=12
KRTS Karatas 21.41 303 *e*P **P 10 59 38.5 +2.0**
KOZT Kozan 21.42 305 *e*P **P 10 59 37.9 +1.3**
BOOM Boomskoye usch 21.62 39 *e*P **P 10 59 38.6 -0.4**
comp=Z,145nm,0.9s
BOOM Boomskoye usch 21.62 39 *e*P **P 10 59 38.6 -0.4**
BOOM pmax pmax
comp=Z,145nm,0.9s
ULHL Ulahol 21.64 40 P **P 10 59 43.0 +3.9**
SNR=7.0
TKM2 Tokmak 2 21.72 37 P **P 10 59 40.0 0.0**
SNR=12
SVSK Karacayir 21.72 312 *e*P **P 10 59 40.9 +1.1**
RSDY Resadiye-TOKAT 21.76 314 *e*P **P 10 59 41.0 +0.7**
KARA Karaisali 21.90 304 *e*P **P 10 59 42.8 +1.0**
BNN Bunyan 21.99 309 *e*P **P 10 59 44.0 +1.1**
EREN Erenkoy 22.00 299 *e*P **P 10 59 43.5 +0.7**
KDJ Kajisay 22.11 41 *e*P **P 10 59 43.5 -0.7**
comp=Z,232nm,1.0s
KDJ LR LR
comp=Z,6μm,20.0s
KDJ Kajisay 22.11 41 *e*P **P 10 59 43.5 -0.7**
KDJ pmax pmax
comp=Z,232nm,1.0s
KDJ MLR MLR
comp=Z,6μm,20.0s
MERS Mersin 22.16 303 *e*P **P 10 59 45.5 +0.9**
TOKT Tokat 22.23 313 *e*P **P 10 59 45.6 +0.3**
TARG Taragay, Kyrgy 22.24 43 *e*P **P 10 59 45.2 -0.6**
comp=Z,66nm,0.9s
TARG LR LR
comp=Z,9μm,22.0s
SOC Sochi 22.30 324*c i*P **P 10 59 44.4 -1.6**
SOC *e*'PP **pP 10 59 49.6 -1.0**
SOC *e*PPP PPP 11 00 09.1
SOC *e*S **S 11 03 49.5 -1.4**
SOC *e*SS **SnSn 11 04 21.7 +3.1**
SOC pmax pmax
comp=Z,46nm,0.9s
SOC MLR MLR
comp=Z,7μm,14.0s
KIZK Mersin 22.31 302 *e*P **P 10 59 46.0 -0.2**
PYUN Piuthan 22.41 81 *e*P **P 10 59 48.1 +0.5**
comp=Z,454nm,1.4s
LFK Lefkose 22.43 298 *e*P **P 10 59 47.5 0.0**
SILI Silifke-Mersin 22.44 301 *e*P **P 10 59 47.9 +0.3**
BTLS Baital 22.45 31 *e*P **P 10 59 46.4 -1.2**
BTLS *e*S **S 11 03 50.8 -2.9**
BTLS pmax pmax
comp=Z,87nm,2.1s
BTLS smax smax
comp=E,77nm,3.2s
BTLS MLR MLR
comp=Z,1μm,11.0s
BTLS Baital 22.45 31 *e*P **P 10 59 46.4 -1.2**
comp=Z,87nm,2.1s
BTLS *e*S **S 11 03 50.8 -2.9**
comp=Z,77nm,3.2s
BTLS *e*LR LR 11 09 50.0
comp=Z,1μm,10.6s
TNSS Tian-Shan 22.54 39 *e*P **P 10 59 47.8 -1.2**
TNSS pmax pmax
comp=Z,147nm,1.3s
TNSS Tian-Shan 22.54 39 *e*P **P 10 59 47.9 -1.2**
comp=Z,147nm,1.3s
ABKAR Akbulak array 22.56 4 *e*P **P 10 59 47.4 -1.2**
comp=Z,136nm,0.9s
IKL Isikli 22.58 301 *e*P **P 10 59 48.7 -0.4**
KEBE Keben-Mersin 22.63 301 *e*P **P 10 59 50.1 +0.4**
AAA Alma-Ata 22.64 39 *e*P **P 10 59 48.1 -1.5**
AAA *e*S **S 11 03 56.4 -0.7**
AAA pmax pmax
comp=Z,112nm,1.4s
AAA smax smax
comp=E,2μm,14.8s
AAA MLR MLR
comp=Z,4μm,17.0s
AAA Alma-Ata 22.64 39 *e*P **P 10 59 48.2 -1.5**
comp=Z,112nm,1.4s
AAA *e*S **S 11 03 56.5 -0.7**
comp=Z,2μm,14.8s
AAA *e*LR LR 11 08 28.0
comp=Z,4μm,17.4s
MAMC Mammari 22.64 298 P **P 10 59 51.7 +1.9**
AKKU Akkuyu-Mersin 22.66 300 *e*P **P 10 59 49.8 -0.1**
MDOK Medeo 22.68 39 *i* P **P 10 59 49.5 -0.7**
MDOK *e*S **S 11 03 55.5 -2.7**
MDOK MLR MLR
comp=Z,3μm,16.0s
MDOK Medeo 22.68 39 *i* P **P 10 59 49.5 -0.7**
comp=Z,3μm,1.3s
MDOK *e*S **S 11 03 55.5 -2.7**
comp=Z,2μm,9.3s
MDOK *e*LR LR 11 08 29.9
comp=Z,3μm,16.4s
YOZ Yozgat 22.71 310 *e*P **P 10 59 50.3 -0.3**
KUU Kurty 22.77 36 *e*P **P 10 59 48.8 -2.3**
KUU *e*S **S 11 03 57.2 -2.4**
KUU pmax pmax
comp=Z,269nm,2.2s
KUU smax smax
comp=E,595nm,3.2s
KUU MLR MLR
comp=Z,2μm,10.0s
KUU Kurty 22.77 36 *e*P **P 10 59 48.9 -2.3**
comp=Z,269nm,2.2s
KUU *e*S **S 11 03 57.2 -2.4**
comp=Z,595nm,3.2s
KUU *e*LR LR 11 10 29.5
comp=Z,2μm,10.3s
SZAC Souni 22.81 297 P **P 10 59 52.0 +0.4**
TEVE Tevekalti-Mers 22.83 301 *e*P **P 10 59 52.1 +0.3**
LEF Lefka 22.89 297 *e*P **P 10 59 53.0 +0.6**
LEF Lefka 22.89 297⇑ *i*P **P 10 59 53.3 +0.9**
KVT Kavak 22.95 314 *e*P **P 10 59 52.8 -0.2**
KVT Kavak 22.95 314 P **P 10 59 52.8 -0.2**
BERE Bereket-Mersin 22.97 301 *e*P **P 10 59 53.6 +0.2**
TEKE Tekeli-Mersin 23.00 300 *e*P **P 10 59 53.3 -0.1**
PRZ Przheval'sk 23.04 42 PFAKE 11 00 00.0 +5.9
PRZ LR LR
comp=Z,12μm,19.0s
PRZ Przheval'sk 23.04 42 P **P 10 59 54.0 -0.1**
PRZ pmax pmax
comp=Z,69nm,0.7s
DANN Dangsing 23.08 80 *e*P **P 10 59 55.3 +0.6**
comp=Z,597nm,1.0s
DESE Dese 23.10 231 *i* P **P 10 59 55.0 0.0**
DESE *i* S **S 11 04 13.8 +7.7**
DESE Dese 23.10 231 *i* P **P 10 59 55.0 0.0**
DESE *i* S **S 11 04 13.8 +7.7**
ALFC Alefka 23.13 297 P **P 10 59 56.1 +1.2**
PPCY Paphos 23.27 297 P **P 10 59 51.7 -4.5**
SULT Sultanhani-AKS 23.38 305 *e*P **P 10 59 58.0 +0.5**
SATY Saty 23.39 41 *e*P **P 10 59 55.7 -1.8**
SATY *e*S **S 11 04 09.8 -0.4**
SATY pmax pmax
comp=Z,114nm,2.3s
SATY smax smax
comp=N,237nm,3.6s
SATY MLR MLR
comp=Z,4μm,12.0s
SATY Saty 23.39 41 *e*P **P 10 59 55.7 -1.8**
comp=Z,114nm,2.4s
SATY *e*S **S 11 04 09.9 -0.4**
comp=Z,237nm,3.6s
SATY *e*LR LR 11 10 00.6
comp=Z,4μm,12.1s
CORM Corum 23.43 311 *e*P **P 10 59 58.1 +0.1**
YAYX Yaylak 23.46 307 *e*P **P 10 59 58.6 +0.3**
ZHN Zhinishke 23.47 40 *e*P **P 10 59 55.6 -2.8**
ZHN pmax pmax
comp=Z,36nm,1.9s
ZHN MLR MLR
comp=Z,2μm,13.0s
ZHN Zhinishke 23.47 40 *e*P **P 10 59 55.7 -2.7**
comp=Z,36nm,1.9s
ZHN *e*LR LR 11 10 05.4
comp=Z,2μm,13.0s
SERE Sereflikochisa 23.64 307 *e*P **P 11 00 00.6 +0.6**
AKTO Aktyubinsk 23.68 0 P **P 10 59 58.8 -1.3**
AKTO S **S 11 04 08.0 -6.4**
AKTO pmax pmax
comp=Z,72nm,0.6s
AKTO smax smax
comp=N,12nm,1.3s
AKTO MLR MLR
comp=Z,8μm,18.4s
AKTO Aktyubinsk 23.68 0 P **P 10 59 58.8 -1.3**
comp=Z,80nm,0.6s,baz=169,slow=9.3,SNR=84
AKTO S **S 11 04 08.0 -6.4**
comp=Z,12nm,1.3s,baz=165,slow=19,SNR=1.7
AKTO LR LR 11 10 50.3
comp=Z,8μm,18.4s,baz=171,slow=41
DIKM Dikmen 23.75 315 *e*P **P 11 00 00.3 -0.6**
DIKM Dikmen 23.75 315⇑ *i*P **P 11 00 02.7 +1.8**
KPKS Kokpek 23.80 40 *e*P **P 11 00 01.0 -0.4**
KPKS *i* S **S 11 04 17.9 +1.2**
KPKS pmax pmax
comp=Z,153nm,2.1s
KPKS smax smax
comp=E,127nm,3.1s
KPKS MLR MLR
comp=Z,5μm,13.0s
KPKS Kokpek 23.80 40 *e*P **P 11 00 01.1 -0.4**
comp=Z,153nm,2.1s
KPKS *i* S **S 11 04 17.9 +1.2**
comp=Z,127nm,3.1s
KPKS *e*LR LR 11 10 17.4
comp=Z,5μm,13.2s
UZB Uzynbulak 23.80 41*d i*P **P 11 00 00.3 -1.3**
UZB *i* S **S 11 04 16.5 -0.4**
UZB pmax pmax
comp=Z,69nm,1.6s
UZB smax smax
comp=E,104nm,2.5s
UZB MLR MLR
comp=Z,2μm,12.0s
UZB Uzynbulak 23.80 41⇓ *i*P **P 11 00 00.3 -1.3**
comp=Z,69nm,1.6s
UZB *i* S **S 11 04 16.6 -0.4**
comp=Z,104nm,2.5s
UZB *e*LR LR 11 10 14.1
comp=Z,2μm,12.1s
GKN Gorkha 23.87 81 *e*P **P 11 00 02.7 +0.3**
comp=Z,175nm,1.0s
BR101 Keskin Array S 23.91 309 *e*P **P 11 00 02.5 -0.1**
BR101 *e*ScP **ScP 11 07 23.4 +0.2**
BRTR Keskin Array B 23.91 309 *e*P **P 11 00 01.6 -1.1**
BRTR P **P 11 00 02.5 -0.1**
BRTR ScP **ScP 11 07 23.4 +0.2**
BRTR Keskin Array B 23.91 309 P **P 11 00 02.5 -0.1**
comp=Z,47nm,0.8s,baz=130,slow=12,SNR=66
BRTR ScP **ScP 11 07 23.4 +0.2**
comp=Z,5.3nm,0.8s,baz=147,slow=5.9,SNR=4.4
BRTR LR LR 11 11 15.6
comp=Z,9μm,19.0s,baz=97,slow=42
SNOP Sinop 23.98 315 *e*P **P 11 00 02.4 -0.7**
CHBY Cihanbeyli 23.98 306 *e*P **P 11 00 04.0 +0.7**
SHLS Shalkode 24.07 42 *e*P **P 11 00 04.9 +0.8**
SHLS pmax pmax
comp=Z,202nm,3.1s
SHLS MLR MLR
comp=Z,2μm,11.0s
SHLS Shalkode 24.07 42 *e*P **P 11 00 04.1 0.0**
comp=Z,202nm,3.1s
SHLS *e*LR LR 11 10 35.3
comp=Z,2μm,11.4s
KULU Kulu 24.08 307 *e*P **P 11 00 04.9 +0.7**
ANKE Ethiopia-Afar 24.12 228 *i* P **P 11 00 03.8 -1.3**
ANKE *i* S **S 11 04 23.8 +1.0**
ANKE Ethiopia-Afar 24.12 228 *i* P **P 11 00 03.8 -1.3**
ANKE *i* S **S 11 04 23.8 +1.0**
PDGK Podgornoye 24.19 41 P **P 11 00 04.8 -0.4**
PDGK pmax pmax
comp=Z,85nm,1.6s
OTUK Ortayu 24.31 24 P **P 11 00 06.4 +0.3**
OTUK pmax pmax
comp=Z,69nm,1.1s
DMN Daman 24.31 82 *e*P **P 11 00 06.6 0.0**
comp=Z,103nm,0.9s
CANT Cankiri 24.32 311 *e*P **P 11 00 06.4 +0.1**
ANN Anapa 24.34 323*c i*P **P 11 00 06.2 -0.2**
ANN *e* 11 00 37.6
ANN *i* S **S 11 04 26.8 +1.7**
ANN pmax pmax
comp=N,370nm,3.5s
ANN pmax pmax
comp=Z,754nm,3.5s
ANN pmax pmax
comp=E,278nm,3.5s
ANN pmax pmax
comp=Z,264nm,1.1s
ANN MLR MLR
comp=N,10μm,25.0s
ANN MLR MLR
comp=Z,9μm,25.0s
ANN MLR MLR
comp=E,5μm,25.0s
KKN Kakani 24.45 81 *e*P **P 11 00 07.6 -0.2**
comp=E,136nm,1.0s
ANTO Ankara 24.56 309 *e*P **P 11 00 09.2 +0.6**

ANTO	**Ankara**	**24.56**	**309**	*e*P	**P**	**11 00 08.8 +0.3**
	comp=E,160nm,1.0s					
ANTO				LR	LR	
	comp=Z,2μm,22.0s					
ANTO	**Ankara**	**24.56**	**309**	⇓*i*P	**P**	**11 00 10.1 +1.5**
ANTO	**Ankara**	**24.56**	**309**	*e*P	**P**	**11 00 08.9 +0.3**
ANTO				pmax	pmax	
	comp=Z,160nm,1.0s					
ANTO				MLR	MLR	
	comp=Z,2μm,22.0s					
PKIN	**Phulchoki**	**24.57**	**82**	*e*P	**P**	**11 00 09.1 +0.1**
	comp=Z,135nm,1.0s					
PKI	**Pulchoki**	**24.58**	**82**	*e*P	**P**	**11 00 09.2 0.0**
	comp=Z,128nm,0.8s					
LOD	**Lodumlu**	**24.59**	**309**	*e*P	**P**	**11 00 09.4 +0.6**
TDK	**Taldyqorghan**	**24.62**	**37**	*e*P	**P**	**11 00 07.8 -1.1**
TDK				pmax	pmax	
	comp=Z,94nm,1.5s					
TDK				MLR	MLR	
	comp=Z,3μm,12.0s					
TDK	**Taldyqorghan**	**24.62**	**37**	*e*P	**P**	**11 00 07.8 -1.1**
	comp=Z,94nm,1.5s					
TDK				*e*LR	LR	11 12 01.1
	comp=Z,3μm,11.8s					
BZK	**Bozkurt**	**24.71**	**314**	*e*P	**P**	**11 00 10.0 +0.2**
BZK	**Bozkurt**	**24.71**	**314**	⇑*i*P	**P**	**11 00 11.0 +1.2**
JIRN	**Jiri**	**25.26**	**81**	*e*P	**P**	**11 00 16.4 +1.0**
	comp=Z,293nm,1.0s					
AUSIV	**SIVRIHISAR**	**25.28**	**307**	*e*P	**P**	**11 00 15.4 +0.3**
SVRH	**Sivrihisar-ESK**	**25.30**	**307**	*e*P	**P**	**11 00 15.7 +0.5**
BCK	**Bucak**	**25.32**	**302**	*e*P	**P**	**11 00 14.4 -1.0**
FURI	**Furi**	**25.34**	**229**	PFAKE		11 00 30.0 +14
FURI				LR	LR	
	comp=Z,7μm,19.0s					
KORT	**Korkueli**	**25.37**	**301**	*e*P	**P**	**11 00 16.6 +0.6**
ISP	**Isparta**	**25.48**	**303**	*e*P	**P**	**11 00 16.7 -0.2**
ISP	**Isparta**	**25.48**	**303**	P	**P**	**11 00 16.9 0.0**
ISP	**Isparta**	**25.48**	**303**	P	**P**	**11 00 16.9 0.0**
ISP	**Isparta**	**25.48**	**303**	⇑*i*P	**P**	**11 00 18.1 +1.2**
ISP	**Isparta**	**25.48**	**303**	P	**P**	**11 00 16.9 0.0**
KURC	**Kurucasile-Bar**	**25.48**	**313**	*e*P	**P**	**11 00 17.4 +0.7**
AUMIH	**MIHALICIK**	**25.48**	**308**	*e*P	**P**	**11 00 17.3 +0.3**
BOK	**Bokaro**	**25.56**	**90**	*e*P	**P**	**11 00 17.9 +0.2**
BOK				IAmb	IAmb	11 00 20.7
	comp=Z,54nm,0.8s					
CIFT	**Cifteler, Eski**	**25.59**	**306**	*e*P	**P**	**11 00 18.0 +0.1**
ELL	**Elmali**	**25.65**	**300**	*e*P	**P**	**11 00 18.7 +0.2**
ELL	**Elmali**	**25.65**	**300**	P	**P**	**11 00 18.6 +0.1**
TRD	**Trivandrum**	**25.67**	**131**	*e*P	**P**	**11 00 18.0 -0.7**
SHUT	**Suhut-Afyon**	**25.69**	**304**	*e*P	**P**	**11 00 19.7 +0.9**
RAMN	**Ramite**	**25.69**	**83**	*e*P	**P**	**11 00 19.4 +0.3**
	comp=Z,557nm,1.6s					
AKAS	**Kas**	**25.76**	**299**	*e*P	**P**	**11 00 18.4 -1.1**
BRZS	**Berezniki**	**25.89**	**22**	*e*P	**P**	**11 00 19.4 -1.0**
BRZS				pmax	pmax	
	comp=Z,45nm,1.2s					
BRZS				MLR	MLR	
	comp=Z,3μm,12.0s					
BRZS	**Berezniki**	**25.89**	**22**	*e*P	**P**	**11 00 19.4 -1.0**
	comp=Z,45nm,1.2s					
BRZS				*e*LR	LR	11 12 24.2
	comp=Z,3μm,12.3s					
MDUB	**Mudurnu**	**25.93**	**309**	*e*P	**P**	**11 00 21.2 +0.3**
SRCK	**Saricakaya, Es**	**26.16**	**307**	*e*P	**P**	**11 00 22.7 -0.3**
BORA	**Eskisehir**	**26.22**	**307**	*e*P	**P**	**11 00 23.8 +0.2**
FETY	**Fethiye**	**26.26**	**299**	*e*P	**P**	**11 00 22.7 -1.2**
SIM	**Simferopol'**	**26.28**	**320**	*c i*P	**P**	**11 00 23.9 -0.1**
SIM				*i*S	S	**11 04 55.9 -0.2**
SIM				*e*SS	SnSn	11 06 27.0 +31
SIM				pmax	pmax	
	comp=Z,208nm,0.9s					
GULT	**Gulveren**	**26.39**	**308**	*e*P	**P**	**11 00 25.1 0.0**
BWNR	**Bhubaneshwar**	**26.45**	**98**	*e*P	**P**	**11 00 25.0 -0.7**
BWNR				IAmb	IAmb	11 00 28.8
	comp=Z,49nm,1.0s					
AUBOZ	**BOZOYUK**	**26.54**	**307**	*e*P	**P**	**11 00 25.9 -0.5**
SPNC	**Sapanca-Adapaz**	**26.63**	**308**	*e*P	**P**	**11 00 26.4 -0.8**
DALY	**Dalyan (Mula)**	**26.64**	**299**	*e*P	**P**	**11 00 25.9 -1.4**
SAUV	**Serdivan-Sakar**	**26.64**	**309**	*e*P	**P**	**11 00 26.5 -0.8**
TURN	**Turunc**	**26.69**	**299**	*e*P	**P**	**11 00 30.8 +3.0**
CAVI	**Cavuskoy**	**26.78**	**307**	*e*P	**P**	**11 00 28.6 0.0**
TVSB	**Tavsanli**	**26.79**	**305**	*e*P	**P**	**11 00 29.2 +0.4**
ARG	**Arkhangelos**	**26.92**	**298**	*e*P	**P**	**11 00 29.8 0.0**
ARG	**Arkhangelos**	**26.92**	**298**	P	**P**	**11 00 34.8 +5.0**
ARG				pmax	pmax	
	comp=Z,162nm,1.2s					
ADVT	**Abdulvahap**	**26.94**	**308**	*e*P	**P**	**11 00 28.8 -1.2**
KULA	**Kula-Manisa**	**27.09**	**303**	*e*P	**P**	**11 00 31.4 0.0**
HRT	**Hereke**	**27.13**	**308**	*e*P	**P**	**11 00 31.4 -0.4**
HRT	**Hereke**	**27.13**	**308**	P	**P**	**11 00 31.4 -0.4**
MANT	**Manisa**	**27.16**	**303**	PFAKE		11 00 40.0 +7.8
MANT				LR	LR	
	comp=Z,11μm,22.0s					
YLV	**Yalova**	**27.25**	**308**	*e*P	**P**	**11 00 32.5 -0.3**
YLV	**Yalova**	**27.25**	**308**	⇑*i*P	**P**	**11 00 33.0 +0.2**
YLV	**Yalova**	**27.25**	**308**	P	**P**	**11 00 32.5 -0.3**
VRH	**Novokhopyorsk**	**27.33**	**338**	*e*P	**P**	**11 00 32.7 -0.6**
VRH				*e*S	**S**	**11 05 10.5 -1.9**
VRH				pmax	pmax	
	comp=Z,50nm,0.6s					
VRH				smax	smax	
	comp=N,620nm,7.5s					
VRH				MLR	MLR	
	comp=Z,4μm,15.0s					
GEMT	**Gemlik**	**27.33**	**307**	*e*P	**P**	**11 00 33.3 -0.2**
DAT	**Datca**	**27.46**	**299**	*e*P	**P**	**11 00 34.3 -0.5**
AYDB	**Zeytinkoy-Aydi**	**27.51**	**301**	*e*P	**P**	**11 00 34.9 -0.4**
MDNY	**Mudanya-Bursa**	**27.52**	**307**	*e*P	**P**	**11 00 34.9 -0.3**
ARMT	**Armutlu**	**27.61**	**307**	*e*P	**P**	**11 00 35.6 -0.4**
KAVV	**Kandilli-Istan**	**27.65**	**308**	*e*P	**P**	**11 00 35.6 -0.7**
MAKZ	**Makanchi**	**27.69**	**37**	*e*P	**P**	**11 00 36.2 -0.5**
	comp=Z,36nm,0.9s					
MAKZ				LR	LR	
	comp=Z,3μm,20.0s					
MAKZ	**Makanchi**	**27.69**	**37**	*e*P	**P**	**11 00 36.2 -0.5**
MAKZ				pmax	pmax	
	comp=Z,36nm,0.9s					
MAKZ				MLR	MLR	
	comp=Z,3μm,20.0s					
KLYT	**Kilyos**	**27.73**	**309**	*e*P	**P**	**11 00 36.6 -0.5**
BODT	**Bodrum**	**27.74**	**299**	*e*P	**P**	**11 00 36.7 -0.6**
MK31	**Makanchi Array**	**27.85**	**38**	P	**P**	**11 00 38.7 +0.6**
MK31				pmax	pmax	
	comp=Z,42nm,1.3s					
MK32	**Makanchi Array**	**27.85**	**38**	*e*P	**P**	**11 00 37.3 -0.8**
MKAR	**Makanchi Array**	**27.85**	**38**	P	**P**	**11 00 37.3 -0.8**
MKAR				*e*P	**P**	**11 00 37.5 -0.6**
MKAR				PcP	**PcP**	**11 03 55.0 +1.1**
MKAR				S	**S**	**11 05 17.6 -3.3**
MKAR	**Makanchi Array**	**27.85**	**38**	P	**P**	**11 00 37.3 -0.8**
	comp=Z,3.6nm,0.6s,baz=230,slow=7.3,SNR=22					
MKAR				PcP	**PcP**	**11 03 55.0 +1.1**
	comp=Z,3.3nm,0.8s,baz=266,slow=4.3,SNR=3.2					
MKAR				S	**S**	**11 05 17.6 -3.3**
	comp=Z,2.3nm,0.8s,baz=229,slow=15,SNR=2.8					
KCTX	**Karacabey (Bur**	**27.86**	**306**	*e*P	**P**	**11 00 37.6 -0.7**
BGKT	**Bogazkoy**	**27.90**	**309**	*e*P	**P**	**11 00 37.5 -1.0**
BVAR	**Borovoye Array**	**27.91**	**16**	P	**P**	**11 00 37.7 -0.8**
	comp=Z,15nm,0.5s,baz=193,slow=6.1,SNR=61					
BVAR				PcP	**PcP**	**11 03 55.3 +1.5**
	comp=Z,11nm,1.0s,baz=180,slow=2.9,SNR=4.2					
BRVK	**Borovoye**	**27.91**	**16**	*e*P	**P**	**11 00 37.2 -1.4**
	comp=Z,61nm,1.0s					
BRVK				LR	LR	
	comp=Z,12μm,19.0s					
BRVK	**Borovoye**	**27.91**	**16**	*c i*P	**P**	**11 00 37.7 -0.8**
BRVK				pmax	pmax	
	comp=Z,43nm,1.1s					
GCAM	**G?zelcaml?**	**27.95**	**301**	*e*P	**P**	**11 00 39.2 +0.1**
BALB	**Balikesir**	**28.01**	**305**	*e*P	**P**	**11 00 39.8 +0.3**
CTKS	**Kestanelik-??a**	**28.10**	**308**	*e*P	**P**	**11 00 39.9 -0.5**
EDC	**Edincik**	**28.25**	**306**	*e*P	**P**	**11 00 40.8 -0.9**
EDC	**Edincik**	**28.25**	**306**	P	**P**	**11 00 40.7 -0.9**
VSR	**Storozhevoye**	**28.26**	**335**	*e*P	**P**	**11 00 39.6 -2.0**
VSR				*e*S	**S**	**11 05 22.8 -4.3**
VSR				pmax	pmax	
	comp=Z,50nm,1.6s					
VSR				smax	smax	
	comp=N,310nm,6.8s					
VSR				MLR	MLR	
	comp=Z,3μm,14.0s					
BLCB	**Balcova**	**28.27**	**302**	*e*P	**P**	**11 00 42.2 +0.3**
SLVT	**Silivri**	**28.31**	**308**	*e*P	**P**	**11 00 41.4 -0.8**
URLA	**Izmir**	**28.60**	**302**	*e*P	**P**	**11 00 44.4 -0.5**
VORR	**Voronezh**	**28.61**	**336**	*e*P	**P**	**11 00 45.0 +0.3**
VORR				pmax	pmax	
	comp=Z,250nm,1.4s					
KURBB	**Kurchatov Arra**	**28.65**	**28**	P	**P**	**11 00 44.5 -0.7**
	comp=Z,10nm,0.7s,baz=226,slow=8.3,SNR=26					
KRBG	**Karabiga-Canak**	**28.67**	**306**	*e*P	**P**	**11 00 44.7 -0.7**
KURK	**Kurchatov**	**28.76**	**28**	*e*P	**P**	**11 00 45.0 -1.1**
	comp=Z,22nm,0.8s					
KURK				LR	LR	
	comp=Z,6μm,19.0s					
KURK	**Kurchatov**	**28.76**	**28**	*c e*P	**P**	**11 00 45.5 -0.6**
KURK				pmax	pmax	
	comp=Z,27nm,1.3s					
LAST	**Lasithi**	**28.86**	**295**	*e*P	**P**	**11 00 47.2 -0.1**
LAST	**Lasithi**	**28.86**	**295**	P	**P**	**11 00 47.2 -0.1**
PHSR	**Pinarhisar**	**28.93**	**309**	*e*P	**P**	**11 00 46.9 -0.9**
PHSR	**Pinarhisar**	**28.93**	**309**	⇑*i*P	**P**	**11 00 48.0 +0.2**
CHOS	**Chios island**	**29.02**	**302**	*e*P	**P**	**11 00 49.0 +0.4**
CHOS	**Chios island**	**29.02**	**302**	*e*P	**P**	**11 00 49.1 +0.4**
CHOS	**Chios island**	**29.02**	**302**	P	**P**	**11 00 49.1 +0.4**
LPK	**Lapseki**	**29.05**	**306**	*e*P	**P**	**11 00 47.5 -1.4**
SANT	**Santorini**	**29.06**	**297**	*e*P	**P**	**11 00 48.5 -0.6**
	comp=Z,241nm,1.3s					
SANT	**Santorini**	**29.06**	**297**	⇑*i*P	**P**	**11 00 48.8 -0.3**
PALK	**Pallekele**	**29.13**	**127**	PFAKE		11 01 00.0 +10
PALK				LR	LR	
	comp=Z,4μm,22.0s					
APE	**Apeiranthos**	**29.14**	**299**	*e*P	**P**	**11 00 48.9 -0.8**
APE	**Apeiranthos**	**29.14**	**299**	⇓*i*P	**P**	**11 00 49.9 +0.2**
APE	**Apeiranthos**	**29.14**	**299**	P	**P**	**11 00 52.9 +3.2**
APE				pmax	pmax	
	comp=Z,86nm,1.0s					
EZN	**Ezine**	**29.20**	**305**	*e*P	**P**	**11 00 49.0 -1.2**
EZN	**Ezine**	**29.20**	**305**	⇓*i*P	**P**	**11 00 50.8 +0.6**
EZN	**Ezine**	**29.20**	**305**	P	**P**	**11 00 49.0 -1.2**
SEM	**Semipalatinsk**	**29.24**	**30**	*e*P	**P**	**11 00 49.2 -1.5**
SEM				pmax	pmax	
	comp=Z,8.0nm,1.1s					
SEM				MLR	MLR	
	comp=Z,2μm,13.0s					
SEM	**Semipalatinsk**	**29.24**	**30**	*e*P	**P**	**11 00 49.2 -1.5**
	comp=Z,7.7nm,1.1s					
SEM				*e*LR	LR	11 13 09.5
	comp=Z,2μm,13.2s					
GELI	**Tayfur-Gelibol**	**29.27**	**306**	*e*P	**P**	**11 00 49.4 -1.4**
PSN	**Preselentsi**	**29.30**	**313**	*e*P	**P**	**11 00 51.1 +0.1**
PSN	**Preselentsi**	**29.30**	**313**	P	**P**	**11 00 50.9 -0.1**
ERIK	**Erikli-Kesan**	**29.32**	**306**	*e*P	**P**	**11 00 50.9 -0.4**
IDI	**Anoyia**	**29.35**	**295**	P	**P**	**11 00 51.9 +0.2**
	comp=Z,45nm,0.6s,baz=87,slow=14,SNR=18					
IDI				S	**S**	**11 05 42.1 -2.7**
	comp=Z,6.8nm,0.9s,baz=60,slow=20,SNR=1.5					
IDI				LR	LR	11 15 56.6
	comp=Z,3μm,21.2s,baz=75,slow=43					
SIGR	**SIGRI**	**29.38**	**303**	*e*P	**P**	**11 00 51.5 -0.3**
BOZC	**Bozcaada**	**29.41**	**304**	*e*P	**P**	**11 00 51.6 -0.4**
LPSR	**Galich'ya Gora**	**29.46**	**336**	*e*P	**P**	**11 00 51.7 -0.6**
LPSR				*e*S	**S**	**11 05 43.8 -2.1**
LPSR				pmax	pmax	
	comp=Z,40nm,1.1s					
LPSR				smax	smax	
	comp=N,490nm,11.3s					
LPSR				MLR	MLR	
	comp=Z,2μm,14.0s					
LSA	**Lhasa**	**29.50**	**76**	PFAKE		11 01 10.0 +17
LSA				LR	LR	
	comp=Z,11μm,20.0s					
TIRR	**Tirgusor**	**29.50**	**314**	PFAKE		11 01 00.0 +7.3
TIRR				LR	LR	
	comp=Z,8μm,20.0s					
EDRB	**Edirne**	**29.56**	**309**	*e*P	**P**	**11 00 52.7 -0.6**
WMQ	**Urumqi**	**29.57**	**47**	*e*P	**P**	**11 00 55.2 +1.7**
WMQ				pP	sP	11 00 59.5 -0.8
WMQ				sP	pP	11 01 05.3 +7.0
WMQ				S	**S**	**11 05 51.4 +3.4**
WMQ				ScS	**ScS**	**11 11 32.0 -2.5**
WMQ				pmax	pmax	
	comp=Z,160nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,1μm,3.9s					
WMQ				LR	LR	
	comp=Z,19μm,16.1s					
WMQ				LR	LR	
	comp=Z,12μm,11.5s					
WMQ				LR	LR	
	comp=Z,19μm,18.7s					
WMQ	**Urumqi**	**29.57**	**47**	PFAKE		11 01 10.0 +17
WMQ				LR	LR	
	comp=Z,5μm,21.0s					
ENEZ	**Enez**	**29.61**	**306**	*e*P	**P**	**11 00 53.1 -0.6**
PRD	**Provadia**	**29.62**	**312**	P	**P**	**11 00 53.5 -0.3**
ARU	**Arti**	**29.68**	**1**	*e*P	**P**	**11 00 54.1 -0.2**
	comp=Z,15nm,0.7s					
ARU				LR	LR	
	comp=Z,5μm,20.0s					
ARU	**Arti**	**29.68**	**1**	*c i*P	**P**	**11 00 53.3 -1.0**
ARU						11 01 47.0
ARU						11 03 56.9
ARU				S	**S**	**11 05 50.0 +0.6**
ARU				pmax	pmax	
	comp=Z,16nm,0.9s					
ARU				MLR	MLR	
	comp=Z,4μm,25.0s					
ALN	**Alexandroupoli**	**29.73**	**306**	*e*P	**P**	**11 00 54.3 -0.6**
ALN	**Alexandroupoli**	**29.73**	**306**	PFAKE		11 01 10.0 +15
ALN				LR	LR	
	comp=Z,3μm,19.0s					
ALN	**Alexandroupoli**	**29.73**	**306**	P	**P**	**11 00 56.3 +1.4**
ALN				pmax	pmax	
	comp=Z,18nm,1.3s					
ICOR	**Ion Corvin**	**29.74**	**313**	⇑*i*P	**P**	**11 00 55.8 +0.9**
TLB	**Topalu**	**29.79**	**314**	⇑*i*P	**P**	**11 00 55.7 +0.4**
JMB	**Yambol**	**29.89**	**310**	P	**P**	**11 00 56.3 0.0**
HARR	**Harsova**	**29.91**	**315**	⇑*i*P	**P**	**11 00 56.7 +0.3**
CFR	**Carcaliu**	**30.00**	**316**	⇑*i*P	**P**	**11 00 57.8 +0.6**
LIA	**Limnos Island**	**30.07**	**304**	*e*P	**P**	**11 00 58.1 +0.2**
LIA	**Limnos Island**	**30.07**	**304**	P	**P**	**11 00 58.1 +0.2**
IMMV	**Iera Moni Meta**	**30.11**	**295**	*e*P	**P**	**11 00 58.1 -0.2**
SVE	**Sverdlovsk**	**30.15**	**3**	⇑*e*P	**P**	**11 00 57.8 -0.6**
SVE				*e*S	**S**	**11 05 53.9 -2.8**
SVE				pmax	pmax	
	comp=Z,42nm,1.4s					
SVE				MLR	MLR	
	comp=Z,5μm,12.0s					
RDO	**Rodhopi**	**30.18**	**307**	*e*P	**P**	**11 00 58.9 +0.1**
RDO	**Rodhopi**	**30.18**	**307**	*e*P	**P**	**11 00 58.4 -0.4**
RDO	**Rodhopi**	**30.18**	**307**	P	**P**	**11 00 58.4 -0.4**
KDZ	**Kurdzhali**	**30.42**	**308**	*e*P	**P**	**11 01 04.9 +3.9**
KIS	**Kishinev**	**30.49**	**319**	*e*P	**P**	**11 01 00.0 -1.5**
KIS	**Kishinev**	**30.49**	**319**	*e*PP	PP	11 02 04.0 -6.3
KIS	**Kishinev**	**30.49**	**319**	*e*PcP	**PcP**	**11 04 06.0 +5.5**
KIS				*e*S	**S**	**11 05 59.0 -3.3**
KIS				LRM	MLR	11 15 36.0
	comp=Z,3μm,20.0s					
KIS	**Kishinev**	**30.49**	**319**	*e*P	**P**	**11 01 00.0 -1.5**
KIS				*e*		11 02 04.0
KIS				*e*		11 02 20.0
KIS				*e*		11 04 06.0
KIS				*e*S	**S**	**11 05 59.0 -3.3**
KIS				MLR	MLR	
	comp=Z,3μm,20.0s					
LEHL	**Lehliu**	**30.53**	**314**	⇓*i*P	**P**	**11 01 02.4 +0.5**
DION	**Dionisos Attik**	**30.58**	**300**	P	**P**	**11 01 02.3 -0.2**
SHL	**Shillong**	**30.58**	**84**	*e*P	**P**	**11 01 02.1 -0.7**
	comp=Z,149nm,1.8s					
SHL				LR	LR	
	comp=Z,8μm,21.0s					
SHL	**Shillong**	**30.58**	**84**	*e*P	**P**	**11 01 02.1 -0.7**
SHL				pmax	pmax	
	comp=Z,149nm,1.8s					
SHL				MLR	MLR	
	comp=Z,8μm,21.0s					
SHL	**Shillong**	**30.58**	**84**	*e*P	**P**	**11 01 02.0 -0.8**
SHL				*ex*	x	11 07 04.0
PTL	**Penteli**	**30.63**	**300**	*e*P	**P**	**11 01 01.8 -1.1**
PTL	**Penteli**	**30.63**	**300**	P	**P**	**11 01 01.8 -1.1**
ANKY	**Antikythira Is**	**30.71**	**296**	*e*P	**P**	**11 01 04.5 +0.9**
ANKY	**Antikythira Is**	**30.71**	**296**	P	**P**	**11 01 04.5 +0.9**
PETR	**Petresti**	**30.82**	**316**	⇑*i*P	**P**	**11 01 05.9 +1.5**
RZN	**Rozhen**	**30.93**	**307**	P	**P**	**11 01 05.5 -0.2**
ODBI	**Odobesti**	**30.95**	**316**	⇓*i*P	**P**	**11 01 07.1 +1.5**
MRKA	**Markates**	**30.98**	**301**	P	**P**	**11 01 04.5 -1.5**
SGRR	**Singureni**	**30.98**	**313**	⇑*i*P	**P**	**11 01 06.2 +0.4**
SULR		**30.98**	**314**	⇓*i*P	**P**	**11 01 06.1 +0.2**
DID	**Didima**	**31.02**	**299**	*e*P	**P**	**11 01 04.0 -2.3**
DID	**Didima**	**31.02**	**299**	P	**P**	**11 01 04.0 -2.3**
PVL	**Pavlikeni**	**31.02**	**310**	P	**P**	**11 01 07.3 +1.1**
BISRR	**Bisoca**	**31.07**	**315**	⇑*i*P	**P**	**11 01 07.9 +1.2**
OUR	**Ouranopolis**	**31.07**	**305**	*e*P	**P**	**11 01 07.0 +0.3**
PLD	**Plovdiv**	**31.08**	**308**	*e*P	**P**	**11 01 06.4 -0.3**
PLD	**Plovdiv**	**31.08**	**308**	P	**P**	**11 01 10.4 +3.7**
PAIG	**Paliouri**	**31.19**	**304**	*e*P	**P**	**11 01 07.9 +0.1**
PAIG	**Paliouri**	**31.19**	**304**	P	**P**	**11 01 07.9 +0.1**
PAIG	**Paliouri**	**31.19**	**304**	*e*P	**P**	**11 01 07.9 +0.1**
VRI	**Vrincioaia**	**31.20**	**316**	*e*P	**P**	**11 01 07.8 0.0**
VRI	**Vrincioaia**	**31.20**	**316**	⇓*i*P	**P**	**11 01 08.6 +0.8**
VRI	**Vrincioaia**	**31.20**	**316**	P	**P**	**11 01 07.8 0.0**
PLOR	**Plostina**	**31.24**	**316**	⇓*i*P	**P**	**11 01 09.4 +1.2**
PLOR	**Plostina**	**31.24**	**316**	P	**P**	**11 01 09.0 +0.8**
SECR		**31.25**	**314**	⇓*i*P	**P**	**11 01 10.1 +1.8**
MSEY	**Mahe Island**	**31.29**	**184**	PFAKE		11 01 20.0 +11
MSEY				LR	LR	
	comp=Z,4μm,19.0s					
ATAL	**Atalanti**	**31.41**	**301**	*e*P	**P**	**11 01 07.9 -1.8**
ATAL	**Atalanti**	**31.41**	**301**	P	**P**	**11 01 07.9 -1.8**
XOR	**Xorichti**	**31.42**	**302**	*e*P	**P**	**11 01 08.5 -1.4**
XOR	**Xorichti**	**31.42**	**302**	P	**P**	**11 01 08.5 -1.4**
PLG	**Polygyros**	**31.48**	**304**	*e*P	**P**	**11 01 10.7 +0.3**
PLG	**Polygyros**	**31.48**	**304**	P	**P**	**11 01 10.7 +0.3**
MLR	**Muntele Rosu**	**31.53**	**315**	⇑*i*P	**P**	**11 01 12.5 +1.7**
MLR	**Muntele Rosu**	**31.53**	**315**	P	**P**	**11 01 10.8 0.0**
MLR				pmax	pmax	
	comp=Z,25nm,0.8s					
MLR	**Muntele Rosu**	**31.53**	**315**	P	**P**	**11 01 10.8 0.0**
	comp=Z,28nm,0.9s,baz=117,slow=4.1,SNR=29					
TESR	**Tescani**	**31.55**	**317**	⇑*i*P	**P**	**11 01 10.9 0.0**
SRS	**Serrai**	**31.57**	**306**	*e*P	**P**	**11 01 10.2 -1.0**
SRS	**Serrai**	**31.57**	**306**	P	**P**	**11 01 10.2 -1.0**
SRS	**Serrai**	**31.57**	**306**	*e*P	**P**	**11 01 10.2 -1.0**
PGB	**Panagyurishte**	**31.60**	**309**	P	**P**	**11 01 11.4 0.0**
SOH	**Sokhos**	**31.66**	**305**	P	**P**	**11 01 12.4 +0.4**
SOH				pmax	pmax	
	comp=Z,39nm,0.9s					
HUMR	**Humele**	**31.75**	**313**	⇓*i*P	**P**	**11 01 12.8 +0.1**
GUR	**Goura**	**31.79**	**299**	*e*P	**P**	**11 01 11.3 -1.9**
GUR	**Goura**	**31.79**	**299**	P	**P**	**11 01 11.3 -1.9**
HORT	**Hortiatis**	**31.79**	**305**	*e*P	**P**	**11 01 12.5 -0.7**
MTUR	**Matau**	**31.98**	**314**	⇑*i*P	**P**	**11 01 15.4 +0.6**
ITM	**Ithomi**	**31.99**	**298**	*e*P	**P**	**11 01 13.7 -1.2**
ITM	**Ithomi**	**31.99**	**298**	*e*P	**P**	**11 01 13.6 -1.3**
	comp=Z,41nm,0.7s					
ITM				LR	LR	
	comp=Z,5μm,22.0s					
AGG	**Agios Georgios**	**32.00**	**302**	*e*P	**P**	**11 01 13.5 -1.5**
AGG	**Agios Georgios**	**32.00**	**302**	*e*P	**P**	**11 01 13.5 -1.5**
AGG				LR	LR	
	comp=Z,7μm,21.0s					
AGG	**Agios Georgios**	**32.00**	**302**	P	**P**	**11 01 13.5 -1.5**
AGG	**Agios Georgios**	**32.00**	**302**	*e*P	**P**	**11 01 13.5 -1.5**
AGG				MLR	MLR	
	comp=Z,7μm,21.0s					
VOIR		**32.07**	**314**	⇓*i*P	**P**	**11 01 15.7 +0.1**
VOIR		**32.07**	**314**	P	**P**	**11 01 16.7 +1.1**
BIZ	**Bicaz**	**32.08**	**317**	⇓*i*P	**P**	**11 01 15.9 +0.4**
DOPR	**Dopca**	**32.08**	**315**	⇓*i*P	**P**	**11 01 16.2 +0.6**
LAKA	**Lakka**	**32.12**	**300**	*e*P	**P**	**11 01 14.5 -1.6**
LAKA	**Lakka**	**32.12**	**300**	P	**P**	**11 01 14.5 -1.6**
KKB	**Krupnik**	**32.15**	**307**	P	**P**	**11 01 15.8 -0.4**
MPEP	**Malo Peshtene**	**32.16**	**310**	P	**P**	**11 01 16.4 +0.1**
PRAR	**RASCA**	**32.20**	**318**	⇑*i*P	**P**	**11 01 18.1 +1.5**
AMT	**Artemida-Makis**	**32.22**	**299**	P	**P**	**11 01 18.0 +1.1**
ANX	**Ano Chora**	**32.23**	**301**	P	**P**	**11 01 15.8 -1.3**
VTS	**Vitosha**	**32.27**	**308**	*e*P	**P**	**11 01 17.4 0.0**
VTS				LR	LR	
	comp=Z,5μm,20.0s					
VTS	**Vitosha**	**32.27**	**308**	P	**P**	**11 01 17.4 0.0**
VTS	**Vitosha**	**32.27**	**308**	⇑*i*P	**P**	**11 01 18.2 +0.8**
VTS	**Vitosha**	**32.27**	**308**	P	**P**	**11 01 17.8 +0.4**
DRO	**Drossia**	**32.28**	**299**	P	**P**	**11 01 16.9 -0.6**
OBN	**Obninsk**	**32.31**	**337**	P	**P**	**11 01 16.3 -1.1**
OBN				*e*P	**P**	**11 01 17.3 -0.1**
OBN				S	**S**	**11 06 33.0 +2.5**
OBN				LR	LR	
	comp=Z,3μm,20.0s					
OBN	**Obninsk**	**32.31**	**337**	⇓*i*P	**P**	**11 01 18.4 +1.0**
OBN	**Obninsk**	**32.31**	**337**	*c i*P	**P**	**11 01 16.7 -0.7**
OBN				*e*		11 02 25.8
OBN				*i*S	**S**	**11 06 32.0 +1.5**
OBN				*i*SS	**SnSn**	**11 08 27.6 +5.1**
OBN				pmax	pmax	
	comp=Z,64nm,1.0s					
OBN				MLR	MLR	
	comp=Z,4μm,16.0s					
OBN	**Obnins

comp=Z,112nm,1.0s
FNA LR LR
comp=Z,1µm,20.0s
FNA Florina 33.11 304 P **P** **11 01 24.7 0.0**
FNA Florina 33.11 304 *e*P **P** **11 01 24.7 0.0**
FNA pmax pmax
comp=Z,112nm,1.0s
FNA MLR MLR
comp=Z,1µm,20.0s
ARCR ARCALIA 33.21 317⇑*i*P **P** **11 01 26.7 +1.2**
LKD2 Lefkada island 33.24 301 *e*P **P** **11 01 24.4 -1.4**
LKD2 Lefkada island 33.24 301 P **P** **11 01 24.4 -1.4**
SKO Skopje 33.36 307 *i* P **P** **11 01 26.6 -0.2**
GZR Gura Zlata 33.53 313⇓*i*P **P** **11 01 28.0 -0.3**
HERR Herculane 33.58 312⇓*i*P **P** **11 01 29.0 +0.3**
OHR Ohrid 33.61 305 *i* P **P** **11 01 28.7 -0.4**
IGT Igoumenitsa 33.62 302 P **P** **11 01 28.9 -0.2**
DEV Deva 33.63 314⇑*i*P **P** **11 01 30.6 +1.5**
NVS Novosibirsk 33.69 27⇓*i*P **P** **11 01 29.5 0.0**
NVS *e* 11 02 43.0
NVS *i* S **S** **11 06 52.2 +0.2**
NVS pmax pmax
comp=N,60nm,1.3s
NVS pmax pmax
comp=Z,114nm,1.3s
NVS pmax pmax
comp=E,29nm,1.2s
NVS smax smax
comp=N,212nm,2.0s
NVS smax smax
comp=E,63nm,2.1s
ZAA0 Zalesovo Array 33.73 29 PFAKE 11 01 40.0 +10
ZAA0 LR LR
comp=Z,1µm,22.0s
ZALV Zalesovo Beam 33.73 29 *e*P **P** **11 01 28.5 -1.3**
ZALV P **P** **11 01 28.8 -1.0**
ZALV PcP **PcP** **11 04 10.6 +1.4**
ZALV S **S** **11 06 51.9 -0.7**
ZALV Zalesovo Beam 33.73 29 *e*P **S** **11 06 51.4 -1.2**
ZALV Zalesovo Beam 33.73 29 P **P** **11 01 28.8 -1.0**
comp=Z,21nm,0.6s,baz=238,slow=8.4,SNR=43
ZALV PcP **PcP** **11 04 10.6 +1.4**
comp=Z,6.4nm,0.8s,baz=259,slow=1.5,SNR=2.4
ZALV S **S** **11 06 51.9 -0.7**
comp=Z,11nm,0.9s,baz=229,slow=13,SNR=6.6
ZAA1 Zalesovo Array 33.73 29 *e*P **P** **11 01 28.8 -1.0**
ZAA1 *e*PcP **PcP** **11 04 10.6 +1.4**
ZAA1 *e*S **S** **11 06 51.9 -0.7**
BMR Baia Mare 33.99 317⇑*i*P **P** **11 01 33.1 +0.9**
MDVR Moldovita 34.02 311⇑*i*P **P** **11 01 33.1 +0.5**
KMBO Kilima Mbogo 34.04 219 *i* P P 11 01 47.6 +14
KMBO Kilima Mbogo 34.04 219 P P **11 01 33.7 +0.5**
KMBO *e*P **P** **11 01 34.8 +1.6**
KMBO S **S** **11 07 02.7 +4.1**
KMBO LR LR
comp=Z,3µm,19.0s
KMBO Kilima Mbogo 34.04 219 P **P** **11 01 33.7 +0.5**
KMBO S **S** **11 07 02.7 +4.1**
KMBO pmax pmax
comp=Z,17nm,0.8s
KMBO smax smax
comp=N,1.0nm,0.3s
KMBO MLR MLR
comp=Z,3µm,19.4s
KMBO Kilima Mbogo 34.04 219 *i* P P 11 01 47.6 +14
KMBO Kilima Mbogo 34.04 219 P **P** **11 01 33.7 +0.5**
comp=Z,25nm,1.0s,baz=31,slow=11,SNR=36
KMBO S **S** **11 07 02.7 +4.1**
comp=Z,0.8nm,0.3s,baz=66,slow=20,SNR=2.6
KMBO LR LR 11 17 11.5
comp=Z,3µm,19.4s,baz=61,slow=40
DRGR 34.11 315⇓*i*P **P** **11 01 34.2 +0.8**
DRGR 34.11 315 P **P** **11 01 33.5 +0.1**
TIR Tirane 34.35 305 *e*P **P** **11 01 34.5 -0.9**
comp=Z,93nm,1.0s
TIR LR LR
comp=Z,3µm,18.0s
TIR Tirane 34.35 305 *e*P **P** **11 01 34.5 -0.9**
TIR pmax pmax
comp=Z,93nm,1.0s
TIR MLR MLR
comp=Z,3µm,18.0s
BZS Buzias 34.37 313⇓*i*P **P** **11 01 36.2 +0.7**
BZS Buzias 34.37 313 P **P** **11 01 35.5 0.0**
NAI Nairobi 34.41 219 PFAKE 11 01 50.0 +14
NAI LR LR
comp=Z,4µm,20.0s
SIRR Siria 34.58 314⇑*i*P **P** **11 01 38.6 +1.2**
PVY Plav 34.58 307⇑*i*P **P** **11 01 35.8 -1.8**
BANR Banloc 34.61 312⇓*i*P **P** **11 01 38.2 +0.6**
LVV L'vov 34.67 321 *e*P **P** **11 01 37.3 -0.8**
LVV *e* 11 02 58.8
LVV *e*S **S** **11 07 05.9 -1.3**
LVV *e*SS **SnSn** **11 09 12.0 -7.8**
LVV MLR MLR
comp=Z,3µm,20.0s
IVA Berane 34.70 308⇑*i*P **P** **11 01 37.3 -1.2**
TRPA Tarpa 34.77 317⇓*i*P **P** **11 01 39.5 +0.6**
TRPA Tarpa 34.77 317 *e*P **P** **11 01 39.0 +0.1**
TRPA *e*PP **PP** **11 02 57.0 -0.7**
TRPA *e*S **S** **11 07 12.0 +3.2**
TRPA *e*SS SS 11 09 56.1 +16
LTVH Ltavrtes, Hu 34.86 316 *e*P **P** **11 01 40.0 +0.3**
LTVH *e*S S 11 07 24.0 +14
ULC Ulcinj 34.94 306⇑*i*P **P** **11 01 37.8 -2.8**
KOME Kolasin 34.96 307⇑*i*P **P** **11 01 40.3 -0.5**
DIVS Divibare 34.97 310⇑*i*P **P** **11 01 40.0 -0.9**
DRME Dracevica, Mon 35.04 306⇑*i*P **P** **11 01 40.0 -1.4**
DRME Dracevica, Mon 35.04 306⇑*i*P **P** **11 01 39.7 -1.7**
PDG Podgorica 35.05 307⇑*i*P **P** **11 01 41.2 -0.2**
PDG Podgorica 35.05 307 *e*P **P** **11 01 40.9 -0.5**
TTG Podgorica 35.05 307⇑*i*P **P** **11 01 40.0 -1.4**
TTG Podgorica 35.05 307 PFAKE 11 01 50.0 +8.6
TTG LR LR
comp=Z,7µm,18.0s
UZH Uzhgorod 35.13 318 *e*P **P** **11 01 41.0 -1.1**
UZH *e* 11 01 45.6
UZH *e* 11 03 05.9
UZH *e* 11 04 16.8
UZH *e*S **S** **11 07 11.0 -3.4**
UZH *e*SS **SnSn** **11 09 32.5 +1.4**
UZH *e*SSS SSS 11 10 03.6
PLE Pljevlja 35.18 308⇑*i*P **P** **11 01 42.0 -0.7**
PLE Pljevlja 35.18 308 P **P** **11 01 46.0 +3.3**
BUM Brajici-Budva 35.27 306⇑*i*P **P** **11 01 41.9 -1.6**
KOLS Kolonicke sedl 35.28 318 *e*P **P** **11 01 44.2 +0.9**
KOLS pmax pmax
comp=Z,218nm,1.0s
KOLS Kolonicke sedl 35.28 318 *e*P **P** **11 01 44.2 +0.9**
CEME Cevo 35.32 307⇑*i*P **P** **11 01 42.4 -1.4**
NKY Niksic 35.33 307⇑*i*P **P** **11 01 42.4 -1.6**
KWP Kalwaria Pacla 35.34 320 *e*P **P** **11 01 43.9 +0.1**
KWP Kalwaria Pacla 35.34 320 PFAKE 11 02 00.0 +16
KWP LR LR
comp=Z,24µm,20.0s
KWP Kalwaria Pacla 35.34 320 *e*P **P** **11 01 43.9 +0.1**
NKME Niksic 35.34 307⇑*i*P **P** **11 01 41.8 -2.2**
MICGM Minsk 35.36 330 *e*P **P** **11 01 42.0 -1.9**
MICGM *e*PP PnPn 11 02 35.0 -27
MICGM *e*S **S** **11 07 16.0 -1.7**
MICGM *e*LR LR 11 15 08.0
MNK Minsk 35.36 330 *e*P **P** **11 01 42.0 -1.9**
MNK *e*S **S** **11 07 16.0 -1.7**
FRGS Fruska Gora 35.42 311⇑*i*P **P** **11 01 44.5 -0.1**
UPM Unac-Piva 35.49 308⇑*i*P **P** **11 01 43.9 -1.5**
UPM Unac-Piva 35.49 308 *e*P **P** **11 01 45.2 -0.2**
DGPR DIGLIPUR 35.55 105 *e*P **P** **11 01 47.9 +1.9**
DGPR IAmb IAmb 11 01 49.9
comp=Z,79nm,1.3s
HCY Herceg Novi 35.60 306⇑*i*P **P** **11 01 44.1 -2.1**
HCY Herceg Novi 35.60 306 *e*P **P** **11 01 44.6 -1.6**
BRY Bratogost 35.67 307⇑*i*P **P** **11 01 45.2 -1.8**
BRY Bratogost 35.67 307 *e*P **P** **11 01 45.7 -1.3**
HAPS Han Pijesak,BI 35.69 309 *e*P **P** **11 01 45.5 -1.6**
TREB Trebinje 35.76 307 *e*P **P** **11 01 45.2 -2.4**
PRGR Permogore 35.85 350 *e*P **P** **11 01 46.4 -1.6**
PRGR pmax pmax
comp=Z,24nm,0.9s
NACGM Naroch 36.11 330 *e*P **P** **11 01 52.0 +1.7**
NACGM *e*PP **PP** **11 03 18.0 +5.6**
NACGM *e*S **S** **11 07 29.0 -0.2**
NACGM *e*SS **SnSn** **11 09 46.0 -8.5**
NACGM *e*SSS SSS 11 10 40.0
NACGM *e*LQ LQ 11 13 56.0
NACGM *e*LR LR 11 17 12.0
NACGM LRM MLR 11 18 42.0
comp=Z,8.3nm,20.0s
PBA Port Blair 36.11 108 PFAKE 11 02 00.0 +9.2
PBA LR LR
comp=Z,7µm,20.0s
PBA Port Blair 36.11 108 *e*P P 11 01 50.2 -0.7
PBA IAmb IAmb 11 01 56.7
comp=Z,448nm,0.2s
KECS Kecovo 36.17 317 *e*P **P** **11 01 51.6 +0.6**
KECS pmax pmax
comp=Z,351nm,1.0s
KECS Kecovo 36.17 317 *e*P **P** **11 01 51.6 +0.6**
STON Ston 36.26 307 P **P** **11 01 49.8 -2.0**
STON Ston 36.26 307⇑*i*P **P** **11 01 49.8 -2.0**
TIP Timpagrande 36.30 300 PFAKE 11 02 00.0 +7.7
TIP LR LR
comp=Z,3µm,21.0s
TIP Timpagrande 36.30 300 P **P** **11 01 52.0 -0.3**
TIP Timpagrande 36.30 300⇓*i*P **P** **11 01 53.0 +0.7**
KLMR Klimovskoe 36.31 345⇑*i*P **P** **11 01 50.5 -1.5**
KLMR *e*S **S** **11 07 31.6 -0.5**
KLMR pmax pmax
comp=Z,82nm,1.1s
PSZ Piszkesteto 36.31 316 *e*P **P** **11 01 51.8 -0.5**
comp=Z,96nm,1.0s
PSZ LR LR
comp=Z,4µm,22.0s
PSZ Piszkesteto 36.31 316⇓*i*P **P** **11 01 53.0 +0.7**
PSZ Piszkesteto 36.31 316 *e*P **P** **11 01 51.8 -0.5**
PSZ pmax pmax
comp=Z,96nm,1.0s
PSZ MLR MLR
comp=Z,4µm,22.0s
PSZ Piszkesteto 36.31 316⇑*e*P **P** **11 01 52.0 -0.3**
PSZ *e*S **S** **11 07 33.0 +0.3**
PSZ *e*SS **SnSn** **11 09 57.1 -2.8**
IDID Didziasalis 36.38 330 *e*P **P** **11 01 52.2 -0.4**
IDID IAmb IAmb 11 02 01.2
comp=Z,27nm,1.0s
MORH Mrgy, Hungar 36.53 313⇑*i*P **P** **11 01 54.1 0.0**
MORH Mrgy, Hungar 36.53 313⇑*e*P **P** **11 01 54.0 0.0**
MORH *e*PP PP 11 03 29.0 +12
MORH *e*S **S** **11 07 35.0 -0.8**
MORH *e*SS **SS** **11 10 18.1 +2.7**
MATE Matera 36.56 303⇓*i*P **P** **11 01 54.5 +0.1**
IIGN Ignalina 36.64 330 *e*P **P** **11 01 54.6 -0.2**
IIGN IAmb IAmb 11 02 10.8
comp=Z,46nm,1.0s
NIE Niedzica 36.66 318 *e*P **P** **11 01 55.2 0.0**
NIE Niedzica 36.66 318 *e*P **P** **11 01 55.2 0.0**
BUD Budapest 36.70 315 P **P** **11 01 56.5 +0.9**
ISAL Salakas 36.82 330 *e*P **P** **11 01 57.5 +1.1**
ISAL IAmb IAmb 11 02 13.2
comp=Z,22nm,0.6s
IZAR Zarasai 36.88 330 *e*P **P** **11 01 57.0 +0.1**
IZAR IAmb IAmb 11 02 18.1
comp=Z,28nm,0.7s
MGRS Mrkonjic Grad 37.07 309 *e*P **P** **11 01 58.5 -0.3**
BLY Banja Luka 37.09 310 PFAKE 11 02 10.0 +11
BLY LR LR
comp=Z,3µm,19.0s
BLY Banja Luka 37.09 310⇓*i*P **P** **11 01 59.0 +0.1**
BLY Banja Luka 37.09 310⇑*i*P **P** **11 01 58.4 -0.5**
GTA Gaotai 37.11 59 P **P** **11 02 00.5 +1.2**
GTA pP sP 11 02 07.8 +1.7
GTA sP pP 11 02 11.3 +7.2
GTA S **S** **11 07 48.2 +3.0**
GTA pmax pmax
comp=Z,22nm,1.5s
GTA pmax pmax
comp=Z,140nm,8.2s
GTA LR LR
comp=Z,8µm,21.6s
GTA LR LR
comp=Z,4µm,19.9s
GTA LR LR
comp=Z,5µm,21.3s
CSKK Cskako 37.15 314 *e*P **P** **11 01 59.1 -0.3**
VYHS Vyhne 37.19 316 *e*P **P** **11 01 59.6 -0.1**
VYHS pmax pmax
comp=Z,32nm,1.1s
VYHS Vyhne 37.19 316 *e*P **P** **11 01 59.6 -0.1**
SRO2 Moca 37.20 315 *e*P **P** **11 01 59.2 -0.6**
SRO2 Moca 37.20 315 *e*P **P** **11 01 59.2 -0.6**
TIH Tihany 37.24 313 *e*P **P** **11 02 00.0 0.0**
OJC Ojcow 37.28 319 *e*P **P** **11 02 00.3 -0.2**
OJC Ojcow 37.28 319 *e*P **P** **11 01 59.8 -0.7**
comp=Z,158nm,0.9s
OJC Ojcow 37.28 319 *e*P **P** **11 02 00.3 -0.2**
SUW Suwalki 37.29 326 *e*P **P** **11 01 59.6 -0.8**
SUW Suwalki 37.29 326 *e*P **P** **11 01 59.7 -0.8**
comp=Z,284nm,1.0s
SUW LR LR
comp=Z,1µm,22.0s
SUW Suwalki 37.29 326 *e*P **P** **11 01 59.7 -0.8**
SUW pmax pmax
comp=Z,284nm,1.0s
SUW MLR MLR
comp=Z,1µm,22.0s
BEL Belsk 37.44 322 *e*P **P** **11 02 01.3 -0.4**
BEL Belsk 37.44 322 *e*P **P** **11 02 01.3 -0.4**
MBAR Mbarara 37.64 228 P **P** **11 02 04.3 +0.3**
MBAR *e*P **P** **11 02 04.6 +0.5**
MBAR S **S** **11 07 53.9 +0.2**
MBAR LR LR
comp=Z,6µm,19.0s
MBAR Mbarara 37.64 228 *i* P **P** **11 02 05.7 +1.7**
MBAR pmax pmax
comp=Z,14nm,1.0s
MBAR Mbarara 37.64 228 P **P** **11 02 04.3 +0.3**
comp=Z,2.7nm,0.3s,baz=56,slow=7.3
MBAR S **S** **11 07 53.9 +0.2**
comp=Z,1.9nm,0.3s,baz=345,slow=20,SNR=2.0
PABE Paberze 37.76 329 *e*P **P** **11 02 02.7 -1.6**
PABE IAmb IAmb 11 02 07.3
comp=Z,82nm,0.6s
WDD Wied Dalam 37.82 295 PFAKE 11 02 20.0 +15
WDD LR LR
comp=Z,4µm,19.0s
BEHE Becsehely 37.84 312⇑*i*P **P** **11 02 05.6 +0.4**
BEHE Becsehely 37.84 312⇑*e*P **P** **11 02 05.1 -0.1**
BEHE *e*S **S** **11 07 55.0 -0.8**
VAE Valguarnera 37.98 297 P **P** **11 02 08.5 +1.9**
comp=Z,88nm,0.9s,baz=66,slow=5.6,SNR=8.1
UDBI Udbina 38.01 309 P **P** **11 02 06.7 -0.1**
JAVC Velka Javorina 38.04 316⇑*i*P **P** **11 02 07.6 +0.7**
JAVC *e* 11 03 39.9
PUL Pulkovo 38.06 338*ce*P **P** **11 02 08.5 +1.7**
PUL pmax pmax
comp=Z,70nm,0.5s
SMOL Smolenice 38.07 316 P **P** **11 02 08.7 +1.6**
OKC Ostrava-Krasne 38.11 318 *e*P **P** **11 02 07.2 -0.2**
OKC MLR MLR
comp=Z,2µm,16.3s
OKC Ostrava-Krasne 38.11 318 *e*P **P** **11 02 07.2 -0.2**
OKC AMS AMS 11 21 50.0
comp=Z,2µm,16.3s
MODS Modra-Piesok 38.11 315 *e*P **P** **11 02 06.9 -0.6**
MODS pmax pmax
comp=Z,117nm,1.2s
MODS Modra-Piesok 38.11 315 *e*P **P** **11 02 06.9 -0.6**
ZST Bratislava 38.16 315 *e*P **P** **11 02 07.0 -0.9**
ZST Bratislava 38.16 315 *e*P **P** **11 02 07.0 -0.9**
RAC Raciborz 38.17 318 *e*P **P** **11 02 07.9 -0.1**
RAC MLR MLR
comp=Z,3µm,18.8s
ZAG Zagreb 38.19 311⇑*i*P **P** **11 02 08.5 +0.4**
SOP Sopron 38.34 314 P **P** **11 02 09.3 -0.2**
SOP Sopron 38.34 314⇑*e*P **P** **11 02 09.0 -0.4**
SOP *e*S **S** **11 08 02.0 -1.4**
SOP *e*SS **SS** **11 10 52.1 0.0**
VSU Vasula 38.44 334*ce*P **P** **11 02 09.1 -0.9**
VSU pmax pmax
comp=Z,107nm,0.7s
VSU Vasula 38.44 334 *e*P **P** **11 02 08.7 -1.3**
VSU IAmb IAmb 11 02 33.1
comp=Z,164nm,1.0s
MORC Moravsky Berou 38.45 318 *e*P **P** **11 02 09.3 -1.1**
comp=Z,50nm,1.0s
MORC LR LR
comp=Z,2µm,20.0s
MORC Moravsky Berou 38.45 318⇑*i*P **P** **11 02 10.7 +0.3**
MORC Moravsky Berou 38.45 318 *e*P **P** **11 02 09.3 -1.1**
MORC pmax pmax
comp=Z,50nm,1.0s
MORC MLR MLR
comp=Z,2µm,20.0s
MORC Moravsky Berou 38.45 318⇑*i*P **P** **11 02 09.8 -0.6**
MORC *e* 11 03 43.0
CRES Cresnjev 38.54 311⇑*i*P **P** **11 02 11.4 +0.2**
BOJS Bojanci 38.60 310 *i* P **P** **11 02 11.9 +0.2**
CHTO Chiang Mai 38.63 93 *e*P **P** **11 02 12.7 +0.5**
comp=Z,18nm,1.0s
CHTO LR LR
comp=Z,4µm,22.0s
CHTO Chiang Mai 38.63 93 *e*P **P** **11 02 12.7 +0.5**
CHTO pmax pmax
comp=Z,18nm,1.0s
CHTO MLR MLR
comp=Z,4µm,22.0s
CMMT Chiang Mai 38.63 93 P **P** **11 02 13.4 +1.2**
comp=Z,9.9nm,1.3s,comp=Z,189nm
NVLJ Novalja 38.64 309 P **P** **11 02 10.6 -1.4**
CMAR Chiang Mai Arr 38.75 94 P **P** **11 02 13.0 -0.2**
comp=Z,3.7nm,0.6s,baz=284,slow=9.9,SNR=18
CMAR PcP **PcP** **11 04 25.8 +1.0**
comp=Z,2.0nm,0.7s,baz=276,slow=4.5,SNR=5.0
CMAR ScP **ScP** **11 08 13.8 +1.2**
comp=Z,0.9nm,0.4s,baz=290,slow=5.4,SNR=5.0
CMAR LR LR 11 20 15.9
comp=Z,4µm,21.8s,baz=272,slow=39
CMAR PKPPKP **P'P'df** **11 34 57.6 +6.1**
comp=Z,1.2nm,0.3s,baz=272,slow=4.3,SNR=4.9
VRAC Vranov 38.86 317⇓*i*P **P** **11 02 14.4 +0.6**
VRAC Vranov 38.86 317⇑*i*P **P** **11 02 13.6 -0.2**
VRAC *e* 11 03 49.2
VRAC *e*S **S** **11 08 11.8 +0.6**
VRAC Vranov 38.86 317 P **P** **11 02 13.2 -0.6**
comp=Z,63nm,1.1s,baz=108,slow=8.4,SNR=27
CONA Conrad Observa 38.87 314 *e*P **P** **11 02 13.7 -0.3**
comp=Z,58nm,1.0s,SNR=39
ARSA Arzberg 38.89 313 *e*P **P** **11 02 14.3 +0.2**
comp=Z,119nm,1.3s,SNR=57
KRUC Moravsky 38.90 316⇑*i*P **P** **11 02 14.0 -0.1**
KRUC *e* 11 03 48.9
KRUC *e*S **S** **11 08 10.2 -1.6**
CLTB Caltabellotta 38.93 297 PFAKE 11 02 30.0 +15
CLTB LR LR
comp=Z,4µm,18.0s
VISS Visnje 38.95 311 *i* P **P** **11 02 14.6 0.0**
PERS Pernice 38.98 312 *i* P **P** **11 02 14.6 -0.3**
PBUR Paburg 39.00 328 *e*P **P** **11 02 12.3 -2.5**
PBUR IAmb IAmb 11 02 17.9
comp=Z,120nm,1.0s
KRLC Kraliky 39.01 318 *e*P **P** **11 02 15.9 +0.8**
KRLC Kraliky 39.01 318 *e*P **P** **11 02 15.9 +0.8**
SOKA Soboth 39.05 312 *e*P **P** **11 02 15.4 -0.1**
comp=Z,55nm,1.0s,SNR=19
KLNR Kaliningrad 39.08 326*d i*P **P** **11 02 15.3 -0.2**
KLNR pmax pmax
comp=Z,283nm,1.1s
RIY Rijeka 39.08 310 *e*P **P** **11 02 15.1 -0.6**
CEY Cerknica 39.22 310⇑*i*P **P** **11 02 16.7 -0.2**
LJU Ljubljana 39.23 311⇑*i*P **P** **11 02 17.2 +0.3**
AQU L'Aquila 39.28 305 PFAKE 11 02 30.0 +13
AQU LR LR
comp=Z,5µm,18.0s
AQU L'Aquila 39.28 305 P **P** **11 02 18.4 +1.0**
AQU pmax pmax
comp=Z,118nm,1.0s
AQU L'Aquila 39.28 305⇑*i*P **P** **11 02 17.6 +0.2**
OBKA Obir 39.33 312 *e*P **P** **11 02 18.0 +0.2**
comp=Z,96nm,1.1s,SNR=18
LAMP Lampang 39.34 93 P **P** **11 02 21.8 +3.6**
comp=Z,18µm,0.7s,comp=Z,495µm
DPC Dobruska-Polom 39.39 318 *e*P **P** **11 02 17.8 -0.4**
DPC MLR MLR
comp=Z,2µm,14.9s
DPC Dobruska-Polom 39.39 318 *e*P **P** **11 02 17.8 -0.4**
DPC *e*S S 11 07 54.9 -24
DPC AMS AMS 11 22 30.0
comp=Z,2µm,14.9s
UMPA Umpang Tak 39.48 97 P **P** **11 02 22.7 +3.3**
comp=Z,83µm,1.2s
JAVS Javornik 39.50 311 *i* P **P** **11 02 19.1 -0.2**
TREC Trest 39.53 316 *e*P **P** **11 02 20.9 +1.5**
TREC *e*S **S** **11 08 19.5 -1.9**
TREC MLR MLR
comp=Z,2µm,21.1s
TREC Trest 39.53 316 *e*P **P** **11 02 20.9 +1.5**
TREC *e*S **S** **11 08 19.5 -1.9**
TREC AMS AMS 11 22 10.0
comp=Z,2µm,21.1s
CMBY CAMPBELL BAY 39.54 113 *e*P **P** **11 02 17.3 -2.5**
CMBY IAmb IAmb 11 02 23.6
comp=Z,137nm,0.6s
TMCR Tamitsa 39.56 347 *e*P **P** **11 02 18.5 -0.9**
TMCR pmax pmax
comp=Z,54nm,1.0s
KSP Ksiaz 39.59 319 *e*P **P** **11 02 19.5 -0.3**
KSP Ksiaz 39.59 319 *e*P **P** **11 02 19.5 -0.3**
UPC Upice 39.63 318 *e*P **P** **11 02 20.1 -0.1**
UPC MLR MLR
comp=Z,2µm,16.5s
UPC Upice 39.63 318 *e*P **P** **11 02 20.1 -0.1**
UPC AMS AMS 11 21 40.0
comp=Z,2µm,16.5s
TRI Trieste 39.66 310 PFAKE 11 02 30.0 +9.5
TRI LR LR
comp=Z,3µm,21.0s
TRI Trieste 39.66 310 P **P** **11 02 20.0 -0.5**
TRI pmax pmax
comp=Z,43nm,1.2s
SLIT Slitere, Latvi 39.75 331 *e*P **P** **11 02 19.3 -1.8**
SLIT IAmb IAmb 11 02 33.9
comp=Z,352nm,1.1s
MOA Molln 39.87 314 *e*P **P** **11 02 22.2 -0.1**
comp=Z,142nm,1.1s,SNR=62
MYKA Terra Mystica 39.96 312 *i* P **P** **11 02 23.1 0.0**
comp=Z,50nm,0.8s,SNR=20
LZH Lanzhou 40.09 65⇑P **P** **11 02 26.2 +1.8**
LZH pP sP 11 02 34.2 +3.0
LZH sP pP 11 02 38.5 +9.2
LZH PP **PnPn** **11 04 04.7 +4.6**
LZH S **S** **11 08 30.4 0.0**
LZH sS sS 11 08 44.4 +6.0
LZH SS **SS** **11 11 21.5 -6.3**
LZH pmax pmax
comp=Z,69nm,1.0s
LZH pmax pmax
comp=Z,310nm,5.2s
LZH LR LR
comp=Z,9µm,14.6s
LZH LR LR
comp=Z,8µm,14.6s
LZH LR LR
comp=Z,9µm,16.8s
GOPC GO Pecny, Ondr 40.17 317 *e*P **P** **11 02 25.5 +0.8**
GOPC MLR MLR
comp=Z,3µm,18.9s
GOPC GO Pecny, Ondr 40.17 317 *e*P **P** **11 02 25.5 +0.8**
GOPC AMS AMS 11 22 50.0
comp=Z,3µm,18.9s
NANT Nan 40.20 92 P **P** **11 02 27.8 +2.5**
comp=Z,21µm,0.9s
KBA Koelnbreinsper 40.27 312 *e*P **P** **11 02 25.4 -0.4**
comp=Z,188nm,1.1s,SNR=69
KBA Koelnbreinsper 40.27 312 P **P** **11 02 25.8 0.0**
CD2 Chengdu 40.28 73 P **P** **11 02 27.3 +1.4**
CD2 sP sP 11 02 38.0 +5.3
CD2 PP **PnPn** **11 04 04.5 +2.2**
CD2 S **S** **11 08 34.3 +1.2**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,150nm,5.5s
CD2 LR LR
comp=Z,15µm,29.8s
CD2 LR LR
comp=Z,7µm,16.9s
CD2 LR LR
comp=Z,10µm,16.3s
KMI Kunming 40.31 82 P **P** **11 02 28.2 +1.8**
KMI pP sP 11 02 35.1 +1.9
KMI sP pP 11 02 38.6 +7.4
KMI PP **PP** **11 04 01.2 +2.0**
KMI S **S** **11 08 34.7 +0.8**

KMI pmax pmax
comp=Z,33nm,1.2s
KMI pmax pmax
comp=Z,210nm,4.3s
KMI LR LR
comp=Z,4μm,19.0s
KMI LR LR
comp=Z,3μm,20.1s
KMI LR LR
comp=Z,4μm,15.7s
KMI Kunming 40.31 82 PFAKE 11 02 40.0 +14
KMI LR LR
comp=Z,3μm,20.0s
PRU Pruhonice 40.34 317 *e*P **P 11 02 25.8 -0.3**
PRU Pruhonice 40.34 317 *e*P **P 11 02 25.8 -0.3**
SRDT SRDT 40.45 99 P **P 11 02 30.3 +2.9**
comp=Z,16nm,1.4s,comp=Z,2μm
PVCC Panska Ves 40.50 318 *e*P **P 11 02 27.2 -0.2**
PVCC MLR MLR
comp=Z,2μm,17.9s
PVCC Panska Ves 40.50 318 *e*P **P 11 02 27.2 -0.2**
PVCC AMS AMS 11 22 30.0
comp=Z,2μm,17.9s
KHC Kasperske Hory 40.68 315 PFAKE 11 02 40.0 +11
KHC LR LR
comp=Z,1μm,20.0s
KHC Kasperske Hory 40.68 315 *e*P **P 11 02 28.5 -0.4**
KHC *e* 11 02 38.5
KHC *e*S **S 11 08 31.7 -6.8**
KHC MLR MLR
comp=Z,4μm,19.0s
KHC Kasperske Hory 40.68 315 *e*P **P 11 02 28.5 -0.4**
KHC *e*x x 11 02 38.5
KHC *e*S **S 11 08 31.7 -6.8**
KHC AMS AMS 11 22 40.0
comp=Z,4μm,19.0s
FIA0 FINESS Array S 40.72 337 *e*P **P 11 02 28.1 -0.9**
FIA0 FINESS Array S 40.72 337 *e*P **P 11 02 28.1 -0.9**
FIA1 FINESS Array S 40.72 337 *e*P **P 11 02 28.1 -1.0**
comp=Z,39nm,0.7s
FINES FINESS Array B 40.72 337 P **P 11 02 28.1 -0.9**
FINES *e*P **P 11 02 28.4 -0.6**
FINES S **S 11 08 36.3 -2.4**
FINES FINESS Array B 40.72 337 P **P 11 02 28.1 -0.9**
comp=Z,34nm,0.7s,baz=136,slow=9.1,SNR=61
FINES S **S 11 08 36.3 -2.4**
comp=Z,2.5nm,0.9s,baz=124,slow=12,SNR=3.2
ABTA Abfaltersbach 40.75 312 *e*P **P 11 02 29.5 -0.1**
comp=Z,181nm,1.3s,SNR=70
MOY Mondy 40.89 41 *e*P **P 11 02 32.1 +1.3**
MOY pmax pmax
comp=Z,36nm,1.2s
BRG Berggiesshubel 40.99 318 *e*P **P 11 02 30.9 -0.5**
comp=Z,36nm,1.1s
BRG PP **PP 11 04 04.0 -2.0**
BRG S S 11 08 31.0 -12
BRG SS **SS 11 11 38.0 -7.0**
BRG Berggiesshubel 40.99 318 *e*P **P 11 02 30.9 -0.5**
BRG 11 04 04.0
BRG SS SS 11 11 38.0 -7.0
BRG pmax pmax
comp=Z,36nm,1.2s
BRG MLR MLR
comp=N,4μm,21.3s
BRG MLR MLR
comp=E,3μm,17.8s
BRG MLR MLR
comp=Z,3μm,17.8s
WTTA Wattenberg 41.45 312 *e*P **P 11 02 34.9 -0.6**
comp=Z,344nm,1.1s
WTTA *e*S **S 11 08 48.9 -1.4**
comp=Z,50nm,1.4s
WATA Walderalm 41.51 312 *e*P **P 11 02 35.6 -0.3**
comp=Z,170nm,0.9s,SNR=98
WATA *e*S **S 11 08 50.2 -0.9**
comp=Z,44nm,1.5s
RUE Ruedersdorf 41.64 320 *e*P **P 11 02 35.4 -1.3**
RUE IAmb IAmb 11 02 41.1
comp=Z,60nm,0.9s
CLL Collm 41.70 318 *e*P **P 11 02 36.6 -0.6**
comp=Z,100nm,1.2s
CLL LR LR
comp=Z,2μm,22.0s
CLL Collm 41.70 318 *e*P **P 11 02 36.6 -0.6**
CLL pmax pmax
comp=Z,100nm,1.2s
CLL MLR MLR
comp=Z,2μm,22.0s
CLL Collm 41.70 318⇑*i*P **P 11 02 37.0 -0.2**
comp=Z,89nm,1.1s
CLL *e*PP **PP 11 04 17.0 +3.5**
CLL *e*(pPcP) 11 04 37.0
CLL *e*S **S 11 08 48.0 -5.5**
CLL *e*SS **SS 11 12 00.0 +1.1**
CLL *e*SSS SSS 11 12 24.0
CLL *e* 11 13 30.0
CLL Lm MLR 11 23 00.0
comp=Z,3μm,20.7s
CLL Lmax 11 23 00.0
NKC Novy Kostel 41.70 317 *e*P **P 11 02 38.6 +1.3**
NKC MLR MLR
comp=Z,4μm,19.6s
NKC Novy Kostel 41.70 317 *e*P **P 11 02 38.6 +1.3**
NKC AMS AMS 11 23 50.0
comp=Z,4μm,19.6s
SQTA Sankt Quirin 41.72 312 *e*P **P 11 02 36.9 -0.8**
comp=Z,83nm,0.5s,SNR=69
VLC Villacollemand 41.73 307 *e*P **P 11 02 37.8 +0.1**
comp=Z,64nm,0.9s
MOTA Moosalm 41.82 312 *i*P **P 11 02 37.4 -1.1**
comp=Z,351nm,1.2s,SNR=138
ZAK Zakamensk 41.84 43 *e*P **P 11 02 37.3 -1.3**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
GRC1 Grafenberg Arr 41.94 315 P **P 11 02 38.5 -0.8**
FETA Feichten 42.00 312 *i*P **P 11 02 39.5 -0.5**
SNR=115
FETA S **S 11 08 56.4 -2.0**
comp=Z,69nm,1.5s
KEST Kesra 42.03 295 P **P 11 02 41.1 +0.8**
KEST *e*P **P 11 02 42.4 +2.1**
KEST LR LR
comp=Z,4μm,20.0s
KEST Kesra 42.03 295 P **P 11 02 41.1 +0.8**
comp=Z,41nm,1.1s,baz=46,slow=2.2,SNR=15
KEST LR LR 11 23 31.4
comp=Z,3μm,19.7s,baz=35,slow=41
BSD Bornholm Skovb 42.04 324⇑*i*P **P 11 02 38.1 -1.8**
BSD pmax pmax
comp=Z,120nm,0.7s
BSD Bornholm Skovb 42.04 324⇑*i*P **P 11 02 38.1 -1.8**
comp=Z,124nm,0.7s
RETA Reutte 42.08 312 *e*P **P 11 02 39.5 -1.0**
comp=Z,74nm,0.8s,SNR=39
RETA S **S 11 08 57.6 -1.8**
comp=Z,58nm,1.6s,SNR=9.2
FUORN Ofenpass-Fuorn 42.23 311 *e*P **P 11 02 41.6 -0.4**
comp=Z,72nm,0.9s
FUORN LR LR
comp=Z,3μm,21.0s
SLVN Son La 42.29 87 *e*P **P 11 02 43.6 +1.1**
comp=Z,45nm,1.4s
SLVN LR LR
comp=Z,2μm,19.0s
GRA1 Grafenberg Arr 42.31 316 *e*P **P 11 02 41.6 -0.7**
comp=Z,174nm,1.0s
GRA1 LR LR
comp=Z,2μm,22.0s
GRF Grafenberg Arr 42.31 316 *e*P **P 11 02 41.6 -0.7**
GRF pmax pmax
comp=Z,174nm,1.0s
GRF MLR MLR
comp=Z,2μm,22.0s
GRFO Grafenberg 42.31 316 *e*P **P 11 02 41.8 -0.5**
comp=Z,156nm,1.0s
GRFO LR LR
comp=Z,2μm,22.0s
GRFO Grafenberg 42.31 316 *e*P **P 11 02 41.8 -0.5**
GRFO pmax pmax
comp=Z,156nm,1.0s
GRFO MLR MLR
comp=Z,2μm,22.0s
CHAI Chaiyaphum 42.38 96 P **P 11 02 45.9 +2.7**
comp=Z,26μm,0.8s,comp=Z,697μm
TLY Talaya 42.45 41 *e*P **P 11 02 43.5 0.0**
comp=Z,40nm,1.8s
TLY LR LR
comp=Z,2μm,18.0s
TLY Talaya 42.45 41 *i*P **P 11 02 43.7 +0.3**
TLY pmax pmax
comp=Z,10.0nm,1.0s
DAVOX Davos/Dischmat 42.52 311 P **P 11 02 43.9 -0.4**
comp=Z,182nm,1.1s,baz=122,slow=5.3,SNR=107
PGF Pioggiola 42.54 305 *e*P **P 11 02 42.5 -1.9**
PGF pmax pmax
comp=Z,29nm,1.0s
DAVA Damuels 42.62 312 *e*P **P 11 02 44.4 -0.7**
comp=Z,108nm,0.5s,SNR=102
DAVA *e*S **S 11 09 05.2 -2.4**
comp=Z,71nm,1.4s,SNR=5.7
NONG Nongkai 42.63 92 P **P 11 02 45.9 +0.6**
comp=Z,2.3nm,1.0s
RGN Rugen 42.65 323 *e*P **P 11 02 47.2 +2.3**
comp=Z,250nm,1.2s
RGN LR LR
comp=Z,2μm,19.0s
TUE Stuetta 42.83 310 *e*P **P 11 02 45.4 -1.4**
comp=Z,80nm,1.1s
TUE LR LR
comp=Z,2μm,22.0s
KHON Khomkaen 42.96 94 P **P 11 02 50.1 +2.2**
comp=Z,51μm,0.6s
IRK Irkutsk 43.00 41 *e*P **P 11 02 44.1 -3.7**
IRK pmax pmax
comp=Z,44nm,2.2s
SONA0 Songino Array 43.20 48 *e*P **P 11 02 49.5 -0.2**
SONA0 *e*S **S 11 09 18.8 +2.7**
SONM Songino Array 43.20 48 P **P 11 02 49.5 -0.2**
SONM *e*P **P 11 02 49.7 0.0**
SONM S **S 11 09 18.8 +2.7**
SONM Songino Array 43.20 48 P **P 11 02 49.5 -0.2**
comp=Z,8.8nm,0.8s,baz=259,slow=9.3,SNR=7.2
SONM S **S 11 09 18.8 +2.7**
comp=Z,1.8nm,0.7s,baz=167,slow=7.2,SNR=2.0
SONM LR LR 11 23 15.1
comp=Z,4μm,18.1s,baz=254,slow=40
STU Stuttgart 43.38 314 PFAKE 11 03 00.0 +9.0
STU LR LR
comp=Z,2μm,19.0s
STU Stuttgart 43.38 314 P **P 11 02 50.9 -0.1**
STU pmax pmax
comp=Z,67nm,1.1s
APA Apatity 43.47 347⇓*i*P **P 11 02 50.2 -1.2**
APA pmax pmax
comp=Z,30nm,0.9s
GYA Guiyang 43.49 79⇑*i*P **P 11 02 53.2 +0.9**
GYA pP sP 11 03 03.4 +4.3
GYA PP **PP 11 04 35.1 +1.7**
GYA S **S 11 09 26.2 +5.4**
GYA SS **SS 11 12 33.9 -1.3**
GYA pmax pmax
comp=Z,20nm,0.5s
GYA pmax pmax
comp=Z,120nm,5.7s
GYA LR LR
comp=Z,4μm,15.1s
GYA LR LR
comp=Z,1μm,16.0s
GYA LR LR
comp=Z,2μm,15.5s
LVZ Lovozero 43.51 348 *e*P **P 11 02 50.6 -1.1**
comp=Z,16nm,0.8s
LVZ LR LR
comp=Z,4μm,19.0s
LVZ Lovozero 43.51 348 *i*P **P 11 02 48.7 -3.1**
LVZ pmax pmax
comp=Z,14nm,0.9s
ABSA Djebel Ababsia 43.52 295 P **P 11 02 56.6 +4.2**
CMAH Djebel Manchou 43.56 296 P **P 11 02 56.6 +3.9**
COP Copenhagen 43.56 324 *i*P **P 11 02 54.2 +1.9**
COP pmax pmax
comp=Z,66nm,0.8s
COP Copenhagen 43.56 324 *i*P **P 11 02 54.2 +1.9**
comp=Z,66nm,0.8s
SLE Schleitheim 43.64 312 P **P 11 02 52.1 -1.0**
ULN Ulaanbaatar 43.64 48 *e*P **P 11 02 53.4 +0.1**
comp=Z,16nm,0.9s
ULN LR LR
comp=Z,4μm,21.0s
ULN Ulaanbaatar 43.64 48 *ce*P **P 11 02 52.5 -0.8**
ULN pmax pmax
comp=Z,10.0nm,0.8s
SKNT Sakolnakorn 43.76 93 P **P 11 02 56.0 +1.6**
comp=Z,47nm,1.1s
SBF Sospel 43.81 306 *e*P **P 11 02 53.8 -0.8**
SBF pmax pmax
comp=Z,130nm,1.0s
TOD Tromm 43.81 315 P **P 11 02 53.9 -0.6**
BFO Black Forest 43.85 313 *e*P **P 11 02 54.1 -0.7**
comp=Z,52nm,1.2s
BFO LR LR
comp=Z,1μm,18.0s
BFO Black Forest 43.85 313 *e*P **P 11 02 54.1 -0.7**
BFO pmax pmax
comp=Z,53nm,1.2s
BFO MLR MLR
comp=Z,1μm,18.0s
TRTT Trang 43.94 108 P **P 11 02 59.8 +3.9**
comp=Z,22nm,1.4s
CKFL Kef-Lekhel 44.13 296 P **P 11 03 00.3 +3.0**
TNS Taunus Mts 44.18 316 P **P 11 02 58.1 +0.7**
SENIN Lac Senin/Sane 44.21 310 *e*P **P 11 02 56.2 -1.7**
comp=Z,62nm,0.9s
SENIN LR LR
comp=Z,1μm,20.0s
KTD Kalmit 44.21 314 P **P 11 02 57.1 -0.6**
CASM Ain Smara 44.32 295 P **P 11 03 02.1 +3.3**
LANF Langenberg 44.32 314 P **P 11 02 58.7 +0.1**
XAN Xi'an 44.34 68 P **P 11 02 59.5 +0.5**
XAN PP **PP 11 04 39.8 -2.5**
XAN S **S 11 09 35.4 +2.5**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,74nm,3.5s
XAN LR LR
comp=Z,3μm,18.4s
XAN LR LR
comp=Z,3μm,17.6s
XAN LR LR
comp=Z,3μm,18.4s
XAN Xi'an 44.34 68 *e*P **P 11 02 59.4 +0.5**
comp=Z,58nm,1.1s
XAN LR LR
comp=Z,6μm,20.0s
FRF La Foret Royal 44.35 306 *e*P **P 11 03 00.4 +1.6**
FRF pmax pmax
comp=Z,45nm,1.3s
MBDF Montbardon 44.37 308 *e*P **P 11 02 58.6 -0.6**
MBDF pmax pmax
comp=Z,62nm,1.0s
CTEI Djebel Teioual 44.40 295 P **P 11 03 03.4 +3.9**
BNI Bardonecchia 44.47 308 *e*P **P 11 02 59.4 -0.6**
comp=Z,114nm,1.3s
BNI Bardonecchia 44.47 308 *e*P **P 11 02 59.4 -0.6**
BNI pmax pmax
comp=Z,114nm,1.3s
LPG La Plagne 44.47 309 *e*P **P 11 02 59.1 -1.1**
LPG pmax pmax
comp=Z,80nm,1.0s
LPL La Plagne 44.49 309 *e*P **P 11 02 58.3 -1.9**
LPL pmax pmax
comp=Z,63nm,0.9s
MOF Molkenrain 44.55 312 *e*P **P 11 03 02.6 +2.1**
CDF Champ du Feu 44.56 313 *e*P **P 11 02 58.9 -1.6**
CDF pmax pmax
comp=Z,35nm,0.9s
ECH Echery 44.60 313 PFAKE 11 03 10.0 +9.2
ECH LR LR
comp=Z,2μm,20.0s
ECH Echery 44.60 313 P **P 11 03 00.3 -0.5**
LOMF Lomont 44.68 311 P **P 11 03 01.0 -0.5**
HINF Hinteralfeld 44.73 312 *e*P **P 11 03 00.2 -1.7**
HINF pmax pmax
comp=Z,93nm,1.0s
DFRA Djebel Bou Aff 44.80 296 P **P 11 03 06.3 +3.6**
HFS Hagfors 44.86 330 P **P 11 03 01.9 -0.8**
comp=Z,9.6nm,0.4s,baz=128,slow=9.6,SNR=48
BTO Baotou 45.01 58 *e*P **P 11 03 03.2 -1.1**
BTO S **S 11 09 37.1 -5.4**
ORIF Oris-en-Rattie 45.02 308 *e*P **P 11 03 04.2 -0.1**
ORIF pmax pmax
comp=Z,21nm,0.9s
CABF La Chapelle 45.07 310 *e*P **P 11 03 03.5 -1.2**
CABF pmax pmax
comp=Z,256nm,1.2s
HAU Haudompre 45.10 312 *e*P **P 11 03 03.0 -1.8**
HAU pmax pmax
comp=Z,71nm,0.8s
CKHR Kef el Ahmar 45.12 295 P **P 11 03 09.2 +3.9**
SET Setif 45.20 295 P P 11 03 14.0 +8.1
ENH Enshi 45.26 73 PFAKE 11 03 20.0 +14
ENH LR LR
comp=Z,3μm,20.0s
WLF Walferdange 45.51 314 *e*P **P 11 03 07.2 -0.8**
comp=Z,595nm,1.1s
WLF LR LR
comp=Z,10μm,19.0s
WLF Walferdange 45.51 314 *e*P **P 11 03 07.2 -0.8**
WLF pmax pmax
comp=Z,595nm,1.1s
WLF MLR MLR
comp=Z,10μm,19.0s
WLF Walferdange 45.51 314⇓P **P 11 03 08.0 0.0**
comp=Z,90nm,1.1s
MUD Monsted U'grnd 45.55 324 *i*P **P 11 03 10.2 +2.1**
MUD pmax pmax
comp=Z,48nm,1.0s
MUD Monsted U'grnd 45.55 324 *i*P **P 11 03 10.2 +2.1**
comp=Z,48nm,1.0s
WTSB Winterswijk 45.59 318 *e*P **P 11 03 07.8 -0.8**
comp=Z,73nm,1.0s
MEM Membach 45.78 316 P **P 11 03 11.4 +1.3**
MEM Membach 45.78 316⇑P **P 11 03 10.3 +0.2**
comp=Z,40nm,1.2s
HGN Heimansgroeve 45.86 316 *e*P **P 11 03 10.6 -0.1**
comp=Z,110nm,1.2s
HGN *e*S **S 11 10 00.3 +5.9**
HGN *e*SS **ScS 11 13 08.7 +2.5**
VIVF Saint-Julien-l 45.87 308 *e*P **P 11 03 10.0 -1.0**
VIVF pmax pmax
comp=Z,38nm,1.0s
MAHO Mahon 45.98 301 *i*P **P 11 03 11.7 -0.2**
MAHO *i*S **S 11 09 57.3 +1.0**
SSB Saint Sauveur 46.00 308 *e*P **P 11 03 10.4 -1.6**
SSB pmax pmax
comp=Z,66nm,0.9s
PSI Prapat 46.02 114 *e*P **P 11 03 12.8 +0.2**
comp=Z,29nm,1.1s
PSI LR LR
comp=Z,2μm,19.0s
PSI Prapat 46.02 114 *e*P **P 11 03 12.8 +0.2**
PSI pmax pmax
comp=Z,29nm,1.1s
PSI MLR MLR
comp=Z,2μm,19.0s
BEBN Eben Emael 46.03 316⇑P **P 11 03 12.2 +0.2**
KULM Kulim 46.07 110 PFAKE 11 03 20.0 +7.1
KULM LR LR
comp=Z,2μm,21.0s
KULM Kulim 46.07 110 P **P 11 03 13.0 +0.1**
NRIK Noril'sk 46.07 14 P **P 11 03 11.8 -0.3**
comp=Z,48nm,1.0s,baz=213,slow=6.9,SNR=20
NRIK S **S 11 09 58.7 +1.8**
comp=Z,2.5nm,0.7s,baz=219,slow=11,SNR=9.6
NRIK LR LR 11 25 51.9
comp=Z,6μm,19.4s,baz=210,slow=41
NORES NORESS Array B 46.09 330 P **P 11 03 14.1 +1.7**
OSL Oslo 46.11 329 *e*P **P 11 03 11.9 -0.7**
HHC Hu-ho-hao-te 46.18 58 *e*P **P 11 03 13.9 +0.3**
HHC S **S 11 10 01.4 +1.9**
HHC ScS **ScS 11 13 10.3 +1.3**
HHC pmax pmax
comp=Z,160nm,1.0s
HHC pmax pmax
comp=Z,520nm,5.5s
HHC LR LR
comp=Z,2μm,14.7s
HHC LR LR
comp=Z,2μm,15.0s
HHC LR LR
comp=Z,3μm,15.0s
BCLA Clavier 46.19 315⇑P **P 11 03 13.7 +0.3**
comp=Z,89nm,1.3s
NB201 NORSAR Array S 46.34 331 *e*P **P 11 03 12.5 -1.9**
comp=Z,53nm,1.1s
NB201 NORSAR Array S 46.34 331 *e*P **P 11 03 13.5 -0.9**
NB2 NORSAR Subarra 46.37 331 P **P 11 03 13.1 -1.5**
comp=Z,90nm,2.5s,baz=116,slow=7.9
NB2 NORSAR Subarra 46.37 331 P **P 11 03 13.1 -1.5**
baz=116,slow=7.9
NB200 NORSAR Array S 46.37 331 *e*P **P 11 03 13.2 -1.5**
NB200 *e*PcP **PcP 11 04 50.5 +1.0**
NOA NORSAR Array B 46.37 331 P **P 11 03 13.2 -1.5**
comp=Z,11nm,0.9s,baz=115,slow=7.8,SNR=29
NOA PcP **PcP 11 04 50.5 +1.0**
comp=Z,0.9nm,0.7s,baz=118,slow=5.7,SNR=2.0
NOA LR LR 11 25 03.8
comp=Z,3μm,21.8s,baz=130,slow=39
NAO01 NORSAR Array S 46.43 330 *e*P **P 11 03 16.2 +1.1**
comp=Z,50nm,1.0s
NAO01 NORSAR Array S 46.43 330 *e*P **P 11 03 13.8 -1.3**
GIVF Givet 46.44 315 *e*P **P 11 03 15.2 -0.1**
GIVF pmax pmax
comp=Z,235nm,1.1s
KONO Kongsberg 46.52 329 *e*P **P 11 03 15.7 0.0**
comp=Z,35nm,0.9s
KONO LR LR
comp=Z,3μm,21.0s
KONO Kongsberg 46.52 329 *ce*P **P 11 03 16.6 +0.9**
KONO pmax pmax
comp=Z,33nm,1.3s
KONO Kongsberg 46.52 329 *e*P **P 11 03 14.8 -0.9**
DOU Dourbes 46.58 315⇑P **P 11 03 17.1 +0.7**
comp=Z,95nm,1.2s
ABPO Ambohimpanom 46.61 194 PFAKE 11 03 30.0 +13
ABPO LR LR
comp=Z,2μm,20.0s
SMF Signal de Mont 46.62 310 *e*P **P 11 03 14.6 -2.2**
SMF pmax pmax
comp=Z,244nm,0.9s
KEV Kevo 46.62 346 *e*P **P 11 03 15.8 -0.6**
comp=Z,54nm,1.1s
KEV LR LR
comp=Z,4μm,19.0s
KEV Kevo 46.62 346 *e*P **P 11 03 15.8 -0.6**
KEV pmax pmax
comp=Z,55nm,1.1s
KEV MLR MLR
comp=Z,4μm,19.0s
LOR Lormes 46.67 311 *e*P **P 11 03 15.7 -1.5**
LOR pmax pmax
comp=Z,106nm,1.0s
ARA0 ARCESS Array S 46.79 345 *e*P **P 11 03 17.2 -0.6**
ARA0 *e*PcP **PcP 11 04 52.3 +1.5**
ARCES ARCESS Array B 46.79 345 P **P 11 03 17.2 -0.6**
ARCES *e*P **P 11 03 17.7 -0.1**
ARCES PcP **PcP 11 04 52.3 +1.5**
ARCES ARCESS Array B 46.79 345 P **P 11 03 17.2 -0.6**
ARCES 11 04 52.3
ARCES pmax pmax
comp=Z,16nm,0.8s
ARCES MLR MLR
comp=Z,4μm,18.0s
ARCES ARCESS Array B 46.79 345 P **P 11 03 17.2 -0.6**
comp=Z,17nm,0.8s,baz=133,slow=5.1,SNR=34
ARCES PcP **PcP 11 04 52.3 +1.5**
comp=Z,14nm,0.9s,baz=134,slow=5.2,SNR=3.8
ARCES LR LR 11 26 09.8
comp=Z,4μm,18.0s,baz=131,slow=40
ARE0 ARCESS Array S 46.79 345 *e*P **P 11 03 17.7 -0.1**
comp=Z,1.5nm,1.0s
ARE0 LR LR
comp=Z,200nm,19.0s
ARE0 ARCESS Array S 46.79 345 *e*P **P 11 03 18.5 +0.7**
ADJB Djebel Djouab 46.79 296 P **P 11 03 22.0 +3.6**
BAIF Baives 46.82 315 *e*P **P 11 03 18.5 +0.2**
BAIF pmax pmax
comp=Z,248nm,1.1s
IPM Ipoh 46.82 111 *e*P **P 11 03 18.5 -0.3**
comp=Z,54nm,1.2s
IPM LR LR
comp=Z,2μm,21.0s
IPM Ipoh 46.82 111 P **P 11 03 19.0 +0.2**
SNF Seneffe 46.85 315⇑P **P 11 03 19.0 +0.5**
comp=Z,74nm,1.1s
UCC Uccle 46.85 316 PFAKE 11 03 30.0 +12
UCC LR LR

comp=Z,2μm,21.0s
UCC Uccle 46.85 316 ⇑P **P 11 03 16.8 -1.7**
SSF Saint Saulge 46.89 311 *e*P **P 11 03 17.6 -1.3**
SSF pmax pmax
comp=Z,205nm,1.0s
TIY Taiyuan 46.93 62 *e*P **P 11 03 21.3 +1.8**
TIY pmax pmax
comp=Z,120nm,1.3s
TIY LR LR
comp=Z,3μm,12.8s
TIY LR LR
comp=Z,870nm,12.6s
TIY LR LR
comp=Z,5μm,26.5s
KTK1 Kautokeino 46.95 344 *e*P **P 11 03 18.7 -0.3**
AVF Avril sur Loir 46.96 310 *e*P **P 11 03 18.0 -1.5**
AVF pmax pmax
comp=Z,73nm,1.0s
ABA Alger-Bouzarea 47.07 296 P P 11 03 28.7 +8.2
BGF Bois d'Agland 47.29 310 *e*P **P 11 03 20.8 -1.2**
BGF pmax pmax
comp=Z,115nm,1.0s
TAM Tamanrasset 47.35 277 *e*P **P 11 03 22.4 -0.6**
comp=Z,31nm,1.1s
TAM LR LR
comp=Z,3μm,18.0s
TAM Tamanrasset 47.35 277 *e*P **P 11 03 22.4 -0.6**
TAM pmax pmax
comp=Z,31nm,1.1s
TAM MLR MLR
comp=Z,3μm,18.0s
SKAR Skarslia 47.52 330 *e*P **P 11 03 23.4 -0.3**
MTLF Montolieu 47.55 305 *e*P **P 11 03 23.7 -0.4**
MTLF pmax pmax
comp=Z,64nm,1.0s
TCF Toulx Ste Croi 47.71 309 *e*P **P 11 03 24.2 -1.1**
TCF pmax pmax
comp=Z,77nm,0.9s
NSS Namsos 47.71 335 *e*P **P 11 03 26.9 +1.9**
CAF Calviac 47.73 308 *e*P **P 11 03 24.5 -1.0**
CAF pmax pmax
comp=Z,57nm,1.0s
DOMB Dombas 47.73 331 *e*P **P 11 03 27.5 +2.3**
CLF Chambon-Foret 47.82 312 PFAKE 11 03 40.0 +14
CLF LR LR
comp=Z,2μm,22.0s
BLS5 Blasjo 47.92 327 *e*P **P 11 03 29.4 +2.7**
ODD1 Odda 48.01 328 *e*P **P 11 03 28.9 +1.4**
HAMF Hammerfest 48.03 345 *e*P **P 11 03 27.5 +0.1**
RJF Les Rejaudoux 48.13 308 *e*P **P 11 03 28.1 -0.5**
RJF pmax pmax
comp=Z,100nm,1.0s
QIZ Qiongzhong 48.30 88 P **P 11 03 28.9 -1.3**
QIZ S **S 11 10 30.5 +0.5**
QIZ pmax pmax
comp=Z,6.0nm,1.4s
QIZ pmax pmax
comp=Z,150nm,5.1s
QIZ LR LR
comp=Z,4μm,24.0s
QIZ LR LR
comp=Z,1μm,17.6s
QIZ LR LR
comp=Z,2μm,19.6s
QIZ Qiongzhong 48.30 88 PFAKE 11 03 40.0 +10
QIZ LR LR
comp=Z,2μm,19.0s
KONS Konsvik 48.33 338 *e*P **P 11 03 29.4 -0.3**
TRO Tromso 48.48 343 *e*P **P 11 03 30.8 -0.1**
MOL Molde 48.59 332 *e*P **P 11 03 33.8 +1.9**
HYA Hoyanger 48.66 330 *e*P **P 11 03 34.8 +2.5**
LFF La Frestale 48.66 307 *e*P **P 11 03 32.3 -0.4**
LFF pmax pmax
comp=Z,40nm,0.8s
AKN Aaknes 48.68 331 *e*P **P 11 03 35.1 +2.6**
BER Bergen 48.78 328 *e*P **P 11 03 33.6 +0.3**
EPF Esparros 48.92 305 *e*P **P 11 03 33.8 -1.0**
EPF pmax pmax
comp=Z,6.0nm,0.6s
MFF Saint Martin d 49.35 310 *e*P **P 11 03 36.3 -1.6**
MFF pmax pmax
comp=Z,112nm,1.4s
WHN Wuhan 49.36 72 ⇑P **P 11 03 40.7 +2.5**
WHN pP **sP 11 03 46.1 +0.9**
WHN S **S 11 10 51.0 +6.4**
WHN pmax pmax
comp=Z,46nm,1.0s
WHN LR LR
comp=Z,6μm,13.4s
WHN LR LR
comp=Z,2μm,12.7s
WHN LR LR
comp=Z,9μm,16.6s
LDF La Druitiere 49.46 312 *e*P **P 11 03 37.1 -1.6**
LDF pmax pmax
comp=Z,71nm,0.9s
ETSF Etsaut 49.59 305 *e*P **P 11 03 39.7 -0.2**
ETSF pmax pmax
comp=Z,41nm,0.8s
FLN La Foliniere 49.71 312 *e*P **P 11 03 39.3 -1.3**
FLN pmax pmax
comp=Z,146nm,1.0s
BJT Baijiatuau 49.72 59 PFAKE 11 03 50.0 +9.2
BJT LR LR
comp=Z,2μm,22.0s
DLV T Lat 49.74 97 *e*P **P 11 03 42.6 +1.2**
comp=Z,178nm,1.9s
DLV LR LR
comp=Z,1μm,19.0s
BOD Bodaibo 49.91 36 *e*P **P 11 03 40.8 -1.2**
BOD *e*S **S 11 10 50.5 -1.0**
BOD pmax pmax
comp=Z,120nm,0.9s
GRR Gorron 49.93 312 *e*P **P 11 03 41.5 -0.8**
GRR pmax pmax
comp=Z,111nm,1.2s
CART Cartagena 50.21 298 PFAKE 11 04 00.0 +15
CART LR LR
comp=Z,2μm,22.0s
CART Cartagena 50.21 298 *i*P **P 11 03 43.9 -0.7**
CART *i*S **S 11 10 56.2 -0.1**
MYKOM Kota Tinggi 50.65 111 PFAKE 11 04 00.0 +12
MYKOM LR LR
comp=Z,2μm,19.0s
LSZ Lusaka 50.70 218 *e*P **P 11 03 49.0 +0.4**
comp=Z,22nm,1.1s
LSZ LR LR
comp=Z,3μm,19.0s
LSZ Lusaka 50.70 218 *e*P **P 11 03 49.0 +0.4**
LSZ pmax pmax
comp=Z,23nm,1.1s
LSZ MLR MLR
comp=Z,3μm,19.0s
TIA Tai'an 50.81 64 P **P 11 03 51.0 +1.9**
TIA PP **PP 11 05 47.0 +1.7**
TIA S **S 11 11 08.0 +3.3**
TIA SS **SS 11 14 29.8 -9.4**
TIA pmax pmax
comp=Z,15nm,0.8s
TIA LR LR
comp=Z,4μm,19.9s
TIA LR LR
comp=Z,2μm,20.6s
TIA LR LR
comp=Z,1μm,34.2s
SGMF Saint Gilles 51.06 312 *e*P **P 11 03 49.8 -1.0**
SGMF pmax pmax
comp=Z,127nm,1.0s
HKPS Hong Kong Po S 51.13 82 PFAKE 11 04 00.0 +8.2
HKPS LR LR
comp=Z,3μm,18.0s
FIGM Figuig 51.16 291 P **P 11 03 56.0 +3.9**
SESP Santiago Espad 51.38 299 P **P 11 03 54.6 +1.0**
QUIF Quistinic 51.45 311 *e*P **P 11 03 52.7 -1.1**
QUIF pmax pmax
comp=Z,217nm,1.2s
ROSF Rostrenen 51.54 312 *e*P **P 11 03 53.2 -1.2**
ROSF pmax pmax
comp=Z,214nm,1.2s
TDRA Tendrara 51.65 292 P **P 11 03 60.0 +4.2**
UCM Universidad Co 51.72 302 *i*P **P 11 03 56.8 +0.9**
UCM *i*S **S 11 11 18.3 +1.1**
JBK JBK 51.88 294 P **P 11 04 01.1 +3.7**
EKA Eskdalemuir Ar 52.03 321 P **P 11 03 57.1 -0.8**
comp=Z,5.7nm,0.6s,baz=100,slow=6.9,SNR=14

MELI Melilla 52.04 295 *i*P **P 11 03 57.7 -0.7**
MELI *e*S **S 11 11 19.6 -2.1**
ESK Eskdalemuir 52.05 321 PFAKE 11 04 10.0 +12
ESK LR LR
comp=Z,2μm,22.0s
HIA Hailar 52.16 47 PFAKE 11 04 10.0 +11
HIA LR LR
comp=Z,3μm,20.0s
HIA Hailar 52.16 47 *i*P **P 11 03 59.1 0.0**
ESDC Sonseca Array 52.32 301 *e*P **P 11 03 59.3 -1.2**
ESDC P **P 11 03 59.8 -0.7**
ESDC Sonseca Array 52.32 301 P **P 11 03 59.8 -0.7**
comp=Z,27nm,0.9s,baz=71,slow=7.4,SNR=36
ESDC LR LR 11 28 35.5
comp=Z,991nm,21.3s,baz=120,slow=39
ESLA Sonseca Array 52.32 301 *e*P **P 11 03 59.9 -0.6**
comp=Z,28nm,0.9s
PAB San Pablo 52.63 301 *e*P **P 11 04 01.9 -0.9**
comp=Z,54nm,0.9s
PAB LR LR
comp=Z,1μm,20.0s
PAB San Pablo 52.63 301 *e*P **P 11 04 01.9 -0.9**
PAB pmax pmax
comp=Z,54nm,0.9s
PAB MLR MLR
comp=Z,1μm,20.0s
NJ2 Nanjing 52.87 69 *e*P **P 11 04 06.2 +1.6**
NJ2 pP **sP 11 04 13.7 +2.1**
NJ2 S **S 11 11 36.6 +3.5**
NJ2 pmax pmax
comp=Z,18nm,0.9s
NJ2 pmax pmax
comp=Z,380nm,11.7s
NJ2 LR LR
comp=Z,4μm,18.4s
NJ2 LR LR
comp=Z,4μm,20.6s
NJ2 LR LR
comp=Z,5μm,20.6s
EMAL Malaga-Limoner 53.03 297 *i*P P 11 04 11.8 +6.1
EMAL *i*S **S 11 11 33.1 -2.1**
HORN Hornachuelos 53.54 299 P **P 11 04 10.8 +1.4**
DSB Dublin 53.72 318 *e*P **P 11 04 09.3 -1.2**
DSB Dublin 53.72 318 PFAKE 11 04 20.0 +10
DSB LR LR
comp=Z,2μm,22.0s
MDT Midelt 53.82 292 P **P 11 04 11.5 -0.2**
comp=Z,22nm,0.9s,baz=94,slow=8.6,SNR=26
LCRM LCR 53.87 294 P P 11 04 17.1 +5.0
CEU Ceuta 53.91 296 *i*P **P 11 04 09.9 -2.3**
CEU *i*S **S 11 11 44.2 -2.9**
IWEX Carrickbyrne, 53.92 317 *e*P **P 11 04 11.2 -0.7**
TOC2 Torodi Ar. Sit 54.02 267 PFAKE 11 04 20.0 +6.8
TOC2 LR LR
comp=Z,3μm,20.0s
TOC3 Torodi Ar. Sit 54.02 267 PFAKE 11 04 20.0 +6.7
TOC3 LR LR
comp=Z,3μm,20.0s
DL2 Dalian 54.03 60 *e*P **P 11 04 17.2 +4.2**
DL2 pmax pmax
comp=Z,31nm,0.9s
DL2 LR LR
comp=Z,5μm,23.3s
DL2 LR LR
comp=Z,1μm,22.5s
DL2 LR LR
comp=Z,4μm,18.2s
TOC1 Torodi Ar. Sit 54.03 267 PFAKE 11 04 20.0 +6.7
TOC1 LR LR
comp=Z,3μm,19.0s
TOB3 Torodi Ar. Sit 54.04 267 PFAKE 11 04 20.0 +6.6
TOB3 LR LR
comp=Z,3μm,20.0s
TOA0 Torodi Ar. Sit 54.04 267 *e*P **P 11 04 12.3 -1.1**
comp=Z,99nm,1.3s
TOA0 LR LR
comp=Z,3μm,20.0s
TOA1 Torodi Ar. Sit 54.04 267 *e*P **P 11 04 11.5 -1.9**
TOA1 LR LR
comp=Z,3μm,20.0s
TORD Torodi Ar. Bea 54.04 267 *e*P **P 11 04 11.2 -2.2**
TORD P **P 11 04 11.5 -1.9**
TORD Torodi Ar. Bea 54.04 267 P **P 11 04 11.5 -1.9**
comp=Z,16nm,0.8s,baz=46,slow=6.4,SNR=54
TORD LR LR 11 31 22.8
comp=Z,2μm,18.5s,baz=5.0,slow=41
TOA3 Torodi Ar. Sit 54.05 267 PFAKE 11 04 20.0 +6.6
TOA3 LR LR
comp=Z,3μm,19.0s
TOC4 Torodi Ar. Sit 54.05 267 PFAKE 11 04 20.0 +6.5
TOC4 LR LR
comp=Z,3μm,20.0s
TOC7 Torodi Ar. Sit 54.05 267 PFAKE 11 04 30.0 +17
TOC7 LR LR
comp=Z,3μm,19.0s
TOB5 Torodi Ar. Sit 54.05 267 PFAKE 11 04 30.0 +17
TOB5 LR LR
comp=Z,3μm,20.0s
TOB4 Torodi Ar. Sit 54.06 267 PFAKE 11 04 30.0 +16
TOB4 LR LR
comp=Z,3μm,20.0s
TOC5 Torodi Ar. Sit 54.07 267 PFAKE 11 04 30.0 +16
TOC5 LR LR
comp=Z,3μm,20.0s
IFR Ifrane 54.12 293 *i*P **P 11 04 14.0 0.0**
IFR *i*S **S 11 11 52.5 +2.1**
PBRG Braganca 54.22 304 *e*P **P 11 04 14.5 +0.1**
comp=Z,46nm,1.7s
PBRG Braganca 54.22 304 *e*LR LR 11 28 50.8
QZH Quanzhou 54.30 77 P **P 11 04 17.6 +2.5**
QZH S **S 11 11 54.5 +1.9**
QZH LR LR
comp=Z,3μm,17.5s
QZH LR LR
comp=Z,770nm,16.6s
QZH LR LR
comp=Z,4μm,20.4s
RSA Sarsar 54.44 295 P **P 11 04 19.0 +2.8**
IDGL Inch Island, C 54.48 320 *e*P **P 11 04 15.8 -0.2**
SFS San Fernando 54.49 297 PFAKE 11 04 30.0 +14
SFS LR LR
comp=Z,1μm,20.0s
MVO Moncorvo 54.50 303 *e*P **P 11 04 16.9 +0.4**
comp=Z,80nm,0.9s
MVO *e*S **S 11 11 54.3 -0.9**
MVO *e*SS SS 11 16 25.1 +48
MVO *e*LR LR 11 21 19.8
comp=Z,1μm,18.0s
BLWY Bulawayo 54.50 214 *i*P **P 11 04 15.3 -1.4**
BLWY Bulawayo 54.50 214 *i*P **P 11 04 15.3 -1.4**
MATP Matopo 54.80 214 *i*P **P 11 04 19.1 +0.3**
MATP Matopo 54.80 214 *i*P **P 11 04 19.1 +0.3**
SPA0 Spitsbergen Ar 54.83 350 *e*P **P 11 04 17.6 -0.6**
SPITS Spitsbergen Ar 54.83 350 P **P 11 04 16.5 -1.7**
comp=Z,15nm,0.7s,baz=123,slow=12,SNR=5.2
MTE Manteigas 54.98 302 *e*P **P 11 04 20.9 +0.9**
comp=Z,71nm,1.2s
MTE Manteigas 54.98 302 *e*PP PP 11 06 23.4 +0.5
MTE *e*S **S 11 12 05.7 +4.1**
MTE *e*SS **SS 11 15 51.6 +6.6**
MTE *e*LR LR 11 22 09.6
comp=Z,1μm,18.0s
PMRV Marv??o 54.98 301 *e*P **P 11 04 19.9 -0.1**
comp=Z,48nm,1.3s
PMRV Marv??o 54.98 301 *e*PP PP 11 06 27.7 +4.7
PMRV *e*S **S 11 12 00.5 -1.1**
PMRV *e*SS SS 11 15 56.2 +11
PMRV Marv??o 54.98 301 *e*LR LR 11 28 16.3
comp=Z,995nm,16.0s
PCBR Castelo Branco 55.00 301 *e*P **P 11 04 20.2 +0.2**
comp=Z,96nm,1.4s
PVRL Vila Real 55.00 303 *e*P **P 11 04 19.9 -0.2**
comp=Z,86nm,1.3s
SSE Sheshan 55.01 69 P P 11 04 26.6 +6.3
SSE S **S 11 12 05.3 +3.1**
SSE pmax pmax
comp=Z,31nm,0.7s
SSE pmax pmax
comp=Z,120nm,4.2s
SSE LR LR
comp=Z,760nm,13.9s
SSE LR LR
comp=Z,1μm,16.7s
SSE Sheshan 55.01 69 PFAKE 11 04 30.0 +10
SSE LR LR

comp=Z,4μm,19.0s
POLO Lamas de Olo 55.05 303 *e*P **P 11 04 20.9 +0.4**
comp=Z,45nm,1.4s
PCAB Cabril 55.19 304 *e*P **P 11 04 22.3 +0.9**
comp=Z,84nm,1.3s
PVIS Viseu 55.20 302 *e*P **P 11 04 22.0 +0.4**
comp=Z,85nm,1.8s
PGAV Gavieira, Arco 55.34 304 *e*P **P 11 04 23.2 +0.6**
comp=Z,90nm,1.5s
PGAV Gavieira, Arco 55.34 304 *e*PP PP 11 06 22.8 -3.4
PGAV *e*S **S 11 12 07.1 +0.6**
PGAV *e*SS **SS 11 15 58.6 +7.9**
PGAV *e*LR LR 11 22 37.6
comp=Z,953nm,18.0s
RTC Rabat Centre 55.45 294 PFAKE 11 04 40.0 +17
RTC LR LR
comp=Z,9μm,19.0s
IGLA Glengowla, Co 55.52 318 *e*P **P 11 04 23.0 -0.5**
PVAQ Vaqueiros 55.53 298 *e*S **S 11 12 04.5 -4.5**
PVAQ *e*SS **SS 11 15 56.1 +2.3**
PBEJ Beja 55.55 299 *e*P **P 11 04 24.8 +0.7**
comp=Z,40nm,1.2s
EVO Evora 55.59 300 *e*P **P 11 04 24.2 -0.1**
comp=Z,59nm,1.3s
EVO Evora 55.59 300 *i*P P 11 04 30.9 +6.6
EVO *i*S **S 11 12 09.6 -0.1**
COI Coimbra 55.66 302 *e*P **P 11 04 25.3 +0.5**
comp=Z,114nm,0.8s
COI Coimbra 55.66 302 P **P 11 04 26.8 +2.0**
COI pmax pmax
comp=Z,82nm,0.7s
PMTG Montargil 55.68 301 *e*P **P 11 04 25.8 +0.9**
comp=Z,38nm,1.7s
PTO Porto 55.68 303 *e*P **P 11 04 28.1 +3.2**
PBDV Barranco-do-Ve 55.73 298 *e*P **P 11 04 27.6 +2.2**
comp=Z,65nm,1.4s
PBDV Barranco-do-Ve 55.73 298 *e*LR LR 11 27 56.6
PTOM Tomar 55.74 301 *e*P **P 11 04 25.7 +0.3**
comp=Z,123nm,0.9s
PCAS Casmilo, Conde 55.75 302 *e*P **P 11 04 26.0 +0.6**
comp=Z,60nm,1.6s
PCAS Casmilo, Conde 55.75 302 *e*LR LR 11 27 51.7
PCVE Castro Verde 55.75 299 *e*P **P 11 04 25.2 -0.3**
comp=Z,58nm,1.4s
PCVE Castro Verde 55.75 299 *e*LR LR 11 28 11.4
MESJ Messejana 55.86 299 *e*P **P 11 04 25.8 -0.5**
MESJ *e*S **S 11 12 11.8 -1.6**
MESJ AMS AMS 11 30 23.9
comp=N,2μm,19.3s
MESJ Messejana 55.86 299 *e*P **P 11 04 26.5 +0.2**
comp=N,38nm,1.7s
MESJ Messejana 55.86 299 *e*P **P 11 04 25.7 -0.5**
MESJ *e*S **S 11 12 11.7 -1.6**
KBS Kingsbay 55.99 350 *e*P **P 11 04 27.1 +0.6**
comp=N,19nm,0.8s
KBS LR LR
comp=Z,2μm,18.0s
KBS Kingsbay 55.99 350 *ce*P **P 11 04 26.4 -0.2**
KBS pmax pmax
comp=Z,67nm,0.6s
PNCL Nicolau / Gran 56.06 299 *e*P **P 11 04 28.9 +1.2**
comp=Z,47nm,1.4s
PNCL Nicolau / Gran 56.06 299 *e*LR LR 11 28 50.8
KSM Kuching 56.26 107 PFAKE 11 04 40.0 +11
KSM LR LR
comp=Z,2μm,20.0s
MORF Marmelete 56.28 299 *e*P **P 11 04 28.7 -0.8**
MORF *e*S **S 11 12 17.5 -1.6**
MORF AMS AMS 11 30 42.6
comp=N,2μm,18.2s
MORF Marmelete 56.28 299 *e*LR LR 11 28 16.3
MORF Marmelete 56.28 299 *e*P **P 11 04 28.6 -0.8**
MORF *e*S **S 11 12 17.5 -1.6**
CN2 Changchun 56.31 54 *e*P **P 11 04 26.7 -2.7**
CN2 *e*S **S 11 12 21.6 +2.4**
CN2 pmax pmax
comp=N,10.0nm,0.6s
CN2 pmax pmax
comp=N,200nm,4.0s
CN2 LR LR
comp=N,1μm,18.0s
CN2 LR LR
comp=N,3μm,18.0s
CN2 LR LR
comp=N,3μm,18.0s
PFVI Vila Bisbo 56.45 298 *e*P **P 11 04 30.6 +0.1**
comp=N,118nm,1.2s
PFVI Vila Bisbo 56.45 298 *e*LR LR 11 28 16.3
PFVI Vila Bisbo 56.45 298 PFAKE 11 04 40.0 +9.5
PFVI LR LR
comp=Z,900nm,19.0s
PMAFR Mafra 56.51 301 *e*P **P 11 04 32.7 +1.8**
SSLB Suanglung 56.69 78 PFAKE 11 04 40.0 +7.6
SSLB LR LR
comp=Z,2μm,19.0s
YHNB Yeheng 56.80 77 *e*P **P 11 04 35.4 +2.2**
comp=Z,60nm,1.1s
YHNB LR LR
comp=Z,4μm,19.0s
TATO Taipei 56.81 76 PFAKE 11 04 50.0 +17
TATO LR LR
comp=Z,3μm,19.0s
ZEA Zeya 56.89 42 *e*P **P 11 04 33.4 0.0**
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=N,21nm,0.8s
ZEA pmax pmax
comp=Z,43nm,1.2s
ZEA MLR MLR
comp=N,2μm,14.0s
ZEA MLR MLR
comp=E,1μm,14.0s
ZEA MLR MLR
comp=Z,3μm,14.0s
TWG Pinlang 57.08 79 PFAKE 11 04 50.0 +15
TWG LR LR
comp=Z,8μm,19.0s
NACB Ninganchiao 57.13 77 PFAKE 11 04 50.0 +14
NACB LR LR
comp=Z,4μm,20.0s
SBUM Sibu 57.41 105 PFAKE 11 04 50.0 +12
SBUM LR LR
comp=Z,700nm,19.0s
SBUM Sibu 57.41 105 P **P 11 04 38.0 +0.5**
YOJ Yonaguni jima 58.28 77 PFAKE 11 05 00.0 +16
YOJ LR LR
comp=Z,2μm,19.0s
YAK Yakutsk 58.30 32 *e*P **P 11 04 41.0 -2.1**
YAK *e* 11 06 54.3
YAK *e*S **S 11 12 38.4 -6.3**
YAK *e**SS sS 11 13 00.4 +7.5
YAK *e* 11 14 23.8
YAK pmax pmax
comp=Z,407nm,1.3s
YAK pmax pmax
comp=N,38nm,1.1s
YAK pmax pmax
comp=E,206nm,1.3s
YAK pmax pmax
comp=Z,97nm,0.9s
YAK pmax pmax
comp=N,25nm,0.6s
YAK pmax pmax
comp=E,148nm,1.1s
YAK smax smax
comp=N,2μm,4.3s
YAK smax smax
comp=E,2μm,2.6s
YAK MLR MLR
comp=Z,9μm,19.0s
YAK MLR MLR
comp=N,5μm,17.0s
YAK MLR MLR
comp=E,9μm,20.0s
TIXI Tiksi 58.93 20 P **P 11 04 45.8 -1.5**
TIXI *e*P **P 11 04 46.5 -0.9**
TIXI LR LR
comp=Z,3μm,19.0s
TIXI Tiksi 58.93 20 *ce*P **P 11 04 46.3 -1.0**
TIXI pmax pmax
comp=Z,22nm,1.3s
TIXI Tiksi 58.93 20 P **P 11 04 45.8 -1.5**
comp=Z,9.4nm,0.6s,baz=287,slow=4.4,SNR=20
TJN Taejon 58.94 62 *ce*P **P 11 04 48.3 +0.3**
KSAR Wonju Array Be 59.13 61 P **P 11 04 48.6 -0.6**

KSAR *eP* **P** **11 04 49.1 -0.2**
KSAR Wonju Array Be 59.13 61 P **P** **11 04 48.7 -0.6**
KSAR *e* 11 04 49.1
KSRS Korea Array 59.16 61 P **P** **11 04 48.7 -0.8**
KSRS pmax pmax
comp=Z,11nm,0.8s
KSRS MLR MLR
comp=Z,2μm,21.3s
KSRS Korea Array 59.16 61 P **P** **11 04 48.6 -0.8**
comp=Z,13nm,0.8s,baz=277,slow=7.2,SNR=32
KSRS LR LR 11 34 17.5
comp=Z,2μm,21.3s,baz=276,slow=40
MDJ Mudanjiang 59.17 52 PFAKE 11 05 00.0 +11
MDJ LR LR
comp=Z,2μm,18.0s
KKM Kota Kinabalu 59.17 99 *eP* **P** **11 04 50.4 +0.4**
comp=Z,25nm,1.2s
KKM LR LR
comp=Z,3μm,22.0s
KKM Kota Kinabalu 59.17 99 P **P** **11 04 51.0 +0.9**
CISI Cisompet, Garu 59.26 118 PFAKE 11 05 00.0 +9.5
CISI LR LR
comp=Z,1μm,18.0s
KLR Kul'dur 60.02 47 P **P** **11 04 54.4 -0.8**
comp=Z,15nm,0.9s,baz=283,slow=8.0,SNR=24
TSUM Tsumeb 60.04 225 *i* P **P** **11 04 56.6 +0.7**
TSUM Tsumeb 60.04 225 *eP* **P** **11 04 56.1 +0.2**
comp=Z,23nm,1.2s
TSUM LR LR
comp=Z,3μm,21.0s
TSUM Tsumeb 60.04 225 *i* P **P** **11 04 56.6 +0.7**
LBTB Lobatse 60.09 214 *eP* **P** **11 04 56.4 +0.3**
comp=Z,42nm,1.1s
LBTB Lobatse 60.09 214 *eP* **P** **11 04 56.4 +0.3**
LBTB pmax pmax
comp=Z,42nm,1.1s
USA0B Ussuriysk Arra 60.93 52 PFAKE 11 05 10.0 +8.4
USA0B LR LR
comp=Z,2μm,20.0s
USRK Ussuriysk Ar. 60.93 52 P **P** **11 05 01.6 +0.1**
comp=Z,5.1nm,0.9s,baz=286,slow=9.9,SNR=6.3
USRK LR LR 11 34 08.9
comp=Z,2μm,19.2s,baz=270,slow=39
DAG Danmarks Havn 61.08 345⇑ *i P* **P** **11 05 01.2 -0.8**
DAG pmax pmax
comp=Z,20nm,0.7s
DAG Danmarks Havn 61.08 345⇑ *i P* **P** **11 05 01.2 -0.8**
comp=Z,30nm,0.7s
SCO Scoresbysund 61.65 338 PFAKE 11 05 20.0 +14
SCO LR LR
comp=Z,2μm,21.0s
JOW Kunigami 62.11 72 PFAKE 11 05 20.0 +10
JOW LR LR
comp=Z,2μm,21.0s
JNU Nakatsue 62.52 65 P **P** **11 05 11.1 -1.4**
JNU *eP* **P** **11 05 14.3 +1.8**
JNU Nakatsue 62.52 65 P **P** **11 05 11.1 -1.4**
comp=Z,16nm,1.0s,baz=228,slow=14,SNR=6.0
DBIC Dimbokro 62.62 263 P **P** **11 05 12.5 -0.9**
DBIC *eP* **P** **11 05 13.1 -0.3**
DBIC Dimbokro 62.62 263 P **P** **11 05 13.1 -0.3**
DBIC pmax pmax
comp=Z,60nm,1.2s
DBIC Dimbokro 62.62 263 P **P** **11 05 12.5 -0.9**
comp=Z,20nm,0.9s,baz=42,slow=9.7,SNR=12
DBIC LR LR 11 33 14.7
comp=Z,2μm,18.7s,baz=40,slow=37
KIC Kosan Boka 62.65 263 *eP* **P** **11 05 11.5 -2.1**
comp=Z,137nm,1.3s
TIC Toumodi 62.78 264 *eP* **P** **11 05 12.0 -2.5**
GRNR Gornyy 62.78 44 *eP* **P** **11 05 14.8 +0.9**
GRNR pmax pmax
comp=Z,23nm,1.0s
LIC Lamto 62.97 263 *eP* **P** **11 05 15.4 -0.3**
comp=Z,172nm,1.4s
BOSA Boshof 63.26 212 *eP* **P** **11 05 16.8 -0.7**
comp=Z,17nm,0.8s
BOSA P **P** **11 05 17.1 -0.3**
BOSA Boshof 63.26 212 P **P** **11 05 17.1 -0.3**
comp=Z,9.6nm,0.7s,baz=39,slow=7.5,SNR=11
BOSA LR LR 11 33 36.9
comp=Z,1μm,20.9s,baz=27,slow=37
PMOZ Porto Moniz, M 64.12 295 *eS* **S** **11 14 06.5 +6.5**
PMOZ Porto Moniz, M 64.12 295 *eLR* LR 11 31 28.3
comp=Z,1μm,18.0s
NKL Nikolayevsk 64.93 41 *eP* **P** **11 05 27.0 -1.0**
NKL *e* 11 21 17.0
NKL pmax pmax
comp=Z,21nm,1.0s
NKL MLR MLR
comp=E,2μm,13.0s
NKL MLR MLR
comp=Z,3μm,13.0s
SUMG Summit 66.59 341 *eP* **P** **11 05 38.6 -0.3**
comp=Z,86nm,0.9s
SUMG LR LR
comp=Z,2μm,19.0s
SUMG Summit 66.59 341 *eP* **P** **11 05 38.6 -0.3**
SUMG pmax pmax
comp=Z,86nm,0.9s
SUMG MLR MLR
comp=Z,2μm,19.0s
SUMG Summit 66.59 341⇑ *i P* **P** **11 05 39.0 +0.1**
comp=Z,213nm,0.9s
TYV Tymovskoe 66.63 43 *eP* **P** **11 05 38.7 -0.3**
TYV *e* 11 14 30.9
TYV pmax pmax
comp=Z,200nm,6.5s
TYV pmax pmax
comp=Z,22nm,0.9s
TYV MLR MLR
comp=Z,1μm,14.0s
INU Inuyama 66.78 61 *eP* **P** **11 05 40.7 +0.4**
comp=Z,37nm,0.9s
INU LR LR
comp=Z,3μm,18.0s
DAV Davao City (W) 67.04 94 PFAKE 11 05 50.0 +7.8
DAV LR LR
comp=Z,2μm,20.0s
MJB9 Matsu-Tunnel 67.35 59 *eP* **P** **11 05 44.3 +0.4**
comp=Z,34nm,1.3s
MJB9 LR LR
comp=Z,2μm,21.0s
MAJO Matsushiro 67.36 59 *eP* **P** **11 05 43.8 -0.2**
comp=Z,32nm,1.3s
MAJO LR LR
comp=Z,2μm,21.0s
MAJO Matsushiro 67.36 59 *eP* **P** **11 05 43.8 -0.2**
MAJO pmax pmax
comp=Z,32nm,1.3s
MAJO MLR MLR
comp=Z,2μm,21.0s
MAT Matsushiro 67.36 59 P **P** **11 05 43.6 -0.3**
MAT S **S** **11 14 42.8 +3.6**
MJAR Matsushiro Arr 67.36 59 P **P** **11 05 43.6 -0.4**
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR MLR MLR
comp=Z,2μm,21.0s
MJAR Matsushiro Arr 67.36 59 P **P** **11 05 43.5 -0.4**
comp=Z,7.5nm,0.8s,baz=280,slow=10,SNR=21
MJAR LR LR 11 38 39.7
comp=Z,2μm,21.0s,baz=295,slow=39
KAPI Kappang 67.67 108 PFAKE 11 06 00.0 +14
KAPI LR LR
comp=Z,900nm,21.0s
YSS Yuzh-Sakhalins 67.69 48 *eP* **P** **11 05 46.3 +0.4**
comp=Z,55nm,0.8s
YSS LR LR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 67.69 48⇑ *eP* **P** **11 05 46.1 +0.3**
YSS *e* 11 06 05.1
YSS *eS* **S** **11 14 37.3 -5.5**
YSS *ePS* 11 14 59.4
YSS pmax pmax
comp=Z,40nm,0.8s
YSS pmax pmax
comp=Z,200nm,3.8s
ANGG Ammassalik, Gr 68.17 334 PFAKE 11 06 00.0 +12
ANGG LR LR
comp=Z,2μm,20.0s
LUWI Luwuk 68.28 103 PFAKE 11 06 00.0 +10
LUWI LR LR
comp=Z,1μm,21.0s
ASAJ Asahikawa 68.37 50 P **P** **11 05 49.6 -0.6**
comp=Z,9.6nm,0.9s,baz=275,slow=12,SNR=3.1
ASAJ LR LR 11 40 58.7
comp=Z,1μm,19.8s,baz=296,slow=41
SUR Sutherland 68.52 213 *eP* **P** **11 05 51.4 0.0**
SUR LR LR
comp=Z,2μm,20.0s
SEY Seymchan 68.59 29 *i* P **P** **11 05 49.3 -1.9**
SEY Seymchan 68.59 29 P **P** **11 05 50.7 -0.5**
comp=Z,43nm,0.8s,baz=287,slow=6.8,SNR=46
MA2 Magadan 68.82 33 *eP* **P** **11 05 51.6 -1.1**
comp=Z,22nm,0.9s
MA2 P **P** **11 05 52.1 -0.6**
MA2 LR LR
comp=Z,2μm,19.0s
MA2 Magadan 68.82 33 *i* P **P** **11 05 52.1 -0.6**
MA2 pmax pmax
comp=Z,24nm,0.9s
MA2 Magadan 68.82 33 P **P** **11 05 52.1 -0.6**
comp=Z,18nm,0.9s,baz=299,slow=6.3,SNR=27
ERM Erimo 69.39 53 PFAKE 11 06 10.0 +13
ERM LR LR
comp=Z,2μm,19.0s
YUK Yuzh-Kuril'sk 70.64 50 *eP* **P** **11 06 07.4 +3.2**
YUK *eS* **S** **11 15 22.9 +5.2**
YUK *eSS* **SS** **11 19 44.2 -4.8**
YUK pmax pmax
comp=Z,323nm,1.0s
YUK pmax pmax
comp=E,147nm,0.8s
YUK pmax pmax
comp=N,155nm,1.2s
YUK pmax pmax
comp=Z,249nm,1.7s
YUK MLR MLR
comp=Z,2μm,16.0s
MMRI Maumere 71.66 110 PFAKE 11 06 20.0 +9.2
MMRI LR LR
comp=Z,900nm,20.0s
ILULI Ilulissat 71.67 339 *eP* **P** **11 06 08.2 -1.7**
comp=Z,68nm,1.4s
ILULI LR LR
comp=Z,2μm,22.0s
ILULI Ilulissat 71.67 339 *eP* **P** **11 06 08.2 -1.7**
ILULI pmax pmax
comp=Z,68nm,1.4s
ILULI MLR MLR
comp=Z,2μm,22.0s
TULEG Thule 71.95 349 PFAKE 11 06 20.0 +8.5
TULEG LR LR
comp=Z,2μm,20.0s
BILL Bilibino 72.07 22 *eP* **P** **11 06 11.7 -0.8**
comp=Z,25nm,1.0s
BILL LR LR
comp=Z,3μm,18.0s
BILL Bilibino 72.07 22 *ceP* **P** **11 06 12.7 +0.3**
BILL *e* 11 06 27.9
BILL *eS* **S** **11 15 35.5 +1.9**
BILL pmax pmax
comp=Z,38nm,1.3s
SFJD Kangerlussuaq 72.52 337 P **P** **11 06 14.6 -0.5**
SFJD *eP* **P** **11 06 14.9 -0.1**
SFJD LR LR
comp=Z,2μm,21.0s
SFJD Kangerlussuaq 72.52 337 *i* P **P** **11 06 15.1 0.0**
SFJD pmax pmax
comp=Z,82nm,0.6s
SFJD Kangerlussuaq 72.52 337 P **P** **11 06 14.6 -0.5**
comp=Z,8.9nm,0.6s,baz=76,slow=7.0,SNR=4.0
SFJD Kangerlussuaq 72.52 337 *i* P **P** **11 06 15.1 0.0**
comp=Z,82nm,0.6s
SOEI Soe 73.95 110 *eP* **P** **11 06 23.8 -0.7**
comp=Z,102nm,1.0s
SOEI LR LR
comp=Z,1μm,21.0s
PEA1 Petropavlovsk- 74.69 38 *eP* **P** **11 06 26.9 -1.3**
PEA0B Petropavlovsk- 74.69 38 *eP* **P** **11 06 27.7 -0.4**
comp=Z,43nm,1.2s
PEA0B LR LR
comp=Z,2μm,21.0s
PETK Petropavlovsk- 74.69 38 P **P** **11 06 26.9 -1.3**
PETK *eP* **P** **11 06 27.2 -0.9**
PETK Petropavlovsk- 74.69 38 P **P** **11 06 26.9 -1.3**
comp=Z,17nm,1.1s,baz=332,slow=2.1,SNR=6.9
PETK LR LR 11 42 49.3
comp=Z,2μm,18.1s,baz=288,slow=39
MBWA Marble Bar 76.58 122 PFAKE 11 06 50.0 +11
MBWA LR LR
comp=Z,4μm,22.0s
PSAD1 Pilbara Seismi 76.83 122 PFAKE 11 06 50.0 +9.2
PSAD1 LR LR
comp=Z,3μm,20.0s
PSAC1 Pilbara Seismi 76.86 122 PFAKE 11 06 50.0 +9.1
PSAC1 LR LR
comp=Z,4μm,22.0s
PSAB1 Pilbara Seismi 76.89 122 PFAKE 11 06 50.0 +8.9
PSAB1 LR LR
comp=Z,2μm,20.0s
PSAD3 Pilbara Seismi 76.90 123 PFAKE 11 06 50.0 +8.8
PSAD3 LR LR
comp=Z,3μm,21.0s
PSAA2 Pilbara Seismi 76.90 122 PFAKE 11 06 50.0 +8.8
PSAA2 LR LR
comp=Z,2μm,19.0s
PSAC3 Pilbara Seismi 76.92 122 PFAKE 11 06 50.0 +8.7
PSAC3 LR LR
comp=Z,2μm,18.0s
RES Resolute Bay 77.29 353 *eP* **P** **11 06 41.4 -1.1**
comp=Z,4.4nm,0.8s
RES LR LR
comp=Z,2μm,19.0s
RES Resolute Bay 77.29 353 *eP* **P** **11 06 41.4 -1.1**
RES pmax pmax
comp=Z,4.0nm,0.8s
RES MLR MLR
comp=Z,2μm,19.0s
MORW Morawa 78.71 131 PFAKE 11 07 00.0 +8.9
MORW LR LR
comp=Z,2μm,20.0s
FITZ Fitzroy Crossi 79.48 116 *eP* **P** **11 06 55.9 +0.4**
comp=Z,23nm,1.4s
RDOG Red Dog Mine 80.82 14 PFAKE 11 07 10.0 +8.0
RDOG LR LR
comp=Z,4μm,20.0s
GUMO Guam 81.45 79 LR LR 11 44 52.3
comp=Z,362nm,22.0s,baz=300,slow=37
TOLK Toolik Lake Re 82.81 10 *eP* **P** **11 07 12.0 -0.6**
comp=Z,31nm,0.8s
TOLK LR LR
comp=Z,3μm,19.0s
ANM Nome 83.01 17 PFAKE 11 07 20.0 +6.4
ANM LR LR
comp=Z,3μm,21.0s
ANM Nome 83.01 17 P **P** **11 07 15.2 +1.6**
ANM pmax pmax
comp=Z,36nm,1.2s
COLD Coldfoot 84.00 11 *eP* **P** **11 07 18.4 -0.2**
IMAR Indian Mountai 84.48 12 *eP* **P** **11 07 19.6 -1.6**
BMAR Burnt Mountain 84.64 8 *eP* **P** **11 07 21.8 -0.1**
JAY Jayapura 84.80 95 LR LR 11 46 56.5
comp=Z,260nm,20.4s,baz=315,slow=37
INK Inuvik 84.88 4 P **P** **11 07 21.7 -1.3**
INK *eP* **P** **11 07 22.3 -0.8**
INK LR LR
comp=Z,2μm,22.0s
INK Inuvik 84.88 4 P **P** **11 07 21.7 -1.3**
comp=Z,13nm,0.9s,baz=357,slow=6.9,SNR=24
DRLN Deer Lake 84.97 324 PFAKE 11 07 30.0 +6.1
DRLN LR LR
comp=Z,1μm,21.0s
FYU Fort Yukon 85.37 9 PFAKE 11 07 40.0 +14
FYU LR LR
comp=Z,1μm,18.0s
MLY Manley 85.90 12 *eP* **P** **11 07 28.0 -0.3**
comp=Z,17nm,1.0s
MLY LR LR
comp=Z,2μm,20.0s
SCHQ Schefferville 85.94 331 LR LR 11 46 54.1
comp=Z,626nm,18.8s,baz=56,slow=36
PRP Porcupine Dome 86.31 10 *eP* **P** **11 07 31.0 +0.6**
comp=Z,20nm,1.2s
PRP LR LR
comp=Z,2μm,19.0s
MDM Murphy Dome 86.41 11 *eP* **P** **11 07 30.5 -0.3**
comp=Z,33nm,1.1s
MDM LR LR
comp=Z,2μm,20.0s
EPYK Eagle Plains 86.54 6 PFAKE 11 07 40.0 +8.6
EPYK LR LR
comp=Z,900nm,20.0s
COLA College 86.55 11 *eP* **P** **11 07 30.6 -0.8**
comp=Z,14nm,1.0s
COLA LR LR
comp=Z,2μm,21.0s
COLA College 86.55 11 *i P* **P** **11 07 30.6 -0.8**
COLA pmax pmax
comp=Z,5.0nm,1.0s
BPAW Bear Paw Mtn. 86.70 12 *eP* **P** **11 07 31.3 -0.9**
comp=Z,100nm,1.4s
BPAW LR LR
comp=Z,2μm,20.0s
CCB Clear Creek Bu 86.77 11 PFAKE 11 07 40.0 +7.5
CCB LR LR
comp=Z,2μm,21.0s
ILAR Eielson Array 86.80 10 P **P** **11 07 31.1 -1.5**
ILAR *eP* **P** **11 07 31.8 -0.8**
ILAR Eielson Array 86.80 10 P **P** **11 07 31.1 -1.5**
comp=Z,4.1nm,0.7s,baz=334,slow=3.3,SNR=38
ILAR LR LR 11 51 32.3
comp=Z,1μm,19.9s,baz=329,slow=39
ILB Eielson Array 86.80 10 *eP* **P** **11 07 32.7 0.0**
comp=Z,6.9nm,0.8s
WRH Wood River Hil 86.88 11 *eP* **P** **11 07 33.1 +0.1**
comp=Z,28nm,1.6s
WRH LR LR
comp=Z,2μm,20.0s
BWN Browne 86.92 12 PFAKE 11 07 40.0 +6.8
BWN LR LR
comp=Z,2μm,20.0s
CAST Castle Rocks 87.10 13 *eP* **P** **11 07 33.4 -0.7**
comp=Z,34nm,0.9s
CAST LR LR
comp=Z,2μm,22.0s
HDA Harding Lake 87.13 10 *eP* **P** **11 07 33.0 -1.3**
comp=Z,11nm,0.8s
HDA LR LR
comp=Z,2μm,21.0s
MCK McKinley 87.41 12 *eP* **P** **11 07 35.0 -0.7**
comp=Z,29nm,1.0s
MCK LR LR
comp=Z,2μm,20.0s
MCK McKinley 87.41 12 *eP* **P** **11 07 35.0 -0.7**
MCK pmax pmax
comp=Z,29nm,1.0s
MCK MLR MLR
comp=Z,2μm,20.0s
WR1 Warramunga Arr 87.48 114 *eP* **P** **11 07 35.9 -0.8**
WRA Warramunga Arr 87.48 114 P **P** **11 07 35.9 -0.8**
comp=Z,6.0nm,0.8s,baz=311,slow=4.1,SNR=27
WRA LR LR 11 51 24.8
comp=Z,460nm,18.2s,baz=270,slow=39
WB2 Warramunga Arr 87.49 114 *eP* **P** **11 07 36.6 -0.1**
comp=Z,75nm,1.6s
EGAK Eagle 87.61 8 *eP* **P** **11 07 36.2 -0.4**
comp=Z,45nm,1.3s
RND Reindeer 87.73 12 *eP* **P** **11 07 36.0 -1.3**
comp=Z,20nm,1.0s
RND LR LR
comp=Z,2μm,20.0s
RND Reindeer 87.73 12 *eP* **P** **11 07 36.0 -1.3**
RND pmax pmax
comp=Z,20nm,1.0s
RND MLR MLR
comp=Z,2μm,20.0s
SCRK Sand Creek 87.99 9 *eP* **P** **11 07 37.6 -1.0**
comp=Z,26nm,1.0s
SCRK LR LR
comp=Z,1μm,20.0s
RIDG Independent Ri 88.09 10 PFAKE 11 07 50.0 +11
RIDG LR LR
comp=Z,2μm,22.0s
DHY Denali Highway 88.30 11 PFAKE 11 07 50.0 +10
DHY LR LR
comp=Z,1μm,21.0s
ADK Adak 88.35 30 PFAKE 11 07 50.0 +10
ADK LR LR
comp=Z,2μm,21.0s
DAWY Dawson 88.51 7 PFAKE 11 07 50.0 +9.1
DAWY LR LR
comp=Z,2μm,20.0s
PAX Paxson 88.71 10 P **P** **11 07 43.2 +1.2**
ASAR Alice Springs 88.96 117 P **P** **11 07 42.7 -1.0**
ASAR *eP* **P** **11 07 43.9 +0.3**
ASAR Alice Springs 88.96 117 P **P** **11 07 42.7 -1.0**
comp=Z,4.8nm,0.9s,baz=305,slow=4.5,SNR=25
ASAR LR LR 11 51 17.7
comp=Z,456nm,18.0s,baz=290,slow=38
BCAR Beaver Creek A 89.17 9 *eP* **P** **11 07 43.9 -0.2**
GHO Glory Hole Cre 89.22 12 PFAKE 11 08 00.0 +16
GHO LR LR
comp=Z,2μm,20.0s
HARP HAARP 89.29 10 PFAKE 11 08 00.0 +15
HARP LR LR
comp=Z,2μm,20.0s
SML Sawmill 89.30 12 P **P** **11 07 46.1 +1.4**
GBN Guysborough 89.47 322 PFAKE 11 08 00.0 +14
GBN LR LR
comp=Z,900nm,20.0s
KNK Knik Glacier 89.64 12 PFAKE 11 08 00.0 +14
KNK LR LR
comp=Z,2μm,20.0s
RC01 Rabbit Creek A 89.68 13 PFAKE 11 08 00.0 +14
RC01 LR LR
comp=Z,700nm,18.0s
KLU Klutina 90.02 11 PFAKE 11 08 00.0 +12
KLU LR LR
comp=Z,1μm,21.0s
HOM Homer 90.58 14 PFAKE 11 08 00.0 +9.4
HOM LR LR
comp=Z,2μm,19.0s
BRLK Bradley Lake 90.65 14 PFAKE 11 08 00.0 +9.0
BRLK LR LR
comp=Z,2μm,18.0s
YKA Yellowknife Ar 90.88 356 P **P** **11 07 50.8 -1.2**
comp=Z,1.5nm,0.6s,baz=356,slow=4.6,SNR=25
YKA PKKPbc **PKKPbc** **11 25 16.7 -1.2**
comp=Z,0.2nm,0.6s,baz=194,slow=2.5,SNR=5.7
YKA LR LR 11 54 26.6
comp=Z,83nm,19.8s,baz=2.0,slow=40
YKB5 Yellowknife Ar 90.88 356 *eP* **P** **11 07 50.8 -1.2**
LMN Caledonia Moun 90.96 324 PFAKE 11 08 00.0 +7.3
LMN LR LR
comp=Z,1μm,22.0s
BALM Baldy 91.03 10 PFAKE 11 08 00.0 +7.1
BALM LR LR
comp=Z,2μm,22.0s
HMT Hamilton 91.39 11 PFAKE 11 08 10.0 +16
HMT LR LR
comp=Z,2μm,19.0s
FCC Fort Churchill 91.68 346 PFAKE 11 08 10.0 +14
FCC LR LR
comp=Z,2μm,22.0s
KDAK Kodiak Island 92.04 16 PFAKE 11 08 10.0 +13
KDAK LR LR
comp=Z,2μm,18.0s
PQI Presque Isle 92.06 326 PFAKE 11 08 10.0 +12
PQI LR LR
comp=Z,1μm,19.0s
WHY Whitehorse 92.32 6 PFAKE 11 08 10.0 +11
WHY LR LR
comp=Z,1μm,20.0s
BCPM Bancas Point 92.46 9 PFAKE 11 08 10.0 +11
BCPM LR LR
comp=Z,1μm,21.0s
SII Sitkinak Islan 92.73 17 PFAKE 11 08 10.0 +9.3
SII LR LR
comp=Z,3μm,20.0s
EMMW East Machias 93.12 324 PFAKE 11 08 10.0 +7.4
EMMW LR LR
comp=Z,1μm,22.0s
PKME Peaks-Kenny Pk 93.67 326 PFAKE 11 08 20.0 +15
PKME LR LR
comp=Z,1μm,22.0s
MAW Mawson 94.12 178 PFAKE 11 08 20.0 +14
MAW LR LR
comp=Z,200nm,20.0s
MAW Mawson 94.12 178 LR LR 11 44 54.2
comp=Z,577nm,20.1s,baz=351,slow=32
WVL Waterville 94.35 325 PFAKE 11 08 20.0 +12
WVL LR LR
comp=Z,800nm,20.0s
JIS Juneau Island 94.71 6 PFAKE 11 08 20.0 +10
JIS LR LR
comp=Z,1μm,22.0s

DLBC	**Dease Lake**	**94.91**	**4**	PFAKE		11 08 20.0	+9.2
DLBC	comp=Z,2μm,20.0s			LR	LR		
VLDQ	**Val d'Or**	**95.37**	**332**	PFAKE		11 08 20.0	+7.1
VLDQ	comp=Z,1μm,22.0s			LR	LR		
LBNH	**Lisbon**	**95.72**	**326**	PFAKE		11 08 30.0	+15
LBNH	comp=Z,1μm,21.0s			LR	LR		
RABL	**Rabaul**	**95.77**	**92**	PFAKE		11 08 30.0	+15
RABL	comp=Z,800nm,22.0s			LR	LR		
RCBR	**Riachuelo**	**95.87**	**266**	PFAKE		11 08 30.0	+14
RCBR	comp=Z,33μm,21.0s			LR	LR		
RCBR	**Riachuelo**	**95.87**	**266**	*e*P	**P**	**11 08 17.4**	**+1.5**
VT1	**Waterbury**	**96.06**	**327**	PFAKE		11 08 30.0	+14
VT1	comp=Z,1μm,21.0s			LR	LR		
FRNY	**Flat Rock**	**96.10**	**328**	PFAKE		11 08 30.0	+14
FRNY	comp=Z,1μm,20.0s			LR	LR		
HNH	**Hanover**	**96.29**	**326**	PFAKE		11 08 30.0	+13
HNH	comp=Z,1μm,20.0s			LR	LR		
SYO	**Syowa Base**	**96.38**	**186‖**	*e*P	**P**	**11 08 20.3**	**+3.5**
SYO	**Syowa Base**	**96.38**	**186‖**	*e*pP	pP	11 08 26.3	+4.3
BCX	**Boston College**	**96.71**	**325**	PFAKE		11 08 30.0	+11
BCX	comp=Z,1μm,19.0s			LR	LR		
LONY	**Lake Ozonia**	**96.73**	**328**	PFAKE		11 08 30.0	+11
LONY	comp=Z,1μm,20.0s			LR	LR		
WRAK	**Wrangell Islan**	**96.74**	**6**	PFAKE		11 08 30.0	+11
WRAK	comp=Z,800nm,19.0s			LR	LR		
WES	**Weston**	**96.75**	**325**	PFAKE		11 08 30.0	+11
WES	comp=Z,1μm,21.0s			LR	LR		
HRV	**Adam Dziewonsk**	**96.78**	**325**	PFAKE		11 08 30.0	+11
HRV	comp=Z,900nm,21.0s			LR	LR		
FFC	**Flin Flon**	**97.03**	**348**	*e*P	**P**	**11 08 19.6**	**-0.7**
FFC	comp=Z,28nm,1.8s			LR	LR		
FFC	**Flin Flon**	**97.03**	**348**	*e*P	**P**	**11 08 19.6**	**-0.7**
FFC	comp=Z,28nm,1.8s			pmax	pmax		
NCB	**Newcomb**	**97.05**	**327**	PFAKE		11 08 30.0	+9.2
NCB	comp=Z,600nm,21.0s			LR	LR		
BRYW	**Bryant College**	**97.20**	**324**	PFAKE		11 08 30.0	+8.5
BRYW	comp=Z,1μm,21.0s			LR	LR		
ACCN	**Adirondack Com**	**97.21**	**327**	PFAKE		11 08 30.0	+8.5
ACCN	comp=Z,1μm,20.0s			LR	LR		
QUA2	**Belchertown**	**97.36**	**325**	PFAKE		11 08 30.0	+7.8
QUA2	comp=Z,800nm,19.0s			LR	LR		
CTA	**Charters Tower**	**97.49**	**109**	LR	LR	11 58 37.4	
	comp=Z,370nm,18.4s,baz=284,slow=39						
PLVO	**Plevna**	**97.57**	**330**	PFAKE		11 08 30.0	+6.9
PLVO	comp=Z,700nm,19.0s			LR	LR		
TRY	**Troy**	**97.69**	**326**	PFAKE		11 08 30.0	+6.4
TRY	comp=Z,1μm,20.0s			LR	LR		
YLE	**Yale**	**98.36**	**325**	PFAKE		11 08 40.0	+13
YLE	comp=Z,2μm,19.0s			LR	LR		
SADO	**Sadowa**	**98.71**	**331**	PFAKE		11 08 40.0	+12
SADO	comp=Z,1μm,19.0s			LR	LR		
STKA	**Stephens Creek**	**98.80**	**121**	LR	LR	11 50 29.1	
	comp=Z,928nm,21.6s,baz=289,slow=34						
PAL	**Palisades**	**99.08**	**325**	PFAKE		11 08 40.0	+10
PAL	comp=Z,1μm,21.0s			LR	LR		
BINY	**Binghamton**	**99.23**	**327**	PFAKE		11 08 40.0	+9.5
BINY	comp=Z,1μm,21.0s			LR	LR		
CPNY	**Central Park**	**99.27**	**325**	PFAKE		11 08 40.0	+9.3
CPNY	comp=Z,1μm,20.0s			LR	LR		
J55A	**Hilton**	**99.28**	**329**	PFAKE		11 08 40.0	+9.3
J55A	comp=Z,2μm,21.0s			LR	LR		
ODNJ	**Ogdensburg**	**99.38**	**326**	PFAKE		11 08 40.0	+8.8
ODNJ	comp=Z,800nm,20.0s			LR	LR		
KSPA	**Keystone Colle**	**99.61**	**327**	PFAKE		11 08 40.0	+7.8
KSPA	comp=Z,1μm,20.0s			LR	LR		
MEDO	**Medina**	**99.65**	**329**	PFAKE		11 08 40.0	+7.6
MEDO	comp=Z,1μm,21.0s			LR	LR		
J54A	**Appleton**	**99.66**	**329**	PFAKE		11 08 40.0	+7.7
J54A	comp=Z,1μm,20.0s			LR	LR		
BRNJ	**Basking Ridge**	**99.66**	**325**	PFAKE		11 08 40.0	+7.6
BRNJ	comp=Z,1μm,20.0s			LR	LR		
BBSR	**BB Station**	**99.68**	**314**	PFAKE		11 08 40.0	+7.3
BBSR	comp=Z,500nm,19.0s			LR	LR		
MMNY	**Mt. Morris Dam**	**99.74**	**329**	PFAKE		11 08 40.0	+7.3
MMNY	comp=Z,1μm,19.0s			LR	LR		
ULM	**Lac du Bonnet**	**99.88**	**343**	LR	LR	11 56 57.1	
	comp=Z,653nm,18.8s,baz=28,slow=37						
DIB	**Dawson Inlet,**	**99.91**	**6**	PFAKE		11 08 40.0	+6.8
DIB	comp=Z,1μm,20.0s			LR	LR		
C40A	**Isle Royale Na**	**99.98**	**338**	PFAKE		11 08 40.0	+6.3
C40A	comp=Z,1μm,22.0s			LR	LR		
N59A	**State Game Lan**	**100.09**	**326**	PFAKE		11 08 50.0	+16
N59A	comp=Z,1μm,20.0s			LR	LR		
LUPA	**Lehigh Univers**	**100.13**	**326**	PFAKE		11 08 50.0	+15
LUPA	comp=Z,100nm,20.0s			LR	LR		
D41A	**Chassel**	**100.52**	**337**	PFAKE		11 08 50.0	+14
D41A	comp=Z,1μm,21.0s			LR	LR		
E43A	**Lone Tree Farm**	**100.55**	**336**	PFAKE		11 08 50.0	+14
E43A	comp=Z,1μm,21.0s			LR	LR		
PSUB	**Penn St. - Bra**	**100.67**	**325**	PFAKE		11 08 50.0	+13
PSUB	comp=Z,1μm,20.0s			LR	LR		
EYMN	**Ely**	**100.71**	**340**	PFAKE		11 08 50.0	+13
EYMN	comp=Z,2μm,21.0s			LR	LR		
I49A	**Point Hope**	**100.95**	**332**	PFAKE		11 08 50.0	+12
I49A	comp=Z,900nm,18.0s			LR	LR		
PAGS	**Pennsylvania G**	**101.08**	**326**	PFAKE		11 08 50.0	+11
PAGS	comp=Z,1μm,20.0s			LR	LR		
ERPA	**Erie**	**101.18**	**329**	PFAKE		11 08 50.0	+11
ERPA	comp=Z,900nm,21.0s			LR	LR		
BBB	**Bella Bella**	**101.26**	**4**	PFAKE		11 08 50.0	+11
BBB	comp=Z,1μm,19.0s			LR	LR		
SSPA	**Standing Stone**	**101.34**	**327**	PFAKE		11 08 50.0	+10
SSPA	comp=Z,2μm,21.0s			LR	LR		
M54A	**Oil Creek Stat**	**101.51**	**329**	PFAKE		11 08 50.0	+9.3
M54A	comp=Z,1μm,21.0s			LR	LR		
AGMN	**Agassiz Nation**	**101.66**	**342**	PFAKE		11 08 50.0	+8.8
AGMN	comp=Z,1μm,21.0s			LR	LR		
G43A	**Wallace**	**101.76**	**336**	PFAKE		11 08 50.0	+8.3
G43A	comp=Z,2μm,21.0s			LR	LR		
N55A	**Marion Center**	**101.76**	**328**	PFAKE		11 08 50.0	+8.2
N55A	comp=Z,1μm,21.0s			LR	LR		
SDMD	**Soldier's Deli**	**101.76**	**326**	PFAKE		11 08 50.0	+8.2
SDMD	comp=Z,600nm,21.0s			LR	LR		
F41A	**Three Lakes**	**101.85**	**337**	PFAKE		11 08 50.0	+7.9
F41A	comp=Z,1μm,21.0s			LR	LR		
E38A	**The Farm, Brul**	**101.91**	**339**	PFAKE		11 08 50.0	+7.6
E38A	comp=Z,800nm,19.0s			LR	LR		
O56A	**Blue Knob Stat**	**101.96**	**327**	PFAKE		11 08 50.0	+7.2
O56A	comp=Z,2μm,22.0s			LR	LR		
G42A	**Mountain**	**102.04**	**336**	PFAKE		11 08 50.0	+7.1
G42A	comp=Z,1μm,19.0s			LR	LR		
N54A	**Moraine State**	**102.09**	**329**	PFAKE		11 08 50.0	+6.7
N54A	comp=Z,700nm,21.0s			LR	LR		
M52A	**Chesterland**	**102.25**	**330**	PFAKE		11 08 50.0	+6.0
M52A	comp=Z,1μm,21.0s			LR	LR		
H43A	**Windswept, Lux**	**102.46**	**335**	PFAKE		11 08 50.0	+5.2
H43A	comp=Z,1μm,20.0s			LR	LR		
N53A	**Lisbon**	**102.61**	**329**	PFAKE		11 09 00.0	+14
N53A	comp=Z,1μm,19.0s			LR	LR		
G40A	**Rib Lake**	**102.64**	**337**	PFAKE		11 09 00.0	+14
G40A	comp=Z,2μm,21.0s			LR	LR		
H42A	**Shiocton**	**102.71**	**336**	PFAKE		11 09 00.0	+14
H42A	comp=Z,2μm,22.0s			LR	LR		
CBN	**Corbin Frederi**	**102.95**	**325**	PFAKE		11 09 00.0	+13
CBN	comp=Z,1μm,19.0s			LR	LR		
LLLB	**Lillooet**	**103.01**	**360**	PFAKE		11 09 00.0	+13
LLLB	comp=Z,2μm,20.0s			LR	LR		
H41A	**Junction City**	**103.02**	**337**	PFAKE		11 09 00.0	+13
H41A	comp=Z,1μm,19.0s			LR	LR		
MDND	**Maddock**	**103.03**	**345**	PFAKE		11 09 00.0	+13
MDND	comp=Z,1μm,20.0s			LR	LR		
MCWV	**Mont Chateau**	**103.05**	**328**	PFAKE		11 09 00.0	+12
MCWV	comp=Z,500nm,19.0s			LR	LR		
M50A	**Fremont**	**103.11**	**331**	PFAKE		11 09 00.0	+12
M50A	comp=Z,1μm,22.0s			LR	LR		
N51A	**Ashland**	**103.21**	**330**	PFAKE		11 09 00.0	+12
N51A	comp=Z,1μm,21.0s			LR	LR		
I42A	**Draeger Farm,**	**103.38**	**336**	PFAKE		11 09 00.0	+11
I42A	comp=Z,1μm,21.0s			LR	LR		
R58B	**Mineral**	**103.39**	**325**	PFAKE		11 09 00.0	+11
R58B	comp=Z,1μm,18.0s			LR	LR		
DGMT	**Dagmar**	**103.42**	**348**	PFAKE		11 09 00.0	+11
DGMT	comp=Z,1μm,19.0s			LR	LR		
SPMN	**Marine on St.**	**103.54**	**339**	PFAKE		11 09 00.0	+10
SPMN	comp=Z,1μm,20.0s			LR	LR		
I41A	**Arkdale**	**103.58**	**337**	PFAKE		11 09 00.0	+10
I41A	comp=Z,1μm,18.0s			LR	LR		
O52A	**Adamsville**	**103.61**	**329**	PFAKE		11 09 00.0	+10
O52A	comp=Z,1μm,19.0s			LR	LR		
S58A	**Poland Farm, P**	**103.75**	**325**	PFAKE		11 09 00.0	+9.3
S58A	comp=Z,1μm,18.0s			LR	LR		
M48A	**Edgerton**	**103.76**	**332**	PFAKE		11 09 00.0	+9.3
M48A	comp=Z,1μm,20.0s			LR	LR		
P53A	**Whipple**	**103.91**	**329**	PFAKE		11 09 00.0	+8.6
P53A	comp=Z,2μm,22.0s			LR	LR		
N49A	**Columbus Grove**	**104.00**	**331**	PFAKE		11 09 00.0	+8.2
N49A	comp=Z,1μm,21.0s			LR	LR		
ACSO	**Alum Creek Sta**	**104.04**	**330**	PFAKE		11 09 00.0	+8.1
ACSO	comp=Z,1μm,21.0s			LR	LR		
Q54A	**Coxs Mills**	**104.05**	**328**	PFAKE		11 09 00.0	+8.0
Q54A	comp=Z,700nm,20.0s			LR	LR		
S57A	**Dark Hollow, R**	**104.09**	**326**	PFAKE		11 09 00.0	+7.8
S57A	comp=Z,1μm,19.0s			LR	LR		
K43A	**Burlington**	**104.18**	**335**	PFAKE		11 09 00.0	+7.5
K43A	comp=Z,1μm,20.0s			LR	LR		
WALA	**Waterton Lakes**	**104.19**	**354**	PFAKE		11 09 00.0	+7.4
WALA	comp=Z,1μm,20.0s			LR	LR		
R55A	**Marlinton**	**104.26**	**327**	PFAKE		11 09 00.0	+6.9
R55A	comp=Z,2μm,22.0s			LR	LR		
I39A	**Houston**	**104.33**	**338**	PFAKE		11 09 00.0	+6.8
I39A	comp=Z,1μm,21.0s			LR	LR		
M46A	**Old House Fiel**	**104.50**	**333**	PFAKE		11 09 00.0	+6.0
M46A	comp=Z,2μm,20.0s			LR	LR		
O49A	**Covington**	**104.67**	**331**	PFAKE		11 09 10.0	+15
O49A	comp=Z,700nm,19.0s			LR	LR		
P51A	**Williamsport**	**104.68**	**330**	PFAKE		11 09 10.0	+15
P51A	comp=Z,1μm,20.0s			LR	LR		
JFWS	**Jewell Farm**	**104.71**	**336**	PFAKE		11 09 10.0	+15
JFWS	comp=Z,2μm,20.0s			LR	LR		
EGMT	**Eagleton**	**104.76**	**351**	PFAKE		11 09 10.0	+15
EGMT	comp=Z,1μm,21.0s			LR	LR		
B06A	**Marblemount**	**105.10**	**359**	PFAKE		11 13 20.0	+9.1
B06A	comp=Z,2μm,20.0s			LR	LR		
Q51A	**Peebles**	**105.18**	**330**	PFAKE		11 13 20.0	+8.6
Q51A	comp=Z,700nm,20.0s			LR	LR		
M44A	**Midewin, Midew**	**105.20**	**334**	PFAKE		11 13 20.0	+8.7
M44A	comp=Z,2μm,20.0s			LR	LR		
NEW	**Newport**	**105.22**	**356**	PFAKE		11 13 20.0	+8.8
NEW	comp=Z,1μm,21.0s			LR	LR		
B08A	**Colville Reser**	**105.22**	**358**	PFAKE		11 13 20.0	+8.8
B08A	comp=Z,900nm,20.0s			LR	LR		
BLA	**Blacksburg**	**105.25**	**327**	PFAKE		11 13 20.0	+8.4
BLA	comp=Z,1μm,21.0s			LR	LR		
L42A	**Oliver, Polo**	**105.29**	**335**	PFAKE		11 13 20.0	+8.5
L42A	comp=Z,1μm,20.0s			LR	LR		
CNNC	**Cliffs of the**	**105.47**	**324**	PFAKE		11 13 20.0	+8.0
CNNC	comp=Z,1μm,21.0s			LR	LR		
RIB01	**Linhares ES**	**105.50**	**256**	*e*P	**Pdif**	**11 08 58.6**	**-0.1**
LAO	**LASA Array**	**105.51**	**349**	PFAKE		11 13 20.0	+8.2
LAO	comp=Z,900nm,20.0s			LR	LR		
SFIN	**Lafayette**	**105.67**	**333**	PFAKE		11 13 20.0	+7.8
SFIN	comp=Z,2μm,20.0s			LR	LR		
BSFB	**Barra de Sao F**	**105.70**	**257**	*e*P	**Pdif**	**11 08 59.8**	**+0.2**
C09A	**Chrisman Ranch**	**105.73**	**357**	PFAKE		11 13 20.0	+7.9
C09A	comp=Z,1μm,21.0s			LR	LR		
L40A	**Anamosa**	**105.80**	**337**	PFAKE		11 13 20.0	+7.6
L40A	comp=Z,1μm,22.0s			LR	LR		
SJMB	**Sao Joao De Ma**	**105.95**	**257**	*e*P	**Pdif**	**11 08 59.8**	**-0.9**
ECSD	**EROS Data Cent**	**106.05**	**341**	PFAKE		11 13 20.0	+7.1
ECSD	comp=Z,2μm,21.0s			LR	LR		
ARMA	**Armidale**	**106.09**	**116**	PFAKE		11 13 20.0	+6.7
ARMA	comp=Z,2μm,22.0s			LR	LR		
NLWA	**Neilton Lookou**	**106.21**	**1**	PFAKE		11 13 20.0	+6.9
NLWA	comp=Z,1μm,20.0s			LR	LR		
ALF01	**Guarapari-ES**	**106.29**	**255**	*e*P	**Pdif**	**11 09 01.5**	**-0.7**
HDIL	**Hopedale**	**106.40**	**334**	PFAKE		11 13 20.0	+6.5
HDIL	comp=Z,1μm,21.0s			LR	LR		
MSO	**Missoula**	**106.41**	**354**	PFAKE		11 13 20.0	+6.4
MSO	comp=Z,2μm,20.0s			LR	LR		
S51A	**Beattyville**	**106.42**	**329**	PFAKE		11 13 20.0	+6.3
S51A	comp=Z,1μm,20.0s			LR	LR		
D05A	**Enumclaw**	**106.43**	**360**	PFAKE		11 13 20.0	+6.6
D05A	comp=Z,1μm,18.0s			LR	LR		
BLO	**Bloomington**	**106.45**	**332**	PFAKE		11 13 20.0	+6.3
BLO	comp=Z,1μm,21.0s			LR	LR		
D08A	**Wollman Farm,**	**106.50**	**358**	PFAKE		11 13 20.0	+6.4
D08A	comp=Z,1μm,21.0s			LR	LR		
SNAA	**Sanae**	**106.59**	**197**	PFAKE		11 13 20.0	+7.1
SNAA	comp=Z,600nm,20.0s			LR	LR		
P45A	**Graceland, Par**	**106.66**	**333**	PFAKE		11 13 30.0	+16
P45A	comp=Z,2μm,20.0s			LR	LR		
N41A	**Harden Midland**	**106.86**	**336**	PFAKE		11 13 30.0	+16
N41A	comp=Z,1μm,20.0s			LR	LR		
E09A	**Wood Farm, Sta**	**107.01**	**357**	PFAKE		11 13 30.0	+15
E09A	comp=Z,2μm,21.0s			LR	LR		
E07A	**Sunnyside**	**107.03**	**358**	PFAKE		11 13 30.0	+15
E07A	comp=Z,1μm,20.0s			LR	LR		
E08A	**Dider Farm, El**	**107.07**	**358**	PFAKE		11 13 30.0	+15
E08A	comp=Z,1μm,19.0s			LR	LR		
WCI	**Wyandotte Cave**	**107.14**	**331**	PFAKE		11 13 30.0	+15
WCI	comp=Z,2μm,20.0s			LR	LR		
HAWA	**Hanford**	**107.19**	**358**	PFAKE		11 13 30.0	+15
HAWA	comp=Z,900nm,20.0s			LR	LR		
TZTN	**Tazewell**	**107.29**	**328**	PFAKE		11 13 30.0	+15
TZTN	comp=Z,1μm,20.0s			LR	LR		
KMSC	**Kings Mountain**	**107.33**	**326**	PFAKE		11 13 30.0	+15
KMSC	comp=Z,1μm,22.0s			LR	LR		
BOZ	**Bozeman (W)**	**107.38**	**352**	PFAKE		11 13 30.0	+15
BOZ	comp=Z,1μm,21.0s			LR	LR		
OLIL	**Olney**	**107.48**	**333**	PFAKE		11 13 30.0	+14
OLIL	comp=Z,1μm,22.0s			LR	LR		
F10A	**Beach Ranch, E**	**107.50**	**356**	PFAKE		11 13 30.0	+14
F10A	comp=Z,2μm,22.0s			LR	LR		
RLMT	**Red Lodge**	**107.53**	**350**	PFAKE		11 13 30.0	+14
RLMT	comp=Z,1μm,21.0s			LR	LR		
RSSD	**Black Hills**	**107.56**	**346**	PFAKE		11 13 30.0	+14
RSSD	comp=Z,2μm,21.0s			LR	LR		
SEUS	**St. Eustatius**	**107.64**	**301**	PFAKE		11 13 30.0	+14
SEUS	comp=Z,1μm,19.0s			LR	LR		
V53A	**Saluda**	**107.64**	**327**	PFAKE		11 13 30.0	+14
V53A	comp=Z,900nm,20.0s			LR	LR		
F07A	**Phinny Hill Vi**	**107.69**	**358**	PFAKE		11 13 30.0	+14
F07A	comp=Z,1μm,21.0s			LR	LR		
DLMT	**Dillon**	**107.72**	**353**	PFAKE		11 13 30.0	+14
DLMT	comp=Z,900nm,21.0s			LR	LR		
T49A	**Edmonton**	**107.74**	**330**	PFAKE		11 13 30.0	+14
T49A	comp=Z,2μm,21.0s			LR	LR		
PAULI	**Pauline**	**107.82**	**326**	PFAKE		11 13 30.0	+14
PAULI	comp=Z,1μm,22.0s			LR	LR		
V52A	**Sevierville**	**107.88**	**328**	PFAKE		11 13 30.0	+14
V52A	comp=Z,800nm,21.0s			LR	LR		
ABVI	**Anegada Island**	**107.93**	**302**	PFAKE		11 13 30.0	+13
ABVI	comp=Z,700nm,19.0s			LR	LR		
USIN	**University of**	**107.95**	**332**	PFAKE		11 13 30.0	+13
USIN	comp=Z,1μm,20.0s			LR	LR		
JSC	**Jenkinsville**	**107.97**	**325**	PFAKE		11 13 30.0	+13
JSC	comp=Z,1μm,19.0s			LR	LR		
LKWY	**Lake**	**108.24**	**351**	PFAKE		11 13 30.0	+13
LKWY	comp=Z,3μm,22.0s			LR	LR		
V51A	**Loudon**	**108.27**	**328**	PFAKE		11 13 30.0	+13
V51A	comp=Z,2μm,20.0s			LR	LR		
G08A	**Pilot Rock**	**108.27**	**358**	PFAKE		11 13 30.0	+13
G08A	comp=Z,1μm,22.0s			LR	LR		
NHSC	**New Hope**	**108.32**	**324**	PFAKE		11 13 30.0	+13
NHSC	comp=Z,1μm,20.0s			LR	LR		
G06A	**Carlson Farm,**	**108.37**	**359**	PFAKE		11 13 30.0	+13
G06A	comp=Z,1μm,21.0s			LR	LR		
SLM	**Saint Louis**	**108.42**	**334**	PFAKE		11 13 30.0	+13
SLM	comp=Z,1μm,22.0s			LR	LR		
H17A	**Grant Village**	**108.43**	**351**	PFAKE		11 13 30.0	+12
H17A	comp=Z,2μm,20.0s			LR	LR		
HODGE	**Hodges**	**108.51**	**326**	PFAKE		11 13 30.0	+12
HODGE	comp=Z,1μm,21.0s			LR	LR		
T47A	**Sharon Grove**	**108.53**	**331**	PFAKE		11 13 30.0	+12
T47A	comp=Z,1μm,18.0s			LR	LR		
BMO	**Blue Mountains**	**108.63**	**356**	PFAKE		11 13 30.0	+12
BMO	comp=Z,1μm,22.0s			LR	LR		
CPCT	**Cooper Cave**	**108.63**	**328**	PFAKE		11 13 30.0	+12
CPCT	comp=Z,2μm,21.0s			LR	LR		
BGNE	**Belgrade**	**108.64**	**341**	PFAKE		11 13 30.0	+12
BGNE	comp=Z,1μm,21.0s			LR	LR		
W52A	**Murphy**	**108.64**	**328**	PFAKE		11 13 30.0	+12
W52A	comp=Z,900nm,21.0s			LR	LR		
FLWY	**Flagg Ranch**	**108.75**	**351**	PFAKE		11 13 30.0	+12
FLWY	comp=Z,1μm,20.0s			LR	LR		
SIUC	**Southern Illin**	**108.81**	**333**	PFAKE		11 13 30.0	+12
SIUC	comp=Z,1μm,22.0s			LR	LR		
H04A	**Detroit Lake**	**108.94**	**360**	PFAKE		11 13 30.0	+12
H04A	comp=Z,1μm,22.0s			LR	LR		
IMW	**Indian Meadow**	**108.97**	**351**	PFAKE		11 13 30.0	+11
IMW	comp=Z,1μm,22.0s			LR	LR		
COR	**Corvallis**	**109.03**	**1**	PFAKE		11 13 30.0	+12
COR	comp=Z,1μm,22.0s			LR	LR		
FVM	**French Village**	**109.06**	**334**	PFAKE		11 13 30.0	+11
FVM	comp=Z,1μm,19.0s			LR	LR		
MOOW	**Moose Ponds**	**109.08**	**351**	PFAKE		11 13 30.0	+11
MOOW	comp=Z,1μm,20.0s			LR	LR		
T45A	**Paducah**	**109.16**	**332**	PFAKE		11 13 30.0	+11
T45A	comp=Z,2μm,19.0s			LR	LR		
LOHW	**Long Hollow**	**109.20**	**351**	PFAKE		11 13 30.0	+11
LOHW	comp=Z,2μm,20.0s			LR	LR		
W50A	**Signal Mountai**	**109.21**	**329**	PFAKE		11 13 30.0	+11
W50A				LR	LR		

comp=Z,2μm,21.0s
CCM Cathedral Cave 109.32 335 PFAKE 11 13 30.0 +11
CCM LR LR
comp=Z,1μm,21.0s
CBYP Canovanas 109.35 303 PFAKE 11 13 30.0 +10
CBYP LR LR
comp=Z,600nm,20.0s
SNOW Snow King Moun 109.37 351 PFAKE 11 13 30.0 +11
SNOW LR LR
comp=Z,2μm,20.0s
TPAW Teton Pass 109.37 351 PFAKE 11 13 30.0 +11
TPAW LR LR
comp=Z,2μm,22.0s
HUMP Col San Antoni 109.43 303 PFAKE 11 13 30.0 +10
HUMP LR LR
comp=Z,600nm,21.0s
V48A Smith Brothers 109.45 330 PFAKE 11 13 30.0 +11
V48A LR LR
comp=Z,1μm,20.0s
K22A Casper 109.47 348 PFAKE 11 13 30.0 +11
K22A LR LR
comp=Z,2μm,20.0s
REDW Red Top Meadow 109.48 351 PFAKE 11 13 30.0 +10
REDW LR LR
comp=Z,1μm,20.0s
SWET Sewanee 109.48 329 PFAKE 11 13 30.0 +10
SWET LR LR
comp=Z,1μm,20.0s
I07A Izee 109.50 358 PFAKE 11 13 30.0 +11
I07A LR LR
comp=Z,1μm,21.0s
X51A Calhoun 109.51 328 PFAKE 11 13 30.0 +10
X51A LR LR
comp=Z,1μm,21.0s
WVT Waverly 109.57 331 PFAKE 11 13 30.0 +10
WVT LR LR
comp=Z,1μm,20.0s
257A Skidaway Islan 109.65 324 PFAKE 11 13 30.0 +10
257A LR LR
comp=Z,1μm,21.0s
SJG San Juan 109.67 303 PFAKE 11 13 30.0 +10
SJG LR LR
comp=Z,700nm,22.0s
HLID Hailey 109.69 354 PFAKE 11 13 30.0 +10
HLID LR LR
comp=Z,2μm,21.0s
Y52A Lilburn 109.70 327 PFAKE 11 13 30.0 +10
Y52A LR LR
comp=Z,1μm,22.0s
GOGA Godfrey 109.77 326 PFAKE 11 13 30.0 +10
GOGA LR LR
comp=Z,1μm,22.0s
PINE Pine Mountain 109.82 359 PFAKE 11 13 30.0 +10
PINE LR LR
comp=Z,800nm,21.0s
BW06 Boulder Array 109.88 350 PFAKE 11 13 30.0 +10
BW06 LR LR
comp=Z,1μm,19.0s
PDAR Pinedale Array 109.88 350 PKiKP **PKiKP 11 13 19.9 -0.5**
comp=Z,0.5nm,0.6s,baz=64,slow=3.4,SNR=4.5
PDAR PKKP **PKKPab 11 24 36.0 -1.7**
comp=Z,0.2nm,0.4s,baz=145,slow=4.6,SNR=3.5
PARMO Parma 109.93 333 PFAKE 11 13 30.0 +10
PARMO LR LR
comp=Z,1μm,19.0s
AOPR Arecibo Observ 109.98 304 PFAKE 11 13 30.0 +9.2
AOPR LR LR
comp=Z,2μm,18.0s
GLAT Glass 110.07 332 PFAKE 11 13 30.0 +9.5
GLAT LR LR
comp=Z,900nm,20.0s
ICMP Isla Caja de M 110.09 303 PFAKE 11 13 30.0 +9.0
ICMP LR LR
comp=Z,800nm,22.0s
AHID Auburn Hatcher 110.10 351 PFAKE 11 13 30.0 +9.3
AHID LR LR
comp=Z,1μm,21.0s
PBMO Poplar Bluff 110.10 333 PFAKE 11 13 30.0 +9.4
PBMO LR LR
comp=Z,1μm,20.0s
OGNE Ogallala 110.11 344 PFAKE 11 13 30.0 +9.4
OGNE LR LR
comp=Z,1μm,22.0s
PVMO Portageville 110.12 332 PFAKE 11 13 30.0 +9.4
PVMO LR LR
comp=Z,1μm,22.0s
J08A Circle Bar Ran 110.18 357 PFAKE 11 13 30.0 +9.3
J08A LR LR
comp=Z,1μm,20.0s
154A Montrose 110.23 325 PFAKE 11 13 30.0 +9.1
154A LR LR
comp=Z,900nm,20.0s
KSU1 Kansas State U 110.28 339 PFAKE 11 13 30.0 +9.1
KSU1 LR LR
comp=Z,700nm,18.0s
MPR Mayaguez 110.35 304 PFAKE 11 13 30.0 +8.5
MPR LR LR
comp=Z,600nm,20.0s
HALT Halls 110.40 332 PFAKE 11 13 30.0 +8.8
HALT LR LR
comp=Z,900nm,18.0s
255A Hazlehurst 110.45 325 PFAKE 11 13 30.0 +8.7
255A LR LR
comp=Z,1μm,20.0s
CRPR Cabo Rojo, PR 110.45 304 PFAKE 11 13 30.0 +8.3
CRPR LR LR
comp=Z,800nm,22.0s
RWWY Rawlins 110.53 348 PFAKE 11 13 30.0 +8.4
RWWY LR LR
comp=Z,2μm,21.0s
PHWY Pilot Hill 110.56 347 PFAKE 11 13 30.0 +8.3
PHWY LR LR
comp=Z,1μm,21.0s
X48A Hartselle 110.62 329 PFAKE 11 13 30.0 +8.4
X48A LR LR
comp=Z,2μm,21.0s
GNAR Gosnell 110.64 332 PFAKE 11 13 30.0 +8.4
GNAR LR LR
comp=Z,1μm,20.0s
PLAL Pickwick Lake 110.64 330 PFAKE 11 13 30.0 +8.3
PLAL LR LR
comp=Z,800nm,21.0s
KEBM Edson Butte 110.72 2 PFAKE 11 13 30.0 +8.3
KEBM LR LR
comp=Z,900nm,21.0s
Y49A Blount Mountai 110.83 329 PFAKE 11 13 30.0 +7.9
Y49A LR LR
comp=Z,2μm,21.0s
K05A Summer Lake 110.88 359 PFAKE 11 13 30.0 +7.8
K05A LR LR
comp=Z,1μm,20.0s
152A Waverly Hall 110.99 327 PFAKE 11 13 30.0 +7.6
152A LR LR
comp=Z,1μm,21.0s
HUMO Hull Mountain 111.01 1 PFAKE 11 13 30.0 +7.8
HUMO LR LR
comp=Z,1μm,21.0s
N23A Red Feather La 111.05 347 PFAKE 11 13 30.0 +7.4
N23A LR LR
comp=Z,2μm,21.0s
Z50A Ashland 111.09 328 PFAKE 11 13 30.0 +7.4
Z50A LR LR
comp=Z,1μm,22.0s
GRTK Grand Turk 111.11 309 PFAKE 11 13 30.0 +7.2
GRTK LR LR
comp=Z,900nm,20.0s
WVOR Wild Horse Val 111.11 357 PFAKE 11 13 30.0 +7.5
WVOR LR LR
comp=Z,1μm,20.0s
456A Hilliard 111.16 323 PFAKE 11 13 30.0 +7.3
456A LR LR
comp=Z,1μm,22.0s
253A Americus 111.19 326 PFAKE 11 13 30.0 +7.2
253A LR LR
comp=Z,800nm,20.0s
HBAR Harrisburg 111.25 333 PFAKE 11 13 30.0 +7.2
HBAR LR LR
comp=Z,1μm,21.0s
MET Memphis--Engin 111.32 332 PFAKE 11 13 30.0 +7.1
MET LR LR
comp=Z,1μm,18.0s
CBKS Cedar Bluff 111.49 341 PFAKE 11 13 30.0 +6.8
CBKS LR LR
comp=Z,1μm,22.0s
OXF Oxford 111.62 331 PFAKE 11 13 30.0 +6.5
OXF LR LR
comp=Z,1μm,18.0s
MOD Modoc Plateau 111.69 358 PFAKE 11 13 30.0 +6.3
MOD LR LR
comp=Z,800nm,20.0s
658A Bunnell 111.75 322 PFAKE 11 13 30.0 +6.1
658A LR LR
comp=Z,600nm,21.0s
LRAL Lakeview Retre 111.78 329 PFAKE 11 13 30.0 +6.1
LRAL LR LR
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 111.89 0 PFAKE 11 13 40.0 +16
YBH LR LR
comp=Z,1μm,21.0s
HHAR Hobbs 111.89 336 PFAKE 11 13 40.0 +16
HHAR LR LR
comp=Z,2μm,21.0s
ISCO Idaho Springs 112.03 346 PFAKE 11 13 40.0 +15
ISCO LR LR
comp=Z,2μm,22.0s
352A Blakely 112.06 326 PFAKE 11 13 40.0 +16
352A LR LR
comp=Z,900nm,20.0s
KSCO Kaye Shedlock' 112.09 344 PFAKE 11 13 40.0 +16
KSCO LR LR
comp=Z,1μm,22.0s
555A McAlpin 112.13 324 PFAKE 11 13 40.0 +15
555A LR LR
comp=Z,1μm,22.0s
WHAR Wooly Hollow 112.14 334 PFAKE 11 13 40.0 +16
WHAR LR LR
comp=Z,1μm,20.0s
W41B Gary Mavity, V 112.22 334 PFAKE 11 13 40.0 +15
W41B LR LR
comp=Z,1μm,20.0s
X43A Marvell 112.24 332 PFAKE 11 13 40.0 +15
X43A LR LR
comp=Z,1μm,22.0s
453A Whigham 112.25 325 PFAKE 11 13 40.0 +15
453A LR LR
comp=Z,1μm,21.0s
250A Grady 112.31 327 PFAKE 11 13 40.0 +15
250A LR LR
comp=Z,1μm,20.0s
LHI Lord Howe Isla 112.47 115 PFAKE 11 13 40.0 +15
LHI LR LR
comp=Z,1μm,21.0s
656A Willston 112.49 323 PFAKE 11 13 40.0 +15
656A LR LR
comp=Z,900nm,20.0s
ELK Elko 112.56 354 PFAKE 11 13 40.0 +15
ELK LR LR
comp=Z,2μm,21.0s
UALR University of 112.61 334 PFAKE 11 13 40.0 +15
UALR LR LR
comp=Z,1μm,20.0s
147A Livingston 112.67 329 PFAKE 11 13 40.0 +14
147A LR LR
comp=Z,2μm,20.0s
KHMM Horse Mountain 112.73 1 PFAKE 11 13 40.0 +14
KHMM LR LR
comp=Z,1μm,22.0s
Q24A Divide 112.73 346 PFAKE 11 13 40.0 +14
Q24A LR LR
comp=Z,1μm,22.0s
JCC Jacoby Creek, 112.78 1 PFAKE 11 13 40.0 +14
JCC LR LR
comp=Z,1μm,20.0s
W39A Magazine 112.80 335 PFAKE 11 13 40.0 +14
W39A LR LR
comp=Z,1μm,20.0s
RCLB Rio Claro- Sao 112.84 256 *e*P **Pdif 11 09 30.9 -0.4**
DUG Dugway, Tooele 112.85 352 PFAKE 11 13 40.0 +14
DUG LR LR
comp=Z,1μm,20.0s
DWPF Disney Wildern 112.86 321 PFAKE 11 13 40.0 +14
DWPF LR LR
comp=Z,600nm,20.0s
SDDR Presa de Saban 112.88 307 PFAKE 11 13 40.0 +14
SDDR LR LR
comp=Z,600nm,20.0s
TUL1 Leonard 112.89 337 PFAKE 11 13 40.0 +14
TUL1 LR LR
comp=Z,1μm,20.0s
SMCO Snowmass 112.91 347 PFAKE 11 13 40.0 +14
SMCO LR LR
comp=Z,2μm,22.0s
BMN Battle Mountai 113.03 356 PFAKE 11 13 40.0 +14
BMN LR LR
comp=Z,1μm,21.0s
WDC Whiskeytown Da 113.04 0 PFAKE 11 13 40.0 +14
WDC LR LR
comp=Z,1μm,22.0s
X40A Basin Creek Fa 113.06 334 PFAKE 11 13 40.0 +14
X40A LR LR
comp=Z,1μm,18.0s
060A Indiantown 113.08 320 PFAKE 11 13 40.0 +14
060A LR LR
comp=Z,700nm,20.0s
CCAR Cane Creek 113.12 333 PFAKE 11 13 40.0 +14
CCAR LR LR
comp=Z,1μm,20.0s
451A Vernon 113.16 326 PFAKE 11 13 40.0 +13
451A LR LR
comp=Z,1μm,21.0s
SPB Sao Paulo 113.16 254 *e*P **Pdif 11 09 32.0 -0.7**
PET01 Itanhaem-SP 113.27 254 *e*P **Pdif 11 09 32.4 -0.7**
MIAR Mount Ida 113.29 334 PFAKE 11 13 40.0 +13
MIAR LR LR
comp=Z,1μm,20.0s
BRAL Brewton 113.35 327 PFAKE 11 13 40.0 +13
BRAL LR LR
comp=Z,1μm,20.0s
KMRM Mail Ridge 113.38 1 PFAKE 11 13 40.0 +13
KMRM LR LR
comp=Z,1μm,22.0s
OK023 East Waterloo 113.53 338 PFAKE 11 13 40.0 +13
OK023 LR LR
comp=Z,900nm,21.0s
059A Moore Haven 113.58 320 PFAKE 11 13 40.0 +13
059A LR LR
comp=Z,1μm,21.0s
957A Wimauma 113.65 322 PFAKE 11 13 40.0 +12
957A LR LR
comp=Z,900nm,20.0s
BEKR Beckworth 113.73 358 PFAKE 11 13 40.0 +12
BEKR LR LR
comp=Z,2μm,22.0s
WLAR White Oak Lake 113.87 334 PFAKE 11 13 40.0 +12
WLAR LR LR
comp=Z,1μm,22.0s
X37A Clayton 113.93 336 PFAKE 11 13 40.0 +12
X37A LR LR
comp=Z,2μm,20.0s
PV07 Paradox Valley 113.94 348 PFAKE 11 13 40.0 +12
PV07 LR LR
comp=Z,900nm,22.0s
SDCO Great Sand Dun 113.98 346 PFAKE 11 13 40.0 +12
SDCO LR LR
comp=Z,1μm,21.0s
PV23 Carpenter Ridg 113.99 349 PFAKE 11 13 40.0 +12
PV23 LR LR
comp=Z,2μm,20.0s
VBMS Vicksburg 114.06 331 PFAKE 11 13 40.0 +12
VBMS LR LR
comp=Z,1μm,20.0s
ORV Oroville 114.06 359 PFAKE 11 13 40.0 +12
ORV LR LR
comp=Z,800nm,20.0s
PV11 David Mesa, Pa 114.12 349 PFAKE 11 13 40.0 +12
PV11 LR LR
comp=Z,800nm,18.0s
Z41A Richland Creek 114.12 333 PFAKE 11 13 40.0 +12
Z41A LR LR
comp=Z,1μm,21.0s
PV19 Morning Glory 114.13 349 PFAKE 11 13 40.0 +11
PV19 LR LR
comp=Z,1μm,22.0s
PV03 Paradox Valley 114.16 348 PFAKE 11 13 40.0 +11
PV03 LR LR
comp=Z,1μm,22.0s
PV18 Skein Mesa, Pa 114.18 349 PFAKE 11 13 40.0 +11
PV18 LR LR
comp=Z,1μm,21.0s
PV02 Paradox Valley 114.18 348 PFAKE 11 13 40.0 +11
PV02 LR LR
comp=Z,1μm,20.0s
PV01 Paradox Valley 114.22 348 PFAKE 11 13 40.0 +11
PV01 LR LR
comp=Z,1μm,20.0s
PV13 Radium Mtn., P 114.25 348 PFAKE 11 13 40.0 +11
PV13 LR LR
comp=Z,800nm,20.0s
S22A 4UR Ranch, Cre 114.26 347 PFAKE 11 13 40.0 +11
S22A LR LR
comp=Z,2μm,19.0s
VCNR Virginia City 114.28 358 PFAKE 11 13 40.0 +11
VCNR LR LR
comp=Z,800nm,20.0s
061Z Ochoppi 114.28 319 PFAKE 11 13 40.0 +11
061Z LR LR
comp=Z,900nm,22.0s
T25A Trinidad 114.30 344 PFAKE 11 13 40.0 +11
T25A LR LR
comp=Z,1μm,22.0s
PV05 Paradox Valley 114.37 349 PFAKE 11 13 40.0 +11
PV05 LR LR
comp=Z,1μm,20.0s
KVN Kaiserville 114.45 356 PFAKE 11 13 40.0 +11
KVN LR LR
comp=Z,1μm,21.0s
RUBR Rubicon Trail 114.54 358 PFAKE 11 13 40.0 +11
RUBR LR LR
comp=Z,1μm,21.0s
YERR Yerington 114.57 357 PFAKE 11 13 40.0 +11
YERR LR LR
comp=Z,1μm,22.0s
HOPS Hopland Field 114.62 1 PFAKE 11 13 40.0 +11
HOPS LR LR
comp=Z,900nm,19.0s
GDXM Geysers 114.81 0 PFAKE 11 13 40.0 +10
GDXM LR LR
comp=Z,1μm,20.0s
RYN Ryan 114.90 357 PFAKE 11 13 40.0 +10
RYN LR LR
comp=Z,1μm,20.0s
GTBY Guantanamo Bay 114.91 311 PFAKE 11 13 40.0 +10
GTBY LR LR
comp=Z,700nm,22.0s
PTGA Pitinga 114.97 283 PFAKE 11 13 40.0 +10
PTGA LR LR
comp=Z,1μm,20.0s
WMOK Wichita Mounta 114.97 339 PFAKE 11 13 40.0 +10
WMOK LR LR
comp=Z,1μm,20.0s
R11A Troy Canyon, C 114.97 354 PFAKE 11 13 40.0 +10
R11A LR LR
comp=Z,1μm,21.0s
WAKR Walker 115.06 358 PFAKE 11 13 40.0 +10
WAKR LR LR
comp=Z,1μm,18.0s
NV11 Mina Array Sit 115.07 356 PFAKE 11 13 40.0 +10
NV11 LR LR
comp=Z,100nm,21.0s
NV01 Mina Array Sit 115.08 357 *e*PKiKP **PKPdf 11 13 31.3 +1.0**
NVAR Mina Array Bea 115.08 357 PKP **PKPdf 11 13 31.3 +1.0**
comp=Z,2.2nm,0.8s,baz=68,slow=0.4,SNR=17
MVCO Mesa Verde 115.11 348 PFAKE 11 13 40.0 +10
MVCO LR LR
comp=Z,2μm,22.0s
MCCM Marconi Confer 115.47 1 PFAKE 11 13 40.0 +9.2
MCCM LR LR
comp=Z,700nm,21.0s
CMB Columbia Colle 115.56 358 PFAKE 11 13 40.0 +8.9
CMB LR LR
comp=Z,1μm,22.0s
DZM Mont Dzumac 115.63 103 *e*PS PS 11 24 19.0 +3.9
comp=Z,263nm,25.8s
DZM *e*SS SS 11 30 42.0 +7.6
comp=Z,1μm,33.8s
DZM Mont Dzumac 115.63 103 *e*LR LR 11 48 31.4
comp=Z,1μm,22.4s
AMTX Amarillo 115.71 341 PFAKE 11 13 40.0 +8.5
AMTX LR LR
comp=Z,2μm,22.0s
MDPB Devils Postpil 115.91 357 PFAKE 11 13 40.0 +8.0
MDPB LR LR
comp=Z,900nm,20.0s
NATX Nacogdoches 116.18 334 PFAKE 11 13 40.0 +7.7
NATX LR LR
comp=Z,1μm,19.0s
TPNV Topopah Spring 116.42 355 PFAKE 11 13 40.0 +7.1
TPNV LR LR
comp=Z,1μm,20.0s
U15A North Rim 116.49 351 *e*PKPdf **PKiKP 11 13 32.3 -0.9**
U15A LR LR
comp=Z,1μm,20.0s
QSPA South Pole Qui 116.57 180 *e*PKPdf **PKPdf 11 13 31.7 -0.2**
QSPA LR LR
comp=Z,1μm,21.0s
SHPR Sheep Range 116.76 354 PFAKE 11 13 40.0 +6.4
SHPR LR LR
comp=Z,900nm,19.0s
SAO San Andreas Ge 116.84 359 PFAKE 11 13 40.0 +6.5
SAO LR LR
comp=Z,1μm,20.0s
ANMO Albuquerque 116.87 346 PFAKE 11 13 40.0 +6.1
ANMO LR LR
comp=Z,1μm,21.0s
MSTX Muleshoe 116.88 342 PFAKE 11 13 40.0 +6.2
MSTX LR LR
comp=Z,2μm,20.0s
WHTX Lake Whitney, 117.02 336 PFAKE 11 13 40.0 +6.1
WHTX LR LR
comp=Z,1μm,20.0s
DAC Darwin (Calif) 117.18 356 PFAKE 11 13 50.0 +16
DAC LR LR
comp=Z,1μm,20.0s
ABTX Abilene, Hawle 117.19 339 PFAKE 11 13 50.0 +16
ABTX LR LR
comp=Z,1μm,21.0s
WUAZ Wupatki 117.25 350 PFAKE 11 13 50.0 +15
WUAZ LR LR
comp=Z,1μm,22.0s
W18A Petrified Fore 117.37 348 PFAKE 11 13 50.0 +15
W18A LR LR
comp=Z,900nm,20.0s
MTDJ Mount Denham 117.73 311 PFAKE 11 13 50.0 +14
MTDJ LR LR
comp=Z,500nm,20.0s
Y22D IRIS PASSCAL I 117.81 346 PFAKE 11 13 50.0 +14
Y22D LR LR
comp=Z,1μm,18.0s
ISA Isabella, Lake 117.85 357 PFAKE 11 13 50.0 +14
ISA LR LR
comp=Z,1μm,22.0s
PAGB Antelope Grade 117.85 358 PFAKE 11 13 50.0 +14
PAGB LR LR
comp=Z,1μm,18.0s
X18A Snowflake 117.98 349 PFAKE 11 13 50.0 +14
X18A LR LR
comp=Z,1μm,22.0s
W13A Hualapai Mount 118.01 352 PFAKE 11 13 50.0 +14
W13A LR LR
comp=Z,800nm,22.0s
GSC Goldstone, Bar 118.10 355 PFAKE 11 13 50.0 +14
GSC LR LR
comp=Z,1μm,19.0s
435B Jarrell 118.16 336 PFAKE 11 13 50.0 +14
435B LR LR
comp=Z,2μm,20.0s
HKT Hockley 118.24 334 PFAKE 11 13 50.0 +14
HKT LR LR
comp=Z,1μm,18.0s
X16A Lo Mia Camp, P 118.34 350 PFAKE 11 13 50.0 +13
X16A LR LR
comp=Z,1μm,22.0s
SDV Santo Domingo 118.72 298 PFAKE 11 13 50.0 +12
SDV LR LR
comp=Z,600nm,22.0s
OSI Osito Audit: C 118.90 357 PFAKE 11 13 50.0 +12
OSI LR LR
comp=Z,1μm,20.0s
VNDA Vanda 118.94 166 *e*PKPdf **PKPdf 11 13 36.0 -0.2**
VNDA PKP **PKiKP 11 13 36.5 +0.3**
VNDA PKKPbc **PKKPbc 11 23 54.0 +1.1**
VNDA Vanda 118.94 166 PKP **PKiKP 11 13 36.5 +0.3**
comp=Z,1.0nm,1.0s,baz=282,slow=5.6,SNR=5.0
VNDA PKKPbc **PKKPbc 11 23 54.0 +1.1**
comp=Z,1.0nm,0.9s,baz=68,slow=3.9,SNR=5.0

Y14A	**Wickenburg**	**119.04**	**351**	PFAKE		11 13 50.0	+12
Y14A				LR	LR		
comp=Z,900nm,19.0s							
JCT	**Junction City**	**119.21**	**338**	PFAKE		11 13 50.0	+12
JCT				LR	LR		
comp=Z,1μm,21.0s							
MWC	**Mount Wilson**	**119.25**	**356**	PFAKE		11 13 50.0	+11
MWC				LR	LR		
comp=Z,1μm,20.0s							
PASC	**Pasadena Art C**	**119.31**	**356**	PFAKE		11 13 50.0	+12
PASC				LR	LR		
comp=Z,1μm,21.0s							
Y12C	**Blythe**	**119.41**	**353**	PFAKE		11 13 50.0	+11
Y12C				LR	LR		
comp=Z,800nm,19.0s							
MNTX	**Cornudas Mount**	**119.72**	**343**	*e*PKPdf	**PKiKP**	**11 13 39.4**	**+0.1**
MNTX				LR	LR		
comp=Z,900nm,20.0s							
PFO	**Pinyon Flats O**	**119.75**	**354**	PFAKE		11 13 50.0	+11
PFO				LR	LR		
comp=Z,900nm,18.0s							
EPT	**El Paso**	**119.93**	**345**	PFAKE		11 13 50.0	+10
EPT				LR	LR		
comp=Z,2μm,22.0s							
GLA	**Glamis**	**120.14**	**353**	PFAKE		11 13 50.0	+10
GLA				LR	LR		
comp=Z,800nm,22.0s							
TUC	**Tucson**	**120.29**	**349**	*e*PKPdf	**PKiKP**	**11 13 41.6**	**+1.2**
TUC				LR	LR		
comp=Z,800nm,20.0s							
TUC	**Tucson**	**120.29**	**349**	*e*PKIKP	**PKiKP**	**11 13 41.7**	**+1.2**
TUC				MLR	MLR		
comp=Z,800nm,20.0s							
113A	**Mohawk Valley,**	**120.29**	**352**	PFAKE		11 13 50.0	+10
113A				LR	LR		
comp=Z,800nm,21.0s							
SNCC	**San Nicolas Is**	**120.30**	**357**	PFAKE		11 13 50.0	+10
SNCC				LR	LR		
comp=Z,900nm,20.0s							
CPE	**Camp Elliot**	**120.52**	**355**	PFAKE		11 13 50.0	+9.3
CPE				LR	LR		
comp=Z,800nm,20.0s							
BAR	**Barrett**	**120.69**	**355**	PFAKE		11 13 50.0	+8.9
BAR				LR	LR		
comp=Z,900nm,18.0s							
319A	**Douglas**	**120.92**	**347**	PFAKE		11 13 50.0	+8.3
319A				LR	LR		
comp=Z,2μm,22.0s							
833A	**Chaparral WMA,**	**121.04**	**336**	PFAKE		11 13 50.0	+8.1
833A				LR	LR		
comp=Z,1μm,19.0s							
TX31	**Lajitas Ar. Si**	**121.49**	**341**	*e*PKPdf	**PKPdf**	**11 13 42.8**	**0.0**
TXAR	**Lajitas Array**	**121.49**	**341**	*e*PKPdf	**PKiKP**	**11 13 43.4**	**+0.5**
TXAR				PKP	**PKiKP**	**11 13 43.8**	**+0.9**
TXAR	**Lajitas Array**	**121.49**	**341**	PKP	**PKiKP**	**11 13 43.8**	**+0.9**
comp=Z,1.5nm,0.7s,baz=144,slow=1.1,SNR=20							
OGAUY	**Aigu**	**122.30**	**245**	*e*P	**PKPdf**	**11 13 43.9**	**0.0**
TEIG	**Tepich**	**122.89**	**321**	PFAKE		11 14 00.0	+14
TEIG				LR	LR		
comp=Z,600nm,20.0s							
MYIG	**Mrida**	**123.10**	**323**	PFAKE		11 14 00.0	+14
MYIG				LR	LR		
comp=Z,1μm,20.0s							
HSIG		**123.53**	**348**	PFAKE		11 14 00.0	+13
HSIG				LR	LR		
comp=Z,1μm,22.0s							
UWB	**Uwekahuna B**	**124.02**	**38**	PFAKE		11 14 00.0	+12
UWB				LR	LR		
comp=Z,3μm,22.0s							
HATHI	**Halema'uma'u T**	**124.03**	**38**	PFAKE		11 14 00.0	+12
HATHI				LR	LR		
comp=Z,2μm,18.0s							
KKO	**Keanakako`i**	**124.05**	**38**	PFAKE		11 14 00.0	+12
KKO				LR	LR		
comp=Z,1μm,20.0s							
NPOC	**North of Pu'u**	**124.14**	**38**	PFAKE		11 14 00.0	+12
NPOC				LR	LR		
comp=Z,2μm,20.0s							
LNIG	**Linares**	**124.18**	**335**	PFAKE		11 14 00.0	+12
LNIG				LR	LR		
comp=Z,600nm,20.0s							
OXZ	**Oxford**	**125.03**	**126**	PFAKE		11 14 00.0	+11
OXZ				LR	LR		
comp=Z,1μm,18.0s							
SRIG	**Santa Rosalia**	**125.42**	**349**	PFAKE		11 14 00.0	+9.5
SRIG				LR	LR		
comp=Z,800nm,22.0s							
ESPN	**Las Esperanzas**	**126.58**	**312**	PFAKE		11 14 00.0	+6.9
ESPN				LR	LR		
comp=Z,400nm,21.0s							
HIZ	**Hauiti**	**126.64**	**119**	PFAKE		11 14 00.0	+7.5
HIZ				LR	LR		
comp=Z,2μm,20.0s							
TGUH	**Tegucigalpa,Un**	**127.12**	**316**	*e*PKPdf	**PKiKP**	**11 13 54.7**	**+0.6**
TGUH				LR	LR		
comp=Z,600nm,22.0s							
ZAIG	**Zacatecas**	**127.25**	**337**	PFAKE		11 14 10.0	+15
ZAIG				LR	LR		
comp=Z,700nm,19.0s							
PMSA	**Palmer Station**	**127.32**	**207**	*e*P	**PKiKP**	**11 13 53.2**	**+0.2**
ACON	**Acoyapa**	**127.33**	**312**	PFAKE		11 14 10.0	+15
ACON				LR	LR		
comp=Z,300nm,22.0s							
LVIG	**Laguna Verde**	**127.48**	**329**	PFAKE		11 14 10.0	+15
LVIG				LR	LR		
comp=Z,500nm,20.0s							
URZ	**Urewera**	**128.37**	**119**	PFAKE		11 14 10.0	+14
URZ				LR	LR		
comp=Z,1μm,20.0s							
JTS	**Las Juntas de**	**128.40**	**311**	PFAKE		11 14 10.0	+13
JTS				LR	LR		
comp=Z,700nm,19.0s							
SLBS	**Sierra La Lagu**	**128.50**	**346**	PFAKE		11 14 10.0	+13
SLBS				LR	LR		
comp=Z,1μm,22.0s							
LPAZ	**La Paz**	**128.94**	**270**	PKP	**PKPdf**	**11 13 56.4**	**-1.5**
comp=Z,0.9nm,0.8s,baz=58,slow=7.0,SNR=3.2							
LPAZ	**La Paz**	**128.94**	**270**	*e*P	**PKPdf**	**11 13 57.7**	**-0.2**
MOIG	**Morelia**	**129.56**	**334**	PFAKE		11 14 10.0	+11
MOIG				LR	LR		
comp=Z,700nm,20.0s							
OTAV	**Otavalo**	**130.09**	**295**	*e*PKPdf	**PKiKP**	**11 14 00.4**	**-0.4**
OTAV				LR	LR		
comp=Z,700nm,22.0s							
OTAV	**Otavalo**	**130.09**	**295**	*e*PKIKP	**PKiKP**	**11 14 00.4**	**-0.4**
OTAV				MLR	MLR		
comp=Z,700nm,22.0s							
PLCA	**Paso Flores**	**135.42**	**238**	PKP	**PKiKP**	**11 14 13.3**	**+3.0**
comp=Z,2.0nm,0.9s,baz=229,slow=21,SNR=3.1							
PPT2	**Papeete2**	**153.13**	**76**	*e*SS	SS	11 37 41.9	-24
comp=Z,278nm,25.0s							
PPT2	**Papeete2**	**153.13**	**76**	*e*LR	LR	12 05 57.7	
comp=Z,1μm,23.8s							
TBI	**Tubuai**	**155.11**	**88**	*e*SS	SS	11 38 27.9	+0.3
comp=Z,252nm,25.5s							
TBI	**Tubuai**	**155.11**	**88**	*e*LR	LR	12 06 49.9	
comp=Z,1μm,26.2s							

ISCJB ***12*** *10:59:01.6±0.5, 40°.15N±0°.03×27°.61E±0°.04, h12km±4km, Error ellipse: s-maj=6.6km s-min=4.5km az=41.3*
DDA ***12*** *10:59:01.1, 40°.12N×27°.59E, h16km, ML2.3*
ISK ***12*** *10:59:01.3, 40°.17N×27°.59E, h9km, ML1.6/8*
ISC 12 10:59:01.4±0.9, 40°.12N±0°.03×27°.58E±0°.03, h13km±8km, n15, σ0°86/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONE	**Gonen-Balikesi**	**0.11**	**132**	PG	**Pb**	**10 59 05.1**	**-0.3**
GONE				SG	**Sg**	**10 59 07.3**	**+0.5**
KNL	**Balıkesir**	**0.15**	**345**	IAML_P			
comp=Z,3μm,0.1s							
KNL				*i* P	**Pb**	**10 59 05.5**	**-0.6**
KNL				*i* S	**Sg**	**10 59 08.6**	**+0.9**
EDC	**Edincik**	**0.31**	**44**	PG	**Pg**	**10 59 07.2**	**-0.6**
EDC				SG	**Sg**	**10 59 11.6**	**-0.6**
KRBG	**Karabiga-Canak**	**0.34**	**322**	PG	**Pg**	**10 59 07.9**	**-0.5**
KRBG				SG	**Sg**	**10 59 12.9**	**-0.2**
BALB	**Balikesir**	**0.54**	**154**	PG	**Pb**	**10 59 12.8**	**+0.2**
KCTX	**Karacabey (Bur**	**0.61**	**76**	PG	**Pg**	**10 59 13.1**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.64**	**332**	PG	**Pg**	**10 59 13.1**	**-0.8**
SART	**Tekirdag**	**0.64**	**332**	IAML_P			
comp=Z,908nm,0.1s							
SART				*i* P	**Pb**	**10 59 14.9**	**+0.4**
SART				*i* S	**Sb**	**10 59 23.9**	**+0.5**
LPK	**Lapseki**	**0.67**	**292**	PG	**Pb**	**10 59 14.9**	**-0.1**
DURS	**Dursunbey**	**0.87**	**127**	IAML_P			
comp=Z,209nm,0.1s							
DURS				*i* P	**Pb**	**10 59 18.7**	**+0.4**
DURS				*i* S	**Sb**	**10 59 30.8**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**0.88**	**245**	*i* P	**Pb**	**10 59 18.7**	**+0.2**
BAYC				*i* S	**Sb**	**10 59 31.1**	**+0.9**
BOZC	**Bozcaada**	**1.20**	**257**	PN	**Pg**	**10 59 24.9**	**+0.3**
LADK	**Ladik-KONYA**	**4.19**	**116**	*e*P	**Pn**	**11 00 06.4**	**+1.3**
KONT	**Konya--Tatoy**	**4.31**	**119**	*e*P	**Pn**	**11 00 05.9**	**-0.8**
GVD	**Gavdhos**	**5.96**	**209**	*e*P	**Pg**	**11 00 53.2**	**-2.3**

IDC ***12*** *11:00:10.0±0.7, 26°.71N×57°.78E, h0km, mb4.2/24, mb1 4.3/25, mb1mx4.1/62, mbtmp4.2/25, ML4.3/1, Error ellipse: s-maj=16.3km s-min=14.8km az=22.0*
ISCJB ***12*** *11:00:10.5±0.3, 26°.62N±0°.03×57°.76E±0°.04, h10km, mb4.5/59, Error ellipse: s-maj=5.1km s-min=4.2km az=15.9*
DSN ***12*** *11:00:13.0±5.2, 26°.43N×57°.93E, h10km, ML4.3/5, Error ellipse: s-maj=68.3km s-min=18.9km az=15.0*
TEH ***12*** *11:00:14.8, 26°.72N×57°.63E, h15km, ML4.5*
NEIC ***12*** *11:00:14.4±0.0, 26°.60N×57°.61E, h19km, mb4.7/30, ML4.4(THR), MN4.6(TEH), After TEH.*
OMAN ***12*** *11:00:16.9±1.7, 26°.16N×57°.75E, h1km±75km, ml4.0/4, Error ellipse: s-maj=140.9km s-min=17.0km az=249.0*
ISC 12 11:00:11.8±0.4, 26°.53N±0°.03×57°.67E±0°.03, h10km, n140, σ1°.26/144, mb4.6/59, 10C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.27**	**324**	*e*Pn	**Pb**	**11 00 35.9**	**+0.1**
NIAN	**Nian**	**1.27**	**324**	*e*Pg	**Pg**	**11 00 36.4**	**+0.2**
NIAN				IAMB	IAmb	11 01 04.6	
comp=Z,0.0nm,0.5s							
SHME	**Shamm**	**1.45**	**251**	*e*P	**Pg**	**11 00 41.5**	**+1.9**
SNR=46							
SHME				S	**Sg**	**11 01 04.2**	**+5.7**
GENO	**Geno**	**1.59**	**303**	*e*Pn	**Pb**	**11 00 42.3**	**+0.8**
GENO				*e*Sn	**Sg**	**11 01 05.2**	**+2.1**
GENO	**Geno**	**1.59**	**303**	*e*Pn	**Pb**	**11 00 42.2**	**+0.8**
GENO				IAMB	IAmb	11 01 09.6	
comp=Z,0.0nm,0.5s							
MDH	**Madha**	**1.74**	**226**	*e*P	**Pn**	**11 00 43.0**	**+0.9**
SNR=25							
MDH	**Madha**	**1.74**	**226**	P	**Pn**	**11 00 43.4**	**+1.3**
SNR=23							
MDH				S	**Sb**	**11 01 07.1**	**+1.4**
MSFE	**Esma-Masafi**	**1.79**	**230**	P	**Pb**	**11 00 44.7**	**0.0**
UMQ	**Umm Al-Quwin**	**2.06**	**241**	P	**Pg**	**11 00 51.9**	**+0.5**
HATD	**Hatta, Dubai**	**2.19**	**220**	P	**Pn**	**11 00 49.4**	**+1.1**
ASHO	**Ashiyiah**	**2.34**	**219**	P	**Pn**	**11 00 53.0**	**+2.6**
ASHO	**Ashiyiah**	**2.34**	**219**	P	**Pb**	**11 00 54.6**	**+0.5**
NAZ	**Nazwa, Dubai**	**2.37**	**230**	P	**Pb**	**11 00 53.5**	**-1.2**
FAQ	**Al Faqa, Dubai**	**2.58**	**227**	*e*P	**Pb**	**11 00 58.3**	**+0.1**
SNR=7.7							
SOHO	**SOHO**	**2.60**	**204**	P	**Pn**	**11 00 54.5**	**+0.6**
SNR=23							
CHBR	**Chabahar**	**2.70**	**110**	*e*Pn	**Pb**	**11 01 01.0**	**+0.9**
CHBR	**Chabahar**	**2.70**	**110**	*e*Pn	**Pb**	**11 01 01.1**	**+0.9**
ASUD	**Al Ashush, Dub**	**2.84**	**229**	P	**Pb**	**11 01 01.2**	**-1.4**
AJN	**Ajban**	**3.12**	**232**	P	**Pb**	**11 01 06.3**	**-1.0**
NGRK	**Negar Kerman**	**3.21**	**345**	*e*Pn	**Pn**	**11 01 04.0**	**+1.3**
NGRK	**Negar Kerman**	**3.21**	**345**	*e*Pn	**Pn**	**11 01 03.8**	**+1.1**
NGRK				IAMB	IAmb	11 01 58.9	
comp=Z,0.0nm,0.8s							
CHMN	**Cheshme madani**	**3.32**	**358**	*e*Pn	**Pn**	**11 01 06.1**	**+1.9**
WSAR	**Wadi Sarin**	**3.39**	**165**	Pn	**Pn**	**11 01 06.2**	**+1.4**
comp=Z,29nm,0.3s,baz=341,slow=5.6,SNR=18							
WSAR				Sn	**Sn**	**11 01 44.6**	**-0.5**
comp=Z,65nm,0.3s,baz=93,slow=8.6,SNR=8.3							
TVBK	**TV Kerman**	**3.54**	**347**	*e*Pn	**Pn**	**11 01 09.3**	**+2.2**
TVBK				IAMB	IAmb	11 02 20.4	
comp=Z,0.0nm,0.6s							
KHGB	**Koh Gabri**	**3.97**	**345**	*e*Pn	**Pn**	**11 01 15.2**	**+2.2**
KHGB				IAMB	IAmb	11 02 19.9	
comp=Z,0.0nm,1.1s							
SZD1	**Zahaedan-tmp**	**4.08**	**43**	*e*Pn	**Pn**	**11 01 17.9**	**+3.5**
ZHSF	**Zahedan**	**4.12**	**41**	*e*Pn	**Pn**	**11 01 17.0**	**+2.0**
ZHSF	**Zahedan**	**4.12**	**41**	*e*Pn	**Pn**	**11 01 17.5**	**+2.5**
GHIR	**Ghir-Karzin**	**4.51**	**294**	*e*Pn	**Pn**	**11 01 20.0**	**-0.4**
GHIR	**Ghir-Karzin**	**4.51**	**294**	*e*Pn	**Pn**	**11 01 21.0**	**+0.6**
IKOO	**Kooshah**	**5.99**	**11**	*e*Pn	**Pn**	**11 01 41.6**	**+0.9**
IKAZ	**Kazeroun**	**6.08**	**304**	*e*Pn	**Pn**	**11 01 42.3**	**+0.2**
ITEG	**Tejag**	**6.42**	**8**	*e*Pn	**Pn**	**11 01 47.0**	**+0.5**
IRAM	**Ramesheh**	**7.00**	**320**	*e*Pn	**Pn**	**11 01 55.7**	**+1.1**
KHMZ	**Khomeyn**	**9.80**	**319**	*e*Pn	**Pn**	**11 02 33.0**	**-0.1**
KHMZ	**Khomeyn**	**9.80**	**319**	*e*Pn	**Pn**	**11 02 34.0**	**+0.9**
NIL	**Nilore**	**15.23**	**59**	*e*Pn	**Pn**	**11 03 48.1**	**+1.1**
comp=Z,44nm,0.9s							
KKAR	**Karatay Array**	**19.57**	**29**	*e*P	**Pn**	**11 04 42.2**	**+1.0**
AAK	**Ala-Archa**	**21.15**	**36**	P	**P**	**11 04 57.9**	**+0.7**
comp=Z,9.7nm,0.7s,baz=152,slow=3.1,SNR=5.3							
HYB	**Hyderabad**	**21.36**	**111**	*i* P	**P**	**11 05 01.5**	**+2.0**
KDJ	**Kajisay**	**22.32**	**41**	*e*P	**P**	**11 05 10.8**	**+1.1**
comp=Z,24nm,0.9s							
ABKAR	**Akbulak array**	**22.76**	**4**	*e*P	**P**	**11 05 15.3**	**+1.2**
AKTO	**Aktyubinsk**	**23.87**	**1**	P	**P**	**11 05 23.5**	**-1.8**
comp=Z,9.8nm,0.6s,baz=162,slow=11,SNR=10							
BR101	**Keskin Array S**	**23.96**	**309**	*e*P	**P**	**11 05 26.9**	**+0.5**
BR131	**Keskin Array S**	**23.96**	**309**	*e*P	**P**	**11 05 28.3**	**+1.9**
comp=Z,23nm,0.9s							
BRTR	**Keskin Array B**	**23.96**	**309**	P	**P**	**11 05 26.9**	**+0.5**
comp=Z,16nm,0.8s,baz=126,slow=10,SNR=12							
MK32	**Makanchi Array**	**28.07**	**37**	*e*P	**P**	**11 06 01.9**	**-1.6**
MKAR	**Makanchi Array**	**28.07**	**37**	P	**P**	**11 06 01.9**	**-1.6**
comp=Z,0.9nm,0.7s,baz=242,slow=9.2,SNR=2.2							
BVAR	**Borovoye Array**	**28.12**	**16**	P	**P**	**11 06 02.6**	**-1.2**
comp=Z,1.7nm,0.5s,baz=197,slow=4.5,SNR=4.4							
KURBB	**Kurchatov Arra**	**28.87**	**28**	P	**P**	**11 06 10.0**	**-0.5**
comp=Z,1.1nm,0.6s,baz=232,slow=8.6,SNR=2.5							
TLB	**Topalu**	**29.86**	**315**	‖ *i*P	**P**	**11 06 19.4**	**+0.1**
VRI	**Vrincioaia**	**31.27**	**316**	‖ *i*P	**P**	**11 06 31.4**	**-0.4**
PLOR	**Ploestina**	**31.31**	**316**	‖ *i*P	**P**	**11 06 32.3**	**+0.1**
MLR	**Muntele Rosu**	**31.59**	**315**	‖ *i*P	**P**	**11 06 35.4**	**+0.7**
MLR	**Muntele Rosu**	**31.59**	**315**	P	**P**	**11 06 35.5**	**+0.7**
comp=Z,4.8nm,0.8s,baz=184,slow=15,SNR=3.6							
TESR	**Tescani**	**31.62**	**317**	‖ *i*P	**P**	**11 06 35.0**	**+0.1**
ITM	**Ithomi**	**31.99**	**298**	*e*P	**P**	**11 06 38.2**	**-0.1**
comp=Z,25nm,0.9s							
AGG	**Agios Georgios**	**32.02**	**302**	*e*P	**P**	**11 06 38.1**	**-0.4**
comp=Z,17nm,1.4s							
ARR	**Arges**	**32.38**	**314**	⇑ *i*P	**P**	**11 06 41.6**	**0.0**
AKASG	**Malin Array Be**	**32.46**	**326**	*e*P	**P**	**11 06 42.0**	**-0.2**
AKASG	**Malin Array Be**	**32.46**	**326**	P	**P**	**11 06 40.5**	**-1.6**
comp=Z,2.0nm,0.5s,baz=133,slow=8.3,SNR=7.8							
AKBB	**Malin Array Si**	**32.46**	**326**	*e*P	**P**	**11 06 41.7**	**-0.5**
comp=Z,18nm,1.2s							
KIEV	**Kiev**	**32.46**	**326**	*e*P	**P**	**11 06 41.8**	**-0.3**
comp=Z,18nm,1.2s							
BURAR	**Bucovina Array**	**33.01**	**318**	*e*P	**P**	**11 06 47.3**	**+0.2**
BURAR	**Bucovina Array**	**33.01**	**318**	⇑ *i*P	**P**	**11 06 46.0**	**-1.1**
BUR08	**Bucovina Ar. S**	**33.03**	**318**	*e*P	**P**	**11 06 47.9**	**+0.6**
comp=Z,9.3nm,1.1s							
FNA	**Florina**	**33.13**	**305**	*e*P	**P**	**11 06 48.9**	**+0.6**
comp=Z,11nm,0.7s							
GZR	**Gura Zlata**	**33.59**	**313**	⇑ *i*P	**P**	**11 06 51.9**	**-0.3**
MDVR	**Moldovita**	**34.07**	**312**	⇑ *i*P	**P**	**11 06 56.6**	**+0.2**
DRGR		**34.18**	**316**	⇑ *i*P	**P**	**11 06 56.7**	**-0.6**
BZS	**Buzias**	**34.43**	**313**	‖ *i*P	**P**	**11 06 59.1**	**-0.3**
SIRR	**Siria**	**34.64**	**314**	⇑ *i*P	**P**	**11 07 01.2**	**-0.1**
KOLS	**Kolonicke sedl**	**35.36**	**319**	*e*P	**P**	**11 07 08.3**	**+0.9**
TIP	**Timpagrande**	**36.32**	**301**	⇑ *i*P	**P**	**11 07 16.3**	**+0.5**
PSZ	**Piszkesteto**	**36.38**	**316**	*e*P	**P**	**11 07 15.7**	**-0.6**
comp=Z,9.9nm,1.1s							
PSZ	**Piszkesteto**	**36.38**	**316**	⇑ *i*P	**P**	**11 07 14.5**	**-1.8**
LANS	**Liptovska Anna**	**37.12**	**318**	*e*P	**P**	**11 07 24.1**	**+1.6**
VYHS	**Vyhne**	**37.26**	**316**	*e*P	**P**	**11 07 23.7**	**+0.1**
OJC	**Ojcow**	**37.37**	**319**	*e*P	**P**	**11 07 24.0**	**-0.5**
comp=Z,16nm,0.8s							
BOJS	**Bojanci**	**38.65**	**311**	*i* P	**P**	**11 07 35.9**	**+0.4**
CONA	**Conrad Observa**	**38.93**	**314**	*e*P	**P**	**11 07 37.8**	**0.0**
comp=Z,4.6nm,0.7s							
ARSA	**Arzberg**	**38.95**	**313**	*e*P	**P**	**11 07 38.4**	**+0.5**
comp=Z,8.2nm,0.7s							
VISS	**Visnje**	**39.01**	**311**	*e*P	**P**	**11 07 39.0**	**+0.6**
PERS	**Pernice**	**39.04**	**312**	*i* P	**P**	**11 07 38.9**	**+0.2**
SOKA	**Soboth**	**39.11**	**312**	*e*P	**P**	**11 07 39.6**	**+0.2**
comp=Z,7.8nm,0.8s							
JAVS	**Javornik**	**39.55**	**311**	*i* P	**P**	**11 07 43.2**	**+0.1**
TRI	**Trieste**	**39.71**	**310**	*e*P	**P**	**11 07 44.4**	**+0.1**
comp=Z,14nm,0.9s							
MOA	**Molln**	**39.93**	**314**	*e*P	**P**	**11 07 46.2**	**+0.1**
comp=Z,15nm,0.6s,SNR=6.3							
MYKA	**Terra Mystica**	**40.02**	**312**	*e*P	**P**	**11 07 47.3**	**+0.3**
comp=Z,7.6nm,0.7s							
KBA	**Koelnbreinsper**	**40.33**	**312**	*e*P	**P**	**11 07 49.8**	**+0.1**
comp=Z,11nm,0.7s,SNR=5.4							
KHC	**Kasperske Hory**	**40.74**	**316**	*e*P	**P**	**11 07 53.2**	**+0.3**
comp=Z,5.2nm,0.8s							
KHC	**Kasperske Hory**	**40.74**	**316**	*e*P	**P**	**11 07 52.7**	**-0.2**
ABTA	**Abfaltersbach**	**40.80**	**312**	*i* P	**P**	**11 07 53.6**	**+0.2**
SNR=5.9							
FIA0	**FINESS Array S**	**40.86**	**337**	*e*P	**P**	**11 07 50.5**	**-3.0**
FIA1	**FINESS Array S**	**40.86**	**337**	*e*P	**P**	**11 07 55.1**	**+1.5**
comp=Z,5.6nm,0.8s							
FINES	**FINESS Array B**	**40.86**	**337**	*e*P	**P**	**11 07 53.2**	**-0.4**
FINES	**FINESS Array B**	**40.86**	**337**	P	**P**	**11 07 50.5**	**-3.0**
comp=Z,2.6nm,0.5s,baz=142,slow=8.2,SNR=11							
WATA	**Walderalm**	**41.56**	**312**	*e*P	**P**	**11 07 60.0**	**+0.2**
comp=Z,11nm,0.6s,SNR=14							
CLL	**Collm**	**41.77**	**319**	*i* P	**P**	**11 08 00.9**	**-0.3**
comp=Z,8.0nm,1.2s							
SQTA	**Sankt Quirin**	**41.78**	**312**	*e*P	**P**	**11 08 01.1**	**-0.4**
comp=Z,31nm,0.5s,SNR=11							
MOTA	**Moosalm**	**41.88**	**312**	*i* P	**P**	**11 08 01.4**	**-0.9**
comp=Z,18nm,0.6s,SNR=13							
KEST	**Kesra**	**42.02**	**295**	P	**P**	**11 08 02.3**	**-1.2**
comp=Z,4.7nm,0.7s,baz=56,slow=15,SNR=4.3							
FETA	**Feichten**	**42.05**	**312**	*e*P	**P**	**11 08 03.6**	**-0.2**
comp=Z,12nm,0.6s,SNR=14							
FUORN	**Ofenpass-Fuorn**	**42.29**	**311**	*e*P	**P**	**11 08 06.5**	**+0.7**
comp=Z,10nm,0.6s							
GRA1	**Grafenberg Arr**	**42.38**	**316**	*e*P	**P**	**11 08 07.3**	**+1.0**
comp=Z,15nm,0.9s							
GRFO	**Grafenberg**	**42.38**	**316**	*e*P	**P**	**11 08 07.3**	**+1.1**
comp=Z,14nm,0.9s							
DAVOX	**Davos/Dischmat**	**42.58**	**311**	P	**P**	**11 08 07.0**	**-1.1**
comp=Z,18nm,0.6s,baz=119,slow=5.8,SNR=22							
DAVA	**Damuels**	**42.68**	**312**	*e*P	**P**	**11 08 08.5**	**-0.4**
comp=Z,48nm,0.5s,SNR=12							
TUE	**Stuetta**	**42.88**	**311**	*e*P	**P**	**11 08 11.7**	**+1.2**
comp=Z,12nm,1.0s							
SENIN	**Lac Senin/Sane**	**44.26**	**310**	*e*P	**P**	**11 08 21.0**	**-0.7**
comp=Z,5.8nm,0.6s							
BNI	**Bardonecchia**	**44.51**	**308**	*e*P	**P**	**11 08 23.6**	**-0.1**
comp=Z,7.6nm,0.8s							
HFS	**Hagfors**	**44.98**	**331**	P	**P**	**11 08 26.2**	**-0.8**
comp=Z,1.8nm,0.5s,baz=122,slow=11,SNR=5.4							
SSB	**Saint Sauveur**	**46.04**	**308**	*e*P	**P**	**11 08 35.8**	**+0.1**
comp=Z,17nm,1.3s							
NB2	**NORSAR Subarra**	**46.49**	**331**	P	**P**	**11 08 37.0**	**-2.0**
comp=Z,1.4nm,0.8s,baz=115,slow=7.9							
NB200	**NORSAR Array S**	**46.49**	**331**	*e*P	**P**	**11 08 36.7**	**-2.3**
NOA	**NORSAR Array B**	**46.49**	**331**	P	**P**	**11 08 36.7**	**-2.3**
comp=Z,1.5nm,0.8s,baz=115,slow=7.9,SNR=3.8							
ESDC	**Sonseca Array**	**52.34**	**301**	*e*P	**P**	**11 09 24.6**	**+0.6**
ESDC	**Sonseca Array**	**52.34**	**301**	P	**P**	**11 09 24.1**	**+0.1**
comp=Z,1.2nm,0.5s,baz=65,slow=7.6,SNR=7.1							
PAB	**San Pablo**	**52.65**	**301**	*e*P	**P**	**11 09 26.8**	**+0.5**
comp=Z,5.7nm,0.8s							
TOA1	**Torodi Ar. Sit**	**53.93**	**267**	*e*P	**P**	**11 09 36.0**	**0.0**
TORD	**Torodi Ar. Bea**	**53.93**	**267**	P	**P**	**11 09 36.0**	**0.0**
comp=Z,2.8nm,0.6s,baz=57,slow=7.7,SNR=9.9							
SPITS	**Spitsbergen Ar**	**55.01**	**350**	P	**P**	**11 09 41.5**	**-1.5**
comp=Z,2.3nm,0.8s,baz=157,slow=12,SNR=3.4							
KSRS	**Korea Array**	**59.34**	**61**	P	**P**	**11 10 13.3**	**-0.8**
comp=Z,1.4nm,0.8s,baz=276,slow=6.2,SNR=4.4							
BOSA	**Boshof**	**63.04**	**212**	P	**P**	**11 10 41.9**	**+2.5**
comp=Z,1.1nm,0.7s,baz=349,slow=5.2,SNR=2.2							
SUMG	**Summit**	**66.75**	**341**	*e*P	**P**	**11 11 02.7**	**-0.6**
comp=Z,20nm,1.4s							

YKA Yellowknife Ar 96.03 28 P P 11 32 38.8 -1.3
0.1nm,0.4s,baz=240,slow=4.9,SNR=3.0
TORD Torodi Ar. Bea 152.11 286 PKPbc **PKPbc 11 39 09.3 -0.2**
1.0nm,0.5s,baz=83,slow=2.6,SNR=6.6

TEH 12 11:29:02.8, 26°.63N×57°.81E, h6km, ML3.6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.27**	**317**	*e*Pg	Pg	11 29 27.9	+0.8
NIAN				IAMB	IAmb	11 29 56.2	
	comp=Z,0.0nm,0.4s						
SHME	**Shamm**	**1.60**	**249**	*e*Pn	Pg	11 29 36.1	+2.6
GENO	**Geno**	**1.65**	**298**	*e*Pn	Pb	11 29 34.0	+0.3
MDH	**Madha**	**1.90**	**226**	*e*Pn	Pn	11 29 35.7	0.0
MSFE	**Esma-Masafi**	**1.95**	**230**	*e*Pn	Pb	11 29 39.1	+0.3
HATD	**Hatta, Dubai**	**2.35**	**220**	*e*Pn	Pn	11 29 43.5	+1.5
ASHO	**Ashiyiah**	**2.50**	**219**	*e*Pn	Pn	11 29 44.5	+0.4
NAZ	**Nazwa, Dubai**	**2.53**	**230**	*e*Pn	Pb	11 29 48.8	+0.1
FAQ	**Al Faqa, Dubai**	**2.74**	**227**	*e*Pn	Pb	11 29 50.3	-2.0
NGRK	**Negar Kerman**	**3.15**	**343**	*e*Pn	Pn	11 29 54.3	+1.0
NGRK				IAMB	IAmb	11 30 44.1	
	comp=Z,0.0nm,0.6s						
CHMN	**Cheshme madani**	**3.23**	**356**	*e*Pn	Pn	11 29 57.3	+3.0
CHMN				IAMB	IAmb	11 31 09.6	
	comp=N,0.0nm,0.8s						
TVBK	**TV Kerman**	**3.47**	**345**	*e*Pn	Pn	11 29 59.7	+2.1
TVBK				IAMB	IAmb	11 31 06.2	
	comp=Z,0.0nm,0.5s						
KHGB	**Koh Gabri**	**3.91**	**343**	*e*Pn	Pn	11 30 05.9	+2.3
KHGB				IAMB	IAmb	11 31 17.9	
	comp=Z,0.0nm,0.8s						
SZD1	**Zahaedan-tmp**	**3.92**	**43**	*e*Pn	Pn	11 30 06.0	+2.3

IDC 12 11:32:08.6±34.0, 23°.31N×108°.22W, h0km, mb1 3.3/3, mb1mx3.2/33, mbtmp2.8/3, ML3.6/3, Error ellipse: s-maj=445.8km s-min=64.3km az=180.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**7.26**	**33**	Pn	Pn	11 33 57.0	+0.8
	0.1nm,0.3s,baz=209,slow=13,SNR=12						
NVAR	**Mina Array Bea**	**17.36**	**333**	P	Pn	11 36 12.2	-0.5
	0.0nm,0.3s,baz=164,slow=13,SNR=3.5						
PDAR	**Pinedale Array**	**19.44**	**357**	P	Pn	11 36 37.5	-0.5
	0.1nm,0.3s,baz=158,slow=12,SNR=2.5						

IDC 12 11:36:14.9±1.4, 5°.87S×154°.11E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/32, mbtmp3.9/4, Error ellipse: s-maj=96.8km s-min=26.8km az=137.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.77**	**232**	P	P	11 41 28.9	-0.5
	7.1nm,0.9s,baz=57,slow=9.5,SNR=19						
ASAR	**Alice Springs**	**26.29**	**226**	P	P	11 41 52.2	-0.2
	0.7nm,0.9s,baz=55,slow=8.1,SNR=4.1						
NVAR	**Mina Array Bea**	**91.72**	**52**	P	P	11 49 25.6	+0.5
	1.3nm,0.9s,baz=246,slow=7.0,SNR=8.0						
YKA	**Yellowknife Ar**	**95.76**	**28**	P	P	11 49 41.3	-1.4
	0.2nm,0.8s,baz=270,slow=4.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**151.87**	**287**	PKPbc	PKPbc	11 56 12.8	-0.2
	1.5nm,0.8s,baz=63,slow=0.6,SNR=9.0						
TORD				PKPab	PKPab	11 56 22.6	+0.6
	0.9nm,0.9s,baz=64,slow=3.4,SNR=3.9						

ARO 12 11:56:13.9, 14°N±18°×4°2E±9°7, h0km±55km, Ml3.6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**2.20**	**182**	*e*P	Pn	11 56 50.0	-1.8
OBO	**Obock**	**2.50**	**157**	*e*P	Pn	11 56 54.3	-1.6
TDD	**Tadjoura Ara**	**2.56**	**167**	*e*P	Pn	11 56 55.3	-1.3
KSDD	**Koussour**	**2.76**	**177**	*e*P	Pn	11 56 58.4	-1.0
ATD	**Arta Tunnel**	**2.81**	**169**	*e*P	Pn	11 56 59.5	-0.6
ATD	**Arta Tunnel**	**2.81**	**169**	*e*P	Pn	11 56 59.6	-0.6
ATD				*e*S	Sg	11 57 49.5	+5.2
SGH	**Sud-Ghoubbet**	**2.87**	**174**	*e*P	Pn	11 57 00.1	-0.9
ATA	**Atar**	**2.97**	**163**	*e*P	Pn	11 57 02.3	0.0

*OMAN **12** 11:56:27.9±2.5, 26°.83N×58°.06E, h10km, ml4.1/14, Error ellipse: s-maj=24.7km s-min=17.3km az=30.0*
*DSN **12** 11:56:29.8±3.7, 26°.64N×57°.98E, h10km, ML4.0/9, Error ellipse: s-maj=49.2km s-min=13.9km az=7.0*
*NEIC **12** 11:56:30.7±0.0, 26°.53N×57°.71E, h10km, mb4.1/24, ML4.2(THR), MN4.2(TEH), After TEH.*
*IDC **12** 11:56:30.6±1.2, 26°.58N×57°.64E, h0km, mb3.7/19, mb1 3.8/21, mb1mx3.7/59, mbtmp3.8/21, ML4.0/2, Error ellipse: s-maj=24.5km s-min=17.5km az=156.0*
*ISCJB **12** 11:56:31.6±0.3, 26°.64N±0°.02×57°.63E±0°.04, h10km, mb4.0/37, Error ellipse: s-maj=5.2km s-min=3.4km az=11.6*
*TEH **12** 11:56:33.8, 26°.69N×57°.64E, h15km, ML4.2*

ISC 12 11:56:33.0±0.5, 26°.55N±0°.03×57°.61E±0°.04, h10km, n130, σ1§64/134, mb4.1/39, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.22**	**326**	*e*Pn	**Pn**	**11 56 55.4**	**-0.6**
NIAN	**Nian**	**1.22**	**326**	*e*Pg	**Pn**	**11 56 55.5**	**-0.6**
NIAN				IAMB	IAmb	11 57 23.7	
	comp=Z,0.0nm,0.4s						
SHME	**Shamm**	**1.41**	**249**	*e*P	**Pg**	**11 57 00.5**	**+0.5**
	SNR=14						
SHME				S	**Sg**	**11 57 23.5**	**+5.1**
SHME	**Shamm**	**1.41**	**249**	*e*Pn	**Pg**	**11 57 01.0**	**+0.9**
GENO	**Geno**	**1.54**	**304**	*e*Pn	**Pg**	**11 57 01.8**	**-0.7**
GENO				*e*Sn	**Sg**	**11 57 25.4**	**+3.0**
GENO	**Geno**	**1.54**	**304**	*e*Pn	**Pg**	**11 57 01.8**	**-0.7**
GENO				IAMB	IAmb	11 57 28.9	
	comp=Z,0.0nm,0.4s						
MDH	**Madha**	**1.72**	**224**	P	**Pn**	**11 57 02.6**	**-0.4**
MDH	**Madha**	**1.72**	**224**	P	**Pn**	**11 57 02.7**	**-0.2**
	SNR=36						
MDH	**Madha**	**1.72**	**224**	*e*Pn	**Pn**	**11 57 02.8**	**-0.2**
MSFE	**Esma-Masafi**	**1.77**	**228**	*e*P	**Pn**	**11 57 03.9**	**+0.3**
	SNR=10						
MSFE	**Esma-Masafi**	**1.77**	**228**	*e*Pn	**Pn**	**11 57 04.0**	**+0.3**
UMQ	**Umm Al-Quwin**	**2.03**	**240**	*e*Pn	**Pg**	**11 57 10.6**	**-1.3**
HATD	**Hatta, Dubai**	**2.18**	**218**	*e*P	**Pn**	**11 57 08.4**	**-0.9**
	SNR=30						
HATD	**Hatta, Dubai**	**2.18**	**218**	P	**Pn**	**11 57 09.3**	**0.0**
	SNR=12						
HATD	**Hatta, Dubai**	**2.18**	**218**	*e*Pn	**Pn**	**11 57 08.8**	**-0.5**
ASHO	**Ashiyiah**	**2.33**	**217**	*e*P	**Pn**	**11 57 12.1**	**+0.7**
	SNR=51						
ASHO	**Ashiyiah**	**2.33**	**217**	P	**Pn**	**11 57 11.9**	**+0.5**
	SNR=23						
ASHO				S	**Sg**	**11 57 48.9**	**+1.0**
ASHO	**Ashiyiah**	**2.33**	**217**	*e*Pn	**Pn**	**11 57 12.0**	**+0.6**
NAZ	**Nazwa, Dubai**	**2.35**	**229**	*e*P	**Pn**	**11 57 12.4**	**+0.8**
	SNR=63						
NAZ	**Nazwa, Dubai**	**2.35**	**229**	P	**Pb**	**11 57 15.0**	**-0.4**
	SNR=62						
NAZ				S	**Sg**	**11 57 48.9**	**+0.5**
NAZ	**Nazwa, Dubai**	**2.35**	**229**	*e*Pn	**Pb**	**11 57 15.3**	**-0.1**
FAQ	**Al Faqa, Dubai**	**2.56**	**226**	*e*P	**Pb**	**11 57 16.9**	**-2.1**
	SNR=66						
FAQ	**Al Faqa, Dubai**	**2.56**	**226**	P	**Pb**	**11 57 17.6**	**-1.4**
	SNR=6.1						
FAQ	**Al Faqa, Dubai**	**2.56**	**226**	*e*Pn	**Pb**	**11 57 17.9**	**-1.1**
SOHO	**SOHO**	**2.60**	**202**	P	**Pn**	**11 57 13.9**	**-1.2**
	SNR=6.4						
CHBR	**Chabahar**	**2.75**	**110**	*e*Pn	**Pn**	**11 57 17.0**	**-0.2**
CHBR	**Chabahar**	**2.75**	**110**	*e*Pn	**Pn**	**11 57 17.1**	**-0.2**
ASUD	**Al Ashush, Dub**	**2.81**	**228**	*i* P	**Pb**	**11 57 20.7**	**-2.7**
	SNR=24						
ASUD	**Al Ashush, Dub**	**2.81**	**228**	P	**Pb**	**11 57 21.5**	**-1.9**
	SNR=24						
ASUD	**Al Ashush, Dub**	**2.81**	**228**	*e*Pn	**Pb**	**11 57 21.8**	**-1.5**
HOQ	**Hoqain**	**2.97**	**185**	P	**Pn**	**11 57 19.2**	**-1.0**
	SNR=6.1						
HOQ	**Hoqain**	**2.97**	**185**	*e*Pn	**Pn**	**11 57 19.0**	**-1.2**
ALNE	**Al Ain**	**3.00**	**214**	P	**Pn**	**11 57 22.1**	**+1.4**
ALNE	**Al Ain**	**3.00**	**214**	*e*Pn	**Pn**	**11 57 23.4**	**+2.8**
BIDO	**Bidbid**	**3.06**	**171**	P	**Pn**	**11 57 20.0**	**-1.4**
	SNR=12						
BIDO	**Bidbid**	**3.06**	**171**	*e*Pn	**Pn**	**11 57 20.3**	**-1.1**
AJN	**Ajban**	**3.09**	**231**	*e*Pn	**Pb**	**11 57 28.9**	**+0.9**
NGRK	**Negar Kerman**	**3.18**	**346**	*e*Pn	**Pn**	**11 57 23.2**	**-0.1**
NGRK	**Negar Kerman**	**3.18**	**346**	*e*Pn	**Pn**	**11 57 23.3**	**-0.1**
NGRK				IAMB	IAmb	11 58 12.3	
	comp=Z,0.0nm,0.4s						
CHMN	**Cheshme madani**	**3.30**	**359**	*e*Pn	**Pn**	**11 57 24.9**	**-0.1**
CHMN	**Cheshme madani**	**3.30**	**359**	*e*Pn	**Pn**	**11 57 25.4**	**+0.4**
CHMN				IAMB	IAmb	11 58 22.4	
	comp=N,0.0nm,0.6s						
ARQ	**Araqi**	**3.35**	**197**	P	**Pn**	**11 57 27.9**	**+2.4**
	SNR=13						
WSAR	**Wadi Sarin**	**3.43**	**164**	Pn	**Pn**	**11 57 25.4**	**-1.0**
	comp=N,31nm,0.3s,baz=344,slow=7.0,SNR=147						
WSAR				Sn	**Sn**	**11 58 04.5**	**-2.7**
	comp=N,44nm,0.3s,baz=273,slow=22,SNR=18						
TVBK	**TV Kerman**	**3.50**	**348**	*e*Pn	**Pn**	**11 57 28.7**	**+0.9**
TVBK				IAMB	IAmb	11 57 40.2	
	comp=Z,0.0nm,0.3s						
SMDO	**Samad**	**3.50**	**173**	P	**Pn**	**11 57 27.2**	**-0.4**
	SNR=39						
BSY	**Bisya**	**3.81**	**186**	P	**Pn**	**11 57 33.5**	**+1.7**
	SNR=16						
BSY				S	**Sn**	**11 58 21.5**	**+4.8**
KHGB	**Koh Gabri**	**3.94**	**346**	IAMB	IAmb	11 55 00.3	
	comp=Z,0.0nm,1.0s						
KHGB				*e*Pn	**Pn**	**11 57 34.3**	**+0.6**
SZD1	**Zahaedan-tmp**	**4.10**	**44**	*e*Pn	**Pn**	**11 57 37.4**	**+1.5**
ZHSF	**Zahedan**	**4.13**	**42**	*e*Pn	**Pn**	**11 57 36.0**	**-0.4**
ZHSF	**Zahedan**	**4.13**	**42**	*e*Pn	**Pn**	**11 57 36.6**	**+0.2**
GHIR	**Ghir-Karzin**	**4.46**	**294**	*e*Pn	**Pn**	**11 57 41.0**	**+0.3**
GHIR	**Ghir-Karzin**	**4.46**	**294**	*e*Pn	**Pn**	**11 57 41.6**	**+0.9**
MZR	**Muzera**	**5.16**	**228**	*e*Pn	Pn	11 57 56.0	+5.7
IMEH	**Mehriz**	**5.49**	**332**	*e*Pn	**Pn**	**11 57 54.6**	**-0.4**
IKOO	**Kooshah**	**5.98**	**11**	*e*Pn	**Pn**	**11 58 00.4**	**-1.3**
IKAZ	**Kazeroun**	**6.02**	**304**	*e*Pn	**Pn**	**11 58 01.7**	**-0.7**
ISAD	**Sadrabad**	**6.35**	**328**	*e*Pn	**Pn**	**11 58 06.9**	**0.0**
ITEG	**Tejag**	**6.40**	**9**	*e*Pn	**Pn**	**11 58 06.3**	**-1.2**
TPRV	**Parvadeh(Tabas**	**6.50**	**353**	*e*Pn	**Pn**	**11 58 08.7**	**-0.1**
TKDS	**Koohdasht(Taba**	**7.05**	**357**	*e*Pn	**Pn**	**11 58 16.3**	**-0.1**
KHMZ	**Khomeyn**	**9.75**	**319**	*e*Pn	**Pn**	**11 58 54.0**	**+0.5**
KHMZ	**Khomeyn**	**9.75**	**319**	*e*Pn	**Pn**	**11 58 54.1**	**+0.5**
IKOM	**Komasi**	**11.56**	**313**	*e*Pn	**Pn**	**11 59 15.8**	**-2.4**
NIL	**Nilore**	**15.27**	**59**	*e*Pn	**Pn**	**12 00 06.5**	**-2.2**
	comp=Z,10nm,0.6s						
NIL	**Nilore**	**15.27**	**59**	*e*Pn	**Pn**	**12 00 08.1**	**-0.5**
GAR	**Garm**	**16.36**	**37**	*e*Pn	**Pn**	**12 00 18.8**	**-4.0**
	comp=Z,6.3nm,0.7s						
GNI	**Garni**	**17.28**	**325**	*e*Pn	**Pn**	**12 00 30.9**	**-3.5**
	comp=Z,8.0nm,0.6s						
BTK	**Batken**	**17.39**	**36**	*e*P	**Pn**	**12 00 36.0**	**+0.2**
	comp=Z,4.7nm,0.7s						
ASF	**Jabal al Asfar**	**18.89**	**292**	P	**P**	**12 00 50.9**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=78,slow=20,SNR=2.2						
KK31	**Karatay Array**	**19.58**	**29**	*e*P	**Pn**	**12 01 03.1**	**+0.7**
	comp=Z,8.2nm,1.4s						
KKAR	**Karatay Array**	**19.58**	**29**	*e*P	**Pn**	**12 01 03.2**	**+0.8**
	comp=Z,8.2nm,1.4s						
EIL	**Elat**	**20.22**	**284**	P	**P**	**12 01 05.5**	**-2.7**
	comp=Z,2.9nm,1.0s,baz=139,slow=20,SNR=1.8						
MMAI	**Mount Meron Ar**	**20.30**	**294**	P	**P**	**12 01 06.8**	**-2.3**
	comp=Z,1.7nm,0.5s,baz=94,slow=15,SNR=2.8						
KBZ	**Khabaz**	**20.88**	**329**	P	Pn	12 01 16.2	-1.5
	comp=Z,1.5nm,0.9s,baz=89,slow=16,SNR=2.5						
AAK	**Ala-Archa**	**21.16**	**36**	*e*P	**P**	**12 01 20.6**	**+2.1**
	comp=Z,4.0nm,0.7s						
AAK	**Ala-Archa**	**21.16**	**36**	P	**P**	**12 01 15.8**	**-2.7**
	comp=Z,1.1nm,0.5s,baz=197,slow=11,SNR=3.2						
NRN	**Naryn**	**21.21**	**41**	*e*P	**P**	**12 01 19.9**	**+0.7**
	comp=Z,3.4nm,0.7s						
BOOM	**Boomskoye usch**	**21.86**	**39**	*e*P	**P**	**12 01 27.3**	**+1.3**
	comp=Z,7.4nm,0.8s						
KDJ	**Kajisay**	**22.34**	**41**	*e*P	**P**	**12 01 30.6**	**-0.6**
	comp=Z,9.3nm,0.8s						
ABKAR	**Akbulak array**	**22.74**	**4**	*e*P	**P**	**12 01 32.5**	**-2.6**
	comp=Z,3.7nm,0.7s						
AKTO	**Aktyubinsk**	**23.85**	**1**	P	**P**	**12 01 45.0**	**-1.2**
	comp=Z,3.6nm,0.7s,baz=154,slow=11,SNR=8.4						
BR101	**Keskin Array S**	**23.90**	**309**	*e*P	**P**	**12 01 47.5**	**+0.4**
BR131	**Keskin Array S**	**23.90**	**309**	*e*P	**P**	**12 01 47.7**	**+0.6**
	comp=Z,4.6nm,0.8s						
BRTR	**Keskin Array B**	**23.90**	**309**	P	**P**	**12 01 47.5**	**+0.4**
	comp=Z,3.7nm,0.7s,baz=132,slow=11,SNR=24						
ANTO	**Ankara**	**24.55**	**309**	*e*P	**P**	**12 01 53.0**	**0.0**
	comp=Z,9.8nm,1.1s						
BVAR	**Borovoye Array**	**28.12**	**16**	P	**P**	**12 02 22.3**	**-2.6**
	comp=Z,0.3nm,0.4s,baz=170,slow=8.8,SNR=3.4						
KURBB	**Kurchatov Arra**	**28.87**	**28**	P	**P**	**12 02 29.9**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=226,slow=8.1,SNR=5.6						
WMQ	**Urumqi**	**29.80**	**47**	*e*P	**P**	**12 02 43.7**	**+3.6**
WMQ				sP	sP	12 02 50.4	+5.7
WMQ	**Urumqi**	**29.80**	**47**	*e*P	**P**	**12 02 43.2**	**+3.1**
	comp=Z,34nm,0.9s						
AKASG	**Malin Array Be**	**32.41**	**326**	*e*P	**P**	**12 03 02.0**	**-0.9**
AKASG	**Malin Array Be**	**32.41**	**326**	P	**P**	**12 03 02.5**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=129,slow=8.4,SNR=6.1						
AKBB	**Malin Array Si**	**32.41**	**326**	*e*P	**P**	**12 03 02.7**	**-0.1**
	comp=Z,3.7nm,0.8s						
KIEV	**Kiev**	**32.41**	**326**	*e*P	**P**	**12 03 02.3**	**-0.6**
	comp=Z,3.6nm,0.7s						
BURAR	**Bucovina Array**	**32.95**	**318**	*e*P	**P**	**12 03 05.9**	**-1.9**
ZALV	**Zalesovo Beam**	**33.95**	**29**	*e*P	**P**	**12 03 16.1**	**-0.2**
ZALV	**Zalesovo Beam**	**33.95**	**29**	P	**P**	**12 03 15.8**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=238,slow=11,SNR=5.3						
ZAA1	**Zalesovo Array**	**33.95**	**29**	*e*P	**P**	**12 03 15.8**	**-0.5**
PSZ	**Piszkesteto**	**36.33**	**316**	*e*P	**P**	**12 03 36.2**	**-0.8**
	comp=Z,6.0nm,1.2s						
MOA	**Molln**	**39.88**	**314**	*e*P	**P**	**12 04 05.6**	**-1.3**
	comp=Z,2.2nm,0.6s						
KBA	**Koelnbreinsper**	**40.27**	**312**	*e*pP	**P**	**12 04 09.9**	**-0.4**
	comp=Z,3.1nm,0.8s						
LZH	**Lanzhou**	**40.31**	**65**	*e*P	**P**	**12 04 13.2**	**+2.4**
LZH				pP	sP	12 04 16.3	+0.8
LZH				sP	pP	12 04 18.0	+3.9
LZH				*e*PP	**PnPn**	**12 05 50.5**	**+3.4**
CD2	**Chengdu**	**40.48**	**73**	*e*P	**P**	**12 04 16.8**	**+4.7**
KHC	**Kasperske Hory**	**40.69**	**316**	*e*P	**P**	**12 04 12.7**	**-0.9**
	comp=Z,0.9nm,0.7s						
FIA0	**FINESS Array S**	**40.82**	**337**	*e*P	**P**	**12 04 13.9**	**-0.5**
FIA1	**FINESS Array S**	**40.82**	**337**	*e*P	**P**	**12 04 13.4**	**-1.0**
	comp=Z,5.5nm,1.3s						
FINES	**FINESS Array B**	**40.82**	**337**	*e*P	**P**	**12 04 13.0**	**-1.4**
FINES	**FINESS Array B**	**40.82**	**337**	P	**P**	**12 04 13.9**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=139,slow=8.3,SNR=12						
WTTA	**Wattenberg**	**41.45**	**312**	*i* P	**P**	**12 04 18.6**	**-1.4**
	comp=Z,3.5nm,0.6s						
WATA	**Walderalm**	**41.51**	**312**	*e*pP	**P**	**12 04 19.7**	**-0.7**
	comp=Z,1.5nm,0.5s						
CLL	**Collm**	**41.72**	**319**	*e*(P)	**P**	**12 04 24.0**	**+2.0**
	comp=Z,3.0nm,0.7s						
SQTA	**Sankt Quirin**	**41.72**	**312**	*e*P	**P**	**12 04 20.6**	**-1.6**
	comp=Z,4.3nm,0.5s						
MOTA	**Moosalm**	**41.82**	**312**	*e*P	**P**	**12 04 21.4**	**-1.6**
	comp=Z,2.8nm,0.5s						
FETA	**Feichten**	**42.00**	**312**	*e*P	**P**	**12 04 23.1**	**-1.4**
	comp=Z,8.5nm,1.1s						
RETA	**Reutte**	**42.08**	**312**	*e*P	**P**	**12 04 23.5**	**-1.6**
	comp=Z,2.5nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**42.23**	**311**	*e*P	**P**	**12 04 26.2**	**-0.3**
	comp=Z,4.9nm,1.0s						
DAVOX	**Davos/Dischmat**	**42.52**	**311**	P	**P**	**12 04 27.5**	**-1.3**
	comp=Z,2.7nm,0.5s,baz=168,slow=3.5,SNR=6.0						
DAVA	**Damuels**	**42.62**	**312**	*i* P	**P**	**12 04 28.2**	**-1.4**
	comp=Z,9.9nm,0.5s						
HFS	**Hagfors**	**44.94**	**331**	P	**P**	**12 04 46.4**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=133,slow=10,SNR=5.3						
HHC	**Hu-ho-hao-te**	**46.41**	**58**	*e*P	**P**	**12 05 04.4**	**+4.5**
NB200	**NORSAR Array S**	**46.44**	**331**	*e*P	**P**	**12 04 59.3**	**-0.5**
NOA	**NORSAR Array B**	**46.44**	**331**	P	**P**	**12 04 59.3**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=115,slow=8.0,SNR=2.8						
ARA0	**ARCESS Array S**	**46.92**	**345**	*e*P	**P**	**12 05 02.0**	**-1.3**
ARCES	**ARCESS Array B**	**46.92**	**345**	P	**P**	**12 05 02.0**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=134,slow=8.7,SNR=5.2						
ESDC	**Sonseca Array**	**52.28**	**301**	P	**P**	**12 05 44.1**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=72,slow=6.9,SNR=3.6						
TOA0	**Torodi Ar. Sit**	**53.88**	**267**	*e*P	**P**	**12 05 56.6**	**-0.1**
	comp=Z,2.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**53.88**	**267**	P	**P**	**12 05 56.5**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=63,slow=7.0,SNR=9.2						
TOA1	**Torodi Ar. Sit**	**53.88**	**267**	*e*P	**P**	**12 05 56.5**	**-0.3**
SPITS	**Spitsbergen Ar**	**54.97**	**350**	P	**P**	**12 06 02.0**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=140,slow=9.1,SNR=2.5						
ILAR	**Eielson Array**	**87.00**	**10**	P	**P**	**12 09 18.9**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=328,slow=3.2,SNR=3.8						
SYO	**Syowa Base**	**96.19**	**186‖**	*e*P	P	12 10 09.0	+8.5

*IDC **12** 11:58:41.8±0.7, 22°.20S×170°.44E, h0km, mb4.3/15, mb1 4.5/17, mb1mx4.4/28, mbtmp4.4/17, ML4.3/2, MS4.0/6, Ms1 4.0/6, ms1mx3.7/23, Error ellipse: s-maj=19.9km s-min=17.6km az=103.0*
*BJI **12** 11:58:43.7±0.0, 21°.91S×170°.90E, h21km, mb5.0/20, mB5.2/14, Ms5.0/3, Ms7 4.8/2*
*ISCJB **12** 11:58:45.9±0.3, 22°.28S±0°.05×170°.31E±0°.04, h33km, mb4.8/51, MS4.1/7, Error ellipse: s-maj=7.1km s-min=4.9km az=5.9*
*NEIC **12** 11:58:45.8±2.1, 22°.23S×170°.37E, h24km±4km, mb4.8/35, Error ellipse: s-maj=15.0km s-min=13.4km az=218.0*
*GCMT **12** 11:58:48.8±0.4, 22°.51S±0°.02×170°.38E±0°.03, h30km±1km, MW5.0/52, Moment Tensor Solution. s35,c45; s52,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.42±.22; $M_{\theta\theta}$-2.51±.14; $M_{\phi\phi}$-0.90±.13; $M_{r\theta}$1.43±.17; $M_{\theta\phi}$0.98±.07; $M_{\phi r}$0.10±.20; Best double couple: $M_0$3.49200×10^{16} NP1:ϕ_s105.00000°, δ56.00000°, λ80.00000°. NP2: ϕ_s303.00000°, δ35.00000°, λ105.00000°. Principal axes: T 3.7690, Plg76.0000°, Azm343.0000°; N -0.5520, Plg9.0000°, Azm111.0000°; P -3.2150, Plg11.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 11:58:47.2±0.4, 22°.27S±0°.07×170°.34E±0°.06, h33km, n156, σ1§15/164, mb4.8/49, MS4.0/7, 17C-7D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.28**	**290**	*e*Pn	**Pn**	**11 59 20.7**	**-1.9**
MARNC				*e*Sn	**Sn**	**11 59 48.7**	**-0.9**
PINNC	**Pines Island,**	**2.70**	**262**	*e*Pn	**Pn**	**11 59 27.9**	**-0.3**
PINNC				*e*Sn	**Sn**	**12 00 00.5**	**+0.7**
ONTNC	**Ouen Toro**	**3.60**	**269**	*e*Pn	**Pn**	**11 59 39.9**	**-0.8**
ONTNC				*e*Sn	**Sn**	**12 00 21.7**	**-0.4**
DZM	**Mont Dzumac**	**3.62**	**272**	*e*Pn	**Pn**	**11 59 40.3**	**-0.8**
DZM				*e*Sn	**Sn**	**12 00 22.7**	**+0.1**
DZM	**Mont Dzumac**	**3.62**	**272**	Pn	**Pn**	**11 59 40.5**	**-0.5**
	22nm,0.3s,baz=90,slow=16,SNR=696						
DZM				Sn	**Sn**	**12 00 22.3**	**-0.4**
	14nm,0.3s,baz=90,slow=18,SNR=12						
HNR	**Honiara**	**16.20**	**320**	*e*Pn	**P**	**12 02 36.8**	**+1.5**
	80nm,0.8s						
HNR	**Honiara**	**16.20**	**320**	Pn	**Pn**	**12 02 31.9**	**-0.6**
	1.3nm,0.3s,baz=153,slow=6.8,SNR=2.3						
BKZ	**Black Stump Fm**	**17.64**	**164**	*e*Pn	**P**	**12 02 51.4**	**+0.1**
	35nm,1.3s						
ARMA	**Armidale**	**18.61**	**240**	*e*P	**Pn**	**12 03 02.1**	**-0.4**
	25nm,1.5s						
OXZ	**Oxford**	**21.05**	**177**	*e*P	**P**	**12 03 29.6**	**+1.3**
	22nm,0.9s						
RPZ	**Rata Peaks**	**21.40**	**179**	P	**P**	**12 03 32.6**	**+0.5**
	13nm,1.0s,baz=11,slow=10,SNR=2.3						
CTA	**Charters Tower**	**22.56**	**271**	P	**P**	**12 03 45.4**	**+0.6**
	6.2nm,0.7s,baz=88,slow=11,SNR=8.7						
CTAO	**Charters Tower**	**22.56**	**271**	*e*P	**P**	**12 03 45.7**	**+0.9**
	7.2nm,0.8s						
PMG	**Port Moresby**	**25.66**	**296**	P	**P**	**12 04 15.0**	**+0.8**
	14nm,0.9s,baz=116,slow=9.8,SNR=3.3

XAN				pmax	pmax		
	comp=Z,23nm,4.3s						
XAN	**Xi'an**	**80.91**	**312**	*e*P	**P**	**12 10 58.4**	**0.0**
	9.9nm,0.8s						
SYO	**Syowa Base**	**82.32**	**196**⇓	*e*P	**P**	**12 11 07.0**	**+1.8**
SYO	**Syowa Base**	**82.32**	**196**⇑	*e*P	P	12 11 21.0	+16
CD2	**Chengdu**	**82.89**	**307**	*e*P	**P**	**12 11 09.5**	**+0.7**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
HHC	**Hu-ho-hao-te**	**83.18**	**319**	*e*P	**P**	**12 11 13.0**	**+2.8**
HHC				pmax	pmax		
	comp=Z,50nm,1.2s						
HHC				pmax	pmax		
	comp=Z,190nm,7.1s						
LZH	**Lanzhou**	**85.51**	**312**	*e*P	**P**	**12 11 22.4**	**+0.2**
LZH				pP	pP	12 11 28.3	-2.9
LZH				sP	sP	12 11 30.6	-3.8
LZH				*e*PP	**PP**	**12 14 42.5**	**+1.2**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,89nm,8.2s						
LZH				LR	LR		
	comp=N,170nm,17.0s						
LZH				LR	LR		
	comp=E,180nm,16.8s						
LZH				LR	LR		
	comp=Z,260nm,19.2s						
SNAA	**Sanae**	**86.19**	**182**	P	**P**	**12 11 23.7**	**-1.3**
SNAA	**Sanae**	**86.19**	**182**	*e*P	**P**	**12 11 23.6**	**-1.4**
	6.6nm,1.0s						
VNA3	**Neumayer Olymp**	**86.74**	**180**	P	**P**	**12 11 26.1**	**-1.5**
VNA2	**Neumayer--Watz**	**87.05**	**181**	P	**P**	**12 11 28.1**	**-1.0**
	baz=165,slow=4.7						
VNA1	**Neumayer--Stat**	**87.33**	**180**	P	**P**	**12 11 29.4**	**-1.0**
ULN	**Ulaanbaatar**	**89.90**	**323**	*e*P	**P**	**12 11 43.1**	**+0.2**
	16nm,1.4s						
NV01	**Mina Array Sit**	**90.04**	**48**	*e*P	**P**	**12 11 43.4**	**-0.6**
NVAR	**Mina Array Bea**	**90.04**	**48**	P	**P**	**12 11 43.4**	**-0.6**
	0.6nm,0.6s,baz=230,slow=8.0,SNR=5.8						
NVAR				LR	LR	12 47 42.1	
	comp=Z,104nm,18.0s,baz=198,slow=33						
SONA0	**Songino Array**	**90.25**	**323**	*e*P	**P**	**12 11 44.8**	**+0.3**
SONM	**Songino Array**	**90.25**	**323**	P	**P**	**12 11 44.8**	**+0.3**
	5.1nm,0.8s,baz=104,slow=6.3,SNR=3.5						
SCM	**Sheep Creek Mo**	**90.39**	**19**	*e*P	**P**	**12 11 44.9**	**+0.1**
	19nm,0.8s						
ILAR	**Eielson Array**	**92.81**	**17**	*e*P	**P**	**12 11 54.3**	**-1.6**
ILAR	**Eielson Array**	**92.81**	**17**	P	**P**	**12 11 53.7**	**-2.2**
	0.7nm,0.6s,baz=234,slow=4.8,SNR=17						
ILB	**Eielson Array**	**92.81**	**17**	*e*P	**P**	**12 11 55.5**	**-0.4**
	1.4nm,0.8s						
EGAK	**Eagle**	**94.44**	**19**	*e*P	**P**	**12 12 02.1**	**-1.3**
	3.6nm,0.8s						
SNOW	**Snow King Moun**	**97.38**	**46**	*e*P	Pdif	12 12 19.4	+1.6
	4.7nm,0.5s						
GO05	**Huala**	**97.97**	**133**	*e*P	**P**	**12 12 16.5**	**-3.9**
	25nm,0.8s						
RLMT	**Red Lodge**	**99.01**	**45**	*e*P	**Pdif**	**12 12 25.1**	**+0.2**
	6.3nm,1.1s						
WMQ	**Urumqi**	**100.03**	**313**	*e*P	**Pdif**	**12 12 28.6**	**-0.6**
MK32	**Makanchi Array**	**104.60**	**315**	*e*Pdif	**Pdif**	**12 12 49.2**	**-0.2**
MKAR	**Makanchi Array**	**104.60**	**315**	Pdiff	**Pdif**	**12 12 49.2**	**-0.2**
	0.3nm,0.6s,baz=93,slow=8.7,SNR=2.8						
HUMP	**Col San Antoni**	**127.36**	**84**	*e*PKPdf	**PKPdf**	**12 17 47.5**	**-1.8**
ARA0	**ARCESS Array S**	**128.25**	**345**	*e*PKPdf	**PKPdf**	**12 17 48.3**	**-1.2**
ARCES	**ARCESS Array B**	**128.25**	**345**	PKP	**PKPdf**	**12 17 48.3**	**-1.2**
	0.8nm,0.5s,baz=64,slow=2.8,SNR=9.4						
FIA0	**FINESS Array S**	**133.77**	**337**	*e*PKPpre	PKPpre	12 17 56.0	
FIA0				*e*PKPdf	**PKPdf**	**12 18 00.9**	**+0.7**
FINES	**FINESS Array B**	**133.77**	**337**	PKhKP	PKPpre	12 17 56.0	
	0.7nm,0.7s,baz=347,slow=4.3,SNR=3.9						
FINES				PKP	**PKPdf**	**12 18 00.9**	**+0.7**
	1.1nm,0.8s,baz=17,slow=2.6,SNR=3.4						
AKASG	**Malin Array Be**	**138.53**	**323**	PKP	**PKPdf**	**12 18 09.5**	**+0.2**
	0.2nm,0.3s,baz=48,slow=2.7,SNR=3.3						
BR101	**Keskin Array S**	**139.44**	**306**	*e*PKPdf	**PKPdf**	**12 18 09.6**	**-2.0**
BRTR	**Keskin Array B**	**139.44**	**306**	PKP	**PKPdf**	**12 18 09.6**	**-2.0**
	0.3nm,0.4s,baz=35,slow=5.2,SNR=2.9						
BURAR	**Bucovina Array**	**142.34**	**321**	⇓*i*P	**PKPdf**	**12 18 10.2**	**-6.3**
MLR	**Muntele Rosu**	**142.90**	**317**	⇑*i*P	**PKPdf**	**12 18 14.7**	**-2.9**
ARR	**Arges**	**143.78**	**318**	⇑*i*P	PKPbc	12 18 17.6	+0.9
DRGR		**144.22**	**321**	⇑*i*P	PKPbc	12 18 18.1	+0.1
VLAD	**Vladila**	**144.55**	**316**	⇑*i*P	**PKPdf**	**12 18 20.3**	**0.0**
OKC	**Ostrava-Krasne**	**144.85**	**328**	*e*PKP	PKPbc	12 18 20.2	+0.4
GZR	**Gura Zlata**	**144.91**	**319**	⇓*i*P	PKPbc	12 18 20.4	+0.2
SIRR	**Siria**	**145.12**	**321**	⇑*i*P	**PKPdf**	**12 18 21.7**	**+0.4**
PSZ	**Piszkesteto**	**145.17**	**324**	*e*PKPbc	**PKPbc**	**12 18 20.4**	**-0.7**
PSZ	**Piszkesteto**	**145.17**	**324**	⇑*i*P	**PKPbc**	**12 18 20.3**	**-0.7**
MORC	**Moravsky Berou**	**145.18**	**329**	*e*PKPbc	**PKPbc**	**12 18 20.5**	**-0.4**
MORC	**Moravsky Berou**	**145.18**	**329**	⇑*i*P	**PKPbc**	**12 18 21.1**	**+0.2**
MORC	**Moravsky Berou**	**145.18**	**329**	*e*PKP	**PKPbc**	**12 18 20.5**	**-0.4**
KRLC	**Kraliky**	**145.34**	**330**	*e*PKP	**PKPbc**	**12 18 21.6**	**+0.2**
DPC	**Dobruska-Polom**	**145.36**	**330**	*e*PKP	**PKPab**	**12 18 22.0**	**+0.3**
HERR	**Herculane**	**145.38**	**318**	⇑*i*P	**PKPab**	**12 18 22.2**	**+0.3**
UPC	**Upice**	**145.39**	**331**	*e*PKP	**PKPdf**	**12 18 21.8**	**+0.2**
BZS	**Buzias**	**145.49**	**320**	⇓*i*P	**PKPbc**	**12 18 22.2**	**+0.2**
JAVC	**Velka Javorina**	**145.73**	**327**	*e*PKP	**PKPab**	**12 18 23.9**	**+0.8**
MDVR	**Moldovita**	**145.87**	**319**	⇑*i*P	**PKPab**	**12 18 23.9**	**+0.2**
VTS	**Vitosha**	**145.93**	**314**	*e*PKPdf	**PKPdf**	**12 18 23.5**	**+0.5**
VTS	**Vitosha**	**145.93**	**314**	⇓*i*P	**PKiKP**	**12 18 26.7**	**-0.4**
VRAC	**Vranov**	**145.96**	**329**	⇑*i*P	**PKPab**	**12 18 24.2**	**+0.3**
VRAC	**Vranov**	**145.96**	**329**	*e*PKP	**PKPbc**	**12 18 23.3**	**0.0**
PVCC	**Panska Ves**	**146.01**	**332**	*e*PKP	**PKPab**	**12 18 24.1**	**+0.1**
BRG	**Berggiesshubel**	**146.03**	**333**	*i* PKP	**PKPdf**	**12 18 23.1**	**+0.5**
	18nm,1.1s						
CLL	**Collm**	**146.08**	**334**	*e*PKPdf	**PKPdf**	**12 18 23.0**	**+0.2**
CLL	**Collm**	**146.08**	**334**	⇑*i*PKPbc	**PKPdf**	**12 18 23.1**	**+0.4**
	comp=Z,13nm,0.7s						
CLL				*i* PKiKP	**PKiKP**	**12 18 27.6**	**+0.7**
CLL				*ep*PKiKP	**sPKPdf**	**12 18 35.0**	**-0.1**
KRUC	**Moravsky**	**146.22**	**329**	*e*PKP	**PKPbc**	**12 18 24.0**	**-0.1**
GOPC	**GO Pecny, Ondr**	**146.37**	**331**	*e*PKP	**PKPbc**	**12 18 25.0**	**+0.4**
NKC	**Novy Kostel**	**147.13**	**334**	*e*PKP	**PKPbc**	**12 18 27.0**	**+0.2**
CONA	**Conrad Observa**	**147.25**	**328**	*e*PKPab	**PKPbc**	**12 18 27.7**	**+0.4**
	comp=Z,6.4nm,1.4s,SNR=6.5						
KHC	**Kasperske Hory**	**147.48**	**331**	*e*PKPbc	**PKPbc**	**12 18 27.0**	**-0.8**
KHC	**Kasperske Hory**	**147.48**	**331**	*e*PKP	**PKPbc**	**12 18 27.5**	**-0.3**
KHC				*ep*PKP	**PKiKP**	**12 18 31.5**	**+1.6**
LIT	**Litokhoron**	**147.49**	**311**	*e*PKPbc	**PKPbc**	**12 18 28.1**	**0.0**
ARSA	**Arzberg**	**147.88**	**327**	*e*PKiKP	**PKiKP**	**12 18 30.3**	**-0.6**
	comp=Z,1.6nm,0.6s						
FNA	**Florina**	**147.98**	**312**	*e*PKPbc	**PKiKP**	**12 18 30.6**	**-0.7**
MOA	**Molln**	**148.08**	**329**	*e*PKPbc	**PKPbc**	**12 18 29.0**	**-0.5**
	comp=Z,1.6nm,0.5s						
SOKA	**Soboth**	**148.51**	**327**	*e*PKPbc	**PKPbc**	**12 18 29.9**	**-0.8**
	comp=Z,2.8nm,0.8s						
OBKA	**Obir**	**148.87**	**327**	*ep*PKPdf	**PKPab**	**12 18 35.2**	**-0.3**
	comp=Z,1.9nm,0.6s						
KBA	**Koelnbreinsper**	**149.07**	**329**	*e*PKPbc	**PKPbc**	**12 18 31.8**	**-0.4**
	comp=Z,7.3nm,1.1s						
MEM	**Membach**	**149.17**	**340**	⇑PKPbc	**PKPbc**	**12 18 32.3**	**+0.2**
MEM				⇑PKPab	**PKPab**	**12 18 36.2**	**-0.2**
MYKA	**Terra Mystica**	**149.24**	**328**	*e*PKPbc	**PKPbc**	**12 18 31.9**	**-0.6**
	comp=Z,5.9nm,0.7s						
BCLA	**Clavier**	**149.55**	**341**	⇑PKPab	**PKPab**	**12 18 37.6**	**-0.4**
ABTA	**Abfaltersbach**	**149.70**	**329**	*e*PKPbc	**PKPbc**	**12 18 33.2**	**-0.5**
	comp=Z,7.2nm,0.6s						
WATA	**Walderalm**	**149.71**	**331**	*e*PKiKP	**PKPbc**	**12 18 34.1**	**+0.4**
	comp=Z,1.5nm,0.4s						
WTTA	**Wattenberg**	**149.73**	**331**	*e*PKiKP	**PKPbc**	**12 18 34.0**	**+0.1**
	comp=Z,12nm,0.9s						
SNF	**Seneffe**	**149.77**	**342**	⇑PKPbc	**PKPbc**	**12 18 33.8**	**+0.3**
SNF				⇓PKPab	**pPKPdf**	**12 18 38.3**	**+0.4**
MOTA	**Moosalm**	**149.91**	**331**	*e*PKPbc	**PKPbc**	**12 18 34.0**	**-0.2**
	comp=Z,13nm,1.0s,SNR=7.5						
WLF	**Walferdange**	**149.94**	**339**	⇑PKPbc	**PKPbc**	**12 18 34.3**	**+0.3**
RETA	**Reutte**	**149.96**	**332**	*e*PKiKP	**PKPbc**	**12 18 34.3**	**0.0**
	comp=Z,2.5nm,0.8s						
SQTA	**Sankt Quirin**	**149.96**	**331**	*e*PKPbc	**PKPbc**	**12 18 33.7**	**-0.6**
	comp=Z,4.0nm,0.4s						
DOU	**Dourbes**	**150.05**	**341**	⇓PKPbc	**PKPbc**	**12 18 34.4**	**+0.2**
BFO	**Black Forest**	**150.29**	**335**	*e*PKPbc	**PKPbc**	**12 18 33.7**	**-1.3**
FETA	**Feichten**	**150.32**	**331**	*e*PKPbc	**PKPbc**	**12 18 34.9**	**-0.4**
	comp=Z,9.1nm,1.0s						
DAVA	**Damuels**	**150.49**	**332**	*e*PKiKP	**PKPbc**	**12 18 35.7**	**0.0**
	comp=Z,4.3nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**150.84**	**331**	*e*PKPbc	**PKPbc**	**12 18 34.7**	**-1.9**
DAVOX	**Davos/Dischmat**	**150.88**	**332**	PKPbc	**PKPbc**	**12 18 36.1**	**-0.5**
	comp=Z,5.2nm,0.3s,baz=90,slow=1.0,SNR=21						
TUE	**Stuetta**	**151.35**	**332**	*e*PKPbc	**PKPbc**	**12 18 37.1**	**-0.6**
ESDC	**Sonseca Array**	**161.98**	**346**	PKPab	**PKPab**	**12 19 31.0**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=25,slow=3.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**165.89**	**232**	PKP	**PKPdf**	**12 18 48.7**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=191,slow=2.1,SNR=5.5						
TOA1	**Torodi Ar. Sit**	**165.90**	**232**	*e*PKPdf	**PKPdf**	**12 18 48.7**	**-0.8**

ISCJB ***12*** *11:59:43.5±1.8, 13°.8N±0°.1×91°.54W±0°.09, h28km, Error ellipse: s-maj=23.4km s-min=5.8km az=30.3*
SNET ***12*** *11:59:45.9±1.5, 13°.65N×91°.24W, h10km±40km, ML3.2*
MEX ***12*** *11:59:48.0±0.5, 13°.80N×91°.65W, h16km±182km, MD3.8*
ISC 12 11:59:43.9±2.7, 13°.7N±0°.2×91°.5W±0°.1, h28km, n7, σ1°.00/10, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**1.84**	**85**	*e*P	**Pn**	**12 00 13.9**	**+0.2**
RTR				*e*S	**Sn**	**12 00 37.0**	**+0.8**
SBLS	**San Blas**	**1.85**	**87**	*e*P	**Pn**	**12 00 13.9**	**-0.2**
SBLS				*e*S	**Sn**	**12 00 35.9**	**-0.8**
SNJE	**San Jose**	**1.87**	**86**	*e*P	**Pn**	**12 00 14.2**	**-0.1**
SNET	**Serv Nac Est T**	**2.23**	**91**	IAML		12 00 50.4	
	comp=Z,204nm,0.2s						
LFU	**La Fuente**	**2.35**	**89**	*e*P	**Pn**	**12 00 21.1**	**+0.4**
PCIG		**2.55**	**320**	*e*P	**Pn**	**12 00 24.5**	**+1.0**
PCIG				*e*S	**Sn**	**12 00 51.6**	**-2.0**
CCIG	**Comitan**	**2.60**	**347**	*e*P	**Pn**	**12 00 24.8**	**+0.6**
CCIG				*i* S	**Sn**	**12 00 54.8**	**-0.2**

ISCJB ***12*** *12:02:19.4±0.3, 23°.54S±0°.02×69°.27W±0°.04, h95km±2km, mb4.1/28, Error ellipse: s-maj=6.4km s-min=3.8km az=170.1*
IDC ***12*** *12:02:19.4±0.7, 23°.63S×69°.10W, h88km±4km, mb3.8/8, mb1 3.9/10, mb1mx3.7/27, mbtmp4.0/10, MS4.1/1, Ms1 4.2/1, ms1mx3.3/22, Error ellipse: s-maj=21.1km s-min=9.5km az=91.0*
SJA ***12*** *12:02:19.1±0.9, 23°.53S×69°.34W, h98km±9km, ML3.5, MW3.2*
GUC ***12*** *12:02:20.2±0.7, 23°.54S×69°.30W, h92km±3km, ML4.0*
NEIC ***12*** *12:02:20.0±0.0, 23°.52S×69°.33W, h87km, mb4.3/22, ML4.0(GUC), After GUC.*
ISC 12 12:02:19.8±0.5, 23°.55S±0°.03×69°.28W±0°.04, h85km±3km, h85km:pP-P, n91, σ1°.25/119, mb4.2/28, 8C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.38**	**332**⇓	*e*P	**Pn**	**12 02 34.2**	**+0.7**
PB15	**IPOC Station P**	**0.38**	**332**⇓	*e*P	**Pn**	**12 02 34.2**	**+0.7**
PB15				*e*S	**Sn**	**12 02 44.6**	**+1.0**
PB06	**IPOC Station P**	**0.88**	**342**	*e*P	**Pn**	**12 02 38.7**	**+0.6**
PB06	**IPOC Station P**	**0.88**	**342**⇑	*e*P	**Pn**	**12 02 38.6**	**+0.6**
PB06				*e*S	**Sn**	**12 02 52.1**	**+0.5**
PB06				IAML		12 02 53.1	
	comp=E,10μm,0.2s						
LVC	**Limon Verde**	**0.99**	**20**	*e*Pn	**Pn**	**12 02 39.8**	**+0.2**
LVC				*e*Sn	**Sn**	**12 02 54.9**	**+0.8**
LVC	**Limon Verde**	**0.99**	**20**⇑	*i*P	**Pn**	**12 02 40.2**	**+0.7**
LVC				*i* S	**Sn**	**12 02 54.8**	**+0.6**
LVC	**Limon Verde**	**0.99**	**20**	P	**Pn**	**12 02 40.0**	**+0.5**
	comp=E,162nm,0.3s,baz=166,slow=9.1,SNR=2426						
LVC				S	**Sn**	**12 02 54.8**	**+0.6**
	comp=E,542nm,0.3s,baz=342,slow=20,SNR=150						
PB05	**IPOC Station P**	**1.10**	**309**	*e*P	**Pn**	**12 02 41.0**	**+0.5**
PB05	**IPOC Station P**	**1.10**	**309**⇑	*e*P	**Pn**	**12 02 41.0**	**+0.5**
PB05				*e*S	**Sn**	**12 02 56.5**	**+0.5**
PB05				IAML		12 02 57.6	
	comp=N,3μm,0.3s						
PB10	**IPOC Station P**	**1.17**	**271**	*e*Pn	**Pn**	**12 02 41.9**	**+0.6**
PB10				*e*Sn	**Sn**	**12 02 58.7**	**+1.3**
PB10	**IPOC Station P**	**1.17**	**271**⇓	*e*P	**Pn**	**12 02 41.9**	**+0.6**
PB10	**IPOC Station P**	**1.17**	**271**⇑	*e*P	**Pn**	**12 02 41.7**	**+0.4**
PB10				*e*S	**Sn**	**12 02 57.6**	**+0.2**
PB10				IAML		12 02 59.3	
	comp=E,2μm,0.2s						
PB04	**IPOC Station P**	**1.45**	**326**	*e*Pn	**Pn**	**12 02 45.1**	**+0.2**
PB04				*e*Sn	**Sn**	**12 03 03.8**	**-0.1**
PB04	**IPOC Station P**	**1.45**	**326**	*e*P	**Pn**	**12 02 45.3**	**+0.4**
PB04	**IPOC Station P**	**1.45**	**326**⇑	*e*P	**Pn**	**12 02 45.1**	**+0.2**
PB04				⇓*i*S	**Sn**	**12 03 03.8**	**-0.1**
PB04				IAML		12 03 05.1	
	comp=N,5μm,0.3s						
PB14	**IPOC Station P**	**1.49**	**224**	*e*P	**Pn**	**12 02 46.7**	**+1.2**
PB14	**IPOC Station P**	**1.49**	**224**	*e*P	**Pn**	**12 02 46.6**	**+1.1**
PB14				*e*S	**Sn**	**12 03 06.6**	**+1.7**
PB14				IAML		12 03 10.6	
	comp=E,5μm,0.2s						
PB03	**IPOC Station P**	**1.56**	**343**	*e*P	**Pn**	**12 02 46.9**	**+0.7**
PB03	**IPOC Station P**	**1.56**	**343**⇑	*e*P	**Pn**	**12 02 46.8**	**+0.5**
PB03				*e*S	**Sn**	**12 03 07.1**	**+0.9**
PB03				IAML		12 03 08.2	
	comp=N,3μm,0.3s						
GO02	**Mina Guanaco**	**1.63**	**190**	*e*Pn	**Pn**	**12 02 48.2**	**+0.8**
GO02				*e*Sn	**Sn**	**12 03 09.6**	**+1.4**
GO02	**Mina Guanaco**	**1.63**	**190**⇑	*i*P	**Pn**	**12 02 48.2**	**+0.8**
GO02				*i* S	**Sn**	**12 03 10.1**	**+1.9**
GO02				IAML		12 03 12.2	
	comp=N,5μm,0.4s						
PB09	**IPOC Station P**	**1.74**	**1**	*e*P	**Pn**	**12 02 50.1**	**+1.4**
PB09	**IPOC Station P**	**1.74**	**1**⇑	*e*P	**Pn**	**12 02 49.8**	**+1.1**
PB09				*e*S	**Sn**	**12 03 11.9**	**+1.3**
PB09				IAML		12 03 18.3	
	comp=N,1μm,0.5s						
PB07	**IPOC Station P**	**1.90**	**343**	*e*P	**Pn**	**12 02 51.1**	**+0.4**
PB07	**IPOC Station P**	**1.90**	**343**⇓	*e*P	**Pn**	**12 02 51.1**	**+0.4**
PB07				*e*S	**Sn**	**12 03 14.8**	**+0.6**
PB02	**IPOC Station P**	**2.29**	**345**	*e*P	**Pn**	**12 02 56.1**	**+0.2**
PB01	**IPOC Station P**	**2.50**	**355**	*e*Pn	**Pn**	**12 02 58.6**	**0.0**
HJA	**Humahuaca**	**3.57**	**85**	*e*P	**Pn**	**12 03 15.8**	**+2.5**
HJA				IAML		12 03 17.1	
	comp=Z,157nm,0.5s						
PB11	**IPOC Station P**	**3.79**	**355**	*e*Pn	**Pn**	**12 03 14.4**	**-1.7**
PB11	**IPOC Station P**	**3.79**	**355**⇓	*e*P	**Pn**	**12 03 14.7**	**-1.4**
GO01	**Chusmiza**	**3.86**	**1**	*e*Pn	**Pn**	**12 03 16.6**	**-0.8**
AZAP	**Zapla**	**3.91**	**101**	*e*P	**Pn**	**12 03 20.2**	**+2.3**
AZAP				IAML		12 03 21.0	
	comp=Z,84nm,0.5s						
FSA	**Cafayete**	**3.94**	**131**	*e*P	**Pn**	**12 03 20.2**	**+2.1**
FSA				IAML		12 04 03.6	
	comp=Z,8.6nm,0.7s						
GO03	**Copiap**	**4.12**	**192**	*e*Pn	**Pn**	**12 03 19.4**	**-1.2**
MNMC	**Minye Minye**	**4.41**	**356**	*e*Pn	**Pn**	**12 03 23.2**	**-1.4**
AHML	**Horco Molle**	**4.81**	**133**	*e*P	**Pn**	**12 03 31.8**	**+1.9**
AHML				IAML		12 03 35.7	
	comp=Z,20nm,0.5s						
VCA	**Vinchina**	**5.26**	**170**	*e*P	**Pn**	**12 03 37.6**	**+1.5**
VCA				IAML		12 04 21.2	
	comp=Z,45nm,0.5s						
LCO	**Las Campanas**	**5.59**	**193**	*e*Pn	**Pn**	**12 03 38.0**	**-2.7**
CYA	**Choya**	**5.79**	**148**	*e*P	**Pn**	**12 03 43.9**	**+0.7**
CYA				IAML		12 03 48.4	
	comp=Z,11nm,0.8s						
AGUA	**GUANDACOL**	**5.96**	**173**	*e*P	**Pn**	**12 03 46.1**	**+0.6**
ACLC	**CERRO LA CRUZ**	**6.21**	**161**	*e*P	**Pn**	**12 03 49.4**	**+0.2**
ACDV	**Cuesta del Vie**	**6.60**	**179**	*e*P	**Pn**	**12 03 54.3**	**-0.1**
ACDV				IAML		12 04 48.8	
	comp=Z,16nm,0.8s						
GO04	**Tololo Observa**	**6.74**	**191**	*e*Pn	**Pn**	**12 03 53.6**	**-2.7**
ACCO	**Cerro Coronel**	**7.01**	**179**	*e*P	**Pn**	**12 03 59.5**	**-0.6**
LPAZ	**La Paz**	**7.30**	**9**	*e*Pn	**Pn**	**12 04 04.4**	**0.0**
LPAZ	**La Paz**	**7.30**	**9**	P	**Pn**	**12 04 05.3**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=189,slow=5.6,SNR=10						
LPAZ				LR	LR	12 07 47.8	
	comp=Z,1μm,21.8s,baz=52,slow=45						
CFA	**Coronel Fontan**	**8.08**	**174**	P	**Pn**	**12 04 12.8**	**-1.6**
	comp=Z,1.7nm,0.3s,baz=275,slow=11,SNR=32						
CFA				S	**Sn**	**12 05 38.8**	**-5.4**
	comp=Z,1.2nm,0.3s,baz=191,slow=19,SNR=2.2						
SIV	**San Ignacio**	**10.77**	**47**	P	**Pn**	**12 04 47.2**	**-4.1**
	comp=Z,0.8nm,0.3s,baz=259,slow=9.8,SNR=17						
SIV				S	Sn	12 06 39.3	-11
	comp=Z,0.3nm,0.3s,baz=174,slow=21,SNR=3.9						
CPUP	**Villa Florida**	**11.19**	**107**	*e*Pn	**Pn**	**12 04 57.2**	**+0.4**
CPUP	**Villa Florida**	**11.19**	**107**	P	**Pn**	**12 04 56.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=263,slow=12,SNR=4.8						
BDFB	**Brasilia**	**21.50**	**72**	*e*P	**P**	**12 06 59.9**	**-2.1**
	comp=Z,6.0nm,0.8s						
BDFB	**Brasilia**	**21.50**	**72**	P	**P**	**12 07 00.7**	**-1.3**
	comp=Z,4.0nm,0.4s,baz=242,slow=13,SNR=9.0						
PTGA	**Pitinga**	**24.41**	**23**	P	**P**	**12 07 30.2**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=139,slow=19,SNR=4.1						
TEIG	**Tepich**	**47.29**	**335**	*e*P	**P**	**12 10 45.2**	**+0.3**
	comp=Z,25nm,1.1s						
LRAL	**Lakeview Retre**	**58.75**	**343**	*e*P	**P**	**12 12 08.7**	**-0.2**
	comp=Z,4.7nm,1.3s						
W50A	**Signal Mountai**	**60.37**	**345**	*e*P	**P**	**12 12 19.6**	**-0.5**
	comp=Z,4.6nm,0.9s						
SNAA	**Sanae**	**60.47**	**161**	*e*P	**P**	**12 12 20.8**	**+0.4**
	comp=Z,6.5nm,1.4s						
SWET	**Sewanee**	**60.54**	**344**	*e*P	**P**	**12 12 20.3**	**-1.0**
	comp=Z,9.8nm,1.4s						
V48A	**Smith Brothers**	**61.26**	**344**	*e*P	**P**	**12 12 25.5**	**-0.6**
	comp=Z,9.4nm,1.4s						
TXAR	**Lajitas Array**	**62.12**	**326**	*e*P	**P**	**12 12 32.6**	**+0.5**
TXAR	**Lajitas Array**	**62.12**	**326**	P	**P**	**12 12 32.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=142,slow=8.5,SNR=6.0						
FVM	**French Village**	**64.35**	**342**	*e*P	**P**	**12 12 46.2**	**-0.3**
	comp=Z,6.5nm,0.6s						
N55A	**Marion Center**	**64.63**	**352**	*e*P	**P**	**12 12 48.8**	**+0.4**
	comp=Z,5.1nm,0.8s						
MNTX	**Cornudas Mount**	**64.90**	**326**	*e*P	**P**	**12 12 50.3**	**0.0**
	comp=Z,1.2nm,0.7s						
QSPA	**South Pole Qui**	**66.65**	**180**	*e*P	**P**	**12 13 02.2**	**+0.9**
QSPA				*ep*P	**pP**	**12 13 25.1**	**+1.3**
ANMO	**Albuquerque**	**68.03**	**328**	*e*P	**P**	**12 13 12.0**	**+1.6**
	comp=Z,1.6nm,0.8s						
DBIC	**Dimbokro**	**69.65**	**73**	*e*P	**P**	**12 13 21.8**	**+1.2**
	comp=Z,14nm,1.4s						
SDCO	**Great Sand Dun**	**69.84**	**330**	*e*P	**P**	**12 13 22.9**	**+1.3**
	comp=Z,4.8nm,1.4s						
SMCO	**Snowmass**	**71.67**	**330**	*e*P	**P**	**12 13 34.7**	**+1.8**
	comp=Z,3.0nm,1.3s						
TPNV	**Topopah Spring**	**74.70**	**323**	*e*P	**P**	**12 13 52.4**	**+1.9**
	comp=Z,2.0nm,0.8s						
R11A	**Troy Canyon, C**	**75.35**	**324**	*e*P	**P**	**12 13 56.0**	**+1.8**
	comp=Z,1.2nm,0.8s						
PDAR	**Pinedale Array**	**75.71**	**331**	*e*P	**P**	**12 13 56.7**	**+0.4**
PDAR	**Pinedale Array**	**75.71**	**331**	P	**P**	**12 13 56.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=134,slow=5.7,SNR=4.2						
NV01	**Mina Array Sit**	**76.90**	**322**	*e*P	**P**	**12 14 04.2**	**+1.1**
NV01				*ep*P	**pP**	**12 14 26.5**	**+0.5**
NVAR	**Mina Array Bea**	**76.90**	**322**	P	**P**	**12 14 04.2**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=145,slow=5.4,SNR=3.9						
NVAR				pP	**pP**	**12 14 26.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=130,slow=3.6,SNR=1.7						
**ULM

ISC 12 12:48:04.8s0.4,**26°61'N**s0'.04×**57°78'E**s0'.03,**h10**km,**n279,**
σ1§**40**/289,**mb4.5**/107,**MS3.3**/5,**8C-9D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.27**	**319**	*e*Pn		**Pg**	**12 48 29.5**	**+0.1**
NIAN	**Nian**	**1.27**	**319**	*e*Pg		**Pg**	**12 48 29.4**	**+0.1**
NIAN					IAMB	IAmb	12 48 34.8	
	comp=Z,0.0nm,0.4s							
SHME	**Shamm**	**1.57**	**250**	*e*P		**Pb**	**12 48 35.0**	**+0.9**
	SNR=64							
SHME	**Shamm**	**1.57**	**250**	*e*Pn		**Pb**	**12 48 34.8**	**+0.7**
BNDS	**Bandar-Abbas**	**1.64**	**299**	*e*Pg		**Pn**	**12 48 31.3**	**-2.6**
GENO	**Geno**	**1.64**	**299**	*e*Pn		**Pg**	**12 48 35.8**	**-0.6**
GENO				*e*Sn		**Sg**	**12 48 58.0**	**+0.3**
GENO	**Geno**	**1.64**	**299**	*e*Pn		**Pg**	**12 48 35.7**	**-0.6**
GENO					IAMB	IAmb	12 49 05.1	
	comp=Z,0.0nm,0.5s							
MDH	**Madha**	**1.86**	**226**	*e*P		**Pn**	**12 48 36.9**	**+0.1**
	SNR=58							
MDH				S		**Sn**	**12 49 01.0**	**+0.5**
MDH	**Madha**	**1.86**	**226**	P		**Pn**	**12 48 36.9**	**+0.1**
	SNR=58							
MDH				S		**Sn**	**12 49 01.2**	**+0.8**
MDH	**Madha**	**1.86**	**226**	*e*Pn		**Pn**	**12 48 37.0**	**+0.1**
MSFE	**Esma-Masafi**	**1.92**	**230**	*e*P		**Pn**	**12 48 38.0**	**+0.4**
	SNR=90							
MSFE	**Esma-Masafi**	**1.92**	**230**	*e*Pn		**Pn**	**12 48 37.7**	**+0.1**
UMQ	**Umm Al-Quwin**	**2.19**	**241**	*e*P		**Pb**	**12 48 44.2**	**-0.3**
	SNR=14							
UMQ	**Umm Al-Quwin**	**2.19**	**241**	*e*Pn		**Pb**	**12 48 45.9**	**+1.4**
HATD	**Hatta, Dubai**	**2.31**	**220**	*e*P		**Pn**	**12 48 42.9**	**-0.2**
	SNR=35							
HATD	**Hatta, Dubai**	**2.31**	**220**	*e*Pn		**Pn**	**12 48 42.9**	**-0.2**
ASHO	**Ashiyiah**	**2.47**	**220**	P		**Pn**	**12 48 47.3**	**+2.2**
NAZ	**Nazwa, Dubai**	**2.50**	**230**	*e*P		**Pn**	**12 48 47.8**	**+2.2**
	SNR=25							
NAZ	**Nazwa, Dubai**	**2.50**	**230**	*e*Pn		**Pb**	**12 48 49.2**	**-0.6**
CHBR	**Chabahar**	**2.63**	**112**	*e*Pn		**Pn**	**12 48 51.0**	**+3.7**
CHBR	**Chabahar**	**2.63**	**112**	*e*Pn		**Pb**	**12 48 51.4**	**-0.6**
SOHO	**SOHO**	**2.71**	**205**	P		**Pn**	**12 48 48.0**	**-0.5**
	SNR=16							
SOHO				S		**Sn**	**12 49 23.6**	**+2.4**
FAQ	**Al Faqa, Dubai**	**2.71**	**227**	*e*P		**Pn**	**12 48 51.2**	**+2.7**
	SNR=105							
FAQ	**Al Faqa, Dubai**	**2.71**	**227**	*e*Pn		**Pn**	**12 48 52.0**	**+3.5**
ASUD	**Al Ashush, Dub**	**2.96**	**229**	*e*P		**Pn**	**12 48 54.8**	**+2.8**
	SNR=38							
ASUD	**Al Ashush, Dub**	**2.96**	**229**	*e*Pn		**Pn**	**12 48 55.4**	**+3.4**
HOQ	**Hoqain**	**3.04**	**188**	*e*Pn		**Pn**	**12 48 53.2**	**+0.2**
BIDO	**Bidbid**	**3.09**	**174**	P		**Pn**	**12 48 54.2**	**+0.6**
	SNR=7.7							
BIDO				S		**Sn**	**12 49 32.6**	**+1.9**
BIDO	**Bidbid**	**3.09**	**174**	*e*Pn		**Pn**	**12 48 54.0**	**+0.3**
ALNE	**Al Ain**	**3.13**	**216**	*e*P		**Pn**	**12 48 56.9**	**+2.6**
	SNR=17							
ALNE	**Al Ain**	**3.13**	**216**	*e*Pn		**Pn**	**12 48 57.5**	**+3.2**
NGRK	**Negar Kerman**	**3.17**	**343**	*e*Pn		**Pn**	**12 48 57.0**	**+1.9**
NGRK	**Negar Kerman**	**3.17**	**343**	*e*Pn		**Pn**	**12 48 56.4**	**+1.3**
NGRK					IAMB	IAmb	12 49 07.8	
	comp=Z,0.0nm,0.3s							
AJN	**Ajban**	**3.24**	**232**	*i* P		**Pn**	**12 48 58.1**	**+2.3**
	SNR=17							
AJN	**Ajban**	**3.24**	**232**	*e*Pn		**Pn**	**12 48 59.3**	**+3.5**
CHMN	**Cheshme madani**	**3.25**	**356**	*e*Pn		**Pn**	**12 48 59.1**	**+2.8**
CHMN	**Cheshme madani**	**3.25**	**356**	*e*Pn		**Pn**	**12 48 59.1**	**+2.8**
CHMN					IAMB	IAmb	12 49 53.4	
	comp=N,0.0nm,0.7s							
WSAR	**Wadi Sarin**	**3.44**	**167**	Pn		**Pn**	**12 48 59.6**	**+1.1**
	comp=N,83nm,0.3s,baz=360,slow=12,SNR=406							
WSAR				Sn		**Sn**	**12 49 39.3**	**-0.1**
	comp=N,33nm,0.3s,baz=241,slow=21,SNR=9.5							
ARQ	**Araqi**	**3.45**	**200**	P		**Pn**	**12 49 01.7**	**+3.0**
	SNR=16							
TVBK	**TV Kerman**	**3.49**	**345**	IAMB		IAmb	12 49 11.6	
	comp=Z,0.0nm,0.6s							
TVBK				*e*Pn		**Pn**	**12 49 02.6**	**+3.1**
SMDO	**Samad**	**3.54**	**176**	P		**Pn**	**12 49 01.2**	**+1.2**
	SNR=13							
SMDO				S		**Sn**	**12 49 44.9**	**+2.9**
BSY	**Bisya**	**3.88**	**188**	P		**Pn**	**12 49 07.5**	**+2.9**
	SNR=24							
KHGB	**Koh Gabri**	**3.93**	**343**	IAMB		IAmb	12 49 19.8	
	comp=Z,0.0nm,0.5s							
KHGB				*e*Pn		**Pn**	**12 49 08.2**	**+2.7**
SZD1	**Zahaedan-tmp**	**3.96**	**43**	*e*Pn		**Pn**	**12 49 07.9**	**+2.1**
ZHSF	**Zahedan**	**3.99**	**41**	*e*Pn		**Pn**	**12 49 08.0**	**+1.7**
ZHSF	**Zahedan**	**3.99**	**41**	*e*Pn		**Pn**	**12 49 08.5**	**+2.2**
GHIR	**Ghir-Karzin**	**4.58**	**293**	*e*Pn		**Pn**	**12 49 13.0**	**-1.3**
GHIR	**Ghir-Karzin**	**4.58**	**293**	*e*Pn		**Pn**	**12 49 13.0**	**-1.3**
JLN	**Jalan Bani Buh**	**4.68**	**161**	P		**Pn**	**12 49 17.0**	**+1.5**
	SNR=14							
JLN				S		**Sn**	**12 50 09.5**	**-0.4**
MZR	**Muzera**	**5.30**	**228**	*e*Pn		**Pn**	**12 49 24.9**	**+0.7**
BSRN	**Basiran**	**5.47**	**12**	*e*Pn		**Pn**	**12 49 27.2**	**+0.6**
IMEH	**Mehriz**	**5.52**	**331**	*e*Pn		**Pn**	**12 49 28.5**	**+1.2**
MHTO	**MHTO**	**5.59**	**178**	P		**Pn**	**12 49 29.5**	**+1.3**
IKOO	**Kooshah**	**5.90**	**10**	*e*Pn		**Pn**	**12 49 33.3**	**+0.8**
IKAZ	**Kazeroun**	**6.12**	**302**	*e*Pn		**Pn**	**12 49 35.8**	**+0.1**
ITEG	**Tejag**	**6.33**	**7**	*e*Pn		**Pn**	**12 49 39.8**	**+1.4**
ICHK	**Chekchek**	**6.34**	**333**	*e*Pn		**Pn**	**12 49 40.6**	**+2.0**
ISAD	**Sadrabad**	**6.39**	**327**	*e*Pn		**Pn**	**12 49 40.7**	**+1.4**
TPRV	**Parvadeh(Tabas**	**6.47**	**352**	*e*Pn		**Pn**	**12 49 42.2**	**+1.9**
IMON	**Monand**	**6.77**	**14**	*e*Pn		**Pn**	**12 49 47.0**	**+2.5**
TKDS	**Koohdasht(Taba**	**7.01**	**355**	*e*Pn		**Pn**	**12 49 49.9**	**+2.2**
IRAM	**Ramesheh**	**7.01**	**319**	*e*Pn		**Pn**	**12 49 47.5**	**-0.3**
TNSJ	**Nastanj**	**7.40**	**352**	*e*Pn		**Pn**	**12 49 55.2**	**+2.1**
IZEF	**Zefreh**	**7.86**	**324**	*e*Pn		**Pn**	**12 49 59.3**	**-0.2**
IPIR	**Pirpir**	**8.52**	**317**	*e*Pn		**Pn**	**12 50 08.9**	**+0.3**
IANJ	**Anjilo**	**9.44**	**340**	*e*Pn		**Pn**	**12 50 23.0**	**+1.9**
KHMZ	**Khomeyn**	**9.81**	**318**	*e*Pn		**Pn**	**12 50 26.0**	**-0.3**
KHMZ	**Khomeyn**	**9.81**	**318**	*e*Pn		**Pn**	**12 50 26.9**	**+0.6**
GEYT	**Alibeck**	**11.30**	**1**	Pn		**Pn**	**12 50 49.8**	**+3.4**
	comp=Z,8.0nm,0.3s,baz=181,slow=12,SNR=9.3							
GEYT				LR		LR	12 55 57.8	
	comp=Z,71nm,20.3s,baz=190,slow=42							
IKOM	**Komasi**	**11.64**	**313**	*e*Pn		**Pn**	**12 50 50.0**	**-1.2**
NIL	**Nilore**	**15.11**	**59**	*e*Pn		**Pn**	**12 51 37.5**	**-0.8**
	comp=Z,19nm,0.8s							
NIL	**Nilore**	**15.11**	**59**	*e*P		**Pn**	**12 51 37.6**	**-0.8**
NIL				pmax		pmax		
	comp=Z,19nm,0.8s							
GAR	**Garm**	**16.22**	**37**	*e*Pn		**Pn**	**12 51 52.0**	**-1.0**
	comp=Z,13nm,1.0s							
GAR	**Garm**	**16.22**	**37**	*e*P		**Pn**	**12 51 52.0**	**-1.0**
GAR				pmax		pmax		
	comp=Z,13nm,1.0s							
AKT	**Akhty**	**17.00**	**333**	*i* P		**Pn**	**12 52 01.8**	**-1.0**
BTK	**Batken**	**17.25**	**36**	*e*Pn		**Pn**	**12 52 05.4**	**-0.6**
	comp=Z,29nm,1.4s							
BTK	**Batken**	**17.25**	**36**	*e*P		**Pn**	**12 52 05.4**	**-0.6**
BTK				pmax		pmax		
	comp=Z,29nm,1.4s							
DAMY	**Dhamar**	**17.32**	**229**	*e*Pn		**Pn**	**12 52 05.7**	**-1.4**
	comp=Z,16nm,0.8s							
GNI	**Garni**	**17.32**	**324**	*e*P		**P**	**12 52 08.5**	**+0.1**
	comp=Z,18nm,1.0s							
GNI	**Garni**	**17.32**	**324**	*i* P		**P**	**12 52 08.0**	**-0.4**
GNI	**Garni**	**17.32**	**324**	P		**P**	**12 52 09.0**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=97,slow=8.1,SNR=3.4							
ASF	**Jabal al Asfar**	**19.02**	**292**	P		**P**	**12 52 26.1**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=100,slow=6.1,SNR=2.4							
ASF				S		Sn	12 55 46.1	-15
	comp=Z,0.4nm,0.3s,baz=58,slow=15,SNR=2.3							
ARSB	**Arslanbob**	**19.31**	**37**	*e*P		**P**	**12 52 30.2**	**0.0**
	comp=Z,5.8nm,0.5s							
KK31	**Karatay Array**	**19.46**	**29**	*e*P		**P**	**12 52 32.0**	**+0.4**
	comp=Z,11nm,1.1s							
KK31	**Karatay Array**	**19.46**	**29**	*e*P		**P**	**12 52 32.1**	**+0.4**
KK31				pmax		pmax		
	comp=Z,11nm,1.1s							
KKAR	**Karatay Array**	**19.46**	**29**	*e*P		**P**	**12 52 32.3**	**+0.7**
	comp=Z,11nm,1.1s							
KKAR	**Karatay Array**	**19.46**	**29**	*e*P		**P**	**12 52 32.3**	**+0.7**
KKAR				pmax		pmax		
	comp=Z,11nm,1.1s							
ZEI	**Tsey**	**19.73**	**328**	*e*P		**Pn**	**12 52 36.7**	**+0.4**
ZEI				pmax		pmax		
	comp=Z,11nm,1.1s							
KSH	**Kashi**	**19.91**	**45**	P		**P**	**12 52 31.8**	**-4.9**
KSH				pP		Pn	12 52 37.8	-0.6
KSH				PP		**PnPn**	**12 52 49.8**	**-2.6**
KSH				S		S	12 55 59.4	-21
KSH				SS		**Sn**	**12 56 22.4**	**+0.1**
EIL	**Elat**	**20.36**	**284**	P		Pn	12 52 43.5	-0.1
	comp=Z,14nm,0.8s,baz=34,slow=4.5,SNR=8.6							
NCK	**Nalchik**	**20.42**	**329**	*i* P		**P**	**12 52 42.6**	**+0.5**
NCK				pmax		pmax		
	comp=Z,16nm,1.0s							
MMAI	**Mount Meron Ar**	**20.42**	**294**	P		**P**	**12 52 43.4**	**+1.1**
	comp=Z,4.4nm,0.7s,baz=104,slow=14,SNR=4.2							
ATD	**Arta Tunnel**	**20.56**	**226**	P		Pn	12 52 46.2	+0.1
	comp=Z,10nm,0.8s,baz=85,slow=17,SNR=3.4							
NEY	**Neytrino**	**20.64**	**327**	*i* P		**P**	**12 52 45.0**	**+0.3**
NEY				pmax		pmax		
	comp=Z,2.0nm,0.8s							
KBZ	**Khabaz**	**20.92**	**329**	P		**P**	**12 52 41.8**	**-5.7**
	comp=Z,0.8nm,0.4s,baz=90,slow=4.0,SNR=2.6							
AAK	**Ala-Archa**	**21.03**	**36**	*e*P		**P**	**12 52 48.8**	**-0.1**
	comp=Z,13nm,1.3s							
AAK	**Ala-Archa**	**21.03**	**36**	*i* P		**P**	**12 52 48.1**	**-0.8**
AAK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
AAK	**Ala-Archa**	**21.03**	**36**	P		**P**	**12 52 49.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=191,slow=13,SNR=4.0							
SHA1	**Shidzhatmaz**	**21.04**	**328**	*i* P		**P**	**12 52 49.8**	**+0.7**
NRN	**Naryn**	**21.07**	**41**	*e*P		**P**	**12 52 48.4**	**-1.2**
	comp=Z,5.2nm,0.6s							
NRN	**Naryn**	**21.07**	**41**	*e*P		**P**	**12 52 48.4**	**-1.2**
NRN				pmax		pmax		
	comp=Z,5.0nm,0.6s							
PYA1	**Pyatigorsk**	**21.09**	**329**	*i* P		**P**	**12 52 49.7**	**+0.3**
KVAR	**Kislovodsk Arr**	**21.19**	**329**	P		**P**	**12 52 50.6**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=270,slow=20,SNR=2.5							
KIV	**Kislovodsk**	**21.19**	**329**	*e*P		**P**	**12 52 52.4**	**+1.8**
	comp=Z,15nm,0.9s							
KIV	**Kislovodsk**	**21.19**	**329**	*e*P		**P**	**12 52 50.4**	**-0.2**
KIV				pmax		pmax		
	comp=Z,56nm,1.1s							
HYB	**Hyderabad**	**21.29**	**111**	*i* P		**P**	**12 52 53.5**	**+1.7**
BOOM	**Boomskoye usch**	**21.72**	**39**	*e*P		**P**	**12 52 55.0**	**-1.3**
	comp=Z,8.1nm,0.8s							
BOOM	**Boomskoye usch**	**21.72**	**39**	*e*P		**P**	**12 52 55.0**	**-1.3**
BOOM				pmax		pmax		
	comp=Z,8.0nm,0.8s							
KDJ	**Kajisay**	**22.20**	**41**	*e*P		**P**	**12 53 01.5**	**0.0**
	comp=Z,11nm,0.8s							
KDJ	**Kajisay**	**22.20**	**41**	*e*P		**P**	**12 53 01.5**	**0.0**
KDJ				pmax		pmax		
	comp=Z,11nm,0.8s							
TARG	**Taragay, Kyrgy**	**22.33**	**42**	*e*P		**P**	**12 53 02.9**	**-0.2**
	comp=Z,4.6nm,0.8s							
ABKAR	**Abkulak array**	**22.68**	**4**	*e*P		**P**	**12 53 04.8**	**-1.5**
	comp=Z,6.9nm,0.8s							
AKTO	**Aktyubinsk**	**23.80**	**0**	P		**P**	**12 53 17.1**	**-0.6**
	comp=Z,5.4nm,0.5s,baz=176,slow=10.0,SNR=19							
AKTO				LR		LR	13 03 06.5	
	comp=Z,55nm,19.0s,baz=160,slow=38							
BR101	**Keskin Array S**	**23.99**	**309**	*e*P		**P**	**12 53 20.7**	**+0.9**
BR131	**Keskin Array S**	**23.99**	**309**	*e*P		**P**	**12 53 20.2**	**+0.4**
	comp=Z,12nm,0.9s							
BRTR	**Keskin Array B**	**23.99**	**309**	*e*P		**P**	**12 53 20.2**	**+0.4**
BRTR	**Keskin Array B**	**23.99**	**309**	P		**P**	**12 53 20.7**	**+0.9**
	comp=Z,8.7nm,0.8s,baz=129,slow=10,SNR=45							
SNOP	**Sinop**	**24.07**	**315**	*e*P		**P**	**12 53 20.4**	**+0.1**
	comp=Z,28nm,1.0s							
ANTO	**Ankara**	**24.64**	**309**	*e*P		**P**	**12 53 27.3**	**+1.6**
	comp=Z,13nm,0.7s							
ANTO	**Ankara**	**24.64**	**309**	*e*P		**P**	**12 53 27.3**	**+1.6**
ANTO				pmax		pmax		
	comp=Z,13nm,0.7s							
SIM	**Simferopol'**	**26.37**	**320**	*d i* P		**P**	**12 53 42.2**	**+1.0**
SIM				pmax		pmax		
	comp=Z,26nm,0.9s							
MK32	**Makanchi Array**	**27.95**	**37**	*e*P		**P**	**12 53 55.3**	**-0.1**
MKAR	**Makanchi Array**	**27.95**	**37**	P		**P**	**12 53 55.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=220,slow=8.8,SNR=2.4							
BVAR	**Borovoye Array**	**28.02**	**16**	P		**P**	**12 53 55.5**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=201,slow=7.9,SNR=11							
BVAR				PcP		**PcP**	**12 57 10.8**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=223,slow=3.0,SNR=4.4							
BRVK	**Borovoye**	**28.03**	**16**	*e*P		**P**	**12 53 55.5**	**-0.4**
	comp=Z,4.9nm,1.2s							
BRVK	**Borovoye**	**28.03**	**16**	*i* P		**P**	**12 53 53.7**	**-2.3**
BRVK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
VSR	**Storozhevoye**	**28.36**	**335**	*i* P		**P**	**12 53 56.2**	**-2.8**
VSR				pmax		pmax		
	comp=Z,5.0nm,1.0s							
KURBB	**Kurchatov Arra**	**28.75**	**28**	P		**P**	**12 54 01.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=229,slow=8.2,SNR=5.8							
KURK	**Kurchatov**	**28.86**	**28**	*i* P		**P**	**12 54 01.4**	**-2.0**
KURK				pmax		pmax		
	comp=Z,1.0nm,1.0s							
PALK	**Pallekele**	**29.06**	**127**	LR		LR	13 05 32.6	
	comp=Z,79nm,18.3s,baz=298,slow=36							
WMQ	**Urumqi**	**29.65**	**47**	*e*P		**P**	**12 54 12.4**	**+1.8**
WMQ				sP		sP	12 54 21.7	+6.1
MLR	**Muntele Rosu**	**31.61**	**315**	*e*P		**P**	**12 54 29.2**	**+1.2**
	comp=Z,4.8nm,1.0s							
MLR	**Muntele Rosu**	**31.61**	**315**	⇓*i* P		**P**	**12 54 31.2**	**+3.2**
MLR	**Muntele Rosu**	**31.61**	**315**	*e*P		**P**	**12 54 29.2**	**+1.2**
MLR				pmax		pmax		
	comp=Z,5.0nm,1.0s							
MLR	**Muntele Rosu**	**31.61**	**315**	P		**P**	**12 54 31.0**	**+3.0**
	comp=Z,1.8nm,0.6s,baz=39,slow=4.7,SNR=6.3							
TESR	**Tescani**	**31.64**	**317**	⇓*i* P		**P**	**12 54 28.8**	**+0.8**
SRS	**Serrai**	**31.64**	**306**	P		**P**	**12 54 31.7**	**+3.5**
SRS				pmax		pmax		
	comp=Z,5.0nm,1.1s							
ITM	**Ithomi**	**32.05**	**298**	*e*P		**P**	**12 54 31.1**	**-0.7**
	comp=Z,15nm,1.1s							
AGG	**Agios Georgios**	**32.07**	**302**	*e*P		**P**	**12 54 32.0**	**+0.1**
	comp=Z,12nm,1.2s							
AGG	**Agios Georgios**	**32.07**	**302**	*e*P		**P**	**12 54 32.1**	**+0.1**
AGG				pmax		pmax		
	comp=Z,12nm,1.2s							
VOIR		**32.16**	**314**	⇑*i* P		**P**	**12 54 34.6**	**+1.8**
VOIR		**32.16**	**314**	⇑P		**P**	**12 54 34.6**	**+1.8**
OBN	**Obninsk**	**32.42**	**337**	⇓*e*P		**P**	**12 54 33.9**	**-0.9**
OBN				pmax		pmax		
	comp=Z,6.0nm,0.9s							
OBN				MLR		MLR		
	comp=Z,42nm,16.0s							
DGZ	**Jazzator, Alta**	**32.44**	**37**	*i* P		**P**	**12 54 34.2**	**-1.0**
DGZ				pmax		pmax		
	comp=Z,1.0nm,1.0s							
AKASG	**Malin Array Be**	**32.45**	**325**	*e*P		**P**	**12 54 33.4**	**-1.7**
AKASG	**Malin Array Be**	**32.45**	**325**	*i* P		**P**	**12 54 34.7**	**-0.4**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**32.45**	**325**	P		**P**	**12 54 33.7**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=128,slow=7.9,SNR=13							
AKBB	**Malin Array Si**	**32.45**	**325**	*e*P		**P**	**12 54 33.7**	**-1.4**
	comp=Z,6.8nm,1.0s							
KIEV	**Kiev**	**32.46**	**325**	*e*P		**P**	**12 54 34.3**	**-0.9**
	comp=Z,6.5nm,1.0s							
KIEV	**Kiev**	**32.46**	**325**	⇓*i* P		**P**	**12 54 34.9**	**-0.3**
KIEV	**Kiev**	**32.46**	**325**	*i* P		**P**	**12 54 34.3**	**-0.9**
KIEV				pmax		pmax		
	comp=Z,6.0nm,0.9s							
GRG	**Griva**	**32.47**	**305**	P		**P**	**12 54 39.4**	**+4.0**
GRG				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BURAR	**Bucovina Array**	**33.02**	**318**	*e*P		**P**	**12 54 40.6**	**+0.3**
BURAR	**Bucovina Array**	**33.02**	**318**	⇑*i* P		**P**	**12 54 40.8**	**+0.5**
BURAR	**Bucovina Array**	**33.02**	**318**	⇑P		**P**	**12 54 40.8**	**+0.5**
FNA	**Florina**	**33.17**	**305**	P		**P**	**12 54 43.3**	**+1.6**
FNA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
GZR	**Gura Zlata**	**33.61**	**313**	⇑*i* P		**P**	**12 54 45.8**	**+0.3**
ZAA0	**Zalesovo Array**	**33.83**	**29**	*e*P		**P**	**12 54 45.8**	**-1.4**
	comp=Z,3.0nm,0.6s							
ZALV	**Zalesovo Beam**	**33.83**	**29**	*e*P		**P**	**12 54 46.3**	**-0.8**
ZALV	**Zalesovo Beam**	**33.83**	**29**	P		**P**	**12 54 46.5**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=235,slow=9.7,SNR=8.2							
ZAA1	**Zalesovo Array**	**33.84**	**29**	*e*P		**P**	**12 54 46.5**	**-0.6**
MDVR	**Moldovita**	**34.10**	**312**	⇑*i* P		**P**	**12 54 51.3**	**+1.6**
DRGR		**34.20**	**315**	⇑*i* P		**P**	**12 54 51.5**	**+1.0**
DRGR		**34.20**	**315**	⇑P		**P**	**12 54 51.5**	**+1.0**
BZS	**Buzias**	**34.45**	**313**	⇓*i* P		**P**	**12 54 53.6**	**+0.9**
BZS	**Buzias**	**34.45**	**313**	⇓P		**P**	**12 54 53.6**	**+0.9**
KOLS	**Kolonicke sedl**	**35.37**	**319**	*e*P		**P**	**12 55 02.1**	**+1.6**
KOLS				pmax		pmax		
	comp=Z,15nm,0.9s							
KOLS	**Kolonicke sedl**	**35.37**	**319**	*e*P		**P**	**12 55 02.1**	**+1.6**
PSZ	**Piszkesteto**	**36.40**	**316**	P		**P**	**12 55 10.4**	**+0.9**
PSZ				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KLMR	**Klimovskoe**	**36.43**	**345**	*e*P		**P**	**12 55 06.9**	**-2.5**
KLMR				pmax		pmax		
	comp=Z,7.0nm,1.3s							
GTA	**Gaotai**	**37.17**	**59**	*e*P		P	12 55 23.3	+7.1
GTA				pP		sP	12 55 27.9	+6.7
GTA				sP		pP	12 55 30.7	+11
VYHS	**Vyhne**	**37.27**	**316**	*e*P		**P**	**12 55 17.1**	**+0.3**
VYHS	**Vyhne**	**37.27**	**316**	*e*P		**P**	**12 55 17.1**	**+0.3**
OJC	**Ojcow**	**37.38**	**319**	*e*P		**P**	**12 55 17.7**	**+0.1**
OJC	**Ojcow**	**37.38**	**319**	*e*P		**P**	**12 55 17.4**	**-0.2**
	comp=Z,11nm,0.8s							
OJC	**Ojcow**	**37.38**	**319**	*e*P		**P**	**12 55 17.7**	**+0.1**
JAVC	**Velka Javorina**	**38.12**	**316**	*e*P		**P**	**12 55 24.0**	**-0.1**
SOP	**Sopron**	**38.43**	**314**	P		**P**	**12 55 27.3**	**+0.7**
SOP				pmax		pmax		
	comp=Z,25nm,0.8s							
MORC	**Moravsky Berou**	**38.54**	**318**	P		**P**	**12 55 29.6**	**+2.1**
MORC				pmax		pmax		
	comp=Z,4.0nm,2.6s							
MORC	**Moravsky Berou**	**38.54**	**318**	*e*P		**P**	**12 55 26.7**	**-0.8**
VRAC	**Vranov**	**38.95**	**317**	*e*P		**P**	**12 55 31.2**	**+0.3**
VRAC	**Vranov**	**38.95**	**317**	P		**P**	**12 55 31.0**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=99,slow=7.6,SNR=4.4							
CONA	**Conrad Observa**	**38.95**	**314**	*e*P		**P**	**12 55 31.6**	**+0.5**
	comp=Z,1.7nm,0.6s							
ARSA	**Arzberg**	**38.97**	**313**	*e*P		**P**	**12 55 32.0**	**+0.9**
	comp=Z,2.3nm,0.6s							
KRUC	**Moravsky**	**38.98**	**316**	P		**P**	**12 55 32.1**	**+0.9**
KRUC				pmax		pmax		
	comp=Z,6.0nm,1.5s							
KRUC	**Moravsky**	**38.98**	**316**	*e*P		**P**	**12 55 31.5**	**+0.3**
DPC	**Dobruska-Polom**	**39.48**	**318**	*e*P		**P**	**12 55 36.1**	**+0.7**
DPC	**Dobruska-Polom**	**39.48**	**318**	*e*P		**P**	**12 55 36.1**	**+0.7**
MOA	**Molln**	**39.95**	**314**	*e*P		**P**	**12 55 39.9**	**+0.5**
	comp=Z,9.0nm,0.7s							
MYKA	**Terra Mystica**	**40.04**	**312**	*e*P		**P**	**12 55 39.3**	**-0.9**
	comp=Z,0.6nm,0.4s							
LZH	**Lanzhou**	**40.14**	**65**	*e*P		**P**	**12 55 40.5**	**-0.8**
LZH				pP		sP	12 55 48.1	+1.8
LZH				sP		pP	12 55 51.6	+6.7
LZH				*e*PP		**PnPn**	**12 57 17.8**	**+0.8**
CD2	**Chengdu**	**40.32**	**73**	*e*P		**P**	**12 55 42.1**	**-0.6**
KBA	**Koelnbreinsper**	**40.35**	**312**	*e*P		**P**	**12 55 43.4**	**+0.5**
	comp=Z,4.0nm,0.7s,SNR=5.0							
KBA	**Koelnbreinsper**	**40.35**	**312**	P		**P**	**12 55 43.6**	**+0.7**
KBA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KHC	**Kasperske Hory**	**40.76**	**315**	*e*P		**P**	**12 55 46.3**	**+0.2**

comp=Z,7.0nm,0.7s
CAF Calviac 47.80 308 *e*P **P 12 56 42.7 +0.2**
CAF pmax pmax
comp=Z,25nm,1.8s
RJF Les Rejaudoux 48.20 308 *e*P **P 12 56 46.0 +0.4**
RJF pmax pmax
comp=Z,17nm,1.1s
LFF La Frestale 48.74 308 *e*P **P 12 56 50.5 +0.8**
LFF pmax pmax
comp=Z,6.0nm,0.6s
LDF La Druitiere 49.54 312 *e*P **P 12 56 55.1 -0.7**
LDF pmax pmax
comp=Z,56nm,2.1s
BOD Bodaibo 50.01 35 *e*P **P 12 56 58.4 -0.8**
BOD pmax pmax
comp=Z,7.0nm,1.2s
SJPF Ste Jean 50.14 305 *e*P **P 12 57 01.7 +1.3**
SJPF pmax pmax
comp=Z,57nm,1.8s
QUIF Quistinic 51.53 311 *e*P **P 12 57 11.9 +1.1**
QUIF pmax pmax
comp=Z,48nm,1.5s
ROSF Rostrenen 51.62 312 *e*P **P 12 57 12.6 +1.1**
ROSF pmax pmax
comp=Z,53nm,1.5s
ESDC Sonseca Array 52.38 301 *e*P **P 12 57 17.9 +0.5**
ESDC Sonseca Array 52.38 301 P **P 12 57 18.0 +0.6**
comp=Z,0.9nm,0.5s,baz=70,slow=7.4,SNR=12
ESLA Sonseca Array 52.38 301 *e*P **P 12 57 18.5 +1.1**
comp=Z,1.9nm,0.7s
PAB San Pablo 52.69 301 *e*P **P 12 57 20.6 +0.9**
comp=Z,8.1nm,1.2s
TOA0 Torodi Ar. Sit 54.04 267 *e*P **P 12 57 29.5 -0.3**
comp=Z,4.9nm,1.1s
TOA1 Torodi Ar. Sit 54.04 267 *e*P **P 12 57 29.1 -0.7**
TORD Torodi Ar. Bea 54.04 267 P **P 12 57 29.1 -0.7**
comp=Z,1.7nm,0.5s,baz=59,slow=7.1,SNR=25
KSRS Korea Array 59.22 61 P **P 12 58 05.1 -1.3**
comp=Z,0.9nm,0.6s,baz=272,slow=6.3,SNR=3.7
DAG Danmarks Havn 61.20 345 P **P 12 58 21.1 +1.8**
DAG pmax pmax
comp=Z,5.0nm,2.2s
DBIC Dimbokro 62.60 264 P **P 12 58 31.5 +1.8**
comp=Z,2.0nm,0.7s,baz=82,slow=7.1,SNR=2.3
BOSA Boshof 63.16 212 P **P 12 58 35.0 +1.8**
comp=Z,1.7nm,0.9s,baz=37,slow=10,SNR=3.0
SUMG Summit 66.71 341 *e*P **P 12 58 56.8 +0.7**
comp=Z,7.9nm,0.7s
SUMG Summit 66.71 341 *e*P **P 12 58 56.8 +0.7**
SUMG pmax pmax
comp=Z,8.0nm,0.7s
MA2 Magadan 68.92 33 *e*P **P 12 59 09.2 -0.6**
comp=Z,5.5nm,1.0s
MA2 Magadan 68.92 33 *e*P **P 12 59 09.2 -0.6**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
TOLK Toolik Lake Re 82.93 10 *e*P **P 13 00 30.2 +0.6**
comp=Z,2.9nm,0.7s
IMAR Indian Mountai 84.60 12 *e*P **P 13 00 38.0 -0.2**
BMAR Burnt Mountain 84.76 8 *e*P **P 13 00 39.7 +0.7**
INK Inuvik 85.00 4 *e*P **P 13 00 40.7 +0.6**
comp=Z,2.0nm,1.0s
INK Inuvik 85.00 4 *e*P **P 13 00 40.7 +0.6**
INK pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 86.92 10 P **P 13 00 48.9 -0.8**
comp=Z,0.3nm,0.7s,baz=326,slow=4.4,SNR=4.3
YKA Yellowknife Ar 91.00 356 P **P 13 01 09.2 +0.2**
comp=Z,0.2nm,0.7s,baz=7.6,slow=5.6,SNR=3.8
YKB5 Yellowknife Ar 91.00 356 *e*P **P 13 01 09.2 +0.2**
TXAR Lajitas Array 121.60 341 PKIKP **PKPdf 13 07 00.0 +0.5**
TXAR Lajitas Array 121.60 341 PKP **PKPdf 13 06 60.0 +0.5**
comp=Z,0.3nm,0.7s,baz=116,slow=2.1,SNR=3.5

MOS ***12*** *12:51:50.4±1.2,20°.84S×68°.37W,h108km,mb5.1/30, Error ellipse: s-maj=12.9km s-min=6.8km az=110.8*
SJA ***12*** *12:51:51.2±1.0,21°.00S×68°.74W,h156km±5km,ML4.6, MW4.3*
ISCJB ***12*** *12:51:51.1±0.2,20°.93S±0°.02×68°.45W±0°.02,h129km±2km, mb5.0/117, Error ellipse: s-maj=3.8km s-min=2.4km az=150.2*
GUC ***12*** *12:51:53.3±0.6,21°.00S×68°.71W,h143km±3km,ML5.3*
VAO ***12*** *12:51:53.4±0.2,20°.99S×68°.38W,h123km, mb5.3*
NEIC ***12*** *12:51:53.0±0.0,21°.00S×68°.67W,h133km,mb5.2/108, ML5.1(GUC), After GUC.*
NEIC Felt [IV] at Alto Hospicio, Huara, Iquique, Mamina and Pozo Almonte; [III] Camina and Tocopilla; [II] at Oficina Maria Elena.
BJI ***12*** *12:51:54.1±0.0,21°.00S×68°.50W,h131km,mB5.3/14*
IDC ***12*** *12:51:54.7±0.4,20°.91S×68°.31W,h135km±2km,mb4.7/23, mb1 4.7/28,mb1mx4.6/37,mbtmp5.1/28,MS3.7/1, Ms1 3.8/1,ms1mx3.2/29, Error ellipse: s-maj=11.1km s-min=8.5km az=76.0*
GCMT ***12*** *12:51:57.0±0.2,21°.04S±0°.01×68°.79W±0°.01,h143km±1km, MW5.3/113,Moment Tensor Solution. s69,c99; s113,c178; Duration: 1s0 Moment tensor: Scale 1017 Nm; Mrr-0.27±.02; Mθθ0.16±.02; Mφφ0.11±.03; Mrθ0.18±.01; Mrφ0.00±.03; Mθφ-0.94±.02; Best double couple: M0.98000×1017 NP1:φs349.00000°,δ84.00000°, λ-89.00000°. NP2:φs164.00000°,δ6.00000°,λ-95.00000°. Principal axes: T 0.9010, Plg39.0000°, Azm79.0000°; N 0.1580, Plg1.0000°, Azm169.0000°; P -1.0590, Plg51.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 12:51:53.4±0.2,21°.00S±0°.02×68°.52W±0°.04,h133km±1km, h133km:pP-P,n910,σ1°.38/1092,mb5.2/117,20C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.90**	**267**	*e*Pn		**Pn**	12 52 14.2	**-1.6**
PB01				*e*Sn		**Sn**	12 52 31.5	**-1.3**
PB01	**IPOC Station P**	**0.90**	**267**	*e*P		**Pn**	12 52 14.6	**-1.2**
PB01				*e*S		**Sn**	12 52 31.4	**-1.3**
PB01	**IPOC Station P**	**0.90**	**267**	⇑*e*P		**Pn**	12 52 14.7	**-1.1**
PB01				*e*S		**Sn**	12 52 30.8	**-1.9**
PB01				IAML			12 52 33.1	
	comp=N,60μm,0.2s							
PB09	**IPOC Station P**	**1.04**	**220**	*e*P		**Pn**	12 52 16.8	**-0.3**
PB09				*e*S		**Sn**	12 52 35.3	**+0.2**
PB09	**IPOC Station P**	**1.04**	**220**	⇑*e*P		**Pn**	12 52 16.7	**-0.4**
PB09				*e*S		**Sn**	12 52 34.4	**-0.8**
PB08	**IPOC Station P**	**1.04**	**325**	*e*P		**Pn**	12 52 17.1	**-0.3**
PB08				*e*S		**Sn**	12 52 35.6	**0.0**
PB08	**IPOC Station P**	**1.04**	**325**	⇑*i*P		**Pn**	12 52 17.1	**-0.3**
PB08				*i* S		**Sn**	12 52 35.3	**-0.2**
PB08				IAML			12 52 36.0	
	comp=N,36μm,0.4s							
PB02	**IPOC Station P**	**1.32**	**256**	*e*P		**Pn**	12 52 18.9	**-1.1**
PB02				*e*S		**Sn**	12 52 38.6	**-1.4**
PB02	**IPOC Station P**	**1.32**	**256**	⇑*e*P		**Pn**	12 52 18.8	**-1.1**
PB02				*e*S		**Sn**	12 52 37.6	**-2.4**
PB07	**IPOC Station P**	**1.46**	**240**	*e*P		**Pn**	12 52 20.5	**-1.0**
PB07				*e*S		**Sn**	12 52 41.7	**-1.2**
PB07	**IPOC Station P**	**1.46**	**240**	⇑*e*P		**Pn**	12 52 20.3	**-1.2**
PB07				⇑*i*P		**Pn**	12 52 20.4	**-1.0**
PB07				*e*S		**Sn**	12 52 40.7	**-2.1**
PB07				IAML			12 52 43.5	
	comp=N,31μm,0.3s							
GO01	**Chusmiza**	**1.47**	**334**	*e*Pn		**Pn**	12 52 21.2	**-0.7**
GO01				*e*Sn		**Sn**	12 52 43.4	**-0.1**
GO01	**Chusmiza**	**1.47**	**334**	⇑*i*P		**Pn**	12 52 21.5	**-0.4**
GO01				*i* S		**Sn**	12 52 43.0	**-0.5**
GO01				IAML			12 52 46.3	
	comp=N,71μm,0.4s							
PB03	**IPOC Station P**	**1.55**	**228**	*e*P		**Pn**	12 52 21.5	**-0.9**
PB03				*e*S		**Sn**	12 52 42.7	**-1.9**
PB03	**IPOC Station P**	**1.55**	**228**	⇑*e*P		**Pn**	12 52 21.4	**-1.0**
PB03				*e*S		**Sn**	12 52 42.7	**-1.9**
PB03				IAML			12 52 43.6	
	comp=E,26μm,0.3s							
PB11	**IPOC Station P**	**1.63**	**319**	*e*Pn		**Pn**	12 52 22.1	**-1.2**
PB11				*e*Sn		**Sn**	12 52 44.7	**-1.5**
PB11	**IPOC Station P**	**1.63**	**319**	*e*P		**Pn**	12 52 22.2	**-1.2**
PB11				*e*S		**Sn**	12 52 44.3	**-1.8**
PB11	**IPOC Station P**	**1.63**	**319**	⇑*e*P		**Pn**	12 52 22.1	**-1.2**
PB11				*i* S		**Sn**	12 52 44.7	**-1.5**
LVC	**Limon Verde**	**1.64**	**193**	*e*Pn		**Pn**	12 52 23.7	**0.0**
LVC				*e*Sn		**Sn**	12 52 46.3	**-0.5**
LVC	**Limon Verde**	**1.64**	**193**	*e*P		**Pn**	12 52 23.4	**-0.3**
LVC				*e*S		**Sn**	12 52 45.7	**-1.1**
LVC	**Limon Verde**	**1.64**	**193**	*e*P		**Pn**	12 52 23.7	**0.0**
LVC				*e*			12 52 46.3	
LVC	**Limon Verde**	**1.64**	**193**	⇓*i*P		**Pn**	12 52 23.6	**0.0**
LVC				*i* S		**Sn**	12 52 46.4	**-0.4**
LVC	**Limon Verde**	**1.64**	**193**	P		**Pn**	12 52 24.0	**+0.3**
	comp=E,461nm,0.3s,baz=14,slow=8.6,SNR=3307							
LVC				S		**Sn**	12 52 46.6	**-0.2**
	comp=E,802nm,0.3s,baz=158,slow=12,SNR=52							
LVC	**Limon Verde**	**1.64**	**193**	*e*P		**Pn**	12 52 23.6	**0.0**
PB06	**IPOC Station P**	**1.96**	**210**	*e*P		**Pn**	12 52 26.5	**-0.6**
PB06				*e*S		**Sn**	12 52 51.4	**-1.7**
PB06	**IPOC Station P**	**1.96**	**210**	⇑*i*P		**Pn**	12 52 26.6	**-0.6**
PB06				*i* S		**Sn**	12 52 51.7	**-1.4**
PB04	**IPOC Station P**	**2.01**	**228**	*e*Pn		**Pn**	12 52 26.7	**-1.1**
PB04				*e*Sn		**Sn**	12 52 52.4	**-1.8**
PB04	**IPOC Station P**	**2.01**	**228**	*e*P		**Pn**	12 52 26.5	**-1.4**
PB04				*e*S		**Sn**	12 52 51.8	**-2.5**
PB04	**IPOC Station P**	**2.01**	**228**	⇑*i*P		**Pn**	12 52 26.7	**-1.1**
PB04				*i* S		**Sn**	12 52 51.3	**-3.0**
PB04				*i* S		**Sn**	12 52 51.6	**-2.6**
PB04				IAML			12 52 56.3	
	comp=N,18μm,0.3s							
PSGC	**Pisagua**	**2.05**	**313**	⇑*i*P		**Pn**	12 52 26.1	**-2.1**
PSGC				*i* S		**Sn**	12 52 52.4	**-2.5**
PSGC				IAML			12 52 54.3	
	comp=N,14μm,0.4s							
PSGCX	**Pisagua**	**2.05**	**313**	*e*P		**Pn**	12 52 26.4	**-1.8**
PSGCX				*e*S		**Sn**	12 52 52.4	**-2.6**
MNMC	**Minye Minye**	**2.12**	**331**	*e*Pn		**Pn**	12 52 29.0	**-0.3**
MNMC				*e*Sn		**Sn**	12 52 56.7	**0.0**
MNMC	**Minye Minye**	**2.12**	**331**	⇑*i*P		**Pn**	12 52 28.6	**-0.7**
MNMC				*i* S		**Sn**	12 52 56.0	**-0.7**
MNMC				IAML			12 52 58.6	
	comp=E,61μm,0.5s							
PB15	**IPOC Station P**	**2.37**	**202**	*e*P		**Pn**	12 52 31.9	**-0.4**
PB15				*e*S		**Sn**	12 53 00.4	**-1.7**
PB05	**IPOC Station P**	**2.42**	**220**	*e*P		**Pn**	12 52 31.6	**-1.2**
PB05				*e*S		**Sn**	12 52 59.0	**-4.0**
PB05	**IPOC Station P**	**2.42**	**220**	⇑*i*P		**Pn**	12 52 31.3	**-1.5**
PB05				*e*S		**Sn**	12 53 00.2	**-2.8**
PB05				IAML			12 53 01.8	
	comp=N,10μm,0.4s							
PB16	**IPOC Station P**	**2.81**	**341**	*e*P		**Pn**	12 52 38.4	**+0.2**
PB16				*e*S		**Sn**	12 53 09.9	**-2.8**
PB12	**IPOC Station P**	**2.92**	**324**	*e*P		**Pn**	12 52 36.9	**-2.4**
PB12				*e*S		**Sn**	12 53 09.3	**-5.2**
PB12	**IPOC Station P**	**2.92**	**324**	⇑*i*P		**Pn**	12 52 36.8	**-2.4**
PB12				*i* S		**Sn**	12 53 11.7	**-2.8**
PB12				IAML			12 53 16.0	
	comp=N,8μm,0.7s							
PB10	**IPOC Station P**	**3.13**	**217**	*e*Pn		**Pn**	12 52 40.1	**-1.7**
PB10				*e*Sn		**Sn**	12 53 13.1	**-6.1**
PB10	**IPOC Station P**	**3.13**	**217**	*e*P		**Pn**	12 52 39.7	**-2.1**
PB10				*e*S		**Sn**	12 53 12.7	**-6.6**
PB14	**IPOC Station P**	**4.00**	**205**	*e*P		**Pn**	12 52 51.2	**-2.4**
PB14				*e*S		Sn	12 53 26.1	-14
GO02	**Mina Guanaco**	**4.26**	**193**	*e*Pn		**Pn**	12 52 55.6	**-1.3**
GO02				*e*Sn		Sn	12 53 33.4	-13
AZAP	**Zapla**	**4.53**	**136**	*e*P		**Pn**	12 53 00.9	**+0.5**
AZAP				*e*S		**Sn**	12 53 53.9	**+1.4**
SLA	**San Lorenzo**	**4.63**	**144**	*e*P		**Pn**	12 53 03.2	**+1.4**
SLA				IAML			12 53 04.7	
	comp=Z,265nm,0.6s							
SLA				*e*S		**Sn**	12 53 47.0	**-8.0**
LPAZ	**La Paz**	**4.70**	**5**	*e*Pn		**Pn**	12 53 04.3	**+1.1**
LPAZ	**La Paz**	**4.70**	**5**	*e*P		**Pn**	12 53 04.6	**+1.4**
LPAZ	**La Paz**	**4.70**	**5**	*e*P		**Pn**	12 53 04.3	**+1.1**
LPAZ	**La Paz**	**4.70**	**5**	P		**Pn**	12 53 04.9	**+1.7**
	comp=Z,36nm,0.3s,baz=171,slow=6.8,SNR=350							
LPAZ				S		**Sn**	12 53 56.8	**-0.5**
	comp=Z,9.4nm,0.3s,baz=106,slow=5.6,SNR=4.1							
LPAZ				LR		LR	12 55 28.3	
	comp=Z,822nm,18.1s,baz=188,slow=46							
LPAZ	**La Paz**	**4.70**	**5**	*e*P		**Pn**	12 53 03.6	**+0.4**
FSA	**Cafayete**	**5.60**	**156**	*e*P		**Pn**	12 53 15.3	**+0.6**
FSA				IAML			12 53 19.0	
	comp=Z,48nm,0.5s							
AHML	**Horco Molle**	**6.45**	**154**	*e*P		**Pn**	12 53 25.9	**-0.2**
AHML				IAML			12 53 26.9	
	comp=Z,55nm,0.5s							
GO03	**Copiap**	**6.75**	**193**	*e*Pn		**Pn**	12 53 26.5	**-3.5**
VCA	**Vinchina**	**7.71**	**178**	*e*P		**Pn**	12 53 41.8	**-1.3**
VCA				IAML			12 55 19.1	
	comp=Z,67nm,0.6s							
CYA	**Choya**	**7.81**	**162**	*e*P		**Pn**	12 53 44.0	**-0.3**
CYA				IAML			12 53 49.5	
	comp=Z,22nm,0.5s							
LCO	**Las Campanas**	**8.22**	**193**	*e*Pn		**Pn**	12 53 45.4	**-4.6**
LCO	**Las Campanas**	**8.22**	**193**	*e*P		**Pn**	12 53 45.4	**-4.6**
AGUA	**GUANDACOL**	**8.45**	**180**	*e*P		**Pn**	12 53 50.5	**-2.5**
ACLC	**CERRO LA CRUZ**	**8.51**	**171**	*e*P		**Pn**	12 53 51.6	**-2.3**
SIV	**San Ignacio**	**8.64**	**56**	P		**Pn**	12 53 53.4	**-2.3**
	comp=Z,150nm,0.3s,baz=255,slow=9.6,SNR=2348							
ACDV	**Cuesta del Vie**	**9.15**	**183**	*e*P		**Pn**	12 54 00.1	**-2.3**
AROD	**Rodeo**	**9.17**	**185**	*e*P		**Pn**	12 54 00.4	**-2.4**
GO04	**Tololo Observa**	**9.36**	**192**	*e*Pn		Pn	12 54 00.3	-5.1
APLL	**PUNTA DE LOS L**	**9.53**	**170**	*e*P		**Pn**	12 54 03.8	**-3.6**
APLL				IAML			12 54 11.5	
	comp=Z,20nm,0.6s							
ACCO	**Cerro Coronel**	**9.56**	**183**	*e*P		**Pn**	12 54 05.0	**-3.1**
AMOG	**MOGNA**	**9.90**	**180**	*e*P		**Pn**	12 54 08.4	**-4.0**
CFA	**Coronel Fontan**	**10.56**	**179**	*e*P		**Pn**	12 54 17.2	**-4.0**
CFA	**Coronel Fontan**	**10.56**	**179**	P		**Pn**	12 54 17.4	**-3.9**
	comp=Z,7.9nm,0.3s,baz=350,slow=12,SNR=50							
CFA				S		Sn	12 56 07.7	-10
	comp=Z,4.3nm,0.3s,baz=201,slow=19,SNR=8.2							
RTLS	**Leoncito**	**10.78**	**184**	*e*P		**Pn**	12 54 20.1	**-4.2**
TCA	**Tanti**	**10.88**	**162**	*e*P		**Pn**	12 54 21.6	**-3.9**
TCA				IAML			12 54 27.8	
	comp=Z,30nm,0.4s							
AUSP	**Uspallata**	**11.21**	**184**	*e*P		**Pn**	12 54 26.1	**-3.9**
CPUP	**Villa Florida**	**11.54**	**120**	*e*Pn		**Pn**	12 54 32.3	**-1.9**
CPUP	**Villa Florida**	**11.54**	**120**	*e*P		**Pn**	12 54 32.3	**-1.9**
CPUP	**Villa Florida**	**11.54**	**120**	P		**Pn**	12 54 31.4	**-2.8**
	comp=Z,1.5nm,0.3s,baz=299,slow=12,SNR=56							
CPUP				S		**Sn**	12 56 33.9	**-7.7**
	baz=270,slow=17,SNR=2.3							
CPUP	**Villa Florida**	**11.54**	**120**	*e*P		**Pn**	12 54 32.7	**-1.5**
ASAL	**Salagasta**	**11.55**	**181**	*e*P		**Pn**	12 54 30.9	**-3.4**
ARCO	**CERRO ARCO**	**11.80**	**182**	*e*P		**Pn**	12 54 34.4	**-3.3**
ARCO				IAML			12 54 48.6	
	comp=Z,39nm,0.6s							
NNA	**Nana**	**11.99**	**317**	*i* P		**Pn**	12 54 42.2	**+1.9**
NNA	**Nana**	**11.99**	**317**	P		**Pn**	12 54 37.9	**-2.4**
	comp=Z,2.1nm,0.3s,baz=233,slow=1.7,SNR=7.1							
NNA				S		**Sn**	12 56 44.0	**-8.6**
	comp=Z,4.4nm,0.3s,baz=190,slow=19,SNR=3.4							
AQDB	**Aquidauana**	**12.01**	**90**	*e*P		**Pn**	12 54 37.3	**-3.1**
ROC1	**El Roble**	**12.13**	**190**	*e*Pn		Pn	12 54 36.7	-5.5
ROC1	**El Roble**	**12.13**	**190**	*e*P		Pn	12 54 36.0	-6.1
TRCB	**Terra Rica**	**14.86**	**100**	*e*P		**Pn**	12 55 16.1	**-0.8**
C2SB	**Chapadao do Su**	**14.92**	**84**	*e*P		**Pn**	12 55 17.2	**-0.5**
PTGB	**Pitanga**	**15.61**	**107**	*e*P		**Pn**	12 55 25.7	**-0.6**
CLDB	**Colider**	**15.83**	**52**	*e*P		**Pn**	12 55 28.4	**-0.7**
ITAB	**Concordia**	**16.19**	**116**	*e*P		**Pn**	12 55 33.1	**-0.3**
ATAH	**Atahualpa**	**16.77**	**324**	P		**Pn**	12 55 42.5	**+1.5**
	comp=Z,0.6nm,0.3s,baz=189,slow=7.4,SNR=15							
ITRB	**Iturama**	**17.08**	**89**	*e*P		**P**	12 55 43.8	**-0.2**
FRTB	**Fartura**	**17.71**	**101**	*e*P		**P**	12 55 50.5	**-0.4**
TRQA	**Tornquist**	**17.91**	**163**	*e*P		**P**	12 55 52.8	**-0.2**
	comp=Z,66nm,0.9s							
TRQA	**Tornquist**	**17.91**	**163**	*e*P		**P**	12 55 52.8	**-0.2**
TRQA				pmax		pmax		
	comp=Z,66nm,0.9s							
TRQA	**Tornquist**	**17.91**	**163**	*e*P		**P**	12 55 52.3	**-0.7**
CNLB	**Canela**	**17.99**	**121**	*e*P		**P**	12 55 53.8	**-0.2**
OGAUY	**Aigu**	**18.03**	**140**	*e*P		**P**	12 55 53.1	**-1.1**
TIJ01	**Guaruva-PR**	**18.45**	**107**	*e*P		**P**	12 55 58.5	**-0.5**
BB19B	**Bebedouro**	**18.66**	**94**	*e*P		**P**	12 56 00.6	**-0.7**
GO06	**Curarrehue**	**18.70**	**187**	*e*P		**Pn**	12 56 02.5	**-1.0**
	comp=Z,96nm,0.8s							
TER01	**Tubaro-SC**	**19.12**	**117**	*e*P		**P**	12 56 04.8	**-1.4**
RCLB	**Rio Claro- Sao**	**19.55**	**98**	*e*P		**P**	12 56 09.8	**-1.2**
SPB	**Sao Paulo**	**19.68**	**101**	*e*P		**P**	12 56 11.1	**-1.1**
	comp=Z,105nm,0.9s							
SPB	**Sao Paulo**	**19.68**	**101**	*e*P		**P**	12 56 11.3	**-1.0**
PLCA	**Paso Flores**	**19.75**	**185**	*e*P		**P**	12 56 13.3	**+0.4**
	comp=Z,102nm,0.8s							
PLCA				*e*PcP		**PcP**	13 00 26.6	**+0.8**
PLCA	**Paso Flores**	**19.75**	**185**	P		**P**	12 56 13.7	**+0.8**
	comp=Z,1.6nm,0.3s,baz=30,slow=12,SNR=66							
PLCA				PcP		**PcP**	13 00 26.1	**+0.3**
	comp=Z,0.1nm,0.3s,baz=13,slow=1.9,SNR=4.0							
PLCA	**Paso Flores**	**19.75**	**185**	*e*P		**P**	12 56 13.9	**+1.0**
PET01	**Itanhaem-SP**	**19.88**	**103**	*e*P		**P**	12 56 14.5	**+0.1**
BDFB	**Brasilia**	**20.18**	**78**	*e*P		**P**	12 56 17.5	**-0.3**
	comp=Z,232nm,1.5s							
BDFB	**Brasilia**	**20.18**	**78**	*e*P		**P**	12 56 17.5	**-0.3**
BDFB				pmax		pmax		
	comp=Z,232nm,1.5s							
BDFB	**Brasilia**	**20.18**	**78**	P		**P**	12 56 17.3	**-0.5**
	comp=Z,8.1nm,0.3s,baz=266,slow=11,SNR=35							
PMNB	**Patos De Minas**	**20.92**	**87**	*e*P		**P**	12 56 24.8	**-1.0**
PTGA	**Pitinga**	**21.81**	**24**	*e*P		**P**	12 56 33.5	**-1.6**
	comp=Z,116nm,0.8s							
PTGA	**Pitinga**	**21.81**	**24**	P		**P**	12 56 33.3	**-1.8**
	comp=Z,90nm,0.4s,baz=201,slow=16,SNR=311							
PTGA				S		**S**	13 00 21.7	**-6.1**
	comp=Z,17nm,0.8s,baz=146,slow=22,SNR=6.1							
PTGA	**Pitinga**	**21.81**	**24**	*e*P		**P**	12 56 33.4	**-1.6**
BSCB	**Bom Sucesso**	**22.17**	**94**	*e*P		**P**	12 56 37.0	**-1.9**
ESAR	**Angra dos Reis**	**22.41**	**100**	*e*P		**P**	12 56 40.9	**-0.3**
GO07	**Milladeo Hill,**	**22.47**	**190**	*e*P		**P**	12 56 42.5	**+1.0**
	comp=Z,259nm,1.4s							
OTAV	**Otavalo**	**23.23**	**334**	*e*P		**P**	12 56 51.1	**+1.5**
	comp=Z,18nm,0.9s							
OTAV	**Otavalo**	**23.23**	**334**	*e*P		**P**	12 56 52.1	**+2.5**
OTAV	**Otavalo**	**23.23**	**334**	*e*P		**P**	12 56 51.1	**+1.5**
OTAV				pmax		pmax		
	comp=Z,19nm,0.9s							
OTAV	**Otavalo**	**23.23**	**334**	*e*P		**P**	12 56 52.1	**+2.5**
OTAV	**Otavalo**	**23.23**	**334**	*e*P		**P**	12 56 51.5	**+1.9**
VAS01	**Vassouras-RJ**	**23.34**	**98**	*e*P		**P**	12 56 49.6	**-0.4**
FLOC	**Florencia**	**23.50**	**342**	*e*P		**P**	12 56 51.6	**+0.1**
FLOC	**Florencia**	**23.50**	**342**	*e*P		**P**	12 56 51.6	**+0.1**
MCI6	**Montes Claros**	**23.66**	**84**	*e*P		**P**	12 56 51.8	**-1.2**
MCI8	**Montes Claros**	**23.67**	**84**	*e*P		**P**	12 56 51.8	**-1.3**
MCI9	**Montes Claros**	**23.69**	**84**	*e*P		**P**	12 56 52.0	**-1.3**
GCUF	**Volcan Galeras**	**23.72**	**338**	*e*P		**P**	12 56 57.2	**+3.2**
GCUF	**Volcan Galeras**	**23.72**	**338**	*e*P		**P**	12 56 57.2	**+3.2**
JANB	**Januaria**	**23.75**	**80**	*e*P		**P**	12 56 53.3	**-0.5**
CRUC	**La Cruz**	**23.90**	**339**	*e*P		**P**	12 56 59.5	**+4.1**
CRUC	**La Cruz**	**23.90**	**339**	*e*P		**P**	12 56 59.5	**+4.1**
SOTA	**Rioblanco**	**24.32**	**340**	*e*P		**P**	12 57 02.4	**+2.9**
SOTA	**Rioblanco**	**24.32**	**340**	*e*P		**P**	12 57 02.4	**+2.9**
DUB01	**Friburgo-RJ**	**24.34**	**97**	*e*P		**P**	12 56 59.0	**-0.1**
BBAC	**Balboa, Cauca**	**24.42**	**338**	*e*P		**P**	12 57 01.3	**+1.3**
BBAC	**Balboa, Cauca**	**24.42**	**338**	*e*P		**P**	12 57 01.3	**+1.3**
POPC	**Popayan, Colom**	**24.72**	**340**	*e*P		**P**	12 57 04.0	**+1.2**
POPC	**Popayan, Colom**	**24.72**	**340**	*e*P		**P**	12 57 04.0	**+1.2**
MARP	**Paez Belalcaza**	**24.79**	**342**	*e*P		**P**	12 57 05.5	**+2.0**
MARP	**Paez Belalcaza**	**24.79**	**342**	*e*P		**P**	12 57 05.5	**+2.0**
CAM01	**Campos-RJ**	**25.01**	**97**	*e*P		**P**	12 57 05.3	**+0.1**
PRAC	**Prado**	**25.34**	**345**	*e*P		**P**	12 57 08.6	**+0.4**
PRAC	**Prado**	**25.34**	**345**	*e*P		**P**	12 57 08.6	**+0.4**
VILC	**Villavicencio,**	**25.47**	**348**	*e*P		**P**	12 57 11.6	**+2.1**
VILC	**Villavicencio,**	**25.47**	**348**	*e*P		**P**	12 57 11.6	**+2.1**
SJMB	**Sao Joao De Ma**	**25.80**	**90**	*e*P		**P**	12 57 12.2	**-0.2**
ALF01	**Guarapari-ES**	**25.98**	**94**	*e*P		**P**	12 57 14.6	**+0.7**
CHIC	**Chingaza**	**25.98**	**348**	*e*P		**P**	12 57 14.5	**+0.1**
CHIC	**Chingaza**	**25.98**	**348**	*e*P		**P**	12 57 14.5	**+0.1**
YOTC	**Yotoco, Valle**	**25.99**	**342**	*e*P		**P**	12 57 14.1	**0.0**
YOTC	**Yotoco, Valle**	**25.99**	**342**	*e*P		**P**	12 57 14.1	**0.0**
BSFB	**Barra de Sao F**	**26.10**	**90**	*e*P		**P**	12 57 15.1	**+0.1**
ROSC

	baz=164					
857A	Zephyrhills	50.74 344	P	P	13 00 39.7	0.0
	baz=164					
758A	Lake Helen	51.16 346	P	P	13 00 43.1	+0.3
	baz=165					
757A	Oxford	51.34 345	P	P	13 00 44.7	+0.5
	baz=164					
MOIG	Morelia	51.54 319	eP	P	13 00 48.2	+1.9
	comp=Z,72nm,0.9s					
658A	Bunnell	51.61 346	P	P	13 00 46.8	+0.5
	baz=165					
656A	Willston	51.87 344	P	P	13 00 48.6	+0.5
	baz=164					
657A	Interlachen	51.91 345	P	P	13 00 49.0	+0.5
	baz=164					
655A	Horseshoe Beac	52.19 344	P	P	13 00 50.5	0.0
	baz=163					
557A	Orange Park	52.29 345	P	P	13 00 51.6	+0.3
	baz=165					
556A	Lake Butler	52.44 345	P	P	13 00 52.9	+0.5
	baz=164					
555A	McAlpin	52.69 344	eP	P	13 00 54.9	+0.6
	comp=Z,72nm,1.1s					
555A	McAlpin	52.69 344	P	P	13 00 54.4	+0.1
	baz=163					
457A	Yulee	52.83 346	P	P	13 00 55.8	+0.5
	baz=165					
456A	Hilliard	53.04 345	P	P	13 00 57.2	+0.4
	baz=164					
553A	Crawfordville	53.15 343	P	P	13 00 58.3	+0.7
	baz=162					
552A	Lynn Haven	53.34 342	P	P	13 00 59.4	+0.4
	baz=161					
454A	Quitman	53.43 344	P	P	13 00 59.8	+0.1
	baz=163					
357A	Townsend	53.59 346	P	P	13 01 01.0	+0.2
	baz=165					
356A	Blackshear	53.64 346	P	P	13 01 01.7	+0.5
	baz=164					
453A	Whigham	53.74 343	P	P	13 01 02.1	+0.1
	baz=162					
355A	Pearson	53.83 345	P	P	13 01 03.4	+0.9
	baz=164					
451A	Vernon	53.92 342	P	P	13 01 03.7	+0.4
	baz=160					
452A	Marianna	53.98 342	P	P	13 01 04.1	+0.5
	baz=161					
353A	Camilla	54.18 343	P	P	13 01 05.3	+0.1
	baz=162					
255A	Hazlehurst	54.30 345	eP	P	13 01 06.1	+0.2
	comp=Z,149nm,1.8s					
255A	Hazlehurst	54.30 345	P	P	13 01 06.2	+0.3
	baz=164					
450A	Crestview	54.35 341	P	P	13 01 06.2	-0.2
	baz=159					
351A	Pinckard	54.50 342	P	P	13 01 07.3	-0.1
	baz=161,SNR=6.1					
352A	Blakely	54.50 343	P	P	13 01 06.6	-0.8
	baz=161					
449A	Pace	54.51 340	P	P	13 01 07.8	+0.3
	baz=159					
254A	Abbeville	54.51 345	P	P	13 01 07.2	-0.3
	baz=163					
158A	Hollywood	54.59 348	P	P	13 01 07.7	-0.3
	baz=167					
LNIG	Linares	54.65 325	eP	P	13 01 08.9	+0.2
LNIG			epP	pP	13 01 39.7	-1.3
LNIG			esP	sP	13 01 56.2	+0.1
157A	Early Branch	54.69 347	P	P	13 01 08.9	+0.1
	baz=166					
ZAIG	Zacatecas	54.73 321	eP	P	13 01 10.6	+1.0
	comp=Z,51nm,0.9s					
ZAIG			epP	pP	13 01 41.7	-0.3
ZAIG			esP	sP	13 01 58.0	+0.9
156A	Sylvania	54.78 347	P	P	13 01 09.5	+0.1
	baz=165					
CSU	Charleston Sou	54.80 348	eP	P	13 01 11.3	+1.8
BRAL	Brewton	54.84 341	P	P	13 01 09.8	-0.1
	baz=159					
253A	Americus	54.84 344	P	P	13 01 09.8	-0.1
	baz=162					
350A	Dozier	54.85 341	P	P	13 01 09.1	-0.9
	baz=160					
Z59A	Georgetown, SC	54.91 349	P	P	13 01 11.0	+0.7
	baz=168					
252A	Lumpkin	54.94 343	P	P	13 01 10.0	-0.6
	baz=162					
NHSC	New Hope	54.94 348	eP	P	13 01 10.8	+0.3
	comp=Z,145nm,1.3s					
NHSC	New Hope	54.94 348	P	P	13 01 11.2	+0.6
	baz=167					
155A	Kite	54.96 346	P	P	13 01 10.9	+0.2
	baz=164					
349A	Repton	55.05 340	P	P	13 01 11.1	-0.2
	baz=159,SNR=8.7					
Z58A	St. Stephen	55.09 348	P	P	13 01 11.5	-0.2
	baz=167					
154A	Montrose	55.11 345	P	P	13 01 11.9	+0.2
	baz=164					
251A	Midway	55.21 343	P	P	13 01 12.0	-0.5
	baz=161,SNR=11					
Z57A	Bowman	55.23 348	P	P	13 01 12.1	-0.6
	baz=166					
153A	Fort Valley	55.32 344	P	P	13 01 12.9	-0.4
	baz=163					
250A	Grady	55.35 342	P	P	13 01 13.2	-0.4
	baz=160					
Z56A	Williston	55.40 347	P	P	13 01 12.5	-1.3
	baz=166					
152A	Waverly Hall	55.57 343	P	P	13 01 14.8	-0.3
	baz=162					
151A	Opelika	55.60 343	P	P	13 01 14.6	-0.7
	baz=161					
249A	Camden	55.61 341	P	P	13 01 15.3	-0.1
	baz=159,SNR=6.7					
Y58A	Scranton	55.62 349	P	P	13 01 14.4	-1.0
	baz=168					
Z54A	Sparta	55.64 345	P	P	13 01 15.1	-0.5
	baz=164					
Y56A	Pelion	55.83 347	P	P	13 01 15.8	-1.2
	baz=166					
Z53A	Monticello	55.86 345	P	P	13 01 16.4	-0.8
	baz=163					
Y57A	Sumter	55.87 348	P	P	13 01 16.1	-1.0
	baz=167					
150A	Eclectic	55.87 342	P	P	13 01 16.9	-0.4
	baz=160					
GOGA	Godfrey	55.95 345	eP	P	13 01 17.8	0.0
	comp=Z,12nm,1.0s					
GOGA	Godfrey	55.95 345	eP	P	13 01 17.8	0.0
GOGA			pmax	pmax		
	comp=Z,12nm,1.0s					
GOGA	Godfrey	55.95 345	P	P	13 01 16.6	-1.2
	baz=163					
Z52A	Williamson	55.98 344	P	P	13 01 17.5	-0.6
	baz=162					
X60A	Albert Glenn T	56.00 351	P	P	13 01 17.9	-0.1
	baz=170					
149A	Jones	56.09 341	P	P	13 01 17.9	-0.8
	baz=160,SNR=5.2					
X59A	McDuffie Farm,	56.09 350	P	P	13 01 17.9	-0.9
	baz=169					
Y55A	Saluda	56.09 347	P	P	13 01 18.4	-0.4
	baz=165					
X58A	Rowland	56.20 349	eP	P	13 01 20.4	+0.9
	comp=Z,69nm,1.8s					
X58A			epP	pP	13 01 53.0	+0.8
X58A	Rowland	56.20 349	P	P	13 01 18.7	-0.8
	baz=168					
Y54A	Tignall	56.20 346	P	P	13 01 18.7	-0.8
	baz=164					
Z51A	Franklin	56.30 343	P	P	13 01 19.7	-0.6
	baz=162					
148A	Greensboro	56.37 341	P	P	13 01 19.6	-1.2
	baz=159					
PTCN	Pitcairn Islan	56.39 253	eP	P	13 01 19.9	-1.4
	comp=Z,220nm,0.9s					
Y53A	Monroe	56.41 345	P	P	13 01 20.0	-1.0
	baz=163					
W60A	Pink Hill	56.42 351	P	P	13 01 19.2	-1.9
	baz=170					
W61A	Ground Anchor	56.44 352	P	P	13 01 20.6	-0.6
	baz=171					
Z50A	Ashland	56.45 343	eP	P	13 01 21.1	-0.2
	comp=Z,30nm,1.0s					
Z50A			epP	pP	13 01 52.3	-1.7
Z50A			esP	sP	13 02 09.4	+0.5
Z50A	Ashland	56.45 343	P	P	13 01 21.0	-0.4
	baz=161,SNR=8.7					
X56A	White Oak	56.45 348	P	P	13 01 21.0	-0.3
	baz=166					
BIRD	Birdtown, Kers	56.49 348	eP	P	13 01 22.2	+0.6
	comp=Z,43nm,1.4s					
BIRD			epP	pP	13 01 54.4	0.0
BIRD			esP	sP	13 02 10.1	+0.8
Y52A	Lilburn	56.53 344	P	P	13 01 21.0	-0.9
	baz=163					
X55A	Gracelyn & Ava	56.56 347	P	P	13 01 21.5	-0.6
	baz=166					
LRAL	Lakeview Retre	56.56 341	P	P	13 01 21.4	-0.7
	baz=160,SNR=6.1					
Z49A	Columbiana	56.57 342	P	P	13 01 21.4	-0.8
	baz=160,SNR=6.7					
147A	Livingston	56.61 340	P	P	13 01 22.1	-0.4
	baz=158					
CNNC	Cliffs of the	56.63 351	P	P	13 01 22.3	-0.3
	baz=170					
W58A	Raeford	56.63 349	P	P	13 01 22.8	+0.2
	baz=168					
W59A	Clinton	56.65 350	P	P	13 01 23.2	+0.6
	baz=169					
V62A	Hyde County Ai	56.69 353	P	P	13 01 23.3	+0.4
	baz=172					
X54A	Belton	56.79 346	P	P	13 01 24.1	+0.3
	baz=165					
Y51A	Rockmart	56.83 344	P	P	13 01 23.5	-0.5
	baz=162,SNR=6.3					
W57A	Gilead	56.90 349	eP	P	13 01 24.9	+0.4
	comp=Z,12nm,0.9s					
W57A			epP	pP	13 01 56.7	-0.5
W57A			esP	sP	13 02 13.2	+0.9
W57A	Gilead	56.90 349	P	P	13 01 24.4	-0.1
	baz=167					
VBMS	Vicksburg	56.95 338	P	P	13 01 24.5	-0.4
	baz=156					
X53A	Estanollee	56.96 345	P	P	13 01 24.2	-0.7
	baz=164					
W56A	Indian Trail	56.99 348	P	P	13 01 24.8	-0.3
	baz=167					
V61A	Roper	56.99 352	P	P	13 01 24.6	-0.5
	baz=171					
Y50A	Piedmont	57.00 343	P	P	13 01 24.2	-1.0
	baz=161					
V60A	Jim Taylor Roa	57.06 352	P	P	13 01 24.5	-1.1
	baz=170					
HKT	Hockley	57.07 332	i P	P	13 01 26.0	+0.3
HKT			pmax	pmax		
	comp=Z,19nm,1.2s					
KMSC	Kings Mountain	57.14 348	eP	P	13 01 27.0	+0.8
	comp=Z,12nm,0.8s					
KMSC			epP	pP	13 01 58.9	-0.1
KMSC			esP	sP	13 02 13.7	-0.2
KMSC	Kings Mountain	57.14 348	P	P	13 01 25.8	-0.5
	baz=166					
Y49A	Blount Mountai	57.16 342	P	P	13 01 24.4	-1.9
	baz=160					
X52A	Dahlonega	57.20 345	P	P	13 01 25.7	-0.9
	baz=163					
V59A	Middlesex	57.20 351	P	P	13 01 26.1	-0.5
	baz=169					
W54A	Cherokee Point	57.27 347	P	P	13 01 27.6	+0.5
	baz=165,SNR=5.4					
V58A	Windy Hill, Pi	57.37 350	P	P	13 01 27.0	-0.7
	baz=168					
833A	Chaparral WMA,	57.39 328	P	P	13 01 28.7	+0.6
	baz=146,SNR=10					
X51A	Calhoun	57.40 344	P	P	13 01 27.0	-1.0
	baz=162					
Y48A	Jasper	57.43 342	P	P	13 01 27.6	-0.6
	baz=160					
U61A	Possum Corner	57.51 352	P	P	13 01 29.3	+0.6
	baz=171					
X50B	Fort Payne	57.51 343	P	P	13 01 28.2	-0.7
	baz=161,SNR=5.9					
W53A	Cullowhee	57.56 346	P	P	13 01 29.4	0.0
	baz=164,SNR=7.2					
V57A	Coltrane Farms	57.57 349	P	P	13 01 28.9	-0.3
	baz=168					
V56A	Mocksville	57.63 348	eP	P	13 01 30.3	+0.7
	comp=Z,27nm,1.1s					
V56A			epP	pP	13 02 02.3	+0.1
V56A			esP	sP	13 02 18.9	+1.6
V56A	Mocksville	57.63 348	P	P	13 01 30.1	+0.5
	baz=167,SNR=5.3					
W52A	Murphy	57.67 345	P	P	13 01 29.1	-0.9
	baz=163					
U59A	Littleton	57.71 351	P	P	13 01 31.1	+0.9
	baz=170					
U60A	Pendleton	57.74 352	P	P	13 01 29.9	-0.5
	baz=171					
X49A	Woodville	57.74 343	P	P	13 01 29.9	-0.5
	baz=160					
V55A	Taylorsville	57.81 348	P	P	13 01 31.2	+0.4
	baz=166,SNR=7.0					
U58A	Oxford	57.87 350	P	P	13 01 31.3	+0.1
	baz=169					
V54A	Nebo	57.88 347	P	P	13 01 31.8	+0.4
	baz=165,SNR=6.5					
X48A	Hartselle	57.89 342	P	P	13 01 30.9	-0.5
	baz=160,SNR=12					
W51A	Cleveland	57.94 344	P	P	13 01 31.6	-0.2
	baz=162					
V53A	Saluda	57.97 346	P	P	13 01 31.6	-0.4
	baz=164					
U57A	Blanch	58.03 350	P	P	13 01 31.9	-0.5
	baz=168					
W50A	Signal Mountai	58.12 344	eP	P	13 01 33.0	-0.1
	comp=Z,29nm,0.9s					
W50A			epP	pP	13 02 05.1	-0.8
W50A			esP	sP	13 02 21.1	+0.2
W50A	Signal Mountai	58.12 344	P	P	13 01 32.8	-0.3
	baz=162,SNR=5.7					
U56A	King	58.13 349	P	P	13 01 33.0	-0.1
	baz=167					
NATX	Nacogdoches	58.14 334	P	P	13 01 34.3	+1.0
	baz=151,SNR=6.1					
X47A	Russelville	58.19 341	P	P	13 01 32.7	-0.9
	baz=159,SNR=8.5					
T59A	Double "B" Far	58.29 352	P	P	13 01 33.8	-0.3
	baz=170					
SWET	Sewanee	58.30 343	eP	P	13 01 33.5	-0.9
	comp=Z,25nm,0.8s					
SWET			epP	pP	13 02 06.3	-0.8
SWET			esP	sP	13 02 21.9	-0.3
W49A	Belvidere	58.30 343	P	P	13 01 33.7	-0.6
	baz=161,SNR=5.5					
V52A	Sevierville	58.31 346	P	P	13 01 34.0	-0.3
	baz=164,SNR=9.3					
T58A	Grand View Acr	58.40 351	P	P	13 01 33.6	-1.3
	baz=169					
U55A	TA2, Sparta	58.40 348	P	P	13 01 34.9	-0.2
	baz=166					
V51A	Loudon	58.45 345	P	P	13 01 34.8	-0.5
	baz=163					
X46A	Booneville	58.45 341	P	P	13 01 34.4	-0.9
	baz=158					
W48A	Pulaski	58.50 342	P	P	13 01 35.2	-0.5
	baz=160,SNR=13					
V50A	Pikevile	58.51 344	P	P	13 01 35.6	-0.2
	baz=162,SNR=12					
T57A	Hurt	58.57 350	P	P	13 01 35.8	-0.3
	baz=168					
435B	Jarrell	58.57 331	P	P	13 01 36.5	+0.2
	baz=148					
U54A	Nelsons Funny	58.58 347	P	P	13 01 36.5	+0.3
	baz=166,SNR=7.2					
U53A	Fall Branch	58.58 347	P	P	13 01 35.8	-0.5
	baz=165					
OXF	Oxford	58.67 340	P	P	13 01 36.0	-0.9
	baz=157,SNR=7.5					
Z41A	Richland Creek	58.72 336	P	P	13 01 36.9	-0.4
	baz=154					
T56A	Rocky Mt	58.73 349	P	P	13 01 36.6	-0.7
	baz=168					
W47A	Westpoint	58.80 342	P	P	13 01 37.1	-0.7
	baz=159,SNR=9.2					
V49A	McMinnville	58.81 344	P	P	13 01 37.0	-0.8
	baz=161,SNR=9.5					
S60A	Water View	58.89 352	P	P	13 01 35.3	-3.0
	baz=171					
U51A	La Follette	58.92 345	P	P	13 01 37.4	-1.2
	baz=163					
W46A	Michie	58.92 341	P	P	13 01 36.8	-1.7
	baz=158					
T55A	Pulaski	58.95 349	P	P	13 01 39.4	+0.6
	baz=167,SNR=5.9					
TZTN	Tazewell	58.97 346	P	P	13 01 40.0	+1.0
	baz=164					
BLA	Blacksburg	58.98 349	eP	P	13 01 39.4	+0.4
	comp=Z,40nm,1.3s					
BLA			epP	pP	13 02 11.8	0.0
BLA			esP	sP	13 02 28.4	+1.6
BLA	Blacksburg	58.98 349	eP	P	13 01 39.4	+0.4
BLA			e*SP	sP	13 02 28.4	+1.6
BLA			pmax	pmax		
	comp=Z,40nm,1.3s					
BLA	Blacksburg	58.98 349	P	P	13 01 39.8	+0.8
	baz=167					
S58A	Poland Farm, P	58.99 351	P	P	13 01 39.9	+1.0
	baz=170					
S59A	Mechanicsville	59.03 352	P	P	13 01 35.8	-3.4
	baz=171					
V48A	Smith Brothers	59.03 343	P	P	13 01 39.0	-0.4
	baz=160,SNR=17					
T54A	Tazewell	59.05 348	P	P	13 01 39.6	+0.1
	baz=166					
U50A	Jamestown	59.15 345	P	P	13 01 39.6	-0.6
	baz=162,SNR=8.0					
X43A	Marvell	59.17 339	P	P	13 01 40.4	+0.1
	baz=156,SNR=6.0					
T53A	Wise	59.17 347	P	P	13 01 39.9	-0.5
	baz=165,SNR=5.9					
S57A	Dark Hollow, R	59.27 350	P	P	13 01 41.0	+0.1
	baz=169					
S56A	Natural Bridge	59.28 350	P	P	13 01 41.1	+0.1
	baz=168					
R58B	Mineral	59.31 351	P	P	13 01 40.4	-0.8
	baz=170					
V47A	Nunnelly	59.31 342	P	P	13 01 40.2	-1.1
	baz=160,SNR=6.7					
JCT	Junction City	59.37 329	P	P	13 01 41.8	-0.1
	baz=146,SNR=12					
T52A	Hallie	59.38 347	P	P	13 01 41.4	-0.4
	baz=164					
R59A	King George, V	59.44 352	P	P	13 01 42.0	-0.1
	baz=171					
R60A	Leonardtown, M	59.44 353	P	P	13 01 41.7	-0.3
	baz=171					
T51A	Gray	59.46 346	P	P	13 01 42.0	-0.3
	baz=164,SNR=5.5					
V46A	Holladay	59.46 342	P	P	13 01 41.1	-1.3
	baz=159					
CBN	Corbin Frederi	59.48 352	P	P	13 01 41.4	-0.9
	baz=171					
U49A	Red Boiling Sp	59.48 344	P	P	13 01 41.9	-0.6
	baz=162,SNR=5.3					
WHTX	Lake Whitney,	59.53 332	P	P	13 01 43.2	+0.3
	baz=149,SNR=8.2					
S55A	Lewisburg	59.54 349	P	P	13 01 43.4	+0.6
	baz=167,SNR=8.1					
R58A	Rapidan	59.65 351	P	P	13 01 44.0	+0.5
	baz=170					
U48A	Cassie Pea, Po	59.68 343	P	P	13 01 43.3	-0.5
	baz=161,SNR=9.7					
WVT	Waverly	59.69 342	eP	P	13 01 42.9	-1.0
	comp=Z,54nm,1.1s					
WVT	Waverly	59.69 342	eP	P	13 01 42.9	-1.0
WVT			pmax	pmax		
	comp=Z,55nm,1.1s					
WVT	Waverly	59.69 342	P	P	13 01 42.8	-1.0
	baz=159					
HPIG		59.71 321	eS	S	13 09 42.5	-2.7
R57A	Stanardsville	59.73 351	P	P	13 01 42.5	-1.5
	baz=169					
T50A	Nancy	59.73 345	P	P	13 01 43.5	-0.6
	baz=162,SNR=6.8					
S53A	Williamson	59.76 348	P	P	13 01 43.6	-0.7
	baz=166					
U47A	Clarksville	59.82 343	P	P	13 01 44.0	-0.8
	baz=160,SNR=15					
X40A	Basin Creek Fa	59.83 337	P	P	13 01 44.2	-0.7
	baz=154					
S52A	Salyersville	59.95 347	P	P	13 01 45.0	-0.7
	baz=164					
R55A	Marlinton	59.97 349	eP	P	13 01 46.8	+1.0
	comp=Z,34nm,1.1s					
R55A			epP	pP	13 02 20.7	+2.0
R55A			esP	sP	13 02 35.5	+1.8
R55A	Marlinton	59.97 349	P	P	13 01 46.4	+0.6
	baz=168					
T49A	Edmonton	59.98 344	eP	P	13 01 45.6	-0.2
	comp=Z,43nm,1.0s					
T49A			epP	pP	13 02 17.8	-1.1
T49A			esP	sP	13 02 32.7	-1.1
T49A	Edmonton	59.98 344	P	P	13 01 45.3	-0.5
	baz=162,SNR=17					
SLBS	Sierra La Lagu	60.00 316	eP	P	13 01 48.4	+2.0
	comp=Z,61nm,1.4s					
U46A	Springville	60.00 342	P	P	13 01 45.0	-0.9
	baz=159,SNR=5.1					
R54A	Victor	60.02 349	P	P	13 01 46.4	+0.2
	baz=167,SNR=5.2					
S51A	Beattyville	60.03 346	P	P	13 01 45.0	-1.2
	baz=164					
Q59A	Harwood	60.03 353	P	P	13 01 45.8	-0.3
	baz=171					
MIAR	Mount Ida	60.16 336	eP	P	13 01 47.0	-0.1
	comp=Z,46nm,1.0s					
MIAR	Mount Ida	60.16 336	eP	P	13 01 47.0	-0.1
MIAR			pmax	pmax		
	comp=Z,46nm,1.0s					
MIAR	Mount Ida	60.16 336	P	P	13 01 47.0	-0.1
	baz=153,SNR=20					
T48A	Bowling Green	60.21 344	P	P	13 01 46.5	-0.8
	baz=161,SNR=7.3					
W41B	Gary Mavity, V	60.23 338	P	P	13 01 47.3	-0.3
	baz=155,SNR=12					
S50A	Richmond	60.25 346	P	P	13 01 47.4	-0.3
	baz=163,SNR=12					
T47A	Sharon Grove	60.28 343	P	P	13 01 47.3	-0.6
	baz=160,SNR=22					
R53A	Hurricane	60.35 348	P	P	13 01 48.2	-0.2
	baz=166					
WHAR	Wooly Hollow	60.35 338	eP	P	13 01 48.3	-0.1
	comp=Z,30nm,1.0s					
TXAR	Lajitas Array	60.43 325	P	P	13 01 49.5	+0.3
	comp=Z,3.0nm,0.9s,baz=150,slow=8.2,SNR=31					
TXAR			pP	pP	13 02 22.2	0.0
	comp=Z,4.1nm,1.1s,baz=90,slow=2.5,SNR=4.8					
TXAR			sP	sP	13 02 37.4	+0.2
	comp=Z,5.8nm,0.9s,baz=140,slow=9.9,SNR=7.2					
VNA3	Neumayer Olymp	60.43 161	P	P	13 01 49.5	+1.0
Q57A	Strasburg	60.43 351	P	P	13 01 49.1	+0.2
	baz=170					
R52A	Catlettsburg	60.49 347	P	P	13 01 48.9	-0.4
	baz=165					
T46A	Princeton	60.55 342	P	P	13 01 49.2	-0.5
	baz=159,SNR=12					
S49A	Springfield	60.56 345	P	P	13 01 49.1	-0.7
	baz=162,SNR=6.5					
VNA1	Neumayer--Stat	60.63 161	P	P	13 01 51.4	+1.6
S48A	Wiedeman Farm,	60.64 344	P	P	13 01 49.2	-1.0
	baz=161,SNR=7.5					
Q55A	Buckhannon	60.66 350	P	P	13 01 51.4	+1.0
	baz=168					
R51A	Hillsboro	60.66 346	P	P	13 01 50.2	-0.2
	baz=164,SNR=6.3					
P59A	Jarrettsville	60.74 353	P	P	13 01 50.3	-0.6
	baz=172					
T45A	Paducah	60.75 342	eP	P	13 01 50.5	-0.6
	comp=Z,118nm,1.0s					
T45A			eS	S	13 09 54.1	-3.6
T45A	Paducah	60.75 342	P	P	13 01 50.1	-1.0
	baz=159					
Q54A	Coxs Mills	60.77 349	P	P	13 01 51.3	+0.1
	baz=167,SNR=5.4					
Q53A	Leroy	60.78 348	P	P	13 01 51.3	+0.1
	baz=166,SNR=8.9					
S47A	Hartford	60.79 343	P	P	13 01 50.4	-0.9
	baz=160,SNR=8.9					
R50A	Paris	60.81 346	P	P	13 01 49.7	-1.7
	baz=163					
W39A	Magazine	60.81 336	eP	P	13 01 51.9	+0.3
	comp=Z,58nm,0.9s					
W39A	Magazine	60.81 336	P	P	13 01 51.9	+0.3
	baz=153,SNR=24					
P60A	Greenville	60.86 354	P	P	13 01 51.1	-0.6
	baz=173					
VNA2	Neumayer--Watz	61.00 161	P	P	13 01 53.9	+1.5
	baz=285,slow=7.8					
R49A	Shelbyville	61.02 345	P	P	13 01 52.2	-0.7
	baz=162					
Q52A	Bidwell	61.02 348	P	P	13 01 52.2	-0.6
	baz=166					

ABTX	Abilene, Hawle	61.06 330	P	P	13 01 53.4	+0.1
	baz=147,SNR=14					
S46A	Don Dixon Farm	61.10 343	P	P	13 01 52.5	-0.9
	baz=160,SNR=5.3					
P55A	Reedsville	61.11 350	P	P	13 01 53.6	+0.1
	baz=168					
U41A	Viola	61.18 339	P	P	13 01 53.2	-0.8
	baz=155,SNR=14					
WCI	Wyandotte Cave	61.24 344	eP	P	13 01 53.5	-0.7
	comp=Z,112nm,1.8s					
WCI			eP	pP	13 02 26.9	-0.6
WCI			esP	sP	13 02 41.8	-0.6
WCI	Wyandotte Cave	61.24 344	eP	P	13 01 53.6	-0.7
WCI			e*SP	sP	13 02 41.8	-0.6
WCI			pmax	pmax		
	comp=Z,112nm,1.8s					
WCI	Wyandotte Cave	61.24 344	P	P	13 01 53.6	-0.7
	baz=161					
MCWV	Mont Chateau	61.26 350	P	P	13 01 54.6	+0.1
	baz=168					
Q50A	Georgetown	61.27 346	P	P	13 01 53.3	-1.2
	baz=164					
R48A	Northridge Ran	61.29 345	P	P	13 01 53.6	-1.0
	baz=162					
Q51A	Peebles	61.30 347	P	P	13 01 54.1	-0.7
	baz=164					
P54A	Burton	61.31 349	P	P	13 01 55.4	+0.6
	baz=168,SNR=8.1					
S45A	Carrier Mills	61.34 342	P	P	13 01 54.5	-0.5
	baz=159,SNR=8.3					
R47A	Wooly Knot Far	61.36 344	P	P	13 01 54.0	-1.1
	baz=161,SNR=5.4					
P53A	Whipple	61.36 349	P	P	13 01 55.0	-0.2
	baz=166,SNR=7.3					
O59A	Robesonia	61.41 353	P	P	13 01 54.6	-0.9
	baz=172					
U40A	Yellville	61.51 338	P	P	13 01 55.8	-0.4
	baz=154,SNR=19					
R46A	Gibon Southern	61.54 343	P	P	13 01 54.8	-1.5
	baz=160					
S44A	Carbondale	61.56 341	P	P	13 01 55.9	-0.5
	baz=158,SNR=7.8					
Q49A	Aurora	61.63 346	P	P	13 01 55.3	-1.6
	baz=163					
P52A	Corning	61.65 348	P	P	13 01 56.5	-0.6
	baz=166,SNR=6.5					
O56A	Blue Knob Stat	61.67 351	P	P	13 01 57.3	+0.1
	baz=170					
P51A	Williamsport	61.68 347	P	P	13 01 56.8	-0.5
	baz=165					
O55A	Ligonier	61.72 351	P	P	13 01 57.0	-0.5
	baz=169					
Q48A	North Vernon	61.76 345	P	P	13 01 57.0	-0.8
	baz=162,SNR=8.1					
R45A	Skylar, Fairfi	61.83 342	P	P	13 01 57.4	-0.9
	baz=159,SNR=12					
HHAR	Hobbs	61.84 337	eP	P	13 01 58.2	-0.2
	comp=Z,55nm,1.1s					
O54A	Avella	61.86 350	P	P	13 01 57.2	-1.3
	baz=168					
PAL	Palisades	61.89 355	P	P	13 01 57.7	-0.9
	baz=174					
SSPA	Standing Stone	61.94 352	P	P	13 01 58.5	-0.4
	baz=170					
Q47A	Bedord North L	61.94 344	P	P	13 01 58.3	-0.7
	baz=161,SNR=6.1					
P50A	Jamestown	61.96 347	P	P	13 01 58.6	-0.6
	baz=164,SNR=5.9					
N59A	State Game Lan	61.97 354	P	P	13 01 59.1	-0.1
	baz=172					
O52A	Adamsville	62.05 348	P	P	13 01 58.7	-1.1
	baz=166					
O53A	New Philadelph	62.07 349	P	P	13 01 59.6	-0.2
	baz=167					
P49A	Miami Univ. Ec	62.09 346	P	P	13 01 59.0	-1.0
	baz=163,SNR=5.0					
FVM	French Village	62.18 341	P	P	13 02 00.5	-0.2
FVM			pmax	pmax		
	comp=Z,127nm,1.2s					
BLO	Bloomington	62.18 344	P	P	13 02 00.4	-0.3
BLO			pmax	pmax		
	comp=Z,30nm,0.9s					
P48A	Milroy	62.19 345	P	P	13 01 59.3	-1.4
	baz=162					
TUL1	Leonard	62.21 335	P	P	13 02 00.8	-0.2
	baz=151,SNR=12					
N55A	Marion Center	62.23 351	P	P	13 02 01.5	+0.6
	baz=169,SNR=5.8					
O51A	Pataskala	62.23 348	P	P	13 02 00.1	-0.9
	baz=165					
S41A	Jillco Farms,	62.24 339	P	P	13 02 00.6	-0.5
	baz=156,SNR=28					
Q45A	Warren Harvey,	62.36 343	P	P	13 02 00.8	-1.0
	baz=160,SNR=10					
ACSO	Alum Creek Sta	62.39 348	P	P	13 02 01.3	-0.7
	baz=165					
P47A	Martinsville	62.42 345	P	P	13 02 01.5	-0.7
	baz=162,SNR=5.6					
O50A	Cable	62.44 347	P	P	13 02 01.4	-1.0
	baz=164					
WMOK	Wichita Mounta	62.45 332	P	P	13 02 01.9	-0.7
	baz=148,SNR=7.4					
CCM	Cathedral Cave	62.51 340	eP	P	13 02 02.5	-0.3
	comp=Z,65nm,1.0s					
CCM			epP	pP	13 02 34.5	-1.4
CCM			esP	sP	13 02 51.0	+0.1
CCM	Cathedral Cave	62.51 340	eP	P	13 02 02.5	-0.3
CCM			pmax	pmax		
	comp=Z,65nm,1.0s					
CCM	Cathedral Cave	62.51 340	P	P	13 02 02.5	-0.3
	baz=156					
N54A	Moraine State	62.56 350	eP	P	13 02 03.9	+0.7
	comp=Z,73nm,1.4s					
N54A			epP	pP	13 02 37.0	+0.7
N54A			esP	sP	13 02 53.6	+2.3
N54A	Moraine State	62.56 350	P	P	13 02 03.5	+0.4
	baz=168					
SNAA	Sanae	62.63 161	P	P	13 02 04.2	+0.9
SNAA	Sanae	62.63 161	eP	P	13 02 04.3	+0.9
	comp=Z,22nm,0.8s					
SNAA			epP	pP	13 02 38.9	+2.3
SNAA	Sanae	62.63 161	P	P	13 02 04.3	+0.9
	comp=Z,22nm,0.8s,baz=279,slow=7.4,SNR=111					
O49A	Covington	62.63 346	P	P	13 02 03.0	-0.6
	baz=164,SNR=6.7					
N52A	McGinn's Farm,	62.70 349	P	P	13 02 03.5	-0.6
	baz=166					
R41A	Rosebud	62.77 340	P	P	13 02 04.1	-0.5
	baz=156,SNR=26					
P46A	Rosedale	62.78 344	P	P	13 02 03.3	-1.3
	baz=161					
P45A	Graceland, Par	62.84 343	P	P	13 02 04.0	-1.0
	baz=160,SNR=8.5					
M55A	Ridgway	62.87 351	P	P	13 02 04.3	-0.9
	baz=169					
O48A	Farmland	62.88 346	P	P	13 02 04.3	-1.0
	baz=163					
N51A	Ashland	62.93 348	P	P	13 02 05.1	-0.5
	baz=166					
N50A	Nevada	62.94 348	P	P	13 02 04.7	-1.0
	baz=165					
M54A	Oil Creek Stat	63.04 351	eP	P	13 02 06.6	+0.3
	comp=Z,40nm,1.4s					
M54A			epP	pP	13 02 39.8	+0.2
M54A	Oil Creek Stat	63.04 351	P	P	13 02 06.2	-0.1
	baz=168					
Q42A	Golden Eagle	63.07 341	P	P	13 02 06.0	-0.5
	baz=157,SNR=8.4					
O47A	Sheridan	63.10 345	P	P	13 02 05.8	-0.9
	baz=162,SNR=6.3					
MNTX	Cornudas Mount	63.20 325	P	P	13 02 07.1	-0.5
	baz=141,SNR=21					
ALLY	Alegheny Colle	63.26 350	eP	P	13 02 05.0	-2.7
	comp=Z,139nm,1.8s					
ALLY			epP	pP	13 02 40.4	-0.6
N49A	Columbus Grove	63.30 347	eP	P	13 02 07.7	-0.4
	comp=Z,69nm,1.1s					
N49A			epP	pP	13 02 40.4	-0.9
N49A			esP	sP	13 02 56.1	-0.1
N49A	Columbus Grove	63.30 347	P	P	13 02 07.5	-0.6
	baz=164,SNR=8.0					
M52A	Chesterland	63.35 349	P	P	13 02 07.6	-0.7
	baz=167					
N48A	Decatur	63.43 346	P	P	13 02 08.2	-0.6
	baz=163					
P43A	Skaggs, Pawnee	63.44 342	P	P	13 02 08.1	-0.8
	baz=158,SNR=10					
SFIN	Lafayette	63.47 344	eP	P	13 02 08.6	-0.5
	comp=Z,32nm,1.0s					
SFIN			epP	pP	13 02 41.3	-1.1
SFIN			esP	sP	13 02 56.9	-0.4
SFIN	Lafayette	63.47 344	P	P	13 02 08.2	-0.9
	baz=161					
O45A	Potomac	63.51 344	P	P	13 02 08.2	-1.2
	baz=160,SNR=5.7					
L55A	Hinsdale	63.53 352	P	P	13 02 09.0	-0.6
	baz=170					
M50A	Fremont	63.53 348	P	P	13 02 09.4	-0.1
	baz=165					
L53A	Girard	63.57 350	P	P	13 02 09.3	-0.5
	baz=168					
N47A	Urbana	63.60 346	P	P	13 02 08.3	-1.7
	baz=162					
O44A	Mansfield	63.62 343	P	P	13 02 07.9	-2.2
	baz=159					
MSTX	Muleshoe	63.66 329	P	P	13 02 10.0	-0.6
	baz=144,SNR=21					
L54A	Sinclairville	63.70 351	P	P	13 02 11.0	+0.4
	baz=169					
PLIO	Pelee Island,	63.79 348	P	P	13 02 10.1	-1.0
	baz=166					
N46A	Monticello	63.87 345	P	P	13 02 11.8	+0.1
	baz=161					
AMTX	Amarillo	63.88 330	P	P	13 02 11.4	-0.7
	baz=146					
M48A	Edgerton	63.96 347	P	P	13 02 11.1	-1.2
	baz=163					
N45A	Kentland	64.02 344	P	P	13 02 10.7	-2.0
	baz=160					
M47A	Cromwell	64.04 346	P	P	13 02 12.0	-0.9
	baz=162					
N44A	Piper City	64.13 344	P	P	13 02 11.6	-1.9
	baz=160					
HDIL	Hopedale	64.22 343	P	P	13 02 12.8	-1.3
	baz=159					
L48A	N Adams	64.33 347	P	P	13 02 13.7	-1.1
	baz=164					
L49A	Milan	64.36 347	P	P	13 02 13.6	-1.3
	baz=164					
HSIG		64.40 319	eP	P	13 02 16.6	+1.1
	comp=Z,45nm,1.4s					
HSIG			epP	pP	13 02 48.2	-0.6
HSIG			esP	sP	13 03 03.7	+0.1
K52A	Tillsonburg	64.45 350	P	P	13 02 14.2	-1.3
	baz=168					
MEDO	Medina	64.50 352	P	P	13 02 15.2	-0.6
	baz=170					
J55A	Hilton	64.52 352	P	P	13 02 13.9	-2.0
	baz=171					
AAM	Ann Arbor	64.52 348	P	P	13 02 14.6	-1.3
	baz=164					
K51A	Iona Station	64.53 349	P	P	13 02 15.3	-0.7
	baz=167					
N43A	Stutzman Famil	64.54 343	P	P	13 02 15.1	-1.1
	baz=159,SNR=10					
M44A	Midewin, Midew	64.66 344	P	P	13 02 15.3	-1.6
	baz=160					
N41A	Harden Midland	64.81 341	P	P	13 02 15.9	-2.0
	baz=157					
L46A	Eue Claire	64.82 345	P	P	13 02 16.4	-1.5
	baz=162					
M43A	Waltham Townsh	64.95 343	P	P	13 02 17.5	-1.3
	baz=159					
PECO	Prince Edward	65.08 353	P	P	13 02 17.8	-1.8
	baz=171					
K48A	Perry	65.09 347	P	P	13 02 19.0	-0.7
	baz=164					
121A	Cookes Peak, D	65.14 324	P	P	13 02 22.0	+1.5
	baz=140,SNR=22					
N40A	Mertquake, Sal	65.19 341	P	P	13 02 19.6	-0.8
	baz=156,SNR=6.9					
WLVO	Wesleyville	65.24 352	P	P	13 02 18.3	-2.2
	baz=170					
KSU1	Kansas State U	65.32 336	P	P	13 02 20.3	-0.9
	baz=151,SNR=7.4					
M41A	Milan	65.34 342	P	P	13 02 20.3	-1.0
	baz=158					
K46A	Dorr	65.34 346	P	P	13 02 19.6	-1.7
	baz=162					
L44A	Lake County Fo	65.37 344	P	P	13 02 18.7	-2.8
	baz=160					
I55A	Frankford	65.44 353	P	P	13 02 23.5	+1.6
	baz=171					
J49A	Marlette	65.44 348	P	P	13 02 22.7	+0.8
	baz=165					
I51A	Listowel	65.50 350	P	P	13 02 23.0	+0.7
	baz=167					
LONY	Lake Ozonia	65.53 355	P	P	13 02 23.5	+1.0
	baz=174					
L43A	Garden Prairie	65.59 344	P	P	13 02 21.8	-1.0
	baz=159,SNR=5.2					
M39A	Webster	65.92 341	P	P	13 02 24.2	-0.8
	baz=156,SNR=6.4					
PKME	Peaks-Kenny Pk	65.95 359	P	P	13 02 25.1	0.0
	baz=179					
L41A	Preston	65.97 342	P	P	13 02 23.4	-1.9
	baz=158					
L40A	Anamosa	66.17 342	P	P	13 02 25.6	-0.9
	baz=157,SNR=5.5					
PLVO	Plevna	66.18 353	P	P	13 02 26.2	-0.4
	baz=171					
ANMO	Albuquerque	66.28 327	eP	P	13 02 28.3	+0.6
	comp=Z,16nm,1.1s					
ANMO			epP	pP	13 03 00.3	-1.0
ANMO			esP	sP	13 03 16.7	+0.6
ANMO	Albuquerque	66.28 327	ceP	P	13 02 28.6	+0.9
ANMO			pmax	pmax		
	comp=Z,36nm,1.7s					
ANMO	Albuquerque	66.28 327	P	P	13 02 28.5	+0.7
	baz=141					
TASM	ASL Pad, Albuq	66.28 327	P	P	13 02 28.7	+1.0
	baz=141,SNR=20					
TASM	ASL Pad, Albuq	66.28 327	P	P	13 02 28.8	+1.0
	baz=141,SNR=20					
K42A	Prairie Point,	66.30 343	P	P	13 02 26.8	-0.7
	baz=159					
CBKS	Cedar Bluff	66.31 334	P	P	13 02 28.0	+0.4
	baz=148,SNR=15					
K41A	Shullsburg	66.41 343	P	P	13 02 27.2	-0.9
	baz=158					
L39A	Vinton	66.45 341	P	P	13 02 27.8	-0.6
	baz=156,SNR=7.6					
J43A	Natural Harves	66.62 344	P	P	13 02 28.6	-0.9
	baz=160					
SCIA	State Center	66.63 340	P	P	13 02 28.9	-0.7
	baz=155					
TUC	Tucson	66.67 322	eP	P	13 02 31.0	+0.9
	comp=Z,50nm,1.4s					
TUC			epP	pP	13 03 03.7	0.0
TUC			esP	sP	13 03 19.7	+1.1
TUC	Tucson	66.67 322	eP	P	13 02 31.0	+0.9
TUC			e*PP	pP	13 03 03.7	0.0
TUC			pmax	pmax		
	comp=Z,50nm,1.4s					
TUC	Tucson	66.67 322	P	P	13 02 31.5	+1.4
	baz=137					
JFWS	Jewell Farm	66.67 343	P	P	13 02 29.3	-0.5
	baz=158					
K40A	Colesburg	66.73 342	P	P	13 02 29.3	-0.9
	baz=157,SNR=9.2					
J42A	Columbus	66.75 344	P	P	13 02 29.7	-0.6
	baz=159					
H47A	Mio	66.84 348	P	P	13 02 30.1	-0.7
	baz=164					
K39A	Oelwein	66.95 341	P	P	13 02 30.9	-0.6
	baz=156,SNR=9.4					
H46A	Fife Lake	66.98 347	P	P	13 02 30.5	-1.2
	baz=163					
T25A	Trinidad	67.00 329	P	P	13 02 33.1	+0.8
	baz=144,SNR=10					
J41A	Loganville	67.03 343	P	P	13 02 31.4	-0.6
	baz=158,SNR=6.0					
I43A	Langenfeld Bro	67.03 345	P	P	13 02 31.1	-0.9
	baz=160					
I42A	Draeger Farm,	67.23 344	eP	P	13 02 33.2	0.0
	comp=Z,72nm,1.3s					
I42A	Draeger Farm,	67.23 344	P	P	13 02 32.8	-0.4
	baz=160					
J40A	Soldiers Grove	67.26 343	P	P	13 02 33.1	-0.4
	baz=158					
G47A	Hillman	67.32 348	P	P	13 02 33.6	-0.2
	baz=165					
F51A	Arnstein	67.41 351	P	P	13 02 34.0	-0.4
	baz=169					
J39A	Decorah	67.48 342	P	P	13 02 34.1	-0.7
	baz=157,SNR=7.3					
H43A	Windswept, Lux	67.49 345	P	P	13 02 33.8	-1.1
	baz=161					
E53A	Dumoine, Ponti	67.57 353	P	P	13 02 34.0	-1.3
	baz=171					
F49A	Sandfield	67.57 350	P	P	13 02 34.7	-0.7
	baz=166					
E54A	Lac Daplat, Po	67.57 354	P	P	13 02 33.9	-1.4
	baz=171					
214A	Organ Pipe Nat	67.61 320	P	P	13 02 37.8	+1.8
	baz=135,SNR=20					
I41A	Arkdale	67.63 344	P	P	13 02 37.0	+1.2
	baz=159					
I40A	Norwalk	67.68 343	P	P	13 02 35.5	-0.6
	baz=158					
KSCO	Kaye Shedlock'	67.70 332	P	P	13 02 37.2	+0.7
	baz=146					
H42A	Shiocton	67.71 345	P	P	13 02 36.0	-0.3
	baz=160					
I39A	Houston	67.90 342	P	P	13 02 37.0	-0.5
	baz=157,SNR=6.9					
LIC	Lamto	67.90 74	eP	P	13 02 36.8	-1.4
	comp=Z,139nm,1.4s					
BGNE	Belgrade	67.90 336	P	P	13 02 37.9	+0.3
	baz=150,SNR=13					
SDCO	Great Sand Dun	68.00 329	P	P	13 02 39.9	+1.2
	baz=143,SNR=58					
TIC	Toumodi	68.09 73	eP	P	13 02 38.4	-1.0
H41A	Junction City	68.10 344	P	P	13 02 37.2	-1.5
	baz=159					
W18A	Petrified Fore	68.15 324	P	P	13 02 40.3	+0.8
	baz=139					
KIC	Kosan Boka	68.22 74	eP	P	13 02 38.9	-1.3
	comp=Z,138nm,0.9s					
DBIC	Dimbokro	68.25 73	P	P	13 02 40.0	-0.3
DBIC			pmax	pmax		
	comp=Z,64nm,0.9s					
DBIC	Dimbokro	68.25 73	P	P	13 02 40.0	-0.3
	comp=Z,64nm,0.9s,baz=217,slow=6.6,SNR=47					
H40A	Chili	68.30 343	P	P	13 02 39.5	-0.5
	baz=158					
E47A	Iron Bridge	68.45 349	P	P	13 02 43.2	+2.3
	baz=165					
D51A	Lot 18 Range I	68.48 352	P	P	13 02 42.9	+1.8
	baz=169					
X16A	Lo Mia Camp, P	68.58 323	eP	P	13 02 43.9	+1.7
	comp=Z,26nm,1.1s					
X16A			epP	pP	13 03 16.2	+0.2
X16A			esP	sP	13 03 32.3	+1.6
H39A	Augusta	68.59 343	P	P	13 02 41.3	-0.5
	baz=157					
S22A	4UR Ranch, Cre	68.65 328	P	P	13 02 43.6	+0.9
	baz=142,SNR=13					
Q24A	Divide	68.81 330	eP	P	13 02 44.7	+1.0
	comp=Z,48nm,1.1s					
Q24A			epP	pP	13 03 17.3	-0.2
Q24A			esP	sP	13 03 33.1	+0.8
Q24A	Divide	68.81 330	P	P	13 02 44.8	+1.1
	baz=144,SNR=12					
H38A	Maiden Rock	68.87 342	P	P	13 02 43.2	-0.4
	baz=156					
D48A	Paudash Townsh	68.91 350	P	P	13 02 42.9	-0.8
	baz=167					
D49A	Beulah Townshi	68.93 351	P	P	13 02 45.5	+1.7
	baz=167					
F41A	Three Lakes	69.00 345	P	P	13 02 44.0	-0.3
	baz=160					
OGNE	Ogallala	69.05 333	eP	P	13 02 45.6	+0.7
	comp=Z,39nm,1.0s					
OGNE			ePcP	PcP	13 03 06.1	-1.9
OGNE			epP	pP	13 03 19.2	+0.6
OGNE	Ogallala	69.05 333	P	P	13 02 45.6	+0.7
	baz=147,SNR=8.5					
MVCO	Mesa Verde	69.08 327	P	P	13 02 46.3	+1.0
	baz=140,SNR=22					
G39A	Holcombe	69.12 343	P	P	13 02 44.6	-0.5
	baz=158					
QSPA	South Pole Qui	69.19 180	eP	P	13 02 47.1	+1.6
	comp=Z,66nm,1.1s					
QSPA	South Pole Qui	69.19 180	P	P	13 02 47.3	+1.8
	comp=Z,28nm,0.6s,baz=216,slow=0.3,SNR=194					
G38A	Ridgeland	69.20 343	P	P	13 02 44.6	-1.0
	baz=157					
WUAZ	Wupatki	69.34 324	P	P	13 02 48.6	+1.7
	baz=138,SNR=38					
E42A	Champion	69.37 346	P	P	13 02 47.2	+0.6
	baz=161					
ECSD	EROS Data Cent	69.39 339	P	P	13 02 46.6	-0.2
	baz=152,SNR=18					
F40A	Park Falls	69.43 344	P	P	13 02 47.0	0.0
	baz=159,SNR=6.1					
SPMN	Marine on St.	69.52 342	P	P	13 02 46.9	-0.6
	baz=156					
GLA	Glamis	69.59 320	eP	P	13 02 49.8	+1.5
	comp=Z,24nm,1.1s					
GLA			epP	pP	13 03 22.2	+0.1
GLA			esP	sP	13 03 38.7	+1.7
GLA	Glamis	69.59 320	eP	P	13 02 49.8	+1.5
GLA			pmax	pmax		
	comp=Z,24nm,1.1s					
GLA	Glamis	69.59 320	P	P	13 02 50.0	+1.7
	baz=134,SNR=9.7					
F39A	Loretta	69.63 344	P	P	13 02 48.2	0.0
	baz=158					
E41A	Kenton	69.65 345	P	P	13 02 49.5	+1.2
	baz=160					
ISCO	Idaho Springs	69.69 330	P	P	13 02 50.1	+1.0
	baz=143,SNR=20					
E40A	Wakefield	69.86 344	P	P	13 02 49.6	0.0
	baz=159					
Y12C	Blythe	69.89 320	P	P	13 02 51.9	+1.8
	baz=134,SNR=19					
F37A	Hinrichs Farm,	69.93 342	P	P	13 02 49.9	-0.1
	baz=156					
F38A	Pierce - Schro	69.93 343	P	P	13 02 49.8	-0.2
	baz=157					
E39A	Mellen	69.97 344	P	P	13 02 50.1	-0.1
	baz=158					
PDMCI	Parker Dam,Lak	70.06 321	P	P	13 02 50.4	-0.6
	baz=135					
IKP	In-Ko-Pah, Jac	70.10 319	P	P	13 02 53.3	+1.8
	baz=133,SNR=16					
SWSC	Sam W. Stewart	70.11 319	P	P	13 02 53.1	+1.7
	baz=133,SNR=7.9					
D41A	Chassel	70.12 346	P	P	13 02 53.9	+2.8
	baz=160					
BC3	Big Chuckawall	70.39 320	P	P	13 02 54.9	+1.7
	baz=134,SNR=36					
E38A	The Farm, Brul	70.44 343	P	P	13 02 52.6	-0.5
	baz=157					
MONP2	Monument Peak	70.46 319	P	P	13 02 55.6	+1.8
	baz=133,SNR=14					
BAR	Barrett	70.47 318	eP	P	13 02 55.6	+2.0
	comp=Z,38nm,1.0s					
BAR			epP	pP	13 03 28.4	+0.8
BAR			esP	sP	13 03 44.0	+1.7
IRM	Iron Mountain	70.55 320	P	P	13 02 55.8	+1.7
	baz=134,SNR=33					
NEE2	Needles Airpor	70.66 321	P	P	13 02 55.9	+1.2
	baz=135					
N23A	Red Feather La	70.72 331	P	P	13 02 56.6	+1.3
	baz=143,SNR=14					
CHGQ	Chibougamau	70.78 356	P	P	13 02 58.3	+3.2
	baz=174					
SUSD	Miller	70.83 337	P	P	13 02 55.3	-0.2
	baz=150					
109C	Camp Elliot, M	70.88 318	P	P	13 02 57.5	+1.4
	baz=132,SNR=5.3					
BELC	Belle Mtn. Jos	70.95 320	P	P	13 02 58.2	+1.5
	baz=134,SNR=24					
PFO	Pinyon Flats O	70.97 319	eP	P	13 02 58.3	+1.5
	comp=Z,28nm,1.1s					
PFO	Pinyon Flats O	70.97 319	eP	P	13 02 58.3	+1.5
PFO			pmax	pmax		
	comp=Z,28nm,1.1s					
PFO	Pinyon Flats O	70.97 319	P	P	13 02 58.5	+1.7
	baz=133,SNR=21					
O20A	White River Ci	71.20 329	eP	P	13 02 58.4	+0.3
	comp=Z,39nm,1.0s					
O20A			epP	pP	13 03 30.8	-1.3
O20A	White River Ci	71.20 329	P	P	13 02 59.5	+1.3
	baz=141,SNR=18					
GMRC	Granite Mounta	71.29 320	P	P	13 03 00.6	+1.9
	baz=134,SNR=40					
MURC	Murrieta	71.41 319	P	P	13 03 01.0	+1.6
	baz=132,SNR=8.1					
SRU	San Rafael Swe	71.56 327	P	P	13 03 01.5	+1.2
SRU			pmax	pmax		

comp=Z,39nm,1.0s
EYMN Ely 71.66 344 P **P 13 02 59.0 -1.5**
baz=158
BBRC Big Bear Solar 71.69 319 P **P 13 03 03.3 +2.1**
baz=133,SNR=7.0
HEC Hector,Ludlow 71.72 320 P **P 13 03 03.0 +1.8**
baz=133,SNR=21
SCI2 San Clemente I 71.85 317 P **P 13 03 03.2 +1.3**
baz=131
TUQ Turquoise Moun 71.89 321 P **P 13 03 03.9 +1.6**
baz=134,SNR=17
CIS Catalina Islan 72.04 318 P **P 13 03 04.6 +1.5**
baz=132
BFSC Mount Baldy Ra 72.13 319 P **P 13 03 05.3 +1.5**
baz=132,SNR=19
RRX Edison Barstow 72.15 320 P **P 13 03 05.5 +1.8**
baz=133
FMP Fort Macarthur 72.17 318 P **P 13 03 05.5 +1.7**
baz=132
GSC Goldstone, Bar 72.33 320 P **P 13 03 06.8 +2.0**
GSC pmax pmax
comp=Z,74nm,1.5s
GSC Goldstone, Bar 72.33 320 P **P 13 03 06.7 +1.9**
baz=133,SNR=25
MWC Mount Wilson 72.36 319 P **P 13 03 07.0 +1.8**
K22A Casper 72.38 332 P **P 13 03 06.1 +1.0**
baz=143,SNR=9.1
SHOC Shoshone, Teco 72.42 321 P **P 13 03 06.7 +1.4**
baz=134,SNR=11
RSSD Black Hills 72.51 334 *e*P **P 13 03 06.6 +0.7**
comp=Z,18nm,0.9s
RSSD *e*pP **pP 13 03 39.3 -0.7**
RSSD *e*sP **sP 13 03 55.5 +0.9**
RSSD Black Hills 72.51 334 *e*P **P 13 03 06.6 +0.7**
RSSD pmax pmax
comp=Z,19nm,0.9s
RSSD Black Hills 72.51 334 P **P 13 03 06.8 +0.9**
baz=146
DECC Green Verdugo 72.55 318 P **P 13 03 07.8 +1.7**
baz=132,SNR=12
SNCC San Nicolas Is 72.64 317 P **P 13 03 06.8 +0.2**
baz=131
EDW2 Edwards Air Fo 72.76 319 P **P 13 03 08.6 +1.2**
baz=132,SNR=13
BLG Laguna Peak, P 72.92 318 P **P 13 03 09.6 +1.3**
baz=131
LRMC Laurel Mtn Rad 72.97 320 P **P 13 03 10.1 +1.4**
baz=133,SNR=19
OSI Osito Audit: C 73.03 319 P **P 13 03 10.4 +1.4**
baz=132
TPNV Topopah Spring 73.13 322 P **P 13 03 11.7 +2.1**
baz=134
FURC Furnace Creek, 73.15 321 P **P 13 03 11.5 +2.0**
baz=133,SNR=31
SCZ2 Santa Cruz Isl 73.20 318 P **P 13 03 11.5 +1.6**
baz=131
AGMN Agassiz Nation 73.20 341 P **P 13 03 09.4 -0.2**
baz=154,SNR=9.0
MPMC Manual Prospec 73.25 320 P **P 13 03 11.8 +1.5**
baz=133,SNR=16
ARVC Arvin 73.44 319 P **P 13 03 12.5 +1.2**
baz=132
DAC Darwin (Calif) 73.46 320 *e*P **P 13 03 15.3 +3.8**
comp=Z,29nm,1.0s
DAC *e*pP **pP 13 03 47.2 +1.4**
DAC *e*sP **sP 13 04 03.7 +3.2**
DAC Darwin (Calif) 73.46 320 *e*P **P 13 03 15.4 +3.8**
DAC *e**PP **pP 13 03 47.2 +1.4**
DAC pmax pmax
comp=Z,29nm,1.0s
SBC Santa Barbara 73.54 318 P **P 13 03 13.7 +1.9**
baz=131
DUG Dugway, Tooele 73.55 326 P **P 13 03 13.6 +1.6**
DUG Dugway, Tooele 73.55 326 P **P 13 03 13.6 +1.6**
baz=137,SNR=32
ISA Isabella, Lake 73.58 319 P **P 13 03 14.2 +2.0**
ISA Isabella, Lake 73.58 319 P **P 13 03 14.0 +1.9**
baz=132,SNR=34
R11A Troy Canyon, C 73.72 323 P **P 13 03 14.9 +1.8**
baz=135,SNR=35
GRAC Grapevine Rang 73.81 321 P **P 13 03 15.4 +2.0**
baz=133
CWC Cottonwood Cre 73.86 320 P **P 13 03 15.7 +1.8**
baz=132
BW06 Boulder Array 73.86 330 P **P 13 03 14.5 +0.6**
baz=140,SNR=16
PDAR Pinedale Array 73.86 330 *e*P **P 13 03 14.0 +0.2**
PDAR *e*pP **pP 13 03 48.4 +0.3**
PDAR *e*sP **sP 13 04 03.0 +0.2**
PDAR Pinedale Array 73.86 330 P **P 13 03 14.6 +0.7**
comp=Z,4.4nm,0.9s,baz=150,slow=6.7,SNR=31
PDAR pP **pP 13 03 48.6 +0.5**
comp=Z,2.2nm,0.8s,baz=140,slow=5.3,SNR=2.6
PDAR sP **sP 13 04 03.3 +0.5**
comp=Z,5.9nm,1.1s,baz=152,slow=4.4,SNR=3.1
PKM Mcpherson Peak 73.89 318 P **P 13 03 15.8 +1.6**
baz=131,SNR=11
MDND Maddock 74.00 339 P **P 13 03 15.0 +0.7**
baz=150,SNR=5.8
VES Vestal, Richgr 74.06 319 P **P 13 03 16.5 +1.6**
baz=132,SNR=13
SMMC Simmler 74.28 318 P **P 13 03 18.0 +1.8**
baz=131
TIN Tinemaha, Big 74.36 321 P **P 13 03 18.3 +1.6**
baz=132,SNR=5.0
VOG Valley Oaks Go 74.56 319 P **P 13 03 18.2 +0.5**
baz=132
ULM Lac du Bonnet 74.95 342 P **P 13 03 19.5 -0.2**
comp=Z,9.4nm,0.6s,baz=149,slow=6.5,SNR=20
ULM pP **pP 13 03 53.5 -0.4**
comp=Z,9.7nm,0.8s,baz=161,slow=3.7,SNR=4.3
ULM sP **sP 13 04 09.0 +0.4**
comp=Z,19nm,1.0s,baz=156,slow=5.7,SNR=4.8
MLAC Mammoth, Mammo 75.10 321 P **P 13 03 22.8 +1.6**
baz=132,SNR=11
ELK Elko 75.22 325 *e*P **P 13 03 22.4 +0.6**
comp=Z,18nm,1.3s
ELK *e*pP **pP 13 03 56.0 0.0**
ELK *e*sP **sP 13 04 11.1 +0.4**
ELK Elko 75.22 325 *e*P **P 13 03 22.4 +0.6**
ELK pmax pmax
comp=Z,18nm,1.3s
NV01 Mina Array Sit 75.33 322 *e*P **P 13 03 24.0 +1.6**
NV01 *e*pP **pP 13 03 58.0 +1.3**
NV01 *e*sP **sP 13 04 12.7 +1.4**
NVAR Mina Array Bea 75.33 322 *e*P **P 13 03 23.4 +1.0**
NVAR *e*pP **pP 13 03 57.8 +1.1**
NVAR *e*sP **sP 13 04 11.7 +0.4**
NVAR Mina Array Bea 75.33 322 P **P 13 03 24.0 +1.6**
comp=Z,12nm,1.0s,baz=151,slow=6.5,SNR=64
NVAR pP **pP 13 03 58.0 +1.3**
comp=Z,6.5nm,1.0s,baz=134,slow=5.3,SNR=5.1
NVAR sP **sP 13 04 12.7 +1.4**
comp=Z,10nm,1.0s,baz=144,slow=7.5,SNR=6.0
IMW Indian Meadow 75.38 330 *e*P **P 13 03 23.6 +1.0**
comp=Z,40nm,1.1s
IMW *e*pP **pP 13 03 58.0 +1.0**
IMW *e*sP **sP 13 04 12.1 +0.4**
LAO LASA Array 75.49 334 P **P 13 03 23.8 +0.9**
baz=144,SNR=15
RLMT Red Lodge 75.55 331 P **P 13 03 24.9 +1.4**
baz=141,SNR=25
H17A Grant Village 75.58 330 P **P 13 03 25.6 +1.8**
baz=140,SNR=10
KVN Kaiserville 75.63 322 P **P 13 03 25.6 +1.5**
PPT Papeete 75.79 256 P **P 13 03 28.3 +3.0**
comp=Z,34nm,1.1s,baz=166,slow=5.8,SNR=4.6
BMN Battle Mountai 76.08 324 P **P 13 03 27.3 +0.7**
DGMT Dagmar 76.16 336 P **P 13 03 27.9 +1.2**
baz=146,SNR=6.6
CMB Columbia Colle 76.29 320 P **P 13 03 29.3 +1.6**
SBA Scott Base 76.38 190 *e*P **P 13 03 30.3 +2.7**
comp=Z,22nm,1.3s
SBA Scott Base 76.38 190 *e*P **P 13 03 30.3 +2.7**
SBA pmax pmax
comp=Z,22nm,1.3s
PNTR Pine Nut 76.52 321 *e*P **P 13 03 30.8 +1.6**
comp=Z,30nm,1.0s
PNTR *e*pP **pP 13 04 04.2 +0.7**
VCNR Virginia City 76.69 322 *e*P **P 13 03 31.0 +0.9**
comp=Z,30nm,1.2s
VCNR *e*pP **pP 13 04 04.9 +0.4**
PAHR Pah Rah Range 76.81 322 *e*P **P 13 03 32.0 +1.3**
comp=Z,52nm,1.0s
PAHR *e*pP **pP 13 04 05.3 +0.2**
PAHR *e*sP **sP 13 04 20.4 +0.7**
HLID Hailey 76.82 328 P **P 13 03 32.5 +1.9**
baz=137,SNR=67
RUBR Rubicon Trail 76.82 321 *e*P **P 13 03 31.4 +0.6**
comp=Z,29nm,1.2s
RUBR *e*pP **pP 13 04 06.5 +1.3**
RUBR *e*sP **sP 13 04 21.5 +1.6**
SYO Syowa Base 76.84 159 ‖ *e*P **P 13 03 30.0 -0.2**
SYO Syowa Base 76.84 159 ‖ *e*PcP **PcP 13 03 38.6 -2.3**
SYO Syowa Base 76.84 159 ‖ *e*P pP 13 04 05.8 +1.2
SYO Syowa Base 76.84 159 ‖ *e*sP sP 13 04 14.2 -5.1
TOA0 Torodi Ar. Sit 76.85 70 *e*P **P 13 03 30.6 -0.6**
comp=Z,55nm,0.6s
TOA0 *e*pP **pP 13 04 09.7 +4.1**
TOA1 Torodi Ar. Sit 76.85 70 *e*P **P 13 03 29.9 -1.3**
TOA1 *e*pP **pP 13 04 04.5 -1.1**
TORD Torodi Ar. Bea 76.85 70 P **P 13 03 29.9 -1.3**
comp=Z,6.8nm,0.5s,baz=246,slow=5.0,SNR=117
TORD pP **pP 13 04 04.5 -1.1**
comp=Z,3.7nm,0.5s,baz=256,slow=5.3,SNR=0.9
BOZ Bozeman (W) 76.98 330 *e*P **P 13 03 32.4 +0.9**
comp=Z,26nm,1.4s
BOZ *e*pP **pP 13 04 05.8 -0.2**
BOZ *e*sP **sP 13 04 20.8 +0.1**
BOZ Bozeman (W) 76.98 330 *e*P **P 13 03 32.4 +0.9**
BOZ pmax pmax
comp=Z,26nm,1.4s
BOZ Bozeman (W) 76.98 330 P **P 13 03 32.6 +1.1**
baz=139,SNR=16
DLMT Dillon 77.26 330 *e*P **P 13 03 34.0 +0.9**
comp=Z,37nm,1.3s
DLMT *e*pP **pP 13 04 07.9 +0.3**
DLMT *e*sP **sP 13 04 24.5 +2.3**
VNDA Vanda 77.40 190 *e*P **P 13 03 35.1 +1.8**
comp=Z,9.2nm,1.0s
VNDA Vanda 77.40 190 *e*P **P 13 03 35.1 +1.8**
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA Vanda 77.40 190 P **P 13 03 35.8 +2.5**
comp=Z,5.0nm,0.9s,baz=135,slow=3.7,SNR=24
ORV Oroville 77.94 321 *e*P **P 13 03 38.3 +1.5**
comp=Z,77nm,1.3s
ORV *e*pP **pP 13 04 11.7 +0.5**
ORV *e*sP **sP 13 04 27.7 +1.8**
ORV Oroville 77.94 321 *e*P **P 13 03 38.3 +1.5**
ORV pmax pmax
comp=Z,77nm,1.3s
EGMT Eagleton 78.02 333 *e*P **P 13 03 37.9 +0.8**
comp=Z,33nm,1.1s
EGMT *e*pP **pP 13 04 12.4 +0.8**
EGMT Eagleton 78.02 333 P **P 13 03 37.8 +0.7**
baz=141,SNR=15
O03E Paynes Creek 78.59 321 P **P 13 03 40.7 +0.3**
baz=130,SNR=19
MSO Missoula 78.97 330 P **P 13 03 43.9 +1.5**
baz=138,SNR=14
O02D Mt. Diablo Mer 79.10 321 P **P 13 03 44.0 +0.8**
baz=130,SNR=15
BMO Blue Mountains 79.19 327 P **P 13 03 45.0 +1.3**
WDC Whiskeytown Da 79.21 321 P **P 13 03 43.7 0.0**
N02D Trinity Center 79.56 321 P **P 13 03 45.9 +0.1**
baz=130,SNR=19
M04C Macdoel 79.58 322 P **P 13 03 47.2 +1.3**
baz=131,SNR=11
TSUM Tsumeb 79.84 107 *e*P **P 13 03 48.2 +0.4**
comp=Z,49nm,1.4s
M02C Callahan 79.91 322 P **P 13 03 48.3 +0.7**
baz=130,SNR=13
YBH Yreka Blue Hor 80.04 322 P **P 13 03 48.5 +0.2**
K04D Chiloquin, OR 80.07 323 P **P 13 03 49.8 +1.2**
baz=131
KHMM Horse Mountain 80.09 321 *e*P **P 13 03 50.0 +1.3**
comp=Z,29nm,1.1s
L04D Klamath Falls 80.12 323 P **P 13 03 49.6 +0.8**
baz=130,SNR=10
J05D Fort Rock, OR 80.22 324 P **P 13 03 50.8 +1.5**
baz=131,SNR=28
J04D Umpqua Nationa 80.67 323 P **P 13 03 53.1 +1.3**
baz=131,SNR=6.2
FFC Flin Flon 80.68 341 *e*P **P 13 03 50.9 -0.4**
comp=Z,23nm,1.2s
FFC *e*pP **pP 13 04 25.5 -0.5**
FFC Flin Flon 80.68 341 *i*P **P 13 03 51.8 +0.5**
HUMO Hull Mountain 80.74 323 *e*P **P 13 03 51.7 -0.2**
comp=Z,10nm,1.0s
E09A Wood Farm, Sta 80.77 328 *e*P **P 13 03 52.0 0.0**
comp=Z,19nm,1.2s
E09A *e*pP **pP 13 04 26.1 -0.6**
E09A *e*sP **sP 13 04 43.0 +1.7**
L02E Cave Junction 80.83 322 P **P 13 03 53.8 +1.4**
baz=129,SNR=11
I05D Terrebonne, OR 80.96 325 P **P 13 03 55.0 +1.9**
baz=131,SNR=24
I04A Tendick Farm, 81.20 324 P **P 13 03 55.1 +0.7**
baz=130,SNR=9.7
K02D Williamette Mer 81.20 322 P **P 13 03 55.8 +1.3**
baz=129,SNR=17
NEW Newport 81.50 330 P **P 13 03 56.8 +0.9**
NEW Newport 81.50 330 P **P 13 03 56.6 +0.7**
baz=135
G05D Wamic, OR 81.55 325 P **P 13 03 58.0 +1.8**
baz=131,SNR=6.5
J01E Myrtle Point 81.65 322 P **P 13 03 58.2 +1.5**
baz=129,SNR=5.7
I03D Drain, OR 81.66 323 P **P 13 03 58.0 +1.3**
baz=130,SNR=9.2
C09A Chrisman Ranch 81.73 329 *e*P **P 13 03 57.9 +0.9**
comp=Z,34nm,0.9s
C09A *e*pP **pP 13 04 31.9 +0.1**
C09A *e*sP **sP 13 04 47.8 +1.4**
H04D Lebanon 81.85 324 P **P 13 03 58.6 +0.9**
baz=130
F05D White Salmon 82.05 326 P **P 13 03 60.0 +1.2**
baz=131
I02D Swisshome 82.19 323 P **P 13 04 01.0 +1.5**
baz=129
COR Corvallis 82.20 324 *e*P **P 13 03 58.2 -1.3**
comp=Z,59nm,1.2s
COR *e*pP **pP 13 04 33.9 -0.4**
COR Corvallis 82.20 324 P **P 13 04 01.8 +2.3**
FCC Fort Churchill 82.23 347 *e*P **P 13 03 59.2 0.0**
comp=Z,36nm,1.2s
FCC *e*pP **pP 13 04 34.2 +0.1**
FCC Fort Churchill 82.23 347 *e*P **P 13 03 59.3 0.0**
FCC *e**PP **pP 13 04 34.2 +0.1**
FCC pmax pmax
comp=Z,35nm,1.2s
G03D McMinnville, O 82.57 324 P **P 13 04 02.8 +1.3**
baz=130
F04D Rainier, OR 83.00 325 P **P 13 04 05.0 +1.3**
baz=130
E04D Cinebar 83.07 326 P **P 13 04 04.7 +0.8**
baz=131
BOSA Boshof 83.36 118 P **P 13 04 06.8 +0.5**
comp=Z,6.7nm,0.8s,baz=250,slow=4.4,SNR=18
D04E Lakebay 83.58 326 P **P 13 04 07.5 +1.0**
baz=130
B06A Marblemount 83.80 328 *e*P **P 13 04 07.8 +0.2**
comp=Z,20nm,0.6s
B06A *e*pP **pP 13 04 42.5 -0.1**
B05A Bryant 83.94 327 P **P 13 04 08.7 +0.3**
baz=131,SNR=7.9
D03D Eldon 83.97 326 P **P 13 04 09.8 +1.2**
baz=130
TAM Tamanrasset 84.27 63 *e*P **P 13 04 11.6 +0.7**
comp=Z,22nm,1.5s
TAM *e*pP **pP 13 04 45.9 +0.1**
TAM Tamanrasset 84.27 63 *e*P **P 13 04 11.6 +0.7**
TAM pmax pmax
comp=Z,22nm,1.5s
A04D Lummi Island 84.54 327 P **P 13 04 12.5 +1.1**
baz=131
MAW Mawson 84.70 163 P **P 13 04 13.0 +1.0**
comp=Z,8.1nm,0.5s,baz=187,slow=5.5,SNR=14
LBTB Lobatse 84.90 115 P **P 13 04 15.0 +0.9**
PAB San Pablo 84.90 44 *e*P **P 13 04 15.2 +1.6**
comp=Z,13nm,0.9s
PAB San Pablo 84.90 44 *e*P **P 13 04 15.2 +1.6**
PAB pmax pmax
comp=Z,13nm,0.9s
ESDC Sonseca Array 85.22 44 *e*P **P 13 04 15.5 +0.3**
ESDC *e*pP **pP 13 04 50.7 +0.4**
ESDC Sonseca Array 85.22 44 P **P 13 04 15.5 +0.3**
comp=Z,6.1nm,1.0s,baz=240,slow=5.6,SNR=18
ESDC pP **pP 13 04 48.9 -1.4**
comp=Z,2.0nm,0.9s,baz=253,slow=5.6,SNR=2.5
YKA Yellowknife Ar 90.84 340 *e*P **P 13 04 41.4 +0.1**
YKA Yellowknife Ar 90.84 340 *e*P **P 13 04 41.4 +0.1**
YKA Yellowknife Ar 90.84 340 P **P 13 04 41.8 +0.6**
comp=Z,16nm,0.9s,baz=133,slow=4.5,SNR=179
YKA pP **pP 13 05 17.1 +0.5**
comp=Z,15nm,0.9s,baz=134,slow=4.7,SNR=8.6
YKB5 Yellowknife Ar 90.84 340 *e*P **P 13 04 41.9 +0.6**
YKB5 *e*pP **pP 13 05 17.1 +0.5**
YKW3 Yellowknife Ar 90.89 340 *e*P **P 13 04 41.9 +0.4**
comp=Z,35nm,1.2s
CASY Casey 92.99 180 *e*P **P 13 04 52.7 +1.3**
comp=Z,27nm,1.0s
ESK Eskdalemuir 93.97 31 *i*P P 13 04 50.7 -5.2
RPZ Rata Peaks 95.61 219 P **P 13 05 06.3 +2.4**
comp=Z,5.8nm,0.8s,baz=278,slow=4.0,SNR=7.5
INK Inuvik 100.60 340 PKKPbc PKKPbc 13 21 40.9 -1.5
comp=Z,1.2nm,1.2s,baz=212,slow=3.7,SNR=3.2
ILAR Eielson Array 103.95 334 PP **PP 13 10 01.6 +1.9**
comp=Z,1.9nm,1.1s,baz=108,slow=5.8,SNR=7.2
AKASG Malin Array Be 110.80 42 PP **PP 13 10 48.4 -1.7**
comp=Z,0.1nm,0.2s,baz=261,slow=7.1,SNR=4.3
ARA0 ARCESS Array S 110.89 22 *e*PKKPbc PKKPbc 13 21 09.7 -1.0
ARCES ARCESS Array B 110.89 22 PKKPbc PKKPbc 13 21 09.7 -1.0
comp=Z,1.5nm,0.9s,baz=64,slow=5.5,SNR=4.6
BR101 Keskin Array S 112.25 55 *e*PP **PP 13 10 59.2 -1.8**
BRTR Keskin Array B 112.25 55 PP **PP 13 10 59.2 -1.8**
comp=Z,0.7nm,0.7s,baz=277,slow=5.7,SNR=3.4
KBZ Khabaz 119.52 51 PKP **PKiKP 13 10 27.6 +0.2**
comp=Z,1.9nm,0.7s,baz=13,slow=5.8,SNR=4.2
STKA Stephens Creek 120.03 210 PKP **PKiKP 13 10 29.4 +0.5**
comp=Z,3.9nm,1.0s,baz=279,slow=10.0,SNR=3.2
ARU Arti 127.53 34 *i*PKIKP **PKPdf 13 10 39.7 -2.7**
TIXI Tiksi 128.34 353 *i*PKIKP **PKPdf 13 10 43.6 +0.1**
TIXI Tiksi 128.34 353 PKP **PKiKP 13 10 44.1 0.0**
comp=Z,1.7nm,0.5s,baz=17,slow=2.9,SNR=6.8
AKTO Aktyubinsk 129.02 41 PKIKP **PKiKP 13 10 46.0 -0.1**
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 129.02 41 PKP **PKiKP 13 10 46.0 -0.1**
comp=Z,1.4nm,0.8s,baz=297,slow=6.0,SNR=5.2
SEY Seymchan 129.78 337 *c i*PKIKP **PKiKP 13 10 47.4 +0.2**
SEY Seymchan 129.78 337 PKP **PKPdf 13 10 46.5 0.0**
comp=Z,6.5nm,1.0s,baz=73,slow=1.9,SNR=8.9
SEY pPKP **pPKPdf 13 11 23.4 -0.1**
comp=Z,4.1nm,0.9s,baz=137,slow=1.6,SNR=3.9
AS31 Alice Springs 130.52 207 *e*PKPdf **PKPdf 13 10 49.4 +0.1**
ASAR Alice Springs 130.52 207 *e*PKPdf **PKiKP 13 10 49.8 -0.3**
ASAR Alice Springs 130.52 207 PKhKP PKPpre 13 10 35.1
comp=Z,0.2nm,0.4s,baz=111,slow=1.3,SNR=8.0
ASAR PKP **PKPdf 13 10 49.6 +0.4**
comp=Z,6.8nm,1.0s,baz=125,slow=1.6,SNR=30
ASAR pPKP pPKPdf 13 11 26.1 -0.1
comp=Z,2.1nm,1.0s,baz=128,slow=1.7,SNR=2.5
ASAR sPKP 13 11 41.5
comp=Z,3.3nm,1.1s,baz=142,slow=3.0,SNR=4.6
ABKAR Akbulak array 130.54 42 *e*PKPdf **PKiKP 13 10 49.6 +0.5**
PEA1 Petropavlovsk- 132.38 324 *e*PKPdf **PKiKP 13 10 53.2 +0.4**
PETK Petropavlovsk- 132.38 324 PKP **PKiKP 13 10 53.2 +0.4**
comp=Z,4.3nm,0.9s,baz=122,slow=1.9,SNR=5.3
WB2 Warramunga Arr 133.56 210 *e*PKPdf **PKiKP 13 10 55.9 -0.4**
WR1 Warramunga Arr 133.57 210 *e*PKPpre PKPpre 13 10 40.1
WR1 *e*PKPdf **PKiKP 13 10 56.0 -0.3**
WR1 *e* 13 11 46.7
WR1 *e*SKPbc **SKPbc 13 14 11.7 +0.2**
WRA Warramunga Arr 133.57 210 PKhKP PKPpre 13 10 40.1
comp=Z,0.7nm,0.8s,baz=142,slow=1.6,SNR=5.9
WRA PKP **PKiKP 13 10 56.0 -0.3**
comp=Z,4.2nm,0.7s,baz=158,slow=1.7,SNR=23
WRA pPKP pPKPdf 13 11 32.9 +0.9
comp=Z,1.9nm,0.9s,baz=152,slow=1.5,SNR=3.2
WRA sPKP 13 11 46.7
comp=Z,3.5nm,1.0s,baz=151,slow=1.7,SNR=4.9
WRA SKPbc **SKPbc 13 14 11.7 +0.2**
comp=Z,1.6nm,1.0s,baz=151,slow=1.4,SNR=5.7
WRA SKP 13 14 20.7
comp=Z,1.6nm,1.0s,baz=145,slow=2.8,SNR=3.7
WRAB Tennant Creek 133.57 210 *i*PKIKP **PKPdf 13 10 55.1 +0.1**
BVAR Borovoye Array 135.18 34 PKP **PKPdf 13 10 56.9 0.0**
comp=Z,1.7nm,0.7s,baz=270,slow=3.0,SNR=12
CHGR Chuyangaron 139.69 55 *e*PKPdf **PKPdf 13 11 05.5 -0.4**
KURK Kurchatov 140.71 33 *i*PKIKP **PKPdf 13 11 06.8 -0.4**
KURBB Kurchatov Arra 140.72 33 PKhKP PKPpre 13 11 02.7
comp=Z,0.4nm,0.6s,baz=297,slow=3.0,SNR=5.5
KURBB PKP **PKPdf 13 11 07.2 0.0**
comp=Z,1.6nm,0.8s,baz=306,slow=2.6,SNR=9.3
KURBB pPKP pPKPdf 13 11 41.4 -2.9
comp=Z,1.0nm,0.9s,baz=303,slow=2.9,SNR=2.4
ZAA1 Zalesovo Array 141.35 25 *e*PKPpre PKPpre 13 11 03.6
ZAA1 *e*PKPdf **PKPdf 13 11 09.2 +1.0**
ZAA1 *e*pPKPdf pPKPdf 13 11 43.0 -2.3
ZAA1 *e*SKPbc **SKiKP 13 14 38.4 +3.5**
ZALV Zalesovo Beam 141.35 25 PKhKP PKPpre 13 11 03.6
comp=Z,1.2nm,0.5s,baz=343,slow=3.2,SNR=5.6
ZALV PKP **PKPdf 13 11 09.2 +1.0**
comp=Z,5.8nm,0.5s,baz=290,slow=3.3,SNR=19
ZALV pPKP pPKPdf 13 11 43.0 -2.3
comp=Z,1.2nm,0.5s,baz=285,slow=2.9,SNR=1.5
ZALV SKPbc **SKiKP 13 14 38.4 +3.5**
comp=Z,0.6nm,0.4s,baz=305,slow=5.2,SNR=3.8
AAK Ala-Archa 142.30 47 *i*PKIKP **PKPdf 13 11 10.9 +0.4**
AAK Ala-Archa 142.30 47 PKP **PKPdf 13 11 11.3 +0.8**
comp=Z,2.3nm,0.8s,baz=217,slow=15,SNR=6.7
BOD Bodaibo 143.18 358 *e*PKHKP PKPab 13 11 07.5 +0.3
BOD pmax pmax
comp=Z,10.0nm,1.6s
GENI Genyem 143.40 234 PKP PKPbc 13 11 11.5 +0.9
NRN Naryn 143.81 48 *e*PKPdf **PKPdf 13 11 14.1 +0.7**
NRN Naryn 143.81 48 *e*PKIKP **PKPdf 13 11 14.1 +0.7**
KSH Kashi 144.50 51 PKP **PKPab 13 11 09.6 -3.6**
KSH pPKP pPKPdf 13 11 51.3 -0.1
KSH PP **PP 13 14 30.1 -1.8**
KSH AMB AMB
comp=Z,140nm,3.7s
KSH LR LR
comp=Z,860nm,13.3s
KSH LR LR
comp=Z,580nm,12.9s
MAKZ Makanchi 144.84 36 *e*PKPbc **PKPdf 13 11 15.1 +0.4**
MAKZ *e*pPKPdf **pPKPdf 13 11 50.1 -1.6**
MAKZ Makanchi 144.84 36 *e*PKIKP **PKPdf 13 11 15.1 +0.4**
TARG Taragay, Kyrgy 144.91 46 *e*PKPbc **PKPdf 13 11 16.5 +1.0**
TARG *e*pPKPdf **pPKPdf 13 11 51.0 -1.3**
MK31 Makanchi Array 145.02 36 *e*PKPbc **PKPdf 13 11 15.5 +0.5**
MK31 *e*pPKPdf pPKPab 13 11 50.1 -0.6
MK31 Makanchi Array 145.02 36 *e*PKIKP **PKPdf 13 11 15.5 +0.5**
MK31 *e* 13 11 50.1
MK32 Makanchi Array 145.02 36 *e*PKPbc **PKPdf 13 11 15.5 +0.5**
MK32 *e*pPKPdf pPKPbc 13 11 51.1 -0.1
MK32 *e* 13 12 02.2
MK32 *e*SKPbc **SKiKP 13 14 44.3 +1.5**
MKAR Makanchi Array 145.02 36 PKP **PKPdf 13 11 15.5 +0.5**
comp=Z,7.1nm,0.5s,baz=322,slow=2.7,SNR=85
MKAR pPKP pPKPbc 13 11 51.1 -0.1
comp=Z,6.8nm,0.8s,baz=306,slow=2.7,SNR=4.2
MKAR sPKP 13 12 02.2
comp=Z,7.1nm,0.8s,baz=320,slow=3.2,SNR=4.7
MKAR SKPbc **SKiKP 13 14 44.3 +1.5**
comp=Z,1.7nm,0.9s,baz=340,slow=3.4,SNR=4.3
ZEA Zeya 145.16 344 *e*PKIKP **PKPab 13 11 15.6 +0.7**
ZEA pmax pmax
comp=Z,92nm,1.2s
DGZ Jazzator, Alta 145.59 28 *i*PKP2 **PKPbc 13 11 16.6 +0.1**
ERM Erimo 146.11 315 *e*PKPdf **PKPbc 13 11 17.8 -0.3**
ERM Erimo 146.11 315 *e*PKP2 **PKPbc 13 11 17.8 -0.3**
SOEI Soe 146.95 204 PKP **PKiKP 13 11 23.6 -0.3**
GUMO Guam 147.33 262 *e*PKPbc **PKPbc 13 11 22.6 +0.3**
GUMO Guam 147.33 262 *e*PKP2 **PKPbc 13 11 22.6 +0.3**
MOY Mondy 148.32 12 *e*PKP2 **PKiKP 13 11 25.5 -0.1**
MOY pmax pmax
comp=Z,27nm,2.4s
FAKI Fak Fak 148.71 223 *e*PKPbc **PKiKP 13 11 27.4 0.0**
MMRI Maumere 148.71 201 *e*PKPbc **PKiKP 13 11 27.4 0.0**
TLY Talaya 148.77 9 *e*PKPbc **PKPbc 13 11 23.9 -1.1**
TLY Talaya 148.77 9 *e*PKIKP **PKPbc 13 11 24.0 -1.1**
PLAI Plampang 149.72 192 PKP **PKPbc 13 11 28.6 +0.1**
WMQ Urumqi 149.85 36 *e*PKPbc **PKPdf 13 11 22.5 -0.6**
WMQ AMB AMB
comp=Z,520nm,4.7s
WMQ LR LR
comp=Z,1μm,27.1s
WMQ LR LR
comp=Z,920nm,23.9s
ZAK Zakamensk 149.97 11 *e*PKHKP **PKPbc 13 11 26.2 -2.0**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
JAGI Jajag, Banyuwa 150.60 185 *e*PKPbc **PKiKP 13 11 31.3 0.0**
USA0B Ussuriysk Arra 151.28 328 *e*PKPbc **PKPbc 13 11 30.9 -0.4**

USRK	**Ussuriysk Ar.**	**151.28**	**328**	*e*PKPbc	**PKiKP**	**13 11 32.3**	**+0.5**
USRK				*e*PKPab	**PKPab**	**13 11 39.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**151.28**	**328**	PKPbc	**PKiKP**	**13 11 32.1**	**+0.3**
	comp=Z,12nm,0.8s,baz=251,slow=1.5,SNR=14						
USRK				pPKPbc	**pPKPbc**	**13 12 08.8**	**+0.8**
	comp=Z,7.1nm,0.9s,baz=298,slow=4.1,SNR=3.1						
CISI	**Cisompet, Garu**	**151.40**	**172**	*e*PKPbc	**PKiKP**	**13 11 33.6**	**+0.6**
MJAR	**Matsuhiro Arr**	**152.04**	**309**	PKPbc	**PKiKP**	**13 11 34.0**	**+0.4**
	comp=Z,11nm,0.9s,baz=223,slow=0.7,SNR=23						
MJAR				pPKPbc	**pPKPbc**	**13 12 08.0**	**-2.2**
	comp=Z,4.9nm,0.9s,baz=129,slow=0.6,SNR=3.6						
MAJO	**Matsuhiro**	**152.04**	**309**	*e*PKPbc	**PKiKP**	**13 11 33.9**	**+0.3**
MAJO				*e*PKPab	**PKPab**	**13 11 43.7**	**+0.4**
MAJO				*ep*PKPdf	**pPKPbc**	**13 12 08.0**	**-2.2**
MAJO	**Matsuhiro**	**152.04**	**309**	*e*PKIKP	**PKiKP**	**13 11 33.9**	**+0.3**
MAJO				*e*		13 11 43.7	
MAJO				*e*		13 12 08.0	
MAT	**Matsuhiro**	**152.04**	**309**	PKP	**PKiKP**	**13 11 33.6**	**0.0**
MJB9	**Matsu-Tunnel**	**152.04**	**309**	*e*PKPbc	**PKiKP**	**13 11 34.1**	**+0.5**
MJB9				*e*PKPab	**PKPab**	**13 11 43.7**	**+0.4**
KSRS	**Korea Array**	**158.27**	**323**	PKP	**PKPdf**	**13 11 36.4**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=2.3,slow=1.5,SNR=7.7						
KSRS				PKPab	**pPKPdf**	**13 12 11.0**	**-1.3**
	comp=Z,4.3nm,1.0s,baz=79,slow=3.7,SNR=8.2						
KSRS				pPKPab	**pPKPab**	**13 12 45.5**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=62,slow=4.1,SNR=3.5						
KSAR	**Wonju Array Be**	**158.30**	**323**	*e*PKPdf	**PKPdf**	**13 11 36.7**	**+1.7**
KSAR				*e*PKPab	**PKPab**	**13 12 10.7**	**+0.9**
KSAR				*ep*PKPab	**pPKPab**	**13 12 45.8**	**+0.3**
KSAR	**Wonju Array Be**	**158.30**	**323**	*e*PKIKP	**PKPdf**	**13 11 36.7**	**+1.7**
KSAR				*e*		13 12 10.7	
GTA	**Gaotai**	**159.10**	**26**	*e*PKP	**PKPdf**	**13 11 37.5**	**+1.4**
HHC	**Hu-ho-hao-te**	**160.21**	**360**	*e*PKP	**PKPdf**	**13 11 32.7**	**-4.6**
HHC				LR	LR		
	comp=Z,470nm,19.4s						
HHC				LR	LR		
	comp=Z,360nm,18.1s						
HHC				LR	LR		
	comp=Z,420nm,19.0s						
LZH	**Lanzhou**	**163.55**	**22**	*e*PKP	**PKPdf**	**13 11 38.7**	**-2.3**
LZH				pPKP	pPKPdf	13 12 12.5	-5.8
LZH				sPKP		13 12 28.1	
XAN	**Xi'an**	**166.81**	**9**	PKP	**PKPdf**	**13 11 44.5**	**+0.9**
NJ2	**Nanjing**	**167.17**	**331**	*e*PKP	**PKPdf**	**13 11 43.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**167.93**	**100**	*e*PKPdf	**PKPdf**	**13 11 45.5**	**+0.7**
CMAR				*ep*PKPdf	**pPKPdf**	**13 12 21.4**	**-0.7**
CMAR				*e*PKPab	**PKPab**	**13 12 53.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**167.93**	**100**	*e*PKIKP	**PKPdf**	**13 11 45.5**	**+0.7**
CMAR				*e*		13 12 21.4	
CMAR				*e*		13 12 53.1	
CMAR	**Chiang Mai Arr**	**167.93**	**100**	PKP	**PKPdf**	**13 11 45.9**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=232,slow=3.5,SNR=5.6						
CMAR				pPKP	**pPKPdf**	**13 12 21.7**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=264,slow=1.7,SNR=2.0						
CMAR				PKPab	**PKPab**	**13 12 53.0**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=262,slow=6.6,SNR=4.8						
CD2	**Chengdu**	**167.94**	**34**	PKP	**PKPdf**	**13 11 43.1**	**-1.4**
KMI	**Kunming**	**170.97**	**61**	PKP	**PKPdf**	**13 11 45.4**	**-1.3**
KMI				AMB	AMB		
	comp=Z,66nm,4.4s						
KMI				LR	LR		
	comp=Z,170nm,15.0s						
KMI				LR	LR		
	comp=Z,180nm,15.2s						
KMI				LR	LR		
	comp=Z,240nm,17.9s						
QIZ	**Qiongzhong**	**177.51**	**142**	PKP	**PKPdf**	**13 11 46.6**	**-2.2**
QIZ				SS	SS	13 38 55.2	+3.5
QIZ				LR	LR		
	comp=Z,96nm,15.7s						
QIZ				LR	LR		
	comp=Z,140nm,20.1s						
QIZ				LR	LR		
	comp=Z,260nm,20.1s						

*IDC **12** 12:53:51.5±1.2,22°.36S×170°.52E,h0km,mb4.2/8, mb1 4.4/9,mb1mx4.1/33,mbtmp4.2/9,ML4.1/1,MS3.7/5, Ms1 3.7/5,ms1mx3.4/28,Error ellipse: s-maj=35.0km s-min=26.9km az=153.0*
*ISCJB **12** 12:53:55.4±0.6,22°.33S±0°.08×170°.38E±0°.06,h33km, mb4.4/18,MS4.1/5,Error ellipse: s-maj=12.6km s-min=7.2km az=23.5*
*NEIC **12** 12:53:56.0±2.9,22°.36S×170°.45E,h28km±5km,mb4.6/12, Error ellipse: s-maj=22.2km s-min=10.2km az=54.0*
ISC 12 12:53:56.7±0.6,22°.3S±0°.1×170°.43E±0.08,h33km,n62, σ1§23/63,mb4.4/18,MS3.7/5,4C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.37**	**290**	*e*Pn	**Pn**	**12 54 31.9**	**-1.4**
MARNC				*e*Sn	**Sn**	**12 55 00.4**	**-0.8**
PINNC	**Pines Island,**	**2.77**	**263**	*e*Pn	**Pn**	**12 54 38.1**	**-0.8**
ONTNC	**Ouen Toro**	**3.68**	**269**	*e*Pn	**Pn**	**12 54 50.0**	**-1.3**
DZM	**Mont Dzumac**	**3.70**	**273**	*e*Pn	**Pn**	**12 54 50.4**	**-1.3**
DZM				*e*Sn	**Sn**	**12 55 34.5**	**+0.4**
DZM	**Mont Dzumac**	**3.70**	**273**	Pn	**Pn**	**12 54 50.4**	**-1.3**
	13nm,0.3s,baz=122,slow=13,SNR=241						
DZM				Sn	**Sn**	**12 55 32.5**	**-1.6**
	40nm,0.3s,baz=321,slow=20,SNR=16						
DZM				LR	LR	12 56 20.6	
	comp=Z,349nm,20.3s,baz=50,slow=39						
OUZ	**Omahuta**	**13.17**	**169**	*e*Pn	**Pn**	**12 57 02.8**	**+1.3**
RPZ	**Rata Peaks**	**21.37**	**179**	*e*P	**P**	**12 58 39.3**	**-1.9**
	18nm,1.1s						
RPZ	**Rata Peaks**	**21.37**	**179**	LR	LR	13 04 39.2	
	comp=Z,172nm,18.7s,baz=28,slow=30						
COEN	**Coen**	**27.16**	**283**	*e*P	**P**	**12 59 39.2**	**+1.9**
	28nm,1.4s						
STKA	**Stephens Creek**	**27.32**	**243**	*e*P	**P**	**12 59 40.4**	**+1.9**
	3.7nm,1.5s						
STKA	**Stephens Creek**	**27.32**	**243**	LR	LR	13 08 53.8	
	comp=Z,125nm,20.8s,baz=113,slow=33						
AS31	**Alice Springs**	**33.59**	**260**	*e*P	**P**	**13 00 34.2**	**0.0**
	1.4nm,0.8s						
ASAR	**Alice Springs**	**33.60**	**260**	*e*P	**P**	**13 00 34.3**	**+0.1**
ASAR	**Alice Springs**	**33.60**	**260**	P	**P**	**13 00 34.0**	**-0.2**
	1.3nm,0.8s,baz=74,slow=9.2,SNR=18						
ASAR				LR	LR	13 15 37.6	
	comp=Z,129nm,19.0s,baz=103,slow=39						
WB2	**Warramunga Arr**	**33.69**	**267**	*e*P	**P**	**13 00 34.5**	**-0.5**
	6.6nm,1.1s						
WRAB	**Tennant Creek**	**33.69**	**267**	*e*P	**P**	**13 00 37.7**	**+2.7**
	10nm,1.0s						
WR1	**Warramunga Arr**	**33.70**	**267**	*e*P	**P**	**13 00 34.2**	**-0.9**
WRA	**Warramunga Arr**	**33.70**	**267**	P	**P**	**13 00 34.2**	**-0.9**
	0.6nm,0.5s,baz=94,slow=8.3,SNR=12						
MTN	**Manton Dam**	**38.52**	**277**	*e*P	**P**	**13 01 17.0**	**+0.6**
	15nm,1.3s						
FITZ	**Fitzroy Crossi**	**42.13**	**267**	*e*P	**P**	**13 01 47.0**	**+0.8**
	17nm,1.4s						
FITZ	**Fitzroy Crossi**	**42.13**	**267**	P	**P**	**13 01 46.6**	**+0.4**
	8.0nm,1.2s,baz=77,slow=9.8,SNR=5.7						
MBWA	**Marble Bar**	**46.93**	**261**	*e*P	**P**	**13 02 25.0**	**+0.5**
	41nm,1.5s						
MJAR	**Matsuhiro Arr**	**65.96**	**332**	P	**P**	**13 04 39.6**	**-0.1**
	1.7nm,0.5s,baz=164,slow=6.1,SNR=7.7						
MAJO	**Matsuhiro**	**65.96**	**332**	*e*P	**P**	**13 04 40.1**	**+0.4**
	18nm,1.4s						
JNU	**Nakatsue**	**66.79**	**324**	*e*P	**P**	**13 04 45.8**	**+0.7**
	26nm,1.3s						
KSRS	**Korea Array**	**71.64**	**325**	**P**	**P**	**13 05 16.3**	**+1.3**
	2.2nm,0.8s,baz=149,slow=5.7,SNR=6.5						
KSAR	**Wonju Array Be**	**71.65**	**325**	*e*P	**P**	**13 05 16.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**80.77**	**294**	P	**P**	**13 06 09.6**	**+2.3**
	1.9nm,0.7s,baz=141,slow=4.5,SNR=12						
SNAA	**Sanae**	**86.17**	**182**	Pdiff	**P**	**13 06 32.5**	**-1.8**
SNAA	**Sanae**	**86.17**	**182**	*e*P	**P**	**13 06 34.3**	**-0.1**
	3.1nm,0.9s						
SNAA	**Sanae**	**86.17**	**182**	P	**P**	**13 06 34.2**	**-0.1**
	2.4nm,0.8s,baz=194,slow=8.3,SNR=6.3						
VNA3	**Neumayer Olymp**	**86.72**	**180**	Pdiff	**P**	**13 06 36.2**	**-0.8**
VNA2	**Neumayer--Watz**	**87.02**	**181**	Pdiff	**P**	**13 06 39.1**	**+0.7**
VNA1	**Neumayer--Stat**	**87.31**	**180**	Pdiff	**P**	**13 06 35.6**	**-4.2**
ILAR	**Eielson Array**	**92.81**	**17**	**P**	**P**	**13 07 04.1**	**-1.3**
	0.3nm,0.6s,baz=237,slow=5.1,SNR=6.3						
PDAR	**Pinedale Array**	**97.87**	**47**	LR	LR	13 48 00.9	
	comp=Z,84nm,18.3s,baz=159,slow=33						
W57A	**Gilead**	**118.07**	**61**	*e*PKPdf	**PKiKP**	**13 12 40.6**	**+0.1**
N54A	**Moraine State**	**118.78**	**54**	*e*PKPdf	**PKiKP**	**13 12 43.4**	**+1.7**
PQI	**Presque Isle**	**127.39**	**48**	*e*PKPdf	**PKPdf**	**13 12 57.8**	**-0.2**
ARA0	**ARCESS Array S**	**128.29**	**345**	*e*PKPdf	**PKiKP**	**13 12 59.6**	**-0.1**
ARCES	**ARCESS Array B**	**128.29**	**345**	PKP	**PKiKP**	**13 12 59.6**	**-0.1**
	1.8nm,0.9s,baz=90,slow=3.6,SNR=4.3						
NAI	**Nairobi**	**129.08**	**249**	*e*PKPdf	**PKPdf**	**13 13 00.3**	**-2.3**
FIA0	**FINESS Array S**	**133.82**	**337**	*e*PKPdf	**PKPdf**	**13 13 08.2**	**-1.5**
FINES	**FINESS Array B**	**133.82**	**337**	PKP	**PKPdf**	**13 13 08.2**	**-1.5**
	0.7nm,0.8s,baz=77,slow=4.1,SNR=3.5						
KWP	**Kalwaria Pacla**	**142.72**	**325**	*e*PKPdf	**PKPdf**	**13 13 27.7**	**+1.2**
DRGR		**144.29**	**321**	⇑*iP*	**PKiKP**	**13 13 32.6**	**-0.4**
GZR	**Gura Zlata**	**144.98**	**319**	⇑*iP*	**PKiKP**	**13 13 34.1**	**-0.3**
SIRR	**Siria**	**145.19**	**321**	⇑*iP*	**PKiKP**	**13 13 32.9**	**-1.9**
MORC	**Moravsky Berou**	**145.25**	**329**	⇑*iP*	**PKPbc**	**13 13 30.3**	**-0.3**
MORC	**Moravsky Berou**	**145.25**	**329**	*e*PKP	**PKPdf**	**13 13 31.5**	**+0.6**
DPC	**Dobruska-Polom**	**145.42**	**330**	*e*PKP	**PKPab**	**13 13 32.4**	**+1.0**
UPC	**Upice**	**145.45**	**331**	*e*PKP	**PKPab**	**13 13 32.6**	**+1.2**
JAVC	**Velka Javorina**	**145.79**	**327**	*e*PKP	**PKiKP**	**13 13 34.8**	**-1.2**
VRAC	**Vranov**	**146.02**	**329**	*e*PKP	**PKPab**	**13 13 34.2**	**+0.6**
BRG	**Berggiesshubel**	**146.09**	**333**	*e*P	**PKPab**	**13 13 33.6**	**-0.1**
	12nm,1.3s						
BRG				*e*		13 15 22.1	
	5.8nm,1.3s						
BRG	**Berggiesshubel**	**146.09**	**333**	*e*P	**PKPab**	**13 13 33.7**	**-0.1**
BRG				pmax	pmax		
	comp=Z,12nm,1.3s						
BRG				MLR	MLR		
	comp=N,541nm,15.7s						
BRG				MLR	MLR		
	comp=E,335nm,15.2s						
BRG				MLR	MLR		
	comp=Z,846nm,17.0s						
CLL	**Collm**	**146.14**	**334**	*e*PKPdf	**PKPab**	**13 13 34.7**	**+0.8**
CLL	**Collm**	**146.14**	**334**	*i* PKPbc	**PKPab**	**13 13 34.2**	**+0.2**
	comp=Z,5.0nm,0.6s						
CLL				*e*PKiKP	**PKiKP**	**13 13 37.0**	**+0.5**
KRUC	**Moravsky**	**146.28**	**329**	*e*PKP	**PKPab**	**13 13 35.0**	**+0.4**
GOPC	**GO Pecny, Ondr**	**146.43**	**331**	*e*PKP	**PKPab**	**13 13 35.6**	**+0.4**
KHC	**Kasperske Hory**	**147.54**	**331**	*e*PKP	**PKPab**	**13 13 39.1**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**150.90**	**331**	*e*PKPbc	**PKiKP**	**13 13 47.0**	**+0.1**

*IDC **12** 12:55:55.6±0.9,17°.54S×173°.06W,h0km,mb4.1/8, mb1 4.3/8,mb1mx4.0/37,mbtmp4.1/8,MS3.5/3,Ms1 3.5/3, ms1mx3.2/26,Error ellipse: s-maj=43.5km s-min=19.8km az=134.0*
*ISCJB **12** 12:55:56.9±0.5,18°.15S±0°.09×172°.58W±0°.06,h21km, mb4.2/14,MS3.4/2,Error ellipse: s-maj=13.6km s-min=7.6km az=3.4*
*NEIC **12** 12:56:00.9±2.0,18°.21S×172°.51W,h34km±5km,mb4.6/9, Error ellipse: s-maj=26.5km s-min=18.3km az=171.0*
ISC 12 12:55:58.8±0.6,18°.1S±0°.1×172°.53W±0°.08,h21km,n30, σ1§98/28,mb4.4/15,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.67**	**113**	*e*Pn	**Pn**	**12 56 39.7**	**-1.0**
NIUE				*e*Sn	**Sn**	**12 57 11.3**	**-1.1**
RAR	**Rarotonga**	**12.43**	**107**	*e*Pn	**Pn**	**12 58 54.3**	**-0.2**
RAR	**Rarotonga**	**12.43**	**107**	LR	LR	13 03 40.0	
	comp=Z,118nm,18.2s,baz=279,slow=36						
DZM	**Mont Dzumac**	**20.15**	**255**	LR	LR	13 07 00.0	
	comp=Z,242nm,18.2s,baz=102,slow=34						
OUZ	**Omahuta**	**21.08**	**213**	*e*P	**P**	**13 00 43.9**	**+2.1**
	49nm,1.3s						
PPT	**Papeete**	**21.86**	**92**	LR	LR	13 07 50.2	
	comp=Z,107nm,18.7s,baz=260,slow=32						
URZ	**Urewera**	**22.08**	**202**	*e*P	**P**	**13 00 57.0**	**+4.6**
	24nm,1.0s						
URZ	**Urewera**	**22.08**	**202**	P	**P**	**13 00 55.8**	**+3.4**
	17nm,0.8s,baz=19,slow=4.7,SNR=13						
BKZ	**Black Stump Fm**	**23.10**	**202**	*e*P	**P**	**13 01 01.7**	**-1.6**
	16nm,1.2s						
RPZ	**Rata Peaks**	**29.09**	**205**	*e*P	**P**	**13 01 59.2**	**+1.3**
	29nm,1.4s						
RPZ	**Rata Peaks**	**29.09**	**205**	P	**P**	**13 01 59.3**	**+1.4**
	5.8nm,0.9s,baz=236,slow=7.3,SNR=1.4						
CTAO	**Charters Tower**	**38.94**	**260**	*e*P	**P**	**13 03 23.8**	**+0.3**
	20nm,1.3s						
BBOO	**Buckleboo**	**48.25**	**242**	*e*P	**P**	**13 04 37.9**	**-0.5**
	25nm,1.2s						
WB2	**Warramunga Arr**	**50.09**	**259**	*e*P	**P**	**13 04 50.4**	**-2.3**
	8.6nm,1.2s						
WR1	**Warramunga Arr**	**50.10**	**259**	*e*P	**P**	**13 04 49.6**	**-3.1**
WRA	**Warramunga Arr**	**50.10**	**259**	P	**P**	**13 04 49.6**	**-3.1**
	1.4nm,0.5s,baz=97,slow=7.0,SNR=31						
AS31	**Alice Springs**	**50.13**	**254**	*e*P	**P**	**13 04 51.4**	**-1.6**
	2.2nm,0.6s						
ASAR	**Alice Springs**	**50.13**	**254**	*e*P	**P**	**13 04 50.7**	**-2.3**
ASAR	**Alice Springs**	**50.13**	**254**	P	**P**	**13 04 51.0**	**-1.9**
	7.3nm,0.7s,baz=89,slow=8.6,SNR=84						
NV01	**Mina Array Sit**	**75.75**	**41**	*e*P	**P**	**13 07 43.6**	**+0.3**
NVAR	**Mina Array Bea**	**75.75**	**41**	*e*P	**P**	**13 07 45.0**	**+1.7**
NVAR	**Mina Array Bea**	**75.75**	**41**	P	**P**	**13 07 43.6**	**+0.3**
	0.8nm,0.7s,baz=226,slow=9.5,SNR=5.1						
TXAR	**Lajitas Array**	**81.41**	**55**	P	**P**	**13 08 15.9**	**+1.3**
	0.2nm,0.6s,baz=209,slow=7.2,SNR=2.6						
PDAR	**Pinedale Array**	**83.69**	**41**	P	**P**	**13 08 26.3**	**0.0**
	0.3nm,0.7s,baz=242,slow=1.9,SNR=2.8						
ILAR	**Eielson Array**	**84.88**	**11**	P	**P**	**13 08 29.6**	**-2.0**
	0.5nm,0.7s,baz=229,slow=5.7,SNR=3.2						
YKA	**Yellowknife Ar**	**92.19**	**23**	P	**P**	**13 09 08.4**	**+1.9**
	0.3nm,0.8s,baz=228,slow=6.4,SNR=2.7						
YKB5	**Yellowknife Ar**	**92.19**	**23**	*e*P	**P**	**13 09 08.4**	**+1.9**
CLL	**Collm**	**146.53**	**354**	*i* PKPbc	**PKPbc**	**13 15 38.7**	**+0.3**
	comp=Z,11nm,1.3s						
CLL				*i* PKiKP	pPKPbc	13 15 42.8	0.0
CLL				*i* pPKPbc	sPKPab	13 15 48.5	+3.2
	comp=Z,8.0nm,0.9s						
BR101	**Keskin Array S**	**148.71**	**319**	*e*PKPdf	**PKPdf**	**13 15 41.7**	**+0.5**
BRTR	**Keskin Array B**	**148.71**	**319**	PKPbc	**PKPdf**	**13 15 41.7**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=126,slow=2.5,SNR=3.1						

*IDC **12** 12:59:09.7±0.4,26°.19S×68°.97W,h0km,mb5.0/19, mb1 5.0/23,mb1mx5.0/28,mbtmp4.9/23,ML4.4/4,MS4.7/25, Ms1 4.6/25,ms1mx4.6/29,Error ellipse: s-maj=16.8km s-min=12.4km az=80.0*
*SJA **12** 12:59:09.5±0.6,26°.17S×69°.36W,h2km±3km,ML5.0, MW3.4*
*GUC **12** 12:59:10.5±0.6,26°.16S×69°.44W,h10km,ML5.1*
*NEIC **12** 12:59:10.0±0.0,26°.16S×69°.44W,h10km,mb5.5/145, MS4.7/327,MW5.4,ML5.1(GUC),After GUC.*
NEIC Felt [III] at Copiapo and Tierra Amarilla.
*NEIC **12** 12:59:11.0±0.0,26°.28S×69°.67W,h11km Best double couple: NP1:φ=87.00000°,δ=74.00000°,λ=89.00000°. NP2:φ=222.00000°,δ=16.00000°,λ=95.00000°. Principal axes: T 1.3500, Plg61.0000°, Azm304.0000°; N 0.0600, Plg1.0000°, Azm37.0000°; P -1.4100, Plg28.0000°, Azm127.0000°;*
*MOS **12** 12:59:12.0±1.3,26°.10S×69°.18W,h18km,mb5.6/52, MS4.6/18 Error ellipse: s-maj=12.0km s-min=6.2km az=100.4*
*ISCJB **12** 12:59:13.8±0.4,26°.01S±0°.02×69°.23W±0°.03,h42km±3km, mb5.4/159,MS4.7/311,Error ellipse: s-maj=4.3km s-min=3.0km az=165.3*
*VAO **12** 12:59:14.5±0.3,26°.12S×69°.09W,h10km,mb4.8*
*GCMT **12** 12:59:16.0±0.2,26°.23S±0°.01×69°.34W±0°.02,h14km, MW5.2/102,Moment Tensor Solution. s45,c58; s102,c165; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.76±.03; Mθθ-0.32±.02; Mφφ-0.44±.02; Mrθ-0.29±.04; Mrφ-0.37±.01; Mθφ0.17±.04; Best double couple: M0:0.81900×10^17 NP1:φ=240.00000°,δ=51.00000°, λ=117.00000°. NP2:φ=21.00000°,δ=46.00000°,λ=61.00000°. Principal axes: T 0.8840, Plg69.0000°, Azm215.0000°; N -0.1280, Plg20.0000°, Azm42.0000°; P -0.7550, Plg2.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 12:59:10.1±0.5,26°.18S±0°.02×69°.31W±0°.03,h2km±3km, h4km:pP-P,n1308,σ1§56/1123,mb5.5/158,MS4.7/312, 11C-7D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.04**	**346**	*e*Pg	**Pg**	**12 59 29.7**	**-0.4**
GO02				*e*Sn	**Sb**	**12 59 45.2**	**0.0**
GO02	**Mina Guanaco**	**1.04**	**346**	⇓*iP*	**Pg**	**12 59 29.4**	**-0.7**
GO02				*e*S	**Sb**	**12 59 44.6**	**-0.6**
GO02				IAML		12 59 52.4	
	comp=E,48μm,0.8s						
GO02	**Mina Guanaco**	**1.04**	**346**	⇓*iP*	**Pg**	**12 59 29.0**	**-1.0**
GO02				*e*S	**Sg**	**12 59 44.2**	**+0.6**
GO02				IAML		12 59 52.4	
	comp=E,37μm,0.7s						
GO03	**Copiap**	**1.63**	**210**	*e*Pn	**Pn**	**12 59 39.5**	**-0.4**
GO03				*e*Sn	**Sg**	**13 00 03.3**	**+0.7**
GO03	**Copiap**	**1.63**	**210**	⇑*iP*	**Pn**	**12 59 39.7**	**-0.2**
GO03				*e*S	**Sg**	**13 00 02.9**	**+0.3**
GO03	**Copiap**	**1.63**	**210**	⇑*iP*	**Pn**	**12 59 39.6**	**-0.4**
GO03				*e*S	**Sg**	**13 00 03.1**	**+0.4**
GO03				IAML		13 00 11.7	
	comp=E,17μm,0.4s						
PB14	**IPOC Station P**	**1.83**	**327**	*e*P	**Pb**	**12 59 44.1**	**-0.4**
PB14				*e*S	**Sg**	**13 00 09.9**	**+0.8**
PB14	**IPOC Station P**	**1.83**	**327**	*e*P	**Pn**	**12 59 43.2**	**+0.3**
PB14				*e*S	**Sb**	**13 00 08.0**	**0.0**
PB14	**IPOC Station P**	**1.83**	**327**	⇓*e*P	**Pn**	**12 59 43.2**	**+0.3**
PB14				*e*S	**Sg**	**13 00 09.4**	**+0.3**
PB14				IAML		13 00 13.3	
	comp=E,23μm,0.3s						
PB10	**IPOC Station P**	**2.88**	**337**	*e*Pn	**Pn**	**12 59 58.9**	**+1.8**
PB10				*e*Sn	**Sb**	**13 00 37.5**	**-0.5**
PB10	**IPOC Station P**	**2.88**	**337**	*e*P	**Pn**	**12 59 59.1**	**+2.1**
PB10	**IPOC Station P**	**2.88**	**337**	*e*P	**Pn**	**12 59 58.1**	**+1.1**
PB10				*i* S	**Sn**	**13 00 34.9**	**+2.6**
PB10				IAML		13 00 44.9	
	comp=E,6μm,0.5s						
PB10	**IPOC Station P**	**2.88**	**337**	*e*P	**Pn**	**12 59 58.3**	**+1.3**
PB10				*e*S	**Sn**	**13 00 34.7**	**+2.4**
PB10				IAML		13 00 44.9	
	comp=E,6μm,0.7s						
PB15	**IPOC Station P**	**2.96**	**357**	*e*P	**Pn**	**13 00 00.5**	**+2.2**
PB15				*e*S	**Sb**	**13 00 38.3**	**-2.1**
PB15	**IPOC Station P**	**2.96**	**357**	⇑*iP*	**Pn**	**13 00 00.1**	**+1.8**
PB15				*i* S	**Sb**	**13 00 38.6**	**-1.8**
FSA	**Cafayete**	**3.00**	**89**	*e*P	**Pb**	**13 00 02.3**	**-2.0**
LCO	**Las Campanas**	**3.08**	**203**	*e*Pn	**Pn**	**13 00 01.6**	**+1.6**
LCO				*e*Sn	**Sb**	**13 00 44.0**	**+0.1**
LCO	**Las Campanas**	**3.08**	**203**	*e*P	**Pn**	**13 00 02.3**	**+2.3**
LCO				*e*S	**Sb**	**13 00 41.4**	**-2.5**
LCO	**Las Campanas**	**3.08**	**203**	*e*P	**Pn**	**13 00 01.6**	**+1.6**
LCO				*e*		13 00 44.0	
LCO	**Las Campanas**	**3.08**	**203**	*e*P	**Pn**	**13 00 02.1**	**+2.1**
LCO				*i* S	**Sb**	**13 00 41.8**	**-2.1**
LCO				IAML		13 00 48.9	
	comp=E,9μm,0.4s						
LCO	**Las Campanas**	**3.08**	**203**	*e*P	**Pn**	**13 00 01.3**	**+1.3**
LCO				*e*S	**Sb**	**13 00 41.8**	**-2.1**
LCO				IAML		13 00 49.0	
	comp=E,9μm,0.3s						
LCO	**Las Campanas**	**3.08**	**203**	*e*P	**Pb**	**13 00 03.6**	**-2.1**
AGUA	**GUANDACOL**	**3.38**	**168**	*e*P	**Pn**	**13 00 06.5**	**+2.6**
PB05	**IPOC Station P**	**3.41**	**346**	⇑*iP*	**Pn**	**13 00 05.8**	**+1.5**
PB05				*i* S	**Sn**	**13 00 48.5**	**+3.1**
PB05				IAML		13 01 09.4	
	comp=E,6μm,0.7s						
PB06	**IPOC Station P**	**3.46**	**356**	*e*P	**Pn**	**13 00 07.0**	**+1.8**
PB06				*i* S	**Sn**	**13 00 49.9**	**+3.0**
LVC	**Limon Verde**	**3.57**	**6**	*e*Pn	**Pn**	**13 00 09.8**	**+3.0**
LVC	**Limon Verde**	**3.57**	**6**	*e*P	**Pn**	**13 00 09.5**	**+2.7**
LVC				*e*S	**Sb**	**13 00 53.9**	**-4.2**
LVC	**Limon Verde**	**3.57**	**6**	*e*P	**Pn**	**13 00 09.8**	**+3.0**
LVC	**Limon Verde**	**3.57**	**6**	Pn	**Pb**	**13 00 10.9**	**-3.3**
	comp=E,147nm,0.3s,baz=165,slow=9.3,SNR=86						
LVC				Sn	**Sb**	**13 00 58.5**	**+0.4**
	comp=E,2μm,0.3s,baz=236,slow=23,SNR=18						
LVC				LR	LR	13 01 40.6	
	comp=E,19μm,20.5s,baz=200,slow=42						
AHML	**Horco Molle**	**3.61**	**101**	*e*P	**Pn**	**13 00 10.0**	**+2.8**
ACLC	**CERRO LA CRUZ**	**3.85**	**148**	*e*P	**Pn**	**13 00 13.5**	**+3.0**
CYA	**Choya**	**3.85**	**127**	*e*P	**Pn**	**13 00 13.5**	**+3.1**
CYA				*e*S	**Sn**	**13 01 01.0**	**+4.8**
CYA	**Choya**	**3.85**	**127**	*e*P	**Pn**	**13

BDFB Brasilia 22.45 66 *eP* **P 13 04 09.7 -1.0**
BDFB pmax pmax
comp=Z,45nm,1.0s
BDFB MLR MLR
comp=Z,2µm,21.0s
BDFB Brasilia 22.45 66 P **P 13 04 07.6 -3.1**
comp=Z,32nm,1.0s,baz=243,slow=8.9,SNR=9.5
BDFB LR LR 13 12 36.2
comp=Z,1µm,19.4s,baz=243,slow=36
ESAR Angra dos Reis 22.82 87 *eP* **P 13 04 15.0 +0.6**
BSCB Bom Sucesso 23.05 82 *eP* **P 13 04 19.0 +2.0**
VAS01 Vassouras-RJ 23.89 86 *eP* **P 13 04 26.1 +0.8**
DUB01 Friburgo-RJ 24.90 86 *eP* **P 13 04 35.8 +1.3**
GO09 Cerro Castillo 25.16 184 *eP* **P 13 04 40.9 +4.4**
comp=Z,502nm,1.8s
MCI6 Montes Claros 25.38 74 *eP* **P 13 04 39.9 +1.0**
MCI8 Montes Claros 25.42 73 *eP* **P 13 04 39.9 +0.6**
MCI9 Montes Claros 25.43 73 *eP* **P 13 04 39.6 +0.2**
CAM01 Campos-RJ 25.61 86 *eP* **P 13 04 42.9 +2.0**
ALF01 Guarapari-ES 26.78 84 *eP* **P 13 04 53.3 +1.8**
PTGA Pitinga 26.85 21 *eP* **P 13 04 52.4 +0.2**
comp=Z,58nm,0.9s
PTGA LR LR
comp=Z,4µm,22.0s
PTGA Pitinga 26.85 21 P **P 13 04 51.1 -1.1**
comp=Z,39nm,0.8s,baz=198,slow=11,SNR=22
PTGA LR LR 13 17 03.4
comp=Z,742nm,19.6s,baz=201,slow=40
PTGA Pitinga 26.85 21 *eP* **P 13 04 53.8 +1.6**
SJMB Sao Joao De Ma 27.00 80 *eP* **P 13 04 56.0 +2.5**
OTAV Otavalo 27.70 340 *eP* **P 13 05 02.4 +2.1**
comp=Z,24nm,1.0s
OTAV LR LR
comp=Z,2µm,20.0s
OTAV Otavalo 27.70 340 *eP* **P 13 05 02.4 +2.1**
OTAV pmax pmax
comp=Z,24nm,1.0s
OTAV MLR MLR
comp=Z,2µm,20.0s
OTAV Otavalo 27.70 340 *eP* **P 13 05 03.5 +3.2**
FLOC Florencia 28.27 347 *eP* **P 13 05 08.5 +3.6**
FLOC Florencia 28.27 347 *eP* **P 13 05 08.5 +3.6**
USHA Ushuaia 28.63 179 P **P 13 05 08.0 +0.3**
comp=Z,25nm,1.0s,baz=354,slow=12,SNR=4.6
USHA LR LR 13 17 03.3
comp=Z,1µm,21.5s,baz=16,slow=38
GUVC San Jose del G 28.73 353 *eP* **P 13 05 10.0 +1.0**
GUVC San Jose del G 28.73 353 *eP* **P 13 05 10.0 +1.0**
SOTA Rioblanco 29.02 345 *eP* **P 13 05 14.4 +2.3**
SOTA Rioblanco 29.02 345 *eP* **P 13 05 14.4 +2.3**
BBAC Balboa, Cauca 29.07 343 *eP* **P 13 05 13.7 +1.5**
BBAC Balboa, Cauca 29.07 343 *eP* **P 13 05 13.7 +1.5**
PCON Cinco Dias 29.16 345 *eP* **P 13 05 16.5 +3.1**
PCON Cinco Dias 29.16 345 *eP* **P 13 05 16.5 +3.1**
POPC Popayan, Colom 29.43 345 *eP* **P 13 05 17.2 +1.8**
POPC *eP* **P 13 05 17.7 +2.3**
POPC Popayan, Colom 29.43 345 *eP* **P 13 05 17.2 +1.8**
POPC *eP* **P 13 05 17.7 +2.3**
PRAC Prado 30.20 349 *eP* **P 13 05 23.8 +1.8**
PRAC Prado 30.20 349 *eP* **P 13 05 23.8 +1.8**
YOTC Yotoco, Valle 30.75 346 *eP* **P 13 05 28.0 +1.0**
YOTC Yotoco, Valle 30.75 346 *eP* **P 13 05 28.0 +1.0**
CHIC Chingaza 30.92 351 *eP* **P 13 05 31.3 +2.5**
CHIC Chingaza 30.92 351 *eP* **P 13 05 31.3 +2.5**
ROSC El Rosal 31.21 350 *eP* **P 13 05 34.3 +2.9**
comp=Z,15nm,1.0s
ROSC LR LR
comp=Z,1µm,21.0s
ROSC El Rosal 31.21 350 P **P 13 05 34.5 +3.1**
comp=Z,6.5nm,0.6s,baz=116,slow=16,SNR=4.5
ROSC LR LR 13 19 25.8
comp=Z,1µm,20.4s,baz=186,slow=39
RUSC La Rusia 32.09 353 *eP* **P 13 05 40.0 +0.8**
RUSC La Rusia 32.09 353 *eP* **P 13 05 40.0 +0.8**
PAYG Puerto Ayora 32.42 318 PFAKE 13 05 50.0 +8.4
PAYG LR LR
comp=Z,2µm,22.0s
HELC Santa Helena 32.74 349 *eP* **P 13 05 44.8 0.0**
HELC Santa Helena 32.74 349 *eP* **P 13 05 44.8 0.0**
UREC San Jos de Ur 34.26 349 *eP* **P 13 05 58.6 +1.0**
UREC San Jos de Ur 34.26 349 *eP* **P 13 05 58.6 +1.0**
SDV Santo Domingo 34.88 358 *eP* **P 13 06 01.8 -1.4**
comp=Z,14nm,0.9s
SDV LR LR
comp=Z,2µm,19.0s
SDV Santo Domingo 34.88 358 *eP* **P 13 06 02.0 -1.1**
SDV Santo Domingo 34.88 358 *eP* **P 13 06 02.0 -1.1**
SDV Santo Domingo 34.88 358 LR LR 13 21 26.1
comp=Z,2µm,18.6s,baz=186,slow=38
MDP Montagnes des 35.04 30 LR LR 13 22 19.3
comp=Z,1µm,18.8s,baz=206,slow=40
RPN Rapa Nui 35.68 259 LR LR 13 17 11.6
comp=Z,1µm,18.6s,baz=183,slow=30
SJCC San Jacinto, C 36.31 350 *eP* **P 13 06 14.6 -0.7**
SJCC San Jacinto, C 36.31 350 *eP* **P 13 06 14.6 -0.7**
BCIP Isla Barro Col 36.59 342 *eP* **P 13 06 19.2 +1.5**
comp=Z,54nm,0.9s
BCIP LR LR
comp=Z,800nm,20.0s
BCIP Isla Barro Col 36.59 342 *eP* **P 13 06 19.2 +1.5**
BCIP pmax pmax
comp=Z,54nm,0.9s
BCIP MLR MLR
comp=Z,800nm,20.0s
RCBR Riachuelo 37.76 63 PFAKE 13 06 40.0 +12
RCBR LR LR
comp=Z,2µm,18.0s
RCBR Riachuelo 37.76 63 LR LR 13 24 43.1
comp=Z,11µm,18.9s,baz=342,slow=41
RCBR Riachuelo 37.76 63 *eP* **P 13 06 28.0 +0.2**
PMSA Palmer Station 38.75 176 *eP* P 13 06 40.4 +5.0
GRGR Grenville 38.80 12 PFAKE 13 06 50.0 +14
GRGR LR LR
comp=Z,2µm,19.0s
JTS Las Juntas de 39.31 335 *eP* **P 13 06 44.2 +3.5**
comp=Z,48nm,1.3s
JTS Las Juntas de 39.31 335 *i* P **P 13 06 41.3 +0.6**
JTS pmax pmax
comp=Z,27nm,1.2s
ESPN Las Esperanzas 40.84 337 PFAKE 13 07 00.0 +6.7
ESPN LR LR
comp=Z,500nm,20.0s
ACON Acoyapa 40.94 336 *eP* **P 13 06 56.8 +2.6**
comp=Z,38nm,1.3s
ACON LR LR
comp=Z,1µm,20.0s
FDF Fort de France 41.43 12 PFAKE 13 07 10.0 +12
FDF LR LR
comp=Z,2µm,20.0s
TGUH Tegucigalpa,Un 43.65 334 *eP* **P 13 07 17.6 +1.4**
comp=Z,52nm,1.0s
SEUS St. Eustatius 43.84 9 PFAKE 13 07 30.0 +12
SEUS LR LR
comp=Z,2µm,20.0s
ICMP Isla Caja de M 43.88 4 *eP* **P 13 07 16.4 -1.7**
comp=Z,29nm,0.7s
CRPR Cabo Rojo, PR 43.97 3 *eP* **P 13 07 16.5 -2.3**
comp=Z,51nm,0.8s
CRPR LR LR
comp=Z,800nm,20.0s
OBIP Obispado Ponce 44.03 4 *eP* **P 13 07 18.1 -1.2**
comp=Z,67nm,1.0s
SJG San Juan 44.13 4 *eP* **P 13 07 17.7 -2.3**
comp=Z,34nm,0.8s
SJG LR LR
comp=Z,900nm,21.0s
SJG San Juan 44.13 4 *eP* **P 13 07 17.7 -2.3**
SJG pmax pmax
comp=Z,34nm,0.8s
SJG MLR MLR
comp=Z,900nm,21.0s
SJG San Juan 44.13 4 LR LR 13 28 17.2
comp=Z,810nm,20.6s,baz=186,slow=40
MPR Mayaguez 44.17 3 *eP* **P 13 07 19.1 -1.3**
comp=Z,23nm,0.8s
ANWB Willy Bob 44.19 10 PFAKE 13 07 30.0 +9.4
ANWB LR LR
comp=Z,800nm,21.0s
CBYP Canovanas 44.31 5 *eP* **P 13 07 19.1 -2.4**
comp=Z,35nm,1.0s
CBYP LR LR
comp=Z,900nm,19.0s
BANI BANI 44.31 359 *eP* **P 13 07 21.2 -0.4**
AOPR Arecibo Observ 44.33 3 *eP* **P 13 07 21.1 -0.6**
comp=Z,22nm,0.7s

CUPR Culebra, Puert 44.39 5 PFAKE 13 07 30.0 +7.9
CUPR LR LR
comp=Z,1µm,22.0s
MTDJ Mount Denham 44.86 349 *eP* **P 13 07 27.8 +1.8**
comp=Z,322nm,1.4s
MTDJ LR LR
comp=Z,600nm,22.0s
ABVI Anegada Island 44.90 7 PFAKE 13 07 40.0 +14
ABVI LR LR
comp=Z,1µm,20.0s
SDDR Presa de Saban 44.93 357 PFAKE 13 07 40.0 +13
SDDR LR LR
comp=Z,900nm,21.0s
APG El Apazote 45.82 331 LR LR 13 23 50.6
comp=Z,589nm,21.9s,baz=148,slow=32
GTBY Guantanamo Bay 46.17 352 PFAKE 13 07 50.0 +14
GTBY LR LR
comp=Z,600nm,19.0s
GRTK Grand Turk 47.44 358 PFAKE 13 08 00.0 +14
GRTK LR LR
comp=Z,1µm,20.0s
TEIG Tepich 49.67 336 *eP* **P 13 08 03.5 +0.1**
comp=Z,246nm,1.8s
CMIG Matias Romero 49.68 327 LR LR 13 25 04.8
comp=Z,438nm,21.9s,baz=153,slow=31
MYIG Mrida 50.88 335 PFAKE 13 08 20.0 +7.5
MYIG LR LR
comp=Z,600nm,19.0s
062Z Marathon 51.86 346 P **P 13 08 19.7 -0.2**
baz=167
TLIG Tlapa 51.95 324 PFAKE 13 08 30.0 +9.2
TLIG LR LR
comp=Z,900nm,22.0s
061Z Ochoppi 52.94 347 PFAKE 13 08 40.0 +12
061Z LR LR
comp=Z,600nm,20.0s
061Z Ochoppi 52.94 347 P **P 13 08 27.8 0.0**
baz=167
060Z West Palm Beac 53.39 347 P **P 13 08 30.8 -0.4**
baz=168
059Z Ave Maria 53.51 346 P **P 13 08 31.6 -0.4**
baz=167
060A Indiantown 53.97 348 PFAKE 13 08 50.0 +15
060A LR LR
comp=Z,700nm,22.0s
060A Indiantown 53.97 348 P **P 13 08 35.1 -0.2**
baz=168
059A Moore Haven 54.05 347 *eP* **P 13 08 37.6 +1.6**
comp=Z,124nm,1.3s
059A LR LR
comp=Z,600nm,20.0s
059A Moore Haven 54.05 347 P **P 13 08 35.6 -0.4**
baz=167
058A Arcadia 54.28 346 P **P 13 08 36.8 -0.8**
baz=166
959A Okeechobee 54.54 347 P **P 13 08 38.7 -0.8**
baz=167
957A Wimauma 54.96 346 PFAKE 13 08 50.0 +7.4
957A LR LR
comp=Z,500nm,20.0s
957A Wimauma 54.96 346 P **P 13 08 42.1 -0.5**
baz=166
859A Kempfer Cattle 55.06 347 P **P 13 08 42.8 -0.6**
baz=168
MOIG Morelia 55.10 323 *eP* **P 13 08 46.3 +2.2**
comp=Z,79nm,1.3s
DWPF Disney Wildern 55.22 347 PFAKE 13 09 00.0 +16
DWPF LR LR
comp=Z,500nm,20.0s
DWPF Disney Wildern 55.22 347 P **P 13 08 43.8 -0.7**
baz=167
858A St. Cloud 55.31 347 P **P 13 08 44.3 -0.8**
baz=167
857A Zephyrhills 55.54 346 P **P 13 08 45.8 -0.9**
baz=166
VNA3 Neumayer Olymp 55.80 160 P **P 13 08 47.9 -0.3**
VNA1 Neumayer--Stat 56.04 159 P **P 13 08 51.0 +1.1**
757A Oxford 56.16 347 P **P 13 08 51.1 -0.1**
baz=166
VNA2 Neumayer--Watz 56.40 160 P **P 13 08 52.0 -0.5**
baz=288,slow=7.9
658A Bunnell 56.46 347 P **P 13 08 52.9 -0.4**
baz=167
656A Willston 56.67 346 PFAKE 13 09 10.0 +15
656A LR LR
comp=Z,500nm,18.0s
656A Willston 56.67 346 P **P 13 08 54.3 -0.5**
baz=166
657A Interlachen 56.74 347 P **P 13 08 54.8 -0.5**
baz=167
655A Horseshoe Beac 56.96 345 P **P 13 08 56.1 -0.8**
baz=165
557A Orange Park 57.13 347 P **P 13 08 57.9 -0.2**
baz=167
556A Lake Butler 57.25 346 P **P 13 08 58.2 -0.8**
baz=166
555A McAlpin 57.49 346 *eP* **P 13 09 00.6 0.0**
comp=Z,67nm,1.0s
555A McAlpin 57.49 346 P **P 13 08 60.0 -0.6**
baz=166
554A Perry 57.61 345 P **P 13 09 01.2 -0.3**
baz=165
457A Yulee 57.68 348 P **P 13 09 01.3 -0.6**
baz=167
553A Crawfordville 57.89 345 P **P 13 09 03.1 -0.3**
baz=164
SNAA Sanae 58.01 160 P **P 13 09 03.0 -0.9**
SNAA Sanae 58.01 160 *eP* **P 13 09 03.5 -0.5**
comp=Z,56nm,1.0s
SNAA Sanae 58.01 160 *i* P **P 13 09 01.9 -2.1**
SNAA Sanae 58.01 160 P **P 13 09 02.8 -1.2**
comp=Z,20nm,0.6s,baz=282,slow=7.6,SNR=66
552A Lynn Haven 58.05 344 P **P 13 09 04.3 -0.2**
baz=163
455A Stateville 58.10 346 P **P 13 09 04.5 -0.4**
baz=166
454A Quitman 58.21 345 P **P 13 09 05.0 -0.6**
baz=165
357A Townsend 58.45 348 P **P 13 09 06.9 -0.4**
baz=167
356A Blackshear 58.48 347 P **P 13 09 07.1 -0.4**
baz=167
453A Whigham 58.50 345 P **P 13 09 07.9 +0.2**
baz=164
LNIG Linares 58.54 328 *eP* **P 13 09 09.9 +1.8**
comp=Z,38nm,1.3s
355A Pearson 58.64 346 P **P 13 09 08.4 -0.3**
baz=166
452A Marianna 58.70 344 P **P 13 09 08.8 -0.3**
baz=164
TIGA Tifton 58.90 346 *eP* **P 13 09 10.2 -0.3**
comp=Z,48nm,0.9s
TIGA Tifton 58.90 346 P **P 13 09 09.8 -0.6**
baz=165
257A Skidaway Islan 58.90 348 P **P 13 09 09.3 -1.2**
baz=168
353A Camilla 58.95 345 P **P 13 09 09.3 -1.5**
baz=165
450A Crestview 59.02 343 P **P 13 09 10.7 -0.7**
baz=162
256A Glennville 59.06 348 P **P 13 09 10.9 -0.7**
baz=167
255A Hazlehurst 59.13 347 P **P 13 09 11.0 -1.1**
baz=166
449A Pace 59.15 342 P **P 13 09 11.3 -0.9**
baz=161
351A Pinckard 59.21 344 P **P 13 09 12.4 -0.3**
baz=163,SNR=8.0
352A Blakely 59.24 344 *eP* **P 13 09 12.4 -0.5**
comp=Z,101nm,1.0s
352A Blakely 59.24 344 P **P 13 09 12.5 -0.4**
baz=164,SNR=8.0
254A Abbeville 59.32 346 P **P 13 09 12.7 -0.7**
baz=166,SNR=5.7
BRAL Brewton 59.49 342 *eP* **P 13 09 14.9 +0.3**
comp=Z,208nm,1.3s
BRAL Brewton 59.49 342 P **P 13 09 14.2 -0.4**
baz=162
158A Hollywood 59.50 349 P **P 13 09 14.0 -0.6**
baz=169
350A Dozier 59.54 343 P **P 13 09 14.2 -0.8**
baz=162
157A Early Branch 59.58 349 P **P 13 09 14.6 -0.6**
baz=168
253A Americus 59.62 345 *eP* **P 13 09 15.2 -0.3**
comp=Z,116nm,1.1s
253A LR LR
comp=Z,600nm,19.0s

253A Americus 59.62 345 P **P 13 09 14.7 -0.7**
baz=165
156A Sylvania 59.65 348 P **P 13 09 14.2 -1.4**
baz=168
252A Lumpkin 59.69 345 P **P 13 09 15.5 -0.5**
baz=164,SNR=9.7
349A Repton 59.70 342 P **P 13 09 16.0 -0.1**
baz=162,SNR=6.0
155A Kite 59.80 347 P **P 13 09 16.8 +0.1**
baz=166,SNR=5.4
Z59A Georgetown, SC 59.85 350 P **P 13 09 16.2 -0.8**
baz=170
NHSC New Hope 59.86 349 PFAKE 13 09 30.0 +13
NHSC LR LR
comp=Z,1µm,22.0s
NHSC New Hope 59.86 349 P **P 13 09 17.3 +0.3**
baz=169,SNR=5.8
154A Montrose 59.92 347 PFAKE 13 09 30.0 +12
154A LR LR
comp=Z,300nm,18.0s
154A Montrose 59.92 347 P **P 13 09 17.2 -0.4**
baz=166,SNR=5.2
251A Midway 59.95 344 P **P 13 09 16.9 -0.8**
baz=164,SNR=18
Z58A St. Stephen 60.02 350 P **P 13 09 17.5 -0.7**
baz=169
250A Grady 60.05 343 PFAKE 13 09 30.0 +12
250A LR LR
comp=Z,300nm,22.0s
250A Grady 60.05 343 P **P 13 09 17.4 -1.0**
baz=163,SNR=6.6
153A Fort Valley 60.12 346 P **P 13 09 17.9 -1.0**
baz=165
Z57A Bowman 60.13 349 P **P 13 09 17.9 -1.0**
baz=168
249A Camden 60.27 343 P **P 13 09 18.6 -1.3**
baz=162
Z56A Williston 60.28 348 P **P 13 09 18.3 -1.6**
baz=168
Z55A Blythe 60.32 348 P **P 13 09 18.6 -1.6**
baz=167
152A Waverly Hall 60.33 345 PFAKE 13 09 30.0 +10
152A LR LR
comp=Z,500nm,18.0s
152A Waverly Hall 60.33 345 P **P 13 09 19.2 -1.2**
baz=164,SNR=14
151A Opelika 60.34 344 P **P 13 09 18.6 -1.8**
baz=164
Y60A Bolivia 60.45 351 P **P 13 09 19.4 -1.7**
baz=171
Z54A Sparta 60.47 347 P **P 13 09 20.8 -0.5**
baz=166,SNR=7.3
Y58A Scranton 60.56 350 P **P 13 09 20.6 -1.2**
baz=170
150A Eclectic 60.59 344 P **P 13 09 21.1 -1.0**
baz=163,SNR=11
Z53A Monticello 60.67 346 P **P 13 09 21.5 -1.1**
baz=166,SNR=6.6
Y56A Pelion 60.72 349 P **P 13 09 22.2 -0.8**
baz=168
Z52A Williamson 60.76 345 P **P 13 09 21.7 -1.6**
baz=165,SNR=12
GOGA Godfrey 60.77 346 *eP* **P 13 09 23.1 -0.2**
comp=Z,38nm,1.0s
GOGA LR LR
comp=Z,300nm,20.0s
GOGA Godfrey 60.77 346 *eP* **P 13 09 23.1 -0.2**
GOGA pmax pmax
comp=Z,38nm,1.0s
GOGA MLR MLR
comp=Z,300nm,20.0s
GOGA Godfrey 60.77 346 P **P 13 09 22.4 -0.9**
baz=166,SNR=8.1
149A Jones 60.78 343 P **P 13 09 21.6 -1.7**
baz=162,SNR=5.7
Y57A Sumter 60.78 349 P **P 13 09 22.3 -1.1**
baz=169
Y55A Saluda 60.96 348 P **P 13 09 23.9 -0.7**
baz=167
X60A Albert Glenn T 60.98 352 P **P 13 09 23.9 -0.8**
baz=171
148A Greensboro 61.03 342 P **P 13 09 24.2 -0.9**
baz=161
Y54A Tignall 61.05 347 P **P 13 09 23.8 -1.4**
baz=166,SNR=6.9
X59A McDuffie Farm, 61.06 351 P **P 13 09 24.6 -0.7**
baz=171
Z51A Franklin 61.06 345 P **P 13 09 24.1 -1.2**
baz=164
X58A Rowland 61.15 351 *eP* **P 13 09 25.4 -0.4**
comp=Z,62nm,0.8s
X58A LR LR
comp=Z,600nm,22.0s
X58A Rowland 61.15 351 P **P 13 09 25.2 -0.7**
baz=170
X57A Johnson Farm, 61.17 350 P **P 13 09 25.5 -0.6**
baz=169
Z50A Ashland 61.18 344 PFAKE 13 09 40.0 +14
Z50A LR LR
comp=Z,500nm,20.0s
Z50A Ashland 61.18 344 P **P 13 09 24.5 -1.6**
baz=163,SNR=17
Y53A Monroe 61.22 346 P **P 13 09 24.5 -1.9**
baz=166,SNR=8.4
LRAL Lakeview Retre 61.24 343 P **P 13 09 24.6 -2.0**
baz=162
147A Livingston 61.25 342 PFAKE 13 09 40.0 +13
147A LR LR
comp=Z,400nm,20.0s
147A Livingston 61.25 342 P **P 13 09 24.7 -1.9**
baz=161
Z49A Columbiana 61.27 344 P **P 13 09 24.8 -2.0**
baz=162,SNR=7.3
HODGE Hodges 61.32 348 *eP* **P 13 09 27.5 +0.4**
comp=Z,40nm,1.2s
HODGE LR LR
comp=Z,600nm,19.0s
HKT Hockley 61.32 334 *eP* **P 13 09 28.5 +1.4**
comp=Z,48nm,1.4s
HKT Hockley 61.32 334 *eP* **P 13 09 28.5 +1.4**
HKT pmax pmax
comp=Z,48nm,1.4s
Y52A Lilburn 61.33 346 *eP* **P 13 09 26.3 -0.8**
comp=Z,41nm,1.0s
Y52A LR LR
comp=Z,400nm,18.0s
Y52A Lilburn 61.33 346 P **P 13 09 25.6 -1.6**
baz=165,SNR=5.8
X56A White Oak 61.35 349 P **P 13 09 26.4 -0.9**
baz=168,SNR=7.7
BIRD Birdtown, Kers 61.41 350 PFAKE 13 09 40.0 +12
BIRD LR LR
comp=Z,800nm,22.0s
833A Chaparral WMA, 61.42 330 PFAKE 13 09 40.0 +12
833A LR LR
comp=Z,300nm,18.0s
833A Chaparral WMA, 61.42 330 P **P 13 09 27.7 -0.2**
baz=149,SNR=14
X55A Gracelyn & Ava 61.44 348 P **P 13 09 27.6 -0.3**
baz=168,SNR=5.0
W61A Ground Anchor 61.45 353 P **P 13 09 27.1 -0.8**
baz=172
VBMS Vicksburg 61.49 340 P **P 13 09 27.2 -1.0**
baz=158
W58A Raeford 61.59 351 P **P 13 09 28.5 -0.4**
baz=170,SNR=6.4
Y51A Rockmart 61.59 345 P **P 13 09 28.1 -0.8**
baz=164,SNR=20
CNNC Cliffs of the 61.62 352 P **P 13 09 28.3 -0.8**
baz=171
W59A Clinton 61.62 352 P **P 13 09 27.9 -1.1**
baz=171
X54A Belton 61.65 348 P **P 13 09 28.7 -0.6**
baz=167,SNR=5.6
V62A Hyde County Ai 61.73 354 P **P 13 09 28.5 -1.2**
baz=173
Y50A Piedmont 61.74 345 P **P 13 09 28.8 -1.1**
baz=163,SNR=7.2
X53A Estanollee 61.79 347 P **P 13 09 29.5 -0.7**
baz=166,SNR=7.9
PAULI Pauline 61.81 348 *eP* **P 13 09 32.3 +1.9**
comp=Z,65nm,1.3s
PAULI LR LR
comp=Z,400nm,18.0s
W57A Gilead 61.83 350 *eP* **P 13 09 30.2 -0.3**
comp=Z,41nm,0.9s
W57A LR LR
comp=Z,600nm,21.0s

W57A	Gilead	baz=169,SNR=7.4	61.83 350	P	P	13 09 29.6	-0.8
Y49A	Blount Mountai		61.88 344	PFAKE		13 09 40.0	+9.2
Y49A		comp=Z,400nm,22.0s		LR	LR		
Y49A	Blount Mountai	baz=163,SNR=5.9	61.88 344	P	P	13 09 29.6	-1.2
W56A	Indian Trail	baz=169	61.91 350	P	P	13 09 29.8	-1.2
X52A	Dahlonega	baz=165,SNR=7.5	62.01 346	P	P	13 09 30.7	-1.1
KMSC	Kings Mountain		62.04 349	PFAKE		13 09 40.0	+8.1
KMSC		comp=Z,800nm,22.0s		LR	LR		
KMSC	Kings Mountain	baz=168,SNR=6.9	62.04 349	P	P	13 09 31.0	-0.9
V60A	Jim Taylor Roa		62.06 353	PFAKE		13 09 40.0	+8.0
V60A		comp=Z,400nm,20.0s		LR	LR		
V60A	Jim Taylor Roa	baz=172	62.06 353	P	P	13 09 30.7	-1.3
Y48A	Jasper	baz=162	62.12 343	P	P	13 09 30.7	-1.8
W54A	Cherokee Point	baz=167,SNR=11	62.14 348	P	P	13 09 32.1	-0.5
V59A	Middlesex	baz=171,SNR=6.8	62.18 352	P	P	13 09 32.0	-0.9
X51A	Calhoun		62.18 346	PFAKE		13 09 40.0	+7.1
X51A		comp=Z,500nm,20.0s		LR	LR		
X51A	Calhoun	baz=164,SNR=15	62.18 346	P	P	13 09 31.7	-1.2
BG3	Lake Jocassee		62.19 347	PFAKE		13 09 40.0	+7.1
BG3		comp=Z,600nm,18.0s		LR	LR		
X50B	Fort Payne	baz=164,SNR=15	62.27 345	P	P	13 09 32.8	-0.7
V58A	Windy Hill, Pi	baz=170,SNR=5.5	62.33 351	P	P	13 09 32.9	-0.9
W53A	Cullowhee	baz=166,SNR=11	62.41 347	P	P	13 09 33.8	-0.7
X49A	Woodville	baz=163,SNR=5.7	62.48 344	P	P	13 09 33.8	-1.1
NATX	Nacogdoches		62.49 336	PFAKE		13 09 50.0	+15
NATX		comp=Z,300nm,20.0s		LR	LR		
NATX	Nacogdoches	baz=154	62.49 336	P	P	13 09 34.5	-0.5
W52A	Murphy		62.49 347	PFAKE		13 09 50.0	+15
W52A		comp=Z,500nm,20.0s		LR	LR		
W52A	Murphy	baz=165,SNR=5.5	62.49 347	P	P	13 09 33.6	-1.4
ETX06	Route 59 and C		62.51 336	PFAKE		13 09 50.0	+15
ETX06		comp=Z,100nm,22.0s		LR	LR		
V57A	Coltrane Farms	baz=170,SNR=5.7	62.52 350	P	P	13 09 33.5	-1.6
U61A	Possum Corner	baz=173	62.54 354	P	P	13 09 34.0	-1.2
V56A	Mocksville	comp=Z,62nm,1.1s	62.55 350	eP	P	13 09 35.6	+0.3
V56A		comp=Z,600nm,21.0s		LR	LR		
V56A	Mocksville	baz=169,SNR=9.7	62.55 350	P	P	13 09 33.7	-1.6
X48A	Hartselle	comp=Z,69nm,1.0s	62.60 344	eP	P	13 09 34.5	-1.1
X48A		comp=Z,300nm,20.0s		LR	LR		
X48A	Hartselle	baz=162,SNR=18	62.60 344	P	P	13 09 33.9	-1.7
U59A	Littleton		62.71 352	PFAKE		13 09 50.0	+14
U59A		comp=Z,300nm,19.0s		LR	LR		
U59A	Littleton	baz=172	62.71 352	P	P	13 09 35.0	-1.3
V55A	Taylorsville	baz=168,SNR=8.2	62.71 349	P	P	13 09 35.4	-1.0
W51A	Cleveland	baz=165,SNR=12	62.73 346	P	P	13 09 35.3	-1.2
U60A	Pendleton	baz=172	62.75 353	P	P	13 09 35.0	-1.6
435B	Jarrell	baz=152	62.77 333	P	P	13 09 35.1	-1.7
V54A	Nebo	baz=167,SNR=14	62.77 348	P	P	13 09 35.9	-0.9
V53A	Saluda		62.82 348	PFAKE		13 09 50.0	+13
V53A		comp=Z,600nm,18.0s		LR	LR		
V53A	Saluda	baz=166	62.82 348	P	P	13 09 35.8	-1.4
U58A	Oxford	baz=171,SNR=6.1	62.84 352	P	P	13 09 36.2	-1.1
X47A	Russelville	baz=162,SNR=13	62.87 343	P	P	13 09 35.8	-1.7
W50A	Signal Mountai		62.90 345	PFAKE		13 09 50.0	+12
W50A		comp=Z,600nm,22.0s		LR	LR		
W50A	Signal Mountai	baz=164,SNR=18	62.90 345	P	P	13 09 36.3	-1.4
CPCT	Cooper Cave		62.96 346	PFAKE		13 09 50.0	+12
CPCT		comp=Z,400nm,19.0s		LR	LR		
U57A	Blanch	baz=170,SNR=7.4	62.99 351	P	P	13 09 36.6	-1.6
W49A	Belvidere	baz=163,SNR=7.1	63.04 344	P	P	13 09 37.3	-1.3
SWET	Sewanee	comp=Z,89nm,0.9s	63.05 345	eP	P	13 09 38.0	-0.7
SWET		comp=Z,400nm,22.0s		LR	LR		
U56A	King	baz=169	63.06 350	P	P	13 09 37.4	-1.4
X46A	Booneville	baz=161,SNR=5.1	63.11 342	P	P	13 09 36.8	-2.2
V52A	Sevierville		63.15 347	PFAKE		13 09 50.0	+11
V52A		comp=Z,500nm,19.0s		LR	LR		
V52A	Sevierville	baz=166,SNR=12	63.15 347	P	P	13 09 37.9	-1.4
Z41A	Richland Creek	comp=Z,62nm,1.0s	63.19 338	eP	P	13 09 39.9	+0.3
Z41A		comp=Z,300nm,21.0s		LR	LR		
Z41A	Richland Creek	baz=157	63.19 338	P	P	13 09 37.8	-1.8
W48A	Pulaski	baz=162,SNR=14	63.22 344	P	P	13 09 38.0	-1.8
SLBS	Sierra La Lagu	comp=Z,58nm,1.2s	63.26 318	eP	P	13 09 42.8	+2.4
V51A	Loudon		63.26 346	PFAKE		13 09 50.0	+10
V51A		comp=Z,400nm,20.0s		LR	LR		
V51A	Loudon	baz=165,SNR=6.6	63.26 346	P	P	13 09 38.2	-1.9
T59A	Double "B" Far	baz=172	63.29 353	P	P	13 09 38.0	-2.2
OXF	Oxford	comp=Z,56nm,0.9s	63.30 341	eP	P	13 09 39.3	-1.0
OXF	Oxford		63.30 341	eP	P	13 09 39.3	-1.0
OXF		comp=Z,56nm,0.9s		pmax	pmax		
OXF	Oxford	baz=160	63.30 341	P	P	13 09 38.2	-2.1
V50A	Pikevile	baz=164,SNR=21	63.30 346	P	P	13 09 38.1	-2.2
U55A	TA2, Sparta	baz=168	63.32 349	P	P	13 09 38.5	-2.0
PLAL	Pickwick Lake	comp=Z,39nm,1.0s	63.37 343	eP	P	13 09 39.8	-1.0
PLAL		comp=Z,200nm,19.0s		LR	LR		
T58A	Grand View Acr	baz=171,SNR=11	63.38 352	P	P	13 09 38.7	-2.1
JCT	Junction City		63.45 331	PFAKE		13 09 50.0	+8.5
JCT		comp=Z,200nm,22.0s		LR	LR		
JCT	Junction City	baz=150,SNR=22	63.45 331	P	P	13 09 39.9	-1.5
U53A	Fall Branch	baz=167	63.45 348	P	P	13 09 39.2	-2.2
U54A	Nelsons Funny	baz=168,SNR=11	63.47 349	P	P	13 09 39.9	-1.6
W47A	Westpoint	baz=162,SNR=13	63.50 343	P	P	13 09 40.2	-1.4
T57A	Hurt	baz=170,SNR=6.2	63.53 351	P	P	13 09 40.2	-1.6
V49A	McMinnville	baz=164,SNR=19	63.57 345	P	P	13 09 40.2	-1.9
W46A	Michie	baz=161	63.59 343	P	P	13 09 40.4	-1.9
T56A	Rocky Mt	baz=169,SNR=7.6	63.67 350	P	P	13 09 41.2	-1.5
X43A	Marvell	baz=159,SNR=8.4	63.73 340	P	P	13 09 41.6	-1.6
U51A	La Follette	baz=165	63.75 347	P	P	13 09 41.8	-1.5
V48A	Smith Brothers		63.77 344	PFAKE		13 09 50.0	+6.6
V48A		comp=Z,500nm,22.0s		LR	LR		
V48A	Smith Brothers	baz=163,SNR=18	63.77 344	P	P	13 09 41.4	-2.0
WHTX	Lake Whitney,	baz=152,SNR=8.5	63.77 333	P	P	13 09 41.9	-1.6
TZTN	Tazewell	baz=166	63.81 347	P	P	13 09 41.0	-2.7
T55A	Pulaski	baz=169,SNR=9.2	63.88 350	P	P	13 09 42.2	-2.0
BLA	Blacksburg	comp=Z,34nm,1.0s	63.91 350	eP	P	13 09 43.9	-0.5
BLA		comp=Z,500nm,22.0s		LR	LR		
BLA	Blacksburg		63.91 350	eP	P	13 09 43.9	-0.5
BLA		comp=Z,34nm,1.0s		pmax	pmax		
BLA		comp=Z,500nm,22.0s		MLR	MLR		
BLA	Blacksburg	baz=169	63.91 350	P	P	13 09 43.0	-1.4
S60A	Water View	baz=173	63.92 354	P	P	13 09 40.5	-3.8
T54A	Tazewell	baz=168,SNR=7.2	63.95 349	P	P	13 09 43.1	-1.6
U50A	Jamestown	baz=165,SNR=14	63.96 346	P	P	13 09 43.2	-1.5
S58A	Poland Farm, P	comp=Z,42nm,1.2s	63.98 352	eP	P	13 09 44.5	-0.2
S58A	Poland Farm, P	baz=171	63.98 352	P	P	13 09 42.8	-2.0
V47A	Nunnelly	baz=162,SNR=6.4	64.03 344	P	P	13 09 43.2	-1.9
QSPA	South Pole Qui	comp=Z,21nm,0.9s	64.03 180	eP	P	13 09 44.4	-0.7
S59A	Mechanicsville	baz=172	64.04 353	P	P	13 09 41.5	-3.6
T53A	Wise	baz=167,SNR=7.3	64.05 348	P	P	13 09 43.1	-2.2
V46A	Holladay	baz=161,SNR=10	64.16 343	P	P	13 09 44.6	-1.4
S57A	Dark Hollow, R	comp=Z,44nm,1.0s	64.24 352	eP	P	13 09 46.1	-0.4
S57A	Dark Hollow, R	baz=170,SNR=8.6	64.24 352	P	P	13 09 45.3	-1.1
S56A	Natural Bridge	baz=170,SNR=6.1	64.24 351	P	P	13 09 44.5	-2.0
T52A	Hallie	baz=166	64.25 348	P	P	13 09 44.9	-1.7
U49A	Red Boiling Sp	baz=164,SNR=9.3	64.26 345	P	P	13 09 44.9	-1.7
TXAR	Lajitas Array		64.28 327	eP	P	13 09 46.8	-0.3
TXAR	Lajitas Array		64.28 327	P	P	13 09 47.9	+0.8
TXAR		comp=Z,7.2nm,0.9s,baz=149,slow=8.1,SNR=36		LR	LR	13 33 46.4	
		comp=Z,435nm,21.4s,baz=0.0,slow=32					
T51A	Gray	baz=166,SNR=14	64.30 347	P	P	13 09 45.0	-1.9
R58B	Mineral		64.31 352	PFAKE		13 10 00.0	+13
R58B		comp=Z,400nm,19.0s		LR	LR		
R58B	Mineral	baz=172,SNR=8.8	64.31 352	P	P	13 09 45.6	-1.3
X40A	Basin Creek Fa	baz=157	64.33 339	P	P	13 09 45.6	-1.5
WVT	Waverly	comp=Z,41nm,0.9s	64.39 343	eP	P	13 09 46.4	-1.1
WVT		comp=Z,400nm,22.0s		LR	LR		
WVT	Waverly		64.39 343	eP	P	13 09 46.4	-1.1
WVT		comp=Z,41nm,0.9s		pmax	pmax		
WVT		comp=Z,400nm,22.0s		MLR	MLR		
WVT	Waverly	baz=162	64.39 343	P	P	13 09 45.8	-1.7
U48A	Cassie Pea, Po	baz=163,SNR=12	64.44 345	P	P	13 09 46.4	-1.4
R59A	King George, V	baz=172	64.46 353	P	P	13 09 46.3	-1.5
R60A	Leonardtown, M	baz=173	64.47 354	P	P	13 09 46.1	-1.8
S55A	Lewisburg	baz=169,SNR=9.6	64.47 350	P	P	13 09 46.9	-1.1
CBN	Corbin Frederi		64.49 353	PFAKE		13 10 00.0	+12
CBN		comp=Z,300nm,20.0s		LR	LR		
CBN	Corbin Frederi	baz=172	64.49 353	P	P	13 09 46.2	-1.9
T50A	Nancy	baz=165,SNR=7.3	64.54 346	P	P	13 09 46.6	-1.9
U47A	Clarksville	baz=162,SNR=22	64.55 344	P	P	13 09 47.0	-1.6
MIAR	Mount Ida		64.63 338	PFAKE		13 10 00.0	+11
MIAR		comp=Z,200nm,20.0s		LR	LR		
MIAR	Mount Ida	baz=156,SNR=22	64.63 338	P	P	13 09 48.0	-1.0
S53A	Williamson	baz=167	64.65 349	P	P	13 09 47.1	-2.1
R58A	Rapidan	baz=172	64.65 352	P	P	13 09 47.2	-2.0
U46A	Springville	baz=161,SNR=9.7	64.70 343	P	P	13 09 47.4	-2.1
R57A	Stanardsville	baz=171	64.72 352	P	P	13 09 48.1	-1.4
W41B	Gary Mavity, V	baz=157,SNR=14	64.77 339	P	P	13 09 48.3	-1.6
T49A	Edmonton	comp=Z,55nm,0.9s	64.77 346	eP	P	13 09 49.0	-1.0
T49A		comp=Z,400nm,20.0s		LR	LR		
T49A	Edmonton	baz=164,SNR=18	64.77 346	P	P	13 09 48.0	-2.0
S52A	Salyersville	baz=166	64.82 348	P	P	13 09 47.8	-2.5
S51A	Beattyville		64.88 348	PFAKE		13 10 00.0	+9.3
S51A		comp=Z,500nm,21.0s		LR	LR		
S51A	Beattyville	baz=166,SNR=5.4	64.88 348	P	P	13 09 48.3	-2.4
R55A	Marlinton		64.92 351	PFAKE		13 10 00.0	+9.0
R55A		comp=Z,500nm,22.0s		LR	LR		
R55A	Marlinton	baz=169	64.92 351	P	P	13 09 49.1	-1.9
R54A	Victor	baz=169,SNR=5.3	64.95 350	P	P	13 09 48.8	-2.4
T48A	Bowling Green	baz=163,SNR=12	64.97 345	P	P	13 09 48.9	-2.4
T47A	Sharon Grove		65.03 344	PFAKE		13 10 00.0	+8.4
T47A		comp=Z,400nm,20.0s		LR	LR		
T47A	Sharon Grove	baz=163,SNR=23	65.03 344	P	P	13 09 49.2	-2.4
Q59A	Harwood	baz=173	65.07 354	P	P	13 09 49.2	-2.6
S50A	Richmond	baz=165,SNR=17	65.08 347	P	P	13 09 49.1	-2.8
ABTX	Abilene, Hawle	comp=Z,125nm,1.2s	65.22 332	eP	P	13 09 52.9	-0.2
ABTX	Abilene, Hawle	baz=150,SNR=32	65.22 332	P	P	13 09 51.3	-1.8
R53A	Hurricane	baz=168	65.25 349	P	P	13 09 50.9	-2.1
T46A	Princeton	baz=162,SNR=26	65.27 344	P	P	13 09 51.5	-1.7
W39A	Magazine		65.29 338	PFAKE		13 10 00.0	+6.7
W39A		comp=Z,300nm,20.0s		LR	LR		
W39A	Magazine	baz=156,SNR=11	65.29 338	P	P	13 09 52.6	-0.7
X37A	Clayton		65.29 336	PFAKE		13 10 00.0	+6.6
X37A		comp=Z,300nm,21.0s		LR	LR		
S49A	Springfield	baz=164,SNR=10.0	65.37 346	P	P	13 09 52.6	-1.2
R52A	Catlettsburg	baz=167	65.38 348	P	P	13 09 51.7	-2.2
S48A	Wiedeman Farm,	baz=164,SNR=13	65.42 345	P	P	13 09 52.0	-2.1
Q57A	Strasburg	baz=171,SNR=11	65.43 352	P	P	13 09 52.4	-1.8
T45A	Paducah		65.44 343	PFAKE		13 10 00.0	+5.7
T45A		comp=Z,300nm,19.0s		LR	LR		
T45A	Paducah	baz=161	65.44 343	P	P	13 09 52.1	-2.2
R51A	Hillsboro	baz=166	65.52 348	P	P	13 09 52.5	-2.2
S47A	Hartford	baz=163,SNR=22	65.55 345	P	P	13 09 53.0	-2.0
Q55A	Buckhannon	baz=170	65.61 351	P	P	13 09 53.4	-2.1
SDMD	Soldier's Deli		65.63 354	PFAKE		13 10 10.0	+15
SDMD		comp=Z,200nm,21.0s		LR	LR		
R50A	Paris	baz=165	65.65 347	P	P	13 09 53.0	-2.6
Q53A	Leroy	baz=168	65.70 350	P	P	13 09 52.9	-3.0
Q54A	Coxs Mills		65.71 350	PFAKE		13 10 10.0	+14
Q54A		comp=Z,500nm,21.0s		LR	LR		
Q54A	Coxs Mills	baz=169	65.71 350	P	P	13 09 52.8	-3.3
U41A	Viola	baz=158,SNR=10	65.74 340	P	P	13 09 54.5	-1.8
P59A	Jarrettsville	baz=173	65.78 354	P	P	13 09 54.2	-2.2
S46A	Don Dixon Farm	baz=162,SNR=7.6	65.84 344	P	P	13 09 54.1	-2.7
Q52A	Bidwell	baz=167,SNR=5.1	65.92 349	P	P	13 09 56.2	-1.2
WCI	Wyandotte Cave	comp=Z,54nm,0.8s	66.02 345	eP	P	13 09 56.8	-1.2
WCI		comp=Z,300nm,19.0s		LR	LR		
WCI	Wyandotte Cave		66.02 345	eP	P	13 09 56.8	-1.2
WCI		comp=Z,54nm,0.8s		pmax	pmax		
WCI		comp=Z,300nm,19.0s		MLR	MLR		
WCI	Wyandotte Cave	baz=164	66.02 345	P	P	13 09 55.9	-2.1
U40A	Yellville	baz=157,SNR=33	66.04 339	P	P	13 09 56.9	-1.3
S45A	Carrier Mills	baz=161	66.05 343	P	P	13 09 55.8	-2.4
P55A	Reedsville	baz=170	66.08 351	P	P	13 09 56.1	-2.3
R48A	Northridge Ran	baz=164,SNR=6.0	66.09 346	P	P	13 09 56.1	-2.3
Q50A	Georgetown	baz=166	66.12 348	P	P	13 09 56.0	-2.7
R47A	Wooly Knot Far	baz=163	66.14 345	P	P	13 09 56.3	-2.5
MVL	Millersville	comp=Z,19nm,1.1s	66.16 354	eP	P	13 09 59.8	+0.9
MVL		comp=Z,800nm,21.0s		LR	LR		
Q51A	Peebles		66.18 348	PFAKE		13 10 10.0	+11
Q51A		comp=Z,500nm,22.0s		LR	LR		
Q51A	Peebles	baz=166	66.18 348	P	P	13 09 56.3	-2.7
MCWV	Mont Chateau	baz=170	66.23 351	P	P	13 09 57.6	-1.8
S44A	Carbondale	baz=161,SNR=12	66.24 343	P	P	13 09 57.7	-1.7
SIUC	Southern Illin	comp=Z,54nm,0.8s	66.25 343	eP	P	13 09 58.6	-0.9
P54A	Burton	baz=169,SNR=18	66.27 351	P	P	13 09 57.9	-1.7
R46A	Gibon Southern	baz=162	66.29 344	P	P	13 09 58.4	-1.4
P53A	Whipple		66.29 350	PFAKE		13 10 10.0	+10
P53A		comp=Z,500nm,22.0s		LR	LR		
P53A	Whipple	baz=168,SNR=7.8	66.29 350	P	P	13 09 58.2	-1.6
HHAR	Hobbs	comp=Z,149nm,1.8s	66.33 338	eP	P	13 09 59.5	-0.6
O59A	Robesonia	baz=173	66.46 354	P	P	13 09 58.6	-2.2
Q49A	Aurora	baz=165,SNR=7.8	66.46 347	P	P	13 09 59.0	-1.8
R45A	Skylar, Fairfi	baz=162,SNR=16	66.55 344	P	P	13 09 59.6	-1.8
P52A	Corning	baz=168,SNR=7.7	66.56 349	P	P	13 09 59.9	-1.6
Q48A	North Vernon	baz=164,SNR=7.2	66.56 346	P	P	13 09 58.9	-2.6
P51A	Williamsport	comp=Z,40nm,1.0s	66.57 348	eP	P	13 10 01.0	-0.5
P51A		comp=Z,400nm,21.0s		LR	LR		
P51A	Williamsport	baz=167	66.57 348	P	P	13 09 60.0	-1.5
TUL1	Leonard	baz=154,SNR=14	66.63 337	P	P	13 10 00.7	-1.2
O56A	Blue Knob Stat		66.66 352	PFAKE		13 10 10.0	+7.8
O56A		comp=Z,400nm,22.0s		LR	LR		
O56A	Blue Knob Stat	baz=171	66.66 352	P	P	13 10 00.8	-1.4
O55A	Ligonier	baz=170,SNR=6.4	66.70 352	P	P	13 10 01.5	-0.8
BRNJ	Basking Ridge		66.70 356	PFAKE		13 10 10.0	+7.7
BRNJ		comp=Z,800nm,21.0s		LR	LR		
WMOK	Wichita Mounta	baz=151,SNR=15	66.71 334	P	P	13 10 01.1	-1.5
Q47A	Bedord North L	baz=163	66.72 346	P	P	13 10 01.1	-1.5
O54A	Avella	baz=169	66.82 351	P	P	13 10 01.7	-1.4
P50A	Jamestown	baz=166,SNR=7.0	66.83 348	P	P	13 10 01.2	-2.0
FVM	French Village	comp=Z,94nm,0.9s	66.83 342	eP	P	13 10 02.5	-0.7
FVM	French Village		66.83 342	eP	P	13 10 02.6	-0.7
FVM		comp=Z,94nm,0.9s		pmax	pmax		
S41A	Jillco Farms,	baz=158,SNR=32	66.84 341	P	P	13 10 02.4	-0.9
OK024	West corner E0	comp=Z,49nm,1.0s	66.92 336	eP	P	13 10 03.2	-0.6
OLIL	Olney		66.93 344	PFAKE		13 10 10.0	+6.2
OLIL		comp=Z,500nm,22.0s		LR	LR		
P49A	Miami Univ. Ec	baz=165,SNR=5.7	66.94 347	P	P	13 10 01.7	-2.2
SSPA	Standing Stone		66.95 353	PFAKE		13 10 10.0	+6.1
SSPA		comp=Z,400nm,20.0s		LR	LR		
SSPA	Standing Stone	baz=172	66.95 353	P	P	13 10 01.7	-2.2
OK023	East Waterloo	comp=Z,202nm,1.8s	66.96 336	eP	P	13 10 03.3	-0.8
BLO	Bloomington		66.97 346	PFAKE		13 10 10.0	+5.9
BLO		comp=Z,400nm,21.0s		LR	LR		
BLO	Bloomington		66.97 346	P	P	13 10 03.4	-0.7
BLO		comp=Z,24nm,0.8s		pmax	pmax		
O52A	Adamsville		66.98 350	PFAKE		13 10 10.0	+5.9
O52A		comp=Z,400nm,22.0s		LR	LR		
O52A	Adamsville	baz=168	66.98 350	P	P	13 10 02.0	-2.1
PAL	Palisades		66.98 356	PFAKE		13 10 10.0	+6.0
PAL		comp=Z,1μm,21.0s		LR	LR		
PAL	Palisades	baz=176	66.98 356	P	P	13 10 01.5	-2.5
O53A	New Philadelph	baz=169	67.01 350	P	P	13 10 01.5	-2.8
P48A	Milroy	baz=164	67.01 347	P	P	13 10 02.2	-2.1
N59A	State Game Lan	comp=Z,30nm,1.2s	67.02 355	eP	P	13 10 05.7	+1.3
N59A		comp=Z,600nm,22.0s		LR	LR		
N59A	State Game Lan		67.02 355	P	P	13 10 02.7	-1.7

	baz=174						
Q46A	CEJHS Indians,	67.02	345	P	P	13 10 02.0	-2.4
	baz=163						
MNTX	Cornudas Mount	67.07	327	eP	P	13 10 03.8	-1.1
	comp=Z,32nm,0.9s						
MNTX				LR	LR		
	comp=Z,400nm,20.0s						
MNTX	Cornudas Mount	67.07	327	P	P	13 10 03.5	-1.4
	baz=145,SNR=49						
Q45A	Warren Harvey,	67.09	344	P	P	13 10 02.3	-2.6
	baz=162,SNR=11						
CCM	Cathedral Cave	67.13	341	eP	P	13 10 04.7	-0.4
	comp=Z,61nm,0.9s						
CCM	Cathedral Cave	67.13	341	eP	P	13 10 04.7	-0.4
CCM				pmax	pmax		
	comp=Z,61nm,0.9s						
CCM	Cathedral Cave	67.13	341	P	P	13 10 03.6	-1.5
	baz=159						
O51A	Pataskala	67.14	349	P	P	13 10 02.5	-2.6
	baz=167						
P47A	Martinsville	67.22	346	P	P	13 10 03.5	-2.1
	baz=164						
N55A	Marion Center	67.22	352	P	P	13 10 04.7	-1.0
	baz=171,SNR=13						
ACSO	Alum Creek Sta	67.28	349	PFAKE		13 10 20.0	+14
ACSO				LR	LR		
	comp=Z,500nm,20.0s						
ACSO	Alum Creek Sta	67.28	349	P	P	13 10 05.1	-0.9
	baz=167,SNR=7.2						
O50A	Cable	67.32	348	P	P	13 10 03.9	-2.4
	baz=166						
SLM	Saint Louis	67.39	342	PFAKE		13 10 20.0	+13
SLM				LR	LR		
	comp=Z,200nm,19.0s						
R41A	Rosebud	67.39	341	P	P	13 10 05.3	-1.5
	baz=159,SNR=28						
M65A	Busby, Falmout	67.41	359	P	P	13 10 04.8	-2.0
	baz=179						
O49A	Covington	67.49	348	eP	P	13 10 06.8	-0.5
	comp=Z,59nm,1.1s						
O49A				LR	LR		
	comp=Z,500nm,22.0s						
O49A	Covington	67.49	348	P	P	13 10 04.9	-2.4
	baz=166,SNR=6.1						
N53A	Lisbon	67.50	351	PFAKE		13 10 20.0	+13
N53A				LR	LR		
	comp=Z,600nm,21.0s						
N53A	Lisbon	67.50	351	P	P	13 10 05.5	-1.9
	baz=169						
N54A	Moraine State	67.53	351	P	P	13 10 05.5	-2.1
	baz=170,SNR=5.7						
P46A	Rosedale	67.55	345	P	P	13 10 05.3	-2.5
	baz=163						
P45A	Graceland, Par	67.59	345	eP	P	13 10 06.7	-1.3
	comp=Z,35nm,0.8s						
P45A				LR	LR		
	comp=Z,400nm,20.0s						
P45A	Graceland, Par	67.59	345	P	P	13 10 06.0	-2.0
	baz=162						
N52A	McGinn's Farm,	67.63	350	P	P	13 10 06.4	-1.9
	baz=168						
KSPA	Keystone Colle	67.66	355	PFAKE		13 10 20.0	+12
KSPA				LR	LR		
	comp=Z,500nm,20.0s						
KSCT	Kent School, K	67.67	357	PFAKE		13 10 20.0	+12
KSCT				LR	LR		
	comp=Z,700nm,20.0s						
EPT	El Paso	67.68	326	PFAKE		13 10 20.0	+11
EPT				LR	LR		
	comp=Z,700nm,21.0s						
O48A	Farmland	67.72	347	P	P	13 10 06.9	-2.0
	baz=165,SNR=6.2						
Q42A	Golden Eagle	67.73	342	P	P	13 10 06.9	-2.0
	baz=160,SNR=6.6						
MSTX	Muleshoe	67.73	330	PFAKE		13 10 20.0	+11
MSTX				LR	LR		
	comp=Z,200nm,22.0s						
MSTX	Muleshoe	67.73	330	P	P	13 10 08.2	-0.9
	baz=148,SNR=42						
BRYW	Bryant College	67.78	358	eP	P	13 10 10.3	+1.1
	comp=Z,44nm,0.9s						
N50A	Nevada	67.84	349	P	P	13 10 07.4	-2.1
	baz=167						
N51A	Ashland	67.85	349	PFAKE		13 10 20.0	+10
N51A				LR	LR		
	comp=Z,400nm,21.0s						
N51A	Ashland	67.85	349	P	P	13 10 07.5	-2.1
	baz=168						
M55A	Ridgway	67.87	352	P	P	13 10 08.7	-1.1
	baz=171,SNR=5.5						
HSIG		67.89	321	PFAKE		13 10 20.0	+10
HSIG				LR	LR		
	comp=Z,300nm,20.0s						
O47A	Sheridan	67.91	346	P	P	13 10 07.6	-2.5
	baz=164,SNR=5.8						
M54A	Oil Creek Stat	68.02	352	P	P	13 10 08.7	-2.0
	baz=170						
AMTX	Amarillo	68.03	332	P	P	13 10 09.2	-1.9
	baz=149						
M53A	Wl Miller and	68.09	351	P	P	13 10 08.9	-2.2
	baz=169						
P43A	Skaggs, Pawnee	68.14	343	P	P	13 10 10.1	-1.4
	baz=161,SNR=14						
QUA2	Belchertown	68.17	358	PFAKE		13 10 20.0	+8.4
QUA2				LR	LR		
	comp=Z,600nm,21.0s						
N49A	Columbus Grove	68.17	348	PFAKE		13 10 20.0	+8.4
N49A				LR	LR		
	comp=Z,300nm,20.0s						
N49A	Columbus Grove	68.17	348	P	P	13 10 09.6	-2.1
	baz=166,SNR=13						
M51A	Elyria	68.22	350	P	P	13 10 10.1	-1.9
	baz=168						
ALLY	Alegheny Colle	68.23	351	PFAKE		13 10 20.0	+8.0
ALLY				LR	LR		
	comp=Z,300nm,21.0s						
SFIN	Lafayette	68.25	345	PFAKE		13 10 20.0	+7.8
SFIN				LR	LR		
	comp=Z,400nm,20.0s						
SFIN	Lafayette	68.25	345	P	P	13 10 10.3	-1.9
	baz=163						
O45A	Potomac	68.27	345	P	P	13 10 10.3	-2.0
	baz=162						
N48A	Decatur	68.28	347	P	P	13 10 10.8	-1.4
	baz=165,SNR=5.8						
M52A	Chesterland	68.29	350	PFAKE		13 10 20.0	+7.6
M52A				LR	LR		
	comp=Z,700nm,22.0s						
M52A	Chesterland	68.29	350	P	P	13 10 11.2	-1.2
	baz=168						
BINY	Binghamton	68.31	355	eP	P	13 10 14.2	+1.6
	comp=Z,52nm,1.1s						
BINY	Binghamton	68.31	355	P	P	13 10 12.1	-0.5
	baz=174,SNR=6.5						
O44A	Mansfield	68.36	344	P	P	13 10 11.9	-0.9
	baz=162						
HRV	Adam Dziewonsk	68.37	358	eP	P	13 10 13.2	+0.4
	comp=Z,40nm,1.0s						
HRV	Adam Dziewonsk	68.37	358	eP	P	13 10 13.3	+0.4
HRV				pmax	pmax		
	comp=Z,41nm,1.0s						
HRV	Adam Dziewonsk	68.37	358	P	P	13 10 12.0	-0.8
	baz=178						
N47A	Urbana	68.43	347	P	P	13 10 12.3	-1.0
	baz=164						
M50A	Fremont	68.43	349	PFAKE		13 10 20.0	+6.7
M50A				LR	LR		
	comp=Z,400nm,21.0s						
M50A	Fremont	68.43	349	P	P	13 10 12.0	-1.3
	baz=167						
L55A	Hinsdale	68.54	353	P	P	13 10 14.0	0.0
	baz=171,SNR=6.0						
L53A	Girard	68.54	351	P	P	13 10 13.1	-0.9
	baz=170						
ERPA	Erie	68.67	351	P	P	13 10 13.7	-1.0
	baz=170						
N46A	Monticello	68.67	346	P	P	13 10 13.6	-1.1
	baz=163						
M49A	Liberty Center	68.67	348	P	P	13 10 13.8	-1.0
	baz=166						
TRY	Troy	68.68	357	PFAKE		13 10 30.0	+15
TRY				LR	LR		
	comp=Z,700nm,20.0s						
L54A	Sinclairville	68.69	352	P	P	13 10 14.0	-0.9
	baz=170						
PLIO	Pelee Island,	68.70	349	P	P	13 10 14.0	-0.9
	baz=167						
N45A	Kentland	68.80	345	P	P	13 10 14.3	-1.2
	baz=163						
319A	Douglas	68.80	324	PFAKE		13 10 30.0	+14
319A				LR	LR		
	comp=Z,700nm,19.0s						
M48A	Edgerton	68.82	348	PFAKE		13 10 30.0	+14
M48A				LR	LR		
	comp=Z,300nm,19.0s						
M48A	Edgerton	68.82	348	P	P	13 10 14.3	-1.3
	baz=165						
M47A	Cromwell	68.88	347	P	P	13 10 14.7	-1.3
	baz=164						
N44A	Piper City	68.89	345	P	P	13 10 14.9	-1.2
	baz=162						
121A	Cookes Peak, D	68.94	326	P	P	13 10 16.2	-0.7
	baz=143,SNR=24						
HDIL	Hopedale	68.94	344	eP	P	13 10 14.9	-1.6
	comp=Z,59nm,0.8s						
HDIL	Hopedale	68.94	344	P	P	13 10 13.4	-3.1
	baz=161,SNR=6.9						
TAOE	Nuku Hiva Isla	68.99	270	eLR	LR	13 31 13.6	
	comp=Z,1μm,26.3s						
L50A	Kingsville	69.02	349	P	P	13 10 13.9	-3.0
	baz=167						
K55A	Perry	69.04	353	P	P	13 10 15.2	-1.8
	baz=172						
M46A	Old House Fiel	69.08	346	P	P	13 10 15.1	-2.1
	baz=164						
L48A	N Adams	69.21	348	P	P	13 10 16.9	-1.2
	baz=166						
L49A	Milan	69.25	349	P	P	13 10 17.5	-0.9
	baz=166						
N43A	Stutzman Famil	69.28	344	P	P	13 10 16.3	-2.2
	baz=161,SNR=21						
L47A	Sherwood	69.39	347	P	P	13 10 18.0	-1.2
	baz=165						
AAM	Ann Arbor	69.41	349	PFAKE		13 10 30.0	+11
AAM				LR	LR		
	comp=Z,500nm,19.0s						
AAM	Ann Arbor	69.41	349	P	P	13 10 17.5	-1.9
	baz=166						
K52A	Tillsonburg	69.42	351	P	P	13 10 17.1	-2.2
	baz=169						
M44A	Midewin, Midew	69.43	345	PFAKE		13 10 30.0	+11
M44A				LR	LR		
	comp=Z,400nm,19.0s						
M44A	Midewin, Midew	69.43	345	P	P	13 10 17.3	-2.1
	baz=162						
K51A	Iona Station	69.47	350	P	P	13 10 17.3	-2.4
	baz=168						
N41A	Harden Midland	69.49	343	eP	P	13 10 18.7	-1.2
	comp=Z,56nm,0.9s						
N41A				LR	LR		
	comp=Z,400nm,21.0s						
N41A	Harden Midland	69.49	343	P	P	13 10 18.3	-1.6
	baz=160,SNR=9.8						
MEDO	Medina	69.51	353	P	P	13 10 17.7	-2.2
	baz=171						
J55A	Hilton	69.54	353	PFAKE		13 10 30.0	+10
J55A				LR	LR		
	comp=Z,400nm,22.0s						
J55A	Hilton	69.54	353	P	P	13 10 17.6	-2.5
	baz=172						
J54A	Appleton	69.64	353	PFAKE		13 10 30.0	+9.3
J54A				LR	LR		
	comp=Z,400nm,21.0s						
J54A	Appleton	69.64	353	P	P	13 10 18.9	-1.8
	baz=171						
STCO	Saint Catharin	69.64	352	P	P	13 10 18.7	-1.9
	baz=171						
L46A	Eue Claire	69.64	347	P	P	13 10 19.6	-1.2
	baz=164						
M43A	Waltham Townsh	69.69	344	P	P	13 10 19.6	-1.5
	baz=161						
Y22D	IRIS PASSCAL I	69.75	327	P	P	13 10 19.8	-2.0
	baz=144						
KSU1	Kansas State U	69.77	338	PFAKE		13 10 30.0	+8.3
KSU1				LR	LR		
	comp=Z,200nm,20.0s						
KSU1	Kansas State U	69.77	338	P	P	13 10 20.2	-1.5
	baz=154,SNR=6.2						
J52A	Paris	69.83	351	P	P	13 10 21.2	-0.7
	baz=170						
LENM	Lemitar	69.85	327	eP	P	13 10 23.7	+1.2
K49A	Clarkson	69.85	349	P	P	13 10 21.0	-1.0
	baz=167						
N40A	Mertquake, Sal	69.86	342	P	P	13 10 20.7	-1.4
	baz=159,SNR=9.8						
NCB	Newcomb	69.95	356	PFAKE		13 10 30.0	+7.3
NCB				LR	LR		
	comp=Z,600nm,21.0s						
K48A	Perry	69.98	348	P	P	13 10 20.1	-2.8
	baz=166,SNR=5.8						
K47A	Vermontville	70.02	348	P	P	13 10 21.4	-1.7
	baz=165						
M41A	Milan	70.03	343	P	P	13 10 21.3	-1.9
	baz=160,SNR=11						
LIC	Lamto	70.10	72	eP	P	13 10 23.3	-0.9
	comp=Z,189nm,1.6s						
LBNH	Lisbon	70.11	358	P	P	13 10 21.6	-2.0
	baz=178						
LAZ	Ladron	70.12	327	eP	P	13 10 25.2	+1.1
PECO	Prince Edward	70.12	354	P	P	13 10 21.9	-1.7
	baz=173						
ACTO	Acton	70.14	352	P	P	13 10 21.9	-1.9
	baz=170						
L44A	Lake County Fo	70.15	345	P	P	13 10 22.1	-1.8
	baz=162						
K46A	Dorr	70.19	347	P	P	13 10 22.2	-1.9
	baz=164						
ANMO	Albuquerque	70.23	328	eP	P	13 10 26.0	+1.1
	comp=Z,43nm,1.0s						
ANMO				LR	LR		
	comp=Z,600nm,20.0s						
ANMO	Albuquerque	70.23	328	c iP	P	13 10 24.6	-0.2
ANMO				pmax	pmax		
	comp=Z,31nm,1.0s						
ANMO	Albuquerque	70.23	328	P	P	13 10 23.7	-1.2
	baz=145						
TASM	ASL Pad, Albuq	70.23	328	P	P	13 10 23.7	-1.1
	baz=145,SNR=46						
TASM	ASL Pad, Albuq	70.23	328	P	P	13 10 23.9	-1.0
	baz=145,SNR=44						
DRWO	Darlington Wes	70.24	353	P	P	13 10 24.2	-0.1
	baz=171						
DRCO	St. Marys Ceme	70.24	353	P	P	13 10 24.0	-0.4
	baz=171						
WLVO	Wesleyville	70.25	353	P	P	13 10 23.8	-0.7
	baz=172						
TIC	Toumodi	70.32	72	eP	P	13 10 24.2	-1.4
TUC	Tucson	70.32	323	eP	P	13 10 27.0	+1.7
	comp=Z,58nm,1.3s						
TUC				LR	LR		
	comp=Z,500nm,22.0s						
TUC	Tucson	70.32	323	P	P	13 10 27.0	+1.7
TUC				pmax	pmax		
	comp=Z,58nm,1.3s						
TUC	Tucson	70.32	323	P	P	13 10 26.4	+1.1
	baz=141						
L43A	Garden Prairie	70.35	345	P	P	13 10 24.3	-0.9
	baz=162,SNR=7.4						
PKRO	Pickering	70.37	353	P	P	13 10 24.7	-0.5
	baz=171						
J48A	Bridge Port	70.40	349	P	P	13 10 24.2	-1.2
	baz=166						
L42A	Oliver, Polo	70.40	344	PFAKE		13 10 40.0	+15
L42A				LR	LR		
	comp=Z,400nm,19.0s						
L42A	Oliver, Polo	70.40	344	P	P	13 10 24.8	-0.7
	baz=161						
KIC	Kosan Boka	70.41	72	eP	P	13 10 24.8	-1.4
	comp=Z,227nm,1.5s						
I51A	Listowel	70.46	351	P	P	13 10 24.7	-1.1
	baz=169						
I55A	Frankford	70.47	354	P	P	13 10 24.4	-1.4
	baz=172						
DBIC	Dimbokro	70.47	72	eP	P	13 10 25.7	-0.8
	comp=Z,261nm,1.9s						
DBIC	Dimbokro	70.47	72	eP	P	13 10 25.7	-0.8
DBIC				pmax	pmax		
	comp=Z,261nm,1.9s						
DBIC	Dimbokro	70.47	72	P	P	13 10 25.4	-1.2
	comp=Z,21nm,0.7s,baz=210,slow=6.4,SNR=25						
DBIC				PP	PP	13 13 00.5	-2.2
	comp=Z,7.6nm,0.9s,baz=137,slow=2.6,SNR=3.5						
DBIC				LR	LR	13 38 51.2	
	comp=Z,705nm,20.7s,baz=211,slow=34						
J47A	Sunmer	70.53	348	P	P	13 10 24.9	-1.3
	baz=165						
EMMW	East Machias	70.56	1	PFAKE		13 10 40.0	+14
EMMW				LR	LR		
	comp=Z,800nm,21.0s						
M39A	Webster	70.57	342	P	P	13 10 24.7	-1.8
	baz=158,SNR=6.1						
I52A	Shelburne	70.61	352	P	P	13 10 25.7	-1.0
	baz=170						
LONY	Lake Ozonia	70.62	356	eP	P	13 10 28.4	+1.7
	comp=Z,26nm,1.1s						
LONY				LR	LR		
	comp=Z,700nm,21.0s						
LONY	Lake Ozonia	70.62	356	P	P	13 10 25.5	-1.2
	baz=175						
CBKS	Cedar Bluff	70.64	335	eP	P	13 10 27.5	+0.4
	comp=Z,124nm,1.0s						
CBKS				LR	LR		
	comp=Z,300nm,21.0s						
CBKS	Cedar Bluff	70.64	335	eP	P	13 10 27.5	+0.4
CBKS				pmax	pmax		
	comp=Z,124nm,1.0s						
CBKS				MLR	MLR		
	comp=Z,300nm,21.0s						
CBKS	Cedar Bluff	70.64	335	P	P	13 10 26.8	-0.2
	baz=151,SNR=20						
L41A	Preston	70.68	343	P	P	13 10 25.9	-1.3
	baz=160						
H56A	Elgin	70.71	355	P	P	13 10 26.2	-1.0
	baz=174						
K43A	Burlington	70.75	345	PFAKE		13 10 40.0	+12
K43A				LR	LR		
	comp=Z,300nm,21.0s						
K43A	Burlington	70.75	345	P	P	13 10 26.0	-1.6
	baz=162						
H55A	Tweed	70.75	354	P	P	13 10 25.9	-1.6
	baz=173						
BASO	Ashfield	70.76	351	P	P	13 10 25.8	-1.7
	baz=168						
FRNY	Flat Rock	70.78	357	PFAKE		13 10 40.0	+12
FRNY				LR	LR		
	comp=Z,600nm,21.0s						
BWLO	Walkerton	70.79	351	P	P	13 10 25.9	-1.9
	baz=169						
L40A	Anamosa	70.86	343	eP	P	13 10 27.4	-0.8
	comp=Z,100nm,0.8s						
L40A				LR	LR		
	comp=Z,400nm,20.0s						
L40A	Anamosa	70.86	343	P	P	13 10 26.2	-2.0
	baz=159,SNR=18						
I49A	Point Hope	70.87	350	PFAKE		13 10 40.0	+12
I49A				LR	LR		
	comp=Z,600nm,21.0s						
I49A	Point Hope	70.87	350	P	P	13 10 26.4	-1.9
	baz=167						
GGN	Saint George	70.99	2	PFAKE		13 10 40.0	+11
GGN				LR	LR		
	comp=Z,600nm,21.0s						
J45A	Montague	71.03	347	P	P	13 10 27.9	-1.3
	baz=164						
K42A	Prairie Point,	71.06	345	P	P	13 10 28.1	-1.4
	baz=161,SNR=11						
T25A	Trinidad	71.11	331	PFAKE		13 10 40.0	+10
T25A				LR	LR		
	comp=Z,200nm,20.0s						
T25A	Trinidad	71.11	331	P	P	13 10 30.1	-0.1
	baz=147,SNR=32						
L39A	Vinton	71.12	342	P	P	13 10 28.8	-1.0
	baz=159						
K41A	Shullsburg	71.13	344	P	P	13 10 28.7	-1.1
	baz=160,SNR=6.6						
H52A	Wyevale	71.14	352	P	P	13 10 29.1	-0.7
	baz=170						
214A	Organ Pipe Nat	71.16	322	P	P	13 10 31.1	+0.7
	baz=139,SNR=43						
SADO	Sadowa	71.17	353	PFAKE		13 10 40.0	+10
SADO				LR	LR		
	comp=Z,500nm,22.0s						
SBA	Scott Base	71.18	191	eP	P	13 10 32.0	+2.2
	comp=Z,46nm,1.6s						
SBA	Scott Base	71.18	191	eP	P	13 10 32.0	+2.2
SBA				pmax	pmax		
	comp=Z,46nm,1.6s						
PLVO	Plevna	71.23	354	eP	P	13 10 31.8	+1.4
	comp=Z,52nm,1.2s						
PLVO				LR	LR		
	comp=Z,500nm,20.0s						
PLVO	Plevna	71.23	354	P	P	13 10 29.2	-1.2
	baz=173						
I47A	Gladwin	71.23	348	P	P	13 10 29.1	-1.3
	baz=166						
I48A	Sherman Twp	71.25	349	P	P	13 10 29.7	-0.8
	baz=166						
SCIA	State Center	71.26	341	PFAKE		13 10 40.0	+9.3
SCIA				LR	LR		
	comp=Z,400nm,19.0s						
SCIA	State Center	71.26	341	P	P	13 10 29.0	-1.6
	baz=158						
BMRO	Meriville Lake	71.27	351	P	P	13 10 29.1	-1.5
	baz=169						
I46A	Reed City	71.33	348	P	P	13 10 29.9	-1.1
	baz=165						
JFWS	Jewell Farm	71.41	344	PFAKE		13 10 40.0	+8.5
JFWS				LR	LR		
	comp=Z,400nm,19.0s						
JFWS	Jewell Farm	71.41	344	P	P	13 10 30.7	-0.8
	baz=160						
G55A	Calabogie	71.41	354	P	P	13 10 31.1	-0.4
	baz=173						
J43A	Natural Harves	71.41	345	P	P	13 10 31.1	-0.4
	baz=162						
K40A	Colesburg	71.43	343	P	P	13 10 30.3	-1.4
	baz=160,SNR=11						
G53A	Haliburton	71.46	353	P	P	13 10 32.0	+0.2
	baz=171,SNR=6.1						
ORIO	Orleans, Innes	71.51	355	P	P	13 10 32.0	0.0
	baz=174						
J42A	Columbus	71.51	345	P	P	13 10 32.1	-0.1
	baz=161						
GBN	Guysborough	71.59	6	PFAKE		13 10 40.0	+7.4
GBN				LR	LR		
	comp=Z,500nm,19.0s						
X18A	Snowflake	71.62	325	PFAKE		13 10 40.0	+6.8
X18A				LR	LR		
	comp=Z,700nm,22.0s						
K39A	Oelwein	71.63	343	P	P	13 10 30.8	-2.1
	baz=159,SNR=14						
ALFO	Alfred	71.64	356	P	P	13 10 32.2	-0.7
	baz=175						
TBI	Tubuai	71.69	253	eLR	LR	13 32 20.2	
	comp=Z,367nm,29.2s						
H47A	Mio	71.74	349	P	P	13 10 32.5	-1.0
	baz=166						
J41A	Loganville	71.77	344	P	P	13 10 32.0	-1.7
	baz=161,SNR=6.7						
LMN	Caledonia Moun	71.80	3	PFAKE		13 10 40.0	+6.1
LMN				LR	LR		
	comp=Z,400nm,20.0s						
I43A	Langenfeld Bro	71.83	346	P	P	13 10 33.7	-0.3
	baz=162						
H46A	Fife Lake	71.86	348	P	P	13 10 34.0	-0.2
	baz=165						
BUKO	Buck Lake	71.87	353	P	P	13 10 34.5	+0.3
	baz=171						
PEMO	Pembroke	71.88	354	P	P	13 10 34.5	+0.2
	baz=173						
KLBO	Killbear Provi	71.88	352	P	P	13 10 34.2	-0.1
	baz=170						
KSCO	Kaye Shedlock'	71.94	333	P	P	13 10 34.5	-0.5
	baz=149						
F55A	Otter Lake	71.95	355	P	P	13 10 33.6	-1.2
	baz=174						
W18A	Petrified Fore	71.97	326	PFAKE		13 10 50.0	+15
W18A				LR	LR		
	comp=Z,500nm,20.0s						
W18A	Petrified Fore	71.97	326	P	P	13 10 34.7	-0.7
	baz=142,SNR=6.7						
J40A	Soldiers Grove	71.98	344	P	P	13 10 33.6	-1.4
	baz=160,SNR=5.7						
I42A	Draeger Farm,	72.01	345	PFAKE		13 10 50.0	+15
I42A				LR	LR		
	comp=Z,500nm,22.0s						
I42A	Draeger Farm,	72.01	345	P	P	13 10 34.0	-1.1
	baz=162						
SDCO	Great Sand Dun	72.10	331	PFAKE		13 10 50.0	+14
SDCO				LR	LR		
	comp=Z,200nm,20.0s						
SDCO	Great Sand Dun	72.10	331	P	P	13 10 36.6	+0.4
	baz=146,SNR=73						

J39A	Decorah	72.17 343	P	P	13 10 34.1	-2.0
	baz=159,SNR=16					
VNDA	Vanda	72.20 190	eP	P	13 10 37.6	+1.6
	comp=Z,28nm,1.6s					
VNDA	Vanda	72.20 190	eP	P	13 10 37.6	+1.6
VNDA			pmax	pmax		
	comp=Z,28nm,1.6s					
VNDA	Vanda	72.20 190	P	P	13 10 36.0	0.0
	comp=Z,6.3nm,1.2s,baz=124,slow=5.1,SNR=8.6					
VNDA			LR	LR	13 39 50.5	
	comp=Z,284nm,21.9s,baz=140,slow=34					
F52A	Sundridge	72.21 353	P	P	13 10 35.6	-0.6
	baz=171					
ALGO	Algonquin Park	72.23 354	P	P	13 10 35.8	-0.6
	baz=172					
SYO	Syowa Base	72.28 159	eP	P	13 10 34.0	-2.5
SYO	Syowa Base	72.28 159	pP	P	13 10 36.0	-0.5
SYO	Syowa Base	72.28 159	sP	P	13 10 37.4	+0.9
X16A	Lo Mia Camp, P	72.30 324	eP	P	13 10 38.8	+1.5
	comp=Z,49nm,1.1s					
X16A			LR	LR		
	comp=Z,800nm,22.0s					
113A	Mohawk Valley,	72.30 322	eP	P	13 10 37.9	+0.8
	comp=Z,36nm,1.4s					
H43A	Windswept, Lux	72.31 346	PFAKE		13 10 50.0	+13
H43A			LR	LR		
	comp=Z,400nm,20.0s					
H43A	Windswept, Lux	72.31 346	P	P	13 10 36.9	0.0
	baz=163					
BGNE	Belgrade	72.36 338	eP	P	13 10 37.1	-0.2
	comp=Z,284nm,1.0s					
BGNE			LR	LR		
	comp=Z,300nm,22.0s					
BGNE	Belgrade	72.36 338	P	P	13 10 35.8	-1.5
	baz=153,SNR=15					
I41A	Arkdale	72.39 345	PFAKE		13 10 50.0	+13
I41A			LR	LR		
	comp=Z,400nm,19.0s					
I41A	Arkdale	72.39 345	P	P	13 10 36.3	-1.1
	baz=161					
F51A	Arnstein	72.41 352	P	P	13 10 35.1	-2.3
	baz=170					
I40A	Norwalk	72.42 344	P	P	13 10 36.1	-1.5
	baz=160					
G45A	Suttons Bay	72.43 348	P	P	13 10 36.9	-0.8
	baz=165					
PQI	Presque Isle	72.51 1	PFAKE		13 10 50.0	+12
PQI			LR	LR		
	comp=Z,700nm,22.0s					
F49A	Sandfield	72.53 351	P	P	13 10 37.5	-0.7
	baz=168					
G46A	Petoskey	72.55 349	P	P	13 10 37.5	-0.9
	baz=166					
E53A	Dumoine, Ponti	72.61 354	P	P	13 10 38.2	-0.5
	baz=172					
I39A	Houston	72.61 343	P	P	13 10 37.6	-1.1
	baz=159,SNR=8.4					
E52A	Mattawa	72.62 353	P	P	13 10 38.2	-0.5
	baz=171					
E54A	Lac Daplat, Po	72.62 354	P	P	13 10 38.3	-0.4
	baz=173					
F48A	Evansville	72.68 350	P	P	13 10 38.3	-0.7
	baz=168					
S22A	4UR Ranch, Cre	72.69 330	PFAKE		13 10 50.0	+10
S22A			LR	LR		
	comp=Z,300nm,20.0s					
S22A	4UR Ranch, Cre	72.69 330	P	P	13 10 39.1	-0.7
	baz=145,SNR=23					
H41A	Junction City	72.87 345	PFAKE		13 10 50.0	+10
H41A			LR	LR		
	comp=Z,400nm,20.0s					
H41A	Junction City	72.87 345	P	P	13 10 39.3	-0.9
	baz=161					
E51A	G1948 Merrick	72.95 353	P	P	13 10 40.1	-0.6
	baz=171					
Q24A	Divide	72.96 331	P	P	13 10 40.5	-0.8
	baz=147,SNR=50					
F46A	Macinaw City C	72.97 349	P	P	13 10 40.3	-0.5
	baz=166					
E50A	Wahnapitae	73.00 352	P	P	13 10 40.8	-0.2
	baz=169					
F45A	CMU Biological	73.02 348	P	P	13 10 40.6	-0.5
	baz=165					
MVCO	Mesa Verde	73.03 328	PFAKE		13 10 50.0	+8.3
MVCO			LR	LR		
	comp=Z,500nm,21.0s					
MVCO	Mesa Verde	73.03 328	P	P	13 10 42.0	+0.3
	baz=144,SNR=49					
G43A	Wallace	73.04 347	PFAKE		13 10 50.0	+8.8
G43A			LR	LR		
	comp=Z,400nm,22.0s					
G43A	Wallace	73.04 347	P	P	13 10 41.0	-0.2
	baz=163					
H40A	Chili	73.05 344	P	P	13 10 40.5	-0.8
	baz=160					
GLA	Glamis	73.10 321	PFAKE		13 10 50.0	+8.0
GLA			LR	LR		
	comp=Z,300nm,21.0s					
GLA	Glamis	73.10 321	P	P	13 10 44.1	+2.1
GLA			pmax	pmax		
	comp=Z,30nm,1.0s					
GLA	Glamis	73.10 321	P	P	13 10 41.6	-0.4
	baz=138,SNR=14					
WUAZ	Wupatki	73.11 325	PFAKE		13 10 50.0	+7.8
WUAZ			LR	LR		
	comp=Z,700nm,22.0s					
WUAZ	Wupatki	73.11 325	P	P	13 10 43.2	+1.1
	baz=141,SNR=54					
G42A	Mountain	73.18 346	PFAKE		13 10 50.0	+7.9
G42A			LR	LR		
	comp=Z,400nm,20.0s					
G42A	Mountain	73.18 346	P	P	13 10 41.7	-0.4
	baz=162					
E48A	Lockeyer	73.25 351	P	P	13 10 42.2	-0.3
	baz=168					
D52A	ZEK Kipawa Sen	73.27 354	P	P	13 10 42.0	-0.6
	baz=172					
D54A	Lac Fusel, La	73.29 355	P	P	13 10 41.9	-0.8
	baz=173					
H39A	Augusta	73.32 344	P	P	13 10 42.7	-0.2
	baz=160					
G41A	Antigo	73.32 345	P	P	13 10 42.5	-0.5
	baz=162					
OGNE	Ogallala	73.37 335	eP	P	13 10 44.1	+0.7
	comp=Z,50nm,1.0s					
OGNE			LR	LR		
	comp=Z,200nm,20.0s					
OGNE	Ogallala	73.37 335	P	P	13 10 43.6	+0.2
	baz=150,SNR=9.3					
E47A	Iron Bridge	73.39 350	P	P	13 10 42.5	-0.7
	baz=167					
Y12C	Blythe	73.45 322	eP	P	13 10 45.2	+1.3
	comp=Z,94nm,1.5s					
Y12C			LR	LR		
	comp=Z,300nm,22.0s					
Y12C	Blythe	73.45 322	P	P	13 10 44.2	+0.2
	baz=138,SNR=20					
E46A	Sault Ste Mari	73.47 349	P	P	13 10 43.6	-0.2
	baz=166					
F44A	Big Bay de Noc	73.47 348	P	P	13 10 43.5	-0.3
	baz=164					
F43A	Flat Rock, Esc	73.48 347	P	P	13 10 44.1	+0.3
	baz=164					
D51A	Lot 18 Range I	73.49 353	P	P	13 10 44.3	+0.4
	baz=171					
IKP	In-Ko-Pah, Jac	73.54 320	P	P	13 10 45.4	+0.7
	baz=137,SNR=18					
H38A	Maiden Rock	73.57 343	P	P	13 10 43.8	-0.6
	baz=159					
SWSC	Sam W. Stewart	73.58 321	P	P	13 10 44.7	0.0
	baz=137,SNR=10.0					
G40A	Rib Lake	73.61 345	PFAKE		13 10 50.0	+5.4
G40A			LR	LR		
	comp=Z,400nm,22.0s					
G40A	Rib Lake	73.61 345	P	P	13 10 44.6	0.0
	baz=161					
E45A	Wooded Hills,	73.61 349	P	P	13 10 44.3	-0.3
	baz=165					
PDMCI	Parker Dam,Lak	73.66 323	P	P	13 10 44.7	-0.4
	baz=139					
F41A	Three Lakes	73.80 346	eP	P	13 10 47.1	+1.3
	comp=Z,54nm,1.1s					
F41A			LR	LR		
	comp=Z,400nm,22.0s					
F41A	Three Lakes	73.80 346	P	P	13 10 45.8	0.0
	baz=162,SNR=5.1					
PV01	Paradox Valley	73.81 329	PFAKE		13 11 00.0	+14
PV01			LR	LR		
	comp=Z,400nm,20.0s					
ISCO	Idaho Springs	73.85 332	eP	P	13 10 47.5	+0.9
ISCO			LR	LR		
	comp=Z,200nm,19.0s					
ISCO	Idaho Springs	73.85 332	eP	P	13 10 47.5	+0.9
ISCO			MLR	MLR		
	comp=Z,200nm,19.0s					
ISCO	Idaho Springs	73.85 332	P	P	13 10 47.3	+0.7
	baz=147,SNR=43					
G39A	Holcombe	73.86 344	P	P	13 10 44.8	-1.3
	baz=160,SNR=8.4					
D48A	Paudash Townsh	73.88 351	P	P	13 10 45.2	-1.0
	baz=168					
BAR	Barrett	73.89 320	eP	P	13 10 45.5	-1.1
	comp=Z,32nm,1.0s					
MONP2	Monument Peak	73.90 320	P	P	13 10 47.5	+0.6
	baz=137,SNR=16					
BC3	Big Chuckawall	73.90 321	P	P	13 10 46.8	0.0
	baz=138,SNR=45					
G38A	Ridgeland	73.92 344	P	P	13 10 45.1	-1.4
	baz=159,SNR=6.6					
SMCO	Snowmass	73.93 330	eP	P	13 10 48.1	+0.9
	comp=Z,56nm,1.0s					
D46A	Sault St. Mari	73.94 350	P	P	13 10 45.6	-0.9
	baz=166					
PPT2	Papeete2	73.94 258	eS	S	13 20 18.2	-2.5
	comp=Z,251nm,27.5s					
PPT2	Papeete2	73.94 258	eLR	LR	13 33 38.2	
	comp=Z,602nm,31.0s					
PPT	Papeete	73.94 258	P	P	13 10 48.9	+1.5
	comp=Z,33nm,0.9s,baz=83,slow=12,SNR=6.0					
PPT			LR	LR	13 32 57.7	
	comp=Z,30nm,20.0s,baz=122,slow=27					
PV02	Paradox Valley	73.94 329	eP	P	13 10 47.7	+0.7
	comp=Z,43nm,1.1s					
ECSD	EROS Data Cent	73.95 340	eP	P	13 10 46.4	-0.3
	comp=Z,70nm,1.2s					
ECSD			LR	LR		
	comp=Z,300nm,19.0s					
ECSD	EROS Data Cent	73.95 340	P	P	13 10 45.2	-1.5
	baz=155,SNR=29					
PV13	Radium Mtn., P	73.95 329	eP	P	13 10 47.7	+0.7
	comp=Z,55nm,1.1s					
PV13			LR	LR		
	comp=Z,500nm,20.0s					
D47A	Chapleau	73.95 350	P	P	13 10 46.2	-0.4
	baz=167					
E43A	Lone Tree Farm	73.97 347	PFAKE		13 11 00.0	+13
E43A			LR	LR		
	comp=Z,400nm,22.0s					
E43A	Lone Tree Farm	73.97 347	P	P	13 10 45.9	-0.8
	baz=164					
PV05	Paradox Valley	74.01 328	PFAKE		13 11 00.0	+13
PV05			LR	LR		
	comp=Z,600nm,19.0s					
PV12	Saucer Basin,	74.06 329	eP	P	13 10 49.5	+1.7
	comp=Z,35nm,0.9s					
PV12			LR	LR		
	comp=Z,500nm,21.0s					
IRM	Iron Mountain	74.10 322	P	P	13 10 47.4	-0.4
	baz=138,SNR=24					
PV16	Nyswonger Mesa	74.11 329	PFAKE		13 11 00.0	+12
PV16			LR	LR		
	comp=Z,400nm,19.0s					
W13A	Hualapai Mount	74.11 323	PFAKE		13 11 00.0	+12
W13A			LR	LR		
	comp=Z,300nm,22.0s					
COWI	Conover	74.15 346	PFAKE		13 11 00.0	+12
COWI			LR	LR		
	comp=Z,400nm,21.0s					
PV04	Paradox Valley	74.17 329	PFAKE		13 11 00.0	+12
PV04			LR	LR		
	comp=Z,500nm,20.0s					
F40A	Park Falls	74.20 345	P	P	13 10 47.6	-0.5
	baz=161,SNR=11					
E42A	Champion	74.21 347	P	P	13 10 48.1	0.0
	baz=163					
PV14	Lion Creek, Pa	74.21 329	PFAKE		13 11 00.0	+11
PV14			LR	LR		
	comp=Z,400nm,18.0s					
SPMN	Marine on St.	74.22 343	P	P	13 10 47.5	-0.7
	baz=158,SNR=8.7					
NEE2	Needles Airpor	74.26 323	P	P	13 10 48.6	-0.1
	baz=139					
109C	Camp Elliot, M	74.29 320	P	P	13 10 48.9	+0.1
	baz=136					
CPE	Camp Elliot	74.29 320	PFAKE		13 11 00.0	+11
CPE			LR	LR		
	comp=Z,400nm,22.0s					
U15A	North Rim	74.29 325	PFAKE		13 11 00.0	+11
U15A			LR	LR		
	comp=Z,800nm,22.0s					
VLDQ	Val d'Or	74.31 354	PFAKE		13 11 00.0	+11
VLDQ			LR	LR		
	comp=Z,600nm,21.0s					
F39A	Loretta	74.39 345	P	P	13 10 49.2	0.0
	baz=160,SNR=5.8					
PFO	Pinyon Flats O	74.44 321	eP	P	13 10 51.7	+1.8
	comp=Z,29nm,1.1s					
PFO			LR	LR		
	comp=Z,500nm,22.0s					
PFO	Pinyon Flats O	74.44 321	eP	P	13 10 51.7	+1.8
PFO			pmax	pmax		
	comp=Z,29nm,1.1s					
PFO			MLR	MLR		
	comp=Z,500nm,22.0s					
PFO	Pinyon Flats O	74.44 321	P	P	13 10 51.0	+1.1
	baz=137,SNR=14					
E41A	Kenton	74.46 346	P	P	13 10 49.2	-0.3
	baz=162					
BELC	Belle Mtn. Jos	74.46 321	P	P	13 10 50.3	+0.2
	baz=138,SNR=16					
F37A	Hinrichs Farm,	74.64 343	P	P	13 10 50.5	-0.1
	baz=158					
E40A	Wakefield	74.65 345	P	P	13 10 49.7	-1.0
	baz=161,SNR=7.3					
F38A	Pierce - Schro	74.67 344	P	P	13 10 49.8	-1.0
	baz=159,SNR=9.7					
E39A	Mellen	74.74 345	P	P	13 10 50.3	-0.9
	baz=160,SNR=8.2					
LDFC	Landfair	74.76 322	PFAKE		13 11 00.0	+8.2
LDFC			LR	LR		
	comp=Z,200nm,18.0s					
GMRC	Granite Mounta	74.85 322	P	P	13 10 53.4	+1.1
	baz=138,SNR=44					
MURC	Murrieta	74.85 320	P	P	13 10 51.8	-0.4
	baz=136,SNR=13					
N23A	Red Feather La	74.90 332	PFAKE		13 11 00.0	+7.4
N23A			LR	LR		
	comp=Z,200nm,21.0s					
N23A	Red Feather La	74.90 332	P	P	13 10 53.2	+0.6
	baz=146,SNR=21					
D41A	Chassel	74.94 346	PFAKE		13 11 00.0	+7.7
D41A			LR	LR		
	comp=Z,500nm,20.0s					
D41A	Chassel	74.94 346	P	P	13 10 53.4	+1.0
	baz=162					
PHWY	Pilot Hill	75.04 333	PFAKE		13 11 00.0	+6.6
PHWY			LR	LR		
	comp=Z,100nm,20.0s					
BBRC	Big Bear Solar	75.18 321	P	P	13 10 54.0	-0.3
	baz=137,SNR=7.2					
E38A	The Farm, Brul	75.19 344	P	P	13 10 53.6	-0.2
	baz=160,SNR=6.3					
SCI2	San Clemente I	75.20 319	P	P	13 10 56.2	+2.0
	baz=136,SNR=6.9					
LSQQ	Lebel-sur-Quev	75.21 355	P	P	13 10 54.1	+0.3
	baz=173					
HEC	Hector,Ludlow	75.26 322	P	P	13 10 55.7	+1.2
	baz=137,SNR=36					
O20A	White River Ci	75.27 330	eP	P	13 10 55.6	+0.9
	comp=Z,67nm,0.9s					
O20A			LR	LR		
	comp=Z,500nm,20.0s					
O20A	White River Ci	75.27 330	P	P	13 10 54.9	+0.2
	baz=144,SNR=60					
SUSD	Miller	75.33 339	P	P	13 10 54.9	+0.2
	baz=153					
CIS	Catalina Islan	75.42 319	P	P	13 10 56.5	+1.0
	baz=136,SNR=5.3					
TUQ	Turquoise Moun	75.48 322	P	P	13 10 57.0	+1.1
	baz=138,SNR=36					
SRU	San Rafael Swe	75.51 328	P	P	13 10 57.3	+1.2
SRU			pmax	pmax		
	comp=Z,45nm,0.9s					
BFSC	Mount Baldy Ra	75.58 320	P	P	13 10 56.6	+0.1
	baz=136,SNR=20					
RRX	Edison Barstow	75.66 321	P	P	13 10 57.5	+0.6
	baz=137					
MWC	Mount Wilson	75.80 320	eP	P	13 10 59.1	+1.3
	comp=Z,39nm,1.0s					
MWC			LR	LR		
	comp=Z,300nm,21.0s					
MWC	Mount Wilson	75.80 320	eP	P	13 10 59.2	+1.3
MWC			pmax	pmax		
	comp=Z,39nm,1.0s					
MWC			MLR	MLR		
	comp=Z,300nm,21.0s					
PAS	Pasadena	75.81 320	P	P	13 11 00.5	+2.8
PAS			pmax	pmax		
	comp=Z,74nm,1.4s					
DRLN	Deer Lake	75.83 8	eP	P	13 10 58.3	+1.0
	comp=Z,33nm,0.8s					
PASC	Pasadena Art C	75.84 320	eP	P	13 11 01.1	+3.3
	comp=Z,74nm,1.4s					
PASC			LR	LR		
	comp=Z,400nm,21.0s					
SHPR	Sheep Range	75.85 323	eP	P	13 10 59.6	+1.5
	comp=Z,49nm,1.1s					
SHPR			LR	LR		
	comp=Z,300nm,22.0s					
GSC	Goldstone, Bar	75.87 322	eP	P	13 11 00.1	+2.0
	comp=Z,40nm,1.1s					
GSC	Goldstone, Bar	75.87 322	eP	P	13 11 00.1	+2.0
GSC			pmax	pmax		
	comp=Z,40nm,1.1s					
GSC	Goldstone, Bar	75.87 322	P	P	13 10 58.9	+0.8
	baz=137,SNR=24					
C40A	Isle Royale Na	75.88 346	PFAKE		13 11 10.0	+12
C40A			LR	LR		
	comp=Z,400nm,21.0s					
C40A	Isle Royale Na	75.88 346	P	P	13 10 58.7	+1.0
	baz=162					
CHGQ	Chibougamau	75.88 357	P	P	13 10 58.4	+0.7
	baz=175					
MATQ	Matagami	75.96 354	P	P	13 10 58.5	+0.4
	baz=172					
DECC	Green Verdugo	75.98 320	P	P	13 10 59.6	+0.9
	baz=136,SNR=6.1					
SHOC	Shoshone, Teco	76.01 322	P	P	13 10 59.6	+0.8
	baz=138					
RWWY	Rawlins	76.09 332	eP	P	13 11 00.3	+0.9
	comp=Z,53nm,1.0s					
EDW2	Edwards Air Fo	76.23 321	P	P	13 10 59.8	-0.3
	baz=136,SNR=11					
BLG	Laguna Peak, P	76.30 319	P	P	13 11 00.7	+0.2
	baz=135					
EYMN	Ely	76.43 345	PFAKE		13 11 10.0	+9.1
EYMN			LR	LR		
	comp=Z,300nm,22.0s					
EYMN	Ely	76.43 345	P	P	13 11 00.6	-0.3
	baz=160,SNR=7.2					
OSI	Osito Audit: C	76.46 320	PFAKE		13 11 10.0	+8.6
OSI			LR	LR		
	comp=Z,300nm,20.0s					
OSI	Osito Audit: C	76.46 320	P	P	13 11 01.6	+0.2
	baz=136					
LRMC	Laurel Mtn Rad	76.49 321	P	P	13 11 02.0	+0.3
	baz=136,SNR=22					
SUR	Sutherland	76.57 120	eP	P	13 11 03.4	+0.9
	comp=Z,46nm,1.2s					
SUR			LR	LR		
	comp=Z,1µm,22.0s					
K22A	Casper	76.60 333	P	P	13 11 02.3	+0.1
	baz=146,SNR=23					
FURC	Furnace Creek,	76.75 322	P	P	13 11 02.6	-0.3
	baz=137,SNR=42					
TPNV	Topopah Spring	76.77 323	eP	P	13 11 04.8	+1.6
	comp=Z,88nm,1.3s					
TPNV	Topopah Spring	76.77 323	P	P	13 11 03.4	+0.1
	baz=138					
MPMC	Manual Prospec	76.80 322	P	P	13 11 03.0	-0.5
	baz=137,SNR=21					
RSSD	Black Hills	76.85 335	eP	P	13 11 04.2	+0.6
	comp=Z,26nm,0.8s					
RSSD	Black Hills	76.85 335	eP	P	13 11 04.2	+0.6
RSSD			pmax	pmax		
	comp=Z,26nm,0.8s					
RSSD	Black Hills	76.85 335	P	P	13 11 03.7	+0.1
	baz=148					
ARVC	Arvin	76.89 320	P	P	13 11 04.4	+0.6
	baz=136					
DAC	Darwin (Calif)	77.01 322	eP	P	13 11 08.4	+3.7
	comp=Z,58nm,1.2s					
DAC	Darwin (Calif)	77.01 322	eP	P	13 11 08.4	+3.7
DAC			pmax	pmax		
	comp=Z,58nm,1.2s					
ISA	Isabella, Lake	77.07 321	PFAKE		13 11 10.0	+5.1
ISA			LR	LR		
	comp=Z,300nm,21.0s					
ISA	Isabella, Lake	77.07 321	P	P	13 11 06.7	+1.8
ISA			pmax	pmax		
	comp=Z,37nm,1.0s					
ISA	Isabella, Lake	77.07 321	P	P	13 11 04.4	-0.5
	baz=136,SNR=38					
PKM	Mcpherson Peak	77.29 319	P	P	13 11 06.0	-0.3
	baz=135,SNR=13					
CWC	Cottonwood Cre	77.40 322	P	P	13 11 07.2	+0.3
	baz=136					
GRAC	Grapevine Rang	77.41 322	P	P	13 11 07.3	+0.6
	baz=137					
R11A	Troy Canyon, C	77.45 324	PFAKE		13 11 20.0	+13
R11A			LR	LR		
	comp=Z,500nm,20.0s					
R11A	Troy Canyon, C	77.45 324	P	P	13 11 07.5	+0.4
	baz=138,SNR=72					
DUG	Dugway, Tooele	77.46 327	P	P	13 11 08.6	+1.6
DUG			pmax	pmax		
	comp=Z,69nm,1.2s					
DUG	Dugway, Tooele	77.46 327	P	P	13 11 07.0	0.0
	baz=141,SNR=47					
VES	Vestal, Richgr	77.54 321	P	P	13 11 07.2	-0.2
	baz=136,SNR=14					
SMMC	Simmler	77.70 320	P	P	13 11 07.4	-1.0
	baz=135,SNR=20					
AGMN	Agassiz Nation	77.87 342	PFAKE		13 11 20.0	+11
AGMN			LR	LR		
	comp=Z,300nm,20.0s					
AGMN	Agassiz Nation	77.87 342	P	P	13 11 08.6	-0.3
	baz=156,SNR=5.9					
TIN	Tinemaha, Big	77.93 322	P	P	13 11 10.6	+0.9
	baz=136,SNR=8.7					
BW06	Boulder Array	77.98 331	PFAKE		13 11 20.0	+10
BW06			LR	LR		
	comp=Z,300nm,19.0s					
BW06	Boulder Array	77.98 331	P	P	13 11 10.6	+0.6
	baz=144,SNR=31					
PDAR	Pinedale Array	77.98 331	P	P	13 11 10.3	+0.3
	comp=Z,8.9nm,0.9s,baz=145,slow=5.4,SNR=40					
VOG	Valley Oaks Go	78.05 321	P	P	13 11 09.7	-0.5
	baz=135					
MDND	Maddock	78.56 340	P	P	13 11 12.4	-0.4
	baz=153,SNR=11					
AHID	Auburn Hatcher	78.67 330	PFAKE		13 11 20.0	+6.2
AHID			LR	LR		
	comp=Z,500nm,21.0s					
MLAC	Mammoth, Mammo	78.68 322	P	P	13 11 14.2	+0.2
	baz=136,SNR=22					
MDPB	Devils Postpil	78.81 322	eP	P	13 11 15.8	+1.0
	comp=Z,55nm,1.3s					
MDPB			LR	LR		
	comp=Z,400nm,22.0s					
NV01	Mina Array Sit	78.96 323	eP	P	13 11 16.8	+1.3
NVAR	Mina Array Bea	78.96 323	eP	P	13 11 16.3	+0.8
NVAR	Mina Array Bea	78.96 323	P	P	13 11 16.8	+1.3
	comp=Z,18nm,0.8s,baz=157,slow=5.5,SNR=60					
REDW	Red Top Meadow	79.03 330	PFAKE		13 11 30.0	+14
REDW			LR	LR		
	comp=Z,300nm,21.0s					
SNOW	Snow King Moun	79.06 331	PFAKE		13 11 30.0	+14
SNOW			LR	LR		
	comp=Z,500nm,22.0s					
ELK	Elko	79.07 326	PFAKE		13 11 30.0	+14
ELK			LR	LR		
	comp=Z,500nm,21.0s					
TSUM	Tsumeb	79.08 106	eP	P	13 11 16.4	-0.2
	comp=Z,82nm,1.4s					
TSUM			LR	LR		
	comp=Z,800nm,20.0s					
LOHW	Long Hollow	79.12 331	PFAKE		13 11 30.0	+14
LOHW			LR	LR		
	comp=Z,400nm,19.0s					
TPAW	Teton Pass	79.17 331	PFAKE		13 11 30.0	+13

TPAW LR LR
comp=Z,300nm,19.0s
RYN Ryan 79.22 323 PFAKE 13 11 30.0 +13
RYN LR LR
comp=Z,300nm,22.0s
TOB4 Torodi Ar. Sit 79.28 70 PFAKE 13 11 30.0 +12
TOB4 LR LR
comp=Z,400nm,18.0s
TOB5 Torodi Ar. Sit 79.29 70 PFAKE 13 11 30.0 +12
TOB5 LR LR
comp=Z,500nm,18.0s
MOOW Moose Ponds 79.29 331 PFAKE 13 11 30.0 +13
MOOW LR LR
comp=Z,300nm,21.0s
TOC7 Torodi Ar. Sit 79.29 70 PFAKE 13 11 30.0 +12
TOC7 LR LR
comp=Z,400nm,18.0s
TOA3 Torodi Ar. Sit 79.29 70 PFAKE 13 11 30.0 +12
TOA3 LR LR
comp=Z,400nm,19.0s
TOA0 Torodi Ar. Sit 79.30 70 PFAKE 13 11 30.0 +12
TOA0 LR LR
comp=Z,400nm,19.0s
TOA1 Torodi Ar. Sit 79.30 70 *e*P **P 13 11 14.8 -2.7**
TOA1 LR LR
comp=Z,400nm,18.0s
TORD Torodi Ar. Bea 79.30 70 P **P 13 11 14.8 -2.8**
comp=Z,8.1nm,0.8s,baz=114,slow=22,SNR=61
TORD LR LR 13 46 41.4
comp=Z,278nm,18.3s,baz=290,slow=36
TOB3 Torodi Ar. Sit 79.30 70 PFAKE 13 11 30.0 +12
TOB3 LR LR
comp=Z,400nm,18.0s
KVN Kaiserville 79.30 323 *e*P **P 13 11 18.0 +0.7**
comp=Z,52nm,1.1s
KVN LR LR
comp=Z,300nm,19.0s
KVN Kaiserville 79.30 323 *e*P **P 13 11 18.0 +0.7**
KVN pmax pmax
comp=Z,53nm,1.1s
KVN MLR MLR
comp=Z,300nm,19.0s
TOB2 Torodi Ar. Sit 79.31 70 PFAKE 13 11 30.0 +12
TOB2 LR LR
comp=Z,3μm,21.0s
TOC3 Torodi Ar. Sit 79.31 70 PFAKE 13 11 30.0 +12
TOC3 LR LR
comp=Z,500nm,18.0s
TOC2 Torodi Ar. Sit 79.32 70 PFAKE 13 11 30.0 +12
TOC2 LR LR
comp=Z,500nm,19.0s
IMW Indian Meadow 79.49 331 *e*P **P 13 11 18.8 +0.4**
comp=Z,68nm,1.2s
FLWY Flagg Ranch 79.53 331 *e*P **P 13 11 19.5 +1.0**
comp=Z,101nm,1.2s
FLWY LR LR
comp=Z,400nm,22.0s
WAKR Walker 79.63 322 *e*P **P 13 11 19.8 +0.7**
comp=Z,63nm,1.1s
WAKR LR LR
comp=Z,400nm,20.0s
ULM Lac du Bonnet 79.66 343 PFAKE 13 11 30.0 +11
ULM LR LR
comp=Z,400nm,20.0s
ULM Lac du Bonnet 79.66 343 P **P 13 11 18.6 -0.2**
comp=Z,22nm,0.7s,baz=161,slow=5.9,SNR=32
H17A Grant Village 79.73 331 PFAKE 13 11 30.0 +10
H17A LR LR
comp=Z,400nm,21.0s
H17A Grant Village 79.73 331 P **P 13 11 21.0 +1.4**
baz=143,SNR=8.1
RLMT Red Lodge 79.76 332 P **P 13 11 20.5 +0.8**
baz=144,SNR=28
CMB Columbia Colle 79.83 321 PFAKE 13 11 30.0 +10
CMB LR LR
comp=Z,200nm,19.0s
CMB Columbia Colle 79.83 321 P **P 13 11 21.1 +1.1**
CMB pmax pmax
comp=Z,30nm,1.3s
LAO LASA Array 79.84 335 P **P 13 11 19.8 -0.1**
baz=147,SNR=26
BMN Battle Mountai 79.84 325 P **P 13 11 21.4 +1.2**
MAW Mawson 79.98 163 P **P 13 11 20.5 +0.1**
comp=Z,11nm,0.6s,baz=211,slow=5.7,SNR=14
PNTR Pine Nut 80.14 323 PFAKE 13 11 30.0 +8.1
PNTR LR LR
comp=Z,500nm,22.0s
VCNR Virginia City 80.31 323 PFAKE 13 11 30.0 +7.2
VCNR LR LR
comp=Z,500nm,22.0s
RUBR Rubicon Trail 80.42 322 PFAKE 13 11 30.0 +6.6
RUBR LR LR
comp=Z,300nm,21.0s
PAHR Pah Rah Range 80.46 323 PFAKE 13 11 30.0 +6.5
PAHR LR LR
comp=Z,400nm,19.0s
DGMT Dagmar 80.62 337 P **P 13 11 24.0 0.0**
baz=149,SNR=11
SCHQ Schefferville 80.70 1 P **P 13 11 23.6 -0.6**
comp=Z,5.4nm,0.7s,baz=225,slow=4.1,SNR=5.9
SCHQ LR LR 13 47 35.4
comp=Z,205nm,21.8s,baz=192,slow=36
HLID Hailey 80.81 329 P **P 13 11 26.0 +0.7**
baz=140,SNR=134
BEKR Beckworth 81.10 323 *e*P **P 13 11 27.8 +0.7**
comp=Z,55nm,1.1s
BEKR LR LR
comp=Z,400nm,21.0s
BOZ Bozeman (W) 81.14 331 *e*P **P 13 11 28.2 +1.2**
comp=Z,37nm,1.3s
BOZ LR LR
comp=Z,300nm,22.0s
BOZ Bozeman (W) 81.14 331 *e*P **P 13 11 28.2 +1.2**
BOZ pmax pmax
comp=Z,37nm,1.3s
BOZ MLR MLR
comp=Z,300nm,22.0s
BOZ Bozeman (W) 81.14 331 P **P 13 11 27.0 0.0**
baz=142,SNR=26
RAR Rarotonga 81.31 251 LR LR 13 38 02.8
comp=Z,296nm,20.0s,baz=111,slow=29
ORV Oroville 81.51 322 *e*P **P 13 11 30.4 +1.4**
comp=Z,102nm,1.2s
ORV LR LR
comp=Z,200nm,22.0s
ORV Oroville 81.51 322 P **P 13 11 30.6 +1.6**
ORV pmax pmax
comp=Z,102nm,1.2s
BOSA Boshof 81.60 118 *e*P **P 13 11 29.5 -0.5**
comp=Z,107nm,1.9s
BOSA Boshof 81.60 118 *e*P **P 13 11 29.5 -0.5**
BOSA pmax pmax
comp=Z,107nm,1.9s
BOSA Boshof 81.60 118 P **P 13 11 28.4 -1.6**
comp=Z,8.6nm,0.9s,baz=226,slow=4.8,SNR=11
BOSA LR LR 13 44 07.2
comp=Z,962nm,19.4s,baz=244,slow=33
GDXM Geysers 81.73 321 *e*P **P 13 11 33.0 +2.7**
comp=Z,55nm,1.7s
GDXM LR LR
comp=Z,300nm,18.0s
WVOR Wild Horse Val 82.03 325 PFAKE 13 11 40.0 +8.2
WVOR LR LR
comp=Z,400nm,22.0s
WVOR Wild Horse Val 82.03 325 P **P 13 11 34.4 +2.6**
WVOR pmax pmax
comp=Z,33nm,1.3s
O03E Paynes Creek 82.19 322 P **P 13 11 32.1 -0.5**
baz=134,SNR=47
EGMT Eagleton 82.31 334 PFAKE 13 11 40.0 +7.0
EGMT LR LR
comp=Z,400nm,21.0s
EGMT Eagleton 82.31 334 P **P 13 11 33.0 -0.1**
baz=144,SNR=22
O02D Mt. Diablo Mer 82.66 322 P **P 13 11 35.0 -0.1**
baz=134,SNR=18
PLID Pearl Lake 82.71 329 *e*P **P 13 11 35.9 +0.5**
comp=Z,72nm,0.9s
PLID LR LR
comp=Z,600nm,22.0s
WDC Whiskeytown Da 82.80 322 *e*P **P 13 11 35.3 -0.4**
comp=Z,26nm,0.9s
WDC Whiskeytown Da 82.80 322 *e*P **P 13 11 35.3 -0.4**
WDC pmax pmax
comp=Z,26nm,0.9s
MSO Missoula 83.10 331 PFAKE 13 11 50.0 +13
MSO LR LR
comp=Z,300nm,21.0s
MSO Missoula 83.10 331 P **P 13 11 37.7 +0.4**
baz=141,SNR=12
BMO Blue Mountains 83.15 328 PFAKE 13 11 50.0 +12
BMO LR LR
comp=Z,300nm,20.0s
BMO Blue Mountains 83.15 328 P **P 13 11 38.1 +0.6**
BMO pmax pmax
comp=Z,30nm,1.1s
N02D Trinity Center 83.16 322 P **P 13 11 37.2 -0.4**
baz=134,SNR=17
M04C Macdoel 83.25 323 P **P 13 11 38.6 +0.4**
baz=134,SNR=32
LBTB Lobatse 83.41 114 *e*P **P 13 11 39.3 -0.2**
comp=Z,98nm,1.5s
LBTB Lobatse 83.41 114 *e*P **P 13 11 39.3 -0.2**
LBTB pmax pmax
comp=Z,98nm,1.5s
M02C Callahan 83.53 322 P **P 13 11 39.4 -0.2**
baz=134,SNR=15
I07A Izee 83.66 326 PFAKE 13 11 50.0 +10
I07A LR LR
comp=Z,500nm,22.0s
YBH Yreka Blue Hor 83.68 323 P **P 13 11 40.1 -0.2**
YBH pmax pmax
comp=Z,12nm,1.0s
JCC Jacoby Creek, 83.79 321 *e*P **P 13 11 43.9 +3.1**
comp=Z,38nm,1.1s
K04D Chiloquin, OR 83.79 324 P **P 13 11 41.2 +0.3**
baz=134
L04D Klamath Falls 83.80 323 P **P 13 11 41.5 +0.5**
baz=134,SNR=12
F10A Beach Ranch, E 83.94 329 *e*P **P 13 11 43.5 +1.9**
comp=Z,20nm,0.8s
J05D Fort Rock, OR 83.98 325 P **P 13 11 42.0 +0.1**
baz=135,SNR=23
G08A Pilot Rock 84.27 327 PFAKE 13 11 50.0 +6.7
G08A LR LR
comp=Z,400nm,21.0s
J04D Umpqua Nationa 84.40 324 P **P 13 11 44.2 +0.1**
baz=134
HUMO Hull Mountain 84.42 323 PFAKE 13 11 50.0 +6.0
HUMO LR LR
comp=Z,400nm,22.0s
L02E Cave Junction 84.46 323 P **P 13 11 44.1 -0.1**
baz=133,SNR=9.0
E09A Wood Farm, Sta 84.77 329 PFAKE 13 12 00.0 +14
E09A LR LR
comp=Z,300nm,20.0s
I05D Terrebonne, OR 84.77 325 P **P 13 11 45.8 0.0**
baz=135,SNR=22
PFVI Vila Bisbo 84.83 44 *e*P **P 13 11 48.5 +2.3**
comp=Z,84nm,1.5s
K02D Willamette Mer 84.86 323 P **P 13 11 46.6 +0.3**
baz=133,SNR=17
I04A Tendick Farm, 84.95 324 P **P 13 11 46.2 -0.5**
baz=134,SNR=13
MORF Marmelete 85.05 44 *e*P **P 13 11 49.5 +2.2**
comp=Z,67nm,1.5s
PTEO Sao Teotonio 85.15 44 *e*P **P 13 11 49.5 +1.7**
F07A Phinny Hill Vi 85.17 327 PFAKE 13 12 00.0 +12
F07A LR LR
comp=Z,400nm,18.0s
J01E Myrtle Point 85.32 323 P **P 13 11 48.9 +0.5**
baz=133
FFC Flin Flon 85.33 342 *e*P **P 13 11 48.3 0.0**
comp=Z,11nm,1.0s
FFC Flin Flon 85.33 342 *i* P **P 13 11 49.2 +1.0**
I03D Drain, OR 85.37 324 P **P 13 11 49.1 +0.4**
baz=133,SNR=6.0
G05D Wamic, OR 85.40 326 P **P 13 11 48.9 +0.1**
baz=135,SNR=6.6
PBDV Barranco-do-Ve 85.46 45 *e*P **P 13 11 50.3 +0.9**
comp=Z,52nm,1.5s
NEW Newport 85.60 330 *e*P **P 13 11 50.4 +0.6**
comp=Z,25nm,1.1s
NEW Newport 85.60 330 *e*P **P 13 11 50.4 +0.6**
NEW pmax pmax
comp=Z,25nm,1.1s
NEW Newport 85.60 330 P **P 13 11 49.6 -0.2**
baz=138,SNR=12
E07A Sunnyside 85.61 328 PFAKE 13 12 00.0 +10
E07A LR LR
comp=Z,400nm,22.0s
H04D Lebanon 85.62 325 P **P 13 11 49.8 -0.1**
baz=134
PNCL Nicolau / Gran 85.62 44 *e*P **P 13 11 52.0 +1.9**
comp=Z,67nm,1.6s
PCVE Castro Verde 85.63 44 *e*P **P 13 11 50.3 +0.1**
comp=Z,43nm,2.0s
MESJ Messejana 85.65 44 *e*P **P 13 11 50.7 +0.5**
comp=Z,46nm,1.1s
C09A Chrisman Ranch 85.78 329 *e*P **P 13 11 51.0 +0.3**
comp=Z,80nm,0.9s
C09A LR LR
comp=Z,200nm,20.0s
I02D Swisshome 85.91 324 P **P 13 11 51.8 +0.5**
baz=133
F05D White Salmon 85.92 326 P **P 13 11 52.1 +0.7**
baz=135
COR Corvallis 85.96 325 P **P 13 11 54.5 +2.9**
COR pmax pmax
comp=Z,93nm,1.2s
EVO Evora 86.20 44 *e*P **P 13 11 53.2 +0.2**
comp=Z,40nm,1.9s
G03D McMinnville, O 86.36 325 P **P 13 11 54.3 +0.7**
baz=134
PMTG Montargil 86.40 43 *e*P **P 13 11 54.5 +0.6**
comp=Z,60nm,1.8s
LTY Liberty 86.50 328 PFAKE 13 12 00.0 +5.6
LTY LR LR
comp=Z,300nm,20.0s
PTOM Tomar 86.62 43 *e*P **P 13 11 55.3 +0.3**
comp=Z,55nm,1.4s
F04D Rainier, OR 86.83 326 P **P 13 11 55.9 0.0**
baz=134
PCAS Casmilo, Conde 86.84 42 *e*LR LR 13 46 16.5
comp=Z,441nm,18.0s
E04D Cinebar 86.94 326 P **P 13 11 56.3 -0.1**
baz=134
FCC Fort Churchill 87.09 347 PFAKE 13 12 10.0 +13
FCC LR LR
comp=Z,500nm,22.0s
FCC Fort Churchill 87.09 347 P **P 13 11 56.8 0.0**
D05A Enumclaw 87.09 327 *e*P **P 13 11 57.4 +0.3**
comp=Z,46nm,0.9s
PMRV Marv??o 87.13 43 *e*P **P 13 11 58.6 +1.1**
comp=Z,27nm,1.3s
TAM Tamanrasset 87.25 63 *e*P **P 13 11 58.4 -0.3**
comp=Z,18nm,1.4s
TAM LR LR
comp=Z,800nm,20.0s
TAM Tamanrasset 87.25 63 *e*P **P 13 11 58.4 -0.3**
TAM pmax pmax
comp=Z,18nm,1.4s
TAM MLR MLR
comp=Z,800nm,20.0s
D04E Lakebay 87.47 327 P **P 13 11 58.4 -0.5**
baz=134
MTE Manteigas 87.63 42 *e*LR LR 13 47 50.8
comp=Z,396nm,18.0s
B06A Marblemount 87.78 328 PFAKE 13 12 10.0 +10
B06A LR LR
comp=Z,300nm,21.0s
CASY Casey 87.84 180 *e*P **P 13 12 01.8 +1.2**
comp=Z,134nm,1.8s
D03D Eldon 87.87 327 P **P 13 12 00.8 -0.1**
baz=134,SNR=8.7
B05A Bryant 87.90 328 P **P 13 12 00.9 0.0**
baz=134,SNR=9.6
PGAV Gavieira, Arco 88.16 41 *e*LR LR 13 48 14.7
comp=Z,439nm,18.0s
NLWA Neilton Lookou 88.16 326 PFAKE 13 12 10.0 +7.7
NLWA LR LR
comp=Z,500nm,21.0s
MVO Moncorvo 88.40 42 *e*LR LR 13 48 04.1
comp=Z,580nm,18.0s
A04D Lummi Island 88.51 328 P **P 13 12 04.1 +0.3**
baz=134
ESDC Sonseca Array 89.41 45 *e*P **P 13 12 08.1 -0.3**
ESDC Sonseca Array 89.41 45 P **P 13 12 08.6 +0.2**
comp=Z,1.4nm,0.8s,baz=239,slow=3.7,SNR=7.0
LLLB Lillooet 89.44 330 *e*P **P 13 12 10.2 +2.0**
comp=Z,36nm,1.3s
BFZ Birch Farm 89.88 224 PFAKE 13 12 20.0 +9.2
BFZ LR LR
comp=Z,1μm,22.0s
LSZ Lusaka 89.90 107 *e*P **P 13 12 12.7 +1.3**
comp=Z,51nm,1.6s
LSZ LR LR
comp=Z,600nm,18.0s
LSZ Lusaka 89.90 107 P **P 13 12 13.5 +2.1**
RPZ Rata Peaks 91.15 219 P **P 13 12 18.7 +2.1**
comp=Z,13nm,0.9s,baz=211,slow=5.8,SNR=3.5
NPH North Pit 94.90 289 PFAKE 13 12 40.0 +5.6
NPH LR LR
comp=Z,2μm,22.0s
OBL Observatory Le 94.90 289 PFAKE 13 12 40.0 +5.6
OBL LR LR
comp=Z,2μm,21.0s
YKA Yellowknife Ar 95.46 341 *e*P **P 13 12 34.8 -1.0**
YKA Yellowknife Ar 95.46 341 P **P 13 12 35.2 -0.5**
comp=Z,5.5nm,0.8s,baz=137,slow=4.3,SNR=40
YKA PP **PP 13 16 27.0 +0.1**
comp=Z,0.4nm,0.8s,baz=140,slow=6.7,SNR=3.6
YKB5 Yellowknife Ar 95.46 341 *e*P **P 13 12 35.2 -0.5**
YKB5 *e*PP **PP 13 16 27.0 +0.1**
YKW3 Yellowknife Ar 95.51 341 PFAKE 13 12 50.0 +14
YKW3 LR LR
comp=Z,400nm,21.0s
KEST Kesra 96.39 53 PFAKE 13 12 50.0 +9.2
KEST LR LR
comp=Z,1μm,19.0s
KEST Kesra 96.39 53 LR LR 13 59 22.2
comp=Z,716nm,18.4s,baz=182,slow=38
DLBC Dease Lake 98.16 332 *e*P Pdif 13 12 48.9 +0.6
comp=Z,8.4nm,1.0s
MBAR Mbarara 98.75 95 PFAKE 13 13 00.0 +7.9
MBAR LR LR
comp=Z,500nm,20.0s
DAVA Damuels 101.93 43 PP **PP 13 17 15.1 -1.8**
comp=Z,6.7nm,1.0s
RES Resolute Bay 101.98 353 PFAKE 13 13 10.0 +5.2
RES LR LR
comp=Z,300nm,20.0s
FETA Feichten 102.34 44 *e*pPdiff **Pdif 13 13 09.0 +1.7**
comp=Z,6.3nm,1.4s
FETA PP **PP 13 17 20.6 +0.6**
comp=Z,6.9nm,1.4s
RETA Reutte 102.56 43 *e*pPdiff **Pdif 13 13 10.9 +2.8**
comp=Z,1.7nm,0.5s
RETA PP **PP 13 17 17.5 -4.1**
comp=Z,5.7nm,1.0s
MOTA Moosalm 102.70 43 *e*pPdiff **Pdif 13 13 11.5 +2.7**
comp=Z,3.5nm,0.9s
MOTA PP **PP 13 17 20.3 -2.5**
comp=Z,6.9nm,1.3s
SQTA Sankt Quirin 102.72 44 *e*pPdiff **Pdif 13 13 11.3 +2.4**
comp=Z,7.4nm,1.1s
SQTA PP **PP 13 17 19.4 -3.4**
comp=Z,5.9nm,1.1s
WATA Walderalm 102.99 44 pPdiff **Pdif 13 13 13.3 +3.2**
comp=Z,4.9nm,1.0s
WTTA Wattenberg 103.00 44 *e*pPdiff **Pdif 13 13 11.9 +1.8**
comp=Z,11nm,1.9s
WTTA PP **PP 13 17 23.5 -1.5**
comp=Z,6.1nm,1.2s
TIP Timpagrande 103.19 53 PFAKE 13 13 20.0 +8.9
TIP LR LR
comp=Z,600nm,20.0s
ABTA Abfaltersbach 103.34 44 *e*Pdiff **Pdif 13 13 11.9 +0.4**
comp=Z,3.5nm,1.0s
ABTA PP **PP 13 17 19.8 -7.6**
comp=Z,8.0nm,1.2s
NAI Nairobi 103.87 98 PFAKE 13 13 30.0 +15
NAI LR LR
comp=Z,700nm,22.0s
KMBO Kilima Mbogo 104.33 98 PFAKE 13 13 30.0 +13
KMBO LR LR
comp=Z,600nm,21.0s
NKC Novy Kostel 104.69 41 AMS AMS 13 57 40.0
comp=Z,400nm,23.8s
KHC Kasperske Hory 104.94 42 AMS AMS 14 01 40.0
comp=Z,300nm,21.8s
INK Inuvik 105.19 340 *e*Pdif **Pdif 13 13 21.1 +2.0**
INK Inuvik 105.19 340 *e*P **Pdif 13 13 21.1 +2.0**
INK Inuvik 105.19 340 Pdiff **Pdif 13 13 21.9 +2.8**
comp=Z,3.7nm,1.1s,baz=148,slow=2.5,SNR=5.5
INK PP **PP 13 17 40.6 +0.1**
comp=Z,1.1nm,0.9s,baz=153,slow=2.2,SNR=3.6
EPYK Eagle Plains 105.21 337 PFAKE 13 17 40.0 +6.5
EPYK LR LR
comp=Z,300nm,21.0s
EPYK Eagle Plains 105.21 337 P **PKiKP 13 17 32.7 -0.8**
baz=121
CLL Collm 105.43 40 *e*P **Pdif 13 13 25.0 +4.4**
CLL Collm 105.43 40 *e*(Pdif) **Pdif 13 13 25.0 +4.4**
BLY Banja Luka 105.59 48 PFAKE 13 17 50.0 +15
BLY LR LR
comp=Z,500nm,21.0s
EGAK Eagle 106.05 335 PFAKE 13 17 50.0 +15
EGAK LR LR
comp=Z,200nm,20.0s
PVCC Panska Ves 106.06 41 AMS AMS 14 00 00.0
comp=Z,300nm,18.4s
TTG Podgorica 106.16 50 PFAKE 13 17 50.0 +14
TTG LR LR
comp=Z,300nm,21.0s
ITM Ithomi 106.23 56 PFAKE 13 17 50.0 +14
ITM LR LR
comp=Z,400nm,18.0s
ZST Bratislava 106.77 44 *e*P **Pdif 13 13 28.1 +1.5**
ZST Bratislava 106.77 44 *e*PDIF **Pdif 13 13 28.1 +1.5**
UPC Upice 106.91 42 AMS AMS 13 58 30.0
comp=Z,300nm,16.2s
DPC Dobruska-Polom 107.04 42 *e*pPKP **Pdif 13 13 36.8 +8.9**
DPC AMS AMS 14 03 30.0
comp=Z,200nm,18.8s
AGG Agios Georgios 107.17 55 PFAKE 13 17 50.0 +12
AGG LR LR
comp=Z,400nm,21.0s
KNK Knik Glacier 107.66 330 PFAKE 13 17 50.0 +12
KNK LR LR
comp=Z,100nm,19.0s
DZM Mont Dzumac 107.77 234 *e*LR LR 13 49 22.5
comp=Z,202nm,27.2s
VYHS Vyhne 107.96 44 *e*P **Pdif 13 13 32.1 +0.1**
VYHS Vyhne 107.96 44 *e*PDIF **Pdif 13 13 32.1 +0.1**
GHO Glory Hole Cre 108.00 331 PFAKE 13 17 50.0 +11
GHO LR LR
comp=Z,200nm,21.0s
PRP Porcupine Dome 108.04 335 PFAKE 13 17 50.0 +11
PRP LR LR
comp=Z,300nm,22.0s
RC01 Rabbit Creek A 108.11 330 PFAKE 13 17 50.0 +11
RC01 LR LR
comp=Z,200nm,22.0s
HDA Harding Lake 108.16 333 PFAKE 13 17 50.0 +11
HDA LR LR
comp=Z,200nm,20.0s
ILAR Eielson Array 108.28 334 PP **PP 13 18 02.6 -0.7**
comp=Z,1.0nm,1.1s,baz=120,slow=5.5,SNR=4.1
PSZ Piszkesteto 108.44 45 *e*Pdif **Pdif 13 13 31.5 -2.7**
PSZ Piszkesteto 108.44 45 ⇑*i*P **Pdif 13 13 32.3 -1.9**
PSZ Piszkesteto 108.44 45 *e*P **Pdif 13 13 31.5 -2.7**
RND Reindeer 108.57 332 PFAKE 13 17 50.0 +10
RND LR LR
comp=Z,300nm,20.0s
WRH Wood River Hil 108.64 333 PFAKE 13 17 50.0 +10
WRH LR LR
comp=Z,300nm,21.0s
VTS Vitosha 108.99 51 PFAKE 13 17 50.0 +8.6
VTS LR LR
comp=Z,300nm,20.0s
CAST Castle Rocks 109.94 332 PFAKE 13 17 50.0 +7.6
CAST LR LR
comp=Z,300nm,21.0s
FURI Furi 109.98 90 PFAKE 13 17 50.0 +5.7
FURI LR LR
comp=Z,700nm,21.0s
ALN Alexandroupoli 110.47 54 PFAKE 13 17 50.0 +6.0
ALN LR LR
comp=Z,200nm,21.0s
BALB Balikesir 111.45 55 PFAKE 13 18 00.0 +14
BALB LR LR
comp=Z,1μm,20.0s
MANT Manisa 111.62 57 PFAKE 13 18 00.0 +13
MANT LR LR
comp=Z,700nm,21.0s
ATD Arta Tunnel 114.79 89 PFAKE 13 18 00.0 +6.9
ATD LR LR
comp=Z,500nm,22.0s
AKASG Malin Array Be 115.05 44 PKP **PKPdf 13 17 50.8 -1.7**

comp=Z,2.2nm,0.7s,baz=267,slow=2.7,SNR=12
AKASG PP **PP** 13 18 44.7 -7.5
comp=Z,0.8nm,0.5s,baz=246,slow=9.3,SNR=7.3
ANTO Ankara 115.16 56 PFAKE 13 18 00.0 +6.9
ANTO LR LR
comp=Z,200nm,20.0s
FIA0 FINESS Array S 115.17 32 *e*PKiKP **PKiKP 13 17 52.0 -0.3**
FIA0 FINESS Array S 115.17 32 *e*PKIKP **PKiKP 13 17 52.0 -0.3**
FINES FINESS Array B 115.17 32 PKP **PKiKP 13 17 52.0 -0.3**
comp=Z,1.3nm,0.9s,baz=299,slow=14,SNR=3.0
RDOG Red Dog Mine 115.33 335 PFAKE 13 18 00.0 +7.5
RDOG LR LR
comp=Z,200nm,20.0s
BR131 Keskin Array S 115.76 57 *e*PKPdf **PKPdf 13 17 54.3 -0.1**
BRTR Keskin Array B 115.76 57 *e*PKPdf **PKPdf 13 17 53.1 -1.3**
BRTR Keskin Array B 115.76 57 *e*PKIKP **PKPdf 13 17 53.1 -1.3**
BRTR Keskin Array B 115.76 57 PKP **PKPdf 13 17 53.5 -0.9**
comp=Z,1.5nm,0.8s,baz=178,slow=3.0,SNR=7.2
BRTR PP **PP 13 18 53.9 -3.9**
comp=Z,1.1nm,0.9s,baz=262,slow=2.5,SNR=4.8
BR101 Keskin Array S 115.76 57 *e*PKPdf **PKPdf 13 17 53.5 -0.9**
BR101 *e*PP **PP 13 18 53.9 -3.9**
ANM Nome 115.90 331 PFAKE 13 18 00.0 +6.3
ANM LR LR
comp=Z,200nm,21.0s
ARA0 ARCESS Array S 115.93 23 *e*PKKPbc PKKPbc 13 28 25.9 -0.9
ARCES ARCESS Array B 115.93 23 PKKPbc PKKPbc 13 28 25.9 -0.9
comp=Z,1.9nm,0.8s,baz=72,slow=5.8,SNR=4.4
DAMY Dhamar 117.35 87 PFAKE 13 18 10.0 +12
DAMY LR LR
comp=Z,700nm,21.0s
OBN Obninsk 120.03 40 PFAKE 13 18 10.0 +8.1
OBN LR LR
comp=Z,200nm,20.0s
OBN Obninsk 120.03 40 *i* PKIKP **PKPdf 13 18 00.8 -1.0**
OBN *e* 13 19 24.2
OBN *e*SS SS 13 35 44.5 -9.3
OBN pmax pmax
comp=Z,28nm,1.4s
OBN MLR MLR
comp=Z,188nm,19.0s
TMCR Tamitsa 120.78 29 *e*PKIKP **PKiKP 13 18 03.1 0.0**
LPSR Galich'ya Gora 121.28 43 *e*PKIKP **PKPdf 13 18 03.0 -1.3**
LPSR pmax pmax
comp=Z,30nm,1.8s
VSR Storozhevoye 121.35 44 *e*PKIKP **PKPdf 13 18 02.6 -1.9**
VSR pmax pmax
comp=Z,20nm,1.8s
KLMR Klimovskoe 121.64 33 *e*PKIKP **PKPdf 13 18 04.6 -0.2**
KLMR pmax pmax
comp=Z,21nm,1.4s
VRH Novokhopyorsk 122.95 44 *e*PKIKP **PKPdf 13 18 04.3 -3.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
KIV Kislovodsk 123.13 53 *i* PKIKP **PKPdf 13 18 07.7 -0.6**
KIV pmax pmax
comp=Z,31nm,1.1s
KIV MLR MLR
comp=Z,307nm,23.0s
KBZ Khabaz 123.26 53 PKP **PKPdf 13 18 07.5 -0.9**
comp=Z,6.5nm,0.9s,baz=189,slow=1.1,SNR=12
ZEI Tsey 123.90 55 *i* PKIKP PKPpre 13 18 03.5
ZEI pmax pmax
comp=Z,4.0nm,0.6s
PRGR Permogore 124.50 32 *e*PKIKP **PKPdf 13 18 08.0 -2.2**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
AS31 Alice Springs 125.60 206 *e*PKPpre PKPpre 13 18 12.0
AS31 *e*PKPdf **PKPdf 13 18 12.2 -1.6**
ASAR Alice Springs 125.60 206 PKP **PKPdf 13 18 12.4 -1.3**
comp=Z,5.2nm,0.6s,baz=131,slow=1.5,SNR=62
BILL Bilibino 126.70 337 *i* PKIKP **PKPdf 13 18 14.4 +0.1**
BILL pmax pmax
comp=Z,7.0nm,1.5s
WAKE Wake Island 128.25 275 PFAKE 13 18 30.0 +11
WAKE LR LR
comp=Z,2μm,21.0s
WB2 Warramunga Arr 128.72 209 *e*PKPdf **PKPdf 13 18 18.9 -0.9**
WR1 Warramunga Arr 128.73 209 *e*PKPdf **PKPdf 13 18 19.0 -0.8**
WRA Warramunga Arr 128.73 209 PKP **PKPdf 13 18 19.0 -0.8**
comp=Z,7.5nm,0.8s,baz=151,slow=1.8,SNR=40
WRAB Tennant Creek 128.73 209 *e*PKPdf **PKPdf 13 18 19.2 -0.6**
WRAB Tennant Creek 128.73 209 *i* PKIKP **PKPdf 13 18 19.8 0.0**
ARU Arti 132.17 36 *e*PKPdf **PKiKP 13 18 26.8 +0.7**
ARU Arti 132.17 36 *i* PKIKP **PKiKP 13 18 26.6 +0.5**
ARU 13 20 50.9
ARU SS SS 13 38 28.6 +3.1
SVE Sverdlovsk 133.13 35 *e*PKIKP **PKiKP 13 18 29.2 +1.2**
SVE pmax pmax
comp=Z,22nm,1.8s
AKTO Aktyubinsk 133.30 44 ⇑P **Pdif 13 15 16.8 -7.8**
comp=Z,0.3nm,0.3s
AKTO Aktyubinsk 133.30 44 PKP **PKPdf 13 18 27.9 +0.5**
comp=Z,4.6nm,0.9s,baz=39,slow=0.4,SNR=11
TIXI Tiksi 133.36 352 *e*PKPdf **PKPdf 13 18 25.6 -1.2**
TIXI LR LR
comp=Z,300nm,22.0s
TIXI Tiksi 133.36 352 *i* PKIKP **PKPdf 13 18 26.6 -0.3**
SEY Seymchan 134.20 335 *i* PKIKP **PKiKP 13 18 29.4 -0.6**
GEYT Alibeck 134.46 62 PKP **PKPdf 13 18 30.0 0.0**
comp=Z,344nm,1.0s,baz=247,slow=7.0,SNR=9.7
NRIK Noril'sk 134.71 11 PKP **PKiKP 13 18 31.0 +0.1**
comp=Z,1.3nm,0.4s,baz=20,slow=1.9,SNR=5.5
NRIK PKKP **PKKPdf 13 28 16.6 +0.5**
comp=Z,2.4nm,0.4s,baz=113,slow=3.5,SNR=3.6
AB31 Akbulak array 134.75 46 ⇑P **Pdif 13 15 35.9 +4.8**
comp=Z,0.4nm,0.6s,baz=321,slow=15,SNR=3.8
ABKAR Akbulak array 134.75 46 *e*PKPdf **PKPdf 13 18 29.3 -0.8**
PEA1 Petropavlovsk- 136.01 321 *e*PKPdf **PKPdf 13 18 32.6 +0.3**
PETK Petropavlovsk- 136.01 321 PKP **PKPdf 13 18 32.6 +0.3**
comp=Z,3.3nm,0.8s,baz=47,slow=6.3,SNR=3.5
GENI Genyem 139.62 229 PKP **PKiKP 13 18 45.0 +2.4**
BRVK Borovoye 139.72 37 *e*PKPdf **PKPdf 13 18 37.8 -1.4**
BRVK Borovoye 139.72 37 *i* PKIKP **PKPdf 13 18 37.7 -1.5**
CHGR Chuyangaron 143.09 60 PFAKE 13 19 00.0 +11
CHGR LR LR
comp=Z,500nm,20.0s
KKAR Karatay Array 143.28 52 *e*PKPpre PKPab 13 18 41.2 -0.6
KKAR Karatay Array 143.28 52 *e*PKHKP PKPab 13 18 41.2 -0.6
BTK Batken 144.15 57 *e*PKPdf PKPbc 13 18 45.7 -0.1
BTK Batken 144.15 57 *e*PKIKP PKPbc 13 18 45.7 -0.1
FAKI Fak Fak 144.34 219 PKP **PKPab 13 18 45.7 -0.9**
PLAI Plampang 144.53 192 PKP **PKPab 13 18 44.2 -3.1**
PLAI PKP PKPbc 13 18 46.1 -1.4
NKL Nikolayevsk 144.99 328 *e*PKIKP PKPbc 13 18 48.0 +0.2
NKL pmax pmax
comp=Z,260nm,1.6s
NVS Novosibirsk 145.00 28 ⇓*i*PKIKP **PKPab 13 18 48.0 +0.2**
NVS pmax pmax
comp=Z,74nm,1.6s
NVS pmax pmax
comp=N,24nm,1.8s
NVS pmax pmax
comp=E,28nm,1.5s
TYV Tymovskoe 145.34 324 *e*PKIKP **PKPab 13 18 49.1 -0.1**
TYV pmax pmax
comp=Z,500nm,4.2s
TYV pmax pmax
comp=Z,53nm,1.1s
KURK Kurchatov 145.37 36 *e*PKPbc **PKPbc 13 18 48.4 -0.7**
KURK Kurchatov 145.37 36 *i* PKIKP **PKPbc 13 18 48.5 -0.6**
JAGI Jajag, Banyuwa 145.40 186 PKP **PKPbc 13 18 49.5 -0.8**
ARSB Arslanbob 145.50 54 *e*PKPdf **PKPdf 13 18 49.9 -0.2**
GUMO Guam 145.62 255 *e*PKPdf **PKPab 13 18 51.8 +0.6**
SRBI Singaraja 145.66 188 PKP **PKPab 13 18 52.0 +0.6**
EKS2 Erkin-Say 145.71 52 P **PKPab 13 18 50.9 -0.2**
SNR=31
AML Almayashu 145.80 53 P **PKPdf 13 18 51.1 +0.2**
SNR=99
USP Ospenovka 146.04 51 P **PKPbc 13 18 51.5 -0.1**
SNR=29
AAK Ala-Archa 146.23 52 P **PKPbc 13 18 52.3 0.0**
SNR=73
AAK Ala-Archa 146.23 52 *e*PKPdf **PKPdf 13 18 51.7 +0.5**
AAK Ala-Archa 146.23 52*c i* PKP2 **PKPdf 13 18 51.8 +0.5**
ZAA1 Zalesovo Array 146.29 28 *e*PKPdf **PKPdf 13 18 50.8 +0.1**
ZAA0 Zalesovo Array 146.29 28 *e*PKPdf **PKPdf 13 18 50.7 0.0**
ZALV Zalesovo Beam 146.29 28 *e*PKPdf **PKPdf 13 18 50.6 -0.2**
ZALV Zalesovo Beam 146.29 28 *e*PKP2 **PKPdf 13 18 50.6 -0.2**
ZALV Zalesovo Beam 146.29 28 PKPbc **PKPdf 13 18 50.8 +0.1**
comp=Z,68nm,0.7s,baz=301,slow=3.8,SNR=147
CHMS Chumysh 146.30 51 P **PKPab 13 18 53.9 +0.8**
SNR=17
CISI Cisompet, Garu 146.35 175 PKP **PKiKP 13 18 57.6 +1.1**
UCH Uchtor 146.36 52 P **PKPbc 13 18 53.0 -0.1**
SNR=55
KBK Karagaybulak 146.54 51 P **PKPab 13 18 54.4 +0.1**
SNR=17
SWI Sorong 146.58 220 PKP **PKiKP 13 18 56.6 -0.3**
NGJI Ngawi 146.65 181 PKP **PKPab 13 18 55.8 +0.7**
NIL Nilore 146.84 68 *e*PKPdf **PKPdf 13 18 52.2 -0.2**
NIL Nilore 146.84 68 *e*PKIKP **PKPdf 13 18 52.2 -0.2**
TKM2 Tokmak 2 146.91 51 P **PKPdf 13 18 52.7 +0.2**
SNR=22
KZA Kyzart 146.93 52 P **PKiKP 13 18 57.5 +0.2**
SNR=31
LEM Lembang 147.06 174 PKP **PKiKP 13 18 57.6 -0.5**
YSS Yuzh-Sakhalins 147.28 318⇑*e*PKP2 **PKiKP 13 18 58.1 +0.8**
YSS pmax pmax
comp=Z,18nm,1.2s
BKSI Bulukumba 147.38 198 PKP **PKPbc 13 18 55.7 -0.5**
TNG Tangerang 147.60 172 PKP **PKPab 13 18 58.1 -0.8**
NRN Naryn 147.66 53 *e*PKPbc **PKPdf 13 18 54.8 +0.9**
NRN Naryn 147.66 53 *e*PKP2 **PKPdf 13 18 54.8 +0.9**
KAPI Kappang 147.77 197 *e*PKPbc **PKPbc 13 18 58.1 +0.8**
KSH Kashi 148.15 57 PKPbc **PKPdf 13 18 55.7 +1.2**
KSH PP **PP 13 22 31.1 +4.9**
KSH SKS **SKSdf 13 26 02.0 -2.1**
KSH SS **SS 13 41 33.5 -0.8**
KSH LR LR
comp=Z,600nm,12.7s
KSH LR LR
comp=Z,350nm,12.0s
BNSI Bone 148.26 198 PKP **PKPbc 13 18 59.2 +0.6**
KDJ Kajisay 148.28 51 *e*PKPbc **PKPdf 13 18 55.4 +0.7**
KDJ Kajisay 148.28 51 *e*PKIKP **PKPdf 13 18 55.4 +0.7**
SANI Sanana 148.28 210 PKP **PKPbc 13 18 57.4 -1.3**
SANI PKP **sPKPdf 13 18 58.2 +0.2**
GRNR Gornyy 148.54 328 *e*PKP2 **PKPab 13 19 01.2 -0.5**
GRNR pmax pmax
comp=Z,33nm,1.1s
SPSI Sidrap Palu 148.77 198 PKP **PKPbc 13 19 00.6 +0.7**
SPSI PKP **PKiKP 13 19 01.1 -0.3**
SPSI PKP **pPKPbc 13 19 02.0 +0.1**
SPSI PKP **pPKPbc 13 19 02.1 +0.1**
TARG Taragay, Kyrgy 148.85 52 *e*pPKPdf **PKPdf 13 18 57.0 +1.0**
HYB Hyderabad 148.98 100 *i* PKP **PKPbc 13 19 00.5 +0.1**
PRZ Przheval'sk 149.00 50 *e*pPKPdf pPKPdf 13 18 58.4 +0.5
ERM Erimo 149.04 309 *i* PKIKP **PKPdf 13 18 56.0 +0.3**
MAKZ Makanchi 149.34 40 *e*PKPdf **PKPdf 13 18 57.0 +0.9**
MK32 Makanchi Array 149.53 40 *e*PKPdf **PKPdf 13 18 56.6 +0.2**
MK32 *e*PKPbc **PKPbc 13 19 00.7 -0.3**
MKAR Makanchi Array 149.53 40 *e*PKPdf **PKPdf 13 18 55.7 -0.7**
MKAR *e*PKPbc **PKPbc 13 19 00.4 -0.5**
MKAR Makanchi Array 149.53 40*c i* PKIKP **PKPdf 13 18 58.5 +2.1**
MKAR pmax pmax
comp=Z,35nm,0.8s
MKAR Makanchi Array 149.53 40 PKP **PKPdf 13 18 56.6 +0.2**
comp=Z,28nm,0.8s,baz=352,slow=1.4,SNR=97
MKAR PKPbc **PKPbc 13 19 00.7 -0.3**
comp=Z,35nm,0.8s,baz=314,slow=2.1,SNR=115
TTSI Tana Toraja 149.63 198 PKP **PKPbc 13 19 01.5 -0.6**
ZEA Zeya 149.84 340 *e*PKP2 **PKPbc 13 19 01.8 +0.4**
ZEA pmax pmax
comp=Z,110nm,1.8s
TNTI Ternate 150.06 215 PKP **PKPdf 13 18 58.7 +0.5**
PMBI Palembang 150.50 168 PKP **PKPbc 13 19 04.0 -0.2**
LUWI Luwuk 150.53 205 *e*pPKPdf pPKPdf 13 19 00.6 -0.3
LUWI Luwuk 150.53 205 PKP **PKiKP 13 19 05.3 +0.3**
APSI Ampana 151.06 203 PKP **PKPdf 13 19 02.5 +2.7**
APSI PKP **pPKPbc 13 19 07.4 -0.1**
TPI Tanjungpandan 151.09 174 PKP **PKiKP 13 19 07.8 +1.6**
PPBI Pangkal Pinang 151.49 170 PKP **PKiKP 13 19 07.6 +0.6**
KMSI Cibinong 151.50 209 PKP **PKiKP 13 19 07.4 +0.4**
MTKI Muara Teweh, K 152.73 189 PKP **PKiKP 13 19 11.1 +1.5**
MPSI Mapaga 152.82 201 PKP **PKiKP 13 19 10.1 +0.4**
MOY Mondy 153.50 14 *e*PKIKP **PKPdf 13 19 05.0 +2.6**
MOY pmax pmax
comp=Z,48nm,2.0s
WMQ Urumqi 154.35 41 *e*PKPbc **PKPdf 13 19 03.3 -0.5**
WMQ AMB AMB
comp=Z,400nm,4.7s
WMQ LR LR
comp=Z,1μm,21.9s
WMQ LR LR
comp=Z,1μm,24.9s
WMQ LR LR
comp=Z,920nm,24.9s
MJAR Matsushiro Arr 154.41 301 PKP **PKPdf 13 19 04.6 +0.6**
comp=Z,3.4nm,1.2s,baz=214,slow=2.0,SNR=5.2
MJAR PKPbc **pPKPbc 13 19 14.0 -0.4**
comp=Z,3.8nm,0.9s,baz=155,slow=4.8,SNR=8.8
MJAR PKPab **PKPab 13 19 26.9 +0.3**
comp=Z,4.2nm,0.8s,baz=129,slow=1.9,SNR=6.5
MAJO Matsushiro 154.41 301 *e*PKPbc **PKPbc 13 19 12.3 0.0**
MAJO *e*PKPab **PKPab 13 19 26.9 +0.3**
MJB9 Matsu-Tunnel 154.41 301 *e*PKPbc **PKiKP 13 19 12.9 +0.5**
ZAK Zakamensk 155.17 11 *e*PKIKP **PKPdf 13 19 05.5 +0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
KSM Kuching 155.44 179 *e*PKPab **PKPab 13 19 30.5 -0.8**
HIA Hailar 155.90 345 PFAKE 13 19 20.0 -12
HIA LR LR
comp=Z,200nm,18.0s
ULN Ulaanbaatar 158.16 7 *e*PKPdf **PKPdf 13 19 10.0 +1.2**
ULN *e*PKPab **sPKPab 13 19 45.7 +0.6**
ULN LR LR
comp=Z,200nm,19.0s
ULN Ulaanbaatar 158.16 7 *e*PKIKP **PKPdf 13 19 10.0 +1.2**
ULN MLR MLR
comp=Z,200nm,19.0s
KKM Kota Kinabalu 159.29 196 PFAKE 13 19 20.0 +8.9
KKM LR LR
comp=Z,100nm,20.0s
KSRS Korea Array 161.57 312 PKP **PKPdf 13 19 13.8 +1.1**
comp=Z,1.4nm,0.8s,baz=156,slow=1.2,SNR=7.1
KSRS PKPab **pPKPab 13 19 58.8 -0.6**
comp=Z,4.0nm,0.8s,baz=61,slow=4.5,SNR=8.4
KSAR Wonju Array Be 161.60 312 *e*PKPdf **PKPdf 13 19 14.2 +1.5**
KSAR *e*PKPab **sPKPab 13 20 00.6 +0.4**
KSAR Wonju Array Be 161.60 312 *e*PKIKP **PKPdf 13 19 14.2 +1.5**
HHC Hu-ho-hao-te 165.35 357 *e*PKP **PKPdf 13 19 17.1 +0.8**
HHC LR LR
comp=Z,570nm,20.4s
HHC LR LR
comp=Z,660nm,20.1s
HHC LR LR
comp=Z,620nm,19.8s
CM31 Chiang Mai Arr 166.69 123 *e*PKPdf **PKPdf 13 19 18.6 +0.6**
CM31 *e*PKPab **PKPab 13 20 21.5 +1.0**
CMAR Chiang Mai Arr 166.69 123 *e*PKPdf **PKPdf 13 19 18.4 +0.5**
CMAR *e*PKPab **PKPab 13 20 19.7 -0.8**
CMAR Chiang Mai Arr 166.69 123 *e*PKIKP **PKPdf 13 19 18.4 +0.5**
CMAR *e* 13 20 19.7
CMAR Chiang Mai Arr 166.69 123 PKP **PKPdf 13 19 17.1 -0.8**
comp=Z,3.9nm,1.2s,baz=265,slow=1.2,SNR=10.0
CMAR PKPab **PKPab 13 20 18.9 -1.5**
comp=Z,3.8nm,1.1s,baz=240,slow=4.1,SNR=8.8
CMAR PP **PP 13 24 04.6 -3.5**
comp=Z,0.3nm,0.4s,baz=244,slow=3.7,SNR=2.6
LZH Lanzhou 168.52 29 *e*PKP **PKPdf 13 19 18.0 -0.9**
LZH pPKP pPKPdf 13 19 21.0 +0.1
LZH sPKP 13 19 22.5
NJ2 Nanjing 170.77 311 *e*PKP **PKPdf 13 19 21.4 +1.3**
XAN Xi'an 172.02 11 PKP **PKPdf 13 19 22.5 +1.7**
XAN AMB AMB
comp=Z,38nm,3.8s
XAN Xi'an 172.02 11 *e*PKPdf **PKPdf 13 19 22.5 +1.7**
XAN Xi'an 172.02 11 *e*PKIKP **PKPdf 13 19 22.5 +1.7**
CD2 Chengdu 172.29 51 PKP **PKPdf 13 19 19.9 -1.1**
KMI Kunming 172.75 97 PKP **PKPdf 13 19 18.9 -2.7**
QIZ Qiongzhong 172.84 174 PKP **PKPdf 13 19 22.4 +0.9**
QIZ PP **PP 13 24 37.0 -0.5**
QIZ Qiongzhong 172.84 174 *e*PKPdf **PKPdf 13 19 23.7 +2.2**
WHN Wuhan 174.59 324 PKP **PKPdf 13 19 19.6 -2.2**
GYA Guiyang 176.38 85 PKP **PKPdf 13 19 21.5 -1.1**
GYA PKS **PKSdf 13 22 52.8 -2.1**
GYA AMB AMB
comp=Z,160nm,7.4s
GYA LR LR
comp=Z,110nm,19.5s
GYA LR LR
comp=Z,130nm,18.9s
GYA LR LR
comp=Z,260nm,23.2s

ISCJB ***12*** *13:03:15.7±0.3,23°.60N±0°.01×121°.83E±0°.01,h21km±2km,*
Error ellipse: s-maj=2.4km s-min=1.6km az=38.9
JMA ***12*** *13:03:15.8±0.1,23°.62N×121°.80E,h24km±4km,M3.1*
TAP ***12*** *13:03:16.8,23°.63N×121°.75E,h30km,ML3.5,C*
ISC 12 13:03:16.5±0.9,23°.62N±0°.02×121°.78E±0°.02,h29km±7km,
n110,σ0°68/207,19C-24D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.33**	**330**	⇑P		**Pb**		**13 03 23.8**	**-0.3**
ENLB	baz=333			S		**Sb**		**13 03 29.7**	**+0.3**
EGFH	**Guangfu**	**0.33**	**278**	⇓P		**Pb**		**13 03 24.4**	**+0.2**
EGFH	baz=282			S		**Sb**		**13 03 29.9**	**+0.4**
HGSD	**Ruisui**	**0.35**	**249**	⇑*i*P		**Pb**		**13 03 24.6**	**+0.1**
HGSD	baz=241			S		**Sb**		**13 03 30.4**	**+0.4**
ESL	**Shilin**	**0.37**	**301**	⇑P		**Pb**		**13 03 24.4**	**-0.4**
ESL	baz=303			S		**Sb**		**13 03 30.0**	**-0.5**
HWA	**Hwalien**	**0.39**	**336**	⇑P		**Pb**		**13 03 25.2**	**+0.1**
HWA	baz=343			*e*S		**Sn**		**13 03 31.9**	**-0.8**
EHY	**Hungye**	**0.44**	**255**	⇓P		**Pb**		**13 03 25.8**	**0.0**
EHY	baz=264			S		**Sb**		**13 03 32.3**	**+0.1**
TWD	**Chiawan**	**0.49**	**340**	⇑P		**Pb**		**13 03 26.4**	**-0.2**
TWD	baz=343			S		**Sb**		**13 03 33.5**	**0.0**
YULB	**Yu-li**	**0.50**	**243**	⇓P		**Pb**		**13 03 26.8**	**0.0**
YULB	baz=252			S		**Sb**		**13 03 33.9**	**0.0**
TWF1	**Yuli**	**0.52**	**239**	⇓P		**Pb**		**13 03 27.2**	**+0.1**
TWF1	baz=249			S		**Sn**		**13 03 35.1**	**-0.8**
NACB	**Ninganchiao**	**0.58**	**343**	⇑P		**Pb**		**13 03 27.5**	**-0.6**
NACB	baz=350			*e*S		**Sb**		**13 03 35.5**	**-0.5**
VWDT	**VWDT**	**0.60**	**283**	⇓P		**Pb**		**13 03 28.4**	**-0.1**
VWDT	baz=283			S		**Sn**		**13 03 37.5**	**-0.4**
CHKT	**Chengkung**	**0.65**	**216**	⇑*e*P		**Pb**		**13 03 28.3**	**-0.9**
CHKT	baz=203			*e*S		**Sb**		**13 03 36.5**	**-1.4**
OWD	**Renai**	**0.65**	**301**	⇓P		**Pb**		**13 03 28.9**	**-0.4**
OWD	baz=302			*e*S		**Sb**		**13 03 37.3**	**-0.8**
WHF	**Hehuan Shan**	**0.70**	**318**	⇓P		**Pb**		**13 03 29.8**	**-0.6**
WHF	baz=319			S		**Sb**		**13 03 39.4**	**-0.6**
CHGB	**Renai**	**0.71**	**308**	⇓P		**Pb**		**13 03 30.1**	**-0.3**
CHGB	baz=317			S		**Sb**		**13 03 39.5**	**-0.4**
SSLB	**Suanglung**	**0.78**	**282**	⇓P		**Pb**		**13 03 30.7**	**-0.7**
SSLB	baz=282			S		**Sb**		**13 03 41.3**	**-0.3**
ENA	**Nanau**	**0.80**	**357**	⇑P		**Pb**		**13 03 31.3**	**-0.6**
ENA	baz=360			S		**Sb**		**13 03 42.0**	**-0.5**
ELDTW	**Lidau**	**0.82**	**239**	*e*P		**Pb**		**13 03 31.1**	**-1.1**
ELDTW	baz=236			*e*S		**Sb**		**13 03 41.5**	**-1.5**
TWT	**Tachien**	**0.84**	**319**	⇑P		**Pn**		**13 03 32.5**	**0.0**
TWT	baz=312			S		**Sb**		**13 03 43.1**	**-0.5**
SMLT	**Sun Moon Lake**	**0.85**	**288**	⇑P		**Pb**		**13 03 32.2**	**-0.5**
SMLT	baz=292			S		**Sb**		**13 03 43.6**	**-0.2**
TDCB	**Techi**	**0.85**	**318**	⇓P		**Pb**		**13 03 32.3**	**-0.4**
TDCB	baz=312			S		**Sb**		**13 03 42.9**	**-1.0**
WHYT	**Xinyi Township**	**0.85**	**275**	⇓P		**Pb**		**13 03 32.5**	**-0.3**
WHYT	baz=269			S		**Sb**		**13 03 43.2**	**-0.7**
DPDB	**Guoxing**	**0.88**	**298**	⇓P		**Pn**		**13 03 32.8**	**-0.2**
DPDB	baz=305			S		**Sn**		**13 03 44.9**	**0.0**
TYC	**Yuchr**	**0.89**	**289**	P		**Pn**		**13 03 32.8**	**-0.3**
TYC	baz=294			*e*S		**Sb**		**13 03 44.2**	**-0.7**
NNS	**Nan Shan**	**0.90**	**336**	P		**Pn**		**13 03 33.0**	**-0.3**
NNS	baz=337			S		**Sb**		**13 03 44.5**	**-0.7**
ALS	**Alishan**	**0.90**	**263**	⇓*e*P		**Pn**		**13 03 33.4**	**-0.1**
ALS	baz=262			S		**Sb**		**13 03 44.9**	**-0.6**
EOS1	**EOS1**	**0.98**	**19**	⇑P		**Pb**		**13 03 34.7**	**-0.1**
EOS1	baz=34			S		**Sn**		**13 03 47.8**	**+0.7**
WJS	**Zhushan**	**0.98**	**282**	⇓*e*P		**Pb**		**13 03 35.0**	**0.0**
WJS	baz=281			*e*S		**Sn**		**13 03 48.1**	**+0.8**
TWC	**Suao**	**0.99**	**4**	⇓P		**Pn**		**13 03 34.5**	**+0.1**
TWC	baz=13			S		**Sn**		**13 03 47.6**	**+0.2**
WHP	**Taichung City**	**1.00**	**311**	⇓P		**Pn**		**13 03 34.6**	**-0.1**
WHP	baz=311			S		**Sb**		**13 03 47.4**	**-0.9**
NDT	**Datong Townshi**	**1.01**	**346**	⇑P		**Pn**		**13 03 34.6**	**0.0**
NDT	baz=335			S		**Sb**		**13 03 47.4**	**-0.8**
CHN5	**Tsauling**	**1.01**	**269**	⇑P		**Pb**		**13 03 35.4**	**-0.1**
CHN5	baz=268			*e*S		**Sn**		**13 03 49.1**	**+0.9**
TWGBT	**Beinan**	**1.03**	**219**	*e*P		**Pn**		**13 03 33.5**	**-1.4**
TWG	**Pinlang**	**1.03**	**219**	*e*P		**Pn**		**13 03 33.8**	**-1.2**
ENTT	**Nioudou**	**1.03**	**349**	⇑P		**Pn**		**13 03 35.1**	**+0.1**
ENTT	baz=351			S		**Sn**		**13 03 48.3**	**-0.3**
WNT	**Mingjian**	**1.04**	**284**	⇑P		**Pb**		**13 03 36.2**	**+0.4**
WNT	baz=284			*e*S		**Sb**		**13 03 50.2**	**+1.1**
TTN	**Taitung**	**1.04**	**214**	*e*P		**Pn**		**13 03 35.1**	**0.0**
TTN	baz=203			*e*S		**Sn**		**13 03 48.8**	**+0.1**
STYT	**Tauyuan**	**1.04**	**244**	⇑P		**Pn**		**13 03 35.4**	**+0.1**
STYT	baz=238			S		**Sn**		**13 03 48.7**	**-0.3**
TWE	**Neicheng**	**1.10**	**355**	⇓P		**Pn**		**13 03 36.1**	**+0.2**
TWE	baz=357			*e*S		**Sn**		**13 03 50.2**	**0.0**
YHNB	**Yeheng**	**1.11**	**341**	⇑P		**Pn**		**13 03 36.4**	**+0.2**
YHNB	baz=342			S		**Sn**		**13 03 50.0**	**-0.6**
NSK	**Sanguang**	**1.12**	**340**	⇓P		**Pn**		**13 03 36.3**	**+0.1**
NSK	baz=342			S		**Sn**		**13 03 50.1**	**-0.6**

	baz=342						
WGK	Gukeng	1.12 274		P	Pb	13 03 37.1	-0.1
	baz=272						
WGK				S	Sb	13 03 52.1	+0.7
	baz=272						
CHN4	Tsaushan	1.12 256	⇓	P	Pb	13 03 37.2	-0.1
	baz=255						
CHN4				eS	Sb	13 03 52.7	+1.2
	baz=255						
SLBB	Yuanshan	1.14 353		eP	Pn	13 03 36.8	+0.3
	baz=355						
SLBB				eS	Sn	13 03 51.3	+0.2
	baz=355						
WTP	Ta-pu	1.14 251	⇓	eP	Pb	13 03 37.1	-0.4
	baz=249						
WTP				eS	Sb	13 03 52.4	+0.5
	baz=249						
TCU	Taichung	1.14 298		eP	Pb	13 03 37.9	+0.4
	baz=298						
WDLH	Douliu	1.14 274		eP	Pb	13 03 37.4	-0.2
	baz=272						
WDLH				eS	Sb	13 03 52.2	+0.2
	baz=272						
TWQ1	Liyutan	1.17 308	⇓	eP	Pb	13 03 38.3	+0.2
	baz=309						
TWQ1				eS	Sb	13 03 53.4	+0.4
	baz=309						
NWLT	Wulai	1.18 348	⇓	P	Pn	13 03 37.3	+0.3
	baz=339						
NWLT				S	Sn	13 03 52.0	-0.2
	baz=339						
CHN2	Minshiung	1.20 266		eP	Pb	13 03 38.8	+0.2
	baz=264						
CHN2				eS	Sb	13 03 55.1	+1.4
	baz=264						
WCHH	Zhanghua	1.21 292		eP	Pb	13 03 38.8	+0.1
	baz=292						
WCHH				eS	Sb	13 03 54.5	+0.5
	baz=292						
SLGT	Liugui	1.22 239		eP	Pb	13 03 38.2	-0.6
	baz=229						
SLGT				eS	Sn	13 03 53.4	+0.4
	baz=229						
NSY	Sanyi	1.22 311		eP	Pb	13 03 39.2	+0.2
	baz=311						
NSY				eS	Sn	13 03 53.1	-0.2
	baz=311						
SGST	Jiashian	1.23 244		eP	Pb	13 03 39.1	+0.1
	baz=231						
SGST				eS	Sb	13 03 55.8	+1.3
	baz=231						
EGS		1.23	6	eP	Pb	13 03 38.7	-0.3
	baz=18						
EGS				eS	Sb	13 03 54.3	-0.2
	baz=18						
NTC	Toucheng	1.23	2	eP	Pb	13 03 38.7	-0.3
	baz=3.0						
NTC				eS	Sb	13 03 54.1	-0.4
	baz=3.0						
CHN1	Nanshi	1.23 250		eP	Pb	13 03 38.9	-0.2
	baz=248						
CHN1				eS	Sb	13 03 55.1	+0.5
	baz=248						
NSTT	Nanjuang	1.23 325		eP	Pb	13 03 39.1	0.0
	baz=326						
NSTT				eS	Sb	13 03 54.0	-0.6
	baz=326						
LIOB	Emei	1.24 326		eP	Pb	13 03 39.4	+0.2
	baz=327						
LIOB				eS	Sb	13 03 54.3	-0.5
	baz=327						
TWK	Hsinying	1.24 254		P	Pb	13 03 38.8	-0.4
	baz=251						
TWK				S	Sb	13 03 55.1	+0.2
	baz=251						
SNST	Tainan City	1.25 252		eP	Pb	13 03 39.0	-0.3
	baz=249						
SNST				eS	Sb	13 03 55.4	+0.5
	baz=249						
CHY	Chiayi	1.25 265		eP	Pb	13 03 39.0	-0.4
	baz=263						
CHY				eS	Sb	13 03 55.7	+0.6
	baz=263						
WDJ	Dajia District	1.27 305	⇓	eP	Pb	13 03 39.5	-0.2
	baz=305						
WDJ				eS	Sb	13 03 56.6	+0.9
	baz=305						
ECL	Taimali	1.27 217		eP	Pn	13 03 37.2	-1.1
	baz=215						
NMLH	Miaoli	1.28 315		eP	Pb	13 03 39.6	-0.4
	baz=316						
NMLH				eS	Sb	13 03 55.5	-0.6
	baz=316						
WLTB	Daxi	1.32 339		eP	Pb	13 03 40.8	+0.3
	baz=351						
WLTB				eS	Sb	13 03 57.8	+0.7
	baz=351						
RLNB	Erlin	1.33 282		eP	Pb	13 03 40.2	-0.5
	baz=281						
RLNB				eS	Sb	13 03 58.0	+0.6
	baz=281						
TIPB	Shuangxi	1.34	2	eP	Pb	13 03 40.4	-0.7
	baz=351						
TIPB				eS	Sb	13 03 57.0	-0.9
	baz=351						
JYNG	Yonagunijimaku	1.35	52	P	Pn	13 03 40.1	+0.8
JYNG				S	Sb	13 03 57.2	-0.7
NHDH	Xindian Distri	1.36 350		eP	Pn	13 03 40.2	+0.7
	baz=351						
NHDH				S	Sn	13 03 57.0	+0.5
	baz=351						
TWA	Mucha	1.36 352		eS	Sb	13 03 57.5	-1.0
	baz=344						
SSD	Sandimen	1.37 231		eP	Pn	13 03 40.4	+0.8
	baz=224						
SSD				eS	Sb	13 03 58.0	-0.6
	baz=224						
SBCB	Hsinchu	1.37 328		eP	Pb	13 03 41.6	+0.1
	baz=330						
SBCB				eS	Sb	13 03 59.4	+0.7
	baz=330						
TATO	Taipei	1.38 349		eP	Pb	13 03 40.8	-0.7
	baz=350						
TATO				eS	Sn	13 03 57.5	+0.5
	baz=350						
HSN	Hsinchu	1.39 328		eS	Sb	13 03 60.0	+0.8
	baz=331						
TWB1	Santiao Chiao	1.39	8	eP	Pb	13 03 40.8	-1.0
	baz=25						
TWB1				eS	Sn	13 03 58.0	+0.5
	baz=25						
WTCT	Ta-ch'eng	1.40 280		eP	Pb	13 03 41.1	-0.8
	baz=269						
WTCT				eS	Sb	13 04 00.2	+0.9
	baz=269						
YOJ	Yonaguni jima	1.40	53	eP	Pn	13 03 41.0	+0.9
	baz=55						
YOJ				eS	Sb	13 03 58.8	-0.7
	baz=55						
YOJ	Yonaguni jima	1.40	53	P	Pn	13 03 41.0	+0.9
YOJ				eS	Sn	13 03 58.0	+0.4
WSF	Szhu	1.43 271	⇑	eP	Pb	13 03 41.4	-1.1
	baz=269						
WSF				eS	Sb	13 03 59.8	-0.5
	baz=269						
NWF	Wu-fen Shan	1.44	0	eP	Pb	13 03 42.4	-0.4
	baz=347						
NWF				eS	Sb	13 04 00.3	-0.5
	baz=347						
WFSB	Wu-fen Shan	1.44	0	⇓ eP	Pb	13 03 42.3	-0.4
	baz=348						
WFSB				eS	Sb	13 04 00.2	-0.5
	baz=348						
NCUH	Zhongli	1.45 338		eP	Pb	13 03 42.0	-0.7
	baz=340						
NCUH				eS	Sb	13 04 01.1	+0.3
	baz=340						
NCU	National Centr	1.45 338		eP	Pn	13 03 41.5	+0.7
	baz=340						
NCU				eS	Sb	13 04 01.1	+0.2
	baz=340						
MASBT	Mashibuluo	1.46 227		eP	Pn	13 03 41.0	+0.2
	baz=223						
MASBT				eS	Sn	13 03 59.9	+0.9
	baz=223						
CHN8	Yiju	1.47 260		eS	Sb	13 04 01.1	-0.3
	baz=257						
TWM1	Shoushan	1.48 238		eP	Pb	13 03 44.1	+0.8
	baz=235						
TWM1				eS	Sb	13 04 05.8	+4.0
	baz=235						
TAW	Tawu	1.50 213		eP	Pn	13 03 40.6	-0.8
	baz=211						
TAW				eS	Sn	13 03 58.3	-1.7
	baz=211						
EAST	Anshuo	1.50 215		eP	Pn	13 03 40.8	-0.8
	baz=203						
EAST				eS	Sn	13 04 00.2	0.0
	baz=203						
TWS1	Kuangyinshan	1.51 347		eP	Pb	13 03 42.6	-1.3
	baz=360						
TWS1				eS	Sb	13 04 02.2	-0.3
	baz=360						
SCLT	Jiali	1.52 253		eS	Sb	13 04 02.9	-0.1
	baz=251						
YM01	YM01	1.53 353		eP	Pn	13 03 42.4	+0.4
	baz=354						
YM01				eS	Sn	13 04 01.4	+0.5
	baz=354						
YM10	YM10	1.54 353		eP	Pn	13 03 42.8	+0.8
	baz=354						
YM11	YM11	1.55 353	⇑	eP	Pn	13 03 42.3	+0.1
	baz=344						
YM11				eS	Sn	13 04 01.7	+0.3
	baz=344						
YM07	YM07	1.55 355		eP	Pn	13 03 42.7	+0.5
	baz=340						
YM07				eS	Sn	13 04 01.6	+0.1
	baz=340						
NTST	Danshui	1.57 349		eP	Pb	13 03 44.6	-0.2
	baz=1.0						
NTST				eS	Sb	13 04 04.6	+0.5
	baz=1.0						
YM08	YM08	1.57 354		eP	Pn	13 03 42.7	+0.3
	baz=355						
ANP	Anpu	1.58 351		eP	Pn	13 03 43.5	+0.9
	baz=353						
SNJT	Kaohsiung City	1.59 237		eS	Sb	13 04 06.7	+1.9
	baz=235						
SSPT	Xinbi	1.59 225		eP	Pb	13 03 44.3	-0.9
	baz=216						
HATJ	Hateruma jima	1.90	76	P	Pn	13 03 47.5	+0.5
HATJ				S	Sn	13 04 10.2	+0.2
IRIF	Iriomote-Funau	1.92	68	P	Pn	13 03 48.1	+0.9
IRIF				eS	Sn	13 04 11.2	+0.8
JKRS	Kuro-shima	2.13	73	P	Pn	13 03 50.9	+0.8
JKRS				S	Sn	13 04 16.2	+0.6
JIJ	Ishigaki jima	2.28	71	P	Pn	13 03 52.5	+0.3
JIJ				S	Sn	13 04 19.0	-0.4
JISG	Ishigakijimahi	2.50	67	P	Pn	13 03 55.5	+0.3
JISG				S	Sn	13 04 23.8	-1.0
JTJ	Tarama	2.85	69	P	Pn	13 04 00.7	+0.6
JTJ				eS	Sn	13 04 33.2	-0.3
JIRB	Irabujima	3.32	68	P	Pn	13 04 06.9	+0.4
JIRB				S	Sn	13 04 45.1	+0.1
JIKM	Ikemajima	3.42	67	P	Pn	13 04 08.8	+1.0
JIKM				eS	Sn	13 04 47.3	-0.1
JMJ2	Miyako jima3	3.43	70	P	Pn	13 04 08.7	+0.8
JMJ2				eS	Sn	13 04 47.8	+0.2
JOGS	Gusukube	3.50	70	P	Pn	13 04 10.0	+1.1
JOGS				S	Sn	13 04 50.4	+1.0

ISCJB ***12*** *13:10:24.8±1.1, 43.°66N±0.°09×146.°4E±0.°1, h110km±8km,*
Error ellipse: s-maj=20.0km s-min=6.8km az=135.9
SKHL ***12*** *13:10:24.9±0.8, 43.°36N×146.°87E, h60km±2km, mb3.8/5*
JMA ***12*** *13:10:26.1±0.2, 43.°66N×146.°38E, h105km±2km, M3.1*
ISC 12 13:10:24.9±1.9**, 43.°66N**±0.°09×**146.°48E**±0.°09,
h110km±11km**, n16**, σ0s**60/25, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.59**	**310**	*i* P		**Pn**	**13 10 42.5**	**+0.2**
YUK					AMB	AMB	13 10 42.8	
	90nm,0.4s							
YUK					AMB	AMB	13 10 42.8	
	80nm,0.4s							
YUK					AMB	AMB	13 10 42.8	
	60nm,0.4s							
YUK				*i* S		**Sn**	**13 10 55.3**	**-0.1**
YUK					A	A	13 10 55.9	
	310nm,0.3s							
YUK					A	A	13 10 55.9	
	620nm,0.3s							
NEM2	**Nemuro 2**	**0.61**	**242**		P	**Pn**	**13 10 42.9**	**+0.4**
NEM2					eS	**Sn**	**13 10 55.5**	**-0.2**
GRPR	**Tuman**	**0.62**	**304**	*i* P		**Pn**	**13 10 42.0**	**-0.5**
GRPR					AMB	AMB	13 10 42.0	
	80nm,0.3s							
GRPR					AMB	AMB	13 10 42.0	
	110nm,0.3s							
GRPR					AMB	AMB	13 10 42.0	
	30nm,0.3s							
GRPR					eS	**Sn**	**13 10 55.0**	**-0.8**
GRPR					A	A	13 10 58.0	
	260nm,0.2s							
GRPR					A	A	13 10 58.0	
	330nm,0.2s							
LAGR	**Lagunnoye**	**0.64**	**309**		eP	**Pn**	**13 10 43.0**	**+0.3**
LAGR					AMB	AMB	13 10 44.0	
	20nm,0.3s							
LAGR					AMB	AMB	13 10 44.0	
	30nm,0.3s							
LAGR				*i* S		**Sn**	**13 10 56.0**	**-0.1**
LAGR					A	A	13 11 00.0	
	290nm,0.2s							
LAGR					A	A	13 11 00.0	
	470nm,0.2s							
GLVR	**Golovnino**	**0.70**	**277**	*i* P		**Pn**	**13 10 43.0**	**-0.2**
GLVR					AMB	AMB	13 10 44.0	
	60nm,0.3s							
GLVR					AMB	AMB	13 10 44.0	
	80nm,0.3s							
GLVR				*i* S		**Sn**	**13 10 58.0**	**+1.0**
GLVR					A	A	13 10 59.0	
	560nm,0.2s							
GLVR					A	A	13 10 59.0	
	440nm,0.2s							
JRA	**Rausu**	**1.02**	**286**		P	**Pn**	**13 10 46.6**	**+0.3**
JKHN	**Kushirohamanak**	**1.12**	**240**		P	**Pn**	**13 10 47.8**	**+0.5**
JKHN					eS	**Sn**	**13 11 04.4**	**+0.2**
JNK	**Nakash**	**1.28**	**268**		P	**Pn**	**13 10 49.1**	**0.0**
JAK	**Akkeshi**	**1.46**	**244**		P	**Pn**	**13 10 51.4**	**+0.2**
JAK					eS	**Sn**	**13 11 10.6**	**-0.5**
KUR	**Kuril'sk**	**1.86**	**32**		eP	**Pn**	**13 10 56.0**	**-0.1**
KUR					AMB	AMB	13 10 58.0	
	20nm,0.3s							
KUR					AMB	AMB	13 10 58.0	
	10.0nm,0.3s							
KUR				*i* S		**Sn**	**13 11 20.0**	**+0.1**
KUR					A	A	13 11 21.0	
	40nm,0.2s							
KUR					A	A	13 11 21.0	
	50nm,0.2s							
JTKR	**Abashiri--Toko**	**1.89**	**281**		P	**Pn**	**13 10 56.6**	**+0.2**
JAR	**Ashorobuto**	**2.01**	**261**		P	**Pn**	**13 10 58.7**	**+0.8**
JOB	**Onbets**	**2.08**	**250**		eS	**Sn**	**13 11 24.0**	**-0.7**
JMP	**Maruseppu**	**2.29**	**280**		P	**Pn**	**13 11 01.7**	**+0.1**
JCH	**Churui**	**2.51**	**247**		P	**Pn**	**13 11 04.7**	**+0.3**
JCH					eS	**Sn**	**13 11 33.1**	**-1.6**
ASAJ	**Asahikawa**	**2.85**	**281**		P	**Pn**	**13 11 09.7**	**+0.9**

JMA ***12*** *13:13:49.9±0.1, 23.°37N×122.°91E, h59km, M1.8*
TAP ***12*** *13:13:50.4, 23.°40N×122.°91E, h73km±1km, ML2.7, D*
ISC 12 13:13:45.3±1.3**, 23.°34N**±0.°04×**122.°91E**±0.°02**, h1**km±10km**,**
n62, σ0s**89**/105**, 4C-10D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.09**	**49**		P	**Pn**	**13 14 09.1**	**+1.4**
HATJ					S	**Sb**	**13 14 22.1**	**+0.4**
JYNG	**Yonagunijimaku**	**1.11**	**2**		P	**Pn**	**13 14 09.4**	**+1.5**
JYNG					eS	**Sn**	**13 14 22.9**	**-0.9**
YOJ	**Yonaguni jima**	**1.12**	**5**		P	**Pn**	**13 14 10.0**	**+1.9**
YOJ					S	**Sn**	**13 14 24.4**	**+0.2**
	baz=5.0							
YOJ	**Yonaguni jima**	**1.12**	**5**		P	**Pn**	**13 14 09.6**	**+1.5**
YOJ					S	**Sn**	**13 14 24.3**	**+0.2**
IRIF	**Iriomote-Funau**	**1.25**	**37**		P	**Pn**	**13 14 11.4**	**+1.6**
IRIF					S	**Sb**	**13 14 26.2**	**0.0**
JKRS	**Kuro-shima**	**1.35**	**48**		P	**Pb**	**13 14 13.0**	**+1.6**
JKRS					S	**Sb**	**13 14 29.0**	**-0.1**
HGSD	**Ruisui**	**1.37**	**277**	⇓	P	**Pb**	**13 14 12.4**	**+0.7**
HGSD					eS	**Sg**	**13 14 28.0**	**-1.3**
EGFH	**Guangfu**	**1.40**	**284**	⇓	P	**Pb**	**13 14 13.1**	**+1.0**
EGFH					S	**Sg**	**13 14 30.2**	**0.0**
EOS1	**EOS1**	**1.40**	**330**	⇓	P	**Pg**	**13 14 13.7**	**+1.6**
EOS1					S	**Sn**	**13 14 30.9**	**-0.1**
TWD	**Chiawan**	**1.41**	**302**	⇓	P	**Pg**	**13 14 13.1**	**+0.8**
ESL	**Shilin**	**1.43**	**290**	⇓	P	**Pg**	**13 14 13.0**	**+0.3**
ESL					eS	**Sg**	**13 14 30.4**	**-0.9**
CHKT	**Chengkung**	**1.44**	**261**		eS	**Sg**	**13 14 29.8**	**-1.7**
NACB	**Ninganchiao**	**1.46**	**305**	⇑	eP	**Pg**	**13 14 13.6**	**+0.4**
NACB					eS	**Sb**	**13 14 29.9**	**-2.5**
EHY	**Hungye**	**1.46**	**277**		P	**Pg**	**13 14 14.3**	**+1.0**
EHY					S	**Sb**	**13 14 31.5**	**-0.9**
TWF1	**Yuli**	**1.48**	**271**	⇓	P	**Pg**	**13 14 14.4**	**+0.8**
TWF1					S	**Sb**	**13 14 32.7**	**-0.2**
YULB	**Yu-li**	**1.48**	**272**	⇑	P	**Pg**	**13 14 14.7**	**+1.1**
YULB					S	**Sb**	**13 14 32.8**	**-0.1**
ENA	**Nanau**	**1.52**	**316**		eP	**Pg**	**13 14 15.2**	**+0.8**
ENA					eS	**Sn**	**13 14 33.5**	**-0.5**
JIJ	**Ishigaki jima**	**1.52**	**48**		P	**Pg**	**13 14 14.9**	**+0.4**
JIJ					eS	**Sn**	**13 14 32.7**	**-1.4**
VWDT	**VWDT**	**1.67**	**285**		P	**Pg**	**13 14 17.5**	**+0.2**
VWDT					S	**Sn**	**13 14 36.2**	**-1.6**
OWD	**Renai**	**1.70**	**291**	⇑	P	**Pb**	**13 14 17.6**	**+0.2**
OWD					S	**Sn**	**13 14 37.1**	**-1.6**
WHF	**Hehuan Shan**	**1.70**	**298**	⇑	P	**Pb**	**13 14 17.7**	**0.0**
WHF					eS	**Sn**	**13 14 37.8**	**-1.3**
CHGB	**Renai**	**1.74**	**295**	⇓	P	**Pg**	**13 14 18.7**	**0.0**
ELDTW	**Lidau**	**1.74**	**265**	⇓	P	**Pb**	**13 14 18.2**	**+0.1**
ELDTW					eS	**Sn**	**13 14 37.8**	**-1.9**
TWGBT	**Beinan**	**1.76**	**253**		eS	**Sn**	**13 14 39.7**	**-0.2**
TWG	**Pinlang**	**1.77**	**253**		S	**Sn**	**13 14 39.6**	**-0.5**
NNS	**Nan Shan**	**1.78**	**308**	⇓	eP	**Pg**	**13 14 19.2**	**-0.2**
NNS					eS	**Sn**	**13 14 40.0**	**-0.6**
TWE	**Neicheng**	**1.78**	**321**		eP	**Pg**	**13 14 19.1**	**-0.3**
ENTT	**Nioudou**	**1.78**	**317**		eP	**Pg**	**13 14 19.4**	**-0.1**
ENTT					S	**Sn**	**13 14 40.3**	**-0.2**
JISG	**Ishigakijimahi**	**1.79**	**46**		P	**Pb**	**13 14 18.2**	**-0.6**
JISG					eS	**Sn**	**13 14 38.8**	**-1.8**
NDT	**Datong Townshi**	**1.79**	**315**	⇓	eP	**Pb**	**13 14 19.2**	**+0.3**
NDT					eS	**Sn**	**13 14 39.8**	**-0.9**
SLBB	**Yuanshan**	**1.82**	**321**		eP	**Pg**	**13 14 20.1**	**-0.2**
SLBB					eS	**Sn**	**13 14 41.1**	**-0.5**
TDCB	**Techi**	**1.84**	**300**		eP	**Pb**	**13 14 20.2**	**+0.4**
SSLB	**Suanglung**	**1.84**	**284**		eS	**Sn**	**13 14 41.5**	**-0.6**
TIPB	**Shuangxi**	**1.90**	**329**		eP	**Pb**	**13 14 20.1**	**-0.7**
TIPB					eS	**Sn**	**13 14 42.7**	**-0.8**
SMLT	**Sun Moon Lake**	**1.92**	**287**		eP	**Pb**	**13 14 21.6**	**+0.5**
WHYT	**Xinyi Township**	**1.92**	**281**		eP	**Pg**	**13 14 21.8**	**-0.2**
WHYT					eS	**Sn**	**13 14 43.5**	**-0.4**
NWLT	**Wulai**	**1.92**	**318**		eS	**Sn**	**13 14 42.7**	**-1.3**
YHNB	**Yeheng**	**1.93**	**314**		eP	**Pb**	**13 14 20.3**	**-1.0**
YHNB					eS	**Sn**	**13 14 43.2**	**-1.0**
DPDB	**Guoxing**	**1.94**	**291**		eP	**Pb**	**13 14 21.9**	**+0.4**
DPDB					eS	**Sn**	**13 14 45.0**	**+0.5**
NSK	**Sanguang**	**1.94**	**314**		eP	**Pb**	**13 14 21.6**	**0.0**
NSK					eS	**Sn**	**13 14 43.3**	**-1.2**
ECL	**Taimali**	**1.94**	**248**		eS	**Sn**	**13 14 44.0**	**-0.6**
TYC	**Yuchr**	**1.96**	**287**		eP	**Pb**	**13 14 21.9**	**+0.1**
STYT	**Tauyuan**	**1.98**	**265**		eP	**Pb**	**13 14 22.8**	**+0.5**
STYT					eS	**Sn**	**13 14 44.6**	**-1.0**
WHP	**Taichung City**	**2.02**	**298**		eP	**Pg**	**13 14 24.3**	**+0.2**
WHP					eS	**Sn**	**13 14 46.3**	**-0.3**
WJS	**Zhushan**	**2.05**	**284**		eS	**Sb**	**13 14 49.1**	**-0.3**
CHN5	**Tsauling**	**2.06**	**278**		eS	**Sb**	**13 14 49.4**	**-0.3**
JTJ	**Tarama**	**2.09**	**51**		P	**Pb**	**13 14 23.2**	**-0.8**
JTJ					eS	**Sn**	**13 14 47.5**	**-0.7**
WNT	**Mingjian**	**2.11**	**285**		eP	**Pg**	**13 14 25.5**	**-0.2**
SLGT	**Liugui**	**2.11**	**261**		eP	**Pg**	**13 14 25.7**	**0.0**
SLGT					eS	**Sn**	**13 14 48.9**	**+0.3**
WTP	**Ta-pu**	**2.11**	**268**		eP	**Pg**	**13 14 25.3**	**-0.4**
WTP					S	**Sb**	**13 14 50.7**	**-0.4**
EAST	**Anshuo**	**2.12**	**244**		eP	**Pb**	**13 14 23.9**	**-0.7**
EAST					eS	**Sn**	**13 14 48.3**	**-0.7**
CHN4	**Tsaushan**	**2.12**	**271**		eP	**Pg**	**13 14 25.9**	**-0.1**
CHN4					eS	**Sb**	**13 14 51.0**	**-0.4**
SGST	**Jiashian**	**2.15**	**264**		eS	**Sb**	**13 14 52.1**	**-0.2**
LIOB	**Emei**	**2.16**	**307**		eP	**Pb**	**13 14 25.8**	**+0.6**
LIOB					eS	**Sn**	**13 14 50.2**	**+0.3**
CHN1	**Nanshi**	**2.19**	**266**		eP	**Pg**	**13 14 27.2**	**-0.1**
CHN1					eS	**Sb**	**13 14 53.6**	**+0.2**
WDLH	**Douliu**	**2.20**	**280**		eS	**Sb**	**13 14 54.4**	**+0.8**
MASBT	**Mashibuluo**	**2.22**	**251**		P	**Pb**	**13 14 25.8**	**-0.3**
MASBT					eS	**Sn**	**13 14 51.3**	**+0.1**
SNST	**Tainan City**	**2.22**	**267**		eS	**Sb**	**13 14 53.3**	**-0.8**
TWK	**Hsinying**	**2.22**	**269**		eP	**Pb**	**13 14 27.1**	**+0.7**

baz=277
TWK eS Sb 13 14 54.0 -0.4
baz=277
TWK1 Hengchun 2.39 235 eS Sn 13 14 56.2 +0.7
baz=225
JIRB Irabujima 2.55 54 P Pn 13 14 29.5 +1.7
JIRB S Sn 13 14 58.6 -0.8
JMJ2 Miyako jima3 2.62 57 P Pb 13 14 30.7 -2.3
JMJ2 S Sn 13 15 00.7 -0.4

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*ISCJB **12** 13:14:25.2±0.2, 3°.28S±0°.03×77°.86W±0°.04, h10km, mb4.5/73, MS3.5/1, Error ellipse: s-maj=5.5km s-min=4.6km az=166.8*
*IDC **12** 13:14:25.5±0.6, 3°.13S×77°.79W, h0km, mb4.1/16, mb1 4.3/21, mb1mx4.2/41, mbtmp4.2/21, ML3.9/4, MS3.6/2, Ms1 3.7/2, ms1mx3.2/34, Error ellipse: s-maj=20.7km s-min=11.8km az=59.0*
*NEIC **12** 13:14:28.5±1.1, 3°.12S×77°.67W, h21km±8km, mb4.6/68, Error ellipse: s-maj=6.4km s-min=3.2km az=65.0*
*IGQ **12** 13:14:31.1±0.9, 3°.S±2°.×7°.8W±°, h1km, mb4.7, MLv4.9*
ISC 12 13:14:26.3±0.4, 3°.23S±0°.03×77.74W±0°.04, h10km, n165, σ1ⱢⱢ76/171, mb4.6/73, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COHC	**Cochancay**	**1.69**	**297**	P	**Pn**	**13 14 54.8**	**-1.2**
PUYO	**Puyo, Santa Ro**	**1.75**	**351**	P	**Pg**	**13 15 00.3**	**+0.4**
PUYO				S	**Sg**	**13 15 24.1**	**+1.4**
APUY	**Puyo**	**1.78**	**352**	P	**Pg**	**13 15 00.9**	**+0.4**
GONZ	**Gonzanam**	**1.93**	**239**	P	**Pn**	**13 14 57.6**	**-2.1**
GONZ				S	**Sn**	**13 15 18.7**	**-5.5**
MILO	**Milagro-Astudi**	**2.05**	**297**	P	**Pb**	**13 15 02.6**	**-1.0**
ARDO	**Archidona, Ten**	**2.22**	**358**	P	**Pg**	**13 15 08.3**	**-0.7**
PIS1	**Pisayambo**	**2.25**	**343**	P	**Pb**	**13 15 08.0**	**+0.6**
PIS1				S	**Sg**	**13 15 39.0**	**+0.1**
PISA	**Pisayambo**	**2.25**	**343**	P	**Pb**	**13 15 08.0**	**+0.5**
MCRA	**Macar, Loja**	**2.48**	**243**	P	**Pn**	**13 15 04.2**	**-2.8**
BMOR	**Cotopaxi Volca**	**2.58**	**344**	P	**Pb**	**13 15 13.4**	**+0.2**
BTAM	**Cotopaxi Volca**	**2.62**	**345**	P	**Pb**	**13 15 13.7**	**-0.1**
BREF	**Cotopaxi Volca**	**2.64**	**345**	P	**Pg**	**13 15 15.6**	**-1.4**
BVC2	**Cotopaxi Volca**	**2.64**	**345**	P	**Pb**	**13 15 14.8**	**+0.7**
MORR	**Playas El Morr**	**2.66**	**283**	P	**Pn**	**13 15 09.7**	**+0.4**
NAS2	**Nasa**	**2.67**	**344**	P	**Pb**	**13 15 15.8**	**+1.2**
PAST	**Pastocalle**	**2.67**	**340**	P	**Pb**	**13 15 15.7**	**+1.1**
ILLI	**Illinizas Sur**	**2.69**	**338**	P	**Pb**	**13 15 14.5**	**-0.4**
ANTM	**Antisana-La Mi**	**2.72**	**350**	P	**Pb**	**13 15 15.3**	**-0.1**
ANTM				S	**Sg**	**13 15 52.2**	**-1.6**
PITA	**Cotopaxi Volc**	**2.74**	**345**	P	**Pb**	**13 15 16.7**	**+0.9**
ANTS	**Antisana-Sarah**	**2.75**	**351**	P	**Pb**	**13 15 15.0**	**-1.0**
ANTG	**Antisana-Guama**	**2.76**	**349**	P	**Pb**	**13 15 15.1**	**-1.0**
ANTI	**Antisana**	**2.79**	**351**	P	**Pb**	**13 15 16.6**	**-0.2**
GGPC	**Guagua Pichinc**	**3.15**	**344**	P	**Pb**	**13 15 22.8**	**0.0**
YANA	**Yana**	**3.20**	**345**	P	**Pb**	**13 15 23.5**	**-0.1**
SALI	**Salinas**	**3.41**	**288**	P	**Pn**	**13 15 20.6**	**+1.0**
OTAV	**Otavalo**	**3.52**	**348**	ePn	**Pn**	**13 15 19.7**	**-1.8**
OTAV	**Otavalo**	**3.52**	**348**	eP	**Pb**	**13 15 29.6**	**+0.6**
OTAV	**Otavalo**	**3.52**	**348**	eP	**Pb**	**13 15 29.6**	**+0.6**
PAC1	**Pacto, Paraso**	**3.63**	**343**	P	**Pb**	**13 15 28.4**	**-2.3**
MAG1	**Magdalena**	**3.74**	**327**	P	**Pn**	**13 15 27.2**	**+3.0**
ATAH	**Atahualpa**	**3.94**	**190**	Pn	**Pn**	**13 15 29.6**	**+2.3**
	11nm,0.3s,baz=2.1,slow=6.9,SNR=55						
ATAH				Sn	**Sn**	**13 16 18.5**	**+4.8**
	9.4nm,0.3s,baz=171,slow=19,SNR=9.2						
GCUF	**Volcan Galeras**	**4.44**	**5**	eP	**Pg**	**13 15 50.8**	**-0.8**
GCUF	**Volcan Galeras**	**4.44**	**5**	eP	**Pg**	**13 15 50.8**	**-0.8**
PTLC	**Puerto Leguiza**	**4.48**	**41**	eP	**Pn**	**13 15 35.3**	**+1.0**
PTLC	**Puerto Leguiza**	**4.48**	**41**	eP	**Pn**	**13 15 35.3**	**+1.0**
CRUC	**La Cruz**	**4.83**	**9**	eP	**Pn**	**13 15 43.1**	**+3.6**
CRUC	**La Cruz**	**4.83**	**9**	eP	**Pn**	**13 15 43.1**	**+3.6**
FLOC	**Florencia**	**5.21**	**24**	eP	**Pn**	**13 15 47.2**	**+2.7**
FLOC	**Florencia**	**5.21**	**24**	eP	**Pn**	**13 15 47.2**	**+2.7**
BBAC	**Balboa, Cauca**	**5.24**	**5**	eP	Pn	13 15 50.6	+5.6
BBAC	**Balboa, Cauca**	**5.24**	**5**	eP	Pn	13 15 50.6	+5.6
SOTA	**Rioblanco**	**5.45**	**12**	eP	**Pn**	**13 15 52.1**	**+4.0**
SOTA	**Rioblanco**	**5.45**	**12**	eP	**Pn**	**13 15 52.1**	**+4.0**
PCON	**Cinco Dias**	**5.68**	**14**	eP	**Pn**	**13 15 55.6**	**+4.2**
PCON	**Cinco Dias**	**5.68**	**14**	eP	**Pn**	**13 15 55.6**	**+4.2**
POPC	**Popayan, Colom**	**5.83**	**11**	eP	Pb	13 16 01.5	-6.8
POPC	**Popayan, Colom**	**5.83**	**11**	eP	Pb	13 16 01.5	-6.8
MARP	**Paez Belalcaza**	**6.29**	**16**	eP	Pb	13 16 09.3	-6.9
MARP	**Paez Belalcaza**	**6.29**	**16**	eP	Pb	13 16 09.3	-6.9
YOTC	**Yotoco, Valle**	**7.30**	**11**	eP	Pn	13 16 18.1	+4.9
YOTC	**Yotoco, Valle**	**7.30**	**11**	eP	Pn	13 16 18.1	+4.9
PRAC	**Prado**	**7.46**	**22**	eP	Pn	13 16 23.0	+7.6
PRAC	**Prado**	**7.46**	**22**	eP	Pn	13 16 23.0	+7.6
ROSC	**El Rosal**	**8.71**	**23**	ePn	**Pn**	**13 16 32.5**	**-0.4**
ROSC				Lg	Lg	13 18 57.6	
ROSC	**El Rosal**	**8.71**	**23**	Pn	**Pn**	**13 16 30.4**	**-2.5**
	0.8nm,0.3s,baz=233,slow=20,SNR=2.0						
ROSC				Lg	Lg	13 18 57.6	
	2.4nm,0.3s,baz=162,slow=20,SNR=2.8						
NNA	**Nana**	**8.75**	**174**	ePn	**Pn**	**13 16 35.3**	**+2.2**
NNA				Sn	**Sn**	**13 18 06.5**	**-5.4**
NNA	**Nana**	**8.75**	**174**	Pn	**Pn**	**13 16 34.5**	**+1.4**
	2.5nm,0.3s,baz=338,slow=11,SNR=6.0						
NNA				Sn	**Sn**	**13 18 06.5**	**-5.4**
	2.9nm,0.3s,baz=277,slow=16,SNR=3.2						
NNA	**Nana**	**8.75**	**174**	P	**Pn**	**13 16 35.4**	**+2.4**
NNA				S	**Sn**	**13 18 07.3**	**-4.6**
PAYG	**Puerto Ayora**	**12.79**	**281**	ePn	**Pn**	**13 17 30.8**	**+2.3**
SDV	**Santo Domingo**	**13.96**	**30**	ePn	**Pn**	**13 17 41.7**	**-3.0**
	12nm,1.1s						
SDV				Lg	Lg	13 21 49.4	
SDV	**Santo Domingo**	**13.96**	**30**	Pn	**P**	**13 17 49.4**	**-3.4**
	0.6nm,0.3s,baz=284,slow=4.2,SNR=4.1						
SDV				Lg	Lg	13 21 49.4	
	0.5nm,0.3s,baz=60,slow=20,SNR=2.5						
JTS	**Las Juntas de**	**15.23**	**332**	ePn	**Pn**	**13 18 02.8**	**+1.1**
	97nm,1.8s						
JTS	**Las Juntas de**	**15.23**	**332**	Pn	**P**	**13 18 06.4**	**-0.3**
	0.3nm,0.3s,baz=201,slow=9.7,SNR=8.4						
LPAZ	**La Paz**	**16.05**	**145**	ePn	**Pn**	**13 18 14.1**	**+1.1**
	33nm,1.8s						
LPAZ	**La Paz**	**16.05**	**145**	Pn	**Pn**	**13 18 14.5**	**+1.5**
	0.2nm,0.3s,baz=333,slow=5.7,SNR=8.0						
LPAZ				LR	LR	13 25 15.6	
	comp=Z,167nm,18.5s,baz=248,slow=40						
ESPN	**Las Esperanzas**	**16.65**	**337**	ePn	**P**	**13 18 21.5**	**-1.0**
	16nm,0.9s						
ACON	**Acoyapa**	**16.81**	**334**	ePn	**Pn**	**13 18 22.1**	**+0.1**
	16nm,0.9s						
MNMC	**Minye Minye**	**17.70**	**154**	ePn	**P**	**13 18 34.2**	**-0.1**
	21nm,0.8s						
PTGA	**Pitinga**	**17.93**	**82**	ePn	**Pn**	**13 18 36.2**	**+0.1**
	8.1nm,0.9s						
PTGA				S	**Sn**	**13 21 49.3**	**-7.0**
PTGA				Lg	Lg	13 23 59.0	
PTGA	**Pitinga**	**17.93**	**82**	P	**P**	**13 18 37.6**	**+1.0**
	0.4nm,0.3s,baz=265,slow=18,SNR=6.0						
PTGA				S	**Sn**	**13 21 49.3**	**-7.0**
	0.6nm,0.3s,baz=191,slow=19,SNR=3.9						
PTGA				Lg	Lg	13 23 59.0	
	0.7nm,0.3s,baz=342,slow=20,SNR=2.6						
PB11	**IPOC Station P**	**18.23**	**155**	eP	**P**	**13 18 41.6**	**+1.6**
	14nm,0.7s						
GO01	**Chusmiza**	**18.35**	**154**	eP	**P**	**13 18 42.8**	**+1.1**
	11nm,0.8s						
SIV	**San Ignacio**	**20.73**	**129**	P	Pn	13 19 09.1	-0.6
	3.6nm,0.8s,baz=340,slow=9.9,SNR=10						
SIV				Lg	Lg	13 25 25.8	
	6.6nm,0.8s,baz=248,slow=19,SNR=3.6						
SIV				LR	LR	13 28 29.9	
	comp=Z,201nm,20.5s,baz=277,slow=40						
LVC	**Limon Verde**	**21.08**	**157**	eP	**P**	**13 19 11.1**	**-0.3**
	19nm,0.8s						
LVC	**Limon Verde**	**21.08**	**157**	P	**P**	**13 19 13.9**	**+2.5**
	10nm,0.8s,baz=252,slow=20,SNR=6.1						
APG	**El Apazote**	**22.07**	**325**	P	**P**	**13 19 21.2**	**-0.7**
	4.8nm,0.7s,baz=75,slow=18,SNR=3.6						
CMIG	**Matias Romero**	**26.35**	**321**	P	**P**	**13 20 03.8**	**+0.9**
	4.1nm,0.6s,baz=119,slow=6.8,SNR=6.1						
MDP	**Montagnes des**	**26.40**	**72**	P	**P**	**13 20 05.5**	**+2.1**
	8.8nm,0.6s,baz=251,slow=9.4,SNR=7.1						
CFA	**Coronel Fontan**	**29.61**	**163**	P	**P**	**13 20 35.8**	**+3.9**
	2.5nm,0.6s,baz=332,slow=8.5,SNR=5.8						
PLCA	**Paso Flores**	**37.89**	**171**	P	**P**	**13 21 44.4**	**+0.6**
	3.1nm,0.9s,baz=12,slow=11,SNR=4.8						
V48A	**Smith Brothers**	**39.69**	**348**	eP	**P**	**13 21 58.1**	**-0.7**
	12nm,0.8s						
TXAR	**Lajitas Array**	**40.82**	**324**	eP	**P**	**13 22 08.0**	**-0.4**
TXAR				PcP	**PcP**	**13 24 10.6**	**+1.1**
TXAR	**Lajitas Array**	**40.82**	**324**	P	**P**	**13 22 09.3**	**+0.9**
	0.7nm,0.7s,baz=144,slow=9.3,SNR=8.8						
TXAR				PcP	**PcP**	**13 24 10.6**	**+1.1**
	1.1nm,0.8s,baz=142,slow=5.4,SNR=10.0						
ABTX	**Abilene, Hawle**	**41.26**	**331**	eP	**P**	**13 22 12.2**	**+0.2**
	6.9nm,0.7s						
PBMO	**Poplar Bluff**	**41.52**	**345**	eP	**P**	**13 22 12.9**	**-1.0**
	7.0nm,0.8s						
SIUC	**Southern Illin**	**42.11**	**346**	eP	**P**	**13 22 17.6**	**-1.1**
	17nm,0.9s						
WMOK	**Wichita Mounta**	**42.63**	**334**	eP	**P**	**13 22 22.3**	**-0.9**
	8.0nm,1.1s						
FVM	**French Village**	**42.66**	**345**	eP	**P**	**13 22 22.8**	**-0.4**
	12nm,0.9s						
CCM	**Cathedral Cave**	**42.94**	**344**	eP	**P**	**13 22 24.4**	**-1.2**
	6.5nm,0.8s						
MNTX	**Cornudas Mount**	**43.56**	**325**	eP	**P**	**13 22 30.9**	**+0.2**
	3.0nm,0.8s						
KSU1	**Kansas State U**	**45.58**	**339**	eP	**P**	**13 22 45.9**	**-0.8**
	8.2nm,0.9s						
319A	**Douglas**	**45.67**	**321**	eP	**P**	**13 22 48.4**	**+0.7**
	7.0nm,0.8s						
ANMO	**Albuquerque**	**46.58**	**327**	eP	**P**	**13 22 55.4**	**+0.6**
	5.2nm,0.8s						
TUC	**Tucson**	**47.24**	**321**	eP	**P**	**13 23 00.2**	**+0.3**
	4.4nm,0.8s						
SDCO	**Great Sand Dun**	**48.22**	**330**	eP	**P**	**13 23 08.3**	**+0.5**
	3.6nm,0.8s						
X16A	**Lo Mia Camp, P**	**49.07**	**323**	eP	**P**	**13 23 15.0**	**+0.8**
	4.1nm,0.8s						
MVCO	**Mesa Verde**	**49.36**	**327**	eP	**P**	**13 23 16.8**	**+0.4**
Y14A	**Wickenburg**	**49.71**	**321**	eP	**P**	**13 23 19.2**	**+0.3**
	3.0nm,0.9s						
WUAZ	**Wupatki**	**49.78**	**324**	eP	**P**	**13 23 20.4**	**+0.8**
	8.2nm,0.8s						
PV01	**Paradox Valley**	**50.09**	**328**	eP	**P**	**13 23 22.6**	**+0.6**
	3.9nm,0.9s						
PV13	**Radium Mtn., P**	**50.23**	**328**	eP	**P**	**13 23 23.4**	**+0.4**
	11nm,0.7s						
PV03	**Paradox Valley**	**50.32**	**328**	eP	**P**	**13 23 24.2**	**+0.5**
	7.1nm,0.7s						
PV12	**Saucer Basin,**	**50.34**	**328**	eP	**P**	**13 23 24.4**	**+0.5**
	11nm,0.8s						
PV18	**Skein Mesa, Pa**	**50.35**	**328**	eP	**P**	**13 23 24.2**	**+0.4**
	9.9nm,0.8s						
PV11	**David Mesa, Pa**	**50.37**	**328**	eP	**P**	**13 23 24.6**	**+0.6**
	6.1nm,0.7s						
PV16	**Nyswonger Mesa**	**50.40**	**328**	eP	**P**	**13 23 24.7**	**+0.4**
	4.6nm,0.9s						
PV17	**East Wray Mesa**	**50.40**	**328**	eP	**P**	**13 23 24.7**	**+0.5**
	6.8nm,0.8s						
PV22	**Blue Mesa, Par**	**50.50**	**328**	eP	**P**	**13 23 25.3**	**+0.3**
	3.8nm,0.9s						
W13A	**Hualapai Mount**	**51.02**	**322**	eP	**P**	**13 23 29.8**	**+0.8**
	3.9nm,0.8s						
RSSD	**Black Hills**	**52.71**	**336**	eP	**P**	**13 23 42.0**	**+0.5**
	5.2nm,0.8s						
AGMN	**Agassiz Nation**	**53.70**	**345**	eP	**P**	**13 23 47.4**	**-1.1**
	6.9nm,0.8s						
DUG	**Dugway, Tooele**	**53.85**	**327**	eP	**P**	**13 23 50.0**	**+0.2**
	5.9nm,1.3s						
BW06	**Boulder Array**	**54.06**	**331**	eP	**P**	**13 23 51.0**	**-0.5**
	4.1nm,1.4s						
PD31	**Pinedale Array**	**54.06**	**331**	eP	**P**	**13 23 51.1**	**-0.4**
	4.1nm,1.4s						
PDAR	**Pinedale Array**	**54.06**	**331**	P	**P**	**13 23 50.8**	**-0.7**
	0.8nm,0.7s,baz=134,slow=8.6,SNR=9.1						
PDAR				PcP	**PcP**	**13 24 55.9**	**-0.5**
	0.9nm,0.8s,baz=131,slow=5.0,SNR=5.1						
HWUT	**Hardware Ranch**	**54.20**	**329**	eP	**P**	**13 23 52.4**	**-0.1**
	6.1nm,0.9s						
ULM	**Lac du Bonnet**	**55.51**	**346**	P	**P**	**13 23 59.9**	**-1.6**
	6.2nm,0.7s,baz=156,slow=8.7,SNR=12						
IMW	**Indian Meadow**	**55.58**	**331**	eP	**P**	**13 24 02.4**	**-0.2**
	2.6nm,0.8s						
NV11	**Mina Array Sit**	**55.78**	**322**	eP	**P**	**13 24 04.3**	**+0.4**
	0.7nm,1.6s						
NVAR	**Mina Array Bea**	**55.87**	**322**	eP	**P**	**13 24 05.1**	**+0.5**
NVAR				PcP	**PcP**	**13 25 04.3**	**+0.9**
NVAR	**Mina Array Bea**	**55.87**	**322**	P	**P**	**13 24 05.5**	**+0.8**
	1.4nm,0.6s,baz=127,slow=6.9,SNR=15						
NVAR				PcP	**PcP**	**13 25 04.3**	**+0.9**
	0.9nm,0.7s,baz=133,slow=5.9,SNR=5.4						
KVN	**Kaiserville**	**56.13**	**323**	eP	**P**	**13 24 06.5**	**0.0**
	3.0nm,1.2s						
HLID	**Hailey**	**57.07**	**329**	eP	**P**	**13 24 13.4**	**+0.4**
	2.6nm,0.9s						
BOZ	**Bozeman (W)**	**57.18**	**332**	eP	**P**	**13 24 14.1**	**+0.3**
	4.3nm,0.9s						
BEKR	**Beckworth**	**58.01**	**322**	eP	**P**	**13 24 19.8**	**0.0**
	2.8nm,0.8s						
WVOR	**Wild Horse Val**	**58.60**	**325**	eP	**P**	**13 24 23.7**	**0.0**
	6.1nm,1.1s						
MSO	**Missoula**	**59.17**	**332**	eP	**P**	**13 24 27.9**	**+0.3**
	4.1nm,0.9s						
I07A	**Izee**	**60.14**	**326**	eP	**P**	**13 24 34.8**	**+0.4**
	3.4nm,0.9s						
YBH	**Yreka Blue Hor**	**60.56**	**323**	P	**P**	**13 24 36.1**	**-1.1**
	1.7nm,0.7s,baz=101,slow=6.8,SNR=10.0						
PINE	**Pine Mountain**	**60.76**	**325**	eP	**P**	**13 24 39.1**	**+0.4**
	5.9nm,0.9s						
FFC	**Flin Flon**	**61.15**	**344**	eP	**P**	**13 24 40.5**	**-0.4**
	2.5nm,0.8s						
FCC	**Fort Churchill**	**63.16**	**351**	eP	**P**	**13 24 53.7**	**-0.5**
	6.8nm,1.0s						
YKA	**Yellowknife Ar**	**71.26**	**343**	P	**P**	**13 25 45.3**	**-0.3**
	1.5nm,0.8s,baz=139,slow=5.7,SNR=28						
ESDC	**Sonseca Array**	**79.65**	**49**	P	**P**	**13 26 36.3**	**+1.9**
	0.2nm,0.4s,baz=270,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**80.46**	**76**	P	**P**	**13 26 39.1**	**-0.1**
	1.3nm,1.0s,baz=284,slow=5.8,SNR=4.8						
INK	**Inuvik**	**80.98**	**342**	eP	**P**	**13 26 41.2**	**+0.4**
	10.0nm,0.9s						
INK	**Inuvik**	**80.98**	**342**	P	**P**	**13 26 41.6**	**+0.8**
	7.5nm,0.9s,baz=101,slow=6.2,SNR=32						
EPYK	**Eagle Plains**	**81.02**	**340**	eP	**P**	**13 26 41.3**	**+0.1**
	19nm,1.7s						
BCAR	**Beaver Creek A**	**81.42**	**336**	eP	**P**	**13 26 43.7**	**+0.3**
EGAK	**Eagle**	**81.90**	**337**	eP	**P**	**13 26 46.1**	**+0.3**
	12nm,0.8s						
SCRK	**Sand Creek**	**82.69**	**336**	eP	**P**	**13 26 50.2**	**+0.1**
	4.4nm,0.7s						
PAX	**Paxson**	**82.93**	**335**	eP	**P**	**13 26 51.4**	**+0.1**
RIDG	**Independent Ri**	**82.95**	**336**	eP	**P**	**13 26 51.5**	**0.0**
	8.2nm,0.9s						
HDA	**Harding Lake**	**84.06**	**336**	eP	**P**	**13 26 57.0**	**0.0**
	6.3nm,0.8s						
ILAR	**Eielson Array**	**84.16**	**336**	eP	**P**	**13 26 57.0**	**-0.5**
ILAR				PP	**PP**	**13 30 12.0**	**+0.2**
ILAR	**Eielson Array**	**84.16**	**336**	P	**P**	**13 26 57.5**	**-0.1**
	2.9nm,0.8s,baz=124,slow=4.0,SNR=27						
ILAR				PP	**PP**	**13 30 12.0**	**+0.2**
	0.1nm,0.5s,baz=107,slow=7.3,SNR=4.3						
ILB	**Eielson Array**	**84.16**	**336**	eP	**P**	**13 26 57.1**	**-0.5**
	3.8nm,0.8s						
RND	**Reindeer**	**84.52**	**335**	eP	**P**	**13 26 59.3**	**-0.2**
	6.9nm,1.0s						
WRH	**Wood River Hil**	**84.55**	**336**	eP	**P**	**13 26 59.5**	**0.0**
	16nm,1.9s						
MCK	**McKinley**	**84.66**	**335**	eP	**P**	**13 26 59.7**	**-0.4**
	4.9nm,0.9s						
MDM	**Murphy Dome**	**84.76**	**336**	eP	**P**	**13 27 00.4**	**-0.3**
	6.0nm,0.9s						
BWN	**Browne**	**85.02**	**335**	eP	**P**	**13 27 01.6**	**-0.2**
	14nm,0.9s						
RSO	**Redoubt South**	**85.45**	**331**	eP	**P**	**13 27 04.2**	**-0.2**
BPAW	**Bear Paw Mtn.**	**85.64**	**335**	eP	**P**	**13 27 04.9**	**-0.1**
	11nm,0.8s						
MLY	**Manley**	**85.80**	**336**	eP	**P**	**13 27 05.9**	**0.0**
	3.8nm,0.8s						
PPLA	**Purkeypile**	**85.82**	**334**	eP	**P**	**13 27 06.2**	**+0.1**
CAST	**Castle Rocks**	**85.92**	**334**	eP	**P**	**13 27 06.2**	**-0.2**
	9.5nm,0.7s						
QSPA	**South Pole Qui**	**86.85**	**180**	eP	**P**	**13 27 11.6**	**+0.5**
	12nm,1.1s						
IMAR	**Indian Mountai**	**87.27**	**337**	eP	**P**	**13 27 12.8**	**-0.1**
ZALV	**Zalesovo Beam**	**127.46**	**13**	PKP	**PKPdf**	**13 33 31.1**	**-0.5**
	2.2nm,0.8s,baz=238,slow=2.7,SNR=8.2						
MKAR	**Makanchi Array**	**133.27**	**19**	PKP	**PKiKP**	**13 33 43.4**	**-0.7**
	0.2nm,0.3s,baz=333,slow=0.3,SNR=3.8						
ASAR	**Alice Springs**	**139.20**	**227**	PKP	**PKPdf**	**13 33 53.9**	**-0.7**
	1.0nm,0.8s,baz=121,slow=2.2,SNR=6.6						
WRA	**Warramunga Arr**	**140.98**	**233**	PKP	**PKPdf**	**13 33 57.3**	**-0.6**
	1.4nm,0.8s,baz=117,slow=2.7,SNR=7.0						
CD2	**Chengdu**	**152.43**	**357**	PKPbc	**PKPdf**	**13 34 14.0**	**-2.8**
CMAR	**Chiang Mai Arr**	**164.52**	**12**	PKP	**PKPdf**	**13 34 31.7**	**+0.2**
	0.3nm,0.7s,baz=329,slow=2.0,SNR=5.2						

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*DSN **12** 13:18:37.4±3.5, 26°.73N×58°.22E, h10km, ML3.1/5, Error ellipse: s-maj=50.3km s-min=13.5km az=5.0*
*OMAN **12** 13:18:42.2±5.5, 26°.55N×58°.14E, h12km, ml3.4/3, Error ellipse: s-maj=48.2km s-min=8.4km az=30.0*
*TEH **12** 13:18:43.1, 26°.58N×57°.62E, h10km, ML3.3*
ISC 12 13:18:34.3±1.1, 26°.52N±0°.03×58°.30E±0°.05, h10km, n19, σ1ⱢⱢ31/23, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.67**	**309**	IAMB	IAmb	13 19 30.7	
	comp=Z,0.0nm,0.2s						
NIAN				ePg	**Pg**	**13 19 06.4**	**+0.1**
SHME	**Shamm**	**1.99**	**257**	eP	**Pb**	**13 19 11.1**	**+0.5**
	SNR=6.9						
SHME				S	**Sb**	**13 19 36.9**	**+1.3**
SHME	**Shamm**	**1.99**	**257**	ePn	**Pb**	**13 19 11.2**	**+0.6**
GENO	**Geno**	**2.09**	**295**	ePg	**Pb**	**13 19 12.3**	**-0.1**
GENO				eSg	**Sn**	**13 19 35.3**	**-0.4**
GENO				IAMB	IAmb	13 19 40.7	
	comp=Z,0.0nm,0.4s						
MDH	**Madha**	**2.17**	**236**	eP	**Pb**	**13 19 13.1**	**-0.6**
	SNR=18						
MDH	**Madha**	**2.17**	**236**	ePn	**Pb**	**13 19 13.3**	**-0.4**
MSFE	**Esma-Masafi**	**2.25**	**240**	ePn	**Pg**	**13 19 17.5**	**+0.2**
HATD	**Hatta, Dubai**	**2.58**	**230**	P	**Pb**	**13 19 21.7**	**+1.0**
HATD	**Hatta, Dubai**	**2.58**	**230**	ePn	**Pb**	**13 19 21.2**	**+0.5**
ASHO	**Ashiyiah**	**2.73**	**228**	P	**Pb**	**13 19 21.8**	**-1.4**
ASHO	**Ashiyiah**	**2.73**	**228**	ePn	**Pb**	**13 19 22.0**	**-1.1**
FAQ	**Al Faqa, Dubai**	**3.01**	**235**	P	**Pb**	**13 19 26.8**	**-1.3**
CHMN	**Cheshme madani**	**3.40**	**349**	ePn	**Pb**	**13 19 36.7**	**+1.9**
CHMN				IAMB	IAmb	13 19 45.5	
	comp=Z,0.0nm,0.3s						
NGRK	**Negar Kerman**	**3.41**	**336**	ePn	**Pb**	**13 19 34.2**	**-0.8**
NGRK				IAMB	IAmb	13 20 24.7	
	comp=Z,0.0nm,0.4s						
TVBK	**TV Kerman**	**3.71**	**339**	ePn	**Pb**	**13 19 39.3**	**-0.8**
TVBK				IAMB	IAmb	13 19 49.6	
	comp=Z,0.0nm,0.3s						
SZD1	**Zahaedan-tmp**	**3.73**	**37**	ePn	**Pg**	**13 19 46.8**	**+1.1**
BSY	**Bisya**	**3.89**	**195**	P	**Pb**	**13 19 44.9**	**+1.9**
BSY				S	**Sb**	**13 20 31.2**	**+1.1**
KHGB	**Koh Gabri**	**4.16**	**338**	ePn	**Pb**	**13 19 45.2**	**-2.6**
KHGB				IAMB	IAmb	13 19 58.2	
	comp=Z,0.0nm,0.5s						
JLN	**Jalan Bani Buh**	**4.46**	**167**	P	**Pb**	**13 19 52.1**	**-0.7**
	SNR=6.7						
JLN				S	**Sb**	**13 20 44.1**	**-2.6**

IDC 12 13:22:25.8±2.1, 1°.97N×126°.22E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/32, mbtmp3.4/3, Error ellipse: s-maj=181.1km s-min=26.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.19**	**160**	P	P	13 27 34.0	-0.3
	0.8nm,0.4s,baz=339,slow=11,SNR=17						
ASAR	**Alice Springs**	**26.56**	**164**	P	P	13 28 06.0	+0.4
	0.5nm,0.8s,baz=346,slow=11,SNR=9.4						
MKAR	**Makanchi Array**	**58.71**	**326**	P	P	13 32 25.2	-0.2
	0.2nm,0.4s,baz=124,slow=8.0,SNR=4.2						

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*NEIC **12** 13:49:53.3±0.0, 18°.57N×68°.45W, h126km, MD3.6(RSPR), After RSPR.*
RSPR 12 13:49:53.3, 18°.57N×68°.45W, h126km±2km, MD3.6/16, 17C-18D, Mona Passage

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

CAUP				*e*S	Sn	14 08 48.4	+0.6
APYP	**Conner**	**1.07**	**21**	*e*P	Pn	14 08 35.9	-0.7
APYP				*e*S	Sn	14 08 51.1	+0.3
BALP	**Baler**	**1.32**	**147**	*e*P	Pn	14 08 39.9	-0.3
BALP				*e*S	Sn	14 08 57.2	+0.1
PALP	**Palanan**	**1.53**	**82**	*e*P	Pn	14 08 41.8	-1.3
PALP				*e*S	Sb	14 09 04.2	+0.3

*IDC **12** 14:10:33.6±4.1, 12.°66N×90.°94W, h0km, mb3.1/4, mb1 3.6/6, mb1mx3.3/45, mbtmp3.3/6, ML3.4/2, Error ellipse: s-maj=71.8km s-min=41.2km az=130.0*
ISC 12 14:10:40.2±2.9, 13.°0N±0.°2×90.°9W±0.°3, h33km, n6, σ1§50/7, mb3.3/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.04**	**12**	Pn	**Pb**	**14 11 15.8**	**-1.1**
	16nm,0.3s,baz=177,slow=9.0,SNR=139						
APG				Sn	**Sb**	**14 11 43.3**	**+1.3**
	12nm,0.3s,baz=292,slow=19,SNR=6.5						
CMIG	**Matias Romero**	**5.60**	**317**	Pn	**Pn**	**14 12 00.1**	**-1.1**
	0.7nm,0.3s,baz=136,slow=14,SNR=5.1						
CMIG				Sn	Sn	14 12 55.1	-9.3
	0.8nm,0.3s,baz=108,slow=4.2,SNR=3.8						
TXAR	**Lajitas Array**	**20.12**	**326**	P	**P**	**14 15 11.5**	**0.0**
	0.3nm,0.7s,baz=157,slow=14,SNR=4.8						
NVAR	**Mina Array Bea**	**35.12**	**321**	P	**P**	**14 17 33.1**	**+2.2**
	0.5nm,0.8s,baz=134,slow=6.4,SNR=3.0						
YKA	**Yellowknife Ar**	**52.24**	**346**	P	**P**	**14 19 47.6**	**-0.3**
	0.2nm,0.7s,baz=152,slow=7.6,SNR=3.7						
ILAR	**Eielson Array**	**64.18**	**337**	P	**P**	**14 21 11.0**	**-0.4**
	0.2nm,0.8s,baz=125,slow=7.8,SNR=3.2						

*DSN **12** 14:47:49.9±1.5, 27.°02N×58.°23E, h10km, ML4.0/6, Error ellipse: s-maj=25.7km s-min=10.6km az=157.0*
*TEH **12** 14:47:56.4, 26.°63N×57.°77E, h5km, ML3.8*
*ISCJB **12** 14:47:57.7±0.4, 26.°64N±0.°03×57.°68E±0.°06, h10km, mb3.4/6, Error ellipse: s-maj=7.5km s-min=4.6km az=14.7*
*IDC **12** 14:47:57.1±3.4, 26.°55N×57.°33E, h0km, mb3.5/5, mb1 3.5/5, mb1mx3.3/31, mbtmp3.5/5, Error ellipse: s-maj=70.0km s-min=36.6km az=157.0*
*OMAN **12** 14:48:06.0±0.7, 26.°02N×57.°58E, h42km±416km, ml3.0/6, Error ellipse: s-maj=61.5km s-min=11.2km az=271.0*
ISC 12 14:47:56.8±0.7, 26.°63N±0.°04×57.°80E±0.°04, h10km, n43, σ2§22/45, mb3.5/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.27**	**317**	*e*Pg	**Pg**	**14 48 21.0**	**-0.1**
NIAN				IAMB	IAmb	14 48 44.6	
	comp=Z,0.0nm,0.4s						
SHME	**Shamm**	**1.60**	**249**	*e*P	**Pg**	**14 48 26.5**	**-1.0**
	SNR=30						
SHME				S	**Sg**	**14 48 52.0**	**+3.8**
SHME	**Shamm**	**1.60**	**249**	*e*Pn	**Pg**	**14 48 26.6**	**-0.8**
GENO	**Geno**	**1.64**	**298**	*e*Pn	**Pb**	**14 48 26.9**	**-0.4**
GENO				IAMB	IAmb	14 49 00.1	
	comp=Z,0.0nm,0.3s						
MDH	**Madha**	**1.89**	**226**	*e*P	**Pn**	**14 48 28.0**	**-1.2**
	SNR=7.5						
MDH	**Madha**	**1.89**	**226**	P	**Pn**	**14 48 27.9**	**-1.2**
MDH				S	Sn	14 48 42.7	-10
MSFE	**Esma-Masafi**	**1.94**	**230**	*e*P	**Pb**	**14 48 30.9**	**-1.5**
	SNR=17						
MSFE				S	**Sg**	**14 49 02.3**	**+3.0**
MSFE	**Esma-Masafi**	**1.94**	**230**	*e*Pn	**Pb**	**14 48 31.0**	**-1.3**
HATD	**Hatta, Dubai**	**2.34**	**220**	*e*P	**Pb**	**14 48 36.6**	**-2.5**
	SNR=8.5						
HATD	**Hatta, Dubai**	**2.34**	**220**	P	**Pb**	**14 48 37.3**	**-1.8**
HATD	**Hatta, Dubai**	**2.34**	**220**	*e*Pn	**Pb**	**14 48 38.3**	**-0.8**
ASHO	**Ashiyiah**	**2.49**	**219**	*i* P	**Pn**	**14 48 38.1**	**+0.6**
	SNR=11						
ASHO	**Ashiyiah**	**2.49**	**219**	*e*Pn	**Pn**	**14 48 38.9**	**+1.4**
NAZ	**Nazwa, Dubai**	**2.52**	**230**	*e*Pn	**Pb**	**14 48 42.1**	**-0.1**
CHBR	**Chabahar**	**2.62**	**112**	*e*Pn	**Pb**	**14 48 42.2**	**-1.7**
SOHO	**SOHO**	**2.73**	**205**	P	**Pn**	**14 48 38.8**	**-1.9**
	SNR=29						
FAQ	**Al Faqa, Dubai**	**2.73**	**227**	*e*Pn	**Pb**	**14 48 43.2**	**-2.6**
ASUD	**Al Ashush, Dub**	**2.99**	**229**	P	**Pn**	**14 48 44.9**	**+0.6**
ASUD	**Al Ashush, Dub**	**2.99**	**229**	*e*Pn	**Pb**	**14 48 47.3**	**-2.9**
HOQ	**Hoqain**	**3.06**	**188**	*e*Pn	**Pn**	**14 48 46.1**	**+0.8**
BIDO	**Bidbid**	**3.11**	**174**	*e*Pn	**Pn**	**14 48 46.9**	**+1.0**
NGRK	**Negar Kerman**	**3.15**	**343**	*e*Pn	**Pn**	**14 48 48.2**	**+1.4**
NGRK				IAMB	IAmb	14 49 54.8	
	comp=Z,0.0nm,0.4s						
ALNE	**Al Ain**	**3.16**	**216**	*e*Pn	**Pn**	**14 48 47.5**	**+0.9**
CHMN	**Cheshme madani**	**3.23**	**356**	*e*Pn	**Pb**	**14 48 50.7**	**-3.8**
CHMN				IAMB	IAmb	14 49 14.1	
	comp=Z,0.0nm,0.4s						
TVBK	**TV Kerman**	**3.47**	**345**	*e*Pn	**Pb**	**14 48 54.3**	**-4.2**
TVBK				IAMB	IAmb	14 50 12.6	
	comp=Z,0.0nm,0.4s						
KHGB	**Koh Gabri**	**3.91**	**343**	*e*Pn	**Pn**	**14 49 00.5**	**+3.3**
KHGB				IAMB	IAmb	14 50 21.2	
	comp=Z,0.0nm,0.7s						
SZD1	**Zahaedan-tmp**	**3.93**	**43**	*e*Pn	**Pn**	**14 48 59.6**	**+2.2**
ZHSF	**Zahedan**	**3.97**	**41**	*e*Pn	**Pb**	**14 49 02.5**	**-4.4**
GHIR	**Ghir-Karzin**	**4.58**	**292**	*e*Pn	**Pn**	**14 49 06.3**	**0.0**
JLN	**Jalan Bani Buh**	**4.69**	**161**	P	**Pn**	**14 49 06.7**	**-1.0**
	SNR=7.3						
IMEH	**Mehriz**	**5.50**	**330**	*e*Pn	**Pn**	**14 49 18.8**	**-0.3**
IKOO	**Kooshah**	**5.87**	**10**	*e*Pn	**Pn**	**14 49 27.0**	**+2.9**
IKAZ	**Kazeroun**	**6.12**	**302**	*e*Pn	**Pn**	**14 49 26.8**	**-0.9**
ITEG	**Tejag**	**6.30**	**7**	*e*Pn	**Pn**	**14 49 31.8**	**+1.8**
ITEG				IAMB	IAmb	14 50 13.2	
	comp=Z,272nm,0.6s						
TPRV	**Parvadeh(Tabas**	**6.45**	**352**	*e*Pn	**Pn**	**14 49 35.0**	**+3.0**
TABS	**Tabas**	**7.02**	**355**	*e*Pn	**Pn**	**14 49 43.3**	**+3.5**
KHMZ	**Khomeyn**	**9.81**	**318**	*e*Pn	**Pn**	**14 50 19.7**	**+1.6**
BRTR	**Keskin Array B**	**23.99**	**309**	P	**P**	**14 53 11.4**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=124,slow=9.9,SNR=5.2						
MKAR	**Makanchi Array**	**27.92**	**37**	P	**P**	**14 53 51.8**	**+4.7**
	comp=Z,0.2nm,0.7s,baz=236,slow=9.2,SNR=1.9						
AKASG	**Malin Array Be**	**32.44**	**325**	P	**P**	**14 54 26.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=111,slow=6.0,SNR=1.5						
FINES	**FINESS Array B**	**40.82**	**337**	P	**P**	**14 55 39.3**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=134,slow=8.0,SNR=1.6						
CLL	**Collm**	**41.78**	**318**	*e*P	**P**	**14 55 44.0**	**-2.3**
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**54.05**	**267**	P	**P**	**14 57 20.5**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=54,slow=7.1,SNR=2.3						

*ISK **12** 15:04:21.4, 39.°12N×29.°16E, h18km, ML1.7/3*
*ISCJB **12** 15:04:22.4±0.8, 39.°12N±0.°05×29.°16E±0.°07, h20km±8km, Error ellipse: s-maj=9.1km s-min=7.9km az=37.2*
*DDA **12** 15:04:22.2, 39.°13N×29.°11E, h7km±2km, ML2.5*
ISC 12 15:04:22.2±1.0, 39.°13N±0.°04×29.°15E±0.°05, h15km±8km, n8, σ0§48/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	**Saphane-Kutahy**	**0.12**	**151**	PG	**Pg**	**15 04 25.6**	**-0.2**
SHAP				SG	**Sg**	**15 04 28.3**	**+0.1**
GDZ	**Gediz**	**0.26**	**98**	*i* P	**Pb**	**15 04 29.2**	**+0.5**
GDZ				*i* S	**Sb**	**15 04 33.5**	**+0.5**
TVSB	**Tavsanli**	**0.40**	**37**	PG	**Pg**	**15 04 30.4**	**-0.1**
TVSB				SG	**Sg**	**15 04 36.4**	**+0.3**
USAK	**Uak-Merkez**	**0.42**	**194**	IAML_P			
	comp=Z,2μm,0.1s						
USAK				*i* P	**Pb**	**15 04 31.8**	**+0.4**
USAK				*i* S	**Sb**	**15 04 37.6**	**-0.1**
DURS	**Dursunbey**	**0.71**	**312**	IAML_P			
	comp=Z,420nm,0.1s						
DURS				*i* P	**Pn**	**15 04 37.9**	**+0.1**
DURS				*i* S	**Sb**	**15 04 46.1**	**+0.2**
CAVI	**Cavuskoy**	**1.20**	**26**	PN	**Pn**	**15 04 43.9**	**-0.6**
BORA	**Eskisehir**	**1.26**	**53**	PN	**Pn**	**15 04 44.7**	**-0.7**
KCTX	**Karacabey (Bur**	**1.29**	**332**	PN	**Pn**	**15 04 45.2**	**-0.6**

IDC 12 15:04:48.3±1.8, 7.°24S×155.°73E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/27, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=42.2km s-min=27.5km az=9.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.70**	**118**	Pn	Pn	15 05 59.4	-1.2
	2.7nm,0.3s,baz=201,slow=14,SNR=3.0						
HNR				Sn	Sn	15 06 57.3	+1.3
	4.0nm,0.3s,baz=76,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**24.29**	**237**	P	P	15 10 08.8	+1.2
	1.6nm,0.8s,baz=61,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**26.57**	**230**	P	P	15 10 27.5	-0.8
	0.2nm,0.7s,baz=60,slow=9.4,SNR=6.6						
MKAR	**Makanchi Array**	**84.07**	**319**	P	P	15 17 21.1	0.0
	0.6nm,0.7s,baz=99,slow=9.1,SNR=4.0						

*SOME **12** 15:12:47.0, 40.°45N×71.°08E, h10km*
*NNC **12** 15:12:48.5±4.3, 40.°54N×71.°11E, h0km±22km, mb3.7, mpv3.2, Error ellipse: s-maj=30.0km s-min=17.5km az=30.0*
ISC 12 15:12:42.2±3.5, 40.°1N±0.°2×70.°70E±0.°08, h16km, n11, σ1§50/17, 4C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**2.10**	**346**	P	**Pg**	**15 13 22.0**	**-0.5**
	200nm,0.2s						
IUG				S	**Sb**	**15 13 45.6**	**-0.3**
	102nm,0.2s						
IUG	**Iuzhnay**	**2.10**	**346**	*e*P	**Pg**	**15 13 22.0**	**-0.5**
	173nm,0.3s						
IUG				*e*S	**Sb**	**15 13 45.6**	**-0.3**
	34nm,0.2s						
KK31	**Karatay Array**	**3.00**	**357**	⇑Pn	**Pn**	**15 13 29.1**	**0.0**
	0.3nm,0.1s,baz=175,slow=13,SNR=29						
KK31				⇑Pg	**Pb**	**15 13 35.1**	**-0.1**
	1.4nm,0.3s,baz=325,slow=34,SNR=12						
KK31				⇓Lg	Lg	15 14 10.7	
	6.0nm,0.3s,baz=140,slow=20,SNR=4.8						
MRKS	**Merke**	**3.25**	**35**	Pg	**Pb**	**15 13 38.2**	**-1.3**
	11nm,0.4s						
MRKS				Lg	Lg	15 14 13.4	
	14nm,0.4s						
MRKS	**Merke**	**3.25**	**35**	*e*P	**Pb**	**15 13 38.2**	**-1.3**
	4.5nm,0.3s						
MRKS				*e*S	**Sn**	**15 14 13.4**	**+2.5**
	14nm,0.4s						
AAK	**Ala-Archa**	**3.81**	**47**	⇑Pg	**Pb**	**15 13 47.3**	**-1.8**
	1.5nm,0.3s						
AAK				⇓Lg	Lg	15 14 33.4	
	8.3nm,0.7s						
TKM2	**Tokmak 2**	**4.62**	**51**	⇑Pn	**Pn**	**15 13 52.6**	**+1.0**
	1.3nm,0.6s						
TKM2				⇓Lg	Lg	15 14 59.7	
	4.5nm,0.6s						
KST	**Kastek**	**4.92**	**52**	Pg	**Pg**	**15 14 13.4**	**-2.9**
	1.9nm,0.2s						
KST				Lg	Lg	15 15 13.6	
	7.6nm,0.4s						
KST	**Kastek**	**4.92**	**52**	*e*P	**Pb**	**15 14 09.7**	**+1.7**
	2.1nm,0.5s						
KST				*e*S	**Sb**	**15 15 07.5**	**+0.6**
	7.6nm,0.4s						
KUU	**Kurty**	**5.65**	**46**	Pg	**Pb**	**15 14 22.0**	**+1.6**
	0.5nm,0.2s						
KUU				Lg	Lg	15 15 28.1	
	3.5nm,0.4s						
KUU	**Kurty**	**5.65**	**46**	*e*P	**Pb**	**15 14 22.0**	**+1.6**
	0.7nm,0.3s						
KUU				*e*S	**Sb**	**15 15 28.1**	**+0.2**
	3.6nm,0.7s						

*IDC **12** 15:14:31.3±1.3, 23.°80N×123.°43E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/36, mbtmp3.7/7, Error ellipse: s-maj=60.7km s-min=29.1km az=62.0*
*ISCJB **12** 15:14:34.7±1.3, 23.°78N±0.°08×123.°35E±0.°04, h31km±6km, mb3.6/7, Error ellipse: s-maj=13.1km s-min=6.7km az=4.4*
*JMA **12** 15:14:35.7±0.2, 23.°82N×123.°38E, h30km±2km, M3.4*
ISC 12 15:14:34.1±2.1, 23.°83N±0.°09×123.°41E±0.°05, h17km±11km, n16, σ0§58/23, mb3.7/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.43**	**58**	P	**Pn**	**15 14 45.2**	**-0.3**
HATJ				S	**Sn**	**15 14 52.0**	**-1.0**
IRIF	**Iriomote-Funau**	**0.58**	**30**	P	**Pn**	**15 14 47.3**	**-0.3**
IRIF				*e*S	**Sn**	**15 14 56.1**	**-0.7**
JKRS	**Kuro-shima**	**0.68**	**53**	P	**Pn**	**15 14 49.5**	**+0.5**
JKRS				S	**Sn**	**15 14 59.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.73**	**330**	P	**Pn**	**15 14 49.5**	**-0.1**
YOJ				*e*S	**Sn**	**15 14 59.4**	**-0.9**
JYNG	**Yonagunijimaku**	**0.75**	**326**	P	**Pn**	**15 14 49.8**	**-0.1**
JYNG				*e*S	**Sb**	**15 14 59.4**	**+0.7**
JIJ	**Ishigaki jima**	**0.86**	**51**	P	**Pn**	**15 14 51.7**	**+0.3**
JIJ				S	**Sn**	**15 15 03.1**	**-0.5**
JISG	**Ishigakijimahi**	**1.12**	**47**	P	**Pg**	**15 14 55.6**	**-0.2**
JISG				*e*S	**Sg**	**15 15 10.4**	**0.0**
JTJ	**Tarama**	**1.43**	**55**	P	**Pb**	**15 15 00.8**	**+0.4**
JIRB	**Irabujima**	**1.89**	**58**	P	**Pb**	**15 15 08.2**	**0.0**
MKAR	**Makanchi Array**	**40.01**	**315**	P	**P**	**15 22 08.1**	**0.0**
	0.3nm,0.5s,baz=99,slow=8.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**41.66**	**326**	P	**P**	**15 22 21.1**	**-0.4**
	0.6nm,0.4s,baz=96,slow=6.9,SNR=2.7						
WRA	**Warramunga Arr**	**44.79**	**165**	P	**P**	**15 22 46.4**	**-0.7**
	0.8nm,1.0s,baz=348,slow=8.8,SNR=3.3						
FINES	**FINESS Array B**	**72.77**	**330**	P	**P**	**15 26 01.1**	**-0.2**
	0.5nm,0.6s,baz=64,slow=8.7,SNR=3.5						
BRTR	**Keskin Array B**	**75.01**	**307**	P	**P**	**15 26 16.2**	**+1.1**
	1.0nm,0.6s,baz=92,slow=5.3,SNR=7.0						
NOA	**NORSAR Array B**	**79.48**	**333**	P	**P**	**15 26 39.2**	**-0.3**
	0.6nm,0.7s,baz=54,slow=5.5,SNR=3.3						
YKA	**Yellowknife Ar**	**82.50**	**23**	P	**P**	**15 26 56.1**	**+0.6**
	0.3nm,0.6s,baz=302,slow=5.2,SNR=5.7						

*ISCJB **12** 15:27:53.8±0.6, 37.°26N±0.°04×37.°03E±0.°04, h6km±6km, Error ellipse: s-maj=7.0km s-min=5.2km az=31.3*
*DDA **12** 15:27:53.6, 37.°25N×37.°11E, h7km±1km, ML2.7*
*ISK **12** 15:27:53.3, 37.°28N×37.°07E, h10km, ML2.0/5*
ISC 12 15:27:53.8±1.0, 37.°28N±0.°04×37.°09E±0.°03, h9km±8km, n13, σ0§69/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.14**	**138**	PG	**Pg**	**15 27 56.7**	**-0.3**
GAZ				SG	**Sg**	**15 28 00.0**	**+0.8**
KMRS	**Kahramanmaras**	**0.27**	**326**	PG	**Pg**	**15 27 59.4**	**+0.1**
KMRS				SG	**Sg**	**15 28 03.3**	**+0.3**
GZT	**Gaziantep**	**0.39**	**78**	IAML_P			
	comp=Z,2μm,0.1s						
GZT				*i* P	**Pb**	**15 28 02.2**	**-0.6**
GZT				*i* S	**Sb**	**15 28 07.9**	**-1.1**
KUZU	**Kuzuini**	**0.51**	**181**	*i* P	**Pb**	**15 28 05.1**	**+0.3**
ANDN	**Andirin**	**0.67**	**297**	IAML_P			
	comp=Z,1μm,0.2s						
ANDN				*i* P	**Pb**	**15 28 07.2**	**-0.4**
KOZT	**Kozan**	**1.03**	**282**	PG	**Pg**	**15 28 13.2**	**-0.3**
CEYT	**Ceyhan**	**1.11**	**256**	PN	**Pg**	**15 28 14.6**	**-0.4**
TAHT	**Tahtakopru-Hat**	**1.16**	**219**	PN	**Pn**	**15 28 15.8**	**-0.4**
AKCD	**Akcadag**	**1.21**	**33**	IAML_P			
	comp=Z,748nm,0.2s						
AKCD				*i* P	**Pn**	**15 28 17.1**	**+0.1**
AKCD				*i* S	**Sn**	**15 28 35.0**	**+1.4**
SURC	**SANLIURFA_SURC**	**1.28**	**108**	IAML_P			
	comp=Z,366nm,0.2s						
SURC				*i* P	**Pn**	**15 28 17.7**	**-0.2**
SURC				*i* S	**Sn**	**15 28 36.4**	**+1.2**
DARE	**Darende-Malaty**	**1.33**	**13**	PN	**Pn**	**15 28 18.4**	**-0.2**
URFA	**Urfa**	**1.39**	**83**	PN	**Pb**	**15 28 19.6**	**-0.3**
BNN	**Bunyan**	**1.85**	**328**	PN	**Pn**	**15 28 25.9**	**+0.1**

*OMAN **12** 15:31:31.5±3.6, 26.°71N×57.°69E, h151km±82km, ml2.7/7, Error ellipse: s-maj=82.1km s-min=20.6km az=53.0*
*ISCJB **12** 15:31:32.4±0.5, 26.°52N±0.°04×57.°70E±0.°07, h10km, Error ellipse: s-maj=9.1km s-min=4.9km az=158.0*
*TEH **12** 15:31:35.0, 26.°73N×57.°67E, h12km, ML3.2*
ISC 12 15:31:32.8±1.1, 26.°47N±0.°04×57.°62E±0.°08, h10km, n14, σ1§43/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.29**	**327**	*e*Pg	**Pg**	**15 31 56.9**	**-0.7**
NIAN				IAMB	IAmb	15 32 21.0	
	comp=Z,0.0nm,0.3s						
GENO	**Geno**	**1.59**	**306**	*e*Pn	**Pg**	**15 32 02.2**	**-1.2**
GENO				*e*Sg	**Sg**	**15 32 26.0**	**+2.0**
GENO				IAMB	IAmb	15 32 38.4	
	comp=Z,0.0nm,0.5s						
MDH	**Madha**	**1.67**	**226**	P	**Pg**	**15 32 04.1**	**-0.8**
	SNR=5.5						
ASHO	**Ashiyiah**	**2.27**	**219**	P	**Pg**	**15 32 15.6**	**-0.8**
	SNR=7.8						
SOHO	**SOHO**	**2.53**	**203**	P	**Pn**	**15 32 14.1**	**+0.2**
	SNR=19						
NGRK	**Negar Kerman**	**3.26**	**346**	*e*Pn	**Pn**	**15 32 23.5**	**-0.8**
NGRK				IAMB	IAmb	15 32 29.3	
	comp=Z,0.0nm,0.2s						
WSAR	**Wadi Sarin**	**3.35**	**164**	P	**Pn**	**15 32 26.0**	**+0.7**
	SNR=17						
CHMN	**Cheshme madani**	**3.38**	**359**	*e*Pn	**Pn**	**15 32 26.7**	**+0.7**
CHMN				IAMB	IAmb	15 32 32.2	
	comp=Z,0.0nm,0.4s						
SMDO	**Samad**	**3.42**	**173**	P	**Pn**	**15 32 29.3**	**+3.0**
	SNR=8.9						
SMDO				S	**Sb**	**15 33 13.0**	**-2.3**
TVBK	**TV Kerman**	**3.58**	**348**	IAMB	IAmb	15 30 00.3	
	comp=Z,0.0nm,1.1s						
TVBK				*e*Pn	**Pn**	**15 32 29.6**	**+0.8**
KHGB	**Koh Gabri**	**4.02**	**346**	*e*Pn	**Pn**	**15 32 35.4**	**+0.7**
KHGB				IAMB	IAmb	15 32 48.3	
	comp=Z,0.0nm,0.5s						
SZD1	**Zahaedan-tmp**	**4.15**	**43**	*e*Pn	**Pn**	**15 32 37.0**	**+0.6**
JLN	**Jalan Bani Buh**	**4.60**	**159**	P	**Pn**	**15 32 43.7**	**+1.2**
	SNR=12						
JLN				S	**Sn**	**15 33 37.1**	**+1.1**
IKOO	**Kooshah**	**6.05**	**11**	*e*Pn	**Pn**	**15 33 01.4**	**-1.2**

IDC 12 15:37:05.2±64.0, 21.°37S×179.°76W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/27, mbtmp3.7/3, Error ellipse: s-maj=1157.0km s-min=164.2km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.93**	**245**	P	P	15 44 06.0	-1.6
	1.9nm,1.0s,baz=81,slow=13,SNR=1.3						
ASAR	**Alice Springs**	**42.73**	**258**	P	P	15 45 04.3	-0.2
	0.8nm,0.9s,baz=94,slow=7.3,SNR=19						
WRA	**Warramunga Arr**	**42.86**	**263**	P	P	15 45 06.4	+0.8
	0.3nm,0.3s,baz=95,slow=7.8,SNR=14						

IDC 12 15:54:40.4±5.5, 6.°70S×103.°47E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/43, mbtmp3.6/5, Error ellipse: s-maj=244.0km s-min=23.0km az=52.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.39**	**350**	P	P	16 00 09.6	-0.1
	0.7nm,0.6s,baz=181,slow=9.4,SNR=8.0						
H01W3	**Cape Leeuwin H**	**29.73**	**162**	T	T	16 31 46.3	
	baz=340,slow=76,SNR=5.4						
H01W2	**Cape Leeuwin H**	**29.74**	**162**	T	T	16 31 47.8	
	baz=340,slow=76,SNR=6.3						
H01W1	**Cape Leeuwin H**	**29.74**	**162**	T	T	16 31 48.9	
	baz=340,slow=76,SNR=7.1						
H08S2	**Diego Garcia H**	**30.74**	**266**	T	T	16 33 11.3	
	baz=90,slow=75,SNR=45						
H08S3	**Diego Garcia H**	**30.75**	**266**	T	T	16 33 11.9	
	baz=90,slow=75,SNR=36						
H08S1	**Diego Carcia H**	**30.76**	**266**	T	T	16 33 12.7	
	baz=90,slow=75,SNR=29						
WRA	**Warramunga Arr**	**32.72**	**117**	P	P	16 01 14.9	-0.1
	0.9nm,0.9s,baz=286,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**33.75**	**123**	P	P	16 01 23.6	-0.5
	0.2nm,0.9s,baz=299,slow=8.0,SNR=1.8						
MKAR	**Makanchi Array**	**56.48**	**343**	P	P	16 04 24.2	0.0
	0.6nm,0.6s,baz=140,slow=7.7,SNR=7.0						
ZALV	**Zalesovo Beam**	**62.43**	**348**	P	P	16 05 04.6	-0.5
	0.8nm,0.5s,baz=169,slow=2.4,SNR=4.2						
TXAR	**Lajitas Array**	**145.93**	**45**	PKPbc	PKPab	16 14 23.0	-0.2
	0.3nm,0.7s,baz=305,slow=4.4,SNR=3.6						

*ISCJB **12** 15:57:51.5±1.0, 17.°9S±0.°1×177.°2W±0.°2, h361km, mb3.6/6, Error ellipse: s-maj=25.8km s-min=16.9km az=25.9*
*IDC **12** 15:57:52.7±5.0, 18.°02S×177.°13W, h362km±47km, mb3.4/7, mb1 3.7/7, mb1mx3.2/39, mbtmp4.2/7, Error ellipse: s-maj=30.3km s-min=16.7km az=117.0*
ISC 12 15:57:52.5±0.9, 18.°0S±0.°2×177.°1W±0.°2, h361km, n15, σ0§96/16, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.83**	**193**	P	**P**	**16 02 06.1**	**-1.0**
	6.2nm,0.6s,baz=6.8,slow=12,SNR=2.7						
URZ				S	**S**	**16 05 35.1**	**-0.1**
	9.2nm,1.1s,baz=186,slow=18,SNR=2.5						
STKA	**Stephens Creek**	**39.69**	**242**	P	**P**	**16 04 51.8**	**+0.6**
	2.0nm,0.6s,baz=90,slow=10.0,SNR=7.0						
WRA	**Warramunga Arr**	**45.84**	**259**	P	**P**	**16 05 39.1**	**-1.2**
	1.3nm,0.5s,baz=96,slow=6.8,SNR=26						
ASAR	**Alice Springs**	**45.97**	**254**	P	**P**	**16 05 40.9**	**-0.4**
	9.0nm,0.5s,baz=90,slow=8.3,SNR=446						
FITZ	**Fitzroy Crossi**	**54.24**	**260**	P	**P**	**16 06 43.7**	**+0.9**
	2.6nm,1.0s,baz=102,slow=9.3,SNR=2.0						
TXAR	**Lajitas Array**	**84.99**	**57**	P	**P**	**16 09 50.0**	**+1.5**
	0.8nm,0.9s,baz=210,slow=9.8,SNR=6.4						
ILAR	**Eielson Array**	**85.69**	**12**	P	**P**	**16 09

MJAR	**Matsushiro Arr**	**7.24**	**51**	P	**Pn**	**16 06 13.3 +1.8**
	0.1nm,0.3s,baz=240,slow=14,SNR=12					
MJAR				S	**Sn**	**16 07 30.8 -1.4**
	0.1nm,0.3s,baz=160,slow=14,SNR=4.3					
JHJ	**Hachijo jima 2**	**7.30**	**81**	P	**Pn**	**16 06 14.0 +1.5**
	7.8nm,0.3s,baz=64,slow=21,SNR=5.5					
KLR	**Kul'dur**	**17.01**	**1**	P	**P**	**16 08 22.7 +2.4**
	0.1nm,0.3s,baz=180,slow=17,SNR=3.2					
CMAR	**Chiang Mai Arr**	**32.06**	**253**	LR	LR	16 24 48.7
	comp=Z,61nm,19.8s,baz=180,slow=38					
MKAR	**Makanchi Array**	**39.80**	**306**	P	**P**	**16 11 51.6 -0.1**
	0.7nm,0.5s,baz=88,slow=11,SNR=12					
KURBB	**Kurchatov Arra**	**42.57**	**312**	P	**P**	**16 12 13.7 -0.6**
	0.4nm,0.6s,baz=92,slow=9.1,SNR=3.8					
ASAR	**Alice Springs**	**55.62**	**177**	P	**P**	**16 13 54.3 +0.3**
	0.1nm,0.4s,baz=354,slow=5.5,SNR=6.5					
FINES	**FINESS Array B**	**68.96**	**330**	P	**P**	**16 15 21.4 -1.2**
	0.7nm,0.5s,baz=72,slow=6.2,SNR=7.3					

IDC 12 16:04:36.0±1.8, 1°.21N×126°.71E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/36, mbtmp3.5/4, Error ellipse: s-maj=169.2km s-min=21.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.31**	**161**	P		P	16 09 35.7 +0.4
	1.1nm,0.4s,baz=340,slow=11,SNR=17						
ASAR	**Alice Springs**	**25.70**	**165**	P		P	16 10 07.8 -0.3
	0.4nm,0.5s,baz=343,slow=11,SNR=15						
MKAR	**Makanchi Array**	**59.62**	**326**	P		P	16 14 42.0 +0.1
	0.1nm,0.3s,baz=117,slow=7.1,SNR=5.1						
KURBB	**Kurchatov Arra**	**63.85**	**328**	P		P	16 15 10.1 -0.2
	0.2nm,0.4s,baz=133,slow=6.5,SNR=4.7						

*IDC **12** 16:19:22.3±1.9, 53°.72N×161°.29E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/30, mbtmp3.3/3, ML2.4/1, Error ellipse: s-maj=81.3km s-min=27.7km az=157.0*
*KRSC **12** 16:19:26.5±10.0, 53°.76N×160°.91E, h68km±10km, ML3.8*
*ISCJB **12** 16:19:28.0±0.5, 53°.76N±0°.03×160°.92E±0°.07, h63km±9km, mb3.2/2, Error ellipse: s-maj=8.3km s-min=2.9km az=31.4*
ISC 12 16:19:28.5±1.1, 53°.75N±0°.04×160°.96E±0°.05, h53km±14km, n40, σ0°.80/60, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.86**	**221**	*e*P	**Pn**	**16 19 44.3**	**-0.1**
SPN				*e*S	**Sn**	**16 19 56.1**	**0.0**
MKZ	**Mys Kozlova**	**0.93**	**29**	*e*P	**Pn**	**16 19 45.7**	**+0.4**
MKZ				*e*S	**Sn**	**16 19 58.4**	**+0.8**
NLC	**Nalytchevo**	**1.13**	**240**	*e*P	**Pn**	**16 19 47.6**	**-0.3**
NLC				*e*S	**Sn**	**16 20 02.3**	**-0.1**
SDLR	**Sedlovina**	**1.33**	**250**	*i* P	**Pn**	**16 19 50.8**	**0.0**
SDLR				*e*S	**Sn**	**16 20 07.4**	**0.0**
SMAR	**Somma**	**1.38**	**250**	*i* P	**Pn**	**16 19 51.5**	**-0.1**
SMAR				*e*S	**Sn**	**16 20 08.5**	**-0.3**
UGLR	**Uglovaya**	**1.39**	**248**	*i* P	**Pn**	**16 19 51.8**	**+0.2**
UGLR				*e*S	**Sn**	**16 20 09.0**	**+0.1**
KRER	**Koryakskii**	**1.39**	**252**	*e*P	**Pn**	**16 19 52.0**	**+0.2**
KRER				*e*S	**Sn**	**16 20 09.7**	**+0.6**
AVH	**Avacha**	**1.41**	**251**	*i* P	**Pn**	**16 19 52.2**	**+0.3**
AVH				*e*S	**Sn**	**16 20 10.1**	**+0.7**
KZV	**Kizimen**	**1.42**	**344**	*i* P	**Pn**	**16 19 51.8**	**-0.3**
KZV				*e*S	**Sn**	**16 20 08.9**	**-0.8**
KRX	**Arik**	**1.43**	**255**	*e*P	**Pn**	**16 19 52.1**	**-0.1**
KRX				*e*S	**Sn**	**16 20 09.6**	**-0.4**
KOK	**Koryaka**	**1.46**	**253**	*i* P	**Pn**	**16 19 52.6**	**0.0**
TUMD	**Tumrok D**	**1.49**	**348**	*e*P	**Pn**	**16 19 52.3**	**-0.6**
TUMD				*e*S	**Sn**	**16 20 10.1**	**-1.2**
DALK	**Dalny**	**1.50**	**242**	*e*P	**Pn**	**16 19 52.8**	**-0.3**
DALK				*e*S	**Sn**	**16 20 11.1**	**-0.4**
PET	**Petropavlovsk**	**1.56**	**243**	*i* P	**Pn**	**16 19 54.1**	**+0.3**
PET				*e*S	**Sn**	**16 20 13.1**	**+0.2**
KRMR	**Karymshinskiy**	**1.93**	**243**	*e*P	**Pn**	**16 19 59.1**	**+0.2**
KRMR				*e*S	**Sn**	**16 20 22.0**	**0.0**
RUS	**Russkaya**	**1.98**	**229**	*e*P	**Pn**	**16 19 59.4**	**-0.1**
RUS				*e*S	**Sn**	**16 20 22.0**	**-1.1**
PETK	**Petropavlovsk-**	**2.05**	**253**	Pn	**Pn**	**16 20 00.5**	**-0.1**
	4.9nm,0.3s,baz=75,slow=19,SNR=100						
PETK				Sn	**Sn**	**16 20 25.9**	**+0.9**
	8.2nm,0.3s,baz=24,slow=30,SNR=12						
MTVR	**Mutnovka**	**2.10**	**234**	*e*P	**Pn**	**16 20 02.1**	**+0.8**
MTVR				*e*S	**Sn**	**16 20 26.8**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**2.20**	**356**	*e*P	**Pn**	**16 20 03.7**	**+1.0**
BZMR	**Bezymyannaya**	**2.21**	**353**	*e*P	**Pn**	**16 20 04.4**	**+1.6**
BZWR	**Bezymyannyi-We**	**2.23**	**353**	*e*P	**Pn**	**16 20 04.5**	**+1.3**
KIRR	**Kirishev**	**2.24**	**351**	*e*P	**Pn**	**16 20 03.9**	**+0.7**
KPT	**Kopyto**	**2.26**	**349**	*e*P	**Pn**	**16 20 04.5**	**+1.0**
ASAK	**Asacha**	**2.30**	**235**	*e*P	**Pn**	**16 20 05.4**	**+1.4**
LGNR	**Loginova**	**2.34**	**356**	*i* P	**Pn**	**16 20 06.3**	**+1.5**
CIRR	**Tsirk**	**2.37**	**357**	*e*P	**Pn**	**16 20 06.9**	**+1.8**
KOZ	**Kozyrevsk**	**2.40**	**345**	*e*P	**Pn**	**16 20 05.7**	**+0.4**
KOZ				*e*S	**Sn**	**16 20 33.3**	**-0.1**
APC	**Apacha**	**2.42**	**252**	*e*P	**Pn**	**16 20 06.8**	**+1.2**
ESO	**Esso**	**2.54**	**330**	*e*P	**Pn**	**16 20 06.7**	**-0.6**
ESO				*e*S	**Sn**	**16 20 35.5**	**-1.5**
KLY	**Klyuchi**	**2.57**	**356**	*e*P	**Pn**	**16 20 08.3**	**+0.6**
KLY				*e*S	**Sn**	**16 20 38.2**	**+0.5**
KDTR	**Khodutka, Kamc**	**2.62**	**223**	*e*S	**Sn**	**16 20 37.8**	**-1.0**
KBTR	**Krutoberegovo**	**2.69**	**23**	*e*P	**Pn**	**16 20 09.8**	**+0.6**
BDR	**Baidarnaya**	**2.83**	**3**	*e*P	**Pn**	**16 20 12.1**	**+0.9**
BDR				*e*S	**Sn**	**16 20 44.3**	**+0.2**
SRKR	**Sorokina**	**2.91**	**2**	*e*P	**Pn**	**16 20 12.8**	**+0.4**
SRKR				*e*S	**Sn**	**16 20 45.5**	**-0.7**
BKI	**Bering**	**3.27**	**62**	*e*P	**Pn**	**16 20 17.9**	**+0.8**
BKI				*e*S	**Sn**	**16 20 52.7**	**-2.0**
ILAR	**Eielson Array**	**27.98**	**46**	P	**P**	**16 25 12.8**	**-1.0**
	0.3nm,0.7s,baz=270,slow=9.9,SNR=4.4						
H11N2	**WAKE ISLAND Hy 34.27**	**170**		T	T	17 02 58.4	
	baz=354,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy 34.28**	**170**		T	T	17 02 57.8	
	baz=354,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy 34.28**	**170**		T	T	17 03 02.6	
	baz=354,slow=76,SNR=14						
TXAR	**Lajitas Array**	**69.91**	**68**	P	**P**	**16 30 34.4**	**+0.4**
	0.2nm,0.5s,baz=324,slow=4.5,SNR=4.0						

*DSN **12** 16:20:27.0±4.1, 26°.75N×58°.05E, h10km, ML3.4/8, Error ellipse: s-maj=62.0km s-min=16.1km az=0.0*
*OMAN **12** 16:20:28.0±0.4, 26°.88N×58°.14E, h39km±133km, ml3.5/12, Error ellipse: s-maj=16.7km s-min=4.7km az=345.0*
*ISCJB **12** 16:20:29.2±0.6, 26°.60N±0°.03×57°.96E±0°.06, h10km, Error ellipse: s-maj=8.4km s-min=4.6km az=3.4*
*TEH **12** 16:20:31.1, 26°.67N×57°.67E, h10km, ML3.7*
ISC 12 16:20:29.9±0.9, 26°.60N±0°.04×57°.79E±0°.05, h10km, n36, σ1°.86/45, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.58**	**250**	*e*P	**Pn**	**16 20 58.5**	**+0.4**
	SNR=26						
SHME				S	**Sg**	**16 21 23.0**	**+2.2**
SHME	**Shamm**	**1.58**	**250**	*e*Pn	**Pb**	**16 20 58.9**	**-0.4**
GENO	**Geno**	**1.65**	**299**	*e*Pn	**Pb**	**16 20 59.8**	**-0.8**
GENO				*e*Sg	**Sg**	**16 21 22.9**	**-0.2**
GENO				IAMB	IAmb	16 21 30.8	
	comp=Z,0.0nm,0.6s						
MDH	**Madha**	**1.87**	**226**	*e*P	**Pn**	**16 21 00.4**	**-1.5**
	SNR=7.8						
MDH	**Madha**	**1.87**	**226**	P	**Pn**	**16 21 00.5**	**-1.5**
	SNR=28						
MDH				S	**Sb**	**16 21 28.6**	**+1.0**
MSFE	**Esma-Masafi**	**1.92**	**230**	*e*P	**Pn**	**16 21 01.6**	**-1.1**
	SNR=15						
MSFE	**Esma-Masafi**	**1.92**	**230**	*e*Pn	**Pn**	**16 21 03.9**	**+1.2**
HATD	**Hatta, Dubai**	**2.32**	**221**	*e*P	**Pn**	**16 21 08.1**	**-0.1**
	SNR=11						
HATD	**Hatta, Dubai**	**2.32**	**221**	P	**Pn**	**16 21 10.4**	**+2.2**
	SNR=11						
HATD	**Hatta, Dubai**	**2.32**	**221**	*e*Pn	**Pn**	**16 21 10.3**	**+2.1**
ASHO	**Ashiyiah**	**2.47**	**220**	*e*P	**Pn**	**16 21 11.2**	**+0.9**
	SNR=7.8						
ASHO	**Ashiyiah**	**2.47**	**220**	P	**Pn**	**16 21 09.7**	**-0.6**
	SNR=12						
ASHO	**Ashiyiah**	**2.47**	**220**	*e*Pn	**Pn**	**16 21 12.4**	**+2.1**
NAZ	**Nazwa, Dubai**	**2.50**	**231**	P	**Pn**	**16 21 12.1**	**+1.4**
NAZ	**Nazwa, Dubai**	**2.50**	**231**	P	**Pg**	**16 21 17.0**	**-0.9**
	SNR=6.9						
NAZ				S	**Sg**	**16 21 55.2**	**+4.7**
NAZ	**Nazwa, Dubai**	**2.50**	**231**	*e*Pn	**Pb**	**16 21 16.1**	**+1.1**
SOHO	**SOHO**	**2.71**	**205**	P	**Pn**	**16 21 11.6**	**-1.9**
	SNR=13						
SOHO				S	**Sn**	**16 21 44.1**	**-2.2**
FAQ	**Al Faqa, Dubai**	**2.71**	**228**	P	**Pn**	**16 21 15.2**	**+1.6**
FAQ	**Al Faqa, Dubai**	**2.71**	**228**	P	**Pn**	**16 21 15.6**	**+2.0**
	SNR=15						
FAQ	**Al Faqa, Dubai**	**2.71**	**228**	*e*Pn	**Pb**	**16 21 17.9**	**-0.7**
ASUD	**Al Ashush, Dub**	**2.97**	**229**	P	**Pn**	**16 21 18.9**	**+1.8**
ASUD	**Al Ashush, Dub**	**2.97**	**229**	P	**Pn**	**16 21 19.7**	**+2.6**
	SNR=5.4						
ALNE	**Al Ain**	**3.14**	**217**	*e*Pn	**Pb**	**16 21 24.6**	**-1.2**
NGRK	**Negar Kerman**	**3.17**	**343**	*e*Pn	**Pn**	**16 21 20.8**	**+0.5**
NGRK				IAMB	IAmb	16 21 29.2	
	comp=Z,0.0nm,0.2s						
CHMN	**Cheshme madani**	**3.26**	**356**	*e*Pn	**Pn**	**16 21 22.7**	**+1.3**
CHMN				IAMB	IAmb	16 21 33.9	
	comp=N,0.0nm,0.3s						
WSAR	**Wadi Sarin**	**3.43**	**167**	P	**Pn**	**16 21 22.9**	**-0.6**
	SNR=182						
TVBK	**TV Kerman**	**3.49**	**345**	*e*Pn	**Pn**	**16 21 25.7**	**+1.0**
TVBK				IAMB	IAmb	16 21 38.2	
	comp=Z,0.0nm,0.3s						
SMDO	**Samad**	**3.53**	**176**	P	**Pn**	**16 21 26.1**	**+1.1**
	SNR=6.8						
SMDO				S	**Sn**	**16 22 06.8**	**-0.1**
BSY	**Bisya**	**3.88**	**188**	P	**Pn**	**16 21 31.3**	**+1.6**
	SNR=7.7						
BSY				S	**Sn**	**16 22 19.7**	**+4.4**
KHGB	**Koh Gabri**	**3.94**	**343**	IAMB	IAmb	16 19 00.3	
	comp=Z,0.0nm,1.0s						
KHGB				*e*Pn	**Pn**	**16 21 31.8**	**+1.2**
SZD1	**Zahaedan-tmp**	**3.96**	**43**	*e*Pn	**Pn**	**16 21 34.3**	**+3.5**
JLN	**Jalan Bani Buh**	**4.67**	**161**	P	**Pn**	**16 21 39.9**	**-0.6**
	SNR=14						
JLN				S	**Sn**	**16 22 31.5**	**-3.3**
IKOO	**Kooshah**	**5.90**	**10**	*e*Pn	**Pn**	**16 21 59.2**	**+1.6**
IKAZ	**Kazeroun**	**6.13**	**302**	*e*Pn	**Pn**	**16 21 59.8**	**-1.2**
ISAD	**Sadrabad**	**6.39**	**327**	*e*Pn	**Pn**	**16 22 05.5**	**+1.0**
CLL	**Collm**	**41.79**	**318**	*e*P	**P**	**16 28 17.0**	**-2.5**
CLL				*e*(pP)	**pP**	**16 28 23.0**	**0.0**
CLL				*e*		16 28 30.0	

*DSN **12** 16:37:12.5±3.6, 26°.84N×58°.18E, h10km, ML3.6/9, Error ellipse: s-maj=52.6km s-min=14.8km az=1.0*
*OMAN **12** 16:37:17.0±0.8, 26°.48N×57°.89E, h0km±14km, ml3.2/6, Error ellipse: s-maj=23.9km s-min=7.1km az=32.0*
*ISCJB **12** 16:37:17.6±0.6, 26°.55N±0°.04×57°.81E±0°.08, h10km, Error ellipse: s-maj=10.8km s-min=5.1km az=13.7*
*TEH **12** 16:37:18.8, 26°.62N×57°.70E, h10km, ML3.6*
ISC 12 16:37:18.8±1.3, 26°.55N±0°.04×57°.74E±0°.06, h10km, n33, σ1°.52/35, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.29**	**322**	*e*Pg	**Pb**	**16 37 41.0**	**-2.2**
NIAN				IAMB	IAmb	16 38 04.7	
	comp=Z,0.0nm,0.4s						
SHME	**Shamm**	**1.52**	**251**	*e*P	**Pn**	**16 37 46.2**	**+0.2**
	SNR=18						
SHME				S	**Sg**	**16 38 12.1**	**+4.5**
SHME	**Shamm**	**1.52**	**251**	*e*Pn	**Pb**	**16 37 46.6**	**-0.5**
GENO	**Geno**	**1.64**	**302**	*e*Pn	**Pn**	**16 37 47.1**	**-0.8**
GENO				IAMB	IAmb	16 38 19.5	
	comp=Z,0.0nm,0.5s						
MDH	**Madha**	**1.79**	**227**	*e*P	**Pn**	**16 37 48.0**	**-1.9**
	SNR=7.1						
MDH	**Madha**	**1.79**	**227**	P	**Pn**	**16 37 48.1**	**-1.8**
	SNR=15						
MDH				S	**Sg**	**16 38 17.5**	**+1.0**
MSFE	**Esma-Masafi**	**1.85**	**231**	*e*P	**Pn**	**16 37 49.6**	**-1.0**
	SNR=17						
MSFE	**Esma-Masafi**	**1.85**	**231**	*e*Pn	**Pb**	**16 37 52.1**	**-0.6**
HATD	**Hatta, Dubai**	**2.24**	**221**	*e*P	**Pn**	**16 37 55.8**	**-0.3**
	SNR=9.0						
HATD	**Hatta, Dubai**	**2.24**	**221**	*e*Pn	**Pb**	**16 37 58.6**	**-0.9**
ASHO	**Ashiyiah**	**2.39**	**220**	*e*P	**Pn**	**16 37 57.5**	**-0.7**
	SNR=15						
ASHO	**Ashiyiah**	**2.39**	**220**	P	**Pn**	**16 37 57.2**	**-1.0**
NAZ	**Nazwa, Dubai**	**2.43**	**231**	P	**Pn**	**16 37 59.6**	**+1.0**
NAZ	**Nazwa, Dubai**	**2.43**	**231**	*e*Pn	**Pb**	**16 38 02.0**	**-0.6**
SOHO	**SOHO**	**2.64**	**205**	P	**Pn**	**16 37 59.1**	**-2.3**
	SNR=119						
FAQ	**Al Faqa, Dubai**	**2.64**	**228**	P	**Pn**	**16 38 02.9**	**+1.4**
FAQ	**Al Faqa, Dubai**	**2.64**	**228**	*e*Pn	**Pb**	**16 38 04.8**	**-1.4**
ASUD	**Al Ashush, Dub**	**2.90**	**229**	*i* P	**Pn**	**16 38 06.4**	**+1.4**
	SNR=11						
ASUD	**Al Ashush, Dub**	**2.90**	**229**	*e*Pn	**Pb**	**16 38 10.5**	**-0.1**
HOQ	**Hoqain**	**2.98**	**188**	*e*Pn	**Pn**	**16 38 05.2**	**-0.9**
BIDO	**Bidbid**	**3.03**	**173**	*e*Pn	**Pn**	**16 38 07.6**	**+0.7**
ALNE	**Al Ain**	**3.06**	**216**	P	**Pn**	**16 38 08.2**	**+0.9**
ALNE	**Al Ain**	**3.06**	**216**	*e*Pn	**Pb**	**16 38 11.6**	**-1.8**
NGRK	**Negar Kerman**	**3.21**	**344**	*e*Pn	**Pn**	**16 38 08.0**	**-1.7**
NGRK				IAMB	IAmb	16 39 06.0	
	comp=Z,0.0nm,0.8s						
CHMN	**Cheshme madani**	**3.31**	**357**	*e*Pn	**Pn**	**16 38 12.0**	**+1.0**
CHMN				IAMB	IAmb	16 38 24.7	
	comp=Z,0.0nm,0.4s						
TVBK	**TV Kerman**	**3.53**	**346**	*e*Pn	**Pn**	**16 38 14.4**	**+0.3**
TVBK				IAMB	IAmb	16 39 19.7	
	comp=Z,0.0nm,0.8s						
KHGB	**Koh Gabri**	**3.97**	**344**	*e*Pn	**Pn**	**16 38 20.6**	**+0.5**
KHGB				IAMB	IAmb	16 39 39.5	
	comp=Z,0.0nm,0.9s						
SZD1	**Zahaedan-tmp**	**4.03**	**43**	*e*Pn	**Pn**	**16 38 21.6**	**+0.9**
JLN	**Jalan Bani Buh**	**4.63**	**160**	P	**Pn**	**16 38 27.0**	**-1.9**
	SNR=11						
IKOO	**Kooshah**	**5.96**	**10**	*e*Pn	**Pn**	**16 38 47.8**	**+0.4**
IKAZ	**Kazeroun**	**6.12**	**303**	*e*Pn	**Pn**	**16 38 47.1**	**-2.6**
ITEG	**Tejag**	**6.39**	**8**	*e*Pn	**Pn**	**16 38 54.4**	**+1.2**
TPRV	**Parvadeh(Tabas**	**6.53**	**352**	*e*Pn	**Pn**	**16 38 53.8**	**-1.2**

IDC 12 16:39:16.8±3.8, 6°.26S×149°.23E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/39, mbtmp3.5/4, ML2.9/2, Error ellipse: s-maj=107.1km s-min=43.3km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.74**	**213**	Pn	Pn	16 40 18.0	+2.1
	13nm,0.3s,baz=354,slow=4.4,SNR=52						
PMG				Sn	Sn	16 40 56.6	-4.0
	15nm,0.3s,baz=147,slow=20,SNR=11						
WRA	**Warramunga Arr**	**19.86**	**225**	P	P	16 43 49.0	-0.6
	0.1nm,0.3s,baz=51,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**22.73**	**219**	P	P	16 44 19.9	-0.9
	0.5nm,0.6s,baz=54,slow=9.0,SNR=11						
FITZ	**Fitzroy Crossi**	**25.84**	**241**	P	P	16 44 49.8	-0.4
	0.8nm,0.4s,baz=90,slow=11,SNR=8.3						
TORD	**Torodi Ar. Bea**	**147.30**	**285**	PKPbc	PKPbc	16 59 03.5	0.0
	0.8nm,0.6s,baz=75,slow=3.7,SNR=4.5						

ARO 12 16:44:22.9, 11°.6N±0°.4×42°.7E±0°.6, h2km±2km, Ml3.5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**0.11**	**116**	*e*P	Pg	16 44 25.7	+0.6
ATD	**Arta Tunnel**	**0.11**	**116**	*e*P	Pg	16 44 25.7	+0.6
ATD				*e*S	Sg	16 44 27.9	+1.3
SGH	**Sud-Ghoubbet**	**0.18**	**218**	*e*P	Pg	16 44 27.1	+0.7
LDLD	**Lac de Lave**	**0.24**	**271**	*e*P	Pg	16 44 27.8	+0.2
TDD	**Tadjoura Ara**	**0.28**	**35**	*e*P	Pg	16 44 28.7	+0.5
KSDD	**Koussour**	**0.30**	**262**	*e*P	Pg	16 44 28.9	+0.3
ATA	**Atar**	**0.47**	**105**	*e*P	Pg	16 44 31.9	0.0
MCAD	**Moucha**	**0.48**	**72**	*e*P	Pg	16 44 31.9	-0.2
GBR	**Grand-Bara**	**0.51**	**213**	*e*P	Pg	16 44 32.6	0.0
OBO	**Obock**	**0.67**	**53**	*e*P	Pg	16 44 35.3	-0.5
MAOD	**Malaho**	**0.72**	**315**	*e*P	Pg	16 44 36.3	-0.5

MEX 12 16:52:09.1±0.6, 16°.37N×98°.25W, h15km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.12**	**80**	*e*P	Pg	16 52 11.8	-0.9
PNIG				*i* S	Sg	16 52 14.6	-0.5
HUIG	**Huatulco**	**2.15**	**106**	*i* P	Pn	16 52 41.9	-2.5
HUIG				*i* S	Sn	16 53 06.1	-4.7

TAP 12 16:55:32.8, 24°.90N×122°.51E, h2km, ML2.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.48**	**284**	P	Pg	16 55 41.8	-0.3
	baz=283						
TWB1				S	Sg	16 55 48.7	+0.3
	baz=283						
EOS1	**EOS1**	**0.49**	**225**	*e*P	Pg	16 55 42.9	+0.8
	baz=224						
EGS		**0.53**	**265**	*e*P	Pg	16 55 43.1	+0.3
	baz=264						
EGS				S	Sg	16 55 49.8	+0.1
	baz=264						
NTC	**Toucheng**	**0.62**	**266**	*e*P	Pg	16 55 44.3	-0.3
	baz=266						
TIPB	**Shuangxi**	**0.62**	**277**	*e*P	Pg	16 55 44.7	0.0
	baz=277						
TIPB				*i* S	Sg	16 55 53.5	+0.6
	baz=277						
YOJ	**Yonaguni jima**	**0.63**	**133**	P	Pg	16 55 44.7	-0.1
	baz=133						
YOJ				*e*S	Sg	16 55 53.2	+0.2
	baz=133						
TWC	**Suao**	**0.66**	**245**	P	Pg	16 55 45.2	-0.3
	baz=244						
TWC				*e*S	Sg	16 55 54.4	+0.3
	baz=244						
NWF	**Wu-fen Shan**	**0.68**	**285**	P	Pg	16 55 46.0	+0.1
	baz=284						
NWF				*e*S	Sg	16 55 55.3	+0.6
	baz=284						
WFSB	**Wu-fen Shan**	**0.68**	**285**	P	Pg	16 55 46.0	+0.1
	baz=284						
WFSB				*e*S	Sg	16 55 55.2	+0.5
	baz=284						
TWE	**Neicheng**	**0.78**	**257**	P	Pg	16 55 47.5	-0.3
	baz=256						
TWE				*e*S	Sg	16 55 58.9	+0.9
	baz=256						
PCYT	**Pengchaiyu**	**0.83**	**332**	*e*P	Pg	16 55 48.5	-0.2
	baz=332						
PCYT				*e*S	Sg	16 56 00.2	+0.7
	baz=332						
ENA	**Nanau**	**0.84**	**236**	P	Pg	16 55 48.6	-0.2
	baz=235						
ENA				*e*S	Sg	16 56 00.2	+0.5
	baz=235						
TWA	**Mucha**	**0.84**	**276**	*e*P	Pg	16 55 49.2	+0.3
	baz=275						
TWA				*e*S	Sg	16 56 00.7	+0.8
	baz=275						
YM07	**YM07**	**0.85**	**289**	*e*P	Pg	16 55 49.2	+0.1
	baz=289						
YM08	**YM08**	**0.88**	**290**	*e*P	Pg	16 55 49.6	-0.1
	baz=289						
YM01	**YM01**	**0.89**	**287**	*e*P	Pg	16 55 49.0	-0.8
	baz=286						
YM11	**YM11**	**0.89**	**288**	*e*P	Pg	16 55 49.9	+0.1
	baz=287						
ENTT	**Nioudou**	**0.89**	**254**	P	Pg	16 55 49.9	0.0
	baz=253						
ENTT				*e*S	Sb	16 56 02.5	-0.8
	baz=253						
NHDH	**Xindian Distri**	**0.89**	**275**	*e*P	Pg	16 55 49.7	-0.2
	baz=274						
YM10	**YM10**	**0.90**	**287**	*e*P	Pg	16 55 50.0	+0.1
	baz=286						
TWY	**Chenhua**	**0.91**	**295**	*e*P	Pg	16 55 50.2	+0.1
	baz=294						
TWY				*e*S	Sg	16 56 02.4	+0.5
	baz=294						
YM04	**YM04**	**0.92**	**287**	*e*P	Pg	16 55 50.4	0.0
	baz=286						
NWLT	**Wulai**	**0.92**	**263**	*e*P	Pg	16 55 50.0	-0.4
	baz=262						
TATO	**Taipei**	**0.93**	**275**	*e*P	Pg	16 55 49.9	-0.7
	baz=274						
ANP	**Anpu**	**0.94**	**288**	P	Pg	16 55 50.6	-0.3
	baz=287						
NDT	**Datong Townshi**	**0.95**	**252**	P	Pg	16 55 51.0	+0.1
	baz=252						
NDT				*e*S	Sb	16 56 05.1	+0.1
	baz=252						
YHNB	**Yeheng**	**1.05**	**258**	P	Pg	16 55 52.3	-0.7
	baz=257						
NSK	**Sanguang**	**1.07**	**258**	P	Pg	16 55 52.9	-0.4
	baz=257						
NACB	**Ninganchiao**	**1.10**	**229**	*e*P	Pg	16 55 53.0	-0.9
	baz=229						
NNS	**Nan Shan**	**1.13**	**247**	P	Pg	16 55 54.0	-0.4
	baz=246						
TWD	**Chiawan**	**1.16**	**226**	*e*P	Pg	16 55 54.2	-0.8
	baz=225						
WHF	**Hehuan Shan**	**1.35**	**237**	*e*P	Pg	16 55 58.0	-0.8
	baz=236						
LIOB	**Emei**	**1.38**	**260**	*e*P	Pn	16 55 57.8	-1.2
	baz=259						
ESL	**Shilin**	**1.46**	**223**	*e*P	Pn	16 55 59.6	-0.5
	baz=222

JISG	Ishigakijimahi	0.80 102	P	Pg	16 56 03.2	-0.3

IDC ***12*** *17:02:31.6±6.8, 23°.51N×108°.70W, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.6/41, mbtmp3.4/6, ML3.4/3, MS3.0/8, Ms1 3.0/8, ms1mx2.8/35, Error ellipse: s-maj=112.9km s-min=31.5km az=165.0*

ISC 12 17:02:34.3±4.5, 23.7N±0°.5×108°.8W±0°.1, h10km, n14, σ1§19/8, mb3.7/3, MS2.9/4, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	1.46	287	Pn	Pn	17 03 00.0	-0.6
	16nm,0.3s,baz=328,slow=0.9,SNR=14						
LPIG				Sn	Sn	17 03 18.4	-1.4
	118nm,0.3s,baz=186,slow=18,SNR=26						
TXAR	Lajitas Array	7.27	38	Pn	Pn	17 04 19.2	-1.5
	0.1nm,0.3s,baz=215,slow=13,SNR=5.6						
TXAR				Lg	Lg	17 06 12.8	
	0.3nm,0.3s,baz=223,slow=30,SNR=4.5						
PFO	Pinyon Flats O	11.97	328	LR	LR	17 09 23.5	
	comp=Z,117nm,20.3s,baz=140,slow=34						
CMIG	Matias Romero	14.58	114	LR	LR	17 11 36.4	
	comp=Z,67nm,19.6s,baz=218,slow=38						
NVAR	Mina Array Bea	16.80	333	Pn	P	17 06 33.2	+1.1
	0.0nm,0.3s,baz=144,slow=12,SNR=8.9						
ELK	Elko	17.86	344	LR	LR	17 13 11.1	
	comp=Z,41nm,19.0s,baz=180,slow=35						
PDAR	Pinedale Array	19.05	358	P	Pn	17 06 58.5	+0.9
	0.0nm,0.3s,baz=158,slow=11,SNR=3.3						
PDAR				LR	LR	17 14 31.6	
	comp=Z,48nm,20.8s,baz=228,slow=38						
YBH	Yreka Blue Hor	21.43	330	LR	LR	17 15 58.9	
	comp=Z,32nm,19.2s,baz=174,slow=37						
NEW	Newport	25.42	347	LR	LR	17 16 55.7	
	comp=Z,26nm,22.0s,baz=166,slow=34						
ULM	Lac du Bonnet	28.38	18	LR	LR	17 18 42.1	
	comp=Z,39nm,20.5s,baz=81,slow=34						
BBB	Bella Bella	32.08	337	LR	LR	17 22 23.6	
	comp=Z,30nm,19.3s,baz=218,slow=37						
YKA	Yellowknife Ar	39.00	356	P	P	17 10 00.9	+0.2
	0.4nm,0.8s,baz=168,slow=8.2,SNR=5.3						
INK	Inuvik	47.14	348	P	P	17 11 07.0	+0.6
	1.2nm,0.9s,baz=178,slow=4.2,SNR=4.8						
ILAR	Eielson Array	47.94	339	P	P	17 11 12.9	+0.3
	0.5nm,0.8s,baz=158,slow=6.6,SNR=5.5						

DSN ***12*** *17:31:35.2±4.3, 26°.89N×58°.10E, h10km, ML3.3/7, Error ellipse: s-maj=73.4km s-min=17.6km az=174.0*
OMAN ***12*** *17:31:37.9±0.8, 26°.54N×58°.05E, h20km, ml3.1/6, Error ellipse: s-maj=15.5km s-min=4.5km az=34.0*
TEH ***12*** *17:31:41.9, 26°.63N×57°.61E, h10km, ML3.3*

ISC 12 17:31:34.4±1.0, 26°.83N±0°.05×58°.17E±0°.05, h10km, n25, σ1§95/29, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.39	302	ePg	Pg	17 32 03.5	+2.4
GENO	Geno	1.86	288	eSg	Sg	17 32 32.9	-1.5
GENO				ePn	Pg	17 32 09.6	-0.6
GENO				IAMB	IAmb	17 32 41.7	
	comp=Z,0.0nm,0.4s						
SHME	Shamm	1.98	247	eP	Pn	17 32 08.3	+0.3
	SNR=8.9						
SHME				S	Sn	17 32 33.8	+0.9
SHME	Shamm	1.98	247	ePn	Pn	17 32 08.8	+0.8
MDH	Madha	2.27	228	eP	Pn	17 32 10.2	-1.7
	SNR=21						
MDH	Madha	2.27	228	P	Pn	17 32 10.4	-1.6
MDH				S	Sn	17 32 39.8	-0.3
MDH	Madha	2.27	228	ePn	Pn	17 32 10.5	-1.5
MSFE	Esma-Masafi	2.33	231	eP	Pn	17 32 11.7	-1.1
	SNR=12						
MSFE	Esma-Masafi	2.33	231	ePn	Pn	17 32 13.6	+0.8
HATD	Hatta, Dubai	2.71	223	eP	Pn	17 32 19.3	+1.2
	SNR=7.4						
HATD	Hatta, Dubai	2.71	223	P	Pn	17 32 20.3	+2.2
HATD	Hatta, Dubai	2.71	223	ePn	Pn	17 32 20.7	+2.6
ASHO	Ashiyiah	2.86	222	ePn	Pn	17 32 22.8	+2.6
NAZ	Nazwa, Dubai	2.91	231	P	Pn	17 32 22.2	+1.4
CHMN	Cheshme madani	3.07	350	IAMB	IAmb	17 30 00.2	
	comp=Z,0.0nm,0.9s						
CHMN				ePn	Pg	17 32 34.2	+1.0
SOHO	SOHO	3.07	209	P	Pn	17 32 21.3	-1.6
	SNR=71						
FAQ	Al Faqa, Dubai	3.12	229	P	Pn	17 32 25.6	+2.0
HOQ	Hoqain	3.33	194	P	Pn	17 32 28.9	+2.4
ASUD	Al Ashush, Dub	3.37	230	P	Pn	17 32 28.1	+1.0
TVBK	TV Kerman	3.38	339	ePn	Pg	17 32 37.4	-1.7
TVBK				IAMB	IAmb	17 32 45.5	
	comp=Z,0.0nm,0.3s						
SZD1	Zahaedan-tmp	3.56	41	ePn	Pg	17 32 44.5	+1.9
KHGB	Koh Gabri	3.83	338	ePn	Pb	17 32 44.4	+2.2
KHGB				IAMB	IAmb	17 34 01.6	
	comp=Z,0.0nm,0.9s						
JLN	Jalan Bani Buh	4.80	166	P	Pn	17 32 48.9	+2.1
	SNR=6.5						
JLN				S	Sn	17 33 37.9	-4.5
IKOO	Kooshah	5.62	7	ePn	Pb	17 33 10.3	-2.4
IKAZ	Kazeroun	6.30	299	ePn	Pn	17 33 07.0	-0.7

MEX ***12*** *17:37:06.6±0.8, 13°.64N×92°.37W, h26km±45km, MD4.1*
NEIC ***12*** *17:37:06.7±0.0, 13°.64N×92°.38W, h27km, mb4.3/5, MD4.1(MEX), After MEX.*
IDC ***12*** *17:37:09.9±4.4, 13°.93N×92°.06W, h33km±30km, mb3.6/8, mb1 3.8/11, mb1mx3.6/46, mbtmp3.8/11, ML3.4/3, Error ellipse: s-maj=33.6km s-min=17.9km az=41.0*
ISCJB ***12*** *17:37:09.4±0.7, 13°.89N±0°.07×92°.19W±0°.05, h54km, mb4.0/12, Error ellipse: s-maj=10.8km s-min=3.7km az=30.0*
UCR ***12*** *17:37:14.6±1.7, 13°.92N×91°.82W, h21km±22km, MD3.7, ML3.4, mb4.3(NEIC)*
SNET ***12*** *17:37:14.5±1.0, 14°.38N×91°.69W, h15km±999km, ML3.5*

ISC 12 17:37:11.0±0.8, 13°.84N±0°.08×92°.21W±0°.05, h54km, n46, σ1§85/55, mb4.0/12, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	1.46	66	eP	Pn	17 37 34.6	-0.6
PCG	Pacaya	1.65	70	eP	Pn	17 37 38.0	+0.1
IXG	Ixpaco	1.74	79	eP	Pn	17 37 38.3	-0.8
NBG	Las Nubes	1.96	68	⇓eP	Pn	17 37 43.2	+1.1
APG	El Apazote	2.05	56	Pg	Pn	17 37 43.5	+0.2
	20nm,0.3s,baz=240,slow=7.0,SNR=454						
APG				LR	LR	17 38 08.5	
	comp=Z,113nm,19.7s,baz=212,slow=31						
APG				Lg	Lg	17 38 12.4	
	46nm,0.3s,baz=70,slow=19,SNR=6.8						
PCIG		2.09	332	ePn	Pn	17 37 39.0	-4.6
PCIG				eSn	Sn	17 38 05.5	-3.1
PCIG		2.09	332	eP	Pn	17 37 39.0	-4.6
PCIG				i S	Sn	17 38 05.5	-3.1
CCIG	Comitan	2.43	2	ePn	Pn	17 37 46.0	-2.4
CCIG				eSn	Sn	17 38 15.7	-1.3
CCIG	Comitan	2.43	2	eP	Pn	17 37 46.0	-2.4
CCIG				i S	Sn	17 38 15.7	-1.3
RTR	El Retiro	2.50	88	eP	Pn	17 37 48.9	-0.5
RTR	El Retiro	2.50	88	eP	Pn	17 37 48.9	-0.5
CEVE	Cerro Verde	2.52	90	eP	Pn	17 37 48.8	-0.9
CEVE				eS	Sn	17 38 16.7	-2.6
CEVE				IAML		17 38 34.0	
	comp=Z,1μm,0.3s						
CEVE	Cerro Verde	2.52	90	eP	Pn	17 37 48.8	-0.9
CEVE				eS	Sn	17 38 16.7	-2.6
CEVE				IAML		17 38 34.0	
	comp=Z,1μm,0.3s						
SBLS	San Blas	2.52	90	eP	Pn	17 37 48.3	-1.4
SBLS				eS	Sn	17 38 16.1	-3.2
SBLS	San Blas	2.52	90	eP	Pn	17 37 48.3	-1.4
SBLS				eS	Sn	17 38 16.1	-3.2
SNJE	San Jose	2.53	89	eP	Pn	17 37 49.5	-0.4
SNJE	San Jose	2.53	89	eP	Pn	17 37 49.5	-0.4
MRL	Marmol	2.73	63	eP	Pn	17 37 57.0	+4.4
BOQS	Boqueron	2.85	92	eP	Pn	17 37 54.1	-0.2
BOQS				eS	Sn	17 38 24.9	-2.7
LFRS	El Faro	3.07	94	eP	Pn	17 37 57.5	+0.3
LFRS				eS	Sn	17 38 30.3	-2.5
CMIG	Matias Romero	4.13	322	ePn	Pn	17 38 08.6	-3.0
CMIG				eSn	Sn	17 38 56.3	-2.3
CMIG	Matias Romero	4.13	322	eP	Pn	17 38 07.6	-4.0
CMIG				i S	Sn	17 38 55.7	-2.9
CMIG	Matias Romero	4.13	322	Pn	Pn	17 38 09.3	-2.3
	comp=Z,1.2nm,0.3s,baz=129,slow=10,SNR=26						
CMIG				Sn	Sn	17 38 58.7	+0.1
	comp=Z,5.9nm,0.3s,baz=68,slow=19,SNR=3.7						
HUIG	Huatulco	4.22	297	ePn	Pn	17 38 08.6	-4.4
HUIG				eSn	Sn	17 38 56.5	-4.5
HUIG	Huatulco	4.22	297	eP	Pn	17 38 06.8	-6.1
HUIG				i S	Sn	17 38 53.6	-7.4
LCND	La Caada	4.24	97	eP	Pn	17 38 12.8	-0.3
LCND				eS	Sn	17 38 59.1	-2.2
LCND	La Caada	4.24	97	eP	Pn	17 38 12.8	-0.3
LCND				eS	Sn	17 38 59.1	-2.2
TEIG	Tepich	7.38	30	ePn	Pn	17 38 57.1	+0.9
JTS	Las Juntas de	7.93	116	ePn	Pn	17 39 12.4	+8.6
JTS	Las Juntas de	7.93	116	Pn	Pn	17 39 02.2	-1.6
	comp=Z,0.3nm,0.3s,baz=37,slow=17,SNR=2.4						
JTS				Lg	Lg	17 41 10.9	
	comp=Z,0.1nm,0.3s,baz=349,slow=23,SNR=6.1						
HKT	Hockley	16.38	349	ePn	Pn	17 40 56.5	-0.7
	comp=Z,14nm,1.7s						
TXAR	Lajitas Array	18.71	327	eP	P	17 41 27.5	+2.2
TXAR	Lajitas Array	18.71	327	P	P	17 41 27.3	+2.0
	comp=Z,0.1nm,0.3s,baz=152,slow=9.8,SNR=13						
MNTX	Cornudas Mount	21.49	328	eP	P	17 41 55.3	0.0
	comp=Z,3.6nm,0.9s						
CPCT	Cooper Cave	22.60	17	eP	P	17 42 06.8	-0.4
	comp=Z,44nm,2.0s						
AMTX	Amarillo	22.63	339	eP	P	17 42 05.2	-2.4
	comp=Z,10nm,0.6s						
JSC	Jenkinsville	22.64	24	eP	P	17 42 07.6	0.0
	comp=Z,27nm,1.0s						
ANMO	Albuquerque	24.64	331	P	P	17 42 29.4	+2.6
	comp=Z,1.0nm,0.6s,baz=160,slow=8.7,SNR=5.6						
NVAR	Mina Array Bea	33.66	321	P	P	17 43 49.6	+2.5
	comp=Z,0.6nm,0.6s,baz=130,slow=8.2,SNR=7.3						
SIV	San Ignacio	42.74	133	P	P	17 45 04.0	+0.7
	comp=Z,0.5nm,0.5s,baz=285,slow=6.7,SNR=3.9						
YKA	Yellowknife Ar	51.13	347	P	P	17 46 08.2	+0.1
	comp=Z,1.8nm,0.7s,baz=152,slow=7.4,SNR=8.9						
YKA				PcP	PcP	17 47 24.1	+1.1
	comp=Z,0.5nm,0.8s,baz=162,slow=3.5,SNR=6.1						
INK	Inuvik	60.53	344	P	P	17 47 15.1	-0.2
	comp=Z,1.5nm,0.7s,baz=121,slow=10,SNR=6.1						
RES	Resolute Bay	60.85	359	P	P	17 47 16.5	-0.9
	comp=Z,0.4nm,0.7s,baz=291,slow=8.6,SNR=4.0						
ILAR	Eielson Array	62.90	337	P	P	17 47 32.8	+1.4
	comp=Z,0.8nm,0.9s,baz=125,slow=4.5,SNR=5.6						
TIXI	Tiksi	90.37	348	P	P	17 50 05.7	-0.4
	comp=Z,0.8nm,0.4s,baz=11,slow=5.9,SNR=5.8						
CMAR	Chiang Mai Arr	146.07	341	PKPbc	PKPbc	17 56 47.4	+1.5
	comp=Z,2.6nm,0.7s,baz=342,slow=3.0,SNR=15						

MAN 12 17:39:14.3, 7°.95N×125°.56E, h54km, mb4.0, ML2.8, MS2.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	Davao City--Mi	0.86	183	⇑eP	Pn	17 39 31.5	+1.1
DMPH				eS	Sn	17 39 42.8	+0.7
MATI	Mati	1.22	145	eP	Pn	17 39 35.8	+0.7
MATI				eS	Sn	17 39 47.8	-2.7
DDMP	Don Marcelino,	1.84	175	eP	Pn	17 39 45.7	+2.2
DDMP				eS	Sn	17 40 06.9	+1.2
PAGZ	Pagadian	2.16	267	eP	Pn	17 39 48.6	+0.8

ISCJB ***12*** *17:40:31.7±0.9, 13°.93N±0°.08×92°.33W±0°.06, h54km, mb3.9/9, Error ellipse: s-maj=13.3km s-min=5.4km az=32.8*
MEX ***12*** *17:40:31.6±0.6, 13°.82N×92°.45W, h16km±55km, MD3.9*
IDC ***12*** *17:40:32.6±6.8, 13°.97N×92°.03W, h33km±37km, mb3.7/9, mb1 4.0/11, mb1mx3.6/46, mbtmp3.9/11, ML3.7/2, MS2.9/1, Ms1 2.8/1, ms1mx2.4/42, Error ellipse: s-maj=63.3km s-min=25.5km az=7.0*
UCR ***12*** *17:40:36.9±1.5, 13°.72N×91°.74W, h8km±45km, MD3.9, ML3.3*
SNET ***12*** *17:40:38.2±0.8, 13°.66N×91°.49W, h145km±34km, ML3.5*

ISC 12 17:40:33.6±0.9, 13°.85N±0°.10×92°.32W±0°.06, h54km, n29, σ2§79/36, mb4.0/9, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	1.55	67	⇓eP	Pn	17 40 57.2	-1.9
FUG				eP	Pn	17 40 57.5	-1.6
PCG	Pacaya	1.74	72	eP	Pn	17 41 00.3	-1.5
IXG	Ixpaco	1.85	80	eP	Pn	17 41 00.9	-2.2
PCIG		2.04	335	i P	Pn	17 41 01.8	-3.8
PCIG				eS	Sn	17 41 25.0	-5.0
NBG	Las Nubes	2.05	69	eP	Pn	17 41 06.1	+0.2
APG	El Apazote	2.13	57	Pg	Pn	17 41 06.1	-0.9
	22nm,0.3s,baz=196,slow=13,SNR=23						
APG				Lg	Lg	17 41 33.0	
	50nm,0.3s,baz=346,slow=22,SNR=8.2						
CCIG	Comitan	2.43	4	i P	Pn	17 41 09.1	-1.9
CCIG				i S	Sn	17 41 37.1	-2.5
CEVE	Cerro Verde	2.61	90	eP	Pn	17 41 11.9	-1.8
CEVE				IAML		17 41 59.4	
	comp=Z,750nm,0.4s						
CEVE	Cerro Verde	2.61	90	eP	Pn	17 41 11.9	-1.8
CEVE				IAML		17 41 59.4	
	comp=Z,750nm,0.4s						
SNJE	San Jose	2.63	89	eP	Pn	17 41 12.6	-1.3
SNJE				eS	Sn	17 41 38.8	-5.9
SNJE	San Jose	2.63	89	eP	Pn	17 41 12.6	-1.3
SNJE				eS	Sn	17 41 38.8	-5.9
MRL	Marmol	2.83	64	eP	Pn	17 41 18.9	+2.3
BOQS	Boqueron	2.95	92	eP	Pn	17 41 15.4	-2.8
LFRS	El Faro	3.17	94	eP	Pn	17 41 18.6	-2.6
CMIG	Matias Romero	4.07	323	eP	Pn	17 41 30.0	-3.4
CMIG				i S	Sn	17 42 15.8	-4.0
CMIG	Matias Romero	4.07	323	Pn	Pn	17 41 31.9	-1.4
	comp=Z,3.7nm,0.3s,baz=141,slow=11,SNR=16						
CMIG				Sn	Sn	17 42 17.4	-2.3
	comp=Z,16nm,0.3s,baz=187,slow=1.7,SNR=5.4						
HUIG	Huatulco	4.14	298	i P	Pn	17 41 29.8	-4.6
HUIG				i S	Sn	17 42 16.0	-5.4
JTS	Las Juntas de	8.02	115	Lg	Lg	17 44 31.9	
	comp=Z,0.1nm,0.3s,baz=127,slow=22,SNR=4.8						
TXAR	Lajitas Array	18.66	328	P	Pn	17 44 49.5	+1.3
	comp=Z,0.1nm,0.3s,baz=153,slow=9.9,SNR=12						
TXAR				LR	LR	17 52 46.0	
	comp=Z,30nm,18.3s,baz=0.0,slow=39						
ANMO	Albuquerque	24.58	331	P	P	17 45 51.1	+2.1
	comp=Z,1.0nm,0.6s,baz=134,slow=13,SNR=4.3						
PDAR	Pinedale Array	32.43	336	P	P	17 47 00.2	+1.3
	comp=Z,0.2nm,0.6s,baz=141,slow=5.8,SNR=2.7						
NVAR	Mina Array Bea	33.60	322	P	P	17 47 12.3	+3.2
	comp=Z,1.1nm,0.7s,baz=133,slow=8.6,SNR=9.5						
YKA	Yellowknife Ar	51.10	347	P	P	17 49 30.9	+0.4
	comp=Z,2.1nm,0.7s,baz=150,slow=7.5,SNR=25						
YKA				PcP	PcP	17 50 47.7	+2.1
	comp=Z,0.6nm,0.7s,baz=152,slow=3.3,SNR=7.8						
DLBC	Dease Lake	52.67	336	P	P	17 49 44.4	+2.0
	comp=Z,1.5nm,0.6s,baz=114,slow=4.9,SNR=4.7						
INK	Inuvik	60.50	344	P	P	17 50 38.0	+0.2
	comp=Z,1.4nm,1.0s,baz=113,slow=7.8,SNR=7.9						
RES	Resolute Bay	60.85	359	P	P	17 50 38.9	-1.1
	comp=Z,0.5nm,0.6s,baz=196,slow=5.9,SNR=3.9						
ILAR	Eielson Array	62.86	337	P	P	17 50 54.4	+0.6
	comp=Z,1.5nm,1.1s,baz=148,slow=5.7,SNR=6.2						
TIXI	Tiksi	90.34	348	P	P	17 53 28.9	+0.4
	comp=Z,0.8nm,0.4s,baz=27,slow=4.6,SNR=6.1						
CMAR	Chiang Mai Arr	146.03	341	PKPbc	PKPab	18 00 10.1	+1.1
	comp=Z,2.8nm,0.7s,baz=330,slow=3.2,SNR=19						

NORS ***12*** *17:41:50.1±0.0, 42°.52N×45°.40E, h12km, MPVA3.6*
TIF ***12*** *17:41:51.4, 42°.60N×45°.36E, h22km±4km*
DRS ***12*** *17:41:52.3±0.0, 42°.69N×45°.41E, h16km*

ISC 12 17:41:49.2±1.2, 42°.71N±0°.04×45°.42E±0°.02, h7km±10km, n23, σ0§75/42, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMGR	Komgaron	0.54	311	ePg	Pn	17 42 03.5	+0.2
KMGR				eSg	Sn	17 42 12.5	-0.1
DVE	Vedeno	0.58	64	ePg	Pn	17 42 03.3	-0.6
DVE				eSg	Sn	17 42 12.1	-1.5
BTLR	Botlikh	0.60	94	ePg	Pn	17 42 03.0	-1.0
	32nm,0.6s						
BTLR				eSg	Sb	17 42 11.4	+0.9
	178nm,0.6s						
GUDG	Gudauri	0.73	251	P	Pb	17 42 04.8	+0.4
GUDG				S	Sb	17 42 13.7	-1.0
LACR	Lac	0.83	279	ePg	Pb	17 42 05.5	-0.5
LACR				eSg	Sb	17 42 16.9	-0.5
ARNR	Ardon	0.96	300	ePg	Pn	17 42 08.9	-0.1
ARNR				eSg	Sn	17 42 22.8	-0.1
XNZR	Khunzakh	0.96	99	ePg	Pn	17 42 08.8	-0.5
XNZR				eSg	Sb	17 42 21.6	+0.4
UNCR	Uncukul	1.02	89	ePg	Pn	17 42 10.0	+0.2
UNCR				eSg	Sn	17 42 24.0	-0.3
	99nm,0.2s						
KORR	Kora	1.06	292	ePg	Pn	17 42 10.2	-0.2
KORR				eSg	Sn	17 42 25.4	-0.1
LGD	Lagodekhi	1.06	145	P	Pb	17 42 09.8	-0.1
TBLG	Delisi	1.10	208	P	Pn	17 42 11.0	+0.1
TBLG				S	Sg	17 42 24.1	-0.3
KRNR	Karanay	1.10	83	ePg	Pn	17 42 12.0	+0.9
KRNR				eSg	Sn	17 42 27.5	+0.9
	28nm,0.1s						
BTNK	Botanikuri	1.12	204	P	Pn	17 42 10.8	-0.4
ZEI	Tsey	1.12	275	ePg	Pg	17 42 10.4	-0.2
ZEI				eSg	Sb	17 42 25.8	0.0
ARKR	Arakani	1.17	94	ePg	Pn	17 42 13.0	+1.1
ARKR				eSg	Sn	17 42 30.0	+1.9
GNBR	Gunib	1.19	105	ePg	Pg	17 42 11.1	-0.8
	18nm,0.6s						
GNBR				eSg	Sg	17 42 26.7	-0.6
	86nm,0.4s						
DDFL	Dedoflistskaro	1.36	157	P	Pn	17 42 13.6	-1.0
DDFL				S	Sg	17 42 34.6	+1.7
DIGR	Digorskoe uzhe	1.36	279	ePg	Pg	17 42 15.3	0.0
DIGR				eSg	Sn	17 42 33.8	+0.6
ONI	Oni	1.45	266	P	Pg	17 42 17.8	+0.7
KZRT	Kazreti	1.52	210	P	Pb	17 42 17.6	-0.1
KZRT				S	Sn	17 42 36.1	-0.7
SRKG	Sareki	1.57	257	P	Pg	17 42 19.4	+0.1
KBTC	Kuba-Taba	1.84	308	ePg	Pg	17 42 23.7	-0.7
KBTC				eSg	Sg	17 42 49.1	+0.8
NEY	Neytrino	2.05	286	ePg	Pb	17 42 26.6	-0.2
NEY				eSg	Sb	17 42 53.4	+0.8

ISCJB ***12*** *17:47:17.4±0.4, 41°.40N±0°.03×141°.73E±0°.05, h77km±3km, mb3.7/10, Error ellipse: s-maj=6.4km s-min=4.0km az=27.7*
JMA ***12*** *17:47:18.0±0.1, 41°.42N×141°.75E, h69km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs22.00000°, δ69.00000°, λ93.00000°. NP2: φs194.00000°, δ21.00000°, λ83.00000°. Principal axes: T Plg66.0000°, Azm297.0000°; N Plg3.0000°, Azm201.0000°; P Plg24.0000°, Azm110.0000°;*
JMA Felt I J1.
IDC ***12*** *17:47:19.1±1.8, 41°.41N×141°.82E, h82km±16km, mb3.4/10, mb1 3.4/13, mb1mx3.3/55, mbtmp3.7/13, MS2.8/2, Ms1 2.8/2, ms1mx2.2/39 Error ellipse: s-maj=22.9km s-min=13.1km az=99.0*

ISC 12 17:47:18.2±0.8, 41°.41N±0°.03×141°.74E±0°.04, h69km±6km, n38, σ0§80/47, mb3.9/10, 3C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	Aomorihigashid	0.33	245	⇓P	Pn	17 47 29.7	+0.3
JAHD				S	Sn	17 47 38.6	+1.0
JARK	Aomorirokkasho	0.49	215	P	Pn	17 47 30.7	0.0
JARK				S	Sn	17 47 39.8	-0.1
JOT	Ohata	0.52	268	⇓P	Pn	17 47 31.1	+0.1
JOT				S	Sn	17 47 40.8	+0.3
JKB	Kayabe	0.71	313	⇓P	Pn	17 47 32.8	-0.3
JKB				S	Sn	17 47 44.3	+0.2
JTM	Tenmabayashi	0.80	219	⇓P	Pn	17 47 34.4	+0.3
JTM				S	Sn	17 47 45.9	0.0
JSR	Shiriuchi	1.00	278	⇓P	Pn	17 47 36.8	+0.3
JSR				S	Sn	17 47 51.0	+0.8
JANG	Nango	1.04	189	⇑P	Pn	17 47 36.8	-0.4
JANG				S	Sn	17 47 50.3	-1.0
JNBK	Urakawa-nobuka	1.16	41	⇑P	Pn	17 47 37.8	-0.8
JNB	Noboribetsu	1.18	334	⇓P	Pn	17 47 38.4	-0.5
JNB				S	Sn	17 47 53.3	-1.1
JIAM	Iburiatsuma	1.22	6	P	Pn	17 47 40.1	+0.7
JIAM				S	Sn	17 47 56.3	+0.9
JEM	Erimo	1.23	60	P	Pn	17 47 39.6	+0.1
JEM				S	Sn	17 47 55.6	+0.2
JYM2	Yakumo 2	1.24	305	⇓P	Pn	17 47 40.1	+0.4
JYM2				S	Sn	17 47 56.8	+0.9
JBT2	Biratori 2	1.45	19	⇑P	Pn	17 47 43.0	+0.6
JEW	Eniwo	1.45	352	⇓P	Pn	17 47 42.5	+0.1
JEW				S	Sn	17 48 00.4	-0.3
JAH	Hinai	1.48	215	⇓P	Pn	17 47 43.7	+0.9
JAH				S	Sn	17 48 02.5	+1.2
JIW	Iwasaki	1.54	239	⇓P	Pn	17 47 44.1	+0.5
JIW				S	Sn	17 48 03.8	+1.0
JCH	Churui	1.71	45	⇓P	Pn	17 47 46.7	+0.8
JCH				S	Sn	17 48 08.0	+1.1
JOSM	Okushiri--Mats	1.82	293	P	Pn	17 47 47.3	-0.1
ASAJ	Asahikawa	2.78	13	P	Pn	17 48 01.1	+0.7
	1.7nm,0.3s,baz=203,slow=14,SNR=22						
ASAJ				S	Sn	17 48 34.3	+1.5
	4.0nm,0.3s,baz=291,slow=32,SNR=6.1						
ASAJ				LR	LR	17 49 12.4	
	comp=Z,37nm,18.6s,baz=214,slow=41						
MJAR	Matsushiro Arr	5.58	211	P	Pn	17 48 41.5	+2.8
	0.1nm,0.3s,baz=332,slow=15,SNR=8.5						
USRK	Ussuriysk Ar.	7.69	295	P	Pn	17 49 08.7	+1.3

*NEIC **12** 17:49:35.0±0.7, 1°.23N×101°.36W, h10km, mb4.9/16, Error ellipse: s-maj=21.6km s-min=9.0km az=47.0*
*GCMT **12** 17:49:36.0±0.2, 1°.47N±0°.02×101°.14W±0°.02, h14km, MW5.0/82, Moment Tensor Solution. s58,c77; s82,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.89±.14; $M_{\theta\theta}$2.61±.10; $M_{\phi\phi}$1.28±.11; $M_{r\theta}$0.72±.22; $M_{\theta\phi}$1.85±.08; $M_{\phi r}$-1.14±.25; Best double couple: M_0=4.11300×10^{16} NP1:ϕ_s38.00000°, δ48.00000°, λ-114.00000°. NP2: ϕ_s252.00000°, δ47.00000°, λ-66.00000°. Principal axes: T 3.9110, Plg1.0000°, Azm145.0000°; N 0.4020, Plg17.0000°, Azm55.0000°; P -4.3140, Plg73.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 17:49:35.4±0.7, 1°.3N±0°.1×101°.3W±0°.1, h10km, n268, σ0.983/263, mb4.7/25, MS4.2/24, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**16.96**	**22**	LR	LR	17 58 24.8	
	comp=Z,576nm,20.4s,baz=193,slow=32						
APG	**El Apazote**	**17.36**	**38**	P	**Pn**	**17 53 39.0**	**+0.7**
	0.2nm,0.3s,baz=215,slow=19,SNR=6.0						
OTAV	**Otavalo**	**22.89**	**92**	*e*P	**P**	**17 54 40.1**	**0.0**
	82nm,1.4s						
ATAH	**Atahualpa**	**24.34**	**110**	P	**P**	**17 54 56.3**	**+2.0**
	5.8nm,0.8s,baz=310,slow=11,SNR=11						
ATAH				LR	LR	18 01 59.9	
	comp=Z,957nm,21.8s,baz=282,slow=31						
NNA	**Nana**	**27.64**	**119**	LR	LR	18 03 42.4	
	comp=Z,759nm,19.7s,baz=309,slow=31						
LTX	**Lajitas**	**28.01**	**356**	*e*P	**P**	**17 55 27.4**	**+0.5**
LTX				*e*PcP	**PcP**	**17 58 42.5**	**+0.6**
TXAR	**Lajitas Array**	**28.01**	**356**	P	**P**	**17 55 27.4**	**+0.5**
	2.0nm,0.9s,baz=173,slow=11,SNR=15						
TXAR				PcP	**PcP**	**17 58 42.5**	**+0.6**
	0.6nm,0.7s,baz=183,slow=5.7,SNR=5.5						
TXAR				LR	LR	18 05 39.6	
	comp=Z,803nm,19.1s,baz=0.0,slow=35						
TX31	**Lajitas Ar. Si**	**28.01**	**356**	*e*P	**P**	**17 55 25.9**	**-1.0**
	4.3nm,1.0s						
JCT	**Junction City**	**29.10**	**3**	P	**P**	**17 55 37.3**	**+0.8**
	baz=183						
MNTX	**Cornudas Mount**	**30.52**	**353**	*e*P	**P**	**17 55 47.5**	**-1.5**
	7.0nm,1.3s						
MNTX	**Cornudas Mount**	**30.52**	**353**	P	**P**	**17 55 49.3**	**+0.3**
	baz=172						
WHTX	**Lake Whitney,**	**30.79**	**6**	P	**P**	**17 55 52.2**	**+0.9**
	baz=188						
NATX	**Nacogdoches**	**30.98**	**11**	P	**P**	**17 55 53.7**	**+0.6**
	baz=193						
ABTX	**Abilene, Hawle**	**31.24**	**3**	P	**P**	**17 55 56.4**	**+1.0**
	baz=183						
SDV	**Santo Domingo**	**31.47**	**75**	P	**P**	**17 55 56.6**	**-1.2**
	1.9nm,0.3s,baz=263,slow=9.6,SNR=5.2						
TUC	**Tucson**	**32.15**	**345**	P	**P**	**17 56 04.0**	**+0.5**
	baz=162						
214A	**Organ Pipe Nat**	**32.41**	**342**	P	**P**	**17 56 06.8**	**+1.2**
	baz=158						
MSTX	**Muleshoe**	**32.57**	**358**	P	**P**	**17 56 08.8**	**+1.6**
	baz=177						
249A	**Camden**	**33.36**	**22**	P	**P**	**17 56 15.1**	**+1.1**
	baz=206						
250A	**Grady**	**33.70**	**23**	P	**P**	**17 56 17.5**	**+0.6**
	baz=208						
ANMO	**Albuquerque**	**33.86**	**352**	P	**P**	**17 56 18.5**	**0.0**
	baz=171						
ANMO	**Albuquerque**	**33.86**	**352**	P	**P**	**17 56 19.3**	**+0.8**
	1.2nm,0.8s,baz=174,slow=5.2,SNR=5.8						
TASM	**ASL Pad, Albuq**	**33.86**	**352**	P	**P**	**17 56 19.2**	**+0.7**
	baz=171						
TASM	**ASL Pad, Albuq**	**33.86**	**352**	P	**P**	**17 56 18.8**	**+0.3**
	baz=171						
MIAR	**Mount Ida**	**33.90**	**12**	*e*P	**P**	**17 56 18.4**	**-0.2**
	24nm,1.3s						
MIAR	**Mount Ida**	**33.90**	**12**	P	**P**	**17 56 18.7**	**+0.1**
	baz=194,SNR=7.0						
GLA	**Glamis**	**34.08**	**340**	P	**P**	**17 56 20.4**	**+0.1**
	baz=156						
251A	**Midway**	**34.15**	**24**	P	**P**	**17 56 20.1**	**-0.7**
	baz=209						
IKP	**In-Ko-Pah, Jac**	**34.19**	**337**	P	**P**	**17 56 21.3**	**0.0**
	baz=153						
150A	**Eclectic**	**34.35**	**23**	P	**P**	**17 56 22.7**	**+0.2**
	baz=208						
LRAL	**Lakeview Retre**	**34.36**	**22**	P	**P**	**17 56 22.8**	**+0.2**
	baz=206						
W39A	**Magazine**	**34.49**	**11**	P	**P**	**17 56 23.8**	**+0.1**
	baz=193						
Y12C	**Blythe**	**34.61**	**340**	P	**P**	**17 56 25.5**	**+0.6**
	baz=156						
Z49A	**Columbiana**	**34.67**	**22**	P	**P**	**17 56 24.9**	**-0.5**
	baz=207						
W41B	**Gary Mavity, V**	**34.79**	**13**	P	**P**	**17 56 26.6**	**+0.3**
	baz=196						
BC3	**Big Chuckawall**	**34.85**	**339**	P	**P**	**17 56 26.9**	**-0.1**
	baz=155						
TUL1	**Leonard**	**34.86**	**8**	P	**P**	**17 56 26.9**	**-0.1**
	baz=190						
152A	**Waverly Hall**	**34.93**	**25**	P	**P**	**17 56 26.0**	**-1.6**
	baz=210						
254A	**Abbeville**	**34.95**	**27**	P	**P**	**17 56 26.3**	**-1.4**
	baz=213						
Z50A	**Ashland**	**34.96**	**23**	P	**P**	**17 56 27.3**	**-0.5**
	baz=208						
PDMCI	**Parker Dam,Lak**	**34.99**	**341**	P	**P**	**17 56 28.5**	**+0.4**
	baz=157						
Y48A	**Jasper**	**35.09**	**21**	P	**P**	**17 56 28.6**	**-0.3**
	baz=205						
PFO	**Pinyon Flats O**	**35.18**	**338**	P	**P**	**17 56 29.5**	**-0.4**
	baz=153						
IRM	**Iron Mountain**	**35.20**	**340**	P	**P**	**17 56 30.7**	**+0.8**
	baz=156,SNR=5.4						
WUAZ	**Wupatki**	**35.35**	**346**	P	**P**	**17 56 33.1**	**+1.8**
	baz=163						
BELC	**Belle Mtn. Jos**	**35.35**	**339**	P	**P**	**17 56 32.4**	**+1.0**
	baz=154						
X47A	**Russelville**	**35.40**	**19**	P	**P**	**17 56 31.9**	**+0.3**
	baz=204						
SCI2	**San Clemente I**	**35.47**	**335**	P	**P**	**17 56 32.6**	**+0.4**
	baz=150						
Z52A	**Williamson**	**35.51**	**25**	P	**P**	**17 56 32.7**	**+0.1**
	baz=210						
Y50A	**Piedmont**	**35.59**	**23**	P	**P**	**17 56 33.6**	**+0.3**
	baz=207						
X48A	**Hartselle**	**35.62**	**20**	P	**P**	**17 56 33.2**	**-0.3**
	baz=205						
U40A	**Yellville**	**35.80**	**12**	P	**P**	**17 56 34.7**	**-0.3**
	baz=195						
T25A	**Trinidad**	**35.82**	**356**	P	**P**	**17 56 35.2**	**-0.2**
	baz=175						
155A	**Kite**	**35.89**	**28**	P	**P**	**17 56 34.9**	**-0.9**
	baz=213						
GMRC	**Granite Mounta**	**35.94**	**340**	P	**P**	**17 56 37.8**	**+1.4**
	baz=155						
W49A	**Belvidere**	**36.49**	**21**	P	**P**	**17 56 41.7**	**+0.7**
	baz=206						
SDCO	**Great Sand Dun**	**36.52**	**354**	P	**P**	**17 56 42.4**	**+1.0**
	baz=173						
S22A	**4UR Ranch, Cre**	**36.66**	**353**	P	**P**	**17 56 42.6**	**-0.1**
	baz=171,SNR=6.1						
V47A	**Nunnelly**	**36.71**	**19**	P	**P**	**17 56 43.4**	**+0.6**
	baz=204						
GSC	**Goldstone, Bar**	**36.81**	**339**	P	**P**	**17 56 44.2**	**+0.4**
	baz=154						
V48A	**Smith Brothers**	**36.86**	**20**	P	**P**	**17 56 43.6**	**-0.5**
	baz=205						
WVT	**Waverly**	**36.89**	**18**	P	**P**	**17 56 44.1**	**-0.2**
	baz=203						
EDW2	**Edwards Air Fo**	**36.89**	**337**	P	**P**	**17 56 45.3**	**+0.8**
	baz=152						
X52A	**Dahlonega**	**36.95**	**24**	P	**P**	**17 56 44.5**	**-0.4**
	baz=210						
W51A	**Cleveland**	**37.09**	**23**	P	**P**	**17 56 44.9**	**-1.2**
	baz=208						
X53A	**Estanollee**	**37.11**	**25**	P	**P**	**17 56 45.8**	**-0.4**
	baz=211						
LPAZ	**La Paz**	**37.11**	**119**	*e*P	**P**	**17 56 45.0**	**-2.2**
	10nm,1.3s						
LPAZ				*e*PcP	**PcP**	**17 59 08.6**	**+0.8**
LPAZ	**La Paz**	**37.11**	**119**	P	**P**	**17 56 49.1**	**+1.9**
	2.6nm,0.8s,baz=298,slow=6.6,SNR=7.9						
LPAZ				PcP	**PcP**	**17 59 08.6**	**+0.8**
	0.8nm,0.6s,baz=330,slow=4.6,SNR=3.6						
LPAZ				LR	LR	18 10 26.1	
	comp=Z,232nm,18.2s,baz=314,slow=34						
V49A	**McMinnville**	**37.20**	**21**	P	**P**	**17 56 46.3**	**-0.7**
	baz=206						
S41A	**Jillco Farms,**	**37.21**	**13**	P	**P**	**17 56 46.8**	**-0.3**
	baz=196,SNR=5.1						
Y55A	**Saluda**	**37.27**	**27**	P	**P**	**17 56 46.9**	**-0.7**
	baz=213						
Z57A	**Bowman**	**37.29**	**29**	P	**P**	**17 56 47.4**	**-0.3**
	baz=215						
U47A	**Clarksville**	**37.34**	**19**	P	**P**	**17 56 47.3**	**-0.8**
	baz=204						
NHSC	**New Hope**	**37.39**	**30**	P	**P**	**17 56 48.1**	**-0.5**
	baz=216						
Q24A	**Divide**	**37.69**	**355**	P	**P**	**17 56 50.5**	**-0.9**
	baz=174						
T46A	**Princeton**	**37.71**	**18**	P	**P**	**17 56 51.7**	**+0.4**
	baz=202						
MPMC	**Manual Prospec**	**37.74**	**338**	P	**P**	**17 56 51.9**	**+0.1**
	baz=153,SNR=7.5						
ISA	**Isabella, Lake**	**37.76**	**337**	P	**P**	**17 56 51.1**	**-0.7**
	baz=151						
CCM	**Cathedral Cave**	**37.77**	**13**	P	**P**	**17 56 51.3**	**-0.5**
	baz=197						
X55A	**Gracelyn & Ava**	**37.81**	**27**	P	**P**	**17 56 51.3**	**-0.9**
	baz=213						
T47A	**Sharon Grove**	**37.90**	**19**	P	**P**	**17 56 52.7**	**-0.2**
	baz=204						
KSU1	**Kansas State U**	**37.91**	**6**	P	**P**	**17 56 53.8**	**+0.8**
	baz=188						
U49A	**Red Boiling Sp**	**37.92**	**21**	P	**P**	**17 56 52.3**	**-0.7**
	baz=206						
S44A	**Carbondale**	**37.92**	**16**	P	**P**	**17 56 53.5**	**+0.5**
	baz=200						
R41A	**Rosebud**	**37.98**	**13**	P	**P**	**17 56 53.0**	**-0.5**
	baz=196						
SMMC	**Simmler**	**38.09**	**335**	P	**P**	**17 56 54.2**	**-0.3**
	baz=149						
W54A	**Cherokee Point**	**38.09**	**26**	P	**P**	**17 56 55.1**	**+0.6**
	baz=212						
S45A	**Carrier Mills**	**38.09**	**16**	P	**P**	**17 56 55.0**	**+0.5**
	baz=201						
TPNV	**Topopah Spring**	**38.10**	**340**	P	**P**	**17 56 55.1**	**+0.3**
	baz=156						
X56A	**White Oak**	**38.11**	**28**	P	**P**	**17 56 54.8**	**+0.1**
	baz=214						
U50A	**Jamestown**	**38.17**	**22**	P	**P**	**17 56 55.0**	**-0.2**
	baz=207						
T48A	**Bowling Green**	**38.25**	**19**	P	**P**	**17 56 55.3**	**-0.5**
	baz=204						
CWC	**Cottonwood Cre**	**38.30**	**338**	P	**P**	**17 56 57.3**	**+0.8**
	baz=152						
S46A	**Don Dixon Farm**	**38.35**	**18**	P	**P**	**17 56 55.9**	**-0.8**
	baz=202						
KMSC	**Kings Mountain**	**38.51**	**27**	P	**P**	**17 56 58.0**	**-0.1**
	baz=213						
ISCO	**Idaho Springs**	**38.56**	**355**	P	**P**	**17 56 59.8**	**+1.0**
	baz=173						
R45A	**Skylar, Fairfi**	**38.75**	**16**	P	**P**	**17 57 00.3**	**+0.2**
	baz=201						
Q42A	**Golden Eagle**	**38.76**	**13**	P	**P**	**17 57 00.8**	**+0.7**
	baz=197						
V54A	**Nebo**	**38.77**	**26**	P	**P**	**17 56 59.6**	**-0.7**
	baz=212						
W56A	**Indian Trail**	**38.85**	**28**	P	**P**	**17 57 00.2**	**-0.7**
	baz=214						
S48A	**Wiedeman Farm,**	**38.85**	**19**	P	**P**	**17 57 00.0**	**-0.9**
	baz=205						
W57A	**Gilead**	**39.14**	**28**	P	**P**	**17 57 02.5**	**-0.8**
	baz=215						
V55A	**Taylorsville**	**39.16**	**26**	P	**P**	**17 57 02.8**	**-0.7**
	baz=213						
R11A	**Troy Canyon, C**	**39.17**	**342**	P	**P**	**17 57 04.7**	**+0.9**
	baz=157						
O20A	**White River Ci**	**39.21**	**352**	P	**P**	**17 57 05.5**	**+1.4**
	baz=169						
S49A	**Springfield**	**39.23**	**20**	P	**P**	**17 57 04.6**	**+0.5**
	baz=206						
R47A	**Wooly Knot Far**	**39.28**	**18**	P	**P**	**17 57 04.3**	**-0.2**
	baz=204						
W58A	**Raeford**	**39.40**	**29**	P	**P**	**17 57 04.9**	**-0.6**
	baz=216						
S50A	**Rhomond**	**39.45**	**21**	P	**P**	**17 57 05.6**	**-0.3**
	baz=207						
LVC	**Limon Verde**	**39.50**	**129**	LR	LR	18 09 32.8	
	comp=Z,451nm,20.8s,baz=310,slow=30						
T53A	**Wise**	**39.56**	**24**	P	**P**	**17 57 06.6**	**-0.3**
	baz=210						
X60A	**Albert Glenn T**	**39.67**	**31**	P	**P**	**17 57 07.1**	**-0.6**
	baz=218						
N23A	**Red Feather La**	**39.68**	**355**	P	**P**	**17 57 09.3**	**+1.3**
	baz=173						
R49A	**Shelbyville**	**39.73**	**20**	P	**P**	**17 57 07.3**	**-0.9**
	baz=206						
U55A	**TA2, Sparta**	**39.78**	**26**	P	**P**	**17 57 07.9**	**-0.9**
	baz=213						
V57A	**Coltrane Farms**	**39.84**	**28**	P	**P**	**17 57 08.4**	**-0.7**
	baz=215						
Q47A	**Bedord North L**	**39.90**	**18**	P	**P**	**17 57 09.2**	**-0.4**
	baz=204						
U56A	**King**	**39.94**	**27**	P	**P**	**17 57 09.7**	**-0.3**
	baz=214						
R50A	**Paris**	**40.01**	**21**	P	**P**	**17 57 10.1**	**-0.5**
	baz=207						
T54A	**Tazewell**	**40.02**	**25**	P	**P**	**17 57 10.3**	**-0.5**
	baz=212						
V58A	**Windy Hill, Pi**	**40.08**	**29**	P	**P**	**17 57 09.9**	**-1.2**
	baz=216						
Q48A	**North Vernon**	**40.12**	**19**	P	**P**	**17 57 10.4**	**-1.0**
	baz=205						
NV01	**Mina Array Sit**	**40.14**	**339**	*e*P	**P**	**17 57 13.4**	**+1.5**
NV01				*e*PcP	**PcP**	**17 59 17.8**	**+1.4**
DUG	**Dugway, Tooele**	**40.14**	**346**	P	**P**	**17 57 11.8**	**0.0**
	baz=162						
NVAR	**Mina Array Bea**	**40.14**	**339**	P	**P**	**17 57 13.4**	**+1.5**
	1.6nm,0.9s,baz=165,slow=7.5,SNR=6.2						
NVAR				PcP	**PcP**	**17 59 17.8**	**+1.4**
	0.6nm,0.7s,baz=159,slow=0.6,SNR=4.9						
NVAR				LR	LR	18 10 59.5	
	comp=Z,88nm,20.8s,baz=176,slow=32						
W60A	**Pink Hill**	**40.18**	**31**	P	**P**	**17 57 11.7**	**-0.2**
	baz=218						
P46A	**Rosedale**	**40.29**	**17**	P	**P**	**17 57 12.6**	**-0.2**
	baz=202						
R51A	**Hillsboro**	**40.30**	**22**	P	**P**	**17 57 13.5**	**+0.5**
	baz=208						
O44A	**Mansfield**	**40.44**	**15**	P	**P**	**17 57 14.8**	**+0.7**
	baz=200						
Q49A	**Aurora**	**40.46**	**20**	P	**P**	**17 57 14.2**	**-0.1**
	baz=206						
V59A	**Middlesex**	**40.48**	**29**	P	**P**	**17 57 13.4**	**-1.0**
	baz=217						
U57A	**Blanch**	**40.49**	**28**	P	**P**	**17 57 14.2**	**-0.4**
	baz=215						
HDIL	**Hopedale**	**40.61**	**14**	P	**P**	**17 57 15.6**	**+0.1**
	baz=199						
Q50A	**Georgetown**	**40.64**	**21**	P	**P**	**17 57 15.4**	**-0.3**
	baz=207						
W61A	**Ground Anchor**	**40.64**	**31**	P	**P**	**17 57 15.8**	**0.0**
	baz=219						
T56A	**Rocky Mt**	**40.66**	**26**	P	**P**	**17 57 15.7**	**-0.3**
	baz=214						
P48A	**Milroy**	**40.70**	**19**	P	**P**	**17 57 17.0**	**+0.8**
	baz=205						
RKT	**Rikitea**	**40.74**	**231**	*e*T	T	18 40 52.7	
	3.5nm,0.3s						
T57A	**Hurt**	**40.99**	**27**	P	**P**	**17 57 17.7**	**-0.9**
	baz=215						
T58A	**Grand View Acr**	**41.28**	**28**	P	**P**	**17 57 19.7**	**-1.4**
	baz=216						
V61A	**Roper**	**41.33**	**31**	P	**P**	**17 57 20.4**	**-1.1**
	baz=219						
N45A	**Kentland**	**41.35**	**16**	P	**P**	**17 57 21.4**	**-0.2**
	baz=201						
Q52A	**Bidwell**	**41.38**	**23**	P	**P**	**17 57 21.5**	**-0.4**
	baz=210						
P50A	**Jamestown**	**41.38**	**21**	P	**P**	**17 57 21.6**	**-0.3**
	baz=207						
PTGA	**Pitinga**	**41.40**	**93**	*e*P	**P**	**17 57 23.1**	**+0.7**
	36nm,1.1s						
PTGA	**Pitinga**	**41.40**	**93**	P	**P**	**17 57 22.3**	**-0.1**
	11nm,0.8s,baz=281,slow=9.4,SNR=13						
PTGA				LR	LR	18 13 11.9	
	comp=Z,188nm,18.4s,baz=278,slow=34						
M43A	**Waltham Townsh**	**41.53**	**14**	P	**P**	**17 57 23.1**	**+0.1**
	baz=199						
L39A	**Vinton**	**41.54**	**10**	P	**P**	**17 57 23.1**	**-0.1**
	baz=194						
L40A	**Anamosa**	**41.63**	**11**	P	**P**	**17 57 24.0**	**+0.1**
	baz=195						
M44A	**Midewin, Midew**	**41.71**	**15**	P	**P**	**17 57 24.0**	**-0.6**
	baz=200						
O49A	**Covington**	**41.71**	**20**	P	**P**	**17 57 23.1**	**-1.5**
	baz=206						
T59A	**Double "B" Far**	**41.77**	**29**	P	**P**	**17 57 23.7**	**-1.4**
	baz=217						
L41A	**Preston**	**41.79**	**12**	P	**P**	**17 57 24.6**	**-0.5**
	baz=196						
U61A	**Possum Corner**	**41.82**	**31**	P	**P**	**17 57 24.4**	**-1.0**
	baz=219						
L42A	**Oliver, Polo**	**41.90**	**13**	P	**P**	**17 57 26.2**	**+0.1**
	baz=198						
N47A	**Urbana**	**41.90**	**18**	P	**P**	**17 57 25.7**	**-0.4**
	baz=204						
O50A	**Cable**	**41.92**	**20**	P	**P**	**17 57 25.6**	**-0.7**
	baz=207						
Q54A	**Coxs Mills**	**41.96**	**24**	P	**P**	**17 57 26.2**	**-0.4**
	baz=212						
BW06	**Boulder Array**	**41.98**	**351**	P	**P**	**17 57 28.4**	**+1.4**
	baz=168						
PD31	**Pinedale Array**	**41.98**	**351**	*e*P	**P**	**17 57 27.2**	**+0.2**
	19nm,1.5s						
PD31				*e*PcP	**PcP**	**17 59 21.8**	**-0.5**
PDAR	**Pinedale Array**	**41.98**	**351**	P	**P**	**17 57 27.2**	**+0.2**
	3.0nm,0.8s,baz=156,slow=7.8,SNR=15						
PDAR				PcP	**PcP**	**17 59 21.7**	**-0.5**
	0.8nm,0.9s,baz=142,slow=4.6,SNR=3.0						
PDAR				LR	LR	18 13 21.6	
	comp=Z,299nm,21.9s,baz=186,slow=34						
P52A	**Corning**	**42.01**	**22**	P	**P**	**17 57 26.7**	**-0.4**
	baz=209						
S58A	**Poland Farm, P**	**42.05**	**28**	P	**P**	**17 57 26.9**	**-0.5**
	baz=216						
N48A	**Decatur**	**42.09**	**19**	P	**P**	**17 57 26.4**	**-1.3**
	baz=205						
K39A	**Oelwein**	**42.12**	**10**	P	**P**	**17 57 27.6**	**-0.3**
	baz=194						
K40A	**Colesburg**	**42.26**	**11**	P	**P**	**17 57 29.1**	**+0.1**
	baz=195						
L43A	**Garden Prairie**	**42.28**	**14**	P	**P**	**17 57 29.3**	**+0.1**
	baz=199						
K41A	**Shullsburg**	**42.34**	**12**	P	**P**	**17 57 29.5**	**-0.1**
	baz=196						
ECSD	**EROS Data Cent**	**42.50**	**5**	P	**P**	**17 57 30.9**	**-0.1**
	baz=187,SNR=5.9						
R58A	**Rapidan**	**42.62**	**27**	P	**P**	**17 57 31.9**	**-0.1**
	baz=216						
P54A	**Burton**	**42.63**	**24**	P	**P**	**17 57 31.9**	**-0.2**
	baz=212						
N50A	**Nevada**	**42.64**	**20**	P	**P**	**17 57 32.0**	**-0.1**
	baz=207						
JFWS	**Jewell Farm**	**42.64**	**12**	P	**P**	**17 57 32.2**	**+0.1**
	baz=196						
RSSD	**Black Hills**	**42.75**	**357**	P	**P**	**17 57 35.1**	**+1.8**
	baz=176						
O53A	**New Philadelph**	**42.90**	**23**	P	**P**	**17 57 34.7**	**+0.4**
	baz=210						
MCWV	**Mont Chateau**	**42.94**	**25**	P	**P**	**17 57 34.6**	**0.0**
	baz=212						
J40A	**Soldiers Grove**	**43.01**	**11**	P	**P**	**17 57 35.8**	**+0.7**
	baz=196						
Q57A	**Strasburg**	**43.04**	**26**	P	**P**	**17 57 35.5**	**+0.1**
	baz=215						
J42A	**Columbus**	**43.27**	**13**	P	**P**	**17 57 36.9**	**-0.3**
	baz=198						
SIV	**San Ignacio**	**43.28**	**115**	P	**P**	**17 57 38.6**	**+0.8**
	1.4nm,0.8s,baz=277,slow=10,SNR=6.1						
SIV				PcP	**PcP**	**17 59 27.2**	**+0.3**
	1.0nm,0.9s,baz=239,slow=5.9,SNR=3.4						
I39A	**Houston**	**43.30**	**10**	P	**P**	**17 57 37.2**	**-0.3**
	baz=194						
I40A	**Norwalk**	**43.51**	**11**	P	**P**	**17 57 39.0**	**-0.1**
	baz=196						
N53A	**Lisbon**	**43.52**	**23**	P	**P**	**17 57 38.5**	**-0.8**
	baz=210						
HLID	**Hailey**	**43.71**	**346**	P	**P**	**17 57 42.9**	**+1.9**
	baz=161,SNR=5.1						
K47A	**Vermontville**	**43.75**	**17**	P	**P**	**17 57 41.5**	**+0.4**
	baz=204						
H38A	**Maiden Rock**	**43.97**	**9**	P	**P**	**17 57 43.2**	**+0.3**
	baz=193						
N54A	**Moraine State**	**43.99**	**23**	P	**P**	**17 57 43.0**	**0.0**
	baz=212						
O56A	**Blue Knob Stat**	**43.99**	**25**	P	**P**	**17 57 42.8**	**-0.3**
	baz=214						
H39A	**Augusta**	**44.14**	**10**	P	**P**	**17 57 44.4**	**+0.1**
	baz=194						
N55A	**Marion Center**	**44.24**	**24**	P	**P**	**17 57 44.6**	**-0.5**
	baz=213						
RLMT	**Red Lodge**	**44.24**	**352**	P	**P**	**17 57 45.4**	**+0.1**
	baz=169						
SPMN	**Marine on St.**	**44.42**	**9**	P	**P**	**17 57 47.0**	**+0.6**
	baz=192						
M02C	**Callahan**	**44.43**	**337**	P	**P**	**17 57 46.6**	**-0.2**
	baz=149						
G38A	**Ridgeland**	**44.52**	**10**	P	**P**	**17 57 47.6**	**+0.3**
	baz=194						
SSPA	**Standing Stone**	**44.58**	**26**	*e*P	**P**	**17 57 45.1**	**-2.7**
	24nm,1.1s						
SSPA	**Standing Stone**	**44.58**	**26**	P	**P**	**17 57 47.7**	**-0.1**
	baz=214						
L04D	**Klamath Falls**	**44.93**	**338**	P	**P**	**17 57 51.4**	**+0.6**
	baz=150						
F37A	**Hinrichs Farm,**	**44.94**	**9**	P	**P**	**17 57 51.1**	**+0.6**
	baz=192						
O59A	**Robesonia**	**45.08**	**27**	P	**P**	**17 57 52.9**	**+1.1**
	baz=217						
G42A	**Mountain**	**45.26**	**13**	P	**P**	**17 57 53.5**	**+0.4**
	baz=198						
F38A	**Pierce - Schro**	**45.28**	**9**	P	**P**	**17 57 53.2**	**-0.1**
	baz=193,SNR=6.1						
CFA	**Coronel Fontan**	**45.30**	**139**	LR	LR	18 12 47.5	
	comp=Z,291nm,19.6s,baz=288,slow=31						
F39A	**Loretta**	**45.41**	**10**	P	**P**	**17 57 54.2**	**-0.1**
	baz=195						
N59A	**State Game Lan**	**45.75**	**27**	P	**P**	**17 57 55.7**	**-1.4**
	baz=217						
F42A	**Maple Grove Fa**	**45.81**	**13**	P	**P**	**17 57 57.3**	**-0.1**
	baz=198						
E39A	**Mellen**	**45.92**	**10**	P	**P**	**17 57 58.8**	**+0.5**
	baz=195						
F43A	**Flat Rock, Esc**	**46.10**	**14**	P	**P**	**17 57 59.4**	**-0.4**
	baz=200						
E40A	**Wakefield**	**46.10**	**11**	P	**P**	**17 58 00.1**	**+0.3**
	baz=196						
PAL	**Palisades**	**46.69**	**29**	P	**P**	**17 58 04.3**	**-0.2**
	baz=219						
MSO	**Missoula**	**46.71**	**348**	P	**P**	**17 58 06.3**	**+1.7**
	baz=163						
AGMN	**Agassiz Nation**	**47.10**	**5**	P	**P**	**17 58 08.3**	**+0.8**
	baz=188						
I02D	**Swisshome**	**47.13**	**338**	P	**P**	**17 58 08.8**	**+1.0**
	baz=149						
EYMN	**Ely**	**47.28**	**9**	P	**P**	**17 58 08.7**	**-0.3**
	baz=193						
I55A	**Frankford**	**47.65**	**23**	P	**P**	**17 58 11.0**	**-0.8**
	baz=

comp=Z,117nm,18.0s,baz=66,slow=30
PPT2 Papeete2 51.07 246 *e*LR LR 18 13 16.7
comp=Z,259nm,27.2s
LSQQ Lebel-sur-Quev 52.00 20 P **P 17 58 45.6 +0.7**
baz=212
MATQ Matagami 52.38 19 P **P 17 58 46.6 -1.2**
baz=210
TBI Tubuai 52.80 239 *e*LR LR 18 14 08.0
comp=Z,122nm,30.5s
BDFB Brasilia 55.27 110 P **P 17 59 09.5 -0.1**
7.6nm,1.1s,baz=300,slow=9.6,SNR=5.9
BDFB LR LR 18 21 03.9
comp=Z,484nm,20.6s,baz=278,slow=34
SCHQ Schefferville 60.36 22 LR LR 18 26 00.2
comp=Z,35nm,19.2s,baz=336,slow=36
YKA Yellowknife Ar 61.90 353 P **P 17 59 53.9 -1.0**
5.3nm,1.0s,baz=160,slow=6.4,SNR=28
YKA LR LR 18 25 36.8
comp=Z,21nm,19.5s,baz=166,slow=35
YKB5 Yellowknife Ar 61.90 353 *e*P **P 17 59 53.9 -1.0**
USHA Ushuaia 62.10 159 LR LR 18 20 30.9
comp=Z,812nm,18.4s,baz=278,slow=30
EGAK Eagle 69.60 343 *e*P **P 18 00 43.0 -1.6**
7.0nm,1.2s
EPYK Eagle Plains 69.61 346 *e*P **P 18 00 45.3 +0.7**
31nm,1.5s
EPYK Eagle Plains 69.61 346 P **P 18 00 45.2 +0.5**
baz=142,SNR=8.9
INK Inuvik 70.44 348 *e*P **P 18 00 49.7 +0.1**
17nm,1.2s
INK Inuvik 70.44 348 P **P 18 00 49.8 +0.1**
8.6nm,1.0s,baz=105,slow=5.0,SNR=18
HDA Harding Lake 71.14 341 P **P 18 00 54.6 +0.6**
baz=131
PMSA Palmer Station 71.26 164 LR LR 18 23 14.1
comp=Z,232nm,21.9s,baz=272,slow=28
ILAR Eielson Array 71.36 341 *e*P **P 18 00 55.1 -0.2**
ILAR Eielson Array 71.36 341 P **P 18 00 55.0 -0.3**
4.3nm,0.7s,baz=149,slow=5.3,SNR=24
ILAR LR LR 18 30 46.3
comp=Z,75nm,18.1s,baz=135,slow=35
ILB Eielson Array 71.36 341 *e*P **P 18 00 55.1 -0.2**
7.3nm,0.8s
PRP Porcupine Dome 71.43 342 *e*P **P 18 00 55.5 -0.4**
20nm,1.3s
PPLA Purkeypile 72.04 338 *e*P **P 18 00 59.0 -0.7**
CAST Castle Rocks 72.31 339 *e*P **P 18 01 00.7 -0.4**
26nm,1.2s
BMAR Burnt Mountain 72.47 344 *e*P **P 18 01 02.1 +0.1**
RES Resolute Bay 73.44 2 *e*P **P 18 01 06.6 -0.9**
12nm,1.4s
TOLK Toolik Lake Re 74.69 344 P **P 18 01 15.9 +0.9**
baz=129,SNR=5.4
H11S2 WAKE ISLAND Hy 91.48 288 T T 19 44 20.3
baz=85,slow=76,SNR=11
H11S1 WAKE ISLAND Hy 91.49 288 T T 19 44 18.7
baz=85,slow=76,SNR=8.1
H11S3 WAKE ISLAND Hy 91.50 288 T T 19 44 14.7
baz=85,slow=76,SNR=11
VNDA Vanda 92.70 192 LR LR 18 34 58.6
comp=Z,89nm,21.0s,baz=136,slow=29
PETK Petropavlovsk- 95.59 324 LR LR 18 37 33.5
comp=Z,56nm,20.1s,baz=82,slow=30
BR101 Keskin Array S 122.07 40 *e*PKPdf **PKPdf 18 08 30.1 -0.9**
BRTR Keskin Array B 122.07 40 PKP **PKPdf 18 08 30.1 -0.9**
0.3nm,0.7s,baz=291,slow=4.0,SNR=2.8
BOSA Boshof 122.29 123 PKP **PKiKP 18 08 32.4 +0.5**
1.4nm,0.6s,baz=271,slow=5.8,SNR=4.7
ZAA1 Zalesovo Array 124.75 356 *e*PKPdf **PKiKP 18 08 35.6 -0.2**
ZALV Zalesovo Beam 124.75 356 PKP **PKiKP 18 08 35.6 -0.2**
0.4nm,0.4s,baz=354,slow=1.4,SNR=3.3
BVAR Borovoye Array 125.47 6 PKP **PKiKP 18 08 37.0 -0.3**
0.8nm,0.6s,baz=15,slow=1.7,SNR=7.0
KURBB Kurchatov Arra 128.32 0 PKP **PKPdf 18 08 42.2 -0.2**
0.7nm,0.7s,baz=355,slow=1.7,SNR=7.4
HHC Hu-ho-hao-te 128.51 328 *e*PKP **PKPdf 18 08 43.1 -0.2**
HHC LR LR
comp=N,270nm,19.4s
HHC LR LR
comp=E,160nm,18.1s
HHC LR LR
comp=Z,220nm,19.0s
NJ2 Nanjing 129.58 315 *e*PKP **PKPdf 18 08 44.2 -1.2**
LZH Lanzhou 136.07 330 *e*PKP **PKPdf 18 08 55.0 -2.7**
LZH sPKP 18 08 59.6
LZH LR LR
comp=N,78nm,18.0s
LZH LR LR
comp=E,83nm,18.3s
CD2 Chengdu 140.10 325 PKP **PKPdf 18 09 02.2 -2.9**
CMAR Chiang Mai Arr 152.06 315 PKPbc **PKiKP 18 09 33.6 +1.2**
1.0nm,0.8s,baz=0.0,slow=1.4,SNR=5.5

*IDC **12** 17:50:32.9±1.2,26°.65N×58°.02E, h0km, mb3.7/15, mb1 3.8/17, mb1mx3.6/63, mbtmp3.7/17, ML3.8/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/47, Error ellipse: s-maj=26.0km s-min=16.1km az=157.0*
*ISCJB **12** 17:50:32.7±0.3,26°.64N±0°.02×58°.07E±0°.04, h10km, mb3.8/18, MS2.7/1, Error ellipse: s-maj=5.5km s-min=3.3km az=3.3*
*TEH **12** 17:50:33.3, 26°.60N×57°.68E, h12km, ML4.0*
*DSN **12** 17:50:33.3±2.9, 26°.59N×58°.17E, h10km, ML4.0/10, Error ellipse: s-maj=40.4km s-min=12.5km az=9.0*
*NEIC **12** 17:50:36.0±0.0,26°.49N×57°.61E, h25km, mb4.4/3, MN4.0(TEH), After TEH.*
*OMAN **12** 17:50:36.8±0.5, 26°.57N×58°.10E, h25km, ml3.8/14, Error ellipse: s-maj=8.4km s-min=4.2km az=24.0*
ISC 12 17:50:34.1±0.5, 26°.55N±0°.04×57°.93E±0°.04, h10km, n102, σ1°78/111, mb3.9/20, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.40**	**316**	*e*Pg	**Pn**	**17 50 59.4**	**-0.4**
NIAN				IAMB	IAmb	17 51 28.9	
	comp=Z,0.0nm,1.1s						
SHME	**Shamm**	**1.69**	**253**	*e*P	**Pb**	**17 51 04.9**	**-0.4**
	SNR=276						
SHME				S	**Sg**	**17 51 30.7**	**+2.4**
SHME	**Shamm**	**1.69**	**253**	*e*Pn	**Pb**	**17 51 05.1**	**-0.2**
GENO	**Geno**	**1.79**	**299**	IAMB	IAmb	17 51 35.2	
	comp=Z,0.0nm,0.4s						
GENO				*e*Pn	**Pn**	**17 51 05.7**	**+0.5**
BNDS	**Bandar-Abbas**	**1.79**	**299**	*e*Pg	**Pn**	**17 51 00.9**	**-4.3**
MDH	**Madha**	**1.93**	**230**	*e*P	**Pn**	**17 51 07.4**	**+0.4**
	SNR=120						
MDH	**Madha**	**1.93**	**230**	P	**Pn**	**17 51 06.8**	**-0.2**
	SNR=32						
MDH				S	**Sg**	**17 51 35.8**	**-0.4**
MDH	**Madha**	**1.93**	**230**	*e*Pn	**Pn**	**17 51 06.9**	**-0.1**
MSFE	**Esma-Masafi**	**1.99**	**234**	*e*P	**Pb**	**17 51 09.4**	**-1.0**
	SNR=37						
MSFE	**Esma-Masafi**	**1.99**	**234**	*e*Pn	**Pn**	**17 51 07.9**	**0.0**
UMQ	**Umm Al-Quwin**	**2.28**	**244**	*e*P	**Pb**	**17 51 14.7**	**-0.8**
	SNR=9.2						
UMQ	**Umm Al-Quwin**	**2.28**	**244**	*e*Pn	**Pb**	**17 51 15.0**	**-0.4**
HATD	**Hatta, Dubai**	**2.37**	**224**	*e*P	**Pn**	**17 51 14.2**	**+1.2**
	SNR=21						
HATD	**Hatta, Dubai**	**2.37**	**224**	P	**Pn**	**17 51 14.8**	**+1.8**
	SNR=15						
HATD	**Hatta, Dubai**	**2.37**	**224**	*e*Pn	**Pn**	**17 51 14.7**	**+1.7**
CHBR	**Chabahar**	**2.48**	**112**	*e*Pn	**Pb**	**17 51 17.8**	**-1.0**
ASHO	**Ashiyiah**	**2.51**	**223**	*e*P	**Pn**	**17 51 17.1**	**+2.0**
	SNR=25						
ASHO	**Ashiyiah**	**2.51**	**223**	P	**Pn**	**17 51 17.3**	**+2.2**
	SNR=25						
ASHO	**Ashiyiah**	**2.51**	**223**	*e*Pn	**Pn**	**17 51 15.8**	**+0.7**
NAZ	**Nazwa, Dubai**	**2.57**	**233**	*e*P	**Pb**	**17 51 19.6**	**-0.8**
	SNR=42						
NAZ	**Nazwa, Dubai**	**2.57**	**233**	P	**Pb**	**17 51 20.8**	**+0.4**
	SNR=28						
NAZ	**Nazwa, Dubai**	**2.57**	**233**	*e*Pn	**Pb**	**17 51 20.5**	**+0.1**
SOHO	**SOHO**	**2.72**	**208**	P	**Pn**	**17 51 17.5**	**-0.4**
	SNR=18						
FAQ	**Al Faqa, Dubai**	**2.77**	**230**	*e*P	**Pb**	**17 51 21.5**	**-2.4**
	SNR=9.5						
FAQ	**Al Faqa, Dubai**	**2.77**	**230**	P	**Pb**	**17 51 23.0**	**-0.8**
FAQ	**Al Faqa, Dubai**	**2.77**	**230**	*e*Pn	**Pb**	**17 51 21.3**	**-2.5**
HOQ	**Hoqain**	**3.01**	**191**	P	**Pn**	**17 51 23.4**	**+1.5**
	SNR=8.9						
HOQ				S	**Sn**	**17 51 57.9**	**-0.1**
HOQ	**Hoqain**	**3.01**	**191**	*e*Pn	**Pn**	**17 51 22.5**	**+0.6**
BIDO	**Bidbid**	**3.02**	**177**	P	**Pn**	**17 51 24.2**	**+2.2**
	SNR=7.9						
BIDO	**Bidbid**	**3.02**	**177**	*e*Pn	**Pn**	**17 51 23.8**	**+1.8**
ASUD	**Al Ashush, Dub**	**3.03**	**231**	*i* P	**Pn**	**17 51 24.9**	**+2.7**
	SNR=18						
ASUD	**Al Ashush, Dub**	**3.03**	**231**	P	**Pb**	**17 51 27.0**	**-1.2**
	SNR=20						
ASUD	**Al Ashush, Dub**	**3.03**	**231**	*e*Pn	**Pb**	**17 51 26.0**	**-2.2**
ALNE	**Al Ain**	**3.17**	**219**	*i* P	**Pn**	**17 51 24.8**	**+0.6**
	SNR=10						
ALNE	**Al Ain**	**3.17**	**219**	*e*Pn	**Pn**	**17 51 26.7**	**+2.5**
NGRK	**Negar Kerman**	**3.26**	**341**	*e*Pn	**Pn**	**17 51 27.7**	**+2.0**
NGRK				IAMB	IAmb	17 52 20.1	
	comp=Z,0.0nm,1.4s						
AJN	**Ajban**	**3.32**	**234**	*e*Pn	**Pb**	**17 51 29.8**	**-3.3**
CHMN	**Cheshme madani**	**3.32**	**354**	*e*Pn	**Pn**	**17 51 28.7**	**+2.3**
CHMN				IAMB	IAmb	17 51 40.1	
	comp=Z,0.0nm,0.6s						
WSAR	**Wadi Sarin**	**3.36**	**169**	P	**Pn**	**17 51 28.7**	**+2.0**
	SNR=6.3						
WSAR	**Wadi Sarin**	**3.36**	**169**	Pn	**Pn**	**17 51 28.6**	**+2.0**
	comp=Z,17nm,0.3s,baz=345,slow=6.0,SNR=126						
WSAR				Sn	**Sn**	**17 52 06.8**	**+0.2**
	comp=Z,30nm,0.3s,baz=114,slow=23,SNR=12						
ARQ	**Araqi**	**3.45**	**202**	P	**Pb**	**17 51 34.0**	**-1.3**
	SNR=8.6						
SMDO	**Samad**	**3.48**	**178**	P	**Pn**	**17 51 31.4**	**+2.9**
	SNR=24						
SMDO				S	**Sn**	**17 52 12.9**	**+3.1**
TVBK	**TV Kerman**	**3.58**	**343**	*e*Pn	**Pn**	**17 51 32.2**	**+2.2**
TVBK				IAMB	IAmb	17 51 45.8	
	comp=Z,0.0nm,0.6s						
SZD1	**Zahedan-tmp**	**3.91**	**41**	*e*Pn	**Pb**	**17 51 39.7**	**-3.5**
ZHSF	**Zahedan**	**3.95**	**39**	*e*Pn	**Pn**	**17 51 37.1**	**+2.1**
KHGB	**Koh Gabri**	**4.02**	**342**	*e*Pn	**Pn**	**17 51 37.8**	**+1.8**
KHGB				IAMB	IAmb	17 52 50.4	
	comp=Z,0.0nm,0.9s						
JLN	**Jalan Bani Buh**	**4.58**	**163**	P	**Pn**	**17 51 45.2**	**+1.7**
	SNR=28						
JLN				S	**Sn**	**17 52 36.6**	**-0.2**
GHIR	**Ghir-Karzin**	**4.72**	**293**	*e*Pn	**Pn**	**17 51 42.2**	**-3.4**
IMEH	**Mehriz**	**5.63**	**330**	*e*Pn	**Pn**	**17 51 59.1**	**+0.9**
IKOO	**Kooshah**	**5.93**	**9**	*e*Pn	**Pn**	**17 52 06.2**	**+4.0**
IKAZ	**Kazeroun**	**6.27**	**302**	*e*Pn	**Pn**	**17 52 06.3**	**-0.7**
ITEG	**Tejag**	**6.36**	**6**	*e*Pn	**Pn**	**17 52 12.3**	**+4.1**
IDAH	**Dahanechah**	**6.39**	**15**	*e*Pn	Pn	17 52 13.8	+5.2
ISAD	**Sadrabad**	**6.51**	**326**	*e*Pn	**Pn**	**17 52 11.2**	**+1.0**
TPRV	**Parvadeh(Tabas**	**6.55**	**351**	*e*Pn	**Pn**	**17 52 11.9**	**+1.3**
TKDS	**Koohdasht(Taba**	**7.08**	**354**	*e*Pn	**Pn**	**17 52 20.6**	**+2.7**
TABS	**Tabas**	**7.11**	**355**	*e*Pn	**Pn**	**17 52 17.9**	**-0.4**
IZEF	**Zefreh**	**7.98**	**324**	*e*Pn	**Pn**	**17 52 30.3**	**-0.2**
IPIR	**Pirpir**	**8.65**	**317**	*e*Pn	**Pn**	**17 52 41.5**	**+1.8**
KHMZ	**Khomeyn**	**9.95**	**318**	*e*Pn	**Pn**	**17 52 55.2**	**-2.1**
NIL	**Nilore**	**15.02**	**58**	*e*Pn	**Pn**	**17 54 05.1**	**-1.5**
	comp=Z,34nm,1.5s						
GNI	**Garni**	**17.45**	**324**	LR	LR	18 02 00.8	
	comp=Z,32nm,18.3s,baz=116,slow=40						
ASF	**Jabal al Asfar**	**19.16**	**292**	P	**Pn**	**17 54 58.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=48,slow=16,SNR=2.8						
EIL	**Elat**	**20.50**	**284**	P	**P**	**17 55 13.2**	**+0.8**
	comp=Z,9.6nm,0.9s,baz=12,slow=9.3,SNR=4.0						
MMAI	**Mount Meron Ar**	**20.57**	**294**	P	**P**	**17 55 13.9**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=94,slow=13,SNR=3.5						
AAK	**Ala-Archa**	**21.00**	**36**	P	**P**	**17 55 17.0**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=185,slow=10,SNR=8.6						
ABKAR	**Akbulak array**	**22.72**	**3**	*e*P	**P**	**17 55 34.7**	**-1.4**
AKTO	**Aktyubinsk**	**23.85**	**0**	P	**P**	**17 55 46.1**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=205,slow=11,SNR=5.0						
BR101	**Keskin Array S**	**24.13**	**309**	*e*P	**P**	**17 55 52.0**	**+1.7**
BR131	**Keskin Array S**	**24.13**	**309**	*e*P	**P**	**17 55 52.2**	**+1.8**
	comp=Z,3.8nm,0.8s						
BRTR	**Keskin Array B**	**24.13**	**309**	*e*P	**P**	**17 55 51.3**	**+1.0**
BRTR				P	**P**	**17 55 52.0**	**+1.7**
BRTR	**Keskin Array B**	**24.13**	**309**	P	**P**	**17 55 52.0**	**+1.7**
	comp=Z,1.8nm,0.7s,baz=122,slow=9.2,SNR=14						
BRTR				LR	LR	18 06 09.1	
	comp=Z,30nm,21.9s,baz=104,slow=39						
MK32	**Makanchi Array**	**27.91**	**37**	*e*P	**P**	**17 56 24.1**	**-0.3**
MKAR	**Makanchi Array**	**27.91**	**37**	P	**P**	**17 56 24.1**	**-0.3**
MKAR				*e*P	**P**	**17 56 26.8**	**+2.5**
MKAR	**Makanchi Array**	**27.91**	**37**	P	**P**	**17 56 24.1**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=240,slow=5.8,SNR=3.0						
BVAR	**Borovoye Array**	**28.04**	**16**	P	**P**	**17 56 24.3**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=214,slow=9.6,SNR=3.6						
KURBB	**Kurchatov Arra**	**28.74**	**28**	P	**P**	**17 56 30.9**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=230,slow=7.2,SNR=2.6						
AKASG	**Malin Array Be**	**32.57**	**325**	P	**P**	**17 57 05.1**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=132,slow=8.1,SNR=5.6						
BURAR	**Bucovina Array**	**33.15**	**318**	*e*P	**P**	**17 57 08.4**	**-2.3**
ZALV	**Zalesovo Beam**	**33.81**	**29**	*e*P	**P**	**17 57 13.9**	**-2.4**
ZALV				P	**P**	**17 57 14.4**	**-1.9**
ZALV	**Zalesovo Beam**	**33.81**	**29**	P	**P**	**17 57 14.4**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=243,slow=6.3,SNR=2.6						
ZAA1	**Zalesovo Array**	**33.82**	**29**	*e*P	**P**	**17 57 14.4**	**-1.9**
KOLS	**Kolonicke sedl**	**35.50**	**319**	*e*P	**P**	**17 57 34.7**	**+3.8**
BLY	**Banja Luka**	**37.30**	**310**	*e*P	**P**	**17 57 43.5**	**-2.8**
	comp=Z,30nm,1.9s						
VYHS	**Vyhne**	**37.40**	**316**	*e*P	**P**	**17 57 51.5**	**+4.3**
MOA	**Molln**	**40.09**	**314**	pP	**P**	**17 58 12.7**	**+2.9**
	comp=Z,2.5nm,0.9s						
GEC2	**GERESS Array S**	**40.73**	**315**	*e*P	**P**	**17 58 15.1**	**-0.1**
GERES	**GERESS Array B**	**40.73**	**315**	P	**P**	**17 58 15.1**	**-0.1**
GERES				*e*P	**P**	**17 58 15.3**	**+0.1**
GERES	**GERESS Array B**	**40.73**	**315**	P	**P**	**17 58 15.1**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=108,slow=8.6,SNR=5.1						
FIA0	**FINESS Array S**	**40.93**	**337**	*e*P	**P**	**17 58 16.6**	**+0.1**
FINES	**FINESS Array B**	**40.93**	**337**	P	**P**	**17 58 16.6**	**+0.1**
FINES				*e*P	**P**	**17 58 17.7**	**+1.2**
FINES	**FINESS Array B**	**40.93**	**337**	P	**P**	**17 58 16.6**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=140,slow=8.0,SNR=5.3						
WTTA	**Wattenberg**	**41.67**	**312**	P	**P**	**17 58 22.4**	**-0.6**
	comp=Z,3.4nm,0.7s						
WATA	**Walderalm**	**41.72**	**312**	*e*pP	**P**	**17 58 26.3**	**+2.9**
	comp=Z,5.9nm,1.1s						
SQTA	**Sankt Quirin**	**41.94**	**312**	*e*P	**P**	**17 58 24.5**	**-0.7**
	comp=Z,3.2nm,0.7s						
MOTA	**Moosalm**	**42.04**	**312**	*e*P	**P**	**17 58 24.4**	**-1.6**
	comp=Z,0.6nm,0.4s						
FETA	**Feichten**	**42.22**	**312**	P	**P**	**17 58 27.3**	**-0.2**
	comp=Z,4.4nm,1.0s						
DAVA	**Damuels**	**42.84**	**312**	P	**P**	**17 58 31.5**	**-1.0**
	comp=Z,4.5nm,0.6s						
ESDC	**Sonseca Array**	**52.53**	**301**	P	**P**	**17 59 48.6**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=72,slow=7.3,SNR=4.5						
TOA1	**Torodi Ar. Sit**	**54.17**	**267**	*e*P	**P**	**17 59 59.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**54.17**	**267**	P	**P**	**17 59 59.5**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=64,slow=7.9,SNR=11						
SEY	**Seymchan**	**68.68**	**29**	P	**P**	**18 01 37.5**	**0.0**
	comp=Z,1.9nm,0.7s,baz=304,slow=8.5,SNR=5.5						

*IDC **12** 17:54:01.6±2.3, 36°.77N×71°.82E, h0km, mb3.8/5, mb1 3.8/11, mb1mx3.5/61, mbtmp3.7/11, ML3.1/6, MS2.9/2, Ms1 2.9/2, ms1mx2.4/48, Error ellipse: s-maj=44.3km s-min=21.7km az=156.0*
*ISCJB **12** 17:54:02.2±0.5, 36°.95N±0°.07×71°.68E±0°.06, h10km, mb3.7/5, MS3.0/1, Error ellipse: s-maj=8.3km s-min=5.8km az=141.7*
*NNC **12** 17:54:10.1±5.4, 37°.36N×71°.17E, h8km±47km, mb4.0, mpv3.7, Error ellipse: s-maj=53.8km s-min=16.1km az=149.0*
ISC 12 17:54:02.6±0.7, 36°.85N±0°.07×71°.68E±0°.06, h10km, n26, σ2°88/29, mb3.7/5, 1C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.30**	**50**	Pn	**Pn**	**17 55 11.9**	**+3.7**
KSH				Sn	**Sn**	**17 55 52.9**	**-5.6**
AAK	**Ala-Archa**	**6.17**	**20**	⇓P	**Pn**	**17 55 36.9**	**+3.0**
	13nm,0.9s						
AAK				⇓S	**Sn**	**17 56 45.7**	**+1.1**
	14nm,0.8s						
AAK	**Ala-Archa**	**6.17**	**20**	Pn	**Pn**	**17 55 37.7**	**+3.7**
	0.7nm,0.3s,baz=140,slow=4.5,SNR=4.3						
AAK				LR	LR	17 58 02.8	
	comp=Z,71nm,21.7s,baz=206,slow=39						
KK31	**Karatay Array**	**6.31**	**352**	P	**Pn**	**17 55 36.3**	**+0.6**
	2.3nm,0.4s,baz=180,slow=13,SNR=29						
KK31				⇓S	**Sn**	**17 56 43.2**	**-4.6**
	5.6nm,0.5s,baz=172,slow=22,SNR=3.6						
GEYT	**Alibeck**	**10.85**	**280**	Pn	**Pn**	**17 56 39.1**	**+1.2**
	4.6nm,0.3s,baz=99,slow=9.2,SNR=8.0						
GEYT				Sn	**Sn**	**17 58 35.9**	**-3.5**
	baz=103,slow=18,SNR=1.0						
GYA0B	**ALIBECK ARRAY**	**10.85**	**280**	⇓P	**Pn**	**17 56 39.4**	**+1.4**
GYA0B				⇓S	**Sn**	**17 58 36.6**	**-2.8**
MKAR	**Makanchi Array**	**12.69**	**35**	Pn	**Pn**	**17 57 05.7**	**+2.6**
	0.1nm,0.3s,baz=218,slow=13,SNR=5.0						
PYUN	**Piuthan**	**12.92**	**129**	*e*P	Pn	17 57 10.3	+3.8
	18nm,0.7s						
PYUN				*e*S	**Sn**	**17 59 29.1**	**-1.4**
DANN	**Dangsing**	**13.24**	**126**	*e*P	**Pn**	**17 57 13.8**	**+2.9**
	5.8nm,0.4s						
KOLN	**Koldanda**	**13.54**	**129**	*e*P	P	17 57 18.8	-5.3
GKN	**Gorkha**	**14.04**	**125**	*e*P	**P**	**17 57 25.0**	**-4.7**
	7.9nm,0.4s						
KURBB	**Kurchatov Arra**	**14.62**	**18**	Pn	**Pn**	**17 57 28.3**	**-1.1**
	0.0nm,0.3s,baz=211,slow=12,SNR=4.0						
PKIN	**Phulchoki**	**14.83**	**125**	*e*P	**P**	**17 57 35.0**	**-3.5**
PKI	**Pulchoki**	**14.84**	**125**	*e*P	**P**	**17 57 35.3**	**-3.4**
	8.8nm,0.7s						
AB31	**Akbulak array**	**15.05**	**329**	P	**Pn**	**17 57 32.2**	**-3.0**
	0.6nm,0.4s,baz=146,slow=11,SNR=14						
JIRN	**Jiri**	**15.30**	**123**	*e*P	**P**	**17 57 40.7**	**-3.2**
	14nm,0.6s						
BVAR	**Borovoye Array**	**16.20**	**357**	Pn	**Pn**	**17 57 48.2**	**-1.9**
	0.1nm,0.3s,baz=182,slow=11,SNR=2.3						
AKTO	**Aktyubinsk**	**16.76**	**328**	⇑P	**Pn**	**17 57 56.9**	**-0.4**
	7.5nm,1.1s						
AKTO	**Aktyubinsk**	**16.76**	**328**	Pn	**Pn**	**17 57 56.9**	**-0.4**
	0.2nm,0.3s,baz=118,slow=8.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**19.37**	**24**	P	**P**	**17 58 27.2**	**-1.1**
	0.3nm,0.3s,baz=214,slow=10,SNR=5.4						
GNI	**Garni**	**21.31**	**287**	P	**P**	**17 58 51.4**	**+1.8**
	4.6nm,0.7s,baz=155,slow=14,SNR=2.3						
BRDH	**Bariadhala**	**22.29**	**124**	LR	LR	18 09 37.5	
	comp=Z,63nm,20.5s,baz=124,slow=42						
AKASG	**Malin Array Be**	**33.16**	**308**	P	**P**	**18 00 40.5**	**+1.5**
	0.6nm,0.7s,baz=79,slow=7.2,SNR=5.2						
INK	**Inuvik**	**73.47**	**10**	P	**P**	**18 05 36.7**	**+1.9**
	0.8nm,0.6s,baz=345,slow=6.7,SNR=4.8						
ILAR	**Eielson Array**	**74.29**	**16**	P	**P**	**18 05 40.5**	**+0.9**
	0.6nm,1.0s,baz=298,slow=3.8,SNR=3.4						
YKA	**Yellowknife Ar**	**80.87**	**3**	P	**P**	**18 06 17.5**	**+1.2**
	0.6nm,0.7s,baz=350,slow=5.4,SNR=9.6						

*IDC **12** 17:58:45.0±0.7, 5°.67N×77°.25W, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/33, mbtmp3.9/11, ML3.3/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/27, Error ellipse: s-maj=24.3km s-min=16.1km az=48.0*
*ISCJB **12** 17:58:46.8±0.4, 5°.80N±0°.03×77°.27W±0°.03, h17km, mb4.2/17, MS3.3/2, Error ellipse: s-maj=5.5km s-min=4.0km az=43.9*
*RSNC **12** 17:58:47.2±1.8, 5°.77N×77°.13W, h0km±21km, ML3.5*
*NEIC **12** 17:58:50.4±1.1, 5°.93N×77°.42W, h26km±8km, mb4.5/12, Error ellipse: s-maj=14.5km s-min=9.1km az=63.0*
ISC 12 17:58:47.8±0.5, 5°.79N±0°.04×77°.26W±0°.04, h17km, n56, σ1°71/61, mb4.3/17, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.46**	**342**	*e*P	**Pg**	**17 58 56.8**	**-0.3**
SOLC				*e*S	**Sn**	**17 59 05.9**	**-1.5**
SOLC				*i*		17 59 11.9	
	comp=Z,5μm,0.4s						
PLMC	**San Jos del P**	**1.31**	**132**	*e*P	**Pn**	**17 59 08.1**	**-3.4**
PLMC				*e*S	**Sn**	**17 59 25.5**	**-3.1**
PLMC				*i*		17 59 26.5	
	comp=Z,2μm,0.1s						
PTAC	**Punta Ardita,**	**1.46**	**338**	*e*S	**Sn**	**17 59 31.3**	**-0.7**
PTAC				*i*		17 59 34.4	
	comp=Z,1μm,0.3s						
MALC	**Bahia Malaga**	**1.76**	**182**	*e*P	**Pb**	**17 59 21.6**	**+1.9**
HELC	**Santa Helena**	**1.77**	**77**	*e*P	**Pn**	**17 59 16.8**	**-1.2**
HELC				*e*S	**Sn**	**17 59 38.3**	**-2.0**
HELC				*i*		17 59 44.6	
	comp=Z,251nm,0.5s						
YOTC	**Yotoco, Valle**	**2.01**	**153**	*e*P	**Pn**	**17 59 18.9**	**-2.2**
RREF	**El Recreo**	**2.10**	**115**	*e*P	**Pn**	**17 59 22.4**	**-0.4**
NORC	**Norcasia**	**2.39**	**95**	*e*S	**Sn**	**17 59 55.5**	**+0.2**
NORC				*i*		17 59 59.2	
	comp=Z,193nm,0.5s						
UREC	**San Jos de Ur**	**2.60**	**41**	*e*P	**Pn**	**17 59 30.1**	**+0.9**
PTBC	**PUERTO BERRIO,**	**2.89**	**75**	*e*P	**Pn**	**17 59 33.9**	**+0.8**
PTBC				*e*S	**Sn**	**18 00 09.6**	**+2.1**
ZARC	**Zaragoza, Cauc**	**2.93**	**55**	*e*P	**Pn**	**17 59 34.5**	**+0.9**
ROSC	**El Rosal**	**3.08**	**108**	*e*P	**Pb**	**17 59 41.3**	**-1.1**
ROSC	**El Rosal**	**3.08**	**108**	Pg	**Pb**	**17 59 41.0**	**-1.4**
	comp=Z,6.3nm,0.3s,baz=256,slow=22,SNR=4.5						
PRAC	**Prado**	**3.14**	**131**	*e*P	**Pn**	**17 59 37.9**	**+1.3**
MARP	**Paez Belalcaza**	**3.20**	**156**	*e*P	**Pn**	**17 59 39.4**	**+1.7**
POPC	**Popayan, Colom**	**3.28**	**170**	*e*P	**Pn**	**17 59 39.0**	**+0.3**
POPC				*i*		18 00 33.6	
	comp=Z,32nm,0.6s			

*ISCJB **12** 17:58:56.0±0.2,6˚.54S×0˚.03×128˚.11E±0˚.04, h300km, mb4.2/40, Error ellipse: s-maj=5.4km s-min=3.4km az=168.7*
*IDC **12** 17:58:59.8±1.8,6˚.58S×127˚.99E, h326km±19km, mb3.9/26, mb1 3.9/30, mb1mx3.8/55, mbtmp4.6/30, Error ellipse: s-maj=15.5km s-min=7.2km az=78.0*
*DJA **12** 17:58:59.3±0.2,7˚.S±2˚×12˚.8E±˚, h304km±3km, M4.3/21, mB4.7/10, mb4.5/21, MLv4.8/7, Mw(mB)3.9/10*
*NEIC **12** 17:58:59.2±0.4,6˚.56S×128˚.03E, h322km±5km, mb4.3/22, Error ellipse: s-maj=7.7km s-min=4.8km az=75.0*

ISC 12 17:58:57.4±0.3,6˚.57S±0˚.04×128˚.01E±0˚.05, h300km, n114, σ1§83/124, mb4.2/40, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.78	43	P	Pn	17 59 55.2	+4.1
SAUI	Saumlaki	3.55	113	ePn	Pn	18 00 02.1	+3.3
SAUI	Saumlaki	3.55	113	P	Pn	18 00 02.2	+3.3
SAUI				S	S	18 00 52.5	+4.5
SOEI	Soe	4.87	229	ePn	Pn	18 00 15.7	+2.0
SOEI	Soe	4.87	229	P	Pn	18 00 15.4	+1.8
SOEI				S	S	18 01 16.6	+1.8
SANI	Sanana	4.92	336	P	Pn	18 00 16.7	+2.5
BBSI	Bau Bau	5.51	281	P	Pn	18 00 24.8	+3.8
FAKI	Fak Fak	5.57	50	ePn	Pn	18 00 22.3	+0.6
FAKI	Fak Fak	5.57	50	P	Pn	18 00 22.5	+0.8
BATI	Baumata	5.61	230	P	Pn	18 00 23.9	+1.7
BATI				S	S	18 01 30.9	+0.4
MMRI	Maumere	6.08	250	ePn	Pn	18 00 31.9	+4.2
SWI	Sorong	6.53	30	P	Pn	18 00 33.8	+0.6
SWI				S	S	18 01 47.6	-3.0
MTN	Manton Dam	6.95	154	ePn	Pn	18 00 39.5	+1.2
TNTI	Ternate	7.32	355	ePn	Pn	18 00 44.6	+1.8
TNTI	Ternate	7.32	355	P	Pn	18 00 45.5	+2.7
	15nm,1.0s,442nm0.1nm						
LUWI	Luwuk	7.58	316	ePn	Pn	18 00 48.5	+2.5
LUWI	Luwuk	7.58	316	P	Pn	18 00 49.3	+3.3
	92nm,0.9s,1μm0.3nm						
BNSI	Bone	8.16	285	P	Pn	18 00 57.1	+4.1
	38nm,0.8s						
KMSI	Cibinong	8.16	330	P	Pn	18 00 56.1	+3.1
	134nm,0.6s,1μm						
APSI	Ampana	8.48	311	P	Pn	18 01 00.2	+3.2
	34nm,0.9s,353nm						
SPSI	Sidrap Palu	8.60	287	P	Pn	18 01 00.9	+2.4
	19nm,1.1s,308nm						
MRSI	Marisa	9.26	319	P	Pn	18 01 09.4	+2.9
	86nm,0.7s,714nm						
PLAI	Plampang	10.38	257	P	Pn	18 01 21.1	+0.7
MPSI	Mapaga	10.61	310	P	P	18 01 27.5	+1.5
	38nm,0.8s						
FITZ	Fitzroy Crossi	11.69	191	P	Pn	18 01 36.4	+0.2
	2.2nm,0.3s,baz=23,slow=8.2,SNR=32						
FITZ				S	S	18 03 48.0	+1.5
	1.1nm,0.3s,baz=111,slow=12,SNR=4.0						
GENI	Genyem	12.75	72	P	P	18 01 51.7	+1.9
	38nm,0.5s						
JAY	Jayapura	13.28	73	P	P	18 01 57.6	+1.8
	1.7nm,0.3s,baz=239,slow=8.0,SNR=12						
CTBH	Cotabato--PC H	14.21	345	⇑P	P	18 02 07.7	+1.8
MTKI	Muara Teweh, K	14.22	293	P	Pn	18 02 09.0	+2.2
WRAB	Tennant Creek	14.64	156	eP	P	18 02 11.5	+0.9
WR1	Warramunga Arr	14.64	156	eP	P	18 02 11.5	+0.8
WR1				eS	S	18 04 46.1	-5.1
WRA	Warramunga Arr	14.64	156	P	P	18 02 11.5	+0.8
	18nm,0.3s,baz=340,slow=12,SNR=302						
WRA				S	S	18 04 46.1	-5.1
	0.5nm,0.3s,baz=330,slow=21,SNR=9.4						
WB2	Warramunga Arr	14.65	156	eP	P	18 02 11.6	+0.9
COEN	Coen	16.62	117	eP	P	18 02 33.8	+1.4
	119nm,0.6s						
PSA00	Pilbara Seismi	16.87	207	eP	P	18 02 35.6	+0.6
	142nm,2.0s						
KKM	Kota Kinabalu	17.19	317	eP	P	18 02 41.6	+3.0
	11nm,1.1s						
AS31	Alice Springs	17.91	162	eP	P	18 02 47.3	+1.0
	33nm,0.5s						
ASAR	Alice Springs	17.92	162	eP	P	18 02 47.1	+0.8
ASAR	Alice Springs	17.92	162	P	P	18 02 47.4	+1.1
	17nm,0.3s,baz=345,slow=12,SNR=1714						
ASAR				S	S	18 05 51.7	-4.7
	0.4nm,0.3s,baz=344,slow=23,SNR=8.3						
ASAR				ScP	ScP	18 10 09.4	-4.2
	0.2nm,0.3s,baz=349,slow=1.8,SNR=4.7						
TGY	Tagaytay City	21.71	341	P	P	18 03 25.9	+0.9
	45nm,0.3s,baz=135,slow=14,SNR=3.5						
CTA	Charters Tower	22.23	129	P	P	18 03 31.3	+1.6
	15nm,0.7s,baz=307,slow=11,SNR=13						
CTAO	Charters Tower	22.23	129	eP	P	18 03 30.7	+1.0
	22nm,1.0s						
FORT	Forrest	24.08	180	eP	P	18 03 46.4	+0.1
	28nm,0.7s						
BBOO	Buckleboo	27.16	165	eP	P	18 04 14.2	+0.3
	118nm,1.6s						
NWAO	Narrogin (SRO)	28.07	200	P	P	18 04 21.6	-0.3
	5.0nm,0.7s,baz=42,slow=14,SNR=3.6						
STKA	Stephens Creek	28.19	155	eP	P	18 04 23.4	+0.3
	2.7nm,0.6s						
STKA	Stephens Creek	28.19	155	P	P	18 04 23.4	+0.3
	14nm,0.5s,baz=335,slow=8.9,SNR=58						
JOW	Kunigami	33.21	0	eP	P	18 05 07.0	+0.1
	14nm,0.6s						
JOW	Kunigami	33.21	0	P	P	18 05 07.0	+0.1
	2.1nm,0.6s,baz=181,slow=12,SNR=9.4						
CAN	Canberra	34.52	149	eP	P	18 05 19.4	+1.3
	14nm,0.7s						
CM31	Chiang Mai Arr	37.95	311	eP	P	18 05 47.2	+0.1
	4.7nm,1.1s						
CM31				ePcP	PcP	18 07 57.1	+0.9
CMAR	Chiang Mai Arr	37.95	311	eP	P	18 05 43.6	-3.6
CMAR	Chiang Mai Arr	37.95	311	P	P	18 05 47.2	+0.1
	0.6nm,0.5s,baz=138,slow=6.7,SNR=5.2						
CMAR				PcP	PcP	18 07 57.1	+0.9
	0.8nm,0.7s,baz=163,slow=2.4,SNR=6.1						
NJ2	Nanjing	39.39	348	eP	P	18 05 58.6	-0.2
JNU	Nakatsue	39.57	4	eP	P	18 05 59.7	-0.6
	21nm,1.3s						
JNU	Nakatsue	39.57	4	P	P	18 05 59.7	-0.6
	4.4nm,0.5s,baz=224,slow=1.4,SNR=8.7						
KSRS	Korea Array	43.80	360	P	P	18 06 34.5	+0.3
	11nm,0.6s,baz=178,slow=9.5,SNR=63						
CD2	Chengdu	43.91	329	eP	P	18 06 35.1	-0.2
MAJO	Matsushiro	43.94	12	eP	P	18 06 33.5	-2.0
	7.7nm,0.8s						
MAT	Matsushiro	43.94	12	P	P	18 06 33.6	-1.8
MJAR	Matsushiro Arr	43.94	12	P	P	18 06 33.9	-1.5
	8.0nm,0.9s,baz=195,slow=10.0,SNR=32						
MJB9	Matsu-Tunnel	43.95	12	eP	P	18 06 34.0	-1.5
	8.0nm,0.8s						
XAN	Xi'an	44.25	337	P	P	18 06 36.8	-1.1
XAN	Xi'an	44.25	337	eP	P	18 06 36.5	-1.4
	8.8nm,0.7s						
HHC	Hu-ho-hao-te	49.55	344	eP	P	18 07 20.2	+1.5
USA0B	Ussuriysk Arra	50.66	4	eP	P	18 07 26.1	-0.6
	16nm,0.8s						
USRK	Ussuriysk Ar.	50.66	4	P	P	18 07 26.6	-0.1
	7.1nm,0.4s,baz=199,slow=8.0,SNR=25						
RAMN	Ramite	52.13	312	eP	P	18 07 37.7	-0.5
	12nm,0.6s						
ASAJ	Asahikawa	52.15	13	P	P	18 07 37.3	-0.4
	1.6nm,0.3s,baz=214,slow=13,SNR=7.7						
GTA	Gaotai	52.67	333	eP	P	18 07 41.2	-0.5
GTA				pP	pP	18 07 45.7	-59
GTA				sP	pP	18 07 48.7	-56
RPZ	Rata Peaks	52.79	142	P	P	18 07 42.7	+0.2
	10nm,0.6s,baz=266,slow=3.3,SNR=7.0						
JIRN	Jiri	52.83	312	eP	P	18 07 42.1	-1.3
	13nm,0.7s						
PKI	Pulchoki	53.35	312	eP	P	18 07 46.2	-1.0
PKIN	Phulchoki	53.37	312	eP	P	18 07 46.0	-1.2
KKN	Kakani	53.57	312	eP	P	18 07 47.8	-0.8
	4.3nm,0.5s						
DMN	Daman	53.60	311	eP	P	18 07 48.3	-0.6
GKN	Gorkha	54.16	311	eP	P	18 07 51.9	-0.9
	10nm,0.3s						
URZ	Urewera	54.40	133	P	P	18 07 53.6	-0.5
	3.1nm,0.5s,baz=22,slow=19,SNR=3.9						
KOLN	Koldanda	54.82	311	eP	P	18 07 56.9	-0.6
	6.5nm,0.6s						
DANN	Dangsing	55.00	311	eP	P	18 07 58.6	-0.4
PYUN	Piuthan	55.45	311	eP	P	18 08 01.3	-0.7
	9.9nm,0.8s						
KLR	Kul'dur	55.66	3	P	P	18 08 01.7	-1.2
	1.2nm,0.5s,baz=165,slow=8.8,SNR=6.3						
ULN	Ulaanbaatar	57.27	343	eP	P	18 08 14.8	+0.4
	12nm,1.2s						
SONA0	Songino Array	57.43	343	eP	P	18 08 16.9	+1.4
SONM	Songino Array	57.43	343	P	P	18 08 16.9	+1.4
	4.4nm,0.5s,baz=161,slow=6.1,SNR=2.3						
WMQ	Urumqi	61.97	328	eP	P	18 08 46.2	-0.1
PETK	Petropavlovsk-	64.56	19	eP	P	18 09 01.6	-1.2
PETK	Petropavlovsk-	64.56	19	P	P	18 09 03.1	+0.2
	3.8nm,0.6s,baz=168,slow=2.9,SNR=13						
PEA1	Petropavlovsk-	64.56	19	eP	P	18 09 03.1	+0.2
NIL	Nilore	65.45	311	eP	P	18 09 12.5	+3.5
	36nm,1.3s						
KSH	Kashi	66.38	318	P	P	18 09 15.4	+0.5
MKAR	Makanchi Array	66.80	328	P	P	18 09 17.2	0.0
	3.2nm,0.5s,baz=118,slow=8.2,SNR=60						
MAKZ	Makanchi	66.97	328	eP	P	18 09 18.1	-0.2
	2.6nm,0.8s						
MA2	Magadan	68.38	12	P	P	18 09 26.9	+0.2
	3.4nm,0.7s,baz=184,slow=6.9,SNR=6.8						
ZALV	Zalesovo Beam	70.34	335	P	P	18 09 38.0	-0.8
	5.4nm,0.5s,baz=132,slow=5.1,SNR=22						
KURBB	Kurchatov Arra	71.12	329	P	P	18 09 43.5	-0.1
	6.1nm,0.6s,baz=128,slow=5.0,SNR=76						
KURK	Kurchatov	71.13	329	eP	P	18 09 43.5	-0.1
	7.8nm,0.9s						
KKAR	Karatay Array	71.72	319	eP	P	18 09 46.8	-0.6
SEY	Seymchan	71.77	11	P	P	18 09 47.4	+0.2
	2.2nm,0.4s,baz=236,slow=5.8,SNR=11						
VNDA	Vanda	73.11	173	eP	P	18 09 53.6	-1.3
VNDA	Vanda	73.11	173	P	P	18 09 54.2	-0.7
	0.3nm,0.4s,baz=303,slow=7.9,SNR=8.0						
MAW	Mawson	74.63	201	eP	P	18 10 03.2	-0.5
	3.9nm,1.5s						
BVAR	Borovoye Array	76.66	328	P	P	18 10 15.3	-0.2
	baz=132,slow=8.0						
BRVK	Borovoye	76.73	328	eP	P	18 10 15.5	-0.4
	3.4nm,0.8s						
TIXI	Tiksi	78.06	0	eP	P	18 10 21.9	-1.0
	4.9nm,0.8s						
TIXI	Tiksi	78.06	0	P	P	18 10 21.5	-1.3
	2.6nm,0.3s,baz=179,slow=3.3,SNR=21						
GEYT	Alibeck	78.43	311	eP	P	18 10 22.7	-2.9
NRIK	Noril'sk	80.68	347	P	P	18 10 36.3	-0.6
	2.6nm,0.5s,baz=155,slow=6.0,SNR=4.0						
AKTO	Aktyubinsk	82.53	323	P	P	18 10 46.5	-0.4
	1.4nm,0.8s,baz=75,slow=7.8,SNR=5.4						
QSPA	South Pole Qui	83.40	180	P	P	18 10 49.9	-1.4
	baz=81,slow=11						
RSO	Redoubt South	90.39	29	eP	P	18 11 24.6	-0.4
ILAR	Eielson Array	93.81	25	P	P	18 11 39.6	-0.9
	0.2nm,0.6s,baz=243,slow=5.2,SNR=4.0						
TORD	Torodi Ar. Bea	126.79	281	PKP	PKPdf	18 17 25.2	-1.3
	0.3nm,0.5s,baz=69,slow=1.6,SNR=4.2						
TOA1	Torodi Ar. Sit	126.79	281	ePKPdf	PKPdf	18 17 25.2	-1.3

*JMA **12** 18:05:23.7±0.2,28˚.88N×140˚.28E, h422km, M5.3*
*ISCJB **12** 18:05:24.0±0.4,28˚.79N±0˚.06×139˚.77E±0˚.09, h400km, mb3.6/24, Error ellipse: s-maj=11.2km s-min=6.4km az=153.2*
*IDC **12** 18:05:26.2±1.6,28˚.82N×139˚.64E, h403km±16km, mb3.3/24, mb1 3.4/28, mb1mx3.3/59, mbtmp4.1/28, Error ellipse: s-maj=14.3km s-min=10.6km az=88.0*

ISC 12 18:05:25.4±0.5,28˚.80N±0˚.08×139˚.8E±0˚.1, h400km, n37, σ1§20/43, mb3.6/24, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.73	128	P	Pn	18 06 24.7	-1.8
CBIJ				S	S	18 07 12.9	-3.0
JHH2	Haha-jima-NKT2	3.03	135	P	Pn	18 06 27.6	-1.4
JHH2				S	S	18 07 17.8	-2.5
JHJ	Hachijo jima 2	4.30	0	P	Pn	18 06 40.6	+0.3
	6.8nm,0.3s,baz=79,slow=22,SNR=5.5						
JHJ				S	S	18 07 36.8	-4.3
	17nm,0.3s,baz=256,slow=23,SNR=6.8						
BSO1	Boso 1	5.92	10	P	Pn	18 06 56.6	+0.1
BSO3	Boso 3	6.01	6	P	Pn	18 06 57.6	-0.1
JIE	Ise	6.16	336	P	Pn	18 07 01.3	+1.7
JRY	Ryogami san	7.23	354	P	Pn	18 07 10.6	-1.0
JHO	Hitachi	7.81	5	P	Pn	18 07 16.6	-1.5
MJAR	Matsushiro Arr	7.83	351	P	Pn	18 07 17.9	-0.4
	0.0nm,0.3s,baz=93,slow=13,SNR=4.2						
KSRS	Korea Array	13.15	314	P	Pn	18 08 19.0	-0.7
	0.1nm,0.3s,baz=125,slow=11,SNR=4.6						
USRK	Ussuriysk Ar.	16.58	340	P	P	18 08 55.4	+0.7
	1.4nm,0.3s,baz=148,slow=9.7,SNR=16						
KLR	Kul'dur	21.30	345	P	P	18 09 42.5	+1.0
	1.6nm,0.6s,baz=149,slow=7.5,SNR=6.1						
CMAR	Chiang Mai Arr	38.63	264	P	P	18 12 12.1	-0.4
	0.4nm,0.7s,baz=72,slow=5.8,SNR=3.9						
TIXI	Tiksi	43.31	355	P	P	18 12 49.1	-0.2
	0.5nm,0.3s,baz=196,slow=4.7,SNR=2.9						
ZALV	Zalesovo Beam	46.80	318	P	P	18 13 15.9	-0.7
	0.4nm,0.3s,baz=93,slow=10,SNR=3.9						
ZALV				PcP	PcP	18 14 42.0	-0.3
	1.1nm,0.5s,baz=109,slow=2.2,SNR=4.2						
MKAR	Makanchi Array	47.75	308	P	P	18 13 23.9	-0.1
	1.7nm,0.6s,baz=91,slow=8.6,SNR=13						
MKAR				PcP	PcP	18 14 45.9	0.0
	0.3nm,0.4s,baz=88,slow=11,SNR=4.5						
WRA	Warramunga Arr	48.74	187	P	P	18 13 32.3	+0.5
	1.7nm,0.3s,baz=7.0,slow=8.6,SNR=24						
NRIK	Noril'sk	50.29	339	P	P	18 13 42.8	+0.2
	1.9nm,0.3s,baz=84,slow=9.2,SNR=3.8						
KURBB	Kurchatov Arra	50.33	313	P	P	18 13 42.6	-0.5
	3.7nm,0.6s,baz=92,slow=8.0,SNR=54						
ASAR	Alice Springs	52.47	187	P	P	18 13 59.6	+0.4
	1.0nm,0.5s,baz=0.2,slow=6.1,SNR=36						
AAK	Ala-Archa	53.54	304	P	P	18 14 07.1	+0.2
	1.7nm,0.5s,baz=135,slow=5.3,SNR=5.4						
KDAK	Kodiak Island	54.30	38	P	P	18 14 12.9	+1.0
	9.6nm,1.0s,baz=281,slow=16,SNR=3.3						
BVAR	Borovoye Array	55.34	317	P	P	18 14 19.4	0.0
	3.0nm,0.7s,baz=96,slow=7.4,SNR=16						
BVAR				PcP	PcP	18 15 14.2	-0.1
	0.7nm,0.4s,baz=144,slow=2.7,SNR=5.3						
INK	Inuvik	62.37	25	P	P	18 15 07.3	+0.6
	0.4nm,0.3s,baz=267,slow=4.4,SNR=5.8						
AKTO	Aktyubinsk	63.32	315	P	P	18 15 13.1	-0.3
	2.1nm,0.6s,baz=74,slow=14,SNR=9.0						
ARCES	ARCESS Array B	71.23	340	P	P	18 16 02.4	+0.4
	2.3nm,0.5s,baz=68,slow=8.5,SNR=19						
YKA	Yellowknife Ar	71.65	28	P	P	18 16 05.3	+0.8
	0.2nm,0.3s,baz=307,slow=12,SNR=4.8						
KBZ	Khabaz	75.29	312	P	P	18 16 26.5	+0.7
	0.4nm,0.8s,baz=98,slow=4.5,SNR=13						
FINES	FINESS Array B	75.47	333	P	P	18 16 26.5	0.0
	1.8nm,0.4s,baz=70,slow=4.7,SNR=30						
AKASG	Malin Array Be	79.98	323	P	P	18 16 50.9	-0.4
	0.6nm,0.4s,baz=49,slow=5.6,SNR=8.1						
NVAR	Mina Array Bea	81.12	51	P	P	18 16 59.4	+1.5
	0.4nm,0.6s,baz=284,slow=6.0,SNR=4.1						
NB2	NORSAR Subarra	81.23	337	P	P	18 16 57.1	-0.6
	comp=Z,0.7nm,0.5s,baz=46,slow=5.1						
NOA	NORSAR Array B	81.23	337	P	P	18 16 57.4	-0.3
	comp=Z,0.8nm,0.5s,baz=46,slow=4.9,SNR=5.5						
BRTR	Keskin Array B	83.28	312	P	P	18 17 09.1	+0.2
	comp=Z,0.9nm,0.6s,baz=84,slow=4.0,SNR=7.1						
GERES	GERESS Array B	88.94	328	P	P	18 17 35.2	-0.7
	comp=Z,0.3nm,0.5s,baz=39,slow=5.1,SNR=4.8						
TXAR	Lajitas Array	96.26	52	P	P	18 18 11.1	+1.2
	comp=Z,0.1nm,0.5s,baz=321,slow=7.0,SNR=3.1						
TORD	Torodi Ar. Bea	121.86	310	PKP	PKPdf	18 23 33.0	-0.5
	comp=Z,0.3nm,0.5s,baz=24,slow=1.8,SNR=3.0						

IDC 12 18:06:49.0±4.8, 29˚.62S×176˚.05W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/29, mbtmp3.5/2, Error ellipse: s-maj=294.0km s-min=52.0km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.85	265	P	P	18 15 05.0	-0.3
	0.6nm,0.9s,baz=101,slow=7.5,SNR=5.9						
WRA	Warramunga Arr	45.78	270	P	P	18 15 12.3	-0.3
	0.7nm,0.8s,baz=111,slow=6.3,SNR=4.2						
FINES	FINESS Array B	144.97	342	PKP	PKPab	18 26 26.1	-0.6
	0.8nm,0.8s,baz=59,slow=4.9,SNR=4.4						
AKASG	Malin Array Be	151.67	325	PKPbc	PKiKP	18 26 45.5	+0.1
	0.3nm,0.4s,baz=47,slow=2.6,SNR=4.5						

*DSN **12** 18:11:58.6±4.3, 26˚.67N×58˚.37E, h10km, ML3.9/9, Error ellipse: s-maj=60.7km s-min=16.9km az=8.0*
*IDC **12** 18:12:01.0±1.2, 26˚.60N×58˚.09E, h0km, mb3.6/11, mb1 3.7/12, mb1mx3.5/38, mbtmp3.7/12, ML4.0/1, MS3.2/7, Ms1 3.2/7, ms1mx2.9/43, Error ellipse: s-maj=23.6km s-min=18.7km az=131.0*
*ISCJB **12** 18:12:01.5±0.2, 26˚.64N±0˚.02×58˚.07E±0˚.04, h10km, mb3.5/13, MS3.3/5, Error ellipse: s-maj=5.2km s-min=2.7km az=5.7*
*NEIC **12** 18:12:01.0±0.0, 26˚.29N×57˚.68E, h20km, mb3.7/10, MN4.1(TEH), After TEH.*
*TEH **12** 18:12:01.7, 26˚.67N×57˚.96E, h8km, ML4.2*
*OMAN **12** 18:12:04.5±2.1, 26˚.55N×57˚.98E, h11km±38km, ml3.7/13, Error ellipse: s-maj=37.8km s-min=8.4km az=23.0*

ISC 12 18:12:02.8±0.5, 26˚.65N±0˚.03×57˚.98E±0˚.04, h10km, n88, σ2§06/92, mb3.5/13, MS3.0/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.36	312	ePg	Pg	18 12 28.1	-0.8
NIAN				IAMB	IAmb	18 13 02.3	
	comp=N,0.0nm,0.4s						
SHME	Shamm	1.75	250	eP	Pb	18 12 33.7	-1.3
	SNR=57						
SHME				S	Sg	18 13 00.8	+1.7
GENO	Geno	1.77	295	ePn	Pb	18 12 34.3	-1.2
GENO				IAMB	IAmb	18 13 09.2	
	comp=Z,0.0nm,0.3s						
BNDS	Bandar-Abbas	1.77	295	ePg	Pn	18 12 29.6	-4.1
MDH	Madha	2.03	229	eP	Pn	18 12 35.3	-1.7
	SNR=49						
MDH	Madha	2.03	229	P	Pn	18 12 35.5	-1.5
	SNR=49						
MSFE	Esma-Masafi	2.08	232	eP	Pn	18 12 36.2	-1.6
	SNR=8.2						
MSFE	Esma-Masafi	2.08	232	ePn	Sn	18 12 57.6	-6.2
UMQ	Umm Al-Quwin	2.37	242	ePn	Pb	18 12 44.7	-0.8
HATD	Hatta, Dubai	2.47	223	P	Pn	18 12 41.4	-1.7
HATD	Hatta, Dubai	2.47	223	P	Pn	18 12 41.3	-1.7
HATD	Hatta, Dubai	2.47	223	ePn	Pn	18 12 41.3	-1.7
CHBR	Chabahar	2.49	115	ePn	Pb	18 12 45.1	-2.4
ASHO	Ashiyiah	2.62	222	eP	Pn	18 12 44.0	-1.1
	SNR=18						
ASHO	Ashiyiah	2.62	222	P	Pn	18 12 44.0	-1.1
	SNR=17						
ASHO				S	Sb	18 13 21.1	-1.0
ASHO	Ashiyiah	2.62	222	ePn	Pn	18 12 44.0	-1.1
NAZ	Nazwa, Dubai	2.67	232	eP	Pn	18 12 46.8	+1.0
	SNR=27						
NAZ	Nazwa, Dubai	2.67	232	ePn	Pb	18 12 48.1	-2.5
SOHO	SOHO	2.83	208	P	Pn	18 12 46.3	-1.7
	SNR=72						
SOHO				S	Sn	18 13 19.0	-3.2
FAQ	Al Faqa, Dubai	2.87	229	i P	Pn	18 12 50.3	+1.7
	SNR=38						
FAQ	Al Faqa, Dubai	2.87	229	ePn	Pn	18 12 49.9	+1.3
HOQ	Hoqain	3.12	191	P	Pn	18 12 51.3	-0.7
	SNR=13						
HOQ				S	Sn	18 13 26.9	-2.4
HOQ	Hoqain	3.12	191	ePn	Pn	18 12 51.3	-0.7
BIDO	Bidbid	3.12	177	P	Pn	18 12 51.3	-0.7
BIDO				S	Sn	18 13 29.4	-0.1
BIDO	Bidbid	3.12	177	ePn	Pn	18 12 51.4	-0.7
ASUD	Al Ashush, Dub	3.13	230	i P	Pn	18 12 53.9	+1.8
	SNR=30						
ASUD	Al Ashush, Dub	3.13	230	P	Pb	18 12 54.3	-4.2
	SNR=30						
ASUD	Al Ashush, Dub	3.13	230	ePn	Pb	18 12 54.6	-3.9
NGRK	Negar Kerman	3.18	340	ePn	Pn	18 12 54.5	+1.3
NGRK				IAMB	IAmb	18 13 49.6	
	comp=Z,0.0nm,0.6s						
CHMN	Cheshme madani	3.22	353	ePn	Pb	18 12 56.5	-3.8
CHMN				IAMB	IAmb	18 13 54.0	
	comp=E,0.0nm,0.6s						
ALNE	Al Ain	3.28	218	i P	Pn	18 12 54.5	+0.3
	SNR=14						
ALNE	Al Ain	3.28	218	ePn	Pn	18 12 56.0	+1.8
WSAR	Wadi Sarin	3.45	170	P	Pn	18 12 56.9	+0.3
WSAR	Wadi Sarin	3.45	170	Pn	Pn	18 12 57.0	+0.3
	comp=E,16nm,0.3s,baz=338,slow=6.4,SNR=260						
WSAR				Sn	Sn	18 13 36.5	-1.1
	comp=E,50nm,0.3s,baz=100,slow=18,SNR=15						
TVBK	TV Kerman	3.49	342	ePn	Pb	18 13 00.1	-4.8
TVBK				IAMB	IAmb	18 13 59.6	
	comp=Z,0.0nm,0.4s						
SMDO	Samad	3.58	179	P	Pn	18 12 59.4	+0.9
	SNR=9.9						
SMDO				S	Sn	18 13 41.7	+0.8
SZD1	Zahaedan-tmp	3.81	41	ePn	Pn	18 13 03.5	+1.9
ZHSF	Zahedan	3.84	39	ePn	Pn	18 13 04.4	+2.2
KHGB	Koh Gabri	3.94	341	ePn	Pn	18 13 05.3	+1.8
KHGB				IAMB	IAmb	18 14 14.1	
	comp=Z,0.0nm,0.8

comp=Z,0.2nm,0.5s,baz=156,slow=8.0,SNR=3.0
FIA0 FINESS Array S 40.85 337 *eP* **P 18 19 45.5 +1.0**
FINES FINESS Array B 40.85 337 P **P 18 19 45.5 +1.0**
comp=Z,0.6nm,0.6s,baz=132,slow=9.0,SNR=7.4
SONM Songino Array 43.12 47 *eP* **P 18 20 06.0 +2.6**
ARE0 ARCESS Array S 46.90 345 *eP* **P 18 20 33.1 0.0**
comp=Z,0.4nm,1.1s
TOA0 Torodi Ar. Sit 54.21 267 *eP* **P 18 21 30.7 +1.7**
comp=Z,2.5nm,0.9s
TOA1 Torodi Ar. Sit 54.21 267 *eP* **P 18 21 27.6 -1.4**
TORD Torodi Ar. Bea 54.21 267 *eP* P 18 21 24.1 -4.9
TORD Torodi Ar. Bea 54.21 267 P **P 18 21 27.6 -1.4**
comp=Z,0.8nm,0.7s,baz=67,slow=7.6,SNR=5.5
TORD LR LR 18 46 44.7
comp=Z,91nm,18.9s,baz=275,slow=38
KSRS Korea Array 59.04 61 LR LR 18 48 50.4
comp=Z,83nm,20.2s,baz=82,slow=38

*ISCJB **12** 18:22:09.0±0.5, 24°.86N×0°.02×122°.73E±0°.02, h118km±3km, Error ellipse: s-maj=4.0km s-min=2.8km az=175.7*
*JMA **12** 18:22:09.1±0.1, 24°.89N×122°.76E, h121km±2km, M1.7*
*TAP **12** 18:22:09.1, 24°.86N×122°.76E, h119km, ML2.8, B*
ISC 12 18:22:08.8±1.4**, 24°.88N**±0°.04×**122°.74E**±0°.03**, h122**km±8km**, n76**, σ0^{s}**63**/148**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.47**	**157**	P	**Pn**	**18 22 27.1**	**+0.3**
JYNG				S	**Sn**	**18 22 40.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.49**	**150**	P	**Pn**	**18 22 26.6**	**-0.2**
baz=150							
YOJ				*eS*	**Sn**	**18 22 40.0**	**-0.5**
baz=150							
EOS1	**EOS1**	**0.65**	**239**	*eP*	**Pn**	**18 22 27.9**	**0.0**
baz=242							
EOS1				*eS*	**Sn**	**18 22 43.6**	**+1.3**
baz=242							
TWB1	**Santiao Chiao**	**0.69**	**280**	*eP*	**Pn**	**18 22 28.2**	**-0.1**
baz=282							
TWB1				*eS*	**Sn**	**18 22 41.8**	**-1.2**
baz=282							
EGS		**0.73**	**267**	*eP*	**Pn**	**18 22 28.3**	**-0.3**
baz=268							
EGS				*eS*	**Sn**	**18 22 42.9**	**-0.6**
baz=268							
TIPB	**Shuangxi**	**0.83**	**276**	*eP*	**Pn**	**18 22 29.5**	**0.0**
baz=277							
TIPB				*eS*	**Sn**	**18 22 44.6**	**-0.5**
baz=277							
TWC	**Suao**	**0.85**	**252**	*eP*	**Pn**	**18 22 29.5**	**-0.1**
baz=253							
TWC				*eS*	**Sn**	**18 22 44.8**	**-0.6**
baz=253							
ILA	**Ilan**	**0.91**	**263**	*eP*	**Pn**	**18 22 30.3**	**+0.2**
baz=264							
ILA				*eS*	**Sn**	**18 22 45.8**	**-0.4**
baz=264							
PCYT	**Pengchaiyu**	**0.96**	**321**	*eP*	**Pn**	**18 22 30.7**	**+0.1**
baz=321							
PCYT				*eS*	**Sn**	**18 22 46.2**	**-0.9**
baz=321							
TWE	**Neicheng**	**0.99**	**261**	*eP*	**Pn**	**18 22 31.0**	**+0.2**
baz=262							
TWE				*eS*	**Sn**	**18 22 48.3**	**+0.7**
baz=262							
ENA	**Nanau**	**1.02**	**244**	*eP*	**Pn**	**18 22 31.4**	**+0.2**
baz=245							
ENA				*eS*	**Sn**	**18 22 49.0**	**+0.9**
baz=245							
IRIF	**Iriomote-Funau**	**1.05**	**121**	P	**Pn**	**18 22 31.5**	**0.0**
IRIF				*eS*	**Sn**	**18 22 48.8**	**+0.1**
YM07	**YM07**	**1.06**	**286**	*eP*	**Pn**	**18 22 31.6**	**+0.1**
baz=287							
YM07				*eS*	**Sn**	**18 22 48.5**	**-0.3**
baz=287							
YM01	**YM01**	**1.09**	**284**	*eP*	**Pn**	**18 22 32.4**	**+0.5**
baz=284							
YM01				*eS*	**Sn**	**18 22 49.5**	**0.0**
baz=284							
ENTT	**Nioudou**	**1.09**	**257**	*eP*	**Pn**	**18 22 32.7**	**+0.8**
baz=258							
ENTT				*eS*	**Sn**	**18 22 50.2**	**+0.7**
baz=258							
YM11	**YM11**	**1.09**	**285**	*eP*	**Pn**	**18 22 32.0**	**0.0**
baz=285							
YM11				*eS*	**Sn**	**18 22 48.9**	**-0.7**
baz=285							
YM10	**YM10**	**1.10**	**284**	*eP*	**Pn**	**18 22 32.8**	**+0.7**
baz=285							
YM10				*eS*	**Sn**	**18 22 50.1**	**+0.4**
baz=285							
NHDH	**Xindian Distri**	**1.11**	**274**	*eP*	**Pn**	**18 22 32.2**	**+0.2**
baz=275							
NHDH				*eS*	**Sn**	**18 22 49.2**	**-0.4**
baz=275							
YM04	**YM04**	**1.12**	**284**	*eP*	**Pn**	**18 22 32.2**	**0.0**
baz=284							
YM04				*eS*	**Sn**	**18 22 49.9**	**-0.2**
baz=284							
NWLT	**Wulai**	**1.13**	**265**	*eP*	**Pn**	**18 22 32.6**	**+0.3**
baz=266							
NWLT				*eS*	**Sn**	**18 22 49.6**	**-0.5**
baz=266							
ANP	**Anpu**	**1.15**	**285**	*eP*	**Pn**	**18 22 32.6**	**0.0**
baz=286							
ANP				*eS*	**Sn**	**18 22 49.7**	**-0.9**
baz=286							
NDT	**Datong Townshi**	**1.15**	**256**	*eP*	**Pn**	**18 22 33.5**	**+1.0**
baz=257							
NDT				*eS*	**Sn**	**18 22 51.6**	**+1.1**
baz=257							
NTST	**Danshui**	**1.20**	**284**	*eP*	**Pn**	**18 22 33.1**	**0.0**
baz=284							
NTST				*eS*	**Sn**	**18 22 51.0**	**-0.5**
baz=284							
TWS1	**Kuangyinshan**	**1.22**	**280**	*eP*	**Pn**	**18 22 33.2**	**0.0**
baz=281							
TWS1				*eS*	**Sn**	**18 22 51.2**	**-0.5**
baz=281							
YHNB	**Yeheng**	**1.26**	**261**	*eP*	**Pn**	**18 22 34.2**	**+0.4**
baz=261							
YHNB				*eS*	**Sn**	**18 22 52.6**	**-0.1**
baz=261							
NACB	**Ninganchiao**	**1.26**	**236**	*eP*	**Pn**	**18 22 34.1**	**+0.4**
baz=237							
NACB				*eS*	**Sn**	**18 22 51.9**	**-0.7**
baz=237							
HATJ	**Hateruma jima**	**1.27**	**130**	P	**Pn**	**18 22 34.2**	**+0.4**
HATJ				S	**Sn**	**18 22 53.8**	**+1.1**
NSK	**Sanguang**	**1.27**	**261**	*eP*	**Pn**	**18 22 33.2**	**-0.6**
baz=261							
NSK				*eS*	**Sn**	**18 22 53.0**	**+0.1**
baz=261							
TWD	**Chiawan**	**1.31**	**233**	*eP*	**Pn**	**18 22 34.5**	**+0.3**
baz=233							
TWD				*eS*	**Sn**	**18 22 53.4**	**-0.2**
baz=233							
NNS	**Nan Shan**	**1.32**	**251**	P	**Pn**	**18 22 34.8**	**+0.4**
baz=251							
NNS				*eS*	**Sn**	**18 22 54.2**	**+0.2**
baz=251							
JKRS	**Kuro-shima**	**1.32**	**119**	P	**Pn**	**18 22 34.9**	**+0.6**
JKRS				S	**Sn**	**18 22 54.3**	**+0.6**
WLTB	**Daxi**	**1.35**	**269**	*eP*	**Pn**	**18 22 34.8**	**+0.2**
baz=269							
WLTB				*eS*	**Sn**	**18 22 53.9**	**-0.4**
baz=269							
HWA	**Hwalien**	**1.37**	**229**	*eP*	**Pn**	**18 22 35.2**	**+0.3**
baz=230							
HWA				*eS*	**Sn**	**18 22 54.3**	**-0.4**
baz=230							
JIJ	**Ishigaki jima**	**1.38**	**112**	P	**Pn**	**18 22 35.2**	**+0.3**
JIJ				S	**Sn**	**18 22 54.0**	**-0.8**
ENLB	**Shoufeng**	**1.43**	**227**	*eP*	**Pn**	**18 22 35.9**	**+0.4**
baz=228							
ENLB				*eS*	**Sn**	**18 22 55.2**	**-0.6**
baz=228							
JISG	**Ishigakijimahi**	**1.46**	**101**	P	**Pn**	**18 22 36.1**	**+0.3**
JISG				S	**Sn**	**18 22 56.0**	**-0.4**
WHF	**Hehuan Shan**	**1.53**	**242**	*eP*	**Pn**	**18 22 37.5**	**+0.3**
baz=242							
WHF				*eS*	**Sn**	**18 22 58.4**	**-0.3**
baz=242							
TWT	**Tachien**	**1.56**	**247**	*eP*	**Pn**	**18 22 37.5**	**+0.4**
baz=247							
TWT				*eS*	**Sn**	**18 22 59.0**	**+0.2**
baz=247							
LIOB	**Emei**	**1.59**	**262**	P	**Pn**	**18 22 38.0**	**+0.6**
baz=262							
LIOB				*eS*	**Sn**	**18 22 59.2**	**+0.1**
baz=262							
ESL	**Shilin**	**1.60**	**229**	*eP*	**Pn**	**18 22 38.1**	**+0.6**
baz=229							
ESL				*eS*	**Sn**	**18 22 58.2**	**-1.1**
baz=229							
NSTT	**Nanjuang**	**1.60**	**261**	*eP*	**Pn**	**18 22 37.8**	**+0.3**
baz=261							
NSTT				*eS*	**Sn**	**18 22 59.4**	**0.0**
baz=261							
CHGB	**Renai**	**1.65**	**240**	*eP*	**Pn**	**18 22 39.0**	**+0.7**
baz=241							
CHGB				*eS*	**Sn**	**18 23 00.8**	**+0.1**
baz=241							
OWD	**Renai**	**1.70**	**237**	*eP*	**Pn**	**18 22 39.5**	**+0.6**
baz=238							
OWD				*eS*	**Sn**	**18 23 00.6**	**-1.1**
baz=238							
EGFH	**Guangfu**	**1.70**	**225**	*eP*	**Pn**	**18 22 39.5**	**+0.7**
baz=225							
EGFH				*eS*	**Sn**	**18 23 01.2**	**-0.4**
baz=225							
WHP	**Taichung City**	**1.74**	**250**	*eP*	**Pn**	**18 22 39.8**	**+0.5**
baz=250							
WHP				*eS*	**Sn**	**18 23 02.4**	**-0.1**
baz=250							
JTJ	**Tarama**	**1.80**	**97**	P	**Pn**	**18 22 40.4**	**+0.5**
JTJ				S	**Sn**	**18 23 03.5**	**-0.1**
NMLH	**Miaoli**	**1.81**	**259**	*eP*	**Pn**	**18 22 40.6**	**+0.6**
baz=259							
NMLH				*eS*	**Sn**	**18 23 03.7**	**-0.1**
baz=259							
HGSD	**Ruisui**	**1.83**	**221**	*eP*	**Pn**	**18 22 40.9**	**+0.6**
baz=221							
HGSD				*eS*	**Sn**	**18 23 04.2**	**-0.2**
baz=221							
VWDT	**VWDT**	**1.84**	**233**	*eP*	**Pn**	**18 22 41.2**	**+0.8**
baz=233							
VWDT				*eS*	**Sn**	**18 23 04.7**	**+0.1**
baz=233							
DPDB	**Guoxing**	**1.86**	**243**	*eP*	**Pn**	**18 22 41.7**	**+1.1**
baz=243							
DPDB				*eS*	**Sn**	**18 23 05.1**	**+0.1**
baz=243							
EHY	**Hungye**	**1.89**	**224**	*eP*	**Pn**	**18 22 41.5**	**+0.6**
baz=224							
EHY				*eS*	**Sn**	**18 23 04.3**	**-1.2**
baz=224							
SMLT	**Sun Moon Lake**	**1.95**	**240**	*eP*	**Pn**	**18 22 42.6**	**+0.7**
baz=240							
SMLT				*eS*	**Sn**	**18 23 07.1**	**0.0**
baz=240							
SSLB	**Suanglung**	**1.96**	**237**	*eP*	**Pn**	**18 22 42.5**	**+0.6**
baz=237							
SSLB				*eS*	**Sn**	**18 23 07.3**	**+0.1**
baz=237							
TYC	**Yuchr**	**1.98**	**241**	*eP*	**Pn**	**18 22 42.7**	**+0.6**
baz=241							
TYC				*eS*	**Sn**	**18 23 07.5**	**+0.1**
baz=241							
WDJ	**Dajia District**	**1.98**	**255**	*eP*	**Pn**	**18 22 42.5**	**+0.3**
baz=255							
WDJ				*eS*	**Sn**	**18 23 07.2**	**-0.4**
baz=255							
YULB	**Yu-li**	**1.98**	**222**	*eP*	**Pn**	**18 22 41.7**	**-0.5**
baz=222							
YULB				*eS*	**Sn**	**18 23 05.8**	**-1.9**
baz=222							
TWF1	**Yuli**	**2.02**	**221**	*eP*	**Pn**	**18 22 42.9**	**+0.3**
baz=221							
TWF1				*eS*	**Sn**	**18 23 07.0**	**-1.3**
baz=221							
WHYT	**Xinyi Township**	**2.09**	**236**	*eP*	**Pn**	**18 22 44.7**	**+1.2**
baz=236							
WHYT				*eS*	**Sn**	**18 23 10.1**	**0.0**
baz=236							
WJS	**Zhushan**	**2.12**	**240**	*eP*	**Pn**	**18 22 44.4**	**+0.6**
baz=240							
WJS				*eS*	**Sn**	**18 23 10.2**	**-0.5**
baz=240							
WNT	**Mingjian**	**2.13**	**242**	*eP*	**Pn**	**18 22 44.6**	**+0.7**
baz=242							
WNT				*eS*	**Sn**	**18 23 10.8**	**0.0**
baz=242							
CHKT	**Chengkung**	**2.18**	**216**	*eP*	**Pn**	**18 22 43.9**	**-0.6**
baz=215							
CHKT				*eS*	**Sn**	**18 23 10.4**	**-1.6**
baz=215							
CHN5	**Tsauling**	**2.28**	**236**	*eP*	**Pn**	**18 22 46.6**	**+0.7**
baz=236							
CHN5				*eS*	**Sn**	**18 23 13.9**	**-0.4**
baz=236							
JMJ	**Miyako jima 2**	**2.32**	**91**	*eP*	**Pn**	**18 22 45.7**	**-0.7**
baz=90							
WDLH	**Douliu**	**2.33**	**240**	*eP*	**Pn**	**18 22 47.1**	**+0.6**
baz=240							
WDLH				*eS*	**Sn**	**18 23 15.2**	**-0.3**
baz=240							
RLNB	**Erlin**	**2.38**	**246**	*eS*	**Sn**	**18 23 16.2**	**-0.4**
baz=246							
CHN4	**Tsaushan**	**2.49**	**233**	*eP*	**Pn**	**18 22 49.4**	**+0.9**
baz=232							
CHN4				*eS*	**Sn**	**18 23 19.4**	**+0.4**
baz=232							
WTP	**Ta-pu**	**2.54**	**230**	*eP*	**Pn**	**18 22 49.9**	**+0.7**
baz=230							
WTP				*eS*	**Sn**	**18 23 19.7**	**-0.5**
baz=230							
TWK	**Hsinying**	**2.61**	**232**	*eP*	**Pn**	**18 22 51.3**	**+1.1**
baz=232							
TWK				*eS*	**Sn**	**18 23 22.7**	**+0.7**
baz=232							
CHN1	**Nanshi**	**2.64**	**231**	*eS*	**Sn**	**18 23 22.8**	**+0.3**
baz=230							
SLGT	**Liugui**	**2.69**	**226**	*eP*	**Pn**	**18 22 51.5**	**+0.4**
baz=226							
SLGT				*eS*	**Sn**	**18 23 23.0**	**-0.6**
baz=226							
ECL	**Taimali**	**2.80**	**216**	*eP*	**Pn**	**18 22 53.7**	**+1.1**
baz=216							
ECL				*eS*	**Sn**	**18 23 25.4**	**-0.9**
baz=216							
MASBT	**Mashibuluo**	**2.97**	**221**	*eP*	**Pn**	**18 22 55.1**	**+0.3**
baz=221							
MASBT				*eS*	**Sn**	**18 23 29.8**	**-0.5**
baz=221							
EAST	**Anshuo**	**3.03**	**215**	*eP*	**Pn**	**18 22 55.6**	**0.0**
baz=215							
EAST				*eS*	**Sn**	**18 23 30.6**	**-1.2**
baz=215							
XPSS	**Dashiqiu**	**3.07**	**312**	*eP*	**Pn**	**18 22 57.5**	**+1.5**
baz=311							
XPSS				*eS*	**Sn**	**18 23 31.5**	**-1.0**
baz=311							
VCHM	**Qimei**	**3.46**	**242**	*eP*	**Pn**	**18 23 01.3**	**+0.2**
baz=241							
VCHM				*eS*	**Sn**	**18 23 40.6**	**-1.0**
baz=241							
AXDP	**Jialang**	**4.33**	**271**	*eP*	**Pn**	**18 23 12.5**	**-0.3**
baz=270							

*IDC **12** 18:25:12.0±1.5, 6°.27S×104°.49E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/33, mbtmp3.8/8, Error ellipse: s-maj=63.1km s-min=17.7km az=51.0*
*NEIC **12** 18:25:21.1±1.0, 6°.08S×104°.73E, h68km±8km, mb4.1/10, Error ellipse: s-maj=20.0km s-min=6.0km az=225.0*
ISC 12 18:25:19.0±1.0**, 6°.3S**±0°.2×**104°.6E**±0°.2**, h49**km**, n35, σ1^{s}12**/29**, mb4.0**/15**, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.48**	**319**	*e*Pn	**Pn**	**18 25 58.7**	**+1.8**
CISI	**Cisompet, Garu**	**3.47**	**112**	*e*Pn	**Pn**	**18 26 11.1**	**+0.5**
JAGI	**Jajag, Banyuwa**	**9.75**	**104**	*e*Pn	**Pn**	**18 27 38.6**	**+1.9**
SOEI	**Soe**	**19.81**	**101**	*eP*	**P**	**18 29 46.6**	**+0.8**
25nm,1.1s							
FITZ	**Fitzroy Crossi**	**23.68**	**122**	P	**P**	**18 30 25.9**	**-0.6**
4.2nm,1.1s,baz=282,slow=14,SNR=3.5							
H01W3	**Cape Leeuwin H**	**29.83**	**164**	T	T	19 02 35.9	
baz=340							
H01W1	**Cape Leeuwin H**	**29.84**	**164**	T	T	19 02 39.0	
baz=340							
H01W2	**Cape Leeuwin H**	**29.84**	**164**	T	T	19 02 40.1	
baz=340,SNR=2.2							
H08S2	**Diego Garcia H**	**31.87**	**266**	T	T	19 05 18.9	
baz=89,slow=76,SNR=14							
H08S3	**Diego Garcia H**	**31.88**	**266**	T	T	19 05 19.9	
baz=89,slow=76,SNR=15							
H08S1	**Diego Carcia H**	**31.89**	**266**	T	T	19 05 20.3	
baz=89,slow=76,SNR=9.3							
WRA	**Warramunga Arr**	**31.95**	**118**	P	**P**	**18 31 40.6**	**+0.2**
0.3nm,0.3s,baz=306,slow=9.0,SNR=6.9							
WR1	**Warramunga Arr**	**31.95**	**118**	*eP*	**P**	**18 31 40.6**	**+0.2**
WRAB	**Tennant Creek**	**31.95**	**118**	*eP*	**P**	**18 31 40.5**	**0.0**
14nm,0.6s							
WB2	**Warramunga Arr**	**31.96**	**118**	*eP*	**P**	**18 31 41.2**	**+0.7**
6.7nm,1.5s							
AS31	**Alice Springs**	**33.09**	**125**	*eP*	**P**	**18 31 49.8**	**-0.7**
0.6nm,0.9s							
ASAR	**Alice Springs**	**33.09**	**125**	*eP*	**P**	**18 31 48.2**	**-2.3**
ASAR	**Alice Springs**	**33.09**	**125**	P	**P**	**18 31 49.8**	**-0.6**
0.2nm,0.8s,baz=308,slow=8.1,SNR=8.1							
STKA	**Stephens Creek**	**42.93**	**131**	*eP*	**P**	**18 33 13.9**	**+0.7**
3.5nm,1.5s							
STKA	**Stephens Creek**	**42.93**	**131**	P	**P**	**18 33 13.9**	**+0.7**
1.2nm,0.5s,baz=312,slow=12,SNR=4.0							
MAJO	**Matsushiro**	**52.96**	**34**	*eP*	**P**	**18 34 28.2**	**-2.5**
2.2nm,1.4s							
MJB9	**Matsu-Tunnel**	**52.96**	**34**	*eP*	**P**	**18 34 28.3**	**-2.4**
2.3nm,1.4s							
USRK	**Ussuriysk Ar.**	**55.98**	**24**	P	**P**	**18 34 52.8**	**+0.4**
1.1nm,0.5s,baz=205,slow=5.9,SNR=4.7							
MK31	**Makanchi Array**	**56.40**	**342**	*eP*	**P**	**18 34 55.1**	**-0.4**
2.7nm,1.3s							
MK32	**Makanchi Array**	**56.40**	**342**	*eP*	**P**	**18 34 55.0**	**-0.5**
MKAR	**Makanchi Array**	**56.40**	**342**	*eP*	**P**	**18 34 54.7**	**-0.7**
MKAR	**Makanchi Array**	**56.40**	**342**	P	**P**	**18 34 55.0**	**-0.5**
0.4nm,0.5s,baz=152,slow=7.9,SNR=7.8							
ZAA0	**Zalesovo Array**	**62.24**	**347**	*eP*	**P**	**18 35 33.7**	**-1.8**
3.0nm,1.2s							
ZALV	**Zalesovo Beam**	**62.24**	**347**	*eP*	**P**	**18 35 35.0**	**-0.5**
ZALV	**Zalesovo Beam**	**62.24**	**347**	P	**P**	**18 35 35.2**	**-0.4**
1.8nm,0.3s,baz=151,slow=6.0,SNR=8.5							
ZAA1	**Zalesovo Array**	**62.24**	**347**	*eP*	**P**	**18 35 35.2**	**-0.4**
ABKAR	**Akbulak array**	**67.56**	**330**	*eP*	**P**	**18 36 10.2**	**-0.1**
BR101	**Keskin Array S**	**79.54**	**312**	*eP*	**P**	**18 37 21.1**	**+0.1**
BRTR	**Keskin Array B**	**79.54**	**312**	*eP*	**P**	**18 37 21.4**	**+0.4**
BRTR	**Keskin Array B**	**79.54**	**312**	P	**P**	**18 37 21.1**	**+0.1**
0.4nm,0.5s,baz=134,slow=8.8,SNR=3.5							

*IDC **12** 18:33:25.9±1.3, 5°.85N×77°.48W, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/30, mbtmp3.5/3, ML1.9/2, Error ellipse: s-maj=43.5km s-min=31.5km az=9.0*
*ISCJB **12** 18:33:27.4±1.0, 5°.70N±0°.05×77°.24W±0°.07, h23km±10km, mb3.6/1, Error ellipse: s-maj=11.6km s-min=7.1km az=155.2*
*RSNC **12** 18:33:27.1±0.9, 5°.71N×77°.14W, h0km±8km, ML2.7*
ISC 12 18:33:26.3±1.4**, 5°.66N**±0°.05×**77°.20W**±0°.06**, h6**km±10km**, n10, σ1^{s}33**/16**, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.60**	**340**	*eP*	**Pg**	**18 33 37.5**	**-0.4**
SOLC				*eS*	**Sg**	**18 33 47.0**	**+1.2**
SOLC				*i*		18 33 50.2	
comp=Z,542nm,0.3s							
PLMC	**San Jos del P**	**1.18**	**129**	*eP*	**Pg**	**18 33 48.5**	**-0.5**
PLMC				*eS*	**Sg**	**18 34 04.5**	**+0.1**
PLMC				*i*		18 34 06.4	
comp=Z,328nm,0.1s							
HELC	**Santa Helena**	**1.74**	**72**	*eP*	**Pn**	**18 33 56.2**	**-1.3**
HELC				*eS*	**Sn**	**18 34 19.6**	**-0.6**
HELC				*i*		18 34 21.8	
comp=Z,40nm,0.7s							
YOTC	**Yotoco, Valle**	**1.87**	**153**	*eP*	**Pn**	**18 33 58.9**	**0.0**
YOTC				*eS*	**Sn**	**18 34 25.3**	**+2.3**
YOTC				*i*		18 34 39.7	
comp=Z,28nm,0.6s							
NORC	**Norcasia**	**2.32**	**92**	*eP*	**Pb**	**18 34 07.5**	**-1.2**
NORC				*eS*	**Sn**	**18 34 34.7**	**+0.7**
NORC				*i*		18 34 39.4	
comp=Z,35nm,0.4s							
ROSC	**El Rosal**	**2.98**	**106**	Pn	**Pb**	**18 34 20.7**	**+0.6**
comp=Z,1.7nm,0.3s,baz=149,slow=22,SNR=7.5							
SDV	**Santo Domingo**	**7.26**	**63**	Pn	**Pn**	**18 35 15.9**	**+2.7**
comp=Z,0.4nm,0.3s,baz=238,slow=12,SNR=7.5							
SDV				Sn	**Sn**	**18 36 37.1**	**+1.0**
comp=Z,0.3nm,0.3s,baz=153,slow=16,SNR=2.1							
YKA	**Yellowknife Ar**	**63.01**	**342**	P	**P**	**18 43 52.9**	**-1.0**
comp=Z,0.3nm,0.6s,baz=131,slow=6.6,SNR=8.3							
ASAR	**Alice Springs**	**145.12**	**236**	PKPbc	**PKPbc**	**18 53 04.8**	**-0.4**
comp=Z,0.7nm,0.9s,baz=110,slow=4.0,SNR=3.7							
WRA	**Warramunga Arr**	**146.22**	**242**	PKPbc	**PKPdf**	**18 53 07.2**	**-0.5**
comp=Z,0.9nm,0.9s,baz=98,slow=2.3,SNR=4.7							

*ISCJB **12** 18:34:22.8±0.9, 13°.42N±0°.03×120°.17E±0°.04, h14km±7km, mb3.9/4, Error ellipse: s-maj=6.9km s-min=5.1km az=20.3*
*MAN **12** 18:34:23.1, 13°.44N×120°.17E, h18km, mb4.9, ML3.8, MS3.7*
*IDC **12** 18:34:26.9±2.3, 13°.49N×120°.43E, h58km±28km, mb3.7/4, mb1 4.0/4, mb1mx3.3/45, mbtmp4.0/4, MS2.5/1, Ms1 2.5/1, ms1mx2.3/36, Error ellipse: s-maj=39.7km s-min=20.8km az=57.0*
ISC 12 18:34:21.8±1.4**, 13°.42N**±0°.03×**120°.19E**±0°.04**, h8**km±10km**, n23**, σ1^{s}22**/32**, mb3.9**/4**, 1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.31**	**10**	*eP*	**Pb**	**18 34 30.1**	**+0.4**
LUBP				*eS*	**Sb**	**18 34 34.5**	**-0.5**
PGP	**Puerto Galera**	**0.75**	**84**⇓	*eP*	**Pb**	**18 34 37.2**	**+0.1**
PGP				*i* S	**Sg**	**18 34 46.9**	**+0.9**
TGY	**Tagaytay City**	**0.99**	**47**	P	**Pn**	**18 34 41.6**	**-0.5**
880nm,0.3s,baz=214,slow=1.8,SNR=86							
TGY				S	**Sb**	**18 34 54.8**	**+0.3**
995nm,0.3s,baz=195,slow=20,SNR=50							
TGY	**Tagaytay City**	**0.99**	**47**	*eP*	**Pn**	**18 34 41.6**	**-0.5**
TGY				*i* S	**Sb**	**18 34 55.1**	**+0.5**
SJMP	**San Jose**	**1.32**	**136**	*eP*	**Pg**	**18 34 47.2**	**+0.1**
SJMP				*eS*	**Sn**	**18 35 05.0**	**+0.7**
BUSP	**Coron**	**1.41**	**180**	*eP*	**Pg**	**18 34 48.4**	**-0.5**
BUSP				*eS*	**Sg**	**18 35 06.7**	**-0.5**
BOAC	**Boac**	**1.61**	**89**	*eP*	**Pn**	**18 34 50.9**	**+0.4**
BOAC				*eS*	**Sb**	**18 35 12.8**	**+0.5**
OTRP	**Odiongan**	**2.07**	**120**	*eP*	**Pn**	**18 34 56.9**	**-0.1**
OTRP				*eS*	**Sb**	**18 35 25.2**	**-0.5**
POLP	**Polilio Island**	**2.14**	**52**	*eP*	**Pn**	**18 34 57.9**	**+0.1**
ENPP	**El Nido**	**2.33**	**199**	*eP*	**Pn**	**18 35 01.4**	**+0.9**
ENPP				*eS*	**Sn**	**18 35 29.6**	**+0.4**
SCZP	**Santa Cruz**	**2.35**	**353**	*eP*	**Pb**	**18 35 04.0**	**-0.5**
BALP	**Baler**	**2.67**	**30**	*eP*	**Pn**	**18 35 06.3**	**+1.2**
CUYO	**Cuyo Island**	**2.68**	**162**	*eP*	**Pn**	**18 35 05.8**	**+0.5**
SMPP	**San Manuel, Pa**	**2.75**	**10**	*eP*	**Pn**	**18 35 06.5**	**+0.2**
BOLP	**Bolinao**	**2.95**	**355**	*eP*	**Pn**	**18 35 10.3**	**+1

GIRC			*i*			18 38 59.5
	comp=Z,98nm,0.3s					
BARC	**Barichara**	**0.26**	**191**	⇑*iP*	**Pn**	**18 38 40.9 0.0**
BARC				*eS*	**Sn**	**18 38 56.0 -1.0**
BARC				*i*		18 38 57.7
	comp=Z,401nm,0.3s					
BRRC	**Barranca, Sant**	**0.63**	**294**	*eP*	**Pn**	**18 38 42.8 +0.6**
BRRC				*eS*	**Sn**	**18 38 59.8 +0.6**
BRRC				*i*		18 39 03.0
	comp=Z,132nm,0.3s					
PAMC	**Pamplona, Colo**	**0.65**	**41**	⇑*iP*	**Pn**	**18 38 43.6 +0.7**
PAMC				*eS*	**Sn**	**18 39 00.8 +0.3**
PAMC				*i*		18 39 03.3
	comp=Z,318nm,0.6s					
RUSC	**La Rusia**	**0.95**	**177**	⇓*iP*	**Pn**	**18 38 44.8 -0.3**
RUSC				*eS*	**Sn**	**18 39 03.6 -0.7**
RUSC				*i*		18 39 04.8
	comp=Z,160nm,0.3s					
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	*eP*	**Pn**	**18 38 47.4 -0.7**
PTBC				*eS*	**Sn**	**18 39 08.7 -1.0**
PTBC				*i*		18 39 16.3
	comp=Z,204nm,0.4s					
TAMC	**Tame, Arauca**	**1.39**	**107**	⇑*iP*	**Pn**	**18 38 49.2 +0.6**
TAMC				*i*		18 38 49.5
	comp=Z,218nm,0.4s					
TAMC				*eS*	**Sn**	**18 39 10.9 +0.4**
OCAC	**Ocana**	**1.40**	**352**	*eP*	**Pn**	**18 38 49.3 +0.6**
OCAC				*eS*	**Sn**	**18 39 11.2 +0.3**
OCAC				*i*		18 39 16.5
	comp=Z,196nm,0.4s					
YOPC	**Yopal, Colombi**	**1.64**	**155**	*eP*	**Pn**	**18 38 51.5 +0.3**
YOPC				*eS*	**Sn**	**18 39 15.6 +0.2**
YOPC				*i*		18 39 18.8
	comp=Z,249nm,0.4s					
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*eP*	**Pn**	**18 38 54.0 +0.8**
NORC	**Norcasia**	**2.15**	**234**	*eP*	**Pn**	**18 38 56.9 -0.1**
NORC				*eS*	**Sn**	**18 39 25.5 0.0**
NORC				*i*		18 39 30.1
	comp=Z,160nm,0.5s					
SMLC	**San Martn de**	**2.15**	**334**	*eP*	**Pn**	**18 38 57.5 +0.5**
SMLC				*eS*	**Sn**	**18 39 25.5 0.0**
SMLC				*i*		18 39 27.5
	comp=Z,153nm,0.3s					
CHIC	**Chingaza**	**2.28**	**195**	*eP*	**Pn**	**18 38 58.8 -0.1**
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**18 39 00.8 +1.5**
	comp=Z,38nm,0.3s,baz=311,slow=8.7,SNR=40					
ROSC				S	**Sn**	**18 39 30.0 +0.3**
	comp=Z,27nm,0.3s,baz=60,slow=20,SNR=11					
HELC	**Santa Helena**	**2.47**	**255**	*eP*	**Pn**	**18 39 02.4 +1.3**
HELC				*i*		18 39 40.7
	comp=Z,116nm,0.5s					
CODC	**Agustn Codazz**	**3.08**	**354**	*eP*	**Pn**	**18 39 08.4 0.0**
SDV	**Santo Domingo**	**3.20**	**51**	P	**Pn**	**18 39 10.6 +0.6**
	comp=Z,22nm,0.3s,baz=194,slow=2.2,SNR=38					
SDV				S	**Sn**	**18 39 47.7 -1.1**
	comp=Z,25nm,0.3s,baz=5.6,slow=9.9,SNR=23					
SJCC	**San Jacinto, C**	**3.65**	**326**	*eP*	**Pn**	**18 39 15.3 -0.3**
ULM	**Lac du Bonnet**	**47.26**	**340**	P	**P**	**18 46 37.0 -0.5**
	comp=Z,0.7nm,0.4s,baz=159,slow=8.6,SNR=2.8					
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**18 48 31.6 -0.1**
	comp=Z,0.5nm,0.5s,baz=132,slow=6.7,SNR=15					
ILAR	**Eielson Array**	**76.94**	**335**	P	**P**	**18 49 55.5 +0.4**
	comp=Z,0.2nm,0.5s,baz=100,slow=4.0,SNR=3.7					
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**18 57 53.7 -0.3**
	comp=Z,0.4nm,0.8s,baz=118,slow=2.6,SNR=3.3					

*IDC **12** 19:06:06.8±3.0, 7°.48S×127°.92E, h110km±27km, mb3.9/13, mb1 4.1/15, mb1mx4.0/26, mbtmp4.3/15, MS3.0/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=24.1km s-min=10.6km az=80.0*

*ISCJB **12** 19:06:09.1±0.2, 7°.53S±0°.03×127°.96E±0°.03, h150km, mb4.4/30, Error ellipse: s-maj=4.4km s-min=4.1km az=143.1*

*NEIC **12** 19:06:11.8±0.8, 7°.62S×127°.97E, h164km±8km, mb4.3/24, Error ellipse: s-maj=10.2km s-min=7.6km az=59.0*

*DJA **12** 19:06:12.1±0.2, 8°.S±2°.×12°.8E±°, h147km±6km, M4.6/13, mB5.0/6, mb4.5/13, MLv4.8/6, Mw(mB)4.3/6*

ISC 12 19:06:10.9±0.3, 7°.62S±0°.04×127°.95E±0°.04, h150km, n98, σ1§95/113, mb4.2/30, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.34**	**96**	*e*Pn	**Pn**	**19 07 05.6**	**+3.0**
SAUI				*e*Sn	**Sn**	**19 07 39.8**	**-2.8**
SAUI	**Saumlaki**	**3.34**	**96**	P	**Pn**	**19 07 05.1**	**+2.5**
SAUI				S	**Sn**	**19 07 43.6**	**+1.0**
BNDI	**Bandanaira**	**3.64**	**32**	P	**Pn**	**19 07 08.6**	**+2.1**
SOEI	**Soe**	**4.21**	**240**	*e*Pn	**Pn**	**19 07 15.5**	**+1.4**
SOEI				*e*Sn	**Sn**	**19 08 07.8**	**+4.6**
SOEI	**Soe**	**4.21**	**240**	P	**Pn**	**19 07 16.2**	**+2.1**
SOEI				S	**Sn**	**19 08 04.4**	**+1.2**
BATI	**Baumata**	**4.95**	**238**	P	**Pn**	**19 07 25.6**	**+1.8**
BATI				S	**Sn**	**19 08 23.1**	**+2.5**
MMRI	**Maumere**	**5.75**	**259**	*e*Pn	**Pn**	**19 07 35.8**	**+1.5**
MMRI				*e*Sn	**Sn**	**19 08 41.5**	**+2.2**
MMRI	**Maumere**	**5.75**	**259**	P	**Pn**	**19 07 36.4**	**+2.2**
MMRI				S	**Sn**	**19 08 40.8**	**+1.4**
SANI	**Sanana**	**5.87**	**340**	P	**Pn**	**19 07 37.8**	**+1.9**
	111nm,1.0s,1μm0.3nm						
MTN	**Manton Dam**	**6.06**	**149**	*e*Pn	**Pn**	**19 07 39.7**	**+1.3**
MTN				*e*Sn	**Sn**	**19 08 48.0**	**+1.0**
FAKI	**Fak Fak**	**6.33**	**43**	*e*Pn	**Pn**	**19 07 41.9**	**-0.2**
FAKI				*e*Sn	**Sn**	**19 08 53.2**	**-0.3**
FAKI	**Fak Fak**	**6.33**	**43**	P	**Pn**	**19 07 42.2**	**+0.1**
FAKI				S	**Sn**	**19 08 54.1**	**+0.6**
BASI	**Baing, Sumba**	**7.73**	**250**	S	**Sn**	**19 09 24.5**	**-2.5**
LUWI	**Luwuk**	**8.33**	**321**	*e*Pn	**Pn**	**19 08 11.3**	**+2.6**
LUWI	**Luwuk**	**8.33**	**321**	P	**Pn**	**19 08 11.3**	**+2.6**
	54nm,0.9s						
TNTI	**Ternate**	**8.36**	**356**	P	**Pn**	**19 08 11.5**	**+2.4**
	18nm,1.2s						
KMSI	**Cibinong**	**9.05**	**334**	P	Pn	19 08 26.6	+8.2
APSI	**Ampana**	**9.16**	**316**	P	**Pn**	**19 08 22.8**	**+3.0**
	36nm,1.1s						
MRSI	**Marisa**	**10.03**	**323**	P	**Pn**	**19 08 33.9**	**+2.5**
	6.3nm,0.7s						
PLAI	**Plampang**	**10.14**	**263**	P	**Pn**	**19 08 31.6**	**-1.3**
PLAI				S	**Sn**	**19 10 20.6**	**-4.6**
FITZ	**Fitzroy Crossi**	**10.65**	**192**	P	**Pn**	**19 08 37.6**	**-2.0**
	5.7nm,0.3s,baz=25,slow=10,SNR=100						
FITZ				S	**Sn**	**19 10 31.9**	**-5.7**
	6.5nm,0.3s,baz=19,slow=6.7,SNR=4.1						
FITZ				LR	LR	19 13 11.2	
	comp=Z,75nm,19.1s,baz=306,slow=39						
SGSI	**Sangihe**	**11.49**	**348**	P	**P**	**19 09 01.7**	**+3.5**
WRAB	**Tennant Creek**	**13.72**	**154**	*e*Pn	**Pn**	**19 09 18.4**	**-1.0**
WR1	**Warramunga Arr**	**13.73**	**154**	*e*Pn	**Pn**	**19 09 17.3**	**-2.1**
WRA	**Warramunga Arr**	**13.73**	**154**	P	**Pn**	**19 09 17.3**	**-2.1**
	9.2nm,0.3s,baz=322,slow=14,SNR=244						
WRA				S	**Sn**	**19 11 44.2**	**-7.3**
	4.4nm,0.3s,baz=321,slow=24,SNR=7.9						
WB2	**Warramunga Arr**	**13.73**	**154**	*e*Pn	**Pn**	**19 09 18.3**	**-1.2**
MTKI	**Muara Teweh, K**	**14.61**	**296**	P	P	19 09 38.2	+5.3
PSA00	**Pilbara Seismi**	**15.93**	**209**	*e*Pn	**Pn**	**19 09 46.9**	**+0.1**
	24nm,0.5s						
COEN	**Coen**	**16.22**	**114**	*e*Pn	**Pn**	**19 09 51.3**	**+0.8**
	14nm,0.6s						
AS31	**Alice Springs**	**16.95**	**161**	*e*P	**Pn**	**19 10 00.5**	**+1.3**
	14nm,0.5s						
ASAR	**Alice Springs**	**16.95**	**161**	P	**Pn**	**19 09 60.0**	**+0.7**
	3.7nm,0.3s,baz=333,slow=11,SNR=254						
ASAR				S	**S**	**19 13 06.8**	**-1.0**
	1.5nm,0.3s,baz=330,slow=22,SNR=7.5						
SBUM	**Sibu**	**18.61**	**302**	*e*P	**Pn**	**19 10 19.8**	**+0.7**
	8.6nm,0.7s						
KSM	**Kuching**	**19.78**	**296**	*e*P	**P**	**19 10 31.2**	**+1.5**
	27nm,0.9s						
PPBI	**Pangkal Pinang**	**22.39**	**283**	P	**P**	**19 10 58.2**	**+1.0**
NWAO	**Narrogin (SRO)**	**27.07**	**200**	P	**P**	**19 11 40.6**	**+1.1**
	4.5nm,0.7s,baz=44,slow=8.9,SNR=5.6						
STKA	**Stephens Creek**	**27.28**	**154**	P	**P**	**19 11 43.4**	**+2.0**
	1.8nm,0.4s,baz=324,slow=9.2,SNR=11						
PSI	**Prapat**	**30.76**	**289**	*e*P	**P**	**19 12 09.9**	**-2.6**
	25nm,0.8s						
KRAB	**Krabi**	**32.70**	**298**	P	**P**	**19 12 31.2**	**+1.8**
	68μm,0.6s						
CHAI	**Chaiyaphum**	**34.75**	**312**	P	**P**	**19 12 48.2**	**+1.2**
	12μm,0.6s						
CM31	**Chiang Mai Arr**	**38.61**	**312**	*e*P	**P**	**19 13 20.3**	**+0.6**
	4.4nm,0.7s						
CM31				*e*PcP	**PcP**	**19 15 29.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**38.61**	**312**	P	**P**	**19 13 19.2**	**-0.5**
	2.5nm,0.6s,baz=141,slow=7.2,SNR=18						
CMAR				PcP	**PcP**	**19 15 29.8**	**+0.6**
	1.3nm,0.4s,baz=168,slow=2.6,SNR=10						
CHTO	**Chiang Mai**	**38.83**	**313**	*e*P	**P**	**19 13 21.0**	**-0.6**
	3.4nm,0.8s						
CD2	**Chengdu**	**44.78**	**330**	*e*P	**P**	**19 14 09.1**	**-0.7**
KS15	**Wonju Array Si**	**44.83**	**360**	*e*P	**P**	**19 14 10.5**	**+0.6**
	13nm,1.2s						
KSRS	**Korea Array**	**44.84**	**360**	P	**P**	**19 14 10.5**	**+0.5**
	2.0nm,0.6s,baz=177,slow=9.5,SNR=12						
MAJO	**Matsushiro**	**44.97**	**12**	*e*P	**P**	**19 14 08.4**	**-2.7**
MJAR	**Matsushiro Arr**	**44.97**	**12**	P	**P**	**19 14 08.4**	**-2.7**
	1.6nm,0.7s,baz=192,slow=9.7,SNR=10.0						
XAN	**Xi'an**	**45.19**	**338**	P	**P**	**19 14 11.7**	**-1.3**
HHC	**Hu-ho-hao-te**	**50.53**	**344**	*e*P	**P**	**19 14 55.3**	**+1.2**
LSA	**Lhasa**	**51.27**	**318**	*e*P	**P**	**19 15 00.4**	**+0.2**
	5.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**51.71**	**4**	P	**P**	**19 15 01.7**	**-0.9**
	1.5nm,0.6s,baz=202,slow=7.4,SNR=4.2						
RAMN	**Ramite**	**52.78**	**312**	*e*P	**P**	**19 15 10.3**	**-0.9**
	42nm,0.6s						
GTA	**Gaotai**	**53.57**	**333**	*e*P	**P**	**19 15 16.1**	**-0.4**
PKI	**Pulchoki**	**54.01**	**312**	*e*P	**P**	**19 15 18.5**	**-1.7**
	17nm,0.6s						
PKIN	**Phulchoki**	**54.02**	**312**	*e*P	**P**	**19 15 18.6**	**-1.6**
	13nm,0.5s						
KKN	**Kakani**	**54.22**	**312**	*e*P	**P**	**19 15 20.5**	**-1.1**
	13nm,0.5s						
GKN	**Gorkha**	**54.81**	**312**	*e*P	**P**	**19 15 24.8**	**-1.0**
	28nm,0.3s						
KOLN	**Koldanda**	**55.45**	**311**	*e*P	**P**	**19 15 29.5**	**-1.0**
	36nm,0.7s						
DANN	**Dangsing**	**55.65**	**312**	*e*P	**P**	**19 15 30.8**	**-1.2**
	21nm,0.6s						
PYUN	**Piuthan**	**56.09**	**311**	*e*P	**P**	**19 15 34.0**	**-1.0**
	50nm,0.7s						
WMQ	**Urumqi**	**62.83**	**328**	*e*P	**P**	**19 16 21.1**	**+0.4**
PETK	**Petropavlovsk-**	**65.56**	**19**	*e*P	**P**	**19 16 38.7**	**+0.4**
PETK	**Petropavlovsk-**	**65.56**	**19**	P	**P**	**19 16 38.2**	**-0.1**
	1.7nm,0.5s,baz=180,slow=3.5,SNR=11						
PEA1	**Petropavlovsk-**	**65.56**	**19**	*e*P	**P**	**19 16 38.2**	**-0.1**
NIL	**Nilore**	**66.10**	**312**	*e*P	**P**	**19 16 41.1**	**-1.1**
	12nm,0.5s						
KSH	**Kashi**	**67.12**	**319**	P	**P**	**19 16 47.1**	**-1.6**
MK31	**Makanchi Array**	**67.65**	**328**	*e*P	**P**	**19 16 50.7**	**-1.0**
	1.6nm,0.6s						
MK32	**Makanchi Array**	**67.65**	**328**	*e*P	**P**	**19 16 51.0**	**-0.7**
MKAR	**Makanchi Array**	**67.65**	**328**	P	**P**	**19 16 51.0**	**-0.7**
	2.2nm,0.5s,baz=117,slow=8.1,SNR=36						
MKAR				pP	**PcP**	**19 17 16.9**	**-0.7**
	1.4nm,0.6s,baz=124,slow=5.9,SNR=7.3						
KBL	**Kabul**	**69.62**	**311**	*e*P	**P**	**19 17 02.1**	**-2.4**
	4.1nm,0.5s						
AAK	**Ala-Archa**	**69.72**	**321**	*e*P	**P**	**19 17 03.2**	**-1.5**
	4.6nm,1.4s						
GAR	**Garm**	**70.67**	**316**	*e*P	**P**	**19 17 09.5**	**-1.2**
	4.9nm,0.6s						
ZAA0	**Zalesovo Array**	**71.25**	**335**	*e*P	**P**	**19 17 12.0**	**-1.6**
	3.3nm,0.6s						
ZALV	**Zalesovo Beam**	**71.25**	**335**	P	**P**	**19 17 12.6**	**-1.0**
	2.1nm,0.4s,baz=145,slow=5.5,SNR=12						
ZAA1	**Zalesovo Array**	**71.26**	**335**	*e*P	**P**	**19 17 12.6**	**-1.1**
KURK	**Kurchatov**	**72.00**	**330**	*e*P	**P**	**19 17 17.4**	**-0.7**
	6.0nm,0.8s						
VNDA	**Vanda**	**72.09**	**173**	*e*P	**P**	**19 17 20.0**	**+1.7**
	3.0nm,1.1s						
VNDA	**Vanda**	**72.09**	**173**	P	**P**	**19 17 19.7**	**+1.4**
	1.4nm,0.8s,baz=316,slow=6.5,SNR=16						
MAW	**Mawson**	**73.64**	**201**	*e*P	**P**	**19 17 28.8**	**+1.2**
	4.7nm,1.5s						
MAW	**Mawson**	**73.64**	**201**	P	**P**	**19 17 28.8**	**+1.2**
	3.6nm,0.4s,baz=74,slow=5.4,SNR=8.8						
TIXI	**Tiksi**	**79.11**	**0**	*e*P	**P**	**19 17 57.2**	**-1.0**
	3.7nm,0.7s						
ABKAR	**Akbulak array**	**81.74**	**322**	*e*P	**P**	**19 18 11.4**	**-1.3**
	2.4nm,0.9s						
SYO	**Syowa Base**	**82.35**	**201**	⇓*e*P	**P**	**19 18 15.0**	**-0.6**
SYO	**Syowa Base**	**82.35**	**201**	⇓*e*PcP	**P**	**19 18 18.8**	**+3.2**
QSPA	**South Pole Qui**	**82.36**	**180**	*e*P	**P**	**19 18 17.0**	**+1.1**
	8.0nm,0.7s						
SNAA	**Sanae**	**94.58**	**194**	P	**P**	**19 19 15.8**	**+1.5**
ILAR	**Eielson Array**	**94.77**	**25**	P	**P**	**19 19 13.7**	**-1.4**
	0.2nm,0.6s,baz=238,slow=5.2,SNR=3.2						
ILB	**Eielson Array**	**94.77**	**25**	*e*P	**P**	**19 19 13.7**	**-1.4**
	2.6nm,1.4s						
VNA2	**Neumayer--Watz**	**96.17**	**193**	P	P	19 19 28.2	+6.8
	baz=148,slow=3.2						
VNA3	**Neumayer Olymp**	**96.44**	**193**	P	**P**	**19 19 26.8**	**+4.1**
BR101	**Keskin Array S**	**98.12**	**309**	*e*P	**P**	**19 19 29.3**	**-1.8**
BRTR	**Keskin Array B**	**98.12**	**309**	P	**P**	**19 19 29.3**	**-1.8**
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.0						
VYHS	**Vyhne**	**108.32**	**319**	*e*PDIF	**Pdif**	**19 20 19.5**	**+3.5**
TORD	**Torodi Ar. Bea**	**126.93**	**281**	PKP	**PKPdf**	**19 24 57.1**	**-0.9**
	1.2nm,0.6s,baz=121,slow=2.3,SNR=9.7						
TOA1	**Torodi Ar. Sit**	**126.93**	**281**	*e*PKPdf	**PKPdf**	**19 24 57.1**	**-0.9**
TXAR	**Lajitas Array**	**126.99**	**59**	PKP	**PKPdf**	**19 24 58.5**	**+0.6**
	0.4nm,0.7s,baz=155,slow=0.8,SNR=4.5						
CPUP	**Villa Florida**	**145.87**	**172**	PKPbc	**PKPbc**	**19 25 34.3**	**+0.9**
	3.7nm,0.4s,baz=200,slow=1.4,SNR=22						
LPAZ	**La Paz**	**151.41**	**146**	PKPbc	**PKPbc**	**19 25 48.4**	**-0.3**
	1.8nm,0.5s,baz=238,slow=0.6,SNR=10						
LPAZ				PKPab	**PKPab**	**19 25 60.0**	**+2.6**
	7.1nm,0.6s,baz=144,slow=2.2,SNR=20						

IGQ 12 19:06:40.3±0.6, 4°S±4°×7°8W±°, h30km, MLv3.7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONZ	**Gonzanam**	**1.58**	**242**	P	Pn	19 07 06.8	+0.2
COHC	**Cochancay**	**1.63**	**309**	P	Pn	19 07 04.0	-2.9
COHC				S	Sn	19 07 24.3	-2.6
MILO	**Milagro-Astudi**	**1.98**	**308**	P	Pn	19 07 11.8	0.0
MILO				S	Sb	19 07 39.0	-0.9
PUYO	**Puyo, Santa Ro**	**2.00**	**359**	P	Pn	19 07 09.5	-2.7
BPAT	**Tungurahua Vol**	**2.04**	**347**	P	Pn	19 07 09.7	-3.3
BPAT				S	Sn	19 07 34.4	-3.3
MCRA	**Macar, Loja**	**2.14**	**246**	P	Pn	19 07 13.2	-0.7
PISA	**Pisayambo**	**2.46**	**351**	P	Pn	19 07 17.9	-1.0
MORR	**Playas El Morr**	**2.49**	**290**	P	Pn	19 07 19.2	+0.3
MORR				S	Sn	19 07 51.2	+2.9
ARDO	**Archidona, Ten**	**2.50**	**4**	P	Pn	19 07 17.8	-1.2
ARDO				S	Sn	19 07 48.0	-0.6
BMOR	**Cotopaxi Volca**	**2.79**	**350**	P	Pn	19 07 23.6	+0.1
BTAM	**Cotopaxi Volca**	**2.84**	**352**	P	Pn	19 07 24.3	+0.2
BREF	**Cotopaxi Volca**	**2.85**	**351**	P	Pn	19 07 24.6	+0.3
BVC2	**Cotopaxi Volca**	**2.86**	**352**	P	Pn	19 07 24.0	-0.4
ILLI	**Illinizas Sur**	**2.87**	**345**	P	Pn	19 07 25.8	+1.3
VC1	**Cotopaxi 1**	**2.87**	**352**	P	Pn	19 07 24.5	-0.1
ANTS	**Antisana-Sarah**	**2.99**	**357**	P	Pn	19 07 25.3	-0.9
ANTS				S	Sn	19 08 02.5	+1.1

*SOME **12** 19:09:47.7, 39°.12N×75°.85E, h10km*

*KRNET **12** 19:09:51.0±0.1, 39°.12N×75°.68E, mb3.4*

*NNC **12** 19:09:54.9±1.6, 39°.40N×75°.65E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=12.7km s-min=8.3km az=149.0*

ISC 12 19:09:56.1±2.0, 39°.46N±0°.09×75°.72E±0°.04, h10km, n35, σ1§41/58, 24C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.98**	**6**	⇓*iP*	**Pb**	**19 10 31.4**	**-1.0**
	baz=6.0						
NRN				⇓*iS*	**Sg**	**19 11 00.9**	**+1.1**
	baz=6.0						
ARLS	**Aral**	**2.62**	**337**	⇑*iP*	**Pn**	**19 10 40.2**	**+1.5**
	baz=40						
ARLS				⇑*iS*	**Sb**	**19 11 15.7**	**+0.1**
	baz=40						
KZA	**Kyzart**	**2.63**	**352**	⇓*eP*	**Pn**	**19 10 40.3**	**+1.2**
	baz=54						
KZA				⇓*iS*	**Sb**	**19 11 16.7**	**+0.4**
	baz=54						
TARG	**Taragay, Kyrgy**	**2.76**	**34**	⇑*eP*	**Pn**	**19 10 41.7**	**+0.8**
	baz=31						
TARG				⇑*iS*	**Sb**	**19 11 19.2**	**-0.8**
	baz=31						
ARSB	**Arslanbob**	**2.80**	**312**	⇑*eP*	**Pn**	**19 10 40.9**	**-0.2**
	baz=18						
ARSB				⇑*iS*	**Sb**	**19 11 18.3**	**-2.4**
	baz=18						
ULHL	**Ulahol**	**2.81**	**8**	⇑*eP*	**Pn**	**19 10 43.1**	**+1.8**
	baz=8.0						
ULHL				⇑*iS*	**Sb**	**19 11 21.0**	**0.0**
	baz=8.0						
KDJ	**Kajisay**	**2.88**	**22**	⇑*eP*	**Pn**	**19 10 43.5**	**+1.2**
	baz=21						
KDJ				⇑*iS*	**Sb**	**19 11 22.5**	**-0.7**
	baz=21						
UCH	**Uchtor**	**2.91**	**342**	⇓*iP*	**Pn**	**19 10 44.2**	**+1.3**
	baz=44						
UCH				⇓*eS*	**Sb**	**19 11 23.3**	**-0.9**
	baz=44						
BOOM	**Boomskoye usch**	**3.03**	**3**	⇑*iP*	**Pn**	**19 10 46.2**	**+1.9**
	baz=3.0						
BOOM				⇑*iS*	**Sb**	**19 11 27.0**	**-0.3**
	baz=3.0						
AML	**Almayashu**	**3.08**	**331**	⇓*iP*	**Pn**	**19 10 45.9**	**+0.7**
	baz=34						
AML				⇓*iS*	**Sb**	**19 11 26.9**	**-2.0**
	baz=34						
AAK	**Ala-Archa**	**3.30**	**344**	⇑Pn	**Pn**	**19 10 49.7**	**+1.7**
	2.7nm,0.6s						
AAK				⇑Pg	**Pg**	**19 10 56.9**	**-2.6**
	8.8nm,0.5s						
AAK				⇓Lg	Lg	19 11 42.0	
	28nm,1.2s						
TKM2	**Tokmak 2**	**3.46**	**358**	⇑Pn	**Pn**	**19 10 52.6**	**+2.4**
	1.6nm,0.6s						
TKM2				⇑Pg	**Pb**	**19 10 59.2**	**+1.6**
	3.4nm,0.5s						
TKM2				⇑Lg	Lg	19 11 48.6	
	17nm,1.1s						
TKM2	**Tokmak 2**	**3.46**	**358**	⇓*iP*	**Pn**	**19 10 52.0**	**+1.8**
	baz=59						
TKM2				⇓*iS*	**Sb**	**19 11 36.7**	**-2.9**
	baz=59						
KST	**Kastek**	**3.58**	**3**	Pg	**Pb**	**19 11 01.0**	**+1.4**
	10nm,0.5s						
KST				Lg	Lg	19 11 53.1	
	11nm,0.7s						
KST	**Kastek**	**3.58**	**3**	*e*P	**Pb**	**19 11 01.0**	**+1.4**
	10nm,0.5s						
KST				⇑*iS*	**Sg**	**19 11 53.1**	**+2.0**
	12nm,0.8s						
TNSS	**Tian-Shan**	**3.69**	**14**	Pg	**Pb**	**19 11 01.7**	**+0.1**
	5.2nm,0.4s						
TNSS				Lg	Lg	19 11 54.2	
	10nm,0.7s						
TNSS	**Tian-Shan**	**3.69**	**14**	*e*P	**Pb**	**19 11 01.6**	**0.0**
	5.2nm,0.4s						
TNSS				*e*S	**Sg**	**19 11 54.2**	**-0.3**
	10nm,0.7s						
DGS	**Degeres**	**3.77**	**1**	Pg	**Pb**	**19 11 04.2**	**+1.3**
	8.8nm,0.5s						
DGS				Lg	Lg	19 11 58.5	
	13nm,0.7s						
DGS	**Degeres**	**3.77**	**1**	*e*P	**Pb**	**19 11 04.2**	**+1.3**
	8.8nm,0.5s						
DGS				*e*S	**Sg**	**19 11 58.5**	**+1.2**
	13nm,0.7s						
MDOK	**Medeo**	**3.83**	**15**	⇑Pg	**Pb**	**19 11 05.9**	**+2.0**
MDOK				⇓Lg	Lg	19 11 59.2	
MDOK	**Medeo**	**3.83**	**15**	Pg	**Pb**	**19 11 04.4**	**+0.6**
	4.0nm,0.4s						
MDOK				Lg	Lg	19 11 58.9	
	12nm,0.6s						
MDOK	**Medeo**	**3.83**	**15**	*e*P	**Pb**	**19 11 04.4**	**+0.6**
	4.0nm,0.4s						
MDOK				*e*S	**Sg**	**19 11 58.9**	**-0.2**
	12nm,0.6s						
KNDC	**Almaty**	**3.87**	**14**	⇓Lg	Lg	19 12 00.9	
KOTS	**Kotyrbulak**	**3.91**	**15**	Pg	**Pb**	**19 11 05.8**	**+0.6**
	4.2nm,0.3s						
KOTS				Lg	Lg	19 12 01.2	
	38nm,0.5s						
KOTS	**Kotyrbulak**	**3.91**	**15**	*e*P	**Pb**	**19 11 05.8**	**+0.6**
	4.2nm,0.3s						
KOTS				*e*S	**Sg**	**19 12 01.2**	**-0.4**
	38nm,0.5s						
KTBS	**Karatobe**	**4.30**	**9**	Pg	**Pb**	**19 11 13.8**	**+1.8**
	3.4nm,0.4s						
KTBS				Lg	Lg	19 12 14.9	
	25nm,0.7s						
KTBS	**Karatobe**	**4.30**	**9**	*e*P	**Pb**	**19 11 13.8**	**+1.8**
	3.4nm,0.4s						
KTBS				*e*S	**Sg**	**19 12 14.9**	**+0.6**
	25nm,0.7s						
KUU	**Kurty**	**4.45**	**6**	Pg	**Pb**	**19 11 15.8**	**+1.5**
	2.5nm,0.2s						
KUU				Lg	Lg	19 12 18.5	
	11nm,0.9s						
**KU

az=92.4

GCMT **12** *20:06:43.3±0.1,52°.58N×171°.92W,h12km,MW5.4/125, Moment Tensor Solution. s99,c166; s125,c281; Duration: 1±2 Moment tensor: Scale 10^17Nm; Mrr-0.85±.02; Mθθ1.85±.01; Mφφ-1.00±.01; Mrθ0.31±.04; Mθφ0.36±.01; Mφr-0.32±.04; Best double couple: M0 1.62000×10^17 NP1:φs300.00000°,δ69.00000°, λ-33.00000°. NP2:φs43.00000°,δ60.00000°, λ-155.00000°. Principal axes: T 1.9210, Plg6.0000°, Azm354.0000°; N -0.6000, Plg51.0000°, Azm91.0000°; P -1.3190, Plg38.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISCJB **12** *20:06:43.9±0.3,52°.55N±0°.03×171°.80W±0°.02,h52km±2km, mb5.2/209,MS5.1/575 Error ellipse: s-maj=4.2km s-min=1.8km az=174.5*

NEIC **12** *20:06:46.0±0.0,52°.51N×171°.94W,h15km,Moment Tensor Solution. s18 Moment tensor: Scale 10^17Nm; Mrr-0.65; Mθθ1.58; Mφφ-0.93; Mrθ0.31; Mθφ0.33; Mφr-0.60; Best double couple: M0 1.60000×10^17 NP1:φs301.00000°, δ69.00000°,λ-33.00000°. NP2:φs44.00000°,δ59.00000°, λ-155.00000°. Principal axes: T 1.6500, Plg6.0000°, Azm354.0000°; N -0.1700, Plg51.0000°, Azm91.0000°; P -1.4700, Plg38.0000°, Azm259.0000°;*

ISC 12 20:06:44.0±0.4,52°.50N±0°.04×171°.97W±0°.03,h29km±2km, h29km:pP-P,n1667,σ1°.94/1263,mb5.3/225,MS5.1/576, 39C-30D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.33**	**261**	*e*Pn	**Pn**	**20 07 06.8**	**+0.3**
KOKL	**Mount Kliuchef**	**1.38**	**263**	*e*Pn	**Pn**	**20 07 07.3**	**+0.1**
ATKA	**Atka Island**	**1.40**	**259**	*e*Pn	**Pn**	**20 07 07.3**	**-0.2**
ATKA				*e*Sn	**Sb**	**20 07 28.0**	**+1.2**
NIKH	**Nikolski High**	**1.95**	**75**	*e*Pn	**Pn**	**20 07 15.5**	**+0.5**
NIKH				*e*Sn	**Sn**	**20 07 38.0**	**-0.4**
OKAK	**Okmok**	**2.43**	**62**	*e*Pn	**Pn**	**20 07 18.3**	**-3.3**
OKWE	**Okmok W'ng Wal**	**2.45**	**65**	*e*Pn	**Pn**	**20 07 19.3**	**-2.7**
GSTR	**Great Sitkin T**	**2.55**	**262**	*e*Pn	**Pn**	**20 07 23.9**	**+0.6**
GSMY	**Great Sitkin M**	**2.56**	**261**	*e*Pn	**Pn**	**20 07 23.8**	**+0.4**
GSTD	**Great Sitkin T**	**2.61**	**262**	*e*Pn	**Pn**	**20 07 24.6**	**+0.5**
GSTD				*e*Sn	**Sb**	**20 07 58.5**	**-3.0**
ETKA	**Kagalaska Isla**	**2.81**	**259**	*e*Pn	**Pn**	**20 07 27.5**	**+0.7**
ADAG	**Mount Adagdak**	**2.90**	**261**	*e*Pn	**Pn**	**20 07 29.0**	**+0.9**
ADK	**Adak**	**2.97**	**260**	*e*Pn	**Pn**	**20 07 29.9**	**+0.9**
ADK				*e*Sn	**Sn**	**20 08 04.2**	**+0.5**
ADK	**Adak**	**2.97**	**260**	*e*P	**Pn**	**20 07 29.9**	**+0.9**
ADK				*e*		20 08 04.2	
KIRH	**Kanaga Island**	**3.21**	**261**	*e*Pn	**Pn**	**20 07 33.6**	**+1.2**
KIWB	**Kanaga Island**	**3.26**	**261**	*e*Pn	**Pn**	**20 07 33.8**	**+0.8**
KIWB				*e*Sn	**Sn**	**20 08 09.8**	**-1.0**
KIKV	**Kanaga Island**	**3.26**	**261**	*e*Pn	**Pn**	**20 07 34.3**	**+1.1**
KIMD	**Kanaga Island**	**3.33**	**259**	*e*Pn	**Pn**	**20 07 35.3**	**+1.3**
MCIR	**Makushin Cirqu**	**3.38**	**63**	*e*Pn	**Pn**	**20 07 33.6**	**-1.1**
MREP	**Makushin Rep't**	**3.40**	**65**	*e*Pn	**Pn**	**20 07 34.5**	**-0.6**
UNV	**Unalaska Valle**	**3.55**	**66**	*e*Pn	**Pn**	**20 07 36.7**	**-0.4**
UNV				*e*Sn	**Sn**	**20 08 20.6**	**+2.6**
TAFP	**Tanaga Falls P**	**3.75**	**263**	*e*Pn	**Pn**	**20 07 40.6**	**+0.8**
AKRB	**Akutan Reef Bi**	**3.89**	**63**	*e*Pn	**Pn**	**20 07 41.6**	**-0.1**
AKMO	**Akutan Morgan**	**3.91**	**64**	*e*Pn	**Pn**	**20 07 41.9**	**-0.1**
ZRO	**Akutan Zero**	**3.93**	**64**	*e*Pn	**Pn**	**20 07 42.4**	**+0.1**
AKUT	**Akutan**	**4.06**	**64**	*e*Pn	**Pn**	**20 07 45.5**	**+1.5**
AKSA	**Akutan Strait**	**4.10**	**64**	*e*Pn	**Pn**	**20 07 44.6**	**0.0**
GAEA	**Gareloi East**	**4.24**	**263**	*e*Pn	**Pn**	**20 07 48.3**	**+1.8**
WESP	**Westdahl Peak**	**4.76**	**62**	*e*Pn	**Pn**	**20 07 54.9**	**+1.1**
SPIA	**Saint Paul Isl**	**4.79**	**11**	*e*Pn	**Pn**	**20 07 52.9**	**-1.1**
FALS	**False Pass**	**5.60**	**62**	*e*Pn	**Pn**	**20 08 05.7**	**+0.6**
DT1	**Dutton Round H**	**6.30**	**62**	*e*Pn	**Pn**	**20 08 14.9**	**+0.1**
SDPT	**Sand Point**	**7.36**	**63**	*e*Pn	**Pn**	**20 08 30.2**	**+0.9**
SMY	**Shemya**	**8.49**	**277**	*e*Pn	**Pn**	**20 08 45.0**	**+0.2**
SMY	**Shemya**	**8.49**	**277**	*e*P	**Pn**	**20 08 45.0**	**+0.2**
CHGN	**Chignik**	**8.77**	**59**	*e*Pn	**Pn**	**20 08 48.5**	**-0.1**
SII	**Sitkinak Islan**	**11.09**	**61**	*e*Pn	**Pn**	**20 09 19.3**	**-1.1**
OHAK	**Old Harbor**	**11.74**	**59**	*e*Pn	**Pn**	**20 09 26.3**	**-2.9**
KDAK	**Kodiak Island**	**12.26**	**57**	*e*Pn	**Pn**	**20 09 37.5**	**+1.1**
KDAK				*e*		20 09 38.0	
KDAK	**Kodiak Island**	**12.26**	**57**	Pn	**Pn**	**20 09 35.7**	**-0.7**
	5.6nm,0.3s,baz=239,slow=7.7,SNR=21						
KDAK				LR	LR	20 15 01.9	
	comp=Z,18μm,18.7s,baz=251,slow=41						
ANM	**Nome**	**12.57**	**13**	P	**Pn**	**20 09 41.0**	**+0.5**
RSO	**Redoubt South**	**13.23**	**45**	*e*Pn	**Pn**	**20 09 50.6**	**+0.8**
BRLK	**Bradley Lake**	**13.78**	**50**	*e*Pn	**Pn**	**20 09 59.5**	**+2.5**
PPLA	**Purkeypile**	**14.76**	**37**	*e*Pn	**Pn**	**20 10 11.7**	**+1.1**
PMR	**Palmer**	**15.32**	**45**	*e*Pn	**P**	**20 10 20.8**	**-1.5**
PMR	**Palmer**	**15.32**	**45**	*e*P	**P**	**20 10 20.8**	**-1.5**
GHO	**Glory Hole Cre**	**15.49**	**44**	*e*Pn	**Pn**	**20 10 19.0**	**-1.1**
	196nm,0.9s						
KNK	**Knik Glacier**	**15.54**	**46**	*e*Pn	**Pn**	**20 10 20.1**	**-0.6**
	915nm,1.5s						
SML	**Sawmill**	**15.76**	**45**	*e*Pn	**P**	**20 10 26.1**	**-1.1**
	280nm,1.0s						
SML	**Sawmill**	**15.76**	**45**	*e*P	**P**	**20 10 26.1**	**-1.1**
SML				pmax	pmax		
	comp=Z,280nm,1.0s						
BPAW	**Bear Paw Mtn.**	**15.91**	**35**	*e*Pn	**Pn**	**20 10 25.9**	**+0.4**
	comp=Z,1μm,1.2s						
SCM	**Sheep Creek Mo**	**16.20**	**45**	*e*Pn	**Pn**	**20 10 27.9**	**-1.4**
	comp=Z,650nm,1.0s						
SCM	**Sheep Creek Mo**	**16.20**	**45**	*e*P	**Pn**	**20 10 27.9**	**-1.4**
SCM				pmax	pmax		
	comp=Z,650nm,1.0s						
RDOG	**Red Dog Mine**	**16.20**	**12**	*e*Pn	**P**	**20 10 30.8**	**-1.3**
	comp=Z,467nm,1.4s						
RND	**Reindeer**	**16.31**	**39**	*e*Pn	**Pn**	**20 10 30.4**	**-0.3**
	comp=Z,247nm,1.0s						
RND	**Reindeer**	**16.31**	**39**	*e*P	**Pn**	**20 10 30.4**	**-0.3**
RND				pmax	pmax		
	comp=Z,247nm,1.0s						
IMAR	**Indian Mountai**	**16.32**	**27**	*e*Pn	**P**	**20 10 31.9**	**-1.4**
MCK	**McKinley**	**16.45**	**38**	*e*Pn	**Pn**	**20 10 32.2**	**-0.2**
	comp=Z,323nm,1.0s						
MCK	**McKinley**	**16.45**	**38**	*e*P	**Pn**	**20 10 32.2**	**-0.2**
MCK				pmax	pmax		
	comp=Z,323nm,1.0s						
BWN	**Browne**	**16.50**	**36**	*e*Pn	**P**	**20 10 34.2**	**-1.1**
	comp=Z,1μm,1.2s						
MLY	**Manley**	**16.58**	**33**	*e*Pn	**Pn**	**20 10 34.3**	**+0.3**
	comp=Z,586nm,1.0s						
KLU	**Klutina**	**16.69**	**47**	*e*Pn	**Pn**	**20 10 34.1**	**-1.4**
	comp=Z,332nm,1.0s						
DHY	**Denali Highway**	**16.73**	**41**	*e*Pn	**Pn**	**20 10 36.2**	**+0.2**
	comp=Z,408nm,1.2s						
HMT	**Hamilton**	**17.11**	**52**	*e*Pn	**Pn**	**20 10 39.4**	**-1.2**
	comp=Z,137nm,0.9s						
WRH	**Wood River Hil**	**17.16**	**36**	*e*Pn	**Pn**	**20 10 40.5**	**-0.8**
	comp=Z,249nm,1.0s						
CCB	**Clear Creek Bu**	**17.36**	**36**	*e*Pn	**Pn**	**20 10 42.9**	**-0.9**
	comp=Z,159nm,0.9s						
HARP	**HAARP**	**17.37**	**45**	*e*Pn	**Pn**	**20 10 44.3**	**+0.4**
	comp=Z,447nm,1.2s						
MDM	**Murphy Dome**	**17.39**	**35**	*e*Pn	**Pn**	**20 10 43.7**	**-0.4**
	comp=Z,498nm,1.3s						
PAX	**Paxson**	**17.46**	**43**	*e*Pn	**P**	**20 10 46.3**	**+0.2**
TCOL	**CIGO, UAF Yank**	**17.47**	**36**	P	**Pn**	**20 10 44.6**	**-0.4**
	baz=236,SNR=32						
COLA	**College**	**17.47**	**36**	*e*Pn	**Pn**	**20 10 45.0**	**0.0**
	comp=Z,660nm,1.4s						
COLA	**College**	**17.47**	**36**	*c iP*	**Pn**	**20 10 45.1**	**0.0**
PET	**Petropavlovsk**	**17.74**	**283**	*e*Pn	**Pn**	**20 10 47.8**	**-0.7**
	comp=Z,262nm,1.3s						
PET	**Petropavlovsk**	**17.74**	**283**	*e*P	**P**	**20 10 49.6**	**+0.5**
PET				*e*S	**Sn**	**20 14 03.3**	**-1.7**
PET				pmax	pmax		
	comp=Z,4μm,4.5s						
PET				pmax	pmax		
	comp=Z,164nm,1.4s						
PET				pmax	pmax		
	comp=Z,2μm,6.2s						
PET				MLR	MLR		
	comp=Z,4μm,18.0s						
POKR	**Poker Flat Res**	**17.76**	**35**	P	**Pn**	**20 10 48.6**	**0.0**
	baz=236,SNR=22						
ILAR	**Eielson Array**	**17.76**	**37**	*e*Pn	**Pn**	**20 10 47.2**	**-1.5**
ILAR	**Eielson Array**	**17.76**	**37**	*e*P	**Pn**	**20 10 47.2**	**-1.5**
ILAR	**Eielson Array**	**17.76**	**37**	P	**Pn**	**20 10 48.1**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=239,slow=8.2,SNR=39						
ILAR				PcP	**PcP**	**20 15 22.9**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=231,slow=4.4,SNR=3.9						
ILAR				LR	LR	20 17 37.1	
	comp=Z,6μm,19.5s,baz=246,slow=37						
ILB	**Eielson Array**	**17.76**	**37**	*e*PcP	**PcP**	**20 15 22.9**	**-1.9**
TGL	**Tana Glacier**	**17.90**	**51**	*e*Pn	**Pn**	**20 10 47.5**	**-3.0**
	comp=Z,265nm,1.0s						
RIDG	**Independent Ri**	**18.05**	**41**	*e*Pn	**Pn**	**20 10 51.1**	**-1.2**
	comp=Z,605nm,1.1s						
BALM	**Baldy**	**18.20**	**50**	*e*Pn	**Pn**	**20 10 50.2**	**-4.0**
	comp=Z,175nm,1.2s						
BALM	**Baldy**	**18.20**	**50**	*e*P	**Pn**	**20 10 50.2**	**-4.0**
BALM				pmax	pmax		
	comp=Z,175nm,1.2s						
PEA1	**Petropavlovsk-**	**18.29**	**284**	*e*PcP	**PcP**	**20 15 25.3**	**-0.7**
PEA1				*e*ScP	**ScP**	**20 18 59.1**	**+0.2**
PEA0B	**Petropavlovsk-**	**18.29**	**284**	*e*Pn	**P**	**20 10 56.1**	**+0.9**
	comp=Z,929nm,1.5s						
PETK	**Petropavlovsk-**	**18.29**	**284**	*e*Pn	**P**	**20 10 57.1**	**+1.9**
PETK				*e*PcP	**PcP**	**20 15 25.7**	**-0.2**
PETK	**Petropavlovsk-**	**18.29**	**284**	P	**P**	**20 10 57.5**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=85,slow=16,SNR=72						
PETK				PcP	**PcP**	**20 15 25.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=74,slow=3.2,SNR=3.5						
PETK				ScP	**ScP**	**20 18 59.1**	**+0.2**
	baz=81,slow=4.5,SNR=6.3						
DOT	**Dot Lake**	**18.32**	**42**	*e*P	**Pn**	**20 10 56.1**	**+0.5**
SCRK	**Sand Creek**	**18.49**	**41**	*e*P	**P**	**20 10 56.3**	**-1.2**
	comp=Z,222nm,1.2s						
PRP	**Porcupine Dome**	**18.65**	**35**	*e*P	**Pn**	**20 10 59.5**	**-0.2**
	comp=Z,409nm,1.2s						
CTGM	**Chitina Glacie**	**18.66**	**51**	*e*P	**Pn**	**20 11 00.3**	**+0.5**
	comp=Z,122nm,0.9s						
BILL	**Bilibino**	**18.77**	**334**	*c iP*	**Pn**	**20 11 02.6**	**+1.6**
BILL				pmax	pmax		
	comp=Z,353nm,2.5s						
BILL				MLR	MLR		
	comp=Z,3μm,17.0s						
BCAR	**Beaver Creek A**	**19.05**	**45**	*e*P	**Pn**	**20 11 04.0**	**-0.4**
BCPM	**Bancas Point**	**19.30**	**55**	*e*P	**Pn**	**20 11 09.7**	**+2.4**
	comp=Z,252nm,0.8s						
FYU	**Fort Yukon**	**19.32**	**33**	*e*P	**Pn**	**20 11 09.3**	**+1.7**
	comp=Z,1μm,1.1s						
TOLK	**Toolik Lake Re**	**19.36**	**25**	*e*P	**Pn**	**20 11 08.8**	**+0.6**
TOLK				*e*Pn	**P**	**20 11 09.3**	**+2.4**
TOLK	**Toolik Lake Re**	**19.36**	**25**	P	**P**	**20 11 07.2**	**+0.2**
	baz=225,SNR=455						
SKR	**Severo-Kuril's**	**19.83**	**278**	*e*P	**P**	**20 11 10.4**	**-1.7**
SKR				*e*S	**S**	**20 14 46.7**	**-6.9**
SKR				pmax	pmax		
	comp=Z,1μm,14.7s						
SKR				pmax	pmax		
	comp=Z,800nm,13.2s						
SKR				MLR	MLR		
	comp=Z,2μm,20.0s						
EGAK	**Eagle**	**19.94**	**40**	*e*P	**P**	**20 11 13.4**	**+0.3**
	comp=Z,242nm,0.9s						
BMAR	**Burnt Mountain**	**20.02**	**31**	*e*P	**Pn**	**20 11 15.4**	**-0.6**
DAWY	**Dawson**	**20.40**	**43**	*e*P	Pn	20 11 20.8	+0.4
	comp=Z,175nm,1.1s						
DAWY				LR	LR		
	comp=Z,11μm,18.0s						
HYT	**Haines Junctio**	**20.47**	**52**	*e*P	Pn	20 11 20.9	-0.5
	comp=Z,154nm,0.8s						
SEY	**Seymchan**	**21.41**	**313**	P	**P**	**20 11 30.9**	**+1.8**
	comp=Z,126nm,1.0s,baz=107,slow=10,SNR=124						
SEY				ScP	**ScP**	**20 19 06.9**	**+0.9**
	comp=Z,6.7nm,1.1s,baz=187,slow=0.7,SNR=4.3						
SEY				LR	LR	20 20 41.3	
	comp=Z,2μm,18.2s,baz=102,slow=39						
SKAG	**Skagway**	**21.42**	**57**	*e*P	**P**	**20 11 29.9**	**+0.7**
BESE	**Bessie Mountai**	**21.64**	**59**	*e*P	**P**	**20 11 32.9**	**+1.2**
WHY	**Whitehorse**	**21.73**	**53**	*e*P	**P**	**20 11 36.5**	**+3.9**
	comp=Z,482nm,1.1s						
WHY				LR	LR		
	comp=Z,4μm,19.0s						
MA2	**Magadan**	**21.75**	**304**	*e*P	**P**	**20 11 34.8**	**+2.1**
	comp=Z,396nm,1.4s						
MA2				LR	LR		
	comp=Z,2μm,19.0s						
MA2	**Magadan**	**21.75**	**304**	*ce*P	**P**	**20 11 34.8**	**+2.1**
MA2				pmax	pmax		
	comp=Z,397nm,1.7s						
MA2	**Magadan**	**21.75**	**304**	P	**P**	**20 11 34.6**	**+1.9**
	comp=Z,80nm,0.9s,baz=94,slow=9.3,SNR=31						
MA2				ScP	**ScP**	**20 19 07.4**	**+0.4**
	comp=Z,2.1nm,0.4s,baz=128,slow=6.6,SNR=3.9						
MA2				LR	LR	20 20 06.9	
	comp=Z,2μm,19.6s,baz=98,slow=37						
JIS	**Juneau Island**	**21.89**	**60**	*e*P	**P**	**20 11 34.9**	**+0.7**
	comp=Z,275nm,0.9s						
JIS				LR	LR		
	comp=Z,6μm,18.0s						
EPYK	**Eagle Plains**	**22.26**	**38**	*e*P	**P**	**20 11 38.1**	**0.0**
	comp=Z,470nm,1.3s						
EPYK				LR	LR		
	comp=Z,6μm,18.0s						
EPYK	**Eagle Plains**	**22.26**	**38**	P	**P**	**20 11 37.4**	**-0.8**
	baz=249,SNR=80						
WRAK	**Wrangell Islan**	**23.13**	**64**	PFAKE		20 12 00.0	+13
WRAK				LR	LR		
	comp=Z,6μm,18.0s						
DIB	**Dawson Inlet,**	**23.65**	**72**	*e*P	**P**	**20 11 53.5**	**+1.0**
	comp=Z,197nm,1.0s						
DIB				LR	LR		
	comp=Z,3μm,20.0s						
INK	**Inuvik**	**24.12**	**34**	*e*PcP	**PcP**	**20 15 36.1**	**-0.8**
INK				*e*ScP	**ScP**	**20 19 14.0**	**+1.0**
INK				LR	LR		
	comp=Z,5μm,20.0s						
INK	**Inuvik**	**24.12**	**34**	P	**P**	**20 11 57.6**	**+0.9**
INK						20 15 36.1	
INK				pmax	pmax		
	comp=Z,24nm,0.8s						
INK				MLR	MLR		
	comp=Z,4μm,20.6s						
INK	**Inuvik**	**24.12**	**34**	P	**P**	**20 11 57.6**	**+0.9**
	comp=Z,24nm,0.8s,baz=228,slow=10,SNR=37						
INK				PcP	**PcP**	**20 15 36.1**	**-0.8**
	comp=Z,12nm,0.9s,baz=240,slow=2.7,SNR=6.0						
INK				ScP	**ScP**	**20 19 14.0**	**+1.0**
	comp=Z,3.8nm,0.9s,baz=296,slow=5.8,SNR=3.4						
INK				LR	LR	20 21 02.4	
	comp=Z,4μm,20.6s,baz=238,slow=36						
DLBC	**Dease Lake**	**24.18**	**59**	PFAKE		20 12 10.0	+12
DLBC				LR	LR		
	comp=Z,6μm,18.0s						
DLBC	**Dease Lake**	**24.18**	**59**	P	**P**	**20 11 58.8**	**+1.3**
	comp=Z,44nm,0.7s,baz=292,slow=10.0,SNR=29						
DLBC				LR	LR	20 21 38.2	
	comp=Z,5μm,18.2s,baz=290,slow=37						
MIDW	**Midway**	**24.59**	**192**	PFAKE		20 12 10.0	+8.7
MIDW				LR	LR		
	comp=Z,3μm,20.0s						
BBB	**Bella Bella**	**26.49**	**73**	PFAKE		20 12 30.0	+12
BBB				LR	LR		
	comp=Z,2μm,20.0s						
BBB	**Bella Bella**	**26.49**	**73**	P	**P**	**20 12 20.0**	**+1.6**
	comp=Z,57nm,0.8s,baz=297,slow=9.4,SNR=15						
BBB				LR	LR	20 20 54.1	
	comp=Z,2μm,19.5s,baz=305,slow=32						
KUR	**Kuril'sk**	**27.12**	**271**	*i P*	**P**	**20 12 24.5**	**+0.4**
NKL	**Nikolayevsk**	**28.21**	**290**	*e*P	**P**	**20 12 30.5**	**-3.3**
NKL				pmax	pmax		
	comp=Z,13nm,0.9s						
YSS	**Yuzh-Sakhalins**	**29.40**	**277**	PFAKE		20 13 00.0	+16
YSS				LR	LR		
	comp=Z,1μm,18.0s						
YSS	**Yuzh-Sakhalins**	**29.40**	**277**	*e*P	**P**	**20 12 47.0**	**+2.6**
YSS				*e*		20 13 36.1	
YSS				*e*		20 15 54.3	
YSS				*e*SS	SS	20 19 05.2	-36
YSS				*e*		20 19 21.9	
YSS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PGC	**Sidney**	**30.58**	**78**	PFAKE		20 13 10.0	+15
PGC				LR	LR		
	comp=Z,2μm,22.0s						
LLLB	**Lillooet**	**30.70**	**73**	*e*P	**P**	**20 12 56.7**	**+0.8**
	comp=Z,46nm,0.8s						
NLWA	**Neilton Lookou**	**30.90**	**80**	PFAKE		20 13 10.0	+12
NLWA				LR	LR		
	comp=Z,2μm,22.0s						
ASAJ	**Asahikawa**	**30.91**	**273**	P	**P**	**20 12 58.9**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,11nm,1.0s						
ASAJ	**Asahikawa**	**30.91**	**273**	P	**P**	**20 12 58.9**	**+1.1**
	comp=Z,15nm,1.1s,baz=322,slow=4.4,SNR=4.4						
ASAJ				ScP	**ScP**	**20 19 34.9**	**+0.8**
	comp=Z,16nm,1.0s,baz=315,slow=4.3,SNR=5.3						
D03D	**Eldon**	**31.30**	**79**	P	**P**	**20 13 00.7**	**-0.5**
	baz=298,SNR=18						
YKW3	**Yelloknife Ar**	**31.34**	**49**	*e*P	**P**	**20 13 02.7**	**+1.4**
	comp=Z,8.1nm,0.8s						
YKW3				LR	LR		
	comp=Z,3μm,20.0s						
YKA	**Yellowknife Ar**	**31.35**	**49**	*e*P	**P**	**20 13 00.7**	**-0.7**
YKA	**Yellowknife Ar**	**31.35**	**49**	*e*P	**P**	**20 13 02.8**	**+1.3**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA	**Yellowknife Ar**	**31.35**	**49**	P	**P**	**20 13 02.1**	**+0.6**
	comp=Z,2.3nm,0.5s,baz=271,slow=7.8,SNR=26						
YKA				PcP	**PcP**	**20 15 54.3**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=283,slow=2.4,SNR=4.6						
YKA				LR	LR	20 25 49.2	
	comp=Z,358nm,19.9s,baz=270,slow=37						
YKB5	**Yellowknife Ar**	**31.35**	**49**	*e*PcP	**PcP**	**20 15 54.4**	**-0.2**
GRNR	**Gornyy**	**31.52**	**288**	*e*P	**P**	**20 13 02.1**	**-1.1**
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
B05A	**Bryant**	**31.56**	**77**	P	**P**	**20 13 03.4**	**-0.1**
	baz=297,SNR=48						
D04E	**Lakebay**	**31.66**	**80**	P	**P**	**20 13 04.2**	**-0.1**
	baz=298						
ERM	**Erimo**	**31.73**	**269**	PFAKE		20 13 20.0	+15
ERM				LR	LR		
	comp=Z,2μm,20.0s						
ERM	**Erimo**	**31.73**	**269**	*i* P	**P**	**20 13 06.2**	**+1.2**
ERM				pmax	pmax		
	comp=Z,24nm,1.0s						
F03A	**Seaside**	**31.79**	**82**	PFAKE		20 13 20.0	+14
F03A				LR	LR		
	comp=Z,2μm,18.0s						
TIXI	**Tiksi**	**31.80**	**329**	*e*P	**P**	**20 13 05.7**	**+0.3**
	comp=Z,47nm,1.1s						
TIXI				*e*PcP	**PcP**	**20 15 57.2**	**+1.6**
TIXI				*e*ScP	**ScP**	**20 19 38.0**	**+1.4**
TIXI				LR	LR		
	comp=Z,3μm,20.0s						
TIXI	**Tiksi**	**31.80**	**329**	*ce*P	**P**	**20 13 05.6**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,39nm,1.0s						
TIXI	**Tiksi**	**31.80**	**329**	P	**P**	**20 13 05.3**	**-0.1**
	comp=Z,23nm,1.0s,baz=106,slow=10,SNR=59						
TIXI				PcP	**PcP**	**20 15 57.2**	**+1.6**
	comp=Z,7.2nm,0.9s,baz=79,slow=1.8,SNR=3.2						
TIXI				ScP	**ScP**	**20 19 38.0**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=124,slow=5.8,SNR=3.5						
B06A	**Marblemount**	**31.81**	**77**	PFAKE		20 13 20.0	+14
B06A				LR	LR		
	comp=Z,2μm,22.0s						
YAK	**Yakutsk**	**31.88**	**311**	*d iP*	**P**	**20 13 05.8**	**-0.3**
YAK				*e**PP	**sP**	**20 13 16.7**	**-1.3**
YAK				*e*		20 14 06.1	
YAK				*e*		20 15 52.0	
YAK				*e*S	**S**	**20 18 14.4**	**-0.3**
YAK				*e**SS	**sS**	**20 18 31.3**	**+2.8**
YAK				*e*SS	**SnSn**	**20 20 04.9**	**+1.2**
YAK				*e*		20 23 31.4	
YAK				pmax	pmax		
	comp=Z,610nm,0.9s						
YAK				pmax	pmax		
	comp=N,46nm,0.9s						
YAK				pmax	pmax		
	comp=E,288nm,1.1s						
YAK				pmax	pmax		
	comp=Z,144nm,1.0s						
YAK				pmax	pmax		
	comp=E,83nm,0.9s						
YAK				pmax	pmax		
	comp=N,141nm,1.7s						
YAK				smax	smax		
	comp=N,691nm,2.2s						
YAK				smax	smax		
	comp=E,509nm,2.8s						
YAK				MLR	MLR		
	comp=Z,14μm,20.0s						
YAK				MLR	MLR		
	comp=E,10μm,17.0s						
YAK				MLR	MLR		
	comp=N,7μm,15.0s						
F04D	**Rainier, OR**	**32.05**	**82**	P	**P**	**20 13 06.8**	**-1.0**
	baz=300						
E04D	**Cinebar**	**32.08**	**81**	P	**P**	**20 13 08.4**	**+0.3**
	baz=299,SNR=42						
D05A	**Enumclaw**	**32.12**	**79**	PFAKE		20 13 20.0	+12
D05A				LR	LR		
	comp=Z,2μm,18.0s						
G03D	**McMinnville, O**	**32.33**	**83**	P	**P**	**20 13 10.0**	**-0.2**
	baz=301,SNR=8.8						
C06D	**Leavenworth**	**32.44**	**77**	P	**P**	**20 13 09.9**	**-1.3**
	baz=298						
I02D	**Swisshome**	**32.55**	**85**	P	**P**	**20 13 10.0**	**-2.3**
	baz=302						
COR	**Corvallis**	**32.63**	**84**	*e*P	**P**	**20 13 15.2**	**+2.3**
	comp=Z,294nm,1.2s						
COR				LR	LR		
	comp=Z,2μm,22.0s						
COR	**Corvallis**	**32.63**	**84**	*e*P	**P**	**20 13 15.2**	**+2.3**
COR				pmax	pmax		
	comp=Z,294nm,1.2s						
COR				MLR	MLR		
	comp=Z,2μm,22.0s						
KIP	**Kipapa**	**32.84**	**156**	*i* P	**P**	**20 13 15.3**	**+0.4**
KIP				pmax	pmax		

comp=Z,2μm,18.0s
PINE Pine Mountain 34.49 84 *e*PcP **PcP 20 16 05.0 +1.1**
NEW Newport 34.51 75 PFAKE 20 13 40.0 +11
NEW LR LR
comp=Z,2μm,18.0s
NEW Newport 34.51 75 P **P 20 13 28.5 -0.8**
baz=298,SNR=117
NEW Newport 34.51 75 P **P 20 13 30.0 +0.7**
comp=Z,109nm,0.7s,baz=296,slow=7.8,SNR=50
NEW LR LR 20 25 21.2
comp=Z,992nm,21.4s,baz=299,slow=32
L04D Klamath Falls 34.54 87 P **P 20 13 29.1 -0.6**
baz=305,SNR=41
YBH Yreka Blue Hor 34.57 88 *e*P **P 20 13 31.7 +1.8**
comp=Z,108nm,1.1s
YBH LR LR
comp=Z,2μm,19.0s
YBH Yreka Blue Hor 34.57 88 P **P 20 13 31.2 +1.3**
YBH pmax pmax
comp=Z,63nm,1.0s
YBH MLR MLR
comp=Z,2μm,19.6s
YBH Yreka Blue Hor 34.57 88 P **P 20 13 31.2 +1.3**
comp=Z,48nm,1.0s,baz=316,slow=4.7,SNR=60
YBH LR LR 20 25 21.2
comp=Z,2μm,19.6s,baz=302,slow=32
J05D Fort Rock, OR 34.59 85 P **P 20 13 29.9 -0.3**
baz=304,SNR=50
K04D Chiloquin, OR 34.64 86 P **P 20 13 30.1 -0.5**
baz=304,SNR=10
M02C Callahan 34.68 89 P **P 20 13 31.0 +0.2**
baz=306,SNR=65
E09A Wood Farm, Sta 34.76 78 PFAKE 20 13 40.0 +8.6
E09A LR LR
comp=Z,1μm,18.0s
KMRM Mail Ridge 34.85 91 PFAKE 20 13 40.0 +7.7
KMRM LR LR
comp=Z,1μm,19.0s
G08A Pilot Rock 34.89 80 PFAKE 20 13 50.0 +17
G08A LR LR
comp=Z,1μm,20.0s
KLR Kul'dur 34.91 288 *i* P **P 20 13 29.5 -3.2**
KLR Kul'dur 34.91 288 P **P 20 13 31.0 -1.7**
comp=Z,2.4nm,0.9s,baz=54,slow=6.8,SNR=7.5
N02D Trinity Center 35.01 89 P **P 20 13 33.7 0.0**
baz=306,SNR=46
M04C Macdoel 35.07 87 P **P 20 13 34.8 +0.5**
baz=305,SNR=76
K05A Summer Lake 35.11 85 PFAKE 20 13 50.0 +15
K05A LR LR
comp=Z,1μm,19.0s
I07A Izee 35.21 82 PFAKE 20 13 50.0 +15
I07A LR LR
comp=Z,2μm,18.0s
KCPM Cahto Peak 35.25 92 PFAKE 20 13 50.0 +14
KCPM LR LR
comp=Z,2μm,18.0s
WDC Whiskeytown Da 35.35 90 PFAKE 20 13 50.0 +13
WDC LR LR
comp=Z,1μm,19.0s
WDC Whiskeytown Da 35.35 90 P **P 20 13 37.8 +1.3**
WDC pmax pmax
comp=Z,95nm,0.9s
O02D Mt. Diablo Mer 35.44 90 P **P 20 13 37.9 +0.5**
baz=307,SNR=93
NPH North Pit 35.50 152 PFAKE 20 13 50.0 +12
NPH LR LR
comp=Z,4μm,22.0s
NPH North Pit 35.50 152 P **P 20 13 38.7 +0.6**
NPH pmax pmax
comp=Z,208nm,1.2s
SDHHI Sand Hill 35.51 152 PFAKE 20 13 50.0 +12
SDHHI LR LR
comp=Z,2μm,18.0s
ZEA Zeya 35.52 297 *e*P **P 20 13 36.8 -1.1**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=N,1μm,13.0s
F10A Beach Ranch, E 35.58 78 *e*P **P 20 13 38.7 +0.1**
comp=N,66nm,0.9s
F10A LR LR
comp=Z,2μm,22.0s
MOD Modoc Plateau 35.94 86 PFAKE 20 13 50.0 +8.2
MOD LR LR
comp=Z,2μm,20.0s
O03E Paynes Creek 35.97 89 P **P 20 13 41.9 -0.1**
baz=307,SNR=130
HOPS Hopland Field 35.99 92 PFAKE 20 13 50.0 +8.0
HOPS LR LR
comp=Z,2μm,18.0s
BMO Blue Mountains 36.12 80 PFAKE 20 14 00.0 +17
BMO LR LR
comp=Z,1μm,18.0s
BMO Blue Mountains 36.12 80 P **P 20 13 43.8 +0.6**
BMO pmax pmax
comp=Z,230nm,1.9s
GDXM Geysers 36.27 92 PFAKE 20 14 00.0 +15
GDXM LR LR
comp=Z,2μm,18.0s
ORV Oroville 36.60 90 *e*P **P 20 13 46.1 -1.2**
comp=Z,66nm,1.1s
ORV LR LR
comp=Z,900nm,20.0s
ORV Oroville 36.60 90 *e*P **P 20 13 46.1 -1.2**
ORV pmax pmax
comp=Z,66nm,1.1s
ORV MLR MLR
comp=Z,900nm,20.0s
H11N2 WAKE ISLAND Hy 36.61 215 T T 20 52 00.7
baz=21,slow=75,SNR=406
H11N3 WAKE ISLAND Hy 36.62 215 T T 20 52 01.3
baz=21,slow=75,SNR=484
H11N1 WAKE ISLAND Hy 36.63 215 T T 20 52 02.1
baz=21,slow=75,SNR=399
MCCM Marconi Confer 36.63 93 PFAKE 20 14 00.0 +12
MCCM LR LR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 36.65 84 PFAKE 20 14 00.0 +12
WVOR LR LR
comp=Z,1μm,19.0s
RES Resolute Bay 36.94 26 *e*PcP **PcP 20 16 12.1 +1.8**
RES LR LR
comp=Z,3μm,22.0s
RES Resolute Bay 36.94 26 P **P 20 13 48.8 -0.9**
comp=Z,18nm,0.9s,baz=239,slow=12,SNR=22
RES PcP **PcP 20 16 12.1 +1.8**
comp=Z,5.5nm,0.7s,baz=289,slow=3.0,SNR=3.7
MSO Missoula 37.09 75 *e*PcP **PcP 20 16 11.3 -0.1**
MSO LR LR
comp=Z,2μm,19.0s
MSO Missoula 37.09 75 P **P 20 13 51.2 -0.3**
baz=301,SNR=41
BEKR Beckworth 37.11 89 PFAKE 20 14 00.0 +8.2
BEKR LR LR
comp=Z,900nm,20.0s
AFDM Forest Hills D 37.30 91 PFAKE 20 14 10.0 +17
AFDM LR LR
comp=Z,1μm,18.0s
USA0B Ussuriysk Arra 37.31 280 PFAKE 20 14 10.0 +17
USA0B LR LR
comp=Z,1μm,20.0s
USRK Ussuriysk Ar. 37.31 280 PcP **PcP 20 16 12.1 +0.1**
comp=Z,14nm,0.9s,baz=72,slow=2.9,SNR=9.3
USRK LR LR 20 27 49.6
comp=Z,1μm,21.6s,baz=55,slow=34
PAHR Pah Rah Range 37.80 88 PFAKE 20 14 10.0 +12
PAHR LR LR
comp=Z,2μm,20.0s
H11S1 WAKE ISLAND Hy 37.81 214 T T 20 53 25.8
baz=15
H11S2 WAKE ISLAND Hy 37.83 214 T T 20 53 27.3
baz=15
H11S3 WAKE ISLAND Hy 37.83 214 T T 20 53 27.2
baz=15
VCNR Virginia City 37.89 89 PFAKE 20 14 10.0 +12
VCNR LR LR
comp=Z,700nm,19.0s
PNTR Pine Nut 38.05 89 PFAKE 20 14 10.0 +10
PNTR LR LR
comp=Z,700nm,20.0s
MJAR Matsushiro Arr 38.12 265 P **P 20 14 00.0 -0.2**
comp=Z,7.6nm,0.9s,baz=42,slow=6.4,SNR=30
MJAR PcP **PcP 20 16 14.7 0.0**
comp=Z,12nm,0.9s,baz=290,slow=0.2,SNR=7.8
MJAR ScP **ScP 20 19 59.9 -0.1**
comp=Z,1.0nm,0.8s,baz=59,slow=3.4,SNR=5.1
MJAR LR LR 20 27 51.6
comp=Z,701nm,21.9s,baz=55,slow=33
MAJO Matsushiro 38.12 265 *e*P **P 20 14 00.1 -0.1**
comp=Z,80nm,0.8s
MAJO *e*PcP **PcP 20 16 14.7 0.0**
MAJO *e*ScP **ScP 20 19 59.9 -0.1**
MAJO LR LR
comp=Z,1μm,21.0s
MAJO Matsushiro 38.12 265 *i* P **P 20 13 59.9 -0.3**
MAJO pmax pmax
comp=Z,41nm,1.2s
MAT Matsushiro 38.12 265 P **P 20 13 58.9 -1.3**
MJB9 Matsu-Tunnel 38.12 265 *e*P **P 20 14 00.3 +0.1**
comp=Z,84nm,0.9s
MJB9 LR LR
comp=Z,1μm,21.0s
CMB Columbia Colle 38.23 91 PFAKE 20 14 10.0 +8.9
CMB LR LR
comp=Z,1μm,22.0s
CMB Columbia Colle 38.23 91 P **P 20 14 02.0 +0.9**
CMB pmax pmax
comp=Z,124nm,1.3s
YERR Yerington 38.33 89 PFAKE 20 14 10.0 +7.8
YERR LR LR
comp=Z,1μm,20.0s
SAO San Andreas Ge 38.39 94 PFAKE 20 14 10.0 +7.5
SAO LR LR
comp=Z,1μm,22.0s
SAO San Andreas Ge 38.39 94 P **P 20 14 03.5 +1.0**
SAO pmax pmax
comp=Z,77nm,0.8s
WAKR Walker 38.51 90 PFAKE 20 14 20.0 +16
WAKR LR LR
comp=Z,2μm,22.0s
MDJ Mudanjiang 38.52 282 PFAKE 20 14 20.0 +17
MDJ LR LR
comp=Z,2μm,18.0s
HLID Hailey 38.57 80 PFAKE 20 14 20.0 +16
HLID LR LR
comp=Z,2μm,18.0s
HLID Hailey 38.57 80 P **P 20 14 03.4 -0.7**
baz=304,SNR=96
DLMT Dillon 38.66 76 PFAKE 20 14 20.0 +15
DLMT LR LR
comp=Z,1μm,22.0s
BMN Battle Mountai 38.68 86 PFAKE 20 14 20.0 +15
BMN LR LR
comp=Z,1μm,20.0s
EGMT Eagleton 38.93 71 PFAKE 20 14 20.0 +13
EGMT LR LR
comp=Z,2μm,19.0s
EGMT Eagleton 38.93 71 P **P 20 14 06.7 -0.2**
baz=301,SNR=6.7
KVN Kaiserville 38.99 88 PFAKE 20 14 20.0 +12
KVN LR LR
comp=Z,1μm,19.0s
KVN Kaiserville 38.99 88 P **P 20 14 08.4 +0.7**
KVN S **S 20 20 06.6 +1.9**
KVN smax smax
comp=N,183nm,1.4s
RYN Ryan 38.99 89 PFAKE 20 14 20.0 +12
RYN LR LR
comp=Z,1μm,20.0s
BOZ Bozeman (W) 39.11 75 PFAKE 20 14 20.0 +11
BOZ LR LR
comp=Z,2μm,19.0s
BOZ Bozeman (W) 39.11 75 P **P 20 14 08.6 0.0**
BOZ pmax pmax
comp=Z,331nm,1.7s
BOZ Bozeman (W) 39.11 75 P **P 20 14 07.7 -0.9**
baz=303,SNR=76
NV01 Mina Array Sit 39.25 89 *e*PcP **PcP 20 16 19.1 +0.7**
NV01 *e*ScP **ScP 20 20 05.4 +0.9**
NVAR Mina Array Bea 39.25 89 P **P 20 14 10.8 +0.8**
comp=Z,66nm,0.8s,baz=294,slow=8.3,SNR=157
NVAR PcP **PcP 20 16 19.1 +0.7**
comp=Z,19nm,0.9s,baz=264,slow=3.2,SNR=5.6
NVAR ScP **ScP 20 20 05.4 +0.9**
comp=Z,1.0nm,0.7s,baz=344,slow=2.3,SNR=5.1
NVAR LR LR 20 27 33.8
comp=Z,887nm,18.9s,baz=312,slow=32
MDPB Devils Postpil 39.28 91 PFAKE 20 14 20.0 +10
MDPB LR LR
comp=Z,1μm,21.0s
NV11 Mina Array Sit 39.34 89 PFAKE 20 14 20.0 +9.4
NV11 LR LR
comp=Z,100nm,20.0s
OMMB Old Mammoth Mi 39.34 91 PFAKE 20 14 20.0 +9.2
OMMB LR LR
comp=Z,1μm,19.0s
MLAC Mammoth, Mammo 39.43 90 P **P 20 14 11.1 -0.3**
baz=310,SNR=26
JHJ Hachijo jima 2 39.47 260 LR LR 20 28 32.0
comp=Z,387nm,20.4s,baz=52,slow=33
ELK Elko 39.70 84 PFAKE 20 14 30.0 +16
ELK LR LR
comp=Z,2μm,18.0s
PAGB Antelope Grade 39.80 94 PFAKE 20 14 30.0 +16
PAGB LR LR
comp=Z,800nm,19.0s
VOG Valley Oaks Go 39.94 92 P **P 20 14 15.1 -0.3**
baz=311,SNR=6.1
FFC Flin Flon 40.00 58 *e*P **P 20 14 14.8 -0.9**
comp=Z,116nm,1.1s
FFC LR LR
comp=Z,4μm,19.0s
FFC Flin Flon 40.00 58 *i* P **P 20 14 14.8 -0.9**
TIN Tinemaha, Big 40.17 91 P **P 20 14 17.5 +0.1**
baz=310,SNR=39
SMMC Simmler 40.23 94 P **P 20 14 18.0 +0.1**
baz=312,SNR=59
H17A Grant Village 40.39 76 PFAKE 20 14 30.0 +11
H17A LR LR
comp=Z,1μm,19.0s
H17A Grant Village 40.39 76 P **P 20 14 19.1 -0.3**
baz=304,SNR=67
LKWY Lake 40.40 76 *e*P **P 20 14 21.0 +1.5**
comp=Z,125nm,0.8s
LKWY LR LR
comp=Z,2μm,19.0s
LKWY Lake 40.40 76 *e*P **P 20 14 21.0 +1.5**
LKWY pmax pmax
comp=Z,125nm,0.8s
LKWY MLR MLR
comp=Z,2μm,19.0s
VES Vestal, Richgr 40.44 93 P **P 20 14 19.6 0.0**
baz=311,SNR=118
IMW Indian Meadow 40.46 77 PFAKE 20 14 30.0 +10
IMW LR LR
comp=Z,600nm,19.0s
FLWY Flagg Ranch 40.50 77 PFAKE 20 14 30.0 +10
FLWY LR LR
comp=Z,600nm,19.0s
PKM Mcpherson Peak 40.63 95 P **P 20 14 21.4 +0.1**
baz=312,SNR=52
MOOW Moose Ponds 40.66 77 PFAKE 20 14 30.0 +8.5
MOOW LR LR
comp=Z,700nm,21.0s
CWC Cottonwood Cre 40.66 91 P **P 20 14 20.6 -1.0**
baz=311
BOD Bodaibo 40.66 308 *e*P **P 20 14 20.4 -0.7**
BOD pmax pmax
comp=Z,102nm,1.4s
TPAW Teton Pass 40.68 78 PFAKE 20 14 30.0 +8.2
TPAW LR LR
comp=Z,1μm,18.0s
GRAC Grapevine Rang 40.74 90 P **P 20 14 22.2 +0.1**
baz=310,SNR=27
RLMT Red Lodge 40.76 74 PFAKE 20 14 30.0 +7.6
RLMT LR LR
comp=Z,1μm,19.0s
RLMT Red Lodge 40.76 74 P **P 20 14 21.8 -0.5**
baz=304,SNR=120
REDW Red Top Meadow 40.81 78 PFAKE 20 14 30.0 +7.2
REDW LR LR
comp=Z,1μm,18.0s
SNOW Snow King Moun 40.81 77 PFAKE 20 14 30.0 +7.1
SNOW LR LR
comp=Z,1μm,18.0s
LOHW Long Hollow 40.82 77 PFAKE 20 14 30.0 +7.1
LOHW LR LR
comp=Z,700nm,20.0s
ISA Isabella, Lake 40.93 93 PFAKE 20 14 40.0 +16
ISA LR LR
comp=Z,1μm,22.0s
ISA Isabella, Lake 40.93 93 P **P 20 14 23.9 +0.2**
ISA pmax pmax
comp=Z,109nm,0.9s
ISA Isabella, Lake 40.93 93 P **P 20 14 23.5 -0.2**
baz=312,SNR=143
R11A Troy Canyon, C 40.96 87 PFAKE 20 14 40.0 +16
R11A LR LR
comp=Z,2μm,20.0s
R11A Troy Canyon, C 40.96 87 P **P 20 14 23.7 -0.3**
baz=309,SNR=182
SBC Santa Barbara 40.99 95 P **P 20 14 24.1 +0.1**
baz=313,SNR=7.7
AHID Auburn Hatcher 41.01 79 PFAKE 20 14 40.0 +16
AHID LR LR
comp=Z,2μm,21.0s
ARVC Arvin 41.07 93 P **P 20 14 24.5 -0.2**
baz=312,SNR=12
MPMC Manual Prospec 41.27 91 P **P 20 14 26.5 -0.1**
baz=311,SNR=126
SCZ2 Santa Cruz Isl 41.34 95 P **P 20 14 27.3 +0.3**
baz=313,SNR=7.6
FURC Furnace Creek, 41.39 90 P **P 20 14 27.4 +0.1**
baz=311,SNR=85
HWUT Hardware Ranch 41.41 80 PFAKE 20 14 40.0 +12
HWUT LR LR
comp=Z,500nm,18.0s
CN2 Changchun 41.44 284 *e*P **P 20 14 28.2 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
TPNV Topopah Spring 41.45 89 P **P 20 14 27.8 -0.3**
baz=310
OSI Osito Audit: C 41.48 94 PFAKE 20 14 40.0 +12
OSI LR LR
comp=Z,800nm,18.0s
OSI Osito Audit: C 41.48 94 P **P 20 14 27.1 -1.1**
baz=312
DUG Dugway, Tooele 41.51 83 PFAKE 20 14 40.0 +12
DUG LR LR
comp=Z,1μm,19.0s
DUG Dugway, Tooele 41.51 83 P **P 20 14 28.8 +0.3**
DUG pmax pmax
comp=Z,179nm,1.4s
DUG Dugway, Tooele 41.51 83 P **P 20 14 28.2 -0.2**
baz=308,SNR=133
LRMC Laurel Mtn Rad 41.53 92 P **P 20 14 28.3 -0.4**
baz=312,SNR=36
BLG Laguna Peak, P 41.61 95 P **P 20 14 29.1 -0.1**
baz=313,SNR=33
LAO LASA Array 41.68 71 PFAKE 20 14 40.0 +10
LAO LR LR
comp=Z,3μm,19.0s
LAO LASA Array 41.68 71 P **P 20 14 28.5 -1.2**
baz=303,SNR=18
EDW2 Edwards Air Fo 41.74 93 P **P 20 14 30.3 -0.1**
baz=312,SNR=63
HIA Hailar 41.75 294 PFAKE 20 14 40.0 +10
HIA LR LR
comp=Z,2μm,20.0s
HIA Hailar 41.75 294 *i* P **P 20 14 28.2 -2.0**
HIA pmax pmax
comp=Z,46nm,1.0s
DGMT Dagmar 41.87 67 PFAKE 20 14 40.0 +8.8
DGMT LR LR
comp=Z,3μm,18.0s
DGMT Dagmar 41.87 67 P **P 20 14 29.9 -1.3**
baz=302,SNR=6.8
SNCC San Nicolas Is 41.92 96 PFAKE 20 14 40.0 +8.3
SNCC LR LR
comp=Z,800nm,22.0s
SNCC San Nicolas Is 41.92 96 P **P 20 14 30.9 -0.8**
baz=314,SNR=10.0
BW06 Boulder Array 41.93 78 PFAKE 20 14 40.0 +8.0
BW06 LR LR
comp=Z,1μm,19.0s
BW06 Boulder Array 41.93 78 P **P 20 14 31.1 -0.9**
baz=306,SNR=170
PDAR Pinedale Array 41.93 78 *e*P **P 20 14 31.7 -0.3**
PDAR Pinedale Array 41.93 78 P **P 20 14 32.4 +0.3**
comp=Z,87nm,0.8s,baz=308,slow=3.6,SNR=140
PDAR LR LR 20 29 35.5
comp=Z,996nm,20.8s,baz=331,slow=33
DECC Green Verdugo 41.96 94 P **P 20 14 31.3 -0.8**
baz=313,SNR=7.8
FCC Fort Churchill 42.07 50 *e*P **P 20 14 31.0 -1.6**
comp=Z,87nm,0.8s
FCC LR LR
comp=Z,6μm,18.0s
FCC Fort Churchill 42.07 50 *e*P **P 20 14 31.0 -1.6**
FCC pmax pmax
comp=Z,87nm,0.8s
FCC MLR MLR
comp=Z,6μm,18.0s
PASC Pasadena Art C 42.10 94 PFAKE 20 14 50.0 +17
PASC LR LR
comp=Z,800nm,20.0s
SHOC Shoshone, Teco 42.12 90 P **P 20 14 33.2 -0.2**
baz=311,SNR=30
MWC Mount Wilson 42.15 94 PFAKE 20 14 50.0 +16
MWC LR LR
comp=Z,900nm,22.0s
GSC Goldstone, Bar 42.19 92 PFAKE 20 14 50.0 +16
GSC LR LR
comp=Z,800nm,18.0s
GSC Goldstone, Bar 42.19 92 P **P 20 14 33.9 -0.1**
baz=312,SNR=283
FMP Fort Macarthur 42.35 95 P **P 20 14 35.0 -0.2**
baz=313
RRX Edison Barstow 42.35 92 P **P 20 14 35.2 0.0**
baz=312
BFSC Mount Baldy Ra 42.38 93 P **P 20 14 35.4 -0.3**
baz=313,SNR=113
SHPR Sheep Range 42.40 89 PFAKE 20 14 50.0 +14
SHPR LR LR
comp=Z,1μm,22.0s
CIS Catalina Islan 42.49 95 P **P 20 14 35.9 -0.4**
baz=313,SNR=13
TULEG Thule 42.54 20 *e*P **P 20 14 35.8 -0.4**
comp=Z,96nm,1.3s
TULEG LR LR
comp=Z,1μm,21.0s
TUQ Turquoise Moun 42.64 91 P **P 20 14 37.3 -0.4**
baz=312,SNR=45
SCI2 San Clemente I 42.70 96 P **P 20 14 37.6 -0.4**
baz=314,SNR=12
HEC Hector,Ludlow 42.79 92 P **P 20 14 39.0 +0.1**
baz=312,SNR=106
BBRC Big Bear Solar 42.81 93 P **P 20 14 38.9 -0.4**
baz=313,SNR=6.3
MURC Murrieta 43.09 94 P **P 20 14 40.8 -0.5**
baz=313,SNR=14
GMRC Granite Mounta 43.23 91 P **P 20 14 42.6 0.0**
baz=312,SNR=113
LDFC Landfair 43.37 90 *e*P **P 20 14 43.8 +0.1**
comp=Z,187nm,0.8s
LDFC LR LR
comp=Z,1μm,18.0s
PFO Pinyon Flats O 43.53 93 *e*P **P 20 14 45.2 +0.2**
comp=Z,252nm,1.5s
PFO LR LR
comp=Z,800nm,19.0s
PFO Pinyon Flats O 43.53 93 *e*P **P 20 14 45.2 +0.2**
PFO pmax pmax
comp=Z,252nm,1.5s
PFO MLR MLR
comp=Z,800nm,19.0s
PFO Pinyon Flats O 43.53 93 P **P 20 14 44.9 0.0**
baz=313,SNR=65
PFO Pinyon Flats O 43.53 93 P **P 20 14 45.3 +0.3**
comp=Z,59nm,0.8s,baz=331,slow=7.1,SNR=28
BELC Belle Mtn. Jos 43.55 92 P **P 20 14 44.8 -0.3**
baz=313,SNR=57
109C Camp Elliot, M 43.63 94 P **P 20 14 45.7 +0.1**
baz=314,SNR=30
K22A Casper 43.81 76 PFAKE 20 15 00.0 +13
K22A LR LR
comp=Z,1μm,19.0s
K22A Casper 43.81 76 P **P 20 14 46.2 -1.0**
baz=307,SNR=36
KSRS Korea Array 43.81 275 P **P 20 14 46.8 -0.1**
comp=Z,2.4nm,0.8s,baz=47,slow=8.1,SNR=6.9

KSRS PcP **PcP** **20 16 32.9 -0.1**
comp=Z,4.1nm,0.9s,baz=46,slow=4.9,SNR=4.2
KSRS LR LR 20 32 04.5
comp=Z,598nm,20.8s,baz=52,slow=35
KS15 Wonju Array Si 43.84 275 *e*P **P** **20 14 46.4 -0.9**
comp=Z,20nm,1.1s
KS15 *e*PcP **PcP** **20 16 32.9 -0.2**
NEE2 Needles Airpor 43.88 90 P **P** **20 14 47.9 +0.3**
baz=312,SNR=8.8
IRM Iron Mountain 43.97 91 P **P** **20 14 48.4 0.0**
baz=313,SNR=75
RWWY Rawlins 43.98 77 PFAKE 20 15 00.0 +11
RWWY LR LR
comp=Z,2μm,19.0s
BAR Barrett 44.04 94 PFAKE 20 15 00.0 +11
BAR LR LR
comp=Z,600nm,19.0s
MONP2 Monument Peak 44.05 94 P **P** **20 14 49.4 +0.2**
baz=314,SNR=64
BC3 Big Chuckawall 44.12 92 P **P** **20 14 49.3 -0.4**
baz=313,SNR=44
U15A North Rim 44.21 87 PFAKE 20 15 00.0 +9.5
U15A LR LR
comp=Z,1μm,19.0s
O20A White River Ci 44.31 80 PFAKE 20 15 00.0 +8.8
O20A LR LR
comp=Z,1μm,18.0s
O20A White River Ci 44.31 80 P **P** **20 14 50.7 -0.5**
baz=308,SNR=103
SWSC Sam W. Stewart 44.39 93 P **P** **20 14 51.8 +0.1**
baz=314,SNR=29
RSSD Black Hills 44.40 73 *e*P **P** **20 14 51.0 -0.9**
comp=Z,60nm,1.1s
RSSD LR LR
comp=Z,2μm,20.0s
RSSD Black Hills 44.40 73 *e*P **P** **20 14 51.0 -0.9**
RSSD pmax pmax
comp=Z,60nm,1.1s
RSSD MLR MLR
comp=Z,2μm,20.0s
RSSD Black Hills 44.40 73 P **P** **20 14 50.8 -1.2**
baz=306
IKP In-Ko-Pah, Jac 44.41 94 P **P** **20 14 52.2 +0.3**
baz=314,SNR=60
PDMCI Parker Dam,Lak 44.48 90 P **P** **20 14 52.1 -0.3**
baz=312,SNR=50
Y12C Blythe 44.62 91 PFAKE 20 15 10.0 +16
Y12C LR LR
comp=Z,900nm,19.0s
Y12C Blythe 44.62 91 P **P** **20 14 53.9 +0.3**
baz=313,SNR=101
MDND Maddock 44.79 66 PFAKE 20 15 10.0 +15
MDND LR LR
comp=Z,3μm,18.0s
MDND Maddock 44.79 66 P **P** **20 14 53.7 -1.0**
baz=304,SNR=8.2
TJN Taejon 44.85 274 *i* P **P** **20 14 57.5 +2.2**
JNU Nakatsue 44.88 268 PFAKE 20 15 10.0 +14
JNU LR LR
comp=Z,900nm,21.0s
JNU Nakatsue 44.88 268 P **P** **20 14 55.8 +0.2**
comp=Z,39nm,1.1s,baz=53,slow=7.1,SNR=14
JNU LR LR 20 32 53.3
comp=Z,558nm,22.0s,baz=61,slow=35
GLA Glamis 44.91 92 PFAKE 20 15 10.0 +14
GLA LR LR
comp=Z,1μm,19.0s
GLA Glamis 44.91 92 P **P** **20 14 56.5 +0.6**
GLA pmax pmax
comp=Z,87nm,0.7s
GLA Glamis 44.91 92 P **P** **20 14 56.3 +0.4**
baz=314,SNR=41
PV10 Paradox Valley 44.93 82 PFAKE 20 15 10.0 +14
PV10 LR LR
comp=Z,2μm,20.0s
PV22 Blue Mesa, Par 44.98 82 PFAKE 20 15 10.0 +13
PV22 LR LR
comp=Z,1μm,18.0s
PV04 Paradox Valley 45.00 82 PFAKE 20 15 10.0 +13
PV04 LR LR
comp=Z,2μm,18.0s
PV19 Morning Glory 45.01 82 PFAKE 20 15 10.0 +13
PV19 LR LR
comp=Z,1μm,20.0s
PV05 Paradox Valley 45.08 83 PFAKE 20 15 10.0 +13
PV05 LR LR
comp=Z,2μm,21.0s
PV18 Skein Mesa, Pa 45.09 82 PFAKE 20 15 10.0 +13
PV18 LR LR
comp=Z,2μm,18.0s
PV03 Paradox Valley 45.12 82 PFAKE 20 15 10.0 +12
PV03 LR LR
comp=Z,1μm,18.0s
N23A Red Feather La 45.22 77 PFAKE 20 15 10.0 +11
N23A LR LR
comp=Z,2μm,18.0s
N23A Red Feather La 45.22 77 P **P** **20 14 58.0 -0.5**
baz=308,SNR=41
PV02 Paradox Valley 45.22 82 PFAKE 20 15 10.0 +11
PV02 LR LR
comp=Z,1μm,20.0s
PHWY Pilot Hill 45.25 77 PFAKE 20 15 10.0 +11
PHWY LR LR
comp=Z,700nm,22.0s
WUAZ Wupatki 45.37 87 PFAKE 20 15 10.0 +10
WUAZ LR LR
comp=Z,1μm,20.0s
WUAZ Wupatki 45.37 87 P **P** **20 15 00.1 +0.5**
baz=312,SNR=80
ULM Lac du Bonnet 45.48 61 PFAKE 20 15 10.0 +10
ULM LR LR
comp=Z,2μm,19.0s
ULM Lac du Bonnet 45.48 61 P **P** **20 14 59.1 -1.0**
comp=Z,62nm,0.9s,baz=306,slow=8.2,SNR=25
ULM PcP **PcP** **20 16 37.6 -1.0**
comp=Z,17nm,0.9s,baz=270,slow=5.1,SNR=2.1
ULM LR LR 20 34 36.2
comp=Z,2μm,20.0s,baz=316,slow=37
NRIK Noril'sk 45.54 331 P **P** **20 15 00.3 0.0**
comp=Z,38nm,1.0s,baz=69,slow=7.8,SNR=51
NRIK LR LR 20 35 07.7
comp=Z,2μm,19.7s,baz=68,slow=38
SMCO Snowmass 45.67 80 PFAKE 20 15 10.0 +7.7
SMCO LR LR
comp=Z,1μm,21.0s
MVCO Mesa Verde 46.01 83 PFAKE 20 15 20.0 +15
MVCO LR LR
comp=Z,1μm,20.0s
MVCO Mesa Verde 46.01 83 P **P** **20 15 04.3 -0.5**
baz=311,SNR=39
KULLO Kullorsuaq 46.05 20 *i* P **P** **20 15 03.5 -0.8**
KULLO pmax pmax
comp=Z,21nm,1.0s
KULLO Kullorsuaq 46.05 20 *i* P **P** **20 15 03.5 -0.8**
comp=Z,21nm,1.0s
KULLO *i* 20 15 08.9
X16A Lo Mia Camp, P 46.06 88 PFAKE 20 15 20.0 +15
X16A LR LR
comp=Z,1μm,19.0s
ISCO Idaho Springs 46.09 78 PFAKE 20 15 20.0 +14
ISCO LR LR
comp=Z,1μm,18.0s
ISCO Idaho Springs 46.09 78 P **P** **20 15 06.7 +1.2**
ISCO pmax pmax
comp=Z,75nm,1.8s
ISCO Idaho Springs 46.09 78 P **P** **20 15 04.6 -0.9**
baz=309,SNR=44
AGMN Agassiz Nation 46.60 63 PFAKE 20 15 20.0 +11
AGMN LR LR
comp=Z,2μm,21.0s
AGMN Agassiz Nation 46.60 63 P **P** **20 15 07.2 -1.7**
baz=305,SNR=15
W18A Petrified Fore 46.63 86 PFAKE 20 15 20.0 +10
W18A LR LR
comp=Z,2μm,18.0s
W18A Petrified Fore 46.63 86 P **P** **20 15 09.6 0.0**
baz=312,SNR=37
S22A 4UR Ranch, Cre 46.67 81 PFAKE 20 15 20.0 +10
S22A LR LR
comp=Z,900nm,18.0s
S22A 4UR Ranch, Cre 46.67 81 P **P** **20 15 09.7 -0.4**
baz=310,SNR=60
DL2 Dalian 46.69 281 P **P** **20 15 11.3 +1.5**
DL2 PP **PP** **20 17 03.7 +4.1**
DL2 S **S** **20 21 58.8 +1.5**
DL2 sS **sS** **20 22 13.4 +1.8**

DL2 pmax pmax
comp=Z,24nm,1.0s
DL2 pmax pmax
comp=Z,160nm,5.0s
DL2 LR LR
comp=Z,970nm,17.3s
DL2 LR LR
comp=Z,1μm,18.6s
DL2 LR LR
comp=Z,900nm,20.6s
X18A Snowflake 46.89 87 PFAKE 20 15 20.0 +8.3
X18A LR LR
comp=Z,1μm,21.0s
214A Organ Pipe Nat 46.90 92 P **P** **20 15 11.9 +0.3**
baz=314,SNR=80
Q24A Divide 46.90 79 PFAKE 20 15 20.0 +8.1
Q24A LR LR
comp=Z,1μm,19.0s
Q24A Divide 46.90 79 P **P** **20 15 11.8 -0.1**
baz=310,SNR=6.9
SUSD Miller 47.14 69 P **P** **20 15 12.0 -1.4**
baz=307,SNR=9.1
SDCO Great Sand Dun 47.47 80 PFAKE 20 15 30.0 +14
SDCO LR LR
comp=Z,901nm,18.0s
SDCO Great Sand Dun 47.47 80 P **P** **20 15 16.0 -0.3**
baz=311,SNR=144
OGNE Ogallala 47.50 75 P **P** **20 15 15.2 -1.0**
baz=309,SNR=7.0
TUC Tucson 47.89 90 *e*P **P** **20 15 19.5 +0.1**
comp=Z,130nm,0.9s
TUC Tucson 47.89 90 *e*P **P** **20 15 19.5 +0.1**
TUC pmax pmax
comp=Z,130nm,0.9s
TUC Tucson 47.89 90 P **P** **20 15 18.9 -0.4**
baz=314
IRK Irkutsk 48.32 305 *e*P **P** **20 15 20.8 -1.5**
IRK pmax pmax
comp=Z,93nm,3.0s
KSCO Kaye Shedlock' 48.38 77 PFAKE 20 15 40.0 +17
KSCO LR LR
comp=Z,1μm,18.0s
KSCO Kaye Shedlock' 48.38 77 P **P** **20 15 22.5 -0.6**
baz=310,SNR=36
T25A Trinidad 48.53 80 PFAKE 20 15 40.0 +16
T25A LR LR
comp=Z,700nm,20.0s
T25A Trinidad 48.53 80 P **P** **20 15 24.3 -0.1**
baz=311,SNR=144
SARN Sarigan 48.73 239 PFAKE 20 15 40.0 +14
SARN LR LR
comp=Z,900nm,18.0s
TASM ASL Pad, Albuq 48.74 84 P **P** **20 15 25.5 -0.6**
baz=312,SNR=77
TASM ASL Pad, Albuq 48.74 84 P **P** **20 15 25.6 -0.4**
baz=312,SNR=71
ANMO Albuquerque 48.74 84 *e*P **P** **20 15 25.9 -0.1**
comp=Z,136nm,1.5s
ANMO LR LR
comp=Z,900nm,18.0s
ANMO Albuquerque 48.74 84 *ce*P **P** **20 15 25.8 -0.2**
ANMO pmax pmax
comp=Z,43nm,1.7s
ANMO Albuquerque 48.74 84 P **P** **20 15 24.5 -1.5**
baz=312
KBS Kingsbay 48.81 359 PFAKE 20 15 40.0 +14
KBS LR LR
comp=Z,900nm,18.0s
KBS Kingsbay 48.81 359 *ce*P **P** **20 15 27.0 +1.3**
KBS pmax pmax
comp=Z,282nm,0.8s
ECSD EROS Data Cent 48.91 69 PFAKE 20 15 40.0 +13
ECSD LR LR
comp=Z,3μm,18.0s
ECSD EROS Data Cent 48.91 69 P **P** **20 15 24.8 -2.2**
baz=308,SNR=22
TLY Talaya 48.97 305 PFAKE 20 15 40.0 +13
TLY LR LR
comp=Z,2μm,18.0s
TLY Talaya 48.97 305 *i* P **P** **20 15 28.3 +1.0**
TLY pmax pmax
comp=Z,55nm,1.0s
Y22D IRIS PASSCAL I 49.05 85 PFAKE 20 15 40.0 +12
Y22D LR LR
comp=Z,1μm,18.0s
Y22D IRIS PASSCAL I 49.05 85 P **P** **20 15 28.1 -0.2**
baz=313,SNR=6.9
EYMN Ely 49.16 61 PFAKE 20 15 40.0 +11
EYMN LR LR
comp=Z,3μm,18.0s
EYMN Ely 49.16 61 P **P** **20 15 27.5 -1.3**
baz=307,SNR=7.6
BJT Baijiatuau 49.23 285 PFAKE 20 15 40.0 +11
BJT LR LR
comp=Z,1μm,19.0s
319A Douglas 49.46 90 PFAKE 20 15 40.0 +8.5
319A LR LR
comp=Z,800nm,19.0s
SPITS Spitsbergen Ar 49.48 358 P **P** **20 15 30.6 -0.3**
SPITS pmax pmax
comp=Z,61nm,0.8s
SPITS Spitsbergen Ar 49.48 358 P **P** **20 15 30.6 -0.3**
comp=Z,21nm,1.0s,baz=60,slow=12,SNR=29
BGNE Belgrade 49.48 72 PFAKE 20 15 40.0 +8.6
BGNE LR LR
comp=Z,2μm,21.0s
BGNE Belgrade 49.48 72 P **P** **20 15 30.5 -0.9**
baz=310,SNR=6.9
ULN Ulaanbaatar 49.49 299 PFAKE 20 15 40.0 +8.5
ULN LR LR
comp=Z,2μm,18.0s
ULN Ulaanbaatar 49.49 299 *ce*P **P** **20 15 29.9 -1.6**
ULN pmax pmax
comp=Z,14nm,1.0s
121A Cookes Peak, D 49.57 87 P **P** **20 15 32.7 +0.3**
baz=314,SNR=54
FRB Frobisher Bay 49.78 35 P **P** **20 15 31.9 -1.4**
FRB pmax pmax
comp=Z,113nm,1.1s
SONM Songino Array 49.86 299 P **P** **20 15 34.5 +0.2**
SONM pmax pmax
comp=Z,9.0nm,1.0s
SONM MLR MLR
comp=Z,1μm,18.1s
SONM Songino Array 49.86 299 P **P** **20 15 34.5 +0.2**
comp=Z,8.9nm,1.0s,baz=79,slow=7.7,SNR=5.2
SONM LR LR 20 40 05.5
comp=Z,1μm,18.1s,baz=56,slow=40
DAG Danmarks Havn 49.88 8 *i* P **P** **20 15 32.7 -1.2**
DAG Danmarks Havn 49.88 8 *i* P **P** **20 15 32.7 -1.2**
DAG *i* 20 15 38.6
F37A Hinrichs Farm, 49.91 64 P **P** **20 15 33.3 -1.3**
baz=308
ZAK Zakamensk 49.93 304 *e*P **P** **20 15 33.5 -1.3**
ZAK pmax pmax
comp=Z,17nm,1.7s
E38A The Farm, Brul 49.95 63 PFAKE 20 15 50.0 +15
E38A LR LR
comp=Z,2μm,18.0s
E38A The Farm, Brul 49.95 63 P **P** **20 15 33.1 -1.8**
baz=308,SNR=11
HSIG 50.10 93 PFAKE 20 15 50.0 +14
HSIG LR LR
comp=Z,500nm,18.0s
SPMN Marine on St. 50.12 65 PFAKE 20 15 50.0 +14
SPMN LR LR
comp=Z,2μm,20.0s
SPMN Marine on St. 50.12 65 P **P** **20 15 33.8 -2.3**
baz=309
F38A Pierce - Schro 50.17 63 P **P** **20 15 35.5 -1.1**
baz=308,SNR=34
CBKS Cedar Bluff 50.22 75 PFAKE 20 15 50.0 +13
CBKS LR LR
comp=Z,1μm,18.0s
CBKS Cedar Bluff 50.22 75 P **P** **20 15 36.8 -0.3**
baz=311,SNR=27
MOY Mondy 50.30 306 *e*P **P** **20 15 37.5 0.0**
MOY pmax pmax
comp=Z,74nm,3.4s
C40A Isle Royale Na 50.43 60 PFAKE 20 15 50.0 +12
C40A LR LR
comp=Z,3μm,20.0s
C40A Isle Royale Na 50.43 60 P **P** **20 15 36.6 -1.8**
baz=308
SRIG Santa Rosalia 50.54 96 PFAKE 20 15 50.0 +10
SRIG LR LR

comp=Z,400nm,20.0s
E39A Mellen 50.63 62 P **P** **20 15 39.6 -0.4**
baz=309,SNR=6.1
HSPB Hornsund (broa 50.68 358 *e*P **P** **20 15 40.2 +0.3**
G38A Ridgeland 50.68 64 P **P** **20 15 40.2 -0.2**
baz=309,SNR=9.8
F39A Loretta 50.73 63 P **P** **20 15 40.9 +0.2**
baz=309,SNR=8.4
H38A Maiden Rock 50.76 65 P **P** **20 15 39.3 -1.6**
baz=309,SNR=11
EPT El Paso 50.88 87 PFAKE 20 15 50.0 +7.8
EPT LR LR
comp=Z,1μm,20.0s
JOW Kunigami 50.92 264 PFAKE 20 15 50.0 +7.6
JOW LR LR
comp=Z,500nm,19.0s
E40A Wakefield 50.95 62 P **P** **20 15 41.2 -1.2**
baz=309,SNR=10.0
G39A Holcombe 50.98 64 P **P** **20 15 41.1 -1.5**
baz=309,SNR=9.4
SUMG Summit 51.11 16 PFAKE 20 16 00.0 +16
SUMG LR LR
comp=Z,2μm,20.0s
SUMG Summit 51.11 16 ⇓ *i* P **P** **20 15 43.1 -0.6**
SUMG pmax pmax
comp=Z,53nm,0.9s
SUMG Summit 51.11 16 ⇓ *i* P **P** **20 15 43.1 -0.6**
comp=Z,53nm,0.9s
SUMG *i* 20 15 48.8
ILULI Ilulissat 51.15 23 PFAKE 20 16 00.0 +16
ILULI LR LR
comp=Z,2μm,19.0s
ILULI Ilulissat 51.15 23 *i* P **P** **20 15 42.1 -1.4**
ILULI Ilulissat 51.15 23 *i* P **P** **20 15 42.1 -1.4**
F40A Park Falls 51.16 63 P **P** **20 15 42.4 -1.6**
baz=309,SNR=13
TIA Tai'an 51.16 281 P **P** **20 15 42.6 -1.5**
TIA S **S** **20 22 54.6 -5.6**
TIA pmax pmax
comp=Z,110nm,2.8s
TIA LR LR
comp=Z,550nm,17.8s
TIA LR LR
comp=Z,820nm,17.1s
TIA LR LR
comp=Z,710nm,19.2s
D41A Chassel 51.27 61 PFAKE 20 16 00.0 +15
D41A LR LR
comp=Z,4μm,20.0s
D41A Chassel 51.27 61 P **P** **20 15 43.8 -1.1**
baz=309
H39A Augusta 51.30 64 P **P** **20 15 44.3 -0.8**
baz=310
HHC Hu-ho-hao-te 51.38 289 *e*P **P** **20 15 45.5 -0.4**
HHC sP sP 20 16 04.0 +5.9
HHC PP **PP** **20 17 40.7 -2.1**
HHC S **S** **20 22 58.1 -5.3**
HHC LR LR
comp=Z,3μm,15.3s
HHC LR LR
comp=Z,3μm,16.3s
HHC LR LR
comp=Z,3μm,15.1s
E41A Kenton 51.44 61 P **P** **20 15 44.0 -2.0**
baz=309,SNR=5.8
G40A Rib Lake 51.52 63 PFAKE 20 16 00.0 +13
G40A LR LR
comp=Z,2μm,20.0s
G40A Rib Lake 51.52 63 P **P** **20 15 45.1 -1.7**
baz=310,SNR=12
COWI Conover 51.57 62 PFAKE 20 16 00.0 +13
COWI LR LR
comp=Z,2μm,20.0s
MNTX Cornudas Mount 51.62 86 PFAKE 20 16 00.0 +12
MNTX LR LR
comp=Z,901nm,18.0s
MNTX Cornudas Mount 51.62 86 P **P** **20 15 47.4 -0.3**
baz=314,SNR=110
MSTX Muleshoe 51.64 82 PFAKE 20 16 00.0 +12
MSTX LR LR
comp=Z,900nm,18.0s
MSTX Muleshoe 51.64 82 P **P** **20 15 46.9 -0.9**
baz=313,SNR=61
AMTX Amarillo 51.68 81 PFAKE 20 16 00.0 +12
AMTX LR LR
comp=Z,800nm,19.0s
AMTX Amarillo 51.68 81 P **P** **20 15 45.9 -2.2**
baz=313
I39A Houston 51.70 65 PFAKE 20 16 00.0 +12
I39A LR LR
comp=Z,2μm,20.0s
I39A Houston 51.70 65 P **P** **20 15 45.7 -2.4**
baz=310
GUMO Guam 51.81 238 P **P** **20 15 47.2 -1.9**
comp=Z,43nm,0.7s,baz=149,slow=3.0,SNR=4.5
F41A Three Lakes 51.82 62 PFAKE 20 16 00.0 +11
F41A LR LR
comp=Z,2μm,19.0s
F41A Three Lakes 51.82 62 P **P** **20 15 47.2 -1.8**
baz=310,SNR=12
H40A Chili 51.83 64 P **P** **20 15 47.4 -1.7**
baz=310,SNR=7.8
KSU1 Kansas State U 51.88 73 PFAKE 20 16 00.0 +11
KSU1 LR LR
comp=Z,1μm,18.0s
KSU1 Kansas State U 51.88 73 P **P** **20 15 47.2 -2.2**
baz=311
J39A Decorah 51.93 66 P **P** **20 15 47.6 -2.2**
baz=310,SNR=8.7
SCIA State Center 52.00 68 PFAKE 20 16 00.0 +10
SCIA LR LR
comp=Z,2μm,18.0s
SCIA State Center 52.00 68 P **P** **20 15 48.6 -1.7**
baz=311,SNR=5.9
E42A Champion 52.02 61 P **P** **20 15 48.0 -2.4**
baz=310
G41A Antigo 52.12 63 P **P** **20 15 48.5 -2.7**
baz=310
I40A Norwalk 52.17 65 P **P** **20 15 49.5 -2.1**
baz=310
SSE Sheshan 52.20 273 P **P** **20 15 51.6 -0.3**
SSE S **S** **20 23 13.9 -0.7**
SSE pmax pmax
comp=Z,10.0nm,0.7s
SSE pmax pmax
comp=Z,170nm,5.6s
SSE LR LR
comp=Z,340nm,18.7s
SSE LR LR
comp=Z,250nm,23.6s
SSE Sheshan 52.20 273 PFAKE 20 16 00.0 +8.1
SSE LR LR
comp=Z,500nm,18.0s
K39A Oelwein 52.23 67 P **P** **20 15 49.6 -2.4**
baz=310,SNR=6.5
H41A Junction City 52.24 64 PFAKE 20 16 00.0 +7.9
H41A LR LR
comp=Z,2μm,19.0s
H41A Junction City 52.24 64 P **P** **20 15 49.7 -2.3**
baz=310,SNR=7.6
F42A Maple Grove Fa 52.33 62 P **P** **20 15 50.6 -2.1**
baz=310
J40A Soldiers Grove 52.43 65 P **P** **20 15 51.4 -2.1**
baz=310,SNR=7.6
BTO Baotou 52.43 290 *e*P **P** **20 15 51.8 -1.9**
I41A Arkdale 52.48 64 PFAKE 20 16 10.0 +16
I41A LR LR
comp=Z,2μm,19.0s
I41A Arkdale 52.48 64 P **P** **20 15 51.8 -2.1**
baz=310
G42A Mountain 52.51 62 PFAKE 20 16 10.0 +16
G42A LR LR
comp=Z,2μm,18.0s
G42A Mountain 52.51 62 P **P** **20 15 51.6 -2.5**
baz=310,SNR=7.7
E43A Lone Tree Farm 52.54 60 PFAKE 20 16 10.0 +16
E43A LR LR
comp=Z,3μm,20.0s
E43A Lone Tree Farm 52.54 60 P **P** **20 15 50.8 -3.5**
baz=310
L39A Vinton 52.55 67 P **P** **20 15 52.3 -2.1**
baz=311,SNR=6.8
K40A Colesburg 52.66 66 P **P** **20 15 52.3 -2.9**
baz=311
F43A Flat Rock, Esc 52.80 61 P **P** **20 15 54.3 -1.9**
baz=310,SNR=5.2
J41A Loganville 52.85 65 P **P** **20 15 54.2 -2.4**

baz=311,SNR=8.2
G43A Wallace 52.90 62 PFAKE 20 16 10.0 +13
G43A LR LR
comp=Z,2μm,20.0s
G43A Wallace 52.90 62 P **P 20 15 52.4 -4.5**
baz=310
H42A Shiocton 52.92 63 PFAKE 20 16 10.0 +13
H42A LR LR
comp=Z,2μm,18.0s
H42A Shiocton 52.92 63 P **P 20 15 53.1 -4.0**
baz=310
SFJD Kangerlussuaq 52.93 25 *e*P **P 20 15 55.9 -0.9**
SFJD comp=Z,64nm,1.0s LR LR
comp=Z,2μm,21.0s
SFJD Kangerlussuaq 52.93 25 *i* P **P 20 15 55.4 -1.4**
SFJD Kangerlussuaq 52.93 25 P **P 20 15 55.9 -0.9**
comp=Z,28nm,0.9s,baz=329,slow=9.6,SNR=8.5
SFJD Kangerlussuaq 52.93 25 *i* P **P 20 15 55.4 -1.4**
NJ2 Nanjing 52.95 276 *e*P **P 20 15 59.5 +2.0**
NJ2 S **S 20 23 26.0 +1.2**
NJ2 pmax pmax
comp=Z,24nm,0.5s
NJ2 pmax pmax
comp=Z,320nm,6.0s
NJ2 LR LR
comp=Z,940nm,16.3s
NJ2 LR LR
comp=Z,1μm,17.3s
NJ2 LR LR
comp=Z,1μm,17.9s
E44A Grand Marais A 52.95 59 PFAKE 20 16 10.0 +13
E44A LR LR
comp=Z,4μm,19.0s
E44A Grand Marais A 52.95 59 P **P 20 15 53.3 -4.0**
baz=310
JFWS Jewell Farm 53.01 66 PFAKE 20 16 10.0 +12
JFWS LR LR
comp=Z,2μm,20.0s
JFWS Jewell Farm 53.01 66 P **P 20 15 54.4 -3.4**
baz=311
L40A Anamosa 53.03 67 PFAKE 20 16 10.0 +12
L40A LR LR
comp=Z,3μm,18.0s
L40A Anamosa 53.03 67 P **P 20 15 54.3 -3.6**
baz=311
F44A Big Bay de Noc 53.11 60 P **P 20 15 55.8 -2.7**
baz=310
I42A Draeger Farm, 53.12 64 PFAKE 20 16 10.0 +11
I42A LR LR
comp=Z,2μm,20.0s
I42A Draeger Farm, 53.12 64 P **P 20 15 56.2 -2.3**
baz=311,SNR=7.9
K41A Shullsburg 53.18 66 P **P 20 15 57.2 -1.9**
baz=311,SNR=6.5
H43A Windswept, Lux 53.36 63 PFAKE 20 16 10.0 +10
H43A LR LR
comp=Z,2μm,18.0s
H43A Windswept, Lux 53.36 63 P **P 20 15 58.5 -1.9**
baz=311,SNR=5.2
J42A Columbus 53.37 64 P **P 20 15 57.3 -3.2**
baz=311
L41A Preston 53.42 66 P **P 20 15 58.4 -2.4**
baz=311,SNR=5.9
E45A Wooded Hills, 53.52 59 P **P 20 15 59.6 -1.9**
baz=311
WMOK Wichita Mounta 53.52 79 PFAKE 20 16 10.0 +8.3
WMOK LR LR
comp=Z,2μm,19.0s
WMOK Wichita Mounta 53.52 79 P **P 20 16 00.8 -0.9**
baz=313,SNR=62
I43A Langenfeld Bro 53.54 63 P **P 20 15 59.7 -2.0**
baz=311,SNR=5.6
N40A Mertquake, Sal 53.60 68 P **P 20 15 58.8 -3.4**
baz=312
K42A Prairie Point, 53.60 65 P **P 20 15 59.9 -2.2**
baz=311,SNR=7.0
J43A Natural Harves 53.72 64 P **P 20 16 00.1 -2.9**
baz=311
D46A Sault St. Mari 53.77 58 P **P 20 15 59.2 -4.0**
baz=311
F45A CMU Biological 53.78 60 P **P 20 16 00.2 -3.2**
baz=311
M41A Milan 53.86 67 P **P 20 16 00.9 -3.1**
baz=312
L42A Oliver, Polo 53.94 66 PFAKE 20 16 20.0 +15
L42A LR LR
comp=Z,3μm,18.0s
L42A Oliver, Polo 53.94 66 P **P 20 16 01.7 -2.9**
baz=312
E46A Sault Ste Mari 53.97 59 PFAKE 20 16 20.0 +15
E46A LR LR
comp=Z,2μm,20.0s
E46A Sault Ste Mari 53.97 59 P **P 20 16 02.3 -2.5**
baz=311,SNR=5.5
LPIG La Paz 54.09 97 P **P 20 16 05.9 +0.1**
comp=Z,12nm,0.4s,baz=178,slow=3.6,SNR=4.8
F46A Macinaw City C 54.12 60 P **P 20 16 02.7 -3.2**
baz=311
G45A Suttons Bay 54.12 61 PFAKE 20 16 20.0 +14
G45A LR LR
comp=Z,2μm,20.0s
G45A Suttons Bay 54.12 61 P **P 20 16 03.0 -2.9**
baz=311
N41A Harden Midland 54.13 68 PFAKE 20 16 20.0 +14
N41A LR LR
comp=Z,2μm,21.0s
N41A Harden Midland 54.13 68 P **P 20 16 04.0 -2.0**
baz=312
D47A Chapleau 54.14 58 P **P 20 16 02.5 -3.5**
baz=311
H45A Beulah 54.19 61 P **P 20 16 03.2 -3.2**
baz=311
K43A Burlington 54.21 65 PFAKE 20 16 20.0 +13
K43A LR LR
comp=Z,3μm,19.0s
K43A Burlington 54.21 65 P **P 20 16 04.5 -2.1**
baz=312
TXAR Lajitas Array 54.33 87 P **P 20 16 07.5 -0.2**
comp=Z,100nm,0.7s,baz=298,slow=5.2,SNR=253
TXAR ScP **ScP 20 21 07.5 +0.2**
comp=Z,1.7nm,0.9s,baz=285,slow=3.5,SNR=4.4
TXAR LR LR 20 38 38.2
comp=Z,631nm,18.2s,baz=0.0,slow=35
L43A Garden Prairie 54.33 65 P **P 20 16 05.6 -1.8**
baz=312
G46A Petoskey 54.37 60 P **P 20 16 06.0 -1.6**
baz=311
E47A Iron Bridge 54.45 58 P **P 20 16 06.1 -2.2**
baz=311
ABTX Abilene, Hawle 54.46 81 PFAKE 20 16 20.0 +11
ABTX LR LR
comp=Z,900nm,18.0s
ABTX Abilene, Hawle 54.46 81 P **P 20 16 07.7 -0.8**
baz=314,SNR=51
I45A Fountain 54.48 62 PFAKE 20 16 20.0 +12
I45A LR LR
comp=Z,2μm,18.0s
I45A Fountain 54.48 62 P **P 20 16 06.6 -1.9**
baz=312
TUL1 Leonard 54.50 76 PFAKE 20 16 20.0 +11
TUL1 LR LR
comp=Z,2μm,21.0s
TUL1 Leonard 54.50 76 P **P 20 16 07.6 -1.1**
baz=313,SNR=6.6
SLBS Sierra La Lagu 54.62 97 *e*P **P 20 16 10.3 +0.5**
SLBS comp=Z,44nm,0.9s LR LR
comp=Z,700nm,21.0s
H46A Fife Lake 54.70 61 P **P 20 16 08.0 -2.1**
baz=312
M43A Waltham Townsh 54.71 66 P **P 20 16 08.7 -1.5**
baz=312
D48A Paudash Townsh 54.73 57 P **P 20 16 08.0 -2.3**
baz=312,SNR=8.6
J45A Montague 54.79 63 PFAKE 20 16 20.0 +9.2
J45A LR LR
comp=Z,2μm,19.0s
J45A Montague 54.79 63 P **P 20 16 06.3 -4.5**
baz=312
L44A Lake County Fo 54.80 65 P **P 20 16 09.0 -1.8**
baz=312
GLMI Grayling 54.82 60 PFAKE 20 16 20.0 +9.0
GLMI LR LR
comp=Z,3μm,18.0s
GLMI Grayling 54.82 60 P **P 20 16 09.1 -1.9**
baz=312

HPIG 54.84 91 PFAKE 20 16 20.0 +8.4
HPIG LR LR
comp=Z,600nm,18.0s
D49A Beulah Townshi 54.89 56 P **P 20 16 08.9 -2.5**
baz=312,SNR=8.1
N43A Stutzman Famil 54.92 67 P **P 20 16 10.2 -1.5**
baz=312
I46A Reed City 54.97 62 P **P 20 16 09.9 -2.1**
baz=312
G47A Hillman 54.99 60 P **P 20 16 10.1 -2.1**
baz=312
E48A Lockeyer 55.00 58 P **P 20 16 10.1 -2.2**
baz=312
MATQ Matagami 55.08 52 P **P 20 16 10.8 -2.0**
baz=312,SNR=11
HDIL Hopedale 55.11 67 PFAKE 20 16 30.0 +17
HDIL LR LR
comp=Z,2μm,18.0s
HDIL Hopedale 55.11 67 P **P 20 16 10.5 -2.6**
baz=312
H47A Mio 55.19 60 P **P 20 16 10.4 -3.2**
baz=312
F48A Evansville 55.20 58 P **P 20 16 11.0 -2.7**
baz=312
M44A Midewin, Midew 55.25 66 PFAKE 20 16 30.0 +16
M44A LR LR
comp=Z,3μm,18.0s
M44A Midewin, Midew 55.25 66 P **P 20 16 10.7 -3.4**
baz=312
J46A Howard City 55.25 62 P **P 20 16 10.9 -3.2**
baz=312
HHAR Hobbs 55.34 74 PFAKE 20 16 30.0 +15
HHAR LR LR
comp=Z,2μm,22.0s
I47A Gladwin 55.42 61 PFAKE 20 16 30.0 +15
I47A LR LR
comp=Z,3μm,20.0s
I47A Gladwin 55.42 61 P **P 20 16 11.8 -3.5**
baz=312
SCO Scoresbysund 55.43 12 PFAKE 20 16 30.0 +15
SCO LR LR
comp=Z,2μm,19.0s
R41A Rosebud 55.45 70 P **P 20 16 13.3 -2.4**
baz=313,SNR=28
Q42A Golden Eagle 55.52 69 P **P 20 16 14.4 -1.7**
baz=313,SNR=28
F49A Sandfield 55.55 58 P **P 20 16 11.9 -4.3**
baz=312
H48A Harrisville 55.59 60 PFAKE 20 16 30.0 +13
H48A LR LR
comp=Z,4μm,19.0s
H48A Harrisville 55.59 60 P **P 20 16 12.8 -3.7**
baz=312
P43A Skaggs, Pawnee 55.60 68 P **P 20 16 14.5 -2.1**
baz=313,SNR=7.5
N44A Piper City 55.60 66 P **P 20 16 13.3 -3.4**
baz=313
K46A Dorr 55.62 63 P **P 20 16 15.1 -1.7**
baz=312,SNR=6.2
X37A Clayton 55.66 76 PFAKE 20 16 30.0 +13
X37A LR LR
comp=Z,1μm,19.0s
CCM Cathedral Cave 55.69 71 PFAKE 20 16 30.0 +13
CCM LR LR
comp=Z,2μm,18.0s
CCM Cathedral Cave 55.69 71 P **P 20 16 15.6 -1.8**
CCM pmax pmax
comp=Z,33nm,1.9s
CCM Cathedral Cave 55.69 71 P **P 20 16 13.8 -3.6**
baz=313
M45A Boilermakers S 55.69 65 P **P 20 16 13.1 -4.2**
baz=313
S41A Jillco Farms, 55.72 71 P **P 20 16 14.9 -2.7**
baz=313,SNR=44
J47A Sunmer 55.77 62 PFAKE 20 16 30.0 +12
J47A LR LR
comp=Z,2μm,19.0s
J47A Sunmer 55.77 62 P **P 20 16 17.3 -0.5**
baz=312
E50A Wahnapitae 55.77 57 P **P 20 16 16.4 -1.4**
baz=312,SNR=6.9
L46A Eue Claire 55.80 64 PFAKE 20 16 30.0 +12
L46A LR LR
comp=Z,2μm,20.0s
L46A Eue Claire 55.80 64 P **P 20 16 16.7 -1.3**
baz=313
O44A Mansfield 55.85 67 P **P 20 16 15.3 -3.1**
baz=313
LSQQ Lebel-sur-Quev 55.87 52 P **P 20 16 17.0 -1.4**
baz=313
YOJ Yonaguni jima 55.87 266 PFAKE 20 16 30.0 +11
YOJ LR LR
comp=Z,600nm,20.0s
JCT Junction City 55.87 83 PFAKE 20 16 30.0 +11
JCT LR LR
comp=Z,1μm,19.0s
JCT Junction City 55.87 83 P **P 20 16 17.5 -1.2**
baz=316,SNR=37
SLM Saint Louis 55.88 69 P **P 20 16 19.4 +0.7**
SLM pmax pmax
comp=Z,61nm,1.0s
N45A Kentland 55.91 66 P **P 20 16 16.0 -2.9**
baz=313
U40A Yellville 55.92 73 P **P 20 16 16.7 -2.3**
baz=314,SNR=26
D51A Lot 18 Range I 56.02 55 P **P 20 16 17.1 -2.4**
baz=313,SNR=5.2
K47A Vermontville 56.06 63 P **P 20 16 18.3 -1.7**
baz=313,SNR=7.5
M46A Old House Fiel 56.18 65 PFAKE 20 16 30.0 +9.2
M46A LR LR
comp=Z,3μm,20.0s
M46A Old House Fiel 56.18 65 P **P 20 16 17.1 -3.7**
baz=313
W39A Magazine 56.18 75 PFAKE 20 16 30.0 +9.2
W39A LR LR
comp=Z,2μm,20.0s
W39A Magazine 56.18 75 P **P 20 16 19.5 -1.3**
baz=314,SNR=9.1
TOBO Tobermory, Bru 56.18 58 P **P 20 16 17.5 -3.2**
baz=313
O45A Potomac 56.20 66 P **P 20 16 17.8 -3.1**
baz=313
FVM French Village 56.21 70 PFAKE 20 16 30.0 +8.9
FVM LR LR
comp=Z,2μm,18.0s
FVM French Village 56.21 70 P **P 20 16 18.4 -2.7**
FVM pmax pmax
comp=Z,92nm,1.1s
WHTX Lake Whitney, 56.22 80 PFAKE 20 16 30.0 +8.8
WHTX LR LR
comp=Z,1μm,21.0s
WHTX Lake Whitney, 56.22 80 P **P 20 16 20.4 -0.8**
baz=315,SNR=58
ZAA1 Zalesovo Array 56.24 316 *e*P **P 20 16 20.5 -0.5**
ZAA0 Zalesovo Array 56.24 316 PFAKE 20 16 30.0 +9.0
ZAA0 LR LR
comp=Z,900nm,20.0s
ZALV Zalesovo Beam 56.24 316 *e*P **P 20 16 20.2 -0.8**
ZALV Zalesovo Beam 56.24 316 *e*P **P 20 16 20.2 -0.8**
ZALV Zalesovo Beam 56.24 316 P **P 20 16 20.5 -0.5**
comp=Z,5.2nm,0.8s,baz=29,slow=7.0,SNR=12
ZALV LR LR 20 43 28.7
comp=Z,844nm,18.0s,baz=65,slow=39
JMIC Jan Mayen 56.25 6 LR LR 20 39 47.5
comp=Z,970nm,21.4s,baz=28,slow=35
NVS Novosibirsk 56.27 318 ||*i*P **P 20 16 21.4 +0.2**
NVS *e* 20 17 23.3
NVS *e*S **S 20 24 09.4 +0.5**
NVS pmax pmax
comp=Z,102nm,2.2s
NVS pmax pmax
comp=N,21nm,1.7s
NVS pmax pmax
comp=E,28nm,1.7s
NVS smax smax
comp=E,15nm,1.9s
J48A Bridge Port 56.29 61 PFAKE 20 16 40.0 +18
J48A LR LR
comp=Z,3μm,19.0s
J48A Bridge Port 56.29 61 P **P 20 16 22.2 +0.6**
baz=313
N46A Monticello 56.31 65 P **P 20 16 18.3 -3.4**
baz=313
E51A G1948 Merrick 56.34 56 P **P 20 16 18.7 -3.1**
baz=313,SNR=7.1
I49A Point Hope 56.37 60 PFAKE 20 16 30.0 +7.9
I49A LR LR
comp=Z,3μm,19.0s
I49A Point Hope 56.37 60 P **P 20 16 17.8 -4.3**
baz=313
SCHQ Schefferville 56.41 42 P **P 20 16 21.5 -0.8**
comp=Z,58nm,1.0s,baz=309,slow=7.9,SNR=11
SCHQ LR LR 20 40 29.3
comp=Z,2μm,21.6s,baz=322,slow=36
TATO Taipei 56.42 268 PFAKE 20 16 40.0 +17
TATO LR LR
comp=Z,1μm,19.0s
L47A Sherwood 56.42 63 P **P 20 16 18.8 -3.7**
baz=313
K48A Perry 56.45 62 P **P 20 16 19.0 -3.7**
baz=313
SFIN Lafayette 56.46 66 PFAKE 20 16 40.0 +17
SFIN LR LR
comp=Z,2μm,18.0s
SFIN Lafayette 56.46 66 P **P 20 16 19.2 -3.7**
baz=313
U41A Viola 56.48 73 P **P 20 16 20.2 -2.8**
baz=314,SNR=22
CHGQ Chibougamau 56.53 50 P **P 20 16 20.3 -2.8**
baz=314,SNR=11
F51A Arnstein 56.53 57 P **P 20 16 20.6 -2.6**
baz=313,SNR=5.4
D52A ZEK Kipawa Sen 56.58 55 P **P 20 16 21.7 -1.9**
baz=313,SNR=8.5
J49A Marlette 56.59 61 P **P 20 16 20.3 -3.5**
baz=313
M47A Cromwell 56.61 64 P **P 20 16 20.2 -3.7**
baz=313
P45A Graceland, Par 56.68 67 PFAKE 20 16 40.0 +16
P45A LR LR
comp=Z,2μm,20.0s
P45A Graceland, Par 56.68 67 P **P 20 16 22.1 -2.3**
baz=313
YHNB Yeheng 56.71 268 PFAKE 20 16 40.0 +15
YHNB LR LR
comp=Z,900nm,19.0s
WHN Wuhan 56.75 278 ⇑P **P 20 16 24.4 -0.5**
WHN sP **sP 20 16 42.6 +5.4**
WHN pmax pmax
comp=Z,620nm,6.2s
WHN LR LR
comp=Z,420nm,13.5s
WHN LR LR
comp=Z,3μm,18.4s
WHN LR LR
comp=Z,2μm,19.4s
MIAR Mount Ida 56.75 75 PFAKE 20 16 40.0 +15
MIAR LR LR
comp=Z,1μm,19.0s
MIAR Mount Ida 56.75 75 P **P 20 16 23.3 -1.7**
baz=314,SNR=37
BMRO Meriville Lake 56.77 59 P **P 20 16 22.8 -2.2**
baz=313
KLBO Killbear Provi 56.77 57 P **P 20 16 22.7 -2.2**
baz=313,SNR=6.5
K49A Clarkson 56.82 62 P **P 20 16 23.5 -1.8**
baz=313,SNR=8.0
L48A N Adams 56.86 63 P **P 20 16 23.4 -2.2**
baz=313,SNR=5.1
Q45A Warren Harvey, 56.88 68 P **P 20 16 23.8 -2.0**
baz=314,SNR=20
BRCO Bruce Peninsul 56.89 59 P **P 20 16 23.9 -1.9**
baz=313
N47A Urbana 56.90 65 P **P 20 16 23.6 -2.3**
baz=313,SNR=5.7
P46A Rosedale 56.92 67 P **P 20 16 22.4 -3.6**
baz=314
F52A Sundridge 56.92 57 P **P 20 16 24.0 -2.1**
baz=313,SNR=7.5
E52A Mattawa 56.93 56 P **P 20 16 24.1 -2.0**
baz=313,SNR=5.5
BASO Ashfield 56.93 59 P **P 20 16 22.1 -4.0**
baz=313
NACB Ninganchiao 56.95 267 PFAKE 20 16 40.0 +14
NACB LR LR
comp=Z,800nm,22.0s
WHAR Wooly Hollow 56.99 74 PFAKE 20 16 40.0 +13
WHAR LR LR
comp=Z,2μm,19.0s
435B Jarrell 57.00 81 PFAKE 20 16 40.0 +13
435B LR LR
comp=Z,700nm,20.0s
435B Jarrell 57.00 81 P **P 20 16 26.1 -0.7**
baz=316,SNR=16
M48A Edgerton 57.02 63 PFAKE 20 16 40.0 +13
M48A LR LR
comp=Z,2μm,20.0s
M48A Edgerton 57.02 63 P **P 20 16 24.4 -2.3**
baz=313,SNR=5.1
OLIL Olney 57.03 68 PFAKE 20 16 40.0 +13
OLIL LR LR
comp=Z,2μm,18.0s
AAM Ann Arbor 57.04 62 PFAKE 20 16 40.0 +13
AAM LR LR
comp=Z,2μm,18.0s
AAM Ann Arbor 57.04 62 P **P 20 16 30.2 +3.3**
AAM pmax pmax
comp=Z,44nm,0.8s
AAM Ann Arbor 57.04 62 P **P 20 16 24.8 -2.1**
baz=313
PBMO Poplar Bluff 57.04 71 PFAKE 20 16 40.0 +13
PBMO LR LR
comp=Z,2μm,19.0s
O47A Sheridan 57.08 65 P **P 20 16 24.8 -2.4**
baz=314,SNR=6.7
S44A Carbondale 57.09 70 P **P 20 16 26.1 -1.2**
baz=314
SIUC Southern Illin 57.09 70 PFAKE 20 16 40.0 +13
SIUC LR LR
comp=Z,2μm,19.0s
W41B Gary Mavity, V 57.10 74 PFAKE 20 16 40.0 +13
W41B LR LR
comp=Z,2μm,21.0s
W41B Gary Mavity, V 57.10 74 P **P 20 16 25.3 -2.0**
baz=314,SNR=22
L49A Milan 57.11 62 P **P 20 16 25.3 -2.1**
baz=313,SNR=8.0
BUKO Buck Lake 57.13 57 P **P 20 16 26.1 -1.4**
baz=313,SNR=20
BWLO Walkerton 57.14 59 P **P 20 16 26.2 -1.4**
baz=313
R45A Skylar, Fairfi 57.23 68 P **P 20 16 26.5 -1.8**
baz=314,SNR=5.5
X40A Basin Creek Fa 57.23 75 PFAKE 20 16 40.0 +12
X40A LR LR
comp=Z,2μm,20.0s
X40A Basin Creek Fa 57.23 75 P **P 20 16 27.0 -1.3**
baz=315,SNR=19
Q46A CEJHS Indians, 57.25 67 P **P 20 16 25.3 -3.1**
baz=314
KEV Kevo 57.27 352 PFAKE 20 16 40.0 +12
KEV LR LR
comp=Z,1μm,20.0s
KEV Kevo 57.27 352 P **P 20 16 27.9 -0.2**
KEV pmax pmax
comp=Z,54nm,0.9s
N48A Decatur 57.28 64 P **P 20 16 24.9 -3.7**
baz=314
UALR University of 57.32 74 PFAKE 20 16 40.0 +11
UALR LR LR
comp=Z,2μm,21.0s
D54A Lac Fusel, La 57.33 54 P **P 20 16 25.6 -3.3**
baz=314
E53A Dumoine, Ponti 57.36 55 P **P 20 16 26.8 -2.3**
baz=314,SNR=11
I51A Listowel 57.41 59 P **P 20 16 26.9 -2.6**
baz=314,SNR=6.8
H52A Wyevale 57.43 58 P **P 20 16 27.7 -1.8**
baz=314,SNR=7.0
ALGO Algonquin Park 57.46 56 P **P 20 16 27.7 -2.1**
baz=314,SNR=6.9
S45A Carrier Mills 57.48 69 P **P 20 16 27.3 -2.8**
baz=314,SNR=16
PARMO Parma 57.51 71 PFAKE 20 16 40.0 +10
PARMO LR LR
comp=Z,2μm,18.0s
XAN Xi'an 57.53 285 P **P 20 16 29.8 -0.7**
XAN pP sP 20 16 39.9 -2.9
XAN sP pP 20 16 44.2 +4.8
XAN pmax pmax
comp=Z,120nm,8.1s
XAN LR LR
comp=Z,1μm,19.5s

XAN				LR	LR		
	comp=Z,1μm,18.4s						
XAN	**Xi'an**	**57.53**	**285**	PFAKE		20 16 40.0	+9.5
XAN				LR	LR		
	comp=Z,1μm,18.0s						
P47A	**Martinsville**	**57.54**	**66**	P	**P**	**20 16 27.6**	**-2.9**
	baz=314,SNR=12						
E54A	**Lac Daplat, Po**	**57.56**	**55**	P	**P**	**20 16 28.1**	**-2.4**
	baz=314,SNR=10						
ARCES	**ARCESS Array B**	**57.60**	**353**	P	**P**	**20 16 29.2**	**-1.3**
	comp=Z,9.4nm,0.9s,baz=27,slow=8.2,SNR=11						
ARCES				LR	LR	20 40 47.6	
	comp=Z,967nm,21.6s,baz=8.5,slow=36						
ARE0	**ARCESS Array S**	**57.60**	**353**	PFAKE		20 16 40.0	+10
ARE0				LR	LR		
	comp=Z,100nm,22.0s						
BLO	**Bloomington**	**57.61**	**67**	PFAKE		20 16 40.0	+9.0
BLO				LR	LR		
	comp=Z,3μm,19.0s						
BLO	**Bloomington**	**57.61**	**67**	P	**P**	**20 16 29.6**	**-1.4**
BLO				pmax	pmax		
	comp=Z,41nm,0.9s						
SSLB	**Suanglung**	**57.62**	**267**	*e*P	**P**	**20 16 31.7**	**+0.4**
	comp=Z,69nm,1.0s						
SSLB				LR	LR		
	comp=Z,700nm,21.0s						
O48A	**Farmland**	**57.63**	**65**	P	**P**	**20 16 28.3**	**-2.8**
	baz=314,SNR=9.5						
833A	**Chaparral WMA,**	**57.66**	**85**	PFAKE		20 16 40.0	+8.6
833A				LR	LR		
	comp=Z,1μm,19.0s						
833A	**Chaparral WMA,**	**57.66**	**85**	P	**P**	**20 16 30.8**	**-0.7**
	baz=316,SNR=35						
I52A	**Shelburne**	**57.67**	**59**	P	**P**	**20 16 29.4**	**-1.9**
	baz=314						
L50A	**Kingsville**	**57.67**	**62**	P	**P**	**20 16 29.5**	**-1.9**
	baz=314						
N49A	**Columbus Grove**	**57.70**	**64**	PFAKE		20 16 40.0	+8.4
N49A				LR	LR		
	comp=Z,2μm,20.0s						
N49A	**Columbus Grove**	**57.70**	**64**	P	**P**	**20 16 29.7**	**-1.8**
	baz=314						
YULB	**Yu-li**	**57.71**	**267**	PFAKE		20 16 40.0	+8.2
YULB				LR	LR		
	comp=Z,400nm,20.0s						
PVMO	**Portageville**	**57.72**	**71**	PFAKE		20 16 40.0	+8.3
PVMO				LR	LR		
	comp=Z,2μm,18.0s						
R46A	**Gibon Southern**	**57.72**	**68**	P	**P**	**20 16 29.5**	**-2.3**
	baz=314,SNR=6.7						
SADO	**Sadowa**	**57.72**	**57**	PFAKE		20 16 40.0	+8.3
SADO				LR	LR		
	comp=Z,3μm,18.0s						
G53A	**Haliburton**	**57.74**	**57**	P	**P**	**20 16 29.4**	**-2.4**
	baz=314,SNR=27						
HBAR	**Harrisburg**	**57.76**	**72**	PFAKE		20 16 40.0	+8.0
HBAR				LR	LR		
	comp=Z,2μm,20.0s						
USIN	**University of**	**57.80**	**68**	PFAKE		20 16 50.0	+18
USIN				LR	LR		
	comp=Z,2μm,18.0s						
Q47A	**Bedord North L**	**57.83**	**67**	P	**P**	**20 16 30.7**	**-1.8**
	baz=314,SNR=8.0						
GNAR	**Gosnell**	**57.84**	**72**	PFAKE		20 16 50.0	+17
GNAR				LR	LR		
	comp=Z,1μm,19.0s						
K51A	**Iona Station**	**57.90**	**60**	P	**P**	**20 16 30.0**	**-2.9**
	baz=314						
T45A	**Paducah**	**57.90**	**70**	PFAKE		20 16 50.0	+17
T45A				LR	LR		
	comp=Z,2μm,18.0s						
T45A	**Paducah**	**57.90**	**70**	P	**P**	**20 16 30.5**	**-2.5**
	baz=314						
TRO	**Tromso**	**57.92**	**356**	P	**P**	**20 16 31.5**	**-1.1**
S46A	**Don Dixon Farm**	**57.97**	**69**	P	**P**	**20 16 31.5**	**-2.0**
	baz=314,SNR=7.1						
PLIO	**Pelee Island,**	**57.97**	**62**	P	**P**	**20 16 30.8**	**-2.6**
	baz=314						
M50A	**Fremont**	**57.99**	**62**	PFAKE		20 16 50.0	+16
M50A				LR	LR		
	comp=Z,2μm,20.0s						
M50A	**Fremont**	**57.99**	**62**	P	**P**	**20 16 31.7**	**-1.8**
	baz=314						
P48A	**Milroy**	**58.03**	**66**	P	**P**	**20 16 31.6**	**-2.3**
	baz=314,SNR=16						
ACTO	**Acton**	**58.05**	**59**	P	**P**	**20 16 31.1**	**-2.9**
	baz=314,SNR=5.3						
GLAT	**Glass**	**58.06**	**71**	PFAKE		20 16 50.0	+16
GLAT				LR	LR		
	comp=Z,2μm,18.0s						
PEMO	**Pembroke**	**58.06**	**55**	P	**P**	**20 16 31.6**	**-2.4**
	baz=314,SNR=6.2						
NATX	**Nacogdoches**	**58.06**	**78**	PFAKE		20 16 50.0	+16
NATX				LR	LR		
	comp=Z,1μm,19.0s						
NATX	**Nacogdoches**	**58.06**	**78**	P	**P**	**20 16 31.6**	**-2.6**
	baz=316						
DGZ	**Jazzator, Alta**	**58.07**	**311**	*d i*P	**P**	**20 16 33.0**	**-1.3**
DGZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
J52A	**Paris**	**58.09**	**59**	P	**P**	**20 16 30.2**	**-4.0**
	baz=314						
Z41A	**Richland Creek**	**58.11**	**76**	PFAKE		20 16 50.0	+15
Z41A				LR	LR		
	comp=Z,2μm,18.0s						
Z41A	**Richland Creek**	**58.11**	**76**	P	**P**	**20 16 31.9**	**-2.7**
	baz=315						
O49A	**Covington**	**58.13**	**64**	PFAKE		20 16 50.0	+15
O49A				LR	LR		
	comp=Z,3μm,20.0s						
O49A	**Covington**	**58.13**	**64**	P	**P**	**20 16 32.2**	**-2.4**
	baz=314						
IVI	**Ivigtut**	**58.14**	**28**	PFAKE		20 16 50.0	+16
IVI				LR	LR		
	comp=Z,2μm,18.0s						
I53A	**Kortright Cn E**	**58.15**	**58**	P	**P**	**20 16 30.9**	**-3.7**
	baz=314						
BANO	**Bancroft**	**58.17**	**56**	P	**P**	**20 16 32.3**	**-2.5**
	baz=314,SNR=8.1						
QZH	**Quanzhou**	**58.21**	**270⇑**	*i*P	**P**	**20 16 34.4**	**-0.9**
QZH				S	**S**	**20 24 39.6**	**+4.5**
QZH				pmax	pmax		
	comp=Z,30nm,0.6s						
QZH				pmax	pmax		
	comp=Z,410nm,2.8s						
QZH				LR	LR		
	comp=Z,360nm,18.5s						
QZH				LR	LR		
	comp=Z,340nm,17.5s						
QZH				LR	LR		
	comp=Z,510nm,19.9s						
R47A	**Wooly Knot Far**	**58.22**	**67**	P	**P**	**20 16 32.5**	**-2.7**
	baz=314,SNR=7.5						
Q48A	**North Vernon**	**58.23**	**66**	P	**P**	**20 16 32.2**	**-3.1**
	baz=314						
CCAR	**Cane Creek**	**58.26**	**74**	PFAKE		20 16 50.0	+14
CCAR				LR	LR		
	comp=Z,2μm,18.0s						
TWG	**Pinlang**	**58.27**	**267**	PFAKE		20 16 50.0	+14
TWG				LR	LR		
	comp=Z,1μm,19.0s						
HALT	**Halls**	**58.28**	**71**	PFAKE		20 16 50.0	+14
HALT				LR	LR		
	comp=Z,2μm,19.0s						
K52A	**Tillsonburg**	**58.28**	**60**	P	**P**	**20 16 32.7**	**-2.9**
	baz=314						
LVZ	**Lovozero**	**58.28**	**349**	*e*P	**P**	**20 16 34.1**	**-1.2**
	comp=Z,94nm,0.8s						
LVZ				LR	LR		
	comp=Z,2μm,20.0s						
LVZ	**Lovozero**	**58.28**	**349**	*ce*P	**P**	**20 16 34.6**	**-0.7**
LVZ				pmax	pmax		
	comp=Z,54nm,0.9s						
T46A	**Princeton**	**58.32**	**69**	P	**P**	**20 16 33.8**	**-2.1**
	baz=314,SNR=20						
PKRO	**Pickering**	**58.32**	**58**	P	**P**	**20 16 33.6**	**-2.3**
	baz=314,SNR=5.9						
X43A	**Marvell**	**58.36**	**73**	PFAKE		20 16 50.0	+14
X43A				LR	LR		
	comp=Z,1μm,21.0s						
X43A	**Marvell**	**58.36**	**73**	P	**P**	**20 16 32.2**	**-4.0**
	baz=315						
P49A	**Miami Univ. Ec**	**58.37**	**65**	P	**P**	**20 16 34.0**	**-2.3**
	baz=314,SNR=7.2						
N50A	**Nevada**	**58.37**	**63**	P	**P**	**20 16 34.0**	**-2.2**
	baz=314,SNR=9.2						
WCI	**Wyandotte Cave**	**58.40**	**67**	*e*P	**P**	**20 16 35.3**	**-1.2**
	comp=Z,102nm,1.3s						
WCI				LR	LR		
	comp=Z,2μm,21.0s						
WCI	**Wyandotte Cave**	**58.40**	**67**	*e*P	**P**	**20 16 35.3**	**-1.2**
WCI				pmax	pmax		
	comp=Z,102nm,1.3s						
WCI				MLR	MLR		
	comp=Z,2μm,21.0s						
WCI	**Wyandotte Cave**	**58.40**	**67**	P	**P**	**20 16 34.4**	**-2.0**
	baz=314						
F55A	**Otter Lake**	**58.40**	**55**	P	**P**	**20 16 32.3**	**-4.1**
	baz=314						
MET	**Memphis--Engin**	**58.48**	**72**	PFAKE		20 16 50.0	+13
MET				LR	LR		
	comp=Z,2μm,19.0s						
M51A	**Elyria**	**58.51**	**62**	P	**P**	**20 16 34.8**	**-2.4**
	baz=314						
TYNO	**Tyneside**	**58.51**	**59**	P	**P**	**20 16 33.4**	**-3.7**
	baz=314						
S47A	**Hartford**	**58.51**	**68**	P	**P**	**20 16 35.1**	**-2.1**
	baz=314,SNR=20						
R48A	**Northridge Ran**	**58.52**	**67**	P	**P**	**20 16 35.3**	**-2.1**
	baz=314						
O50A	**Cable**	**58.55**	**64**	P	**P**	**20 16 35.6**	**-1.9**
	baz=314,SNR=8.0						
DRWO	**Darlington Wes**	**58.56**	**58**	P	**P**	**20 16 34.8**	**-2.7**
	baz=314						
DRCO	**St. Marys Ceme**	**58.57**	**58**	P	**P**	**20 16 35.4**	**-2.1**
	baz=314						
PLVO	**Plevna**	**58.59**	**56**	PFAKE		20 16 50.0	+12
PLVO				LR	LR		
	comp=Z,5μm,18.0s						
PLVO	**Plevna**	**58.59**	**56**	P	**P**	**20 16 36.1**	**-1.6**
	baz=315,SNR=5.9						
G55A	**Calabogie**	**58.62**	**55**	P	**P**	**20 16 36.1**	**-1.8**
	baz=315,SNR=9.6						
U46A	**Springville**	**58.63**	**70**	P	**P**	**20 16 35.6**	**-2.5**
	baz=315						
Q49A	**Aurora**	**58.64**	**66**	P	**P**	**20 16 36.6**	**-1.5**
	baz=314						
HKT	**Hockley**	**58.65**	**81**	*e*P	**P**	**20 16 38.5**	**+0.2**
	comp=Z,217nm,1.4s						
HKT				LR	LR		
	comp=Z,800nm,22.0s						
HKT	**Hockley**	**58.65**	**81**	*e*P	**P**	**20 16 38.5**	**+0.2**
HKT				pmax	pmax		
	comp=Z,217nm,1.4s						
HKT				MLR	MLR		
	comp=Z,800nm,22.0s						
DELO	**Deloro Mine**	**58.68**	**57**	P	**P**	**20 16 36.5**	**-1.8**
	baz=315,SNR=7.9						
KNMB	**Chin-men Tao**	**58.69**	**270**	PFAKE		20 16 50.0	+11
KNMB				LR	LR		
	comp=Z,600nm,22.0s						
N51A	**Ashland**	**58.69**	**62**	PFAKE		20 16 50.0	+12
N51A				LR	LR		
	comp=Z,2μm,18.0s						
N51A	**Ashland**	**58.69**	**62**	P	**P**	**20 16 36.8**	**-1.7**
	baz=314,SNR=7.8						
WLVO	**Wesleyville**	**58.70**	**58**	P	**P**	**20 16 37.0**	**-1.5**
	baz=314,SNR=8.2						
STCO	**Saint Catharin**	**58.79**	**59**	P	**P**	**20 16 36.5**	**-2.7**
	baz=314						
M52A	**Chesterland**	**58.80**	**61**	PFAKE		20 16 50.0	+11
M52A				LR	LR		
	comp=Z,3μm,18.0s						
M52A	**Chesterland**	**58.80**	**61**	P	**P**	**20 16 36.9**	**-2.4**
	baz=314						
T47A	**Sharon Grove**	**58.80**	**69**	PFAKE		20 16 50.0	+11
T47A				LR	LR		
	comp=Z,2μm,19.0s						
T47A	**Sharon Grove**	**58.80**	**69**	P	**P**	**20 16 37.9**	**-1.4**
	baz=315,SNR=33						
P50A	**Jamestown**	**58.83**	**64**	P	**P**	**20 16 37.7**	**-1.8**
	baz=314,SNR=20						
ACSO	**Alum Creek Sta**	**58.84**	**63**	PFAKE		20 16 50.0	+10
ACSO				LR	LR		
	comp=Z,2μm,19.0s						
ACSO	**Alum Creek Sta**	**58.84**	**63**	P	**P**	**20 16 37.4**	**-2.1**
	baz=314,SNR=6.4						
I55A	**Frankford**	**58.86**	**57**	P	**P**	**20 16 38.0**	**-1.6**
	baz=315,SNR=7.6						
H55A	**Tweed**	**58.88**	**56**	P	**P**	**20 16 37.4**	**-2.3**
	baz=315,SNR=6.9						
S48A	**Wiedeman Farm,**	**58.93**	**68**	P	**P**	**20 16 38.5**	**-1.7**
	baz=315,SNR=17						
R49A	**Shelbyville**	**58.98**	**66**	P	**P**	**20 16 38.2**	**-2.3**
	baz=315						
WVT	**Waverly**	**58.99**	**70**	*e*P	**P**	**20 16 39.5**	**-1.1**
	comp=Z,26nm,0.9s						
WVT				LR	LR		
	comp=Z,2μm,18.0s						
WVT	**Waverly**	**58.99**	**70**	*e*P	**P**	**20 16 39.5**	**-1.1**
WVT				pmax	pmax		
	comp=Z,26nm,0.9s						
WVT				MLR	MLR		
	comp=Z,2μm,18.0s						
WVT	**Waverly**	**58.99**	**70**	P	**P**	**20 16 36.8**	**-3.8**
	baz=315						
GTA	**Gaotai**	**58.99**	**295**	*e*P	**P**	**20 16 39.4**	**-1.4**
GTA				pP	sP	20 16 51.6	-1.5
GTA				sP	pP	20 16 57.4	+7.7
GTA				S	**S**	**20 24 39.9**	**-5.4**
GTA				sS	sS	20 25 02.2	+2.3
GTA				pmax	pmax		
	comp=Z,150nm,7.6s						
GTA				LR	LR		
	comp=Z,3μm,23.4s						
GTA				LR	LR		
	comp=Z,2μm,22.7s						
GTA				LR	LR		
	comp=Z,3μm,17.5s						
J54A	**Appleton**	**59.03**	**58**	PFAKE		20 16 50.0	+9.2
J54A				LR	LR		
	comp=Z,2μm,18.0s						
J54A	**Appleton**	**59.03**	**58**	P	**P**	**20 16 39.0**	**-1.8**
	baz=315,SNR=5.9						
LZH	**Lanzhou**	**59.05**	**290**	⇓P	**P**	**20 16 41.2**	**-0.1**
LZH				pP	sP	20 16 54.1	+0.5
LZH				sP	pP	20 16 59.0	+8.8
LZH				PP	**PP**	**20 18 48.2**	**-3.4**
LZH				S	**S**	**20 24 43.4**	**-2.8**
LZH				sS	sS	20 25 01.8	+0.8
LZH				pmax	pmax		
	comp=Z,39nm,1.3s						
LZH				pmax	pmax		
	comp=Z,290nm,6.5s						
LZH				LR	LR		
	comp=Z,2μm,16.0s						
LZH				LR	LR		
	comp=Z,2μm,15.7s						
LZH				LR	LR		
	comp=Z,2μm,18.4s						
V46A	**Holladay**	**59.06**	**70**	P	**P**	**20 16 39.5**	**-1.6**
	baz=315,SNR=17						
U47A	**Clarksville**	**59.08**	**69**	P	**P**	**20 16 38.5**	**-2.8**
	baz=315						
ORIO	**Orleans, Innes**	**59.09**	**55**	P	**P**	**20 16 39.0**	**-2.2**
	baz=315,SNR=5.2						
L53A	**Girard**	**59.10**	**60**	P	**P**	**20 16 39.6**	**-1.7**
	baz=315,SNR=5.9						
O51A	**Pataskala**	**59.10**	**63**	P	**P**	**20 16 40.2**	**-1.2**
	baz=315,SNR=6.1						
T48A	**Bowling Green**	**59.12**	**68**	P	**P**	**20 16 39.5**	**-2.0**
	baz=315,SNR=9.1						
ERPA	**Erie**	**59.13**	**60**	PFAKE		20 16 50.0	+8.5
ERPA				LR	LR		
	comp=Z,3μm,19.0s						
ERPA	**Erie**	**59.13**	**60**	P	**P**	**20 16 38.6**	**-3.0**
	baz=315						
KVTX	**Kingsville**	**59.13**	**84**	PFAKE		20 16 50.0	+8.3
KVTX				LR	LR		
	comp=Z,1μm,18.0s						
N52A	**McGinn's Farm,**	**59.14**	**62**	P	**P**	**20 16 38.8**	**-2.8**
	baz=315,SNR=7.9						
MEDO	**Medina**	**59.20**	**58**	PFAKE		20 16 50.0	+8.0
MEDO				LR	LR		
	comp=Z,2μm,19.0s						
MEDO	**Medina**	**59.20**	**58**	P	**P**	**20 16 40.1**	**-1.9**
	baz=315						
OXF	**Oxford**	**59.22**	**72**	PFAKE		20 17 00.0	+18
OXF				LR	LR		
	comp=Z,2μm,18.0s						
OXF	**Oxford**	**59.22**	**72**	P	**P**	**20 16 41.2**	**-1.0**
OXF				pmax	pmax		
	comp=Z,271nm,1.0s						
OXF	**Oxford**	**59.22**	**72**	P	**P**	**20 16 40.8**	**-1.5**
	baz=315,SNR=34						
M53A	**WI Miller and**	**59.24**	**61**	P	**P**	**20 16 40.3**	**-2.0**
	baz=315,SNR=8.9						
Q50A	**Georgetown**	**59.26**	**65**	P	**P**	**20 16 41.1**	**-1.4**
	baz=315,SNR=15						
ALFO	**Alfred**	**59.27**	**54**	P	**P**	**20 16 41.0**	**-1.4**
	baz=315,SNR=6.0						
S49A	**Springfield**	**59.27**	**67**	P	**P**	**20 16 41.1**	**-1.5**
	baz=315,SNR=8.0						
H56A	**Elgin**	**59.32**	**56**	P	**P**	**20 16 39.8**	**-3.0**
	baz=315						
P51A	**Williamsport**	**59.32**	**64**	PFAKE		20 17 00.0	+17
P51A				LR	LR		
	comp=Z,2μm,19.0s						
P51A	**Williamsport**	**59.32**	**64**	P	**P**	**20 16 40.3**	**-2.6**
	baz=315						
ALLY	**Alegheny Colle**	**59.38**	**61**	PFAKE		20 17 00.0	+17
ALLY				LR	LR		
	comp=Z,4μm,19.0s						
W46A	**Michie**	**59.38**	**71**	P	**P**	**20 16 40.8**	**-2.5**
	baz=315						
V47A	**Nunnelly**	**59.38**	**70**	P	**P**	**20 16 41.8**	**-1.5**
	baz=315,SNR=6.4						
L54A	**Sinclairville**	**59.40**	**60**	P	**P**	**20 16 41.4**	**-2.1**
	baz=315,SNR=9.3						
PECO	**Prince Edward**	**59.41**	**57**	P	**P**	**20 16 41.2**	**-2.2**
	baz=315						
J55A	**Hilton**	**59.46**	**58**	PFAKE		20 17 00.0	+16
J55A				LR	LR		
	comp=Z,2μm,18.0s						
J55A	**Hilton**	**59.46**	**58**	P	**P**	**20 16 41.6**	**-2.1**
	baz=315						
R50A	**Paris**	**59.46**	**66**	P	**P**	**20 16 42.6**	**-1.3**
	baz=315						
U48A	**Cassie Pea, Po**	**59.46**	**69**	P	**P**	**20 16 42.8**	**-1.1**
	baz=315,SNR=33						
Q51A	**Peebles**	**59.48**	**65**	PFAKE		20 17 00.0	+16
Q51A				LR	LR		
	comp=Z,2μm,19.0s						
Q51A	**Peebles**	**59.48**	**65**	P	**P**	**20 16 42.4**	**-1.6**
	baz=315,SNR=9.3						
O52A	**Adamsville**	**59.55**	**63**	PFAKE		20 17 00.0	+16
O52A				LR	LR		
	comp=Z,2μm,20.0s						
O52A	**Adamsville**	**59.55**	**63**	P	**P**	**20 16 42.1**	**-2.3**
	baz=315,SNR=26						
SGF	**Sodankyl**	**59.57**	**352**	P	**P**	**20 16 44.1**	**-0.1**
SGF				pmax	pmax		
	comp=Z,40nm,0.8s						
N53A	**Lisbon**	**59.60**	**62**	PFAKE		20 17 00.0	+15
N53A				LR	LR		
	comp=Z,2μm,20.0s						
N53A	**Lisbon**	**59.60**	**62**	P	**P**	**20 16 43.0**	**-1.8**
	baz=315,SNR=6.4						
T49A	**Edmonton**	**59.62**	**68**	PFAKE		20 17 00.0	+15
T49A				LR	LR		
	comp=Z,2μm,18.0s						
T49A	**Edmonton**	**59.62**	**68**	P	**P**	**20 16 42.9**	**-2.0**
	baz=315,SNR=6.7						
PLAL	**Pickwick Lake**	**59.66**	**71**	PFAKE		20 17 00.0	+15
PLAL				LR	LR		
	comp=Z,1μm,18.0s						
X46A	**Booneville**	**59.67**	**72**	P	**P**	**20 16 43.4**	**-1.9**
	baz=315,SNR=34						
K55A	**Perry**	**59.71**	**58**	P	**P**	**20 16 42.3**	**-3.3**
	baz=315						
P52A	**Corning**	**59.72**	**63**	P	**P**	**20 16 42.8**	**-2.9**
	baz=315						
M54A	**Oil Creek Stat**	**59.73**	**60**	PFAKE		20 17 00.0	+14
M54A				LR	LR		
	comp=Z,3μm,19.0s						
M54A	**Oil Creek Stat**	**59.73**	**60**	P	**P**	**20 16 44.1**	**-1.6**
	baz=315,SNR=11						
W47A	**Westpoint**	**59.75**	**71**	P	**P**	**20 16 44.0**	**-1.9**
	baz=315,SNR=22						
MMNY	**Mt. Morris Dam**	**59.79**	**58**	PFAKE		20 17 00.0	+14
MMNY				LR	LR		
	comp=Z,2μm,18.0s						
O53A	**New Philadelph**	**59.79**	**62**	P	**P**	**20 16 43.3**	**-2.8**
	baz=315,SNR=7.1						
V48A	**Smith Brothers**	**59.85**	**70**	PFAKE		20 17 00.0	+13
V48A				LR	LR		
	comp=Z,2μm,18.0s						
V48A	**Smith Brothers**	**59.85**	**70**	P	**P**	**20 16 44.6**	**-2.0**
	baz=315						
S50A	**Richmond**	**59.85**	**66**	P	**P**	**20 16 44.0**	**-2.6**
	baz=315						
R51A	**Hillsboro**	**59.87**	**65**	P	**P**	**20 16 44.9**	**-1.7**
	baz=315,SNR=34						
ENH	**Enshi**	**59.87**	**281**	PFAKE		20 17 00.0	+13
ENH				LR	LR		
	comp=Z,1μm,22.0s						
CLTN	**Cedars of Leba**	**59.88**	**69**	PFAKE		20 17 00.0	+13
CLTN				LR	LR		
	comp=Z,2μm,18.0s						
U49A	**Red Boiling Sp**	**59.89**	**68**	P	**P**	**20 16 45.2**	**-1.7**
	baz=315,SNR=7.5						
L55A	**Hinsdale**	**59.90**	**59**	P	**P**	**20 16 45.6**	**-1.3**
	baz=315,SNR=9.4						
N54A	**Moraine State**	**59.94**	**61**	PFAKE		20 17 00.0	+13
N54A				LR	LR		
	comp=Z,4μm,18.0s						
N54A	**Moraine State**	**59.94**	**61**	P	**P**	**20 16 44.9**	**-2.3**
	baz=315,SNR=12						
T50A	**Nancy**	**60.07**	**67**	P	**P**	**20 16 46.5**	**-1.6**
	baz=315,SNR=16						
LNIG	**Linares**	**60.11**	**87**	*e*P	**P**	**20 16 47.0**	**-1.5**
	comp=Z,44nm,0.7s						
LNIG				LR	LR		
	comp=Z,500nm,19.0s						
X47A	**Russelville**	**60.12**	**71**	P	**P**	**20 16 46.0**	**-2.4**
	baz=316,SNR=16						
Q52A	**Bidwell**	**60.12**	**64**	P	**P**	**20 16 45.0**	**-3.4**
	baz=315						
LONY	**Lake Ozonia**	**60.14**	**55**	PFAKE		20 17 00.0	+12
LONY				LR	LR		
	comp=Z,4μm,18.0s						
LONY	**Lake Ozonia**	**60.14**	**55**	P	**P**	**20 16 43.8**	**-4.6**
	baz=316						
VBMS	**Vicksburg**	**60.20**	**75**	PFAKE		20 17 00.0	+11
VBMS				LR	LR		
	comp=Z,1μm,18.0s						
VBMS	**Vicksburg**	**60.20**	**75**	P	**P**	**20 16 47.6**	**-1.4**
	baz=316,SNR=5.2						
W48A	**Pulaski**	**60.21**	**70**	P	**P**	**20 16 47.0**	**-2.1**
	baz=316,SNR=21						
P53A	**Whipple**	**60.23**	**63**	PFAKE		20 17 00.0	+11
P53A				LR	LR		
	comp=Z,2μm,20.0s						
P53A	**Whipple**	**60.23**	**63**	P	**P**	**20 16 46.4**	**-2.8**
	baz=315,SNR=7.8						
M55A	**Ridgway**	**60.23**	**60**	P	**P**	**20 16 47.8**	**-1.4**
	baz=315,SNR=12						
O54A	**Avella**	**60.29**	**62**	P	**P**	**20 16 48.2**	**-1.3**
	baz=315,SNR=11						
S51A	**Beattyville**	**60.33**	**66**	PFAKE		20 17 00.0	+10
S51A				LR	LR		
	comp=Z,2μm,18.0s						
S51A	**Beattyville**	**60.33**	**66**	P	**P**	**20 16 48.0**	**-1.8**
	baz=315,SNR=5.2						
V49A	**McMinnville**	**60.35**	**69**	P	**P**	**20 16 48.5**	**-1.6**
	baz=316,SNR=18						
R52A	**Catlettsburg**	**60.36**	**65**	P	**P**	**20 16 48.3**	**-1.7**
	baz=315,SNR=6.3						
U50A	**Jamestown**	**60.49**	**68**	P	**P**	**20 16 49.6**	**-1.4**
	baz=316,SNR=6.2						
S52A	**Salyersville**	**60.59**	**66**	P	**P**	**20 16 50.2**	**-1.4**
	baz=316,SNR=7.5						
Q53A	**Leroy**	**60.60**	**64**	P	**P**	**20 16 50.3**	**-1.4**
	baz=316,SNR=8.9						
N55A	**Marion Center**	**60.61**	**61**	PFAKE		20 17 00.0	+8.3
N55A				LR	LR		
	comp=Z,4μm,19.0s						
N55A	**Marion Center**	**60.61**	**61**	P	**P**	**20 16 50.2**	**-1.5**
	baz=316,SNR=11						
W49A	**Belvidere**	**60.61**	**70**	P	**P**	**20 16 49.0**	**-2.8**
	baz=316						
T51A	**Gray**	**60.61**	**67**	P	**P**	**20 16 50.3**	**-1.5**
	baz=316,SNR=5.6						
X48A	**Hartselle**	**60.63**	**71**	PFAKE		20 17 00.0	+8.0
X48A				LR	LR		
	comp=Z,2μm,18.0s						
X48A	**Hartselle**	**60.63**	**71**	P	**P**	**20 16 49.7**	**-2.3**
	baz=316,SNR=18						
P54A	**Burton**	**60.65**	**62**	P	**P**	**20 16 50.4**	**-1.6**
	baz=316,SNR=28						
SWET	**Sewanee**

SWET LR LR
comp=Z,2μm,18.0s
R53A Hurricane 60.75 64 PFAKE 20 17 10.0 +17
R53A LR LR
comp=Z,2μm,19.0s
R53A Hurricane 60.75 64 P **P 20 16 51.4 -1.3**
baz=316,SNR=16
NCB Newcomb 60.78 55 PFAKE 20 17 10.0 +17
NCB LR LR
comp=Z,3μm,19.0s
MSF Maaselka 60.83 350 P **P 20 16 53.1 +0.3**
MSF pmax pmax
comp=Z,38nm,1.7s
O55A Ligonier 60.85 61 P **P 20 16 51.3 -2.0**
baz=316,SNR=7.2
V50A Pikevile 60.88 69 P **P 20 16 51.5 -2.1**
baz=316,SNR=14
Q54A Coxs Mills 60.89 63 PFAKE 20 17 10.0 +16
Q54A LR LR
comp=Z,2μm,21.0s
Q54A Coxs Mills 60.89 63 P **P 20 16 52.0 -1.6**
baz=316,SNR=10
BORG Borgarnes 60.90 14 LR LR 20 46 23.0
comp=Z,538nm,18.8s,baz=331,slow=39
Y48A Jasper 60.95 71 P **P 20 16 51.9 -2.2**
baz=316,SNR=22
MCWV Mont Chateau 60.95 62 PFAKE 20 17 10.0 +16
MCWV LR LR
comp=Z,1μm,19.0s
MCWV Mont Chateau 60.95 62 P **P 20 16 52.5 -1.5**
baz=316,SNR=9.3
U51A La Follette 60.99 67 P **P 20 16 51.0 -3.4**
baz=316
X49A Woodville 61.01 70 P **P 20 16 52.3 -2.2**
baz=316,SNR=15
T52A Hallie 61.05 66 PFAKE 20 17 10.0 +15
T52A LR LR
comp=Z,2μm,18.0s
T52A Hallie 61.05 66 P **P 20 16 52.7 -2.1**
baz=316
P55A Reedsville 61.06 62 P **P 20 16 53.3 -1.6**
baz=316,SNR=9.8
W50A Signal Mountai 61.09 69 PFAKE 20 17 10.0 +15
W50A LR LR
comp=Z,2μm,18.0s
W50A Signal Mountai 61.09 69 P **P 20 16 53.3 -1.8**
baz=316,SNR=8.5
S53A Williamson 61.11 65 P **P 20 16 52.6 -2.6**
baz=316
TZTN Tazewell 61.13 67 PFAKE 20 17 10.0 +15
TZTN LR LR
comp=Z,3μm,18.0s
TZTN Tazewell 61.13 67 P **P 20 16 53.6 -1.8**
baz=316
BINY Binghamton 61.16 58 PFAKE 20 17 10.0 +15
BINY LR LR
comp=Z,2μm,18.0s
BINY Binghamton 61.16 58 P **P 20 16 53.1 -2.4**
baz=316,SNR=9.9
147A Livingston 61.20 73 PFAKE 20 17 10.0 +14
147A LR LR
comp=Z,1μm,19.0s
147A Livingston 61.20 73 P **P 20 16 54.5 -1.3**
baz=316,SNR=18
O56A Blue Knob Stat 61.20 61 PFAKE 20 17 10.0 +14
O56A LR LR
comp=Z,3μm,18.0s
O56A Blue Knob Stat 61.20 61 P **P 20 16 53.6 -2.2**
baz=316,SNR=7.9
KURK Kurchatov 61.20 317 *e*P **P 20 16 55.1 -0.5**
comp=Z,30nm,0.8s
KURK LR LR
comp=Z,1μm,20.0s
KURK Kurchatov 61.20 317 *c e*P **P 20 16 55.1 -0.5**
KURK pmax pmax
comp=Z,27nm,0.7s
V51A Loudon 61.21 68 PFAKE 20 17 10.0 +14
V51A LR LR
comp=Z,3μm,19.0s
V51A Loudon 61.21 68 P **P 20 16 54.1 -1.8**
baz=316
VT1 Waterbury 61.26 54 PFAKE 20 17 10.0 +14
VT1 LR LR
comp=Z,4μm,18.0s
Q55A Buckhannon 61.29 63 P **P 20 16 55.1 -1.4**
baz=316,SNR=22
SSPA Standing Stone 61.29 60 *e*P **P 20 16 55.5 -0.9**
comp=Z,203nm,1.5s
SSPA LR LR
comp=Z,3μm,18.0s
SSPA Standing Stone 61.29 60 P **P 20 16 55.3 -1.1**
baz=316
U52A Thorn Hill 61.34 67 P **P 20 16 54.9 -1.8**
baz=316,SNR=6.0
TMCR Tamitsa 61.35 346 *e*P **P 20 16 55.5 -0.8**
TMCR pmax pmax
comp=Z,15nm,0.5s
CPCT Cooper Cave 61.37 68 PFAKE 20 17 10.0 +13
CPCT LR LR
comp=Z,3μm,18.0s
R54A Victor 61.38 64 P **P 20 16 55.7 -1.3**
baz=316,SNR=20
T53A Wise 61.39 66 P **P 20 16 55.6 -1.6**
baz=316,SNR=21
Y49A Blount Mountai 61.42 71 PFAKE 20 17 10.0 +13
Y49A LR LR
comp=Z,2μm,18.0s
Y49A Blount Mountai 61.42 71 P **P 20 16 55.2 -2.2**
baz=316,SNR=6.4
X50B Fort Payne 61.43 70 P **P 20 16 55.3 -2.1**
baz=316,SNR=19
W51A Cleveland 61.44 69 P **P 20 16 55.8 -1.7**
baz=316,SNR=6.0
V52A Sevierville 61.61 67 PFAKE 20 17 10.0 +11
V52A LR LR
comp=Z,3μm,18.0s
V52A Sevierville 61.61 67 P **P 20 16 55.2 -3.4**
baz=316
148A Greensboro 61.62 73 P **P 20 16 56.2 -2.4**
baz=316
LRAL Lakeview Retre 61.68 72 PFAKE 20 17 10.0 +11
LRAL LR LR
comp=Z,1μm,19.0s
LRAL Lakeview Retre 61.68 72 P **P 20 16 56.8 -2.3**
baz=316,SNR=24
LBNH Lisbon 61.73 53 PFAKE 20 17 10.0 +11
LBNH LR LR
comp=Z,3μm,18.0s
LBNH Lisbon 61.73 53 P **P 20 16 57.1 -2.1**
baz=317,SNR=6.4
KSPA Keystone Colle 61.74 58 PFAKE 20 17 10.0 +11
KSPA LR LR
comp=Z,2μm,18.0s
R55A Marlinton 61.78 63 PFAKE 20 17 10.0 +10
R55A LR LR
comp=Z,2μm,19.0s
R55A Marlinton 61.78 63 P **P 20 16 58.3 -1.5**
baz=316,SNR=9.0
Y50A Piedmont 61.79 70 P **P 20 16 57.7 -2.1**
baz=316,SNR=17
U53A Fall Branch 61.81 66 P **P 20 16 56.8 -3.1**
baz=316
X51A Calhoun 61.81 69 PFAKE 20 17 10.0 +10
X51A LR LR
comp=Z,2μm,18.0s
X51A Calhoun 61.81 69 P **P 20 16 57.1 -2.8**
baz=316
PQI Presque Isle 61.81 49 PFAKE 20 17 10.0 +10
PQI LR LR
comp=Z,3μm,20.0s
Z49A Columbiana 61.83 71 P **P 20 16 57.7 -2.4**
baz=316,SNR=34
T54A Tazewell 61.86 65 P **P 20 16 59.0 -1.4**
baz=316,SNR=27
APYP Conner 61.92 263 *e*P **P 20 16 59.8 -1.0**
OUL Oulu 61.94 352 P **P 20 17 00.7 +0.4**
OUL pmax pmax
comp=Z,35nm,1.4s
HNH Hanover 61.94 54 PFAKE 20 17 10.0 +9.3
HNH LR LR
comp=Z,5μm,18.0s
S55A Lewisburg 61.94 64 P **P 20 16 59.3 -1.6**
baz=316,SNR=23
W52A Murphy 61.96 68 PFAKE 20 17 10.0 +9.0
W52A LR LR
comp=Z,3μm,18.0s
W52A Murphy 61.96 68 P **P 20 16 58.7 -2.3**
baz=316
TRY Troy 61.96 56 PFAKE 20 17 10.0 +9.2
TRY LR LR
comp=Z,4μm,18.0s
149A Jones 62.11 72 P **P 20 17 00.1 -1.9**
baz=317,SNR=38
U54A Nelsons Funny 62.12 66 PFAKE 20 17 10.0 +8.0
U54A LR LR
comp=Z,3μm,20.0s
U54A Nelsons Funny 62.12 66 P **P 20 16 59.9 -2.1**
baz=316
Z50A Ashland 62.14 71 PFAKE 20 17 20.0 +18
Z50A LR LR
comp=Z,1μm,19.0s
Z50A Ashland 62.14 71 P **P 20 17 00.0 -2.2**
baz=316,SNR=33
Q57A Strasburg 62.17 62 P **P 20 17 00.8 -1.4**
baz=316,SNR=8.3
Y51A Rockmart 62.17 70 P **P 20 17 00.4 -2.0**
baz=316,SNR=7.8
V53A Saluda 62.17 67 PFAKE 20 17 20.0 +18
V53A LR LR
comp=Z,2μm,18.0s
V53A Saluda 62.17 67 P **P 20 17 00.8 -1.6**
baz=316,SNR=17
WMQ Urumqi 62.18 306 *e*P **P 20 17 05.9 +3.5**
WMQ pP sP 20 17 13.5 -1.3
WMQ sP pP 20 17 24.4 +13
WMQ PcP **PcP 20 17 41.7 -0.6**
WMQ S **S 20 25 25.8 0.0**
WMQ SS **SS 20 29 31.1 +2.8**
WMQ pmax pmax
comp=Z,64nm,1.7s
WMQ pmax pmax
comp=Z,680nm,3.7s
WMQ LR LR
comp=Z,6μm,18.3s
WMQ Urumqi 62.18 306 PFAKE 20 17 20.0 +18
WMQ LR LR
comp=Z,2μm,18.0s
N59A State Game Lan 62.20 58 PFAKE 20 17 20.0 +17
N59A LR LR
comp=Z,2μm,19.0s
N59A State Game Lan 62.20 58 P **P 20 17 00.8 -1.7**
baz=317,SNR=8.8
PKME Peaks-Kenny Pk 62.25 51 PFAKE 20 17 20.0 +17
PKME LR LR
comp=Z,3μm,19.0s
T55A Pulaski 62.26 65 P **P 20 17 02.1 -0.9**
baz=316,SNR=6.4
CAUP Cauayan 62.27 262 *e*P **P 20 17 03.6 +0.4**
X52A Dahlonega 62.33 69 P **P 20 17 01.6 -1.9**
baz=316,SNR=19
W53A Cullowhee 62.34 68 P **P 20 17 00.4 -3.2**
baz=316
PRGR Permogore 62.35 341⇑ *i*P **P 20 16 58.8 -4.3**
PRGR 20 19 22.4
PRGR pmax pmax
comp=Z,41nm,1.0s
249A Camden 62.37 73 P **P 20 17 01.1 -2.6**
baz=317,SNR=8.3
BLA Blacksburg 62.39 64 PFAKE 20 17 20.0 +16
BLA LR LR
comp=Z,2μm,20.0s
BLA Blacksburg 62.39 64 P **P 20 17 01.6 -2.2**
baz=316,SNR=18
O59A Robesonia 62.42 59 P **P 20 17 03.1 -0.9**
baz=317,SNR=11
S56A Natural Bridge 62.52 63 P **P 20 17 04.0 -0.7**
baz=317,SNR=34
Z51A Franklin 62.53 70 P **P 20 17 02.4 -2.4**
baz=317,SNR=6.9
MKAR Makanchi Array 62.55 312 P **P 20 17 03.8 -1.0**
comp=Z,7.8nm,0.9s,baz=48,slow=6.3,SNR=28
MKAR LR LR 20 48 09.5
comp=Z,974nm,18.1s,baz=33,slow=40
150A Eclectic 62.55 72 P **P 20 17 03.3 -1.6**
baz=317,SNR=16
U55A TA2, Sparta 62.56 65 P **P 20 17 03.3 -1.7**
baz=317,SNR=6.4
MVL Millersville 62.56 59 PFAKE 20 17 20.0 +15
MVL LR LR
comp=Z,2μm,18.0s
WVL Waterville 62.59 52 PFAKE 20 17 20.0 +15
WVL LR LR
comp=Z,2μm,19.0s
BG3 Lake Jocassee 62.60 68 PFAKE 20 17 20.0 +15
BG3 LR LR
comp=Z,3μm,18.0s
LUPA Lehigh Univers 62.64 58 PFAKE 20 17 20.0 +15
LUPA LR LR
comp=Z,200nm,19.0s
R57A Stanardsville 62.64 62 P **P 20 17 04.1 -1.3**
baz=317,SNR=18
BRVK Borovoye 62.67 323 PFAKE 20 17 20.0 +15
BRVK LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 62.67 323 *i* P **P 20 17 05.1 -0.3**
BRVK pmax pmax
comp=Z,23nm,1.0s
MAKZ Makanchi 62.68 312 PFAKE 20 17 20.0 +14
MAKZ LR LR
comp=Z,1μm,19.0s
ODNJ Ogdensburg 62.69 58 PFAKE 20 17 20.0 +14
ODNJ LR LR
comp=Z,1μm,18.0s
SDMD Soldier's Deli 62.73 60 PFAKE 20 17 20.0 +14
SDMD LR LR
comp=Z,1μm,19.0s
T56A Rocky Mt 62.74 64 P **P 20 17 04.6 -1.5**
baz=317,SNR=13
X53A Estanollee 62.74 68 P **P 20 17 04.9 -1.3**
baz=317,SNR=8.2
Y52A Lilburn 62.77 69 PFAKE 20 17 20.0 +14
Y52A LR LR
comp=Z,2μm,18.0s
Y52A Lilburn 62.77 69 P **P 20 17 03.6 -2.8**
baz=317
349A Repton 62.78 73 P **P 20 17 04.6 -1.9**
baz=317,SNR=17
KSCT Kent School, K 62.79 56 PFAKE 20 17 20.0 +14
KSCT LR LR
comp=Z,4μm,18.0s
GZH Guangzhou 62.79 273 P P 20 17 02.0 -4.6
GZH S **S 20 25 27.5 -6.3**
GZH pmax pmax
comp=Z,380nm,5.4s
GZH LR LR
comp=Z,480nm,18.0s
GZH LR LR
comp=Z,590nm,18.0s
S57A Dark Hollow, R 62.80 63 PFAKE 20 17 20.0 +14
S57A LR LR
comp=Z,3μm,19.0s
S57A Dark Hollow, R 62.80 63 P **P 20 17 05.2 -1.3**
baz=317,SNR=17
P59A Jarrettsville 62.80 60 P **P 20 17 05.2 -1.3**
baz=317,SNR=11
SVE Sverdlovsk 62.81 331⇓ *e*P **P 20 17 06.1 -0.1**
SVE *e*S **S 20 25 36.6 +3.5**
SVE pmax pmax
comp=Z,76nm,1.9s
CD2 Chengdu 62.81 286 P **P 20 17 05.8 -0.9**
CD2 S **S 20 25 34.3 +0.3**
CD2 sS sS 20 25 53.4 +4.6
CD2 SS **SS 20 29 40.7 +2.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,450nm,6.1s
CD2 LR LR
comp=Z,2μm,18.6s
CD2 LR LR
comp=Z,2μm,17.8s
CD2 LR LR
comp=Z,2μm,20.0s
O60A Telford 62.83 59 P **P 20 17 04.6 -2.0**
baz=317,SNR=6.1
250A Grady 62.87 72 PFAKE 20 17 20.0 +13
250A LR LR
comp=Z,1μm,19.0s
250A Grady 62.87 72 P **P 20 17 05.2 -1.8**
baz=317,SNR=28
HKPS Hong Kong Po S 62.91 272 PFAKE 20 17 20.0 +13
HKPS LR LR
comp=Z,700nm,19.0s
R58A Rapidan 62.92 62 P **P 20 17 05.0 -2.3**
baz=317,SNR=7.1
V55A Taylorsville 62.94 66 P **P 20 17 06.2 -1.2**
baz=317,SNR=17
W54A Cherokee Point 62.95 67 P **P 20 17 05.3 -2.3**
baz=317
QUA2 Belchertown 62.95 55 PFAKE 20 17 20.0 +13
QUA2 LR LR
comp=Z,4μm,19.0s
BRAL Brewton 63.00 73 PFAKE 20 17 20.0 +12
BRAL LR LR
comp=Z,1μm,19.0s
BRAL Brewton 63.00 73 P **P 20 17 06.7 -1.2**
baz=317,SNR=5.8
BRNJ Basking Ridge 63.00 58 PFAKE 20 17 20.0 +12
BRNJ LR LR
comp=Z,2μm,18.0s
151A Opelika 63.01 71 P **P 20 17 05.4 -2.6**
baz=317,SNR=6.2
U56A King 63.04 65 P P 20 17 03.4 -4.7
baz=317
Y53A Monroe 63.05 69 P **P 20 17 05.7 -2.5**
baz=317
Z52A Williamson 63.06 70 P **P 20 17 06.6 -1.7**
baz=317,SNR=12
P60A Greenville 63.08 59 P **P 20 17 05.4 -2.9**
baz=317
PSUB Penn St. - Bra 63.09 59 PFAKE 20 17 20.0 +12
PSUB LR LR
comp=Z,2μm,18.0s
PAL Palisades 63.10 57 PFAKE 20 17 20.0 +12
PAL LR LR
comp=Z,3μm,18.0s
PAL Palisades 63.10 57 P **P 20 17 08.2 -0.2**
PAL pmax pmax
comp=Z,149nm,1.0s
PAL Palisades 63.10 57 P **P 20 17 07.1 -1.3**
baz=317,SNR=7.4
HRV Adam Dziewonsk 63.19 55 PFAKE 20 17 20.0 +11
HRV LR LR
comp=Z,3μm,18.0s
HRV Adam Dziewonsk 63.19 55 P **P 20 17 08.7 -0.3**
HRV pmax pmax
comp=Z,54nm,1.3s
T57A Hurt 63.19 64 PFAKE 20 17 20.0 +11
T57A LR LR
comp=Z,3μm,19.0s
T57A Hurt 63.19 64 P **P 20 17 07.1 -1.9**
baz=317,SNR=19
449A Pace 63.20 74 P **P 20 17 07.9 -1.3**
baz=317
CPNY Central Park 63.23 57 PFAKE 20 17 20.0 +11
CPNY LR LR
comp=Z,4μm,19.0s
350A Dozier 63.23 73 P **P 20 17 07.6 -1.9**
baz=317
R58B Mineral 63.23 62 PFAKE 20 17 20.0 +11
R58B LR LR
comp=Z,3μm,19.0s
R58B Mineral 63.23 62 P **P 20 17 07.6 -1.7**
baz=317,SNR=6.1
X54A Belton 63.23 68 P **P 20 17 07.4 -2.0**
baz=317,SNR=18
152A Waverly Hall 63.26 71 PFAKE 20 17 20.0 +10
152A LR LR
comp=Z,2μm,18.0s
152A Waverly Hall 63.26 71 P **P 20 17 07.5 -2.2**
baz=317,SNR=17
251A Midway 63.28 72 P **P 20 17 07.5 -2.2**
baz=317,SNR=14
CBN Corbin Frederi 63.33 61 PFAKE 20 17 20.0 +10
CBN LR LR
comp=Z,4μm,19.0s
CBN Corbin Frederi 63.33 61 P **P 20 17 08.2 -1.8**
baz=317
PAULI Pauline 63.35 67 PFAKE 20 17 20.0 +10
PAULI LR LR
comp=Z,2μm,18.0s
BALP Baler 63.35 261 *e*P **P 20 17 10.4 0.0**
V56A Mocksville 63.37 65 PFAKE 20 17 20.0 +10
V56A LR LR
comp=Z,2μm,19.0s
V56A Mocksville 63.37 65 P **P 20 17 09.1 -1.2**
baz=317,SNR=20
YLE Yale 63.37 56 PFAKE 20 17 20.0 +10
YLE LR LR
comp=Z,4μm,18.0s
KMSC Kings Mountain 63.39 66 PFAKE 20 17 20.0 +10
KMSC LR LR
comp=Z,2μm,18.0s
KMSC Kings Mountain 63.39 66 P **P 20 17 09.1 -1.3**
baz=317,SNR=20
WES Weston 63.39 55 PFAKE 20 17 20.0 +10
WES LR LR
comp=Z,5μm,18.0s
S58A Poland Farm, P 63.40 62 PFAKE 20 17 20.0 +10
S58A LR LR
comp=Z,2μm,19.0s
S58A Poland Farm, P 63.40 62 P **P 20 17 08.5 -1.9**
baz=317,SNR=5.4
GOGA Godfrey 63.44 69 PFAKE 20 17 20.0 +9.2
GOGA LR LR
comp=Z,2μm,19.0s
GOGA Godfrey 63.44 69 P **P 20 17 09.5 -1.3**
GOGA pmax pmax
comp=Z,74nm,1.1s
GOGA Godfrey 63.44 69 P **P 20 17 08.5 -2.3**
baz=317,SNR=20
R59A King George, V 63.47 61 P **P 20 17 09.1 -1.8**
baz=317
JOF Joensuu 63.47 348 P **P 20 17 10.0 -0.5**
JOF pmax pmax
comp=Z,24nm,1.8s
Z53A Monticello 63.48 69 P **P 20 17 08.6 -2.4**
baz=317,SNR=23
PVCP Virac 63.48 257 *e*P **P 20 17 12.1 +0.9**
BCX Boston College 63.50 54 PFAKE 20 17 20.0 +8.9
BCX LR LR
comp=Z,5μm,18.0s
HODGE Hodges 63.53 68 PFAKE 20 17 20.0 +8.6
HODGE LR LR
comp=Z,4μm,18.0s
EMMW East Machias 63.53 50 PFAKE 20 17 20.0 +8.8
EMMW LR LR
comp=Z,4μm,19.0s
450A Crestview 63.53 73 P **P 20 17 08.8 -2.6**
baz=317
U57A Blanch 63.55 64 P **P 20 17 10.4 -1.1**
baz=317,SNR=26
Y54A Tignall 63.55 68 P **P 20 17 09.6 -2.0**
baz=317,SNR=16
SMPP San Manuel, Pa 63.58 262 *e*P **P 20 17 10.8 -1.1**
T58A Grand View Acr 63.62 63 P **P 20 17 10.3 -1.6**
baz=317,SNR=18
S59A Mechanicsville 63.70 62 P **P 20 17 11.1 -1.3**
baz=317,SNR=14
R60A Leonardtown, M 63.71 61 P **P 20 17 09.6 -2.8**
baz=317
X55A Gracelyn & Ava 63.71 67 P **P 20 17 10.5 -2.1**
baz=317,SNR=20
V57A Coltrane Farms 63.71 65 P **P 20 17 10.3 -2.3**
baz=317
252A Lumpkin 63.74 71 P **P 20 17 10.9 -1.9**
baz=317,SNR=5.9
ARU Arti 63.76 331 *e*P **P 20 17 11.1 -1.5**
comp=Z,24nm,0.8s
ARU LR LR
comp=Z,1μm,20.0s
ARU Arti 63.76 331 *d i*P **P 20 17 11.4 -1.1**
ARU 20 17 48.4
ARU 20 19 28.3
ARU S **S 20 25 41.8 -3.2**
ARU SSS SSS 20 32 47.3
ARU pmax pmax
comp=Z,20nm,1.1s
ARU MLR MLR
comp=Z,1μm,20.0s
351A Pinckard 63.77 72 P **P 20 17 11.1 -1.9**
baz=317,SNR=24
153A Fort Valley 63.79 70 P **P 20 17 10.4 -2.7**
baz=317,SNR=5.7
W56A Indian Trail 63.81 66 P **P 20 17 11.6 -1.7**
baz=317,SNR=12
LMN Caledonia Moun 63.90 48 PFAKE 20 17 30.0 +16
LMN LR LR
comp=Z,7μm,18.0s

Z54A	**Sparta**	**63.92**	**69**	P	**P**	**20 17 11.9**	**-2.1**
	baz=317,SNR=24						
Y55A	**Saluda**	**63.97**	**68**	P	**P**	**20 17 12.8**	**-1.5**
	baz=317,SNR=5.7						
352A	**Blakely**	**64.01**	**72**	PFAKE		20 17 30.0	+15
352A				LR	LR		
	comp=Z,1μm,18.0s						
352A	**Blakely**	**64.01**	**72**	P	**P**	**20 17 12.6**	**-2.0**
	baz=317,SNR=6.8						
U58A	**Oxford**	**64.02**	**64**	P	**P**	**20 17 12.8**	**-1.8**
	baz=317						
CNP	**Catarman**	**64.03**	**256**	*e*P	**P**	**20 17 15.8**	**+0.9**
X56A	**White Oak**	**64.03**	**67**	P	**P**	**20 17 13.3**	**-1.4**
	baz=317,SNR=15						
253A	**Americus**	**64.05**	**71**	PFAKE		20 17 30.0	+15
253A				LR	LR		
	comp=Z,2μm,19.0s						
253A	**Americus**	**64.05**	**71**	P	**P**	**20 17 12.6**	**-2.2**
	baz=317						
JSC	**Jenkinsville**	**64.06**	**67**	PFAKE		20 17 30.0	+15
JSC				LR	LR		
	comp=Z,2μm,21.0s						
S60A	**Water View**	**64.08**	**61**	P	**P**	**20 17 16.4**	**+1.5**
	baz=318,SNR=5.0						
RABL	**Rabaul**	**64.11**	**221**	PFAKE		20 17 30.0	+15
RABL				LR	LR		
	comp=Z,900nm,20.0s						
W57A	**Gilead**	**64.13**	**66**	PFAKE		20 17 30.0	+15
W57A				LR	LR		
	comp=Z,2μm,20.0s						
W57A	**Gilead**	**64.13**	**66**	P	**P**	**20 17 12.8**	**-2.5**
	baz=317						
T59A	**Double "B" Far**	**64.13**	**63**	PFAKE		20 17 30.0	+15
T59A				LR	LR		
	comp=Z,2μm,19.0s						
T59A	**Double "B" Far**	**64.13**	**63**	P	**P**	**20 17 14.2**	**-1.1**
	baz=318,SNR=18						
V58A	**Windy Hill, Pi**	**64.14**	**64**	P	**P**	**20 17 14.4**	**-1.0**
	baz=317,SNR=19						
451A	**Vernon**	**64.16**	**73**	PFAKE		20 17 30.0	+14
451A				LR	LR		
	comp=Z,1μm,20.0s						
MANU	**Manus Island**	**64.19**	**226**	PFAKE		20 17 30.0	+14
MANU				LR	LR		
	comp=Z,600nm,20.0s						
KLMR	**Klimovskoe**	**64.22**	**344**	*e*P	**P**	**20 17 13.3**	**-2.2**
KLMR				pmax	pmax		
	comp=Z,53nm,1.8s						
VAF	**Ylistaro**	**64.22**	**353**	P	**P**	**20 17 15.3**	**-0.2**
VAF				pmax	pmax		
	comp=Z,25nm,1.5s						
154A	**Montrose**	**64.23**	**70**	PFAKE		20 17 30.0	+14
154A				LR	LR		
	comp=Z,2μm,19.0s						
154A	**Montrose**	**64.23**	**70**	P	**P**	**20 17 14.1**	**-1.9**
	baz=317						
SUF	**Sumiainen**	**64.24**	**351**	P	**P**	**20 17 16.2**	**+0.6**
SUF				pmax	pmax		
	comp=Z,24nm,1.0s						
BIRD	**Birdtown, Kers**	**64.24**	**66**	PFAKE		20 17 30.0	+14
BIRD				LR	LR		
	comp=Z,2μm,19.0s						
KIRV	**Kirov**	**64.28**	**337**	LR	LR	20 46 29.9	
	comp=Z,1μm,21.5s,baz=21,slow=37						
452A	**Marianna**	**64.32**	**72**	P	**P**	**20 17 15.8**	**-0.8**
	baz=318						
Z55A	**Blythe**	**64.34**	**68**	P	**P**	**20 17 14.8**	**-1.9**
	baz=317						
M65A	**Busby, Falmout**	**64.34**	**55**	P	**P**	**20 17 15.5**	**-1.1**
	baz=318						
GYA	**Guiyang**	**64.35**	**281⇑**	*i*P	**P**	**20 17 16.6**	**-0.4**
GYA				pP	sP	20 17 30.4	+1.0
GYA				sP	pP	20 17 35.2	+9.2
GYA				PP	**PP**	**20 19 36.9**	**-1.5**
GYA				S	**S**	**20 25 50.1**	**-3.2**
GYA				sS	sS	20 26 11.9	+3.7
GYA				SS	**SS**	**20 30 05.2**	**+2.3**
GYA				pmax	pmax		
	comp=Z,30nm,1.2s						
GYA				pmax	pmax		
	comp=Z,160nm,5.5s						
GYA				LR	LR		
	comp=Z,710nm,16.7s						
GYA				LR	LR		
	comp=Z,600nm,16.4s						
GYA				LR	LR		
	comp=Z,660nm,16.9s						
Y56A	**Pelion**	**64.39**	**67**	P	**P**	**20 17 16.4**	**-0.6**
	baz=317						
DRLN	**Deer Lake**	**64.40**	**41**	PFAKE		20 17 30.0	+13
DRLN				LR	LR		
	comp=Z,3μm,18.0s						
T60A	**Surry**	**64.45**	**62**	PFAKE		20 17 30.0	+13
T60A				LR	LR		
	comp=Z,3μm,18.0s						
T60A	**Surry**	**64.45**	**62**	P	**P**	**20 17 16.1**	**-1.2**
	baz=318						
U59A	**Littleton**	**64.46**	**63**	PFAKE		20 17 30.0	+13
U59A				LR	LR		
	comp=Z,2μm,20.0s						
U59A	**Littleton**	**64.46**	**63**	P	**P**	**20 17 14.6**	**-2.8**
	baz=318						
155A	**Kite**	**64.59**	**69**	P	**P**	**20 17 16.8**	**-1.6**
	baz=318,SNR=14						
254A	**Abbeville**	**64.61**	**70**	P	**P**	**20 17 14.8**	**-3.8**
	baz=318						
W58A	**Raeford**	**64.65**	**65**	P	**P**	**20 17 17.6**	**-1.1**
	baz=318,SNR=15						
V59A	**Middlesex**	**64.65**	**64**	P	**P**	**20 17 17.2**	**-1.4**
	baz=318,SNR=25						
Z56A	**Williston**	**64.70**	**68**	PFAKE		20 17 30.0	+11
Z56A				LR	LR		
	comp=Z,4μm,18.0s						
Z56A	**Williston**	**64.70**	**68**	P	**P**	**20 17 17.7**	**-1.4**
	baz=318,SNR=5.7						
U60A	**Pendleton**	**64.72**	**63**	P	**P**	**20 17 17.9**	**-1.2**
	baz=318,SNR=12						
Y57A	**Sumter**	**64.74**	**67**	PFAKE		20 17 30.0	+11
Y57A				LR	LR		
	comp=Z,2μm,20.0s						
Y57A	**Sumter**	**64.74**	**67**	P	**P**	**20 17 18.1**	**-1.2**
	baz=318,SNR=5.6						
552A	**Lynn Haven**	**64.78**	**73**	P	**P**	**20 17 17.8**	**-1.8**
	baz=318						
TIGA	**Tifton**	**64.81**	**71**	PFAKE		20 17 30.0	+10
TIGA				LR	LR		
	comp=Z,2μm,18.0s						
453A	**Whigham**	**64.82**	**72**	PFAKE		20 17 30.0	+10
453A				LR	LR		
	comp=Z,1μm,18.0s						
453A	**Whigham**	**64.82**	**72**	P	**P**	**20 17 18.4**	**-1.5**
	baz=318,SNR=6.1						
X58A	**Rowland**	**64.93**	**66**	PFAKE		20 17 30.0	+9.5
X58A				LR	LR		
	comp=Z,2μm,20.0s						
X58A	**Rowland**	**64.93**	**66**	P	**P**	**20 17 19.4**	**-1.2**
	baz=318,SNR=5.0						
Z57A	**Bowman**	**65.09**	**67**	P	**P**	**20 17 20.2**	**-1.4**
	baz=318,SNR=22						
255A	**Hazlehurst**	**65.09**	**70**	PFAKE		20 17 30.0	+8.4
255A				LR	LR		
	comp=Z,2μm,19.0s						
255A	**Hazlehurst**	**65.09**	**70**	P	**P**	**20 17 20.3**	**-1.4**
	baz=318						
156A	**Sylvania**	**65.12**	**68**	P	**P**	**20 17 19.3**	**-2.5**
	baz=318						
V60A	**Jim Taylor Roa**	**65.18**	**63**	PFAKE		20 17 30.0	+7.9
V60A				LR	LR		
	comp=Z,2μm,19.0s						
V60A	**Jim Taylor Roa**	**65.18**	**63**	P	**P**	**20 17 19.3**	**-2.8**
	baz=318						
U61A	**Possum Corner**	**65.21**	**62**	PFAKE		20 17 40.0	+18
U61A				LR	LR		
	comp=Z,3μm,18.0s						
CNNC	**Cliffs of the**	**65.23**	**64**	PFAKE		20 17 40.0	+18
CNNC				LR	LR		
	comp=Z,2μm,19.0s						
Y58A	**Scranton**	**65.23**	**66**	PFAKE		20 17 40.0	+18
Y58A				LR	LR		
	comp=Z,2μm,18.0s						
Y58A	**Scranton**	**65.23**	**66**	P	**P**	**20 17 19.2**	**-3.3**
	baz=318						
553A	**Crawfordville**	**65.25**	**72**	P	**P**	**20 17 21.1**	**-1.5**
	baz=318,SNR=6.9						
454A	**Quitman**	**65.32**	**71**	P	**P**	**20 17 20.5**	**-2.7**
	baz=318						
HAL	**Halifax**	**65.38**	**48**	PFAKE		20 17 40.0	+17
HAL				LR	LR		
	comp=Z,6μm,18.0s						
157A	**Early Branch**	**65.38**	**68**	P	**P**	**20 17 22.0**	**-1.5**
	baz=318,SNR=5.8						
FINES	**FINESS Array B**	**65.50**	**351**	*i* P	**P**	**20 17 22.0**	**-1.8**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**65.50**	**351**	P	**P**	**20 17 21.9**	**-1.8**
	comp=Z,5.2nm,0.8s,baz=42,slow=5.9,SNR=15						
FINES				LR	LR	20 45 40.7	
	comp=Z,882nm,21.6s,baz=15,slow=36						
NHSC	**New Hope**	**65.53**	**67**	PFAKE		20 17 40.0	+16
NHSC				LR	LR		
	comp=Z,2μm,18.0s						
NHSC	**New Hope**	**65.53**	**67**	P	**P**	**20 17 22.2**	**-2.3**
	baz=318,SNR=16						
V61A	**Roper**	**65.54**	**63**	PFAKE		20 17 40.0	+16
V61A				LR	LR		
	comp=Z,2μm,21.0s						
V61A	**Roper**	**65.54**	**63**	P	**P**	**20 17 23.2**	**-1.2**
	baz=318						
Z58A	**St. Stephen**	**65.57**	**67**	P	**P**	**20 17 23.3**	**-1.4**
	baz=318,SNR=16						
455A	**Stateville**	**65.65**	**71**	P	**P**	**20 17 23.6**	**-1.6**
	baz=318,SNR=5.8						
X60A	**Albert Glenn T**	**65.67**	**65**	P	**P**	**20 17 22.8**	**-2.5**
	baz=318						
OTUK	**Ortayu**	**65.70**	**319**	P	**P**	**20 17 25.6**	**+0.2**
OTUK				pmax	pmax		
	comp=Z,17nm,1.0s						
LUBP	**Lubang**	**65.72**	**261**	*e*P	**P**	**20 17 24.6**	**-1.2**
GBN	**Guysborough**	**65.72**	**46**	PFAKE		20 17 40.0	+15
GBN				LR	LR		
	comp=Z,3μm,19.0s						
W61A	**Ground Anchor**	**65.77**	**64**	P	**P**	**20 17 24.3**	**-1.7**
	baz=318,SNR=5.6						
MSLP	**Maasin**	**65.80**	**254**	*e*P	**P**	**20 17 26.1**	**-0.3**
257A	**Skidaway Islan**	**65.89**	**69**	PFAKE		20 17 40.0	+13
257A				LR	LR		
	comp=Z,3μm,18.0s						
RCP	**Roxas**	**65.92**	**257‖**	*e*P	**P**	**20 17 27.7**	**+0.5**
Y60A	**Bolivia**	**65.96**	**65**	PFAKE		20 17 40.0	+13
Y60A				LR	LR		
	comp=Z,3μm,19.0s						
V62A	**Hyde County Ai**	**66.04**	**63**	PFAKE		20 17 40.0	+12
V62A				LR	LR		
	comp=Z,2μm,21.0s						
555A	**McAlpin**	**66.15**	**71**	PFAKE		20 17 40.0	+12
555A				LR	LR		
	comp=Z,2μm,18.0s						
555A	**McAlpin**	**66.15**	**71**	P	**P**	**20 17 26.3**	**-2.1**
	baz=318						
TLIG	**Tlapa**	**66.17**	**92**	PFAKE		20 17 40.0	+11
TLIG				LR	LR		
	comp=Z,600nm,21.0s						
SJMP	**San Jose**	**66.19**	**259**	*e*P	**P**	**20 17 29.1**	**+0.2**
HNR	**Honiara**	**66.22**	**211**	PFAKE		20 17 40.0	+11
HNR				LR	LR		
	comp=Z,700nm,20.0s						
HNR	**Honiara**	**66.22**	**211**	LR	LR	20 43 39.4	
	comp=Z,494nm,18.9s,baz=28,slow=34						
456A	**Hilliard**	**66.24**	**70**	PFAKE		20 17 40.0	+11
456A				LR	LR		
	comp=Z,2μm,18.0s						
BUTP	**Butuan**	**66.28**	**253**	*e*P	**P**	**20 17 29.5**	**0.0**
PDGK	**Podgornoye**	**66.47**	**311**	P	**P**	**20 17 30.2**	**-0.3**
PDGK				pmax	pmax		
	comp=Z,23nm,1.0s						
556A	**Lake Butler**	**66.56**	**71**	P	**P**	**20 17 29.1**	**-2.0**
	baz=318,SNR=17						
GUIM	**Jordan**	**66.75**	**257**	*e*P	**P**	**20 17 31.8**	**-0.7**
NB2	**NORSAR Subarra**	**66.78**	**358**	P	**P**	**20 17 30.8**	**-1.3**
	comp=Z,22nm,1.1s,baz=1.1,slow=6.9						
NB2	**NORSAR Subarra**	**66.78**	**358**	P	**P**	**20 17 35.2**	**+3.1**
NB2				pmax	pmax		
	comp=Z,87nm,2.0s						
NB2	**NORSAR Subarra**	**66.78**	**358**	P	**P**	**20 17 30.8**	**-1.3**
	baz=1.1,slow=6.9						
NOA	**NORSAR Array B**	**66.78**	**358**	P	**P**	**20 17 30.6**	**-1.5**
	comp=Z,7.2nm,1.2s,baz=1.1,slow=6.3,SNR=6.9						
NOA				LR	LR	20 46 44.1	
	comp=Z,492nm,21.2s,baz=355,slow=36						
TAOE	**Nuku Hiva Isla**	**66.90**	**146**	*e*LR	LR	20 37 43.1	
	comp=Z,2μm,24.2s,baz=351						
TAOE	**Nuku Hiva Isla**	**66.90**	**146**	*e*T	T	21 29 53.5	
	comp=Z,60nm,0.2s						
557A	**Orange Park**	**66.94**	**71**	P	**P**	**20 17 30.6**	**-2.9**
	baz=318						
656A	**Willston**	**66.95**	**72**	PFAKE		20 17 50.0	+16
656A				LR	LR		
	comp=Z,2μm,18.0s						
656A	**Willston**	**66.95**	**72**	P	**P**	**20 17 29.1**	**-4.5**
	baz=318						
NORES	**NORESS Array B**	**67.08**	**358**	P	**P**	**20 17 36.8**	**+2.9**
NORES				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BUSP	**Coron**	**67.10**	**260**	*e*P	**P**	**20 17 34.9**	**+0.2**
657A	**Interlachen**	**67.18**	**71**	P	**P**	**20 17 32.7**	**-2.4**
	baz=319						
BUKP	**Musuan**	**67.48**	**253**	*e*P	**P**	**20 17 37.7**	**+0.5**
MATI	**Mati**	**67.54**	**251**	*e*P	**P**	**20 17 36.5**	**-1.0**
757A	**Oxford**	**67.54**	**72**	P	**P**	**20 17 35.8**	**-1.6**
	baz=319						
PRZ	**Przheval'sk**	**67.63**	**311**	PFAKE		20 17 50.0	+12
PRZ				LR	LR		
	comp=Z,1μm,18.0s						
658A	**Bunnell**	**67.65**	**71**	PFAKE		20 17 50.0	+12
658A				LR	LR		
	comp=Z,2μm,19.0s						
KMI	**Kunming**	**67.69**	**282**	P	**P**	**20 17 39.5**	**+0.8**
KMI				pP	sP	20 17 51.5	+0.5
KMI				sP	PcP	20 17 56.9	-8.5
KMI				PP	**PP**	**20 20 06.2**	**-1.6**
KMI				S	**S**	**20 26 32.4**	**-1.9**
KMI				sS	sS	20 26 58.3	+9.1
KMI				SS	**SS**	**20 30 54.8**	**-0.3**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
KMI				pmax	pmax		
	comp=Z,240nm,4.1s						
KMI				LR	LR		
	comp=Z,680nm,17.3s						
KMI				LR	LR		
	comp=Z,670nm,19.4s						
KMI				LR	LR		
	comp=Z,810nm,18.2s						
KMI	**Kunming**	**67.69**	**282**	PFAKE		20 17 50.0	+11
KMI				LR	LR		
	comp=Z,800nm,18.0s						
JAY	**Jayapura**	**67.70**	**233**	LR	LR	20 45 54.4	
	comp=Z,813nm,18.8s,baz=14,slow=35						
DAV	**Davao City (W)**	**67.83**	**252**	LR	LR	20 43 14.1	
	comp=Z,737nm,20.5s,baz=66,slow=32						
857A	**Zephyrhills**	**67.96**	**72**	P	**P**	**20 17 38.2**	**-1.8**
	baz=319						
QIZ	**Qiongzhong**	**67.99**	**273**	P	**P**	**20 17 40.3**	**0.0**
QIZ				PcP	**PcP**	**20 18 09.4**	**+3.0**
QIZ				S	**S**	**20 26 39.9**	**+2.4**
QIZ				pmax	pmax		
	comp=Z,11nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,210nm,5.5s						
QIZ				LR	LR		
	comp=Z,550nm,17.7s						
QIZ				LR	LR		
	comp=Z,470nm,16.5s						
QIZ				LR	LR		
	comp=Z,430nm,19.1s						
QIZ	**Qiongzhong**	**67.99**	**273**	PFAKE		20 17 50.0	+10
QIZ				LR	LR		
	comp=Z,400nm,19.0s						
ENPP	**El Nido**	**68.19**	**260**	*e*P	**P**	**20 17 42.0**	**+0.4**
KONO	**Kongsberg**	**68.20**	**359**	PFAKE		20 17 50.0	+9.0
KONO				LR	LR		
	comp=Z,700nm,21.0s						
KONO	**Kongsberg**	**68.20**	**359**	*i* P	**P**	**20 17 43.5**	**+2.5**
KONO				pmax	pmax		
	comp=Z,23nm,1.3s						
VSU	**Vasula**	**68.35**	**350**	*ce*P	**P**	**20 17 40.5**	**-1.5**
VSU				pmax	pmax		
	comp=Z,45nm,1.0s						
VSU	**Vasula**	**68.35**	**350**	*e*P	**P**	**20 17 40.2**	**-1.7**
VSU				IAmb	IAmb	20 17 48.1	
	comp=Z,53nm,0.8s						
957A	**Wimauma**	**68.40**	**73**	PFAKE		20 18 00.0	+17
957A				LR	LR		
	comp=Z,1μm,19.0s						
957A	**Wimauma**	**68.40**	**73**	P	**P**	**20 17 38.3**	**-4.4**
	baz=319						
KDJ	**Kajisay**	**68.47**	**312**	PFAKE		20 18 00.0	+17
KDJ				LR	LR		
	comp=Z,2μm,20.0s						
CTBH	**Cotabato--PC H**	**68.49**	**253⇓**	*i*P	**P**	**20 17 44.2**	**+0.8**
TARG	**Taragay, Kyrgy**	**68.50**	**311**	PFAKE		20 18 00.0	+16
TARG				LR	LR		
	comp=Z,900nm,20.0s						
DDMP	**Don Marcelino,**	**68.53**	**251**	*e*P	**P**	**20 17 43.0**	**-0.8**
DWPF	**Disney Wildern**	**68.54**	**72**	PFAKE		20 18 00.0	+16
DWPF				LR	LR		
	comp=Z,1μm,20.0s						
DWPF	**Disney Wildern**	**68.54**	**72**	P	**P**	**20 17 41.3**	**-2.3**
	baz=319						
TKM2	**Tokmak 2**	**68.56**	**313**	P	**P**	**20 17 43.8**	**0.0**
	SNR=17						
USP	**Ospenovka**	**68.77**	**314**	P	**P**	**20 17 45.4**	**+0.4**
	SNR=15						
CHMS	**Chumysh**	**68.87**	**314**	P	**P**	**20 17 45.9**	**+0.3**
	SNR=13						
859A	**Kempfer Cattle**	**68.88**	**71**	P	**P**	**20 17 44.2**	**-1.6**
	baz=319						
MYIG	**Mrida**	**68.98**	**83**	PFAKE		20 18 00.0	+14
MYIG				LR	LR		
	comp=Z,500nm,22.0s						
KBK	**Karagaybulak**	**69.06**	**313**	P	**P**	**20 17 47.2**	**+0.3**
	SNR=20						
FRU1	**Bishkek**	**69.07**	**314**	PFAKE		20 18 00.0	+13
FRU1				LR	LR		
	comp=Z,2μm,19.0s						
FRU1	**Bishkek**	**69.07**	**314**	P	**P**	**20 17 47.6**	**+0.7**
AKTO	**Aktyubinsk**	**69.08**	**328**	LR	LR	20 51 16.0	
	comp=Z,866nm,18.7s,baz=26,slow=39						
058A	**Arcadia**	**69.11**	**73**	P	**P**	**20 17 45.7**	**-1.5**
	baz=319						
AAK	**Ala-Archa**	**69.27**	**314**	P	**P**	**20 17 48.1**	**-0.1**
	SNR=21						
AAK	**Ala-Archa**	**69.27**	**314**	*e*P	**P**	**20 17 48.1**	**-0.1**
	comp=Z,26nm,0.9s						
AAK				LR	LR		
	comp=Z,2μm,19.0s						
AAK	**Ala-Archa**	**69.27**	**314**	*e*P	**P**	**20 17 48.1**	**-0.1**
AAK				pmax	pmax		
	comp=Z,26nm,0.9s						
AAK				MLR	MLR		
	comp=Z,2μm,19.0s						
AAK	**Ala-Archa**	**69.27**	**314**	P	**P**	**20 17 48.3**	**+0.1**
	comp=Z,16nm,0.8s,baz=72,slow=2.1						
AAK				LR	LR	20 51 34.1	
	comp=Z,1μm,18.5s,baz=24,slow=39						
959A	**Okeechobee**	**69.30**	**72**	P	**P**	**20 17 46.8**	**-1.5**
	baz=319						
KZA	**Kyzart**	**69.38**	**313**	P	**P**	**20 17 49.4**	**+0.2**
	SNR=12						
MOS	**Moscow**	**69.39**	**343**	*e*P	**P**	**20 17 50.1**	**+1.6**
MOS				*e*		20 18 02.6	
MOS				*e*		20 18 12.5	
MOS				*e*		20 20 22.0	
MOS				pmax	pmax		
	comp=Z,31nm,0.7s						
MOS				MLR	MLR		
	comp=Z,900nm,19.0s						
NRN	**Naryn**	**69.56**	**312**	PFAKE		20 18 00.0	+10
NRN				LR	LR		
	comp=Z,2μm,20.0s						
059A	**Moore Haven**	**69.56**	**72**	PFAKE		20 18 00.0	+10
059A				LR	LR		
	comp=Z,1μm,18.0s						
059A	**Moore Haven**	**69.56**	**72**	P	**P**	**20 17 46.9**	**-3.1**
	baz=319						
EKS2	**Erkin-Say**	**69.57**	**314**	P	**P**	**20 17 50.5**	**+0.5**
	SNR=22						
UCH	**Uchtor**	**69.59**	**313**	P	**P**	**20 17 50.9**	**+0.3**
	SNR=10						
SLIT	**Slitere, Latvi**	**69.61**	**352**	*e*P	**P**	**20 17 47.1**	**-2.7**
SLIT				IAmb	IAmb	20 17 55.9	
	comp=Z,152nm,1.0s						
SLVN	**Son La**	**69.85**	**279**	PFAKE		20 18 00.0	+8.1
SLVN				LR	LR		
	comp=Z,700nm,20.0s						
059Z	**Ave Maria**	**69.87**	**73**	P	**P**	**20 17 49.0**	**-2.8**
	baz=320						
060A	**Indiantown**	**69.97**	**72**	PFAKE		20 18 10.0	+18
060A				LR	LR		
	comp=Z,2μm,19.0s						
AML	**Almayashu**	**70.03**	**314**	P	**P**	**20 17 53.5**	**+0.3**
	SNR=18						
OBN	**Obninsk**	**70.17**	**343**	PFAKE		20 18 10.0	+17
OBN				LR	LR		
	comp=Z,2μm,20.0s						
OBN	**Obninsk**	**70.17**	**343**	*ce*P	**P**	**20 17 51.4**	**-1.9**
OBN				*e*		20 18 18.0	
OBN				*e*		20 20 29.6	
OBN				*i* S	**S**	**20 27 04.5**	**+2.2**
OBN				pmax	pmax		
	comp=Z,23nm,1.3s						
OBN				MLR	MLR		
	comp=Z,2μm,21.0s						
OBN	**Obninsk**	**70.17**	**343**	LR	LR	20 51 38.8	
	comp=Z,112nm,21.7s,baz=7.5,slow=38						
060Z	**West Palm Beac**	**70.33**	**72**	P	**P**	**20 17 51.6**	**-3.1**
	baz=320						
PMOR	**Pomariorio Ree**	**70.38**	**155**	*e*P	P	20 18 00.0	+5.1
	comp=Z,261nm,1.1s						
PMOR	**Pomariorio Ree**	**70.38**	**155**	*e*T	T	21 34 13.6	
	comp=Z,11nm,0.2s						
061Z	**Ochoppi**	**70.54**	**73**	PFAKE		20 18 10.0	+14
061Z				LR	LR		
	comp=Z,1μm,18.0s						
VAH	**Vaihoa**	**70.67**	**155**	*e*P	P	20 18 01.7	+5.0
	comp=Z,269nm,0.9s						
PMG	**Port Moresby**	**70.88**	**223**	*ce*P	**P**	**20 17 57.5**	**-0.6**
PMG				pmax	pmax		
	comp=Z,124nm,1.0s						
PMG	**Port Moresby**	**70.88**	**223**	LR	LR	20 45 35.7	
	comp=Z,498nm,19.5s,baz=6.5,slow=33						
LSA	**Lhasa**	**70.95**	**294**	PFAKE		20 18 10.0	+11
LSA				LR	LR		
	comp=Z,900nm,20.0s						
BATP	**Bataraza**	**71.06**	**260**	*e*P	**P**	**20 17 59.5**	**+0.2**
KSH	**Kashi**	**71.10**	**311**	P	**P**	**20 18 02.7**	**+3.3**
KSH				pP	PcP	20 18 15.9	-3.6
KSH				PP	**PP**	**20 20 43.4**	**+6.8**
KSH				S	**S**	**20 27 14.9**	**+1.0**
KSH				SS	**SS**	**20 31 52.5**	**+5.9**
KSH				pmax	pmax		
	comp=Z,57nm,0.9s						
KSH				pmax	pmax		
	comp=Z,290nm,2.8s						
KSH				LR	LR		
	comp=Z,770nm,12.1s						
KSH				LR	LR		
	comp=Z,750nm,11.7s						
KSH				LR	LR		
	comp=Z,2μm,15.7s						
PBUR	**Paburg**	**71.23**	**352**	*e*P	**P**	**20 17 58.5**	**-1.3**
ISAL	**Salakas**	**71.26**	**349**	*e*P	**P**	**20 17 58.2**	**-1.7**
ISAL				IAmb	IAmb	20 18 06.3	
	comp=Z,17nm,1.4s						
IDID	**Didziasalis**	**71.44**	**349**	*e*P	**P**	**20 17 59.5**	**-1.5**
IDID				IAmb	IAmb	20 18 06.0	
	comp=Z,15nm,1.3s						
IIGN	**Ignalina**	**71.46**	**349**	*e*P	**P**	**20 17 59.6**	**-1.6**
IIGN				IAmb	IAmb	20 18 05.1	
	comp=Z,5.1nm,0.5s						
PABE	**Paberze**	**71.55**	**351**	*e*P	**P**	**20 17 59.6**	**-2.1**
PABE				IAmb	IAmb	20 18 07.7	
	comp=Z,30nm,0.9s						
LPSR	**Galich'ya Gora**	**72.11**	**341**	*e*P	**P**	**20 18 03.8**	**-1.3**
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
EKA	**Eskdalemuir Ar**	**72.13**	**7**	P	**P**	**20 18 08.5**	**+3.3**
EKA				pmax	pmax		
	comp=Z,14nm,1.0s						
FAKI	**Fak Fak**	**72.35**	**240**	PFAKE		20 18 20.0	+13
FAKI				LR	LR		
	comp=Z,600nm,20.0s						
PPT	**Papeete**	**72.44**	**158**	P	**P**	**20 18 10.0**	**+2.7**
	comp=Z,15nm,0.7s,baz=330,slow=8.1,SNR=2.8						
PPT2	**Papeete2**	**72.46**	**158**	*e*P	P	20 18 12.5	+5.0
	comp=Z,76

PPT2	Papeete2	72.46	158	eLR	LR	20 39 59.7
	comp=Z,3μm,31.8s,baz=343					
PPT2	Papeete2	72.46	158	eT	T	21 36 48.3
	comp=Z,6.4nm,0.3s					
TIAR	Tiarei	72.48	157	eP	P	20 18 12.5 +4.9
	comp=Z,68nm,1.1s					
PAE	Paea	72.53	158	eP	P	20 18 12.5 +4.7
	comp=Z,4.9nm,0.8s					
TVO	Taravao	72.72	157	eP	P	20 18 14.2 +5.1
	comp=Z,45nm,1.3s					
KLNR	Kaliningrad	72.78	353	i P	P	20 18 10.5 +1.5
KLNR				pmax	pmax	
	comp=Z,54nm,1.0s					
NONG	Nongkai	72.80	277	P	P	20 18 09.9 +0.2
VRH	Novokhopyorsk	72.83	339	eP	P	20 18 06.3 -3.1
VRH				pmax	pmax	
	comp=Z,10.0nm,0.7s					
MEH	Mehetia	73.09	156	eP	P	20 18 15.9 +4.7
	comp=Z,14nm,1.0s					
SUW	Suwalki	73.11	351	eP	P	20 18 08.5 -2.5
SUW	Suwalki	73.11	351	PFAKE		20 18 20.0 +9.0
SUW				LR	LR	
	comp=Z,900nm,20.0s					
SUW	Suwalki	73.11	351	eP	P	20 18 08.5 -2.5
SKNT	Sakolnakorn	73.13	276	P	P	20 18 11.7 0.0
RGN	Rugen	73.23	357	PFAKE		20 18 20.0 +8.3
RGN				LR	LR	
	comp=Z,700nm,22.0s					
VSR	Storozhevoye	73.37	340	eP	P	20 18 10.3 -2.3
VSR				pmax	pmax	
	comp=Z,10.0nm,0.7s					
SHL	Shillong	73.71	291	PFAKE		20 18 30.0 +15
SHL				LR	LR	
	comp=Z,1μm,20.0s					
SHL	Shillong	73.71	291	eP	P	20 18 14.3 -0.9
SHL	Shillong	73.71	291	eP	P	20 18 15.0 -0.2
PAYA	Payao	73.78	281	P	P	20 18 16.9 +1.4
GAR	Garm	74.07	314	PFAKE		20 18 30.0 +13
GAR				LR	LR	
	comp=Z,4μm,20.0s					
KKM	Kota Kinabalu	74.19	259	PFAKE		20 18 30.0 +12
KKM				LR	LR	
	comp=Z,500nm,21.0s					
KKM	Kota Kinabalu	74.19	259	P	P	20 18 19.0 +1.0
KHON	Khomkaen	74.32	276	P	P	20 18 19.4 +0.7
LAMP	Lampang	74.57	280	P	P	20 18 21.7 +1.6
UTTA	Uttaradit	74.61	279	P	P	20 18 20.8 +0.5
CMMT	Chiang Mai	74.76	281	P	P	20 18 21.1 -0.1
CHTO	Chiang Mai	74.76	281	eP	P	20 18 19.7 -1.5
CHTO				LR	LR	
	comp=Z,19nm,1.1s					
CHTO				LR	LR	
	comp=Z,500nm,18.0s					
CHTO	Chiang Mai	74.76	281	eP	P	20 18 19.7 -1.5
CHTO				pmax	pmax	
	comp=Z,19nm,1.1s					
CHTO				MLR	MLR	
	comp=Z,500nm,18.0s					
CHGR	Chuyangaron	74.86	315	PFAKE		20 18 30.0 +8.4
CHGR				LR	LR	
	comp=Z,3μm,22.0s					
CMAR	Chiang Mai Arr	75.03	281	P	P	20 18 22.8 0.0
	comp=Z,7.2nm,0.9s,baz=28,slow=6.1,SNR=26					
CMAR				LR	LR	20 52 59.7
	comp=Z,304nm,19.4s,baz=27,slow=37					
CHAI	Chaiyaphum	75.17	277	P	P	20 18 24.3 +0.7
JIRN	Jiri	75.28	296	eP	P	20 18 23.9 -0.7
	comp=Z,173nm,1.0s					
RUE	Ruedersdorf	75.28	356	eP	P	20 18 22.6 -1.1
RAMN	Ramite	75.61	295	eP	P	20 18 25.2 -1.1
	comp=Z,108nm,0.9s					
AKASG	Malin Array Be	75.62	346	ceP	P	20 18 25.6 -0.1
AKASG				pmax	pmax	
	comp=Z,3.0nm,0.7s					
AKASG	Malin Array Be	75.62	346	P	P	20 18 23.5 -2.1
	comp=Z,1.6nm,0.7s,baz=17,slow=6.0,SNR=9.7					
AKASG				LR	LR	20 57 02.6
	comp=Z,881nm,18.5s,baz=5.0,slow=40					
KIEV	Kiev	75.63	346	PFAKE		20 18 40.0 +14
KIEV				LR	LR	
	comp=Z,1μm,22.0s					
KIEV	Kiev	75.63	346	⇓iP	P	20 18 24.1 -1.6
KIEV	Kiev	75.63	346	i P	P	20 18 23.8 -1.9
KIEV				pmax	pmax	
	comp=Z,10.0nm,1.3s					
KKN	Kakani	75.67	297	eP	P	20 18 25.6 -1.0
	comp=Z,39nm,0.9s					
TGUH	Tegucigalpa,Un	75.77	85	PFAKE		20 18 40.0 +13
TGUH				LR	LR	
	comp=Z,600nm,21.0s					
PKI	Pulchoki	75.77	297	eP	P	20 18 26.0 -1.4
	comp=Z,76nm,1.1s					
PKIN	Phulchoki	75.78	297	eP	P	20 18 26.0 -1.3
	comp=Z,62nm,1.1s					
GKN	Gorkha	75.86	297	eP	P	20 18 26.5 -1.1
	comp=Z,68nm,0.8s					
DMN	Daman	75.91	297	eP	P	20 18 27.1 -0.9
	comp=Z,40nm,0.9s					
DANN	Dangsing	76.06	298	eP	P	20 18 28.0 -0.9
	comp=Z,149nm,0.9s					
BRDH	Bariadhala	76.08	289	LR	LR	20 53 57.9
	comp=Z,642nm,19.6s,baz=314,slow=37					
CLL	Collm	76.48	357	PFAKE		20 18 40.0 +9.5
CLL				LR	LR	
	comp=Z,700nm,20.0s					
CLL	Collm	76.48	357	eP	P	20 18 29.0 -1.5
CLL				i		20 18 35.4
CLL				eS	S	20 28 08.0 -5.8
CLL				pmax	pmax	
	comp=Z,27nm,1.4s					
CLL				MLR	MLR	
	comp=Z,600nm,20.2s					
CLL	Collm	76.48	357	eP	P	20 18 29.0 -1.5
	comp=Z,5.0nm,1.0s					
CLL				i		20 18 33.1
CLL				i Pmax		20 18 35.4
	comp=Z,27nm,1.4s					
CLL				e		20 21 16.0
CLL				eS	S	20 28 16.0 +2.2
CLL				ePPS	PPS	20 29 06.0
CLL				e		20 29 58.0
CLL				eSS	SS	20 33 09.0 +1.7
CLL				eSSS	SSS	20 36 24.0
CLL				e		20 37 18.0
CLL				eSSSS		20 38 36.0
CLL				Lm	MLR	20 57 00.0
	comp=N,600nm,19.2s					
CLL				Lm	MLR	20 57 00.0
	comp=E,300nm,18.1s					
CLL				Lm	MLR	20 57 00.0
	comp=Z,600nm,20.2s					
KOLN	Koldanda	76.60	298	eP	P	20 18 30.7 -1.2
	comp=Z,52nm,1.0s					
DZM	Mont Dzumac	76.61	201	eP	P	20 18 36.6 +5.0
	comp=Z,121nm,1.7s					
DZM				eS	S	20 28 18.8 +2.9
	comp=Z,857nm,28.1s					
DZM	Mont Dzumac	76.61	201	eLR	LR	20 42 06.5
	comp=Z,1μm,21.7s					
DZM	Mont Dzumac	76.61	201	P	P	20 18 30.3 -1.3
	comp=Z,15nm,0.9s,baz=105,slow=13,SNR=5.0					
DZM				LR	LR	20 49 50.0
	comp=Z,948nm,18.7s,baz=29,slow=34					
PYUN	Piuthan	76.67	299	eP	P	20 18 31.2 -1.1
	comp=Z,118nm,0.9s					
KSP	Ksiaz	76.79	355	eP	P	20 18 31.3 -1.1
KSP	Ksiaz	76.79	355	eP	P	20 18 31.3 -1.1
DHRM	DHARAMSHALA	76.79	306	eP	P	20 18 31.5 -1.4
DHRM				IAmb	IAmb	20 18 32.5
	comp=Z,16nm,0.7s					
UMPA	Umpang Tak	76.82	279	P	P	20 18 41.9 +8.9
BRG	Berggiesshubel	76.88	356	eP	P	20 18 31.4 -1.4
	comp=Z,6.5nm,1.2s					
BRG				i		20 18 37.8
	comp=Z,35nm,1.5s					
BRG				ePP	PP	20 21 30.3 +5.2
	comp=Z,50nm,2.4s					
BRG				S	S	20 28 24.0 +5.8
BRG				SS	SS	20 33 08.0 -5.4
BRG	Berggiesshubel	76.88	356	eP	P	20 18 31.4 -1.4
BRG				i		20 18 37.8
BRG				e		20 21 30.3
BRG				S	S	20 28 24.0 +5.8
BRG				SS	SS	20 33 08.0 -5.4
BRG				pmax	pmax	
	comp=Z,7.0nm,1.2s					
BRG				pmax	pmax	
	comp=Z,50nm,2.4s					
BRG				MLR	MLR	
	comp=N,496nm,17.9s					
BRG				MLR	MLR	
	comp=E,323nm,20.8s					
BRG				MLR	MLR	
	comp=Z,846nm,17.0s					
ESTN	Estel	77.06	85	PFAKE		20 18 50.0 +16
ESTN				LR	LR	
	comp=Z,300nm,19.0s					
NIL	Nilore	77.13	309	eP	P	20 18 34.0 -0.6
	comp=Z,32nm,1.0s					
NIL				LR	LR	
	comp=Z,500nm,19.0s					
NIL	Nilore	77.13	309	eP	P	20 18 34.0 -0.6
NIL				pmax	pmax	
	comp=Z,32nm,1.0s					
NIL				MLR	MLR	
	comp=Z,500nm,19.0s					
UPC	Upice	77.14	355	AMS	AMS	20 47 40.0
	comp=Z,900nm,28.9s					
LVV	L'vov	77.16	349	eP	P	20 18 35.7 +1.3
LVV				eS	S	20 28 24.2 +2.9
LVV				eSS	SS	20 33 24.8 +7.2
OJC	Ojcow	77.17	352	eP	P	20 18 33.2 -1.3
OJC	Ojcow	77.17	352	eP	P	20 18 33.2 -1.3
MOX	Moxa	77.18	358	P	P	20 18 36.0 +1.4
MOX				pmax	pmax	
	comp=Z,14nm,1.8s					
PVCC	Panska Ves	77.20	356	eP	P	20 18 35.6 +1.0
PVCC				e		20 18 42.3
PVCC				MLR	MLR	
	comp=Z,700nm,18.1s					
PVCC	Panska Ves	77.20	356	eP	P	20 18 35.6 +1.0
PVCC				ex	x	20 18 42.3
PVCC				AMS	AMS	20 59 50.0
	comp=Z,700nm,18.1s					
DPC	Dobruska-Polom	77.28	355	eP	P	20 18 34.4 -0.8
DPC				e		20 18 40.4
DPC				e		20 18 54.3
DPC				eS	S	20 28 18.6 -4.2
DPC				MLR	MLR	
	comp=Z,700nm,18.2s					
DPC	Dobruska-Polom	77.28	355	eP	P	20 18 34.4 -0.8
DPC				ex	x	20 18 40.4
DPC				esP	PcP	20 18 54.3 +8.6
DPC				eS	S	20 28 18.6 -4.2
DPC				AMS	AMS	20 59 50.0
	comp=Z,700nm,18.2s					
BCLA	Clavier	77.43	2	⇑P	P	20 18 39.3 +3.4
DDI	Dehra Dun	77.47	304	eP	P	20 18 35.6 -1.0
DDI				IAmb	IAmb	20 18 36.0
	comp=Z,30nm,0.8s					
KWP	Kalwaria Pacla	77.48	350	eP	P	20 18 34.5 -1.7
KWP	Kalwaria Pacla	77.48	350	PFAKE		20 18 50.0 +14
KWP				LR	LR	
	comp=Z,9μm,20.0s					
KWP	Kalwaria Pacla	77.48	350	eP	P	20 18 34.5 -1.7
NKC	Novy Kostel	77.57	357	eP	P	20 18 35.9 -0.9
NKC				e		20 18 41.8
NKC				e		20 18 55.3
NKC				eS	S	20 28 25.9 0.0
NKC	Novy Kostel	77.57	357	eP	P	20 18 35.9 -0.9
NKC				ex	x	20 18 41.8
NKC				esP	PcP	20 18 55.3 +8.4
NKC				eS	S	20 28 25.9 0.0
NKC				AMS	AMS	20 48 00.0
	comp=Z,800nm,29.2s					
OKC	Ostrava-Krasne	77.68	353	eP	P	20 18 37.8 +0.5
OKC				e		20 18 42.4
OKC				MLR	MLR	
	comp=Z,700nm,24.1s					
OKC	Ostrava-Krasne	77.68	353	eP	P	20 18 37.8 +0.5
OKC				ex	x	20 18 42.4
OKC				AMS	AMS	20 49 30.0
	comp=Z,700nm,24.1s					
DOU	Dourbes	77.74	2	⇑P	P	20 18 36.7 -0.9
BAIF	Baives	77.76	3	eP	P	20 18 36.7 -1.1
BAIF				pmax	pmax	
	comp=Z,8.0nm,0.9s					
MORC	Moravsky Berou	77.78	354	P	P	20 18 41.7 +3.8
MORC				pmax	pmax	
	comp=Z,16nm,1.2s					
MORC	Moravsky Berou	77.78	354	eP	P	20 18 36.6 -1.3
MORC				e		20 18 45.1
GOPC	GO Pecny, Ondr	77.80	356	AMS	AMS	20 59 40.0
	comp=Z,700nm,17.5s					
NIE	Niedzica	77.92	352	eP	P	20 18 37.7 -1.1
NIE	Niedzica	77.92	352	eP	P	20 18 37.7 -1.1
TBI	Tubuai	78.04	159	eP	P	20 18 44.2 +4.7
	comp=Z,263nm,1.3s					
TBI				eS	S	20 28 33.8 +2.6
	comp=Z,453nm,31.2s					
TBI	Tubuai	78.04	159	eLR	LR	20 42 22.9
	comp=Z,1μm,33.8s,baz=342					
TBI	Tubuai	78.04	159	eT	T	21 43 46.3
	comp=Z,18nm,0.3s					
SRDT	SRDT	78.10	278	P	P	20 18 41.1 +0.9
GRF	Grafenberg Arr	78.15	358	P	P	20 18 39.8 -0.2
GRF				pmax	pmax	
	comp=Z,150nm,1.8s					
GRFO	Grafenberg	78.15	358	eP	P	20 18 39.9 -0.1
	comp=Z,35nm,1.1s					
GRFO	Grafenberg	78.15	358	eP	P	20 18 39.9 -0.1
GRFO				pmax	pmax	
	comp=Z,35nm,1.1s					
WLF	Walferdange	78.20	1	PFAKE		20 18 50.0 +10
WLF				LR	LR	
	comp=Z,4μm,20.0s					
KOLS	Kolonicke sedl	78.22	350	eP	P	20 18 39.2 -1.2
KOLS				e		20 18 45.2
KOLS	Kolonicke sedl	78.22	350	eP	P	20 18 39.2 -1.2
KOLS				esP	pP	20 18 45.2 -4.2
LANS	Liptovska Anna	78.26	352	eP	P	20 18 44.9 +4.3
LANS	Liptovska Anna	78.26	352	esP	P	20 18 44.9 +4.3
VRAC	Vranov	78.31	354	P	P	20 18 39.8 -1.0
VRAC				pmax	pmax	
	comp=Z,25nm,1.5s					
VRAC	Vranov	78.31	354	eP	P	20 18 40.0 -0.8
VRAC				e		20 18 48.7
KBL	Kabul	78.34	313	eP	P	20 18 40.0 -1.6
KBL				LR	LR	
	comp=Z,500nm,20.0s					
KBL	Kabul	78.34	313	eP	P	20 18 40.0 -1.6
KBL				MLR	MLR	
	comp=Z,500nm,20.0s					
TREC	Trest	78.38	355	AMS	AMS	21 00 50.0
	comp=Z,900nm,15.6s					
MTDJ	Mount Denham	78.40	75	PFAKE		20 18 50.0 +8.1
MTDJ				LR	LR	
	comp=Z,1μm,18.0s					
BOK	Bokaro	78.48	294	eP	P	20 18 41.7 -0.5
BOK				IAmb	IAmb	20 18 50.4
	comp=Z,82nm,1.6s					
GTBY	Guantanamo Bay	78.49	72	PFAKE		20 18 50.0 +7.7
GTBY				LR	LR	
	comp=Z,1μm,19.0s					
UZH	Uzhgorod	78.51	350	eP	P	20 18 45.4 +3.4
UZH				i		20 18 51.3
UZH				e		20 18 58.7
UZH				i		20 21 35.3
KRUC	Moravsky	78.56	354	P	P	20 18 41.1 -1.1
KRUC				pmax	pmax	
	comp=Z,21nm,1.5s					
KRUC	Moravsky	78.56	354	eP	P	20 18 41.2 -1.0
KRUC				e		20 18 49.8
KHC	Kasperske Hory	78.63	356	PFAKE		20 18 50.0 +7.3
KHC				LR	LR	
	comp=Z,300nm,21.0s					
JAVC	Velka Javorina	78.68	354	eP	P	20 18 43.0 0.0
JAVC				e		20 18 51.7
GERES	GERESS Array B	78.91	356	P	P	20 18 42.9 -1.4
	comp=Z,1.1nm,0.8s,baz=20,slow=4.4,SNR=10					
PHET	Kaeng Krachan	78.91	277	P	P	20 18 46.1 +1.5
VYHS	Vyhne	78.96	353	eP	P	20 18 43.4 -1.1
VYHS				e		20 18 49.6
VYHS	Vyhne	78.96	353	eP	P	20 18 43.4 -1.1
VYHS				esP	pP	20 18 49.6 -4.0
TRPA	Tarpa	78.98	350	⇑iP	P	20 18 44.8 +0.3
TRPA	Tarpa	78.98	350	eP	P	20 18 49.0 +4.5
TRPA				ePP	PP	20 21 46.1 +3.4
MAK	Makhachkala	78.99	332	eP	P	20 18 42.5 -2.2
MAK				eS	S	20 28 36.8 -4.4
MAK				pmax	pmax	
	comp=Z,181nm,1.2s					
STU	Stuttgart	79.10	359	PFAKE		20 19 00.0 +15
STU				LR	LR	
	comp=Z,400nm,21.0s					
STU	Stuttgart	79.10	359	P	P	20 18 44.0 -1.2
STU				pmax	pmax	
	comp=Z,9.0nm,0.7s					
BURAR	Bucovina Array	79.19	348	⇓iP	P	20 18 44.5 -1.3
BURAR	Bucovina Array	79.19	348	⇓iP	P	20 18 44.5 -1.3
MODS	Modra-Piesok	79.19	354	eP	P	20 18 53.1 +7.4
MODS	Modra-Piesok	79.19	354	esP	sP	20 18 53.1 -5.1
GRR	Gorron	79.20	6	eP	P	20 18 48.8 +3.1
GRR				pmax	pmax	
	comp=Z,35nm,1.4s					
KIS	Kishinev	79.29	346	eP	P	20 18 51.0 +4.7
KIS	Kishinev	79.29	346	ePP	PP	20 21 50.0 +4.6
KIS	Kishinev	79.29	346	ePPP	PPP	20 23 50.0
KIS	Kishinev	79.29	346	ePsP		20 24 20.0
KIS				eS	S	20 28 50.0 +5.7
KIS	Kishinev	79.29	346	eP	P	20 18 51.0 +4.7
KIS				e		20 21 50.0
KIS				eS	S	20 28 50.0 +5.7
KVAR	Kislovodsk Arr	79.38	335	LR	LR	20 56 26.2
	comp=Z,1μm,21.4s,baz=276,slow=38					
KIV	Kislovodsk	79.39	335	PFAKE		20 19 00.0 +13
KIV				LR	LR	
	comp=Z,1μm,20.0s					
KIV	Kislovodsk	79.39	335	⇑iP	P	20 18 46.8 -0.2
KIV	Kislovodsk	79.39	335	eP	P	20 18 46.2 -0.8
KIV				e		20 21 46.6
KIV				e		20 28 44.0
KIV				pmax	pmax	
	comp=Z,38nm,1.0s					
KIV				MLR	MLR	
	comp=Z,3μm,19.0s					
SBUM	Sibu	79.44	260	P	P	20 18 49.0 +1.5
PSZ	Piszkesteto	79.45	352	PFAKE		20 19 00.0 +13
PSZ				LR	LR	
	comp=Z,700nm,20.0s					
PSZ	Piszkesteto	79.45	352	⇑iP	P	20 18 47.5 +0.3
PSZ	Piszkesteto	79.45	352	P	P	20 18 47.5 +0.3
PSZ	Piszkesteto	79.45	352	eP	P	20 18 53.1 +5.9
PSZ				ePP	PP	20 21 51.0 +4.3
CDF	Champ du Feu	79.46	1	eP	P	20 18 46.0 -1.3
CDF				pmax	pmax	
	comp=Z,14nm,1.4s					
GRTK	Grand Turk	79.54	68	PFAKE		20 19 00.0 +12
GRTK				LR	LR	
	comp=Z,1μm,19.0s					
KBZ	Khabaz	79.54	335	P	P	20 18 46.6 -1.0
	comp=Z,5.4nm,1.0s,baz=141,slow=0.7,SNR=9.2					
KBZ				LR	LR	20 58 45.0
	comp=Z,1μm,18.6s,baz=20,slow=39					
BFO	Black Forest	79.55	360	PFAKE		20 19 00.0 +12
BFO				LR	LR	
	comp=Z,500nm,19.0s					
BFO	Black Forest	79.55	360	i P	P	20 18 47.4 -0.3
NCK	Nalchik	79.58	335	i P	P	20 18 46.5 -1.4
NCK				pmax	pmax	
	comp=Z,18nm,1.0s					
ECH	Echery	79.66	1	P	P	20 18 46.7 -1.6
ECH				pmax	pmax	
	comp=Z,15nm,1.1s					
CONA	Conrad Observa	79.72	355	eP	P	20 18 48.5 -0.2
	comp=Z,5.5nm,1.1s,SNR=7.9					
BIZ	Bicaz	79.74	348	⇓iP	P	20 18 47.9 -0.8
LTVH	Ltavrtes, Hu	79.79	350	eP	P	20 18 52.0 +3.1
ANN	Anapa	79.83	339	eP	P	20 18 48.2 -1.0
ANN				eS	S	20 28 50.9 +0.9
ANN				pmax	pmax	
	comp=Z,26nm,0.9s					
ANN				MLR	MLR	
	comp=Z,832nm,18.0s					
MOA	Molln	79.88	356	eP	P	20 18 48.7 -0.8
	comp=Z,2.4nm,0.9s					
GEYT	Alibeck	79.97	322	P	P	20 18 49.6 -0.6
	comp=Z,2.9nm,0.9s,baz=310,slow=6.9,SNR=5.9					
GEYT				PP	PP	20 21 51.5 +0.2
	comp=Z,46nm,0.8s,baz=8.5,slow=2.9,SNR=6.2					
GEYT				LR	LR	20 58 18.5
	comp=Z,1μm,18.6s,baz=25,slow=39					
GYA0B	ALIBECK ARRAY	79.97	322	PFAKE		20 19 00.0 +10
GYA0B				LR	LR	
	comp=Z,1μm,20.0s					
HINF	Hinteralfeld	80.05	1	eP	P	20 18 50.4 -0.1
HINF				pmax	pmax	
	comp=Z,26nm,1.5s					
SLE	Schleitheim	80.11	360	P	P	20 18 49.4 -1.4
SLE				pmax	pmax	
	comp=Z,17nm,1.5s					
CSKK	Cskako	80.13	353	eP	P	20 18 48.1 -2.7
ZEI	Tsey	80.16	334	eP	P	20 18 49.2 -2.1
ZEI				pmax	pmax	
	comp=Z,9.0nm,0.6s					
DRGR		80.29	350	⇑iP	P	20 18 54.0 +2.2
DRGR		80.29	350	⇑P	P	20 18 54.0 +2.2
RETA	Reutte	80.36	358	eP	P	20 18 51.6 -0.6
	comp=Z,0.7nm,0.3s					
SIM	Simferopol'	80.37	342	eP	P	20 18 52.1 0.0
SIM				e		20 21 58.0
SIM				eS	S	20 29 00.0 +4.3
SIM				pmax	pmax	
	comp=Z,10.0nm,0.7s					
SIM				pmax	pmax	
	comp=Z,30nm,7.1s					
ARSA	Arzberg	80.42	355	P	P	20 18 51.2 -1.2
	comp=Z,5.3nm,1.1s					
SOC	Sochi	80.47	337	eP	P	20 18 50.4 -2.3
SOC				e*PP	sP	20 19 06.8 +1.6
SOC				ePPP	PPP	20 23 43.8
SOC				eS	S	20 28 53.4 -3.4
SOC				eSS	SS	20 34 04.8 -2.7
SOC				pmax	pmax	
	comp=Z,11nm,0.4s					
SOC				MLR	MLR	
	comp=Z,663nm,18.0s					
WATA	Walderalm	80.49	358	eP	P	20 18 52.1 -0.9
	comp=Z,2.7nm,0.9s,SNR=5.2					
MOTA	Moosalm	80.50	358	eP	P	20 18 51.9 -1.1
	comp=Z,9.0nm,1.1s					
LOR	Lormes	80.54	3	eP	P	20 18 51.7 -1.4
LOR				pmax	pmax	
	comp=Z,16nm,1.2s					
WTTA	Wattenberg	80.56	358	eP	P	20 18 53.0 -0.4
	comp=Z,9.4nm,1.3s					
DAVA	Damuels	80.58	359	epP	P	20 18 53.9 +0.4
	comp=Z,2.2nm,0.9s					
TIH	Tihany	80.62	353	eP	P	20 18 52.0 -1.4
SQTA	Sankt Quirin	80.62	358	eP	P	20 18 53.1 -0.5
	comp=Z,5.7nm,1.1s,SNR=6.4					
KBA	Koelnbreinsper	80.69	356	P	P	20 18 53.6 -0.5
	comp=Z,16nm,1.4s					
VRI	Vrincioaia	80.70	347	⇑iP	P	20 18 55.8 +1.9
VRI	Vrincioaia	80.70	347	⇑P	P	20 18 55.8 +1.9
DOPR	Dopca	80.78	348	⇑iP	P	20 18 53.5 -0.9
FETA	Feichten	80.83	358	eP	P	20 18 54.4 -0.4
	comp=Z,6.2nm,1.0s					
HDC	Heredia	80.84	86	PFAKE		20 19 10.0 +15
HDC				LR	LR	
	comp=Z,400nm,19.0s					
SIRR	Siria	80.92	350	⇓iP	P	20 18 57.0 +1.9
SOKA	Soboth	81.02	355	eP	P	20 18 55.0 -0.7
	comp=Z,4.7nm,1.3s,SNR=10.0					
ABTA	Abfaltersbach	81.05	357	eP	P	20 18 54.9 -1.0
	comp=Z,5.2nm,1.5s,SNR=6.2					
PERS	Pernice	81.05	355	i P	P	20 19 05.0 +9.2
BEHE	Becsehely	81.12	354	eP	P	20 18 58.1 +2.0
CFR	Carcaliu	81.17	346	⇑iP	P	20 18 57.0 +0.6
CFR	Carcaliu	81.17	346	⇑P	P	20 18 57.0 +0.6
MLR	Muntele Rosu	81.18	347	PFAKE		20 19 10.0 +13
MLR				LR	LR	
	comp=Z,1μm,19.0s					
MLR	Muntele Rosu	81.18	347	⇑iP	P	20 18 57.1 +0.5
MLR	Muntele Rosu	81.18	347	P	P	20 18 55.4 -1.2
	comp=Z,1.8nm,1.0s,baz=350,slow=6.1					
FUORN	Ofenpass-Fuorn	81.24	358	PFAKE		20 19 10.0 +13
FUORN				LR	LR	
	comp=Z,500nm,19.0s					
BWNR	Bhubaneshwar	81.30	292	ex	P	20 18 53.5 -3.9
MTN	Manton Dam	81.33	236	PFAKE		20 19 10.0 +12
MTN				LR	LR	
	comp=Z,700nm,20.0s					
VOIR		81.35	348	⇓iP	P	20 18 59.3 +1.8

VOIR		81.35	348	⇓P	P	20 18 59.3 +1.8
KSM	Kuching	81.37	261	eP	P	20 18 58.0 +0.1
comp=Z,135nm,1.1s						
KSM	Kuching	81.37	261	P	P	20 18 59.0 +1.1
TUE	Stuetta	81.40	359	PFAKE		20 19 10.0 +12
TUE				LR	LR	
comp=Z,600nm,19.0s						
SDDR	Presa de Saban	81.45	70	PFAKE		20 19 10.0 +12
SDDR				LR	LR	
comp=Z,699nm,20.0s						
AKH	Akhalkalaki	81.55	334	PFAKE		20 19 10.0 +11
AKH				LR	LR	
comp=Z,700nm,18.0s						
BZS	Buzias	81.56	350	⇑iP	P	20 19 01.1 +2.6
BZS	Buzias	81.56	350	⇑P	P	20 19 01.1 +2.6
GZR	Gura Zlata	81.66	350	⇓iP	P	20 19 01.2 +2.1
GZR	Gura Zlata	81.66	350	⇓P	P	20 19 01.2 +2.1
TIRR	Tirgusor	81.83	345	PFAKE		20 19 10.0 +10
TIRR				LR	LR	
comp=Z,5μm,22.0s						
VISS	Visnje	81.90	355	i P	P	20 19 02.3 +2.0
RKT	Rikitea	81.92	146	eP	P	20 19 05.6 +5.2
comp=Z,182nm,1.2s						
RKT	Rikitea	81.92	146	eT	T	21 48 39.1
comp=Z,4.1nm,0.3s						
TRI	Trieste	82.04	356	PFAKE		20 19 10.0 +9.0
TRI				LR	LR	
comp=Z,700nm,19.0s						
BOJS	Bojanci	82.17	355	i P	P	20 19 09.3 +7.6
GNI	Garni	82.38	332	PFAKE		20 19 20.0 +17
GNI				LR	LR	
comp=Z,1μm,19.0s						
GNI	Garni	82.38	332	i P	P	20 19 05.0 +1.9
GNI				pmax	pmax	
comp=Z,21nm,1.1s						
GNI	Garni	82.38	332	LR	LR	21 01 42.1
comp=Z,765nm,18.6s,baz=12,slow=40						
MDVR	Moldovita	82.38	350	⇑iP	P	20 19 05.3 +2.4
SDD	Santo Domingo	82.65	69	PFAKE		20 19 20.0 +15
SDD				LR	LR	
comp=Z,2μm,19.0s						
DGPR	DIGLIPUR	82.75	282	eP	P	20 19 05.8 +0.7
DGPR				IAmb	IAmb	20 19 12.4
SKLT	Songkhla	82.79	272	P	P	20 19 06.0 +0.7
BLY	Banja Luka	82.81	353	PFAKE		20 19 20.0 +15
BLY				LR	LR	
comp=Z,700nm,21.0s						
CAF	Calviac	82.81	4	eP	P	20 19 08.6 +3.5
CAF				pmax	pmax	
comp=Z,21nm,1.3s						
BNI	Bardonecchia	82.82	1	PFAKE		20 19 20.0 +15
BNI				LR	LR	
comp=Z,900nm,18.0s						
KRAB	Krabi	82.84	274	P	P	20 19 06.1 +0.5
TRTT	Trang	82.84	273	P	P	20 19 06.2 +0.6
SNOP	Sinop	82.96	340	PFAKE		20 19 20.0 +14
SNOP				LR	LR	
comp=Z,300nm,19.0s						
DIKM	Dikmen	83.31	340	⇓iP	P	20 19 10.1 +2.4
BHPL	Bhopal	83.54	300	eP	P	20 19 07.3 -1.8
BHPL				IAmb	IAmb	20 19 08.1
comp=Z,60nm,1.1s						
VLC	Villacollemand	83.69	358	PFAKE		20 19 20.0 +10
VLC				LR	LR	
comp=Z,900nm,22.0s						
PBA	Port Blair	84.05	281	eP	P	20 19 14.5 +2.7
PBA				IAmb	IAmb	20 19 17.2
comp=Z,191nm,1.3s						
ILGA	Ilgaz	84.20	341	PFAKE		20 19 20.0 +7.5
ILGA				LR	LR	
comp=Z,700nm,20.0s						
KULM	Kulim	84.25	271	P	P	20 19 14.0 +1.2
VTS	Vitosha	84.35	349	PFAKE		20 19 30.0 +17
VTS				LR	LR	
comp=Z,900nm,21.0s						
VTS	Vitosha	84.35	349	⇓iP	P	20 19 15.9 +2.7
VTS	Vitosha	84.35	349	⇓P	P	20 19 15.9 +2.7
NGP	Nagpur	84.36	298	eP	P	20 19 11.1 -2.3
NGP				IAmb	IAmb	20 19 12.1
comp=Z,53nm,1.3s						
MPR	Mayaguez	84.42	67	PFAKE		20 19 30.0 +16
MPR				LR	LR	
comp=Z,900nm,20.0s						
SJPF	Ste Jean	84.43	7	eP	P	20 19 17.3 +3.9
SJPF				pmax	pmax	
comp=Z,44nm,1.9s						
CRPR	Cabo Rojo, PR	84.61	68	PFAKE		20 19 20.0 +5.4
CRPR				LR	LR	
comp=Z,800nm,21.0s						
IPM	Ipoh	84.65	270	P	P	20 19 16.0 +1.1
PLD	Plovdiv	84.67	348	P	P	20 19 14.0 -0.6
PLD				pmax	pmax	
comp=Z,57nm,1.3s						
TTG	Podgorica	84.95	352	PFAKE		20 19 30.0 +14
TTG				LR	LR	
comp=Z,1μm,22.0s						
ICMP	Isla Caja de M	85.03	67	PFAKE		20 19 30.0 +13
ICMP				LR	LR	
comp=Z,1μm,22.0s						
MYKOM	Kota Tinggi	85.04	266	P	P	20 19 19.0 +2.2
SJG	San Juan	85.06	67	PFAKE		20 19 30.0 +13
SJG				LR	LR	
comp=Z,800nm,18.0s						
SJG	San Juan	85.06	67	eP	P	20 19 18.8 +1.9
SJG	San Juan	85.06	67	eP	P	20 19 18.8 +1.9
HUMP	Col San Antoni	85.21	66	PFAKE		20 19 30.0 +12
HUMP				LR	LR	
comp=Z,1μm,20.0s						
MDUB	Mudurnu	85.24	342	PFAKE		20 19 30.0 +12
MDUB				LR	LR	
comp=Z,2μm,21.0s						
CUPR	Culebra, Puert	85.39	66	PFAKE		20 19 30.0 +11
CUPR				LR	LR	
comp=Z,800nm,22.0s						
AQU	L'Aquila	85.41	356	PFAKE		20 19 30.0 +12
AQU				LR	LR	
comp=Z,400nm,20.0s						
MTP	Monte Pirata	85.41	66	PFAKE		20 19 30.0 +11
MTP				LR	LR	
comp=Z,1μm,21.0s						
BRTR	Keskin Array B	85.49	340	P	P	20 19 17.8 -1.2
comp=Z,2.3nm,0.8s,baz=46,slow=3.6,SNR=13						
BRTR				PP	PP	20 22 36.9 +0.3
comp=Z,6.2nm,1.1s,baz=19,slow=6.1,SNR=3.8						
BRTR				LR	LR	21 04 49.3
comp=Z,524nm,18.3s,baz=22,slow=41						
ANTO	Ankara	85.52	341	PFAKE		20 19 30.0 +11
ANTO				LR	LR	
comp=Z,600nm,22.0s						
ABVI	Anegada Island	85.58	65	PFAKE		20 19 30.0 +11
ABVI				LR	LR	
comp=Z,900nm,20.0s						
ALN	Alexandroupoli	85.67	346	PFAKE		20 19 30.0 +10
ALN				LR	LR	
comp=Z,500nm,22.0s						
ALN	Alexandroupoli	85.67	346	P	P	20 19 20.4 +0.8
ALN				pmax	pmax	
comp=Z,9.0nm,1.4s						
WB6	Warramunga Arr	85.77	229	PFAKE		20 19 30.0 +10
WB6				LR	LR	
comp=Z,700nm,20.0s						
SRS	Serrai	85.79	348	P	P	20 19 18.9 -1.3
SRS				pmax	pmax	
comp=Z,15nm,1.2s						
KNT	Kendrikon	85.83	349	P	P	20 19 19.5 -0.9
KNT				pmax	pmax	
comp=Z,23nm,1.6s						
WRAB	Tennant Creek	85.85	229	eP	P	20 19 19.9 -0.7
comp=Z,60nm,1.4s						
WRAB	Tennant Creek	85.85	229	ceP	P	20 19 19.6 -1.0
WRAB				pmax	pmax	
comp=Z,74nm,2.5s						
WB2	Warramunga Arr	85.86	229	PFAKE		20 19 30.0 +9.3
WB2				LR	LR	
comp=Z,800nm,22.0s						
WRA	Warramunga Arr	85.86	229	P	P	20 19 20.1 -0.6
comp=Z,15nm,1.0s,baz=39,slow=6.0,SNR=49						
WRA				LR	LR	20 52 49.5
comp=Z,342nm,21.7s,baz=35,slow=32						
TIR	Tirane	85.97	351	PFAKE		20 19 30.0 +8.9
TIR				LR	LR	
comp=Z,1μm,21.0s						
GRG	Griva	86.09	349	eP	P	20 19 20.7 -1.0
GRG				pmax	pmax	
comp=Z,22nm,1.1s						
FNA	Florina	86.37	350	PFAKE		20 19 40.0 +17
FNA				LR	LR	
comp=Z,1μm,18.0s						
MTE	Manteigas	86.49	12	PFAKE		20 19 40.0 +16
MTE				LR	LR	
comp=Z,700nm,20.0s						
COI	Coimbra	86.57	13	PFAKE		20 19 40.0 +16
COI				LR	LR	
comp=Z,800nm,22.0s						
BALB	Balikesir	86.62	345	PFAKE		20 19 40.0 +16
BALB				LR	LR	
comp=Z,2μm,22.0s						
CMBY	CAMPBELL BAY	86.99	278	eP	P	20 19 26.4 -0.1
SEUS	St. Eustatius	87.33	65	PFAKE		20 19 40.0 +12
SEUS				LR	LR	
comp=Z,900nm,18.0s						
BHJ	Bhuj	87.51	306	eP	P	20 19 29.6 +0.8
BHJ				IAmb	IAmb	20 19 36.2
comp=Z,641nm,2.9s						
ESDC	Sonseca Array	87.61	9	P	P	20 19 27.2 -2.0
comp=Z,1.7nm,0.7s,baz=359,slow=4.2,SNR=4.5						
ESDC				LR	LR	20 56 39.8
comp=Z,461nm,21.9s,baz=335,slow=34						
MANT	Manisa	87.64	344	PFAKE		20 19 40.0 +10
MANT				LR	LR	
comp=Z,2μm,22.0s						
HYB	Hyderabad	87.66	296	i P	P	20 19 28.0 -1.7
HYB	Hyderabad	87.66	296	eP	P	20 19 28.0 -1.7
HYB				IAmb	IAmb	20 19 28.8
comp=Z,34nm,0.8s						
PAB	San Pablo	87.70	10	PFAKE		20 19 40.0 +10
PAB				LR	LR	
comp=Z,900nm,21.0s						
ANWB	Willy Bob	87.84	64	PFAKE		20 19 40.0 +9.5
ANWB				LR	LR	
comp=Z,1μm,21.0s						
BKNI	Bangkinang	87.91	268	eP	P	20 19 31.1 +0.2
comp=Z,262nm,0.9s						
ISP	Isparta	87.94	342	PFAKE		20 19 40.0 +9.1
ISP				LR	LR	
comp=Z,600nm,20.0s						
AGG	Agios Georgios	88.00	349	PFAKE		20 19 40.0 +8.9
AGG				LR	LR	
comp=Z,900nm,21.0s						
TIP	Timpagrande	88.38	353	PFAKE		20 19 40.0 +7.1
TIP				LR	LR	
comp=Z,500nm,20.0s						
FITZ	Fitzroy Crossi	88.56	237	LR	LR	20 55 19.8
comp=Z,211nm,20.4s,baz=42,slow=33						
HELC	Santa Helena	89.05	81	eP	P	20 19 32.8 -3.9
HELC				eP	PcP	20 19 38.4 +0.1
HELC				eP	PcP	20 19 38.9 +0.7
HELC	Santa Helena	89.05	81	eP	P	20 19 32.8 -3.9
HELC				eP	PcP	20 19 38.4 +0.1
HELC				eP	PcP	20 19 38.9 +0.7
ASAR	Alice Springs	89.28	228	P	P	20 19 36.9 -0.2
comp=Z,39nm,0.8s,baz=33,slow=4.7,SNR=200						
ASAR				LR	LR	21 02 49.9
comp=Z,387nm,18.1s,baz=28,slow=38						
POO	Poona	89.29	300	eP	P	20 19 36.0 -1.5
POO				IAmb	IAmb	20 19 36.8
comp=Z,38nm,1.0s						
CEL	Celeste	89.35	354	PFAKE		20 19 50.0 +13
CEL				LR	LR	
comp=Z,700nm,21.0s						
BRRC	Barranca, Sant	89.42	79	eP	P	20 19 40.9 +2.8
BRRC				eP	pP	20 19 43.9 -3.3
BRRC	Barranca, Sant	89.42	79	eP	P	20 19 40.9 +2.8
BRRC				eP	pP	20 19 43.9 -3.3
PTBC	PUERTO BERRIO,	89.42	80	eP	P	20 19 39.9 +1.8
PTBC	PUERTO BERRIO,	89.42	80	eP	P	20 19 39.9 +1.8
GIRC	Giron, Santand	89.75	79	⇓eP	P	20 19 40.4 +0.6
GIRC	Giron, Santand	89.75	79	⇓eP	P	20 19 40.4 +0.6
PAMC	Pamplona, Colo	89.84	78	eP	P	20 19 44.4 +3.8
PAMC	Pamplona, Colo	89.84	78	eP	P	20 19 44.4 +3.8
SDV	Santo Domingo	89.84	76	PFAKE		20 19 50.0 +10
SDV				LR	LR	
comp=Z,700nm,19.0s						
SDV	Santo Domingo	89.84	76	eP	P	20 19 42.4 +2.1
SDV	Santo Domingo	89.84	76	eP	P	20 19 42.4 +2.1
ITM	Ithomi	89.87	349	PFAKE		20 19 50.0 +10
ITM				LR	LR	
comp=Z,900nm,20.0s						
CART	Cartagena	89.94	7	PFAKE		20 19 50.0 +10
CART				LR	LR	
comp=Z,600nm,20.0s						
NORC	Norcasia	89.94	81	⇓eP	P	20 19 35.9 -4.7
NORC				eP	PcP	20 19 41.9 +0.1
NORC	Norcasia	89.94	81	⇓eP	P	20 19 35.9 -4.7
NORC				eP	PcP	20 19 41.9 +0.1
BARC	Barichara	90.14	79	eP	P	20 19 44.4 +2.7
BARC	Barichara	90.14	79	eP	P	20 19 44.4 +2.7
SANT	Santorini	90.20	346	PFAKE		20 19 50.0 +8.6
SANT				LR	LR	
comp=Z,800nm,22.0s						
SFS	San Fernando	90.53	11	PFAKE		20 19 50.0 +7.1
SFS				LR	LR	
comp=Z,500nm,20.0s						
FDF	Fort de France	90.58	65	PFAKE		20 20 00.0 +16
FDF				LR	LR	
comp=Z,1μm,21.0s						
RUSC	La Rusia	90.75	79	eP	P	20 19 45.4 +0.5
RUSC	La Rusia	90.75	79	eP	P	20 19 45.4 +0.5
ROSC	El Rosal	90.84	81	P	P	20 19 45.8 +0.7
comp=Z,5.5nm,0.7s,baz=294,slow=10.0,SNR=3.5						
URZ	Urewera	90.89	189	P	P	20 19 45.2 +1.1
comp=Z,13nm,0.9s,baz=301,slow=5.9,SNR=5.0						
POPC	Popayan, Colom	91.23	84	eP	P	20 19 48.4 +1.6
POPC	Popayan, Colom	91.23	84	eP	P	20 19 48.4 +1.6
BBAC	Balboa, Cauca	91.29	85	eP	P	20 19 51.4 +4.4
BBAC	Balboa, Cauca	91.29	85	eP	P	20 19 51.4 +4.4
CHIC	Chingaza	91.36	81	eP	P	20 19 49.4 +1.8
CHIC				⇓eP	P	20 19 50.4 +2.8
CHIC	Chingaza	91.36	81	eP	P	20 19 49.4 +1.8
CHIC				⇓eP	P	20 19 50.4 +2.8
HIZ	Hauiti	91.36	190	PFAKE		20 20 00.0 +14
HIZ				LR	LR	
comp=Z,700nm,19.0s						
MMAI	Mount Meron Ar	91.55	337	LR	LR	21 05 11.3
comp=Z,334nm,19.8s,baz=315,slow=38						
PCON	Cinco Dias	91.57	84	eP	P	20 19 50.4 +1.7
PCON	Cinco Dias	91.57	84	eP	P	20 19 50.4 +1.7
SOTA	Rioblanco	91.59	84	eP	P	20 19 48.4 -0.3
SOTA	Rioblanco	91.59	84	eP	P	20 19 48.4 -0.3
GCUF	Volcan Galeras	91.86	86	eP	P	20 19 53.4 +3.4
GCUF				eP	P	20 19 53.9 +3.9
GCUF	Volcan Galeras	91.86	86	eP	P	20 19 53.4 +3.4
GCUF				eP	P	20 19 53.9 +3.9
CPAS2	Pasto	91.92	86	⇑eP	P	20 19 55.9 +5.8
CPAS2	Pasto	91.92	86	⇑eP	P	20 19 55.9 +5.8
OTAV	Otavalo	91.96	87	eP	P	20 19 53.4 +3.0
OTAV	Otavalo	91.96	87	P	P	20 19 51.2 +0.8
OTAV				pmax	pmax	
comp=Z,40nm,1.0s						
OTAV	Otavalo	91.96	87	eP	P	20 19 53.4 +3.0
ASF	Jabal al Asfar	91.99	336	LR	LR	21 07 27.1
comp=Z,269nm,18.6s,baz=344,slow=40						
GRGR	Grenville	92.42	67	PFAKE		20 20 00.0 +8.0
GRGR				LR	LR	
comp=Z,799nm,20.0s						
FLOC	Florencia	92.61	84	eP	P	20 19 53.4 +0.5
FLOC				⇓eP	PcP	20 19 56.4 +2.8
FLOC	Florencia	92.61	84	eP	P	20 19 53.4 +0.5
FLOC				⇓eP	PcP	20 19 56.4 +2.8
WSAR	Wadi Sarin	92.66	315	LR	LR	21 07 11.8
comp=Z,717nm,19.0s,baz=77,slow=39						
STKA	Stephens Creek	93.30	218	P	P	20 19 55.3 -0.2
comp=Z,12nm,0.9s,baz=71,slow=4.8,SNR=12						
STKA				LR	LR	20 59 43.4
comp=Z,676nm,20.4s,baz=26,slow=34						
TRD	Trivandrum	95.80	292	ex	P	20 20 10.4 +2.9
OXZ	Oxford	96.44	192	PFAKE		20 20 20.0 +10
OXZ				LR	LR	
comp=Z,1μm,18.0s						
MNCY	Minicoy	98.20	295	eP	Pdif	20 20 18.6 +0.2
TAM	Tamanrasset	105.00	2	PFAKE		20 25 20.0 +17
TAM				LR	LR	
comp=Z,500nm,22.0s						
DAMY	Dhamar	106.19	323	PFAKE		20 25 20.0 +14
DAMY				LR	LR	
comp=Z,700nm,20.0s						
ATD	Arta Tunnel	109.56	324	PFAKE		20 25 20.0 +8.1
ATD				LR	LR	
comp=Z,500nm,20.0s						
FURI	Furi	113.46	327	PFAKE		20 25 30.0 +10
FURI				LR	LR	
comp=Z,500nm,21.0s						
TORD	Torodi Ar. Bea	114.39	7	PKiKP	PKiKP	20 25 18.6 -2.4
comp=Z,1.3nm,0.8s,baz=317,slow=5.4,SNR=6.4						
KMBO	Kilima Mbogo	123.29	324	PFAKE		20 25 50.0 +11
KMBO				LR	LR	
comp=Z,500nm,21.0s						
KMBO	Kilima Mbogo	123.29	324	PKP	PKPdf	20 25 37.4 -1.1
comp=Z,5.1nm,1.0s,baz=357,slow=2.8,SNR=7.6						
CPUP	Villa Florida	125.30	88	PKIKP	PKPdf	20 25 41.0 -0.5
CPUP				pmax	pmax	
comp=Z,5.0nm,0.8s						
CPUP	Villa Florida	125.30	88	PKP	PKPdf	20 25 41.0 -0.5
comp=Z,5.1nm,0.8s,baz=277,slow=3.5,SNR=9.3						
PLCA	Paso Flores	127.33	110	ePKPdf	PKPdf	20 25 45.2 +0.2
PLCA	Paso Flores	127.33	110	PKP	PKPdf	20 25 44.6 -0.5
comp=Z,11nm,0.9s,baz=295,slow=3.3,SNR=12						
VNDA	Vanda	130.78	187	PKP	PKPdf	20 25 49.5 -0.9
comp=Z,1.8nm,0.8s,baz=306,slow=5.0,SNR=10						
VNDA				SKPab	SKPbc	20 29 12.6 +0.6
comp=Z,5.1nm,1.3s,baz=10,slow=3.8,SNR=4.5						
OPO	Ambohidratompo	134.44	303	PKP	PKPdf	20 25 58.8 -0.5
comp=Z,3.5nm,1.0s,baz=346,slow=4.2,SNR=2.3						
LSZ	Lusaka	139.56	329	PFAKE		20 26 20.0 +8.9
LSZ				LR	LR	
comp=Z,500nm,18.0s						
TSUM	Tsumeb	145.94	344	ePKPdf	PKPdf	20 26 19.2 -0.8
TSUM	Tsumeb	145.94	344	PKPbc	PKPdf	20 26 19.0 -1.0
comp=Z,18nm,1.1s,baz=352,slow=5.9,SNR=12						
LBTB	Lobatse	149.49	327	PKPbc	PKPbc	20 26 29.1 -1.1
comp=Z,23nm,0.9s,baz=10,slow=2.9,SNR=27						
MAW	Mawson	149.99	219	ePKPbc	PKPbc	20 26 30.1 +0.2
MAW	Mawson	149.99	219	ePKIKP	PKPbc	20 26 30.1 +0.2
MAW	Mawson	149.99	219	PKPbc	PKPbc	20 26 29.5 -0.4
comp=Z,47nm,1.0s,baz=92,slow=1.4,SNR=35						
BOSA	Boshof	152.93	325	PKPbc	PKPbc	20 26 36.2 -1.9
comp=Z,21nm,1.1s,baz=357,slow=2.5,SNR=12						
SYO	Syowa Base	157.81	210	⇓ePKPdf	PKPdf	20 26 36.6 +0.6
SYO	Syowa Base	157.81	210	⇓eX	PKPab	20 27 06.4 -2.6
VNA3	Neumayer Olymp	159.59	164	P	PKPdf	20 26 35.9 -2.2
VNA3	Neumayer Olymp	159.59	164	PKPab	PKPab	20 27 14.1 -2.6
SNAA	Sanae	160.17	170	P	PKPdf	20 26 37.7 -1.1
SNAA	Sanae	160.17	170	PKPab	PKPab	20 27 18.6 -0.6
VNA2	Neumayer--Watz	160.24	165	P	PKPdf	20 26 38.6 -0.2
VNA2	Neumayer--Watz	160.24	165	PKPab	PKPab	20 27 19.6 +0.1
VNA1	Neumayer--Stat	160.34	164	P	PKPdf	20 26 38.4 -0.5
VNA1	Neumayer--Stat	160.34	164	PKPab	PKPab	20 27 19.3 -0.6

OMAN **12** *20:18:23.5±0.4,27°.00N×58°.44E,h13km, Error ellipse: s-maj=8.6km s-min=5.4km az=1.0*
DSN **12** *20:18:29.9±2.7,26°.70N×58°.12E,h10km,ML4.2/10, Error ellipse: s-maj=39.1km s-min=12.0km az=5.0*
IDC **12** *20:18:31.8±0.8,26°.62N×57°.63E,h0km,mb3.8/20, mb1 4.0/22,mb1mx3.8/68,mbtmp3.9/22,ML4.0/2,MS3.8/1, Ms1 3.8/1,ms1mx2.8/45, Error ellipse: s-maj=19.0km s-min=15.2km az=6.0*
ISCJB **12** *20:18:31.7±0.3,26°.63N±0°.03×57°.71E±0°.04,h10km, mb4.1/38,MS3.8/1, Error ellipse: s-maj=4.7km s-min=3.8km az=10.9*
NEIC **12** *20:18:32.0±0.0,26°.48N×57°.70E,h13km,mb4.4/15, MN4.3(TEH), After TEH.*
TEH **12** *20:18:34.4,26°.66N×57°.67E,h15km,ML4.2*
ISC 12 20:18:32.7±0.5,26°.56N±0°.04×57°.75E±0°.05,h10km,n111,
σ1§37/118,mb4.2/38,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.29	321	ePg	Pg	20 18 57.0	-0.5
NIAN				IAMB	IAmb	20 19 23.3	
comp=Z,0.0nm,0.4s							
SHME	Shamm	1.53	251	eP	Pg	20 19 02.8	+0.6
SNR=169							
SHME				S	Sg	20 19 27.1	+5.1
BNDS	Bandar-Abbas	1.64	301	ePn	Pn	20 18 58.4	-3.4
GENO	Geno	1.64	301	IAMB	IAmb	20 19 06.5	
comp=Z,0.0nm,0.3s							
GENO				ePn	Pb	20 19 03.1	-0.1
MDH	Madha	1.81	227	eP	Pn	20 19 04.0	0.0
SNR=257							
MDH	Madha	1.81	227	P	Pn	20 19 04.0	0.0
SNR=82							
MSFE	Esma-Masafi	1.86	231	eP	Pn	20 19 05.3	+0.5
SNR=9.9							
UMQ	Umm Al-Quwin	2.14	242	eP	Pb	20 19 10.6	-1.1
SNR=12							
UMQ	Umm Al-Quwin	2.14	242	P	Pg	20 19 13.3	-0.5
SNR=8.5							
HATD	Hatta, Dubai	2.26	221	eP	Pn	20 19 11.4	+1.2
SNR=27							
HATD	Hatta, Dubai	2.26	221	P	Pn	20 19 10.1	-0.1
SNR=14							
ASHO	Ashiyiah	2.41	220	eP	Pb	20 19 14.4	-1.8
SNR=72							
ASHO	Ashiyiah	2.41	220	P	Pn	20 19 12.9	+0.6
SNR=22							
NAZ	Nazwa, Dubai	2.45	231	eP	Pb	20 19 15.1	-1.8
SNR=67							
NAZ	Nazwa, Dubai	2.45	231	P	Pb	20 19 17.5	+0.6
SNR=38							
NAZ				S	Sg	20 19 54.8	+3.4
CHBR	Chabahar	2.63	111	ePn	Pn	20 19 15.7	+0.4
SOHO	SOHO	2.65	205	P	Pn	20 19 15.0	-0.5
SNR=14							
FAQ	Al Faqa, Dubai	2.66	228	i P	Pb	20 19 18.7	-1.7
SNR=57							
ASUD	Al Ashush, Dub	2.91	229	i P	Pn	20 19 21.7	+2.5
SNR=6.2							
BIDO	Bidbid	3.04	174	P	Pn	20 19 21.0	+0.1
SNR=8.5							
BIDO				S	Sn	20 19 57.9	+0.5
ALNE	Al Ain	3.08	216	i P	Pn	20 19 23.9	+2.4
SNR=22							
NGRK	Negar Kerman	3.21	344	ePn	Pn	20 19 24.5	+1.0
NGRK				IAMB	IAmb	20 20 16.2	
comp=Z,0.0nm,1.0s							
CHMN	Cheshme madani	3.30	357	ePn	Pn	20 19 26.3	+1.5
CHMN				IAMB	IAmb	20 20 27.0	
comp=N,0.0nm,0.8s							
WSAR	Wadi Sarin	3.40	166	Pn	Pn	20 19 26.4	+0.6
comp=N,16nm,0.3s,baz=350,slow=6.7,SNR=129							
WSAR				Sn	Sn	20 20 03.9	-2.3
comp=N,20nm,0.3s,baz=40,slow=4.2,SNR=12							
TVBK	TV Kerman	3.53	346	ePn	Pn	20 19 29.0	+1.1
TVBK				IAMB	IAmb	20 20 34.4	
comp=Z,0.0nm,0.5s							
KHGB	Koh Gabri	3.97	344	ePn	Pn	20 19 35.4	+1.5
KHGB				IAMB	IAmb	20 20 42.3	
comp=N,0.0nm,1.1s							
SZD1	Zahaedan-tmp	4.01	43	ePn	Pn	20 19 37.0	+2.6
ZHSF	Zahedan	4.05	41	ePn	Pn	20 19 35.5	+0.6
IMEH	Mehriz	5.55	331	ePn	Pn	20 19 56.8	+1.2
IKOO	Kooshah	5.95	10	ePn	Pn	20 20 00.5	-0.6
IKAZ	Kazeroun	6.13	303	ePn	Pn	20 20 03.2	-0.4
ITEG	Tejag	6.38	8	ePn	Pn	20 20 07.6	+0.7
ISAD	Sadrabad	6.41	327	ePn	Pn	20 20 08.9	+1.4
IDAH	Dahanechah	6.43	16	ePn	Pn	20 20 10.6	+2.9
IRAM	Ramesheh	7.03	319	ePn	Pn	20 20 16.7	+0.8
IPIR	Pirpir	8.54	317	ePn	Pn	20 20 36.5	-0.2

comp=N,30nm,2.0s
ABKAR **Akbulak array** 22.73 4 *e*P P 20 23 34.0 -0.7
AKTO **Aktyubinsk** 23.84 0 P P 20 23 45.1 -0.9
comp=N,2.9nm,0.8s,baz=184,slow=12,SNR=4.0
BR101 **Keskin Array S** 24.00 309 *e*P P 20 23 47.5 -0.2
BR131 **Keskin Array S** 24.00 309 *e*P P 20 23 47.8 +0.1
comp=N,6.3nm,1.1s
BRTR **Keskin Array B** 24.00 309 P P 20 23 47.5 -0.2
BRTR *e*P P 20 23 47.9 +0.1
BRTR **Keskin Array B** 24.00 309 P P 20 23 47.5 -0.2
comp=N,3.0nm,0.7s,baz=126,slow=9.4,SNR=12
MDUB **Mudurnu** 26.01 309 *e*P P 20 24 06.3 +0.4
comp=N,65nm,0.7s
MK32 **Makanchi Array** 28.00 37 *e*P P 20 24 25.2 +1.5
MKAR **Makanchi Array** 28.00 37 P P 20 24 25.2 +1.5
comp=N,0.7nm,0.7s,baz=228,slow=8.3,SNR=3.4
BVAR **Borovoye Array** 28.08 16 P P 20 24 23.5 -0.8
comp=N,0.4nm,0.4s,baz=206,slow=9.6,SNR=2.6
KURBB **Kurchatov Arra** 28.81 28 P P 20 24 31.0 +0.2
KURBB **Kurchatov Arra** 28.81 28 P P 20 24 31.0 +0.2
comp=N,1.2nm,0.8s,baz=226,slow=9.1,SNR=3.4
MLR **Muntele Rosu** 31.63 315 LR LR 20 38 37.0
comp=N,185nm,19.6s,baz=202,slow=38
AKASG **Malin Array Be** 32.48 326 P P 20 25 02.3 -0.9
AKASG *e*P P 20 25 03.9 +0.7
AKASG **Malin Array Be** 32.48 326 P P 20 25 02.3 -0.9
comp=N,0.9nm,0.5s,baz=128,slow=8.0,SNR=7.2
AKBB **Malin Array Si** 32.48 326 *e*P P 20 25 02.4 -0.8
comp=N,5.7nm,1.0s
KIEV **Kiev** 32.48 326 *e*P P 20 25 02.3 -0.9
comp=N,5.7nm,1.0s
BURAR **Bucovina Array** 33.03 318 *e*P P 20 25 06.5 -1.8
BUR08 **Bucovina Ar. S** 33.06 318 *e*P P 20 25 08.7 +0.2
comp=N,5.4nm,1.3s
FNA **Florina** 33.18 305 *e*P P 20 25 09.7 +0.1
comp=N,11nm,1.1s
ZALV **Zalesovo Beam** 33.89 29 *e*P P 20 25 13.8 -1.7
ZALV P P 20 25 16.4 +0.9
ZALV **Zalesovo Beam** 33.89 29 P P 20 25 16.4 +0.9
comp=N,1.7nm,0.5s,baz=240,slow=9.2,SNR=7.2
ZAA1 **Zalesovo Array** 33.89 29 *e*P P 20 25 16.4 +0.9
KOLS **Kolonicke sedl** 35.39 319 *e*P P 20 25 29.5 +0.9
GTA **Gaotai** 37.22 59 *e*P P 20 25 50.6 +6.1
GTA pP sP 20 25 54.9 +5.6
GTA sP pP 20 25 58.1 +10
OJC **Ojcow** 37.39 319 *e*P P 20 25 45.3 -0.4
comp=N,5.2nm,0.8s
MOA **Molln** 39.97 314 P P 20 26 06.3 -1.0
comp=N,0.7nm,0.4s
GEC2 **GERESS Array S** 40.62 315 *e*P P 20 26 12.0 -0.8
comp=N,2.1nm,0.8s
GERES **GERESS Array B** 40.62 315 P P 20 26 12.0 -0.8
comp=N,1.5nm,0.8s,baz=108,slow=8.6,SNR=10
KHC **Kasperske Hory** 40.78 316 *e*P P 20 26 13.5 -0.6
ABTA **Abfaltersbach** 40.84 312 *e*P P 20 26 14.4 -0.2
comp=N,3.4nm,0.7s
FIA0 **FINESS Array S** 40.87 337 *e*P P 20 26 14.0 -0.5
FINES **FINESS Array B** 40.87 337 P P 20 26 14.0 -0.5
FINES *e*P P 20 26 14.3 -0.2
FINES **FINESS Array B** 40.87 337 P P 20 26 14.0 -0.5
comp=N,1.4nm,0.6s,baz=128,slow=12,SNR=6.9
WTTA **Wattenberg** 41.54 312 *e*P P 20 26 19.8 -0.8
comp=N,7.2nm,0.7s
WATA **Walderalm** 41.60 312 *e*P P 20 26 20.2 -0.8
comp=N,2.9nm,0.7s
CLL **Collm** 41.80 318 *e*P P 20 26 20.0 -2.4
CLL *ep*P pP 20 26 26.0 +0.1
SQTA **Sankt Quirin** 41.82 312 *e*P P 20 26 22.0 -0.7
comp=N,7.7nm,0.5s
MOTA **Moosalm** 41.91 312 *e*P P 20 26 23.1 -0.5
comp=N,2.1nm,0.5s
FETA **Feichten** 42.09 312 *e*P P 20 26 24.5 -0.5
comp=N,7.4nm,0.7s
RETA **Reutte** 42.17 312 P P 20 26 24.4 -1.1
comp=N,2.3nm,0.6s
FUORN **Ofenpass-Fuorn** 42.32 311 *e*P P 20 26 27.7 +0.7
comp=N,15nm,1.6s
DAVOX **Davos/Dischmat** 42.62 311 P P 20 26 28.4 -1.0
comp=N,2.9nm,0.6s,baz=101,slow=5.2,SNR=8.7
DAVA **Damuels** 42.72 312 *e*P P 20 26 29.1 -1.0
comp=N,9.9nm,0.7s
SENIN **Lac Senin/Sane** 44.30 310 *e*P P 20 26 41.4 -1.5
comp=N,12nm,1.5s
HFS **Hagfors** 45.00 331 P P 20 26 47.5 -0.6
comp=N,0.5nm,0.5s,baz=108,slow=9.3,SNR=4.7
WLF **Walferdange** 45.61 315 *e*P P 20 26 53.0 -0.1
comp=N,82nm,1.4s
NB2 **NORSAR Subarra** 46.50 331 P P 20 26 59.9 -0.1
comp=Z,1.5nm,0.8s,baz=115,slow=7.9
NB200 **NORSAR Array S** 46.50 331 *e*P P 20 27 00.2 +0.2
NOA **NORSAR Array B** 46.50 331 P P 20 27 00.2 +0.2
comp=Z,0.5nm,0.8s,baz=116,slow=8.4,SNR=2.5
ESDC **Sonseca Array** 52.39 301 P P 20 27 45.2 -0.1
comp=Z,0.4nm,0.5s,baz=70,slow=7.3,SNR=5.9
TORD **Torodi Ar. Bea** 54.01 267 P P 20 27 56.1 -1.4
comp=Z,1.0nm,0.6s,baz=56,slow=6.2,SNR=9.2
TOA1 **Torodi Ar. Sit** 54.01 267 *e*P P 20 27 56.1 -1.4
ILAR **Eielson Array** 86.97 10 P P 20 31 19.6 +1.8
comp=Z,0.3nm,0.6s,baz=308,slow=4.4,SNR=3.0
ILB **Eielson Array** 86.97 10 *e*P P 20 31 19.6 +1.8
comp=Z,11nm,1.8s
WRA **Warramunga Arr** 87.44 114 P P 20 31 22.6 +1.8
comp=Z,0.8nm,1.0s,baz=309,slow=4.1,SNR=3.2
WR1 **Warramunga Arr** 87.44 114 *e*P P 20 31 22.6 +1.8
AS31 **Alice Springs** 88.91 117 *e*P P 20 31 29.0 +1.2
comp=Z,4.9nm,1.8s
ASAR **Alice Springs** 88.91 117 P P 20 31 29.0 +1.2
comp=Z,0.4nm,0.9s,baz=295,slow=4.9,SNR=3.0

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*ISCJB **12** 20:27:31.2±0.6, 19°.60N±0°.05×145°.6E±0°.2, h147km, mb3.6/13, Error ellipse: s-maj=23.8km s-min=7.7km az=2.0*
*IDC **12** 20:27:33.2±2.6, 19°.55N×145°.62E, h151km±25km, mb3.4/13, mb1 3.5/15, mb1mx3.4/55, mbtmp3.8/15, Error ellipse: s-maj=24.1km s-min=13.0km az=91.0*
ISC 12 20:27:32.9±0.7, 19°.58N±0°.08×145°.6E±0°.2, h147km, n15, σ0°79/16, mb3.6/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.00**	**187**	P	**Pn**	**20 29 00.5**	**+0.9**
	6.3nm,0.3s,baz=301,slow=12,SNR=5.3						
GUMO				S	**Sn**	**20 30 06.8**	**-0.6**
	3.2nm,0.3s,baz=182,slow=17,SNR=1.8						
MJAR	**Matsushiro Arr**	**18.10**	**341**	P	**P**	**20 31 33.4**	**+0.1**
	0.0nm,0.3s,baz=165,slow=8.3,SNR=4.5						
KSRS	**Korea Array**	**23.55**	**323**	P	**P**	**20 32 30.9**	**+1.1**
	0.9nm,0.6s,baz=146,slow=9.2,SNR=4.3						
WRA	**Warramunga Arr**	**40.80**	**196**	P	**P**	**20 34 59.5**	**-0.5**
	2.0nm,0.6s,baz=23,slow=8.7,SNR=19						
FITZ	**Fitzroy Crossi**	**42.26**	**209**	P	**P**	**20 35 11.8**	**-0.1**
	0.9nm,0.5s,baz=7.1,slow=6.9,SNR=15						
ASAR	**Alice Springs**	**44.47**	**195**	P	**P**	**20 35 29.0**	**-0.6**
	0.3nm,0.4s,baz=7.1,slow=6.0,SNR=7.7						
ZALV	**Zalesovo Beam**	**57.26**	**322**	P	**P**	**20 37 05.8**	**+1.0**
	0.7nm,0.6s,baz=101,slow=7.5,SNR=2.7						
MKAR	**Makanchi Array**	**57.78**	**313**	P	**P**	**20 37 09.6**	**+0.9**
	0.3nm,0.8s,baz=98,slow=7.4,SNR=2.8						
KURBB	**Kurchatov Arra**	**60.60**	**318**	P	**P**	**20 37 27.8**	**-0.2**
	0.3nm,0.3s,baz=90,slow=7.5,SNR=9.7						
NRIK	**Noril'sk**	**60.75**	**340**	P	**P**	**20 37 27.2**	**-1.4**
	1.1nm,0.3s,baz=99,slow=7.0,SNR=3.9						
ILAR	**Eielson Array**	**62.90**	**26**	P	**P**	**20 37 42.6**	**-0.5**
	0.5nm,0.6s,baz=252,slow=5.9,SNR=4.2						
INK	**Inuvik**	**68.61**	**23**	P	**P**	**20 38 19.2**	**-0.3**
	0.3nm,0.3s,baz=202,slow=5.4,SNR=3.7						
YKA	**Yellowknife Ar**	**77.26**	**28**	P	**P**	**20 39 11.0**	**+0.4**
	0.3nm,0.5s,baz=294,slow=5.3,SNR=5.3						
NVAR	**Mina Array Bea**	**82.68**	**52**	P	**P**	**20 39 41.2**	**+0.7**
	1.0nm,0.8s,baz=254,slow=6.5,SNR=7.3						
FINES	**FINESS Array B**	**86.04**	**335**	P	**P**	**20 39 56.1**	**-0.5**
	0.5nm,0.3s,baz=55,slow=4.5,SNR=15						

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*IDC **12** 20:32:49.0±0.8, 0°.69N×126°.92E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/48, mbtmp4.0/8, ML3.4/1, Error ellipse: s-maj=52.5km s-min=15.7km az=77.0*
*ISCJB **12** 20:32:53.6±0.5, 0°.68N±0°.05×126°.86E±0°.05, h47km, mb4.2/13, Error ellipse: s-maj=8.0km s-min=7.0km az=22.6*
*DJA **12** 20:32:56.7±1.4, 0°.N±5°×12°.7E±°, h14km±18km, M4.1/6, mb4.4/1, mB4.6/1, MLv3.9/6, Mw(mB)3.8/1*
*NEIC **12** 20:32:57.8±0.8, 0°.58N×126°.65E, h71km±8km, mb4.3/8,*

Error ellipse: s-maj=12.4km s-min=8.4km az=63.0
ISC 12 20:32:55.3±0.7, 0°.64N±0°.08×126°.86E±0°.08, h47km, n34, σ1°35/32, mb4.3/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.53**	**75**	*e*Pn	Pn	20 33 13.3	+6.5
TNTI	**Ternate**	**0.53**	**75**	P	Pn	20 33 13.1	+6.3
TNTI				S	Sn	20 33 24.6	+10
SANI	**Sanana**	**2.80**	**198**	P	**Pn**	**20 33 37.2**	**-0.5**
KMSI	**Cibinong**	**2.87**	**269**	P	**Pn**	**20 33 39.0**	**+0.4**
KMSI				S	**Sn**	**20 34 13.0**	**+1.0**
LUWI	**Luwuk**	**4.41**	**248**	*e*Pn	**Pn**	**20 33 59.1**	**-0.7**
LUWI	**Luwuk**	**4.41**	**248**	P	**Pn**	**20 33 59.5**	**-0.2**
MRSI	**Marisa**	**4.92**	**268**	P	**Pn**	**20 34 06.8**	**+0.1**
APSI	**Ampana**	**5.43**	**254**	P	**Pn**	**20 34 12.8**	**-0.9**
KDI	**Kendari**	**6.22**	**223**	P	**Pn**	**20 34 26.1**	**+1.4**
FAKI	**Fak Fak**	**6.45**	**123**	*e*Pn	Pn	20 34 32.8	+5.1
SPSI	**Sidrap Palu**	**8.43**	**237**	P	**Pn**	**20 34 56.4**	**+1.5**
MMRI	**Maumere**	**10.29**	**206**	*e*Pn	Pn	20 35 10.4	-10
FITZ	**Fitzroy Crossi**	**18.65**	**184**	*e*P	**P**	**20 37 03.9**	**-5.5**
	5.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.65**	**184**	P	**P**	**20 37 09.2**	**-0.2**
	0.1nm,0.3s,baz=18,slow=13,SNR=3.2						
COEN	**Coen**	**21.71**	**132**	*e*P	**P**	**20 37 44.5**	**+1.8**
	20nm,1.2s						
WR1	**Warramunga Arr**	**21.73**	**161**	*e*P	**P**	**20 37 43.0**	**+0.2**
WRA	**Warramunga Arr**	**21.73**	**161**	P	**P**	**20 37 43.0**	**+0.2**
	6.6nm,0.5s,baz=337,slow=11,SNR=50						
WB2	**Warramunga Arr**	**21.73**	**161**	*e*P	**P**	**20 37 43.0**	**+0.2**
	10nm,0.5s						
AS31	**Alice Springs**	**25.11**	**165**	*e*P	**P**	**20 38 16.4**	**+0.4**
	2.3nm,1.0s						
ASAR	**Alice Springs**	**25.11**	**165**	*e*P	**P**	**20 38 16.8**	**+0.9**
ASAR	**Alice Springs**	**25.11**	**165**	P	**P**	**20 38 16.2**	**+0.3**
	3.2nm,0.3s,baz=344,slow=11,SNR=82						
ASAR				PcP	**PcP**	**20 41 49.1**	**-0.4**
	0.2nm,0.6s,baz=3.5,slow=1.3,SNR=3.3						
BBOO	**Buckleboo**	**34.38**	**166**	*e*P	**P**	**20 39 38.4**	**+0.4**
	38nm,1.4s						
STKA	**Stephens Creek**	**35.22**	**158**	P	**P**	**20 39 45.5**	**+0.3**
	2.0nm,0.5s,baz=318,slow=9.4,SNR=13						
MAJO	**Matsushiro**	**37.25**	**15**	*e*P	**P**	**20 40 02.5**	**0.0**
MJAR	**Matsushiro Arr**	**37.25**	**15**	P	**P**	**20 40 02.5**	**0.0**
	0.4nm,0.4s,baz=198,slow=9.2,SNR=3.3						
MK31	**Makanchi Array**	**60.17**	**326**	*e*P	**P**	**20 42 56.2**	**-2.1**
	2.5nm,1.3s						
MK32	**Makanchi Array**	**60.17**	**326**	*e*P	**P**	**20 42 59.6**	**+1.2**
MKAR	**Makanchi Array**	**60.17**	**326**	*e*P	**P**	**20 42 58.1**	**-0.3**
MKAR	**Makanchi Array**	**60.17**	**326**	P	**P**	**20 42 59.6**	**+1.2**
	0.4nm,0.3s,baz=119,slow=7.7,SNR=13						
ZALV	**Zalesovo Beam**	**63.39**	**334**	P	**P**	**20 43 19.2**	**-0.6**
	0.3nm,0.3s,baz=144,slow=5.2,SNR=2.5						
ZAA1	**Zalesovo Array**	**63.40**	**334**	*e*P	**P**	**20 43 19.2**	**-0.6**
KURK	**Kurchatov**	**64.41**	**328**	*e*P	**P**	**20 43 27.9**	**+1.3**
	2.9nm,1.1s						
ILAR	**Eielson Array**	**87.83**	**25**	P	**P**	**20 45 39.0**	**-0.3**
	0.6nm,0.7s,baz=273,slow=5.1,SNR=4.8						
ILB	**Eielson Array**	**87.83**	**25**	*e*P	**P**	**20 45 39.0**	**-0.3**
	7.6nm,1.4s						

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*IDC **12** 20:51:11.3±1.1, 40°.14N×73°.01E, h0km, mb3.4/4, mb1 3.5/10, mb1mx3.4/42, mbtmp3.4/10, ML3.1/6, MS4.4/1, Ms1 4.4/1, ms1mx3.1/34, Error ellipse: s-maj=21.3km s-min=13.0km az=130.0*
*KRNET **12** 20:51:14.0±0.1, 40°.28N×72°.96E, h22km, mb3.6*
*SOME **12** 20:51:17.7, 40°.55N×72°.90E, h0km*
*NNC **12** 20:51:19.6±1.4, 40°.62N×72°.89E, h5km±7km, mb4.0, mpv3.7, Error ellipse: s-maj=12.4km s-min=4.5km az=176.0*
ISC 12 20:51:11.9±1.3, 40°.27N±0°.04×73°.09E±0°.02, h4km±9km, n93, σ1°65/130, mb3.6/4, 40C-31D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.06**	**355**	⇑*i*P	**Pn**	**20 51 33.9**	**+0.2**
	baz=1.0						
ARSB				⇑*i*S	**Sn**	**20 51 48.3**	**-0.7**
	baz=1.0						
DRK	**Karamyk**	**1.27**	**232**	⇑*i*P	**Pn**	**20 51 36.8**	**0.0**
	baz=29						
DRK				⇑*i*S	**Sg**	**20 51 52.6**	**-0.2**
	baz=29						
ARK	**Arkit**	**1.75**	**331**	⇓*e*P	**Pb**	**20 51 44.9**	**+0.2**
	baz=34						
ARK				⇓*i*S	**Sb**	**20 52 07.5**	**+0.4**
	baz=34						
BTK	**Batken**	**1.76**	**264**	⇑*i*P	**Pb**	**20 51 44.7**	**-0.1**
	baz=63						
BTK				⇑*i*S	**Sn**	**20 52 06.5**	**+0.3**
	baz=63						
ARLS	**Aral**	**1.84**	**30**	⇓*e*P	**Pg**	**20 51 48.3**	**+1.1**
	baz=33						
ARLS				⇓*i*S	**Sg**	**20 52 13.6**	**+2.5**
	baz=33						
AML	**Almayashu**	**1.91**	**13**	P	**Pg**	**20 51 49.6**	**+1.0**
	SNR=289						
AML	**Almayashu**	**1.91**	**13**	⇓*i*P	**Pg**	**20 51 49.2**	**+0.6**
	baz=16						
AML				⇓*i*S	**Sg**	**20 52 15.1**	**+1.7**
	baz=16						
UCH	**Uchtor**	**2.23**	**28**	P	**Pg**	**20 51 54.8**	**+0.1**
	SNR=22						
UCH	**Uchtor**	**2.23**	**28**	⇑*i*P	**Pg**	**20 51 54.3**	**-0.4**
	baz=31						
UCH				⇑*i*S	**Sg**	**20 52 23.5**	**-0.1**
	baz=31						
KZA	**Kyzart**	**2.43**	**41**	P	**Pg**	**20 51 58.2**	**-0.3**
	SNR=12						
KZA	**Kyzart**	**2.43**	**41**	⇑*i*P	**Pb**	**20 51 57.2**	**+0.7**
	baz=43						
KZA				⇑*i*S	**Sg**	**20 52 29.0**	**-1.0**
	baz=43						
EKS2	**Erkin-Say**	**2.44**	**12**	P	**Pb**	**20 51 57.1**	**+0.6**
	SNR=46						
EKS2	**Erkin-Say**	**2.44**	**12**	⇓*i*P	**Pb**	**20 51 56.1**	**-0.5**
	baz=14						
EKS2				⇓*i*S	**Sb**	**20 52 27.8**	**+0.7**
	baz=14						
NRN	**Naryn**	**2.49**	**61**	⇑*i*P	**Pb**	**20 51 57.6**	**+0.1**
	baz=62						
NRN				⇑*i*S	**Sg**	**20 52 30.1**	**-1.9**
	baz=62						
AAK	**Ala-Archa**	**2.59**	**24**	P	**Pb**	**20 51 59.7**	**+0.7**
	SNR=39						
AAK	**Ala-Archa**	**2.59**	**24**	⇓Pn	**Pb**	**20 51 59.8**	**+0.7**
	20nm,0.6s						
AAK				⇑Pg	**Pg**	**20 52 04.7**	**+3.2**
	26nm,0.5s						
AAK				⇑Lg	Lg	20 52 35.3	
	120nm,0.5s						
AAK	**Ala-Archa**	**2.59**	**24**	⇓Pn	**Pb**	**20 51 59.8**	**+0.7**
	20nm,0.6s						
AAK				⇑Pg	**Pg**	**20 52 04.7**	**+3.2**
	26nm,0.5s						
AAK				⇑Lg	Lg	20 52 35.3	
	120nm,0.5s						
AAK	**Ala-Archa**	**2.59**	**24**	⇑*i*P	**Pb**	**20 51 58.8**	**-0.3**
	baz=26						
AAK				⇑*i*S	**Sb**	**20 52 31.9**	**+0.6**
	baz=26						
AAK	**Ala-Archa**	**2.59**	**24**	Pn	**Pb**	**20 51 60.0**	**+0.9**
	6.1nm,0.3s,baz=168,slow=5.6,SNR=41						
AAK				Sn	**Sg**	**20 52 33.8**	**-1.3**
	44nm,0.3s,baz=26,slow=17,SNR=30						
KBK	**Karagaybulak**	**2.76**	**30**	P	**Pb**	**20 52 03.2**	**+1.2**
	SNR=14						
KBK	**Karagaybulak**	**2.76**	**30**	⇑*i*P	**Pb**	**20 52 01.3**	**-0.7**
	baz=32						
KBK				⇑*i*S	**Sb**	**20 52 36.2**	**-0.1**
	baz=32						
FRU1	**Bishkek**	**2.79**	**24**	⇑*i*P	**Pb**	**20 52 01.5**	**-0.9**
	baz=26						
FRU1				⇑*i*S	**Sb**	**20 52 36.4**	**-0.5**
	baz=26						
IUG	**Iuzhnay**	**2.98**	**310**	Pg	**Pg**	**20 52 08.1**	**-0.9**
	108nm,0.4s						
IUG				Lg	Lg	20 52 44.4	
	320nm,0.6s						
IUG	**Iuzhnay**	**2.98**	**310**	*e*P	**Pg**	**20 52 08.1**	**-0.9**
	108nm,0.4s						
IUG				*e*S	**Sb**	**20 52 44.4**	**+2.0**
	320nm,0.6s						
CHMS	**Chumysh**	**3.00**	**24**	P	**Pb**	**20 52 05.3**	**-0.6**
	SNR=25						

TAS	**Tashkent**	**3.08**	**291**	⇑*i*P	**Pn**	**20 52 03.4**	**+2.0**
	baz=92						
TAS				⇑*i*S	**Sn**	**20 52 39.6**	**+0.9**
	baz=92						
ULHL	**Ulahol**	**3.09**	**49**	⇑*i*P	**Pb**	**20 52 06.1**	**-1.5**
	baz=50						
ULHL				⇑*i*S	**Sb**	**20 52 44.5**	**-1.2**
	baz=50						
USP	**Ospenovka**	**3.17**	**19**	P	**Pb**	**20 52 07.2**	**-1.7**
	SNR=5.8						
USP	**Ospenovka**	**3.17**	**19**	⇓*i*P	**Pb**	**20 52 06.4**	**-2.5**
	baz=21						
USP				⇓*i*S	**Sb**	**20 52 45.6**	**-2.4**
	baz=21						
TKM2	**Tokmak 2**	**3.25**	**35**	P	**Pb**	**20 52 10.0**	**-0.4**
	SNR=7.1						
TKM2	**Tokmak 2**	**3.25**	**35**	⇓Pn	**Pb**	**20 52 09.9**	**-0.4**
	7.8nm,0.8s						
TKM2				⇓Pg	**Pg**	**20 52 16.8**	**+2.7**
	10nm,0.5s						
TKM2				⇓Lg	Lg	20 52 58.5	
	44nm,0.7s						
TKM2	**Tokmak 2**	**3.25**	**35**	⇓Pn	**Pb**	**20 52 09.9**	**-0.4**
	7.8nm,0.8s						
TKM2				⇓Pg	**Pg**	**20 52 16.8**	**+2.7**
	10nm,0.5s						
TKM2				⇓Lg	Lg	20 52 58.5	
	44nm,0.7s						
TKM2	**Tokmak 2**	**3.25**	**35**	⇑*i*P	**Pb**	**20 52 08.2**	**-2.1**
	baz=36						
TKM2				⇑*i*S	**Sb**	**20 52 47.8**	**-2.5**
	baz=36						
CHM	**Chimkent**	**3.33**	**309**	*e*P	**Pg**	**20 52 15.2**	**-0.6**
	80nm,0.2s						
CHM				*e*S	**Sg**	**20 52 56.6**	**-2.4**
	404nm,0.4s						
KK31	**Karatay Array**	**3.43**	**327**	Pn	**Pn**	**20 52 07.8**	**+1.6**
	1.4nm,0.2s,baz=138,slow=12,SNR=83						
KK31				⇓Pg	**Pb**	**20 52 15.3**	**+2.0**
	9.6nm,0.4s,baz=147,slow=13,SNR=26						
KK31				Lg	Lg	20 52 55.4	
	36nm,0.8s,baz=150,slow=21,SNR=11						
KK31	**Karatay Array**	**3.43**	**327**	Pn	**Pn**	**20 52 07.8**	**+1.6**
	1.4nm,0.2s,baz=138,slow=12,SNR=83						
KK31				⇓Pg	**Pb**	**20 52 15.3**	**+2.0**
	9.6nm,0.4s,baz=147,slow=13,SNR=26						
KK31				Lg	Lg	20 52 55.4	
	36nm,0.8s,baz=150,slow=21,SNR=11						
KST	**Kastek**	**3.51**	**37**	Pg	**Pg**	**20 52 20.9**	**+1.8**
	11nm,0.3s						
KST				Lg	Lg	20 53 06.5	
	45nm,0.9s						
KST	**Kastek**	**3.51**	**37**	*e*P	**Pg**	**20 52 20.9**	**+1.8**
	11nm,0.3s						
KST				*e*S	**Sg**	**20 53 06.5**	**+1.9**
	45nm,0.9s						
TNSS	**Tian-Shan**	**4.00**	**45**	Pg	**Pg**	**20 52 30.2**	**+1.7**
	15nm,0.4s						
TNSS				Lg	Lg	20 53 22.3	
	37nm,0.5s						
TNSS	**Tian-Shan**	**4.00**	**45**	*e*P	**Pg**	**20 52 30.2**	**+1.7**
	15nm,0.4s						
TNSS				*e*S	**Sg**	**20 53 22.3**	**+2.0**
	37nm,0.5s						
AAA	**Alma-Ata**	**4.10**	**43**	Pg	**Pg**	**20 52 32.8**	**+2.3**
	11nm,0.1s						
AAA				Lg	Lg	20 53 26.2	
	44nm,0.6s						
KNDC	**Almaty**	**4.13**	**43**	⇑Pg	**Pg**	**20 52 33.7**	**+2.6**
KNDC				⇑Lg	Lg	20 53 27.6	
KNDC	**Almaty**	**4.13**	**43**	⇑Pg	**Pg**	**20 52 33.7**	**+2.6**
KNDC				⇑Lg	Lg	20 53 27.6	
MDOK	**Medeo**	**4.14**	**44**	⇑Pn	**Pb**	**20 52 21.6**	**-3.8**
MDOK				⇓Pg	**Pg**	**20 52 33.7**	**+2.5**
MDOK				⇑Lg	Lg	20 53 26.4	
MDOK	**Medeo**	**4.14**	**44**	Pg	**Pg**	**20 52 32.7**	**+1.5**
	13nm,0.7s						
MDOK				Lg	Lg	20 53 25.8	
	31nm,1.1s						
MDOK	**Medeo**	**4.14**	**44**	⇑Pn	**Pb**	**20 52 21.6**	**-3.8**
MDOK				⇓Pg	**Pg**	**20 52 33.7**	**+2.5**
MDOK				⇑Lg	Lg	20 53 26.4	
MDOK	**Medeo**	**4.14**	**44**	*e*P	**Pg**	**20 52 32.7**	**+1.5**
	13nm,0.7s						
MDOK				⇓*i*S	**Sg**	**20 53 25.8**	**+1.0**
	31nm,1.1s						
KOTS	**Kotyrbulak**	**4.22**	**44**	Pg	**Pg**	**20 52 34.0**	**+1.2**
	12nm,0.6s						
KOTS				Lg	Lg	20 53 29.3	
	46nm,0.7s						
KOTS	**Kotyrbulak**	**4.22**	**44**	*e*P	**Pg**	**20 52 34.0**	**+1.2**
	12nm,0.6s						
KOTS				*e*S	**Sg**	**20 53 29.3**	**+1.8**
	46nm,0.7s						
KUU	**Kurty**	**4.35**	**33**	Pg	**Pg**	**20 52 33.8**	**-1.5**
	8.2nm,0.4s						
KUU				Lg	Lg	20 53 28.5	
	45nm,0.5s						
KUU	**Kurty**	**4.35**	**33**	⇓*i*P	**Pg**	**20 52 33.8**	**-1.5**
	8.2nm,0.4s						
KUU				⇓*i*S	**Sg**	**20 53 28.5**	**-3.2**
	45nm,0.5s						
KTBS	**Karatobe**	**4.36**	**37**	Pg	**Pg**	**20 52 35.5**	**+0.1**
	6.3nm,0.5s						
KTBS				Lg	Lg	20 53 31.7	
	65nm,0.5s						
KTBS	**Karatobe**	**4.36**	**37**	*e*P	**Pg**	**20 52 35.5**	**+0.1**
	6.3nm,0.5s						
KTBS				*e*S	**Sg**	**20 53 31.7**	**-0.1**
	65nm,0.5s						
CHKK	**Chushkaly**	**4.61**	**38**	Pg	**Pg**	**20 52 40.8**	**+0.6**
	5.2nm,0.5s						
CHKK				Lg	Lg	20 53 40.4	
	31nm,0.4s						
CHKK	**Chushkaly**	**4.61**	**38**	*e*P	**Pg**	**20 52 40.8**	**+0.6**
	5.2nm,0.5s						
CHKK				*e*S	**Sg**	**20 53 40.4**	**+0.5**
	31nm,0.4s						
BTLS	**Baital**	**4.82**	**8**	*e*P	**Pg**	**20 52 41.9**	**-2.4**
	7.8nm,0.7s						
BTLS				*e*S	**Sg**	**20 53 42.2**	**-4.5**
	30nm,0.5s						
ZHN	**Zhinishke**	**4.94**	**52**	*e*P	**Pg**	**20 52 47.5**	**+1.0**
	4.1nm,0.2s						
ZHN				*e*S	**Sg**	**20 53 51.8**	**+1.4**
	7.8nm,0.2s						
KURS	**Kuram**	**4.97**	**48**	Pg	**Pg**	**20 52 47.9

SHLS				*e*S	Sg	20 54 22.8	+12
	39nm,0.5s						
PDGK	**Podgornoye**	**5.67**	**55**	Pg	**Pg**	**20 53 00.8**	**+0.2**
	1.6nm,0.7s						
PDGK				Lg	Lg	20 54 14.9	
	5.8nm,1.0s						
PDGK	**Podgornoye**	**5.67**	**55**	⇓Pg	**Pg**	**20 53 03.2**	**+2.6**
	6.1nm,0.8s						
PDGK				⇑Lg	Lg	20 54 14.6	
	24nm,0.9s						
PDGK	**Podgornoye**	**5.67**	**55**	⇓Pg	**Pg**	**20 53 03.2**	**+2.6**
	6.1nm,0.8s						
PDGK				⇑Lg	Lg	20 54 14.6	
	24nm,0.9s						
DJR	**Jarkent**	**6.41**	**49**	Pg	**Pg**	**20 53 13.2**	**-1.5**
	4.6nm,0.8s						
DJR				Lg	Lg	20 54 36.0	
	8.0nm,0.6s						
DJR	**Jarkent**	**6.41**	**49**	*e*P	**Pg**	**20 53 13.2**	**-1.5**
	4.6nm,0.8s						
DJR				*e*S	**Sg**	**20 54 36.0**	**-1.8**
	8.0nm,0.6s						
KAPS	**Kapalarasan**	**6.81**	**41**	Pg	**Pg**	**20 53 20.3**	**-1.9**
	2.0nm,0.6s						
KAPS				Lg	Lg	20 54 48.1	
	9.2nm,0.6s						
KAPS	**Kapalarasan**	**6.81**	**41**	*e*P	**Pg**	**20 53 20.3**	**-1.9**
	2.0nm,0.6s						
KAPS				*e*S	**Sg**	**20 54 48.1**	**-2.3**
	9.2nm,0.6s						
OTUK	**Ortayu**	**7.99**	**356**	⇑Lg	Lg	20 55 22.5	
	48nm,0.8s						
OTUK	**Ortayu**	**7.99**	**356**	⇑Lg	Lg	20 55 22.5	
	48nm,0.8s						
MKAR	**Makanchi Array**	**9.33**	**43**	Pn	**Pn**	**20 53 31.4**	**+4.2**
	0.1nm,0.3s,baz=216,slow=12,SNR=4.2						
MKAR				Lg	Lg	20 56 11.3	
	0.1nm,0.3s,baz=233,slow=32,SNR=3.1						
KURBB	**Kurchatov Arra**	**11.03**	**18**	⇓Lg	Lg	20 57 00.2	
	15nm,0.7s						
KURBB	**Kurchatov Arra**	**11.03**	**18**	⇓Lg	Lg	20 57 00.2	
	15nm,0.7s						
KURBB	**Kurchatov Arra**	**11.03**	**18**	Pn	**Pn**	**20 53 51.0**	**+0.6**
	0.0nm,0.3s,baz=210,slow=13,SNR=4.0						
KURBB				Lg	Lg	20 56 59.3	
	0.1nm,0.3s,baz=210,slow=30,SNR=5.3						
BVAR	**Borovoye Array**	**12.89**	**353**	Pn	**Pn**	**20 54 15.5**	**-0.4**
	0.4nm,0.3s,baz=155,slow=12,SNR=11						
BVAR				Lg	Lg	20 57 59.7	
	0.2nm,0.3s,baz=159,slow=29,SNR=7.2						
AB31	**Akbulak array**	**12.95**	**318**	P	**Pn**	**20 54 14.8**	**-1.9**
	0.6nm,0.3s,baz=126,slow=13,SNR=30						
AB31	**Akbulak array**	**12.95**	**318**	P	**Pn**	**20 54 14.8**	**-1.9**
	0.6nm,0.3s,baz=126,slow=13,SNR=30						
AKTO	**Aktyubinsk**	**14.66**	**319**	⇓P	**Pn**	**20 54 38.1**	**-1.9**
	1.4nm,0.7s						
AKTO	**Aktyubinsk**	**14.66**	**319**	⇓P	**Pn**	**20 54 38.1**	**-1.9**
	1.4nm,0.7s						
AKTO	**Aktyubinsk**	**14.66**	**319**	Pn	**Pn**	**20 54 38.5**	**-1.5**
	0.3nm,0.3s,baz=115,slow=12,SNR=4.8						
ZALV	**Zalesovo Beam**	**15.81**	**26**	Pn	**P**	**20 54 57.9**	**-1.3**
	0.2nm,0.3s,baz=214,slow=10,SNR=3.0						
AKASG	**Malin Array Be**	**32.04**	**304**	P	**P**	**20 57 41.0**	**+1.5**
	0.2nm,0.3s,baz=81,slow=7.4,SNR=2.5						
ATD	**Arta Tunnel**	**39.13**	**231**	LR	LR	21 16 48.7	
	comp=Z,534nm,20.4s,baz=38,slow=39						
TORD	**Torodi Ar. Bea**	**67.46**	**268**	P	**P**	**21 02 07.9**	**-1.3**
	0.4nm,0.7s,baz=64,slow=4.6,SNR=3.0						
YKA	**Yellowknife Ar**	**77.40**	**4**	P	**P**	**21 03 08.2**	**+0.5**
	0.1nm,0.4s,baz=354,slow=5.7,SNR=2.5						
WRA	**Warramunga Arr**	**82.65**	**124**	P	**P**	**21 03 36.4**	**-0.3**
	0.5nm,0.7s,baz=333,slow=5.0,SNR=3.1						

*DSN **12** 20:52:12.3±2.6,26°.99N×58°.27E, h10km, ML3.7/10, Error ellipse: s-maj=42.7km s-min=13.7km az=174.0*
*ISCJB **12** 20:52:20.7±0.6,26°.55N±0°.03×57°.71E±0°.06, h10km, Error ellipse: s-maj=7.7km s-min=4.9km az=10.4*
*TEH **12** 20:52:20.4,26°.61N×57°.68E, h5km, ML3.2*
ISC 12 20:52:20.6±1.2,26°.61N±0°.04×57°.74E±0°.07, h10km, n30, σ1ᵍ88/31, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.25**	**320**	*e*Pg	**Pg**	**20 52 44.0**	**-0.5**
NIAN				IAMB	IAmb	20 53 10.8	
	comp=Z,0.0nm,0.3s						
SHME	**Shamm**	**1.54**	**249**	*e*P	**Pg**	**20 52 49.1**	**-1.0**
	SNR=40						
SHME				S	**Sg**	**20 53 15.1**	**+5.1**
SHME	**Shamm**	**1.54**	**249**	*e*Pn	**Pg**	**20 52 49.6**	**-0.5**
GENO	**Geno**	**1.60**	**300**	*e*Pn	**Pg**	**20 52 50.2**	**-1.2**
GENO				*e*Sg	**Sg**	**20 53 14.4**	**+2.1**
GENO				IAMB	IAmb	20 53 23.8	
	comp=Z,0.0nm,0.6s						
MDH	**Madha**	**1.83**	**225**	*e*P	**Pn**	**20 52 50.9**	**-1.3**
	SNR=7.5						
MSFE	**Esma-Masafi**	**1.89**	**229**	*e*P	**Pn**	**20 52 52.1**	**-0.8**
	SNR=13						
MSFE	**Esma-Masafi**	**1.89**	**229**	*e*Pn	**Pb**	**20 52 54.5**	**-0.6**
UMQ	**Umm Al-Quwin**	**2.15**	**240**	P	**Pn**	**20 52 55.3**	**-1.3**
HATD	**Hatta, Dubai**	**2.29**	**220**	*e*P	**Pn**	**20 52 58.6**	**+0.2**
	SNR=6.5						
HATD	**Hatta, Dubai**	**2.29**	**220**	*e*Pn	**Pb**	**20 53 01.2**	**-0.8**
ASHO	**Ashiyiah**	**2.44**	**219**	*i*P	**Pn**	**20 53 00.4**	**-0.2**
	SNR=11						
ASHO	**Ashiyiah**	**2.44**	**219**	*e*Pn	**Pb**	**20 53 03.1**	**-1.5**
NAZ	**Nazwa, Dubai**	**2.47**	**230**	*i*P	**Pn**	**20 53 01.1**	**+0.2**
	SNR=13						
NAZ	**Nazwa, Dubai**	**2.47**	**230**	*e*Pn	**Pb**	**20 53 04.9**	**-0.2**
FAQ	**Al Faqa, Dubai**	**2.68**	**227**	P	**Pn**	**20 53 04.9**	**+1.1**
FAQ	**Al Faqa, Dubai**	**2.68**	**227**	*e*Pn	**Pb**	**20 53 07.0**	**-1.7**
ASUD	**Al Ashush, Dub**	**2.93**	**228**	*i*P	**Pn**	**20 53 08.4**	**+1.1**
	SNR=12						
HOQ	**Hoqain**	**3.03**	**187**	*e*Pn	**Pn**	**20 53 08.0**	**-0.7**
BIDO	**Bidbid**	**3.09**	**173**	*e*Pn	**Pn**	**20 53 07.9**	**-1.6**
ALNE	**Al Ain**	**3.11**	**216**	*i*P	**Pn**	**20 53 09.1**	**-0.6**
	SNR=10						
NGRK	**Negar Kerman**	**3.15**	**344**	*e*Pn	**Pn**	**20 53 11.5**	**+0.8**
NGRK				IAMB	IAmb	20 54 12.5	
	comp=Z,0.0nm,0.6s						
CHMN	**Cheshme madani**	**3.25**	**357**	*e*Pn	**Pb**	**20 53 15.2**	**-3.4**
CHMN				IAMB	IAmb	20 53 20.8	
	comp=Z,0.0nm,0.5s						
TVBK	**TV Kerman**	**3.48**	**346**	*e*Pn	**Pb**	**20 53 18.9**	**-3.6**
TVBK				IAMB	IAmb	20 54 22.6	
	comp=Z,0.0nm,0.6s						
KHGB	**Koh Gabri**	**3.92**	**344**	*e*Pn	**Pn**	**20 53 23.8**	**+2.7**
KHGB				IAMB	IAmb	20 54 42.4	
	comp=Z,0.0nm,0.7s						
SZD1	**Zahaedan-tmp**	**3.99**	**43**	*e*Pn	**Pn**	**20 53 24.9**	**+3.0**
IMEH	**Mehriz**	**5.50**	**331**	*e*Pn	**Pn**	**20 53 44.6**	**+1.8**
IKOO	**Kooshah**	**5.90**	**10**	*e*Pn	**Pn**	**20 53 50.3**	**+1.9**
IKAZ	**Kazeroun**	**6.09**	**303**	*e*Pn	**Pn**	**20 53 51.2**	**+0.2**
ITEG	**Tejag**	**6.33**	**8**	*e*Pn	**Pn**	**20 53 55.0**	**+0.8**
IDAH	**Dahanechah**	**6.39**	**16**	*e*Pn	Pn	20 53 59.9	+4.9

*ISCJB **12** 21:14:44.8±0.4,26°.61N±0°.03×57°.80E±0°.05, h10km, mb3.4/12, Error ellipse: s-maj=6.1km s-min=3.8km az=11.1*
*IDC **12** 21:14:44.2±1.3,26°.62N×57°.70E, h0km, mb3.5/13, mb1 3.6/14, mb1mx3.5/48, mbtmp3.6/14, ML4.0/1, Error ellipse: s-maj=26.4km s-min=18.3km az=155.0*
*TEH **12** 21:14:45.5,26°.56N×57°.64E, h6km, ML3.9*
*DSN **12** 21:14:49.7±2.2,26°.35N×57°.66E, h10km, ML3.5/8, Error ellipse: s-maj=37.8km s-min=20.3km az=136.0*
*OMAN **12** 21:14:51.8±0.4,26°.46N×57°.53E, h12km, ml3.4/11, Error ellipse: s-maj=8.8km s-min=3.3km az=11.0*
ISC 12 21:14:45.6±0.7,26°.52N±0°.03×57°.67E±0°.06, h10km, n56, σ1ᵍ42/60, mb3.5/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.27**	**325**	IAMB	IAmb	21 15 34.8	
	comp=Z,0.0nm,0.4s						
NIAN				*e*Pg	**Pg**	**21 15 09.8**	**-0.2**
SHME	**Shamm**	**1.45**	**251**	*e*P	**Pg**	**21 15 15.2**	**+1.9**
	SNR=6.5						
SHME	**Shamm**	**1.45**	**251**	*e*Pn	**Pg**	**21 15 15.3**	**+1.9**
GENO	**Geno**	**1.59**	**304**	*e*Pn	**Pg**	**21 15 15.6**	**-0.6**
GENO				*e*Sg	**Sg**	**21 15 39.5**	**+2.6**
GENO				IAMB	IAmb	21 15 46.2	
	comp=Z,0.0nm,0.3s						
MDH	**Madha**	**1.73**	**226**	*e*P	**Pn**	**21 15 16.8**	**+1.1**
	SNR=53						
MDH				S	**Sb**	**21 15 40.1**	**+0.7**
MDH	**Madha**	**1.73**	**226**	P	**Pn**	**21 15 17.2**	**+1.4**
	SNR=21						
MDH				S	**Sg**	**21 15 41.2**	**-0.2**
MDH	**Madha**	**1.73**	**226**	*e*Pn	**Pn**	**21 15 17.1**	**+1.4**
MSFE	**Esma-Masafi**	**1.78**	**230**	*e*P	**Pn**	**21 15 17.4**	**+0.9**
	SNR=13						
MSFE	**Esma-Masafi**	**1.78**	**230**	*e*Pn	**Pb**	**21 15 18.6**	**+0.2**
HATD	**Hatta, Dubai**	**2.18**	**220**	P	**Pn**	**21 15 23.1**	**+1.1**
HATD	**Hatta, Dubai**	**2.18**	**220**	P	**Pn**	**21 15 23.7**	**+1.7**
	SNR=7.9						
HATD				S	**Sb**	**21 15 52.8**	**+0.4**
HATD	**Hatta, Dubai**	**2.18**	**220**	*e*Pn	**Pn**	**21 15 23.9**	**+1.9**
ASHO	**Ashiyiah**	**2.34**	**219**	*e*P	**Pb**	**21 15 26.9**	**-1.0**
	SNR=33						
ASHO	**Ashiyiah**	**2.34**	**219**	P	**Pn**	**21 15 26.6**	**+2.4**
	SNR=14						
ASHO	**Ashiyiah**	**2.34**	**219**	*e*Pn	**Pb**	**21 15 28.1**	**+0.3**
NAZ	**Nazwa, Dubai**	**2.37**	**230**	P	**Pg**	**21 15 30.9**	**-0.1**
	SNR=7.7						
NAZ	**Nazwa, Dubai**	**2.37**	**230**	*e*Pn	**Pg**	**21 15 30.5**	**-0.5**
FAQ	**Al Faqa, Dubai**	**2.58**	**227**	P	**Pb**	**21 15 31.6**	**-0.3**
FAQ	**Al Faqa, Dubai**	**2.58**	**227**	P	**Pb**	**21 15 32.1**	**+0.2**
	SNR=7.4						
FAQ	**Al Faqa, Dubai**	**2.58**	**227**	*e*Pn	**Pb**	**21 15 31.9**	**0.0**
SOHO	**SOHO**	**2.59**	**204**	P	**Pn**	**21 15 28.1**	**+0.5**
ASUD	**Al Ashush, Dub**	**2.83**	**229**	*e*P	**Pb**	**21 15 35.2**	**-1.1**
	SNR=20						
ASUD	**Al Ashush, Dub**	**2.83**	**229**	P	**Pb**	**21 15 36.0**	**-0.3**
	SNR=20						
ASUD	**Al Ashush, Dub**	**2.83**	**229**	*e*Pn	**Pb**	**21 15 35.9**	**-0.3**
HOQ	**Hoqain**	**2.94**	**186**	*e*Pn	**Pn**	**21 15 34.5**	**+2.0**
ALNE	**Al Ain**	**3.01**	**216**	*e*P	**Pn**	**21 15 36.3**	**+3.0**
	SNR=8.5						
ALNE	**Al Ain**	**3.01**	**216**	*e*Pn	**Pb**	**21 15 38.0**	**-1.3**
AJN	**Ajban**	**3.11**	**232**	*e*Pn	**Pn**	**21 15 37.8**	**+3.1**
NGRK	**Negar Kerman**	**3.22**	**345**	*e*Pn	**Pn**	**21 15 38.0**	**+1.4**
NGRK				IAMB	IAmb	21 16 34.8	
	comp=Z,0.0nm,0.5s						
CHMN	**Cheshme madani**	**3.33**	**358**	*e*Pn	**Pn**	**21 15 39.9**	**+1.8**
CHMN				IAMB	IAmb	21 16 47.4	
	comp=Z,0.0nm,0.7s						
WSAR	**Wadi Sarin**	**3.38**	**165**	Pn	**Pn**	**21 15 39.8**	**+1.2**
	comp=Z,15nm,0.3s,baz=346,slow=5.7,SNR=113						
WSAR				Sn	**Sn**	**21 16 18.6**	**-0.2**
	comp=Z,15nm,0.3s,baz=204,slow=21,SNR=15						
SMDO	**Samad**	**3.47**	**174**	P	Pn	21 15 45.1	+5.3
	SNR=6.1						
TVBK	**TV Kerman**	**3.54**	**347**	*e*Pn	**Pn**	**21 15 43.4**	**+2.4**
TVBK				IAMB	IAmb	21 16 52.3	
	comp=Z,0.0nm,0.7s						
KHGB	**Koh Gabri**	**3.98**	**345**	*e*Pn	**Pn**	**21 15 48.7**	**+1.8**
KHGB				IAMB	IAmb	21 16 59.8	
	comp=Z,0.0nm,0.6s						
SZD1	**Zahaedan-tmp**	**4.09**	**43**	*e*Pn	**Pn**	**21 15 52.5**	**+4.2**
IMEH	**Mehriz**	**5.54**	**332**	*e*Pn	**Pn**	**21 16 08.8**	**+0.4**
IKOO	**Kooshah**	**6.00**	**11**	*e*Pn	**Pn**	**21 16 16.0**	**+1.4**
IKAZ	**Kazeroun**	**6.08**	**304**	*e*Pn	**Pn**	**21 16 16.0**	**+0.1**
ITEG	**Tejag**	**6.42**	**8**	*e*Pn	**Pn**	**21 16 19.9**	**-0.5**
IDAH	**Dahanechah**	**6.49**	**17**	*e*Pn	**Pn**	**21 16 23.4**	**+2.0**
IGAR	**Gharneh**	**7.64**	**321**	*e*Pn	**Pn**	**21 16 37.4**	**+0.2**
IZEF	**Zefreh**	**7.87**	**325**	*e*Pn	**Pn**	**21 16 40.7**	**+0.4**
IPIR	**Pirpir**	**8.51**	**318**	*e*Pn	**Pn**	**21 16 49.5**	**+0.3**
MMAI	**Mount Meron Ar**	**20.36**	**294**	P	**P**	**21 19 22.9**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=93,slow=8.7,SNR=3.8						
AAK	**Ala-Archa**	**21.16**	**36**	P	**P**	**21 19 31.6**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=221,slow=11,SNR=3.0						
AKTO	**Aktyubinsk**	**23.88**	**1**	P	**P**	**21 19 57.5**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=171,slow=11,SNR=6.9						
BRTR	**Keskin Array B**	**23.96**	**309**	P	**P**	**21 20 01.1**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=133,slow=11,SNR=16						
MKAR	**Makanchi Array**	**28.08**	**37**	P	**P**	**21 20 37.8**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=226,slow=9.3,SNR=3.0						
BVAR	**Borovoye Array**	**28.13**	**16**	P	**P**	**21 20 37.1**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=203,slow=5.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**28.88**	**28**	P	**P**	**21 20 42.1**	**-2.2**
	comp=Z,0.3nm,0.7s,baz=227,slow=7.5,SNR=3.1						
AKASG	**Malin Array Be**	**32.46**	**326**	P	**P**	**21 21 14.4**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=126,slow=8.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**33.95**	**29**	P	**P**	**21 21 27.5**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=236,slow=8.1,SNR=2.9						
GERES	**GERESS Array B**	**40.59**	**315**	P	**P**	**21 22 25.0**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=108,slow=7.4,SNR=4.0						
FINES	**FINESS Array B**	**40.87**	**337**	P	**P**	**21 22 27.3**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=133,slow=11,SNR=5.7						
ESDC	**Sonseca Array**	**52.34**	**301**	P	**P**	**21 23 57.9**	**0.0**
	comp=Z,0.2nm,0.5s,baz=71,slow=7.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**53.93**	**267**	P	**P**	**21 24 09.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=60,slow=8.0,SNR=6.4						

MEX 12 21:14:45.5±0.6,16°.33N×97°.86W, h5km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.27**	**285**	*e*P	Pg	21 14 50.1	-0.6
PNIG				*e*S	Sg	21 14 54.3	+0.1
TLIG	**Tlapa**	**1.41**	**331**	*e*P	Pn	21 15 09.0	-2.9
TLIG				*e*S	Sb	21 15 26.0	-4.6
HUIG	**Huatulco**	**1.77**	**108**	*i*P	Pn	21 15 12.5	-4.3
HUIG				*i*S	Sn	21 15 34.4	-5.4

EAF 12 21:26:56.0±0.3,4°.14S×35°.28E, h40km±14km, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAT	**Babati**	**0.49**	**97**	*i*P	Pn	21 27 06.4	-0.3
BBAT				*i*S	Sn	21 27 14.0	-0.3
KIBA	**Kibaya**	**1.73**	**132**	*i*S	Sn	21 27 43.6	-1.2

*KRNET **12** 21:41:30.3±0.1,39°.11N×72°.31E, mb3.0*
*NNC **12** 21:41:32.0±4.6,39°.11N×71°.90E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=36.1km s-min=22.5km az=178.0*
ISC 12 21:41:28.9±2.5,38°.9N±0°.1×72°.19E±0°.06, h10km, n13, σ2ᵍ15/24, 20C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.62**	**331**	⇑*i*P	**Pg**	**21 41 40.5**	**-0.5**
	baz=14						
DRK				⇑*i*S	**Sg**	**21 41 48.5**	**-0.7**
	baz=14						
BTK	**Batken**	**1.54**	**317**	⇑*e*P	**Pn**	**21 41 57.5**	**+1.0**
	baz=10.0						
BTK				⇑*i*S	**Sn**	**21 42 17.9**	**+1.2**
	baz=10.0						
ARSB	**Arslanbob**	**2.46**	**14**	⇑*i*P	**Pn**	**21 42 09.8**	**+0.6**
	baz=13						
ARSB				⇑*i*S	**Sn**	**21 42 38.8**	**-0.6**
	baz=13						
ARK	**Arkit**	**2.86**	**357**	⇑*i*P	**Pn**	**21 42 15.9**	**+1.2**
	baz=55						
ARK				⇑*i*S	**Sn**	**21 42 48.8**	**-0.5**
	baz=55						
AML	**Almayashu**	**3.39**	**19**	⇓*i*P	**Pn**	**21 42 23.2**	**+1.0**
	baz=19						
AML				⇓*i*S	**Sn**	**21 43 01.6**	**-1.1**
	baz=19						
UCH	**Uchtor**	**3.73**	**28**	⇑*i*P	**Pn**	**21 42 27.9**	**+0.9**
	baz=28						
UCH				⇑*i*S	**Sn**	**21 43 09.7**	**-1.6**
	baz=28						
NRN	**Naryn**	**3.84**	**48**	⇑*i*P	**Pn**	**21 42 28.7**	**+0.4**
	baz=49						
NRN				⇑*i*S	**Sn**	**21 43 11.5**	**-2.2**
	baz=49						
EKS2	**Erkin-Say**	**3.91**	**17**	⇑*i*P	**Pn**	**21 42 30.3**	**+1.2**
	baz=17						
EKS2				⇑*i*S	**Sn**	**21 43 13.4**	**-1.8**
	baz=17						
AAK	**Ala-Archa**	**4.09**	**25**	⇓P	**Pn**	**21 42 34.1**	**+2.5**
	2.7nm,0.5s						
AAK				⇑S	**Sn**	**21 43 23.7**	**+4.0**
	13nm,0.8s						
AAK	**Ala-Archa**	**4.09**	**25**	⇑*i*P	**Pn**	**21 42 32.6**	**+1.0**
	baz=25						
AAK				⇑*i*S	**Sn**	**21 43 17.4**	**-2.2**
	baz=25						
KK31	**Karatay Array**	**4.35**	**344**	⇓P	**Pn**	**21 42 36.8**	**+1.7**
	1.2nm,0.3s,baz=150,slow=11,SNR=16						
KK31				⇑S	**Sn**	**21 43 26.5**	**+0.6**
	1.3nm,0.3s,baz=145,slow=23,SNR=4.6						
TKM2	**Tokmak 2**	**4.75**	**32**	⇑P	Pn	21 42 45.9	+5.3
	1.5nm,0.5s						
TKM2				⇓S	**Sn**	**21 43 42.3**	**+6.5**
	4.5nm,0.8s						
AB31	**Akbulak array**	**13.54**	**324**	⇑P	**Pn**	**21 44 39.5**	**-1.4**
	0.3nm,0.3s						

*ISK **12** 21:45:28.6,37°.99N×38°.11E, h6km, ML2.0/8*
*DDA **12** 21:45:29.5,37°.95N×38°.01E, h7km±3km, ML2.6*
ISC 12 21:45:29.3±1.2,38°.00N±0°.03×38°.11E±0°.03, h6km±11km, n15, σ0ᵍ45/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.33**	**334**	IAML_P			
	comp=Z,4μm,0.1s						
AKCD				*i*P	**Pb**	**21 45 37.3**	**-0.4**
AKCD				*i*S	**Sb**	**21 45 43.4**	**0.0**
DARE	**Darende-Malaty**	**0.76**	**320**	PG	**Pg**	**21 45 43.4**	**-0.5**
DARE				SG	**Sg**	**21 45 54.7**	**+1.0**
GZT	**Gaziantep**	**0.77**	**214**	*i*P	**Pg**	**21 45 44.0**	**-0.2**
GZT				*i*S	**Sg**	**21 45 54.0**	**-0.2**
URFA	**Urfa**	**0.79**	**134**	PG	**Pg**	**21 45 44.4**	**-0.2**
URFA				SG	**Sg**	**21 45 55.1**	**+0.2**
HEKM	**Malatya_Hekimh**	**0.89**	**353**	IAML_P			
	comp=Z,402nm,0.2s						
HEKM				*i*P	**Pb**	**21 45 47.9**	**+0.6**
HEKM				*i*S	**Sn**	**21 46 01.9**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.02**	**68**	PG	**Pg**	**21 45 48.4**	**-0.5**
SVRC				SG	**Sb**	**21 46 03.3**	**+0.1**
KMRS	**Kahramanmaras**	**1.07**	**243**	PG	**Pg**	**21 45 49.6**	**-0.4**
GAZ	**Gaziantep**	**1.09**	**221**	PN	**Pg**	**21 45 49.9**	**-0.3**
SURC	**SANLIURFA_SURC**	**1.19**	**160**	*i*P	**Pn**	**21 45 52.4**	**0.0**
SURC				*i*S	**Sn**	**21 46 08.6**	**-0.3**
ANDN	**Andirin**	**1.46**	**254**	IAML_P			
	comp=Z,180nm,0.1s						
ANDN				*i*P	**Pn**	**21 45 55.5**	**-0.7**
KUZU	**Kuzuini**	**1.47**	**214**	*i*P	**Pg**	**21 45 58.1**	**+0.6**
KUZU				*i*S	**Sg**	**21 46 16.6**	**-0.1**
DYBB	**Diyarbakir**	**1.61**	**91**	PN	**Pn**	**21 45 58.4**	**+0.1**
KOZT	**Kozan**	**1.88**	**255**	PN	**Pn**	**21 46 02.1**	**+0.1**
SVSK	**Karacayir**	**2.10**	**336**	PN	**Pn**	**21 46 04.9**	**-0.1**
TAHT	**Tahtakopru-Hat**	**2.23**	**224**	PN	**Pn**	**21 46 07.3**	**+0.5**

*ISCJB **12** 21:46:37.1±0.9,43°.67N±0°.09×105°.0W±0°.1, h0km, mb4.2/1, Error ellipse: s-maj=15.3km s-min=9.5km az=138.3*
*IDC **12** 21:46:39.3±1.0,43°.64N×105°.36W, h0km, mb4.1/1, mb1 3.5/7, mb1mx3.3/53, mbtmp3.2/7, ML2.6/5, Error ellipse: s-maj=23.3km s-min=8.8km az=149.0*
*NEIC **12** 21:46:49.7±2.9,43°.83N×106°.26W, h0km, ML2.8, Error ellipse: s-maj=52.1km s-min=13.2km az=126.0, Suspected Mining explosion.*
NEIC 35 km [22 miles] N of Midwest.
ISC 12 21:46:39.8±1.0,43°.63N±0°.09×105°.1W±0°.1, h0km, n13, σ1ᵍ35/13, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**3.15**	**346**	*e*Pn	**Pn**	**21 47 33.8**	**+3.0**
RLMT	**Red Lodge**	**3.32**	**298**	*e*Pn	**Pn**	**21 47 32.7**	**-0.6**
BW06	**Boulder Array**	**3.35**	**257**	*e*Pn	**Pn**	**21 47 34.2**	**+0.4**
PDAR	**Pinedale Array**	**3.35**	**257**	Pn	**Pn**	**21 47 33.9**	**+0.2**
	2.5nm,0.3s,baz=81,slow=18,SNR=40						
PDAR				Lg	Lg	21 48 18.1	
	1.6nm,0.3s,baz=78,slow=30,SNR=6.4						
DGMT	**Dagmar**	**4.88**	**7**	*e*Pn	**Pb**	**21 48 06.1**	**-0.1**
HWUT	**Hardware Ranch**	**5.17**	**249**	*e*Pn	**Pn**	**21 47 58.1**	**-0.5**
DUG	**Dugway, Tooele**	**6.68**	**242**	*e*Pn	**Pn**	**21 48 17.1**	**-2.2**
	1.9nm,0.5s						
ELK	**Elko**	**8.04**	**252**	Pn	**Pn**	**21 48 37.8**	**-0.3**
	0.1nm,0.3s,baz=70,slow=15,SNR=4.0						
ULM	**Lac du Bonnet**	**9.15**	**40**	Pn	**Pn**	**21 48 52.0**	**-1.1**
	0.5nm,0.3s,baz=230,slow=14,SNR=5.8						
ULM				Lg	Lg	21 51 23.0	
	0.3nm,0.3s,baz=166,slow=17,SNR=2.8						
NVAR	**Mina Array Bea**	**11.22**	**247**	Pn	**Pn**	**21 49 22.9**	**+1.2**
	0.0nm,0.3s,baz=61,slow=14,SNR=4.2						
TXAR	**Lajitas Array**	**14.32**	**175**	Pn	**Pn**	**21 50 04.4**	**+0.6**
	0.0nm,0.3s,baz=0.6,slow=8.3,SNR=2.4						
YKA	**Yellowknife Ar**	**19.70**	**347**	P	**P**	**21 51 10.3**	**0.

RTLS	**Leoncito**	**1.98**	**168**	*e*P	**Pn**	**21 57 01.4**	**+1.2**
RTLS				IAML		21 57 01.5	
	comp=Z,1μm,0.2s						
CFA	**Coronel Fontan**	**2.19**	**143**	P	**Pn**	**21 57 03.0**	**+0.3**
	comp=Z,98nm,0.3s,baz=316,slow=6.1,SNR=731						
CFA				S	**Sn**	**21 57 29.8**	**0.0**
	comp=Z,231nm,0.3s,baz=186,slow=17,SNR=41						
GO03	**Copiap**	**2.29**	**350⇑**	*i*P	**Pn**	**21 57 04.8**	**+0.7**
GO03				*i* S	**Sn**	**21 57 33.4**	**+1.0**
GO03				IAML		21 57 37.4	
	comp=E,1μm,0.2s						
ASAL	**Salagasta**	**2.84**	**164**	*e*P	**Pn**	**21 57 12.2**	**+1.0**
APLL	**PUNTA DE LOS L**	**2.86**	**102**	*e*P	**Pn**	**21 57 12.2**	**+0.8**
ARCO	**CERRO ARCO**	**3.06**	**167**	*e*P	**Pn**	**21 57 15.2**	**+1.0**
ARCO				IAML		21 57 18.1	
	comp=Z,437nm,0.3s						
ACAN	**Cantantal**	**3.27**	**138**	*e*P	**Pn**	**21 57 17.7**	**+0.8**
ROCH	**El Roble**	**3.28**	**199**	*e*P	**Pn**	**21 57 16.1**	**-1.0**
ROCH				*i* S	**Sn**	**21 57 55.2**	**-0.6**
PEL	**Peldehue**	**3.37**	**193⇑**	*i*P	**Pn**	**21 57 17.9**	**-0.2**
PEL				*i* S	**Sn**	**21 57 57.4**	**-0.2**
PEL				IAML		21 58 06.6	
	comp=N,258nm,0.3s						
FCH	**Farellones**	**3.49**	**187⇑**	*i*P	**Pn**	**21 57 21.1**	**+1.1**
FCH				*i* S	**Sn**	**21 58 02.8**	**+2.0**
FCH				IAML		21 58 09.9	
	comp=E,477nm,0.3s						
CLCH	**Cerro Calan**	**3.59**	**190**	*e*P	**Pn**	**21 57 21.8**	**+0.7**
CLCH				*i* S	**Sn**	**21 58 03.4**	**+0.6**
CLCH				IAML		21 58 11.4	
	comp=E,439nm,0.4s						
ANTU	**Antumapu**	**3.77**	**191**	*i* S	**Sn**	**21 58 07.3**	**+0.1**
LMEL	**Las Melosas**	**4.00**	**185**	*e*P	**Pn**	**21 57 27.2**	**+0.6**
LMEL				*i* S	**Sn**	**21 58 13.9**	**+1.2**
LVC	**Limon Verde**	**7.26**	**6**	P	**Pn**	**21 58 09.1**	**-1.9**
	comp=E,2.3nm,0.3s,baz=168,slow=8.5,SNR=25						
LVC				S	**Sn**	**21 59 31.2**	**-0.9**
	comp=E,1.3nm,0.3s,baz=342,slow=19,SNR=2.0						
CPUP	**Villa Florida**	**11.53**	**75**	P	**Pn**	**21 59 07.0**	**-1.4**
	comp=E,0.1nm,0.3s,baz=247,slow=13,SNR=2.1						
LPAZ	**La Paz**	**13.59**	**7**	P	**Pn**	**21 59 37.2**	**+1.2**
	comp=E,0.2nm,0.3s,baz=175,slow=8.3,SNR=8.0						
SIV	**San Ignacio**	**15.95**	**32**	P	**Pn**	**22 00 05.7**	**+0.4**
	comp=E,0.1nm,0.3s,baz=247,slow=9.0,SNR=5.4						
DBIC	**Dimbokro**	**72.02**	**71**	P	**P**	**22 07 39.0**	**-0.3**
	comp=E,2.5nm,0.8s,baz=225,slow=5.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**80.96**	**69**	P	**P**	**22 08 28.8**	**-1.0**
	comp=E,0.6nm,0.5s,baz=287,slow=6.6,SNR=11						
WRA	**Warramunga Arr**	**125.31**	**208**	PKP	**PKPdf**	**22 15 15.6**	**+0.1**
	comp=E,2.4nm,1.3s,baz=147,slow=1.6,SNR=6.8						
AAK	**Ala-Archa**	**148.72**	**56**	PKPbc	**PKiKP**	**22 16 02.8**	**-0.1**
	comp=E,0.5nm,0.4s,baz=243,slow=2.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**149.69**	**30**	PKPbc	**PKiKP**	**22 16 04.9**	**+0.6**
	comp=E,1.6nm,0.4s,baz=300,slow=4.1,SNR=6.9						
MKAR	**Makanchi Array**	**152.52**	**44**	PKPbc	**PKPbc**	**22 16 10.4**	**+0.2**
	comp=E,0.6nm,0.7s,baz=259,slow=2.4,SNR=4.6						

*IDC **12** 22:04:34.9±1.7, 19°.07N×103°.76W, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.5/34, mbtmp3.5/6, ML3.5/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/28, Error ellipse: s-maj=78.6km s-min=32.0km az=87.0*
*ISCJB **12** 22:04:44.6±1.5, 19°.95N±0°.06×105°.1W±0°.1, h10km, mb3.4/4, MS2.9/1, Error ellipse: s-maj=15.7km s-min=6.6km az=158.8*
*MEX **12** 22:04:46.7±0.7, 19°.96N×105°.25W, h24km±4km, MD4.1*
ISC 12 22:04:45.7±1.1, 19°.98N±0°.07×105°.0W±0°.1, h10km, n12, σ3°38/12, mb3.4/4, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANIG	**Ahuacatlan**	**1.17**	**24**	*i* P	**Pn**	**22 05 06.2**	**-2.1**
ANIG				*i* S	**Sb**	**22 05 22.6**	**-0.9**
EZ5V		**1.43**	**110**	*i* P	**Pn**	**22 05 11.9**	**-0.1**
EZ5V				*e*S	**Sn**	**22 05 30.9**	**-0.2**
MMIG	**Aquila**	**2.31**	**136**	*e*P	**Pn**	**22 05 22.5**	**-1.4**
MMIG				*e*S	**Sn**	**22 05 51.9**	**-0.5**
TXAR	**Lajitas Array**	**9.40**	**7**	Pn	**Pn**	**22 07 04.3**	**+2.9**
	0.1nm,0.3s,baz=190,slow=14,SNR=10						
TXAR				Lg	Lg	22 09 44.5	
	0.1nm,0.3s,baz=199,slow=33,SNR=4.4						
ANMO	**Albuquerque**	**14.96**	**355**	Pn	**P**	**22 08 23.0**	**-0.2**
	0.1nm,0.3s,baz=139,slow=20,SNR=2.3						
PFO	**Pinyon Flats O**	**16.97**	**325**	LR	LR	22 15 31.0	
	comp=Z,85nm,19.1s,baz=124,slow=36						
NVAR	**Mina Array Bea**	**21.69**	**331**	P	**P**	**22 09 42.7**	**+5.7**
	0.8nm,0.7s,baz=157,slow=11,SNR=7.9						
NVAR				LR	LR	22 18 42.1	
	comp=Z,50nm,20.9s,baz=180,slow=37						
PDAR	**Pinedale Array**	**23.04**	**351**	P	**P**	**22 09 54.5**	**+3.1**
	0.3nm,0.7s,baz=154,slow=8.2,SNR=3.9						
ILAR	**Eielson Array**	**52.62**	**339**	P	**P**	**22 13 57.6**	**-2.0**
	0.7nm,1.0s,baz=164,slow=6.4,SNR=6.6						
ARCES	**ARCESS Array B**	**84.09**	**16**	P	P	22 17 09.8	-6.7
	0.7nm,0.6s,baz=299,slow=5.4,SNR=4.4						
WRA	**Warramunga Arr**	**124.47**	**259**	PKP	PKPdf	22 23 38.2	-7.8
	0.6nm,0.8s,baz=76,slow=2.4,SNR=3.3						
ASAR	**Alice Springs**	**125.49**	**255**	PKP	**PKPdf**	**22 23 41.5**	**-6.4**
	0.1nm,0.3s,baz=92,slow=2.5,SNR=4.1						

*OMAN **12** 22:15:31.4±4.6, 26°.68N×58°.54E, h19km, ml4.3/7, Error ellipse: s-maj=48.8km s-min=28.0km az=47.0*
*NEIC **12** 22:15:34.1±0.0, 26°.48N×57°.61E, h14km, ML4.1(THR), After THR.*
*IDC **12** 22:15:35.5±1.0, 26°.49N×57°.75E, h0km, mb3.9/18, mb1 4.1/21, mb1mx3.9/57, mbtmp4.0/21, ML3.2/4, MS3.6/5, Ms1 3.6/5, ms1mx3.1/49, Error ellipse: s-maj=20.5km s-min=16.0km az=165.0*
*ISCJB **12** 22:15:36.2±0.3, 26°.61N±0°.03×57°.76E±0°.04, h10km, mb3.8/16, MS3.6/4, Error ellipse: s-maj=5.7km s-min=3.7km az=2.7*
*TEH **12** 22:15:36.0, 26°.57N×57°.76E, h10km, ML4.2*
*DSN **12** 22:15:38.8±2.6, 26°.19N×58°.04E, h10km, ML4.1/11, Error ellipse: s-maj=32.0km s-min=9.5km az=26.0*
ISC 12 22:15:36.8±0.6, 26°.53N±0°.04×57°.79E±0°.05, h10km, n96, σ1°57/95, mb4.1/27, MS3.4/4, 4C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.33**	**320**	*e*Pg	**Pg**	**22 16 01.6**	**-0.8**
SHME	**Shamm**	**1.56**	**252**	*e*P	**Pg**	**22 16 08.3**	**+1.7**
	SNR=9.4						
SHME				S	**Sg**	**22 16 31.6**	**+4.7**
BNDS	**Bandar-Abbas**	**1.68**	**301**	*e*Pn	**Pn**	**22 16 03.0**	**-3.5**
GENO	**Geno**	**1.68**	**301**	IAMB	IAmb	22 16 41.1	
	comp=Z,0.0nm,0.8s						
GENO				*e*Pn	**Pg**	**22 16 07.7**	**-1.4**
MDH	**Madha**	**1.82**	**228**	*e*P	**Pn**	**22 16 08.2**	**+0.1**
	SNR=102						
MDH	**Madha**	**1.82**	**228**	P	**Pb**	**22 16 08.6**	**-1.6**
	SNR=9.9						
MSFE	**Esma-Masafi**	**1.87**	**232**	*e*P	**Pb**	**22 16 10.4**	**-0.8**
	SNR=32						
UMQ	**Umm Al-Quwin**	**2.16**	**243**	*e*P	**Pg**	**22 16 17.1**	**-1.1**
	SNR=6.6						
UMQ	**Umm Al-Quwin**	**2.16**	**243**	*e*Pn	**Pg**	**22 16 20.5**	**+2.3**
HATD	**Hatta, Dubai**	**2.26**	**222**	*e*P	**Pb**	**22 16 15.5**	**-2.3**
	SNR=35						
HATD	**Hatta, Dubai**	**2.26**	**222**	*e*Pn	**Pb**	**22 16 16.4**	**-1.4**
ASHO	**Ashiyiah**	**2.41**	**221**	*e*P	**Pn**	**22 16 17.7**	**+1.3**
	SNR=26						
ASHO	**Ashiyiah**	**2.41**	**221**	*e*Pn	**Pb**	**22 16 20.6**	**+0.2**
NAZ	**Nazwa, Dubai**	**2.46**	**232**	*e*P	**Pb**	**22 16 19.6**	**-1.5**
	SNR=50						
NAZ	**Nazwa, Dubai**	**2.46**	**232**	P	**Pg**	**22 16 21.8**	**-2.1**
NAZ				S	**Sg**	**22 17 00.4**	**+4.6**
NAZ	**Nazwa, Dubai**	**2.46**	**232**	*e*Pn	**Pb**	**22 16 21.5**	**+0.4**
CHBR	**Chabahar**	**2.59**	**110**	*e*Pn	**Pn**	**22 16 19.4**	**+0.5**
SOHO	**SOHO**	**2.64**	**206**	P	**Pn**	**22 16 19.4**	**-0.1**
FAQ	**Al Faqa, Dubai**	**2.66**	**229**	*e*P	**Pb**	**22 16 21.5**	**-3.1**
	SNR=41						
FAQ	**Al Faqa, Dubai**	**2.66**	**229**	*e*Pn	**Pb**	**22 16 23.1**	**-1.5**
ASUD	**Al Ashush, Dub**	**2.92**	**230**	*e*P	**Pn**	**22 16 24.6**	**+1.3**
	SNR=13						
ASUD	**Al Ashush, Dub**	**2.92**	**230**	*e*Pn	**Pb**	**22 16 27.4**	**-1.6**
HOQ	**Hoqain**	**2.97**	**189**	*e*Pn	**Pn**	**22 16 25.3**	**+1.3**
BIDO	**Bidbid**	**3.01**	**174**	P	**Pn**	**22 16 25.4**	**+0.8**
ALNE	**Al Ain**	**3.08**	**217**	*e*P	**Pn**	**22 16 25.9**	**+0.4**
	SNR=6.8						
ALNE	**Al Ain**	**3.08**	**217**	*e*Pn	**Pb**	**22 16 29.0**	**-2.7**
AJN	**Ajban**	**3.20**	**233**	*i* P	**Pb**	**22 16 30.5**	**-3.3**
	SNR=7.4						
AJN	**Ajban**	**3.20**	**233**	*e*Pn	**Pb**	**22 16 31.8**	**-2.0**
NGRK	**Negar Kerman**	**3.24**	**343**	*e*Pn	**Pn**	**22 16 28.9**	**+0.8**
NGRK				IAMB	IAmb	22 17 17.8	
	comp=Z,0.0nm,0.8s						
CHMN	**Cheshme madani**	**3.33**	**356**	*e*Pn	**Pn**	**22 16 31.2**	**+2.0**
WSAR	**Wadi Sarin**	**3.37**	**167**	Pn	**Pn**	**22 16 30.9**	**+1.5**
	comp=Z,4.8nm,0.3s,baz=328,slow=11,SNR=7.3						
WSAR				Sn	**Sn**	**22 17 10.2**	**+0.7**
	comp=Z,31nm,0.3s,baz=327,slow=23,SNR=9.1						
ARQ	**Araqi**	**3.38**	**200**	P	**Pb**	**22 16 33.1**	**-3.8**
	SNR=8.4						
ARQ				S	**Sb**	**22 17 16.4**	**-1.7**
TVBK	**TV Kerman**	**3.56**	**345**	*e*Pn	**Pn**	**22 16 34.1**	**+1.7**
KHGB	**Koh Gabri**	**4.00**	**344**	*e*Pn	**Pn**	**22 16 40.2**	**+1.8**
KHGB				IAMB	IAmb	22 16 53.8	
	comp=Z,0.0nm,0.5s						
SZD1	**Zahaedan-tmp**	**4.01**	**42**	*e*Pn	**Pn**	**22 16 40.4**	**+2.0**
ZHSF	**Zahedan**	**4.05**	**40**	*e*Pn	**Pn**	**22 16 39.8**	**+0.8**
IMEH	**Mehriz**	**5.58**	**331**	*e*Pn	**Pn**	**22 16 59.9**	**-0.3**
IKOO	**Kooshah**	**5.97**	**10**	*e*Pn	**Pn**	**22 17 07.6**	**+2.1**
IKAZ	**Kazeroun**	**6.17**	**303**	*e*Pn	**Pn**	**22 17 07.5**	**-0.8**
ITEG	**Tejag**	**6.40**	**7**	*e*Pn	**Pn**	**22 17 11.4**	**+0.1**
IDAH	**Dahanechah**	**6.45**	**16**	*e*Pn	**Pn**	**22 17 15.3**	**+3.3**
ISAD	**Sadrabad**	**6.45**	**327**	*e*Pn	**Pn**	**22 17 12.5**	**+0.4**
TPRV	**Parvadeh(Tabas**	**6.54**	**352**	*e*Pn	**Pn**	**22 17 15.1**	**+1.8**
IRAM	**Ramesheh**	**7.07**	**319**	*e*Pn	**Pn**	**22 17 21.0**	**+0.4**
TKDS	**Koohdasht(Taba**	**7.08**	**355**	*e*Pn	**Pn**	**22 17 19.7**	**-0.9**
IPIR	**Pirpir**	**8.58**	**317**	*e*Pn	**Pn**	**22 17 41.0**	**-0.4**
IKLH	**Kolahrood**	**8.65**	**323**	*e*Pn	**Pn**	**22 17 44.5**	**+2.3**
KHMZ	**Khomeyn**	**9.87**	**319**	*e*Pn	**Pn**	**22 17 57.6**	**-1.4**
GEYT	**Alibeck**	**11.37**	**1**	Pn	**Pn**	**22 18 21.3**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=4.9						
GEYT				LR	LR	22 23 21.7	
	comp=Z,132nm,19.5s,baz=225,slow=41						
GNI	**Garni**	**17.39**	**325**	P	**P**	**22 19 41.6**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=195,slow=5.5,SNR=6.4						
LGD	**Lagodekhi**	**17.98**	**331**	P	**P**	**22 19 46.2**	**-1.2**
ASF	**Jabal al Asfar**	**19.05**	**292**	P	**Pn**	**22 20 01.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=76,slow=14,SNR=4.3						
EIL	**Elat**	**20.38**	**284**	P	Pn	22 20 15.4	-0.5
	comp=Z,13nm,0.9s,baz=48,slow=3.5,SNR=10						
MMAI	**Mount Meron Ar**	**20.46**	**294**	P	Pn	22 20 15.4	-1.4
	comp=Z,5.2nm,0.7s,baz=98,slow=12,SNR=13						
AAK	**Ala-Archa**	**21.09**	**36**	P	**P**	**22 20 20.2**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=231,slow=7.2,SNR=3.7						
AKTO	**Aktyubinsk**	**23.87**	**0**	P	**P**	**22 20 50.4**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=183,slow=9.4,SNR=16						
AKTO				LR	LR	22 30 50.5	
	comp=Z,102nm,19.9s,baz=176,slow=38						
BRTR	**Keskin Array B**	**24.04**	**309**	P	**P**	**22 20 52.0**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=128,slow=9.8,SNR=38						
BRTR				LR	LR	22 32 21.9	
	comp=Z,80nm,18.3s,baz=126,slow=42						
ISP	**Isparta**	**25.59**	**303⇑**	P	**P**	**22 21 06.4**	**+0.1**
MKAR	**Makanchi Array**	**28.00**	**37**	P	**P**	**22 21 29.4**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=210,slow=7.0,SNR=5.0						
BVAR	**Borovoye Array**	**28.09**	**16**	P	**P**	**22 21 29.3**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=220,slow=14,SNR=5.4						
KURBB	**Kurchatov Arra**	**28.82**	**28**	P	**P**	**22 21 36.1**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=226,slow=8.5,SNR=12						
MLR	**Muntele Rosu**	**31.67**	**315**	P	**P**	**22 22 01.5**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=86,slow=13,SNR=5.1						
TESR	**Tescani**	**31.69**	**317⇑**	*i*P	**P**	**22 21 59.5**	**-1.0**
VOIR		**32.21**	**314⇓**	*i*P	**P**	**22 22 05.3**	**+0.1**
ARR	**Arges**	**32.45**	**314⇓**	*i*P	**P**	**22 22 07.5**	**+0.2**
AKASG	**Malin Array Be**	**32.52**	**326**	P	**P**	**22 22 06.9**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=126,slow=7.6,SNR=7.9						
KIEV	**Kiev**	**32.52**	**326⇓**	*i*P	**P**	**22 22 06.9**	**-0.8**
GZR	**Gura Zlata**	**33.67**	**313⇓**	*i*P	**P**	**22 22 17.4**	**-0.5**
KMBO	**Kilima Mbogo**	**33.89**	**219**	LR	LR	22 35 54.8	
	comp=Z,73nm,18.3s,baz=93,slow=36						
ZALV	**Zalesovo Beam**	**33.89**	**29**	P	**P**	**22 22 20.3**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=254,slow=9.1,SNR=10						
MDVR	**Moldovita**	**34.15**	**312⇑**	*i*P	**P**	**22 22 21.7**	**-0.4**
DRGR		**34.25**	**315⇓**	*i*P	**P**	**22 22 22.4**	**-0.6**
BZS	**Buzias**	**34.51**	**313⇑**	*i*P	**P**	**22 22 24.9**	**-0.2**
KOLS	**Kolonicke sedl**	**35.43**	**319**	*e*P	**P**	**22 22 33.1**	**+0.1**
VYHS	**Vyhne**	**37.33**	**316**	*e*P	**P**	**22 22 48.5**	**-0.8**
ARSA	**Arzberg**	**39.02**	**313**	*e*pP	**P**	**22 23 03.3**	**-0.2**
	comp=Z,3.7nm,0.8s						
MOA	**Molln**	**40.01**	**314**	*e*pP	**P**	**22 23 11.5**	**-0.3**
	comp=Z,2.8nm,0.6s,SNR=5.1						
KBA	**Koelnbreinsper**	**40.41**	**312**	*e*pP	**P**	**22 23 15.2**	**-0.1**
	comp=Z,3.8nm,0.8s						
GERES	**GERESS Array B**	**40.66**	**315**	P	**P**	**22 23 16.0**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=104,slow=8.7,SNR=11						
KHC	**Kasperske Hory**	**40.82**	**316**	*e*P	**P**	**22 23 17.5**	**-1.0**
ABTA	**Abfaltersbach**	**40.88**	**312**	*e*pP	**P**	**22 23 18.7**	**-0.4**
	comp=Z,5.7nm,0.8s						
FINES	**FINESS Array B**	**40.90**	**337**	P	**P**	**22 23 17.6**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=126,slow=13,SNR=8.4						
WTTA	**Wattenberg**	**41.58**	**312**	*e*pP	**P**	**22 23 24.2**	**-0.8**
	comp=Z,7.0nm,0.6s						
WATA	**Walderalm**	**41.64**	**312**	*e*pP	**P**	**22 23 24.6**	**-0.8**
	comp=Z,5.9nm,0.9s						
CLL	**Collm**	**41.84**	**318**	*e*(pP)	pP	22 23 31.0	+0.7
SQTA	**Sankt Quirin**	**41.86**	**312**	*e*pP	**P**	**22 23 26.3**	**-0.9**
	comp=Z,7.0nm,0.9s,SNR=5.4						
MOTA	**Moosalm**	**41.95**	**312**	*e*pP	**P**	**22 23 27.4**	**-0.6**
	comp=Z,4.8nm,0.6s,SNR=5.1						
FETA	**Feichten**	**42.13**	**312**	*e*pP	**P**	**22 23 28.8**	**-0.7**
	comp=Z,6.6nm,0.8s,SNR=10						
RETA	**Reutte**	**42.21**	**312**	*e*pP	**P**	**22 23 29.1**	**-0.9**
	comp=Z,5.0nm,0.8s						
DAVA	**Damuels**	**42.76**	**312**	*e*pP	**P**	**22 23 33.5**	**-1.0**
	comp=Z,12nm,0.8s						
NOA	**NORSAR Array B**	**46.54**	**331**	P	**P**	**22 24 06.0**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=126,slow=7.5,SNR=3.3						
ARCES	**ARCESS Array B**	**46.98**	**345**	P	**P**	**22 24 09.0**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=128,slow=7.9,SNR=4.2						
ESDC	**Sonseca Array**	**52.43**	**301**	P	**P**	**22 24 50.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=74,slow=7.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**54.04**	**267**	P	**P**	**22 24 60.0**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=51,slow=7.6,SNR=14						
KSRS	**Korea Array**	**59.25**	**61**	LR	LR	22 53 11.4	
	comp=Z,415nm,18.8s,baz=65,slow=38						
WRA	**Warramunga Arr**	**87.40**	**114**	P	**P**	**22 28 24.8**	**0.0**
	comp=Z,0.6nm,0.7s,baz=310,slow=4.3,SNR=4.6						

IDC 12 22:19:01.5±48.0, 15°.73S×174°.79W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.7/32, mbtmp4.3/3, Error ellipse: s-maj=906.8km s-min=177.2km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.71**	**240**	P	P	22 27 00.7	+0.1
	1.9nm,0.6s,baz=80,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**48.47**	**257**	P	P	22 27 46.0	-0.4
	1.1nm,0.7s,baz=93,slow=7.5,SNR=9.7						
ASAR	**Alice Springs**	**48.74**	**252**	P	P	22 27 48.4	0.0
	8.9nm,0.6s,baz=88,slow=8.1,SNR=102						

*TIF **12** 22:19:07.5, 41°.21N×43°.59E, h13km*
*ISCJB **12** 22:19:08.6±0.6, 41°.22N±0°.03×43°.61E±0°.03, h8km±3km, Error ellipse: s-maj=5.9km s-min=4.1km az=0.2*
*DDA **12** 22:19:08.2, 41°.21N×43°.57E, h7km±1km, ML2.6*
ISC 12 22:19:08.0±0.9, 41°.21N±0°.03×43°.58E±0°.03, h11km±6km, n17, σ0°33/28, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.06**	**13**	P	**Pg**	**22 19 10.5**	**0.0**
BGD				S	**Sg**	**22 19 11.9**	**-0.4**
AKH	**Akhalkalaki**	**0.21**	**342**	P	**Pg**	**22 19 12.9**	**+0.2**
AKH				S	**Sg**	**22 19 16.0**	**+0.2**
EAK	**Akyaka**	**0.52**	**178**	IAML_P			
	comp=Z,2μm,0.2s						
EAK				*i* P	**Pb**	**22 19 19.2**	**-0.1**
EAK				*i* S	**Sb**	**22 19 26.7**	**-0.3**
KZRT	**Kazreti**	**0.64**	**74**	P	**Pg**	**22 19 20.7**	**+0.2**
KZRT				S	**Sg**	**22 19 29.2**	**+0.2**
EPOS	**Posof**	**0.71**	**295**	*i* P	**Pb**	**22 19 22.4**	**-0.1**
EPOS				*i* S	**Sb**	**22 19 32.9**	**+0.6**
DIGO	**Kars**	**0.81**	**191**	IAML_P			
	comp=Z,1μm,0.1s						
DIGO				*i* P	**Pb**	**22 19 24.1**	**-0.2**
TBLG	**Delisi**	**1.01**	**59**	P	**Pb**	**22 19 27.7**	**0.0**
TBLG				S	**Sb**	**22 19 41.3**	**+0.3**
TBLG	**Delisi**	**1.01**	**59**	IAML_P			
	comp=Z,811nm,0.1s						
TBLG				*i* P	**Pn**	**22 19 28.3**	**+0.1**
TBLG				*i* S	**Sn**	**22 19 41.8**	**-0.7**
BTNK	**Botanikuri**	**1.03**	**62**	P	**Pg**	**22 19 27.5**	**-0.4**
BTNK				S	**Sb**	**22 19 41.7**	**+0.2**
TKB	**Tkibuli**	**1.22**	**339**	P	**Pg**	**22 19 31.2**	**-0.4**
TKB				S	**Sn**	**22 19 47.6**	**-0.1**
DAGI	**Agillar**	**1.27**	**265**	IAML_P			
	comp=Z,153nm,0.1s						
DAGI				*i* P	**Pg**	**22 19 32.6**	**+0.2**
ONI	**Oni**	**1.38**	**356**	P	**Pg**	**22 19 34.1**	**-0.5**
DDEM	**Demirkent**	**1.42**	**258**	IAML_P			
	comp=Z,478nm,0.2s						
DDEM				*i* P	**Pg**	**22 19 35.3**	**-0.1**
DDEM				*i* S	**Sg**	**22 19 53.9**	**+0.2**
GUDG	**Gudauri**	**1.42**	**28**	P	**Pg**	**22 19 35.3**	**0.0**
DBAD	**Bademkaya**	**1.44**	**263**	IAML_P			
	comp=Z,483nm,0.1s						
DBAD				*i* P	**Pg**	**22 19 35.8**	**+0.1**
BATM	**Batumi**	**1.47**	**286**	P	**Pg**	**22 19 35.8**	**-0.5**
BATM				S	**Sg**	**22 19 55.4**	**-0.1**
DDFL	**Dedoflistskaro**	**1.93**	**82**	P	**Pn**	**22 19 41.3**	**+0.5**

IDC 12 22:22:24.0±1.7, 6°.97S×122°.87E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.4/50, mbtmp3.5/4, ML3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/29, Error ellipse: s-maj=145.3km s-min=26.3km az=62.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.39**	**167**	Pn	Pn	22 25 08.5	+0.5
	0.4nm,0.3s,baz=345,slow=7.0,SNR=17						
FITZ				Sn	Sn	22 26 59.8	-16
	0.4nm,0.3s,baz=192,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**17.04**	**140**	P	P	22 26 25.0	-0.8
	0.1nm,0.3s,baz=312,slow=13,SNR=6.8						
WRA				S	Sn	22 29 25.6	-8.4
	0.1nm,0.3s,baz=318,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**19.70**	**149**	P	P	22 26 54.2	-0.8
	0.1nm,0.3s,baz=334,slow=14,SNR=7.0						
DZM	**Mont Dzumac**	**44.59**	**114**	LR	LR	22 50 24.4	
	comp=Z,122nm,21.1s,baz=224,slow=38						
MKAR	**Makanchi Array**	**64.50**	**330**	P	P	22 33 02.7	0.0
	0.2nm,0.4s,baz=136,slow=8.2,SNR=4.6						

*IDC **12** 22:26:09.5±1.8, 28°.71N×51°.77E, h0km, mb3.8/3, mb1 3.6/5, mb1mx3.2/42, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=43.9km s-min=31.6km az=53.0*
*ISCJB **12** 22:26:12.1±0.8, 28°.34N±0°.06×51°.51E±0°.07, h24km, mb3.9/3, Error ellipse: s-maj=9.2km s-min=8.7km az=157.5*
*TEH **12** 22:26:14.3, 28°.49N×51°.68E, h21km, ML3.4*
ISC 12 22:26:13.7±1.0, 28°.42N±0°.08×51°.57E±0°.07, h24km, n20, σ1°17/21, mb3.7/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**1.38**	**10**	*e*Pg	**Pn**	**22 26 38.1**	**+0.3**
IKAZ				IAMB	IAmb	22 27 00.6	
	comp=Z,8μm,0.3s						
SHI	**Shiraz**	**1.47**	**34**	*e*Pg	**Pn**	**22 26 39.8**	**+0.8**
SHI				*e*Sg	**Sn**	**22 26 58.3**	**+0.7**
SHI				IAMB	IAmb	22 27 02.3	
	comp=Z,4μ

```
SJCC                          eS      Sn     22 28 28.9 -5.0
SJCC                          i              22 28 35.1
      comp=N,53nm,0.5s
YOTC  Yotoco, Valle     4.24 229  eP      Pn     22 27 56.5 -0.9
SMRC  Santa Marta, M    4.48 346  eP      Pn     22 27 59.1 -1.3
SMRC                          eS      Sn     22 28 46.2 -6.0
SMRC                          i              22 28 51.5
      comp=E,35nm,0.3s
```

DSN ***12*** *22:30:07.0₀3.4, 26°.63N×58°.25E, h10km, ML4.0/10, Error ellipse: s-maj=48.1km s-min=14.8km az=8.0*
IDC ***12*** *22:30:09.9₀1.0, 26°.53N×57°.71E, h0km, mb3.7/13, mb1 3.8/16, mb1mx3.6/48, mbtmp3.8/16, ML3.6/2, Error ellipse: s-maj=21.1km s-min=17.8km az=171.0*
ISCJB ***12*** *22:30:10.2₀0.3, 26°.57N±0°.03×57°.87E±0°.05, h10km, mb3.6/11, Error ellipse: s-maj=6.2km s-min=3.7km az=4.8*
TEH ***12*** *22:30:12.3, 26°.64N×57°.71E, h13km, ML3.9*
OMAN ***12*** *22:30:12.2₀2.8, 26°.46N×58°.00E, h13km, ml3.8/12, Error ellipse: s-maj=27.0km s-min=18.6km az=76.0*
ISC 12 22:30:11.1±0.6, **26°.56N**±0°.04×**57°.80E**±0°.05, **h10**km, **n62,** σ1§**92**/70, **mb3.7**/11, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.31**	**319**	*ePg*	**Pg**	**22 30 35.5**	**-0.9**
NIAN				IAMB	IAmb	22 30 59.0	
	comp=Z,0.0nm,0.4s						
SHME	**Shamm**	**1.57**	**251**	*eP*	**Pb**	**22 30 40.2**	**-0.1**
	SNR=47						
SHME				S	**Sg**	**22 31 06.4**	**+4.7**
SHME	**Shamm**	**1.57**	**251**	*ePn*	**Pb**	**22 30 40.5**	**+0.2**
BNDS	**Bandar-Abbas**	**1.67**	**300**	*ePg*	**Pn**	**22 30 36.4**	**-4.3**
GENO	**Geno**	**1.67**	**300**	*ePn*	**Pb**	**22 30 41.5**	**-0.6**
GENO				IAMB	IAmb	22 31 10.1	
	comp=Z,0.0nm,0.4s						
MDH	**Madha**	**1.84**	**227**	*eP*	**Pn**	**22 30 41.9**	**-0.9**
	SNR=45						
MDH	**Madha**	**1.84**	**227**	P	**Pn**	**22 30 42.4**	**-0.5**
	SNR=45						
MDH				S	**Sg**	**22 31 11.5**	**+1.0**
MDH	**Madha**	**1.84**	**227**	*ePn*	**Pn**	**22 30 42.4**	**-0.5**
MSFE	**Esma-Masafi**	**1.90**	**231**	*eP*	**Pn**	**22 30 43.0**	**-0.6**
	SNR=10.0						
MSFE	**Esma-Masafi**	**1.90**	**231**	*ePn*	**Pn**	**22 30 43.0**	**-0.6**
UMQ	**Umm Al-Quwin**	**2.18**	**242**	*eP*	**Pn**	**22 30 49.1**	**+1.6**
	SNR=6.3						
UMQ	**Umm Al-Quwin**	**2.18**	**242**	*ePn*	**Pb**	**22 30 50.7**	**0.0**
HATD	**Hatta, Dubai**	**2.29**	**221**	*eP*	**Pn**	**22 30 48.1**	**-1.0**
	SNR=17						
HATD	**Hatta, Dubai**	**2.29**	**221**	*ePn*	**Pn**	**22 30 48.6**	**-0.4**
ASHO	**Ashiyiah**	**2.44**	**220**	*eP*	**Pn**	**22 30 50.6**	**-0.5**
	SNR=25						
ASHO	**Ashiyiah**	**2.44**	**220**	P	**Pn**	**22 30 51.0**	**-0.1**
	SNR=24						
ASHO	**Ashiyiah**	**2.44**	**220**	*ePn*	**Pn**	**22 30 51.0**	**-0.1**
NAZ	**Nazwa, Dubai**	**2.48**	**231**	*eP*	**Pn**	**22 30 54.1**	**+2.5**
	SNR=7.2						
NAZ	**Nazwa, Dubai**	**2.48**	**231**	*ePn*	**Pb**	**22 30 55.2**	**-0.6**
CHBR	**Chabahar**	**2.60**	**111**	*ePn*	**Pn**	**22 30 51.9**	**-1.4**
SOHO	**SOHO**	**2.67**	**206**	P	**Pn**	**22 30 53.4**	**-0.9**
	SNR=152						
SOHO				S	**Sn**	**22 31 24.7**	**-2.0**
FAQ	**Al Faqa, Dubai**	**2.69**	**228**	*i P*	**Pn**	**22 30 56.5**	**+2.1**
	SNR=41						
FAQ	**Al Faqa, Dubai**	**2.69**	**228**	P	**Pn**	**22 30 57.2**	**+2.7**
	SNR=6.8						
FAQ	**Al Faqa, Dubai**	**2.69**	**228**	*ePn*	**Pn**	**22 30 57.0**	**+2.5**
ASUD	**Al Ashush, Dub**	**2.95**	**230**	*i P*	**Pn**	**22 31 00.2**	**+2.2**
	SNR=30						
ASUD	**Al Ashush, Dub**	**2.95**	**230**	P	**Pn**	**22 31 01.0**	**+3.0**
	SNR=30						
ASUD	**Al Ashush, Dub**	**2.95**	**230**	*ePn*	**Pn**	**22 31 01.0**	**+3.0**
HOQ	**Hoqain**	**3.00**	**189**	P	**Pn**	**22 30 58.6**	**-0.1**
HOQ				S	**Sn**	**22 31 33.4**	**-1.4**
HOQ	**Hoqain**	**3.00**	**189**	*ePn*	**Pn**	**22 30 58.7**	**-0.1**
BIDO	**Bidbid**	**3.04**	**174**	*ePn*	**Pn**	**22 30 59.3**	**-0.1**
ALNE	**Al Ain**	**3.11**	**217**	*i P*	**Pn**	**22 31 01.5**	**+1.3**
	SNR=37						
ALNE	**Al Ain**	**3.11**	**217**	*ePn*	**Pn**	**22 31 02.7**	**+2.4**
NGRK	**Negar Kerman**	**3.21**	**343**	*ePn*	**Pn**	**22 31 02.6**	**+0.6**
NGRK				IAMB	IAmb	22 31 51.6	
	comp=Z,0.0nm,0.7s						
AJN	**Ajban**	**3.23**	**232**	*ePn*	**Pn**	**22 31 04.5**	**+2.6**
CHMN	**Cheshme madani**	**3.29**	**356**	*ePn*	**Pn**	**22 31 05.4**	**+2.3**
CHMN				IAMB	IAmb	22 32 05.7	
	comp=N,0.0nm,0.8s						
WSAR	**Wadi Sarin**	**3.40**	**167**	Pn	**Pn**	**22 31 04.6**	**+0.4**
	comp=N,9.7nm,0.3s,baz=296,slow=2.8,SNR=20						
WSAR				Sn	**Sn**	**22 31 42.8**	**-1.8**
	comp=N,37nm,0.3s,baz=234,slow=20,SNR=18						
ARQ	**Araqi**	**3.41**	**200**	P	**Pn**	**22 31 07.2**	**+2.7**
	SNR=11						
ARQ				S	**Sn**	**22 31 49.4**	**+4.3**
TVBK	**TV Kerman**	**3.53**	**345**	IAMB	IAmb	22 31 19.0	
	comp=Z,0.0nm,0.3s						
TVBK				*ePn*	**Pn**	**22 31 07.7**	**+1.3**
BSY	**Bisya**	**3.84**	**188**	P	**Pn**	**22 31 12.9**	**+2.5**
	SNR=16						
BSY				S	**Sn**	**22 31 59.7**	**+4.1**
KHGB	**Koh Gabri**	**3.97**	**343**	*ePn*	**Pn**	**22 31 13.4**	**+1.0**
KHGB				IAMB	IAmb	22 31 27.6	
	comp=Z,0.0nm,0.5s						
SZD1	**Zahaedan-tmp**	**3.98**	**42**	*ePn*	**Pn**	**22 31 15.4**	**+3.0**
ZHSF	**Zahedan**	**4.02**	**40**	*ePn*	**Pn**	**22 31 12.3**	**-0.6**
GHIR	**Ghir-Karzin**	**4.61**	**293**	*ePn*	**Pn**	**22 31 16.5**	**-4.5**
JLN	**Jalan Bani Buh**	**4.63**	**161**	P	**Pn**	**22 31 20.6**	**-0.6**
JLN				S	**Sn**	**22 32 11.3**	**-3.8**
	SNR=6.2						
IPIR	**Pirpir**	**8.56**	**317**	*ePn*	**Pn**	**22 32 14.2**	**-1.2**
KHMZ	**Khomeyn**	**9.85**	**318**	*ePn*	**Pn**	**22 32 30.0**	**-3.1**
GNI	**Garni**	**17.37**	**325**	P	**P**	**22 34 14.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=0.0,slow=20,SNR=2.6						
ASF	**Jabal al Asfar**	**19.04**	**292**	P	**Pn**	**22 34 34.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=307,slow=5.1,SNR=2.4						
EIL	**Elat**	**20.38**	**284**	P	**P**	**22 34 48.7**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=353,slow=8.1,SNR=2.7						
MMAI	**Mount Meron Ar**	**20.45**	**294**	P	**P**	**22 34 49.7**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=93,slow=13,SNR=5.2						
AAK	**Ala-Archa**	**21.06**	**36**	P	**P**	**22 34 56.2**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=210,slow=8.1,SNR=3.6						
AKTO	**Aktyubinsk**	**23.84**	**0**	P	**P**	**22 35 24.8**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=190,slow=6.0,SNR=8.0						
BRTR	**Keskin Array B**	**24.02**	**309**	P	**P**	**22 35 26.1**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=125,slow=11,SNR=17						
BVAR	**Borovoye Array**	**28.06**	**16**	P	**P**	**22 36 03.0**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=198,slow=14,SNR=4.6						
KURBB	**Kurchatov Arra**	**28.79**	**28**	P	**P**	**22 36 10.9**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=226,slow=8.7,SNR=6.6						
AKASG	**Malin Array Be**	**32.49**	**326**	P	**P**	**22 36 40.8**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=131,slow=8.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**33.86**	**29**	P	**P**	**22 36 54.2**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=241,slow=11,SNR=5.6						
FINES	**FINESS Array B**	**40.88**	**337**	P	**P**	**22 37 53.6**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=131,slow=8.6,SNR=5.4						
CLL	**Collm**	**41.82**	**318**	*eP*	**P**	**22 38 01.0**	**0.0**
ESDC	**Sonseca Array**	**52.42**	**301**	P	**P**	**22 39 23.4**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=71,slow=7.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**54.05**	**267**	P	**P**	**22 39 34.7**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=50,slow=7.8,SNR=8.8						
WRA	**Warramunga Arr**	**87.41**	**114**	P	**P**	**22 42 60.0**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=306,slow=4.5,SNR=2.9						

DSN ***12*** *22:34:39.7₀3.9, 26°.56N×58°.18E, h10km, ML3.9/9, Error ellipse: s-maj=52.4km s-min=14.6km az=12.0*
IDC ***12*** *22:34:41.3₀1.3, 26°.51N×57°.59E, h0km, mb3.6/14, mb1 3.7/15, mb1mx3.6/58, mbtmp3.7/15, ML3.8/2, MS3.8/2, Ms1 3.8/2, ms1mx2.8/45, Error ellipse: s-maj=25.4km s-min=17.2km az=154.0*
ISCJB ***12*** *22:34:42.0₀0.4, 26°.55N±0°.03×57°.77E±0°.04, h10km, mb3.5/12, MS3.7/2, Error ellipse: s-maj=5.5km s-min=4.7km az=175.9*
TEH ***12*** *22:34:45.4, 26°.75N×57°.71E, h16km, ML3.9*
ISC 12 22:34:43.4±0.7, **26°.60N**±0°.05×**57°.79E**±0°.06, **h10**km, **n60,** σ1§**87**/59, **mb3.6**/18, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.28**	**318**	IAMB	IAmb	22 35 30.8	
	comp=Z,0.0nm,0.5s						
NIAN				*ePg*	**Pn**	**22 35 07.4**	**+0.1**
SHME	**Shamm**	**1.58**	**250**	*eP*	**Pn**	**22 35 11.9**	**+0.4**
	SNR=17						
SHME				S	**Sg**	**22 35 37.1**	**+2.8**
SHME	**Shamm**	**1.58**	**250**	*ePn*	**Pb**	**22 35 14.2**	**+1.5**
BNDS	**Bandar-Abbas**	**1.65**	**299**	*ePn*	Pn	22 35 07.9	-4.7
GENO	**Geno**	**1.65**	**299**	*ePn*	**Pn**	**22 35 11.9**	**-0.7**
GENO				*eSg*	**Sg**	**22 35 37.4**	**+1.0**
GENO				IAMB	IAmb	22 35 45.8	
	comp=Z,0.0nm,0.4s						
MDH	**Madha**	**1.87**	**226**	*eP*	**Pn**	**22 35 13.5**	**-1.9**
	SNR=18						
MDH	**Madha**	**1.87**	**226**	*ePn*	**Pn**	**22 35 16.3**	**+0.8**
MSFE	**Esma-Masafi**	**1.92**	**230**	*eP*	**Pn**	**22 35 14.6**	**-1.6**
	SNR=8.0						
MSFE	**Esma-Masafi**	**1.92**	**230**	*ePn*	**Pn**	**22 35 18.2**	**+2.0**
UMQ	**Umm Al-Quwin**	**2.19**	**241**	*ePn*	**Pb**	**22 35 26.0**	**+2.8**
HATD	**Hatta, Dubai**	**2.32**	**221**	P	**Pn**	**22 35 20.2**	**-1.5**
HATD	**Hatta, Dubai**	**2.32**	**221**	*ePn*	**Pn**	**22 35 24.8**	**+3.1**
ASHO	**Ashiyiah**	**2.47**	**220**	P	**Pn**	**22 35 22.6**	**-1.2**
ASHO	**Ashiyiah**	**2.47**	**220**	*ePn*	**Pb**	**22 35 28.9**	**+1.0**
NAZ	**Nazwa, Dubai**	**2.50**	**230**	*eP*	**Pn**	**22 35 25.6**	**+1.4**
	SNR=8.1						
NAZ	**Nazwa, Dubai**	**2.50**	**230**	*ePn*	**Pn**	**22 35 28.5**	**+4.3**
CHBR	**Chabahar**	**2.62**	**112**	*ePn*	Pn	22 35 24.6	-1.2
FAQ	**Al Faqa, Dubai**	**2.71**	**227**	P	**Pn**	**22 35 26.8**	**-0.3**
ASUD	**Al Ashush, Dub**	**2.97**	**229**	P	**Pn**	**22 35 32.0**	**+1.4**
ASUD	**Al Ashush, Dub**	**2.97**	**229**	*ePn*	**Pb**	**22 35 38.4**	**+2.0**
ALNE	**Al Ain**	**3.14**	**216**	*i P*	**Pn**	**22 35 32.4**	**-0.5**
	SNR=6.2						
ALNE	**Al Ain**	**3.14**	**216**	*ePn*	**Pn**	**22 35 37.2**	**+4.3**
NGRK	**Negar Kerman**	**3.17**	**343**	*ePn*	**Pn**	**22 35 34.6**	**+0.9**
NGRK				IAMB	IAmb	22 36 29.8	
	comp=Z,0.0nm,0.7s						
AJN	**Ajban**	**3.25**	**232**	*ePn*	**Pb**	**22 35 41.3**	**+0.2**
CHMN	**Cheshme madani**	**3.25**	**356**	*ePn*	**Pn**	**22 35 35.7**	**+0.9**
CHMN				IAMB	IAmb	22 36 32.9	
	comp=Z,0.0nm,0.7s						
WSAR	**Wadi Sarin**	**3.44**	**167**	Pn	Pn	22 35 36.2	-0.8
	comp=Z,21nm,0.3s,baz=357,slow=13,SNR=23						
WSAR				Sn	**Sn**	**22 36 15.6**	**-2.3**
	comp=Z,16nm,0.3s,baz=267,slow=21,SNR=7.7						
TVBK	**TV Kerman**	**3.49**	**345**	*ePn*	**Pn**	**22 35 40.4**	**+2.3**
TVBK				IAMB	IAmb	22 36 59.8	
	comp=Z,0.0nm,1.2s						
KHGB	**Koh Gabri**	**3.93**	**343**	*ePn*	**Pn**	**22 35 46.6**	**+2.6**
KHGB				IAMB	IAmb	22 35 58.8	
	comp=Z,0.0nm,0.5s						
SZD1	**Zahaedan-tmp**	**3.95**	**43**	*ePn*	**Pn**	**22 35 46.1**	**+1.8**
ZHSF	**Zahedan**	**3.99**	**41**	*ePn*	**Pn**	**22 35 45.9**	**+1.1**
GHIR	**Ghir-Karzin**	**4.58**	**293**	*ePn*	**Pn**	**22 35 48.5**	**-4.4**
IMEH	**Mehriz**	**5.52**	**330**	*ePn*	**Pn**	**22 36 07.2**	**+1.3**
IKOO	**Kooshah**	**5.89**	**10**	*ePn*	**Pn**	**22 36 12.1**	**+1.0**
IKAZ	**Kazeroun**	**6.13**	**302**	*ePn*	**Pn**	**22 36 13.2**	**-1.2**
ITEG	**Tejag**	**6.33**	**7**	*ePn*	**Pn**	**22 36 19.6**	**+2.7**
IRAM	**Ramesheh**	**7.02**	**319**	*ePn*	**Pn**	**22 36 27.0**	**+0.6**
KHMZ	**Khomeyn**	**9.82**	**318**	*ePn*	**Pn**	**22 37 02.5**	**-2.4**
GEYT	**Alibeck**	**11.30**	**1**	Pn	**Pn**	**22 37 27.1**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=175,slow=7.0,SNR=4.1						
EIL	**Elat**	**20.37**	**284**	P	**P**	**22 39 18.9**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=63,slow=16,SNR=2.7						
MMAI	**Mount Meron Ar**	**20.43**	**294**	P	**P**	**22 39 20.1**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=96,slow=12,SNR=3.5						
AAK	**Ala-Archa**	**21.03**	**36**	P	**P**	**22 39 29.1**	**+1.7**
	comp=Z,2.0nm,0.8s,baz=254,slow=10,SNR=6.6						
AKTO	**Aktyubinsk**	**23.80**	**0**	P	**P**	**22 39 56.1**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=166,slow=13,SNR=6.0						
BRTR	**Keskin Array B**	**23.99**	**309**	P	**P**	**22 39 57.5**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=127,slow=11,SNR=11						
MKAR	**Makanchi Array**	**27.95**	**37**	P	**P**	**22 40 35.2**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=231,slow=7.3,SNR=3.1						
BVAR	**Borovoye Array**	**28.02**	**16**	P	**P**	**22 40 35.8**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=190,slow=7.3,SNR=3.1						
BVAR				LR	LR	22 53 56.6	
	comp=Z,44nm,19.6s,baz=162,slow=41						
KURBB	**Kurchatov Arra**	**28.75**	**28**	P	**P**	**22 40 41.5**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=226,slow=8.2,SNR=5.6						
AKASG	**Malin Array Be**	**32.46**	**325**	P	**P**	**22 41 11.9**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=125,slow=7.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**33.83**	**29**	P	**P**	**22 41 26.2**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=243,slow=9.3,SNR=6.0						
GERES	**GERESS Array B**	**40.60**	**315**	P	**P**	**22 42 21.6**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=106,slow=9.8,SNR=4.9						
FINES	**FINESS Array B**	**40.83**	**337**	P	**P**	**22 42 25.2**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=129,slow=10,SNR=8.0						
WTTA	**Wattenberg**	**41.53**	**312**	*epP*	**P**	**22 42 33.4**	**+2.2**
	comp=Z,1.6nm,0.5s						
WATA	**Walderalm**	**41.59**	**312**	*epP*	**P**	**22 42 33.1**	**+1.6**
	comp=Z,3.3nm,0.8s						
CLL	**Collm**	**41.79**	**318**	*epP*	**P**	**22 42 35.0**	**+2.0**
SQTA	**Sankt Quirin**	**41.81**	**312**	*pP*	**P**	**22 42 34.4**	**+1.0**
	comp=Z,2.1nm,0.5s						
MOTA	**Moosalm**	**41.91**	**312**	*epP*	**P**	**22 42 33.9**	**-0.3**
	comp=Z,4.1nm,1.1s						
FETA	**Feichten**	**42.09**	**312**	*pP*	**P**	**22 42 36.9**	**+1.3**
	comp=Z,5.7nm,1.1s						
DAVA	**Damuels**	**42.71**	**312**	*epP*	**P**	**22 42 42.0**	**+1.2**
	comp=Z,2.8nm,0.5s						
ESDC	**Sonseca Array**	**52.39**	**301**	P	**P**	**22 43 54.2**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=63,slow=6.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**54.04**	**267**	P	**P**	**22 44 06.0**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=73,slow=6.6,SNR=3.1						
KSRS	**Korea Array**	**59.21**	**61**	LR	LR	23 13 15.5	
	comp=Z,313nm,21.6s,baz=122,slow=39						

DSN ***12*** *22:40:22.6₀3.2, 30°.03N×51°.91E, h10km, ML4.8/10, Error ellipse: s-maj=34.6km s-min=27.5km az=133.0*
MOS ***12*** *22:40:29.9₀1.0, 29°.46N×52°.66E, h15km, mb4.6/55, Error ellipse: s-maj=7.2km s-min=3.9km az=115.2*
IDC ***12*** *22:40:29.4₀0.7, 29°.45N×52°.59E, h0km, mb4.5/26, mb1 4.5/35, mb1mx4.3/63, mbtmp4.4/35, ML3.8/8, MS3.4/3, Ms1 3.4/3, ms1mx2.9/38, Error ellipse: s-maj=14.8km s-min=11.6km az=170.0*
TEH ***12*** *22:40:31.7, 29°.55N×52°.70E, h10km, ML4.4*
NEIC ***12*** *22:40:33.4₀0.0, 29°.58N×52°.73E, h14km, mb4.4/33, ML4.5(THR), After THR.*
NEIC Felt [IV] at Shiraz.
OMAN ***12*** *22:40:34.0₀1.1, 29°.39N×52°.67E, h10km, mb4.8/1, ml4.6/4, ms3.9/1, Error ellipse: s-maj=36.4km s-min=9.2km az=60.0*
GII ***12*** *22:40:37.0₀0.0, 29°.55N×52°.67E, h1km±7km*
ISC 12 22:40:31.1±0.7, **29°.55N**±0°.03×**52°.68E**±0°.03, **h9**km±4km, **n307,** σ1§**47**/332, **mb4.5**/85, **20C-11D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.17**	**301**	*ePg*	**Pg**	**22 40 35.3**	**+0.5**
SHI				*eSg*	**Sg**	**22 40 36.6**	**-0.7**
SHI				IAMB	IAmb	22 40 39.5	
	comp=Z,3988μm,0.2s						
ISRV	**Sarvestan**	**0.42**	**114**	*ePg*	**Pg**	**22 40 39.8**	**+0.4**
ISRV				*eSg*	**Sb**	**22 40 46.3**	**-1.1**
ISRV				IAMB	IAmb	22 40 49.9	
	comp=Z,44μm,0.2s						
IKAZ	**Kazeroun**	**0.76**	**287**	*ePg*	**Pb**	**22 40 46.7**	**-0.1**
IKAZ				IAMB	IAmb	22 41 07.1	
	comp=Z,94μm,0.5s						
GHIR	**Ghir-Karzin**	**1.29**	**168**	*ePg*	**Pg**	**22 40 57.6**	**+1.7**
JHRM	**Jahrom**	**1.31**	**143**	*ePg*	**Pg**	**22 40 57.4**	**+1.2**
JHRM				IAMB	IAmb	22 41 29.6	
	comp=Z,0.0nm,0.8s						
IRAM	**Ramesheh**	**2.26**	**354**	*ePn*	**Pb**	**22 41 11.6**	**-0.7**
IRAM				IAMB	IAmb	22 41 50.5	
	comp=Z,22μm,0.5s						
IMEH	**Mehriz**	**2.48**	**42**	*ePn*	**Pb**	**22 41 14.9**	**-1.1**
IMEH				IAMB	IAmb	22 41 54.8	
	comp=Z,9μm,0.6s						
ISAD	**Sadrabad**	**2.51**	**20**	*ePn*	**Pb**	**22 41 15.0**	**-1.5**
ISAD				IAMB	IAmb	22 41 57.8	
	comp=Z,22μm,1.0s						
IGAR	**Gharneh**	**2.89**	**349**	*ePn*	**Pb**	**22 41 20.4**	**-2.7**
IGAR				IAMB	IAmb	22 41 32.8	
	comp=Z,5μm,0.5s						
ICHK	**Chekchek**	**3.07**	**29**	*ePn*	**Pn**	**22 41 22.9**	**+2.9**
ICHK				IAMB	IAmb	22 42 18.0	
	comp=Z,8μm,0.6s						
YZKH	**Yazd**	**3.27**	**30**	*ePn*	**Pn**	**22 41 25.9**	**+3.2**
IZEF	**Zefreh**	**3.34**	**355**	*ePn*	**Pn**	**22 41 26.0**	**+2.1**
IZEF				IAMB	IAmb	22 41 43.1	
	comp=Z,3μm,0.6s						
KHGB	**Koh Gabri**	**3.40**	**75**	*ePn*	**Pn**	**22 41 26.5**	**+1.9**
IPIR	**Pirpir**	**3.48**	**334**	*ePn*	**Pn**	**22 41 27.9**	**+2.2**
IPIR				IAMB	IAmb	22 42 12.7	
	comp=Z,11μm,0.8s						
NGRK	**Negar Kerman**	**3.53**	**88**	*ePn*	**Pn**	**22 41 28.9**	**+2.4**
TVBK	**TV Kerman**	**3.58**	**82**	*ePn*	**Pn**	**22 41 29.3**	**+2.2**
ANAR	**Anarak**	**3.73**	**14**	*ePn*	**Pn**	**22 41 31.4**	**+2.3**
GENO	**Geno**	**3.75**	**124**	*ePn*	**Pn**	**22 41 30.4**	**+1.0**
IKLH	**Kolahrood**	**3.87**	**346**	*ePn*	**Pn**	**22 41 32.9**	**+1.8**
IKLH				IAMB	IAmb	22 42 59.0	
	comp=Z,4μm,0.8s						
NIAN	**Nian**	**4.16**	**118**	*ePn*	**Pn**	**22 41 36.2**	**+1.3**
CHMN	**Cheshme madani**	**4.24**	**85**	*ePn*	**Pn**	**22 41 38.3**	**+2.0**
SHME	**Shamm**	**4.65**	**138**	P	**Pn**	**22 41 44.1**	**+2.6**
SHME	**Shamm**	**4.65**	**138**	*ePn*	**Pn**	**22 41 42.8**	**+1.2**
ISFB	**Sefidab**	**4.80**	**356**	*ePn*	**Pn**	**22 41 44.8**	**+1.1**
UMQ	**Umm Al-Quwin**	**4.81**	**146**	P	**Pn**	**22 41 47.2**	**+3.5**
UMQ	**Umm Al-Quwin**	**4.81**	**146**	*ePn*	**Pn**	**22 41 44.1**	**+0.4**
TPRV	**Parvadeh(Tabas**	**4.87**	**44**	*ePn*	**Pn**	**22 41 47.2**	**+2.5**
MSFE	**Esma-Masafi**	**5.20**	**143**	*i P*	**Pn**	**22 41 50.8**	**+1.6**
	SNR=37						
MSFE	**Esma-Masafi**	**5.20**	**143**	*ePn*	**Pn**	**22 41 50.9**	**+1.8**
NAZ	**Nazwa, Dubai**	**5.27**	**149**	*i P*	**Pn**	**22 41 52.0**	**+1.9**
	SNR=13						
NAZ	**Nazwa, Dubai**	**5.27**	**149**	P	**Pn**	**22 41 52.4**	**+2.4**
	SNR=12						
NAZ	**Nazwa, Dubai**	**5.27**	**149**	*ePn*	**Pn**	**22 41 52.4**	**+2.4**
MDH	**Madha**	**5.32**	**142**	*i P*	**Pn**	**22 41 52.0**	**+1.3**
	SNR=41						
MDH	**Madha**	**5.32**	**142**	P	**Pn**	**22 41 52.1**	**+1.3**
	SNR=15						
MDH				S	**Sn**	**22 42 51.9**	**-0.3**
MDH	**Madha**	**5.32**	**142**	*ePn*	**Pn**	**22 41 52.2**	**+1.4**
AJN	**Ajban**	**5.38**	**157**	*ePn*	**Pn**	**22 41 53.5**	**+1.9**
IKMR	**Kamar-syah**	**5.39**	**318**	*ePn*	**Pn**	**22 41 53.0**	**+1.3**
ASUD	**Al Ashush, Dub**	**5.45**	**154**	*i P*	**Pn**	**22 41 54.4**	**+1.9**
	SNR=57						
ASUD	**Al Ashush, Dub**	**5.45**	**154**	*ePn*	**Pn**	**22 41 54.6**	**+2.1**
FAQ	**Al Faqa, Dubai**	**5.45**	**151**	*i P*	**Pn**	**22 41 54.0**	**+1.5**
	SNR=9.0						
FAQ	**Al Faqa, Dubai**	**5.45**	**151**	*ePn*	**Pn**	**22 41 54.1**	**+1.5**
TKDS	**Koohdasht(Taba**	**5.54**	**42**	*ePn*	**Pn**	**22 41 56.5**	**+2.5**
TABS	**Tabas**	**5.57**	**42**	*ePn*	**Pn**	**22 41 57.3**	**+3.0**
HATD	**Hatta, Dubai**	**5.62**	**146**	*i P*	**Pn**	**22 41 56.9**	**+1.9**
	SNR=21						
HATD	**Hatta, Dubai**	**5.62**	**146**	P	**Pn**	**22 41 56.9**	**+1.9**
	SNR=6.1						
HATD				S	**Sn**	**22 43 00.2**	**+0.4**
HATD	**Hatta, Dubai**	**5.62**	**146**	*ePn*	**Pn**	**22 41 56.6**	**+1.6**
IDOB	**Doab**	**5.70**	**319**	*ePn*	**Pn**	**22 41 57.1**	**+0.9**
ASHO	**Ashiyiah**	**5.71**	**147**	*i P*	**Pn**	**22 41 57.5**	**+1.3**
	SNR=35						
ASHO	**Ashiyiah**	**5.71**	**147**	P	**Pn**	**22 41 57.3**	**+1.2**
	SNR=5.6						
ASHO				S	**Sn**	**22 43 00.6**	**-1.3**
ASHO	**Ashiyiah**	**5.71**	**147**	*ePn*	**Pn**	**22 41 57.7**	**+1.5**
IHSB	**Hasanabad**	**5.99**	**349**	*ePn*	**Pn**	**22 42 01.0**	**+1.0**
IDMV	**Damavand**	**6.03**

comp=Z,11nm,0.8s
ARSB Arslanbob 20.23 49 *e*P **P 22 45 06.3 -0.5**
ARSB *e*Pn Pn 22 45 07.8 -0.9
comp=Z,0.6nm,0.4s,baz=211,slow=1.8,SNR=4.2
ABKAR Akbulak array 20.44 14 *e*P **P 22 45 09.3 +0.6**
AKTO Aktyubinsk 21.24 9 P **P 22 45 18.3 +0.9**
comp=Z,6.5nm,0.8s,baz=205,slow=12,SNR=13
AKTO LR LR 22 54 42.6
comp=Z,80nm,21.1s,baz=172,slow=40
SIM Simferopol' 21.24 321 *e*P **P 22 45 20.4 +3.0**
SIM pmax pmax
comp=Z,12nm,0.8s
KSH Kashi 21.56 56 P **P 22 45 18.3 -2.7**
KSH pP pP 22 45 23.7 -0.4
KSH PP **PnPn 22 45 41.7 +0.4**
KSH S S 22 49 08.4 -12
KSH SS **SnSn 22 49 41.2 -2.3**
MANT Manisa 21.84 300 *e*P **P 22 45 26.8 +2.7**
comp=Z,49nm,0.9s
AAK Ala-Archa 21.86 47 *e*P **P 22 45 27.3 +3.0**
comp=Z,15nm,1.0s
AAK Ala-Archa 21.86 47 *i* P **P 22 45 24.8 +0.5**
AAK pmax pmax
comp=Z,10.0nm,1.1s
AAK Ala-Archa 21.86 47 P **P 22 45 27.2 +2.9**
SNR=8.4
AAK P **P 22 45 27.2 +2.9**
SNR=8.4
AAK Ala-Archa 21.86 47 P **P 22 45 25.5 +1.3**
comp=Z,11nm,1.0s,baz=210,slow=11,SNR=9.4
AAK LR LR 22 54 30.7
comp=Z,140nm,19.5s,baz=271,slow=38
NRN Naryn 22.31 52 *e*P **P 22 45 30.5 +1.2**
comp=Z,15nm,1.0s
NRN Naryn 22.31 52 *e*P **P 22 45 30.5 +1.2**
NRN pmax pmax
comp=Z,15nm,1.0s
VRH Novokhopyorsk 23.13 342 *e*P **P 22 45 37.3 -0.1**
VRH pmax pmax
comp=Z,60nm,0.6s
VSR Storozhevoye 23.89 339 *e*P **P 22 45 43.6 -1.3**
VSR pmax pmax
comp=Z,30nm,1.3s
OTUK Ortayu 24.01 34 P **P 22 45 47.7 +1.5**
OTUK pmax pmax
comp=Z,8.0nm,0.9s
IDI Anoyia 24.10 291 P **P 22 45 47.1 -0.1**
comp=Z,16nm,0.9s,baz=101,slow=12,SNR=6.5
MFTR Murfatlar 24.16 314⇑*i*P **P 22 45 48.3 +0.7**
ALN Alexandroupoli 24.43 305 *e*P **P 22 45 50.9 +0.8**
comp=Z,6.0nm,0.9s
ALN Alexandroupoli 24.43 305 *e*P **P 22 45 50.9 +0.8**
ALN pmax pmax
comp=Z,6.0nm,0.9s
TLB Topalu 24.60 314⇑*i*P **P 22 45 51.8 +0.2**
TLB Topalu 24.60 314 P **P 22 45 51.7 +0.2**
CFR Carcaliu 24.84 316⇑*i*P **P 22 45 53.8 +0.1**
CFR Carcaliu 24.84 316 P **P 22 45 54.7 +1.0**
CFR pmax pmax
comp=Z,11nm,0.7s
LPSR Galich'ya Gora 25.16 340 *e*P **P 22 45 56.5 -0.1**
LPSR pmax pmax
comp=Z,30nm,0.8s
LEOM Leova 25.45 318⇑*i*P **P 22 45 59.6 +0.3**
LEOM Leova 25.45 318 P **P 22 45 59.5 +0.3**
SULR 25.77 313⇑*i*P **P 22 46 03.1 +0.9**
PLD Plovdiv 25.78 307 P **P 22 46 03.9 +1.6**
VRI Vrincioaia 26.04 316⇓*i*P **P 22 46 06.0 +1.3**
VRI Vrincioaia 26.04 316 P **P 22 46 06.0 +1.3**
SECR 26.05 314⇑*i*P **P 22 46 06.6 +1.8**
PLOR Plostina 26.08 316⇑*i*P **P 22 46 06.6 +1.5**
PLOR Plostina 26.08 316 P **P 22 46 06.5 +1.5**
SRS Serrai 26.26 304 P **P 22 46 08.4 +1.7**
SRS pmax pmax
comp=Z,9.0nm,1.1s
MLR Muntele Rosu 26.34 315 *e*P **P 22 46 08.4 +0.8**
comp=Z,14nm,0.9s
MLR Muntele Rosu 26.34 315⇓*i*P **P 22 46 09.1 +1.6**
MLR Muntele Rosu 26.34 315 P **P 22 46 08.2 +0.7**
comp=Z,12nm,0.9s,baz=37,slow=1.7,SNR=20
TESR Tescani 26.41 317⇑*i*P **P 22 46 08.7 +0.7**
HUMR Humele 26.52 312⇓*i*P **P 22 46 10.2 +1.2**
PYUN Piuthan 26.56 86 *e*P **P 22 46 10.1 +0.3**
comp=Z,54nm,0.8s
AGG Agios Georgios 26.69 299 *e*P **P 22 46 10.9 +0.3**
comp=Z,15nm,1.3s
AGG Agios Georgios 26.69 299 *e*P **P 22 46 10.9 +0.3**
AGG pmax pmax
comp=Z,15nm,1.3s
ITM Ithomi 26.70 295 *e*P **P 22 46 11.0 +0.2**
comp=Z,34nm,1.3s
BRVK Borovoye 26.81 24 *e*P **P 22 46 12.8 +1.3**
comp=Z,11nm,0.9s
BRVK Borovoye 26.81 24 *i* P **P 22 46 12.1 +0.6**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
BVAR Borovoye Array 26.82 24 P **P 22 46 12.8 +1.2**
comp=Z,14nm,0.7s,baz=217,slow=7.1,SNR=78
BVAR PcP **PcP 22 49 34.1 0.0**
comp=Z,0.6nm,0.4s,baz=211,slow=1.8,SNR=4.2
VOIR 26.87 314⇓*i*P **P 22 46 13.3 +1.0**
VOIR 26.87 314 P **P 22 46 13.6 +1.3**
VOIR pmax pmax
comp=Z,12nm,1.1s
DOPR Dopca 26.91 315⇑*i*P **P 22 46 13.2 +0.7**
BIZ Bicaz 26.95 317⇑*i*P **P 22 46 13.3 +0.4**
VTS Vitosha 26.98 307 *e*P **P 22 46 14.1 +0.7**
comp=Z,3.8nm,1.0s
VTS Vitosha 26.98 307⇑*i*P **P 22 46 14.1 +0.7**
VTS Vitosha 26.98 307 *e*P **P 22 46 14.1 +0.7**
VTS pmax pmax
comp=Z,4.0nm,1.0s
GRG Griva 27.08 303 P **P 22 46 15.8 +1.6**
GRG pmax pmax
comp=Z,10.0nm,1.3s
ARR Arges 27.11 313⇑*i*P **P 22 46 15.4 +1.0**
KOLN Koldanda 27.15 86 *e*P **P 22 46 15.1 0.0**
comp=Z,8.4nm,0.6s
ARU Arti 27.18 7*c i*P **P 22 46 15.5 +0.7**
ARU 22 46 55.4
ARU S **S 22 50 56.7 +3.2**
ARU SS **SnSn 22 52 03.6 +2.9**
ARU pmax pmax
comp=Z,5.0nm,1.5s
DANN Dangsing 27.19 85 *e*P **P 22 46 15.9 +0.4**
comp=Z,42nm,0.8s
AKASG Malin Array Be 27.50 327 *e*P **P 22 46 17.0 -0.7**
comp=Z,2.2nm,1.1s
AKASG PcP **PcP 22 49 34.9 -0.9**
AKASG Malin Array Be 27.50 327 P **P 22 46 17.0 -0.7**
comp=Z,3.8nm,0.8s,baz=131,slow=8.7,SNR=16
AKASG PcP **PcP 22 49 34.9 -0.9**
comp=Z,0.6nm,0.5s,baz=83,slow=2.5,SNR=5.1
AKBB Malin Array Si 27.50 327 *e*P **P 22 46 16.7 -1.0**
AKBB *e*pP **P 22 46 17.1 -0.6**
AKBB Malin Array Si 27.50 327 *e*P **P 22 46 16.7 -1.0**
AKBB *e**PP **P 22 46 17.1 -0.6**
KIEV Kiev 27.50 327 *e*P **P 22 46 17.1 -0.6**
comp=Z,9.4nm,1.0s
KIEV Kiev 27.50 327 *i* P **P 22 46 16.7 -1.0**
KIEV pmax pmax
comp=Z,7.0nm,1.0s
BURAR Bucovina Array 27.82 318 *e*P **P 22 46 21.1 +0.3**
comp=Z,26nm,0.6s
BURAR Bucovina Array 27.82 318⇓*i*P **P 22 46 21.6 +0.9**
BURAR Bucovina Array 27.82 318 *e*P **P 22 46 21.1 +0.3**
BURAR pmax pmax
comp=Z,26nm,0.6s
BUR08 Bucovina Ar. S 27.84 318 *e*P **P 22 46 21.4 +0.4**
comp=Z,2.6nm,0.7s
GKN Gorkha 28.01 85 *e*P **P 22 46 22.5 -0.3**
comp=Z,16nm,0.7s
OBN Obninsk 28.04 340 *e*P **P 22 46 22.9 +0.4**
comp=Z,15nm,0.7s
OBN Obninsk 28.04 340 *i* P **P 22 46 22.7 +0.2**
OBN *e* 22 47 13.9
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,53nm,19.0s
OBN Obninsk 28.04 340 P **P 22 46 22.9 +0.4**
comp=Z,3.9nm,0.4s,baz=124,slow=23,SNR=6.6
MOS Moscow 28.29 342 *e*P **P 22 46 24.6 -0.1**
GZR Gura Zlata 28.30 312⇓*i*P **P 22 46 26.0 +0.9**
DMN Daman 28.50 86 *e*P **P 22 46 27.1 -0.1**
comp=Z,22nm,0.7s

KKN Kakani 28.61 85 *e*P **P 22 46 27.9 -0.3**
comp=Z,19nm,0.5s
KURBB Kurchatov Arra 28.63 35 P **P 22 46 28.7 +0.9**
comp=Z,0.4nm,0.3s,baz=81,slow=32,SNR=6.0
MK31 Makanchi Array 28.71 45 *e*P **P 22 46 29.7 +1.0**
comp=Z,8.2nm,1.3s
MK31 Makanchi Array 28.71 45 *e*P **P 22 46 29.7 +1.0**
MK31 pmax pmax
comp=Z,8.0nm,1.3s
MKAR Makanchi Array 28.71 45 *e*P **P 22 46 29.4 +0.7**
MKAR Makanchi Array 28.71 45 P **P 22 46 29.7 +1.0**
comp=Z,1.8nm,0.8s,baz=229,slow=8.2,SNR=8.5
KURK Kurchatov 28.73 35 *e*P **P 22 46 29.8 +1.1**
comp=Z,5.8nm,1.0s
KURK Kurchatov 28.73 35*c i*P **P 22 46 29.8 +1.1**
KURK pmax pmax
comp=Z,5.0nm,1.0s
PKIN Phulchoki 28.75 86 *e*P **P 22 46 29.3 -0.2**
comp=Z,19nm,0.8s
PKI Pulchoki 28.77 86 *e*P **P 22 46 29.4 -0.3**
comp=Z,26nm,0.8s
MDVR Moldovita 28.77 310⇑*i*P **P 22 46 30.1 +0.9**
DRGR 28.93 315⇑*i*P **P 22 46 31.3 +0.6**
DRGR 28.93 315 P **P 22 46 31.3 +0.6**
KIRV Kirov 29.11 356 P **P 22 46 32.9 +0.9**
comp=Z,11nm,0.7s,baz=73,slow=3.8,SNR=4.3
BZS Buzias 29.14 312⇑*i*P **P 22 46 32.8 +0.4**
BZS Buzias 29.14 312 P **P 22 46 33.4 +1.0**
BZS pmax pmax
comp=Z,7.0nm,1.5s
SIRR Siria 29.37 313⇑*i*P **P 22 46 35.8 +1.3**
TRPA Tarpa 29.64 317⇓*i*P **P 22 46 37.8 +1.0**
TRPA Tarpa 29.64 317 *e*P **P 22 46 36.1 -0.7**
RAMN Ramite 29.93 87 *e*P **P 22 46 39.1 -0.9**
comp=Z,15nm,0.7s
KOLS Kolonicke sedl 30.18 318 *e*P **P 22 46 42.7 +1.1**
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 30.18 318 *e*P **P 22 46 42.7 +1.1**
KWP Kalwaria Pacla 30.27 320 *e*P **P 22 46 43.1 +0.7**
comp=Z,135nm,1.3s
KWP Kalwaria Pacla 30.27 320 *e*P **P 22 46 43.1 +0.7**
PSZ Piszkesteto 31.14 315 *e*P **P 22 46 50.0 -0.2**
WMQ Urumqi 31.23 53 *e*P **P 22 46 53.0 +2.0**
MORH Mrgy, Hungar 31.29 312 *e*P **P 22 46 51.1 -0.4**
VYHS Vyhne 32.03 316 *e*P **P 22 46 58.3 +0.4**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 32.03 316 *e*P **P 22 46 58.3 +0.4**
OJC Ojcow 32.20 319 *e*P **P 22 46 59.5 +0.1**
comp=Z,8.2nm,0.8s
OJC Ojcow 32.20 319 *e*P **P 22 46 59.5 +0.1**
OJC pmax pmax
comp=Z,8.0nm,0.8s
PRGR Permogore 32.42 354 P **P 22 47 00.2 -1.0**
PRGR pmax pmax
comp=Z,5.0nm,0.7s
KLMR Klimovskoe 32.52 348⇑*i*P **P 22 47 01.7 -0.3**
KLMR pmax pmax
comp=Z,11nm,0.8s
JAVC Velka Javorina 32.88 316 *e*P **P 22 47 06.3 +0.9**
MODS Modra-Piesok 32.94 315 *e*P **P 22 47 05.9 0.0**
MODS pmax pmax
comp=Z,11nm,1.2s
MODS Modra-Piesok 32.94 315 *e*P **P 22 47 05.9 0.0**
DGZ Jazzator, Alta 33.07 43 *i* P **P 22 47 08.4 +1.2**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
MORC Moravsky Berou 33.32 317 *e*P **P 22 47 09.5 +0.2**
comp=Z,3.8nm,0.8s
MORC Moravsky Berou 33.32 317⇑*i*P **P 22 47 09.2 -0.1**
MORC Moravsky Berou 33.32 317 *e*P **P 22 47 09.5 +0.2**
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 33.32 317 *e*P **P 22 47 08.2 -1.1**
ARSA Arzberg 33.66 312 *e*P **P 22 47 12.7 +0.4**
comp=Z,1.7nm,0.7s
CONA Conrad Observa 33.66 313 P **P 22 47 12.6 +0.3**
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 33.70 35 P **P 22 47 12.8 +0.3**
comp=Z,8.5nm,0.6s,baz=243,slow=10.0,SNR=36
VRAC Vranov 33.71 316⇓*i*P **P 22 47 13.4 +0.8**
VRAC Vranov 33.71 316 *e*P **P 22 47 12.3 -0.3**
VRAC Vranov 33.71 316 P **P 22 47 13.2 +0.6**
comp=Z,4.0nm,0.7s,baz=101,slow=9.8,SNR=5.9
KRUC Moravsky 33.73 316 *e*P **P 22 47 12.5 -0.3**
VSU Vasula 33.97 336 *i* P **P 22 47 14.4 -0.3**
VSU pmax pmax
comp=Z,33nm,1.0s
DPC Dobruska-Polom 34.27 318 *e*P **P 22 47 17.6 0.0**
DPC Dobruska-Polom 34.27 318 *e*P **P 22 47 17.6 0.0**
TREC Trest 34.37 315 *e*P **P 22 47 19.3 +0.9**
TREC Trest 34.37 315 *e*P **P 22 47 19.3 +0.9**
MOA Molln 34.66 313 *e*P **P 22 47 21.4 +0.6**
comp=Z,6.2nm,0.8s
KBA Koelnbreinsper 35.03 311 P **P 22 47 24.5 +0.2**
comp=Z,2.1nm,0.6s
GERES GERESS Array B 35.33 314 *e*P **P 22 47 26.2 -0.5**
GERES PcP **PcP 22 49 55.6 -1.3**
GERES GERESS Array B 35.33 314 P **P 22 47 26.6 -0.2**
comp=Z,1.0nm,0.6s,baz=112,slow=7.5,SNR=10
GERES PcP **PcP 22 49 55.6 -1.3**
comp=Z,0.5nm,0.6s,baz=134,slow=3.9,SNR=4.8
KHC Kasperske Hory 35.49 314 *e*P **P 22 47 27.7 -0.4**
comp=Z,9.1nm,1.5s
KHC Kasperske Hory 35.49 314 *e*P **P 22 47 27.7 -0.4**
KHC pmax pmax
comp=Z,9.0nm,1.5s
KHC Kasperske Hory 35.49 314 *e*P **P 22 47 28.0 -0.1**
KHC *e*pP **sP 22 47 33.1 +0.5**
ABTA Abfaltersbach 35.50 310 *e*P **P 22 47 27.2 -0.9**
comp=Z,4.3nm,0.8s,SNR=4.2
BRG Berggiesshubel 35.88 317 *e*P P 22 47 39.9 +8.6
comp=Z,3.9nm,1.2s
BRG Berggiesshubel 35.88 317 *e*P P 22 47 39.9 +8.6
BRG pmax pmax
comp=Z,4.0nm,1.2s
WET Wettzell 35.94 314 P **P 22 47 31.5 -0.4**
WTTA Wattenberg 36.20 311 *i* P **P 22 47 34.1 -0.3**
comp=Z,5.1nm,0.6s
WATA Walderalm 36.26 311 *e*P **P 22 47 34.3 -0.5**
comp=Z,2.6nm,0.5s
FIA1 FINESS Array S 36.42 339 *e*P **P 22 47 35.9 +0.2**
comp=Z,18nm,1.0s
FINES FINESS Array B 36.42 339 *i* P **P 22 47 35.7 0.0**
FINES pmax pmax
comp=Z,11nm,0.8s
FINES FINESS Array B 36.42 339 P **P 22 47 35.8 +0.1**
comp=Z,11nm,0.8s,baz=144,slow=10,SNR=47
SQTA Sankt Quirin 36.48 311 *e*P **P 22 47 36.1 -0.5**
comp=Z,5.8nm,0.5s,SNR=11
MOTA Moosalm 36.58 311 *e*P **P 22 47 37.2 -0.4**
comp=Z,6.7nm,0.8s,SNR=7.4
CLL Collm 36.59 318 *e*P **P 22 47 37.5 +0.2**
comp=Z,7.4nm,1.1s
CLL Collm 36.59 318⇓*i*P **P 22 47 37.5 +0.2**
CLL *i* 22 47 41.4
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 36.59 318⇓*i*P **P 22 47 37.5 +0.2**
comp=Z,7.0nm,1.1s
CLL *i* pP **sP 22 47 41.4 -0.4**
CLL *e*PPP PPP 22 49 15.0
FETA Feichten 36.75 310 *e*P **P 22 47 39.0 0.0**
comp=Z,6.1nm,0.7s
KEST Kesra 36.78 291 P **P 22 47 38.9 -0.4**
comp=Z,5.0nm,0.8s,baz=271,slow=19,SNR=4.4
RETA Reutte 36.84 311 *e*P **P 22 47 38.7 -0.9**
comp=Z,2.5nm,0.6s
GRA1 Grafenberg Arr 37.13 315 *e*P **P 22 47 42.1 0.0**
comp=Z,8.9nm,0.8s
GRF Grafenberg Arr 37.13 315 *e*P **P 22 47 42.1 0.0**
GRF pmax pmax
comp=Z,9.0nm,0.8s
GRFO Grafenberg 37.13 315 *e*P **P 22 47 42.2 +0.1**
comp=Z,7.7nm,0.7s
GRFO Grafenberg 37.13 315 *e*P **P 22 47 42.2 +0.1**
GRFO pmax pmax
comp=Z,8.0nm,0.7s
DAVOX Davos/Dischmat 37.26 310 P **P 22 47 42.6 -0.9**
comp=Z,3.7nm,0.7s,baz=342,slow=23,SNR=7.2
DAVA Damuels 37.37 310 *e*P **P 22 47 43.7 -0.6**
comp=Z,8.4nm,0.5s,SNR=17
BNI Bardonecchia 39.18 306 *e*P **P 22 46 27.9 -0.3**
comp=Z,6.6nm,0.8s

BNI Bardonecchia 39.18 306 *e*P **P 22 48 03.2 +3.7**
BNI pmax pmax
comp=Z,7.0nm,0.8s
HFS Hagfors 40.20 331 P **P 22 48 07.4 -0.2**
comp=Z,10.0nm,0.5s,baz=127,slow=9.4,SNR=75
NORES NORESS Array B 41.42 331 P **P 22 48 19.5 +1.8**
NB2 NORSAR Subarra 41.71 331 P **P 22 48 19.0 -1.2**
comp=Z,4.7nm,0.6s,baz=120,slow=8.6
NOA NORSAR Array B 41.71 331 P **P 22 48 19.4 -0.8**
comp=Z,4.9nm,0.6s,baz=121,slow=8.2,SNR=25
NOA PP **PP 22 49 54.0 -2.4**
comp=Z,0.7nm,0.7s,baz=128,slow=11,SNR=3.7
MOY Mondy 41.86 44 *e*P **P 22 48 23.4 +1.9**
MOY pmax pmax
comp=Z,14nm,1.7s
TAM Tamanrasset 42.62 272 *e*P **P 22 48 29.6 +1.4**
comp=Z,3.6nm,0.9s
TAM Tamanrasset 42.62 272 *e*P **P 22 48 29.6 +1.4**
TAM pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 42.95 346 P **P 22 48 30.2 +0.2**
comp=Z,3.3nm,0.9s,baz=148,slow=8.5,SNR=13
ZAK Zakamensk 43.03 46 *e*P **P 22 48 32.0 +0.9**
ZAK pmax pmax
comp=Z,9.0nm,0.9s
LZH Lanzhou 43.09 67 *e*P **P 22 48 36.6 +4.8**
LZH pP sP 22 48 41.0 +4.7
LZH sP pP 22 48 43.3 +8.2
LZH *e*PP **PcP 22 50 18.7 -3.1**
CHTO Chiang Mai 43.29 94 *e*P **P 22 48 33.7 +0.2**
comp=Z,6.6nm,0.8s
CHTO Chiang Mai 43.29 94 *e*P **P 22 48 33.7 +0.2**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CMMT Chiang Mai 43.30 94 P **P 22 48 34.1 +0.6**
comp=Z,4.6nm,0.9s
CMAR Chiang Mai Arr 43.43 94 P **P 22 48 34.1 -0.5**
comp=Z,0.9nm,0.4s,baz=282,slow=9.9,SNR=5.9
CD2 Chengdu 43.84 75 *e*P **P 22 48 36.7 -1.1**
IRK Irkutsk 43.96 44 *e*P **P 22 48 39.6 +1.1**
IRK pmax pmax
comp=Z,45nm,2.1s
NRIK Noril'sk 44.56 17 P **P 22 48 44.4 +1.4**
comp=Z,4.7nm,0.8s,baz=209,slow=4.1,SNR=9.6
EKA Eskdalemuir Ar 46.98 320 P **P 22 49 01.3 -1.0**
EKA pmax pmax
comp=Z,2.0nm,0.3s
ESDC Sonseca Array 47.01 298 P **P 22 49 01.8 -1.1**
comp=Z,0.4nm,0.5s,baz=77,slow=7.7,SNR=9.2
ESDC PcP **PcP 22 50 34.5 -0.6**
comp=Z,0.3nm,0.5s,baz=52,slow=3.8,SNR=4.1
HHC Hu-ho-hao-te 48.60 60 *e*P **P 22 49 16.3 +1.0**
TORD Torodi Ar. Bea 49.81 262 P **P 22 49 22.8 -1.9**
comp=Z,7.9nm,0.6s,baz=53,slow=7.5,SNR=72
DAG Danmarks Havn 57.20 345 *i* P **P 22 50 18.0 0.0**
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 57.20 345 *i* P **P 22 50 18.0 0.0**
comp=Z,5.2nm,0.7s
DBIC Dimbokro 58.59 259 P **P 22 50 28.1 -0.6**
comp=Z,7.7nm,0.7s,baz=52,slow=7.0,SNR=9.6
KSAR Wonju Array Be 61.70 61 P **P 22 50 49.2 -0.5**
KSAR Wonju Array Be 61.70 61 P **P 22 50 49.3 -0.5**
KSRS Korea Array 61.72 61 P **P 22 50 49.2 -0.6**
comp=Z,3.3nm,0.7s,baz=284,slow=5.8,SNR=6.5
SUMG Summit 62.44 340 *i* P **P 22 50 55.2 +0.6**
SUMG Summit 62.44 340 *i* P **P 22 50 55.2 +0.6**
BOSA Boshof 63.50 207 P **P 22 51 01.2 -0.7**
comp=Z,3.8nm,0.8s,baz=32,slow=7.1,SNR=7.5

NIED ***12*** *22:42:00, 43.70N×147.70E, h50km, Mw5.2 Best double couple: M0=7.01000×10^16 NP1:φs=208.00000°, δ41.00000°, λ71.00000°. NP2:φs=52.00000°, δ52.00000°, λ106.00000°.*
JMA ***12*** *22:42:43.8±0.2, 43.70N×147.72E, h7km, M5.1*
JMA Felt II J1.
BJI ***12*** *22:42:43.6±0.0, 43.97N×147.75E, h49km, mb5.3/77, mB5.1/53, Ms4.7/78, Ms7 4.5/72*
SKHL ***12*** *22:42:44.3±0.8, 43.81N×148.06E, h63km±6km, mb5.4/2, Ms4.6/7, msh5.2/4*
SKHL Felt (II-III) at Kuril'sk, Reidovo, Gornyi; (II)at Yuzhno-kuril'sk.
IDC ***12*** *22:42:44.6±1.4, 43.99N×147.85E, h43km±12km, mb5.1/46, mb1 5.2/55, mb1mx5.1/63, mbtmp5.3/55, ML4.5/8, MS4.6/20, Ms1 4.6/20, ms1mx4.4/32, Error ellipse: s-maj=9.5km s-min=8.2km az=122.0*
MOS ***12*** *22:42:44.8±0.9, 43.95N×147.82E, h63km, mb5.8/151, Error ellipse: s-maj=6.4km s-min=5.4km az=134.2*
MOS Felt (II-III) at Gornyy, Kuril'sk, Reydovo; (II) at Yuzhno-Kuril'sk.
ISCJB ***12*** *22:42:44.2±0.3, 43.92N±0.02×147.87E±0.02, h54km±2km, mb5.6/411, MS4.7/68, Error ellipse: s-maj=3.2km s-min=1.8km az=162.2*
NEIC ***12*** *22:42:45.8±0.4, 43.96N×147.81E, h54km±3km, mb5.6/225, MW5.1, MW5.2, Error ellipse: s-maj=4.0km s-min=2.2km az=150.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^16Nm; Mrr6.05; Mθθ-0.50; Mφφ-5.55; Mrθ0.32; Mθφ-1.36; Mφr-0.48; Best double couple: M0=6.00000×10^16 NP1:φs=18.00000°, δ43.00000°, λ96.00000°. NP2: φs=190.00000°, δ47.00000°, λ85.00000°. Principal axes: T 6.1000, Plg86.0000°, Azm39.0000°; N -0.1900, Plg4.0000°, Azm194.0000°; P -5.9100, Plg2.0000°, Azm284.0000°;*
NEIC Recorded [2 JMA] in eastern Hokkaido.
GCMT ***12*** *22:42:45.8±0.2, 43.98N±0.01×148.03E±0.02, h45km, MW5.2/88, Moment Tensor Solution. s88,c138; s87,c147; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.72±.02; Mθθ-0.19±.01; Mφφ-0.53±.01; Mrθ0.08±.01; Mφφ-0.39±.01; Mφr-0.07±.01; Best double couple: M0=0.76600×10^17 NP1:φs=204.00000°, δ46.00000°, λ77.00000°. NP2:φs=42.00000°, δ45.00000°, λ103.00000°. Principal axes: T 0.7430, Plg81.0000°, Azm37.0000°; N 0.0460, Plg9.0000°, Azm213.0000°; P -0.7890, Plg1.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***12*** *22:42:45.0±0.0, 43.83N×147.81E, h50km, Moment Tensor Solution. s22 Moment tensor: Scale 10^16Nm; Mrr5.72; Mθθ-2.00; Mφφ-3.72; Mrθ3.65; Mφθ-3.16; Mφr4.09; Best double couple: M0=8.10000×10^16 NP1:φs=40.00000°, δ66.00000°, λ93.00000°. NP2:φs=214.00000°, δ24.00000°, λ84.00000°. Principal axes: T 7.8800, Plg68.0000°, Azm315.0000°; N 0.4000, Plg2.0000°, Azm219.0000°; P -8.2700, Plg21.0000°, Azm128.0000°;*

ISC 12 22:42:45.1±0.3, 43.99N±0.03×147.80E±0.03, h51km±2km, h51km:pP-P, n1670, σ1.30/1825, mb5.6/440, MS4.7/70, 126C-64D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.24**	**2**	*d i* P	N	**Pn**	**22 43 07.2**	**+1.1**
KUR				*i* S		**Sn**	**22 43 24.0**	**+2.3**
KUR	comp=Z,3μm,0.2s			pmax		pmax		
KUR	comp=E,377nm,0.1s			pmax		pmax		
KUR	comp=N,709nm,0.2s			pmax		pmax		
KUR	comp=N,25μm,0.3s			smax		smax		
KUR	comp=E,43μm,0.3s			smax		smax		
KUR	**Kuril'sk**	**1.24**	**2**	*i* P		**Pn**	**22 43 07.0**	**+0.9**
KUR	comp=E,710nm,0.3s			AMB		AMB	22 43 10.2	
KUR	comp=E,380nm,0.3s			AMB		AMB	22 43 10.2	
KUR	comp=E,2μm,0.3s			AMB		AMB	22 43 21.6	
KUR	comp=E,500nm,1.0s			*i* S		**Sn**	**22 43 24.0**	**+2.3**
KUR				A		A	22 43 25.6	
KUR	comp=E,4μm,0.3s			A		A	22 43 25.6	
KUR	comp=E,5μm,0.3s			A		A	22 43 29.3	
KUR	comp=E,600nm,2.0s							

YUK	**Yuzh-Kuril'sk**	**1.40 272**	*d i*PN	**Pn**	**22 43 09.1 +1.0**
YUK			*i* S	**Sn**	**22 43 26.9 +1.5**
YUK			pmax	pmax	
	comp=Z,22μm,0.3s				
YUK			pmax	pmax	
	comp=N,3μm,0.1s				
YUK			pmax	pmax	
	comp=E,5μm,0.1s				
YUK			smax	smax	
	comp=N,50μm,0.2s				
YUK			smax	smax	
	comp=E,19μm,0.2s				
YUK	**Yuzh-Kuril'sk**	**1.40 272**	*i* P	**Pn**	**22 43 09.2 +1.1**
YUK			AMB	AMB	22 43 09.8
	comp=E,2μm,0.4s				
YUK			AMB	AMB	22 43 09.8
	comp=E,2μm,0.4s				
YUK			AMB	AMB	22 43 09.8
	comp=E,3μm,0.4s				
YUK			*i* S	**Sn**	**22 43 27.1 +1.7**
YUK			A	A	22 43 31.0
	comp=E,6μm,0.3s				
YUK			A	A	22 43 31.0
	comp=E,5μm,0.3s				
LAGR	**Lagunnoye**	**1.45 273**	⇓*i*PN	**Pn**	**22 43 09.8 +0.9**
LAGR			*e*S	**Sn**	**22 43 28.5 +1.7**
LAGR			pmax	pmax	
	comp=N,6μm,0.1s				
LAGR			pmax	pmax	
	comp=Z,6μm,0.1s				
LAGR			smax	smax	
	comp=N,53μm,0.4s				
LAGR			smax	smax	
	comp=E,55μm,0.4s				
LAGR	**Lagunnoye**	**1.45 273**	*i* P	**Pn**	**22 43 09.0 +0.1**
LAGR			AMB	AMB	22 43 13.0
	comp=E,610nm,0.2s				
LAGR			AMB	AMB	22 43 13.0
	comp=E,2μm,0.2s				
LAGR			*e*S	**Sn**	**22 43 28.0 +1.2**
LAGR			A	A	22 43 33.0
	comp=E,5μm,0.4s				
LAGR			A	A	22 43 33.0
	comp=E,5μm,0.4s				
GRPR	**Tuman**	**1.46 271**	*d i*PN	**Pn**	**22 43 09.9 +0.9**
GRPR			*e*S	**Sn**	**22 43 28.2 +1.2**
GRPR			pmax	pmax	
	comp=E,5μm,0.3s				
GRPR			pmax	pmax	
	comp=Z,17μm,0.3s				
GRPR			pmax	pmax	
	comp=N,7μm,0.4s				
GRPR			smax	smax	
	comp=N,65μm,0.4s				
GRPR			smax	smax	
	comp=E,24μm,0.2s				
GRPR	**Tuman**	**1.46 271**	*i* P	**Pn**	**22 43 09.0 0.0**
GRPR			AMB	AMB	22 43 11.0
	comp=E,720nm,0.3s				
GRPR			AMB	AMB	22 43 11.0
	comp=E,460nm,0.3s				
GRPR			AMB	AMB	22 43 11.0
	comp=E,2μm,0.3s				
GRPR			*e*S	**Sn**	**22 43 28.0 +1.0**
GRPR			A	A	22 43 30.0
	comp=E,6μm,0.4s				
GRPR			A	A	22 43 30.0
	comp=E,2μm,0.4s				
NEM2	**Nemuro 2**	**1.62 248**	⇓P	**Pn**	**22 43 11.0 -0.1**
NEM2			*e*S	**Sn**	**22 43 29.9 -0.9**
GLVR	**Golovnino**	**1.67 262**	*d i*PN	**Pn**	**22 43 13.0 +1.2**
GLVR			*i* S	**Sn**	**22 43 34.8 +2.8**
GLVR			pmax	pmax	
	comp=Z,58μm,0.4s				
GLVR			pmax	pmax	
	comp=E,13μm,0.3s				
GLVR			pmax	pmax	
	comp=N,5μm,0.2s				
GLVR			smax	smax	
	comp=N,64μm,0.4s				
GLVR			smax	smax	
	comp=E,98μm,0.4s				
GLVR	**Golovnino**	**1.67 262**	*i* P	**Pn**	**22 43 13.0 +1.2**
GLVR			AMB	AMB	22 43 14.0
	comp=E,550nm,0.4s				
GLVR			AMB	AMB	22 43 14.0
	comp=E,1μm,0.4s				
GLVR			AMB	AMB	22 43 14.0
	comp=E,6μm,0.4s				
GLVR			*i* S	**Sn**	**22 43 35.8 +3.8**
GLVR			A	A	22 43 36.2
	comp=E,6μm,0.4s				
GLVR			A	A	22 43 36.2
	comp=E,980nm,0.4s				
JRA	**Rausu**	**1.93 269**	⇓P	**Pn**	**22 43 16.9 +1.5**
JRA			*e*S	**Sn**	**22 43 41.5 +3.0**
JKHN	**Kushirohamanak**	**2.12 246**	P	**Pn**	**22 43 18.1 +0.1**
JKHN			*e*S	**Sn**	**22 43 42.9 -0.3**
JNK	**Nakash**	**2.26 261**	⇓P	**Pn**	**22 43 20.9 +0.9**
JAK	**Akkeshi**	**2.46 247**	⇓P	**Pn**	**22 43 22.8 0.0**
JAK			*e*S	**Sn**	**22 43 51.1 -0.5**
JTKR	**Abashiri--Toko**	**2.81 271**	⇓P	**Pn**	**22 43 29.6 +2.2**
JAR	**Ashorobuto**	**3.00 258**	⇓P	**Pn**	**22 43 31.6 +1.4**
JAR			*e*S	**Sn**	**22 44 06.5 +1.6**
JOB	**Onbets**	**3.08 251**	⇓P	**Pn**	**22 43 31.9 +0.7**
JOB			*e*S	**Sn**	**22 44 07.5 +0.7**
JMP	**Maruseppu**	**3.20 272**	⇓P	**Pn**	**22 43 35.4 +2.5**
JCH	**Churui**	**3.52 248**	P	**Pn**	**22 43 37.4 +0.2**
JCH			*e*S	**Sn**	**22 44 17.1 -0.4**
JKK2	**Kamakawa 2**	**3.65 270**	P	**Pn**	**22 43 41.7 +2.7**
JKA	**Kamikawa-asahi**	**3.75 274**	*e*P	**Pn**	**22 43 42.4 +2.1**
ASAJ	**Asahikawa**	**3.75 274**	P	**Pn**	**22 43 43.4 +3.0**
ASAJ	**Asahikawa**	**3.75 274**	P	**Pn**	**22 43 42.4 +2.0**
	comp=E,99nm,0.3s,baz=89,slow=16,SNR=441				
ASAJ			S	Sn	22 44 35.6 +12
	comp=E,40nm,0.3s,baz=354,slow=29,SNR=3.9				
ASAJ			LR	LR	22 45 19.9
	comp=E,10μm,21.8s,baz=104,slow=41				
JSE	**Soyaes**	**3.85 286**	⇓P	**Pn**	**22 43 44.5 +2.7**
JFR	**Furan**	**3.87 259**	P	**Pn**	**22 43 44.2 +2.2**
JFR			*e*S	**Sn**	**22 44 28.5 +2.3**
ERM	**Erimo**	**3.93 241**	*e*Pn	**Pn**	**22 43 45.4 +2.5**
ERM			*e*Sn	**Sn**	**22 44 31.8 +4.1**
ERM	**Erimo**	**3.93 241**	*ce*PN	**Pn**	**22 43 44.7 +1.8**
ERM			pmax	pmax	
	comp=Z,1μm,0.5s				
JAB	**Ashibetsu**	**4.07 265**	⇓P	**Pn**	**22 43 48.3 +3.6**
JNBK	**Urakawa-nobuka**	**4.07 247**	P	**Pn**	**22 43 45.0 +0.3**
JNBK			*e*S	**Sn**	**22 44 30.0 -1.1**
JBT2	**Biratori 2**	**4.14 255**	⇓P	**Pn**	**22 43 46.6 +0.9**
JSHD	**Hidakashinhida**	**4.20 250**	⇑P	**Pn**	**22 43 47.9 +1.3**
JHR	**Hokuryu**	**4.40 269**	P	**Pn**	**22 43 53.0 +3.8**
JWK2	**Keihoku**	**4.41 290**	P	**Pn**	**22 43 53.4 +4.0**
JYG	**Yagishiri**	**4.60 278**	P	**Pn**	**22 43 55.0 +3.0**
YSS	**Yuzh-Sakhalins**	**4.62 312**	*e*Pn	**Pn**	**22 43 55.4 +3.1**
YSS	**Yuzh-Sakhalins**	**4.62 312**	⇓*i*PN	**Pn**	**22 43 55.4 +3.1**
YSS			*e*S	**Sn**	**22 44 50.0 +5.4**
YSS			pmax	pmax	
	comp=Z,550nm,0.6s				
YSS			MLR	MLR	
	comp=Z,4μm,16.0s				
YSS	**Yuzh-Sakhalins**	**4.62 312**	*i* P	**Pn**	**22 43 56.1 +3.8**
YSS			AMB	AMB	22 43 56.3
	comp=Z,550nm,0.6s				
YSS			*e*S	**Sn**	**22 44 50.0 +5.4**
YSS			AMS	AMS	22 45 33.0
	comp=Z,4μm,16.0s				
YSS			AMS	AMS	22 45 33.0
	comp=Z,4μm,16.0s				
JEW	**Eniwo**	**4.76 258**	P	**Pn**	**22 43 56.9 +2.6**
JKB	**Kayabe**	**5.39 249**	⇓P	**Pn**	**22 44 03.8 +0.9**
JYM2	**Yakumo 2**	**5.75 254**	⇓P	**Pn**	**22 44 09.2 +1.3**
JKZ	**Kuzumaki**	**6.26 232**	P	**Pn**	**22 44 13.3 -1.6**
MIYJ	**Miyakonagasawa**	**6.28 227**	S	**Sn**	**22 45 17.6 -7.8**
UGL	**Uglegorsk**	**6.44 324**	*e*PN	**Pn**	**22 44 20.6 +3.4**
UGL			*e*S	**Sn**	**22 45 35.1 +5.8**
UGL			pmax	pmax	
	comp=Z,800nm,1.0s				
UGL			pmax	pmax	
	comp=Z,451nm,0.8s				
UGL			smax	smax	
	comp=E,446nm,0.8s				
UGL			smax	smax	
	comp=N,483nm,0.9s				
UGL			smax	smax	
	comp=N,4μm,3.0s				
UGL			smax	smax	
	comp=E,2μm,4.0s				
UGL			MLR	MLR	
	comp=Z,2μm,16.0s				
TYV	**Tymovskoe**	**7.70 335**	*e*PN	Pn	22 44 39.5 +5.0
TYV			*e*S	Sn	22 46 10.0 +10
TYV			pmax	pmax	
	comp=Z,60nm,0.8s				
TYV			smax	smax	
	comp=N,600nm,2.5s				
TYV	**Tymovskoe**	**7.70 335**	*e*P	Pn	22 44 39.5 +5.0
TYV			AMB	AMB	22 44 40.1
	comp=N,60nm,0.8s				
TYV			AMB	AMB	22 44 41.9
	comp=N,300nm,2.0s				
TYV			*e*S	**Sn**	**22 46 04.0 +3.7**
TYV			A	A	22 46 12.2
	comp=N,90nm,0.8s				
TYV			A	A	22 46 14.5
	comp=N,600nm,3.0s				
TYV			AMS	AMS	22 47 23.3
	comp=N,4μm,17.0s				
TYV			AMS	AMS	22 47 23.3
	comp=N,4μm,17.0s				
TEY	**Ternei**	**8.07 281**	⇓*e*PN	**Pn**	**22 44 43.3 +3.8**
TEY			pmax	pmax	
	comp=Z,60nm,0.7s				
TEY			pmax	pmax	
	comp=E,70nm,0.8s				
TEY			pmax	pmax	
	comp=N,20nm,1.0s				
TEY			MLR	MLR	
	comp=E,3μm,18.0s				
TEY			MLR	MLR	
	comp=N,2μm,11.0s				
TEY			MLR	MLR	
	comp=Z,4μm,15.0s				
TEY	**Ternei**	**8.07 281**	*e*P	**Pn**	**22 44 43.3 +3.8**
TEY			AMB	AMB	22 44 44.1
	comp=Z,20nm,0.8s				
TEY			AMB	AMB	22 44 44.1
	comp=Z,70nm,0.8s				
TEY			AMB	AMB	22 44 44.1
	comp=Z,60nm,0.8s				
TEY			*e*S	**Sn**	**22 46 12.6 +3.3**
TEY			AMS	AMS	22 47 04.9
	comp=Z,2μm,15.0s				
TEY			AMS	AMS	22 47 04.9
	comp=Z,3μm,15.0s				
TEY			AMS	AMS	22 47 04.9
	comp=Z,4μm,15.0s				
SKR	**Severo-Kuril's**	**8.76 37**	*e*PN	**Pn**	**22 44 48.6 -0.3**
SKR			pmax	pmax	
	comp=Z,788nm,0.6s				
SKR			pmax	pmax	
	comp=Z,700nm,6.9s				
SKR			MLR	MLR	
	comp=E,2μm,19.0s				
SKR			MLR	MLR	
	comp=Z,3μm,19.0s				
SKR	**Severo-Kuril's**	**8.76 37**	*e*P	**Pn**	**22 44 48.0 -0.9**
SKR			AMB	AMB	22 44 51.0
	comp=Z,80nm,0.6s				
SKR			AMB	AMB	22 44 52.0
	comp=Z,700nm,7.0s				
SKR			*e*S	**Sn**	**22 46 22.5 -3.6**
SKR			A	A	22 46 32.0
	comp=Z,340nm,0.6s				
SKR			A	A	22 46 32.0
	comp=Z,430nm,0.6s				
SKR			AMS	AMS	22 47 50.0
	comp=Z,2μm,19.0s				
SKR			AMS	AMS	22 47 50.0
	comp=Z,3μm,19.0s				
JSD	**Sado**	**9.34 234**	P	**Pn**	**22 44 55.9 -1.1**
PAU	**Pauzhetka**	**9.63 36**	*e*P	**Pn**	**22 45 00.6 -0.2**
PAU			AMB	AMB	22 45 01.7
	comp=Z,50nm,0.6s				
PAU			*e*S	**Sn**	**22 46 43.5 -4.0**
PAU			A	A	22 46 48.3
	comp=Z,400nm,0.4s				
PAU			A	A	22 46 48.3
	comp=Z,470nm,0.4s				
JJN	**Nakama**	**10.05 230**	P	**Pn**	**22 45 06.3 -0.4**
OKH	**Okha**	**10.09 343**	*de*PN	**Pn**	**22 45 11.3 +4.2**
OKH			*e*S	Sn	22 47 12.9 +14
OKH			smax	smax	
	comp=N,1μm,14.8s				
OKH	**Okha**	**10.09 343**	*e*P	**Pn**	**22 45 11.3 +4.2**
OKH			AMB	AMB	22 45 12.8
	comp=N,80nm,0.7s				
OKH			*e*S	**Sn**	**22 47 02.9 +4.3**
OKH			A	A	22 47 31.2
	comp=N,1μm,15.0s				
OKH			AMS	AMS	22 48 54.7
	comp=N,2μm,21.0s				
GRNR	**Gornyy**	**10.26 315**	*e*PN	**Pn**	**22 45 13.2 +3.7**
GRNR			pmax	pmax	
	comp=Z,21nm,0.9s				
GRNR	**Gornyy**	**10.26 315**	*e*P	**Pn**	**22 45 13.2 +3.7**
GRNR			AMB	AMB	22 45 16.0
	comp=Z,30nm,0.7s				
JSZ	**Suzu**	**10.26 234**	P	**Pn**	**22 45 09.1 -0.5**
NKL	**Nikolayevsk**	**10.30 335**	*e*PN	**Pn**	**22 45 13.0 +3.0**
NKL			*e*S	Sn	22 47 16.0 +12
NKL			pmax	pmax	
	comp=N,700nm,5.0s				
NKL			pmax	pmax	
	comp=E,500nm,5.0s				
NKL			pmax	pmax	
	comp=Z,1μm,6.0s				
NKL			pmax	pmax	
	comp=N,73nm,1.0s				
NKL			pmax	pmax	
	comp=E,60nm,1.0s				
NKL			pmax	pmax	
	comp=Z,210nm,1.0s				
NKL			smax	smax	
	comp=N,500nm,11.0s				
NKL			smax	smax	
	comp=E,700nm,11.0s				
NKL			MLR	MLR	
	comp=Z,3μm,16.0s				
NKL	**Nikolayevsk**	**10.30 335**	*e*P	**Pn**	**22 45 13.0 +3.0**
NKL			AMB	AMB	22 45 16.0
	comp=Z,70nm,1.0s				
NKL			AMB	AMB	22 45 16.0
	comp=Z,60nm,1.0s				
NKL			AMB	AMB	22 45 16.0
	comp=Z,100nm,1.0s				
NKL			A	A	22 49 22.0
	comp=Z,500nm,11.0s				
NKL			A	A	22 49 22.0
	comp=Z,700nm,11.0s				
NKL			A	A	22 49 22.0
	comp=Z,3μm,11.0s				
NKL			AMS	AMS	22 49 22.0
	comp=Z,1μm,17.0s				
NKL			AMS	AMS	22 49 22.0
	comp=Z,2μm,17.0s				
NKL			AMS	AMS	22 49 22.0
	comp=Z,3μm,17.0s				
MJB9	**Matsu-Tunnel**	**10.44 228**	*e*Pn	**Pn**	**22 45 11.0 -1.0**
MAJO	**Matsushiro**	**10.44 228**	*e*Pn	**Pn**	**22 45 10.9 -1.1**
MAJO	**Matsushiro**	**10.44 228**	*i* PN	**Pn**	**22 45 10.5 -1.5**
MAJO			pmax	pmax	
	comp=Z,36nm,0.9s				
MAT	**Matsushiro**	**10.44 228**	P	**Pn**	**22 45 10.8 -1.3**
MAT			*e*S	**Sn**	**22 47 01.9 -5.6**
MAT	**Matsushiro**	**10.44 228**	P	**Pn**	**22 45 10.7 -1.3**
MJAR	**Matsushiro Arr**	**10.44 228**	*e*Pn	**Pn**	**22 45 13.9 +1.9**
MJAR	**Matsushiro Arr**	**10.44 228**	*e*PN	**Pn**	**22 45 13.9 +1.9**
MJAR	**Matsushiro Arr**	**10.44 228**	P	**Pn**	**22 45 10.8 -1.2**
	comp=Z,0.9nm,0.3s,baz=26,slow=14,SNR=43				
PEA0B	**Petropavlovsk-**	**11.23 32**	*e*Pn	**Pn**	**22 45 22.3 -0.4**
PETK	**Petropavlovsk-**	**11.23 32**	*e*Pn	**Pn**	**22 45 21.7 -1.0**
PETK			*e*Sn	**Sn**	**22 47 18.5 -8.1**
PETK			PcP	**PcP**	**22 51 15.7 +1.0**
PETK	**Petropavlovsk-**	**11.23 32**	P	**Pn**	**22 45 22.1 -0.6**
	comp=Z,14nm,0.3s,baz=203,slow=9.3,SNR=160				
PETK			LR	LR	22 50 38.4
	comp=Z,1μm,18.8s,baz=194,slow=42				
PETK			PcP	**PcP**	**22 51 15.7 +1.0**
	comp=Z,0.3nm,0.3s,baz=135,slow=3.5,SNR=5.1				
USA0B	**Ussuriysk Arra**	**11.37 277**	*e*Pn	**Pn**	**22 45 27.1 +2.3**
USRK	**Ussuriysk Ar.**	**11.37 277**	*e*Pn	**Pn**	**22 45 26.3 +1.6**
USRK	**Ussuriysk Ar.**	**11.37 277**	P	**Pn**	**22 45 25.7 +0.9**
	comp=Z,3.8nm,0.3s,baz=81,slow=14,SNR=35				
USRK			LR	LR	22 49 55.0
	comp=Z,3μm,19.8s,baz=71,slow=38				
PET	**Petropavlovsk**	**11.54 35**	*e*PN	**Pn**	**22 45 23.1 -3.9**
PET			pmax	pmax	
	comp=Z,34nm,0.8s				
PET			MLR	MLR	
	comp=Z,2μm,18.0s				
PET	**Petropavlovsk**	**11.54 35**	*e*P	**Pn**	**22 45 26.3 -0.7**
PET			AMB	AMB	22 45 31.2
	comp=Z,30nm,0.8s				
PET			*e*S	**Sn**	**22 47 29.9 -4.4**
PET			A	A	22 47 30.0
	comp=Z,50nm,0.5s				
PET			A	A	22 47 30.0
	comp=Z,70nm,0.5s				
PET			AMS	AMS	22 49 27.9
	comp=Z,2μm,19.0s				
PET			AMS	AMS	22 49 27.9
	comp=Z,700nm,19.0s				
PET			AMS	AMS	22 49 27.9
	comp=Z,2μm,19.0s				
VLA	**Vladivostok**	**11.58 271**	*i* PN	**Pn**	**22 45 30.6 +3.0**
VLA			pmax	pmax	
	comp=Z,98nm,1.1s				
VLA	**Vladivostok**	**11.58 271**	*e*P	**Pn**	**22 45 30.6 +3.0**
INU	**Inuyama**	**11.97 227**	*e*Pn	**Pn**	**22 45 31.9 -1.1**
KLR	**Kul'dur**	**12.21 301**	*d i*PN	**Pn**	**22 45 39.2 +3.1**
KLR	**Kul'dur**	**12.21 301**	P	**Pn**	**22 45 38.0 +1.9**
	comp=Z,1.2nm,0.3s,baz=108,slow=14,SNR=19				
KLR			LR	LR	22 50 27.1
	comp=Z,3μm,21.6s,baz=122,slow=38				
KLR	**Kul'dur**	**12.21 301**	*e*P	**Pn**	**22 45 39.2 +3.1**
MSHR	**Mys Shultsa**	**12.21 269**	*i* PN	**Pn**	**22 45 37.2 +1.0**
JHJ	**Hachijo jima 2**	**12.53 213**	P	**Pn**	**22 45 41.8 +1.3**
	comp=Z,8.4nm,0.3s,baz=137,slow=24,SNR=6.7				
JHJ			S	Sn	22 47 47.1 -11
	comp=Z,38nm,0.3s,baz=269,slow=21,SNR=6.4				
MDJ	**Mudanjiang**	**13.06 279**	P	**Pn**	**22 45 50.3 +2.6**
MDJ			pP	P	22 45 58.3 +1.7
MDJ			sP		22 46 06.6
MDJ			S	Sn	22 48 20.7 +9.3
MDJ			pmax	pmax	
	comp=Z,31nm,1.0s				
MDJ			pmax	pmax	
	comp=Z,410nm,5.5s				
MDJ			LR	LR	
	comp=Z,820nm,12.9s				
MDJ			LR	LR	
	comp=Z,2μm,18.3s				
MDJ			LR	LR	
	comp=Z,4μm,19.1s				
MDJ	**Mudanjiang**	**13.06 279**	*e*Pn	**Pn**	**22 45 48.9 +1.2**
	comp=Z,701nm,1.2s				
EKMR	**Ekimchan**	**13.36 318**	*e*P	**Pn**	**22 45 53.1 +1.2**
EKMR			AMB	AMB	22 45 59.8
	comp=Z,30nm,0.9s				
EKMR			AMB	AMB	22 45 59.8
	comp=Z,50nm,0.9s				
JMMH	**Miemihama**	**13.67 226**	P	**P**	**22 46 05.8 +2.4**
MA2	**Magadan**	**15.71 6**	*ce*P	**Pn**	**22 46 21.8 -1.0**
MA2			pmax	pmax	
	comp=Z,247nm,1.7s				
MA2	**Magadan**	**15.71 6**	P	**Pn**	**22 46 23.4 +0.6**
	comp=Z,5.9nm,0.3s,baz=183,slow=11,SNR=63				
MA2	**Magadan**	**15.71 6**	*e*P	**Pn**	**22 46 21.8 -1.0**
CN2	**Changchun**	**16.11 277**	*e*P	**Pn**	**22 46 27.0 -0.9**
CN2			*e*S	**Sn**	**22 49 22.6 -2.9**
CN2			pmax	pmax	
	comp=Z,200nm,4.0s				
CN2			LR	LR	
	comp=Z,770nm,18.0s				
CN2			LR	LR	
	comp=Z,2μm,18.0s				
CN2			LR	LR	
	comp=Z,2μm,19.0s				
BMKR	**Bomnak**	**16.30 318**	*e*P	**P**	**22 46 31.8 -0.7**
BMKR			AMB	AMB	22 46 35.8
	comp=Z,50nm,1.0s				
KSRS	**Korea Array**	**16.40 253**	P	**Pn**	**22 46 30.8 -0.9**
	comp=Z,0.9nm,0.3s,baz=64,slow=13,SNR=37				
KSRS			PcP	**PcP**	**22 51 23.2 +1.7**
	comp=Z,0.3nm,0.3s,baz=67,slow=0.4,SNR=13				
KS15	**Wonju Array Si**	**16.43 253**	*e*Pn	**Pn**	**22 46 31.9 -0.2**
	comp=Z,42nm,0.8s				
KSAR	**Wonju Array Be**	**16.43 253**	*e*Pn	**Pn**	**22 46 29.5 -2.6**
KSAR			*e*PcP	**PcP**	**22 51 22.7 +1.1**
KSAR	**Wonju Array Be**	**16.43 253**	*e*P	**Pn**	**22 46 29.5 -2.6**
ZEA	**Zeya**	**16.61 313**	*e*P	**Pn**	**22 46 34.8 +0.6**
ZEA			*e*		22 49 45.0
ZEA			pmax	pmax	
	comp=N,58nm,1.2s				
ZEA			pmax	pmax	
	comp=E,43nm,1.2s				
ZEA			pmax	pmax	
	comp=Z,64nm,1.2s				
ZEA	**Zeya**	**16.61 313**	*e*P	**Pn**	**22 46 34.8 +0.6**
ZEA			AMB	AMB	22 46 38.8
	comp=Z,40nm,1.0s				
ZEA			AMB	AMB	22 46 38.8
	comp=Z,60nm,1.0s				
ZEA			AMS	AMS	22 53 10.0
	comp=Z,2μm,19.0s				
ZEA			AMS	AMS	22 53 10.0
	comp=Z,2μm,19.0s				
JNU	**Nakatsue**	**17.08 236**	*e*Pn	**P**	**22 46 43.9 +2.5**
	comp=Z,112nm,1.2s				
JNU	**Nakatsue**	**17.08 236**	P	**P**	**22 46 40.9 -0.5**
	comp=Z,3.0nm,0.3s,baz=82,slow=3.6,SNR=28				
KROS	**Kirovskiy**	**17.09 315**	*e*P	**Pn**	**22 46 36.8 -3.3**
KROS			AMB	AMB	22 46 44.2
	comp=Z,30nm,1.0s				
KROS			AMB	AMB	22 46 44.2
	comp=Z,60nm,1.0s				
KROS			AMB	AMB	22 46 44.2
	comp=Z,70nm,1.0s				
TJN	**Taejon**	**17.34 251**	*ce*P	**P**	**22 46 43.8 -0.4**
SMY	**Shemya**	**19.45 54**	*e*P	**Pn**	**22 47 08.7 -0.1**
SMY	**Shemya**	**19.45 54**	*e*P	**Pn**	**22 47 08.7 -0.1**
HIA	**Hailar**	**19.91 295**	*e*P	**P**	**22 47 10.3 -2.0**
	comp=Z,620nm,1.2s				
HIA	**Hailar**	**19.91 295**	*i* P	**P**	**22 47 10.4 -2.0**
HIA			pmax	pmax	
	comp=Z,152nm,0.8s				
DL2	**Dalian**	**20.22 264**	⇓*i*P	**P**	**22 47 15.2 -0.5**
DL2			pP	**pP**	**22 47 26.2 -1.1**
DL2			sP	**sP**	**22 47 34.0 +0.3**
DL2			S	**S**	**22 50 58.8 -0.9**
DL2			SS	**SnSn**	**22 51 24.1 +4.4**
DL2			pmax	pmax	
	comp=Z,100nm,0.9s				
DL2			pmax	pmax	
	comp=Z,370nm,3.6s				
DL2			LR	LR	
	comp=Z,470nm,21.9s				
DL2			LR	LR	
	comp=Z,830nm,21.0s				
DL2			LR	LR	
	comp=Z,1μm,19.5s				
YAK	**Yakutsk**	**20.96 336**	*e*P	**P**	**22 47 21.1 -2.4**
YAK			*e*S	**S**	**22 51 05.3 -8.7**
YAK			*e**SS	**sS**	**22 51 32.0 -0.8**
YAK			*e*		22 58 39.6
YAK			pmax	pmax	
	comp=Z,1μm,0.8s				
YAK			pmax	pmax	
	comp=E,338nm,1.2s				
YAK			pmax	pmax	
	comp=N,264nm,1.3s				
YAK			smax	smax	
	comp=E,554nm,11.4s				
YAK			smax	smax	
	comp=N,730nm,11.9s				
YAK			MLR	MLR	
	comp=Z,10μm,24.0s				
YAK			MLR	MLR	
	comp=N,6μm,26.0s				
YAK			MLR	MLR	
	comp=E,7μm,22.0s				
JOW	**Kunigami**	**23.28 229**	*e*P	**P**	**22 47 50.3 +2.1**
	comp=E,52nm,1.4s				
JOW	**Kunigami**	**23.28 229**	P	**P**	**22 47 48.0 -0.3**
	comp=E,6.3nm,1.0s,baz=127,slow=13,SNR=16				
BJI	**Beijing**	**23.74 271**	P	**P**	**22 47 52.4 -0.1**

BJI S **S** **22 51 58.4 -5.6**
BJI pmax pmax
comp=E,63nm,0.8s
BJI LR LR
comp=E,260nm,16.7s
BJI LR LR
comp=E,540nm,22.6s
BJT Baijiatuau 23.75 271 *e*P **P** **22 47 52.2 -0.4**
comp=E,640nm,0.8s
BJT Baijiatuau 23.75 271 *e*P **P** **22 47 52.2 -0.4**
BJT pmax pmax
comp=Z,640nm,0.8s
SSE Sheshan 24.59 247 P **P** **22 48 00.0 -0.3**
SSE S **S** **22 52 22.3 +4.5**
SSE pmax pmax
comp=Z,30nm,0.7s
SSE pmax pmax
comp=Z,70nm,3.4s
TIA Tai'an 24.61 262 P **P** **22 48 01.4 +0.9**
TIA pP **pP** **22 48 11.9 -1.5**
TIA S **S** **22 52 18.8 +0.7**
TIA pmax pmax
comp=Z,52nm,0.6s
TIA LR LR
comp=Z,190nm,14.2s
TIA LR LR
comp=Z,690nm,17.5s
TIA LR LR
comp=Z,710nm,17.1s
ADK Adak 24.87 59 *e*P **P** **22 48 03.6 +0.9**
comp=Z,118nm,0.9s
ADK Adak 24.87 59 *e*P **P** **22 48 03.6 +0.9**
ADK pmax pmax
comp=Z,118nm,0.9s
BOD Bodaibo 25.08 315 *e*P **P** **22 48 01.6 -2.9**
BOD pmax pmax
comp=Z,27nm,1.9s
GSTR Great Sitkin T 25.27 58 *e*P **P** **22 48 05.0 -1.4**
NJ2 Nanjing 25.59 252 *e*P **P** **22 48 10.2 +0.8**
NJ2 pP **pP** **22 48 24.4 +2.2**
NJ2 sP **sP** **22 48 28.6 +0.3**
NJ2 S **S** **22 52 34.9 +1.2**
NJ2 sS **sS** **22 52 48.2 -7.3**
NJ2 pmax pmax
comp=Z,66nm,0.8s
NJ2 pmax pmax
comp=Z,210nm,3.6s
NJ2 LR LR
comp=Z,1μm,16.8s
NJ2 LR LR
comp=Z,1μm,21.1s
NJ2 LR LR
comp=Z,1μm,18.4s
BILL Bilibino 26.00 16 *e*P **P** **22 48 10.3 -2.4**
comp=Z,21nm,0.7s
BILL Bilibino 26.00 16⇑*i*P **P** **22 48 10.2 -2.5**
BILL *e* 22 48 53.5
BILL *i*S **S** **22 52 41.7 +2.1**
BILL pmax pmax
comp=Z,24nm,1.0s
BILL MLR MLR
comp=Z,2μm,21.0s
ATKA Atka Island 26.42 58 *e*P **P** **22 48 15.6 -1.2**
comp=Z,116nm,1.2s
HHC Hu-ho-hao-te 26.80 276 *e*P **P** **22 48 22.3 +1.9**
HHC pP pP 22 48 33.8 +0.5
HHC sP sP 22 48 40.2 +0.9
HHC PP **PnPn** **22 49 02.6 -1.1**
HHC S **S** **22 52 53.4 +0.5**
HHC LR LR
comp=Z,9μm,11.4s
HHC LR LR
comp=Z,6μm,12.0s
TIY Taiyuan 27.32 269 *e*P **P** **22 48 29.3 +4.2**
TIY pP **pP** **22 48 40.1 +2.1**
TIY PP PP 22 49 12.6 -15
TIY S **S** **22 53 05.5 +4.3**
TIY SS SS 22 54 23.1 -34
TIY pmax pmax
comp=Z,140nm,0.9s
TIY LR LR
comp=Z,250nm,6.6s
TIY LR LR
comp=Z,260nm,12.3s
TIY LR LR
comp=Z,750nm,20.4s
BTO Baotou 27.98 276 *e*P **P** **22 48 32.7 +1.7**
BTO S **S** **22 53 15.6 +4.0**
ULN Ulaanbaatar 28.36 292 *e*P **P** **22 48 34.6 +0.3**
comp=Z,69nm,1.1s
ULN Ulaanbaatar 28.36 292 *ce*P **P** **22 48 33.7 -0.7**
ULN pmax pmax
comp=Z,61nm,1.0s
TATO Taipei 28.62 237 *e*pP pP 22 48 50.1 +0.6
SONM Songino Array 28.81 292 *e*P **P** **22 48 38.7 +0.4**
comp=Z,23nm,0.8s
SONM Songino Array 28.81 292 P **P** **22 48 38.3 0.0**
comp=Z,26nm,0.7s,baz=78,slow=8.4,SNR=36
SONM LR LR 23 01 34.1
comp=Z,2μm,18.0s,baz=83,slow=39
YHNB Yeheng 28.91 237 *e*P **P** **22 48 40.8 +1.4**
comp=Z,14nm,0.8s
H11N2 WAKE ISLAND Hy 28.98 140 T T 23 19 22.6
baz=331,slow=76,SNR=1264
H11N1 WAKE ISLAND Hy 29.00 141 T T 23 19 28.7
baz=331,slow=76,SNR=2261
H11N3 WAKE ISLAND Hy 29.00 140 T T 23 19 30.2
baz=331,slow=76,SNR=1571
SPIA Saint Paul Isl 29.21 48 *e*P **P** **22 48 42.4 +0.8**
comp=Z,223nm,1.2s
TIXI Tiksi 29.22 348 *e*P **P** **22 48 38.1 -3.4**
comp=Z,6.3nm,0.8s
TIXI PcP **PcP** **22 51 46.5 -0.8**
TIXI Tiksi 29.22 348 *i*P **P** **22 48 37.4 -4.1**
TIXI *e* 22 50 07.7
TIXI pmax pmax
comp=Z,6.0nm,0.9s
TIXI Tiksi 29.22 348 P **P** **22 48 38.0 -3.5**
comp=Z,5.4nm,0.7s,baz=142,slow=7.0,SNR=16
TIXI PcP **PcP** **22 51 46.5 -0.8**
comp=Z,10.0nm,0.7s,baz=73,slow=2.8,SNR=5.4
WHN Wuhan 29.59 254⇑P **P** **22 48 46.2 +1.0**
WHN pP **pP** **22 48 57.1 -1.1**
WHN pmax pmax
comp=Z,82nm,0.6s
WHN LR LR
comp=Z,1μm,16.1s
WHN LR LR
comp=Z,2μm,15.9s
WHN LR LR
comp=Z,3μm,18.5s
YULB Yu-li 29.92 235 *e*P **P** **22 48 48.9 +0.7**
comp=Z,12nm,0.8s
H11S1 WAKE ISLAND Hy 29.96 142 T T 23 20 36.8
baz=332,slow=76,SNR=4303
H11S3 WAKE ISLAND Hy 29.97 142 T T 23 20 39.5
baz=332,slow=76,SNR=1079
H11S2 WAKE ISLAND Hy 29.98 142 T T 23 20 37.0
baz=332,slow=76,SNR=3246
TLY Talaya 30.23 301 *e*PcP **PcP** **22 51 51.2 +1.0**
TLY Talaya 30.23 301 *i*P **P** **22 48 51.6 +0.9**
TLY pmax pmax
comp=Z,16nm,0.8s
TLY Talaya 30.23 301 *e*P **P** **22 48 51.6 +0.9**
GAMB Gambell 30.24 35 *e*P **P** **22 48 50.0 -0.6**
comp=Z,25nm,0.7s
QZH Quanzhou 30.43 241 *e*P **P** **22 48 51.5 -1.2**
QZH S **S** **22 53 54.5 +4.5**
QZH LR LR
comp=Z,290nm,19.4s
QZH LR LR
comp=Z,320nm,22.7s
QZH LR LR
comp=Z,480nm,17.5s
UNV Unalaska Valle 31.10 55 *e*P **P** **22 48 56.3 -2.0**
comp=Z,29nm,1.1s
XAN Xi'an 31.54 265 P **P** **22 49 03.0 +0.5**
XAN PP **PnPn** **22 50 02.7 -4.5**
XAN S **S** **22 54 03.0 -4.4**
XAN pmax pmax
comp=Z,8.0nm,0.6s
XAN pmax pmax
comp=Z,43nm,3.9s
XAN LR LR
comp=Z,380nm,16.3s
XAN LR LR
comp=Z,490nm,18.7s
XAN Xi'an 31.54 265 *e*P **P** **22 49 03.0 +0.5**
comp=Z,243nm,0.6s
XAN Xi'an 31.54 265 *e*P **P** **22 49 03.0 +0.5**
XAN pmax pmax
comp=Z,243nm,0.6s
ANM Nome 33.12 35 *e*P **P** **22 49 17.7 +1.8**
comp=Z,107nm,0.9s
ANM Nome 33.12 35 *e*P **P** **22 49 17.7 +1.8**
ANM pmax pmax
comp=Z,107nm,0.9s
ENH Enshi 33.16 259 *e*P **P** **22 49 16.4 -0.2**
comp=Z,17nm,0.9s
LZH Lanzhou 34.23 272⇑P **P** **22 49 28.1 +2.0**
LZH pP pP 22 49 39.9 +0.7
LZH sP sP 22 49 46.4 +1.2
LZH PP **PP** **22 50 44.0 -0.2**
LZH S **S** **22 54 48.9 -0.4**
LZH sS sS 22 55 10.6 -0.7
LZH SS **SnSn** **22 57 02.0 +0.5**
LZH pmax pmax
comp=Z,160nm,1.1s
LZH pmax pmax
comp=Z,380nm,4.3s
LZH LR LR
comp=Z,800nm,12.1s
LZH LR LR
comp=Z,940nm,12.0s
LZH LR LR
comp=Z,1μm,15.3s
RDOG Red Dog Mine 35.08 30 *e*P **P** **22 49 33.8 +0.9**
comp=Z,44nm,1.0s
GZH Guangzhou 35.12 245 P **P** **22 49 29.9 -3.7**
GZH S **S** **22 54 54.8 -8.1**
GZH pmax pmax
comp=Z,150nm,5.0s
CHGN Chignik 35.68 50 *e*P **P** **22 49 36.6 -1.4**
comp=Z,43nm,0.8s
GTA Gaotai 35.71 280 *e*P **P** **22 49 40.2 +1.4**
GTA pP sP 22 49 57.6 -0.3
GTA PcP **PcP** **22 52 07.2 +1.3**
GTA S **S** **22 55 08.8 -3.2**
GTA sS sS 22 55 33.8 -0.3
GTA ScS **ScS** **22 59 53.4 +0.7**
GTA pmax pmax
comp=Z,50nm,1.0s
GTA pmax pmax
comp=Z,170nm,6.5s
GTA LR LR
comp=Z,380nm,20.6s
GTA LR LR
comp=Z,520nm,19.2s
GTA LR LR
comp=Z,690nm,18.5s
CD2 Chengdu 36.89 264⇑*i*P **P** **22 49 49.8 +1.0**
CD2 sP sP 22 50 07.7 -0.3
CD2 S **S** **22 55 29.9 -0.1**
CD2 sS sS 22 55 54.5 +2.3
CD2 pmax pmax
comp=Z,140nm,0.6s
CD2 pmax pmax
comp=Z,110nm,5.7s
CD2 LR LR
comp=Z,560nm,14.1s
CD2 LR LR
comp=Z,530nm,19.6s
CD2 LR LR
comp=Z,820nm,17.5s
GYA Guiyang 37.43 256⇑*i*P **P** **22 49 53.8 +0.3**
GYA pP pP 22 50 07.0 +0.3
GYA sP sP 22 50 13.1 +0.4
GYA PP **PnPn** **22 51 20.7 0.0**
GYA PcP **PcP** **22 52 11.7 +0.4**
GYA S **S** **22 55 36.8 -1.6**
GYA sS sS 22 56 04.6 +4.0
GYA SS **SS** **22 58 15.7 -8.1**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,100nm,4.8s
GYA LR LR
comp=Z,630nm,18.0s
GYA LR LR
comp=Z,790nm,16.9s
GYA LR LR
comp=Z,680nm,17.3s
TGY Tagaytay City 37.60 226 P **P** **22 49 54.8 0.0**
comp=Z,442nm,0.9s,baz=226,slow=0.7,SNR=12
IMAR Indian Mountai 38.18 34 *e*P **P** **22 49 58.8 -0.4**
OHAK Old Harbor 38.42 49 *e*P **P** **22 50 00.8 -0.5**
RSO Redoubt South 38.47 43 *e*P **P** **22 50 02.7 +0.8**
PPLA Purkeypile 38.69 39 *e*P **P** **22 50 05.6 +1.9**
KDAK Kodiak Island 38.74 48 *e*P **P** **22 50 03.6 -0.4**
comp=Z,135nm,0.9s
KDAK Kodiak Island 38.74 48 *i*P **P** **22 50 03.4 -0.6**
KDAK Kodiak Island 38.74 48 P **P** **22 50 03.5 -0.5**
comp=Z,97nm,0.8s,baz=287,slow=4.4,SNR=75
CAST Castle Rocks 38.75 39 *e*P **P** **22 50 05.7 +1.6**
comp=Z,87nm,0.6s
BPAW Bear Paw Mtn. 39.24 37 *e*P **P** **22 50 09.3 +1.1**
comp=Z,53nm,0.8s
NRIK Noril'sk 39.26 331 P **P** **22 50 06.6 -1.6**
comp=Z,3.6nm,0.5s,baz=97,slow=6.5,SNR=8.5
NRIK PcP **PcP** **22 52 16.1 0.0**
comp=Z,22nm,0.5s,baz=89,slow=3.3,SNR=15
NRIK LR LR 23 07 45.2
comp=Z,726nm,19.3s,baz=88,slow=38
MLY Manley 39.37 36 *e*P **P** **22 50 10.7 +1.4**
comp=Z,108nm,0.8s
BRLK Bradley Lake 39.44 44 *e*P **P** **22 50 09.2 -0.7**
comp=Z,65nm,0.6s
RC01 Rabbit Creek A 39.91 42 *e*P **P** **22 50 13.6 -0.2**
comp=Z,134nm,0.8s
BWN Browne 39.91 37 *e*P **P** **22 50 15.9 +2.2**
comp=Z,641nm,1.2s
TOLK Toolik Lake Re 40.04 30 *e*P **P** **22 50 15.7 +0.9**
comp=Z,104nm,1.0s
TOLK Toolik Lake Re 40.04 30 P **P** **22 50 15.8 +0.9**
baz=265
TOLK S **S** **22 56 16.4 -0.3**
baz=265
MCK McKinley 40.16 38 *e*P **P** **22 50 16.3 +0.5**
comp=Z,61nm,0.8s
MCK McKinley 40.16 38 *e*P **P** **22 50 16.3 +0.5**
MCK pmax pmax
comp=Z,61nm,0.8s
RND Reindeer 40.20 39 *e*P **P** **22 50 16.5 +0.3**
comp=Z,59nm,0.8s
RND Reindeer 40.20 39 *e*P **P** **22 50 16.5 +0.3**
RND pmax pmax
comp=Z,59nm,0.8s
QIZ Qiongzhong 40.30 244 P **P** **22 50 19.5 +2.1**
QIZ pP **pP** **22 50 31.9 +1.2**
QIZ S **S** **22 56 25.0 +3.6**
QIZ sS **sS** **22 56 47.0 +3.3**
QIZ pmax pmax
comp=Z,8.0nm,1.0s
QIZ pmax pmax
comp=Z,83nm,3.8s
QIZ LR LR
comp=Z,240nm,22.1s
QIZ LR LR
comp=Z,300nm,17.2s
QIZ LR LR
comp=Z,470nm,26.0s
QIZ Qiongzhong 40.30 244 *e*P **P** **22 50 18.2 +0.8**
comp=Z,3.6nm,0.8s
MDM Murphy Dome 40.44 36 *e*P **P** **22 50 19.4 +1.3**
comp=Z,144nm,0.7s
KNK Knik Glacier 40.50 42 *e*P **P** **22 50 19.0 +0.3**
comp=Z,303nm,1.4s
WRH Wood River Hil 40.51 37 *e*P **P** **22 50 19.4 +0.8**
comp=Z,97nm,0.7s
TCOL CIGO, UAF Yank 40.60 36 P **P** **22 50 20.7 +1.4**
baz=271
COLA College 40.60 36 *e*P **P** **22 50 20.7 +1.3**
comp=Z,241nm,1.1s
COLA College 40.60 36 *c i*P **P** **22 50 20.4 +1.1**
COLA pmax pmax
comp=Z,156nm,1.0s
CCB Clear Creek Bu 40.63 37 *e*P **P** **22 50 20.1 +0.6**
comp=Z,46nm,0.7s
DGZ Jazzator, Alta 40.70 300 *i*P **P** **22 50 20.9 +0.3**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
POKR Poker Plat Res 40.77 36 P **P** **22 50 22.5 +1.6**
baz=271
DHY Denali Highway 40.89 39 *e*P **P** **22 50 22.3 +0.3**
comp=Z,142nm,1.3s
HDA Harding Lake 41.00 37 P **P** **22 50 22.8 +0.1**
baz=272
SCM Sheep Creek Mo 41.00 41 *e*P **P** **22 50 23.5 +0.7**
comp=Z,96nm,0.9s
ILAR Eielson Array 41.02 36 *e*P **P** **22 50 22.3 -0.5**
ILAR PcP **PcP** **22 52 20.8 -1.1**
ILAR Eielson Array 41.02 36 P **P** **22 50 23.1 +0.3**
comp=Z,64nm,0.6s,baz=268,slow=8.8,SNR=446
ILAR PcP **PcP** **22 52 20.8 -1.1**
comp=Z,4.8nm,0.6s,baz=283,slow=3.6,SNR=4.7
ILB Eielson Array 41.02 36 *e*P **P** **22 50 23.2 +0.4**
comp=Z,103nm,0.7s
KMI Kunming 41.02 258 P **P** **22 50 24.8 +1.2**
KMI pP pP 22 50 37.1 +0.1
KMI sP sP 22 50 43.6 +0.7
KMI PP **PnPn** **22 52 03.0 -0.5**
KMI S **S** **22 56 32.4 -0.2**
KMI sS sS 22 56 54.9 0.0
KMI SS **SS** **22 59 31.8 -4.3**
KMI pmax pmax
comp=Z,48nm,1.2s
KMI pmax pmax
comp=Z,210nm,4.1s
KMI LR LR
comp=Z,450nm,17.4s
KMI LR LR
comp=Z,560nm,16.1s
KMI LR LR
comp=Z,690nm,16.4s
ZALV Zalesovo Beam 41.23 307 P **P** **22 50 24.0 -0.6**
ZALV 22 52 23.3
ZALV pmax pmax
comp=Z,6.0nm,0.5s
ZALV MLR MLR
comp=Z,697nm,18.8s
ZALV Zalesovo Beam 41.23 307 P **P** **22 50 24.0 -0.6**
comp=Z,7.4nm,0.6s,baz=77,slow=5.9,SNR=23
ZALV PcP **PcP** **22 52 23.3 +0.6**
comp=Z,37nm,0.6s,baz=83,slow=2.7,SNR=30
ZALV LR LR 23 08 40.0
comp=Z,697nm,18.8s,baz=70,slow=38
PRP Porcupine Dome 41.56 35 *e*P **P** **22 50 27.9 +0.4**
comp=Z,163nm,0.8s
KLU Klutina 41.71 41 *e*P **P** **22 50 29.5 +0.9**
comp=Z,144nm,1.0s
PAX Paxson 41.76 39 *e*P **P** **22 50 29.5 +0.4**
comp=Z,29nm,1.0s
PAX Paxson 41.76 39 *e*P **P** **22 50 29.5 +0.4**
PAX pmax pmax
comp=Z,29nm,1.0s
DIV Divide 41.82 42 *e*P **P** **22 50 30.4 +0.9**
comp=Z,152nm,1.0s
EYAK Cordova Ski Ar 41.91 43 *e*P **P** **22 50 31.2 +1.1**
NVS Novosibirsk 41.93 309⇓*i*P **P** **22 50 30.9 +0.5**
NVS *i* 22 52 25.5
NVS *e*S **S** **22 56 40.9 -4.0**
NVS pmax pmax
comp=Z,29nm,1.1s
NVS pmax pmax
comp=N,9.0nm,1.0s
NVS pmax pmax
comp=E,26nm,1.2s
NVS smax smax
comp=N,17nm,2.1s
NVS smax smax
comp=E,19nm,1.9s
HARP HAARP 41.96 40 *e*P **P** **22 50 31.9 +1.3**
comp=E,103nm,0.7s
RIDG Independent Ri 41.97 38 *e*P **P** **22 50 30.7 0.0**
comp=E,73nm,0.7s
DOT Dot Lake 42.33 38 *e*P **P** **22 50 33.6 0.0**
comp=E,64nm,0.6s
SCRK Sand Creek 42.33 37 *e*P **P** **22 50 33.8 +0.1**
comp=E,120nm,1.0s
WMQ Urumqi 42.44 292 P **P** **22 50 36.7 +1.9**
WMQ pP pP 22 50 47.1 -1.1
WMQ sP sP 22 50 58.1 +4.0
WMQ S **S** **22 56 53.3 +0.4**
WMQ sS sS 22 57 10.5 -4.8
WMQ pmax pmax
comp=E,570nm,3.8s
WMQ LR LR
comp=E,2μm,18.5s
WMQ LR LR
comp=E,5μm,14.7s
WMQ LR LR
comp=E,6μm,18.7s
WMQ Urumqi 42.44 292 *e*P **P** **22 50 36.4 +1.6**
comp=E,1μm,1.0s
WMQ Urumqi 42.44 292 *e*P **P** **22 50 36.4 +1.6**
WMQ pmax pmax
comp=Z,1μm,1.0s
SLVN Son La 42.67 252 *e*P **P** **22 50 37.9 +1.0**
comp=Z,22nm,0.9s
HMT Hamilton 42.67 43 *e*P **P** **22 50 37.6 +1.2**
comp=Z,79nm,0.7s
BCAR Beaver Creek A 43.42 39 *e*P **P** **22 50 42.7 +0.2**
EGAK Eagle 43.46 36 *e*P **P** **22 50 43.0 +0.3**
comp=Z,366nm,1.5s
BALM Baldy 43.48 42 *e*P **P** **22 50 44.2 +1.1**
comp=Z,103nm,0.8s
BALM Baldy 43.48 42 *e*P **P** **22 50 44.2 +1.1**
BALM pmax pmax
comp=Z,103nm,0.8s
DAWY Dawson 44.32 37 *e*P **P** **22 50 50.4 +0.7**
comp=Z,25nm,0.6s
MK31 Makanchi Array 44.88 298 *e*P **P** **22 50 55.2 +0.8**
comp=Z,65nm,0.8s
MK31 Makanchi Array 44.88 298 *e*P **P** **22 50 55.2 +0.8**
MK31 pmax pmax
comp=Z,65nm,0.8s
MKAR Makanchi Array 44.88 298 *i*P **P** **22 50 55.0 +0.6**
MKAR pmax pmax
comp=Z,52nm,0.7s
MKAR Makanchi Array 44.88 298 P **P** **22 50 55.1 +0.8**
comp=Z,52nm,0.7s,baz=78,slow=8.6,SNR=250
MKAR PcP **PcP** **22 52 35.9 +0.7**
comp=Z,12nm,0.7s,baz=76,slow=4.9,SNR=4.1
MKAR LR LR 23 11 14.9
comp=Z,2μm,19.5s,baz=50,slow=38
MKAR Makanchi Array 44.88 298 *e*P **P** **22 50 55.0 +0.6**
BCPM Bancas Point 45.02 43 *e*P **P** **22 50 56.1 +0.9**
comp=Z,101nm,1.0s
EPYK Eagle Plains 45.06 33 *e*P **P** **22 50 57.2 +1.6**
comp=Z,348nm,1.0s
EPYK Eagle Plains 45.06 33 P **P** **22 50 57.1 +1.6**
baz=279
MAKZ Makanchi 45.08 298 *e*P **P** **22 50 56.7 +0.8**
comp=Z,66nm,0.8s
MAKZ Makanchi 45.08 298 *e*P **P** **22 50 56.7 +0.8**
MAKZ pmax pmax
comp=Z,66nm,0.8s
NONG Nongkai 45.43 250 P **P** **22 51 00.3 +1.4**
comp=Z,1.5nm,1.0s
SKNT Sakolnakorn 45.63 248 P **P** **22 51 01.7 +1.1**
comp=Z,67nm,1.3s
KURK Kurchatov 45.78 304 *e*P **P** **22 51 00.9 -0.4**
comp=Z,88nm,1.1s
KURK Kurchatov 45.78 304 *ce*P **P** **22 51 00.7 -0.6**
KURK pmax pmax
comp=Z,118nm,1.7s
HYT Haines Junctio 45.84 41 *e*P **P** **22 51 03.9 +2.1**
comp=Z,239nm,0.8s
KURBB Kurchatov Arra 45.87 304 P **P** **22 51 01.7 -0.3**
comp=Z,19nm,0.4s,baz=75,slow=7.8,SNR=162
KURBB PcP **PcP** **22 52 39.0 +0.6**
comp=Z,25nm,0.7s,baz=75,slow=3.3,SNR=17
KURBB S **S** **22 57 46.6 +4.3**
comp=Z,2.0nm,1.0s,baz=76,slow=16,SNR=6.2
INK Inuvik 45.96 30 *e*P **P** **22 51 03.7 +1.2**
comp=Z,172nm,1.0s
INK PcP **PcP** **22 52 38.8 +0.3**
INK Inuvik 45.96 30 P **P** **22 51 03.6 +1.2**
comp=Z,105nm,0.6s,baz=292,slow=7.0,SNR=776
INK PcP **PcP** **22 52 38.8 +0.3**
comp=Z,26nm,0.9s,baz=266,slow=2.1,SNR=4.4
DLV T Lat 46.46 239 *e*P **P** **22 51 08.2 +0.9**
DLV *ep*P **pP** **22 51 22.6 +1.7**
LSA Lhasa 46.65 272 *e*P **P** **22 51 10.5 +1.5**
comp=Z,603nm,1.1s
LSA Lhasa 46.65 272 P **P** **22 51 10.8 +1.8**
JAY Jayapura 46.73 190 P **P** **22 51 09.5 +0.3**
comp=Z,16nm,0.8s,baz=3.0,slow=5.4,SNR=8.0
KHON Khomkaen 46.86 248 P **P** **22 51 11.6 +1.4**

comp=Z,224μm,0.9s
GENI Genyem 46.88 190 P **P 22 51 09.8 -0.5**
WHY Whitehorse 47.13 41 *e*P **P 22 51 13.6 +1.6**
comp=Z,37nm,0.8s
SKAG Skagway 47.25 43 *e*P **P 22 51 14.6 +1.9**
comp=Z,66nm,1.4s
UTTA Uttaradit 47.42 252 P **P 22 51 15.9 +1.4**
comp=Z,63μm,0.9s,comp=Z,472μm
LAMP Lampang 47.52 253 P **P 22 51 16.9 +1.6**
comp=Z,127μm,0.8s
CHAI Chaiyaphum 47.73 249 P **P 22 51 17.8 +0.8**
comp=Z,174μm,0.9s
BESE Bessie Mountai 47.75 44 *e*P **P 22 51 18.2 +1.5**
CMMT Chiang Mai 47.80 254 P **P 22 51 18.7 +1.2**
comp=Z,49nm,1.0s,comp=Z,386nm
CHTO Chiang Mai 47.80 254 *e*P **P 22 51 18.8 +1.3**
comp=Z,62nm,0.8s
CHTO Chiang Mai 47.80 254 *e*P **P 22 51 18.8 +1.3**
CHTO pmax pmax
comp=Z,62nm,0.8s
SIT Sitka 47.99 46 *e*P **P 22 51 20.8 +2.3**
SIT Sitka 47.99 46 P **P 22 51 20.8 +2.3**
CM31 Chiang Mai Arr 48.04 254 *e*P **P 22 51 21.1 +1.8**
comp=Z,40nm,0.9s
CMAR Chiang Mai Arr 48.04 254 *e*P **P 22 51 20.3 +1.0**
CMAR Chiang Mai Arr 48.04 254 P **P 22 51 20.9 +1.5**
comp=Z,14nm,0.7s,baz=43,slow=7.3,SNR=79
JIS Juneau Island 48.08 44 *e*P **P 22 51 21.0 +1.9**
comp=Z,60nm,0.6s
TDK Taldyqorghan 48.08 297 *d i*P **P 22 51 21.1 +1.7**
TDK *e*S **S 22 58 14.2 +0.1**
TDK pmax pmax
comp=Z,115nm,0.6s
TDK smax smax
comp=E,37nm,1.9s
TDK MLR MLR
comp=Z,461nm,17.0s
TDK Taldyqorghan 48.08 297⇓ *i*P **P 22 51 21.1 +1.7**
comp=Z,116nm,0.6s
TDK *e*S **S 22 58 14.3 +0.1**
comp=Z,37nm,1.9s
TDK *e*LR LR 23 11 51.5
comp=Z,461nm,16.8s
PDGK Podgornoye 48.09 294 P **P 22 51 20.3 +0.6**
PDGK pmax pmax
comp=Z,75nm,0.9s
KMSI Cibinong 48.15 213 P **P 22 51 20.7 +0.5**
SHLS Shalkode 48.18 294 *e*P **P 22 51 18.7 -1.7**
SHLS *e*S **S 22 58 12.8 -3.0**
SHLS pmax pmax
comp=Z,30nm,0.7s
SHLS smax smax
comp=N,65nm,2.8s
SHLS MLR MLR
comp=Z,310nm,15.0s
SHLS Shalkode 48.18 294 *e*P **P 22 51 18.7 -1.7**
comp=Z,30nm,0.7s
SHLS *e*S **S 22 58 12.8 -3.0**
comp=Z,65nm,2.9s
SHLS *e*LR LR 23 13 06.5
comp=Z,310nm,15.5s
UZB Uzynbulak 48.48 294 *d i*P **P 22 51 23.4 +0.8**
UZB *e*S **S 22 58 20.6 +0.6**
UZB pmax pmax
comp=Z,40nm,0.9s
UZB smax smax
comp=E,41nm,3.4s
UZB MLR MLR
comp=Z,298nm,19.0s
UZB Uzynbulak 48.48 294⇓ *i*P **P 22 51 23.5 +0.8**
comp=Z,40nm,0.9s
UZB *e*S **S 22 58 20.6 +0.6**
comp=Z,41nm,3.4s
UZB *e*LR LR 23 13 09.4
comp=Z,298nm,19.2s
SHL Shillong 48.51 267 *e*P **P 22 51 23.7 +0.5**
comp=Z,56nm,0.8s
SHL Shillong 48.51 267 *e*P **P 22 51 23.7 +0.5**
SHL pmax pmax
comp=Z,56nm,0.8s
SHL Shillong 48.51 267 *e*P **P 22 51 21.8 -1.4**
KPKS Kokpek 48.56 295⇓ *e*P **P 22 51 23.9 +0.7**
KPKS pmax pmax
comp=Z,66nm,0.9s
KPKS MLR MLR
comp=Z,271nm,15.0s
KPKS Kokpek 48.56 295⇓ *e*P **P 22 51 23.9 +0.7**
comp=Z,66nm,0.8s
KPKS *e*LR LR 23 13 28.5
comp=Z,271nm,15.4s
FAKI Fak Fak 48.74 201 *e*P **P 22 51 23.3 -1.4**
comp=Z,74nm,1.5s
FAKI Fak Fak 48.74 201 P **P 22 51 24.3 -0.4**
MRSI Marisa 49.06 215 P **P 22 51 27.6 +0.4**
BRZS Berezniki 49.59 305 *e*P **P 22 51 30.8 0.0**
BRZS pmax pmax
comp=Z,86nm,0.8s
BRZS Berezniki 49.59 305 *e*P **P 22 51 30.9 0.0**
comp=Z,86nm,0.8s
UMPA Umpang Tak 49.65 252 P **P 22 51 35.2 +3.5**
comp=Z,109μm,1.1s
CRAG Craig 49.70 47 *e*P **P 22 51 33.7 +2.1**
BVAR Borovoye Array 49.71 309 P **P 22 51 32.3 +0.6**
comp=Z,18nm,0.6s,baz=76,slow=7.8,SNR=78
BVAR PcP **PcP 22 52 53.0 +0.8**
comp=Z,13nm,0.5s,baz=89,slow=4.1,SNR=8.6
BVAR S **S 22 58 32.9 -3.8**
comp=Z,1.3nm,0.7s,baz=83,slow=12,SNR=3.6
WRAK Wrangell Islan 49.75 46 *e*P **P 22 51 33.5 +1.5**
comp=Z,29nm,0.8s
BRVK Borovoye 49.76 309 *e*P **P 22 51 32.4 +0.4**
comp=Z,43nm,0.9s
BRVK Borovoye 49.76 309 *c i*P **P 22 51 32.3 +0.2**
BRVK pmax pmax
comp=Z,40nm,0.9s
BRVK Borovoye 49.76 309 *e*P **P 22 51 32.3 +0.2**
MDOK Medeo 49.77 295 *e*P **P 22 51 33.6 +1.1**
MDOK MLR MLR
comp=Z,283nm,19.0s
MDOK Medeo 49.77 295 *e*P **P 22 51 33.7 +1.1**
comp=Z,974nm,0.9s
MDOK *e*LR LR 23 13 52.0
comp=Z,283nm,18.8s
SANI Sanana 49.83 209 P **P 22 51 32.2 -0.8**
comp=Z,50nm,1.1s,comp=Z,629nm
KUU Kurty 49.90 296 *e*P **P 22 51 33.7 +0.4**
KUU *e*S **S 22 58 37.2 -2.5**
KUU pmax pmax
comp=Z,79nm,0.7s
KUU smax smax
comp=N,92nm,4.7s
KUU MLR MLR
comp=Z,293nm,13.0s
KUU Kurty 49.90 296 *e*P **P 22 51 33.7 +0.4**
comp=Z,79nm,0.7s
KUU *e*S **S 22 58 37.2 -2.5**
comp=Z,92nm,4.7s
KUU *e*LR LR 23 14 18.7
comp=Z,293nm,13.3s
MPSI Mapaga 50.06 218 P **P 22 51 34.6 -0.2**
comp=Z,13nm,1.0s,comp=Z,436nm
LUWI Luwuk 50.10 213 *e*P **P 22 51 33.3 -1.8**
comp=Z,54nm,1.2s
LUWI Luwuk 50.10 213 P **P 22 51 34.5 -0.6**
KDJ Kajisay 50.15 294 *e*P **P 22 51 36.9 +1.4**
comp=Z,71nm,0.7s
KDJ Kajisay 50.15 294 *e*P **P 22 51 36.9 +1.4**
KDJ pmax pmax
comp=Z,71nm,0.7s
DLBC Dease Lake 50.18 43 *e*P **P 22 51 37.4 +2.0**
comp=Z,35nm,0.6s
DLBC Dease Lake 50.18 43 P **P 22 51 36.7 +1.3**
comp=Z,23nm,0.5s,baz=276,slow=3.9,SNR=89
APSI Ampana 50.44 215 P **P 22 51 36.9 -0.7**
comp=Z,58nm,1.3s,comp=Z,571nm
OTUK Ortayu 50.51 303 P **P 22 51 39.0 +1.1**
OTUK pmax pmax
comp=Z,106nm,1.0s
ULHL UlahoI **50.71 294** P **P 22 51 41.6 +1.8**
SNR=14
SRDT SRDT 50.77 250 P **P 22 51 43.6 +3.4**
comp=Z,20nm,0.7s
TKM2 Tokmak 2 50.82 296 P **P 22 51 42.5 +1.9**
SNR=85
BTLS Baital 50.85 299 *e*P **P 22 51 40.6 +0.1**
BTLS *e*S **S 22 58 52.4 -0.4**
BTLS pmax pmax
comp=Z,31nm,1.4s
BTLS smax smax
comp=N,19nm,3.5s
BTLS MLR MLR
comp=Z,342nm,19.0s
BTLS Baital 50.85 299 *e*P **P 22 51 40.7 +0.1**
comp=Z,31nm,1.4s
BTLS *e*S **S 22 58 52.5 -0.4**
comp=Z,19nm,3.5s
BTLS *e*LR LR 23 13 53.5
comp=Z,342nm,19.0s
DIB Dawson Inlet, 50.93 50 *e*P **P 22 51 42.1 +1.3**
comp=Z,85nm,1.4s
NRN Naryn 51.26 294 *e*P **P 22 51 45.3 +1.3**
NRN Naryn 51.26 294 *e*P **P 22 51 45.3 +1.3**
CHMS Chumysh 51.34 296 P **P 22 51 45.3 +1.1**
SNR=28
KBK Karagaybulak 51.37 296 P **P 22 51 46.0 +1.4**
SNR=132
USP Ospenovka 51.37 296 P **P 22 51 45.7 +1.2**
SNR=98
JIRN Jiri 51.39 273 *e*P **P 22 51 46.5 +1.3**
KZA Kyzart 51.44 295 P **P 22 51 47.6 +2.2**
SNR=70
PHET Kaeng Krachan 51.46 248 P **P 22 51 47.6 +2.2**
comp=Z,196μm,0.9s
FRU1 Bishkek 51.50 296 *e*P **P 22 51 47.3 +1.8**
comp=Z,68nm,0.6s
FRU1 Bishkek 51.50 296 *e*P **P 22 51 47.3 +1.8**
FRU1 pmax pmax
comp=Z,68nm,0.6s
RAMN Ramite 51.51 272 *e*P **P 22 51 46.9 +1.0**
comp=Z,329nm,0.5s
AAK Ala-Archa 51.67 296 P **P 22 51 48.2 +1.3**
SNR=50
AAK Ala-Archa 51.67 296 *e*P **P 22 51 48.1 +1.2**
comp=Z,119nm,1.4s
AAK Ala-Archa 51.67 296 *i* P **P 22 51 48.0 +1.2**
SNR=58
AAK Ala-Archa 51.67 296 *ce*P **P 22 51 47.8 +1.0**
AAK pmax pmax
comp=Z,77nm,1.3s
AAK Ala-Archa 51.67 296 P **P 22 51 47.9 +1.0**
comp=Z,36nm,0.6s,baz=106,slow=5.7,SNR=158
UCH Uchtor 51.85 295 P **P 22 51 50.2 +1.6**
SNR=14
KKN Kakani 51.97 274 *e*P **P 22 51 50.4 +1.1**
comp=Z,154nm,0.8s
SMKI Samarinda 51.98 220 P **P 22 51 52.5 +3.3**
PKI Pulchoki 52.00 273 *e*P **P 22 51 50.5 +0.8**
comp=Z,86nm,0.8s
PKIN Phulchoki 52.01 273 *e*P **P 22 51 50.5 +0.8**
comp=Z,42nm,0.4s
EKS2 Erkin-Say 52.13 296 P **P 22 51 51.7 +1.5**
SNR=44
DMN Daman 52.20 274 *e*P **P 22 51 52.3 +1.2**
comp=Z,205nm,0.8s
KSH Kashi 52.21 292 P P 22 51 56.0 +5.2
KSH S **S 22 59 17.0 +5.1**
KSH SS **SS 23 02 57.7 +8.3**
KSH pmax pmax
comp=Z,110nm,1.2s
KSH LR LR
comp=Z,510nm,13.3s
KSH LR LR
comp=Z,450nm,13.9s
KSH LR LR
comp=Z,850nm,12.5s
GKN Gorkha 52.31 274 *e*P **P 22 51 52.8 +1.0**
comp=Z,160nm,0.8s
AML Almayashu 52.43 296 P **P 22 51 54.6 +1.8**
SNR=50
DANN Dangsing 52.74 275 *e*P **P 22 51 56.7 +1.6**
comp=Z,471nm,0.7s
KOLN Koldanda 53.19 275 *e*P **P 22 51 59.6 +1.3**
comp=Z,226nm,0.8s
SVE Sverdlovsk 53.28 317 *e*P **P 22 51 58.4 0.0**
SVE pmax pmax
comp=Z,84nm,1.0s
SVE MLR MLR
comp=Z,643nm,15.0s
PYUN Piuthan 53.43 276 *e*P **P 22 52 01.5 +1.3**
comp=Z,146nm,0.5s
BOK Bokaro 53.91 269 *e*P **P 22 52 03.4 0.0**
BOK IAmb IAmb 22 52 18.0
comp=Z,74nm,1.3s
SPSI Sidrap Palu 53.98 215 P **P 22 52 06.3 +2.4**
comp=Z,12nm,0.9s
KK31 Karatay Array 54.01 298 *e*P **P 22 52 04.5 +0.6**
comp=Z,71nm,0.8s
KK31 Karatay Array 54.01 298 *e*P **P 22 52 04.6 +0.6**
KK31 pmax pmax
comp=Z,71nm,0.8s
KKAR Karatay Array 54.01 298 *e*P **P 22 52 04.5 +0.6**
KKAR Karatay Array 54.01 298 *e*P **P 22 52 04.6 +0.6**
BBSI Bau Bau 54.25 212 P P 22 52 11.2 +5.3
comp=Z,45nm,1.1s,comp=Z,30μm
JBG Jabagly 54.33 297 *e*P **P 22 52 07.7 +1.3**
JBG *e*S **S 22 59 42.6 +2.0**
JBG pmax pmax
comp=Z,39nm,1.1s
JBG smax smax
comp=N,52nm,2.7s
JBG MLR MLR
comp=Z,257nm,17.0s
ARU Arti 54.49 317 *e*P **P 22 52 06.7 -0.4**
comp=Z,57nm,0.6s
ARU Arti 54.49 317 *c i*P **P 22 52 06.2 -1.0**
ARU *PP **pP 22 52 20.7 -0.3**
ARU 22 53 09.7
ARU 22 54 06.9
ARU S **S 22 59 42.1 0.0**
ARU 23 01 43.9
ARU SS **SS 23 03 20.5 -3.9**
ARU pmax pmax
comp=Z,116nm,1.4s
ARU MLR MLR
comp=Z,707nm,18.0s
RES Resolute Bay 54.60 17 P **P 22 52 07.3 -0.4**
comp=Z,57nm,0.7s,baz=314,slow=7.4,SNR=185
RES PcP **PcP 22 53 10.2 +0.1**
comp=Z,35nm,0.8s,baz=306,slow=3.5,SNR=6.8
SPITS Spitsbergen Ar 54.63 349 P **P 22 52 07.8 -0.2**
CHM Chimkent 54.98 298 *e*P **P 22 52 11.6 +0.6**
CHM pmax pmax
comp=Z,58nm,0.8s
CHM Chimkent 54.98 298 *e*P **P 22 52 11.6 +0.6**
comp=Z,58nm,0.8s
BKSI Bulukumba 55.06 214 P **P 22 52 13.9 +2.2**
comp=Z,18nm,1.0s
SKLT Songkhla 55.06 243 P **P 22 52 13.9 +2.1**
comp=Z,43nm,0.9s
TRTT Trang 55.16 244 P **P 22 52 15.0 +2.5**
comp=Z,38nm,1.2s
KRAB Krabi 55.19 245 P **P 22 52 14.7 +1.9**
comp=Z,516μm,0.8s
YKW3 Yellowknife Ar 55.30 34 *e*P **P 22 52 13.3 +0.4**
YKA Yellowknife Ar 55.34 34 P **P 22 52 13.4 +0.2**
comp=Z,28nm,0.7s,baz=298,slow=6.9,SNR=229
YKA PcP **PcP 22 53 13.5 +0.3**
comp=Z,9.8nm,0.7s,baz=303,slow=3.8,SNR=8.2
YKA S **S 22 59 56.8 +3.5**
comp=Z,0.2nm,0.4s,baz=307,slow=13,SNR=4.0
YKA LR LR 23 18 20.5
comp=Z,18nm,19.3s,baz=298,slow=39
YKA PKP2bc 23 22 24.0
comp=Z,0.3nm,0.7s,baz=104,slow=2.4,SNR=5.8
BTK Batken 55.35 295 *e*P **P 22 52 14.9 +1.1**
comp=Z,35nm,0.6s
BTK Batken 55.35 295 *e*P **P 22 52 14.9 +1.1**
BTK pmax pmax
comp=Z,35nm,0.6s
HSPB Hornsund (broa 55.65 348 *e*P **P 22 52 13.6 -1.6**
DDI Dehra Dun 55.68 281 *e*P **P 22 52 16.6 +0.4**
DDI IAmb IAmb 22 52 18.3
TAS Tashkent 55.69 297 P **P 22 52 18.0 +1.9**
TAS pmax pmax
comp=Z,91nm,1.0s
DHRM DHARAMSHALA 55.83 284 *e*P **P 22 52 18.3 +0.8**
DHRM IAmb IAmb 22 52 18.6
comp=Z,78nm,0.6s
BWNR Bhubaneshwar 56.16 266 *e*P **P 22 52 17.3 -2.3**
GAR Garm 56.24 294 *e*P **P 22 52 21.3 +1.1**
comp=Z,191nm,1.2s
GAR Garm 56.24 294 *e*P **P 22 52 21.3 +1.1**
GAR pmax pmax
comp=Z,191nm,1.2s
KULM Kulim 56.48 241 P **P 22 52 24.0 +2.0**
IPM Ipoh 56.87 240 P **P 22 52 26.0 +1.2**
PBA Port Blair 57.05 253 *e*P P 22 52 23.6 -2.3
ABKAR Akbulak array 57.27 309 *e*P **P 22 52 27.8 +0.6**
MMRI Maumere 57.27 210 P **P 22 52 29.1 +1.6**
TULEG Thule 57.51 10 *e*P **P 22 52 27.2 -1.2**
comp=Z,134nm,1.4s
SOEI Soe 57.60 208 *e*P **P 22 52 28.9 -1.0**
comp=Z,45nm,1.1s
SOEI Soe 57.60 208 P **P 22 52 31.3 +1.3**
comp=Z,37nm,1.4s
PRGR Permogore 57.62 326 *e*P **P 22 52 27.9 -1.5**
PRGR S **S 23 00 21.7 -1.8**
PRGR pmax pmax
comp=Z,36nm,0.9s
KIRV Kirov 57.69 322 P **P 22 52 30.1 +0.1**
comp=Z,75nm,0.5s,baz=59,slow=3.0,SNR=43
KIRV PcP **PcP 22 53 22.8 +0.5**
comp=Z,30nm,0.6s,baz=156,slow=2.5,SNR=4.6
AKTO Aktyubinsk 57.73 311 P **P 22 52 31.1 +0.7**
comp=Z,35nm,0.6s,baz=71,slow=8.0,SNR=106
LVZ Lovozero 57.77 336 *e*P **P 22 52 29.4 -1.0**
comp=Z,25nm,1.0s
LVZ Lovozero 57.77 336 *ce*P **P 22 52 31.0 +0.5**
LVZ pmax pmax
comp=Z,20nm,1.3s
COEN Coen 57.82 185 *e*P **P 22 52 31.8 +0.5**
comp=Z,44nm,1.2s
COEN *e*pP **pP 22 52 45.8 +0.9**
PGC Sidney 58.10 51 *e*P **P 22 52 33.6 +0.6**
comp=Z,20nm,0.9s
APA Apatity 58.35 336⇑ *i*P **P 22 52 33.7 -0.7**
APA pmax pmax
comp=Z,15nm,0.7s
A04D Lummi Island 58.48 51 P **P 22 52 35.7 +0.1**
baz=302
NLWA Neilton Lookou 58.53 53 *e*P **P 22 52 37.2 +1.1**
comp=Z,65nm,0.9s
MTN Manton Dam 58.57 199 *e*P **P 22 52 36.6 +0.1**
comp=Z,96nm,1.0s
KEV Kevo 58.65 340 *e*P **P 22 52 35.5 -1.0**
comp=Z,16nm,0.7s
KEV Kevo 58.65 340 *e*P **P 22 52 35.5 -1.0**
KEV pmax pmax
comp=Z,16nm,0.7s
TPI Tanjungpandan 58.80 229 P **P 22 52 39.3 +1.1**
comp=Z,44nm,1.0s
HAMF Hammerfest 58.83 341 *e*P **P 22 52 36.7 -1.0**
D03D Eldon 58.90 52 P **P 22 52 39.5 +0.9**
baz=303,SNR=20
TMCR Tamitsa 58.99 331 *e*P **P 22 52 37.7 -1.2**
TMCR pmax pmax
comp=Z,47nm,0.7s
B05A Bryant 59.07 51 P **P 22 52 40.2 +0.5**
baz=303,SNR=16
PPBI Pangkal Pinang 59.14 231 P **P 22 52 42.4 +1.8**
ARCES ARCESS Array B 59.18 340 P **P 22 52 39.4 -0.8**
comp=Z,12nm,0.6s,baz=45,slow=8.0,SNR=51
ARCES PcP **PcP 22 53 28.4 +0.2**
comp=Z,12nm,0.8s,baz=56,slow=4.5,SNR=9.4
ARCES LR LR 23 21 45.6
comp=Z,724nm,20.4s,baz=14,slow=40
ARE0 ARCESS Array S 59.18 340 *e*P **P 22 52 39.5 -0.7**
comp=Z,1.4nm,1.1s
ARE0 ARCESS Array S 59.18 340 *e*P **P 22 52 38.6 -1.6**
DAG Danmarks Havn 59.21 356 *i* P **P 22 52 38.5 -1.8**
DAG Danmarks Havn 59.21 356 *i* P **P 22 52 38.5 -1.8**
B06A Marblemount 59.27 51 *e*P **P 22 52 41.3 +0.2**
comp=Z,29nm,0.6s
D04E Lakebay 59.27 53 P **P 22 52 42.0 +0.9**
baz=303
PSI Prapat 59.48 241 *e*P **P 22 52 43.7 +0.5**
comp=Z,26nm,0.9s
PSI *e*pP **pP 22 52 56.7 -0.5**
PSI Prapat 59.48 241 *e*P **P 22 52 43.7 +0.5**
PSI *e*PP **pP 22 52 56.7 -0.5**
PSI pmax pmax
comp=Z,26nm,0.9s
F03A Seaside 59.50 54 *e*P **P 22 52 44.0 +1.3**
comp=Z,218nm,1.4s
KBL Kabul 59.54 290 *e*P **P 22 52 43.6 +0.1**
comp=Z,32nm,0.6s
KBL Kabul 59.54 290 *e*P **P 22 52 43.6 +0.1**
KBL pmax pmax
comp=Z,32nm,0.6s
CMBY CAMPBELL BAY 59.58 248 *e*P **P 22 52 40.8 -2.9**
SRBI Singaraja 59.64 218 P **P 22 52 44.3 +0.3**
D05A Enumclaw 59.71 52 *e*P **P 22 52 45.4 +1.2**
comp=Z,42nm,0.8s
E04D Cinebar 59.73 53 P **P 22 52 45.4 +1.1**
baz=303,SNR=24
F04D Rainier, OR 59.73 54 P **P 22 52 45.3 +1.0**
baz=303
C06D Leavenworth 59.93 51 P **P 22 52 46.1 +0.4**
baz=304
G03D McMinnville, O 60.06 55 P **P 22 52 47.8 +1.2**
baz=304,SNR=6.5
BKNI Bangkinang 60.11 237 *e*P **P 22 52 49.1 +1.8**
comp=Z,240nm,0.9s
BKNI Bangkinang 60.11 237 P **P 22 52 49.2 +1.9**
KTK1 Kautokeino 60.12 340 *e*P **P 22 52 46.3 -0.3**
I02D Swisshome 60.33 56 P **P 22 52 49.6 +1.2**
baz=304,SNR=6.4
BHPL Bhopal 60.36 275 *e*P **P 22 52 49.3 +0.3**
BHPL IAmb IAmb 22 52 50.4
comp=Z,74nm,0.7s
COR Corvallis 60.39 55 *e*P **P 22 52 50.8 +1.9**
comp=Z,119nm,0.9s
COR Corvallis 60.39 55 *e*P **P 22 52 50.8 +1.9**
COR pmax pmax
comp=Z,119nm,0.9s
LTY Liberty 60.42 52 *e*P **P 22 52 49.5 +0.3**
comp=Z,18nm,0.7s
KLMR Klimovskoe 60.48 328⇑ *i*P **P 22 52 48.2 -1.0**
KLMR pmax pmax
comp=Z,35nm,0.9s
NGP Nagpur 60.49 272 *e*P **P 22 52 49.1 -0.8**
NGP IAmb IAmb 22 52 51.5
KULLO Kullorsuaq 60.53 7⇑ *i*P **P 22 52 49.0 -0.4**
KULLO pmax pmax
comp=Z,56nm,0.7s
KULLO Kullorsuaq 60.53 7⇑ *i*P **P 22 52 49.0 -0.4**
comp=Z,56nm,0.7s
B08A Colville Reser 60.55 50 *e*P **P 22 52 50.4 +0.3**
comp=Z,27nm,0.7s
TRO Tromso 60.67 342 *e*P **P 22 52 49.0 -1.4**
KEBM Edson Butte 60.73 57 *e*P **P 22 52 53.1 +1.8**
comp=Z,98nm,0.9s
F05D White Salmon 60.74 53 P **P 22 52 52.2 +0.9**
baz=304,SNR=7.5
H04D Lebanon 60.76 55 P **P 22 52 52.6 +1.2**
baz=304,SNR=11
J01E Myrtle Point 60.81 57 P **P 22 52 52.9 +1.2**
baz=304,SNR=16
I03D Drain, OR 60.86 56 P **P 22 52 53.6 +1.5**
baz=304,SNR=19
SMRI Semarang 60.98 224 *e*P **P 22 52 54.3 +1.0**
comp=Z,141nm,0.8s
SMRI Semarang 60.98 224 P **P 22 52 54.5 +1.3**
H04A Detroit Lake 60.99 55 *e*P **P 22 52 53.9 +0.8**
comp=Z,82nm,0.9s
G05D Wamic, OR 61.19 54 P **P 22 52 55.3 +1.0**
baz=305,SNR=16
K02D Willamette Mer 61.24 57 P **P 22 52 55.7 +0.9**
baz=305,SNR=25
E07A Sunnyside 61.28 52 *e*P **P 22 52 55.8 +0.8**
comp=Z,68nm,1.0s
I04A Tendick Farm, 61.37 56 P **P 22 52 56.4 +0.8**
baz=305,SNR=28
C09A Chrisman Ranch 61.46 50 *e*P **P 22 52 56.5 +0.3**
comp=Z,108nm,1.5s
GSI Gunungsitoli 61.49 241 *e*P **P 22 52 57.1 +0.4**
comp=Z,48nm,1.1s
D08A Wollman Farm, 61.52 51 *e*P **P 22 52 56.8 +0.3**
comp=Z,27nm,0.7s
HAWA Hanford 61.56 52 *e*P **P 22 52 57.5 +0.7**
comp=Z,68nm,1.3s
L02E Cave Junction 61.58 58 P **P 22 52 58.0 +1.0**
baz=305,SNR=21
G06A Carlson Farm, 61.59 53 *e*P **P 22 52 57.7 +0.6**
comp=Z,45nm,1.0s
F07A Phinny Hill Vi 61.62 52 *e*P **P 22 52 58.4 +1.2**
comp=Z,101nm,0.8s
UGM Wanagama 61.69 223 *e*P **P 22 52 57.4 -0.6**
comp=Z,162nm,1.1s
UGM Wanagama 61.69 223 P **P 22 52 59.1 +1.1**
comp=Z,139nm,1.0s

I05D Terrebonne, OR 61.69 55 P P 22 52 58.6 +0.8
baz=305,SNR=26
HUMO Hull Mountain 61.72 57 *e*P **P 22 52 59.1 +1.1**
comp=Z,39nm,1.4s
KRMB Red Mountain 61.76 58 *e*P **P 22 52 59.5 +1.2**
comp=Z,26nm,0.7s
E08A Dider Farm, El 61.77 52 *e*P **P 22 52 59.0 +0.8**
comp=Z,32nm,0.8s
NEW Newport 61.82 49 *e*P **P 22 52 59.0 +0.4**
comp=Z,34nm,0.8s
NEW Newport 61.82 49 *e*P **P 22 52 59.0 +0.4**
NEW pmax pmax
comp=Z,34nm,0.8s
NEW Newport 61.82 49 P **P 22 52 58.9 +0.4**
baz=305,SNR=29
J04D Umpqua Nationa 61.86 56 P **P 22 53 00.1 +0.9**
baz=305,SNR=17
JCC Jacoby Creek, 62.09 59 *e*P **P 22 53 01.8 +1.4**
comp=Z,133nm,1.4s
KHMM Horse Mountain 62.24 59 *e*P **P 22 53 03.1 +1.4**
comp=Z,75nm,0.8s
PINE Pine Mountain 62.24 55 *e*P **P 22 53 02.9 +1.2**
comp=Z,107nm,0.8s
E09A Wood Farm, Sta 62.27 51 *e*P **P 22 53 02.2 +0.7**
comp=Z,119nm,1.4s
L04D Klamath Falls 62.34 57 P **P 22 53 03.1 +0.9**
baz=306,SNR=86
J05D Fort Rock, OR 62.36 56 P **P 22 53 03.6 +1.1**
baz=306,SNR=39
YBH Yreka Blue Hor 62.37 58 *e*P **P 22 53 03.5 +1.1**
comp=Z,43nm,0.8s
YBH Yreka Blue Hor 62.37 58 *e*P **P 22 53 03.5 +1.1**
YBH pmax pmax
comp=Z,43nm,0.8s
K04D Chiloquin, OR 62.43 56 P **P 22 53 03.7 +0.8**
baz=306,SNR=7.5
M02C Callahan 62.48 58 P **P 22 53 04.5 +1.4**
baz=306,SNR=47
G08A Pilot Rock 62.52 53 *e*P **P 22 53 04.0 +0.5**
comp=Z,28nm,1.3s
KMRM Mail Ridge 62.63 60 *e*P **P 22 53 05.6 +1.4**
comp=Z,39nm,0.8s
N02D Trinity Center 62.81 58 P **P 22 53 06.7 +1.3**
baz=306,SNR=51
STEI Steigen 62.85 342 *e*P **P 22 53 04.0 -1.0**
M04C Macdoel 62.87 57 P **P 22 53 06.9 +1.1**
baz=306,SNR=38
K05A Summer Lake 62.89 56 *e*P **P 22 53 07.3 +1.3**
comp=Z,127nm,0.9s
I07A Izee 62.91 54 *e*P **P 22 53 06.7 +0.7**
comp=Z,24nm,1.0s
KCPM Cahto Peak 63.02 60 *e*P **P 22 53 07.9 +1.1**
comp=Z,78nm,0.8s
LOF Lofoten 63.06 342 *e*P **P 22 53 06.2 -0.3**
CGJI Cibinong 63.08 228 P P 22 53 12.7 +5.5
comp=Z,42nm,1.4s
F10A Beach Ranch, E 63.10 51 *e*P **P 22 53 07.8 +0.6**
comp=Z,15nm,0.8s
WDC Whiskeytown Da 63.15 59 *e*P **P 22 53 08.3 +0.8**
comp=Z,50nm,0.9s
WDC Whiskeytown Da 63.15 59 *e*P **P 22 53 08.3 +0.8**
WDC pmax pmax
comp=Z,50nm,0.9s
O02D Mt. Diablo Mer 63.23 59 P **P 22 53 09.3 +1.2**
baz=306,SNR=53
HYB Hyderabad 63.25 269 *i* P **P 22 53 09.0 +0.5**
comp=Z,120nm,1.0s
HYB *e* 22 53 22.5
SUMG Summit 63.65 2 *e*P **P 22 53 10.7 -0.1**
comp=Z,82nm,0.7s
SUMG Summit 63.65 2⇑*i*P **P 22 53 11.7 +0.9**
SUMG pmax pmax
comp=Z,210nm,0.7s
SUMG Summit 63.65 2⇑*i*P **P 22 53 11.7 +0.9**
comp=Z,209nm,0.7s
BMO Blue Mountains 63.73 52 *e*P **P 22 53 12.0 +0.6**
comp=Z,13nm,0.8s
MOD Modoc Plateau 63.73 56 *e*P **P 22 53 12.2 +0.7**
comp=Z,54nm,0.8s
HOPS Hopland Field 63.75 60 *e*P **P 22 53 12.1 +0.6**
comp=Z,66nm,1.4s
O03E Paynes Creek 63.77 59 P **P 22 53 11.9 +0.2**
baz=306,SNR=63
CTA Charters Tower 63.78 182 P **P 22 53 11.4 -0.3**
comp=Z,12nm,0.7s,baz=7.8,slow=8.7
J08A Circle Bar Ran 63.94 54 *e*P **P 22 53 13.8 +0.9**
comp=Z,79nm,1.3s
GDXM Geysers 64.04 60 *e*P **P 22 53 14.9 +1.4**
comp=Z,37nm,1.0s
ORV Oroville 64.40 59 *e*P **P 22 53 15.8 +0.1**
comp=Z,41nm,0.9s
ORV Oroville 64.40 59 *e*P **P 22 53 15.8 +0.1**
ORV pmax pmax
comp=Z,41nm,0.9s
WVOR Wild Horse Val 64.40 55 *e*P **P 22 53 16.5 +0.6**
WVOR Wild Horse Val 64.40 55 *e*P **P 22 53 16.5 +0.6**
MSO Missoula 64.41 49 *e*P **P 22 53 16.2 +0.4**
comp=Z,64nm,0.9s
MSO Missoula 64.41 49 P **P 22 53 16.1 +0.2**
baz=308,SNR=49
KONS Konsvik 64.50 342 *e*P **P 22 53 14.9 -1.0**
MOS Moscow 64.53 324 *e*P **P 22 53 15.8 -0.5**
MOS *e**PP **sP 22 53 37.9 +1.7**
MOS *e* 22 53 48.2
MOS *e*S **S 23 01 49.1 -2.3**
MOS pmax pmax
comp=Z,100nm,1.4s
MOS pmax pmax
comp=Z,80nm,1.2s
MOS smax smax
comp=N,400nm,3.2s
MOS smax smax
comp=E,200nm,2.5s
MOS MLR MLR
comp=Z,400nm,20.0s
GEYT Alibeck 64.73 299 P **P 22 53 19.1 +1.1**
comp=Z,47nm,0.5s,baz=45,slow=2.5,SNR=149
GEYT S **S 23 01 57.8 +3.2**
comp=Z,3.3nm,1.1s,baz=93,slow=15,SNR=9.5
GEYT LR LR 23 24 21.3
comp=Z,652nm,19.3s,baz=65,slow=38
WRAB Tennant Creek 64.80 194 *e*P **P 22 53 18.0 -0.4**
comp=Z,36nm,0.9s
WRAB *e*pP **pP 22 53 33.7 +1.4**
WRAB Tennant Creek 64.80 194 *i* P **P 22 53 16.9 -1.5**
WRAB pmax pmax
comp=Z,32nm,0.9s
WRA Warramunga Arr 64.81 194 P **P 22 53 17.6 -0.9**
comp=Z,27nm,0.9s,baz=13,slow=6.7,SNR=94
WRA PKPPKP **P'P'df 23 22 03.5 +4.9**
comp=Z,0.7nm,0.7s,baz=326,slow=1.4,SNR=5.1
FIA1 FINESS Array S 64.87 333 *e*P **P 22 53 17.3 -1.1**
comp=Z,66nm,0.7s
FINES FINESS Array B 64.87 333 P **P 22 53 17.6 -0.8**
FINES S **S 23 01 52.3 -3.2**
FINES pmax pmax
comp=Z,65nm,0.7s
FINES smax smax
comp=N,2.0nm,0.9s
FINES MLR MLR
comp=Z,528nm,18.8s
FINES FINESS Array B 64.87 333 P **P 22 53 17.6 -0.8**
comp=Z,64nm,0.7s,baz=46,slow=8.2,SNR=185
FINES S **S 23 01 52.3 -3.2**
comp=Z,2.4nm,0.9s,baz=47,slow=17,SNR=5.3
FINES LR LR 23 24 45.3
comp=Z,528nm,18.8s,baz=40,slow=39
BEKR Beckworth 64.91 58 *e*P **P 22 53 20.1 +0.8**
comp=Z,82nm,0.9s
AFDM Forest Hills D 65.09 59 *e*P **P 22 53 20.5 +0.2**
comp=Z,49nm,1.2s
FFC Flin Flon 65.23 37 *e*P **P 22 53 21.6 +0.7**
comp=Z,103nm,1.0s
FFC Flin Flon 65.23 37 *i* P **P 22 53 21.4 +0.5**
OBN Obninsk 65.39 324 *e*P **P 22 53 21.9 0.0**
comp=Z,162nm,1.4s
OBN Obninsk 65.39 324*c i*P **P 22 53 22.1 +0.2**
OBN *i* 22 53 51.7
OBN *i* S **S 23 01 55.1 -6.9**
OBN pmax pmax
comp=Z,121nm,1.3s
OBN MLR MLR
comp=Z,401nm,18.0s
OBN Obninsk 65.39 324 P **P 22 53 22.3 +0.4**
comp=Z,6.9nm,0.5s,baz=41,slow=4.2,SNR=23
OBN Obninsk 65.39 324 *e*P **P 22 53 22.1 +0.2**
FCC Fort Churchill 65.58 30 *e*P **P 22 53 23.1 +0.1**
comp=Z,65nm,0.5s
FCC Fort Churchill 65.58 30 *e*P **P 22 53 23.2 +0.1**
FCC pmax pmax
comp=Z,65nm,0.5s
SCO Scoresbysund 65.59 356 *e*P **P 22 53 23.7 +0.8**
comp=Z,19nm,0.8s
SCO Scoresbysund 65.59 356 *e*P **P 22 53 23.7 +0.8**
SCO pmax pmax
comp=Z,19nm,0.8s
SCO Scoresbysund 65.59 356 *i* **P 22 53 23.9 +0.9**
PAHR Pah Rah Range 65.61 58 *e*P **P 22 53 24.4 +0.6**
comp=Z,102nm,1.1s
VRH Novokhopyorsk 65.65 318 *e*P **P 22 53 23.5 -0.1**
VRH pmax pmax
comp=Z,140nm,0.7s
VRH MLR MLR
comp=Z,760nm,19.0s
VCNR Virginia City 65.69 58 *e*P **P 22 53 25.3 +0.9**
comp=Z,72nm,0.8s
PNTR Pine Nut 65.85 58 *e*P **P 22 53 26.4 +0.9**
comp=Z,93nm,0.8s
EGMT Eagleton 65.89 46 *e*P **P 22 53 25.9 +0.5**
comp=Z,92nm,1.0s
EGMT Eagleton 65.89 46 P **P 22 53 25.5 +0.2**
baz=310,SNR=6.0
BHJ Bhuj 65.91 280 *e*P **P 22 53 25.6 -0.2**
POO Poona 65.92 273 *e*P **P 22 53 26.3 +0.3**
POO IAmb IAmb 22 53 27.3
comp=Z,45nm,0.7s
CMB Columbia Colle 66.01 60 *e*P **P 22 53 26.1 -0.2**
comp=Z,48nm,0.8s
CMB Columbia Colle 66.01 60 *e*P **P 22 53 26.1 -0.2**
CMB pmax pmax
comp=Z,47nm,0.8s
LPSR Galich'ya Gora 66.04 321 *e*P **P 22 53 26.4 +0.3**
LPSR pmax pmax
comp=Z,110nm,0.9s
LPSR MLR MLR
comp=Z,470nm,16.0s
DLMT Dillon 66.05 50 *e*P **P 22 53 26.9 +0.4**
comp=Z,31nm,0.9s
SAO San Andreas Ge 66.12 61 *e*P **P 22 53 27.5 +0.5**
comp=Z,16nm,0.8s
YERR Yerington 66.14 58 *e*P **P 22 53 27.3 +0.1**
comp=Z,140nm,1.0s
HLID Hailey 66.16 52 *e*P **P 22 53 28.0 +0.7**
comp=Z,32nm,1.1s
HLID Hailey 66.16 52 P **P 22 53 27.9 +0.6**
baz=309,SNR=40
ILULI Ilulissat 66.25 7 *e*P **P 22 53 27.2 +0.1**
comp=Z,86nm,1.0s
ILULI Ilulissat 66.25 7 *e*P **P 22 53 27.3 +0.1**
ILULI pmax pmax
comp=Z,86nm,1.0s
ILULI Ilulissat 66.25 7⇑*i*P **P 22 53 27.2 +0.1**
comp=Z,84nm,1.0s
WAKR Walker 66.31 59 *e*P **P 22 53 29.3 +0.9**
comp=Z,67nm,1.0s
XMIS Christmas Isla 66.34 226 *e*P **P 22 53 28.6 +0.1**
comp=Z,248nm,1.2s
NSS Namsos 66.41 341 *e*P **P 22 53 28.1 -0.2**
BOZ Bozeman (W) 66.43 49 *e*P **P 22 53 29.7 +0.7**
comp=Z,62nm,0.7s
BOZ Bozeman (W) 66.43 49 *e*P **P 22 53 29.7 +0.7**
BOZ pmax pmax
comp=Z,62nm,0.7s
BOZ Bozeman (W) 66.43 49 P **P 22 53 29.5 +0.5**
baz=309,SNR=138
BMN Battle Mountai 66.47 56 *e*P **P 22 53 30.1 +0.8**
BMN Battle Mountai 66.47 56 *e*P **P 22 53 30.1 +0.8**
VORR Voronezh 66.53 320 *e*P **P 22 53 29.0 -0.3**
VORR pmax pmax
comp=Z,300nm,1.2s
KVN Kaiserville 66.79 58 *e*P **P 22 53 32.2 +0.7**
comp=Z,120nm,0.9s
KVN Kaiserville 66.79 58 *e*P **P 22 53 32.2 +0.7**
KVN pmax pmax
comp=Z,120nm,0.9s
RYN Ryan 66.80 58 *e*P **P 22 53 32.2 +0.8**
comp=Z,74nm,0.8s
VSR Storozhevoye 66.85 320 *e*P **P 22 53 31.1 -0.2**
VSR pmax pmax
comp=Z,150nm,0.9s
VSR MLR MLR
comp=Z,710nm,24.0s
VSU Vasula 66.85 331*ce*P **P 22 53 30.9 -0.3**
VSU pmax pmax
comp=Z,70nm,0.7s
VSU Vasula 66.85 331 *e*P **P 22 53 31.0 -0.3**
VSU IAmb IAmb 22 53 32.3
comp=Z,141nm,0.6s
NVAR Mina Array Bea 67.05 58 *e*P **P 22 53 32.7 -0.5**
NVAR Mina Array Bea 67.05 58 P **P 22 53 33.9 +0.7**
comp=Z,82nm,0.7s,baz=295,slow=6.9,SNR=621
MDPB Devils Postpil 67.07 59 *e*P **P 22 53 34.2 +0.8**
comp=Z,42nm,0.9s
OMMB Old Mammoth Mi 67.13 59 *e*P **P 22 53 34.5 +0.7**
comp=Z,29nm,1.1s
NV11 Mina Array Sit 67.14 58 *e*P **P 22 53 34.2 +0.6**
comp=Z,4.7nm,0.9s
MLAC Mammoth, Mammo 67.22 59 P **P 22 53 35.4 +1.1**
baz=309,SNR=6.1
ELK Elko 67.45 55 *e*P **P 22 53 36.2 +0.6**
comp=Z,12nm,0.7s
ELK Elko 67.45 55 *e*P **P 22 53 36.2 +0.6**
ELK pmax pmax
comp=Z,12nm,0.7s
PAGB Antelope Grade 67.52 62 *e*P **P 22 53 36.6 +0.8**
comp=Z,108nm,1.3s
VOG Valley Oaks Go 67.70 61 P **P 22 53 37.0 0.0**
baz=309
LKWY Lake 67.76 49 *e*P **P 22 53 40.1 +2.5**
comp=Z,33nm,0.9s
LKWY Lake 67.76 49 *e*P **P 22 53 40.1 +2.5**
LKWY pmax pmax
comp=Z,33nm,0.9s
H17A Grant Village 67.77 49 P **P 22 53 39.8 +2.1**
baz=310,SNR=65
IMW Indian Meadow 67.89 50 *e*P **P 22 53 39.8 +1.4**
comp=Z,57nm,1.0s
GOA Goa 67.92 270 *e*P **P 22 53 39.0 +0.4**
GOA IAmb IAmb 22 53 39.3
comp=Z,33nm,0.7s
DZM Mont Dzumac 67.93 161 P **P 22 53 38.5 0.0**
comp=Z,12nm,0.9s,baz=40,slow=12,SNR=3.7
SMMC Simmler 67.94 62 P **P 22 53 39.0 +0.4**
baz=309,SNR=5.3
MAK Makhachkala 67.95 309 *e*P **P 22 53 36.8 -1.6**
MAK *e**PP **pP 22 53 51.3 -1.4**
MAK *e**SP **sP 22 53 58.9 +0.5**
MAK *e* 22 56 06.5
MAK *e*S **S 23 02 32.6 -0.8**
MAK *e**SS **sS 23 02 58.7 +1.4**
MAK *e*SS **SS 23 06 56.7 +1.4**
MAK pmax pmax
comp=Z,135nm,0.8s
MAK MLR MLR
comp=Z,246nm,17.0s
TIN Tinemaha, Big 67.96 59 P **P 22 53 39.6 +0.8**
baz=309,SNR=10
RLMT Red Lodge 68.01 48 *e*P **P 22 53 40.0 +0.8**
comp=Z,77nm,1.4s
RLMT Red Lodge 68.01 48 P **P 22 53 39.9 +0.8**
baz=311,SNR=32
FXWY Fox Creek 68.01 50 *e*P **P 22 53 40.2 +1.0**
comp=Z,105nm,1.4s
MOOW Moose Ponds 68.10 50 *e*P **P 22 53 40.7 +1.0**
comp=Z,76nm,1.2s
TPAW Teton Pass 68.15 50 *e*P **P 22 53 41.4 +1.4**
comp=Z,83nm,0.9s
VES Vestal, Richgr 68.19 61 P **P 22 53 39.6 -0.4**
baz=309,SNR=19
LOHW Long Hollow 68.26 50 *e*P **P 22 53 41.8 +1.0**
comp=Z,28nm,0.8s
SNOW Snow King Moun 68.28 50 *e*P **P 22 53 42.1 +1.2**
comp=Z,107nm,1.4s
REDW Red Top Meadow 68.29 50 *e*P **P 22 53 41.9 +1.1**
comp=Z,128nm,1.4s
PKM Mcpherson Peak 68.32 62 P **P 22 53 41.8 +0.6**
baz=309,SNR=9.9
DGMT Dagmar 68.40 43 *e*P **P 22 53 41.7 +0.5**
comp=Z,180nm,1.3s
DGMT Dagmar 68.40 43 P **P 22 53 41.6 +0.4**
baz=312,SNR=13
CWC Cottonwood Cre 68.44 60 P **P 22 53 42.2 +0.4**
baz=309
SFJD Kangerlussuaq 68.45 8 *e*P **P 22 53 41.2 +0.1**
comp=Z,23nm,0.6s
SFJD Kangerlussuaq 68.45 8⇑*i*P **P 22 53 41.3 +0.1**
SFJD pmax pmax
comp=Z,55nm,0.8s
SFJD Kangerlussuaq 68.45 8⇑*i*P **P 22 53 41.3 +0.1**
comp=Z,55nm,0.8s
ASAR Alice Springs 68.52 194 P **P 22 53 42.0 -0.1**
comp=Z,7.6nm,0.7s,baz=12,slow=6.0,SNR=85
ASAR PKP2bc 23 21 55.5
comp=Z,3.6nm,0.9s,baz=178,slow=3.3,SNR=9.7
GRAC Grapevine Rang 68.53 59 P **P 22 53 43.1 +0.9**
baz=310,SNR=18
AHID Auburn Hatcher 68.54 51 *e*P **P 22 53 43.0 +0.6**
comp=Z,60nm,1.2s
LAO LASA Array 68.58 45 *e*P **P 22 53 43.3 +0.9**
comp=Z,111nm,1.3s
LAO LASA Array 68.58 45 P **P 22 53 43.1 +0.6**
baz=312,SNR=18
SBC Santa Barbara 68.67 62 P **P 22 53 43.5 +0.5**
baz=309
ISA Isabella, Lake 68.69 61 *e*P **P 22 53 42.7 -0.6**
comp=Z,25nm,1.0s
ISA Isabella, Lake 68.69 61 *e*P **P 22 53 42.7 -0.6**
ISA pmax pmax
comp=Z,25nm,1.0s
ISA Isabella, Lake 68.69 61 P **P 22 53 42.6 -0.6**
baz=310,SNR=18
GROC Groznyy 68.75 310 *e*P **P 22 53 43.1 -0.3**
GROC *e**SP **sP 22 54 02.9 -0.5**
GROC *e* 22 54 07.5
GROC *e*S **S 23 02 43.9 +1.0**
GROC *e* 23 03 02.8
GROC pmax pmax
comp=Z,33nm,1.0s
R11A Troy Canyon, C 68.76 57 P **P 22 53 44.3 +0.4**
baz=310,SNR=130
ARVC Arvin 68.80 61 P **P 22 53 43.8 -0.1**
baz=310,SNR=8.8
DAC Darwin (Calif) 68.85 60 *e*P **P 22 53 46.7 +2.3**
comp=Z,33nm,1.0s
DAC Darwin (Calif) 68.85 60 *e*P **P 22 53 46.7 +2.3**
DAC pmax pmax
comp=Z,33nm,1.0s
SCZ2 Santa Cruz Isl 69.00 63 P **P 22 53 45.5 +0.3**
baz=310
SLIT Slitere, Latvi 69.03 332 *e*P **P 22 53 44.1 -0.8**
SLIT IAmb IAmb 22 53 45.5
comp=Z,223nm,0.5s
HWUT Hardware Ranch 69.03 52 *e*P **P 22 53 46.2 +0.8**
comp=Z,77nm,1.4s
MPMC Manual Prospec 69.05 60 P **P 22 53 45.9 +0.2**
baz=310,SNR=80
IZAR Zarasai 69.06 329 *e*P **P 22 53 45.4 +0.3**
IZAR IAmb IAmb 22 53 46.9
comp=Z,27nm,0.6s
EIDS Eidsvold 69.09 177 *e*P **P 22 53 46.8 +1.3**
comp=Z,19nm,0.9s
FURC Furnace Creek, 69.18 59 P **P 22 53 46.9 +0.7**
baz=310,SNR=113
OSI Osito Audit: C 69.19 62 *e*P **P 22 53 47.4 +1.0**
comp=Z,62nm,1.0s
OSI Osito Audit: C 69.19 62 P **P 22 53 47.0 +0.6**
baz=310
IDID Didziasalis 69.20 328 *e*P **P 22 53 46.5 +0.4**
IDID IAmb IAmb 22 53 48.1
comp=Z,32nm,0.9s
DOMB Dombas 69.22 341 *e*P **P 22 53 45.2 -0.9**
DUG Dugway, Tooele 69.22 54 *e*P **P 22 53 47.4 +0.8**
comp=Z,56nm,0.9s
DUG Dugway, Tooele 69.22 54 *e*P **P 22 53 47.4 +0.8**
DUG pmax pmax
comp=Z,56nm,0.9s
DUG Dugway, Tooele 69.22 54 P **P 22 53 47.4 +0.8**
baz=310,SNR=66
ISAL Salakas 69.24 329 *e*P **P 22 53 46.6 +0.3**
ISAL IAmb IAmb 22 53 48.4
comp=Z,37nm,0.9s
TPNV Topopah Spring 69.25 58 P **P 22 53 47.5 +0.6**
baz=310
BLG Laguna Peak, P 69.30 62 P **P 22 53 47.1 +0.1**
baz=310
LRMC Laurel Mtn Rad 69.30 60 P **P 22 53 47.2 +0.1**
baz=310,SNR=24
IIGN Ignalina 69.37 329 *e*P **P 22 53 47.6 +0.5**
IIGN IAmb IAmb 22 53 49.1
comp=Z,56nm,0.6s
BW06 Boulder Array 69.40 50 *e*P **P 22 53 48.0 +0.2**
comp=Z,64nm,1.2s
BW06 Boulder Array 69.40 50 P **P 22 53 47.8 0.0**
baz=311,SNR=36
PDAR Pinedale Array 69.40 50 P **P 22 53 47.9 +0.1**
comp=Z,26nm,0.7s,baz=261,slow=1.9,SNR=229
PDAR PKP2bc 23 21 51.9
comp=Z,2.2nm,1.1s,baz=108,slow=4.8,SNR=5.2
PDAR LR LR 23 24 58.5
comp=Z,99nm,19.6s,baz=306,slow=36
EDW2 Edwards Air Fo 69.48 61 P **P 22 53 48.6 +0.3**
baz=310,SNR=33
NACGM Naroch 69.50 328 *e* **P 22 53 49.0 +1.2**
NB2 NORSAR Subarra 69.54 339 P **P 22 53 47.7 -0.4**
comp=Z,78nm,1.2s,baz=30,slow=6.5
NB2 NORSAR Subarra 69.54 339 P **P 22 53 47.7 -0.4**
baz=30,slow=6.5
NOA NORSAR Array B 69.54 339 P **P 22 53 47.8 -0.4**
NOA pmax pmax
comp=Z,10.0nm,0.4s
NOA MLR MLR
comp=Z,315nm,20.6s
NOA NORSAR Array B 69.54 339 P **P 22 53 47.8 -0.4**
comp=Z,8.1nm,0.4s,baz=33,slow=6.6,SNR=119
NOA LR LR 23 28 32.7
comp=Z,315nm,20.6s,baz=30,slow=40
SNCC San Nicolas Is 69.55 63 P **P 22 53 49.2 +0.7**
baz=310
AKN Aaknes 69.58 342 *e*P **P 22 53 47.6 -0.7**
HFS Hagfors 69.65 337 P **P 22 53 48.3 -0.3**
comp=Z,41nm,0.4s,baz=51,slow=5.9,SNR=348
DECC Green Verdugo 69.67 62 P **P 22 53 49.5 +0.1**
baz=310,SNR=7.9
NC602 NORSAR Array S 69.72 339 *e*P **P 22 53 48.4 -0.7**
NORES NORESS Array B 69.72 339 P **P 22 53 48.4 -0.7**
NORES pmax pmax
comp=Z,7.0nm,0.4s
NCK Nalchik 69.77 311*c i*P **P 22 53 51.0 +1.2**
NCK pmax pmax
comp=Z,38nm,0.8s
MWC Mount Wilson 69.86 62 *e*P **P 22 53 51.0 +0.3**
comp=Z,84nm,1.4s
MWC Mount Wilson 69.86 62 *e*P **P 22 53 51.0 +0.3**
MWC pmax pmax
comp=Z,84nm,1.4s
SHOC Shoshone, Teco 69.91 59 P **P 22 53 51.1 +0.4**
baz=310,SNR=24
KIV Kislovodsk 69.95 312 *e*P **P 22 53 52.3 +1.3**
comp=Z,249nm,0.6s
KIV Kislovodsk 69.95 312 *i* P **P 22 53 52.6 +1.7**
SNR=88
KIV Kislovodsk 69.95 312 *e*P **P 22 53 52.7 +1.7**
KIV *e* 23 03 00.2
KIV pmax pmax
comp=Z,309nm,0.9s
KIV MLR MLR
comp=Z,2μm,18.0s
KIV Kislovodsk 69.95 312 P **P 22 53 52.4 +1.5**
SNR=29
KIV P **P 22 53 52.4 +1.5**
SNR=29
KIV Kislovodsk 69.95 312 *e*P **P 22 53 52.7 +1.7**
GSC Goldstone, Bar 69.96 60 *e*P **P 22 53 51.3 +0.1**
comp=Z,33nm,0.8s
GSC Goldstone, Bar 69.96 60 *e*P **P 22 53 51.3 +0.1**
GSC pmax pmax
comp=Z,33nm,0.8s
GSC Goldstone, Bar 69.96 60 P **P 22 53 51.4 +0.1**
baz=310,SNR=36
KBZ Khabaz 69.99 312 P **P 22 53 52.8 +1.7**
comp=Z,46nm,0.6s,baz=68,slow=3.8,SNR=145
KBZ LR LR 23 29 09.1
comp=Z,931nm,19.6s,baz=48,slow=40
FMP Fort Macarthur 70.04 62 P **P 22 53 51.8 +0.3**
baz=310
ZEI Tsey 70.07 311 *e*P **P 22 53 50.2 -1.7**
ZEI pmax pmax
comp=Z,48nm,0.6s
PABE Paberze 70.08 330 *e*P **P 22 53 51.4 0.0**
PABE IAmb IAmb 22 53 53.0
comp=Z,85nm,0.6s

BFSC Mount Baldy Ra 70.11 61 P P 22 53 52.1 -0.1
baz=310,SNR=22
RRX Edison Barstow 70.12 61 P P 22 53 51.9 -0.1
baz=310
CIS Catalina Islan 70.16 63 P P 22 53 52.4 0.0
baz=310,SNR=5.5
SHPR Sheep Range 70.20 58 *e*P **P 22 53 53.5 +0.8**
comp=Z,62nm,0.9s
SCI2 San Clemente I 70.35 63 P P 22 53 53.5 0.0
baz=310
TRD Trivandrum 70.36 263 *e*P **P 22 53 54.4 +0.7**
TRD IAmb IAmb 22 53 56.3
comp=Z,75nm,1.2s
NEY Neytrino 70.40 312 *i* P **P 22 53 55.7 +1.8**
NEY pmax pmax
comp=Z,3.0nm,0.7s
PBUR Paburg 70.41 331 *e*P **P 22 53 53.0 -0.4**
PBUR IAmb IAmb 22 53 55.2
comp=Z,58nm,0.5s
TUQ Turquoise Moun 70.43 59 P P 22 53 54.5 +0.4
baz=310,SNR=80
BBRC Big Bear Solar 70.56 61 P P 22 53 55.2 +0.2
baz=310
HEC Hector,Ludlow 70.56 60 P P 22 53 55.3 +0.5
baz=310,SNR=37
SKAR Skarslia 70.58 340 *e*P **P 22 53 55.5 +1.0**
OSL Oslo 70.61 339 *e*P **P 22 53 55.4 +0.8**
HYA Hoyanger 70.66 341 *e*P **P 22 53 55.6 +0.8**
MURC Murrieta 70.81 62 P P 22 53 56.5 +0.1
baz=310,SNR=12
GMRC Granite Mounta 71.01 60 P P 22 53 57.9 +0.3
baz=311,SNR=51
ULM Lac du Bonnet 71.02 37 P P 22 53 57.1 -0.2
comp=Z,22nm,0.5s,baz=315,slow=6.8,SNR=74
ULM LR LR 23 29 17.3
comp=Z,116nm,18.1s,baz=324,slow=39
MDND Maddock 71.05 41 P P 22 53 58.0 +0.5
baz=315
K22A Casper 71.14 49 P P 22 53 58.2 -0.1
baz=313,SNR=10.0
KONO Kongsberg 71.15 339 *e*P **P 22 53 58.7 +0.8**
comp=Z,18nm,0.8s
KONO Kongsberg 71.15 339*ce*P **P 22 53 58.2 +0.3**
KONO pmax pmax
comp=Z,17nm,0.9s
KONO Kongsberg 71.15 339 *e*P **P 22 53 58.5 +0.7**
LDFC Landfair 71.16 59 *e*P **P 22 53 58.9 +0.3**
comp=Z,125nm,0.9s
BORG Borgarnes 71.27 355 *i* P **P 22 54 01.4 +3.0**
PFO Pinyon Flats O 71.27 61 *e*P **P 22 53 59.1 -0.1**
comp=Z,34nm,0.9s
PFO Pinyon Flats O 71.27 61 *e*P **P 22 53 59.1 -0.1**
PFO pmax pmax
comp=Z,34nm,0.9s
PFO Pinyon Flats O 71.27 61 P P 22 53 59.1 -0.1
baz=311,SNR=22
BELC Belle Mtn. Jos 71.31 61 P P 22 53 59.2 -0.3
baz=311,SNR=30
109C Camp Elliot, M 71.33 62 P P 22 53 59.4 0.0
baz=311,SNR=9.9
GNI Garni 71.36 308 *e*P **P 22 54 02.0 +2.2**
comp=Z,207nm,0.6s
GNI Garni 71.36 308 *i* P **P 22 54 02.0 +2.2**
SNR=6.2
GNI Garni 71.36 308*ce*P **P 22 54 02.1 +2.4**
GNI pmax pmax
comp=Z,55nm,0.8s
GNI Garni 71.36 308 P P 22 54 01.3 +1.6
SNR=10
GNI P P 22 54 01.3 +1.6
SNR=10
RSSD Black Hills 71.45 46 *e*P **P 22 54 00.3 0.0**
comp=Z,34nm,0.8s
RSSD Black Hills 71.45 46 *e*P **P 22 54 00.3 0.0**
RSSD pmax pmax
comp=Z,34nm,0.8s
RSSD Black Hills 71.45 46 P P 22 54 00.4 +0.1
baz=314
SUW Suwalki 71.53 329 *e*P **P 22 54 00.3 0.0**
SUW Suwalki 71.53 329 *e*P **P 22 54 00.3 0.0**
BER Bergen 71.55 341 *e*P **P 22 54 00.8 +0.6**
AKASG Malin Array Be 71.66 324 P P 22 54 01.5 +0.4
comp=Z,74nm,0.6s,baz=38,slow=6.1,SNR=413
AKASG S S 23 03 14.6 -2.0
comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=11
AKASG LR LR 23 28 12.8
comp=Z,323nm,18.1s,baz=25,slow=38
ODD1 Odda 71.66 341 *e*P **P 22 54 02.1 +1.1**
KIEV Kiev 71.67 324 *e*P **P 22 54 01.4 +0.3**
comp=Z,112nm,0.8s
KIEV Kiev 71.67 324 ⇓*i*P **P 22 54 02.0 +0.9**
KIEV Kiev 71.67 324 *i* P **P 22 54 01.6 +0.5**
SNR=9.5
KIEV Kiev 71.67 324*c i*P **P 22 54 01.2 +0.1**
KIEV pmax pmax
comp=Z,112nm,0.9s
NEE2 Needles Airpor 71.67 59 P P 22 54 01.6 +0.1
baz=311
IRM Iron Mountain 71.74 60 P P 22 54 02.4 +0.4
baz=311,SNR=57
MONP2 Monument Peak 71.77 62 P P 22 54 02.4 +0.1
baz=311,SNR=15
SOC Sochi 71.78 313 *e*P **P 22 54 01.6 -0.3**
SOC *e* 22 56 39.3
SOC *e*PPP PPP 22 58 28.2
SOC *e*S **S 23 03 16.7 -1.5**
SOC pmax pmax
comp=Z,95nm,0.7s
SOC MLR MLR
comp=Z,888nm,21.0s
BC3 Big Chuckawall 71.88 61 P P 22 54 02.8 0.0
baz=311,SNR=31
O20A White River Ci 71.89 52 P P 22 54 03.0 0.0
baz=313,SNR=33
BATM Batumi 72.08 311 ⇓*i*P **P 22 54 05.6 +1.8**
ANN Anapa 72.11 315*c i*P **P 22 54 04.6 +0.8**
ANN *e* 22 54 21.0
ANN *e*S **S 23 03 23.7 +1.8**
ANN pmax pmax
comp=Z,73nm,0.6s
IKP In-Ko-Pah, Jac 72.12 62 P P 22 54 04.4 +0.1
baz=311,SNR=19
SWSC Sam W. Stewart 72.13 61 P P 22 54 04.1 -0.1
baz=311,SNR=12
KLNR Kaliningrad 72.13 331*c i*P **P 22 54 03.8 0.0**
KLNR pmax pmax
comp=Z,142nm,1.1s
BLS5 Blasjo 72.14 340 *e*P **P 22 54 03.9 +0.1**
BCA Borcka 72.23 311 ⇓*i*P **P 22 54 06.4 +1.7**
PDMCI Parker Dam,Lak 72.27 59 P P 22 54 05.3 +0.3
baz=312,SNR=36
Y12C Blythe 72.40 60 P P 22 54 06.3 +0.5
baz=312,SNR=33
AGMN Agassiz Nation 72.46 39 *e*P **P 22 54 05.8 -0.2**
comp=Z,70nm,1.1s
AGMN Agassiz Nation 72.46 39 P P 22 54 05.6 -0.3
baz=317,SNR=19
KMY Karmoy 72.61 341 *e*P **P 22 54 07.5 +0.8**
N23A Red Feather La 72.65 50 P P 22 54 08.1 +0.5
baz=314,SNR=37
GLA Glamis 72.67 61 P P 22 54 08.0 +0.5
baz=312,SNR=18
SNART Snartemo 72.91 339 *e*P **P 22 54 09.2 +0.8**
LRW Lerwick 73.16 344 *e*P **P 22 54 10.5 +0.6**
WUAZ Wupatki 73.16 57 *e*P **P 22 54 11.2 +0.6**
comp=Z,53nm,1.0s
WUAZ Wupatki 73.16 57 P P 22 54 11.3 +0.8
baz=312,SNR=39
MNCY Minicoy 73.34 265 *e*P **P 22 54 12.1 +0.5**
BSD Bornholm Skovb 73.48 334 ⇑*i*P **P 22 54 12.0 +0.2**
BSD pmax pmax
comp=Z,91nm,0.7s
BSD Bornholm Skovb 73.48 334 ⇑*i*P **P 22 54 12.0 +0.2**
comp=Z,91nm,0.7s
SHME Shamm 73.53 290 *i* P **P 22 54 13.3 +0.6**
SNR=12
KTUT Trabzon 73.55 311 ⇓*i*P **P 22 54 13.6 +1.1**
ISCO Idaho Springs 73.59 50 *e*P **P 22 54 13.7 +0.5**
comp=Z,42nm,1.0s
ISCO Idaho Springs 73.59 50 *e*P **P 22 54 13.7 +0.5**
ISCO pmax pmax
comp=Z,42nm,1.0s
ISCO Idaho Springs 73.59 50 P P 22 54 13.8 +0.7
baz=314,SNR=46
SIM Simferopol' 73.65 317 *i* P **P 22 54 14.2 +1.2**
SIM *e*S **S 23 03 41.6 +2.1**
SIM pmax pmax
comp=Z,50nm,0.8s
SIM MLR MLR
comp=Z,260nm,14.0s
WSAR Wadi Sarin 73.67 287 P P 22 54 14.9 +1.5
comp=Z,7.6nm,0.6s,baz=90,slow=3.5,SNR=11
MVCO Mesa Verde 73.72 54 *e*P **P 22 54 14.1 +0.2**
comp=Z,52nm,0.9s
MVCO Mesa Verde 73.72 54 P P 22 54 14.3 +0.4
baz=313,SNR=24
COP Copenhagen 73.76 336 ⇑*i*P **P 22 54 14.3 +0.9**
COP pmax pmax
comp=Z,85nm,0.6s
COP Copenhagen 73.76 336 ⇑*i*P **P 22 54 14.3 +0.9**
comp=Z,85nm,0.6s
SUSD Miller 73.81 43 P P 22 54 13.8 -0.2
baz=316
BIDO Bidbid 73.83 287 P P 22 54 16.7 +2.2
SNR=7.3
BIDO P P 22 54 16.7 +2.2
SNR=7.3
JLN Jalan Bani Buh 73.84 285 P P 22 54 16.1 +1.6
SNR=6.9
MDH Madha 73.91 290 *i* P **P 22 54 15.4 +0.5**
SNR=7.3
MDH Madha 73.91 290 P P 22 54 15.2 +0.3
SNR=5.2
MDH S **S 23 03 42.3 -0.8**
MSFE Esma-Masafi 73.97 290 *i* P **P 22 54 16.0 +0.8**
SNR=13
MUD Monsted U'grnd 74.04 338 ⇑*i*P **P 22 54 15.8 +0.8**
MUD pmax pmax
comp=Z,44nm,0.7s
MUD Monsted U'grnd 74.04 338 ⇑*i*P **P 22 54 15.8 +0.8**
comp=Z,44nm,0.7s
BEL Belsk 74.14 329 *e*P **P 22 54 17.1 +1.3**
BEL Belsk 74.14 329 *e*P **P 22 54 17.1 +1.3**
GKP Gorka Klasztor 74.25 332 *e*P **P 22 54 17.1 +0.8**
GKP Gorka Klasztor 74.25 332 *e*P **P 22 54 17.1 +0.8**
S22A 4UR Ranch, Cre 74.32 53 P P 22 54 18.2 +0.8
baz=314,SNR=44
HATD Hatta, Dubai 74.34 289 *i* P **P 22 54 18.3 +0.9**
SNR=45
HATD Hatta, Dubai 74.34 289 P P 22 54 18.5 +1.1
SNR=19
HATD P P 22 54 18.5 +1.1
SNR=19
HATD S **S 23 03 48.0 +0.1**
HATD S **S 23 03 48.0 +0.1**
W18A Petrified Fore 74.42 56 P P 22 54 18.6 +0.7
baz=313,SNR=15
Q24A Divide 74.43 51 P P 22 54 18.3 +0.2
baz=314,SNR=11
ASHO Ashiyiah 74.48 289 *i* P **P 22 54 19.1 +0.9**
SNR=24
ASHO Ashiyiah 74.48 289 P P 22 54 19.1 +0.9
SNR=16
ASHO P **P 22 54 19.1 +0.9**
SNR=16
ASHO S **S 23 03 48.8 -0.7**
ASHO S **S 23 03 48.8 -0.7**
LVV L'vov 74.48 326 *e*P **P 22 54 18.5 +0.7**
LVV *e* 22 57 07.5
LVV *e*S **S 23 03 46.5 -2.2**
LVV *e*SS **SS 23 08 33.7 -1.2**
LVV MLR MLR
comp=Z,400nm,21.0s
SOHO SOHO 74.52 289 P P 22 54 19.3 +0.8
SNR=8.5
SOHO P **P 22 54 19.3 +0.8**
SNR=8.5
NAZ Nazwa, Dubai 74.55 290 *i* P **P 22 54 19.2 +0.6**
SNR=13
NAZ Nazwa, Dubai 74.55 290 P P 22 54 19.6 +1.0
SNR=8.2
KIS Kishinev 74.62 322 *e*P **P 22 54 18.0 -0.6**
comp=Z,200nm,1.6s
KIS Kishinev 74.62 322 *e*PcP **PcP 22 54 34.0 +1.3**
KIS Kishinev 74.62 322 *e*P **P 22 54 18.0 -0.6**
KIS *e* 22 54 34.0
KIS *e*PPP PPP 22 58 52.0
KIS *i* S **S 23 03 49.0 -1.3**
KIS *e* 23 04 10.0
KIS *e* 23 04 52.0
KIS pmax pmax
comp=Z,200nm,1.6s
KIS smax smax
comp=N,500nm,6.0s
EYMN Ely 74.66 37 P P 22 54 18.6 -0.3
baz=320,SNR=13
214A Organ Pipe Nat 74.67 60 P P 22 54 19.6 +0.4
baz=312,SNR=16
OGNE Ogallala 74.73 47 *e*P **P 22 54 19.6 +0.1**
comp=N,173nm,0.9s
OGNE Ogallala 74.73 47 P P 22 54 19.8 +0.3
baz=316,SNR=25
FAQ Al Faqa, Dubai 74.76 290 *i* P **P 22 54 20.3 +0.5**
SNR=28
FAQ Al Faqa, Dubai 74.76 290 P P 22 54 20.1 +0.3
SNR=10
ASUD Al Ashush, Dub 75.02 290 *i* P **P 22 54 22.0 +0.7**
SNR=21
ASUD Al Ashush, Dub 75.02 290 P P 22 54 22.5 +1.2
SNR=8.9
IAS Iasi 75.03 322 ⇑*i*P **P 22 54 22.0 +1.0**
IAS Iasi 75.03 322 P P 22 54 21.9 +1.0
SDCO Great Sand Dun 75.08 52 *e*P **P 22 54 22.2 +0.4**
comp=N,26nm,1.2s
SDCO Great Sand Dun 75.08 52 P P 22 54 22.2 +0.4
baz=314,SNR=30
ALNE Al Ain 75.11 289 *i* P **P 22 54 22.6 +0.8**
SNR=20
KWP Kalwaria Pacla 75.16 327 *e*P **P 22 54 23.0 +1.3**
KWP Kalwaria Pacla 75.16 327 *e*P **P 22 54 23.0 +1.3**
BIGH Upper Bighouse 75.21 345 *e*P **P 22 54 22.0 +0.2**
BIGH IAmb IAmb 22 54 22.3
comp=Z,67nm,1.1s
LEOM Leova 75.27 322 ⇑*i*P **P 22 54 23.6 +1.2**
LEOM Leova 75.27 322 P P 22 54 23.6 +1.2
AJN Ajban 75.29 290 P P 22 54 23.6 +0.8
SNR=5.0
AJN P **P 22 54 23.6 +0.8**
SNR=5.0
DIKM Dikmen 75.47 314 ⇑*i*P **P 22 54 25.6 +2.0**
ECSD EROS Data Cent 75.47 42 *e*P **P 22 54 23.5 -0.2**
comp=Z,144nm,1.4s
ECSD EROS Data Cent 75.47 42 P P 22 54 23.4 -0.2
baz=318,SNR=42
PRAR RASCA 75.48 323 ⇓*i*P **P 22 54 24.5 +0.9**
MHTO MHTO 75.61 285 P P 22 54 26.2 +1.4
SNR=20
E38A The Farm, Brul 75.66 38 P P 22 54 24.3 -0.3
baz=320,SNR=19
TUC Tucson 75.69 59 *e*P **P 22 54 25.5 +0.3**
comp=Z,41nm,1.0s
TUC Tucson 75.69 59 *e*P **P 22 54 25.5 +0.3**
TUC pmax pmax
comp=Z,41nm,1.0s
TUC Tucson 75.69 59 P P 22 54 25.6 +0.5
baz=313
BIR Birlad 75.71 322 ⇑*i*P **P 22 54 27.1 +2.2**
BIR Birlad 75.71 322 P P 22 54 27.0 +2.2
BURAR Bucovina Array 75.72 324 ⇓*i*P **P 22 54 26.5 +1.4**
BURAR Bucovina Array 75.72 324 P P 22 54 26.5 +1.4
STKA Stephens Creek 75.72 185 P P 22 54 25.3 +0.4
comp=Z,5.4nm,0.5s,baz=357,slow=7.0,SNR=24
KSCO Kaye Shedlock' 75.79 49 P P 22 54 25.7 0.0
baz=316,SNR=9.9
OJC Ojcow 75.82 329 *e*P **P 22 54 26.7 +1.2**
OJC Ojcow 75.82 329 *e*P **P 22 54 26.7 +1.2**
F37A Hinrichs Farm, 75.86 39 P P 22 54 25.5 -0.2
baz=320
BIZ Bicaz 75.86 323 ⇑*i*P **P 22 54 27.2 +1.4**
BZK Bozkurt 75.88 315 ⇓*i*P **P 22 54 27.9 +1.9**
KOLS Kolonicke sedl 75.89 326 *e*P **P 22 54 27.1 +1.2**
KOLS pmax pmax
comp=Z,54nm,1.5s
KOLS Kolonicke sedl 75.89 326 *e*P **P 22 54 27.1 +1.2**
STHS Stebnicka Huta 75.91 327 *e*P **P 22 54 27.4 +1.4**
STHS Stebnicka Huta 75.91 327 *e*P **P 22 54 27.4 +1.4**
TESR Tescani 75.95 322 ⇑*i*P **P 22 54 27.4 +1.1**
TLCR 75.99 320 ⇓*i*P **P 22 54 27.8 +1.3**
TLCR 75.99 320 P P 22 54 27.8 +1.3
F38A Pierce - Schro 76.01 38 P P 22 54 26.9 +0.2
baz=320,SNR=31
RUE Ruedersdorf 76.06 333 *e*P **P 22 54 27.2 +0.4**
RUE IAmb IAmb 22 54 29.1
comp=Z,106nm,1.0s
T25A Trinidad 76.12 52 P P 22 54 28.0 +0.2
baz=315,SNR=28
UZH Uzhgorod 76.12 326 ⇑*e*P **P 22 54 27.6 +0.4**
UZH *i* 22 54 39.0
SPMN Marine on St. 76.16 39 P P 22 54 27.2 -0.3
baz=320,SNR=14
NIE Niedzica 76.28 328 *e*P **P 22 54 29.6 +1.5**
NIE Niedzica 76.28 328 *e*P **P 22 54 29.6 +1.5**
E39A Mellen 76.28 37 P P 22 54 27.8 -0.4
baz=321,SNR=20
MDO Dochfour 76.28 345 *e*P **P 22 54 28.1 +0.1**
PETR Petresti 76.30 322 ⇑*i*P **P 22 54 30.8 +2.5**
CFR Carcaliu 76.31 321 ⇑*i*P **P 22 54 29.3 +1.0**
CFR Carcaliu 76.31 321 P P 22 54 29.3 +1.0
ODBI Odobesti 76.35 322 ⇑*i*P **P 22 54 30.8 +2.3**
BMR Baia Mare 76.39 325 ⇓*i*P **P 22 54 30.5 +1.7**
BMR Baia Mare 76.39 325 P P 22 54 30.5 +1.7
KAC Achnashellach 76.40 345 *e*P **P 22 54 28.9 +0.3**
VRI Vrincioaia 76.41 322 ⇓*i*P **P 22 54 30.5 +1.5**
VRI Vrincioaia 76.41 322 P P 22 54 30.4 +1.5
BGNE Belgrade 76.42 45 P P 22 54 28.6 -0.5
baz=317
TRPA Tarpa 76.42 326 ⇑*i*P **P 22 54 30.7 +1.8**
TRPA Tarpa 76.42 326 ⇑*i*P **P 22 54 30.0 +1.1**
TRPA *e*S **S 23 04 12.0 +1.9**
PLOR Plostina 76.46 322 ⇑*i*P **P 22 54 30.5 +1.2**
PLOR Plostina 76.46 322 P P 22 54 30.4 +1.2
F39A Loretta 76.47 38 P P 22 54 29.2 -0.1
baz=321,SNR=27
TASM ASL Pad, Albuq 76.48 54 P P 22 54 30.5 +0.7
baz=314,SNR=42
TASM ASL Pad, Albuq 76.48 54 P P 22 54 30.4 +0.6
baz=314,SNR=40
ANMO Albuquerque 76.48 54 *e*P **P 22 54 30.1 +0.4**
comp=Z,30nm,1.0s
ANMO Albuquerque 76.48 54*ce*P **P 22 54 30.3 +0.5**
ANMO pmax pmax
comp=Z,39nm,1.3s
ANMO Albuquerque 76.48 54 P P 22 54 30.4 +0.7
baz=314
ARCR ARCALIA 76.50 324 ⇓*i*P **P 22 54 31.7 +2.3**
E40A Wakefield 76.51 37 P P 22 54 29.8 +0.3
baz=321,SNR=43
RAC Raciborz 76.53 329 *e*P **P 22 54 31.1 +1.6**
RAC MLR MLR
comp=Z,700nm,23.9s
KSP Ksiaz 76.58 331 *e*P **P 22 54 30.9 +1.1**
KSP Ksiaz 76.58 331 *e*P **P 22 54 30.9 +1.1**
D41A Chassel 76.60 36 P P 22 54 29.7 -0.3
baz=322,SNR=8.0
KPL Plockton 76.62 346 *e*P **P 22 54 30.4 +0.6**
KPL IAmb IAmb 22 54 31.6
comp=Z,52nm,0.8s
G38A Ridgeland 76.63 39 P P 22 54 29.5 -0.7
baz=320
BISRR Bisoca 76.67 322 ⇓*i*P **P 22 54 32.6 +2.1**
GRER 76.68 322 ⇑*i*P **P 22 54 32.5 +2.1**
OKC Ostrava-Krasne 76.75 329 *e*P **P 22 54 31.7 +1.0**
OKC MLR MLR
comp=Z,400nm,20.0s
OKC Ostrava-Krasne 76.75 329 *e*P **P 22 54 31.7 +1.0**
OKC AMS AMS 23 30 20.0
comp=Z,400nm,20.0s
TLB Topalu 76.80 320 ⇑*i*P **P 22 54 32.4 +1.3**
TLB Topalu 76.80 320 P P 22 54 32.4 +1.3
CEI Carei 76.81 326 ⇑*i*P **P 22 54 32.0 +0.9**
LANS Liptovska Anna 76.81 328 *e*P **P 22 54 33.2 +2.0**
LANS Liptovska Anna 76.81 328 *e*P **P 22 54 33.2 +2.0**
H38A Maiden Rock 76.81 39 P P 22 54 31.1 -0.1
baz=320,SNR=7.8
Y22D IRIS PASSCAL I 76.82 55 P P 22 54 31.9 +0.3
baz=314
F40A Park Falls 76.82 37 P P 22 54 30.8 -0.5
baz=321,SNR=16
G39A Holcombe 76.85 38 P P 22 54 30.8 -0.6
baz=321,SNR=7.5
E41A Kenton 76.90 36 P P 22 54 31.5 -0.2
baz=322,SNR=21
EFOR EFORIE 76.92 320 ⇓*i*P **P 22 54 33.5 +1.7**
DOPR Dopca 76.93 323 ⇑*i*P **P 22 54 33.7 +1.8**
MFTR Murfatlar 76.94 320 ⇓*i*P **P 22 54 33.3 +1.4**
KECS Kecovo 76.96 327 *e*P **P 22 54 33.3 +1.3**
KECS pmax pmax
comp=Z,83nm,0.9s
KECS Kecovo 76.96 327 *e*P **P 22 54 33.2 +1.3**
UPC Upice 76.96 331 *e*P **P 22 54 32.9 +0.9**
UPC MLR MLR
comp=Z,500nm,17.3s
UPC Upice 76.96 331 *e*P **P 22 54 32.9 +0.9**
UPC AMS AMS 23 31 30.0
comp=Z,500nm,17.3s
DPC Dobruska-Polom 76.98 330 *e*P **P 22 54 33.5 +1.4**
DPC MLR MLR
comp=Z,400nm,22.4s
DPC Dobruska-Polom 76.98 330 *e*P **P 22 54 33.5 +1.4**
DPC AMS AMS 23 30 50.0
comp=Z,400nm,22.4s
CVDA Cernavoda 77.00 320 ⇓*i*P **P 22 54 33.7 +1.5**
MORC Moravsky Berou 77.02 329 ⇑*i*P **P 22 54 33.9 +1.6**
MORC Moravsky Berou 77.02 329 P P 22 54 33.3 +1.0
MORC Moravsky Berou 77.02 329 ⇑*i*P **P 22 54 33.4 +1.1**
KRLC Kraliky 77.05 330 *e*P **P 22 54 33.5 +1.0**
KRLC Kraliky 77.05 330 *e*P **P 22 54 33.5 +1.0**
MLR Muntele Rosu 77.05 322 ⇓*i*P **P 22 54 34.1 +1.4**
MLR Muntele Rosu 77.05 322 P P 22 54 33.7 +0.9
comp=Z,21nm,0.4s,baz=244,slow=0.5,SNR=61
ISR Istrita 77.08 322 ⇑*i*P **P 22 54 34.5 +1.7**
ISR Istrita 77.08 322 P P 22 54 34.5 +1.7
CJR Cluj-Napoca 77.11 324 ⇑*i*P **P 22 54 34.2 +1.3**
AMRR Amara 77.11 321 ⇓*i*P **P 22 54 34.5 +1.7**
COWI Conover 77.11 37 *e*P **P 22 54 32.4 -0.5**
comp=Z,21nm,0.8s
SCHQ Schefferville 77.24 20 P P 22 54 34.0 +0.5
comp=Z,40nm,0.5s,baz=347,slow=4.9,SNR=119
H39A Augusta 77.27 39 P P 22 54 33.3 -0.4
baz=321
ICOR Ion Corvin 77.28 320 ⇑*i*P **P 22 54 35.8 +2.0**
LTVH Ltavrtes, Hu 77.28 326 ⇑*i*P **P 22 54 35.0 +1.3**
G40A Rib Lake 77.29 38 P P 22 54 33.5 -0.5
baz=321,SNR=8.4
CLL Collm 77.31 333 ⇑*i*P **P 22 54 34.4 +0.5**
CLL *i* 22 54 39.6
CLL *e*S **S 23 04 18.0 -1.8**
CLL pmax pmax
comp=Z,80nm,0.7s
CLL MLR MLR
comp=Z,500nm,20.5s
CLL Collm 77.31 333 ⇑*i*P **P 22 54 34.4 +0.5**
comp=Z,80nm,0.7s
CLL *i* 22 54 39.6
CLL *e*PcP **PcP 22 54 43.0 -1.3**
CLL *e*PP **PP 22 57 27.0 -0.8**
CLL *e*S **S 23 04 18.0 -1.8**
CLL *e*(SS) 23 10 06.0
CLL *e*SSS SSS 23 12 36.0
CLL LmV 23 32 00.0
comp=Z,500nm,20.5s
SECR 77.35 322 ⇓*i*P **P 22 54 35.6 +1.3**
BRG Berggiesshubel 77.37 332 *i* P **P 22 54 34.8 +0.6**
comp=Z,27nm,1.0s
BRG S **S 23 04 17.0 -3.4**
BRG SS SS 23 09 46.0 +28
BRG *e*PKPPKP **P'P'df 23 21 43.3 -3.2**
comp=Z,12nm,1.8s
BRG Berggiesshubel 77.37 332 *i* P **P 22 54 34.8 +0.6**
BRG S **S 23 04 17.0 -3.4**
BRG pmax pmax
comp=Z,27nm,1.0s
BRG MLR MLR
comp=N,473nm,22.6s
BRG MLR MLR
comp=E,305nm,16.0s
BRG MLR MLR
comp=Z,520nm,18.7s
121A Cookes Peak, D 77.37 57 P P 22 54 35.6 +0.8
baz=314,SNR=30
E42A Champion 77.37 36 P P 22 54 34.0 -0.4
baz=322,SNR=10.0
F41A Three Lakes 77.41 37 P P 22 54 34.5 -0.1
baz=322,SNR=17
DRGR 77.42 325 ⇑*i*P **P 22 54 35.7 +1.0**
PSN Preselentsi 77.43 320 *i* P **P 22 54 36.2 +1.5**

PVCC **Panska Ves** 77.45 332 *eP* **P** 22 54 35.7 +1.0
PVCC MLR MLR
comp=Z,800nm,17.4s
PVCC **Panska Ves** 77.45 332 *eP* **P** 22 54 35.7 +1.0
PVCC AMS AMS 23 32 10.0
comp=Z,800nm,17.4s
LEHL **Lehliu** 77.45 321⇑ *iP* **P** 22 54 36.1 +1.3
EAB **Aberfoyle** 77.46 344 *eP* **P** 22 54 35.2 +0.6
VOIR 77.49 323⇓ *iP* **P** 22 54 36.8 +1.7
CBKS **Cedar Bluff** 77.49 48 *eP* **P** 22 54 34.6 -0.6
comp=Z,67nm,1.1s
CBKS **Cedar Bluff** 77.49 48 *eP* **P** 22 54 34.6 -0.6
CBKS pmax pmax
comp=Z,67nm,1.1s
CBKS **Cedar Bluff** 77.49 48 P **P** 22 54 34.5 -0.7
baz=317,SNR=7.4
SULR 77.55 321⇓ *iP* **P** 22 54 36.3 +1.0
VYHS **Vyhne** 77.59 328 *eP* **P** 22 54 36.8 +1.3
VYHS pmax pmax
comp=Z,16nm,0.7s
VYHS **Vyhne** 77.59 328 *eP* **P** 22 54 36.8 +1.3
LAWE **Loch Awe, Argy** 77.59 345 *eP* **P** 22 54 35.8 +0.5
PSZ **Piszkesteto** 77.65 327⇑ *iP* **P** 22 54 37.4 +1.5
PSZ **Piszkesteto** 77.65 327⇑ *iP* **P** 22 54 37.0 +1.1
BR131 **Keskin Array S** 77.71 314 P **P** 22 54 37.9 +1.3
SNR=16
BRTR **Keskin Array B** 77.71 314 P **P** 22 54 37.6 +1.1
comp=Z,18nm,0.8s,baz=76,slow=3.8,SNR=118
BRTR LR LR 23 34 44.1
comp=Z,249nm,20.7s,baz=54,slow=40
H40A **Chili** 77.71 38 P **P** 22 54 36.0 -0.3
baz=321,SNR=16
ARR **Arges** 77.72 323⇑ *iP* **P** 22 54 38.5 +2.1
JAVC **Velka Javorina** 77.73 329⇑ *iP* **P** 22 54 38.4 +2.1
VRAC **Vranov** 77.75 330⇑ *iP* **P** 22 54 37.9 +1.5
VRAC **Vranov** 77.75 330⇑ *iP* **P** 22 54 37.7 +1.3
VRAC **Vranov** 77.75 330 P **P** 22 54 37.8 +1.3
comp=Z,35nm,0.7s,baz=41,slow=5.0,SNR=67
G41A **Antigo** 77.79 37 P **P** 22 54 36.4 -0.3
baz=322
I39A **Houston** 77.79 40 P **P** 22 54 36.1 -0.6
baz=321,SNR=14
E43A **Lone Tree Farm** 77.80 35 P **P** 22 54 36.4 -0.3
baz=323,SNR=5.6
F42A **Maple Grove Fa** 77.81 36 P **P** 22 54 36.6 -0.1
baz=322,SNR=6.3
PGBU **Glenifferbraes** 77.84 344 *eP* **P** 22 54 37.5 +0.8
PGBU IAmb IAmb 22 54 38.5
comp=Z,98nm,1.0s
GOPC **GO Pecny, Ondr** 77.89 331 *eP* **P** 22 54 38.0 +0.8
GOPC MLR MLR
comp=Z,500nm,17.4s
GOPC **GO Pecny, Ondr** 77.89 331 *eP* **P** 22 54 38.0 +0.8
GOPC AMS AMS 23 32 10.0
comp=Z,500nm,17.4s
PRU **Pruhonice** 77.91 331 *eP* **P** 22 54 38.2 +0.9
PRU **Pruhonice** 77.91 331 *eP* **P** 22 54 38.2 +0.9
SGRR **Singureni** 78.03 321⇓ *iP* **P** 22 54 38.8 +0.8
KRUC **Moravsky** 78.03 330⇑ *iP* **P** 22 54 39.1 +1.2
LOT **Lotru** 78.04 323⇓ *iP* **P** 22 54 39.0 +0.8
ANTO **Ankara** 78.04 315 *eP* **P** 22 54 39.7 +1.4
comp=Z,269nm,0.9s
ANTO **Ankara** 78.04 315⇑ *iP* **P** 22 54 40.0 +1.7
ANTO **Ankara** 78.04 315 P **P** 22 54 39.7 +1.4
SNR=17
ANTO P **P** 22 54 39.7 +1.4
SNR=17
H41A **Junction City** 78.05 38 P **P** 22 54 37.7 -0.4
baz=322,SNR=16
ESK **Eskdalemuir** 78.05 344 *eP* **P** 22 54 38.5 +0.5
comp=Z,30nm,0.8s
ESK **Eskdalemuir** 78.05 344 *eP* **P** 22 54 38.3 +0.4
ESK IAmb IAmb 22 54 39.3
comp=Z,34nm,0.7s
ESK **Eskdalemuir** 78.05 344 *iP* **P** 22 54 39.7 +1.8
DEV **Deva** 78.06 324⇓ *iP* **P** 22 54 39.7 +1.6
G42A **Mountain** 78.09 37 P **P** 22 54 38.1 -0.2
baz=322,SNR=10
SMOL **Smolenice** 78.10 329 *eP* **P** 22 54 40.2 +1.8
SMOL **Smolenice** 78.10 329 *eP* **P** 22 54 40.2 +1.8
J39A **Decorah** 78.11 40 P **P** 22 54 37.6 -0.8
baz=321,SNR=14
F43A **Flat Rock, Esc** 78.16 36 P **P** 22 54 38.5 -0.2
baz=323,SNR=8.7
TREC **Trest** 78.16 330 *eP* **P** 22 54 39.6 +0.9
TREC MLR MLR
comp=Z,500nm,16.5s
TREC **Trest** 78.16 330 *eP* **P** 22 54 39.6 +0.9
TREC AMS AMS 23 32 00.0
comp=Z,500nm,16.5s
I40A **Norwalk** 78.18 39 P **P** 22 54 38.5 -0.3
baz=321,SNR=9.3
HUMR **Humele** 78.23 322⇓ *iP* **P** 22 54 39.3 +0.2
BHH **Howats Hill** 78.26 343 *eP* **P** 22 54 39.9 +0.8
SIRR **Siria** 78.27 325⇓ *iP* **P** 22 54 40.7 +1.3
MODS **Modra-Piesok** 78.28 329 *eP* **P** 22 54 40.1 +0.8
MODS pmax pmax
comp=Z,41nm,0.9s
MODS **Modra-Piesok** 78.28 329 *eP* **P** 22 54 40.1 +0.8
SRO **Srobarova** 78.35 328 *eP* **P** 22 54 41.5 +1.8
SRO **Srobarova** 78.35 328 *eP* **P** 22 54 41.5 +1.8
F44A **Big Bay de Noc** 78.36 35 P **P** 22 54 39.6 -0.2
baz=323,SNR=9.1
I41A **Arkdale** 78.39 38 P **P** 22 54 39.6 -0.4
baz=322,SNR=8.5
G43A **Wallace** 78.40 36 P **P** 22 54 40.0 0.0
baz=323,SNR=17
NKC **Novy Kostel** 78.42 333 *eP* **P** 22 54 40.5 +0.4
NKC MLR MLR
comp=Z,400nm,17.1s
NKC **Novy Kostel** 78.42 333 *eP* **P** 22 54 40.5 +0.4
NKC AMS AMS 23 35 00.0
comp=Z,400nm,17.1s
ZST **Bratislava** 78.49 329 *eP* **P** 22 54 41.1 +0.6
ZST **Bratislava** 78.49 329 *eP* **P** 22 54 41.1 +0.6
SCIA **State Center** 78.49 42 *eP* **P** 22 54 40.7 +0.1
comp=Z,286nm,1.3s
SCIA **State Center** 78.49 42 P **P** 22 54 40.9 +0.2
baz=320,SNR=17
GZR **Gura Zlata** 78.50 324⇑ *iP* **P** 22 54 41.6 +0.9
J40A **Soldiers Grove** 78.51 39 P **P** 22 54 39.8 -0.9
baz=321
K39A **Oelwein** 78.51 40 P **P** 22 54 39.8 -0.9
baz=321,SNR=17
MATQ **Matagami** 78.56 28 P **P** 22 54 40.5 -0.3
baz=328,SNR=14
E45A **Wooded Hills,** 78.57 34 P **P** 22 54 40.2 -0.7
baz=324
D46A **Sault St. Mari** 78.59 33 P **P** 22 54 40.4 -0.7
baz=325
H42A **Shiocton** 78.62 37 P **P** 22 54 40.8 -0.5
baz=322
WTSB **Winterswijk** 78.65 337 *eP* **P** 22 54 41.7 +0.5
comp=Z,88nm,0.7s
CSKK **Cskako** 78.74 328 *eP* **P** 22 54 43.0 +1.1
GAL1 **Galloway** 78.77 344 *eP* **P** 22 54 42.3 +0.5
SZH **Strazhica** 78.79 321 *iP* **P** 22 54 42.6 +0.4
BZS **Buzias** 78.81 325⇑ *iP* **P** 22 54 43.0 +0.7
D47A **Chapleau** 78.82 33 P **P** 22 54 41.7 -0.7
baz=325
J41A **Loganville** 78.86 39 P **P** 22 54 42.1 -0.5
baz=322,SNR=12
K40A **Colesburg** 78.86 40 P **P** 22 54 42.2 -0.4
baz=321,SNR=11
KLYT **Kilyos** 78.88 318⇓ *iP* **P** 22 54 44.1 +1.4
VLAD **Vladila** 78.90 322⇓ *iP* **P** 22 54 43.7 +0.9
L39A **Vinton** 78.91 41 P **P** 22 54 42.7 -0.2
baz=321,SNR=29
E46A **Sault Ste Mari** 78.91 34 P **P** 22 54 42.2 -0.6
baz=325
KSU1 **Kansas State U** 78.92 46 *eP* **P** 22 54 42.3 -0.7
comp=Z,66nm,0.7s
KSU1 **Kansas State U** 78.92 46 P **P** 22 54 42.1 -0.9
baz=318,SNR=18
I42A **Draeger Farm,** 78.94 38 P **P** 22 54 42.7 -0.4
baz=322,SNR=11
F45A **CMU Biological** 78.97 35 P **P** 22 54 42.7 -0.4
baz=324
KHC **Kasperske Hory** 78.97 331 *eP* **P** 22 54 44.3 +1.1
KHC *e* 22 54 57.0
KHC MLR MLR
comp=Z,1μm,17.8s
KHC **Kasperske Hory** 78.97 331 *eP* **P** 22 54 44.3 +1.1
KHC *epP* **pP** 22 54 57.0 -0.7
KHC AMS AMS 23 33 00.0
comp=Z,1μm,17.8s
HPK **Haverah Park** 78.98 342 *eP* **P** 22 54 44.0 +1.0
HPK IAmb IAmb 22 54 44.9
comp=Z,107nm,0.7s
H43A **Windswept, Lux** 78.99 37 P **P** 22 54 43.1 -0.2
baz=323,SNR=6.2
HERR **Herculane** 79.07 324⇑ *iP* **P** 22 54 44.2 +0.5
JFWS **Jewell Farm** 79.11 39 *eP* **P** 22 54 43.1 -0.9
comp=Z,25nm,0.9s
JFWS **Jewell Farm** 79.11 39 P **P** 22 54 43.3 -0.7
baz=322,SNR=5.2
JMB **Yambol** 79.11 320 *iP* **P** 22 54 44.7 +0.7
SOP **Sopron** 79.12 329⇑ *iP* **P** 22 54 45.1 +1.1
CONA **Conrad Observa** 79.17 329 *eP* **P** 22 54 45.8 +1.4
comp=Z,36nm,0.7s,SNR=34
GERES **GERESS Array B** 79.17 331 P **P** 22 54 45.0 +0.6
GERES pmax pmax
comp=Z,18nm,0.5s
GERES MLR MLR
comp=Z,728nm,20.3s
GERES **GERESS Array B** 79.17 331 P **P** 22 54 45.0 +0.6
comp=Z,18nm,0.5s,baz=34,slow=5.8,SNR=160
GERES PKKPbc **PKKPbc** 23 13 33.7 0.0
comp=Z,0.9nm,0.8s,baz=259,slow=2.7,SNR=4.6
GERES LR LR 23 33 31.3
comp=Z,728nm,20.3s,baz=31,slow=38
BANR **Banloc** 79.20 325⇑ *iP* **P** 22 54 45.6 +1.2
F46A **Macinaw City C** 79.21 34 P **P** 22 54 44.3 -0.2
baz=324,SNR=5.3
D48A **Paudash Townsh** 79.23 32 P **P** 22 54 43.6 -1.0
baz=326
E47A **Iron Bridge** 79.25 33 P **P** 22 54 44.0 -0.7
baz=325,SNR=6.4
AMTX **Amarillo** 79.28 52 *eP* **P** 22 54 45.5 +0.3
comp=Z,64nm,0.9s
AMTX **Amarillo** 79.28 52 P **P** 22 54 45.6 +0.4
baz=317
GRFO **Grafenberg** 79.29 333 *eP* **P** 22 54 45.8 +1.0
comp=Z,75nm,0.7s
I43A **Langenfeld Bro** 79.29 38 P **P** 22 54 44.6 -0.4
baz=323
J42A **Columbus** 79.30 38 P **P** 22 54 44.6 -0.5
baz=322,SNR=14
D49A **Beulah Townshi** 79.31 32 P **P** 22 54 43.8 -1.3
baz=326
MSTX **Muleshoe** 79.32 53 P **P** 22 54 45.3 -0.2
baz=316,SNR=18
PHSR **Pinarhisar** 79.32 319⇑ *iP* **P** 22 54 46.8 +1.6
L40A **Anamosa** 79.32 41 P **P** 22 54 44.6 -0.6
baz=321,SNR=14
K41A **Shullsburg** 79.32 40 P **P** 22 54 44.5 -0.6
baz=322,SNR=7.3
PUNG **Punghina** 79.33 323⇑ *iP* **P** 22 54 45.5 +0.4
RAO **Raoul Island** 79.36 150 *eP* **P** 22 54 42.5 -2.8
comp=Z,2μm,0.7s
RAO **Raoul Island** 79.36 150 *eP* **P** 22 54 42.5 -2.8
LSQQ **Lebel-sur-Quev** 79.38 28 P **P** 22 54 45.0 -0.4
baz=329
MNTX **Cornudas Mount** 79.41 56 *eP* **P** 22 54 46.0 +0.2
comp=Z,71nm,1.1s
MNTX **Cornudas Mount** 79.41 56 P **P** 22 54 46.3 +0.4
baz=315,SNR=71
G45A **Suttons Bay** 79.43 35 P **P** 22 54 45.4 -0.3
baz=324
MDVR **Moldovita** 79.44 324⇑ *iP* **P** 22 54 46.2 +0.3
CHGQ **Chibougamau** 79.50 26 P **P** 22 54 45.8 -0.3
baz=330,SNR=60
EDRB **Edirne** 79.52 319 P **P** 22 54 47.0 +0.8
EDRB **Edirne** 79.52 319 P **P** 22 54 47.0 +0.8
LBWR **Ladybower, Pea** 79.52 342 *eP* **P** 22 54 46.9 +0.9
LBWR IAmb IAmb 22 54 47.8
comp=Z,144nm,0.8s
MORH **Mrgy, Hungar** 79.53 327⇑ *iP* **P** 22 54 46.1 -0.1
MORH **Mrgy, Hungar** 79.53 327⇑ *iP* **P** 22 54 46.1 -0.1
G46A **Petoskey** 79.54 35 P **P** 22 54 45.8 -0.5
baz=324
J43A **Natural Harves** 79.57 38 P **P** 22 54 45.9 -0.6
baz=322,SNR=5.3
H45A **Beulah** 79.61 36 P **P** 22 54 46.3 -0.4
baz=324
K42A **Prairie Point,** 79.63 39 P **P** 22 54 46.2 -0.6
baz=322,SNR=11
L41A **Preston** 79.65 40 P **P** 22 54 46.3 -0.7
baz=321,SNR=15
E48A **Lockeyer** 79.66 33 P **P** 22 54 46.2 -0.8
baz=326
MPEP **Malo Peshtene** 79.71 322 P **P** 22 54 48.0 +0.8
MOA **Molln** 79.82 330 *eP* **P** 22 54 48.7 +0.9
comp=Z,21nm,0.8s,SNR=18
ARSA **Arzberg** 79.87 329 *eP* **P** 22 54 49.2 +1.1
comp=Z,10.0nm,0.6s,SNR=7.2
FRGS **Fruska Gora** 79.93 326⇑ *iP* **P** 22 54 48.9 +0.5
HGN **Heimansgroeve** 79.97 337 *eP* **P** 22 54 48.9 +0.4
comp=Z,70nm,0.8s
I45A **Fountain** 80.00 36 P **P** 22 54 49.0 +0.2
baz=324
BEBN **Eben Emael** 80.02 337 ⇑P **P** 22 54 49.3 +0.6
comp=Z,14nm,0.7s
F48A **Evansville** 80.03 33 P **P** 22 54 48.5 -0.4
baz=326
H46A **Fife Lake** 80.03 35 P **P** 22 54 48.9 0.0
baz=324,SNR=7.9
GLMI **Grayling** 80.04 35 P **P** 22 54 48.9 -0.1
baz=325
CWF **Charnwood Fore** 80.04 342 *eP* **P** 22 54 49.1 +0.3
CWF IAmb IAmb 22 54 51.3
comp=Z,32nm,1.0s
N40A **Mertquake, Sal** 80.06 41 P **P** 22 54 49.2 0.0
baz=321,SNR=29
G47A **Hillman** 80.07 34 P **P** 22 54 48.8 -0.3
baz=325
WME **Myndd Eilian** 80.08 343 *eP* **P** 22 54 49.1 +0.1
WME IAmb IAmb 22 54 50.2
comp=Z,39nm,0.7s
MEM **Membach** 80.09 336 ⇑P **P** 22 54 49.5 +0.4
comp=Z,40nm,0.9s
MEM ⇑pP **pP** 22 55 02.9 -0.8
L42A **Oliver, Polo** 80.09 40 P **P** 22 54 48.6 -0.7
baz=322,SNR=9.7
K43A **Burlington** 80.14 38 P **P** 22 54 48.8 -0.8
baz=323
M41A **Milan** 80.17 41 P **P** 22 54 49.4 -0.4
baz=322,SNR=14
D51A **Lot 18 Range I** 80.21 31 P **P** 22 54 49.0 -0.8
baz=328
E50A **Wahnapitae** 80.26 32 P **P** 22 54 49.5 -0.7
baz=327
F49A **Sandfield** 80.31 33 P **P** 22 54 49.8 -0.6
baz=326
FOEL **Foel Wylfa** 80.32 343 *eP* **P** 22 54 51.1 +0.7
FOEL IAmb IAmb 22 54 52.2
comp=Z,79nm,0.8s
L43A **Garden Prairie** 80.37 39 P **P** 22 54 50.1 -0.7
baz=322,SNR=5.6
UCC **Uccle** 80.38 337 ⇑P **P** 22 54 51.0 +0.3
H47A **Mio** 80.39 35 P **P** 22 54 50.8 -0.1
baz=325
I46A **Reed City** 80.41 36 P **P** 22 54 50.9 -0.1
baz=324
J45A **Montague** 80.41 37 P **P** 22 54 50.9 -0.2
baz=324
BCLA **Clavier** 80.46 337 ⇑P **P** 22 54 51.6 +0.5
comp=Z,41nm,0.8s
VTS **Vitosha** 80.52 322 P **P** 22 54 52.7 +0.9
VTS **Vitosha** 80.52 322⇑ *iP* **P** 22 54 53.4 +1.6
VTS **Vitosha** 80.52 322 *iP* **P** 22 54 52.4 +0.6
SOKA **Soboth** 80.53 329 *iP* **P** 22 54 52.5 +0.8
comp=Z,44nm,0.7s,SNR=26
PERS **Perince** 80.53 329 *iP* **P** 22 54 52.3 +0.6
N41A **Harden Midland** 80.55 41 P **P** 22 54 51.6 -0.2
baz=321,SNR=27
RZN **Rozhen** 80.59 320 *iP* **P** 22 54 53.2 +1.0
ALN **Alexandroupoli** 80.59 319 P **P** 22 54 52.6 +0.6
HLM1 **Long Mynd** 80.60 342 *eP* **P** 22 54 51.7 -0.2
HLM1 IAmb IAmb 22 54 52.1
comp=Z,32nm,0.6s
E51A **G1948 Merrick** 80.63 31 P **P** 22 54 51.4 -0.8
baz=328,SNR=8.8
RDO **Rodhopi** 80.63 320 P **P** 22 54 53.3 +1.1
D52A **ZEK Kipawa Sen** 80.65 30 P **P** 22 54 51.5 -0.8
baz=328,SNR=5.1
SNF **Seneffe** 80.67 337 ⇑P **P** 22 54 52.7 +0.5
comp=Z,52nm,0.8s
SNF ⇑pP **pP** 22 55 06.1 -0.7
SNF ⇓sP **sP** 22 55 12.3 -0.1
H48A **Harrisville** 80.67 34 P **P** 22 54 51.9 -0.5
baz=325
DIVS **Divibare** 80.72 325⇑ *iP* **P** 22 54 52.9 +0.1
I47A **Gladwin** 80.74 35 P **P** 22 54 51.5 -1.3
baz=325
ISP **Isparta** 80.75 315⇓ *iP* **P** 22 54 53.9 +0.8
ISP **Isparta** 80.75 315 *iP* **P** 22 54 53.7 +0.6
ISP pmax pmax
comp=Z,19nm,0.9s
L44A **Lake County Fo** 80.75 38 P **P** 22 54 52.2 -0.6
baz=323
KBA **Koelnbreinsper** 80.80 330 *eP* **P** 22 54 54.4 +1.1
comp=Z,35nm,0.6s,SNR=39
J46A **Howard City** 80.81 36 P **P** 22 54 53.0 -0.2
baz=324
OBKA **Obir** 80.85 329 *eP* **P** 22 54 53.9 +0.5
comp=Z,22nm,0.7s,SNR=11
M43A **Waltham Townsh** 80.86 40 P **P** 22 54 53.2 -0.2
baz=322,SNR=9.6
GIVF **Givet** 80.88 337 *eP* **P** 22 54 52.9 -0.5
GIVF pmax pmax
comp=Z,21nm,0.7s
WLF **Walferdange** 80.89 336 P **P** 22 54 56.0 +2.5
WLF **Walferdange** 80.89 336 ⇑P **P** 22 54 53.7 +0.2
comp=Z,30nm,1.2s
WLF ⇓sP **sP** 22 55 13.1 -0.6
I48A **Sherman Twp** 80.94 35 P **P** 22 54 53.8 0.0
baz=325
DOU **Dourbes** 80.95 337 ⇑P **P** 22 54 54.2 +0.4
comp=Z,16nm,0.8s
TOBO **Tobermory, Bru** 80.95 33 P **P** 22 54 53.5 -0.4
baz=326
F51A **Arnstein** 80.98 32 P **P** 22 54 53.4 -0.7
baz=327
LANF **Langenberg** 81.00 335 P **P** 22 54 55.1 +1.0
WMOK **Wichita Mounta** 81.01 50 P **P** 22 54 54.3 -0.1
baz=318,SNR=34
MYKA **Terra Mystica** 81.08 330 *iP* **P** 22 54 54.8 +0.2
comp=Z,16nm,0.6s,SNR=12
CRES **Cresnjev** 81.09 328⇑ *iP* **P** 22 54 54.8 +0.2
BAIF **Baives** 81.09 337 *eP* **P** 22 54 54.2 -0.3
BAIF pmax pmax
comp=Z,22nm,0.8s
MCH1 **Michaelchurch** 81.11 342 *eP* **P** 22 54 55.2 +0.6
MCH1 IAmb IAmb 22 54 56.2
comp=Z,73nm,0.6s
MMB **Musomiste** 81.12 321 *iP* **P** 22 54 55.8 +0.9
D54A **Lac Fusel, La** 81.13 29 P **P** 22 54 54.2 -0.6
baz=329,SNR=11
STRD **Stroud** 81.13 342 *eP* **P** 22 54 55.6 +0.9
STRD IAmb IAmb 22 54 56.0
comp=Z,70nm,0.7s
E52A **Mattawa** 81.15 31 P **P** 22 54 53.9 -1.0
baz=328
BBLS **Lazići** 81.15 325⇑ *iP* **P** 22 54 55.9 +0.8
N43A **Stutzman Famil** 81.16 40 P **P** 22 54 54.8 -0.2
baz=322,SNR=14
HAPS **Han Pijesak,Bl** 81.16 325⇑ *iP* **P** 22 54 55.1 -0.1
KKB **Krupnik** 81.19 322 *iP* **P** 22 54 56.2 +1.0
WATA **Walderalm** 81.20 332 *iP* **P** 22 54 56.3 +0.9
comp=Z,38nm,0.5s,SNR=88
MONM **Monmouth** 81.22 342 *eP* **P** 22 54 56.0 +0.9
MONM IAmb IAmb 22 54 56.5
comp=Z,57nm,0.8s
WTTA **Wattenberg** 81.24 331 *iP* **P** 22 54 56.6 +1.0
comp=Z,60nm,0.5s
J47A **Sunmer** 81.25 36 P **P** 22 54 55.8 +0.3
baz=325,SNR=6.3
LJU **Ljubljana** 81.25 329⇑ *iP* **P** 22 54 55.4 -0.1
OZLJ **Ozalj** 81.26 328 P **P** 22 54 55.6 +0.1
K46A **Dorr** 81.28 37 P **P** 22 54 55.5 -0.2
baz=324,SNR=8.9
EZN **Ezine** 81.29 318 P **P** 22 54 56.4 +0.6
EZN **Ezine** 81.29 318⇑ *iP* **P** 22 54 56.6 +0.8
EZN **Ezine** 81.29 318 P **P** 22 54 56.6 +0.8
SWN1 **Swindon** 81.29 341 *eP* **P** 22 54 56.8 +1.2
SWN1 IAmb IAmb 22 54 57.5
comp=Z,165nm,0.6s
M44A **Midewin, Midew** 81.32 39 P **P** 22 54 55.8 -0.1
baz=323,SNR=13
F52A **Sundridge** 81.32 31 P **P** 22 54 55.4 -0.4
baz=328,SNR=5.5
BLY **Banja Luka** 81.32 327⇓ *iP* **P** 22 54 56.6 +0.7
BLY **Banja Luka** 81.32 327⇑ *iP* **P** 22 54 55.7 -0.2
VISS **Visnje** 81.34 329 *eP* **P** 22 54 56.0 0.0
WOL **Wolverton** 81.34 341 *eP* **P** 22 54 56.3 +0.5
WOL IAmb IAmb 22 54 58.2
comp=Z,104nm,0.5s
RETA **Reutte** 81.35 332 *eP* **P** 22 54 57.0 +1.0
comp=Z,57nm,1.1s,SNR=15
KLBO **Killbear Provi** 81.35 32 P **P** 22 54 55.7 -0.3
baz=327
MOTA **Moosalm** 81.36 332 *eP* **P** 22 54 57.0 +0.8
comp=Z,30nm,0.5s,SNR=62
ABTA **Abfaltersbach** 81.38 331 *iP* **P** 22 54 56.3 0.0
comp=Z,8.8nm,0.6s,SNR=8.0
HDIL **Hopedale** 81.40 40 *eP* **P** 22 54 56.1 -0.2
comp=Z,172nm,0.8s
HDIL **Hopedale** 81.40 40 P **P** 22 54 56.4 0.0
baz=322,SNR=24
BFO **Black Forest** 81.41 334 *eP* **P** 22 54 56.5 +0.2
comp=Z,5.9nm,0.8s
BFO **Black Forest** 81.41 334 *iP* **P** 22 54 57.0 +0.7
SQTA **Sankt Quirin** 81.43 332 *iP* **P** 22 54 57.5 +1.0
comp=Z,44nm,0.6s,SNR=23
E53A **Dumoine, Ponti** 81.43 30 P **P** 22 54 55.6 -0.8
baz=329,SNR=5.2
BOJS **Bojanci** 81.44 328 *iP* **P** 22 54 56.6 +0.2
NWAO **Narrogin (SRO)** 81.47 206 *eP* **P** 22 54 56.4 -0.2
comp=Z,256nm,1.3s
NWAO **Narrogin (SRO)** 81.47 206 *eP* **P** 22 54 56.4 -0.2
NWAO pmax pmax
comp=Z,256nm,1.3s
I49A **Point Hope** 81.50 34 P **P** 22 54 56.8 0.0
baz=326
RSBS **Rosebush, Pemb** 81.53 343 *eP* **P** 22 54 57.5 +0.7
RSBS IAmb IAmb 22 54 57.8
comp=Z,19nm,0.8s
CEY **Cerknica** 81.55 329⇑ *iP* **P** 22 54 57.0 -0.1
JAVS **Javornik** 81.55 329 *iP* **P** 22 54 56.8 -0.4
SRS **Serrai** 81.55 321 P **P** 22 54 57.3 +0.1
SRS **Serrai** 81.55 321 P **P** 22 54 57.8 +0.6
E54A **Lac Daplat, Po** 81.56 30 P **P** 22 54 56.3 -0.7
baz=329,SNR=11
BUKO **Buck Lake** 81.59 31 P **P** 22 54 56.8 -0.5
baz=328
BMRO **Meriville Lake** 81.60 33 P **P** 22 54 57.4 +0.1
baz=327
PLE **Pljevlja** 81.60 325⇑ *iP* **P** 22 54 58.3 +0.8
L46A **Eue Claire** 81.60 38 P **P** 22 54 57.0 -0.4
baz=324
J48A **Bridge Port** 81.63 35 P **P** 22 54 57.7 +0.2
baz=325
K47A **Vermontville** 81.63 36 P **P** 22 54 57.5 0.0
baz=325,SNR=7.5
MGRS **Mrkonjic Grad** 81.64 327⇑ *iP* **P** 22 54 58.7 +1.1
ALGO **Algonquin Park** 81.66 30 P **P** 22 54 56.6 -0.9
baz=328,SNR=5.0
CDF **Champ du Feu** 81.66 335 *eP* **P** 22 54 57.4 -0.3
CDF pmax pmax
comp=Z,48nm,0.9s
M45A **Boilermakers S** 81.68 39 P **P** 22 54 57.3 -0.5
baz=323
STIP **Stip** 81.72 322 *iP* **P** 22 54 57.9 -0.2
STIP **Stip** 81.72 322 *iP* **P** 22 54 58.0 -0.1
TUL1 **Leonard** 81.75 47 P **P** 22 54 58.3 0.0
baz=319,SNR=18
N44A **Piper City** 81.75 39 P **P** 22 54 58.1 0.0
baz=323,SNR=11
FETA **Feichten** 81.76 332 *iP* **P** 22 54 59.2 +0.8
comp=Z,25nm,0.9s,SNR=17
IVA **Berane** 81.76 324⇑ *iP* **P** 22 54 59.0 +0.7
PRK **Paraskevi** 81.77 318 P **P** 22 54 59.9 +1.6
LIA **Limnos Island** 81.78 319 P **P** 22 54 58.6 +0.3
BRCO **Bruce Peninsul** 81.80 33 P **P** 22 54 57.7 -0.7
baz=326
DAVA **Damuels** 81.82 333 *eP* **P** 22 54 59.3 +0.7
comp=Z,26nm,0.6s,SNR=28
TRI **Trieste** 81.82 329 P **P** 22 55 00.7 +2.3
SKO **Skopje** 81.83 323 *iP* **P** 22 54 59.9 +1.3
SKO **Skopje** 81.83 323 *iP* **P** 22 54 60.0 +1.3
KNT **Kendrikon** 81.83 321 P **P** 22 54 58.9 +0.3
J49A **Marlette** 81.85 35 P **P** 22 54 58.9 +0.2
baz=326
SLE **Schleitheim** 81.85 334 P **P** 22 54 59.1 +0.4
VAY **Valandovo** 81.85 322 *iP* **P** 22 54 59.7 +1.0
VAY **Valandovo** 81.85 322 *iP* **P** 22 54 59.8 +1.0
ECH **Echery** 81.87 335 P **P** 22 54 59.4 +0.6

RIY Rijeka 81.88 329⇑ iP P 22 54 58.4 -0.4
K48A Perry 81.90 36 P P 22 54 58.9 0.0
baz=325,SNR=7.6
UPM Unac-Piva 81.91 325⇑ iP P 22 54 59.2 0.0
UPM Unac-Piva 81.91 325 eP P 22 54 59.0 -0.2
BASO Ashfield 81.91 34 P P 22 54 59.1 +0.2
baz=326
KOME Kolasin 81.94 324⇑ iP P 22 54 59.6 +0.3
PVY Plav 81.96 324⇑ iP P 22 54 59.6 +0.1
N45A Kentland 81.99 39 P P 22 54 59.6 +0.1
baz=323,SNR=5.1
P43A Skaggs, Pawnee 82.02 41 P P 22 54 59.5 -0.1
baz=322,SNR=16
BWLO Walkerton 82.03 33 P P 22 54 59.8 +0.2
baz=327
M46A Old House Fiel 82.06 38 P P 22 54 59.7 -0.2
baz=324
UDBI Udbina 82.06 328 P P 22 54 59.7 -0.2
H52A Wyevale 82.08 32 P P 22 54 59.3 -0.6
baz=328,SNR=5.6
ABTX Abilene, Hawle 82.09 52 P P 22 55 00.2 +0.1
baz=318,SNR=5.6
Q42A Golden Eagle 82.11 42 P P 22 55 00.4 +0.3
baz=322,SNR=22
O44A Mansfield 82.11 40 P P 22 54 59.8 -0.2
baz=323,SNR=7.2
L47A Sherwood 82.11 37 P P 22 54 59.9 -0.2
baz=324,SNR=14
TXAR Lajitas Array 82.13 57 P P 22 55 00.9 +0.4
TXAR pmax pmax
comp=Z,68nm,0.8s
TXAR Lajitas Array 82.13 57 P P 22 55 00.9 +0.4
comp=Z,67nm,0.8s,baz=298,slow=4.0,SNR=564
TXAR PKKPbc PKKPbc 23 13 29.5 +2.7
comp=Z,2.1nm,0.8s,baz=146,slow=4.9,SNR=17
G53A Haliburton 82.15 31 P P 22 54 59.9 -0.3
baz=328,SNR=6.1
R41A Rosebud 82.17 43 P P 22 55 00.3 -0.1
baz=321,SNR=41
PEMO Pembroke 82.18 30 P P 22 54 59.5 -0.9
baz=329,SNR=6.5
NKY Niksic 82.19 325⇑ iP P 22 55 00.7 +0.1
K49A Clarkson 82.19 35 P P 22 55 00.8 +0.3
baz=325,SNR=8.7
MOF Molkenrain 82.20 334 P P 22 55 01.2 +0.6
PLG Polygyros 82.21 320 P P 22 55 01.1 +0.4
GRG Griva 82.22 321 P P 22 55 01.0 +0.3
LATQ La Tuque 82.23 26 P P 22 55 00.4 -0.2
baz=332,SNR=5.1
NKME Niksic 82.25 325⇑ iP P 22 55 00.7 -0.1
DAVOX Davos/Dischmat 82.26 332 P P 22 55 02.0 +1.0
DAVOX pmax pmax
comp=Z,24nm,0.5s
DAVOX Davos/Dischmat 82.26 332 P P 22 55 02.0 +1.0
comp=Z,24nm,0.5s,baz=7.7,slow=2.4,SNR=98
N46A Monticello 82.31 39 P P 22 55 00.8 -0.3
baz=324,SNR=5.2
BRY Bratogost 82.31 325⇑ iP P 22 55 00.7 -0.6
BRY Bratogost 82.31 325 eP P 22 55 00.9 -0.4
HAU Haudompre 82.31 335 eP P 22 55 00.5 -0.5
HAU pmax pmax
comp=Z,18nm,0.7s
HINF Hinteralfeld 82.32 335 eP P 22 55 01.2 +0.1
HINF pmax pmax
comp=Z,14nm,0.6s
I51A Listowel 82.34 33 P P 22 55 01.4 +0.2
baz=327
F55A Otter Lake 82.37 29 P P 22 55 00.6 -0.7
baz=330
O45A Potomac 82.37 40 P P 22 55 01.6 +0.2
baz=323,SNR=15
NVLJ Novalja 82.38 328 P P 22 55 00.5 -0.8
PDG Podgorica 82.39 324⇓ iP P 22 55 02.3 +0.8
PDG Podgorica 82.39 324⇑ iP P 22 55 01.8 +0.3
TTG Podgorica 82.39 324⇑ iP P 22 55 01.8 +0.3
M47A Cromwell 82.43 38 P P 22 55 01.7 -0.1
baz=324,SNR=11
CCM Cathedral Cave 82.43 43 eP P 22 55 01.6 -0.2
comp=Z,601nm,0.9s
CCM Cathedral Cave 82.43 43 eP P 22 55 01.6 -0.2
CCM Cathedral Cave 82.43 43 P P 22 55 01.6 -0.2
baz=321
CEME Cevo 82.44 325⇑ iP P 22 55 01.7 -0.2
I52A Shelburne 82.45 33 P P 22 55 01.5 -0.3
baz=327
PAIG Paliouri 82.46 320 P P 22 55 02.0 +0.1
L48A N Adams 82.47 37 P P 22 55 02.0 0.0
baz=325,SNR=17
BANO Bancroft 82.50 31 P P 22 55 01.7 -0.3
baz=329,SNR=8.7
AAM Ann Arbor 82.50 36 eP P 22 55 02.4 +0.3
comp=Z,84nm,0.9s
AAM Ann Arbor 82.50 36 eP P 22 55 02.4 +0.3
AAM pmax pmax
comp=Z,84nm,0.9s
AAM Ann Arbor 82.50 36 P P 22 55 02.3 +0.3
baz=325,SNR=5.6
TREB Trebinje 82.54 325 eP P 22 55 01.7 -0.6
S41A Jillco Farms, 82.54 44 P P 22 55 01.9 -0.5
baz=321,SNR=23
SFIN Lafayette 82.56 39 P P 22 55 02.4 0.0
baz=324,SNR=6.5
L49A Milan 82.62 36 P P 22 55 03.0 +0.3
baz=325,SNR=10
DRME Dracevica, Mon 82.62 324⇑ iP P 22 55 03.1 +0.3
DRME Dracevica, Mon 82.62 324⇑ iP P 22 55 03.1 +0.3
BIA Bitola 82.65 322 i P P 22 55 03.7 +0.7
BIA Bitola 82.65 322 i P P 22 55 03.7 +0.7
BUM Brajici-Budva 82.65 324⇑ iP P 22 55 02.9 -0.1
STON Ston 82.68 325 P P 22 55 02.0 -0.9
STON Ston 82.68 325⇑ iP P 22 55 02.1 -0.9
HCY Herceg Novi 82.70 325⇑ iP P 22 55 02.8 -0.3
HCY Herceg Novi 82.70 325 eP P 22 55 02.5 -0.6
M48A Edgerton 82.72 37 P P 22 55 03.1 -0.2
baz=325,SNR=15
G55A Calabogie 82.74 30 P P 22 55 02.7 -0.6
baz=329,SNR=8.6
N47A Urbana 82.78 38 P P 22 55 03.2 -0.4
baz=324,SNR=23
ULC Ulcinj 82.78 324⇑ iP P 22 55 03.3 -0.3
PLVO Plevna 82.79 30 P P 22 55 03.0 -0.6
baz=329,SNR=5.8
OHR Ohrid 82.81 323 i P P 22 55 04.0 +0.3
OHR Ohrid 82.81 323 i P P 22 55 04.1 +0.3
FNA Florina 82.82 322 P P 22 55 03.7 -0.2
FNA Florina 82.82 322 P P 22 55 04.0 +0.1
PMOR Pomariorio Ree 82.86 119 eT T 00 26 21.0
comp=Z,78nm,0.3s
ACTO Acton 82.88 33 P P 22 55 04.2 +0.1
baz=327
I53A Kortright Cn E 82.88 32 P P 22 55 03.9 -0.1
baz=328
U40A Yellville 82.94 45 P P 22 55 04.2 -0.3
baz=321,SNR=59
P45A Graceland, Par 82.94 40 P P 22 55 04.4 0.0
baz=323,SNR=17
PKRO Pickering 82.96 32 P P 22 55 04.5 +0.1
baz=328,SNR=7.4
ORIO Orleans, Innes 83.00 29 P P 22 55 03.6 -0.9
baz=330,SNR=11
TIR Tirane 83.02 323⇑ iP P 22 55 05.7 +0.9
TIR Tirane 83.02 323 P P 22 55 05.7 +0.9
J52A Paris 83.03 33 P P 22 55 04.9 +0.1
baz=327
DELO Deloro Mine 83.04 31 P P 22 55 04.4 -0.5
baz=329,SNR=6.8
K51A Iona Station 83.05 34 P P 22 55 04.8 -0.1
baz=327,SNR=5.6
ALFO Alfred 83.06 29 P P 22 55 04.1 -0.8
baz=330,SNR=15
L50A Kingsville 83.07 35 P P 22 55 05.2 +0.1
baz=326
O47A Sheridan 83.09 39 P P 22 55 04.7 -0.5
baz=324,SNR=10
N48A Decatur 83.09 37 P P 22 55 05.0 -0.2
baz=325,SNR=29
P46A Rosedale 83.12 40 P P 22 55 05.4 +0.1
baz=324,SNR=15
XOR Xorichti 83.14 320 P P 22 55 05.5 0.0
NEO Neokhori 83.17 320 P P 22 55 05.4 -0.3
DRWO Darlington Wes 83.17 32 P P 22 55 05.8 +0.3
baz=328
H55A Tweed 83.17 31 P P 22 55 05.2 -0.4
baz=329,SNR=8.9
DRCO St. Marys Ceme 83.18 32 P P 22 55 05.4 -0.1
baz=328

FYTO Fytoko, Volos 83.22 320 P P 22 55 06.1 +0.2
Q45A Warren Harvey, 83.25 41 P P 22 55 06.2 +0.1
baz=323,SNR=21
WLVO Wesleyville 83.26 32 P P 22 55 05.8 -0.1
baz=328
NEST Nestorio 83.26 322 P P 22 55 06.6 +0.4
I55A Frankford 83.28 31 P P 22 55 05.6 -0.4
baz=329
CCA1 Carnmenellis 83.30 343 eP P 22 55 06.8 +0.7
K52A Tillsonburg 83.32 34 P P 22 55 06.0 -0.4
baz=327,SNR=5.6
W39A Magazine 83.35 46 P P 22 55 06.4 -0.2
baz=320,SNR=18
TYNO Tyneside 83.39 33 P P 22 55 06.8 +0.2
baz=328
PLIO Pelee Island, 83.39 35 P P 22 55 06.7 0.0
baz=326
PENT Pentalofos 83.40 322 P P 22 55 07.1 +0.2
N49A Columbus Grove 83.41 37 P P 22 55 06.8 -0.1
baz=325,SNR=19
U41A Viola 83.42 45 P P 22 55 06.4 -0.6
baz=321,SNR=10
TAOE Nuku Hiva Isla 83.46 109 eLR LR 23 21 23.2
comp=Z,550nm,25.2s
H56A Elgin 83.47 30 P P 22 55 06.5 -0.5
baz=330
MRKA Markates 83.48 319 P P 22 55 07.2 -0.1
M50A Fremont 83.50 36 P P 22 55 07.1 -0.2
baz=326,SNR=7.8
SMIA Simia 83.52 320 P P 22 55 07.6 +0.1
Q46A CEJHS Indians, 83.52 40 P P 22 55 07.6 +0.1
baz=324
FLN La Foliniere 83.53 340 eP P 22 55 07.3 0.0
FLN pmax pmax
comp=Z,73nm,0.9s
O48A Farmland 83.53 38 P P 22 55 07.2 -0.3
baz=325,SNR=16
JVM Valle D.L. Mar 83.53 341 eP P 22 55 08.4 +1.2
JSA Saint Aubin 83.55 341 eP P 22 55 08.0 +0.7
JSA IAmb IAmb 22 55 09.0
comp=Z,98nm,0.9s
STCO Saint Catharin 83.56 33 P P 22 55 07.6 0.0
baz=328
JCT Junction City 83.58 53 eP P 22 55 07.7 -0.3
comp=Z,80nm,1.0s
JCT Junction City 83.58 53 eP P 22 55 07.7 -0.3
JCT pmax pmax
comp=Z,80nm,1.0s
JCT Junction City 83.58 53 P P 22 55 08.0 +0.1
baz=318,SNR=27
LDF La Druitiere 83.59 339 eP P 22 55 07.7 +0.1
LDF pmax pmax
comp=Z,29nm,0.8s
CABF La Chapelle 83.63 335 eP P 22 55 07.7 -0.3
CABF pmax pmax
comp=Z,20nm,0.9s
P47A Martinsville 83.65 39 P P 22 55 08.0 -0.1
baz=324,SNR=23
R45A Skylar, Fairfi 83.67 41 P P 22 55 08.4 +0.1
baz=323,SNR=7.6
S44A Carbondale 83.68 42 P P 22 55 08.4 +0.1
baz=323,SNR=31
LOR Lormes 83.71 336 eP P 22 55 07.9 -0.4
LOR pmax pmax
comp=Z,47nm,0.8s
J54A Appleton 83.72 32 P P 22 55 08.2 -0.1
baz=328,SNR=5.1
ATAL Atalanti 83.75 320 P P 22 55 08.2 -0.4
PPT2 Papeete2 83.76 122 eLR LR 23 21 21.5
comp=Z,715nm,24.0s,baz=316
PPT2 Papeete2 83.76 122 eT T 00 27 29.3
comp=Z,9.7nm,0.3s
PECO Prince Edward 83.77 31 P P 22 55 08.1 -0.5
baz=329
WHTX Lake Whitney, 83.79 51 P P 22 55 09.1 +0.1
baz=319,SNR=14
LKR Lokris 83.80 320 P P 22 55 08.3 -0.6
AGG Agios Georgios 83.81 320 P P 22 55 08.0 -1.0
APE Apeiranthos 83.84 317⇓ iP P 22 55 08.6 -0.6
MEDO Medina 83.88 32 P P 22 55 09.1 -0.1
baz=328
M51A Elyria 83.92 35 P P 22 55 09.3 -0.1
baz=327
O49A Covington 83.94 37 P P 22 55 09.6 0.0
baz=325,SNR=11
MIAR Mount Ida 83.96 47 eP P 22 55 09.7 -0.1
comp=Z,105nm,1.0s
MIAR Mount Ida 83.96 47 eP P 22 55 09.7 -0.1
MIAR pmax pmax
comp=Z,105nm,1.0s
MIAR Mount Ida 83.96 47 P P 22 55 09.9 +0.2
baz=320,SNR=51
GRR Gorron 83.97 340 eP P 22 55 09.7 +0.2
GRR pmax pmax
comp=Z,92nm,0.7s
N50A Nevada 83.98 36 P P 22 55 09.9 +0.2
baz=326,SNR=12
SSF Saint Saulge 84.00 336 eP P 22 55 10.2 +0.4
SSF pmax pmax
comp=Z,36nm,0.8s
S45A Carrier Mills 84.02 42 P P 22 55 10.2 +0.2
baz=323,SNR=37
Q47A Bedord North L 84.02 40 P P 22 55 10.2 +0.2
baz=324,SNR=47
J55A Hilton 84.04 32 P P 22 55 09.5 -0.5
baz=329
LONY Lake Ozonia 84.05 29 P P 22 55 09.6 -0.4
baz=331
P48A Milroy 84.05 39 P P 22 55 09.9 -0.2
baz=325,SNR=18
M52A Chesterland 84.09 35 P P 22 55 10.7 +0.4
baz=327,SNR=5.9
R46A Gibon Southern 84.10 41 P P 22 55 10.5 +0.1
baz=324,SNR=18
ERPA Erie 84.17 34 P P 22 55 10.9 +0.2
baz=328
W41B Gary Mavity, V 84.17 46 P P 22 55 10.5 -0.2
baz=321,SNR=33
N51A Ashland 84.19 36 P P 22 55 10.8 0.0
baz=326,SNR=8.1
L53A Girard 84.19 34 P P 22 55 11.2 +0.4
baz=327,SNR=7.3
SMF Signal de Mont 84.28 336 eP P 22 55 11.0 -0.2
SMF pmax pmax
comp=Z,68nm,0.8s
O50A Cable 84.29 37 P P 22 55 11.5 +0.2
baz=326,SNR=26
AVF Avril sur Loir 84.29 336 eP P 22 55 11.1 -0.1
AVF pmax pmax
comp=Z,45nm,0.9s
IGT Igoumenitsa 84.30 322 P P 22 55 11.9 +0.5
P49A Miami Univ. Ec 84.31 38 P P 22 55 11.4 0.0
baz=325,SNR=32
L54A Sinclairville 84.33 33 P P 22 55 11.6 0.0
baz=328
ANX Ano Chora 84.34 320 P P 22 55 11.7 -0.1
Q48A North Vernon 84.35 39 P P 22 55 11.7 +0.1
baz=324,SNR=29
X40A Basin Creek Fa 84.39 46 P P 22 55 11.8 -0.1
baz=321,SNR=32
K55A Perry 84.40 32 P P 22 55 11.7 -0.2
baz=329,SNR=9.4
LPL La Plagne 84.41 334 eP P 22 55 12.2 +0.1
LPL pmax pmax
comp=Z,35nm,0.6s
S46A Don Dixon Farm 84.43 41 P P 22 55 12.1 +0.1
baz=323,SNR=11
M53A Wt Miller and 84.46 34 P P 22 55 12.5 +0.3
baz=327,SNR=9.2
R47A Wooly Knot Far 84.49 40 P P 22 55 12.5 +0.1
baz=324,SNR=32
ACSO Alum Creek Sta 84.50 37 P P 22 55 12.5 +0.1
baz=326,SNR=20
SGMF Saint Gilles 84.51 341 eP P 22 55 12.4 +0.1
SGMF pmax pmax
comp=Z,69nm,0.6s
T45A Paducah 84.51 42 P P 22 55 12.6 +0.1
baz=323
N52A McGinn's Farm, 84.56 35 P P 22 55 12.5 -0.3
baz=327,SNR=9.0
LAKA Lakka 84.60 320 P P 22 55 12.8 -0.2
ROSF Rostrenen 84.60 341 eP P 22 55 12.9 +0.1
ROSF pmax pmax
comp=Z,119nm,0.9s
435B Jarrell 84.62 52 P P 22 55 13.1 -0.1
baz=319
BGF Bois d'Agland 84.65 337 eP P 22 55 13.4 +0.3

BGF pmax pmax
comp=Z,18nm,0.8s
P50A Jamestown 84.66 37 P P 22 55 13.3 +0.1
baz=326,SNR=28
WCI Wyandotte Cave 84.66 40 eP P 22 55 13.5 +0.3
comp=Z,340nm,0.9s
WCI Wyandotte Cave 84.66 40 eP P 22 55 13.5 +0.3
WCI pmax pmax
comp=Z,340nm,0.9s
WCI Wyandotte Cave 84.66 40 P P 22 55 13.4 +0.1
baz=324
Q49A Aurora 84.66 38 P P 22 55 13.3 +0.1
baz=325,SNR=22
GUR Goura 84.68 320 P P 22 55 12.7 -0.8
R48A Northridge Ran 84.71 39 P P 22 55 13.8 +0.3
baz=324,SNR=19
L55A Hinsdale 84.72 33 P P 22 55 13.5 -0.1
baz=328
O51A Pataskala 84.73 36 P P 22 55 13.6 0.0
baz=326,SNR=13
M54A Oil Creek Stat 84.81 34 P P 22 55 14.2 +0.2
baz=328,SNR=8.8
AQU L'Aquila 84.82 328 P P 22 55 15.5 +1.5
AQU L'Aquila 84.82 328⇑ iP P 22 55 14.4 +0.4
BNI Bardonecchia 84.84 333 P P 22 55 15.2 +1.0
T46A Princeton 84.86 42 P P 22 55 14.7 +0.5
baz=323,SNR=8.5
H06N1 SOCORRO T-PHAS 84.87 69 T T 00 29 21.6
SNR=7.4
S47A Hartford 84.90 41 P P 22 55 14.3 -0.1
baz=324,SNR=6.9
N53A Lisbon 84.92 35 P P 22 55 14.7 +0.1
baz=327,SNR=17
QUIF Quistinic 84.97 341 eP P 22 55 14.5 -0.1
QUIF pmax pmax
comp=Z,38nm,0.6s
RLS Riolos of Patr 84.99 320 P P 22 55 15.2 +0.3
TCF Toulx Ste Croi 85.08 337 eP P 22 55 15.3 +0.1
TCF pmax pmax
comp=Z,53nm,1.0s
O52A Adamsville 85.08 36 P P 22 55 15.3 0.0
baz=327,SNR=20
P51A Williamsport 85.08 37 P P 22 55 15.2 -0.2
baz=326,SNR=10
MBDF Montbardon 85.10 333 eP P 22 55 15.6 +0.1
MBDF pmax pmax
comp=Z,19nm,0.5s
R49A Shelbyville 85.12 39 P P 22 55 15.9 +0.3
baz=325,SNR=10
N54A Moraine State 85.14 34 P P 22 55 15.9 +0.3
baz=328,SNR=15
M55A Ridgway 85.20 33 P P 22 55 16.3 +0.4
baz=328,SNR=18
Q50A Georgetown 85.20 38 P P 22 55 16.2 +0.2
baz=325,SNR=9.3
ORIF Oris-en-Rattie 85.21 334 eP P 22 55 16.1 +0.1
ORIF pmax pmax
comp=Z,24nm,0.6s
PKME Peaks-Kenny Pk 85.22 25 eP P 22 55 16.2 +0.4
comp=Z,33nm,0.8s
PKME Peaks-Kenny Pk 85.22 25 P P 22 55 16.3 +0.4
baz=334,SNR=8.4
S48A Wiedeman Farm, 85.23 40 P P 22 55 16.3 +0.2
baz=324,SNR=26
O53A New Philadelph 85.23 35 P P 22 55 16.1 +0.1
baz=327,SNR=20
U46A Springville 85.27 42 P P 22 55 16.1 -0.2
baz=323
T47A Sharon Grove 85.28 41 P P 22 55 16.8 +0.5
baz=324,SNR=32
LBNH Lisbon 85.28 27 P P 22 55 16.7 +0.5
baz=332,SNR=7.3
Q51A Peebles 85.33 37 P P 22 55 16.9 +0.3
baz=326,SNR=45
P52A Corning 85.36 36 P P 22 55 16.4 -0.3
baz=326,SNR=16
Z41A Richland Creek 85.36 47 P P 22 55 17.0 +0.2
baz=321
X43A Marvell 85.38 45 P P 22 55 17.3 +0.4
baz=322,SNR=5.9
833A Chaparral WMA, 85.41 55 P P 22 55 17.5 +0.4
baz=318,SNR=6.2
MFF Saint Martin d 85.44 338 eP P 22 55 17.3 +0.3
MFF pmax pmax
comp=Z,80nm,0.8s
S49A Springfield 85.48 39 P P 22 55 17.6 +0.3
baz=325,SNR=31
R50A Paris 85.51 39 P P 22 55 17.7 +0.2
baz=325,SNR=8.8
NATX Nacogdoches 85.51 49 eP P 22 55 18.5 +0.8
comp=Z,180nm,1.2s
NATX Nacogdoches 85.51 49 P P 22 55 18.1 +0.5
baz=320,SNR=10.0
T48A Bowling Green 85.51 41 P P 22 55 17.7 +0.1
baz=324,SNR=18
IDI Anoyia 85.57 316 P P 22 55 19.4 +1.5
comp=Z,17nm,0.5s,baz=47,slow=11,SNR=25
WVT Waverly 85.62 42 P P 22 55 18.2 +0.1
baz=323
U47A Clarksville 85.63 42 P P 22 55 18.3 +0.2
baz=324,SNR=18
O54A Avella 85.64 35 P P 22 55 18.6 +0.5
baz=327,SNR=22
BINY Binghamton 85.64 31 eP P 22 55 17.8 -0.3
comp=Z,37nm,0.9s
BINY Binghamton 85.64 31 P P 22 55 18.1 0.0
baz=330,SNR=8.9
SBF Sospel 85.65 332 eP P 22 55 17.9 -0.3
SBF pmax pmax
comp=Z,30nm,0.6s
N55A Marion Center 85.70 34 P P 22 55 18.6 +0.2
baz=328,SNR=22
V46A Holladay 85.74 42 P P 22 55 18.6 -0.1
baz=323,SNR=23
P53A Whipple 85.80 36 P P 22 55 19.0 +0.1
baz=327,SNR=15
R51A Hillsboro 85.83 38 P P 22 55 19.3 +0.2
baz=326,SNR=14
Q52A Bidwell 85.86 37 P P 22 55 19.1 -0.1
baz=326,SNR=12
T49A Edmonton 85.92 40 P P 22 55 19.8 +0.3
baz=325,SNR=25
U48A Cassie Pea, Po 85.93 41 P P 22 55 19.8 +0.2
baz=324,SNR=24
S50A Richmond 85.97 39 P P 22 55 19.9 +0.1
baz=325,SNR=19
V47A Nunnelly 86.01 42 P P 22 55 20.2 +0.2
baz=324,SNR=36
O55A Ligonier 86.06 34 P P 22 55 20.3 +0.1
baz=328,SNR=23
P54A Burton 86.08 35 P P 22 55 20.7 +0.3
baz=327,SNR=24
OXF Oxford 86.13 44 eP P 22 55 20.5 -0.1
comp=Z,187nm,1.1s
OXF Oxford 86.13 44 eP P 22 55 20.5 -0.1
OXF pmax pmax
comp=Z,187nm,1.1s
OXF Oxford 86.13 44 P P 22 55 20.7 +0.1
baz=323,SNR=16
W46A Michie 86.15 43 P P 22 55 20.2 -0.5
baz=323
RJF Les Rejaudoux 86.17 337 eP P 22 55 20.9 +0.2
RJF pmax pmax
comp=Z,54nm,1.0s
FRF La Foret Royal 86.18 333 eP P 22 55 20.6 -0.1
FRF pmax pmax
comp=Z,54nm,1.3s
R52A Catlettsburg 86.21 37 P P 22 55 21.0 0.0
baz=326,SNR=15
HKT Hockley 86.24 51 eP P 22 55 21.6 +0.5
comp=Z,186nm,1.5s
HKT Hockley 86.24 51 eP P 22 55 21.6 +0.5
HKT pmax pmax
comp=Z,186nm,1.5s
SSPA Standing Stone 86.26 33 eP P 22 55 21.5 +0.3
comp=Z,240nm,0.9s
SSPA Standing Stone 86.26 33 P P 22 55 21.3 +0.1
baz=329
Q53A Leroy 86.26 36 P P 22 55 21.6 +0.4
baz=327,SNR=41
PGF Pioggiola 86.27 331 eP P 22 55 21.0 -0.3
PGF pmax pmax
comp=Z,32nm,0.8s
U49A Red Boiling Sp 86.29 41 P P 22 55 21.6 +0.2
baz=324,SNR=40
MCWV Mont Chateau 86.30 35 P P 22 55 21.9 +0.5
baz=328,SNR=21

O56A	Blue Knob Stat	86.30	34	P	P	22 55 21.7	+0.2
	baz=328,SNR=27						
T50A	Nancy	86.31	40	P	P	22 55 21.7	+0.2
	baz=325,SNR=60						
CAF	Calviac	86.36	336	eP	P	22 55 22.3	+0.7
CAF				pmax	pmax		
	comp=Z,60nm,0.8s						
S51A	Beattyville	86.37	38	P	P	22 55 21.8	0.0
	baz=326,SNR=12						
V48A	Smith Brothers	86.42	42	P	P	22 55 22.0	0.0
	baz=324,SNR=20						
LMR	La Mourre	86.42	333	eP	P	22 55 21.5	-0.4
LMR				pmax	pmax		
	comp=Z,55nm,0.8s						
P55A	Reedsville	86.43	35	P	P	22 55 22.7	+0.6
	baz=328,SNR=46						
W47A	Westpoint	86.44	42	P	P	22 55 22.1	-0.1
	baz=324,SNR=17						
Q54A	Coxs Mills	86.45	36	P	P	22 55 22.6	+0.4
	baz=327,SNR=28						
X46A	Booneville	86.50	44	P	P	22 55 22.2	-0.3
	baz=323,SNR=8.2						
R53A	Hurricane	86.52	37	P	P	22 55 22.8	+0.3
	baz=327,SNR=11						
S52A	Salyersville	86.56	38	P	P	22 55 22.9	+0.2
	baz=326,SNR=20						
LFF	La Frestale	86.73	337	eP	P	22 55 23.9	+0.5
LFF				pmax	pmax		
	comp=Z,55nm,0.6s						
Q55A	Buckhannon	86.76	35	P	P	22 55 24.2	+0.5
	baz=328,SNR=18						
T51A	Gray	86.76	39	P	P	22 55 23.7	0.0
	baz=326,SNR=13						
U50A	Jamestown	86.80	40	P	P	22 55 24.3	+0.4
	baz=325,SNR=34						
N59A	State Game Lan	86.83	32	P	P	22 55 24.4	+0.4
	baz=330,SNR=13						
V49A	McMinnville	86.83	41	P	P	22 55 24.0	-0.1
	baz=324,SNR=16						
W48A	Pulaski	86.85	42	P	P	22 55 24.3	+0.2
	baz=324,SNR=34						
X47A	Russelville	86.89	43	P	P	22 55 24.0	-0.4
	baz=324,SNR=17						
HRV	Adam Dziewonsk	86.95	28	P	P	22 55 25.0	+0.5
	baz=333						
S53A	Williamson	86.98	37	P	P	22 55 25.0	+0.2
	baz=326,SNR=6.7						
R54A	Victor	87.06	36	P	P	22 55 25.4	+0.2
	baz=327,SNR=11						
T52A	Hallie	87.08	38	P	P	22 55 25.4	+0.2
	baz=326,SNR=10						
W49A	Belvidere	87.19	42	P	P	22 55 25.7	-0.1
	baz=324,SNR=27						
O59A	Robesonia	87.20	32	P	P	22 55 25.9	+0.1
	baz=330,SNR=14						
U51A	La Follette	87.21	39	P	P	22 55 25.7	-0.2
	baz=326,SNR=13						
V50A	Pikevile	87.29	41	P	P	22 55 26.1	-0.1
	baz=325,SNR=16						
TZTN	Tazewell	87.29	39	eP	P	22 55 26.7	+0.4
	comp=Z,34nm,0.8s						
TZTN	Tazewell	87.29	39	P	P	22 55 26.5	+0.2
	baz=326,SNR=16						
R55A	Marlinton	87.34	36	P	P	22 55 27.0	+0.4
	baz=328,SNR=24						
X48A	Hartselle	87.35	43	P	P	22 55 26.0	-0.6
	baz=324,SNR=8.5						
VBMS	Vicksburg	87.37	46	P	P	22 55 27.2	+0.5
	baz=322						
T53A	Wise	87.38	38	P	P	22 55 27.1	+0.3
	baz=326,SNR=11						
Q57A	Strasburg	87.41	34	P	P	22 55 26.9	+0.1
	baz=329,SNR=10						
PAL	Palisades	87.44	30	P	P	22 55 26.7	-0.2
	baz=331						
O60A	Telford	87.49	32	P	P	22 55 27.2	+0.1
	baz=330,SNR=6.3						
U52A	Thorn Hill	87.50	39	P	P	22 55 27.4	+0.1
	baz=326						
V51A	Loudon	87.53	40	P	P	22 55 27.6	+0.1
	baz=325,SNR=14						
W50A	Signal Mountai	87.57	41	P	P	22 55 27.7	0.0
	baz=325,SNR=13						
S55A	Lewisburg	87.61	36	P	P	22 55 27.8	0.0
	baz=327,SNR=8.7						
X49A	Woodville	87.65	42	P	P	22 55 28.0	0.0
	baz=324,SNR=24						
P59A	Jarrettsville	87.71	33	P	P	22 55 28.4	+0.2
	baz=330,SNR=9.4						
Y48A	Jasper	87.72	43	P	P	22 55 27.7	-0.6
	baz=324,SNR=18						
T54A	Tazewell	87.74	37	P	P	22 55 28.8	+0.3
	baz=327,SNR=18						
MTLF	Montolieu	87.77	336	eP	P	22 55 29.1	+0.7
MTLF				pmax	pmax		
	comp=Z,82nm,1.6s						
P60A	Greenville	87.84	32	P	P	22 55 28.9	+0.1
	baz=330,SNR=10						
V52A	Sevierville	87.85	39	P	P	22 55 29.2	+0.3
	baz=326,SNR=27						
W51A	Cleveland	87.87	41	P	P	22 55 29.0	0.0
	baz=325,SNR=13						
U53A	Fall Branch	87.88	38	P	P	22 55 29.3	+0.2
	baz=326,SNR=23						
R57A	Stanardsville	88.00	35	P	P	22 55 30.0	+0.4
	baz=329,SNR=13						
X50B	Fort Payne	88.01	42	P	P	22 55 29.6	-0.2
	baz=325,SNR=14						
T55A	Pulaski	88.04	37	P	P	22 55 30.3	+0.4
	baz=327,SNR=16						
U54A	Nelsons Funny	88.08	38	P	P	22 55 30.4	+0.2
	baz=327,SNR=14						
S56A	Natural Bridge	88.09	36	P	P	22 55 30.3	+0.2
	baz=328,SNR=7.1						
M65A	Busby, Falmout	88.10	28	P	P	22 55 29.6	-0.3
	baz=333						
BLA	Blacksburg	88.12	37	eP	P	22 55 30.4	+0.1
	comp=Z,76nm,1.0s						
BLA	Blacksburg	88.12	37	eP	P	22 55 30.4	+0.1
BLA				pmax	pmax		
	comp=Z,76nm,1.0s						
BLA	Blacksburg	88.12	37	P	P	22 55 30.6	+0.3
	baz=328,SNR=11						
Y49A	Blount Mountai	88.13	42	P	P	22 55 30.1	-0.3
	baz=324,SNR=23						
147A	Livingston	88.16	44	P	P	22 55 30.9	+0.4
	baz=323,SNR=20						
R58A	Rapidan	88.21	34	P	P	22 55 30.9	+0.3
	baz=329,SNR=10						
TBI	Tubuai	88.22	125	eLR	LR	23 23 31.5	
	comp=Z,585nm,24.5s,baz=317						
TBI	Tubuai	88.22	125	eT	T	00 33 02.4	
	comp=Z,8.7nm,0.3s						
Q59A	Harwood	88.26	33	P	P	22 55 31.3	+0.5
	baz=330						
S57A	Dark Hollow, R	88.28	35	P	P	22 55 31.3	+0.3
	baz=328,SNR=9.9						
X51A	Calhoun	88.31	41	P	P	22 55 31.2	0.0
	baz=325,SNR=10.0						
W52A	Murphy	88.31	40	P	P	22 55 31.5	+0.3
	baz=326,SNR=7.0						
V53A	Saluda	88.35	39	P	P	22 55 31.5	+0.1
	baz=326,SNR=13						
Y50A	Piedmont	88.44	42	P	P	22 55 31.6	-0.1
	baz=325,SNR=27						
T56A	Rocky Mt	88.44	36	P	P	22 55 31.9	+0.1
	baz=328,SNR=6.3						
U55A	TA2, Sparta	88.44	37	P	P	22 55 31.9	0.0
	baz=327,SNR=13						
LRAL	Lakeview Retre	88.51	43	eP	P	22 55 31.9	-0.2
	comp=Z,14nm,0.7s						
LRAL	Lakeview Retre	88.51	43	P	P	22 55 31.9	-0.2
	baz=324,SNR=13						
148A	Greensboro	88.54	44	P	P	22 55 32.2	0.0
	baz=324						
CBN	Corbin Frederi	88.54	34	eP	P	22 55 32.5	+0.4
	comp=Z,120nm,1.1s						
CBN	Corbin Frederi	88.54	34	P	P	22 55 32.4	+0.2
	baz=329,SNR=5.6						
R58B	Mineral	88.55	34	P	P	22 55 32.3	+0.1
	baz=329,SNR=6.7						
EPF	Esparros	88.60	337	eP	P	22 55 32.6	+0.2
EPF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
W53A	Cullowhee	88.60	40	P	P	22 55 32.9	+0.3
	baz=326,SNR=21						
Z49A	Columbiana	88.61	43	P	P	22 55 32.5	-0.1
	baz=324,SNR=20						
V54A	Nebo	88.65	38	P	P	22 55 32.9	+0.1
	baz=327,SNR=9.3						
R59A	King George, V	88.65	34	P	P	22 55 32.6	0.0
	baz=329						
X52A	Dahlonega	88.73	40	P	P	22 55 33.4	+0.2
	baz=326,SNR=14						
Y51A	Rockmart	88.75	42	P	P	22 55 33.2	-0.1
	baz=325,SNR=38						
S58A	Poland Farm, P	88.77	35	P	P	22 55 33.3	0.0
	baz=329,SNR=6.2						
T57A	Hurt	88.80	36	P	P	22 55 33.5	+0.1
	baz=328,SNR=13						
R60A	Leonardtown, M	88.81	33	P	P	22 55 33.9	+0.5
	baz=330						
U56A	King	88.86	37	P	P	22 55 33.8	+0.1
	baz=328,SNR=8.5						
Z50A	Ashland	88.86	43	P	P	22 55 33.9	+0.1
	baz=324,SNR=91						
V55A	Taylorsville	88.91	38	P	P	22 55 34.2	+0.2
	baz=327,SNR=7.0						
S59A	Mechanicsville	88.96	34	P	P	22 55 34.5	+0.4
	baz=329						
SJPF	Ste Jean	88.96	338	eP	P	22 55 35.2	+1.1
SJPF				pmax	pmax		
	comp=Z,23nm,1.4s						
149A	Jones	88.96	43	P	P	22 55 34.5	+0.2
	baz=324,SNR=24						
ETSF	Etsaut	88.97	337	eP	P	22 55 35.3	+1.1
ETSF				pmax	pmax		
	comp=Z,14nm,0.6s						
X53A	Estanollee	89.09	40	P	P	22 55 35.6	+0.7
	baz=326,SNR=35						
W54A	Cherokee Point	89.12	39	P	P	22 55 35.1	+0.2
	baz=326,SNR=14						
T58A	Grand View Acr	89.14	35	P	P	22 55 35.3	+0.2
	baz=329,SNR=7.6						
Z51A	Franklin	89.17	42	P	P	22 55 35.2	0.0
	baz=325,SNR=16						
U57A	Blanch	89.24	36	P	P	22 55 35.7	+0.2
	baz=328,SNR=16						
Y52A	Lilburn	89.26	41	P	P	22 55 36.0	+0.4
	baz=326,SNR=18						
S60A	Water View	89.26	34	P	P	22 55 36.2	+0.6
	baz=330						
V56A	Mocksville	89.26	37	P	P	22 55 35.8	+0.2
	baz=328,SNR=12						
249A	Camden	89.30	44	P	P	22 55 36.4	+0.6
	baz=324,SNR=17						
150A	Eclectic	89.34	43	P	P	22 55 36.1	+0.1
	baz=324,SNR=21						
KMSC	Kings Mountain	89.45	38	P	P	22 55 36.6	+0.1
	baz=327,SNR=19						
X54A	Belton	89.48	39	P	P	22 55 37.0	+0.3
	baz=326,SNR=12						
Y53A	Monroe	89.49	41	P	P	22 55 37.1	+0.4
	baz=326,SNR=13						
V57A	Coltrane Farms	89.51	37	P	P	22 55 36.8	0.0
	baz=328,SNR=6.9						
T59A	Double "B" Far	89.53	35	P	P	22 55 37.1	+0.3
	baz=329,SNR=7.8						
U58A	Oxford	89.61	36	P	P	22 55 37.4	+0.2
	baz=329,SNR=17						
Z52A	Williamson	89.64	42	P	P	22 55 37.6	+0.1
	baz=325,SNR=10						
250A	Grady	89.72	43	P	P	22 55 38.0	+0.2
	baz=324,SNR=17						
151A	Opelika	89.74	43	P	P	22 55 37.6	-0.3
	baz=325,SNR=7.5						
RPZ	Rata Peaks	89.76	163	P	P	22 55 38.6	+1.2
	comp=Z,8.0nm,0.8s,baz=56,slow=9.0,SNR=3.6						
349A	Repton	89.77	44	P	P	22 55 38.6	+0.6
	baz=324						
W56A	Indian Trail	89.79	38	P	P	22 55 37.9	-0.2
	baz=327,SNR=8.1						
V58A	Windy Hill, Pi	89.88	36	P	P	22 55 38.7	+0.2
	baz=328,SNR=7.9						
X55A	Gracelyn & Ava	89.88	39	P	P	22 55 38.5	0.0
	baz=327,SNR=9.5						
Y54A	Tignall	89.90	40	P	P	22 55 39.2	+0.5
	baz=326,SNR=36						
GOGA	Godfrey	89.91	41	P	P	22 55 39.0	+0.3
	baz=326,SNR=6.6						
152A	Waverly Hall	89.92	42	P	P	22 55 38.6	-0.2
	baz=325,SNR=9.3						
U59A	Littleton	89.96	35	P	P	22 55 39.2	+0.4
	baz=329						
Z53A	Monticello	89.97	41	P	P	22 55 39.1	+0.1
	baz=326,SNR=13						
BRAL	Brewton	89.99	44	P	P	22 55 39.6	+0.6
	baz=324						
W57A	Gilead	90.04	37	P	P	22 55 39.4	+0.2
	baz=328,SNR=13						
251A	Midway	90.06	43	P	P	22 55 39.2	-0.2
	baz=325,SNR=11						
U60A	Pendleton	90.12	35	P	P	22 55 39.7	+0.1
	baz=329						
X56A	White Oak	90.13	38	P	P	22 55 39.8	+0.1
	baz=327,SNR=15						
350A	Dozier	90.14	44	P	P	22 55 40.3	+0.5
	baz=324						
Y55A	Saluda	90.22	39	P	P	22 55 40.5	+0.4
	baz=327,SNR=15						
449A	Pace	90.23	45	P	P	22 55 40.2	0.0
	baz=324						
V59A	Middlesex	90.27	36	P	P	22 55 40.5	+0.2
	baz=329,SNR=8.3						
Z54A	Sparta	90.35	40	P	P	22 55 41.2	+0.4
	baz=326,SNR=7.6						
153A	Fort Valley	90.36	41	P	P	22 55 41.0	+0.2
	baz=326						
W58A	Raeford	90.48	37	P	P	22 55 41.3	0.0
	baz=328,SNR=7.2						
450A	Crestview	90.52	44	P	P	22 55 41.5	0.0
	baz=324						
U61A	Possum Corner	90.53	34	P	P	22 55 41.1	-0.4
	baz=330						
Y56A	Pelion	90.59	39	P	P	22 55 41.5	-0.4
	baz=327						
351A	Pinckard	90.62	43	P	P	22 55 42.3	+0.3
	baz=325,SNR=5.5						
V60A	Jim Taylor Roa	90.68	35	P	P	22 55 42.4	+0.2
	baz=329						
Z55A	Blythe	90.69	40	P	P	22 55 42.7	+0.4
	baz=327						
W59A	Clinton	90.69	36	P	P	22 55 42.5	+0.2
	baz=329						
253A	Americus	90.70	42	P	P	22 55 42.5	+0.1
	baz=326						
154A	Monroe	90.74	41	P	P	22 55 42.7	+0.2
	baz=326,SNR=5.5						
352A	Blakely	90.79	43	P	P	22 55 43.1	+0.3
	baz=325,SNR=6.1						
Y57A	Sumter	90.82	38	P	P	22 55 42.8	-0.1
	baz=328						
X58A	Rowland	90.83	37	P	P	22 55 43.0	+0.1
	baz=328						
CNNC	Cliffs of the	90.87	36	P	P	22 55 43.3	+0.3
	baz=329						
V61A	Roper	90.94	35	P	P	22 55 43.9	+0.5
	baz=330						
Z56A	Williston	90.95	39	P	P	22 55 43.7	+0.2
	baz=327						
155A	Kite	91.03	40	P	P	22 55 44.2	+0.3
	baz=326,SNR=5.3						
451A	Vernon	91.09	44	P	P	22 55 43.5	-0.7
	baz=325						
W60A	Pink Hill	91.10	36	P	P	22 55 44.2	0.0
	baz=329						
452A	Marianna	91.18	43	P	P	22 55 44.5	-0.1
	baz=325						
254A	Abbeville	91.20	41	P	P	22 55 45.0	+0.3
	baz=326,SNR=7.4						
Y58A	Scranton	91.23	38	P	P	22 55 44.9	+0.1
	baz=328						
353A	Camilla	91.25	42	P	P	22 55 45.5	+0.6
	baz=325,SNR=6.4						
Z57A	Bowman	91.28	39	P	P	22 55 45.2	+0.1
	baz=327						
X60A	Albert Glenn T	91.40	36	P	P	22 55 45.8	+0.3
	baz=329						
156A	Sylvania	91.46	40	P	P	22 55 46.2	+0.4
	baz=327						
TIGA	Tifton	91.48	42	P	P	22 55 46.6	+0.7
	baz=326,SNR=5.8						
453A	Whigham	91.60	43	P	P	22 55 46.8	+0.2
	baz=325						
255A	Hazlehurst	91.61	41	P	P	22 55 46.9	+0.3
	baz=326						
Z58A	St. Stephen	91.65	38	P	P	22 55 46.8	+0.1
	baz=328						
PGAV	Gavieira, Arco	91.77	342	eLR	LR	23 30 55.4	
	comp=Z,165nm,22.0s						
Y60A	Bolivia	91.78	37	P	P	22 55 47.0	-0.4
	baz=329						
256A	Glennville	91.84	40	P	P	22 55 47.9	+0.2
	baz=327						
355A	Pearson	91.91	41	P	P	22 55 48.4	+0.4
	baz=326						
553A	Crawfordville	92.09	43	P	P	22 55 48.9	+0.1
	baz=325						
KEST	Kesra	92.12	327	P	P	22 55 49.1	+0.1
	comp=Z,8.1nm,0.7s,baz=31,slow=0.7,SNR=11						
KEST				LR	LR	23 41 02.5	
	comp=Z,601nm,21.3s,baz=333,slow=38						
MVO	Moncorvo	92.25	341	eP	P	22 55 49.0	-0.5
	comp=Z,30nm,1.3s						
MVO	Moncorvo	92.25	341	eLR	LR	23 31 03.7	
	comp=Z,244nm,20.0s						
356A	Blackshear	92.27	41	P	P	22 55 49.7	+0.1
	baz=327						
PVRL	Vila Real	92.31	342	eP	P	22 55 49.1	-0.6
	comp=Z,37nm,1.6s						
554A	Perry	92.55	43	P	P	22 55 51.2	+0.2
	baz=326						
ATD	Arta Tunnel	92.58	289	P	P	22 55 52.2	+0.8
	comp=Z,6.5nm,0.7s,baz=24,slow=4.8,SNR=5.4						
456A	Hilliard	92.82	41	P	P	22 55 52.5	+0.3
	baz=327						
555A	McAlpin	92.86	42	P	P	22 55 52.6	+0.2
	baz=326						
ESDC	Sonseca Array	92.90	339	P	P	22 55 52.3	-0.2
	comp=Z,7.3nm,0.9s,baz=19,slow=4.0,SNR=33						
ESDC				LR	LR	23 41 59.8	
	comp=Z,265nm,21.9s,baz=40,slow=38						
MTE	Manteigas	93.10	341	eP	P	22 55 52.9	-0.5
	comp=Z,32nm,1.5s						
MTE	Manteigas	93.10	341	eLR	LR	23 31 00.7	
	comp=Z,260nm,22.0s						
457A	Yulee	93.13	41	P	P	22 55 53.6	0.0
	baz=327						
556A	Lake Butler	93.23	42	P	P	22 55 54.6	+0.5
	baz=326						
557A	Orange Park	93.55	41	P	P	22 55 55.6	+0.1
	baz=327						
656A	Willston	93.70	42	P	P	22 55 56.2	-0.1
	baz=326						
PMRV	Marv??o	93.99	341	eLR	LR	23 31 27.6	
	comp=Z,223nm,22.0s						
658A	Bunnell	94.27	41	P	P	22 55 59.3	+0.4
	baz=327						
757A	Oxford	94.28	42	P	P	22 55 59.3	+0.3
	baz=326						
857A	Zephyrhills	94.76	43	P	P	22 56 01.2	+0.1
	baz=326						
957A	Wimauma	95.25	43	P	P	22 56 03.1	-0.3
	baz=326						
DWPF	Disney Wildern	95.28	42	P	P	22 56 03.4	-0.1
	baz=327						
TORD	Torodi Ar. Bea	115.28	323	PKP	PKiKP	23 01 19.2	-2.0
	comp=Z,3.6nm,0.5s,baz=11,slow=1.8,SNR=49						
TORD				PP	PP	23 02 19.6	-1.8
	comp=Z,1.6nm,0.7s,baz=31,slow=6.1,SNR=6.1						
TORD				PKKPbc	PKKPbc	23 11 52.8	-1.4
	comp=Z,0.4nm,0.4s,baz=211,slow=3.0,SNR=4.7						
VNDA	Vanda	121.55	176	PKP	PKiKP	23 01 31.7	+0.2
	comp=Z,5.1nm,0.7s,baz=322,slow=4.2,SNR=36						
VNDA				PKKPbc	PKKPbc	23 11 32.5	-0.1
	comp=Z,3.3nm,1.1s,baz=258,slow=1.7,SNR=5.2						
DBIC	Dimbokro	123.84	327	PKP	PKPdf	23 01 37.3	-0.4
	comp=Z,15nm,0.6s,baz=353,slow=2.4,SNR=36						
TIC	Toumodi	123.93	327	ePKP1	PKPdf	23 01 37.1	-0.8
KIC	Kosan Boka	124.08	326	ePKP1	PKPdf	23 01 37.3	-0.9
	comp=Z,38nm,0.9s						
LIC	Lamto	124.32	327	ePKP1	PKPdf	23 01 38.1	-0.6
	comp=Z,45nm,0.7s						
NNA	Nana	130.19	64	i PKIKP	PKPdf	23 01 50.2	+0.4
BOSA	Boshof	132.15	269	PKP	PKiKP	23 01 54.2	-0.1
	comp=Z,3.5nm,0.8s,baz=101,slow=2.0,SNR=8.5						
BOSA				SKPbc	SKPab	23 05 16.4	0.0
	comp=Z,5.0nm,1.0s,baz=87,slow=6.6,SNR=4.8						
SYO	Syowa Base	136.63	210	i PKPdf	PKiKP	23 02 01.2	-0.7
SYO	Syowa Base	136.63	210	ePKiKP	PKiKP	23 02 04.4	+2.5
LPAZ	La Paz	138.96	59	PKhKP	PKPpre	23 01 56.6	
	comp=Z,0.8nm,0.6s,baz=302,slow=2.4,SNR=4.0						
LPAZ				PKP	PKPdf	23 02 06.5	-0.3
	comp=Z,6.1nm,0.9s,baz=51,slow=3.0,SNR=15						
HJA	Humahuaca	145.77	64	eP	PKPab	23 02 19.8	+0.3
AZAP	Zapla	146.71	64	eP	PKPdf	23 02 20.7	+0.8
FSA	Cafayete	147.39	68	eP	PKPdf	23 02 22.0	+1.1
AROD	Rodeo	147.51	78	eP	PKPbc	23 02 23.6	-0.3
VCA	Vinchina	147.55	74	eP	PKPdf	23 02 22.1	+1.1
AGUA	GUANDACOL	147.80	76	eP	PKPbc	23 02 23.2	-1.1
ROC1	El Roble	147.96	83	eP	PKPbc	23 02 24.8	-0.1
ACCO	Cerro Coronel	148.04	78	eP	PKPdf	23 02 23.2	+1.2
AHML	Horco Molle	148.27	68	eP	PKPdf	23 02 22.6	+0.4
RTLS	Leoncito	148.56	80	eP	PKPdf	23 02 24.1	+1.3
AMOG	MOGNA	148.65	78	eP	PKPdf	23 02 23.9	+1.2
BDFB	Brasilia	148.71	30	PKP	PKPdf	23 02 23.3	+0.1
	comp=Z,55nm,0.9s,baz=299,slow=1.4,SNR=61						
BDFB				PKPbc	PKPbc	23 02 27.6	+0.5
	comp=Z,44nm,0.7s,baz=250,slow=2.2,SNR=72						
AUSP	Uspallata	148.72	81	eP	PKPbc	23 02 27.0	+0.1
SNAA	Sanae	148.83	197	P	PKPdf	23 02 21.7	0.0
SNAA	Sanae	148.83	197	PKiKP	PKPbc	23 02 26.0	+0.3
ACLC	CERRO LA CRUZ	148.84	74	eP	PKPdf	23 02 24.2	+1.0
RTLL	Cerro Villicun	148.88	78	eP	PKPbc	23 02 26.9	-0.2
CYA	Choya	149.02	71	eP	PKPbc	23 02 27.7	+0.2
RTCV	Cerro Valdivia	149.13	79	eP	PKPdf	23 02 24.3	+0.9
ASAL	Salagasta	149.32	81	eP	PKPdf	23 02 24.2	+0.5
ARCO	CERRO ARCO	149.38	81	eP	PKPbc	23 02 28.3	-0.1
AAGR	Agrelo	149.58	82	eP	PKPbc	23 02 29.0	+0.2
APLL	PUNTA DE LOS L	149.71	75	eP	PKPbc	23 02 28.3	-0.8
AVIZ	Vizcacheras	150.01	82	eP	PKPbc	23 02 30.2	+0.4
ACAN	Cantantal	150.31	79	eP	PKPbc	23 02 30.5	0.0
VNA2	Neumayer--Watz	150.35	196	P	PKPdf	23 02 24.8	+0.8
VNA2	Neumayer--Watz	150.35	196	PKiKP	PKiKP	23 02 29.8	-0.3
VNA3	Neumayer Olymp	150.53	195	P	PKPdf	23 02 24.1	-0.3
VNA3	Neumayer Olymp	150.53	195	PKiKP	PKPbc	23 02 30.1	+0.3
VNA1	Neumayer--Stat	150.74	196	P	PKPdf	23 02 25.0	+0.3
VNA1	Neumayer--Stat	150.74	196	PKiKP	PKPbc	23 02 30.4	+0.2
MRA	San Martin	151.43	78	eP	PKPbc	23 02 33.1	-0.2
MRA				eP	PKiKP	23 02 33.5	-0.2
TCA	Tanti	151.61	75	eP	PKPbc	23 02 33.8	+0.2
PLCA	Paso Flores	151.65	97	PKP	PKPdf	23 02 26.1	-1.0
	comp=Z,9.2nm,1.1s,baz=272,slow=3.3,SNR=6.3						
PLCA				PKPbc	PKiKP	23 02 33.9	0.0
	comp=Z,40nm,0.9s,baz=290,slow=2.9,SNR=73						
CPUP	Villa Florida	153.10	57	PKP	PKPdf	23 02 29.1	-0.5
	comp=Z,6.0nm,1.0s,baz=314,slow=1.4,SNR=12						
CPUP				PKPbc	PKPbc	23 02 36.8	-0.1
	comp=Z,8.0nm,0.5s,baz=322,slow=2.0,SNR=34						
CPUP				PKPab	PKPab	23 02 48.2	-0.4
	comp=Z,11nm,0.5s,baz=325,slow=3.8,SNR=18						

*IDC **12** 23:04:13.9±7.5, 26°.58N×57°.55E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/32, mbtmp3.5/3, Error ellipse: s-maj=150

NGRK	Negar Kerman	3.29 343	*e*Pn	Pn	23 05 05.9 +1.0
NGRK			IAMB	IAmb	23 05 53.9
	comp=Z,0.0nm,0.3s				
CHMN	Cheshme madani	3.37 356	*e*Pn	Pn	23 05 08.4 +2.5
CHMN			IAMB	IAmb	23 06 17.4
	comp=Z,0.0nm,1.2s				
TVBK	TV Kerman	3.61 345	*e*Pn	Pn	23 05 11.5 +2.3
TVBK			IAMB	IAmb	23 05 19.8
	comp=Z,0.0nm,0.2s				
SZD1	Zahaedan-tmp	4.01 41	*e*Pn	Pb	23 05 21.1 -2.7
KHGB	Koh Gabri	4.05 343	*e*Pn	Pn	23 05 17.7 +2.5
KHGB			IAMB	IAmb	23 06 27.4
	comp=Z,0.0nm,0.6s				
IMEH	Mehriz	5.64 331	*e*Pn	Pn	23 05 38.1 +1.1
IKAZ	Kazeroun	6.22 303	*e*Pn	Pn	23 05 44.7 -0.5
ITEG	Tejag	6.43 7	*e*Pn	Pn	23 05 49.8 +1.9
IRAM	Ramesheh	7.13 319	*e*Pn	Pn	23 05 57.9 +0.4
IPIR	Pirpir	8.63 317	*e*Pn	Pn	23 06 17.5 -0.7
BRTR	Keskin Array B	24.09 309	P	P	23 09 29.1 +0.3
	comp=Z,0.6nm,0.8s,baz=127,slow=11,SNR=6.4				
FINES	FINESS Array B	40.95 337	P	P	23 11 56.2 +0.8
	comp=Z,0.5nm,0.6s,baz=142,slow=12,SNR=4.3				
CLL	Collm	41.90 318	*e*P	P	23 12 03.0 -0.4
TORD	Torodi Ar. Bea	54.07 267	P	P	23 13 38.8 +0.7
	comp=Z,1.0nm,1.2s,baz=68,slow=7.4,SNR=3.3				

NIED ***12*** *23:05:00,22.°30N×143.°50E,h125km,Mw5.5 Best double couple: M₀2.21000×10¹⁷ NP1:φ=259.00000°, δ27.00000°,λ165.00000°. NP2:φ=2.00000°,δ83.00000°, λ64.00000°.*

ISCJB ***12*** *23:05:25.5±0.3,22.°03N±0.°02×143.°78E±0.°02, h155km±2km,mb5.2/405,Error ellipse: s-maj=2.7km s-min=2.4km az=43.0*

BJI ***12*** *23:05:25.9±0.0,21.°99N×143.°80E,h167km,mb5.3/86, mB5.3/55*

MOS ***12*** *23:05:25.4±1.0,21.°99N×143.°76E,h157km,mb5.2/128, Error ellipse: s-maj=6.4km s-min=3.6km az=114.9*

IDC ***12*** *23:05:26.2±0.5,21.°99N×143.°82E,h155km±3km,mb4.6/28, mb1 4.7/32,mb1mx4.7/34,mbtmp5.1/32,MS4.2/20, Ms1 4.2/20,ms1mx4.1/30,Error ellipse: s-maj=10.9km s-min=7.6km az=82.0*

GCMT ***12*** *23:05:27.0±0.1,22.°01N±0.°01×143.°95E±0.°01, h156km,MW5.5/127,Moment Tensor Solution. s111,c196; s127,c306; Duration: 1s4 Moment tensor: Scale 10¹⁷Nm; Mrr0.97±.03; Mθθ-0.36±.03; Mφφ-0.61±.03; Mrθ-0.28±.02; Mrφ-1.69±.03; Mθr1.79±.02; Best double couple: M₀2.62000×10¹⁷ NP1:φ=6.00000°,δ75.00000°, λ50.00000°. NP2:φ=259.00000°,δ42.00000°,λ158.00000°. Principal axes: T 2.6460, Plg44.0000°, Azm236.0000°; N -0.0510, Plg39.0000°, Azm18.0000°; P -2.5950, Plg20.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *23:05:28.0±0.5,21.°94N×143.°74E,h167km±5km, mb5.1/279,MW5.5 Error ellipse: s-maj=3.0km s-min=2.6km az=121.0*

NEIC ***12*** *23:05:28.0±0.0,21.°81N×143.°91E,h160km,Moment Tensor Solution. s49 Moment tensor: Scale 10¹⁷Nm; Mrr1.06; Mθθ-0.51; Mφφ-0.55; Mrθ-0.13; Mφr-1.67; Mθr1.69; Best double couple: M₀2.50000×10¹⁷ NP1:φ=9.00000°, δ74.00000°,λ50.00000°. NP2:φ=261.00000°,δ42.00000°, λ155.00000°. Principal axes: T 2.5100, Plg46.0000°, Azm238.0000°; N 0.0700, Plg37.0000°, Azm22.0000°; P -2.5800, Plg18.0000°, Azm127.0000°;*

JMA ***12*** *23:05:30.2±0.2,22.°31N×143.°49E,h194km±2km,M5.7*

ISC 12 23:05:26.9±0.2,22.°00N±0.°03×143.°80E±0.°03,h161km±1km, h161km:pP-P,n1048,σ1s48/1265,mb5.1/411,59C-22D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	4.84	342	P	Pn	23 06 38.5	+0.1
JHH2				S	Sn	23 07 30.7	-3.6
CBIJ	Chichi jima	5.28	344	⇓P	Pn	23 06 43.8	-0.3
CBIJ				*e*S	Sn	23 07 41.1	-3.6
SARN	Sarigan	5.59	160	*e*Pn	Pn	23 06 49.2	+0.7
ANA2	Anatahan	5.91	162	*e*Pn	Pn	23 06 52.6	0.0
GUMO	Guam	8.43	173	*e*Pn	Pn	23 07 27.2	+1.2
GUMO	Guam	8.43	173	*e*P	Pn	23 07 27.2	+1.2
GUMO	Guam	8.43	173	P	Pn	23 07 26.8	+0.8
	19nm,0.3s,baz=354,slow=1.3,SNR=30						
JHCJ	Hachijojimakas	11.58	343	P	Pn	23 08 04.6	-2.8
JHJ2	Mitsune	11.62	343	*e*Pn	Pn	23 08 08.8	+1.0
JHJ2				*e*Sn	Sn	23 10 11.5	-4.9
JHJ2	Mitsune	11.62	343	P	Pn	23 08 04.3	-3.5
JHJ	Hachijo jima 2	11.63	343	P	Pn	23 08 08.5	+0.5
	60nm,0.3s,baz=247,slow=23,SNR=14						
JHJ				LR	LR	23 11 59.0	
	comp=Z,1μm,20.6s,baz=195,slow=34						
JMKN	Mikurajimanish	12.41	343	P	Pn	23 08 15.6	-2.5
JKO	Kozu shima	12.81	342	P	Pn	23 08 21.2	-2.1
BSO1	Boso 1	12.85	349	P	Pn	23 08 21.0	-2.1
BSO3	Boso 3	13.07	348	P	Pn	23 08 24.8	-1.5
TTO1	TONANKAI O.B.S	13.13	333	P	Pn	23 08 26.1	-0.9
BSO4	Boso 4	13.29	348	P	Pn	23 08 27.1	-2.1
JIZS	Izushimoda	13.39	342	P	Pn	23 08 29.0	-1.5
JMMH	Miemihama	13.62	331	P	Pn	23 08 34.1	+0.5
JTNC	Tanabenakahech	13.81	330	P	Pn	23 08 36.5	+0.6
JHMK	Hamakita	13.82	339	P	Pn	23 08 34.4	-1.6
JIE	Ise	13.83	335	P	Pn	23 08 36.0	-0.2
JOD2	Odawara 2	13.84	344	P	Pn	23 08 35.6	-0.7
HMMJ	Hamamatsu 2	13.87	339	P	Pn	23 08 34.4	-2.3
JKN2	Miekihoku	13.88	333	P	Pn	23 08 34.4	-2.3
SHZ3	Shizuoka 3	13.91	341	P	Pn	23 08 36.3	-0.9
JYZW	Yoshizawa	14.00	339	P	Pn	23 08 37.0	-1.2
JYN	Shimob	14.21	342	P	Pn	23 08 40.0	-1.0
JNY	Yasuok	14.29	340	P	Pn	23 08 39.0	-2.9
JHU	Hanno	14.35	345	P	Pn	23 08 40.8	-1.9
JHU				*e*S	Sn	23 11 12.3	-10
JAO	Obara	14.40	338	P	Pn	23 08 42.9	-0.5
JYT	Yasato	14.52	348	P	Pn	23 08 43.7	-1.0
JTO	Tosashimizu	14.56	320	P	P	23 08 47.0	-0.4
INU	Inuyama	14.56	337	*e*Pn	Pn	23 08 45.0	-0.4
JRY	Ryogami san	14.60	344	P	Pn	23 08 43.5	-2.4
JRY				*e*S	Sn	23 11 16.9	-11
JEG	Eigenji	14.61	335	P	Pn	23 08 46.2	+0.3
JAMN	Amaminishikomi	14.63	298	P	Pn	23 08 44.9	-1.3
JGF	Kuroka	14.67	339	P	Pn	23 08 46.1	-0.6
JNT	Takato	14.68	342	P	Pn	23 08 46.3	-0.6
JHO	Hitachi	14.83	350	P	Pn	23 08 46.0	-2.6
JHO				*e*S	Sn	23 11 22.7	-11
JAG	Ashikaga	14.86	346	P	Pn	23 08 46.5	-2.5
JAG				*e*S	Sn	23 11 22.4	-12
JYTA	Yamagatataniai	14.88	337	P	Pn	23 08 48.9	-0.4
JOW	Kunigami	14.94	292	*e*Pn	P	23 08 51.5	-0.2
JOW				*e*Sn	S	23 11 46.0	+5.0
JOW	Kunigami	14.94	292	P	Pn	23 08 50.8	+0.7
	1.1nm,0.3s,baz=122,slow=14,SNR=12						
JFM	Mihama	15.11	335	P	Pn	23 08 52.3	+0.2
JNG	Nsakai	15.19	342	P	Pn	23 08 51.5	-1.6
JGN	Niukaw	15.26	340	P	Pn	23 08 52.8	-1.2
MJAR	Matsushiro Arr	15.28	343	*e*Pn	Pn	23 08 53.9	-0.4
	56nm,0.9s						
MJAR				*e*S	S	23 11 46.8	-0.6
MJAR				ScP	ScP	23 17 04.8	-2.8
MJAR	Matsushiro Arr	15.28	343	P	Pn	23 08 52.5	-1.7
	1.1nm,0.3s,baz=172,slow=9.7,SNR=68						
MJAR				S	Sn	23 11 45.0	+0.5
	0.2nm,0.3s,baz=194,slow=25,SNR=6.4						
MJAR				ScP	ScP	23 17 04.8	-2.8
	0.0nm,0.3s,baz=214,slow=2.8,SNR=6.1						
MAJO	Matsushiro	15.28	343	*e*Pn	Pn	23 08 53.0	-1.3
	338nm,1.3s						
MAJO	Matsushiro	15.28	343	*d*iP	Pn	23 08 52.2	-2.1
MAT	Matsushiro	15.28	343	P	Pn	23 08 51.7	-2.6
MAT				S	Sn	23 11 35.0	-9.5
MAT	Matsushiro	15.28	343	P	Pn	23 08 52.9	-1.4
MJB9	Matsu-Tunnel	15.29	343	*e*Pn	Pn	23 08 53.4	-0.9
	328nm,1.3s						
JUS	Usuki	15.34	318	P	P	23 08 57.6	+1.6
JFK	Kawauchi	15.52	351	P	Pn	23 08 56.0	-1.2
JTT	Ttatey	15.60	340	P	P	23 08 58.8	-0.1
JKG	Kaga	15.64	337	P	P	23 08 59.4	+0.1
JHK	Hiroka	15.75	346	P	Pn	23 08 58.7	-1.2
JJN	Nakama	15.82	343	P	Pn	23 09 00.0	-0.8
JSJ	Shimokoshiki	15.83	310	P	P	23 09 01.6	+0.1
JNU	Nakatsue	15.92	317	*e*Pn	P	23 09 03.5	+1.0
	520nm,1.4s						
JNU				*e*S	Sn	23 12 04.7	+4.8
JNU	Nakatsue	15.92	317	P	P	23 09 03.4	+0.8
	1.5nm,0.3s,baz=124,slow=8.8,SNR=22						
JHS	Saijyo	15.98	326	P	P	23 09 03.3	+0.1
JJH	Hakui	16.07	339	P	P	23 09 04.4	+0.3
JKE	Kume jima 2	16.11	289	P	Pn	23 09 04.3	-0.2
JFA	Akaike	16.36	318	P	Pn	23 09 09.7	+2.3
JOU	Okura	16.53	351	P	Pn	23 09 11.0	+1.5
JSD	Sado	16.68	345	P	P	23 09 09.3	-1.5
JYA	Atsumi	16.91	349	P	Pn	23 09 15.1	+1.2
JOI	OKI	16.94	329	P	Pn	23 09 14.6	+0.2
JMK	Ichinoseki	17.04	353	P	P	23 09 14.3	-0.4
JYK	Kaneyama	17.12	351	P	Pn	23 09 17.6	+1.1
YOJ	Yonaguni jima	19.27	281	*e*P	P	23 09 39.2	+0.1
	306nm,1.5s						
YOJ	Yonaguni jima	19.27	281	*e*P	P	23 09 39.2	+0.1
YOJ				pmax	pmax		
	comp=Z,306nm,1.5s						
YOJ	Yonaguni jima	19.27	281	P	P	23 09 39.0	-0.2
JOT	Ohata	19.46	354	P	P	23 09 41.5	+0.4
ERM	Erimo	19.96	359	*e*P	P	23 09 48.2	+1.8
	comp=Z,232nm,0.9s						
ERM				*e*S	S	23 13 24.1	+2.0
ERM	Erimo	19.96	359	*ce*P	Pn	23 09 49.3	-0.7
ERM				pmax	pmax		
	comp=Z,55nm,0.9s						
JKB	Kayabe	19.96	354	P	P	23 09 46.8	+0.3
TJN	Taejon	20.23	319	*ce*P	Pn	23 09 51.6	-1.7
PVCP	Virac	20.48	249	*e*P	Pn	23 09 54.6	-1.8
NACB	Ninganchiao	20.54	280	*e*P	P	23 09 53.4	+0.5
	comp=Z,59nm,0.9s						
CNP	Catarman	20.55	246	*e*P	Pn	23 09 55.7	-1.6
PATS	Pohnpei	20.58	135	*e*P	P	23 09 53.7	+0.4
	comp=Z,2μm,1.5s						
PATS				*e*S	S	23 13 32.8	-2.0
KSRS	Korea Array	20.62	322	P	P	23 09 54.9	+1.3
KSRS				pmax	pmax		
	comp=Z,48nm,0.7s						
KSRS	Korea Array	20.62	322	P	P	23 09 54.9	+1.3
	comp=Z,57nm,0.6s,baz=147,slow=8.6,SNR=112						
KSRS				S	S	23 13 39.9	+4.6
	comp=Z,13nm,1.1s,baz=145,slow=16,SNR=6.7						
KSRS				ScP	ScP	23 17 17.6	-1.4
	comp=Z,5.7nm,1.0s,baz=135,slow=2.8,SNR=8.4						
KS15	Wonju Array Si	20.64	322	*e*P	P	23 09 55.5	+1.8
	comp=Z,151nm,1.2s						
KSAR	Wonju Array Be	20.64	322	*e*P	P	23 09 55.7	+1.9
KSAR				S	S	23 13 39.9	+4.3
KSAR				ScP	ScP	23 17 17.6	-1.4
KSAR	Wonju Array Be	20.64	322	*e*P	P	23 09 55.7	+1.9
KSAR				S	S	23 13 39.9	+4.3
PALP	Palanan	20.73	260	*e*P	P	23 09 57.1	+2.1
YHNB	Yeheng	20.76	282	*e*P	P	23 09 54.9	-0.4
	comp=Z,118nm,0.9s						
YHNB				*e*S	S	23 13 40.6	+2.2
YULB	Yu-li	20.81	278	*e*P	P	23 09 57.1	+1.3
	comp=Z,49nm,1.0s						
PLP	Palo	20.99	242	⇑*i*P	Pn	23 10 00.3	-2.4
TWG	Pinlang	21.03	277	*e*P	P	23 10 00.2	+2.1
	comp=Z,369nm,1.1s						
SSLB	Suanglung	21.12	279	*e*P	P	23 10 00.5	+1.3
	comp=Z,228nm,0.7s						
SSLB				*e*S	S	23 13 45.8	+0.8
CAUP	Cauayan	21.32	260	*e*P	P	23 10 03.7	+2.5
WAKE	Wake Island	21.55	93	*e*P	P	23 10 03.6	-0.1
	comp=Z,382nm,1.4s						
APYP	Conner	21.60	263	*e*P	P	23 10 05.0	+0.8
MSLP	Maasin	21.66	240	*e*P	P	23 10 06.3	+1.4
H11N1	WAKE ISLAND Hy	21.69	92	P	P	23 10 06.6	+1.7
	baz=254,slow=12,SNR=4.8						
H11N1				T	T	23 32 24.4	
	baz=277,slow=74,SNR=8.6						
H11N2	WAKE ISLAND Hy	21.69	92	P	P	23 10 06.2	+1.2
	baz=254,slow=12,SNR=4.8						
H11N2				T	T	23 32 23.3	
	baz=277,slow=74,SNR=4.2						
H11N3	WAKE ISLAND Hy	21.71	92	P	P	23 10 06.8	+1.7
	baz=254,slow=12,SNR=3.0						
H11N3				T	T	23 32 40.7	
	baz=277,slow=74,SNR=8.4						
H11S3	WAKE ISLAND Hy	21.75	95	T	T	23 33 40.4	
	SNR=7.1						
H11S1	WAKE ISLAND Hy	21.75	95	T	T	23 33 03.1	
	baz=45,slow=74,SNR=8.4						
BUTP	Butuan	21.76	236	*e*P	P	23 10 07.7	+1.8
H11S2	WAKE ISLAND Hy	21.76	95	T	T	23 33 01.7	
	baz=284,slow=74,SNR=12						
BALP	Baler	21.92	257	*e*P	P	23 10 07.8	+0.3
ASAJ	Asahikawa	22.08	358	P	P	23 10 10.8	+1.9
	comp=Z,19nm,0.7s,baz=218,slow=12,SNR=18						
SSE	Sheshan	22.13	299	P	P	23 10 09.3	-0.2
SSE				S	S	23 13 59.8	-2.1
SSE				pmax	pmax		
	comp=Z,230nm,0.9s						
SSE				LR	LR		
	comp=Z,390nm,11.4s						
SSE	Sheshan	22.13	299	*e*P	P	23 10 09.7	+0.1
	comp=Z,450nm,0.9s						
LLP	Lapu-Lapu	22.29	242	*e*P	P	23 10 11.9	+0.8
LLP				*e*S	S	23 14 06.5	+1.9
BOAC	Boac	22.55	252	*e*P	P	23 10 15.0	+1.3
MATI	Mati	22.60	231	*e*P	P	23 10 13.8	-0.4
SMPP	San Manuel, Pa	22.60	259	*e*P	P	23 10 13.4	-0.7
RCP	Roxas	22.65	246	⇑*e*P	P	23 10 15.6	+1.0
BUKP	Musuan	22.87	235	*e*P	P	23 10 16.9	+0.2
DAV	Davao City (W)	23.01	233	*e*P	P	23 10 18.6	+0.6
	comp=Z,738nm,1.4s						
DAV	Davao City (W)	23.01	233	P	P	23 10 18.4	+0.5
	comp=Z,83nm,0.4s,baz=73,slow=3.2,SNR=22						
MSHR	Mys Shultsa	23.09	336	*i*P	P	23 10 21.1	+2.8
TGY	Tagaytay City	23.10	254	P	P	23 10 19.4	+0.6
	comp=Z,1μm,0.9s,baz=33,slow=1.9,SNR=74						
GUIM	Jordan	23.26	244	*e*P	P	23 10 20.8	+0.7
VLA	Vladivostok	23.28	338	*i*P	P	23 10 22.0	+1.9
VLA				pmax	pmax		
	comp=Z,65nm,0.9s						
QZH	Quanzhou	23.30	282	⇑*i*P	P	23 10 20.1	-0.4
QZH				pP	pwP	23 10 52.2	-0.4
QZH				S	S	23 14 23.8	+2.9
QZH				pmax	pmax		
	comp=Z,36nm,1.0s						
QZH				pmax	pmax		
	comp=Z,480nm,4.2s						
KUR	Kuril'sk	23.41	7	*e*P	P	23 10 23.2	+2.0
SCZP	Santa Cruz	23.42	259	*e*P	P	23 10 21.8	+0.2
DDMP	Don Marcelino,	23.57	231	*e*P	P	23 10 21.9	-1.1
SJMP	San Jose	23.62	250	*e*P	P	23 10 25.3	+1.8
TEY	Ternei	23.72	347	⇑*e*P	P	23 10 27.4	+3.3
TEY				*e*		23 11 14.0	
TEY				*e*S	S	23 14 31.2	+4.0
TEY				pmax	pmax		
	comp=N,20nm,0.8s						
TEY				pmax	pmax		
	comp=Z,20nm,0.7s						
TEY				smax	smax		
	comp=E,2μm,5.8s						
LUBP	Lubang	23.86	254	*e*P	P	23 10 25.5	-0.2
CTBH	Cotabato--PC H	23.91	235	⇑*i*P	P	23 10 26.9	+0.8
SKMP	Bagumbayan, Su	24.14	233	*e*P	P	23 10 28.3	+0.1
MANU	Manus Island	24.15	171	*e*P	P	23 10 29.0	+0.8
	comp=E,74nm,0.8s						
PAGZ	Pagadian	24.19	238	*e*P	P	23 10 29.5	+0.8
USA0B	Ussuriysk Arra	24.20	339	*e*P	P	23 10 29.1	+0.7
	comp=E,46nm,0.8s						
USRK	Ussuriysk Ar.	24.20	339	*e*P	P	23 10 29.7	+1.3
USRK	Ussuriysk Ar.	24.20	339	P	P	23 10 29.4	+0.9
	comp=E,14nm,0.7s,baz=150,slow=9.5,SNR=16						
NJ2	Nanjing	24.32	300	⇑*i*P	P	23 10 29.9	+0.2
NJ2				pP	pP	23 11 01.2	+0.3
NJ2				sP	PP	23 11 26.1	-1.9
NJ2				S	S	23 14 35.6	-1.5
NJ2				sS	sS	23 15 30.8	-3.5
NJ2				pmax	pmax		
	comp=E,160nm,1.1s						
NJ2				pmax	pmax		
	comp=E,570nm,3.5s						
NJ2				LR	LR		
	comp=E,2μm,13.6s						
NJ2				LR	LR		
	comp=E,2μm,12.5s						
NJ2				LR	LR		
	comp=E,2μm,11.9s						
JAY	Jayapura	24.55	187	P	P	23 10 31.3	-0.7
	comp=E,44nm,1.1s,baz=336,slow=6.7,SNR=22						
BUSP	Coron	24.63	250	*e*P	P	23 10 33.5	+0.8
GENI	Genyem	24.70	189	P	P	23 10 34.7	+1.5
YSS	Yuzh-Sakhalins	24.91	358	*e*P	P	23 10 39.0	+4.2
YSS				*e**PP	pwP	23 11 11.7	-0.7
YSS				*e*		23 11 21.9	
YSS				*e*S	S	23 14 46.6	+0.6
YSS				*e**SS	sS	23 15 41.9	-1.6
YSS				*e*SS	SnSn	23 15 57.8	+3.0
YSS				MLR	MLR		
	comp=N,900nm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
DL2	Dalian	25.38	317	⇑*i*P	P	23 10 41.1	+2.0
DL2				pP	pwP	23 11 15.9	+0.2
DL2				sP	sP	23 11 30.9	+1.2
DL2				S	S	23 14 56.8	+3.2
DL2				ScS	ScS	23 21 16.9	-3.6
DL2				pmax	pmax		
	comp=Z,230nm,0.9s						
DL2				pmax	pmax		
	comp=Z,530nm,5.4s						
MDJ	Mudanjiang	25.41	336	P	P	23 10 41.3	+1.9
MDJ				pP	pwP	23 11 16.3	-0.8
MDJ				sP	PP	23 11 38.1	-2.2
MDJ				S	S	23 14 56.5	+2.4
MDJ				pmax	pmax		
	comp=Z,16nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,320nm,5.8s						
SGSI	Sangihe	25.42	227	P	P	23 10 39.8	0.0
ENPP	El Nido	25.67	249	*e*P	P	23 10 43.5	+1.4
TNTI	Ternate	26.49	219	*e*P	P	23 10 50.3	+0.9
	comp=Z,53nm,1.0s						
TNTI	Ternate	26.49	219	P	P	23 10 49.1	-0.3
CN2	Changchun	26.53	329	*e*P	P	23 10 56.1	+6.6
CN2				*e*S	S	23 15 15.8	+4.0
TIA	Tai'an	27.16	307	P	P	23 10 55.9	+0.6
TIA				S	S	23 15 20.9	-1.0
TIA				pmax	pmax		
	comp=Z,30nm,0.8s						
TIA				LR	LR		
	comp=Z,750nm,9.0s						
TIA				LR	LR		
	comp=Z,620nm,9.5s						
TIA				LR	LR		
	comp=Z,620nm,7.1s						
FAKI	Fak Fak	27.23	206	*e*P	P	23 10 54.9	-1.1
	comp=Z,57nm,1.0s						
FAKI	Fak Fak	27.23	206	P	P	23 10 54.3	-1.7
WHN	Wuhan	27.68	294	⇑*i*P	P	23 11 00.5	+0.6
WHN				pP	pwP	23 11 35.6	-1.0
WHN				sP	sP	23 11 52.9	+2.1
WHN				S	S	23 15 27.4	-2.8
WHN				SS	SnSn	23 17 02.8	+0.7
WHN				pmax	pmax		
	comp=Z,110nm,1.0s						
WHN				pmax	pmax		
	comp=Z,630nm,4.6s						
WHN				LR	LR		
	comp=Z,340nm,8.9s						
WHN				LR	LR		
	comp=Z,2μm,12.8s						
WHN				LR	LR		
	comp=Z,2μm,12.7s						
BATP	Bataraza	28.24	246	*e*P	P	23 11 07.3	+2.3
KMSI	Cibinong	28.75	225	P	P	23 11 11.5	+2.0
KLR	Kul'dur	28.81	343	P	P	23 11 10.8	+1.1
	comp=Z,40nm,0.6s,baz=154,slow=7.1,SNR=161						
TYV	Tymovskoe	28.82	358	*e*P	P	23 11 11.2	+1.5
TYV				*e*S	S	23 15 51.1	+3.5
TYV				pmax	pmax		
	comp=Z,23nm,0.6s						
TYV				pmax	pmax		
	comp=Z,100nm,3.1s						
TYV				smax	smax		
	comp=E,500nm,5.3s						
GRNR	Gornyy	29.29	350	*e*P	P	23 11 16.3	+2.4
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
BJT	Baijiatuau	29.55	314	*e*P	P	23 11 16.2	-0.1
	comp=Z,32nm,1.3s						
BJT	Baijiatuau	29.55	314	*e*P	P	23 11 16.2	-0.1
BJT				pmax	pmax		
	comp=Z,32nm,1.3s						
SANI	Sanana	29.57	218	P	P	23 11 14.7	-2.1
	comp=Z,43nm,0.8s,comp=Z,911nm						
MRSI	Marisa	30.19	228	P	P	23 11 23.3	+1.0
LUWI	Luwuk	30.76	225	*e*P	P	23 11 26.5	-0.8
	comp=Z,87nm,0.7s						
LUWI	Luwuk	30.76	225	P	P	23 11 27.2	0.0
	comp=Z,128nm,0.9s,comp=Z,2μm						
KKM	Kota Kinabalu	31.02	243	*e*P	P	23 11 31.2	+1.4
	comp=Z,346nm,1.4s						
KKM	Kota Kinabalu	31.02	243	P	P	23 11 31.0	+1.3
NKL	Nikolayevsk	31.19	356	*e*P	P	23 11 32.0	+1.4
NKL				*e*		23 12 04.0	
NKL				*e*S	S	23 16 24.0	-0.5
NKL				*e*		23 17 20.0	
NKL				pmax	pmax		
	comp=N,9.0nm,0.2s						
NKL				pmax	pmax		
	comp=Z,30nm,0.2s						
NKL				pmax	pmax		
	comp=Z,300nm,5.0s						
NKL				smax	smax		
	comp=N,600nm,8.0s						
NKL				smax	smax		
	comp=E,500nm,8.0s						
NKL				MLR	MLR		
	comp=N,1μm,13.0s						
TIY	Taiyuan	31.21	307	*e*P	P	23 11 33.6	+2.5
TIY				S	S	23 16 22.9	-2.6
TIY				sS	sS	23 17 24.3	+0.5
TIY				pmax	pmax		
	comp=N,20nm,0.5s						
TIY				LR	LR		
	comp=N,560nm,9.3s						
TIY				LR	LR		
	comp=N,650nm,11.0s						
TIY				LR	LR		
	comp=N,620nm,13.0s						
APSI	Ampana	31.40	226	P	P	23 11 32.6	-0.3
	comp=N,60nm,1.1s,comp=N,757nm						
MPSI	Mapaga	31.73	230	P	P	23 11 35.8	+0.1
	comp=N,23nm,1.1s,comp=N,722nm						
ENH	Enshi	31.80	292	*e*P	P	23 11 36.3	0.0
	comp=N,40nm,0.9s						
QIZ	Qiongzhong	31.91	271	P	P	23 11 38.2	+0.9
QIZ				pP	pP	23 12 10.8	+0.6
QIZ				S	S	23 16 37.0

comp=Z,47nm,1.2s
HHC Hu-ho-hao-te 33.05 312 *e*P **P 23 11 49.4 +2.2**
HHC pP pwP 23 12 26.3 +2.6
HHC S **S 23 16 53.1 -1.0**
HHC SS **SnSn 23 19 06.5 -5.9**
HHC ScS **ScS 23 21 51.6 -5.3**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.6s
HIA Hailar 33.22 331 *e*P **P 23 11 49.3 +0.8**
comp=Z,199nm,0.7s
HIA Hailar 33.22 331*c i*P **P 23 11 49.0 +0.5**
HIA pmax pmax
comp=Z,135nm,1.2s
SGKI Sangatta, Kali 33.98 232 P **P 23 11 50.8 -4.6**
BTO Baotou 34.03 311 *e*P **P 23 11 54.4 -1.2**
GYA Guiyang 34.08 285⇑*i*P **P 23 11 56.4 +0.1**
GYA pP pwP 23 12 32.5 -1.1
GYA sP sP 23 12 46.9 -0.7
GYA PP **PnPn 23 13 13.9 -2.1**
GYA S **S 23 17 07.8 -2.5**
GYA sS sS 23 18 12.5 +3.4
GYA SS **SnSn 23 19 28.0 -10**
GYA ScS **ScS 23 22 03.0 +0.2**
GYA pmax pmax
comp=Z,30nm,0.7s
GYA pmax pmax
comp=Z,110nm,4.3s
GYA LR LR
comp=Z,1μm,23.0s
GYA LR LR
comp=Z,570nm,18.9s
GYA LR LR
comp=Z,600nm,19.6s
ZEA Zeya 34.10 342 *e*P **P 23 11 56.5 +0.6**
ZEA pmax pmax
comp=N,65nm,1.2s
ZEA pmax pmax
comp=Z,71nm,1.2s
ZEA MLR MLR
comp=Z,600nm,14.0s
TTSI Tana Toraja 34.20 226 P **P 23 11 57.1 -0.1**
SMKI Samarinda 34.22 233 P **P 23 11 59.1 +1.7**
BBSI Bau Bau 34.34 220 P **P 23 12 02.3 +3.9**
comp=Z,26nm,1.1s,comp=Z,556nm
SPSI Sidrap Palu 34.92 225 P **P 23 12 03.9 +0.5**
comp=Z,84nm,0.7s,comp=Z,1μm
BKB Balikpapan 34.99 232 P **P 23 12 06.0 +1.9**
comp=Z,490nm,1.6s,comp=Z,6μm
BNSI Bone 35.02 224 P **P 23 12 06.7 +2.4**
comp=Z,200nm,1.5s,comp=Z,3μm
DLV T Lat 35.15 259 *e*P **P 23 12 06.1 +0.4**
comp=Z,173nm,1.2s
BKSI Bulukumba 35.71 223 P P 23 12 17.1 +6.9
comp=Z,20nm,0.9s
KAPI Kappang 35.72 224 *e*P **P 23 12 11.3 +1.1**
comp=Z,117nm,1.2s
KAPI Kappang 35.72 224 *e*P **P 23 12 11.4 +1.1**
KAPI pmax pmax
comp=Z,117nm,1.2s
KAPI Kappang 35.72 224 P **P 23 12 10.6 +0.3**
SNR=5.1
COEN Coen 35.74 181 *e*P **P 23 12 10.7 +0.3**
comp=Z,146nm,1.2s
SBUM Sibu 36.33 242 *e*P **P 23 12 16.7 +1.3**
comp=Z,241nm,1.5s
SBUM Sibu 36.33 242 P **P 23 12 17.0 +1.6**
CD2 Chengdu 36.77 293⇑*i*P **P 23 12 19.3 +0.1**
CD2 pP pP 23 12 51.4 -1.4
CD2 PcP **PcP 23 14 32.7 -5.3**
CD2 S **S 23 17 47.2 -4.1**
CD2 pmax pmax
comp=Z,100nm,1.2s
CD2 pmax pmax
comp=Z,470nm,4.7s
CD2 LR LR
comp=Z,3μm,25.1s
CD2 LR LR
comp=Z,1μm,11.8s
MTN Manton Dam 36.79 201 *e*P **P 23 12 18.8 -0.5**
comp=Z,134nm,1.4s
SOEI Soe 36.92 213 *e*P **P 23 12 19.0 -1.6**
comp=Z,125nm,1.4s
SOEI *e*S **S 23 17 51.4 -2.5**
SOEI Soe 36.92 213 P P 23 12 26.2 +5.6
comp=Z,63nm,1.2s
SLVN Son La 37.01 277 *e*P **P 23 12 22.4 +1.0**
comp=Z,71nm,1.2s
MMRI Maumere 37.08 217 *e*P **P 23 12 22.8 +1.1**
comp=Z,156nm,1.4s
MMRI Maumere 37.08 217 P **P 23 12 24.9 +3.2**
comp=Z,124nm,2.4s,comp=Z,5μm
LZH Lanzhou 37.38 301⇑P **P 23 12 25.6 +1.2**
LZH sP sP 23 13 23.2 +7.0
LZH PP **PP 23 13 52.5 -0.5**
LZH S **S 23 17 59.6 -1.0**
LZH sS sS 23 19 03.8 +3.9
LZH SS **SS 23 20 45.1 -6.3**
LZH pmax pmax
comp=Z,220nm,1.3s
LZH pmax pmax
comp=Z,780nm,4.8s
LZH LR LR
comp=Z,1μm,13.0s
LZH LR LR
comp=Z,900nm,13.1s
LZH LR LR
comp=Z,1μm,16.2s
BATI Baumata 37.62 214 P **P 23 12 25.7 -0.6**
KMI Kunming 37.67 283 P **P 23 12 27.8 +0.8**
KMI pP pwP 23 13 02.9 -2.0
KMI sP sP 23 13 26.3 +7.7
KMI PP **PnPn 23 14 00.6 +1.2**
KMI S **S 23 18 03.3 -2.0**
KMI sS sS 23 19 07.7 +3.1
KMI pmax pmax
comp=Z,32nm,1.0s
KMI pmax pmax
comp=Z,200nm,4.0s
KMI LR LR
comp=Z,510nm,13.1s
KMI LR LR
comp=Z,500nm,17.0s
KMI LR LR
comp=Z,570nm,13.5s
KMI Kunming 37.67 283 *e*P **P 23 12 28.4 +1.4**
comp=Z,22nm,0.7s
KMI Kunming 37.67 283 *e*P **P 23 12 28.4 +1.4**
KMI pmax pmax
comp=Z,23nm,0.7s
SKNT Sakolnakorn 37.80 270 P **P 23 12 28.8 +0.9**
comp=Z,64nm,1.3s,comp=Z,3μm
MA2 Magadan 37.86 6 *e*P **P 23 12 29.3 +1.4**
comp=Z,15nm,0.8s
MA2 Magadan 37.86 6*ce*P **P 23 12 29.1 +1.2**
MA2 pmax pmax
comp=Z,9.0nm,0.8s
KSM Kuching 38.45 243 *e*P **P 23 12 33.6 +0.3**
comp=Z,102nm,1.1s
KSM *e*PcP **PcP 23 14 43.9 +0.6**
KSM *e*S **S 23 18 15.2 -1.6**
KSM Kuching 38.45 243 P **P 23 12 34.0 +0.7**
KHON Khomkaen 39.03 269 P **P 23 12 39.6 +1.4**
comp=Z,104μm,0.9s
ULN Ulaanbaatar 39.10 320 *e*P **P 23 12 39.6 +1.1**
comp=Z,50nm,1.3s
ULN Ulaanbaatar 39.10 320*ce*P **P 23 12 39.4 +0.9**
ULN pmax pmax
comp=Z,33nm,1.2s
BASI Baing, Sumba 39.30 218 P **P 23 12 41.1 +0.7**
SONM Songino Array 39.47 320 *e*P **P 23 12 41.6 0.0**
comp=Z,11nm,0.7s
SONM ScP **ScP 23 18 20.0 +0.3**
SONM Songino Array 39.47 320 *e*P **P 23 12 41.6 0.0**
SONM pmax pmax
comp=Z,11nm,0.7s
SONM Songino Array 39.47 320 P **P 23 12 41.0 -0.6**
comp=Z,7.6nm,0.5s,baz=131,slow=9.1,SNR=19
SONM ScP **ScP 23 18 20.0 +0.3**
comp=Z,1.8nm,0.6s,baz=282,slow=1.4,SNR=4.4
PBKI Pangkalan Bun 39.87 236 P **P 23 12 46.9 +1.8**
comp=Z,184nm,1.1s
PLAI Plampang 39.88 223 P **P 23 12 44.5 -0.7**
CHAI Chaiyaphum 39.92 269 P **P 23 12 46.5 +1.0**
comp=Z,76μm,0.8s,comp=Z,787μm

UTTA Uttaradit 40.80 272 P **P 23 12 53.8 +1.1**
comp=Z,157μm,1.0s
SRBI Singaraja 40.99 226 P P 23 13 05.9 +12
PAYA Payao 41.09 275 P **P 23 12 56.4 +1.3**
comp=Z,94μm,1.2s,comp=Z,877μm
KMMI Kalianget 41.10 229 P **P 23 12 58.9 +3.8**
comp=Z,118nm,0.9s,comp=Z,1μm
GTA Gaotai 41.17 305 *e*P **P 23 12 56.5 +0.8**
GTA pP pwP 23 13 35.3 +2.2
GTA sP sP 23 13 55.0 +7.0
GTA S **S 23 18 56.3 -0.7**
GTA pmax pmax
comp=Z,74nm,1.4s
GTA pmax pmax
comp=Z,430nm,8.9s
GTA LR LR
comp=Z,570nm,13.4s
GTA LR LR
comp=Z,420nm,12.7s
GTA LR LR
comp=Z,560nm,17.5s
YAK Yakutsk 41.17 350 *e*P **P 23 12 55.8 +0.7**
YAK *e**PP **pP 23 13 28.8 +0.1**
YAK *e* 23 14 42.6
YAK *e*S **S 23 19 02.0 +6.0**
YAK pmax pmax
comp=Z,125nm,0.9s
YAK pmax pmax
comp=E,34nm,0.9s
YAK pmax pmax
comp=N,81nm,0.9s
YAK pmax pmax
comp=Z,227nm,1.5s
YAK pmax pmax
comp=E,232nm,1.7s
YAK pmax pmax
comp=N,286nm,1.6s
YAK smax smax
comp=N,928nm,1.6s
YAK smax smax
comp=E,369nm,1.5s
YAK MLR MLR
comp=Z,825nm,18.0s
YAK MLR MLR
comp=E,1μm,16.0s
YAK MLR MLR
comp=N,515nm,16.0s
LAMP Lampang 41.48 273 P **P 23 12 59.6 +1.3**
comp=N,81μm,1.0s,comp=N,742μm
BOD Bodaibo 41.79 336 *e*P **P 23 12 59.6 -0.6**
CTAO Charters Tower 41.90 177 *e*P **P 23 13 01.8 +0.2**
comp=N,186nm,1.3s
CTAO Charters Tower 41.90 177 *e*P **P 23 13 01.8 +0.2**
CTAO pmax pmax
comp=Z,186nm,1.3s
JAGI Jajag, Banyuwa 41.98 227 *e*P **P 23 13 01.5 -0.9**
comp=Z,57nm,0.9s
CMMT Chiang Mai 42.05 274 P **P 23 13 03.5 +0.5**
comp=Z,40nm,1.1s,comp=Z,433nm
CHTO Chiang Mai 42.05 274 *e*P **P 23 13 03.5 +0.5**
comp=Z,88nm,1.1s
CHTO Chiang Mai 42.05 274 *e*P **P 23 13 03.5 +0.5**
CHTO pmax pmax
comp=Z,88nm,1.1s
CHTO Chiang Mai 42.05 274 ms 23 13 14.6
SNR=11
CM31 Chiang Mai Arr 42.13 274 *e*P **P 23 13 04.3 +0.7**
comp=Z,75nm,1.2s
CM31 Chiang Mai Arr 42.13 274 P **P 23 13 05.8 +2.1**
SNR=12
CMAR Chiang Mai Arr 42.13 274 *e*P **P 23 13 04.5 +0.9**
CMAR PcP **PcP 23 14 55.9 +0.7**
CMAR Chiang Mai Arr 42.13 274 *e*P **P 23 13 04.5 +0.9**
CMAR 23 14 55.9
CMAR Chiang Mai Arr 42.13 274 P **P 23 13 03.2 -0.4**
comp=Z,30nm,1.0s,baz=56,slow=8.6,SNR=93
CMAR PcP **PcP 23 14 55.9 +0.7**
comp=Z,5.7nm,1.2s,baz=68,slow=3.7,SNR=4.1
CMAR LR LR 23 30 49.7
comp=Z,187nm,18.9s,baz=88,slow=36
ZAK Zakamensk 42.46 322 *e*P **P 23 13 06.2 +0.3**
ZAK *e* 23 13 44.3
ZAK pmax pmax
comp=Z,49nm,1.4s
WRAB Tennant Creek 42.69 193 *e*P **P 23 13 07.7 -0.3**
comp=Z,173nm,1.4s
WRAB Tennant Creek 42.69 193*c i*P **P 23 13 07.0 -1.0**
WRAB pmax pmax
comp=Z,62nm,1.0s
WB2 Warramunga Arr 42.70 193 *e*P **P 23 13 07.6 -0.5**
comp=Z,163nm,1.4s
WRA Warramunga Arr 42.70 193 P **P 23 13 07.5 -0.5**
comp=Z,17nm,0.3s,baz=14,slow=8.8,SNR=357
WRA PcP **PcP 23 14 57.8 +0.9**
comp=Z,22nm,1.1s,baz=14,slow=3.1,SNR=7.0
WRA ScP **ScP 23 18 32.3 -0.5**
comp=Z,22nm,1.1s,baz=14,slow=4.3,SNR=20
WRA S **S 23 19 17.7 -1.9**
comp=Z,6.4nm,1.0s,baz=11,slow=14,SNR=5.2
UMPA Umpang Tak 42.74 270 P **P 23 13 11.1 +2.5**
comp=Z,124μm,1.1s
IRK Irkutsk 42.79 325 *e*P **P 23 13 07.9 -0.6**
IRK *e*S **S 23 19 22.1 +1.9**
IRK *e* 23 20 20.4
IRK pmax pmax
comp=Z,95nm,2.1s
TLY Talaya 42.86 324 *e*P **P 23 13 10.2 +1.2**
comp=Z,23nm,1.1s
TLY Talaya 42.86 324*c i*P **P 23 13 09.7 +0.7**
TLY pmax pmax
comp=Z,52nm,1.3s
TLY Talaya 42.86 324 P **P 23 13 10.1 +1.1**
SNR=15
PHET Kaeng Krachan 42.97 265 P **P 23 13 12.2 +1.8**
comp=Z,135μm,0.8s
SRDT SRDT 43.01 268 P **P 23 13 12.1 +1.4**
comp=Z,51nm,0.9s,comp=Z,874nm
TPI Tanjungpandan 43.05 240 P **P 23 13 11.2 +0.2**
comp=Z,102nm,1.2s,comp=Z,1μm
PWJI Pagerwojo 43.30 230 P **P 23 13 13.9 +0.9**
comp=Z,119nm,1.1s
TPRI Tanjung Pinang 43.60 247 P **P 23 13 17.6 +2.2**
comp=Z,454nm,1.1s
FITZ Fitzroy Crossi 43.64 205 *e*P **P 23 13 15.6 0.0**
comp=Z,44nm,0.9s
MYKOM Kota Tinggi 43.73 248 *e*P **P 23 13 18.5 +2.0**
comp=Z,118nm,0.9s
MYKOM Kota Tinggi 43.73 248 P **P 23 13 19.0 +2.5**
PPBI Pangkal Pinang 43.94 242 P **P 23 13 18.3 +0.2**
comp=Z,52nm,1.3s,comp=Z,26μm
SKLT Songkhla 44.14 257 P **P 23 13 21.5 +1.8**
comp=Z,68nm,1.5s,comp=Z,989nm
MOY Mondy 44.32 323 *e*P **P 23 13 21.0 +0.2**
MOY pmax pmax
comp=Z,58nm,2.1s
TRTT Trang 44.72 259 P **P 23 13 26.0 +1.7**
comp=Z,82nm,1.7s,comp=Z,2μm
JCJI Jatiwangi 44.88 235 P **P 23 13 27.6 +2.0**
KULM Kulim 44.90 255 *e*P **P 23 13 27.2 +1.4**
comp=Z,473nm,1.5s
KULM Kulim 44.90 255 P **P 23 13 28.0 +2.2**
IPM Ipoh 44.93 253 *e*P **P 23 13 27.3 +1.2**
comp=Z,371nm,1.4s
IPM Ipoh 44.93 253 P **P 23 13 27.0 +1.0**
KRAB Krabi 45.02 259 P **P 23 13 28.2 +1.5**
comp=Z,493μm,0.7s
PMBI Palembang 45.49 242 P **P 23 13 32.9 +2.5**
comp=Z,167nm,0.5s
LEM Lembang 45.59 235 P **P 23 13 32.8 +1.4**
LEM pmax pmax
comp=Z,79nm,2.1s
LEM Lembang 45.59 235 P **P 23 13 32.3 +0.9**
CISI Cisompet, Garu 45.91 234 *e*P **P 23 13 31.2 -2.6**
comp=Z,48nm,0.8s
CBJI Citeko 45.92 236 P **P 23 13 35.6 +1.8**
comp=Z,149nm,0.7s,comp=Z,15μm
TNG Tangerang 45.92 237 P **P 23 13 34.9 +1.1**
SBJI Serang 46.29 237 P **P 23 13 37.7 +1.0**
comp=Z,478nm,1.6s,comp=Z,8μm
AS31 Alice Springs 46.40 193 *e*P **P 23 13 37.0 -0.4**
comp=Z,5.9nm,0.6s
ASAR Alice Springs 46.41 193 *e*P **P 23 13 35.9 -1.5**
ASAR PcP **PcP 23 15 09.9 +0.3**
ASAR ScP **ScP 23 18 46.9 -1.0**
ASAR S **S 23 20 10.8 -2.1**
ASAR Alice Springs 46.41 193 *e*P **P 23 13 35.9 -1.5**

ASAR 23 15 10.0
ASAR S **S 23 20 10.9 -2.1**
ASAR Alice Springs 46.41 193 P **P 23 13 36.6 -0.8**
comp=Z,6.2nm,0.3s,baz=15,slow=8.7,SNR=92
ASAR PcP **PcP 23 15 09.9 +0.3**
comp=Z,7.1nm,0.7s,baz=22,slow=3.8,SNR=7.2
ASAR ScP **ScP 23 18 46.9 -1.0**
comp=Z,2.4nm,0.8s,baz=2.5,slow=3.4,SNR=6.3
ASAR S **S 23 20 10.8 -2.1**
comp=Z,5.2nm,1.0s,baz=17,slow=21,SNR=12
ASAR LR LR 23 32 33.4
comp=Z,238nm,20.9s,baz=16,slow=35
BKNI Bangkinang 46.89 248 *e*P **P 23 13 42.2 +0.8**
comp=Z,520nm,0.9s
BKNI Bangkinang 46.89 248 P **P 23 13 42.8 +1.4**
CGJI Cibinong 46.94 237 P **P 23 13 39.4 -2.3**
SIMRM Sittwe 47.38 278 *e*P **P 23 13 46.7 +1.6**
comp=Z,50nm,0.8s
SHL Shillong 47.40 285 *e*P **P 23 13 45.4 -0.1**
comp=Z,74nm,0.7s
SHL Shillong 47.40 285 *e*P **P 23 13 45.4 -0.1**
SHL pmax pmax
comp=Z,74nm,0.7s
PSI Prapat 47.55 253 *e*P **P 23 13 48.0 +1.3**
comp=Z,201nm,1.1s
PSI Prapat 47.55 253 *e*P **P 23 13 48.0 +1.3**
PSI pmax pmax
comp=Z,201nm,1.1s
EIDS Eidsvold 47.62 171 *e*P **P 23 13 44.1 -2.6**
comp=Z,25nm,1.2s
LSA Lhasa 47.67 291 *e*P **P 23 13 49.5 +1.7**
comp=Z,35nm,1.2s
LSA Lhasa 47.67 291 P **P 23 13 49.7 +1.9**
LSA Lhasa 47.67 291 *e*P **P 23 13 49.5 +1.7**
LSA pmax pmax
comp=Z,35nm,1.2s
MNAI Manna 47.79 242 *e*P **P 23 13 47.7 -0.6**
comp=Z,954nm,1.3s
MNAI Manna 47.79 242 P **P 23 13 48.4 +0.1**
comp=Z,553nm,1.2s
PDSI Padang 48.01 247 P **P 23 13 50.3 +0.2**
BILL Bilibino 48.11 11 *e*P **P 23 13 51.1 +1.1**
comp=Z,56nm,1.5s
BILL Bilibino 48.11 11*c i*P **P 23 13 50.7 +0.7**
BILL *i **PP **pwP 23 14 28.8 -0.7**
BILL *e* 23 15 42.6
BILL *e*S **S 23 20 37.4 +1.4**
BILL pmax pmax
comp=Z,17nm,1.3s
LHMI Lhok Sumawe 48.26 257 *e*P **P 23 13 53.0 +1.1**
comp=Z,391nm,1.2s
LHMI Lhok Sumawe 48.26 257 P **P 23 13 55.4 +3.5**
comp=Z,296nm,1.6s
MBWA Marble Bar 48.91 210 *e*P **P 23 13 56.8 0.0**
comp=Z,44nm,0.9s
UNV Unalaska Valle 49.02 37 *e*P **P 23 13 58.5 +1.3**
comp=Z,39nm,1.0s
DZM Mont Dzumac 49.05 152 *e*P **P 23 13 56.3 -1.6**
comp=Z,52nm,1.4s
PSA00 Pilbara Seismi 49.22 210 *e*P **P 23 13 59.0 0.0**
comp=Z,74nm,1.1s
PPSI Pulau Pagai 49.36 246 P **P 23 14 02.0 +1.7**
SISI Saibi 49.40 248 P **P 23 14 00.4 -0.2**
GSI Gunungsitoli 49.44 252 *e*P **P 23 14 01.0 0.0**
comp=Z,196nm,0.9s
GSI Gunungsitoli 49.44 252 P **P 23 14 01.6 +0.7**
TIXI Tiksi 50.41 354 *e*P **P 23 14 07.7 +0.4**
comp=Z,14nm,0.7s
TIXI Tiksi 50.41 354*c i*P **P 23 14 07.5 +0.2**
TIXI pmax pmax
comp=Z,11nm,1.0s
WMQ Urumqi 50.83 309 P **P 23 14 12.4 +1.3**
WMQ pP pwP 23 14 54.2 +4.2
WMQ sP sP 23 15 11.3 +6.9
WMQ PP **PP 23 16 12.5 +3.7**
WMQ S **S 23 21 14.1 -0.7**
WMQ sS sS 23 22 15.5 -1.3
WMQ ScS **ScS 23 42 42.0 -3.4**
WMQ SS **SS 23 24 49.5 -1.9**
WMQ pmax pmax
comp=Z,330nm,1.1s
WMQ pmax pmax
comp=Z,2μm,3.7s
WMQ LR LR
comp=Z,1μm,13.9s
WMQ LR LR
comp=Z,820nm,20.1s
WMQ LR LR
comp=Z,1μm,19.9s
WMQ Urumqi 50.83 309 *e*P **P 23 14 13.1 +2.0**
comp=Z,216nm,1.3s
WMQ Urumqi 50.83 309 *e*P **P 23 14 13.1 +2.0**
WMQ pmax pmax
comp=Z,216nm,1.3s
DGZ Jazzator, Alta 51.90 317*c i*P **P 23 14 20.5 +1.4**
DGZ pmax pmax
comp=Z,46nm,1.1s
RAMN Ramite 51.93 288 *e*P **P 23 14 20.2 +0.4**
comp=Z,301nm,1.0s
JIRN Jiri 52.20 289 *e*P **P 23 14 22.8 +0.9**
comp=Z,815nm,1.1s
ARMA Armidale 52.66 171 *e*P **P 23 14 23.7 -1.0**
comp=Z,51nm,1.1s
SDPT Sand Point 52.82 36 *e*P **P 23 14 25.8 +0.3**
comp=Z,64nm,0.6s
PKI Pulchoki 52.90 289 *e*P **P 23 14 27.2 +0.2**
comp=Z,307nm,1.3s
GIRL Giralia 52.91 215 *e*P **P 23 14 27.2 +0.7**
comp=Z,426nm,1.4s
PKIN Phulchoki 52.91 289 *e*P **P 23 14 27.1 +0.1**
comp=Z,257nm,1.3s
KKN Kakani 52.98 289 *e*P **P 23 14 27.9 +0.4**
comp=Z,264nm,1.1s
DMN Daman 53.16 289 *e*P **P 23 14 29.3 +0.5**
comp=Z,295nm,1.1s
ZSN Zaisan 53.23 313*c i*P **P 23 14 29.8 +1.1**
ZSN *i* S **S 23 21 47.5 +0.1**
ZSN pmax pmax
comp=Z,48nm,2.7s
ZSN smax smax
comp=E,19nm,2.6s
ZSN Zaisan 53.23 313⇑*i*P **P 23 14 29.8 +1.1**
comp=E,48nm,2.7s
ZSN *i* S **S 23 21 47.5 +0.1**
comp=E,19nm,2.6s
GKN Gorkha 53.52 289 *e*P **P 23 14 31.8 +0.5**
comp=E,649nm,1.2s
STKA Stephens Creek 53.62 182 *e*P **P 23 14 31.0 -0.6**
comp=E,14nm,1.1s
STKA Stephens Creek 53.62 182 P **P 23 14 31.0 -0.6**
comp=E,18nm,0.4s,baz=360,slow=7.7,SNR=52
OPA Opana 53.71 79 *e*P **P 23 14 33.4 +0.9**
comp=E,78nm,0.7s
OPA Opana 53.71 79 P **P 23 14 33.4 +0.9**
OPA pmax pmax
comp=Z,78nm,0.7s
KIP Kipapa 53.76 79 *e*P **P 23 14 32.8 -0.1**
comp=Z,178nm,1.3s
KIP Kipapa 53.76 79 *e*P **P 23 14 32.8 -0.1**
KIP pmax pmax
comp=Z,178nm,1.3s
CHGN Chignik 54.19 36 *e*P **P 23 14 34.9 -0.6**
comp=Z,46nm,0.9s
DANN Dangsing 54.24 290 *e*P **P 23 14 37.7 +1.0**
comp=Z,1μm,1.0s
ZAA0 Zalesovo Array 54.33 321 *e*P **P 23 14 37.0 +0.5**
ZALV Zalesovo Beam 54.33 321 P **P 23 14 36.5 0.0**
comp=Z,37nm,0.7s,baz=109,slow=7.6,SNR=104
ZALV pP **pP 23 15 10.7 -1.8**
comp=Z,17nm,0.8s,baz=111,slow=6.5,SNR=2.4
ZALV S **S 23 22 00.3 -1.5**
comp=Z,0.8nm,0.4s,baz=120,slow=8.6,SNR=3.8
ZALV LR LR 23 37 38.1
comp=Z,238nm,21.3s,baz=68,slow=36
KOLN Koldanda 54.46 289 *e*P **P 23 14 38.7 +0.5**
comp=Z,222nm,1.0s
FORT Forrest 54.61 197 *e*P **P 23 14 37.9 -0.9**
comp=Z,49nm,0.8s
MK31 Makanchi Array 54.92 312 *e*P **P 23 14 41.8 +0.9**
comp=Z,82nm,1.4s
MK31 Makanchi Array 54.92 312 *e*P **P 23 14 41.8 +0.9**
MK31 pmax pmax
comp=Z,82nm,1.4s
MKAR Makanchi Array 54.92 312 *e*P **P 23 14 41.0 0.0**
MKAR pP **pP 23 15 15.9 -1.3**
MKAR S **S 23 22 10.6 +0.6**

MKAR Makanchi Array 54.92 312 *e*P **P** **23 14 41.0 0.0**
MKAR *PP **pP** **23 15 15.9 -1.3**
MKAR S **S** **23 22 10.6 +0.6**
MKAR Makanchi Array 54.92 312 P **P** **23 14 41.8 +0.8**
comp=Z,16nm,0.7s,baz=93,slow=8.6,SNR=125
MKAR pP **pP** **23 15 15.9 -1.3**
comp=Z,8.7nm,0.9s,baz=96,slow=8.9,SNR=2.0
MKAR S **S** **23 22 10.6 +0.6**
comp=Z,1.3nm,0.8s,baz=81,slow=26,SNR=5.7
MKAR LR LR 23 39 18.9
comp=Z,237nm,20.8s,baz=124,slow=37
PYUN Piuthan 54.95 290 *e*P **P** **23 14 42.3 +0.6**
comp=Z,622nm,1.2s
BBOO Buckleboo 55.01 188 *e*P **P** **23 14 40.5 -1.1**
comp=Z,56nm,1.0s
MAKZ Makanchi 55.13 312 *e*P **P** **23 14 43.5 +1.0**
comp=Z,53nm,1.0s
MAKZ Makanchi 55.13 312 *e*P **P** **23 14 43.5 +1.0**
MAKZ pmax pmax
comp=Z,53nm,1.0s
NVS Novosibirsk 55.41 322⇓ *i*P **P** **23 14 45.0 +0.7**
NVS *i* 23 15 18.2
NVS *i* S **S** **23 22 15.7 -0.5**
NVS *e* 23 24 15.2
NVS pmax pmax
comp=E,67nm,1.7s
NVS pmax pmax
comp=Z,98nm,1.7s
NVS pmax pmax
comp=N,21nm,1.6s
NVS smax smax
comp=N,18nm,1.8s
NVS smax smax
comp=E,50nm,1.8s
PDGK Podgornoye 56.76 308 P **P** **23 14 54.8 +0.6**
PDGK pmax pmax
comp=Z,73nm,1.4s
SHLS Shalkode 56.77 308 *e*P **P** **23 14 52.9 -1.4**
SHLS *e*S **S** **23 22 32.6 -2.3**
SHLS pmax pmax
comp=Z,100nm,1.7s
SHLS smax smax
comp=N,132nm,2.8s
SHLS Shalkode 56.77 308 *e*P **P** **23 14 53.0 -1.4**
comp=N,100nm,1.7s
SHLS *e*S **S** **23 22 32.6 -2.3**
comp=N,132nm,2.8s
UZB Uzynbulak 57.10 308 *i* P **P** **23 14 57.4 +0.8**
UZB *e*S **S** **23 22 39.9 +0.7**
UZB pmax pmax
comp=Z,80nm,1.9s
UZB smax smax
comp=N,99nm,3.4s
UZB Uzynbulak 57.10 308 *i* P **P** **23 14 57.5 +0.8**
comp=N,80nm,1.9s
UZB *e*S **S** **23 22 39.9 +0.7**
comp=N,99nm,3.4s
CAN Canberra 57.22 175 *e*P **P** **23 14 56.7 -0.6**
comp=N,67nm,1.2s
CAN Canberra 57.22 175 *e*P **P** **23 14 56.7 -0.6**
CAN pmax pmax
comp=Z,67nm,1.2s
KPKS Kokpek 57.34 308*c i*P **P** **23 14 59.0 +0.7**
KPKS *e*S **S** **23 22 42.4 +0.2**
KPKS pmax pmax
comp=Z,112nm,1.9s
KPKS smax smax
comp=E,77nm,3.6s
KPKS Kokpek 57.34 308⇑ *i*P **P** **23 14 59.1 +0.7**
comp=E,112nm,1.9s
KPKS *e*S **S** **23 22 42.5 +0.2**
comp=E,77nm,3.6s
MORW Morawa 57.40 209 *e*P **P** **23 14 58.1 -0.5**
comp=E,29nm,1.0s
TDK Taldyqorghan 57.55 310 *e*P **P** **23 14 59.2 -0.4**
TDK *e*S **S** **23 22 45.8 +1.1**
TDK pmax pmax
comp=Z,80nm,1.5s
TDK smax smax
comp=N,209nm,3.0s
TDK Taldyqorghan 57.55 310 *e*P **P** **23 14 59.2 -0.4**
comp=N,80nm,1.6s
TDK *e*S **S** **23 22 45.9 +1.1**
comp=N,209nm,3.0s
PRZ Przheval'sk 57.56 307 *e*P **P** **23 15 02.3 +2.3**
comp=N,203nm,1.1s
KDAK Kodiak Island 57.62 35*ce*P **P** **23 15 01.0 +1.2**
KURK Kurchatov 57.65 317 *e*P **P** **23 15 00.5 +0.4**
comp=N,66nm,0.9s
KURK *e*S **S** **23 22 44.9 -0.9**
KURK Kurchatov 57.65 317⇑ *e*P **P** **23 15 00.3 +0.2**
KURK pmax pmax
comp=Z,68nm,1.0s
KURK Kurchatov 57.65 317 P **P** **23 15 00.5 +0.4**
SNR=52
NRIK Noril'sk 57.91 340 P **P** **23 15 01.9 +0.3**
comp=Z,17nm,0.7s,baz=112,slow=7.7,SNR=50
NRIK pP **pP** **23 15 37.4 -0.3**
comp=Z,42nm,1.0s,baz=118,slow=6.5,SNR=4.5
NRIK LR LR 23 39 55.1
comp=Z,348nm,20.5s,baz=112,slow=36
KDJ Kajisay 58.48 307 *e*P **P** **23 15 07.0 +0.7**
comp=Z,142nm,1.3s
KDJ Kajisay 58.48 307 *e*P **P** **23 15 07.1 +0.7**
KDJ pmax pmax
comp=Z,143nm,1.3s
MDOK Medeo 58.54 308 *e*P **P** **23 15 08.1 +1.4**
MDOK *e*S **S** **23 22 59.3 +1.4**
MDOK smax smax
comp=E,493nm,3.4s
MDOK Medeo 58.54 308 *e*P **P** **23 15 08.1 +1.4**
comp=E,2μm,1.5s
MDOK *e*S **S** **23 22 59.4 +1.4**
comp=E,493nm,3.4s
CHKK Chushkaly 58.57 309 *e*P **P** **23 15 07.5 +0.8**
CHKK Chushkaly 58.57 309 *e*P **P** **23 15 07.5 +0.8**
comp=E,2μm,1.4s
TNSS Tian-Shan 58.62 308 *e*P **P** **23 15 09.1 +1.5**
TNSS pmax pmax
comp=Z,396nm,1.5s
TNSS Tian-Shan 58.62 308 *e*P **P** **23 15 09.1 +1.5**
comp=Z,396nm,1.5s
AAA Alma-Ata 58.64 308 *e*P **P** **23 15 08.7 +1.5**
AAA pmax pmax
comp=Z,361nm,1.7s
AAA Alma-Ata 58.64 308 *e*P **P** **23 15 08.8 +1.5**
comp=Z,361nm,1.7s
PPLA Purkeypile 58.84 29 *e*P **P** **23 15 10.2 +1.8**
comp=Z,17nm,0.6s
IMAR Indian Mountai 58.97 25 *e*P **P** **23 15 10.0 +1.0**
CAST Castle Rocks 59.01 28 *e*P **P** **23 15 10.4 +1.0**
comp=Z,42nm,1.1s
KUU Kurty 59.04 309 *e*P **P** **23 15 10.8 +0.9**
KUU *e*S **S** **23 23 04.3 +0.3**
KUU pmax pmax
comp=Z,333nm,1.5s
KUU smax smax
comp=E,390nm,3.4s
KUU Kurty 59.04 309 *e*P **P** **23 15 10.9 +0.9**
comp=E,333nm,1.5s
KUU *e*S **S** **23 23 04.4 +0.3**
comp=E,390nm,3.4s
SUA Susitna One 59.21 31 *e*P **P** **23 15 11.9 +0.9**
comp=E,15nm,0.9s
TOO Toolangi 59.28 178 *e*P **P** **23 15 12.2 +0.7**
comp=E,93nm,1.4s
TOO Toolangi 59.28 178 *e*P **P** **23 15 12.2 +0.7**
TOO pmax pmax
comp=Z,93nm,1.4s
KSH Kashi 59.54 304 P **P** **23 15 17.8 +4.2**
KSH sP sP 23 16 16.8 +8.7
KSH S **S** **23 23 10.1 -0.8**
KSH SS **SS** **23 27 14.0 +5.3**
KSH pmax pmax
comp=Z,90nm,1.1s
KSH pmax pmax
comp=Z,880nm,2.6s
KSH LR LR
comp=Z,410nm,11.9s
KSH LR LR
comp=Z,510nm,11.6s
KSH LR LR
comp=Z,980nm,15.0s
SEW Seward 59.61 32 *e*P **P** **23 15 16.4 +2.9**
comp=Z,35nm,0.6s
TKM2 Tokmak 2 59.61 308 P **P** **23 15 15.7 +1.6**
SNR=54
RC01 Rabbit Creek A 59.62 31 *e*P **P** **23 15 14.5 +0.8**
comp=Z,27nm,0.7s
BPAW Bear Paw Mtn. 59.63 28 *e*P **P** **23 15 14.9 +1.2**
comp=Z,37nm,0.6s
KZA Kyzart 59.91 307 P **P** **23 15 18.7 +2.2**
SNR=47
MLY Manley 59.94 26 *e*P **P** **23 15 17.4 +1.6**
comp=Z,35nm,1.1s
PMR Palmer 59.99 31 *e*P **P** **23 15 16.6 +0.5**
comp=Z,46nm,1.2s
PMR Palmer 59.99 31 *e*P **P** **23 15 16.6 +0.5**
PMR pmax pmax
comp=Z,46nm,1.2s
KBK Karagaybulak 60.10 307 P **P** **23 15 18.9 +1.4**
SNR=37
NWAO Narrogin (SRO) 60.23 206 *e*P **P** **23 15 17.5 -0.6**
comp=Z,59nm,1.2s
NWAO Narrogin (SRO) 60.23 206 *e*P **P** **23 15 17.5 -0.6**
NWAO pmax pmax
comp=Z,59nm,1.2s
CHMS Chumysh 60.23 308 P **P** **23 15 19.2 +1.1**
SNR=34
KNK Knik Glacier 60.28 31 *e*P **P** **23 15 19.0 +0.9**
comp=Z,55nm,0.6s
BWN Browne 60.30 28 *e*P **P** **23 15 20.2 +2.0**
comp=Z,40nm,0.7s
FRU1 Bishkek 60.33 308 *e*P **P** **23 15 20.3 +1.4**
comp=Z,97nm,1.1s
USP Ospenovka 60.40 308 P **P** **23 15 20.4 +1.1**
SNR=35
RND Reindeer 60.43 29 *e*P **P** **23 15 19.8 +0.6**
comp=Z,9.9nm,0.8s
RND Reindeer 60.43 29 *e*P **P** **23 15 19.8 +0.6**
RND pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 60.44 307 P **P** **23 15 20.9 +1.1**
SNR=21
AAK Ala-Archa 60.44 307 *e*P **P** **23 15 20.8 +1.1**
comp=Z,46nm,1.0s
AAK Ala-Archa 60.44 307 *i* P **P** **23 15 20.8 +1.1**
SNR=23
AAK Ala-Archa 60.44 307*ce*P **P** **23 15 20.7 +1.0**
AAK pmax pmax
comp=Z,40nm,1.2s
AAK Ala-Archa 60.44 307 P **P** **23 15 20.9 +1.1**
SNR=28
MCK McKinley 60.45 28 *e*P **P** **23 15 19.8 +0.6**
comp=Z,26nm,1.0s
MCK McKinley 60.45 28 *e*P **P** **23 15 19.8 +0.6**
MCK pmax pmax
comp=Z,26nm,1.0s
UCH Uchtor 60.45 307 P **P** **23 15 22.1 +1.9**
SNR=89
BTLS Baital 60.64 310*c i*P **P** **23 15 21.6 +0.8**
BTLS *e*S **S** **23 23 23.5 -0.9**
BTLS pmax pmax
comp=Z,84nm,1.7s
BTLS smax smax
comp=E,93nm,3.4s
BTLS Baital 60.64 310⇑ *i*P **P** **23 15 21.6 +0.8**
comp=E,84nm,1.7s
BTLS *e*S **S** **23 23 23.5 -0.9**
comp=E,93nm,3.4s
COLD Coldfoot 60.65 24 *e*P **P** **23 15 21.8 +1.3**
comp=E,7.4nm,1.0s
SCM Sheep Creek Mo 60.88 30 *e*P **P** **23 15 23.4 +1.1**
comp=E,42nm,0.8s
SCM Sheep Creek Mo 60.88 30 *e*P **P** **23 15 23.4 +1.1**
SCM pmax pmax
comp=Z,42nm,0.8s
WRH Wood River Hil 60.94 27 *e*P **P** **23 15 23.2 +0.7**
comp=Z,9.9nm,0.6s
EKS2 Erkin-Say 60.97 308 P **P** **23 15 24.4 +1.2**
SNR=35
MDM Murphy Dome 60.97 27 *e*P **P** **23 15 24.0 +1.3**
comp=Z,8.5nm,0.6s
DHY Denali Highway 61.03 29 *e*P **P** **23 15 24.4 +1.0**
comp=Z,10nm,0.6s
AML Almayashu 61.06 307 P **P** **23 15 26.0 +1.7**
SNR=51
CCB Clear Creek Bu 61.10 27 *e*P **P** **23 15 24.0 +0.4**
comp=Z,7.1nm,0.5s
TCOL CIGO, UAF Yank 61.11 27 P **P** **23 15 24.0 +0.4**
baz=260
COLA College 61.12 27 *i* P **P** **23 15 24.2 +0.6**
COLA pmax pmax
comp=Z,3.0nm,0.9s
HYB Hyderabad 61.20 278 *i* P **P** **23 15 26.0 +0.9**
HYB *e* 23 16 07.0
TOLK Toolik Lake Re 61.22 23 *e*P **P** **23 15 26.1 +1.6**
comp=Z,21nm,0.6s
TOLK Toolik Lake Re 61.22 23 P **P** **23 15 26.0 +1.6**
baz=256
POKR Poker Plat Res 61.33 27 P **P** **23 15 26.4 +1.2**
baz=260
HDA Harding Lake 61.42 28 P **P** **23 15 26.4 +0.7**
baz=261
BRZS Berezniki 61.43 316*c i*P **P** **23 15 26.2 +0.1**
BRZS *e*S **S** **23 23 32.7 -1.6**
BRZS pmax pmax
comp=Z,104nm,1.9s
BRZS smax smax
comp=N,83nm,4.5s
BRZS Berezniki 61.43 316⇑ *i*P **P** **23 15 26.2 +0.1**
comp=N,104nm,1.9s
BRZS *e*S **S** **23 23 32.7 -1.6**
comp=N,82nm,4.5s
KLU Klutina 61.50 31 *e*P **P** **23 15 27.8 +1.3**
comp=N,37nm,0.5s
ILAR Eielson Array 61.51 27 P **P** **23 15 25.8 -0.6**
comp=N,3.7nm,0.7s,baz=259,slow=4.9,SNR=55
ILAR LR LR 23 42 24.0
comp=N,139nm,19.1s,baz=278,slow=36
ILAR PKPPKP **P'P'df** **23 44 39.7 +0.9**
comp=N,1.4nm,1.1s,baz=126,slow=2.9,SNR=4.8
ILB Eielson Array 61.51 27 *e*P **P** **23 15 26.1 -0.2**
comp=N,25nm,0.9s
DIV Divide 61.54 31 *e*P **P** **23 15 28.6 +1.9**
comp=N,17nm,0.6s
ARSB Arslanbob 61.66 306 *e*P **P** **23 15 29.4 +1.4**
comp=N,140nm,1.0s
OTUK Ortayu 61.69 314 P **P** **23 15 28.4 +0.5**
OTUK pmax pmax
comp=Z,58nm,2.1s
PAX Paxson 61.88 29 *e*P **P** **23 15 29.7 +0.7**
comp=Z,16nm,0.6s
PAX Paxson 61.88 29 *e*P **P** **23 15 29.7 +0.7**
PAX pmax pmax
comp=Z,16nm,0.6s
PRP Porcupine Dome 62.19 26 *e*P **P** **23 15 32.7 +1.6**
comp=Z,7.1nm,0.6s
RIDG Independent Ri 62.25 28 *e*P **P** **23 15 32.1 +0.7**
comp=Z,45nm,1.0s
NIL Nilore 62.41 297 *e*P **P** **23 15 34.1 +1.2**
comp=Z,242nm,0.9s
NIL *e*S **S** **23 23 48.2 +1.0**
NIL Nilore 62.41 297 *e*P **P** **23 15 34.1 +1.2**
NIL *e*S **S** **23 23 48.2 +1.0**
NIL pmax pmax
comp=Z,242nm,0.9s
FYU Fort Yukon 62.45 25 *e*P **P** **23 15 34.3 +1.8**
comp=Z,27nm,0.7s
DOT Dot Lake 62.59 29 *e*P **P** **23 15 34.0 +0.4**
comp=Z,42nm,1.2s
SCRK Sand Creek 62.65 28 *e*P **P** **23 15 34.5 +0.4**
comp=Z,34nm,0.8s
MENT Mentasta 62.67 29 *e*P **P** **23 15 35.5 +1.3**
BRVK Borovoye 62.88 319 *e*P **P** **23 15 36.3 +0.6**
comp=Z,48nm,0.8s
BRVK *e*S **S** **23 23 52.3 0.0**
BRVK Borovoye 62.88 319*c i*P **P** **23 15 36.0 +0.3**
BRVK pmax pmax
comp=Z,74nm,1.3s
BRVK Borovoye 62.88 319 P **P** **23 15 36.3 +0.6**
SNR=41
BALM Baldy 63.19 32 *e*P **P** **23 15 38.8 +1.1**
comp=Z,20nm,0.6s
BALM Baldy 63.19 32 *e*P **P** **23 15 38.8 +1.1**
BALM pmax pmax
comp=Z,20nm,0.6s
KK31 Karatay Array 63.32 308 *e*P **P** **23 15 39.7 +0.9**
comp=Z,102nm,1.1s
KK31 Karatay Array 63.32 308 *e*P **P** **23 15 39.7 +0.9**
KK31 pmax pmax
comp=Z,102nm,1.1s
KKAR Karatay Array 63.32 308 *e*P **P** **23 15 39.7 +0.9**
KKAR *e*S **S** **23 23 59.7 +1.5**
KKAR Karatay Array 63.32 308 *e*P **P** **23 15 39.7 +0.9**
KKAR *e*S **S** **23 23 59.7 +1.5**
JBG Jabagly 63.37 308*c i*P **P** **23 15 40.6 +1.3**
JBG *e*S **S** **23 24 00.4 +1.3**
JBG pmax pmax
comp=Z,100nm,1.8s
JBG smax smax
comp=N,87nm,2.6s
BTK Batken 63.44 305 *e*P **P** **23 15 40.4 +0.7**
comp=N,110nm,1.4s
BTK *e*S **S** **23 23 59.0 -0.9**
BTK Batken 63.44 305 *e*P **P** **23 15 40.4 +0.7**
BTK *e*S **S** **23 23 59.1 -0.9**
BTK pmax pmax
comp=Z,110nm,1.4s
BCAR Beaver Creek A 63.56 29 *e*P **P** **23 15 40.7 +0.7**
EGAK Eagle 63.95 27 *e*P **P** **23 15 42.3 -0.1**
comp=Z,13nm,0.7s
GAR Garm 63.96 304 *e*P **P** **23 15 44.1 +0.9**
comp=Z,346nm,1.3s
GAR *e*S **S** **23 24 08.1 +1.6**
GAR Garm 63.96 304 *e*P **P** **23 15 44.1 +0.9**
GAR *e*S **S** **23 24 08.1 +1.6**
GAR pmax pmax
comp=Z,346nm,1.3s
TAS Tashkent 64.43 306 P **P** **23 15 48.1 +2.0**
TAS pmax pmax
comp=Z,53nm,0.8s
TAU Tasmania Unive 64.67 177 *e*P **P** **23 15 47.8 +0.5**
comp=Z,129nm,1.5s
TAU Tasmania Unive 64.67 177 *e*P **P** **23 15 47.8 +0.5**
TAU pmax pmax
comp=Z,129nm,1.5s
DAWY Dawson 64.68 28 *e*P **P** **23 15 48.3 +1.0**
comp=Z,8.6nm,0.7s
HYT Haines Junctio 65.55 32 *e*P **P** **23 15 55.2 +2.1**
comp=Z,41nm,1.2s
KBL Kabul 65.69 299 *e*P **P** **23 15 55.0 +0.4**
comp=Z,276nm,1.0s
KBL Kabul 65.69 299 *e*P **P** **23 15 55.0 +0.4**
KBL pmax pmax
comp=Z,276nm,1.0s
EPYK Eagle Plains 65.84 26 *e*P **P** **23 15 55.9 +1.1**
comp=Z,52nm,1.1s
EPYK Eagle Plains 65.84 26 P **P** **23 15 55.8 +1.0**
baz=270
WHY Whitehorse 66.85 32 *e*P **P** **23 16 03.1 +1.8**
comp=Z,14nm,0.8s
BESE Bessie Mountai 67.02 34 *e*P **P** **23 16 04.2 +1.8**
comp=Z,22nm,0.8s
INK Inuvik 67.06 24 *e*P **P** **23 16 02.9 +0.6**
comp=Z,50nm,1.3s
INK Inuvik 67.06 24 *e*P **P** **23 16 02.9 +0.6**
INK pmax pmax
comp=Z,50nm,1.3s
JIS Juneau Island 67.29 35 *e*P **P** **23 16 06.0 +2.0**
comp=Z,22nm,0.7s
JIS *ep*P **pwP** **23 16 45.9 0.0**
BKZ Black Stump Fm 68.11 153 *e*P **P** **23 16 09.5 +0.2**
comp=Z,46nm,1.3s
ARU Arti 69.36 324 *e*P **P** **23 16 16.9 -0.1**
comp=Z,32nm,0.8s
ARU Arti 69.36 324*d i*P **P** **23 16 16.7 -0.2**
ARU 23 16 39.7
ARU *PP **pP** **23 16 56.0 +1.5**
ARU 23 18 50.1
ARU S **S** **23 25 09.2 -1.3**
ARU 23 25 57.9
ARU pmax pmax
comp=Z,47nm,0.9s
FOZ Fox Glacier 69.46 160 *e*P **P** **23 16 17.4 -0.1**
comp=Z,85nm,1.5s
ABKAR Akbulak array 69.73 316 *e*P **P** **23 16 19.5 +0.2**
ABKAR *e*S **S** **23 25 13.0 -2.1**
RPZ Rata Peaks 70.02 159 *e*P **P** **23 16 20.4 -0.5**
comp=Z,42nm,1.2s
ASHT Ashkhabad 73.34 305 P **P** **23 16 43.6 +2.4**
ASHT pmax pmax
comp=Z,172nm,1.5s
GEYT Alibeck 73.55 305 P **P** **23 16 43.4 +0.9**
comp=Z,70nm,0.9s,baz=76,slow=1.8,SNR=145
GEYT LR LR 23 52 54.6
comp=Z,175nm,19.3s,baz=30,slow=39
GYA0B ALIBECK ARRAY 73.55 305 *e*P **P** **23 16 43.5 +1.0**
comp=Z,157nm,1.3s
GYA0B *e*S **S** **23 26 05.1 +5.7**
PRGR Permogore 74.68 331⇑ *i*P **P** **23 16 48.3 -0.1**
PRGR *i* *PP **pwP** **23 17 29.4 -1.6**
PRGR S **S** **23 26 08.4 -2.6**
PRGR pmax pmax
comp=Z,32nm,0.7s
SPA0 Spitsbergen Ar 75.63 350 *e*P **P** **23 16 54.5 +0.8**
SPITS Spitsbergen Ar 75.63 350 P **P** **23 16 53.7 0.0**
KBS Kingsbay 75.78 351 *e*P **P** **23 16 54.8 +0.4**
YKW3 Yellowknife Ar 75.89 28 *e*P **P** **23 16 55.6 +0.3**
comp=Z,69nm,1.4s
YKA Yellowknife Ar 75.92 28 *e*P **P** **23 16 54.9 -0.5**
YKA pP **pP** **23 17 32.4 -1.3**
YKA PKKPbc **PKKPbc** **23 36 10.0 -2.1**
YKA Yellowknife Ar 75.92 28 P **P** **23 16 55.9 +0.4**
comp=Z,5.0nm,0.5s,baz=292,slow=5.8,SNR=82
YKA pP **pP** **23 17 32.3 -1.3**
comp=Z,3.6nm,0.7s,baz=295,slow=5.5,SNR=0.8
YKA PKKPbc **PKKPbc** **23 36 10.0 -2.1**
comp=Z,0.3nm,0.5s,baz=117,slow=2.4,SNR=5.3
YKA LR LR 23 50 28.2
comp=Z,21nm,20.0s,baz=284,slow=36
LLLB Lilloet 75.96 41 *e*P **P** **23 16 59.0 +3.0**
comp=Z,22nm,0.9s
A04D Lummi Island 76.01 43 P **P** **23 16 56.1 -0.2**
baz=287
D03D Eldon 76.12 44 P **P** **23 16 57.4 +0.5**
baz=287
PPT Papeete 76.14 116 LR LR 23 47 16.3
comp=Z,222nm,18.2s,baz=312,slow=33
B05A Bryant 76.54 43 P **P** **23 16 59.1 -0.2**
baz=288
HSPB Hornsund (broa 76.54 349 *e*P **P** **23 16 59.4 +0.6**
HSPB Hornsund (broa 76.54 349 *e*P **P** **23 16 59.0 +0.2**
RES Resolute Bay 76.64 13 P **P** **23 17 00.1 +0.7**
RES pmax pmax
comp=Z,26nm,0.7s
I02D Swisshome 76.65 48 P **P** **23 17 00.4 +0.4**
baz=288
LVZ Lovozero 76.73 338 *e*P **P** **23 17 00.2 +0.1**
comp=Z,79nm,1.5s
LVZ Lovozero 76.73 338*ce*P **P** **23 17 00.4 +0.4**
LVZ pmax pmax
comp=Z,24nm,1.2s
E04D Cinebar 76.76 45 P **P** **23 17 00.7 +0.1**
baz=288
J01E Myrtle Point 76.88 49 P **P** **23 17 01.2 -0.1**
baz=288
TMCR Tamitsa 77.04 334 *e*P **P** **23 17 01.0 -0.7**
TMCR pmax pmax
comp=Z,108nm,1.3s
JLN Jalan Bani Buh 77.07 289 P **P** **23 17 03.2 +0.5**
SNR=7.9
I03D Drain, OR 77.11 48 P **P** **23 17 03.4 +0.9**
baz=288
K02D Willamette Mer 77.20 49 P **P** **23 17 03.6 +0.4**
baz=288
H04D Lebanon 77.28 47 P **P** **23 17 03.8 +0.3**
baz=288
WBK Wadi Bani Khal 77.31 289 P **P** **23 17 05.5 +1.3**
KRMB Red Mountain 77.40 50 *e*P **P** **23 17 06.5 +2.1**
comp=Z,28nm,1.3s
WSAR Wadi Sarin 77.41 290 P **P** **23 17 05.1 +0.5**
SNR=7.9
L02E Cave Junction 77.42 50 P **P** **23 17 04.2 -0.1**
baz=288
H04A Detroit Lake 77.60 47 *e*P **P** **23 17 06.6 +1.2**
comp=Z,48nm,1.0s
H04A *ep*P **pP** **23 17 43.3 -0.2**
KLMR Klimovskoe 77.72 331⇑ *i*P **P** **23 17 04.9 -0.7**
KLMR *e* *PP **pP** **23 17 42.0 -1.9**
KLMR pmax pmax
comp=Z,48nm,1.5s
KHMM Horse Mountain 77.73 51 *e*P **P** **23 17 08.4 +2.1**
comp=Z,47nm,0.8s
HUMO Hull Mountain 77.73 49 *e*P **P** **23 17 08.6 +2.5**
comp=Z,20nm,1.1s
I04A Tendick Farm, 77.73 48 P **P** **23 17 05.7 -0.4**
baz=289
BIDO Bidbid 77.76 291 P **P** **23 17 07.8 +1.2**

SNR=18
KMRM Mail Ridge 77.95 51 *e*P **P 23 17 09.7 +2.3**
comp=Z,16nm,0.8s
G05D Wamic, OR 78.00 46 P **P 23 17 07.3 -0.2**
baz=289
J04D Umpqua Nationa 78.11 48 P **P 23 17 08.6 +0.2**
baz=289
YBH Yreka Blue Hor 78.18 50 *e*P **P 23 17 10.4 +1.7**
comp=Z,23nm,0.8s
YBH Yreka Blue Hor 78.18 50 P **P 23 17 10.4 +1.7**
YBH pmax pmax
comp=Z,23nm,0.8s
M02C Callahan 78.19 50 P **P 23 17 09.5 +0.8**
baz=289,SNR=8.5
KCPM Cahto Peak 78.21 52 *e*P **P 23 17 11.0 +2.1**
comp=Z,51nm,0.8s
B08A Colville Reser 78.25 43 *e*P **P 23 17 10.2 +1.4**
comp=Z,20nm,0.8s
KEV Kevo 78.25 341 *e*P **P 23 17 08.0 -0.4**
comp=Z,24nm,0.6s
KEV Kevo 78.25 341 *e*P **P 23 17 08.0 -0.4**
KEV pmax pmax
comp=Z,24nm,0.6s
I05D Terrebonne, OR 78.28 47 P **P 23 17 08.8 -0.4**
baz=289
L04D Klamath Falls 78.31 49 P **P 23 17 10.1 +0.6**
baz=289,SNR=7.3
N02D Trinity Center 78.43 50 P **P 23 17 11.0 +0.9**
baz=289,SNR=6.9
HOQ Hoqain 78.45 291 P **P 23 17 11.5 +1.1**
SNR=8.1
K04D Chiloquin, OR 78.56 49 P **P 23 17 10.3 -0.5**
baz=289
O02D Mt. Diablo Mer 78.63 51 P **P 23 17 10.8 -0.4**
baz=289,SNR=6.7
SHME Shamm 78.65 294 *i* P **P 23 17 12.4 +0.9**
SNR=18
WDC Whiskeytown Da 78.68 51 *e*P **P 23 17 12.7 +1.4**
comp=Z,18nm,1.0s
HAMF Hammerfest 78.70 343 *e*P **P 23 17 11.6 +0.7**
J05D Fort Rock, OR 78.70 48 P **P 23 17 11.5 -0.1**
baz=290
MHTO MHTO 78.72 288 P **P 23 17 12.0 +0.1**
SNR=30
PINE Pine Mountain 78.74 47 *e*P **P 23 17 13.7 +1.9**
comp=Z,72nm,0.8s
MDH Madha 78.76 293 *i* P **P 23 17 11.7 -0.3**
SNR=8.1
MDH Madha 78.76 293 P **P 23 17 11.9 -0.1**
SNR=5.6
M04C Macdoel 78.78 49 P **P 23 17 12.3 +0.2**
baz=289,SNR=8.8
ARCES ARCESS Array B 78.82 342 *e*P **P 23 17 11.6 +0.1**
ARCES ARCESS Array B 78.82 342 *e*P **P 23 17 11.6 +0.1**
ARCES ARCESS Array B 78.82 342 P **P 23 17 11.0 -0.5**
comp=Z,5.1nm,0.5s,baz=69,slow=7.9,SNR=34
ARE0 ARCESS Array S 78.82 342 *e*P **P 23 17 11.7 +0.2**
comp=Z,1.6nm,0.6s
ARE0 ARCESS Array S 78.82 342 *e*P **P 23 17 11.7 +0.2**
MSFE Esma-Masafi 78.86 293 *i* P **P 23 17 13.1 +0.4**
SNR=26
SOHO SOHO 78.94 292 P **P 23 17 13.1 +0.1**
SOHO S **S 23 26 54.8 -3.8**
HATD Hatta, Dubai 79.06 292 *i* P **P 23 17 14.5 +0.8**
SNR=34
HATD Hatta, Dubai 79.06 292 P **P 23 17 14.4 +0.8**
SNR=26
HATD S **S 23 26 58.3 -1.6**
GDXM Geysers 79.08 53 *e*P **P 23 17 16.8 +3.2**
comp=Z,19nm,1.0s
C09A Chrisman Ranch 79.11 43 *e*P **P 23 17 15.0 +1.4**
comp=Z,22nm,0.9s
K05A Summer Lake 79.13 48 *e*P **P 23 17 15.7 +1.7**
comp=Z,50nm,0.9s
ASHO Ashiyiah 79.17 292 *i* P **P 23 17 14.7 +0.4**
SNR=30
ASHO Ashiyiah 79.17 292 P **P 23 17 15.0 +0.7**
SNR=31
ASHO S **S 23 26 59.5 -1.6**
O03E Paynes Creek 79.31 51 P **P 23 17 14.9 +0.1**
baz=290,SNR=11
NAZ Nazwa, Dubai 79.41 293 *i* P **P 23 17 15.9 +0.3**
SNR=13
NAZ Nazwa, Dubai 79.41 293 P **P 23 17 16.0 +0.4**
SNR=28
NAZ S **S 23 27 02.1 -1.4**
DQM DQM 79.45 287 P **P 23 17 16.4 +0.5**
SNR=17
FAQ Al Faqa, Dubai 79.55 292 *i* P **P 23 17 16.5 +0.2**
SNR=10
FAQ Al Faqa, Dubai 79.55 292 P **P 23 17 16.8 +0.4**
SNR=14
G08A Pilot Rock 79.55 45 *e*P **P 23 17 17.4 +1.3**
comp=Z,13nm,1.1s
I07A Izee 79.61 47 *e*P **P 23 17 18.0 +1.5**
comp=Z,7.2nm,0.8s
MSF Maaselka 79.62 338 P **P 23 17 16.5 +0.6**
MSF pmax pmax
comp=Z,17nm,0.8s
ALNE Al Ain 79.64 292 *i* P **P 23 17 17.3 +0.4**
SNR=15
E09A Wood Farm, Sta 79.65 44 *e*P **P 23 17 18.1 +1.7**
comp=Z,21nm,0.9s
E09A *e*pP **pP 23 17 54.9 0.0**
SGF Sodankyl 79.66 340 P **P 23 17 16.2 +0.1**
SGF pmax pmax
comp=Z,43nm,0.6s
NEW Newport 79.67 42 *e*P **P 23 17 17.7 +1.1**
comp=Z,22nm,0.8s
NEW *e*pP **pP 23 17 54.6 -0.5**
NEW Newport 79.67 42 *e*P **P 23 17 17.7 +1.1**
NEW *e**PP **pP 23 17 54.6 -0.5**
NEW pmax pmax
comp=Z,22nm,0.8s
NEW Newport 79.67 42 P **P 23 17 16.3 -0.3**
baz=291
TULEG Thule 79.69 7 *e*P **P 23 17 16.8 +0.7**
comp=Z,64nm,1.2s
MAK Makhachkala 79.73 312 *d i*P **P 23 17 15.9 -1.1**
MAK *e**PP **pP 23 17 56.8 +0.7**
MAK *e**SP **sP 23 18 15.8 +2.8**
MAK *e*S **S 23 27 05.8 -0.5**
MAK pmax pmax
comp=Z,190nm,1.2s
MAK MLR MLR
comp=Z,370nm,16.0s
ORV Oroville 79.77 52 *e*P **P 23 17 19.6 +2.3**
comp=Z,22nm,0.9s
ORV *e*pP **pP 23 17 55.2 -0.6**
ORV Oroville 79.77 52 *e*P **P 23 17 19.6 +2.3**
ORV *e**PP **pP 23 17 55.2 -0.6**
ORV pmax pmax
comp=Z,22nm,0.9s
KTK1 Kautokeino 79.78 342 *e*P **P 23 17 16.8 0.0**
ASUD Al Ashush, Dub 79.81 292 *i* P **P 23 17 18.4 +0.6**
SNR=28
ASUD Al Ashush, Dub 79.81 292 P **P 23 17 19.0 +1.2**
SNR=20
MOD Modoc Plateau 79.82 49 *e*P **P 23 17 20.3 +2.6**
comp=Z,15nm,0.9s
AJN Ajban 80.13 292 *i* P **P 23 17 19.7 +0.3**
SNR=8.0
AJN Ajban 80.13 292 P **P 23 17 20.0 +0.6**
SNR=23
JOF Joensuu 80.29 335 P **P 23 17 19.0 -0.5**
JOF pmax pmax
comp=Z,62nm,0.8s
VRH Novokhopyorsk 80.37 321 *e*P **P 23 17 19.9 -0.3**
VRH *e*S **S 23 27 09.9 -2.7**
VRH pmax pmax
comp=Z,130nm,1.7s
VRH smax smax
comp=N,490nm,4.0s
AFDM Forest Hills D 80.37 52 *e*P **P 23 17 21.9 +1.3**
comp=N,17nm,1.0s
F10A Beach Ranch, E 80.44 44 *e*P **P 23 17 21.7 +0.8**
comp=N,5.8nm,0.6s
BEKR Beckworth 80.49 51 *e*P **P 23 17 22.8 +1.4**
comp=N,34nm,0.8s
J08A Circle Bar Ran 80.57 47 *e*P **P 23 17 23.0 +1.4**
comp=N,28nm,0.9s
TRO Tromso 80.61 343 *e*P **P 23 17 20.8 -0.3**
MOS Moscow 80.74 327 *e*P **P 23 17 20.2 -1.9**
MOS *e**PP **pP 23 18 01.5 +0.9**
MOS *e**SP **sP 23 18 16.1 -1.1**
MOS *e* 23 20 27.8
MOS *e*S **S 23 27 11.5 -4.8**
MOS *e* 23 27 20.8
MOS *e**SS **sS 23 28 20.6 -2.8**
MOS pmax pmax
comp=Z,300nm,2.4s
MOS pmax pmax
comp=Z,69nm,1.5s
MOS smax smax
comp=N,300nm,2.7s
WVOR Wild Horse Val 80.79 48 *e*P **P 23 17 24.1 +1.2**
comp=N,22nm,1.1s
WVOR Wild Horse Val 80.79 48 *e*P **P 23 17 24.1 +1.2**
WVOR pmax pmax
comp=Z,22nm,1.1s
GROC Groznyy 80.82 313 *e*P **P 23 17 20.8 -2.0**
GROC *e**PP **pP 23 17 59.8 -2.2**
GROC *e*S **S 23 27 16.7 -0.9**
GROC *e**SS **sS 23 28 24.2 -1.2**
GROC pmax pmax
comp=Z,134nm,1.4s
DAG Danmarks Havn 80.87 356 P **P 23 17 20.6 -1.8**
DAG pmax pmax
comp=Z,11nm,1.4s
DAG Danmarks Havn 80.87 356 *i* P **P 23 17 19.8 -2.6**
CMB Columbia Colle 81.12 53 *e*P **P 23 17 25.4 +0.9**
comp=Z,34nm,0.8s
CMB Columbia Colle 81.12 53 *e*P **P 23 17 25.4 +0.9**
CMB pmax pmax
comp=Z,34nm,0.8s
OUL Oulu 81.17 338 P **P 23 17 24.5 +0.3**
OUL pmax pmax
comp=Z,24nm,0.7s
PAHR Pah Rah Range 81.25 51 *e*P **P 23 17 26.4 +1.0**
comp=Z,16nm,0.9s
PNTR Pine Nut 81.32 51 *e*P **P 23 17 27.5 +1.7**
comp=Z,27nm,0.9s
LPSR Galich'ya Gora 81.38 323 *e*P **P 23 17 25.3 -0.2**
LPSR *e*S **S 23 27 19.9 -3.1**
LPSR pmax pmax
comp=Z,90nm,1.1s
LPSR smax smax
comp=N,360nm,2.2s
OBN Obninsk 81.55 326 *e*P **P 23 17 26.6 +0.3**
comp=N,104nm,1.4s
OBN Obninsk 81.55 326 *c i*P **P 23 17 26.1 -0.3**
OBN *i* *PP **pwP 23 18 07.4 -1.8**
OBN *e* 23 20 36.1
OBN *i* S **S 23 27 22.2 -2.5**
OBN pmax pmax
comp=Z,81nm,1.7s
VORR Voronezh 81.61 322 *e*P **P 23 17 25.0 -1.8**
VORR pmax pmax
comp=Z,300nm,1.4s
YERR Yerington 81.62 51 *e*P **P 23 17 28.9 +1.5**
comp=Z,20nm,0.7s
WAKR Walker 81.65 52 *e*P **P 23 17 29.0 +1.5**
comp=Z,16nm,0.9s
VSR Storozhevoye 81.83 322 *e*P **P 23 17 26.9 -1.0**
VSR *e*S **S 23 27 25.6 -2.1**
VSR pmax pmax
comp=Z,240nm,1.6s
VSR smax smax
comp=N,350nm,2.0s
PAGB Antelope Grade 82.05 55 *e*P **P 23 17 31.3 +1.8**
comp=N,37nm,1.1s
TBLG Delisi 82.09 312 *e*P **P 23 17 30.5 +0.9**
comp=N,125nm,1.4s
TBLG Delisi 82.09 312 *e*P **P 23 17 30.5 +0.9**
TBLG pmax pmax
comp=Z,125nm,1.4s
NCK Nalchik 82.20 314 *c i*P **P 23 17 30.5 +0.4**
NCK pmax pmax
comp=Z,75nm,1.4s
MDPB Devils Postpil 82.23 53 *e*P **P 23 17 33.3 +2.7**
comp=Z,16nm,1.0s
ZEI Tsey 82.26 313 *e*P P 23 17 25.4 -5.3
ZEI pmax pmax
comp=Z,96nm,1.5s
RYN Ryan 82.27 52 *e*P **P 23 17 32.0 +1.3**
comp=Z,15nm,0.9s
OMMB Old Mammoth Mi 82.30 53 *e*P **P 23 17 32.6 +1.5**
comp=Z,19nm,1.1s
OMMB *e*pP **pP 23 18 09.4 -0.4**
SUF Sumiainen 82.41 336 P **P 23 17 30.0 -0.7**
SUF pmax pmax
comp=Z,6.0nm,0.8s
MLAC Mammoth, Mammo 82.41 53 P **P 23 17 31.7 +0.1**
baz=292
KVN Kaiserville 82.42 51 *e*P **P 23 17 32.6 +1.1**
comp=Z,21nm,0.9s
KVN Kaiserville 82.42 51 *e*P **P 23 17 32.6 +1.1**
KVN pmax pmax
comp=Z,21nm,0.9s
VOG Valley Oaks Go 82.49 54 P **P 23 17 32.0 +0.3**
baz=292
NVAR Mina Array Bea 82.50 52 *e*P **P 23 17 32.7 +0.7**
NVAR Mina Array Bea 82.50 52 P **P 23 17 32.3 +0.3**
comp=Z,7.1nm,0.6s,baz=282,slow=5.6,SNR=78
NVAR LR LR 23 47 12.4
comp=Z,166nm,21.2s,baz=298,slow=30
BMN Battle Mountai 82.52 50 *e*P **P 23 17 33.2 +1.2**
comp=Z,8.6nm,1.0s
BMN *e*pP **pP 23 18 10.4 -0.3**
KBZ Khabaz 82.57 314 P **P 23 17 32.7 +0.8**
comp=Z,46nm,0.8s,baz=86,slow=3.5,SNR=102
KBZ pP **pP 23 18 10.6 -0.4**
comp=Z,58nm,1.0s,baz=242,slow=9.6,SNR=4.3
NV11 Mina Array Sit 82.61 52 *e*P **P 23 17 33.6 +1.1**
comp=Z,0.9nm,0.8s
KIV Kislovodsk 82.62 314 *e*P **P 23 17 32.9 +0.5**
comp=Z,233nm,1.5s
KIV Kislovodsk 82.62 314 ‖ *i*P **P 23 17 33.3 +0.9**
KIV Kislovodsk 82.62 314 *i* P **P 23 17 32.7 +0.3**
SNR=41
KIV Kislovodsk 82.62 314 *e*P **P 23 17 33.1 +0.7**
KIV *e* 23 18 14.9
KIV *e* 23 27 36.7
KIV pmax pmax
comp=Z,233nm,1.1s
KIV MLR MLR
comp=Z,535nm,19.0s
KIV Kislovodsk 82.62 314 P **P 23 17 33.3 +0.9**
SNR=47
PKM Mcpherson Peak 82.69 55 P **P 23 17 32.9 -0.1**
baz=292
GNI Garni 82.69 310 *e*P **P 23 17 34.0 +1.1**
comp=Z,277nm,1.5s
GNI Garni 82.69 310 *i* P **P 23 17 33.3 +0.4**
SNR=53
GNI Garni 82.69 310 *c i*P **P 23 17 33.0 +0.1**
GNI pmax pmax
comp=Z,345nm,1.5s
GNI Garni 82.69 310 P **P 23 17 34.3 +1.4**
SNR=46
STEI Steigen 82.75 343 *e*P **P 23 17 31.7 -0.6**
NEY Neytrino 82.88 314 *c i*P **P 23 17 34.4 +0.6**
NEY pmax pmax
comp=Z,8.0nm,0.9s
VES Vestal, Richgr 82.89 54 P **P 23 17 33.7 0.0**
baz=292
TIN Tinemaha, Big 83.07 53 P **P 23 17 35.2 +0.4**
baz=292
AKH Akhalkalaki 83.08 312 *e*P **P 23 17 36.2 +1.3**
comp=Z,242nm,1.5s
AKH Akhalkalaki 83.08 312 ‖ *i*P **P 23 17 36.3 +1.4**
AKH Akhalkalaki 83.08 312 P **P 23 17 36.2 +1.3**
AKH pmax pmax
comp=Z,242nm,1.5s
FIA1 FINESS Array S 83.15 335 *e*P **P 23 17 33.5 -1.0**
comp=Z,32nm,0.6s
SCZ2 Santa Cruz Isl 83.15 56 P **P 23 17 35.5 +0.3**
baz=292
FINES FINESS Array B 83.15 335 P **P 23 17 33.5 -1.1**
comp=Z,11nm,0.6s,baz=66,slow=5.0,SNR=124
FINES pP **pP 23 18 13.9 +0.7**
comp=Z,4.1nm,0.4s,baz=73,slow=5.0,SNR=2.0
FINES LR LR 23 57 42.3
comp=Z,138nm,19.0s,baz=60,slow=38
HLID Hailey 83.22 46 *e*P **P 23 17 37.0 +1.4**
comp=Z,8.9nm,1.0s
HLID Hailey 83.22 46 P **P 23 17 35.7 +0.1**
baz=294
ARVC Arvin 83.35 55 P **P 23 17 36.3 +0.2**
baz=292
ISA Isabella, Lake 83.42 54 *e*P **P 23 17 37.3 +0.7**
comp=Z,10nm,1.0s
ISA Isabella, Lake 83.42 54 *e*P **P 23 17 37.3 +0.7**
ISA pmax pmax
comp=Z,11nm,1.0s
ISA Isabella, Lake 83.42 54 P **P 23 17 36.4 -0.2**
baz=292
CWC Cottonwood Cre 83.42 53 P **P 23 17 36.3 -0.4**
baz=292
VAF Ylistaro 83.52 337 P **P 23 17 35.7 -0.7**
VAF pmax pmax
comp=Z,33nm,0.8s
DLMT Dillon 83.67 44 *e*P **P 23 17 39.7 +1.9**
comp=Z,23nm,1.4s
KARS Kars 83.68 311 *e*P **P 23 17 39.3 +1.4**
KARS Kars 83.68 311 *e*P **P 23 17 39.3 +1.4**
GRAC Grapevine Rang 83.73 53 P **P 23 17 37.1 -1.0**
baz=293
ELK Elko 83.79 49 *e*P **P 23 17 39.7 +1.1**
comp=Z,21nm,1.0s
DAC Darwin (Calif) 83.84 53 *e*P **P 23 17 39.5 +0.6**
comp=Z,10nm,0.8s
DAC Darwin (Calif) 83.84 53 *e*P **P 23 17 39.5 +0.6**
DAC pmax pmax
comp=Z,10.0nm,0.8s
MPMC Manual Prospec 84.00 54 P **P 23 17 39.2 -0.6**
baz=293,SNR=13
EDW2 Edwards Air Fo 84.08 55 P **P 23 17 39.8 -0.2**
baz=293,SNR=5.8
LRMC Laurel Mtn Rad 84.08 54 P **P 23 17 39.9 -0.1**
baz=293,SNR=12
ABTO Aybut 84.11 286 P **P 23 17 43.0 +2.6**
SNR=5.7
BOZ Bozeman (W) 84.18 43 P **P 23 17 39.5 -0.8**
baz=296
BATM Batumi 84.24 313 ‖ *i*P **P 23 17 41.8 +1.3**
EGMT Eagleton 84.28 40 *e*P **P 23 17 41.4 +0.7**
comp=Z,23nm,1.0s
FURC Furnace Creek, 84.31 53 P **P 23 17 41.2 +0.2**
baz=293,SNR=8.2
KONS Konsvik 84.34 342 *e*P **P 23 17 40.9 +0.4**
BCA Borcka 84.35 312 ‖ *i*P **P 23 17 41.6 +0.5**
R11A Troy Canyon, C 84.50 51 *e*P **P 23 17 43.0 +0.9**
comp=Z,20nm,1.0s
R11A Troy Canyon, C 84.50 51 P **P 23 17 41.8 -0.4**
baz=294
VSU Vasula 84.55 332 *ce*P **P 23 17 40.1 -1.6**
VSU pmax pmax
comp=Z,85nm,1.3s
VSU Vasula 84.55 332 *e*P **P 23 17 40.5 -1.2**
VSU lAmb lAmb 23 17 51.2
comp=Z,65nm,0.7s
TPNV Topopah Spring 84.58 52 P **P 23 17 42.4 -0.2**
baz=293
SOC Sochi 84.74 315 *c i*P **P 23 17 40.8 -2.2**
SOC *e**PP **pwP 23 18 24.8 -0.5**
SOC *e**SP **sP 23 18 41.5 +2.5**
SOC *e* 23 20 59.2
SOC *e*PPP PPP 23 23 03.2
SOC *e*S **SKSac 23 27 48.0 -4.1**
SOC *e*SS **SS 23 33 29.7 -2.3**
SOC pmax pmax
comp=Z,15nm,0.6s
GSC Goldstone, Bar 84.81 54 *e*P **P 23 17 44.7 +1.0**
comp=Z,16nm,0.8s
GSC Goldstone, Bar 84.81 54 *e*P **P 23 17 44.7 +1.0**
GSC pmax pmax
comp=Z,16nm,0.8s
GSC Goldstone, Bar 84.81 54 P **P 23 17 43.7 0.0**
baz=293,SNR=7.0
SHOC Shoshone, Teco 84.97 53 P **P 23 17 43.9 -0.5**
baz=294
FFC Flin Flon 85.26 32 *e*P **P 23 17 46.3 +0.9**
comp=Z,52nm,0.8s
FFC Flin Flon 85.26 32 *e*P **P 23 17 46.3 +0.9**
FFC pmax pmax
comp=Z,52nm,0.8s
HEC Hector,Ludlow 85.35 54 P **P 23 17 45.9 -0.4**
baz=294,SNR=5.8
IMW Indian Meadow 85.36 44 *e*P **P 23 17 46.6 +0.1**
comp=Z,15nm,0.8s
H17A Grant Village 85.38 44 *e*P **P 23 17 48.6 +2.1**
comp=Z,12nm,0.9s
H17A Grant Village 85.38 44 P **P 23 17 46.4 -0.1**
baz=296
TUQ Turquoise Moun 85.42 54 P **P 23 17 46.7 -0.1**
baz=294,SNR=8.3
FXWY Fox Creek 85.42 45 *e*P **P 23 17 48.0 +1.3**
comp=Z,10.0nm,1.0s
FLWY Flagg Ranch 85.44 44 *e*P **P 23 17 48.3 +1.5**
comp=Z,22nm,0.8s
TPAW Teton Pass 85.53 45 *e*P **P 23 17 49.1 +1.7**
comp=Z,9.2nm,0.6s
MOOW Moose Ponds 85.56 44 *e*P **P 23 17 48.7 +1.3**
comp=Z,7.3nm,0.9s
SHPR Sheep Range 85.56 52 *e*P **P 23 17 49.0 +1.5**
comp=Z,15nm,1.0s
SUMG Summit 85.65 1 *e*P **P 23 17 48.4 +0.9**
comp=Z,31nm,0.6s
SUMG Summit 85.65 1 *i*P **P 23 17 48.4 +0.9**
SUMG pmax pmax
comp=Z,67nm,0.9s
SUMG Summit 85.65 1 *i*P **P 23 17 48.4 +0.9**
SUMG pmax pmax
comp=Z,67nm,0.9s
SUMG *i* 23 17 57.8
REDW Red Top Meadow 85.66 45 *e*P **P 23 17 49.4 +1.6**
comp=Z,8.1nm,0.9s
SNOW Snow King Moun 85.67 45 *e*P **P 23 17 48.6 +0.6**
comp=Z,7.1nm,0.9s
ANN Anapa 85.68 317 *e*P **P 23 17 46.6 -1.0**
ANN *e* 23 28 03.8
ANN *i* *SS **sS 23 29 08.9 -6.0**
ANN pmax pmax
comp=Z,53nm,1.3s
DUG Dugway, Tooele 85.70 48 *e*P **P 23 17 49.1 +1.1**
comp=Z,26nm,0.9s
DUG Dugway, Tooele 85.70 48 P **P 23 17 49.0 +0.9**
DUG pmax pmax
comp=Z,42nm,1.1s
DUG Dugway, Tooele 85.70 48 P **P 23 17 47.8 -0.3**
baz=295
LOHW Long Hollow 85.71 45 *e*P **P 23 17 47.8 -0.3**
comp=Z,4.6nm,0.8s
PFO Pinyon Flats O 85.74 56 *e*P **P 23 17 49.0 +0.7**
comp=Z,28nm,1.0s
PFO Pinyon Flats O 85.74 56 *e*P **P 23 17 49.0 +0.7**
PFO pmax pmax
comp=Z,28nm,1.0s
PFO Pinyon Flats O 85.74 56 P **P 23 17 47.7 -0.6**
baz=294,SNR=6.9
GMRC Granite Mounta 85.88 54 P **P 23 17 49.0 -0.1**
baz=294,SNR=6.5
RLMT Red Lodge 85.89 43 *e*P **P 23 17 50.6 +1.7**
comp=Z,22nm,0.6s
RLMT Red Lodge 85.89 43 P **P 23 17 48.4 -0.5**
baz=297
BELC Belle Mtn. Jos 85.94 55 P **P 23 17 49.6 +0.3**
baz=294,SNR=5.9
HWUT Hardware Ranch 85.95 47 *e*P **P 23 17 50.7 +1.4**
comp=Z,16nm,1.0s
MONP2 Monument Peak 86.06 56 P **P 23 17 50.3 +0.3**
baz=294
NSS Namsos 86.09 341 *e*P **P 23 17 48.3 -0.9**
NSS *e*pP **pwP 23 18 31.3 -2.0**
LDFC Landfair 86.17 54 *e*P **P 23 17 51.5 +1.0**
comp=Z,43nm,0.9s
MICGM Minsk 86.22 328 ‖ *e*P **P 23 17 50.0 -0.1**
MICGM PM 23 17 51.0
comp=Z,0.2nm,1.5s
MICGM *e* 23 18 30.0
MNK Minsk 86.22 328 ‖ *e*P **P 23 17 50.0 -0.1**
MNK *e* 23 18 30.0
MNK pmax pmax
comp=Z,190nm,1.5s
IZAR Zarasai 86.30 330 *e*P **P 23 17 49.9 -0.6**
IZAR lAmb lAmb 23 18 00.9
comp=Z,11nm,0.7s
IDID Didziasalis 86.32 329 *e*P **P 23 17 49.9 -0.6**
IDID lAmb lAmb 23 18 00.9
comp=Z,8.5nm,0.7s
IKP In-Ko-Pah, Jac 86.39 56 P **P 23 17 51.4 -0.1**
baz=294
CCUT Cedar City 86.43 51 *e*P **P 23 17 53.6 +1.8**
comp=Z,11nm,0.8s
ISAL Salakas 86.46 330 *e*P **P 23 17 51.1 -0.1**
ISAL lAmb lAmb 23 17 57.3
comp=Z,13nm,1.1s
BC3 Big Chuckawall 86.49 55 P **P 23 17 52.0 -0.1**
baz=294,SNR=8.0

FCC	Fort Churchill	86.51	26	eP	P	23 17 51.6	+0.2
	comp=Z,24nm,0.6s						
FCC	Fort Churchill	86.51	26	eP	P	23 17 51.6	+0.2
FCC				pmax	pmax		
	comp=Z,24nm,0.6s						
SWSC	Sam W. Stewart	86.51	56	P	P	23 17 52.0	0.0
	baz=294						
IRM	Iron Mountain	86.52	55	P	P	23 17 51.0	-1.1
	baz=294,SNR=5.6						
NACGM	Naroch	86.53	329	e	P	23 17 50.0	-1.6
IIGN	Ignalina	86.54	330	eP	P	23 17 51.0	-0.7
IIGN				IAmb	IAmb	23 18 01.1	
	comp=Z,8.8nm,0.5s						
PD31	Pinedale Array	86.77	45	eP	P	23 17 54.0	+0.6
	comp=Z,4.7nm,1.0s						
PDAR	Pinedale Array	86.77	45	eP	P	23 17 53.5	+0.1
PDAR	Pinedale Array	86.77	45	P	P	23 17 53.8	+0.4
	comp=Z,0.7nm,0.7s,baz=127,slow=2.5,SNR=6.8						
PDAR				LR	LR	23 52 23.2	
	comp=Z,183nm,19.9s,baz=310,slow=32						
LAO	LASA Array	87.02	40	eP	P	23 17 55.7	+1.4
	comp=Z,32nm,0.9s						
LAO	LASA Array	87.02	40	P	P	23 17 54.2	-0.1
	baz=299						
W13A	Hualapai Mount	87.08	53	eP	P	23 17 56.4	+1.4
Y12C	Blythe	87.16	55	eP	P	23 17 55.6	+0.5
	comp=Z,19nm,1.0s						
Y12C	Blythe	87.16	55	P	P	23 17 55.1	0.0
	baz=295						
GLA	Glamis	87.22	56	eP	P	23 17 56.8	+1.3
	comp=Z,25nm,0.7s						
GLA				epP	pP	23 18 35.5	+0.9
GLA	Glamis	87.22	56	P	P	23 17 56.8	+1.3
GLA	Glamis	87.22	56	P	P	23 17 55.2	-0.2
	baz=294,SNR=6.2						
PDMCI	Parker Dam,Lak	87.22	54	P	P	23 17 55.0	-0.4
	baz=295,SNR=5.1						
PABE	Paberze	87.50	330	eP	P	23 17 53.8	-2.4
PABE				IAmb	IAmb	23 18 02.9	
	comp=Z,36nm,1.0s						
AKASG	Malin Array Be	87.59	325	eP	P	23 17 55.9	-0.9
	comp=Z,15nm,1.2s						
AKASG				pP	pP	23 18 36.8	+0.7
AKASG	Malin Array Be	87.59	325	P	P	23 17 55.4	-1.4
	comp=Z,6.2nm,0.7s,baz=47,slow=5.5,SNR=47						
AKASG				pP	pP	23 18 36.8	+0.7
	comp=Z,1.9nm,0.4s,baz=46,slow=5.4,SNR=2.4						
AKASG				LR	LR	00 00 44.9	
	comp=Z,297nm,18.0s,baz=50,slow=38						
AKBB	Malin Array Si	87.59	325	eP	P	23 17 55.4	-1.4
	comp=Z,20nm,0.6s						
AKBB	Malin Array Si	87.59	325	eP	P	23 17 55.4	-1.4
AKBB				pmax	pmax		
	comp=Z,20nm,0.6s						
KIEV	Kiev	87.61	325	eP	P	23 17 55.4	-1.4
	comp=Z,19nm,0.6s						
KIEV	Kiev	87.61	325	⇑iP	P	23 17 56.4	-0.4
KIEV	Kiev	87.61	325	iP	P	23 17 55.5	-1.3
	SNR=14						
KIEV	Kiev	87.61	325	dP	P	23 17 54.5	-2.3
KIEV				pmax	pmax		
	comp=Z,18nm,1.1s						
U15A	North Rim	87.69	52	eP	P	23 17 58.6	+0.7
	comp=Z,16nm,0.8s						
SIM	Simferopol'	87.69	318	cP	P	23 17 56.7	-0.7
SIM				eS	S	23 28 20.6	-5.3
SIM				e*SS	pS	23 29 25.0	+9.4
SIM				pmax	pmax		
	comp=Z,18nm,0.8s						
SRU	San Rafael Swe	87.77	49	eP	P	23 17 58.9	+0.8
	comp=Z,19nm,0.6s						
SRU	San Rafael Swe	87.77	49	eP	P	23 17 58.9	+0.8
SRU				pmax	pmax		
	comp=Z,19nm,0.6s						
PBUR	Paburg	88.10	332	eP	P	23 17 56.7	-2.4
PBUR				IAmb	IAmb	23 18 05.7	
	comp=Z,37nm,1.1s						
113A	Mohawk Valley,	88.14	55	eP	P	23 18 00.8	+1.1
	comp=Z,9.0nm,0.8s						
Y14A	Wickenburg	88.23	54	eP	P	23 18 01.6	+1.3
	comp=Z,29nm,0.8s						
NC405	NORSAR Array S	88.65	339	eP	P	23 18 00.6	-1.0
	comp=Z,20nm,0.6s						
WUAZ	Wupatki	88.75	52	eP	P	23 18 04.2	+1.4
	comp=Z,16nm,0.8s						
WUAZ	Wupatki	88.75	52	P	P	23 18 01.6	-1.2
	baz=296						
SUW	Suwalki	88.76	329	eP	P	23 18 01.1	-1.1
SUW	Suwalki	88.76	329	eP	P	23 18 01.1	-1.1
K22A	Casper	88.80	44	P	P	23 18 01.3	-1.6
	baz=299						
DOMB	Dombas	88.81	340	eP	P	23 18 01.8	-0.6
NB201	NORSAR Array S	88.84	339	eP	P	23 18 01.3	-1.2
	comp=Z,11nm,0.6s						
NC204	NORSAR Array S	88.84	339	eP	P	23 18 01.6	-0.9
	comp=Z,77nm,1.5s						
O20A	White River Ci	88.86	47	eP	P	23 18 04.2	+0.9
	comp=Z,8.9nm,0.8s						
O20A	White River Ci	88.86	47	P	P	23 18 02.8	-0.5
	baz=298						
NB2	NORSAR Subarra	88.87	339	P	P	23 18 00.8	-1.9
	comp=Z,60nm,2.0s,baz=52,slow=4.8						
NB2	NORSAR Subarra	88.87	339	P	P	23 18 00.8	-1.9
	baz=52,slow=4.8						
NOA	NORSAR Array B	88.87	339	P	P	23 18 01.1	-1.6
	comp=Z,4.2nm,0.9s,baz=47,slow=4.9,SNR=16						
NOA				pP	pP	23 18 42.6	+0.8
	comp=Z,4.6nm,0.8s,baz=45,slow=4.7,SNR=2.4						
NOA				PP	PP	23 21 38.8	+5.3
	comp=Z,1.1nm,0.7s,baz=40,slow=7.7,SNR=4.4						
NOA				LR	LR	00 01 41.5	
	comp=Z,161nm,18.8s,baz=45,slow=38						
NC602	NORSAR Array S	88.98	339	eP	P	23 18 04.0	+0.9
NC602				epP	pwP	23 18 45.6	-1.8
PV09	Paradox Valley	89.01	49	eP	P	23 18 04.1	-0.1
PV21	Cone Mtn., Par	89.09	48	eP	P	23 18 05.8	+1.3
	comp=Z,14nm,0.8s						
PV23	Carpenter Ridg	89.12	49	eP	P	23 18 05.8	+1.2
	comp=Z,25nm,0.7s						
PV10	Paradox Valley	89.13	49	eP	P	23 18 06.5	+1.8
	comp=Z,24nm,1.0s						
PV14	Lion Creek, Pa	89.15	49	eP	P	23 18 05.9	+1.2
	comp=Z,26nm,0.7s						
PV20	West Nyswonger	89.20	49	eP	P	23 18 06.0	+1.1
	comp=Z,15nm,0.7s						
PV19	Morning Glory	89.20	49	eP	P	23 18 06.1	+1.2
	comp=Z,20nm,0.7s						
BZK	Bozkurt	89.22	315	⇓iP	P	23 18 04.1	-0.5
PV04	Paradox Valley	89.22	49	eP	P	23 18 06.2	+1.2
	comp=Z,29nm,1.5s						
214A	Organ Pipe Nat	89.22	56	P	P	23 18 03.9	-1.0
	baz=296,SNR=5.2						
PV05	Paradox Valley	89.23	49	eP	P	23 18 05.5	+0.5
	comp=Z,11nm,0.9s						
PV17	East Wray Mesa	89.23	49	eP	P	23 18 06.2	+1.1
	comp=Z,17nm,0.8s						
PV22	Blue Mesa, Par	89.23	48	eP	P	23 18 05.6	+0.5
	comp=Z,9.9nm,1.4s						
PV16	Nyswonger Mesa	89.25	49	eP	P	23 18 06.0	+0.8
	comp=Z,12nm,0.8s						
PV18	Skein Mesa, Pa	89.28	49	eP	P	23 18 05.2	-0.1
	comp=Z,14nm,0.6s						
PV11	David Mesa, Pa	89.28	49	eP	P	23 18 06.4	+1.1
	comp=Z,18nm,0.5s						
PV03	Paradox Valley	89.32	49	eP	P	23 18 06.5	+1.0
	comp=Z,11nm,0.8s						
PV12	Saucer Basin,	89.33	49	eP	P	23 18 06.7	+1.2
	comp=Z,13nm,1.0s						
PV07	Paradox Valley	89.38	48	eP	P	23 18 06.3	+0.5
	comp=Z,4.9nm,1.1s						
PV13	Radium Mtn., P	89.39	49	eP	P	23 18 06.8	+0.9
	comp=Z,14nm,0.6s						
PV02	Paradox Valley	89.42	49	eP	P	23 18 06.0	0.0
	comp=Z,11nm,0.6s						
PV01	Paradox Valley	89.57	49	eP	P	23 18 07.6	+0.9
	comp=Z,9.9nm,0.6s						
RSSD	Black Hills	89.64	42	eP	P	23 18 07.6	+0.7
	comp=Z,6.9nm,0.6s						
RSSD	Black Hills	89.64	42	eP	P	23 18 07.6	+0.7
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.6s						
RSSD	Black Hills	89.64	42	P	P	23 18 06.1	-0.7
	baz=301						
ILGA	Ilgaz	89.85	315	eP	P	23 18 08.0	+0.1
	comp=Z,15nm,1.3s						
MILM	Milestii Mici	89.86	322	⇑iP	P	23 18 07.2	-0.3
N23A	Red Feather La	90.03	45	eP	P	23 18 10.3	+1.5
	comp=Z,19nm,1.1s						
N23A	Red Feather La	90.03	45	P	P	23 18 07.6	-1.3
	baz=300						
MVCO	Mesa Verde	90.05	50	eP	P	23 18 10.1	+1.2
	comp=Z,9.8nm,1.3s						
MVCO	Mesa Verde	90.05	50	P	P	23 18 07.5	-1.5
	baz=298						
SMCO	Snowmass	90.18	47	eP	P	23 18 10.8	+1.1
	comp=Z,10nm,0.8s						
X18A	Snowflake	90.24	52	eP	P	23 18 10.1	+0.3
	comp=Z,6.3nm,0.6s						
IAS	Iasi	90.42	322	P	P	23 18 10.6	+0.5
IAS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BR131	Keskin Array S	90.55	314	eP	P	23 18 10.1	-1.1
	comp=Z,14nm,1.1s						
BR131	Keskin Array S	90.55	314	P	P	23 18 10.3	-0.8
	SNR=13						
BRTR	Keskin Array B	90.55	314	eP	P	23 18 09.2	-1.9
BRTR				pP	pP	23 18 50.9	0.0
BRTR	Keskin Array B	90.55	314	P	P	23 18 09.9	-1.1
	comp=Z,9.8nm,1.0s,baz=102,slow=3.0,SNR=40						
BRTR				pP	pP	23 18 50.9	0.0
	comp=Z,5.6nm,0.9s,baz=100,slow=2.8,SNR=3.7						
TUC	Tucson	90.61	55	eP	P	23 18 12.0	+0.5
	comp=Z,5.5nm,0.9s						
TUC	Tucson	90.61	55	eP	P	23 18 12.0	+0.5
TUC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TUC	Tucson	90.61	55	P	P	23 18 10.8	-0.7
	baz=297						
SFJD	Kangerlussuaq	90.61	6	eP	P	23 18 10.1	-0.5
	comp=Z,16nm,1.3s						
SFJD	Kangerlussuaq	90.61	6	eP	P	23 18 10.1	-0.5
SFJD				pmax	pmax		
	comp=Z,16nm,1.3s						
ISCO	Idaho Springs	90.79	46	eP	P	23 18 12.7	+0.3
	comp=Z,6.2nm,0.7s						
ISCO	Idaho Springs	90.79	46	P	P	23 18 13.9	+1.5
ISCO				pmax	pmax		
	comp=Z,12nm,1.1s						
ISCO	Idaho Springs	90.79	46	P	P	23 18 12.3	-0.1
	baz=300						
TLCR		90.80	320	⇑iP	P	23 18 11.8	-0.1
TLCR		90.80	320	P	P	23 18 11.7	-0.1
FRB	Frobisher Bay	90.86	14	P	P	23 18 11.7	-0.1
FRB				pmax	pmax		
	comp=Z,31nm,0.6s						
ULM	Lac du Bonnet	90.87	34	eP	P	23 18 12.7	+0.5
ULM				ePcP	PcP	23 18 18.1	+5.0
ULM	Lac du Bonnet	90.87	34	P	P	23 18 10.7	-1.4
	comp=Z,2.3nm,0.6s,baz=319,slow=8.4,SNR=5.9						
ULM				LR	LR	23 58 37.6	
	comp=Z,137nm,20.3s,baz=332,slow=35						
S22A	4UR Ranch, Cre	90.97	48	eP	P	23 18 14.0	+0.7
	comp=Z,4.6nm,0.9s						
S22A	4UR Ranch, Cre	90.97	48	P	P	23 18 13.2	-0.1
	baz=299						
ANTO	Ankara	91.05	314	eP	P	23 18 13.4	+0.1
	comp=Z,12nm,0.9s						
ANTO	Ankara	91.05	314	eP	P	23 18 13.4	+0.1
ANTO				pmax	pmax		
	comp=Z,12nm,0.9s						
ANTO	Ankara	91.05	314	P	P	23 18 13.4	+0.1
	SNR=6.2						
PRAR	RASCA	91.08	323	⇓iP	P	23 18 12.9	-0.3
CFR	Carcaliu	91.20	320	⇑iP	P	23 18 12.9	-0.9
CFR	Carcaliu	91.20	320	P	P	23 18 13.4	-0.4
CFR				pmax	pmax		
	comp=Z,9.0nm,2.6s						
TESR	Tescani	91.33	322	⇓iP	P	23 18 13.6	-0.8
BIZ	Bicaz	91.39	323	⇓iP	P	23 18 14.3	-0.4
BUR08	Bucovina Ar. S	91.49	324	eP	P	23 18 14.6	-0.7
	comp=Z,6.5nm,0.8s						
BURAR	Bucovina Array	91.50	324	eP	P	23 18 14.4	-0.9
	comp=Z,89nm,0.7s						
BURAR	Bucovina Array	91.50	324	⇑iP	P	23 18 14.7	-0.6
BURAR	Bucovina Array	91.50	324	eP	P	23 18 14.4	-0.9
Q24A	Divide	91.52	47	eP	P	23 18 15.1	-0.7
	comp=Z,6.3nm,0.8s						
Q24A	Divide	91.52	47	P	P	23 18 15.6	-0.3
	baz=300						
CASY	Casey	91.53	193	eP	P	23 18 15.4	+0.8
	comp=Z,31nm,1.4s						
TLB	Topalu	91.58	320	⇓iP	P	23 18 15.0	-0.5
TLB	Topalu	91.58	320	P	P	23 18 15.0	-0.5
KWP	Kalwaria Pacla	91.64	326	eP	P	23 18 15.8	+0.1
KWP	Kalwaria Pacla	91.64	326	eP	P	23 18 15.2	-0.5
	comp=Z,531nm,1.3s						
KWP	Kalwaria Pacla	91.64	326	eP	P	23 18 15.2	-0.5
VRI	Vrincioaia	91.64	322	⇑iP	P	23 18 16.2	+0.3
VRI	Vrincioaia	91.64	322	P	P	23 18 16.2	+0.3
PLOR	Plostina	91.70	322	⇑iP	P	23 18 16.1	-0.1
PLOR	Plostina	91.70	322	P	P	23 18 16.0	-0.1
ASF	Jabal al Asfar	91.81	306	P	P	23 18 16.6	-0.4
SDCO	Great Sand Dun	91.89	48	eP	P	23 18 18.7	+1.2
	comp=Z,5.7nm,1.2s						
SDCO	Great Sand Dun	91.89	48	P	P	23 18 17.2	-0.4
	baz=300						
GKP	Gorka Klasztor	91.96	331	eP	P	23 18 16.1	-1.0
GKP	Gorka Klasztor	91.96	331	eP	P	23 18 16.1	-1.0
ICOR	Ion Corvin	91.99	320	⇑iP	P	23 18 17.7	+0.3
AGMN	Agassiz Nation	92.05	35	P	P	23 18 17.5	-0.1
	baz=307						
KOLS	Kolonicke sedl	92.29	326	eP	P	23 18 18.9	+0.1
KOLS				pmax	pmax		
	comp=Z,11nm,1.5s						
KOLS	Kolonicke sedl	92.29	326	eP	P	23 18 18.9	+0.1
MLR	Muntele Rosu	92.31	322	eP	P	23 18 18.8	-0.3
	comp=Z,6.5nm,1.2s						
MLR	Muntele Rosu	92.31	322	⇓iP	P	23 18 19.4	+0.3
MLR	Muntele Rosu	92.31	322	eP	P	23 18 18.8	-0.3
MLR				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LAZ	Ladron	92.35	51	eP	P	23 18 20.8	+1.2
DOPR	Dopca	92.36	322	⇓iP	P	23 18 18.9	-0.2
UZH	Uzhgorod	92.47	326	eP	P	23 18 20.0	+0.5
UZH				i *PP	pP	23 18 58.3	-0.7
UZH				e		23 22 02.2	
UZH				eS	S	23 29 07.1	-2.4
TASM	ASL Pad, Albuq	92.58	51	P	P	23 18 20.4	-0.3
	baz=299,SNR=8.3						
TASM	ASL Pad, Albuq	92.58	51	P	P	23 18 20.6	-0.1
	baz=299,SNR=8.3						
ANMO	Albuquerque	92.58	51	eP	P	23 18 22.1	+1.4
	comp=Z,4.9nm,1.1s						
ANMO				epP	pP	23 18 59.4	-0.7
ANMO	Albuquerque	92.58	51	P	P	23 18 20.1	-0.6
	baz=299						
LENM	Lemitar	92.59	52	eP	P	23 18 21.3	+0.6
TRPA	Tarpa	92.64	325	⇑iP	P	23 18 20.5	+0.1
TRPA	Tarpa	92.64	325	eP	P	23 18 19.1	-1.3
OJC	Ojcow	92.75	328	eP	P	23 18 20.7	-0.1
OJC	Ojcow	92.75	328	eP	P	23 18 20.5	-0.3
	comp=Z,30nm,1.5s						
OJC	Ojcow	92.75	328	eP	P	23 18 20.5	-0.3
OJC				pmax	pmax		
	comp=Z,30nm,1.5s						
121A	Cookes Peak, D	92.76	53	P	P	23 18 21.1	-0.4
	baz=298						
BNM	Barren Site	92.84	51	eP	P	23 18 21.5	-0.4
VOIR		92.86	322	⇑iP	P	23 18 22.3	+0.8
VOIR		92.86	322	P	P	23 18 19.9	-1.6
VOIR				pmax	pmax		
	comp=Z,4.0nm,1.7s						
CJR	Cluj-Napoca	92.92	323	⇑iP	P	23 18 22.0	+0.2
CJR	Cluj-Napoca	92.92	323	P	P	23 18 21.9	+0.2
T25A	Trinidad	92.94	48	eP	P	23 18 22.0	-0.3
	comp=Z,9.9nm,1.5s						
T25A	Trinidad	92.94	48	P	P	23 18 22.0	-0.3
	baz=300						
NIE	Niedzica	93.01	327	eP	P	23 18 22.1	0.0
NIE	Niedzica	93.01	327	eP	P	23 18 22.1	0.0
DAMY	Dhamar	93.08	287	eP	P	23 18 23.7	+0.2
	comp=Z,30nm,1.3s						
ARR	Arges	93.13	322	⇓iP	P	23 18 22.7	-0.1
GHAJ	Ghor Haditha	93.21	305	P	P	23 18 22.9	-0.4
DRGR		93.36	324	⇓iP	P	23 18 23.1	-0.7
DRGR		93.36	324	P	P	23 18 23.3	-0.5
DRGR				pmax	pmax		
	comp=Z,14nm,0.9s						
KECS	Kecovo	93.50	326	eP	P	23 18 24.1	-0.2
KECS				pmax	pmax		
	comp=Z,39nm,1.3s						
KECS	Kecovo	93.50	326	eP	P	23 18 24.1	-0.2
OKC	Ostrava-Krasne	93.81	328	eP	P	23 18 25.5	-0.2
OKC				e		23 19 07.2	
OKC	Ostrava-Krasne	93.81	328	eP	P	23 18 25.5	-0.2
OKC				ex	x	23 19 07.2	
KSP	Ksiaz	94.03	330	eP	P	23 18 25.9	-0.8
KSP	Ksiaz	94.03	330	eP	P	23 18 25.9	-0.8
MORC	Moravsky Berou	94.14	328	eP	P	23 18 25.9	-1.4
	comp=Z,9.1nm,1.4s						
MORC	Moravsky Berou	94.14	328	eP	P	23 18 25.9	-1.4
MORC				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MORC	Moravsky Berou	94.14	328	eP	P	23 18 26.2	-1.1
MORC				epP	pP	23 19 08.6	+1.9
PSZ	Piszkesteto	94.17	326	eP	P	23 18 26.4	-1.1
	comp=Z,5.5nm,1.0s						
PSZ	Piszkesteto	94.17	326	eP	P	23 18 26.4	-1.1
PSZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PSZ	Piszkesteto	94.17	326	eP	P	23 18 26.0	-1.5
ECSD	EROS Data Cent	94.33	39	eP	P	23 18 25.4	-2.9
	comp=Z,15nm,1.4s						
ECSD	EROS Data Cent	94.33	39	P	P	23 18 27.2	-1.0
	baz=306						
VYHS	Vyhne	94.34	327	eP	P	23 18 27.6	-0.6
VYHS				pmax	pmax		
	comp=Z,16nm,1.6s						
VYHS	Vyhne	94.34	327	eP	P	23 18 27.6	-0.6
VYHS				epP	pP	23 19 09.3	+1.8
VYHS				esP	sP	23 19 22.1	-1.9
DPC	Dobruska-Polom	94.34	329	eP	P	23 18 28.3	+0.1
DPC				e		23 19 10.0	
DPC	Dobruska-Polom	94.34	329	eP	P	23 18 28.3	+0.1
DPC				epP	pP	23 19 10.0	+2.4
UPC	Upice	94.39	330	eP	P	23 18 28.4	0.0
UPC	Upice	94.39	330	eP	P	23 18 28.4	0.0
JAVC	Velka Javorina	94.69	328	eP	P	23 18 29.3	-0.5
JAVC				epP	pwP	23 19 12.2	-1.9
VRAC	Vranov	94.92	328	⇓iP	P	23 18 29.6	-1.2
VRAC	Vranov	94.92	328	P	P	23 18 30.5	-0.3
VRAC				pmax	pmax		
	comp=Z,10.0nm,1.7s						
VRAC	Vranov	94.92	328	eP	P	23 18 30.0	-0.8
VRAC				epP	pP	23 19 12.1	+1.9
VRAC				ePP	PP	23 22 20.7	-0.5
MNTX	Cornudas Mount	94.95	53	eP	P	23 18 31.7	+0.3
	comp=Z,3.2nm,0.8s						
MNTX	Cornudas Mount	94.95	53	P	P	23 18 31.7	+0.3
	baz=300,SNR=10						
PLD	Plovdiv	94.99	319	P	P	23 18 32.5	+1.2
PLD				pmax	pmax		
	comp=Z,32nm,1.8s						
PVCC	Panska Ves	95.04	330	eP	P	23 18 31.4	+0.1
PVCC				e		23 19 14.9	
PVCC	Panska Ves	95.04	330	eP	P	23 18 31.4	+0.1
PVCC				ex	x	23 18 39.2	
PVCC				epP	pwP	23 19 14.9	-0.6
BRG	Berggiesshubel	95.09	331	eP	P	23 18 29.9	-1.6
	comp=Z,19nm,1.7s						
BRG				ePP	PP	23 22 22.7	+0.2
	comp=Z,32nm,1.7s						
BRG	Berggiesshubel	95.09	331	P	P	23 18 32.4	+0.9
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KRUC	Moravsky	95.18	328	P	P	23 18 32.4	+0.4
KRUC				pmax	pmax		
	comp=Z,8.0nm,2.0s						
KRUC	Moravsky	95.18	328	eP	P	23 18 31.0	-1.0
KRUC				epP	pP	23 19 13.2	+1.8
KRUC				ePP	PP	23 22 23.1	-0.1
CLL	Collm	95.20	332	eP	P	23 18 31.1	-1.0
	comp=Z,14nm,1.4s						
CLL	Collm	95.20	332	iP	P	23 18 30.4	-1.6
CLL				i *PP	pP	23 19 12.9	+1.5
CLL				e		23 22 22.0	
CLL				pmax	pmax		
	comp=Z,16nm,1.4s						
CLL	Collm	95.20	332	iP	P	23 18 30.4	-1.6
	comp=Z,16nm,1.4s						
CLL				iP	pP	23 19 12.9	+1.5
	comp=Z,34nm,2.0s						
CLL				esP	sP	23 19 32.0	+4.1
CLL				ePP	PP	23 22 22.0	-1.3
CLL				e		23 22 55.0	
CLL				epPP		23 23 00.0	
CLL				ePKiKP	PKiKP	23 23 11.0	-1.2
	comp=Z,7.0nm,1.1s						
CLL				esPP		23 23 20.0	
CLL				ePPP	PPP	23 24 24.0	
CLL				e		23 24 43.0	
CLL				ePKKPdf	PKKPdf	23 35 25.0	+0.2
CLL				eSS	SS	23 36 00.0	-2.2
CLL				eSSSS		23 43 12.0	
CLL				LmH		23 59 00.0	
	comp=N,300nm,20.1s						
CLL				LmH		23 59 00.0	
	comp=E,400nm,20.8s						
CLL				LmV		00 07 00.0	
	comp=Z,200nm,21.0s						
MODS	Modra-Piesok	95.20	327	eP	P	23 18 31.1	-1.1
MODS				pmax	pmax		
	comp=Z,37nm,1.9s						
MODS	Modra-Piesok	95.20	327	eP	P	23 18 31.1	-1.1
ZST	Bratislava	95.41	327	eP	P	23 18 32.1	-1.0
ZST	Bratislava	95.41	327	eP	P	23 18 32.1	-1.0
VTS	Vitosha	95.57	320	eP	P	23 18 33.7	-0.5
	comp=Z,15nm,1.3s						
VTS	Vitosha	95.57	320	⇓iP	P	23 18 34.1	0.0
VTS	Vitosha	95.57	320	eP	P	23 18 33.7	-0.5
VTS				pmax	pmax		
	comp=Z,15nm,1.3s						
NKC	Novy Kostel	96.22	331	eP	P	23 18 36.3	-0.4
NKC				e		23 19 20.9	
NKC	Novy Kostel	96.22	331	eP	P	23 18 36.3	-0.4
NKC				ex	x	23 19 20.9	
KHC	Kasperske Hory	96.48	330	eP	P	23 18 37.3	-0.7
	comp=Z,2.5nm,1.3s						
KHC	Kasperske Hory	96.48	330	eP	P	23 18 36.7	-1.3
KHC				e		23 19 19.4	
KHC	Kasperske Hory	96.48	330	eP	P	23 18 36.7	-1.3
KHC				epP	pP	23 19 19.4	+2.0
GEC2	GERESS Array S	96.62	329	eP	P	23 18 38.6	-0.1
	comp=Z,3.3nm,1.0s						
GEC2	GERESS Array S	96.62	329	eP	P	23 18 38.6	-0.1
GEC2				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GERES	GERESS Array B	96.62	329	P	P	23 18 37.4	-1.3
	comp=Z,1.7nm,0.9s,baz=46,slow=3.9,SNR=7.6						
G

SYO	**Syowa Base**	**115.44 203**	⇑	*e*PKiKP	**PKPdf**	**23 23 51.1**	**+2.4**
LSZ	**Lusaka**	**119.00 264**		*e*PKPdf	**PKPdf**	**23 23 56.7**	**-0.7**
LSZ	**Lusaka**	**119.00 264**		*e*PKIKP	**PKPdf**	**23 23 56.7**	**-0.7**
LBTB	**Lobatse**	**123.68 254**		*e*PKPdf	**PKPdf**	**23 24 06.2**	**+0.1**
LBTB	**Lobatse**	**123.68 254**		*e*PKIKP	**PKPdf**	**23 24 06.2**	**+0.1**
BOSA	**Boshof**	**124.57 250**		PKP	**PKPdf**	**23 24 06.5**	**-1.2**
	comp=Z,6.3nm,1.1s,baz=57,slow=4.3,SNR=6.0						
SNAA	**Sanae**	**126.77 193**		P	**PKPdf**	**23 24 10.2**	**-0.4**
SNAA	**Sanae**	**126.77 193**		*e*PKPdf	**PKPdf**	**23 24 09.4**	**-1.2**
SNAA	**Sanae**	**126.77 193**		*e*PKIKP	**PKPdf**	**23 24 09.4**	**-1.2**
VNA2	**Neumayer--Watz**	**128.25 192**		P	**PKiKP**	**23 24 14.2**	**+0.2**
VNA3	**Neumayer Olymp**	**128.40 191**		P	**PKPdf**	**23 24 13.6**	**-0.1**
VNA1	**Neumayer--Stat**	**128.64 192**		P	**PKiKP**	**23 24 15.5**	**+0.7**
TOA0	**Torodi Ar. Sit**	**129.00 310**		*e*PKPdf	**PKPdf**	**23 24 15.3**	**-1.1**
TORD	**Torodi Ar. Bea**	**129.00 310**		PKP	**PKPdf**	**23 24 15.0**	**-1.4**
	comp=Z,2.6nm,0.6s,baz=36,slow=2.1,SNR=24						
TORD				PP	**PP**	**23 26 24.3**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=45,slow=7.1,SNR=3.9						
TSUM	**Tsumeb**	**129.79 263**		*e*PKPdf	**PKPdf**	**23 24 17.7**	**-0.3**
ROSC	**El Rosal**	**134.13 59**		PKP	**PKPdf**	**23 24 26.7**	**0.0**
	comp=Z,1.2nm,0.3s,baz=135,slow=11,SNR=3.7						
ROSC				SKPbc	**SKPbc**	**23 27 39.4**	**-1.8**
	comp=Z,2.5nm,0.4s,baz=204,slow=5.7,SNR=3.5						
SDV	**Santo Domingo**	**134.36 51**		*e*PKPdf	**PKPdf**	**23 24 25.8**	**-1.0**
ATAH	**Atahualpa**	**136.74 77**		PKP	**PKPdf**	**23 24 32.4**	**+0.8**
	comp=Z,6.8nm,0.9s,baz=45,slow=5.7,SNR=3.7						
DBIC	**Dimbokro**	**138.10 309**		PKhKP	PKPpre	23 24 28.6	
	comp=Z,2.3nm,0.5s,baz=29,slow=3.7,SNR=5.1						
DBIC				PKP	**PKPdf**	**23 24 34.0**	**+0.5**
	comp=Z,4.1nm,0.7s,baz=59,slow=1.7,SNR=10						
DBIC				PP	**PP**	**23 27 22.7**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=33,slow=11,SNR=4.7						
DBIC				SKPbc	**SKPbc**	**23 27 50.4**	**-2.4**
	comp=Z,18nm,1.2s,baz=58,slow=0.9,SNR=6.1						
KIC	**Kosan Boka**	**138.23 309**		*e*P	**PKPdf**	**23 24 30.6**	**-3.2**
	comp=Z,55nm,1.3s						
TIC	**Toumodi**	**138.24 309**		*e*P	**PKPdf**	**23 24 29.6**	**-4.2**
LIC	**Lamto**	**138.53 309**		*e*P	**PKPdf**	**23 24 28.0**	**-6.4**
	comp=Z,56nm,1.4s						
GO06	**Curarrehue**	**145.28 128**		*e*PKPbc	**PKPab**	**23 24 46.3**	**+0.1**
PLCA	**Paso Flores**	**145.52 131**		*e*PKPdf	**PKPab**	**23 24 47.3**	**+0.3**
PLCA				pPKPbc	pPKPab	23 25 24.9	-2.6
PLCA	**Paso Flores**	**145.52 131**		PKPbc	**PKPbc**	**23 24 46.5**	**0.0**
	comp=Z,23nm,0.6s,baz=258,slow=4.0,SNR=99						
PLCA				pPKPbc	pPKPab	23 25 24.9	-2.6
	comp=Z,39nm,1.1s,baz=256,slow=4.7,SNR=5.3						
EFI	**East Falkland**	**145.87 156**		*e*PKPdf	**PKPab**	**23 24 48.2**	**+0.5**
EFI	**East Falkland**	**145.87 156**		*e*PKP2	**PKPab**	**23 24 48.2**	**+0.5**
ROC1	**El Roble**	**147.37 117**		*e*PKPbc	**PKPbc**	**23 24 52.9**	**+0.5**
ROC1	**El Roble**	**147.37 117**		*e*P	**PKPbc**	**23 24 52.1**	**-0.2**
PEL	**Peldehue**	**147.61 118**		*e*PKPbc	**PKPbc**	**23 24 52.8**	**+0.1**
PEL	**Peldehue**	**147.61 118**		*e*P	**PKPbc**	**23 24 53.0**	**+0.2**
PEL	**Peldehue**	**147.61 118**		*e*PKP2	**PKPbc**	**23 24 52.8**	**+0.1**
HOPE	**Hope Point**	**147.77 180**		*e*PKPbc	**PKPbc**	**23 24 52.6**	**+0.2**
GO04	**Tololo Observa**	**147.97 112**		*e*PKPbc	**PKPbc**	**23 24 54.4**	**+0.4**
GO04	**Tololo Observa**	**147.97 112**		*e*P	**PKPbc**	**23 24 52.9**	**-1.1**
LCO	**Las Campanas**	**148.17 110**		*e*PKPbc	**PKPbc**	**23 24 54.7**	**+0.1**
LCO	**Las Campanas**	**148.17 110**		*e*P	**PKiKP**	**23 24 56.3**	**+0.1**
LCO	**Las Campanas**	**148.17 110**		*e*PKP2	**PKPbc**	**23 24 54.7**	**+0.1**
MNMC	**Minye Minye**	**148.63 91**		*e*PKPdf	**PKPdf**	**23 24 53.3**	**+1.2**
MNMCX	**Minye Minye**	**148.63 91**		*e*P	**PKiKP**	**23 24 57.6**	**+0.2**
PTGA	**Pitinga**	**148.65 51**		*e*PKPdf	**PKPdf**	**23 24 52.7**	**+0.7**
PTGA	**Pitinga**	**148.65 51**		PKP	**PKPdf**	**23 24 52.2**	**+0.2**
	comp=Z,7.6nm,0.5s,baz=279,slow=4.0,SNR=16						
PTGA				PKPbc	**PKPbc**	**23 24 56.2**	**+0.3**
	comp=Z,7.6nm,0.5s,baz=317,slow=4.1,SNR=16						
GO03	**Copiap**	**148.67 107**		*e*PKPbc	**PKiKP**	**23 24 56.4**	**-0.6**
PB11	**IPOC Station P**	**148.69 92**		*e*PKPbc	**PKPbc**	**23 24 56.3**	**+0.3**
PB07	**IPOC Station P**	**148.77 96**		*e*P	**PKPdf**	**23 24 53.2**	**+1.1**
AUSP	**Uspallata**	**148.86 116**		*e*P	**PKPbc**	**23 24 56.8**	**+0.5**
PB03	**IPOC Station P**	**148.93 96**		*e*P	**PKPdf**	**23 24 53.2**	**+0.8**
RTLS	**Leoncito**	**149.01 115**		*e*P	**PKPbc**	**23 24 57.0**	**+0.3**
PB01	**IPOC Station P**	**149.05 95**		*e*PKPdf	**PKPdf**	**23 24 54.0**	**+1.5**
PB01	**IPOC Station P**	**149.05 95**		*e*P	**PKPdf**	**23 24 53.8**	**+1.3**
GO01	**Chusmiza**	**149.10 92**		*e*PKPdf	**PKPdf**	**23 24 54.2**	**+1.1**
AROD	**Rodeo**	**149.11 112**		*e*P	**PKiKP**	**23 24 58.1**	**-0.1**
ARCO	**CERRO ARCO**	**149.12 118**		*e*P	**PKPbc**	**23 24 57.0**	**+0.3**
AAGR	**Agrelo**	**149.15 118**		*e*P	**PKiKP**	**23 24 57.5**	**-0.4**
PB08	**IPOC Station P**	**149.22 93**		*e*P	**PKPdf**	**23 24 53.2**	**0.0**
ASAL	**Salagasta**	**149.25 117**		*e*P	**PKPdf**	**23 24 53.8**	**+1.2**
GO02	**Mina Guanaco**	**149.28 103**		*e*PKPdf	**PKPdf**	**23 24 52.6**	**-0.5**
GO02				*e*PKPbc	**PKiKP**	**23 24 58.6**	**-0.1**
PB15	**IPOC Station P**	**149.29 99**		*e*P	**PKiKP**	**23 24 58.7**	**+0.1**
LPAZ	**La Paz**	**149.34 85**		*e*PKPdf	**PKPdf**	**23 24 54.8**	**+1.0**
LPAZ	**La Paz**	**149.34 85**		*e*P	**PKPbc**	**23 24 58.7**	**+0.4**
LPAZ	**La Paz**	**149.34 85**		PKHKP	**PKPdf**	**23 24 54.1**	**+0.3**
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LPAZ	**La Paz**	**149.34 85**		PKP	**PKPdf**	**23 24 54.0**	**+0.3**
	comp=Z,12nm,0.5s,baz=340,slow=3.4,SNR=21						
LPAZ				PKPbc	**PKiKP**	**23 24 58.9**	**-0.5**
	comp=Z,22nm,0.8s,baz=328,slow=2.9,SNR=29						
PB09	**IPOC Station P**	**149.37 96**		*e*P	**PKPdf**	**23 24 55.1**	**+2.0**
ACCO	**Cerro Coronel**	**149.40 113**		*e*P	**PKiKP**	**23 24 58.2**	**-0.5**
ACDV	**Cuesta del Vie**	**149.41 112**		*e*P	**PKPbc**	**23 24 57.6**	**0.0**
ZON	**Zonda**	**149.58 115**		*e*P	**PKPbc**	**23 24 57.9**	**+0.1**
RTCV	**Cerro Valdivia**	**149.64 116**		*e*P	**PKPbc**	**23 24 57.9**	**-0.1**
LVC	**Limon Verde**	**149.76 97**		*e*P	**PKiKP**	**23 25 00.0**	**+0.3**
LVC	**Limon Verde**	**149.76 97**		PKPbc	**PKiKP**	**23 25 00.2**	**+0.4**
	comp=Z,23nm,1.1s,baz=189,slow=1.7,SNR=8.0						
RTLL	**Cerro Villicun**	**149.79 115**		*e*P	**PKPbc**	**23 24 58.6**	**+0.3**
AMOG	**MOGNA**	**149.84 114**		*e*P	**PKPdf**	**23 24 53.8**	**+0.3**
CFA	**Coronel Fontan**	**149.94 115**		PKP	**PKPdf**	**23 24 53.1**	**-0.5**
	comp=Z,28nm,0.8s,baz=272,slow=3.9,SNR=3.6						
CFA				PKPbc	**PKPbc**	**23 24 58.4**	**-0.2**
	comp=Z,23nm,0.6s,baz=277,slow=4.1,SNR=38						
AGUA	**GUANDACOL**	**150.04 111**		*e*P	**PKPdf**	**23 24 55.1**	**+1.2**
VCA	**Vinchina**	**150.37 110**		*e*P	**PKiKP**	**23 25 00.8**	**+0.2**
ACAN	**Cantantal**	**150.68 117**		*e*P	**PKiKP**	**23 25 00.8**	**-0.2**
ACLC	**CERRO LA CRUZ**	**151.38 111**		*e*P	**PKPdf**	**23 24 56.5**	**+0.4**
APLL	**PUNTA DE LOS L**	**151.60 113**		*e*P	**PKPbc**	**23 25 02.2**	**-0.4**
MRA	**San Martin**	**151.85 118**		*e*P	**PKPbc**	**23 25 03.3**	**+0.1**
MRA				*e*P	**PKiKP**	**23 25 03.7**	**+0.2**
CYA	**Choya**	**152.50 110**		*e*P	**PKiKP**	**23 25 04.9**	**0.0**
HJA	**Humahuaca**	**153.02 98**		*e*P	**PKPdf**	**23 25 00.6**	**+1.6**
TCA	**Tanti**	**153.04 116**		*e*P	**PKiKP**	**23 25 05.9**	**-0.1**
AHML	**Horco Molle**	**153.07 106**		*e*P	**PKPdf**	**23 24 57.0**	**-1.4**
AHML				*e*P	**PKPdf**	**23 24 58.1**	**-0.4**
AZAP	**Zapla**	**153.37 100**		*e*P	**PKPdf**	**23 24 59.5**	**+0.2**
SIV	**San Ignacio**	**155.75 80**		PKP	**PKPdf**	**23 25 02.7**	**+0.2**
	comp=Z,4.8nm,1.1s,baz=169,slow=4.8,SNR=9.1						
CPUP	**Villa Florida**	**160.25 107**		*e*PKPdf	**PKPdf**	**23 25 08.4**	**+0.8**
CPUP				PKPab	**PKPab**	**23 25 47.4**	**-1.6**
CPUP	**Villa Florida**	**160.25 107**		PKP	**PKPdf**	**23 25 08.0**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=152,slow=3.7,SNR=4.6						
CPUP				PKPab	**PKPab**	**23 25 47.4**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=5.1,slow=4.8,SNR=3.0						
BDFB	**Brasilia**	**167.15 63**		*e*PKPdf	**PKPdf**	**23 25 15.4**	**+1.0**
BDFB	**Brasilia**	**167.15 63**		PKP	**PKPdf**	**23 25 14.7**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=2.8,slow=4.3,SNR=7.3						

NNC 12 23:44:19.7±6.8, 38°36N×72°17E, h0km, mb3.9, mpv3.5, 2C-1D, Error ellipse: s-maj=54.5km s-min=42.2km az=163.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.62**	**22**	⇑P	Pn	23 45 31.1	+0.1
	2.9nm,0.6s						
AAK				⇑S	Sn	23 46 26.3	+0.9
	7.3nm,0.9s						
KK31	**Karatay Array**	**4.90**	**346**	P	Pn	23 45 35.8	+1.2
	4.3nm,0.3s,baz=148,slow=10,SNR=115						
KK31				S	Sn	23 46 33.2	+1.2
	1.0nm,0.3s,baz=144,slow=24,SNR=11						
AB31	**Akbulak array**	**14.00**	**325**	‖P	Pn	23 47 35.0	-4.2
	1.4nm,0.7s,baz=132,slow=14,SNR=22						

MEX 12 23:45:39.3±0.8, 19°28N×103°58W, h5km, MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**1.01**	**167**	*e*P	Pg	23 45 56.3	-2.3
MMIG				*i* S	Sg	23 46 09.8	-1.9
CJM	**Chamela**	**1.40**	**279**	*e*P	Pn	23 46 01.9	-3.7
CJM				*e*S	Sb	23 46 20.0	-4.2
ANIG	**Ahuacatlan**	**1.98**	**334**	*i* P	Pn	23 46 10.1	-3.4
ANIG				*e*S	Sn	23 46 33.7	-5.1

ISCJB ***12*** *23:51:32.7±0.9, 25°83N±0°06×57°53E±0°07, h10km, mb3.3/4, Error ellipse: s-maj=9.8km s-min=7.9km az=140.5*

OMAN ***12*** *23:51:33.2±0.3, 26°05N×57°53E, h42km±65km, ml2.7/11, Error ellipse: s-maj=12.4km s-min=4.4km az=265.0*

IDC ***12*** *23:51:35.7±7.9, 26°49N×57°95E, h0km, mb3.4/4, mb1 3.4/4, mb1mx3.2/40, mbtmp3.4/4, Error ellipse: s-maj=159.6km s-min=47.8km az=113.0*

ISC 12 23:51:34.2±1.1, 25°82N±0°08×57°47E±0°07, h10km, n12, σ1§14/15, mb3.4/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDH	**Madha**	**1.18**	**244**	P	**Pn**	**23 51 55.8**	**-0.9**
	SNR=7.2						
MDH				S	**Sb**	**23 52 12.5**	**+0.5**
ASHO	**Ashiyiah**	**1.71**	**229**	P	**Pn**	**23 52 02.2**	**-1.8**
ASHO				S	**Sn**	**23 52 26.6**	**+0.7**
SOHO	**SOHO**	**1.88**	**207**	P	**Pn**	**23 52 06.9**	**+0.6**
	SNR=7.6						
SOHO				S	**Sn**	**23 52 29.3**	**-0.8**
FAQ	**Al Faqa, Dubai**	**2.01**	**238**	P	**Pn**	**23 52 07.7**	**-0.4**
HOQ	**Hoqain**	**2.23**	**184**	P	**Pn**	**23 52 12.0**	**+0.9**
ASUD	**Al Ashush, Dub**	**2.27**	**239**	P	**Pn**	**23 52 11.4**	**-0.4**
ASUD				S	**Sn**	**23 52 39.0**	**-0.9**
BIDO	**Bidbid**	**2.36**	**165**	P	**Pn**	**23 52 12.8**	**-0.1**
JLN	**Jalan Bani Buh**	**4.06**	**154**	P	**Pn**	**23 52 34.8**	**-1.5**
BRTR	**Keskin Array B**	**24.28**	**311**	P	**P**	**23 56 54.0**	**+2.2**
	0.6nm,0.8s,baz=117,slow=9.8,SNR=7.3						
AKASG	**Malin Array Be**	**32.95**	**326**	P	**P**	**23 58 08.9**	**+0.1**
	0.3nm,0.4s,baz=134,slow=7.9,SNR=2.7						
FINES	**FINESS Array B**	**41.45**	**338**	P	**P**	**23 59 20.1**	**-0.7**
	0.4nm,0.6s,baz=122,slow=12,SNR=2.6						
TORD	**Torodi Ar. Bea**	**53.72**	**268**	P	P	00 01 03.2	+6.4
	0.4nm,0.9s,baz=61,slow=6.8,SNR=3.2						

UCR ***12*** *23:56:44.6±1.3, 9°79N×86°21W, h14km±14km, MD4.2, ML3.6, mb4.3(NEIC)*

ISCJB ***12*** *23:56:47.6±0.9, 10°02N±0°09×86°14W±0°04, h24km, mb4.0/18, Error ellipse: s-maj=13.4km s-min=6.1km az=5.6*

NEIC ***12*** *23:56:50.6±1.1, 10°07N×86°00W, h35km, mb4.3/9, Error ellipse: s-maj=19.5km s-min=9.1km az=12.0*

IDC ***12*** *23:56:50.3±0.9, 11°26N×85°33W, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/41, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=49.3km s-min=9.5km az=66.0*

ISC 12 23:56:48.1±1.0, 9°98N±0°09×86°06W±0°06, h24km, n48, σ1§21/49, mb4.2/18, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**0.84**	**38**	*i* P	**Pn**	**23 57 04.3**	**-0.2**
NY14				*i* S	**Sn**	**23 57 18.8**	**+2.7**
COLC	**Colonia**	**1.08**	**51**	*i* P	**Pb**	**23 57 07.7**	**-0.5**
GUAB	**Guayabo de Bag**	**1.09**	**49**	*i* P	**Pb**	**23 57 07.6**	**-0.8**
CUI	**Cuipilapa**	**1.11**	**53**	*i* P	**Pb**	**23 57 08.2**	**-0.5**
JTS	**Las Juntas de**	**1.14**	**74**	*e*Pn	**Pb**	**23 57 08.3**	**-0.8**
JTS	**Las Juntas de**	**1.14**	**74**	Pg	**Pb**	**23 57 08.6**	**-0.5**
	32nm,0.3s,baz=312,slow=6.3,SNR=192						
JTS				Lg	Lg	23 57 26.2	
	62nm,0.3s,baz=94,slow=19,SNR=8.4						
JTS	**Las Juntas de**	**1.14**	**74**	*e*P	**Pb**	**23 57 08.2**	**-0.9**
BUAI	**Buenos Aires**	**1.14**	**39**	*i* P	**Pb**	**23 57 09.2**	**0.0**
ACAL	**Aguas Claras**	**1.20**	**57**	⇑*i* P	**Pb**	**23 57 09.7**	**-0.6**
AMAS	**Alto Masis**	**1.22**	**59**	*i* P	**Pb**	**23 57 09.8**	**-0.8**
CONN	**Concepcion**	**1.63**	**15**	*e*P	**Pb**	**23 57 15.3**	**-2.2**
HDC	**Heredia**	**1.92**	**89**	*e*Pn	**Pb**	**23 57 21.6**	**-0.9**
ACON	**Acoyapa**	**2.16**	**24**	*e*Pn	**Pn**	**23 57 22.7**	**+0.2**
ACON	**Acoyapa**	**2.16**	**24**	*e*P	**Pn**	**23 57 22.7**	**+0.2**
MGAN	**Managua**	**2.16**	**355**	*e*P	**Pn**	**23 57 20.8**	**-1.8**
ESPN	**Las Esperanzas**	**2.80**	**38**	*e*Pn	**Pn**	**23 57 31.8**	**+0.5**
ESPN	**Las Esperanzas**	**2.80**	**38**	*e*P	**Pn**	**23 57 31.9**	**+0.5**
CRIN	**San Cristobal**	**2.87**	**340**	*e*P	**Pn**	**23 57 32.4**	**0.0**
MATN	**Matagalpa**	**2.93**	**3**	*e*P	**Pn**	**23 57 33.3**	**0.0**
ESTN	**Estel**	**3.11**	**354**	*e*Pn	**Pn**	**23 57 36.6**	**+0.7**
SOMN	**Somoto**	**3.46**	**351**	*e*P	**Pn**	**23 57 41.9**	**+1.2**
RCON	**San Juan de Ri**	**3.48**	**359**	*e*P	**Pn**	**23 57 41.6**	**+0.7**
CNCH	**Conchagua**	**3.70**	**332**	*e*P	**Pn**	**23 57 43.1**	**-0.9**
TGUH	**Tegucigalpa,Un**	**4.22**	**344**	*e*Pn	**Pn**	**23 57 52.4**	**+1.4**
TGUH	**Tegucigalpa,Un**	**4.22**	**344**	*e*P	**Pn**	**23 57 50.8**	**-0.2**
APG	**El Apazote**	**6.58**	**320**	Pn	**Pn**	**23 58 23.1**	**-0.7**
	0.8nm,0.3s,baz=125,slow=5.5,SNR=10.0						
CCIG	**Comitan**	**8.61**	**317**	*e*Pn	**Pn**	**23 58 53.8**	**+2.3**
LNIG	**Linares**	**19.56**	**321**	*e*P	**Pn**	**00 01 15.3**	**-0.3**
LRAL	**Lakeview Retre**	**22.96**	**358**	*e*P	**P**	**00 01 51.1**	**+0.3**
	13nm,1.3s						
Z50A	**Ashland**	**23.16**	**0**	*e*P	**P**	**00 01 53.3**	**+0.4**
	7.5nm,0.8s						
GOGA	**Godfrey**	**23.44**	**5**	*e*P	**P**	**00 01 56.3**	**+0.6**
	29nm,1.7s						
JSC	**Jenkinsville**	**24.58**	**10**	*e*P	**P**	**00 02 06.8**	**+0.4**
	10.0nm,0.7s						
TX31	**Lajitas Ar. Si**	**25.34**	**322**	*e*P	**P**	**00 02 14.5**	**+1.1**
	2.1nm,0.8s						
TXAR	**Lajitas Array**	**25.34**	**322**	P	**P**	**00 02 14.4**	**+1.1**
	1.2nm,0.6s,baz=137,slow=9.7,SNR=19						
V53A	**Saluda**	**25.74**	**6**	*e*P	**P**	**00 02 17.6**	**+0.7**
	9.9nm,0.8s						
V51A	**Loudon**	**25.75**	**3**	*e*P	**P**	**00 02 16.3**	**-0.7**
	23nm,1.3s						
WMOK	**Wichita Mounta**	**27.25**	**337**	*e*P	**P**	**00 02 31.5**	**+1.0**
	4.8nm,1.0s						
SMCO	**Snowmass**	**34.55**	**331**	*e*P	**P**	**00 03 35.4**	**0.0**
	8.2nm,1.0s						
ELK	**Elko**	**40.05**	**325**	P	**P**	**00 04 22.8**	**+1.0**
	1.1nm,0.9s,baz=153,slow=6.1,SNR=4.2						
FLWY	**Flagg Ranch**	**40.12**	**332**	*e*P	**P**	**00 04 22.0**	**-0.2**
	21nm,0.9s						
NV11	**Mina Array Sit**	**40.35**	**320**	*e*P	**P**	**00 04 26.4**	**+2.2**
	0.3nm,1.1s						
NVAR	**Mina Array Bea**	**40.45**	**320**	*e*P	**P**	**00 04 26.8**	**+1.8**
NVAR	**Mina Array Bea**	**40.45**	**320**	P	**P**	**00 04 27.1**	**+2.0**
	1.5nm,0.7s,baz=134,slow=6.6,SNR=12						
BOZ	**Bozeman (W)**	**41.71**	**333**	*e*P	**P**	**00 04 37.0**	**+1.7**
	5.3nm,1.0s						
YKA	**Yellowknife Ar**	**56.34**	**345**	P	**P**	**00 06 25.6**	**-1.3**
	0.2nm,0.6s,baz=141,slow=7.1,SNR=4.1						
SFJD	**Kangerlussuaq**	**61.72**	**15**	P	**P**	**00 07 00.5**	**-3.6**
	5.0nm,0.7s,baz=212,slow=9.5,SNR=4.5						
ILAR	**Eielson Array**	**68.81**	**336**	P	**P**	**00 07 50.6**	**+0.5**
	0.5nm,1.0s,baz=123,slow=6.6,SNR=3.9						
LZH	**Lanzhou**	**133.24**	**349**	*e*PKP	**PKiKP**	**00 16 04.5**	**+0.5**
LZH				pPKP	sPKPdf	00 16 15.6	+2.8
LZH				sPKP		00 16 21.3	

MAN ***13*** *00:00:24.4, 0°41N×124°96E, h31km, mb5.7, ML4.7, MS5.1*

IDC ***13*** *00:00:27.0±2.1, 0°77N×125°10E, h62km±18km, mb4.8/26, mb1 4.8/28, mb1mx4.7/33, mbtmp5.0/28, MS3.6/12, Ms1 3.6/12, ms1mx3.5/23, Error ellipse: s-maj=16.3km s-min=9.1km az=76.0*

GCMT ***13*** *00:00:27.7±0.3, 0°65N±0°02×125°15E±0°04, h61km±2km, MW4.9/51, Moment Tensor Solution. s33,c40; s51,c76; Duration: 0 Moment tensor: Scale 1016Nm; Mrr2.37±.17; Mθθ-0.90±.12; Mφφ-1.48±.16; Mrθ0.20±.07; Mrφ-1.48±.10; Mθφ1.30±.12; Best double couple: M0=2.86500×1016 NP1:φs=25.00000°, δ59.00000°, λ74.00000°. NP2: φs=235.00000°, δ35.00000°, λ115.00000°. Principal axes: T 2.7860, Plg71.0000°, Azm257.0000°; N 0.1510, Plg14.0000°, Azm34.0000°; P -2.9450, Plg12.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***13*** *00:00:28.3±1.1, 0°83N×125°12E, h86km, mb5.2/50 Error ellipse: s-maj=8.8km s-min=4.9km az=112.9*

BJI ***13*** *00:00:28.4±0.0, 0°80N×125°40E, h86km, mb5.0/50, mB5.0/32, Ms4.5/15, Ms7 4.2/9*

ISCJB ***13*** *00:00:28.4±0.3, 0°73N±0°02×125°27E±0°02, h94km±2km, mb5.2/109, Error ellipse: s-maj=4.1km s-min=3.2km az=169.6*

NEIC ***13*** *00:00:29.7±0.5, 0°75N×125°33E, h89km±5km, mb5.1/35, Error ellipse: s-maj=5.4km s-min=4.1km az=61.0*

DJA ***13*** *00:00:29.4±0.2, 1°N±2°×12°5E±°, h57km±3km, M4.9/25, mB5.2/11, mb5.2/25, MLv5.3/16, Mw(mB)4.6/11*

KLM ***13*** *00:00:31.0, 0°62N×125°32E, h113km, mb4.9*

ISC 13 00:00:29.5±0.5, 0.70N±0°03×125°25E±0°04, h87km±4km, n502, σ1§26/552, mb5.1/114, 44C-13D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**0.84**	**331**	P	**Pn**	**00 00 45.8**	**-1.5**
KMSI	**Cibinong**	**1.28**	**264**	P	**Pn**	**00 00 52.1**	**-0.2**
KMSI				S	**Sn**	**00 01 09.9**	**+0.4**
TNTI	**Ternate**	**2.12**	**88**	*e*Pn	**Pn**	**00 01 01.7**	**-1.5**
TNTI	**Ternate**	**2.12**	**88**	P	**Pn**	**00 01 02.2**	**-1.0**
TNTI				S	**Sn**	**00 01 27.0**	**-1.9**
SANI	**Sanana**	**2.83**	**165**	P	**Pn**	**00 01 10.2**	**-2.6**
SANI				S	**Sn**	**00 01 40.5**	**-5.5**
SGSI	**Sangihe**	**2.98**	**5**	P	**Pn**	**00 01 14.4**	**-0.3**
LUWI	**Luwuk**	**3.02**	**235**	*e*Pn	**Pn**	**00 01 16.1**	**+0.7**
LUWI	**Luwuk**	**3.02**	**235**	P	**Pn**	**00 01 16.4**	**+1.0**
MRSI	**Marisa**	**3.32**	**266**	P	**Pn**	**00 01 19.1**	**-0.2**
APSI	**Ampana**	**3.94**	**246**	P	**Pn**	**00 01 29.6**	**+1.8**
KDI	**Kendari**	**5.32**	**210**	P	Pn	00 01 55.8	+9.2
MPSI	**Mapaga**	**5.37**	**266**	P	**Pn**	**00 01 47.5**	**+0.4**
	180nm,0.7s,2μm						
DDMP	**Don Marcelino,**	**5.39**	**5**	*e*P	**Pn**	**00 01 48.6**	**+1.1**
DDMP				*e*S	**Sn**	**00 02 48.6**	**+0.5**
SKMP	**Bagumbayan, Su**	**5.82**	**353**	*e*P	**Pn**	**00 01 53.7**	**+0.3**
SKMP				*e*S	**Sn**	**00 02 57.2**	**-1.6**
SWI	**Sorong**	**6.21**	**104**	P	**Pn**	**00 01 59.1**	**+0.5**
MATI	**Mati**	**6.28**	**9**	*e*P	**Pn**	**00 01 59.7**	**0.0**
MATI				*e*S	**Sn**	**00 03 13.9**	**+3.9**
DAV	**Davao City (W)**	**6.33**	**3**	P	**Pn**	**00 02 03.1**	**+2.7**
	SNR=9.3						
DAV	**Davao City (W)**	**6.33**	**3**	P	**Pn**	**00 02 01.7**	**+1.3**
	44nm,0.3s,baz=165,slow=2.5,SNR=7.8						
DAV				S	Sn	00 03 21.2	+10
	29nm,0.3s,baz=252,slow=20,SNR=2.3						
DAV				LR	LR	00 04 53.4	
	comp=Z,725nm,18.1s,baz=121,slow=42						
DMPH	**Davao City--Mi**	**6.34**	**2**	⇑*e*P	**Pn**	**00 02 02.4**	**+1.9**
CTBH	**Cotabato--PC H**	**6.55**	**351**	‖*e*P	**Pn**	**00 02 04.4**	**+1.0**
TTSI	**Tana Toraja**	**6.58**	**236**	P	**Pn**	**00 02 04.3**	**+0.5**
	439nm,0.8s,4μm						
BBSI	**Bau Bau**	**6.71**	**203**	P	Pn	00 02 10.7	+5.2
BNDI	**Bandanaira**	**6.97**	**138**	P	**Pn**	**00 02 07.8**	**-1.2**
	882nm,0.9s,9μm						
BUKP	**Musuan**	**7.13**	**358**	*e*P	**Pn**	**00 02 13.4**	**+2.1**
SPSI	**Sidrap Palu**	**7

comp=Z,63µm,0.8s,comp=Z,562µm
NONG Nongkai 27.74 310 P P 00 06 10.1 0.0
comp=Z,0.7nm,0.9s
MEEK Meekatharra 27.92 193 P P 00 06 11.5 -0.2
baz=28,SNR=14
PHET Kaeng Krachan 28.14 297 P P 00 06 15.1 +1.4
comp=Z,41µm,0.8s
SLVN Son La 29.23 316 *e*P **P 00 06 24.0 +0.6**
comp=Z,15nm,1.1s
UTTA Uttaradit 29.60 306 P P 00 06 27.3 +0.6
comp=Z,40µm,0.8s,comp=Z,292µm
LAMP Lampang 30.76 307 P P 00 06 37.9 +1.0
comp=Z,36µm,0.8s,comp=Z,292µm
GYA Guiyang 31.24 327 P P 00 06 41.2 0.0
GYA pP pP 00 07 01.8 +0.5
GYA PP **PnPn 00 07 47.6 +0.9**
GYA S **S 00 11 36.8 -4.7**
GYA sS sS 00 12 17.2 +2.1
GYA SS **SnSn 00 13 31.0 -2.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,5.9s
GYA LR LR
comp=Z,220nm,15.9s
GYA LR LR
comp=Z,300nm,14.9s
CMAR Chiang Mai Arr 31.28 306 *e*P **P 00 06 41.9 +0.4**
CMAR PcP **PcP 00 09 34.8 +0.7**
CMAR ScP **ScP 00 13 10.9 +1.4**
CMAR Chiang Mai Arr 31.28 306 *e*P **P 00 06 41.9 +0.4**
CMAR 00 09 34.8
CMAR Chiang Mai Arr 31.28 306 P P 00 06 40.8 -0.7
comp=Z,8.0nm,0.8s,baz=133,slow=7.4,SNR=42
CMAR PcP **PcP 00 09 34.8 +0.7**
comp=Z,4.4nm,0.9s,baz=169,slow=1.1,SNR=11
CMAR ScP **ScP 00 13 10.9 +1.4**
comp=Z,0.4nm,0.3s,baz=162,slow=3.4,SNR=4.9
CMAR LR LR 00 18 53.1
comp=Z,109nm,22.0s,baz=134,slow=36
FORT Forrest 31.42 175 *e*P **P 00 06 43.3 +0.8**
comp=Z,38nm,0.8s
WHN Wuhan 31.43 342 ⇓*i*P **P 00 06 45.0 +2.4**
CMMT Chiang Mai 31.46 306 P P 00 06 43.5 +0.4
comp=Z,17nm,0.8s
CHTO Chiang Mai 31.46 306 *e*P **P 00 06 43.6 +0.5**
comp=Z,23nm,0.8s
CHTO Chiang Mai 31.46 306 *e*P **P 00 06 43.6 +0.5**
CHTO pmax pmax
comp=Z,23nm,0.8s
NJ2 Nanjing 31.76 350 *e*P **P 00 06 45.3 -0.2**
NJ2 pmax pmax
comp=Z,17nm,0.5s
KMBL Kambalda 32.05 185 P P 00 06 48.5 +0.4
baz=32,SNR=6.5
BLDU Ballidu 32.19 194 P P 00 06 49.6 +0.3
baz=32,SNR=6.3
KMI Kunming 32.59 320 P P 00 06 55.0 +1.8
KMI pmax pmax
comp=Z,16nm,1.3s
JNU Nakatsue 32.68 9 *e*P **P 00 06 53.3 -0.3**
comp=Z,15nm,0.8s
KLBR Kellerberrin 32.90 192 P P 00 06 55.6 +0.1
baz=33,SNR=14
ENH Enshi 33.01 334 *e*P **P 00 06 55.8 -0.7**
comp=Z,4.8nm,0.8s
NWAO Narrogin (SRO) 34.29 192 P P 00 07 08.2 +0.6
baz=34,SNR=4.9
STKA Stephens Creek 35.91 156 *e*P **P 00 07 22.6 +1.2**
comp=Z,4.1nm,0.8s
STKA PcP **PcP 00 09 47.6 +0.7**
STKA Stephens Creek 35.91 156 P P 00 07 22.6 +1.2
baz=36,SNR=13
STKA Stephens Creek 35.91 156 P P 00 07 22.7 +1.2
comp=Z,18nm,0.7s,baz=323,slow=8.9,SNR=24
STKA PcP **PcP 00 09 47.6 +0.7**
comp=Z,3.3nm,0.5s,baz=13,slow=6.2,SNR=3.1
RKGY Rocky Gully 35.97 192 P P 00 07 23.6 +1.6
baz=36,SNR=4.9
INU Inuyama 36.17 16 *e*P **P 00 07 23.4 -0.3**
comp=Z,30nm,0.7s
CD2 Chengdu 36.30 328 P P 00 07 24.9 0.0
CD2 pmax pmax
comp=Z,40nm,0.5s
HTT Hallett 36.31 161 P P 00 07 25.5 +0.5
baz=36,SNR=5.0
XAN Xi'an 36.52 337 P P 00 07 25.2 -1.6
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN Xi'an 36.52 337 *e*P **P 00 07 25.1 -1.6**
comp=Z,42nm,0.7s
XAN Xi'an 36.52 337 *e*P **P 00 07 25.2 -1.6**
XAN pmax pmax
comp=Z,42nm,0.7s
KSAR Wonju Array Be 36.64 4 P P 00 07 28.4 +0.9
KSAR PcP **PcP 00 09 49.7 +0.7**
KSAR Wonju Array Be 36.64 4 P P 00 07 28.5 +0.9
KSAR 00 09 49.7
KSRS Korea Array 36.65 4 P P 00 07 28.4 +0.7
comp=Z,18nm,0.7s,baz=178,slow=9.9,SNR=66
KSRS PcP **PcP 00 09 49.7 +0.7**
comp=Z,4.9nm,0.7s,baz=185,slow=2.7,SNR=11
KSRS LR LR 00 22 04.2
comp=Z,52nm,21.9s,baz=185,slow=36
CMSA Cobar Meteorol 37.47 151 P P 00 07 36.2 +1.5
baz=38,SNR=6.1
MAJO Matsushiro 37.63 17 *e*P **P 00 07 35.6 -0.5**
comp=Z,26nm,0.8s
MAJO Matsushiro 37.63 17 *i*P **P 00 07 34.7 -1.3**
MAJO pmax pmax
comp=Z,21nm,0.8s
MAT Matsushiro 37.63 17 P P 00 07 35.2 -0.8
MJAR Matsushiro Arr 37.63 17 *e*P **P 00 07 33.0 -3.1**
comp=Z,6.9nm,0.7s
MJAR PcP **PcP 00 09 53.0 +1.0**
MJAR Matsushiro Arr 37.63 17 P P 00 07 35.1 -0.9
comp=Z,20nm,0.8s,baz=201,slow=9.7,SNR=56
MJAR PcP **PcP 00 09 53.0 +1.0**
comp=Z,3.0nm,0.8s,baz=187,slow=3.0,SNR=4.5
MJB9 Matsu-Tunnel 37.63 17 *e*P **P 00 07 34.8 -1.3**
comp=Z,26nm,0.8s
ARMA Armidale 39.85 143 *e*P **P 00 07 55.1 +0.2**
comp=Z,7.8nm,0.8s
ARMA Armidale 39.85 143 P P 00 07 56.0 +1.1
baz=40,SNR=6.1
ARPS Mount Arapiles 40.34 159 P P 00 08 00.5 +1.9
baz=40,SNR=13
LZH Lanzhou 40.43 333 *e*P **P 00 08 00.9 +1.3**
LZH pP pP 00 08 24.8 +4.6
LZH sP sP 00 08 36.8 +6.6
LZH SS SS 00 16 59.6 -4.8
LZH pmax pmax
comp=Z,19nm,1.1s
LZH LR LR
comp=Z,150nm,10.8s
LZH LR LR
comp=Z,220nm,16.0s
SHL Shillong 40.58 310 *e*P **P 00 08 00.4 -0.6**
comp=Z,34nm,0.9s
SHL Shillong 40.58 310 *e*P **P 00 08 00.4 -0.6**
SHL pmax pmax
comp=Z,34nm,0.9s
SHL Shillong 40.58 310 *e*P **P 00 08 02.5 +1.5**
YNG Young 41.03 150 P P 00 08 06.0 +1.6
baz=41,SNR=9.4
HHC Hu-ho-hao-te 41.85 344 *e*P **P 00 08 13.2 +2.1**
HHC S **S 00 14 27.8 +5.2**
HHC pmax pmax
comp=Z,81nm,0.9s
HHC pmax pmax
comp=Z,300nm,5.1s
HHC LR LR
comp=Z,610nm,14.0s
HHC LR LR
comp=Z,810nm,13.9s
CAN Canberra 42.15 151 *e*P **P 00 08 13.6 +0.1**
comp=Z,19nm,0.8s
CAN Canberra 42.15 151 *e*P **P 00 08 13.6 +0.1**
CAN pmax pmax
comp=Z,19nm,0.8s
LSA Lhasa 43.41 315 *e*P **P 00 08 25.0 +0.6**
comp=Z,95nm,0.8s
LSA Lhasa 43.41 315 *e*P **P 00 08 25.0 +0.6**
LSA pmax pmax
comp=Z,95nm,0.8s
USRK Ussuriysk Ar. 43.72 7 P P 00 08 26.5 +0.5
comp=Z,20nm,0.7s,baz=183,slow=6.5,SNR=42
USRK LR LR 00 26 48.2
comp=Z,34nm,19.9s,baz=145,slow=36
MDJ Mudanjiang 43.90 4 P P 00 08 28.0 +0.6
MDJ pmax pmax
comp=Z,51nm,0.8s
MDJ pmax pmax
comp=Z,320nm,4.2s
MDJ Mudanjiang 43.90 4 *e*P **P 00 08 26.9 -0.5**
comp=Z,160nm,0.8s
GTA Gaotai 44.99 332 *e*P **P 00 08 36.0 -0.4**
GTA pP pP 00 08 57.8 +0.5
GTA sP sP 00 09 10.1 +2.9
GTA pmax pmax
comp=Z,9.0nm,0.7s
GTA pmax pmax
comp=Z,58nm,8.2s
GTA LR LR
comp=Z,79nm,15.8s
GTA LR LR
comp=Z,72nm,13.4s
TEY Ternei 45.27 11 *i*P **P 00 08 38.8 +0.4**
TEY pmax pmax
comp=N,50nm,0.9s
TEY pmax pmax
comp=Z,80nm,0.9s
TEY pmax pmax
comp=E,30nm,0.6s
RAMN Ramite 45.37 308 *e*P **P 00 08 39.4 -0.4**
comp=E,88nm,1.0s
JIRN Jiri 46.03 309 *e*P **P 00 08 44.6 -0.5**
comp=E,29nm,0.4s
DZM Mont Dzumac 46.10 122 *e*P **P 00 08 44.4 -1.0**
PKI Pulchoki 46.59 308 *e*P **P 00 08 48.4 -1.1**
comp=E,9.7nm,0.4s
PKIN Phulchoki 46.61 308 *e*P **P 00 08 48.3 -1.2**
comp=E,9.3nm,0.4s
KKN Kakani 46.80 309 *e*P **P 00 08 50.0 -1.0**
comp=E,55nm,1.0s
DMN Daman 46.85 308 *e*P **P 00 08 50.7 -0.7**
comp=E,44nm,0.9s
GKN Gorkha 47.40 309 *e*P **P 00 08 54.8 -0.8**
KOLN Koldanda 48.11 308 *e*P **P 00 09 00.6 -0.5**
comp=E,114nm,0.8s
DANN Dangsing 48.25 308 *e*P **P 00 09 01.5 -0.8**
comp=E,144nm,0.9s
YSS Yuzh-Sakhalins 48.54 16⇑*e*P **P 00 09 05.0 +1.2**
HIA Hailar 48.61 355 *i*P **P 00 09 03.4 -1.0**
HIA pmax pmax
comp=Z,43nm,0.8s
KLR Kul'dur 48.66 6*c i*P **P 00 09 04.2 -0.5**
PYUN Piuthan 48.74 308 *e*P **P 00 09 05.5 -0.5**
comp=Z,165nm,0.7s
HYB Hyderabad 48.83 293 *i*P **P 00 09 05.5 -1.1**
comp=Z,42nm,0.8s
ULN Ulaanbaatar 49.56 344 *e*P **P 00 09 11.1 -0.8**
comp=Z,5.1nm,0.7s
ULN Ulaanbaatar 49.56 344*ce*P **P 00 09 11.0 -0.8**
ULN pmax pmax
comp=Z,5.0nm,0.7s
SONM Songino Array 49.72 343 *e*P **P 00 09 11.7 -1.3**
SONM PcP **PcP 00 10 32.3 -0.6**
SONM Songino Array 49.72 343 *e*P **P 00 09 11.7 -1.3**
SONM 00 10 32.3
SONM Songino Array 49.72 343 P P 00 09 11.2 -1.8
comp=Z,4.9nm,0.7s,baz=159,slow=9.4,SNR=7.8
SONM PcP **PcP 00 10 32.3 -0.6**
comp=Z,2.9nm,0.7s,baz=174,slow=4.0,SNR=3.7
SONM LR LR 00 31 01.8
comp=Z,56nm,21.3s,baz=226,slow=37
GRNR Gornyy 50.78 9 *e*P **P 00 09 21.9 +1.1**
GRNR pmax pmax
comp=Z,42nm,1.0s
TYV Tymovskoe 52.11 14 *e*P **P 00 09 31.8 +1.1**
TYV pmax pmax
comp=Z,13nm,1.1s
ZEA Zeya 52.88 1 *e*P **P 00 09 37.8 +1.5**
ZEA pmax pmax
comp=Z,33nm,0.8s
ZAK Zakamensk 52.91 343 *e*P **P 00 09 34.9 -1.9**
ZAK *e* 00 10 44.0
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY Talaya 53.96 344 *e*P **P 00 09 44.4 0.0**
TLY Talaya 53.96 344 *i*P **P 00 09 43.9 -0.4**
TLY pmax pmax
comp=Z,12nm,0.8s
WMQ Urumqi 54.40 327 *e*P **P 00 09 47.7 0.0**
WMQ pP pP 00 10 09.4 +0.2
WMQ sP sP 00 10 19.7 +0.8
WMQ pmax pmax
comp=Z,90nm,1.3s
WMQ LR LR
comp=Z,600nm,22.3s
WMQ LR LR
comp=Z,520nm,24.3s
WMQ Urumqi 54.40 327 *e*P **P 00 09 47.3 -0.4**
comp=Z,106nm,0.5s
WMQ Urumqi 54.40 327 *e*P **P 00 09 47.3 -0.4**
WMQ pmax pmax
comp=Z,106nm,0.5s
MOY Mondy 54.74 342 *e*P **P 00 09 49.8 -0.3**
MOY pmax pmax
comp=Z,11nm,1.5s
BOD Bodaibo 57.65 353 *e*P **P 00 10 10.2 -0.3**
BOD pmax pmax
comp=Z,26nm,1.4s
DGZ Jazzator, Alta 58.52 332*c i*P **P 00 10 16.2 -0.8**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
PETK Petropavlovsk- 58.77 22 P P 00 10 20.0 +1.5
comp=Z,24nm,0.6s,baz=181,slow=2.7,SNR=56
DCZ Deep Cove 59.00 147 *e*P **P 00 10 19.7 -0.4**
KSH Kashi 59.18 317 P P 00 10 23.0 +1.3
KSH sP sP 00 10 57.1 +3.7
KSH PP **PP 00 12 37.2 +3.8**
KSH S **S 00 18 20.7 -2.2**
KSH SS **SS 00 22 18.8 +0.1**
KSH pmax pmax
comp=Z,44nm,1.1s
KSH pmax pmax
comp=Z,410nm,4.7s
KSH LR LR
comp=Z,160nm,7.4s
MKAR Makanchi Array 59.23 327 *i*P **P 00 10 20.8 -1.0**
MKAR pmax pmax
comp=Z,13nm,0.4s
MKAR Makanchi Array 59.23 327 P P 00 10 20.9 -0.8
comp=Z,13nm,0.4s,baz=122,slow=7.9,SNR=210
MKAR LR LR 00 36 19.5
comp=Z,82nm,21.0s,baz=112,slow=36
KZA Kyzart 60.88 319 P P 00 10 33.6 0.0
SNR=9.5
TKM2 Tokmak 2 61.07 320 P P 00 10 34.1 -0.5
SNR=9.8
YAK Yakutsk 61.27 2 *e*P **P 00 10 35.6 +0.3**
YAK *e**PP **pwP 00 10 59.0 -0.1**
YAK *e* 00 11 13.8
YAK *e* 00 12 52.9
YAK *e*PPP PPP 00 14 17.3
YAK *e*S **S 00 18 48.8 +0.4**
YAK *e* 00 20 14.8
YAK pmax pmax
comp=E,46nm,0.9s
YAK pmax pmax
comp=Z,27nm,0.7s
YAK pmax pmax
comp=N,19nm,0.9s
YAK pmax pmax
comp=E,15nm,0.6s
YAK smax smax
comp=N,191nm,2.8s
YAK smax smax
comp=E,328nm,2.8s
YAK MLR MLR
comp=Z,301nm,23.0s
YAK MLR MLR
comp=N,371nm,21.0s
YAK MLR MLR
comp=E,193nm,18.0s
UCH Uchtor 61.43 319 P P 00 10 37.2 -0.2
SNR=16
AAK Ala-Archa 61.64 320 P P 00 10 38.1 -0.3
SNR=7.5
AAK Ala-Archa 61.64 320 *e*P **P 00 10 37.8 -0.6**
comp=E,9.3nm,0.9s
AAK Ala-Archa 61.64 320 *i*P **P 00 10 38.2 -0.3**
SNR=10
AAK Ala-Archa 61.64 320*c i*P **P 00 10 37.9 -0.6**
AAK pmax pmax
comp=Z,7.0nm,0.9s
AML Almayashu 61.93 319 P P 00 10 40.4 -0.3
SNR=16
USP Ospenovka 61.94 320 P P 00 10 39.6 -0.7
SNR=13
MA2 Magadan 61.98 14 *e*P **P 00 10 41.3 +1.1**
comp=Z,240nm,0.8s
MA2 Magadan 61.98 14*ce*P **P 00 10 41.3 +1.1**
MA2 pmax pmax
comp=Z,54nm,0.9s
EKS2 Erkin-Say 62.12 319 P P 00 10 41.3 -0.3
SNR=7.1
ZALV Zalesovo Beam 62.63 334 P P 00 10 42.7 -1.9
comp=Z,6.8nm,0.6s,baz=141,slow=5.2,SNR=25
ZALV LR LR 00 40 34.3
comp=Z,52nm,18.2s,baz=70,slow=38
KURK Kurchatov 63.52 329 *e*P **P 00 10 49.5 -1.0**
comp=Z,287nm,0.6s
KURK Kurchatov 63.52 329*ce*P **P 00 10 49.3 -1.3**
KURK pmax pmax
comp=Z,53nm,1.0s
KURK Kurchatov 63.52 329 P P 00 10 49.5 -1.0
SNR=12
NVS Novosibirsk 63.92 334 ⇓*i*P **P 00 10 51.8 -1.3**
NVS *i*S S 00 19 49.0 +27
NVS pmax pmax
comp=N,6.0nm,0.4s
NVS pmax pmax
comp=E,7.0nm,0.4s
NVS pmax pmax
comp=Z,10.0nm,0.4s
NVS smax smax
comp=N,2.0nm,0.6s
NVS smax smax
comp=E,24nm,1.0s
SEY Seymchan 65.30 13*ce*P **P 00 11 03.5 +1.6**
BRVK Borovoye 69.14 328 *e*P **P 00 11 25.3 -1.1**
comp=E,51nm,0.8s
BRVK Borovoye 69.14 328 *i*P **P 00 11 24.6 -1.8**
BRVK pmax pmax
comp=Z,15nm,0.9s
BRVK Borovoye 69.14 328 P P 00 11 25.3 -1.1
SNR=7.1
HATD Hatta, Dubai 70.80 296 P P 00 11 35.1 -2.1
ASHO Ashiyiah 70.84 296 P P 00 11 35.5 -2.0
TIXI Tiksi 70.87 1 *e*P **P 00 11 35.6 -1.0**
comp=Z,23nm,0.6s
TIXI Tiksi 70.87 1*ce*P **P 00 11 36.0 -0.7**
TIXI pmax pmax
comp=Z,42nm,1.3s
ASUD Al Ashush, Dub 71.49 296 P P 00 11 39.7 -1.7
GEYT Alibeck 71.66 310 P P 00 11 41.4 -0.8
comp=Z,5.0nm,0.8s,baz=158,slow=6.1,SNR=14
BILL Bilibino 72.84 15*ce*P **P 00 11 48.3 -0.2**
BILL pmax pmax
comp=Z,4.0nm,1.0s
NRIK Noril'sk 73.01 347 P P 00 11 49.6 +0.1
comp=Z,59nm,0.6s,baz=124,slow=5.7,SNR=157
NRIK LR LR 00 49 27.8
comp=Z,26nm,18.1s,baz=104,slow=40
SVE Sverdlovsk 75.77 329⇓*e*P **P 00 12 04.9 -0.8**
SVE pmax pmax
comp=Z,25nm,0.6s
ARU Arti 76.71 328 *e*P **P 00 12 09.4 -1.6**
comp=Z,21nm,0.6s
ARU Arti 76.71 328*c i*P **P 00 12 09.6 -1.5**
ARU S **S 00 21 50.6 -0.3**
ARU SS **SS 00 26 42.7 -5.6**
ARU pmax pmax
comp=Z,12nm,0.7s
MAW Mawson 80.42 200 P P 00 12 32.4 +1.2
baz=80,SNR=8.1
MAW Mawson 80.42 200 P P 00 12 32.5 +1.3
comp=Z,9.4nm,0.6s,baz=86,slow=4.7,SNR=18
VNDA Vanda 80.63 172 P P 00 12 33.2 +0.9
comp=Z,5.1nm,0.8s,baz=318,slow=6.3,SNR=41
GNI Garni 82.29 310 *i*P **P 00 12 40.3 -1.7**
GNI pmax pmax
comp=Z,23nm,0.8s
ZEI Tsey 83.17 313 *e*P **P 00 12 45.3 -1.2**
ZEI pmax pmax
comp=Z,11nm,0.6s
AKH Akhalkalaki 83.35 311⇑*i*P **P 00 12 48.2 +0.8**
NCK Nalchik 83.46 314 *i*P **P 00 12 45.7 -2.0**
NCK pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 83.98 314 P P 00 12 49.7 -0.6
comp=Z,7.3nm,0.8s,baz=105,slow=4.5,SNR=19
NEY Neytrino 84.07 313 *i*P **P 00 12 49.4 -1.7**
NEY pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 84.15 314 *e*P **P 00 12 50.7 -0.7**
comp=Z,19nm,0.7s
KIV Kislovodsk 84.15 314⇑*i*P **P 00 12 51.3 -0.1**
KIV Kislovodsk 84.15 314 P P 00 12 50.9 -0.5
KIV Kislovodsk 84.15 314 *e*P **P 00 12 50.8 -0.5**
KIV pmax pmax
comp=Z,23nm,1.0s
PRGR Permogore 84.45 332⇑*i*P **P 00 12 51.4 -0.9**
PRGR pmax pmax
comp=Z,109nm,0.8s
BCA Borcka 84.75 311⇑*i*P **P 00 12 54.2 -0.2**
KDAK Kodiak Island 85.22 32 *e*P **P 00 12 57.1 +0.9**
comp=Z,24nm,0.7s
KDAK Kodiak Island 85.22 32 *i*P **P 00 12 57.6 +1.3**
VRH Novokhopyorsk 85.39 321 *e*P **P 00 12 56.1 -1.2**
VRH pmax pmax
comp=Z,110nm,1.5s
SOC Sochi 86.28 313 *e*P **P 00 12 59.4 -2.4**
SOC *e**PP **pP 00 13 21.9 -3.0**
SOC *e*S **SKSac 00 23 15.8 -4.6**
SOC *e*SS **SS 00 29 07.6 -3.7**
SOC *e*SSS SSS 00 32 38.9
SOC pmax pmax
comp=Z,36nm,0.7s
VSR Storozhevoye 87.00 321*c i*P **P 00 13 03.4 -1.8**
VSR pmax pmax
comp=Z,59nm,0.8s
LPSR Galich'ya Gora 87.20 322 *e*P **P 00 13 05.3 -0.8**
LPSR pmax pmax
comp=Z,80nm,0.8s
KLMR Klimovskoe 87.30 331⇑*i*P **P 00 13 05.2 -1.2**
KLMR pmax pmax
comp=Z,23nm,0.5s
TOLK Toolik Lake Re 87.58 21 P P 00 13 08.9 +1.1
baz=266
ANN Anapa 87.96 315 *e*P P 00 13 04.5 -5.4
ANN *e**PP pP 00 13 29.5 -3.6
ANN *e*S **SKSac 00 23 23.1 -7.5**
ANN pmax pmax
comp=Z,141nm,1.2s
KMBO Kilima Mbogo 88.01 269 *i*P **P 00 13 12.3 +1.1**
SNR=19
KMBO Kilima Mbogo 88.01 269 P P 00 13 12.3 +1.1
SNR=6.3
KMBO Kilima Mbogo 88.01 269 P P 00 13 12.2 +1.0
comp=Z,23nm,0.9s,baz=37,slow=6.0,SNR=33
KMBO LR LR 00 48 36.4
comp=Z,65nm,21.0s,baz=84,slow=33
MOS Moscow 88.08 326 *e*P **P 00 13 08.0 -2.2**
MOS *e* 00 13 31.2
MOS *e* 00 23 27.6
MOS pmax pmax
comp=Z,57nm,0.7s
TMCR Tamitsa 88.15 334 *e*P **P 00 13 08.5 -1.9**
TMCR pmax pmax
comp=Z,13nm,0.5s
HDA Harding Lake 88.42 26 P P 00 13 11.0 -0.7
baz=268
ILAR Eielson Array 88.45 25 P P 00 13 10.7 -1.2
comp=Z,1.4nm,0.6s,baz=242,slow=5.0,SNR=18
ILAR PKKPbc **PKKPbc 00 30 55.7 -1.0**
comp=Z,0.4nm,0.8s,baz=107,slow=1.5,SNR=4.3
OBN Obninsk 88.67 325 *e*P **P 00 13 11.9 -1.1**
comp=Z,150nm,0.7s
OBN Obninsk 88.67 325⇓*i*P **P 00 13 12.6 -0.4**
OBN Obninsk 88.67 325*c i*P **P 00 13 12.1 -0.9**
OBN *e*S **SKSac 00 23 36.1 +1.7**
OBN pmax pmax
comp=Z,60nm,0.9s
OBN MLR MLR
comp=Z,47nm,21.0s

SIM Simferopol' 90.31 315 *ceP* **P 00 13 20.2 -0.8**
SIM pmax pmax
comp=Z,33nm,0.7s
BZK Bozkurt 90.47 312 ⇑ *iP* **P 00 13 21.2 -0.5**
QSPA South Pole Qui 90.63 180 *eP* **P 00 13 23.1 +0.9**
comp=Z,8.1nm,0.5s
BR131 Keskin Array S 90.80 310 P **P 00 13 22.2 -1.4**
SNR=7.0
BRTR Keskin Array B 90.80 310 P **P 00 13 22.1 -1.4**
comp=Z,4.4nm,0.9s,baz=133,slow=3.9,SNR=23
BRTR PP **PP 00 17 02.5 +2.2**
comp=Z,0.9nm,1.0s,baz=108,slow=7.9,SNR=4.3
DAWY Dawson 91.73 26 *eP* **P 00 13 27.7 +0.5**
comp=Z,4.9nm,1.0s
EPYK Eagle Plains 92.59 24 P **P 00 13 31.6 +0.4**
baz=278
ARCES ARCESS Array B 92.76 340 P **P 00 13 30.8 -1.0**
comp=Z,4.4nm,0.4s,baz=90,slow=7.3,SNR=11
AKASG Malin Array Be 93.29 321 *iP* **P 00 13 33.2 -1.4**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKASG Malin Array Be 93.29 321 P **P 00 13 33.2 -1.4**
comp=Z,9.1nm,0.8s,baz=68,slow=4.6,SNR=56
AKASG LR LR 00 56 57.2
comp=Z,20nm,22.0s,baz=55,slow=36
KIEV Kiev 93.30 321 *eP* **P 00 13 32.7 -1.9**
comp=Z,11nm,0.9s
KIEV Kiev 93.30 321 ⇑ *iP* **P 00 13 33.3 -1.3**
KIEV Kiev 93.30 321 *iP* **P 00 13 32.9 -1.8**
SNR=6.2
KIEV Kiev 93.30 321 *iP* **P 00 13 32.1 -2.5**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
ISP Isparta 93.32 308 *iP* **P 00 13 32.3 -2.9**
ISP pmax pmax
comp=Z,6.0nm,1.0s
FINES FINESS Array B 93.78 332 *iP* **P 00 13 34.4 -2.2**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 93.78 332 P **P 00 13 35.1 -1.5**
comp=Z,3.2nm,0.6s,baz=66,slow=4.2,SNR=23
FINES PKiKP **PKiKP 00 18 21.8 +0.6**
comp=Z,1.2nm,0.7s,baz=132,slow=5.7,SNR=4.7
FINES LR LR 00 59 04.2
comp=Z,40nm,18.7s,baz=162,slow=38
VSU Vasula 93.87 329 *ceP* **P 00 13 35.9 -1.2**
VSU pmax pmax
comp=Z,32nm,1.2s
VSU Vasula 93.87 329 *eP* **P 00 13 35.4 -1.6**
VSU IAmb IAmb 00 13 38.4
comp=Z,32nm,1.1s
TLCR 94.05 315 ⇓ *iP* **P 00 13 37.6 -0.6**
TLCR 94.05 315 P **P 00 13 37.6 -0.6**
IDID Didziasalis 94.28 325 *eP* **P 00 13 36.8 -2.3**
IDID IAmb IAmb 00 13 39.9
comp=Z,7.6nm,0.9s
NACGM Naroch 94.31 325 *e* **P 00 13 38.0 -1.2**
IZAR Zarasai 94.50 326 *eP* **P 00 13 38.0 -2.0**
IZAR IAmb IAmb 00 13 40.7
comp=Z,4.0nm,0.7s
CFR Carcaliu 94.53 315 ⇑ *iP* **P 00 13 39.5 -1.0**
CFR Carcaliu 94.53 315 P **P 00 13 39.4 -1.0**
IIGN Ignalina 94.57 326 *eP* **P 00 13 38.1 -2.3**
IIGN IAmb IAmb 00 13 41.3
comp=Z,9.4nm,0.9s
ISAL Salakas 94.59 326 *eP* **P 00 13 38.2 -2.3**
ISAL IAmb IAmb 00 13 41.1
comp=Z,4.3nm,0.8s
TLB Topalu 94.65 315 ⇑ *iP* **P 00 13 39.8 -1.3**
TLB Topalu 94.65 315 P **P 00 13 39.7 -1.3**
ICOR Ion Corvin 94.87 314 ⇑ *iP* **P 00 13 41.6 -0.4**
TESR Tescani 95.42 317 ⇑ *iP* **P 00 13 43.8 -0.7**
VRI Vrincioaia 95.44 316 ⇑ *iP* **P 00 13 44.0 -0.6**
VRI Vrincioaia 95.44 316 P **P 00 13 44.0 -0.6**
BISRR Bisoca 95.49 316 ⇑ *iP* **P 00 13 45.5 +0.6**
PLOR Plostina 95.50 316 ⇑ *iP* **P 00 13 44.1 -0.9**
PLOR Plostina 95.50 316 P **P 00 13 44.0 -0.9**
BIZ Bicaz 95.74 317 ⇑ *iP* **P 00 13 45.2 -0.8**
PABE Paberze 95.81 326 *eP* **P 00 13 42.1 -3.9**
PABE IAmb IAmb 00 13 46.5
comp=Z,37nm,0.7s
MLR Muntele Rosu 96.03 316 ⇑ *iP* **P 00 13 46.8 -0.7**
BURAR Bucovina Array 96.25 318 ⇓ *iP* **P 00 13 48.5 +0.1**
BURAR Bucovina Array 96.25 318 P **P 00 13 48.1 -0.3**
DOPR Dopca 96.36 316 ⇑ *iP* **P 00 13 48.1 -0.7**
EZN Ezine 96.41 310 ⇓ *iP* **P 00 13 47.5 -1.7**
EZN Ezine 96.41 310 P **P 00 13 47.4 -1.7**
SUW Suwalki 96.52 324 *eP* **P 00 13 48.7 -0.6**
SUW Suwalki 96.52 324 *eP* **P 00 13 48.7 -0.6**
H02S1 DAWSON INLET T 96.78 36 T T 02 02 28.5
SNR=279
HUMR Humele 96.83 315 ⇓ *iP* **P 00 13 50.0 -1.0**
PBUR Paburg 96.85 327 *eP* **P 00 13 47.2 -3.5**
PBUR IAmb IAmb 00 13 51.3
comp=Z,30nm,0.9s
ARR Arges 96.96 316 ⇑ *iP* **P 00 13 50.8 -0.8**
BMR Baia Mare 97.39 318 ⇑ *iP* **P 00 13 53.3 -0.1**
CJR Cluj-Napoca 97.48 317 ⇑ *iP* **P 00 13 53.3 -0.6**
CJR Cluj-Napoca 97.48 317 P **P 00 13 53.3 -0.6**
LOT Lotru 97.55 316 ⇑ *iP* **P 00 13 54.0 -0.4**
KWP Kalwaria Pacla 97.58 320 *eP* **P 00 13 53.8 -0.4**
KWP Kalwaria Pacla 97.58 320 *eP* **P 00 13 53.8 -0.4**
TRPA Tarpa 97.95 319 ⇑ *iP* **P 00 13 55.3 -0.6**
KOLS Kolonicke sedl 97.99 320 *eP* **P 00 13 55.9 -0.2**
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 97.99 320 *eP* **P 00 13 55.9 -0.2**
UZH Uzhgorod 98.03 319 *iP* **P 00 13 56.0 -0.2**
DRGR 98.07 317 ⇑ *iP* **P 00 13 56.0 -0.6**
DRGR 98.07 317 P **P 00 13 55.9 -0.6**
GZR Gura Zlata 98.25 316 ⇑ *iP* **P 00 13 56.6 -0.8**
VTS Vitosha 98.36 313 ⇓ *iP* **P 00 13 57.3 -0.9**
VTS Vitosha 98.36 313 P **P 00 13 57.2 -0.9**
HERR Herculane 98.59 315 ⇓ *iP* **P 00 13 57.0 -1.9**
SIRR Siria 98.87 317 ⇑ *iP* **P 00 13 59.7 -0.4**
MDVR Moldovita 99.10 315 ⇓ *iP* **Pdif 00 14 00.9 -0.3**
BOSA Boshof 99.11 241 P **Pdif 00 14 01.8 0.0**
comp=Z,2.6nm,0.8s,baz=97,slow=2.5,SNR=3.9
BOSA LR LR 00 57 41.6
comp=Z,50nm,18.1s,baz=238,slow=35
NIE Niedzica 99.16 320 *eP* **Pdif 00 14 01.6 +0.2**
NIE Niedzica 99.16 320 *eP* **Pdif 00 14 01.6 +0.2**
KECS Kecovo 99.23 319 *eP* **Pdif 00 14 01.6 -0.1**
KECS pmax pmax
comp=Z,34nm,0.8s
KECS Kecovo 99.23 319 *e*PDIF **Pdif 00 14 01.6 -0.1**
OJC Ojcow 99.31 321 *eP* **Pdif 00 14 01.4 -0.6**
OJC Ojcow 99.31 321 *eP* **Pdif 00 14 01.4 -0.6**
PSZ Piszkesteto 99.74 319 ⇑ *iP* **Pdif 00 14 03.5 -0.5**
PSZ Piszkesteto 99.74 319 P **Pdif 00 14 03.5 -0.5**
VYHS Vyhne 100.30 320 *eP* **Pdif 00 14 05.9 -0.5**
VYHS pmax pmax
comp=Z,12nm,2.2s
VYHS Vyhne 100.30 320 *e*PDIF **Pdif 00 14 05.9 -0.5**
OKC Ostrava-Krasne 100.44 321 *eP* **Pdif 00 14 07.1 +0.1**
OKC Ostrava-Krasne 100.44 321 *e*PDIFF **Pdif 00 14 07.1 +0.1**
NB2 NORSAR Subarra 100.81 333 P **Pdif 00 14 05.7 -2.7**
comp=Z,0.6nm,0.6s,baz=72,slow=4.4
NOA NORSAR Array B 100.81 333 P **Pdif 00 14 08.1 -0.3**
comp=Z,1.5nm,0.9s,baz=68,slow=4.6,SNR=4.2
MORC Moravsky Berou 100.83 321 ⇓ *iP* **Pdif 00 14 08.1 -0.7**
KSP Ksiaz 101.33 322 *eP* **Pdif 00 14 11.0 +0.1**
KSP Ksiaz 101.33 322 *eP* **Pdif 00 14 11.0 +0.1**
DPC Dobruska-Polom 101.45 322 *eP* **Pdif 00 14 11.4 -0.1**
DPC Dobruska-Polom 101.45 322 *e*PDIFF **Pdif 00 14 11.4 -0.1**
TREC Trest 102.25 321 *eP* **Pdif 00 14 15.6 +0.5**
TREC Trest 102.25 321 *e*PDIFF **Pdif 00 14 15.6 +0.5**
PVCC Panska Ves 102.48 322 *eP* **Pdif 00 14 15.8 -0.2**
PVCC Panska Ves 102.48 322 *e*PDIFF **Pdif 00 14 15.8 -0.2**
BRG Berggiesshubel 102.76 323 *i*PKP **Pdif 00 14 17.0 -0.3**
comp=Z,6.5nm,0.9s
BRG Berggiesshubel 102.76 323 *iP* **Pdif 00 14 17.0 -0.3**
BRG pmax pmax
comp=Z,7.0nm,0.9s
YKA Yellowknife Ar 102.85 24 P **Pdif 00 14 18.3 +1.0**
comp=Z,0.7nm,0.7s,baz=300,slow=4.8,SNR=13
YKA PKiKP **PKiKP 00 18 37.3 0.0**
comp=Z,0.4nm,0.5s,baz=308,slow=1.8,SNR=9.8
YKA PKKPbc **PKKPbc 00 30 14.5 -3.3**
comp=Z,0.7nm,0.6s,baz=110,slow=2.4,SNR=10
CLL Collm 103.19 323 *eP* **Pdif 00 14 19.0 -0.2**
CLL Collm 103.19 323 *e*Pdif **Pdif 00 14 19.0 -0.2**
CLL LmV 01 01 00.0
comp=Z,100nm,20.3s

KHC Kasperske Hory 103.50 321 *eP* **Pdif 00 14 20.4 -0.3**
KHC Kasperske Hory 103.50 321 *e*PDIFF **Pdif 00 14 20.4 -0.3**
GERES GERESS Array B 103.50 321 Pdiff **Pdif 00 14 20.7 -0.1**
comp=Z,1.2nm,0.9s,baz=69,slow=7.3,SNR=8.4
GERES PKiKP **PP 00 18 37.6 +0.2**
comp=Z,0.4nm,0.6s,baz=117,slow=0.3,SNR=4.0
L04D Klamath Falls 105.99 46 P **PKiKP 00 18 44.9 +1.0**
baz=286
J05D Fort Rock, OR 106.44 44 P **PKiKP 00 18 46.6 +1.9**
baz=287
NVAR Mina Array Bea 110.01 48 PKiKP **PKiKP 00 18 51.4 -0.3**
comp=Z,0.5nm,0.7s,baz=274,slow=2.4,SNR=4.4
NVAR PKKPab **PKKPab 00 30 06.3 +0.3**
comp=Z,0.8nm,0.7s,baz=131,slow=5.6,SNR=6.8
HLID Hailey 111.02 42 P **PKiKP 00 18 55.2 +1.8**
baz=292
PDAR Pinedale Array 114.59 41 PKiKP PKPdf 00 19 00.9 +0.7
comp=Z,0.3nm,0.5s,baz=83,slow=2.6,SNR=4.7
PDAR PKKPbc **PKKPbc 00 29 39.0 -1.1**
comp=Z,0.4nm,0.5s,baz=122,slow=7.2,SNR=4.4
O20A White River Ci 116.63 44 P **PKiKP 00 19 05.6 +1.4**
baz=296
RSSD Black Hills 117.47 38 *e*PKPdf **PKiKP 00 19 05.9 +0.2**
RSSD Black Hills 117.47 38 *e*PKIKP **PKiKP 00 19 05.9 +0.2**
RSSD Black Hills 117.47 38 P **PKiKP 00 19 06.0 +0.2**
baz=301
ULM Lac du Bonnet 118.31 29 PKP **PKPdf 00 19 06.5 -0.4**
comp=Z,3.9nm,0.6s,baz=307,slow=0.6,SNR=12
ULM PKKPbc **PKKPbc 00 29 25.2 -1.8**
comp=Z,1.5nm,0.5s,baz=9.1,slow=0.7,SNR=5.0
ISCO Idaho Springs 118.58 43 *e*PKPdf **PKiKP 00 19 09.1 +0.9**
ISCO Idaho Springs 118.58 43 *e*PKIKP **PKiKP 00 19 09.1 +0.9**
ISCO Idaho Springs 118.58 43 P **PKiKP 00 19 09.4 +1.2**
baz=298
ESDC Sonseca Array 118.70 317 PKP **PKPdf 00 19 07.5 -0.5**
comp=Z,0.4nm,0.5s,baz=29,slow=1.8,SNR=8.6
SDCO Great Sand Dun 119.61 45 P **PKiKP 00 19 11.7 +1.5**
baz=297
121A Cookes Peak, D 120.09 51 P **PKiKP 00 19 12.6 +1.4**
baz=293
TASM ASL Pad, Albuq 120.14 48 P **PKiKP 00 19 12.6 +1.3**
baz=295
TASM ASL Pad, Albuq 120.14 48 P **PKiKP 00 19 12.5 +1.3**
baz=295
ANMO Albuquerque 120.14 48 *e*PKPdf **PKiKP 00 19 11.9 +0.7**
ANMO Albuquerque 120.14 48 *e*PKIKP **PKiKP 00 19 11.9 +0.7**
ANMO Albuquerque 120.14 48 P **PKiKP 00 19 12.4 +1.2**
baz=295
T25A Trinidad 120.66 45 P **PKiKP 00 19 13.5 +1.2**
baz=298
ECSD EROS Data Cent 122.10 35 P **PKiKP 00 19 14.7 +0.1**
baz=308
MNTX Cornudas Mount 122.29 51 P **PKiKP 00 19 16.5 +1.2**
baz=294
TORD Torodi Ar. Bea 122.39 286 PKP **PKPdf 00 19 14.0 -1.7**
comp=Z,6.1nm,0.6s,baz=63,slow=1.5,SNR=48
TORD PKKPbc **PKKPbc 00 29 10.7 -0.1**
comp=Z,0.8nm,0.6s,baz=230,slow=2.9,SNR=11
BGNE Belgrade 122.58 38 P **PKiKP 00 19 15.7 +0.1**
baz=305
C40A Isle Royale Na 123.09 27 P **PKiKP 00 19 16.7 +0.3**
baz=318
F38A Pierce - Schro 123.19 30 P **PKiKP 00 19 17.1 +0.5**
baz=314
SPMN Marine on St. 123.22 31 P **PKiKP 00 19 17.5 +0.8**
baz=313
E39A Mellen 123.55 29 P **PKiKP 00 19 17.4 0.0**
baz=316
F39A Loretta 123.70 30 P **PKiKP 00 19 18.0 +0.3**
baz=315
E40A Wakefield 123.82 29 P **PKiKP 00 19 18.3 +0.4**
baz=316
D41A Chassel 123.99 27 P **PKiKP 00 19 18.6 +0.4**
baz=318
G39A Holcombe 124.01 30 P **PKiKP 00 19 18.8 +0.5**
baz=314
F40A Park Falls 124.09 29 P **PKiKP 00 19 18.5 +0.1**
baz=316
H39A Augusta 124.38 31 P **PKiKP 00 19 19.5 +0.4**
baz=314
G40A Rib Lake 124.51 30 P **PKiKP 00 19 20.0 +0.7**
baz=315
TXAR Lajitas Array 124.60 53 PKP **PKiKP 00 19 21.1 +1.0**
comp=Z,1.4nm,0.8s,baz=220,slow=1.9,SNR=15
F41A Three Lakes 124.71 29 P **PKiKP 00 19 20.5 +0.8**
baz=317
I39A Houston 124.82 32 P **PKPdf 00 19 19.5 -0.1**
baz=313
H40A Chili 124.87 30 P **PKiKP 00 19 20.2 +0.2**
baz=315
KSU1 Kansas State U 124.88 39 P **PKiKP 00 19 20.7 +0.5**
baz=306
J39A Decorah 125.08 32 P **PKPdf 00 19 20.0 -0.1**
baz=313
H41A Junction City 125.25 30 P **PKiKP 00 19 21.1 +0.4**
baz=316
I40A Norwalk 125.27 31 P **PKPdf 00 19 20.6 +0.1**
baz=314
J40A Soldiers Grove 125.55 32 P **PKPdf 00 19 21.0 0.0**
baz=314
L39A Vinton 125.73 34 P **PKPdf 00 19 21.6 +0.2**
baz=312
WMOK Wichita Mounta 125.81 45 *e*PKPdf **PKiKP 00 19 22.4 +0.2**
WMOK Wichita Mounta 125.81 45 *e*PKIKP **PKiKP 00 19 22.4 +0.2**
WMOK Wichita Mounta 125.81 45 P **PKiKP 00 19 22.8 +0.6**
baz=301
K40A Colesburg 125.81 33 P **PKiKP 00 19 21.9 -0.1**
baz=313
J41A Loganville 125.95 31 P **PKPdf 00 19 21.9 +0.1**
baz=315
I42A Draeger Farm, 126.14 30 P **PKiKP 00 19 22.7 +0.1**
baz=316
JFWS Jewell Farm 126.14 32 P **PKiKP 00 19 22.6 0.0**
baz=314
L40A Anamosa 126.20 33 P **PKiKP 00 19 22.8 0.0**
baz=313
K41A Shullsburg 126.33 32 P **PKiKP 00 19 22.8 -0.2**
baz=314
CHGQ Chibougamau 126.84 16 P **PKiKP 00 19 23.7 -0.1**
baz=335
M41A Milan 127.04 33 P **PKiKP 00 19 24.2 -0.2**
baz=313
JCT Junction City 127.13 50 *e*PKPdf **PKiKP 00 19 25.4 +0.4**
JCT Junction City 127.13 50 *e*PKIKP **PKiKP 00 19 25.4 +0.4**
JCT Junction City 127.13 50 P **PKiKP 00 19 25.4 +0.4**
baz=298
R41A Rosebud 128.60 37 P **PKiKP 00 19 28.1 +0.5**
baz=310
S41A Jillco Farms, 128.83 38 P **PKiKP 00 19 28.2 +0.1**
baz=310
CCM Cathedral Cave 128.84 37 *e*PKPdf **PKiKP 00 19 27.9 -0.2**
CCM Cathedral Cave 128.84 37 *e*PKIKP **PKiKP 00 19 27.9 -0.2**
CCM Cathedral Cave 128.84 37 P **PKiKP 00 19 28.5 +0.4**
baz=310
U40A Yellville 128.90 40 P **PKPdf 00 19 27.9 +0.2**
baz=308
W39A Magazine 128.99 42 P **PKiKP 00 19 29.0 +0.5**
baz=306
U41A Viola 129.50 39 P **PKiKP 00 19 29.8 +0.2**
baz=309
MIAR Mount Ida 129.50 42 *e*PKPdf **PKiKP 00 19 29.6 0.0**
MIAR Mount Ida 129.50 42 *e*PKIKP **PKiKP 00 19 29.6 0.0**
MIAR Mount Ida 129.50 42 P **PKiKP 00 19 30.3 +0.7**
baz=306
KIC Kosan Boka 129.60 279 *e*PKIKP **PKiKP 00 19 30.5 +0.2**
comp=Z,15nm,0.8s
DBIC Dimbokro 129.68 279 PKP **PKPdf 00 19 30.1 +0.4**
comp=Z,6.2nm,0.8s,baz=21,slow=2.9,SNR=10
L48A N Adams 129.79 29 P **PKiKP 00 19 30.2 +0.3**
baz=320
TIC Toumodi 129.84 279 *e*PKIKP **PKiKP 00 19 30.8 0.0**
P45A Graceland, Par 129.86 33 P **PKiKP 00 19 30.8 +0.6**
baz=315
LIC Lamto 129.90 279 *e*PKIKP **PKiKP 00 19 31.0 +0.1**
comp=Z,28nm,0.7s
Q45A Warren Harvey, 130.07 34 P **PKiKP 00 19 31.8 +1.2**
baz=314
O47A Sheridan 130.19 32 P **PKiKP 00 19 31.1 +0.3**
baz=317
N48A Decatur 130.32 30 P **PKiKP 00 19 31.2 +0.2**
baz=319
P47A Martinsville 130.69 32 P **PKiKP 00 19 32.0 +0.2**
baz=316
N49A Columbus Grove 130.69 29 P **PKiKP 00 19 31.8 +0.1**
baz=320
O48A Farmland 130.70 31 P **PKiKP 00 19 31.8 0.0**
baz=318

Q47A Bedord North L 131.00 33 P **PKiKP 00 19 33.1 +0.7**
baz=316
P48A Milroy 131.15 32 P **PKiKP 00 19 32.8 +0.1**
baz=317
O49A Covington 131.17 30 P **PKiKP 00 19 33.1 +0.3**
baz=319
N50A Nevada 131.31 29 P **PKiKP 00 19 33.6 +0.6**
baz=321
Q48A North Vernon 131.38 32 P **PKiKP 00 19 33.5 +0.2**
baz=317
R47A Wooly Knot Far 131.40 34 P **PKiKP 00 19 34.0 +0.7**
baz=316
T46A Princeton 131.50 36 P **PKiKP 00 19 34.6 +1.1**
baz=313
WCI Wyandotte Cave 131.58 33 P **PKiKP 00 19 34.4 +0.8**
baz=316
R48A Northridge Ran 131.69 33 P **PKiKP 00 19 33.9 0.0**
baz=316
Q49A Aurora 131.76 32 P **PKiKP 00 19 34.0 0.0**
baz=318
U46A Springville 131.79 37 P **PKiKP 00 19 34.8 +0.7**
baz=312
ACSO Alum Creek Sta 131.81 29 P **PKiKP 00 19 34.6 +0.6**
baz=321
P50A Jamestown 131.88 30 P **PKiKP 00 19 34.4 +0.2**
baz=319
O51A Pataskala 132.05 29 P **PKiKP 00 19 35.0 +0.5**
baz=321
S48A Wiedeman Farm, 132.12 34 P **PKiKP 00 19 35.5 +0.7**
baz=316
R49A Shelbyville 132.14 33 P **PKiKP 00 19 35.2 +0.4**
baz=317
WVT Waverly 132.16 37 P **PKiKP 00 19 35.1 +0.3**
baz=313
OXF Oxford 132.25 39 P **PKiKP 00 19 35.3 +0.2**
baz=310
U47A Clarksville 132.26 36 P **PKiKP 00 19 35.5 +0.4**
baz=314
T48A Bowling Green 132.31 35 P **PKiKP 00 19 35.1 -0.1**
baz=315
S49A Springfield 132.45 33 P **PKiKP 00 19 35.2 -0.2**
baz=317
R50A Paris 132.60 32 P **PKiKP 00 19 35.8 +0.1**
baz=318
U48A Cassie Pea, Po 132.65 35 P **PKiKP 00 19 36.3 +0.5**
baz=314
P52A Corning 132.68 29 P **PKiKP 00 19 35.8 -0.1**
baz=321
T49A Edmonton 132.80 34 P **PKiKP 00 19 36.9 +0.7**
baz=316
W47A Westpoint 132.89 37 P **PKiKP 00 19 36.3 -0.1**
baz=312
S50A Richmond 133.00 32 P **PKiKP 00 19 36.4 -0.1**
baz=318
V48A Smith Brothers 133.02 36 P **PKiKP 00 19 36.5 -0.1**
baz=314
U49A Red Boiling Sp 133.08 35 P **PKiKP 00 19 36.8 +0.1**
baz=315
Q52A Bidwell 133.14 30 P **PKiKP 00 19 36.6 -0.2**
baz=321
P53A Whipple 133.15 28 P **PKiKP 00 19 37.4 +0.6**
baz=322
T50A Nancy 133.25 33 P **PKiKP 00 19 37.3 +0.2**
baz=317
S51A Beattyville 133.46 32 P **PKiKP 00 19 37.5 +0.1**
baz=318
P54A Burton 133.49 28 P **PKiKP 00 19 37.8 +0.3**
baz=323
V49A McMinnville 133.54 35 P **PKiKP 00 19 37.7 0.0**
baz=315
U50A Jamestown 133.68 34 P **PKiKP 00 19 38.5 +0.5**
baz=316
S52A Salyersville 133.70 31 P **PKiKP 00 19 38.3 +0.3**
baz=319
W49A Belvidere 133.78 36 P **PKiKP 00 19 38.2 0.0**
baz=314
Q54A Coxs Mills 133.81 28 P **PKiKP 00 19 38.5 +0.3**
baz=322
Q55A Buckhannon 134.16 28 P **PKiKP 00 19 39.4 +0.4**
baz=323
S53A Williamson 134.19 31 P **PKiKP 00 19 39.5 +0.5**
baz=320
TZTN Tazewell 134.30 33 P **PKiKP 00 19 40.0 +0.8**
baz=318
R54A Victor 134.37 29 P **PKiKP 00 19 39.6 +0.3**
baz=322
X50B Fort Payne 134.59 37 P **PKiKP 00 19 40.3 +0.4**
baz=314
LRAL Lakeview Retre 134.73 39 *e*PKPdf **PKiKP 00 19 39.6 -0.5**
LRAL Lakeview Retre 134.73 39 P **PKiKP 00 19 40.0 -0.2**
baz=311
V52A Sevierville 134.79 34 P **PKiKP 00 19 40.2 0.0**
baz=317
T54A Tazewell 134.95 31 P **PKiKP 00 19 41.0 +0.4**
baz=320
X52A Dahlonega 135.52 35 P **PKiKP 00 19 42.4 +0.6**
baz=316
W53A Cullowhee 135.52 34 P **PKiKP 00 19 42.6 +0.8**
baz=317
U55A TA2, Sparta 135.65 31 P **PKiKP 00 19 41.7 -0.3**
baz=321
X53A Estanollee 135.93 35 P **PKiKP 00 19 43.3 +0.7**
baz=317
Y52A Lilburn 135.95 36 P **PKiKP 00 19 42.9 +0.2**
baz=315
251A Midway 136.36 39 P **PKiKP 00 19 44.4 +0.9**
baz=312
KMSC Kings Mountain 136.54 32 P **PKiKP 00 19 44.2 +0.4**
baz=320
Y54A Tignall 136.75 35 P **PKiKP 00 19 44.2 0.0**
baz=317
V57A Coltrane Farms 136.77 30 P **PKiKP 00 19 44.4 +0.2**
baz=322
PLCA Paso Flores 137.65 162 PKP **PKiKP 00 19 45.2 -0.8**
comp=Z,2.3nm,0.6s,baz=355,slow=2.5,SNR=6.6
Z57A Bowman 138.27 33 P **PKiKP 00 19 48.1 +0.8**
baz=319
CPUP Villa Florida 154.40 175 PKP **PKPdf 00 20 13.5 +1.2**
comp=Z,2.0nm,0.8s,baz=116,slow=2.3,SNR=6.3
CPUP PKPbc **PKiKP 00 20 22.1 +1.4**
comp=Z,3.7nm,0.8s,baz=222,slow=1.9,SNR=11
CPUP PKPab **pPKPdf 00 20 35.6 -0.4**
comp=Z,3.1nm,0.8s,baz=181,slow=5.1,SNR=5.6
LPAZ La Paz 159.66 140 PKP **PKPdf 00 20 21.2 +1.2**
comp=Z,2.9nm,0.9s,baz=360,slow=2.5,SNR=9.4
LPAZ PKPab **PKPab 00 21 00.6 +1.9**
comp=Z,1.8nm,0.7s,baz=179,slow=3.0,SNR=4.1
ROSC El Rosal 159.69 74 PKP **PKPdf 00 20 21.2 +1.3**
comp=Z,2.7nm,0.4s,baz=166,slow=16,SNR=4.9
ROSC PKPab **PKPab 00 21 01.1 +2.2**
comp=Z,3.6nm,0.4s,baz=171,slow=23,SNR=6.4
BDFB Brasilia 163.74 204 PKP **PKPdf 00 20 24.4 +0.8**
comp=Z,2.7nm,0.9s,baz=355,slow=2.3,SNR=3.5
BDFB PKPab **PKPab 00 21 16.2 +0.4**
comp=Z,1.1nm,0.6s,baz=139,slow=4.8,SNR=4.0

MEX 13 00:16:59.6±0.5, 16°.51N×98°.56W, h7km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.43**	**106**	*eP*	Pg	00 17 07.5	-0.5
PNIG				*eS*	Sg	00 17 13.7	+0.1
TLIG	**Tlapa**	**1.05**	**360**	*iP*	Pg	00 17 16.7	-3.0
TLIG				*iS*	Sg	00 17 29.9	-3.5
CAIG	**El Cayaco**	**1.72**	**288**	*iP*	Pn	00 17 25.9	-4.1
CAIG				*iS*	Sn	00 17 47.9	-4.4
HUIG	**Huatulco**	**2.47**	**107**	*iP*	Pn	00 17 36.5	-3.8
HUIG				*iS*	Sn	00 18 07.0	-3.7

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*ISCJB **13** 00:23:25.6±0.8, 26°.55N±0°.05×57°.68E±0°.07, h10km, Error ellipse: s-maj=9.3km s-min=6.5km az=3.9*
*OMAN **13** 00:23:25.9±7.5, 26°.46N×57°.92E, h8km, ml3.0/8, Error ellipse: s-maj=95.3km s-min=16.1km az=16.0*
*TEH **13** 00:23:29.3, 26°.86N×57°.68E, h10km, ML3.0*

ISC 13 00:23:22.9±1.2, 26°.49N±0°.05×57°.92E±0°.07, h10km, n21, σ1°.44/22, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.44**	**318**	*eP*g	**Pn**	**00 23 49.2**	**+0.1**
NIAN				IAMB	IAmb	00 24 14.4	
	comp=Z,0.0nm,0.3s						
GENO	**Geno**	**1.80**	**301**	*eP*n	**Pn**	**00 23 55.3**	**+1.0**
GENO				*eS*g	**Sb**	**00 24 19.5**	**+0.5**

MDH	**Madha**	**1.88**	**231**	P	**Pn**	**00 23 55.8 +0.6**
	SNR=12					
MDH	**Madha**	**1.88**	**231**	*e*Pn	**Pn**	**00 23 55.9 +0.7**
MSFE	**Esma-Masafi**	**1.94**	**235**	*e*Pn	**Pn**	**00 23 56.0 -0.1**
HATD	**Hatta, Dubai**	**2.31**	**225**	*e*Pn	**Pb**	**00 24 03.6 -1.2**
ASHO	**Ashiyiah**	**2.46**	**223**	P	**Pb**	**00 24 06.0 -1.3**
	SNR=6.9					
ASHO	**Ashiyiah**	**2.46**	**223**	*e*Pn	**Pg**	**00 24 09.5 -0.6**
SOHO	**SOHO**	**2.66**	**208**	P	**Pn**	**00 24 06.7 +0.9**
	SNR=15					
FAQ	**Al Faqa, Dubai**	**2.73**	**231**	P	**Pb**	**00 24 12.0 +0.2**
	SNR=9.6					
FAQ	**Al Faqa, Dubai**	**2.73**	**231**	*e*Pn	**Pg**	**00 24 15.0 -0.2**
ASUD	**Al Ashush, Dub**	**2.98**	**232**	P	**Pb**	**00 24 16.0 -0.3**
	SNR=8.1					
ASUD	**Al Ashush, Dub**	**2.98**	**232**	*e*Pn	**Pb**	**00 24 14.4 -1.8**
ALNE	**Al Ain**	**3.12**	**219**	*e*Pn	**Pg**	**00 24 23.1 +0.4**
NGRK	**Negar Kerman**	**3.31**	**342**	*e*Pn	**Pn**	**00 24 16.8 +1.6**
NGRK				IAMB	IAmb	00 24 23.6
	comp=Z,0.0nm,0.4s					
CHMN	**Cheshme madani**	**3.38**	**354**	*e*Pn	**Pn**	**00 24 17.7 +1.6**
CHMN				IAMB	IAmb	00 25 16.5
	comp=Z,0.0nm,0.5s					
TVBK	**TV Kerman**	**3.63**	**344**	*e*Pn	**Pn**	**00 24 22.3 +2.7**
TVBK				IAMB	IAmb	00 24 28.1
	comp=Z,0.0nm,0.2s					
SZD1	**Zahaedan-tmp**	**3.96**	**40**	*e*Pn	**Pb**	**00 24 30.5 -2.5**
KHGB	**Koh Gabri**	**4.08**	**342**	*e*Pn	**Pn**	**00 24 27.5 +1.9**
KHGB				IAMB	IAmb	00 25 37.7
	comp=Z,0.0nm,0.7s					
JLN	**Jalan Bani Buh**	**4.53**	**162**	P	**Pn**	**00 24 34.1 +2.5**
	SNR=17					
IKAZ	**Kazeroun**	**6.29**	**303**	*e*Pn	**Pn**	**00 24 55.4 -0.7**

*BEO **13** 00:34:14.4±0.3, 43.°06N×18.°70E, h15km, ML1.5/6*
SAR 13 00:34:14.1±0.3, 43.°11N×18.°72E, h4km±3km, ML1.8/6, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.16**	**56**	*e*Pg	Pg	00 34 16.6	-0.8
UPM				*e*Sg	Sg	00 34 19.9	+0.4
BRY	**Bratogost**	**0.25**	**212**	⇓*i*Pg	Pg	00 34 18.4	-0.5
BRY				*e*Sg	Sg	00 34 23.1	+0.9
TREB	**Trebinje**	**0.48**	**215**	*e*Pg	Pg	00 34 22.1	-1.2
TREB				*e*Sg	Sb	00 34 31.5	-1.1
TREB	**Trebinje**	**0.48**	**215**	*e*Pg	Pg	00 34 22.3	-1.0
TREB				*e*Sg	Sg	00 34 30.5	+1.0
HCY	**Herceg Novi**	**0.69**	**194**	*e*Pg	Pg	00 34 26.7	-0.5
STON	**Ston**	**0.79**	**252**	*e*Pg	Pg	00 34 26.9	-2.3
STON				*e*Sg	Sb	00 34 40.6	-0.8
STON	**Ston**	**0.79**	**252**	*e*Pg	Pg	00 34 27.5	-1.6
STON				Sg	Sg	00 34 39.6	+0.3
STON	**Ston**	**0.79**	**252**	*e*Pg	Pg	00 34 27.9	-1.3
STON				*e*Sg	Sg	00 34 39.3	-0.1
PDG	**Podgorica**	**0.79**	**150**	*e*Pg	Pg	00 34 27.7	-1.5
PDG				*e*Sg	Sg	00 34 39.7	+0.3
PDG	**Podgorica**	**0.79**	**150**	*e*Pg	Pg	00 34 27.7	-1.5
PDG				*e*Sg	Sg	00 34 39.6	+0.2
BBLS	**Lazići**	**0.90**	**33**	*e*Pg	Pb	00 34 32.9	+0.5
BBLS				*e*Sg	Sb	00 34 45.2	+0.3
SJES	**Sjenica**	**0.93**	**80**	*e*Sg	Pb	00 34 32.1	-0.8
SJES	**Sjenica**	**0.93**	**80**	*e*Pg	Sb	00 34 44.7	-0.9
DRME	**Dracevica, Mon**	**0.99**	**160**	*e*Pg	Pg	00 34 32.4	-0.6
DRME				*e*Sg	Sg	00 34 45.6	-0.2
HAPS	**Han Pijesak,BI**	**0.99**	**10**	*e*Pg	Pg	00 34 32.0	-1.0
HAPS				*e*Sg	Sb	00 34 47.3	0.0
HAPS	**Han Pijesak,BI**	**0.99**	**10**	*e*Pg	Pg	00 34 32.0	-1.0
HAPS				*e*Sg	Sg	00 34 45.7	-0.1
IVAS	**Ivanjica**	**1.14**	**66**	*e*Pg	Pg	00 34 34.8	-1.2
IVAS				*e*Sg	Sb	00 34 52.1	+0.3
DIVS	**Divibare**	**1.35**	**43**	*e*Pg	Pb	00 34 40.4	+0.3
DIVS	**Divibare**	**1.35**	**43**	*e*Pg	Pn	00 34 38.8	-1.1
DIVS				*e*Sg	Sg	00 34 57.2	-0.3
SELS	**Selova**	**1.76**	**86**	*e*Pg	Pn	00 34 46.1	+0.7

ROM 13 00:35:36.4±0.2, 42.°784N±0.°004×12.°55E±0.°02, h8km, ML0.9/1, Error ellipse: s-maj=1.5km s-min=0.3km az=274.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMA	**Monte Martano**	**0.03**	**38**	P	Pg	00 35 38.1	+0.2
MOMA				S	Sg	00 35 39.0	-0.1
MOMA	**Monte Martano**	**0.03**	**38**	S	Sg	00 35 38.9	-0.2
MOMA	**Monte Martano**	**0.03**	**38**	P	Pg	00 35 38.0	0.0
CESX	**Cesi**	**0.17**	**172**	P	Pg	00 35 40.8	+0.8
CESX	**Cesi**	**0.17**	**172**	P	Pg	00 35 40.8	+0.8
CESX				S	Sg	00 35 43.6	+1.2
CESX				AML	AML		
	comp=E,52μm,1.1s						
CESX				AML	AML		
	comp=N,76μm,0.4s						
CESX				AML	AML		
	comp=N,76μm,0.4s						
CESX				AML	AML		
	comp=E,52μm,1.1s						
CESX	**Cesi**	**0.17**	**172**	S	Sg	00 35 43.6	+1.2
CESX	**Cesi**	**0.17**	**172**	P	Pg	00 35 40.8	+0.9
ASSB	**Assisi San Ben**	**0.27**	**17**	P	Pg	00 35 42.5	+0.7
ASSB	**Assisi San Ben**	**0.27**	**17**	P	Pg	00 35 42.5	+0.7
ASSB				S	Sb	00 35 47.4	-1.0
ASSB	**Assisi San Ben**	**0.27**	**17**	S	Sb	00 35 47.0	-1.4
ASSB	**Assisi San Ben**	**0.27**	**17**	P	Pb	00 35 42.9	-0.7
CESI	**CESI - Serrava**	**0.34**	**50**	P	Pg	00 35 43.9	+0.8
CESI	**CESI - Serrava**	**0.34**	**50**	P	Pg	00 35 44.0	+0.8
CESI				S	Sb	00 35 49.7	-0.8
CESI	**CESI - Serrava**	**0.34**	**50**	S	Sb	00 35 49.6	-0.9
CESI	**CESI - Serrava**	**0.34**	**50**	P	Pb	00 35 44.1	-0.8
NRCA	**Norcia**	**0.42**	**83**	P	Pg	00 35 45.2	+0.7
NRCA				S	Sb	00 35 52.1	-0.6
NRCA	**Norcia**	**0.42**	**83**	S	Sb	00 35 52.4	-0.3
NRCA	**Norcia**	**0.42**	**83**	P	Pg	00 35 45.2	+0.7
BADI	**Badiali**	**0.76**	**343**	S	Sn	00 36 05.0	-0.2
TOLF	**Tolfa**	**0.83**	**210**	P	Pn	00 35 53.8	-0.6

ROM 13 00:35:59.3±0.2, 43.°392N±0.°004×12.°484E±0.°006, h7km, Md1.2/4, Error ellipse: s-maj=0.6km s-min=0.2km az=318.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.06**	**260**	P	Pg	00 36 01.2	+0.2
ATVO				S	Sg	00 36 02.5	+0.4
ATVO				END			
ATVO				END			
ATVO	**AVT- Monte Val**	**0.06**	**260**	S	Sg	00 36 02.0	-0.2
ATVO	**AVT- Monte Val**	**0.06**	**260**	S	Sg	00 36 02.5	+0.4
ATPI	**Pietralunga -**	**0.08**	**315**	P	Pg	00 36 01.6	+0.2
ATPI				S	Sg	00 36 03.1	+0.3
ATPI				END			
ATPI				END			
ATPI	**Pietralunga -**	**0.08**	**315**	S	Sg	00 36 02.0	-0.8
ATPI	**Pietralunga -**	**0.08**	**315**	S	Sg	00 36 03.1	+0.3
PIEI	**Pieia**	**0.15**	**14**	P	Pg	00 36 02.8	+0.4
PIEI				S	Sg	00 36 05.6	+1.0
PIEI				END			
PIEI				END			
PIEI	**Pieia**	**0.15**	**14**	S	Sg	00 36 03.0	-1.6
PIEI	**Pieia**	**0.15**	**14**	S	Sg	00 36 05.6	+1.1
BADI	**Badiali**	**0.21**	**304**	P	Pg	00 36 04.1	+0.5
BADI				S	Sg	00 36 07.9	+1.5
BADI				END			
BADI				END			
BADI	**Badiali**	**0.21**	**304**	S	Sg	00 36 07.9	+1.5
CESX	**Cesi**	**0.79**	**175**	AML	AML		
	comp=E,52μm,1.1s						
CESX				AML	AML		
	comp=N,76μm,0.4s						
CESX				AML	AML		
	comp=N,76μm,0.4s						
CESX				AML	AML		
	comp=E,52μm,1.1s						

*UCR **13** 00:50:48.7±2.2, 9.°98N×86.°18W, h20km±8km, MD4.2, ML3.7, mb4.4(NEIC)*
*ISCJB **13** 00:50:50.2±0.4, 10.°24N±0.°04×86.°00W±0.°03, h24km, mb4.3/49, MS3.6/1, Error ellipse: s-maj=6.5km s-min=3.1km az=33.5*
*IDC **13** 00:50:50.9±0.8, 11.°28N×85.°03W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.8/27, mbtmp3.8/8, ML3.7/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/26, Error ellipse: s-maj=28.7km s-min=13.3km az=69.0*
*NEIC **13** 00:50:53.7±0.8, 10.°23N×85.°87W, h37km±6km, mb4.4/41, Error ellipse: s-maj=10.3km s-min=6.2km az=206.0*
*SNET **13** 00:50:53.6±1.0, 10.°21N×86.°18W, h35km±201km, ML4.1*
ISC 13 00:50:51.4±0.7, 10.°15N±0.°07×86.°05W±0.°05, h24km, n254, σ1 92/258, mb4.4/49, 4C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	**Finca Las Img**	**0.86**	**43**	*i* P	**Pb**	**00 51 07.9**	**+0.1**
BUEV	**Buena Vista**	**0.90**	**45**	⇑*e*P	**Pb**	**00 51 08.4**	**-0.1**
GB1A	**Borinquen Arri**	**0.92**	**44**	*e*P	**Pb**	**00 51 08.8**	**-0.1**
CUI	**Cuipilapa**	**1.01**	**60**	⇑*e*P	**Pb**	**00 51 09.9**	**-0.3**
BUAI	**Buenos Aires**	**1.01**	**44**	*i* P	**Pn**	**00 51 09.4**	**-0.8**
JTS	**Las Juntas de**	**1.09**	**83**	Pg	**Pn**	**00 51 10.1**	**-1.2**
	67nm,0.3s,baz=358,slow=22,SNR=435						
JTS				Lg	Lg	00 51 30.6	
	155nm,0.3s,baz=45,slow=20,SNR=12						
JTS	**Las Juntas de**	**1.09**	**83**	*e*P	**Pn**	**00 51 10.2**	**-1.0**
JTS				*e*S	**Sn**	**00 51 27.7**	**+2.1**
ACAL	**Aguas Claras**	**1.11**	**64**	⇑*i*P	**Pn**	**00 51 11.3**	**-0.3**
CEDE	**Laguna Cedeo**	**1.37**	**76**	*e*P	**Pn**	**00 51 15.4**	**+0.3**
HDC	**Heredia**	**1.91**	**94**	*e*Pn	**Pn**	**00 51 22.5**	**-0.2**
HDC	**Heredia**	**1.91**	**94**	*e*P	**Pn**	**00 51 22.5**	**-0.2**
HDC				*e*S	**Sb**	**00 51 49.0**	**-0.3**
ACON	**Acoyapa**	**2.00**	**25**	*e*Pn	**Pn**	**00 51 24.3**	**+0.6**
ACON	**Acoyapa**	**2.00**	**25**	⇑*e*P	**Pn**	**00 51 24.4**	**+0.6**
LCR2	**La Lucha 2**	**2.06**	**101**	*e*P	**Pn**	**00 51 23.7**	**-1.0**
MOMN	**Momotombo**	**2.29**	**348**	*e*P	**Pn**	**00 51 28.2**	**+0.4**
MOMN	**Momotombo**	**2.29**	**348**	*e*P	**Pn**	**00 51 28.2**	**+0.4**
CNGN	**Cerro Negro**	**2.42**	**345**	*e*P	**Pn**	**00 51 29.0**	**-0.6**
CNGN	**Cerro Negro**	**2.42**	**345**	*e*P	**Pn**	**00 51 29.0**	**-0.6**
ESPN	**Las Esperanzas**	**2.66**	**40**	*e*Pn	Pn	00 51 28.6	-4.2
MATN	**Matagalpa**	**2.77**	**3**	*e*P	**Pn**	**00 51 35.1**	**+0.7**
DRK0	**Durika**	**2.90**	**107**	*e*P	**Pn**	**00 51 35.8**	**-0.6**
DRK0				*e*S	**Sn**	**00 52 11.4**	**+0.8**
ESTN	**Estel**	**2.95**	**354**	*e*Pn	**Pn**	**00 51 37.6**	**+0.7**
ESTN	**Estel**	**2.95**	**354**	*e*P	**Pn**	**00 51 37.4**	**+0.5**
ESTN	**Estel**	**2.95**	**354**	*e*P	**Pn**	**00 51 37.4**	**+0.5**
CNCH	**Conchagua**	**3.56**	**331**	*e*P	**Pn**	**00 51 46.0**	**+0.6**
CNCH				*e*S	**Sn**	**00 52 26.9**	**+0.1**
CNCH	**Conchagua**	**3.56**	**331**	*e*P	**Pn**	**00 51 46.0**	**+0.6**
CNCH				*e*S	**Sn**	**00 52 26.9**	**+0.1**
BRU2	**Volcan**	**3.58**	**112**	*e*P	**Pn**	**00 51 43.8**	**-1.8**
TBS2		**3.61**	**112**	*e*P	**Pn**	**00 51 44.7**	**-1.4**
TBS2				*e*S	**Sn**	**00 52 29.0**	**+1.0**
LCND	**La Caada**	**3.62**	**330**	*e*P	**Pn**	**00 51 46.4**	**+0.4**
LCND				*e*S	**Sn**	**00 52 27.3**	**-0.7**
LCND				IAML		00 52 30.8	
	comp=Z,354nm,0.4s						
LCND	**La Caada**	**3.62**	**330**	*e*P	**Pn**	**00 51 46.4**	**+0.4**
LCND				*e*S	**Sn**	**00 52 26.9**	**-1.1**
LCND				*e*S	Sb	00 52 27.3	-11
LCND				IAML		00 52 30.8	
	comp=Z,354nm,0.4s						
LCY	**Lacayo**	**3.92**	**326**	*e*P	**Pn**	**00 51 50.3**	**0.0**
LCY	**Lacayo**	**3.92**	**326**	*e*P	**Pn**	**00 51 50.3**	**0.0**
DVD	**David**	**3.94**	**115**	*e*P	**Pn**	**00 51 48.4**	**-2.0**
PACA	**Pacayal**	**3.98**	**326**	*e*S	**Sn**	**00 52 36.4**	**-0.7**
PACA	**Pacayal**	**3.98**	**326**	*e*S	**Sn**	**00 52 36.4**	**-0.7**
TGUH	**Tegucigalpa,Un**	**4.06**	**343**	*e*Pn	**Pn**	**00 51 53.4**	**+1.3**
LFRS	**El Faro**	**4.54**	**320**	*e*S	**Sn**	**00 52 49.3**	**-1.5**
AZU	**Azuero**	**6.17**	**112**	*e*P	**Pn**	**00 52 18.6**	**-2.5**
APG	**El Apazote**	**6.47**	**319**	Pn	**Pn**	**00 52 27.8**	**+2.4**
	comp=Z,1.5nm,0.3s,baz=148,slow=20,SNR=6.4						
APG				LR	LR	00 55 23.0	
	comp=Z,201nm,20.7s,baz=118,slow=42						
CCIG	**Comitan**	**8.50**	**316**	*e*Pn	**Pn**	**00 52 55.7**	**+2.5**
CMIG	**Matias Romero**	**11.01**	**310**	Pn	**Pn**	**00 53 29.3**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=125,slow=11,SNR=4.1						
CMIG				LR	LR	00 58 17.2	
	comp=Z,145nm,20.5s,baz=109,slow=40						
ROSC	**El Rosal**	**12.77**	**114**	LR	LR	00 58 56.0	
	comp=Z,114nm,19.7s,baz=354,slow=39						
857A	**Zephyrhills**	**18.38**	**11**	P	**P**	**00 55 04.4**	**-0.2**
	baz=191						
656A	**Willston**	**19.40**	**9**	P	**P**	**00 55 15.5**	**-0.3**
	baz=190						
LNIG	**Linares**	**19.43**	**321**	*e*P	**P**	**00 55 16.8**	**+0.5**
	comp=Z,14nm,1.2s						
553A	**Crawfordville**	**20.00**	**4**	P	**P**	**00 55 22.7**	**+0.4**
	baz=184						
454A	**Quitman**	**20.59**	**6**	P	**P**	**00 55 29.3**	**+0.6**
	baz=186						
351A	**Pinckard**	**21.02**	**1**	P	**P**	**00 55 34.1**	**+0.7**
	baz=181						
349A	**Repton**	**21.12**	**357**	P	**P**	**00 55 35.5**	**+1.0**
	baz=176						
353A	**Camilla**	**21.16**	**4**	P	**P**	**00 55 35.5**	**+0.5**
	baz=184,SNR=6.4						
TIGA	**Tifton**	**21.31**	**6**	P	**P**	**00 55 38.0**	**+1.5**
	baz=186						
250A	**Grady**	**21.72**	**360**	P	**P**	**00 55 41.7**	**+0.8**
	baz=179						
249A	**Camden**	**21.74**	**358**	P	**P**	**00 55 42.5**	**+1.3**
	baz=177						
252A	**Lumpkin**	**21.77**	**3**	P	**P**	**00 55 42.5**	**+1.0**
	baz=183,SNR=5.5						
254A	**Abbeville**	**21.84**	**6**	P	**P**	**00 55 42.9**	**+0.7**
	baz=187						
251A	**Midway**	**21.84**	**1**	P	**P**	**00 55 43.2**	**+0.9**
	baz=181						
255A	**Hazlehurst**	**21.92**	**8**	P	**P**	**00 55 43.7**	**+0.6**
	baz=189						
151A	**Opelika**	**22.28**	**2**	P	**P**	**00 55 47.5**	**+0.5**
	baz=181						
150A	**Eclectic**	**22.35**	**0**	P	**P**	**00 55 47.8**	**+0.1**
	baz=180,SNR=9.9						
149A	**Jones**	**22.35**	**358**	P	**P**	**00 55 47.9**	**+0.2**
	baz=178						
148A	**Greensboro**	**22.43**	**357**	P	**P**	**00 55 48.3**	**-0.3**
	baz=176						
152A	**Waverly Hall**	**22.44**	**3**	*e*P	**P**	**00 55 49.2**	**+0.5**
	comp=Z,29nm,1.0s						
152A	**Waverly Hall**	**22.44**	**3**	P	**P**	**00 55 48.3**	**-0.5**
	baz=183,SNR=11						
154A	**Montrose**	**22.52**	**7**	P	**P**	**00 55 49.1**	**-0.4**
	baz=187						
156A	**Sylvania**	**22.79**	**10**	P	**P**	**00 55 51.3**	**-1.1**
	baz=191						
LRAL	**Lakeview Retre**	**22.79**	**358**	*e*P	**P**	**00 55 52.6**	**+0.2**
	comp=Z,8.8nm,0.8s						
LRAL	**Lakeview Retre**	**22.79**	**358**	P	**P**	**00 55 52.3**	**-0.1**
	baz=177						
NATX	**Nacogdoches**	**22.93**	**341**	P	**P**	**00 55 54.5**	**+0.6**
	baz=157						
Z49A	**Columbiana**	**22.94**	**359**	P	**P**	**00 55 53.7**	**-0.2**
	baz=178						
Z52A	**Williamson**	**22.98**	**4**	P	**P**	**00 55 54.0**	**-0.3**
	baz=184						
Z50A	**Ashland**	**22.99**	**0**	*e*P	**P**	**00 55 54.8**	**+0.3**
	comp=Z,11nm,0.8s						
Z50A	**Ashland**	**22.99**	**0**	P	**P**	**00 55 54.8**	**+0.3**
	baz=180,SNR=8.2						
Z53A	**Monticello**	**23.13**	**5**	P	**P**	**00 55 55.6**	**-0.3**
	baz=186						
Z54A	**Sparta**	**23.16**	**7**	P	**P**	**00 55 55.5**	**-0.7**
	baz=188						
GOGA	**Godfrey**	**23.27**	**5**	*e*P	**P**	**00 55 57.9**	**+0.6**
	comp=Z,7.4nm,0.8s						
GOGA	**Godfrey**	**23.27**	**5**	P	**P**	**00 55 57.2**	**-0.2**
	baz=186						
Y49A	**Blount Mountai**	**23.60**	**359**	*e*P	**P**	**00 56 00.9**	**+0.4**
	comp=Z,7.7nm,0.8s						
Y49A	**Blount Mountai**	**23.60**	**359**	P	**P**	**00 55 59.9**	**-0.7**
	baz=179						
Y50A	**Piedmont**	**23.63**	**1**	P	**P**	**00 56 00.0**	**-0.8**
	baz=180						
Y51A	**Rockmart**	**23.66**	**2**	P	**P**	**00 56 00.9**	**-0.2**
	baz=182,SNR=6.0						
Y52A	**Lilburn**	**23.67**	**4**	*e*P	**P**	**00 56 01.4**	**+0.2**
	comp=Z,10nm,0.8s						
Y52A	**Lilburn**	**23.67**	**4**	P	**P**	**00 56 00.6**	**-0.6**
	baz=184						
Y48A	**Jasper**	**23.67**	**358**	P	**P**	**00 56 01.0**	**-0.3**
	baz=177,SNR=5.1						
Y53A	**Monroe**	**23.70**	**5**	P	**P**	**00 56 01.5**	**0.0**
	baz=186,SNR=5.6						
Z58A	**St. Stephen**	**23.78**	**13**	P	**P**	**00 56 01.2**	**-1.0**
	baz=195						
Y54A	**Tignall**	**23.80**	**7**	P	**P**	**00 56 02.0**	**-0.4**
	baz=188,SNR=5.8						
JCT	**Junction City**	**23.94**	**330**	P	**P**	**00 56 04.2**	**+0.3**
	baz=144						
Y55A	**Saluda**	**23.99**	**9**	P	**P**	**00 56 03.8**	**-0.4**
	baz=190,SNR=7.3						
WHTX	**Lake Whitney,**	**24.16**	**336**	*e*P	**P**	**00 56 06.3**	**+0.4**
	comp=Z,8.2nm,0.9s						
WHTX	**Lake Whitney,**	**24.16**	**336**	P	**P**	**00 56 05.7**	**-0.2**
	baz=151						
X50B	**Fort Payne**	**24.20**	**1**	P	**P**	**00 56 05.6**	**-0.7**
	baz=180						
X48A	**Hartselle**	**24.20**	**358**	P	**P**	**00 56 05.5**	**-0.8**
	baz=177						
HODGE	**Hodges**	**24.22**	**8**	*e*P	**P**	**00 56 06.5**	**+0.2**
	comp=Z,15nm,0.9s						
X49A	**Woodville**	**24.25**	**359**	P	**P**	**00 56 05.6**	**-1.0**
	baz=179						
X47A	**Russelville**	**24.31**	**356**	P	**P**	**00 56 06.5**	**-0.7**
	baz=175,SNR=7.7						
X51A	**Calhoun**	**24.33**	**2**	P	**P**	**00 56 06.0**	**-1.4**
	baz=182						
Y58A	**Scranton**	**24.36**	**13**	P	**P**	**00 56 06.1**	**-1.5**
	baz=195						
X53A	**Estanollee**	**24.37**	**6**	P	**P**	**00 56 06.5**	**-1.3**
	baz=186						
X46A	**Booneville**	**24.40**	**355**	P	**P**	**00 56 06.4**	**-1.7**
	baz=174						
JSC	**Jenkinsville**	**24.42**	**10**	*e*P	**P**	**00 56 08.6**	**+0.4**
	comp=Z,20nm,0.8s						
X52A	**Dahlonega**	**24.42**	**4**	P	**P**	**00 56 07.2**	**-1.0**
	baz=185						
OXF	**Oxford**	**24.44**	**353**	P	**P**	**00 56 06.6**	**-1.8**
	baz=172						
X54A	**Belton**	**24.52**	**7**	P	**P**	**00 56 07.5**	**-1.6**
	baz=188						
X55A	**Gracelyn & Ava**	**24.54**	**9**	P	**P**	**00 56 08.2**	**-1.2**
	baz=190,SNR=8.5						
X56A	**White Oak**	**24.66**	**10**	P	**P**	**00 56 09.2**	**-1.2**
	baz=192						
Y60A	**Bolivia**	**24.81**	**16**	P	**P**	**00 56 09.8**	**-1.8**
	baz=198						
X57A	**Johnson Farm,**	**24.81**	**12**	P	**P**	**00 56 09.9**	**-1.8**
	baz=194						
W49A	**Belvidere**	**24.86**	**360**	P	**P**	**00 56 10.9**	**-1.2**
	baz=179						
PAULI	**Pauline**	**24.86**	**8**	*e*P	**P**	**00 56 12.6**	**+0.4**
	comp=Z,12nm,0.7s						
W48A	**Pulaski**	**24.89**	**358**	P	**P**	**00 56 11.3**	**-1.1**
	baz=178						
BG3	**Lake Jocassee**	**24.89**	**6**	*e*P	**P**	**00 56 13.2**	**+0.7**
	comp=Z,11nm,0.8s						
W52A	**Murphy**	**24.90**	**4**	*e*P	**P**	**00 56 13.0**	**+0.3**
	comp=Z,13nm,0.9s						
W52A	**Murphy**	**24.90**	**4**	P	**P**	**00 56 11.3**	**-1.3**
	baz=184						
W51A	**Cleveland**	**24.92**	**3**	P	**P**	**00 56 11.3**	**-1.5**
	baz=183						
W50A	**Signal Mountai**	**24.94**	**1**	*e*P	**P**	**00 56 14.1**	**+1.0**
	comp=Z,12nm,0.9s						
W50A	**Signal Mountai**	**24.94**	**1**	P	**P**	**00 56 12.1**	**-0.9**
	baz=181						
SWET	**Sewanee**	**24.95**	**0**	*e*P	**P**	**00 56 12.9**	**-0.2**
	comp=Z,9.8nm,1.0s						
W47A	**Westpoint**	**25.02**	**357**	P	**P**	**00 56 12.8**	**-0.9**
	baz=176						
W53A	**Cullowhee**	**25.04**	**6**	P	**P**	**00 56 12.5**	**-1.5**
	baz=186						
X58A	**Rowland**	**25.06**	**13**	P	**P**	**00 56 12.3**	**-1.6**
	baz=195						
W54A	**Cherokee Point**	**25.07**	**7**	P	**P**	**00 56 13.5**	**-0.6**
	baz=189,SNR=5.7						
TXAR	**Lajitas Array**	**25.21**	**322**	P	**P**	**00 56 16.6**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=138,slow=10,SNR=22						
TX31	**Lajitas Ar. Si**	**25.21**	**322**	*e*P	**P**	**00 56 17.2**	**+1.6**
	comp=Z,2.6nm,0.8s						
MIAR	**Mount Ida**	**25.24**	**345**	*e*P	**P**	**00 56 16.1**	**+0.4**
	comp=Z,9.9nm,1.0s						
MIAR	**Mount Ida**	**25.24**	**345**	P	**P**	**00 56 15.2**	**-0.4**
	baz=162,SNR=6.9						
KMSC	**Kings Mountain**	**25.25**	**9**	*e*P	**P**	**00 56 15.9**	**+0.2**
	comp=Z,14nm,0.8s						
KMSC	**Kings Mountain**	**25.25**	**9**	P	**P**	**00 56 14.9**	**-0.8**
	baz=190						
W56A	**Indian Trail**	**25.37**	**11**	P	**P**	**00 56 15.3**	**-1.5**
	baz=192						
V50A	**Pikevile**	**25.42**	**2**	P	**P**	**00 56 15.7**	**-1.5**
	baz=182						
V48A	**Smith Brothers**	**25.48**	**359**	*e*P	**P**	**00 56 17.4**	**-0.4**
	comp=Z,22nm,1.5s						
V48A	**Smith Brothers**	**25.48**	**359**	P	**P**	**00 56 16.3**	**-1.5**
	baz=178						
V49A	**McMinnville**	**25.50**	**0**	P	**P**	**00 56 16.6**	**-1.4**
	baz=180						
W41B	**Gary Mavity, V**	**25.54**	**348**	*e*P	**P**	**00 56 19.0**	**+0.6**
	comp=Z,36nm,1.8s						
W41B	**Gary Mavity, V**	**25.54**	**348**	P	**P**	**00 56 17.2**	**-1.1**
	baz=165						
V53A	**Saluda**	**25.57**	**6**	*e*P	**P**	**00 56 19.2**	**+0.5**
	comp=Z,12nm,0.7s						
V53A	**Saluda**	**25.57**	**6**	P	**P**	**00 56 17.1**	**-1.6**
	baz=187						
V51A	**Loudon**	**25.58**	**3**	*e*P	**P**	**00

S51A	Beattyville	27.46	4	P	P	00 56 35.5 -0.1
	baz=185					
S49A	Springfield	27.52	1	P	P	00 56 35.8 -0.4
	baz=181					
S52A	Salyersville	27.54	5	P	P	00 56 35.7 -0.7
	baz=186					
MNTX	Cornudas Mount	27.94	323	P	P	00 56 40.6 +0.6
	baz=136					
S55A	Lewisburg	27.95	9	P	P	00 56 39.4 -0.7
	baz=191					
WCI	Wyandotte Cave	27.96	360	P	P	00 56 40.0 -0.1
	baz=179					
R49A	Shelbyville	28.03	1	P	P	00 56 40.2 -0.6
	baz=182					
R50A	Paris	28.05	3	P	P	00 56 40.4 -0.6
	baz=183					
R45A	Skylar, Fairfi	28.09	356	P	P	00 56 41.4 +0.1
	baz=175					
R51A	Hillsboro	28.12	4	P	P	00 56 41.2 -0.3
	baz=185					
PTGA	Pitinga	28.12	111	P	P	00 56 40.8 -1.1
	comp=Z,3.0nm,0.5s,baz=312,slow=9.1,SNR=5.9					
CCM	Cathedral Cave	28.17	351	P	P	00 56 41.8 -0.2
	baz=169					
R53A	Hurricane	28.30	7	P	P	00 56 42.5 -0.6
	baz=188					
R55A	Marlinton	28.51	10	P	P	00 56 44.7 -0.5
	baz=192					
Q48A	North Vernon	28.66	1	P	P	00 56 45.8 -0.5
	baz=180					
Q47A	Bedord North L	28.67	359	P	P	00 56 45.9 -0.5
	baz=179					
Q49A	Aurora	28.75	2	P	P	00 56 46.5 -0.7
	baz=182					
Q51A	Peebles	28.86	4	eP	P	00 56 47.8 -0.3
	comp=Z,18nm,0.7s					
Q51A	Peebles	28.86	4	P	P	00 56 47.3 -0.8
	baz=185,SNR=6.7					
Q53A	Leroy	28.87	7	P	P	00 56 47.3 -1.0
	baz=189					
Q52A	Bidwell	28.89	6	P	P	00 56 47.8 -0.6
	baz=187					
R59A	King George, V	29.06	15	P	P	00 56 48.6 -1.2
	baz=198					
Q54A	Coxs Mills	29.09	8	P	P	00 56 49.1 -1.0
	baz=190					
P48A	Milroy	29.19	1	P	P	00 56 49.8 -1.3
	baz=181					
P47A	Martinsville	29.21	360	P	P	00 56 50.2 -1.0
	baz=179					
Q55A	Buckhannon	29.21	10	P	P	00 56 50.3 -1.0
	baz=192					
P50A	Jamestown	29.40	4	P	P	00 56 52.1 -0.8
	baz=184					
P53A	Whipple	29.51	7	eP	P	00 56 53.2 -0.7
	comp=Z,22nm,1.2s					
P53A	Whipple	29.51	7	P	P	00 56 53.4 -0.5
	baz=189					
P43A	Skaggs, Pawnee	29.53	355	P	P	00 56 53.9 -0.2
	baz=173					
P52A	Corning	29.57	6	P	P	00 56 53.8 -0.6
	baz=188					
O48A	Farmland	29.99	1	P	P	00 56 57.5 -0.6
	baz=181					
O51A	Pataskala	30.03	5	P	P	00 56 58.1 -0.5
	baz=186					
O52A	Adamsville	30.08	6	eP	P	00 56 58.1 -0.8
	comp=Z,23nm,1.1s					
O52A	Adamsville	30.08	6	P	P	00 56 58.4 -0.5
	baz=188					
ACSO	Alum Creek Sta	30.08	5	P	P	00 56 58.9 -0.1
	baz=186					
O53A	New Philadelph	30.28	7	P	P	00 57 00.2 -0.5
	baz=189					
HDIL	Hopedale	30.42	355	P	P	00 57 02.1 +0.2
	baz=173					
LENM	Lemitar	30.64	324	eP	P	00 57 02.5 -1.7
N49A	Columbus Grove	30.69	3	eP	P	00 57 03.8 -0.6
	comp=Z,35nm,1.4s					
N49A	Columbus Grove	30.69	3	P	P	00 57 04.0 -0.3
	baz=183					
TASM	ASL Pad, Albuq	30.92	326	P	P	00 57 07.4 +0.7
TASM	ASL Pad, Albuq	30.92	326	P	P	00 57 07.7 +1.0
	baz=138					
SSPA	Standing Stone	31.21	12	P	P	00 57 08.6 -0.4
	baz=195					
M43A	Waltham Townsh	31.27	356	P	P	00 57 09.4 0.0
	baz=174					
O59A	Robesonia	31.29	15	P	P	00 57 09.3 -0.4
	baz=199					
SDCO	Great Sand Dun	32.58	331	eP	P	00 57 23.0 +1.7
	comp=Z,2.3nm,1.0s					
SDCO	Great Sand Dun	32.58	331	P	P	00 57 21.9 +0.5
	baz=142					
J41A	Loganville	33.27	355	P	P	00 57 27.3 +0.4
	baz=173					
PB11	IPOC Station P	33.83	151	eP	P	00 57 33.6 +1.4
	comp=Z,32nm,0.6s					
PV12	Saucer Basin,	34.68	328	eP	P	00 57 40.7 +1.1
	comp=Z,15nm,1.5s					
PV18	Skein Mesa, Pa	34.69	327	eP	P	00 57 40.7 +1.1
	comp=Z,3.9nm,0.8s					
LONY	Lake Ozonia	35.74	14	eP	P	00 57 47.1 -1.3
	comp=Z,51nm,1.8s					
E47A	Iron Bridge	36.26	3	P	P	00 57 51.6 -1.1
	baz=184					
PFO	Pinyon Flats O	36.38	315	P	P	00 57 54.1 -0.1
	baz=123					
RSSD	Black Hills	37.26	338	P	P	00 58 01.3 -0.3
	baz=150					
D54A	Lac Fusel, La	37.73	10	P	P	00 58 03.8 -1.5
	baz=195					
PKME	Peaks-Kenny Pk	37.84	19	P	P	00 58 05.0 -1.1
	baz=207					
DUG	Dugway, Tooele	38.19	326	P	P	00 58 10.4 +1.0
	baz=134					
LRMC	Laurel Mtn Rad	38.25	316	P	P	00 58 11.2 +1.2
	baz=123					
PDAR	Pinedale Array	38.44	332	P	P	00 58 10.4 -1.1
	comp=Z,0.7nm,0.7s,baz=123,slow=9.5,SNR=6.5					
ISA	Isabella, Lake	38.89	316	P	P	00 58 15.5 +0.3
	baz=123					
CWC	Cottonwood Cre	39.05	317	P	P	00 58 17.2 +0.5
	baz=124					
REDW	Red Top Meadow	39.50	331	eP	P	00 58 20.7 +0.3
	comp=Z,3.8nm,0.8s					
ELK	Elko	39.92	325	eP	P	00 58 25.1 +1.1
	comp=Z,1.9nm,0.9s					
NV11	Mina Array Sit	40.24	320	eP	P	00 58 28.0 +1.4
	comp=Z,0.4nm,1.1s					
NVAR	Mina Array Bea	40.33	320	eP	P	00 58 29.5 +2.1
NVAR	Mina Array Bea	40.33	320	P	P	00 58 29.2 +1.8
	comp=Z,1.4nm,0.6s,baz=132,slow=7.7,SNR=15					
KVN	Kaiserville	40.57	321	eP	P	00 58 30.3 +1.0
	comp=Z,2.6nm,1.0s					
RYN	Ryan	40.58	320	eP	P	00 58 31.5 +2.0
	comp=Z,5.5nm,1.3s					
BMN	Battle Mountai	40.87	323	eP	P	00 58 33.2 +1.4
	comp=Z,4.3nm,1.0s					
WAKR	Walker	41.10	319	eP	P	00 58 35.0 +1.2
	comp=Z,15nm,1.7s					
HLID	Hailey	41.41	329	eP	P	00 58 39.4 +3.2
	comp=Z,1.6nm,1.0s					
HLID	Hailey	41.41	329	P	P	00 58 36.9 +0.7
	baz=135					
O03E	Paynes Creek	43.62	320	P	P	00 58 54.6 +0.4
	baz=123					
O02D	Mt. Diablo Mer	44.19	319	P	P	00 58 59.2 +0.6
	baz=122					
G05D	Wamic, OR	46.22	326	P	P	00 59 15.0 +0.3
	baz=128					
YKA	Yellowknife Ar	56.18	345	P	P	01 00 27.0 -2.0
	comp=Z,0.3nm,0.6s,baz=142,slow=7.0,SNR=9.5					
YKA				PcP	PcP	01 01 27.4 +0.8
	comp=Z,0.6nm,0.7s,baz=144,slow=3.9,SNR=13					
ILAR	Eielson Array	68.66	336	P	P	01 01 51.9 -0.7
	comp=Z,0.5nm,0.9s,baz=149,slow=3.9,SNR=4.6					
ESDC	Sonseca Array	77.53	52	P	P	01 02 40.8 -4.8
	comp=Z,0.2nm,0.4s,baz=289,slow=7.3,SNR=3.0					
VNA3	Neumayer Olymp	95.20	162	P	P	01 04 15.3 +2.8
SNAA	Sanae	97.43	162	P	Pdif	01 04 24.9 +2.1
AKASG	Malin Array Be	97.60	35	LR	LR	01 46 45.8
	comp=Z,19nm,19.4s,baz=210,slow=35					
CMAR	Chiang Mai Arr	151.15	350	PKPbc	PKPbc	01 10 42.2 -1.4
	comp=Z,0.6nm,0.3s,baz=2.8,slow=4.0,SNR=5.6					

MDD ***13*** *01:15:41.4±0.8, 36°.05N×14°.41W, h20km, mb4.1/3, Error ellipse: s-maj=21.1km s-min=6.1km az=140.0, PRXIMO*
IGIL ***13*** *01:15:44.8, 36°.29N×14°.11W, h0km, ML2.2*
INMG ***13*** *01:15:45.1±1.1, 36°.05N×14°.50W, h10km±14km, ML2.4, Error ellipse: s-maj=6.0km s-min=5.6km az=132.0*

ISC 13 01:15:36.8±1.2, 36°.13N±0°.07×14°.41W±0°.07, h10km, n58, σ3°36/100, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	Porto Santo, M	3.43	208	ePn	Pn	01 16 31.4	+1.1
PMPST				eSn	Sn	01 17 05.9	-5.1
PMPST				A	A	01 17 09.5	
	30nm,0.6s						
PMPS	Porto Santo	3.45	208	ePn	Pn	01 16 31.7	+1.1
PMPS				eSn	Sn	01 17 05.9	-5.6
PMPS				A	A	01 17 09.1	
	15nm,0.5s						
PMPS	Porto Santo	3.45	208	P	Pn	01 16 31.4	+0.8
PMPS				S	Sn	01 17 05.9	-5.6
	15nm,0.6s						
PMAR	Madeira	3.98	212	ePn	Pn	01 16 39.5	+1.5
PMAR				eSn	Sn	01 17 18.6	-6.2
PMAR				A	A	01 17 21.4	
	17nm,0.9s						
PMAR	Madeira	3.98	212	P	Pn	01 16 39.5	+1.5
PMAR				S	Sn	01 17 18.6	-6.2
	8.4nm,0.9s						
PMOZ	Porto Moniz, M	4.02	216	ePn	Pn	01 16 39.7	+1.2
PMOZ				eSn	Sn	01 17 24.3	-1.4
PMOZ	Porto Moniz, M	4.02	216	P	Pn	01 16 39.7	+1.2
PMOZ				S	Sn	01 17 24.3	-1.4
FUL	Funchal	4.03	211	ePn	Pn	01 16 39.6	+1.0
FUL	Funchal	4.03	211	P	Pn	01 16 39.6	+1.0
PFVI	Vila Bisbo	4.60	76	ePn	Pn	01 16 50.0	+3.5
PFVI				eSn	Sn	01 17 38.2	-1.8
PFVI				A	A	01 17 40.9	
	3.9nm,0.4s						
PFVI	Vila Bisbo	4.60	76	P	Pn	01 16 49.9	+3.5
	1.3nm,0.1s,SNR=6.8						
PFVI				S	Sn	01 17 37.6	-2.4
	14nm,0.2s,SNR=7.9						
MORF	Marmelete	4.78	74	eP	Pn	01 16 52.2	+3.3
MORF				eS	Sn	01 17 41.3	-3.1
MORF				AML	AML	01 17 45.4	
	comp=N,6.1nm,0.2s						
MORF	Marmelete	4.78	74	ePn	Pn	01 16 52.3	+3.4
MORF				eSn	Sn	01 17 42.6	-1.7
MORF				A	A	01 17 43.9	
	comp=N,3.9nm,0.3s						
MORF	Marmelete	4.78	74	P	Pn	01 16 52.3	+3.4
MORF				S	Sn	01 17 42.6	-1.7
	comp=N,3.9nm,0.3s						
PTEO	Sao Teotonio	4.78	71	eSn	Sn	01 17 42.9	-1.4
PTEO				A	A	01 17 44.4	
	comp=N,5.7nm,0.7s						
PTEO	Sao Teotonio	4.78	71	S	Sn	01 17 42.9	-1.4
	comp=N,2.8nm,0.7s						
PMAFR	Mafra	4.96	54	ePn	Pn	01 16 54.7	+3.4
PMAFR				eSn	Sn	01 17 47.7	-1.0
PMAFR				A	A	01 17 50.0	
	comp=N,7.9nm,0.5s						
PMAFR	Mafra	4.96	54	P	Pn	01 16 54.7	+3.4
	comp=N,1.3nm,0.1s,SNR=6.3						
PMAFR				S	Sn	01 17 46.8	-1.9
	comp=N,5.8nm,0.2s,SNR=7.9						
PNCL	Nicolau / Gran	5.10	65	ePn	Pn	01 16 56.5	+3.2
PNCL				eSn	Sn	01 17 49.9	-2.3
PNCL				A	A	01 17 54.0	
	comp=N,3.1nm,1.1s						
PNCL	Nicolau / Gran	5.10	65	P	Pn	01 16 56.5	+3.2
PNCL				S	Sn	01 17 49.9	-2.3
	comp=N,3.1nm,1.1s						
MESJ	Messejana	5.24	69	eP	Pn	01 16 58.3	+3.0
MESJ				eS	Sn	01 17 52.0	-3.7
MESJ				AML	AML	01 17 55.7	
	comp=N,2.7nm,0.3s						
MESJ	Messejana	5.24	69	ePn	Pn	01 16 59.5	+4.2
MESJ				eSn	Sn	01 17 53.2	-2.6
MESJ				A	A	01 17 57.1	
	comp=N,2.7nm,0.8s						
MESJ	Messejana	5.24	69	P	Pn	01 16 59.5	+4.2
MESJ				S	Sn	01 17 53.2	-2.6
	comp=N,2.7nm,0.8s						
PCVE	Castro Verde	5.33	72	ePn	Pn	01 17 00.2	+3.8
PCVE				eSn	Sn	01 17 55.3	-2.5
PCVE				A	A	01 17 57.9	
	comp=N,2.0nm,0.4s						
PCVE	Castro Verde	5.33	72	P	Pn	01 17 00.2	+3.8
PCVE				S	Sn	01 17 55.3	-2.5
	comp=N,2.0nm,0.4s						
PBDV	Barranco-do-Ve	5.33	76	ePn	Pn	01 17 01.1	+4.7
PBDV				eSn	Sn	01 17 56.1	-1.8
PBDV				A	A	01 17 59.1	
	comp=N,1.9nm,0.4s						
PBDV	Barranco-do-Ve	5.33	76	P	Pn	01 17 01.1	+4.7
PBDV				S	Sn	01 17 56.1	-1.8
	comp=N,1.9nm,0.4s						
PVAQ	Vaqueiros	5.52	75	eSn	Sn	01 18 00.3	-2.4
PVAQ	Vaqueiros	5.52	75	S	Sn	01 18 00.3	-2.4
EVO	Evora	5.64	63	eSn	Sn	01 18 02.1	-3.3
EVO				A	A	01 18 10.3	
	comp=N,2.6nm,0.5s						
EVO	Evora	5.64	63	S	Sn	01 18 02.1	-3.3
	comp=N,2.6nm,0.5s						
PMTG	Montargil	5.72	57	ePn	Pn	01 17 04.5	+2.7
PMTG				eSn	Sn	01 18 04.9	-2.7
PMTG				A	A	01 18 10.7	
	comp=N,2.4nm,0.8s						
PMTG	Montargil	5.72	57	P	Pn	01 17 04.5	+2.7
PMTG				S	Sn	01 18 04.9	-2.7
	comp=N,2.4nm,0.8s						
EGRO	El Granado	5.73	74	P	Pn	01 17 05.7	+3.7
	comp=N,0.4nm,0.1s,SNR=7.9						
EGRO				S	Sn	01 18 05.2	-2.6
	comp=N,0.7nm,0.1s,SNR=7.9						
PTOM	Tomar	5.89	52	ePn	Pn	01 17 07.7	+3.6
PTOM				eSn	Sn	01 18 09.6	-2.0
PTOM				A	A	01 18 12.5	
	comp=N,4.1nm,0.8s						
PTOM	Tomar	5.89	52	P	Pn	01 17 07.7	+3.6
PTOM				S	Sn	01 18 09.6	-2.0
	comp=N,2.0nm,0.8s						
PCAS	Casmilo, Conde	6.09	48	ePn	Pn	01 17 10.3	+3.4
PCAS				eSn	Sn	01 18 14.7	-2.0
PCAS				A	A	01 18 17.9	
	comp=N,2.2nm,0.6s						
PCAS	Casmilo, Conde	6.09	48	P	Pn	01 17 10.3	+3.4
PCAS				S	Sn	01 18 14.7	-2.0
	comp=N,2.2nm,0.6s						
EMIN	Mina Concepcio	6.41	73	P	Pn	01 17 14.5	+3.2
	comp=N,0.7nm,0.2s,SNR=7.9						
EMIN				S	Sn	01 18 20.6	-3.9
	comp=N,0.4nm,0.1s,SNR=7.9						
EBAD	Badajoz	6.45	64	P	Pn	01 17 15.7	+3.9
	comp=N,0.5nm,0.1s,SNR=8.7						
EBAD				S	Sn	01 18 20.7	-4.6
	comp=N,1.0nm,0.1s,SNR=7.9						
PMRV	Marv??o	6.46	57	ePn	Pn	01 17 14.5	+2.5
PMRV				eSn	Sn	01 18 22.1	-3.7
PMRV				A	A	01 18 25.9	
	comp=N,1.8nm,0.5s						
PMRV	Marv??o	6.46	57	P	Pn	01 17 14.5	+2.5
PMRV				S	Sn	01 18 22.1	-3.7
	comp=N,1.8nm,0.5s						
PVIS	Viseu	6.87	46	eSn	Sn	01 18 32.9	-2.9
PVIS	Viseu	6.87	46	S	Sn	01 18 32.9	-2.9
ESPR	Espera	6.93	81	S	Sn	01 18 34.9	-2.5
	comp=N,3.0nm,0.2s,SNR=7.9						
POLO	Lamas de Olo	7.36	43	ePn	Pn	01 17 27.4	+3.0
POLO	Lamas de Olo	7.36	43	P	Pn	01 17 27.4	+3.0
ECAB	El Cabril	7.45	72	P	Pn	01 17 29.1	+3.5
	comp=N,0.5nm,0.2s,SNR=7.9						
ECAB				S	Sn	01 18 46.0	-4.1
	comp=N,0.7nm,0.3s,SNR=7.9						
PGAV	Gavieira, Arco	7.54	37	ePn	Pn	01 17 30.3	+3.5
PGAV				eSn	Sn	01 18 47.2	-5.2
PGAV				A	A	01 18 51.5	
	comp=N,2.1nm,0.8s						
PGAV	Gavieira, Arco	7.54	37	P	Pn	01 17 30.3	+3.5
PGAV				S	Sn	01 18 47.2	-5.2
	comp=N,2.1nm,0.8s						
ELOB	Lobios	7.57	39	P	Pn	01 17 30.9	+3.7
	comp=N,1.0nm,0.2s,SNR=7.9						
ELOB				S	Sn	01 18 47.8	-5.3
	comp=N,1.0nm,0.1s,SNR=7.9						
MVO	Moncorvo	7.66	47	ePn	Pn	01 17 31.7	+3.2
MVO				eSn	Sn	01 18 51.5	-3.8
MVO	Moncorvo	7.66	47	P	Pn	01 17 31.6	+3.1
	comp=N,0.3nm,0.1s,SNR=7.9						
MVO				S	Sn	01 18 50.2	-5.1
	comp=N,0.9nm,0.1s,SNR=7.9						
EADA	Adamuz	8.11	73	P	Pn	01 17 38.1	+3.4
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	01 19 02.4	-4.1
	comp=N,0.3nm,0.1s,SNR=7.9						
PBRG	Braganca	8.23	44	ePn	Pn	01 17 39.4	+3.1
PBRG	Braganca	8.23	44	P	Pn	01 17 39.4	+3.1
ECAL	Calabor	8.33	43	P	Pn	01 17 41.1	+3.5
	comp=N,0.5nm,0.1s,SNR=7.9						
PAB	San Pablo	8.66	64	P	Pn	01 17 45.4	+3.1
	comp=N,0.2nm,0.2s,SNR=7.9						
PAB				S	Sn	01 19 14.0	-6.0
	comp=N,0.2nm,0.3s,SNR=7.9						

IDC 13 01:17:41.0±5.0, 20°.36S×178°.77W, h628km±54km, mb3.0/6, mb1 3.3/6, mb1mx3.1/20, mbtmp4.0/6, Error ellipse: s-maj=94.3km s-min=24.6km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.20	244	P	P	01 24 00.6	-0.7
	1.5nm,0.5s,baz=40,slow=9.4,SNR=3.1						
ASAR	Alice Springs	43.84	257	P	P	01 24 54.5	+0.4
	2.8nm,0.7s,baz=94,slow=7.6,SNR=24						
ASAR				PcP	PcP	01 26 25.9	0.0
	0.6nm,0.5s,baz=98,slow=3.6,SNR=5.8						
WRA	Warramunga Arr	43.90	262	P	P	01 24 54.2	-0.2
	0.8nm,0.5s,baz=98,slow=7.7,SNR=12						
WRA				PcP	PcP	01 26 26.5	+0.4
	0.5nm,0.7s,baz=94,slow=3.6,SNR=2.9						
NVAR	Mina Array Bea	81.42	44	P	P	01 28 54.8	+0.4
	0.6nm,0.6s,baz=230,slow=8.2,SNR=5.2						
ILAR	Eielson Array	88.34	13	P	P	01 29 26.4	-0.4
	0.6nm,0.5s,baz=216,slow=5.0,SNR=7.2						
PDAR	Pinedale Array	89.36	44	P	P	01 29 32.8	+0.3
	0.7nm,0.6s,baz=225,slow=2.7,SNR=7.2						
ARCES	ARCESS Array B	128.65	349	PKP	PKPdf	01 35 36.8	-0.7
	1.9nm,0.9s,baz=318,slow=3.4,SNR=4.9						
FINES	FINESS Array B	135.43	343	PKP	PKPdf	01 35 50.7	+0.3
	0.3nm,0.5s,baz=151,slow=3.2,SNR=4.0						
AKASG	Malin Array Be	142.53	331	PKP	PKPdf	01 36 00.8	-2.8
	2.6nm,0.4s,baz=42,slow=4.4,SNR=25						
BRTR	Keskin Array B	146.21	312	PKPbc	PKPbc	01 36 12.7	-0.3
	0.7nm,0.6s,baz=139,slow=3.5,SNR=6.8						
GERES	GERESS Array B	149.86	343	PKPbc	PKPbc	01 36 21.9	+0.2
	1.0nm,0.8s,baz=45,slow=2.1,SNR=5.1						

ISC 13 01:17:44.0±0.9, 51°.84N±0°.03×16°.24E±0°.03, h0km, n24, σ2°41/50, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	1.00	178	*i* Pg	Pg	01 18 02.5	-0.5
KSP				eSg	Sg	01 18 11.2	-4.7
UPC	Upice	1.34	186	ePG	Pg	01 18 08.6	-1.0
UPC				eSG	Sg	01 18 21.6	-5.4
	comp=Z,122nm,0.5s						
DPC	Dobruska-Polom	1.49	178	ePG	Pn	01 18 11.4	-0.6
DPC				eSG	Sg	01 18 26.1	-5.7
	comp=Z,26nm,0.4s						
PVCC	Panska Ves	1.68	219	ePG	Pn	01 18 15.6	+1.0
PVCC				eSG	Sn	01 18 33.9	-3.0
	comp=Z,151nm,0.2s						
BRG	Berggiesshubel	1.74	237	PN	Pg	01 18 17.9	+0.8
BRG				PG	Pb	01 18 18.8	+2.1
BRG				SG	Sn	01 18 38.4	+0.2
	69nm,0.3s						
KRLC	Kraliky	1.80	169	ePG	Pn	01 18 17.4	+1.1
KRLC				eSG	Sn	01 18 36.7	-3.1
	comp=Z,10.0nm,0.3s						
CLL	Collm	2.09	257	ePn	Pg	01 18 24.0	0.0
CLL				ePg	Pb	01 18 26.0	+3.3
CLL				eSg	Sg	01 18 52.0	+0.9
	comp=Z,22nm,0.5s						
GOPC	GO Pecny, Ondr	2.14	206	ePG	Pb	01 18 22.8	-0.7
GOPC				eSG	Sn	01 18 46.4	-1.7
	comp=Z,13nm,0.2s						
PRU	Pruhonice	2.14	211	ePG	Pb	01 18 23.4	-0.2
PRU				eSG	Sn	01 18 47.0	-1.2
	comp=Z,25nm,0.2s						
MORC	Moravsky Berou	2.22	158	ePN	Pn	01 18 23.2	+1.1
MORC				eSG	Sn	01 18 49.3	-1.0
OKC	Ostrava-Krasne	2.34	148	ePG	Pg	01 18 28.5	-0.3
OKC				eSG	Sb	01 18 55.8	-0.6
	comp=Z,21nm,0.5s						
VRAC	Vranov	2.54	175	ePN	Pn	01 18 27.6	+1.1
VRAC				eSG	Sn	01 18 58.4	+0.3
TREC	Trest	2.59	191	eSG	Sn	01 19 00.1	+0.7
	comp=Z,19nm,0.3s						
OJC	Ojcow	2.77	124	ePg	Pg	01 18 40.2	+3.2
OJC				eSg	Sg	01 19 15.2	+2.4
KRUC	Moravsky	2.78	178	ePN	Pn	01 18 31.0	+1.3
KRUC				eSG	Sn	01 19 06.0	+2.0
NKC	Novy Kostel	2.88	238	eSG	Sb	01 19 14.1	+2.0
	comp=Z,36nm,0.4s						
KHC	Kasperske Hory	3.20	213	ePN	Pn	01 18 36.5	+1.0
KHC				ePG	Pb	01 18 42.3	+0.6
KHC				eSN	Sn	01 19 10.5	-3.9
KHC				eSG	Sb	01 19 20.1	-1.1
	comp=Z,13nm,0.7s						
BSD	Bornholm Skovb	3.38	347	*i* P	Pg	01 18 46.6	-2.0
BSD				*i* S	Sg	01 19 27.2	-5.1
LANS	Liptovska Anna	3.39	141	ePG	Pg	01 18 48.6	-0.3
LANS				eSG	Sb	01 19 26.9	+0.3
MODS	Modra-Piesok	3.53	169	eSG	Sb	01 19 29.0	-1.7
VYHS	Vyhne	3.74	153	ePN	Pn	01 18 43.9	+1.0
VYHS				ePG	Pg	01 18 55.6	0.0
VYHS				eSG	Sb	01 19 37.9	+1.2
CONA	Conrad Observa	3.92	184	ePn	Pn	01 18 47.6	+2.1
	comp=Z,0.2nm,0.2s						
CONA				Sg	Sb	01 19 43.0	+1.0
	comp=Z,8.0nm,0.4s						
MOA	Molln	4.19	199	ePn	Pn	01 18 50.3	+1.1
	comp=Z,0.3nm,0.1s						
MOA				Sg	Sb	01 19 55.1	+5.4
	comp=Z,4.5nm,0.3s						
ARSA	Arzberg	4.62	186	ePn	Pn	01 18 59.0	+4.1
	comp=Z,0.6nm,0.2s						
ARSA				Sg	Sb	01 20 04.9	+2.9
	comp=Z,2.8nm,0.5s						

MAN 13 01:18:08.8, 14°.03N×120°.35E, h64km, mb3.7, ML2.4, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.31	199	eP	Pn	01 18 21.8	+2.3
LUBP				eS	Sn	01 18 30.1	+2.9
PGP	Puerto Galera	0.79	132	eP	Pn	01 18 26.5	+2.1
PGP				*i* S	Sn	01 18 38.3	+2.4
SJMP	San Jose	1.73	154	eP	Pn	01 18 38.4	+1.7
SJMP				eS	Sn	01 18 58.4	+0.6
BB

comp=Z,0.0nm,0.3s
SHME Shamm 1.54 251 *e*P **Pg 01 20 20.2 +0.4**
SHME SNR=69 S **Sg 01 20 45.4 +5.7**
SHME Shamm 1.54 251 *e*Pn **Pg 01 20 20.3 +0.5**
GENO Geno 1.64 301 *e*Pn **Pb 01 20 20.1 -0.7**
BNDS Bandar-Abbas 1.64 301 *e*Pg **Pn 01 20 16.4 -3.0**
MDH Madha 1.81 227 *e*P **Pn 01 20 21.7 +0.1**
MDH SNR=19 **Madha 1.81 227** P **Pn 01 20 22.1 +0.5**
MDH SNR=19 S **Sg 01 20 51.6 +2.9**
MSFE Esma-Masafi 1.87 231 *e*P **Pn 01 20 22.4 0.0**
UMQ SNR=16 **Umm Al-Quwin 2.15 242** *e*P **Pb 01 20 28.9 -0.4**
UMQ SNR=7.6 **Umm Al-Quwin 2.15 242** *e*Pn **Pg 01 20 30.7 -0.7**
HATD Hatta, Dubai 2.26 221 *e*P **Pn 01 20 27.9 +0.1**
HATD SNR=35 **Hatta, Dubai 2.26 221** *e*Pn **Pn 01 20 28.3 +0.5**
ASHO Ashiyiah 2.41 220 *e*P **Pn 01 20 30.9 +1.0**
ASHO SNR=27 **Ashiyiah 2.41 220** P **Pn 01 20 30.9 +1.0**
ASHO SNR=25 **Ashiyiah 2.41 220** *e*Pn **Pb 01 20 32.5 -1.4**
NAZ Nazwa, Dubai 2.45 231 *e*P **Pn 01 20 31.8 +1.4**
NAZ SNR=24 **Nazwa, Dubai 2.45 231** *e*Pn **Pb 01 20 34.1 -0.4**
CHBR Chabahar 2.63 111 *e*Pn **Pn 01 20 31.3 -1.6**
SOHO SOHO 2.65 205 P **Pn 01 20 33.0 -0.1**
SOHO SNR=16 S **Sn 01 21 05.5 +0.1**
FAQ Al Faqa, Dubai 2.66 228 *e*P **Pn 01 20 34.7 +1.5**
FAQ SNR=58 **Al Faqa, Dubai 2.66 228** P **Pb 01 20 36.9 -1.1**
FAQ SNR=17 **Al Faqa, Dubai 2.66 228** *e*Pn **Pb 01 20 37.0 -1.0**
ASUD Al Ashush, Dub 2.92 229 *i* P **Pb 01 20 39.6 -2.8**
ASUD SNR=17 **Al Ashush, Dub 2.92 229** P **Pb 01 20 40.7 -1.7**
ASUD SNR=8.1 **Al Ashush, Dub 2.92 229** *e*Pn **Pb 01 20 41.5 -0.9**
HOQ Hoqain 2.99 188 P **Pn 01 20 38.2 +0.4**
HOQ SNR=8.2 **Hoqain 2.99 188** *e*Pn **Pn 01 20 38.2 +0.4**
BIDO Bidbid 3.04 174 *e*Pn **Pn 01 20 39.1 +0.6**
ALNE Al Ain 3.08 217 *i* P **Pn 01 20 40.0 +1.0**
ALNE SNR=22 **Al Ain 3.08 217** *e*Pn **Pb 01 20 42.7 -2.5**
AJN Ajban 3.19 232 P **Pb 01 20 45.1 -2.1**
AJN SNR=10 **Ajban 3.19 232** *e*Pn **Pb 01 20 45.0 -2.1**
NGRK Negar Kerman 3.21 344 *e*Pn **Pn 01 20 42.6 +1.5**
NGRK IAMB IAmb 01 20 49.0
comp=Z,0.0nm,0.4s
CHMN Cheshme madani 3.30 357 *e*Pn **Pn 01 20 44.5 +2.2**
CHMN IAMB IAmb 01 20 55.6
comp=Z,0.0nm,0.4s
ARQ Araqi 3.40 200 P **Pn 01 20 47.0 +3.6**
ARQ SNR=7.7 S **Sb 01 21 28.4 -3.6**
WSAR Wadi Sarin 3.40 166 P **Pn 01 20 45.0 +1.5**
comp=Z,12nm,0.3s,baz=337,slow=4.8,SNR=169
WSAR S **Sn 01 21 22.2 -1.6**
comp=Z,18nm,0.3s,baz=239,slow=22,SNR=12
SMDO Samad 3.49 176 P **Pn 01 20 46.0 +1.2**
SMDO SNR=11 S **Sn 01 21 27.5 +1.2**
TVBK TV Kerman 3.53 346 *e*Pn **Pn 01 20 47.7 +2.2**
TVBK IAMB IAmb 01 21 00.0
comp=Z,0.0nm,0.6s
BSY Bisya 3.83 188 P **Pn 01 20 52.3 +2.9**
KHGB SNR=12 **Koh Gabri 3.97 344** *e*Pn **Pn 01 20 53.5 +2.1**
KHGB IAMB IAmb 01 21 05.5
comp=Z,0.0nm,0.5s
SZD1 Zahaedan-tmp 4.01 43 *e*Pn **Pn 01 20 53.8 +1.9**
ZHSF Zahedan 4.05 41 *e*Pn **Pn 01 20 52.4 -0.1**
JLN Jalan Bani Buh 4.64 161 P **Pn 01 21 01.0 +0.5**
JLN SNR=22 S **Sn 01 21 53.9 -0.5**
BSRN Basiran 5.52 12 *e*Pn **Pn 01 21 12.5 -0.2**
IMEH Mehriz 5.55 331 *e*Pn **Pn 01 21 13.5 +0.3**
MHTO MHTO 5.55 178 P **Pn 01 21 15.0 +2.0**
MHTO S **Sn 01 22 17.7 +0.9**
IKAZ Kazeroun 6.13 303 *e*Pn **Pn 01 21 21.8 +0.5**
ITEG Tejag 6.38 8 *e*Pn **Pn 01 21 24.8 +0.3**
ISAD Sadrabad 6.41 327 *e*Pn **Pn 01 21 25.8 +0.7**
IDAH Dahanechah 6.43 16 *e*Pn **Pn 01 21 29.3 +4.0**
DQM DQM 6.60 182 P **Pn 01 21 29.3 +1.8**
DQM S **Sn 01 22 42.2 -0.6**
IZEF Zefreh 7.88 325 *e*Pn **Pn 01 21 44.8 -0.5**
IPIR Pirpir 8.54 317 *e*Pn **Pn 01 21 54.2 -0.1**
IKLH Kolahrood 8.61 323 *e*Pn **Pn 01 21 56.7 +1.5**
KHMZ Khomeyn 9.83 319 *e*Pn **Pn 01 22 10.3 -1.7**
GEYT Alibeck 11.34 1 P **Pn 01 22 35.2 +2.7**
comp=Z,0.2nm,0.3s,baz=204,slow=9.5,SNR=2.6
GNI Garni 17.35 325 P **P 01 23 53.7 -0.3**
comp=Z,0.2nm,0.3s,baz=262,slow=7.1,SNR=3.2
EIL Elat 20.35 284 P Pn 01 24 28.5 -0.4
comp=Z,3.8nm,0.7s,baz=122,slow=5.0,SNR=4.6
MMAI Mount Meron Ar 20.42 294 P Pn 01 24 29.8 -0.1
comp=Z,1.2nm,0.5s,baz=98,slow=16,SNR=5.2
AAK Ala-Archa 21.08 36 P **P 01 24 37.6 +2.7**
comp=Z,2.3nm,0.5s,baz=183,slow=7.8,SNR=5.8
AKTO Aktyubinsk 23.84 0 P **P 01 25 02.8 -0.8**
comp=Z,1.5nm,0.5s,baz=143,slow=12,SNR=7.9
BRTR Keskin Array B 24.00 309 P **P 01 25 05.0 -0.4**
comp=Z,2.1nm,0.7s,baz=131,slow=8.8,SNR=27
BRTR LR LR 01 37 13.1
comp=Z,36nm,18.4s,baz=93,slow=43
MKAR Makanchi Array 28.00 37 P **P 01 25 42.7 +1.3**
comp=Z,0.4nm,0.8s,baz=223,slow=9.2,SNR=2.0
BVAR Borovoye Array 28.07 16 P **P 01 25 41.1 -0.7**
comp=Z,0.2nm,0.3s,baz=201,slow=11,SNR=2.4
KURBB Kurchatov Arra 28.81 28 P **P 01 25 47.9 -0.5**
comp=Z,0.3nm,0.6s,baz=226,slow=8.1,SNR=2.5
AKASG Malin Array Be 32.48 326 P **P 01 26 20.6 -0.2**
comp=Z,0.5nm,0.4s,baz=129,slow=8.4,SNR=5.9
ZALV Zalesovo Beam 33.88 29 P **P 01 26 33.1 +0.1**
comp=Z,0.5nm,0.3s,baz=224,slow=7.4,SNR=2.8
GERES GERESS Array B 40.62 315 P **P 01 27 29.3 -1.1**
comp=Z,0.8nm,0.7s,baz=102,slow=6.2,SNR=6.7
KHC Kasperske Hory 40.78 316 *e*P **P 01 27 31.0 -0.7**
FINES FINESS Array B 40.87 337 P **P 01 27 30.8 -1.3**
comp=Z,0.8nm,0.6s,baz=120,slow=11,SNR=5.2
WTTA Wattenberg 41.54 312 *e*P **P 01 27 37.9 -0.3**
comp=Z,3.9nm,0.5s
WATA Walderalm 41.60 312 *e*P **P 01 27 38.7 +0.1**
comp=Z,1.4nm,0.6s
SQTA Sankt Quirin 41.82 312 *e*P **P 01 27 40.2 -0.1**
comp=Z,6.7nm,0.5s
MOTA Moosalm 41.91 312 *i* P **P 01 27 41.1 0.0**
comp=Z,2.7nm,0.5s
FETA Feichten 42.09 312 *e*P **P 01 27 42.8 +0.2**
comp=Z,7.0nm,0.8s
RETA Reutte 42.17 312 *e*P **P 01 27 42.8 -0.4**
comp=Z,3.3nm,0.8s
DAVA Damuels 42.72 312 *e*P **P 01 27 47.7 0.0**
comp=Z,8.9nm,0.5s
NOA NORSAR Array B 46.50 331 P **P 01 28 17.6 0.0**
comp=Z,0.3nm,0.7s,baz=333,slow=12,SNR=2.4
NOA LR LR 01 49 53.6
comp=Z,19nm,18.2s,baz=250,slow=39
ESDC Sonseca Array 52.39 301 P **P 01 29 01.7 -1.2**
comp=Z,0.3nm,0.6s,baz=65,slow=6.6,SNR=4.3
TORD Torodi Ar. Bea 54.01 267 P **P 01 29 12.8 -2.2**
comp=Z,0.6nm,0.5s,baz=66,slow=7.9,SNR=11

*BER **13** 01:24:11.5±2.2, 80°.57N×2°.80E, h10km, ML2.3, ML3.2(NAO), Confirmed Earthquake*
*IEPN **13** 01:24:13.0, 80°.09N×1°.72E, h15km*
*NAO **13** 01:24:13.5±5.9, 79°.99N×2°.49E, ML3.2*
ISC 13 01:24:13.1±4.0, 80°.16N±0°.08×2°.6E±0°.2, h10km, n11, σ0s76/22, 1C-1D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.10**	**122**	Pn	**Pn**	**01 24 47.8**	**-0.5**
KBS				Sn	**Sn**	**01 25 14.3**	**-0.1**
KBS	**Kingsbay**	**2.10**	**122**	⇑*i*P	**Pn**	**01 24 47.6**	**-0.7**
KBS				*i* S	**Sn**	**01 25 14.6**	**+0.1**
KBS	**Kingsbay**	**2.10**	**122**	*e*P	**Pn**	**01 24 47.8**	**-0.5**
KBS				*e*S	**Sn**	**01 25 14.8**	**+0.4**
KBS				IAML		01 25 16.9	
comp=Z,25nm,0.4s
BRBA Barentsburg A 3.04 128 Pn **Pn 01 25 01.9 +0.7**
BRBA Sn **Sn 01 25 38.6 +1.0**
BRBA Barentsburg A 3.04 128 Pn **Pn 01 25 01.9 +0.7**
BRBA Sn **Sn 01 25 38.6 +1.0**
SPA0 Spitsbergen Ar 3.26 121 Pn **Pn 01 25 04.3 0.0**
baz=331,slow=9.3
SPA0 Sn **Sn 01 25 43.1 +0.1**
SPA0 Spitsbergen Ar 3.26 121 ⇓*i*P **Pn 01 25 04.6 +0.4**
SPA0 *i* S **Sn 01 25 43.4 +0.4**
SPA0 Spitsbergen Ar 3.26 121 Pn **Pn 01 25 04.3 0.0**
baz=331,slow=9.3
SPA0 Sn **Sn 01 25 43.1 +0.1**
HSP Hornsund 4.07 135 Pn **Pn 01 25 15.1 -0.2**
HSP Sn **Sn 01 26 01.8 -1.0**
HSPB Hornsund (broa 4.07 135 *e*P **Pn 01 25 14.9 -0.3**
HSPB *e*S **Sn 01 26 01.6 -1.2**
HSPB IAML 01 26 08.4
comp=Z,18nm,0.5s
ZFI2 Zemlya Franca- 7.33 63 *e*P **Pn 01 26 00.9 +1.0**
ZFI2 *e*S **Sn 01 27 21.3 -1.7**
comp=Z,2.8nm,1.1s

*DSN **13** 01:42:55.6±3.9, 26°.56N×58°.33E, h10km, ML4.3/8, Error ellipse: s-maj=57.3km s-min=15.4km az=9.0*
*TEH **13** 01:42:58.2, 26°.53N×57°.77E, h5km, ML4.2*
*ISCJB **13** 01:42:58.5±0.2, 26°.56N±0°.02×57°.91E±0°.03, h10km, mb3.9/22, MS3.0/6, Error ellipse: s-maj=4.4km s-min=2.9km az=6.9*
*NEIC **13** 01:42:59.5±0.4, 26°.49N×57°.86E, h10km, mb4.2/13, ML4.3(THR), MN4.2(TEH), Error ellipse: s-maj=7.8km s-min=6.5km az=172.0*
*OMAN **13** 01:43:01.4±0.2, 26°.38N×57°.86E, h7km±1km, Error ellipse: s-maj=2.8km s-min=1.4km az=272.0*
*IDC **13** 01:43:04.0±1.7, 26°.48N×57°.85E, h44km±21km, mb3.6/17, mb1 3.7/20, mb1mx3.6/51, mbtmp3.8/20, ML3.9/3, MS3.1/8, Ms1 3.1/8, ms1mx2.9/36, Error ellipse: s-maj=15.1km s-min=11.6km az=67.0*
ISC 13 01:42:59.5±0.5, 26°.48N±0°.04×57°.87E±0°.04, h10km, n117, σ1s52/119, mb4.0/26, MS2.9/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.42**	**320**	*e*Pg	**Pn**	**01 43 24.5**	**-1.0**
NIAN				IAMB	IAmb	01 43 48.7	
comp=Z,0.0nm,0.3s
SHME Shamm 1.61 255 *e*P **Pb 01 43 29.7 +0.3**
SHME SNR=98 S **Sg 01 43 56.1 +4.8**
SHME Shamm 1.61 255 *e*Pn **Pg 01 43 30.2 -0.3**
BNDS Bandar-Abbas 1.77 302 *e*Pg **Pn 01 43 25.9 -4.6**
BNDS Bandar-Abbas 1.77 302 *e*Pg **Pn 01 43 25.9 -4.6**
GENO Geno 1.77 302 *e*Pn **Pn 01 43 30.6 +0.1**
GENO IAMB IAmb 01 43 59.8
comp=Z,0.0nm,0.4s
MDH Madha 1.84 231 *e*P **Pn 01 43 31.2 0.0**
MDH SNR=196 **Madha 1.84 231** P **Pn 01 43 31.8 +0.6**
MDH SNR=54 S **Sb 01 43 56.1 -0.2**
MDH Madha 1.84 231 *e*Pn **Pn 01 43 31.9 +0.7**
MSFE Esma-Masafi 1.90 235 *e*P **Pn 01 43 32.0 -0.1**
MSFE SNR=13 **Esma-Masafi 1.90 235** *e*Pn **Pn 01 43 32.8 +0.7**
UMQ Umm Al-Quwin 2.20 245 *e*Pn **Pb 01 43 38.8 -0.7**
HATD Hatta, Dubai 2.27 224 *e*P **Pn 01 43 36.9 -0.3**
HATD SNR=45 **Hatta, Dubai 2.27 224** P **Pn 01 43 37.6 +0.4**
HATD SNR=13 **Hatta, Dubai 2.27 224** *e*Pn **Pn 01 43 37.8 +0.6**
ASHO Ashiyiah 2.42 223 *e*P **Pn 01 43 40.0 +0.7**
ASHO SNR=50 **Ashiyiah 2.42 223** P **Pn 01 43 40.3 +1.1**
ASHO SNR=50 **Ashiyiah 2.42 223** *e*Pn **Pn 01 43 40.5 +1.2**
NAZ Nazwa, Dubai 2.48 234 *e*P **Pb 01 43 42.9 -1.4**
NAZ SNR=28 **Nazwa, Dubai 2.48 234** P **Pb 01 43 44.5 +0.2**
NAZ SNR=30 **Nazwa, Dubai 2.48 234** *e*Pn **Pb 01 43 44.6 +0.3**
CHBR Chabahar 2.51 110 *e*Pn **Pn 01 43 41.2 +0.8**
CHBR Chabahar 2.51 110 *e*Pn **Pn 01 43 41.2 +0.8**
SOHO SOHO 2.63 208 P **Pn 01 43 42.8 +0.7**
SOHO SNR=20 S **Sn 01 44 15.3 +1.3**
FAQ Al Faqa, Dubai 2.69 231 *i* P **Pb 01 43 45.9 -1.8**
FAQ SNR=41 **Al Faqa, Dubai 2.69 231** P **Pb 01 43 48.0 +0.3**
FAQ SNR=8.1 **Al Faqa, Dubai 2.69 231** *e*Pn **Pb 01 43 46.5 -1.2**
HOQ Hoqain 2.93 190 P **Pn 01 43 47.7 +1.5**
HOQ SNR=17 **Hoqain 2.93 190** *e*Pn **Pn 01 43 48.0 +1.8**
ASUD Al Ashush, Dub 2.94 232 *i* P **Pn 01 43 48.8 +2.4**
ASUD SNR=18 **Al Ashush, Dub 2.94 232** P **Pb 01 43 51.0 -1.2**
ASUD SNR=18 **Al Ashush, Dub 2.94 232** *e*Pn **Pb 01 43 50.7 -1.4**
BIDO Bidbid 2.95 175 P **Pn 01 43 48.0 +1.5**
BIDO SNR=12 **Bidbid 2.95 175** *e*Pn **Pn 01 43 48.0 +1.5**
ALNE Al Ain 3.08 219 *e*Pn **Pb 01 43 52.1 -2.4**
AJN Ajban 3.23 234 *e*Pn **Pb 01 43 53.9 -3.1**
WSAR Wadi Sarin 3.30 168 P **Pn 01 43 53.3 +2.1**
comp=Z,18nm,0.3s,baz=346,slow=5.7,SNR=215
WSAR S **Sn 01 44 31.8 +1.2**
comp=Z,63nm,0.3s,baz=0.3,slow=8.6,SNR=19
NGRK Negar Kerman 3.31 343 Pn **Pn 01 43 51.5 -0.3**
NGRK Negar Kerman 3.31 343 *e*Pn **Pn 01 43 52.0 +0.2**
NGRK IAMB IAmb 01 44 43.1
comp=Z,0.0nm,1.0s
ARQ Araqi 3.36 202 P **Pb 01 43 57.0 -2.2**
ARQ SNR=7.6
CHMN Cheshme madani 3.38 355 *e*Pn **Pn 01 43 53.0 +0.2**
CHMN IAMB IAmb 01 44 52.2
comp=N,0.0nm,0.8s
TVBK TV Kerman 3.63 345 *e*Pn **Pn 01 43 57.4 +1.2**
TVBK IAMB IAmb 01 45 00.4
comp=Z,0.0nm,1.6s
BSY Bisya 3.77 189 P **Pb 01 44 03.0 -3.2**
KHGB SNR=17
WBK Wadi Bani Khal 3.98 165 S **Sn 01 44 49.0 +1.6**
SZD1 SNR=8.0 **Zahaedan-tmp 4.00 41** *e*Pn **Pn 01 44 04.1 +3.0**
ZHSF Zahedan 4.04 39 *e*Pn **Pn 01 44 02.5 +0.9**
ZHSF Zahedan 4.04 39 *e*Pn **Pn 01 44 02.5 +0.9**
KHGB Koh Gabri 4.07 343 *e*Pn **Pn 01 44 03.2 +1.0**
KHGB IAMB IAmb 01 45 14.0
comp=Z,0.0nm,0.9s
JHRM Jahrom 4.32 299 *e*Pn **Pn 01 44 05.6 +0.2**
JLN Jalan Bani Buh 4.53 162 P **Pn 01 44 10.0 +1.8**
JLN SNR=16 S **Sn 01 45 02.0 +1.0**
SNR=8.5
IMEH Mehriz 5.67 331 Pn **Pn 01 44 23.0 -1.1**
IMEH Mehriz 5.67 331 *e*Pn **Pn 01 44 22.9 -1.1**
IKOO Kooshah 6.01 9 *e*Pn **Pn 01 44 27.0 -1.8**
IKAZ Kazeroun 6.26 303 Pn **Pn 01 44 30.8 -1.5**
IKAZ Kazeroun 6.26 303 *e*Pn **Pn 01 44 31.0 -1.3**
ITEG Tejag 6.44 7 *e*Pn **Pn 01 44 36.4 +1.7**
IDAH Dahanechah 6.48 15 *e*Pn **Pn 01 44 37.6 +2.4**
ICHK Chekchek 6.49 333 *e*Pn **Pn 01 44 34.7 -0.7**
ISAD Sadrabad 6.54 327 *e*Pn **Pn 01 44 35.9 -0.1**
IGAR Gharneh 7.79 321 *e*Pn **Pn 01 44 52.7 -0.5**
IZEF Zefreh 8.01 324 *e*Pn **Pn 01 44 54.4 -1.8**
IPIR Pirpir 8.67 317 *e*Pn **Pn 01 45 02.8 -2.5**
IKLH Kolahrood 8.73 323 *e*Pn **Pn 01 45 05.8 -0.4**
KHMZ Khomeyn 9.96 318 *e*Pn **Pn 01 45 20.3 -2.7**
KHMZ Khomeyn 9.96 318 *e*Pn **Pn 01 45 20.3 -2.7**
IPAY Payeh 9.99 5 *e*Pn **Pn 01 45 26.0 +2.6**
GEYT Alibeck 11.42 1 P **Pn 01 45 42.6 -0.2**
comp=Z,0.4nm,0.3s,baz=291,slow=4.6,SNR=4.1
GEYT LR LR 01 50 45.3
comp=Z,101nm,18.4s,baz=175,slow=40
GYA0B ALIBECK ARRAY 11.42 1 *e*Pn **Pn 01 45 41.9 -0.8**
NIL Nilore 15.11 58 *e*Pn **Pn 01 46 30.7 -2.4**
comp=Z,9.9nm,0.8s
CHGR Chuyangaron 15.41 35 *e*Pn **Pn 01 46 37.5 +0.4**
comp=Z,51nm,2.0s
GAR Garm 16.27 37 *e*Pn **Pn 01 46 46.5 -1.8**
comp=Z,7.1nm,0.9s
DAMY Dhamar 17.29 229 *e*Pn **Pn 01 46 59.1 -2.4**
comp=Z,14nm,1.0s
BTK Batken 17.31 35 *e*Pn **Pn 01 46 59.4 -2.0**
comp=Z,14nm,1.4s
GNI Garni 17.48 325 P **P 01 47 04.2 -0.5**
comp=Z,0.1nm,0.3s,baz=328,slow=10,SNR=3.5
GNI LR LR 01 55 23.1
comp=Z,27nm,21.6s,baz=100,slow=42
ASF Jabal al Asfar 19.14 292 P **Pn 01 47 24.4 +0.5**
comp=Z,0.4nm,0.3s,baz=10,slow=23,SNR=5.1
KK31 Karatay Array 19.53 29 *e*P **Pn 01 47 28.0 -0.4**
KKAR Karatay Array 19.53 29 *e*P **Pn 01 47 28.7 +0.3**
comp=Z,4.7nm,0.9s
EIL Elat 20.47 284 P **P 01 47 38.2 +0.8**
comp=Z,11nm,0.9s,baz=53,slow=6.3,SNR=8.3
ATD Arta Tunnel 20.53 226 LR LR 01 57 40.8
comp=Z,52nm,19.0s,baz=282,slow=43
MMAI Mount Meron Ar 20.55 294 P Pn 01 47 39.8 -0.8
comp=Z,3.7nm,0.8s,baz=96,slow=13,SNR=5.6
AAK Ala-Archa 21.09 36 P **P 01 47 44.3 +0.1**
comp=Z,2.7nm,0.7s,baz=190,slow=12,SNR=6.2
AAK LR LR 01 57 05.0
comp=Z,52nm,18.6s,baz=229,slow=40
NRN Naryn 21.12 40 *e*P **P 01 47 45.2 +0.4**
comp=Z,6.2nm,0.8s
ABKAR Akbulak array 22.80 4 *e*P **P 01 48 02.5 +0.2**
comp=Z,9.2nm,1.3s
AKTO Aktyubinsk 23.92 0 P **P 01 48 14.8 +1.3**
comp=Z,2.6nm,0.6s,baz=181,slow=9.5,SNR=10
AKTO LR LR 01 59 44.5
comp=Z,30nm,18.6s,baz=171,slow=42
BR131 Keskin Array S 24.13 309 *e*P **P 01 48 17.7 +1.9**
comp=Z,3.7nm,0.9s
BR131 Keskin Array S 24.13 309 P **P 01 48 18.2 +2.4**
SNR=6.3
BRTR Keskin Array B 24.13 309 P **P 01 48 15.1 -0.8**
comp=Z,1.6nm,0.7s,baz=123,slow=10,SNR=20
BRTR LR LR 02 00 13.2
comp=Z,47nm,21.1s,baz=105,slow=43
MDUB Mudurnu 26.14 309 *e*P **P 01 48 35.0 +0.9**
comp=Z,30nm,0.8s
MKAR Makanchi Array 28.00 37 P **P 01 48 52.1 +1.5**
comp=Z,0.6nm,0.6s,baz=227,slow=8.2,SNR=4.8
BVAR Borovoye Array 28.12 16 P **P 01 48 50.7 -0.9**
comp=Z,0.5nm,0.5s,baz=204,slow=10,SNR=5.2
KURBB Kurchatov Arra 28.83 28 P **P 01 48 58.0 +0.1**
comp=Z,0.7nm,0.6s,baz=226,slow=8.6,SNR=9.9
AKASG Malin Array Be 32.60 326 P **P 01 49 29.4 -1.7**
comp=Z,0.9nm,0.5s,baz=130,slow=8.7,SNR=10.0
AKBB Malin Array Si 32.60 326 *e*P **P 01 49 31.8 +0.7**
comp=Z,3.3nm,0.8s
KIEV Kiev 32.61 326 *e*P **P 01 49 31.5 +0.4**
comp=Z,3.2nm,0.7s
ZALV Zalesovo Beam 33.91 29 P **P 01 49 43.4 +0.9**
comp=Z,1.5nm,0.5s,baz=262,slow=9.9,SNR=4.8
ZAA1 Zalesovo Array 33.91 29 *e*P **P 01 49 43.4 +0.9**
KOLS Kolonicke sedl 35.52 319 *e*P **P 01 49 57.7 +1.2**
VYHS Vyhne 37.42 316 *e*P **P 01 50 12.2 -0.6**
CMAR Chiang Mai Arr 38.65 93 LR LR 02 10 08.2
comp=Z,36nm,18.1s,baz=275,slow=42
GEC2 GERESS Array S 40.75 315 *e*P **P 01 50 40.4 -0.4**
comp=Z,15nm,2.0s
GERES GERESS Array B 40.75 315 P **P 01 50 40.4 -0.4**
comp=Z,1.0nm,0.9s,baz=122,slow=6.5,SNR=3.9
FIA0 FINESS Array S 40.98 337 *e*P **P 01 50 41.8 -0.5**
FINES FINESS Array B 40.98 337 P **P 01 50 41.8 -0.5**
comp=Z,1.5nm,0.7s,baz=129,slow=6.1,SNR=7.4
WTTA Wattenberg 41.67 312 *e*pP **P 01 50 50.1 +1.7**
comp=Z,9.5nm,1.1s
WATA Walderalm 41.73 312 *e*P **P 01 50 47.3 -1.5**
comp=Z,1.1nm,0.6s
SQTA Sankt Quirin 41.95 312 pP **P 01 50 50.8 +0.1**
comp=Z,2.8nm,0.7s
MOTA Moosalm 42.05 312 *e*pP **P 01 50 53.2 +1.7**
comp=Z,2.7nm,0.7s
FETA Feichten 42.23 312 *e*pP **P 01 50 53.0 0.0**
comp=Z,5.1nm,1.0s
DAVA Damuels 42.85 312 P **P 01 50 56.7 -1.3**
comp=Z,6.3nm,0.8s
NB200 NORSAR Array S 46.62 331 *e*P **P 01 51 28.3 +0.5**
NOA NORSAR Array B 46.62 331 P **P 01 51 28.3 +0.5**
comp=Z,0.6nm,0.7s,baz=115,slow=8.0,SNR=3.4
NOA LR LR 02 13 13.6
comp=Z,27nm,19.3s,baz=240,slow=39
ESDC Sonseca Array 52.52 301 P **P 01 52 14.0 +0.9**
comp=Z,0.2nm,0.3s,baz=77,slow=7.3,SNR=4.0
TORD Torodi Ar. Bea 54.11 267 P **P 01 52 23.8 -1.2**
comp=Z,0.8nm,0.4s,baz=61,slow=7.3,SNR=22
TOA1 Torodi Ar. Sit 54.11 267 *e*P **P 01 52 23.8 -1.2**
WRA Warramunga Arr 87.31 114 P **P 01 55 46.2 -0.9**
comp=Z,0.4nm,0.7s,baz=315,slow=3.8,SNR=3.5
WR1 Warramunga Arr 87.31 114 *e*P **P 01 55 46.2 -0.9**
ASAR Alice Springs 88.78 117 P **P 01 55 53.4 -0.6**
comp=Z,0.2nm,0.6s,baz=302,slow=5.3,SNR=2.9

IDC 13 02:18:45.0±6.0, 21°.70S×174°.77W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/38, mbtmp3.8/2, Error ellipse: s-maj=288.1km s-min=49.2km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.19**	**257**	P	P	02 27 20.6	+0.8
0.8nm,0.5s,baz=98,slow=7.4,SNR=11
WRA Warramunga Arr 47.43 262 P P 02 27 20.6 -1.1
0.4nm,0.3s,baz=102,slow=8.0,SNR=11
AKASG Malin Array Be 145.48 333 PKPbc PKPdf 02 38 23.7 -1.2
0.7nm,0.5s,baz=47,slow=4.6,SNR=5.9
BRTR Keskin Array B 149.87 313 PKPbc PKPbc 02 38 37.5 0.0
0.4nm,0.6s,baz=94,slow=1.7,SNR=4.0

*IDC **13** 02:42:39.7±1.1, 38°.20N×69°.88E, h0km, mb3.6/6, mb1 3.7/12, mb1mx3.5/43, mbtmp3.6/12, ML3.1/6, MS2.6/2, Ms1 2.6/2, ms1mx2.2/32, Error ellipse: s-maj=17.6km s-min=12.1km az=141.0*
*NNC **13** 02:42:41.2±2.6, 38°.35N×69°.49E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=21.9km s-min=13.2km az=175.0*
ISC 13 02:42:41.1±0.7, 38°.25N±0°.05×69°.56E±0°.08, h12km, n30, σ1s82/34, mb3.6/6, 5C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.91**	**5**	Pg	**Pb**	**02 43 51.2**	**+1.2**
46nm,0.5s
IUG Lg Lg 02 44 39.1
295nm,0.7s
CEP Cherat 4.81 156 P **Pb 02 44 03.4 -2.0**
CEP S **Sb 02 45 06.0 +2.7**
KK31 Karatay Array 4.90 8 ⇓Pn **Pn 02 43 55.7 +1.1**
3.8nm,0.5s,baz=188,slow=15,SNR=42
KK31 ⇓Pg **Pg 02 44 11.4 -3.5**
4.7nm,0.4s,baz=186,slow=14,SNR=7.3
KK31 ⇑Lg Lg 02 45 14.7
27nm,0.5s,baz=193,slow=30,SNR=7.5
AML Almayashu 5.00 38 P **Pn 02 43 55.9 -0.5**
SNR=15
MRKS Merke 5.29 31 Pg **Pb 02 44 14.6 +1.1**
30nm,0.6s
MRKS Lg Lg 02 45 19.5
46nm,0.6s
UCH Uchtor 5.49 42 P **Pn 02 44 02.8 -0.2**
SNR=10
THW Thamme Wali 5.73 161 P Pn 02 44 12.6 +6.6
AAK Ala-Archa 5.77 39 P **Pn 02 44 07.5 +0.8**
SNR=9.0
AAK Ala-Archa 5.77 39 ⇓Pn **Pn 02 44 07.2 +0.4**
6.6nm,0.6s
AAK ⇑Sn **Sn 02 45 17.8 +4.8**
20nm,1.1s
AAK ⇓Lg Lg 02 45 43.5
33nm,0.9s
AAK Ala-Archa 5.77 39 Pn **Pn 02 44 06.3 -0.5**
3.0nm,0.3s,baz=200,slow=7.2,SNR=14
AAK Sn **Sn 02 45 12.7 -0.2**
0.6nm,0.3s,baz=211,slow=12,SNR=2.4
AAK Lg Lg 02 45 35.9
2.2nm,0.3s,baz=107,slow=12,SNR=4.5
AAK LR LR 02 46 42.5
comp=Z,36nm,21.9s,baz=210,slow=43
KZA Kyzart 5.79 47 P **Pn 02 44 07.3 0.0**
SNR=6.8
KBK Karagaybulak 6.02 41 P **Pn 02 44 10.5 +0.4**
SNR=5.8
TKM2 Tokmak 2 6.54 43 P **Pn 02 44 17.1 -0.3**
SNR=6.7

TKM2	**Tokmak 2**	**6.54**	**43**	⇓Pn		**Pn**	**02 44 16.7**	**-0.6**
	6.4nm,0.5s							
TKM2				⇓Sn		**Sn**	**02 45 34.0**	**+2.0**
	16nm,0.9s							
TKM2				⇑Lg		Lg	02 46 07.7	
	18nm,0.8s							
DGS	**Degeres**	**6.86**	**41**	Pg		Pb	02 44 45.3	+5.1
	6.2nm,0.8s							
DGS				Lg		Lg	02 46 11.6	
	18nm,0.7s							
ARXS	**Arharly**	**8.61**	**44**	Pg		Pg	02 45 15.8	-10
	1.7nm,0.6s							
ARXS				Lg		Lg	02 47 03.6	
	8.5nm,0.8s							
GEYT	**Alibeck**	**9.03**	**272**	LR		LR	02 49 42.2	
	comp=Z,48nm,18.5s,baz=210,slow=46							
MKAR	**Makanchi Array**	**12.68**	**44**	Pn		**Pn**	**02 45 40.4**	**-0.8**
	0.1nm,0.3s,baz=219,slow=14,SNR=8.1							
AB31	**Akbulak array**	**13.00**	**331**	⇑Pn		**Pn**	**02 45 46.0**	**+0.5**
	0.5nm,0.3s,baz=144,slow=11,SNR=38							
AB31				⇑Sn		**Sn**	**02 48 09.3**	**-0.8**
	1.3nm,0.5s,baz=148,slow=22,SNR=4.9							
KURBB	**Kurchatov Arra**	**13.91**	**24**	Pn		**Pn**	**02 45 54.8**	**-3.2**
	0.0nm,0.3s,baz=213,slow=12,SNR=2.6							
KURBB				Sn		Sn	02 48 21.9	-10
	0.0nm,0.3s,baz=202,slow=24,SNR=2.8							
KURBB				Lg		Lg	02 49 58.2	
	0.0nm,0.3s,baz=205,slow=32,SNR=5.2							
AKTO	**Aktyubinsk**	**14.70**	**330**	⇓Pn		**Pn**	**02 46 08.0**	**-0.7**
	2.4nm,0.7s							
AKTO				⇓Sn		**Sn**	**02 48 52.0**	**+0.6**
	4.2nm,1.2s							
AKTO	**Aktyubinsk**	**14.70**	**330**	Pn		**Pn**	**02 46 09.7**	**+1.0**
	0.1nm,0.3s,baz=134,slow=16,SNR=4.0							
AKTO				Sn		**Sn**	**02 48 47.4**	**-4.0**
	0.1nm,0.3s,baz=184,slow=16,SNR=2.2							
AKTO				Lg		Lg	02 50 29.1	
	0.1nm,0.3s,baz=53,slow=20,SNR=1.7							
BVAR	**Borovoye Array**	**14.79**	**2**	Pn		**Pn**	**02 46 07.9**	**-2.0**
	0.1nm,0.3s,baz=168,slow=15,SNR=2.4							
ZALV	**Zalesovo Beam**	**18.86**	**29**	P		**P**	**02 46 58.7**	**-2.2**
	0.3nm,0.3s,baz=226,slow=12,SNR=4.3							
FINES	**FINESS Array B**	**35.40**	**325**	P		**P**	**02 49 38.2**	**+1.8**
	0.6nm,0.7s,baz=123,slow=10,SNR=3.3							
ARCES	**ARCESS Array B**	**39.09**	**337**	P		**P**	**02 50 07.5**	**-0.2**
	3.6nm,1.1s,baz=112,slow=8.3,SNR=4.6							
NOA	**NORSAR Array B**	**42.30**	**322**	P		**P**	**02 50 35.2**	**+0.9**
	0.3nm,0.4s,baz=96,slow=8.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**64.64**	**267**	P		**P**	**02 53 20.8**	**+1.8**
	0.5nm,0.9s,baz=49,slow=5.9,SNR=5.2							
YKA	**Yellowknife Ar**	**79.55**	**2**	P		**P**	**02 54 47.8**	**+0.4**
	0.2nm,0.6s,baz=353,slow=5.3,SNR=4.9							
WRA	**Warramunga Arr**	**83.88**	**121**	P		**P**	**02 55 11.1**	**+0.2**
	0.4nm,0.8s,baz=320,slow=5.6,SNR=3.4							

*IDC **13** 03:20:01.9±1.6, 16°.47S×174°.40W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/26, mbtmp3.9/5, Error ellipse: s-maj=56.2km s-min=25.4km az=117.0*
*ISCJB **13** 03:20:23.3±1.5, 16°.8S±0°.2×174°.5W±0°.3, h200km, mb3.5/5, Error ellipse: s-maj=47.6km s-min=23.3km az=20.5*

ISC 13 03:20:25.4±1.5, 16°.6S±0°.2×174°.6W±0°.4, h200km, n6, σ2°43/7, mb3.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.82**	**197**	P		**P**	**03 25 08.4**	**-2.7**
URZ	3.5nm,0.3s,baz=263,slow=4.5,SNR=8.8			S		**S**	**03 29 08.7**	**+3.7**
WRA	**Warramunga Arr**	**48.51**	**258**	P		**P**	**03 28 49.1**	**+0.5**
	2.5nm,0.3s,baz=106,slow=16,SNR=6.5							
ASAR	**Alice Springs**	**48.70**	**253**	P		**P**	**03 28 48.8**	**-1.3**
	0.2nm,0.6s,baz=96,slow=7.4,SNR=3.4							
PETK	**Petropavlovsk-**	**73.40**	**343**	P		**P**	**03 31 36.1**	**+0.8**
	1.0nm,0.7s,baz=86,slow=8.7,SNR=11							
ILAR	**Eielson Array**	**83.80**	**12**	P		**P**	**03 32 31.9**	**0.0**
	1.9nm,0.6s,baz=113,slow=8.2,SNR=6.0							
BRTR	**Keskin Array B**	**146.33**	**319**	PKPbc		**PKPbc**	**03 39 43.4**	**+0.2**
	0.5nm,0.5s,baz=228,slow=6.2,SNR=14							
	0.4nm,0.7s,baz=37,slow=3.6,SNR=4.5							

IDC 13 03:34:09.6±2.2, 1°.41N×128°.21E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/28, mbtmp3.6/3, Error ellipse: s-maj=153.6km s-min=26.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.05**	**164**	P		03 39 05.3	-0.9
	1.7nm,0.9s,baz=344,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**25.53**	**168**	P		03 39 40.9	+0.6
	0.7nm,0.7s,baz=346,slow=8.6,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**41.37**	**63**	T		T	04 25 50.4
	baz=248,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**41.39**	**63**	T		T	04 25 44.2
	baz=248,slow=75,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**41.39**	**63**	T		T	04 25 31.4
	baz=248,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**41.97**	**62**	T		T	04 26 24.3
	baz=248,slow=75,SNR=23						
H11N2	**WAKE ISLAND Hy**	**41.98**	**62**	T		T	04 26 34.1
	baz=248,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**41.99**	**62**	T		T	04 26 19.5
	baz=248,slow=75,SNR=36						
MKAR	**Makanchi Array**	**60.29**	**325**	P		P	03 44 20.1	-0.1
	0.4nm,0.3s,baz=106,slow=8.0,SNR=5.8						

*ISCJB **13** 04:01:03.5±0.7, 15°.12N±0°.04×42°.1E±0°.1, h10km, mb3.5/7, Error ellipse: s-maj=17.7km s-min=6.2km az=177.9*
*SGS **13** 04:01:04, 14°.95N×42°.14E, h23km, Ml3.1*
*IDC **13** 04:01:04.8±1.0, 14°.93N×42°.08E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/40, mbtmp3.6/8, ML3.6/1, Error ellipse: s-maj=30.6km s-min=15.7km az=80.0*

ISC 13 04:01:05.9±0.8, 15°.09N±0°.05×42°.1E±0°.1, h10km, n17, σ2°55/21, mb3.8/7, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRSS	**Farasan al Kab**	**1.64**	**1**	P		**Pn**	**04 01 31.9**	**-2.9**
FRSS				S		**Sn**	**04 01 53.1**	**-2.8**
JAZS	**Jizan**	**2.12**	**22**	P		**Pn**	**04 01 38.6**	**-2.9**
BESHS	**BESHS**	**2.37**	**18**	P		**Pn**	**04 01 41.7**	**-3.1**
DRBS	**Ad Darb**	**2.73**	**4**	P		**Pn**	**04 01 46.9**	**-2.9**
DRBS				S		**Sn**	**04 02 19.8**	**-3.0**
AMGES	**AMGES**	**3.40**	**351**	P		**Pn**	**04 01 56.4**	**-2.6**
AMGES				S		**Sn**	**04 02 35.8**	**-3.5**
KNGHS	**KNGHS**	**3.46**	**23**	P		**Pn**	**04 01 59.0**	**-1.0**
ATD	**Arta Tunnel**	**3.62**	**168**	Pn		**Pn**	**04 01 59.5**	**-2.6**
	5.2nm,0.3s,baz=70,slow=2.3,SNR=13							
ATD				Sn		**Sn**	**04 02 41.6**	**-3.3**
	3.3nm,0.3s,baz=44,slow=6.2,SNR=4.2							
ATD				Lg		Lg	04 02 55.9	
	11nm,0.3s,baz=233,slow=21,SNR=4.9							
ENMS	**ENMS**	**3.98**	**7**	P		**Pn**	**04 02 06.3**	**-0.9**
TATS	**Tathlith**	**4.62**	**16**	P		**Pn**	**04 02 15.5**	**-0.4**
QNFDS	**Al Qunfudhah**	**4.81**	**347**	P		**Pn**	**04 02 15.6**	**-2.8**
BRTR	**Keskin Array B**	**25.63**	**345**	P		**P**	**04 06 38.9**	**+3.1**
	0.3nm,0.7s,baz=171,slow=10,SNR=3.6							
AKASG	**Malin Array Be**	**37.01**	**346**	P		**P**	**04 08 16.8**	**+1.2**
	0.2nm,0.4s,baz=139,slow=7.4,SNR=3.7							
TORD	**Torodi Ar. Bea**	**39.19**	**272**	P		**P**	**04 08 34.8**	**+0.3**
	0.6nm,0.8s,baz=66,slow=7.5,SNR=5.1							
GERES	**GERESS Array B**	**40.92**	**331**	P		**P**	**04 08 49.6**	**+1.1**
	1.6nm,0.7s,baz=137,slow=7.4,SNR=14							
MKAR	**Makanchi Array**	**45.98**	**38**	P		**P**	**04 09 29.8**	**+0.5**
	0.9nm,0.8s,baz=237,slow=10.0,SNR=4.9							
FINES	**FINESS Array B**	**47.70**	**350**	P		**P**	**04 09 43.5**	**+1.0**
	0.7nm,0.7s,baz=128,slow=9.0,SNR=3.0							
ZALV	**Zalesovo Beam**	**51.09**	**31**	P		**P**	**04 10 10.8**	**+2.3**
	0.6nm,0.5s,baz=270,slow=7.2,SNR=2.4							

IDC 13 04:17:02.9±2.2, 6°.87S×129°.29E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=132.4km s-min=32.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.88**	**160**	Pn		04 20 20.1	-1.1
	0.2nm,0.3s,baz=338,slow=12,SNR=3.9						
WRA				Sn		Sn	04 22 41.7	-14
	0.4nm,0.3s,baz=338,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.27**	**166**	P		P	04 21 06.6	-0.7
	0.1nm,0.3s,baz=346,slow=10,SNR=8.6						
MKAR	**Makanchi Array**	**67.74**	**327**	P		P	04 28 02.4	0.0
	0.3nm,0.4s,baz=140,slow=7.4,SNR=4.5						

*SJA **13** 04:38:01.1±0.6, 32°.30S×72°.11W, h60km, ML3.8, MW3.8*
*GUC **13** 04:38:03.7±0.5, 32°.11S×71°.44W, h14km±6km, ML3.5*

ISC 13 04:38:02.2±2.0, 32°.09S±0°.03×71°.68W±0°.09, h16km±14km, n17, σ1°16/28, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.04**	**148**	⇑*i*P		**Pg**	**04 38 22.1**	**-0.3**
ROCH				*i* S		**Sg**	**04 38 36.8**	**+0.6**
ROCH				IAML			04 38 40.4	
	comp=N,2μm,0.4s							
ROC1	**El Roble**	**1.04**	**148**	*e*P		**Pg**	**04 38 22.3**	**-0.1**
PEL	**Peldehue**	**1.34**	**142**	*e*P		**Pb**	**04 38 27.2**	**+0.2**
PEL				*e*S		**Sg**	**04 38 46.0**	**+0.4**
PEL	**Peldehue**	**1.34**	**142**	*e*P		**Pb**	**04 38 27.0**	**0.0**
PEL				*i* S		**Sb**	**04 38 43.9**	**-0.2**
PEL				IAML			04 38 47.9	
	comp=E,2μm,0.4s							
CLCH	**Cerro Calan**	**1.62**	**144**	*e*P		**Pb**	**04 38 31.4**	**-0.3**
CLCH				*i* S		**Sb**	**04 38 52.1**	**+0.2**
CLCH				IAML			04 38 58.3	
	comp=E,1μm,0.3s							
FCH	**Farellones**	**1.70**	**137**	⇑*i*P		**Pb**	**04 38 32.9**	**-0.4**
FCH				*i* S		**Sb**	**04 38 55.1**	**+0.6**
FCH				IAML			04 38 59.0	
	comp=N,850nm,0.4s							
AUSP	**Uspallata**	**1.94**	**95**	*e*P		**Pg**	**04 38 39.4**	**-0.2**
AUSP				*e*S		**Sg**	**04 39 07.5**	**+2.7**
RTLS	**Leoncito**	**2.04**	**82**	*e*P		**Pg**	**04 38 40.7**	**-0.7**
RTLS				*e*S		**Sg**	**04 39 10.6**	**+2.7**
RTLS				IAML			04 39 12.8	
	comp=Z,436nm,0.4s							
GO04	**Tololo Observa**	**2.05**	**22**	*e*P		**Pn**	**04 38 37.0**	**+0.7**
GO04				*i* S		**Sb**	**04 39 04.6**	**0.0**
LMEL	**Las Melosas**	**2.15**	**145**	*e*P		**Pb**	**04 38 39.4**	**-1.4**
LMEL				*i* S		**Sb**	**04 39 07.0**	**-0.3**
LMEL				IAML			04 39 15.1	
	comp=N,833nm,0.5s							
ARCO	**CERRO ARCO**	**2.44**	**109**	IAML			04 39 26.7	
	comp=Z,391nm,0.5s							
AAGR	**Agrelo**	**2.60**	**113**	*e*P		**Pb**	**04 38 47.2**	**-1.3**
RTCV	**Cerro Valdivia**	**2.67**	**86**	*e*P		**Pb**	**04 38 49.8**	**+0.1**
RTCV				*e*S		**Sg**	**04 39 25.2**	**-2.9**
ACCO	**Cerro Coronel**	**2.69**	**57**	*e*P		**Pb**	**04 38 50.8**	**+0.7**
ACCO				*e*S		**Sg**	**04 39 28.2**	**-0.5**
AROD	**Rodeo**	**2.69**	**45**	*e*P		**Pb**	**04 38 50.5**	**+0.4**
AROD				*e*S		**Sg**	**04 39 27.4**	**-1.3**
RTLL	**Cerro Villicun**	**2.83**	**75**	*e*P		**Pb**	**04 38 52.1**	**-0.3**
AMOG	**MOGNA**	**2.95**	**68**	*e*P		**Pb**	**04 38 53.4**	**-1.0**

UCR 13 04:54:34.0±2.3, 9°.53N×84°.07W, h47km±8km, MD3.8, 6C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.22**	**18**	⇓*i*P		Pn	04 54 42.1	-0.4
LCR2				*e*S		Sn	04 54 48.8	+0.4
SJS	**Escuela Geolog**	**0.41**	**3**	⇑*i*P		Pn	04 54 45.0	+0.9
SJS				*e*S		Sn	04 54 52.8	+1.5
HDC	**Heredia**	**0.47**	**355**	*e*P		Pn	04 54 44.5	-0.3
HDC				*e*S		Sn	04 54 53.2	+0.6
EDLM	**Las Mercedes**	**0.54**	**117**	*e*P		Pn	04 54 45.5	-0.1
EDLM				*e*S		Sn	04 54 54.6	+0.7
SRA1	**San Ramn**	**0.68**	**324**	⇓*e*P		Pn	04 54 47.0	-0.5
EDPN	**Palmar Norte**	**0.83**	**133**	*e*P		Pn	04 54 49.5	+0.2
DRK0	**Durika**	**0.86**	**108**	⇓*e*P		Pn	04 54 49.0	-1.0
DRK0				*e*P			04 54 49.0	
DRK0				*i* S		Sn	04 55 01.5	-0.1
EDBA	**Buenos Aires**	**0.87**	**115**	⇑*e*P		Pn	04 54 49.0	-1.0
FORC	**Fortuna**	**1.10**	**328**	*i* P		Pn	04 54 53.7	+0.6
FORC				*i* S		Sn	04 55 09.5	+2.4
CASO	**Castillo**	**1.11**	**324**	*i* P		Pn	04 54 50.8	-2.4
CEDE	**Laguna Cedeo**	**1.14**	**327**	⇑*e*P		Pn	04 54 54.0	+0.4
CEDE				*i* S		Sn	04 55 10.2	+2.1
JTS	**Las Juntas de**	**1.15**	**311**	*e*P		Pn	04 54 53.3	-0.4
JTS				*e*S		Sn	04 55 09.6	+1.2
EDSV	**San Vito**	**1.30**	**123**	*e*P		Pn	04 54 55.4	-0.4
ACAL	**Aguas Claras**	**1.45**	**319**	*i* P		Pn	04 54 58.3	+0.4
PTEN	**Parque Tenorio**	**1.48**	**323**	*i* P		Pn	04 54 58.8	+0.5
BRU2	**Volcan**	**1.55**	**118**	⇓*e*P		Pn	04 54 59.0	-0.3
BRU2				*e*S		Sn	04 55 19.2	+0.9
CUI	**Cuipilapa**	**1.55**	**316**	⇑*e*P		Pn	04 54 59.1	-0.2
TBS2		**1.58**	**118**	*e*P		Pn	04 54 59.4	-0.4
TBS2				*e*S		Sn	04 55 19.7	+0.6
COLC	**Colonia**	**1.58**	**315**	*i* P		Pn	04 54 58.7	-1.0
MESS	**Mesas**	**1.63**	**318**	*i* P		Pn	04 55 00.1	-0.3
BUEV	**Buena Vista**	**1.82**	**314**	*e*P		Pn	04 55 03.2	+0.2
DVD	**David**	**1.94**	**124**	*e*P		Pn	04 55 04.5	0.0
DVD				*e*S		Sn	04 55 29.5	+1.9
ACON	**Acoyapa**	**2.65**	**336**	⇑*i*P		Pn	04 55 13.8	-0.5
ESPN	**Las Esperanzas**	**2.66**	**355**	⇑*i*P		Pn	04 55 13.4	-1.0
PNME	**Penonome**	**3.84**	**105**	*e*P		Pn	04 55 30.8	+0.2
PNME				*e*S		Sn	04 56 15.9	+1.2
BCIP	**Isla Barro Col**	**4.20**	**95**	*e*P		Pn	04 55 36.3	+0.8
BCIP				*e*S		Sn	04 56 25.5	+2.2
ESTN	**Estel**	**4.20**	**328**	*e*P		Pn	04 55 36.0	+0.3
RCON	**San Juan de Ri**	**4.43**	**333**	*e*P		Pn	04 55 38.4	-0.5

*MOS **13** 04:58:02.7±2.2, 19°.63S×177°.85W, h501km, mb4.6/32, Error ellipse: s-maj=10.8km s-min=9.0km az=75.3*
*ISCJB **13** 04:58:05.1±0.7, 19°.89S±0°.04×177°.83W±0°.04, h545km±9km, mb4.5/96, Error ellipse: s-maj=6.9km s-min=4.7km az=140.4*
*IDC **13** 04:58:06.1±0.7, 19°.94S×177°.75W, h553km±7km, mb3.9/23, mb1 4.1/25, mb1mx4.0/36, mbtmp4.8/25, Error ellipse: s-maj=11.3km s-min=9.1km az=130.0*
*NEIC **13** 04:58:06.3±0.6, 19°.94S×177°.80W, h554km±8km, mb4.6/60, Error ellipse: s-maj=7.2km s-min=5.3km az=131.0*

ISC 13 04:58:06.2±0.5, 20°.00S±0°.05×177°.77W±0°.06, h556km±5km, h557km:pP-P, n463, σ1°27/495, mb4.5/96, 21C-50D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.45**	**84**	*e*P		**P**	**04 59 58.3**	**-0.5**
RIZ	**Raoul Island**	**9.21**	**181**	P		**P**	**05 00 16.3**	**+0.3**
RAO	**Raoul Island**	**9.21**	**181**	*e*P		**P**	**05 00 15.7**	**-0.4**
RAO				*e*S		**S**	**05 01 56.7**	**-6.1**
RAO	**Raoul Island**	**9.21**	**181**	*e*P		**P**	**05 00 15.7**	**-0.4**
RAO				*e*S		**S**	**05 01 56.7**	**-6.1**
RAO	**Raoul Island**	**9.21**	**181**	P		**P**	**05 00 14.7**	**-1.4**
	345nm,0.3s,baz=54,slow=2.6,SNR=14							
RAO				S		**S**	**05 02 01.1**	**-1.7**
	94nm,0.3s,baz=66,slow=20,SNR=4.0							
GLKZ	**Green Lake**	**9.22**	**181**	P		**P**	**05 00 16.0**	**-0.2**
FUNA	**Funafuti**	**11.78**	**345**	P		**P**	**05 00 41.4**	**-1.3**
DZM	**Mont Dzumac**	**14.89**	**259**	P		**P**	**05 01 13.8**	**-0.8**
	0.3nm,0.3s,baz=81,slow=19,SNR=3.1							
OUZ	**Omahuta**	**16.97**	**205**	*e*P		**P**	**05 01 37.6**	**+3.3**
	113nm,0.7s							
OUZ	**Omahuta**	**16.97**	**205**	P		**P**	**05 01 36.7**	**+2.5**
GRZ	**Great Barrier**	**17.25**	**199**	P		**P**	**05 01 38.9**	**+2.1**
WCZ	**Waipu Caves**	**17.33**	**202**	P		**P**	**05 01 40.5**	**+3.0**
KUZ	**Kuaotunu**	**17.63**	**198**	P		**P**	**05 01 42.4**	**+2.2**
MXZ	**Matakaoa Point**	**17.83**	**190**	*e*P		**P**	**05 01 44.0**	**+1.9**
	43nm,0.9s							
MXZ	**Matakaoa Point**	**17.83**	**190**	P		**P**	**05 01 42.0**	**0.0**
WIAZ	**Waiheke Island**	**17.85**	**199**	P		**P**	**05 01 44.5**	**+2.2**
ETAZ	**East Tamaki Re**	**18.06**	**199**	P		**P**	**05 01 47.0**	**+2.8**
HAZ	**Te Kaha**	**18.11**	**191**	P		**P**	**05 01 45.1**	**+0.5**
WTAZ	**Waiatarua**	**18.15**	**200**	P		**P**	**05 01 47.9**	**+2.9**
PKGZ	**Pakihiroa**	**18.19**	**191**	P		**P**	**05 01 45.8**	**+0.4**
RUGZ	**Raukumara Rang**	**18.34**	**192**	P		**P**	**05 01 47.0**	**+0.2**
PUZ	**Puketiti**	**18.34**	**190**	P		**P**	**05 01 47.8**	**+1.0**
TGRZ	**Tauranga**	**18.42**	**195**	P		**P**	**05 01 50.0**	**+2.6**
TWGZ	**Tauwhareparae**	**18.49**	**191**	P		**P**	**05 01 49.5**	**+1.4**
KMRZ	**Kaimai**	**18.61**	**196**	P		**P**	**05 01 52.0**	**+2.8**
TOZ	**Tahuroa Road**	**18.61**	**197**	P		**P**	**05 01 51.8**	**+2.6**
KARZ	**Kaharoa**	**18.70**	**195**	P		**P**	**05 01 54.1**	**+4.1**
MWZ	**Matawai**	**18.72**	**192**	P		**P**	**05 01 50.5**	**+0.2**
URZ	**Urewera**	**18.73**	**193**	*e*P		**P**	**05 01 50.0**	**-0.3**
	74nm,1.0s							
URZ				*e*S		**S**	**05 04 55.9**	**+3.5**
URZ	**Urewera**	**18.73**	**193**	P		**P**	**05 01 49.0**	**-1.3**
	26nm,0.3s,baz=288,slow=3.1,SNR=138							
URZ				S		**S**	**05 04 46.3**	**-6.1**
	0.3nm,0.3s,baz=41,slow=20,SNR=4.4							
URZ	**Urewera**	**18.73**	**193**	P		**P**	**05 01 48.9**	**-1.3**
OMRZ	**Omania**	**18.75**	**195**	P		**P**	**05 01 52.9**	**+2.4**
TKGZ	**Te Karaka**	**18.77**	**191**	P		**P**	**05 01 52.8**	**+2.2**
TARZ	**Mount Tarawera**	**18.84**	**194**	P		**P**	**05 01 53.0**	**+1.6**
RAGZ	**Rawiri**	**18.90**	**192**	P		**P**	**05 01 53.2**	**+1.3**
MUGZ	**Murupara**	**19.01**	**193**	P		**P**	**05 01 52.7**	**-0.2**
HRRZ	**Handcock Road**	**19.04**	**194**	P		**P**	**05 01 54.6**	**+1.5**
RIGZ	**Rimuhau**	**19.04**	**191**	P		**P**	**05 01 55.6**	**+2.5**
ALRZ	**Allen Road**	**19.19**	**194**	P		**P**	**05 01 56.1**	**+1.6**
WPRZ	**Whakapapatarin**	**19.19**	**195**	P		**P**	**05 01 57.8**	**+3.3**
PRGZ	**Paritu Road**	**19.23**	**190**	P		**P**	**05 01 59.5**	**+4.6**
MTHZ	**Maungataniwha**	**19.36**	**193**	P		**P**	**05 01 56.1**	**0.0**
RAHZ	**Arahi**	**19.37**	**192**	P		**P**	**05 01 56.8**	**+0.7**
MRHZ	**Matea Rd**	**19.43**	**194**	P		**P**	**05 01 57.0**	**+0.3**
WATZ	**Wairara**	**19.47**	**195**	P		**P**	**05 01 59.8**	**+2.7**
HIZ	**Hauiti**	**19.52**	**198**	*e*P		**P**	**05 01 59.0**	**+1.5**
	141nm,1.1s							
HIZ	**Hauiti**	**19.52**	**198**	P		**P**	**05 02 01.2**	**+3.7**
NMHZ	**Naumai**	**19.60**	**193**	P		**P**	**05 01 59.0**	**+0.7**
RATZ	**Rangitukua**	**19.61**	**195**	P		**P**	**05 01 58.7**	**+0.3**
BKZ	**Black Stump Fm**	**19.73**	**193**	*e*P		**P**	**05 01 58.4**	**-1.1**
	22nm,0.5s							
BKZ	**Black Stump Fm**	**19.73**	**193**	P		**P**	**05 01 58.7**	**-0.8**
KRVZ	**Karewarewa**	**19.86**	**195**	P		**P**	**05 02 07.8**	**+7.1**
TWVZ	**Taurewa**	**19.89**	**196**	P		**P**	**05 02 01.7**	**+0.7**
WTVZ	**West Tongariro**	**19.89**	**195**	P		**P**	**05 02 01.7**	**+0.7**
NGZ	**Ngauruhoe**	**19.95**	**195**	P		**P**	**05 02 03.1**	**+1.5**
MCHZ	**McNeill Hill**	**19.96**	**193**	P		**P**	**05 02 02.4**	**+1.0**
KWHZ	**Kaweka Forest**	**20.00**	**193**	P		**P**	**05 02 01.9**	**0.0**
TUVZ	**Tukino**	**20.02**	**195**	P		**P**	**05 02 02.4**	**+0.1**
FWVZ	**Far West T-bar**	**20.04**	**195**	P		**P**	**05 02 03.9**	**+1.5**
WHVZ	**Whangaehu Hut**	**20.05**	**195**	P		**P**	**05 02 04.0**	**+1.5**
PKVZ	**Pokaka**	**20.12**	**196**	P		**P**	**05 02 04.6**	**+1.6**
VRZ	**Vera Road**	**20.12**	**197**	P		**P**	**05 02 06.3**	**+3.4**
MOVZ	**Moawhango**	**20.13**	**195**	P		**P**	**05 02 03.5**	**+0.4**
BHHZ	**Black Hill Sta**	**20.14**	**194**	P		**P**	**05 02 02.1**	**-1.1**
KAHZ	**Kahuranaki**	**20.26**	**192**	P		**P**	**05 02 04.8**	**+0.6**
PXZ	**Pawanui**	**20.49**	**192**	P		**P**	**05 02 07.1**	**+0.9**
PNHZ	**Pukenui**	**20.51**	**193**	P		**P**	**05 02 06.9**	**+0.4**
WAZ	**Wanganui**	**20.65**	**196**	P		**P**	**05 02 08.9**	**+1.2**
PRHZ	**Porangahau**	**20.76**	**192**	P		**P**	**05 02 11.5**	**+2.8**
BFZ	**Birch Farm**	**21.24**	**193**	*e*P		**P**	**05 02 12.8**	**-0.3**
	48nm,0.7s							
SNZO	**South Karori**	**22.19**	**195**	*e*P		**P**	**05 02 20.8**	**-0.6**
	58nm,0.8s							
THZ	**Tophouse**	**23.09**	**198**	*e*P		**P**	**05 02 30.1**	**+0.5**
	37nm,0.7s							
KHZ	**Kahutara**	**23.52**	**196**	*e*P		**P**	**05 02 33.0**	**-0.3**
	36nm,0.7s							
LTZ	**Lake Taylor**	**24.22**	**198**	*e*P		**P**	**05 02 39.0**	**-0.6**
	64nm,1.0s							
OXZ	**Oxford**	**24.78**	**198**	*e*P		**P**	**05 02 44.0**	**-0.5**
	45nm,0.7s							
MQZ	**McQueen's Vall**	**24.96**	**197**	*e*P		**P**	**05 02 46.9**	**+0.9**
	65nm,1.4s							
RPZ	**Rata Peaks**	**25.43**	**199**	*e*P		**P**	**05 02 51.5**	**+1.2**
	138nm,1.9s							
RPZ	**Rata Peaks**	**25.43**	**199**	P		**P**	**05 02 50.3**	**0.0**
	19nm,0.5s,baz=43,slow=3.

comp=Z,7.1nm,0.9s,baz=109,slow=5.0,SNR=4.2
NIKH **Nikolski High** 73.08 6 *e*P P 05 08 39.4 -0.5
comp=Z,187nm,1.7s
ASAJ **Asahikawa** 73.39 331 P P 05 08 42.5 +0.5
comp=Z,24nm,0.9s,baz=234,slow=8.1,SNR=11
NACB **Ninganchiao** 73.58 304 *e*P P 05 08 42.7 -0.7
comp=Z,26nm,0.9s
SSLB **Suanglung** 73.88 303 *e*P P 05 08 44.1 -1.1
comp=Z,50nm,1.7s
YHNB **Yeheng** 74.01 304 *e*P P 05 08 45.6 -0.3
comp=Z,22nm,1.0s
YSS **Yuzh-Sakhalins** 75.55 333 *e*P P 05 08 54.9 +1.0
YSS pmax pmax
comp=Z,20nm,1.0s
PETK **Petropavlovsk-** 75.85 345 *e*P P 05 08 55.0 -0.5
PETK **Petropavlovsk-** 75.85 345 *e*P P 05 08 55.0 -0.5
PETK **Petropavlovsk-** 75.85 345 P P 05 08 55.0 -0.5
comp=Z,14nm,0.9s,baz=136,slow=9.4,SNR=12
KSRS **Korea Array** 76.66 318 P P 05 08 59.8 -0.5
comp=Z,1.7nm,0.8s,baz=144,slow=5.9,SNR=7.2
KSAR **Wonju Array Be** 76.68 318 *e*P P 05 09 01.1 +0.7
KSAR **Wonju Array Be** 76.68 318 *e*P P 05 09 01.1 +0.7
SNCC **San Nicolas Is** 76.75 47 P P 05 09 01.3 +0.4
baz=235
SCZ2 **Santa Cruz Isl** 77.10 46 P P 05 09 03.9 +1.0
baz=235
SCI2 **San Clemente I** 77.27 48 P P 05 09 04.0 +0.2
baz=236
SBC **Santa Barbara** 77.30 46 P P 05 09 04.7 +0.9
baz=235
PKM **Mcpherson Peak** 77.49 46 P P 05 09 05.6 +0.5
baz=235
SAO **San Andreas Ge** 77.51 43 *e*P P 05 09 05.3 +0.3
comp=Z,17nm,0.9s
SAO **San Andreas Ge** 77.51 43 *e*P P 05 09 05.3 +0.3
SAO pmax pmax
comp=Z,17nm,0.9s
BLG **Laguna Peak, P** 77.55 47 P P 05 09 05.6 +0.3
baz=235
CIS **Catalina Islan** 77.60 47 P P 05 09 06.1 +0.6
baz=236
SMMC **Simmler** 77.61 45 P P 05 09 06.6 +1.0
baz=234
FMP **Fort Macarthur** 77.86 47 P P 05 09 07.5 +0.6
baz=236
KCPM **Cahto Peak** 77.97 40 *e*P P 05 09 06.9 -0.7
comp=Z,23nm,1.2s
MSHR **Mys Shultsa** 78.04 324 *i*P P 05 09 03.6 -4.1
DECC **Green Verdugo** 78.13 47 P P 05 09 08.9 +0.5
baz=236
PAS **Pasadena** 78.18 47 P P 05 09 09.7 +1.0
PAS pmax pmax
comp=Z,13nm,0.8s
PASC **Pasadena Art C** 78.19 47 *e*P P 05 09 09.7 +1.0
comp=Z,13nm,0.8s
KMRM **Mail Ridge** 78.23 39 *e*P P 05 09 10.4 +1.5
comp=Z,34nm,0.9s
109C **Camp Elliot, M** 78.23 49 P P 05 09 09.5 +0.6
baz=237
ARVC **Arvin** 78.29 46 P P 05 09 09.9 +0.7
baz=235
MWC **Mount Wilson** 78.30 47 *e*P P 05 09 10.2 +0.7
comp=Z,15nm,0.8s
MWC **Mount Wilson** 78.30 47 *e*P P 05 09 10.2 +0.7
MWC pmax pmax
comp=Z,15nm,0.8s
VES **Vestal, Richgr** 78.52 45 P P 05 09 10.9 +0.5
baz=235
MURC **Murrieta** 78.56 48 P P 05 09 11.4 +0.7
baz=237
BFSC **Mount Baldy Ra** 78.59 47 P P 05 09 11.2 +0.2
baz=236
KHMM **Horse Mountain** 78.63 39 *e*P P 05 09 12.8 +1.7
comp=Z,10nm,1.0s
USA0B **Ussuriysk Arra** 78.68 326 *e*P P 05 09 13.0 +2.0
comp=Z,21nm,1.0s
USA0B **Ussuriysk Arra** 78.68 326 *e*P P 05 09 13.0 +2.0
USA0B pmax pmax
comp=Z,21nm,1.0s
USRK **Ussuriysk Ar.** 78.68 326 *e*P P 05 09 12.4 +1.4
USRK **Ussuriysk Ar.** 78.68 326 *e*P P 05 09 12.4 +1.4
USRK **Ussuriysk Ar.** 78.68 326 P P 05 09 12.1 +1.1
comp=Z,12nm,0.9s,baz=142,slow=4.1,SNR=16
EDW2 **Edwards Air Fo** 78.72 46 P P 05 09 12.5 +0.9
baz=236,SNR=12
MONP2 **Monument Peak** 78.72 49 P P 05 09 12.9 +1.1
baz=237,SNR=12
O02D **Mt. Diablo Mer** 78.75 40 P P 05 09 12.9 +1.3
baz=232,SNR=11
IKP **In-Ko-Pah, Jac** 78.81 49 P P 05 09 13.2 +1.0
baz=238,SNR=5.5
ISA **Isabella, Lake** 78.83 46 *e*P P 05 09 13.2 +1.0
comp=Z,9.0nm,1.0s
ISA **Isabella, Lake** 78.83 46 P P 05 09 13.2 +1.0
ISA pmax pmax
comp=Z,9.0nm,1.0s
ISA **Isabella, Lake** 78.83 46 P P 05 09 13.3 +1.0
baz=236,SNR=10.0
KRMB **Red Mountain** 78.93 38 *e*P P 05 09 12.8 +0.2
CMB **Columbia Colle** 78.95 43 *e*P P 05 09 13.0 +0.3
comp=Z,8.7nm,0.9s
CMB **Columbia Colle** 78.95 43 *e*P P 05 09 13.0 +0.3
CMB pmax pmax
comp=Z,9.0nm,0.9s
PFO **Pinyon Flats O** 79.08 48 *e*P P 05 09 14.8 +1.2
comp=Z,7.8nm,1.1s
PFO **Pinyon Flats O** 79.08 48 P P 05 09 14.6 +1.0
baz=237
BBRC **Big Bear Solar** 79.11 47 P P 05 09 14.5 +0.6
baz=237
AFDM **Forest Hills D** 79.12 42 *e*P P 05 09 14.6 +1.0
comp=Z,11nm,1.0s
WDC **Whiskeytown Da** 79.15 40 *e*P P 05 09 14.7 +1.0
comp=Z,9.5nm,1.0s
WDC **Whiskeytown Da** 79.15 40 *e*P P 05 09 14.7 +1.0
WDC pmax pmax
comp=Z,10.0nm,1.0s
SWSC **Sam W. Stewart** 79.19 49 P P 05 09 15.0 +1.0
baz=238
LRMC **Laurel Mtn Rad** 79.26 46 P P 05 09 15.2 +0.7
baz=236
N02D **Trinity Center** 79.30 39 P P 05 09 15.6 +1.1
baz=232,SNR=9.1
RRX **Edison Barstow** 79.39 47 P P 05 09 15.6 +0.5
baz=237
O03E **Paynes Creek** 79.42 40 P P 05 09 15.7 +0.5
baz=232,SNR=11
M02C **Callahan** 79.47 39 P P 05 09 16.9 +1.5
baz=232,SNR=14
CWC **Cottonwood Cre** 79.53 45 P P 05 09 16.7 +0.7
baz=236
MDPB **Devils Postpil** 79.55 44 *e*P P 05 09 17.6 +1.4
comp=Z,12nm,0.9s
OMMB **Old Mammoth Mi** 79.59 44 *e*P P 05 09 17.4 +0.9
comp=Z,12nm,1.3s
BELC **Belle Mtn. Jos** 79.61 48 P P 05 09 17.5 +1.0
baz=237,SNR=11
MLAC **Mammoth, Mammo** 79.71 44 P P 05 09 17.7 +0.8
baz=235
MPMC **Manual Prospec** 79.71 46 P P 05 09 17.7 +0.8
baz=236,SNR=7.8
NJ2 **Nanjing** 79.73 310 *e*P P 05 09 18.0 +1.1
GSC **Goldstone, Bar** 79.76 47 *e*P P 05 09 18.3 +1.2
comp=Z,12nm,1.3s
GSC **Goldstone, Bar** 79.76 47 P P 05 09 17.6 +0.5
baz=237,SNR=5.9
YBH **Yreka Blue Hor** 79.76 39 *e*P P 05 09 18.2 +1.2
comp=Z,11nm,0.8s
YBH **Yreka Blue Hor** 79.76 39 P P 05 09 18.2 +1.2
YBH pmax pmax
comp=Z,11nm,0.8s
DAC **Darwin (Calif)** 79.77 45 *e*P P 05 09 17.9 +0.7
comp=Z,7.1nm,1.1s
DAC **Darwin (Calif)** 79.77 45 *e*P P 05 09 17.9 +0.7
DAC pmax pmax
comp=Z,7.0nm,1.1s
TIN **Tinemaha, Big** 79.78 44 P P 05 09 18.1 +0.9
baz=235
BC3 **Big Chuckawall** 79.81 49 P P 05 09 18.5 +1.1
baz=238,SNR=7.6
K02D **Willamette Mer** 79.81 37 P P 05 09 17.8 +0.6
baz=231
HEC **Hector,Ludlow** 79.82 47 P P 05 09 18.2 +0.7
baz=237,SNR=7.4
WAKR **Walker** 79.83 43 *e*P P 05 09 17.6 0.0
comp=Z,19nm,1.1s
GLA **Glamis** 79.94 49 *e*P P 05 09 18.2 +0.2
comp=Z,20nm,1.1s
GLA **Glamis** 79.94 49 *e*P P 05 09 18.2 +0.2
GLA pmax pmax
comp=Z,20nm,1.1s
GLA **Glamis** 79.94 49 P P 05 09 19.3 +1.3
baz=238,SNR=6.3
J01E **Myrtle Point** 79.96 37 P P 05 09 18.8 +0.9
baz=230
BEKR **Beckworth** 80.05 41 *e*P P 05 09 17.9 -0.7
comp=Z,19nm,1.4s
MDJ **Mudanjiang** 80.24 325 P P 05 09 20.3 +1.0
MDJ **Mudanjiang** 80.24 325 *e*P P 05 09 19.7 +0.4
comp=Z,30nm,0.7s
GMRC **Granite Mounta** 80.27 48 P P 05 09 20.8 +1.0
baz=237,SNR=6.6
KDAK **Kodiak Island** 80.28 13 *ce*P P 05 09 19.8 +0.7
KDAK **Kodiak Island** 80.28 13 P P 05 09 19.0 -0.1
comp=Z,9.2nm,0.8s,baz=216,slow=6.9,SNR=8.4
IRM **Iron Mountain** 80.29 48 P P 05 09 20.8 +1.0
baz=238,SNR=11
L04D **Klamath Falls** 80.30 38 P P 05 09 20.8 +0.9
baz=232,SNR=8.0
M04C **Macdoel** 80.31 39 P P 05 09 20.9 +1.0
baz=232,SNR=7.7
GRAC **Grapevine Rang** 80.32 45 P P 05 09 20.9 +1.0
baz=236,SNR=7.8
FURC **Furnace Creek,** 80.36 46 P P 05 09 20.6 +0.5
baz=236,SNR=5.2
TUQ **Turquoise Moun** 80.44 47 P P 05 09 21.4 +0.7
baz=237,SNR=9.4
SHOC **Shoshone, Teco** 80.45 46 P P 05 09 21.0 +0.4
baz=237
NVAR **Mina Array Bea** 80.51 43 P P 05 09 21.7 +0.6
comp=Z,10nm,0.9s,baz=225,slow=8.9,SNR=48
Y12C **Blythe** 80.52 49 P P 05 09 22.0 +1.0
baz=238,SNR=5.8
113A **Mohawk Valley,** 80.55 50 *e*P P 05 09 21.6 +0.5
comp=Z,15nm,1.1s
I02D **Swisshome** 80.61 36 P P 05 09 21.6 +0.4
baz=230
I03D **Drain, OR** 80.63 37 P P 05 09 22.2 +0.9
baz=231
214A **Organ Pipe Nat** 80.83 51 P P 05 09 24.2 +1.5
baz=240
K04D **Chiloquin, OR** 80.87 38 P P 05 09 23.4 +0.6
baz=232
NEE2 **Needles Airpor** 80.98 48 P P 05 09 23.9 +0.6
baz=238
KVN **Kaiserville** 81.00 43 P P 05 09 24.7 +1.1
KVN pmax pmax
comp=Z,13nm,0.9s
TPNV **Topopah Spring** 81.04 45 P P 05 09 24.6 +0.8
baz=237
J04D **Umpqua Nationa** 81.05 38 P P 05 09 24.7 +1.0
baz=232,SNR=10.0
PDMCI **Parker Dam,Lak** 81.08 49 P P 05 09 24.8 +1.0
baz=238
I04A **Tendick Farm,** 81.22 37 P P 05 09 25.0 +0.6
baz=232
J05D **Fort Rock, OR** 81.58 38 P P 05 09 27.6 +1.2
baz=232,SNR=28
G03D **McMinnville, O** 81.63 36 P P 05 09 27.5 +1.1
baz=231
I05D **Terrebonne, OR** 82.16 37 P P 05 09 30.2 +0.9
baz=232
KLR **Kul'dur** 82.21 329 *i*P P 05 09 28.6 -0.7
R11A **Troy Canyon, C** 82.24 45 P P 05 09 30.2 +0.3
baz=237,SNR=8.3
F04D **Rainier, OR** 82.32 35 P P 05 09 31.1 +1.1
baz=231
WHN **Wuhan** 82.33 306 P P 05 09 32.1 +1.8
TUC **Tucson** 82.50 52 P P 05 09 32.9 +1.6
TUC pmax pmax
comp=Z,21nm,1.0s
TUC **Tucson** 82.50 52 P P 05 09 32.8 +1.6
baz=241
WVOR **Wild Horse Val** 82.61 40 P P 05 09 32.7 +1.1
WVOR pmax pmax
comp=Z,18nm,1.0s
G05D **Wamic, OR** 82.73 36 P P 05 09 32.8 +0.8
baz=232
E04D **Cinebar** 82.86 35 P P 05 09 33.4 +0.8
baz=231
D03D **Eldon** 83.20 34 P P 05 09 35.1 +0.9
baz=231
MA2 **Magadan** 83.36 344 *ce*P P 05 09 33.2 -1.6
MA2 pmax pmax
comp=Z,5.0nm,0.9s
WUAZ **Wupatki** 83.65 49 P P 05 09 37.9 +0.8
baz=240
A04D **Lummi Island** 84.15 33 P P 05 09 39.9 +1.0
baz=231,SNR=5.9
B05A **Bryant** 84.18 34 P P 05 09 39.6 +0.5
baz=231
W18A **Petrified Fore** 84.62 50 P P 05 09 42.4 +0.5
baz=241
PSI **Prapat** 84.67 275 P P 05 09 42.5 0.0
PSI pmax pmax
comp=Z,16nm,1.1s
BMO **Blue Mountains** 84.79 38 P P 05 09 42.7 +0.4
BMO pmax pmax
comp=Z,8.0nm,1.0s
121A **Cookes Peak, D** 84.84 53 P P 05 09 44.4 +1.4
baz=242,SNR=10
DUG **Dugway, Tooele** 85.04 44 P P 05 09 44.0 +0.2
baz=239
SCM **Sheep Creek Mo** 85.10 14 P P 05 09 43.4 0.0
SCM pmax pmax
comp=Z,20nm,0.8s
HLID **Hailey** 85.81 41 P P 05 09 48.2 +0.9
baz=237
SEY **Seymchan** 85.94 347 *ce*P P 05 09 46.2 -1.1
SRU **San Rafael Swe** 86.02 46 P P 05 09 49.5 +1.0
SRU pmax pmax
comp=Z,9.0nm,0.8s
RND **Reindeer** 86.16 13 P P 05 09 48.0 -0.4
RND pmax pmax
comp=Z,32nm,0.9s
MNTX **Cornudas Mount** 86.28 55 P P 05 09 50.9 +1.2
baz=244
MCK **McKinley** 86.44 12 P P 05 09 49.3 -0.4
MCK pmax pmax
comp=Z,25nm,1.1s
MVCO **Mesa Verde** 86.50 48 P P 05 09 51.1 +0.3
baz=242
TXAR **Lajitas Array** 86.60 57 P P 05 09 52.7 +1.3
comp=Z,6.4nm,0.7s,baz=219,slow=6.5,SNR=81
TXAR pP pP 05 11 52.7 +1.4
comp=Z,0.9nm,1.1s,baz=216,slow=4.5,SNR=1.9
NEW **Newport** 86.84 36 P P 05 09 52.1 +0.1
baz=235
TASM **ASL Pad, Albuq** 86.92 51 P P 05 09 53.6 +0.7
baz=243,SNR=11
TASM **ASL Pad, Albuq** 86.92 51 P P 05 09 53.5 +0.7
baz=243,SNR=10
ANMO **Albuquerque** 86.92 51 *e*P P 05 09 53.1 +0.2
comp=Z,4.9nm,0.8s
ANMO **Albuquerque** 86.92 51 *ce*P P 05 09 52.9 0.0
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO **Albuquerque** 86.92 51 P P 05 09 53.4 +0.5
baz=243
HDA **Harding Lake** 87.45 13 P P 05 09 53.6 -0.7
baz=209
TCOL **CIGO, UAF Yank** 87.67 12 P P 05 09 54.5 -0.9
baz=208
COLA **College** 87.67 12 *e*P P 05 09 53.9 -1.5
comp=Z,20nm,0.8s
COLA **College** 87.67 12 *i*P P 05 09 54.5 -0.9
COLA pmax pmax
comp=Z,17nm,0.9s
ILAR **Eielson Array** 87.78 13 P P 05 09 54.8 -1.1
comp=Z,4.5nm,0.7s,baz=225,slow=5.4,SNR=33
ILAR pP pP 05 11 56.9 +0.5
comp=Z,0.6nm,1.0s,baz=223,slow=6.2,SNR=2.7
MSO **Missoula** 87.84 38 P P 05 09 56.5 -0.3
baz=238
S22A **4UR Ranch, Cre** 87.92 49 P P 05 09 58.3 +0.7
baz=243,SNR=12
POKR **Poker Plat Res** 87.97 12 P P 05 09 57.1 +0.3
baz=208
O20A **White River Ci** 88.06 46 P P 05 09 58.2 +0.1
baz=242,SNR=6.4
HIA **Hailar** 88.42 324 *i*P P 05 09 57.5 -1.8
HIA pmax pmax
comp=Z,20nm,1.0s
BW06 **Boulder Array** 88.45 43 P P 05 09 59.8 0.0
baz=241,SNR=12
PDAR **Pinedale Array** 88.45 43 P P 05 10 00.1 +0.2
comp=Z,5.5nm,0.8s,baz=208,slow=3.1,SNR=38
SNAA **Sanae** 88.50 178 P P 05 09 59.4 -0.1
BILL **Bilibino** 88.56 354 *ce*P P 05 09 58.9 -0.6
BILL pmax pmax
comp=Z,4.0nm,1.0s
BOZ **Bozeman (W)** 88.57 40 P P 05 10 01.1 +0.9
BOZ pmax pmax
comp=Z,14nm,1.0s
BOZ **Bozeman (W)** 88.57 40 P P 05 10 00.8 +0.5
baz=239,SNR=23
H17A **Grant Village** 88.61 41 P P 05 10 02.3 +1.7
baz=240,SNR=9.7
VNA3 **Neumayer Olymp** 88.62 176 P P 05 10 00.5 +0.6
SDCO **Great Sand Dun** 88.86 49 *e*P P 05 10 02.2 +0.3
comp=Z,1.2nm,0.6s
SDCO **Great Sand Dun** 88.86 49 P P 05 10 02.2 +0.3
baz=244
HHC **Hu-ho-hao-te** 89.16 314 *e*P P 05 10 04.1 +1.0
MSTX **Muleshoe** 89.24 53 P P 05 10 04.0 +0.4
baz=245
VNA1 **Neumayer--Stat** 89.29 177 P P 05 10 04.1 +1.1
KMI **Kunming** 89.32 297 P P 05 10 06.5 +2.2
T25A **Trinidad** 89.38 50 P P 05 10 04.6 +0.3
baz=244
PLCA **Paso Flores** 89.46 133 P P 05 10 05.3 +0.8
comp=Z,2.7nm,0.9s,baz=253,slow=9.2,SNR=3.0
LAMP **Lampang** 89.57 290 P P 05 10 07.5 +2.2
833A **Chaparral WMA,** 89.62 60 P P 05 10 05.8 +0.4
baz=247
Q24A **Divide** 89.65 48 P P 05 10 05.9 +0.2
baz=244
PAYA **Payao** 89.66 291 P P 05 10 07.5 +1.8
comp=Z,28μm,0.8s,comp=Z,540μm
ISCO **Idaho Springs** 89.70 47 P P 05 10 06.2 +0.3
baz=244
RLMT **Red Lodge** 89.78 41 P P 05 10 06.8 +0.9
baz=241
N23A **Red Feather La** 89.96 46 P P 05 10 06.7 -0.3
baz=243
JCT **Junction City** 90.13 58 P P 05 10 07.7 0.0
baz=247
CMAR **Chiang Mai Arr** 90.16 289 P P 05 10 08.9 +0.9
comp=Z,7.6nm,1.0s,baz=115,slow=2.8,SNR=32
CMMT **Chiang Mai** 90.28 290 P P 05 10 10.2 +1.6
comp=Z,6.3nm,0.9s
CHTO **Chiang Mai** 90.28 290 *e*P P 05 10 09.2 +0.6
comp=Z,6.6nm,0.7s
CHTO **Chiang Mai** 90.28 290 *e*P P 05 10 09.2 +0.6
CHTO pmax pmax
comp=Z,7.0nm,0.7s
K22A **Casper** 90.37 44 P P 05 10 08.9 +0.3
baz=243
AMTX **Amarillo** 90.44 53 P P 05 10 08.7 -0.4
baz=246
TOLK **Toolik Lake Re** 90.73 10 P P 05 10 09.5 -0.1
baz=206
EGMT **Eagleton** 90.89 39 P P 05 10 11.2 +0.4
baz=241
ABTX **Abilene, Hawle** 91.09 56 P P 05 10 12.4 +0.3
baz=247
EPYK **Eagle Plains** 91.45 15 P P 05 10 12.7 -0.2
baz=218
LAO **LASA Array** 92.39 41 P P 05 10 18.4 +0.6
baz=243
LZH **Lanzhou** 92.64 307 *e*P P 05 10 16.1 -3.2
LZH pP pP 05 12 15.6 -5.1
LZH sP sP 05 13 10.4 -5.7
RSSD **Black Hills** 92.64 44 *e*P P 05 10 19.1 -0.1
comp=Z,7.9nm,1.2s
RSSD **Black Hills** 92.64 44 *e*P P 05 10 19.1 -0.1
RSSD pmax pmax
comp=Z,8.0nm,1.2s
RSSD **Black Hills** 92.64 44 P P 05 10 19.3 +0.1
baz=245
INK **Inuvik** 93.73 15 *e*P P 05 10 22.3 -1.0
INK **Inuvik** 93.73 15 *e*P P 05 10 22.3 -1.0
INK **Inuvik** 93.73 15 P P 05 10 22.1 -1.2
comp=Z,4.3nm,0.9s,baz=220,slow=2.9,SNR=18
DGMT **Dagmar** 94.40 40 P P 05 10 27.2 +0.3
baz=245
ULN **Ulaanbaatar** 95.13 319 *i*P P 05 10 28.5 -1.8
ULN pmax pmax
comp=Z,2.0nm,1.1s
YKA **Yellowknife Ar** 95.97 25 P P 05 10 32.5 -1.0
comp=Z,1.0nm,0.8s,baz=244,slow=4.5,SNR=13
ECSD **EROS Data Cent** 97.43 46 P Pdif 05 10 39.9 -0.7
baz=250
TIXI **Tiksi** 98.32 345 *i*P Pdif 05 10 42.3 -1.5
TIXI pmax pmax
comp=Z,1.0nm,1.0s
ZALV **Zalesovo Beam** 110.24 321 PKiKP PKiKP 05 15 34.0 -0.9
comp=Z,2.3nm,0.7s,baz=127,slow=0.7,SNR=6.5
MKAR **Makanchi Array** 111.02 314 PKiKP PKiKP 05 15 35.1 -1.6
comp=Z,1.6nm,0.6s,baz=95,slow=0.7,SNR=14
KURK **Kurchatov** 113.78 318 *c*i PKiKP PKiKP 05 15 40.0 -1.8
KURK pmax pmax
comp=Z,4.0nm,1.3s
KURBB **Kurchatov Arra** 113.83 317 PKiKP PKiKP 05 15 40.6 -1.3
comp=Z,2.1nm,0.6s,baz=96,slow=1.9,SNR=20
KSH **Kashi** 114.78 305 PKP PKPdf 05 15 43.4 -0.9
KSH PP PP 05 16 57.6 +4.4
KSH SKS SKSdf 05 22 03.5 -0.5
KSH **Kashi** 114.78 305 SS SS 05 32 10.1 +3.6
BVAR **Borovoye Array** 118.84 320 PKP PKPdf 05 15 50.8 -0.7
comp=Z,4.2nm,0.7s,baz=90,slow=2.1,SNR=23
BRVK **Borovoye** 118.90 320 *i* PKiKP PKPdf 05 15 50.3 -1.3
ARU **Arti** 124.92 326 *i* PKiKP PKPdf 05 16 01.8 -1.2
ARU 05 17 56.5
ARU 05 22 20.8
ARU **Arti** 124.92 326 PKP PKPdf 05 16 02.5 -0.5
comp=Z,2.3nm,0.3s,baz=319,slow=1.3,SNR=9.7
BOSA **Boshof** 126.80 205 PKP PKPdf 05 16 07.6 -0.2
comp=Z,1.9nm,0.7s,baz=320,slow=3.2,SNR=4.8
AKTO **Aktyubinsk** 126.84 319 PKP PKPdf 05 16 06.3 -0.5
comp=Z,1.0nm,0.5s,baz=93,slow=3.5,SNR=10
ARCES **ARCESS Array B** 128.47 350 PKP PKPdf 05 16 08.6 -0.9
comp=Z,3.5nm,0.6s,baz=24,slow=1.3,SNR=14
FINES **FINESS Array B** 135.36 344 PKP PKPdf 05 16 22.1 -0.5
comp=Z,3.7nm,0.8s,baz=64,slow=3.2,SNR=8.6
OBN **Obninsk** 136.42 332 ‖ *i*PKiKP PKPdf 05 16 24.7 0.0
OBN *e* 05 19 10.2
OBN *e* 05 22 18.0
OBN pmax pmax
comp=Z,6.0nm,0.4s
VSR **Storozhevoye** 137.49 326 *e*PKiKP PKPdf 05 16 26.1 -0.8
VSR pmax pmax
comp=Z,10.0nm,1.7s
ZEI **Tsey** 138.35 313 *i* PKiKP PKiKP 05 16 30.6 -0.7
ZEI pmax pmax
comp=Z,3.0nm,0.7s
NB2 **NORSAR Subarra** 138.51 353 PKP PKPpre 05 16 19.4
comp=Z,0.6nm,0.5s,baz=17,slow=2.6
NOA **NORSAR Array B** 138.51 353 PKhKP PKPpre 05 16 17.8
comp=Z,1.8nm,0.8s,baz=16,slow=4.8,SNR=4.7
NOA PKP PKPdf 05 16 28.7 +0.1
comp=Z,0.7nm,0.6s,baz=14,slow=4.0,SNR=5.1
SUW **Suwalki** 142.45 340 *e*PKP PKPdf 05 16 33.0 -2.7
AKASG **Malin Array Be** 142.68 332 PKhKP PKPdf 05 16 32.4 -3.8
comp=Z,5.8nm,0.5s,baz=42,slow=4.6,SNR=64
SIM **Simferopol'** 143.75 321 *ce*PKiKP PKPdf 05 16 37.9 -0.4
SIM pmax pmax
comp=Z,42nm,0.7s
DIKM **Dikmen** 144.69 315 ‖ *i*P PKPab 05 16 40.9 -0.2
GKP **Gorka Klasztor** 144.83 344 *e*PKP PKPab 05 16 40.8 -0.4
GKP **Gorka Klasztor** 144.83 344 *e*PKiKP PKPab 05 16 40.8 -0.4
BEL **Belsk** 145.07 340 *e*PKP PKPab 05 16 42.0 -0.1
BEL **Belsk** 145.07 340 *e*PKiKP PKPab 05 16 42.1 -0.1
BZK **Bozkurt** 145.37 316 ‖ *i*P PKPbc 05 16 42.2 -0.2
LVV **L'vov** 145.55 335 *e*PKiKP PKPbc 05 16 42.3 -0.4
LEOM **Leova** 146.08 327 ‖ *i*P PKPbc 05 16 44.6 +0.3
LEOM **Leova** 146.08 327 ‖PKiKP PKPbc 05 16 44.6 +0.3
KWP **Kalwaria Pacla** 146.22 336 *e*PKP PKPdf 05 16 42.4 0.0
TLCR 146.63 325 ‖ *i*P PKPbc 05 16 45.5 -0.3
TLCR 146.63 325 ‖PKiKP PKPbc 05 16 45.5 -0.3
BRTR **Keskin Array B** 146.66 313 PKP PKPdf 05 16 43.4 -0.3
comp=Z,8.6nm,0.7s,baz=132,slow=2.1,SNR=53
BRTR PKPbc PKPbc 05 16 45.6 -0.7
comp=Z,8.5nm,0.7s,baz=98,slow=2.5,SNR=52
BRTR pPKPbc pPKPdf 05 18 54.0 +0.3
comp=Z,0.5nm,0.8s,baz=101,slow=1.5,SNR=2.4
BURAR **Bucovina Array** 146.73 331 ‖ *i*P PKPbc 05 16 46.6 +0.4
BURAR **Bucovina Array** 146.73 331 ‖PKiKP PKPbc 05 16 46.6 +0.4
OJC **Ojcow** 146.77 339 *e*PKP PKPbc 05 16 46.0 -0.1
OJC **Ojcow** 146.77 339 *e*PKiKP PKPbc 05 16 46.0 -0.1

BIZ	**Bicaz**	**146.81**	**330**	⇓*i*P	**PKPbc**	**05 16 47.0**	**+0.7**
TESR	**Tescani**	**146.86**	**329**	⇓*i*P	**PKPbc**	**05 16 46.2**	**-0.2**
KOLS	**Kolonicke sedl**	**146.95**	**336**	*e*PKIKP	**PKPbc**	**05 16 47.2**	**+0.6**
KOLS	**Kolonicke sedl**	**146.95**	**336**	*e*PKP	**PKPbc**	**05 16 47.2**	**+0.6**
CFR	**Carcaliu**	**147.00**	**325**	⇓*i*P	**PKPbc**	**05 16 46.6**	**-0.2**
CFR	**Carcaliu**	**147.00**	**325**	⇓PKIKP	**PKPbc**	**05 16 46.6**	**-0.2**
ANTO	**Ankara**	**147.18**	**314**	⇓*i*P	**PKPbc**	**05 16 46.6**	**-1.0**
ANTO	**Ankara**	**147.18**	**314**	⇓PKIKP	**PKPbc**	**05 16 46.6**	**-1.0**
UZH	**Uzhgorod**	**147.19**	**335**	⇑*i*PKIKP	**PKPbc**	**05 16 47.7**	**+0.5**
UZH				*e*		05 16 53.7	
VRI	**Vrincioaia**	**147.27**	**328**	⇓*i*P	**PKPbc**	**05 16 47.3**	**-0.3**
VRI	**Vrincioaia**	**147.27**	**328**	⇓PKIKP	**PKPbc**	**05 16 47.3**	**-0.3**
KSP	**Ksiaz**	**147.28**	**343**	*e*PKP	**PKPbc**	**05 16 47.9**	**+0.5**
KSP	**Ksiaz**	**147.28**	**343**	*e*PKIKP	**PKPbc**	**05 16 47.9**	**+0.5**
NIE	**Niedzica**	**147.28**	**338**	*e*PKP	**PKiKP**	**05 16 48.2**	**-1.0**
NIE	**Niedzica**	**147.28**	**338**	*e*PKIKP	**PKiKP**	**05 16 48.2**	**-1.0**
PLOR	**Plostina**	**147.32**	**328**	⇓*i*P	**PKPbc**	**05 16 47.4**	**-0.3**
PLOR	**Plostina**	**147.32**	**328**	⇓PKIKP	**PKPbc**	**05 16 47.4**	**-0.3**
TLB	**Topalu**	**147.44**	**325**	⇓*i*P	**PKPbc**	**05 16 48.1**	**+0.1**
TLB	**Topalu**	**147.44**	**325**	⇓PKIKP	**PKPbc**	**05 16 48.1**	**+0.1**
TRPA	**Tarpa**	**147.49**	**334**	⇓*i*P	**PKPbc**	**05 16 48.2**	**+0.2**
CLL	**Collm**	**147.63**	**347**	⇓*i*PKIKP	**PKPbc**	**05 16 48.3**	**0.0**
CLL				*i*		05 16 52.1	
CLL				pmax	pmax		
	comp=Z,46nm,0.9s						
CLL	**Collm**	**147.63**	**347**	⇓*i*PKPbc	**PKPbc**	**05 16 48.3**	**0.0**
	comp=Z,46nm,0.9s						
CLL				*i* PKPab	**PKPab**	**05 16 52.1**	**-0.3**
	comp=Z,13nm,0.9s						
CLL				*i* pPKiKP	**pPKiKP**	**05 19 01.0**	**+2.3**
	comp=Z,11nm,1.1s						
CLL				*e*		05 19 05.0	
OKC	**Ostrava-Krasne**	**147.64**	**341**	*e*PKIKP	**PKPbc**	**05 16 48.8**	**+0.5**
OKC				*e*		05 16 52.9	
OKC	**Ostrava-Krasne**	**147.64**	**341**	⇑*e*PKP	**PKPbc**	**05 16 48.8**	**+0.5**
OKC				*e*PKPAB	**PKPab**	**05 16 52.9**	**+0.4**
UPC	**Upice**	**147.66**	**343**	*e*PKIKP	**PKPbc**	**05 16 48.8**	**+0.4**
UPC	**Upice**	**147.66**	**343**	⇑*e*PKP	**PKPbc**	**05 16 48.8**	**+0.4**
DPC	**Dobruska-Polom**	**147.72**	**343**	*e*PKIKP	**PKiKP**	**05 16 49.3**	**-0.8**
DPC				*e*		05 16 53.6	
DPC	**Dobruska-Polom**	**147.72**	**343**	⇑*e*PKP	**PKiKP**	**05 16 49.3**	**-0.8**
DPC				*e*PKPAB	**PKPab**	**05 16 53.6**	**+0.7**
LANS	**Liptovska Anna**	**147.80**	**339**	*e*PKP2	**PKiKP**	**05 16 50.1**	**-0.2**
LANS	**Liptovska Anna**	**147.80**	**339**	*e*PKP	**PKiKP**	**05 16 50.1**	**-0.2**
BRG	**Berggiesshubel**	**147.83**	**346**	*e*PKP	**PKPdf**	**05 16 43.0**	**-2.0**
	comp=Z,4.6nm,1.2s						
BRG	**Berggiesshubel**	**147.83**	**346**	*i* PKP	**PKPbc**	**05 16 49.0**	**+0.2**
	comp=Z,27nm,1.1s						
KRLC	**Kraliky**	**147.84**	**342**	*e*PKIKP	**PKiKP**	**05 16 49.5**	**-0.8**
KRLC	**Kraliky**	**147.84**	**342**	⇑*e*PKP	**PKiKP**	**05 16 49.5**	**-0.8**
DOPR	**Dopca**	**147.86**	**329**	⇓*i*P	**PKiKP**	**05 16 49.6**	**-0.9**
MORC	**Moravsky Berou**	**147.88**	**341**	⇓*i*P	**PKPbc**	**05 16 49.4**	**+0.4**
MORC	**Moravsky Berou**	**147.88**	**341**	⇓PKIKP	**PKPbc**	**05 16 49.4**	**+0.4**
MORC	**Moravsky Berou**	**147.88**	**341**	*e*PKP	**PKPbc**	**05 16 49.2**	**+0.2**
MLR	**Muntele Rosu**	**147.92**	**328**	⇓*i*P	**PKPbc**	**05 16 49.3**	**-0.1**
MLR	**Muntele Rosu**	**147.92**	**328**	⇓PKIKP	**PKPbc**	**05 16 49.3**	**-0.1**
PVCC	**Panska Ves**	**148.01**	**345**	*e*PKIKP	**PKiKP**	**05 16 50.0**	**-0.6**
PVCC				*e*		05 16 53.6	
PVCC	**Panska Ves**	**148.01**	**345**	⇑*e*PKP	**PKiKP**	**05 16 50.0**	**-0.6**
PVCC				*e*PKPAB	**PKPab**	**05 16 53.6**	**-0.4**
SECR		**148.18**	**327**	⇓*i*P	**PKPbc**	**05 16 50.1**	**+0.2**
VOIR		**148.40**	**329**	⇓*i*P	**PKPbc**	**05 16 50.4**	**-0.1**
DRGR		**148.47**	**333**	⇓*i*P	**PKPbc**	**05 16 50.6**	**0.0**
PRU	**Pruhonice**	**148.51**	**345**	⇑*e*PKP	**PKiKP**	**05 16 50.9**	**-0.7**
PRU				*e*PKPAB	**PKPab**	**05 16 56.3**	**+0.2**
GOPC	**GO Pecny, Ondr**	**148.52**	**344**	⇑*e*PKP	**PKPbc**	**05 16 50.8**	**+0.2**
MOX	**Moxa**	**148.53**	**349**	PKHKP	**PKPbc**	**05 16 50.9**	**+0.3**
VRAC	**Vranov**	**148.58**	**342**	⇓*i*P	**PKPbc**	**05 16 50.6**	**-0.1**
VRAC	**Vranov**	**148.58**	**342**	*e*PKP	**PKPbc**	**05 16 50.9**	**+0.2**
VYHS	**Vyhne**	**148.58**	**339**	*e*PKP	**PKPbc**	**05 16 50.9**	**+0.1**
VYHS				*e*		05 16 57.1	
JAVC	**Velka Javorina**	**148.65**	**340**	*e*PKP	**PKiKP**	**05 16 52.2**	**+0.2**
ARR	**Arges**	**148.66**	**329**	⇓*i*P	**PKiKP**	**05 16 52.0**	**-0.2**
PSZ	**Piszkesteto**	**148.69**	**337**	⇓*i*P	**PKPbc**	**05 16 51.3**	**+0.2**
NKC	**Novy Kostel**	**148.76**	**347**	⇑*e*PKP	**PKPbc**	**05 16 51.4**	**+0.2**
NKC				*e*PKPAB	**PKPab**	**05 16 57.0**	**-0.2**
KRUC	**Moravsky**	**148.86**	**342**	*e*PKP	**PKPbc**	**05 16 51.6**	**+0.2**
TREC	**Trest**	**148.90**	**343**	⇑*e*PKP	**PKPbc**	**05 16 51.7**	**+0.1**
LEF	**Lefka**	**149.08**	**306**	⇓*i*P	**PKPbc**	**05 16 52.3**	**-0.1**
HUMR	**Humele**	**149.09**	**327**	⇓*i*P	**PKPbc**	**05 16 50.9**	**-1.2**
MODS	**Modra-Piesok**	**149.20**	**340**	*e*PKP	**PKPbc**	**05 16 52.3**	**0.0**
MEM	**Membach**	**149.31**	**355**	⇑PKP	**PKiKP**	**05 16 52.7**	**-0.5**
SIRR	**Siria**	**149.33**	**333**	⇓*i*P	**PKiKP**	**05 16 53.0**	**-0.5**
GZR	**Gura Zlata**	**149.51**	**331**	⇓*i*P	**PKPbc**	**05 16 52.9**	**-0.3**
GZR	**Gura Zlata**	**149.51**	**331**	⇓PKIKP	**PKPbc**	**05 16 52.9**	**-0.3**
KHC	**Kasperske Hory**	**149.54**	**345**	⇑*e*PKP	**PKiKP**	**05 16 53.3**	**-0.6**
KHC				*e*PKPAB	**PKPab**	**05 17 00.6**	**+0.1**
PHSR	**Pinarhisar**	**149.59**	**321**	⇓*i*P	**PKPbc**	**05 16 53.5**	**+0.1**
GERES	**GERESS Array B**	**149.78**	**345**	PKP	**PKPdf**	**05 16 46.4**	**-2.0**
	comp=Z,1.5nm,0.8s,baz=117,slow=1.5,SNR=5.8						
GERES				PKPbc	**PKPbc**	**05 16 53.6**	**-0.2**
	comp=Z,14nm,0.8s,baz=38,slow=2.4,SNR=64						
BZS	**Buzias**	**149.86**	**332**	⇓*i*P	**PKPbc**	**05 16 53.9**	**0.0**
SRE	**Strehaia**	**149.86**	**329**	⇓*i*P	**PKiKP**	**05 16 54.4**	**-0.2**
DOU	**Dourbes**	**149.91**	**357**	⇓PKP	**PKiKP**	**05 16 54.1**	**-0.5**
CONA	**Conrad Observa**	**150.03**	**342**	*e*PKiKP	**PKiKP**	**05 16 54.7**	**-0.3**
	comp=Z,18nm,0.8s,SNR=11						
HERR	**Herculane**	**150.07**	**331**	⇓*i*P	**PKPbc**	**05 16 54.2**	**-0.2**
WLF	**Walferdange**	**150.24**	**355**	⇑PKP	**PKiKP**	**05 16 55.4**	**+0.1**
MDVR	**Moldovita**	**150.47**	**331**	⇓*i*P	**PKPbc**	**05 16 55.4**	**0.0**
MOA	**Molln**	**150.55**	**343**	*e*PKPbc	**PKPbc**	**05 16 55.2**	**-0.3**
	comp=Z,4.9nm,0.6s						
ARSA	**Arzberg**	**150.74**	**341**	*e*PKiKP	**PKiKP**	**05 16 56.5**	**+0.2**
	comp=Z,4.3nm,0.6s						
VTS	**Vitosha**	**151.34**	**327**	⇓*i*P	**PKiKP**	**05 16 57.6**	**-0.3**
VTS	**Vitosha**	**151.34**	**327**	⇓PKIKP	**PKiKP**	**05 16 57.6**	**-0.3**
SOKA	**Soboth**	**151.40**	**341**	*e*PKPbc	**PKPbc**	**05 16 57.1**	**-0.5**
	comp=Z,3.1nm,0.6s						
EZN	**Ezine**	**151.41**	**319**	⇓*i*P	**PKPbc**	**05 16 57.4**	**-0.2**
EZN	**Ezine**	**151.41**	**319**	⇓PKIKP	**PKPbc**	**05 16 57.4**	**-0.2**
PERS	**Pernice**	**151.41**	**341**	*i* PKPbc	**PKPbc**	**05 16 56.9**	**-0.7**
KBA	**Koelnbreinsper**	**151.51**	**344**	*e*PKPbc	**PKPbc**	**05 16 57.3**	**-0.6**
	comp=Z,15nm,0.9s						
WATA	**Walderalm**	**151.69**	**347**	*e*PKPbc	**PKiKP**	**05 16 58.1**	**-0.4**
	comp=Z,4.2nm,0.6s						
OBKA	**Obir**	**151.70**	**342**	*e*PKPbc	**PKPbc**	**05 16 56.4**	**-1.8**
	comp=Z,1.8nm,0.5s						
RETA	**Reutte**	**151.72**	**348**	*e*PKPbc	**PKiKP**	**05 16 58.2**	**-0.3**
	comp=Z,12nm,1.4s						
WTTA	**Wattenberg**	**151.75**	**346**	*e*PKiKP	**PKiKP**	**05 16 58.5**	**-0.1**
	comp=Z,18nm,1.0s						
MOTA	**Moosalm**	**151.78**	**347**	*e*PKiKP	**PKiKP**	**05 16 58.6**	**-0.1**
	comp=Z,11nm,0.9s						
MYKA	**Terra Mystica**	**151.84**	**343**	*e*PKPbc	**PKPbc**	**05 16 57.5**	**-1.0**
	comp=Z,3.5nm,0.5s						
SQTA	**Sankt Quirin**	**151.88**	**347**	*e*PKPbc	**PKiKP**	**05 16 58.5**	**-0.3**
	comp=Z,7.1nm,0.8s						
ABTA	**Abfaltersbach**	**152.03**	**345**	*e*PKPbc	**PKPbc**	**05 16 58.2**	**-0.7**
	comp=Z,26nm,1.3s						
DAVA	**Damuels**	**152.08**	**349**	*e*PKiKP	**PKiKP**	**05 16 59.2**	**-0.1**
	comp=Z,18nm,1.2s						
LJU	**Ljubljana**	**152.12**	**342**	*i* PKPbc	**PKPbc**	**05 16 58.8**	**-0.3**
FETA	**Feichten**	**152.17**	**347**	*e*PKiKP	**PKiKP**	**05 16 59.5**	**0.0**
	comp=Z,7.0nm,1.0s						
CRNS	**Crni Vrh**	**152.17**	**342**	*i* PKPbc	**PKPbc**	**05 16 58.6**	**-0.6**
PDG	**Podgorica**	**153.42**	**331**	⇓*i*P	**PKPab**	**05 17 16.0**	**-1.0**
FNA	**Florina**	**153.62**	**326**	PKIKP	**PKPbc**	**05 17 01.7**	**-0.8**
ESDC	**Sonseca Array**	**159.68**	**14**	PKP	**PKPdf**	**05 17 01.0**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=343,slow=4.0,SNR=4.3						
ESDC				PKPab	**PKPab**	**05 17 43.7**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=349,slow=5.3,SNR=6.0						
DBIC	**Dimbokro**	**165.07**	**152**	PKP	**PKPdf**	**05 17 06.8**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=249,slow=2.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**173.17**	**176**	PKP	**PKPdf**	**05 17 10.7**	**-2.1**
	comp=Z,3.9nm,0.9s,baz=341,slow=4.4,SNR=18						
TORD				PKPab	**PKPab**	**05 18 45.2**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=204,slow=3.2,SNR=3.1						

*ISK **13** 05:01:34.9, 39°.60N×43°.89E, h27km, ML2.1/3*
*DDA **13** 05:01:35.8, 39°.58N×43°.89E, h7km±2km, ML2.6*
*ISCJB **13** 05:01:36.5±0.8, 39°.60N±0°.04×43°.89E±0°.05, h16km±15km,*
Error ellipse: s-maj=9.0km s-min=4.8km az=138.5
ISC 13 05:01:35.7±1.0,**39°.60N**±0°.04×**43°.91E**±0°.04,**h12**km±9km,
n8, σ0°=**48/15, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.18**	**253**	IAML_P			
	comp=Z,12μm,0.1s						
DYDN				*i* P	**Pg**	**05 01 39.8**	**-0.1**
DYDN				*i* S	**Sg**	**05 01 43.3**	**+0.5**
IGDI	**IGDIR**	**0.30**	**25**	IAML_P			
	comp=Z,751nm,0.2s						
IGDI				*i* P	**Pb**	**05 01 42.9**	**-0.1**
IGDI				*i* S	**Sb**	**05 01 48.3**	**+0.3**
CLDR	**Caldiran**	**0.45**	**179**	PG	**Pb**	**05 01 45.7**	**0.0**
CLDR				SG	**Sb**	**05 01 52.4**	**-0.1**
TASB	**TASBURUN-IGDIR**	**0.46**	**33**	PG	**Pb**	**05 01 45.3**	**-0.5**
TASB				SG	**Sb**	**05 01 52.9**	**+0.3**
AGRB	**Hanur-Agry**	**0.71**	**269**	PG	**Pg**	**05 01 49.1**	**-0.4**
AGRB				SG	**Sb**	**05 01 59.3**	**-0.6**
GNI	**Garni**	**0.84**	**49**	PG	**Pg**	**05 01 51.4**	**-0.7**
GNI				SG	**Sg**	**05 02 03.4**	**+0.3**
TUTA	**Tutak**	**0.87**	**257**	IAML_P			
	comp=Z,1μm,0.1s						
TUTA				*i* P	**Pg**	**05 01 52.1**	**-0.4**
TUTA				*i* S	**Sg**	**05 02 03.7**	**-0.3**
DIGO	**Kars**	**0.92**	**333**	IAML_P			
	comp=Z,1μm,0.2s						
DIGO				*i* P	**Pn**	**05 01 55.4**	**+0.8**

*ISK **13** 05:04:57.8, 39°.60N×43°.88E, h20km, ML2.2/4*
*DDA **13** 05:04:58.3, 39°.58N×43°.89E, h7km±2km, ML2.9*
*ISCJB **13** 05:04:59.0±0.7, 39°.60N±0°.04×43°.90E±0°.07, h15km±20km,*
Error ellipse: s-maj=9.9km s-min=6.0km az=34.4
ISC 13 05:04:58.7±1.1,**39°.60N**±0°.04×**43°.90E**±0°.05,**h14**km±9km,
n8, σ0°=**53/13, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.17**	**252**	IAML_P			
	comp=Z,21μm,0.2s						
DYDN				*i* P	**Pg**	**05 05 03.0**	**0.0**
DYDN				*i* S	**Sg**	**05 05 06.0**	**+0.1**
IGDI	**IGDIR**	**0.30**	**27**	IAML_P			
	comp=Z,1μm,0.1s						
IGDI				*i* P	**Pb**	**05 05 06.0**	**0.0**
IGDI				*i* S	**Sb**	**05 05 10.4**	**-0.5**
CLDR	**Caldiran**	**0.45**	**178**	PG	**Pg**	**05 05 07.7**	**-0.1**
CLDR				SG	**Sb**	**05 05 14.8**	**-0.5**
TASB	**TASBURUN-IGDIR**	**0.47**	**34**	PG	**Pg**	**05 05 07.8**	**-0.2**
TASB				SG	**Sb**	**05 05 15.2**	**-0.4**
AGRB	**Hanur-Agry**	**0.70**	**269**	PG	**Pg**	**05 05 11.8**	**-0.6**
AGRB				SG	**Sg**	**05 05 21.9**	**+0.2**
GNI	**Garni**	**0.85**	**49**	PG	**Pg**	**05 05 14.9**	**-0.4**
TUTA	**Tutak**	**0.86**	**257**	IAML_P			
	comp=Z,2μm,0.1s						
TUTA				*i* P	**Pg**	**05 05 14.9**	**-0.5**
DIGO	**Kars**	**0.91**	**334**	IAML_P			
	comp=Z,2μm,0.2s						
DIGO				*i* P	**Pn**	**05 05 18.3**	**+0.9**

*ISCJB **13** 05:10:58.0±0.8, 49°.7S±0°.1×161°.09E±0°.06, h10km,*
mb4.7/15, MS3.7/1, Error ellipse: s-maj=16.7km
s-min=4.6km az=170.6
*NEIC **13** 05:10:58.3±0.5, 49°.85S×161°.14E, h10km, mb4.4/15, Error*
ellipse: s-maj=10.0km s-min=4.9km az=164.0
*IDC **13** 05:10:59.1±1.0, 49°.58S×161°.08E, h0km, mb4.0/5,*
mb1 4.2/7, mb1mx4.0/31, mbtmp4.1/7, ML4.3/2, MS3.8/1,
Ms1 3.8/1, ms1mx3.0/23, Error ellipse: s-maj=31.9km
s-min=23.7km az=55.0
ISC 13 05:10:58.1±0.5,**49.80S**±0°.06×**161°.35E**±0°.05,**h10**km,**n89,**
σ2°=**83**/103,**mb4.6**/15,**North of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**4.93**	**196**	*e*Pn	**Pn**	**05 12 11.5**	**-0.6**
MCQ				*e*Sn	**Sn**	**05 13 06.2**	**-3.1**
APZ	**The Paps**	**5.33**	**59**	P	**Pn**	**05 12 21.4**	**+3.6**
APZ				S	**Sn**	**05 13 17.9**	**-1.4**
DCZ	**Deep Cove**	**5.85**	**44**	*e*Pn	**Pn**	**05 12 27.0**	**+2.2**
DCZ				*e*Sn	**Sn**	**05 13 28.4**	**-3.4**
DCZ	**Deep Cove**	**5.85**	**44**	P	**Pn**	**05 12 27.9**	**+3.2**
DCZ				S	**Sn**	**05 13 27.8**	**-4.0**
WHZ	**Wether Hill Ro**	**5.92**	**51**	*e*Pn	**Pn**	**05 12 29.5**	**+3.7**
WHZ				*e*Sn	**Sn**	**05 13 29.1**	**-4.4**
WHZ	**Wether Hill Ro**	**5.92**	**51**	P	**Pn**	**05 12 29.7**	**+3.9**
SYZ	**Scrubby Hill**	**6.15**	**61**	P	**Pn**	**05 12 33.1**	**+4.2**
MLZ	**Mavora Lakes**	**6.37**	**48**	*e*Pn	**Pn**	**05 12 36.6**	**+4.5**
MLZ				*e*Sn	**Sn**	**05 13 41.4**	**-3.4**
MLZ	**Mavora Lakes**	**6.37**	**48**	P	Pn	05 12 37.0	+5.0
MLZ				S	**Sn**	**05 13 46.2**	**+1.4**
TUZ	**Tuapeka**	**6.77**	**59**	P	**Pn**	**05 12 41.4**	**+4.0**
MSZ	**Milford Sound**	**6.81**	**44**	P	**Pn**	**05 12 42.1**	**+4.1**
EAZ	**Earnscleugh**	**7.07**	**53**	P	**Pn**	**05 12 45.8**	**+4.3**
EAZ				S	**Sn**	**05 14 01.0**	**-0.8**
WKZ	**Wanaka**	**7.20**	**49**	*e*Pn	**Pn**	**05 12 46.5**	**+3.1**
WKZ				*e*Sn	**Sn**	**05 14 02.4**	**-2.9**
WKZ	**Wanaka**	**7.20**	**49**	P	Pn	05 12 48.4	+5.0
WKZ				S	**Sn**	**05 14 05.5**	**+0.2**
HHSZ	**Highcliff Hill**	**7.35**	**61**	P	**Pn**	**05 12 49.8**	**+4.4**
JCZ	**Jackson Bay**	**7.66**	**44**	P	Pn	05 12 55.1	+5.3
JCZ				S	**Sn**	**05 14 13.1**	**-3.5**
ODZ	**Otahua Downs**	**7.89**	**56**	*e*Pn	**Pn**	**05 12 56.1**	**+3.2**
ODZ				*e*Sn	**Sn**	**05 14 16.2**	**-6.0**
ODZ	**Otahua Downs**	**7.89**	**56**	P	**Pn**	**05 12 55.6**	**+2.7**
LBZ	**Lake Benmore**	**8.10**	**51**	*e*Pn	**Pn**	**05 12 58.3**	**+2.6**
LBZ				*e*Sn	**Sn**	**05 14 22.0**	**-5.3**
LBZ	**Lake Benmore**	**8.10**	**51**	P	**Pn**	**05 12 58.1**	**+2.3**
FOZ	**Fox Glacier**	**8.55**	**46**	*e*Pn	**Pn**	**05 13 03.8**	**+1.9**
FOZ				*e*Sn	**Sn**	**05 14 34.1**	**-4.2**
FOZ	**Fox Glacier**	**8.55**	**46**	P	**Pn**	**05 13 05.7**	**+3.8**
GCSZ	**Gaunt Creek Bo**	**8.96**	**47**	P	**Pn**	**05 13 10.1**	**+2.7**
RPZ	**Rata Peaks**	**9.02**	**51**	*e*Pn	**Pn**	**05 13 07.3**	**-1.0**
RPZ				*e*Sn	**Sn**	**05 14 44.5**	**-5.4**
RPZ	**Rata Peaks**	**9.02**	**51**	Pn	**Pn**	**05 13 11.2**	**+2.8**
	6.3nm,0.3s,baz=234,slow=5.7,SNR=13						
RPZ				Sn	**Sn**	**05 14 49.0**	**-0.9**
	6.5nm,0.3s,baz=39,slow=22,SNR=15						
RPZ	**Rata Peaks**	**9.02**	**51**	P	**Pn**	**05 13 08.5**	**+0.2**
RPZ				S	**Sn**	**05 14 48.0**	**-1.9**
WVZ	**Waitaha Valley**	**9.34**	**47**	P	**Pn**	**05 13 15.9**	**+3.2**
OXZ	**Oxford**	**9.80**	**53**	*e*Pn	**Pn**	**05 13 19.9**	**+0.9**
OXZ				*e*Sn	**Sn**	**05 15 05.6**	**-3.4**
OXZ	**Oxford**	**9.80**	**53**	P	**Pn**	**05 13 23.5**	**+4.5**
MQZ	**McQueen's Vall**	**9.86**	**56**	*e*Pn	**Pn**	**05 13 21.1**	**+1.3**
MQZ				*e*Sn	**Sn**	**05 15 06.4**	**-4.1**
MQZ	**McQueen's Vall**	**9.86**	**56**	P	**Pn**	**05 13 24.0**	**+4.2**
INZ	**Inchbonnie**	**9.94**	**48**	P	**Pn**	**05 13 23.1**	**+2.2**
LTZ	**Lake Taylor**	**10.31**	**51**	*e*Pn	**Pn**	**05 13 26.9**	**+0.9**
LTZ				*e*Sn	Sn	05 15 13.3	-8.3
LTZ	**Lake Taylor**	**10.31**	**51**	P	**Pn**	**05 13 29.7**	**+3.7**
DSZ	**Denniston Nort**	**10.86**	**46**	P	**Pn**	**05 13 36.8**	**+3.2**
KHZ	**Kahutara**	**11.22**	**53**	*e*Pn	**Pn**	**05 13 40.6**	**+2.2**
THZ	**Tophouse**	**11.38**	**49**	*e*Pn	**Pn**	**05 13 42.4**	**+1.8**
THZ				*e*Sn	**Sn**	**05 15 43.5**	**-4.3**
THZ	**Tophouse**	**11.38**	**49**	P	**Pn**	**05 13 44.1**	**+3.4**
TAU	**Tasmania Unive**	**11.88**	**300**	*e*Pn	**Pn**	**05 13 46.4**	**-1.1**
TAU				*e*Sn	Sn	05 15 46.0	-14
QRZ	**Quartz Range**	**11.92**	**45**	P	**Pn**	**05 13 51.7**	**+3.7**
TCW	**Tory Channel**	**12.47**	**51**	P	Pn	05 14 00.7	+5.1
DUWZ	**D'Urville Isla**	**12.61**	**49**	P	**Pn**	**05 14 01.7**	**+4.3**
SNZO	**South Karori**	**12.62**	**53**	*e*Pn	**Pn**	**05 13 59.7**	**+2.1**
NBEZ	**Newall Road No**	**13.78**	**45**	P	**Pn**	**05 14 17.7**	**+4.3**
KHEZ	**Kahui Hut**	**13.83**	**45**	P	**Pn**	**05 14 17.5**	**+3.3**
PREZ	**Palmer Road**	**13.86**	**46**	P	**P**	**05 14 20.3**	**-2.7**
BFZ	**Birch Farm**	**13.88**	**55**	*e*Pn	**Pn**	**05 14 18.0**	**+3.2**
LREZ	**Lake Rotokare**	**13.88**	**47**	P	**P**	**05 14 21.9**	**-1.2**
PKE	**Pukeiti**	**13.90**	**45**	P	**Pn**	**05 14 18.9**	**+3.8**
WAZ	**Wanganui**	**13.93**	**49**	P	**P**	**05 14 23.5**	**-0.2**
TRVZ	**Turoa**	**14.56**	**49**	P	**P**	**05 14 32.2**	**+1.4**
TWVZ	**Taurewa**	**14.68**	**48**	P	**P**	**05 14 32.4**	**+0.2**
HIZ	**Hauiti**	**14.85**	**46**	*e*Pn	**Pn**	**05 14 30.0**	**+2.0**
BKZ	**Black Stump Fm**	**15.13**	**51**	*e*Pn	**Pn**	**05 14 33.6**	**+1.8**
	24nm,1.1s						
BKZ				*e*Sn	**Sn**	**05 17 13.1**	**-6.3**
URZ	**Urewera**	**16.13**	**50**	*e*Pn	**Pn**	**05 14 46.9**	**+2.1**
	15nm,0.9s						
URZ	**Urewera**	**16.13**	**50**	Pn	**Pn**	**05 14 47.3**	**+2.5**
	0.5nm,0.3s,baz=244,slow=8.7,SNR=5.3						
TOO	**Toolangi**	**16.72**	**311**	*e*Pn	**P**	**05 14 52.3**	**-2.3**
	16nm,0.5s						
CAN	**Canberra**	**17.06**	**323**	*e*Pn	**P**	**05 14 55.4**	**-3.0**
	24nm,1.4s						
OUZ	**Omahuta**	**17.11**	**36**	*e*Pn	**Pn**	**05 14 58.0**	**+0.8**
	53nm,1.4s						
ARMA	**Armidale**	**20.70**	**336**	*e*P	**P**	**05 15 35.0**	**-3.5**
	12nm,1.4s						
STKA	**Stephens Creek**	**23.20**	**313**	*e*P	**P**	**05 16 04.8**	**-0.2**
	2.7nm,1.3s						
STKA	**Stephens Creek**	**23.20**	**313**	P	**P**	**05 16 03.7**	**-1.3**
	1.4nm,0.7s,baz=166,slow=8.3,SNR=1.8						
RAO	**Raoul Island**	**25.86**	**45**	*e*P	**P**	**05 16 29.2**	**-0.5**
	331nm,0.4s						
RAO	**Raoul Island**	**25.86**	**45**	LR	LR	05 26 46.3	
	comp=Z,213nm,20.4s,baz=126,slow=37						
PINNC	**Pines Island,**	**27.55**	**12**	*e*P	**P**	**05 16 44.3**	**-0.8**
	49nm,1.5s						
CTAO	**Charters Tower**	**32.00**	**332**	*e*P	**P**	**05 17 24.6**	**+0.1**
	24nm,1.4s						
AS31	**Alice Springs**	**33.77**	**311**	*e*P	**P**	**05 17 39.3**	**-0.7**
	1.4nm,0.6s						
ASAR	**Alice Springs**	**33.77**	**311**	*e*P	**P**	**05 17 39.1**	**-0.9**
ASAR	**Alice Springs**	**33.77**	**311**	P	**P**	**05 17 40.9**	**+0.9**
	3.8nm,0.8s,baz=144,slow=8.2,SNR=31						
NWAO	**Narrogin (SRO)**	**36.55**	**281**	*e*P	**P**	**05 18 02.2**	**-1.7**
	15nm,1.2s						
WC3	**Warramunga Arr**	**36.71**	**314**	*e*P	**P**	**05 18 05.9**	**+0.6**
	16nm,1.4s						
WB2	**Warramunga Arr**	**36.73**	**314**	*e*P	**P**	**05 18 05.8**	**+0.2**
	7.7nm,1.1s						
WR1	**Warramunga Arr**	**36.74**	**314**	*e*P	**P**	**05 18 05.8**	**+0.2**
WR1				*e*PcP	**PcP**	**05 20 28.3**	**+0.4**
WRA	**Warramunga Arr**	**36.74**	**314**	P	**P**	**05 18 05.8**	**+0.2**
	1.7nm,0.7s,baz=148,slow=9.6,SNR=12						
WRA				PcP	**PcP**	**05 20 28.3**	**+0.4**
	0.5nm,0.9s,baz=168,slow=3.5,SNR=2.9						
WRAB	**Tennant

JKB	Kayabe	0.64	200	P		Pn	05 44 38.8 -0.1
JISS	Ishikarishitsu	0.79	5	P		Pn	05 44 40.6 +0.5
JISS				eS		Sn	05 44 55.9 +0.2
JYM2	Yakumo 2	0.80	243	P		Pn	05 44 40.3 +0.1
JBT2	Biratori 2	0.82	69	P		Pn	05 44 40.4 +0.1
JSH	Shimam	0.96	280	P		Pn	05 44 41.6 0.0
JSK	Shakotan	1.07	324	P		Pn	05 44 42.8 +0.2
JHST	Hiyamasetana	1.08	267	P		Pn	05 44 42.8 +0.1
JNBK	Urakawa-nobuka	1.08	101	P		Pn	05 44 43.0 +0.3
JOT	Ohata	1.12	191	P		Pn	05 44 43.4 +0.2
JOT				eS		Sn	05 45 01.8 +0.7
JFR	Furan	1.15	54	P		Pn	05 44 43.3 -0.2
JSR	Shiriuchi	1.17	216	P		Pn	05 44 43.9 +0.2
JHR	Hokuryu	1.29	13	P		Pn	05 44 46.1 +1.2
JOSM	Okushiri--Mats	1.43	254	P		Pn	05 44 46.6 +0.1
JCH	Churui	1.51	85	P		Pn	05 44 47.8 +0.4
JCH				eS		Sn	05 45 08.9 +0.4
JKK2	Kamakawa 2	1.73	36	P		Pn	05 44 50.4 +0.4
JKK2				eS		Sn	05 45 12.9 -0.3
ASAJ	Asahikawa	1.87	29	P		Pn	05 44 52.1 +0.4
	16nm,0.3s,baz=230,slow=12,SNR=36						
ASAJ				S		Sn	05 45 15.5 -0.8
	8.4nm,0.3s,baz=66,slow=31,SNR=15						
JAR	Ashorobuto	1.97	65	P		Pn	05 44 52.7 -0.1
JAR				eS		Sn	05 45 17.6 -0.7
KLR	Kul'dur	9.49	319	P		Pn	05 46 34.4 +1.4
	0.1nm,0.3s,baz=145,slow=14,SNR=4.5						
KSRS	Korea Array	11.45	248	P		Pn	05 46 58.7 -0.5
	0.3nm,0.3s,baz=50,slow=13,SNR=3.4						
PETK	Petropavlovsk-	15.25	40	P		Pn	05 47 46.8 -1.3
	0.2nm,0.3s,baz=233,slow=16,SNR=3.6						
SONM	Songino Array	25.06	294	P		P	05 49 32.5 +0.2
	1.4nm,0.7s,baz=76,slow=7.8,SNR=6.6						
ZALV	Zalesovo Beam	38.37	307	P		P	05 51 28.5 +0.3
	3.2nm,0.5s,baz=94,slow=8.4,SNR=8.6						
MKAR	Makanchi Array	41.37	297	P		P	05 51 52.7 -0.5
	1.2nm,0.9s,baz=70,slow=9.3,SNR=5.1						
KURBB	Kurchatov Arra	42.76	303	P		P	05 52 03.9 -0.5
	3.5nm,0.6s,baz=78,slow=8.8,SNR=18						
JIRN	Jiri	46.70	270	eP		P	05 52 37.0 +0.7
	4.9nm,0.2s						
RAMN	Ramite	46.79	269	eP		P	05 52 37.3 +0.4
	11nm,0.7s						
BVAR	Borovoye Array	46.98	309	P		P	05 52 38.2 +0.4
	1.2nm,0.4s,baz=73,slow=8.8,SNR=7.4						
DANN	Dangsing	48.12	272	eP		P	05 52 48.1 +0.9
	12nm,0.3s						
KOLN	Koldanda	48.56	272	eP		P	05 52 50.7 +0.2
	5.6nm,0.3s						
PYUN	Piuthan	48.83	273	eP		P	05 52 53.5 +1.0
INK	Inuvik	49.61	29	P		P	05 52 57.5 -0.1
	0.8nm,0.3s,baz=232,slow=5.7,SNR=4.3						
YKA	Yellowknife Ar	59.17	32	P		P	05 54 06.5 -0.2
	0.1nm,0.4s,baz=304,slow=5.9,SNR=4.2						
WRA	Warramunga Ar	62.45	187	P		P	05 54 29.0 -0.4
	0.2nm,0.5s,baz=6.6,slow=7.4,SNR=3.2						
FINES	FINESS Array B	63.99	331	P		P	05 54 38.4 -0.7
	0.6nm,0.5s,baz=43,slow=8.6,SNR=5.2						
NVAR	Mina Array Bea	71.82	54	P		P	05 55 29.4 +0.6
	0.5nm,0.7s,baz=290,slow=6.6,SNR=5.3						
PDAR	Pinedale Array	73.92	46	P		P	05 55 41.5 +0.3
	0.3nm,0.7s,baz=279,slow=1.7,SNR=3.5						
TXAR	Lajitas Array	86.85	52	P		P	05 56 50.7 +0.4
	0.1nm,0.4s,baz=289,slow=3.3,SNR=3.9						

*IDC **13** 05:44:25.8±1.2,26°.74N×57°.81E,h0km,mb3.8/15, mb1 3.9/16,mb1mx3.7/55,mbtmp3.8/16,ML4.0/1,MS3.3/18, Ms1 3.4/18,ms1mx3.2/49,Error ellipse: s-maj=25.8km s-min=18.2km az=157.0*

*NEIC **13** 05:44:25.0±0.0,26°.50N×57°.75E,h11km,mb4.0/17, ML4.0(THR),MN4.4(TEH),After TEH.*

*DSN **13** 05:44:27.0±3.4,26°.62N×57°.96E,h10km,ML4.1/9,Error ellipse: s-maj=48.5km s-min=13.7km az=5.0*

*TEH **13** 05:44:27.2,26°.64N×57°.77E,h5km,ML4.2*

*OMAN **13** 05:44:33.1±0.5,26°.49N×57°.75E,h30km±19km,Error ellipse: s-maj=27.2km s-min=5.4km az=25.0*

ISC 13 05:44:25.1±0.5,26°.38N±0°.04×57°.96E±0°.03,h10km,n117, σ1§31/109,mb3.9/22,MS3.3/15,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.55	320	ePg	Pn	05 44 51.8	-1.0
NIAN				IAMB	IAmb	05 45 22.4	
	comp=Z,0.0nm,0.6s						
SHME	Shamm	1.67	259	eP	Pg	05 44 56.9	-0.3
	SNR=137						
SHME				S	Sg	05 45 20.1	+1.2
SHME	Shamm	1.67	259	ePn	Pg	05 44 57.2	0.0
MDH	Madha	1.85	235	eP	Pb	05 44 59.1	+0.1
	SNR=11						
MDH	Madha	1.85	235	P	Pb	05 44 59.1	+0.1
	SNR=11						
MDH				S	Sb	05 45 22.9	+0.7
MDH	Madha	1.85	235	ePn	Pb	05 44 59.2	+0.1
GENO	Geno	1.90	303	ePn	Pn	05 44 58.6	+0.8
GENO				IAMB	IAmb	05 45 27.1	
	comp=N,0.0nm,0.4s						
MSFE	Esma-Masafi	1.92	238	eP	Pb	05 44 59.8	-0.4
	SNR=18						
MSFE	Esma-Masafi	1.92	238	ePn	Pb	05 45 00.1	-0.1
UMQ	Umm Al-Quwin	2.24	248	eP	Pb	05 45 05.9	+0.2
	SNR=8.9						
UMQ	Umm Al-Quwin	2.24	248	ePn	Pg	05 45 07.3	-0.8
HATD	Hatta, Dubai	2.26	227	eP	Pb	05 45 06.0	-0.1
	SNR=13						
HATD	Hatta, Dubai	2.26	227	P	Pb	05 45 06.1	0.0
	SNR=8.6						
HATD	Hatta, Dubai	2.26	227	ePn	Pb	05 45 05.8	-0.3
CHBR	Chabahar	2.40	108	ePn	Pb	05 45 10.0	+1.6
CHBR	Chabahar	2.40	108	ePn	Pg	05 45 10.7	-0.4
ASHO	Ashiyiah	2.41	226	eP	Pb	05 45 09.4	+0.8
	SNR=35						
ASHO	Ashiyiah	2.41	226	P	Pb	05 45 09.2	+0.5
	SNR=35						
ASHO	Ashiyiah	2.41	226	ePn	Pb	05 45 09.8	+1.2
NAZ	Nazwa, Dubai	2.50	237	P	Pb	05 45 10.3	+0.3
NAZ	Nazwa, Dubai	2.50	237	P	Pg	05 45 13.1	+0.1
	SNR=25						
NAZ	Nazwa, Dubai	2.50	237	ePn	Pg	05 45 12.9	-0.1
SOHO	SOHO	2.58	210	P	Pb	05 45 10.0	-1.5
	SNR=5.6						
FAQ	Al Faqa, Dubai	2.69	233	eP	Pb	05 45 13.9	+0.5
	SNR=24						
FAQ	Al Faqa, Dubai	2.69	233	P	Pb	05 45 14.2	+0.8
	SNR=6.6						
FAQ	Al Faqa, Dubai	2.69	233	ePn	Pb	05 45 14.2	+0.8
HOQ	Hoqain	2.84	192	ePn	Pb	05 45 16.5	+0.5
BIDO	Bidbid	2.85	177	ePn	Pb	05 45 15.1	-1.0
ASUD	Al Ashush, Dub	2.95	234	iP	Pb	05 45 16.5	-1.3
	SNR=16						
ASUD	Al Ashush, Dub	2.95	234	P	Pb	05 45 18.0	+0.1
	SNR=16						
ASUD				P	Pb	05 45 18.0	+0.1
	SNR=16						
ASUD	Al Ashush, Dub	2.95	234	ePn	Pb	05 45 17.9	+0.1
ALNE	Al Ain	3.06	221	ePn	Pn	05 45 14.4	+0.8
WSAR	Wadi Sarin	3.18	169	P	Pb	05 45 21.8	0.0
	SNR=5.4						
WSAR	Wadi Sarin	3.18	169	Pn	Pb	05 45 22.9	+1.1
	comp=N,14nm,0.3s,baz=5.8,slow=14,SNR=21						
WSAR				Sn	Sb	05 46 00.7	0.0
	comp=N,16nm,0.3s,baz=242,slow=21,SNR=15						
ARQ	Araqi	3.30	204	P	Pb	05 45 24.2	+0.4
	SNR=8.2						
SMDO	Samad	3.30	179	P	Pb	05 45 23.8	-0.1
	SNR=6.2						
NGRK	Negar Kerman	3.43	342	ePn	Pn	05 45 19.9	+0.8
NGRK				IAMB	IAmb	05 46 17.8	
	comp=Z,0.0nm,0.9s						
CHMN	Cheshme madani	3.49	354	ePn	Pn	05 45 21.6	+1.7
CHMN				IAMB	IAmb	05 46 24.9	
	comp=Z,0.0nm,1.0s						
BSY	Bisya	3.68	191	P	Pb	05 45 31.1	+0.8
TVBK	TV Kerman	3.75	344	ePn	Pn	05 45 25.2	+1.8
TVBK				IAMB	IAmb	05 46 33.9	
	comp=Z,0.0nm,0.8s						
SZD1	Zahaedan-tmp	4.02	39	ePn	Pb	05 45 35.0	-1.2
ZHSF	Zahedan	4.07	37	ePn	Pn	05 45 31.0	+3.4
ZHSF	Zahedan	4.07	37	ePn	Pn	05 45 31.9	+4.3
KHGB	Koh Gabri	4.19	342	ePn	Pn	05 45 31.0	+1.6
KHGB				IAMB	IAmb	05 46 44.4	
	comp=Z,0.0nm,0.8s						
JLN	Jalan Bani Buh	4.41	162	P	Pb	05 45 39.0	-3.7
	SNR=14						
GHIR	Ghir-Karzin	4.82	294	ePn	Pn	05 45 39.0	+1.1
GHIR	Ghir-Karzin	4.82	294	ePn	Pn	05 45 39.2	+1.3
IMEH	Mehriz	5.79	330	ePn	Pn	05 45 51.3	-0.1
IKOO	Kooshah	6.09	8	ePn	Pn	05 45 55.9	+0.4
IKAZ	Kazeroun	6.38	303	ePn	Pn	05 45 58.6	-1.0
ITEG	Tejag	6.53	6	ePn	Pn	05 46 02.3	+0.8
YZKH	Yazd	6.67	335	ePn	Pn	05 46 05.7	+2.3
TPRV	Parvadeh(Tabas	6.72	351	ePn	Pn	05 46 05.1	+1.1
TKDS	Koohdasht(Taba	7.25	354	ePn	Pn	05 46 12.4	+1.1
IRAM	Ramesheh	7.29	319	ePn	Pn	05 46 11.9	0.0
SBZV	Sabzevar	9.99	358	ePn	Pn	05 46 51.4	+2.5
KHMZ	Khomeyn	10.09	319	ePn	Pn	05 46 52.0	+1.6
KHMZ	Khomeyn	10.09	319	ePn	Pn	05 46 52.6	+2.2
GEYT	Alibeck	11.52	1	LR	LR	05 51 28.4	
	comp=Z,112nm,18.4s,baz=190,slow=38						
GYA0B	ALIBECK ARRAY	11.52	1	ePn	Pn	05 47 07.9	-1.9
NIL	Nilore	15.09	58	ePn	Pn	05 47 59.6	+1.2
	comp=Z,13nm,0.8s						
CHGR	Chuyangaron	15.45	35	ePn	Pn	05 48 02.3	-0.9
	comp=Z,11nm,1.2s						
BTK	Batken	17.35	35	ePn	Pn	05 48 26.6	-0.8
GNI	Garni	17.60	325	LR	LR	05 56 23.2	
	comp=Z,63nm,18.8s,baz=124,slow=42						
ASF	Jabal al Asfar	19.25	292	LR	LR	05 58 37.2	
	comp=Z,142nm,20.5s,baz=82,slow=45						
ARSB	Arslanbob	19.39	36	eP	P	05 48 51.5	0.0
	comp=Z,10.0nm,1.1s						
KK31	Karatay Array	19.58	28	eP	Pn	05 48 54.1	-0.5
	comp=Z,6.0nm,0.8s						
KKAR	Karatay Array	19.58	28	eP	Pn	05 48 54.0	-0.6
ATD	Arta Tunnel	20.52	227	eP	P	05 49 02.5	-1.3
	comp=Z,21nm,1.5s						
ATD	Arta Tunnel	20.52	227	LR	LR	05 57 31.7	
	comp=Z,74nm,20.1s,baz=124,slow=38						
EIL	Elat	20.57	284	P	P	05 49 04.5	+0.3
	comp=Z,8.6nm,1.0s,baz=74,slow=11,SNR=4.7						
EIL				LR	LR	05 58 52.8	
	comp=Z,87nm,21.4s,baz=108,slow=43						
MMAI	Mount Meron Ar	20.66	294	LR	LR	05 58 43.7	
	comp=Z,55nm,19.3s,baz=60,slow=42						
AAK	Ala-Archa	21.12	36	eP	P	05 49 09.2	-1.0
	comp=Z,6.1nm,0.8s						
AAK	Ala-Archa	21.12	36	P	P	05 49 11.0	+0.8
	comp=Z,2.4nm,0.6s,baz=201,slow=12,SNR=4.5						
AAK				LR	LR	05 57 47.2	
	comp=Z,44nm,18.4s,baz=226,slow=38						
NRN	Naryn	21.14	40	eP	P	05 49 11.7	+1.1
	comp=Z,6.1nm,0.9s						
BOOM	Boomskoye usch	21.80	38	eP	P	05 49 18.6	+1.1
	comp=Z,5.5nm,0.8s						
ABKAR	Akbulak array	22.89	3	eP	P	05 49 27.5	-1.4
AKTO	Aktyubinsk	24.02	0	P	P	05 49 39.0	-1.1
	comp=Z,3.9nm,0.7s,baz=171,slow=8.8,SNR=14						
AKTO				LR	LR	05 59 43.7	
	comp=Z,61nm,20.3s,baz=170,slow=39						
BR131	Keskin Array S	24.26	309	eP	P	05 49 38.8	-3.8
	comp=Z,5.0nm,1.0s						
BRTR	Keskin Array B	24.26	309	eP	P	05 49 43.1	+0.5
BRTR	Keskin Array B	24.26	309	P	P	05 49 41.8	-0.8
	comp=Z,2.2nm,0.8s,baz=131,slow=10,SNR=14						
BRTR				LR	LR	06 00 11.8	
	comp=Z,81nm,18.2s,baz=98,slow=40						
MK31	Makanchi Array	28.03	37	eP	P	05 50 15.0	-1.4
	comp=Z,1.9nm,1.0s						
MKAR	Makanchi Array	28.03	37	eP	P	05 50 15.3	-1.1
MKAR	Makanchi Array	28.03	37	P	P	05 50 16.2	-0.2
	comp=Z,0.1nm,0.3s,baz=222,slow=6.1,SNR=3.5						
BVAR	Borovoye Array	28.20	16	P	P	05 50 17.2	-0.6
	comp=Z,1.6nm,0.7s,baz=190,slow=7.5,SNR=7.8						
KURBB	Kurchatov Arra	28.88	28	P	P	05 50 23.0	-0.9
	comp=Z,0.5nm,0.6s,baz=227,slow=8.6,SNR=6.5						
KURK	Kurchatov	28.99	28	eP	P	05 50 24.6	-0.3
	comp=Z,3.0nm,1.1s						
ARU	Arti	30.03	1	LR	LR	06 02 12.9	
	comp=Z,112nm,18.7s,baz=191,slow=36						
AKASG	Malin Array Be	32.73	326	P	P	05 50 55.7	-2.2
	comp=Z,0.3nm,0.4s,baz=130,slow=8.2,SNR=4.6						
AKBB	Malin Array Si	32.73	326	eP	P	05 50 55.7	-2.2
	comp=Z,2.2nm,0.7s						
BURAR	Bucovina Array	33.29	318	eP	P	05 51 00.5	-2.5
ZAA0	Zalesovo Array	33.95	29	eP	P	05 51 08.0	-0.5
	comp=Z,6.6nm,1.4s						
ZALV	Zalesovo Beam	33.95	29	eP	P	05 51 08.6	+0.1
ZALV	Zalesovo Beam	33.95	29	P	P	05 51 08.3	-0.2
	comp=Z,0.7nm,0.4s,baz=245,slow=9.7,SNR=3.7						
ZAA1	Zalesovo Array	33.96	29	eP	P	05 51 08.3	-0.2
KOLS	Kolonicke sedl	35.65	319	eP	P	05 51 25.2	+2.0
CMAR	Chiang Mai Arr	38.56	93	LR	LR	06 09 53.8	
	comp=Z,83nm,20.1s,baz=228,slow=40						
GERES	GERESS Array B	40.88	315	eP	P	05 52 07.6	+0.2
GERES	GERESS Array B	40.88	315	P	P	05 52 07.3	-0.1
	comp=Z,0.8nm,0.7s,baz=117,slow=8.2,SNR=6.0						
GERES				LR	LR	06 10 59.5	
	comp=Z,28nm,18.2s,baz=96,slow=39						
KHC	Kasperske Hory	41.04	316	eP	P	05 52 10.3	+1.6
	comp=Z,1.4nm,0.7s						
KHC	Kasperske Hory	41.04	316	eP	P	05 52 11.0	+2.4
FIA0	FINESS Array S	41.10	337	eP	P	05 52 08.0	-0.9
FINES	FINESS Array B	41.10	337	eP	P	05 52 07.4	-1.5
FINES	FINESS Array B	41.10	337	P	P	05 52 08.0	-0.9
	comp=Z,0.5nm,0.5s,baz=126,slow=12,SNR=3.9						
GRA1	Grafenberg Arr	42.67	316	eP	P	05 52 19.3	-2.7
	comp=Z,12nm,0.7s						
SONA0	Songino Array	43.32	47	eP	P	05 52 28.0	+0.6
SONM	Songino Array	43.32	47	P	P	05 52 28.0	+0.6
	comp=Z,0.3nm,0.3s,baz=236,slow=9.6,SNR=3.0						
SONM				LR	LR	06 12 57.4	
	comp=Z,69nm,20.6s,baz=84,slow=40						
NRIK	Noril'sk	46.37	14	LR	LR	06 15 53.2	
	comp=Z,44nm,19.6s,baz=206,slow=41						
NOA	NORSAR Array B	46.75	331	LR	LR	06 14 19.1	
	comp=Z,29nm,18.6s,baz=245,slow=39						
TORD	Torodi Ar. Bea	54.19	267	P	P	05 53 51.5	+0.3
	comp=Z,0.7nm,0.6s,baz=63,slow=7.5,SNR=6.9						
TOA1	Torodi Ar. Sit	54.19	267	eP	P	05 53 51.5	+0.2
KSRS	Korea Array	59.19	61	LR	LR	06 26 02.0	
	comp=Z,34nm,18.3s,baz=350,slow=42						
KLR	Kul'dur	60.14	47	LR	LR	06 21 43.1	
	comp=Z,38nm,19.2s,baz=252,slow=37						
BOSA	Boshof	63.05	212	LR	LR	06 21 22.8	
	comp=Z,37nm,21.3s,baz=211,slow=35						
SEY	Seymchan	68.82	29	P	P	05 55 30.4	+1.0
	comp=Z,1.3nm,0.4s,baz=278,slow=9.7,SNR=5.8						
YKA	Yellowknife Ar	91.24	357	P	P	05 57 32.0	+1.6
	comp=Z,0.1nm,0.4s,baz=1.8,slow=5.9,SNR=2.2						
YKB5	Yellowknife Ar	91.24	357	eP	P	05 57 32.0	+1.6

*IDC **13** 06:04:12.6±1.2,4°.74N×123°.91E,h0km,mb4.3/6, mb1 4.4/6,mb1mx3.7/49,mbtmp4.3/6,Error ellipse: s-maj=127.0km s-min=17.3km az=67.0*

ISC 13 06:04:17.8±1.4,4°.7N±0°.3×123°.8E±0°.5,h35km,n11, σ0§66/11,mb4.3/6,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.68	176	P	P	06 09 16.4	+0.1
	2.9nm,0.8s,baz=5.3,slow=12,SNR=4.7						
WRA	Warramunga Arr	26.53	157	P	P	06 09 53.6	+1.2
	3.8nm,0.3s,baz=336,slow=9.8,SNR=77						
ASAR	Alice Springs	29.81	161	P	P	06 10 22.2	+0.5
	2.8nm,0.5s,baz=340,slow=7.3,SNR=50						
STKA	Stephens Creek	40.07	156	P	P	06 11 49.2	-0.7
	4.2nm,0.7s,baz=328,slow=9.0,SNR=8.6						
RAMN	Ramite	41.87	306	eP	P	06 12 06.0	+0.8
	6.3nm,0.6s						
JIRN	Jiri	42.50	307	eP	P	06 12 11.0	+0.5
	8.6nm,0.4s						
KOLN	Koldanda	44.64	305	eP	P	06 12 27.2	-0.3
	17nm,0.6s						
DANN	Dangsing	44.74	306	eP	P	06 12 28.0	-0.4
	19nm,0.6s						
PYUN	Piuthan	45.26	306	eP	P	06 12 32.3	-0.2
	19nm,0.6s						
MKAR	Makanchi Array	55.17	326	P	P	06 13 46.7	-0.3
	1.5nm,0.4s,baz=123,slow=7.6,SNR=26						
ZALV	Zalesovo Beam	58.48	334	P	P	06 14 10.3	0.0
	0.6nm,0.3s,baz=116,slow=6.6,SNR=1.3						

*IDC **13** 06:11:36.1±1.5,60°.92N×152°.50W,h75km±20km,mb3.7/2, mb1 3.6/6,mb1mx3.1/55,mbtmp3.6/6,Error ellipse: s-maj=23.6km s-min=9.3km az=107.0*

*ISCJB **13** 06:11:37.8±0.3,60°.85N±0°.02×151°.76W±0°.04,h92km±4km, mb3.7/2,Error ellipse: s-maj=3.5km s-min=2.8km az=32.8*

*NEIC **13** 06:11:40.1±0.0,60°.83N×151°.80W,h76km,ML3.1(AEIC), After AEIC.*

NEIC Felt at Homer, Kodiak and Pedro Bay.

ISC 13 06:11:39.3±0.9,60°.84N±0°.03×151°.79W±0°.03,h82km±8km, n86,σ1§46/133,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPU	Mount Spurr	0.37	340	ePn	Pn	06 11 51.9	-0.4
SPU				eSn	Sn	06 12 00.8	-1.1
RDJH	Redoubt Jeurge	0.56	244	ePn	Pn	06 11 53.3	-0.5
RDJH				eSn	Sn	06 12 04.1	-0.5
RDN	Redoubt North	0.58	237	ePn	Pn	06 11 53.5	-0.5
SPWE	Spurr West	0.58	320	ePn	Pn	06 11 53.9	-0.2
RSO	Redoubt South	0.61	232	ePn	Pn	06 11 54.1	-0.3
RSO				eSn	Sn	06 12 03.9	-1.7
RDSO	Redoubt South	0.61	231	ePn	Pn	06 11 53.9	-0.5
RDSO				eSn	Sn	06 12 05.3	-0.2
SUA	Susitna One	0.81	38	ePn	Pn	06 11 56.5	+0.2
SUA				eSn	Sn	06 12 09.1	+0.1
SLKM	Skilak Lake	0.84	112	ePn	Pn	06 11 56.5	0.0
FIB	Fire Island	0.85	66	ePn	Pn	06 11 57.8	+1.2
IVE	Iliamna Volcan	1.02	217	ePn	Pn	06 11 58.5	-0.3
RC01	Rabbit Creek A	1.03	75	ePn	Pn	06 11 58.8	0.0
RC01				eSn	Sn	06 12 13.9	+0.5
ILS	Iliamna Low So	1.09	216	ePn	Pn	06 11 59.7	+0.1
BRLK	Bradley Lake	1.16	157	ePn	Pn	06 12 00.4	0.0
BRLK				eSn	Sn	06 12 16.7	+0.4
HOM	Homer	1.18	176	ePn	Pn	06 12 01.3	+0.7
HOM				eSn	Sn	06 12 18.8	+2.2
PTE	Portage	1.35	88	ePn	Pn	06 12 02.7	0.0
SEW	Seward	1.37	121	ePn	Pn	06 12 02.5	-0.4
SEW				eSn	Sn	06 12 23.4	+2.6
PMR	Palmer	1.49	58	ePn	Pn	06 12 04.2	-0.3
PMR				eSn	Sn	06 12 23.5	-0.1
GHO	Glory Hole Cre	1.67	54	ePn	Pn	06 12 06.8	-0.1
GHO				eSn	Sn	06 12 28.6	+0.8
AUL	Augustine Lava	1.68	210	ePn	Pn	06 12 06.9	0.0
AUW	Augustine West	1.69	211	ePn	Pn	06 12 07.3	+0.2
AUJK	Augustine Jueg	1.70	209	ePn	Pn	06 12 07.3	+0.1
AUI	Augustine Isla	1.71	209	ePn	Pn	06 12 07.7	+0.3
KNK	Knik Glacier	1.72	69	ePn	Pn	06 12 07.2	-0.2
KNK				eSn	Sn	06 12 28.9	+0.1
SML	Sawmill	1.93	58	ePn	Pn	06 12 10.1	-0.2
SML				eSn	Sn	06 12 33.5	-0.5
PPLA	Purkeypile	2.08	355	ePn	Pn	06 12 12.8	+0.4
PPLA				eSn	Sn	06 12 35.2	-2.4
FONW	Fourpeaked Sta	2.28	209	ePn	Pn	06 12 15.0	0.0
GLI	Glacier Island	2.30	87	ePn	Pn	06 12 13.4	-1.7
GLI				eSn	Sn	06 12 40.5	-2.0
SCM	Sheep Creek Mo	2.37	63	ePn	Pn	06 12 15.8	-0.4
SCM				eSn	Sn	06 12 45.1	+0.7
HUR	Hurricane	2.38	24	ePn	Pn	06 12 17.0	+0.7
JPK	Jack Peak	2.54	83	ePn	Pn	06 12 17.2	-1.2
CAST	Castle Rocks	2.60	357	ePn	Pn	06 12 19.2	+0.1
CAST				eSn	Sn	06 12 50.8	+1.0
TT01	Tatalina	2.89	318	ePn	Pn	06 12 23.0	-0.1
KLU	Klutina	2.92	74	ePn	Pn	06 12 22.7	-0.8
KLU				eSn	Sn	06 12 57.5	-0.1
RND	Reindeer	2.93	27	ePn	Pn	06 12 23.7	+0.1
RND				eSn	Sn	06 12 56.9	-0.9
DIV	Divide	2.95	82	ePn	Pn	06 12 22.7	-1.2
DIV				eSn	Sn	06 12 56.4	-1.9
EYAK	Cordova Ski Ar	2.98	93	ePn	Pn	06 12 23.6	-0.7
EYAK				eSn	Sn	06 12 58.3	-0.7
DHY	Denali Highway	3.07	41	ePn	Pn	06 12 25.5	-0.1
DHY				eSn	Sn	06 13 00.7	-0.6
CHUM	Lake Minchumin	3.07	356	ePn	Pn	06 12 25.5	0.0
KDAK	Kodiak Island	3.09	188	ePn	Pn	06 12 24.7	-1.0
KDAK				eSn	Sn	06 13 00.1	-1.5
KDAK	Kodiak Island	3.09	188	P	Pn	06 12 24.5	-1.2
	1.0nm,0.3s,baz=56,slow=7.7,SNR=40						
KDAK				S	Sn	06 12 59.7	-1.9
	10nm,0.3s,baz=125,slow=24,SNR=18						
KELA	Mount Kelaz	3.13	222	ePn	Pn	06 12 26.3	-0.2
MCK	McKinley	3.20	23	ePn	Pn	06 12 27.7	+0.4
MCK				eSn	Sn	06 13 00.7	-3.6
PS12	TAPS Pump St12	3.28	76	ePn	Pn	06 12 27.8	-0.6
BPAW	Bear Paw Mtn.	3.30	6	ePn	Pn	06 12 28.2	-0.4
BPAW				eSn	Sn	06 13 06.2

az=35.6
GUC ***13*** *06:18:30.7±0.5, 34°.49S×71°.50W, h48km±4km, ML3.8*
IDC ***13*** *06:18:32.9±3.1, 34°.51S×71°.52W, h75km±26km, mb3.2/3, mb1 3.5/7, mb1mx3.4/23, mbtmp3.6/7, MS3.3/1, Ms1 3.3/1, ms1mx2.9/10, Error ellipse: s-maj=43.7km s-min=19.5km az=113.0*

ISC 13 06:18:30.6±0.9, 34°.48S±0°.05×71°.61W±0°.06, h51km±9km, n45, σ1§88/58, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.34**	**286**	*eP*	**Pn**	**06 18 40.8**	**+0.6**
CHPI				*i S*	**Sn**	**06 18 48.0**	**+0.9**
GO05	**Huala**	**0.59**	**207**	*eP*	**Pn**	**06 18 43.4**	**+0.3**
GO05				*eS*	**Sn**	**06 18 53.8**	**+1.7**
GO05	**Huala**	**0.59**	**207**	⇑*iP*	**Pn**	**06 18 43.3**	**+0.2**
GO05				*i S*	**Sn**	**06 18 52.5**	**+0.4**
GO05				IAML		06 18 54.1	
	comp=N,4μm,0.3s						
ANTU	**Antumapu**	**1.22**	**42**	*eP*	**Pn**	**06 18 51.6**	**+0.2**
ANTU				*i S*	**Sn**	**06 19 05.8**	**-1.0**
ANTU				IAML		06 19 09.0	
	comp=E,3μm,0.2s						
LMEL	**Las Melosas**	**1.32**	**62**	⇓*iP*	**Pn**	**06 18 52.6**	**-0.3**
LMEL				*i S*	**Sn**	**06 19 08.3**	**-1.2**
LMEL				IAML		06 19 13.1	
	comp=N,6μm,0.2s						
FSR	**Penalolen**	**1.34**	**42**	*eP*	**Pn**	**06 18 53.5**	**+0.4**
FSR				*i S*	**Sn**	**06 19 07.0**	**-2.9**
CLCH	**Cerro Calan**	**1.40**	**40**	⇓*iP*	**Pn**	**06 18 53.5**	**-0.4**
CLCH				*i S*	**Sn**	**06 19 11.0**	**-0.3**
CLCH				IAML		06 19 15.7	
	comp=E,3μm,0.2s						
PEL	**Peldehue**	**1.54**	**30**	*eP*	**Pn**	**06 18 55.6**	**-0.1**
PEL	**Peldehue**	**1.54**	**30**	*eP*	**Pn**	**06 18 55.5**	**-0.3**
PEL				*i S*	**Sn**	**06 19 14.2**	**-0.4**
PEL				IAML		06 19 20.3	
	comp=N,1μm,0.5s						
ROC1	**El Roble**	**1.58**	**18**	*i P*	**Pn**	**06 18 56.8**	**+0.3**
ROC1				*i S*	**Sn**	**06 19 18.0**	**+2.0**
ROCH	**El Roble**	**1.59**	**18**	⇑*eP*	**Pn**	**06 18 56.5**	**0.0**
ROCH				*i S*	**Sn**	**06 19 16.5**	**+0.5**
ROCH				IAML		06 19 22.2	
	comp=N,2μm,0.3s						
FCH	**Farellones**	**1.59**	**44**	⇑*iP*	**Pn**	**06 18 56.2**	**-0.4**
FCH				*i S*	**Sn**	**06 19 15.8**	**-0.4**
FCH				IAML		06 19 19.2	
	comp=N,2μm,0.3s						
AAGR	**Agrelo**	**2.70**	**60**	*i P*	**Pn**	**06 19 13.7**	**+2.0**
AAGR				IAML		06 20 09.8	
	comp=Z,75nm,3.6s						
AVIZ	**Vizcacheras**	**2.76**	**69**	*eP*	**Pn**	**06 19 15.0**	**+2.6**
ARCO	**CERRO ARCO**	**2.77**	**54**	*i P*	**Pn**	**06 19 14.8**	**+2.2**
ARCO				IAML		06 20 11.1	
	comp=Z,70nm,0.5s						
UTNM	**Universidad Te**	**2.79**	**56**	*eP*	**Pn**	**06 19 15.9**	**+3.1**
UTNM				IAML		06 20 14.4	
	comp=Z,29nm,0.8s						
AUSP	**Upsallata**	**2.92**	**40**	*i P*	**Pn**	**06 19 16.9**	**+2.0**
ASAL	**Salagasta**	**2.99**	**52**	*i P*	**Pn**	**06 19 18.3**	**+2.8**
ASAL				*eS*	Sn	06 19 59.5	+9.3
ASAL				IAML		06 20 05.1	
	comp=Z,107nm,0.6s						
RTLS	**Leoncito**	**3.30**	**37**	*i P*	**Pn**	**06 19 22.2**	**+2.1**
RTLS				IAML		06 20 14.8	
	comp=Z,122nm,0.7s						
RTLS				IAML		06 20 21.6	
	comp=Z,147nm,0.4s						
RTCV	**Cerro Valdivia**	**3.67**	**45**	*eP*	**Pn**	**06 19 26.2**	**+1.4**
RTCV				IAML		06 20 42.0	
	comp=Z,39nm,0.9s						
ZON	**Zonda**	**3.82**	**41**	*eP*	Pn	06 19 31.9	+4.9
ZON				IAML		06 20 44.5	
	comp=Z,34nm,1.4s						
CFA	**Coronel Fontan**	**4.03**	**46**	*eP*	**Pn**	**06 19 30.5**	**+0.7**
CFA	**Coronel Fontan**	**4.03**	**46**	P	**Pn**	**06 19 30.8**	**+0.9**
	comp=Z,6.3nm,0.3s,baz=235,slow=13,SNR=68						
CFA				S	**Sn**	**06 20 19.6**	**+3.8**
	comp=Z,10.0nm,0.3s,baz=61,slow=23,SNR=4.1						
RTLL	**Cerro Villicun**	**4.10**	**41**	*eP*	**Pn**	**06 19 31.5**	**+0.7**
RTLL				IAML		06 20 46.4	
	comp=Z,43nm,1.0s						
ACAN	**Cantantal**	**4.30**	**60**	*i P*	**Pn**	**06 19 34.8**	**+1.2**
ACAN				IAML		06 21 06.6	
	comp=Z,14nm,0.9s						
GO04	**Tololo Observa**	**4.35**	**9**	*eP*	**Pn**	**06 19 33.8**	**-0.7**
AMOG	**MOGNA**	**4.40**	**37**	*eP*	**Pn**	**06 19 35.5**	**+0.6**
AMOG				IAML		06 20 57.2	
	comp=Z,40nm,0.4s						
ACCO	**Cerro Coronel**	**4.44**	**30**	*eP*	**Pn**	**06 19 36.3**	**+0.6**
ACCO				IAML		06 20 52.2	
	comp=Z,55nm,0.4s						
AROD	**Rodeo**	**4.67**	**23**	*eP*	**Pn**	**06 19 40.1**	**+1.3**
AROD				*eS*	**Sn**	**06 20 40.2**	**+8.4**
AROD				IAML		06 20 48.9	
	comp=Z,20nm,1.3s						
ACDV	**Cuesta del Vie**	**4.79**	**27**	*eP*	**Pn**	**06 19 41.0**	**+0.6**
ACDV				IAML		06 21 09.6	
	comp=Z,26nm,1.5s						
MRA	**San Martin**	**5.33**	**69**	*eP*	**Pn**	**06 19 48.3**	**+0.5**
MRA				IAML		06 21 39.2	
	comp=Z,10nm,0.6s						
AGUA	**GUANDACOL**	**5.64**	**29**	*eP*	**Pn**	**06 19 52.1**	**+0.1**
APLL	**PUNTA DE LOS L**	**5.92**	**48**	*eP*	**Pn**	**06 19 55.3**	**-0.5**
APLL				IAML		06 22 10.5	
	comp=Z,9.1nm,0.7s						
PLCA	**Paso Flores**	**6.29**	**173**	P	**Pn**	**06 20 02.8**	**+1.9**
	comp=Z,1.2nm,0.3s,baz=356,slow=13,SNR=31						
ACLC	**CERRO LA CRUZ**	**6.41**	**39**	*eP*	**Pn**	**06 20 00.8**	**-1.7**
ACLC				IAML		06 21 59.5	
	comp=Z,26nm,0.6s						
VCA	**Vinchina**	**6.42**	**28**	*eP*	**Pn**	**06 20 03.6**	**+0.9**
VCA				IAML		06 22 04.2	
	comp=Z,32nm,0.8s						
TCA	**Tanti**	**6.68**	**64**	*eP*	**Pn**	**06 20 05.8**	**-0.4**
CYA	**Choya**	**7.80**	**41**	*eP*	**Pn**	**06 20 18.2**	**-3.3**
CYA				*i P*	**Pn**	**06 20 18.4**	**-3.1**
CPUP	**Villa Florida**	**14.74**	**60**	P	**Pn**	**06 21 55.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=212,slow=9.5,SNR=2.9						
LPAZ	**La Paz**	**18.39**	**11**	P	**Pn**	**06 22 42.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=170,slow=12,SNR=5.0						
SIV	**San Ignacio**	**20.70**	**30**	P	**P**	**06 23 05.2**	**-1.5**
	comp=Z,2.8nm,0.8s,baz=228,slow=13,SNR=15						
SIV				LR	LR	06 31 55.9	
	comp=Z,82nm,21.0s,baz=172,slow=39						
TXAR	**Lajitas Array**	**70.33**	**331**	P	**P**	**06 29 39.6**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=156,slow=9.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**84.04**	**70**	P	**P**	**06 30 54.2**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=254,slow=4.8,SNR=4.0						
BVAR	**Borovoye Array**	**147.38**	**44**	PKPbc	**PKPbc**	**06 38 08.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=309,slow=5.2,SNR=3.2						
KURBB	**Kurchatov Arra**	**152.97**	**44**	PKPbc	**PKPbc**	**06 38 21.0**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=296,slow=2.9,SNR=3.6						

IDC ***13*** *06:30:39.8±3.9, 32°.72N×76°.02E, h0km, mb3.8/4, mb1 3.7/7, mb1mx3.5/46, mbtmp3.6/7, ML3.0/3, Error ellipse: s-maj=63.4km s-min=51.6km az=120.0*
NDI ***13*** *06:30:48.8±1.2, 33°.09N×75°.62E, h9km±3km, ML3.4*

ISC 13 06:30:47.4±0.7, 33°.16N±0°.05×75°.56E±0°.06, h21km±8km, n26, σ2§40/35, mb3.9/3, 4C, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**0.71**	**232**	*eP*	**Pb**	**06 31 02.5**	**+1.4**
JMU				*eS*	**Sb**	**06 31 12.5**	**+2.1**
THN	**Thein Dam**	**0.73**	**170**	*eP*	**Pn**	**06 31 02.5**	**-0.1**
THN				*ex*	**Sg**	**06 31 09.0**	**-2.0**
DHRM	**DHARAMSHALA**	**1.10**	**145**	*eP*	**Pn**	**06 31 08.0**	**+0.1**
DHRM				*eS*	**Sn**	**06 31 22.7**	**+0.2**
DHRM				IAML		06 31 27.9	
	comp=E,1μm,0.3s						
DHRM				IAML		06 31 28.1	
	comp=N,968nm,0.2s						
BHK	**Bhakra**	**1.88**	**157**	*eP*	**Pb**	**06 31 20.8**	**-0.3**
BHK				*ex*	**Sg**	**06 31 47.0**	**+5.5**
SMLA	**Simla**	**2.44**	**146**	*eP*	**Pn**	**06 31 27.4**	**+1.3**
SMLA				*eS*	**Sn**	**06 31 56.8**	**+1.6**
SMLA				IAML		06 32 04.0	
	comp=N,350nm,0.2s						
SMLA				IAML		06 32 04.1	
	comp=E,345nm,0.2s						
DDI	**Dehra Dun**	**3.54**	**142**	*eS*	**Sn**	**06 32 22.8**	**+0.4**
JOSI	**Joshimath**	**4.28**	**126**	*eP*	**Pn**	**06 31 53.5**	**+2.0**
JOSI				*eS*	**Sn**	**06 32 40.7**	**-0.2**
JOSI				IAML		06 33 03.3	
	comp=N,95nm,0.7s						
JOSI				IAML		06 33 04.9	
	comp=E,131nm,0.7s						
KUDL	**Kundal**	**5.06**	**171**	*eP*	**Pn**	**06 31 57.4**	**-4.7**
KUDL				*eS*	**Sn**	**06 32 51.6**	**-8.3**
KUDL				IAML		06 33 30.6	
	comp=N,659nm,1.2s						
KUDL				IAML		06 33 30.9	
	comp=E,30nm,0.2s						
SONA	**Sohna**	**5.06**	**165**	*eP*	**Pn**	**06 32 03.2**	**+1.1**
SONA				*eS*	**Sn**	**06 32 58.8**	**-1.2**
KHET	**Khetri**	**5.07**	**178**	*eS*	**Sn**	**06 32 59.1**	**-1.1**
KHET				IAML		06 33 35.7	
	comp=E,30nm,0.4s						
PYUN	**Piuthan**	**8.14**	**126**	*eP*	**Pn**	**06 32 44.3**	**-0.4**
	comp=E,5.8nm,0.3s						
DANN	**Dangsing**	**8.53**	**122**	*eP*	**Pn**	**06 32 50.7**	**+0.7**
	comp=E,4.9nm,0.2s						
KOLN	**Koldanda**	**8.77**	**126**	*eP*	**Pn**	**06 32 53.9**	**+0.6**
	comp=E,5.3nm,0.4s						
GKN	**Gorkha**	**9.36**	**121**	*eP*	**Pn**	**06 33 00.6**	**-0.7**
AAK	**Ala-Archa**	**9.50**	**355**	⇑Pn	**Pn**	**06 33 05.9**	**+2.6**
	comp=E,1.3nm,0.7s						
AAK				⇑Lg	Lg	06 34 51.6	
	comp=E,8.1nm,1.2s						
AAK	**Ala-Archa**	**9.50**	**355**	Pn	**Pn**	**06 33 05.0**	**+1.8**
	comp=E,0.1nm,0.3s,baz=209,slow=19,SNR=2.5						
AAK				Sn	**Sn**	**06 34 48.6**	**-0.9**
	comp=E,0.2nm,0.3s,baz=249,slow=14,SNR=2.5						
PKIN	**Phulchoki**	**10.15**	**121**	*eP*	**Pn**	**06 33 12.6**	**+0.4**
	comp=E,10.0nm,0.4s						
JIRN	**Jiri**	**10.68**	**118**	*eP*	**Pn**	**06 33 20.3**	**+0.7**
	comp=E,8.3nm,0.3s						
KK31	**Karatay Array**	**10.70**	**340**	⇑Pn	**Pn**	**06 33 20.4**	**+1.0**
	comp=E,0.4nm,0.4s,baz=158,slow=13,SNR=9.7						
KK31				⇑Lg	Lg	06 35 19.8	
	comp=E,2.9nm,0.6s,baz=155,slow=24,SNR=9.0						
RAMN	**Ramite**	**11.38**	**120**	*eP*	**Pn**	**06 33 29.0**	**-0.1**
	comp=E,4.8nm,0.3s						
MKAR	**Makanchi Array**	**14.56**	**19**	Pn	**Pn**	**06 34 11.7**	**-0.5**
	comp=E,0.1nm,0.3s,baz=200,slow=12,SNR=2.9						
MKAR				Sn	**Sn**	**06 36 49.8**	**-3.1**
	comp=E,0.1nm,0.3s,baz=202,slow=21,SNR=2.5						
KURBB	**Kurchatov Arra**	**17.59**	**6**	Pn	**Pn**	**06 34 50.3**	**-0.9**
	comp=E,0.1nm,0.3s,baz=193,slow=11,SNR=4.3						
BVAR	**Borovoye Array**	**20.20**	**351**	P	Pn	06 35 22.0	-0.7
	comp=E,2.9nm,0.5s,baz=164,slow=10,SNR=14						
AKTO	**Aktyubinsk**	**21.57**	**328**	P	**P**	**06 35 36.9**	**+1.4**
	comp=E,2.4nm,0.5s,baz=126,slow=12,SNR=8.0						
ZALV	**Zalesovo Beam**	**21.80**	**15**	P	**P**	**06 35 36.7**	**-1.3**
	comp=E,1.5nm,0.3s,baz=203,slow=6.3,SNR=1.1						
YKA	**Yellowknife Ar**	**84.33**	**5**	P	**P**	**06 43 15.2**	**-2.4**
	comp=E,0.2nm,0.5s,baz=343,slow=5.3,SNR=4.9						

KRAR ***13*** *06:41:31.8±0.1, 53°.71N×87°.98E, M2.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 13 06:41:34.0±3.3, 53°.69N×88°.17E, h0km, mb1 3.2/3, mb1mx3.0/40, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=31.7km s-min=19.9km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.01**	**279**	*i*		06 54 28.1	
	baz=95,slow=352,SNR=6.9						
ZALV	**Zalesovo Beam**	**2.01**	**279**	Pn	Pn	06 42 08.3	-0.8
	2.7nm,0.3s,baz=96,slow=13,SNR=8.6						
ZALV				Lg	Lg	06 42 38.4	
	6.4nm,0.3s,baz=99,slow=25,SNR=12						
KURBB	**Kurchatov Arra**	**6.68**	**247**	Pn	Pn	06 43 13.6	+0.3
	0.2nm,0.3s,baz=61,slow=14,SNR=8.0						
KURBB				Lg	Lg	06 45 04.9	
	0.1nm,0.3s,baz=61,slow=33,SNR=5.5						
MKAR	**Makanchi Array**	**7.87**	**211**	Pn	Pn	06 43 31.1	+1.5
	0.2nm,0.3s,baz=31,slow=13,SNR=4.4						

MEX 13 06:55:43.3±0.5, 17°.91N×102°.36W, h16km±11km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**1.01**	**292**	*eP*	Pb	06 55 59.1	-3.3
MMIG				*eS*	Sb	06 56 10.8	-4.6
EZ5V		**1.96**	**323**	*eP*	Pn	06 56 13.2	-2.9
EZ5V				*i S*	Sn	06 56 35.7	-4.8
MOIG	**Morelia**	**2.08**	**32**	*eP*	Pn	06 56 14.4	-3.5
MOIG				*eS*	Sn	06 56 38.0	-5.7
CJM	**Chamela**	**3.00**	**302**	*i P*	Pn	06 56 28.0	-2.2
CJM				*i S*	Sn	06 57 01.9	-3.9

ISCJB ***13*** *07:07:09.3±0.4, 28°.67S±0°.03×67°.25W±0°.05, h150km±4km, mb3.8/8, Error ellipse: s-maj=6.6km s-min=5.3km az=18.9*
SJA ***13*** *07:07:09.9±0.7, 28°.74S×67°.20W, h146km±5km, ML3.7, MW4.1*
IDC ***13*** *07:07:09.5±1.4, 28°.66S×67°.24W, h120km±14km, mb3.5/2, mb1 3.3/7, mb1mx3.2/32, mbtmp3.7/7, MS4.4/1, Ms1 4.4/1, ms1mx2.9/25, Error ellipse: s-maj=32.2km s-min=13.6km az=106.0*
NEIC ***13*** *07:07:09.6±0.8, 28°.67S×67°.20W, h134km±8km, mb4.2/5, Error ellipse: s-maj=13.8km s-min=8.6km az=99.0*

ISC 13 07:07:10.2±0.7, 28°.67S±0°.04×67°.27W±0°.05, h140km±6km, n42, σ1§68/54, mb4.0/8, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**0.80**	**160**	*i P*	**Pn**	**07 07 33.2**	**+0.6**
VCA	**Vinchina**	**0.82**	**265**	*i P*	**Pn**	**07 07 33.9**	**+1.2**
VCA				*i S*	**Sn**	**07 07 52.2**	**+2.4**
VCA				IAML		07 07 56.3	
	comp=Z,2μm,0.4s						
CYA	**Choya**	**1.31**	**80**	*i P*	**Pn**	**07 07 37.8**	**+0.8**
CYA				*i S*	**Sn**	**07 07 57.4**	**-0.1**
CYA				IAML		07 07 58.9	
	comp=Z,250nm,0.7s						
AGUA	**GUANDACOL**	**1.34**	**233**	*i P*	**Pn**	**07 07 38.4**	**+1.0**
AGUA				*i S*	**Sn**	**07 07 59.1**	**+0.9**
ACDV	**Cuesta del Vie**	**2.20**	**227**	*i P*	**Pn**	**07 07 48.4**	**+1.2**
ACDV				*i S*	**Sn**	**07 08 16.8**	**+1.1**
AROD	**Rodeo**	**2.43**	**232**	*i P*	**Pn**	**07 07 51.7**	**+1.5**
AROD				*i S*	**Sn**	**07 08 22.6**	**+1.5**
ACCO	**Cerro Coronel**	**2.47**	**219**	*i P*	**Pn**	**07 07 51.5**	**+0.7**
ACCO				*i S*	**Sn**	**07 08 23.3**	**+1.4**
GO03	**Copiap**	**2.83**	**292**	*ePn*	**Pn**	**07 07 56.1**	**+1.0**
GO03				*eSn*	**Sn**	**07 08 29.3**	**-0.3**
RTLL	**Cerro Villicun**	**2.85**	**201**	*i P*	**Pn**	**07 07 55.6**	**+0.4**
LCO	**Las Campanas**	**3.03**	**263**	*ePn*	**Pn**	**07 07 58.5**	**+0.7**
LCO				*eSn*	**Sn**	**07 08 33.8**	**-0.7**
CFA	**Coronel Fontan**	**3.04**	**196**	P	**Pn**	**07 07 58.1**	**+0.4**
	comp=Z,15nm,0.3s,baz=304,slow=13,SNR=504						
CFA				S	**Sn**	**07 08 33.0**	**-1.4**
	comp=Z,38nm,0.3s,baz=294,slow=20,SNR=23						
RTCV	**Cerro Valdivia**	**3.36**	**199**	*i P*	**Pn**	**07 08 02.3**	**+0.4**
GO04	**Tololo Observa**	**3.42**	**243**	*ePn*	**Pn**	**07 08 03.3**	**+0.4**
GO04				*eSn*	**Sn**	**07 08 39.4**	**-4.1**
RTLS	**Leoncito**	**3.58**	**209**	*i P*	**Pn**	**07 08 05.6**	**+0.7**
RTLS				IAML		07 08 07.6	
	comp=Z,140nm,0.2s						
GO02	**Mina Guanaco**	**4.07**	**329**	*ePn*	**Pn**	**07 08 12.9**	**+1.5**
GO02				*eSn*	**Sn**	**07 08 59.1**	**+0.3**
PEL	**Peldehue**	**5.33**	**213**	*ePn*	**Pn**	**07 08 26.9**	**-1.1**
PEL				*eSn*	**Sn**	**07 09 22.6**	**-6.0**
ROC1	**El Roble**	**5.36**	**216**	*ePn*	**Pn**	**07 08 27.4**	**-1.1**
LVC	**Limon Verde**	**6.22**	**346**	P	**Pn**	**07 08 39.8**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=178,slow=11,SNR=2.4						
LVC				S	**Sn**	**07 09 46.1**	**-4.1**
	comp=Z,0.3nm,0.3s,baz=225,slow=20,SNR=2.0						
PB01	**IPOC Station P**	**7.86**	**345**	*ePn*	**Pn**	**07 09 01.7**	**-0.1**
CPUP	**Villa Florida**	**9.13**	**78**	P	**Pn**	**07 09 17.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=237,slow=8.5,SNR=4.2						
PLCA	**Paso Flores**	**12.33**	**192**	*ePn*	**Pn**	**07 09 58.9**	**-2.1**
LPAZ	**La Paz**	**12.35**	**356**	*ePn*	**Pn**	**07 10 00.6**	**-1.4**
LPAZ	**La Paz**	**12.35**	**356**	P	**Pn**	**07 10 01.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=168,slow=6.9,SNR=3.5						
SIV	**San Ignacio**	**13.86**	**26**	P	**Pn**	**07 10 18.6**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=222,slow=15,SNR=5.1						
PMSA	**Palmer Station**	**36.17**	**178**	LR	LR	07 27 31.6	
	comp=Z,633nm,20.9s,baz=310,slow=34						
SNAA	**Sanae**	**55.05**	**160**	*eP*	**P**	**07 16 27.1**	**+0.1**
	comp=Z,1.4nm,1.0s						
QSPA	**South Pole Qui**	**61.55**	**180**	*eP*	**P**	**07 17 14.7**	**+2.4**
	comp=Z,6.3nm,1.5s						
JCT	**Junction City**	**66.51**	**330**	*eP*	**P**	**07 17 44.0**	**-0.9**
	comp=Z,2.0nm,0.4s						
TXAR	**Lajitas Array**	**67.36**	**326**	*eP*	**P**	**07 17 48.7**	**-1.6**
TX31	**Lajitas Ar. Si**	**67.36**	**326**	*eP*	**P**	**07 17 48.7**	**-1.7**
	comp=Z,0.3nm,1.0s						
VNDA	**Vanda**	**70.07**	**190**	*eP*	**P**	**07 18 05.5**	**-1.0**
	comp=Z,4.8nm,1.5s						
MNTX	**Cornudas Mount**	**70.14**	**326**	*eP*	**P**	**07 18 08.2**	**+0.8**
	comp=Z,4.9nm,1.4s						
TOA1	**Torodi Ar. Sit**	**78.50**	**68**	*eP*	**P**	**07 18 58.2**	**+2.0**
TORD	**Torodi Ar. Bea**	**78.50**	**68**	P	**P**	**07 18 58.2**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=250,slow=4.2,SNR=2.5						
BOSA	**Boshof**	**78.85**	**116**	P	**P**	**07 18 60.0**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=236,slow=3.6,SNR=3.4						
ASAR	**Alice Springs**	**124.11**	**204**	PKP	**PKiKP**	**07 25 53.7**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=108,slow=2.1,SNR=3.3						
WR1	**Warramunga Arr**	**127.35**	**206**	*e*PKPdf	**PKiKP**	**07 26 00.3**	**+0.9**
WRA	**Warramunga Arr**	**127.35**	**206**	PKP	**PKiKP**	**07 26 00.3**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=152,slow=1.9,SNR=8.1						
ZAA1	**Zalesovo Array**	**147.56**	**31**	*e*PKPbc	**PKiKP**	**07 26 38.7**	**-0.7**
ZALV	**Zalesovo Beam**	**147.57**	**31**	PKPbc	**PKiKP**	**07 26 38.7**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=268,slow=4.5,SNR=3.6						
MK32	**Makanchi Array**	**150.15**	**44**	*e*PKPbc	**PKiKP**	**07 26 45.0**	**-0.1**
MKAR	**Makanchi Array**	**150.15**	**44**	PKPbc	**PKiKP**	**07 26 45.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=270,slow=2.4,SNR=4.5						

IDC 13 07:09:56.4±2.3, 1°.19N×127°.02E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/32, mbtmp3.5/3, Error ellipse: s-maj=173.9km s-min=27.9km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.20**	**162**	P	P	07 14 53.9	-0.7
	0.7nm,0.5s,baz=340,slow=12,SNR=16						
ASAR	**Alice Springs**	**25.60**	**165**	P	P	07 15 28.1	+0.5
	0.5nm,0.4s,baz=342,slow=10,SNR=11						
MKAR	**Makanchi Array**	**59.80**	**326**	P	P	07 20 03.4	-0.1
	0.3nm,0.4s,baz=120,slow=7.8,SNR=2.7						

ISCJB ***13*** *07:10:55.6±0.4, 6°.88N±0°.02×73°.13W±0°.03, h158km±3km, mb3.3/5, Error ellipse: s-maj=5.3km s-min=3.6km az=13.4*
IDC ***13*** *07:10:56.4±0.7, 6°.84N×73°.05W, h155km±10km, mb3.1/5, mb1 3.5/8, mb1mx3.2/33, mbtmp3.7/8, Error ellipse: s-maj=29.5km s-min=7.4km az=131.0*
RSNC ***13*** *07:10:57.5±0.9, 6°.82N×73°.15W, h150km±4km, ML3.6, Mw3.7*

ISC 13 07:10:56.2±0.7, 6°.84N±0°.03×73°.13W±0°.04, h157km±5km, n38, σ1§66/66, mb3.3/5, 4C-7D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.24**	**345**	⇑*iP*	**Pn**	**07 11 17.8**	**+0.2**
GIRC				*eS*	**Sn**	**07 11 33.5**	**-0.4**
GIRC				*i*		07 11 34.7	
	comp=Z,652nm,0.4s						
BARC	**Barichara**	**0.26**	**192**	⇓*iP*	**Pn**	**07 11 17.8**	**0.0**
BARC				*eS*	**Sn**	**07 11 32.7**	**-1.5**
BARC				*i*		07 11 35.1	
	comp=Z,924nm,0.3s						
BRRC	**Barranca, Sant**	**0.64**	**294**	⇓*iP*	**Pn**	**07 11 19.6**	**+0.5**
BRRC				*eS*	**Sn**	**07 11 36.6**	**+0.1**
BRRC				*i*		07 11 39.7	
	comp=Z,687nm,0.5s						
PAMC	**Pamplona, Colo**	**0.65**	**41**	⇓*iP*	**Pn**	**07 11 20.5**	**+0.8**
PAMC				*eS*	**Sn**	**07 11 37.3**	**-0.4**
PAMC				*i*		07 11 39.6	
	comp=Z,1μm,0.4s						
RUSC	**La Rusia**	**0.95**	**177**	⇑*iP*	**Pn**	**07 11 21.7**	**-0.1**
RUSC				*eS*	**Sn**	**07 11 40.2**	**-1.1**
RUSC				*i*		07 11 42.1	
	comp=Z,516nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	⇓*iP*	**Pn**	**07 11 24.3**	**-0.6**
PTBC				*eS*	**Sn**	**07 11 45.4**	**-1.3**
PTBC				*i*		07 11 50.7	
	comp=Z,515nm,0.2s						
TAMC	**Tame, Arauca**	**1.39**	**107**	⇑*iP*	**Pn**	**07 11 26.2**	**+0.9**
TAMC				*i*		07 11 46.8	
	comp=Z,243nm,0.3s						
TAMC				*eS*	**Sn**	**07 11 47.6**	**+0.2**
OCAC	**Ocana**	**1.40**	**352**	⇓*iP*	**Pn**	**07 11 25.9**	**+0.4**
OCAC				*eS*	**Sn**	**07 11 47.4**

PDAR	**Pinedale Array**	**48.05 324**	P	**P**	**07 19 21.3**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=137,slow=9.6,SNR=3.3					
NVAR	**Mina Array Bea**	**51.46 315**	P	**P**	**07 19 45.1**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=134,slow=5.2,SNR=3.9					
YKA	**Yellowknife Ar**	**63.24 340**	P	**P**	**07 21 08.7**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=133,slow=6.7,SNR=20					
INK	**Inuvik**	**73.00 340**	P	**P**	**07 22 08.0**	**-0.5**
	comp=Z,0.6nm,1.0s,baz=36,slow=3.0,SNR=3.5					
ASAR	**Alice Springs**	**149.12 234**	PKPbc	**PKPbc**	**07 30 27.2**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=122,slow=3.5,SNR=10					
WRA	**Warramunga Arr**	**150.34 241**	PKPbc	**PKPbc**	**07 30 30.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=108,slow=2.8,SNR=9.8					

*ISCJB **13** 07:14:31.9±0.4,23°.43N±0°.01×122°.10E±0°.01,h26km±2km, Error ellipse: s-maj=2.7km s-min=1.9km az=141.9*
*JMA **13** 07:14:32.2±0.1,23°.44N×122°.08E,h34km,M3.4*
*TAP **13** 07:14:33.2,23°.44N×122°.05E,h42km,ML3.6,C*
ISC 13 07:14:32.1±1.1,23°.45N±0°.02×122°.08E±0°.02,h27km±11km, n94,σ0°71/166,2C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.60**	**275**	*eP*	**Pb**	**07 14 44.2**	**+0.1**
	baz=276						
HGSD				*eS*	**Sb**	**07 14 52.4**	**+0.1**
	baz=276						
ENLB	**Shoufeng**	**0.63**	**317**	*eP*	**Pb**	**07 14 45.0**	**+0.4**
	baz=326						
ENLB				*eS*	**Sn**	**07 14 53.8**	**-0.7**
	baz=326						
EGFH	**Guangfu**	**0.63**	**291**	*eP*	**Pb**	**07 14 45.1**	**+0.4**
	baz=299						
EGFH				*eS*	**Sn**	**07 14 53.9**	**-0.7**
	baz=299						
HWA	**Hwalien**	**0.68**	**321**	*eP*	**Pn**	**07 14 45.9**	**-0.2**
	baz=330						
HWA				*eS*	**Sn**	**07 14 55.5**	**-0.3**
	baz=330						
ESL	**Shilin**	**0.69**	**302**	P	**Pb**	**07 14 45.4**	**-0.3**
	baz=300						
ESL				S	**Sb**	**07 14 54.5**	**-0.4**
	baz=300						
EHY	**Hungye**	**0.69**	**275**	P	**Pb**	**07 14 45.9**	**+0.2**
	baz=282						
EHY				S	**Sb**	**07 14 55.5**	**+0.5**
	baz=282						
YULB	**Yu-li**	**0.72**	**266**	*eP*	**Pb**	**07 14 46.1**	**0.0**
	baz=264						
YULB				*eS*	**Sn**	**07 14 56.2**	**-0.5**
	baz=264						
TWF1	**Yuli**	**0.72**	**263**	P	**Pb**	**07 14 46.2**	**+0.1**
	baz=255						
TWF1				S	**Sb**	**07 14 56.2**	**+0.5**
	baz=255						
CHKT	**Chengkung**	**0.74**	**242**	*eP*	**Pb**	**07 14 45.9**	**-0.5**
	baz=235						
CHKT				*eS*	**Sb**	**07 14 55.1**	**-1.0**
	baz=235						
NACB	**Ninganchiao**	**0.85**	**329**	⇑*eP*	**Pn**	**07 14 47.8**	**-0.5**
	baz=331						
NACB				*eS*	**Sb**	**07 14 58.4**	**-1.0**
	baz=331						
VWDT	**VWDT**	**0.91**	**290**	*eP*	**Pb**	**07 14 49.5**	**+0.2**
	baz=291						
VWDT				*eS*	**Sb**	**07 15 00.5**	**-0.6**
	baz=291						
ELDTW	**Lidau**	**1.00**	**255**	P	**Pn**	**07 14 50.1**	**-0.5**
	baz=247						
ELDTW				*eS*	**Sn**	**07 15 01.9**	**-2.0**
	baz=247						
WHF	**Hehuan Shan**	**1.02**	**313**	P	**Pn**	**07 14 50.8**	**-0.2**
	baz=315						
WHF				*eS*	**Sn**	**07 15 03.5**	**-1.2**
	baz=315						
ENA	**Nanau**	**1.02**	**343**	*eP*	**Pn**	**07 14 50.8**	**0.0**
	baz=345						
ENA				*eS*	**Sn**	**07 15 03.8**	**-0.4**
	baz=345						
CHGB	**Renai**	**1.03**	**307**	⇓*eP*	**Pn**	**07 14 51.2**	**+0.2**
	baz=308						
CHGB				*eS*	**Sn**	**07 15 04.0**	**-0.7**
	baz=308						
SSLB	**Suanglung**	**1.08**	**289**	*eP*	**Pn**	**07 14 51.8**	**+0.2**
	baz=290						
SSLB				*eS*	**Sn**	**07 15 04.7**	**-1.0**
	baz=290						
TTN	**Taitung**	**1.10**	**231**	*eP*	**Pn**	**07 14 51.6**	**-0.2**
	baz=230						
EOS1	**EOS1**	**1.10**	**3**	P	**Pb**	**07 14 52.4**	**-0.1**
	baz=4.0						
EOS1				*eS*	**Sb**	**07 15 06.4**	**0.0**
	baz=4.0						
TWGBT	**Beinan**	**1.11**	**236**	*eP*	**Pn**	**07 14 51.6**	**-0.3**
	baz=248						
TWGBT				*eS*	**Sn**	**07 15 04.7**	**-1.6**
	baz=248						
TWG	**Pinlang**	**1.11**	**236**	P	**Pn**	**07 14 51.6**	**-0.4**
	baz=248						
TWG				*eS*	**Sn**	**07 15 04.8**	**-1.7**
	baz=248						
WHYT	**Xinyi Township**	**1.15**	**283**	*eP*	**Pb**	**07 14 53.4**	**0.0**
	baz=284						
SMLT	**Sun Moon Lake**	**1.16**	**292**	P	**Pn**	**07 14 53.3**	**+0.5**
	baz=293						
SMLT				*eS*	**Sn**	**07 15 07.7**	**-0.1**
	baz=293						
TDCB	**Techi**	**1.16**	**314**	*eP*	**Pb**	**07 14 53.5**	**-0.2**
	baz=315						
TDCB				*eS*	**Sn**	**07 15 06.8**	**-1.1**
	baz=315						
ALS	**Alishan**	**1.17**	**273**	P	**Pb**	**07 14 53.9**	**+0.1**
	baz=274						
ALS				*eS*	**Sn**	**07 15 08.3**	**+0.1**
	baz=274						
TWC	**Suao**	**1.18**	**350**	P	**Pb**	**07 14 53.5**	**-0.3**
	baz=352						
TWC				*eS*	**Sn**	**07 15 08.2**	**+0.2**
	baz=352						
NNS	**Nan Shan**	**1.18**	**327**	P	**Pn**	**07 14 53.5**	**+0.4**
	baz=319						
NNS				*eS*	**Sn**	**07 15 07.6**	**-0.7**
	baz=319						
DPDB	**Guoxing**	**1.20**	**299**	*eP*	**Pb**	**07 14 54.0**	**-0.3**
	baz=307						
DPDB				*eS*	**Sn**	**07 15 08.6**	**-0.2**
	baz=307						
TYC	**Yuchr**	**1.21**	**292**	*eP*	**Pb**	**07 14 54.0**	**-0.4**
	baz=301						
TYC				*eS*	**Sb**	**07 15 09.5**	**0.0**
	baz=301						
STYT	**Tauyuan**	**1.24**	**257**	*eP*	**Pn**	**07 14 54.3**	**+0.5**
	baz=253						
STYT				*eS*	**Sn**	**07 15 09.1**	**-0.7**
	baz=253						
NDT	**Datong Townshi**	**1.26**	**336**	*eP*	**Pn**	**07 14 54.7**	**+0.6**
	baz=337						
NDT				*eS*	**Sb**	**07 15 10.6**	**-0.5**
	baz=337						
ENTT	**Nioudou**	**1.28**	**339**	*eP*	**Pn**	**07 14 54.5**	**+0.2**
	baz=340						
ENTT				*eS*	**Sn**	**07 15 10.8**	**+0.3**
	baz=340						
JYNG	**Yonagunijimaku**	**1.28**	**38**	P	**Pn**	**07 14 55.0**	**+0.7**
JYNG				*eS*	**Sn**	**07 15 10.5**	**0.0**
CHN5	**Tsauling**	**1.29**	**277**	P	**Pb**	**07 14 56.1**	**+0.2**
	baz=278						
CHN5				*eS*	**Sb**	**07 15 11.6**	**-0.5**
	baz=278						
WJS	**Zhushan**	**1.29**	**287**	*eP*	**Pb**	**07 14 56.0**	**+0.2**
	baz=288						
TWE	**Neicheng**	**1.32**	**344**	*eP*	**Pn**	**07 14 55.6**	**+0.8**
	baz=346						
TWE				*eS*	**Sn**	**07 15 11.6**	**0.0**
	baz=346						
WHP	**Taichung City**	**1.32**	**309**	*eP*	**Pb**	**07 14 56.7**	**+0.3**
	baz=318						
WHP				*eS*	**Sb**	**07 15 12.4**	**-0.6**
	baz=318						
YOJ	**Yonaguni jima**	**1.32**	**40**	*eP*	**Pn**	**07 14 55.5**	**+0.6**
	baz=51						
YOJ				*eS*	**Sn**	**07 15 11.4**	**-0.3**
	baz=51						
YOJ	**Yonaguni jima**	**1.32**	**40**	P	**Pn**	**07 14 55.5**	**+0.6**
YOJ				*eS*	**Sn**	**07 15 11.7**	**0.0**
WNT	**Mingjian**	**1.35**	**289**	*eP*	**Pb**	**07 14 57.3**	**+0.6**
	baz=290						
WTP	**Ta-pu**	**1.36**	**262**	P	**Pb**	**07 14 56.8**	**-0.1**
	baz=262						
WTP				*eS*	**Sb**	**07 15 14.8**	**+0.9**
	baz=262						
CHN4	**Tsaushan**	**1.36**	**266**	P	**Pb**	**07 14 57.2**	**+0.1**
	baz=267						
YHNB	**Yeheng**	**1.38**	**332**	⇑*eP*	**Pn**	**07 14 56.4**	**+0.7**
	baz=334						
YHNB				*eS*	**Sn**	**07 15 12.8**	**-0.3**
	baz=334						
NSK	**Sanguang**	**1.39**	**332**	P	**Pn**	**07 14 56.5**	**+0.7**
	baz=334						
NSK				*eS*	**Sn**	**07 15 13.0**	**-0.3**
	baz=334						
SLGT	**Liugui**	**1.39**	**251**	*eP*	**Pn**	**07 14 56.8**	**+1.0**
	baz=247						
SGST	**Jiashian**	**1.42**	**256**	*eP*	**Pb**	**07 14 58.0**	**0.0**
	baz=255						
SGST				*eS*	**Sb**	**07 15 15.5**	**-0.2**
	baz=255						
NWLT	**Wulai**	**1.43**	**339**	*eP*	**Pn**	**07 14 57.1**	**+0.8**
	baz=330						
NWLT				*eS*	**Sb**	**07 15 15.1**	**-0.7**
	baz=330						
WDLH	**Douliu**	**1.43**	**280**	*eP*	**Pb**	**07 14 58.5**	**+0.3**
	baz=280						
CHN1	**Nanshi**	**1.45**	**260**	*eP*	**Pb**	**07 14 58.4**	**-0.1**
	baz=260						
CHN1				*eS*	**Sb**	**07 15 17.0**	**+0.5**
	baz=260						
SNST	**Tainan City**	**1.47**	**261**	*eP*	**Pb**	**07 14 58.9**	**+0.2**
	baz=262						
SNST				*eS*	**Sb**	**07 15 17.2**	**+0.2**
	baz=262						
SSD	**Sandimen**	**1.50**	**243**	*eP*	**Pn**	**07 14 57.3**	**0.0**
	baz=239						
WCHH	**Zhanghua**	**1.53**	**295**	*eP*	**Pb**	**07 15 00.1**	**+0.3**
	baz=295						
NSTT	**Nanjuang**	**1.54**	**320**	*eP*	**Pb**	**07 14 59.7**	**-0.2**
	baz=307						
TIPB	**Shuangxi**	**1.54**	**352**	*eP*	**Pb**	**07 14 59.3**	**-0.7**
	baz=5.0						
TIPB				*eS*	**Sn**	**07 15 17.4**	**+0.5**
	baz=5.0						
LIOB	**Emei**	**1.54**	**321**	*eP*	**Pb**	**07 14 59.8**	**-0.2**
	baz=322						
LIOB				*eS*	**Sn**	**07 15 17.8**	**+0.9**
	baz=322						
NSY	**Sanyi**	**1.54**	**309**	*eP*	**Pb**	**07 15 00.3**	**+0.3**
	baz=323						
NSY				*eS*	**Sb**	**07 15 19.6**	**+0.4**
	baz=323						
EAST	**Anshuo**	**1.55**	**227**	*eP*	**Pn**	**07 14 57.8**	**-0.2**
	baz=233						
EAST				*eS*	**Sn**	**07 15 14.7**	**-2.6**
	baz=233						
TWB1	**Santiao Chiao**	**1.56**	**357**	P	**Pn**	**07 14 59.0**	**+0.9**
	baz=359						
TWB1				*eS*	**Sn**	**07 15 17.1**	**-0.3**
	baz=359						
MASBT	**Mashibuluo**	**1.57**	**238**	*eP*	**Pn**	**07 14 58.7**	**+0.5**
	baz=236						
MASBT				*eS*	**Sn**	**07 15 18.6**	**+0.9**
	baz=236						
WLTB	**Daxi**	**1.59**	**332**	*eP*	**Pn**	**07 14 59.2**	**+0.7**
	baz=341						
WLTB				*eS*	**Sb**	**07 15 19.9**	**-0.6**
	baz=341						
NHDH	**Xindian Distri**	**1.59**	**342**	*eP*	**Pb**	**07 15 00.3**	**-0.6**
	baz=332						
NHDH				*eS*	**Sb**	**07 15 19.5**	**-1.1**
	baz=332						
TWA	**Mucha**	**1.59**	**344**	*eP*	**Pb**	**07 15 00.4**	**-0.6**
	baz=336						
TWA				*eS*	**Sb**	**07 15 19.7**	**-1.0**
	baz=336						
NMLH	**Miaoli**	**1.60**	**313**	*eP*	**Pb**	**07 15 00.9**	**-0.2**
	baz=314						
RLNB	**Erlin**	**1.63**	**286**	*eP*	**Pn**	**07 15 00.4**	**+1.3**
	baz=278						
RLNB				*eS*	**Sn**	**07 15 19.8**	**+0.5**
	baz=278						
NWF	**Wu-fen Shan**	**1.64**	**351**	*eP*	**Pb**	**07 15 01.0**	**-0.8**
	baz=352						
NWF				*eS*	**Sn**	**07 15 20.3**	**+0.8**
	baz=352						
WFSB	**Wu-fen Shan**	**1.64**	**351**	*eP*	**Pb**	**07 15 00.9**	**-0.9**
	baz=2.0						
WFSB				*eS*	**Sn**	**07 15 20.4**	**+0.9**
	baz=2.0						
SSPT	**Xinbi**	**1.69**	**236**	*eP*	**Pn**	**07 15 01.2**	**+1.4**
	baz=227						
HATJ	**Hateruma jima**	**1.70**	**69**	P	**Pn**	**07 15 00.3**	**+0.3**
HATJ				*eS*	**Sn**	**07 15 20.8**	**-0.1**
SCZT	**Fangliau**	**1.71**	**232**	*eP*	**Pn**	**07 15 00.9**	**+0.6**
	baz=227						
SCZT				*eS*	**Sn**	**07 15 21.0**	**-0.3**
	baz=227						
IRIF	**Iriomote-Funau**	**1.75**	**59**	P	**Pn**	**07 15 01.4**	**+0.6**
IRIF				*eS*	**Sn**	**07 15 22.8**	**+0.5**
YM01	**YM01**	**1.75**	**345**	*eP*	**Pn**	**07 15 02.1**	**+1.3**
	baz=333						
YM01				*eS*	**Sn**	**07 15 23.2**	**+0.9**
	baz=333						
YM10	**YM10**	**1.77**	**345**	*eP*	**Pn**	**07 15 02.0**	**+1.0**
	baz=333						
YM10				*eS*	**Sn**	**07 15 23.7**	**+1.1**
	baz=333						
YM07	**YM07**	**1.77**	**347**	*eP*	**Pn**	**07 15 02.6**	**+1.5**
	baz=334						
YM07				*eS*	**Sn**	**07 15 23.7**	**+0.9**
	baz=334						
YM11	**YM11**	**1.77**	**345**	*eP*	**Pn**	**07 15 01.6**	**+0.5**
	baz=332						
TSEB	**Hengchuen, Pin**	**1.88**	**215**	*eP*	**Pn**	**07 15 04.0**	**+1.5**
	baz=224						
TSEB				*eS*	**Sn**	**07 15 26.1**	**+0.7**
	baz=224						
TWKBT	**Hengchun**	**1.90**	**218**	*eP*	**Pn**	**07 15 03.0**	**+0.2**
	baz=224						
TWKBT				*eS*	**Sn**	**07 15 25.2**	**-0.6**
	baz=224						
TWK1	**Hengchun**	**1.90**	**218**	*eP*	**Pn**	**07 15 04.0**	**+1.2**
	baz=224						
TWK1				*eS*	**Sn**	**07 15 25.2**	**-0.7**
	baz=224						
WLCH	**Liuqiu**	**1.91**	**235**	*eP*	**Pb**	**07 15 07.2**	**+1.0**
	baz=235						
JKRS	**Kuro-shima**	**1.94**	**66**	P	**Pn**	**07 15 04.0**	**+0.7**
JKRS				S	**Sn**	**07 15 27.2**	**+0.4**
JIJ	**Ishigaki jima**	**2.10**	**64**	P	**Pn**	**07 15 05.7**	**+0.1**
JIJ				S	**Sn**	**07 15 30.2**	**-0.6**
PCYT	**Pengchaiyu**	**2.17**	**360**	*eP*	**Pn**	**07 15 07.3**	**+0.7**
	baz=1.0						
WDGT	**Dungji**	**2.23**	**266**	*eP*	**Pn**	**07 15 08.4**	**+1.1**
	baz=266						
WDGT				*eS*	**Sn**	**07 15 33.8**	**-0.1**
	baz=266						
PHUB	**P'eng-hu**	**2.30**	**272**	*eP*	**Pn**	**07 15 09.2**	**+0.9**
	baz=272						
PNG	**Penghu**	**2.32**	**273**	*eP*	**Pn**	**07 15 09.7**	**+1.2**
	baz=274						
JISG	**Ishigakijimahi**	**2.34**	**60**	P	**Pn**	**07 15 08.7**	**-0.1**
JISG				S	**Sn**	**07 15 35.9**	**-0.8**
VCHM	**Qimei**	**2.44**	**265**	*eP*	**Pn**	**07 15 11.2**	**+0.9**
	baz=265						
JTJ	**Tarama**	**2.68**	**63**	P	**Pn**	**07 15 13.9**	**+0.4**
JTJ				S	**Sn**	**07 15 45.0**	**-0.1**
PTTC	**Pingtan**	**2.93**	**315**	*eS*	**Sn**	**07 15 50.0**	**-1.3**
	baz=315						
PTMZ	**Houxiangcun**	**3.13**	**301**	*eP*	**Pn**	**07 15 20.4**	**+0.7**
	baz=301						
PTMZ				*eS*	**Sn**	**07 15 54.9**	**-1.3**
	baz=301						
JIRB	**Irabujima**	**3.15**	**63**	P	**Pn**	**07 15 20.3**	**+0.4**
JIRB				*eS*	**Sn**	**07 15 56.3**	**-0.3**
JMJ2	**Miyako jima3**	**3.24**	**66**	P	**Pn**	**07 15 22.3**	**+1.1**
JMJ2				*eS*	**Sn**	**07 15 58.1**	**-0.8**
JMJ	**Miyako jima 2**	**3.24**	**64**	*eP*	**Pn**	**07 15 21.8**	**+0.6**
	baz=64						
JMJ				*eS*	**Sn**	**07 15 57.7**	**-1.2**
	baz=64						
JIKM	**Ikemajima**	**3.25**	**62**	P	**Pn**	**07 15 21.8**	**+0.4**
KNMB	**Chin-men Tao**	**3.52**	**287**	*eP*	**Pn**	**07 15 25.6**	**+0.5**
	baz=287						
AXDP	**Jialang**	**4.02**	**292**	*eP*	**Pn**	**07 15 32.7**	**+0.7**
	baz=292						

*ISCJB **13** 07:24:06.3±1.1,22°.86S±0°.05×69°.07W±0°.06,h101km±8km, Error ellipse: s-maj=9.5km s-min=7.5km az=13.4*
*SJA **13** 07:24:06.0±0.6,22°.86S×69°.04W,h95km±4km,ML2.3, MW3.6*
*GUC **13** 07:24:06.4±0.5,22°.82S×69°.05W,h95km±3km,ML3.4*
ISC 13 07:24:07.3±1.8,22°.85S±0°.05×69°.08W±0°.06,h94km±10km, n17,σ0°49/31,8C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.28**	**33**	*i* P	**Pn**	**07 24 21.0**	**-0.6**
LVC				*i* S	**Sn**	**07 24 32.1**	**0.0**
LVC	**Limon Verde**	**0.28**	**33**	*eP*	**Pn**	**07 24 21.1**	**-0.5**
LVC				*i* S	**Sn**	**07 24 31.3**	**-0.8**
PB06	**IPOC Station P**	**0.48**	**287**	*i* P	**Pn**	**07 24 22.3**	**-0.2**
PB06				*i* S	**Sn**	**07 24 34.5**	**+0.8**
PB06	**IPOC Station P**	**0.48**	**287**	⇑*i* P	**Pn**	**07 24 22.3**	**-0.2**
PB06				*i* S	**Sn**	**07 24 34.3**	**+0.5**
PB06				IAML		07 24 34.8	
	comp=N,2μm,0.1s						
PB15	**IPOC Station P**	**0.51**	**225**	*i* P	**Pn**	**07 24 22.7**	**0.0**
PB15	**IPOC Station P**	**0.51**	**225**	⇑*i* P	**Pn**	**07 24 22.8**	**0.0**
PB15				*i* S	**Sn**	**07 24 34.8**	**+0.5**
PB03	**IPOC Station P**	**1.01**	**322**	*i* P	**Pn**	**07 24 27.2**	**-0.3**
PB03	**IPOC Station P**	**1.01**	**322**	⇑*i* P	**Pn**	**07 24 27.5**	**-0.1**
PB03				*i* S	**Sn**	**07 24 43.2**	**+0.4**
PB03				IAML		07 24 44.4	
	comp=E,3μm,0.0s						
PB05	**IPOC Station P**	**1.04**	**269**	⇑*i* P	**Pn**	**07 24 27.6**	**-0.2**
PB05				*i* S	**Sn**	**07 24 43.8**	**+0.5**
PB09	**IPOC Station P**	**1.05**	**352**	*i* P	**Pn**	**07 24 28.2**	**+0.1**
PB09				*i* S	**Sn**	**07 24 44.7**	**+1.0**
PB09	**IPOC Station P**	**1.05**	**352**	⇓*eP*	**Pn**	**07 24 27.4**	**-0.8**
PB09				*i* S	**Sn**	**07 24 43.7**	**0.0**
PB09				IAML		07 24 45.3	
	comp=N,737nm,0.1s						
PB04	**IPOC Station P**	**1.11**	**297**	⇑*i* P	**Pn**	**07 24 28.6**	**-0.2**
PB04				*i* S	**Sn**	**07 24 45.7**	**+0.8**
PB04				IAML		07 24 48.7	
	comp=N,843nm,0.3s						
PB07	**IPOC Station P**	**1.34**	**326**	⇑*i* P	**Pn**	**07 24 31.4**	**-0.2**
PB07				*i* S	**Sn**	**07 24 50.0**	**+0.2**
PB07				IAML		07 24 51.5	
	comp=N,546nm,0.5s						
PB10	**IPOC Station P**	**1.51**	**244**	*eP*	**Pn**	**07 24 32.6**	**-0.9**
PB10				*eS*	**Sn**	**07 24 52.9**	**-0.3**
PB02	**IPOC Station P**	**1.70**	**333**	⇑*i* P	**Pn**	**07 24 35.5**	**-0.4**
PB02				*i* S	**Sn**	**07 24 57.6**	**+0.1**
PB02				IAML		07 25 04.1	
	comp=E,602nm,0.3s						
PB01	**IPOC Station P**	**1.83**	**348**	⇑*i* P	**Pn**	**07 24 37.3**	**-0.3**
PB01				*i* S	**Sn**	**07 25 00.5**	**-0.2**
PB01				IAML		07 25 02.6	
	comp=E,377nm,0.2s						
HJA	**Humahuaca**	**3.40**	**97**	*i* P	**Pn**	**07 24 59.0**	**+0.4**
HJA				IAML		07 25 01.0	
	comp=Z,6.4nm,0.6s						

MAN 13 07:33:23.5,8°.79N×126°.29E,h1km,mb3.9,ML2.6,MS2.2, 2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.61**	**173**	⇓*i* P	**Pg**	07 33 34.6	-0.6
BIPH				*i* S	Sg	07 33 42.7	-0.4
BUTP	**Butuan**	**0.68**	**285**	*eP*	**Pg**	07 33 37.0	+0.3
BUTP				*eS*	Sb	07 33 47.1	-1.1
BUKP	**Musuan**	**1.52**	**233**	*eP*	Pn	07 33 51.5	-0.3
BUKP				*eS*	Sg	07 34 13.9	+1.6
CGP	**Cagayan de Oro**	**1.61**	**258**	⇓*eP*	Pb	07 33 54.2	+0.1
CGP				*eS*	Sn	07 34 10.8	-3.9

*ISCJB **13** 08:20:25.8±0.7,20°.7S±0°.2×178°.0W±0°.2,h495km,mb3.6/9, Error ellipse: s-maj=25.3km s-min=14.5km az=144.5*
*IDC **13** 08:20:29.6±4.2,20°.88S×178°.04W,h536km±49km,mb3.2/9, mb1 3.5/11,mb1mx3.3/27,mbtmp4.1/11,Error ellipse: s-maj=33.2km s-min=21.1km az=161.0*
ISC 13 08:20:26.5±0.9,20°.8S±0°.2×178°.0W±0°.2,h495km,n13, σ0°87/13,mb3.8/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.56**	**262**	P	**P**	**08 23 32.9**	**+0.6**
	0.5nm,0.3s,baz=83,slow=18,SNR=6.0						
URZ	**Urewera**	**17.93**	**193**	P	**P**	**08 24 05.4**	**-1.0**
	0.5nm,0.3s,baz=326,slow=6.8,SNR=5.1						
STKA	**Stephens Creek**	**37.68**	**244**	P	**P**	**08 26 59.5**	**+0.5**
	1.7nm,0.5s,baz=78,slow=9.2,SNR=7.5						
ASAR	**Alice Springs**	**44.47**	**257**	P	**P**	**08 27 52.9**	**-0.4**
	7.6nm,0.9s,baz=98,slow=7.7,SNR=57						
ASAR				PcP	**pP**	**08 29 24.0**	**-0.1**
	0.6nm,0.6s,baz=98,slow=4.0,SNR=5.3						
WRA	**Warramunga Arr**	**44.58**	**262**	P	**P**	**08 27 53.4**	**-0.7**
	4.2nm,0.6s,baz=96,slow=7.9,SNR=75						
MJAR	**Matsushiro Arr**	**70.44**	**324**	P	**P**	**08 30 49.6**	**-0.8**
	2.0nm,0.6s,baz=163,slow=5.9,SNR=4.8						
NVAR	**Mina Array Bea**	**81.21**	**43**	P	**P**	**08 31 51.1**	**+0.5**
	0.6nm,0.7s,baz=224,slow=9.0,SNR=5.0						
TXAR	**Lajitas Array**	**87.19**	**57**	P	**P**	**08 32 20.9**	**+0.8**
	0.3nm,0.7s,baz=205,slow=5.5,SNR=4.3						
ILAR	**Eielson Array**	**88.58**	**13**	P	**P**	**08 32 24.3**	**-1.3**
	0.3nm,0.8s,baz=219,slow=6.5,SNR=3.3						
PDAR	**Pinedale Array**	**89.15**	**43**	P	**P**	**08 32 29.0**	**0.0**
	0.4nm,0.7s,baz=237,slow=3.1,SNR=3.6						
CMAR	**Chiang Mai Arr**	**90.22**	**290**	P	**P**	**08 32 35.0**	**+0.7**
	0.7nm,0.3s,baz=121,slow=4.3,SNR=5.6						
AKASG	**Malin Array Be**	**143.26**	**331**	PKP	PKPab	08 38 59.8	-1.8
	0.4nm,0.4s,baz=43,slow=4.3,SNR=9.4						
BRTR	**Keskin Array B**	**147.03**	**312**	PKPbc	**PKPdf**	**08 39 12.0**	**+1.2**
	0.5nm,0.6s,baz=160,slow=3.9,SNR=3.7						

*NNC **13** 08:28:17.3±6.8,52°.88N×91°.52E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=57.4km s-min=43.1km az=48.0, Suspected Mining explosion.*
KRAR 13 08:28:18.5±0.0,53°.71N×91°.09E,M2.6,7C-3D,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.72**	**276**	⇑Pn	Pb	08 29 21.4	-3.7
	1.2nm,0.8s						
ZAA0				⇓Sn	Sb	08 30 13.3	+2.6
	2.5nm,0.8s						
KURK	**Kurchatov**	**8.22**	**254**	⇓Pn	Pn	08 30 16.5	-2.4
	4.6nm,1.4s						
KURK				⇑Sn	Sn	08 31 54.7	+2.2
	3.2nm,1.0s						
KURK				⇑Lg	Lg	08 32 42.4	
	10nm,0.9s						
KURBB	**Kurchatov Arra**	**8.32**	**253**	⇓Pn	Pn	08 30 18.8	-1.4
	2.9nm,1.1s						
KURBB				⇑Sn	Sn	08 31 54.4	-0.4

HNR	**Honiara**	**5.37 289**	*e*Pn	**Pn**	**08 41 37.7**	**+0.4**
HNR			*e*Sn	**Sn**	**08 42 38.0**	**-0.1**
HNR	**Honiara**	**5.37 289**	Pn	**Pn**	**08 41 36.7**	**-0.6**
HNR	12nm,0.3s,baz=176,slow=19,SNR=3.6		Sn	**Sn**	**08 42 36.7**	**-1.4**
MARNC	**Mare, Loyalty**	**10.54 165**	*e*Pn	**Pn**	**08 42 49.8**	**+1.6**
DZM	**Mont Dzumac**	**10.82 173**	*e*Pn	**Pn**	**08 42 52.6**	**+0.5**
DZM			*e*Sn	**Sn**	**08 44 51.7**	**-0.6**
DZM	**Mont Dzumac**	**10.82 173**	Pn	**Pn**	**08 42 52.0**	**-0.1**
DZM	2.8nm,0.3s,baz=315,slow=10.0,SNR=40		LR	LR	08 46 22.8	
PINNC	**Pines Island,**	**11.50 169**	*e*Pn	**Pn**	**08 43 02.1**	**+0.7**
PMG	**Port Moresby**	**17.73 274**	LR	LR	08 51 20.5	
CTAO	**Charters Tower**	**20.12 242**	*e*P	**P**	**08 44 48.0**	**-2.7**
COEN	**Coen**	**21.54 261**	*e*P	**P**	**08 45 07.4**	**+1.3**
STKA	**Stephens Creek**	**29.83 223**	*e*P	**P**	**08 46 25.5**	**+1.7**
STKA	**Stephens Creek**	**29.83 223**	P	**P**	**08 46 24.9**	**+1.2**
STKA	1.7nm,0.7s,baz=39,slow=8.6,SNR=4.9		LR	LR	08 57 04.0	
WB2	**Warramunga Arr**	**30.78 250**	*e*P	**P**	**08 46 32.0**	**-0.3**
WR1	**Warramunga Arr**	**30.79 250**	*e*P	**P**	**08 46 30.2**	**-2.2**
WRA	**Warramunga Arr**	**30.79 250**	P	**P**	**08 46 30.2**	**-2.2**
GUMO	**Guam**	**31.81 320**	*e*P	**P**	**08 46 40.6**	**-0.7**
GUMO	**Guam**	**31.81 320**	LR	LR	08 58 20.2	
AS31	**Alice Springs**	**32.11 243**	*e*P	**P**	**08 46 44.2**	**+0.2**
ASAR	**Alice Springs**	**32.11 243**	P	**P**	**08 46 43.3**	**-0.7**
ASAR	1.6nm,0.9s,baz=69,slow=9.7,SNR=10		PcP	**PcP**	**08 49 32.6**	**-0.3**
ASAR	0.7nm,0.8s,baz=73,slow=2.5,SNR=4.8		LR	LR	08 58 44.7	
FITZ	**Fitzroy Crossi**	**38.69 255**	*e*P	**P**	**08 47 40.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**38.69 255**	LR	LR	09 02 39.6	
VNDA	**Vanda**	**66.26 181**	*e*P	**P**	**08 51 03.4**	**-0.6**
SBA	**Scott Base**	**66.58 180**	*e*P	**P**	**08 51 04.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**71.61 294**	*e*P	**P**	**08 51 39.9**	**+1.7**
KDAK	**Kodiak Island**	**77.03 22**	LR	LR	09 23 02.6	
SONA0	**Songino Array**	**78.46 324**	*e*P	**P**	**08 52 16.5**	**-0.8**
SONM	**Songino Array**	**78.46 324**	P	**P**	**08 52 16.5**	**-0.8**
QSPA	**South Pole Qui**	**78.73 180**	*e*P	**P**	**08 52 19.9**	**+1.3**
QSPA	**South Pole Qui**	**78.73 180**	P	**P**	**08 52 19.2**	**+0.6**
IMAR	**Indian Mountai**	**82.82 16**	*e*P	**P**	**08 52 40.9**	**+0.7**
BALM	**Baldy**	**83.08 23**	*e*P	**P**	**08 52 41.7**	**0.0**
CTGM	**Chitina Glacie**	**83.42 23**	*e*P	**P**	**08 52 43.4**	**-0.1**
HDA	**Harding Lake**	**83.67 19**	*e*P	**P**	**08 52 44.3**	**-0.2**
RIDG	**Independent Ri**	**83.91 20**	*e*P	**P**	**08 52 47.6**	**+1.7**
ILAR	**Eielson Array**	**83.94 19**	*e*P	**P**	**08 52 45.3**	**-0.6**
ILAR	**Eielson Array**	**83.94 19**	P	**P**	**08 52 46.4**	**+0.5**
WDC	**Whiskeytown Da**	**84.24 47**	*e*P	**P**	**08 52 48.4**	**+0.4**
SCRK	**Sand Creek**	**84.35 20**	*e*P	**P**	**08 52 50.0**	**+1.8**
BCAR	**Beaver Creek A**	**84.54 21**	*e*P	**P**	**08 52 49.9**	**+0.8**
NV01	**Mina Array Sit**	**86.67 50**	*e*P	**P**	**08 53 01.2**	**+0.7**
NVAR	**Mina Array Bea**	**86.67 50**	P	**P**	**08 53 01.2**	**+0.7**
NVAR	0.7nm,0.8s,baz=240,slow=7.6,SNR=5.3		LR	LR	09 25 04.8	
MK32	**Makanchi Array**	**93.24 317**	*e*P	**P**	**08 53 31.5**	**+0.7**
MKAR	**Makanchi Array**	**93.24 317**	P	**P**	**08 53 31.5**	**+0.7**
MKAR	1.2nm,0.8s,baz=91,slow=7.3,SNR=8.2		LR	LR	09 35 38.3	
EGMT	**Eagleton**	**95.07 42**	*e*P	**P**	**08 53 39.8**	**+0.4**
YKA	**Yellowknife Ar**	**95.47 27**	P	**P**	**08 53 38.7**	**-2.0**
YKB5	**Yellowknife Ar**	**95.47 27**	*e*P	**P**	**08 53 38.7**	**-2.0**
TXAR	**Lajitas Array**	**96.51 61**	LR	LR	09 28 06.2	
ARA0	**ARCESS Array S**	**116.39 345**	*e*PKPdf	**PKPdf**	**08 58 59.2**	**-0.1**
ARCES	**ARCESS Array B**	**116.39 345**	PKP	**PKPdf**	**08 58 59.2**	**-0.1**
ESDC	**Sonseca Array**	**150.09 343**	PKPbc	**PKPbc**	**09 00 06.2**	**-1.1**

SOME ***13*** *08:41:16.9, 44°.20N×83°.73E, h20km*
NNC ***13*** *08:41:23.2±2.2, 44°.30N×83°.14E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=21.6km s-min=8.6km az=125.0*

ISC 13 08:41:22.7±2.2, 44°.27N±0°.07×83°.2E±0°.1, h17km, n17, σ1§66/25, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.20 249**		Pg	**Pb**	**08 42 02.4**	**+0.3**
KTMS	32nm,0.2s			Lg	Lg	08 42 34.7	
KTMS	**Ketmen**	**2.20 249**		*e*P	**Pb**	**08 42 02.4**	**+0.3**
KTMS	32nm,0.2s			*e*S	**Sg**	**08 42 34.2**	**+0.8**
DJR	**Jarkent**	**2.43 273**		⇑*i*P	**Pb**	**08 42 07.1**	**+1.1**
DJR	20nm,0.3s			*e*S	**Sg**	**08 42 41.8**	**+1.0**
MK31	**Makanchi Array**	**2.60 347**		⇑Pn	**Pn**	**08 42 06.7**	**+2.7**
MK31	2.9nm,0.4s,baz=149,slow=15,SNR=35			⇑Lg	Lg	08 42 41.6	
MAKZ	**Makanchi**	**2.67 342**		⇑Pn	**Pb**	**08 42 07.9**	**-2.2**
MAKZ	3.0nm,0.5s			⇓Lg	Lg	08 42 44.5	
PDGK	**Podgornoye**	**2.83 252**		Pg	**Pb**	**08 42 12.4**	**-0.4**
PDGK	1.5nm,0.3s			Lg	Lg	08 42 51.3	
PDGK	**Podgornoye**	**2.83 252**		⇑Pn	**Pb**	**08 42 10.7**	**-2.1**
PDGK	1.4nm,0.4s			⇓Lg	Lg	08 42 53.4	
KAPS	**Kapalarasan**	**2.90 292**		Pg	**Pg**	**08 42 16.3**	**-2.0**
KAPS	3.4nm,0.3s			Lg	Lg	08 42 57.7	
KAPS	**Kapalarasan**	**2.90 292**		*e*P	**Pg**	**08 42 16.3**	**-2.0**
KAPS	2.0nm,0.3s			*e*S	**Sg**	**08 42 57.7**	**+1.9**
SHLS	**Shalkode**	**2.91 249**		*e*P	**Pn**	**08 42 09.0**	**+0.6**
SHLS	15nm,0.5s			*e*S	**Sn**	**08 42 45.0**	**+2.0**
UZB	**Uzynbulak**	**3.21 251**		Pg	**Pb**	**08 42 19.5**	**+0.2**
UZB	3.7nm,0.3s			Lg	Lg	08 43 03.3	
UZB	**Uzynbulak**	**3.21 251**		*e*P	**Pb**	**08 42 19.5**	**+0.2**
UZB	1.6nm,0.1s			*e*S	**Sg**	**08 43 03.3**	**-2.5**
KPKS	**Kokpek**	**3.34 258**		*e*P	**Pb**	**08 42 22.0**	**+0.5**
KPKS	5.4nm,0.2s			*e*S	**Sg**	**08 43 07.3**	**-2.7**
MNBS	**Baschi**	**3.44 268**		Pg	**Pb**	**08 42 24.0**	**+0.9**
MNBS	6.0nm,0.4s			Lg	Lg	08 43 11.4	
MNBS	**Baschi**	**3.44 268**		*e*P	**Pb**	**08 42 24.0**	**+0.9**
MNBS	6.0nm,0.4s			*e*S	**Sg**	**08 43 11.4**	**-1.7**
SATY	**Saty**	**3.66 252**		Pg	**Pb**	**08 42 28.3**	**+1.2**
SATY	4.4nm,0.4s			Lg	Lg	08 43 18.4	
SATY	**Saty**	**3.66 252**		*e*P	**Pb**	**08 42 28.2**	**+1.2**
SATY	2.4nm,0.2s			*e*S	**Sg**	**08 43 18.4**	**-1.9**
	5.8nm,0.3s						

ISCJB ***13*** *08:46:39.3±1.1, 29°.40S±0°.08×176°.8W±0°.1, h31km, mb3.9/7, Error ellipse: s-maj=14.4km s-min=12.1km az=11.9*
IDC ***13*** *08:46:46.1±1.7, 29°.36S×177°.17W, h64km±10km, mb3.7/7, mb1 3.9/8, mb1mx3.6/35, mbtmp3.9/8, Error ellipse: s-maj=29.4km s-min=20.7km az=149.0*

ISC 13 08:46:41.9±0.9, 29°.3S±0°.1×176°.86W±0°.09, h31km, n15, σ1§47/14, mb4.0/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.92 273**		P	**Pb**	**08 47 01.4**	**+2.0**
RAO	2μm,0.3s,baz=7.9,slow=23,SNR=97			S	**Sb**	**08 47 12.1**	**+0.8**
URZ	**Urewera**	**10.24 208**		P	**Pn**	**08 49 07.3**	**+0.7**
URZ	0.1nm,0.3s,baz=338,slow=11,SNR=2.5			S	**Sn**	**08 51 00.8**	**+0.5**
CTA	**Charters Tower**	**34.62 277**		P	**P**	**08 53 28.0**	**-0.5**
STKA	**Stephens Creek**	**35.70 255**		P	**P**	**08 53 36.0**	**-1.6**
ASAR	**Alice Springs**	**44.17 265**		P	**P**	**08 54 46.8**	**-1.3**
WRA	**Warramunga Arr**	**45.06 270**		P	**P**	**08 54 53.5**	**-1.7**
FITZ	**Fitzroy Crossi**	**53.36 269**		P	**P**	**08 55 57.3**	**-1.4**
NVAR	**Mina Array Bea**	**86.77 42**		P	**P**	**08 59 25.9**	**+2.6**
TXAR	**Lajitas Array**	**90.97 57**		P	**P**	**08 59 43.7**	**+0.5**
H10S3	**ASCENSION HYDR**	**38.27 153**		T	T	11 41 35.5	
H10S2	**ASCENSION HYDR**	**38.27 153**		T	T	11 41 35.0	
H10S1	**ASCENSION HYDR**	**38.29 153**		T	T	11 41 36.1	
FINES	**FINESS Array B**	**144.44 341**		PKP	**PKPab**	**09 06 11.6**	**-1.0**
AKASG	**Malin Array Be**	**151.00 325**		PKPbc	**PKPbc**	**09 06 30.9**	**-0.4**
BRTR	**Keskin Array B**	**152.92 301**		PKPbc	**PKPbc**	**09 06 35.2**	**-1.0**

IDC 13 08:50:57.6±1.9, 1°.79N×126°.96E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/48, mbtmp3.5/4, Error ellipse: s-maj=179.2km s-min=21.8km az=67.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.78 162**		P	P	08 56 00.9	-0.9
ASAR	**Alice Springs**	**26.19 165**		P	P	08 56 35.0	+0.9
MKAR	**Makanchi Array**	**59.28 326**		P	P	09 01 01.3	+0.2
KURBB	**Kurchatov Arra**	**63.49 328**		P	P	09 01 29.1	-0.4

ISCJB ***13*** *08:53:15.9±1.1, 8°.9S±0°.2×150°.3E±0°.1, h100km, mb4.0/5, Error ellipse: s-maj=22.6km s-min=13.0km az=156.7*
IDC ***13*** *08:53:20.6±4.2, 8°.80S×150°.00E, h125km±32km, mb3.8/5, mb1 4.0/7, mb1mx3.5/47, mbtmp4.2/7, Error ellipse: s-maj=42.7km s-min=21.1km az=106.0*

ISC 13 08:53:18.1±1.2, 8°.9S±0°.2×150°.2E±0°.1, h100km, n8, σ1§19/9, mb4.1/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.05 260**		P	**Pn**	**08 54 04.6**	**0.0**
PMG	17nm,0.3s,baz=63,slow=6.5,SNR=20			S	**Sn**	**08 54 41.1**	**+0.7**
WRA	**Warramunga Arr**	**18.88 233**		P	**P**	**08 57 30.3**	**-0.5**
ASAR	**Alice Springs**	**21.44 225**		P	**P**	**08 57 58.5**	**+0.1**
STKA	**Stephens Creek**	**24.25 198**		P	**P**	**08 58 25.9**	**+0.1**
KLR	**Kul'dur**	**60.08 346**		P	**P**	**09 03 14.3**	**-0.4**
ILAR	**Eielson Array**	**86.88 22**		P	**P**	**09 05 51.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**148.81 281**		PKPbc	**PKPdf**	**09 12 53.5**	**+2.3**

IDC 13 08:55:42.6±3.2, 53°.74N×87°.96E, h0km, mb1 3.0/2, mb1mx2.8/55, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=28.7km s-min=17.9km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88 278**		*i*		09 07 11.5	
ZALV	**Zalesovo Beam**	**1.88 278**		Pg	Pb	08 56 17.3	-0.4
ZALV	2.9nm,0.3s,baz=92,slow=16,SNR=16			Lg	Lg	08 56 42.6	
KURBB	**Kurchatov Arra**	**6.58 246**		Pn	Pn	08 57 21.1	+0.5
KURBB	0.2nm,0.3s,baz=63,slow=14,SNR=9.6			Lg	Lg	08 59 07.7	
MKAR	**Makanchi Array**	**7.84 210**		Pn	Pn	08 57 39.1	+1.2
MKAR	0.2nm,0.3s,baz=28,slow=14,SNR=4.2			Lg	Lg	08 59 49.4	

DDA ***13*** *09:25:33.8, 37°.76N×38°.15E, h7km±1km, ML2.8*
ISK ***13*** *09:25:34.8, 37°.62N×38°.19E, h2km, ML2.0/4*
ISCJB ***13*** *09:25:35.8±0.7, 37°.62N±0°.05×38°.18E±0°.04, h8km, Error ellipse: s-maj=7.0km s-min=4.7km az=168.2*

ISC 13 09:25:35.4±1.0, 37°.63N±0°.06×38°.22E±0°.04, h8km, n8, σ0§43/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.52 111**		PG	**Pb**	**09 25 46.2**	**-0.5**
URFA				SG	**Sb**	**09 25 54.6**	**+0.2**
GZT	**Gaziantep**	**0.58 243**		IAML_P			
GZT	comp=Z,1μm,0.2s			*i* P	**Pg**	**09 25 46.5**	**-0.2**
GZT				*i* S	**Sg**	**09 25 55.2**	**+0.8**
AKCD	**Akcadag**	**0.71 341**		*i* S	**Sb**	**09 26 00.2**	**+0.1**
SANL	**SANLIURFA_Merk**	**0.77 126**		IAML_P			
SANL	comp=Z,2μm,0.2s			*i* P	**Pb**	**09 25 51.0**	**+0.1**
GAZ	**Gaziantep**	**0.92 241**		PG	**Pg**	**09 25 53.0**	**-0.1**
GAZ				SG	**Sb**	**09 26 06.4**	**+0.4**
KMRS	**Kahramanmaras**	**1.05 264**		PG	**Pg**	**09 25 55.4**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.14 49**		PN	**Pn**	**09 25 58.1**	**+0.2**
KAMA	**Osmaniye**	**1.31 251**		*i* P	**Pn**	**09 25 59.6**	**-0.5**

ISCJB ***13*** *09:40:33.3±0.4, 47°.36N±0°.04×148°.34E±0°.07, h350km, mb3.3/12, Error ellipse: s-maj=7.4km s-min=4.4km az=29.8*
SKHL ***13*** *09:40:33.6±0.9, 47°.29N×148°.27E, h362km±81km, mb4.4/4, msh4.5/3*
IDC ***13*** *09:40:35.2±1.4, 47°.58N×148°.17E, h352km±14km, mb3.1/12, mb1 3.3/19, mb1mx3.2/41, mbtmp3.9/19, Error ellipse: s-maj=14.6km s-min=9.5km az=141.0*

ISC 13 09:40:34.3±0.5, 47°.37N±0°.05×148°.27E±0°.07, h350km, n49, σ1§58/54, mb3.5/12, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.16 188**		*e*P	**Pn**	**09 41 27.6**	**+0.8**
KUR	150nm,1.0s			AMB	AMB	09 41 28.0	
KUR				*e*S	**S**	**09 42 09.4**	**+0.5**
KUR	90nm,1.0s			A	A	09 42 14.3	
KUR	100nm,1.0s			A	A	09 42 14.3	
YSS	**Yuzh-Sakhalins**	**3.79 266**		*e*P	**Pn**	**09 41 42.6**	**+1.5**
YSS	20nm,0.6s			AMB	AMB	09 41 43.5	
YSS				*e*S	**S**	**09 42 35.9**	**+0.9**
YSS	20nm,1.0s			A	A	09 42 39.0	
YSS	40nm,1.0s			A	A	09 42 39.0	
NEM2	**Nemuro 2**	**4.39 205**		P	Pn	09 41 45.1	-2.3
NEM2				*e*S	S	09 42 40.7	-5.6
JNK	**Nakash**	**4.54 215**		P	**Pn**	**09 41 49.0**	**0.0**
JTKR	**Abashiri--Toko**	**4.58 244**		P	**Pn**	**09 41 51.2**	**+1.8**
JAK	**Akkeshi**	**5.05 211**		P	**Pn**	**09 41 52.6**	**-2.0**
JAK				*e*S	**S**	**09 42 54.9**	**-4.5**
TYV	**Tymovskoe**	**5.08 316**		*e*P	**Pn**	**09 41 55.1**	**+0.5**
TYV	30nm,0.6s			AMB	AMB	09 41 55.8	
TYV				*e*S	**S**	**09 42 59.5**	**-0.2**
TYV	30nm,0.8s			A	A	09 43 04.5	
TYV	60nm,0.8s			A	A	09 43 04.5	
ASAJ	**Asahikawa**	**5.14 233**		P	**Pn**	**09 41 55.8**	**+0.3**
JAR	**Ashorobuto**	**5.17 220**		P	**Pn**	**09 41 56.1**	**+0.3**
JOB	**Onbets**	**5.46 217**		P	**Pn**	**09 41 58.1**	**-1.0**
JOB				*e*S	**S**	**09 43 03.7**	**-4.0**
JCH	**Churui**	**5.90 218**		P	**Pn**	**09 42 02.6**	**-1.4**
JCH				*e*S	S	09 43 10.9	-5.7
SKR	**Severo-Kuril's**	**6.13 54**		*e*P	**Pn**	**09 42 06.3**	**-0.1**
SKR	80nm,0.5s			AMB	AMB	09 42 07.2	
JBT2	**Biratori 2**	**6.21 224**		P	**Pn**	**09 42 07.3**	**-0.3**
JBT2				*e*S	**S**	**09 43 22.9**	**-0.4**
JNBK	**Urakawa-nobuka**	**6.43 220**		P	**Pn**	**09 42 08.1**	**-2.0**
JNBK				*e*S	S	09 43 18.0	-10
JEM	**Erimo**	**6.48 216**		*e*S	S	09 43 22.2	-6.6
JNB	**Noboribetsu**	**7.10 229**		P	**Pn**	**09 42 19.1**	**+1.2**
JNB				*e*S	**S**	**09 43 38.9**	**-3.2**
JKB	**Kayabe**	**7.53 226**		P	**Pn**	**09 42 21.7**	**-1.2**
JKB				*e*S	S	09 43 44.0	-7.3
PETK	**Petropavlovsk-**	**8.33 43**		P	**Pn**	**09 42 30.9**	**-1.2**
	0.3nm,0.3s,baz=228,slow=7.5,SNR=6.2						
JTM	**Tenmabayashi**	**8.38 221**		*e*S	S	09 44 00.9	-8.9
JANG	**Nango**	**8.53 217**		*e*S	S	09 44 04.6	-8.5
KLR	**Kul'dur**	**11.16 286**		P	**P**	**09 43 08.2**	**+1.6**
	0.5nm,0.3s,baz=95,slow=11,SNR=21						
KLR	**Kul'dur**	**11.16 286**		*e*P	**P**	**09 43 07.1**	**+0.5**
EKMR	**Ekimchan**	**11.34 306**		*e*P	**P**	**09 43 09.0**	**+0.5**
EKMR	6.0nm,0.8s			AMB	AMB	09 43 11.5	
USRK	**Ussuriysk Ar.**	**11.80 260**		P	**P**	**09 43 14.8**	**+1.1**
	1.4nm,0.3s,baz=66,slow=12,SNR=20						
MAT	**Matsushiro**	**13.15 218**		P	**P**	**09 43 30.6**	**+1.9**
MJAR	**Matsushiro Arr**	**13.15 218**		P	**Pn**	**09 43 31.5**	**+1.8**
	0.3nm,0.3s,baz=19,slow=11,SNR=23						
BMKR	**Bomnak**	**14.23 308**		*e*P	**Pn**	**09 43 40.8**	**-1.2**
BMKR	10.0nm,0.9s			AMB	AMB	09 43 44.5	
KROS	**Kirovskiy**	**15.14 306**		*e*P	**P**	**09 43 49.2**	**-1.1**
KROS	6.0nm,0.8s			AMB	AMB	09 43 54.0	
SEY	**Seymchan**	**15.76 7**		P	**P**	**09 43 56.5**	**-0.3**
	0.2nm,0.3s,baz=198,slow=7.2,SNR=8.1						
SEY	**Seymchan**	**15.76 7**		*e*P	**Pn**	**09 43 57.2**	**-2.5**
KSRS	**Korea Array**	**17.95 244**		P	**P**	**09 44 23.1**	**+2.3**
	0.5nm,0.3s,baz=49,slow=10,SNR=13						
JNU	**Nakatsue**	**19.40 229**		P	**P**	**09 44 37.6**	**+1.5**
	0.3nm,0.3s,baz=14,slow=4.2,SNR=3.6						
SONM	**Songino Array**	**27.99 287**		P	**P**	**09 45 55.4**	**+1.2**
	0.5nm,0.8s,baz=63,slow=6.4,SNR=2.2						
SONM				ScP	**ScP**	**09 52 04.7**	**-0.9**
	0.2nm,0.3s,baz=90,slow=4.3,SNR=3.1						
ILAR	**Eielson Array**	**38.13 39**		P	**P**	**09 47 19.6**	**-0.9**
	1.6nm,0.8s,baz=273,slow=8.0,SNR=19						
ZALV	**Zalesovo Beam**	**39.54 304**		P	**P**	**09 47 29.7**	**-2.5**
	0.5nm,0.4s,baz=72,slow=9.3,SNR=2.4						
MKAR	**Makanchi Array**	**43.70 295**		P	**P**	**09 48 05.7**	**0.0**
	0.4nm,0.6s,baz=68,slow=9.4,SNR=3.1						
YKA	**Yellowknife Ar**	**52.37 36**		P	**P**	**09 49 11.1**	**0.0**
	0.9nm,0.7s,baz=303,slow=7.2,SNR=16						
YKA				PcP	**PcP**	**09 50 16.3**	**-0.4**
	0.1nm,0.4s,baz=302,slow=3.8,SNR=2.9						
FINES	**FINESS Array B**	**62.01 333**		P	**P**	**09 50 16.7**	**-1.2**
	1.5nm,0.5s,baz=34,slow=9.0,SNR=11						
NVAR	**Mina Array Bea**	**65.03 60**		P	**P**	**09 50 38.9**	**+0.7**
	0.8nm,0.7s,baz=299,slow=7.0,SNR=6.6						
PDAR	**Pinedale Array**	**67.00 51**		P	**P**	**09 50 51.5**	**+0.9**
	0.7nm,0.5s,baz=286,slow=0.9,SNR=11						
WRA	**Warramunga Arr**	**68.17 194**		P	**P**	**09 50 58.7**	**+1.1**
	0.6nm,0.5s,baz=9.3,slow=6.7,SNR=8.9						
AKASG	**Malin Array Be**	**69.13 323**		P	**P**	**09 51 01.8**	**-1.4**
	0.3nm,0.3s,baz=38,slow=6.2,SNR=3.6						
ASAR	**Alice Springs**	**71.89 194**		P	**P**	**09 51 22.1**	**+2.1**
	0.2nm,0.3s,baz=11,slow=5.9,SNR=7.6						
CLL	**Collm**	**74.46 333**		*e*P	**P**	**09 51 35.0**	**+0.4**
TXAR	**Lajitas Array**	**80.01 57**		P	**P**	**09 52 06.7**	**+1.0**
	0.8nm,0.5s,baz=296,slow=4.2,SNR=17						
QSPA	**South Pole Qui**	**137.11 180**		PKP	**PKPdf**	**09 59 16.2**	**+1.4**
	1.1nm,0.9s,baz=80,slow=6.1,SNR=3.2						
CFA	**Coronel Fontan**	**148.06 74**		PKPbc	**PKPdf**	**09 59 37.8**	**+2.6**
	2.4nm,0.6s,baz=300,slow=3.6,SNR=5.4						
CPUP	**Villa Florida**	**150.89 53**		PKPbc	**PKPbc**	**09 59 46.0**	**+0.2**
	1.3nm,0.8s,baz=31,slow=3.3,SNR=3.5						
PLCA	**Paso Flores**	**151.54 91**		PKPbc	**PKPbc**	**09 59 47.5**	**+0.5**
	1.6nm,0.9s,baz=270,slow=3.3,SNR=4.7						

NEIC ***13*** *09:47:29.9±0.0, 38°.35S×176°.11E, h206km, mb4.1/4, After WEL.*
ISCJB ***13*** *09:47:31.4±0.2, 38°.40S±0°.02×176°.00E±0°.04, h187km±2km, mb4.2/9, Error ellipse: s-maj=4.8km s-min=3.4km az=15.4*
WEL ***13*** *09:47:31.8, 38°.S±2°.×17°.6E±°., h188km±2km*
IDC ***13*** *09:47:37.3±1.8, 38°.10S×176°.19E, h228km±15km, mb3.9/8, mb1 4.0/9, mb1mx3.9/22, mbtmp4.5/9, Error ellipse: s-maj=20.1km s-min=11.8km az=52.0*

ISC 13 09:47:32.0±0.6, 38°.45S±0°.04×176°.01E±0°.04, h186km±4km, n217, σ1§60/252, mb4.0/9, 1C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	**Galatos Road**	**0.13 38**		P	**Pn**	**09 47 56.6**	**-0.1**
WPRZ	**Whakapapatarin**	**0.14 121**		P	**Pn**	**09 47 56.5**	**-0.1**
KUTZ	**Kaahu Road**	**0.15 255**		P	**Pn**	**09 47 56.8**	**+0.2**
WHTZ	**Whakaora**	**0.22 191**		P	**Pn**	**09 47 57.3**	**+0.5**
HRRZ	**Handcock Road**	**0.22 75**		P	**Pn**	**09 47 56.5**	**-0.2**
HSRZ	**Hossack Road**	**0.23 53**		P	**Pn**	**09 47 56.6**	**-0.2**
ALRZ	**Allen Road**	**0.28 114**		P	**Pn**	**09 47 56.8**	**-0.1**
ALRZ				S	**Sn**	**09 48 14.8**	**-1.2**
PRRZ	**Plateau Road**	**0.30 100**		P	**Pn**	**09 47 56.7**	**-0.1**
UTU	**Utuhina**	**0.31 28**		P	**Pn**	**09 47 56.9**	**-0.1**
HLRZ	**Highlands Stat**	**0.33 54**		P	**Pn**	**09 47 57.1**	**+0.1**
WATZ	**Wairara**	**0.34 220**		P	**Pn**	**09 47 57.5**	**+0.5**
NGRZ	**Ngongotaha**	**0.37 22**		P	**Pn**	**09 47 56.9**	**-0.3**
TLZ	**Tolley Road**	**0.39 288**		P	**Pn**	**09 47 57.5**	**+0.3**
TLZ				S	**Sn**	**09 48 16.6**	**+0.1**
RRRZ	**Republican Roa**	**0.41 75**		P	**Pn**	**09 47 56.6**	**-0.6**
TARZ	**Mount Tarawera**	**0.44 61**		P	**Pn**	**09 47 57.0**	**-0.5**
OMRZ	**Omania**	**0.45 40**		P	**Pn**	**09 47 56.6**	**-0.7**
OMRZ				S	**Sn**	**09 48 15.1**	**-1.8**
HATZ	**Hinemaiaia**	**0.45 172**		P	**Pn**	**09 47 57.7**	**+0.4**
RATZ	**Rangitukua**	**0.46 204**		P	**Pn**	**09 47 57.9**	**+0.5**
KARZ	**Kaharoa**	**0.47 23**		P	**Pn**	**09 47 56.7**	**-0.8**
KARZ				S	**Sn**	**09 48 15.3**	**-1.7**
MKRZ	**Makatiti**	**0.47 49**		P	**Pn**	**09 47 57.5**	**-0.1**
MRHZ	**Matea Rd**	**0.50 140**		P	**Pn**	**09 47 57.5**	**-0.1**
LIRZ	**Lichensteins R**	**0.53 34**		P	**Pn**	**09 47 56.9**	**-0.8**
RITZ	**Rihia Road**	**0.54 193**		P	**Pn**	**09 47 58.8**	**+1.1**
KATZ	**Kakaramea**	**0.58 205**		P	**Pn**	**09 47 58.9**	**+0.9**
MUGZ	**Murupara**	**0.60 93**		P	**Pn**	**09 47 57.1**	**-0.8**
MUGZ				S	**Sn**	**09 48 14.8**	**-3.1**

KMRZ	Kaimai	0.60	355	P	Pn	09 47 57.4	-0.7
KMRZ				S	Sn	09 48 16.4	-1.7
EDRZ	Edgecumbe	0.67	59	P	Pn	09 47 57.4	-1.0
MARZ	Manawahe	0.70	49	P	Pn	09 47 57.5	-1.0
KRVZ	Karewarewa	0.71	204	P	Pn	09 47 59.5	+0.9
OPRZ	Ohinepanea	0.74	36	P	Pn	09 47 57.3	-1.4
OPRZ				S	Sn	09 48 16.3	-3.0
WTVZ	West Tongariro	0.74	206	P	Pn	09 47 59.7	+0.9
TGRZ	Tauranga	0.75	15	P	Pn	09 47 57.5	-1.2
MTHZ	Maungataniwha	0.77	122	P	Pn	09 47 58.9	0.0
TWVZ	Taurewa	0.77	216	P	Pn	09 47 59.8	+0.9
RTZ	Ruatahuna	0.78	103	P	Pn	09 47 58.4	-0.5
RTZ				S	Sn	09 48 17.9	-1.9
NGZ	Ngauruhoe	0.79	204	P	Pn	09 48 00.5	+0.9
BKZ	Black Stump Fm	0.81	152	ePn	Pn	09 47 59.5	+0.5
BKZ	Black Stump Fm	0.81	152	P	Pn	09 47 59.6	+0.5
TOZ	Tahuroa Road	0.82	331	P	Pn	09 47 58.7	-0.4
TOZ				S	Sn	09 48 18.6	-1.5
TUVZ	Tukino	0.86	199	P	Pn	09 48 00.7	+1.1
FWVZ	Far West T-bar	0.88	204	P	Pn	09 48 00.7	+1.0
URZ	Urewera	0.89	78	ePn	Pn	09 47 58.2	-1.4
URZ				eSn	Sn	09 48 14.7	-6.1
URZ	Urewera	0.89	78	P	Pn	09 47 58.1	-1.4
	585nm,0.3s,baz=256,slow=5.2,SNR=7482						
URZ				S	Sn	09 48 16.7	-4.1
	4μm,0.3s,baz=180,slow=20,SNR=216						
URZ	Urewera	0.89	78	P	Pn	09 47 58.1	-1.4
URZ				S	Sn	09 48 17.2	-3.6
WHVZ	Whangaehu Hut	0.90	201	P	Pn	09 48 01.0	+1.1
DRZ	Dome Shelter	0.90	203	P	Pn	09 48 01.6	+1.6
NMHZ	Naumai	0.90	136	P	Pn	09 48 00.9	+1.2
HIZ	Hauiti	0.91	266	ePn	Pn	09 48 00.5	+0.8
HIZ	Hauiti	0.91	266	P	Pn	09 48 00.5	+0.8
TRVZ	Turoa	0.92	203	P	Pn	09 48 01.3	+1.2
RAHZ	Arahi	0.96	119	P	Pn	09 48 00.6	+0.5
WHRZ	Whale Island	0.96	52	P	Pn	09 47 59.2	-1.0
MOVZ	Moawhango	0.98	192	P	Pn	09 48 01.0	+0.8
PKVZ	Pokaka	0.99	212	P	Pn	09 48 01.4	+1.1
KWHZ	Kaweka Forest	1.02	162	P	Pn	09 48 01.7	+1.2
MTVZ	Mangateitei	1.02	204	P	Pn	09 48 01.8	+1.3
BHHZ	Black Hill Sta	1.04	178	P	Pn	09 48 01.6	+0.9
SNGZ	Shannon Statio	1.09	108	P	Pn	09 48 01.2	+0.1
RAGZ	Rawiri	1.10	93	P	Pn	09 48 01.0	-0.2
ARHZ	Aropaoanui	1.12	137	P	Pn	09 48 02.3	+1.1
MCHZ	McNeill Hill	1.13	152	P	Pn	09 48 02.8	+1.6
WHHZ	Waihua	1.14	124	P	Pn	09 48 02.2	+0.8
VRZ	Vera Road	1.19	235	P	Pn	09 48 03.2	+1.5
MWZ	Matawai	1.20	85	P	Pn	09 48 00.9	-1.0
KRHZ	Kereru	1.23	167	P	Pn	09 48 03.3	+1.2
WIZ	White Island	1.31	46	P	Pn	09 48 01.0	-1.8
RIGZ	Rimuhau	1.40	101	P	Pn	09 48 03.5	-0.1
RUGZ	Raukumara Rang	1.40	70	P	Pn	09 48 01.4	-2.3
KNZ	Kokohu	1.42	114	P	Pn	09 48 04.1	+0.4
TKGZ	Te Karaka	1.44	90	P	Pn	09 48 03.6	-0.3
MHEZ	Mangahewa	1.46	244	P	Pn	09 48 06.3	+2.2
CKHZ	Cape Kidnapper	1.47	146	P	Pn	09 48 05.6	+1.5
PNHZ	Pukenui	1.47	174	P	Pn	09 48 05.4	+1.1
KAHZ	Kahuranaki	1.50	154	P	Pn	09 48 06.0	+1.5
WAZ	Wanganui	1.53	211	P	Pn	09 48 06.2	+1.5
PRGZ	Paritu Road	1.54	108	P	Pn	09 48 05.1	+0.2
HAZ	Te Kaha	1.56	64	P	Pn	09 48 02.8	-2.3
TWGZ	Tauwhareparae	1.57	81	P	Pn	09 48 04.6	-0.7
DREZ	Durham Road	1.59	242	P	Pn	09 48 07.5	+2.1
TSZ	Takapari Road	1.61	181	P	Pn	09 48 06.8	+1.3
LREZ	Lake Rotokare	1.61	231	P	Pn	09 48 07.5	+2.0
KBAZ	Karaka Road Bo	1.62	326	P	Pn	09 48 05.2	-0.4
MHGZ	Mahia Peninsul	1.64	116	P	Pn	09 48 06.5	+0.7
WPHZ	Waipukurau	1.65	168	P	Pn	09 48 07.2	+1.3
PREZ	Palmer Road	1.70	238	P	Pn	09 48 08.5	+2.1
PXZ	Pawanui	1.71	158	P	Pn	09 48 07.8	+1.3
KUZ	Kuaotunu	1.72	352	P	Pn	09 48 05.2	-1.4
ETAZ	East Tamaki Re	1.72	330	P	Pn	09 48 06.0	-0.7
PKGZ	Pakihiroa	1.72	72	P	Pn	09 48 05.4	-1.3
CNGZ	Carnagh Statio	1.73	92	P	Pn	09 48 06.8	+0.2
PKE	Pukeiti	1.75	244	P	Pn	09 48 08.7	+1.9
AWAZ	Awhitu Peninsu	1.76	321	P	Pn	09 48 06.6	-0.4
KHEZ	Kahui Hut	1.77	241	P	Pn	09 48 09.1	+1.9
WIAZ	Waiheke Island	1.79	337	P	Pn	09 48 06.6	-0.8
PUZ	Puketiti	1.81	79	P	Pn	09 48 06.1	-1.4
OHWZ	Ohakea	1.83	197	P	Pn	09 48 09.6	+1.9
DVHZ	Dannevirke	1.85	176	P	Pn	09 48 08.9	+1.0
NBEZ	Newall Road No	1.86	243	P	Pn	09 48 09.9	+1.9
EPAZ	Eden Park BICE	1.86	327	P	Pn	09 48 07.6	-0.5
PRHZ	Porangahau	1.88	165	P	Pn	09 48 09.4	+1.2
HBAZ	Herne Bay Bore	1.89	327	P	Pn	09 48 07.8	-0.5
WTAZ	Waiatarua	1.90	323	P	Pn	09 48 08.2	-0.2
MBAZ	Motutapu North	1.90	332	P	Pn	09 48 07.8	-0.7
NMEZ	Namu Road	1.92	239	P	Pn	09 48 10.5	+1.9
POWZ	Post Office Ro	1.95	185	P	Pn	09 48 10.0	+1.1
WMGZ	Waiomatatini S	2.00	72	P	Pn	09 48 08.0	-1.4
MXZ	Matakaoa Point	2.02	65	ePn	Pn	09 48 08.4	-1.2
MXZ	Matakaoa Point	2.02	65	P	Pn	09 48 08.2	-1.5
RVAZ	Riverhead Bore	2.02	325	P	Pn	09 48 09.3	-0.5
ANWZ	Angora Road	2.04	170	P	Pn	09 48 11.2	+1.3
ABAZ	Army Bay	2.07	333	P	Pn	09 48 09.9	-0.4
PRWZ	Pori Road	2.10	181	P	Pn	09 48 11.8	+1.3
MRZ	Mangatainoka R	2.23	188	P	Pn	09 48 12.8	+0.9
BFZ	Birch Farm	2.24	175	ePn	Pn	09 48 13.1	+1.1
BFZ				eSn	Sn	09 48 39.7	-3.7
BFZ	Birch Farm	2.24	175	P	Pn	09 48 12.9	+0.8
GRZ	Great Barrier	2.24	348	P	Pn	09 48 10.9	-1.2
TIWZ	Tintock	2.33	182	P	Pn	09 48 14.0	+0.9
OGWZ	Otaki Gorge	2.45	195	P	Pn	09 48 15.4	+1.0
CPWZ	Castlepoint	2.46	177	P	Pn	09 48 16.3	+1.7
HOWZ	Holdsworth Sta	2.48	189	P	Pn	09 48 15.3	+0.6
KIW	Kapiti Island	2.55	199	P	Pn	09 48 16.2	+0.6
TMWZ	Te Maipa	2.66	182	P	Pn	09 48 17.3	+0.5
MTW	Mount Morrison	2.73	188	P	Pn	09 48 18.0	+0.3
CAW	Cannon Point	2.75	195	P	Pn	09 48 18.5	+0.6
WCZ	Waipu Caves	2.84	332	P	Pn	09 48 18.5	-0.5
DUWZ	D'Urville Isla	2.85	214	P	Pn	09 48 19.6	+0.5
TRWZ	Traveller	2.96	185	P	Pn	09 48 20.8	+0.5
PAWZ	Paruwai Farm	2.96	189	P	Pn	09 48 20.6	+0.2
MSWZ	Moikau Station	3.02	191	P	Pn	09 48 21.3	+0.1
SNZO	South Karori	3.03	199	ePn	Pn	09 48 21.5	+0.3
SNZO				eSn	Sn	09 48 57.0	-2.8
TCW	Tory Channel	3.06	205	P	Pn	09 48 22.1	+0.4
BHW	Baring Head	3.08	196	P	Pn	09 48 22.1	+0.3
PLWZ	Palliser	3.17	190	P	Pn	09 48 23.0	0.0
TUWZ	Tuamarina	3.37	207	P	Pn	09 48 25.6	+0.2
NNZ	Nelson	3.43	215	P	Pn	09 48 26.1	0.0
CMWZ	Cape Campbell	3.57	202	P	Pn	09 48 28.9	+1.1
QRZ	Quartz Range	3.59	227	P	Pn	09 48 27.5	-0.5
BSWZ	Blackbirch Sta	3.65	206	P	Pn	09 48 29.1	+0.3
OUZ	Omahuta	3.76	328	ePn	Pn	09 48 30.1	-0.2
OUZ	Omahuta	3.76	328	P	Pn	09 48 30.1	-0.2
THZ	Tophouse	4.08	215	ePn	Pn	09 48 34.6	+0.3
THZ				eSn	Sn	09 49 19.3	-3.9
THZ	Tophouse	4.08	215	P	Pn	09 48 33.9	-0.4
KHZ	Kahutara	4.39	205	ePn	Pn	09 48 38.5	+0.4
KHZ				eSn	Sn	09 49 28.9	-1.3
KHZ	Kahutara	4.39	205	P	Pn	09 48 38.3	+0.2
DSZ	Denniston Nort	4.61	223	P	Pn	09 48 40.3	-0.7
LTZ	Lake Taylor	5.18	212	ePn	Pn	09 48 47.7	-0.6
LTZ	Lake Taylor	5.18	212	P	Pn	09 48 47.5	-0.9
AMCZ	Amberley	5.37	207	P	Pn	09 48 50.5	-0.2
INZ	Inchbonnie	5.51	218	P	Pn	09 48 51.3	-1.3
OKCZ	Okains Bay	5.72	202	P	Pn	09 48 54.8	-0.5
CRLZ	Canterbury Las	5.72	205	ePn	Pn	09 48 54.8	-0.6
CRLZ				eSn	Sn	09 49 57.9	-3.2
CRLZ	Canterbury Las	5.72	205	P	Pn	09 48 54.2	-1.2
OXZ	Oxford	5.73	210	ePn	Pn	09 48 54.6	-0.8
OXZ				eSn	Sn	09 49 57.9	-3.3
OXZ	Oxford	5.73	210	P	Pn	09 48 53.8	-1.6
MQZ	McQueen's Vall	5.83	205	ePn	Pn	09 48 55.5	-1.3
MQZ				eSn	Sn	09 49 59.9	-3.7
MQZ	McQueen's Vall	5.83	205	P	Pn	09 48 55.3	-1.5
AKCZ	Akaroa Harbour	5.90	202	P	Pn	09 48 57.3	-0.4
WVZ	Waitaha Valley	6.11	219	P	Pn	09 48 59.5	-0.9
RPZ	Rata Peaks	6.46	214	ePn	Pn	09 49 04.5	-0.4
RPZ				eSn	Sn	09 50 14.5	-3.9
RPZ	Rata Peaks	6.46	214	P	Pn	09 49 04.2	-0.8
	29nm,0.3s,baz=7.6,slow=5.0,SNR=238						
RPZ				S	Sn	09 50 15.2	-3.2
	53nm,0.3s,baz=27,slow=14,SNR=36						
RPZ	Rata Peaks	6.46	214	P	Pn	09 49 04.1	-0.8
FOZ	Fox Glacier	6.91	221	ePn	Pn	09 49 10.8	0.0
FOZ				eSn	Sn	09 50 23.2	-5.8
FOZ	Fox Glacier	6.91	221	P	Pn	09 49 10.1	-0.8
LBZ	Lake Benmore	7.37	215	ePn	Pn	09 49 16.4	-0.5
LBZ	Lake Benmore	7.37	215	P	Pn	09 49 15.9	-1.0
CTZ	Chatham Island	7.67	136	P	Pn	09 49 23.9	+3.1
ODZ	Otahua Downs	7.71	210	ePn	Pn	09 49 21.5	+0.1
ODZ				eSn	Sn	09 50 41.9	-6.2
ODZ	Otahua Downs	7.71	210	P	Pn	09 49 20.6	-0.8
JCZ	Jackson Bay	7.82	222	P	Pn	09 49 21.5	-1.4
WKZ	Wanaka	8.24	217	ePn	Pn	09 49 27.4	-1.0
WKZ				eSn	Sn	09 50 56.6	-4.2
WKZ	Wanaka	8.24	217	P	Pn	09 49 27.0	-1.4
EAZ	Earnscleugh	8.42	214	P	Pn	09 49 29.2	-1.4
HHSZ	Highcliff Hill	8.45	207	P	Pn	09 49 31.0	0.0
MSZ	Milford Sound	8.68	222	P	Pn	09 49 33.4	-0.6
TUZ	Tuapeka	8.87	210	P	Pn	09 49 36.7	+0.2
MLZ	Mavora Lakes	9.07	218	ePn	Pn	09 49 38.5	-0.7
MLZ				eSn	Sn	09 51 16.6	-3.9
MLZ	Mavora Lakes	9.07	218	P	Pn	09 49 38.3	-1.0
SYZ	Scrubby Hill	9.54	210	P	Pn	09 49 45.7	+0.5
WHZ	Wether Hill Ro	9.54	216	ePn	Pn	09 49 44.2	-1.1
WHZ	Wether Hill Ro	9.54	216	P	Pn	09 49 44.2	-1.1
DCZ	Deep Cove	9.62	220	ePn	Pn	09 49 45.1	-1.2
DCZ				eSn	Sn	09 51 32.6	-1.0
DCZ	Deep Cove	9.62	220	P	Pn	09 49 45.4	-0.9
APZ	The Paps	10.25	213	P	Pn	09 49 53.7	-0.8
DZM	Mont Dzumac	18.28	331	eP	Pn	09 51 33.7	-0.4
	23nm,0.7s						
DZM	Mont Dzumac	18.28	331	P	Pn	09 51 33.7	-0.4
	1.6nm,0.3s,baz=126,slow=13,SNR=16						
STKA	Stephens Creek	28.77	273	eP	P	09 53 14.4	+2.0
	0.8nm,1.0s						
STKA	Stephens Creek	28.77	273	P	P	09 53 14.6	+2.2
	2.1nm,0.8s,baz=135,slow=8.7,SNR=3.8						
ASAR	Alice Springs	38.62	280	P	P	09 54 39.4	+2.0
	8.0nm,0.7s,baz=129,slow=8.8,SNR=128						
ASAR				PcP	PcP	09 56 45.2	-0.4
	0.8nm,0.5s,baz=125,slow=4.2,SNR=4.2						
ASAR				ScP	ScP	10 00 12.3	-3.6
	1.0nm,0.8s,baz=119,slow=3.8,SNR=6.6						
ASAR				S	S	10 00 20.0	+0.2
	0.7nm,0.6s,baz=130,slow=14,SNR=7.9						
VNDA	Vanda	39.64	185	eP	P	09 54 42.5	-2.6
	3.9nm,0.9s						
VNDA	Vanda	39.64	185	P	P	09 54 48.8	+3.8
	3.7nm,0.8s,baz=0.2,slow=8.1,SNR=18						
VNDA				ScP	ScP	10 00 17.4	-1.5
	0.6nm,0.7s,baz=62,slow=3.7,SNR=4.5						
SBA	Scott Base	39.70	183	eP	P	09 54 46.9	+1.3
	11nm,1.1s						
WR1	Warramunga Arr	40.38	285	eP	P	09 54 53.1	+1.2
WR1				ePcP	PcP	09 56 50.2	-1.1
WR1				eScP	ScP	10 00 19.2	-3.5
WRA	Warramunga Arr	40.38	285	P	P	09 54 53.1	+1.2
	2.0nm,0.5s,baz=123,slow=7.5,SNR=36						
WRA				PcP	PcP	09 56 50.2	-1.1
	0.3nm,0.6s,baz=140,slow=3.4,SNR=2.5						
WRA				ScP	ScP	10 00 19.2	-3.5
	1.2nm,0.9s,baz=120,slow=3.8,SNR=5.9						
QSPA	South Pole Qui	51.68	180	P	P	09 56 24.4	+4.9
	30nm,0.6s,baz=309,slow=0.2,SNR=264						
SYO	Syowa Base	68.12	196⇑	eP	P	09 58 12.0	+0.8
SYO	Syowa Base	68.12	196⇓	eP	P	09 58 14.0	+2.8
SNAA	Sanae	70.18	180	P	P	09 58 26.5	+2.6
VNA3	Neumayer Olymp	70.54	178	P	P	09 58 28.9	+2.8
VNA2	Neumayer--Watz	70.91	179	P	P	09 58 31.1	+2.9
	baz=184,slow=5.8						
VNA1	Neumayer--Stat	71.17	178	P	P	09 58 32.4	+2.6
PLCA	Paso Flores	80.49	135	P	P	09 59 24.4	+1.1
	1.9nm,0.8s,baz=209,slow=19,SNR=3.8						
MJAR	Matsushiro Art	82.38	330	P	P	09 59 32.1	-0.8
	1.3nm,0.6s,baz=172,slow=5.6,SNR=4.1						
MAJO	Matsushiro	82.39	330	eP	P	09 59 32.1	-0.8
KSRS	Korea Array	87.57	324	P	P	09 59 59.8	+1.2
	4.7nm,0.8s,baz=144,slow=5.7,SNR=16						
YKA	Yellowknife Ar	114.84	29	PKiKP	PKPdf	10 05 47.4	-1.9
	0.2nm,0.5s,baz=240,slow=1.4,SNR=3.4						
YKB5	Yellowknife Ar	114.84	29	ePKiKP	PKPdf	10 05 47.4	-1.9
KBZ	Khabaz	144.64	294	PKP	PKPdf	10 06 45.2	-0.7
	5.3nm,0.9s,baz=124,slow=2.2,SNR=8.0						
ARA0	ARCESS Array S	145.09	342	ePKPbc	PKPab	10 06 45.6	-0.5
ARCES	ARCESS Array B	145.09	342	PKP	PKPab	10 06 45.6	-0.5
	1.4nm,0.4s,baz=46,slow=3.3,SNR=23						
MMAI	Mount Meron Ar	147.74	273	PKPbc	PKiKP	10 06 55.6	-1.0
	0.9nm,0.3s,baz=75,slow=4.4,SNR=3.8						
DBIC	Dimbokro	148.35	178	PKPbc	PKiKP	10 06 57.8	-0.4
	3.8nm,0.7s,baz=174,slow=2.6,SNR=3.4						
FIA0	FINESS Array S	150.41	331	ePKPbc	PKPbc	10 06 59.8	-0.5
FIA0				ePKPab	PKPab	10 07 06.2	-1.4
FINES	FINESS Array B	150.41	331	PKPbc	PKPbc	10 06 59.8	-0.5
	2.8nm,0.7s,baz=37,slow=2.8,SNR=10						
FINES				PKPab	PKPab	10 07 06.2	-1.4
	1.7nm,0.5s,baz=39,slow=4.6,SNR=8.3						
BR101	Keskin Array S	150.90	284	ePKPbc	PKPbc	10 07 02.0	-0.4
BRTR	Keskin Array B	150.90	284	PKPbc	PKPbc	10 07 02.0	-0.4
	3.7nm,0.7s,baz=150,slow=5.1,SNR=15						
TORD	Torodi Ar. Bea	154.30	193	PKPbc	PKiKP	10 07 10.1	-0.4
	0.6nm,0.6s,baz=177,slow=4.2,SNR=5.2						
TORD				PKPab	PKPab	10 07 26.9	+1.8
	0.8nm,0.6s,baz=180,slow=5.8,SNR=6.9						
TOA1	Torodi Ar. Sit	154.31	193	ePKPbc	PKiKP	10 07 10.1	-0.4
TOA1				ePKPab	PKPab	10 07 26.9	+1.8

*DDA **13** 10:04:25.8,39°.09N×28°.16E,h7km±4km,ML2.6*
*ISK **13** 10:04:25.9,39°.11N×28°.12E,h4km,ML2.4/18*
*ISCJB **13** 10:04:26.8±0.5,39°.08N±0°.02×28°.11E±0°.04,h13km±5km,*
Error ellipse: s-maj=5.3km s-min=3.7km az=3.0

ISC 13 10:04:26.2±1.0,39°.11N±0°.02×28°.15E±0°.03,h10km±10km,
n29,σ0°70/40,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	Akhisar	0.35	229	IAML_P			
	comp=Z,13μm,0.2s						
AKHS				*i* P	Pg	10 04 33.2	0.0
AKHS				*i* S	Sb	10 04 38.9	-1.3
AKS	Akhisar	0.35	229	PG	Pg	10 04 32.9	-0.3
AKS				SG	Sg	10 04 38.2	+0.4
STEP	BALIKESIR_Sava	0.43	309	IAML_P			
	comp=Z,1μm,0.2s						
STEP				*i* P	Pg	10 04 34.2	-0.5
STEP				*i* S	Sg	10 04 41.2	+0.8
DURS	Dursunbey	0.55	27	IAML_P			
	comp=Z,846nm,0.1s						
DURS				*i* P	Pb	10 04 37.8	-0.3
DURS				*i* S	Sn	10 04 49.0	-0.7
BALB	Balikesir	0.57	338	PG	Pb	10 04 37.8	-0.6
BALB				SG	Sb	10 04 46.4	-0.2
MANT	Manisa	0.69	153	IAML_P			
	comp=Z,3μm,0.1s						
MANT				*i* P	Pb	10 04 40.6	0.0
MANT				*i* S	Sg	10 04 48.6	-0.2
KULA	Kula-Manisa	0.71	146	PG	Pb	10 04 40.5	-0.3
USAK	Uak-Merkez	0.78	120	IAML_P			
	comp=Z,2μm,0.1s						
USAK				*i* P	Pb	10 04 42.0	0.0
USAK				*i* S	Sg	10 04 51.6	+0.1
GONE	Gonen-Balikesi	1.00	339	PG	Pb	10 04 45.6	-0.2
GDZ	Gediz	1.03	91	IAML_P			
	comp=Z,736nm,0.1s						
GDZ				*i* P	Pn	10 04 46.9	-0.1
GDZ				*i* S	Sb	10 05 00.7	+0.6
TVSB	Tavsanli	1.07	71	PN	Pn	10 04 47.5	0.0
ORLT	Orhaneli	1.10	31	PN	Pb	10 04 47.8	+0.4
BLCB	Balcova	1.13	231	PN	Pb	10 04 47.7	-0.2
KCTX	Karacabey (Bur	1.17	8	PN	Pb	10 04 48.7	+0.1
EDC	Edincik	1.26	350	PN	Pg	10 04 49.7	-0.7
KHAL	Karahalli	1.28	125	IAML_P			
	comp=Z,344nm,0.3s						
KHAL				*i* P	Pb	10 04 50.9	+0.3
KHAL				*i* S	Sn	10 05 08.4	+0.8
ULDT	Uludag	1.28	36	*i* P	Pb	10 04 51.5	+0.8
ULDT				*i* S	Sg	10 05 07.6	+0.1
MDNY	Mudanya-Bursa	1.38	24	PN	Pg	10 04 52.8	+0.1
KRBG	Karabiga-Canak	1.44	333	PN	Pb	10 04 53.3	+0.1
AYDN	Tasoluk	1.46	189	IAML_P			
	comp=Z,966nm,0.2s						
AYDN				*i* P	Pg	10 04 54.9	+0.7
AYDN				*i* S	Sb	10 05 10.3	-1.9
ARMT	Armutlu	1.56	20	PN	Pb	10 04 55.3	+0.1
CAVI	Cavuskoy	1.70	50	PN	Pb	10 04 57.4	-0.3
RKY	Sarkoy-Tekirda	1.75	335	PN	Pb	10 04 57.8	-0.6
SIGR	SIGRI	1.79	274	PN	Pn	10 04 58.0	+0.8
GELI	Tayfur-Gelibol	1.82	315	PN	Pn	10 04 58.7	+1.0
BUY	Buyukada	1.89	23	PN	Pb	10 05 00.1	-0.8
BORA	Eskisehir	1.94	66	PN	Pb	10 05 00.9	-0.9
SRCK	Saricakaya, Es	2.13	63	PN	Pb	10 05 03.7	-1.2
CTKS	Kestanelik-??a	2.14	7	PN	Pn	10 05 03.5	+1.4

*HLW **13** 10:09:13.5,30°.48N×36°.26E,h10km±17km,Ml3.6*
*ISCJB **13** 10:09:16.7±2.1,29°.96N±0°.08×36°.3E±0°.2,h5km,Error*
ellipse: s-maj=22.8km s-min=9.6km az=19.3
*JSO **13** 10:09:24.5±0.7,30°.N±8°.×3°.6E±1°.1,h5km,M2.6/6,*
Mjma2.5/6,ML2.6/3,MLv2.6/6

ISC 13 10:09:14.6±2.2,29.79N±0°.07×36°.4E±0°.1,h5km,n9,
σ1°92/10,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSNJ	Maan	0.76	308	P	Pg	10 09 28.7	-0.5
JDRJ	Daraweish	1.12	327	P	Pg	10 09 35.3	-0.8
AQBJ	Aqaba	1.16	267	P	Pn	10 09 38.2	+0.7
EIL	Elat	1.25	265	P	Pg	10 09 35.3	-3.2
HBST	Basata	1.54	249	P	Pg	10 09 44.6	+0.4
	baz=227						
HBST				AMP		10 10 00.0	
	baz=227						
HBST				S	Sg	10 10 06.8	+2.6
	baz=227						
GHAJ	Ghor Haditha	1.66	335	P	Pb	10 09 45.0	-0.7
HKAT	Jabal Katrina	2.44	239	P	Pn	10 09 57.2	+1.9
	baz=226						
SHMJ	Saham	2.97	350	P	Pg	10 10 11.1	-0.5
HHRG	Al Ghardaqah	3.56	225	P	Pb	10 10 16.4	-1.7
	baz=215						

*KRNET **13** 10:27:57.5±0.1,40°.87N×78°.45E,h19km,mb3.4*
*SOME **13** 10:28:01.2,40°.98N×78°.52E,h10km*
*NNC **13** 10:28:02.4±1.6,41°.06N×78°.55E,h0km±8km,mb4.2,*
mpv3.9,Error ellipse: s-maj=10.2km s-min=5.8km
az=168.0

ISC 13 10:28:00.8±1.6,40°.97N±0°.07×78°.47E±0°.04,h10km,n63,
σ1°63/92,25C-21D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.91	327	⇑*i* P	Pg	10 28 16.5	-1.9
	baz=30						
TARG				⇑*i* S	Sg	10 28 30.5	+0.2
	baz=30						
KDJ	Kajisay	1.51	321	⇑*i* P	Pn	10 28 27.2	-0.9
	baz=24						
KDJ				⇑*i* S	Sn	10 28 48.7	+0.7
	baz=24						
PRZ	Przheval'sk	1.52	358	⇓*i* P	Pn	10 28 27.7	-0.5
	baz=59						
PRZ				⇓*i* S	Sg	10 28 49.9	+0.3
	baz=59						
NRN	Naryn	1.92	285	⇑*i* P	Pn	10 28 33.4	-0.4
	baz=87						
NRN				⇑*i* S	Sn	10 28 59.8	+1.6
	baz=87						
SATY	Saty	2.09	359	Pg	Pb	10 28 38.9	0.0
	123nm,0.4s						
SATY				Lg	Lg	10 29 06.3	
	317nm,0.3s						
SATY	Saty	2.09	359	*e*P	Pb	10 28 38.9	0.0
	123nm,0.4s						
SATY				*e*S	Sg	10 29 06.3	-1.8
	317nm,0.3s						
ULHL	Ulahol	2.10	308	P	Pn	10 28 37.3	+1.1
	SNR=63						
ULHL	Ulahol	2.10	308	⇓*i* P	Pn	10 28 36.4	+0.1
	baz=10.0						
ULHL				⇓*i* S

TKM2			⇓Lg	Lg	10 29 32.4	
	40nm,0.5s					
TKM2	**Tokmak 2**	**2.90 313**	⇑*i*P	**Pn**	**10 28 48.0**	**+0.8**
	baz=15					
TKM2			⇑*i*S	**Sn**	**10 29 24.6**	**+2.4**
	baz=15					
DGS	**Degeres**	**3.03 319**	Pg	**Pb**	**10 28 56.0**	**+1.1**
	34nm,0.6s					
DGS			Lg	Lg	10 29 35.8	
	212nm,0.6s					
DGS	**Degeres**	**3.03 319**	*e*P	**Pb**	**10 28 56.0**	**+1.1**
	34nm,0.6s					
DGS			*e*S	**Sg**	**10 29 35.8**	**-2.4**
	212nm,0.6s					
KTBS	**Karatobe**	**3.05 335**	Pg	**Pb**	**10 28 57.1**	**+2.0**
	18nm,0.6s					
KTBS			Lg	Lg	10 29 37.4	
	116nm,0.6s					
KTBS	**Karatobe**	**3.05 335**	*e*P	**Pb**	**10 28 57.1**	**+2.0**
	18nm,0.6s					
KTBS			*e*S	**Sg**	**10 29 37.4**	**-1.3**
	116nm,0.6s					
MNBS	**Baschi**	**3.11 359**	Pg	**Pb**	**10 28 57.9**	**+1.6**
	59nm,0.6s					
MNBS			Lg	Lg	10 29 39.2	
	159nm,0.4s					
MNBS	**Baschi**	**3.11 359**	*e*P	**Pg**	**10 28 58.6**	**-1.8**
	59nm,0.6s					
MNBS			*e*S	**Sg**	**10 29 39.8**	**-0.9**
	159nm,0.4s					
KBK	**Karagaybulak**	**3.13 304**	P	**Pb**	**10 28 55.8**	**-0.8**
	SNR=8.7					
KBK	**Karagaybulak**	**3.13 304**	⇓*i*P	**Pn**	**10 28 51.0**	**+0.7**
	baz=5.0					
KBK			⇓*i*S	**Sn**	**10 29 29.4**	**+1.6**
	baz=5.0					
UCH	**Uchtor**	**3.22 294**	P	**Pb**	**10 28 57.2**	**-1.1**
	SNR=13					
UCH	**Uchtor**	**3.22 294**	⇑*i*P	**Pn**	**10 28 52.1**	**+0.2**
	baz=96					
UCH			⇑*i*S	**Sn**	**10 29 31.9**	**+1.4**
	baz=96					
ARLS	**Aral**	**3.24 287**	⇑*i*P	**Pn**	**10 28 52.1**	**+0.2**
	baz=89					
ARLS			⇑*i*S	**Sn**	**10 29 32.0**	**+1.4**
	baz=89					
ARXS	**Arharly**	**3.28 352**	Pg	**Pb**	**10 29 00.2**	**+1.1**
	26nm,0.5s					
ARXS			Lg	Lg	10 29 42.7	
	76nm,0.5s					
ARXS	**Arharly**	**3.28 352**	*e*P	**Pg**	**10 29 02.2**	**-1.4**
	26nm,0.5s					
ARXS			*e*S	**Sg**	**10 29 46.0**	**-0.1**
	76nm,0.5s					
KUU	**Kurty**	**3.32 332**	*e*P	**Pb**	**10 29 01.6**	**+1.8**
	8.1nm,0.8s					
KUU			*e*S	**Sg**	**10 29 44.9**	**-2.6**
	69nm,1.4s					
AAK	**Ala-Archa**	**3.41 301**	⇑Pn	**Pn**	**10 28 58.6**	**+4.5**
	13nm,0.8s					
AAK			⇑Lg	Lg	10 29 49.1	
	32nm,0.8s					
CHMS	**Chumysh**	**3.44 307**	P	**Sg**	**10 29 48.7**	**-2.4**
	SNR=6.9					
CHMS	**Chumysh**	**3.44 307**	⇑*i*P	**Pn**	**10 28 55.3**	**+0.9**
	baz=9.0					
CHMS			⇑*i*S	**Sn**	**10 29 36.5**	**+1.3**
	baz=9.0					
DJR	**Jarkent**	**3.50 16**	Pg	**Pb**	**10 29 04.6**	**+1.7**
	14nm,0.4s					
DJR			Lg	Lg	10 29 50.0	
	84nm,0.5s					
DJR	**Jarkent**	**3.50 16**	*e*P	**Pb**	**10 29 04.6**	**+1.7**
	14nm,0.4s					
DJR			*e*S	**Sg**	**10 29 50.0**	**-3.3**
	84nm,0.5s					
USP	**Ospenovka**	**3.74 309**	P	**Pb**	**10 29 10.8**	**+3.9**
	SNR=7.3					
AML	**Almayashu**	**3.77 290**	P	**Pb**	**10 29 06.9**	**-0.7**
	SNR=8.7					
AML	**Almayashu**	**3.77 290**	⇓*i*P	**Pn**	**10 29 00.0**	**+0.7**
	baz=91					
AML			⇓*i*S	**Sn**	**10 29 45.5**	**+1.6**
	baz=91					
EKS2	**Erkin-Say**	**3.89 297**	P	**Pb**	**10 29 11.9**	**+2.3**
	SNR=6.1					
KK31	**Karatay Array**	**6.30 292**	⇑Pg	**Pg**	**10 29 59.1**	**-2.2**
	0.9nm,0.5s,baz=111,slow=15,SNR=7.2					
KK31			⇓Lg	Lg	10 31 25.3	
	2.2nm,0.6s,baz=106,slow=28,SNR=5.2					
MAKZ	**Makanchi**	**6.37 22**	⇓Pn	**Pn**	**10 29 38.5**	**+3.9**
	6.4nm,0.5s					
MAKZ			⇓Lg	Lg	10 31 21.9	
	3.2nm,0.6s					
MK31	**Makanchi Array**	**6.45 24**	⇓Pn	**Pn**	**10 29 34.1**	**-1.7**
	0.3nm,0.5s,baz=206,slow=13,SNR=7.5					
MK31			⇑Lg	Lg	10 31 21.6	
	2.4nm,0.6s,baz=207,slow=26,SNR=4.6					
OTUK	**Ortayu**	**8.49 331**	⇑Pg	**Pg**	**10 30 39.5**	**-3.7**
	2.1nm,1.0s					
OTUK			⇑Lg	Lg	10 32 27.1	
	4.7nm,0.8s					
KURBB	**Kurchatov Arra**	**9.66 0**	⇓Lg	Lg	10 33 07.3	
	18nm,0.9s					
KURK	**Kurchatov**	**9.75 1**	⇓Lg	Lg	10 33 08.2	
	12nm,0.9s					

*ISCJB **13** 10:31:35.6±0.5,27.°12N±0.°07×126.°50E±0.°08, h147km±7km, mb3.5/6, Error ellipse: s-maj=15.8km s-min=4.7km az=138.7*
*IDC **13** 10:31:37.4±3.5,27.°29N×126.°75E, h157km±56km, mb3.2/6, mb1 3.3/6, mb1mx3.0/47, mbtmp3.7/6, Error ellipse: s-maj=132.0km s-min=15.0km az=63.0*
*JMA **13** 10:31:38.1±0.3,27.°17N×126.°55E, h134km±4km, M3.1*

ISC 13 10:31:36.5±0.9, 27.°17N±0.°09×126.°47E±0.°08, h142km±11km, n24, σ1°08/37, mb3.5/6, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.88**	**161**	P	**Pn**	**10 32 00.2**	**+0.7**
JKE				*e*S	**Sn**	**10 32 16.8**	**-0.3**
JAGN	**Aguni-jima**	**0.90**	**130**	P	**Pn**	**10 32 00.5**	**+0.9**
JAGN				*e*S	**Sn**	**10 32 16.9**	**-0.3**
JIH	**Iheya**	**1.34**	**95**	P	**Pn**	**10 32 04.8**	**+1.0**
JIH				S	**Sn**	**10 32 24.5**	**-0.1**
JNTH	**Nagotoyohara**	**1.53**	**115**	P	**Pn**	**10 32 06.6**	**+0.8**
JNTH				S	**Sn**	**10 32 27.0**	**-1.1**
JJT3	**Tamagusuku3**	**1.56**	**131**	P	**Pn**	**10 32 07.4**	**+1.3**
JOW	**Kunigami**	**1.65**	**101**	P	**Pn**	**10 32 07.7**	**+0.7**
JOW				S	**Sn**	**10 32 29.2**	**-1.2**
JOW	**Kunigami**	**1.65**	**101**	P	**Pn**	**10 32 07.8**	**+0.7**
	4.1nm,0.3s,baz=115,slow=14,SNR=108						
JOW				S	**Sn**	**10 32 29.2**	**-1.2**
	8.8nm,0.3s,baz=112,slow=15,SNR=16						
JYRO	**Yoronjima**	**1.77**	**94**	P	**Pn**	**10 32 09.0**	**+0.5**
JYRO				*e*S	**Sn**	**10 32 31.6**	**-1.4**
JOKE	**Okinoerabujima**	**1.88**	**84**	P	**Pn**	**10 32 10.1**	**+0.4**
JOKE				*e*S	**Sn**	**10 32 34.2**	**-1.0**
JTK	**Tokunoshima**	**2.29**	**74**	P	**Pn**	**10 32 15.0**	**+0.4**
JTK				*e*S	**Sn**	**10 32 43.8**	**-0.2**
JIKM	**Ikemajima**	**2.49**	**206**	*e*S	**Sn**	**10 32 47.1**	**-1.2**
JOGS	**Gusukube**	**2.58**	**202**	P	**Pn**	**10 32 19.5**	**+1.3**
JIRB	**Irabujima**	**2.60**	**207**	S	**Sn**	**10 32 48.8**	**-2.1**
JMJ2	**Miyako jima3**	**2.62**	**203**	P	**Pn**	**10 32 20.6**	**+1.8**
JMJ2				S	**Sn**	**10 32 50.7**	**-0.7**
JAMN	**Amaminishikomi**	**2.63**	**65**	P	**Pn**	**10 32 19.0**	**+0.2**
JAMN				S	**Sn**	**10 32 50.9**	**-0.5**
JTJ	**Tarama**	**2.98**	**213**	*e*S	**Sn**	**10 32 56.7**	**-2.6**
JAM	**Amami Oshima**	**3.04**	**65**	P	**Pn**	**10 32 24.1**	**+0.1**
JAM				*e*S	**Sn**	**10 32 59.4**	**-1.4**
JZK	**Kikaishima**	**3.31**	**69**	P	**Pn**	**10 32 28.7**	**+1.2**
JZK				*e*S	**Sn**	**10 33 06.9**	**-0.1**
SONM	**Songino Array**	**25.92**	**328**	P	**P**	**10 36 56.5**	**+1.1**
	0.6nm,0.4s,baz=147,slow=9.9,SNR=5.6						
MKAR	**Makanchi Array**	**39.74**	**311**	P	**P**	**10 38 54.8**	**-0.2**
	0.9nm,0.4s,baz=92,slow=10.0,SNR=8.3						
ZALV	**Zalesovo Beam**	**40.55**	**323**	P	**P**	**10 39 00.7**	**-0.9**
	1.5nm,0.4s,baz=114,slow=8.4,SNR=3.8						
KURBB	**Kurchatov Arra**	**43.09**	**316**	P	**P**	**10 39 22.2**	**0.0**
	0.3nm,0.4s,baz=107,slow=8.9,SNR=3.7						
WRA	**Warramunga Arr**	**47.45**	**170**	P	**P**	**10 39 56.1**	**-0.8**
	0.3nm,0.5s,baz=353,slow=8.7,SNR=4.5						
ASAR	**Alice Springs**	**51.04**	**171**	P	**P**	**10 40 24.8**	**+0.6**
	0.4nm,0.4s,baz=359,slow=14,SNR=15						

ISC 13 10:51:04.4±1.4, 48.°73N±0.°06×18.°05E±0.°04, h13km±14km, n7, σ0°69/13, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLL	**Kolacno**	**0.28**	**124**	*e*PG	**Pb**	**10 51 10.9**	**-0.4**
KOLL				*e*SG	**Sb**	**10 51 15.4**	**-0.5**
JAVC	**Velka Javorina**	**0.28**	**297**	*e*PG	**Pb**	**10 51 10.9**	**-0.5**
JAVC				*e*SG	**Sb**	**10 51 15.9**	**-0.1**
VYHS	**Vyhne**	**0.57**	**114**	*e*PG	**Pg**	**10 51 16.1**	**+0.5**
VYHS				*e*SG	**Sb**	**10 51 24.7**	**+0.3**
MODS	**Modra-Piesok**	**0.63**	**235**	*e*PG	**Pb**	**10 51 17.5**	**+0.3**
MODS				*e*SG	**Sn**	**10 51 28.0**	**-0.9**
LANS	**Liptovska Anna**	**1.02**	**65**	*e*PG	**Pn**	**10 51 24.9**	**+0.4**
MORC	**Moravsky Berou**	**1.10**	**342**	*e*PG	**Pb**	**10 51 25.6**	**+0.4**
MORC				*e*SG	**Sg**	**10 51 38.6**	**-1.2**
VRAC	**Vranov**	**1.12**	**301**	*e*PG	**Pn**	**10 51 26.6**	**+0.8**
VRAC				*e*SG	**Sb**	**10 51 40.2**	**+0.1**

*DDA **13** 10:52:12.7, 41.°74N×32.°42E, h20km±1km, ML3.3*
*ISK **13** 10:52:13.1, 41.°85N×32.°41E, h2km, ML3.0/24*
*ISCJB **13** 10:52:14.3±0.5, 41.°80N±0.°03×32.°42E±0.°03, h9km±3km, Error ellipse: s-maj=5.2km s-min=3.6km az=165.6*

ISC 13 10:52:13.4±0.8, 41.°74N±0.°03×32.°44E±0.°02, h16km±5km, n45, σ0°98/58, 4C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASR	**Amasra-Bartin**	**0.03**	**41**	PG	**Pg**	**10 52 15.7**	**-0.6**
MASR				SG	**Sg**	**10 52 17.6**	**-0.6**
BTIN	**Bartın**	**0.18**	**235**	*i* P	**Pg**	**10 52 18.6**	**+0.8**
BTIN				*i* S	**Sg**	**10 52 21.9**	**+1.2**
KURC	**Kurucasile-Bar**	**0.25**	**64**	PG	**Pg**	**10 52 18.9**	**0.0**
KURC				SG	**Sg**	**10 52 23.4**	**+0.8**
KBUK	**KARABUK-Merkez**	**0.52**	**165**	IAML_P			
	comp=Z,11μm,0.1s						
KBUK				*i* P	**Pb**	**10 52 23.4**	**-0.7**
KBUK				*i* S	**Sb**	**10 52 29.2**	**-2.3**
KDZE	**Karadeniz Ereo**	**0.86**	**241**	⇓*i*P	Pn	10 52 42.4	+11
BCAM	**Yenicaga**	**0.96**	**197**	IAML_P			
	comp=Z,2μm,0.1s						
BCAM				*i* P	**Pb**	**10 52 31.0**	**-0.8**
BCAM				*i* S	**Sb**	**10 52 45.4**	**+1.0**
YIGI	**Dzce**	**1.08**	**224**	IAML_P			
	comp=Z,3μm,0.1s						
YIGI				*i* P	**Pn**	**10 52 33.1**	**-0.8**
YIGI				*i* S	**Sb**	**10 52 47.2**	**-0.3**
ILGA	**Ilgaz**	**1.18**	**125**	*i* P	**Pb**	**10 52 35.5**	**0.0**
ILGA				*i* S	**Sg**	**10 52 52.3**	**+0.7**
BZK	**Bozkurt**	**1.19**	**79**	PN	**Pg**	**10 52 36.3**	**0.0**
BZK	**Bozkurt**	**1.19**	**79**	⇓*i*P	**Pg**	**10 52 35.9**	**-0.4**
CMDR	**Camlidere-ANKA**	**1.24**	**179**	IAML_P			
	comp=Z,6μm,0.3s						
CMDR				*i* P	**Pg**	**10 52 37.6**	**+0.3**
CMDR				*i* S	**Sb**	**10 52 54.0**	**+1.7**
KIBS	**BOLU**	**1.39**	**199**	IAML_P			
	comp=Z,1μm,0.2s						
KIBS				*i* P	**Pg**	**10 52 39.9**	**-0.3**
KIBS				*i* S	**Sg**	**10 52 58.4**	**0.0**
ELDT	**Eldivan**	**1.45**	**149**	IAML_P			
	comp=Z,1μm,0.1s						
ELDT				*i* P	**Pb**	**10 52 40.5**	**+0.4**
ELDT				*i* S	**Sb**	**10 52 59.3**	**+0.9**
SAHE	**Sakarya_HENDEK**	**1.49**	**234**	IAML_P			
	comp=Z,748nm,0.4s						
SAHE				*i* P	**Pb**	**10 52 40.5**	**-0.2**
SAHE				*i* S	**Sb**	**10 53 00.1**	**+0.7**
MDUB	**Mudurnu**	**1.58**	**217**	PN	**Pg**	**10 52 43.9**	**+0.2**
BTAS	**Taskesti**	**1.60**	**224**	*i* P	**Pb**	**10 52 43.1**	**+0.5**
KAGI	**orum-Kargı**	**1.64**	**111**	IAML_P			
	comp=Z,936nm,0.2s						
KAGI				*i* P	**Pb**	**10 52 43.5**	**+0.2**
KAGI				*i* S	**Sg**	**10 53 06.6**	**+0.3**
KAND	**Kocaeli-Kandir**	**1.81**	**250**	IAML_P			
	comp=Z,539nm,0.2s						
KAND				*i* P	**Pb**	**10 52 45.8**	**-0.4**
KAND				*i* S	**Sb**	**10 53 08.9**	**+0.3**
SAUV	**Serdivan-Sakar**	**1.88**	**239**	PN	**Pb**	**10 52 47.9**	**+0.5**
ANTO	**Ankara**	**1.89**	**172**	PN	**Pg**	**10 52 49.0**	**-0.6**
GULT	**Gulveren**	**1.96**	**229**	PN	**Pb**	**10 52 48.9**	**+0.2**
AUMIH	**MIHALICIK**	**2.01**	**202**	PN	**Pb**	**10 52 50.5**	**+0.9**
AUMIH	**MIHALICIK**	**2.01**	**202**	*i* P	**Pb**	**10 52 50.0**	**+0.4**
AUMIH				*i* S	**Sg**	**10 53 17.0**	**-0.9**
SNOP	**Sinop**	**2.08**	**81**	PN	**Pb**	**10 52 50.4**	**-0.4**
DIKM	**Dikmen**	**2.11**	**91**	PN	**Pb**	**10 52 50.9**	**-0.3**
DIKM	**Dikmen**	**2.11**	**91**	⇑*i*P	**Pb**	**10 52 51.6**	**+0.4**
SRCK	**Saricakaya, Es**	**2.19**	**220**	PN	**Pb**	**10 52 52.7**	**+0.2**
CORM	**Corum**	**2.27**	**133**	PN	**Pb**	**10 52 54.2**	**+0.1**
HRT	**Hereke**	**2.28**	**247**	PN	**Pb**	**10 52 53.5**	**-0.8**
BORA	**Eskisehir**	**2.39**	**220**	PN	**Pb**	**10 52 55.8**	**-0.3**
SVRH	**Sivrihisar-ESK**	**2.39**	**197**	PN	**Pb**	**10 52 56.4**	**+0.2**
AUSIV	**SIVRIHISAR**	**2.40**	**197**	PN	**Pb**	**10 52 55.9**	**-0.3**
ADVT	**Abdulvahap**	**2.42**	**238**	PN	**Pb**	**10 52 55.7**	**-0.9**
CAVI	**Cavuskoy**	**2.50**	**233**	PN	**Pb**	**10 52 56.9**	**-1.0**
KLYT	**Kilyos**	**2.60**	**260**	PN	**Pb**	**10 52 57.6**	**-2.0**
KAVV	**Kandilli-Istan**	**2.63**	**256**	PN	**Pb**	**10 52 58.1**	**-2.1**
ISK	**Istanbul-Kandi**	**2.63**	**256**	PN	**Pb**	**10 52 58.1**	**-2.1**
BUY	**Buyukada**	**2.66**	**252**	PN	**Pb**	**10 52 58.6**	**-2.0**
KULU	**Kulu**	**2.73**	**171**	PN	**Pb**	**10 53 01.3**	**-0.5**
KVT	**Kavak**	**2.79**	**102**	PN	**Pb**	**10 53 01.1**	**-1.7**
YAYX	**Yaylak**	**2.98**	**159**	PN	**Pb**	**10 53 04.7**	**-1.6**
YOZ	**Yozgat**	**3.03**	**133**	PN	**Pb**	**10 53 05.1**	**-1.9**
TLB	**Topalu**	**4.30**	**313**	⇑*i*P	**Pn**	**10 53 19.3**	**+1.2**
HARR	**Harsova**	**4.42**	**313**	⇑*i*P	**Pn**	**10 53 21.0**	**+1.2**
CFR	**Carcaliu**	**4.65**	**319**	⇓*i*P	**Pn**	**10 53 23.8**	**+0.8**

MAN 13 11:00:30.3, 13.°20N×120.°55E, h25km, mb4.3, ML3.2, MS2.9, Mindoro

MAN 13 11:00:49.6, 12.°95N×124.°27E, h102km, mb4.1, ML2.9, MS2.5, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**0.58**	**139**	*e*P	Pn	11 01 07.8	+1.6
CNP				*e*S	Sn	11 01 20.9	+2.2
PVCP	**Virac**	**0.65**	**350**	*e*P	Pn	11 01 08.8	+2.1
PVCP				*e*S	Sn	11 01 22.5	+2.8
BESP	**Borongan**	**1.77**	**140**	*e*P	Pn	11 01 20.3	+1.0
PLP	**Palo**	**1.91**	**159**	⇑*i*P	Pn	11 01 21.4	+0.2
PLP				*e*S	Sn	11 01 45.6	+0.5
RCP	**Roxas**	**2.03**	**227**	⇑*e*P	Pn	11 01 23.8	+1.1
BALP	**Baler**	**3.81**	**317**	*e*P	Pn	11 01 46.0	-0.3
CAUP	**Cauayan**	**4.62**	**330**	*e*P	Pn	11 01 58.6	+1.4

ISC 13 11:17:10.8±1.3, 50.°13N±0.°07×19.°17E±0.°06, h0km, n5, σ0°90/10, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.42**	**77**	*e*Pg	**Pg**	**11 17 18.7**	**-0.1**
OJC				*e*Sg	**Sg**	**11 17 23.5**	**-0.6**
LANS	**Liptovska Anna**	**1.00**	**169**	*e*PG	**Pb**	**11 17 30.5**	**-0.4**
LANS				*e*SG	**Sg**	**11 17 43.6**	**+0.9**
NIE	**Niedzica**	**1.02**	**134**	*e*Pg	**Pb**	**11 17 31.6**	**+0.2**
NIE				*e*Sg	**Sb**	**11 17 46.1**	**+0.8**
MORC	**Moravsky Berou**	**1.11**	**252**	*e*PG	**Pn**	**11 17 34.2**	**+0.6**
MORC				*e*SG	**Sn**	**11 17 49.6**	**+0.1**
VYHS	**Vyhne**	**1.65**	**188**	*e*PN	**Pb**	**11 17 41.1**	**-0.9**
VYHS				*e*SN	**Sn**	**11 18 01.3**	**-1.6**

*ISCJB **13** 11:24:17.9±0.3, 3.°28S±0.°03×142.°60E±0.°04, h26km, mb4.4/31, MS3.4/4, Error ellipse: s-maj=5.4km s-min=4.4km az=1.3*
*IDC **13** 11:24:19.9±7.8, 3.°33S×142.°59E, h28km±53km, mb4.0/13, mb1 4.1/15, mb1mx4.0/27, mbtmp4.1/15, ML4.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/26, Error ellipse: s-maj=30.4km s-min=10.6km az=99.0*
*DJA **13** 11:24:19.2±4.1, 3.°S±11.°×14.°3E±2.°2, h22km±24km, M4.7/8, mb4.7/8, MLv4.7/1*
*NEIC **13** 11:24:19.2±1.0, 3.°29S×142.°62E, h23km±2km, mb4.7/27, Error ellipse: s-maj=14.9km s-min=11.5km az=216.0*

ISC 13 11:24:19.8±0.5, 3.°27S±0.°05×142.°61E±0.°05, h26km, n86, σ0°91/82, mb4.5/31, MS3.5/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.04**	**291**	Pn	**Pn**	**11 24 51.4**	**-1.2**
JAY				Sn	**Sb**	**11 25 22.5**	**+1.2**
	48nm,0.3s,baz=36,slow=12,SNR=12						
GENI	**Genyem**	**2.53**	**285**	P	**Pn**	**11 24 58.5**	**-0.7**
MANU	**Manus Island**	**4.90**	**76**	*e*Pn	**Pn**	**11 25 31.5**	**-0.4**
MMPI	**Merauke**	**5.62**	**203**	P	**Pn**	**11 25 44.9**	**+3.1**
PMG	**Port Moresby**	**7.59**	**144**	*e*Pn	**Pn**	**11 26 08.1**	**-0.7**
PMG				*e*Sn	**Sn**	**11 27 36.8**	**+2.6**
PMG	**Port Moresby**	**7.59**	**144**	Sn	**Sn**	**11 27 36.8**	**+2.6**
	0.3nm,0.3s,baz=159,slow=21,SNR=2.8						
PMG				LR	LR	11 29 54.5	
	comp=Z,267nm,21.4s,baz=344,slow=44						
RABL	**Rabaul**	**9.58**	**96**	*e*Pn	**Pn**	**11 26 34.8**	**-1.3**
FAKI	**Fak Fak**	**10.35**	**272**	*e*Pn	**Pn**	**11 26 47.0**	**+0.2**
COEN	**Coen**	**10.64**	**177**	*e*Pn	**Pn**	**11 26 51.1**	**+0.4**
SAUI	**Saumlaki**	**12.19**	**247**	*e*Pn	**Pn**	**11 27 11.7**	**-0.2**
MTN	**Manton Dam**	**14.81**	**229**	*e*Pn	**Pn**	**11 27 46.6**	**-1.1**
MTN				*e*Sn	**Sn**	**11 30 29.8**	**-1.3**
TNTI	**Ternate**	**15.76**	**284**	*e*Pn	**Pn**	**11 28 00.7**	**+0.5**
	20nm,1.2s						
TNTI	**Ternate**	**15.76**	**284**	P	**P**	**11 28 04.8**	**+0.9**
WB2	**Warramunga Arr**	**18.43**	**205**	*e*P	**Pn**	**11 28 33.1**	**-0.5**
	9.4nm,0.8s						
WC3	**Warramunga Arr**	**18.44**	**205**	*e*P	**P**	**11 28 32.7**	**-0.8**
	14nm,1.1s						
WR1	**Warramunga Arr**	**18.44**	**205**	*e*P	**P**	**11 28 32.6**	**-0.9**
WR1				*e*Sn	**Sn**	**11 31 57.2**	**-1.9**
WRA	**Warramunga Arr**	**18.44**	**205**	P	**P**	**11 28 32.6**	**-0.9**
	0.9nm,0.3s,baz=30,slow=12,SNR=44						
WRA				S	**Sn**	**11 31 57.2**	**-1.9**
	0.0nm,0.3s,baz=16,slow=21,SNR=3.1						
SOEI	**Soe**	**19.32**	**250**	*e*P	**P**	**11 28 43.4**	**0.0**
	53nm,0.9s						
SOEI	**Soe**	**19.32**	**250**	P	**P**	**11 28 43.6**	**+0.2**
LUWI	**Luwuk**	**19.95**	**276**	*e*P	**P**	**11 28 49.9**	**-0.2**
	26nm,0.7s						
BATI	**Baumata**	**20.03**	**249**	P	Pn	11 28 52.4	-0.5
	48nm,0.8s						
MRSI	**Marisa**	**20.99**	**280**	P	**P**	**11 29 01.4**	**-0.1**
	12nm,0.5s						
APSI	**Ampana**	**21.08**	**276**	P	**P**	**11 29 04.4**	**+2.0**
	39nm,0.9s						
AS31	**Alice Springs**	**21.96**	**202**	*e*P	**P**	**11 29 11.6**	**-0.2**
	2.3nm,0.8s						
ASAR	**Alice Springs**	**21.96**	**202**	*e*P	**P**	**11 29 11.4**	**-0.4**
ASAR	**Alice Springs**	**21.96**	**202**	P	**P**	**11 29 11.6**	**-0.2**
	2.6nm,0.5s,baz=29,slow=11,SNR=28						
FITZ	**Fitzroy Crossi**	**22.22**	**227**	*e*P	**P**	**11 29 14.1**	**-0.5**
	8.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.22**	**227**	P	**P**	**11 29 13.8**	**-0.8**
	9.0nm,0.5s,baz=39,slow=11,SNR=48						
EIDS	**Eidsvold**	**23.44**	**160**	*e*P	**P**	**11 29 28.1**	**+0.9**
	17nm,0.6s						
ARMA	**Armidale**	**28.32**	**163**	*e*P	**P**	**11 30 11.8**	**+0.1**
	22nm,1.4s						
STKA	**Stephens Creek**	**28.48**	**182**	*e*P	**P**	**11 30 12.4**	**-0.5**
	3.8nm,1.5s						
STKA	**Stephens Creek**	**28.48**	**182**	P	**P**	**11 30 12.9**	**0.0**
	3.8nm,0.7s,baz=348,slow=9.5,SNR=6.0						
STKA				LR	LR	11 43 19.7	
	comp=Z,106nm,20.5s,baz=25,slow=40						
MBWA	**Marble Bar**	**28.49**	**230**	*e*P	**P**	**11 30 12.3**	**-0.9**
	25nm,1.4s						
BBOO	**Buckleboo**	**30.02**	**191**	*e*P	**P**	**11 30 26.1**	**-0.5**
	60nm,1.5s						
FORT	**Forrest**	**30.62**	**205**	*e*P	**P**	**11 30 31.9**	**-0.1**
	35nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**32.09**	**47**	T	T	12 04 27.9	
	baz=229,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**32.10**	**47**	T	T	12 04 24.7	
	baz=229,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**32.11**	**47**	T	T	12 04 28.7	
	baz=229,slow=75,SNR=17						
CAN	**Canberra**	**32.44**	**170**	*e*P	**P**	**11 30 48.4**	**+0.5**
	37nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**33.03**	**45**	T	T	12 06 02.3	
	baz=230,slow=75,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**33.04**	**45**	T	T	12 06 05.0	
	baz=230,slow=75,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**33.04**	**45**	T	T	12 06 01.3	
	baz=230,slow=75,SNR=5.8						
MORW	**Morawa**	**35.99**	**222**	*e*P	**P**	**11 31 18.1**	**-0.8**
	18nm,1.4s						
JNU	**Nakatsue**	**37.86**	**344**	*e*P	**P**	**11 31 34.4**	**-0.3**
	16nm,1.4s						
JNU	**Nakatsue**	**37.86**	**344**	P	**P**	**11 31 34.6**	**0.0**
	4.7nm,0.8s,baz=154,slow=7.3,SNR=4.2						
KSRS	**Korea Array**	**42.75**	**343**	P	**P**	**11 32 15.8**	**+0.7**
	0.3nm,0.3s,baz=148,slow=9.8,SNR=4.6						
KSRS				LR	LR	11 48 25.9	
	comp=Z,25nm,20.5s,baz=160,slow=34						
BKZ	**Black Stump Fm**	**47.16**	**144**	*e*P	**P**	**11 32 50.4**	**+0.1**
USA0B	**Ussuriysk Arra**	**48.20**	**350**	*e*P	**P**	**11 32 58.1**	**0.0**
	18nm,1.6s						
USRK	**Ussuriysk Ar.**	**48.20

Wnw of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK6	**Outpost Mounta**	**0.10**	**103**	P	Pg	11 55 04.5	0.0
YUK6				S	Sg	11 55 06.2	+0.3
YUK5	**Granite Creek**	**0.38**	**64**	P	Pg	11 55 09.2	-0.4
YUK5				S	Sg	11 55 14.3	-0.3
YUK4	**Talbot Arm**	**0.38**	**354**	P	Pb	11 55 10.9	-0.8
YUK4				S	Sb	11 55 17.1	-0.9
YUK7	**Dusty Glacier**	**0.48**	**155**	P	Pg	11 55 10.9	-0.6
YUK7				S	Sg	11 55 17.5	-0.3
HYT	**Haines Junctio**	**0.54**	**105**	P	Pg	11 55 11.5	-1.0
HYT				S	Sg	11 55 18.4	-1.0
YUK3	**Moose Creek**	**1.22**	**312**	P	Pg	11 55 23.2	-2.4
YUK3				S	Sg	11 55 40.0	-1.5
CTGM	**Chitina Glacie**	**1.35**	**271**	P	Pn	11 55 26.6	-1.3
CTGM				S	Sg	11 55 45.0	-0.6
PNL	**Peninsula**	**1.37**	**198**	Pn	Pn	11 55 27.1	-0.8
PNL				Sg	Sb	11 55 44.2	-1.8
YUK2	**White River**	**1.37**	**308**	Pn	Pn	11 55 25.7	-2.4
YUK2				Sg	Sb	11 55 45.2	-1.1
SAMH	**Samovar Hills**	**1.38**	**234**	Pn	Pn	11 55 27.7	-0.5
SAMH				Sg	Sb	11 55 45.4	-1.1
YUK1	**Sand Pete Hill**	**1.52**	**323**	Pn	Pn	11 55 28.8	-1.4
YUK1				Sg	Sn	11 55 48.3	-2.1
RKAV	**Rock Avalanche**	**1.53**	**245**	Pn	Pn	11 55 29.7	-0.5
BVCY	**Beaver Creek**	**1.82**	**324**	Pn	Pn	11 55 33.3	-0.9
BVCY				Sg	Sb	11 55 58.6	-0.6
WHY	**Whitehorse**	**1.83**	**98**	Pn	Pn	11 55 33.4	-1.0
WHY				Sg	Sn	11 55 58.2	+0.3
BALM	**Baldy**	**1.85**	**274**	Pn	Pn	11 55 35.3	+0.7
BALM				Sg	Sb	11 55 59.5	-0.4
KIAG	**Kiagna River**	**1.85**	**270**	Pn	Pn	11 55 35.1	+0.3
KIAG				Sg	Sn	11 55 59.3	+0.6
PLBC	**Pleasant Camp**	**1.87**	**143**	Pn	Pn	11 55 35.1	+0.3
PLBC				Sg	Sn	11 55 59.5	+0.8
PTPK	**Patty Peak**	**1.91**	**278**	Pg	Pb	11 55 37.2	-0.5
PTPK				Sg	Sb	11 56 01.1	-0.8
BESE	**Bessie Mountai**	**3.04**	**140**	Pn	Pn	11 55 50.3	-0.7
BESE				Sg	Sb	11 56 36.2	+2.1
DAWY	**Dawson**	**3.14**	**353**	Pn	Pn	11 55 51.6	-0.7
DAWY				Sg	Sb	11 56 38.8	+1.9
DOT	**Dot Lake**	**3.72**	**319**	Sg	Sg	11 56 58.3	-3.3
DLBC	**Dease Lake**	**5.01**	**117**	Sg	Sb	11 57 36.7	+5.9

IDC 13 11:57:36.3±2.1, 0.80N×127.24E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/50, mbtmp3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/11, Error ellipse: s-maj=180.0km s-min=24.8km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**14.62**	**335**	LR	LR	12 06 14.4	
	comp=Z,67nm,20.1s,baz=186,slow=35						
WRA	**Warramunga Arr**	**21.75**	**162**	P	P	12 02 29.1	-0.5
	0.3nm,0.4s,baz=340,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**25.16**	**166**	P	P	12 03 03.8	+0.3
	0.3nm,0.6s,baz=344,slow=11,SNR=16						
MKAR	**Makanchi Array**	**60.25**	**326**	P	P	12 07 46.4	-0.1
	0.2nm,0.3s,baz=114,slow=7.1,SNR=3.1						

GII 13 12:05:50.8±0.0, 36.02N×30.03E, h10km, MD3.5/1
IDC 13 12:05:50.2±1.6, 35.97N×30.22E, h0km, mb3.8/4, mb1 3.9/8, mb1mx3.5/44, mbtmp3.8/8, ML3.7/4, Error ellipse: s-maj=26.1km s-min=21.8km az=82.0
ISCJB 13 12:05:52.3±0.7, 35.81N±0.02×30.03E±0.02, h15km±6km, mb3.8/4, Error ellipse: s-maj=4.4km s-min=2.5km az=24.2
DDA 13 12:05:52.1, 35.91N×30.09E, h23km±1km, ML3.6
ISK 13 12:05:53.1, 35.96N×30.03E, h11km, ML3.6/37
ATH 13 12:05:54.5, 35.81N×29.82E, h23km±1km, ML3.2/3, Error ellipse: s-maj=4.4km s-min=1.4km az=311.0
THE 13 12:05:57.3, 36.06N×29.86E, h9km, ML3.1/3, Error ellipse: s-maj=1.2km s-min=0.6km az=335.0
NIC 13 12:05:57.1±0.2, 36.39N×30.56E, h12km, ML3.3
ISC 13 12:05:52.4±1.0, 35.90N±0.03×30.05E±0.02, h15km±7km, n118, σ1°47/149, mb3.9/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.46**	**304**	P	**Pb**	**12 06 02.9**	**+0.8**
KSL				S	**Sg**	**12 06 06.4**	**-1.3**
KSL	**Kastellorizon**	**0.46**	**304**	P	**Pb**	**12 06 02.8**	**+0.7**
KSL				S	**Sb**	**12 06 09.4**	**+0.7**
KSL				AML	AML	12 06 12.3	
	comp=N,9916μm,0.3s						
KSL				AML	AML	12 06 12.5	
	comp=E,13490μm,0.4s						
AKUM	**Antalya-Kumluc**	**0.49**	**29**	IAML_P			
	comp=Z,54μm,0.2s						
AKUM				*i* P	**Pg**	**12 06 02.5**	**+0.4**
AKUM				*i* S	**Sg**	**12 06 06.9**	**-1.8**
AKAS	**Kas**	**0.49**	**313**	PG	**Pg**	**12 06 02.2**	**-0.1**
AKAS				SG	**Sg**	**12 06 09.1**	**+0.2**
AKAS	**Kas**	**0.49**	**313**	IAML_P			
	comp=Z,67μm,0.2s						
AKAS				*i* P	**Pb**	**12 06 03.3**	**+0.5**
AKAS				*i* S	**Sb**	**12 06 10.8**	**+1.0**
KEMT	**Kemer-ANTALYA**	**0.82**	**30**	PG	**Pb**	**12 06 08.4**	**+0.2**
KEMT				SG	**Sg**	**12 06 19.7**	**+0.7**
ELL	**Elmali**	**0.86**	**352**	PG	**Pb**	**12 06 08.8**	**-0.3**
ELL				SG	**Sb**	**12 06 20.4**	**0.0**
FETY	**Fethiye**	**1.07**	**314**	PG	**Pg**	**12 06 13.3**	**+0.1**
FETY				SG	**Sn**	**12 06 27.8**	**+0.3**
FETY	**Fethiye**	**1.07**	**314**	P	**Pg**	**12 06 13.3**	**+0.1**
FETY				S	**Sb**	**12 06 26.2**	**-0.3**
FETY	**Fethiye**	**1.07**	**314**	IAML_P			
	comp=Z,21μm,0.2s						
FETY				*i* P	**Pg**	**12 06 14.0**	**+0.8**
FETY				*i* S	**Sn**	**12 06 28.1**	**+0.6**
KORT	**Korkueli**	**1.13**	**12**	PG	**Pb**	**12 06 14.0**	**+0.3**
DALY	**Dalyan (Mula)**	**1.46**	**310**	PN	**Pb**	**12 06 19.3**	**+0.2**
DALY	**Dalyan (Mula)**	**1.46**	**310**	IAML_P			
	comp=Z,5μm,0.2s						
DALY				*i* P	**Pb**	**12 06 19.1**	**0.0**
DALY				*i* S	**Sb**	**12 06 37.7**	**+0.3**
TURN	**Turunc**	**1.52**	**310**	PN	**Pg**	**12 06 22.9**	**+1.2**
ARG	**Arkhangelos**	**1.59**	**282**	PN	**Pb**	**12 06 21.5**	**0.0**
ARG	**Arkhangelos**	**1.59**	**282**	P	**Pb**	**12 06 21.4**	**0.0**
ARG				S	**Sn**	**12 06 40.1**	**-0.1**
ARG	**Arkhangelos**	**1.59**	**282**	P	**Pb**	**12 06 21.0**	**-0.4**
ARG				S	**Sn**	**12 06 40.6**	**+0.4**
ARG				AML	AML	12 06 55.9	
	comp=N,853μm,0.5s						
ARG				AML	AML	12 06 56.5	
	comp=E,1479μm,0.8s						
KEPZ	**Antalya-Kepez**	**1.61**	**51**	IAML_P			
	comp=Z,5μm,0.5s						
KEPZ				*i* P	**Pb**	**12 06 21.5**	**-0.2**
BCK	**Bucak**	**1.62**	**15**	PN	**Pb**	**12 06 21.6**	**-0.4**
MRSB	**Marmaris-Mugla**	**1.71**	**299**	PN	**Pb**	**12 06 22.9**	**-0.5**
ALAN	**Alanya-ANTALYA**	**1.73**	**67**	PN	**Pb**	**12 06 23.7**	**-0.2**
BBRN	**Bozburun-Marma**	**1.79**	**297**	PN	**Pb**	**12 06 24.2**	**-0.6**
BRDR	**BURDUR-Merkez**	**1.80**	**0**	*i* P	**Pb**	**12 06 24.9**	**-0.2**
BRDR				*i* S	**Sg**	**12 06 51.8**	**+1.6**
TAVA	**DENIZLI_Tavas**	**1.81**	**330**	*i* P	**Pb**	**12 06 26.1**	**+0.7**
TAVA				*i* S	**Sg**	**12 06 50.1**	**-0.7**
GAZI	**Gazipasa**	**1.87**	**79**	PN	**Pb**	**12 06 25.9**	**-0.3**
GAZI	**Gazipasa**	**1.87**	**79**	IAML_P			
	comp=Z,5μm,0.4s						
GAZI				*i* P	**Pn**	**12 06 25.3**	**+1.5**
ISP	**Isparta**	**1.96**	**11**	PN	**Pn**	**12 06 26.4**	**+1.3**
ISP	**Isparta**	**1.96**	**11**	P	**Pb**	**12 06 27.3**	**-0.5**
ISP				S	**Sn**	**12 06 50.9**	**+1.4**
ISP	**Isparta**	**1.96**	**11**	Pn	**Pn**	**12 06 26.6**	**+1.5**
ISP	**Isparta**	**1.96**	**11**	P	**Pb**	**12 06 27.6**	**-0.2**
ISP				S	**Sg**	**12 06 57.0**	**+1.5**
ISP				AML	AML	12 07 04.2	
	comp=N,582μm,0.9s						
ISP				AML	AML	12 07 08.3	
	comp=E,526μm,1.0s						
DENT	**Denizli**	**2.03**	**337**	PN	**Pn**	**12 06 27.3**	**+1.3**
DATC	**Datca-Mugla**	**2.11**	**295**	PN	**Pn**	**12 06 28.5**	**+1.4**
PPCY	**Paphos**	**2.13**	**118**	P	**Pb**	**12 06 31.8**	**+1.2**
	baz=316						
DAT	**Datca**	**2.16**	**293**	PN	**Pn**	**12 06 29.3**	**+1.4**
DAT	**Datca**	**2.16**	**293**	IAML_P			
	comp=Z,530nm,0.1s						
DAT				*i* P	**Pb**	**12 06 29.8**	**-1.5**
BAGO	**Egridir - ISPA**	**2.17**	**16**	*i* P	**Pn**	**12 06 30.0**	**+2.0**
ALFC	**Alefka**	**2.21**	**109**	P	**Pb**	**12 06 31.0**	**-1.0**
	baz=307						
ALFC				S	**Sb**	**12 06 57.7**	**-1.4**
KZIL	**AFYON_Kizioren**	**2.36**	**2**	IAML_P			
	comp=Z,1μm,0.2s						
KZIL				*i* P	**Pn**	**12 06 31.3**	**+0.7**
KARP	**Karpathos**	**2.38**	**262**	P	**Pb**	**12 06 33.2**	**-1.7**
KARP				S	**Sn**	**12 07 00.2**	**+0.5**
KARP	**Karpathos**	**2.38**	**262**	P	**Pn**	**12 06 32.1**	**+1.4**
BDRM	**Kayabasi**	**2.40**	**300**	IAML_P			
	comp=Z,858nm,0.2s						
BDRM				*i* P	**Pn**	**12 06 31.2**	**+0.1**
ERMK	**Ermenek**	**2.43**	**71**	*i* P	**Pb**	**12 06 35.0**	**-0.8**
KHL	**Karahalli**	**2.46**	**350**	PN	**Pn**	**12 06 33.3**	**+1.3**
AYDN	**Tasoluk**	**2.48**	**316**	IAML_P			
	comp=Z,925nm,0.2s						
AYDN				*i* P	**Pn**	**12 06 34.1**	**+1.9**
BODT	**Bodrum**	**2.50**	**299**	PN	**Pn**	**12 06 33.5**	**+1.1**
BODT	**Bodrum**	**2.50**	**299**	P	**Pn**	**12 06 33.3**	**+0.9**
BODT				S	**Sn**	**12 07 02.2**	**-0.4**
TEKE	**Tekeli-Mersin**	**2.50**	**83**	PN	**Pb**	**12 06 35.1**	**-1.8**
KHAL	**Karahalli**	**2.51**	**350**	IAML_P			
	comp=Z,640nm,0.2s						
KHAL				*i* P	**Pn**	**12 06 33.1**	**+0.4**
DOGA	**KONYA_Doganhis**	**2.56**	**30**	*i* P	**Pb**	**12 06 36.7**	**-1.3**
SZAC	**Souni**	**2.58**	**115**	P	**Pb**	**12 06 37.3**	**-1.0**
	baz=311						
BERE	**Bereket-Mersin**	**2.61**	**79**	PN	**Pn**	**12 06 36.6**	**+2.5**
KMER	**Konya-Meram**	**2.64**	**44**	IAML_P			
	comp=Z,407nm,0.1s						
KMER				*i* P	**Pb**	**12 06 37.7**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**2.68**	**320**	PN	**Pn**	**12 06 36.3**	**+1.2**
SHUT	**Suhut-Afyon**	**2.68**	**8**	PN	**Pn**	**12 06 36.7**	**+1.6**
MAMC	**Mammari**	**2.68**	**105**	P	**Pn**	**12 06 37.3**	**+2.3**
	baz=300						
KONT	**Konya--Tatoy**	**2.76**	**41**	PN	**Pn**	**12 06 38.1**	**+2.0**
KONT	**Konya--Tatoy**	**2.76**	**41**	*i* P	**Pb**	**12 06 39.2**	**-2.2**
TEVE	**Tevekalti-Mers**	**2.80**	**78**	PN	**Pn**	**12 06 39.2**	**+2.6**
KULA	**Kula-Manisa**	**2.84**	**337**	P	**Pn**	**12 06 37.6**	**+0.4**
AKK2	**Akkuyu-Mersin**	**2.85**	**84**	PN	**Pn**	**12 06 40.0**	**+2.8**
GULN	**MERSIN_Gulnar**	**2.85**	**83**	*i* P	**Pn**	**12 06 38.7**	**+1.5**
AKKU	**Akkuyu-Mersin**	**2.85**	**84**	PN	**Pn**	**12 06 40.1**	**+2.8**
MANT	**Manisa**	**2.85**	**336**	IAML_P			
	comp=Z,641nm,0.2s						
MANT				*i* P	**Pn**	**12 06 38.1**	**+0.6**
GCAM	**G?zelcaml?**	**2.89**	**309**	PN	**Pn**	**12 06 39.4**	**+1.6**
GCAM	**G?zelcaml?**	**2.89**	**309**	*i* P	**Pn**	**12 06 39.3**	**+1.5**
AFYO	**Afyonkarahisar**	**2.89**	**4**	*i* P	**Pb**	**12 06 41.6**	**-2.1**
BOLV	**Bolvadin**	**2.91**	**14**	*i* P	**Pn**	**12 06 40.2**	**+2.0**
USAK	**Uak-Merkez**	**2.93**	**344**	*i* P	**Pn**	**12 06 38.7**	**+0.2**
LADK	**Ladik-KONYA**	**2.95**	**38**	PN	**Pn**	**12 06 40.8**	**+2.0**
IKL	**Isikli**	**2.96**	**82**	PN	**Pn**	**12 06 41.7**	**+2.9**
KEBE	**Keben-Mersin**	**3.01**	**78**	PN	**Pn**	**12 06 42.3**	**+2.7**
SMG	**Samos**	**3.15**	**306**	P	**Pn**	**12 06 42.2**	**+0.8**
SMG				S	**Sn**	**12 07 17.3**	**-1.4**
SMG	**Samos**	**3.15**	**306**	P	**Pn**	**12 06 42.5**	**+1.1**
SHAP	**Saphane-Kutahy**	**3.19**	**348**	PN	**Pn**	**12 06 44.0**	**+1.9**
GDZ	**Gediz**	**3.22**	**352**	*i* P	**Pn**	**12 06 42.6**	**+0.2**
ZKR	**Zakros**	**3.22**	**257**	PN	**Pn**	**12 06 45.2**	**+2.8**
ZKR	**Zakros**	**3.22**	**257**	P	**Pn**	**12 06 44.0**	**+1.6**
DGB	**zmir**	**3.33**	**311**	*i* P	**Pn**	**12 06 44.4**	**+0.6**
KIZK	**Mersin**	**3.36**	**79**	PN	**Pn**	**12 06 47.3**	**+3.0**
AKHS	**Akhisar**	**3.47**	**330**	*i* P	**Pn**	**12 06 47.5**	**+1.6**
CIFT	**Cifteler, Eski**	**3.55**	**13**	PN	**Pn**	**12 06 49.0**	**+2.0**
TVSB	**Tavsanli**	**3.58**	**353**	PN	**Pn**	**12 06 49.5**	**+2.1**
KERG	**Konya-Eregli**	**3.61**	**64**	*i* P	**Pn**	**12 06 50.9**	**+3.0**
URLA	**Izmir**	**3.70**	**313**	PN	**Pn**	**12 06 51.2**	**+2.2**
AUSIV	**SIVRIHISAR**	**3.73**	**18**	PN	**Pn**	**12 06 51.6**	**+2.1**
SVRH	**Sivrihisar-ESK**	**3.73**	**18**	PN	**Pn**	**12 06 51.7**	**+2.2**
MERS	**Mersin**	**3.74**	**74**	PN	**Pn**	**12 06 52.4**	**+2.9**
LAST	**Lasithi**	**3.80**	**260**	P	**Pn**	**12 06 53.1**	**+2.7**
APE	**Apeiranthos**	**3.83**	**289**	PN	**Pn**	**12 06 53.3**	**+2.6**
DURS	**Dursunbey**	**3.90**	**342**	*i* P	**Pn**	**12 06 51.7**	**-0.1**
KKUL	**Konya-Kulu**	**3.98**	**34**	*i* P	**Pn**	**12 06 55.7**	**+2.7**
BORA	**Eskisehir**	**3.99**	**4**	PN	**Pn**	**12 06 55.2**	**+2.2**
BORA	**Eskisehir**	**3.99**	**4**	*i* P	**Pn**	**12 06 53.1**	**0.0**
GULE	**Gulek**	**4.05**	**69**	*i* P	Pn	12 06 58.9	+5.0
AUMIH	**MIHALICIK**	**4.12**	**16**	PN	**Pn**	**12 06 57.1**	**+2.2**
AUMIH	**MIHALICIK**	**4.12**	**16**	*i* P	**Pn**	**12 06 57.9**	**+3.0**
IDI	**Anoyia**	**4.25**	**263**	Pn	**Pn**	**12 06 58.4**	**+1.8**
	comp=Z,3.5nm,0.3s,baz=348,slow=6.2,SNR=40						
IDI				Sn	**Sn**	**12 07 46.6**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=110,slow=22,SNR=3.9						
CAVI	**Cavuskoy**	**4.30**	**358**	PN	**Pn**	**12 06 59.6**	**+2.3**
BAYC	**CANAKKALE_Bayr**	**4.74**	**325**	*i* P	**Pn**	**12 07 04.8**	**+1.6**
BRTR	**Keskin Array B**	**4.76**	**36**	Pn	**Pn**	**12 07 04.5**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=214,slow=16,SNR=26						
BRTR				Sn	**Sn**	**12 07 58.3**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=210,slow=22,SNR=5.6						
OFRI	**`Ofer**	**5.23**	**127**	Sn	**Sn**	**12 08 11.5**	**+1.4**
MMA0B	**Mount Meron ar**	**5.27**	**121**	Pn	**Pn**	**12 07 11.1**	**+0.4**
MMAI	**Mount Meron Ar**	**5.27**	**121**	Pn	**Pn**	**12 07 10.2**	**-0.4**
	comp=Z,6.4nm,0.3s,baz=300,slow=12,SNR=10						
MMAI				Pg	**Pb**	**12 07 23.5**	**-0.8**
	comp=Z,7.6nm,0.3s,baz=295,slow=12,SNR=9.7						
MMAI				Sn	**Sn**	**12 08 11.3**	**+0.1**
	comp=Z,7.8nm,0.3s,baz=300,slow=26,SNR=3.8						
GEM	**Giv'at Ha'Em**	**5.35**	**118**	Pn	**Pn**	**12 07 11.5**	**-0.1**
GEM				Sn	**Sn**	**12 08 14.4**	**+1.4**
KSDI	**Kefar Szold**	**5.36**	**119**	Pn	**Pn**	**12 07 12.1**	**+0.4**
KSDI				Sn	**Sn**	**12 08 14.5**	**+1.4**
NATI	**Neve Ativ**	**5.38**	**118**	Pn	**Pn**	**12 07 11.6**	**-0.4**
NATI				Sn	**Sn**	**12 08 14.7**	**+1.1**
KSHT	**Keshet**	**5.58**	**120**	Pn	**Pn**	**12 07 15.3**	**+0.5**
HMDT	**Nahal Hemdat**	**5.82**	**127**	Pn	**Pn**	**12 07 18.8**	**+0.7**
HMDT				Sn	**Sn**	**12 08 26.1**	**+1.6**
YTIR	**Yattir**	**6.19**	**136**	Pn	**Pn**	**12 07 24.1**	**+0.9**
DSI	**Dead Sea**	**6.19**	**133**	Pn	**Pn**	**12 07 22.7**	**-0.5**
DSI				Sn	**Sn**	**12 08 35.5**	**+1.8**
PRNI	**Paran**	**6.92**	**142**	Pn	**Pn**	**12 07 33.5**	**+0.3**
MBRI	**Mt Berech**	**7.33**	**145**	Pn	**Pn**	**12 07 40.5**	**+1.6**
MBRI				Sn	**Sn**	**12 09 04.1**	**+2.2**
EIL	**Elat**	**7.45**	**145**	Pn	**Pn**	**12 07 42.0**	**+1.5**
EIL	**Elat**	**7.45**	**145**	Pn	**Pn**	**12 07 42.0**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=307,slow=5.1,SNR=9.6						
EIL				Sn	**Sn**	**12 09 02.6**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=43,slow=12,SNR=3.1						
AKTO	**Aktyubinsk**	**24.86**	**46**	P	**P**	**12 11 11.9**	**-2.1**
	comp=Z,1.8nm,0.7s,baz=262,slow=10.0,SNR=7.7						
MKAR	**Makanchi Array**	**40.03**	**58**	P	**P**	**12 13 25.6**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=281,slow=6.5,SNR=5.0						
ZALV	**Zalesovo Beam**	**41.61**	**47**	P	**P**	**12 13 37.4**	**-2.1**
	comp=Z,1.3nm,0.5s,baz=264,slow=10,SNR=5.3						
CMAR	**Chiang Mai Arr**	**62.53**	**86**	P	**P**	**12 16 15.2**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=300,slow=8.9,SNR=4.6						

SJA 13 12:29:27.0±0.4, 25.56S×70.31W, h40km, MW3.2
GUC 13 12:29:34.0±0.6, 26.19S×69.58W, h3km±2km, ML3.5
ISC 13 12:29:35.2±1.9, 26.20S±0.03×69.47W±0.06, h9km±19km, n11, σ2°03/17, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**1.55**	**206**	*e*P	**Pn**	**12 30 03.1**	**+0.1**
GO03				*i* S	**Sg**	**12 30 25.4**	**+0.4**
GO03				IAML		12 30 30.8	
	comp=N,431nm,0.4s						
PB14	**IPOC Station P**	**1.78**	**331**	*e*P	**Pb**	**12 30 07.5**	**-0.7**
PB14				*i* S	**Sg**	**12 30 32.3**	**-0.2**
PB14				IAML		12 30 34.2	
	comp=E,2μm,0.4s						
VCA	**Vinchina**	**2.76**	**156**	*e*P	**Pb**	**12 30 23.9**	**-1.0**
VCA				*e*S	**Sg**	**12 31 06.5**	**+2.4**
PB10	**IPOC Station P**	**2.85**	**340⇑**	*e*P	**Pn**	**12 30 22.6**	**+1.8**
PB10				*i* S	**Sb**	**12 30 59.2**	**-2.1**
PB10				IAML		12 31 07.7	
	comp=E,161nm,0.3s						
PB15	**IPOC Station P**	**2.98**	**360⇑**	*e*P	**Pn**	**12 30 25.1**	**+2.3**
PB15				*e*S	**Sb**	**12 31 04.8**	**-0.3**
LCO	**Las Campanas**	**3.01**	**201**	*e*P	**Pn**	**12 30 25.8**	**+2.6**
LCO				*i* S	**Sb**	**12 31 05.5**	**-0.5**
LCO				IAML		12 31 10.1	
	comp=E,253nm,0.6s						
FSA	**Cafayete**	**3.14**	**89**	*e*P	**Pb**	**12 30 28.2**	**-3.1**
AGUA	**GUANDACOL**	**3.39**	**165**	*e*P	**Pb**	**12 30 32.2**	**-3.3**
AHML	**Horco Molle**	**3.75**	**100**	*e*P	**Pb**	**12 30 41.0**	**-0.7**
ACLC	**CERRO LA CRUZ**	**3.91**	**146**	*e*P	**Pn**	**12 30 37.8**	**+2.1**
APLL	**PUNTA DE LOS L**	**4.92**	**149⇓**	*e*P	**Pn**	**12 30 50.5**	**+1.1**

DSN 13 12:35:24.3±1.6, 26.86N×58.47E, h10km, ML3.8/6, Error ellipse: s-maj=25.2km s-min=10.6km az=165.0
OMAN 13 12:35:26.7±0.7, 26.81N×57.26E, h241km±10km, ml3.2/6, Error ellipse: s-maj=44.6km s-min=11.9km az=255.0
ISCJB 13 12:35:34.3±0.6, 26.60N±0.03×57.71E±0.06, h10km, Error ellipse: s-maj=8.4km s-min=4.8km az=172.1
TEH 13 12:35:34.6, 26.66N×57.72E, h10km, ML3.6
ISC 13 12:35:35.2±1.2, 26.59N±0.04×57.73E±0.06, h10km, n28, σ1°94/32, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.25**	**321**	*e*Pg	**Pg**	**12 35 57.6**	**-1.7**
NIAN				IAMB	IAmb	12 36 22.7	
	comp=Z,0.0nm,0.6s						
SHME	**Shamm**	**1.53**	**250**	*e*P	**Pb**	**12 36 03.1**	**-0.5**
	SNR=30						
SHME				S	**Sg**	**12 36 29.4**	**+5.1**
SHME	**Shamm**	**1.53**	**250**	*e*Pn	**Pb**	**12 36 03.6**	**0.0**
GENO	**Geno**	**1.61**	**300**	*e*Sg	**Sg**	**12 36 27.7**	**+0.8**
GENO				*e*Pn	**Pb**	**12 36 03.8**	**-1.3**
GENO				IAMB	IAmb	12 36 38.0	
	comp=Z,0.0nm,0.8s						
MDH	**Madha**	**1.82**	**225**	P	**Pn**	**12 36 04.9**	**-1.8**
	SNR=8.4						
MDH	**Madha**	**1.82**	**225**	*e*Pn	**Pn**	**12 36 05.0**	**-1.7**
MSFE	**Esma-Masafi**	**1.87**	**229**	*e*P	**Pn**	**12 36 05.7**	**-1.7**
	SNR=5.9						
MSFE				S	**Sg**	**12 36 38.4**	**+2.9**
MSFE	**Esma-Masafi**	**1.87**	**229**	*e*Pn	**Pn**	**12 36 07.8**	**+0.4**
HATD	**Hatta, Dubai**	**2.27**	**220**	*e*P	**Pn**	**12 36 11.2**	**-1.7**
	SNR=7.8						
HATD	**Hatta, Dubai**	**2.27**	**220**	*e*Pn	**Pb**	**12 36 15.7**	**-0.7**
ASHO	**Ashiyiah**	**2.43**	**219**	*i* P	**Pn**	**12 36 13.1**	**-2.0**
	SNR=9.0						
ASHO	**Ashiyiah**	**2.43**	**219**	P	**Pn**	**12 36 14.3**	**-0.7**
ASHO	**Ashiyiah**	**2.43**	**219**	*e*Pn	**Pn**	**12 36 16.7**	**+1.7**
NAZ	**Nazwa, Dubai**	**2.46**	**230**	*e*Pn	**Pb**	**12 36 19.0**	**-0.5**
FAQ	**Al Faqa, Dubai**	**2.67**	**227**	*i* P	**Pn**	**12 36 15.4**	**-2.9**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**2.67**	**227**	*e*Pn	**Pb**	**12 36 20.8**	**-2.3**
SOHO	**SOHO**	**2.68**	**204**	P	**Pn**	**12 36 15.7**	**-2.7**
ASUD	**Al Ashush, Dub**	**2.92**	**228**	P	**Pn**	**12 36 19.6**	**-2.2**
HOQ	**Hoqain**	**3.02**	**187**	*e*Pn	**Pn**	**12 36 21.9**	**-1.3**
BIDO	**Bidbid**	**3.08**	**173**	*e*Pn	**Pn**	**12 36 25.0**	**+1.1**
NGRK	**Negar Kerman**	**3.17**	**344**	*e*Pn	**Pn**	**12 36 25.2**	**-0.3**
NGRK				IAMB	IAmb	12 37 16.6	
	comp=Z,0.0nm,0.8s						
CHMN	**Cheshme madani**	**3.26**	**357**	*e*Pn	**Pn**	**12 36 27.3**	**+0.5**
CHMN				IAMB	IAmb	12 37 24.7	
	comp=Z,0.0nm,0.9s						
TVBK	**TV Kerman**	**3.49**	**346**	*e*Pn	**Pn**	**12 36 31.5**	**+1.6**
TVBK				IAMB	IAmb	12 36 36.3	
	comp=Z,0.0nm,0.2s						
BSY	**Bisya**	**3.86**	**187**	P	**Pn**	**12 36 35.0**	**+0.3**
BSY				S	**Sn**	**12 37 22.8**	**+2.6**
KHGB	**Koh Gabri**	**3.93**	**344**	*e*Pn	**Pn**	**12 36 35.4**	**-0.4**
KHGB				IAMB	IAmb	12 37 42.0	
	comp=Z,0.0nm,1.0s						
SZD1	**Zahaedan-tmp**	**4.00**	**43**	*e*Pn	**Pn**	**12 36 36.6**	**-0.1**
JLN	**Jalan Bani Buh**	**4.68**	**161**	P	**Pn**	**12 36 42.6**	**-3.3**
IKAZ	**Kazeroun**	**

50nm,0.2s,SNR=7.9
EARA Aranguren 1.16 256 Pg Pg 12 40 56.9 +0.7
EARA Aranguren 1.16 256 Pg Pg 12 40 56.4 +0.2
5.3nm,0.1s,SNR=11
EARA Lg Lg 12 41 13.5
38nm,0.1s
EARA Aranguren 1.16 256 Pg Pg 12 40 56.4 +0.2
CORG Organya 1.30 129 Pg Pb 12 40 58.3 +0.5
CORG Lg Lg 12 41 16.0
1.6nm,0.2s
CORG Organya 1.30 129 P Pg 12 40 58.6 -0.4
CORG S **Sg 12 41 16.0 +0.1**
CAVN Les Avellanes 1.31 153 Pg Pb 12 40 58.6 +0.6
CAVN Lg Lg 12 41 16.1
1µm,0.2s
CAVN Les Avellanes 1.31 153 P Pb 12 40 58.4 +0.4
CAVN S **Sg 12 41 16.0 -0.4**
2µm,0.2s
ESAC San Caprasio 1.37 193 ⇑Pg Pg 12 41 00.3 +0.1
74nm,0.2s,SNR=18
ESAC Lg Lg 12 41 18.4
60nm,0.1s,SNR=17
FNEB Nbias 1.59 95 Pg Pg 12 41 05.5 +1.1
FNEB Sg **Sg 12 41 26.9 +1.8**
FNEB Nbias 1.59 95 Pn Pg 12 41 03.7 -0.7
FNEB Sn **Sg 12 41 24.3 -0.8**
231nm,0.3s
FNEB Nbias 1.59 95 P Pg 12 41 03.7 -0.7
FNEB S **Sg 12 41 24.7 -0.3**
230nm,0.3s
MONQ Montcuq 1.59 34 Pg Pg 12 41 05.8 +1.5
MONQ Sg **Sg 12 41 27.6 +2.5**
CLLI Llivia 1.60 111 Pg Pg 12 41 04.7 +0.1
5.1nm,0.2s,SNR=50
CLLI Lg Lg 12 41 25.5
18nm,0.2s,SNR=15
CLLI Llivia 1.60 111 P Pb 12 41 03.3 +0.5
CLLI S **Sg 12 41 25.1 -0.2**
200nm,0.3s
EMIR Miracle 1.63 134 Pg Pg 12 41 04.9 -0.2
2.4nm,0.1s,SNR=110
EMIR Lg Lg 12 41 26.2
102nm,0.2s,SNR=15
EMIR Miracle 1.63 134 Pg Pg 12 41 04.9 -0.2
EMIR Lg Lg 12 41 26.2
MTLF Montolieu 1.68 80 *e*Pn Pb 12 41 04.0 -0.2
SNR=1.0
MTLF Montolieu 1.68 80 *e*Pg Pg 12 41 06.2 +0.1
MTLF *e*Sn **Sb 12 41 25.0 -0.1**
46nm,0.2s,SNR=1.0
MTLF *e*Sg **Sg 12 41 28.7 +0.7**
496nm,0.3s,SNR=1.0
MTLF Montolieu 1.68 80 Sg Sg 12 41 29.4 +1.4
MTLF Montolieu 1.68 80 Pn Pb 12 41 04.0 -0.2
MTLF Pg **Pg 12 41 06.2 +0.1**
MTLF Sn **Sb 12 41 25.0 -0.1**
23nm,0.2s
MTLF Lg Lg 12 41 28.7
248nm,0.3s
VILA Vilada 1.70 122 P Pg 12 41 12.9 +6.4
VILA S Sg 12 41 41.5 +13
CBRU Bruguera 1.82 114 Sn Sb 12 41 29.9 +0.9
244nm,0.4s
CBRU Bruguera 1.82 114 P Pb 12 41 06.2 -0.4
CBRU S **Sb 12 41 30.0 +0.9**
460nm,0.4s
CORI Orista 1.89 124 Pn Pb 12 41 07.4 -0.4
CORI Sn **Sb 12 41 31.7 +0.6**
693nm,0.3s
CORI Orista 1.89 124 P Pb 12 41 07.4 -0.4
CORI S **Sb 12 41 31.7 +0.6**
676nm,0.3s
EPOB Poblet 1.90 153 Pn Pb 12 41 07.6 -0.3
2.2nm,0.2s,SNR=136
EPOB ⇑Pg **Pg 12 41 09.2 -1.1**
38nm,0.2s,SNR=18
EPOB Sn **Sb 12 41 31.7 +0.3**
26nm,0.2s,SNR=7.9
EPOB Lg Lg 12 41 33.6
245nm,0.3s,SNR=34
EPOB Poblet 1.90 153 P Pb 12 41 07.5 -0.5
EPOB S **Sb 12 41 31.4 +0.1**
429nm,0.3s
LFF La Frestale 1.97 17 *e*Pn Pb 12 41 08.9 -0.2
SNR=1.0
LFF La Frestale 1.97 17 *e*Pg Pg 12 41 12.7 +1.2
LFF *e*Sn **Sb 12 41 32.4 -0.8**
168nm,0.4s,SNR=1.0
LFF *e*Sg **Sg 12 41 38.9 +1.8**
968nm,0.4s
LFF La Frestale 1.97 17 Pn Pb 12 41 08.9 -0.2
LFF Pg **Pg 12 41 12.7 +1.2**
LFF Sn **Sb 12 41 32.4 -0.8**
84nm,0.4s
LFF Lg Lg 12 41 38.9
484nm,0.4s
ERTA Horta de San J 2.12 172 Pn Pb 12 41 10.9 -0.7
1.0nm,0.1s,SNR=7.9
ERTA Pg **Pg 12 41 13.4 -1.0**
12nm,0.2s,SNR=90
ERTA Sn **Sn 12 41 35.2 +0.9**
15nm,0.2s,SNR=7.9
ERTA Lg Lg 12 41 39.8
43nm,0.2s,SNR=14
CBEU Beuda 2.16 111 P Pb 12 41 11.1 -1.3
CBEU S **Sb 12 41 38.4 -0.6**
540nm,0.4s
SJAF Saint Jean de 2.23 104 Pn Pb 12 41 14.5 +0.9
SJAF Saint Jean de 2.23 104 Pn Pb 12 41 14.4 +0.8
8.8nm,0.4s,SNR=7.9
SJAF Pg **Pg 12 41 17.2 +0.6**
11nm,0.2s,SNR=7.9
SJAF Lg Lg 12 41 45.6
11nm,0.2s,SNR=7.9
EJON La Jonquera 2.25 105 Pn Pb 12 41 15.0 +1.1
5.9nm,0.2s,SNR=24
EJON Pg **Pg 12 41 17.8 +0.9**
19nm,0.3s,SNR=7.9
EJON Lg Lg 12 41 47.1
41nm,0.3s,SNR=19
CFON Fontmartina 2.25 124 ⇓Pn Pb 12 41 14.0 +0.1
12nm,0.2s,SNR=18
CFON Pg **Pg 12 41 16.9 -0.1**
31nm,0.2s,SNR=7.9
CFON Lg Lg 12 41 45.8
145nm,0.2s,SNR=5.8
CFON Fontmartina 2.25 124 P Pn 12 41 11.9 +1.7
CFON S **Sb 12 41 40.2 -1.3**
739nm,0.3s
EBR Ebro Roquetas 2.27 170 Pg Pg 12 41 16.1 -1.2
57nm,0.1s,SNR=7.9
EBR Lg Lg 12 41 44.5
313nm,0.2s,SNR=7.9
CMAS Mas de Barbera 2.34 173 P Pn 12 41 13.2 +1.7
CMAS S **Sn 12 41 42.2 +2.3**
297nm,0.3s
CAF Calviac 2.41 39 *e*Pn Pn 12 41 14.4 +2.0
SNR=1.0
CAF Calviac 2.41 39 *e*Pg Pg 12 41 20.7 +0.7
CAF *e*Sn **Sn 12 41 43.1 +1.6**
33nm,0.2s,SNR=1.0
CAF *e*Sg **Sg 12 41 52.7 +1.4**
206nm,0.2s
CAF Calviac 2.41 39 Pn Pn 12 41 14.4 +2.0
CAF Pg **Pg 12 41 20.7 +0.7**
CAF Sn **Sn 12 41 43.1 +1.6**
16nm,0.2s
CAF Lg Lg 12 41 52.7
103nm,0.2s
CCAS Cassa de la Se 2.48 117 P Pn 12 41 15.5 +2.2
CCAS S **Sb 12 41 45.9 -2.1**
135nm,0.4s
CPAL Palau Saverder 2.48 106 P Pn 12 41 15.4 +2.0
CPAL S **Sb 12 41 45.8 -2.3**
71nm,0.3s
ELAN Lanestosa 2.48 275 Pn Pb 12 41 17.1 -0.8
3.0nm,0.2s,SNR=18
ELAN Sn **Sb 12 41 46.3 -1.9**
4.2nm,0.1s,SNR=5.2
RJF Les Rejaudoux 2.51 26 *e*Pn Pn 12 41 16.0 +2.2
SNR=1.0
RJF Les Rejaudoux 2.51 26 *e*Pg Pg 12 41 22.4 +0.4
RJF *e*Sn **Sn 12 41 45.4 +1.4**
62nm,0.3s
RJF *e*Sg **Sg 12 41 55.4 +0.8**
298nm,0.2s
RJF Les Rejaudoux 2.51 26 Pn Pn 12 41 16.0 +2.2
RJF Pg **Pg 12 41 22.4 +0.4**
RJF Sn **Sn 12 41 45.4 +1.4**
31nm,0.3s
RJF Lg Lg 12 41 55.4
149nm,0.2s
ETOR Torete 2.69 214 ⇑Pn Pb 12 41 19.2 -2.3
22nm,0.2s,SNR=18
ETOR Pg **Pg 12 41 23.2 -2.1**
8.5nm,0.1s,SNR=16
ETOR Lg Lg 12 41 59.2
18nm,0.2s,SNR=5.0
EMOS Mosqueruela 2.71 187 Pn Pn 12 41 19.2 +2.6
1.1nm,0.1s,SNR=4.0
EMOS Pg **Pb 12 41 23.5 +1.6**
3.7nm,0.1s,SNR=7.9
EMOS Lg Lg 12 41 59.5
16nm,0.2s,SNR=5.0
LASF Ste Croix 3.02 69 *e*Pn Pn 12 41 22.9 +2.2
SNR=1.0
LASF Ste Croix 3.02 69 *e*Pg Pg 12 41 32.2 +0.6
LASF *e*Sn **Sn 12 41 57.2 +0.8**
18nm,0.2s,SNR=1.0
LASF *e*Sg **Sg 12 42 10.4 -0.3**
153nm,0.4s,SNR=1.0
LASF Ste Croix 3.02 69 Pn Pn 12 41 22.9 +2.2
LASF Pg **Pg 12 41 32.2 +0.6**
LASF Sn **Sn 12 41 57.2 +0.8**
9.2nm,0.2s
LASF Lg Lg 12 42 10.4
76nm,0.4s
ECHE Chera 3.53 192 Pn Pn 12 41 30.1 +2.3
0.8nm,0.1s,SNR=7.9
ECHE Pg **Pb 12 41 37.8 +2.0**
0.5nm,0.1s,SNR=7.9
ECHE Sn **Sn 12 42 09.4 +0.2**
4.4nm,0.2s,SNR=4.0
ECHE Lg Lg 12 42 24.1
5.8nm,0.2s,SNR=7.9
MFF Saint Martin d 3.55 359 *e*Pn Pn 12 41 30.1 +2.2
SNR=1.0
MFF Saint Martin d 3.55 359 *e*Pg Pg 12 41 41.3 -0.4
MFF *e*Sn **Sn 12 42 10.2 +0.8**
24nm,0.3s
MFF *e*Sg **Sg 12 42 27.0 -0.6**
130nm,0.3s,SNR=1.0
MFF Saint Martin d 3.55 359 Pn Pn 12 41 30.1 +2.2
MFF Pg **Pg 12 41 41.3 -0.4**
MFF Sn **Sn 12 42 10.2 +0.8**
12nm,0.3s
MFF Lg Lg 12 42 27.0
65nm,0.3s
TCF Toulx Ste Croi 3.61 26 *e*Pg Pg 12 41 42.8 -0.1
TCF *e*Sn **Sn 12 42 11.5 +0.4**
18nm,0.2s
TCF *e*Sg **Sg 12 42 30.1 +0.4**
135nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 3.61 26 Pg Pg 12 41 42.8 -0.1
TCF Sn **Sn 12 42 11.5 +0.4**
9.1nm,0.2s
TCF Lg Lg 12 42 30.1
67nm,0.3s
UCM Universidad Co 3.64 222 *e*Pn Pn 12 41 31.0 +1.7
UCM Universidad Co 3.64 222 *e*Pg Pg 12 41 42.5 -1.0
UCM *e*S **Sn 12 42 12.2 +0.4**
EARI Arriondas 3.78 275 Pn Pn 12 41 35.2 +3.9
0.7nm,0.1s,SNR=10
EARI Sn **Sn 12 42 17.8 +2.5**
4.1nm,0.4s,SNR=5.0
VIVF Saint-Julien-I 3.85 61 *e*Pn Pn 12 41 34.5 +2.3
SNR=1.0
VIVF Saint-Julien-I 3.85 61 *e*Pg Pg 12 41 47.4 -0.2
VIVF *e*Sn **Sn 12 42 17.8 +0.7**
11nm,0.3s
VIVF *e*Sg **Sg 12 42 37.2 -0.3**
41nm,0.2s,SNR=1.0
VIVF Saint-Julien-I 3.85 61 Pn Pn 12 41 34.5 +2.3
VIVF Pg **Pg 12 41 47.4 -0.2**
VIVF Sn **Sn 12 42 17.8 +0.7**
5.4nm,0.3s
VIVF Lg Lg 12 42 37.2
20nm,0.2s
GUD Guadarrama 3.90 233 ⇑Pn Pn 12 41 36.0 +3.0
0.0nm,0.1s,SNR=18
GUD Sn **Sn 12 42 19.4 +1.0**
3.3nm,0.2s,SNR=5.0
ETOS Mallorca 3.93 146 Pn Pn 12 41 36.0 +2.8
0.3nm,0.1s,SNR=9.9
ETOS Sn **Sn 12 42 19.1 +0.1**
2.1nm,0.2s,SNR=6.1
BGF Bois d'Agland 4.06 29 *e*Pn Pn 12 41 37.4 +2.4
BGF Bois d'Agland 4.06 29 *e*Pg Pg 12 41 51.4 -0.1
BGF *e*Sn **Sn 12 42 23.2 +1.0**
45nm,0.3s,SNR=1.0
BGF *e*Sg **Sg 12 42 43.7 -0.4**
615nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.06 29 Pn Pn 12 41 37.4 +2.4
BGF Pg **Pg 12 41 51.4 -0.1**
BGF Sn **Sn 12 42 23.2 +1.0**
22nm,0.3s
BGF Lg Lg 12 42 43.7
308nm,0.4s
EIBI Ibiza 4.16 165 Pn Pn 12 41 37.5 +1.0
SNR=7.9
EIBI Sn **Sn 12 42 23.3 -1.4**
6.2nm,0.2s,SNR=8.0
SMRF Simiane la Rot 4.19 75 *e*Pn Pn 12 41 38.5 +1.6
SMRF Simiane la Rot 4.19 75 *e*Pg Pg 12 41 53.2 -0.9
SMRF *e*Sn **Sn 12 42 24.9 -0.5**
11nm,0.4s
SMRF *e*Sg **Sg 12 42 48.5 +0.2**
37nm,0.4s,SNR=1.0
SMRF Simiane la Rot 4.19 75 Pn Pn 12 41 38.5 +1.6
SMRF Pg **Pg 12 41 53.2 -0.9**
SMRF Sn **Sn 12 42 24.9 -0.5**
11nm,0.4s
SMRF Lg Lg 12 42 48.5
37nm,0.4s
EBEN2 Beniarda presa 4.38 181 Pn Pn 12 41 41.3 +1.9
0.7nm,0.0s,SNR=4.0
AFON Font Roja 4.40 185 Pn Pn 12 41 41.8 +1.9
1.7nm,0.2s,SNR=7.9
AVF Avril sur Loir 4.45 32 *e*Pn Pn 12 41 42.3 +2.0
AVF Avril sur Loir 4.45 32 *e*Pg Pg 12 41 58.4 -0.5
AVF *e*Sn **Sn 12 42 31.6 0.0**
5.4nm,0.2s
AVF *e*Sg **Sg 12 42 55.3 -1.2**
101nm,0.3s,SNR=1.0
AVF Avril sur Loir 4.45 32 Pn Pn 12 41 42.3 +2.0
AVF Pg **Pg 12 41 58.4 -0.5**
AVF Sn **Sn 12 42 31.6 0.0**
2.7nm,0.2s
AVF Lg Lg 12 42 55.3
51nm,0.3s
ESDC Sonseca Array 4.48 222 Pn Pn 12 41 42.7 +1.8
3.3nm,0.2s,baz=44,slow=14,SNR=51
ESDC Sn **Sn 12 42 31.1 -1.5**
6.9nm,0.3s,baz=44,slow=24,SNR=13
SMF Signal de Mont 4.53 36 *e*Pn Pn 12 41 43.6 +2.1
SNR=1.0
SMF Signal de Mont 4.53 36 *e*Pg Pg 12 42 00.3 -0.2
SMF *e*Sg **Sg 12 42 58.3 -0.8**
59nm,0.3s,SNR=1.0
SMF Signal de Mont 4.53 36 Pn Pn 12 41 43.6 +2.1
SMF Pg **Pg 12 42 00.3 -0.2**
SMF Lg Lg 12 42 58.3
30nm,0.3s
ETOB Tobarra 4.55 195 Pn Pn 12 41 44.5 +2.6
1.1nm,0.2s,SNR=5.8
ETOB Sn **Sn 12 42 32.5 -1.9**
1.2nm,0.2s,SNR=7.9
ETOB Lg Lg 12 42 58.3
6.3nm,0.4s,SNR=4.0
HYF Humbligny 4.62 23 *e*Pn Pn 12 41 45.4 +2.7
HYF Humbligny 4.62 23 *e*Pg Pg 12 42 02.5 +0.3
HYF *e*Sn **Sn 12 42 35.8 -0.1**
HYF *e*Sg **Sg 12 43 02.2 +0.2**
HYF Humbligny 4.62 23 Pn Pn 12 41 45.4 +2.7
HYF Pg **Pg 12 42 02.5 +0.3**
HYF Sn **Sn 12 42 35.8 -0.1**
HYF Lg Lg 12 43 02.2
ORIF Oris-en-Rattie 4.67 64 *e*Pn Pn 12 41 45.3 +1.9
SNR=1.0
ORIF *e*Sn **Sn 12 42 36.3 -0.9**
8.5nm,0.5s
ORIF *e*Sg **Sg 12 43 03.0 -0.5**
9.4nm,0.3s
ORIF Oris-en-Rattie 4.67 64 Pn Pn 12 41 45.3 +1.9
ORIF Sn **Sn 12 42 36.3 -0.9**
4.2nm,0.5s
ORIF Lg Lg 12 43 03.0
4.7nm,0.3s
SSF Saint Saulge 4.73 31 *e*Pn Pn 12 41 46.1 +1.9
SNR=1.0
SSF Saint Saulge 4.73 31 *e*Pg Pg 12 42 04.0 -0.3
SSF *e*Sg **Sg 12 43 05.3 -0.2**
114nm,0.4s,SNR=1.0
SSF Saint Saulge 4.73 31 Pn Pn 12 41 46.1 +1.9
SSF Pg **Pg 12 42 04.0 -0.3**
SSF Lg Lg 12 43 05.3
57nm,0.4s
PAB San Pablo 4.77 224 Pn Pn 12 41 46.6 +1.7
8.9nm,0.2s,SNR=7.9
PAB Sn **Sn 12 42 37.8 -2.0**
3.2nm,0.4s,SNR=7.9
LMR La Mourre 4.80 84 *e*Sn Sn 12 42 39.3 -1.1
4.9nm,0.3s,SNR=1.0
LMR La Mourre 4.80 84 Sn Sn 12 42 39.3 -1.1
2.5nm,0.3s
FRF La Foret Royal 4.91 82 *e*Pn Pn 12 41 47.5 +0.8
FRF La Foret Royal 4.91 82 *e*Pg Pg 12 42 04.6 -3.2
FRF *e*Sn **Sn 12 42 42.1 -1.0**
11nm,0.4s
FRF *e*Sg **Sg 12 43 10.8 -0.6**
20nm,0.3s
FRF La Foret Royal 4.91 82 Pn Pn 12 41 47.5 +0.8
FRF Pg **Pg 12 42 04.6 -3.2**
FRF Sn **Sn 12 42 42.1 -1.0**
5.7nm,0.4s
FRF Lg Lg 12 43 10.8
10nm,0.3s
LOR Lormes 5.04 32 *e*Pn Pn 12 41 50.3 +1.9
SNR=1.0
LOR Lormes 5.04 32 *e*Pg Pg 12 42 09.2 -1.0
baz=214
LOR *e*Sg **Sg 12 43 15.1 -0.3**
89nm,0.5s,baz=208,SNR=1.0
LOR Lormes 5.04 32 Pn Pn 12 41 50.3 +1.9
LOR Pg **Pg 12 42 09.2 -1.0**
LOR Lg Lg 12 43 15.1
44nm,0.5s
ECAL Calabor 5.07 260 Pn Pn 12 41 52.1 +3.2
2.2nm,0.2s,SNR=13
ECAL Sn **Sn 12 42 48.3 +1.2**
4.5nm,0.2s,SNR=6.6
PBRG Braganca 5.11 258 *e*Pn Pn 12 41 52.0 +2.5
PBRG *e*Sn **Sn 12 42 49.0 +1.0**
PBRG A A 12 42 51.5
10.0nm,0.3s
PBRG Braganca 5.11 258 Pn Pn 12 41 52.0 +2.5
PBRG Sn **Sn 12 42 49.0 +1.0**
5.0nm,0.3s
EPON Pontenova 5.20 275 Pn Pn 12 41 54.0 +3.3
0.6nm,0.1s,SNR=71
EPON Sn **Sn 12 42 54.8 +4.6**
0.9nm,0.1s,SNR=7.9
MBDF Montbardon 5.20 69 *e*Pn Pn 12 41 51.8 +0.9
MBDF *e*Sn **Sn 12 42 50.1 -0.4**
1.4nm,0.2s
MBDF Montbardon 5.20 69 Pn Pn 12 41 51.8 +0.9
MBDF Sn **Sn 12 42 50.1 -0.4**
0.7nm,0.2s
SESP Santiago Espad 5.29 202 Pn Pn 12 41 54.1 +2.1
0.5nm,0.1s,SNR=7.9
EMUR La Murta 5.29 190 Pn Pn 12 41 54.0 +2.1
1.0nm,0.1s,SNR=35
QUIF Quistinic 5.33 337 *e*Pn Pn 12 41 53.1 +0.7
SNR=1.0
QUIF Quistinic 5.33 337 *e*Pg Pg 12 42 13.8 -2.0
QUIF *e*Sn **Sn 12 42 53.3 -0.1**
6.4nm,0.2s,SNR=1.0
QUIF *e*Sg **Sg 12 43 23.4 -1.4**
20nm,0.3s
QUIF Quistinic 5.33 337 Pn Pn 12 41 53.1 +0.7
QUIF Pg **Pg 12 42 13.8 -2.0**
QUIF Sn **Sn 12 42 53.3 -0.1**
3.2nm,0.2s
QUIF Lg Lg 12 43 23.4
10.0nm,0.3s
GRR Gorron 5.36 354 *e*Sn Sn 12 42 54.2 0.0
11nm,0.3s,SNR=1.0
GRR *e*Sg **Sg 12 43 23.6 -2.2**
24nm,0.2s,SNR=1.0
GRR Gorron 5.36 354 Sn Sn 12 42 54.2 0.0
5.6nm,0.3s
GRR Lg Lg 12 43 23.6
12nm,0.2s
LPL La Plagne 5.45 61 *e*Pn Pn 12 41 56.5 +2.1
LPL La Plagne 5.45 61 *e*Pg Pg 12 42 17.1 -1.1
LPL *e*Sg **Sg 12 43 28.0 -0.8**
5.1nm,0.3s
LPL La Plagne 5.45 61 Pn Pn 12 41 56.5 +2.1
LPL Pg **Pg 12 42 17.1 -1.1**
LPL Lg Lg 12 43 28.0
2.6nm,0.3s
LPG La Plagne 5.46 61 *e*Sn Sn 12 42 55.1 -1.9
3.2nm,0.4s
LPG *e*Sg **Sg 12 43 28.6 -0.3**
19nm,0.5s,SNR=1.0
LPG La Plagne 5.46 61 Sn Sn 12 42 55.1 -1.9
1.6nm,0.4s
LPG Lg Lg 12 43 28.6
9.6nm,0.5s
SGMF Saint Gilles 5.49 342 *e*Pn Pn 12 41 55.6 +1.0
SNR=1.0
SGMF Saint Gilles 5.49 342 *e*Pg Pg 12 42 16.7 -2.1
SGMF *e*Sn **Sn 12 42 56.6 -0.6**
16nm,0.4s,SNR=1.0
SGMF *e*Sg **Sg 12 43 27.4 -2.4**
12nm,0.3s
SGMF Saint Gilles 5.49 342 Pn Pn 12 41 55.6 +1.0
SGMF Pg **Pg 12 42 16.7 -2.1**
SGMF Sn **Sn 12 42 56.6 -0.6**
7.9nm,0.4s
SGMF Lg Lg 12 43 27.4
5.8nm,0.3s
SBF Sospel 5.51 79 *e*Pn Pn 12 41 57.0 +2.0
SBF *e*Sn **Sn 12 42 56.6 -1.3**
4.9nm,0.3s
SBF *e*Sg **Sg 12 43 29.4 -1.1**
12nm,0.3s
SBF Sospel 5.51 79 Pn Pn 12 41 57.0 +2.0
SBF Sn **Sn 12 42 56.6 -1.3**
2.5nm,0.3s
SBF Lg Lg 12 43 29.4
5.8nm,0.3s
MVO Moncorvo 5.53 252 *e*Pn Pn 12 41 58.0 +2.7
MVO *e*Sn **Sn 12 42 59.1 +0.8**
MVO Moncorvo 5.53 252 Pn Pn 12 41 57.9 +2.7
1.3nm,0.1s,SNR=6.4
MVO Sn **Sn 12 42 57.6 -0.7**
3.0nm,0.2s,SNR=7.9
LDF La Druitiere 5.54 359 *e*Pn Pn 12 41 56.9 +1.6
SNR=1.0
LDF *e*Sn **Sn 12 42 57.6 -0.9**
9.1nm,0.4s,SNR=1.0
LDF *e*Sg **Sg 12 43 30.9 -0.5**
47nm,0.4s,SNR=1.0
CABF La Chapelle 5.63 49 *e*Pn Pn 12 41 58.4 +1.8
SNR=1.0
CABF La Chapelle 5.63 49 *e*Pg Pg 12 42 20.5 -1.0
CABF *e*Sn **Sn 12 43 00.3 -0.6**
3.0nm,0.2s
CABF *e*Sg **Sg 12 43 32.9 -1.4**
15nm,0.4s
CABF La Chapelle 5.63 49 Pn Pn 12 41 58.4 +1.8
CABF Pg **Pg 12 42 20.5 -1.0**
CABF Sn **Sn 12 43 00.3 -0.6**
1.5nm,0.2s
CABF Lg Lg 12 43 32.9
7.3nm,0.4s
FLN La Foliniere 5.71 357 *e*Pn Pn 12 41 59.4 +1.7
baz=180
FLN La Foliniere 5.71 357 *e*Pg Pg 12 42 21.3 -1.8
baz=177
FLN *e*Sn **Sn 12 43 02.6 -0.2**
12nm,0.3s
FLN *e*Sg **Sg 12 43 35.6 -1.5**
24nm,0.3s,baz=173,SNR=1.0
FLN La Foliniere 5.71 357 Pn Pn 12 41 59.4 +1.7
FLN Pg **Pg 12 42 21.3 -1.8**

FLN				Sn	Sn	12 43 02.6	-0.2	
	6.2nm,0.3s							
FLN				Lg	Lg	12 43 35.6		
	12nm,0.3s							
ROSF	**Rostrenen**	**5.74**	**338**	*e*Pn	**Pn**	**12 41 58.7**	**+0.6**	
	SNR=1.0							
ROSF				*e*Sn	**Sn**	**12 43 01.7**	**-1.8**	
	6.6nm,0.2s							
ROSF				*e*Sg	**Sg**	**12 43 35.6**	**-2.3**	
	40nm,0.4s							
ROSF	**Rostrenen**	**5.74**	**338**	Pn	**Pn**	**12 41 58.7**	**+0.6**	
ROSF				Sn	**Sn**	**12 43 01.7**	**-1.8**	
	3.3nm,0.2s							
ROSF				Lg	Lg	12 43 35.6		
	20nm,0.4s							
EAGO	**Agolada(Pontev**	**5.91**	**270**	Pn	**Pn**	**12 42 03.0**	**+2.6**	
	1.6nm,0.1s,SNR=7.9							
EAGO				Sn	**Sn**	**12 43 08.8**	**+1.1**	
	0.6nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**5.98**	**217**	Pn	**Pn**	**12 42 03.0**	**+1.6**	
	0.6nm,0.1s,SNR=10							
EADA				Sn	**Sn**	**12 43 08.1**	**-1.4**	
	2.3nm,0.2s,SNR=7.9							
POLO	**Lamas de Olo**	**5.99**	**256**	*e*Pn	**Pn**	**12 42 04.2**	**+2.5**	
POLO				*e*Sn	**Sn**	**12 43 11.9**	**+2.0**	
POLO	**Lamas de Olo**	**5.99**	**256**	Pn	**Pn**	**12 42 04.2**	**+2.5**	
POLO				Sn	**Sn**	**12 43 11.9**	**+2.0**	
ELOB	**Lobios**	**6.04**	**261**	Pn	**Pn**	**12 42 04.6**	**+2.3**	
	0.9nm,0.1s,SNR=4.5							
ELOB				Sn	**Sn**	**12 43 11.2**	**0.0**	
	0.7nm,0.2s,SNR=7.9							
PCAB	**Cabril**	**6.06**	**260**	*e*Pn	**Pn**	**12 42 05.8**	**+3.3**	
PCAB				*e*Sn	**Sn**	**12 43 13.6**	**+2.2**	
PCAB	**Cabril**	**6.06**	**260**	Pn	**Pn**	**12 42 05.8**	**+3.3**	
PCAB				Sn	**Sn**	**12 43 13.6**	**+2.2**	
PGAV	**Gavieira, Arco**	**6.17**	**263**	*e*Pn	**Pn**	**12 42 06.9**	**+2.8**	
PGAV				*e*Sn	**Sn**	**12 43 17.2**	**+2.9**	
PGAV				A	A	12 43 18.0		
	5.2nm,0.5s							
PGAV	**Gavieira, Arco**	**6.17**	**263**	Pn	**Pn**	**12 42 06.9**	**+2.8**	
PGAV				Sn	**Sn**	**12 43 17.2**	**+2.9**	
	5.2nm,0.5s							
MTE	**Manteigas**	**6.20**	**247**	*e*Sn	**Sn**	**12 43 17.6**	**+2.6**	
MTE	**Manteigas**	**6.20**	**247**	Sn	**Sn**	**12 43 17.6**	**+2.6**	
SFTF	**Sexfontaines**	**6.26**	**33**	*e*Pn	**Pn**	**12 42 05.7**	**+0.4**	
SFTF				*e*Sn	**Sn**	**12 43 13.9**	**-2.5**	
	4.9nm,0.3s							
SFTF				*e*Sg	**Sg**	**12 43 53.4**	**-1.2**	
	55nm,0.5s							
SFTF	**Sexfontaines**	**6.26**	**33**	Pn	**Pn**	**12 42 05.7**	**+0.4**	
SFTF				Sn	**Sn**	**12 43 13.9**	**-2.5**	
	4.9nm,0.3s							
SFTF				Lg	Lg	12 43 53.4		
	55nm,0.5s							
PVIS	**Viseu**	**6.30**	**251**	*e*Sn	**Sn**	**12 43 17.5**	**0.0**	
PVIS				A	A	12 43 59.1		
	19nm,0.3s							
PVIS	**Viseu**	**6.30**	**251**	Sn	**Sn**	**12 43 17.5**	**0.0**	
	9.6nm,0.3s							
ECAB	**El Cabril**	**6.44**	**221**	Pn	**Pn**	**12 42 09.6**	**+1.9**	
	1.0nm,0.2s,SNR=8.9							
ECAB				Sn	**Sn**	**12 43 18.7**	**-2.1**	
	0.4nm,0.2s,SNR=5.6							
PCBR	**Castelo Branco**	**6.44**	**243**	*e*Sn	**Sn**	**12 43 19.6**	**-1.1**	
PCBR	**Castelo Branco**	**6.44**	**243**	Sn	**Sn**	**12 43 19.6**	**-1.1**	
MEZF	**Maizieres J'vi**	**6.51**	**31**	*e*Sg	**Sg**	**12 44 00.3**	**-2.2**	
	64nm,0.5s							
MEZF	**Maizieres J'vi**	**6.51**	**31**	Lg	Lg	12 44 00.3		
	64nm,0.5s							
PMRV	**Marv??o**	**6.61**	**239**	*e*Pn	**Pn**	**12 42 12.0**	**+1.9**	
PMRV				*e*Sn	**Sn**	**12 43 24.3**	**-0.8**	
PMRV				A	A	12 43 26.1		
	8.6nm,0.4s							
PMRV	**Marv??o**	**6.61**	**239**	Pn	**Pn**	**12 42 12.0**	**+1.9**	
PMRV				Sn	**Sn**	**12 43 24.3**	**-0.8**	
	8.6nm,0.4s							
PGF	**Pioggiola**	**6.68**	**91**	*e*Pn	**Pn**	**12 42 12.1**	**+1.0**	
	SNR=1.0							
PGF				*e*Sn	**Sn**	**12 43 24.6**	**-2.1**	
	9.0nm,0.4s							
PGF	**Pioggiola**	**6.68**	**91**	Pn	**Pn**	**12 42 12.1**	**+1.0**	
PGF				Sn	**Sn**	**12 43 24.6**	**-2.1**	
	4.5nm,0.4s							
HAU	**Haudompre**	**6.68**	**40**	*e*Sg	**Sg**	**12 44 05.0**	**-3.1**	
	25nm,0.4s							
HAU	**Haudompre**	**6.68**	**40**	Lg	Lg	12 44 05.0		
	12nm,0.4s							
EGOR	**Sierra Gorda,**	**6.71**	**209**	Pn	**Pn**	**12 42 14.2**	**+2.6**	
	1.6nm,0.3s,SNR=7.9							
EGOR				Sn	**Sn**	**12 43 27.8**	**+0.3**	
	0.9nm,0.4s,SNR=7.9							
HINF	**Hinteralfeld**	**6.80**	**43**	*e*Sg	**Sg**	**12 44 10.1**	**-1.7**	
HINF	**Hinteralfeld**	**6.80**	**43**	Lg	Lg	12 44 10.1		
EBAD	**Badajoz**	**6.80**	**233**	Pn	**Pn**	**12 42 14.2**	**+1.5**	
	0.6nm,0.1s,SNR=6.6							
EBAD				Sn	**Sn**	**12 43 27.8**	**-1.9**	
	1.3nm,0.2s,SNR=5.0							
PAGF	**Fort de Pagny**	**6.82**	**34**	*e*Sn	**Sn**	**12 43 28.2**	**-1.8**	
	13nm,0.5s							
PAGF				*e*Sg	**Sg**	**12 44 10.0**	**-2.4**	
	51nm,0.7s							
EMIN	**Mina Concepcio**	**7.31**	**226**	Pn	**Pn**	**12 42 20.1**	**+0.5**	
	0.1nm,0.1s,SNR=7.9							
EMIN				Sn	**Sn**	**12 43 38.1**	**-4.0**	
	0.5nm,0.3s,SNR=7.9							
PMTG	**Montargil**	**7.35**	**240**	*e*Pn	**Pn**	**12 42 22.6**	**+2.4**	
PMTG	**Montargil**	**7.35**	**240**	Pn	**Pn**	**12 42 22.6**	**+2.4**	
CDF	**Champ du Feu**	**7.41**	**41**	*e*Sg	**Sg**	**12 44 30.0**	**-1.4**	
	16nm,0.6s							
CDF	**Champ du Feu**	**7.41**	**41**	Lg	Lg	12 44 30.0		
	8.2nm,0.6s							
EMIJ	**Mijas**	**7.43**	**211**	Pn	**Pn**	**12 42 22.8**	**+1.4**	
	0.6nm,0.2s,SNR=7.9							
BAIF	**Baives**	**7.59**	**21**	*e*Sg	Sb	12 44 34.7	+20	
	29nm,0.8s							
BAIF	**Baives**	**7.59**	**21**	Lg	Lg	12 44 34.7		
	14nm,0.8s							
GIVF	**Givet**	**7.80**	**24**	*e*Sn	**Sn**	**12 43 51.8**	**-2.5**	
	5.6nm,0.3s							
GIVF				*e*Sg	Sb	12 44 41.2	+20	
	26nm,0.6s							
GIVF	**Givet**	**7.80**	**24**	Sn	**Sn**	**12 43 51.8**	**-2.5**	
	2.8nm,0.3s							
GIVF				Lg	Lg	12 44 41.2		
	13nm,0.6s							

DJA 13 12:45:00.8±0.3, 7°S±3°×10°8E±°, h10km, M4.0/10, MLv4.0/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.30**	**113**	P	Pg	12 45 07.0	+0.2
CISI				S	Sg	12 45 11.8	+1.0
LEM	**Lembang**	**0.61**	**7**	P	Pg	12 45 10.8	-2.0
LEM				S	Sb	12 45 22.6	+0.1
SKJI	**Sukabumi**	**1.07**	**294**	P	Pg	12 45 20.5	-0.8
SKJI				S	Sb	12 45 35.4	0.0
SBJI	**Serang**	**1.92**	**313**	P	Pn	12 45 34.5	+1.0
SBJI				S	Sb	12 45 59.2	-0.7
CGJI	**Cibinong**	**2.01**	**294**	P	Pn	12 45 35.3	+0.5
CGJI				S	Sn	12 45 59.9	-0.1
UGM	**Wanagama**	**2.99**	**99**	P	Pn	12 45 48.8	+0.4
UGM				S	Sn	12 46 25.6	+1.2
PCJI	**Pacitan**	**3.68**	**102**	P	Pn	12 45 58.8	+1.0
PCJI				S	Sn	12 46 42.1	+0.8
PWJI	**Pagerwojo**	**4.26**	**98**	P	Pn	12 46 07.1	+1.3
PWJI				S	Sn	12 46 57.9	+2.2

*IDC **13** 13:05:01.9±3.8, 13°.64N×92°.79W, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.6/44, mbtmp3.6/8, ML3.7/3, Error ellipse: s-maj=74.2km s-min=32.2km az=13.0*
*MEX **13** 13:05:08.9±0.3, 14°.07N×92°.67W, h8km±27km, MD4.1*
*NEIC **13** 13:05:08.9±0.0, 14°.04N×92°.65W, h11km, mb4.0/1, MD4.1(MEX), After MEX.*

ISC 13 13:05:07.0±1.4, 14°.1N±0°.1×92°.69W±0°.06, h10km, n18, σ1§65/24, mb3.8/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.66**	**342**	*e*P	**Pn**	**13 05 35.7**	**-0.6**
PCIG		**1.66**	**342**	*e*P	**Pn**	**13 05 35.7**	**-0.6**
CCIG	**Comitan**	**2.22**	**14**	*e*P	**Pn**	**13 05 46.4**	**+2.4**
CCIG				*i* S	**Sn**	**13 06 10.7**	**-1.0**
CCIG	**Comitan**	**2.22**	**14**	*e*P	**Pn**	**13 05 43.7**	**-0.4**
CCIG				*i* S	**Sn**	**13 06 10.7**	**-1.0**
APG	**El Apazote**	**2.33**	**67**	Pn	**Pn**	**13 05 46.4**	**+0.8**
	9.2nm,0.3s,baz=308,slow=5.3,SNR=28						
APG				Sn	**Sn**	**13 06 15.6**	**+1.2**
	20nm,0.3s,baz=315,slow=20,SNR=17						
TGIG		**2.68**	**351**	*e*P	**Pn**	**13 05 51.2**	**+0.9**
TGIG		**2.68**	**351**	*e*P	**Pn**	**13 05 49.9**	**-0.4**
TGIG				*i* S	**Sn**	**13 06 22.7**	**-0.2**
CMIG	**Matias Romero**	**3.64**	**325**	*e*P	**Pn**	**13 06 03.7**	**+0.3**
CMIG	**Matias Romero**	**3.64**	**325**	*e*P	**Pn**	**13 06 03.7**	**+0.3**
CMIG				*i* S	**Sn**	**13 06 45.9**	**-0.6**
CMIG	**Matias Romero**	**3.64**	**325**	Pn	**Pn**	**13 06 03.6**	**+0.2**
	3.8nm,0.3s,baz=146,slow=13,SNR=28						
CMIG				Sn	**Sn**	**13 06 51.8**	**+5.4**
	5.8nm,0.3s,baz=159,slow=5.7,SNR=4.5						
TEIG	**Tepich**	**7.39**	**34**	*e*Pn	**Pn**	**13 06 55.3**	**+0.2**
	17nm,0.4s						
TXAR	**Lajitas Array**	**18.24**	**328**	P	**Pn**	**13 09 22.2**	**+1.7**
	0.1nm,0.3s,baz=148,slow=14,SNR=9.1						
ANMO	**Albuquerque**	**24.18**	**331**	P	**P**	**13 10 24.9**	**+1.0**
	0.9nm,0.6s,baz=165,slow=12,SNR=2.7						
MVCO	**Mesa Verde**	**26.98**	**331**	*e*P	**P**	**13 10 52.0**	**+2.7**
	3.2nm,0.8s						
NVAR	**Mina Array Bea**	**33.16**	**322**	P	**P**	**13 11 42.5**	**-1.5**
	0.5nm,0.7s,baz=132,slow=9.1,SNR=4.8						
YKA	**Yellowknife Ar**	**50.76**	**347**	P	**P**	**13 14 06.0**	**-1.0**
	1.5nm,0.8s,baz=150,slow=7.6,SNR=3.6						
INK	**Inuvik**	**60.14**	**344**	P	**P**	**13 15 13.5**	**-0.9**
	0.4nm,0.5s,baz=134,slow=5.9,SNR=4.5						
ILAR	**Eielson Array**	**62.47**	**337**	P	**P**	**13 15 29.3**	**-1.0**
	0.4nm,0.8s,baz=138,slow=5.5,SNR=4.5						

*ISCJB **13** 13:07:55.5±0.7, 38°.19N±0°.04×142°.00E±0°.08, h65km±5km, mb3.6/13, Error ellipse: s-maj=11.0km s-min=5.2km az=23.3*
*JMA **13** 13:07:57.2, 38°.22N×141°.86E, h64km±1km, M3.6*
JMA Felt II J1.
*IDC **13** 13:07:57.1±2.2, 38°.17N×141°.97E, h65km±20km, mb3.4/13, mb1 3.7/18, mb1mx3.5/52, mbtmp3.7/18, MS2.8/3, Ms1 2.8/3, ms1mx2.4/34, Error ellipse: s-maj=20.8km s-min=14.0km az=104.0*

ISC 13 13:07:56.7±1.1, 38°.20N±0°.05×141°.97E±0°.09, h59km±9km, n42, σ1§31/49, mb3.8/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.41**	**286**	P	**Pn**	**13 08 08.0**	**+0.4**
JIKH				S	**Sn**	**13 08 15.5**	**0.0**
JIO	**Ouri**	**0.55**	**298**	P	**Pn**	**13 08 09.2**	**+0.2**
JIO				S	**Sn**	**13 08 17.7**	**-0.4**
JKMT	**Kesennumamotoy**	**0.72**	**328**	P	**Pn**	**13 08 11.3**	**+0.2**
JKMT				S	**Sn**	**13 08 21.5**	**-0.2**
OFUJ	**Ofunato**	**0.91**	**345**	P	**Pn**	**13 08 13.7**	**+0.2**
OFUJ				S	**Sn**	**13 08 26.0**	**+0.1**
JOFO	**Osakifurukawao**	**0.92**	**296**	P	**Pn**	**13 08 13.6**	**0.0**
JOFO				S	**Sn**	**13 08 26.2**	**+0.1**
JMK	**Ichinoseki**	**0.95**	**322**	P	**Pn**	**13 08 14.3**	**+0.3**
JMK				S	**Sn**	**13 08 26.6**	**-0.2**
JMM	**Marumori**	**0.98**	**251**	P	**Pn**	**13 08 14.0**	**-0.4**
JMM				S	**Sn**	**13 08 26.5**	**-1.1**
JOU	**Okura**	**1.04**	**280**	P	**Pn**	**13 08 15.0**	**-0.2**
JOU				S	**Sn**	**13 08 28.2**	**-0.7**
JFK	**Kawauchi**	**1.20**	**226**	P	**Pn**	**13 08 17.3**	**-0.1**
JFK				*e*S	**Sn**	**13 08 32.1**	**-0.7**
JOM	**Ohasama**	**1.38**	**338**	P	**Pn**	**13 08 19.8**	**+0.2**
JOM				S	**Sn**	**13 08 37.0**	**+0.1**
JYK	**Kaneyama**	**1.45**	**300**	P	**Pn**	**13 08 20.5**	**-0.1**
JFT	**Otama**	**1.46**	**243**	P	**Pn**	**13 08 21.0**	**+0.2**
JFT				S	**Sn**	**13 08 38.5**	**-0.4**
JYS	**Shiratake**	**1.50**	**271**	P	**Pn**	**13 08 21.3**	**0.0**
JYS				S	**Sn**	**13 08 39.8**	**0.0**
JRG	**Rokugo**	**1.58**	**319**	P	**Pn**	**13 08 22.6**	**+0.1**
JYA	**Atsumi**	**1.81**	**283**	P	**Pn**	**13 08 25.4**	**-0.1**
MJAR	**Matsushiro Arr**	**3.42**	**242**	P	**Pn**	**13 08 49.0**	**+1.4**
	0.9nm,0.3s,baz=61,slow=7.5,SNR=30						
MJAR				LR	LR	13 10 26.9	
	comp=Z,43nm,21.7s,baz=100,slow=44						
MAT	**Matsushiro**	**3.42**	**242**	P	**Pn**	**13 08 49.0**	**+1.5**
MAT				S	**Sn**	**13 09 29.7**	**+2.8**
JHJ	**Hachijo jima 2**	**5.37**	**200**	P	**Pn**	**13 09 13.1**	**-1.2**
	6.7nm,0.3s,baz=320,slow=22,SNR=6.4						
JHJ				S	**Sn**	**13 10 10.2**	**-4.6**
	20nm,0.3s,baz=216,slow=21,SNR=9.8						
ASAJ	**Asahikawa**	**5.93**	**4**	P	**Pn**	**13 09 21.0**	**-0.8**
	1.0nm,0.3s,baz=203,slow=11,SNR=10.0						
ASAJ				S	**Sn**	**13 10 23.2**	**-5.1**
	0.2nm,0.3s,baz=307,slow=20,SNR=2.1						
USRK	**Ussuriysk Ar.**	**9.61**	**312**	P	**Pn**	**13 10 13.1**	**+0.9**
	0.7nm,0.3s,baz=124,slow=13,SNR=12						
JNU	**Nakatsue**	**10.34**	**244**	LR	LR	13 14 48.0	
	comp=Z,34nm,19.2s,baz=48,slow=40						
KSRS	**Korea Array**	**11.13**	**270**	P	**Pn**	**13 10 35.7**	**+2.6**
	0.2nm,0.3s,baz=77,slow=13,SNR=3.7						
SONM	**Songino Array**	**27.52**	**302**	P	**P**	**13 13 37.9**	**+0.3**
	0.3nm,0.4s,baz=99,slow=8.9,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.39**	**123**	T	T	13 44 06.1	
	baz=316,slow=75,SNR=207						
H11N1	**WAKE ISLAND Hy**	**28.40**	**123**	T	T	13 44 06.9	
	baz=316,slow=75,SNR=371						
H11N3	**WAKE ISLAND Hy**	**28.41**	**123**	T	T	13 44 07.6	
	baz=316,slow=75,SNR=321						
H11S1	**WAKE ISLAND Hy**	**29.15**	**125**	T	T	13 45 04.4	
	baz=318,slow=76,SNR=155						
H11S3	**WAKE ISLAND Hy**	**29.15**	**125**	T	T	13 45 04.8	
	baz=318,slow=76,SNR=211						
H11S2	**WAKE ISLAND Hy**	**29.17**	**125**	T	T	13 45 07.2	
	baz=318,slow=76,SNR=116						
MKAR	**Makanchi Array**	**43.88**	**301**	P	**P**	**13 15 57.5**	**+0.3**
	1.3nm,0.7s,baz=86,slow=11,SNR=6.3						
ILAR	**Eielson Array**	**48.28**	**33**	P	**P**	**13 16 31.4**	**0.0**
	0.6nm,0.7s,baz=271,slow=7.0,SNR=7.1						
INK	**Inuvik**	**53.15**	**28**	P	**P**	**13 17 08.1**	**+0.1**
	0.9nm,0.8s,baz=338,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**58.28**	**188**	P	**P**	**13 17 44.3**	**-0.9**
	0.8nm,0.5s,baz=6.3,slow=7.5,SNR=18						
RES	**Resolute Bay**	**61.36**	**15**	P	**P**	**13 18 05.3**	**-0.5**
	1.1nm,0.8s,baz=290,slow=5.8,SNR=5.0						
ASAR	**Alice Springs**	**62.00**	**188**	P	**P**	**13 18 10.2**	**-0.5**
	0.6nm,0.7s,baz=15,slow=5.2,SNR=11						
YKA	**Yellowknife Ar**	**62.58**	**31**	P	**P**	**13 18 13.6**	**-0.5**
	0.2nm,0.6s,baz=308,slow=7.0,SNR=4.2						
FINES	**FINESS Array B**	**67.99**	**332**	P	**P**	**13 18 48.2**	**-0.9**
	0.8nm,0.6s,baz=52,slow=9.0,SNR=4.5						
AKASG	**Malin Array Be**	**73.64**	**322**	P	**P**	**13 19 23.1**	**-0.5**
	0.4nm,0.4s,baz=49,slow=5.6,SNR=3.4						
NVAR	**Mina Array Bea**	**76.54**	**46**	P	**P**	**13 19 26.8**	**+0.9**
	0.4nm,0.7s,baz=272,slow=6.1,SNR=3.7						
PDAR	**Pinedale Array**	**76.54**	**46**	P	**P**	**13 19 41.2**	**+0.4**
	0.3nm,0.5s,baz=320,slow=1.1,SNR=5.2						
MMAI	**Mount Meron Ar**	**81.65**	**306**	LR	LR	13 59 32.4	
	comp=Z,19nm,19.2s,baz=230,slow=38						
TXAR	**Lajitas Array**	**89.06**	**53**	P	**P**	**13 20 46.5**	**+0.8**
	0.4nm,0.5s,baz=308,slow=3.5,SNR=7.6						

EAF 13 13:10:55.2±0.5, 4°.84S×34°.26E, h38km±1km, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOND	**Kondoa**	**1.53**	**93**	*i* P	Pn	13 11 19.7	-0.4
BBAT	**Babati**	**1.63**	**67**	*i* P	Pn	13 11 21.2	-0.3
BBAT				*i* S	Sn	13 11 40.4	-0.9
KIBA	**Kibaya**	**2.35**	**101**	*i* P	Pn	13 11 31.3	-0.2
KIBA				*i* S	Sn	13 11 57.8	-1.5

*IDC **13** 13:21:06.3±0.6, 3°.15S×130°.00E, h0km, mb4.1/14, mb1 4.3/17, mb1mx4.2/38, mbtmp4.2/17, ML4.3/2, MS3.9/19, Ms1 3.9/19, ms1mx3.7/41, Error ellipse: s-maj=26.5km s-min=13.0km az=65.0*
*ISCJB **13** 13:21:07.4±0.3, 3°.05S±0°.03×130°.10E±0°.03, h25km, mb4.5/23, MS4.0/18, Error ellipse: s-maj=5.0km s-min=3.9km az=23.3*
*GCMT **13** 13:21:08.2±0.3, 2°.91S±0°.02×130°.13E±0°.02, h18km±1km, MW4.8/69, Moment Tensor Solution. s16,c19; s69,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.31±.10; $M_{\theta\theta}$-0.22±.07; $M_{\phi\phi}$0.52±.09; $M_{r\theta}$0.08±.18; $M_{\theta\phi}$1.81±.07; $M_{r\phi}$0.79±.22; Best double couple: $M_0$2.00700×10^{16} NP1:ϕ_s175.00000°, δ89.00000°, λ-157.00000°. NP2: ϕ_s84.00000°, δ67.00000°, λ-1.00000°. Principal axes: T 2.1830, Plg15.0000°, Azm307.0000°; N -0.3530, Plg67.0000°, Azm178.0000°; P -1.8300, Plg17.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **13** 13:21:09.2±1.9, 3°.00S×130°.16E, h24km±14km, mb4.4/17 Error ellipse: s-maj=7.9km s-min=5.5km az=224.0*
*DJA **13** 13:21:10.3±0.2, 3°.S±2°×13°.0E±°, h83km±6km, M4.6/15, mB5.0/9, mb4.7/15, MLv4.9/10, Mw(mB)4.4/9*

ISC 13 13:21:09.8±0.4, 3°.04S±0°.04×130°.12E±0°.04, h25km, n91, σ1§92/86, mb4.4/23, MS3.9/18, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.49**	**188**	P	**Pb**	**13 21 37.4**	**+0.5**
BNDI				S	**Sb**	**13 21 59.1**	**+3.7**
FAKI	**Fak Fak**	**2.13**	**87**	*e*Pn	**Pn**	**13 21 42.4**	**-1.4**
FAKI	**Fak Fak**	**2.13**	**87**	P	**Pn**	**13 21 43.3**	**-0.5**
FAKI				S	**Sn**	**13 22 07.3**	**-2.1**
SWI	**Sorong**	**2.44**	**28**	P	**Pn**	**13 21 46.1**	**-2.0**
SWI				S	**Sn**	**13 22 14.2**	**-2.9**
SANI	**Sanana**	**4.25**	**283**	P	**Pn**	**13 22 11.4**	**-1.5**
SANI				S	**Sn**	**13 22 58.9**	**-2.8**
TNTI	**Ternate**	**4.68**	**324**	*e*Pn	**Pn**	**13 22 17.7**	**-1.2**
TNTI	**Ternate**	**4.68**	**324**	P	**Pn**	**13 22 17.1**	**-1.8**
SAUI	**Saumlaki**	**5.05**	**167**	*e*Pn	**Pn**	**13 22 25.5**	**+1.5**
SAUI	**Saumlaki**	**5.05**	**167**	P	**Pn**	**13 22 24.8**	**+0.8**
KMSI	**Cibinong**	**7.11**	**300**	P	**Pn**	**13 22 53.0**	**+0.7**
KMSI				S	**Sn**	**13 24 07.6**	**-4.8**
LUWI	**Luwuk**	**7.61**	**285**	*e*Pn	**Pn**	**13 22 58.5**	**-0.7**
LUWI	**Luwuk**	**7.61**	**285**	P	**Pn**	**13 22 58.9**	**-0.3**
	84nm,0.8s,1μm0.6nm						
BBSI	**Bau Bau**	**7.92**	**252**	P	**Pn**	**13 23 03.0**	**-0.4**
APSI	**Ampana**	**8.73**	**284**	P	**Pn**	**13 23 14.1**	**-0.4**
APSI				S	**Sn**	**13 24 50.4**	**-1.8**
SOEI	**Soe**	**8.86**	**221**	*e*Pn	**Pn**	**13 23 19.4**	**+3.1**
SOEI	**Soe**	**8.86**	**221**	P	Pn	13 23 32.1	+16
MRSI	**Marisa**	**8.89**	**293**	P	**Pn**	**13 23 15.0**	**-1.8**
MRSI				S	**Sn**	**13 24 53.1**	**-3.1**
BATI	**Baumata**	**9.59**	**222**	P	**Pn**	**13 23 29.8**	**+3.5**
MTN	**Manton Dam**	**9.80**	**174**	*e*Pn	**Pn**	**13 23 28.8**	**-0.5**
GENI	**Genyem**	**10.04**	**88**	P	**Pn**	**13 23 33.3**	**+0.7**
BKSI	**Bulukumba**	**10.23**	**257**	P	**Pn**	**13 23 34.3**	**-0.8**
SPSI	**Sidrap Palu**	**10.38**	**265**	P	**Pn**	**13 23 38.3**	**+1.2**
JAY	**Jayapura**	**10.58**	**87**	Pn	**Pn**	**13 23 39.9**	**-0.1**
	1.7nm,0.3s,baz=199,slow=17,SNR=5.6						
MPSI	**Mapaga**	**10.76**	**288**	P	**Pn**	**13 23 42.4**	**+0.1**
WSI	**Waingapu**	**11.78**	**236**	P	Pn	13 23 47.5	-8.8
MTKI	**Muara Teweh, K**	**15.36**	**277**	P	P	13 25 01.3	+12
FITZ	**Fitzroy Crossi**	**15.60**	**196**	*e*Pn	**Pn**	**13 24 46.7**	**-1.5**
	18nm,0.9s						
FITZ	**Fitzroy Crossi**	**15.60**	**196**	Pn	**Pn**	**13 24 45.9**	**-2.3**
	1.0nm,0.3s,baz=32,slow=7.1,SNR=22						
FITZ				LR	LR	13 31 46.8	
	comp=Z,626nm,20.1s,baz=27,slow=41						
JAGI	**Jajag, Banyuwa**	**16.78**	**251**	*e*Pn	**P**	**13 25 04.2**	**-1.2**
	65nm,1.3s						
COEN	**Coen**	**16.85**	**131**	*e*Pn	**Pn**	**13 25 03.5**	**-0.7**
	25nm,0.8s						
WRAB	**Tennant Creek**	**17.30**	**167**	*e*Pn	**Pn**	**13 25 07.7**	**-2.1**
	16nm,0.8s						
WRA	**Warramunga Arr**	**17.30**	**167**	P	**Pn**	**13 25 04.6**	**-5.2**
	0.6nm,0.3s,baz=350,slow=11,SNR=33						
WRA				S	Sn	13 28 07.6	-14
	0.3nm,0.3s,baz=353,slow=21,SNR=2.9						
WB2	**Warramunga Arr**	**17.30**	**167**	*e*Pn	**Pn**	**13 25 07.7**	**-2.1**
	18nm,0.8s						
PMG	**Port Moresby**	**18.07**	**111**	*e*Pn	**Pn**	**13 25 19.1**	**-0.2**
	38nm,1.0s						
PMG	**Port Moresby**	**18.07**	**111**	P	**P**	**13 25 19.9**	**+0.3**
	0.5nm,0.3s,baz=305,slow=16,SNR=3.0						
SBUM	**Sibu**	**18.71**	**287**	*e*P	**P**	**13 25 26.1**	**-0.5**
	4.2nm,0.9s						
KSM	**Kuching**	**20.31**	**282**	*e*P	**P**	**13 25 44.8**	**+0.7**
	18nm,0.8s						
AS31	**Alice Springs**	**20.83**	**170**	*e*P	**P**	**13 25 48.9**	**-0.9**
	20nm,0.6s						
ASAR	**Alice Springs**	**20.83**	**170**	P	**P**	**13 25 49.0**	**-0.8**
	27nm,0.7s,baz=348,slow=9.3,SNR=341

BVAR Borovoye Array 74.80 327 P P 13 32 48.4 +0.4
1.1nm,0.6s,baz=129,slow=6.5,SNR=5.6
BVAR LR LR 14 08 17.9
comp=Z,143nm,20.9s,baz=66,slow=38
VNDA Vanda 76.34 173 P P 13 32 56.1 -0.2
0.4nm,0.5s,baz=321,slow=7.8,SNR=4.1
VNDA LR LR 14 07 12.9
comp=Z,90nm,19.2s,baz=338,slow=36
MAW Mawson 78.67 201 P P 13 33 09.2 -0.2
2.8nm,0.7s,baz=57,slow=8.4,SNR=4.2
PPT Papeete 79.85 107 LR LR 14 07 25.5
comp=Z,54nm,18.5s,baz=230,slow=35
ATD Arta Tunnel 87.93 282 LR LR 14 11 02.9
comp=Z,40nm,21.4s,baz=39,slow=34
ILAR Eielson Array 89.73 25 P P 13 34 06.2 +0.5
0.2nm,0.6s,baz=257,slow=4.0,SNR=3.4
BCAR Beaver Creek A 91.82 27 *eP* **P 13 34 13.7 -1.8**
KMBO Kilima Mbogo 92.81 269 LR LR 14 13 41.1
comp=Z,93nm,20.4s,baz=95,slow=34
BRTR Keskin Array B 96.92 309 LR LR 14 25 26.9
comp=Z,32nm,20.6s,baz=89,slow=40
FINES FINESS Array B 99.36 332 LR LR 14 22 51.4
comp=Z,81nm,18.5s,baz=64,slow=37
TORD Torodi Ar. Bea 128.06 284 PKP **PKiKP 13 40 16.0 +0.6**
0.4nm,0.8s,baz=64,slow=3.4,SNR=3.2
CPUP Villa Florida 149.93 167 *e*PKPbc **PKPbc 13 40 58.7 -0.1**
CPUP Villa Florida 149.93 167 PKPbc **PKiKP 13 40 59.5 -0.3**
1.7nm,0.6s,baz=177,slow=2.2,SNR=9.0
LPAZ La Paz 153.65 137 PKPbc **PKiKP 13 41 08.8 +0.3**
0.5nm,0.4s,baz=201,slow=5.6,SNR=3.3

IDC 13 13:49:00.2±10.0, 23°34S×178°71W, h595km±136km, mb3.2/4, mb1 3.3/5, mb1mx2.9/40, mbtmp4.3/5, Error ellipse: s-maj=201.1km s-min=50.5km az=67.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.30**	**193**	P		P	P	13 52 11.1	0.0
	0.6nm,0.3s,baz=260,slow=3.3,SNR=7.0								
URZ				S		S	S	13 54 45.8	-1.1
	0.2nm,0.3s,baz=0.1,slow=19,SNR=3.1								
CTA	**Charters Tower**	**32.66**	**269**	P		P	P	13 54 44.8	-0.2
	4.2nm,0.4s,baz=72,slow=8.5,SNR=12								
STKA	**Stephens Creek**	**36.03**	**247**	P		P	P	13 55 12.9	0.0
	5.3nm,1.0s,baz=79,slow=10,SNR=5.1								
ASAR	**Alice Springs**	**43.30**	**260**	P		P	P	13 56 11.2	+0.1
	1.4nm,0.5s,baz=97,slow=7.2,SNR=59								
WRA	**Warramunga Arr**	**43.63**	**265**	P		P	P	13 56 13.3	-0.4
	1.3nm,0.3s,baz=102,slow=8.3,SNR=52								

*ISCJB **13** 13:54:04.0±0.2, 7°88S±0°03×79°95W±0°04, h35km, mb4.8/166, MS3.9/11, Error ellipse: s-maj=5.9km s-min=3.1km az=153.8*
*NEIC **13** 13:54:04.0±0.0, 8°38S×80°40W, h38km, mb4.9/159, ML4.8(ARE), After ARE.*
NEIC Felt [II] at Ascope and San Pedro de Lloc. Also felt at Trujillo.
*LIM **13** 13:54:04.0, 8°38S×80°40W, h38km, MB4.9(NEIC)*
*IDC **13** 13:54:07.5±2.5, 8°04S×80°06W, h51km±22km, mb4.2/21, mb1 4.4/26, mb1mx4.3/41, mbtmp4.5/26, ML4.4/5, MS3.9/16, Ms1 3.9/16, ms1mx3.8/30, Error ellipse: s-maj=20.6km s-min=10.4km az=67.0*
ISC 13 13:54:05.4±0.3, 8°13S±0°05×80°10W±0°06, h35km, n608, σ1°34/617, mb4.8/166, MS3.9/11, 1C, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.96**	**60**	P			**Pn**	**13 54 38.8**	**+2.2**
	66nm,0.3s,baz=239,slow=1.9,SNR=410								
ATAH				S			**Sn**	**13 55 04.2**	**+4.1**
	486nm,0.3s,baz=24,slow=14,SNR=16								
ATAH				LR		LR	LR	13 55 31.8	
	comp=Z,1μm,18.6s,baz=251,slow=45								
NNA	**Nana**	**5.00**	**140**	*e*Pn			**Pn**	**13 55 18.0**	**0.0**
NNA						S	**Sn**	**13 56 11.6**	**-3.0**
NNA	**Nana**	**5.00**	**140**	P			**Pn**	**13 55 18.8**	**+0.8**
	84nm,0.3s,baz=319,slow=11,SNR=65								
NNA				S			**Sn**	**13 56 11.6**	**-3.0**
	391nm,0.3s,baz=95,slow=20,SNR=18								
NNA				LR		LR	LR	13 57 55.6	
	comp=Z,1μm,18.2s,baz=314,slow=45								
OTAV	**Otavalo**	**8.47**	**11**	*e*Pn			**Pn**	**13 56 05.6**	**-0.6**
OTAV	**Otavalo**	**8.47**	**11**	*e*P			**Pn**	**13 56 05.8**	**-0.4**
OTAV	**Otavalo**	**8.47**	**11**	*e*P			**Pn**	**13 56 05.8**	**-0.4**
PTLC	**Puerto Leguiza**	**9.79**	**33**	*e*P			Pn	13 56 16.2	-7.7
PTLC	**Puerto Leguiza**	**9.79**	**33**	*e*P			Pn	13 56 16.2	-7.7
FLOC	**Florencia**	**10.62**	**25**	*e*P			**Pn**	**13 56 31.7**	**-3.5**
FLOC	**Florencia**	**10.62**	**25**	*e*P			**Pn**	**13 56 31.7**	**-3.5**
SOTA	**Rioblanco**	**10.78**	**19**	*e*P			**Pn**	**13 56 36.7**	**-1.1**
SOTA	**Rioblanco**	**10.78**	**19**	*e*P			**Pn**	**13 56 36.7**	**-1.1**
PCON	**Cinco Dias**	**11.03**	**20**	*e*P			**Pn**	**13 56 45.1**	**+3.8**
PCON	**Cinco Dias**	**11.03**	**20**	*e*P			**Pn**	**13 56 45.1**	**+3.8**
PAYG	**Puerto Ayora**	**12.57**	**306**	*e*Pn			**Pn**	**13 57 04.5**	**+2.7**
YOTC	**Yotoco, Valle**	**12.60**	**17**	*e*P			**P**	**13 57 14.7**	**+1.2**
YOTC	**Yotoco, Valle**	**12.60**	**17**	*e*P			**P**	**13 57 14.7**	**+1.2**
VILC	**Villavicencio,**	**13.74**	**28**	*e*P			**P**	**13 57 24.4**	**-1.7**
VILC	**Villavicencio,**	**13.74**	**28**	*e*P			**P**	**13 57 24.4**	**-1.7**
CHIC	**Chingaza**	**14.18**	**27**	*e*P			**Pn**	**13 57 22.9**	**-1.3**
CHIC	**Chingaza**	**14.18**	**27**	*e*P			**Pn**	**13 57 22.9**	**-1.3**
LPAZ	**La Paz**	**14.22**	**126**	P			**Pn**	**13 57 25.5**	**+0.5**
	0.4nm,0.3s,baz=300,slow=9.9,SNR=16								
LPAZ				LR			LR	14 02 50.3	
	comp=Z,82nm,21.4s,baz=298,slow=37								
NORC	**Norcasia**	**14.57**	**21**	*e*P			**P**	**13 57 35.8**	**+0.5**
NORC	**Norcasia**	**14.57**	**21**	*e*P			**P**	**13 57 35.8**	**+0.5**
HELC	**Santa Helena**	**14.94**	**18**	*e*P			**P**	**13 57 39.7**	**0.0**
HELC	**Santa Helena**	**14.94**	**18**	*e*P			**P**	**13 57 39.7**	**0.0**
MNMC	**Minye Minye**	**14.95**	**138**	*e*Pn			**Pn**	**13 57 36.5**	**+2.0**
MNMC				*e*P			**P**	**13 57 41.4**	**+1.6**
PB11	**IPOC Station P**	**15.36**	**140**	*e*Pn			**Pn**	**13 57 39.7**	**-0.2**
PB11				*e*P			**P**	**13 57 46.5**	**+2.3**
RUSC	**La Rusia**	**15.59**	**27**	*e*P			**Pn**	**13 57 44.0**	**+0.9**
RUSC	**La Rusia**	**15.59**	**27**	*e*P			**Pn**	**13 57 44.0**	**+0.9**
GO01	**Chusmiza**	**15.60**	**138**	*e*Pn			**Pn**	**13 57 44.9**	**+1.7**
	145nm,0.8s								
PTBC	**PUERTO BERRIO,**	**15.62**	**21**	*e*P			**P**	**13 57 46.0**	**-0.9**
PTBC	**PUERTO BERRIO,**	**15.62**	**21**	*e*P			**P**	**13 57 46.0**	**-0.9**
BARC	**Barichara**	**16.17**	**25**	*e*P			**P**	**13 57 53.0**	**-0.2**
BARC	**Barichara**	**16.17**	**25**	*e*P			**P**	**13 57 53.0**	**-0.2**
ZARC	**Zaragoza, Cauc**	**16.38**	**19**	*e*P			**P**	**13 57 55.9**	**+0.6**
ZARC	**Zaragoza, Cauc**	**16.38**	**19**	*e*P			**P**	**13 57 55.9**	**+0.6**
UREC	**San Jos de Ur**	**16.42**	**16**	*e*P			**Pn**	**13 57 52.7**	**-0.7**
UREC	**San Jos de Ur**	**16.42**	**16**	*e*P			**Pn**	**13 57 52.7**	**-0.7**
BRRC	**Barranca, Sant**	**16.42**	**23**	*e*P			**Pn**	**13 57 53.2**	**-0.1**
BRRC	**Barranca, Sant**	**16.42**	**23**	*e*P			**Pn**	**13 57 53.2**	**-0.1**
PB01	**IPOC Station P**	**16.43**	**143**	*e*Pn			**Pn**	**13 57 54.9**	**+1.4**
	96nm,0.9s								
OCAC	**Ocana**	**17.61**	**23**	*e*P			**Pn**	**13 58 09.0**	**+0.6**
OCAC	**Ocana**	**17.61**	**23**	*e*P			**Pn**	**13 58 09.0**	**+0.6**
PB10	**IPOC Station P**	**17.82**	**150**	*e*P			**Pn**	**13 58 12.8**	**+2.0**
	30nm,0.7s								
SMLC	**San Martn de**	**17.86**	**20**	*e*P			**Pn**	**13 58 08.3**	**-3.0**
SMLC	**San Martn de**	**17.86**	**20**	*e*P			**Pn**	**13 58 08.3**	**-3.0**
LVC	**Limon Verde**	**17.97**	**144**	*e*P			**Pn**	**13 58 15.6**	**+2.6**
	67nm,1.3s								
LVC	**Limon Verde**	**17.97**	**144**	P			**P**	**13 58 15.8**	**+2.5**
	3.7nm,0.3s,baz=311,slow=7.5,SNR=24								
LVC				LR			LR	14 06 02.7	
	comp=Z,534nm,18.6s,baz=298,slow=40								
SJCC	**San Jacinto, C**	**18.57**	**15**	*e*P			**P**	**13 58 19.5**	**-0.1**
SJCC	**San Jacinto, C**	**18.57**	**15**	*e*P			**P**	**13 58 19.5**	**-0.1**
JTS	**Las Juntas de**	**18.93**	**345**	*e*P			**P**	**13 58 23.1**	**-0.4**
	89nm,1.5s								
JTS	**Las Juntas de**	**18.93**	**345**	P			**P**	**13 58 24.9**	**+1.4**
	1.2nm,0.3s,baz=220,slow=7.5,SNR=9.0								
JTS				LR			LR	14 04 23.1	
	comp=Z,559nm,21.4s,baz=231,slow=33								
CODC	**Agustn Codazz**	**19.13**	**20**	*e*P			**P**	**13 58 25.0**	**-0.7**
CODC	**Agustn Codazz**	**19.13**	**20**	*e*P			**P**	**13 58 25.0**	**-0.7**
SDV	**Santo Domingo**	**19.36**	**29**	*e*P			**P**	**13 58 26.7**	**-1.7**
	28nm,0.9s								
SDV	**Santo Domingo**	**19.36**	**29**	*e*P			**P**	**13 58 28.1**	**-0.2**
SDV	**Santo Domingo**	**19.36**	**29**	*e*P			**P**	**13 58 28.1**	**-0.2**
SDV	**Santo Domingo**	**19.36**	**29**	P			**P**	**13 58 27.8**	**-0.6**
	2.9nm,0.3s,baz=242,slow=13,SNR=17								
SDV				LR			LR	14 07 10.9	
	comp=Z,514nm,19.9s,baz=244,slow=41								
GO02	**Mina Guanaco**	**19.68**	**151**	*e*P			**P**	**13 58 35.0**	**+3.0**
	104nm,0.8s								
SIV	**San Ignacio**	**20.17**	**115**	P			**P**	**13 58 37.0**	**0.0**
	17nm,0.7s,baz=303,slow=11,SNR=77								
SIV				LR			LR	14 06 48.9	
	comp=Z,551nm,18.7s,baz=289,slow=38								
HJA	**Humahuaca**	**20.58**	**138**	*i* P			**P**	**13 58 44.8**	**+2.9**
ACON	**Acoyapa**	**20.59**	**346**	*e*P			**P**	**13 58 42.7**	**+1.1**
	68nm,1.2s								
PTGA	**Pitinga**	**21.36**	**71**	*e*P			**P**	**13 58 49.0**	**-1.0**
PTGA				*e*pP			**pP**	**13 59 00.8**	**+1.5**
PTGA	**Pitinga**	**21.36**	**71**	P			**P**	**13 58 49.4**	**-0.6**
	6.0nm,0.5s,baz=256,slow=13,SNR=14								
GO03	**Copiap**	**21.49**	**155**	*e*P			**P**	**13 58 53.4**	**+2.1**
	31nm,1.1s								
AZAP	**Zapla**	**21.52**	**140**	*i* P			**P**	**13 58 54.0**	**+2.2**
AZAP				IAML				13 58 55.2	
	comp=Z,24nm,0.6s								
FSA	**Cafayete**	**22.36**	**145**	*i* P			**P**	**13 58 58.8**	**-2.0**
FSA				IAML				13 59 17.6	
	comp=Z,3.6nm,0.7s								
LCO	**Las Campanas**	**22.58**	**158**	*e*P			**P**	**13 59 04.8**	**+1.6**
AHML	**Horco Molle**	**23.25**	**145**	*i* P			**P**	**13 59 10.4**	**+0.5**
AHML				IAML				13 59 15.0	
	comp=Z,3.3nm,0.6s								
VCA	**Vinchina**	**23.36**	**153**	*i* P			**P**	**13 59 14.3**	**+3.2**
CYA	**Choya**	**24.29**	**148**	*i* P			**P**	**13 59 21.8**	**+2.1**
APG	**El Apazote**	**25.18**	**336**	P			**P**	**13 59 29.0**	**+1.0**
	comp=Z,7.1nm,0.8s,baz=83,slow=0.5,SNR=5.6								
APG				LR			LR	14 07 48.4	
	comp=Z,381nm,19.0s,baz=128,slow=33								
CFA	**Coronel Fontan**	**25.84**	**156**	*i* P			**P**	**13 59 35.6**	**+1.9**
CFA	**Coronel Fontan**	**25.84**	**156**	P			**P**	**13 59 35.0**	**+1.3**
	comp=Z,7.9nm,0.8s,baz=334,slow=9.0,SNR=12								
CPUP	**Villa Florida**	**28.20**	**133**	*e*P			**P**	**13 59 55.9**	**+0.9**
	comp=Z,8.2nm,1.0s								
CPUP	**Villa Florida**	**28.20**	**133**	P			**P**	**13 59 55.9**	**+0.9**
	comp=Z,7.2nm,1.0s,baz=322,slow=9.5,SNR=14								
CPUP				LR			LR	14 14 00.5	
	comp=Z,308nm,21.6s,baz=306,slow=42								
CMIG	**Matias Romero**	**29.01**	**330**	LR			LR	14 09 15.6	
	comp=Z,235nm,21.8s,baz=178,slow=31								
SJG	**San Juan**	**29.49**	**28**	P			**P**	**14 00 06.3**	**-0.1**
	comp=Z,9.0nm,0.3s,baz=192,slow=6.1,SNR=5.8								
SJG				LR			LR	14 13 42.7	
	comp=Z,182nm,21.0s,baz=191,slow=40								
BDFB	**Brasilia**	**32.24**	**106**	P			**P**	**14 00 30.9**	**-0.1**
	comp=Z,3.9nm,0.6s,baz=267,slow=9.5,SNR=5.6								
BDFB				LR			LR	14 14 26.5	
	comp=Z,564nm,18.5s,baz=276,slow=38								
PLCA	**Paso Flores**	**33.56**	**167**	*e*P			**P**	**14 00 44.1**	**+1.9**
	comp=Z,1.1nm,0.9s								
PLCA	**Paso Flores**	**33.56**	**167**	P			**P**	**14 00 44.0**	**+1.9**
	comp=Z,7.6nm,0.8s,baz=2.3,slow=9.8,SNR=11								
PLCA				LR			LR	14 13 13.8	
	comp=Z,90nm,18.8s,baz=18,slow=34								
SPB	**Sao Paulo**	**34.86**	**120**	*e*P			**P**	**14 00 53.9**	**+0.3**
	comp=Z,23nm,0.9s								
455A	**Stateville**	**38.75**	**356**	P			**P**	**14 01 26.1**	**-0.4**
	baz=176								
452A	**Marianna**	**39.06**	**353**	P			**P**	**14 01 28.5**	**-0.6**
	baz=173								
353A	**Camilla**	**39.45**	**354**	P			**P**	**14 01 31.9**	**-0.4**
	baz=174								
351A	**Pinckard**	**39.53**	**353**	P			**P**	**14 01 32.8**	**-0.2**
	baz=172								
352A	**Blakely**	**39.66**	**354**	P			**P**	**14 01 33.6**	**-0.5**
	baz=173								
350A	**Dozier**	**39.78**	**352**	P			**P**	**14 01 34.8**	**-0.3**
	baz=171								
349A	**Repton**	**39.84**	**351**	P			**P**	**14 01 35.3**	**-0.2**
	baz=170								
252A	**Lumpkin**	**40.15**	**354**	P			**P**	**14 01 37.4**	**-0.8**
	baz=173								
250A	**Grady**	**40.32**	**352**	P			**P**	**14 01 38.9**	**-0.6**
	baz=171								
251A	**Midway**	**40.32**	**353**	P			**P**	**14 01 38.8**	**-0.8**
	baz=172,SNR=12								
249A	**Camden**	**40.44**	**351**	P			**P**	**14 01 40.3**	**-0.2**
	baz=170								
155A	**Kite**	**40.59**	**357**	P			**P**	**14 01 40.9**	**-0.9**
	baz=177								
154A	**Montrose**	**40.62**	**356**	P			**P**	**14 01 41.4**	**-0.6**
	baz=176								
HKT	**Hockley**	**40.77**	**339**	*e*P			**P**	**14 01 43.2**	**0.0**
	comp=Z,44nm,1.3s								
152A	**Waverly Hall**	**40.81**	**354**	*e*P			**P**	**14 01 42.4**	**-1.2**
	comp=Z,15nm,0.8s								
152A	**Waverly Hall**	**40.81**	**354**	P			**P**	**14 01 42.7**	**-0.9**
	baz=174,SNR=5.4								
150A	**Eclectic**	**40.90**	**352**	P			**P**	**14 01 43.6**	**-0.8**
	baz=172,SNR=6.5								
149A	**Jones**	**41.00**	**351**	P			**P**	**14 01 44.4**	**-0.8**
	baz=170								
148A	**Greensboro**	**41.17**	**350**	P			**P**	**14 01 46.0**	**-0.6**
	baz=169								
Z54A	**Sparta**	**41.22**	**357**	P			**P**	**14 01 45.8**	**-1.2**
	baz=176								
Z52A	**Williamson**	**41.30**	**355**	P			**P**	**14 01 46.9**	**-0.7**
	baz=174,SNR=5.5								
Z53A	**Monticello**	**41.31**	**356**	P			**P**	**14 01 46.7**	**-1.1**
	baz=175								
147A	**Livingston**	**41.32**	**350**	P			**P**	**14 01 46.7**	**-1.0**
	baz=168								
VBMS	**Vicksburg**	**41.34**	**347**	*e*P			**P**	**14 01 47.9**	**0.0**
	comp=Z,77nm,0.9s								
VBMS	**Vicksburg**	**41.34**	**347**	P			**P**	**14 01 47.9**	**0.0**
	baz=165								
GOGA	**Godfrey**	**41.44**	**356**	*e*P			**P**	**14 01 46.7**	**-2.0**
GOGA	**Godfrey**	**41.44**	**356**	P			**P**	**14 01 47.5**	**-1.2**
	baz=175								
LRAL	**Lakeview Retre**	**41.46**	**351**	*e*P			**P**	**14 01 48.4**	**-0.6**
	comp=Z,27nm,0.9s								
LRAL	**Lakeview Retre**	**41.46**	**351**	P			**P**	**14 01 48.2**	**-0.8**
	baz=170,SNR=9.6								
Z51A	**Franklin**	**41.50**	**354**	P			**P**	**14 01 48.4**	**-0.9**
	baz=173								
Z50A	**Ashland**	**41.53**	**353**	*e*P			**P**	**14 01 48.4**	**-1.2**
	comp=Z,27nm,0.9s								
Z50A	**Ashland**	**41.53**	**353**	P			**P**	**14 01 48.8**	**-0.8**
	baz=172,SNR=9.8								
Z49A	**Columbiana**	**41.55**	**352**	P			**P**	**14 01 48.8**	**-0.9**
	baz=171,SNR=6.3								
Y54A	**Tignall**	**41.83**	**357**	P			**P**	**14 01 50.9**	**-1.1**
	baz=177,SNR=5.0								
Y55A	**Salida**	**41.87**	**358**	P			**P**	**14 01 51.5**	**-0.8**
	baz=178,SNR=5.4								
Y53A	**Monroe**	**41.88**	**356**	P			**P**	**14 01 51.4**	**-1.0**
	baz=175								
Y52A	**Lilburn**	**41.93**	**355**	P			**P**	**14 01 51.5**	**-1.3**
	baz=175								
Y60A	**Bolivia**	**41.94**	**2**	P			**P**	**14 01 52.1**	**-0.8**
	baz=183								
NATX	**Nacogdoches**	**42.04**	**341**	*e*P			**P**	**14 01 53.9**	**+0.2**
	comp=Z,83nm,0.9s								
NATX	**Nacogdoches**	**42.04**	**341**	P			**P**	**14 01 54.7**	**+0.9**
	baz=159,SNR=5.0								
Y51A	**Rockmart**	**42.06**	**354**	P			**P**	**14 01 52.6**	**-1.3**
	baz=173,SNR=6.3								
Y50A	**Piedmont**	**42.13**	**353**	P			**P**	**14 01 52.9**	**-1.5**
	baz=172,SNR=5.2								
Y49A	**Blount Mountai**	**42.19**	**352**	*e*P			**P**	**14 01 53.0**	**-1.9**
	comp=Z,14nm,0.9s								
Y49A	**Blount Mountai**	**42.19**	**352**	P			**P**	**14 01 53.7**	**-1.2**
	baz=171								
Y48A	**Jasper**	**42.35**	**351**	P			**P**	**14 01 55.1**	**-1.0**
	baz=170								
X55A	**Gracelyn & Ava**	**42.39**	**358**	P			**P**	**14 01 55.5**	**-1.0**
	baz=178								
X56A	**White Oak**	**42.40**	**359**	P			**P**	**14 01 55.3**	**-1.3**
	baz=179								
X54A	**Belton**	**42.50**	**357**	P			**P**	**14 01 56.3**	**-1.1**
	baz=177								
X53A	**Estanollee**	**42.51**	**356**	P			**P**	**14 01 56.1**	**-1.4**
	baz=176								
X52A	**Dahlonega**	**42.65**	**355**	P			**P**	**14 01 57.4**	**-1.3**
	baz=175								
X50B	**Fort Payne**	**42.68**	**353**	P			**P**	**14 01 57.4**	**-1.6**
	baz=172,SNR=5.4								
X51A	**Calhoun**	**42.70**	**354**	P			**P**	**14 01 57.9**	**-1.2**
	baz=174								
PAULI	**Pauline**	**42.75**	**358**	*e*P			**P**	**14 01 58.5**	**-1.0**
	comp=Z,15nm,0.8s								
JCT	**Junction City**	**42.80**	**335**	*e*P			**P**	**14 02 00.2**	**+0.2**
	comp=Z,17nm,1.3s								
JCT	**Junction City**	**42.80**	**335**	P			**P**	**14 01 60.0**	**0.0**
	baz=151								
X49A	**Woodville**	**42.82**	**352**	P			**P**	**14 01 59.3**	**-0.7**
	baz=171								
X48A	**Hartselle**	**42.86**	**352**	*e*P			**P**	**14 01 58.8**	**-1.5**
	comp=Z,11nm,0.8s								
X48A	**Hartselle**	**42.86**	**352**	P			**P**	**14 01 59.2**	**-1.1**
	baz=170								
Z41A	**Richland Creek**	**42.90**	**344**	P			**P**	**14 02 00.8**	**+0.2**
	baz=162								
W58A	**Raeford**	**42.92**	**1**	P			**P**	**14 01 59.7**	**-1.2**
	baz=182								
BG3	**Lake Jocassee**	**42.97**	**357**	*e*P			**P**	**14 02 00.6**	**-0.6**
	comp=Z,18nm,1.1s								
W60A	**Pink Hill**	**43.01**	**3**	P			**P**	**14 02 00.2**	**-1.3**
	baz=184								
W54A	**Cherokee Point**	**43.03**	**357**	P			**P**	**14 02 00.9**	**-0.8**
	baz=177								
W56A	**Indian Trail**	**43.03**	**359**	P			**P**	**14 02 00.3**	**-1.5**
	baz=180								
X47A	**Russelville**	**43.05**	**351**	P			**P**	**14 02 00.9**	**-1.0**
	baz=169								
W57A	**Gilead**	**43.05**	**0**	P			**P**	**14 02 00.4**	**-1.4**
	baz=181								
KMSC	**Kings Mountain**	**43.05**	**359**	*e*P			**P**	**14 02 00.9**	**-1.1**
	comp=Z,21nm,0.8s								
KMSC	**Kings Mountain**	**43.05**	**359**	P			**P**	**14 02 01.1**	**-0.9**
	baz=179,SNR=6.6								
W52A	**Murphy**	**43.14**	**355**	*e*P			**P**	**14 02 01.1**	**-1.6**
	comp=Z,19nm,1.2s								
W52A	**Murphy**	**43.14**	**355**	P			**P**	**14 02 01.3**	**-1.4**
	baz=175								
W53A	**Cullowhee**	**43.16**	**356**	P			**P**	**14 02 01.5**	**-1.4**
	baz=176,SNR=6.2								
WHTX	**Lake Whitney,**	**43.21**	**338**	P			**P**	**14 02 03.1**	**-0.1**
	baz=155								
X46A	**Booneville**	**43.21**	**350**	P			**P**	**14 02 02.0**	**-1.1**
	baz=168								
CCAR	**Cane Creek**	**43.26**	**346**	*e*P			**P**	**14 02 03.7**	**+0.1**
	comp=Z,121nm,1.0s								
W51A	**Cleveland**	**43.28**	**354**	P			**P**	**14 02 02.8**	**-1.0**
	baz=174								
OXF	**Oxford**	**43.32**	**349**	P			**P**	**14 02 03.3**	**-0.8**
	baz=167								
W50A	**Signal Mountai**	**43.38**	**354**	*e*P			**P**	**14 02 03.0**	**-1.6**
	comp=Z,38nm,1.3s								
W50A	**Signal Mountai**	**43.38**	**354**	P			**P**	**14 02 03.2**	**-1.4**
	baz=173								
WLAR	**White Oak Lake**	**43.39**	**344**	*e*P			**P**	**14 02 05.5**	**+0.9**
	comp=Z,133nm,1.0s								
W49A	**Belvidere**	**43.41**	**353**	P			**P**	**14 02 03.8**	**-1.0**
	baz=172								
SWET	**Sewanee**	**43.46**	**353**	*e*P			**P**	**14 02 03.8**	**-1.4**
	comp=Z,28nm,1.3s								
TXAR	**Lajitas Array**	**43.62**	**330**	P			**P**	**14 02 06.7**	**0.0**
	comp=Z,0.9nm,0.8s,baz=148,slow=9.2,SNR=12								
TXAR				PcP			**PcP**	**14 03 53.2**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=142,slow=3.4,SNR=3.7								
TXAR				LR		LR	LR	14 19 00.1	
	comp=Z,151nm,19.1s,baz=0.0,slow=34								
TX31	**Lajitas Ar. Si**	**43.62**	**330**	*e*P			**P**	**14 02 06.7**	**-0.1**
	comp=Z,4.7nm,1.3s								
V53A	**Saluda**	**43.64**	**357**	P			**P**	**14 02 05.3**	**-1.4**
	baz=177								
V59A	**Middlesex**	**43.70**	**2**	P			**P**	**14 02 05.2**	**-1.9**
	baz=183								
V58A	**Windy Hill, Pi**	**43.70**	**1**	P			**P**	**14 02 05.5**	**-1.6**
	baz=182								
V54A	**Nebo**	**43.71**	**358**	P			**P**	**14 02 05.5**	**-1.7**
	baz=178								
W47A	**Westpoint**	**43.72**	**351**	P			**P**	**14 02 06.2**	**-1.1**
	baz=170,SNR=8.3								
V55A	**Taylorsville**	**43.76**	**359**	P			**P**	**14 02 06.2**	**-1.4**
	baz=179								
V57A	**Coltrane Farms**	**43.78**	**0**	P			**P**	**14 02 05.5**	**-2.3**
	baz=181								
V50A	**Pikeville**	**43.82**	**354**	P			**P**	**14 02 06.6**	**-1.5**
	baz=173								
V52A	**Sevierville**	**43.86**	**356**	P			**P**	**14 02 07.2**	**-1.2**
	baz=176								
V51A	**Loudon**	**43.88**	**355**	P			**P**	**14 02 07.1**	**-1.4**
	baz=174								
V49A	**McMinnville**	**44.00**	**353**	P			**P**	**14 02 08.2**	**-1.3**

T47A	Sharon Grove	45.36	352	eP	P	14 02 18.5 -1.9
	comp=Z,18nm,1.1s					
T47A	Sharon Grove	45.36	352	P	P	14 02 18.7 -1.7
	baz=171					
T48A	Bowling Green	45.39	353	P	P	14 02 18.8 -1.8
	baz=172					
T46A	Princeton	45.52	351	P	P	14 02 20.3 -1.4
	baz=170					
S58A	Poland Farm, P	45.54	2	P	P	14 02 20.5 -1.3
	baz=183					
U41A	Viola	45.61	347	P	P	14 02 21.5 -0.9
	baz=164,SNR=16					
S51A	Beattyville	45.65	356	P	P	14 02 20.9 -1.8
	baz=176					
PBMO	Poplar Bluff	45.71	348	eP	P	14 02 22.0 -1.2
	comp=Z,27nm,1.0s					
S50A	Richmond	45.75	355	P	P	14 02 21.8 -1.6
	baz=174					
U40A	Yellville	45.85	346	P	P	14 02 24.8 +0.6
	baz=163,SNR=38					
S48A	Wiedeman Farm,	45.89	353	P	P	14 02 21.5 -3.0
	baz=172					
R58B	Mineral	45.90	2	eP	P	14 02 23.3 -1.3
	comp=Z,21nm,1.0s					
R58B	Mineral	45.90	2	P	P	14 02 23.6 -1.0
	baz=183					
S47A	Hartford	45.93	353	P	P	14 02 23.1 -1.8
	baz=171					
S49A	Springfield	45.93	354	P	P	14 02 22.7 -2.2
	baz=173					
HHAR	Hobbs	46.05	344	eP	P	14 02 25.4 -0.4
	comp=Z,70nm,1.7s					
R54A	Victor	46.08	359	P	P	14 02 23.6 -2.4
	baz=179					
WMOK	Wichita Mounta	46.15	339	eP	P	14 02 26.1 -0.6
	comp=Z,16nm,1.1s					
WMOK	Wichita Mounta	46.15	339	P	P	14 02 26.5 -0.2
	baz=154,SNR=13					
R58A	Rapidan	46.23	2	P	P	14 02 25.8 -1.4
	baz=183					
TUL1	Leonard	46.23	342	eP	P	14 02 26.9 -0.3
	comp=Z,57nm,0.9s					
TUL1	Leonard	46.23	342	P	P	14 02 27.5 +0.2
	baz=159,SNR=7.7					
S45A	Carrier Mills	46.25	351	P	P	14 02 26.1 -1.3
	baz=169					
R51A	Hillsboro	46.30	356	P	P	14 02 26.5 -1.3
	baz=176,SNR=5.9					
R50A	Paris	46.34	355	P	P	14 02 26.2 -1.9
	baz=175					
S44A	Carbondale	46.38	350	P	P	14 02 26.9 -1.5
	baz=168,SNR=5.5					
SIUC	Southern Illin	46.40	350	eP	P	14 02 27.4 -1.2
	comp=Z,35nm,1.0s					
MNTX	Cornudas Mount	46.40	330	eP	P	14 02 28.0 -0.7
	comp=Z,8.8nm,1.2s					
MNTX	Cornudas Mount	46.40	330	P	P	14 02 28.2 -0.5
	baz=145,SNR=8.7					
R49A	Shelbyville	46.42	354	P	P	14 02 26.2 -2.5
	baz=174					
WCI	Wyandotte Cave	46.48	353	P	P	14 02 27.1 -2.1
	baz=172					
R47A	Wooly Knot Far	46.57	353	P	P	14 02 27.8 -2.1
	baz=172					
R48A	Northridge Ran	46.60	354	P	P	14 02 28.9 -1.2
	baz=173					
S41A	Jillco Farms,	46.77	347	P	P	14 02 30.9 -0.5
	baz=165,SNR=40					
Q53A	Leroy	46.77	358	P	P	14 02 29.8 -1.6
	baz=178					
R45A	Skylar, Fairfi	46.81	351	P	P	14 02 29.7 -2.1
	baz=169					
Q54A	Coxs Mills	46.88	359	P	P	14 02 30.1 -2.2
	baz=179					
FVM	French Village	46.88	349	eP	P	14 02 31.1 -1.2
	comp=Z,27nm,1.0s					
Q55A	Buckhannon	46.88	0	P	P	14 02 30.6 -1.8
	baz=180					
Q51A	Peebles	47.01	357	P	P	14 02 31.5 -1.8
	baz=176					
MSTX	Muleshoe	47.07	334	eP	P	14 02 33.4 -0.7
	comp=Z,38nm,1.3s					
MSTX	Muleshoe	47.07	334	P	P	14 02 34.4 +0.4
	baz=149,SNR=7.7					
Q49A	Aurora	47.11	355	P	P	14 02 32.7 -1.4
	baz=174					
CCM	Cathedral Cave	47.11	348	eP	P	14 02 33.0 -1.1
	comp=Z,55nm,1.0s					
CCM				epP	pP	14 02 47.5 +3.0
CCM	Cathedral Cave	47.11	348	P	P	14 02 33.4 -0.7
	baz=165					
Q48A	North Vernon	47.11	354	P	P	14 02 32.4 -1.7
	baz=173					
Q47A	Bedord North L	47.19	353	P	P	14 02 32.9 -1.9
	baz=172					
R41A	Rosebud	47.37	348	P	P	14 02 35.8 -0.4
	baz=165,SNR=15					
Q45A	Warren Harvey,	47.38	351	P	P	14 02 35.2 -1.0
	baz=170					
AMTX	Amarillo	47.40	336	P	P	14 02 36.4 -0.1
	baz=151					
P48A	Milroy	47.61	354	P	P	14 02 35.7 -2.3
	baz=173					
P49A	Miami Univ. Ec	47.62	355	P	P	14 02 35.9 -2.1
	baz=174					
P50A	Jamestown	47.62	356	P	P	14 02 36.0 -2.0
	baz=176					
P59A	Jarrettsville	47.62	4	P	P	14 02 35.7 -2.3
	baz=185					
Q42A	Golden Eagle	47.80	349	P	P	14 02 38.5 -0.9
	baz=166,SNR=5.1					
P60A	Greenville	47.88	5	P	P	14 02 38.7 -1.3
	baz=186					
P46A	Rosedale	47.96	353	P	P	14 02 39.1 -1.6
	baz=171					
O55A	Ligonier	48.10	1	P	P	14 02 39.6 -2.2
	baz=181					
O50A	Cable	48.15	356	P	P	14 02 40.7 -1.4
	baz=176					
O56A	Blue Knob Stat	48.18	2	P	P	14 02 40.5 -1.9
	baz=182					
ACSO	Alum Creek Sta	48.19	357	P	P	14 02 40.1 -2.4
	baz=177					
319A	Douglas	48.20	326	eP	P	14 02 43.1 +0.3
	comp=Z,16nm,1.0s					
319A				epP	pP	14 02 56.0 +2.8
O49A	Covington	48.23	356	P	P	14 02 40.6 -2.2
	baz=175					
121A	Cookes Peak, D	48.29	328	P	P	14 02 44.0 +0.4
	baz=143					
P43A	Skaggs, Pawnee	48.33	350	P	P	14 02 42.2 -1.3
	baz=168					
O59A	Robesonia	48.33	4	P	P	14 02 40.9 -2.7
	baz=186					
O48A	Farmland	48.37	355	P	P	14 02 42.2 -1.7
	baz=174					
O60A	Telford	48.40	5	P	P	14 02 42.7 -1.4
	baz=187					
O47A	Sheridan	48.45	354	P	P	14 02 42.2 -2.2
	baz=172					
SSPA	Standing Stone	48.57	2	eP	P	14 02 43.6 -1.8
	comp=Z,27nm,1.3s					
SSPA	Standing Stone	48.57	2	P	P	14 02 43.9 -1.5
	baz=183					
O45A	Potomac	48.65	352	P	P	14 02 44.4 -1.6
	baz=170					
O44A	Mansfield	48.66	351	P	P	14 02 44.4 -1.7
	baz=169					
N55A	Marion Center	48.68	1	P	P	14 02 44.6 -1.6
	baz=182					
SFIN	Lafayette	48.70	353	eP	P	14 02 44.0 -2.3
	comp=Z,17nm,0.8s					
SFIN	Lafayette	48.70	353	P	P	14 02 44.5 -1.9
	baz=171					
N53A	Lisbon	48.70	359	P	P	14 02 44.3 -2.1
	baz=179					
N50A	Nevada	48.74	357	P	P	14 02 44.1 -2.6
	baz=176					
N54A	Moraine State	48.85	0	P	P	14 02 46.4 -1.1
	baz=180					
N49A	Columbus Grove	48.95	356	P	P	14 02 46.5 -1.8
	baz=175					
N48A	Decatur	48.96	355	P	P	14 02 46.4 -1.9
	baz=174					
N59A	State Game Lan	48.97	4	eP	P	14 02 46.6 -1.9
	comp=Z,17nm,0.8s					
N59A	State Game Lan	48.97	4	P	P	14 02 47.8 -0.7
	baz=186					
N47A	Urbana	49.04	354	P	P	14 02 47.1 -1.8
	baz=173					
N46A	Monticello	49.16	353	P	P	14 02 47.5 -2.4
	baz=172					
HDIL	Hopedale	49.18	351	eP	P	14 02 48.1 -2.0
	comp=Z,38nm,0.8s					
HDIL	Hopedale	49.18	351	P	P	14 02 48.4 -1.7
	baz=168					
N45A	Kentland	49.21	353	P	P	14 02 48.4 -1.9
	baz=171					
N44A	Piper City	49.24	352	P	P	14 02 48.7 -1.8
	baz=170,SNR=5.1					
M50A	Fremont	49.36	357	P	P	14 02 50.0 -1.5
	baz=177					
M55A	Ridgway	49.37	1	P	P	14 02 49.9 -1.6
	baz=182					
M54A	Oil Creek Stat	49.40	0	P	P	14 02 50.2 -1.5
	baz=181					
KSU1	Kansas State U	49.43	343	P	P	14 02 51.5 -0.5
	baz=159					
M49A	Liberty Center	49.49	356	P	P	14 02 51.2 -1.2
	baz=175					
M47A	Cromwell	49.51	355	P	P	14 02 50.9 -1.6
	baz=173					
N43A	Stutzman Famil	49.54	351	P	P	14 02 51.2 -1.5
	baz=169					
ANMO	Albuquerque	49.56	331	eP	P	14 02 52.4 -0.9
	comp=Z,6.6nm,0.8s					
ANMO	Albuquerque	49.56	331	P	P	14 02 53.5 +0.1
	baz=145					
TASM	ASL Pad, Albuq	49.56	331	P	P	14 02 53.8 +0.5
	baz=145,SNR=7.2					
TASM	ASL Pad, Albuq	49.56	331	P	P	14 02 53.9 +0.6
	baz=145,SNR=7.5					
N41A	Harden Midland	49.60	349	eP	P	14 02 51.5 -1.8
	comp=Z,51nm,1.0s					
N41A	Harden Midland	49.60	349	P	P	14 02 52.3 -0.9
	baz=166					
M46A	Old House Fiel	49.63	354	P	P	14 02 51.7 -1.8
	baz=172					
PLIO	Pelee Island,	49.69	358	P	P	14 02 52.2 -1.7
	baz=177					
TUC	Tucson	49.74	326	eP	P	14 02 53.8 -0.9
	comp=Z,3.6nm,0.8s					
TUC	Tucson	49.74	326	P	P	14 02 54.8 +0.2
	baz=139					
M44A	Midewin, Midew	49.81	352	P	P	14 02 52.5 -2.4
	baz=170					
N40A	Mertquake, Sal	49.91	349	P	P	14 02 54.2 -1.4
	baz=166					
L48A	N Adams	49.99	356	P	P	14 02 53.9 -2.3
	baz=175					
L50A	Kingsville	49.99	357	P	P	14 02 54.0 -2.2
	baz=177					
M43A	Waltham Townsh	49.99	351	P	P	14 02 54.7 -1.5
	baz=169					
L47A	Sherwood	50.08	355	P	P	14 02 54.9 -2.0
	baz=174					
L55A	Hinsdale	50.09	2	P	P	14 02 54.9 -2.2
	baz=182					
CBKS	Cedar Bluff	50.15	340	P	P	14 02 57.3 -0.3
	baz=155					
M41A	Milan	50.19	350	P	P	14 02 56.4 -1.3
	baz=167					
BINY	Binghamton	50.23	4	P	P	14 02 56.9 -1.1
	baz=186					
T25A	Trinidad	50.46	335	eP	P	14 02 57.7 -2.4
	comp=Z,8.4nm,0.9s					
T25A	Trinidad	50.46	335	P	P	14 03 00.5 +0.3
	baz=149,SNR=7.2					
214A	Organ Pipe Nat	50.65	324	P	P	14 03 02.0 +0.6
	baz=137,SNR=5.7					
K55A	Perry	50.65	2	P	P	14 02 59.2 -1.9
	baz=183					
L42A	Oliver, Polo	50.66	351	eP	P	14 02 60.0 -1.2
	comp=Z,25nm,1.1s					
L42A	Oliver, Polo	50.66	351	P	P	14 02 59.8 -1.5
	baz=168					
L43A	Garden Prairie	50.69	352	P	P	14 03 00.1 -1.4
	baz=169					
K47A	Vermontville	50.75	355	P	P	14 02 60.0 -2.0
	baz=174					
L41A	Preston	50.86	350	P	P	14 03 01.2 -1.6
	baz=167					
L40A	Anamosa	50.98	349	eP	P	14 03 02.1 -1.5
	comp=Z,67nm,1.3s					
L40A	Anamosa	50.98	349	P	P	14 03 02.6 -1.1
	baz=166,SNR=7.1					
K43A	Burlington	51.15	352	eP	P	14 03 02.5 -2.4
	comp=Z,42nm,1.3s					
K43A	Burlington	51.15	352	P	P	14 03 03.3 -1.7
	baz=170					
L39A	Vinton	51.18	349	P	P	14 03 03.8 -1.4
	baz=165					
SCIA	State Center	51.22	347	eP	P	14 03 04.0 -1.6
J48A	Bridge Port	51.29	357	P	P	14 03 04.1 -1.9
	baz=176					
W18A	Petrified Fore	51.32	329	eP	P	14 03 06.1 -0.5
	comp=Z,32nm,1.3s					
W18A	Petrified Fore	51.32	329	P	P	14 03 07.3 +0.7
	baz=142					
J49A	Marlette	51.32	357	P	P	14 03 04.1 -2.1
	baz=177					
K41A	Shullsburg	51.35	350	P	P	14 03 04.7 -1.7
	baz=168					
SDCO	Great Sand Dun	51.44	334	eP	P	14 03 07.4 -0.2
	comp=Z,5.9nm,0.8s					
SDCO	Great Sand Dun	51.44	334	P	P	14 03 07.9 +0.3
	baz=148,SNR=13					
K40A	Colesburg	51.58	350	P	P	14 03 06.5 -1.6
	baz=166,SNR=7.9					
X16A	Lo Mia Camp, P	51.68	327	eP	P	14 03 08.0 -1.4
	comp=Z,3.9nm,0.8s					
K39A	Oelwein	51.72	349	P	P	14 03 07.7 -1.6
	baz=166					
S22A	4UR Ranch, Cre	52.02	333	P	P	14 03 10.4 -1.6
	baz=146					
J40A	Soldiers Grove	52.19	350	P	P	14 03 11.2 -1.5
	baz=167					
Y14A	Wickenburg	52.20	325	eP	P	14 03 12.3 -0.7
	comp=Z,5.2nm,0.9s					
I43A	Langenfeld Bro	52.28	353	P	P	14 03 11.6 -1.7
	baz=170					
J39A	Decorah	52.30	349	P	P	14 03 11.8 -1.7
	baz=166					
Q24A	Divide	52.32	335	P	P	14 03 13.8 -0.4
	baz=149					
MVCO	Mesa Verde	52.36	331	eP	P	14 03 14.0 -0.4
	comp=Z,5.0nm,0.9s					
MVCO	Mesa Verde	52.36	331	P	P	14 03 14.3 -0.1
	baz=144					
I42A	Draeger Farm,	52.39	352	P	P	14 03 12.8 -1.4
	baz=169					
WUAZ	Wupatki	52.48	328	eP	P	14 03 15.1 -0.1
	comp=Z,13nm,1.0s					
WUAZ	Wupatki	52.48	328	P	P	14 03 15.8 +0.6
	baz=140,SNR=6.3					
LONY	Lake Ozonia	52.74	5	P	P	14 03 14.9 -1.9
	baz=187					
I39A	Houston	52.77	350	P	P	14 03 15.9 -1.0
	baz=166					
H43A	Windswept, Lux	52.81	353	P	P	14 03 15.5 -1.8
	baz=171					
Y12C	Blythe	52.93	324	eP	P	14 03 18.3 -0.1
	comp=Z,16nm,1.3s					
Y12C	Blythe	52.93	324	P	P	14 03 18.9 +0.5
	baz=136					
G53A	Haliburton	53.02	1	P	P	14 03 18.0 -0.8
	baz=182					
IKP	In-Ko-Pah, Jac	53.12	322	P	P	14 03 20.1 +0.2
	baz=134					
SWSC	Sam W. Stewart	53.13	322	P	P	14 03 20.4 +0.6
	baz=134					
PV01	Paradox Valley	53.14	332	eP	P	14 03 19.3 -0.8
	comp=Z,6.9nm,0.9s					
H41A	Junction City	53.21	351	P	P	14 03 18.6 -1.7
	baz=169					
ISCO	Idaho Springs	53.22	336	P	P	14 03 20.3 -0.4
	baz=148					
G55A	Calabogie	53.23	3	P	P	14 03 18.3 -2.0
	baz=184					
SMCO	Snowmass	53.27	334	eP	P	14 03 20.4 -0.9
	comp=Z,28nm,2.0s					
PV02	Paradox Valley	53.27	332	eP	P	14 03 20.7 -0.5
	comp=Z,11nm,0.8s					
PV13	Radium Mtn., P	53.27	332	eP	P	14 03 20.6 -0.5
	comp=Z,16nm,1.2s					
H40A	Chili	53.32	351	P	P	14 03 19.7 -1.4
	baz=168,SNR=5.6					
PV03	Paradox Valley	53.36	332	eP	P	14 03 21.8 0.0
	comp=Z,6.1nm,0.8s					
PV12	Saucer Basin,	53.39	332	eP	P	14 03 21.7 -0.3
	comp=Z,57nm,1.9s					
PV11	David Mesa, Pa	53.41	332	eP	P	14 03 21.6 -0.5
	comp=Z,36nm,1.7s					
BC3	Big Chuckawall	53.41	323	P	P	14 03 22.3 +0.2
	baz=135					
PV07	Paradox Valley	53.42	332	eP	P	14 03 21.8 -0.4
	comp=Z,11nm,1.1s					
MONP2	Monument Peak	53.47	322	P	P	14 03 22.7 +0.1
	baz=134					
PV04	Paradox Valley	53.50	332	eP	P	14 03 21.6 -1.1
	comp=Z,32nm,1.8s					
PV04				epP	sP	14 03 38.2 +0.9
H39A	Augusta	53.53	350	P	P	14 03 21.1 -1.5
	baz=167					
W13A	Hualapai Mount	53.54	325	eP	P	14 03 23.2 +0.1
	comp=Z,7.4nm,1.0s					
G43A	Wallace	53.58	353	P	P	14 03 21.5 -1.4
	baz=171					
IRM	Iron Mountain	53.59	324	P	P	14 03 23.3 +0.1
	baz=136,SNR=5.6					
G42A	Mountain	53.65	353	P	P	14 03 22.1 -1.3
	baz=170					
U15A	North Rim	53.65	328	eP	P	14 03 23.7 -0.3
	comp=Z,4.3nm,1.0s					
H38A	Maiden Rock	53.70	349	P	P	14 03 22.6 -1.2
	baz=165					
ECSD	EROS Data Cent	53.75	345	eP	P	14 03 22.9 -1.4
	comp=Z,9.5nm,0.8s					
ECSD	EROS Data Cent	53.75	345	P	P	14 03 23.2 -1.1
	baz=160,SNR=6.0					
F45A	CMU Biological	53.79	355	P	P	14 03 23.7 -0.7
	baz=174					
BELC	Belle Mtn. Jos	53.98	323	P	P	14 03 26.3 +0.1
	baz=135					
PFO	Pinyon Flats O	53.99	322	P	P	14 03 26.7 +0.3
	baz=134					
F43A	Flat Rock, Esc	54.09	354	P	P	14 03 25.5 -1.1
	baz=172					
G39A	Holcombe	54.10	350	P	P	14 03 25.4 -1.3
	baz=167					
F44A	Big Bay de Noc	54.16	355	P	P	14 03 25.6 -1.6
	baz=173					
F41A	Three Lakes	54.23	352	P	P	14 03 26.4 -1.3
	baz=169					
N23A	Red Feather La	54.28	336	P	P	14 03 28.0 -0.5
	baz=148					
SPMN	Marine on St.	54.33	349	eP	P	14 03 26.6 -1.7
	comp=Z,12nm,0.7s					
SPMN	Marine on St.	54.33	349	P	P	14 03 26.3 -2.1
	baz=165					
GMRC	Granite Mounta	54.33	324	P	P	14 03 28.8 0.0
	baz=136					
E54A	Lac Daplat, Po	54.38	2	P	P	14 03 26.5 -2.3
	baz=184					
E51A	G1948 Merrick	54.42	1	P	P	14 03 27.0 -2.1
	baz=181					
F40A	Park Falls	54.55	351	P	P	14 03 28.5 -1.5
	baz=168					
E43A	Lone Tree Farm	54.61	354	P	P	14 03 28.0 -2.5
	baz=172					
O20A	White River Ci	54.61	334	eP	P	14 03 30.5 -0.3
	comp=Z,8.0nm,1.0s					
O20A	White River Ci	54.61	334	P	P	14 03 30.8 0.0
	baz=146					
F39A	Loretta	54.67	351	P	P	14 03 29.0 -1.9
	baz=167					
HEC	Hector,Ludlow	54.76	323	P	P	14 03 32.4 +0.5
	baz=135,SNR=5.7					
E42A	Champion	54.76	353	P	P	14 03 29.1 -2.4
	baz=171					
SRU	San Rafael Swe	54.84	331	eP	P	14 03 31.9 -0.6
	comp=Z,30nm,1.9s					
SCI2	San Clemente I	54.86	320	P	P	14 03 33.4 +1.0
	baz=132					
TUQ	Turquoise Moun	54.94	324	P	P	14 03 33.4 +0.2
	baz=136,SNR=5.4					
D47A	Chapleau	55.01	357	P	P	14 03 30.6 -2.7
	baz=177					
E40A	Wakefield	55.03	352	P	P	14 03 32.2 -1.3
	baz=169,SNR=5.4					
CCUT	Cedar City	55.06	328	eP	P	14 03 33.9 -0.3
	comp=Z,8.3nm,1.2s					
E39A	Mellen	55.06	351	P	P	14 03 32.2 -1.5
	baz=168,SNR=5.3					
D48A	Paudash Townsh	55.08	359	P	P	14 03 31.3 -2.6
	baz=178					
BFSC	Mount Baldy Ra	55.14	322	P	P	14 03 35.0 +0.3
	baz=133					
SHPR	Sheep Range	55.27	326	eP	P	14 03 35.4 -0.2
	comp=Z,11nm,1.1s					
GSC	Goldstone, Bar	55.36	324	eP	P	14 03 36.3 +0.1
	comp=Z,9.3nm,1.1s					
GSC	Goldstone, Bar	55.36	324	P	P	14 03 36.9 +0.7
	baz=135,SNR=5.1					
E38A	The Farm, Brul	55.44	350	eP	P	14 03 35.2 -1.2
	comp=Z,16nm,1.4s					
D41A	Chassel	55.46	353	P	P	14 03 34.9 -1.7
	baz=170					
RWWY	Rawlins	55.46	336	eP	P	14 03 36.2 -0.8
	comp=Z,20nm,1.1s					
EDW2	Edwards Air Fo	55.78	322	P	P	14 03 39.3 +0.1
	baz=133					
K22A	Casper	55.99	337	eP	P	14 03 39.9 -0.8
	comp=Z,7.1nm,0.9s					
K22A	Casper	55.99	337	P	P	14 03 40.0 -0.8
	baz=148					
LRMC	Laurel Mtn Rad	56.00	323	P	P	14 03 41.7 +0.9
	baz=134					
TPNV	Topopah Spring	56.20	325	P	P	14 03 43.5 +1.2
	baz=136					
FURC	Furnace Creek,	56.21	325	P	P	14 03 42.9 +0.8
	baz=135					
MPMC	Manual Prospec	56.28	324	P	P	14 03 43.0 +0.1
	baz=134					
RSSD	Black Hills	56.34	339	eP	P	14 03 42.8 -0.5
	comp=Z,8.9nm,0.9s					
RSSD	Black Hills	56.34	339	P	P	14 03 43.1 -0.1
	baz=152					
ISA	Isabella, Lake	56.60	323	P	P	14 03 45.5 +0.4
	baz=133					
EYMN	Ely	56.74	351	eP	P	14 03 43.8 -1.9
	comp=Z,5.5nm,0.9s					
EYMN	Ely	56.74	351	P	P	14 03 44.2 -1.5
	baz=167					
R11A	Troy Canyon, C	56.84	327	eP	P	14 03 46.1 -0.7
	comp=Z,3.8nm,0.9s					
R11A	Troy Canyon, C	56.84	327	P	P	14 03 47.2 +0.4
	baz=137,SNR=7.4					
GRAC	Grapevine Rang	56.86	325	P	P	14 03 47.5 +0.6
	baz=135					
CWC	Cottonwood Cre	56.89	324	P	P	14 03 47.8 +0.5
	baz=134					
PKM	Mcpherson Peak	56.90	321	P	P	14 03 47.9 +0.6
	baz=132					
VES	Vestal, Richgr	57.09	322	P	P	14 03 48.9 +0.5
	baz=133					
HWUT	Hardware Ranch	57.29	332	eP	P	14 03 49.6 -0.4
	comp=Z,8.2nm,0.8s					
SMMC	Simmler	57.29	321	P	P	14 03 50.1 +0.1
	baz=132					
BW06	Boulder Array	57.33	335	eP	P	14 03 49.5 -0.8
	comp=Z,3.4nm,0.9s					
BW06	Boulder Array	57.33	335	P	P	14 03 49.5 -0.8
	baz=145					
PD31	Pinedale Array	57.33	335	eP	P	14 03 49.2 -1.1
	comp=Z,3.3nm,1.0s					
PDAR	Pinedale Array	57.33	335	eP	P	14 03 49.0 -1.3
PDAR				PcP	PcP	14 04 43.1 -1.1
PDAR	Pinedale Array	57.33	335	P	P	14 03 49.8 -0.6
	comp=Z,2.1nm,0.8s,baz=134,slow=7.7,SNR=16					
PDAR				PcP	PcP	14 04 43.1 -1.1
	comp=Z,0.8nm,0.6s,baz=127,slow=8.3,SNR=4.2					
PDAR				LR	LR	14 28 19.4
	comp=Z,110nm,18.4s,baz=216,slow=36					
AGMN	Agassiz Nation	57.88	348	eP	P	14 03 52.9 -0.9
	comp=Z,26nm,0.8s					
AGMN	Agassiz Nation	57.88	348	P	P	14 03 53.1 -0.6
	baz=162,SNR=11					
CHGQ	Chibougamau	58.01	4	P	P	14 03 52.6 -2.0
	baz=187					
OMMB	Old Mammoth Mi	58.23	324	eP	P	14 03 56.7 -0.1
	comp=Z,8.6nm,1.1s					
NV11	Mina Array Sit	58.31	325	eP	P	14 03 56.9 -0.2
	comp=Z,0.4nm,1.0s					

REDW	Red Top Meadow	58.37	334	eP	P	14 03 56.8 -0.8
	comp=Z,17nm,1.4s					
NVAR	Mina Array Bea	58.39	325	eP	P	14 03 57.5 -0.3
NVAR				epP	sP	14 04 14.4 +1.9
NVAR	Mina Array Bea	58.39	325	P	P	14 03 58.4 +0.6
	comp=Z,3.3nm,0.8s,baz=140,slow=6.8,SNR=22					
NVAR				LR	LR	14 28 19.4
	comp=Z,93nm,18.1s,baz=212,slow=35					
ELK	Elko	58.41	329	eP	P	14 03 57.5 -0.4
	comp=Z,5.8nm,0.8s					
LOHW	Long Hollow	58.47	334	eP	P	14 03 57.5 -0.7
	comp=Z,4.3nm,1.1s					
FXWY	Fox Creek	58.67	334	eP	P	14 03 59.2 -0.5
	comp=Z,3.9nm,1.1s					
KVN	Kaiserville	58.71	326	eP	P	14 03 59.9 -0.1
	comp=Z,2.7nm,0.9s					
IMW	Indian Meadow	58.84	334	eP	P	14 04 00.3 -0.6
	comp=Z,3.6nm,0.9s					
FLWY	Flagg Ranch	58.89	335	eP	P	14 04 00.6 -0.6
	comp=Z,16nm,1.3s					
H17A	Grant Village	59.09	335	eP	P	14 04 01.6 -1.0
	comp=Z,3.5nm,0.9s					
H17A	Grant Village	59.09	335	P	P	14 04 02.1 -0.4
	baz=145					
WAKR	Walker	59.09	325	eP	P	14 04 02.5 -0.2
	comp=Z,4.9nm,0.9s					
RLMT	Red Lodge	59.15	336	eP	P	14 04 02.0 -0.9
	comp=Z,6.1nm,1.2s					
RLMT	Red Lodge	59.15	336	P	P	14 04 02.2 -0.7
	baz=146					
YERR	Yerington	59.31	325	eP	P	14 04 03.6 -0.5
	comp=Z,6.6nm,0.9s					
LAO	LASA Array	59.33	339	P	P	14 04 03.7 -0.3
	baz=150					
ULM	Lac du Bonnet	59.74	348	eP	P	14 04 05.3 -1.3
	comp=Z,18nm,0.8s					
ULM	Lac du Bonnet	59.74	348	P	P	14 04 05.5 -1.2
	comp=Z,16nm,0.8s,baz=165,slow=6.4,SNR=20					
PAHR	Pah Rah Range	59.88	326	eP	P	14 04 07.9 -0.1
	comp=Z,7.4nm,1.0s					
HLID	Hailey	60.13	332	eP	P	14 04 09.5 -0.2
	comp=Z,5.8nm,1.0s					
HLID	Hailey	60.13	332	P	P	14 04 09.7 0.0
	baz=140,SNR=8.5					
BOZ	Bozeman (W)	60.50	335	eP	P	14 04 11.6 -0.5
	comp=Z,10nm,1.2s					
BOZ	Bozeman (W)	60.50	335	P	P	14 04 11.8 -0.4
	baz=144,SNR=9.5					
BEKR	Beckworth	60.54	325	eP	P	14 04 12.5 -0.1
	comp=Z,6.8nm,1.1s					
DLMT	Dillon	60.72	334	eP	P	14 04 13.1 -0.5
	comp=Z,8.9nm,1.1s					
WVOR	Wild Horse Val	61.39	328	eP	P	14 04 17.1 -1.1
	comp=Z,9.2nm,1.3s					
O03E	Paynes Creek	61.65	325	P	P	14 04 19.5 -0.4
	baz=132					
EGMT	Eagleton	61.74	338	eP	P	14 04 19.0 -1.4
	comp=Z,20nm,1.1s					
EGMT	Eagleton	61.74	338	P	P	14 04 19.2 -1.2
	baz=147					
MOD	Modoc Plateau	61.90	327	eP	P	14 04 21.0 -0.7
	comp=Z,8.5nm,0.9s					
J08A	Circle Bar Ran	61.97	329	eP	P	14 04 21.7 -0.4
	comp=Z,2.6nm,0.8s					
MSO	Missoula	62.45	334	eP	P	14 04 25.1 -0.2
	comp=Z,14nm,1.0s					
MSO	Missoula	62.45	334	P	P	14 04 25.0 -0.2
	baz=142,SNR=7.1					
N02D	Trinity Center	62.61	325	P	P	14 04 25.5 -0.9
	baz=132					
M04C	Macdoel	62.66	326	P	P	14 04 26.3 -0.5
	baz=133					
M02C	Callahan	62.97	325	P	P	14 04 28.1 -0.7
	baz=132					
I07A	Izee	63.01	329	eP	P	14 04 29.1 +0.1
	comp=Z,11nm,1.3s					
YBH	Yreka Blue Hor	63.11	325	eP	P	14 04 28.7 -1.1
	comp=Z,3.9nm,0.8s					
KHMM	Horse Mountain	63.14	324	eP	P	14 04 30.1 +0.1
	comp=Z,37nm,1.7s					
L04D	Klamath Falls	63.21	326	P	P	14 04 29.6 -0.9
	baz=132					
F10A	Beach Ranch, E	63.27	332	eP	P	14 04 30.3 -0.4
	comp=Z,17nm,1.3s					
J05D	Fort Rock, OR	63.35	327	P	P	14 04 31.3 0.0
	baz=134					
PINE	Pine Mountain	63.54	328	eP	P	14 04 32.8 +0.1
	comp=Z,6.4nm,0.8s					
G08A	Pilot Rock	63.60	330	eP	P	14 04 33.0 +0.1
	comp=Z,9.9nm,1.1s					
J04D	Umpqua Nationa	63.79	327	P	P	14 04 33.5 -0.8
	baz=133					
L02E	Cave Junction	63.90	325	P	P	14 04 34.7 -0.1
	baz=131					
I05D	Terrebonne, OR	64.13	328	P	P	14 04 36.6 +0.2
	baz=134					
K02D	Willamette Mer	64.28	326	P	P	14 04 37.7 +0.3
	baz=131					
I04A	Tendick Farm,	64.32	327	P	P	14 04 37.2 -0.4
	baz=133					
NEW	Newport	64.94	334	eP	P	14 04 40.8 -0.7
	comp=Z,7.2nm,1.0s					
NEW	Newport	64.94	334	P	P	14 04 41.0 -0.5
	baz=139					
H04D	Lebanon	64.99	328	P	P	14 04 42.2 +0.3
	baz=133					
FFC	Flin Flon	65.26	346	eP	P	14 04 42.3 -1.1
	comp=Z,4.0nm,0.8s					
I02D	Swisshome	65.31	327	P	P	14 04 45.2 +1.3
	baz=132					
G03D	McMinnville, O	65.73	328	P	P	14 04 46.0 -0.7
	baz=132					
A04D	Lummi Island	67.83	331	P	P	14 04 60.0 0.0
	baz=134					
YKA	Yellowknife Ar	75.26	344	eP	P	14 05 43.0 -1.5
YKA				PP	PP	14 08 24.6 -8.9
YKA	Yellowknife Ar	75.26	344	P	P	14 05 43.4 -1.0
	comp=Z,2.6nm,0.8s,baz=137,slow=5.8,SNR=45					
YKA				PP	PP	14 08 24.5 -8.9
	comp=Z,0.6nm,0.9s,baz=127,slow=8.8,SNR=4.0					
YKW3	Yellowknife Ar	75.32	344	eP	P	14 05 43.5 -1.3
	comp=Z,3.9nm,0.8s					
DBIC	Dimbokro	76.45	81	P	P	14 05 53.2 +1.0
	comp=Z,2.5nm,0.8s,baz=250,slow=8.9,SNR=2.9					
DLBC	Dease Lake	77.54	336	eP	P	14 05 57.9 +0.3
	comp=Z,12nm,1.2s					
DLBC	Dease Lake	77.54	336	P	P	14 05 58.1 +0.6
	comp=Z,5.2nm,1.0s,baz=68,slow=2.3,SNR=5.7					
SNAA	Sanae	78.33	162	eP	P	14 06 02.6 +0.8
	comp=Z,4.4nm,0.9s					
QSPA	South Pole Qui	81.97	180	eP	P	14 06 23.1 +1.5
	comp=Z,24nm,1.5s					
QSPA	South Pole Qui	81.97	180	P	P	14 06 23.1 +1.5
	comp=Z,5.3nm,1.0s,baz=134,slow=3.2,SNR=8.0					
RES	Resolute Bay	83.17	356	eP	P	14 06 26.2 -1.1
	comp=Z,4.4nm,1.1s					
TORD	Torodi Ar. Bea	83.92	76	P	P	14 06 32.7 +0.2
	comp=Z,1.4nm,1.0s,baz=252,slow=4.7,SNR=5.1					
PAB	San Pablo	84.30	49	eP	P	14 06 33.3 -0.8
	comp=Z,9.5nm,1.3s					
DAWY	Dawson	84.48	338	eP	P	14 06 33.6 -0.8
ESDC	Sonseca Array	84.62	49	eP	P	14 06 34.6 -1.1
	comp=Z,8.2nm,1.3s					
ESDC	Sonseca Array	84.62	49	P	P	14 06 36.3 +0.6
	comp=Z,1.7nm,0.7s,baz=266,slow=5.9,SNR=11					
EPYK	Eagle Plains	84.78	340	eP	P	14 06 34.8 -1.0
	comp=Z,12nm,1.1s					
EPYK	Eagle Plains	84.78	340	P	P	14 06 34.4 -1.4
	baz=124					
INK	Inuvik	84.90	343	eP	P	14 06 35.7 -0.5
	comp=Z,15nm,1.2s					
INK	Inuvik	84.90	343	P	P	14 06 36.4 +0.1
	comp=Z,13nm,1.2s,baz=120,slow=5.5,SNR=23					
SUMG	Summit	84.90	12	eP	P	14 06 36.1 -0.7
	comp=Z,12nm,1.1s					
SUMG	Summit	84.90	12	*i* P	P	14 06 36.5 -0.3
	comp=Z,34nm,1.1s					
BCAR	Beaver Creek A	84.91	336	eP	P	14 06 36.4 -0.1
EGAK	Eagle	85.51	338	eP	P	14 06 39.0 -0.5
	comp=Z,18nm,0.9s					
KLU	Klutina	85.91	334	eP	P	14 06 41.1 -0.6
	comp=Z,8.8nm,0.9s					
DOT	Dot Lake	86.09	336	eP	P	14 06 42.0 -0.4
	comp=Z,13nm,1.0s					
SCRK	Sand Creek	86.21	337	eP	P	14 06 42.5 -0.6
	comp=Z,6.6nm,0.9s					
PAX	Paxson	86.36	335	eP	P	14 06 42.8 -1.1
	comp=Z,11nm,1.0s					
RIDG	Independent Ri	86.44	336	eP	P	14 06 43.7 -0.5
	comp=Z,12nm,0.9s					
DHY	Denali Highway	87.19	335	eP	P	14 06 47.7 -0.3
	comp=Z,4.7nm,1.0s					
PRP	Porcupine Dome	87.48	338	eP	P	14 06 48.8 -0.5
	comp=Z,5.2nm,0.9s					
HDA	Harding Lake	87.56	336	eP	P	14 06 48.6 -0.9
	comp=Z,7.1nm,0.9s					
HDA	Harding Lake	87.56	336	P	P	14 06 48.0 -1.5
	baz=115					
ILAR	Eielson Array	87.69	337	eP	P	14 06 49.0 -1.2
ILAR	Eielson Array	87.69	337	P	P	14 06 49.2 -0.9
	comp=Z,3.8nm,0.8s,baz=151,slow=3.8,SNR=28					
ILB	Eielson Array	87.69	337	eP	P	14 06 49.1 -1.0
	comp=Z,5.9nm,0.8s					
RND	Reindeer	87.94	335	eP	P	14 06 50.3 -1.1
	comp=Z,21nm,1.1s					
VNDA	Vanda	87.94	191	P	P	14 06 51.0 -0.2
	comp=Z,0.7nm,0.8s,baz=6.6,slow=2.0,SNR=3.7					
VNDA				LR	LR	14 41 20.6
	comp=Z,65nm,18.7s,baz=118,slow=32					
CCB	Clear Creek Bu	88.00	337	eP	P	14 06 50.9 -0.7
	comp=Z,7.0nm,0.9s					
WRH	Wood River Hil	88.04	336	eP	P	14 06 51.1 -0.7
	comp=Z,7.5nm,0.8s					
MCK	McKinley	88.10	335	eP	P	14 06 51.2 -0.9
	comp=Z,6.5nm,0.9s					
TCOL	CIGO, UAF Yank	88.11	337	P	P	14 06 51.3 -0.9
	baz=114					
MDM	Murphy Dome	88.29	337	eP	P	14 06 52.3 -0.7
	comp=Z,22nm,1.0s					
BWN	Browne	88.48	336	eP	P	14 06 52.9 -1.0
	comp=Z,34nm,0.9s					
RSO	Redoubt South	88.61	332	eP	P	14 06 54.1 -0.7
BPAW	Bear Paw Mtn.	89.08	335	eP	P	14 06 55.8 -0.9
	comp=Z,24nm,1.5s					
PPLA	Purkeypile	89.17	334	eP	P	14 06 56.6 -0.8
	comp=Z,19nm,1.2s					
CAST	Castle Rocks	89.30	335	eP	P	14 06 56.8 -1.0
	comp=Z,14nm,0.9s					
MLY	Manley	89.31	336	eP	P	14 06 56.9 -1.0
	comp=Z,11nm,0.8s					
COLD	Coldfoot	89.90	339	eP	P	14 07 00.5 -0.1
	comp=Z,3.0nm,0.9s					
TOLK	Toolik Lake Re	90.20	340	eP	P	14 07 01.5 -0.4
	comp=Z,4.5nm,0.8s					
TOLK	Toolik Lake Re	90.20	340	P	P	14 07 00.5 -1.4
	baz=112					
IMAR	Indian Mountai	90.81	337	eP	P	14 07 04.0 -0.7
SYO	Syowa Base	92.62	162	⇑epP	pP	14 07 25.0 +0.8
H11N3	WAKE ISLAND Hy	114.30	288	T	T	16 17 00.7
	baz=91,slow=75,SNR=34					
H11N2	WAKE ISLAND Hy	114.31	288	T	T	16 16 59.7
	baz=91,slow=75,SNR=38					
H11N1	WAKE ISLAND Hy	114.31	288	T	T	16 16 60.0
	baz=91,slow=75,SNR=42					
ABKAR	Akbulak array	127.11	32	ePKPdf	PKPdf	14 13 05.8 -0.3
ZAA0	Zalesovo Array	132.72	12	ePKPdf	PKPdf	14 13 15.9 -0.7
ZALV	Zalesovo Beam	132.72	12	ePKPdf	PKPdf	14 13 16.3 -0.3
ZALV	Zalesovo Beam	132.72	12	PKP	PKPdf	14 13 16.8 +0.3
	comp=Z,2.5nm,0.4s,baz=318,slow=1.9,SNR=7.3					
KURK	Kurchatov	134.02	19	ePKPdf	PKPdf	14 13 18.5 -0.6
ASAR	Alice Springs	134.15	226	PKP	PKPdf	14 13 19.8 -0.5
	comp=Z,0.7nm,0.7s,baz=119,slow=2.7,SNR=9.7					
WRA	Warramunga Arr	136.10	230	PKP	PKPdf	14 13 23.3 -0.7
	comp=Z,1.9nm,0.9s,baz=132,slow=1.8,SNR=7.0					
MKAR	Makanchi Array	138.63	18	ePKPdf	PKPdf	14 13 27.1 -0.8
MKAR	Makanchi Array	138.63	18	PKP	PKPdf	14 13 27.6 -0.3
	comp=Z,1.6nm,0.9s,baz=347,slow=2.4,SNR=7.8					
CHGR	Chuyangaron	138.91	38	ePKPdf	PKPdf	14 13 27.4 -1.3
SONM	Songino Array	140.05	353	PKPpre	PKPpre	14 13 22.1
SONM				ePKPdf	PKPdf	14 13 29.6 -1.0
SONM	Songino Array	140.05	353	PKhKP	PKPpre	14 13 22.1
	comp=Z,1.2nm,0.8s,baz=14,slow=1.8,SNR=3.8					
KSRS	Korea Array	141.32	323	PKhKP	PKPpre	14 13 27.3
	comp=Z,1.1nm,0.9s,baz=65,slow=8.8,SNR=3.0					
KSAR	Wonju Array Be	141.35	323	PKPpre	PKPpre	14 13 27.4
KSAR				ePKPdf	PKPdf	14 13 32.5 -0.5
KSH	Kashi	142.10	31	PKP	PKPdf	14 13 35.5 +1.0
KSH				PP	PP	14 16 42.8 +3.2
KSH				SKS	SKSdf	14 20 38.5 -3.6
KSH				SKKS	SKKSac	14 23 29.5 -1.7
WMQ	Urumqi	142.88	15	ePKP	PKPdf	14 13 33.9 -1.8
HHC	Hu-ho-hao-te	145.80	344	ePKPbc	PKPdf	14 13 41.8 +0.9
BTO	Baotou	146.43	346	ePKPbc	PKPdf	14 13 41.4 -0.6
GTA	Gaotai	148.85	0	ePKPbc	PKPdf	14 13 46.1 0.0
NJ2	Nanjing	150.38	326	ePKPbc	PKPdf	14 13 47.0 -1.5
LZH	Lanzhou	151.94	353	PKPbc	PKPdf	14 13 51.0 0.0
LZH				pPKP	PKiKP	14 14 01.8 +3.9
WHN	Wuhan	153.92	331	PKPbc	PKPdf	14 13 57.8 +4.0
CD2	Chengdu	157.05	351	PKP	PKPdf	14 13 55.3 -2.8
CMAR	Chiang Mai Arr	169.69	5	ePKPdf	PKPdf	14 14 09.2 -1.1
CMAR				ePKPab	PKPab	14 15 22.4 -1.5
CMAR	Chiang Mai Arr	169.69	5	PKP	PKPdf	14 14 10.3 0.0
	comp=Z,1.3nm,0.8s,baz=278,slow=2.5,SNR=8.7					
CMAR				PKPab	PKPab	14 15 22.8 -1.1
	comp=Z,1.6nm,0.8s,baz=333,slow=5.3,SNR=9.2					

*IDC **13** 13:54:29.5±2.7, 31°.04S×177°.91W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/42, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=64.6km s-min=23.9km az=115.0*
*NEIC **13** 13:54:34.6±3.1, 30°.87S×177°.97W, h32km±26km, mb4.2/5, Error ellipse: s-maj=30.9km s-min=11.1km az=106.0*

ISC 13 13:54:35.1±1.2, 30°.80S±0°.08×178°.3W±0°.2, h35km, n21, σ1§85/23, mb3.9/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.57	11	ePn	Pn	13 55 01.0	+0.5
RAO				eSn	Sn	13 55 17.4	-2.2
RAO	Raoul Island	1.57	11	Pn	Pn	13 55 01.9	+1.4
	92nm,0.3s,baz=50,slow=18,SNR=6.9						
RAO				Sn	Sn	13 55 17.4	-2.2
	355nm,0.3s,baz=63,slow=22,SNR=8.3						
OUZ	Omahuta	8.14	235	ePn	Pn	13 56 39.9	+9.1
URZ	Urewera	8.37	206	ePn	Pn	13 56 32.2	-1.6
URZ				Sn	Sn	13 58 05.5	-1.5
URZ	Urewera	8.37	206	Pn	Pn	13 56 31.4	-2.4
	0.5nm,0.3s,baz=267,slow=5.9,SNR=9.5						
URZ				Sn	Sn	13 58 05.5	-1.5
	2.0nm,0.3s,baz=52,slow=23,SNR=11						
BKZ	Black Stump Fm	9.39	206	ePn	Pn	13 56 46.5	-1.5
BFZ	Birch Farm	10.82	203	ePn	Pn	13 57 08.0	+0.5
SNZO	South Karori	11.93	207	ePn	Pn	13 57 22.8	+0.2
THZ	Tophouse	13.05	211	ePn	Pn	13 57 36.3	-1.6
OXZ	Oxford	14.70	209	ePn	Pn	13 57 58.5	-1.8
ONTNC	Ouen Toro	16.08	298	ePn	Pn	13 58 15.4	-3.1
	48nm,1.4s						
DZM	Mont Dzumac	16.22	299	ePn	Pn	13 58 15.7	-4.7
	25nm,1.5s						
ODZ	Otahua Downs	16.68	208	ePn	P	13 58 28.3	+0.3
	42nm,1.6s						
STKA	Stephens Creek	34.18	258	eP	P	14 01 20.1	+2.9
	7.1nm,1.8s						
STKA	Stephens Creek	34.18	258	P	P	14 01 20.0	+2.9
	1.6nm,0.6s,baz=113,slow=7.9,SNR=2.9						
AS31	Alice Springs	42.87	267	eP	P	14 02 32.3	+2.0
	2.6nm,1.5s						
ASAR	Alice Springs	42.87	267	P	P	14 02 31.8	+1.4
	0.7nm,0.6s,baz=106,slow=7.0,SNR=16						
WR1	Warramunga Arr	43.90	273	eP	P	14 02 39.8	+1.3
WRA	Warramunga Arr	43.90	273	P	P	14 02 39.8	+1.3
	1.3nm,0.5s,baz=111,slow=8.1,SNR=20						
FIA0	FINESS Array S	145.45	340	ePKPdf	PKPbc	14 14 08.8	+0.1
FINES	FINESS Array B	145.45	340	PKPbc	PKPbc	14 14 08.8	+0.1
	1.9nm,0.6s,baz=62,slow=3.3,SNR=14						

*ISCJB **13** 13:57:57.8±0.6, 36°.85N±0°.03×140°.64E±0°.06, h13km±4km, mb3.5/2, MS3.4/1, Error ellipse: s-maj=8.2km s-min=4.1km az=15.5*
*IDC **13** 13:57:57.6±1.9, 36°.82N×140°.62E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/48, mbtmp3.3/3, ML2.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/15, Error ellipse: s-maj=30.6km s-min=26.0km az=85.0*
*JMA **13** 13:57:58.4, 36°.86N×140°.56E, h6km±1km, M3.2 Broadband fault plane solution: P waves. NP1: ϕs197.00000°, δ67.00000°, λ-83.00000°. NP2: ϕs0.00000°, δ24.00000°, λ-106.00000°. Principal axes: T Plg22.0000°, Azm282.0000°; N Plg6.0000°, Azm15.0000°; P Plg67.0000°, Azm120.0000°;*
JMA Felt I J1.

*NIED **13** 13:59:00, 36°.90N×140°.60E, h5km, Mw4.4 Best double couple: M0=4.74000×10^15 NP1: ϕs346.00000°, δ24.00000°, λ-111.00000°. NP2: ϕs189.00000°, δ68.00000°, λ-81.00000°.*
*IDC **13** 13:59:24.6±0.5, 36°.80N×140°.61E, h0km, mb4.1/25, mb1 4.3/28, mb1mx4.2/48, mbtmp4.1/28, ML3.7/4, MS3.3/6, Ms1 3.3/6, ms1mx3.0/34, Error ellipse: s-maj=14.0km s-min=12.4km az=132.0*
*JMA **13** 13:59:25.9, 36°.86N×140°.56E, h6km±1km, M4.5 Broadband fault plane solution: P waves. NP1: ϕs198.00000°, δ73.00000°, λ-81.00000°. NP2: ϕs349.00000°, δ20.00000°, λ-118.00000°. Principal axes: T Plg27.0000°, Azm281.0000°; N Plg9.0000°, Azm16.0000°; P Plg61.0000°, Azm122.0000°;*
JMA Felt II J1.
*ISCJB **13** 13:59:25.3±0.5, 36°.84N±0°.02×140°.57E±0°.03, h10km±3km, mb4.4/78 Error ellipse: s-maj=4.5km s-min=3.5km az=36.2*
*MOS **13** 13:59:26.4±1.4, 36°.82N×140°.57E, h22km, mb4.6/23, Error ellipse: s-maj=8.5km s-min=5.5km az=94.6*
*NEIC **13** 13:59:29.2±1.5, 36°.79N×140°.51E, h27km±10km, mb4.6/43, Error ellipse: s-maj=6.2km s-min=4.4km az=128.0*
NEIC Felt at Hitachi, Iwaki, Koriyama, Shirakawa, Tsukuba and Utsunomiya. Recorded [2 JMA] in Fukushima and Ibaraki.

ISC 13 13:59:26.5±1.0, 36°.84N±0°.03×140°.57E±0°.03, h10km±5km, n162, σ1§40/171, mb4.5/78, 16C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.23	181	P	Pg	13 59 30.8	-0.5
JFFD	Fukushimafurud	0.25	358	⇓P	Pg	13 59 30.6	-1.0
JFFD				eS	Sg	13 59 34.0	-1.1
ONAJ	Iwakimizuishiy	0.31	35	⇑P	Pg	13 59 31.9	-1.0
ONAJ				eS	Sg	13 59 36.4	-0.7
JSB	Shiboa	0.54	284	⇑P	Pg	13 59 37.0	-0.1
JFK	Kawauchi	0.57	25	⇑P	Pg	13 59 36.5	-1.2
JYT	Yasato	0.69	207	⇑P	Pg	13 59 39.1	-0.7
JFT	Otama	0.70	344	⇑P	Pg	13 59 39.1	-1.0
JFT				eS	Sg	13 59 48.4	-0.9
JFY	Yanaizu	0.89	309	⇑P	Pg	13 59 42.4	-1.4
JFY				eS	Sg	13 59 54.1	-1.3
MJAR	Matsushiro Arr	1.93	262	ePn	Pn	13 59 58.5	-0.8
MJAR				eSn	Sn	14 00 23.7	+0.1
MJAR	Matsushiro Arr	1.93	262	Pn	Pn	13 59 59.7	+0.3
	32nm,0.3s,baz=81,slow=15,SNR=139						
MJAR				Sn	Sb	14 00 25.1	-0.7
	26nm,0.3s,baz=82,slow=28,SNR=18						
MJAR				LR	LR	14 01 01.8	
	comp=Z,1μm,20.7s,baz=90,slow=51						
MAJO	Matsushiro	1.93	262	ePn	Pn	13 59 59.9	+0.6
MAJO	Matsushiro	1.93	262c	*i* P	Pn	13 59 59.8	+0.4
MAT	Matsushiro	1.93	262	P	Pn	13 59 59.8	+0.4
MAT				S	Sb	14 00 25.3	-0.5
MJB9	Matsu-Tunnel	1.93	262	ePn	Pn	13 59 59.9	+0.5
INU	Inuyama	3.24	244	ePn	Pn	14 00 19.1	+1.7
JHJ	Hachijo jima 2	3.77	190	Pn	Pn	14 00 24.5	-0.2
	26nm,0.3s,baz=325,slow=20,SNR=13						
JHJ				Sn	Sn	14 01 08.3	-0.9
	23nm,0.3s,baz=180,slow=23,SNR=3.9						
JHJ				LR	LR	14 01 17.5	
	comp=Z,52nm,18.9s,baz=67,slow=30						
JHJ2	Mitsune	3.77	190	ePn	Pn	14 00 24.7	-0.1
ERM	Erimo	5.54	20	ePn	Pn	14 00 49.5	+0.6
ERM	Erimo	5.54	20	*i* P	Pn	14 00 49.8	+0.8
ASAJ	Asahikawa	7.43	11	Pn	Pn	14 01 14.3	-0.6
	4.2nm,0.3s,baz=219,slow=5.4,SNR=28						
ASAJ				Sn	Sn	14 02 40.9	+1.7
	1.3nm,0.3s,baz=302,slow=29,SNR=5.6						
GLVR	Golovnino	7.85	27	eP	Pn	14 01 22.1	+1.4
GLVR				eS	Sn	14 02 46.4	-3.2
YUK	Yuzh-Kuril'sk	8.23	28	P	Pn	14 01 27.3	+1.3
YUK				S	Sn	14 02 55.8	-3.2
JNU	Nakatsue	8.78	248	ePn	Pn	14 01 33.2	-0.4
JNU	Nakatsue	8.78	248	Pn	Pn	14 01 35.7	+2.2
	0.2nm,0.3s,baz=40,slow=12,SNR=7.4						
USRK	Ussuriysk Ar.	9.83	321	ePn	Pn	14 01 50.2	+2.4
USRK	Ussuriysk Ar.	9.83	321	Pn	Pn	14 01 53.2	+5.4
	0.5nm,0.3s,baz=128,slow=15,SNR=13						
USRK				LR	LR	14 05 19.7	
	comp=Z,189nm,21.2s,baz=140,slow=36						
USA0B	Ussuriysk Arra	9.83	321	ePn	Pn	14 01 49.5	+1.6
KUR	Kuril'sk	10.03	31	eP	Pn	14 01 48.7	-1.8
KUR				*i* S	Sn	14 03 37.4	-5.6
KUR				pmax	pmax		
	comp=Z,26nm,0.6s						
KUR				smax	smax		
	comp=E,30nm,0.6s						
KUR				smax	smax		
	comp=N,11nm,0.2s						
KSRS	Korea Array	10.12	277	Pn	Pn	14 01 52.5	+0.7
	comp=N,0.1nm,0.3s,baz=90,slow=14,SNR=3.3						
KSRS				LR	LR	14 05 31.6	
	comp=N,357nm,20.2s,baz=88,slow=36						
KSAR	Wonju Array Be	10.15	277	ePn	Pn	14 01 51.6	-0.7
KSAR	Wonju Array Be	10.15	277	eP	Pn	14 01 51.6	-0.7
YSS	Yuzh-Sakhalins	10.23	8	ePn	Pn	14 01 55.4	+2.0
YSS	Yuzh-Sakhalins	10.23	8	eP	Pn	14 01 55.2	+1.9
YSS				eS	Sn	14 03 51.5	+3.4
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YSS				MLR	MLR		
	comp=Z,300nm,13.0s						
MDJ	Mudanjiang	11.38	316	P	Pn	14 02 14.8	+5.7
KLR	Kul'dur	13.95	335	*i* P	Pn	14 02 46.4	+2.3
KLR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KLR	Kul'dur	13.95	335	Pn	Pn	14 02 46.0	+1.9
	comp=Z,0.1nm,0.3s,baz=129,slow=14,SNR=2.8						
KLR				LR	LR	14 07 35.8	
	comp=Z,120nm,20.1s,baz=150,slow=35						
TYV	Tymovskoe

TYV pmax pmax
comp=Z,6.0nm,0.8s
NKL Nikolayevsk 16.31 0 *eP* **P 14 03 21.5 +3.1**
NJ2 Nanjing 18.53 261 *eP* **P 14 03 42.5 -0.6**
ZEA Zeya 19.26 335 *eP* **Pn** 14 03 53.8 +1.8
PETK Petropavlovsk- 20.19 31 *eP* Pn 14 04 03.2 +0.1
PETK Petropavlovsk- 20.19 31 P **P 14 04 01.8 +0.6**
comp=Z,8.8nm,0.9s,baz=215,slow=9.7,SNR=8.2
PETK LR LR 14 11 02.0
comp=Z,109nm,21.3s,baz=216,slow=34
WHN Wuhan 22.67 262 P **P 14 04 28.9 +0.9**
WHN S **S** 14 08 30.6 -5.5
HHC Hu-ho-hao-te 22.90 289 *eP* **P 14 04 28.5 -2.0**
HHC S Sn 14 09 28.3 +33
MA2 Magadan 23.68 13 P **P 14 04 37.7 -0.4**
comp=Z,5.1nm,0.6s,baz=197,slow=10.0,SNR=7.5
SEY Seymchan 27.11 12 *ceP* **P 14 05 11.5 +2.2**
SEY Seymchan 27.11 12 P **P 14 05 09.7 +0.5**
comp=Z,2.3nm,0.8s,baz=180,slow=12,SNR=3.1
SONM Songino Array 27.34 304 *eP* **P 14 05 11.8 +0.1**
comp=Z,1.9nm,0.8s
SONM Songino Array 27.34 304 P **P 14 05 12.8 +1.1**
comp=Z,2.6nm,0.7s,baz=108,slow=9.2,SNR=13
BOD Bodaibo 27.34 329 *eP* **P 14 05 11.0 -0.4**
BOD pmax pmax
comp=Z,4.0nm,2.1s
H11N2 WAKE ISLAND Hy 28.63 119 T T 14 35 11.1
baz=312,slow=74
H11N1 WAKE ISLAND Hy 28.64 119 T T 14 35 13.0
baz=312,slow=74
H11N3 WAKE ISLAND Hy 28.65 119 T T 14 35 13.7
baz=312
H11S1 WAKE ISLAND Hy 29.33 121 T T 14 36 01.7
baz=314,slow=76,SNR=598
H11S3 WAKE ISLAND Hy 29.33 121 T T 14 36 02.5
baz=314,slow=76,SNR=243
H11S2 WAKE ISLAND Hy 29.34 121 T T 14 36 03.0
baz=314,slow=76,SNR=441
LZH Lanzhou 29.44 280 *eP* **P 14 05 27.3 -3.2**
LZH pP sP 14 05 34.8 -0.4
LZH sP pP 14 05 39.0 +5.2
KMI Kunming 34.27 261 P **P 14 06 14.9 +1.8**
BILL Bilibino 34.40 17 *eP* **P 14 06 14.0 +0.4**
comp=Z,5.0nm,1.1s
BILL Bilibino 34.40 17 *ceP* **P 14 06 14.1 +0.6**
BILL *e* 14 07 32.8
BILL *e*S **S 14 11 41.3 +0.2**
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,60nm,17.0s
DGZ Jazzator, Alta 39.96 306⇑ *iP* **P 14 07 01.7 +0.6**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
WMQ Urumqi 40.33 297 *eP* **P 14 07 05.3 +1.2**
ZAA0 Zalesovo Array 41.55 313 *eP* **P 14 07 14.0 +0.1**
comp=Z,2.9nm,0.8s
ZALV Zalesovo Beam 41.55 313 *eP* **P 14 07 13.2 -0.7**
ZALV Zalesovo Beam 41.55 313 P **P 14 07 13.8 -0.2**
comp=Z,3.1nm,0.6s,baz=101,slow=7.7,SNR=9.6
MKAR Makanchi Array 43.65 302 *eP* **P 14 07 30.7 -0.5**
MKAR Makanchi Array 43.65 302 *ceP* **P 14 07 32.0 +0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 43.65 302 P **P 14 07 30.8 -0.4**
comp=Z,0.8nm,0.6s,baz=81,slow=9.0,SNR=7.3
KURK Kurchatov 45.52 308 *eP* **P 14 07 46.0 0.0**
comp=Z,24nm,1.6s
KURK Kurchatov 45.52 308 *ceP* **P 14 07 46.8 +0.8**
KURK pmax pmax
comp=Z,13nm,1.5s
KURBB Kurchatov Arra 45.59 308 P **P 14 07 47.0 +0.5**
comp=Z,2.6nm,0.6s,baz=85,slow=8.3,SNR=18
PDGK Podgornoye 46.27 298 P **P 14 07 51.7 -0.5**
PDGK pmax pmax
comp=Z,5.0nm,1.5s
IMAR Indian Mountai 47.16 31 *eP* **P 14 08 00.5 +1.8**
IMAR *e*PcP **PcP 14 09 31.1 +0.9**
KDAK Kodiak Island 47.69 42 P **P 14 08 01.3 -1.6**
comp=Z,4.9nm,0.7s,baz=284,slow=5.0,SNR=8.9
KSH Kashi 49.87 294 P **P 14 08 23.9 +3.8**
AAK Ala-Archa 49.99 298 *ceP* **P 14 08 21.4 +0.4**
AAK pmax pmax
comp=Z,2.0nm,0.4s
OTUK Ortayu 49.99 306 P **P 14 08 20.3 -0.5**
OTUK pmax pmax
comp=Z,5.0nm,0.9s
ILAR Eielson Array 50.01 32 P **P 14 08 20.6 -0.2**
comp=Z,1.5nm,1.0s,baz=261,slow=5.8,SNR=8.8
BVAR Borovoye Array 50.20 312 P **P 14 08 21.7 -0.6**
comp=Z,1.2nm,0.7s,baz=97,slow=7.4,SNR=7.7
BRVK Borovoye 50.26 312 *eP* **P 14 08 23.9 +1.2**
comp=Z,4.6nm,1.1s
BRVK Borovoye 50.26 312 *eP* **P 14 08 23.9 +1.2**
BRVK pmax pmax
comp=Z,5.0nm,1.1s
ARSB Arslanbob 51.46 297 *eP* **P 14 08 33.8 +1.7**
comp=Z,7.1nm,0.8s
KKAR Karatay Array 52.64 300 *eP* **P 14 08 41.8 +1.1**
KKAR Karatay Array 52.64 300 *eP* **P 14 08 41.8 +1.1**
EPYK Eagle Plains 54.02 30 *eP* **P 14 08 51.8 +1.2**
comp=Z,5.0nm,0.9s
INK Inuvik 54.86 27 P **P 14 08 56.8 +0.2**
comp=Z,2.0nm,0.8s,baz=302,slow=4.7,SNR=6.0
ARU Arti 56.06 318 *eP* **P 14 09 05.1 -0.3**
comp=Z,6.7nm,0.9s
ARU Arti 56.06 318 *d iP* **P 14 09 05.0 -0.3**
ARU 14 11 06.0
ARU S **S 14 16 53.7 0.0**
ARU SS **SS 14 20 35.5 -3.8**
ARU pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 56.06 318 P **P 14 09 05.6 +0.2**
comp=Z,1.3nm,0.4s,baz=69,slow=0.9,SNR=7.5
WRAB Tennant Creek 56.77 187 *eP* **P 14 09 10.2 -0.6**
comp=Z,6.7nm,0.9s
WB2 Warramunga Arr 56.78 187 *eP* **P 14 09 10.4 -0.5**
comp=Z,38nm,1.9s
WRA Warramunga Arr 56.78 187 P **P 14 09 09.7 -1.2**
comp=Z,3.9nm,0.7s,baz=4.8,slow=7.0,SNR=25
ABKAR Akbulak array 57.55 310 *eP* **P 14 09 15.1 -1.0**
AS31 Alice Springs 60.51 187 *eP* **P 14 09 35.9 -0.9**
comp=Z,3.7nm,1.6s
ASAR Alice Springs 60.51 187 P **P 14 09 36.1 -0.7**
comp=Z,1.8nm,0.7s,baz=12,slow=6.1,SNR=24
RES Resolute Bay 62.95 14 P **P 14 09 51.1 -1.5**
RES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 63.94 339 P **P 14 09 58.8 -0.5**
comp=Z,3.6nm,0.9s,baz=54,slow=8.2,SNR=4.9
YKA Yellowknife Ar 64.31 30⇑ *eP* **P 14 10 03.7 +1.9**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 64.31 30 P **P 14 10 00.7 -1.1**
comp=Z,0.7nm,0.7s,baz=302,slow=6.7,SNR=8.8
SGF Sodankyl 64.87 337 P **P 14 10 04.7 -0.7**
SGF pmax pmax
comp=Z,11nm,2.6s
JOF Joensuu 65.81 332 P **P 14 10 10.9 -0.6**
JOF pmax pmax
comp=Z,11nm,2.7s
DAG Danmarks Havn 65.90 355 P **P 14 10 11.0 -0.9**
DAG pmax pmax
comp=Z,8.0nm,1.5s
SUF Sumiainen 67.85 333 P **P 14 10 23.5 -1.0**
SUF pmax pmax
comp=Z,8.0nm,1.9s
STKA Stephens Creek 68.37 179 P **P 14 10 26.6 -1.4**
comp=Z,1.4nm,0.7s,baz=337,slow=10,SNR=3.6
FINES FINESS Array B 68.67 332 *ceP* **P 14 10 32.5 +2.8**
FINES pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 70.52 310 P **P 14 10 40.5 -0.9**
comp=Z,2.1nm,0.8s,baz=70,slow=10,SNR=4.2
KBZ LR LR 14 43 03.1
comp=Z,49nm,19.4s,baz=146,slow=37
KIV Kislovodsk 70.52 311 *eP* **P 14 10 43.9 +2.3**
KIV pmax pmax
comp=Z,17nm,1.0s
PINE Pine Mountain 70.97 49 *eP* **P 14 10 45.6 +1.1**
comp=Z,4.9nm,0.8s
WVOR Wild Horse Val 73.13 49 P **P 14 10 58.8 +1.5**
WVOR pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 74.03 322 P **P 14 11 00.6 -1.7**
comp=Z,1.3nm,0.5s,baz=44,slow=6.0,SNR=3.5
KIEV Kiev 74.05 322 *i P* **P 14 11 03.2 +0.8**
KIEV pmax pmax
comp=Z,1.0nm,0.3s
NOA NORSAR Array B 74.10 337 P **P 14 11 01.1 -1.5**
comp=Z,1.0nm,0.7s,baz=38,slow=6.0,SNR=3.3
PAHR Pah Rah Range 74.22 52 *eP* **P 14 11 04.5 +0.7**
comp=Z,13nm,1.6s
FFC Flin Flon 74.23 32 *eP* **P 14 11 04.6 +1.2**
comp=Z,3.3nm,0.9s
FFC Flin Flon 74.23 32 *eP* **P 14 11 04.6 +1.2**
FFC pmax pmax
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 75.34 44 *eP* **P 14 11 10.6 +0.4**
comp=Z,2.2nm,0.8s
BOZ Bozeman (W) 75.34 44 *eP* **P 14 11 10.6 +0.4**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
KVN Kaiserville 75.41 52 *eP* **P 14 11 11.5 +0.8**
comp=Z,11nm,1.4s
KVN Kaiserville 75.41 52 *eP* **P 14 11 11.5 +0.8**
KVN pmax pmax
comp=Z,11nm,1.4s
NVAR Mina Array Bea 75.64 53 *eP* **P 14 11 12.9 +0.8**
NVAR Mina Array Bea 75.64 53 P **P 14 11 13.2 +1.1**
comp=Z,2.9nm,0.7s,baz=302,slow=5.2,SNR=29
R11A Troy Canyon, C 77.41 51 *eP* **P 14 11 22.8 +0.7**
comp=Z,3.8nm,1.3s
TPNV Topopah Spring 77.83 53 *eP* **P 14 11 25.2 +0.7**
comp=Z,4.0nm,0.9s
BURAR Bucovina Array 78.04 321 *eP* **P 14 11 24.3 -1.0**
comp=Z,13nm,0.8s
BURAR Bucovina Array 78.04 321 *eP* **P 14 11 24.3 -1.0**
BURAR pmax pmax
comp=Z,13nm,0.8s
PDAR Pinedale Array 78.28 45 *eP* **P 14 11 26.8 -0.1**
PDAR Pinedale Array 78.28 45 P **P 14 11 27.4 +0.4**
comp=Z,0.6nm,0.6s,baz=314,slow=1.5,SNR=7.3
BRTR Keskin Array B 78.47 311 P **P 14 11 29.9 +1.9**
comp=Z,0.5nm,0.6s,baz=62,slow=9.9,SNR=4.5
SHPR Sheep Range 78.79 53 *eP* **P 14 11 30.7 +0.9**
comp=Z,3.4nm,0.8s
SRU San Rafael Swe 80.04 48 *eP* **P 14 11 37.2 +0.6**
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 80.04 48 *eP* **P 14 11 37.2 +0.6**
SRU pmax pmax
comp=Z,6.0nm,0.8s
VYHS Vyhne 80.50 325 *eP* **P 14 11 41.2 +2.6**
VYHS Vyhne 80.50 325 *eP* **P 14 11 41.2 +2.6**
U15A North Rim 80.66 51 *eP* **P 14 11 40.6 +0.6**
comp=Z,3.0nm,0.8s
CLL Collm 80.92 330 *eP* **P 14 11 41.0 +0.2**
CLL Collm 80.92 330 *eP* **P 14 11 41.0 +0.2**
CLL LmV 15 00 00.0
comp=Z,300nm,20.2s
PV21 Cone Mtn., Par 81.32 48 *eP* **P 14 11 44.3 +0.8**
comp=Z,3.4nm,0.7s
PV23 Carpenter Ridg 81.37 48 *eP* **P 14 11 45.2 +1.4**
comp=Z,9.1nm,0.8s
PV10 Paradox Valley 81.40 48 *eP* **P 14 11 44.6 +0.6**
comp=Z,16nm,0.9s
PV14 Lion Creek, Pa 81.41 48 *eP* **P 14 11 44.7 +0.7**
comp=Z,9.3nm,0.8s
PV22 Blue Mesa, Par 81.45 48 *eP* **P 14 11 44.8 +0.6**
comp=Z,11nm,1.5s
PV20 West Nyswonger 81.47 48 *eP* **P 14 11 44.8 +0.5**
comp=Z,6.6nm,0.8s
PV04 Paradox Valley 81.47 48 *eP* **P 14 11 44.9 +0.7**
comp=Z,19nm,1.7s
PV19 Morning Glory 81.48 48 *eP* **P 14 11 44.8 +0.5**
comp=Z,8.2nm,0.8s
PV17 East Wray Mesa 81.51 48 *eP* **P 14 11 45.4 +0.9**
comp=Z,9.8nm,0.8s
PV16 Nyswonger Mesa 81.52 48 *eP* **P 14 11 45.3 +0.8**
comp=Z,27nm,1.9s
PV11 David Mesa, Pa 81.55 48 *eP* **P 14 11 45.5 +0.8**
comp=Z,6.1nm,0.7s
PV05 Paradox Valley 81.56 48 *eP* **P 14 11 45.3 +0.5**
comp=Z,10nm,1.0s
PV18 Skein Mesa, Pa 81.56 48 *eP* **P 14 11 45.5 +0.7**
comp=Z,7.3nm,0.9s
PV12 Saucer Basin, 81.58 48 *eP* **P 14 11 45.5 +0.6**
comp=Z,30nm,2.0s
PV03 Paradox Valley 81.60 48 *eP* **P 14 11 45.2 +0.3**
comp=Z,4.2nm,0.9s
PV13 Radium Mtn., P 81.67 48 *eP* **P 14 11 46.7 +1.3**
comp=Z,7.2nm,0.8s
Y14A Wickenburg 81.76 54 *eP* **P 14 11 46.1 +0.3**
comp=Z,4.1nm,1.0s
WUAZ Wupatki 81.81 52 *eP* **P 14 11 46.8 +0.8**
comp=Z,3.9nm,0.9s
X16A Lo Mia Camp, P 82.46 52 *eP* **P 14 11 49.8 +0.2**
comp=Z,3.0nm,1.0s
GERES GERESS Array B 82.52 328 P **P 14 11 48.4 -1.1**
comp=Z,0.3nm,0.2s,baz=44,slow=7.2,SNR=3.6
T25A Trinidad 84.96 47 *eP* **P 14 12 03.3 +1.0**
comp=Z,3.4nm,0.8s
ANMO Albuquerque 85.22 49 *ceP* **P 14 12 05.4 +1.7**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
TX31 Lajitas Ar. Si 90.77 52 *eP* **P 14 12 30.1 -0.1**
comp=Z,9.4nm,1.8s
TXAR Lajitas Array 90.77 52 *eP* **P 14 12 30.3 +0.1**
TXAR Lajitas Array 90.77 52 P **P 14 12 30.6 +0.4**
comp=Z,1.5nm,0.8s,baz=300,slow=3.0,SNR=16
LPAZ La Paz 147.37 59 PKPbc **PKPbc 14 19 11.6 -0.1**
comp=Z,3.8nm,0.6s,baz=238,slow=1.8,SNR=15

*IDC **13** 14:14:26.9±2.9, 36°.73N×140°.69E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.3/35, mbtmp3.5/2, MS3.4/1, Ms1 3.5/1, ms1mx2.6/22, Error ellipse: s-maj=47.7km s-min=29.1km az=35.0*
*ISCJB **13** 14:14:28.0±0.6, 36°.86N±0°.03×140°.67E±0°.06, h15km±4km, mb3.6/2, MS3.4/1, Error ellipse: s-maj=8.5km s-min=4.6km az=19.2*
*JMA **13** 14:14:28.7, 36°.87N×140°.56E, h6km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs188.00000°, δ47.00000°, λ-74.00000°. NP2: ϕs344.00000°, δ45.00000°, λ-107.00000°. Principal axes: T Plg1.0000°, Azm266.0000°; N Plg12.0000°, Azm356.0000°; P Plg78.0000°, Azm173.0000°;*
JMA Felt I J1.

ISC 13 14:14:27.7±1.1, 36°.85N±0°.04×140°.60E±0°.04, h14km±10km, n19, σ0s58/20, 6C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.23**	**186**	⇓P	**Pb**	**14 14 33.9**	**+0.2**
JHO				S	**Sb**	**14 14 37.8**	**0.0**
JFFD	**Fukushimafurud**	**0.25**	**353**	⇑P	**Pg**	**14 14 33.2**	**+0.2**
JFFD				S	**Sg**	**14 14 36.2**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.30**	**32**	⇑P	**Pb**	**14 14 34.6**	**-0.3**
ONAJ				S	**Sg**	**14 14 38.7**	**+0.5**
JSB	**Shiboa**	**0.56**	**283**	⇑P	**Pb**	**14 14 39.6**	**+0.3**
JSB				*e*S	**Sb**	**14 14 47.1**	**0.0**
JFK	**Kawauchi**	**0.56**	**23**	⇑P	**Pb**	**14 14 39.1**	**-0.3**
JFK				S	**Sg**	**14 14 46.7**	**+0.4**
JYT	**Yasato**	**0.70**	**208**	⇑P	**Pn**	**14 14 42.0**	**-1.1**
JFT	**Otama**	**0.70**	**343**	⇑P	**Pb**	**14 14 41.7**	**-0.1**
JFT				S	**Sg**	**14 14 50.4**	**-0.3**
JFY	**Yanaizu**	**0.91**	**308**	P	**Pb**	**14 14 45.1**	**-0.2**
MJAR	**Matsushiro Arr**	**1.94**	**262**	Pn	**Pb**	**14 15 01.9**	**-1.0**
	4.0nm,0.3s,baz=81,slow=15,SNR=201						
MJAR				Sn	**Sb**	**14 15 27.7**	**+0.6**
	3.4nm,0.3s,baz=84,slow=28,SNR=22						
MAT	**Matsushiro**	**1.95**	**262**	P	**Pb**	**14 15 02.7**	**-0.2**
MAT				S	**Sb**	**14 15 28.1**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**28.62**	**119**	T	T	14 50 13.3	
	baz=313,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.63**	**119**	T	T	14 50 13.9	
	baz=313,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**28.64**	**119**	T	T	14 50 14.7	
	baz=313,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**29.31**	**121**	T	T	14 51 05.1	
	baz=314,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**29.31**	**122**	T	T	14 51 06.3	
	baz=314,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**29.33**	**122**	T	T	14 51 07.5	
	baz=314,slow=76,SNR=25						
ILAR	**Eielson Array**	**50.00**	**32**	LR	LR	14 46 57.0	
	comp=Z,37nm,18.8s,baz=122,slow=39						
WRA	**Warramunga Arr**	**56.79**	**187**	P	**P**	**14 24 12.2**	**+0.7**
	0.4nm,0.6s,baz=4.9,slow=7.6,SNR=2.2						
ASAR	**Alice Springs**	**60.52**	**187**	P	**P**	**14 24 37.9**	**+0.5**
	0.4nm,0.9s,baz=12,slow=5.7,SNR=2.5						

MEX 13 14:21:34.4±0.5, 16°.56N×98°.41W, h7km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**121**	*e*P	Pg	14 21 40.1	-0.6
PNIG				*i* S	Sg	14 21 45.1	+0.1
TLIG	**Tlapa**	**1.01**	**352**	*e*P	Pg	14 21 50.7	-3.1
TLIG				*i* S	Sg	14 22 04.3	-2.7
CAIG	**El Cayaco**	**1.84**	**286**	*i* P	Pn	14 22 03.5	-2.9
CAIG				*i* S	Sn	14 22 25.1	-4.9
HUIG	**Huatulco**	**2.35**	**109**	*i* P	Pn	14 22 10.4	-3.0
HUIG				*i* S	Sn	14 22 38.1	-4.5

MEX 13 14:35:46.5±0.6, 16°.39N×98°.42W, h10km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**88**	*e*P	Pg	14 35 51.8	-0.5
PNIG				*i* S	Sg	14 35 56.2	+0.1
TLIG	**Tlapa**	**1.18**	**353**	*e*P	Pb	14 36 05.4	-3.7
TLIG				*i* S	Sb	14 36 19.9	-4.5
CAIG	**El Cayaco**	**1.89**	**291**	*i* P	Pn	14 36 14.8	-4.0
CAIG				*i* S	Sn	14 36 38.0	-4.7

*IDC **13** 14:39:25.5±0.6, 33°.96N×37°.50W, h0km, mb4.0/22, mb1 4.2/22, mb1mx4.1/41, mbtmp4.0/22, MS4.0/26, Ms1 3.9/26, ms1mx3.9/33, Error ellipse: s-maj=16.3km s-min=14.7km az=1.0*
*BJI **13** 14:39:25.5±0.0, 34°.00N×37°.50W, h10km, mb5.3/2, mB5.3/2, Ms5.3/2, Ms7 5.1/2*
*ISCJB **13** 14:39:26.1±0.3, 33°.98N±0°.06×37°.57W±0°.05, h13km, mb4.6/81, MS4.0/27, Error ellipse: s-maj=8.7km s-min=5.9km az=13.0*
*NEIC **13** 14:39:27.3±0.2, 33°.98N×37°.52W, h10km, mb4.9/58, Error ellipse: s-maj=5.8km s-min=3.8km az=185.0*
*GCMT **13** 14:39:29.3±0.3, 34°.16N±0°.03×37°.59W±0°.02, h12km, MW4.9/80, Moment Tensor Solution. s15,c17; s80,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.30±.07; Mθθ0.60±.09; Mφφ1.69±.06; Mrθ0.96±.36; Mφφ0.99±.06; Mφr=0.01±.25; Best double couple: M=2.47100×10^16 NP1:ϕs228.00000°, δ54.00000°, λ-68.00000°. NP2: ϕs14.00000°, δ42.00000°, λ-116.00000°. Principal axes: T 2.3310, Plg6.0000°, Azm303.0000°; N 0.2710, Plg17.0000°, Azm35.0000°; P -2.6110, Plg72.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 14:39:27.8±0.4, 34°.01N±0°.08×37°.50W±0°.07, h13km, n118, σ1s09/104, mb4.8/81, MS4.0/27, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**10.41**	**66**	*e*Pn	**Pn**	**14 41 55.7**	**-1.1**
ESDC	**Sonseca Array**	**27.32**	**68**	LR	LR	14 53 38.1	
	comp=Z,152nm,20.8s,baz=310,slow=31						
MDT	**Midelt**	**27.42**	**83**	LR	LR	14 53 34.3	
	comp=Z,473nm,20.8s,baz=298,slow=31						
SCHQ	**Schefferville**	**29.18**	**324**	LR	LR	14 56 03.0	
	comp=Z,365nm,18.8s,baz=112,slow=34						
SJG	**San Juan**	**30.08**	**245**	LR	LR	14 55 06.1	
	comp=Z,86nm,21.1s,baz=88,slow=31						
KEST	**Kesra**	**38.19**	**74**	LR	LR	15 00 30.7	
	comp=Z,111nm,20.1s,baz=274,slow=33						
SUMG	**Summit**	**38.64**	**360**	*i* P	**P**	**14 46 50.9**	**0.0**
SDV	**Santo Domingo**	**39.39**	**238**	*e*P	**P**	**14 46 57.7**	**0.0**
	7.6nm,0.9s						
GERES	**GERESS Array B**	**40.38**	**53**	P	**P**	**14 47 05.4**	**0.0**
	0.2nm,0.2s,baz=255,slow=10,SNR=2.8						
GERES				LR	LR	15 00 32.5	
	comp=Z,137nm,21.1s,baz=280,slow=31						
PTGA	**Pitinga**	**40.49**	**216**	*e*P	**P**	**14 47 06.8**	**+0.3**
	26nm,1.8s						
PTGA	**Pitinga**	**40.49**	**216**	P	**P**	**14 47 06.1**	**-0.5**
	5.4nm,0.8s,baz=68,slow=5.4,SNR=3.4						
TIC	**Toumodi**	**40.53**	**125**	*e*PKP1	**P**	**14 47 10.3**	**+3.4**
DBIC	**Dimbokro**	**40.62**	**125**	P	**P**	**14 47 06.5**	**-1.2**
	2.8nm,0.7s,baz=300,slow=9.1,SNR=4.9						
DBIC				LR	LR	15 01 18.5	
	comp=Z,235nm,21.5s,baz=298,slow=32						
F41A	**Three Lakes**	**40.65**	**303**	*e*P	**P**	**14 47 08.2**	**+0.7**
	107nm,1.9s						
LIC	**Lamto**	**40.83**	**125**	*e*PKP1	**P**	**14 47 09.3**	**-0.1**
	24nm,1.1s						
KIC	**Kosan Boka**	**40.92**	**125**	*e*PKP1	**P**	**14 47 09.6**	**-0.6**
	9.5nm,0.7s						
NB2	**NORSAR Subarra**	**41.14**	**34**	P	**P**	**14 47 12.3**	**+0.8**
	comp=Z,22nm,1.7s,baz=253,slow=9.3						
NOA	**NORSAR Array B**	**41.14**	**34**	P	**P**	**14 47 10.9**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=253,slow=8.6,SNR=3.3						
NOA				LR	LR	15 01 23.6	
	comp=Z,152nm,18.6s,baz=265,slow=32						
TOA0	**Torodi Ar. Sit**	**41.15**	**111**	*e*P	**P**	**14 47 13.7**	**+1.6**
	comp=Z,9.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**41.15**	**111**	P	**P**	**14 47 10.9**	**-1.1**
	comp=Z,2.8nm,0.9s,baz=309,slow=5.9,SNR=12						
TORD				LR	LR	15 02 23.6	
	comp=Z,480nm,21.2s,baz=315,slow=34						
EYMN	**Ely**	**42.23**	**306**	*e*P	**P**	**14 47 20.5**	**0.0**
	comp=Z,43nm,1.9s						
E38A	**The Farm, Brul**	**42.31**	**304**	*e*P	**P**	**14 47 21.0**	**-0.2**
	comp=Z,29nm,1.6s						
DAG	**Danmarks Havn**	**43.71**	**6**	*i* P	**P**	**14 47 32.4**	**+0.3**
ROSC	**El Rosal**	**44.82**	**238**	LR	LR	15 04 24.2	
	comp=Z,200nm,21.2s,baz=52,slow=34						
ULM	**Lac du Bonnet**	**45.05**	**309**	P	**P**	**14 47 41.5**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=75,slow=12,SNR=2.7						
ULM				LR	LR	15 05 45.1	
	comp=Z,398nm,19.8s,baz=82,slow=35						
MIAR	**Mount Ida**	**45.82**	**287**	*e*P	**P**	**14 47 49.2**	**-0.2**
	comp=Z,24nm,1.6s						
ECSD	**EROS Data Cent**	**46.16**	**300**	*e*P	**P**	**14 47 51.1**	**-1.0**
	comp=Z,14nm,1.3s						
H10N2	**ASCENSION HYDR**	**46.98**	**148**	T	T	15 37 50.6	
	baz=333,slow=75,SNR=968						
H10N3	**ASCENSION HYDR**	**46.99**	**148**	T	T	15 37 50.8	
	baz=333,slow=75,SNR=796						
H10N1	**ASCENSION HYDR**	**47.00**	**148**	T	T	15 37 54.6	
	baz=333,slow=75,SNR=996						
H10S1	**ASCENSION HYDR**	**47.91**	**149**	T	T	15 39 01.0	
	baz=334,slow=75,SNR=616						
H10S3	**ASCENSION HYDR**	**47.91**	**149**	T	T	15 39 01.3	
	baz=334,slow=75,SNR=507						
H10S2	**ASCENSION HYDR**	**47.93**	**149**	T	T	15 39 02.3	
	baz=334,slow=75,SNR=650						
FINES	**FINESS Array B**	**48.25**	**35**	P	**P**	**14 48 08.0**	**0.0**
	comp=Z,1.8nm,0.9s,baz=262,slow=5.1,SNR=3.8						
FINES				LR	LR	15 05 43.4	
	comp=Z,127nm,18.2s,baz=239,slow=33						
FFC	**Flin Flon**	**48.61**	**316**	*e*P	**P**	**14 48 11.3**	**+0.3**
	comp=Z,7.7nm,1.3s						
RES	**Resolute Bay**	**49.03**	**343**	*e*P	**P**	**14 48 13.8**	**-0.1**
	comp=Z,28nm,2.0s						
RES	**Resolute Bay**	**49.03**	**343**	P	**P**	**14 48 13.9**	**0.0**
	comp=Z,2.3nm,0.9s,baz=106,slow=6.3,SNR=9.6						
WMOK	**Wichita Mounta**	**49.87**	**289**	*e*P	**P**	**14 48 20.7**	**-0.3**
	comp=Z,35nm,2.0s						
AKASG	**Malin Array Be**	**50.33**	**49**	P	**P**	**14 48 23.9**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=269,slow=8.2,SNR=3.6						
AKASG				LR	LR	15 07 51.6	
	comp=Z,149nm,18.7s,baz=325,slow=34						
BDFB	**Brasilia**	**50.38**	**193**	P	**P**	**14 48 24.4**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=90,slow=13,SNR=3.2						
BDFB				LR	LR	15 06 32.8	
	comp=Z,105nm,20.3s,baz=105,slow=32						
KSCO	**Kaye Shedlock'**	**51.59**	**296**	*e*P	**P**	**14 48 33.6**	**-0.4**
	comp=Z,18nm,0.4s						
N23A	**Red Feather La**	**53.52**	**299**	*e*P	**P**	**14 48 48.6**	**+0.1**
	comp=Z,51nm,2.0s						
SDCO	**Great Sand Dun**	**54.12**	**295**	*e*P	**P**	**14 48 53.2**	**+0.3**
	comp=Z,4.7nm,1.4s						
YKA	**Yellowknife Ar**	**54.61**	**326**	P	**P**	**14 48 55.5**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=82,slow=7.5,SNR=12						
YKA				PcP	**PcP**	**14 49 58.6**	**0.0**
	comp=Z,0.6nm,0.7s,baz=84,slow=4.2,SNR=7.0						
YKA				LR	LR	15 11 32.8	

comp=Z,33nm,19.5s,baz=87,slow=35
RLMT Red Lodge 54.74 305 *eP* **P 14 48 57.1 -0.2**
comp=Z,12nm,1.5s
SMCO Snowmass 54.78 297 *eP* **P 14 48 57.1 -0.7**
comp=Z,22nm,2.0s
O20A White River Ci 55.42 298 *eP* **P 14 49 01.8 -0.4**
comp=Z,33nm,1.6s
BW06 Boulder Array 55.59 302 *eP* **P 14 49 02.5 -0.9**
comp=Z,21nm,1.7s
PDAR Pinedale Array 55.59 302 *eP* **P 14 49 02.2 -1.2**
PDAR Pinedale Array 55.59 302 P **P 14 49 02.9 -0.5**
comp=Z,2.7nm,0.9s,baz=82,slow=11,SNR=9.9
PDAR LR LR 15 10 48.2
comp=Z,134nm,21.1s,baz=64,slow=34
TXAR Lajitas Array 55.63 285 *eP* **P 14 49 03.6 -0.1**
TXAR Lajitas Array 55.63 285 P **P 14 49 04.0 +0.2**
comp=Z,0.8nm,0.9s,baz=74,slow=6.7,SNR=7.4
TXAR LR LR 15 11 45.5
comp=Z,304nm,18.9s,baz=0.0,slow=35
BRTR Keskin Array B 55.84 62 *eP* **P 14 49 05.5 +0.4**
BRTR Keskin Array B 55.84 62 P **P 14 49 05.2 +0.1**
comp=Z,1.1nm,1.0s,baz=278,slow=5.2,SNR=4.7
BRTR LR LR 15 12 58.7
comp=Z,32nm,18.4s,baz=284,slow=36
FLWY Flagg Ranch 56.01 304 *eP* **P 14 49 06.0 -0.4**
comp=Z,42nm,1.9s
BNM Barren Site 56.18 291 *eP* **P 14 49 07.1 -0.7**
BOZ Bozeman (W) 56.22 306 *eP* **P 14 49 07.5 -0.3**
comp=Z,18nm,1.8s
IMW Indian Meadow 56.23 304 *eP* **P 14 49 08.2 +0.1**
comp=Z,33nm,1.9s
REDW Red Top Meadow 56.32 303 *eP* **P 14 49 08.6 0.0**
comp=Z,34nm,1.7s
TPAW Teton Pass 56.35 303 *eP* **P 14 49 08.0 -0.9**
comp=Z,20nm,1.7s
FXWY Fox Creek 56.37 303 *eP* **P 14 49 07.8 -1.2**
comp=Z,9.3nm,1.5s
MVCO Mesa Verde 56.55 295 *eP* **P 14 49 11.2 +0.8**
comp=Z,38nm,1.8s
AHID Auburn Hatcher 56.67 302 *eP* **P 14 49 10.4 -0.7**
comp=Z,6.9nm,0.6s
DLMT Dillon 56.94 306 *eP* **P 14 49 13.1 +0.2**
comp=Z,12nm,1.4s
LPAZ La Paz 57.91 215 *eP* **P 14 49 20.6 +0.1**
comp=Z,8.9nm,1.1s
LPAZ La Paz 57.91 215 P **P 14 49 20.6 +0.1**
comp=Z,3.7nm,0.9s,baz=30,slow=8.9,SNR=6.4
LPAZ LR LR 15 12 39.7
comp=Z,149nm,19.3s,baz=20,slow=34
HLID Hailey 58.73 304 *eP* **P 14 49 25.8 +0.2**
comp=Z,18nm,1.8s
NEW Newport 59.05 310 *eP* **P 14 49 27.2 -0.3**
comp=Z,28nm,1.8s
WUAZ Wupatki 59.32 294 *eP* **P 14 49 29.3 -0.5**
comp=Z,24nm,1.8s
U15A North Rim 59.67 296 *eP* **P 14 49 32.3 0.0**
comp=Z,29nm,1.9s
ELK Elko 60.26 301 *eP* **P 14 49 35.6 -0.6**
comp=Z,7.1nm,1.6s
INK Inuvik 61.02 335 *eP* **P 14 49 41.0 +0.4**
comp=Z,19nm,1.7s
KBZ Khabaz 61.05 55 P **P 14 49 42.0 +0.8**
comp=Z,0.6nm,0.3s,baz=262,slow=15,SNR=2.8
KBZ LR LR 15 16 56.8
comp=Z,40nm,18.0s,baz=334,slow=37
MNMC Minye Minye 61.06 215 *eP* **P 14 49 41.6 -0.2**
comp=Z,12nm,1.0s
R11A Troy Canyon, C 61.39 299 *eP* **P 14 49 43.3 -0.6**
comp=Z,12nm,1.8s
J08A Circle Bar Ran 61.58 305 *eP* **P 14 49 45.3 +0.3**
comp=Z,27nm,1.5s
I07A Izee 62.01 306 *eP* **P 14 49 48.3 +0.4**
comp=Z,10nm,1.7s
WVOR Wild Horse Val 62.03 304 *eP* **P 14 49 48.6 +0.6**
comp=Z,24nm,1.6s
113A Mohawk Valley, 62.22 292 *eP* **P 14 49 49.5 +0.2**
comp=Z,18nm,1.7s
EPYK Eagle Plains 62.88 333 *eP* **P 14 49 54.1 +0.9**
comp=Z,15nm,0.4s
KVN Kaiserville 62.94 300 *eP* **P 14 49 53.9 -0.3**
comp=Z,25nm,1.9s
NV11 Mina Array Sit 63.22 300 *eP* **P 14 49 56.2 +0.1**
comp=Z,1.0nm,1.7s
NVAR Mina Array Bea 63.33 300 P **P 14 49 56.4 -0.6**
comp=Z,0.6nm,0.7s,baz=93,slow=5.4,SNR=5.6
NVAR LR LR 15 17 40.9
comp=Z,208nm,18.6s,baz=20,slow=36
K05A Summer Lake 63.46 305 *eP* **P 14 49 57.5 -0.2**
comp=Z,25nm,1.4s
DAWY Dawson 64.86 332 *eP* **P 14 50 06.5 +0.2**
comp=Z,26nm,1.9s
EGAK Eagle 65.23 333 *eP* **P 14 50 09.7 +1.1**
comp=Z,10nm,1.4s
PRP Porcupine Dome 66.48 334 *eP* **P 14 50 17.9 +1.0**
comp=Z,10nm,1.3s
SCRK Sand Creek 66.69 333 *eP* **P 14 50 19.1 +0.9**
comp=Z,11nm,1.4s
COLD Coldfoot 67.17 337 *eP* **P 14 50 22.3 +1.2**
ILAR Eielson Array 67.36 334 *eP* **P 14 50 22.8 +0.4**
ILAR Eielson Array 67.36 334 P **P 14 50 23.0 +0.7**
comp=Z,0.8nm,1.0s,baz=52,slow=4.1,SNR=6.8
ILAR LR LR 15 19 00.6
comp=Z,74nm,19.1s,baz=79,slow=35
CCB Clear Creek Bu 67.76 334 *eP* **P 14 50 25.2 +0.3**
comp=Z,12nm,1.5s
WRH Wood River Hil 67.96 334 *eP* **P 14 50 26.8 +0.7**
comp=Z,8.0nm,1.2s
DHY Denali Highway 68.46 333 *eP* **P 14 50 30.2 +0.8**
comp=Z,15nm,1.4s
IMAR Indian Mountai 69.04 337 *eP* **P 14 50 33.4 +0.6**
BPAW Bear Paw Mtn. 69.22 334 *eP* **P 14 50 34.4 +0.4**
comp=Z,18nm,1.6s
NRIK Noril'sk 69.44 18 P **P 14 50 36.1 +0.9**
comp=Z,0.6nm,0.3s,baz=298,slow=3.7,SNR=8.1
ABKAR Akbulak array 69.50 44 *eP* **P 14 50 36.6 +0.7**
BRVK Borovoye 73.09 37 *eP* **P 14 50 58.3 +0.7**
comp=Z,3.4nm,1.0s
TIXI Tiksi 74.19 4 *eP* **P 14 51 04.9 +1.2**
comp=Z,12nm,1.4s
H09N1 TRISTAN DA CUN 74.51 159 T T 16 12 18.1
H09W1 TRISTAN DA CUN 74.53 159 T T 16 12 23.2
baz=54
KMBO Kilima Mbogo 78.02 100 LR LR 15 25 48.8
comp=Z,127nm,18.1s,baz=86,slow=36
KURK Kurchatov 78.62 36 *eP* **P 14 51 29.3 +0.1**
comp=Z,5.2nm,1.0s
ZALV Zalesovo Beam 79.25 31 P **P 14 51 32.4 -0.2**
comp=Z,0.5nm,0.4s,baz=328,slow=5.1,SNR=3.0
LSZ Lusaka 79.38 117 *eP* **P 14 51 34.9 +0.9**
comp=Z,7.8nm,1.0s
GAR Garm 81.32 49 *eP* **P 14 51 43.3 -1.0**
comp=Z,15nm,1.4s
MAKZ Makanchi 82.88 37 *eP* **P 14 51 51.8 -0.4**
comp=Z,5.4nm,1.2s
MK31 Makanchi Array 83.05 37 *eP* **P 14 51 53.2 +0.2**
comp=Z,3.2nm,1.1s
MKAR Makanchi Array 83.05 37 *eP* **P 14 51 53.0 0.0**
MKAR Makanchi Array 83.05 37 P **P 14 51 52.9 -0.2**
comp=Z,2.2nm,0.8s,baz=316,slow=6.8,SNR=10
MKAR LR LR 15 28 28.0
comp=Z,114nm,19.2s,baz=306,slow=35
KSH Kashi 84.44 45 P **P 14 52 00.3 -0.1**
KSH sP pwP 14 52 06.6 -0.7
KSH S **S 15 02 25.3 -1.3**
KSH pmax pmax
comp=Z,13nm,0.6s
KSH pmax pmax
comp=Z,180nm,4.4s
KSH LR LR
comp=Z,150nm,7.5s
KSH LR LR
comp=Z,190nm,7.0s
KSH LR LR
comp=Z,470nm,6.8s
BOSA Boshof 86.04 128 P **P 14 52 08.0 -0.4**
comp=Z,4.9nm,1.1s,baz=6.3,slow=1.1,SNR=2.3
BOSA LR LR 15 26 43.3
comp=Z,63nm,18.3s,baz=308,slow=33
WMQ Urumqi 87.84 36 *eP* **P 14 52 18.1 +1.0**
WMQ LR LR
comp=Z,690nm,20.5s
WMQ LR LR
comp=Z,370nm,18.7s
PETK Petropavlovsk- 92.24 351 LR LR 15 33 50.1
comp=Z,79nm,18.9s,baz=50,slow=35
HHC Hu-ho-hao-te 100.24 23 *eP* **Pdif 14 53 06.1 -7.9**
CD2 Chengdu 105.80 34 Pdif **Pdif 14 53 36.6 -2.3**
WHN Wuhan 110.51 26 Pdif **Pdif 14 54 00.6 +0.9**

INMG ***13*** *14:43:45.7±1.4, 32°.50N×8°.08W, h0km, ML2.5, Error ellipse: s-maj=7.4km s-min=4.2km az=122.0*
MDD 13 14:43:43.3±3.4, 32°.33N×7°.63W, h0km, mb3.8/4, Error ellipse: s-maj=46.1km s-min=30.3km az=97.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**5.03**	**351**	*e*Pn	Pn	14 44 58.3	-1.9
MORF	**Marmelete**	**5.03**	**351**	P	Pn	14 44 58.3	-1.9
PVAQ	**Vaqueiros**	**5.06**	**359**	*e*Pn	Pn	14 44 59.7	-0.8
PVAQ				*e*Sn	Sn	14 45 55.4	-4.3
PVAQ	**Vaqueiros**	**5.06**	**359**	P	Pn	14 44 59.7	-0.8
PVAQ				S	Sn	14 45 55.4	-4.3
EGRO	**El Granado**	**5.19**	**1**	P	Pn	14 45 01.1	-1.2
EGRO	0.4nm,0.1s,SNR=7.9			S	Sn	14 45 58.2	-4.7
	0.4nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**5.30**	**357**	*e*Pn	Pn	14 45 02.5	-1.3
PCVE				*e*Sn	Sn	14 46 00.9	-4.6
PCVE				A	A	14 46 03.4	
	3.4nm,0.5s						
PCVE	**Castro Verde**	**5.30**	**357**	P	Pn	14 45 02.5	-1.3
PCVE				S	Sn	14 46 00.9	-4.6
	3.4nm,0.5s						
EMIN	**Mina Concepcio**	**5.48**	**8**	P	Pn	14 45 04.6	-1.6
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	14 46 04.3	-5.7
	0.3nm,0.1s,SNR=7.9						
MESJ	**Messejana**	**5.52**	**355**	*e*Sn	Sn	14 46 06.3	-4.6
MESJ				A	A	14 46 20.9	
	2.7nm,0.6s						
MESJ	**Messejana**	**5.52**	**355**	S	Sn	14 46 06.3	-4.6
	2.7nm,0.6s						
ECAB	**El Cabril**	**6.01**	**17**	P	Pn	14 45 12.2	-1.3
	0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	14 46 17.0	-6.1
	0.9nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.34**	**22**	P	Pn	14 45 17.1	-1.0
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	14 46 26.1	-5.1
	0.2nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**6.74**	**356**	*e*Pn	Pn	14 45 22.8	-0.7
PMTG	**Montargil**	**6.74**	**356**	P	Pn	14 45 22.8	-0.7
PMRV	**Marv??o**	**7.09**	**2**	*e*Pn	Pn	14 45 27.2	-1.1
PMRV	**Marv??o**	**7.09**	**2**	P	Pn	14 45 27.2	-1.1

ISCJB ***13*** *14:46:40.1±0.2, 6°.52S±0°.02×129°.83E±0°.03, h146km, mb4.8/45, Error ellipse: s-maj=3.5km s-min=3.1km az=5.3*
DJA ***13*** *14:46:42.2±0.2, 7°.5±2°.×13°.0E±°., h142km±3km, M4.8/37, mb5.0/37, mB5.2/19, MLv5.2/12, Mw(mB)4.6/19*
NEIC ***13*** *14:46:43.5±0.4, 6°.51S×129°.70E, h163km±4km, mb4.7/33, Error ellipse: s-maj=5.4km s-min=4.3km az=63.0*
IDC ***13*** *14:46:43.7±2.4, 6°.50S×129°.70E, h161km±22km, mb4.1/17, mb1 4.2/20, mb1mx4.1/31, mbtmp4.6/20, MS3.2/2, Ms1 3.2/2, ms1mx2.7/24, Error ellipse: s-maj=18.5km s-min=9.3km az=77.0*
ISC 13 14:46:41.4±0.3, 6°.55S±0°.04×129°.84E±0°.04, h146km, n168, σ2=2.02/181, mb4.6/45, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.02**	**2**	P	**Pn**	**14 47 20.4**	**+3.9**
SAUI	**Saumlaki**	**2.03**	**135**	*e*Pn	**Pn**	**14 47 21.2**	**+4.6**
SAUI	**Saumlaki**	**2.03**	**135**	P	**Pn**	**14 47 21.2**	**+4.6**
FAKI	**Fak Fak**	**4.33**	**34**	*e*Pn	**Pn**	**14 47 46.6**	**+0.6**
FAKI	**Fak Fak**	**4.33**	**34**	P	**Pn**	**14 47 46.7**	**+0.8**
FAKI				S	**Sn**	**14 48 34.6**	**-1.6**
SWI	**Sorong**	**5.82**	**14**	P	**Pn**	**14 48 05.9**	**+0.1**
SWI				S	**Sn**	**14 49 07.7**	**-4.0**
SANI	**Sanana**	**5.90**	**319**	P	**Pn**	**14 48 09.5**	**+2.8**
	259nm,1.0s,2μm0.8nm						
SANI				S	**Sn**	**14 49 17.3**	**+3.9**
	259nm,1.0s,2μm0.8nm						
SOEI	**Soe**	**6.37**	**240**	*e*Pn	**Pn**	**14 48 13.9**	**+0.7**
SOEI	**Soe**	**6.37**	**240**	P	**Pn**	**14 48 14.4**	**+1.2**
	580nm,1.0s,5μm2.4nm						
SOEI				S	**Sn**	**14 49 23.8**	**-1.2**
	580nm,1.0s,5μm2.4nm						
MTN	**Manton Dam**	**6.38**	**169**	*e*Pn	**Pn**	**14 48 14.4**	**+1.2**
MTN	**Manton Dam**	**6.38**	**169**	P	**Pn**	**14 48 14.6**	**+1.4**
	baz=6.4,SNR=353						
RKPI	**Ransiki, Papua**	**6.61**	**41**	S	**Sn**	**14 49 30.2**	**-0.5**
KDU	**Kakadu**	**6.62**	**157**	P	**Pn**	**14 48 17.7**	**+1.3**
	baz=6.6,SNR=953						
BATI	**Baumata**	**7.11**	**239**	P	**Pn**	**14 48 23.7**	**+0.7**
BATI				S	**Sn**	**14 49 41.0**	**-1.6**
BBSI	**Bau Bau**	**7.31**	**278**	P	**Pn**	**14 48 29.2**	**+3.6**
KDI	**Kendari**	**7.64**	**289**	P	Pn	14 48 35.0	+4.9
TNTI	**Ternate**	**7.68**	**341**	*e*Pn	**Pn**	**14 48 32.1**	**+1.5**
TNTI	**Ternate**	**7.68**	**341**	P	**Pn**	**14 48 32.7**	**+2.1**
	36nm,0.7s,699nm0.2nm						
MMRI	**Maumere**	**7.82**	**254**	*e*Pn	**Pn**	**14 48 33.2**	**+0.8**
MMRI	**Maumere**	**7.82**	**254**	P	**Pn**	**14 48 34.1**	**+1.7**
	72nm,0.6s,0.4nm						
MMRI				S	**Sn**	**14 50 00.1**	**+0.5**
	72nm,0.6s,0.4nm						
LUWI	**Luwuk**	**8.93**	**308**	*e*Pn	**Pn**	**14 48 48.0**	**+0.7**
LUWI	**Luwuk**	**8.93**	**308**	P	**Pn**	**14 48 49.8**	**+2.5**
KNRA	**Kununurra**	**9.13**	**187**	P	**Pn**	**14 48 49.7**	**-0.3**
	baz=9.1,SNR=145						
KMSI	**Cibinong**	**9.18**	**320**	P	**Pn**	**14 48 53.2**	**+2.5**
BSSI	**Bau Bau, Buton**	**9.30**	**272**	P	**Pn**	**14 48 54.2**	**+1.9**
BKSI	**Bulukumba**	**9.75**	**277**	P	**Pn**	**14 48 59.9**	**+1.7**
BASI	**Baing, Sumba**	**9.86**	**248**	P	**Pn**	**14 48 58.5**	**-1.2**
APSI	**Ampana**	**9.91**	**304**	P	**Pn**	**14 49 04.4**	**+4.1**
	142nm,1.1s,1μm						
BNSI	**Bone**	**9.93**	**282**	P	Pn	14 49 14.0	+13
WSI	**Waingapu**	**9.95**	**251**	P	**Pn**	**14 48 59.3**	**-1.5**
WSI				S	Sn	14 50 41.1	-10
SPSI	**Sidrap Palu**	**10.36**	**284**	P	**Pn**	**14 49 08.8**	**+2.5**
	60nm,0.6s,569nm						
MRSI	**Marisa**	**10.53**	**311**	P	**Pn**	**14 49 11.4**	**+2.8**
	191nm,1.0s,2μm						
TTSI	**Tana Toraja**	**10.58**	**289**	P	Pn	14 49 21.4	+12
MMPI	**Merauke**	**10.62**	**101**	P	**Pn**	**14 49 08.7**	**-1.1**
MMPI				S	**Sn**	**14 51 02.9**	**-4.4**
GENI	**Genyem**	**11.02**	**70**	P	**Pn**	**14 49 15.8**	**+0.8**
	43nm,0.6s						
SGSI	**Sangihe**	**11.04**	**337**	P	**Pn**	**14 49 17.0**	**+1.6**
JAY	**Jayapura**	**11.54**	**70**	P	**Pn**	**14 49 25.2**	**+3.3**
	0.5nm,0.3s,baz=223,slow=18,SNR=3.7						
JAY				S	**Sn**	**14 51 32.0**	**+2.4**
	baz=107,slow=19						
MPSI	**Mapaga**	**12.05**	**304**	P	**Pn**	**14 49 31.4**	**+2.8**
	33nm,1.1s,403nm						
PLAI	**Plampang**	**12.17**	**259**	P	**Pn**	**14 49 29.4**	**-0.7**
	61nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.19**	**199**	P	**Pn**	**14 49 28.3**	**-1.9**
	baz=12,SNR=85						
FITZ	**Fitzroy Crossi**	**12.19**	**199**	P	**Pn**	**14 49 28.4**	**-1.9**
	22nm,0.3s,baz=32,slow=10,SNR=108						
FITZ				S	Sn	14 51 35.0	-10
	10nm,0.3s,baz=300,slow=20,SNR=3.8						
WRAB	**Tennant Creek**	**14.00**	**162**	*e*Pn	**Pn**	**14 49 48.9**	**-4.7**
WRA	**Warramunga Arr**	**14.01**	**162**	P	**Pn**	**14 49 52.1**	**-1.5**
	6.1nm,0.3s,baz=339,slow=14,SNR=143						
WRA				S	Sn	14 52 18.9	-10
	24nm,0.3s,baz=346,slow=23,SNR=18						
WB2	**Warramunga Arr**	**14.01**	**162**	*e*Pn	**Pn**	**14 49 52.3**	**-1.4**
DAV	**Davao City (W)**	**14.18**	**342**	LR	LR	14 56 20.7	
	comp=Z,77nm,18.1s,baz=59,slow=41						
CTBH	**Cotabato--PC H**	**14.78**	**338**	*i/P*	**P**	**14 50 07.5**	**+2.0**
COEN	**Coen**	**15.04**	**120**	*e*Pn	**Pn**	**14 50 06.5**	**-0.1**
	86nm,1.0s						
COEN	**Coen**	**15.04**	**120**	P	**Pn**	**14 50 06.5**	**-0.1**
	baz=15,SNR=27						
JAGI	**Jajag, Banyuwa**	**15.67**	**262**	*e*Pn	**Pn**	**14 50 12.8**	**-1.7**
	28nm,0.9s						
KMMI	**Kalianget**	**15.77**	**267**	P	P	14 50 26.8	+10
MTKI	**Muara Teweh, K**	**15.92**	**290**	P	**P**	**14 50 22.0**	**+3.8**
QIS	**Mount Isa**	**16.84**	**147**	P	**Pn**	**14 50 29.9**	**+1.3**
	baz=17,SNR=32						
PMG	**Port Moresby**	**17.38**	**101**	*e*P	**Pn**	**14 50 38.8**	**+3.6**
	67nm,1.1s						
PMG				S	**S**	**14 53 42.5**	**-5.5**
PMG	**Port Moresby**	**17.38**	**101**	P	**Pn**	**14 50 38.8**	**+3.6**
	2.3nm,0.3s,baz=251,slow=4.7,SNR=9.5						
PMG				S	**S**	**14 53 42.5**	**-5.5**
	1.0nm,0.3s,baz=5.6,slow=23,SNR=1.4						
PMG				LR	LR	14 58 31.2	
	comp=Z,78nm,18.3s,baz=290,slow=40						

AS31 Alice Springs 17.46 167 *eP* **Pn 14 50 37.0 +0.9**
31nm,0.4s
ASAR Alice Springs 17.46 168 *eP* **Pn 14 50 37.3 +1.2**
ASAR S **S 14 53 42.9 -6.6**
ASAR Alice Springs 17.46 168 P **Pn 14 50 37.0 +0.8**
11nm,0.3s,baz=347,slow=10,SNR=1147
ASAR S **S 14 53 42.9 -6.6**
7.1nm,0.3s,baz=353,slow=23,SNR=11
MBWA Marble Bar 17.51 213 *eP* **Pn 14 50 36.3 -0.4**
46nm,0.8s
PSA00 Pilbara Seismi 17.79 212 *eP* **Pn 14 50 39.8 -0.2**
177nm,0.5s
WRKA Warakurna 18.44 184 P **Pn 14 50 47.7 0.0**
baz=18,SNR=533
KKM Kota Kinabalu 18.48 312 *eP* **Pn 14 50 47.6 -0.8**
60nm,0.9s
PBKI Pangkalan Bun 18.51 281 P **Pn 14 50 50.1 +1.5**
SBUM Sibu 19.74 296 *eP* **P 14 51 01.4 +1.4**
29nm,0.9s
SBUM Sibu 19.74 296 P **Pn 14 51 02.0 -0.9**
CTA Charters Tower 20.85 132 P Pn 14 51 14.9 -1.2
6.7nm,0.6s,baz=306,slow=12,SNR=9.7
CTA S **S 14 55 02.8 +6.3**
3.2nm,0.5s,baz=73,slow=24,SNR=2.0
CTAO Charters Tower 20.85 132 *eP* Pn 14 51 14.9 -1.2
12nm,0.8s
KSM Kuching 21.07 292 *eP* **P 14 51 12.4 -1.8**
11nm,0.7s
KSM Kuching 21.07 292 P **P 14 51 16.0 +1.8**
CISI Cisompet, Garu 21.88 266 *eP* **P 14 51 22.2 -0.8**
63nm,0.8s
CISI Cisompet, Garu 21.88 266 P **P 14 51 22.9 -0.1**
81nm,0.7s
GIRL Giralia 21.96 222 P **P 14 51 24.4 +0.8**
baz=22,SNR=6.4
TGY Tagaytay City 22.34 337 P **P 14 51 27.4 -0.2**
224nm,0.5s,baz=154,slow=3.0,SNR=14
TPI Tanjungpandan 22.43 279 P **P 14 51 29.5 +1.1**
MEEK Meekatharra 22.66 207 P **P 14 51 30.8 +0.3**
baz=23,SNR=11
CBJI Citeko 22.85 269 P **P 14 51 30.9 -1.4**
PPBI Pangkal Pinang 24.03 279 P **P 14 51 46.4 +3.3**
FORT Forrest 24.16 184 *eP* **P 14 51 45.0 +0.9**
83nm,0.6s
FORT Forrest 24.16 184 P **P 14 51 45.2 +1.1**
baz=24,SNR=64
KMBL Kambalda 25.79 196 P **P 14 51 59.6 +0.7**
baz=26,SNR=63
MORW Morawa 25.91 209 *eP* **P 14 52 00.1 +0.1**
77nm,1.7s
MORW Morawa 25.91 209 P **P 14 52 00.3 +0.3**
baz=26,SNR=9.3
BBOO Buckleboo 26.76 168 P **P 14 52 08.7 +1.1**
baz=27,SNR=18
BLDU Ballidu 26.93 206 P **P 14 52 09.5 +0.4**
baz=27,SNR=12
KLBR Kellerberrin 27.36 203 P **P 14 52 13.6 +0.7**
baz=27,SNR=20
STKA Stephens Creek 27.48 158 *eP* **P 14 52 15.4 +1.3**
3.8nm,0.8s
STKA pP **pwP 14 52 48.6 +1.6**
STKA Stephens Creek 27.48 158 P **P 14 52 15.6 +1.5**
baz=28,SNR=34
STKA Stephens Creek 27.48 158 P **P 14 52 15.6 +1.5**
7.2nm,0.3s,baz=336,slow=7.8,SNR=42
STKA pP **pwP 14 52 48.6 +1.6**
13nm,0.7s,baz=328,slow=9.9,SNR=4.5
HTT Hallett 28.04 164 P **P 14 52 20.6 +1.5**
baz=28,SNR=11
MUN Mundaring 28.32 205 P **P 14 52 22.1 +0.6**
baz=28,SNR=4.6
NWAO Narrogin (SRO) 28.75 202 P **P 14 52 25.9 +0.7**
baz=29,SNR=5.4
NWAO Narrogin (SRO) 28.75 202 P **P 14 52 25.7 +0.5**
8.6nm,0.5s,baz=44,slow=8.0,SNR=25
CMSA Cobar Meteorol 28.94 151 P **P 14 52 29.0 +2.0**
baz=29,SNR=90
RKGY Rocky Gully 30.34 201 P **P 14 52 41.5 +2.1**
baz=30,SNR=8.7
ARPS Mount Arapiles 32.01 162 P **P 14 52 56.3 +2.3**
baz=32,SNR=26
PSI Prapat 32.24 286 *eP* **P 14 52 54.7 -1.7**
20nm,0.9s
CAN Canberra 33.62 151 P **P 14 53 11.1 +3.1**
baz=34
SKNT Sakolnakorn 34.64 313 P **P 14 53 16.7 -0.3**
26nm,0.8s
CHAI Chaiyaphum 35.48 309 P **P 14 53 23.7 -0.5**
49μm,0.7s,495μm
NONG Nongkai 35.95 313 P **P 14 53 27.7 -0.5**
0.4nm,0.8s
SLVN Son La 37.63 318 *eP* **P 14 53 41.9 -0.5**
22nm,1.8s
UTTA Uttaradit 37.67 310 P **P 14 53 42.7 -0.1**
63μm,0.7s,450μm
LAMP Lampang 38.84 310 P **P 14 53 53.1 +0.6**
40μm,0.8s,360μm
PAYA Payao 39.17 312 P **P 14 53 55.6 +0.3**
26μm,0.7s
CM31 Chiang Mai Arr 39.33 310 *eP* **P 14 53 55.6 -1.0**
16nm,0.8s
CMAR Chiang Mai Arr 39.33 310 *eP* **P 14 53 55.8 -0.8**
CMAR PcP **PcP 14 56 03.5 +1.0**
CMAR ScP **ScP 14 59 35.5 -2.0**
CMAR Chiang Mai Arr 39.33 310 P **P 14 53 56.4 -0.2**
12nm,0.7s,baz=137,slow=7.4,SNR=109
CMAR PcP **PcP 14 56 03.5 +1.0**
0.8nm,0.5s,baz=145,slow=2.1,SNR=4.4
CMAR ScP **ScP 14 59 35.5 -2.0**
0.5nm,0.8s,baz=151,slow=4.1,SNR=4.1
CMMT Chiang Mai 39.53 310 P **P 14 53 58.2 -0.1**
18nm,0.8s
CHTO Chiang Mai 39.54 310 *eP* **P 14 53 57.3 -1.1**
23nm,0.8s
NJ2 Nanjing 39.79 345 *eP* **P 14 53 55.5 -4.7**
NJ2 Nanjing 39.79 345 *eP* **P 14 54 01.8 +1.6**
KMI Kunming 41.07 321 P **P 14 54 12.8 +1.7**
MAT Matsushiro 43.58 10 P **P 14 54 29.7 -1.3**
MJAR Matsushiro Arr 43.58 10 P **P 14 54 30.3 -0.7**
3.5nm,0.8s,baz=194,slow=10,SNR=9.7
KSAR Wonju Array Be 43.80 358 P **P 14 54 33.2 +0.5**
KSRS Korea Array 43.81 358 P **P 14 54 33.2 +0.4**
1.3nm,0.6s,baz=175,slow=9.2,SNR=9.0
CD2 Chengdu 44.84 328 P **P 14 54 40.5 -0.7**
XAN Xi'an 44.97 335 P **P 14 54 41.4 -0.7**
LZH Lanzhou 48.94 332 *eP* **P 14 55 13.0 -0.1**
LZH pP pwP 14 55 49.0 -2.0
LZH sP sP 14 56 06.8 +6.2
HHC Hu-ho-hao-te 50.07 342 *eP* **P 14 55 23.9 +2.4**
USRK Ussuriysk Ar. 50.55 2 P **P 14 55 25.2 +0.3**
2.6nm,0.6s,baz=192,slow=8.4,SNR=6.1
RAMN Ramite 53.49 310 *eP* **P 14 55 47.1 -0.2**
55nm,0.4s
GTA Gaotai 53.51 331 *eP* **P 14 55 47.5 +0.5**
JIRN Jiri 54.18 311 *eP* **P 14 55 52.0 -0.4**
25nm,0.3s
PKI Pulchoki 54.72 310 *eP* **P 14 55 55.3 -1.0**
15nm,0.4s
PKIN Phulchoki 54.73 310 *eP* **P 14 55 55.3 -1.0**
10nm,0.5s
KKN Kakani 54.93 311 *eP* **P 14 55 57.0 -0.7**
19nm,0.5s
DMN Daman 54.97 310 *eP* **P 14 55 57.3 -0.7**
16nm,0.4s
GKN Gorkha 55.53 310 *eP* **P 14 56 01.3 -0.6**
54nm,0.4s
KOLN Koldanda 56.20 310 *eP* **P 14 56 06.4 -0.3**
17nm,0.4s
DANN Dangsing 56.37 310 *eP* **P 14 56 07.4 -0.6**
11nm,0.4s
PYUN Piuthan 56.83 310 *eP* **P 14 56 10.8 -0.4**
16nm,0.3s
SONM Songino Array 57.97 342 *eP* **P 14 56 19.1 +0.4**
2.6nm,0.6s
SONM Songino Array 57.97 342 P **P 14 56 19.5 +0.8**
3.9nm,0.5s,baz=159,slow=6.8,SNR=20
WMQ Urumqi 62.94 327 *eP* **P 14 56 53.8 +1.4**
WMQ pP pwP 14 57 31.5 -0.2
PETK Petropavlovsk- 63.95 18 P **P 14 56 60.0 +1.2**
3.0nm,0.9s,baz=132,slow=2.2,SNR=6.6
KSH Kashi 67.58 317 P **P 14 57 23.5 +1.0**
KSH pP pwP 14 58 04.3 +2.1
KSH PP **PP 14 59 59.5 +6.0**
KSH S **S 15 06 03.8 -4.1**
KSH Kashi 67.58 317 SS SS 15 10 27.8 -3.9
MK31 Makanchi Array 67.77 327 *eP* **P 14 57 23.8 +0.4**
15nm,0.7s

MKAR	**Makanchi Array**	**67.77 327**	*eP*	**P**		**14 57 23.6**	**+0.2**
MKAR	**Makanchi Array**	**67.77 327**	P	**P**		**14 57 23.9**	**+0.6**
27nm,0.7s,baz=126,slow=7.8,SNR=160							
MAKZ	**Makanchi**	**67.95 327**	*eP*	**P**		**14 57 24.7**	**+0.2**
16nm,0.6s							
KDJ	**Kajisay**	**68.13 320**	*eP*	**P**		**14 57 26.1**	**+0.1**
3.9nm,0.6s							
AAK	**Ala-Archa**	**70.10 320**	*eP*	**P**		**14 57 37.1**	**-1.0**
10.0nm,1.3s							
ARSB	**Arslanbob**	**70.46 318**	*eP*	**P**		**14 57 39.8**	**-0.5**
10.0nm,1.1s							
ZAA0	**Zalesovo Array**	**71.11 334**	*eP*	**P**		**14 57 43.1**	**-0.6**
8.6nm,0.8s							
ZALV	**Zalesovo Beam**	**71.11 334**	*eP*	**P**		**14 57 43.0**	**-0.7**
ZALV	**Zalesovo Beam**	**71.11 334**	P	**P**		**14 57 43.3**	**-0.4**
7.6nm,0.6s,baz=125,slow=4.9,SNR=27							
GAR	**Garm**	**71.24 315**	*eP*	**P**		**14 57 44.4**	**-0.6**
9.4nm,1.0s							
KURK	**Kurchatov**	**72.06 329**	*eP*	**P**		**14 57 49.5**	**+0.1**
20nm,0.9s							
KK31	**Karatay Array**	**72.90 319**	*eP*	**P**		**14 57 54.5**	**-0.2**
5.7nm,1.0s							
KKAR	**Karatay Array**	**72.90 319**	*eP*	**P**		**14 57 54.4**	**-0.3**
VNDA	**Vanda**	**72.91 173**	*eP*	**P**		**14 57 54.8**	**+0.7**
3.7nm,0.6s							
VNDA	**Vanda**	**72.91 173**	P	**P**		**14 57 55.0**	**+0.9**
3.7nm,0.5s,baz=319,slow=6.8,SNR=64							
MAW	**Mawson**	**75.31 201**	P	**P**		**14 58 08.8**	**+0.6**
4.3nm,0.7s,baz=90,slow=6.5,SNR=6.6							
BRVK	**Borovoye**	**77.67 328**	*eP*	**P**		**14 58 21.4**	**-0.3**
12nm,0.8s							
TIXI	**Tiksi**	**78.04 360**	*eP*	**P**		**14 58 23.0**	**-0.4**
6.1nm,0.5s							
NRIK	**Noril'sk**	**81.09 346**	P	**P**		**14 58 39.7**	**-0.2**
1.0nm,0.4s,baz=121,slow=4.9,SNR=5.1							
ABKAR	**Akbulak array**	**82.06 322**	*eP*	**P**		**14 58 44.8**	**-0.6**
5.8nm,0.7s							
ARU	**Arti**	**85.25 328**	*eP*	**P**		**14 59 00.4**	**-1.0**
16nm,0.8s							
KBZ	**Khabaz**	**92.28 314**	P	**P**		**14 59 35.0**	**0.0**
0.5nm,0.3s,baz=143,slow=5.1,SNR=2.7							
ILAR	**Eielson Array**	**93.01 25**	P	**P**		**14 59 36.6**	**-1.4**
0.5nm,0.7s,baz=253,slow=4.6,SNR=6.9							
BRTR	**Keskin Array B**	**98.91 309**	P	**P**		**15 00 04.4**	**-1.1**
0.5nm,0.7s,baz=128,slow=4.1,SNR=2.8							
YKA	**Yellowknife Ar**	**107.42 26**	PKiKP	**PKiKP**		**15 04 49.8**	**-0.5**
0.2nm,0.6s,baz=282,slow=1.6,SNR=3.9							
TXAR	**Lajitas Array**	**124.83 59**	PKP	**PKiKP**		**15 05 25.5**	**+0.4**
0.1nm,0.3s,baz=232,slow=4.4,SNR=3.9							
TORD	**Torodi Ar. Bea**	**128.57 282**	PKP	**PKPdf**		**15 05 31.2**	**-0.9**
0.4nm,0.7s,baz=93,slow=2.9,SNR=2.9							
TORD			SKPab	SKPab		15 08 36.9	
1.1nm,0.9s,baz=88,slow=0.7,SNR=5.7							
DBIC	**Dimbokro**	**135.01 273**	SKPbc	**SKPbc**		**15 08 57.3**	**-4.3**
3.1nm,0.9s,baz=96,slow=4.8,SNR=3.7							
CPUP	**Villa Florida**	**146.58 168**	PKPbc	**PKPab**		**15 06 07.2**	**-0.5**
1.8nm,0.6s,baz=164,slow=4.1,SNR=6.4							
LPAZ	**La Paz**	**151.17 142**	PKPbc	**PKiKP**		**15 06 20.3**	**+0.6**
1.1nm,0.4s,baz=197,slow=7.0,SNR=3.2							

*DSN **13** 15:08:57.7±3.4,26°.74N×57°.94E,h10km,ML3.5/9,Error ellipse: s-maj=48.2km s-min=13.3km az=2.0*
*OMAN **13** 15:08:58.2±0.5,26°.81N×58°.09E,h20km,ml3.6/8,Error ellipse: s-maj=9.1km s-min=5.5km az=225.0*
*ISCJB **13** 15:08:59.6±0.5,26°.64N±0°.03×57°.72E±0°.06,h10km,Error ellipse: s-maj=7.4km s-min=4.4km az=176.0*
*IDC **13** 15:09:01.4±3.4,26°.62N×57°.22E,h0km,mb3.4/3,mb1 3.4/3,mb1mx3.2/30,mbtmp3.4/3,Error ellipse: s-maj=85.8km s-min=36.2km az=157.0*
*TEH **13** 15:09:01.2,26°.70N×57°.67E,h10km,ML3.7*

ISC 13 15:09:01.6±1.0,26°.62N±0°.04×57°.69E±0°.06,h10km,n37,σ1§63/40,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.20**	**321**	*eP*g	**Pn**	**15 09 23.3**	**-1.2**
NIAN				IAMB	IAmb	15 09 47.1	
comp=Z,0.0nm,0.4s							
SHME	**Shamm**	**1.50**	**248**	*eP*	**Pn**	**15 09 28.4**	**-0.3**
SNR=37							
SHME				S	**Sg**	**15 09 51.5**	**+1.6**
SHME	**Shamm**	**1.50**	**248**	*e*Pn	**Pn**	**15 09 28.7**	**+0.1**
GENO	**Geno**	**1.56**	**300**	*e*Pn	**Pb**	**15 09 29.6**	**-1.0**
GENO				*e*Sg	**Sg**	**15 09 52.3**	**+0.6**
GENO				IAMB	IAmb	15 09 58.7	
comp=Z,0.0nm,0.4s							
MDH	**Madha**	**1.82**	**224**	*eP*	**Pn**	**15 09 30.4**	**-2.5**
SNR=17							
MDH	**Madha**	**1.82**	**224**	P	**Pn**	**15 09 30.7**	**-2.3**
SNR=17							
MSFE	**Esma-Masafi**	**1.86**	**228**	*eP*	**Pn**	**15 09 31.4**	**-2.2**
SNR=14							
MSFE	**Esma-Masafi**	**1.86**	**228**	*e*Pn	**Pn**	**15 09 31.8**	**-1.8**
HATD	**Hatta, Dubai**	**2.27**	**218**	*eP*	**Pn**	**15 09 38.3**	**-0.9**
SNR=9.7							
HATD	**Hatta, Dubai**	**2.27**	**218**	*e*Pn	**Pn**	**15 09 36.9**	**-2.3**
ASHO	**Ashiyiah**	**2.43**	**218**	*eP*	**Pn**	**15 09 41.8**	**+0.4**
SNR=20							
ASHO	**Ashiyiah**	**2.43**	**218**	P	**Pn**	**15 09 40.2**	**-1.2**
SNR=19							
ASHO	**Ashiyiah**	**2.43**	**218**	*e*Pn	**Pn**	**15 09 39.8**	**-1.6**
NAZ	**Nazwa, Dubai**	**2.44**	**229**	*eP*	**Pn**	**15 09 41.7**	**+0.1**
SNR=12							
NAZ	**Nazwa, Dubai**	**2.44**	**229**	*e*Pn	**Pn**	**15 09 41.5**	**-0.1**
FAQ	**Al Faqa, Dubai**	**2.66**	**226**	*eP*	**Pn**	**15 09 45.3**	**+0.8**
SNR=14							
FAQ	**Al Faqa, Dubai**	**2.66**	**226**	P	**Pn**	**15 09 45.4**	**+0.9**
FAQ				S	**Sb**	**15 10 24.0**	**+2.0**
FAQ	**Al Faqa, Dubai**	**2.66**	**226**	*e*Pn	**Pn**	**15 09 45.6**	**+1.1**
SOHO	**SOHO**	**2.69**	**203**	P	**Pn**	**15 09 41.6**	**-3.3**
ASUD	**Al Ashush, Dub**	**2.91**	**227**	P	**Pn**	**15 09 48.0**	**0.0**
ASUD	**Al Ashush, Dub**	**2.91**	**227**	*e*Pn	**Pn**	**15 09 49.7**	**+1.7**
ALNE	**Al Ain**	**3.10**	**215**	*i* P	**Pn**	**15 09 49.8**	**-0.8**
SNR=8.5							
NGRK	**Negar Kerman**	**3.12**	**345**	*e*Pn	**Pn**	**15 09 51.0**	**-0.3**
NGRK				IAMB	IAmb	15 10 40.7	
comp=Z,0.0nm,0.9s							
AJN	**Ajban**	**3.19**	**230**	*e*Pn	**Pn**	**15 09 53.7**	**+1.9**
CHMN	**Cheshme madani**	**3.23**	**358**	*e*Pn	**Pn**	**15 09 53.6**	**+0.9**
TVBK	**TV Kerman**	**3.45**	**347**	IAMB	IAmb	15 10 58.3	
comp=Z,0.0nm,0.5s							
SMDO	**Samad**	**3.56**	**175**	P	**Pn**	**15 09 55.0**	**-2.1**
SMDO				S	**Sn**	**15 10 39.6**	**+0.2**
BSY	**Bisya**	**3.89**	**187**	P	**Pn**	**15 10 01.3**	**-0.2**
BSY				S	**Sn**	**15 10 48.9**	**+1.7**
KHGB	**Koh Gabri**	**3.89**	**344**	IAMB	IAmb	15 11 10.5	
comp=Z,0.0nm,0.8s							
SZD1	**Zahaedan-tmp**	**4.00**	**44**	*e*Pn	**Pn**	**15 10 03.1**	**-0.1**
MZR	**Muzera**	**5.25**	**228**	*e*Pn	**Pn**	**15 10 19.1**	**-1.1**
IKOO	**Kooshah**	**5.89**	**11**	*e*Pn	**Pn**	**15 10 27.4**	**-1.9**
IKAZ	**Kazeroun**	**6.04**	**303**	*e*Pn	**Pn**	**15 10 29.5**	**-1.8**
ITEG	**Tejag**	**6.32**	**8**	*e*Pn	**Pn**	**15 10 34.5**	**-0.5**
BRTR	**Keskin Array B**	**23.91**	**309**	P	**P**	**15 14 13.8**	**-1.9**
comp=Z,0.7nm,0.6s,baz=114,slow=8.1,SNR=5.6							
MKAR	**Makanchi Array**	**27.99**	**38**	P	**P**	**15 14 56.2**	**+3.7**
comp=Z,0.1nm,0.4s,baz=224,slow=10,SNR=2.0							
TORD	**Torodi Ar. Bea**	**53.95**	**267**	P	**P**	**15 18 24.3**	**-1.6**
comp=Z,0.9nm,0.9s,baz=66,slow=7.7,SNR=4.1							

MEX 13 15:15:22.4±0.6,16°.27N×98°.23W,h14km±2km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**40**	*eP*	Pg	15 15 25.8	-0.6
PNIG				*i* S	Sg	15 15 28.6	-0.5

MEX 13 15:25:35.2±0.5,15°.98N×98°.25W,h4km±4km,MD3.7,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.42**	**16**	*eP*	Pg	15 25 42.8	-0.7
PNIG				*i* S	Sg	15 25 49.4	+0.4
TLIG	**Tlapa**	**1.60**	**349**	*eP*	Pn	15 26 00.7	-3.7
TLIG				*i* S	Sn	15 26 20.4	-5.2

*ISCJB **13** 15:37:38.9±0.5,6°.37S±0°.04×146°.68E±0°.07,h100km, mb4.4/14,Error ellipse: s-maj=9.8km s-min=5.8km az=172.3*

*IDC **13** 15:37:39.5±1.5,6°.35S×146°.69E,h101km±15km,mb3.9/9,mb1 4.1/12,mb1mx3.7/37,mbtmp4.2/12,MS2.8/1,Ms1 2.8/1,ms1mx2.2/24,Error ellipse: s-maj=20.8km s-min=10.7km az=91.0*
*NEIC **13** 15:37:41.5±0.8,6°.34S×146°.56E,h113km±8km,mb4.3/4,Error ellipse: s-maj=11.5km s-min=7.5km az=93.0*
*DJA **13** 15:37:44.9±0.9,7°.S±.7°×14°.6E±1°.0,h104km±8km,M4.8/12,mB5.3/3,mb4.6/12,MLv4.8/3,Mw(mB)4.7/3*

ISC 13 15:37:40.6±0.6,6°.36S±0°.06×146°.54E±0°.08,h100km,n35,σ1§61/38,mb4.2/14,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.09**	**169**	P	**Pn**	**15 38 27.5**	**0.0**
99nm,0.3s,baz=3.3,slow=5.6,SNR=406							
PMG				S	**Sn**	**15 39 02.4**	**-1.3**
78nm,0.3s,baz=184,slow=22,SNR=21							
PMG				LR	LR	15 39 41.4	
comp=Z,150nm,20.5s,baz=43,slow=40							
MANU	**Manus Island**	**4.37**	**11**	*e*Pn	**Pn**	**15 38 46.3**	**+1.5**
JAY	**Jayapura**	**6.96**	**303**	P	**Pn**	**15 39 20.4**	**+0.4**
1.2nm,0.3s,baz=177,slow=5.8,SNR=7.9							
GENI	**Genyem**	**7.37**	**300**	P	**Pn**	**15 39 28.6**	**+3.0**
COEN	**Coen**	**8.24**	**203**	*e*Pn	**Pn**	**15 39 38.9**	**+1.4**
HNR	**Honiara**	**13.62**	**104**	P	**Pn**	**15 40 50.6**	**+0.9**
baz=220,slow=9.1,SNR=2.2							
CTA	**Charters Tower**	**13.65**	**181**	P	**Pn**	**15 40 53.0**	**+3.0**
5.4nm,0.3s,baz=1.5,slow=14,SNR=72							
FAKI	**Fak Fak**	**14.65**	**283**	P	**P**	**15 41 06.1**	**-0.4**
SWI	**Sorong**	**16.19**	**289**	P	**P**	**15 41 24.3**	**+0.6**
WRAB	**Tennant Creek**	**17.95**	**220**	*eP*	**P**	**15 41 43.1**	**+0.1**
9.5nm,0.6s							
WB2	**Warramunga Arr**	**17.96**	**220**	*eP*	**P**	**15 41 43.4**	**+0.3**
10nm,0.9s							
WRA	**Warramunga Arr**	**17.96**	**220**	P	**P**	**15 41 43.0**	**-0.2**
2.4nm,0.3s,baz=48,slow=12,SNR=66							
WRA				S	**S**	**15 45 00.1**	**-4.2**
0.2nm,0.3s,baz=45,slow=25,SNR=4.1							
TNTI	**Ternate**	**20.41**	**290**	P	Pn	15 42 16.0	+3.2
37nm,0.9s							
ASAR	**Alice Springs**	**21.06**	**214**	*eP*	**P**	**15 42 16.8**	**-0.1**
ASAR				S	**S**	**15 46 06.7**	**+0.8**
ASAR	**Alice Springs**	**21.06**	**214**	P	**P**	**15 42 17.4**	**+0.6**
5.8nm,0.3s,baz=51,slow=9.2,SNR=456							
ASAR				S	**S**	**15 46 06.7**	**+0.8**
2.0nm,0.7s,baz=34,slow=19,SNR=7.9							
FITZ	**Fitzroy Crossi**	**23.49**	**238**	*eP*	**P**	**15 42 41.5**	**-0.1**
13nm,0.6s							
FITZ	**Fitzroy Crossi**	**23.49**	**238**	P	**P**	**15 42 41.5**	**-0.1**
11nm,0.6s,baz=39,slow=8.3,SNR=85							
KMSI	**Cibinong**	**23.55**	**286**	P	**P**	**15 42 43.5**	**+1.3**
41nm,0.6s,1μm							
LUWI	**Luwuk**	**24.29**	**282**	P	**P**	**15 42 51.7**	**+2.8**
MRSI	**Marisa**	**25.48**	**285**	P	**P**	**15 42 56.1**	**-3.5**
STKA	**Stephens Creek**	**25.80**	**190**	P	**P**	**15 43 01.6**	**-0.8**
1.7nm,0.3s,baz=332,slow=11,SNR=16							
JNU	**Nakatsue**	**41.99**	**340**	P	**P**	**15 45 20.7**	**-1.3**
2.1nm,0.6s,baz=144,slow=18,SNR=3.1							
KSRS	**Korea Array**	**46.93**	**340**	P	**P**	**15 46 00.3**	**-0.8**
1.3nm,0.7s,baz=156,slow=9.4,SNR=5.2							
KSAR	**Wonju Array Be**	**46.93**	**340**	P	**P**	**15 46 00.3**	**-0.9**
SKNT	**Sakolnakorn**	**48.03**	**299**	P	**P**	**15 46 11.2**	**+1.1**
15nm,0.8s							
NONG	**Nongkai**	**49.22**	**300**	P	**P**	**15 46 20.4**	**+1.2**
0.2nm,1.4s							
UTTA	**Uttaradit**	**51.33**	**299**	P	**P**	**15 46 36.9**	**+1.8**
13μm,0.7s							
PAYA	**Pao**	**52.58**	**300**	P	**P**	**15 46 46.6**	**+2.2**
CMAR	**Chiang Mai Arr**	**53.02**	**299**	*eP*	**P**	**15 46 49.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**53.02**	**299**	P	**P**	**15 46 47.6**	**-0.1**
3.2nm,0.5s,baz=123,slow=6.0,SNR=29							
CHTO	**Chiang Mai**	**53.16**	**299**	*eP*	**P**	**15 46 49.8**	**+1.1**
3.1nm,0.9s							
VNDA	**Vanda**	**71.58**	**177**	P	**P**	**15 48 49.9**	**-0.6**
1.2nm,0.6s,baz=334,slow=6.3,SNR=17							
MKAR	**Makanchi Array**	**77.48**	**321**	P	**P**	**15 49 24.4**	**-0.9**
0.2nm,0.4s,baz=104,slow=6.1,SNR=4.6							
ILAR	**Eielson Array**	**85.99**	**23**	P	**P**	**15 50 07.2**	**-2.3**
1.1nm,0.7s,baz=254,slow=4.7,SNR=13							
TORD	**Torodi Ar. Bea**	**144.73**	**284**	PKP	**PKPab**	**15 57 05.7**	**-0.1**
3.4nm,0.6s,baz=92,slow=4.0,SNR=22							

*ISCJB **13** 15:46:41.9±0.3,48°.52N±0°.03×155°.00E±0°.05,h43km, mb4.2/30,MS3.3/5,Error ellipse: s-maj=6.7km s-min=2.3km az=45.0*
*KRSC **13** 15:46:42.4±10.0,48°.57N×155°.11E,h92km±10km,ML4.7*
*MOS **13** 15:46:42.4±0.9,48°.50N×155°.01E,h53km,mb4.7/6,Error ellipse: s-maj=9.1km s-min=3.6km az=70.3*
*SKHL **13** 15:46:43.9±0.2,48°.50N×155°.04E,h67km±5km,mb4.7/11*
*NEIC **13** 15:46:45.1±0.9,48°.59N×154°.87E,h54km±9km,mb4.5/10,Error ellipse: s-maj=15.7km s-min=5.8km az=146.0*
*IDC **13** 15:46:47.4±2.4,48°.70N×154°.71E,h78km±21km,mb3.6/17,mb1 3.9/22,mb1mx3.7/40,mbtmp4.0/22,MS3.1/7,Ms1 3.2/7,ms1mx2.9/34,Error ellipse: s-maj=19.2km s-min=10.8km az=139.0*

ISC 13 15:46:43.4±0.5,48°.51N±0°.06×155°.05E±0°.06,h43km,n176,σ1§53/200,mb4.1/30,MS3.4/5,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.29**	**17**	*eP*	**Pn**	**15 47 18.8**	**+0.2**
SKR				*e*S	**Sn**	**15 47 44.5**	**-0.9**
SKR	**Severo-Kuril's**	**2.29**	**17**	*e*PN	**Pn**	**15 47 19.5**	**+0.9**
SKR				*e*S	**Sn**	**15 47 44.5**	**-0.9**
SKR				pmax	pmax		
comp=Z,109nm,0.4s							
SKR				smax	smax		
comp=E,1μm,0.5s							
SKR				smax	smax		
comp=N,2μm,0.5s							
SKR	**Severo-Kuril's**	**2.29**	**17**	*eP*	**Pn**	**15 47 18.5**	**-0.1**
SKR				AMB	AMB	15 47 21.0	
comp=N,110nm,0.4s							
SKR				*e*S	**Sn**	**15 47 44.6**	**-0.9**
SKR				A	A	15 47 56.0	
comp=N,2μm,0.5s							
SKR				A	A	15 47 56.0	
comp=N,1μm,0.5s							
PAU	**Pauzhetka**	**3.17**	**20**	*eP*	**Pn**	**15 47 32.0**	**+1.2**
PAU				*e*S	**Sn**	**15 48 08.0**	**+0.6**
PAU	**Pauzhetka**	**3.17**	**20**	PN	**Pn**	**15 47 32.0**	**+1.2**
PAU				S	**Sn**	**15 48 08.0**	**+0.6**
PAU	**Pauzhetka**	**3.17**	**20**	*eP*	**Pn**	**15 47 32.0**	**+1.2**
PAU				AMB	AMB	15 47 34.2	
comp=N,120nm,0.6s							
PAU				*e*S	**Sn**	**15 48 07.9**	**+0.6**
PAU				A	A	15 48 11.4	
comp=N,790nm,0.5s							
PAU				A	A	15 48 11.4	
comp=N,540nm,0.5s							
KDTR	**Khodutka, Kamc**	**3.83**	**29**	*eP*	**Pn**	**15 47 40.3**	**+0.5**
KDTR				*e*S	**Sn**	**15 48 22.2**	**-1.4**
KDTR	**Khodutka, Kamc**	**3.83**	**29**	PN	**Pn**	**15 47 40.3**	**+0.5**
KDTR				S	**Sn**	**15 48 22.2**	**-1.4**
ASAK	**Asacha**	**4.29**	**24**	*eP*	**Pn**	**15 47 48.1**	**+2.0**
ASAK	**Asacha**	**4.29**	**24**	PN	**Pn**	**15 47 48.1**	**+2.0**
MTVR	**Mutnovka**	**4.45**	**25**	*eP*	**Pn**	**15 47 49.9**	**+1.4**
MTVR				*e*S	**Sn**	**15 48 39.8**	**+0.7**
MTVR	**Mutnovka**	**4.45**	**25**	PN	**Pn**	**15 47 49.9**	**+1.4**
MTVR				S	**Sn**	**15 48 39.8**	**+0.7**
RUS	**Russkaya**	**4.51**	**28**	*eP*	**Pn**	**15 47 49.3**	**+0.2**
RUS				*e*S	**Sn**	**15 48 38.6**	**-1.6**
RUS	**Russkaya**	**4.51**	**28**	PN	**Pn**	**15 47 49.3**	**+0.2**
APC	**Apacha**	**4.62**	**16**	*eP*	**Pn**	**15 47 52.4**	**+1.8**
APC	**Apacha**	**4.62**	**16**	PN	**Pn**	**15 47 52.4**	**+1.8**
KRMR	**Karymshinskiy**	**4.75**	**23**	*eP*	**Pn**	**15 47 54.8**	**+2.4**
KRMR				*e*S	**Sn**	**15 48 46.6**	**+0.5**
KRMR	**Karymshinskiy**	**4.75**	**23**	PN	**Pn**	**15 47 54.8**	**+2.4**
KRMR				S	**Sn**	**15 48 46.6**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.90**	**19**	*e*Pn	**Pn**	**15 47 56.5**	**+2.0**
PETK	**Petropavlovsk-**	**4.90**	**19**	P	**Pn**	**15 47 56.8**	**+2.2**
comp=N,4.1nm,0.3s,baz=169,slow=12,SNR=54							
PETK				S	**Sn**	**15 48 54.5**	**+4.6**
comp=N,0.5nm,0.3s,baz=173,slow=14,SNR=2.4							
PETK				LR	LR	15 50 11.9	
comp=N,143nm,19.8s,baz=189,slow=43							
PET	**Petropavlovsk**	**5.07**	**25**	*e*Pn	**Pn**	**15 47 57.6**	**+0.8**
PET	**Petropavlovsk**	**5.07**	**25**	*i* P	**Pn**	**15 47 58.3**	**+1.6**
PET	**Petropavlovsk**	**5.07**	**25**	*e*PN	**Pn**	**15 47 57.4**	**+0.7**
PET				*e*S	**Sn**	**15 48 53.8**	**-0.1**
PET				pmax	pmax		
comp=Z,41nm,0.5s							
PET				smax	smax		
comp=N,163nm,0.5s							
PET				smax	smax		
comp=E,171nm,0.5s							
PET	**Petropavlovsk**	**5.07**	**25**	*eP*	**Pn**	**15 47 57.7**	**+1.0**
PET				AMB	AMB	15 48 00.3	
comp=E,40nm,0.5s							
PET				*e*S	**Sn**	**15 48 53.8**	**-0.1**
PET				A	A	15 48 55.3	
comp=E,160nm,0.5s							
PET				A	A	15 48 55.3	
comp=E,170nm,0.5s							
DALK	**Dalny**	**5.10**	**26**	*eP*	**Pn**	**15 47 58.2**	**+1.0**
DALK				*e*S	**Sn**	**15 48 53.9**	**-0.9**
DALK	**Dalny**	**5.10**	**26**	PN	**Pn**	**15 47 58.2**	**+1.0**
UGLR	**Uglovaya**	**5.28**	**25**	*eP*	**Pn**	**15 48 01.7**	**+1.9**
UGLR	**Uglovaya**	**5.28**	**25**	PN	**Pn**	**15 48 01.7**	**+1.9**
KOK	**Koryaka**	**5.30**	**24**	*eP*	**Pn**	**15 48 02.5**	**+2.4**
KOK	**Koryaka**	**5.30**	**24**	PN	**Pn**	**15 48 02.5**	**+2.4**
AVH	**Avacha**	**5.30**	**25**	*eP*	**Pn**	**15 48 02.0**	**+1.9**
AVH				*e*S	**Sn**	**15 49 01.1**	**+1.2**
AVH	**Avacha**	**5.30**	**25**	PN	**Pn**	**15 48 02.0**	**+1.9**
AVH				S	**Sn**	**15 49 01.1**	**+1.2**
SMAR	**Somma**	**5.32**	**25**	*eP*	**Pn**	**15 48 02.5**	**+2.1**
SMAR	**Somma**	**5.32**	**25**	PN	**Pn**	**15 48 02.5**	**+2.1**
KRER	**Koryakskii**	**5.34**	**25**	*eP*	**Pn**	**15 48 02.7**	**+2.0**
KRER	**Koryakskii**	**5.34**	**25**	PN	**Pn**	**15 48 02.7**	**+2.0**
SDLR	**Sedlovina**	**5.36**	**25**	*eP*	**Pn**	**15 48 02.1**	**+1.2**
SDLR	**Sedlovina**	**5.36**	**25**	PN	**Pn**	**15 48 02.1**	**+1.2**
KRX	**Arik**	**5.36**	**24**	*eP*	**Pn**	**15 48 03.5**	**+2.5**
KRX	**Arik**	**5.36**	**24**	PN	**Pn**	**15 48 03.5**	**+2.5**
NLC	**Nalytchevo**	**5.40**	**29**	*eP*	**Pn**	**15 48 01.7**	**+0.3**
NLC				*e*S	**Sn**	**15 48 59.2**	**-3.0**
NLC	**Nalytchevo**	**5.40**	**29**	PN	**Pn**	**15 48 01.7**	**+0.3**
SPN	**Mys Shipunski**	**5.57**	**33**	*eP*	**Pn**	**15 48 04.1**	**+0.4**
SPN				*e*S	**Sn**	**15 49 04.6**	**-1.8**
SPN	**Mys Shipunski**	**5.57**	**33**	PN	**Pn**	**15 48 04.1**	**+0.4**
KUR	**Kuril'sk**	**5.92**	**239**	*e*PN	**Pn**	**15 48 10.8**	**+2.3**
KUR				*e*S	**Sn**	**15 49 16.0**	**+1.2**
KUR				pmax	pmax		
comp=Z,47nm,0.4s							
KUR				pmax	pmax		
comp=E,10.0nm,0.3s							
KUR				pmax	pmax		
comp=N,12nm,0.2s							
KUR				smax	smax		
comp=N,113nm,0.6s							
KUR				smax	smax		
comp=E,51nm,0.3s							
KUR	**Kuril'sk**	**5.92**	**239**	*eP*	**Pn**	**15 48 10.7**	**+2.3**
KUR				AMB	AMB	15 48 12.3	
comp=E,10.0nm,0.4s							
KUR				AMB	AMB	15 48 12.3	
comp=E,50nm,0.4s							
KUR				*e*S	**Sn**	**15 49 14.9**	**+0.1**
KUR				A	A	15 49 22.2	
comp=E,130nm,0.4s							
KUR				A	A	15 49 22.2	
comp=E,80nm,0.4s							
MKZ	**Mys Kozlova**	**7.35**	**32**	*eP*	**Pn**	**15 48 27.2**	**-0.8**
MKZ				*e*S	**Sn**	**15 49 47.0**	**-3.0**
MKZ	**Mys Kozlova**	**7.35**	**32**	PN	**Pn**	**15 48 27.2**	**-0.8**
KZV	**Kizimen**	**7.37**	**24**	*eP*	**Pn**	**15 48 30.7**	**+2.2**
KZV	**Kizimen**	**7.37**	**24**	PN	**Pn**	**15 48 30.7**	**+2.2**
TUMD	**Tumrok D**	**7.48**	**24**	*eP*	**Pn**	**15 48 30.0**	**+0.2**
TUMD				*e*S	**Sn**	**15 49 50.1**	**-3.1**
TUMR	**Tumrok**	**7.48**	**23**	PN	**Pn**	**15 48 30.0**	**0.0**
YUK	**Yuzh-Kuril'sk**	**7.78**	**238**	*e*PN	**Pn**	**15 48 34.9**	**+0.9**
YUK				pmax	pmax		
comp=Z,191nm,0.3s							
YUK				pmax	pmax		
comp=N,11nm,0.2s							
YUK				pmax	pmax		
comp=E,31nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**7.78**	**238**	*eP*	**Pn**	**15 48 34.9**	**+0.9**
YUK				AMB	AMB	15 48 35.0	
comp=E,10.0nm,0.3s							
YUK				AMB	AMB	15 48 35.0	
comp=E,30nm,0.3s							
YUK				AMB	AMB	15 48 35.0	
comp=E,20nm,0.3s							
YUK				*e*S	**Sn**	**15 49 58.3**	**-2.4**
LAGR	**Lagunnoye**	**7.81**	**239**	*e*PN	**Pn**	**15 48 35.9**	**+1.5**
LAGR				pmax	pmax		
comp=Z,171nm,0.6s							
LAGR	**Lagunnoye**	**7.81**	**239**	*eP

MA2	Magadan	11.37	349	PN	Pn	15 49 24.2	+1.2
MA2	Magadan	11.37	349	P	Pn	15 49 23.2	+0.2
	comp=Z,0.9nm,0.3s,baz=169,slow=11,SNR=7.2						
MA2				LR	LR	15 54 15.8	
	comp=Z,42nm,19.0s,baz=168,slow=40						
SMY	Shemya	12.80	64	*e*Pn	Pn	15 49 43.2	+0.6
SMY	Shemya	12.80	64	*e*PN	Pn	15 49 43.2	+0.6
SEY	Seymchan	14.54	355	P	Pn	15 50 04.9	-1.2
	comp=Z,0.1nm,0.3s,baz=183,slow=13,SNR=2.7						
EKMR	Ekimchan	14.69	296	*e*P	Pn	15 50 06.8	-1.4
EKMR				AMB	AMB	15 50 16.6	
	comp=Z,8.0nm,0.8s						
KLR	Kul'dur	15.34	281	*i* P	Pn	15 50 17.4	+0.6
KLR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KLR	Kul'dur	15.34	281	P	P	15 50 22.3	+1.4
	comp=Z,0.4nm,0.3s,baz=89,slow=12,SNR=8.3						
KLR	Kul'dur	15.34	281	*e*P	Pn	15 50 17.4	+0.6
USA0B	Ussuriysk Arra	16.48	263	*e*Pn	Pn	15 50 31.2	-0.1
	comp=Z,38nm,1.9s						
USRK	Ussuriysk Ar.	16.48	263	P	Pn	15 50 31.0	-0.3
USRK	Ussuriysk Ar.	16.48	263	P	Pn	15 50 31.1	-0.1
	comp=Z,0.6nm,0.3s,baz=65,slow=13,SNR=7.3						
MJA0	Matsu Arr-Jizo	17.17	232	*e*P	Pn	15 50 37.5	-2.6
MAT	Matsushiro	17.19	232	P	Pn	15 50 37.3	-3.0
MJAR	Matsushiro Arr	17.19	232	P	Pn	15 50 37.5	-2.8
	comp=Z,0.0nm,0.3s,baz=25,slow=13,SNR=5.5						
MDJ	Mudanjiang	17.91	267	P	P	15 50 49.8	+0.6
ZEA	Zeya	18.16	297	*e*P	P	15 50 54.0	+2.1
KROS	Kirovskiy	18.40	299	*e*P	P	15 50 54.2	-0.4
KROS				AMB	AMB	15 50 57.2	
	comp=Z,20nm,0.9s						
INU	Inuyama	18.72	232	*e*P	Pn	15 50 59.9	+0.9
	comp=Z,11nm,0.9s						
YAK	Yakutsk	19.63	323	*e*P	P	15 51 08.4	+0.5
YAK				pmax	pmax		
	comp=Z,55nm,0.8s						
YAK	Yakutsk	19.63	323	*e*P	P	15 51 08.4	+0.5
BILL	Biiibino	20.39	12[illegible]	*e*P	P	15 51 14.0	-2.2
BILL			*e*			15 51 38.6	
BILL				*e*S	Sn	15 55 34.1	+27
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,114nm,19.0s						
KSRS	Korea Array	22.59	251	*e*P	P	15 51 39.6	-0.6
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSRS	Korea Array	22.59	251	P	P	15 51 40.0	-0.1
	comp=Z,2.6nm,0.6s,baz=46,slow=10.0,SNR=11						
KSRS				LR	LR	15 58 51.6	
	comp=Z,34nm,20.9s,baz=40,slow=32						
KSRS	Korea Array	22.59	251	*e*P	P	15 51 39.5	-0.6
JNU	Nakatsue	23.75	239	*e*P	P	15 51 51.7	+0.1
	comp=Z,14nm,1.1s						
JNU	Nakatsue	23.75	239	P	P	15 51 51.8	+0.1
	comp=Z,11nm,1.0s,baz=69,slow=8.3,SNR=4.5						
TIXI	Tiksi	26.18	342	*e*P	P	15 52 12.1	-1.3
TIXI	Tiksi	26.18	342	*e*P	P	15 52 12.1	-1.3
TIXI	Tiksi	26.18	342	P	P	15 52 11.5	-1.9
	comp=Z,0.6nm,0.6s,baz=119,slow=7.3,SNR=4.8						
TIXI	Tiksi	26.18	342	*e*P	P	15 52 12.1	-1.3
H11N2	WAKE ISLAND Hy	30.26	157	T	T	16 24 59.1	
	baz=342,slow=76,SNR=200						
H11N1	WAKE ISLAND Hy	30.27	157	T	T	16 25 24.8	
	baz=342,slow=76,SNR=224						
H11N3	WAKE ISLAND Hy	30.27	157	T	T	16 25 25.9	
	baz=342,slow=76,SNR=127						
H11S1	WAKE ISLAND Hy	31.38	158	T	T	16 26 04.0	
	baz=345,slow=76,SNR=596						
H11S3	WAKE ISLAND Hy	31.39	158	T	T	16 26 08.3	
	baz=345,slow=76,SNR=681						
H11S2	WAKE ISLAND Hy	31.40	158	T	T	16 26 04.1	
	baz=345,slow=76,SNR=390						
HHC	Hu-ho-hao-te	31.50	272	*e*P	P	15 53 02.3	+1.1
NJ2	Nanjing	31.77	252	*e*P	P	15 53 01.1	-2.4
SONM	Songino Array	32.02	287	LR	LR	16 06 47.2	
	comp=Z,73nm,19.0s,baz=80,slow=38						
ILAR	Eielson Array	34.36	40	P	P	15 53 26.1	+0.5
	comp=Z,0.8nm,0.8s,baz=260,slow=5.4,SNR=6.8						
WHN	Wuhan	35.65	255	*e*P	P	15 53 41.8	+4.6
BCAR	Beaver Creek A	36.72	43	*e*P	P	15 53 47.1	+1.1
LZH	Lanzhou	39.16	271	*e*P	P	15 54 06.5	-0.5
LZH				pP	sP	15 54 23.0	-0.7
LZH				sP	pP	15 54 29.8	+11
INK	Inuvik	39.46	34	P	P	15 54 09.8	+0.9
	comp=Z,0.8nm,0.4s,baz=284,slow=11,SNR=4.7						
ZALV	Zalesovo Beam	42.67	305	PcP	PcP	15 56 25.9	-0.7
	comp=Z,1.4nm,0.3s,baz=64,slow=3.4,SNR=2.0						
WMQ	Urumqi	45.52	291	*e*P	P	15 55 00.0	+1.4
MKAR	Makanchi Array	47.31	297	*e*P	P	15 55 10.0	-2.5
MKAR	Makanchi Array	47.31	297	*e*P	P	15 55 10.3	-2.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	47.31	297	P	P	15 55 09.9	-2.6
	comp=Z,0.9nm,0.6s,baz=70,slow=7.2,SNR=9.6						
MKAR				PcP	PcP	15 56 41.5	-1.3
	comp=Z,1.2nm,0.9s,baz=76,slow=5.5,SNR=4.6						
MKAR				LR	LR	16 15 53.0	
	comp=Z,45nm,20.2s,baz=29,slow=37						
KURK	Kurchatov	47.49	303	*i* P	P	15 55 14.0	+0.2
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	Kurchatov	47.49	303	*e*P	P	15 55 14.0	+0.2
YKA	Yellowknife Ar	48.73	38	P	P	15 55 23.9	+0.7
	comp=Z,1.1nm,0.8s,baz=298,slow=7.7,SNR=12						
RES	Resolute Bay	48.75	19	P	P	15 55 23.1	-0.1
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	Borovoye	50.80	309	*i* P	P	15 55 39.1	0.0
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	Borovoye	50.80	309	*e*P	P	15 55 39.1	0.0
PAYA	Payao	52.80	257	P	P	15 55 55.7	+1.3
	comp=Z,21μm,0.9s						
CMMT	Chiang Mai	53.79	257	P	P	15 56 01.7	0.0
	comp=Z,4.7nm,0.9s						
CHTO	Chiang Mai	53.80	257	*e*P	P	15 56 00.8	-0.9
	comp=Z,8.8nm,1.0s						
CHTO	Chiang Mai	53.80	257	*e*P	P	15 56 00.8	-0.9
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CM31	Chiang Mai Arr	54.06	257	*e*P	P	15 56 03.2	-0.5
	comp=Z,8.3nm,1.0s						
CMAR	Chiang Mai Arr	54.06	257	*e*P	P	15 56 03.2	-0.4
CMAR	Chiang Mai Arr	54.06	257	P	P	15 56 03.5	-0.1
	comp=Z,3.8nm,0.7s,baz=32,slow=7.2,SNR=31						
CMAR				PcP	PcP	15 57 06.7	-1.5
	comp=Z,1.0nm,0.8s,baz=15,slow=3.0,SNR=4.2						
KSH	Kashi	55.20	292	P	P	15 56 15.1	+3.3
MSF	Maaselka	58.63	337	P	P	15 56 36.5	+0.9
BOZ	Bozeman (W)	59.68	54	*e*P	P	15 56 44.9	+1.6
	comp=Z,4.5nm,1.0s						
BOZ	Bozeman (W)	59.68	54	*e*P	P	15 56 44.9	+1.6
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NVAR	Mina Array Bea	60.47	64	P	P	15 56 49.3	+0.3
	comp=Z,0.6nm,0.6s,baz=301,slow=7.2,SNR=5.8						
BW06	Boulder Array	62.66	56	*e*P	P	15 57 05.0	+1.4
	comp=Z,1.9nm,0.8s						
PDAR	Pinedale Array	62.66	56	*e*P	P	15 57 04.9	+1.3
PDAR	Pinedale Array	62.66	56	P	P	15 57 04.3	+0.7
	comp=Z,1.7nm,0.8s,baz=302,slow=2.8,SNR=13						
FRB	Frobisher Bay	62.95	20	P	P	15 57 03.7	-1.2
FRB				pmax	pmax		
	comp=Z,7.0nm,2.5s						
FINES	FINESS Array B	63.00	335	*e*P	P	15 57 04.1	-1.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	63.00	335	P	P	15 57 03.6	-1.7
	comp=Z,0.7nm,0.5s,baz=32,slow=7.6,SNR=7.0						
SRU	San Rafael Swe	64.58	59	*e*P	P	15 57 17.5	+1.2
	comp=Z,4.3nm,0.9s						
SRU	San Rafael Swe	64.58	59	*e*P	P	15 57 17.5	+1.2
SRU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
RSSD	Black Hills	64.69	51	P	P	15 57 18.3	+1.3
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NOA	NORSAR Array B	66.98	342	P	P	15 57 29.4	-1.8
	comp=Z,0.3nm,0.5s,baz=28,slow=6.6,SNR=3.6						
NOA				LR	LR	16 30 26.0	
	comp=Z,25nm,18.2s,baz=240,slow=39						
WRA	Warramunga Arr	70.61	201	P	P	15 57 53.9	-0.2
	comp=Z,1.7nm,0.8s,baz=15,slow=6.4,SNR=12						
AKASG	Malin Array Be	70.80	327	P	P	15 57 53.1	-1.9
	comp=Z,0.4nm,0.4s,baz=35,slow=6.0,SNR=2.1						
ASAR	Alice Springs	74.30	200	P	P	15 58 16.9	+0.8
	comp=Z,0.9nm,0.5s,baz=14,slow=5.1,SNR=27						
TX31	Lajitas Ar. Si	75.50	62	*e*P	P	15 58 24.2	+0.9
	comp=Z,11nm,1.8s						
TXAR	Lajitas Array	75.50	62	*e*P	P	15 58 24.0	+0.7
TXAR	Lajitas Array	75.50	62	*e*P	P	15 58 24.0	+0.7
TXAR	Lajitas Array	75.50	62	P	P	15 58 24.3	+1.1
	comp=Z,1.2nm,0.6s,baz=294,slow=4.4,SNR=16						
VYHS	Vyhne	76.22	332	*e*P	P	15 58 26.7	-0.2
VYHS	Vyhne	76.22	332	*e*P	P	15 58 26.7	-0.2
BRTR	Keskin Array B	77.99	318	P	P	15 58 35.8	-1.4
	comp=Z,0.4nm,0.6s,baz=46,slow=6.2,SNR=3.1						
Z50A	Ashland	82.11	48	*e*P	P	15 58 59.9	+0.5
	comp=Z,15nm,1.4s						
VNDA	Vanda	125.82	178	PKP	PKPdf	16 05 38.1	-0.6
	comp=Z,0.4nm,0.8s,baz=0.0,slow=4.0,SNR=3.1						
CPUP	Villa Florida	146.46	60	PKPbc	PKPdf	16 06 19.4	+1.2
	comp=Z,0.7nm,0.6s,baz=357,slow=3.1,SNR=3.3						

*GII **13** 15:52:17.5±0.0, 33°.81N×35°.80E, h1km, MD1.5/5*
*NSSC **13** 15:52:17.2±0.5, 33°.82N×35°.65E, h7km±9km, ML1.8*
*ISCJB **13** 15:52:18.7±0.6, 33°.82N±0°.03×35°.78E±0°.04, h5km±5km,*
Error ellipse: s-maj=5.3km s-min=4.3km az=142.7
*GRAL **13** 15:52:19.2±0.3, 33°.78N×35°.79E, h5km±6km, MD2.9*
ISC 13 15:52:18.5±1.0, **33°.80N**±0°.03×**35°.78E**±0°.04, **h10**km±7km,
n19, σ0s**92**/**32**, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.14	315	*e*P	Pg	15 52 22.3	+0.4
BHL				*e*S	Sg	15 52 24.6	+0.3
DQRL	Deir Qamar	0.20	241	*e*P	Pg	15 52 23.0	+0.2
DQRL				*e*S	Sg	15 52 25.6	-0.1
BEYL	Beirut	0.25	286	*e*P	Pb	15 52 24.0	-1.0
QRWL	Qaraoun	0.27	197	*e*P	Pg	15 52 23.8	-0.2
RCY	Rachaya	0.31	171	*e*P	Pg	15 52 24.6	-0.2
RCY				*e*S	Sg	15 52 28.5	-0.5
BRBR	Barbar	0.42	160	*e*P	Pb	15 52 26.7	-1.4
BRBR				*e*S	Sb	15 52 33.2	-1.2
BRBR				AML	AML	15 52 38.0	
	comp=N,96nm,0.6s						
BRBR				AML	AML	15 52 38.4	
	comp=E,55nm,0.4s						
HWQ	Hawqa	0.49	16	*e*P	Pb	15 52 28.5	-0.9
QASN	Qassioun	0.49	123	*e*P	Pb	15 52 28.9	-0.4
QASN				*e*S	Sb	15 52 37.2	+0.5
QASN				AML	AML	15 52 44.4	
	comp=N,154nm,0.4s						
QASN				AML	AML	15 52 45.6	
	comp=E,86nm,0.5s						
NATI	Neve Ativ	0.54	184	Pg	Pg	15 52 28.8	-0.2
NATI				Sg	Sb	15 52 38.2	+0.4
GEM	Giv'at Ha'Em	0.60	189	Pg	Pb	15 52 30.3	-0.7
GEM				Sg	Sb	15 52 40.8	+1.3
KSDI	Kefar Szold	0.62	189	Pg	Pb	15 52 30.7	-0.6
KSDI				Sg	Sb	15 52 41.1	+1.1
TOTH	TOTAH	0.70	129	*e*P	Pb	15 52 32.9	+0.1
TOTH				*e*S	Sb	15 52 43.1	+0.7
TOTH				AML	AML	15 52 54.0	
	comp=E,23nm,0.4s						
TOTH				AML	AML	15 52 59.5	
	comp=N,23nm,0.5s						
KSHT	Keshet	0.82	178	Pg	Pb	15 52 34.8	0.0
MMA0B	Mount Meron ar	0.84	202	Pg	Pb	15 52 34.7	-0.6
MMA0B				Sg	Sn	15 52 48.7	-0.3
HNTI	Hanita	0.88	215	Pg	Pb	15 52 35.3	-0.5
HNTI				Sg	Sn	15 52 49.3	-0.4
BLGI	Bet Lehem HaGe	1.17	205	Pg	Pn	15 52 40.8	-0.1
MMLI	Mount Malkishu	1.39	192	Pn	Pg	15 52 44.8	-0.5
MMLI				Sn	Sn	15 53 05.6	+3.2
HMDT	Nahal Hemdat	1.56	188	Pn	Pg	15 52 47.3	-1.1
HMDT				Sn	Sg	15 53 09.5	+0.8
SLTI	Sal'it	1.68	202	Pn	Pn	15 52 47.7	-0.2

*ISCJB **13** 15:58:18.5±0.4, 24°.61N±0°.03×122°.99E±0°.02,*
h107km±4km, Error ellipse: s-maj=4.9km s-min=2.3km
az=172.9
*TAP **13** 15:58:18.6, 24°.62N×122°.99E, h108km±1km, ML3.1, C*
*JMA **13** 15:58:18.2±0.2, 24°.75N×123°.01E, h111km±2km, M2.4*
ISC 13 15:58:18.3±1.4, **24°.64N**±0°.05×**122°.99E**±0°.02, **h113**km±7km,
n81, σ0s**72**/140, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.18	174	*e*P	Pn	15 58 33.7	-0.3
YOJ				*e*S	Sn	15 58 45.1	-0.7
	baz=174						
YOJ	Yonaguni jima	0.18	174	P	Pn	15 58 34.2	+0.2
YOJ				S	Sn	15 58 46.0	+0.3
JYNG	Yonagunijimaku	0.19	193	P	Pn	15 58 34.2	+0.2
JYNG				S	Sn	15 58 46.1	+0.3
IRIF	Iriomote-Funau	0.74	114	P	Pn	15 58 37.3	+0.1
IRIF				*e*S	Sn	15 58 51.5	0.0
EOS1	EOS1	0.79	264	*e*P	Pn	15 58 37.9	+0.3
EOS1				*e*S	Sn	15 58 52.4	+0.2
	baz=265						
HATJ	Hateruma jima	0.94	128	P	Pn	15 58 40.0	+0.9
HATJ				S	Sn	15 58 56.2	+1.4
TWB1	Santiao Chiao	0.98	292	*e*P	Pn	15 58 39.7	+0.2
EGS							
	baz=293						
EGS		0.98	282	*e*P	Pn	15 58 39.1	-0.4
	baz=283						
JKRS	Kuro-shima	1.01	113	P	Pn	15 58 40.4	+0.6
JKRS				S	Sn	15 58 56.3	+0.3
TWC	Suao	1.04	269	P	Pn	15 58 39.8	-0.2
TWC				S	Sn	15 58 55.8	-0.8
	baz=269						
JIJ	Ishigaki jima	1.08	104	P	Pn	15 58 40.5	-0.1
JIJ				S	Sn	15 58 56.3	-1.1
TIPB	Shuangxi	1.11	288	P	Pn	15 58 41.2	+0.3
TIPB				S	Sn	15 58 57.6	-0.4
	baz=288						
ENA	Nanau	1.16	260	P	Pn	15 58 41.7	+0.4
ENA				S	Sn	15 58 58.8	0.0
	baz=260						
JISG	Ishigakijimahi	1.20	92	P	Pn	15 58 41.5	-0.3
JISG				S	Sn	15 58 58.7	-1.0
TWE	Neicheng	1.21	274	P	Pn	15 58 41.9	0.0
TWE				S	Sn	15 58 58.6	-1.2
	baz=274						
SLBB	Yuanshan	1.24	276	P	Pn	15 58 43.1	+0.8
SLBB				S	Sn	15 59 00.6	+0.1
	baz=276						
ENTT	Nioudou	1.30	270	P	Pn	15 58 43.9	+1.0
	baz=271						
TWA	Mucha	1.32	285	*e*P	Pn	15 58 44.0	+0.8
TWA				*e*S	Sn	15 59 01.6	-0.5
	baz=285						
NDT	Datong Townshi	1.35	269	P	Pn	15 58 44.1	+0.7
NDT				S	Sn	15 59 02.3	-0.2
	baz=269						
YM07	YM07	1.35	293	*e*P	Pn	15 58 43.3	-0.2
YM07				*e*S	Sn	15 59 03.0	+0.2
	baz=294						
NACB	Ninganchiao	1.35	250	*e*P	Pn	15 58 43.4	-0.1
NACB				*e*S	Sn	15 59 01.8	-1.0
	baz=250						
NWLT	Wulai	1.36	276	P	Pn	15 58 43.9	+0.2
NWLT				*e*S	Sn	15 59 02.8	-0.1
	baz=276						
NHDH	Xindian Distri	1.37	284	*e*P	Pn	15 58 44.0	+0.3
NHDH				*e*S	Sn	15 59 02.5	-0.5
	baz=284						
YM08	YM08	1.39	294	*e*P	Pn	15 58 43.6	-0.3
YM08				*e*S	Sn	15 59 03.7	+0.3
	baz=294						
YM01	YM01	1.39	292	P	Pn	15 58 44.3	+0.4
	baz=292						
TWD	Chiawan	1.39	247	P	Pn	15 58 43.9	-0.1
TWD				S	Sn	15 59 02.9	-0.5
	baz=247						
YM10	YM10	1.40	292	*e*P	Pn	15 58 44.6	+0.5
	baz=292						
TWY	Chenhua	1.41	297	*e*P	Pn	15 58 44.7	+0.5
TWY				*e*S	Sn	15 59 04.2	+0.3
	baz=297						
YM04	YM04	1.42	291	*e*P	Pn	15 58 44.0	-0.3
	baz=292						
YM03	YM03	1.42	292	*e*P	Pn	15 58 44.6	+0.2
	baz=293						
HWA	Hwalien	1.43	243	*e*P	Pn	15 58 44.6	+0.2
HWA				*e*S	Sn	15 59 04.3	+0.1
	baz=243						
ENLB	Shoufeng	1.46	240	*e*P	Pn	15 58 44.8	-0.1
ENLB				*e*S	Sn	15 59 05.1	+0.1
	baz=240						
YHNB	Yeheng	1.47	272	*e*P	Pn	15 58 45.6	+0.6
YHNB				*e*S	Sn	15 59 05.2	0.0
	baz=272						
NSK	Sanguang	1.49	272	P	Pn	15 58 45.7	+0.6
NSK				S	Sn	15 59 05.3	-0.3
	baz=272						
NNS	Nan Shan	1.49	263	P	Pn	15 58 45.7	+0.5
NNS				S	Sn	15 59 05.8	+0.1
	baz=263						
JTJ	Tarama	1.56	90	P	Pn	15 58 45.8	-0.1
JTJ				*e*S	Sn	15 59 06.9	0.0
ESL	Shilin	1.64	240	P	Pn	15 58 46.6	-0.4
ESL				S	Sn	15 59 08.1	-0.7
	baz=240						
WHF	Hehuan Shan	1.65	253	*i* P	Pn	15 58 47.9	+0.4
WHF				S	Sn	15 59 08.9	-0.8
	baz=253						
TWT	Tachien	1.70	257	P	Pn	15 58 49.8	+2.0
TWT				S	Sn	15 59 11.0	+0.7
	baz=257						
TDCB	Techi	1.71	257	*e*P	Pn	15 58 49.0	+1.0
TDCB				*e*S	Sn	15 59 10.1	-0.5
	baz=257						
EGFH	Guangfu	1.73	236	P	Pn	15 58 48.3	+0.3
EGFH				S	Sn	15 59 09.8	-0.8
	baz=236						
CHGB	Renai	1.75	251	*e*P	Pn	15 58 49.2	+0.7
CHGB				*e*S	Sn	15 59 11.2	-0.4
	baz=251						
OWD	Renai	1.79	248	P	Pn	15 58 49.2	+0.3
OWD				S	Sn	15 59 11.5	-0.8
	baz=248						
LIOB	Emei	1.80	271	P	Pn	15 58 49.9	+1.0
LIOB				S	Sn	15 59 12.1	-0.1
	baz=271						
NSTT	Nanjuang	1.81	270	*e*P	Pn	15 58 49.4	+0.3
NSTT				*e*S	Sn	15 59 12.2	-0.3
	baz=270						
HGSD	Ruisui	1.83	232	*e*P	Pn	15 58 49.4	+0.1
HGSD				*e*S	Sn	15 59 12.4	-0.6
	baz=231						
EHY	Hungye	1.90	234	P	Pn	15 58 50.0	-0.2
EHY				S	Sn	15 59 13.3	-1.2
	baz=233						
WHP	Taichung City	1.90	259	P	Pn	15 58 51.1	+0.9
WHP				*e*S	Sn	15 59 13.7	-0.8
	baz=259						
VWDT	VWDT	1.91	243	*e*P	Pn	15 58 51.0	+0.9
VWDT				*e*S	Sn	15 59 14.1	-0.5
	baz=243						
DPDB	Guoxing	1.98	253	P	Pn	15 58 52.4	+1.2
YULB	Yu-li	1.98	232	*e*P	Pn	15 58 51.2	0.0
YULB				*e*S	Sn	15 59 15.4	-1.0
	baz=231						
JIRB	Irabujima	1.99	84	P	Pn	15 58 50.9	-0.4
JIRB				S	Sn	15 59 16.0	-0.5
TWF1	Yuli	2.01	231	P	Pn	15 58 51.8	+0.2
TWF1				S	Sn	15 59 16.8	-0.2
	baz=230						
SSLB	Suanglung	2.04	246	*e*P	Pn	15 58 52.8	+0.8
SSLB				*e*S	Sn	15 59 17.9	+0.1
	baz=246						
SMLT	Sun Moon Lake	2.05	249	*e*P	Pn	15 58 52.3	+0.2
JIKM	Ikemajima	2.07	82	P	Pn	15 58 52.3	0.0
JIKM				*e*S	Sn	15 59 18.0	-0.3
TYC	Yuchr	2.08	250	*e*P	Pn	15 58 53.3	+0.9
JMJ	Miyako jima 2	2.10	85	*e*P	Pn	15 58 53.2	+0.6
JMJ				*e*S	Sn	15 59 18.9	0.0
	baz=84						
JMJ2	Miyako jima3	2.13	87	P	Pn	15 58 53.3	+0.3
JMJ2				S	Sn	15 59 19.5	-0.1
CHKT	Chengkung	2.14	224	P	Pn	15 58 53.2	+0.1
CHKT				S	Sn	15 59 18.4	-1.4
	baz=224						
WHYT	Xinyi Township	2.17	245	P	Pn	15 58 54.9	+1.3
WHYT				S	Sn	15 59 20.8	+0.3
	baz=244						
WJS	Zhushan	2.22	249	*e*P	Pn	15 58 55.7	+1.5
ELDTW	Lidau	2.31	232	P	Pn	15 58 56.0	+0.4
ELDTW				S	Sn	15 59 23.1	-0.9
	baz=231						
CHN5	Tsauling	2.35	244	*e*P	Pn	15 58 56.5	+0.5
CHN5				*e*S	Sn	15 59 24.6	-0.3
	baz=244						
RLNB	Erlin	2.52	253	*e*P	Pn	15 58 57.4	-0.5
RLNB				*e*S	Sn	15 59 28.6	+0.1
	baz=253						
STYT	Tauyuan	2.52	235	P	Pn	15 58 59.8	+1.7
TWGBT	Beinan	2.52	224	*e*P	Pn	15 58 58.4	+0.3
TWGBT				*e*S	Sn	15 59 27.6	-1.1
	baz=224						
TPUB	Ta-pu	2.54	239	*e*P	Pn	15 58 59.3	+1.0
CHN4	Tsaushan	2.54	240	*e*P	Pn	15 58 59.2	+0.8
TWK	Hsinying	2.67	240	*e*P	Pn	15 59 00.9	+0.8
CHN1	Nanshi	2.68	238	*e*P	Pn	15 59 01.1	+1.0
SNST	Tainan City	2.68	239	*e*P	Pn	15 59 01.3	+1.1
SGST	Jiashian	2.69	235	*e*P	Pn	15 59 01.9	+1.6
SLGT	Liugui	2.70	233	*e*P	Pn	15 59 02.0	+1.5
WSF	Szhu	2.72	249	*e*S	Sn	15 59 34.4	+1.2
ECL	Taimali	2.76	223	*e*P	Pn	15 59 02.5	+1.3
ECL				*e*S	Sn	15 59 33.2	-1.1
	baz=222						
MASBT	Mashibuluo	2.96	227	*e*P	Pn	15 59 05.5	+1.7
EAST	Anshuo	2.99	222	*e*P	Pn	15 59 05.3	+1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=221						
EAST				eS	Sn	15 59 38.8	-0.9
	baz=221						
PHUB	**P'eng-hu**	**3.32**	**251**	eP	**Pn**	15 59 07.6	-1.0
	baz=250						
WDGT	**Dungji**	**3.34**	**246**	eP	**Pn**	15 59 09.1	+0.2
	baz=246						
WDGT				eS	Sn	15 59 46.6	-1.4
	baz=246						
VCHM	**Qimei**	**3.56**	**247**	eP	**Pn**	15 59 11.8	0.0
	baz=246						
VCHM				eS	Sn	15 59 51.3	-1.8
	baz=246						

*ISCJB **13** 16:00:19.7±0.3, 24°.64N×122°.59E±0°.02, h16km±5km, Error ellipse: s-maj=5.1km s-min=2.3km az=13.2*
*TAP **13** 16:00:19.2, 24°.66N×122°.56E, h17km±1km, ML2.5, C*
*JMA **13** 16:00:20.2±0.1, 24°.61N×122°.59E, h26km±1km, M2.0*
ISC 13 16:00:19.0±1.1, 24°.64N±0°.03×122°.58E±0°.02, h13km±9km, n48, σ0$65/83, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.38**	**120**	P	**Pb**	**16 00 27.8**	**+0.2**
JYNG				S	**Sb**	**16 00 33.5**	**+0.1**
EOS1	**EOS1**	**0.42**	**257**	eP	**Pb**	**16 00 28.3**	**0.0**
	baz=254						
EOS1				eS	**Sb**	**16 00 34.5**	**-0.1**
	baz=254						
YOJ	**Yonaguni jima**	**0.43**	**115**	eP	**Pb**	**16 00 28.7**	**+0.3**
	baz=114						
YOJ				eS	**Sb**	**16 00 34.7**	**0.0**
	baz=114						
YOJ	**Yonaguni jima**	**0.43**	**115**	P	**Pb**	**16 00 28.7**	**+0.3**
YOJ				eS	**Sb**	**16 00 34.8**	**0.0**
EGS		**0.63**	**289**	P	**Pg**	**16 00 31.2**	**0.0**
	baz=288						
EGS				S	**Sb**	**16 00 40.9**	**+0.4**
	baz=288						
TWB1	**Santiao Chiao**	**0.65**	**304**	P	**Pb**	**16 00 32.2**	**-0.1**
	baz=304						
TWB1				S	**Sg**	**16 00 40.5**	**+0.1**
	baz=304						
TWC	**Suao**	**0.67**	**267**	P	**Pg**	**16 00 31.7**	**-0.3**
	baz=265						
TWC				S	**Sb**	**16 00 41.9**	**+0.2**
	baz=265						
NTC	**Toucheng**	**0.72**	**287**	eP	**Pg**	**16 00 33.0**	**+0.1**
	baz=286						
NTC				eS	**Sb**	**16 00 43.3**	**+0.2**
	baz=286						
TIPB	**Shuangxi**	**0.76**	**296**	P	**Pb**	**16 00 34.4**	**+0.2**
	baz=295						
TIPB				S	**Sg**	**16 00 43.9**	**+0.1**
	baz=295						
ENA	**Nanau**	**0.80**	**255**	P	**Pg**	**16 00 34.5**	**0.0**
	baz=252						
ENA				S	**Sg**	**16 00 44.6**	**-0.3**
	baz=252						
TWE	**Neicheng**	**0.84**	**276**	*i* P	**Pg**	**16 00 35.1**	**0.0**
	baz=274						
TWE				*i* S	**Sb**	**16 00 46.8**	**+0.2**
	baz=274						
NWF	**Wu-fen Shan**	**0.84**	**300**	eP	**Pb**	**16 00 35.6**	**0.0**
	baz=300						
NWF				eS	**Sb**	**16 00 47.1**	**+0.2**
	baz=300						
WFSB	**Wu-fen Shan**	**0.84**	**300**	eP	**Pg**	**16 00 35.4**	**0.0**
	baz=300						
WFSB				eS	**Sb**	**16 00 47.3**	**+0.5**
	baz=300						
SLBB	**Yuanshan**	**0.87**	**278**	P	**Pb**	**16 00 36.0**	**0.0**
	baz=276						
SLBB				S	**Sb**	**16 00 48.0**	**+0.4**
	baz=276						
ENTT	**Nioudou**	**0.93**	**270**	P	**Pb**	**16 00 37.1**	**+0.2**
	baz=268						
ENTT				S	**Sb**	**16 00 49.3**	**+0.2**
	baz=268						
NDT	**Datong Townshi**	**0.98**	**268**	P	**Pg**	**16 00 38.0**	**+0.2**
	baz=266						
NDT				S	**Sb**	**16 00 51.0**	**+0.4**
	baz=266						
NWLT	**Wulai**	**0.99**	**278**	P	**Pn**	**16 00 38.5**	**-0.1**
	baz=277						
NWLT				S	**Sg**	**16 00 51.0**	**-0.1**
	baz=277						
NACB	**Ninganchiao**	**1.01**	**243**	eP	**Pg**	**16 00 38.5**	**0.0**
	baz=241						
NACB				eS	**Sb**	**16 00 50.8**	**-0.9**
	baz=241						
YM07	**YM07**	**1.02**	**301**	eP	**Pn**	**16 00 39.1**	**0.0**
	baz=301						
YM07				eS	**Sb**	**16 00 51.7**	**-0.3**
	baz=301						
YM01	**YM01**	**1.05**	**299**	eP	**Pn**	**16 00 39.9**	**+0.4**
	baz=298						
YM01				eS	**Sb**	**16 00 52.3**	**-0.4**
	baz=298						
TATO	**Taipei**	**1.05**	**289**	eP	**Pb**	**16 00 38.3**	**-0.7**
	baz=288						
TATO				eS	**Sb**	**16 00 51.8**	**-0.8**
	baz=288						
YM11	**YM11**	**1.05**	**300**	eP	**Pb**	**16 00 38.5**	**-0.7**
	baz=299						
YM11				eS	**Sn**	**16 00 54.1**	**-0.1**
	baz=299						
YM10	**YM10**	**1.06**	**299**	eP	**Pb**	**16 00 38.7**	**-0.6**
	baz=298						
YM10				eS	**Sb**	**16 00 52.6**	**-0.4**
	baz=298						
TWD	**Chiawan**	**1.06**	**238**	eP	**Pb**	**16 00 38.5**	**-0.7**
	baz=236						
YM04	**YM04**	**1.08**	**298**	eP	**Pb**	**16 00 39.7**	**+0.2**
	baz=298						
YM04				eS	**Sb**	**16 00 52.0**	**-1.6**
	baz=298						
IRIF	**Iriomote-Funau**	**1.09**	**106**	P	**Pb**	**16 00 39.3**	**-0.4**
YHNB	**Yeheng**	**1.10**	**272**	eP	**Pn**	**16 00 40.3**	**+0.1**
	baz=270						
YHNB				eS	**Sb**	**16 00 54.5**	**+0.2**
	baz=270						
NSK	**Sanguang**	**1.12**	**272**	eP	**Pn**	**16 00 40.5**	**+0.1**
	baz=270						
NSK				eS	**Sb**	**16 00 54.5**	**-0.2**
	baz=270						
NNS	**Nan Shan**	**1.12**	**260**	P	**Pn**	**16 00 40.5**	**0.0**
	baz=258						
NNS				S	**Sb**	**16 00 54.7**	**-0.1**
	baz=258						
HATJ	**Hateruma jima**	**1.26**	**117**	eS	**Sb**	**16 00 58.1**	**-0.6**
WHF	**Hehuan Shan**	**1.30**	**248**	eP	**Pg**	**16 00 43.8**	**-0.2**
	baz=246						
WHF				S	**Sb**	**16 00 59.6**	**-0.7**
	baz=246						
JKRS	**Kuro-shima**	**1.36**	**107**	P	**Pn**	**16 00 43.8**	**+0.1**
JKRS				eS	**Sb**	**16 01 01.2**	**-0.4**
CHGB	**Renai**	**1.41**	**246**	eP	**Pb**	**16 00 45.0**	**-0.3**
	baz=244						
CHGB				eS	**Sn**	**16 01 03.1**	**-0.1**
	baz=244						
LIOB	**Emei**	**1.43**	**270**	eP	**Pg**	**16 00 46.2**	**-0.3**
	baz=269						
JIJ	**Ishigaki jima**	**1.45**	**101**	P	**Pn**	**16 00 44.6**	**-0.3**
JIJ				S	**Sn**	**16 01 03.2**	**-0.5**
WHP	**Taichung City**	**1.54**	**257**	eP	**Pb**	**16 00 47.9**	**+0.5**
	baz=255						
HGSD	**Ruisui**	**1.56**	**223**	eP	**Pn**	**16 00 45.6**	**-0.8**
	baz=221						
JISG	**Ishigakijimahi**	**1.57**	**92**	P	**Pn**	**16 00 46.6**	**0.0**
VWDT	**VWDT**	**1.59**	**236**	eP	**Pb**	**16 00 47.9**	**-0.3**
	baz=235						
YULB	**Yu-li**	**1.71**	**224**	eP	**Pn**	**16 00 48.8**	**+0.2**
	baz=222						
YULB				eS	**Sn**	**16 01 09.3**	**-1.0**
	baz=222						
WHYT	**Xinyi Township**	**1.84**	**240**	eP	**Pn**	**16 00 51.2**	**+0.9**
	baz=238						
JTJ	**Tarama**	**1.93**	**90**	P	**Pn**	**16 00 52.6**	**+1.1**
ELDTW	**Lidau**	**2.04**	**225**	eP	**Pn**	**16 00 53.3**	**+0.2**
	baz=223						
ELDTW				eS	**Sn**	**16 01 17.4**	**-1.1**
	baz=223						
CHN4	**Tsaushan**	**2.23**	**235**	eP	**Pn**	**16 00 56.6**	**+0.9**
	baz=234						
CHN4				eS	**Sn**	**16 01 24.6**	**+1.5**
	baz=234						
TPUB	**Ta-pu**	**2.23**	**234**	eP	**Pn**	**16 00 57.3**	**+1.6**
	baz=232						
SLGT	**Liugui**	**2.42**	**228**	eP	**Pn**	**16 01 00.2**	**+2.0**
	baz=226						
SLGT				eS	**Sb**	**16 01 30.6**	**-1.5**
	baz=226						
MASBT	**Mashibuluo**	**2.70**	**222**	eP	**Pn**	**16 01 04.4**	**+2.3**
	baz=220						
EAST	**Anshuo**	**2.76**	**216**	eP	**Pn**	**16 01 04.0**	**+1.0**
	baz=214						

JMA 13 16:03:19.1±0.1, 37°.47N×141°.93E, h36km±3km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.85**	**263**	P	Pn	16 03 34.7	+0.2
JFK				S	Sn	16 03 45.6	-0.2
JIKH	**Ishinomakikobu**	**0.92**	**336**	P	Pn	16 03 35.6	+0.2
JIKH				eS	Sn	16 03 46.8	-0.6
ONAJ	**Iwakimizuishiy**	**0.97**	**248**	P	Pn	16 03 36.3	0.0
ONAJ				eS	Sn	16 03 48.4	-0.5
JMM	**Marumori**	**0.98**	**294**	P	Pn	16 03 36.8	+0.4
JMM				eS	Sn	16 03 49.2	+0.2
JIO	**Ouri**	**1.08**	**335**	P	Pn	16 03 38.2	+0.5
JIO				eS	Sn	16 03 51.1	-0.4
JFT	**Otama**	**1.27**	**273**	P	Pn	16 03 41.6	+1.3
JFT				S	Sn	16 03 57.6	+1.5
JOU	**Okura**	**1.34**	**312**	P	Pn	16 03 42.6	+1.3
JOU				eS	Sn	16 03 59.4	+1.5
JMK	**Ichinoseki**	**1.58**	**340**	P	Pn	16 03 45.8	+1.2
JMK				eS	Sn	16 04 04.7	+0.9
JFY	**Yanaizu**	**1.77**	**269**	P	Pn	16 03 48.9	+1.7
JYK	**Kaneyama**	**1.90**	**320**	P	Pn	16 03 50.3	+1.3
MAT	**Matsushiro**	**3.12**	**254**	P	Pn	16 04 10.1	+4.3
MAT				eS	Sn	16 04 48.6	+6.8

*NEIC **13** 16:17:49.8±0.0, 17°.82N×101°.56W, h46km, MD4.0(MEX), After MEX.*
MEX 13 16:17:49.8±0.6, 17°.82N×101°.56W, h46km±6km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.23**	**158**	eP	Pn	16 17 56.3	-1.7
ZIIG				*i* S	Sn	16 18 02.5	-1.2
ZIIG	**Zihuatanejo**	**0.23**	**158**	eP	Pn	16 17 56.3	-1.7
ZIIG				*i* S	Sn	16 18 02.5	-1.2
ARIG	**Puente Sto Nin**	**1.24**	**68**	eP	Pn	16 18 08.9	-1.8
ARIG				*i* S	Sn	16 18 24.2	-2.1
ARIG	**Puente Sto Nin**	**1.24**	**68**	eP	Pn	16 18 08.9	-1.8
ARIG				*i* S	Sn	16 18 24.2	-2.1
CAIG	**El Cayaco**	**1.45**	**122**	eP	Pn	16 18 12.7	-0.9
CAIG				*i* S	Sn	16 18 28.7	-2.7
CAIG	**El Cayaco**	**1.45**	**122**	eP	Pn	16 18 12.7	-0.9
CAIG				*i* S	Sn	16 18 28.7	-2.7
MMIG	**Aquila**	**1.77**	**286**	eP	Pn	16 18 16.5	-1.4
MMIG				*i* S	Sn	16 18 37.1	-2.1
MMIG	**Aquila**	**1.77**	**286**	eP	Pn	16 18 16.5	-1.4
MMIG				*i* S	Sn	16 18 37.1	-2.1
MOIG	**Morelia**	**1.88**	**11**	*i* P	Pn	16 18 19.0	-0.7
MOIG				*i* S	Sn	16 18 39.8	-2.5
MOIG	**Morelia**	**1.88**	**11**	*i* P	Pn	16 18 19.0	-0.7
MOIG				*i* S	Sn	16 18 39.8	-2.5
PLIG	**Platanillo**	**2.03**	**73**	*i* P	Pn	16 18 20.6	-1.1
PLIG				*i* S	Sn	16 18 44.4	-1.5
PLIG	**Platanillo**	**2.03**	**73**	*i* P	Pn	16 18 20.6	-1.1
PLIG				*i* S	Sn	16 18 44.4	-1.5
EZ5V		**2.55**	**311**	*i* P	Pn	16 18 27.4	-1.5
EZ5V				*i* S	Sn	16 18 56.9	-1.9
CJM	**Chamela**	**3.71**	**297**	*i* P	Pn	16 18 44.3	-0.3
CJM				*i* S	Sn	16 19 24.9	-2.1
CJM	**Chamela**	**3.71**	**297**	*i* P	Pn	16 18 44.3	-0.3
CJM				*i* S	Sn	16 19 24.9	-2.1

IDC 13 16:21:24.9±3.3, 6°.03S×127°.83E, h418km±38km, mb2.7/1, mb1 3.1/4, mb1mx2.8/30, mbtmp3.8/4, Error ellipse: s-maj=83.7km s-min=17.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.19**	**190**	P	P	16 24 05.7	-0.6
	0.2nm,0.3s,baz=14,slow=12,SNR=9.6						
WRA	**Warramunga Arr**	**15.21**	**156**	P	P	16 24 39.8	+0.6
	0.6nm,0.3s,baz=335,slow=12,SNR=42						
WRA				S	S	16 27 17.3	-2.6
	0.2nm,0.3s,baz=330,slow=20,SNR=8.8						
ASAR	**Alice Springs**	**18.49**	**162**	P	P	16 25 14.2	+0.2
	0.3nm,0.3s,baz=347,slow=12,SNR=39						
ASAR				S	S	16 28 22.7	+0.6
	0.1nm,0.3s,baz=346,slow=18,SNR=4.0						
MKAR	**Makanchi Array**	**66.24**	**328**	P	P	16 31 29.8	-0.1
	0.2nm,0.4s,baz=125,slow=7.5,SNR=4.2						

JMA 13 16:27:56.5±0.1, 36°.20N×141°.04E, h30km±1km, M2.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.39**	**291**	P	Pb	16 28 05.1	-0.2
JHYU				S	Sb	16 28 11.1	-0.1
JIHU	**Itakohorinouch**	**0.48**	**241**	P	Pn	16 28 07.0	-0.3
JIHU				S	Sn	16 28 14.5	-0.1
CHOJ	**Chosi**	**0.52**	**197**	P	Pb	16 28 07.0	-0.2
CHOJ				S	Sb	16 28 14.2	-0.3
JHO	**Hitachi**	**0.56**	**317**	P	Pb	16 28 07.7	-0.2
JHO				S	Sb	16 28 15.5	-0.2
JYT	**Yasato**	**0.69**	**273**	P	Pb	16 28 09.6	-0.4
JYT				S	Sb	16 28 18.8	-0.3
JSMT	**Sammumatsuo**	**0.73**	**221**	S	Sn	16 28 21.7	+0.7
ONAJ	**Iwakimizuishiy**	**0.92**	**348**	P	Pn	16 28 12.7	-0.8
JAG	**Ashikaga**	**1.30**	**280**	P	Pn	16 28 18.6	0.0

JMA 13 16:28:16.8±0.1, 37°.25N×141°.27E, h28km±1km, M1.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.34**	**290**	S	Sb	16 28 30.1	+0.1
JFK	**Kawauchi**	**0.34**	**290**	P	Pb	16 28 24.5	-0.1
JFK				eS	Sb	16 28 30.1	+0.1
ONAJ	**Iwakimizuishiy**	**0.41**	**249**	P	Pb	16 28 25.6	-0.1
ONAJ				S	Sb	16 28 31.6	-0.1

KRSC 13 16:40:02.9±10.0, 49°.25N×156°.67E, h7km±10km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.48**	**346**	eP	Pn	16 40 28.5	-1.4
SKR				eS	Sn	16 40 47.4	-2.1
PAU	**Pauzhetka**	**2.22**	**2**	eP	Pb	16 40 42.4	-0.9
PAU				eS	Sb	16 41 10.8	-0.2
KDTR	**Khodutka, Kamc**	**2.71**	**19**	eP	Pb	16 40 49.5	-2.2
KDTR				eS	Sb	16 41 23.4	-1.8
ASAK	**Asacha**	**3.23**	**14**	eP	Pn	16 40 56.9	+2.8
MTVR	**Mutnovka**	**3.38**	**16**	eP	Pn	16 40 58.1	+2.0
RUS	**Russkaya**	**3.39**	**19**	eP	Pb	16 41 00.2	-3.1
RUS				eS	Sb	16 41 42.3	-2.4
KRMR	**Karymshinskiy**	**3.70**	**14**	eP	Pn	16 41 04.0	+3.6
KRMR				eS	Sn	16 41 47.6	+3.3
DALK	**Dalny**	**4.01**	**18**	eP	Pn	16 41 08.4	+3.8
DALK				eS	Sb	16 41 57.4	-4.9
UGLR	**Uglovaya**	**4.19**	**18**	eP	Pb	16 41 12.4	-4.5
AVH	**Avacha**	**4.22**	**17**	eP	Pb	16 41 12.9	-4.6
KOK	**Koryaka**	**4.23**	**16**	eP	Pb	16 41 12.9	-4.7
SMAR	**Somma**	**4.23**	**18**	eP	Pn	16 41 12.3	+4.3
KRER	**Koryakskii**	**4.26**	**17**	eP	Pn	16 41 13.1	+4.7
SDLR	**Sedlovina**	**4.26**	**18**	eP	Pn	16 41 12.4	+4.1
SPN	**Mys Shipunski**	**4.39**	**27**	eP	Pn	16 41 14.1	+4.2
SPN				eS	Sb	16 42 07.7	-5.7
MKZ	**Mys Kozlova**	**6.17**	**29**	eP	Pn	16 41 37.6	+3.3
KBTR	**Krutoberegovo**	**7.90**	**26**	eP	Pn	16 42 01.7	+3.6

*KRSC **13** 17:23:37.1±10.0, 54°.33N×162°.23E, h45km±10km, ML4.5*

*MOS **13** 17:23:38.9±0.6, 54°.36N×162°.22E, h47km, mb4.3/5, Error ellipse: s-maj=7.7km s-min=4.3km az=83.7*
*NEIC **13** 17:23:40.2±0.9, 54°.68N×161°.86E, h36km±6km, mb4.2/8, Error ellipse: s-maj=28.4km s-min=19.7km az=164.0*
*IDC **13** 17:23:42.8±2.0, 54°.57N×161°.82E, h66km±19km, mb3.5/17, mb1 3.8/19, mb1mx3.7/44, mbtmp3.8/19, MS3.1/7, Ms1 3.1/7, ms1mx2.8/48, Error ellipse: s-maj=19.9km s-min=11.8km az=138.0*
ISC 13 17:23:38.1±1.3, 54°.40N±0°.03×162°.16E±0°.03, h29km±9km, n138, σ1$62/168, mb3.9/21, MS3.1/4, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.29**	**302**	*i* P	**Pn**	**17 23 47.3**	**+0.9**
MKZ				eS	**Sn**	**17 23 53.1**	**+1.3**
MKZ	**Mys Kozlova**	**0.29**	**302**	PN	**Pn**	**17 23 47.3**	**+0.9**
MKZ				S	**Sn**	**17 23 53.1**	**+1.3**
KZV	**Kizimen**	**1.29**	**304**	eP	**Pb**	**17 24 01.3**	**-0.6**
KZV				eS	**Sb**	**17 24 18.0**	**-0.2**
KZV	**Kizimen**	**1.29**	**304**	PN	**Pb**	**17 24 01.3**	**-0.6**
KZV				S	**Sb**	**17 24 18.0**	**-0.2**
TUMD	**Tumrok D**	**1.30**	**309**	eP	**Pn**	**17 24 01.0**	**+0.7**
TUMD				eS	**Sb**	**17 24 17.8**	**-0.3**
TUMR	**Tumrok**	**1.46**	**308**	PN	**Pn**	**17 24 01.0**	**-1.6**
TUMR				S	**Sn**	**17 24 17.8**	**-3.0**
KMNR	**Kamenistaya**	**1.75**	**322**	eP	**Pb**	**17 24 09.4**	**-0.2**
KMNR	**Kamenistaya**	**1.75**	**322**	PN	**Pb**	**17 24 09.4**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**1.75**	**332**	eP	**Pb**	**17 24 08.9**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**1.75**	**332**	PN	**Pb**	**17 24 08.9**	**-0.8**
BZMR	**Bezymyannaya**	**1.81**	**329**	eP	**Pb**	**17 24 10.0**	**-0.6**
BZMR	**Bezymyannaya**	**1.81**	**329**	PN	**Pb**	**17 24 10.0**	**-0.6**
SPN	**Mys Shipunski**	**1.82**	**225**	eP	**Pn**	**17 24 07.5**	**0.0**
SPN				eS	**Sn**	**17 24 28.3**	**-1.3**
SPN	**Mys Shipunski**	**1.82**	**225**	PN	**Pn**	**17 24 07.5**	**0.0**
SPN				S	**Sn**	**17 24 28.3**	**-1.3**
BZWR	**Bezymyannyi-We**	**1.83**	**329**	eP	**Pn**	**17 24 09.3**	**+1.5**
BZWR	**Bezymyannyi-We**	**1.83**	**329**	PN	**Pn**	**17 24 09.3**	**+1.5**
KBTR	**Krutoberegovo**	**1.85**	**12**	eP	**Pn**	**17 24 09.2**	**+1.4**
KBTR				eS	**Sn**	**17 24 31.9**	**+1.7**
KBTR	**Krutoberegovo**	**1.85**	**12**	PN	**Pn**	**17 24 09.2**	**+1.4**
KBTR				S	**Sn**	**17 24 31.9**	**+1.7**
KIRR	**Kirishev**	**1.87**	**327**	eP	**Pb**	**17 24 10.1**	**-1.6**
KIRR	**Kirishev**	**1.87**	**327**	PN	**Pb**	**17 24 10.1**	**-1.6**
KBG	**Krutoberegovo**	**1.88**	**9**	eP	**Pb**	**17 24 10.1**	**-1.7**
KBG				eS	**Sb**	**17 24 33.4**	**-1.4**
KBG	**Krutoberegovo**	**1.88**	**9**	PN	**Pb**	**17 24 10.1**	**-1.7**
KBG				S	**Sb**	**17 24 33.4**	**-1.4**
LGNR	**Loginova**	**1.88**	**334**	eP	**Pb**	**17 24 11.3**	**-0.7**
LGNR	**Loginova**	**1.88**	**334**	PN	**Pb**	**17 24 11.3**	**-0.7**
CIRR	**Tsirk**	**1.90**	**335**	eP	**Pb**	**17 24 11.2**	**-0.9**
CIRR	**Tsirk**	**1.90**	**335**	PN	**Pb**	**17 24 11.2**	**-0.9**
KPT	**Kopyto**	**1.92**	**325**	eP	**Pb**	**17 24 11.8**	**-0.7**
KPT	**Kopyto**	**1.92**	**325**	PN	**Pb**	**17 24 11.8**	**-0.7**
NLC	**Nalytchevo**	**2.08**	**235**	eP	**Pn**	**17 24 11.6**	**+0.6**
NLC				eS	**Sn**	**17 24 36.2**	**+0.4**
NLC	**Nalytchevo**	**2.08**	**235**	PN	**Pn**	**17 24 11.6**	**+0.6**
NLC				S	**Sn**	**17 24 36.2**	**+0.4**
KLY	**Klyuchi**	**2.10**	**336**	eP	**Pn**	**17 24 12.7**	**+1.4**
KLY				eS	**Sn**	**17 24 38.4**	**+2.1**
KLY	**Klyuchi**	**2.10**	**336**	PN	**Pn**	**17 24 12.7**	**+1.4**
KLY				S	**Sn**	**17 24 38.4**	**+2.1**
KOZ	**Kozyrevsk**	**2.11**	**323**	eP	**Pb**	**17 24 14.2**	**-1.5**
KOZ	**Kozyrevsk**	**2.11**	**323**	PN	**Pb**	**17 24 14.2**	**-1.5**
SMKR	**Semkarok**	**2.22**	**350**	eP	**Pb**	**17 24 16.0**	**-1.6**
SMKR	**Semkarok**	**2.22**	**350**	PN	**Pb**	**17 24 16.0**	**-1.6**
BDR	**Baidarnaya**	**2.23**	**346**	eP	**Pb**	**17 24 16.2**	**-1.7**
BDR	**Baidarnaya**	**2.23**	**346**	PN	**Pb**	**17 24 16.2**	**-1.7**
SDLR	**Sedlovina**	**2.24**	**241**	eP	**Pn**	**17 24 15.0**	**+1.6**
SDLR	**Sedlovina**	**2.24**	**241**	PN	**Pn**	**17 24 15.0**	**+1.6**
SMAR	**Somma**	**2.29**	**241**	eP	**Pn**	**17 24 15.8**	**+1.6**
SMAR	**Somma**	**2.29**	**241**	PN	**Pn**	**17 24 15.8**	**+1.6**
KRER	**Koryakskii**	**2.30**	**243**	eP	**Pn**	**17 24 16.3**	**+2.0**
KRER				eS	**Sn**	**17 24 44.2**	**+2.5**
KRER	**Koryakskii**	**2.30**	**243**	PN	**Pn**	**17 24 16.3**	**+2.0**
KRER				S	**Sn**	**17 24 44.2**	**+2.5**
UGLR	**Uglovaya**	**2.31**	**240**	eP	**Pn**	**17 24 16.0**	**+1.7**
UGLR				eS	**Sn**	**17 24 42.9**	**+1.1**
UGLR	**Uglovaya**	**2.31**	**240**	PN	**Pn**	**17 24 16.0**	**+1.7**
UGLR				S	**Sn**	**17 24 42.9**	**+1.1**
SRKR	**Sorokina**	**2.32**	**346**	eP	**Pn**	**17 24 17.0**	**+2.5**
SRKR	**Sorokina**	**2.32**	**346**	PN	**Pn**	**17 24 17.0**	**+2.5**
AVH	**Avacha**	**2.33**	**242**	eP	**Pn**	**17 24 16.6**	**+2.1**
AVH				eS	**Sn**	**17 24 44.5**	**+2.4**
AVH	**Avacha**	**2.33**	**242**	PN	**Pn**	**17 24 16.6**	**+2.1**
AVH				S	**Sn**	**17 24 44.5**	**+2.4**
KRX	**Arik**	**2.33**	**245**	eP	**Pn**	**17 24 16.3**	**+1.7**
KRX	**Arik**	**2.33**	**245**	PN	**Pn**	**17 24 16.3**	**+1.7**
BKI	**Bering**	**2.35**	**68**	eP	**Pn**	**17 24 15.5**	**+0.8**
BKI				eS	**Sn**	**17 24 42.0**	**-0.5**
BKI	**Bering**	**2.35**	**68**	PN	**Pn**	**17 24 15.5**	**+0.8**
BKI				S	**Sn**	**17 24 42.0**	**-0.5**
KOK	**Koryaka**	**2.37**	**243**	eP	**Pn**	**17 24 17.0**	**+2.0**
KOK	**Koryaka**	**2.37**	**243**	PN	**Pn**	**17 24 17.0**	**+2.0**
SRDR	**Sredinnyy**	**2.37**	**325**	eP	**Pn**	**17 24 16.7**	**+1.6**
SRDR	**Sredinnyy**	**2.37**	**325**	PN	**Pn**	**17 24 16.7**	**+1.6**
DALK	**Dalny**	**2.45**	**237**	eP	**Pn**	**17 24 17.3**	**+1.3**
DALK				eS	**Sn**	**17 24 46.3**	**+1.4**
DALK	**Dalny**	**2.45**	**237**	PN	**Pn**	**17 24 17.3**	**+1.3**
DALK				S	**Sn**	**17 24 46.3**	**+1.4**
PET	**Petropavlovsk**	**2.50**	**238**	ePn	**Pn**	**17 24 18.1**	**+1.3**
PET	**Petropavlovsk**	**2.50**	**238**	*i* P	**Pn**	**17 24 18.3**	**+1.5**
PET	**Petropavlovsk**	**2.50**	**238**	ePN	**Pn**	**17 24 18.1**	**+1.3**
PET				eS	**Sn**	**17 24 47.4**	**+1.1**
PET				pmax	pmax		
	comp=Z,181nm,0.3s						
PET				smax	smax		
	comp=N,695nm,0.7s						
PET				smax	smax		
	comp=E,628nm,0.5s						
ESO	**Esso**	**2.50**	**309**	eP	**Pn**	**17 24 18.5**	**+1.6**
ESO				eS	**Sn**	**17 24 48.6**	**+2.2**
ESO	**Esso**	**2.50**	**309**	PN	**Pn**	**17 24 18.5**	**+1.6**

KLR	Kul'dur	19.41	267	LR	LR	17 35 17.8
	comp=Z,38nm,20.8s,baz=108,slow=36					
TIXI	Tiksi	22.44	333	*e*P	P	17 28 32.4 -1.8
	comp=Z,2.7nm,0.8s					
TIXI	Tiksi	22.44	333	*e*P	P	17 28 32.4 -1.8
TIXI				pmax	pmax	
	comp=Z,3.0nm,0.8s					
TIXI	Tiksi	22.44	333	P	P	17 28 32.4 -1.8
	comp=Z,1.8nm,0.7s,baz=114,slow=10,SNR=10					
TIXI				LR	LR	17 38 36.9
	comp=Z,37nm,18.5s,baz=85,slow=40					
IMAR	Indian Mountai	24.20	44	*e*P	P	17 28 52.0 +0.2
MJAR	Matsushiro Arr	24.32	233	P	P	17 28 53.7 +0.6
	comp=Z,0.7nm,0.8s,baz=13,slow=12,SNR=4.1					
MJAR				LR	LR	17 38 38.6
	comp=Z,43nm,20.9s,baz=45,slow=37					
CAST	Castle Rocks	24.76	50	*e*P	P	17 28 57.8 +0.9
	comp=Z,8.8nm,1.4s					
TOLK	Toolik Lake Re	26.18	38	*e*P	P	17 29 10.2 +0.5
	comp=Z,3.7nm,0.6s					
ILAR	Eielson Array	27.02	47	*e*P	P	17 29 17.2 -0.1
ILAR	Eielson Array	27.02	47	*e*P	P	17 29 17.7 +0.5
ILAR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
ILAR	Eielson Array	27.02	47	P	P	17 29 17.3 0.0
	comp=Z,1.0nm,0.7s,baz=269,slow=8.7,SNR=7.0					
ILB	Eielson Array	27.02	47	*e*P	P	17 29 17.7 +0.5
	comp=Z,2.6nm,1.0s					
BMAR	Burnt Mountain	27.94	41	*e*P	P	17 29 26.0 +0.4
BCAR	Beaver Creek A	29.43	50	*e*P	P	17 29 39.7 +0.9
EGAK	Eagle	29.47	47	*e*P	P	17 29 38.9 -0.1
	comp=Z,19nm,1.9s					
INK	Inuvik	32.08	39	*e*P	P	17 30 02.7 +0.7
	comp=Z,13nm,1.9s					
INK	Inuvik	32.08	39	*e*P	P	17 30 02.7 +0.7
INK				pmax	pmax	
	comp=Z,13nm,1.9s					
INK	Inuvik	32.08	39	P	P	17 30 03.0 +1.0
	comp=Z,1.4nm,0.5s,baz=293,slow=8.3,SNR=8.9					
H11N2	WAKE ISLAND Hy	34.80	172	T	T	18 07 49.5
	baz=355,slow=76,SNR=170					
SONM	Songino Array	34.80	283	PcP	PcP	17 32 58.2 -0.6
	comp=Z,0.8nm,0.7s,baz=41,slow=1.8,SNR=4.0					
H11N3	WAKE ISLAND Hy	34.82	172	T	T	18 07 50.5
	baz=355,slow=76,SNR=140					
H11N1	WAKE ISLAND Hy	34.82	172	T	T	18 07 51.6
	baz=355,slow=76,SNR=82					
NRIK	Noril'sk	35.55	324	LR	LR	17 46 05.7
	comp=Z,61nm,18.8s,baz=89,slow=38					
YKA	Yellowknife Ar	41.37	44	P	P	17 31 21.6 +0.6
	comp=Z,0.6nm,0.5s,baz=299,slow=8.1,SNR=10					
RES	Resolute Bay	41.64	23	P	P	17 31 23.6 +0.4
	comp=Z,1.0nm,0.6s,baz=323,slow=8.0,SNR=7.1					
MKAR	Makanchi Array	48.69	296	*i* P	P	17 32 16.5 -2.9
MKAR	Makanchi Array	48.69	296	P	P	17 32 16.9 -2.6
	comp=Z,0.3nm,0.5s,baz=58,slow=7.4,SNR=3.6					
NVAR	Mina Array Bea	54.16	72	P	P	17 33 03.2 +2.5
	comp=Z,1.2nm,0.7s,baz=299,slow=7.7,SNR=5.7					
ELK	Elko	54.22	68	LR	LR	17 56 14.0
	comp=Z,39nm,18.4s,baz=214,slow=36					
PDAR	Pinedale Array	55.82	63	P	P	17 33 13.5 +0.8
	comp=Z,0.2nm,0.4s,baz=318,slow=3.9,SNR=3.9					
FINES	FINESS Array B	59.39	337	*e*P	P	17 33 36.0 -1.2
FINES	FINESS Array B	59.39	337	P	P	17 33 36.2 -1.0
	comp=Z,3.5nm,0.6s,baz=30,slow=8.1,SNR=23					
CMAR	Chiang Mai Arr	59.64	259	*e*P	P	17 33 39.6 +0.1
CMAR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
CMAR	Chiang Mai Arr	59.64	259	P	P	17 33 39.2 -0.3
	comp=Z,0.6nm,0.7s,baz=32,slow=6.5,SNR=6.5					
NB2	NORSAR Subarra	62.61	345	P	P	17 33 57.6 -1.5
	comp=Z,0.7nm,0.5s,baz=20,slow=6.9					
NOA	NORSAR Array B	62.61	345	*e*P	P	17 33 56.3 -2.8
NOA				pmax	pmax	
	comp=Z,2.0nm,0.7s					
NOA	NORSAR Array B	62.61	345	P	P	17 33 58.2 -0.9
	comp=Z,1.6nm,0.7s,baz=19,slow=6.7,SNR=4.4					
TXAR	Lajitas Array	69.01	69	P	P	17 34 42.5 +1.6
	comp=Z,0.3nm,0.6s,baz=297,slow=6.0,SNR=4.5					
CLL	Collm	71.55	340	*e*P	P	17 34 55.0 -0.9
TIRR	Tirgusor	73.93	327	*e*P	P	17 35 07.4 -2.8
	comp=Z,15nm,0.7s					
TIRR	Tirgusor	73.93	327	*e*P	P	17 35 07.4 -2.8
BRTR	Keskin Array B	76.37	322	P	P	17 35 23.8 -0.7
	comp=Z,0.3nm,0.5s,baz=64,slow=3.4,SNR=3.5					
WRA	Warramunga Arr	77.80	207	*i* P	P	17 35 33.5 +1.1
WRA				pmax	pmax	
	comp=Z,1.0nm,0.8s					
WRA	Warramunga Arr	77.80	207	P	P	17 35 32.2 -0.2
	comp=Z,0.6nm,0.8s,baz=20,slow=6.1,SNR=7.0					
ASAR	Alice Springs	81.47	206	P	P	17 35 52.8 +0.5
	comp=Z,0.9nm,0.7s,baz=21,slow=4.9,SNR=18					
ESDC	Sonseca Array	85.54	349	*e*P	P	17 36 12.9 -0.3
	comp=Z,1.2nm,0.8s					
ESDC	Sonseca Array	85.54	349	P	P	17 36 12.7 -0.5
	comp=Z,1.4nm,0.7s,baz=1.4,slow=5.0,SNR=7.3					

IDC 13 17:27:10.1±5.4, 1°.65S×100°.85E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/41, mbtmp3.6/3, Error ellipse: s-maj=282.6km s-min=27.1km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	37.45	121	P	P	17 34 25.2	-0.4
	0.6nm,0.4s,baz=297,slow=9.0,SNR=9.2						
ASAR	Alice Springs	38.78	127	P	P	17 34 37.0	+0.1
	0.5nm,0.8s,baz=298,slow=7.7,SNR=13						
MKAR	Makanchi Array	50.92	344	P	P	17 36 13.2	-0.1
	0.6nm,0.5s,baz=167,slow=8.3,SNR=7.0						

*IDC **13** 17:35:38.0±1.4, 2°.69N×126°.39E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/41, mbtmp3.9/5, Error ellipse: s-maj=103.1km s-min=21.8km az=68.0*
*DJA **13** 17:35:41.8±0.6, 3°.N±.3°×12°.7E±°, h63km±19km, M4.1/10, mb4.0/5, mB4.5/2, MLv4.1/10, Mw(mB)3.7/2*
*ISCJB **13** 17:35:43.4±0.6, 2°.79N±0°.06×126°.49E±0°.06, h63km, mb3.8/5, Error ellipse: s-maj=10.1km s-min=6.7km az=145.4*
*NEIC **13** 17:35:45.3±1.9, 2°.81N×126°.75E, h66km±16km, mb4.3/3, Error ellipse: s-maj=50.5km s-min=12.6km az=68.0*
ISC 13 17:35:45.2±0.9, 2°.78N±0°.08×126°.54E±0°.08, h63km, n21, σ1§28/22, mb3.9/5, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.36	312	P	Pn	17 36 04.1	-3.9
SGSI				S	Sn	17 36 22.0	-3.2
TNTI	Ternate	2.16	158	*e*Pn	Pn	17 36 18.3	-0.5
TNTI	Ternate	2.16	158	P	Pn	17 36 19.5	+0.7
KMSI	Cibinong	3.37	230	P	Pn	17 36 35.9	+0.5
SANI	Sanana	4.83	187	P	Pn	17 36 53.8	-1.5
CTBH	Cotabato--PC H	4.97	333	*i* P	Pn	17 36 57.8	+0.5
MRSI	Marisa	5.14	244	P	Pn	17 37 00.5	+0.9
	29nm,0.4s,569nm0.1nm						
MRSI				S	Sn	17 37 56.2	-1.4
	29nm,0.4s,569nm0.1nm						
APSI	Ampana	6.11	233	P	Pn	17 37 15.6	+2.7
MPSI	Mapaga	7.07	250	P	Pn	17 37 25.7	-0.4
GENI	Genyem	14.63	111	P	P	17 39 23.8	+10
FITZ	Fitzroy Crossi	20.76	182	*e*P	P	17 40 20.7	-0.3
	42nm,1.8s						
FITZ	Fitzroy Crossi	20.76	182	P	P	17 40 20.8	-0.3
	2.8nm,0.8s,baz=7.8,slow=12,SNR=6.4						
WRA	Warramunga Arr	23.84	162	P	P	17 40 52.2	-0.5
	2.6nm,0.6s,baz=338,slow=11,SNR=46						
WR1	Warramunga Arr	23.84	162	*e*P	P	17 40 52.2	-0.5
AS31	Alice Springs	27.24	165	*e*P	P	17 41 23.4	-0.2
	1.0nm,0.8s						
ASAR	Alice Springs	27.25	165	P	P	17 41 23.6	0.0
	1.2nm,0.3s,baz=349,slow=9.4,SNR=43						
ASAR				PcP	PcP	17 44 44.1	+1.8
	0.4nm,1.1s,baz=359,slow=2.5,SNR=2.6						
STKA	Stephens Creek	37.31	159	*e*P	P	17 42 51.8	+0.3
	12nm,1.9s						
STKA	Stephens Creek	37.31	159	P	P	17 42 51.8	+0.3
	2.6nm,0.9s,baz=336,slow=10,SNR=7.9						
MK32	Makanchi Array	58.23	326	*e*P	P	17 45 33.9	+0.8
MKAR	Makanchi Array	58.23	326	P	P	17 45 33.9	+0.8
	0.4nm,0.4s,baz=118,slow=7.5,SNR=8.4						
N23A	Red Feather La	115.45	42	*e*PKPdf	PKiKP	17 54 19.2	-1.5

*IDC **13** 17:41:19.1±7.4, 4°.99S×152°.17E, h104km±51km, mb3.8/3, mb1 3.9/4, mb1mx3.2/43, mbtmp4.1/4, MS3.2/1, Ms1 3.4/1, ms1mx2.5/32, Error ellipse: s-maj=100.6km s-min=48.6km az=128.0*
*ISCJB **13** 17:41:30.5±1.0, 5°.3S±0°.6×151°.2E±0°.5, h150km, mb4.3/6, Error ellipse: s-maj=109.5km s-min=15.8km az=135.8*
*NEIC **13** 17:41:31.4±3.0, 5°.26S×151°.14E, h150km±26km, mb4.9/3, Error ellipse: s-maj=102.8km s-min=21.6km az=138.0*
ISC 13 17:41:30.4±1.4, 5°.3S±0°.6×151°.3E±0°.6, h150km, n12, σ0§73/10, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.77	225	P	Pn	17 42 53.8	-0.3
	1.8nm,0.3s,baz=80,slow=6.1,SNR=6.9						
PMG				S	Sn	17 44 09.0	+9.4
	2.7nm,0.3s,baz=345,slow=23,SNR=5.8						
WR1	Warramunga Arr	21.99	227	*e*P	P	17 46 13.7	+1.0
WRA	Warramunga Arr	21.99	227	P	P	17 46 13.7	+1.0
	2.8nm,0.5s,baz=53,slow=9.6,SNR=33						
AS31	Alice Springs	24.77	221	*e*P	P	17 46 37.8	-0.7
	3.0nm,1.5s						
ASAR	Alice Springs	24.77	221	P	P	17 46 38.9	+0.4
	1.1nm,0.4s,baz=54,slow=9.0,SNR=26						
FITZ	Fitzroy Crossi	28.10	241	*e*P	P	17 47 07.9	-0.5
	40nm,2.0s						
FITZ	Fitzroy Crossi	28.10	241	P	P	17 47 09.3	+0.9
	2.3nm,0.6s,baz=55,slow=11,SNR=11						
CMAR	Chiang Mai Arr	56.77	296	LR	LR	18 15 49.0	
	comp=Z,18nm,18.3s,baz=155,slow=36						
WVOR	Wild Horse Val	93.60	48	*e*P	P	17 54 30.0	+0.1
	4.7nm,0.8s						
BOZ	Bozeman (W)	98.72	45	*e*P	Pdif	17 54 56.0	+2.8
	8.2nm,0.9s						
TORD	Torodi Ar. Bea	149.06	287	PKPbc	PKPdf	18 00 57.8	+0.1
	0.7nm,0.6s,baz=86,slow=2.8,SNR=5.1						
TOA1	Torodi Ar. Sit	149.06	287	*e*PKPdf	PKPdf	18 00 57.8	+0.1

*ATH **13** 17:57:58.0, 37°.67N×19°.66E, h5km±31km, ML3.3/2, Error ellipse: s-maj=31.6km s-min=1.9km az=0.0*
*THE **13** 17:58:00.1, 37°.68N×19°.79E, h0km±4km, MLJ3.0/4, Error ellipse: s-maj=5.4km s-min=2.1km az=267.0*
ISC 13 17:57:57.7±1.8, 37°.65N±0°.06×19°.67E±0°.05, h8km±12km, n36, σ0§81/47, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.90	54	P	Pg	17 58 14.4	-0.6
VLS				S	Sg	17 58 27.0	+0.4
VLS	Valsamata	0.90	54	P	Pg	17 58 14.4	-0.6
VLS				S	Sb	17 58 27.7	-0.1
VLS				AML	AML	17 58 29.0	
	comp=N,3018μm,0.6s						
VLS				AML	AML	17 58 29.9	
	comp=E,3632μm,0.3s						
KFL	Anninata	1.00	62	P	Pg	17 58 16.4	-0.4
KFL				S	Sb	17 58 30.7	+0.2
KFL	Anninata	1.00	62	P	Pg	17 58 16.2	-0.7
KFL				S	Sb	17 58 30.7	+0.2
KFL				AML	AML	17 58 32.9	
	comp=E,3877μm,0.4s						
KFL				AML	AML	17 58 33.3	
	comp=N,4652μm,0.3s						
FSK	Fiskardo	1.07	41	P	Pg	17 58 18.1	-0.2
FSK				S	Sb	17 58 33.0	+0.3
FSK	Fiskardo	1.07	41	P	Pg	17 58 18.1	-0.2
FSK				S	Sb	17 58 32.6	-0.1
VTN	Vitineika	1.23	77	P	Pg	17 58 21.5	+0.2
EVGI	Lefkada island	1.24	38	P	Pg	17 58 23.1	+1.5
EVGI				S	Sn	17 58 39.7	+1.3
EVGI	Lefkada island	1.24	38	P	Pb	17 58 21.5	0.0
EVGI				S	Sn	17 58 38.4	0.0
LKD2	Lefkada island	1.38	34	P	Pg	17 58 24.6	+0.4
LKD2				S	Sg	17 58 43.5	+1.4
LKD2	Lefkada island	1.38	34	P	Pn	17 58 23.0	-0.3
LKD2				S	Sg	17 58 42.1	+0.1
RLS	Riolos of Patr	1.48	73	P	Pg	17 58 26.5	+0.4
RLS				S	Sg	17 58 45.6	+0.4
RLS	Riolos of Patr	1.48	73	P	Pg	17 58 26.1	+0.1
AMT	Artemida-Makis	1.62	93	P	Pg	17 58 28.8	0.0
DRO	Drossia	1.64	79	P	Pb	17 58 28.5	+0.2
PVO	Paravola	1.75	56	P	Pb	17 58 30.3	+0.2
PVO	Paravola	1.75	56	P	Pb	17 58 30.0	-0.1
LAKA	Lakka	1.92	71	P	Pb	17 58 33.5	+0.6
EFP	Efpalio	1.93	65	P	Pb	17 58 33.6	+0.5
IGT	Igoumenitsa	1.95	15	P	Pb	17 58 32.7	-0.8
IGT	Igoumenitsa	1.95	15	P	Pb	17 58 32.7	-0.8
ANX	Ano Chora	2.01	61	P	Pb	17 58 35.0	+0.4
TRIZ	Trizonia	2.03	69	P	Pb	17 58 34.8	0.0
SERG	Sergoula	2.03	67	P	Pb	17 58 34.7	-0.2
KEK	Kerkira	2.06	3	P	Pb	17 58 35.4	-0.1
TRIP	Tripoli	2.07	93	P	Pb	17 58 35.8	+0.2
TRAZ	Trapeza	2.08	75	P	Pb	17 58 36.0	+0.3
EVR	Evrytania	2.10	52	P	Pb	17 58 36.6	+0.4
GUR	Gora	2.13	81	P	Pb	17 58 36.7	0.0
DSF	Desfina	2.38	70	P	Pb	17 58 39.5	-1.4
AGG	Agios Georgios	2.50	56	P	Pb	17 58 41.6	-1.3
THL	Klokotos Trika	2.65	43	P	Pb	17 58 43.7	-1.7
KPRO	Kipourio	2.66	29	P	Pb	17 58 44.4	-1.2
TIP	Timpagrande	2.75	305	P	Pb	17 58 47.3	+0.1
PENT	Pentalofos	2.79	24	P	Pb	17 58 45.8	-2.1
DID	Didima	2.83	92	P	Pb	17 58 46.4	-2.2

IDC 13 18:06:33.4±2.6, 0°.01S×132°.52E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/33, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=142.4km s-min=26.3km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.89	175	P	P	18 11 04.9	-1.7
	0.1nm,0.3s,baz=355,slow=11,SNR=6.2						
ASAR	Alice Springs	23.56	177	P	P	18 11 46.7	+1.0
	0.4nm,0.6s,baz=354,slow=8.8,SNR=10.0						
MKAR	Makanchi Array	63.93	324	P	P	18 17 08.4	0.0
	0.2nm,0.5s,baz=114,slow=6.1,SNR=3.4						

*OMAN **13** 18:10:31.0±0.7, 27°.01N×57°.93E, h23km, ml3.5/10, Error ellipse: s-maj=14.2km s-min=8.0km az=15.0*
*DSN **13** 18:10:33.4±3.1, 26°.91N×57°.76E, h10km, ML3.5/7, Error ellipse: s-maj=49.4km s-min=13.2km az=170.0*
*TEH **13** 18:10:38.5, 26°.90N×57°.65E, h10km, ML3.4*
ISC 13 18:10:33.9±1.1, 26°.45N±0°.04×57°.75E±0°.06, h10km, n36, σ1§49/39, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.38	324	*e*Pg	Pn	18 10 57.7	-1.5
NIAN				IAMB	IAmb	18 11 22.2	
	comp=Z,0.0nm,0.3s						
SHME	Shamm	1.50	255	*e*P	Pg	18 11 02.7	+0.1
	SNR=22						
SHME				S	Sg	18 11 25.5	+3.5
SHME	Shamm	1.50	255	*e*Pn	Pg	18 11 03.4	+0.8
GENO	Geno	1.70	304	*e*Sg	Sb	18 11 26.3	-0.6
GENO				*e*Pn	Pb	18 11 04.3	-1.1
GENO				IAMB	IAmb	18 11 32.7	
	comp=Z,0.0nm,0.5s						
MDH	Madha	1.73	229	P	Pb	18 11 05.2	-0.7
MDH	Madha	1.73	229	*e*Pn	Pb	18 11 05.2	-0.7
MSFE	Esma-Masafi	1.79	233	*e*P	Pb	18 11 06.5	-0.4
	SNR=7.1						
MSFE	Esma-Masafi	1.79	233	*e*Pn	Pg	18 11 07.3	-1.0
HATD	Hatta, Dubai	2.17	222	P	Pg	18 11 14.7	-0.9
HATD	Hatta, Dubai	2.17	222	P	Pg	18 11 14.2	-1.4
HATD	Hatta, Dubai	2.17	222	*e*Pn	Pb	18 11 12.9	-0.5
ASHO	Ashiyiah	2.32	221	*e*P	Pg	18 11 16.9	-1.5
	SNR=16						
ASHO	Ashiyiah	2.32	221	P	Pb	18 11 15.2	-0.7
	SNR=8.3						
ASHO	Ashiyiah	2.32	221	*e*Pn	Pg	18 11 17.3	-1.2
NAZ	Nazwa, Dubai	2.38	233	P	Pb	18 11 17.5	+0.7
NAZ	Nazwa, Dubai	2.38	233	*e*Pn	Pg	18 11 19.3	-0.2
SOHO	SOHO	2.55	206	P	Pn	18 11 16.0	+0.7
	SNR=16						
FAQ	Al Faqa, Dubai	2.58	229	P	Pb	18 11 20.4	+0.2
FAQ	Al Faqa, Dubai	2.58	229	*e*Pn	Pg	18 11 22.1	-1.2
ASUD	Al Ashush, Dub	2.84	231	*i* P	Pb	18 11 23.7	-0.9
	SNR=13						
ASUD	Al Ashush, Dub	2.84	231	P	Pb	18 11 24.4	-0.3
	SNR=13						
ASUD	Al Ashush, Dub	2.84	231	*e*Pn	Pg	18 11 28.0	-0.3
HOQ	Hoqain	2.88	188	*e*Pn	Pb	18 11 23.2	-2.2
ALNE	Al Ain	2.99	218	*e*Pn	Pb	18 11 26.9	-0.3
ARQ	Araqi	3.29	200	P	Pb	18 11 30.3	-2.1
NGRK	Negar Kerman	3.31	344	*e*Pn	Pn	18 11 25.6	-0.6
NGRK				IAMB	IAmb	18 12 22.7	
	comp=Z,0.0nm,0.4s						
CHMN	Cheshme madani	3.41	357	*e*Pn	Pn	18 11 27.2	-0.3
CHMN				IAMB	IAmb	18 12 30.7	
	comp=Z,0.0nm,0.8s						
TVBK	TV Kerman	3.63	346	*e*Pn	Pn	18 11 31.0	+0.4
TVBK				IAMB	IAmb	18 12 36.4	
	comp=Z,0.0nm,0.5s						
BSY	Bisya	3.72	188	P	Pb	18 11 36.7	-3.0
BSY				S	Sb	18 12 25.3	+0.5
KHGB	Koh Gabri	4.07	344	*e*Pn	Pn	18 11 37.0	+0.5
KHGB				IAMB	IAmb	18 12 41.0	
	comp=Z,0.0nm,0.8s						
SZD1	Zahaedan-tmp	4.10	42	*e*Pn	Pn	18 11 40.4	+3.6
JLN	Jalan Bani Buh	4.54	160	P	Pn	18 11 46.1	+3.4
IMEH	Mehriz	5.64	332	*e*Pn	Pn	18 11 57.4	-0.7
IKOO	Kooshah	6.06	10	*e*Pn	Pn	18 12 01.9	-1.9
IKAZ	Kazeroun	6.18	304	*e*Pn	Pn	18 12 04.0	-1.6
TPRV	Parvadeh(Tabas	6.63	352	*e*Pn	Pn	18 12 11.5	0.0

*DDA **13** 18:37:56.6, 39°.28N×26°.19E, h7km±3km, ML2.5*
*ISK **13** 18:37:56.7, 39°.27N×26°.19E, h8km, ML2.0/12*
*ISCJB **13** 18:37:57.1±0.4, 39°.27N±0°.02×26°.20E±0°.04, h10km±3km, Error ellipse: s-maj=5.3km s-min=3.7km az=173.9*
*ATH **13** 18:37:57.6, 39°.27N×26°.17E, h9km±4km, ML1.9/2, Error ellipse: s-maj=4.5km s-min=1.1km az=86.0*
ISC 13 18:37:57.1±0.8, 39°.27N±0°.02×26°.19E±0°.03, h13km±6km, n32, σ0§40/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.07	110	P	Pg	18 37 59.9	+0.2
PRK				S	Sg	18 38 01.3	-0.3
PRK				AML	AML	18 38 01.6	
	comp=E,3703μm,0.3s						
PRK				AML	AML	18 38 02.2	
	comp=N,3567μm,0.2s						
GPNR	Gulpinar-Canak	0.19	348	PG	Pg	18 38 01.0	-0.3
GPNR				SG	Sg	18 38 04.2	-0.1
SIGR	SIGRI	0.26	257	PG	Pg	18 38 02.6	0.0
SIGR				SG	Sg	18 38 06.8	+0.5
SIGR	SIGRI	0.26	257	P	Pg	18 38 02.6	0.0
SIGR				S	Sg	18 38 06.4	+0.1
SIGR				AML	AML	18 38 07.0	
	comp=E,539μm,0.2s						
SIGR				AML	AML	18 38 08.0	
	comp=N,452μm,0.2s						
AYVA	Ayvalik	0.39	84	IAML_P			
	comp=Z,1μm,0.1s						
AYVA				*i* P	Pb	18 38 05.2	-0.7
AYVA				*i* S	Sg	18 38 10.6	+0.4
BAYC	CANAKKALE_Bayr	0.55	31	IAML_P			
	comp=Z,864nm,0.1s						
BAYC				*i* P	Pb	18 38 08.3	-0.3
EZN	Ezine	0.56	11	PG	Pg	18 38 08.1	0.0
EZN				SG	Sb	18 38 16.1	-0.7
BOZC	Bozcaada	0.58	350	PG	Pg	18 38 08.4	0.0
BOZC				SG	Sb	18 38 16.9	-0.4
BOZC	Bozcaada	0.58	350	IAML_P			
	comp=Z,434nm,0.2s						
BOZC				*i* P	Pb	18 38 08.7	-0.4
BOZC				*i* S	Sb	18 38 17.3	0.0
FOCM	Foa	0.70	143	PG	Pb	18 38 10.8	-0.3
KRBN	Karaburun	0.73	157	PG	Pb	18 38 11.3	-0.4
ZEDA	zmir-Bergama	0.76	113	IAML_P			
	comp=Z,1μm,0.1s						
ZEDA				*i* P	Pb	18 38 12.1	0.0
PSRA	Psara	0.88	214	P	Pn	18 38 15.0	-0.1
CHOS	Chios island	0.89	187	PG	Pg	18 38 14.1	-0.2
CHOS	Chios island	0.89	187	P	Pg	18 38 14.0	-0.3
CHOS				S	Sb	18 38 26.5	+0.3
URLA	Izmir	0.96	160	PG	Pb	18 38 15.7	0.0
URLA	Izmir	0.96	160	IAML_P			
	comp=Z,420nm,0.1s						
URLA				*i* P	Pn	18 38 16.3	0.0
LIA	Limnos Island	1.00	309	P	Pn	18 38 16.8	+0.1
LIA				S	Sb	18 38 30.2	+1.0
ZEY	zmir	1.06	166	IAML_P			
	comp=Z,485nm,0.1s						
ZEY				*i* P	Pg	18 38 17.0	-0.5
GELI	Tayfur-Gelibol	1.15	11	PN	Pn	18 38 19.0	+0.2
LPK	Lapseki	1.19	22	PN	Pn	18 38 19.6	+0.2
STEP	BALIKESIR_Sava	1.19	84	IAML_P			
	comp=Z,788nm,0.2s						
STEP				*i* P	Pn	18 38 20.4	+0.9
SMTH	Samothraki Isl	1.30	337	P	Pn	18 38 21.1	+0.2
DGB	zmir	1.33	156	IAML_P			
	comp=Z,36nm,0.1s						
DGB				*i* P	Pn	18 38 21.5	+0.1
KRBG	Karabiga-Canak	1.41	37	PN	Pn	18 38 22.5	+0.1
ERIK	Erikli-Kesan	1.42	10	PN	Pb	18 38 23.1	-0.3
ENEZ	Enez	1.46	359	PN	Pb	18 38 24.0	-0.2
KESN	Edirne-Kesan	1.60	14	IAML_P			
	comp=Z,70nm,0.1s						
KESN				*i* P	Pn	18 38 26.0	+0.6
RKY	Sarkoy-Tekirda	1.61	28	PN	Pn	18 38 25.7	+0.5
SART	Tekirdag	1.61	28	IAML_P			
	comp=Z,384nm,0.1s						
SART				*i* P	Pb	18 38 26.2	-0.5
ALN	Alexandroupoli	1.63	356	PN	Pn	18 38 25.8	+0.4
DURS	Dursunbey	1.80	79	IAML_P			
	comp=Z,103nm,0.3s						
DURS				*i* P

MKZ Mys Kozlova 6.38 29 *eP* Pn 18 56 23.2 +2.8
ASAJ Asahikawa 10.75 248 LR LR 19 00 41.2
comp=Z,32nm,18.7s,baz=352,slow=40
H11N2 WAKE ISLAND Hy 30.47 160 T T 19 32 05.2
baz=340,slow=76,SNR=4.1
H11N1 WAKE ISLAND Hy 30.49 160 T T 19 31 57.5
baz=340,slow=76,SNR=4.2
H11N3 WAKE ISLAND Hy 30.49 160 T T 19 31 58.1
baz=340,slow=76,SNR=3.8
H11S1 WAKE ISLAND Hy 31.61 161 T T 19 33 18.9
baz=341
H11S3 WAKE ISLAND Hy 31.62 161 T T 19 33 18.4
baz=341
H11S2 WAKE ISLAND Hy 31.63 161 T T 19 33 26.2
baz=341
FINES FINESS Array B 62.85 336 P P 19 04 49.8 -20
1.3nm,0.9s,baz=45,slow=6.1,SNR=5.4
AKASG Malin Array Be 70.81 328 P P 19 05 37.1 -23
0.7nm,0.4s,baz=32,slow=6.3,SNR=2.6

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*IDC **13** 19:13:25.8±0.8, 42°.09N×80°.68E, h0km, mb3.7/12, mb1 3.8/18, mb1mx3.7/54, mbtmp3.7/18, ML3.2/6, MS2.9/3, Ms1 2.9/3, ms1mx2.5/47, Error ellipse: s-maj=17.0km s-min=13.9km az=177.0*
*KRNET **13** 19:13:26.6±0.1, 42°.20N×80°.71E, h16km, mb4.4*
*SOME **13** 19:13:26.5, 42°.20N×80°.65E, h10km*
*BJI **13** 19:13:27.2±0.0, 42°.16N×80°.58E, h9km, mb3.9/2, ML3.9/11*
*MOS **13** 19:13:28.0±1.5, 42°.18N×80°.79E, h19km, mb4.0/5, Error ellipse: s-maj=11.1km s-min=6.6km az=110.6*
*NNC **13** 19:13:29.6±1.2, 42°.29N×80°.58E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=8.1km s-min=6.1km az=138.0*
ISC 13 19:13:29.8±1.1, 42°.27N±0°.04×80°.68E±0°.04, h13km±6km, n113, σ2°.06/155, mb3.8/14, 40C-22D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.20**	**349**	P		**Pn**	**19 13 50.8**	**-1.6**
	191nm,0.2s							
KTMS				S		**Sb**	**19 14 08.5**	**+0.7**
	739nm,0.3s							
KTMS	**Ketmen**	**1.20**	**349**	*e*P		**Pn**	**19 13 50.8**	**-1.6**
	baz=48							
KTMS				*e*S		**Sb**	**19 14 08.6**	**+0.7**
	baz=48							
KTMS	**Ketmen**	**1.20**	**349**	*e*P		**Pn**	**19 13 50.8**	**-1.6**
	191nm,0.2s							
KTMS				*e*S		**Sb**	**19 14 08.5**	**+0.7**
	739nm,0.3s							
SHLS	**Shalkode**	**1.26**	**315**	P		Pn	19 13 48.2	-5.1
	292nm,0.3s							
SHLS				S		**Sb**	**19 14 04.8**	**-4.9**
	2μm,0.4s							
SHLS	**Shalkode**	**1.26**	**315**	*e*P		Pn	19 13 48.2	-5.1
	baz=28							
SHLS				*e*S		**Sb**	**19 14 04.1**	**-5.5**
	baz=28							
SHLS	**Shalkode**	**1.26**	**315**	*e*P		Pn	19 13 48.2	-5.1
	292nm,0.3s							
SHLS				*e*S		**Sb**	**19 14 04.1**	**-5.5**
	2μm,0.4s							
PDGK	**Podgornoye**	**1.37**	**321**	P		**Pn**	**19 13 53.1**	**-1.7**
	62nm,0.4s							
PDGK				S		**Sn**	**19 14 12.6**	**-0.3**
	571nm,0.4s							
PDGK	**Podgornoye**	**1.37**	**321**	⇓*i*P		**Pn**	**19 13 52.9**	**-1.9**
	baz=22							
PDGK				⇓*i*S		**Sn**	**19 14 12.3**	**-0.6**
	baz=22							
PRZ	**Przheval'sk**	**1.70**	**278**	⇑*e*P		**Pn**	**19 13 58.7**	**-0.7**
	baz=80							
PRZ				⇑*i*S		**Sn**	**19 14 22.1**	**+1.0**
	baz=80							
SATY	**Saty**	**1.85**	**296**	Pg		**Pn**	**19 14 01.9**	**+0.5**
	573nm,0.5s							
SATY				Lg		Lg	19 14 27.4	
	755nm,0.5s							
SATY	**Saty**	**1.85**	**296**	*e*P		**Pn**	**19 14 01.9**	**+0.5**
	573nm,0.5s							
SATY				*e*S		**Sb**	**19 14 27.4**	**+0.7**
	755nm,0.5s							
ZHN	**Zhinishke**	**1.88**	**299**	Pg		**Pn**	**19 14 02.4**	**+0.6**
	365nm,0.4s							
ZHN				Lg		Lg	19 14 28.0	
	373nm,0.2s							
ZHN	**Zhinishke**	**1.88**	**299**	*e*P		**Pn**	**19 14 02.4**	**+0.6**
	baz=1.0							
ZHN				*e*S		**Sb**	**19 14 28.1**	**+0.5**
	baz=1.0							
ZHN	**Zhinishke**	**1.88**	**299**	*e*P		**Pn**	**19 14 02.4**	**+0.6**
	365nm,0.4s							
ZHN				*e*S		**Sb**	**19 14 28.0**	**+0.5**
	373nm,0.2s							
KPKS	**Kokpek**	**1.89**	**310**	*e*P		**Pn**	**19 14 02.8**	**+0.9**
	baz=10.0							
KPKS				*e*S		**Sb**	**19 14 29.0**	**+1.2**
	baz=10.0							
KPKS	**Kokpek**	**1.89**	**310**	*e*P		**Pn**	**19 14 02.8**	**+0.9**
	857nm,0.3s							
KPKS				*e*S		**Sb**	**19 14 28.9**	**+1.2**
	2μm,0.5s							
DJR	**Jarkent**	**2.16**	**343**	Pg		**Pn**	**19 14 08.0**	**+2.5**
	166nm,0.5s							
DJR				Lg		Lg	19 14 38.0	
	444nm,0.4s							
DJR	**Jarkent**	**2.16**	**343**	*e*P		**Pn**	**19 14 08.1**	**+2.5**
	166nm,0.5s							
DJR				*e*S		**Sb**	**19 14 38.0**	**+2.5**
	444nm,0.4s							
MNBS	**Baschi**	**2.46**	**318**	Pg		**Pn**	**19 14 11.9**	**+2.2**
	192nm,0.3s							
MNBS				Lg		Lg	19 14 44.3	
	1μm,0.4s							
MNBS	**Baschi**	**2.46**	**318**	*e*P		**Pn**	**19 14 11.9**	**+2.2**
	192nm,0.3s							
MNBS				*e*S		**Sb**	**19 14 44.3**	**+0.2**
	1μm,0.4s							
KDJ	**Kajisay**	**2.60**	**268**	⇑*i*P		**Pn**	**19 14 12.6**	**+0.8**
	baz=70							
KDJ				⇑*i*S		**Sn**	**19 14 45.1**	**+1.7**
	baz=70							
KOTS	**Kotyrbulak**	**2.79**	**291**	Pg		**Pb**	**19 14 17.8**	**-1.9**
	118nm,0.3s							
KOTS				Lg		Lg	19 14 55.5	
	825nm,0.5s							
KOTS	**Kotyrbulak**	**2.79**	**291**	*e*P		**Pb**	**19 14 17.8**	**-1.9**
	118nm,0.3s							
KOTS				*e*S		**Sb**	**19 14 54.7**	**+0.8**
	825nm,0.5s							
MDOK	**Medeo**	**2.82**	**290**	⇑Pn		**Pn**	**19 14 16.2**	**+1.5**
MDOK				⇑Lg		Lg	19 14 54.9	
MDOK	**Medeo**	**2.82**	**290**	PN		**Pn**	**19 14 16.2**	**+1.5**
ARXS	**Arharly**	**2.84**	**314**	Pg		**Pn**	**19 14 18.3**	**+3.3**
	67nm,0.4s							
ARXS				Lg		Lg	19 14 56.6	
	372nm,0.5s							
ARXS	**Arharly**	**2.84**	**314**	*e*P		**Pn**	**19 14 18.3**	**+3.3**
	67nm,0.4s							
ARXS				*e*S		**Sb**	**19 14 55.5**	**+0.2**
	372nm,0.5s							
KNDC	**Almaty**	**2.89**	**290**	⇑Pn		**Pn**	**19 14 18.1**	**+2.4**
KNDC				⇓Lg		Lg	19 14 59.2	
AAA	**Alma-Ata**	**2.92**	**290**	Pg		**Pb**	**19 14 19.6**	**-2.3**
	131nm,0.4s							
AAA				Lg		Lg	19 14 58.2	
	238nm,0.5s							
AAA	**Alma-Ata**	**2.92**	**290**	*e*PN		**Pb**	**19 14 19.5**	**-2.4**
AAA				*e*S		**Sb**	**19 15 00.2**	**+2.6**
AAA				pmax		pmax		
	comp=Z,125nm,0.4s							
AAA				smax		smax		
	comp=N,246nm,0.5s							
KAPS	**Kapalarasan**	**3.16**	**343**	Pg		**Pb**	**19 14 25.3**	**-0.6**
	comp=N,54nm,0.5s							
KAPS				Lg		Lg	19 15 07.6	
	comp=N,260nm,0.6s							
KAPS	**Kapalarasan**	**3.16**	**343**	*e*P		**Pb**	**19 14 25.3**	**-0.6**
	comp=N,54nm,0.5s							
KAPS				*e*S		**Sb**	**19 15 07.6**	**+3.3**
	comp=N,260nm,0.6s							
KTBS	**Karatobe**	**3.26**	**297**	Pg		**Pn**	**19 14 24.7**	**+3.9**
	comp=N,31nm,0.3s							
KTBS				Lg		Lg	19 15 06.5	
	comp=N,816nm,0.7s							
KTBS	**Karatobe**	**3.26**	**297**	*e*P		**Pn**	**19 14 24.7**	**+3.9**
	baz=98							
KTBS				*e*S		**Sb**	**19 15 06.5**	**-0.8**
	baz=98							
KTBS	**Karatobe**	**3.26**	**297**	*e*P		**Pn**	**19 14 24.7**	**+3.9**
	comp=N,31nm,0.3s							
KTBS				*e*S		**Sb**	**19 15 06.5**	**-0.8**
	comp=N,816nm,0.7s							
ULHL	**Ulahol**	**3.29**	**271**	P		**Pn**	**19 14 21.7**	**+0.4**
	SNR=14							
ULHL	**Ulahol**	**3.29**	**271**	⇑*e*P		**Pn**	**19 14 22.4**	**+1.1**
	baz=72							
ULHL				⇑*i*S		**Sn**	**19 15 02.0**	**+1.5**
	baz=72							
BOOM	**Boomskoye usch**	**3.52**	**275**	⇑*i*P		**Pn**	**19 14 25.1**	**+0.7**
	baz=76							
BOOM				⇑*i*S		**Sn**	**19 15 07.3**	**+1.4**
	baz=76							
NRN	**Naryn**	**3.59**	**258**	⇓*e*P		**Pn**	**19 14 26.8**	**+1.2**
	baz=59							
NRN				⇓*i*S		**Sn**	**19 15 09.5**	**+1.5**
	baz=59							
TKM2	**Tokmak 2**	**3.81**	**281**	P		**Pn**	**19 14 29.8**	**+1.4**
	SNR=55							
TKM2	**Tokmak 2**	**3.81**	**281**	⇓Pn		**Pn**	**19 14 29.6**	**+1.1**
	comp=N,22nm,0.5s							
TKM2				⇓Pg		**Pg**	**19 14 41.1**	**-1.7**
	comp=N,45nm,0.6s							
TKM2				⇓Lg		Lg	19 15 25.1	
	comp=N,174nm,0.7s							
TKM2	**Tokmak 2**	**3.81**	**281**	PN		**Pn**	**19 14 29.5**	**+1.1**
TKM2				pmax		pmax		
	comp=Z,21nm,0.4s							
TKM2	**Tokmak 2**	**3.81**	**281**	⇑*e*P		**Pn**	**19 14 29.7**	**+1.3**
	baz=83							
TKM2				⇑*i*S		**Sn**	**19 15 14.2**	**+1.1**
	baz=83							
KZA	**Kyzart**	**4.04**	**269**	P		**Pn**	**19 14 32.4**	**+0.7**
	SNR=9.3							
KZA	**Kyzart**	**4.04**	**269**	⇑*e*P		**Pn**	**19 14 32.0**	**+0.2**
	baz=70							
KZA				⇑*i*S		**Sn**	**19 15 20.3**	**+1.2**
	baz=70							
KBK	**Karagaybulak**	**4.26**	**277**	P		**Pn**	**19 14 35.6**	**+1.1**
	SNR=18							
KBK	**Karagaybulak**	**4.26**	**277**	⇑*e*P		**Pn**	**19 14 35.8**	**+1.3**
	baz=78							
KBK				⇑*i*S		**Sn**	**19 15 26.1**	**+1.9**
	baz=78							
CHMS	**Chumysh**	**4.43**	**281**	P		**Pb**	**19 14 49.6**	**+2.1**
	SNR=6.9							
CHMS	**Chumysh**	**4.43**	**281**	⇑*i*P		**Pn**	**19 14 37.6**	**+0.8**
	baz=82							
CHMS				⇑*i*S		**Sn**	**19 15 28.8**	**+0.5**
	baz=82							
FRU1	**Bishkek**	**4.50**	**279**	⇑*i*P		**Pn**	**19 14 39.3**	**+1.5**
	baz=80							
FRU1				⇑*i*S		**Sn**	**19 15 31.6**	**+1.6**
	baz=80							
KSH	**Kashi**	**4.50**	**234**	Pg		**Pg**	**19 14 55.1**	**-1.0**
KSH				Sg		**Sg**	**19 16 01.0**	**+6.5**
KSH				smax		smax		
	comp=Z,140nm,0.7s							
KSH				smax		smax		
	comp=Z,190nm,0.9s							
UCH	**Uchtor**	**4.58**	**271**	P		**Pn**	**19 14 41.2**	**+2.0**
	SNR=16							
UCH	**Uchtor**	**4.58**	**271**	⇓*e*P		**Pn**	**19 14 40.4**	**+1.2**
	baz=72							
UCH				⇓*i*S		**Sn**	**19 15 33.7**	**+1.3**
	baz=72							
AAK	**Ala-Archa**	**4.59**	**277**	P		**Pn**	**19 14 41.5**	**+2.4**
	SNR=12							
AAK	**Ala-Archa**	**4.59**	**277**	⇓Pn		**Pn**	**19 14 41.2**	**+2.1**
	comp=Z,8.4nm,0.7s							
AAK				⇓Pg		**Pb**	**19 14 51.5**	**+1.2**
	comp=Z,84nm,0.8s							
AAK				⇑Lg		Lg	19 15 52.3	
	comp=Z,113nm,0.8s							
AAK	**Ala-Archa**	**4.59**	**277**	*ce*PN		**Pn**	**19 14 40.3**	**+1.2**
AAK				pmax		pmax		
	comp=Z,8.0nm,0.7s							
AAK	**Ala-Archa**	**4.59**	**277**	⇑*i*P		**Pn**	**19 14 40.2**	**+1.2**
	baz=78							
AAK				⇑*i*S		**Sn**	**19 15 34.0**	**+1.6**
	baz=78							
AAK	**Ala-Archa**	**4.59**	**277**	Pn		**Pn**	**19 14 39.7**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=90,slow=9.2,SNR=28							
AAK				Pg		**Pb**	**19 14 51.3**	**+1.0**
	comp=Z,7.6nm,0.3s,baz=100,slow=9.3,SNR=54							
AAK				Lg		Lg	19 15 48.2	
	comp=Z,4.1nm,0.3s,baz=252,slow=19,SNR=3.5							
AAK				LR		LR	19 16 45.8	
	comp=Z,59nm,19.4s,baz=84,slow=43							
MAKZ	**Makanchi**	**4.63**	**11**	⇓Pn		**Pn**	**19 14 42.0**	**+2.5**
	comp=Z,30nm,0.6s							
MAKZ				⇓Sn		**Sn**	**19 15 38.2**	**+5.1**
	comp=Z,49nm,1.0s							
MAKZ				⇑Lg		Lg	19 15 54.6	
	comp=Z,70nm,0.8s							
MAKZ	**Makanchi**	**4.63**	**11**	PN		**Pn**	**19 14 42.0**	**+2.5**
MAKZ				S		**Sn**	**19 15 38.2**	**+5.1**
MAKZ				pmax		pmax		
	comp=Z,30nm,0.5s							
MAKZ				smax		smax		
	comp=N,49nm,1.0s							
USP	**Ospenovka**	**4.66**	**284**	P		**Pn**	**19 14 41.9**	**+2.0**
	SNR=9.1							
USP	**Ospenovka**	**4.66**	**284**	⇓*e*P		**Pn**	**19 14 41.1**	**+1.2**
	baz=85							
USP				⇓*i*S		**Sn**	**19 15 34.5**	**+0.7**
	baz=85							
MK31	**Makanchi Array**	**4.66**	**14**	Pn		**Pn**	**19 14 42.2**	**+2.3**
	comp=N,18nm,0.6s,baz=200,slow=14,SNR=285							
MK31				⇓Sn		**Sn**	**19 15 37.3**	**+3.3**
	comp=N,57nm,0.6s,baz=190,slow=22							
MK31				⇑Lg		Lg	19 15 55.0	
	comp=N,109nm,0.6s,baz=194,slow=30							
MK31	**Makanchi Array**	**4.66**	**14**	PN		**Pn**	**19 14 42.3**	**+2.3**
MK31				S		**Sn**	**19 15 37.3**	**+3.3**
MK31				pmax		pmax		
	comp=Z,18nm,0.5s							
MK31				smax		smax		
	comp=N,57nm,0.6s							
MKAR	**Makanchi Array**	**4.66**	**14**	*i* PN		**Pn**	**19 14 41.9**	**+1.9**
MKAR				pmax		pmax		
	comp=Z,27nm,0.5s							
MKAR	**Makanchi Array**	**4.66**	**14**	Pn		**Pn**	**19 14 41.9**	**+1.9**
	comp=Z,7.3nm,0.3s,baz=200,slow=14,SNR=134							
MKAR				Sn		**Sn**	**19 15 39.5**	**+5.5**
	comp=Z,12nm,0.3s,baz=191,slow=25,SNR=12							
MKAR				Lg		Lg	19 15 55.3	
	comp=Z,19nm,0.3s,baz=196,slow=30,SNR=17							
MKAR				LR		LR	19 16 15.6	
	comp=Z,41nm,20.7s,baz=190,slow=35							
ARLS	**Aral**	**4.75**	**267**	⇑*i*P		**Pn**	**19 14 41.9**	**+0.6**
	baz=68							
ARLS				⇑*i*S		**Sn**	**19 15 36.5**	**+0.2**
	baz=68							
EKS2	**Erkin-Say**	**5.12**	**277**	P		**Pb**	**19 14 59.7**	**+0.4**
	SNR=18							
AML	**Almayashu**	**5.19**	**271**	P		**Pb**	**19 15 02.4**	**+1.8**
	SNR=39							
WMQ	**Urumqi**	**5.37**	**71**	*e*Pn		**Pn**	**19 14 50.3**	**+0.6**
WMQ				Sn		**Sn**	**19 15 52.8**	**+1.3**
WMQ				smax		smax		
	comp=Z,190nm,0.9s							
WMQ				smax		smax		
	comp=Z,180nm,0.9s							
KK31	**Karatay Array**	**7.54**	**280**	⇑Pg		Pg	19 15 48.1	-5.9
	comp=Z,5.4nm,0.6s,baz=86,slow=16,SNR=11							
KK31				⇓Lg		Lg	19 17 27.3	
	comp=Z,9.4nm,0.6s,baz=97,slow=27,SNR=5.4							
OTUK	**Ortayu**	**8.38**	**318**	⇑Pn		**Pn**	**19 15 30.0**	**-1.0**
	comp=Z,5.6nm,1.0s							
OTUK				Lg		Lg	19 17 53.9	
	comp=Z,34nm,0.9s							
OTUK	**Ortayu**	**8.38**	**318**	P		**Pn**	**19 15 30.0**	**-1.0**
OTUK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KURBB	**Kurchatov Arra**	**8.48**	**351**	⇑Pg		Pg	19 16 04.9	-7.1
	comp=Z,8.4nm,0.8s							
KURBB				⇑Lg		Lg	19 17 56.9	
	comp=Z,67nm,0.7s							
KURBB	**Kurchatov Arra**	**8.48**	**351**	Pn		**Pn**	**19 15 31.8**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=172,slow=12,SNR=4.9							
KURBB				Lg		Lg	19 17 53.2	
	comp=Z,0.5nm,0.3s,baz=173,slow=30,SNR=9.3							
KURK	**Kurchatov**	**8.56**	**351**	⇑Pg		Pg	19 16 05.7	-7.9
	comp=Z,7.8nm,0.9s							
KURK				⇑Lg		Lg	19 18 03.3	
	comp=Z,46nm,0.7s							
KURK	**Kurchatov**	**8.56**	**351**	*i* P		**Pn**	**19 15 34.0**	**+0.6**
DGZ	**Jazzator, Alta**	**8.79**	**30**	⇓*i*P		**Pn**	**19 15 38.9**	**+2.2**
CEP	**Cherat**	**10.90**	**222**	P		**Pn**	**19 16 02.6**	**-3.1**
ZAA0	**Zalesovo Array**	**12.00**	**12**	⇓P		**Pn**	**19 16 20.4**	**0.0**
	comp=Z,0.6nm,0.8s							
ZAA0				⇓S		**Sn**	**19 18 38.9**	**+4.8**
	comp=Z,0.8nm,0.8s							
ZALV	**Zalesovo Beam**	**12.00**	**12**	*i* P		**Pn**	**19 16 20.3**	**-0.2**
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ZALV	**Zalesovo Beam**	**12.00**	**12**	Pn		**Pn**	**19 16 20.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=198,slow=13,SNR=14							
ZALV				Sn		**Sn**	**19 18 30.2**	**-3.9**
	comp=Z,0.3nm,0.3s,baz=193,slow=18,SNR=2.8							
ZALV				Lg		Lg	19 19 49.1	
	comp=Z,0.1nm,0.3s,baz=189,slow=25,SNR=4.1							
BVAR	**Borovoye Array**	**12.78**	**331**	Pn		**Pn**	**19 16 32.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=139,slow=11,SNR=2.3							
BVAR				Lg		Lg	19 20 11.9	
	comp=Z,0.2nm,0.3s,baz=140,slow=26,SNR=5.4							
BRVK	**Borovoye**	**12.85**	**331**	*i* P		**Pn**	**19 16 32.5**	**+0.5**
AB31	**Akbulak array**	**16.04**	**303**	⇓P		**P**	**19 17 17.3**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=112,slow=11,SNR=15							
AB31	**Akbulak array**	**16.04**	**303**	P		**P**	**19 17 17.3**	**-1.0**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.7s							
AKTO	**Aktyubinsk**	**17.59**	**305**	P		**Pn**	**19 17 32.5**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=97,slow=17,SNR=2.5							
SONM	**Songino Array**	**18.96**	**64**	P		**P**	**19 17 50.0**	**-0.8**
SONM	**Songino Array**	**18.96**	**64**	P		**P**	**19 17 50.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=257,slow=10,SNR=5.0							
ARU	**Arti**	**20.07**	**322**	*c i*P		**P**	**19 18 03.1**	**+0.3**
ARU				S		**S**	**19 21 47.2**	**-0.7**
ARU				pmax		pmax		
	comp=Z,5.0nm,0.8s							
ARU	**Arti**	**20.07**	**322**	P		**P**	**19 18 02.7**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=102,slow=5.5,SNR=5.6							
WHN	**Wuhan**	**29.34**	**102**	*e*P		P	19 19 38.1	+5.8
ANN	**Anapa**	**31.18**	**290**	*e*P		**P**	**19 19 48.9**	**+0.4**
ANN				*e**PP		**pP**	**19 19 52.2**	**-1.4**
ANN				*e*S		**S**	**19 24 53.5**	**-0.5**
ANN				pmax		pmax		
	comp=Z,10.0nm,1.0s							
BRTR	**Keskin Array B**	**35.24**	**282**	*ce*P		**P**	**19 20 23.8**	**-0.4**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**35.24**	**282**	P		**P**	**19 20 23.5**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=94,slow=9.0,SNR=8.1							
AKASG	**Malin Array Be**	**35.77**	**302**	*ce*P		**P**	**19 20 30.7**	**+2.3**
AKASG	**Malin Array Be**	**35.77**	**302**	P		**P**	**19 20 27.2**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=64,slow=8.5,SNR=4.9							
VSU	**Vasula**	**36.89**	**315**	*ce*P		**P**	**19 20 40.0**	**+2.2**
VSU				pmax		pmax		
	comp=Z,15nm,0.8s							
FINES	**FINESS Array B**	**37.41**	**320**	P		**P**	**19 20 41.3**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=98,slow=12,SNR=6.1							
TIXI	**Tiksi**	**37.59**	**23**	*ce*P		**P**	**19 20 48.2**	**+4.6**
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.7s							
ARCES	**ARCESS Array B**	**39.06**	**333**	P		**P**	**19 20 55.4**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=102,slow=7.5,SNR=3.8							
NB2	**NORSAR Subarra**	**44.59**	**320**	P		**P**	**19 21 40.5**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=82,slow=7.9							
NOA	**NORSAR Array B**	**44.59**	**320**	P		**P**	**19 21 40.5**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=85,slow=7.6,SNR=4.5							
CLL	**Collm**	**45.68**	**306**	*e*P		**P**	**19 21 51.0**	**+0.9**
CLL	**Collm**	**45.68**	**306**	*e*P		**P**	**19 21 51.0**	**+0.9**
KMBO	**Kilima Mbogo**	**58.28**	**234**	LR		LR	19 49 46.8	
	comp=Z,93nm,18.2s,baz=94,slow=38							
ESDC	**Sonseca Array**	**61.34**	**299**	P		**P**	**19 23 44.1**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=55,slow=6.5,SNR=3.8							
ILAR	**Eielson Array**	**66.99**	**20**	P		**P**	**19 24 21.1**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=322,slow=6.0,SNR=6.0							
TORD	**Torodi Ar. Bea**	**73.16**	**273**	P		**P**	**19 24 57.7**	**-2.8**
	comp=Z,0.6nm,0.6s,baz=42,slow=5.7,SNR=6.1							
YKA	**Yellowknife Ar**	**74.86**	**7**	*i* P		**P**	**19 25 08.8**	**-0.9**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**74.86**	**7**	P		**P**	**19 25 08.4**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=345,slow=5.6,SNR=7.4							
WRA	**Warramunga Arr**	**79.25**	**130**	P		**P**	**19 25 32.6**	**-2.3**
	comp=Z,0.9nm,1.1s,baz=312,slow=3.5,SNR=3.1							
ASAR	**Alice Springs**	**81.96**	**132**	P		**P**	**19 25 46.8**	**-2.6**
	comp=Z,0.4nm,0.7s,baz=317,slow=5.3,SNR=4.4							

IDC 13 20:07:14.1±2.7, 11°.38S×114°.89E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/35, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=118.7km s-min=21.6km az=48.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.35**	**124**	Pn		Pn	20 10 09.2	-2.2
	0.1nm,0.3s,baz=302,slow=10,SNR=8.0							
FITZ				Sn		Sn	20 12 19.0	-11
	0.2nm,0.3s,baz=216,slow=21,SNR=6.6							
WRA	**Warramunga Arr**	**20.55**	**117**	P		P	20 11 55.2	+0.7
	0.7nm,0.7s,baz=291,slow=11,SNR=7.9							
ASAR	**Alice Springs**	**21.83**	**127**	P		P	20 12 08.6	+0.3
	0.5nm,0.5s,baz=301,slow=10.0,SNR=8.8							
H08S2	**Diego Garcia H**	**41.95**	**271**	T		T	21 00 01.6	
	baz=96							
H08S3	**Diego Garcia H**	**41.97**	**271**	T		T	21 00 08.7	
	baz=96							
H08S1	**Diego Carcia H**	**41.97**	**271**	T		T	21 00 10.1	
	baz=96							
SONM	**Songino Array**	**59.44**	**353**	P		P	20 17 18.9	+0.2
	0.3nm,0.3s,baz=166,slow=5.5,SNR=2.8							
MKAR	**Makanchi Array**	**64.84**	**336**	P		P	20 17 54.7	-0.3
	0.4nm,0.4s,baz=153,slow=6.9,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.20**	**189**	*i* Pg	Pg	20 22 52.3	-0.1
OHR				*i* Sg	Sg	20 22 55.8	+0.2
OHR				*e*Lg	Lg	20 22 55.9	
	comp=N,63nm,0.3s						
OHR				*e*Lg	Lg	20 22 56.0	
	comp=E,140nm,0.4s						
BIA	**Bitola**	**0.47**	**128**	*i* Pg	Pb	20 22 57.7	+0.1
BIA				*i* Sg	Sb	20 23 05.5	+1.2
BIA				*e*Lg	Lg	20 23 06.3	
	comp=E,24nm,0.2s						
BIA				*e*Lg	Lg	20 23 07.6	
	comp=N,16nm,0.3s						
FNA	**Florina**	**0.66**	**142**	⇓*i* Pg	Pb	20 23 00.9	-0.1
FNA				*i* Sg	Sb	20 23 10.8	+0.7
TIR	**Tirane**	**0.73**	**273**	*i* Pg	Pb	20 23 02.3	+0.1
STIP	**Stip**	**1.08**	**69**	*i* Pg	Pg	20 23 12.4	+3.8
STIP				*i* Sg	Sn	20 23 30.0	+7.0
STIP				*e*Lg	Lg	20 23 31.4	
	comp=N,2.5nm,0.3s						
STIP				*e*Lg	Lg	20 23 32.9	
	comp=Z,1.1nm,0.3s						
GRG	**Griva**	**1.23**	**106**	*i* Pg	Pg	20 23 11.3	-0.1
GRG				*i* Sg	Sg	20 23 29.8	+2.4

ROM 13 20:24:32.3±0.0, 42°.902N±0°.004×13°.055E±0°.004, h11km, ML0.8/2, Error ellipse: s-maj=0.4km s-min=0.2km az=215.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.08**	**147**	P	Pg	20 24 35.3	+0.4
NRCA				S	Sg	20 24 37.2	+0.4
NRCA	**Norcia**	**0.08**	**147**	P	Pg	20 24 35.3	+0.4
NRCA	**Norcia**	**0.08**	**147**	S	Sg	20 24 37.2	+0.4
CESI	**CESI - Serrava**	**0.15**	**313**	P	Pg	20 24 36.4	+0.5
CESI				S	Sg	20 24 39.2	+0.8
CESI				AML	AML		
	comp=E,68μm,0.1s						
CESI				AML	AML		
	comp=N,62μm,0.2s						
CESI				AML	AML		
	comp=E,68μm,0.1s						
CESI				AML	AML		
	comp=N,62μm,0.2s						
CESI	**CESI - Serrava**	**0.15**	**313**	S	Sg	20 24 39.2	+0.8
ASSB	**Assisi San Ben**	**0.32**	**296**	P	Pg	20 24 39.1	+0.3
ASSB				S	Sb	20 24 44.4	-1.0
ASSB	**Assisi San Ben**	**0.32**	**296**	P	Pg	20 24 39.2	+0.3
ASSB	**Assisi San Ben**	**0.32**	**296**	S	Sb	20 24 44.4	-1.0
SNTG	**Esanatoglia**	**0.36**	**347**	P	Pg	20 24 40.1	+0.5
SNTG				S	Sb	20 24 45.8	-0.8
SNTG				AML	AML		
	comp=E,19μm,1.5s						
SNTG				AML	AML		
	comp=N,22μm,1.5s						
SNTG				AML	AML		
	comp=E,19μm,1.5s						
SNTG				AML	AML		
	comp=N,22μm,1.5s						
SNTG	**Esanatoglia**	**0.36**	**347**	P	Pg	20 24 40.1	+0.5
SNTG	**Esanatoglia**	**0.36**	**347**	S	Sb	20 24 45.8	-0.8
TERO	**Teramo**	**0.49**	**124**	P	Pg	20 24 42.1	+0.1
TERO				S	Sb	20 24 49.4	-0.8
TERO	**Teramo**	**0.49**	**124**	S	Sb	20 24 49.4	-0.8
GUMA	**Gualdo di Mace**	**0.67**	**76**	P	Pg	20 24 38.1	-7.1
GUMA				S	Sg	20 24 42.5	-12
GUMA	**Gualdo di Mace**	**0.67**	**76**	P	Pg	20 24 38.1	-7.1
PE3	**Peglio**	**0.89**	**333**	P	Pn	20 24 51.3	+0.4

ISC 13 20:26:02.6±1.2, 50°.26N±0°.05×18°.89E±0°.05, h0km, n6, σ0s65/12, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.07**	**61**	*e*Pg	**Pg**	**20 26 04.4**	**+0.4**
CHZP				*e*Sg	**Sg**	**20 26 05.3**	**+0.4**
OJC	**Ojcow**	**0.58**	**93**	*e*Pg	**Pg**	**20 26 13.3**	**-0.4**
OJC				*e*Sg	**Sg**	**20 26 21.6**	**+0.3**
MORC	**Moravsky Berou**	**0.99**	**242**	*e*PG	**Pb**	**20 26 22.7**	**0.0**
MORC				*e*SG	**Sg**	**20 26 35.0**	**+0.6**
LANS	**Liptovska Anna**	**1.17**	**161**	*e*PG	**Pg**	**20 26 25.3**	**+0.4**
LANS				*e*SG	**Sg**	**20 26 40.7**	**+0.7**
NIE	**Niedzica**	**1.24**	**132**	*e*Pg	**Pg**	**20 26 26.3**	**+0.1**
NIE				*e*Sg	**Sb**	**20 26 44.1**	**+0.8**
VYHS	**Vyhne**	**1.76**	**181**	*e*PN	**Pn**	**20 26 33.8**	**-0.5**
VYHS				*e*SN	**Sn**	**20 26 56.3**	**-1.2**

*IDC **13** 20:48:14.1±2.8, 16°.04S×174°.28W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.7/26, mbtmp3.7/5, MS4.5/1, Ms1 4.5/1, ms1mx2.9/27, Error ellipse: s-maj=163.5km s-min=25.4km az=149.0*
*ISCJB **13** 20:48:15.9±0.6, 16°.9S±0°.2×173°.9W±0°.1, h35km, mb3.9/1, Error ellipse: s-maj=33.1km s-min=15.6km az=159.0*
*NEIC **13** 20:48:17.6±0.8, 16°.88S×173°.81W, h38km±7km, mb4.6/3, Error ellipse: s-maj=23.3km s-min=11.8km az=159.0*
ISC 13 20:48:17.1±0.8, 16°.9S±0°.3×173°.8W±0°.2, h35km, n21, σ1s20/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.90**	**196**	LR	LR	20 56 08.8	
	comp=Z,2μm,18.9s,baz=63,slow=35						
WR1	**Warramunga Arr**	**49.12**	**258**	*e*P	**P**	**20 57 02.4**	**+0.7**
WRA	**Warramunga Arr**	**49.12**	**258**	P	**P**	**20 57 02.4**	**+0.7**
	0.6nm,1.0s,baz=92,slow=7.7,SNR=2.8						
ASAR	**Alice Springs**	**49.27**	**253**	P	**P**	**20 57 03.2**	**+0.4**
	0.5nm,0.7s,baz=90,slow=8.2,SNR=6.9						
NV01	**Mina Array Sit**	**75.68**	**42**	*e*P	**P**	**21 00 00.4**	**+1.1**
NVAR	**Mina Array Bea**	**75.68**	**42**	P	**P**	**21 00 00.4**	**+1.1**
	0.2nm,0.3s,baz=229,slow=8.2,SNR=4.6						
PD31	**Pinedale Array**	**83.62**	**42**	*e*P	**P**	**21 00 42.5**	**+0.2**
PDAR	**Pinedale Array**	**83.62**	**42**	P	**P**	**21 00 42.8**	**+0.5**
	0.8nm,0.6s,baz=222,slow=3.4,SNR=5.9						
ILAR	**Eielson Array**	**83.94**	**11**	P	**P**	**21 00 41.9**	**-1.2**
	0.4nm,0.5s,baz=224,slow=5.9,SNR=6.7						
ILB	**Eielson Array**	**83.94**	**11**	*e*P	**P**	**21 00 42.8**	**-0.3**
	0.9nm,0.9s						
UALR	**University of**	**92.69**	**55**	*e*P	**P**	**21 01 25.6**	**-0.2**
	5.2nm,0.8s						
W41B	**Gary Mavity, V**	**92.89**	**54**	*e*P	**P**	**21 01 26.7**	**0.0**
	2.1nm,0.6s						
W41B				*e*pP	**sP**	**21 01 42.6**	**+1.2**
GO03	**Copiap**	**93.86**	**120**	*e*pP	pP	21 01 43.3	+0.8
GO02	**Mina Guanaco**	**95.27**	**118**	*e*P	**P**	**21 01 39.0**	**+0.6**
	53nm,0.8s						
PB04	**IPOC Station P**	**95.80**	**115**	*e*P	**P**	**21 01 40.4**	**-0.3**
	63nm,1.0s						
SIUC	**Southern Illin**	**95.99**	**53**	*e*P	**P**	**21 01 41.2**	**+0.3**
	28nm,0.5s						
PB01	**IPOC Station P**	**96.83**	**114**	*e*P	**P**	**21 01 43.7**	**-1.6**
	16nm,0.4s						
S51A	**Beattyville**	**100.28**	**54**	*e*Pdif	**Pdif**	**21 02 00.3**	**+0.1**
BRVK	**Borovoye**	**118.81**	**322**	*e*P	**PKPdf**	**21 06 58.1**	**-3.5**
BR101	**Keskin Array S**	**146.99**	**319**	*e*PKPdf	**PKPdf**	**21 07 55.6**	**+1.0**
BRTR	**Keskin Array B**	**146.99**	**319**	PKPbc	**PKPdf**	**21 07 55.6**	**+1.0**
	0.4nm,0.8s,baz=7.6,slow=4.4,SNR=2.8						

IDC 13 20:54:34.4±13.0, 15°.64S×166°.34E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/26, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=234.3km s-min=37.1km az=60.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.40**	**179**	Pn	Pn	20 56 10.4	+0.4
	1.6nm,0.3s,baz=306,slow=23,SNR=21						
DZM				Sn	Sn	20 57 22.1	-1.8
	1.9nm,0.3s,baz=142,slow=22,SNR=11						
STKA	**Stephens Creek**	**27.73**	**230**	P	P	21 00 25.1	+0.5
	2.6nm,1.0s,baz=58,slow=9.5,SNR=3.7						
WRA	**Warramunga Arr**	**30.74**	**257**	P	P	21 00 51.1	-0.5
	0.9nm,1.1s,baz=86,slow=8.9,SNR=5.7						
ASAR	**Alice Springs**	**31.52**	**250**	P	P	21 00 58.6	+0.2
	1.2nm,0.4s,baz=78,slow=8.8,SNR=28						

*KRSC **13** 21:13:41.3±10.0, 52°.00N×159°.53E, h45km±10km, ML4.2*

*IDC **13** 21:13:46.8±5.4, 52°.20N×159°.44E, h71km±34km, mb3.3/6, mb1 3.4/6, mb1mx3.1/42, mbtmp3.6/6, MS2.9/2, Ms1 2.9/2, ms1mx2.5/20, Error ellipse: s-maj=55.4km s-min=27.9km az=98.0*
ISC 13 21:13:42.3±1.5, 52°.03N±0°.05×159°.48E±0°.05, h30km±10km, n47, σ1s99/55, mb3.7/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.72**	**305**	*i* P	**Pn**	**21 13 56.7**	**+0.3**
RUS				*e*S	**Sb**	**21 14 06.0**	**0.0**
KDTR	**Khodutka, Kamc**	**0.90**	**257**	*e*P	**Pn**	**21 13 59.2**	**+0.4**
KDTR				*e*S	**Sb**	**21 14 10.5**	**-0.4**
MTVR	**Mutnovka**	**0.92**	**300**	*i* P	**Pn**	**21 13 59.9**	**+0.6**
MTVR				*e*S	**Sb**	**21 14 11.4**	**-0.3**
GRL	**Gorelyy**	**1.01**	**302**	*e*P	**Pb**	**21 14 01.6**	**+0.3**
ASAK	**Asacha**	**1.04**	**291**	*i* P	**Pb**	**21 14 01.9**	**+0.2**
ASAK				*e*S	**Sn**	**21 14 15.1**	**+0.8**
DALK	**Dalny**	**1.10**	**336**	*e*P	**Pb**	**21 14 02.2**	**-0.5**
DALK				*e*S	**Sb**	**21 14 15.9**	**-0.8**
PET	**Petropavlovsk**	**1.12**	**333**	*i* P	**Pn**	**21 14 02.0**	**+0.1**
SPN	**Mys Shipunski**	**1.12**	**17**	*e*P	**Pb**	**21 14 03.5**	**+0.4**
SPN				*e*S	**Sn**	**21 14 18.1**	**+1.7**
NLC	**Nalytchevo**	**1.15**	**356**	*e*P	**Pb**	**21 14 02.7**	**-0.9**
NLC				*e*S	**Sn**	**21 14 17.4**	**+0.4**
KRMR	**Karymshinskiy**	**1.16**	**315**	*e*P	**Pb**	**21 14 03.1**	**-0.5**
KRMR				*e*S	**Sn**	**21 14 17.7**	**+0.6**
UGLR	**Uglovaya**	**1.25**	**342**	*e*P	**Pb**	**21 14 04.7**	**-0.6**
SDLR	**Sedlovina**	**1.31**	**344**	*e*P	**Pn**	**21 14 05.1**	**+0.5**
SMAR	**Somma**	**1.31**	**342**	*e*P	**Pb**	**21 14 05.5**	**-0.9**
AVH	**Avacha**	**1.32**	**340**	*e*P	**Pb**	**21 14 05.5**	**-1.0**
KRER	**Koryakskii**	**1.36**	**341**	*e*P	**Pb**	**21 14 06.4**	**-0.8**
KOK	**Koryaka**	**1.37**	**338**	*e*P	**Pb**	**21 14 06.4**	**-0.9**
KRX	**Arik**	**1.43**	**340**	*e*P	**Pb**	**21 14 07.2**	**-1.2**
PETK	**Petropavlovsk-**	**1.54**	**316**	P	**Pb**	**21 14 09.1**	**-1.1**
	102nm,0.3s,baz=120,slow=18,SNR=818						
PETK				S	**Sb**	**21 14 28.3**	**-0.8**
	58nm,0.3s,baz=107,slow=19,SNR=18						
PETK				LR	LR	21 14 59.2	
	comp=Z,174nm,19.7s,baz=104,slow=52						
APC	**Apacha**	**1.68**	**303**	*e*P	**Pb**	**21 14 11.8**	**-0.8**
APC				*e*S	**Sb**	**21 14 33.1**	**-0.2**
PAU	**Pauzhetka**	**1.75**	**252**	*e*P	**Pn**	**21 14 11.9**	**+1.3**
PAU				*e*S	**Sn**	**21 14 32.8**	**+1.0**
SKR	**Severo-Kuril's**	**2.50**	**239**	*e*P	**Pn**	**21 14 22.5**	**+1.7**
SKR				*e*S	**Sn**	**21 14 51.8**	**+1.5**
ALID	**Alaid**	**2.72**	**246**	*i* P	**Pn**	**21 14 26.3**	**+2.3**
MKZ	**Mys Kozlova**	**2.87**	**27**	*e*P	**Pn**	**21 14 28.1**	**+2.2**
MKZ				*e*S	**Sn**	**21 15 01.2**	**+1.8**
KZV	**Kizimen**	**3.13**	**9**	*e*P	**Pb**	**21 14 33.4**	**-3.9**
TUMD	**Tumrok D**	**3.23**	**9**	*e*P	**Pb**	**21 14 34.9**	**-4.0**
TUMD				*e*S	**Sn**	**21 15 12.2**	**+3.9**
ESO	**Esso**	**3.93**	**354**	*e*P	**Pn**	**21 14 44.1**	**+3.5**
LGNR	**Loginova**	**4.13**	**9**	*e*P	**Pn**	**21 14 46.6**	**+3.1**
SRDR	**Sredinnyy**	**4.30**	**2**	*e*P	**Pn**	**21 14 50.0**	**+4.3**
KBTR	**Krutoberegovo**	**4.63**	**24**	*e*P	**Pn**	**21 14 53.2**	**+3.1**
KBTR				*e*S	**Sn**	**21 15 46.6**	**+3.9**
BDR	**Baidarnaya**	**4.66**	**12**	*e*P	**Pn**	**21 14 53.4**	**+2.8**
SRKR	**Sorokina**	**4.74**	**11**	*e*P	**Pn**	**21 14 56.1**	**+4.4**
BKI	**Bering**	**5.01**	**48**	*e*P	**Pn**	**21 14 56.4**	**+1.2**
BKI				*e*S	**Sn**	**21 15 49.4**	**-2.6**
MA2	**Magadan**	**9.01**	**331**	LR	LR	21 19 47.5	
	comp=Z,38nm,18.6s,baz=89,slow=41						
MJAR	**Matsushiro Arr**	**21.59**	**233**	P	**P**	**21 18 32.6**	**+3.1**
	1.4nm,0.6s,baz=26,slow=8.3,SNR=5.3						
TIXI	**Tiksi**	**23.91**	**337**	P	**P**	**21 18 52.3**	**-0.6**
	1.7nm,0.3s,baz=145,slow=7.3,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**32.75**	**167**	T	T	21 55 17.5	
	baz=351,slow=76,SNR=81						
H11N3	**WAKE ISLAND Hy**	**32.76**	**167**	T	T	21 55 14.8	
	baz=351,slow=76,SNR=57						
H11N1	**WAKE ISLAND Hy**	**32.77**	**167**	T	T	21 55 17.0	
	baz=351,slow=76,SNR=69						
H11S1	**WAKE ISLAND Hy**	**33.93**	**168**	T	T	21 56 37.5	
	baz=351,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**33.94**	**168**	T	T	21 56 47.7	
	baz=351,slow=76,SNR=60						
H11S2	**WAKE ISLAND Hy**	**33.94**	**168**	T	T	21 56 38.8	
	baz=351,slow=76,SNR=23						
NRIK	**Noril'sk**	**36.57**	**326**	LR	LR	21 38 35.5	
	comp=Z,32nm,18.2s,baz=51,slow=41						
MKAR	**Makanchi Array**	**48.29**	**296**	P	**P**	**21 22 18.0**	**-2.3**
	0.2nm,0.5s,baz=62,slow=8.6,SNR=4.4						
FINES	**FINESS Array B**	**60.95**	**336**	P	**P**	**21 23 50.8**	**-1.1**
	0.6nm,0.6s,baz=43,slow=6.5,SNR=7.0						
NB2	**NORSAR Subarra**	**64.46**	**344**	P	**P**	**21 24 15.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**64.46**	**344**	P	**P**	**21 24 15.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=21,slow=6.6,SNR=4.9						
AKASG	**Malin Array Be**	**69.33**	**329**	P	**P**	**21 24 45.0**	**-1.5**
	comp=Z,0.1nm,0.2s,baz=34,slow=5.6,SNR=3.0						

IDC 13 21:18:38.7±1.7, 6°.22S×130°.39E, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.7/27, mbtmp3.7/6, ML3.9/3, Error ellipse: s-maj=68.3km s-min=24.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.69**	**201**	Pn	Pn	21 21 40.4	-0.1
	1.1nm,0.3s,baz=26,slow=12,SNR=25						
FITZ				Sn	Sn	21 23 50.0	-13
	1.2nm,0.3s,baz=114,slow=16,SNR=6.2						
WRA	**Warramunga Arr**	**14.18**	**165**	Pn	Pn	21 22 00.1	-0.7
	0.3nm,0.3s,baz=346,slow=13,SNR=20						
WRA				Sn	Sn	21 24 23.9	-15
	1.7nm,0.3s,baz=337,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.68**	**169**	P	P	21 22 47.1	-0.4
	0.4nm,0.3s,baz=348,slow=10,SNR=20						
ASAR				S	Sn	21 25 48.9	-15
	0.3nm,0.3s,baz=356,slow=26,SNR=5.3						
CMAR	**Chiang Mai Arr**	**39.53**	**309**	P	P	21 26 12.2	+0.5
	0.5nm,0.5s,baz=132,slow=7.1,SNR=6.5						
SONM	**Songino Array**	**57.83**	**341**	P	P	21 28 32.0	-0.1
	0.3nm,0.5s,baz=161,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**67.79**	**326**	P	P	21 29 38.1	-0.4
	0.5nm,0.4s,baz=117,slow=7.4,SNR=9.6						

*SOME **13** 21:25:36.4, 39°.85N×77°.15E, h15km*
*KRNET **13** 21:25:37.8±0.1, 39°.99N×77°.27E, mb3.3*
*NNC **13** 21:25:39.5±1.9, 40°.04N×77°.22E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=13.8km s-min=9.0km az=160.0*
ISC 13 21:25:42.4±1.7, 40°.15N±0°.08×77°.20E±0°.04, h10km, n49, σ1s72/74, 22C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.57**	**325**	⇑*e*P	**Pn**	**21 26 10.2**	**-0.5**
	baz=26						
NRN				⇑*i*S	**Sg**	**21 26 34.0**	**+1.0**
	baz=26						
TARG	**Taragay, Kyrgy**	**1.64**	**16**	⇑*i*P	**Pn**	**21 26 11.3**	**-0.4**
	baz=13						
TARG				⇑*i*S	**Sg**	**21 26 36.3**	**+1.1**
	baz=13						
KDJ	**Kajisay**	**1.98**	**360**	⇓*i*P	**Pb**	**21 26 17.3**	**-1.3**
	baz=59						
KDJ				⇓*i*S	**Sg**	**21 26 45.8**	**-0.2**
	baz=59						
ULHL	**Ulahol**	**2.21**	**341**	P	**Pb**	**21 26 22.4**	**-0.3**
	SNR=16						
ULHL	**Ulahol**	**2.21**	**341**	⇓*e*P	**Pb**	**21 26 20.5**	**-2.2**
	baz=41						
ULHL				⇓*i*S	**Sb**	**21 26 51.6**	**+1.4**
	baz=41						
KZA	**Kyzart**	**2.42**	**323**	P	**Pb**	**21 26 26.4**	**0.0**
	SNR=69						
KZA	**Kyzart**	**2.42**	**323**	⇑*i*P	**Pb**	**21 26 23.8**	**-2.6**
	baz=25						
KZA				⇑*i*S	**Sb**	**21 26 56.9**	**+0.4**
	baz=25						
PRZ	**Przheval'sk**	**2.50**	**21**	⇓*e*P	**Pn**	**21 26 23.9**	**+0.6**
	baz=19						
PRZ				⇓*i*S	**Sb**	**21 26 57.3**	**-1.1**
	baz=19						
BOOM	**Boomskoye usch**	**2.52**	**338**	⇓*i*P	**Pn**	**21 26 24.9**	**+1.3**
	baz=39						
BOOM				⇓*i*S	**Sb**	**21 26 59.3**	**+0.3**
	baz=39						
ARLS	**Aral**	**2.77**	**309**	⇑*i*P	**Pn**	**21 26 27.9**	**+0.9**
	baz=11						
ARLS				⇑*i*S	**Sb**	**21 27 04.0**	**-2.1**
	baz=11						
TNSS	**Tian-Shan**	**2.89**	**356**	*e*P	**Pb**	**21 26 35.0**	**+0.7**
	4.4nm,0.9s						
TNSS				*e*S	**Sg**	**21 27 16.9**	**+1.7**
	56nm,1.3s						
UCH	**Uchtor**	**2.90**	**316**	P	**Pn**	**21 26 30.8**	**+1.7**
	SNR=12						
MDOK	**Medeo**	**3.01**	**358**	Pg	**Pb**	**21 26 36.1**	**-0.1**
	5.9nm,0.6s						
MDOK				Lg	Lg	21 27 19.6	
	34nm,0.5s						
MDOK	**Medeo**	**3.01**	**358**	*e*P	**Pb**	**21 26 36.8**	**+0.6**
MDOK				*e*S	**Sg**	**21 27 20.0**	**+0.9**
	50nm,0.8s						
TKM2	**Tokmak 2**	**3.02**	**337**	P	**Pb**	**21 26 33.0**	**-3.3**
	SNR=14						
TKM2	**Tokmak 2**	**3.02**	**337**	⇑Pn	**Pb**	**21 26 33.0**	**-3.3**
	3.8nm,0.5s						
TKM2				⇑Lg	Lg	21 27 18.5	
	15nm,0.5s						
TKM2	**Tokmak 2**	**3.02**	**337**	⇑*i*P	**Pn**	**21 26 31.4**	**+0.9**
	baz=37						
TKM2				⇑*i*S	**Sb**	**21 27 10.7**	**-2.6**
	baz=37						
KBK	**Karagaybulak**	**3.02**	**327**	P	**Pg**	**21 26 37.8**	**-2.5**
	SNR=13						
KBK	**Karagaybulak**	**3.02**	**327**	⇓*e*P	**Pn**	**21 26 31.4**	**+0.9**
	baz=28						
KBK				⇓*i*S	**Sb**	**21 27 11.1**	**-2.3**
	baz=28						
MTBS	**Maitube**	**3.03**	**349**	*e*P	**Pb**	**21 26 37.0**	**+0.5**
	6.5nm,0.5s						
MTBS				*e*S	**Sg**	**21 27 20.4**	**+0.6**
	22nm,0.8s						
KST	**Kastek**	**3.03**	**343**	Pg	**Pb**	**21 26 37.0**	**+0.4**
	6.1nm,0.4s						
KST				Lg	Lg	21 27 21.1	
	20nm,0.7s						
KST	**Kastek**	**3.03**	**343**	*e*P	**Pb**	**21 26 37.0**	**+0.4**
	6.1nm,0.4s						
KST				*e*S	**Sg**	**21 27 21.1**	**+1.2**
	20nm,0.7s						
SATY	**Saty**	**3.04**	**17**	Pg	**Pb**	**21 26 35.7**	**-1.0**
	20nm,0.8s						
SATY				Lg	Lg	21 27 18.9	
	40nm,0.5s						
SATY	**Saty**	**3.04**	**17**	*e*P	**Pb**	**21 26 35.7**	**-1.0**
	20nm,0.8s						
SATY				*e*S	**Sg**	**21 27 18.9**	**-1.2**
	40nm,0.5s						
KNDC	**Almaty**	**3.07**	**357**	⇑Pg	**Pg**	**21 26 39.9**	**-1.3**
	13nm,0.6s						
KNDC				⇑Lg	Lg	21 27 22.7	
	99nm,0.6s						
ZHN	**Zhinishke**	**3.15**	**17**	Pg	**Pb**	**21 26 38.9**	**+0.3**
	6.6nm,0.6s						
ZHN				Lg	Lg	21 27 23.8	
	15nm,0.4s						
ZHN	**Zhinishke**	**3.15**	**17**	*e*P	**Pb**	**21 26 38.9**	**+0.3**
	6.6nm,0.6s						
ZHN				*e*S	**Sg**	**21 27 23.8**	**+0.2**
	15nm,0.4s						
AAK	**Ala-Archa**	**3.21**	**322**	P	**Sg**	**21 27 25.6**	**+0.1**
	SNR=5.8						
AAK	**Ala-Archa**	**3.21**	**322**	⇑Pg	**Pb**	**21 26 39.6**	**0.0**
	9.0nm,1.1s						
AAK				⇑Lg	Lg	21 27 25.5	
	52nm,1.0s						
AML	**Almayashu**	**3.30**	**308**	P	**Pn**	**21 26 36.0**	**+1.4**
	SNR=25						
AML	**Almayashu**	**3.30**	**308**	⇑*i*P	**Pn**	**21 26 35.0**	**+0.4**
	baz=10.0						
AML				⇑*i*S	**Sn**	**21 27 17.3**	**+3.2**
	baz=10.0						
KURS	**Kuram**	**3.41**	**12**	Pg	**Pb**	**21 26 42.6**	**-0.4**
	7.6nm,0.7s						
KURS				Lg	Lg	21 27 30.3	
	14nm,0.8s						
KURS	**Kuram**	**3.41**	**12**	*e*P	**Pb**	**21 26 42.6**	**-0.4**
	7.6nm,0.7s						
KURS				*e*S	**Sg**	**21 27 30.4**	**-1.6**
	14nm,0.8s						
ARSB	**Arslanbob**	**3.41**	**291**	⇑*i*P	**Pn**	**21 26 36.4**	**+0.5**
	baz=94						
ARSB				⇑*i*S	**Sn**	**21 27 19.0**	**+2.5**
	baz=94						
SHLS	**Shalkode**	**3.45**	**29**	Pg	**Pg**	**21 26 46.3**	**-2.2**
	7.9nm,0.4s						
SHLS				Lg	Lg	21 27 36.9	
	24nm,0.5s						
SHLS	**Shalkode**	**3.45**	**29**	*e*P	**Pg**	**21 26 46.3**	**-2.2**
	7.9nm,0.4s						
SHLS				*e*S	**Sg**	**21 27 37.0**	**+3.8**
	24nm,0.5s						
KPKS	**Kokpek**	**3.49**	**18**	*e*P	**Pb**	**21 26 44.5**	**+0.1**
	13nm,0.8s						
KPKS				*e*S	**Sg**	**21 27 33.2**	**-1.3**
	34nm,0.9s						
EKS2	**Erkin-Say**	**3.59**	**315**	P	**Pn**	**21 26 40.9**	**+2.6**
	SNR=15						
PDGK	**Podgornoye**	**3.61**	**28**	⇓Pg	**Pb**	**21 26 46.0**	**-0.4**
	3.7nm,0.5s						
PDGK				⇑Lg	Lg	21 27 36.0	
	28nm,0.8s						
CHKK	**Chushkaly**	**3.70**	**358**	Pg	**Pb**	**21 26 49.1**	**+1.2**
	6.8nm,0.4s						
CHKK				Lg	Lg	21 27 41.2	
	66nm,0.3s						
CHKK	**Chushkaly**	**3.70**	**358**	*e*P	**Pb**	**21 26 49.1**	**+1.2**
	6.8nm,0.4s						
CHKK				*e*S	**Sg**	**21 27 41.2**	**-0.1**
	66nm,0.3s						
USP	**Ospenovka**	**3.71**	**328**	P	**Sg**	**21 27 41.0**	**-0.6**
	SNR=10						
KUU	**Kurty**	**3.79**	**351**	Pg	**Pb**	**21 26 50.6**	**+1.1**

MDH	**Madha**	**1.86 225**	*e*Pn	**Pn**	**21 51 27.9**	**-3.0**
MSFE	**Esma-Masafi**	**1.91 229**	*e*P	**Pn**	**21 51 30.1**	**-1.4**
	SNR=9.7					
MSFE	**Esma-Masafi**	**1.91 229**	*e*Pn	**Pn**	**21 51 31.8**	**+0.2**
HATD	**Hatta, Dubai**	**2.31 220**	*e*P	**Pn**	**21 51 35.8**	**-1.3**
	SNR=8.5					
HATD	**Hatta, Dubai**	**2.31 220**	*e*Pn	**Pn**	**21 51 36.5**	**-0.6**
ASHO	**Ashiyiah**	**2.47 219**	*e*Pn	**Pn**	**21 51 37.2**	**-2.0**
NAZ	**Nazwa, Dubai**	**2.50 230**	P	**Pn**	**21 51 40.3**	**+0.7**
NAZ	**Nazwa, Dubai**	**2.50 230**	*e*Pn	**Pn**	**21 51 40.9**	**+1.3**
FAQ	**Al Faqa, Dubai**	**2.71 227**	P	**Pn**	**21 51 42.4**	**-0.1**
FAQ	**Al Faqa, Dubai**	**2.71 227**	*e*Pn	**Pn**	**21 51 42.8**	**+0.3**
ASUD	**Al Ashush, Dub**	**2.96 228**	P	**Pn**	**21 51 46.0**	**+0.1**
ASUD	**Al Ashush, Dub**	**2.96 228**	*e*Pn	**Pn**	**21 51 46.6**	**+0.6**
ALNE	**Al Ain**	**3.14 216**	P	**Pn**	**21 51 47.9**	**-0.5**
ALNE	**Al Ain**	**3.14 216**	*e*Pn	**Pn**	**21 51 48.1**	**-0.3**
NGRK	**Negar Kerman**	**3.15 343**	*e*Pn	**Pn**	**21 51 47.7**	**-1.2**
NGRK			IAMB	IAmb	21 52 37.1	
	comp=Z,0.0nm,0.7s					
CHMN	**Cheshme madani**	**3.23 357**	*e*Pn	**Pn**	**21 51 49.8**	**-0.3**
CHMN			IAMB	IAmb	21 52 00.7	
	comp=Z,0.0nm,0.5s					
AJN	**Ajban**	**3.24 231**	*e*Pn	**Pn**	**21 51 48.7**	**-1.1**
TVBK	**TV Kerman**	**3.47 345**	IAMB	IAmb	21 52 04.4	
	comp=Z,0.0nm,0.4s					
KHGB	**Koh Gabri**	**3.91 343**	*e*Pn	**Pn**	**21 51 59.3**	**+0.1**
KHGB			IAMB	IAmb	21 52 13.1	
	comp=Z,0.0nm,0.5s					
SZD1	**Zahaedan-tmp**	**3.96 43**	*e*Pn	**Pn**	**21 52 00.1**	**+0.3**
IMEH	**Mehriz**	**5.50 331**	*e*Pn	**Pn**	**21 52 22.1**	**+1.1**
IKOO	**Kooshah**	**5.88 10**	*e*Pn	**Pn**	**21 52 26.5**	**+1.1**
IKAZ	**Kazeroun**	**6.10 302**	*e*Pn	**Pn**	**21 52 27.0**	**-2.5**
ITEG	**Tejag**	**6.31 8**	*e*Pn	**Pn**	**21 52 32.8**	**+0.6**
ISAD	**Sadrabad**	**6.36 327**	*e*Pn	**Pn**	**21 52 31.7**	**-1.3**
IRAM	**Ramesheh**	**6.99 319**	*e*Pn	**Pn**	**21 52 40.0**	**-1.5**

NIED ***13*** *21:55:00,37.°50N×141.°30E, h32km, Mw3.6 Best double couple: M0=2.41000×10^14 NP1:φ=144.00000°, δ=32.00000°, λ=-24.00000°. NP2:φ=255.00000°, δ=78.00000°, λ=-120.00000°.*
ICSJB ***13*** *21:55:49.5±0.9, 37.°43N±0.°03×141.°50E±0.°06, h20km±5km, mb3.6/5, Error ellipse: s-maj=8.7km s-min=5.0km az=23.3*
JMA ***13*** *21:55:51.9±0.1, 37.°46N×141.°34E, h32km±1km, M3.8*
JMA Felt II J1.
IDC ***13*** *21:55:55.9±4.2, 37.°42N×141.°38E, h64km±37km, mb3.3/5, mb1 3.4/6, mb1mx3.2/39, mbtmp3.5/6, ML2.5/1, Error ellipse: s-maj=30.8km s-min=25.5km az=92.0*
ISC 13 21:55:49.2±1.6, 37.°43N±0.°04×141.°39E±0.°06, h10km±9km, n17, σ=92/29, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.42**	**262**	P	**Pn**	**21 56 00.4**	**-0.9**
JFK				S	**Sb**	**21 56 06.0**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.57**	**236**	P	**Pn**	**21 56 02.9**	**-0.6**
ONAJ				S	**Sb**	**21 56 10.4**	**+0.7**
JMM	**Marumori**	**0.64**	**313**	P	**Pb**	**21 56 03.3**	**+0.7**
JMM				S	**Sb**	**21 56 11.1**	**-0.6**
JFFD	**Fukushimafurud**	**0.74**	**243**	P	**Pn**	**21 56 05.4**	**-0.4**
JFFD				S	**Sb**	**21 56 14.6**	**+0.1**
JFT	**Otama**	**0.84**	**276**	P	**Pn**	**21 56 07.2**	**0.0**
JFT				S	**Sb**	**21 56 17.9**	**+0.5**
JIO	**Ouri**	**1.02**	**358**	P	**Pb**	**21 56 09.3**	**+0.2**
JIO				S	**Sg**	**21 56 21.4**	**-0.9**
JHO	**Hitachi**	**1.05**	**219**	P	**Pg**	**21 56 09.6**	**+0.2**
JHO				S	**Sg**	**21 56 22.4**	**-0.6**
JOU	**Okura**	**1.10**	**329**	P	**Pn**	**21 56 10.9**	**+0.2**
JOU				S	**Sb**	**21 56 24.7**	**0.0**
JYS	**Shirataka**	**1.31**	**307**	P	**Pg**	**21 56 14.7**	**+0.2**
JYS				S	**Sn**	**21 56 31.1**	**-0.2**
JFY	**Yanaizu**	**1.34**	**270**	P	**Pg**	**21 56 14.8**	**-0.2**
JFY				S	**Sg**	**21 56 32.4**	**0.0**
MJAR	**Matsushiro Arr**	**2.70**	**252**	P	**Pn**	**21 56 34.7**	**+2.0**
	0.9nm,0.3s,baz=81,slow=16,SNR=38						
MJAR				S	**Sb**	**21 57 08.8**	**-1.9**
	0.6nm,0.3s,baz=84,slow=28,SNR=4.5						
MAT	**Matsushiro**	**2.70**	**252**	P	**Pn**	**21 56 34.8**	**+2.1**
MAT				S	**Sb**	**21 57 09.1**	**-1.7**
ZALV	**Zalesovo Beam**	**41.64**	**312**	P	**P**	**22 03 37.6**	**+0.1**
	0.5nm,0.3s,baz=101,slow=7.5,SNR=3.3						
MKAR	**Makanchi Array**	**43.89**	**302**	P	**P**	**22 03 55.6**	**-0.3**
	0.5nm,0.7s,baz=92,slow=8.7,SNR=5.9						
ILAR	**Eielson Array**	**49.17**	**33**	P	**P**	**22 04 37.8**	**+0.7**
	0.3nm,0.7s,baz=278,slow=6.3,SNR=3.3						
WRA	**Warramunga Arr**	**57.45**	**188**	P	**P**	**22 05 38.0**	**-0.3**
	0.4nm,0.6s,baz=7.2,slow=8.0,SNR=4.2						
AKASG	**Malin Array Be**	**73.97**	**322**	P	**P**	**22 07 24.0**	**-0.7**
	0.5nm,0.4s,baz=46,slow=5.7,SNR=5.1						

ISCJB ***13*** *22:00:50.2±0.5, 24.°85N±0.°03×122.°43E±0.°02, h8km±3km, Error ellipse: s-maj=6.1km s-min=2.7km az=23.0*
TAP ***13*** *22:00:50.5, 24.°86N×122.°44E, h11km±1km, ML2.9, C*
JMA ***13*** *22:00:50.6±0.2, 24.°79N×122.°41E, h4km±3km, M2.1*
ISC 13 22:00:50.5±1.0, 24.°84N±0.°04×122.°43E±0.°02, h10km±13km, n23, σ=43/44, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.40**	**223**	⇓*i*P	**Pg**	**22 00 58.7**	**+0.3**
	baz=221						
EOS1				*i* S	**Sb**	**22 01 05.1**	**-0.8**
	baz=221						
TWB1	**Santiao Chiao**	**0.43**	**292**	*i* P	**Pg**	**22 00 58.6**	**-0.4**
	baz=289						
TWB1				*i* S	**Sg**	**22 01 04.0**	**-0.7**
	baz=289						
EGS		**0.45**	**270**	*i* P	**Pg**	**22 00 59.7**	**+0.3**
	baz=267						
EGS				*i* S	**Sg**	**22 01 05.8**	**+0.4**
	baz=267						
TIPB	**Shuangxi**	**0.56**	**283**	*i* P	**Pg**	**22 01 01.5**	**0.0**
	baz=281						
TIPB				*i* S	**Sg**	**22 01 09.4**	**+0.6**
	baz=281						
TWC	**Suao**	**0.58**	**246**	P	**Pg**	**22 01 00.9**	**-0.8**
	baz=244						
TWC				S	**Sg**	**22 01 09.3**	**0.0**
	baz=244						
JYNG	**Yonagunijimaku**	**0.61**	**130**	P	**Pg**	**22 01 02.4**	**0.0**
JYNG				S	**Sg**	**22 01 10.4**	**0.0**
NWF	**Wu-fen Shan**	**0.63**	**291**	P	**Pg**	**22 01 03.0**	**+0.2**
	baz=289						
NWF				S	**Sg**	**22 01 11.7**	**+0.7**
	baz=289						
WFSB	**Wu-fen Shan**	**0.63**	**291**	P	**Pg**	**22 01 03.0**	**+0.2**
	baz=289						
WFSB				S	**Sg**	**22 01 11.0**	**0.0**
	baz=289						
YOJ	**Yonaguni jima**	**0.65**	**126**	*i* P	**Pg**	**22 01 03.0**	**-0.2**
	baz=127						
YOJ				*i* S	**Sg**	**22 01 11.7**	**0.0**
	baz=127						
YOJ	**Yonaguni jima**	**0.65**	**126**	P	**Pg**	**22 01 02.9**	**-0.2**
YOJ				*e*S	**Sg**	**22 01 11.5**	**-0.2**
TWE	**Neicheng**	**0.70**	**260**	P	**Pg**	**22 01 03.3**	**-0.9**
	baz=258						
TWE				S	**Sg**	**22 01 12.9**	**-0.4**
	baz=258						
ENA	**Nanau**	**0.75**	**237**	P	**Pg**	**22 01 04.5**	**-0.5**
	baz=235						
ENA				S	**Sg**	**22 01 15.0**	**+0.1**
	baz=235						
YM07	**YM07**	**0.81**	**294**	*e*P	**Pg**	**22 01 05.8**	**-0.3**
	baz=292						
YM07				S	**Sg**	**22 01 16.2**	**-0.3**
	baz=292						
ENTT	**Nioudou**	**0.81**	**256**	P	**Pg**	**22 01 06.0**	**-0.2**
	baz=254						
ENTT				S	**Sb**	**22 01 17.5**	**-0.3**
	baz=254						
YM01	**YM01**	**0.84**	**291**	*e*P	**Pg**	**22 01 06.8**	**+0.1**
	baz=289						
YM01				*e*S	**Sg**	**22 01 17.3**	**-0.2**
	baz=289						
YM08	**YM08**	**0.84**	**294**	P	**Pg**	**22 01 05.9**	**-0.7**
	baz=292						
YM08				S	**Sg**	**22 01 16.8**	**-0.7**
	baz=292						
YM11	**YM11**	**0.84**	**293**	*e*P	**Pb**	**22 01 08.2**	**+0.9**
	baz=291						
YM11				*e*S	**Sb**	**22 01 18.6**	**-0.1**
	baz=291						
NWLT	**Wulai**	**0.84**	**266**	*e*P	**Pg**	**22 01 06.6**	**-0.2**
	baz=264						
NWLT				*e*S	**Sg**	**22 01 18.0**	**+0.1**
	baz=264						
PCYT	**Pengchaiyu**	**0.85**	**338**	P	**Pg**	**22 01 06.3**	**-0.6**
	baz=337						
YM10	**YM10**	**0.85**	**292**	*e*P	**Pg**	**22 01 06.5**	**-0.3**
	baz=290						
YM10				*e*S	**Sg**	**22 01 17.9**	**0.0**
	baz=290						
TWY	**Chenhua**	**0.87**	**300**	*e*P	**Pg**	**22 01 07.5**	**+0.3**
	baz=298						
TWY				*e*S	**Sg**	**22 01 18.3**	**-0.3**
	baz=298						
IRIF	**Iriomote-Funau**	**1.29**	**113**	P	**Pb**	**22 01 15.0**	**+0.2**
IRIF				*e*S	**Sg**	**22 01 31.9**	**-0.1**
JKRS	**Kuro-shima**	**1.56**	**112**	*e*S	**Sb**	**22 01 39.5**	**+0.2**

SOME ***13*** *22:06:34.7, 39.°02N×75.°93E, h0km*
NNC ***13*** *22:06:41.5±3.5, 39.°24N×75.°66E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=27.4km s-min=18.0km az=157.0*
KRNET ***13*** *22:06:41.8±0.1, 39.°25N×76.°03E, mb3.5*
ISC 13 22:06:47.5±1.6, 39.°24N±0.°08×75.°89E±0.°04, h10km, n42, σ=79/62, 15C-18D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.20**	**2**	⇑*i*P	**Pn**	**22 07 21.5**	**-2.9**
	baz=59						
NRN				⇑*i*S	**Sn**	**22 07 50.2**	**-1.6**
	baz=59						
ARLS	**Aral**	**2.88**	**336**	⇑*i*P	**Pn**	**22 07 31.8**	**-1.9**
	baz=34						
ARLS				⇑*i*S	**Sn**	**22 08 08.1**	**-0.4**
	baz=34						
KZA	**Kyzart**	**2.88**	**351**	P	**Pn**	**22 07 34.2**	**+0.3**
	SNR=16						
KZA	**Kyzart**	**2.88**	**351**	⇓*i*P	**Pn**	**22 07 31.0**	**-2.9**
	baz=48						
KZA				⇓*i*S	**Sn**	**22 08 08.5**	**-0.3**
	baz=48						
TARG	**Taragay, Kyrgy**	**2.89**	**30**	⇓*e*P	**Pn**	**22 07 29.8**	**-4.2**
	baz=28						
TARG				⇓*i*S	**Sn**	**22 08 06.2**	**-2.8**
	baz=28						
ULHL	**Ulahol**	**3.02**	**5**	P	**Pn**	**22 07 37.0**	**+1.4**
	SNR=18						
ULHL	**Ulahol**	**3.02**	**5**	⇓*e*P	**Pn**	**22 07 32.3**	**-3.3**
	baz=3.0						
ULHL				⇓*i*S	**Sn**	**22 08 11.2**	**-0.8**
	baz=3.0						
ARSB	**Arslanbob**	**3.05**	**314**	⇓*e*P	**Pn**	**22 07 34.7**	**-1.2**
	baz=13						
ARSB				⇓*i*S	**Sn**	**22 08 13.3**	**+0.8**
	baz=13						
KDJ	**Kajisay**	**3.06**	**18**	⇑*i*P	**Pn**	**22 07 33.1**	**-3.0**
	baz=17						
KDJ				⇑*i*S	**Sn**	**22 08 10.5**	**-2.3**
	baz=17						
UCH	**Uchtor**	**3.17**	**341**	P	**Pn**	**22 07 39.9**	**+2.1**
	SNR=11						
UCH	**Uchtor**	**3.17**	**341**	⇑*e*P	**Pn**	**22 07 35.2**	**-2.6**
	baz=39						
UCH				⇑*i*S	**Sn**	**22 08 15.5**	**-0.4**
	baz=39						
DRK	**Karamyk**	**3.18**	**276**	⇓*i*P	**Pn**	**22 07 37.1**	**-0.7**
	baz=75						
DRK				⇓*e*S	**Sn**	**22 08 17.4**	**+1.5**
	baz=75						
AML	**Almayashu**	**3.34**	**331**	P	**Pn**	**22 07 42.9**	**+2.7**
	SNR=8.1						
AML	**Almayashu**	**3.34**	**331**	⇓*i*P	**Pn**	**22 07 37.5**	**-2.7**
	baz=29						
AML				⇓*i*S	**Sn**	**22 08 19.1**	**-1.0**
	baz=29						
KBK	**Karagaybulak**	**3.49**	**349**	P	**Pn**	**22 07 45.2**	**+3.2**
	SNR=13						
KBK	**Karagaybulak**	**3.49**	**349**	⇓*i*P	**Pn**	**22 07 39.0**	**-3.1**
	baz=47						
KBK				⇓*i*S	**Sn**	**22 08 23.2**	**-0.3**
	baz=47						
AAK	**Ala-Archa**	**3.56**	**343**	⇑Pg	**Pn**	**22 07 44.1**	**+1.1**
	14nm,0.7s						
AAK				⇑Lg	Lg	22 08 33.9	
TKM2	**Tokmak 2**	**3.69**	**357**	P	**Sg**	**22 08 47.0**	**+1.0**
	SNR=7.3						
TKM2	**Tokmak 2**	**3.69**	**357**	⇑Pg	**Pb**	**22 07 49.9**	**-3.1**
	4.6nm,0.5s						
TKM2				⇓Lg	Lg	22 08 39.9	
	29nm,1.2s						
KST	**Kastek**	**3.81**	**1**	Pg	**Pn**	**22 07 48.5**	**+2.2**
	15nm,0.6s						
KST				Lg	Lg	22 08 42.8	
	12nm,0.7s						
KST	**Kastek**	**3.81**	**1**	*e*P	**Pn**	**22 07 48.9**	**+2.6**
	15nm,0.6s						
KST				*e*S	**Sb**	**22 08 42.8**	**+1.8**
	12nm,0.7s						
TNSS	**Tian-Shan**	**3.88**	**12**	Pg	**Pn**	**22 07 49.8**	**+2.2**
	6.5nm,0.5s						
TNSS				Lg	Lg	22 08 44.5	
	9.7nm,0.5s						
TNSS	**Tian-Shan**	**3.88**	**12**	*e*P	**Pn**	**22 07 49.8**	**+2.2**
	6.5nm,0.5s						
TNSS				*e*S	**Sb**	**22 08 44.5**	**+1.0**
	9.7nm,0.5s						
BTK	**Batken**	**4.00**	**283**	⇑*i*P	**Pn**	**22 07 49.0**	**+0.1**
	baz=83						
BTK				⇑*e*S	**Sn**	**22 08 36.4**	**+0.5**
	baz=83						
MDOK	**Medeo**	**4.02**	**12**	Pn	**Pn**	**22 07 48.3**	**-1.0**
	11nm,1.0s						
MDOK				Lg	Lg	22 08 49.5	
	21nm,0.5s						
MDOK	**Medeo**	**4.02**	**12**	*e*P	**Pn**	**22 07 53.0**	**+3.7**
	5.0nm,0.9s						
MDOK				*e*S	**Sb**	**22 08 49.6**	**+2.3**
	27nm,1.0s						
MRKS	**Merke**	**4.04**	**331**	Pg	**Pn**	**22 07 47.2**	**-2.3**
	5.9nm,0.4s						
MRKS				Lg	Lg	22 08 39.1	
	4.3nm,0.5s						
MRKS	**Merke**	**4.04**	**331**	*e*P	**Pn**	**22 07 52.9**	**+3.3**
	1.6nm,0.5s						
MRKS				*e*S	**Sb**	**22 08 49.1**	**+1.2**
	4.3nm,0.5s						
SATY	**Saty**	**4.27**	**26**	Pg	**Pb**	**22 07 58.7**	**-4.0**
	20nm,0.9s						
SATY				Lg	Lg	22 08 59.6	
	57nm,0.1s						
SATY	**Saty**	**4.27**	**26**	*e*P	Pb	22 07 57.9	-4.9
	20nm,0.9s						
SATY				*e*S	**Sb**	**22 08 57.4**	**+3.0**
	57nm,0.1s						
ZHN	**Zhinishke**	**4.38**	**25**	Pg	**Pb**	**22 08 00.6**	**-4.0**
	2.0nm,0.1s						
ZHN				Lg	Lg	22 09 03.0	
	21nm,0.2s						
ZHN	**Zhinishke**	**4.38**	**25**	*e*P	**Pn**	**22 07 58.2**	**+4.0**
	1.7nm,0.2s						
ZHN				*e*S	**Sb**	**22 08 57.9**	**+0.5**
	22nm,0.3s						
KUU	**Kurty**	**4.67**	**4**	*e*P	Pb	22 08 04.5	-4.9
	2.7nm,0.7s						
KUU				*e*S	**Sb**	**22 09 09.2**	**+3.4**
	12nm,0.7s						
CHKK	**Chushkaly**	**4.69**	**10**	*e*P	**Pb**	**22 08 06.2**	**-3.6**
	3.8nm,0.6s						
CHKK				*e*S	**Sb**	**22 09 12.0**	**+5.7**
	53nm,0.3s						
SHLS	**Shalkode**	**4.76**	**33**	Pg	**Pb**	**22 08 12.8**	**+1.8**
	3.0nm,0.5s						
SHLS				Lg	Lg	22 09 24.0	
	19nm,0.5s						
PDGK	**Podgornoye**	**4.91**	**32**	⇓Pg	**Pb**	**22 08 15.7**	**+2.0**
	5.0nm,0.9s						
PDGK				⇓Lg	Lg	22 09 22.8	
	20nm,0.9s						
MNBS	**Baschi**	**5.19**	**20**	Pg	**Pb**	**22 08 14.7**	**-3.8**
	4.9nm,0.6s						
MNBS				Lg	Lg	22 09 27.2	
	14nm,0.3s						
MNBS	**Baschi**	**5.19**	**20**	*e*P	**Pb**	**22 08 14.7**	**-3.8**
	4.9nm,0.6s						
MNBS				*e*S	**Sb**	**22 09 27.2**	**+6.2**
	14nm,0.3s						
KTMS	**Ketmen**	**5.38**	**37**	Pg	**Pb**	**22 08 21.0**	**-0.8**
	0.9nm,0.3s						
KTMS				Lg	Lg	22 09 38.3	
	7.3nm,0.3s						
KTMS	**Ketmen**	**5.38**	**37**	*e*P	**Pb**	**22 08 18.3**	**-3.5**
	0.9nm,0.3s						
KTMS				*e*S	**Sb**	**22 09 32.5**	**+6.0**
	7.3nm,0.3s						
KK31	**Karatay Array**	**5.60**	**315**	⇓Pn	Pn	22 08 06.0	-4.9
	0.3nm,0.3s,baz=134,slow=14,SNR=3.9						
KK31				⇑Pg	**Pb**	**22 08 23.6**	**-1.8**
	1.2nm,0.6s,baz=144,slow=17,SNR=4.2						
KK31				⇑Lg	Lg	22 09 31.7	
	2.2nm,0.6s,baz=139,slow=28						
DJR	**Jarkent**	**5.87**	**29**	Pg	**Pb**	**22 08 26.3**	**-3.7**
	1.5nm,0.6s						
DJR				Lg	Lg	22 09 48.0	
	3.5nm,0.3s						

IDC ***13*** *22:15:11.6±1.1, 9.°66N×126.°78E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/52, mbtmp3.9/6, MS3.1/3, Ms1 3.1/3, ms1mx2.6/46, Error ellipse: s-maj=74.1km s-min=19.2km az=71.0*
MAN ***13*** *22:15:15.7, 9.°55N×126.°77E, h23km, mb4.6, ML3.5, MS3.4*
ISCJB ***13*** *22:15:16.7±1.0, 9.°53N±0.°04×126.°73E±0.°07, h51km±11km, mb3.9/6, MS3.6/1, Error ellipse: s-maj=12.2km s-min=5.2km az=166.0*
ISC 13 22:15:18.2±1.7, 9.°52N±0.°05×126.°71E±0.°10, h46km±18km, n30, σ=90/30, mb3.9/6, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.21**	**243**	*e*P	**Pn**	**22 15 36.6**	**-2.1**
BUTP				*e*S	**Sn**	**22 15 50.5**	**-3.6**
SCPH	**Surigao**	**1.23**	**282**	⇓*e*P	Pn	22 15 44.8	+5.7
SCPH				*e*S	**Sn**	**22 15 59.8**	**+5.1**
BIPH	**Bislig**	**1.38**	**195**	⇓*i*P	**Pn**	**22 15 40.4**	**-0.6**
BIPH				*i* S	**Sn**	**22 15 56.8**	**-1.2**
MSLP	**Maasin**	**1.93**	**289**	*e*P	**Pn**	**22 15 48.2**	**-0.4**
MSLP				*e*S	**Sn**	**22 16 12.1**	**+0.5**
CGP	**Cagayan de Oro**	**2.26**	**242**	⇑*e*P	**Pn**	**22 15 51.9**	**-1.2**
CGP				*e*S	**Sn**	**22 16 17.8**	**-2.0**
BUKP	**Musuan**	**2.31**	**225**	*e*P	**Pn**	**22 15 53.9**	**0.0**
BUKP				*e*S	**Sn**	**22 16 23.8**	**+2.7**
PLP	**Palo**	**2.36**	**314**	⇑*e*P	**Pn**	**22 15 54.0**	**-0.5**
PLP				*e*S	**Sn**	**22 16 22.1**	**-0.2**
BESP	**Borongan**	**2.42**	**329**	*e*P	**Pn**	**22 15 55.0**	**-0.2**
MATI	**Mati**	**2.60**	**190**	*e*P	**Pn**	**22 15 56.5**	**-1.3**
MATI				*e*S	**Sn**	**22 16 26.5**	**-1.7**
DAV	**Davao City (W)**	**2.68**	**205**	Sn	**Sn**	**22 16 32.1**	**+1.9**
	31nm,0.3s,baz=247,slow=21,SNR=4.5						
DAV				LR	LR	22 17 19.1	
	comp=Z,999nm,20.6s,baz=269,slow=45						
DMPH	**Davao City--Mi**	**2.70**	**206**	⇑*e*P	Pn	22 16 05.3	+6.1
DMPH				*e*S	**Sn**	**22 16 32.7**	**+2.0**
LLP	**Lapu-Lapu**	**2.82**	**286**	*e*P	**Pn**	**22 16 01.7**	**+0.8**
LLP				*e*S	**Sn**	**22 16 32.7**	**-0.9**
DDMP	**Don Marcelino,**	**3.54**	**196**	*e*P	**Pn**	**22 16 14.6**	**+3.9**
CNP	**Catarman**	**3.59**	**326**	*e*P	**Pn**	**22 16 11.4**	**0.0**
CNP				*e*S	Pn	22 16 18.9	+7.5
PAGZ	**Pagadian**	**3.69**	**243**	*e*P	**Pn**	**22 16 13.2**	**+0.4**
RCP	**Roxas**	**4.40**	**298**	⇑*e*P	**Pn**	**22 16 23.9**	**+1.4**
TGY	**Tagaytay City**	**7.26**	**309**	LR	LR	22 19 59.8	
	comp=Z,178nm,18.2s,baz=62,slow=40						
FITZ	**Fitzroy Crossi**	**27.46**	**182**	P	**P**	**22 21 00.3**	**+0.2**
	4.5nm,0.6s,baz=0.5,slow=4.5,SNR=8.7						
ASAR	**Alice Springs**	**33.73**	**168**	P	**P**	**22 21 56.1**	**+0.6**
	0.4nm,0.3s,baz=345,slow=7.4,SNR=9.7						
H11S3	**WAKE ISLAND Hy**	**39.72**	**73**	T	T	23 05 43.7	
	baz=262,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**39.73**	**73**	T	T	23 05 43.6	
	baz=262,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.74**	**73**	T	T	23 05 54.4	
	baz=262,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**40.08**	**71**	T	T	23 06 14.9	
	baz=264,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.09**	**71**	T	T	23 06 14.5	
	baz=264,slow=74,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**40.10**	**71**	T	T	23 06 17.3	
	baz=264,slow=74,SNR=11						
STKA	**Stephens Creek**	**43.56**	**162**	P	**P**	**22 23 18.5**	**+0.7**
	0.7nm,0.4s,baz=349,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**52.88**	**323**	P	**P**	**22 24 29.0**	**-0.6**
	0.7nm,0.5s,baz=120,slow=7.4,SNR=15						
KURBB	**Kurchatov Arra**	**56.93**	**325**	P	**P**	**22 24 57.9**	**-0.9**
	0.5nm,0.6s,baz=125,slow=6.6,SNR=5.6						
KIRV	**Kirov**	**75.31**	**328**	LR	LR	23 01 28.1	
	comp=Z,30nm,18.9s,baz=208,slow=37						
YKA	**Yellowknife Ar**	**94.26**	**24**	P	**P**	**22 28 31.2**	**-1.1**
	0.3nm,0.6s,baz=294,slow=4.5,SNR=3.8						

BJI ***13*** *22:19:13.8±0.0, 28.°40N×51.°80E, h11km, mb4.9/49, mB4.9/32, Ms4.5/31, Ms7 4.2/30*
MOS ***13*** *22:19:14.7±1.3, 28.°26N×51.°84E, h13km, mb5.0/78, Error ellipse: s-maj=5.1km s-min=3.1km az=112.5*
NEIC ***13*** *22:19:15.5±0.0, 28.°34N×51.°63E, h16km, mb4.8/105, ML4.9(THR), MN4.9(TEH), After TEH.*
ISCJB ***13*** *22:19:15.7±0.6, 28.°38N±0.°02×51.°77E±0.°01, h15km±3km, mb5.0/202, MS3.9/28, Error ellipse: s-maj=3.0km s-min=1.8km az=31.1*
TEH ***13*** *22:19:15.5, 28.°41N×51.°69E, h10km, ML4.8*
GII ***13*** *22:19:16.4±0.0, 28.°35N×51.°84E, h10km*
IDC ***13*** *22:19:17.9±1.8, 28.°35N×51.°73E, h24km±10km, mb4.5/34, mb1 4.6/42, mb1mx4.5/56, mbtmp4.7/42, ML4.0/6, MS3.7/27, Ms1 3.7/27, ms1mx3.6/49, Error ellipse: s-maj=11.8km s-min=9.7km az=21.0*
DSN ***13*** *22:19:18.0±0.5, 28.°44N×51.°81E, h10km, mb5.0/5, ML5.2/11, Error ellipse: s-maj=14.2km s-min=4.1km az=53.0*
OMAN ***13*** *22:19:21.6±0.2, 28.°38N×51.°89E, h51km±4km, mb5.2/3, ml5.0/11, Error ellipse: s-maj=7.8km s-min=3.2km az=42.0*
**ISC 13 22:19:16.5±0.5, 28.°39N±0.°03×51.°82E±0.°03, h12km±3km, h12km:pP-P, n726

TVBK	TV Kerman	4.61	69	*e*Pn	Pn	22 20 28.8	+2.4
YZKH	Yazd	4.66	30	*e*Pn	Pn	22 20 28.9	+2.1
AJN	Ajban	4.75	143	*i* P	Pn	22 20 30.8	+2.9
	SNR=20						
AJN	Ajban	4.75	143	P	Pn	22 20 30.9	+2.9
	SNR=10						
AJN	Ajban	4.75	143	*e*Pn	Pn	22 20 31.0	+3.0
NAZ	Nazwa, Dubai	4.83	134	*i* P	Pn	22 20 31.9	+2.9
	SNR=121						
NAZ	Nazwa, Dubai	4.83	134	P	Pn	22 20 32.1	+3.1
	SNR=30						
NAZ				S	Sn	22 21 26.5	+1.7
NAZ	Nazwa, Dubai	4.83	134	*e*Pn	Pn	22 20 31.9	+2.9
ASUD	Al Ashush, Dub	4.89	139	*i* P	Pn	22 20 32.8	+2.9
	SNR=691						
ASUD	Al Ashush, Dub	4.89	139	P	Pn	22 20 33.0	+3.1
	SNR=9.2						
ASUD				S	Sn	22 21 28.6	+2.1
ASUD	Al Ashush, Dub	4.89	139	*e*Pn	Pn	22 20 32.8	+2.9
MSFE	Esma-Masafi	4.91	127	*i* P	Pn	22 20 32.3	+2.1
	SNR=109						
MSFE	Esma-Masafi	4.91	127	*e*Pn	Pn	22 20 32.4	+2.1
IKLH	Kolahrood	4.92	358	*e*Pn	Pn	22 20 31.1	+0.5
IKLH				IAMB	IAmb	22 22 20.8	
	comp=Z,4μm,1.0s						
FAQ	Al Faqa, Dubai	4.96	136	*i* P	Pn	22 20 33.2	+2.4
	SNR=84						
FAQ	Al Faqa, Dubai	4.96	136	P	Pn	22 20 33.4	+2.6
	SNR=8.0						
FAQ	Al Faqa, Dubai	4.96	136	*e*Pn	Pn	22 20 33.4	+2.6
MDH	Madha	5.05	126	*i* P	Pn	22 20 33.9	+1.9
	SNR=72						
MDH	Madha	5.05	126	P	Pn	22 20 34.1	+1.9
	SNR=13						
MDH	Madha	5.05	126	*e*Pn	Pn	22 20 34.0	+1.9
CHMN	Cheshme madani	5.22	72	Pn	Pn	22 20 37.3	+2.6
HATD	Hatta, Dubai	5.24	132	*i* P	Pn	22 20 36.8	+2.0
	SNR=177						
HATD	Hatta, Dubai	5.24	132	P	Pn	22 20 37.0	+2.2
	SNR=24						
HATD	Hatta, Dubai	5.24	132	*e*Pn	Pn	22 20 36.7	+1.9
ASHO	Ashiyiah	5.29	133	*i* P	Pn	22 20 37.7	+2.1
	SNR=535						
ASHO	Ashiyiah	5.29	133	P	Pn	22 20 37.7	+2.1
	SNR=34						
ASHO				S	Sn	22 21 37.5	+1.0
ASHO	Ashiyiah	5.29	133	*e*Pn	Pn	22 20 37.6	+2.1
ALNE	Al Ain	5.57	140	*i* P	Pn	22 20 41.5	+2.2
	SNR=181						
ALNE	Al Ain	5.57	140	*e*Pn	Pn	22 20 41.5	+2.2
IKMR	Kamar-syah	5.91	331	*e*Pn	Pn	22 20 44.3	+0.5
ISFB	Sefidab	5.96	3	*e*Pn	Pn	22 20 44.8	+0.1
SOHO	SOHO	5.99	134	P	Pn	22 20 46.7	+1.7
	SNR=50						
SOHO				S	Sn	22 21 54.3	+0.7
IKFM	Kafar-mosalman	6.15	327	*e*Pn	Pn	22 20 48.0	+0.8
ARQ	Araqi	6.58	139	P	Pn	22 20 54.8	+1.7
	SNR=23						
IKOM	Komasi	6.85	329	*e*Pn	Pn	22 20 57.3	+0.4
HOQ	Hoqain	6.88	133	P	Pn	22 20 58.0	+0.7
	SNR=41						
HOQ	Hoqain	6.88	133	*e*Pn	Pn	22 20 57.5	+0.2
TNSJ	Nastanj	6.91	35	*e*Pn	Pn	22 20 59.4	+1.6
TKDS	Koohdasht(Taba	6.92	40	*e*Pn	Pn	22 20 59.5	+1.6
TABS	Tabas	6.94	40	*e*Pn	Pn	22 21 00.1	+1.9
TABS	Tabas	6.94	40	*e*Pn	Pn	22 21 00.1	+1.9
IHSB	Hasanabad	7.05	356	*e*Pn	Pn	22 20 59.2	-0.4
KCHF	Cheshme Sefid,	7.15	326	*e*Pn	Pn	22 21 01.4	+0.3
DAMV	Damavand	7.22	1	*e*Pn	Pn	22 21 02.0	-0.2
DAMV	Damavand	7.22	1	*e*Pn	Pn	22 21 02.0	-0.2
IMHD	Mahdasht	7.34	353	*e*Pn	Pn	22 21 03.2	-0.5
IKOO	Kooshah	7.40	55	*e*Pn	Pn	22 21 05.5	+0.9
BSY	Bisya	7.43	138	P	Pn	22 21 06.9	+2.0
	SNR=78						
IGHG	Ghaleghazi	7.43	324	*e*Pn	Pn	22 21 04.8	-0.2
IVIS	Veis	7.45	327	*e*Pn	Pn	22 21 05.1	0.0
BIDO	Bidbid	7.46	129	P	Pn	22 21 06.2	+0.9
	SNR=11						
BIDO	Bidbid	7.46	129	*e*Pn	Pn	22 21 06.1	+0.9
ITEG	Tejag	7.47	51	*e*Pn	Pn	22 21 07.2	+1.6
ISHM	Shahmirzad	7.50	9	*e*Pn	Pn	22 21 06.1	0.0
QABG	Abgarm-Qazvin	7.54	346	*e*Pn	Pn	22 21 06.7	+0.1
ILIN	Lien	7.71	329	*e*Pn	Pn	22 21 08.7	-0.2
SMDO	Samad	7.73	132	P	Pn	22 21 10.7	+1.7
	SNR=46						
SMDO				S	Sn	22 22 38.2	+1.6
IPRN	Peran	7.85	3	*e*Pn	Pn	22 21 11.7	+1.1
WSAR	Wadi Sarin	8.00	128	P	Pn	22 21 13.8	+1.2
	SNR=24						
WSAR	Wadi Sarin	8.00	128	Pn	Pn	22 21 13.4	+0.8
	comp=Z,41nm,0.3s,baz=313,slow=10,SNR=448						
WSAR				Sn	Sn	22 22 40.6	-2.4
	comp=Z,4.0nm,0.3s,baz=342,slow=20,SNR=3.3						
WSAR				LR	LR	22 25 05.2	
	comp=Z,443nm,20.6s,baz=322,slow=43						
SZD1	Zahaedan-tmp	8.01	80	*e*Pn	Pn	22 21 14.8	+2.0
QALM	Alamut, Qazvin	8.08	353	*e*Pn	Pn	22 21 14.0	0.0
IGZV	Ghazvin	8.09	351	*e*Pn	Pn	22 21 13.1	-1.0
JMDO	Jabal Madar	8.26	135	P	Pn	22 21 16.9	+0.7
	SNR=15						
JMDO				S	Sn	22 22 48.9	-0.5
IMON	Monand	8.28	53	*e*Pn	Pn	22 21 19.4	+2.7
WBK	Wadi Bani Khal	8.65	130	P	Pn	22 21 22.7	+1.1
	SNR=28						
WBK				S	Sn	22 23 00.1	+0.9
MHTO	MHTO	9.25	141	P	Pn	22 21 31.0	+1.3
	SNR=17						
MHTO				S	Sn	22 23 10.4	-3.3
JLN	Jalan Bani Buh	9.26	130	P	Pn	22 21 29.9	0.0
	SNR=11						
IMND	Minoodasht	9.35	18	*e*Pn	Pn	22 21 31.9	+0.8
SBZV	Sabzevar	9.36	30	*e*Pn	Pn	22 21 33.1	+1.6
MAHB	Mahabad	9.82	330	*e*Pn	Pn	22 21 36.5	-1.1
DQM	DQM	9.91	147	P	Pn	22 21 38.8	0.0
	SNR=7.6						
ISRB	Sarab	10.03	341	*e*Pn	Pn	22 21 40.9	+0.2
ISFR	Sfrayin	10.09	29	*e*Pn	Pn	22 21 43.2	+1.7
IKRD	Kardeh	10.09	32	*e*Pn	Pn	22 21 50.2	+8.7
JRKH	Jarkhoshk	10.41	42	*e*Pn	Pn	22 21 48.3	+2.5
WHFO	Wadi Hawf	10.57	170	P	Pn	22 21 48.3	+0.3
	SNR=5.6						
IMYA	Miami	10.58	39	*e*Pn	Pn	22 21 50.2	+2.1
GEYT	Alibeck	10.88	27	Pn	Pn	22 21 52.4	+0.3
	comp=Z,1.9nm,0.3s,baz=209,slow=14,SNR=2.2						
GEYT				Sn	Sn	22 24 08.9	+15
	comp=Z,4.5nm,0.3s,baz=205,slow=21,SNR=8.2						
GEYT				LR	LR	22 26 34.4	
	comp=Z,580nm,18.3s,baz=215,slow=40						
GYA0B	ALIBECK ARRAY	10.88	27	*e*Pn	Pn	22 21 54.4	+2.3
ITBZ	Tabriz	10.90	336	*e*Pn	Pn	22 21 52.8	+0.2
DMTO	DMTO	11.00	164	P	Pn	22 21 53.0	-0.8
	SNR=5.2						
ISHB	Shabestar	11.14	334	*e*Pn	Pn	22 21 55.8	-0.1
CUKT	Cukurca	11.21	324	*e*P	Pn	22 21 53.1	-3.6
AKDM	Akdamar-Van	12.36	326	*e*P	Pn	22 22 10.5	-1.9
VANB	Van	12.37	328	*e*P	Pn	22 22 10.8	-1.7
CLDR	Caldiran	12.57	331	*e*P	Pn	22 22 15.7	+0.2
GNI	Garni	13.11	335	*e*Pn	Pn	22 22 25.2	+2.6
GNI				*e*S	Sn	22 24 39.3	-9.2
GNI	Garni	13.11	335	*i* P	Pn	22 22 25.7	+3.0
	SNR=11						
GNI	Garni	13.11	335	*ce*P	Pn	22 22 24.9	+2.2
GNI				pmax	pmax		
	comp=Z,114nm,0.7s						
GNI	Garni	13.11	335	P	Pn	22 22 26.3	+3.7
	SNR=8.2						
GNI	Garni	13.11	335	Pn	Pn	22 22 23.7	+1.1
	comp=Z,0.3nm,0.3s,baz=56,slow=3.7,SNR=15						
GNI				LR	LR	22 28 42.9	
	comp=Z,68nm,19.0s,baz=152,slow=43						
SVAN	Silvan-Diyarba	13.17	320	*e*P	Pn	22 22 21.3	-2.2
MLAZ	Malazgirt-MUS	13.20	327	*e*P	Pn	22 22 22.7	-1.2
ASF	Jabal al Asfar	13.43	290	P	Pn	22 22 23.9	-3.2
	comp=Z,16nm,1.0s						
ASF				S	Sn	22 25 00.2	+3.8
	comp=Z,16nm,1.0s						
ASF	Jabal al Asfar	13.43	290	Pn	Pn	22 22 24.0	-3.1
	comp=Z,0.6nm,0.3s,baz=260,slow=2.6,SNR=7.5						
ASF				Sn	Sn	22 24 46.9	-9.5
	comp=Z,0.6nm,0.3s,baz=270,slow=20,SNR=2.1						
VRTB	Varto-Mus	13.76	324	*e*P	Pn	22 22 29.7	-1.9
SWQJ	Swaqa	13.97	286	P	Pn	22 22 32.4	-2.1
	comp=Z,180nm,0.8s						
HSUJ	Al Zarqa	14.00	289	P	Pn	22 22 37.0	+2.1
	comp=Z,58nm,0.7s						
BNGB	Bingl	14.05	322	*e*P	Pn	22 22 33.2	-2.4
URFA	Urfa	14.15	313	*e*P	Pn	22 22 34.5	-2.4
KOPR	Koprukoy-ERZUR	14.20	327	*e*P	Pn	22 22 36.2	-1.4
WALJ	Wala	14.23	287	P	Pn	22 22 35.4	-2.5
	comp=Z,106nm,0.6s						
JDRJ	Daraweish	14.25	283	P	Pn	22 22 40.9	+2.6
	comp=Z,112nm,1.0s						
SENK	Senkaya-Erzuru	14.43	330	*e*P	Pn	22 22 41.0	+0.3
SVRC	Sivrice-ELAZID	14.43	317	*e*P	Pn	22 22 38.7	-2.0
YEDI	Yedisu-Bingol	14.45	323	*e*P	Pn	22 22 38.9	-2.1
SHMJ	Saham	14.49	291	P	Pn	22 22 38.2	-3.3
	comp=Z,76nm,0.9s						
TBLG	Delisi	14.51	338	*e*Pn	Pn	22 22 43.4	+1.6
TBLG	Delisi	14.51	338	*e*P	Pn	22 22 43.4	+1.6
HMDT	Nahal Hemdat	14.59	289	Pn	Pn	22 22 42.6	-0.2
DSI	Dead Sea	14.60	287	Pn	Pn	22 22 43.2	+0.3
AKH	Akhalkalaki	14.67	335	*e*Pn	P	22 22 47.5	-2.8
AKH	Akhalkalaki	14.67	335	*e*P	P	22 22 47.5	-2.8
KSDI	Kefar Szold	14.69	293	Pn	Pn	22 22 44.2	0.0
GEM	Giv'at Ha'Em	14.69	293	Pn	Pn	22 22 44.5	+0.3
MMLI	Mount Malkishu	14.71	290	Pn	Pn	22 22 45.9	+1.4
AQBJ	Aqaba	14.73	279	P	P	22 22 52.6	+1.8
	comp=Z,93nm,0.8s						
HRFI	Mount Harif	14.75	280	Pn	Pn	22 22 45.8	+0.8
PRNI	Paran	14.79	282	Pn	Pn	22 22 46.8	+1.2
EIL	Elat	14.81	279	Pn	Pn	22 22 43.4	-2.5
	comp=Z,0.2nm,0.3s,baz=51,slow=11,SNR=3.0						
EIL				LR	LR	22 29 26.5	
	comp=Z,1μm,18.1s,baz=118,slow=41						
MBRI	Mt Berech	14.85	279	Pn	Pn	22 22 47.5	+1.1
MMA0B	Mount Meron ar	14.85	292	Pn	Pn	22 22 46.4	-0.1
MMAI	Mount Meron Ar	14.85	292	Pn	Pn	22 22 43.1	-3.4
	comp=Z,1.7nm,0.3s,baz=96,slow=17,SNR=20						
MMAI				Sn	Sn	22 25 22.6	-8.4
	comp=Z,0.8nm,0.3s,baz=102,slow=27,SNR=3.2						
MMAI				LR	LR	22 29 31.8	
	comp=Z,551nm,19.8s,baz=90,slow=42						
MAK	Makhachkala	14.96	348	*e*P	Pn	22 22 45.7	-2.0
MAK				*e*S	Sn	22 25 33.2	-0.1
MAK				pmax	pmax		
	comp=Z,151nm,1.4s						
MAK				MLR	MLR		
	comp=Z,326nm,16.0s						
AMAZ	Amatzia	14.98	286	P	P	22 22 57.3	+3.6
AMAZ	Amatzia	14.98	286	Pn	Pn	22 22 48.6	+0.4
SLTI	Sal'it	14.99	289	Pn	Pn	22 22 48.5	+0.2
KRMI	Paran Flat	15.02	281	Pn	Pn	22 22 49.2	+0.5
HNTI	Hanita	15.05	292	Pn	Pn	22 22 49.7	+0.6
GAZ	Gaziantep	15.07	309	*e*P	Pn	22 22 47.4	-2.0
OFRI	`Ofer	15.11	290	Pn	Pn	22 22 49.9	0.0
KZIT	Kziot	15.35	284	Pn	Pn	22 22 52.9	-0.2
DAMY	Dhamar	15.38	208	*e*Pn	Pn	22 22 51.0	-2.7
	comp=Z,59nm,1.1s						
TAHT	Tahtakopru-Hat	15.41	305	*e*P	Pn	22 22 52.9	-0.9
BCA	Borcka	15.46	330	*e*P	Pn	22 22 54.1	-0.4
ILIC	ilic-Erzincan	15.56	319	*e*P	Pn	22 22 53.5	-2.4
GROC	Groznyy	15.56	343	*e*P	Pn	22 22 56.3	+0.6
GROC				*e*S	S	22 25 57.3	-6.3
GROC				pmax	pmax		
	comp=Z,42nm,0.8s						
DARE	Darende-Malaty	15.67	314	*e*P	Pn	22 22 55.1	-2.2
ZEI	Tsey	15.73	338	*e*P	Pn	22 22 57.4	-0.8
ZEI				pmax	pmax		
	comp=Z,100nm,0.9s						
KBL	Kabul	15.92	63	*e*Pn	P	22 23 03.6	-0.7
	comp=Z,35nm,1.0s						
KBL				*e*Sn	Sn	22 25 36.4	-21
KBL	Kabul	15.92	63	*e*P	P	22 23 03.6	-0.7
KBL				pmax	pmax		
	comp=Z,35nm,1.0s						
KOZT	Kozan	16.18	308	*e*P	Pn	22 23 02.6	-1.2
NCK	Nalchik	16.47	338	*i* P	P	22 23 09.5	-0.6
NCK				pmax	pmax		
	comp=Z,73nm,0.9s						
NEY	Neytrino	16.55	336	*i* P	P	22 23 11.5	+0.4
NEY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EREN	Erenkoy	16.57	300	*e*P	P	22 23 10.3	-1.0
KARA	Karaisali	16.62	306	*e*P	Pn	22 23 08.8	-0.6
SVSK	Karacayir	16.79	317	*e*P	Pn	22 23 09.8	-1.6
MERS	Mersin	16.83	305	*e*P	Pn	22 23 10.2	-1.9
BNN	Bunyan	16.88	312	*e*P	Pn	22 23 11.1	-1.7
RSDY	Resadiye-TOKAT	16.90	319	*e*P	Pn	22 23 11.5	-1.4
KBZ	Khabaz	16.91	337	Pn	Pn	22 23 13.9	+1.0
	comp=Z,0.5nm,0.3s,baz=143,slow=9.8,SNR=37						
KBZ				ScP	ScP	22 31 32.2	-2.1
	comp=Z,0.0nm,0.3s,baz=90,slow=2.1,SNR=4.2						
KVAR	Kislovodsk Arr	17.18	337	P	Pn	22 23 16.9	+0.5
	baz=78,slow=19,SNR=27						
KVAR				S	Sn	22 26 28.1	+0.7
	baz=257,slow=18,SNR=2.3						
KIV	Kislovodsk	17.18	337	*e*Pn	Pn	22 23 17.0	+0.6
	comp=Z,48nm,0.9s						
KIV	Kislovodsk	17.18	337	⇑*i*P	P	22 23 19.8	+1.8
KIV	Kislovodsk	17.18	337	*i* P	P	22 23 18.4	+0.4
	SNR=12						
KIV	Kislovodsk	17.18	337	*e*P	P	22 23 19.2	+1.2
KIV				pmax	pmax		
	comp=Z,186nm,1.1s						
KIV				MLR	MLR		
	comp=Z,302nm,14.0s						
KIV	Kislovodsk	17.18	337	P	P	22 23 18.7	+0.6
	SNR=30						
IKL	Isikli	17.20	302	*e*P	Pn	22 23 16.9	+0.3
KEBE	Keben-Mersin	17.25	302	*e*P	P	22 23 18.8	-0.1
AKKU	Akkuyu-Mersin	17.27	301	*e*P	P	22 23 19.1	+0.1
TOKT	Tokat	17.31	317	*e*P	Pn	22 23 17.2	-0.9
TEVE	Tevekalti-Mers	17.45	302	*e*P	P	22 23 21.2	+0.1
BERE	Bereket-Mersin	17.58	302	*e*P	Pn	22 23 19.6	-2.0
TEKE	Tekeli-Mersin	17.59	301	*e*P	P	22 23 22.4	-0.1
YOZ	Yozgat	17.66	314	*e*P	Pn	22 23 21.8	-0.8
CHGR	Chuyangaron	17.69	50	*e*Pn	Pn	22 23 17.0	-5.9
	comp=Z,126nm,1.0s						
THW	Thamme Wali	17.71	71	P	Pn	22 23 22.9	-0.1
SOC	Sochi	18.02	331	*e*P	P	22 23 28.7	+1.5
SOC				*e*		22 26 52.5	
SOC				pmax	pmax		
	comp=Z,49nm,0.7s						
SOC				MLR	MLR		
	comp=Z,185nm,14.0s						
CEP	Cherat	18.03	68	P	P	22 23 27.3	-0.3
KVT	Kavak	18.09	319	*e*P	Pn	22 23 27.1	-0.6
SULT	Sultanhani-AKS	18.13	307	*e*P	P	22 23 28.9	+0.3
YAYX	Yaylak	18.28	310	*e*P	Pn	22 23 29.8	-0.4
SARP	Sargodha	18.37	74	P	Pn	22 23 30.1	-1.1
CORM	Corum	18.40	314	*e*P	P	22 23 29.9	-1.7
SERE	Sereflikochisa	18.45	310	*e*P	Pn	22 23 32.7	+0.4
GAR	Garm	18.65	51	*e*P	P	22 23 34.0	-0.3
	comp=Z,125nm,1.1s						
GAR	Garm	18.65	51	*e*P	P	22 23 34.0	-0.3
GAR				pmax	pmax		
	comp=Z,125nm,1.1s						
CHBY	Cihanbeyli	18.75	308	*e*P	Pn	22 23 36.6	+0.8
ATD	Arta Tunnel	18.75	208	*e*P	Pn	22 23 37.1	+1.2
	comp=Z,10.0nm,0.6s						
ATD	Arta Tunnel	18.75	208	P	Pn	22 23 37.5	+1.5
	comp=Z,0.5nm,0.3s,baz=292,slow=19,SNR=5.8						
ATD				LR	LR	22 31 24.4	
	comp=Z,138nm,19.8s,baz=26,slow=39						
BR131	Keskin Array S	18.80	312	*e*P	P	22 23 35.2	-0.7
	comp=Z,25nm,0.9s						
BR131	Keskin Array S	18.80	312	P	P	22 23 35.5	-0.5
	SNR=34						
BRTR	Keskin Array B	18.80	312	P	P	22 23 34.9	-1.1
	comp=Z,1.3nm,0.3s,baz=134,slow=13,SNR=68						
BRTR				PcP	PcP	22 28 02.9	-0.1
	comp=Z,0.1nm,0.3s,baz=152,slow=5.3,SNR=4.2						
BRTR				ScP	ScP	22 31 36.6	-2.0
	comp=Z,0.1nm,0.3s,baz=142,slow=5.6,SNR=17						
BRTR				LR	LR	22 32 19.1	
	comp=Z,267nm,18.0s,baz=114,slow=42						
KONT	Konya--Tatoy	18.84	305	*e*P	P	22 23 35.4	-1.0
KULU	Kulu	18.88	309	*e*P	P	22 23 37.0	+0.1
DIKM	Dikmen	18.91	319	*e*P	P	22 23 36.8	-0.2
LADK	Ladik-KONYA	18.95	306	*e*P	P	22 23 36.6	-1.0
NIL	Nilore	19.10	69	*e*P	Pn	22 23 39.6	-0.4
	comp=Z,58nm,0.8s						
NIL	Nilore	19.10	69	*e*P	Pn	22 23 39.6	-0.4
NIL				pmax	pmax		
	comp=Z,58nm,0.8s						
CHCP	Chirah Chowk	19.11	69	P	P	22 23 39.6	+0.3
SNOP	Sinop	19.17	320	*e*P	P	22 23 40.1	+0.2
SNOP	Sinop	19.17	320	*e*P	Pn	22 23 41.4	+0.6
	comp=Z,54nm,0.9s						
TAS	Tashkent	19.25	43	P	Pn	22 23 45.2	+3.4
TAS				pmax	pmax		
	comp=Z,60nm,0.9s						
BR231	Keskin MP Arra	19.43	311	*e*P	P	22 23 43.5	+0.6
	comp=Z,33nm,0.8s						
ANTO	Ankara	19.43	311	*e*P	P	22 23 42.4	-0.5
	comp=Z,50nm,0.9s						
ANTO	Ankara	19.43	311	⇑*i*P	Pn	22 23 43.9	-0.1
ANTO	Ankara	19.43	311	*e*P	P	22 23 42.4	-0.5
ANTO				pmax	pmax		
	comp=Z,50nm,0.9s						
ANTO	Ankara	19.43	311	P	P	22 23 43.2	+0.3
	SNR=20						
LOD	Lodumlu	19.46	311	*e*P	P	22 23 43.4	+0.2
ILGA	Ilgaz	19.47	315	*e*P	P	22 23 43.9	+0.4
	comp=Z,54nm,1.0s						
BTK	Batken	19.51	48	*e*P	Pn	22 23 44.9	-0.1
	comp=Z,57nm,1.1s						
BTK	Batken	19.51	48	*e*P	Pn	22 23 44.9	-0.1
BTK				pmax	pmax		
	comp=Z,57nm,1.1s						
BZK	Bozkurt	19.83	318	*e*P	Pn	22 23 48.3	-0.4
BZK	Bozkurt	19.83	318	⇑*i*P	P	22 23 48.0	+0.9
ANN	Anapa	19.99	329	*e*P	P	22 23 48.0	-0.8
ANN				*e**PP	pP	22 23 52.6	+0.3
ANN				*e*		22 24 06.7	
ANN				*e*S	Sn	22 27 35.1	-0.1
ANN				*e*SS	SnSn	22 27 55.2	+5.4
ANN				pmax	pmax		
	comp=Z,55nm,1.0s						
ANN				MLR	MLR		
	comp=Z,257nm,16.0s						
FETY	Fethiye	20.83	299	P	P	22 23 56.9	-1.1
FETY	Fethiye	20.83	299	P	P	22 23 56.9	-1.1
KK31	Karatay Array	21.05	41	*e*P	P	22 24 00.7	+0.3
	comp=Z,66nm,0.8s						
KK31	Karatay Array	21.05	41	*e*P	P	22 24 00.7	+0.3
KK31				pmax	pmax		
	comp=Z,67nm,0.8s						
KKAR	Karatay Array	21.05	41	*e*P	P	22 24 00.4	0.0
KKAR	Karatay Array	21.05	41	*e*P	P	22 24 00.4	0.0
ARSB	Arslanbob	21.57	48	*e*P	P	22 24 06.6	+0.4
	comp=Z,84nm,1.0s						
SIM	Simferopol'	21.71	324	*ce*P	P	22 24 06.9	-0.6
SIM				S	S	22 28 11.1	+3.6
SIM				pmax	pmax		
	comp=Z,69nm,0.7s						
KULA	Kula-Manisa	21.75	304	P	P	22 24 07.4	-0.6
KULA	Kula-Manisa	21.75	304	P	P	22 24 07.4	-0.6
ABKAR	Akbulak array	21.75	14	*e*P	P	22 24 07.8	-0.1
MANT	Manisa	21.82	304	*e*P	P	22 24 08.5	-0.4
	comp=Z,191nm,0.9s						
BODT	Bodrum	22.31	299	P	P	22 24 13.2	-0.8
BODT	Bodrum	22.31	299	P	P	22 24 13.2	-0.8
AML	Almayashu	22.44	47	P	P	22 24 16.4	+0.7
	SNR=37						
ISK	Istanbul-Kandi	22.50	310	P	P	22 24 16.6	+0.6
ISK	Istanbul-Kandi	22.50	310	P	P	22 24 16.6	+0.6
AKTO	Aktyubinsk	22.52	10	P	P	22 24 16.0	-0.1
AKTO	Aktyubinsk	22.52	10	P	P	22 24 16.0	-0.1
	comp=Z,12nm,0.6s,baz=190,slow=12,SNR=43						
AKTO				LR	LR	22 33 44.6	
	comp=Z,141nm,20.4s,baz=177,slow=38						
EKS2	Erkin-Say	22.77	45	P	P	22 24 21.6	+2.7
	SNR=26						
KSH	Kashi	22.84	55	P	P	22 24 15.8	-3.9
KSH				pP	pP	22 24 20.4	-2.9
KSH				PP	PnPn	22 24 43.6	-0.3
KSH				S	S	22 28 16.5	-13
KSH				SS	SnSn	22 28 55.8	-4.0
KSH				pmax	pmax		
	comp=Z,27nm,0.9s						
KSH				pmax	pmax		
	comp=Z,220nm,2.8s						
KSH				LR	LR		
	comp=Z,710nm,7.7s						
KSH				LR	LR		
	comp=Z,710nm,7.9s						
KSH				LR	LR		
	comp=Z,1μm,8.7s						
SMG	Samos	22.85	300	P	P	22 24 18.8	-0.9
SMG	Samos	22.85	300	P	P	22 24 18.8	-0.9
FURI	Furi	23.00	215	*e*P	P	22 24 22.6	+0.9
	comp=Z,22nm,1.0s						
UCH	Uchtor	23.01	47	P	P	22 24 22.9	+1.0
	SNR=13						
AAK	Ala-Archa	23.21	46	P	P	22 24 24.7	+1.1
	SNR=16						
AAK	Ala-Archa	23.21	46	*e*P	P	22 24 24.5	+1.0
	comp=Z,19nm,0.9s						
A

PTL Penteli 25.21 300 P **P 22 24 42.8 +0.6**
VLY Voula,Athens 25.22 299 P **P 22 24 42.0 -0.2**
VLY Voula,Athens 25.22 299 P **P 22 24 42.0 -0.2**
KDZ Kurdzhali 25.23 309 *e*P **P 22 24 46.9 +4.6**
ATHU Athens Univers 25.25 299 P **P 22 24 43.5 +1.0**
ATHU Athens Univers 25.25 299 P **P 22 24 43.5 +1.0**
EREA Eretria 25.25 301 P **P 22 24 43.2 +0.6**
OTUK Ortayu 25.40 33 P **P 22 24 44.4 +0.6**
OTUK pmax pmax
comp=Z,18nm,0.9s
DID Didima 25.57 298 P **P 22 24 44.1 -1.4**
DID Didima 25.57 298 P **P 22 24 44.1 -1.4**
SZH Strazhica 25.57 312 *e*P **P 22 24 46.1 +0.7**
MRKA Markates 25.59 301 P **P 22 24 47.4 +1.8**
PRZ Przheval'sk 25.70 50 *e*P **P 22 24 48.7 +2.0**
comp=Z,41nm,0.9s
PRZ Przheval'sk 25.70 50 *e*P **P 22 24 48.7 +2.0**
PRZ pmax pmax
comp=Z,41nm,0.9s
RZN Rozhen 25.73 308 *e*P **P 22 24 47.1 0.0**
KIS Kishinev 25.85 322 *e* **P 22 24 48.0 +0.2**
KIS XM 22 24 49.5
comp=Z,110nm,1.2s
KIS Kishinev 25.85 322 *e*P **P 22 24 48.0 +0.2**
KIS *e* 22 24 54.0
KIS *e* 22 29 22.0
KIS *e* 22 29 26.0
KIS pmax pmax
comp=Z,110nm,1.2s
PAIG Paliouri 25.87 304 P **P 22 24 53.0 +4.9**
PAIG pmax pmax
comp=Z,39nm,0.9s
PLD Plovdiv 25.90 309 P **P 22 24 49.7 +1.3**
PROD Prodromos 26.00 300 P **P 22 24 48.4 -0.9**
ATAL Atalanti 26.01 301 P **P 22 24 49.1 -0.3**
ATAL Atalanti 26.01 301 P **P 22 24 49.1 -0.3**
LPSR Galich'ya Gora 26.02 342 *e*P **P 22 24 51.1 +1.8**
LPSR *e*S **S 22 29 20.4 +0.6**
LPSR pmax pmax
comp=Z,170nm,0.8s
LPSR smax smax
comp=N,70nm,1.4s
NVR Nevrokopi 26.20 307 P **P 22 24 51.1 -0.1**
NVR Nevrokopi 26.20 307 P **P 22 24 51.1 -0.1**
AXAR Agios Charalam 26.31 301 P **P 22 24 55.4 +3.3**
AXAR Agios Charalam 26.31 301 P **P 22 24 55.4 +3.3**
SRS Serrai 26.31 306 P **P 22 24 52.2 +0.1**
SRS Serrai 26.31 306 P **P 22 24 52.2 +0.1**
SRS Serrai 26.31 306 P **P 22 24 52.2 +0.1**
DSF Desfina 26.32 300 P **P 22 24 54.6 +2.3**
DSF Desfina 26.32 300 P **P 22 24 54.6 +2.3**
GUR Goura 26.36 299 P **P 22 24 52.3 -0.4**
GUR Goura 26.36 299 P **P 22 24 52.3 -0.4**
VRI Vrincioaia 26.38 318 ⇓*i*P **P 22 24 54.3 +1.6**
MMB Musomiste 26.38 307 *e*P **P 22 24 52.9 +0.1**
SOH Sokhos 26.39 306 P **P 22 24 53.8 +1.0**
SOH Sokhos 26.39 306 P **P 22 24 53.8 +1.0**
SOH Sokhos 26.39 306 P **P 22 24 53.8 +1.0**
PLOR Plostina 26.41 318 ⇓*i*P **P 22 24 55.3 +2.2**
PLOR Plostina 26.41 318 P **P 22 24 55.2 +2.2**
ITM Ithomi 26.53 297 *e*P **P 22 24 56.2 +2.1**
comp=N,25nm,0.6s
AGG Agios Georgios 26.62 301 *e*P **P 22 24 57.2 +2.3**
comp=N,26nm,0.9s
AGG Agios Georgios 26.62 301 *e*P **P 22 24 57.2 +2.3**
AGG pmax pmax
comp=Z,26nm,0.9s
MLR Muntele Rosu 26.64 317 *e*P **P 22 24 58.1 +2.9**
comp=Z,13nm,1.0s
MLR ScP **ScP 22 31 56.4 -2.5**
MLR Muntele Rosu 26.64 317 ⇑*i*P **P 22 24 56.5 +1.3**
MLR Muntele Rosu 26.64 317 P **P 22 24 56.4 +1.3**
comp=Z,7.5nm,0.7s,baz=173,slow=13,SNR=8.4
MLR ScP **ScP 22 31 56.4 -2.5**
comp=Z,1.8nm,0.8s,baz=187,slow=8.1,SNR=2.9
MLR LR LR 22 37 56.2
comp=Z,222nm,21.6s,baz=123,slow=42
IAS Iasi 26.65 321 P **P 22 24 57.8 +2.7**
IAS pmax pmax
comp=Z,31nm,0.8s
AMT Artemida-Makis 26.77 298 P **P 22 24 57.1 +0.8**
HUMR Humele 26.77 314 ⇑*i*P **P 22 24 58.1 +1.9**
TESR Tescani 26.78 319 ⇑*i*P **P 22 24 57.7 +1.5**
LIT Litokhoron 26.79 304 *e*P **P 22 24 59.5 +3.0**
comp=Z,20nm,0.6s
LIT Litokhoron 26.79 304 *e*P **P 22 24 59.5 +3.0**
LIT pmax pmax
comp=Z,20nm,0.6s
DRO Drossia 26.85 299 P **P 22 24 56.8 -0.2**
HYB Hyderabad 26.88 108 *i*P **P 22 24 58.0 +0.5**
KKB Krupnik 26.93 308 *e*P **P 22 24 56.9 -0.8**
VTS Vitosha 27.10 309 *e*P **P 22 24 59.7 +0.3**
comp=Z,8.4nm,0.8s
VTS Vitosha 27.10 309 ⇑*i*P **P 22 25 00.9 +1.5**
VTS Vitosha 27.10 309 *e*P **P 22 24 59.7 +0.3**
VTS pmax pmax
comp=Z,8.0nm,0.8s
VTS Vitosha 27.10 309 *e*P **P 22 25 00.2 +0.8**
VAY Valandovo 27.11 306 *i*P P 22 25 11.6 +12
GRG Griva 27.11 305 P **P 22 25 02.8 +3.4**
GRG pmax pmax
comp=Z,37nm,0.9s
VOIR 27.16 316 ⇓*i*P **P 22 25 01.4 +1.6**
VOIR 27.16 316 P **P 22 25 01.4 +1.6**
DOPR Dopca 27.22 317 ⇑*i*P **P 22 25 02.0 +1.7**
BIZ Bicaz 27.32 320 ⇓*i*P **P 22 25 02.8 +1.6**
STIP Stip 27.50 307 *i*P **P 22 25 01.6 -1.3**
FNA Florina 27.80 304 *e*P **P 22 25 06.1 +0.5**
comp=Z,18nm,0.7s
FNA Florina 27.80 304 *e*P **P 22 25 06.1 +0.5**
FNA pmax pmax
comp=Z,18nm,0.7s
LOT Lotru 27.96 315 ⇓*i*P **P 22 25 08.7 +1.7**
AKASG Malin Array Be 28.08 329 P **P 22 25 06.9 -0.9**
comp=Z,5.2nm,0.7s,baz=135,slow=8.3,SNR=32
AKASG PcP **PcP 22 28 21.2 -0.9**
comp=Z,0.6nm,0.4s,baz=94,slow=2.7,SNR=2.2
KIEV Kiev 28.08 329 *e*P **P 22 25 06.5 -1.4**
comp=Z,18nm,1.1s
KIEV Kiev 28.08 329 *i*P **P 22 25 07.2 -0.7**
SNR=7.7
KIEV Kiev 28.08 329 *i*P **P 22 25 08.5 +0.6**
KIEV pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 28.18 24 *e*P **P 22 25 08.7 0.0**
comp=Z,11nm,0.8s
BRVK Borovoye 28.18 24 *i*P **P 22 25 08.5 -0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 28.18 24 P **P 22 25 09.0 +0.3**
SNR=5.9
BVAR Borovoye Array 28.19 24 P **P 22 25 09.3 +0.5**
comp=Z,7.3nm,0.5s,baz=218,slow=7.9,SNR=59
BVAR PcP **PcP 22 28 22.2 -0.1**
comp=Z,1.8nm,0.4s,baz=197,slow=3.6,SNR=7.4
BVAR ScP **ScP 22 32 00.7 -2.5**
comp=Z,2.0nm,0.8s,baz=259,slow=1.5,SNR=8.1
BURAR Bucovina Array 28.20 320 *e*P **P 22 25 09.1 0.0**
comp=Z,41nm,0.7s
BURAR Bucovina Array 28.20 320 ⇓*i*P **P 22 25 10.2 +1.1**
BURAR Bucovina Array 28.20 320 P **P 22 25 09.1 0.0**
BURAR pmax pmax
comp=Z,41nm,0.7s
BUR08 Bucovina Ar. S 28.23 320 *e*P **P 22 25 09.4 +0.1**
comp=Z,6.1nm,0.8s
OHR Ohrid 28.32 305 *i*P **P 22 25 11.4 +1.2**
ARU Arti 28.44 8 *e*P **P 22 25 11.8 +0.8**
comp=Z,5.8nm,0.7s
ARU Arti 28.44 8 *d i*P **P 22 25 12.4 +1.4**
ARU 22 26 00.7
ARU S **S 22 30 02.7 +4.9**
ARU SS **SnSn 22 31 19.6 +3.5**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 28.44 8 P **P 22 25 12.7 +1.7**
comp=Z,2.1nm,0.5s,baz=196,slow=6.2,SNR=8.0
ARU LR LR 22 37 49.2
comp=Z,213nm,20.1s,baz=196,slow=39
OBN Obninsk 28.90 342 *e*P **P 22 25 15.3 +0.3**
comp=Z,38nm,0.6s
OBN Obninsk 28.90 342 ⇑*e*P **P 22 25 16.6 +1.6**
OBN *e* 22 26 06.1
OBN *e*S **S 22 30 12.4 +7.4**
OBN *e*SS **SnSn 22 31 27.6 +0.3**
OBN pmax pmax
comp=Z,29nm,0.9s
OBN MLR MLR
comp=Z,115nm,18.0s
OBN Obninsk 28.90 342 P **P 22 25 15.4 +0.4**
comp=Z,3.8nm,0.5s,baz=0.6,slow=1.3,SNR=7.9
OBN LR LR 22 37 46.3
comp=Z,40nm,20.2s,baz=181,slow=38
MDVR Moldovita 28.97 312 ⇑*i*P **P 22 25 17.8 +1.8**
SVE Sverdlovsk 29.11 10 ⇓*e*P **P 22 25 18.4 +1.5**
SVE *e*S **S 22 30 09.6 +1.2**
SVE pmax pmax
comp=Z,17nm,1.5s
MOS Moscow 29.18 343 *e*P **P 22 25 16.9 -0.6**
MOS *e* 22 26 22.9
DRGR 29.24 317 ⇓*i*P **P 22 25 19.7 +1.4**
DRGR 29.24 317 P **P 22 25 19.6 +1.3**
BZS Buzias 29.38 314 ⇑*i*P **P 22 25 20.6 +1.1**
BZS Buzias 29.38 314 P **P 22 25 20.6 +1.1**
MAKZ Makanchi 29.89 44 *e*P **P 22 25 24.8 +0.7**
comp=Z,10nm,1.1s
MAKZ Makanchi 29.89 44 *e*P **P 22 25 24.8 +0.7**
MAKZ pmax pmax
comp=Z,10.0nm,1.1s
KURBB Kurchatov Arra 30.01 35 P **P 22 25 25.8 +0.7**
comp=Z,5.2nm,0.8s,baz=235,slow=9.1,SNR=32
KURBB PcP **PcP 22 28 26.6 -0.4**
comp=Z,1.0nm,0.6s,baz=229,slow=2.9,SNR=4.4
MK31 Makanchi Array 30.07 44 *e*P **P 22 25 26.2 +0.6**
comp=Z,4.9nm,0.6s
MK31 Makanchi Array 30.07 44 *e*P **P 22 25 26.3 +0.6**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 30.07 44 P **P 22 25 26.2 +0.6**
comp=Z,3.6nm,0.5s,baz=237,slow=7.8,SNR=30
MKAR PcP **PcP 22 28 26.4 -0.9**
comp=Z,0.8nm,0.5s,baz=241,slow=2.4,SNR=4.2
MKAR ScP **ScP 22 32 07.0 -2.3**
comp=Z,1.4nm,0.8s,baz=264,slow=2.2,SNR=5.9
MKAR LR LR 22 38 51.1
comp=Z,128nm,19.4s,baz=216,slow=39
KURK Kurchatov 30.12 35 *e*P **P 22 25 26.7 +0.7**
comp=Z,7.6nm,0.8s
KURK Kurchatov 30.12 35 *ce*P **P 22 25 26.6 +0.7**
KURK pmax pmax
comp=Z,13nm,1.3s
UZH Uzhgorod 30.40 320 *e*P **P 22 25 31.0 +2.5**
UZH *e* 22 25 36.8
KOLS Kolonicke sedl 30.57 320 *e*P **P 22 25 30.6 +0.6**
KOLS Kolonicke sedl 30.57 320 *e*P **P 22 25 30.6 +0.6**
KWP Kalwaria Pacla 30.70 322 *e*P **P 22 25 31.4 +0.3**
KWP Kalwaria Pacla 30.70 322 *e*P **P 22 25 31.4 +0.3**
comp=Z,148nm,0.8s
KWP Kalwaria Pacla 30.70 322 *e*P **P 22 25 31.4 +0.3**
comp=Z,16nm,0.9s
TIP Timpagrande 30.89 300 *e*P **P 22 25 33.9 +0.9**
comp=Z,16nm,0.9s
PSZ Piszkesteto 31.46 317 *e*P **P 22 25 40.0 +2.1**
NIE Niedzica 31.93 320 *e*P **P 22 25 42.9 +0.9**
NIE Niedzica 31.93 320 *e*P **P 22 25 42.9 +0.9**
LANS Liptovska Anna 32.28 319 *e*P **P 22 25 44.8 -0.3**
LANS Liptovska Anna 32.28 319 *e*P **P 22 25 44.8 -0.3**
VYHS Vyhne 32.35 317 *e*P **P 22 25 48.0 +2.3**
VYHS Vyhne 32.35 317 *e*P **P 22 25 48.0 +2.3**
IDID Didziasalis 32.41 333 *e*P **P 22 25 46.5 +0.5**
IDID IAmb IAmb 22 25 50.8
comp=Z,21nm,1.1s
KMBO Kilima Mbogo 32.50 208 LR LR 22 40 35.7
comp=Z,194nm,19.6s,baz=102,slow=39
WMQ Urumqi 32.53 52 P **P 22 25 48.8 +1.4**
WMQ pP sP 22 25 51.8 -1.0
WMQ sP pP 22 25 56.0 +4.8
WMQ pmax pmax
comp=Z,82nm,0.7s
WMQ pmax pmax
comp=Z,230nm,3.9s
WMQ LR LR
comp=Z,780nm,14.5s
WMQ LR LR
comp=Z,670nm,10.3s
WMQ LR LR
comp=Z,620nm,17.9s
WMQ Urumqi 32.53 52 *e*P **P 22 25 48.5 +1.1**
comp=Z,115nm,0.6s
WMQ Urumqi 32.53 52 *e*P **P 22 25 48.5 +1.1**
WMQ pmax pmax
comp=Z,115nm,0.6s
OJC Ojcow 32.61 321 *e*P **P 22 25 46.0 -1.9**
OJC Ojcow 32.61 321 *e*P **P 22 25 47.8 -0.2**
comp=Z,26nm,0.8s
OJC Ojcow 32.61 321 *e*P **P 22 25 46.0 -1.9**
IIGN Ignalina 32.64 333 *e*P **P 22 25 48.7 +0.6**
IIGN IAmb IAmb 22 25 52.0
comp=Z,24nm,0.9s
ISAL Salakas 32.84 333 *e*P **P 22 25 50.5 +0.6**
ISAL IAmb IAmb 22 25 53.8
comp=Z,27nm,1.0s
IZAR Zarasai 32.92 333 *e*P **P 22 25 51.2 +0.7**
IZAR IAmb IAmb 22 25 54.5
comp=Z,35nm,1.1s
SUW Suwalki 33.05 329 *e*P **P 22 25 53.0 +1.3**
SUW Suwalki 33.05 329 *e*P **P 22 25 53.0 +1.3**
JAVC Velka Javorina 33.21 317 *e*P **P 22 25 53.5 +0.3**
OKC Ostrava-Krasne 33.36 319 *e*P **P 22 25 56.0 +1.5**
OKC Ostrava-Krasne 33.36 319 *e*P **P 22 25 56.0 +1.5**
PRGR Permogore 33.51 355 *e*P **P 22 25 55.4 -0.2**
PRGR pmax pmax
comp=Z,25nm,0.8s
KLMR Klimovskoe 33.51 349 ⇑*i*P **P 22 25 54.6 -1.0**
KLMR pmax pmax
comp=Z,67nm,0.6s
PABE Paberze 33.68 331 *e*P **P 22 25 58.3 +1.2**
PABE IAmb IAmb 22 26 00.6
comp=Z,37nm,1.0s
MORC Moravsky Berou 33.68 319 *e*P **P 22 25 56.9 -0.5**
comp=Z,7.8nm,0.7s
MORC Moravsky Berou 33.68 319 *e*P **P 22 25 56.9 -0.5**
MORC pmax pmax
comp=Z,8.0nm,0.7s
MORC Moravsky Berou 33.68 319 *e*P **P 22 26 00.1 +2.7**
ARSA Arzberg 33.90 314 *e*pP **P 22 25 60.0 +0.7**
comp=Z,7.1nm,1.4s
CONA Conrad Observa 33.94 315 *e*P **P 22 25 59.2 -0.5**
comp=Z,5.0nm,0.9s
SOKA Soboth 34.02 313 *i*PcP **PcP 22 28 38.1 0.0**
comp=Z,4.6nm,0.7s
VRAC Vranov 34.04 318 *e*P P 22 25 53.7 -6.7
KRUC Moravsky 34.05 317 *e*P **P 22 25 59.7 -0.8**
OBKA Obir 34.28 312 *e*pP **P 22 26 03.9 +1.2**
comp=Z,13nm,1.4s
LSA Lhasa 34.30 78 *e*P **P 22 26 04.5 +1.1**
LSA Lhasa 34.30 78 P **P 22 26 04.6 +1.1**
PALK Pallekele 34.43 122 P **P 22 26 04.3 +0.1**
comp=Z,26nm,0.8s,baz=296,slow=10.0,SNR=6.8
DGZ Jazzator, Alta 34.44 42 *c i*P **P 22 26 05.0 +1.0**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
DPC Dobruska-Polom 34.64 319 *e*P **P 22 26 05.1 -0.6**
DPC *e* 22 26 07.7
DPC Dobruska-Polom 34.64 319 *e*P **P 22 26 05.1 -0.6**
DPC *e*pP **pP 22 26 07.7 -1.8**
VSU Vasula 34.74 337 *ce*P **P 22 26 07.4 +1.1**
VSU pmax pmax
comp=Z,86nm,0.8s
VSU Vasula 34.74 337 *e*P **P 22 26 05.2 -1.1**
VSU IAmb IAmb 22 26 08.8
comp=Z,106nm,0.6s
NVS Novosibirsk 34.84 32 *i*P **P 22 26 08.5 +1.2**
KSP Ksiaz 34.88 320 *e*P **P 22 26 07.3 -0.3**
KSP Ksiaz 34.88 320 *e*P **P 22 26 07.3 -0.3**
UPC Upice 34.89 319 *e*P **P 22 26 07.9 +0.1**
UPC *e* 22 26 10.1
UPC Upice 34.89 319 *e*P **P 22 26 07.9 +0.1**
UPC *e*pP **pP 22 26 10.1 -1.5**
MOA Molln 34.91 314 *e*pP **P 22 26 07.8 -0.2**
comp=Z,10nm,0.8s
MYKA Terra Mystica 34.91 312 *e*pP **P 22 26 08.5 +0.5**
comp=Z,7.6nm,1.2s
ZAA0 Zalesovo Array 35.09 34 *e*P **P 22 26 09.4 0.0**
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 35.09 34 P **P 22 26 09.3 -0.1**
comp=Z,10nm,0.6s,baz=241,slow=8.9,SNR=37
ZALV PcP **PcP 22 28 39.8 -1.1**
comp=Z,1.3nm,0.5s,baz=232,slow=4.0,SNR=2.9
ZALV ScP **ScP 22 32 23.5 -2.9**
comp=Z,2.1nm,0.8s,baz=244,slow=6.4,SNR=3.8
ZALV LR LR 22 40 49.4
comp=Z,60nm,18.9s,baz=250,slow=37
MBAR Mbarara 35.20 219 *e*P **P 22 26 11.8 +0.9**
comp=Z,6.4nm,0.6s
MBAR Mbarara 35.20 219 P **P 22 26 11.8 +0.9**
MBAR pmax pmax
comp=Z,6.0nm,0.6s
KBA Koelnbreinsper 35.24 313 pP **P 22 26 10.8 -0.3**
comp=Z,10nm,0.8s,SNR=6.0
KBA Koelnbreinsper 35.24 313 P **P 22 26 13.7 +2.6**
KBA pmax pmax
comp=Z,14nm,0.8s
PRU Pruhonice 35.53 318 *e*P **P 22 26 15.1 +1.8**
PRU Pruhonice 35.53 318 *e*P **P 22 26 15.1 +1.8**
GEC2 GERESS Array S 35.61 316 *e*P **P 22 26 15.6 +1.5**
comp=Z,3.2nm,0.8s
GERES GERESS Array B 35.61 316 *e*P **P 22 26 14.6 +0.5**
GERES *e*PcP **PcP 22 28 43.5 +0.8**
GERES GERESS Array B 35.61 316 P **P 22 26 12.9 -1.2**
comp=Z,1.5nm,0.7s,baz=101,slow=7.7,SNR=10
GERES PcP **PcP 22 28 42.2 -0.5**
comp=Z,2.5nm,0.8s,baz=116,slow=3.1,SNR=7.9
GERES LR LR 22 46 27.0
comp=Z,73nm,18.3s,baz=114,slow=46
ABTA Abfaltersbach 35.69 312 *e*pP **P 22 26 15.3 +0.5**
comp=Z,8.3nm,0.8s
ABTA *i*PcP **PcP 22 28 43.9 +1.0**
comp=Z,2.1nm,0.6s
PVCC Panska Ves 35.73 319 *e*P **P 22 26 17.0 +2.0**
PVCC *e* 22 26 23.3
PVCC Panska Ves 35.73 319 *e*P **P 22 26 17.0 +2.0**
PVCC *ex* x 22 26 23.3
KHC Kasperske Hory 35.79 316 *e*P **P 22 26 15.2 -0.4**
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 35.79 316 *e*P **P 22 26 14.8 -0.8**
KHC *e* 22 26 17.5
KHC Kasperske Hory 35.79 316 *e*P **P 22 26 14.8 -0.8**
KHC *e*pP **pP 22 26 17.5 -1.9**
SLIT Slitere, Latvi 35.80 333 *e*P **P 22 26 14.4 -1.0**
SLIT IAmb IAmb 22 26 17.6
comp=Z,110nm,0.9s
WET Wettzell 36.22 316 P **P 22 26 22.8 +3.5**
WET pmax pmax
comp=Z,6.0nm,1.3s
BRG Berggiesshubel 36.24 319 *e*P **P 22 26 21.1 +1.7**
comp=Z,9.5nm,1.2s
BRG Berggiesshubel 36.24 319 *e*P **P 22 26 21.1 +1.7**
BRG pmax pmax
comp=Z,10.0nm,1.2s
WTTA Wattenberg 36.41 312 *e*P **P 22 26 20.3 -0.8**
comp=Z,14nm,0.8s,SNR=8.4
WTTA *e*PcP **PcP 22 28 45.5 +0.3**
comp=Z,6.3nm,0.7s
WATA Walderalm 36.47 312 *e*P **P 22 26 20.4 -1.1**
comp=Z,9.7nm,0.8s,SNR=7.4
WATA *e*PcP **PcP 22 28 45.9 +0.6**
comp=Z,2.8nm,0.5s
KEST Kesra 36.51 293 *e*P **P 22 26 23.4 +1.4**
comp=Z,20nm,0.8s
KEST Kesra 36.51 293 P **P 22 26 23.3 +1.4**
comp=Z,23nm,0.9s,baz=82,slow=3.2,SNR=16
SQTA Sankt Quirin 36.68 312 P **P 22 26 22.3 -1.0**
comp=Z,13nm,0.6s,SNR=7.7
SQTA *i*PcP **PcP 22 28 45.4 -0.6**
comp=Z,5.1nm,0.6s
MOTA Moosalm 36.78 312 *i*P **P 22 26 22.8 -1.5**
comp=Z,12nm,0.7s,SNR=12
MOTA *e*PcP **PcP 22 28 45.8 -0.5**
comp=Z,12nm,1.0s
TMCR Tamitsa 36.86 350 *e*P **P 22 26 26.2 +1.8**
TMCR pmax pmax
comp=Z,39nm,0.6s
NKC Novy Kostel 36.87 317 P **P 22 26 28.4 +3.6**
FUR Furstenfeldbru 36.91 314 P **P 22 26 28.0 +2.9**
FUR pmax pmax
comp=Z,40nm,0.9s
FETA Feichten 36.94 312 *e*P **P 22 26 24.2 -1.3**
comp=Z,24nm,1.0s,SNR=9.7
FETA *e*PcP **PcP 22 28 46.9 +0.2**
comp=Z,7.6nm,0.9s
CLL Collm 36.96 319 *e*P **P 22 26 25.7 +0.3**
comp=Z,17nm,1.1s
CLL Collm 36.96 319 *e*P **P 22 26 25.7 +0.3**
CLL pmax pmax
comp=Z,17nm,1.1s
CLL Collm 36.96 319 *e*P **P 22 26 23.0 -2.4**
CLL ⇓*i*pP **pP 22 26 27.2 -2.1**
comp=Z,15nm,1.1s
RETA Reutte 37.05 312 *e*pP **P 22 26 26.1 -0.3**
comp=Z,8.6nm,0.7s
FUORN Ofenpass-Fuorn 37.14 311 *e*P **P 22 26 29.6 +2.2**
comp=Z,4.9nm,0.8s
FUORN *e*PcP **PcP 22 28 50.8 +3.2**
FIA1 FINESS Array S 37.24 340 *e*P **P 22 26 26.8 -0.9**
comp=Z,47nm,0.8s
FINES FINESS Array B 37.24 340 P **P 22 26 26.8 -0.9**
comp=Z,47nm,0.8s,baz=144,slow=9.3,SNR=112
FINES LR LR 22 43 53.6
comp=Z,130nm,19.9s,baz=140,slow=40
GRA1 Grafenberg Arr 37.43 316 *e*P **P 22 26 31.5 +2.0**
comp=Z,8.8nm,0.7s
GRF Grafenberg Arr 37.43 316 *e*P **P 22 26 31.5 +2.0**
GRF pmax pmax
comp=Z,9.0nm,0.7s
GRFO Grafenberg 37.43 316 *e*P **P 22 26 31.5 +2.0**
comp=Z,8.2nm,0.8s
GRFO Grafenberg 37.43 316 *e*P **P 22 26 31.5 +2.0**
GRFO pmax pmax
comp=Z,8.0nm,0.8s
DAVA Damuels 37.57 312 *e*P **P 22 26 29.9 -1.0**
comp=Z,39nm,0.8s,SNR=17
BSD Bornholm Skovb 37.64 326 *i*P **P 22 26 31.4 +0.3**
BSD pmax pmax
comp=Z,21nm,0.8s
BSD Bornholm Skovb 37.64 326 *i*P **P 22 26 31.4 +0.3**
comp=Z,21nm,0.8s
TUE Stuetta 37.72 310 *e*P **P 22 26 31.6 -0.6**
comp=Z,10.0nm,1.0s
ABSA Djebel Ababsia 38.02 294 P P 22 26 40.1 +5.3
CMAH Djebel Manchou 38.06 294 P **P 22 26 39.1 +4.0**
SUF Sumiainen 38.22 341 P **P 22 26 38.6 +2.7**
SUF pmax pmax
comp=Z,47nm,0.9s
SAOF Saorge 38.48 306 P **P 22 26 43.3 +4.8**
SAOF pmax pmax
comp=Z,12nm,1.0s
SBF Sospel 38.55 306 *e*P **P 22 26 37.8 -1.3**
SBF pmax pmax
comp=Z,30nm,0.8s
CKFL Kef-Lekhel 38.63 294 P P 22 26 45.0 +5.1
ISO Isola 38.87 306 P **P 22 26 45.5 +3.7**
ISO pmax pmax
comp=Z,17nm,1.1s
SENIN Lac Senin/Sane 39.08 310 *e*P **P 22 26 42.9 -0.8**
comp=Z,8.8nm,0.8s
COP Copenhagen 39.15 325 *i*P **P 22 26 46.7 +2.8**
COP pmax pmax
comp=Z,37nm,1.0s
COP Copenhagen 39.15 325 *i*P **P 22 26 46.7 +2.8**
comp=Z,37nm,1.0s
MBDF Montbardon 39.15 307 *e*P **P 22 26 43.5 -0.8**
MBDF pmax pmax
comp=Z,20nm,0.6s
BNI Bardonecchia 39.27 307 *e*P **P 22 26 44.0 -1.3**
comp=Z,20nm,0.9s
BNI Bardonecchia 39.27 307 *e*P **P 22 26 44.0 -1.3**
BNI pmax pmax
comp=Z,20nm,0.9s
LPG La Plagne 39.30 308 *e*P **P 22 26 43.6 -2.0**
LPG pmax pmax
comp=Z,11nm,0.7s
DFRA Djebel Bou Aff 39.30 294 P **P 22 26 50.0 +4.4**
LPL La Plagne 39.31 308 *e*P **P 22 26 43.7 -2.0**
LPL pmax pmax
comp=Z,16nm,0.7s
VAF Ylistaro 39.49 340 P **P 22 26 48.9 +2.3**
VAF pmax pmax
comp=Z,55nm,0.8s
CDF Champ du Feu 39.55 313 *e*P **P 22 26 49.2 +1.8**
CDF pmax pmax
comp=Z,13nm,1.4s
ECH Echery 39.58 312 *e*P **P 22 26 48.7 +1.1**
comp=Z,10nm,1.0s
ECH Echery 39.58 312 *e*P **P 22 26 48.7 +1.1**
ECH pmax pmax
comp=Z,10.0nm,1.0s

CKHR Kef el Ahmar 39.62 293 P **P** **22 26 53.0 +4.8**
HINF Hinteralfeld 39.69 312 *e*P **P** **22 26 49.5 +1.0**
HINF pmax pmax
comp=Z,18nm,1.3s
SET Setif 39.70 293 P **P** **22 26 50.0 +1.1**
CABF La Chapelle 39.95 310 *e*P **P** **22 26 49.9 -0.9**
CABF pmax pmax
comp=Z,17nm,0.8s
MSF Maaselka 40.12 346 *e*P **P** **22 26 54.6 +2.8**
MSF pmax pmax
comp=Z,57nm,1.0s
OUL Oulu 40.17 343 *e*P **P** **22 26 53.6 +1.4**
OUL pmax pmax
comp=Z,112nm,0.9s
VIVF Saint-Julien-l 40.65 307 *e*P **P** **22 26 56.4 -0.2**
VIVF pmax pmax
comp=Z,6.0nm,1.0s
APA Apatity 40.75 349⇓ *i*P **P** **22 26 59.0 +2.0**
APA pmax pmax
comp=Z,20nm,0.8s
APA MLR MLR
comp=Z,500nm,15.0s
SSB Saint Sauveur 40.80 307 *e*P **P** **22 26 58.4 +0.6**
comp=Z,6.9nm,1.1s
SSB Saint Sauveur 40.80 307 *e*P **P** **22 26 58.4 +0.6**
SSB pmax pmax
comp=Z,7.0nm,1.1s
LVZ Lovozero 40.86 350 *e*P **P** **22 26 57.4 -0.6**
comp=Z,30nm,1.1s
LVZ Lovozero 40.86 350 *ce*P **P** **22 26 59.1 +1.1**
LVZ pmax pmax
comp=Z,24nm,1.0s
GTA Gaotai 40.90 62 P **P** **22 27 00.3 +1.4**
GTA pP sP 22 27 04.8 +0.6
GTA sP pP 22 27 07.3 +4.6
GTA pmax pmax
comp=Z,27nm,0.8s
GTA pmax pmax
comp=Z,76nm,4.5s
GTA LR LR
comp=Z,150nm,14.1s
GTA LR LR
comp=Z,150nm,15.1s
GTA LR LR
comp=Z,200nm,17.2s
MUD Monsted U'grnd 41.13 325 *i* P **P** **22 27 03.1 +2.8**
MUD pmax pmax
comp=Z,50nm,1.2s
MUD Monsted U'grnd 41.13 325 *i* P **P** **22 27 03.1 +2.8**
comp=Z,50nm,1.2s
SMF Signal de Mont 41.48 309 *e*P **P** **22 27 01.3 -2.1**
SMF pmax pmax
comp=Z,22nm,0.8s
LOR Lormes 41.57 310 *e*P **P** **22 27 03.9 -0.2**
LOR pmax pmax
comp=Z,3.0nm,0.6s
TAM Tamanrasset 41.93 273 *e*P **P** **22 27 07.5 0.0**
comp=Z,11nm,0.9s
TAM Tamanrasset 41.93 273 *e*P **P** **22 27 07.5 0.0**
TAM pmax pmax
comp=Z,11nm,0.9s
NC602 NORSAR Array S 42.08 332 *e*P **P** **22 27 07.2 -0.9**
NC405 NORSAR Array S 42.21 332 *e*P **P** **22 27 08.1 -1.0**
comp=Z,52nm,0.9s
NB201 NORSAR Array S 42.35 332 *e*P **P** **22 27 10.3 0.0**
comp=Z,21nm,0.7s
KONO Kongsberg 42.37 330 *e*P **P** **22 27 09.1 -1.3**
NB2 NORSAR Subarra 42.38 332 P **P** **22 27 09.1 -1.4**
comp=Z,9.5nm,0.6s,baz=123,slow=8.6
NB2 NORSAR Subarra 42.38 332 P **P** **22 27 09.1 -1.4**
baz=123,slow=8.6
NOA NORSAR Array B 42.38 332 P **P** **22 27 09.1 -1.4**
comp=Z,13nm,0.8s,baz=122,slow=8.2,SNR=32
NOA LR LR 22 47 45.4
comp=Z,104nm,19.6s,baz=125,slow=40
NAO01 NORSAR Array S 42.41 332 *e*P **P** **22 27 10.7 -0.1**
comp=Z,48nm,1.0s
NC303 NORSAR Array S 42.41 332 *e*P **P** **22 27 12.3 +1.6**
comp=Z,17nm,0.8s
NBO00 NORSAR Array S 42.55 332 *e*P **P** **22 27 11.2 -0.7**
comp=Z,24nm,0.8s
NC204 NORSAR Array S 42.69 332 *e*P **P** **22 27 13.4 +0.3**
comp=Z,20nm,0.8s
MOY Mondy 43.22 43 *e*P **P** **22 27 18.9 +1.3**
MOY pmax pmax
comp=Z,20nm,1.7s
SKAR Skarslia 43.43 330 *e*P **P** **22 27 18.6 -0.5**
SKAR *ep*P **pP** **22 27 21.8 -1.2**
BLS5 Blasjo 43.70 328 *e*P **P** **22 27 21.2 0.0**
DOMB Dombas 43.78 332 *e*P **P** **22 27 20.3 -1.5**
DOMB *ep*P **pP** **22 27 24.9 -0.9**
KEV Kevo 43.80 348 *e*P **P** **22 27 21.3 -0.5**
comp=Z,26nm,1.2s
KEV Kevo 43.80 348 *e*P **P** **22 27 21.3 -0.5**
KEV pmax pmax
comp=Z,26nm,1.2s
ODD1 Odda 43.83 329 *e*P **P** **22 27 20.2 -2.1**
ODD1 *ep*P **pP** **22 27 24.5 -1.7**
ARCES ARCESS Array B 43.90 347 P **P** **22 27 22.4 -0.4**
comp=Z,3.8nm,0.5s,baz=145,slow=8.7,SNR=14
ARCES PP **PP** **22 29 06.2 +1.5**
comp=Z,3.6nm,0.7s,baz=135,slow=10,SNR=3.5
ARE0 ARCESS Array S 43.90 347 *e*P **P** **22 27 22.3 -0.4**
KTK1 Kautokeino 43.95 346 *e*P **P** **22 27 21.9 -1.1**
CHTO Chiang Mai 43.99 92 *e*P **P** **22 27 24.5 +0.4**
comp=Z,7.2nm,0.6s
CHTO Chiang Mai 43.99 92 *e*P **P** **22 27 24.5 +0.4**
CHTO pmax pmax
comp=Z,7.0nm,0.6s
CHTO Chiang Mai 43.99 92 P **P** **22 27 23.8 -0.2**
SNR=6.6
CMMT Chiang Mai 44.00 92 P **P** **22 27 25.1 +1.0**
comp=Z,10nm,1.2s
NSS Namsos 44.03 337 *e*P **P** **22 27 22.3 -1.4**
NSS *ep*P **pP** **22 27 25.9 -1.7**
CMAR Chiang Mai Arr 44.12 92 *i* P **P** **22 27 25.6 +0.5**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 44.12 92 P **P** **22 27 25.4 +0.2**
comp=Z,3.1nm,0.4s,baz=287,slow=8.3,SNR=17
CMAR PcP **PcP** **22 29 10.0 -0.2**
comp=Z,1.2nm,0.3s,baz=280,slow=4.7,SNR=5.0
CMAR LR LR 22 51 13.9
comp=Z,147nm,18.3s,baz=297,slow=43
LZH Lanzhou 44.24 66 *e*P **P** **22 27 26.9 +0.9**
LZH pP sP 22 27 30.8 -0.6
LZH sP pP 22 27 33.3 +3.4
LZH pmax pmax
comp=Z,28nm,1.0s
LZH LR LR
comp=Z,160nm,12.7s
LZH LR LR
comp=Z,270nm,13.0s
LZH LR LR
comp=Z,220nm,13.8s
ZAK Zakamensk 44.38 46 *e*P **P** **22 27 24.8 -2.1**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
HYA Hoyanger 44.58 330 *e*P **P** **22 27 26.1 -2.0**
HYA *ep*P **pP** **22 27 30.9 -1.1**
PAYA Payao 44.61 91 P **P** **22 27 30.0 +1.0**
comp=Z,48µm,1.0s,comp=Z,495µm
BER Bergen 44.62 329 *e*P **P** **22 27 27.2 -1.2**
AKN Aaknes 44.69 332 *e*P **P** **22 27 27.5 -1.7**
ASK Askoy 44.72 329 *e*P **P** **22 27 26.3 -3.0**
ASK *ep*P **pP** **22 27 31.7 -1.5**
KONS Konsvik 44.85 339 *e*P **P** **22 27 29.6 -0.6**
KONS *e*PP **PcP** **22 29 12.3 +0.5**
CD2 Chengdu 44.88 74 P **P** **22 27 31.3 +0.2**
CD2 pmax pmax
comp=Z,30nm,0.7s
UMPA Umpang Tak 44.92 95 P **P** **22 27 33.5 +1.9**
comp=Z,73µm,0.7s
STEI Steigen 45.15 341 *e*P **P** **22 27 31.9 -0.7**
SUE Sulen 45.15 330 *e*P **P** **22 27 31.1 -1.6**
SUE *ep*P **pP** **22 27 36.0 -0.6**
HAMF Hammerfest 45.17 347 *e*P **P** **22 27 32.0 -0.7**
KMI Kunming 45.32 82 P **P** **22 27 35.1 +0.2**
KMI pP pP 22 27 38.5 -0.2
KMI sP sP 22 27 41.3 +1.0
KMI pmax pmax
comp=Z,28nm,0.9s
KMI pmax pmax
comp=Z,100nm,3.1s
KMI LR LR
comp=Z,200nm,14.6s
KMI LR LR
comp=Z,130nm,15.5s
KMI LR LR
comp=Z,130nm,15.3s
TRO Tromso 45.41 345 *e*P **P** **22 27 34.2 -0.4**
NANT Nan 45.54 91 P **P** **22 27 37.6 +1.2**
comp=Z,42µm,0.9s,comp=Z,495µm
LOF Lofoten 45.76 341 *e*P **P** **22 27 36.8 -0.7**
UTTA Uttaradit 45.81 92 P **P** **22 27 39.4 +0.9**
comp=Z,51µm,0.8s,comp=Z,472µm
NRIK Noril'sk 45.90 17 P **P** **22 27 39.3 +0.8**
comp=Z,4.8nm,0.5s,baz=229,slow=4.4,SNR=9.2
NRIK LR LR 22 50 25.9
comp=Z,118nm,19.7s,baz=202,slow=41
SGMF Saint Gilles 45.99 311 *e*P **P** **22 27 36.9 -2.7**
SGMF pmax pmax
comp=Z,20nm,0.9s
SONM Songino Array 46.09 50 *e*P **P** **22 27 41.0 +0.4**
comp=Z,3.2nm,1.0s
SONM PcP **PcP** **22 29 14.8 -1.9**
SONM Songino Array 46.09 50 *e*P **P** **22 27 41.0 +0.4**
SONM 22 29 14.8
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 46.09 50 P **P** **22 27 40.2 -0.3**
comp=Z,1.9nm,0.6s,baz=266,slow=8.7,SNR=7.5
SONM PcP **PcP** **22 29 14.8 -1.9**
comp=Z,1.0nm,0.6s,baz=260,slow=5.7,SNR=2.8
SONM LR LR 22 51 17.7
comp=Z,90nm,20.2s,baz=258,slow=42
QUIF Quistinic 46.37 310 *e*P **P** **22 27 43.5 +1.0**
QUIF pmax pmax
comp=Z,42nm,1.1s
ROSF Rostrenen 46.47 311 *e*P **P** **22 27 43.5 +0.1**
ROSF pmax pmax
comp=Z,39nm,1.0s
ULN Ulaanbaatar 46.53 50 *e*P **P** **22 27 44.6 +0.5**
comp=Z,3.3nm,0.6s
ULN Ulaanbaatar 46.53 50 *e*P **P** **22 27 44.6 +0.5**
ULN pmax pmax
comp=Z,3.0nm,0.6s
ESDC Sonseca Array 46.91 299 *e*P **P** **22 27 46.3 -0.7**
comp=Z,2.6nm,0.9s
ESDC *e*PcP **PcP** **22 29 22.2 +2.6**
ESDC ScP **ScP** **22 33 10.6 -2.7**
ESDC Sonseca Array 46.91 299 P **P** **22 27 46.4 -0.6**
comp=Z,2.3nm,0.6s,baz=66,slow=7.5,SNR=20
ESDC PcP **PcP** **22 29 17.6 -2.0**
comp=Z,1.7nm,0.7s,baz=72,slow=5.6,SNR=2.7
ESDC ScP **ScP** **22 33 10.6 -2.7**
comp=Z,0.9nm,0.7s,baz=58,slow=4.7,SNR=4.6
ESLA Sonseca Array 46.91 299 *e*P **P** **22 27 49.1 +2.1**
comp=Z,4.5nm,0.8s
GUD Guadarrama 47.00 300 P **P** **22 27 50.0 +2.2**
GUD pmax pmax
comp=Z,11nm,0.9s
PHET Kaeng Krachan 47.01 99 P **P** **22 27 50.0 +2.0**
comp=Z,60µm,0.7s,comp=Z,697µm
PAB San Pablo 47.22 299 *e*P **P** **22 27 48.3 -1.2**
comp=Z,8.8nm,0.7s
PAB San Pablo 47.22 299 *e*P **P** **22 27 48.3 -1.2**
PAB pmax pmax
comp=Z,9.0nm,0.7s
EKA Eskdalemuir Ar 47.38 321 P **P** **22 27 48.6 -1.8**
EKA pmax pmax
comp=Z,2.0nm,0.4s
SLVN Son La 47.48 86 *e*P **P** **22 27 52.5 +0.8**
comp=Z,8.2nm,0.9s
CHAI Chaiyaphum 47.79 94 P **P** **22 27 55.4 +1.3**
comp=Z,18µm,0.8s
NONG Nongkai 47.97 91 P **P** **22 27 55.4 -0.1**
comp=Z,1.2nm,0.9s
KHON Khomkaen 48.35 93 P **P** **22 28 00.1 +1.7**
comp=Z,38µm,0.7s
GYA Guiyang 48.37 79⇑ *i*P **P** **22 27 58.1 -0.5**
GYA pmax pmax
comp=Z,10.0nm,0.8s
BTO Baotou 48.70 59 *e*P **P** **22 27 58.8 -2.1**
PBRG Braganca 48.88 302 *e*P **P** **22 28 04.3 +2.1**
comp=Z,36nm,1.5s
TOA0 Torodi Ar. Sit 48.91 263 *e*P **P** **22 28 01.7 -1.1**
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 48.91 263 P **P** **22 28 00.1 -2.7**
comp=Z,7.9nm,0.7s,baz=82,slow=7.1,SNR=52
TORD LR LR 22 49 28.9
comp=Z,145nm,19.6s,baz=5.0,slow=37
DSB Dublin 48.92 317 *e*P **P** **22 28 01.4 -0.9**
SKNT Sakolnakorn 49.12 92 P **P** **22 28 04.5 +0.1**
comp=Z,49nm,0.8s
MVO Mcorvo 49.14 301 *e*P **P** **22 28 06.5 +2.2**
comp=Z,24nm,1.0s
PMRV Marv??o 49.57 299 *e*P **P** **22 28 09.3 +1.8**
comp=Z,24nm,1.1s
PCBR Castelo Branco 49.59 300 *e*P **P** **22 28 10.5 +2.8**
PVRL Vila Real 49.64 302 *e*P **P** **22 28 10.9 +2.8**
POLO Lamas de Olo 49.69 302 *e*P **P** **22 28 11.2 +2.7**
PVIS Viseu 49.83 301 *e*P **P** **22 28 11.8 +2.3**
HHC Hu-ho-hao-te 49.84 59 *e*P **P** **22 28 08.9 -0.8**
HHC S **S** **22 35 12.9 -6.5**
HHC pmax pmax
comp=Z,76nm,0.9s
HHC pmax pmax
comp=Z,280nm,5.6s
HHC LR LR
comp=Z,810nm,14.4s
HHC LR LR
comp=Z,610nm,14.6s
HHC LR LR
comp=Z,810nm,14.9s
ENH Enshi 49.84 73 *e*P **P** **22 28 09.8 0.0**
comp=Z,1.5nm,0.5s
PBEJ Beja 50.11 297 *e*P **P** **22 28 14.6 +3.0**
EVO Evora 50.16 298 *e*P **P** **22 28 14.1 +2.1**
comp=Z,24nm,2.4s
PTOM Tomar 50.33 299 *e*P **P** **22 28 16.1 +2.8**
comp=Z,36nm,1.4s
PNCL Nicolau / Gran 50.61 298 *e*P **P** **22 28 17.8 +2.4**
PFVI Vila Bisbo 50.99 296 *e*P **P** **22 28 20.7 +2.4**
comp=Z,14nm,0.6s
PSI Prapat 51.54 111 *e*P **P** **22 28 22.6 -0.2**
comp=Z,11nm,0.6s
PSI Prapat 51.54 111 *e*P **P** **22 28 22.6 -0.2**
PSI pmax pmax
comp=Z,11nm,0.6s
HSPB Hornsund (broa 51.58 350 *e*P **P** **22 28 20.0 -2.1**
BOD Bodaibo 51.72 37 *e*P **P** **22 28 22.8 -0.6**
BOD *e* 22 35 44.2
BOD pmax pmax
comp=Z,13nm,1.4s
SPA0 Spitsbergen Ar 52.35 351 *e*P **P** **22 28 29.7 +1.8**
comp=Z,20nm,1.0s
SPA0 Spitsbergen Ar 52.35 351 *e*P **P** **22 28 27.6 -0.3**
SPA0 *ep*P **pP** **22 28 31.5 -0.3**
SPITS Spitsbergen Ar 52.35 351 P **P** **22 28 27.9 0.0**
SPITS pmax pmax
comp=Z,1.0nm,0.3s
KBS Kingsbay 53.51 351 *e*P **P** **22 28 35.5 -0.9**
QIZ Qiongzhong 53.51 87 *e*P **P** **22 28 37.5 +0.3**
comp=Z,21nm,1.3s
NJ2 Nanjing 57.20 68 *e*P **P** **22 29 02.4 -1.3**
NJ2 pmax pmax
comp=Z,18nm,0.6s
DBIC Dimbokro 57.63 259 *e*P **P** **22 29 06.1 -0.8**
comp=Z,25nm,0.6s
DBIC Dimbokro 57.63 259 P **P** **22 29 06.2 -0.8**
comp=Z,28nm,0.7s,baz=39,slow=6.9,SNR=38
DBIC LR LR 22 55 27.4
comp=Z,199nm,19.1s,baz=38,slow=38
KIC Kosan Boka 57.68 259 *e*P **P** **22 29 06.4 -0.9**
comp=Z,131nm,1.4s
TIC Toumodi 57.78 259 *e*P **P** **22 29 07.1 -0.9**
LIC Lamto 57.99 259 *e*P **P** **22 29 08.6 -0.9**
comp=Z,73nm,0.5s
DAG Danmarks Havn 58.13 345 *i* P **P** **22 29 08.8 -0.7**
DAG pmax pmax
comp=Z,4.0nm,0.6s
DAG Danmarks Havn 58.13 345 *i* P **P** **22 29 08.8 -0.7**
comp=Z,5.3nm,0.6s
LBTB Lobatse 58.78 208 *e*P **P** **22 29 15.6 +0.8**
comp=Z,9.7nm,0.7s
LBTB Lobatse 58.78 208 *e*P **P** **22 29 15.6 +0.8**
LBTB pmax pmax
comp=Z,10.0nm,0.7s
TIXI Tiksi 59.26 21 *i* P **P** **22 29 18.6 +1.2**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
YHNB Yeheng 61.56 76 *e*P **P** **22 29 34.9 +0.8**
comp=Z,22nm,1.1s
BOSA Boshof 62.12 206 *e*P **P** **22 29 39.9 +2.3**
comp=Z,4.5nm,0.8s
BOSA Boshof 62.12 206 P **P** **22 29 37.1 -0.5**
comp=Z,2.6nm,0.7s,baz=9.6,slow=6.0,SNR=9.6
BOSA LR LR 22 58 47.9
comp=Z,65nm,18.9s,baz=337,slow=38
MDJ Mudanjiang 62.34 52 P **P** **22 29 40.8 +1.9**
MDJ pmax pmax
comp=Z,10.0nm,1.0s
MDJ pmax pmax
comp=Z,190nm,3.7s
KLR Kul'dur 62.74 47 *i* P **P** **22 29 40.7 -0.7**
KLR pmax pmax
comp=Z,12nm,1.6s
KLR Kul'dur 62.74 47 P **P** **22 29 40.3 -1.2**
comp=Z,2.8nm,0.8s,baz=284,slow=4.5,SNR=5.4
TJN Taejon 62.82 61 *ce*P **P** **22 29 41.4 -0.8**
KSAR Wonju Array Be 62.92 60 *e*P **P** **22 29 42.0 -0.9**
KSAR Wonju Array Be 62.92 60 *e*P **P** **22 29 42.0 -0.9**
KSRS Korea Array 62.95 60 P **P** **22 29 42.0 -1.0**
comp=Z,4.8nm,0.6s,baz=279,slow=6.9,SNR=19
SUMG Summit 63.27 340 *e*P **P** **22 29 45.2 +0.1**
comp=Z,30nm,1.0s
SUMG Summit 63.27 340 *e*P **P** **22 29 45.2 +0.1**
SUMG pmax pmax
comp=Z,30nm,1.0s
SUMG Summit 63.27 340 *i* P **P** **22 29 46.5 +1.4**
comp=Z,90nm,1.1s
USRK Ussuriysk Ar. 64.10 52 P **P** **22 29 51.4 +0.8**
comp=Z,2.3nm,0.7s,baz=265,slow=3.5,SNR=4.4
NKL Nikolayevsk 67.17 41 *e*P **P** **22 30 08.0 -2.2**
NKL MLR MLR
comp=N,300nm,15.0s
NKL MLR MLR
comp=Z,500nm,15.0s
SFJD Kangerlussuaq 68.88 336 *e*P **P** **22 30 22.9 +2.2**
comp=Z,12nm,0.9s
SFJD Kangerlussuaq 68.88 336 *i* P **P** **22 30 22.5 +1.8**
SFJD Kangerlussuaq 68.88 336 *i* P **P** **22 30 22.5 +1.8**
TULEG Thule 69.23 348 *e*P **P** **22 30 22.3 -0.5**
comp=Z,19nm,1.1s
SEY Seymchan 69.72 29 *ce*P **P** **22 30 25.8 -0.2**
MA2 Magadan 70.29 32 *ce*P **P** **22 30 29.8 +0.3**
MA2 pmax pmax
comp=Z,18nm,1.7s
YSS Yuzh-Sakhalins 70.45 47 *e*P **P** **22 30 29.6 -1.1**
YSS *e* 22 30 51.2
YSS pmax pmax
comp=Z,20nm,1.1s
MJAR Matsushiro Arr 71.03 58 LR LR 23 03 57.4
comp=Z,321nm,18.2s,baz=80,slow=38
BILL Bilibino 72.48 21 *e*P **P** **22 30 42.9 +0.2**
comp=Z,6.0nm,0.6s
BILL Bilibino 72.48 21⇑ *e*P **P** **22 30 43.1 +0.4**
BILL *e* 22 31 00.5
BILL *e* 22 33 25.6
BILL pmax pmax
comp=Z,12nm,1.3s
BILL MLR MLR
comp=Z,76nm,14.0s
KAPI Kappang 73.22 105 *e*P **P** **22 30 47.2 -0.7**
comp=Z,15nm,0.8s
KAPI Kappang 73.22 105 *e*P **P** **22 30 47.2 -0.7**
KAPI pmax pmax
comp=Z,15nm,0.8s
SGSI Sangihe 73.93 95 P **P** **22 30 53.1 +1.0**
RES Resolute Bay 74.92 351 *e*P **P** **22 30 57.5 +0.7**
comp=Z,3.0nm,0.9s
RES Resolute Bay 74.92 351 *e*P **P** **22 30 57.5 +0.7**
RES pmax pmax
comp=Z,3.0nm,0.9s
SOEI Soe 79.50 107 *e*P **P** **22 31 23.3 -0.4**
comp=Z,23nm,0.8s
SCHQ Schefferville 81.88 329 *e*P **P** **22 31 35.2 -0.4**
comp=Z,25nm,0.8s
SCHQ Schefferville 81.88 329 P **P** **22 31 35.3 -0.4**
comp=Z,27nm,0.7s,baz=34,slow=6.2,SNR=18
TOLK Toolik Lake Re 81.98 8 *e*P **P** **22 31 36.8 +0.7**
comp=Z,5.5nm,0.9s
INK Inuvik 83.52 2 *e*P **P** **22 31 42.8 -1.1**
comp=Z,3.0nm,0.8s
INK PP **PP** **22 34 56.9 +1.5**
INK Inuvik 83.52 2 *e*P **P** **22 31 42.8 -1.1**
INK 22 34 56.9
INK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 83.52 2 P **P** **22 31 43.5 -0.5**
comp=Z,1.9nm,0.5s,baz=2.3,slow=9.0,SNR=7.4
INK PP **PP** **22 34 56.9 +1.5**
comp=Z,1.9nm,1.0s,baz=8.6,slow=16,SNR=3.7
IMAR Indian Mountai 83.90 10 *e*P **P** **22 31 45.4 -0.5**
FITZ Fitzroy Crossi 84.98 114 *e*P **P** **22 31 52.7 +0.5**
comp=Z,20nm,0.8s
FITZ Fitzroy Crossi 84.98 114 P **P** **22 31 52.3 +0.1**
comp=Z,19nm,0.8s,baz=326,slow=4.8,SNR=23
MLY Manley 85.25 9 *e*P **P** **22 31 52.9 +0.1**
comp=Z,3.8nm,0.7s
EPYK Eagle Plains 85.32 3 *e*P **P** **22 31 54.2 +1.0**
comp=Z,2.8nm,1.0s
PRP Porcupine Dome 85.44 7 *e*P **P** **22 31 54.5 +0.6**
comp=Z,3.4nm,1.0s
MDM Murphy Dome 85.66 8 *e*P **P** **22 31 55.1 +0.2**
comp=Z,8.8nm,1.0s
ILAR Eielson Array 86.01 8 *e*P **P** **22 31 55.4 -1.1**
ILAR PP **PP** **22 35 14.0 -1.7**
ILAR Eielson Array 86.01 8 P **P** **22 31 55.0 -1.6**
comp=Z,1.2nm,0.7s,baz=334,slow=4.3,SNR=12
ILAR PP **PP** **22 35 14.0 -1.7**
comp=Z,0.8nm,1.0s,baz=351,slow=7.3,SNR=4.3
BPAW Bear Paw Mtn. 86.09 10 *e*P **P** **22 31 57.1 +0.1**
comp=Z,12nm,0.9s
CAST Castle Rocks 86.56 11 *e*P **P** **22 31 59.5 +0.1**
comp=Z,8.8nm,1.0s
EGAK Eagle 86.59 6 *e*P **P** **22 31 58.8 -0.6**
comp=Z,7.1nm,1.0s
MCK McKinley 86.74 9 *e*P **P** **22 31 59.9 -0.3**
comp=Z,9.6nm,1.0s
MCK McKinley 86.74 9 *e*P **P** **22 31 59.9 -0.3**
MCK pmax pmax
comp=Z,10.0nm,1.0s
NWAO Narrogin (SRO) 87.00 130 *e*P **P** **22 32 00.8 -1.0**
NWAO Narrogin (SRO) 87.00 130 *e*P **P** **22 32 00.8 -1.0**
SCRK Sand Creek 87.11 7 *e*P **P** **22 32 02.3 +0.1**
comp=Z,8.7nm,1.0s
DAWY Dawson 87.44 5 *e*P **P** **22 32 02.3 -1.3**
comp=Z,4.1nm,0.9s
BCAR Beaver Creek A 88.22 6 *e*P **P** **22 32 05.6 -1.8**
YKW3 Yellowknife Ar 88.72 354 *e*P **P** **22 32 09.1 -0.5**
comp=Z,6.3nm,0.9s
YKA Yellowknife Ar 88.78 354 *e*P **P** **22 32 09.3 -0.6**
YKA PP **PP** **22 35 35.0 -3.0**
YKA Yellowknife Ar 88.78 354 *e*P **P** **22 32 09.3 -0.6**
YKA 22 35 35.1
YKA Yellowknife Ar 88.78 354 P **P** **22 32 09.7 -0.2**
comp=Z,3.0nm,0.6s,baz=8.5,slow=4.8,SNR=24
YKA PP **PP** **22 35 35.0 -3.0**
comp=Z,0.9nm,0.9s,baz=5.6,slow=7.8,SNR=5.0
YKA LR LR 23 18 36.0
comp=Z,5.9nm,18.1s,baz=330,slow=40
JAY Jayapura 90.20 93 P **P** **22 32 19.7 +2.2**
comp=Z,8.8nm,0.8s
WRA Warramunga Arr 93.01 111 P **P** **22 32 29.4 -1.0**
comp=Z,2.1nm,0.5s,baz=314,slow=4.1,SNR=18
WRA PKKPbc **PKKPbc** **22 49 39.7 +0.1**
comp=Z,1.0nm,0.7s,baz=111,slow=2.5,SNR=4.7
WRAB Tennant Creek 93.01 111 *e*P **P** **22 32 29.3 -1.1**
comp=Z,6.6nm,0.8s
WRAB Tennant Creek 93.01 111 *e*P **P** **22 32 29.3 -1.1**
WRAB pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 94.21 345 *e*P **P** **22 32 34.3 -1.0**
comp=Z,4.7nm,1.1s
FFC Flin Flon 94.21 345 *i* P **P** **22 32 35.6 +0.3**
ASAR Alice Springs 94.45 114 *e*P **P** **22 32 35.4 -1.5**
ASAR PKKPbc **PKKPbc** **22 49 35.0 -0.9**
ASAR Alice Springs 94.45 114 *e*P **P** **22 32 35.4 -1.5**
ASAR Alice Springs 94.45 114 P **P** **22 32 36.2 -0.7**
comp=Z,7.7nm,0.7s,baz=304,slow=4.7,SNR=85
ASAR PKKPbc **PKKPbc** **22 49 35.0 -0.9**
comp=Z,0.5nm,0.8s,baz=128,slow=3.6,SNR=4.2
AS31 Alice Springs 94.45 114 *e*P **P** **22 32 36.2 -0.7**
comp=Z,2.6nm,0.6s
ULM Lac du Bonnet 96.63 340 P **P** **22 32 46.5 0.0**

comp=Z,1.8nm,0.7s,baz=151,slow=3.5,SNR=2.9
ULM LR LR 23 17 13.2
comp=Z,55nm,18.4s,baz=45,slow=36
SNAA Sanae 106.70 196 PKiKP **PKiKP 22 37 43.3 +2.4**
VNA1 Neumayer--Stat 107.42 198 PKiKP **PKiKP 22 37 38.1 -4.0**
VNA3 Neumayer Olymp 108.14 197 PKiKP **PKiKP 22 37 45.3 +1.8**
PFO Pinyon Flats O 117.35 349 *i* PKiKP **PKiKP 22 38 06.6 +4.1**
TXAR Lajitas Array 118.00 336 PKKP PKKPdf 22 48 59.4 +8.4
comp=Z,0.1nm,0.4s,baz=355,slow=5.4,SNR=4.0
LPAZ La Paz 123.66 269 PKP **PKPdf 22 38 15.0 -0.5**
comp=Z,1.3nm,0.7s,baz=68,slow=5.4,SNR=6.9

*BJI **13** 22:21:58.8±0.0, 32°.04N×86°.39E, h8km, Ms3.8/4, Ms7 3.6/4*
*ISCJB **13** 22:22:03.0±0.4, 31°.40N±0°.06×86°.38E±0°.06, h10km, mb3.9/18, MS3.8/2, Error ellipse: s-maj=9.5km s-min=6.0km az=26.3*
*IDC **13** 22:22:03.1±0.7, 31°.37N×86°.41E, h0km, mb4.0/17, mb1 4.1/18, mb1mx3.9/55, mbtmp4.0/18, ML4.3/1, MS3.5/3, Ms1 3.5/3, ms1mx2.9/38, Error ellipse: s-maj=19.3km s-min=16.3km az=29.0*
*NEIC **13** 22:22:05.3±0.6, 31°.49N×86°.38E, h10km, mb4.1/3, Error ellipse: s-maj=18.7km s-min=10.4km az=23.0*
ISC 13 22:22:04.9±0.5, 31°.45N±0°.07×86°.43E±0°.06, h10km, n43, σ1§76/44, mb4.0/18, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.43**	**112**	*e*Pn		**Pn**	**22 23 17.3**	**+4.7**
SHL	**Shillong**	**7.58**	**139**	*e*Pn		**Pn**	**22 23 56.6**	**+1.0**
SHL				*e*Sn		**Sn**	**22 25 18.3**	**-3.3**
SHL	**Shillong**	**7.58**	**139**	*e*P		**Pn**	**22 23 58.0**	**+2.4**
SHL				*e*S		**Sn**	**22 25 20.5**	**-1.1**
BRDH	**Bariadhala**	**9.90**	**151**	LR		LR	22 29 29.8	
	comp=Z,109nm,20.3s,baz=329,slow=45							
NIL	**Nilore**	**11.34**	**285**	*e*Pn		**Pn**	**22 24 48.4**	**+1.4**
NIL				*e*Sn		**Sn**	**22 26 53.9**	**+0.2**
WMQ	**Urumqi**	**12.39**	**4**	*e*P		**Pn**	**22 25 01.5**	**+0.2**
KBL	**Kabul**	**14.91**	**287**	*e*Pn		**Pn**	**22 25 35.4**	**-0.6**
KBL				*e*Sn		**Sn**	**22 28 17.4**	**-4.0**
LZH	**Lanzhou**	**15.20**	**68**	*e*P		**Pn**	**22 25 33.5**	**-6.2**
LZH				pP		P	22 25 36.3	-8.5
LZH				sP		pP	22 25 38.0	-11
LZH				LR		LR		
	comp=N,450nm,12.2s							
LZH				LR		LR		
	comp=E,390nm,12.0s							
LZH				LR		LR		
	comp=Z,340nm,12.5s							
CMAR	**Chiang Mai Arr**	**17.19**	**136**	P		**Pn**	**22 26 06.2**	**+0.9**
	0.4nm,0.3s,baz=319,slow=12,SNR=8.8							
KURBB	**Kurchatov Arra**	**20.03**	**345**	P		**Pn**	**22 26 39.4**	**-0.2**
	7.2nm,0.9s,baz=161,slow=10.0,SNR=12							
SONA0	**Songino Array**	**22.35**	**37**	*e*P		**P**	**22 27 04.2**	**+1.2**
SONM	**Songino Array**	**22.35**	**37**	P		**P**	**22 27 04.2**	**+1.2**
	1.8nm,0.8s,baz=222,slow=11,SNR=11							
BVAR	**Borovoye Array**	**24.50**	**336**	P		**P**	**22 27 25.1**	**+0.9**
	0.9nm,0.5s,baz=150,slow=6.0,SNR=3.5							
CN2	**Changchun**	**32.97**	**57**	*e*P		**P**	**22 28 40.5**	**+0.7**
KSRS	**Korea Array**	**34.53**	**68**	P		**P**	**22 28 53.3**	**-0.1**
	1.2nm,0.7s,baz=273,slow=8.3,SNR=6.4							
TGY	**Tagaytay City**	**36.00**	**111**	LR		LR	22 44 04.5	
	comp=Z,81nm,20.8s,baz=150,slow=37							
USRK	**Ussuriysk Ar.**	**37.71**	**57**	*e*P		**P**	**22 29 20.0**	**-0.5**
USRK	**Ussuriysk Ar.**	**37.71**	**57**	P		**P**	**22 29 21.3**	**+0.7**
	4.1nm,0.8s,baz=248,slow=8.0,SNR=5.3							
NRIK	**Noril'sk**	**37.94**	**1**	P		**P**	**22 29 21.7**	**-0.5**
	1.9nm,0.5s,baz=135,slow=3.0,SNR=3.8							
KLR	**Kul'dur**	**38.18**	**49**	P		**P**	**22 29 25.2**	**+0.7**
	0.9nm,0.5s,baz=280,slow=9.9,SNR=4.1							
MAJO	**Matsushiro**	**42.80**	**69**	*e*P		**P**	**22 30 02.8**	**-0.1**
MJAR	**Matsushiro Arr**	**42.81**	**69**	P		**P**	**22 30 02.8**	**-0.1**
	1.9nm,0.7s,baz=275,slow=11,SNR=5.3							
MLR	**Muntele Rosu**	**48.30**	**305**	P		**P**	**22 30 49.3**	**+2.8**
	2.8nm,0.9s,baz=40,slow=4.8,SNR=3.1							
FIA0	**FINESS Array S**	**48.81**	**326**	*e*P		**P**	**22 30 51.5**	**+1.5**
FINES	**FINESS Array B**	**48.81**	**326**	P		**P**	**22 30 51.5**	**+1.5**
	1.3nm,0.8s,baz=94,slow=8.7,SNR=3.4							
NB200	**NORSAR Array S**	**55.96**	**325**	*e*P		**P**	**22 31 43.7**	**+0.6**
NOA	**NORSAR Array B**	**55.96**	**325**	P		**P**	**22 31 43.7**	**+0.6**
	0.8nm,0.7s,baz=70,slow=5.2,SNR=2.8							
GEC2	**GERESS Array S**	**56.12**	**311**	*e*P		**P**	**22 31 43.2**	**-1.3**
	2.2nm,1.0s							
GERES	**GERESS Array B**	**56.12**	**311**	P		**P**	**22 31 43.2**	**-1.3**
	0.6nm,0.7s,baz=95,slow=4.2,SNR=3.7							
WR1	**Warramunga Arr**	**68.72**	**131**	*e*P		**P**	**22 33 08.3**	**-0.8**
WRA	**Warramunga Arr**	**68.72**	**131**	P		**P**	**22 33 08.3**	**-0.8**
	1.6nm,0.7s,baz=328,slow=6.4,SNR=6.8							
AS31	**Alice Springs**	**71.19**	**134**	*e*P		**P**	**22 33 23.8**	**-0.4**
	0.8nm,0.5s							
ASAR	**Alice Springs**	**71.19**	**134**	P		**P**	**22 33 23.8**	**-0.4**
	1.8nm,0.6s,baz=315,slow=5.9,SNR=4.4							
ILAR	**Eielson Array**	**75.50**	**21**	P		**P**	**22 33 48.2**	**-0.9**
	0.6nm,0.7s,baz=313,slow=5.1,SNR=3.1							
ILB	**Eielson Array**	**75.50**	**21**	*e*P		**P**	**22 33 48.2**	**-0.9**
	1.8nm,0.9s							
INK	**Inuvik**	**76.20**	**14**	LR		LR	23 12 16.2	
	comp=Z,87nm,18.7s,baz=66,slow=40							
TOA1	**Torodi Ar. Sit**	**78.83**	**279**	*e*P		**P**	**22 34 08.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**78.83**	**279**	P		**P**	**22 34 08.4**	**-0.2**
	1.1nm,1.0s,baz=73,slow=2.7,SNR=4.1							
BOSA	**Boshof**	**83.40**	**231**	P		**P**	**22 34 32.8**	**+0.1**
	1.9nm,0.6s,baz=51,slow=3.2,SNR=5.3							
YKA	**Yellowknife Ar**	**84.86**	**10**	P		**P**	**22 34 39.2**	**-0.3**
	0.4nm,0.6s,baz=335,slow=5.2,SNR=4.7							
YKB5	**Yellowknife Ar**	**84.86**	**10**	*e*P		**P**	**22 34 39.2**	**-0.3**
CPUP	**Villa Florida**	**147.96**	**270**	*e*PKPbc		**PKPdf**	**22 41 49.1**	**+1.3**
CPUP	**Villa Florida**	**147.96**	**270**	PKPbc		**PKPbc**	**22 41 50.3**	**-0.5**
	2.2nm,0.9s,baz=65,slow=2.6,SNR=5.8							

ROM 13 22:22:33.2±0.1, 43°.460N±0°.004×12°.303E±0°.004, h6km, ML0.6/4, Error ellipse: s-maj=0.4km s-min=0.1km az=26.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.05**	**269**	P		Pg	22 22 34.9	+0.2
CDCA				S		Sg	22 22 36.1	+0.3
CDCA				AML		AML		
	comp=E,115μm,1.4s							
CDCA				AML		AML		
	comp=N,88μm,0.8s							
CDCA				AML		AML		
	comp=N,88μm,0.8s							
CDCA				AML		AML		
	comp=E,115μm,1.4s							
CDCA	**Citt' di Caste**	**0.05**	**269**	P		Pg	22 22 34.9	+0.2
CDCA	**Citt' di Caste**	**0.05**	**269**	S		Sg	22 22 36.0	+0.2
BADI	**Badiali**	**0.07**	**320**	P		Pg	22 22 35.2	+0.2
BADI	**Badiali**	**0.07**	**320**	P		Pg	22 22 35.2	+0.3
BADI				S		Sg	22 22 36.8	+0.5
BADI				AML		AML		
	comp=E,100μm,0.2s							
BADI				AML		AML		
	comp=N,116μm,1.4s							
BADI				AML		AML		
	comp=E,100μm,0.2s							
BADI				AML		AML		
	comp=N,116μm,1.4s							
BADI	**Badiali**	**0.07**	**320**	P		Pg	22 22 35.3	+0.3
BADI	**Badiali**	**0.07**	**320**	S		Sg	22 22 36.8	+0.5
ATPI	**Pietralunga -**	**0.07**	**97**	P		Pg	22 22 35.2	+0.1
ATPI				S		Sg	22 22 36.7	+0.3
ATPI	**Pietralunga -**	**0.07**	**97**	P		Pg	22 22 35.3	+0.1
ATPI	**Pietralunga -**	**0.07**	**97**	S		Sg	22 22 36.7	+0.3
ATVO	**AVT- Monte Val**	**0.11**	**136**	P		Pg	22 22 35.9	+0.2
ATVO				S		Sg	22 22 38.0	+0.7
ATVO				AML		AML		
	comp=E,41μm,1.3s							
ATVO				AML		AML		
	comp=N,45μm,1.6s							
ATVO				AML		AML		
	comp=E,41μm,1.3s							
ATVO				AML		AML		
	comp=N,45μm,1.6s							
ATVO				AML		AML		
	comp=N,45μm,1.6s							
ATVO				AML		AML		
	comp=E,41μm,1.3s							
ATVO	**AVT- Monte Val**	**0.11**	**136**	P		Pg	22 22 35.9	+0.3
ATVO	**AVT- Monte Val**	**0.11**	**136**	P		Pg	22 22 35.9	+0.3
ATVO	**AVT- Monte Val**	**0.11**	**136**	S		Sg	22 22 38.0	+0.7
ATMI	**Monte Miggiano**	**0.13**	**191**	P		Pg	22 22 36.3	+0.3
ATMI	**Monte Miggiano**	**0.13**	**191**	P		Pg	22 22 36.3	+0.3
ATMI				S		Sg	22 22 39.1	+1.3
ATMI				AML		AML		
	comp=E,47μm,1.4s							
ATMI				AML		AML		
	comp=N,65μm,0.4s							
ATMI				AML		AML		
	comp=E,47μm,1.4s							
ATMI				AML		AML		
	comp=N,65μm,0.4s							
ATMI				AML		AML		
	comp=N,65μm,0.4s							
ATMI				AML		AML		
	comp=E,47μm,1.4s							
ATMI	**Monte Miggiano**	**0.13**	**191**	P		Pg	22 22 36.3	+0.3
PIEI	**Pieia**	**0.19**	**66**	P		Pg	22 22 37.5	+0.5
PIEI				S		Sg	22 22 41.1	+1.6
PIEI				AML		AML		
	comp=E,28μm,0.3s							
PIEI				AML		AML		
	comp=N,23μm,0.8s							
PIEI				AML		AML		
	comp=E,28μm,0.3s							
PIEI				AML		AML		
	comp=N,23μm,0.8s							
PIEI				AML		AML		
	comp=N,23μm,0.8s							
PIEI				AML		AML		
	comp=E,28μm,0.3s							
PIEI	**Pieia**	**0.19**	**66**	P		Pg	22 22 37.5	+0.5
PIEI	**Pieia**	**0.19**	**66**	S		Sg	22 22 41.1	+1.6
PARC	**Parchiule**	**0.20**	**346**	P		Pg	22 22 37.7	+0.5
PARC				AML		AML		
	comp=E,20μm,0.9s							
PARC				AML		AML		
	comp=N,25μm,1.4s							
PARC				AML		AML		
	comp=E,25μm,1.6s							
PARC				AML		AML		
	comp=N,25μm,1.4s							
PARC				AML		AML		
	comp=N,25μm,1.4s							
PARC				AML		AML		
	comp=E,25μm,1.6s							
PARC	**Parchiule**	**0.20**	**346**	P		Pg	22 22 37.7	+0.5
PARC	**Parchiule**	**0.20**	**346**	P		Pg	22 22 37.8	+0.6
PARC	**Parchiule**	**0.20**	**346**	S		Sg	22 22 41.6	+1.8
ATFO	**Monte Foce - G**	**0.22**	**115**	P		Pg	22 22 38.3	+0.7
ATFO				S		Sg	22 22 41.7	+1.2
ATFO	**Monte Foce - G**	**0.22**	**115**	P		Pg	22 22 38.3	+0.7
ATFO	**Monte Foce - G**	**0.22**	**115**	P		Pg	22 22 38.3	+0.7
ATFO	**Monte Foce - G**	**0.22**	**115**	S		Sg	22 22 41.7	+1.2
SNTG	**Esanatoglia**	**0.51**	**113**	P		Pg	22 22 43.1	+0.1

DJA 13 22:25:03.4±1.8, 8°S±11°×10°7E±°, h32km±15km, M3.6/5, MLv3.6/5, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.75**	**3**	P		Pb	22 25 18.4	+0.3
SKJI				S		Sn	22 25 28.8	+0.7
CISI	**Cisompet, Garu**	**1.30**	**81**	P		Pn	22 25 24.1	-1.3
CGJI	**Cibinong**	**1.40**	**324**	P		Pn	22 25 27.3	+0.5
CGJI				S		Sn	22 25 44.3	+0.1
LEM	**Lembang**	**1.43**	**50**	P		Pn	22 25 28.3	+1.0

*ISCJB **13** 22:31:11.5±0.8, 28°.25N±0°.04×51°.57E±0°.09, h24km, Error ellipse: s-maj=11.5km s-min=3.7km az=159.0*
*TEH **13** 22:31:12.9, 28°.37N×51°.61E, h12km, ML3.4*
*DSN **13** 22:31:17.1±0.7, 28°.35N×52°.13E, h10km, ML3.7/5, Error ellipse: s-maj=34.7km s-min=6.2km az=46.0*
*OMAN **13** 22:31:18.5±0.4, 28°.26N×52°.08E, h190km±13km, ml3.7/6, Error ellipse: s-maj=19.5km s-min=7.1km az=264.0*
ISC 13 22:31:12.8±1.6, 28°.32N±0°.06×51°.6E±0°.1, h24km, n37, σ1§42/46, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.21**	**91**	*e*Pg		**Pb**	**22 31 34.9**	**-0.3**
IKAZ	**Kazeroun**	**1.47**	**8**	*e*Pg		**Pn**	**22 31 38.5**	**+0.4**
IKAZ				IAMB		IAmb	22 32 02.0	
	comp=Z,6μm,0.5s							
SHI	**Shiraz**	**1.53**	**31**	*e*Pg		**Pn**	**22 31 39.7**	**+0.8**
SHI				*e*Sg		**Sb**	**22 32 00.0**	**+0.2**
SHI				IAMB		IAmb	22 32 04.0	
	comp=Z,3μm,0.8s							
JHRM	**Jahrom**	**1.74**	**84**	*e*Pn		**Pb**	**22 31 43.1**	**-1.1**
JHRM				IAMB		IAmb	22 32 17.8	
	comp=Z,0.0nm,0.4s							
IRAM	**Ramesheh**	**3.54**	**11**	*e*Pn		**Pn**	**22 32 07.1**	**+0.6**
ZNGN	**Zangian**	**3.84**	**350**	*e*Pn		**Pn**	**22 32 11.5**	**+0.8**
IMEH	**Mehriz**	**4.02**	**40**	*e*Pn		**Pn**	**22 32 15.5**	**+2.4**
ROKH	**ROKH**	**4.04**	**353**	*e*Pn		**Pn**	**22 32 14.0**	**+0.6**
IZEF	**Zefreh**	**4.60**	**8**	*e*Pn		**Pn**	**22 32 22.1**	**+1.0**
SHME	**Shamm**	**4.63**	**118**	*e*Pn		**Pn**	**22 32 22.3**	**+1.0**
NGRK	**Negar Kerman**	**4.67**	**72**	*e*Pn		**Pn**	**22 32 23.1**	**+0.8**
NGRK				IAMB		IAmb	22 33 22.9	
	comp=Z,0.0nm,0.3s							
KHGB	**Koh Gabri**	**4.71**	**63**	*e*Pn		**Pn**	**22 32 22.8**	**+0.1**
YZKH	**Yazd**	**4.80**	**32**	*e*Pn		**Pn**	**22 32 24.9**	**+1.1**
NAZ	**Nazwa, Dubai**	**4.91**	**132**	*i* P		**Pn**	**22 32 27.3**	**+2.1**
	SNR=19							
NAZ				S		**Sn**	**22 33 21.5**	**+0.1**
NAZ	**Nazwa, Dubai**	**4.91**	**132**	P		**Pn**	**22 32 27.5**	**+2.2**
	SNR=19							
NAZ				S		**Sn**	**22 33 22.1**	**+0.7**
NAZ	**Nazwa, Dubai**	**4.91**	**132**	*e*Pn		**Pn**	**22 32 27.0**	**+1.8**
ASUD	**Al Ashush, Dub**	**4.96**	**137**	*i* P		**Pn**	**22 32 28.2**	**+2.3**
	SNR=38							
ASUD	**Al Ashush, Dub**	**4.96**	**137**	P		**Pn**	**22 32 28.3**	**+2.3**
	SNR=38							
ASUD				S		**Sn**	**22 33 24.2**	**+1.6**
IKLH	**Kolahrood**	**4.98**	**360**	*e*Pn		**Pn**	**22 32 27.0**	**+0.6**
MSFE	**Esma-Masafi**	**5.02**	**125**	*i* P		**Pn**	**22 32 27.8**	**+1.1**
	SNR=8.5							
MSFE	**Esma-Masafi**	**5.02**	**125**	*e*Pn		**Pn**	**22 32 27.4**	**+0.7**
FAQ	**Al Faqa, Dubai**	**5.04**	**134**	P		**Pn**	**22 32 28.7**	**+1.7**
FAQ	**Al Faqa, Dubai**	**5.04**	**134**	P		**Pn**	**22 32 28.8**	**+1.9**
FAQ				S		**Sn**	**22 33 24.8**	**+0.4**
MDH	**Madha**	**5.16**	**125**	P		**Pn**	**22 32 29.6**	**+1.0**
MDH				S		**Sn**	**22 33 26.3**	**-1.1**
MDH	**Madha**	**5.16**	**125**	*e*Pn		**Pn**	**22 32 27.7**	**-0.9**
HATD	**Hatta, Dubai**	**5.34**	**130**	P		**Pn**	**22 32 32.6**	**+1.5**
HATD	**Hatta, Dubai**	**5.34**	**130**	P		**Pn**	**22 32 32.8**	**+1.7**
HATD				S		**Sn**	**22 33 30.9**	**-0.9**
HATD	**Hatta, Dubai**	**5.34**	**130**	*e*Pn		**Pn**	**22 32 32.1**	**+1.0**
ASHO	**Ashiyiah**	**5.38**	**131**	*i* P		**Pn**	**22 32 33.0**	**+1.3**
	SNR=29							
ASHO	**Ashiyiah**	**5.38**	**131**	P		**Pn**	**22 32 33.1**	**+1.3**
	SNR=29							
ASHO				S		**Sn**	**22 33 32.2**	**-0.8**
ASHO	**Ashiyiah**	**5.38**	**131**	*e*Pn		**Pn**	**22 32 32.4**	**+0.7**
ISFB	**Sefidab**	**6.04**	**5**	*e*Pn		**Pn**	**22 32 40.3**	**-0.4**
SOHO	**SOHO**	**6.08**	**132**	P		**Pn**	**22 32 42.2**	**+1.0**
	SNR=20							
BSY	**Bisya**	**7.50**	**137**	P		**Pn**	**22 33 02.5**	**+1.7**
	SNR=6.7							
JMDO	**Jabal Madar**	**8.34**	**134**	P		**Pn**	**22 33 12.5**	**+0.2**
MHTO	**MHTO**	**9.31**	**140**	P		**Pn**	**22 33 26.6**	**+1.0**
	SNR=17							
MHTO				S		**Sn**	**22 35 05.2**	**-4.4**
DMTO	**DMTO**	**10.99**	**163**	P		**Pn**	**22 33 49.0**	**+0.4**
	SNR=16							

IDC 13 22:31:26.5±14.0, 15°.46N×146°.17E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/34, mbtmp3.6/3, Error ellipse: s-maj=404.7km s-min=55.2km az=176.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**61.04**	**315**	P		P	22 41 42.2	0.0
	0.2nm,0.5s,baz=96,slow=8.3,SNR=4.1							
ILAR	**Eielson Array**	**66.35**	**25**	P		P	22 42 16.7	-0.2
	0.5nm,0.5s,baz=252,slow=5.8,SNR=5.9							
YKA	**Yellowknife Ar**	**80.63**	**28**	P		P	22 43 41.2	+0.2
	0.2nm,0.4s,baz=290,slow=4.9,SNR=3.3							

MEX 13 22:48:38.0±0.6, 17°.06N×100°.19W, h36km±5km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.07**	**257**	*e*P		Pn	22 48 42.5	-1.6
CAIG				*e*S		Sn	22 48 46.6	-1.7
MEIG	**Mezcala**	**1.02**	**32**	*e*S		Sn	22 49 06.5	-2.4
ARIG	**Puente Sto Nin**	**1.22**	**353**	*e*P		Pn	22 48 56.5	-2.0
ARIG				*i* S		Sn	22 49 11.5	-2.3
ZIIG	**Zihuatanejo**	**1.33**	**294**	*i* P		Pn	22 48 58.7	-1.3
ZIIG				*i* S		Sn	22 49 14.8	-1.6
PLIG	**Platanillo**	**1.48**	**26**	*e*P		Pn	22 49 01.2	-1.0
PLIG				*e*S		Sn	22 49 18.4	-1.8
TLIG	**Tlapa**	**1.63**	**72**	*i* P		Pn	22 49 03.3	-1.0
TLIG				*e*S		Sn	22 49 21.7	-2.5

*NIED **13** 23:01:00, 38°.40N×142°.20E, h32km, Mw4.1 Best double couple: M0 1.71000×10^15 NP1:φ1=293.00000°, δ49.00000°, λ-146.00000°. NP2:φ2=179.00000°, δ65.00000°, λ-47.00000°.*
*ISCJB **13** 23:01:27.8±0.9, 38°.37N±0°.04×142°.21E±0°.05, h26km±5km, mb3.9/19, MS3.3/4, Error ellipse: s-maj=7.5km s-min=5.4km az=30.2*
*JMA **13** 23:01:29.0±0.1, 38°.42N×142°.15E, h30km±1km, M4.3*
JMA Felt III J1.
*IDC **13** 23:01:30.2±0.6, 38°.39N×142°.12E, h30km±3km, mb3.7/18, mb1 3.9/21, mb1mx3.8/46, mbtmp3.9/21, ML3.7/3, MS3.3/10, Ms1 3.3/10, ms1mx3.2/37, Error ellipse: s-maj=15.1km s-min=12.3km az=115.0*
ISC 13 23:01:29.8±0.6, 38°.39N±0°.04×142°.11E±0°.05, h31km±3km, n49, σ1§62/56, mb4.1/19, MS3.4/4, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.52**	**262**	P		**Pb**	**23 01 40.1**	**-0.4**
JIKH				S		**Sb**	**23 01 47.3**	**-0.5**
JIO	**Ouri**	**0.60**	**277**	↓P		**Pb**	**23 01 41.4**	**-0.5**
JIO				S		**Sb**	**23 01 49.7**	**-0.6**
JKMT	**Kesennumamotoy**	**0.66**	**310**	P		**Pb**	**23 01 41.8**	**-1.0**
JKMT				S		**Sb**	**23 01 50.8**	**-0.9**
OFUJ	**Ofunato**	**0.77**	**333**	↓P		**Pn**	**23 01 43.0**	**-1.6**
OFUJ				S		**Sb**	**23 01 52.9**	**-2.1**
JMK	**Ichinoseki**	**0.90**	**309**	↓P		**Pn**	**23 01 45.5**	**-0.8**
JOU	**Okura**	**1.14**	**269**	P		**Pn**	**23 01 49.8**	**+0.2**
JOU				S		**Sb**	**23 02 05.1**	**-0.3**
JMM	**Marumori**	**1.16**	**244**	↑P		**Pn**	**23 01 49.5**	**-0.4**
JMM				S		**Sn**	**23 02 04.3**	**-0.5**
JOM	**Ohasama**	**1.26**	**330**	↓P		**Pn**	**23 01 51.0**	**-0.3**
JOM				S		**Sn**	**23 02 06.8**	**-0.3**
JFK	**Kawauchi**	**1.41**	**224**	P		**Pn**	**23 01 52.8**	**-0.6**
JFK				S		**Sn**	**23 02 10.2**	**-0.8**
JYK	**Kaneyama**	**1.47**	**292**	*e*S		**Sb**	**23 02 14.5**	**-0.4**
JRG	**Rokugo**	**1.53**	**312**	P		**Pn**	**23 01 55.5**	**+0.5**
MAT	**Matsushiro**	**3.61**	**241**	P		**Pn**	**23 02 25.5**	**+1.8**
MAT				S		**Sb**	**23 03 12.1**	**-4.2**
MJAR	**Matsushiro Arr**	**3.61**	**241**	Pn		**Pn**	**23 02 25.9**	**+2.2**
	1.1nm,0.3s,baz=60,slow=9.3,SNR=42							
JHJ	**Hachijo jima 2**	**5.59**	**201**	Pn		**Pn**	**23 02 50.3**	**-0.5**
	24nm,0.3s,baz=127,slow=24,SNR=12							
JHJ				Sn		**Sn**	**23 03 49.2**	**-4.8**
	19nm,0.3s,baz=270,slow=20,SNR=3.0							
JHJ				LR		LR	23 05 31.7	
	comp=Z,146nm,18.8s,baz=76,slow=43							
ASAJ	**Asahikawa**	**5.74**	**3**	Pn		**Pn**	**23 02 54.1**	**+1.4**
	2.2nm,0.3s,baz=200,slow=14,SNR=7.3							
ASAJ				Sn		**Sn**	**23 03 55.2**	**-2.3**
	1.9nm,0.3s,baz=253,slow=10.0,SNR=3.7							
ASAJ				LR		LR	23 05 31.4	
	comp=Z,265nm,19.7s,baz=136,slow=42							
USRK	**Ussuriysk Ar.**	**9.58**	**311**	Pn		Pn	23 03 51.7	+6.2
	0.4nm,0.3s,baz=166,slow=12,SNR=6.9							
USRK				LR		LR	23 07 19.2	
	comp=Z,252nm,19.6s,baz=141,slow=36							
JNU	**Nakatsue**	**10.53**	**243**	Pn		**Pn**	**23 04 02.1**	**+3.5**
	0.5nm,0.3s,baz=148,slow=15,SNR=3.4							
JNU				LR		LR	23 08 27.6	
	comp=Z,178nm,20.9s,baz=58,slow=40							
KSRS	**Korea Array**	**11.25**	**270**	Pn		**Pn**	**23 04 13.0**	**+4.6**
	0.4nm,0.3s,baz=78,slow=14,SNR=4.0							
KLR	**Kul'dur**	**13.16**	**329**	Pn		**P**	**23 04 39.7**	**-4.4**
	0.1nm,0.3s,baz=333,slow=2.3,SNR=3.1							
KLR				LR		LR	23 09 43.8	
	comp=Z,160nm,18.3s,baz=144,slow=38							
PETK	**Petropavlovsk-**	**18.24**	**31**	LR		LR	23 13 09.1	
	comp=Z,71nm,18.3s,baz=260,slow=38							
MA2	**Magadan**	**21.92**	**12**	LR		LR	23 14 01.5	
	comp=Z,32nm,21.8s,baz=295,slow=34							
SEY	**Seymchan**	**25.36**	**11**	P		**P**	**23 06 55.2**	**+1.4**
	2.0nm,0.7s,baz=142,slow=19,SNR=3.4							
SONM	**Songino Array**	**27.52**	**302**	P		**P**	**23 07 14.8**	**+1.2**
	0.4nm,0.5s,baz=90,slow=10,SNR=2.3							
SONM				LR		LR	23 18 36.4	
	comp=Z,61nm,18.1s,baz=84,slow=37							
H11N2	**WAKE ISLAND Hy**	**28.40**	**124**	T		T	23 37 34.0	
	baz=316,slow=75,SNR=787							
H11N1	**WAKE ISLAND Hy**	**28.41**	**124**	T		T	23 37 34.6	
	baz=316,slow=75,SNR=1266							
H11N3

comp=Z,0.3nm,0.7s,baz=276,slow=3.3,SNR=3.6
LPAZ La Paz 145.52 59 PKPbc **PKPab 23 21 06.6 +0.2**
comp=Z,1.4nm,0.8s,baz=358,slow=5.4,SNR=5.4
LPAZ pPKPbc pPKPab 23 21 16.8 +0.7
comp=Z,1.5nm,0.8s,baz=0.7,slow=4.5,SNR=3.5

BJI ***13*** *23:10:39.4±0.0,2°.13N×125°.58E,h156km,mb4.9/52, mB4.9/30*
MOS ***13*** *23:10:46.4±1.1,2°.71N×125°.03E,h174km,mb4.9/49,Error ellipse: s-maj=11.2km s-min=5.1km az=110.7*
KLM ***13*** *23:10:46.0,2°.87N×125°.52E,h159km,mb5.0*
ISCJB ***13*** *23:10:47.5±0.3,2°.73N±0°.02×125°.29E±0°.03,h183km±2km, mb4.8/133,Error ellipse: s-maj=4.7km s-min=3.2km az=0.5*
IDC ***13*** *23:10:47.8±1.0,2°.63N×125°.07E,h173km±9km,mb4.3/37, mb1 4.3/39,mb1mx4.3/49,mbtmp4.8/39,MS3.3/3, Ms1 3.3/3,ms1mx2.9/30,Error ellipse: s-maj=12.5km s-min=5.6km az=75.0*
GCMT ***13*** *23:10:48.4±0.4,2°.80N±0°.03×125°.42E±0°.03,h167km±5km, MW4.9/67,Moment Tensor Solution. s7,c7; s67,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.40±.15; Mθθ-1.32±.14; Mφφ1.73±.15; Mrθ-1.62±.10; Mθφ0.07±.14; Mφr-1.41±.13; Best double couple: M0=2.65700×10^16 NP1:φs=43.00000°,δ85.00000°,λ-55.00000°. NP2: φs=141.00000°,δ36.00000°,λ-171.00000°. Principal axes: T 2.6140, Plg31.0000°, Azm105.0000°; N 0.0940, Plg35.0000°, Azm220.0000°; P -2.7000, Plg40.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***13*** *23:10:48.0±0.2,3°N±3°×12°5E±°,h161km±2km,M4.7/37, mB5.1/12,mb4.7/37,MLv5.0/12,Mw(mB)4.5/12*
NEIC ***13*** *23:10:48.4±0.6,2°.73N×125°.21E,h177km±6km,mb4.8/72, Error ellipse: s-maj=6.9km s-min=4.1km az=68.0*
ISC 13 23:10:47.9±0.4,2.72N±0°.03×125°.29E±0°.04,h171km±3km, h172km:pP-P,n290,σ1°61/355,mb4.8/132,8C-11D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.99**	**14**	P	**Pn**	**23 11 14.4**	**-0.2**
SGSI				S	**Sn**	**23 11 35.4**	**0.0**
MNI	**Manado**	**1.34**	**200**	P	**Pn**	**23 11 16.4**	**-1.2**
KMSI	**Cibinong**	**2.50**	**212**	P	**Pn**	**23 11 30.0**	**-0.1**
TNTI	**Ternate**	**2.83**	**133**	*e*Pn	**Pn**	**23 11 32.8**	**-1.2**
TNTI	**Ternate**	**2.83**	**133**	P	**Pn**	**23 11 32.9**	**-1.2**
TNTI				S	**Sn**	**23 12 06.8**	**-3.2**
GTOI	**Gorontalo**	**3.08**	**228**	P	**Pn**	**23 11 41.2**	**+4.1**
DDMP	**Don Marcelino,**	**3.39**	**7**	*e*P	**Pn**	**23 11 41.4**	**+0.4**
DDMP				*e*S	**Sn**	**23 12 21.5**	**-1.0**
MRSI	**Marisa**	**4.02**	**237**	P	**Pn**	**23 11 49.6**	**+0.6**
MRSI				S	**Sn**	**23 12 37.4**	**+0.6**
DAV	**Davao City (W)**	**4.33**	**4**	P	**Pn**	**23 11 55.8**	**+2.8**
	44nm,0.3s,baz=273,slow=9.6,SNR=3.3						
DAV				S	**Sn**	**23 12 45.4**	**+1.3**
	153nm,0.3s,baz=169,slow=19,SNR=6.3						
DMPH	**Davao City--Mi**	**4.34**	**3**	*e*P	**Pn**	**23 11 51.5**	**-1.7**
DMPH				*e*S	**Sn**	**23 12 46.5**	**+2.2**
LUWI	**Luwuk**	**4.50**	**214**	*e*Pn	**Pn**	**23 11 56.6**	**+1.4**
LUWI				*e*Sn	**Sn**	**23 12 50.4**	**+2.4**
LUWI	**Luwuk**	**4.50**	**214**	P	**Pn**	**23 11 55.9**	**+0.7**
CTBH	**Cotabato--PC H**	**4.60**	**347**	*i*P	**Pn**	**23 11 57.8**	**+1.4**
SANI	**Sanana**	**4.78**	**172**	P	**Pn**	**23 11 55.6**	**-3.3**
SANI				S	Sn	23 12 45.6	-8.9
APSI	**Ampana**	**5.12**	**225**	P	**Pn**	**23 12 03.4**	**+0.1**
BUKP	**Musuan**	**5.13**	**357**	*e*P	**Pn**	**23 12 04.1**	**+0.6**
BUKP				*e*S	**Sn**	**23 12 07.3**	**+4.4**
PAGZ	**Pagadian**	**5.44**	**340**	*e*P	**Pn**	**23 12 08.4**	**+1.0**
CGP	**Cagayan de Oro**	**5.73**	**354**	*e*P	**Pn**	**23 12 14.4**	**+3.1**
MPSI	**Mapaga**	**5.89**	**246**	P	**Pn**	**23 12 13.7**	**+0.4**
TTSI	**Tana Toraja**	**7.92**	**224**	P	**Pn**	**23 12 41.6**	**+1.4**
SGKI	**Sangatta, Kali**	**8.34**	**247**	P	**Pn**	**23 12 41.8**	**-3.9**
SPSI	**Sidrap Palu**	**8.63**	**220**	P	**Pn**	**23 12 50.1**	**+0.5**
SMKI	**Samarinda**	**8.67**	**249**	P	**Pn**	**23 12 52.5**	**+2.4**
BNSI	**Bone**	**8.77**	**216**	P	**Pn**	**23 12 54.5**	**+3.1**
FAKI	**Fak Fak**	**8.93**	**129**	*e*Pn	**Pn**	**23 12 53.0**	**-0.5**
FAKI				*e*Sn	Sn	23 14 23.9	-9.1
FAKI	**Fak Fak**	**8.93**	**129**	P	**Pn**	**23 12 53.1**	**-0.4**
KAPI	**Kappang**	**9.47**	**216**	*e*Pn	**Pn**	**23 13 01.4**	**+0.8**
KAPI	**Kappang**	**9.47**	**216**	*e*P	**Pn**	**23 13 01.4**	**+0.8**
KKM	**Kota Kinabalu**	**9.64**	**290**	*e*Pn	**Pn**	**23 13 03.2**	**+0.3**
KKM	**Kota Kinabalu**	**9.64**	**290**	P	**Pn**	**23 13 05.0**	**+2.0**
MTKI	**Muara Teweh, K**	**11.01**	**251**	P	**Pn**	**23 13 22.4**	**+1.5**
TGY	**Tagaytay City**	**12.11**	**339**	P	**Pn**	**23 13 35.6**	**+0.6**
	57nm,0.3s,baz=338,slow=5.8,SNR=4.6						
SOEI	**Soe**	**12.43**	**185**	*e*Pn	**Pn**	**23 13 41.8**	**+2.5**
SOEI				*e*S	**S**	**23 16 08.3**	**+2.2**
SOEI	**Soe**	**12.43**	**185**	P	**P**	**23 13 46.0**	**+1.7**
SBUM	**Sibu**	**13.06**	**269**	*e*P	**P**	**23 13 51.8**	**+0.5**
BALP	**Baler**	**13.45**	**344**	*e*P	**Pn**	**23 13 52.5**	**+0.4**
BALP				*e*S	Pn	23 13 57.1	+5.0
KSM	**Kuching**	**15.03**	**266**	P	**P**	**23 14 16.0**	**+2.9**
GENI	**Genyem**	**15.78**	**109**	P	**P**	**23 14 21.9**	**+0.6**
MTN	**Manton Dam**	**16.51**	**160**	*e*P	**P**	**23 14 28.3**	**-1.1**
	51nm,1.0s						
DLV	**T Lat**	**19.01**	**300**	*e*P	**P**	**23 14 58.3**	**+1.3**
	104nm,1.1s						
PPBI	**Pangkal Pinang**	**19.75**	**256**	P	**P**	**23 15 06.2**	**+1.4**
CISI	**Cisompet, Garu**	**20.21**	**240**	*e*P	**P**	**23 15 11.6**	**+1.9**
	65nm,0.7s						
TWG	**Pinlang**	**20.40**	**349**	*e*P	**P**	**23 15 09.2**	**-2.5**
	98nm,0.5s						
CBJI	**Citeko**	**20.53**	**244**	P	Pn	23 15 16.6	-1.1
FITZ	**Fitzroy Crossi**	**20.68**	**179**	*e*P	**P**	**23 15 14.2**	**-0.5**
	50nm,1.4s						
FITZ				*e*S	**S**	**23 18 54.4**	**-2.0**
FITZ	**Fitzroy Crossi**	**20.68**	**179**	P	**P**	**23 15 13.8**	**-0.9**
	7.6nm,0.4s,baz=14,slow=9.4,SNR=46						
FITZ				S	**S**	**23 18 52.7**	**-3.7**
	8.2nm,0.9s,baz=217,slow=20,SNR=4.7						
DSRI	**Dabo**	**20.95**	**262**	P	**P**	**23 15 18.9**	**+1.3**
TPUB	**Ta-pu**	**20.96**	**348**	*e*P	**P**	**23 15 15.3**	**-2.3**
	136nm,1.3s						
SSLB	**Suanglung**	**21.36**	**349**	*e*P	**P**	**23 15 19.9**	**-2.1**
	18nm,0.8s						
CGJI	**Cibinong**	**21.65**	**245**	P	**P**	**23 15 25.8**	**+0.8**
YHNB	**Yeheng**	**22.15**	**351**	*e*P	**P**	**23 15 28.5**	**-1.5**
	38nm,1.1s						
QIZ	**Qiongzhong**	**22.17**	**318**	P	**P**	**23 15 30.3**	**+0.1**
QIZ				sS	**sS**	**23 20 13.3**	**-2.4**
QIZ				pmax	pmax		
	comp=Z,19nm,1.2s						
QIZ	**Qiongzhong**	**22.17**	**318**	*e*P	**P**	**23 15 30.0**	**-0.2**
	14nm,1.2s						
QZH	**Quanzhou**	**23.02**	**344**	*i*P	**P**	**23 15 36.4**	**-1.6**
QZH				S	**S**	**23 19 37.9**	**+2.2**
QZH				pmax	pmax		
	comp=Z,290nm,3.2s						
JOW	**Kunigami**	**24.15**	**7**	*e*P	**P**	**23 15 48.8**	**+0.6**
	68nm,1.1s						
JOW	**Kunigami**	**24.15**	**7**	P	**P**	**23 15 49.6**	**+1.4**
	5.6nm,0.4s,baz=174,slow=13,SNR=36						
WRAB	**Tennant Creek**	**24.20**	**159**	*e*P	**P**	**23 15 48.3**	**-0.5**
	79nm,0.8s						
WRAB				*e*pP	**pP**	**23 16 21.8**	**-0.1**
WRAB				*e*S	**S**	**23 19 50.5**	**-4.2**
WRAB	**Tennant Creek**	**24.20**	**159**	*ce*P	**P**	**23 15 48.2**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,100nm,0.9s						
WRA	**Warramunga Arr**	**24.20**	**159**	P	**P**	**23 15 48.3**	**-0.5**
	comp=Z,48nm,0.8s,baz=337,slow=10,SNR=54						
WRA				S	**S**	**23 19 50.8**	**-4.1**
	comp=Z,3.4nm,0.9s,baz=341,slow=16,SNR=5.2						
WRA				ScP	**ScP**	**23 22 47.6**	**+0.1**
	comp=Z,7.1nm,0.9s,baz=340,slow=3.4,SNR=9.1						
WB2	**Warramunga Arr**	**24.21**	**159**	*e*P	**P**	**23 15 48.5**	**-0.4**
	comp=Z,92nm,0.9s						
COEN	**Coen**	**24.27**	**134**	*e*P	**P**	**23 15 49.5**	**+0.1**
	comp=Z,28nm,1.0s						
IPM	**Ipoh**	**24.28**	**275**	P	**P**	**23 15 51.0**	**+1.3**
MBWA	**Marble Bar**	**24.34**	**193**	*e*P	**P**	**23 15 50.3**	**+0.2**
	comp=Z,100nm,0.9s						
KULM	**Kulim**	**24.71**	**277**	P	**P**	**23 15 54.0**	**+0.4**
PMG	**Port Moresby**	**24.89**	**119**	*e*P	**P**	**23 15 56.0**	**+0.9**
	comp=Z,235nm,1.6s						
PMG	**Port Moresby**	**24.89**	**119**	*ce*P	**P**	**23 15 57.9**	**+2.8**
PMG				pmax	pmax		
	comp=Z,477nm,1.3s						
PMG	**Port Moresby**	**24.89**	**119**	P	**P**	**23 15 55.8**	**+0.7**
	comp=Z,40nm,0.9s,baz=334,slow=3.9,SNR=9.8						
SKNT	**Sakolnakorn**	**25.28**	**305**	P	**P**	**23 16 00.2**	**+1.5**
	comp=Z,36nm,1.0s						
KHON	**Khomkaen**	**25.92**	**303**	P	**P**	**23 16 07.2**	**+2.8**
	comp=Z,42μm,0.5s						
PSI	**Prapat**	**26.34**	**271**	*e*P	**P**	**23 16 08.0**	**-0.4**
	comp=Z,29nm,0.9s						
PSI	**Prapat**	**26.34**	**271**	*e*P	**P**	**23 16 08.0**	**-0.4**
PSI				pmax	pmax		
	comp=Z,29nm,0.9s						
CHAI	**Chaiyaphum**	**26.42**	**301**	P	**P**	**23 16 10.7**	**+1.8**
	comp=Z,37μm,0.9s						
AS31	**Alice Springs**	**27.53**	**163**	*e*P	**P**	**23 16 18.8**	**0.0**
	comp=Z,3.9nm,0.9s						
ASAR	**Alice Springs**	**27.53**	**163**	*e*P	**P**	**23 16 17.8**	**-0.9**
ASAR				PcP	**PcP**	**23 19 33.0**	**+0.5**
ASAR				S	**S**	**23 20 44.5**	**-2.8**
ASAR	**Alice Springs**	**27.53**	**163**	*e*P	**P**	**23 16 17.8**	**-0.9**
ASAR						23 19 33.0	
ASAR				S	**S**	**23 20 44.5**	**-2.8**
ASAR	**Alice Springs**	**27.53**	**163**	P	**P**	**23 16 18.3**	**-0.4**
	comp=Z,11nm,1.0s,baz=340,slow=8.4,SNR=46						
ASAR				PcP	**PcP**	**23 19 33.0**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=350,slow=2.2,SNR=5.0						
ASAR				S	**S**	**23 20 44.5**	**-2.8**
	comp=Z,2.8nm,0.9s,baz=354,slow=25,SNR=5.0						
RABL	**Rabaul**	**27.71**	**104**	*e*P	**P**	**23 16 24.9**	**+4.4**
	comp=Z,156nm,0.6s						
GSI	**Gunungsitoli**	**27.74**	**268**	*e*P	**P**	**23 16 19.3**	**-1.4**
	comp=Z,70nm,1.0s						
GSI	**Gunungsitoli**	**27.74**	**268**	P	**P**	**23 16 20.7**	**0.0**
	comp=Z,73nm,1.0s						
UTTA	**Uttaradit**	**28.50**	**303**	P	**P**	**23 16 29.3**	**+1.9**
	comp=Z,13μm,0.9s						
NANT	**Nan**	**28.90**	**305**	P	**P**	**23 16 34.4**	**+3.5**
	comp=Z,15μm,0.5s						
WHN	**Wuhan**	**29.55**	**341**	⇑P	**P**	**23 16 37.0**	**+0.5**
WHN				pmax	pmax		
	comp=Z,28nm,0.9s						
NJ2	**Nanjing**	**29.80**	**349**	*e*P	**P**	**23 16 40.1**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.18**	**303**	*e*P	**P**	**23 16 44.0**	**+1.7**
CMAR				PcP	**PcP**	**23 19 39.7**	**+0.4**
CMAR				ScP	**ScP**	**23 23 06.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.18**	**303**	P	**P**	**23 16 44.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**30.18**	**303**	P	**P**	**23 16 42.6**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=120,slow=6.9,SNR=19						
CMAR				PcP	**PcP**	**23 19 39.7**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=179,slow=1.4,SNR=7.2						
CMAR				ScP	**ScP**	**23 23 06.0**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=140,slow=2.0,SNR=7.7						
CMMT	**Chiang Mai**	**30.35**	**304**	P	**P**	**23 16 45.2**	**+1.5**
	comp=Z,5.4nm,0.9s						
CHTO	**Chiang Mai**	**30.35**	**304**	*e*P	**P**	**23 16 43.7**	**-0.1**
	comp=Z,8.6nm,1.0s						
CHTO	**Chiang Mai**	**30.35**	**304**	*e*P	**P**	**23 16 43.7**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CTA	**Charters Tower**	**30.61**	**139**	P	**P**	**23 16 47.3**	**+1.3**
	comp=Z,14nm,0.8s,baz=320,slow=14,SNR=17						
CTA				ScP	**ScP**	**23 23 08.4**	**+1.4**
	comp=Z,11nm,1.0s,baz=35,slow=2.0,SNR=9.0						
CTAO	**Charters Tower**	**30.61**	**139**	*e*P	**P**	**23 16 46.6**	**+0.6**
	comp=Z,25nm,1.0s						
CTAO	**Charters Tower**	**30.61**	**139**	*e*P	**P**	**23 16 46.6**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,25nm,1.0s						
JNU	**Nakatsue**	**30.70**	**9**	*e*P	**P**	**23 16 46.9**	**+0.3**
	comp=Z,53nm,0.9s						
JNU	**Nakatsue**	**30.70**	**9**	P	**P**	**23 16 47.0**	**+0.3**
	comp=Z,58nm,0.9s,baz=157,slow=4.0,SNR=29						
KMI	**Kunming**	**31.12**	**318**	P	**P**	**23 16 53.0**	**+2.3**
KMI				pmax	pmax		
	comp=Z,11nm,1.3s						
KMI				LR	LR		
	comp=Z,170nm,17.2s						
KMI				LR	LR		
	comp=Z,160nm,16.2s						
KMI				LR	LR		
	comp=Z,170nm,20.2s						
ENH	**Enshi**	**31.23**	**333**	*e*P	**P**	**23 16 51.3**	**-0.1**
	comp=Z,4.7nm,0.8s						
FORT	**Forrest**	**33.41**	**176**	*e*P	**P**	**23 17 10.1**	**-0.2**
	comp=Z,34nm,0.6s						
INU	**Inuyama**	**34.24**	**17**	*e*P	**P**	**23 17 18.4**	**+0.9**
	comp=Z,39nm,1.1s						
KSAR	**Wonju Array Be**	**34.64**	**4**	*e*P	**P**	**23 17 21.8**	**+1.0**
KSAR				*e*PcP	**PcP**	**23 19 52.6**	**+1.4**
KSAR				ScP	**ScP**	**23 23 20.3**	**-0.3**
KSAR	**Wonju Array Be**	**34.64**	**4**	P	**P**	**23 17 21.8**	**+1.0**
CD2	**Chengdu**	**34.65**	**326**	P	**P**	**23 17 20.9**	**-0.2**
CD2				pmax	pmax		
	comp=Z,40nm,1.4s						
KSRS	**Korea Array**	**34.66**	**4**	P	**P**	**23 17 21.9**	**+0.9**
	comp=Z,7.4nm,0.8s,baz=180,slow=10,SNR=27						
KSRS				PcP	**PcP**	**23 19 52.6**	**+1.4**
	comp=Z,3.5nm,0.9s,baz=182,slow=3.1,SNR=8.1						
KSRS				ScP	**ScP**	**23 23 20.3**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=166,slow=3.7,SNR=4.9						
KSRS				LR	LR	23 34 59.0	
	comp=Z,26nm,18.1s,baz=171,slow=42						
XAN	**Xi'an**	**34.71**	**336**	*e*P	**P**	**23 17 21.2**	**-0.3**
	comp=Z,344nm,1.3s						
XAN				*e*pP	**pwP**	**23 18 00.5**	**-2.0**
XAN	**Xi'an**	**34.71**	**336**	*e*P	**P**	**23 17 21.3**	**-0.3**
XAN				*e**PP	**pwP**	**23 18 00.5**	**-2.0**
XAN				pmax	pmax		
	comp=Z,344nm,1.3s						
MJAR	**Matsushiro Arr**	**35.71**	**18**	*e*P	**P**	**23 17 29.6**	**-0.4**
	comp=Z,5.7nm,0.8s						
MJAR				ScP	**ScP**	**23 23 24.8**	**+0.3**
MJAR	**Matsushiro Arr**	**35.71**	**18**	*e*P	**P**	**23 17 29.6**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MJAR	**Matsushiro Arr**	**35.71**	**18**	P	**P**	**23 17 30.1**	**+0.1**
	comp=Z,18nm,0.9s,baz=200,slow=9.8,SNR=40						
MJAR				ScP	**ScP**	**23 23 24.8**	**+0.3**
	comp=Z,7.7nm,1.1s,baz=218,slow=5.5,SNR=12						
MAJO	**Matsushiro**	**35.71**	**18**	*e*P	**P**	**23 17 30.0**	**-0.1**
	comp=Z,23nm,0.9s						
MAJO	**Matsushiro**	**35.71**	**18**	*d i*P	**P**	**23 17 29.5**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,26nm,0.9s						
MAT	**Matsushiro**	**35.71**	**18**	P	**P**	**23 17 29.8**	**-0.2**
MJB9	**Matsu-Tunnel**	**35.71**	**18**	*e*P	**P**	**23 17 30.2**	**+0.2**
	comp=Z,22nm,0.9s						
NWAO	**Narrogin (SRO)**	**36.26**	**192**	P	**P**	**23 17 34.9**	**+0.2**
	comp=Z,5.7nm,0.9s,baz=86,slow=13,SNR=3.5						
EIDS	**Eidsvold**	**37.47**	**140**	*e*P	**P**	**23 17 45.8**	**+0.7**
	comp=Z,26nm,1.1s						
STKA	**Stephens Creek**	**37.73**	**157**	*e*P	**P**	**23 17 47.7**	**+0.6**
	comp=Z,5.9nm,0.9s						
STKA	**Stephens Creek**	**37.73**	**157**	*e*P	**P**	**23 17 47.7**	**+0.6**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	**37.73**	**157**	P	**P**	**23 17 47.4**	**+0.3**
	comp=Z,19nm,0.8s,baz=324,slow=8.0,SNR=24						
BJI	**Beijing**	**38.06**	**349**	*e*P	**P**	**23 17 48.8**	**-1.0**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LZH	**Lanzhou**	**38.68**	**332**	*e*P	**P**	**23 17 55.8**	**+0.6**
LZH				pP	pP	23 18 28.1	-2.6
LZH				sP	sP	23 18 48.6	-1.1
LZH				PcP	**PcP**	**23 20 04.8**	**+1.1**
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
SHL	**Shillong**	**39.35**	**308**	*e*P	**P**	**23 17 57.9**	**-3.1**
	comp=Z,46nm,1.1s						
SHL				*e*PcP	**PcP**	**23 20 06.7**	**+0.6**
SHL	**Shillong**	**39.35**	**308**	*e*P	**P**	**23 17 57.9**	**-3.1**
SHL				*e*		23 20 06.7	
SHL				pmax	pmax		
	comp=Z,46nm,1.1s						
HHC	**Hu-ho-hao-te**	**39.94**	**344**	*e*P	**P**	**23 18 06.9**	**+1.4**
HHC				S	**S**	**23 24 05.8**	**+7.9**
HHC				pmax	pmax		
	comp=Z,98nm,0.8s						
HHC				pmax	pmax		
	comp=Z,340nm,5.0s						
MSHR	**Mys Shultsa**	**40.04**	**7**	*d i*P	**P**	**23 18 07.5**	**+1.4**
ARMA	**Armidale**	**41.44**	**145**	*e*P	**P**	**23 18 19.7**	**+1.7**
	comp=Z,20nm,1.0s						
USA0B	**Ussuriysk Arra**	**41.73**	**7**	*e*P	**P**	**23 18 21.1**	**+1.1**
	comp=Z,92nm,1.3s						
USA0B	**Ussuriysk Arra**	**41.73**	**7**	*e*P	**P**	**23 18 21.1**	**+1.1**
USA0B				pmax	pmax		
	comp=Z,92nm,1.3s						
USRK	**Ussuriysk Ar.**	**41.73**	**7**	*e*P	**P**	**23 18 21.0**	**+1.0**
USRK	**Ussuriysk Ar.**	**41.73**	**7**	*e*P	**P**	**23 18 21.0**	**+1.0**
USRK	**Ussuriysk Ar.**	**41.73**	**7**	P	**P**	**23 18 21.1**	**+1.2**
	comp=Z,23nm,0.5s,baz=184,slow=6.7,SNR=52						
MDJ	**Mudanjiang**	**41.90**	**5**	P	**P**	**23 18 22.5**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,54nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,130nm,3.1s						
MDJ	**Mudanjiang**	**41.90**	**5**	*e*P	**P**	**23 18 22.2**	**+0.9**
	comp=Z,260nm,1.0s						
GTA	**Gaotai**	**43.25**	**331**	*e*P	**P**	**23 18 32.4**	**-0.1**
GTA				PcP	**PcP**	**23 20 18.8**	**+0.2**
GTA				pmax	pmax		
	comp=Z,15nm,1.1s						
TEY	**Ternei**	**43.31**	**12**	*e*P	**P**	**23 18 33.9**	**+1.2**
TEY				pmax	pmax		
	comp=N,20nm,1.2s						
TEY				pmax	pmax		
	comp=Z,50nm,1.2s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.6s						
CAN	**Canberra**	**43.88**	**152**	*e*P	**P**	**23 18 39.0**	**+1.6**
	comp=E,38nm,1.2s						
CAN	**Canberra**	**43.88**	**152**	*e*P	**P**	**23 18 39.0**	**+1.6**
CAN				pmax	pmax		
	comp=Z,38nm,1.2s						
ASAJ	**Asahikawa**	**43.98**	**18**	P	**P**	**23 18 39.9**	**+1.8**
	comp=Z,8.8nm,0.5s,baz=230,slow=14						
RAMN	**Ramite**	**44.18**	**307**	*e*P	**P**	**23 18 40.4**	**+0.1**
	comp=Z,61nm,1.1s						
TOO	**Toolangi**	**44.25**	**157**	*e*P	**P**	**23 18 42.6**	**+2.2**
	comp=Z,44nm,1.1s						
TOO	**Toolangi**	**44.25**	**157**	*e*P	**P**	**23 18 42.6**	**+2.2**
TOO				pmax	pmax		
	comp=Z,44nm,1.1s						
JIRN	**Jiri**	**44.82**	**307**	*e*P	**P**	**23 18 45.5**	**0.0**
	comp=Z,80nm,1.0s						
PKI	**Pulchoki**	**45.41**	**307**	*e*P	**P**	**23 18 49.3**	**-0.8**
PKIN	**Phulchoki**	**45.42**	**307**	*e*P	**P**	**23 18 49.3**	**-0.8**
	comp=Z,6.1nm,0.3s						
KKN	**Kakani**	**45.60**	**307**	*e*P	**P**	**23 18 51.0**	**-0.5**
	comp=Z,47nm,1.0s						
DMN	**Daman**	**45.66**	**307**	*e*P	**P**	**23 18 51.5**	**-0.5**
GKN	**Gorkha**	**46.21**	**307**	*e*P	**P**	**23 18 55.6**	**-0.5**
	comp=Z,44nm,1.0s						
YSS	**Yuzh-Sakhalins**	**46.60**	**16**	*e*P	P	23 18 49.4	-9.3
KLR	**Kul'dur**	**46.67**	**6**	*d i*P	**P**	**23 18 59.7**	**+0.6**
KLR				pmax	pmax		
	comp=Z,63nm,1.4s						
KLR	**Kul'dur**	**46.67**	**6**	P	**P**	**23 18 59.9**	**+0.7**
	comp=Z,20nm,0.5s,baz=219,slow=6.6,SNR=20						
KOLN	**Koldanda**	**46.94**	**306**	*e*P	**P**	**23 19 01.8**	**-0.1**
	comp=Z,58nm,0.7s						
DANN	**Dangsing**	**47.06**	**307**	*e*P	**P**	**23 19 02.4**	**-0.5**
	comp=Z,80nm,0.8s						
DZM	**Mont Dzumac**	**47.15**	**124**	*e*P	**P**	**23 19 04.1**	**+0.7**
	comp=Z,20nm,1.1s						
DZM	**Mont Dzumac**	**47.15**	**124**	P	**P**	**23 19 04.5**	**+1.0**
	comp=Z,13nm,1.0s,baz=325,slow=4.6,SNR=5.3						
PYUN	**Piuthan**	**47.57**	**306**	*e*P	**P**	**23 19 06.7**	**-0.1**
	comp=Z,122nm,1.0s						
ULN	**Ulaanbaatar**	**47.66**	**343**	*e*P	**P**	**23 19 05.8**	**-1.2**
	comp=Z,8.6nm,0.6s						
ULN	**Ulaanbaatar**	**47.66**	**343**	*e*P	**P**	**23 19 05.8**	**-1.2**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SONM	**Songino Array**	**47.82**	**343**	*e*P	**P**	**23 19 07.5**	**-0.7**
	comp=Z,13nm,1.2s						
SONM				PcP	**PcP**	**23 20 34.3**	**0.0**
SONM				ScP	**ScP**	**23 24 11.9**	**-0.7**
SONM	**Songino Array**	**47.82**	**343**	*e*P	**P**	**23 19 07.5**	**-0.7**
SONM						23 20 34.3	
SONM				pmax	pmax		
	comp=Z,13nm,1.2s						
SONM	**Songino Array**	**47.82**	**343**	P	**P**	**23 19 07.8**	**-0.5**
	comp=Z,9.0nm,0.9s,baz=160,slow=8.4,SNR=31						
SONM				PcP	**PcP**	**23 20 34.3**	**0.0**
	comp=Z,3.9nm,0.8s,baz=155,slow=5.1,SNR=8.1						
SONM				ScP	**ScP**	**23 24 11.9**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=145,slow=3.5,SNR=3.2						
SONM				LR	LR	23 40 21.2	
	comp=Z,41nm,19.9s,baz=112,slow=37						
HYB	**Hyderabad**	**48.12**	**291**	*i* P	**P**	**23 19 11.0**	**+0.1**
GRNR	**Gornyy**	**48.80**	**9**	*e*P	**P**	**23 19 17.1**	**+1.6**
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
ZEA	**

comp=N,13nm,2.8s
KZA Kyzart 59.40 318 P P 23 20 33.1 +0.2
SNR=9.6
TKM2 Tokmak 2 59.57 319 P P 23 20 33.3 -0.5
SNR=9.1
KBK Karagaybulak 59.87 319 P P 23 20 35.6 -0.2
SNR=8.4
UCH Uchtor 59.96 318 P P 23 20 36.7 -0.1
SNR=15
MA2 Magadan 60.04 15 *d i* P **P 23 20 38.0 +1.6**
MA2 pmax pmax
comp=Z,23nm,0.8s
AAK Ala-Archa 60.16 319 *e* P **P 23 20 37.6 -0.2**
comp=Z,8.6nm,1.0s
AAK PcP **PcP 23 21 21.2 -0.5**
AAK Ala-Archa 60.16 319 *i* P **P 23 20 37.4 -0.4**
AAK pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 60.16 319 P P 23 20 37.5 -0.2
comp=Z,1.2nm,0.4s,baz=79,slow=8.6,SNR=6.9
AAK PcP **PcP 23 21 21.2 -0.5**
comp=Z,5.5nm,0.9s,baz=174,slow=3.0,SNR=10
USP Ospenovka 60.44 319 P P 23 20 38.8 -0.8
SNR=11
AML Almayashu 60.46 318 P P 23 20 40.0 -0.2
SNR=11
EKS2 Erkin-Say 60.64 319 P P 23 20 40.9 -0.1
SNR=8.4
ZAA0 Zalesovo Array 60.85 334 *e* P **P 23 20 39.9 -2.1**
comp=Z,14nm,1.3s
ZALV Zalesovo Beam 60.85 334 P P 23 20 40.2 -1.8
comp=Z,4.0nm,0.5s,baz=123,slow=5.8,SNR=16
ZALV PcP **pP 23 21 21.9 +1.4**
comp=Z,1.7nm,0.6s,baz=90,slow=1.5,SNR=4.8
KBL Kabul 61.01 308 *e* P **P 23 20 42.8 -1.0**
comp=Z,27nm,1.4s
KBL Kabul 61.01 308 *e* P **P 23 20 42.8 -1.0**
KBL pmax pmax
comp=Z,27nm,1.4s
GAR Garm 61.56 313 *e* P **P 23 20 46.2 -1.1**
comp=Z,44nm,1.3s
GAR Garm 61.56 313 *e* P **P 23 20 46.2 -1.1**
GAR pmax pmax
comp=Z,44nm,1.3s
LBZ Lake Benmore 61.67 145 *e* P **P 23 20 49.0 +1.4**
comp=Z,41nm,1.0s
RPZ Rata Peaks 61.78 144 *e* P **P 23 20 49.7 +1.2**
comp=Z,31nm,1.1s
RPZ Rata Peaks 61.78 144 P P 23 20 49.2 +0.8
comp=Z,18nm,0.9s,baz=351,slow=4.5,SNR=6.7
THZ Tophouse 61.80 141 *e* P **P 23 20 49.8 +1.1**
comp=Z,21nm,1.0s
KURBB Kurchatov Arra 61.83 328 P P 23 20 47.7 -0.9
comp=Z,5.1nm,0.5s,baz=129,slow=6.4,SNR=37
KURBB PcP **pP 23 21 26.7 -0.6**
comp=Z,4.7nm,0.9s,baz=121,slow=4.6,SNR=7.7
KURK Kurchatov 61.83 328 *e* P **P 23 20 47.7 -1.0**
comp=Z,12nm,0.6s
KURK Kurchatov 61.83 328 *c e* P **P 23 20 47.5 -1.2**
KURK pmax pmax
comp=Z,17nm,1.3s
NVS Novosibirsk 62.14 334 *i* P **P 23 20 48.9 -1.7**
URZ Urewera 62.80 136 *e* P **P 23 20 56.2 +0.9**
comp=Z,20nm,1.0s
URZ Urewera 62.80 136 P P 23 20 55.2 -0.1
comp=Z,11nm,0.8s,baz=351,slow=4.6,SNR=9.7
BKZ Black Stump Fm 62.81 137 *e* P **P 23 20 56.3 +0.9**
comp=Z,19nm,0.8s
KK31 Karatay Array 63.00 318 *e* P **P 23 20 55.7 -0.9**
comp=Z,8.2nm,1.2s
KK31 *e* pP **PcP 23 21 32.5 -0.5**
KK31 Karatay Array 63.00 318 *e* P **P 23 20 55.7 -0.9**
KK31 *e** PP **PcP 23 21 32.5 -0.5**
KK31 pmax pmax
comp=Z,8.0nm,1.2s
KKAR Karatay Array 63.00 318 *e* P **P 23 20 55.7 -0.9**
KKAR *e* pP **PcP 23 21 32.5 -0.5**
KKAR Karatay Array 63.00 318 *e* P **P 23 20 55.7 -0.9**
KKAR *e** PP **PcP 23 21 32.5 -0.5**
SEY Seymchan 63.34 13 *c e* P **P 23 20 59.8 +1.4**
BRVK Borovoye 67.47 328 *e* P **P 23 21 23.5 -1.6**
BRVK *e* PcP **PcP 23 21 50.1 -1.1**
BRVK Borovoye 67.47 328 *e* P **P 23 21 23.5 -1.6**
BRVK *e* 23 21 50.1
BRVK pmax pmax
comp=Z,9.0nm,0.9s
TIXI Tiksi 68.87 1 *e* P **P 23 21 33.0 -0.5**
comp=Z,79nm,1.2s
TIXI Tiksi 68.87 1 *e* P **P 23 21 33.0 -0.5**
TIXI pmax pmax
comp=Z,79nm,1.2s
GEYT Alibeck 70.42 309 P P 23 21 43.0 -0.7
comp=Z,23nm,0.6s,baz=116,slow=3.4,SNR=10
GYA0B ALIBECK ARRAY 70.42 309 *e* P **P 23 21 44.2 +0.5**
comp=Z,8.2nm,1.1s
BILL Bilibino 70.90 15 ‖ *e* P **P 23 21 46.7 +0.8**
BILL *e* 23 24 29.6
BILL pmax pmax
comp=Z,3.0nm,1.2s
NRIK Noril'sk 71.07 347 P P 23 21 46.3 -0.7
comp=Z,13nm,0.7s,baz=127,slow=6.8,SNR=20
ABKAR Akbulak array 72.03 321 *e* P **P 23 21 51.7 -1.4**
SVE Sverdlovsk 74.08 329 *e* P **P 23 22 03.6 -1.3**
SVE pmax pmax
comp=Z,24nm,0.8s
ARU Arti 75.03 328 *e* P **P 23 22 08.6 -1.8**
comp=Z,29nm,1.3s
ARU Arti 75.03 328 *d i* P **P 23 22 08.6 -1.8**
ARU 23 22 18.5
ARU *PP **pP 23 22 51.7 +1.2**
ARU S **S 23 31 33.8 -0.3**
ARU pmax pmax
comp=Z,22nm,1.3s
GROC Groznyy 80.49 313 *e* P **P 23 22 37.1 -3.8**
GROC pmax pmax
comp=Z,17nm,1.2s
GNI Garni 81.03 310 *e* P **P 23 22 43.7 -0.4**
GNI Garni 81.03 310 *e* P **P 23 22 43.7 -0.4**
TBLG Delisi 81.15 312 *e* P **P 23 22 44.5 0.0**
comp=Z,9.1nm,1.0s
TBLG Delisi 81.15 312 *e* P **P 23 22 44.5 0.0**
TBLG pmax pmax
comp=Z,9.0nm,1.0s
ZEI Tsey 81.84 313 *e* P **P 23 22 46.4 -2.0**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
AKH Akhalkalaki 82.06 311 *e* P **P 23 22 50.2 +0.7**
comp=Z,9.4nm,1.0s
AKH Akhalkalaki 82.06 311 P P 23 22 50.2 +0.7
AKH pmax pmax
comp=Z,9.0nm,1.0s
ATD Arta Tunnel 82.07 281 *e* P **P 23 22 50.3 +0.4**
comp=Z,9.7nm,0.9s
MAW Mawson 82.31 200 P P 23 22 50.1 +0.2
comp=Z,1.6nm,0.8s,baz=0.0,slow=2.0,SNR=4.9
SVW2 Sparrevohn 82.38 29 *e* P **P 23 22 53.1 +2.6**
comp=Z,16nm,0.9s
VNDA Vanda 82.61 172 P P 23 22 51.4 0.0
comp=Z,0.8nm,0.5s,baz=316,slow=6.8,SNR=12
KBZ Khabaz 82.63 314 P P 23 22 50.8 -1.3
comp=Z,3.3nm,0.9s,baz=144,slow=4.4,SNR=8.3
PRGR Permogore 82.71 332 P P 23 22 49.5 -2.6
PRGR pmax pmax
comp=Z,19nm,1.3s
KIV Kislovodsk 82.80 314 *e* P **P 23 22 49.6 -3.6**
KIV pmax pmax
comp=Z,12nm,1.1s
KDAK Kodiak Island 83.51 32 *i* P **P 23 22 58.4 +2.1**
KDAK Kodiak Island 83.51 32 P P 23 22 58.3 +2.0
comp=Z,12nm,0.8s,baz=239,slow=7.4,SNR=7.0
RSO Redoubt South 83.67 30 *e* P **P 23 22 57.3 -0.1**
IMAR Indian Mountai 83.85 24 *e* P **P 23 22 59.3 +1.4**
VRH Novokhopyorsk 83.86 321 *e* P **P 23 22 56.3 -2.0**
VRH pmax pmax
comp=Z,20nm,1.0s
CAST Castle Rocks 84.28 27 *e* P **P 23 23 02.8 +2.6**
comp=Z,3.9nm,0.7s
SOC Sochi 84.93 313 *e* P **P 23 23 01.3 -2.6**
SOC *e* S **S 23 33 09.5 -8.8**
SOC *e* SS **SS 23 38 51.7 -3.3**
SOC *e* SSS SSS 23 42 22.1
SOC pmax pmax
comp=Z,10.0nm,0.6s
MLY Manley 85.00 25 *e* P **P 23 23 05.2 +1.4**
comp=Z,3.1nm,0.8s
VSR Storozhevoye 85.47 321 *e* P **P 23 23 03.2 -3.1**
VSR pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 85.58 331 *e* P **P 23 23 03.3 -3.4**
KLMR pmax pmax
comp=Z,30nm,1.2s
LPSR Galich'ya Gora 85.65 322 *e* P **P 23 23 05.6 -1.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
TOLK Tolik Lake Re 85.71 21 *e* P **P 23 23 09.1 +1.8**
comp=Z,6.7nm,0.9s
CCB Clear Creek Bu 86.23 26 *e* P **P 23 23 10.3 +0.5**
comp=Z,3.1nm,1.0s
TMCR Tamitsa 86.38 334 *e* P **P 23 23 09.0 -1.5**
TMCR pmax pmax
comp=Z,34nm,1.4s
ANN Anapa 86.58 315 *e* P **P 23 23 07.8 -4.1**
ANN *e** PP **pP 23 23 49.9 -3.2**
ANN *e* 23 26 32.7
ANN *e** SS **S 23 33 38.9 +4.6**
ANN pmax pmax
comp=Z,35nm,1.1s
HDA Harding Lake 86.60 26 *e* P **P 23 23 11.7 0.0**
comp=Z,6.1nm,1.0s
ILAR Eielson Array 86.63 25 P P 23 23 11.4 -0.4
comp=Z,0.6nm,0.7s,baz=224,slow=5.5,SNR=8.0
OBN Obninsk 87.06 325 ‖ *e* P **P 23 23 12.1 -1.9**
OBN *e** PP **pP 23 23 56.4 +1.2**
OBN *e* 23 26 39.9
OBN *e* S **S 23 33 36.2 -2.2**
OBN pmax pmax
comp=Z,10.0nm,1.2s
RIDG Independent Ri 87.52 26 *e* P **P 23 23 16.7 +0.5**
comp=Z,5.7nm,0.8s
LVZ Lovozero 87.75 338 *c e* P **P 23 23 16.9 -0.2**
LVZ pmax pmax
comp=Z,39nm,2.5s
KMBO Kilima Mbogo 88.10 269 P P 23 23 19.1 -1.1
comp=Z,1.3nm,0.5s,baz=58,slow=15,SNR=2.9
BCAR Beaver Creek A 88.93 27 *e* P **P 23 23 23.7 +0.9**
BR131 Keskin Array S 89.56 310 *e* P **P 23 23 26.0 -0.4**
comp=Z,1.6nm,0.8s
BR131 Keskin Array S 89.56 310 *e* P **P 23 23 26.0 -0.4**
BR131 pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 89.56 310 *e* P **P 23 23 25.5 -0.8**
BRTR PP **PP 23 27 00.7 +0.3**
BRTR Keskin Array B 89.56 310 *e* P **P 23 23 25.5 -0.8**
BRTR 23 27 00.7
BRTR Keskin Array B 89.56 310 P P 23 23 24.2 -2.1
comp=Z,0.9nm,0.8s,baz=116,slow=5.6,SNR=6.4
BRTR PP **PP 23 27 00.7 +0.3**
comp=Z,0.9nm,1.0s,baz=129,slow=5.7,SNR=5.9
ARCES ARCESS Array B 90.90 340 P P 23 23 30.6 -1.1
comp=Z,8.7nm,0.8s,baz=90,slow=6.2,SNR=18
SPA0 Spitsbergen Ar 91.19 349 *e* P **P 23 23 33.1 +0.1**
comp=Z,19nm,0.9s
INK Inuvik 91.62 21 *e* P **P 23 23 35.5 +0.4**
comp=Z,7.2nm,1.4s
AKASG Malin Array Be 91.77 321 *i* P **P 23 23 33.9 -2.2**
AKASG Malin Array Be 91.77 321 P P 23 23 34.1 -2.0
comp=Z,0.7nm,0.7s,baz=70,slow=4.7,SNR=4.5
KIEV Kiev 91.78 321 *i* P **P 23 23 35.3 -0.9**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 92.04 332 *e* P **P 23 23 35.4 -1.8**
FINES FINESS Array B 92.04 332 *e* P **P 23 23 35.4 -1.8**
FINES FINESS Array B 92.04 332 P P 23 23 35.6 -1.5
comp=Z,5.1nm,0.7s,baz=75,slow=4.0,SNR=28
BURAR Bucovina Array 94.80 318 *e* P **P 23 23 49.0 -1.2**
comp=Z,40nm,0.8s
BURAR Bucovina Array 94.80 318 *e* P **P 23 23 49.1 -1.2**
BURAR pmax pmax
comp=Z,40nm,0.8s
BUR08 Bucovina Ar. S 94.80 318 *e* P **P 23 23 49.6 -0.8**
comp=Z,6.5nm,1.1s
SUW Suwalki 94.92 325 *e* P **P 23 23 49.9 -0.7**
comp=Z,38nm,1.1s
SUW Suwalki 94.92 325 *e* P **P 23 23 49.9 -0.7**
SUW pmax pmax
comp=Z,38nm,1.1s
KOLS Kolonicke sedl 96.49 320 *e* P **P 23 23 58.2 +0.3**
KOLS Kolonicke sedl 96.49 320 *e* P **P 23 23 58.2 +0.3**
NB2 NORSAR Subarra 99.05 333 P Pdif 23 24 06.9 -2.2
comp=Z,1.4nm,0.7s,baz=68,slow=4.6
NOA NORSAR Array B 99.05 333 P Pdif 23 24 07.0 -2.2
comp=Z,1.6nm,0.8s,baz=68,slow=4.4,SNR=6.1
YKA Yellowknife Ar 101.01 24 *i* P **Pdif 23 24 18.6 +0.9**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 101.01 24 P Pdif 23 24 18.2 +0.5
comp=Z,0.7nm,0.8s,baz=302,slow=4.6,SNR=8.1
GERES GERESS Array B 101.98 321 P Pdif 23 24 22.8 +0.3
comp=Z,0.2nm,0.5s,baz=50,slow=1.5,SNR=3.6
ULM Lac du Bonnet 116.53 28 PKP **PKPdf 23 29 09.3 -2.2**
comp=Z,1.5nm,0.8s,baz=236,slow=3.6,SNR=3.8
TORD Torodi Ar. Bea 121.86 287 PKP **PKPdf 23 29 20.9 -1.9**
comp=Z,2.0nm,0.8s,baz=31,slow=3.5,SNR=13
TORD PKKPab **PKKPab 23 39 22.8 +0.4**
comp=Z,0.4nm,0.5s,baz=285,slow=4.3,SNR=7.3
TXAR Lajitas Array 123.35 52 PKP **PKiKP 23 29 25.6 0.0**
comp=Z,0.7nm,0.7s,baz=162,slow=1.0,SNR=6.8
JCT Junction City 125.80 49 *e* PKPdf **PKiKP 23 29 31.1 +0.8**
JCT Junction City 125.80 49 *e* PKiKP **PKiKP 23 29 31.2 +0.8**
VBMS Vicksburg 131.43 41 *e* PKPpre PKPpre 23 29 25.9
LPAZ La Paz 161.12 138 PKP **PKPdf 23 30 30.8 +1.2**
comp=Z,1.1nm,0.8s,baz=266,slow=2.0,SNR=4.8

MEX 13 23:26:50.6±0.5, 14°.58N×92°.72W, h52km±21km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.22**	**337**	*e* P	Pn	23 27 10.6	-0.7
PCIG				*i* S	Sn	23 27 24.5	-2.2
CCIG	**Comitan**	**1.78**	**18**	*i* P	Pn	23 27 18.5	-0.7
CCIG				*i* S	Sn	23 27 38.3	-2.5
TGIG		**2.22**	**350**	*i* P	Pn	23 27 23.6	-1.5
TGIG				*i* S	Sn	23 27 48.9	-2.5
CMIG	**Matias Romero**	**3.25**	**320**	*i* P	Pn	23 27 37.1	-2.0
CMIG				*i* S	Sn	23 28 15.1	-1.6

*JMA **13** 23:36:36.9±0.3, 43°.98N×148°.06E, h0km, M4.2*
*SKHL **13** 23:36:36.9±0.8, 44°.41N×148°.27E, h31km±4km, mb3.4/4*
ISC 13 23:36:36.4±2.3, 44°.4N±0°.1×148°.0E±0°.1, h10km, n15, σ1°.26/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.85**	**354**	*i* P	**Pb**	**23 36 52.1**	**-1.1**
KUR				AMB	AMB	23 36 52.9	
KUR	20nm,0.3s			*i* S	**Sb**	**23 37 04.1**	**-0.5**
KUR				A	A	23 37 04.8	
KUR	350nm,0.2s			A	A	23 37 04.8	
KUR	160nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.58**	**258**	*e* P	**Pb**	**23 37 05.3**	**-0.3**
YUK				AMB	AMB	23 37 07.0	
YUK	20nm,0.2s			AMB	AMB	23 37 07.0	
YUK	90nm,0.2s			AMB	AMB	23 37 07.0	
YUK	10.0nm,0.2s			*e* S	**Sb**	**23 37 26.0**	**+0.4**
YUK				A	A	23 37 27.5	
YUK	280nm,0.4s			A	A	23 37 27.5	
YUK	360nm,0.4s						
LAGR	**Lagunnoye**	**1.62**	**259**	*e* S	**Sb**	**23 37 27.0**	**0.0**
GRPR	**Tuman**	**1.65**	**257**	*e* P	**Pb**	**23 37 06.0**	**-0.9**
GRPR				AMB	AMB	23 37 08.0	
GRPR	20nm,0.3s			*e* S	**Sb**	**23 37 27.0**	**-0.7**
GRPR				A	A	23 37 32.0	
GRPR	70nm,0.2s			A	A	23 37 32.0	
GRPR	30nm,0.2s						
GLVR	**Golovnino**	**1.90**	**251**	*e* P	**Pb**	**23 37 10.0**	**-1.2**
GLVR				AMB	AMB	23 37 12.0	
GLVR	10.0nm,0.4s			*e* S	**Sg**	**23 37 37.0**	**-0.5**
GLVR				A	A	23 37 45.0	
GLVR	80nm,0.4s						
NEM2	**Nemuro 2**	**1.93**	**239**	P	**Pn**	**23 37 09.3**	**+0.1**
NEM2				*e* S	**Sn**	**23 37 33.2**	**-0.3**
JRA	**Rausu**	**2.12**	**259**	P	**Pb**	**23 37 14.2**	**-0.7**
JRA				*e* S	**Sb**	**23 37 41.7**	**+0.5**
JKHN	**Kushirohamanak**	**2.44**	**238**	P	**Pn**	**23 37 16.8**	**+0.6**
JNK	**Nakash**	**2.50**	**252**	P	**Pb**	**23 37 18.9**	**-2.5**
JNK				*e* S	**Sb**	**23 37 50.2**	**-2.0**
JAK	**Akkeshi**	**2.77**	**241**	P	**Pn**	**23 37 21.5**	**+0.7**
JAK				*e* S	**Sn**	**23 37 54.7**	**+0.4**
JTKR	**Abashiri--Toko**	**2.97**	**263**	P	**Pb**	**23 37 27.8**	**-1.6**
JAR	**Ashorobuto**	**3.25**	**252**	P	**Pn**	**23 37 29.8**	**+2.4**
JCH	**Churui**	**3.81**	**244**	P	**Pn**	**23 37 36.6**	**+1.5**
JNBK	**Urakawa-nobuka**	**4.37**	**243**	P	**Pn**	**23 37 44.4**	**+1.6**
JNBK				*e* S	**Sn**	**23 38 35.0**	**+1.3**
JKB	**Kayabe**	**5.68**	**246**	P	**Pn**	**23 38 02.6**	**+1.9**
JKB				*e* S	**Sn**	**23 39 06.8**	**+0.9**

*IDC **13** 23:37:08.1±0.8, 2°.98S×130°.19E, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.0/27, mbtmp4.1/11, ML3.7/2, MS3.1/5, Ms1 3.2/5, ms1mx2.9/36, Error ellipse: s-maj=47.4km s-min=15.2km az=68.0*
*ISCJB **13** 23:37:09.9±0.3, 3°.13S±0°.04×130°.15E±0°.06, h25km, mb4.8/17, MS3.1/3, Error ellipse: s-maj=9.0km s-min=5.1km az=156.5*
*NEIC **13** 23:37:09.0±4.2, 2°.96S×130°.22E, h8km±28km, mb4.3/10, Error ellipse: s-maj=13.1km s-min=8.1km az=56.0*
*DJA **13** 23:37:11.2±4.1, 3°.S±7°.×13°.0E±°, h10km±35km, M4.3/5, mb4.3/3, MLv4.3/5*
ISC 13 23:37:11.8±0.5, 3°.09S±0°.05×130°.22E±0°.08, h25km, n53, σ2°.20/54, mb4.2/17, MS3.2/3, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.46**	**192**	P	**Pb**	**23 37 40.5**	**+2.2**
FAKI	**Fak Fak**	**2.03**	**85**	*e* Pn	**Pn**	**23 37 45.7**	**+1.2**
FAKI	**Fak Fak**	**2.03**	**85**	P	**Pn**	**23 37 45.4**	**+0.9**
SWI	**Sorong**	**2.44**	**25**	P	**Pn**	**23 37 49.9**	**-0.2**
SANI	**Sanana**	**4.35**	**284**	P	**Pn**	**23 38 14.1**	**-2.3**
TNT1	**Ternate**	**4.78**	**323**	*e* Pn	**Pn**	**23 38 18.2**	**-4.1**
APSI	**Ampana**	**8.83**	**284**	P	**Pn**	**23 39 16.9**	**-1.1**
MTN	**Manton Dam**	**9.73**	**175**	*e* Pn	**Pn**	**23 39 31.7**	**+1.4**
MTN				*e* Sn	**Sn**	**23 41 19.0**	**0.0**
KAPI	**Kappang**	**10.62**	**259**	*e* Pn	**Pn**	**23 39 44.5**	**+2.0**
DAV	**Davao City (W)**	**11.10**	**335**	LR	LR	23 45 10.9	
	comp=Z,117nm,19.1s,baz=110,slow=44						
FITZ	**Fitzroy Crossi**	**15.58**	**196**	**Pn**	**Pn**	**23 40 49.4**	**-0.5**
	0.1nm,0.3s,baz=28,slow=17,SNR=4.4						
FITZ				LR	LR	23 47 07.1	
	comp=Z,65nm,18.9s,baz=25,slow=38						
COEN	**Coen**	**16.74**	**131**	*e* Pn	**Pn**	**23 41 02.4**	**-2.5**
	13nm,1.1s						
COEN				*e* Sn	Sn	23 43 58.9	-11
WRAB	**Tennant Creek**	**17.22**	**167**	*e* Pn	**P**	**23 41 13.1**	**+0.9**
WRAB				*e* S	**Sn**	**23 44 12.8**	**-9.0**
WRA	**Warramunga Arr**	**17.23**	**167**	P	**Pn**	**23 41 10.0**	**-0.9**
	0.4nm,0.3s,baz=350,slow=11,SNR=3.5						
WRA				S	**Sn**	**23 44 14.4**	**-7.6**
	0.2nm,0.3s,baz=338,slow=20,SNR=3.3						
WB2	**Warramunga Arr**	**17.23**	**167**	*e* Pn	**Pn**	**23 41 08.2**	**-2.8**
	3.4nm,0.8s						
WB2				*e* Sn	Sn	23 44 07.5	-15
MBWA	**Marble Bar**	**20.66**	**209**	*e* P	**P**	**23 41 50.7**	**+0.9**
	128nm,1.2s						
AS31	**Alice Springs**	**20.77**	**170**	*e* P	**P**	**23 41 52.1**	**+1.1**
	5.5nm,0.6s						
ASAR	**Alice Springs**	**20.77**	**170**	*e* P	**P**	**23 41 51.5**	**+0.5**
ASAR				S	**S**	**23 45 41.1**	**-0.7**
ASAR	**Alice Springs**	**20.77**	**170**	P	**P**	**23 41 52.0**	**+1.0**
	11nm,0.6s,baz=347,slow=9.1,SNR=133						
ASAR				S	**S**	**23 45 41.1**	**-0.7**
	1.4nm,0.9s,baz=354,slow=21,SNR=5.4						
CTA	**Charters Tower**	**23.03**	**138**	P	**P**	**23 42 16.5**	**+1.2**
	2.9nm,0.7s,baz=318,slow=12,SNR=4.2						
CTAO	**Charters Tower**	**23.03**	**138**	*e* P	**P**	**23 42 16.8**	**+1.5**
	18nm,0.7s						
STKA	**Stephens Creek**	**30.57**	**161**	P	**P**	**23 43 24.6**	**+0.9**
	1.6nm,0.5s,baz=2.8,slow=8.9,SNR=3.0						
KHON	**Khomkaen**	**33.25**	**306**	P	**P**	**23 43 47.7**	**+0.4**
	36μm,0.4s						
CHAI	**Chaiyaphum**	**33.70**	**305**	P	**P**	**23 43 51.3**	**0.0**
	26μm,0.8s,562μm						
NONG	**Nongkai**	**33.97**	**309**	P	**P**	**23 43 53.4**	**-0.1**
	0.2nm,0.8s						
UTTA	**Uttaradit**	**35.83**	**306**	P	**P**	**23 44 10.5**	**+0.8**
	12μm,0.8s						
NANT	**Nan**	**36.29**	**308**	P	**P**	**23 44 14.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**37.51**	**306**	*e* P	**P**	**23 44 23.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**37.51**	**306**	P	**P**	**23 44 24.1**	**+0.1**
	3.0nm,0.9s,baz=134,slow=7.9,SNR=11						
CMAR				LR	LR	00 03 10.1	
	comp=Z,33nm,18.1s,baz=184,slow=42						
CMMT	**Chiang Mai**	**37.69**	**306**	P	**P**	**23 44 25.9**	**+0.3**
	6.0nm,1.2s						
CHTO	**Chiang Mai**	**37.70**	**306**	*e* P	**P**	**23 44 25.5**	**-0.1**
	13nm,1.1s						
KMI	**Kunming**	**38.70**	**318**	P	**P**	**23 44 35.3**	**+1.1**
KMI				pP	sP	23 44 43.6	-1.2
KSRS	**Korea Array**	**40.39**	**357**	LR	LR	00 00 42.9	
	comp=Z,13nm,21.2s,baz=170,slow=35						
LZH	**Lanzhou**	**46.11**	**330**	*e* P	**P**	**23 45 37.8**	**+3.5**
LZH				pP	sP	23 45 47.4	+2.5
LZH				sP	pP	23 45 51.1	+9.2
HHC	**Hu-ho-hao-te**	**46.93**	**341**	*e* P	**P**	**23 45 44.1**	**+3.5**
SONM	**Songino Array**	**54.84**	**341**	*e* P	**P**	**23 46 40.0**	**-0.1**
	1.6nm,1.0s						
SONM	**Songino Array**	**54.84**	**341**	P	**P**	**23 46 39.2**	**-0.8**
	0.6nm,0.4s,baz=161,slow=9.4,SNR=5.1						
WMQ	**Urumqi**	**60.28**	**326**	*e* P	**P**	**23 47 20.3**	**+1.9**
PETK	**Petropavlovsk-**	**60.57**	**19**	LR	LR	00 12 47.0	
	comp=Z,29nm,19.9s,baz=130,slow=35						
MK31	**Makanchi Array**	**65.11**	**326**	*e* P	**P**	**23 47 50.2**	**-0.3**
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**65.11**	**326**	*e* P	**P**	**23 47 48.9**	**-1.6**
MKAR	**Makanchi Array**	**65.11**	**326**	P	**P**	**23 47 49.6**	**-0.9**
	1.6nm,0.7s,baz=122,slow=8.9,SNR=13						
ZALV	**Zalesovo Beam**	**68.20**	**333**	P	**P**	**23 48 08.6**	**-1.5**
	0.4nm,0.4s,baz=108,slow=9.5,SNR=3.8						
KURK	**Kurchatov**	**69.33**	**328**	*e* P	**P**	**23 48 16.2**	**-0.9**
	5.8nm,0.8s						
KKAR	**Karatay Array**	**70.58**	**318**	*e* P	**P**	**23 48 23.3**	**-1.7**
BRVK	**Borovoye**	**74.97**	**327**	*e* P	**P**	**23 48 50.0**	**-0.9**
	5.6nm,1.0s						
NRIK	**Noril'sk**	**77.84**	**346**	P	**P**	**23 49 06.8**	**0.0**
	1.1nm,0.6s,baz=113,slow=9.6,SNR=2.4						
MAW	**Mawson**	**78.65**	**201**	P	**P**	**23 49 12.3**	**+1.0**
	1.1nm,0.5s,baz=84,slow=9.2,SNR=3.6						
ABKAR	**Akbulak array**	**79.61**	**321**	*e* P	**P**	**23 49 16.1**	**-0.8**
SYO	**Syowa Base**	**87.36**	**201** ‖	*e* P	P	23 49 46.1	-10
KOLS	**Kolonicke sedl**	**104.07**	**320**	*e* PDIF	**Pdif**	**23 51 11.7**	**-1.4**
VYHS	**Vyhne**	**106.39**	**320**	*e* PDIF	**Pdif**	**23 51 23.2**	**-0.2**
CPUP	**Villa Florida**	**149.86**	**166**	PKPbc	**PKiKP**	**23 57 02.0**	**+0.4**
	1.3nm,0.7s,baz=129,slow=3.8,SNR=4.4						

MEX 13 23:57:20.9±0.7, 16°.81N×100°.53W, h6km±9km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.35**	**47**	*e* P	P*g*	23 57 27.4	-0.3
CAIG				*e* S	S*g*	23 57 32.1	-0.3
ZIIG	**Zihuatanejo**	**1.20**	**312**	*i* P	P*g*	23 57 40.9	-3.0
ZIIG				*e* S	S*g*	23 57 54.9	-4.5
ARIG	**Puente Sto Nin**	**1.48**	**7**	*e* P	Pn	23 57 45.2	-2.8
ARIG				*e* S	Sn	23 58 03.1	-4.7
PLIG	**Platanillo**	**1.86**	**32**	*i* P	Pn	23 57 49.9	-3.5
PLIG				*e* S	Sn	23 58 12.2	-5.1
TLIG	**Tlapa**	**2.02**	**68**	*i* P	Pn	23 57 52.3	-3.4
TLIG				*i* S	Sn	23 58 16.6	-4.8

IDC 14 00:05:54.5±15.0, 16°.83S×178°.96W, h427km±175km, mb3.2/7, mb1 3.6/7, mb1mx3.1/37, mbtmp4.0/7, Error ellipse: s-maj=125.5km s-min=40.3km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.70**	**240**	P	P	00 12 40.0	-0.1
	2.1nm,0.5s,baz=91,slow=10,SNR=6.0						

WRA	Warramunga Arr	44.32 259	P		P		00 13 24.8	-0.4
	0.6nm,0.6s,baz=96,slow=6.3,SNR=2.7							
ASAR	Alice Springs	44.59 253	P		P		00 13 27.1	-0.1
	5.9nm,0.6s,baz=87,slow=8.1,SNR=60							
NVAR	Mina Array Bea	79.02 44	P		P		00 17 13.7	+0.3
	0.7nm,0.7s,baz=221,slow=9.0,SNR=5.0							
ILAR	Eielson Array	84.96 13	P		P		00 17 43.1	+0.2
	0.5nm,0.4s,baz=219,slow=6.3,SNR=4.1							
PDAR	Pinedale Array	86.94 44	P		P		00 17 52.6	-0.7
	0.3nm,0.5s,baz=264,slow=3.5,SNR=2.2							
YKA	Yellowknife Ar	93.58 25	P		P		00 18 22.9	-0.4
	0.2nm,0.5s,baz=255,slow=4.1,SNR=5.4							
GERES	GERESS Array B	146.44 345	PKPbc		PKPbc		00 24 46.1	-0.7
	0.2nm,0.5s,baz=20,slow=3.2,SNR=4.8							

BJI ***14*** *00:08:03.5±0.0, 18°.10S×174°.92W, h205km, mb4.9/21, mB4.9/14*
ISCJB ***14*** *00:08:04.8±0.9, 18°.02S±0°.04×175°.15W±0°.05, h209km±9km, mb4.7/65, Error ellipse: s-maj=7.9km s-min=5.1km az=30.7*
MOS ***14*** *00:08:04.2±2.0, 18°.03S×175°.15W, h188km, mb5.0/14, Error ellipse: s-maj=12.3km s-min=11.8km az=148.6*
NEIC ***14*** *00:08:07.1±1.9, 18°.10S×175°.05W, h225km±5km, mb4.8/104, Error ellipse: s-maj=16.4km s-min=14.2km az=150.0*
IDC ***14*** *00:08:09.0±0.5, 18°.30S×175°.09W, h242km±4km, mb4.3/22, mb1 4.4/24, mb1mx4.3/37, mbtmp4.9/24, Error ellipse: s-maj=13.5km s-min=9.1km az=127.0*

ISC 14 00:08:08.8±0.5, 18°.22S±0°.06×175°.04W±0°.06, h242km±5km, h240km; pP-P, n330, σ1°.03/347, mb4.8/65, 36C-39D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	Niue	4.92	101	ePn		P	Pn	00 09 21.4	-2.0
NIUE				eS		S		00 10 19.4	-3.2
RAR	Rarotonga	14.68	104	ePn		P	Pn	00 11 25.0	-0.6
RAR	Rarotonga	14.68	104	eP		P	Pn	00 11 25.0	-0.6
RAR	Rarotonga	14.68	104	P		P	Pn	00 11 24.5	-1.0
	3.1nm,0.3s,baz=224,slow=7.8,SNR=5.7								
MARNC	Mare, Loyalty	16.26	256	eP		P		00 11 42.7	-0.3
	109nm,1.1s								
PINNC	Pines Island,	16.99	252	eP		P	Pn	00 11 51.6	-1.4
	28nm,1.0s								
DZM	Mont Dzumac	17.80	254	eP		P		00 11 59.8	-0.2
	35nm,1.0s								
DZM	Mont Dzumac	17.80	254	P		P		00 11 59.4	-0.7
	0.9nm,0.3s,baz=74,slow=21,SNR=16								
OUZ	Omahuta	19.72	209	eP		P		00 12 20.7	+0.4
	62nm,0.8s								
OUZ	Omahuta	19.72	209	P		P		00 12 20.4	+0.1
GRZ	Great Barrier	19.83	203	P		P		00 12 21.5	0.0
WCZ	Waipu Caves	20.00	206	P		P		00 12 24.0	+0.6
MXZ	Matakaoa Point	20.14	196	eP		P		00 12 25.9	+1.1
	64nm,0.5s								
MXZ	Matakaoa Point	20.14	196	P			Pn	00 12 26.8	-3.1
MXZ				S		S		00 15 58.1	+0.9
KUZ	Kuaotunu	20.18	202	P		P		00 12 26.3	+1.1
WMGZ	Waiomatatini S	20.36	195	P			Pn	00 12 29.6	-2.9
WMGZ				S		S		00 16 00.6	-0.5
ABAZ	Army Bay	20.38	204	P			Pn	00 12 29.2	-3.6
WIAZ	Waiheke Island	20.43	203	P		P		00 12 28.9	+0.9
HAZ	Te Kaha	20.46	196	P		P		00 12 28.4	+0.2
PKGZ	Pakihiroa	20.51	196	P		P		00 12 30.3	+1.5
PUZ	Puketiti	20.64	195	P		P		00 12 30.2	0.0
ETAZ	East Tamaki Re	20.65	203	P			Pn	00 12 32.9	-3.1
RUGZ	Raukumara Rang	20.68	196	P		P		00 12 32.7	+1.9
RUGZ				S		S		00 16 08.9	+1.8
WTAZ	Waiatarua	20.77	204	P		P		00 12 33.2	+1.7
WHRZ	Whale Island	20.78	198	P		P		00 12 33.4	+1.7
TWGZ	Tauwhareparae	20.80	196	P		P		00 12 33.9	+1.9
TWGZ				S		S		00 16 11.8	+2.8
OPRZ	Ohinepanea	20.90	199	P		P		00 12 34.5	+1.7
CNGZ	Carnagh Statio	21.04	195	P		P		00 12 35.4	+1.1
MWZ	Matawai	21.07	196	P		P		00 12 34.7	0.0
TKGZ	Te Karaka	21.09	196	P		P		00 12 35.6	+0.9
URZ	Urewera	21.12	197	eP		P		00 12 34.0	-1.0
	60nm,0.6s								
URZ				eS		S		00 16 17.8	+3.7
URZ	Urewera	21.12	197	P		P		00 12 33.2	-1.9
	37nm,0.3s,baz=341,slow=2.0,SNR=44								
URZ				S		S		00 16 12.3	-1.8
	5.6nm,0.4s,baz=247,slow=24,SNR=7.3								
URZ	Urewera	21.12	197	P		P		00 12 34.4	-0.7
TOZ	Tahuroa Road	21.14	201	P		P		00 12 36.3	+1.0
KARZ	Kaharoa	21.16	199	P		P		00 12 38.4	+3.0
RAGZ	Rawiri	21.25	197	P		P		00 12 36.1	-0.4
TARZ	Mount Tarawera	21.27	199	P		P		00 12 37.3	+0.6
RIGZ	Rimuhau	21.36	196	P		P		00 12 38.1	+0.6
MUGZ	Murupara	21.42	198	P		P		00 12 38.4	+0.4
PRGZ	Paritu Road	21.53	195	P		P		00 12 42.5	+3.4
KNZ	Kokohu	21.68	196	P		P		00 12 43.1	+2.7
MHGZ	Mahia Peninsul	21.75	195	P		P		00 12 42.9	+1.8
HIZ	Hauiti	22.06	201	eP		P		00 12 46.2	+2.2
	87nm,0.7s								
BKZ	Black Stump Fm	22.14	198	eP		P		00 12 43.6	-1.2
	21nm,0.7s								
BKZ				eS		S		00 16 37.2	+6.5
BFZ	Birch Farm	23.61	197	eP		P		00 12 58.6	+0.5
	56nm,0.9s								
PPT	Papeete	24.23	92	eP		P		00 13 02.7	-1.4
PPT	Papeete	24.23	92	eP		P		00 13 02.7	-1.4
PPTF	Pamatai, Papee	24.24	93	eP		P		00 13 03.2	-0.9
	73nm,0.8s								
SNZO	South Karori	24.64	199	eP		P		00 13 08.4	+1.0
	125nm,1.1s								
THZ	Tophouse	25.63	201	eP		P		00 13 17.1	+0.7
	53nm,0.5s								
RPZ	Rata Peaks	28.00	202	eP		P		00 13 37.3	0.0
	42nm,0.6s								
RPZ	Rata Peaks	28.00	202	P		P		00 13 37.4	0.0
	30nm,0.5s,baz=17,slow=3.8,SNR=17								
FOZ	Fox Glacier	28.30	204	eP		P		00 13 39.2	-0.7
	33nm,0.7s								
EIDS	Eidsvold	32.19	251	eP		P		00 14 13.7	-0.8
	20nm,0.9s								
ARMA	Armidale	32.59	242	eP		P		00 14 17.2	-0.8
	11nm,1.1s								
CTAO	Charters Tower	36.56	261	eP		P		00 14 50.7	-1.3
	20nm,0.6s								
CTAO	Charters Tower	36.56	261	eP		P		00 14 50.7	-1.3
CTAO				pmax		pmax			
	comp=Z,20nm,0.6s								
PMG	Port Moresby	37.67	278	ceP		P		00 15 01.5	+0.1
PMG				pmax		pmax			
	comp=Z,111nm,1.3s								
PMG	Port Moresby	37.67	278	P		P		00 15 01.0	-0.3
	comp=Z,28nm,0.8s,baz=79,slow=5.5,SNR=6.5								
TOO	Toolangi	39.50	233	P		P		00 15 16.0	-0.3
TOO				pmax		pmax			
	comp=Z,43nm,0.9s								
STKA	Stephens Creek	41.31	242	P		P		00 15 31.0	-0.1
STKA				pmax		pmax			
	comp=Z,12nm,1.1s								
STKA	Stephens Creek	41.31	242	P		P		00 15 30.7	-0.4
	comp=Z,25nm,0.6s,baz=93,slow=11,SNR=40								
WB2	Warramunga Arr	47.72	259	eP		P		00 16 20.5	-1.3
	comp=Z,52nm,0.6s								
WRAB	Tennant Creek	47.72	259	eP		P		00 16 20.8	-1.1
	comp=Z,42nm,0.6s								
WRAB	Tennant Creek	47.72	259	ceP		P		00 16 20.1	-1.8
WRAB				pmax		pmax			
	comp=Z,33nm,0.6s								
WRA	Warramunga Arr	47.73	259	P		P		00 16 20.6	-1.3
	comp=Z,41nm,0.4s,baz=98,slow=7.0,SNR=449								
WRA				PcP		PcP		00 17 47.4	+0.2
	comp=Z,8.5nm,0.8s,baz=94,slow=3.5,SNR=6.2								
WRA				S		S		00 22 55.8	-3.9
	comp=Z,1.4nm,0.8s,baz=95,slow=14,SNR=4.4								
ASAR	Alice Springs	47.80	254	P		P		00 16 21.8	-0.6
	comp=Z,246nm,0.6s,baz=90,slow=8.4,SNR=1312								
ASAR				PcP		PcP		00 17 47.5	+0.2
	comp=Z,9.9nm,0.6s,baz=100,slow=4.0,SNR=6.5								
ASAR				S		S		00 22 57.5	-3.1
	comp=Z,5.8nm,0.9s,baz=89,slow=15,SNR=24								
FORT	Forrest	52.78	245	eP		P		00 16 58.2	-1.3
	comp=Z,45nm,0.7s								
SBA	Scott Base	60.34	184	eP		P		00 17 54.8	+2.9
	comp=Z,23nm,0.9s								
SBA	Scott Base	60.34	184	eP		P		00 17 54.8	+2.9
SBA				pmax		pmax			
	comp=Z,23nm,0.9s								
VNDA	Vanda	60.43	186	P		P		00 17 54.8	+2.3
	comp=Z,9.6nm,0.9s,baz=0.4,slow=7.2,SNR=48								
CASY	Casey	67.21	205	eP		P		00 18 37.6	+0.8
	comp=Z,33nm,1.1s								
JAGI	Jajag, Banyuwa	69.23	268	eP		P		00 18 48.4	-1.9
	comp=Z,50nm,0.9s								
MJAR	Matsushiro Arr	70.11	321	P		P		00 18 54.1	-0.9
	comp=Z,7.9nm,0.8s,baz=167,slow=6.1,SNR=22								
MAT	Matsushiro	70.11	321	P		P		00 18 54.6	-0.5
MJB9	Matsu-Tunnel	70.11	321	eP		P		00 18 55.1	0.0
	comp=Z,15nm,0.9s								
QSPA	South Pole Qui	71.84	180	eP		P		00 19 06.6	+1.3
	comp=Z,37nm,0.8s								
JNU	Nakatsue	72.61	315	eP		P		00 19 10.3	+0.2
	comp=Z,18nm,0.9s								
JNU	Nakatsue	72.61	315	P		P		00 19 10.3	+0.2
	comp=Z,12nm,0.7s,baz=86,slow=2.3,SNR=12								
ASAJ	Asahikawa	73.12	330	P		P		00 19 13.7	+0.9
	comp=Z,3.5nm,0.4s,baz=229,slow=6.4,SNR=5.7								
PETK	Petropavlovsk-	74.84	343	P		P		00 19 22.4	-0.2
	comp=Z,7.7nm,0.7s,baz=105,slow=8.3,SNR=13								
PEA1	Petropavlovsk-	74.84	343	eP		P		00 19 22.4	-0.2
TPUB	Ta-pu	75.15	301	eP		P		00 19 24.3	-0.7
	comp=Z,23nm,0.9s								
YSS	Yuzh-Sakhalins	75.17	332	⇑eP		P		00 19 25.6	+1.1
YSS				pmax		pmax			
	comp=Z,20nm,1.0s								
KSRS	Korea Array	77.09	317	P		P		00 19 36.9	+1.3
	comp=Z,5.7nm,0.8s,baz=132,slow=6.9,SNR=16								
NVAR	Mina Array Bea	77.46	42	P		P		00 19 39.0	+1.1
	comp=Z,3.3nm,0.8s,baz=224,slow=9.9,SNR=13								
NVAR				pP		pP		00 20 35.5	+0.9
	comp=Z,1.9nm,0.8s,baz=229,slow=9.5,SNR=5.2								
NV11	Mina Array Sit	77.55	42	eP		P		00 19 38.6	+0.2
	comp=Z,0.4nm,1.0s								
KDAK	Kodiak Island	77.98	12	eP		P		00 19 39.9	-0.1
	comp=Z,8.0nm,0.6s								
KDAK	Kodiak Island	77.98	12	P		P		00 19 40.4	+0.4
	comp=Z,7.2nm,0.8s,baz=104,slow=23,SNR=18								
USRK	Ussuriysk Ar.	78.71	324	P		P		00 19 45.4	+1.1
	comp=Z,2.6nm,0.7s,baz=170,slow=4.2,SNR=6.0								
WVOR	Wild Horse Val	79.60	39	eP		P		00 19 49.8	+0.4
	comp=Z,4.4nm,0.8s								
WVOR	Wild Horse Val	79.60	39	eP		P		00 19 49.8	+0.4
WVOR				pmax		pmax			
	comp=Z,4.0nm,0.8s								
NJ2	Nanjing	80.63	308	eP		P		00 19 55.3	+0.4
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
ELK	Elko	80.72	42	eP		P		00 19 56.2	+0.7
	comp=Z,2.1nm,0.9s								
ELK	Elko	80.72	42	eP		P		00 19 56.2	+0.7
ELK				pmax		pmax			
	comp=Z,2.0nm,0.9s								
GRNR	Gornyy	80.82	331	eP		P		00 19 56.9	+1.4
G08A	Pilot Rock	81.12	36	eP		P		00 19 58.5	+1.1
	comp=Z,7.1nm,0.9s								
KLR	Kul'dur	82.04	328	P		P		00 20 02.4	+0.5
	comp=Z,1.3nm,0.7s,baz=87,slow=5.1,SNR=5.4								
CN2	Changchun	82.25	321	eP		P		00 20 03.6	+0.5
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
SRU	San Rafael Swe	82.94	45	P		P		00 20 08.4	+1.4
SRU				pmax		pmax			
	comp=Z,7.0nm,0.7s								
WHN	Wuhan	83.39	305	P		P		00 20 06.8	-2.5
TXAR	Lajitas Array	83.47	56	P		P		00 20 11.6	+1.7
	comp=Z,1.7nm,0.8s,baz=232,slow=6.2,SNR=7.5								
ANMO	Albuquerque	83.80	50	eP		P		00 20 12.8	+1.2
	comp=Z,3.0nm,0.9s								
ANMO	Albuquerque	83.80	50	*i* P		P		00 20 11.8	+0.2
ANMO				pmax		pmax			
	comp=Z,3.0nm,1.0s								
RND	Reindeer	83.89	12	P		P		00 20 11.8	+0.6
MCK	McKinley	84.17	11	P		P		00 20 12.3	-0.2
MAW	Mawson	84.64	199	P		P		00 20 15.3	+0.4
	comp=Z,20nm,0.7s,baz=135,slow=6.0,SNR=48								
SEY	Seymchan	84.83	346	P		P		00 20 15.9	+0.1
	comp=Z,8.8nm,0.6s,baz=153,slow=6.5,SNR=16								
PDAR	Pinedale Array	85.39	42	P		P		00 20 19.6	+0.3
	comp=Z,2.1nm,1.0s,baz=204,slow=3.3,SNR=9.0								
PDAR				pP		pP		00 21 17.4	+0.4
	comp=Z,0.5nm,0.7s,baz=214,slow=3.1,SNR=2.5								
PDAR				PKKPbc		PKKPbc		00 38 22.4	-2.0
	comp=Z,0.4nm,0.7s,baz=77,slow=3.2,SNR=3.9								
COLA	College	85.41	11	eP		P		00 20 18.7	+0.2
	comp=Z,28nm,0.6s								
COLA	College	85.41	11	*d i* P		P		00 20 18.1	-0.5
COLA				pmax		pmax			
	comp=Z,23nm,0.7s								
ILAR	Eielson Array	85.50	12	P		P		00 20 18.1	-1.0
ILAR	Eielson Array	85.50	12	P		P		00 20 18.6	-0.5
	comp=Z,4.2nm,0.6s,baz=226,slow=6.1,SNR=62								
ILAR				pP		pwP		00 21 19.3	-0.1
	comp=Z,4.2nm,1.2s,baz=222,slow=4.5,SNR=3.3								
IPM	Ipoh	85.64	276	eP		P		00 20 21.1	+0.1
	comp=Z,41nm,0.7s								
SKLT	Songkhla	86.88	279	P		P		00 20 29.1	+2.2
	comp=Z,24nm,0.9s								
SKNT	Sakolnakorn	86.99	289	P		P		00 20 29.0	+1.6
ZEA	Zeya	87.04	330	eP		P		00 20 27.5	+0.7
ZEA				pmax		pmax			
	comp=N,35nm,1.0s								
ZEA				pmax		pmax			
	comp=Z,67nm,1.6s								
BILL	Bilibino	87.09	353	eP		P		00 20 26.5	-0.2
BILL				*e**PP		pP		00 21 14.7	-10
BILL				pmax		pmax			
	comp=Z,9.0nm,0.9s								
PSI	Prapat	87.10	274	eP		P		00 20 27.9	-0.3
	comp=Z,32nm,0.9s								
PSI	Prapat	87.10	274	eP		P		00 20 27.9	-0.3
PSI				pmax		pmax			
	comp=Z,32nm,0.9s								
GYA	Guiyang	87.99	299	eP		P		00 20 32.8	+0.7
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
SYO	Syowa Base	89.54	192	⇓*i* P		P		00 20 37.0	-1.4
SYO	Syowa Base	89.54	192	⇓*e* PcP		PcP		00 20 39.0	-0.6
HHC	Hu-ho-hao-te	89.79	313	eP		P		00 20 41.3	+1.1
HHC				pmax		pmax			
	comp=Z,57nm,1.2s								
HHC				pmax		pmax			
	comp=Z,200nm,7.6s								
SNAA	Sanae	90.18	178	P		P		00 20 41.7	+0.2
SNAA	Sanae	90.18	178	eP		P		00 20 41.8	+0.2
	comp=Z,5.0nm,0.8s								
SNAA	Sanae	90.18	178	eP		P		00 20 41.8	+0.3
SNAA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
VNA3	Neumayer Olymp	90.20	175	P		P		00 20 41.9	+0.3
VNA1	Neumayer–Stat	90.89	176	P		P		00 20 45.2	+0.6
INK	Inuvik	91.36	14	P		P		00 20 46.6	-0.1
INK	Inuvik	91.36	14	P		P		00 20 46.4	-0.3
	comp=Z,4.9nm,0.8s,baz=224,slow=4.1,SNR=19								
CD2	Chengdu	91.94	302	P		P		00 20 49.5	-0.8
CD2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CMAR	Chiang Mai Arr	92.01	289	P		P		00 20 52.6	+1.8
	comp=Z,1.9nm,0.3s,baz=104,slow=2.4,SNR=13								
CHTO	Chiang Mai	92.12	289	eP		P		00 20 51.9	+0.6
	comp=Z,5.4nm,0.6s								
CHTO	Chiang Mai	92.12	289	eP		P		00 20 51.9	+0.6
CHTO				pmax		pmax			
	comp=Z,5.0nm,0.6s								
YKA	Yellowknife Ar	93.29	24	P		P		00 20 55.2	-0.5
YKA	Yellowknife Ar	93.29	24	P		P		00 20 55.8	+0.1
	comp=Z,1.8nm,0.8s,baz=238,slow=4.3,SNR=30								
YKA				pP		pP		00 21 55.8	+2.0
	comp=Z,0.4nm,0.8s,baz=245,slow=3.8,SNR=3.6								
YKA				PKKPbc		PKKPdf		00 38 01.0	-2.3
	comp=Z,0.2nm,0.5s,baz=47,slow=2.4,SNR=5.7								
TIXI	Tiksi	97.28	345	eP		P		00 21 13.3	-0.3
	comp=Z,4.1nm,1.0s								
TIXI	Tiksi	97.28	345	ceP		P		00 21 12.9	-0.7
TIXI				pmax		pmax			
	comp=Z,4.0nm,1.0s								
TIXI	Tiksi	97.28	345	P		P		00 21 13.2	-0.5
	comp=Z,2.5nm,0.7s,baz=126,slow=4.4,SNR=5.4								
ZALV	Zalesovo Beam	110.46	322	PKiKP		PKiKP		00 26 11.4	-0.6
	comp=Z,1.8nm,0.6s,baz=169,slow=2.0,SNR=8.7								
MKAR	Makanchi Array	111.65	314	PKiKP		PKiKP		00 26 13.8	-0.8
	comp=Z,2.1nm,0.5s,baz=133,slow=0.4,SNR=23								
KURK	Kurchatov	114.19	318	*c i* PKIKP		PKPdf		00 26 18.9	-0.4
KURK				pmax		pmax			
	comp=Z,5.0nm,1.7s								
KURBB	Kurchatov Arra	114.25	318	PKP		PKPdf		00 26 18.8	-0.6
	comp=Z,1.8nm,0.6s,baz=94,slow=1.7,SNR=17								
KSH	Kashi	115.86	306	PKP		PKPdf		00 26 23.1	+0.1
AAK	Ala-Archa	117.06	309	*c i* PKIKP		PKiKP		00 26 25.7	+0.4
AAK				pmax		pmax			
	comp=Z,7.0nm,2.5s								
AAK	Ala-Archa	117.06	309	PKP		PKPdf		00 26 25.1	-0.2
	comp=Z,1.9nm,0.3s,baz=118,slow=5.0,SNR=7.7								
BVAR	Borovoye Array	119.10	321	PKP		PKPdf		00 26 28.5	-0.2
	comp=Z,3.8nm,0.4s,baz=95,slow=2.3,SNR=21								
BRVK	Borovoye	119.16	321	*c i* PKIKP		PKPdf		00 26 29.0	+0.2
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KBL	Kabul	121.22	300	*e* PKPdf		PKiKP		00 26 34.3	+0.5
KBL	Kabul	121.22	300	*e* PKIKP		PKiKP		00 26 34.3	+0.5
ARU	Arti	124.87	327	*e* PKPdf		PKPdf		00 26 39.2	-0.4
ARU	Arti	124.87	327	*c i* PKIKP		PKiKP		00 26 40.1	+0.1
ARU				pmax		pmax			
	comp=Z,14nm,1.3s								
ABKAR	Akbulak array	126.31	318	*e* PKPdf		PKPdf		00 26 43.0	+0.4
ARA0	ARCESS Array S	127.15	351	*e* PKPdf		PKPdf		00 26 43.7	0.0
ARCES	ARCESS Array B	127.15	351	PKP		PKPdf		00 26 43.7	+0.1
	comp=Z,2.4nm,0.4s,baz=4.3,slow=1.3,SNR=30								
BOSA	Boshof	129.48	203	PKP		PKPdf		00 26 49.1	-0.5
	comp=Z,2.3nm,0.8s,baz=218,slow=1.6,SNR=7.0								
GEYT	Alibeck	129.86	304	PKP		PKPdf		00 26 49.8	-0.1
	comp=Z,78nm,0.7s,baz=350,slow=1.6,SNR=5.8								
GYA0B	ALIBECK ARRAY	129.86	304	*e* PKPdf		PKiKP		00 26 51.2	+0.5
BORG	Borgarnes	130.26	14	*i* PKIKP		PKPdf		00 26 49.2	-0.5
FIA0	FINESS Array S	134.31	346	*e* PKPdf		PKPdf		00 26 57.2	-0.2
FIA0	FINESS Array S	134.31	346	*e* PKIKP		PKPdf		00 26 57.2	-0.2
FINES	FINESS Array B	134.31	346	PKnKP		PKPpre		00 26 51.6	
	comp=Z,5.3nm,0.9s,baz=88,slow=4.6,SNR=5.2								
FINES				PKP		PKPdf		00 26 57.2	-0.2
	comp=Z,4.4nm,0.6s,baz=62,slow=3.3,SNR=19								
OBN	Obninsk	136.00	334	*i* PKIKP		PKPdf		00 27 01.5	+0.8
OBN				*e*				00 29 42.0	
OBN				pmax		pmax			
	comp=Z,6.0nm,1.0s								
NB2	NORSAR Subarra	136.99	356	PKP		PKPpre		00 26 54.1	
	comp=Z,1.7nm,0.9s,baz=17,slow=2.6								
NOA	NORSAR Array B	136.99	356	PKP		PKPdf		00 27 02.1	-0.4
	comp=Z,1.4nm,0.8s,baz=15,slow=3.8,SNR=3.9								
KBZ	Khabaz	139.24	317	PKP		PKPdf		00 27 08.4	+1.3
	comp=Z,1.2nm,0.7s,baz=154,slow=2.5,SNR=4.8								
GNI	Garni	139.42	311	*c i* PKIKP		PKiKP		00 27 12.1	+2.0
GNI				pmax		pmax			
	comp=Z,32nm,1.3s								
AKASG	Malin Array Be	142.26	335	PKhKP		PKPpre		00 27 07.0	
	comp=Z,2.1nm,0.4s,baz=40,slow=4.2,SNR=8.4								
KIEV	Kiev	142.28	335	*e* PKPpre		PKPpre		00 27 07.4	
KIEV	Kiev	142.28	335	*e* PKHKP		PKPpre		00 27 07.4	
KMBO	Kilima Mbogo	142.87	242	PKP		PKPdf		00 27 12.8	-2.0
	comp=Z,4.8nm,0.8s,baz=64,slow=5.6,SNR=11								
LVV	L'vov	144.94	338	*e* PKIKP		PKPbc		00 27 16.9	0.0
SNOP	Sinop	144.99	319	*e* PKPbc		PKPbc		00 27 16.0	-1.2
DIKM	Dikmen	145.16	319	⇓*i* P		PKPab		00 27 18.5	+0.4
KIS	Kishinev	145.24	331	*e*		PKPdf		00 27 17.0	-0.6
KIS				XM				00 27 18.0	
	comp=Z,110nm,1.2s								
KIS	Kishinev	145.24	331	*e* PKP2		PKPdf		00 27 17.0	-0.6
KIS				pmax		pmax			
	comp=Z,110nm,1.2s								
KWP	Kalwaria Pacla	145.56	339	*e* PKP		PKPdf		00 27 18.7	+0.6
KWP	Kalwaria Pacla	145.56	339	*e* PKIKP		PKPdf		00 27 18.7	+0.6
BZK	Bozkurt	145.77	320	⇑*i* P		PKPab		00 27 20.5	+0.1
LEOM	Leova	145.89	331	⇓*i* P		PKPbc		00 27 20.4	+0.6
LEOM	Leova	145.89	331	⇓PKIKP		PKPbc		00 27 20.4	+0.6
OJC	Ojcow	145.93	343	*e* PKP		PKPdf		00 27 19.5	+0.8
OJC	Ojcow	145.93	343	*e* PKIKP		PKPdf	

SECR		147.98 331	‖ *iP*	PKPbc	00 27 26.5	+0.8
VOIR		148.12 333	⇑ *iP*	PKPbc	00 27 27.0	+0.8
VOIR		148.12 333	⇑PKP2	PKPbc	00 27 27.0	+0.8
SMOL	Smolenice	148.12 344	*e*PKP2	PKiKP	00 27 27.3	-0.2
SMOL	Smolenice	148.12 344	*e*PKP	PKiKP	00 27 27.3	-0.2
DOU	Dourbes	148.19 0	‖PKPbc	PKPbc	00 27 26.6	+0.5
GRFO	Grafenberg	148.20 352	*e*PKPbc	PKPbc	00 27 26.9	+0.8
GRFO	Grafenberg	148.20 352	*e*PKIKP	PKPbc	00 27 26.9	+0.8
MODS	Modra-Piesok	148.29 344	*e*PKIKP	PKPbc	00 27 26.8	+0.4
MODS	Modra-Piesok	148.29 344	*e*PKP	PKPbc	00 27 26.8	+0.4
ARR	Arges	148.35 333	⇑ *iP*	PKiKP	00 27 27.9	-0.3
KHC	Kasperske Hory	148.38 349	*e*PKIKP	PKPbc	00 27 27.1	+0.4
KHC	Kasperske Hory	148.38 349	*e*PKP	PKPbc	00 27 27.1	+0.4
MBAR	Mbarara	148.50 236	*e*PKPbc	PKiKP	00 27 29.4	-0.2
MBAR	Mbarara	148.50 236	*e*PKIKP	PKiKP	00 27 29.4	-0.2
ZST	Bratislava	148.50 344	*e*PKIKP	PKPbc	00 27 27.0	+0.1
ZST	Bratislava	148.50 344	*e*PKP	PKPbc	00 27 27.0	+0.1
WLF	Walferdange	148.61 359	⇑PKPbc	PKiKP	00 27 28.2	-0.3
GERES	GERESS Array B	148.63 349	PKP	PKPdf	00 27 24.0	+0.6
	comp=Z,9.1nm,0.8s,baz=29,slow=3.0,SNR=47					
GERES			PKPbc	PKPbc	00 27 27.9	+0.5
	comp=Z,9.2nm,0.8s,baz=20,slow=3.1,SNR=52					
GERES			pPKPbc	pPKPab	00 28 31.3	+0.7
	comp=Z,1.1nm,0.8s,baz=132,slow=3.8,SNR=2.1					
LOT	Lotru	148.66 334	⇑ *iP*	PKPbc	00 27 27.4	-0.2
SIRR	Siria	148.80 337	‖ *iP*	PKiKP	00 27 28.8	-0.2
CONA	Conrad Observa	149.05 346	*i* PKiKP	PKPbc	00 27 29.1	+0.7
	comp=Z,25nm,1.2s,SNR=12					
GZR	Gura Zlata	149.10 335	⇑ *iP*	PKPbc	00 27 28.8	+0.2
GZR	Gura Zlata	149.10 335	⇑PKHKP	PKPbc	00 27 28.8	+0.2
BZS	Buzias	149.37 337	‖ *iP*	PKPbc	00 27 29.5	+0.3
MOA	Molln	149.48 348	*e*PKiKP	PKPbc	00 27 29.7	+0.3
HERR	Herculane	149.67 335	‖ *iP*	PKPbc	00 27 30.1	+0.2
BANR	Banloc	149.74 337	⇑ *iP*	PKiKP	00 27 31.4	+0.5
ARSA	Arzberg	149.77 346	*e*PKiKP	PKiKP	00 27 31.2	+0.2
	comp=Z,6.2nm,0.9s					
BFO	Black Forest	149.84 356	*e*PKPbc	PKPbc	00 27 30.6	+0.4
BFO	Black Forest	149.84 356	*e*PKHKP	PKPbc	00 27 30.7	+0.4
MDVR	Moldovita	150.03 336	⇑ *iP*	PKPbc	00 27 31.2	+0.3
CLF	Chambon-Foret	150.19 4	*e*PKPbc	PKPbc	00 27 31.4	+0.3
KBA	Koelnbreinsper	150.40 348	*i* PKPbc	PKPbc	00 27 31.4	-0.4
	comp=Z,14nm,0.5s,SNR=6.4					
FRGS	Fruska Gora	150.41 338	‖ *iP*	PKPbc	00 27 32.0	+0.3
RETA	Reutte	150.42 352	*i* PKiKP	PKPbc	00 27 32.1	+0.4
	comp=Z,11nm,0.7s					
SOKA	Soboth	150.42 346	*i* PKiKP	PKPbc	00 27 31.7	-0.1
	comp=Z,13nm,0.9s,SNR=5.7					
WATA	Walderalm	150.45 351	*i* PKiKP	PKPbc	00 27 32.0	+0.1
	comp=Z,12nm,0.5s,SNR=12					
MOTA	Moosalm	150.51 352	*i* PKiKP	PKPbc	00 27 32.2	+0.1
	comp=Z,25nm,1.0s,SNR=14					
WTTA	Wattenberg	150.51 351	*i* PKiKP	PKPbc	00 27 32.4	+0.3
	comp=Z,33nm,0.4s,SNR=17					
SQTA	Sankt Quirin	150.62 351	*i* PKiKP	PKPbc	00 27 32.6	+0.3
	comp=Z,17nm,0.7s,SNR=9.1					
OBKA	Obir	150.69 346	*i* PKPbc	PKPbc	00 27 31.8	-0.6
	comp=Z,5.9nm,0.7s					
DAVA	Damuels	150.73 353	*i* PKiKP	PKPbc	00 27 33.0	+0.4
	comp=Z,40nm,1.1s,SNR=10					
MYKA	Terra Mystica	150.77 348	*i* PKPbc	PKPbc	00 27 32.1	-0.5
	comp=Z,15nm,0.5s,SNR=8.6					
ABTA	Abfaltersbach	150.87 349	*i* PKPbc	PKPbc	00 27 32.6	-0.3
	comp=Z,28nm,0.6s,SNR=13					
FETA	Feichten	150.88 352	*i* PKiKP	PKPbc	00 27 33.4	+0.5
	comp=Z,28nm,0.9s,SNR=8.5					
CRES	Cresnjev	151.12 345	*e*P	PKPbc	00 27 33.3	-0.1
LJU	Ljubljana	151.14 346	‖ *iP*	PKPbc	00 27 33.4	0.0
VTS	Vitosha	151.15 331	‖ *iP*	PKPbc	00 27 34.1	+0.4
VTS	Vitosha	151.15 331	‖PKIKP	PKPbc	00 27 34.1	+0.4
DIVS	Divibare	151.26 337	‖ *iP*	PKPbc	00 27 33.7	-0.1
CEY	Cerknica	151.45 346	‖ *iP*	PKPbc	00 27 33.8	-0.3
EZN	Ezine	151.63 324	⇑ *iP*	PKPbc	00 27 34.6	-0.1
EZN	Ezine	151.63 324	⇑PKIKP	PKPbc	00 27 34.6	-0.1
BLY	Banja Luka	151.63 341	⇑ *iP*	PKiKP	00 27 35.3	+0.4
BLY	Banja Luka	151.63 341	‖ *iP*	PKPbc	00 27 34.4	-0.1
HAPS	Han Pijesak,BI	151.65 338	*e*P	PKPbc	00 27 34.2	-0.6
BBLS	Lazići	151.68 338	*e*P	PKPbc	00 27 33.7	-1.1
RIY	Rijeka	151.83 346	*e*P	PKPbc	00 27 34.9	0.0
MGRS	Mrkonjic Grad	151.97 341	⇑ *iP*	PKPbc	00 27 35.5	+0.2
PDG	Podgorica	152.97 336	⇑ *iP*	PKPbc	00 27 37.6	0.0
SSB	Saint Sauveur	153.01 1	*e*PKPbc	PKiKP	00 27 38.3	+0.5
SSB	Saint Sauveur	153.01 1	*e*PKIKP	PKiKP	00 27 38.3	+0.5
TREB	Trebinje	153.06 338	*e*P	PKPbc	00 27 37.2	-0.6
ESDC	Sonseca Array	157.26 18	PKP	PKPdf	00 27 36.7	+0.6
	comp=Z,0.4nm,0.6s,baz=347,slow=4.6,SNR=4.7					
ESDC			PKPab	PKPab	00 28 09.0	+0.7
	comp=Z,2.6nm,0.9s,baz=334,slow=3.3,SNR=11					
DBIC	Dimbokro	165.06 139	PKP	PKPdf	00 27 44.6	-0.4
	comp=Z,2.7nm,1.1s,baz=34,slow=1.9,SNR=3.3					
TORD	Torodi Ar. Bea	174.06 148	PKP	PKPdf	00 27 48.8	-1.5
	comp=Z,2.4nm,1.0s,baz=201,slow=1.1,SNR=10					
TORD			PKPab	PKPab	00 29 22.1	-0.7
	comp=Z,1.3nm,0.8s,baz=205,slow=6.6,SNR=5.6					
TORD			PP	PP	00 33 14.2	+0.1
	comp=Z,0.7nm,0.9s,baz=174,slow=5.7,SNR=2.9					
TOA1	Torodi Ar. Sit	174.06 148	*e*PKPdf	PKPdf	00 27 48.8	-1.5
TOA1			*e*PKPab	PKPab	00 29 22.1	-0.7

ISCJB ***14*** *00:08:14.3±1.0, 46°.5N±0°.2×153°.0E±0°.2, h40km, mb3.7/10, MS2.7/1, Error ellipse: s-maj=29.5km s-min=11.7km az=152.7*

IDC ***14*** *00:08:17.3±3.3, 46°.55N×152°.95E, h51km±29km, mb3.4/11, mb1 3.7/13, mb1mx3.5/41, mbtmp3.7/13, ML2.5/1, MS2.9/3, Ms1 2.9/3, ms1mx2.5/44, Error ellipse: s-maj=38.8km s-min=17.2km az=169.0*

ISC 14 00:08:16.1±1.3, 46°.5N±0°.2×153°.0E±0°.1, h40km, n14, σ0§88/13, mb3.7/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	7.28	23	P	Pn	00 10 00.7	+0.9
	0.4nm,0.3s,baz=184,slow=13,SNR=3.9						
ASAJ	Asahikawa	7.71	256	P	Pn	00 10 06.2	+0.4
	baz=126,slow=17,SNR=3.5						
ASAJ				LR	LR	00 12 57.3	
	comp=Z,46nm,19.8s,baz=58,slow=36						
KLR	Kul'dur	14.52	289	LR	LR	00 17 20.4	
	comp=Z,60nm,18.6s,baz=84,slow=38						
KSRS	Korea Array	20.65	253	P	P	00 12 53.0	+0.8
	0.8nm,0.6s,baz=48,slow=11,SNR=3.3						
KSRS				LR	LR	00 20 36.4	
	comp=Z,32nm,18.5s,baz=137,slow=36						
MKAR	Makanchi Array	46.99	298	P	P	00 16 42.1	-0.9
	1.0nm,0.8s,baz=66,slow=4.9,SNR=6.5						
YKA	Yellowknife Ar	51.17	37	P	P	00 17 15.0	+0.4
	0.2nm,0.8s,baz=294,slow=6.0,SNR=3.4						
NVAR	Mina Array Bea	62.62	62	P	P	00 18 37.0	+0.6
	0.3nm,0.5s,baz=330,slow=8.8,SNR=2.6						
FINES	FINESS Array B	64.23	335	P	P	00 18 46.5	+0.1
	1.0nm,0.7s,baz=45,slow=8.6,SNR=4.4						
PDAR	Pinedale Array	64.95	54	P	P	00 18 51.6	-0.2
	0.2nm,0.3s,baz=335,slow=4.0,SNR=2.7						
NOA	NORSAR Array B	68.44	341	P	P	00 19 11.6	-1.8
	0.4nm,0.7s,baz=28,slow=6.1,SNR=2.6						
KBZ	Khabaz	70.98	314	P	P	00 19 30.1	+0.9
	1.2nm,0.7s,baz=83,slow=4.0,SNR=4.8						
AKASG	Malin Array Be	71.71	326	P	P	00 19 33.2	-0.4
	1.7nm,0.6s,baz=34,slow=6.2,SNR=4.2						
TXAR	Lajitas Array	77.68	60	P	P	00 20 07.9	-0.8
	0.6nm,0.6s,baz=302,slow=5.1,SNR=3.8						
BRTR	Keskin Array B	78.52	317	P	P	00 20 13.4	+0.2
	0.8nm,1.0s,baz=120,slow=2.3,SNR=5.5						

IDC ***14*** *00:19:49.2±1.0, 13°.09N×120°.34E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/42, mbtmp3.9/5, Error ellipse: s-maj=24.2km s-min=12.2km az=108.0*

ISC 14 00:19:52.5±0.9, 13°.19N±0°.03×120°.52E±0°.05, h21km±4km, n17, σ1§13/25, mb4.0/5, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.52	54	‖ *eP*	Pb	00 20 02.7	-0.3
PGP				*i* S	Sb	00 20 09.1	-1.1
LUBP	Lubang	0.60	334	*e*P	Pn	00 20 06.0	+0.2
LUBP				*e*S	Sn	00 20 16.4	+1.5
SJMP	San Jose	0.93	141	*e*P	Pn	00 20 10.4	+0.2
SJMP				*e*S	Sb	00 20 23.2	+1.4
TGY	Tagaytay City	0.99	24	Pg	Pb	00 20 12.4	+1.4
	303nm,0.3s,baz=208,slow=3.3,SNR=19						
TGY				Lg	Lg	00 20 26.2	
	460nm,0.3s,baz=317,slow=23,SNR=28						
BUSP	Coron	1.22	195	*e*P	Pb	00 20 15.0	+0.2
BUSP				*e*S	Sb	00 20 30.4	+0.2
BOAC	Boac	1.32	78	*e*P	Pn	00 20 15.7	+0.1
BOAC				*e*S	Sn	00 20 35.1	+2.6
OTRP	Odiongan	1.68	119	*e*P	Pn	00 20 20.7	+0.1
OTRP				*e*S	Sn	00 20 41.5	0.0
POLP	Polilio Island	2.06	42	*e*P	Pb	00 20 29.7	+0.5
ENPP	El Nido	2.24	209	*e*P	Pn	00 20 29.3	+0.9
ENPP				*e*S	Sn	00 20 54.6	-0.8
CUYO	Cuyo Island	2.38	168	*e*P	Pn	00 20 29.9	-0.3
BALP	Baler	2.73	22	*e*P	Pb	00 20 38.4	-2.3
BALP				*e*S	Sb	00 21 13.0	-0.8
SMPP	San Manuel, Pa	2.95	3	*e*P	Pn	00 20 39.3	+1.2
WRA	Warramunga Arr	35.62	157	P	P	00 26 48.0	-0.9
	1.0nm,0.4s,baz=332,slow=10,SNR=9.8						
ASAR	Alice Springs	38.90	160	P	P	00 27 16.9	+0.1
	1.2nm,0.4s,baz=337,slow=6.7,SNR=19						
MKAR	Makanchi Array	46.34	324	P	P	00 28 15.8	-1.1
	0.8nm,0.8s,baz=120,slow=7.2,SNR=4.4						
ZALV	Zalesovo Beam	49.43	333	P	P	00 28 40.2	-0.6
	0.3nm,0.4s,baz=115,slow=7.6,SNR=2.2						
KURBB	Kurchatov Arra	50.51	326	P	P	00 28 49.8	+0.8
	1.0nm,0.6s,baz=131,slow=7.8,SNR=12						

ISCJB ***14*** *00:19:51.0±1.0, 28°.28N±0°.04×51°.60E±0°.10, h24km, Error ellipse: s-maj=13.1km s-min=4.6km az=162.1*

TEH ***14*** *00:19:52.1, 28°.36N×51°.66E, h11km, ML3.4*

OMAN ***14*** *00:19:56.3±0.9, 28°.15N×51°.65E, h36km, ml3.3/2, Error ellipse: s-maj=17.6km s-min=7.3km az=343.0*

ISC 14 00:19:53.0±1.3, 28°.36N±0°.06×51°.70E±0°.10, h24km, n19, σ1§32/24, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.14	93	*e*Pg	Pb	00 20 14.1	0.0
IKAZ	Kazeroun	1.42	5	*e*Pg	Pb	00 20 19.1	+0.1
IKAZ				IAMB	IAmb	00 20 41.5	
	comp=Z,6μm,0.4s						
SHI	Shiraz	1.47	29	*e*Pg	Pb	00 20 18.9	-0.8
SHI				IAMB	IAmb	00 20 19.3	
	comp=Z,2μm,0.2s						
SHI				*e*Sg	Sb	00 20 38.0	0.0
JHRM	Jahrom	1.66	84	*e*Pn	Pb	00 20 22.4	-0.6
JHRM				IAMB	IAmb	00 20 58.3	
	comp=Z,0.0nm,0.5s						
IRAM	Ramesheh	3.49	10	*e*Pn	Pn	00 20 46.2	+0.2
IMEH	Mehriz	3.94	39	*e*Pn	Pn	00 20 53.7	+1.5
IPIR	Pirpir	4.37	351	*e*Pn	Pn	00 20 58.1	0.0
ICHK	Chekchek	4.53	31	*e*Pn	Pn	00 21 00.6	+0.4
IZEF	Zefreh	4.56	7	*e*Pn	Pn	00 21 00.9	+0.2
NGRK	Negar Kerman	4.59	73	*e*Pn	Pn	00 21 01.5	+0.3
NGRK				IAMB	IAmb	00 22 00.1	
	comp=Z,0.0nm,0.2s						
NIAN	Nian	4.61	99	*e*Pn	Pn	00 21 01.0	-0.2
NIAN				IAMB	IAmb	00 21 59.7	
	comp=Z,0.0nm,0.2s						
YZKH	Yazd	4.73	31	*e*Pn	Pn	00 21 03.0	+0.1
ASUD	Al Ashush, Dub	4.94	138	P	Pn	00 21 08.0	+2.3
	SNR=20						
ASUD				S	Sn	00 22 04.2	+2.2
IKLH	Kolahrood	4.95	359	*e*Pn	Pn	00 21 06.4	+0.4
CHMN	Cheshme madani	5.33	72	*e*Pn	Pn	00 21 12.4	+1.1
ASHO	Ashiyiah	5.35	132	P	Pn	00 21 12.7	+1.3
	SNR=16						
ASHO				S	Sn	00 22 11.8	-0.6
SOHO	SOHO	6.04	133	P	Pn	00 21 21.5	+0.6
	SNR=6.5						
SOHO				S	Sn	00 22 29.7	+0.3
MHTO	MHTO	9.29	141	P	Pn	00 22 06.0	+0.6
	SNR=9.0						
MHTO				S	Sn	00 23 44.9	-4.4
DMTO	DMTO	11.01	164	P	Pn	00 22 29.2	+0.3
	SNR=5.6						

JMA ***14*** *00:32:20.1±0.4, 18°.34N×145°.84E, h619km, M7.3*

JMA Felt I J1.

BJI ***14*** *00:32:22.9±0.0, 18°.81N×145°.32E, h590km, mb6.2/79, mB6.5/80*

NEIC ***14*** *00:32:25.0±0.0, 18°.75N×145°.37E, h600km, Moment Tensor Solution. s56 Moment tensor: Scale 10^{19}Nm; M_{rr}=0.97; $M_{\theta\theta}$=0.74; $M_{\phi\phi}$=1.71; $M_{r\theta}$=1.19; $M_{\theta\phi}$=-0.77; $M_{\phi r}$=0.14; Best double couple: M_0=2.00000×10^{19} NP1:ϕ_s=128.00000°, δ=68.00000°, λ=-137.00000°. NP2:ϕ_s=19.00000°, δ=51.00000°, λ=-29.00000°. Principal axes: T 2.0100, Plg10.0000°, Azm250.0000°; N 0.0900, Plg42.0000°, Azm150.0000°; P -2.1000, Plg45.0000°, Azm350.0000°;*

ISCJB ***14*** *00:32:25.5±0.2, 18°.76N±0°.01×145°.28E±0°.02, h613km±3km, mb6.2/264 Error ellipse: s-maj=2.3km s-min=2.2km az=173.7*

NEIC ***14*** *00:32:25.9±2.3, 18°.73N×145°.29E, h602km±4km, mb6.2/457, MW6.8, MW6.8, MW6.8, Error ellipse: s-maj=10.8km s-min=10.7km az=117.0, Moment Tensor Solution. s49 Moment tensor: Scale 10^{19}Nm; M_{rr}=1.13; $M_{\theta\theta}$=0.58; $M_{\phi\phi}$=1.71; $M_{r\theta}$=1.52; $M_{\theta\phi}$=0.94; $M_{\phi r}$=0.06; Best double couple: M_0=2.30000×10^{19} NP1:ϕ_s=125.00000°, δ=68.00000°, λ=-134.00000°. NP2:ϕ_s=13.00000°, δ=48.00000°, λ=-30.00000°. Principal axes: T 2.1700, Plg12.0000°, Azm245.0000°; N 0.3100, Plg40.0000°, Azm145.0000°; P -2.4800, Plg48.0000°, Azm348.0000°;*

NEIC Felt on Saipan. Also felt at Yona, Guam. Recorded [1 JMA] in Chiba, Shizuoka and Tokyo, Japan.

MOS ***14*** *00:32:25.9±0.9, 18°.80N×145°.23E, h619km, mb6.2/91 Error ellipse: s-maj=6.6km s-min=3.8km az=109.3*

IDC ***14*** *00:32:26.7±0.4, 18°.77N×145°.32E, h612km±4km, mb5.5/48, mb1 5.6/52, mb1mx5.6/53, mbtmp6.5/52, Error ellipse: s-maj=7.3km s-min=5.0km az=76.0*

GCMT ***14*** *00:32:28.9±0.1, 18°.67N±0°.01×145°.35E, h605km, MW6.8/140, Moment Tensor Solution. s140, c378; s132, c284; Duration: 6s3 Moment tensor: Scale 10^{19} Nm; M_{rr}=1.04±.01; $M_{\theta\theta}$=0.58±.01; $M_{\phi\phi}$=1.62±.01; $M_{r\theta}$=1.28±.01; $M_{\theta\phi}$=0.97±.01; $M_{\phi r}$=0.08±.01; Best double couple: M_0=2.14500×10^{19} NP1:ϕ_s=124.00000°, δ=68.00000°, λ=-135.00000°. NP2:ϕ_s=14.00000°, δ=49.00000°, λ=-30.00000°. Principal axes: T 2.0920, Plg11.0000°, Azm245.0000°; N 0.1090, Plg41.0000°, Azm145.0000°; P -2.1980, Plg47.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

NEIC ***14*** *00:32:38.2±0.0, 18°.60N×145°.27E, h606km, Moment Tensor Solution. s59 Moment tensor: Scale 10^{19}Nm; M_{rr}=1.05; $M_{\theta\theta}$=0.70; $M_{\phi\phi}$=1.75; $M_{r\theta}$=1.24; $M_{\theta\phi}$=0.81; $M_{\phi r}$=0.00; Best double couple: M_0=2.10000×10^{19} NP1:ϕ_s=128.00000°, δ=65.00000°, λ=-138.00000°. NP2:ϕ_s=18.00000°, δ=53.00000°, λ=-32.00000°. Principal axes: T 2.0400, Plg8.0000°, Azm250.0000°; N 0.1600, Plg42.0000°, Azm153.0000°; P -2.2000, Plg46.0000°, Azm348.0000°;*

ISC 14 00:32:26.4±0.2, 18°.77N±0°.02×145°.29E±0°.03, h612km±1km, h613km; pP-P, n2036, σ1§68/2449, mb6.2/278, 84C-115D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	2.11	167	*e*P	P	00 33 39.7	-2.7
SARN				*e*S	S	00 34 41.0	-3.1
ANA2	Anatahan	2.45	170	*e*P	P	00 33 40.9	-3.0
GUMO	Guam	5.17	185	*e*P	P	00 33 57.9	-3.6
GUMO				*e*S	S	00 35 13.9	-5.1
GUMO	Guam	5.17	185	P	P	00 34 00.3	-1.2
	1μm,0.3s,baz=290,slow=2.2,SNR=17						
GUMO				S	S	00 35 12.5	-6.4
	779nm,0.3s,baz=78,slow=3.2,SNR=3.6						
GUMO				ScS	ScS	00 45 54.7	-1.6
	3.4nm,0.3s,baz=71,slow=22,SNR=11						
JHH2	Haha-jima-NKT2	8.34	340	P	P	00 34 29.6	+0.3
JHH2				S	S	00 36 12.1	+2.1
CBIJ	Chichi jima	8.77	342	‖ P	P	00 34 32.9	-0.5
CBIJ				*e*S	S	00 36 19.2	+1.7
JMZ	Minamidaito 2	14.79	301	P	P	00 35 31.9	-0.3
JMZ				*e*S	S	00 38 05.2	+1.5
JHJ2	Mitsune	15.11	342	*e*P	P	00 35 34.0	-0.9
JHJ2				*e*S	S	00 38 09.6	+0.9
JHJ2				*e*ScP	ScP	00 42 34.1	-1.4
JHJ2				*e*ScS	ScS	00 46 11.1	-3.0
JHJ2	Mitsune	15.11	342	P	P	00 35 34.3	-0.6
JHJ2				*e*S	S	00 38 08.9	+0.3
JHJ	Hachijo jima 2	15.12	342	P	P	00 35 35.0	-0.1
	3μm,0.3s,baz=188,slow=15,SNR=114						
JHJ				S	S	00 38 08.4	-0.6
	663nm,0.3s,baz=54,slow=14,SNR=4.8						
JHJ				ScP	ScP	00 42 34.7	-0.9
	42nm,0.3s,baz=195,slow=4.6,SNR=7.2						
JHJ				ScS	ScS	00 46 11.9	-2.3
	baz=117,slow=18,SNR=9.0						
I39PW	PALAU INFRASON	15.29	225	P	P	00 35 38.8	+1.9
	baz=62,slow=9.0,SNR=5.1						
BSO1	Boso 1	16.28	347	P	P	00 35 45.8	+0.8
TTO1	TONANKAI O.B.S	16.63	334	P	P	00 35 48.9	+0.3
I30JP	ISUMI INFRASON	17.06	346	P	P	00 35 55.9	+3.2
	baz=187,slow=9.4						
JTNC	Tanabenakahech	17.30	332	P	P	00 35 55.1	0.0
JTNC				*e*S	S	00 38 46.5	+1.9
JOD2	Odawara 2	17.33	343	‖ P	P	00 35 55.7	+0.4
JIE	Ise	17.34	336	‖ P	P	00 35 55.5	+0.2
JIE				*e*S	S	00 38 47.2	+2.1
PATS	Pohnpei	17.36	131	*e*P	P	00 35 56.2	+0.4
	11μm,2.0s						
JOW	Kunigami	17.61	300	*e*P	P	00 35 59.5	+1.5
	958nm,0.6s						
JOW				*e*S	S	00 38 49.5	-0.2
JOW				*e*ScP	ScP	00 42 40.6	-0.2
JOW				*e*ScS	ScS	00 46 22.2	+0.5
JOW	Kunigami	17.61	300	P	P	00 35 58.9	+0.9
	27nm,0.3s,baz=142,slow=13,SNR=170						
JOW				S	S	00 38 49.5	-0.2
	baz=234,slow=27,SNR=6.6						
JOW				ScP	ScP	00 42 40.2	-0.6
	0.2nm,0.3s,baz=158,slow=13,SNR=6.1						
JOW				ScS	ScS	00 46 20.9	-0.9
	0.1nm,0.3s,baz=158,slow=12,SNR=7.0						
INU	Inuyama	18.07	338	*e*P	P	00 36 02.9	+0.9
	6μm,0.7s						
INU				*e*ScP	ScP	00 42 39.9	-1.7
JKE	Kume jima 2	18.66	297	P	P	00 36 08.0	+0.5
JKE				*e*S	S	00 39 07.9	+1.2
MJAR	Matsushiro Arr	18.77	342	*e*P	P	00 36 07.3	-1.1
MJAR				*e*ScP	ScP	00 42 41.6	-1.6
MJAR	Matsushiro Arr	18.77	342	*e*P	P	00 36 07.3	-1.1
MJAR	Matsushiro Arr	18.77	342	P	P	00 36 07.5	-0.9
	21nm,0.3s,baz=172,slow=9.8,SNR=394						
MJAR				S	S	00 39 08.5	+0.3
	baz=164,slow=12,SNR=4.4						
MJAR				ScP	ScP	00 42 42.0	-1.2
	2.2nm,0.3s,baz=188,slow=5.0,SNR=14						
MJAR				P3KPbc		01 10 19.2	
	0.1nm,0.3s,baz=321,slow=4.2,SNR=5.8						
MJAR				P3KP		01 10 48.2	
	0.1nm,0.3s,baz=256,slow=1.8,SNR=4.9						
MAJO	Matsushiro	18.77	342	*e*P	P	00 36 08.4	0.0
	2μm,0.6s						
MAJO				*e*S	S	00 39 08.5	+0.3
MAJO				*e*ScP	ScP	00 42 42.0	-1.2
MAJO	Matsushiro	18.77	342	*d iP*	P	00 36 07.7	-0.7
MAT	Matsushiro	18.77	342	P	P	00 36 07.7	-0.7
MAT				S	S	00 39 07.9	-0.3
MJB9	Matsu-Tunnel	18.78	342	*e*P	P	00 36 08.4	0.0
	2μm,0.6s						
MJB9				*e*ScP	ScP	00 42 42.0	-1.2
JSJ	Shimokoshiki	19.04	315	P	P	00 36 10.6	-0.3
JSJ				*e*S	S	00 39 15.0	+2.3
JNU	Nakatsue	19.26	321	*e*P	P	00 36 13.4	+0.5
	3μm,0.7s						
JNU				*e*ScP	ScP	00 42 43.3	-1.1
JNU	Nakatsue	19.26	321	P	P	00 36 13.0	0.0
	89nm,0.3s,baz=120,slow=2.7,SNR=200						
JNU				S	S	00 39 18.6	+2.4
	baz=246,slow=20,SNR=2.9						
JNU				ScP	ScP	00 42 43.3	-1.1
	2.0nm,0.3s,baz=79,slow=4.2,SNR=9.5						
JNU				ScS	ScS	00 46 24.7	-2.3
	0.7nm,0.3s,baz=347,slow=18,SNR=6.9						
JNU				P3KPbc		01 10 18.7	
	0.5nm,0.3s,baz=321,slow=6.5,SNR=5.2						
JOGS	Gusukube	19.40	291	P	P	00 36 16.4	+2.2
JHS	Saijyo	19.45	329	P	P	00 36 14.3	-0.2
JHS				S	S	00 39 20.9	+1.9
WAKE	Wake Island	20.20	85	*e*P	P	00 36 20.9	-0.7
	5μm,1.0s						
WAKE				*e*S	S	00 39 28.1	-3.2
WAKE				*e*ScP	ScP	00 42 48.0	+1.2
H11S3	WAKE ISLAND Hy	20.28	87	P	P	00 36 22.0	-0.1
	baz=236,slow=6.0,SNR=112			

JCH	**Churui**	**23.83 356**	P	**P**	**00 36 54.0 +0.5**
SWI	**Sorong**	**23.89 217**	P	**P**	**00 36 54.8 +0.4**
	comp=Z,1μm,0.6s,comp=Z,16μm				
JAP	**San Jose, Anti**	**23.92 254**⇓	*e*P	**P**	**00 36 55.7 +1.0**
PGP	**Puerto Galera**	**23.95 261**⇑	*e*P	**P**	**00 36 55.3 +0.3**
KSRS	**Korea Array**	**24.04 324**	P	**P**	**00 36 55.6 +0.3**
	comp=Z,2μm,0.8s,baz=143,slow=8.9,SNR=464				
KSRS			PcP	**PcP**	**00 40 15.8 +0.9**
	comp=Z,59nm,0.9s,baz=138,slow=2.1,SNR=4.3				
KSRS			S	**S**	**00 40 34.8 +3.6**
	comp=Z,24nm,0.9s,baz=155,slow=15,SNR=2.7				
KSRS			ScP	**ScP**	**00 42 56.4 -0.1**
	comp=Z,305nm,1.1s,baz=135,slow=2.9,SNR=27				
KSRS			ScS	**ScS**	**00 46 44.9 +0.3**
	comp=Z,0.9nm,0.4s,baz=156,slow=6.4,SNR=2.5				
KSRS			PKiKP	**PKiKP**	**00 47 56.5 -0.3**
	comp=Z,5.4nm,0.8s,baz=286,slow=0.9,SNR=4.3				
KSRS			P3KPbc		01 09 57.4
	comp=Z,7.9nm,1.0s,baz=322,slow=4.4,SNR=17				
KSRS			P3KP		01 10 47.0
	comp=Z,2.4nm,0.7s,baz=27,slow=3.2,SNR=4.7				
KSAR	**Wonju Array Be**	**24.05 324**	*e*P	**P**	**00 36 55.6 +0.1**
KSAR			*e*PcP	**PcP**	**00 40 16.4 +1.5**
KSAR			*e*ScP	**ScP**	**00 42 56.5 0.0**
SGSI	**Sangihe**	**24.45 235**	P	**P**	**00 37 00.1 +0.6**
	comp=Z,3μm,0.5s,comp=Z,33μm				
NEM2	**Nemuro 2**	**24.53 1**	P	**P**	**00 36 59.8 +0.2**
SSE	**Sheshan**	**25.00 304**	P	**P**	**00 37 03.5 -0.6**
SSE			pmax	pmax	
	comp=Z,4μm,7.3s				
JHR	**Hokuryu**	**25.08 354**	P	**P**	**00 37 05.9 +1.4**
TNTI	**Ternate**	**25.08 227**	*e*P	**P**	**00 37 04.5 -0.4**
	comp=Z,826nm,0.8s				
TNTI			*e*ScP	**ScP**	**00 42 58.7 -1.2**
TNTI	**Ternate**	**25.08 227**	P	**P**	**00 37 04.9 -0.1**
	comp=Z,1μm,1.0s,comp=Z,17μmcomp=Z,44μm				
FAKI	**Fak Fak**	**25.08 212**	P	**P**	**00 37 04.1 -0.9**
	comp=Z,2μm,0.7s,comp=Z,29μmcomp=Z,75μm				
JTKR	**Abashiri--Toko**	**25.16 358**	P	**P**	**00 37 06.2 +1.0**
YUK	**Yuzh-Kuril'sk**	**25.20 1***c*	*i*P	**P**	**00 37 06.1 +0.6**
YUK			*e**SP	**sP**	**00 39 47.8 -0.6**
YUK			*i* S	**S**	**00 40 47.7 -1.5**
YUK			pmax	pmax	
	comp=Z,5μm,0.9s				
YUK			pmax	pmax	
	comp=N,501nm,0.3s				
YUK			pmax	pmax	
	comp=E,2μm,0.6s				
YUK			pmax	pmax	
	comp=Z,4μm,1.7s				
ASAJ	**Asahikawa**	**25.38 355**	P	**P**	**00 37 08.5 +1.4**
	comp=Z,1μm,0.6s,baz=222,slow=13,SNR=220				
ASAJ			PcP	**PcP**	**00 40 19.4 +1.6**
	comp=Z,176nm,0.7s,baz=215,slow=4.8,SNR=4.6				
ASAJ			S	**S**	**00 40 54.7 +2.7**
	comp=Z,72nm,0.8s,baz=299,slow=19,SNR=4.0				
ASAJ			ScP	**ScP**	**00 42 59.1 -1.0**
	comp=Z,140nm,0.7s,baz=243,slow=5.2,SNR=4.7				
ASAJ			ScS	**ScS**	**00 46 49.9 -0.2**
	comp=Z,50nm,1.2s,baz=106,slow=30,SNR=6.0				
QZH	**Quanzhou**	**25.50 289**⇑	*i*P	**P**	**00 37 09.0 +0.4**
QZH			sP	**sP**	**00 39 49.3 -2.6**
QZH			S	**S**	**00 40 52.3 -2.3**
QZH			ScS	**ScS**	**00 46 51.5 +0.2**
QZH			pmax	pmax	
	comp=Z,480nm,0.8s				
QZH			pmax	pmax	
	comp=Z,3μm,3.5s				
MNI	**Manado**	**26.43 232**	P	**P**	**00 37 16.9 +0.1**
KUR	**Kuril'sk**	**26.48 4***d*	*i*P	**P**	**00 37 18.0 +1.3**
KUR			*i* S	**S**	**00 41 10.3 +1.2**
KUR			pmax	pmax	
	comp=Z,3μm,0.8s				
KUR			pmax	pmax	
	comp=E,254nm,0.5s				
KUR			pmax	pmax	
	comp=N,800nm,0.9s				
KUR			pmax	pmax	
	comp=Z,26μm,5.0s				
KUR			pmax	pmax	
	comp=N,15μm,5.1s				
KUR			pmax	pmax	
	comp=E,3μm,4.9s				
MSHR	**Mys Shultsa**	**26.59 336***d*	*i*P	**P**	**00 37 18.6 +0.8**
VLA	**Vladivostok**	**26.79 338***d*	*i*P	**P**	**00 37 20.5 +1.0**
VLA			pmax	pmax	
	comp=Z,2μm,0.7s				
TEY	**Ternei**	**27.18 346**⇓	*e*P	**P**	**00 37 23.3 +0.4**
TEY			*e*		00 40 22.6
TEY			*e*S	**S**	**00 41 21.5 +1.5**
TEY			*e*		00 46 55.3
TEY			pmax	pmax	
	comp=Z,220nm,0.6s				
TEY			pmax	pmax	
	comp=E,100nm,0.8s				
TEY			pmax	pmax	
	comp=N,110nm,0.4s				
TEY			pmax	pmax	
	comp=Z,20μm,5.7s				
TEY			smax	smax	
	comp=E,110nm,1.0s				
TEY			smax	smax	
	comp=N,100nm,1.7s				
NJ2	**Nanjing**	**27.21 304**⇓	*i*P	**P**	**00 37 24.9 +1.5**
NJ2			S	**S**	**00 41 20.1 -0.9**
NJ2			ScP	**ScP**	**00 43 05.0 -0.9**
NJ2			pmax	pmax	
	comp=N,150nm,0.6s				
NJ2			pmax	pmax	
	comp=N,8μm,8.2s				
KMSI	**Cibinong**	**27.64 232**	P	**P**	**00 37 28.0 +0.6**
	comp=N,5μm,0.8s,comp=N,45μm				
BNDI	**Bandanaira**	**27.66 215**	P	**P**	**00 37 27.2 -0.4**
	comp=N,4μm,0.8s,comp=N,52μmcomp=N,73μm				
USRK	**Ussuriysk Ar.**	**27.70 339**	*e*P	**P**	**00 37 28.0 +0.6**
USRK			*e*ScP	**ScP**	**00 43 05.8 -1.4**
USRK	**Ussuriysk Ar.**	**27.70 339**	P	**P**	**00 37 28.2 +0.7**
	comp=N,587nm,0.7s,baz=146,slow=10.0,SNR=150				
USRK			ScP	**ScP**	**00 43 06.2 -1.1**
	comp=N,35nm,0.8s,baz=126,slow=3.3,SNR=5.8				
USRK			P3KPbc		01 09 39.8
	comp=N,11nm,1.0s,baz=338,slow=4.1,SNR=17				
PMG	**Port Moresby**	**28.05 176**	*e*P	**P**	**00 37 30.8 -0.2**
	comp=N,686nm,0.9s				
PMG			*e*S	**S**	**00 41 31.9 -2.5**
PMG			*e*ScP	**ScP**	**00 43 09.7 +0.9**
PMG	**Port Moresby**	**28.05 176***c*	*i*P	**P**	**00 37 30.2 -0.7**
PMG			pmax	pmax	
	comp=Z,3μm,0.9s				
PMG	**Port Moresby**	**28.05 176**	P	**P**	**00 37 30.7 -0.2**
	comp=Z,356nm,0.6s,baz=346,slow=7.7,SNR=57				
PMG			S	**S**	**00 41 31.7 -2.7**
	comp=Z,264nm,0.9s,baz=299,slow=22,SNR=15				
PMG			ScP	**ScP**	**00 43 10.4 +1.6**
	comp=Z,2μm,1.0s,baz=6.8,slow=4.8,SNR=24				
PMG			ScS	**ScS**	**00 47 03.1 +0.1**
	comp=Z,72nm,0.9s,baz=235,slow=19,SNR=6.1				
SANI	**Sanana**	**28.08 225**	P	**P**	**00 37 29.4 -1.8**
	comp=Z,1μm,0.7s,comp=Z,29μmcomp=Z,77μm				
YSS	**Yuzh-Sakhalins**	**28.19 356**	*e*P	**P**	**00 37 31.8 +0.1**
	comp=Z,1μm,0.8s				
YSS			*e*ScP	**ScP**	**00 43 07.3 -1.3**
YSS	**Yuzh-Sakhalins**	**28.19 356***κ*	*i*P	**P**	**00 37 32.0 +0.4**
YSS			*e**SP	**PcP**	**00 40 25.9 +1.3**
YSS			*i* S	**S**	**00 41 35.7 0.0**
YSS			pmax	pmax	
	comp=N,660nm,1.1s				
YSS			pmax	pmax	
	comp=E,460nm,0.9s				
YSS			pmax	pmax	
	comp=Z,10μm,8.7s				
YSS			smax	smax	
	comp=N,250nm,1.8s				
YSS			smax	smax	
	comp=E,13μm,11.8s				
YSS			MLR	MLR	
	comp=Z,9μm,15.0s				
DL2	**Dalian**	**28.70 319**⇓	*i*P	**P**	**00 37 36.5 +0.3**
DL2			sP	**sP**	**00 40 19.5 -2.8**
DL2			PcP	**PcP**	**00 40 26.8 +0.7**
DL2			S	**S**	**00 41 44.3 +0.4**
DL2			ScP	**ScP**	**00 43 09.6 -0.9**
DL2			ScS	**ScS**	**00 47 03.1 -2.3**
DL2			pmax	pmax	
	comp=Z,2μm,0.8s				
DL2			pmax	pmax	
	comp=Z,21μm,7.6s				
MDJ	**Mudanjiang**	**28.92 336**	P	**P**	**00 37 39.0 +1.0**
MDJ			S	**S**	**00 41 49.0 +1.9**
MDJ			PcS	**PcS**	**00 44 11.6 +1.5**
MDJ			ScS	**ScS**	**00 47 07.0 +0.7**
MDJ			pmax	pmax	
	comp=Z,1μm,0.8s				
MDJ			pmax	pmax	
	comp=Z,33μm,4.9s				
MDJ	**Mudanjiang**	**28.92 336**	*e*P	**P**	**00 37 39.2 +1.1**
	comp=Z,967nm,0.8s				
MDJ			*e*ScP	**ScP**	**00 43 09.5 -1.6**
MRSI	**Marisa**	**29.25 234**	P	**P**	**00 37 41.4 +0.1**
	comp=Z,4μm,1.2s,comp=Z,53μmcomp=Z,49μm				
HKC	**Hong Kong Obse**	**29.32 282** ⇑	P	**P**	**00 37 44.0 +2.2**
LUWI	**Luwuk**	**29.62 231**	*e*P	**P**	**00 37 43.5 -1.0**
	comp=Z,14μm,1.2s				
LUWI			*e*S	**S**	**00 41 59.6 +1.0**
LUWI	**Luwuk**	**29.62 231**	P	**P**	**00 37 43.5 -1.0**
	comp=Z,9μm,0.4s,comp=Z,108μmcomp=Z,68μm				
MCO	**Taipa Grande**	**29.89 282**	P	**P**	**00 37 49.0 +2.3**
SAUI	**Saumlaki**	**29.95 209**	*e*P	**P**	**00 37 48.4 +1.1**
	comp=Z,4μm,1.2s				
SAUI			*e*ScP	**ScP**	**00 43 17.6 +2.6**
SAUI	**Saumlaki**	**29.95 209**	P	**P**	**00 37 49.9 +2.6**
	comp=Z,3μm,1.4s,comp=Z,54μm				
CN2	**Changchun**	**30.02 331** ⇑	P	**P**	**00 37 47.8 +0.3**
CN2			*es*P	sP	00 40 33.3 -1.5
CN2			*e*S	**S**	**00 42 06.0 +2.0**
CN2			ScS	**ScS**	**00 47 12.3 +0.7**
CN2			pmax	pmax	
	comp=Z,8μm,11.0s				
GZH	**Guangzhou**	**30.11 284**⇑	*i*P	**P**	**00 37 48.5 -0.1**
GZH			sP	**sP**	**00 40 32.6 -2.0**
GZH			S	**S**	**00 42 04.9 -1.1**
GZH			SS	**SS**	**00 45 11.8 -2.9**
GZH			pmax	pmax	
	comp=Z,3μm,5.3s				
TIA	**Tai'an**	**30.27 311**	P	**P**	**00 37 50.4 +0.6**
TIA			sP	**PcP**	**00 40 31.8 +1.4**
TIA			S	**S**	**00 42 09.6 +1.4**
TIA			pmax	pmax	
	comp=Z,240nm,0.8s				
TIA			pmax	pmax	
	comp=Z,15μm,8.4s				
UGL	**Uglegorsk**	**30.35 356**⇓	*i*P	**P**	**00 37 51.0 +0.8**
UGL			*e*S	**S**	**00 42 04.8 -4.0**
UGL			pmax	pmax	
	comp=Z,32μm,6.2s				
UGL			pmax	pmax	
	comp=N,18μm,7.9s				
UGL			pmax	pmax	
	comp=Z,2μm,0.8s				
UGL			pmax	pmax	
	comp=E,10μm,6.3s				
UGL			smax	smax	
	comp=N,28μm,12.2s				
APSI	**Ampana**	**30.37 232**	P	**P**	**00 37 50.3 -0.6**
	comp=N,8μm,1.1s,comp=N,82μmcomp=N,40μm				
WHN	**Wuhan**	**30.37 299**⇓	*i*P	**P**	**00 37 52.1 +1.4**
WHN			sP	**PcP**	**00 40 32.3 +1.6**
WHN			S	**S**	**00 42 10.0 +0.3**
WHN			ScP	**ScP**	**00 43 15.8 -0.3**
WHN			ScS	**ScS**	**00 47 14.1 +0.2**
WHN			pmax	pmax	
	comp=N,900nm,1.0s				
WHN			pmax	pmax	
	comp=N,14μm,4.3s				
MPSI	**Mapaga**	**30.93 237**	P	**P**	**00 37 55.9 +0.2**
	comp=N,2μm,1.0s,comp=N,28μmcomp=N,45μm				
KKM	**Kota Kinabalu**	**31.02 250**	P	**P**	**00 37 58.0 +1.4**
HNR	**Honiara**	**31.53 151**	*e*P	**P**	**00 38 02.0 +1.3**
HNR			*e*S	**S**	**00 42 23.0 -4.8**
HNR	**Honiara**	**31.53 151**	*e*P	**P**	**00 38 01.3 +0.6**
	comp=N,1μm,0.8s				
HNR			*e*ScP	**ScP**	**00 43 20.1 -0.1**
HNR	**Honiara**	**31.53 151**	P	**P**	**00 37 60.0 -0.7**
	comp=N,771nm,0.8s,baz=274,slow=2.3,SNR=16				
HNR			S	**S**	**00 42 23.3 -4.5**
	comp=N,368nm,1.0s,baz=330,slow=20,SNR=4.0				
HNR			ScP	**ScP**	**00 43 20.5 +0.2**
	comp=N,341nm,0.9s,baz=308,slow=23,SNR=3.9				
HNR			ScS	**ScS**	**00 47 19.3 -0.8**
	comp=N,54nm,0.3s,baz=196,slow=15,SNR=3.8				
HNR			PKiKP	**PKiKP**	**00 47 58.7 -3.3**
	comp=N,319nm,0.9s,baz=43,slow=7.2,SNR=3.6				
KDI	**Kendari**	**31.76 227**	P	**P**	**00 38 03.4 +0.7**
	comp=N,2μm,0.6s,comp=N,151μm				
TYV	**Tymovskoe**	**32.09 357**	*e*P	**P**	**00 38 05.7 +0.7**
TYV			*e*S	**S**	**00 42 36.9 +1.5**
TYV			pmax	pmax	
	comp=Z,21μm,3.3s				
TYV			pmax	pmax	
	comp=Z,2μm,1.1s				
TYV			smax	smax	
	comp=N,45μm,7.1s				
TYV			smax	smax	
	comp=N,400nm,2.8s				
TARA	**Tarawa**	**32.15 119**	*e*P	**P**	**00 38 06.0 0.0**
	comp=N,743nm,0.9s				
KLR	**Kul'dur**	**32.29 343***d*	*i*P	**P**	**00 38 06.9 +0.2**
KLR			pmax	pmax	
	comp=Z,1μm,0.6s				
KLR	**Kul'dur**	**32.29 343**	P	**P**	**00 38 07.1 +0.4**
	comp=Z,1μm,0.6s,baz=156,slow=6.6,SNR=697				
KLR			S	**S**	**00 42 40.2 +1.7**
	comp=Z,50nm,1.1s,baz=60,slow=23,SNR=7.9				
KLR			ScP	**ScP**	**00 43 21.0 -1.3**
	comp=Z,114nm,0.9s,baz=95,slow=3.7,SNR=9.0				
KLR			ScS	**ScS**	**00 47 22.8 -0.2**
	comp=Z,16nm,1.1s,baz=59,slow=22,SNR=13				
KLR			P3KPbc		01 09 19.6
	comp=Z,1.4nm,0.5s,baz=353,slow=4.1,SNR=4.8				
COEN	**Coen**	**32.59 184**	P	**P**	**00 38 10.0 +0.4**
	baz=32,SNR=491				
GRNR	**Gornyy**	**32.70 350**⇓	*i*P	**P**	**00 38 11.4 +1.2**
GRNR			*e*S	**PcP**	**00 40 40.5 +3.7**
GRNR			pmax	pmax	
	comp=N,80nm,1.0s				
GRNR			pmax	pmax	
	comp=Z,130nm,1.0s				
BJI	**Beijing**	**32.82 316**	P	**P**	**00 38 11.9 +0.6**
BJI			S	**S**	**00 42 41.3 -5.4**
BJI			pmax	pmax	
	comp=Z,8μm,9.3s				
BJI	**Beijing**	**32.82 316**	P	**P**	**00 38 11.9 +0.6**
BBSI	**Bau Bau**	**32.90 225**	P	**P**	**00 38 13.9 +1.6**
	comp=Z,807nm,1.0s,comp=Z,7μm				
SKR	**Severo-Kuril's**	**32.99 13**	*e*P	**P**	**00 38 12.6 +0.1**
SKR			*e*S	**S**	**00 42 50.2 +1.2**
SKR			pmax	pmax	
	comp=Z,19μm,4.5s				
SKR			pmax	pmax	
	comp=Z,1μm,1.3s				
SKR			MLR	MLR	
	comp=Z,8μm,12.0s				
TTSI	**Tana Toraja**	**33.14 232**	P	**P**	**00 38 15.5 +1.1**
	comp=Z,6μm,1.2s,comp=Z,79μmcomp=Z,87μm				
SGKI	**Sangatta, Kali**	**33.28 238**	P	**P**	**00 38 12.7 -2.8**
	comp=Z,5μm,1.2s,comp=Z,67μmcomp=Z,67μm				
QIZ	**Qiongzhong**	**33.50 276**	P	**P**	**00 38 18.9 +1.5**
QIZ			sP	**sP**	**00 41 01.6 -3.0**
QIZ			S	**S**	**00 42 58.6 +0.9**
QIZ			pmax	pmax	
	comp=Z,100nm,0.7s				
QIZ			pmax	pmax	
	comp=Z,5μm,7.5s				
SMKI	**Samarinda**	**33.55 238**	P	**P**	**00 38 20.3 +2.5**
	comp=Z,5μm,1.1s,comp=Z,60μmcomp=Z,66μm				
KDU	**Kakadu**	**33.71 203**	P	**P**	**00 38 18.6 -0.5**
	baz=33,SNR=176				
SPSI	**Sidrap Palu**	**33.79 231**	P	**P**	**00 38 19.6 -0.2**
	comp=Z,2μm,0.8s,comp=Z,28μmcomp=Z,44μm				
BNSI	**Bone**	**33.84 230**	P	**P**	**00 38 21.2 +1.0**
	comp=Z,4μm,1.0s,comp=Z,45μmcomp=Z,78μm				
BKB	**Balikpapan**	**34.28 238**	P	**P**	**00 38 25.5 +1.6**
	comp=Z,3μm,1.1s,comp=Z,52μmcomp=Z,115μm				
TIY	**Taiyuan**	**34.31 310**	*e*P	**P**	**00 38 25.5 +1.6**
TIY			S	**S**	**00 43 09.9 +0.4**
TIY			SS	**SS**	**00 46 24.3 0.0**
TIY			pmax	pmax	
	comp=Z,15μm,6.7s				
MTN	**Manton Dam**	**34.37 205**	P	**P**	**00 38 24.3 -0.2**
	baz=34,SNR=798				
BKSI	**Bulukumba**	**34.47 228**	P	**P**	**00 38 25.6 +0.2**
	comp=Z,775nm,0.7s,comp=Z,13μmcomp=Z,43μm				
BKSI			pP	**pP**	**00 40 06.3 +2.7**
	comp=Z,775nm,0.7s,comp=Z,13μmcomp=Z,43μm				
NKL	**Nikolayevsk**	**34.50 355**	*i* P	**P**	**00 38 26.0 +0.9**
NKL			*i* S	**S**	**00 43 12.0 +0.4**
NKL			pmax	pmax	
	comp=Z,1μm,1.0s				
NKL			pmax	pmax	
	comp=N,16μm,10.0s				
NKL			pmax	pmax	
	comp=E,2μm,10.0s				
NKL			pmax	pmax	
	comp=Z,31μm,10.0s				
NKL			smax	smax	
	comp=N,17μm,12.0s				
NKL			smax	smax	
	comp=E,31μm,12.0s				
KAPI	**Kappang**	**34.52 229**	*e*P	**P**	**00 38 26.1 +0.3**
	comp=E,2μm,1.0s				
KAPI			*e*ScP	**ScP**	**00 43 32.5 +1.7**
KAPI	**Kappang**	**34.52 229**	P	**P**	**00 38 26.2 +0.3**
	SNR=268				
KAPI			P	**P**	**00 38 26.2 +0.3**
	SNR=268				
BSSI	**Bau Bau, Buton**	**34.79 227**	P	**P**	**00 38 28.5 +0.4**
	comp=E,3μm,0.9s,comp=E,51μm				
SOEI	**Soe**	**35.12 218**	P	**P**	**00 38 29.4 -1.5**
	comp=E,2μm,0.8s,comp=E,18μmcomp=E,54μm				
MIDW	**Midway**	**35.39 68**	*e*P	**P**	**00 38 34.0 +1.1**
	comp=E,1μm,0.6s				
MMRI	**Maumere**	**35.48 222**	P	**P**	**00 38 33.4 -0.4**
	comp=E,3μm,0.9s,comp=E,46μmcomp=E,79μm				
PEA0B	**Petropavlovsk-**	**35.61 13**	*e*P	**P**	**00 38 35.2 +0.9**
	comp=E,3μm,1.8s				
PETK	**Petropavlovsk-**	**35.61 13**	P	**P**	**00 38 35.2 +0.9**
	comp=E,237nm,0.5s,baz=175,slow=7.3,SNR=169				
PETK			PcP	**PcP**	**00 40 44.8 -0.6**
	comp=E,84nm,0.5s,baz=156,slow=2.1,SNR=4.3				
PETK			ScP	**ScP**	**00 43 32.6 -1.5**
	comp=E,96nm,0.7s,baz=168,slow=3.5,SNR=7.2				
PETK			P3KPbc		01 09 04.2
	comp=E,4.8nm,0.9s,baz=128,slow=9.6,SNR=4.7				
PEA1	**Petropavlovsk-**	**35.61 13**	*e*PcP	**PcP**	**00 40 44.8 -0.6**
MTKI	**Muara Teweh, K**	**35.71 240**	P	**P**	**00 38 36.3 +0.5**
	comp=E,3μm,0.9s,comp=E,55μmcomp=E,66μm				
XAN	**Xi'an**	**35.74 303**	P	**P**	**00 38 36.4 +0.7**
XAN			pP	pwP	00 40 25.9 +4.8
XAN			S	**S**	**00 43 29.6 -1.2**
XAN			SS	**SS**	**00 46 35.0 -13**
XAN			pmax	pmax	
	comp=E,12μm,9.3s				
XAN	**Xi'an**	**35.74 303**	P	**P**	**00 38 36.0 +0.3**
PET	**Petropavlovsk**	**35.74 14**	*e*P	**P**	**00 38 36.3 +1.0**
	comp=E,2μm,1.4s				
PET	**Petropavlovsk**	**35.74 14***de*P		**P**	**00 38 36.5 +1.2**
PET			*e*		00 40 46.6
PET			*e**SP	**sP**	**00 41 24.9 +1.3**
PET			*i* S	**S**	**00 43 31.8 +1.7**
PET			*e*SS	**SS**	**00 46 44.7 -2.8**
PET			*e*		00 47 40.6
PET			pmax	pmax	
	comp=Z,21μm,5.5s				
PET			pmax	pmax	
	comp=Z,17μm,14.8s				
PET			pmax	pmax	
	comp=Z,703nm,0.5s				
DLV	**T Lat**	**36.08 265**	*e*P	**P**	**00 38 40.4 +1.4**
	comp=Z,1μm,1.3s				
SBUM	**Sibu**	**36.21 247**	P	**P**	**00 38 41.0 +1.2**
HHC	**Hu-ho-hao-te**	**36.28 315**⇓	*i*P	**P**	**00 38 41.3 +1.1**
HHC			PP	**pwP**	**00 40 24.1 -0.9**
HHC			S	**S**	**00 43 40.8 +2.0**
HHC			sS	sS	00 46 37.1 -6.4
HHC			pmax	pmax	
	comp=Z,650nm,1.1s				
HHC			pmax	pmax	
	comp=Z,20μm,5.6s				
GYA	**Guiyang**	**36.36 289**⇓	*i*P	**P**	**00 38 42.5 +1.4**
GYA			PcP	**PcP**	**00 40 52.5 +4.2**
GYA			sP	sP	00 41 30.5 +0.6
GYA			S	**S**	**00 43 41.8 +1.3**
GYA			ScS	**ScS**	**00 47 47.8 +1.3**
GYA			pmax	pmax	
	comp=Z,60nm,0.7s				
GYA			pmax	pmax	
	comp=Z,3μm,9.9s				
HIA	**Hailar**	**36.72 332**	*e*P	**P**	**00 38 44.6 +1.1**
	comp=Z,1μm,1.0s				
BTO	**Baotou**	**37.22 313**	*e*P	**P**	**00 38 49.8 +1.9**
WSI	**Waingapu**	**37.50 223**	P	**P**	**00 38 48.7 -1.6**
	comp=Z,14μm,0.7s,comp=Z,202μm				
ZEA	**Zeya**	**37.59 342***de*P		**P**	**00 38 50.1 -0.3**
ZEA			*e*S	**S**	**00 43 57.5 +0.1**
ZEA			*e*SS	SS	00 46 58.0 -20
ZEA			pmax	pmax	
	comp=N,2μm,8.0s				
ZEA			pmax	pmax	
	comp=Z,22μm,8.0s				
ZEA			pmax	pmax	
	comp=N,870nm,1.0s				
ZEA			pmax	pmax	
	comp=E,250nm,1.0s				
ZEA			pmax	pmax	
	comp=Z,2μm,1.0s				
ZEA			pmax	pmax	
	comp=Z,27μm,8.0s				
ZEA			smax	smax	
	comp=E,6μm,9.0s				
ZEA			smax	smax	
	comp=N,13μm,15.0s				
KNRA	**Kununurra**	**37.90 206**	P	**P**	**00 38 53.3 -0.1**
	baz=37,SNR=239				
KSM	**Kuching**	**38.35 247**	P	**P**	**00 38 57.0 -0.2**
PLAI	**Plampang**	**38.58 227**	P	**P**	**00 38 58.4 -0.6**
	comp=N,4μm,1.0s,comp=N,55μmcomp=N,63μm				
CTA	**Charters Tower**	**38.63 179**	P	**P**	**00 38 59.3 0.0**
	comp=N,416nm,0.4s,baz=359,slow=9.0,SNR=238				
CTA			ScP	**ScP**	**00 43 47.2 +1.1**
	comp=N,251nm,1.0s,baz=357,slow=5.4,SNR=17				
CTA			S	**S**	**00 44 12.0 -1.5**
	comp=N,175nm,1.2s,baz=250,slow=22,SNR=16				
CTA			PKP2ab		01 12 49.0
	comp=N,0.8nm,0.3s,baz=232,slow=8.5,SNR=3.1				
CTAO	**Charters Tower**	**38.63 179**	*e*P	**P**	**00 38 59.9 +0.5**
	comp=N,666nm,0.6s				
CTAO			*e*ScP	**ScP**	**00 43 47.2 +1.1**
SKNT	**Sakolnakorn**	**39.30 274**	P	**P**	**00 39 06.3 +1.5**
	comp=N,409nm,0.7s				
PBKI	**Pangkalan Bun**	**39.36 241**	P	**P**	**00 39 06.1 +0.7**
	comp=N,7μm,1.1s,comp=N,72μm				
CD2	**Chengdu**	**39.37 296**⇓	*i*P	**P**	**00 39 03.8 -1.5**
CD2			PP	**pwP**	**00 40 52.9 -0.5**
CD2			S	**S**	**00 44 19.6 -4.8**
CD2			PcS	**PcS**	**00 44 47.3 -1.6**
CD2			sS	sS	00 47 30.8 -1.2
CD2			pmax	pmax	
	comp=N,1μm,0.9s				
CD2			pmax	pmax	
	comp=N,11μm,11.3s				
QIS	**Mount Isa**	**39.48 188**	P	**P**	**00 39 05.8 -0.3**
	baz=39,SNR=231				
KMI	**Kunming**	**39.85 287**	P	**P**	**00 39 10.8 +1.4**
KMI			pP	pP	00 40 52.8 +1.5
KMI			PcP	**PcP**	**00 41 01.3 +1.7**
KMI			ScP	**ScP**	**00 43 52.0 +0.7**
KMI			S	**S**	**00 44 33.3 +1.5**
KMI			SS	**SS**	**00 47 52.3 -3.9**
KMI			ScS	**ScS**	**00 48 09.3 +2.0**
KMI			pmax	pmax	
	comp=N,270nm,1.2s				
KMI			pmax	pmax	
	comp=N,3μm,6.5s				
KMI	**Kunming**	**39.85 287**	P	**P**	**00 39 12.2 +2.8**
SRBI	**Singaraja**	**39.90 231**	P	**P**	**00 39 10.3 +0.7**
	comp=N,1μm,0.9s,comp=N,31μmcomp=N,51μm				
NONG	**Nongkai**	**39.92 276**	P	**P**	**00 39 11.6 +1.8**
	comp=N,14nm,0.8s,comp=N,170nm				
WRAB	**Tennant Creek**	**39.93 196**	*e*P	**P**	**00 39 09.5 -0.3**
	comp=N,452nm,0.6s				
WRAB			*e*ScP	**ScP**	**00 43 51.3 +0.1**
WRAB			*e*S	**S**	**00 44 32.3 -0.2**
WRAB	**Tennant Creek**	**39.93 196***c*	*i*P	**P**	**00 39 09.3 -0.4**
WRAB			pmax	pmax	
	comp=Z,436nm,0.7s				
WR1	**Warramunga Arr**	**39.94 196**	*e*ScP	**ScP**	**00 43 51.7 +0.4**
WRA	**Warramunga Arr**	**39.94 196**	*i* P	**P**	**00 39 09.5 -0.3**
WRA			pmax	pmax	

comp=Z,229nm,0.4s
WRA Warramunga Arr 39.94 196 P **P 00 39 09.9 +0.1**
comp=Z,220nm,0.4s,baz=20,slow=8.4,SNR=710
WRA ScP **ScP 00 43 51.7 +0.4**
comp=Z,948nm,0.9s,baz=14,slow=4.1,SNR=49
WRA S **S 00 44 31.3 -1.4**
comp=Z,187nm,1.1s,baz=13,slow=13,SNR=10
WRA ScS **ScS 00 48 06.2 -1.1**
comp=Z,19nm,0.9s,baz=39,slow=7.1,SNR=5.1
WRA P3KPbc 01 08 46.2
comp=Z,2.1nm,0.6s,baz=199,slow=3.6,SNR=9.1
WRA P3KP 01 10 26.6
comp=Z,1.7nm,0.8s,baz=263,slow=2.1,SNR=4.7
WRA PKP2ab 01 12 42.1
comp=Z,1.1nm,0.9s,baz=220,slow=1.4,SNR=6.0
WC3 Warramunga Arr 39.95 196 *e*P **P 00 39 10.1 +0.2**
comp=Z,594nm,0.9s
WC3 *e*ScP **ScP 00 43 52.0 +0.7**
WC3 *e*S **S 00 44 32.8 0.0**
KMMI Kalianget 40.15 233 P **P 00 39 13.4 +1.8**
comp=Z,2μm,1.0s,comp=Z,20μm
LZH Lanzhou 40.29 304 *e*P **P 00 39 14.4 +1.8**
LZH PP **PP 00 41 02.8 +0.3**
LZH sP sP 00 42 02.4 -1.2
LZH ScP **ScP 00 43 53.0 +0.3**
LZH S **S 00 44 39.0 +1.2**
LZH sS sS 00 47 39.6 -6.7
LZH SS **SS 00 47 59.3 -3.6**
LZH ScS **ScS 00 48 11.0 +1.6**
LZH pmax pmax
comp=Z,2μm,1.0s
LZH pmax pmax
comp=Z,16μm,4.9s
KHON Khomkaen 40.49 273 P **P 00 39 15.8 +1.5**
SMY Shemya 40.65 27 *e*P **P 00 39 16.7 +1.8**
comp=Z,2μm,1.2s
SMY *e*ScP **ScP 00 43 53.1 -0.4**
SMY *e*S **S 00 44 46.7 +4.7**
JAGI Jajag, Banyuwa 40.94 231 *e*P **P 00 39 17.4 -0.4**
comp=Z,1μm,0.8s
JAGI Jajag, Banyuwa 40.94 231 P **P 00 39 17.1 -0.7**
comp=Z,2μm,0.8s,comp=Z,23μm
MA2 Magadan 40.95 4 *e*P **P 00 39 18.0 +0.8**
comp=Z,1μm,0.8s
MA2 *e*ScP **ScP 00 43 53.5 -1.1**
MA2 Magadan 40.95 4*d i*P **P 00 39 17.7 +0.5**
MA2 pmax pmax
comp=Z,5μm,2.5s
MA2 Magadan 40.95 4 P **P 00 39 17.9 +0.7**
comp=Z,1μm,0.7s,baz=180,slow=7.0,SNR=274
MA2 PcP **PcP 00 41 02.1 -0.1**
comp=Z,142nm,0.8s,baz=153,slow=4.5,SNR=2.3
MA2 ScP **ScP 00 43 53.4 -1.1**
comp=Z,105nm,0.8s,baz=165,slow=6.3,SNR=6.8
MA2 S **S 00 44 44.8 -1.4**
comp=Z,53nm,1.1s,baz=176,slow=18,SNR=2.4
MA2 ScS **ScS 00 48 11.0 -1.2**
comp=Z,4.2nm,0.4s,baz=168,slow=20,SNR=3.0
GRJI Gresik 41.20 235 P **P 00 39 21.4 +1.5**
comp=Z,2μm,0.6s,comp=Z,20μmcomp=Z,2μm
CHAI Chaiyaphum 41.36 273 P **P 00 39 22.2 +1.0**
FITZ Fitzroy Crossi 41.41 209 P **P 00 39 21.6 +0.1**
baz=40,SNR=1000
FITZ Fitzroy Crossi 41.41 209 P **P 00 39 22.1 +0.7**
baz=31,slow=11
FITZ ScP **ScP 00 43 58.4 +1.2**
comp=Z,295nm,1.0s,baz=20,slow=5.9,SNR=18
FITZ S **S 00 44 53.0 -0.9**
comp=Z,255nm,1.1s,baz=210,slow=15,SNR=19
FITZ ScS **ScS 00 48 16.8 +0.5**
comp=Z,34nm,1.1s,baz=106,slow=20,SNR=5.2
CIT Chita 41.47 331 *e*P **P 00 39 22.1 +0.6**
CIT *e* 00 40 59.7
CIT *e* 00 44 57.5
CIT *e* 00 48 14.7
CIT pmax pmax
comp=Z,2μm,3.1s
CHBT CHBT 41.70 268 P P 00 39 29.1 +5.3
comp=Z,297nm,0.5s
NGJI Ngawi 42.27 235 P **P 00 39 30.5 +2.2**
comp=Z,2μm,1.2s
UTTA Uttaradit 42.41 276 P **P 00 39 30.7 +1.3**
PWJI Pagerwojo 42.42 234 P **P 00 39 29.4 0.0**
comp=Z,3μm,1.3s,comp=Z,43μmcomp=Z,53μm
TPI Tanjungpandan 42.76 244 P **P 00 39 32.1 0.0**
comp=Z,723nm,0.9s,comp=Z,14μmcomp=Z,46μm
PAYA Payao 42.84 278 P **P 00 39 34.0 +1.3**
SONM Songino Array 42.85 322 P **P 00 39 33.5 +1.0**
comp=Z,551nm,0.4s,baz=130,slow=6.4,SNR=546
SONM PcP **PcP 00 41 09.8 +0.7**
comp=Z,67nm,0.4s,baz=149,slow=3.4,SNR=4.0
SONM ScP **ScP 00 44 02.4 -0.3**
comp=Z,136nm,0.9s,baz=136,slow=4.4,SNR=7.3
SONM S **S 00 45 15.2 +1.2**
comp=Z,20nm,0.9s,baz=133,slow=19,SNR=2.8
SONM ScS **ScS 00 48 24.8 -0.1**
comp=Z,10nm,1.2s,baz=132,slow=2.1,SNR=3.9
SONM P3KP 01 10 27.4
comp=Z,2.7nm,1.1s,baz=225,slow=1.9,SNR=4.1
SONM PKPPKP 01 11 15.9
comp=Z,3.1nm,0.9s,baz=312,slow=2.4,SNR=4.7
SMRI Semarang 42.88 236 *e*P **P 00 39 33.5 +0.5**
comp=Z,4μm,1.4s
SMRI Semarang 42.88 236 P **P 00 39 33.7 +0.6**
comp=Z,2μm,1.0s,comp=Z,46μm
JOHN Johnston Islan 42.99 85 *e*P **P 00 39 35.0 +1.1**
comp=Z,2μm,1.2s
JOHN *e*ScP **ScP 00 44 04.9 +1.2**
PCJI Pacitan 43.01 234 P **P 00 39 33.7 -0.3**
comp=Z,2μm,1.0s,comp=Z,47μm
FUNA Funafuti 43.06 126 *e*P **P 00 39 35.1 +0.8**
comp=Z,2μm,1.7s
FUNA *e*ScP **ScP 00 44 06.4 +2.4**
LAMP Lampang 43.17 277 P **P 00 39 36.7 +1.4**
UGM Wanagama 43.34 235 *e*P **P 00 39 37.1 +0.4**
comp=Z,4μm,1.0s
UGM Wanagama 43.34 235 P **P 00 39 36.6 0.0**
comp=Z,5μm,1.1s,comp=Z,58μmcomp=Z,63μm
YOGI Yogyakarta 43.46 236 P **P 00 39 37.5 0.0**
comp=Z,9μm,0.8s,comp=Z,87μm
AS31 Alice Springs 43.61 195 *e*P **P 00 39 37.9 -0.7**
comp=Z,119nm,0.6s
AS31 *e*ScP **ScP 00 44 06.8 +0.7**
AS31 *e*S **S 00 45 24.1 -1.1**
ASAR Alice Springs 43.62 195 P **P 00 39 38.3 -0.3**
comp=Z,305nm,0.7s,baz=13,slow=6.9,SNR=490
ASAR PP **PP 00 41 33.9 +0.9**
comp=Z,108nm,0.8s,baz=17,slow=4.8,SNR=4.3
ASAR ScP **ScP 00 44 06.8 +0.7**
comp=Z,385nm,0.9s,baz=19,slow=3.8,SNR=26
ASAR S **S 00 45 23.4 -1.8**
comp=Z,91nm,0.7s,baz=22,slow=20,SNR=10
ASAR ScS **ScS 00 48 30.5 +0.3**
comp=Z,16nm,0.9s,baz=20,slow=3.0,SNR=3.5
ASAR P3KPbc 01 08 30.6
comp=Z,1.8nm,0.6s,baz=190,slow=4.1,SNR=11
ASAR P3KP 01 10 11.9
comp=Z,3.0nm,1.2s,baz=119,slow=1.2,SNR=4.8
ASAR PKP2ab 01 12 24.5
comp=Z,3.0nm,0.9s,baz=193,slow=2.6,SNR=3.5
ASAR P4KPbc 01 17 22.5
comp=Z,2.6nm,0.8s,baz=13,slow=4.2,SNR=16
TPRI Tanjung Pinang 43.73 251 P **P 00 39 41.2 +1.6**
comp=Z,2μm,1.2s,comp=Z,147μm
PPBI Pangkal Pinang 43.76 246 P **P 00 39 39.4 -0.5**
comp=Z,267nm,1.1s,comp=Z,7μm
CHTO Chiang Mai 43.78 278 *e*P **P 00 39 40.9 +1.0**
comp=Z,188nm,0.7s
CHTO *e*PcP **PcP 00 41 12.8 +0.2**
CHTO *e*ScP **ScP 00 44 08.1 +1.2**
CHTO Chiang Mai 43.78 278 P **P 00 39 41.1 +1.1**
CHTO pmax pmax
comp=Z,307nm,1.0s
CHTO Chiang Mai 43.78 278 P **P 00 39 41.1 +1.1**
SNR=85
CHTO P **P 00 39 41.1 +1.1**
SNR=85
CM31 Chiang Mai Arr 43.83 277 P **P 00 39 42.4 +2.1**
SNR=166
CMAR Chiang Mai Arr 43.83 277 *i* P **P 00 39 41.7 +1.4**
CMAR pmax pmax
comp=Z,623nm,0.7s
CMAR Chiang Mai Arr 43.83 277 P **P 00 39 42.5 +2.1**
comp=Z,623nm,0.7s,baz=68,slow=6.3,SNR=482
CMAR PcP **PcP 00 41 15.2 +2.3**
comp=Z,92nm,0.8s,baz=60,slow=1.9,SNR=4.5
CMAR PP **pwP 00 41 32.9 +1.6**
comp=Z,86nm,0.8s,baz=67,slow=6.4,SNR=4.1
CMAR ScP **ScP 00 44 07.8 +0.6**
comp=Z,29nm,0.8s,baz=108,slow=2.5,SNR=4.3
CMAR S **S 00 45 31.1 +2.6**
comp=Z,20nm,0.9s,baz=62,slow=11,SNR=6.5
MYKOM **Kota Tinggi 43.96 252** P **P 00 39 43.0 +1.6**
GTA Gaotai 44.20 308 ||P **P 00 39 44.3 +1.2**
GTA ScP **ScP 00 44 08.8 +0.3**
GTA S **S 00 45 33.1 -0.3**
GTA SS **SS 00 48 59.3 -6.5**
GTA pmax pmax
comp=Z,170nm,1.8s
PHET Kaeng Krachan 44.22 269 P **P 00 39 45.4 +2.0**
EIDS Eidsvold 44.23 172 *e*P **P 00 39 42.7 -0.5**
comp=Z,153nm,0.9s
EIDS *e*ScP **ScP 00 44 09.6 +1.1**
EIDS Eidsvold 44.23 172 P **P 00 39 42.5 -0.7**
baz=44,SNR=99
UMPA Umpang Tak 44.27 274 P **P 00 39 46.2 +2.5**
JCJI Jatiwangi 44.29 239 P **P 00 39 45.9 +2.0**
comp=Z,4μm,1.7s,comp=Z,67μmcomp=Z,71μm
DSRI Dabo 44.31 249 P **P 00 39 45.6 +1.5**
comp=Z,3μm,1.4s,comp=Z,66μmcomp=Z,336μm
SEY Seymchan 44.40 5*d i*P **P 00 39 45.2 +1.2**
SEY Seymchan 44.40 5 P **P 00 39 45.0 +1.1**
comp=Z,459nm,0.6s,baz=182,slow=6.6,SNR=249
SEY ScP **ScP 00 44 07.6 -0.9**
comp=Z,114nm,1.0s,baz=170,slow=4.7,SNR=6.5
SEY S **S 00 45 37.4 +2.3**
comp=Z,9.5nm,0.7s,baz=165,slow=12,SNR=2.6
SEY ScS **ScS 00 48 33.6 -0.3**
comp=Z,2.6nm,0.3s,baz=287,slow=19,SNR=4.4
ADK Adak 44.47 33 *e*P **P 00 39 45.4 +0.7**
comp=Z,3μm,1.5s
ADK *e*PcP **PcP 00 41 14.8 +0.3**
ADK *e*ScP **ScP 00 44 08.8 -0.3**
ADK *e*S **S 00 45 39.6 +3.1**
ADK Adak 44.47 33 P **P 00 39 45.4 +0.7**
ADK pmax pmax
comp=Z,2μm,1.5s
YAK Yakutsk 44.58 350*d i*P **P 00 39 45.3 -0.1**
YAK *e**PP **PcP 00 41 15.1 +0.5**
YAK *e* 00 41 40.3
YAK *e*S **S 00 45 36.4 -1.3**
YAK *e**SS **ScS 00 48 32.5 -2.6**
YAK *e* 00 49 10.7
YAK pmax pmax
comp=E,2μm,1.1s
YAK pmax pmax
comp=N,6μm,1.4s
YAK pmax pmax
comp=Z,16μm,8.9s
YAK pmax pmax
comp=E,2μm,5.7s
YAK pmax pmax
comp=N,3μm,5.8s
GSTR Great Sitkin T 44.91 33 *e*P **P 00 39 49.2 +1.0**
GSTR *e*ScP **ScP 00 44 10.7 -0.3**
GSTR *e*S **S 00 45 43.9 +1.2**
LEM Lembang 45.01 239 P **P 00 39 49.6 0.0**
LEM pmax pmax
comp=Z,2μm,0.9s
LEM Lembang 45.01 239 P **P 00 39 49.9 +0.3**
comp=Z,24μm,0.9s,comp=Z,329μmcomp=Z,550μm
RMQ Roma 45.11 176 P **P 00 39 49.7 -0.2**
baz=45,SNR=193
CISI Cisompet, Garu 45.27 238 P **P 00 39 49.6 -1.9**
comp=Z,3μm,0.8s,comp=Z,25μmcomp=Z,40μm
BOD Bodaibo 45.29 337 *e*P **P 00 39 51.0 +0.1**
BOD pmax pmax
comp=Z,1μm,1.6s
PMBI Palembang 45.32 246 P **P 00 39 54.1 +2.3**
comp=Z,2μm,1.2s,comp=Z,30μmcomp=Z,49μm
CBJI Citeko 45.41 240 P **P 00 39 52.8 +0.3**
comp=Z,2μm,0.4s,comp=Z,47μm
IPM Ipoh 45.47 257 P **P 00 39 54.0 +1.0**
KULM Kulim 45.52 259 P **P 00 39 55.0 +1.7**
DZM Mont Dzumac 45.56 152 P **P 00 39 54.0 +0.5**
comp=Z,340nm,0.7s,baz=329,slow=2.8,SNR=180
DZM ScP **ScP 00 44 16.6 +2.3**
comp=Z,668nm,1.1s,baz=22,slow=4.6,SNR=30
DZM S **S 00 45 52.8 +0.2**
comp=Z,103nm,1.2s,baz=126,slow=19,SNR=4.6
DZM ScS **ScS 00 48 49.0 +6.0**
comp=Z,11nm,0.9s,baz=137,slow=22,SNR=9.7
JMBI JAMBI 45.68 248 P **P 00 39 57.3 +2.8**
comp=Z,3μm,0.8s,comp=Z,68μmcomp=Z,80μm
ONTNC **Ouen Toro 45.77 152** *e*P **P 00 39 55.0 +0.1**
comp=Z,284nm,0.7s
ONTNC *e*ScP **ScP 00 44 17.3 +2.3**
SBJI Serang 45.84 241 P **P 00 39 56.3 +0.6**
comp=Z,2μm,1.3s,comp=Z,39μm
ZAK Zakamensk 45.86 323 *e*P **P 00 39 55.8 +0.3**
ZAK *e* 00 41 19.6
ZAK pmax pmax
comp=Z,511nm,1.5s
ZAK pmax pmax
comp=Z,220nm,1.3s
KRAB Krabi 45.91 263 P **P 00 39 57.8 +1.6**
SKJI Sukabumi 45.98 240 P **P 00 39 55.8 -1.0**
comp=Z,1μm,1.1s,comp=Z,18μmcomp=Z,35μm
IRK Irkutsk 46.23 326 *e*P **P 00 39 58.5 +0.4**
IRK pmax pmax
comp=Z,3μm,3.8s
TLY Talaya 46.29 325 *e*P **P 00 39 59.5 +1.0**
comp=Z,1μm,1.3s
TLY *e*ScP **ScP 00 44 16.7 -0.1**
TLY Talaya 46.29 325*d i*P **P 00 39 59.5 +1.0**
TLY pmax pmax
comp=Z,1μm,0.8s
CGJI Cibinong 46.47 241 P **P 00 39 58.2 -2.3**
comp=Z,3μm,1.1s,comp=Z,31μm
PINNC Pines Island, 46.48 151 *e*P **P 00 40 00.6 +0.3**
comp=Z,276nm,0.9s
PINNC *e*ScP **ScP 00 44 19.8 +1.8**
WRKA Warakurna 46.58 201 P **P 00 40 00.7 -0.4**
baz=46,SNR=1000
MBWA Marble Bar 46.91 213 P **P 00 40 03.4 -0.3**
SNR=18
MBWA P **P 00 40 03.4 -0.3**
SNR=18
BKNI Bangkinang 47.12 252 *e*P **P 00 40 06.2 +0.9**
comp=Z,813nm,0.8s
BKNI Bangkinang 47.12 252 P **P 00 40 06.5 +1.1**
comp=Z,1μm,0.8s,comp=Z,18μmcomp=Z,44μm
KNTN Kanton 47.40 112 *e*P **P 00 40 07.8 +0.3**
comp=Z,2μm,1.8s
MNAI Manna 47.60 245 *e*P **P 00 40 09.4 +0.4**
comp=Z,8μm,1.4s
MNAI Manna 47.60 245 P **P 00 40 09.1 +0.1**
comp=Z,4μm,1.4s,comp=Z,64μm
MOY Mondy 47.74 324 *e*P **P 00 40 09.7 +0.2**
MOY *e* 00 41 28.5
MOY pmax pmax
comp=Z,2μm,3.2s
PSI Prapat 48.04 256 P **P 00 40 12.8 +0.4**
PDSI Padang 48.18 251 P **P 00 40 12.5 -0.8**
comp=Z,823nm,1.1s,comp=Z,11μm
LHMI Lhok Sumawe 48.99 260 P **P 00 40 20.5 +1.2**
ARMA Armidale 49.28 173 P **P 00 40 21.3 +0.2**
baz=49,SNR=78
PPSI Pulau Pagai 49.41 249 P **P 00 40 23.0 +0.7**
comp=Z,1μm,1.1s,comp=Z,28μm
SISI Saibi 49.59 251 P **P 00 40 23.5 -0.1**
comp=Z,2μm,1.1s,comp=Z,17μm
SHL Shillong 49.65 288 *e*P **P 00 40 24.6 +0.4**
comp=Z,616nm,0.5s
SHL *e*ScP **ScP 00 44 31.9 +0.1**
SHL Shillong 49.65 288 P **P 00 40 24.2 0.0**
SHL pmax pmax
comp=Z,856nm,0.5s
SHL Shillong 49.65 288 ||*i*P **P 00 40 24.5 +0.4**
GSI Gunungsitoli 49.87 255 P **P 00 40 26.3 +0.6**
comp=Z,4μm,1.0s,comp=Z,34μm
CMSA Cobar Meteorol 50.02 180 P **P 00 40 26.3 0.0**
baz=50,SNR=326
BRDH Bariadhala 50.11 284 P **P 00 40 28.4 +1.1**
comp=Z,371nm,0.6s,baz=92,slow=9.0,SNR=13
BRDH ScP **ScP 00 44 34.0 +0.3**
comp=Z,88nm,0.6s,baz=68,slow=11,SNR=3.9
BRDH S **S 00 46 55.8 +0.9**
comp=Z,40nm,0.3s,baz=346,slow=22,SNR=7.0
BRDH ScS **ScS 00 49 13.9 +0.1**
baz=0.0,slow=20
LSA Lhasa 50.17 293 P **P 00 40 31.1 +2.9**
LSA Lhasa 50.17 293 P **P 00 40 30.2 +2.0**
STKA Stephens Creek 50.48 184 P **P 00 40 29.3 -0.4**
baz=50,SNR=306
STKA Stephens Creek 50.48 184 P **P 00 40 28.5 -1.2**
comp=Z,479nm,0.7s,baz=354,slow=7.6,SNR=263
STKA ScP **ScP 00 44 35.3 +0.5**
comp=Z,474nm,1.2s,baz=341,slow=6.2,SNR=17
STKA S **S 00 46 56.9 -2.5**
comp=Z,67nm,1.1s,baz=146,slow=17,SNR=3.0
DGPR DIGLIPUR 50.50 272 *e*P **P 00 40 30.8 +0.6**
DGPR IAmb IAmb 00 40 36.0
comp=Z,888nm,0.8s
BILL Bilibino 51.02 10 *e*P **P 00 40 33.4 +0.4**
comp=Z,716nm,0.8s
BILL *e*PcP **PcP 00 41 40.1 +2.1**
BILL Bilibino 51.02 10*d i*P **P 00 40 33.3 +0.2**
BILL *e* 00 41 39.1
BILL *e**PP **pP 00 42 24.0 +1.0**
BILL *e* 00 42 36.4
BILL *i* S **S 00 47 06.4 +0.7**
BILL *e*SS **SS 00 50 53.1 +0.9**
BILL pmax pmax
comp=Z,346nm,0.8s
PBA Port Blair 51.05 270 *e*P P 00 40 35.6 +1.4
GIRL Giralia 51.14 218 P **P 00 40 35.7 +1.0**
baz=50,SNR=82
LHI Lord Howe Isla 51.72 165 *e*P **P 00 40 39.3 +0.7**
comp=Z,303nm,1.0s
LHI *e*ScP **ScP 00 44 41.2 +1.0**
LHI Lord Howe Isla 51.72 165 P **P 00 40 41.6 +3.0**
baz=52,SNR=5.9
FORT Forrest 51.97 199 *e*P **P 00 40 40.3 -0.2**
comp=Z,667nm,0.8s
FORT *e*ScP **ScP 00 44 41.0 -0.3**
FORT Forrest 51.97 199 P **P 00 40 40.2 -0.2**
baz=51,SNR=279
MGCD Mangrove Creek 51.98 174 P **P 00 40 41.2 +0.7**
baz=52,SNR=42
MEEK Meekatharra 52.03 211 P **P 00 40 40.1 -1.0**
baz=51,SNR=242
BBOO Buckleboo 52.04 190 P **P 00 40 40.5 -0.4**
baz=51,SNR=124
HTT Hallett 52.26 187 P **P 00 40 42.7 +0.2**
baz=52,SNR=61
NFK Norfolk Island 52.32 155 P **P 00 40 46.6 +3.6**
baz=52,SNR=4.0
RIV Riverview 52.60 174 P **P 00 40 47.0 +2.1**
baz=52,SNR=15
YNG Young 52.85 177 P **P 00 40 47.2 +0.5**
baz=52,SNR=150
KIP Kipapa 53.07 77 *e*P **P 00 40 49.9 +1.4**
comp=Z,822nm,0.8s
KIP Kipapa 53.07 77*c e*P **P 00 40 49.6 +1.1**
KIP pmax pmax
comp=Z,1μm,1.3s
TIXI Tiksi 53.76 354 *e*P **P 00 40 51.8 -0.7**
comp=Z,440nm,0.6s
TIXI Tiksi 53.76 354*d i*P **P 00 40 51.7 -0.7**
TIXI pmax pmax
comp=Z,544nm,1.0s
TIXI Tiksi 53.76 354 P **P 00 40 52.0 -0.5**
comp=Z,408nm,0.5s,baz=145,slow=6.9,SNR=203
TIXI ScP **ScP 00 44 46.1 -2.4**
comp=Z,69nm,1.1s,baz=126,slow=3.7,SNR=3.5
TIXI S **S 00 47 42.9 +1.2**
comp=Z,14nm,0.7s,baz=360,slow=21,SNR=8.1
TIXI PKPPKP 01 10 49.0
comp=Z,11nm,0.9s,baz=354,slow=2.3,SNR=16
CAN Canberra 53.91 176 P **P 00 40 55.4 +1.3**
CAN pmax pmax
comp=Z,532nm,1.1s
CNB Canberra Magne 53.92 176 P **P 00 40 55.2 +0.9**
baz=54,SNR=93
WMQ Urumqi 53.97 311 P **P 00 40 55.3 +0.7**
WMQ PcP **PcP 00 41 51.9 +2.0**
WMQ PP **PP 00 43 05.8 +0.5**
WMQ sP sP 00 43 51.1 -1.7
WMQ ScP **ScP 00 44 50.4 +0.2**
WMQ PcS **PcS 00 45 47.5 -2.8**
WMQ S **S 00 47 48.3 +2.6**
WMQ ScS **ScS 00 49 37.8 -2.9**
WMQ SS **SS 00 51 40.0 +0.4**
WMQ pmax pmax
comp=Z,3μm,1.5s
WMQ pmax pmax
comp=Z,45μm,6.1s
RAMN Ramite 54.29 290 *e*P **P 00 40 58.1 +0.7**
comp=Z,840nm,0.5s
JIRN Jiri 54.60 291 *e*P **P 00 41 00.8 +1.1**
KMBL Kambalda 54.68 205 P **P 00 40 58.5 -1.1**
baz=54,SNR=88
KKH Kailua Kona 55.18 79 P **P 00 41 05.3 +2.0**
MHA Mahukona 55.20 78 P **P 00 41 05.9 +2.4**
DGZ Jazzator, Alta 55.21 318*d i*P **P 00 41 04.5 +1.2**
DGZ pmax pmax
comp=Z,1μm,1.2s
BOK Bokaro 55.25 286 *e*P **P 00 41 04.8 +1.1**
BOK IAmb IAmb 00 41 09.1
comp=Z,2μm,0.2s
PKI Pulchoki 55.30 291 *e*P **P 00 41 05.0 +0.5**
comp=Z,753nm,0.3s
PKIN Phulchoki 55.31 291 *e*P **P 00 41 05.0 +0.5**
comp=Z,1μm,0.4s
MORW Morawa 55.31 211 P **P 00 41 03.4 -0.6**
baz=54,SNR=254
ARPS Mount Arapiles 55.33 183 P **P 00 41 04.1 +0.1**
baz=55,SNR=120
KKN Kakani 55.40 291 *e*P **P 00 41 05.7 +0.7**
comp=Z,795nm,0.5s
DMN Daman 55.56 291 *e*P **P 00 41 07.0 +0.8**
comp=Z,781nm,0.4s
POHA Pohakuloa 55.62 79 *e*P **P 00 41 08.0 +1.4**
comp=Z,656nm,0.9s
KHU Kahuku 55.63 79 P **P 00 41 08.0 +1.3**
MILA Mila 55.64 176 P **P 00 41 06.7 +0.5**
baz=55,SNR=53
MLH Mauna Loa 55.80 79 P **P 00 41 09.0 +1.1**
BWNR Bhubaneshwar 55.81 282 *ex* **P 00 41 05.1 -2.5**
BWNR IAmb IAmb 00 41 09.5
comp=Z,519nm,1.3s
NPH North Pit 55.91 79 P **P 00 41 10.3 +1.8**
GKN Gorkha 55.95 292 *e*P **P 00 41 09.5 +0.8**
comp=Z,1μm,0.5s
TOO Toolangi 56.04 180 P **P 00 41 09.8 +1.0**
baz=56,SNR=41
TOO Toolangi 56.04 180 P **P 00 41 10.2 +1.3**
TOO pmax pmax
comp=Z,319nm,1.4s
JCUZ Jacuzzi 56.08 79 *e*P **P 00 41 11.2 +1.6**
comp=Z,1μm,0.7s
BLDU Ballidu 56.27 210 P **P 00 41 12.1 +1.5**
baz=55,SNR=24
KLBR Kellerberrin 56.62 208 P **P 00 41 12.2 -0.7**
baz=56,SNR=474
DANN Dangsing 56.69 292 *e*P **P 00 41 14.9 +0.9**
comp=Z,1μm,0.5s
COCO West Island 56.82 241 *i* P **P 00 41 16.5 +1.9**
COCO West Island 56.82 241 P **P 00 41 16.2 +1.6**
SNR=12
KOLN Koldanda 56.88 291 *e*P **P 00 41 15.8 +0.6**
comp=Z,839nm,0.7s
PYUN Piuthan 57.39 292 *e*P **P 00 41 19.2 +0.6**
comp=Z,2μm,1.0s
MUN Mundaring 57.65 209 P **P 00 41 19.4 -0.5**
baz=57,SNR=76
ZALV Zalesovo Beam 57.73 323 P **P 00 41 20.1 0.0**
comp=Z,169nm,0.4s,baz=102,slow=5.6,SNR=327
ZALV PcP **PcP 00 42 05.0 +0.7**
comp=Z,120nm,0.7s,baz=100,slow=4.0,SNR=5.1
ZALV ScP **ScP 00 45 05.6 -0.8**
comp=Z,126nm,1.1s,baz=101,slow=3.5,SNR=3.9
ZALV S **S 00 48 34.3 +0.9**
comp=Z,30nm,1.0s,baz=116,slow=6.6,SNR=6.4
ZALV ScS **ScS 00 50 07.5 -0.1**
comp=Z,24nm,1.1s,baz=132,slow=8.6,SNR=2.6
ZALV P3KP 01 09 57.0
comp=Z,1.5nm,0.7s,baz=297,slow=4.4,SNR=3.7
ZALV PKPPKP 01 10 53.2
comp=Z,7.9nm,0.8s,baz=310,slow=3.2,SNR=3.8
ZALV P4KPbc 01 18 23.1
comp=Z,5.9nm,1.0s,baz=78,slow=1.8,SNR=6.3
NWAO Narrogin (SRO) 57.98 208 *e*P **P 00 41 22.0 -0.1**
comp=Z,245nm,0.8s
NWAO *e*ScP **ScP 00 45 08.2 +0.4**
NWAO Narrogin (SRO) 57.98 208 P **P 00 41 21.8 -0.4**
baz=57,SNR=145
NWAO Narrogin (SRO) 57.98 208 P **P 00 41 22.4 +0.2**

SNR=17
NWAO Narrogin (SRO) 57.98 208 ScP ScP 00 45 07.1 -0.6
comp=Z,205nm,0.9s,baz=41,slow=5.5,SNR=9.9
NWAO S **S 00 48 36.8 -0.4**
comp=Z,21nm,0.9s,baz=140,slow=20,SNR=7.0
NWAO ScS **ScS 00 50 10.7 +0.7**
comp=Z,26nm,1.1s,baz=180,slow=17,SNR=2.9
MK31 Makanchi Array 58.14 314 *i* P **P 00 41 23.8 +0.7**
MK31 pmax pmax
comp=Z,300nm,0.5s
MKAR Makanchi Array 58.14 314 *i* P **P 00 41 24.0 +0.9**
MKAR pmax pmax
comp=Z,383nm,0.4s
MKAR Makanchi Array 58.14 314 P **P 00 41 24.0 +0.9**
comp=Z,386nm,0.5s,baz=90,slow=7.0,SNR=1134
MKAR PcP **PcP 00 42 07.2 +1.0**
comp=Z,186nm,0.9s,baz=99,slow=7.5,SNR=3.8
MKAR S **S 00 48 41.1 +2.1**
comp=Z,10nm,0.8s,baz=82,slow=12,SNR=4.3
MKAR PKP2bc 01 11 04.9
comp=Z,18nm,1.0s,baz=267,slow=2.4,SNR=3.6
MKAR P4KPbc 01 18 28.2
comp=Z,4.2nm,0.9s,baz=96,slow=5.0,SNR=8.4
MAKZ Makanchi 58.35 314 *e*P **P 00 41 25.9 +1.3**
comp=Z,1μm,0.6s
MAKZ Makanchi 58.35 314 P **P 00 41 25.5 +1.0**
MAKZ pmax pmax
comp=Z,857nm,0.6s
XMAS Kiritimati 58.44 99 *e*P **P 00 41 26.2 +0.6**
comp=Z,645nm,1.0s
XMAS *e*ScP **ScP 00 45 12.3 +2.0**
VIS Vishakhapatnam 58.58 280 *i* P **P 00 41 26.6 0.0**
VIS *i* x x 00 48 45.8
NVS Novosibirsk 58.82 323 *e*P **P 00 41 28.1 +0.6**
NVS *e* 00 42 09.9
NVS *e*S **S 00 48 45.2 -2.0**
NVS *e* 00 50 17.8
NVS pmax pmax
comp=Z,876nm,1.1s
NVS pmax pmax
comp=N,221nm,1.0s
NVS pmax pmax
comp=E,497nm,1.0s
NVS smax smax
comp=N,972nm,1.9s
NVS smax smax
comp=E,500nm,1.6s
KDAK Kodiak Island 59.51 33 *e*P **P 00 41 31.9 -0.1**
comp=E,2μm,1.6s
KDAK Kodiak Island 59.51 33 *i* P **P 00 41 31.9 -0.1**
KDAK Kodiak Island 59.51 33 P **P 00 41 32.3 +0.3**
comp=E,275nm,0.4s,baz=242,slow=2.2,SNR=270
RKGY Rocky Gully 59.52 207 P **P 00 41 32.8 +0.4**
baz=59,SNR=97
PDGK Podgornoye 59.86 310 P **P 00 41 35.4 +0.6**
PDGK pmax pmax
comp=Z,998nm,0.8s
OUZ Omahuta 60.04 153 P **P 00 41 37.5 +1.7**
JBP Jabalpur 60.70 286 *e*P **P 00 41 41.4 +1.0**
JBP AMB AMB 00 41 45.7
comp=Z,952nm,0.7s
JBP *e*S **S 00 49 13.4 +1.8**
MOO Moorlands 60.93 178 P **P 00 41 42.8 +1.3**
baz=60,SNR=20
KURK Kurchatov 60.96 318 *e*P **P 00 41 42.1 +0.4**
comp=Z,3μm,0.9s
KURK Kurchatov 60.96 318 *d i*P **P 00 41 41.8 +0.1**
KURK pmax pmax
comp=Z,2μm,1.0s
KURK Kurchatov 60.96 318 P **P 00 41 42.0 +0.4**
SNR=1329
KURK P **P 00 41 42.0 +0.4**
SNR=1329
WCZ Waipu Caves 60.97 153 P **P 00 41 43.4 +1.6**
KURBB Kurchatov Arra 61.01 318 P **P 00 41 42.3 +0.3**
comp=Z,998nm,0.4s,baz=96,slow=7.2,SNR=3576
KURBB PKPPKP **P'P'df 01 10 50.0 -0.1**
comp=Z,4.6nm,0.9s,baz=285,slow=2.8,SNR=6.7
KURBB PKP2bc 01 10 56.8
comp=Z,28nm,1.1s,baz=286,slow=3.3,SNR=7.7
H01W1 Cape Leeuwin H 61.02 209 P **P 00 41 43.4 +1.5**
baz=65,slow=5.3,SNR=19
H01W3 Cape Leeuwin H 61.02 209 P **P 00 41 44.2 +2.3**
baz=65,slow=5.3,SNR=18
H01W2 Cape Leeuwin H 61.03 209 P **P 00 41 43.6 +1.6**
baz=65,slow=5.3,SNR=15
TAU Tasmania Unive 61.40 178 *e*P **P 00 41 45.4 +0.9**
comp=Z,361nm,1.0s
TAU *e*ScP **ScP 00 45 24.4 +1.8**
TAU Tasmania Unive 61.40 178 P **P 00 41 46.0 +1.5**
TAU pmax pmax
comp=Z,395nm,1.4s
NRIK Noril'sk 61.41 340 S **S 00 49 19.3 +0.4**
comp=Z,25nm,0.9s,baz=26,slow=23,SNR=20
NRIK P4KPbc 01 18 37.6
comp=Z,7.9nm,0.8s,baz=89,slow=4.1,SNR=9.0
DDI Dehra Dun 61.47 295 *e*P **P 00 41 46.8 +1.4**
GRZ Great Barrier 61.71 153 P **P 00 41 47.6 +0.9**
AAA Alma-Ata 61.74 309 *e*P **P 00 41 48.8 +1.8**
AAA *e*S **S 00 49 24.9 +0.9**
AAA pmax pmax
comp=Z,8μm,2.4s
AAA smax smax
comp=N,27μm,9.7s
NGP Nagpur 61.90 284 *e*P **P 00 41 48.6 +0.3**
NGP IAmb IAmb 00 41 53.2
comp=Z,992nm,0.2s
NGP *e*x x 00 49 26.5
NGP *e*x x 00 58 20.5
comp=Z,9μm,17.5s
WTAZ Waiatarua 61.91 154 P **P 00 41 49.9 +1.9**
SMLA Simla 62.14 296 *e*P **P 00 41 50.0 +0.3**
SMLA IAmb IAmb 00 41 54.2
comp=Z,2μm,1.2s
SMLA IAMs_20 IAMs_20 00 49 50.9
comp=Z,8μm,6.7s
ULHL Ulahol 62.24 308 P **P 00 41 51.6 +1.2**
SNR=28
KUZ Kuaotunu 62.24 153 P **P 00 41 50.9 +0.8**
NDI New Delhi 62.38 293 *e*P **P 00 41 52.0 +0.7**
NDI *e*S **S 00 49 34.0 +1.9**
BOOM Boomskoye usch 62.46 309 P **P 00 41 52.9 +1.1**
SML Sawmill 62.50 29 P **P 00 41 51.4 -0.1**
KSH Kashi 62.51 305 P **P 00 41 55.6 +3.5**
KSH pP pwP 00 43 55.0 -0.5
KSH S **S 00 49 33.1 -0.5**
KSH SS **SS 00 53 56.3 +3.3**
KSH pmax pmax
comp=Z,2μm,1.1s
KSH pmax pmax
comp=Z,14μm,2.8s
RND Reindeer 62.61 28 P **P 00 41 51.4 -0.8**
TKM2 Tokmak 2 62.71 309 P **P 00 41 54.5 +1.0**
SNR=30
TKM2 Tokmak 2 62.71 309 P **P 00 41 54.3 +0.9**
TKM2 pmax pmax
comp=Z,562nm,0.8s
DHRM DHARAMSHALA 62.76 297 *e*P **P 00 41 53.3 -0.7**
DHRM IAmb IAmb 00 41 59.4
comp=Z,798nm,0.7s
DHRM IAMs_20 IAMs_20 00 49 56.9
comp=Z,8μm,11.8s
TOZ Tahuroa Road 62.98 153 P **P 00 41 55.3 +0.5**
KZA Kyzart 62.98 308 P **P 00 41 57.2 +1.7**
SNR=384
BHPL Bhopal 63.01 287 *e*P **P 00 41 55.3 -0.2**
BHPL IAmb IAmb 00 41 59.4
comp=Z,725nm,0.4s
HYB Hyderabad 63.10 280 *i* P **P 00 41 56.5 +0.4**
comp=Z,340nm,1.0s
HYB *e*PcP **PcP 00 42 27.0 0.0**
HYB *e*PP **PP 00 44 26.0 +0.2**
HYB *es*P **sP 00 44 58.0 +0.3**
HYB *e*S **S 00 49 42.0 +0.8**
HYB *e*ScS **SKSac 00 50 48.0 -1.6**
HYB *es*S sS 00 53 26.0 +13
HYB *e*SS **SS 00 54 08.0 +5.2**
KBK Karagaybulak 63.19 309 P **P 00 41 57.4 +0.9**
SNR=289
KMRZ Kaimai 63.26 153 P **P 00 41 57.6 +0.9**
CHMS Chumysh 63.33 309 P **P 00 41 57.6 +0.4**
SNR=130
TCOL CIGO, UAF Yank 63.37 26 P **P 00 41 56.3 -0.6**
baz=257,SNR=45
HIZ Hauiti 63.37 154 P **P 00 41 59.6 +2.3**
COLA College 63.37 26 *e*P **P 00 41 56.8 -0.1**
comp=Z,292nm,0.6s
COLA College 63.37 26 *d i*P **P 00 41 55.5 -1.4**
COLA pmax pmax
comp=Z,732nm,2.0s
USP Ospenovka 63.51 310 P **P 00 41 59.0 +0.7**
SNR=314
UCH Uchtor 63.52 308 P **P 00 42 00.1 +1.1**
SNR=537
AAK Ala-Archa 63.52 309 P **P 00 41 59.3 +0.7**
SNR=123
AAK Ala-Archa 63.52 309 *e*P **P 00 41 59.7 +1.1**
comp=Z,585nm,1.2s
AAK Ala-Archa 63.52 309 *i* P **P 00 41 59.5 +0.9**
SNR=272
AAK Ala-Archa 63.52 309 *d i*P **P 00 41 59.1 +0.5**
AAK pmax pmax
comp=Z,728nm,1.7s
AAK Ala-Archa 63.52 309 P **P 00 41 59.1 +0.5**
SNR=190
AAK P **P 00 41 59.1 +0.5**
SNR=190
AAK Ala-Archa 63.52 309 P **P 00 41 59.2 +0.7**
comp=Z,210nm,0.8s,baz=97,slow=5.4,SNR=142
AAK PKP2bc 01 10 48.6
comp=Z,15nm,1.1s,baz=208,slow=4.4,SNR=3.7
POKR Poker Plat Res 63.60 26 P **P 00 41 57.8 -0.6**
baz=257,SNR=67
PKE Pukeiti 63.60 155 P **P 00 42 01.8 +2.9**
NBEZ Newall Road No 63.62 156 P **P 00 42 00.8 +1.9**
HDA Harding Lake 63.65 27 P **P 00 41 57.9 -0.8**
baz=258
PALK Pallekele 63.67 269 *e*P **P 00 42 00.2 +0.3**
comp=Z,163nm,1.0s
PALK Pallekele 63.67 269 *i* P **P 00 42 03.0 +3.1**
SNR=6.0
TOLK Toolik Lake Re 63.67 22 P **P 00 41 60.0 +1.1**
baz=254
KHEZ Kahui Hut 63.70 155 P **P 00 42 02.0 +2.6**
NEZ North Egmont 63.71 155 P **P 00 42 02.3 +2.7**
WHRZ Whale Island 63.72 152 P **P 00 42 01.6 +2.1**
NMEZ Namu Road 63.75 156 P **P 00 42 02.3 +2.6**
ILAR Eielson Array 63.76 26 P **P 00 41 58.5 -1.0**
comp=Z,229nm,0.5s,baz=248,slow=5.8,SNR=1085
ILAR PcP **PcP 00 42 30.4 +1.7**
comp=Z,46nm,0.5s,baz=256,slow=5.5,SNR=5.7
ILAR S **S 00 49 44.8 -2.7**
comp=Z,5.4nm,0.9s,baz=265,slow=9.5,SNR=4.6
ILAR PKPPKP **P'P'df 01 10 44.5 -0.6**
comp=Z,10nm,1.2s,baz=90,slow=1.8,SNR=5.1
ILAR PKP2bc 01 10 51.5
comp=Z,13nm,1.1s,baz=83,slow=1.6,SNR=6.6
ILAR P4KPbc 01 18 49.4
comp=Z,1.8nm,0.9s,baz=263,slow=4.8,SNR=7.7
VRZ Vera Road 63.85 155 P **P 00 42 01.6 +1.2**
PAX Paxson 64.03 28 P **P 00 42 01.3 0.0**
EKS2 Erkin-Say 64.05 309 P **P 00 42 02.7 +0.8**
SNR=245
URZ Urewera 64.11 153 P **P 00 42 00.6 -1.4**
comp=Z,140nm,0.9s,baz=16,slow=4.4,SNR=56
AML Almayashu 64.14 308 P **P 00 42 04.0 +1.3**
SNR=633
QRZ Quartz Range 64.47 157 P **P 00 42 04.5 +0.3**
PUZ Puketiti 64.47 152 P **P 00 42 03.6 -0.7**
OTUK Ortayu 64.94 315 P **P 00 42 08.0 +0.8**
OTUK pmax pmax
comp=Z,930nm,1.2s
NIL Nilore 65.16 299 *e*P **P 00 42 10.0 +1.1**
comp=Z,4μm,1.1s
NIL Nilore 65.16 299 P **P 00 42 09.5 +0.6**
NIL pmax pmax
comp=Z,4μm,1.0s
SNZO South Karori 65.70 156 *e*P **P 00 42 11.1 -0.7**
comp=Z,736nm,0.9s
BVAR Borovoye Array 66.18 320 P **P 00 42 15.1 +0.3**
comp=Z,682nm,0.5s,baz=101,slow=7.7,SNR=725
BVAR PKPPKP **P'P'df 01 10 38.1 -3.5**
comp=Z,12nm,1.1s,baz=270,slow=1.5,SNR=10.0
BVAR P4KPbc 01 18 58.9
comp=Z,1.0nm,0.6s,baz=81,slow=4.7,SNR=4.3
BRVK Borovoye 66.24 320 *e*P **P 00 42 15.8 +0.7**
comp=Z,907nm,0.8s
BRVK Borovoye 66.24 320 *d i*P **P 00 42 15.3 +0.2**
BRVK pmax pmax
comp=Z,1μm,0.9s
BRVK Borovoye 66.24 320 P **P 00 42 15.4 +0.3**
SNR=634
BRVK P **P 00 42 15.4 +0.3**
SNR=634
KK31 Karatay Array 66.43 310 *i* P **P 00 42 17.0 +0.5**
KK31 pmax pmax
comp=Z,902nm,0.9s
TRD Trivandrum 66.86 271 *e*P **P 00 42 19.4 -0.3**
RAR Rarotonga 66.87 124 *e*P **P 00 42 20.6 +1.1**
comp=Z,282nm,1.1s
POO Poona 67.22 283 *e*P **P 00 42 21.7 -0.2**
POO IAmb IAmb 00 42 24.6
comp=Z,591nm,0.6s
TAS Tashkent 67.48 308 P **P 00 42 24.6 +1.6**
TAS pmax pmax
comp=Z,811nm,1.0s
GOA Goa 67.96 280 *e*P **P 00 42 25.8 -0.5**
GOA IAmb IAmb 00 42 30.9
comp=Z,1μm,1.8s
EPYK Eagle Plains 68.15 25 P **P 00 42 27.3 +0.6**
baz=267,SNR=491
KBL Kabul 68.50 300 *e*P **P 00 42 30.1 +0.5**
comp=Z,2μm,1.3s
KBL Kabul 68.50 300 P **P 00 42 29.5 -0.1**
KBL pmax pmax
comp=Z,1μm,1.2s
SIT Sitka 68.70 35 P **P 00 42 31.3 +1.3**
INK Inuvik 69.46 23 P **P 00 42 34.4 +0.1**
comp=Z,332nm,0.8s,baz=288,slow=4.6,SNR=387
INK S **S 00 50 52.7 -1.4**
comp=Z,30nm,0.9s,baz=29,slow=32,SNR=48
INK PKPPKP **P'P'df 01 10 32.4 -2.9**
comp=Z,18nm,1.1s,baz=75,slow=4.2,SNR=8.6
INK P4KPbc 01 19 15.9
comp=Z,2.4nm,1.1s,baz=288,slow=6.9,SNR=3.4
BHJ Bhuj 70.02 289 *e*P **P 00 42 39.6 +1.1**
BHJ IAmb IAmb 00 42 42.4
comp=Z,534nm,0.7s
H02S1 DAWSON INLET T 70.58 39 P **P 00 42 41.8 +0.5**
SVE Sverdlovsk 71.60 325 *ce*P **P 00 42 47.9 +0.8**
SVE *e*PPP PPP 00 47 23.4
SVE *e*S **S 00 51 17.3 -1.2**
SVE *e* 00 51 48.7
SVE *e*SSS SSS 00 59 33.4
SVE pmax pmax
comp=Z,1μm,1.0s
SVE pmax pmax
comp=Z,8μm,10.1s
ARU Arti 72.79 325 *e*P **P 00 42 54.2 +0.2**
comp=Z,1μm,0.9s
ARU Arti 72.79 325 *d i*P **P 00 42 54.1 +0.2**
ARU 00 43 08.0
ARU *e*S **S 00 51 32.7 +1.0**
ARU 00 51 55.6
ARU pmax pmax
comp=Z,897nm,0.6s
ARU Arti 72.79 325 P **P 00 42 54.2 +0.2**
comp=Z,514nm,0.5s,baz=87,slow=3.9,SNR=529
ARU PKPPKP 01 10 24.1
comp=Z,2.1nm,0.8s,baz=230,slow=2.0,SNR=7.3
AB31 Akbulak array 73.03 317 *i* P **P 00 42 55.2 -0.3**
AB31 pmax pmax
comp=Z,809nm,1.1s
PPT Papeete 73.49 115 P **P 00 42 59.5 +0.9**
comp=Z,115nm,0.7s,baz=328,slow=3.4,SNR=7.8
PPT2 Papeete2 73.50 116 *e*P **P 00 43 00.8 +2.0**
comp=Z,234nm,1.2s
TIAR Tiarei 73.69 115 *e*P **P 00 43 01.7 +1.9**
comp=Z,92nm,1.2s
PMOR Pomariorio Ree 73.85 112 *e*P **P 00 43 02.2 +1.5**
comp=Z,964nm,1.2s
TVO Taravao 73.86 116 *e*P **P 00 43 02.9 +2.1**
comp=Z,110nm,1.4s
MCQ Macquarie Isla 73.90 172 P **P 00 43 03.3 +3.2**
baz=74,SNR=5.0
AKTO Aktyubinsk 74.06 318 P **P 00 43 00.8 -0.5**
AKTO pmax pmax
comp=Z,298nm,0.8s
VAH Vaihoa 74.18 112 *e*P **P 00 43 03.7 +1.2**
comp=Z,338nm,1.2s
TBI Tubuai 76.20 121 *e*P **P 00 43 16.2 +2.6**
comp=Z,580nm,1.2s
ASHT Ashkhabad 76.33 306 P **P 00 43 16.7 +2.5**
ASHT pmax pmax
comp=Z,854nm,1.1s
H08S2 Diego Garcia H 76.38 257 P **P 00 43 16.7 +2.2**
H08S3 Diego Garcia H 76.38 257 P **P 00 43 16.7 +2.2**
H08S1 Diego Garcia H 76.40 257 P **P 00 43 16.8 +2.2**
GEYT Alibeck 76.54 306 P **P 00 43 14.4 -1.0**
comp=Z,269nm,0.9s,baz=20,slow=4.7,SNR=44
H08N1 Diego Garcia H 77.28 259 P **P 00 43 22.2 +2.8**
H08N2 Diego Garcia H 77.29 259 P **P 00 43 22.2 +2.8**
H08N3 Diego Garcia H 77.31 259 P **P 00 43 22.3 +2.8**
A04D Lummi Island 77.43 43 P **P 00 43 21.0 +1.2**
baz=284,SNR=9.1
D03D Eldon 77.47 44 P **P 00 43 21.7 +1.6**
baz=284,SNR=132
D04E Lakebay 77.76 44 P **P 00 43 22.8 +1.2**
baz=284
I02D Swisshome 77.79 47 P **P 00 43 23.2 +1.3**
baz=284,SNR=374
F04D Rainier, OR 77.87 45 P **P 00 43 23.6 +1.3**
baz=284,SNR=11
G03D McMinnville, O 77.92 46 P **P 00 43 23.5 +0.9**
baz=284,SNR=28
B05A Bryant 77.93 43 P **P 00 43 23.5 +0.9**
baz=285,SNR=52
B05A S **S 00 52 28.8 +1.7**
baz=285
J01E Myrtle Point 77.96 48 P **P 00 43 24.0 +1.2**
baz=284,SNR=56
COR Corvallis 78.05 47 *e*P **P 00 43 25.1 +1.8**
comp=Z,446nm,0.9s
COR Corvallis 78.05 47 P **P 00 43 25.5 +2.2**
COR pmax pmax
comp=Z,652nm,1.7s
E04D Cinebar 78.05 45 P **P 00 43 24.4 +1.1**
baz=285,SNR=53
YKA Yellowknife Ar 78.11 28 P **P 00 43 23.1 -0.1**
comp=Z,270nm,0.5s,baz=287,slow=5.1,SNR=1221
YKA PKIKP **PKiKP 00 48 53.7 -0.2**
comp=Z,3.7nm,0.5s,baz=293,slow=1.2,SNR=5.6
YKA S **S 00 52 25.1 -3.3**
comp=Z,17nm,1.0s,baz=283,slow=10,SNR=9.8
YKA PKKP **PKKPdf 01 02 04.1 -0.2**
comp=Z,0.4nm,0.5s,baz=148,slow=2.4,SNR=2.8
YKA PKKPbc **PKKPbc 01 02 15.9 -2.8**
comp=Z,1.4nm,0.7s,baz=112,slow=2.2,SNR=9.7
YKA PKPPKP 01 10 19.9
comp=Z,2.6nm,1.0s,baz=102,slow=2.3,SNR=8.2
PRGR Permogore 78.17 331 ‖ *i*P **P 00 43 23.3 -0.3**
PRGR *SP **sP 00 46 29.9 -1.4**
PRGR *i* S **S 00 52 28.0 -1.0**
PRGR pmax pmax
comp=Z,633nm,0.8s
I03D Drain, OR 78.24 48 P **P 00 43 25.3 +1.0**
baz=285,SNR=79
K02D Willamette Mer 78.27 49 P **P 00 43 25.2 +0.5**
baz=285,SNR=91
L02E Cave Junction 78.45 49 P **P 00 43 26.7 +1.2**
baz=285,SNR=119
H04D Lebanon 78.45 47 P **P 00 43 26.5 +1.0**
baz=285,SNR=48
LON Longmire 78.51 44 P **P 00 43 25.9 +0.1**
LON S **S 00 52 33.6 +0.2**
HOPEN Hopen 78.54 348 *e*P **P 00 43 26.2 +0.9**
HOPEN IVmB_BB 00 43 28.0
comp=Z,20μm,3.5s
HOPEN *e*PP **PP 00 46 35.2 +1.1**
HOPEN *e*S **S 00 52 33.1 +0.7**
C06D Leavenworth 78.80 43 P **P 00 43 28.0 +0.7**
baz=286,SNR=13
I04A Tendick Farm, 78.87 48 P **P 00 43 28.2 +0.4**
baz=285,SNR=75
F05D White Salmon 78.97 45 P **P 00 43 28.9 +0.7**
baz=286,SNR=11
SPA0 Spitsbergen Ar 79.04 351 *e*P **P 00 43 28.2 +0.2**
SPA0 *e*PP **PP 00 46 39.3 +1.1**
SPA0 *e*S **S 00 52 38.5 +0.9**
SPITS Spitsbergen Ar 79.04 351 S **S 00 52 35.5 -2.2**
comp=Z,8.9nm,1.0s,baz=72,slow=18,SNR=3.0
SPITS PKKPbc PKKPbc 01 02 13.1 -4.1
comp=Z,3.1nm,0.5s,baz=142,slow=2.9,SNR=32
KBS Kingsbay 79.16 352 *e*P **P 00 43 29.4 +0.8**
comp=Z,525nm,0.6s
KBS Kingsbay 79.16 352 *d i*P **P 00 43 28.8 +0.2**
KBS pmax pmax
comp=Z,2μm,0.7s
KBS Kingsbay 79.16 352 *e*P **P 00 43 29.3 +0.7**
KBS *e*PP **PP 00 46 40.4 +1.2**
KBS *e*S **S 00 52 38.8 -0.1**
M02C Callahan 79.19 50 P **P 00 43 30.8 +1.2**
baz=285,SNR=102
J04D Umpqua Nationa 79.23 48 P **P 00 43 30.5 +0.6**
baz=286,SNR=82
G05D Wamic, OR 79.24 46 P **P 00 43 30.3 +0.6**
baz=286,SNR=24
L04D Klamath Falls 79.36 49 P **P 00 43 31.2 +0.7**
baz=286,SNR=221
N02D Trinity Center 79.41 50 P **P 00 43 31.9 +1.2**
baz=286,SNR=105
RES Resolute Bay 79.45 14 P **P 00 43 29.9 -0.2**
RES pmax pmax
comp=Z,663nm,0.9s
RES Resolute Bay 79.45 14 S **S 00 52 41.6 -0.2**
comp=Z,5.7nm,0.9s,baz=18,slow=19,SNR=5.5
RES PKKPbc PKKPbc 01 02 11.8 -4.3
comp=Z,3.0nm,0.9s,baz=144,slow=3.3,SNR=5.0
JLN Jalan Bani Buh 79.46 290 P **P 00 43 31.9 +0.7**
SNR=49
JLN Jalan Bani Buh 79.46 290 P **SKSac 00 52 42.1 -8.5**
I05D Terrebonne, OR 79.47 47 P **P 00 43 31.6 +0.6**
baz=286,SNR=28
O02D Mt. Diablo Mer 79.56 51 P **P 00 43 32.9 +1.3**
baz=286
K04D Chiloquin, OR 79.65 49 P **P 00 43 32.8 +0.8**
baz=286,SNR=12
WBK Wadi Bani Khal 79.72 290 P **P 00 43 34.3 +1.7**
SNR=35
WBK Wadi Bani Khal 79.72 290 P **SKSac 00 52 45.6 -6.8**
M04C Macdoel 79.82 49 P **P 00 43 33.6 +0.7**
baz=286,SNR=172
J05D Fort Rock, OR 79.83 48 P **P 00 43 33.9 +0.9**
baz=286,SNR=246
WSAR Wadi Sarin 79.85 291 P **P 00 43 34.0 +0.7**
SNR=108
WSAR Wadi Sarin 79.85 291 S **S 00 52 48.3 +0.4**
comp=Z,30nm,1.2s,baz=44,slow=22,SNR=8.4
WSAR PKKPbc PKKPbc 01 02 14.2 +0.9
comp=Z,5.0nm,0.7s,baz=276,slow=11,SNR=4.7
HSPB Hornsund (broa 79.96 350 *e*P **P 00 43 32.9 +0.2**
HSPB *e* 00 46 43.5
HSPB *e* 00 52 45.8
HSPB Hornsund (broa 79.96 350 *e*P **P 00 43 33.3 +0.6**
HSPB IVmB_BB 00 43 35.2
comp=Z,16μm,2.9s
HSPB *e*PP **PP 00 46 47.6 +2.0**
HSPB *e*S **S 00 52 46.7 -0.3**
BIDO Bidbid 80.22 292 P **P 00 43 37.3 +2.1**
SNR=174
BIDO Bidbid 80.22 292 P **SKSac 00 52 52.0 -3.7**
LVZ Lovozero 80.23 339 *e*P **P 00 43 34.6 +0.2**
comp=Z,583nm,1.2s
LVZ Lovozero 80.23 339 *ce*P **P 00 43 33.6 -0.8**
LVZ pmax pmax
comp=Z,1μm,2.5s
O03E Paynes Creek 80.26 51 P **P 00 43 35.3 +0.1**
baz=286,SNR=237
SMDO Samad 80.41 291 P **P 00 43 37.9 +1.6**
SNR=51
SMDO Samad 80.41 291 P **SKSac 00 52 52.0 -5.3**
SNR=6.7
TMCR Tamitsa 80.54 335 *e*P **P 00 43 35.6 -0.4**
TMCR *e*S **S 00 52 52.7 -0.6**
TMCR pmax pmax
comp=Z,567nm,0.6s
JMDO Jabal Madar 80.56 290 P **P 00 43 38.2 +1.2**
SNR=17
JMDO Jabal Madar 80.56 290 P **SKSac 00 52 51.5 -6.6**
SNR=6.3
ORV Oroville 80.69 51 P **P 00 43 37.5 +0.2**
ORV S **S 00 52 56.3 +0.5**
APA Apatity 80.81 339 ‖ *i*P **P 00 43 36.0 -1.3**
APA *i* 00 46 56.0
APA *i* S **S 00 52 53.0 -2.9**
APA *i* SS **SS 00 58 28.0 +0.9**
APA pmax pmax
comp=Z,571nm,0.8s

BJO	**Bjornoya**	**80.91**	**347**	*e*P	**P**	**00 43 38.7**	**+1.0**
BJO				IVmB_BB		00 43 41.0	
	comp=Z,11µm,2.7s						
BJO				*e*PP	**PP**	**00 46 54.8**	**+1.5**
HOQ	**Hoqain**	**80.92**	**292**	P	**P**	**00 43 40.7**	**+1.9**
	SNR=75						
HOQ	**Hoqain**	**80.92**	**292**	P	**SKSac**	**00 52 56.5**	**-3.9**
	SNR=12						
MHTO	**MHTO**	**81.07**	**289**	P	**P**	**00 43 39.6**	**0.0**
	SNR=142						
MHTO	**MHTO**	**81.07**	**289**	P	**SKSac**	**00 52 59.6**	**-1.8**
NEW	**Newport**	**81.12**	**42**	P	**P**	**00 43 39.5**	**+0.1**
NEW				pmax	pmax		
	comp=Z,574nm,2.1s						
NEW	**Newport**	**81.12**	**42**	P	**P**	**00 43 39.8**	**+0.4**
	baz=288,SNR=216						
KLMR	**Klimovskoe**	**81.21**	**332**	⇓*i*P	**P**	**00 43 38.7**	**-0.8**
KLMR				*e*		00 46 55.3	
KLMR				*e*S	**S**	**00 52 57.4**	**-2.8**
KLMR				pmax	pmax		
	comp=Z,1µm,1.3s						
SHME	**Shamm**	**81.24**	**294**	*i* P	**P**	**00 43 41.8**	**+1.4**
	SNR=63						
BSY	**Bisya**	**81.25**	**291**	P	**P**	**00 43 43.1**	**+2.6**
	SNR=53						
BSY	**Bisya**	**81.25**	**291**	P	**SKSac**	**00 53 00.5**	**-2.2**
	SNR=16						
MDH	**Madha**	**81.31**	**294**	*i* P	**P**	**00 43 41.8**	**+1.0**
	SNR=35						
MDH	**Madha**	**81.31**	**294**	P	**P**	**00 43 42.0**	**+1.2**
	SNR=17						
MDH	**Madha**	**81.31**	**294**	P	**SKSac**	**00 52 56.6**	**-6.3**
MSFE	**Esma-Masafi**	**81.42**	**294**	*i* P	**P**	**00 43 42.3**	**+0.9**
	SNR=143						
SOHO	**SOHO**	**81.44**	**293**	P	**P**	**00 43 41.8**	**+0.3**
	SNR=363						
SOHO	**SOHO**	**81.44**	**293**	P	**SKSac**	**00 53 00.7**	**-3.1**
	SNR=11						
SAO	**San Andreas Ge**	**81.53**	**54**	P	**P**	**00 43 41.8**	**+0.1**
HATD	**Hatta, Dubai**	**81.59**	**293**	*i* P	**P**	**00 43 43.0**	**+0.8**
	SNR=170						
HATD	**Hatta, Dubai**	**81.59**	**293**	P	**P**	**00 43 42.7**	**+0.5**
	SNR=112						
HATD	**Hatta, Dubai**	**81.59**	**293**	P	**SKSac**	**00 53 03.3**	**-1.6**
	SNR=12						
ARQ	**Araqi**	**81.68**	**292**	P	**SKSac**	**00 53 03.6**	**-1.9**
	SNR=31						
ASHO	**Ashiyiah**	**81.70**	**293**	*i* P	**P**	**00 43 43.7**	**+0.9**
	SNR=108						
ASHO	**Ashiyiah**	**81.70**	**293**	P	**P**	**00 43 43.1**	**+0.3**
	SNR=151						
ASHO	**Ashiyiah**	**81.70**	**293**	P	**SKSac**	**00 53 06.7**	**+1.1**
	SNR=8.9						
KEV	**Kevo**	**81.75**	**342**	*e*P	**P**	**00 43 42.2**	**+0.2**
	comp=Z,548nm,0.7s						
KEV	**Kevo**	**81.75**	**342**	P	**P**	**00 43 42.0**	**0.0**
KEV				pmax	pmax		
	comp=Z,818nm,1.3s						
DQM	**DQM**	**81.76**	**288**	P	**P**	**00 43 43.3**	**+0.2**
	SNR=63						
UMQ	**Umm Al-Quwin**	**81.80**	**294**	*i* P	**P**	**00 43 45.0**	**+1.8**
	SNR=16						
NAZ	**Nazwa, Dubai**	**81.96**	**294**	*i* P	**P**	**00 43 45.0**	**+0.9**
	SNR=114						
NAZ	**Nazwa, Dubai**	**81.96**	**294**	P	**P**	**00 43 45.4**	**+1.4**
	SNR=115						
NAZ	**Nazwa, Dubai**	**81.96**	**294**	P	**SKSac**	**00 53 08.1**	**+0.9**
	SNR=17						
BMO	**Blue Mountains**	**82.07**	**45**	P	**P**	**00 43 44.6**	**+0.2**
BMO				S	**S**	**00 53 10.6**	**+1.0**
FAQ	**Al Faqa, Dubai**	**82.09**	**293**	*i* P	**P**	**00 43 45.0**	**+0.3**
	SNR=166						
FAQ	**Al Faqa, Dubai**	**82.09**	**293**	P	**P**	**00 43 44.8**	**+0.1**
	SNR=67						
FAQ	**Al Faqa, Dubai**	**82.09**	**293**	P	**SKSac**	**00 53 08.0**	**-0.1**
	SNR=8.1						
ALNE	**Al Ain**	**82.15**	**293**	*i* P	**P**	**00 43 45.6**	**+0.5**
	SNR=271						
HAMF	**Hammerfest**	**82.19**	**343**	*e*P	**P**	**00 43 44.3**	**0.0**
HAMF				*e*PP	**PP**	**00 47 04.8**	**+1.1**
ARCES	**ARCESS Array B**	**82.31**	**342**	*e*P	**P**	**00 43 45.5**	**+0.6**
ARCES	**ARCESS Array B**	**82.31**	**342**	*e*P	**P**	**00 43 45.5**	**+0.6**
ARCES	**ARCESS Array B**	**82.31**	**342**	P	**P**	**00 43 44.6**	**-0.3**
	comp=Z,488nm,0.7s,baz=60,slow=4.2,SNR=363						
ARCES				S	**SKSac**	**00 53 05.0**	**-2.9**
	comp=Z,6.3nm,0.9s,baz=57,slow=3.3,SNR=3.1						
ARCES				PKKPbc	**PKKPbc**	**01 02 06.3**	**-3.4**
	comp=Z,5.3nm,0.6s,baz=259,slow=2.9,SNR=16						
ARE0	**ARCESS Array S**	**82.31**	**342**	*e*P	**P**	**00 43 45.7**	**+0.8**
ARE0				*e*PP	**PP**	**00 47 06.2**	**+1.4**
ARE0				*e*SKSac	**SKSac**	**00 53 05.9**	**-1.9**
ASUD	**Al Ashush, Dub**	**82.35**	**293**	*i* P	**P**	**00 43 46.8**	**+0.8**
	SNR=141						
ASUD	**Al Ashush, Dub**	**82.35**	**293**	P	**P**	**00 43 46.7**	**+0.7**
	SNR=94						
AJN	**Ajban**	**82.67**	**293**	*i* P	**P**	**00 43 48.6**	**+1.0**
	SNR=120						
AJN	**Ajban**	**82.67**	**293**	P	**P**	**00 43 47.8**	**+0.2**
	SNR=118						
MAK	**Makhachkala**	**82.94**	**313**	*e*P	**P**	**00 43 47.6**	**-1.0**
MAK				*e**PP	**pP**	**00 45 54.0**	**-2.5**
MAK				*e**SP	**sP**	**00 46 56.1**	**-1.6**
MAK				*e*		00 47 15.1	
MAK				*e*PPP	PPP	00 49 05.8	
MAK				*e*S	**SKSac**	**00 53 11.3**	**-1.5**
MAK				*e*SS	**SS**	**00 59 02.5**	**+3.0**
MAK				*e*SSS	SSS	01 02 40.4	
MAK				pmax	pmax		
	comp=Z,457nm,0.8s						
MAK				MLR	MLR		
	comp=Z,7µm,17.0s						
SMMC	**Simmler**	**83.09**	**55**	P	**P**	**00 43 50.2**	**+0.7**
	baz=288,SNR=30						
MSF	**Maaselka**	**83.13**	**338**	P	**P**	**00 43 48.3**	**-0.8**
MSF				pmax	pmax		
	comp=Z,465nm,1.1s						
SGF	**Sodankyl**	**83.16**	**340**	P	**P**	**00 43 48.7**	**-0.5**
SGF				pmax	pmax		
	comp=Z,949nm,1.1s						
VOG	**Valley Oaks Go**	**83.25**	**54**	P	**P**	**00 43 50.3**	**0.0**
	baz=288,SNR=9.0						
MLAC	**Mammoth, Mammo**	**83.25**	**53**	P	**P**	**00 43 51.3**	**+0.7**
	baz=288						
KTK1	**Kautokeino**	**83.27**	**342**	*e*P	**P**	**00 43 49.5**	**-0.2**
KTK1				IVmB_BB		00 43 51.4	
	comp=Z,13µm,3.6s						
KTK1				*e*SKSac	**SKSac**	**00 53 12.2**	**-1.8**
KVN	**Kaiserville**	**83.35**	**51**	P	**P**	**00 43 51.4**	**+0.4**
PKM	**Mcpherson Peak**	**83.36**	**56**	P	**P**	**00 43 52.0**	**+0.9**
	baz=288,SNR=66						
LKRN	**Lenkeran, Azer**	**83.39**	**309**	P	**P**	**00 43 51.9**	**+1.0**
NVAR	**Mina Array Bea**	**83.40**	**52**	P	**P**	**00 43 51.8**	**+0.5**
	comp=Z,237nm,0.6s,baz=271,slow=6.1,SNR=366						
NVAR				pP	**pP**	**00 46 01.0**	**+1.6**
	comp=Z,28nm,0.8s,baz=284,slow=6.1,SNR=1.7						
NVAR				S	**S**	**00 53 24.4**	**+1.1**
	comp=Z,27nm,1.3s,baz=318,slow=8.6,SNR=5.6						
NVAR				PKKPbc	**PKKPbc**	**01 02 07.7**	**+1.4**
	comp=Z,2.4nm,0.7s,baz=126,slow=3.2,SNR=6.1						
NVAR				PKPPKP	**P'P'df**	**01 10 07.7**	**-4.4**
	comp=Z,1.8nm,0.9s,baz=104,slow=2.6,SNR=4.5						
SBC	**Santa Barbara**	**83.58**	**56**	P	**P**	**00 43 52.5**	**+0.6**
	baz=288,SNR=11						
VES	**Vestal, Richgr**	**83.63**	**54**	P	**P**	**00 43 51.8**	**-0.4**
	baz=288,SNR=73						
MSO	**Missoula**	**83.63**	**43**	P	**P**	**00 43 51.7**	**-0.4**
	baz=291,SNR=119						
SEKA	**Sheki**	**83.73**	**311**	P	**P**	**00 43 52.7**	**0.0**
VRH	**Novokhopyorsk**	**83.76**	**322**	*e*P	**P**	**00 43 51.2**	**-1.3**
VRH				*e*		00 47 06.8	
VRH				*e*		00 53 13.0	
VRH				*e*S	**S**	**00 53 23.9**	**-1.8**
VRH				*e*SS	**SS**	**00 59 11.8**	**+0.9**
VRH				pmax	pmax		
	comp=Z,260nm,0.7s						
VRH				smax	smax		
	comp=N,3µm,2.8s						
SCZ2	**Santa Cruz Isl**	**83.78**	**56**	P	**P**	**00 43 52.8**	**-0.2**
	baz=288,SNR=7.2						
JOF	**Joensuu**	**83.79**	**335**	P	**P**	**00 43 51.3**	**-1.1**
JOF				pmax	pmax		
	comp=Z,690nm,1.2s						
TIN	**Tinemaha, Big**	**83.90**	**53**	P	**P**	**00 43 54.5**	**+0.9**
	baz=289,SNR=33						
MNGR	**Mingechevir, A**	**83.95**	**311**	P	**P**	**00 43 54.7**	**+1.0**
ZKTA	**Zakatala**	**83.99**	**312**	P	**P**	**00 43 54.8**	**+0.9**
GROC	**Groznyy**	**84.04**	**314**	*e*P	**P**	**00 43 52.7**	**-1.3**
GROC				*e*S	**SKSac**	**00 53 17.8**	**-2.0**
GROC				pmax	pmax		
	comp=Z,1µm,1.2s						
ARVC	**Arvin**	**84.05**	**55**	P	**P**	**00 43 54.5**	**+0.2**
	baz=289,SNR=27						
TRO	**Tromso**	**84.09**	**344**	P	**P**	**00 43 53.4**	**-0.3**
TRO				pmax	pmax		
	comp=Z,25nm,1.0s						
TRO	**Tromso**	**84.09**	**344**	*e*P	**P**	**00 43 53.3**	**-0.4**
TRO				*e*PP	**PP**	**00 47 20.2**	**+1.2**
TRO				*e*SKSac	**SKSac**	**00 53 17.5**	**-1.6**
SNCC	**San Nicolas Is**	**84.10**	**57**	P	**P**	**00 43 54.4**	**-0.2**
	baz=288,SNR=7.7						
ISA	**Isabella, Lake**	**84.16**	**54**	P	**P**	**00 43 54.2**	**-0.7**
ISA	**Isabella, Lake**	**84.16**	**54**	P	**P**	**00 43 54.5**	**-0.4**
	baz=289,SNR=68						
DAG	**Danmarks Havn**	**84.17**	**356**	⇓*i*P	**P**	**00 43 53.5**	**-0.5**
DAG				pmax	pmax		
	comp=Z,710nm,1.0s						
DAG	**Danmarks Havn**	**84.17**	**356**	⇓*i*P	**P**	**00 43 53.5**	**-0.5**
	comp=Z,714nm,1.0s						
DAG				*i*		01 02 00.7	
DAG				*e*		01 12 29.7	
BLG	**Laguna Peak, P**	**84.19**	**56**	P	**P**	**00 43 54.7**	**-0.3**
	baz=289,SNR=9.5						
MOS	**Moscow**	**84.20**	**327**	*e*P	**P**	**00 43 50.5**	**-4.0**
MOS				*e**PP	**pP**	**00 45 58.4**	**-4.4**
MOS				*e*S	**SKSac**	**00 53 14.8**	**-5.4**
MOS				pmax	pmax		
	comp=Z,547nm,0.8s						
CWC	**Cottonwood Cre**	**84.21**	**54**	P	**P**	**00 43 55.6**	**+0.3**
	baz=289						
OSI	**Osito Audit: C**	**84.30**	**56**	P	**P**	**00 43 56.1**	**+0.5**
	baz=289,SNR=11						
HLID	**Hailey**	**84.46**	**46**	P	**P**	**00 43 56.8**	**+0.5**
	baz=291						
GRAC	**Grapevine Rang**	**84.57**	**53**	P	**P**	**00 43 57.5**	**+0.6**
	baz=289,SNR=16						
DECC	**Green Verdugo**	**84.72**	**56**	P	**P**	**00 43 57.5**	**-0.1**
	baz=289,SNR=15						
DMTO	**DMTO**	**84.76**	**287**	P	**P**	**00 43 58.5**	**+0.4**
	SNR=18						
EDW2	**Edwards Air Fo**	**84.78**	**55**	P	**P**	**00 43 58.3**	**+0.4**
	baz=289,SNR=129						
MPMC	**Manual Prospec**	**84.78**	**54**	P	**P**	**00 43 58.6**	**+0.5**
	baz=289,SNR=353						
LPSR	**Galich'ya Gora**	**84.80**	**324**	*e*P	**P**	**00 43 56.5**	**-1.0**
LPSR				*e*		00 53 21.3	
LPSR				*e*S	**S**	**00 53 33.4**	**-2.3**
LPSR				pmax	pmax		
	comp=Z,690nm,1.0s						
LPSR				smax	smax		
	comp=E,5µm,2.7s						
LRMC	**Laurel Mtn Rad**	**84.83**	**54**	P	**P**	**00 43 58.6**	**+0.4**
	baz=289,SNR=40						
PAS	**Pasadena**	**84.88**	**56**	P	**P**	**00 43 58.7**	**+0.3**
PAS				S	**S**	**00 53 36.6**	**-0.7**
FMP	**Fort Macarthur**	**84.93**	**56**	P	**P**	**00 43 58.5**	**0.0**
	baz=289						
CIS	**Catalina Islan**	**84.93**	**57**	P	**P**	**00 43 58.6**	**-0.1**
	baz=289,SNR=19						
SCI2	**San Clemente I**	**84.97**	**57**	P	**P**	**00 43 58.9**	**+0.2**
	baz=289,SNR=6.8						
OBN	**Obninsk**	**85.01**	**327**	*e*P	**P**	**00 43 57.9**	**-0.5**
	comp=E,666nm,1.1s						
OBN	**Obninsk**	**85.01**	**327**	*d i*P	**P**	**00 43 57.5**	**-0.9**
OBN				*e**PP	**pP**	**00 46 05.0**	**-2.1**
OBN				*e**SP	**sP**	**00 47 09.3**	**+0.9**
OBN				*e*		00 47 22.2	
OBN				*i* S	**SKSac**	**00 53 22.0**	**-3.3**
OBN				*i* SS	**SS**	**00 59 31.2**	**+2.5**
OBN				pmax	pmax		
	comp=Z,469nm,1.1s						
OBN	**Obninsk**	**85.01**	**327**	PKKPbc	PKKPbc	01 02 02.0	-0.9
	comp=Z,2.1nm,0.3s,baz=197,slow=3.4,SNR=4.0						
OBN				PKPPKP	**P'P'df**	**01 10 05.5**	**-2.5**
	comp=Z,2.9nm,0.3s,baz=162,slow=3.2,SNR=7.7						
VORR	**Voronezh**	**85.02**	**323**	*e*P	**P**	**00 43 57.0**	**-1.6**
VORR				*e*S	**S**	**00 53 35.0**	**-2.8**
VORR				pmax	pmax		
	comp=Z,1µm,1.2s						
FURC	**Furnace Creek,**	**85.12**	**53**	P	**P**	**00 44 00.2**	**+0.8**
	baz=290,SNR=368						
VSR	**Storozhevoye**	**85.23**	**323**	*e*P	**P**	**00 43 56.9**	**-2.7**
VSR				*e*		00 53 22.2	
VSR				*e*S	**S**	**00 53 35.3**	**-4.6**
VSR				pmax	pmax		
	comp=Z,970nm,1.3s						
VSR				smax	smax		
	comp=N,6µm,4.1s						
BFSC	**Mount Baldy Ra**	**85.25**	**56**	P	**P**	**00 44 00.3**	**-0.1**
	baz=289,SNR=40						
NCK	**Nalchik**	**85.44**	**314**	*d i*P	**P**	**00 44 00.0**	**-0.8**
NCK				pmax	pmax		
	comp=Z,868nm,1.0s						
R11A	**Troy Canyon, C**	**85.44**	**51**	P	**P**	**00 44 02.1**	**+0.9**
	baz=290						
ZEI	**Tsey**	**85.48**	**314**	*e*P	P	00 43 55.6	-5.7
ZEI				pmax	pmax		
	comp=Z,385nm,0.8s						
RBK	**Rabkut**	**85.50**	**287**	P	**P**	**00 44 02.6**	**+1.0**
	SNR=29						
RBK	**Rabkut**	**85.50**	**287**	P	**SKSac**	**00 53 26.9**	**-2.9**
	SNR=8.1						
RRX	**Edison Barstow**	**85.56**	**55**	P	**P**	**00 44 02.1**	**+0.5**
	baz=290,SNR=13						
GSC	**Goldstone, Bar**	**85.56**	**54**	P	**P**	**00 44 02.1**	**+0.4**
	baz=290,SNR=185						
BOZ	**Bozeman (W)**	**85.57**	**43**	P	**P**	**00 44 01.8**	**+0.2**
	baz=292,SNR=78						
NAX	**Nakhchivan**	**85.65**	**310**	P	**P**	**00 44 02.8**	**+0.8**
KULLO	**Kullorsuaq**	**85.76**	**6**	⇓*i*P	**P**	**00 44 01.8**	**+0.1**
KULLO				MLR	MLR		
	comp=Z,5µm,19.0s						
KULLO	**Kullorsuaq**	**85.76**	**6**	⇓*i*P	**P**	**00 44 01.8**	**+0.1**
KULLO				*i*		00 47 07.2	
KULLO				*i*		01 01 57.0	
WHFO	**Wadi Hawf**	**85.76**	**287**	P	**P**	**00 44 03.1**	**+0.2**
	SNR=16						
WHFO	**Wadi Hawf**	**85.76**	**287**	P	**SKSac**	**00 53 27.7**	**-3.8**
	SNR=8.9						
SHOC	**Shoshone, Teco**	**85.77**	**54**	P	**P**	**00 44 02.9**	**+0.3**
	baz=290,SNR=108						
PUL	**Pulkovo**	**85.79**	**333**	*d i*P	**P**	**00 44 02.0**	**-0.1**
PUL				pmax	pmax		
	comp=Z,1µm,2.5s						
PUL	**Pulkovo**	**85.79**	**333**	*e*P	**P**	**00 44 00.5**	**-1.6**
EGMT	**Eagleton**	**85.82**	**41**	P	**P**	**00 44 02.6**	**0.0**
	baz=293						
KBZ	**Khabaz**	**85.82**	**315**	P	**P**	**00 44 01.9**	**-0.7**
	comp=Z,422nm,0.9s,baz=99,slow=3.2,SNR=318						
KBZ				S	**S**	**00 53 46.1**	**+0.4**
	comp=Z,41nm,1.2s,baz=162,slow=23,SNR=22						
KBZ				PKKPbc	**PKKPbc**	**01 02 01.1**	**+0.6**
	comp=Z,5.8nm,0.9s,baz=69,slow=3.3,SNR=6.1						
KBZ				PKPPKP	**P'P'df**	**01 10 06.2**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=22,slow=6.5,SNR=4.4						
BBRC	**Big Bear Solar**	**85.82**	**55**	P	**P**	**00 44 02.9**	**-0.2**
	baz=290,SNR=6.4						
MURC	**Murrieta**	**85.83**	**56**	P	**P**	**00 44 02.9**	**0.0**
	baz=290,SNR=34						
GNI	**Garni**	**85.85**	**311**	*e*P	**P**	**00 44 03.2**	**+0.2**
	comp=Z,859nm,1.4s						
GNI	**Garni**	**85.85**	**311**	*i* P	**P**	**00 44 02.9**	**-0.1**
	SNR=255						
GNI	**Garni**	**85.85**	**311**	*d i*P	**P**	**00 44 03.3**	**+0.2**
GNI				pmax	pmax		
	comp=Z,5µm,1.7s						
GNI	**Garni**	**85.85**	**311**	P	**P**	**00 44 02.9**	**-0.1**
	SNR=223						
GNI	**Garni**	**85.85**	**311**	PKKPbc	PKKPbc	01 02 01.0	+0.4
	comp=Z,6.0nm,0.9s,baz=29,slow=3.5,SNR=4.5						
GNI				PKPPKP		01 10 07.8	
	comp=Z,2.8nm,0.9s,baz=230,slow=1.3,SNR=3.4						
KIV	**Kislovodsk**	**85.88**	**315**	*e*P	**P**	**00 44 02.2**	**-0.8**
	comp=Z,601nm,1.1s						
KIV	**Kislovodsk**	**85.88**	**315**	⇑*i*P	**P**	**00 44 02.7**	**-0.3**
KIV	**Kislovodsk**	**85.88**	**315**	*i* P	**P**	**00 44 02.5**	**-0.5**
	SNR=110						
KIV	**Kislovodsk**	**85.88**	**315**	*e*P	**P**	**00 44 02.2**	**-0.8**
KIV				*e*		00 53 25.0	
KIV				pmax	pmax		
	comp=Z,2µm,1.0s						
KIV				MLR	MLR		
	comp=Z,12µm,20.0s						
KIV	**Kislovodsk**	**85.88**	**315**	P	**P**	**00 44 01.8**	**-1.2**
	SNR=283						
SUF	**Sumiainen**	**85.92**	**336**	P	**P**	**00 44 01.2**	**-1.4**
SUF				pmax	pmax		
	comp=Z,519nm,0.8s						
HEC	**Hector,Ludlow**	**86.08**	**55**	P	**P**	**00 44 04.5**	**+0.4**
	baz=290,SNR=153						
109C	**Camp Elliot, M**	**86.14**	**57**	P	**P**	**00 44 04.6**	**+0.3**
	baz=290,SNR=18						
TUQ	**Turquoise Moun**	**86.19**	**54**	P	**P**	**00 44 05.3**	**+0.5**
	baz=290,SNR=117						
STEI	**Steigen**	**86.23**	**343**	*e*P	**P**	**00 44 04.0**	**0.0**
STEI				*e*SKSac	**SKSac**	**00 53 30.7**	**-1.6**
TASB	**TASBURUN-IGDIR**	**86.27**	**311**	*e*P	**P**	**00 44 04.7**	**-0.2**
AKH	**Akhalkalaki**	**86.27**	**312**	⇓*i*P	**P**	**00 44 05.0**	**-0.1**
ABTO	**Aybut**	**86.37**	**287**	P	**P**	**00 44 06.2**	**+0.4**
	SNR=45						
PFO	**Pinyon Flats O**	**86.40**	**56**	*e*P	**P**	**00 44 05.9**	**+0.2**
	comp=Z,320nm,1.0s						
PFO	**Pinyon Flats O**	**86.40**	**56**	P	**P**	**00 44 06.0**	**+0.2**
	baz=290,SNR=116						
LOF	**Lofoten**	**86.55**	**344**	*e*P	**P**	**00 44 05.9**	**+0.3**
LOF				IVmB_BB		00 44 06.8	
	comp=Z,10µm,3.2s						
LOF				*e*PP	**PP**	**00 47 39.7**	**+1.3**
GMRC	**Granite Mounta**	**86.62**	**55**	P	**P**	**00 44 07.5**	**+0.7**
	baz=290,SNR=405						
BELC	**Belle Mtn. Jos**	**86.63**	**55**	P	**P**	**00 44 07.0**	**+0.1**
	baz=290,SNR=205						
FINES	**FINESS Array B**	**86.66**	**335**	P	**P**	**00 44 04.6**	**-1.6**
	comp=Z,269nm,0.5s,baz=68,slow=4.3,SNR=693						
FINES				S	**SKSac**	**00 53 31.7**	**-3.4**
	comp=Z,7.3nm,0.9s,baz=20,slow=4.4,SNR=3.9						
FINES				PKKPbc	**PKKPbc**	**01 01 56.7**	**-2.6**
	comp=Z,2.9nm,0.7s,baz=180,slow=1.9,SNR=5.5						
FINES				PKPPKP	**P'P'df**	**01 09 59.4**	**-5.2**
	comp=Z,2.9nm,0.8s,baz=184,slow=5.0,SNR=4.8						
MONP2	**Monument Peak**	**86.68**	**57**	P	**P**	**00 44 07.4**	**+0.2**
	baz=290,SNR=106						
H17A	**Grant Village**	**86.73**	**44**	P	**P**	**00 44 09.3**	**+2.1**
	baz=293,SNR=102						
DUG	**Dugway, Tooele**	**86.79**	**49**	P	**P**	**00 44 07.5**	**0.0**
DUG				pmax	pmax		
	comp=Z,647nm,1.9s						
DUG	**Dugway, Tooele**	**86.79**	**49**	P	**P**	**00 44 08.2**	**+0.7**
	baz=292						
CLDR	**Caldiran**	**86.80**	**310**	*e*P	**P**	**00 44 07.3**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**87.01**	**57**	P	**P**	**00 44 08.9**	**+0.3**
	baz=290,SNR=54						
VAF	**Ylistaro**	**87.03**	**337**	P	**P**	**00 44 06.6**	**-1.2**
VAF				pmax	pmax		
	comp=Z,374nm,1.5s						
SWSC	**Sam W. Stewart**	**87.15**	**56**	P	**P**	**00 44 09.3**	**+0.2**
	baz=290,SNR=58						
BC3	**Big Chuckawall**	**87.17**	**56**	P	**P**	**00 44 09.9**	**+0.6**
	baz=291,SNR=218						
IRM	**Iron Mountain**	**87.24**	**55**	P	**P**	**00 44 10.0**	**+0.4**
	baz=291,SNR=274						
FFC	**Flin Flon**	**87.24**	**32**	*e*P	**P**	**00 44 09.1**	**0.0**
	comp=Z,376nm,1.0s						
FFC	**Flin Flon**	**87.24**	**32**	*i* P	**P**	**00 44 08.9**	**-0.2**
RLMT	**Red Lodge**	**87.29**	**43**	P	**P**	**00 44 10.8**	**+1.0**
	baz=294,SNR=207						
AGRB	**Hanur-Agry**	**87.31**	**311**	*e*P	**P**	**00 44 09.8**	**-0.2**
VANB	**Van**	**87.39**	**310**	*e*P	**P**	**00 44 10.6**	**+0.3**
SENK	**Senkaya-Erzuru**	**87.39**	**312**	*e*P	**P**	**00 44 10.1**	**-0.3**
NEE2	**Needles Airpor**	**87.43**	**54**	P	**P**	**00 44 11.0**	**+0.6**
	baz=291,SNR=45						
BATM	**Batumi**	**87.45**	**313**	⇓*i*P	**P**	**00 44 09.4**	**-0.9**
BCA	**Borcka**	**87.56**	**313**	*e*P	**P**	**00 44 09.9**	**-1.0**
BCA	**Borcka**	**87.56**	**313**	⇓*i*P	**P**	**00 44 10.1**	**-0.8**
CUKT	**Cukurca**	**87.73**	**309**	*e*P	**P**	**00 44 10.7**	**-1.2**
AKDM	**Akdamar-Van**	**87.79**	**310**	*e*P	**P**	**00 44 11.4**	**-0.8**
MLAZ	**Malazgirt-MUS**	**87.79**	**311**	*e*P	**P**	**00 44 11.9**	**-0.3**
KONS	**Konsvik**	**87.83**	**343**	*e*P	**P**	**00 44 12.2**	**+0.7**
KONS				IVmB_BB		00 44 12.7	
	comp=Z,9µm,3.5s						
KONS				*e*SKSac	**SKSac**	**00 53 40.6**	**-1.3**
Y12C	**Blythe**	**87.87**	**55**	P	**P**	**00 44 13.0**	**+0.5**
	baz=291,SNR=124						
GLA	**Glamis**	**87.88**	**56**	P	**P**	**00 44 13.3**	**+0.7**
	baz=291,SNR=144						
KOPR	**Koprukoy-ERZUR**	**87.96**	**312**	*e*P	**P**	**00 44 12.4**	**-0.6**
PDMCI	**Parker Dam,Lak**	**87.96**	**55**	P	**P**	**00 44 13.6**	**+0.8**
	baz=291,SNR=317						
STOK	**Stokkvaagen**	**87.98**	**343**	*e*P	**P**	**00 44 13.0**	**+0.8**
SOC	**Sochi**	**88.00**	**316**	*d i*P	**P**	**00 44 10.7**	**-2.2**
SOC				*e**PP	**pP**	**00 46 22.1**	**-0.7**
SOC				*e**SP	**sP**	**00 47 19.3**	**-3.9**
SOC				*e*		00 47 46.6	
SOC				*e*PPP	PPP	00 49 50.9	
SOC				*e*S	**SKSac**	**00 53 41.6**	**-2.3**
SOC				*e*SS	**SS**	**01 00 16.6**	**+4.0**
SOC				*e*SSS	SSS	01 03 54.0	
SOC				pmax	pmax		
	comp=Z,270nm,0.8s						
BW06	**Boulder Array**	**88.05**	**45**	P	**P**	**00 44 13.1**	**-0.4**
	baz=294,SNR=44						
PDAR	**Pinedale Array**	**88.05**	**45**	P	**P**	**00 44 12.9**	**-0.5**
	comp=Z,20nm,0.6s,baz=270,slow=2.5,SNR=74						
PDAR				S	**SKSac**	**00 53 43.9**	**-0

comp=E,1.0nm,1.8s
MICGM eP **pP** **00 46 32.0 +1.0**
MICGM ePP **PP** **00 48 06.0 +2.6**
MICGM PPM 00 48 08.0
comp=Z,8.7nm,10.0s
MICGM ePPP PPP 00 50 08.0
MICGM eSKS **SKSac** **00 53 48.0 -5.2**
MICGM eS **S** **00 54 18.0 -3.0**
MICGM SM 00 54 19.0
comp=E,8.2nm,6.0s
MICGM eSP **SP** **00 55 32.0 +0.8**
MICGM eSS sS 00 57 48.0 -26
MICGM eSS SS 01 00 24.0 -12
MICGM eSSS SSS 01 04 32.0
MICGM eLQ LQ 01 15 44.0
MICGM LQM 01 18 30.0
comp=E,3.3nm,14.0s
MICGM eLR LR 01 24 44.0
MICGM LRM MLR 01 27 00.0
comp=Z,8.9nm,16.0s
MICGM LRM MLR 01 27 20.0
comp=Z,13nm,16.0s
MICGM LRM MLR 01 27 40.0
comp=E,4.1nm,18.0s
MNK **Minsk** **89.69 329** keP **P** **00 44 19.0 -1.4**
MNK e*PP **pP** **00 46 32.0 +1.0**
MNK e 00 48 06.0
MNK ePPP PPP 00 50 08.0
MNK e 00 53 48.0
MNK eS **S** **00 54 18.0 -3.0**
MNK eSP SP 00 55 32.0 +0.8
MNK pmax pmax
comp=Z,14μm,10.0s
MNK pmax pmax
comp=N,300nm,1.8s
MNK pmax pmax
comp=Z,2μm,1.5s
MNK pmax pmax
comp=E,1μm,1.8s
MNK smax smax
comp=E,8μm,6.0s
MNK MLR MLR
comp=Z,9μm,16.0s
MNK MLR MLR
comp=Z,13μm,16.0s
IZAR **Zarasai** **89.79 330** eP **P** **00 44 20.2 -0.7**
IZAR IAmb IAmb 00 44 23.9
comp=Z,342nm,0.8s
IDID **Didziasalis** **89.80 330** eP **P** **00 44 20.3 -0.6**
IDID IAmb IAmb 00 44 23.9
comp=Z,234nm,0.7s
214A **Organ Pipe Nat** **89.86 56** P **P** **00 44 22.7 +0.9**
baz=292,SNR=149
ISAL **Salakas** **89.94 330** eP **P** **00 44 20.9 -0.7**
ISAL IAmb IAmb 00 44 24.7
comp=Z,248nm,0.9s
NACGM **Naroch** **90.01 330** eP **P** **00 44 20.0 -1.9**
NACGM eSP sP 00 47 08.0 -25
NACGM ePP **PP** **00 48 00.0 -5.9**
NACGM ePPP PPP 00 50 02.0
NACGM ⇓i SKS **SKSac** **00 53 51.0 -3.9**
NACGM ⇑i S **S** **00 54 20.0 -3.8**
NACGM eSP ScS 00 55 16.0 +50
NACGM eSS SS 01 00 00.0 -40
NACGM eSSS SSS 01 04 28.0
IIGN **Ignalina** **90.02 330** eP **P** **00 44 21.2 -0.8**
IIGN IAmb IAmb 00 44 24.1
comp=Z,216nm,0.9s
O20A **White River Ci** **90.03 47** P **P** **00 44 22.7 +0.1**
baz=295
K22A **Casper** **90.13 44** P **P** **00 44 23.0 0.0**
baz=296,SNR=102
SVRC **Sivrice-ELAZID** **90.42 311** eP **P** **00 44 24.2 -0.2**
SLIT **Slitere, Latvi** **90.46 333** eP **P** **00 44 21.4 -2.5**
SLIT IAmb IAmb 00 44 24.9
comp=Z,885nm,0.8s
SCO **Scoresbysund** **90.54 356** ⇓i P **P** **00 44 24.1 +0.1**
SCO **Scoresbysund** **90.54 356** ⇓i P **P** **00 44 24.1 +0.1**
RSDY **Resadiye-TOKAT** **90.96 313** eP **P** **00 44 25.6 -1.1**
PABE **Paberze** **90.99 331** eP **P** **00 44 24.7 -1.7**
W18A **Petrified Fore** **91.01 52** P **P** **00 44 28.0 +0.8**
baz=294,SNR=14
SIM **Simferopol'** **91.02 319** eP **P** **00 44 26.0 -0.8**
SIM e **PP** **00 48 15.0 +0.9**
SIM i S **SKSac** **00 53 58.0 -3.1**
SIM eSSS SSS 01 01 02.0
SIM pmax pmax
comp=Z,144nm,0.9s
SIM pmax pmax
comp=Z,2μm,9.3s
AKASG **Malin Array Be** **91.03 325** P **P** **00 44 25.2 -1.5**
comp=Z,24nm,0.6s,baz=52,slow=4.8,SNR=85
AKASG PP **PP** **00 48 10.7 -3.2**
comp=Z,17nm,0.7s,baz=49,slow=8.0,SNR=6.4
AKASG S **SKSac** **00 53 59.8 -1.0**
comp=Z,1.6nm,0.6s,baz=49,slow=5.6,SNR=4.6
AKASG PKKPbc **PKKPbc** **01 01 46.0 -2.4**
comp=Z,1.4nm,0.5s,baz=249,slow=2.6,SNR=6.7
AKASG SKKP **SKKPdf** **01 04 17.6 -2.1**
comp=Z,0.3nm,0.4s,baz=262,slow=2.6,SNR=4.1
AKASG SKKPbc **SKKPbc** **01 04 27.4 +0.1**
comp=Z,1.1nm,0.5s,baz=260,slow=2.7,SNR=6.8
AKASG PKPPKP 01 09 53.7
comp=Z,0.8nm,0.5s,baz=258,slow=2.0,SNR=4.7
KIEV **Kiev** **91.04 325** eP **P** **00 44 24.9 -1.8**
comp=Z,527nm,2.0s
KIEV ePP **PP** **00 48 12.7 -1.4**
KIEV **Kiev** **91.04 325** ⇑i P **P** **00 44 25.3 -1.4**
KIEV **Kiev** **91.04 325** i P **P** **00 44 25.8 -1.0**
SNR=25
KIEV **Kiev** **91.04 325** d i P **P** **00 44 25.8 -1.0**
KIEV pmax pmax
comp=Z,86nm,0.9s
MVCO **Mesa Verde** **91.07 50** P **P** **00 44 27.7 +0.2**
baz=295,SNR=137
RSSD **Black Hills** **91.09 42** eP **P** **00 44 26.8 -0.6**
comp=Z,646nm,1.6s
RSSD **Black Hills** **91.09 42** P **P** **00 44 27.1 -0.4**
baz=298
URFA **Urfa** **91.16 310** eP **P** **00 44 26.8 -0.9**
N23A **Red Feather La** **91.29 46** P **P** **00 44 29.5 +1.0**
baz=296,SNR=381
TUC **Tucson** **91.32 55** eP **P** **00 44 29.4 +0.8**
comp=Z,427nm,1.6s
TUC **Tucson** **91.32 55** P **P** **00 44 29.3 +0.8**
TUC pmax pmax
comp=Z,200nm,2.2s
TUC **Tucson** **91.32 55** P **P** **00 44 29.2 +0.6**
baz=293
SVSK **Karacayir** **91.39 313** eP **P** **00 44 27.9 -0.7**
ILULI **Ilulissat** **91.48 6** ⇓i P **P** **00 44 27.9 -0.5**
ILULI **Ilulissat** **91.48 6** ⇓i P **P** **00 44 27.9 -0.5**
TOKT **Tokat** **91.53 314** eP **P** **00 44 28.3 -1.0**
KVT **Kavak** **91.53 314** eP **P** **00 44 28.5 -0.8**
PBUR **Paburg** **91.60 332** eP **P** **00 44 27.8 -1.4**
DARE **Darende-Malaty** **91.64 312** eP **P** **00 44 29.6 -0.3**
SNOP **Sinop** **91.67 316** eP **P** **00 44 28.0 -1.9**
DIKM **Dikmen** **91.81 315** eP **P** **00 44 29.1 -1.4**
DIKM **Dikmen** **91.81 315** ⇓i P **P** **00 44 30.4 -0.1**
MDND **Maddock** **91.97 38** P **P** **00 44 31.0 -0.1**
baz=301
ISCO **Idaho Springs** **92.00 47** P **P** **00 44 32.2 +0.3**
ISCO pmax pmax
comp=Z,209nm,1.1s
ISCO **Idaho Springs** **92.00 47** P **P** **00 44 32.5 +0.6**
baz=296,SNR=224
S22A **4UR Ranch, Cre** **92.04 49** P **P** **00 44 32.5 +0.5**
baz=296,SNR=190
HFS **Hagfors** **92.18 338** S **SKSac** **00 54 04.6 -2.2**
comp=Z,10.0nm,1.0s,baz=328,slow=5.1,SNR=2.9
HFS PKKPbc PKKPbc 01 01 42.5 -3.4
comp=Z,4.7nm,0.4s,baz=172,slow=3.0,SNR=32
HFS SKKPbc **SKKPbc** **01 04 24.9 +0.1**
comp=Z,3.7nm,0.8s,baz=240,slow=4.8,SNR=3.6
SUW **Suwalki** **92.24 330** eP **P** **00 44 30.4 -1.8**
SUW ePP **PP** **00 48 27.0 +3.9**
SUW eSKSac **SKSac** **00 54 04.7 -2.7**
SUW eS **S** **00 54 36.6 -6.8**
SUW eS **ScS** **00 54 39.2 -5.4**
SUW **Suwalki** **92.24 330** eP **P** **00 44 30.4 -1.8**
SUW e 00 48 27.0
SUW e 00 54 04.7
SUW eS **S** **00 54 36.6 -6.8**
SUW eS **ScS** **00 54 39.2 -5.4**
DOMB **Dombas** **92.31 341** eP **P** **00 44 32.4 0.0**
DOMB IVmB_BB 00 44 33.5
comp=Z,6μm,3.5s
DOMB ePP **PP** **00 48 24.0 +0.5**
DOMB eSKSac **SKSac** **00 54 06.0 -1.6**
MOL **Molde** **92.37 342** eP **P** **00 44 33.1 +0.5**
MOL IVmB_BB 00 44 34.1
comp=Z,7μm,3.5s
MOL ePP **PP** **00 48 24.8 +1.0**
MOL eSKSac **SKSac** **00 54 06.4 -1.4**
NB2 **NORSAR Subarra** **92.37 340** P **P** **00 44 31.0 -1.7**
comp=Z,446nm,1.4s,baz=42,slow=4.6
NB2 **NORSAR Subarra** **92.37 340** P **P** **00 44 31.3 -1.4**
NB2 **NORSAR Subarra** **92.37 340** P **P** **00 44 31.0 -1.7**
baz=42,slow=4.6
NOA **NORSAR Array B** **92.37 340** P **P** **00 44 31.3 -1.4**
comp=Z,43nm,0.6s,baz=52,slow=4.3,SNR=134
NOA PP **PP** **00 48 22.4 -1.6**
comp=Z,47nm,0.8s,baz=39,slow=7.5,SNR=7.0
NOA PKKPbc **PKKPbc** **01 01 43.5 -2.1**
comp=Z,0.7nm,0.6s,baz=195,slow=12,SNR=8.4
NOA SKKPbc SKKPbc 01 04 24.7 +0.3
comp=Z,3.8nm,1.0s,baz=225,slow=2.5,SNR=3.5
GAZ **Gaziantep** **92.43 311** eP **P** **00 44 32.3 -1.3**
NC602 **NORSAR Array S** **92.49 339** eP **P** **00 44 32.5 -0.7**
NORES **NORESS Array B** **92.49 339** P **P** **00 44 31.6 -1.6**
NORES pmax pmax
comp=Z,16nm,0.6s
BZK **Bozkurt** **92.50 316** eP **P** **00 44 32.4 -1.2**
BZK **Bozkurt** **92.50 316** ⇓i P **P** **00 44 33.2 -0.4**
KMRS **Kahramanmaras** **92.51 311** eP **P** **00 44 32.8 -1.1**
BNN **Bunyan** **92.67 313** eP **P** **00 44 34.1 -0.6**
YOZ **Yozgat** **92.67 313** eP **P** **00 44 33.0 -1.7**
Q24A **Divide** **92.70 47** P **P** **00 44 35.3 +0.2**
baz=297,SNR=77
ULM **Lac du Bonnet** **92.76 34** P **P** **00 44 34.0 -0.7**
comp=Z,41nm,0.8s,baz=297,slow=4.4,SNR=47
ULM S **SKSac** **00 54 07.8 -2.6**
comp=Z,20nm,1.2s,baz=162,slow=18,SNR=3.5
ULM SKKPbc **SKKPbc** **01 04 23.3 +0.1**
comp=Z,0.9nm,0.5s,baz=113,slow=3.7,SNR=3.0
AKN **Aaknes** **92.83 342** eP **P** **00 44 35.2 +0.4**
AKN IVmB_BB 00 44 36.5
comp=Z,7μm,3.8s
AKN ePP **PP** **00 48 28.6 +1.1**
AKN eSKSac **SKSac** **00 54 09.5 -0.9**
AKN eSS **SS** **01 01 23.9 +4.0**
CORM **Corum** **92.90 314** eP **P** **00 44 34.8 -0.9**
SDCO **Great Sand Dun** **92.99 49** P **P** **00 44 36.6 +0.2**
baz=296,SNR=127
KIS **Kishinev** **93.21 322** eP **P** **00 44 34.0 -2.8**
comp=Z,900nm,3.0s
KIS pP **pwP** **00 46 50.0 -2.7**
KIS **Kishinev** **93.21 322** ePP **PP** **00 48 30.0 -0.8**
comp=Z,5μm,16.0s
KIS **Kishinev** **93.21 322** ePS 00 57 29.0
KIS eSS sS 00 59 09.0 +21
KIS eSS **SS** **01 01 16.0 -10**
KIS LRM MLR 01 31 18.0
comp=Z,5μm,18.0s
KIS **Kishinev** **93.21 322** eP **P** **00 44 34.0 -2.8**
KIS e*PP **pwP** **00 46 50.0 -2.7**
KIS e 00 48 30.0
KIS ePPP PPP 00 50 36.0
KIS i 00 54 12.0
KIS i S **S** **00 54 46.0 -6.2**
KIS pmax pmax
comp=Z,900nm,3.0s
KIS pmax pmax
comp=Z,4μm,14.0s
KIS pmax pmax
comp=Z,5μm,16.0s
KIS smax smax
comp=N,7μm,16.0s
KIS MLR MLR
comp=Z,5μm,18.0s
KLNR **Kaliningrad** **93.25 332** d i P **P** **00 44 34.9 -1.9**
KOZT **Kozan** **93.29 311** eP **P** **00 44 36.1 -1.3**
OSL **Oslo** **93.35 339** eP **P** **00 44 37.0 -0.1**
TASM **ASL Pad, Albuq** **93.52 51** P **P** **00 44 39.1 +0.3**
baz=296,SNR=85
TASM **ASL Pad, Albuq** **93.52 51** P **P** **00 44 39.1 +0.3**
baz=296,SNR=84
ANMO **Albuquerque** **93.52 51** eP **P** **00 44 38.9 +0.2**
comp=Z,162nm,1.4s
ANMO **Albuquerque** **93.52 51** d i P **P** **00 44 39.0 +0.2**
ANMO pmax pmax
comp=Z,271nm,2.5s
ANMO **Albuquerque** **93.52 51** P **P** **00 44 38.9 +0.2**
baz=296
ANMO **Albuquerque** **93.52 51** PKKPbc PKKPbc 01 01 42.2 +0.4
comp=Z,7.2nm,1.1s,baz=124,slow=6.0,SNR=6.9
ANMO SKKPbc SKKPbc 01 04 22.2 +0.6
comp=Z,3.2nm,0.9s,baz=129,slow=5.2,SNR=4.8
TAHT **Tahtakopru-Hat** **93.52 310** eP **P** **00 44 37.8 -0.7**
121A **Cookes Peak, D** **93.55 54** P **P** **00 44 39.9 +1.0**
baz=295,SNR=77
Y22D **IRIS PASSCAL I** **93.55 52** P **P** **00 44 39.4 +0.6**
baz=295
CEYT **Ceyhan** **93.56 311** eP **P** **00 44 37.7 -0.9**
SKAR **Skarslia** **93.59 340** eP **P** **00 44 38.3 0.0**
SKAR IVmB_BB 00 44 39.9
comp=Z,5μm,3.8s
SKAR ePP **PP** **00 48 34.2 +0.9**
SKAR eSKSac **SKSac** **00 54 15.1 +0.5**
FRB **Frobisher Bay** **93.65 14** P **P** **00 44 37.6 -0.8**
FRB pmax pmax
comp=Z,217nm,2.1s
FRB **Frobisher Bay** **93.65 14** S **SKSac** **00 54 11.4 -3.2**
comp=Z,32nm,1.4s,baz=174,slow=19,SNR=5.8
FRB PKKP **PKKPdf** **01 01 38.2 0.0**
comp=Z,7.2nm,1.0s,baz=97,slow=4.2,SNR=6.1
FRB SKKPbc **SKKPbc** **01 04 20.3 -1.1**
comp=Z,7.0nm,1.0s,baz=219,slow=5.1,SNR=4.0
FRB PKPPKP 01 09 50.9
comp=Z,6.7nm,1.0s,baz=135,slow=2.9,SNR=5.7
SFJD **Kangerlussuaq** **93.67 6** eP **P** **00 44 38.1 -0.3**
comp=Z,162nm,1.2s
SFJD **Kangerlussuaq** **93.67 6** i P **P** **00 44 38.6 +0.2**
SFJD MLR MLR
comp=Z,4μm,16.0s
SFJD **Kangerlussuaq** **93.67 6** S **SKSac** **00 54 11.2 -3.4**
comp=Z,22nm,1.1s,baz=238,slow=23,SNR=16
SFJD SKKPbc **SKKPbc** **01 04 20.6 -0.8**
comp=Z,6.7nm,0.9s,baz=252,slow=6.1,SNR=3.9
SFJD **Kangerlussuaq** **93.67 6** i P **P** **00 44 38.6 +0.2**
BR131 **Keskin Array S** **93.79 314** P **P** **00 44 38.2 -1.6**
SNR=156
BRTR **Keskin Array B** **93.79 314** i P **P** **00 44 38.2 -1.6**
BRTR pmax pmax
comp=Z,80nm,0.8s
BRTR **Keskin Array B** **93.79 314** P **P** **00 44 39.1 -0.7**
comp=Z,152nm,1.0s,baz=112,slow=2.2,SNR=248
BRTR PP **PP** **00 48 37.6 +1.9**
comp=Z,28nm,0.9s,baz=93,slow=4.7,SNR=4.2
BRTR S **SKSac** **00 54 16.4 -0.3**
comp=Z,2.0nm,0.9s,baz=92,slow=2.8,SNR=2.6
BRTR ScS **S** **00 54 57.7 -0.1**
comp=Z,3.7nm,0.9s,baz=44,slow=5.7,SNR=6.2
BRTR PKKPbc **PKKPbc** **01 01 40.9 -0.3**
comp=Z,2.1nm,0.4s,baz=233,slow=4.0,SNR=24
BRTR SKKPbc **SKKPbc** **01 04 21.2 +0.3**
comp=Z,2.5nm,0.9s,baz=186,slow=2.6,SNR=3.1
LEOM **Leova** **93.82 322** ⇑i P **P** **00 44 38.7 -0.8**
LEOM **Leova** **93.82 322** P **P** **00 44 38.6 -0.9**
IAS **Iasi** **93.83 323** ⇑i P **P** **00 44 39.2 -0.4**
AGMN **Agassiz Nation** **93.85 36** P **P** **00 44 39.0 -0.7**
baz=304,SNR=27
FOO **Floro** **93.87 342** eP **P** **00 44 39.2 -0.2**
FOO ePP **PP** **00 48 36.0 +0.8**
FOO eSKSac **SKSac** **00 54 14.6 -1.3**
HYA **Hoyanger** **93.87 341** eP **P** **00 44 39.6 +0.2**
HYA IVmB_BB 00 44 40.7
comp=Z,4μm,3.6s
HYA ePP **PP** **00 48 36.4 +1.1**
HYA eSKSac **SKSac** **00 54 15.2 -0.6**
OGNE **Ogallala** **93.90 44** P **P** **00 44 39.5 -0.7**
baz=299,SNR=8.8
KARA **Karaisali** **93.94 311** eP **P** **00 44 39.2 -1.2**
KONO **Kongsberg** **93.95 339** eP **P** **00 44 38.8 -1.0**
comp=Z,109nm,1.4s
KONO ePP **PP** **00 48 34.5 -1.5**
KONO **Kongsberg** **93.95 339** ceP **P** **00 44 41.1 +1.2**
KONO pmax pmax
comp=Z,139nm,1.7s
KONO **Kongsberg** **93.95 339** eP **P** **00 44 40.0 +0.1**
KONO ePP **PP** **00 48 36.8 +0.8**
KONO eSKSac **SKSac** **00 54 14.9 -1.5**
T25A **Trinidad** **94.04 49** P **P** **00 44 41.3 +0.2**
baz=297,SNR=20
SUSD **Miller** **94.11 40** P **P** **00 44 40.0 -1.0**
baz=301
TLCR **94.16 321** ⇓i P **P** **00 44 40.9 -0.2**
LVV **L'vov** **94.29 326** d i P **P** **00 44 40.6 -1.1**
LVV i 00 54 12.9
LVV i S **S** **00 54 59.4 -2.0**
LVV pmax pmax
comp=Z,200nm,2.0s
LVV MLR MLR
comp=Z,4μm,17.0s
ANTO **Ankara** **94.29 315** eP **P** **00 44 41.4 -0.7**
comp=Z,193nm,1.0s
ANTO **Ankara** **94.29 315** ⇑i P **P** **00 44 41.3 -0.7**
ANTO **Ankara** **94.29 315** P **P** **00 44 40.8 -1.2**
SNR=58
GIUM **Giurgiulesti** **94.37 321** ⇑i P **P** **00 44 42.7 +0.6**
SUE **Sulen** **94.38 342** eP **P** **00 44 42.0 +0.2**
SUE IVmBBB 00 44 43.6
comp=Z,6μm,3.4s
SUE ePP **PP** **00 48 40.5 +1.3**
SUE eSKSac **SKSac** **00 54 18.5 0.0**
KSCO **Kaye Shedlock'** **94.42 46** P **P** **00 44 42.5 -0.2**
baz=298,SNR=37
PRAR **RASCA** **94.50 323** ⇑i P **P** **00 44 41.1 -1.6**
MERS **Mersin** **94.50 311** eP **P** **00 44 41.9 -1.1**
CFR **Carcaliu** **94.58 321** ⇑i P **P** **00 44 42.1 -0.9**
ASK **Askoy** **94.71 341** eP **P** **00 44 43.4 +0.1**
ASK ePP **PP** **00 48 42.8 +1.1**
ASK eSKSac **SKSac** **00 54 20.5 +0.2**
BEL **Belsk** **94.72 329** eP **P** **00 44 43.6 +0.1**
BEL i SKSac **SKSac** **00 54 20.0 -0.8**
BEL eS **S** **00 55 02.0 -3.0**
BEL **Belsk** **94.72 329** eP **P** **00 44 43.6 +0.1**
BEL i 00 54 20.0
BEL eS **S** **00 55 02.0 -3.0**
ODD1 **Odda** **94.72 340** eP **P** **00 44 44.2 +0.8**
ODD1 ePP **PP** **00 48 42.9 +1.0**
ODD1 eSKSac **SKSac** **00 54 20.5 0.0**
TESR **Tescani** **94.73 323** ⇑i P **P** **00 44 43.1 -0.6**
BER **Bergen** **94.75 341** eP **P** **00 44 43.7 +0.2**
BER IVmB_BB 00 44 44.8
comp=Z,4μm,4.0s
BER ePP **PP** **00 48 43.2 +1.2**
BER eSKSac **SKSac** **00 54 20.2 -0.3**
BIZ **Bicaz** **94.80 323** ⇓i P **P** **00 44 43.9 -0.1**
PETR **Petresti** **94.82 322** ⇑i P **P** **00 44 44.1 0.0**
ASF **Jabal al Asfar** **94.82 306** P **P** **00 44 43.9 -0.7**
ASF **Jabal al Asfar** **94.82 306** P **P** **00 44 43.7 -0.9**
ASF **Jabal al Asfar** **94.82 306** P **P** **00 44 43.9 -0.7**
comp=Z,61nm,1.1s,baz=17,slow=2.9,SNR=7.4
ASF PP **PP** **00 48 45.6 +1.8**
comp=Z,78nm,1.2s,baz=82,slow=0.6,SNR=6.8
ASF PKPPKP 01 09 50.1
comp=Z,1.4nm,0.9s,baz=32,slow=4.6,SNR=3.3
ODBI **Odobesti** **94.90 322** ⇑i P **P** **00 44 44.0 -0.5**
LPIG **La Paz** **94.90 63** S **SKSac** **00 54 23.4 +0.6**
comp=Z,24nm,0.4s,baz=94,slow=13,SNR=4.2
BURAR **Bucovina Array** **94.92 324** ⇓i P **P** **00 44 44.3 -0.4**
MFTR **Murfatlar** **94.93 320** ⇑i P **P** **00 44 43.6 -1.1**
KIZK **Mersin** **94.94 311** eP **P** **00 44 43.9 -1.0**
TLB **Topalu** **94.95 320** ⇓i P **P** **00 44 44.1 -0.6**
HARR **Harsova** **94.96 321** ⇓i P **P** **00 44 44.9 +0.1**
BHL **Bhannes** **95.01 308** eP **P** **00 44 44.5 -0.9**
VRI **Vrincioaia** **95.03 322** ⇑i P **P** **00 44 44.5 -0.6**
PLOR **Plostina** **95.09 322** ⇑i P **P** **00 44 44.4 -1.0**
KWP **Kalwaria Pacla** **95.09 327** eP **P** **00 44 45.3 0.0**
KWP ePP **PP** **00 48 45.7 +0.6**
KWP i SKSac **SKSac** **00 54 23.3 +0.4**
KWP eS **S** **00 55 04.5 -3.9**
KWP **Kalwaria Pacla** **95.09 327** eP **P** **00 44 45.3 0.0**
KWP e 00 48 45.7
KWP i 00 54 23.3
KWP eS **S** **00 55 04.5 -3.9**
QRWL **Qaraoun** **95.14 308** eP **P** **00 44 45.3 -0.7**
BLS5 **Blasjo** **95.15 340** eP **P** **00 44 45.9 +0.5**
BLS5 IVmB_BB 00 44 46.9
comp=Z,4μm,3.6s
BLS5 ePP **PP** **00 48 46.2 +1.1**
BLS5 eSKSac **SKSac** **00 54 22.8 -0.1**
DQRL **Deir Qamar** **95.16 308** eP **P** **00 44 45.5 -0.6**
GRER **95.16 321** ⇓i P **P** **00 44 44.5 -1.2**
SHBL **Chebaa** **95.19 308** eP **P** **00 44 45.5 -0.8**
BSD **Bornholm Skovb** **95.22 334** ⇓i P **P** **00 44 44.0 -1.7**
BSD pmax pmax
comp=Z,160nm,0.9s
BSD MLR MLR
comp=Z,6μm,16.0s
BSD **Bornholm Skovb** **95.22 334** ⇓i P **P** **00 44 44.0 -1.7**
comp=Z,160nm,0.9s
PSN **Preselentsi** **95.34 320** eP **P** **00 44 45.7 -0.8**
PSN **Preselentsi** **95.34 320** eP **SKSac** **00 54 24.0 -0.4**
ICOR **Ion Corvin** **95.34 320** ⇑i P **P** **00 44 46.1 -0.4**
AMRR **Amara** **95.36 321** ⇑i P **P** **00 44 47.0 +0.4**
HOMB **Homborsund** **95.36 339** eP **P** **00 44 46.0 -0.2**
HOMB ePP **PP** **00 48 48.2 +1.5**
HOMB eSKSac **SKSac** **00 54 23.0 -0.8**
SLBS **Sierra La Lagu** **95.37 63** eP **P** **00 44 48.3 +1.1**
comp=Z,285nm,1.4s
HSUJ **Al Zarqa** **95.39 306** P **P** **00 44 47.0 -0.1**
HSUJ **Al Zarqa** **95.39 306** P **P** **00 44 46.3 -0.8**
SHMJ **Saham** **95.44 307** P **P** **00 44 47.5 +0.2**
SHMJ **Saham** **95.44 307** P **P** **00 44 47.0 -0.3**
GKP **Gorka Klasztor** **95.46 332** eP **P** **00 44 45.7 -1.1**
GKP ePP **PP** **00 48 47.2 -0.5**
GKP i SKSac **SKSac** **00 54 24.0 -0.6**
GKP eS **S** **00 55 05.9 -5.3**
GKP **Gorka Klasztor** **95.46 332** eP **P** **00 44 45.7 -1.1**
GKP e 00 48 47.2
GKP i 00 54 24.0
GKP eS **S** **00 55 05.9 -5.3**
MMAI **Mount Meron Ar** **95.59 307** P **P** **00 44 47.3 -0.7**
comp=Z,118nm,0.9s,baz=67,slow=4.8,SNR=7.7
MMAI S **SKSac** **00 54 27.6 +1.3**
comp=Z,1.1nm,0.5s,baz=46,slow=6.2,SNR=2.6
MMAI PKKPbc **PKKPbc** **01 01 35.9 -0.3**
comp=Z,1.2nm,0.4s,baz=101,slow=0.9,SNR=16
MLR **Muntele Rosu** **95.70 322** ⇑i P **P** **00 44 47.2 -1.1**
MLR **Muntele Rosu** **95.70 322** SKKPbc SKKPbc 01 04 16.2 -0.1
comp=Z,18nm,1.2s,baz=177,slow=2.0,SNR=5.1
KOLS **Kolonicke sedl** **95.74 326** eP **P** **00 44 45.9 -2.4**
KOLS e 00 48 48.6
KOLS e 00 50 56.2
KOLS eS **SKSac** **00 54 26.8 +0.5**
KOLS MLR MLR
comp=Z,5μm,18.1s
KOLS **Kolonicke sedl** **95.74 326** eP **P** **00 44 45.9 -2.4**
KOLS ePP **PP** **00 48 48.6 -1.4**
KOLS e 00 50 56.2
KOLS eS **SKSac** **00 54 26.8 +0.5**
KOLS e 00 58 00.3
KOLS eL L 01 28 57.9
MNTX **Cornudas Mount** **95.74 54** P **P** **00 44 48.9 +0.3**
baz=296,SNR=80
LEHL **Lehliu** **95.75 321** ⇓i P **P** **00 44 48.6 +0.3**
SNART **Snartemo** **95.75 339** eP **P** **00 44 47.2 -0.8**
SNART ePP **PP** **00 48 50.7 +1.1**
DOPR **Dopca** **95.75 323** ⇑i P **P** **00 44 48.0 -0.4**
COP **Copenhagen** **95.82 335** ⇓i P **P** **00 44 48.3 -0.1**
COP pmax pmax
comp=Z,120nm,0.9s
COP MLR MLR
comp=Z,4μm,18.0s
COP **Copenhagen** **95.82 335** ⇓i P **P** **00 44 48.3 -0.1**
comp=Z,115nm,0.9s
BMR **Baia Mare** **95.83 325** ⇓i P **P** **00 44 49.2 +0.5**
SWQJ **Swaqa** **95.87 306** P **P** **00 44 47.9 -1.4**
SWQJ **Swaqa** **95.87 306** P **P** **00 44 49.5 +0.2**
UZH **Uzhgorod** **95.91 326** eP **P** **00 44 48.3 -0.7**
UZH e*PP **pP** **00 47 00.0 -0.1**
UZH i 00 54 30.0
UZH eS **S** **00 55 13.5 -1.8**
UZH pmax pmax
comp=Z,19μm,8.0s
WALJ **Wala** **95.92 306** P **P** **00 44 49.7 +0.3**
WALJ **Wala** **95.92 306** P **P** **00 44 50.5 +1.1**
ECSD **EROS Data Cent** **95.92 40** P **P** **00 44 48.3 -0.9**
baz=303,SNR=34
SULR **95.97 321** ⇑i P **P** **00 44 49.7 +0.4**

KLYT	Kilyos	96.08 317	⇑	*i* P		P	00 44 48.6 -1.3
PRD	Provadia	96.08 319		*e*P		P	00 44 49.2 -0.7
PRD	Provadia	96.08 319		*e*P		SKSac	00 54 28.0 -0.2
TRPA	Tarpa	96.08 325	⇓	*i*P		P	00 44 48.7 -1.0
TRPA	Tarpa	96.08 325	⇓	*i*P		P	00 44 48.0 -1.7
TRPA				*e*PP		PP	00 48 54.1 +1.5
BORG	Borgarnes	96.11 354		*e*P		P	00 44 50.5 +1.0
	comp=Z,172nm,1.2s						
BORG	Borgarnes	96.11 354		*i* P		P	00 44 54.5 +5.0
BGNE	Belgrade	96.20 43		P		P	00 44 49.0 -1.5
	baz=302						
OJC	Ojcow	96.22 328		*e*P		P	00 44 49.1 -1.2
OJC				*e*PP		PP	00 48 51.8 -1.8
OJC				*i* SKSac		SKSac	00 54 28.3 -0.4
OJC				*e*S		S	00 55 12.2 -5.7
OJC	Ojcow	96.22 328		*e*P		P	00 44 49.1 -1.2
OJC				*e*			00 48 51.8
OJC				*i*			00 54 28.3
OJC				*e*S		S	00 55 12.2 -5.7
MAMC	Mammari	96.22 310		P		P	00 44 49.0 -1.7
CSS	Mathiatis	96.23 310		P		P	00 44 49.9 -0.9
VOIR		96.25 322	⇑	*i*P		P	00 44 50.7 0.0
CJR	Cluj-Napoca	96.34 324	⇓	*i*P		P	00 44 51.2 +0.2
SGRR	Singureni	96.39 321	⇑	*i*P		P	00 44 50.9 -0.3
EYMN	Ely	96.44 34		Pdiff		P	00 44 50.3 -1.1
	baz=307						
NIE	Niedzica	96.47 327		*e*P		P	00 44 51.8 +0.3
NIE				*e*PP		PP	00 48 59.9 +4.3
NIE				*i* SKSac		SKSac	00 54 31.3 +1.3
NIE	Niedzica	96.47 327		*e*P		P	00 44 51.8 +0.3
NIE				*e*			00 48 59.8
NIE				*i*			00 54 31.3
CBKS	Cedar Bluff	96.48 45		Pdiff		P	00 44 50.6 -1.2
	baz=300						
MUD	Monsted U'grnd	96.50 337		*i* P		P	00 44 50.4 -1.0
MUD				pmax		pmax	
	comp=Z,120nm,1.3s						
MUD	Monsted U'grnd	96.50 337		*i* P		P	00 44 50.4 -1.0
	comp=Z,123nm,1.3s						
ARR	Arges	96.53 322	⇑	*i*P		P	00 44 51.7 -0.2
VNDA	Vanda	96.58 176		P		P	00 44 52.2 +1.0
	comp=Z,12nm,1.1s,baz=330,slow=6.3,SNR=26						
VNDA				PP		PP	00 48 58.0 +1.4
	comp=Z,14nm,1.1s,baz=341,slow=7.5,SNR=3.5						
VNDA				S		SKSac	00 54 29.8 +0.7
	comp=Z,13nm,1.1s,baz=92,slow=23,SNR=5.8						
VNDA				PKKPbc		PKKPbc	01 01 32.5 -2.3
	comp=Z,15nm,1.1s,baz=262,slow=1.8,SNR=18						
VNDA				PKPPKP			01 09 45.1
	comp=Z,1.8nm,1.0s,baz=322,slow=3.0,SNR=4.9						
SZAC	Souni	96.66 310		P		P	00 44 51.2 -1.5
ALFC	Alefka	96.67 310		P		P	00 44 51.2 -1.6
MSTX	Muleshoe	96.68 51		Pdiff		P	00 44 52.4 -0.5
	baz=298						
DRGR		96.79 324	⇓	*i*P		P	00 44 53.2 +0.1
LRW	Lerwick	96.80 344		*e*P		P	00 44 53.4 +0.8
HUMR	Humele	96.81 322	⇓	*i*P		P	00 44 52.2 -0.9
PHSR	Pinarhisar	96.85 318	⇓	*i*P		P	00 44 53.1 -0.2
LTVH	Ltavrtes, Hu	96.88 325		*i* P		P	00 44 50.0 -3.3
SZH	Strazhica	96.94 320		*e*P		P	00 44 53.8 +0.1
SZH	Strazhica	96.94 320		*e*P		SKSac	00 54 31.0 -1.6
KECS	Kecovo	96.95 327		*e*P		P	00 44 53.8 +0.1
KECS	Kecovo	96.95 327		*e*PDIF		P	00 44 53.8 +0.1
JMB	Yambol	96.99 319		*e*P		P	00 44 45.1 -8.8
JMB	Yambol	96.99 319		*e*P		SKSac	00 54 32.0 -0.9
AMTX	Amarillo	97.05 50		Pdiff		Pdif	00 44 54.9 +0.4
	baz=299						
LANS	Liptovska Anna	97.06 328		*e*P		Pdif	00 44 54.5 +0.3
LANS	Liptovska Anna	97.06 328		*e*PDIF		Pdif	00 44 54.5 +0.3
ZIMR		97.07 321	⇑	*i*P		Pdif	00 44 54.3 0.0
RAC	Raciborz	97.10 329		*e*P		P	00 44 52.8 -1.4
RAC				*e*			00 54 32.8
RAC				MLR		MLR	
	comp=Z,5μm,19.4s						
F37A	Hinrichs Farm,	97.14 37		Pdiff		P	00 44 53.8 -0.8
	baz=306						
E38A	The Farm, Brul	97.22 36		Pdiff		Pdif	00 44 54.3 -0.6
	baz=307						
DEV	Deva	97.22 324	⇑	*i*P		Pdif	00 44 54.9 0.0
EDRB	Edirne	97.22 319		P		Pdif	00 44 51.7 -3.3
SBA	Scott Base	97.22 176		*e*P		P	00 44 56.1 +2.0
	comp=Z,58nm,1.4s						
OKC	Ostrava-Krasne	97.28 329		*e*P		Pdif	00 44 53.9 -1.2
OKC				*e*			00 54 31.6
OKC	Ostrava-Krasne	97.28 329		*e*PDIFF		Pdif	00 44 53.9 -1.2
OKC				*e*SKS		SKSac	00 54 31.6 -2.4
OKC				*e*PS		PS	00 58 13.9 -1.4
SPMN	Marine on St.	97.33 37		Pdiff		Pdif	00 44 54.6 -0.8
	baz=306						
EIL	Elat	97.42 305		P		Pdif	00 44 55.4 -0.7
	comp=Z,68nm,1.0s,baz=354,slow=4.7,SNR=27						
EIL				PKKP		PKKPbc	01 01 31.2 +0.1
	comp=Z,2.5nm,0.4s,baz=136,slow=7.5,SNR=6.2						
F38A	Pierce - Schro	97.42 36		Pdiff		Pdif	00 44 55.2 -0.6
	baz=307						
KSP	Ksiaz	97.51 330		*e*P		Pdif	00 44 55.2 -0.9
KSP				*e*PP		PP	00 49 04.5 +1.2
KSP				*i* SKSac		SKSac	00 54 34.7 -0.5
KSP				*e*S		ScS	00 55 24.8 -3.9
KSP	Ksiaz	97.51 330		*e*P		Pdif	00 44 55.2 -0.9
KSP				*e*			00 49 04.5
KSP				*i*			00 54 34.7
KSP				*e*S		ScS	00 55 24.8 -3.9
RUE	Ruedersdorf	97.53 332		*e*P		Pdif	00 44 55.0 -1.1
GZR	Gura Zlata	97.58 323	⇓	*i*P		P	00 44 56.7 +0.1
PSZ	Piszkesteto	97.62 326	⇑	*i*P		Pdif	00 44 55.8 -0.9
PSZ	Piszkesteto	97.62 326		*i* P		Pdif	00 44 55.0 -1.7
PSZ				*e*PP		PP	00 49 05.1 +0.8
MORC	Moravsky Berou	97.62 329	⇑	*i*P		Pdif	00 44 55.1 -1.6
MORC	Moravsky Berou	97.62 329	⇓	*i*PDIFF		Pdif	00 44 55.6 -1.1
MORC				*e*PP		PP	00 49 03.0 -1.1
MORC				*e*			00 51 14.3
MORC				*e*SKS		SKSac	00 54 35.4 -0.5
MORC				*e*SDIFF		ScS	00 55 26.7 -3.0
MORC				*e*SP		SP	00 56 54.3 -3.4
MORC				*e*			00 58 17.1
MORC				*e*			01 04 01.2
MORC				*e*			01 11 44.9
SIRR	Siria	97.68 324	⇑	*i*P		Pdif	00 44 56.4 -0.6
C40A	Isle Royale Na	97.70 34		Pdiff		Pdif	00 44 56.2 -0.8
	baz=309						
KULA	Kula-Manisa	97.75 315		P		Pdif	00 44 55.0 -2.5
SRE	Strehaia	97.77 322	⇓	*i*P		P	00 44 58.0 +0.6
KRLC	Kraliky	97.79 329		*e*P		Pdif	00 44 56.6 -0.8
KRLC				*e*			00 54 35.3
KRLC	Kraliky	97.79 329		*e*PDIFF		Pdif	00 44 56.6 -0.8
KRLC				*e*SKS		SKSac	00 54 35.3 -1.4
VYHS	Vyhne	97.80 327		*e*P		Pdif	00 44 57.2 -0.3
VYHS				*e*			00 48 06.9
VYHS				*e*			00 49 05.4
VYHS				*e*S		SKSac	00 54 32.8 -4.0
VYHS				MLR		MLR	
	comp=Z,5μm,17.5s						
VYHS	Vyhne	97.80 327		*e*PDIF		Pdif	00 44 57.2 -0.3
VYHS				*e*			00 48 06.9
VYHS				*e*PP		PP	00 49 05.4 -0.1
VYHS				*e*			00 51 11.7
VYHS				*e*S		SKSac	00 54 32.8 -4.0
VYHS				*e*			00 58 21.2
VYHS				*e*L		L	01 31 06.5
DPC	Dobruska-Polom	97.83 330		*e*P		Pdif	00 44 57.1 -0.5
DPC				*e*			00 54 34.1
DPC	Dobruska-Polom	97.83 330		*e*PDIFF		Pdif	00 44 57.1 -0.5
DPC				*e*SKS		SKSac	00 54 34.1 -2.8
DPC				*e*PS		PS	00 58 16.6 -4.3
DPC				*e*PKKP		PKKPdf	01 01 27.9 -2.9
ATD	Arta Tunnel	97.85 285		P		P	00 44 59.5 +1.1
	comp=Z,25nm,1.0s,baz=291,slow=2.9,SNR=11						
ATD				S		SKSac	00 54 43.7 +5.4
	comp=Z,1.8nm,0.4s,baz=270,slow=20,SNR=3.2						
ATD				PKPPKP			01 09 46.7
	comp=Z,1.5nm,0.4s,baz=303,slow=4.5,SNR=4.4						
DIM	Dimitrovgrad	97.87 319		*e*P		Pdif	00 44 57.6 -0.2
DIM	Dimitrovgrad	97.87 319		*e*P		SKSac	00 54 37.0 -0.3
UPC	Upice	97.87 330		*e*P		Pdif	00 44 57.0 -0.7
UPC				*e*			00 54 33.5
UPC	Upice	97.87 330		*e*PDIFF		Pdif	00 44 57.0 -0.7
UPC				*e*SKS		SKSac	00 54 33.5 -3.5
UPC				*e*PS		PS	00 58 19.3 -1.9
E39A	Mellen	97.90 35		Pdiff		Pdif	00 44 57.2 -0.7
	baz=308						
G38A	Ridgeland	97.91 37		Pdiff		Pdif	00 44 57.0 -0.9
	baz=307						
H38A	Maiden Rock	97.96 37		Pdiff		Pdif	00 44 57.6 -0.6
	baz=306						
F39A	Loretta	97.98 36		Pdiff		Pdif	00 44 57.8 -0.5
	baz=307						
HERR	Herculane	98.09 323	⇓	*i*P		Pdif	00 44 58.0 -0.8
BZS	Buzias	98.10 324	⇑	*i*P		Pdif	00 44 58.1 -0.7
TXAR	Lajitas Array	98.12 55		P		P	00 45 00.0 +0.6
	comp=Z,7.1nm,0.5s,baz=270,slow=2.0,SNR=42						
TXAR				pP		pP	00 47 13.1 +3.2
	comp=Z,2.5nm,0.8s,baz=297,slow=4.0,SNR=1.8						
TXAR				S		SKSac	00 54 40.3 +1.0
	comp=Z,3.5nm,0.8s,baz=4.1,slow=1.3,SNR=3.1						
TXAR				PKKP		PKKPdf	01 01 30.6 +0.2
	comp=Z,13nm,0.8s,baz=134,slow=5.2,SNR=24						
TXAR				SKKPbc		SKKPbc	01 04 10.5 +0.3
	comp=Z,1.9nm,0.6s,baz=133,slow=4.5,SNR=5.3						
TXAR				PKPPKP			01 09 44.3
	comp=Z,2.1nm,1.2s,baz=103,slow=4.0,SNR=3.6						
PUNG	Punghina	98.15 322	⇑	*i*P		P	00 44 59.3 +0.2
JAVC	Velka Javorina	98.15 328	⇓	*i*PDIFF		Pdif	00 44 59.1 0.0
JAVC				*e*PP		PP	00 49 08.7 +0.5
JAVC				*e*			00 51 18.3
JAVC				*e*SKS		SKSac	00 54 40.3 +1.7
JAVC				*e*SDIFF		ScS	00 55 31.9 -2.4
JAVC				*e*SP		SP	00 56 59.2 -4.3
JAVC				*e*			00 58 23.3
JAVC				*e*			01 04 01.7
JAVC				*e*			01 11 43.2
JAVC				*e*			01 15 37.2
KDZ	Kurdzhali	98.16 319		*e*P		P	00 45 02.3 +3.1
KDZ	Kurdzhali	98.16 319		*e*P		SKSac	00 54 40.0 +1.2
ALN	Alexandroupoli	98.18 318		P		Pdif	00 44 55.4 -3.9
ALN	Alexandroupoli	98.18 318		P		SKSac	00 54 35.8 -3.1
MPEP	Malo Peshtene	98.21 321		P		Pdif	00 44 58.7 -0.7
MPEP	Malo Peshtene	98.21 321		P		SKSac	00 54 34.7 -4.3
E40A	Wakefield	98.22 35		Pdiff		Pdif	00 44 59.0 -0.4
	baz=308						
G39A	Holcombe	98.22 36		Pdiff		Pdif	00 44 58.7 -0.7
	baz=307						
KSL	Kastellorizon	98.33 313		P		Pdif	00 44 58.2 -1.8
PLD	Plovdiv	98.35 320		*e*P		P	00 45 00.5 +0.5
PLD	Plovdiv	98.35 320		*e*P		SKSac	00 54 37.0 -2.7
RDO	Rodhopi	98.37 318		P		Pdif	00 44 57.9 -2.2
VRAC	Vranov	98.39 329	⇑	*i*P		Pdif	00 44 59.8 -0.3
VRAC	Vranov	98.39 329	⇓	*i*PDIFF		Pdif	00 44 59.2 -0.9
VRAC				*e*PP		PP	00 49 09.3 -0.6
VRAC				*e*			00 51 19.9
VRAC				*e*SKS		SKSac	00 54 39.3 -0.4
VRAC				*e*SDIFF		ScS	00 55 33.2 -2.9
VRAC				*e*SP		SP	00 57 00.5 -5.4
VRAC				*e*			00 58 22.8
VRAC				*e*			01 03 59.8
VRAC				*e*			01 11 40.8
VRAC				*e*			01 13 21.0
VRAC				*e*			01 15 34.5
VRAC	Vranov	98.39 329		PKKP		PKKPbc	01 01 28.5 -0.8
	comp=Z,1.9nm,0.6s,baz=306,slow=7.9,SNR=3.4						
VRAC				SKKPbc		SKKPbc	01 04 10.7 +1.1
	comp=Z,2.8nm,0.8s,baz=316,slow=5.8,SNR=3.9						
KSU1	Kansas State U	98.42 44		Pdiff		Pdif	00 44 59.2 -1.2
	baz=302						
F40A	Park Falls	98.42 36		Pdiff		Pdif	00 44 59.4 -0.9
	baz=308						
FETY	Fethiye	98.43 313		P		Pdif	00 44 59.6 -0.9
SRO2	Moca	98.50 327		*e*P		Pdif	00 44 59.9 -0.6
SRO2	Moca	98.50 327		*e*PDIF		Pdif	00 44 59.9 -0.6
SMOL	Smolenice	98.50 328		*e*P		Pdif	00 45 00.6 0.0
SMOL	Smolenice	98.50 328		*e*PDIF		Pdif	00 45 00.6 0.0
SRO	Srobarova	98.50 327		*e*P		Pdif	00 45 00.5 -0.1
SRO	Srobarova	98.50 327		*e*PDIF		Pdif	00 45 00.5 -0.1
BANR	Banloc	98.51 324	⇑	*i*P		P	00 45 00.8 +0.1
H39A	Augusta	98.53 37		Pdiff		Pdif	00 44 59.9 -0.9
	baz=307						
PVCC	Panska Ves	98.53 331		*e*P		Pdif	00 44 59.9 -0.7
PVCC				*e*			00 54 33.6
PVCC	Panska Ves	98.53 331		*e*PDIFF		Pdif	00 44 59.9 -0.7
PVCC				*e*SKS		SKSac	00 54 33.6 -6.6
PVCC				*e*PS		PS	00 58 24.7 -3.3
D41A	Chassel	98.55 34		Pdiff		Pdif	00 44 60.0 -0.8
	baz=309						
MDVR	Moldovita	98.55 323	⇓	*i*P		Pdif	00 44 59.8 -1.1
RZN	Rozhen	98.57 319		*e*P		P	00 45 01.5 +0.2
RZN	Rozhen	98.57 319		*e*P		SKSac	00 54 38.0 -3.3
BRG	Berggiesshubel	98.58 331		*i* P		Pdif	00 45 00.3 -0.5
BRG				*i*			00 49 09.6
BRG				*i*			00 51 22.0
BRG							00 54 39.0
BRG				S		ScS	00 55 35.0 -2.6
BRG				SS		SS	01 02 47.0 +6.7
BRG				pmax		pmax	
	comp=Z,95nm,1.3s						
BRG				MLR		MLR	
	comp=N,7μm,18.4s						
BRG				MLR		MLR	
	comp=E,5μm,17.3s						
BRG				MLR		MLR	
	comp=Z,7μm,16.1s						
BRG	Berggiesshubel	98.58 331		*i* PDIFF		Pdif	00 45 00.3 -0.5
	comp=Z,94nm,1.3s						
BRG				*i* sPDIFF			00 48 06.9
	comp=Z,12nm,0.8s						
BRG				*i* PP		PP	00 49 09.6 -1.7
	comp=Z,55nm,0.8s						
BRG				*i*			00 51 22.0
BRG				SKS		SKSac	00 54 39.0 -1.5
BRG				SDIFF		ScS	00 55 35.0 -2.6
BRG				*e*PKKP		PKKPbc	01 01 25.7 -3.2
	comp=Z,26nm,1.4s						
BRG				SS		SS	01 02 47.0 +6.7
BRG				*e*PKPPKP		P'P'df	01 09 34.2 -8.2
	comp=Z,14nm,1.6s						
EZN	Ezine	98.59 317		P		Pdif	00 44 58.8 -2.3
EZN	Ezine	98.59 317	⇑	*i*P		Pdif	00 45 00.5 -0.6
KRUC	Moravsky	98.65 329	⇓	*i*PDIFF		Pdif	00 45 00.1 -1.1
KRUC				*e*PP		PP	00 49 11.5 -0.3
KRUC				*e*SKS		SKSac	00 54 40.7 -0.2
KRUC				*e*SDIFF		ScS	00 55 35.3 -3.0
KRUC				*e*SP		SP	00 57 03.6 -5.1
KRUC				*e*			00 58 25.1
KRUC				*e*			01 03 59.4
KRUC				*e*			01 11 38.1
KRUC				*e*			01 13 19.4
KRUC				*e*			01 15 31.2
MODS	Modra-Piesok	98.67 328		*e*P		Pdif	00 45 00.6 -0.7
MODS				*e*			00 49 10.7
MODS				*e*S		SKSac	00 54 39.1 -2.0
MODS				MLR		MLR	
	comp=Z,12μm,18.7s						
MODS	Modra-Piesok	98.67 328		*e*PDIF		Pdif	00 45 00.6 -0.7
MODS				*e*PP		PP	00 49 10.7 -1.3
MODS				*e*			00 51 20.3
MODS				*e*S		SKSac	00 54 39.1 -2.0
MODS				*e*			00 58 34.4
MODS				*e*L		L	01 31 27.0
CLL	Collm	98.70 332		*i* P		Pdif	00 45 00.7 -0.6
CLL				*e**PP		pP	00 47 11.0 -1.9
CLL				*i*			00 54 39.9
CLL				*e*S		ScS	00 55 37.0 -1.5
CLL				pmax		pmax	
	comp=Z,109nm,1.2s						
CLL	Collm	98.70 332		*i* Pdif		Pdif	00 45 00.7 -0.6
	comp=Z,109nm,1.2s						
CLL				*e*Pmax			00 45 03.0
CLL				*e*pP		pP	00 47 11.0 -1.9
CLL				*e*(sP)		sP	00 48 09.0 -4.1
CLL				*e*PP		PP	00 49 08.0 -4.1
	comp=Z,127nm,1.3s						
CLL				*e*PPIp			00 49 14.0
	comp=Z,4μm,19.9s						
CLL				*e*PPP		PPP	00 51 25.0
CLL				*e*			00 54 29.0
CLL				*i* SKSac		SKSac	00 54 39.9 -1.1
CLL				*e*SKKSac		SKKSac	00 55 12.0 -2.9
CLL				*e*Sdif		ScS	00 55 37.0 -1.5
CLL				*e*SP		SP	00 57 11.0 +2.0
CLL				*e*PS		PS	00 58 28.0 -1.6
CLL				*e*sS		sS	00 59 33.0 -3.4
CLL				*e*PKKPdf		PKKPbc	01 01 28.0 -0.5
CLL				*e*SS		SS	01 02 41.0 -0.9
CLL				*e*SKKPdf		SKKPbc	01 04 09.0 +0.1
CLL				*e*sSS			01 06 12.0
CLL				*e*SSS		SSS	01 06 48.0
CLL				*e*			01 09 00.0
CLL				*e*SSSS			01 10 00.0
CLL				*i*			01 11 39.5
CLL				*e*			01 12 08.0
CLL				LmH			01 27 00.0
	comp=Z,5μm,21.5s						
CLL				Lmax			01 33 00.0
E41A	Kenton	98.72 35		Pdiff		Pdif	00 45 00.7 -0.8
	baz=309						
SMTH	Samothraki Isl	98.74 318		P		Pdif	00 45 00.7 -1.1
SMTH	Samothraki Isl	98.74 318		P		SKSac	00 54 41.3 -0.5
G40A	Rib Lake	98.78 36		Pdiff		Pdif	00 45 01.4 -0.5
	baz=308						
CSKK	Cskako	98.82 327		*e*PP		PP	00 49 09.1 -4.1
CSKK	Cskako	98.82 327		*i* P		Pdif	00 45 01.1 -0.9
GOPC	GO Pecny, Ondr	98.85 330		*e*P		Pdif	00 45 01.1 -1.0
GOPC				*e*			00 54 37.8
GOPC	GO Pecny, Ondr	98.85 330		*e*PDIFF		Pdif	00 45 01.1 -1.0
GOPC				*e*SKS			00 54 37.8
GOPC				*e*PS		PS	00 58 24.7 -6.5
GOPC				*e*PKKP		PKKPbc	01 01 25.5 -2.6
ZST	Bratislava	98.87 328		*e*P		Pdif	00 45 01.6 -0.6
ZST				*e*			00 48 14.9
ZST				*e*			00 49 13.2
ZST				*e*			00 51 25.7
ZST				*e*S		SKSac	00 54 37.1 -4.9
ZST	Bratislava	98.87 328		*e*PDIFF		Pdif	00 45 01.5 -0.7
ZST				*e*			00 48 14.9
ZST				*e*PP		PP	00 49 13.2 -0.3
ZST				*e*			00 51 25.7
ZST				*e*S		SKSac	00 54 37.1 -4.9
ZST				*e*			00 58 39.4
I39A	Houston	98.88 38		Pdiff		Pdif	00 45 01.9 -0.4
	baz=307						
PRU	Pruhonice	98.91 330		*e*P		Pdif	00 45 01.5 -0.8
PRU				*e*			00 54 37.7
PRU	Pruhonice	98.91 330		*e*PDIFF		Pdif	00 45 01.5 -0.8
PRU				*e*SKS		SKSac	00 54 37.7 -4.5
PRU				*e*PS		PS	00 58 30.1 -1.7
PRU				*e*PKKP		PKKPbc	01 01 25.8 -2.1
TREC	Trest	98.94 329		*e*P		Pdif	00 45 01.7 -0.8
TREC				*e*			00 54 40.2
TREC	Trest	98.94 329		*e*PDIFF		Pdif	00 45 01.7 -0.8
TREC				*e*SKS		SKSac	00 54 40.2 -2.2
TREC				*e*PS		PS	00 58 30.1 -2.0
PRK	Paraskevi	98.94 317		P		P	00 45 02.8 +0.1
PRK	Paraskevi	98.94 317		P		SKSac	00 54 40.5 -2.2
VTS	Vitosha	98.94 321		P		Pdif	00 45 02.3 -0.5
VTS	Vitosha	98.94 321	⇑	*i*P		Pdif	00 45 02.7 -0.1
VTS	Vitosha	98.94 321		*e*P		Pdif	00 45 02.6 -0.2
VTS	Vitosha	98.94 321		*e*P		SKSac	00 54 41.0 -2.0
SCIA	State Center	99.01 40		Pdiff		Pdif	00 45 02.3 -0.7
	baz=305						
H40A	Chili	99.07 37		Pdiff		Pdif	00 45 03.4 +0.3
	baz=308						
J39A	Decorah	99.08 38		Pdiff		Pdif	00 45 02.5 -0.8
	baz=306						
KAVA	Kavala	99.09 319		P		Pdif	00 45 03.4 +0.1
F41A	Three Lakes	99.09 35		Pdiff		Pdif	00 45 02.7 -0.5
	baz=309						
THAS	Thassos island	99.18 318		P		Pdif	00 45 02.9 -0.8
THAS	Thassos island	99.18 318		P		SKSac	00 54 42.7 -1.1
WMOK	Wichita Mounta	99.19 49		Pdiff		Pdif	00 45 03.7 -0.3
	baz=300						
SIGR	SIGRI	99.23 317		P		Pdif	00 45 03.4 -0.6
SIGR	SIGRI	99.23 317		P		SKSac	00 54 41.1 -3.0
MMB	Musomiste	99.24 320		*e*P		Pdif	00 45 04.2 +0.2
MMB	Musomiste	99.24 320		*e*P		SKSac	00 54 41.0 -3.2
LIA	Limnos Island	99.28 318		P		Pdif	00 45 03.7 -0.5
LIA	Limnos Island	99.28 318		P		SKSac	00 54 40.5 -3.8
NVR	Nevrokopi	99.29 319		P		Pdif	00 45 04.1 -0.2
NVR	Nevrokopi	99.29 319		P		SKSac	00 54 43.7 -0.8
E42A	Champion	99.30 34		Pdiff		Pdif	00 45 03.5 -0.7
	baz=310						
TIH	Tihany	99.31 326	⇓	*i*P		Pdif	00 45 00.1 -4.1
TIH				*e*PP		PP	00 49 18.0 +1.2
K39A	Oelwein	99.35 39		Pdiff		Pdif	00 45 03.4 -1.1
	baz=306						
G41A	Antigo	99.38 36		Pdiff		Pdif	00 45 03.9 -0.7
	baz=309						
I40A	Norwalk	99.38 37		Pdiff		Pdif	00 45 03.9 -0.7
	baz=307						
FRGS	Fruska Gora	99.39 324	⇓	*i*P		Pdif	00 45 03.4 -1.2
SMG	Samos	99.40 315		P		Pdif	00 45 04.0 -0.8
BODT	Bodrum	99.42 314		P		Pdif	00 45 03.5 -1.4
KKB	Krupnik	99.47 320		*e*P		Pdif	00 45 04.2 -0.8
KKB	Krupnik	99.47 320		*e*P		SKSac	00 54 43.0 -2.3
H41A	Junction City	99.49 36		Pdiff		Pdif	00 45 04.6 -0.4
	baz=308						
SOP	Sopron	99.49 328		*i* P		Pdif	00 45 02.0 -2.9
SOP				*e*PP		PP	00 49 19.0 +0.9
CHOS	Chios island	99.55 316		P		Pdif	00 45 04.9 -0.6
SRS	Serrai	99.59 319		P		Pdif	00 45 04.6 -1.0
SRS	Serrai	99.59 319		P		SKSac	00 54 42.5 -3.4
J40A	Soldiers Grove	99.61 38		Pdiff		Pdif	00 45 05.3 -0.3
	baz=307						
ABTX	Abilene, Hawle	99.62 51		Pdiff		Pdif	00 45 06.1 +0.2
	baz=300						
L39A	Vinton	99.62 39		Pdiff		Pdif	00 45 04.9 -0.8
	baz=306						
CONA	Conrad Observa	99.67 328		*i* Pdiff		Pdif	00 45 05.6 -0.3
	comp=Z,56nm,1.1s,SNR=30						
CONA				*e*PP		PP	00 49 19.2 -0.4
	comp=Z,79nm,1.3s						
CONA				*e*SKKPbc		SKKPbc	01 04 07.4 +0.8
	comp=Z,17nm,1.5s						
I41A

SKY	Skiros Island	100.26	317		P	Pdif	Pdif	00 45 08.3	-0.3
THE	Thessaloniki	100.26	319		P	Pdif	Pdif	00 45 07.7	-0.8
ARSA	Arzberg	100.30	328		*i* Pdiff	Pdif	Pdif	00 45 07.9	-0.7
	comp=Z,52nm,1.6s,SNR=16								
ARSA					PP	PP	PP	00 49 20.2	-4.0
	comp=Z,57nm,1.4s								
ARSA					*e*SKKPbc	SKKPbc		01 04 05.9	+1.1
	comp=Z,21nm,1.3s								
I42A	Draeger Farm,	100.36	37		Pdiff	Pdif	Pdif	00 45 08.7	-0.2
	baz=309								
EDU	Dundee	100.38	343		*e*P	Pdif	Pdif	00 45 09.4	+0.7
F44A	Big Bay de Noc	100.38	34		Pdiff	Pdif	Pdif	00 45 08.7	-0.3
	baz=311								
KPL	Plockton	100.39	344		*e*P	Pdif	Pdif	00 45 08.6	-0.1
SKO	Skopje	100.40	321		*i* P	Pdif	Pdif	00 45 09.1	0.0
SKO	Skopje	100.40	321		*i* P	SKSac	SKSac	00 54 50.1	+0.4
BBLS	Lazići	100.42	323		*e*P	Pdif	Pdif	00 45 08.5	-0.8
GRG	Griva	100.42	320		P	Pdif	Pdif	00 45 09.0	-0.3
GRG	Griva	100.42	320		P	SKSac	SKSac	00 54 44.0	-5.9
AMGA	Amorgos Island	100.50	315		P	SKSac	SKSac	00 54 51.0	+0.6
MOA	Molln	100.52	329		*i* Pdiff	Pdif	Pdif	00 45 08.9	-0.7
	comp=Z,32nm,1.0s,SNR=14								
MOA					*e*PP	PP	PP	00 49 24.9	-0.9
	comp=Z,37nm,0.8s								
MOA					*e*PKKPbc	PKKPbc	PKKPbc	01 01 21.2	-2.2
	comp=Z,11nm,0.8s								
MOA					*i* SKKPdf	SKKPdf		01 04 02.2	-1.1
	comp=Z,23nm,1.3s								
HAPS	Han Pijesak,BI	100.54	324		*e*P	Pdif	Pdif	00 45 08.6	-1.3
JCT	Junction City	100.55	53		Pdiff	Pdif	Pdif	00 45 09.9	-0.2
	baz=299								
J42A	Columbus	100.59	37		Pdiff	Pdif	Pdif	00 45 09.3	-0.7
	baz=308								
DOB	Doboj	100.60	325		*e*P	Pdif	Pdif	00 45 08.4	-1.5
N40A	Mertquake, Sal	100.61	40		Pdiff	Pdif	Pdif	00 45 08.8	-1.2
	baz=306								
APE	Apeiranthos	100.62	315		P	SKSac	SKSac	00 54 46.4	-4.6
GRFO	Grafenberg	100.65	332		*e*Pdif	Pdif	Pdif	00 45 09.4	-0.7
TUL1	Leonard	100.67	46		Pdiff	Pdif	Pdif	00 45 09.7	-0.8
	baz=302								
IVA	Berane	100.76	322	⇑	*i* P	Pdif	Pdif	00 45 10.9	+0.1
PLE	Pljevlja	100.76	323	⇑	*i* P	Pdif	Pdif	00 45 11.3	+0.4
INVG	Invergeldie, C	100.77	343		*e*P	Pdif	Pdif	00 45 10.8	+0.4
E45A	Wooded Hills,	100.78	33		Pdiff	Pdif	Pdif	00 45 09.9	-0.8
	baz=312								
I43A	Langenfeld Bro	100.79	36		Pdiff	Pdif	Pdif	00 45 09.5	-1.4
	baz=309								
K42A	Prairie Point,	100.80	38		Pdiff	Pdif	Pdif	00 45 09.4	-1.5
	baz=308								
WTSB	Winterswijk	100.82	335		*e*PKP	Pdif	Pdif	00 45 10.5	-0.2
	comp=Z,1µm,3.0s								
ANAF	Anafi Island	100.84	314		P	SKSac	SKSac	00 54 51.9	-0.1
LIT	Litokhoron	100.87	319		P	Pdif	Pdif	00 45 10.4	-0.9
PVY	Plav	100.89	322	⇑	*i* P	Pdif	Pdif	00 45 11.4	-0.1
PERS	Pernice	100.92	328		*i* Pdiff	Pdif	Pdif	00 45 11.2	-0.2
PERS					*i* PP	PP	PP	00 49 30.7	+1.9
PERS					*i* SKSac	SKSac	SKSac	00 54 48.4	-3.7
SOKA	Soboth	100.93	328		*e*Pdiff	Pdif	Pdif	00 45 10.3	-1.2
	comp=Z,67nm,1.2s,SNR=28								
SOKA					*e*PP	PP	PP	00 49 24.0	-4.9
	comp=Z,35nm,1.2s								
SOKA					*e*PKKPbc	PKKPbc	PKKPbc	01 01 21.5	-0.8
	comp=Z,12nm,1.3s								
SOKA					*i* SKKPbc	SKKPbc		01 04 04.2	+0.9
	comp=Z,14nm,1.2s								
M41A	Milan	100.95	39		Pdiff	Pdif	Pdif	00 45 10.1	-1.5
	baz=307								
J43A	Natural Harves	100.95	37		Pdiff	Pdif	Pdif	00 45 10.5	-1.0
	baz=309								
FYTO	Fytoko, Volos	100.99	318		P	Pdif	Pdif	00 45 11.0	-0.8
KOME	Kolasin	100.99	323	⇑	*i* P	Pdif	Pdif	00 45 12.3	+0.4
D46A	Sault St. Mari	101.00	32		Pdiff	Pdif	Pdif	00 45 11.8	+0.1
	baz=313								
ZAG	Zagreb	101.01	327		*e*P	Pdif	Pdif	00 45 10.8	-1.0
BIA	Bitola	101.04	320		*i* P	Pdif	Pdif	00 45 13.2	+1.1
F45A	CMU Biological	101.05	34		Pdiff	Pdif	Pdif	00 45 11.0	-0.9
	baz=312								
BLY	Banja Luka	101.09	325	⇑	*i* P	Pdif	Pdif	00 45 11.3	-0.8
BLY	Banja Luka	101.09	325	⇓	*i* P	Pdif	Pdif	00 45 09.9	-2.2
L42A	Oliver, Polo	101.09	38		Pdiff	Pdif	Pdif	00 45 11.9	-0.2
	baz=308								
DION	Dionisos Attik	101.11	317		P	Pdif	Pdif	00 45 10.3	-2.1
DION	Dionisos Attik	101.11	317		P	SKSac	SKSac	00 54 51.3	-2.0
UPM	Unac-Piva	101.12	323	⇑	*i* P	Pdif	Pdif	00 45 12.3	-0.3
FNA	Florina	101.15	320		P	Pdif	Pdif	00 45 12.0	-0.6
N41A	Harden Midland	101.16	40		Pdiff	Pdif	Pdif	00 45 11.6	-0.9
	baz=307								
PTL	Penteli	101.17	317		P	Pdif	Pdif	00 45 09.2	-3.5
KZN	Kozani	101.19	319		P	Pdif	Pdif	00 45 12.0	-0.8
E46A	Sault Ste Mari	101.22	33		Pdiff	Pdif	Pdif	00 45 12.5	-0.2
	baz=313								
SERI	Serifos	101.26	316		P	Pdif	Pdif	00 45 11.1	-2.0
SERI	Serifos	101.26	316		P	SKSac	SKSac	00 54 50.9	-3.1
CRES	Cresnjev	101.29	327	⇓	*i* P	Pdif	Pdif	00 45 11.8	-1.2
OBKA	Obir	101.29	328		*e*Pdiff	Pdif	Pdif	00 45 12.6	-0.5
	comp=Z,18nm,1.2s								
OBKA					*e*PP	PP	PP	00 49 29.5	-2.1
	comp=Z,81nm,1.0s								
OBKA					*e*PKKPbc	PKKPbc	PKKPbc	01 01 20.8	-0.5
	comp=Z,18nm,1.1s								
OBKA					*e*SKKPdf	SKKPdf		01 04 00.7	-1.3
	comp=Z,29nm,1.5s								
OHR	Ohrid	101.30	321		*i* P	Pdif	Pdif	00 45 13.3	0.0
OHR	Ohrid	101.30	321		*i* P	SKSac	SKSac	00 54 47.2	-6.9
ATH	Athens Observa	101.31	317		P	SKSac	SKSac	00 54 47.6	-6.5
NKY	Niksic	101.31	323	⇑	*i* P	Pdif	Pdif	00 45 13.5	+0.2
VLY	Voula,Athens	101.33	316		P	Pdif	Pdif	00 45 10.2	-3.2
ATAL	Atalanti	101.35	318		P	SKSac	SKSac	00 54 52.3	-2.0
D47A	Chapleau	101.35	31		Pdiff	Pdif	Pdif	00 45 12.8	-0.5
	baz=314								
MGRS	Mrkonjic Grad	101.36	325		*e*P	Pdif	Pdif	00 45 13.7	+0.3
NKME	Niksic	101.37	323	⇑	*i* P	Pdif	Pdif	00 45 13.4	-0.1
F46A	Macinaw City C	101.39	33		Pdiff	Pdif	Pdif	00 45 13.3	-0.1
	baz=312								
PDG	Podgorica	101.40	322	⇑	*i* P	Pdif	Pdif	00 45 12.3	-1.3
PDG	Podgorica	101.40	322	⇓	*i* P	Pdif	Pdif	00 45 12.6	-1.0
TTG	Podgorica	101.40	322	⇑	*i* P	Pdif	Pdif	00 45 13.5	-0.1
G45A	Suttons Bay	101.40	34		Pdiff	Pdif	Pdif	00 45 12.8	-0.7
	baz=311								
K43A	Burlington	101.43	37		Pdiff	Pdif	Pdif	00 45 12.5	-1.2
	baz=309								
VILL	Villia	101.46	317		P	Pdif	Pdif	00 45 13.0	-1.0
H45A	Beulah	101.47	35		Pdiff	Pdif	Pdif	00 45 13.3	-0.6
	baz=311								
EKA	Eskdalemuir Ar	101.47	342		PKKPbc	PKKPbc		01 01 18.1	-2.9
	comp=Z,2.7nm,0.4s,baz=233,slow=3.3,SNR=18								
EKA					SKKPbc	SKKPbc		01 04 01.3	-0.6
	comp=Z,9.3nm,1.0s,baz=250,slow=2.4,SNR=5.4								
THL	Klokotos Trika	101.48	319		P	SKSac	SKSac	00 54 51.3	-3.6
ESK	Eskdalemuir	101.50	342		*e*P	Pdif	Pdif	00 45 15.0	+1.3
ESK	Eskdalemuir	101.50	342		*i* P	Pdif	Pdif	00 45 17.4	+3.7
KBA	Koelnbreinsper	101.50	329		*e*Pdiff	Pdif	Pdif	00 45 13.8	-0.4
	comp=Z,13nm,0.8s								
KBA					*e*PKiKP	PP	PP	00 49 33.0	-0.2
	comp=Z,124nm,0.9s								
KBA					*e*SKKPdf	SKKPdf		01 03 59.6	-2.1
	comp=Z,9.8nm,1.4s								
BRY	Bratogost	101.52	323	⇑	*i* P	Pdif	Pdif	00 45 14.0	-0.2
BRY	Bratogost	101.52	323		*e*P	Pdif	Pdif	00 45 14.1	-0.2
L43A	Garden Prairie	101.52	38		Pdiff	Pdif	Pdif	00 45 12.8	-1.3
	baz=309								
CEME	Cevo	101.52	323	⇑	*i* P	Pdif	Pdif	00 45 14.2	0.0
WHTX	Lake Whitney,	101.54	50		Pdiff	Pdif	Pdif	00 45 14.8	+0.4
	baz=301								
NPS	Neapolis	101.54	313		P	Pdif	Pdif	00 45 12.0	-2.4
NEST	Nestorio	101.57	320		P	SKSac	SKSac	00 54 52.2	-3.3
MHLO	Agia Marina, M	101.58	315		P	SKSac	SKSac	00 54 52.2	-3.3
DRME	Dracevica, Mon	101.59	322	⇑	*i* P	Pdif	Pdif	00 45 15.2	+0.7
DRME	Dracevica, Mon	101.59	322	⇓	*i* P	Pdif	Pdif	00 45 14.8	+0.3
BOJS	Bojanci	101.61	327		*i* Pdiff	Pdif	Pdif	00 45 16.3	+1.9
BOJS					*i*			00 46 39.1	
BOJS					*e*pP	pwP		00 47 34.0	+3.4
BOJS					*i* sPdiff	sPdif	sPdif	00 48 29.9	+4.0
BOJS					*e*PP	PP	PP	00 49 32.0	-1.8
BOJS					*i* SKSac	SKSac	SKSac	00 54 53.0	-2.3
LJU	Ljubljana	101.62	327	⇓	*i* P	Pdif	Pdif	00 45 13.9	-0.6
VISS	Visnje	101.62	327		*i* Pdiff	Pdif	Pdif	00 45 13.7	-0.8
VISS					*e*PP	PP	PP	00 49 32.4	-1.6
VISS					*i* SKSac	SKSac	SKSac	00 54 53.0	-2.4
G46A	Petoskey	101.64	34		Pdiff	Pdif	Pdif	00 45 14.3	-0.2
	baz=312								
PENT	Pentalofos	101.64	320		P	SKSac	SKSac	00 54 53.9	-2.0
KPRO	Kipourio	101.65	319		P	Pdif	Pdif	00 45 11.4	-3.4
KPRO	Kipourio	101.65	319		P	SKSac	SKSac	00 54 56.3	+0.4
MYKA	Terra Mystica	101.67	328		*e*Pdiff	Pdif	Pdif	00 45 13.8	-1.0
	comp=Z,21nm,1.6s								
MYKA					*e*PKKPbc	PKKPbc	PKKPbc	01 01 18.7	-1.5
	comp=Z,9.1nm,0.7s								
MYKA					*i* SKKPbc	SKKPbc		01 04 02.3	+1.0
	comp=Z,10nm,1.2s								
PROD	Prodromos	101.67	317		P	SKSac	SKSac	00 54 52.6	-3.3
E47A	Iron Bridge	101.68	32		Pdiff	Pdif	Pdif	00 45 15.1	+0.3
	baz=314								
BUM	Brajici-Budva	101.69	322	⇑	*i* P	Pdif	Pdif	00 45 15.2	+0.2
ULC	Ulcinj	101.70	322	⇑	*i* P	Pdif	Pdif	00 45 15.0	0.0
TIR	Tirane	101.72	321		P	Pdif	Pdif	00 45 14.4	-0.6
TIR	Tirane	101.72	321	⇑	*i* P	Pdif	Pdif	00 45 14.5	-0.6
SCHQ	Schefferville	101.74	18		P	Pdif	Pdif	00 45 14.7	-0.1
	comp=Z,12nm,0.6s,baz=311,slow=3.2,SNR=6.5								
SCHQ					PKiKP	PKiKP	PKiKP	00 49 33.6	-0.5
	comp=Z,9.7nm,0.6s,baz=288,slow=6.4,SNR=3.6								
SCHQ					S	SKSac	SKSac	00 54 55.5	0.0
	comp=Z,7.2nm,0.7s,baz=180,slow=15,SNR=7.3								
SCHQ					PKKPbc	PKKPbc	PKKPbc	01 01 16.9	-3.4
	comp=Z,4.2nm,0.3s,baz=68,slow=3.8,SNR=8.2								
SCHQ					SKKPbc	SKKPbc	SKKPbc	01 04 01.3	0.0
	comp=Z,6.6nm,0.8s,baz=76,slow=2.3,SNR=4.1								
TREB	Trebinje	101.74	323		*e*P	Pdif	Pdif	00 45 13.9	-1.2
I45A	Fountain	101.75	35		Pdiff	Pdif	Pdif	00 45 14.1	-1.0
	baz=311								
LOUT	Loutraki	101.78	317		P	SKSac	SKSac	00 54 51.1	-5.3
DSF	Desfina	101.83	318		P	Pdif	Pdif	00 45 13.4	-2.2
DSF	Desfina	101.83	318		P	SKSac	SKSac	00 54 51.4	-5.3
HCY	Herceg Novi	101.83	323	⇑	*i* P	Pdif	Pdif	00 45 15.0	-0.5
HCY	Herceg Novi	101.83	323		*e*P	Pdif	Pdif	00 45 15.2	-0.3
M43A	Waltham Townsh	101.85	39		Pdiff	Pdif	Pdif	00 45 15.2	-0.4
	baz=308								
CEY	Cerknica	101.88	327	⇓	*i* P	Pdif	Pdif	00 45 15.3	-0.4
DID	Didima	101.89	316		P	Pdif	Pdif	00 45 12.9	-3.0
DID	Didima	101.89	316		P	SKSac	SKSac	00 54 53.5	-3.5
D48A	Paudash Townsh	101.90	31		Pdiff	Pdif	Pdif	00 45 14.8	-1.0
	baz=315								
833A	Chaparral WMA,	101.90	55		Pdiff	Pdif	Pdif	00 45 16.4	+0.3
	baz=299								
MATQ	Matagami	101.92	27		Pdiff	Pdif	Pdif	00 45 15.1	-0.6
	baz=319								
JAVS	Javornik	101.96	328		*e*Pdiff	Pdif	Pdif	00 45 15.3	-0.8
JAVS					*e*PP	PKiKP	PKiKP	00 49 34.7	-0.1
JAVS					*i* SKSac	SKSac	SKSac	00 54 54.6	-2.5
H46A	Fife Lake	101.98	34		Pdiff	Pdif	Pdif	00 45 16.2	+0.1
	baz=312								
EVR	Evrytania	101.99	318		P	SKSac	SKSac	00 54 47.0	-11
UDBI	Udbina	102.00	326		P	Pdif	Pdif	00 45 14.9	-1.4
L44A	Lake County Fo	102.00	37		Pdiff	Pdif	Pdif	00 45 15.4	-0.8
	baz=309								
STON	Ston	102.01	323		P	Pdif	Pdif	00 45 15.1	-1.2
STON	Ston	102.01	323	⇓	*i* P	Pdif	Pdif	00 45 15.7	-0.5
KRND	KRANIDI	102.02	316		P	SKSac	SKSac	00 54 54.1	-3.4
IDI	Anoyia	102.03	314		S	SKSac	SKSac	00 54 57.5	-0.3
	comp=Z,12nm,0.8s,baz=18,slow=20,SNR=3.9								
IDI					PKKPbc	PKKPbc		01 01 19.0	+0.3
	comp=Z,11nm,0.8s,baz=317,slow=3.0,SNR=8.1								
N43A	Stutzman Famil	102.03	39		Pdiff	Pdif	Pdif	00 45 14.6	-1.9
	baz=308								
D49A	Beulah Townshi	102.05	30		Pdiff	Pdif	Pdif	00 45 14.5	-1.9
	baz=315								
J45A	Montague	102.06	36		Pdiff	Pdif	Pdif	00 45 16.2	-0.3
	baz=311								
435B	Jarrell	102.06	52		Pdiff	Pdif	Pdif	00 45 17.2	+0.4
	baz=300								
HGN	Heimansgroeve	102.10	335		*e*PKP	Pdif	Pdif	00 45 16.5	0.0
	comp=Z,1µm,3.3s								
GLMI	Grayling	102.10	34		Pdiff	Pdif	Pdif	00 45 15.8	-0.8
	baz=312								
ANX	Ano Chora	102.11	318		P	Pdif	Pdif	00 45 15.5	-1.4
ANX	Ano Chora	102.11	318		P	SKSac	SKSac	00 54 54.0	-4.1
SERG	Sergoula	102.13	318		P	SKSac	SKSac	00 54 55.3	-2.7
RIY	Rijeka	102.13	327		*e*P	Pdif	Pdif	00 45 15.2	-1.6
ABTA	Abfaltersbach	102.14	329		*e*Pdiff	Pdif	Pdif	00 45 15.8	-1.1
	comp=Z,27nm,1.3s,SNR=12								
ABTA					*e*PKiKP	PKiKP	PKiKP	00 49 34.4	-0.7
	comp=Z,49nm,1.1s								
ABTA					*i* PKKPbc	PKKPbc	PKKPbc	01 01 17.9	-1.0
	comp=Z,24nm,1.3s								
ABTA					*e*SKKPdf	SKKPdf		01 04 01.1	+0.6
	comp=Z,17nm,1.3s								
TRIZ	Trizonia	102.14	318		P	Pdif	Pdif	00 45 15.4	-1.5
TRIZ	Trizonia	102.14	318		P	SKSac	SKSac	00 54 55.0	-3.0
JAN	Janina	102.14	319		P	Pdif	Pdif	00 45 16.7	-0.3
TRAZ	Trapeza	102.17	317		P	Pdif	Pdif	00 45 15.8	-1.4
TRAZ	Trapeza	102.17	317		P	SKSac	SKSac	00 54 52.4	-5.9
BEBN	Eben Emael	102.17	335	⇓	Pdif	Pdif	Pdif	00 45 16.9	+0.1
BEBN				⇑	PKiKP	PP	PP	00 49 38.5	+0.7
WATA	Walderalm	102.18	330		*e*PKKPbc	PKKPbc		01 01 19.0	+0.1
	comp=Z,6.6nm,0.8s								
ALIK	Aliki, Aigiali	102.18	318		P	SKSac	SKSac	00 54 56.0	-2.2
MEM	Membach	102.19	335	⇓	Pdif	Pdif	Pdif	00 45 16.9	0.0
MEM				⇑	PKiKP	PP	PP	00 49 37.2	-0.6
HPK	Haverah Park	102.19	341		*e*P	Pdif	Pdif	00 45 17.3	+0.5
HDIL	Hopedale	102.19	39		Pdiff	Pdif	Pdif	00 45 16.2	-1.0
	baz=308								
WTTA	Wattenberg	102.20	330		*e*Pdiff	Pdif	Pdif	00 45 15.6	-1.7
	comp=Z,26nm,1.3s								
WTTA					*e*PKiKP	PKiKP	PKiKP	00 49 35.7	+0.3
	comp=Z,110nm,1.0s								
WTTA					*i* PKKPbc	PKKPbc	PKKPbc	01 01 18.0	-0.9
	comp=Z,14nm,1.0s								
WTTA					*e*SKKPbc	SKKPbc		01 03 59.9	-0.3
	comp=Z,32nm,1.3s								
E48A	Lockeyer	102.21	31		Pdiff	Pdif	Pdif	00 45 17.3	+0.2
	baz=314								
EFP	Efpalio	102.21	318		P	Pdif	Pdif	00 45 16.3	-1.0
EFP	Efpalio	102.21	318		P	SKSac	SKSac	00 54 49.5	-8.8
GUR	Goura	102.22	317		P	SKSac	SKSac	00 54 48.8	-10
I46A	Reed City	102.24	35		Pdiff	Pdif	Pdif	00 45 16.8	-0.5
	baz=311								
R41A	Rosebud	102.25	42		Pdiff	Pdif	Pdif	00 45 16.5	-1.0
	baz=306								
G47A	Hillman	102.26	33		Pdiff	Pdif	Pdif	00 45 16.9	-0.5
	baz=313								
LAKA	Lakka	102.28	318		P	Pdif	Pdif	00 45 15.9	-1.7
LAKA	Lakka	102.28	318		P	SKSac	SKSac	00 54 54.0	-4.8
GAL1	Galloway	102.32	343		*e*P	Pdif	Pdif	00 45 19.7	+2.3
PVO	Paravola	102.34	318		P	SKSac	SKSac	00 54 51.8	-7.2
MOTA	Moosalm	102.39	330		*e*Pdiff	Pdif	Pdif	00 45 15.8	-2.3
	comp=Z,14nm,1.1s								
MOTA					*e*PKiKP	PKiKP	PKiKP	00 49 36.1	+0.5
	comp=Z,273nm,1.5s								
MOTA					*e*PKKPbc	PKKPbc	PKKPbc	01 01 17.4	-0.8
	comp=Z,22nm,1.4s								
MOTA					*e*SKKPdf	SKKPdf		01 04 01.3	+1.2
	comp=Z,15nm,1.1s								
U40A	Yellville	102.41	45		Pdiff	Pdif	Pdif	00 45 17.8	-0.4
	baz=305								
M44A	Midewin, Midew	102.42	38		Pdiff	Pdif	Pdif	00 45 17.3	-0.8
	baz=309								
Q42A	Golden Eagle	102.43	41		Pdiff	Pdif	Pdif	00 45 16.8	-1.4
	baz=307								
VAM	Vamos	102.43	314		P	SKSac	SKSac	00 55 01.3	+1.8
S41A	Jillco Farms,	102.43	43		Pdiff	Pdif	Pdif	00 45 16.9	-1.5
	baz=306								
SQTA	Sankt Quirin	102.43	330		*e*Pdiff	Pdif	Pdif	00 45 17.5	-0.7
	comp=Z,21nm,1.0s								
SQTA					*e*PKiKP	PKiKP	PKiKP	00 49 36.7	+1.0
	comp=Z,146nm,1.2s								
SQTA					*i* PKKPbc	PKKPbc	PKKPbc	01 01 17.5	-0.6
	comp=Z,9.7nm,0.8s								
SQTA					*e*SKKPdf	SKKPdf		01 04 00.5	+0.5
	comp=Z,16nm,1.0s								
W39A	Magazine	102.43	46		Pdiff	Pdif	Pdif	00 45 16.7	-1.6
	baz=304								
F48A	Evansville	102.44	32		Pdiff	Pdif	Pdif	00 45 18.7	+0.5
	baz=314								
NVLJ	Novalja	102.44	326		P	Pdif	Pdif	00 45 17.1	-1.0
RETA	Reutte	102.45	330		*e*Pdiff	Pdif	Pdif	00 45 18.2	-0.1
	comp=Z,22nm,1.2s								
RETA					*e*PP	PP	PP	00 49 38.7	-1.4
	comp=Z,129nm,1.4s								
RETA					*i* PKKPbc	PKKPbc	PKKPbc	01 01 16.4	-1.6
	comp=Z,7.6nm,0.7s								
RETA					*e*SKKPdf	SKKPdf		01 03 59.9	-0.1
	comp=Z,15nm,1.2s								
H47A	Mio	102.47	34		Pdiff	Pdif	Pdif	00 45 17.2	-1.1
	baz=312								
CCM	Cathedral Cave	102.48	42		*e*Pdif	Pdif	Pdif	00 45 18.0	-0.5
CCM					*e*PKiKP	PKiKP	PKiKP	00 49 33.8	-2.1
CCM	Cathedral Cave	102.48	42		Pdiff	Pdif	Pdif	00 45 17.2	-1.3
	baz=306								
WACR	West Acre	102.49	339		*e*P	Pdif	Pdif	00 45 17.6	-0.6
TRIP	Tripoli	102.50	317		P	Pdif	Pdif	00 45 17.4	-1.3
TRIP	Tripoli	102.50	317		P	SKSac	SKSac	00 54 53.2	-6.7
J46A	Howard City	102.52	35		Pdiff	Pdif	Pdif	00 45 18.2	-0.4
	baz=311								
SRN	Sarande	102.53	320		P	Pdif	Pdif	00 45 18.0	-0.6
VLI	Veliai	102.53	316		P	Pdif	Pdif	00 45 16.5	-2.3
IGT	Igoumenitsa	102.54	320		P	Pdif	Pdif	00 45 17.8	-0.9
P43A	Skaggs, Pawnee	102.61	40		Pdiff	Pdif	Pdif	00 45 18.0	-1.1
	baz=308								
BCLA	Clavier	102.62	335	⇑	Pdif	Pdif	Pdif	00 45 18.2	-0.6
BCLA				⇑	PKiKP	PKiKP	PKiKP	00 49 35.3	-0.4
DRO	Drossia	102.62	318		P	SKSac	SKSac	00 54 55.0	-5.3
UCC	Uccle	102.69	336	⇓	Pdif	Pdif	Pdif	00 45 18.5	-0.6
UCC				⇑	PKiKP	PP	PP	00 49 39.7	-1.8
I47A	Gladwin	102.69	34		Pdiff	Pdif	Pdif	00 45 18.3	-1.0
	baz=312								
LBWR	Ladybower, Pea	102.69	340		*e*P	Pdif	Pdif	00 45 19.6	+0.5
RLS	Riolos of Patr	102.71	318		P	SKSac	SKSac	00 54 51.2	-9.4
LSQQ	Lebel-sur-Quev	102.73	27		Pdiff	Pdif	Pdif	00 45 17.7	-1.6
	baz=319								
N44A	Piper City	102.74	39		Pdiff	Pdif	Pdif	00 45 18.7	-0.9
	baz=309								
KTHR	Kythira	102.75	316		P	SKSac	SKSac	00 54 59.3	-1.7
KEK	Kerkira	102.76	320		P	Pdif	Pdif	00 45 19.2	-0.5
F49A	Sandfield	102.78	32		Pdiff	Pdif	Pdif	00 45 19.5	-0.2
	baz=314								
LKD2	Lefkada island	102.78	319		P	SKSac	SKSac	00 54 59.9	-1.2
FETA	Feichten	102.81	330		*e*Pdiff	Pdif	Pdif	00 45 18.9	-1.0
	comp=Z,26nm,1.4s,SNR=6.0								
FETA					*e*PP	PP	PP	00 49 41.0	-1.7
	comp=Z,145nm,1.2s								
FETA					*e*PKKPbc	PKKPbc	PKKPbc	01 01 17.1	+0.1
	comp=Z,14nm,1.2s								
FETA					*e*SKKPbc	SKKPbc		01 03 58.9	+0

D54A	Lac Fusel, La	104.31	28	Pdiff	Pdif	00 45 25.3	-1.1
	baz=319						
Q46A	CEJHS Indians,	104.31	40	Pdiff	Pdif	00 45 25.9	-0.7
	baz=309						
SWN1	Swindon	104.32	339	eP	Pdif	00 45 27.4	+1.1
MAW	Mawson	104.33	203	ePdif	Pdif	00 45 28.0	+2.2
MAW	Mawson	104.33	203	Pdiff	Pdif	00 45 27.9	+2.0
	comp=Z,9.9nm,0.9s,baz=90,slow=4.7,SNR=14						
MAW				Sdiff	SKSac	00 55 03.6	-2.8
	comp=Z,22nm,1.1s,baz=224,slow=19,SNR=4.2						
MAW				PKKPbc	PKKPbc	01 01 10.8	-1.6
	comp=Z,20nm,0.9s,baz=239,slow=4.1,SNR=13						
MONM	Monmouth	104.37	340	eP	Pdif	00 45 26.7	+0.2
L49A	Milan	104.38	35	Pdiff	Pdif	00 45 26.2	-0.7
	baz=312						
BWLO	Walkerton	104.39	33	Pdiff	Pdif	00 45 26.9	0.0
	baz=315						
S45A	Carrier Mills	104.40	41	Pdiff	Pdif	00 45 26.4	-0.6
	baz=308						
E53A	Dumoine, Ponti	104.44	29	Pdiff	Pdif	00 45 26.1	-0.9
	baz=318						
N48A	Decatur	104.51	37	Pdiff	Pdif	00 45 27.7	+0.2
	baz=311						
ALGO	Algonquin Park	104.57	30	Pdiff	Pdif	00 45 26.5	-1.1
	baz=318						
E54A	Lac Daplat, Po	104.62	29	Pdiff	Pdif	00 45 27.3	-0.4
	baz=319						
H52A	Wyevale	104.64	32	Pdiff	Pdif	00 45 27.6	-0.3
	baz=316						
I51A	Listowel	104.67	33	Pdiff	Pdif	00 45 27.5	-0.6
	baz=315						
P47A	Martinsville	104.67	39	Pdiff	Pdif	00 45 26.8	-1.4
	baz=310						
M49A	Liberty Center	104.69	36	Pdiff	Pdif	00 45 26.9	-1.4
	baz=312						
R46A	Gibon Southern	104.73	40	Pdiff	Pdif	00 45 27.2	-1.2
	baz=309						
AQU	L'Aquila	104.73	325	eP	Pdif	00 45 28.7	+0.2
T45A	Paducah	104.76	42	Pdiff	Pdif	00 45 27.9	-0.7
	baz=308						
X43A	Marvell	104.78	45	Pdiff	Pdif	00 45 28.1	-0.7
	baz=306						
O48A	Farmland	104.83	38	Pdiff	Pdif	00 45 27.8	-1.0
	baz=311						
IGLA	Glengowla, Co	104.86	345	ePP	PP	00 49 56.3	-0.8
I52A	Shelburne	104.91	32	Pdiff	Pdif	00 45 28.8	-0.4
	baz=316						
G53A	Haliburton	104.92	31	Pdiff	Pdif	00 45 28.4	-0.8
	baz=317						
TIP	Timpagrande	104.92	321	iP	Pdif	00 45 30.4	+1.0
Q47A	Bedord North L	104.93	39	Pdiff	Pdif	00 45 28.7	-0.7
	baz=310						
S46A	Don Dixon Farm	104.93	41	Pdiff	Pdif	00 45 28.2	-1.1
	baz=308						
N49A	Columbus Grove	104.94	37	Pdiff	Pdif	00 45 29.4	0.0
	baz=312						
L50A	Kingsville	104.95	35	Pdiff	Pdif	00 45 27.8	-1.6
	baz=313						
IWEX	Carrickbyrne,	105.10	343	ePP	PP	00 49 57.8	-1.2
IWEX				iSKS	SKSac	00 55 10.5	-0.4
IWEX				iPS	PS	00 59 34.0	+3.9
K51A	Iona Station	105.18	34	Pdiff	Pdif	00 45 30.1	-0.2
	baz=314						
P48A	Milroy	105.19	38	Pdiff	Pdif	00 45 29.2	-1.3
	baz=311						
T46A	Princeton	105.22	42	Pdiff	Pdif	00 45 29.5	-1.1
	baz=308						
PLIO	Pelee Island,	105.25	35	Pdiff	Pdif	00 45 30.5	-0.2
	baz=313						
M50A	Fremont	105.26	36	Pdiff	Pdif	00 45 28.8	-1.9
	baz=313						
R47A	Wooly Knot Far	105.28	40	Pdiff	Pdif	00 45 29.6	-1.3
	baz=310						
ACTO	Acton	105.30	32	Pdiff	Pdif	00 45 30.9	0.0
	baz=316						
BANO	Bancroft	105.32	30	Pdiff	Pdif	00 45 29.4	-1.6
	baz=318						
O49A	Covington	105.34	37	Pdiff	Pdif	00 45 30.5	-0.7
	baz=312						
J52A	Paris	105.35	33	Pdiff	Pdif	00 45 31.5	+0.3
	baz=315						
Q48A	North Vernon	105.35	39	Pdiff	Pdif	00 45 29.5	-1.7
	baz=310						
I53A	Kortright Cn E	105.38	32	Pdiff	Pdif	00 45 30.8	-0.5
	baz=316						
F55A	Otter Lake	105.45	29	Pdiff	Pdif	00 45 28.4	-3.2
	baz=319						
U46A	Springville	105.46	42	Pdiff	Pdif	00 45 31.0	-0.8
	baz=308						
WCI	Wyandotte Cave	105.46	40	Pdiff	Pdif	00 45 30.7	-1.0
	baz=310						
S47A	Hartford	105.51	41	Pdiff	Pdif	00 45 31.1	-0.9
	baz=309						
PKRO	Pickering	105.54	32	Pdiff	Pdif	00 45 32.1	+0.1
	baz=317						
K52A	Tillsonburg	105.55	33	Pdiff	Pdif	00 45 30.3	-1.7
	baz=315						
P49A	Miami Univ. Ec	105.56	38	Pdiff	Pdif	00 45 31.4	-0.8
	baz=311						
R48A	Northridge Ran	105.61	39	Pdiff	Pdif	00 45 31.7	-0.6
	baz=310						
N50A	Nevada	105.63	36	Pdiff	Pdif	00 45 31.2	-1.2
	baz=313						
TORO	Toronto--Lesli	105.66	32	Pdiff	Pdif	00 45 32.5	+0.1
	baz=316						
PLVO	Plevna	105.71	30	Pdiff	Pdif	00 45 32.4	-0.3
	baz=318						
G55A	Calabogie	105.72	29	Pdiff	Pdif	00 45 32.6	-0.1
	baz=319						
T47A	Sharon Grove	105.75	41	Pdiff	Pdif	00 45 31.0	-2.0
	baz=309						
TYNO	Tyneside	105.77	33	Pdiff	Pdif	00 45 33.0	0.0
	baz=316						
OXF	Oxford	105.77	44	Pdiff	Pdif	00 45 32.8	-0.3
	baz=307						
DRWO	Darlington Wes	105.78	31	Pdiff	Pdif	00 45 33.0	0.0
	baz=317						
M51A	Elyria	105.78	35	Pdiff	Pdif	00 45 32.5	-0.5
	baz=314						
O50A	Cable	105.78	37	Pdiff	Pdif	00 45 32.0	-1.1
	baz=312						
DRCO	St. Marys Ceme	105.79	31	Pdiff	Pdif	00 45 33.0	0.0
	baz=317						
Q49A	Aurora	105.80	38	Pdiff	Pdif	00 45 33.1	-0.1
	baz=311						
LATQ	La Tuque	105.80	26	Pdiff	Pdif	00 45 32.3	-0.7
	baz=323						
WVT	Waverly	105.82	42	Pdiff	Pdif	00 45 31.6	-1.7
	baz=308						
V46A	Holladay	105.84	43	Pdiff	Pdif	00 45 32.2	-1.3
	baz=308						
DELO	Deloro Mine	105.84	30	Pdiff	Pdif	00 45 32.4	-0.9
	baz=318						
WLVO	Wesleyville	105.90	31	Pdiff	Pdif	00 45 34.0	+0.5
	baz=317						
N51A	Ashland	105.96	36	Pdiff	Pdif	00 45 33.6	-0.3
	baz=313						
S48A	Wiedeman Farm,	105.97	40	Pdiff	Pdif	00 45 32.9	-1.1
	baz=310						
U47A	Clarksville	105.97	42	Pdiff	Pdif	00 45 32.2	-1.9
	baz=309						
H55A	Tweed	106.03	30	Pdiff	Pdif	00 45 33.5	-0.6
	baz=318						
I55A	Frankford	106.04	31	Pdiff	Pdif	00 45 33.5	-0.7
	baz=318						
P50A	Jamestown	106.04	37	Pdiff	Pdif	00 45 33.8	-0.5
	baz=312						
STCO	Saint Catharin	106.04	32	Pdiff	Pdif	00 45 33.5	-0.7
	baz=316						
W46A	Michie	106.08	43	Pdiff	Pdif	00 45 33.1	-1.4
	baz=308						
M52A	Chesterland	106.08	35	Pdiff	Pdif	00 45 34.3	-0.1
	baz=314						
ACSO	Alum Creek Sta	106.08	36	Pdiff	Pdif	00 45 33.4	-1.1
	baz=313						
R49A	Shelbyville	106.10	39	Pdiff	Pdif	00 45 32.6	-1.9
	baz=311						
T48A	Bowling Green	106.11	41	Pdiff	Pdif	00 45 33.2	-1.5
	baz=309						
ORIO	Orleans, Innes	106.12	29	Pdiff	Pdif	00 45 34.6	+0.2
	baz=320						
V47A	Nunnelly	106.20	42	Pdiff	Pdif	00 45 35.1	0.0
	baz=308						
J54A	Appleton	106.26	32	Pdiff	Pdif	00 45 35.7	+0.5
	baz=317						
ALFO	Alfred	106.27	28	Pdiff	Pdif	00 45 35.2	0.0
	baz=320						
X46A	Booneville	106.29	44	Pdiff	Pdif	00 45 34.5	-0.9
	baz=307						
O51A	Pataskala	106.35	36	Pdiff	Pdif	00 45 35.4	-0.3
	baz=313						
S49A	Springfield	106.36	40	Pdiff	Pdif	00 45 35.1	-0.6
	baz=310						
VBMS	Vicksburg	106.36	47	Pdiff	Pdif	00 45 36.5	+0.6
	baz=305						
L53A	Girard	106.38	34	Pdiff	Pdif	00 45 36.4	+0.7
	baz=315						
U48A	Cassie Pea, Po	106.40	41	Pdiff	Pdif	00 45 35.2	-0.7
	baz=309						
ERPA	Erie	106.40	33	Pdiff	Pdif	00 45 35.9	+0.1
	baz=316						
N52A	McGinn's Farm,	106.41	35	Pdiff	Pdif	00 45 35.5	-0.4
	baz=314						
MEDO	Medina	106.43	32	Pdiff	Pdif	00 45 35.5	-0.4
	baz=317						
H56A	Elgin	106.43	30	Pdiff	Pdif	00 45 33.5	-2.4
	baz=319						
Q50A	Georgetown	106.44	38	Pdiff	Pdif	00 45 34.8	-1.3
	baz=312						
W47A	Westpoint	106.51	43	Pdiff	Pdif	00 45 35.2	-1.3
	baz=308						
M53A	Wl Miller and	106.52	34	Pdiff	Pdif	00 45 34.7	-1.7
	baz=315						
P51A	Williamsport	106.55	37	Pdiff	Pdif	00 45 35.0	-1.6
	baz=312						
PECO	Prince Edward	106.58	30	Pdiff	Pdif	00 45 36.3	-0.3
	baz=318						
R50A	Paris	106.61	39	Pdiff	Pdif	00 45 35.6	-1.2
	baz=311						
T49A	Edmonton	106.64	40	Pdiff	Pdif	00 45 35.9	-1.1
	baz=310						
L54A	Sinclairville	106.67	33	Pdiff	Pdif	00 45 36.4	-0.6
	baz=316						
J55A	Hilton	106.67	31	Pdiff	Pdif	00 45 37.2	+0.2
	baz=318						
Q51A	Peebles	106.69	38	Pdiff	Pdif	00 45 36.5	-0.7
	baz=312						
V48A	Smith Brothers	106.70	42	Pdiff	Pdif	00 45 36.8	-0.5
	baz=309						
X47A	Russelville	106.79	44	Pdiff	Pdif	00 45 36.5	-1.2
	baz=308						
O52A	Adamsville	106.81	36	Pdiff	Pdif	00 45 37.0	-0.7
	baz=314						
U49A	Red Boiling Sp	106.87	41	Pdiff	Pdif	00 45 37.9	-0.2
	baz=310						
N53A	Lisbon	106.88	35	Pdiff	Pdif	00 45 37.8	-0.1
	baz=315						
K55A	Perry	106.94	32	Pdiff	Pdif	00 45 38.5	+0.2
	baz=317						
S50A	Richmond	106.96	39	Pdiff	Pdif	00 45 38.5	+0.1
	baz=311						
P52A	Corning	106.97	36	Pdiff	Pdif	00 45 37.3	-1.2
	baz=313						
M54A	Oil Creek Stat	107.00	34	Pdiff	Pdif	00 45 37.3	-1.2
	baz=316						
W48A	Pulaski	107.00	43	Pdiff	Pdif	00 45 37.9	-0.8
	baz=309						
R51A	Hillsboro	107.03	38	Pdiff	Pdif	00 45 38.2	-0.6
	baz=312						
O53A	New Philadelph	107.06	36	Pdiff	Pdif	00 45 38.9	+0.1
	baz=314						
T50A	Nancy	107.12	40	Pdiff	Pdif	00 45 38.3	-0.8
	baz=311						
L55A	Hinsdale	107.15	33	Pdiff	Pdif	00 45 38.9	-0.4
	baz=317						
LONY	Lake Ozonia	107.18	29	Pdiff	Pdif	00 45 37.9	-1.4
	baz=321						
N54A	Moraine State	107.22	34	Pdiff	Pdif	00 45 38.7	-0.8
	baz=315						
V49A	McMinnville	107.27	42	Pdiff	Pdif	00 45 38.4	-1.5
	baz=310						
Q52A	Bidwell	107.35	37	Pdiff	Pdif	00 45 37.5	-2.6
	baz=313						
X48A	Hartselle	107.36	43	Pdiff	Pdif	00 45 38.5	-1.7
	baz=308						
VAE	Valguarnera	107.43	321	Pdiff	Pdif	00 45 40.2	-0.4
	comp=Z,5.3nm,0.7s,baz=304,slow=4.7,SNR=3.3						
KMBO	Kilima Mbogo	107.43	275	Pdiff	Pdif	00 45 40.0	-1.2
	comp=Z,0.8nm,0.3s,baz=67,slow=7.4,SNR=3.9						
KMBO				PKiKP	PKiKP	00 49 46.8	+0.8
	comp=Z,12nm,1.0s,baz=35,slow=7.0,SNR=5.6						
W49A	Belvidere	107.44	42	Pdiff	Pdif	00 45 39.2	-1.4
	baz=309						
S51A	Beattyville	107.47	39	Pdiff	Pdif	00 45 40.5	-0.2
	baz=312						
P53A	Whipple	107.49	36	Pdiff	Pdif	00 45 41.3	+0.5
	baz=314						
M55A	Ridgway	107.50	33	Pdiff	Pdif	00 45 39.8	-1.0
	baz=316						
U50A	Jamestown	107.51	40	Pdiff	Pdif	00 45 40.6	-0.4
	baz=310						
R52A	Catlettsburg	107.56	38	Pdiff	Pdif	00 45 39.9	-1.2
	baz=313						
O54A	Avella	107.56	35	Pdiff	Pdif	00 45 39.9	-1.2
	baz=315						
Y48A	Jasper	107.61	44	Pdiff	Pdif	00 45 40.3	-1.1
	baz=308						
147A	Livingston	107.63	45	Pdiff	Pdif	00 45 41.8	+0.4
	baz=307						
T51A	Gray	107.70	40	Pdiff	Pdif	00 45 41.7	-0.1
	baz=311						
S52A	Salyersville	107.75	39	Pdiff	Pdif	00 45 41.3	-0.7
	baz=312						
X49A	Woodville	107.79	43	Pdiff	Pdif	00 45 40.9	-1.3
	baz=309						
V50A	Pikevile	107.83	41	Pdiff	Pdif	00 45 41.4	-0.9
	baz=310						
Q53A	Leroy	107.84	37	Pdiff	Pdif	00 45 40.7	-1.7
	baz=314						
N55A	Marion Center	107.88	34	Pdiff	Pdif	00 45 40.7	-1.8
	baz=316						
P54A	Burton	107.91	36	Pdiff	Pdif	00 45 41.5	-1.1
	baz=315						
R53A	Hurricane	107.96	37	Pdiff	Pdif	00 45 42.7	-0.2
	baz=313						
W50A	Signal Mountai	108.00	42	Pdiff	Pdif	00 45 42.5	-0.6
	baz=310						
U51A	La Follette	108.04	40	Pdiff	Pdif	00 45 41.8	-1.5
	baz=311						
148A	Greensboro	108.11	45	Pdiff	Pdif	00 45 43.5	-0.1
	baz=308						
O55A	Ligonier	108.12	34	Pdiff	Pdif	00 45 42.2	-1.4
	baz=316						
Y49A	Blount Mountai	108.14	43	Pdiff	Pdif	00 45 43.0	-0.7
	baz=309						
Q54A	Coxs Mills	108.15	36	Pdiff	Pdif	00 45 42.5	-1.2
	baz=314						
T52A	Hallie	108.18	39	Pdiff	Pdif	00 45 42.3	-1.6
	baz=312						
V51A	Loudon	108.21	41	Pdiff	Pdif	00 45 43.7	-0.4
	baz=311						
TZTN	Tazewell	108.22	40	Pdiff	Pdif	00 45 42.7	-1.4
	baz=311						
MCWV	Mont Chateau	108.22	35	Pdiff	Pdif	00 45 42.9	-1.1
	baz=315						
X50B	Fort Payne	108.25	42	Pdiff	Pdif	00 45 43.2	-1.0
	baz=309						
LRAL	Lakeview Retre	108.26	44	Pdiff	Pdif	00 45 42.3	-2.0
	baz=308						
S53A	Williamson	108.30	38	Pdiff	Pdif	00 45 43.8	-0.6
	baz=313						
P55A	Reedsville	108.34	35	Pdiff	Pdif	00 45 44.9	+0.3
	baz=315						
BINY	Binghamton	108.37	31	Pdiff	Pdif	00 45 43.6	-1.0
	baz=319						
W51A	Cleveland	108.37	41	Pdiff	Pdif	00 45 43.7	-1.0
	baz=310						
U52A	Thorn Hill	108.43	40	Pdiff	Pdif	00 45 44.3	-0.7
	baz=312						
Z49A	Columbiana	108.47	44	Pdiff	Pdif	00 45 44.7	-0.5
	baz=308						
O56A	Blue Knob Stat	108.47	34	Pdiff	Pdif	00 45 44.9	-0.3
	baz=316						
T53A	Wise	108.53	39	Pdiff	Pdif	00 45 45.5	0.0
	baz=312						
Y50A	Piedmont	108.56	43	Pdiff	Pdif	00 45 44.6	-1.0
	baz=309						
Q55A	Buckhannon	108.56	36	Pdiff	Pdif	00 45 45.3	-0.3
	baz=315						
SSPA	Standing Stone	108.56	33	Pdiff	Pdif	00 45 45.5	0.0
	baz=317						
QSPA	South Pole Qui	108.58	180	ePdif	Pdif	00 45 47.2	+2.2
QSPA				ePKiKP	PKiKP	00 49 45.9	-0.4
QSPA	South Pole Qui	108.58	180	PKKPbc	PKKPbc	01 00 56.8	-3.3
	comp=Z,24nm,0.7s,baz=20,slow=1.1,SNR=16						
R54A	Victor	108.61	37	Pdiff	Pdif	00 45 44.4	-1.4
	baz=314						
V52A	Sevierville	108.65	40	Pdiff	Pdif	00 45 46.0	0.0
	baz=311						
LBNH	Lisbon	108.66	27	Pdiff	Pdif	00 45 42.7	-3.2
	baz=323						
149A	Jones	108.67	45	Pdiff	Pdif	00 45 45.8	-0.3
	baz=308						
X51A	Calhoun	108.69	42	Pdiff	Pdif	00 45 46.1	-0.1
	baz=310						
249A	Camden	108.82	45	Pdiff	Pdif	00 45 45.6	-1.2
	baz=308						
Z50A	Ashland	108.83	44	Pdiff	Pdif	00 45 46.1	-0.8
	baz=309						
U53A	Fall Branch	108.92	39	Pdiff	Pdif	00 45 47.5	+0.3
	baz=312						
W52A	Murphy	108.93	41	Pdiff	Pdif	00 45 46.8	-0.5
	baz=311						
Y51A	Rockmart	108.98	43	Pdiff	Pdif	00 45 45.4	-2.1
	baz=310						
R55A	Marlinton	109.04	36	Pdiff	Pdif	00 45 48.0	+0.2
	baz=315						
T54A	Tazewell	109.04	38	Pdiff	Pdif	00 45 47.2	-0.6
	baz=313						
349A	Repton	109.15	46	Pdiff	Pdif	00 45 48.7	+0.5
	baz=307						
150A	Eclectic	109.17	44	Pdiff	Pdif	00 45 47.3	-1.1
	baz=309						
S55A	Lewisburg	109.18	37	Pdiff	Pdif	00 45 47.5	-0.9
	baz=314						
V53A	Saluda	109.24	40	Pdiff	Pdif	00 45 48.6	-0.1
	baz=312						
U54A	Nelsons Funny	109.27	39	Pdiff	Pdif	00 45 48.9	+0.1
	baz=313						
X52A	Dahlonega	109.27	41	Pdiff	Pdif	00 45 47.7	-1.1
	baz=311						
Z51A	Franklin	109.28	43	Pdiff	Pdif	00 45 48.0	-0.9
	baz=309						
W53A	Cullowhee	109.36	41	Pdiff	Pdif	00 45 48.8	-0.5
	baz=311						
BRAL	Brewton	109.36	46	Pdiff	Pdif	00 45 50.1	+0.9
	baz=307						
250A	Grady	109.39	45	Pdiff	Pdif	00 45 47.7	-1.7
	baz=308						
N59A	State Game Lan	109.44	32	Pdiff	Pdif	00 45 48.4	-1.0
	baz=319						
Q57A	Strasburg	109.44	35	Pdiff	Pdif	00 45 49.7	+0.3
	baz=316						
T55A	Pulaski	109.47	38	Pdiff	Pdif	00 45 49.0	-0.6
	baz=314						
449A	Pace	109.49	46	Pdiff	Pdif	00 45 50.1	+0.3
	baz=307						
BLA	Blacksburg	109.61	37	Pdiff	Pdif	00 45 47.5	-2.8
	baz=314						
Y52A	Lilburn	109.64	42	Pdiff	Pdif	00 45 49.4	-1.1
	baz=310						
151A	Opelika	109.68	44	Pdiff	Pdif	00 45 49.2	-1.4
	baz=309						
O59A	Robesonia	109.68	33	Pdiff	Pdif	00 45 50.1	-0.3
	baz=318						
350A	Dozier	109.69	45	Pdiff	Pdif	00 45 48.2	-2.4
	baz=308						
V54A	Nebo	109.69	39	Pdiff	Pdif	00 45 51.0	+0.3
	baz=312						
X53A	Estanollee	109.71	41	Pdiff	Pdif	00 45 49.5	-1.2
	baz=311						
U55A	TA2, Sparta	109.73	38	Pdiff	Pdif	00 45 50.0	-0.9
	baz=313						
S56A	Natural Bridge	109.77	36	Pdiff	Pdif	00 45 49.1	-1.9
	baz=315						
Z52A	Williamson	109.85	43	Pdiff	Pdif	00 45 50.8	-0.6
	baz=310						
251A	Midway	109.89	44	Pdiff	Pdif	00 45 50.6	-0.9
	baz=309						
R57A	Stanardsville	109.91	35	Pdiff	Pdif	00 45 50.9	-0.7
	baz=316						
Y53A	Monroe	109.95	42	Pdiff	Pdif	00 45 50.2	-1.6
	baz=311						
T56A	Rocky Mt	109.96	37	Pdiff	Pdif	00 45 50.2	-1.6
	baz=314						
152A	Waverly Hall	109.99	43	Pdiff	Pdif	00 45 50.3	-1.7
	baz=310						
W54A	Cherokee Point	110.01	40	Pdiff	Pdif	00 45 51.8	-0.2
	baz=312						
S57A	Dark Hollow, R	110.06	36	Pdiff	Pdif	00 45 51.6	-0.6
	baz=315						
O60A	Telford	110.07	32	Pdiff	Pdif	00 45 52.1	0.0
	baz=319						
P59A	Jarrettsville	110.07	33	Pdiff	Pdif	00 45 52.2	-0.1
	baz=318						
V55A	Taylorsville	110.08	39	Pdiff	Pdif	00 45 51.7	-0.6
	baz=313						
R58A	Rapidan	110.20	35	Pdiff	Pdif	00 45 51.4	-1.4
	baz=316						
HRV	Adam Dziewonsk	110.20	28	Pdiff	Pdif	00 45 53.1	+0.4
	baz=323						
U56A	King	110.23	38	Pdiff	Pdif	00 45 52.2	-0.8
	baz=314						
X54A	Belton	110.25	41	Pdiff	Pdif	00 45 52.3	-0.8
	baz=312						
351A	Pinckard	110.27	45	Pdiff	Pdif	00 45 52.6	-0.6
	baz=308						
PAL	Palisades	110.28	31	Pdiff	Pdif	00 45 53.5	+0.4
	baz=320						
GOGA	Godfrey	110.32	42	Pdiff	Pdif	00 45 52.9	-0.5
	baz=311						
P60A	Greenville	110.33	33	Pdiff	Pdif	00 45 52.6	-0.7
	baz=319						
Z53A	Monticello	110.33	42	Pdiff	Pdif	00 45 53.5	0.0
	baz=311						
252A	Lumpkin	110.40	44	Pdiff	Pdif	00 45 53.6	-0.2
	baz=309						
T57A	Hurt	110.43	37	Pdiff	Pdif	00 45 53.9	0.0
	baz=315						
KMSC	Kings Mountain	110.49	39	Pdiff	Pdif	00 45 55.0	+0.8
	baz=313						
R58B	Mineral	110.51	35	Pdiff	Pdif	00 45 53.7	-0.4
	baz=316						
Q59A	Harwood	110.51	34	Pdiff	Pdif	00 45 54.2	+0.1
	baz=318						
Y54A	Tignall	110.51	41	Pdiff	Pdif	00 45 54.3	0.0
	baz=311						
V56A	Mocksville	110.53	38	Pdiff	Pdif	00 45 54.6	+0.2
	baz=314						
153A	Fort Valley	110.57	43	Pdiff	Pdif	00 45 53.7	-0.9
	baz=310						
451A	Vernon	110.58	46	Pdiff	Pdif	00 45 53.2	-1.4
	baz=308						
352A	Blakely	110.60	45	Pdiff	Pdif	00 45 54.0	-0.7
	baz=309						
CBN	Corbin Frederi	110.61	35	Pdiff	Pdif	00 45 53.7	-0.9
	baz=317						
S58A	Poland Farm, P	110.66	36	Pdiff	Pdif	00 45 54.0	-0.8
	baz=316						
R59A	King George, V	110.75	35	Pdiff	Pdif	00 45 54.5	-0.8
	baz=317						
253A	Americus	110.76	44	Pdiff	Pdif	00 45 53.8	-1.6
	baz=310						
X55A	Gracelyn & Ava	110.76	40	Pdiff	Pdif	00 45 54.5	-0.9
	baz=312						
U57A	Blanch	110.78	37	Pdiff	Pdif	00 45 54.3	-1.1
	baz=315						
452A	Marianna	110.82	45	Pdiff	Pdif	00 45 55.4	-0.3
	baz=309						
Z54A	Sparta	110.83	42	Pdiff	Pdif	00 45 55.7	0.0
	baz=311						
T58A	Grand View Acr	110.87	36	Pdiff	Pdif	00 45 54.9	-0.9
	baz=316						
V57A	Coltrane Farms	110.90	38

baz=315
Z55A Blythe 111.28 41 Pdiff **Pdif 00 45 57.0 -0.7**
baz=312
W57A Gilead 111.28 39 Pdiff **Pdif 00 45 56.5 -1.2**
baz=314
V58A Windy Hill, Pi 111.35 38 Pdiff **Pdif 00 45 56.6 -1.3**
baz=315
M65A Busby, Falmout 111.37 28 Pdiff **Pdif 00 45 57.1 -0.8**
baz=323
254A Abbeville 111.38 43 Pdiff **Pdif 00 45 58.0 -0.2**
baz=310
453A Whigham 111.39 45 Pdiff **Pdif 00 45 58.5 +0.3**
baz=309
T59A Double "B" Far 111.40 36 Pdiff **Pdif 00 45 57.7 -0.4**
baz=316
Y56A Pelion 111.42 41 Pdiff **Pdif 00 45 58.0 -0.3**
baz=312
155A Kite 111.47 42 Pdiff **Pdif 00 45 58.9 +0.4**
baz=311
KEST Kesra 111.60 323 Pdiff **Pdif 00 45 56.7 -2.5**
comp=Z,6.2nm,1.0s,baz=45,slow=20,SNR=1.8
KEST PKiKP **PKiKP 00 49 53.2 +0.2**
comp=Z,19nm,1.1s,baz=172,slow=2.4,SNR=14
KEST Sdiff **SKSac 00 55 40.0 +0.9**
comp=Z,4.1nm,0.8s,baz=122,slow=23,SNR=5.8
KEST PKKPbc **PKKPbc 01 00 49.9 +0.1**
comp=Z,4.4nm,0.6s,baz=266,slow=2.5,SNR=6.8
KEST PKKP **PKKPdf 01 01 06.2 +0.6**
comp=Z,5.7nm,0.7s,baz=140,slow=2.9,SNR=4.1
Z56A Williston 111.69 41 Pdiff **Pdif 00 45 59.3 -0.2**
baz=312
X57A Johnson Farm, 111.70 39 Pdiff **Pdif 00 45 59.1 -0.5**
baz=314
U59A Littleton 111.71 36 Pdiff **Pdif 00 45 59.1 -0.5**
baz=316
T60A Surry 111.73 35 Pdiff **Pdif 00 45 58.8 -0.8**
baz=317
553A Crawfordville 111.74 45 Pdiff **Pdif 00 45 58.7 -1.1**
baz=309
W58A Raeford 111.82 38 Pdiff **Pdif 00 45 58.3 -1.8**
baz=314
Y57A Sumter 111.82 40 Pdiff **Pdif 00 45 59.1 -1.0**
baz=313
V59A Middlesex 111.88 37 Pdiff **Pdif 00 45 59.6 -0.7**
baz=315
454A Quitman 111.94 44 Pdiff **Pdif 00 46 00.3 -0.4**
baz=310
U60A Pendleton 111.98 36 Pdiff **Pdif 00 46 00.3 -0.4**
baz=316
CMAH Djebel Manchou 112.05 324 P **PKiKP 00 49 53.9 0.0**
X58A Rowland 112.08 39 Pdiff **Pdif 00 46 01.1 -0.2**
baz=314
Z57A Bowman 112.12 41 Pdiff **Pdif 00 46 01.9 +0.5**
baz=313
W59A Clinton 112.18 38 Pdiff **Pdif 00 46 02.0 +0.3**
baz=315
256A Glennville 112.26 42 Pdiff **Pdif 00 46 02.7 +0.6**
baz=311
ABSA Djebel Ababsia 112.27 324 P **PKiKP 00 49 55.0 +0.7**
554A Perry 112.31 45 Pdiff **Pdif 00 46 01.8 -0.5**
baz=310
Y58A Scranton 112.34 39 Pdiff **Pdif 00 46 02.3 -0.1**
baz=314
V60A Jim Taylor Roa 112.43 37 Pdiff **Pdif 00 46 03.0 +0.2**
baz=316
CNNC Cliffs of the 112.45 37 Pdiff **Pdif 00 46 03.5 +0.7**
baz=316
X59A McDuffie Farm, 112.51 38 Pdiff **Pdif 00 46 02.4 -0.8**
baz=315
CKFL Kef-Lekhel 112.59 325 P **PKiKP 00 49 55.8 +0.8**
CASM Ain Smara 112.82 325 P **PKiKP 00 49 55.7 +0.4**
DFRA Djebel Bou Aff 112.94 325 P **PKiKP 00 49 57.2 +1.5**
SYO Syowa Base 113.00 202 *eP* **PKiKP 00 49 53.0 -1.5**
CTEI Djebel Teioual 113.01 325 P **PKiKP 00 49 56.6 +0.8**
Y60A Bolivia 113.13 38 Pdiff **Pdif 00 46 06.3 +0.4**
baz=315
556A Lake Butler 113.21 44 Pdiff **Pdif 00 46 06.5 +0.2**
baz=310
MBAR Mbarara 113.39 278 PKiKP **PKiKP 00 49 57.2 +0.1**
comp=Z,24nm,0.7s,baz=75,slow=3.5,SNR=18
MBAR Sdiff **SKSac 00 55 49.2 +2.1**
comp=Z,2.5nm,0.2s,baz=287,slow=19,SNR=2.4
MBAR SKKPbc **SKKPbc 01 03 32.6 +3.4**
comp=Z,6.0nm,0.7s,baz=148,slow=2.5,SNR=6.0
SET Setif 113.46 325 P **PKiKP 00 49 58.0 +1.4**
CKHR Kef el Ahmar 113.53 325 P **PKiKP 00 49 57.7 +0.9**
757A Oxford 114.12 45 Pdiff **Pdif 00 46 10.5 +0.1**
baz=310
UCM Universidad Co 114.33 334 *i* Pdif **Pdif 00 46 13.1 +1.9**
UCM Universidad Co 114.33 334 *i* PP PP 00 51 03.0 -1.7
PBRG Braganca 114.41 337 *e*PKPdf PKPdf 00 49 57.8 -0.4
PBRG Braganca 114.41 337 *e*PP PP 00 51 07.9 +2.8
PGAV Gavieira, Arco 114.81 339 *e*PKPdf **PKiKP 00 50 00.1 +1.0**
PGAV Gavieira, Arco 114.81 339 *e*PP PP 00 51 11.3 +3.3
PCAB Cabril 114.95 338 *e*PKPdf **PKiKP 00 49 59.6 +0.3**
PCAB Cabril 114.95 338 *e*PP PP 00 51 13.2 +4.3
MVO Moncorvo 115.08 337 *e*PKPdf **PKiKP 00 50 00.4 +0.8**
MVO Moncorvo 115.08 337 *e*PP PP 00 51 10.7 +0.9
DWPF Disney Wildern 115.08 45 *e*PKPdf **PKPdf 00 49 59.3 -0.5**
ESDC Sonseca Array 115.16 334 Pdiff **Pdif 00 46 14.7 -0.2**
comp=Z,0.7nm,0.7s,baz=41,slow=3.8,SNR=4.1
ESDC PKP **PKPdf 00 49 59.5 -0.3**
comp=Z,9.9nm,0.7s,baz=11,slow=2.3,SNR=21
ESDC PP **PP 00 51 09.4 -1.0**
comp=Z,31nm,0.8s,baz=21,slow=7.6,SNR=12
ESDC PKKPbc **PKKPbc 01 00 37.3 -0.9**
comp=Z,7.9nm,1.0s,baz=230,slow=3.0,SNR=11
ESDC PKKPab **PKKPab 01 00 45.7 -1.1**
comp=Z,31nm,1.0s,baz=221,slow=3.9,SNR=32
POLO Lamas de Olo 115.17 338 *e*PKPdf **PKiKP 00 50 00.0 +0.2**
POLO Lamas de Olo 115.17 338 *e*PP PP 00 51 13.2 +2.8
PVRL Vila Real 115.23 338 *e*PKPdf **PKiKP 00 50 00.6 +0.8**
PVRL Vila Real 115.23 338 *e*PP PP 00 51 14.8 +4.0
PAB San Pablo 115.43 334 *e*PKPdf **PKiKP 00 50 00.5 +0.2**
CART Cartagena 115.59 331 *i* Pdif **Pdif 00 46 17.8 +1.1**
CART Cartagena 115.59 331 *i* PP PP 00 51 15.1 +1.8
ECHA Ech Chlef 115.59 328 P **PKiKP 00 50 04.0 +3.4**
APG El Apazote 115.66 62 PKP **PKPdf 00 50 00.8 -0.7**
comp=Z,27nm,0.6s,baz=318,slow=14,SNR=9.6
APG SKP **SKPdf 00 52 39.4 -0.5**
comp=Z,6.2nm,0.9s,baz=332,slow=15,SNR=3.7
APG SKKPbc **SKKPbc 01 03 14.9 -7.2**
comp=Z,6.9nm,0.8s,baz=34,slow=3.6,SNR=3.6
PTO Porto 115.66 338 *e*PKPdf **PKiKP 00 50 01.0 +0.4**
PVIS Viseu 115.78 338 *e*PKPdf **PKiKP 00 50 01.5 +0.6**
PVIS Viseu 115.78 338 *e*PP PP 00 51 18.6 +4.0
EANR 'Ain N'Sour 115.88 328 P **PKiKP 00 50 02.0 +0.7**
MTE Manteigas 115.93 337 *e*PKPdf **PKiKP 00 50 01.3 +0.1**
MTE Manteigas 115.93 337 *e*PP PP 00 51 17.0 +1.3
PCBR Castelo Branco 116.40 337 *e*PKPdf **PKPdf 00 50 02.0 0.0**
PCBR Castelo Branco 116.40 337 *e*PP PP 00 51 21.4 +2.6
COI Coimbra 116.42 338 *e*PKPdf **PKiKP 00 50 02.4 +0.3**
COI Coimbra 116.42 338 *e*PP PP 00 51 22.0 +3.1
PCAS Casmilo, Conde 116.58 338 *e*PKPdf **PKiKP 00 50 02.9 +0.5**
PCAS Casmilo, Conde 116.58 338 *e*PP PP 00 51 22.8 +2.7
PMRV Marv??o 116.72 337 *e*PKPdf **PKiKP 00 50 03.5 +0.8**
PMRV Marv??o 116.72 337 *e*PP PP 00 51 22.8 +1.7
PTOM Tomar 116.94 337 *e*PKPdf **PKiKP 00 50 03.2 +0.1**
PTOM Tomar 116.94 337 *e*PP PP 00 51 24.9 +2.5
PMTG Montargil 117.35 337 *e*PKPdf **PKiKP 00 50 04.5 +0.6**
PMTG Montargil 117.35 337 *e*PP PP 00 51 25.2 -0.1
EVO Evora 117.74 337 *e*PKPdf **PKiKP 00 50 04.8 +0.1**
EVO Evora 117.74 337 *e*PP PP 00 51 29.0 +1.0
EVO Evora 117.74 337 *i* Pdif **Pdif 00 46 24.6 -1.8**
EVO Evora 117.74 337 *i* PP PP 00 51 29.3 +1.3
EMAL Malaga-Limoner 117.81 333 *i* Pdif **Pdif 00 46 26.9 +0.2**
EMAL Malaga-Limoner 117.81 333 *i* PP PP 00 51 23.3 -5.2
PMAFR Mafra 117.84 338 *e*PKPdf **PKiKP 00 50 06.1 +1.2**
PMAFR Mafra 117.84 338 *e*PP PP 00 51 30.4 +1.8
LIS Lisbon 118.00 338 *e*Pdif **Pdif 00 46 27.3 -0.2**
LIS *e*PP **PP 00 51 30.9 +1.3**
LIS Lisbon 118.00 338 *e*PKPdf **PKiKP 00 50 05.9 +0.7**
LIS Lisbon 118.00 338 *e*PP PP 00 51 31.6 +1.9
LIJA Lijar 118.10 334 *i* PKP **PKPdf 00 50 05.0 -0.5**
PBEJ Beja 118.13 336 *e*PKPdf **PKiKP 00 50 07.3 +1.8**
PBEJ Beja 118.13 336 *e*PP PP 00 51 33.8 +3.2
PNCL Nicolau / Gran 118.31 337 *e*PKPdf **PKiKP 00 50 05.8 0.0**
PNCL Nicolau / Gran 118.31 337 *e*PP PP 00 51 33.0 +1.2
MELI Melilla 118.36 331 *i* Pdif **Pdif 00 46 29.8 +0.7**
MELI Melilla 118.36 331 *i* PP PP 00 51 28.5 -3.8
REAL Reales 118.38 333 *e*PKP **PKPdf 00 50 05.5 -0.7**
MESJ Messejana 118.43 336 *e*Pdif **Pdif 00 46 29.3 -0.1**
MESJ *e*PKPdf **PKPdf 00 50 06.0 0.0**
MESJ *e*PP **PP 00 51 33.8 +1.1**
MESJ Messejana 118.43 336 *e*PP PP 00 51 34.5 +1.9
ALJ Aljibe 118.53 334 *e*PKP **PKiKP 00 50 07.2 +0.9**
PCVE Castro Verde 118.54 336 *e*PKPdf **PKiKP 00 50 07.2 +0.9**
PCVE Castro Verde 118.54 336 *e*PP PP 00 51 35.4 +2.0
SFS San Fernando 118.81 334 *i* Pdif **Pdif 00 46 31.9 +0.8**
SFS San Fernando 118.81 334 *i* PP PP 00 51 36.1 +0.8
CNIL Conil 118.83 334 *e*PKP **PKiKP 00 50 08.0 +1.1**
PBDV Barranco-do-Ve 118.84 336 *e*PKPdf **PKiKP 00 50 07.8 +0.9**
PBDV Barranco-do-Ve 118.84 336 *e*PP PP 00 51 36.8 +1.3
PTEO Sao Teotonio 118.88 337 *e*PKPdf **PKiKP 00 50 07.8 +0.9**
PTEO Sao Teotonio 118.88 337 *e*PP PP 00 51 38.1 +2.4
CEU Ceuta 118.94 333 *i* Pdif **Pdif 00 46 31.4 -0.4**
CEU Ceuta 118.94 333 *e*PKP **PKPdf 00 50 07.0 0.0**
CEU Ceuta 118.94 333 *i* PP PP 00 51 31.9 -4.3
MORF Marmelete 119.06 336 *e*Pdif **Pdif 00 46 32.0 -0.3**
MORF *e*PKPdf **PKPdf 00 50 07.2 -0.1**
MORF *e*PP **PP 00 51 38.1 +1.1**
MORF Marmelete 119.06 336 *e*PKPdf **PKiKP 00 50 08.0 +0.6**
PFVI Vila Bisbo 119.28 336 *e*PKPdf **PKiKP 00 50 08.4 +0.7**
PFVI Vila Bisbo 119.28 336 *e*PP PP 00 51 40.2 +1.8
MSNA Messina 119.69 255 *i* P **PKiKP 00 50 09.2 +0.2**
MSNA Messina 119.69 255 *i* P **PKiKP 00 50 09.2 +0.2**
LSZ Lusaka 120.02 263 *i* P **PKiKP 00 50 10.1 +0.3**
LSZ Lusaka 120.02 263 *i* P **PKiKP 00 50 10.1 +0.3**
LSZ Lusaka 120.02 263 PKP **PKiKP 00 50 09.9 +0.1**
comp=Z,229nm,0.6s,baz=68,slow=1.7,SNR=316
LSZ SKP **SKPdf 00 52 48.3 +0.3**
comp=Z,118nm,0.8s,baz=62,slow=1.6,SNR=14
LSZ Sdiff **SKSac 00 56 12.2 +1.4**
comp=Z,13nm,1.2s,baz=10,slow=23,SNR=11
LSZ PKKPbc **PKKPbc 01 00 20.4 +0.3**
comp=Z,1.0nm,0.3s,baz=225,slow=7.1,SNR=2.0
BLWY Bulawayo 120.61 257 *i* P **PKPdf 00 50 10.7 0.0**
BLWY Bulawayo 120.61 257 *i* P **PKPdf 00 50 10.7 0.0**
MATP Matopo 120.76 257 *i* P **PKPdf 00 50 11.0 0.0**
MATP Matopo 120.76 257 *i* P **PKPdf 00 50 11.0 0.0**
MATP Matopo 120.76 257 PKP **PKPdf 00 50 10.7 -0.4**
comp=Z,41nm,0.5s,baz=100,slow=1.5,SNR=69
MATP PP **PP 00 51 50.0 -0.5**
comp=Z,22nm,0.9s,baz=80,slow=5.5,SNR=4.2
MATP SKP **SKPdf 00 52 48.9 -0.4**
comp=Z,45nm,0.8s,baz=82,slow=2.1,SNR=11
MATP Sdiff **SKSac 00 56 13.1 -0.2**
comp=Z,5.3nm,0.9s,baz=82,slow=19,SNR=2.8
MATP PKKPbc **PKKPbc 01 00 17.6 +0.1**
comp=Z,7.6nm,0.7s,baz=285,slow=3.8,SNR=5.4
IFR Ifrane 120.84 331 *i* Pdif **Pdif 00 46 41.0 +0.6**
IFR Ifrane 120.84 331 *i* PKP **PKiKP 00 50 15.0 +3.8**
IFR Ifrane 120.84 331 *i* PP PP 00 51 43.1 -6.2
MDT Midelt 121.18 331 PKP **PKiKP 00 50 12.1 +0.3**
comp=Z,104nm,1.0s,baz=298,slow=1.5,SNR=77
MDT PP **PP 00 51 47.5 -4.1**
comp=Z,26nm,1.0s,baz=51,slow=7.3,SNR=3.7
MDT PKKPbc **PKKPbc 01 00 18.3 +1.4**
comp=Z,23nm,1.0s,baz=184,slow=6.6,SNR=13
MDT SKKPbc SKKPbc 01 03 08.6 +3.8
comp=Z,4.8nm,1.0s,baz=224,slow=4.4,SNR=3.7
H07N1 FLORES T-PHASB 21.75 357 *e*PKP **PKPdf 00 50 12.5 +0.1**
H07N1 FLORES T-PHASB 21.75 357 PKP **PKiKP 00 50 13.4 +0.8**
AVE Averroes 122.03 333 *i* PKP **PKPdf 00 50 12.0 -1.1**
AVE Averroes 122.03 333 *i* PP PP 00 51 55.3 -1.7
H07S1 FLORES T-PHASB 22.07 357 *e*PKP **PKiKP 00 50 13.4 +0.2**
H07S1 FLORES T-PHASB 22.07 357 PKP **PKiKP 00 50 14.3 +1.1**
PGRA Graciosa 122.16 354 *e*PKP **PKiKP 00 50 14.2 +0.8**
PSCM Serra do Cume 122.39 353 *e*PKP **PKiKP 00 50 14.2 +0.3**
ADH Angra Heroismo 122.45 353 *e*PKP **PKiKP 00 50 14.0 +0.1**
ROSA Rosais 122.50 354 *e*PKP **PKiKP 00 50 14.0 -0.1**
PMAN Manadas 122.57 354 *e*PKP **PKPdf 00 50 13.5 -0.4**
PCED Cedros 122.63 354 *e*PKP **PKPdf 00 50 11.0 -3.1**
JTS Las Juntas de 122.66 64 *e*PKPdf **PKPdf 00 50 14.2 -0.5**
JTS *e*PP **PP 00 51 59.0 -3.5**
JTS Las Juntas de 122.66 64 PKP **PKPdf 00 50 14.4 -0.4**
comp=Z,31nm,0.5s,baz=59,slow=13,SNR=19
JTS PP **PP 00 52 00.8 -1.7**
comp=Z,7.1nm,0.8s,baz=318,slow=4.2,SNR=4.4
JTS SKP **SKPdf 00 52 52.5 -0.6**
comp=Z,36nm,1.1s,baz=100,slow=4.4,SNR=4.5
CALA Caldeira 122.68 354 *e*PKP **PKiKP 00 50 17.2 +2.7**
PCAN Candelaria 122.77 354 *e*PKP **PKiKP 00 50 16.0 +1.4**
BART Pico Bartolome 123.05 351 *e*PKP **PKPdf 00 50 14.9 -0.1**
PCALD Caldeiras da R 123.07 351 *e*PKP **PKPdf 00 50 12.6 -2.3**
PSET Sete Cidades 123.08 352 *e*PKP **PKPdf 00 50 15.0 0.0**
GRON Grota Negra 123.11 351 *e*PKP **PKPdf 00 50 11.2 -3.9**
CMLA Cha da Macela 123.11 351 *e*PKP **PKPdf 00 50 13.4 -1.6**
PDA Ponta Delgada 123.15 351 *e*PKP **PKPdf 00 50 12.6 -2.4**
PSMN Pico do Norte, 123.79 351 *e*PKP **PKPdf 00 50 12.8 -3.5**
PSMA Santa Maria 123.81 351 *e*PKP **PKPdf 00 50 14.4 -2.0**
SNAA Sanae 123.91 192 PKPdf **PKPdf 00 50 15.5 0.0**
SNAA Sanae 123.91 192 PKP **PKPdf 00 50 15.4 -0.1**
comp=Z,98nm,0.8s,baz=138,slow=2.4,SNR=8.7
SNAA PP **PP 00 52 08.9 -0.7**
comp=Z,25nm,1.1s,baz=189,slow=8.7,SNR=5.2
SNAA SKPbc SKPbc 00 52 30.7
comp=Z,81nm,1.1s,baz=76,slow=2.6,SNR=4.4
SNAA SKP **SKPdf 00 52 53.3 -0.5**
comp=Z,43nm,1.1s,baz=129,slow=3.9,SNR=5.7
SNAA Sdiff **SKSac 00 56 22.7 +1.5**
comp=Z,18nm,1.1s,baz=154,slow=23,SNR=21
SNAA PKKPbc **PKKPab 01 00 04.0 -0.7**
comp=Z,12nm,0.7s,baz=287,slow=2.2,SNR=20
LBTB Lobatse 124.08 252 PKP **PKiKP 00 50 17.6 0.0**
comp=Z,65nm,0.6s,baz=146,slow=1.0,SNR=107
LBTB SKP **SKPdf 00 52 54.5 -1.0**
comp=Z,50nm,0.7s,baz=104,slow=2.5,SNR=11
LBTB PKKPbc **PKKPbc 01 00 05.2 0.0**
comp=Z,2.0nm,0.4s,baz=262,slow=4.9,SNR=7.8
BOSA Boshof 124.70 248 *i* P **PKiKP 00 50 19.1 +0.4**
BOSA Boshof 124.70 248 *i* P **PKiKP 00 50 19.1 +0.4**
BOSA Boshof 124.70 248 PKhKP PKPpre 00 50 05.6
comp=Z,1.2nm,0.5s,baz=187,slow=2.4,SNR=3.4
BOSA PKP **PKiKP 00 50 19.0 +0.2**
comp=Z,26nm,0.7s,baz=89,slow=1.6,SNR=35
BOSA PKKPbc **PKKPbc 01 00 04.8 +2.0**
comp=Z,5.9nm,0.7s,baz=298,slow=3.6,SNR=7.9
BOSA SKKPbc SKKPbc 01 02 53.2 -1.7
comp=Z,5.2nm,0.9s,baz=254,slow=8.3,SNR=3.7
VNA3 Neumayer Olymp 125.47 190 PKPdf **PKiKP 00 50 18.8 -0.1**
PMPST Porto Santo, M 125.54 341 *e*PKPdf **PKiKP 00 50 22.2 +2.0**
PMPST Porto Santo, M 125.54 341 *e*PP PP 00 52 22.0 +2.1
PMPS Porto Santo 125.56 341 *e*PKPdf **PKiKP 00 50 21.2 +0.9**
PMPS Porto Santo 125.56 341 *e*PP PP 00 52 26.4 +6.4
VNA1 Neumayer–Stat 125.75 191 PKPdf **PKiKP 00 50 19.5 +0.1**
PMOZ Porto Moniz, M 126.04 342 *e*PKPdf **PKiKP 00 50 22.1 +0.7**
PMOZ Porto Moniz, M 126.04 342 *e*PP PP 00 52 25.6 +2.4
PMAR Madeira 126.04 341 *e*PKPdf **PKiKP 00 50 22.3 +0.8**
PMAR Madeira 126.04 341 *e*PP PP 00 52 27.1 +3.7
FUL Funchal 126.11 341 *e*PKPdf **PKiKP 00 50 22.2 +0.8**
FUL Funchal 126.11 341 *e*PP PP 00 52 27.5 +3.9
BCIP Isla Barro Col 127.55 62 *e*P **PKPdf 00 50 21.4 -2.7**
BCIP Isla Barro Col 127.55 62 *e*P **PKPdf 00 50 21.4 -2.7**
SUR Sutherland 128.63 243 *e*PKPdf **PKiKP 00 50 28.1 +1.5**
SUR Sutherland 128.63 243 PKhKP PKPpre 00 50 09.6
comp=Z,3.3nm,0.9s,baz=131,slow=9.3,SNR=2.5
SUR PKP **PKPdf 00 50 25.4 -0.5**
comp=Z,17nm,0.8s,baz=42,slow=3.6,SNR=8.9
SUR PP pPKPdf 00 52 44.4 -1.2
comp=Z,46nm,1.1s,baz=88,slow=5.0,SNR=5.2
SUR SKPbc SKPbc 00 52 51.1
comp=Z,129nm,0.9s,baz=90,slow=3.8,SNR=23
SUR SKKPbc **SKKPbc 01 02 42.0 +0.2**
comp=Z,5.0nm,0.7s,baz=199,slow=4.4,SNR=4.6
PMSA Palmer Station 130.01 164 SKPbc **SKPab 00 52 55.4 +1.3**
comp=Z,685nm,1.0s,baz=203,slow=3.9,SNR=39
PMSA Palmer Station 130.01 164 *e*P **PKPdf 00 50 26.3 -0.8**
MACI Morro de la Ar 130.05 339 *e*PKPdf **PKiKP 00 50 30.4 +0.8**
PTAC Punta Ardita, 130.32 63 *e*P **PKPdf 00 50 29.5 +0.2**
PTAC Punta Ardita, 130.32 63 *e*P **PKPdf 00 50 29.5 +0.2**
TSUM Tsumeb 130.71 261 *i* P **PKPdf 00 50 25.0 -5.1**
TSUM Tsumeb 130.71 261 *i* P **PKPdf 00 50 25.0 -5.1**
TSUM Tsumeb 130.71 261 PKhKP PKPpre 00 50 14.0
comp=Z,2.5nm,0.7s,baz=8.2,slow=6.4,SNR=3.6
TSUM PKP **PKPdf 00 50 29.9 -0.2**
comp=Z,51nm,0.8s,baz=89,slow=1.6,SNR=34
TSUM SKPbc **SKPbc 00 52 57.7 -0.4**
comp=Z,268nm,0.9s,baz=56,slow=3.7,SNR=35
TSUM SKP **SKPdf 00 53 10.0 +1.8**
comp=Z,68nm,1.0s,baz=119,slow=3.4,SNR=4.9
TSUM SKKPbc **SKKPbc 01 02 44.0 +10**
comp=Z,23nm,1.1s,baz=248,slow=6.3,SNR=9.1
SJCC San Jacinto, C 130.97 58 *e*P **PKPdf 00 50 30.2 -0.4**
SJCC San Jacinto, C 130.97 58 *e*P **PKPdf 00 50 30.2 -0.4**
SMRC Santa Marta, M 130.98 56 *e*P **PKiKP 00 50 31.2 -0.4**
SMRC Santa Marta, M 130.98 56 *e*P **PKiKP 00 50 31.2 -0.4**
SOLC Bahia Solano 131.13 64 *e*P **PKPdf 00 50 31.2 +0.4**
SOLC Bahia Solano 131.13 64 *e*P **PKPdf 00 50 31.2 +0.4**
ARGC Ariguani, Magd 131.74 57 *e*P **PKPdf 00 50 32.5 +0.5**
ARGC Ariguani, Magd 131.74 57 *e*P **PKPdf 00 50 32.5 +0.5**
UREC San Jos de Ur 131.89 60 *e*P **PKPdf 00 50 32.1 -0.2**
UREC San Jos de Ur 131.89 60 *e*P **PKPdf 00 50 32.1 -0.2**
SJG San Juan 132.07 42 *e*PKPpre PKPpre 00 50 19.4
SJG San Juan 132.07 42 *e*P **PKPdf 00 50 30.5 -2.0**
SJG San Juan 132.07 42 *e*P **PKPdf 00 50 30.5 -2.0**
SJG San Juan 132.07 42 PKhKP PKPpre 00 50 20.1
comp=Z,24nm,0.5s,baz=21,slow=9.5,SNR=7.4
SJG PKP **PKPdf 00 50 32.6 +0.1**
comp=Z,28nm,0.3s,baz=2.0,slow=12,SNR=8.0
SJG SKPbc **SKPbc 00 53 02.0 -0.7**
comp=Z,266nm,0.7s,baz=315,slow=2.4,SNR=26
SJG SKKPbc **SKKPbc 01 02 34.0 +6.3**
comp=Z,152nm,1.4s,baz=187,slow=7.2,SNR=3.9
TOA0 Torodi Ar. Sit 132.11 309 *e*PKPpre PKPpre 00 50 19.2
TORD Torodi Ar. Bea 132.11 309 PKhKP PKPpre 00 50 17.1
comp=Z,1.4nm,0.6s,baz=27,slow=2.3,SNR=27
TORD PKP **PKPdf 00 50 32.2 -0.5**
comp=Z,27nm,0.6s,baz=1.5,slow=3.6,SNR=35
TORD SKPbc **SKPbc 00 53 02.1 -0.9**
comp=Z,161nm,0.6s,baz=50,slow=3.2,SNR=36
TORD SKP **SKPdf 00 53 11.6 +0.8**
comp=Z,73nm,0.9s,baz=26,slow=4.6,SNR=4.8
TORD SKKPbc **SKKPbc 01 02 29.6 +2.1**
comp=Z,16nm,0.9s,baz=304,slow=4.1,SNR=14
TUMC Tumaco 132.14 69 *e*P **PKPdf 00 50 31.9 -0.9**
TUMC Tumaco 132.14 69 *e*P **PKPdf 00 50 31.9 -0.9**
MALC Bahia Malaga 132.32 66 *e*P **PKiKP 00 50 34.5 +0.2**
MALC Bahia Malaga 132.32 66 *e*P **PKiKP 00 50 34.5 +0.2**
CODC Agustn Codazz 132.32 56 *e*P **PKiKP 00 50 33.9 -0.5**
CODC Agustn Codazz 132.32 56 *e*P **PKiKP 00 50 33.9 -0.5**
URIC Uribia, Colomb 132.37 53 *e*P **PKPdf 00 50 32.8 -0.4**
URIC Uribia, Colomb 132.37 53 *e*P **PKPdf 00 50 32.8 -0.4**
SMLC San Martn de 132.49 58 *e*P **PKPdf 00 50 33.4 0.0**
SMLC San Martn de 132.49 58 *e*P **PKPdf 00 50 33.4 0.0**
ZARC Zaragoza, Cauc 132.59 60 *e*P **PKPdf 00 50 34.2 +0.6**
ZARC Zaragoza, Cauc 132.59 60 *e*P **PKPdf 00 50 34.2 +0.6**
HELC Santa Helena 132.74 62 *e*P **PKPdf 00 50 33.5 -0.9**
HELC Santa Helena 132.74 62 *e*P **PKPdf 00 50 33.5 -0.9**
PLMC San Jos del P 132.77 64 *e*P **PKPdf 00 50 33.3 -0.8**
PLMC San Jos del P 132.77 64 *e*P **PKPdf 00 50 33.3 -0.8**
OTAV Otavalo 133.09 71 *e*PKPpre PKPpre 00 50 24.3
OTAV Otavalo 133.09 71 *e*P **PKPdf 00 50 35.1 -0.1**
OTAV Otavalo 133.09 71 *e*P **PKPdf 00 50 35.1 -0.1**
OTAV Otavalo 133.09 71 *e*P **PKPdf 00 50 32.6 -2.5**
YOTC Yotoco, Valle 133.19 65 *e*P **PKPdf 00 50 33.9 -1.1**
YOTC Yotoco, Valle 133.19 65 *e*P **PKPdf 00 50 33.9 -1.1**
BBAC Balboa, Cauca 133.35 68 *e*P **PKPdf 00 50 35.8 +0.4**
BBAC Balboa, Cauca 133.35 68 *e*P **PKPdf 00 50 35.8 +0.4**
OCAC Ocana 133.42 58 *e*P **PKiKP 00 50 36.1 -0.5**
OCAC Ocana 133.42 58 *e*P **PKiKP 00 50 36.3 -0.5**
PTBC PUERTO BERRIO 133.44 61 *e*P PKPpre 00 50 20.0
PTBC PUERTO BERRIO 133.44 61 *e*P PKPpre 00 50 20.0
RREF El Recreo 133.57 64 *e*P **PKPdf 00 50 37.0 +0.7**
RREF El Recreo 133.57 64 *e*P **PKPdf 00 50 37.0 +0.7**
POPC Popayan, Colom 133.61 67 *e*P **PKPdf 00 50 35.8 -0.1**
POPC Popayan, Colom 133.61 67 *e*P **PKPdf 00 50 35.8 -0.1**
NORC Norcasia 133.63 62 *e*P **PKPdf 00 50 35.2 -0.5**
NORC Norcasia 133.63 62 *e*P **PKPdf 00 50 35.2 -0.5**
GCUF Volcan Galeras 133.64 69 *e*P **PKPdf 00 50 36.6 +0.3**
GCUF Volcan Galeras 133.64 69 *e*P **PKPdf 00 50 36.6 +0.3**
BRRC Barranca, Sant 133.74 60 *e*P **PKiKP 00 50 36.6 -0.6**
BRRC Barranca, Sant 133.74 60 *e*P **PKiKP 00 50 36.6 -0.6**
CRUC La Cruz 133.83 69 *e*P **PKiKP 00 50 37.5 -0.3**
CRUC La Cruz 133.83 69 *e*P **PKiKP 00 50 37.5 -0.3**
SOTA Rioblanco 133.86 68 *e*P **PKPdf 00 50 36.8 +0.1**
SOTA Rioblanco 133.86 68 *e*P **PKPdf 00 50 36.8 +0.1**
PCON Cinco Dias 133.96 67 *e*P **PKiKP 00 50 38.0 -0.3**
PCON Cinco Dias 133.96 67 *e*P **PKiKP 00 50 38.0 -0.3**
MARP Paez Belalcaza 134.09 66 *e*P **PKPdf 00 50 37.6 +0.7**
MARP Paez Belalcaza 134.09 66 *e*P **PKPdf 00 50 37.6 +0.7**
GIRC Giron, Santand 134.18 59 *e*P **PKiKP 00 50 38.7 +0.4**
GIRC Giron, Santand 134.18 59 *e*P **PKiKP 00 50 38.7 +0.4**
PAMC Pamplona, Colo 134.44 59 *e*P PKPpre 00 50 24.6
PAMC Pamplona, Colo 134.44 59 *e*P PKPpre 00 50 24.6
ROSC El Rosal 134.47 63 *e*P PKPpre 00 50 30.7
ROSC El Rosal 134.47 63 *e*P PKPpre 00 50 30.7
ROSC El Rosal 134.47 63 PKhKP PKPpre 00 50 26.5
comp=Z,8.2nm,0.5s,baz=182,slow=5.7,SNR=3.9
ROSC SKPbc **SKPbc 00 53 10.9 -0.3**
comp=Z,40nm,0.9s,baz=180,slow=8.6,SNR=4.5
ROSC SKKPbc **SKKPbc 01 02 25.3 +5.7**
comp=Z,7.2nm,0.6s,baz=132,slow=10,SNR=4.7
SEUS St. Eustatius 134.49 39 *e*P **PKiKP 00 50 37.9 -0.7**
PRAC Prado 134.58 65 *e*P PKPpre 00 50 24.6
PRAC Prado 134.58 65 *e*P PKPpre 00 50 24.6
BSK Brimstone Hill 134.69 39 *e*P PKPpre 00 50 16.1
SKI Saint Kitts 134.76 39 *e*P PKPpre 00 50 28.0
RUSC La Rusia 134.94 61 *e*P PKPpre 00 50 25.2
RUSC La Rusia 134.94 61 *e*P PKPpre 00 50 25.2
NVRH Round Hill, Ne 134.96 39 *e*P **PKiKP 00 50 40.2 +0.6**
FLOC Florencia 134.96 68 *e*P **PKiKP 00 50 39.1 -0.7**
FLOC Florencia 134.96 68 *e*P **PKiKP 00 50 39.1 -0.7**
NVBH Bath Hotel, Ne 135.00 39 *e*P PKPpre 00 50 28.9
NEV Hard Times 135.01 39 *e*P PKPpre 00 50 32.9
ANWB Willy Bob 135.06 38 *e*P PKPpre 00 50 25.5
CHIC Chingaza 135.08 63 *e*P PKPpre 00 50 37.9
CHIC Chingaza 135.08 63 *e*P PKPpre 00 50 37.9
SDV Santo Domingo 135.16 55 *e*PKPpre PKPpre 00 50 26.1
SDV Santo Domingo 135.16 55 *e*P PKPpre 00 50 26.9
SDV Santo Domingo 135.16 55 *e*P PKPpre 00 50 26.9
SDV Santo Domingo 135.16 55 PKhKP PKPpre 00 50 24.7
comp=Z,20nm,0.5s,baz=291,slow=8.3,SNR=15
SDV SKPbc **SKPbc 00 53 12.5 -0.6**
comp=Z,507nm,0.7s,baz=297,slow=2.6,SNR=35
SDV SKKPbc **SKKPbc 01 02 24.0 +7.2**
comp=Z,4.1nm,0.5s,baz=99,slow=1.4,SNR=4.0
VILC Villavicencio, 135.39 63 *e*P PKPpre 00 50 28.1
VILC Villavicencio, 135.39 63 *e*P PKPpre 00 50 28.1
BPA Boggy Peak 135.51 39 *

SVV	Soufriere Volc	138.78	41	eP	PKPpre	00 50 36.3		
SSV	Crater Summit	138.79	41	eP	PKPpre	00 50 32.4		
SVB	Belmont	138.79	41	eP	PKPpre	00 50 35.4		
SVCV	St. Vincent, C	138.86	41	eP	PKPpre	00 50 35.0		
FCV	Fort Charlotte	138.88	41	eP	PKPpre	00 50 34.9		
NNA	Nana	138.90	87	i PKIKP	PKPdf	00 50 43.8	-1.5	
NNA	Nana	138.90	87	PKhKP	PKPpre	00 50 37.2		
	comp=Z,9.0nm,0.3s,baz=214,slow=7.3,SNR=4.7							
NNA				SKPbc	SKPbc	00 53 23.8	+0.1	
	comp=Z,130nm,1.1s,baz=291,slow=3.9,SNR=15							
NNA				SKKPbc	SKKPbc	01 02 03.8	+0.7	
	comp=Z,29nm,1.0s,baz=99,slow=3.4,SNR=6.5							
GRGR	Grenville	139.40	43	eP	PKPpre	00 50 38.3		
BBGH	Gun Hill	139.93	39	eP	PKPpre	00 50 37.3		
BBGH	Gun Hill	139.93	39	eP	PKPpre	00 50 45.0		
BBSP	Saint Philip	140.02	39	eP	PKPpre	00 50 34.8		
TOSP	Speyside	140.74	42	eP	PKPpre	00 50 42.7		
DBIC	Dimbokro	141.20	308	PKhKP	PKPpre	00 50 43.9		
	comp=Z,72nm,0.4s,baz=40,slow=3.9,SNR=111							
DBIC				SKPbc	SKPbc	00 53 28.8	-1.0	
	comp=Z,147nm,0.8s,baz=34,slow=2.5,SNR=9.9							
DBIC				SKKPbc	SKKPbc	01 01 55.2	-1.3	
	comp=Z,23nm,0.8s,baz=199,slow=3.7,SNR=9.1							
KIC	Kosan Boka	141.32	307	ePKIKP	PKPdf	00 50 44.6	-5.1	
	comp=Z,617nm,1.1s							
KIC	Kosan Boka	141.32	307	eP	SKKPbc	01 01 54.0	+0.9	
	comp=Z,55nm,0.9s							
TIC	Toumodi	141.34	308	ePKIKP	PKPdf	00 50 44.6	-5.2	
TIC	Toumodi	141.34	308	eP	SKKPbc	01 01 54.3	+1.3	
LIC	Lamto	141.62	308	ePKIKP	PKPdf	00 50 44.8	-5.4	
	comp=Z,1μm,1.0s							
LIC	Lamto	141.62	308	eP	SKKPbc	01 01 52.7	+0.8	
	comp=Z,96nm,0.9s							
PLCA	Paso Flores	142.33	133	PKP	PKPdf	00 50 48.8	-2.0	
	comp=Z,346nm,1.1s,baz=254,slow=4.4,SNR=180							
PLCA				SKPbc	SKPbc	00 53 32.3	+0.5	
	comp=Z,232nm,1.0s,baz=270,slow=3.3,SNR=12							
PLCA				SKKPbc	SKKPbc	01 01 49.8	-1.4	
	comp=Z,22nm,1.0s,baz=116,slow=6.2,SNR=6.7							
PLCA	Paso Flores	142.33	133	eP	PKPdf	00 50 48.4	-2.4	
EFI	East Falkland	142.36	156	ePKPdf	PKPdf	00 50 49.5	-0.8	
EFI	East Falkland	142.36	156	ePKIKP	PKPdf	00 50 49.5	-0.8	
HOPE	Hope Point	144.52	178	ePKPdf	PKPab	00 50 54.8	-0.2	
LCO	Las Campanas	145.67	114	ePKPdf	PKPbc	00 50 58.4	-0.5	
LCO	Las Campanas	145.67	114	ePKP2	PKPbc	00 50 58.4	-0.5	
LCO	Las Campanas	145.67	114	eP	PKPdf	00 50 57.9	+0.7	
CFA	Coronel Fontan	147.22	120	PKPbc	PKPbc	00 51 02.6	-0.2	
	comp=Z,146nm,0.5s,baz=244,slow=2.7,SNR=102							
CFA				pPKPbc	pPKPab	00 53 21.6	+1.0	
	comp=Z,102nm,1.0s,baz=219,slow=6.1,SNR=3.3							
CFA				SKP		00 53 33.4		
	comp=Z,190nm,0.9s,baz=268,slow=3.0,SNR=6.7							
CFA				SKKPbc		01 01 30.4		
	comp=Z,3.8nm,0.4s,baz=41,slow=3.1,SNR=4.2							
LVC	Limon Verde	147.82	103	ePKPdf	PKPdf	00 51 00.8	-0.2	
LVC				ePKPbc	PKiKP	00 51 05.8	-0.4	
LVC	Limon Verde	147.82	103	PKPbc	PKiKP	00 51 06.2	-0.1	
	comp=Z,205nm,0.6s,baz=317,slow=1.4,SNR=66							
LVC				pPKPbc	pPKPab	00 53 24.1	+0.6	
	comp=Z,116nm,1.1s,baz=235,slow=5.7,SNR=3.1							
LVC				SKKPbc		01 01 27.4		
	comp=Z,20nm,1.0s,baz=63,slow=12,SNR=3.7							
LVC	Limon Verde	147.82	103	eP	PKPdf	00 51 01.9	+0.9	
LPAZ	La Paz	148.06	91	PKP	PKPdf	00 51 02.3	+0.4	
	comp=Z,135nm,0.8s,baz=333,slow=2.0,SNR=222							
LPAZ				PKPbc	PKiKP	00 51 07.2	0.0	
	comp=Z,260nm,0.7s,baz=302,slow=3.6,SNR=116							
LPAZ				SKKPbc		01 01 27.2		
	comp=Z,20nm,0.9s,baz=106,slow=7.0,SNR=6.9							
LPAZ	La Paz	148.06	91	eP	PKPdf	00 51 02.2	+0.3	
PTGA	Pitinga	149.42	57	ePKPdf	PKPdf	00 51 03.6	+0.2	
PTGA				ePKPbc	PKiKP	00 51 09.2	-0.2	
PTGA	Pitinga	149.42	57	PKP	PKPdf	00 51 04.7	+1.3	
	comp=Z,348nm,0.8s,baz=311,slow=1.4,SNR=48							
PTGA				PKPbc	PKiKP	00 51 09.2	-0.2	
	comp=Z,699nm,0.8s,baz=305,slow=3.1,SNR=127							
PTGA				SKKPbc		01 01 20.5		
	comp=Z,32nm,0.9s,baz=110,slow=2.8,SNR=9.0							
PTGA	Pitinga	149.42	57	eP	PKPdf	00 51 03.6	+0.2	
TRQA	Tornquist	149.44	135	ePKPdf	PKPdf	00 51 03.2	+0.4	
TRQA				ePKPbc	PKPbc	00 51 08.1	+0.1	
MDP	Montagnes des	150.42	38	PKP	PKPdf	00 51 06.3	+1.3	
	comp=Z,93nm,0.9s,baz=322,slow=3.8,SNR=44							
MDP				PKPbc	PKiKP	00 51 11.6	+0.1	
	comp=Z,532nm,0.8s,baz=321,slow=3.3,SNR=114							
MDP				SKKPbc		01 01 18.4		
	comp=Z,55nm,1.2s,baz=146,slow=4.3,SNR=9.7							
SHEL	Horse Pasture	152.23	271	ePKPdf	PKPdf	00 51 05.5	-2.1	
SHEL				ePKPbc	PKiKP	00 51 16.1	+1.0	
SHEL				ePKPab	PKPab	00 51 28.2	+0.3	
SHEL	Horse Pasture	152.23	271	ePKIKP	PKPdf	00 51 05.5	-2.1	
SHEL				e		00 51 28.2		
H09N1	TRISTAN DA CUN	153.21	223	PKPbc	PKiKP	00 51 18.3	+1.9	
SIV	San Ignacio	154.70	88	PKP	PKPdf	00 51 11.7	+0.6	
	comp=Z,77nm,0.8s,baz=258,slow=2.7,SNR=194							
SIV				PKPab	PKPab	00 51 38.4	-0.2	
	comp=Z,47nm,0.9s,baz=275,slow=4.8,SNR=7.5							
OGAUY	Aigu	156.39	135	eP	PKPdf	00 51 13.5	+0.7	
ASCN	Ascension	157.49	296	ePKPdf	PKPdf	00 51 13.2	-1.5	
ASCN				ePKPab	PKPab	00 51 51.2	+0.6	
H10N2	ASCENSION HYDR	157.54	296	PKPab	PKPab	00 51 51.8	+1.4	
	baz=88,slow=4.6,SNR=4.1							
H10N1	ASCENSION HYDR	157.55	296	PKPab	PKPab	00 51 50.5	0.0	
	baz=88,slow=4.6,SNR=4.7							
H10N3	ASCENSION HYDR	157.56	296	PKPab	PKPab	00 51 50.9	+0.4	
	baz=88,slow=4.6,SNR=3.9							
CPUP	Villa Florida	157.82	114	PKP	PKPdf	00 51 15.0	+0.2	
	comp=Z,38nm,1.0s,baz=284,slow=1.1,SNR=41							
CPUP				PKPab	PKPab	00 51 53.1	+1.3	
	comp=Z,76nm,1.0s,baz=261,slow=5.6,SNR=12							
CPUP	Villa Florida	157.82	114	eP	PKPdf	00 51 14.7	-0.1	
CLDB	Colider	158.17	72	eP	PKPdf	00 51 15.9	+0.4	
AQDB	Aquidauana	160.16	98	i	PKPdf	00 51 17.8	+0.2	
AQDB				e		00 51 31.5		
AQDB				i		00 52 01.9		
AQDB				i		00 53 40.1		
AQDB				i		00 55 14.3		
AQDB				i		00 58 01.2		
AQDB				i		00 58 52.5		
AQDB				i		01 01 11.5		
AQDB				i		01 01 29.4		
AQDB				i		01 02 27.3		
AQDB				i		01 05 10.2		
AQDB				i		01 05 48.4		
AQDB	Aquidauana	160.16	98	eP	PKPdf	00 51 18.0	+0.4	
ITAB	Concordia	161.90	121	eP	PKPdf	00 51 19.8	+0.6	
CNLB	Canela	161.92	129	eP	PKPdf	00 51 19.4	+0.1	
TRCB	Terra Rica	162.77	107	eP	PKPdf	00 51 20.2	0.0	
PTGB	Pitanga	162.83	113	eP	PKPdf	00 51 20.7	+0.3	
TER01	Tubaro-SC	163.61	129	eP	PKPdf	00 51 21.4	+0.5	
ITRB	Iturama	165.19	96	eP	PKPdf	00 51 22.8	+0.3	
TIJ01	Guaruva-PR	165.23	119	eP	PKPdf	00 51 23.3	+0.8	
FRTB	Fartura	165.41	111	eP	PKPdf	00 51 24.3	+1.7	
BB19B	Bebedouro	166.80	102	eP	PKPdf	00 51 18.0	-5.7	
BB19B				i		00 51 24.3		
BB19B				i		00 51 32.2		
BB19B				i		00 51 54.4		
BB19B				i		00 52 15.3		
BB19B				i		00 52 32.4		
BB19B				i		00 53 46.2		
BB19B	Bebedouro	166.80	102	eP	PKPdf	00 51 24.7	+1.0	
BDFB	Brasilia	166.91	78	PKP	PKPdf	00 51 24.4	+0.4	
	comp=Z,86nm,1.0s,baz=345,slow=0.7,SNR=38							
BDFB				PKPab	PKPab	00 52 33.0	+0.8	
	comp=Z,24nm,0.7s,baz=333,slow=3.6,SNR=5.5							
BDFB				PP	PP	00 56 23.0	+0.9	
	comp=Z,7.1nm,0.7s,baz=279,slow=9.4,SNR=1.7							
RCBR	Riachuelo	167.09	5	ePKPdf	PKPdf	00 51 23.9	-0.3	
RCBR				ePKPab	PKPab	00 52 31.3	-1.1	
RCBR	Riachuelo	167.09	5	ePKIKP	PKPdf	00 51 23.9	-0.3	
RCBR				e		00 52 31.3		
RCBR	Riachuelo	167.09	5	PKP	PKPdf	00 51 25.4	+1.2	
	comp=Z,69nm,0.9s,baz=65,slow=2.1,SNR=3.6							
RCBR				PKPab	PKPab	00 52 32.1	-0.4	
	comp=Z,32nm,0.6s,baz=25,slow=2.0,SNR=2.5							
RCBR				PP	PP	00 56 22.4	+1.9	
	comp=Z,28nm,0.8s,baz=333,slow=4.3,SNR=2.7							
RCBR	Riachuelo	167.09	5	eP	PKPdf	00 51 23.6	-0.6	
SPB	Sao Paulo	167.20	114	eP	PKPdf	00 51 25.7	+1.8	
RCLB	Rio Claro- Sao	167.46	109	eP	PKPdf	00 51 25.0	+0.8	
PMNB	Patos De Minas	168.88	91	eP	PKPdf	00 51 19.1	-6.2	
PMNB				i		00 51 25.5		
PMNB				i		00 51 30.7		
PMNB				i		00 51 39.9		
PMNB				i		00 52 27.1		
PMNB				i		00 52 41.0		
PMNB				i		00 56 32.6		
PMNB				i		00 58 38.2		
PMNB				i		01 02 33.9		
JANB	Januaria	170.10	70	eP	PKPdf	00 51 25.8	-0.2	
BSCB	Bom Sucesso	170.27	105	eP	PKPdf	00 51 26.7	+0.7	
MCI8	Montes Claros	170.97	78	eP	PKPdf	00 51 26.6	+0.1	
MCI9	Montes Claros	171.01	78	eP	PKPdf	00 51 26.7	+0.2	
MCI6	Montes Claros	171.04	79	eP	PKPdf	00 51 26.6	+0.1	
VAS01	Vassouras-RJ	171.10	115	eP	PKPdf	00 51 27.9	+1.5	
DUB01	Friburgo-RJ	172.09	116	eP	PKPdf	00 51 27.4	+0.6	
CAM01	Campos-RJ	172.81	116	eP	PKPdf	00 51 28.0	+0.9	
SJMB	Sao Joao De Ma	173.86	90	eP	PKPdf	00 51 28.1	+0.6	
BSFB	Barra de Sao F	174.19	92	eP	PKPdf	00 51 27.7	+0.1	
RIB01	Linhares ES	174.59	97	eP	PKPdf	00 51 28.1	+0.4	

UCR 14 00:38:48.9±2.2, 9.09N×83.90W, h20km±10km, MD4.0, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDLM	Las Mercedes	0.36	58	⇓eP	Pb	00 38 57.1	+0.3
EDLM				eS	Sb	00 39 03.9	+1.8
EDPN	Palmar Norte	0.45	106	eP	Pg	00 38 58.2	0.0
EDPN				eS	Sb	00 39 06.1	+1.5
EDBA	Buenos Aires	0.62	83	⇓eP	Pb	00 38 58.9	-2.2
LCR2	La Lucha 2	0.66	351	⇓eP	Pb	00 39 01.7	-0.1
LCR2				eS	Sg	00 39 11.8	+0.8
DRK0	Durika	0.67	75	⇓eP	Pb	00 38 60.0	-2.0
PTJ1	Puerto Jimnez	0.80	133	eP	Pb	00 39 03.5	-0.8
PTJ1				eS	Sn	00 39 16.1	-0.5
SJS	Escuela Geolog	0.86	350	eP	Pb	00 39 05.0	-0.3
SJS				eS	Sg	00 39 17.8	+0.4
HDC	Heredia	0.93	347	eP	Pb	00 39 06.0	-0.5
SRA1	San Ramn	1.15	330	eP	Pn	00 39 09.0	-1.0
BRU2	Volcan	1.23	104	eP	Pn	00 39 07.7	-3.4
FORC	Fortuna	1.57	331	i P	Pn	00 39 16.0	+0.3
JTS	Las Juntas de	1.59	319	eP	Pn	00 39 15.1	-0.9
CEDE	Laguna Cedeo	1.60	330	i P	Pn	00 39 16.4	+0.2
CEDE				i S	Sb	00 39 37.4	-0.4
ACAL	Aguas Claras	1.90	324	i P	Pn	00 39 21.0	+0.6
MESS	Mesas	2.08	322	i P	Pn	00 39 23.4	+0.6
GPS2	Hotel Rincn d	2.19	319	i P	Pn	00 39 24.6	+0.3
GPS3	Bodega del ICE	2.20	319	i P	Pn	00 39 25.6	+1.1

ISCJB 14 00:44:45.2±0.4, 18.65N±0.06×145.5E±0.1, h600km, mb4.0/26, Error ellipse: s-maj=15.1km s-min=7.5km az=176.7
IDC 14 00:44:48.6±1.3, 18.61N×145.43E, h631km±1km, mb3.6/26, mb1 3.7/28, mb1mx3.5/56, mbtmp4.5/28, Error ellipse: s-maj=13.8km s-min=8.8km az=84.0

ISC 14 00:44:46.5±0.5, 18.63N±0.07×145.5E±0.1, h600km, n35, σ1.9 04/36, mb4.0/26, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.04	187	P	P	00 46 21.9	+2.1
	18nm,0.3s,baz=147,slow=6.1,SNR=4.0						
GUMO				S	S	00 47 34.1	-1.8
	41nm,0.3s,baz=188,slow=22,SNR=6.4						
JOW	Kunigami	17.83	300	P	P	00 48 21.8	+1.2
	0.6nm,0.3s,baz=130,slow=13,SNR=7.1						
MJAR	Matsushiro Arr	18.96	342	P	P	00 48 32.2	+1.5
	0.3nm,0.3s,baz=170,slow=10,SNR=6.7						
KSRS	Korea Array	24.25	324	P	P	00 49 18.8	+0.8
	1.5nm,0.5s,baz=132,slow=8.8,SNR=4.3						
KLR	Kul'dur	32.48	343	P	P	00 50 29.5	+0.5
	2.6nm,0.4s,baz=172,slow=9.4,SNR=5.9						
PETK	Petropavlovsk-	35.71	13	P	P	00 50 57.3	+1.5
	3.7nm,0.9s,baz=148,slow=5.4,SNR=6.0						
CTA	Charters Tower	38.48	179	P	P	00 51 19.6	+0.6
	5.6nm,0.4s,baz=7.6,slow=10,SNR=5.6						
WRA	Warramunga Arr	39.86	196	P	P	00 51 29.9	0.0
	2.0nm,0.5s,baz=21,slow=8.2,SNR=5.7						
MA2	Magadan	41.08	4	P	P	00 51 40.3	+1.3
	1.9nm,0.3s,baz=187,slow=7.4,SNR=4.4						
FITZ	Fitzroy Crossi	41.38	209	P	P	00 51 42.0	+0.1
	12nm,1.0s,baz=28,slow=8.5,SNR=24						
SONM	Songino Array	43.07	322	P	P	00 51 55.0	0.0
	3.0nm,0.6s,baz=126,slow=6.1,SNR=6.8						
CMAR	Chiang Mai Arr	44.02	278	P	P	00 52 03.4	+0.8
	7.5nm,0.7s,baz=73,slow=6.1,SNR=12						
DZM	Mont Dzumac	45.35	152	P	P	00 52 12.9	+0.1
	3.5nm,0.5s,baz=336,slow=5.4,SNR=6.4						
STKA	Stephens Creek	50.35	184	P	P	00 52 49.1	-0.5
	3.7nm,0.8s,baz=0.0,slow=13,SNR=2.8						
TIXI	Tiksi	53.92	354	P	P	00 53 14.2	-0.3
	baz=174,slow=6.7						
ZALV	Zalesovo Beam	57.95	323	P	P	00 53 42.0	-0.5
	2.5nm,0.4s,baz=116,slow=7.9,SNR=10						
MKAR	Makanchi Array	58.36	314	P	P	00 53 45.9	+0.4
	7.1nm,0.6s,baz=91,slow=7.6,SNR=22						
KURBB	Kurchatov Arra	61.23	318	P	P	00 54 03.9	-0.5
	baz=97,slow=6.7						
NRIK	Noril'sk	61.61	340	P	P	00 54 06.6	+0.1
	4.1nm,0.5s,baz=96,slow=8.9,SNR=4.5						
ILAR	Eielson Array	63.80	26	P	P	00 54 19.9	-0.8
	2.8nm,0.5s,baz=245,slow=6.3,SNR=26						
INK	Inuvik	69.52	23	P	P	00 54 55.8	+0.1
	5.5nm,1.0s,baz=266,slow=9.7,SNR=7.2						
AKTO	Aktyubinsk	74.28	318	P	P	00 55 22.9	-0.7
	baz=108,slow=13						
KIRV	Kirov	77.41	328	P	P	00 55 40.2	-0.4
	8.8nm,0.4s,baz=82,slow=3.3,SNR=5.0						
YKA	Yellowknife Ar	78.15	28	P	P	00 55 44.6	+0.1
	2.3nm,0.4s,baz=287,slow=5.1,SNR=24						
SPITS	Spitsbergen Ar	79.20	351	P	P	00 55 49.4	-0.5
	2.3nm,0.6s,baz=119,slow=6.2,SNR=5.1						
RES	Resolute Bay	79.54	14	P	P	00 55 51.9	+0.2
	3.3nm,0.5s,baz=342,slow=5.1,SNR=11						
ARCES	ARCESS Array B	82.50	342	P	P	00 56 06.3	-0.6
	4.1nm,0.6s,baz=69,slow=6.6,SNR=8.4						
NVAR	Mina Array Bea	83.35	52	P	P	00 56 12.8	+0.7
	2.1nm,0.7s,baz=266,slow=6.4,SNR=5.8						
KBZ	Khabaz	86.05	315	P	P	00 56 23.6	-1.1
	8.1nm,1.0s,baz=59,slow=5.9,SNR=2.8						
FINES	FINESS Array B	86.86	335	P	P	00 56 26.2	-2.0
	2.2nm,0.4s,baz=64,slow=4.5,SNR=14						
HFS	Hagfors	92.37	338	P	P	00 56 51.3	-2.5
	3.4nm,0.9s,baz=141,slow=3.1,SNR=6.2						
NOA	NORSAR Array B	92.57	340	P	P	00 56 52.8	-1.9
	0.4nm,0.6s,baz=45,slow=4.6,SNR=2.8						
LSZ	Lusaka	120.18	263	PKP	PKPdf	01 02 31.0	-0.2
	2.0nm,0.8s,baz=80,slow=0.3,SNR=3.8						
PTGA	Pitinga	149.34	57	PKPbc	PKPbc	01 03 29.3	-0.3
	5.0nm,0.5s,baz=233,slow=3.2,SNR=7.0						
MDP	Montagnes des	150.42	39	PKPbc	PKPbc	01 03 31.8	-0.3
	13nm,0.9s,baz=324,slow=1.5,SNR=4.8						

IDC 14 00:56:05.1±20.0, 19.49N×145.36E, h686km±196km, mb2.8/7, mb1 3.0/7, mb1mx2.6/69, mbtmp3.8/7, Error ellipse: s-maj=180.0km s-min=28.7km az=175.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	Kul'dur	31.62	343	P	P	01 01 36.7	+0.4
	0.7nm,0.5s,baz=154,slow=4.8,SNR=3.7						
MKAR	Makanchi Array	57.69	314	P	P	01 04 53.9	+0.3
	0.5nm,0.5s,baz=93,slow=8.3,SNR=1.9						
KURBB	Kurchatov Arra	60.52	318	P	P	01 05 12.0	-0.1
	2.3nm,0.7s,baz=96,slow=7.3,SNR=15						
ILAR	Eielson Array	63.08	26	P	P	01 05 27.7	-0.7
	0.3nm,0.5s,baz=247,slow=6.0,SNR=5.0						
BVAR	Borovoye Array	65.66	320	P	P	01 05 44.7	0.0
	0.6nm,0.5s,baz=98,slow=7.7,SNR=2.9						
YKA	Yellowknife Ar	77.44	28	P	P	01 06 52.8	+0.5
	0.3nm,0.4s,baz=286,slow=5.1,SNR=5.9						
NVAR	Mina Array Bea	82.90	52	P	P	01 07 21.6	+0.3
	0.4nm,0.5s,baz=291,slow=3.8,SNR=2.5						

SJA 14 01:05:18.7±0.8, 31.11S×68.09W, h24km±5km, ML2.3, MW3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMOG	MOGNA	0.39	296	i P	Pb	01 05 27.9	+0.8
AMOG				i S	Sb	01 05 33.9	+1.1
RTLL	Cerro Villicun	0.40	236	i P	Pb	01 05 27.7	+0.5
RTLL				IAML		01 05 33.8	
	comp=Z,434nm,0.5s						
RTLL				i S	Sb	01 05 34.2	+1.2
SJA	San Juan	0.58	224	IAML		01 05 44.4	
	comp=Z,142nm,0.2s						
ZON	Zonda	0.67	229	IAML		01 05 47.3	
	comp=Z,99nm,0.2s						
RTCV	Cerro Valdivia	0.85	207	i P	Pn	01 05 35.5	+0.3
RTCV				i S	Sn	01 05 47.5	+0.7
ACCO	Cerro Coronel	0.99	301	i P	Pn	01 05 38.1	+0.7
RTLS	Leoncito	1.24	236	i P	Pb	01 05 42.5	+0.9
RTLS				IAML		01 05 42.8	
	comp=Z,58nm,0.3s						
RTLS				i S	Sb	01 06 01.1	+3.7
APLL	PUNTA DE LOS L	1.52	63	IAML		01 06 12.6	
	comp=Z,122nm,0.6s						
AUSP	Uspallata	1.57	225	i P	Pb	01 05 48.1	+0.8
ARCO	CERRO ARCO	1.87	202	IAML		01 06 21.9	
	comp=Z,53nm,0.3s						
MRA	San Martin	2.41	124	IAML		01 06 38.1	
	comp=Z,45nm,0.3s						
CYA	Choya	3.32	37	IAML		01 07 14.8	
	comp=Z,19nm,0.3s						

IDC 14 01:33:05.9±10.0, 45.69N×150.31E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/30, mbtmp3.4/3, MS4.2/1, Ms1 4.2/1, ms1mx3.7/27, Error ellipse: s-maj=277.4km s-min=40.0km az=169.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	WAKE ISLAND Hy	29.29	147	T	T	02 10 14.7	
	baz=335,slow=74						
H11N1	WAKE ISLAND Hy	29.30	147	T	T	02 10 24.8	
	baz=335						
H11N3	WAKE ISLAND Hy	29.31	147	T	T	02 10 21.6	
	baz=335,slow=74						
TGY	Tagaytay City	40.06	228	LR	LR	01 57 41.4	
	comp=Z,331nm,21.0s,baz=4.0,slow=37						
MKAR	Makanchi Array	45.69	297	P	P	01 41 28.9	+0.5
	0.2nm,0.4s,baz=68,slow=8.8,SNR=2.8						
YKA	Yellowknife Ar	52.93	35	P	P	01 42 23.7	+0.3
	0.2nm,0.6s,baz=294,slow=5.9,SNR=3.4						
FINES	FINESS Array B	64.15	334	P	P	01 43 40.7	-0.9
	0.5nm,0.5s,baz=40,slow=7.4,SNR=5.6						

ISCJB 14 01:57:02.2±0.5, 37.08N±0.05×4.14W±0.03, h27km±6km, Error ellipse: s-maj=7.9km s-min=4.2km az=176.2
CNRM 14 01:57:02.1, 36.94N×4.21W, h77km, ml2.8
SFS 14 01:57:02.0, 37.10N×4.11W, h11km, ML1.9, SALAR (GRANADA)
MDD 14 01:57:02.8±0.3, 37.09N×4.11W, h12km±1km, mbLg1.9/16, Error ellipse: s-maj=4.0km s-min=2.6km az=178.0, PRXIMO
INMG 14 01:57:02.9±1.3, 37.11N×4.13W, h13km±2km, ML1.8, Error ellipse: s-maj=2.2km s-min=1.6km az=14.0

ISC 14 01:57:01.8±1.1, 37.09N±0.03×4.11W±0.02, h17km±6km, n30, σ1.14/44, 3C, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGOR	Sierra Gorda,	0.02	10	⇑Pg	Pg	01 57 05.0	-0.1
	18nm,0.0s,SNR=18						
EGOR				Lg	Lg	01 57 07.6	
	309nm,0.2s,SNR=7.9						
EMAL	Malaga-Limoner	0.41	218	⇑eP	Pb	01 57 10.9	+0.3
EMAL				eS	Sb	01 57 18.0	+1.4
ELGU	Los Guajares,	0.45	119	Pg	Pg	01 57 10.5	-0.5
	6.2nm,0.1s,SNR=7.9						
ELGU				Lg	Lg	01 57 18.1	
	71nm,0.3s,SNR=7.9						
EQUE	Quentar	0.55	78	⇑Pg	Pg	01 57 12.4	-0.5
	1.8nm,0.1s,SNR=18						
EQUE				Lg	Lg	01 57 21.0	
	16nm,0.3s,SNR=14						
EMIJ	Mijas	0.74	225	Pg	Pg	01 57 16.6	+0.2
	0.6nm,0.1s,SNR=10						
EMIJ				Lg	Lg	01 57 26.2	
	8.6nm,0.4s,SNR=7.8						
GORA	Gorafe	0.94	65	Pg	Pb	01 57 20.6	+0.8
	2.1nm,0.1s,SNR=7.9						
GORA				Lg	Lg	01 57 30.8	
	14nm,0.1s,SNR=7.9						
EBER	Berja	1.00	101	Pg	Pg	01 57 21.5	+0.2
	0.3nm

PMTG Sn **Sn** **01 58 42.3 -1.5**

*IDC **14** 02:33:38.4±0.6,58°.52N×154°.22W,h0km,mb4.0/21, mb1 4.1/24,mb1mx4.0/51,mbtmp4.0/24,ML4.1/3,Error ellipse: s-maj=12.2km s-min=8.4km az=38.0*
*ISCJB **14** 02:33:39.5±0.5,58°.78N±0°.02×153°.95W±0°.04,h12km±3km, mb4.0/30,Error ellipse: s-maj=4.2km s-min=2.5km az=135.2*
*NEIC **14** 02:33:40.4±0.0,58°.77N×153°.89W,h12km,mb4.4/11, ML4.4(AEIC),After AEIC.*
NEIC Felt at King Salmon.

ISC 14 02:33:40.2±1.1,58°.75N±0°.03×153°.88W±0°.04,h7km±7km, n157,σ1°36/172,mb4.1/30,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FONW	**Fourpeaked Sta**	**0.08**	**347**	*e*Pg	**Pg**	**02 33 42.4**	**+0.1**
KAHG	**Katmai Hook Gl**	**0.43**	**233**	*e*Pg	**Pb**	**02 33 49.0**	**-1.3**
AUI	**Augustine Isla**	**0.63**	**22**	*e*Pg	**Pg**	**02 33 52.2**	**-0.1**
AUW	**Augustine West**	**0.65**	**19**	*e*Pg	**Pb**	**02 33 52.9**	**-1.1**
AUL	**Augustine Lava**	**0.67**	**20**	*e*Pg	**Pg**	**02 33 53.0**	**-0.1**
AUL				*e*Pn	**Sg**	**02 34 02.6**	**+0.7**
KELA	**Mount Kelaz**	**1.02**	**253**	*e*Pg	**Pn**	**02 33 59.1**	**-2.0**
KDAK	**Kodiak Island**	**1.19**	**144**	Pg	**Pb**	**02 34 00.9**	**-2.2**
	baz=356,slow=8.0						
KDAK				Lg	Lg	02 34 16.8	
	801nm,0.3s,baz=120,slow=20,SNR=22						
KDAK				LR	LR	02 34 40.2	
	comp=Z,1μm,21.9s,baz=147,slow=54						
ILS	**Iliamna Low So**	**1.28**	**19**	*e*Pn	**Pn**	**02 34 03.0**	**-1.7**
IVE	**Iliamna Volcan**	**1.34**	**19**	*e*Pn	**Pn**	**02 34 04.0**	**-1.5**
HOM	**Homer**	**1.47**	**51**	*e*Pn	**Pn**	**02 34 05.6**	**-1.5**
HOM				*e*Sn	**Sn**	**02 34 25.4**	**-1.2**
OHAK	**Old Harbor**	**1.57**	**168**	*e*Pn	**Pn**	**02 34 07.4**	**-1.1**
OHAK				*e*Sn	**Sb**	**02 34 27.7**	**-1.8**
RDSO	**Redoubt South**	**1.80**	**18**	*e*Pn	**Pn**	**02 34 11.6**	**-0.3**
RDSO				*e*Sn	**Sn**	**02 34 34.8**	**-0.2**
RSO	**Redoubt South**	**1.81**	**18**	*e*Pn	**Pn**	**02 34 11.7**	**-0.3**
BRLK	**Bradley Lake**	**1.84**	**55**	*e*Sn	**Sn**	**02 34 33.7**	**-2.2**
BRLK				*e*Sn	**Sb**	**02 34 36.2**	**-1.3**
RDJH	**Redoubt Jeurge**	**1.92**	**16**	*e*Pn	**Pn**	**02 34 13.4**	**-0.1**
RDJH				*e*Sn	**Sb**	**02 34 38.4**	**-1.6**
SII	**Sitkinak Islan**	**2.21**	**184**	*e*Pn	**Pb**	**02 34 18.8**	**-1.7**
SVW2	**Sparrevohn**	**2.50**	**341**	*e*Pn	**Pn**	**02 34 20.4**	**-1.0**
SVW2				*e*Sn	**Sn**	**02 34 51.9**	**-0.2**
SLKM	**Skilak Lake**	**2.56**	**45**	*e*Pn	**Pn**	**02 34 22.4**	**+0.2**
SPWE	**Spurr West**	**2.62**	**14**	*e*Pn	**Pn**	**02 34 23.4**	**+0.4**
BGL	**Barrier Glacie**	**2.63**	**16**	*e*Pn	**Pn**	**02 34 23.9**	**+0.8**
SEW	**Seward**	**2.64**	**57**	*e*Pn	**Pn**	**02 34 23.6**	**+0.5**
SEW				*e*Sn	**Sb**	**02 34 58.5**	**-1.8**
ANNW	**Aniakchak Nort**	**2.93**	**234**	*e*Pn	**Pn**	**02 34 27.9**	**+0.6**
AZAC	**Aniakchak**	**2.98**	**233**	*e*Pn	**Pn**	**02 34 28.6**	**+0.5**
FIB	**Fire Island**	**3.06**	**36**	*e*Pn	**Pn**	**02 34 30.2**	**+1.3**
FIB				*e*Sn	**Sn**	**02 35 05.1**	**-0.6**
RC01	**Rabbit Creek A**	**3.14**	**40**	*e*Pn	**Pn**	**02 34 31.0**	**+0.9**
RC01				*e*Sn	**Sn**	**02 35 06.8**	**-0.9**
CHGN	**Chignik**	**3.47**	**227**	*e*Pn	**Pn**	**02 34 35.1**	**+0.5**
CHGN				*e*Sn	**Sn**	**02 35 14.7**	**-1.1**
PMR	**Palmer**	**3.71**	**38**	*e*Pn	**Pn**	**02 34 38.1**	**+0.2**
PMR				*e*Sn	**Sn**	**02 35 18.9**	**-2.8**
KNK	**Knik Glacier**	**3.81**	**43**	*e*Pn	**Pn**	**02 34 39.9**	**+0.6**
KNK				*e*Sn	**Sn**	**02 35 22.3**	**-2.0**
VNHG	**Veniaminof 1**	**3.82**	**231**	*e*Pn	**Pn**	**02 34 39.8**	**+0.3**
GHO	**Glory Hole Cre**	**3.91**	**37**	*e*Pn	**Pn**	**02 34 41.0**	**+0.3**
MID	**Middleton Isla**	**3.95**	**77**	*e*Pn	**Pn**	**02 34 41.9**	**+0.8**
VNWF	**Veniaminof 8**	**4.03**	**232**	*e*Pn	**Pn**	**02 34 43.1**	**+0.7**
GLI	**Glacier Island**	**4.04**	**55**	*e*Pn	**Pn**	**02 34 41.7**	**-0.7**
SML	**Sawmill**	**4.12**	**40**	*e*Pn	**Pn**	**02 34 44.2**	**+0.5**
JPK	**Jack Peak**	**4.33**	**55**	*e*Pn	**Pn**	**02 34 46.2**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.50**	**63**	*e*Pn	**Pn**	**02 34 48.3**	**-0.5**
HUR	**Hurricane**	**4.72**	**24**	*e*Pn	**Pn**	**02 34 54.3**	**+2.5**
DIV	**Divide**	**4.72**	**56**	*e*Pn	**Pn**	**02 34 51.9**	**0.0**
CAST	**Castle Rocks**	**4.76**	**10**	*e*Pn	**Pn**	**02 34 53.0**	**+0.5**
SDPT	**Sand Point**	**4.96**	**229**	*e*Pn	**Pn**	**02 34 55.9**	**+0.8**
HMT	**Hamilton**	**5.15**	**68**	*e*Pn	**Pn**	**02 34 59.3**	**+1.7**
PS12	**TAPS Pump St12**	**5.15**	**54**	*e*Pn	**Pn**	**02 34 58.1**	**+0.4**
CHUM	**Lake Minchumin**	**5.20**	**8**	*e*Pn	**Pn**	**02 34 58.5**	**+0.2**
RND	**Reindeer**	**5.27**	**25**	*e*Pn	**Pn**	**02 35 00.2**	**+0.9**
PS11	**TAPS Pump St11**	**5.34**	**48**	*e*Pn	**Pn**	**02 35 01.6**	**+1.3**
DHY	**Denali Highway**	**5.37**	**33**	*e*Pn	**Pn**	**02 35 01.8**	**+0.9**
PS4A	**Pavlof South-4**	**5.53**	**235**	*e*Pn	**Pn**	**02 35 03.5**	**+0.5**
MCK	**McKinley**	**5.54**	**23**	*e*Pn	**Pn**	**02 35 04.7**	**+1.7**
BPAW	**Bear Paw Mtn.**	**5.54**	**13**	*e*Pn	**Pn**	**02 35 03.6**	**+0.5**
HARP	**HAARP**	**5.65**	**46**	*e*Pn	**Pn**	**02 35 05.3**	**+0.7**
DOL	**Dolgoi Island**	**5.67**	**234**	*e*Pn	**Pn**	**02 35 05.7**	**+0.9**
BWN	**Browne**	**5.83**	**19**	*e*Pn	**Pn**	**02 35 07.3**	**+0.2**
DT1	**Dutton Round H**	**5.87**	**235**	*e*Pn	**Pn**	**02 35 08.0**	**+0.4**
PAX	**Paxson**	**5.89**	**41**	*e*Pn	**Pn**	**02 35 08.0**	**0.0**
DRIA	**Deer Island**	**5.96**	**234**	*e*Pn	**Pn**	**02 35 09.6**	**+0.8**
MCARA	**McCarthy VSAT**	**6.04**	**60**	*e*Pn	**Pn**	**02 35 09.9**	**0.0**
PS10	**TAPS Pump St10**	**6.12**	**37**	*e*Pn	**Pn**	**02 35 11.8**	**+0.9**
GCSA	**Galena City Sc**	**6.18**	**348**	*e*Pn	**Pn**	**02 35 11.2**	**-0.6**
BALM	**Baldy**	**6.24**	**64**	*e*Pn	**Pn**	**02 35 13.0**	**+0.2**
WRH	**Wood River Hil**	**6.37**	**23**	*e*Pn	**Pn**	**02 35 15.2**	**+0.8**
MLY	**Manley**	**6.47**	**12**	*e*Pn	**Pn**	**02 35 15.9**	**+0.1**
MENT	**Mentasta**	**6.50**	**45**	*e*Pn	**Pn**	**02 35 18.5**	**+2.3**
HDA	**Harding Lake**	**6.57**	**27**	*e*Pn	**Pn**	**02 35 17.8**	**+0.7**
CCB	**Clear Creek Bu**	**6.58**	**23**	*e*Pn	**Pn**	**02 35 17.7**	**+0.5**
RIDG	**Independent Ri**	**6.63**	**37**	*e*Pn	**Pn**	**02 35 19.0**	**+0.9**
CTGM	**Chitina Glacie**	**6.70**	**65**	*e*Pn	**Pn**	**02 35 19.7**	**+0.6**
COLA	**College**	**6.77**	**22**	*e*Pn	**Pn**	**02 35 20.8**	**+0.9**
MDM	**Murphy Dome**	**6.77**	**21**	*e*Pn	**Pn**	**02 35 20.8**	**+0.8**
DOT	**Dot Lake**	**6.82**	**40**	*e*Pn	**Pn**	**02 35 17.7**	**-2.9**
ILAR	**Eielson Array**	**6.89**	**26**	Pn	**Pn**	**02 35 21.6**	**+0.1**
	4.0nm,0.3s,baz=206,slow=14,SNR=90						
ILAR				Sn	**Sn**	**02 36 41.1**	**+1.1**
	3.5nm,0.3s,baz=195,slow=23,SNR=4.5						
ILAR				Lg	Lg	02 37 09.6	
	0.5nm,0.3s,baz=214,slow=26,SNR=3.9						
ILB	**Eielson Array**	**6.89**	**26**	*e*Pn	**Pn**	**02 35 21.9**	**+0.4**
ILB				*e*Sn	**Sn**	**02 36 41.1**	**+1.1**
ILB				*e*Lg	Lg	02 37 09.7	
SCRK	**Sand Creek**	**7.07**	**38**	*e*Pn	**Pn**	**02 35 24.3**	**+0.1**
IM3	**Indian Mountai**	**7.26**	**0**	*e*Pn	**Pn**	**02 35 26.5**	**-0.1**
BCPM	**Bancas Point**	**7.38**	**75**	*e*Pn	**Pn**	**02 35 28.8**	**+0.5**
PS06	**TAPS Pump Stn6**	**7.38**	**13**	*e*Pn	**Pn**	**02 35 29.5**	**+1.2**
PNL	**Peninsula**	**7.49**	**77**	*e*Pn	**Pn**	**02 35 30.4**	**+0.5**
PRP	**Porcupine Dome**	**7.83**	**26**	*e*Pn	**Pn**	**02 35 35.5**	**+0.9**
ANM	**Nome**	**7.98**	**322**	*e*Pn	**Pn**	**02 35 36.4**	**-0.1**
AKSA	**Akutan Strait**	**8.01**	**240**	*e*Pn	**Pn**	**02 35 37.5**	**+0.5**
YUK4	**Talbot Arm**	**8.05**	**65**	*e*Pn	**Pn**	**02 35 39.7**	**+2.0**
YUK6	**Outpost Mounta**	**8.12**	**68**	*e*Pn	**Pn**	**02 35 39.0**	**+0.4**
YUK7	**Dusty Glacier**	**8.17**	**71**	*e*Pn	**Pn**	**02 35 40.1**	**+0.8**
AKRB	**Akutan Reef Bi**	**8.18**	**241**	*e*Pn	**Pn**	**02 35 40.0**	**+0.6**
HYT	**Haines Junctio**	**8.51**	**69**	*e*Pn	**Pn**	**02 35 44.3**	**+0.4**
EGAK	**Eagle**	**8.52**	**40**	*e*Pn	**Pn**	**02 35 44.2**	**+0.3**
UNV	**Unalaska Valle**	**8.56**	**240**	*e*Pn	**Pn**	**02 35 45.1**	**+0.6**
COLD	**Coldfoot**	**8.67**	**10**	*e*Pn	Pn	02 35 49.8	+3.8
MREP	**Makushin Rep't**	**8.70**	**241**	*e*Pn	**Pn**	**02 35 46.7**	**+0.3**
DAWY	**Dawson**	**8.74**	**46**	*e*Pn	**Pn**	**02 35 47.2**	**+0.2**
SPIA	**Saint Paul Isl**	**8.84**	**267**	*e*Pn	**Pn**	**02 35 47.6**	**-0.7**
PLBC	**Pleasant Camp**	**9.04**	**78**	*e*Pn	**Pn**	**02 35 51.2**	**+0.2**
SKAG	**Skagway**	**9.57**	**78**	*e*Pn	**Pn**	**02 35 59.9**	**+1.7**
OKWE	**Okmok W'ng Wal**	**9.60**	**243**	*e*Pn	**Pn**	**02 35 58.4**	**-0.3**
BM3	**Burnt Mountain**	**9.65**	**22**	*e*Pn	**Pn**	**02 35 58.8**	**-0.5**
WHY	**Whitehorse**	**9.78**	**71**	*e*Pn	**Pn**	**02 36 00.9**	**-0.4**
BESE	**Bessie Mountai**	**9.91**	**83**	*e*Pn	**Pn**	**02 36 06.6**	**+3.5**
GAMB	**Gambell**	**9.93**	**308**	*e*Pn	**Pn**	**02 36 01.9**	**-1.3**
TOLK	**Toolik Lake Re**	**10.11**	**9**	*e*Pn	**Pn**	**02 36 08.7**	**+3.1**
EPYK	**Eagle Plains**	**10.96**	**39**	*e*Pn	Pn	02 36 22.8	+5.5
DLBC	**Dease Lake**	**12.43**	**81**	*e*Pn	**Pn**	**02 36 38.8**	**+1.4**
DLBC	**Dease Lake**	**12.43**	**81**	Pn	**Pn**	**02 36 38.5**	**+1.1**
	0.9nm,0.3s,baz=259,slow=13,SNR=10.0						
INK	**Inuvik**	**13.12**	**35**	*e*Pn	**Pn**	**02 36 47.6**	**+0.9**
INK	**Inuvik**	**13.12**	**35**	Pn	**Pn**	**02 36 47.4**	**+0.7**
	0.2nm,0.3s,baz=237,slow=15,SNR=14						
ATKA	**Atka Island**	**13.22**	**249**	*e*Pn	**Pn**	**02 36 49.7**	**+1.5**
YKW3	**Yellowknife Ar**	**19.39**	**62**	*e*P	**Pn**	**02 38 06.7**	**-0.8**
	18nm,1.2s						
YKA	**Yellowknife Ar**	**19.41**	**62**	P	**Pn**	**02 38 06.7**	**-1.0**
	0.5nm,0.3s,baz=276,slow=9.9,SNR=40						
YKA				PcP	**PcP**	**02 42 26.5**	**-1.1**
	0.1nm,0.3s,baz=274,slow=1.6,SNR=4.4						
YKB5	**Yellowknife Ar**	**19.41**	**62**	*e*P	**Pn**	**02 38 06.7**	**-1.0**
YKB5				*e*PcP	**PcP**	**02 42 26.5**	**-1.1**
BILL	**Bilibino**	**19.74**	**314**	*e*P	**Pn**	**02 38 11.8**	**+0.2**
	7.9nm,0.9s						
NEW	**Newport**	**23.94**	**100**	P	**P**	**02 38 55.5**	**+0.7**
	1.5nm,0.5s,baz=114,slow=12,SNR=2.3						
SEY	**Seymchan**	**25.85**	**302**	P	**P**	**02 39 10.8**	**-1.2**
	1.5nm,0.4s,baz=18,slow=20,SNR=2.8						
YBH	**Yreka Blue Hor**	**25.87**	**117**	P	**P**	**02 39 13.1**	**+0.7**
	0.5nm,0.6s,baz=0.0,slow=4.0,SNR=1.6						
RES	**Resolute Bay**	**26.61**	**31**	*e*P	**P**	**02 39 19.2**	**+0.6**
	22nm,1.9s						
RES	**Resolute Bay**	**26.61**	**31**	P	**P**	**02 39 19.3**	**+0.6**
	1.5nm,0.5s,baz=282,slow=8.6,SNR=14						
MOD	**Modoc Plateau**	**26.87**	**114**	*e*P	**P**	**02 39 24.2**	**+2.6**
	10nm,1.4s						
PEA1	**Petropavlovsk-**	**27.20**	**279**	*e*P	**P**	**02 39 24.0**	**-0.2**
PETK	**Petropavlovsk-**	**27.20**	**279**	P	**P**	**02 39 24.0**	**-0.2**
	2.8nm,0.8s,baz=69,slow=17,SNR=1.7						
NV01	**Mina Array Sit**	**30.55**	**116**	*e*P	**P**	**02 39 56.9**	**+2.6**
NVAR	**Mina Array Bea**	**30.55**	**116**	P	**P**	**02 39 56.9**	**+2.6**
	0.3nm,0.3s,baz=316,slow=7.7,SNR=3.8						
PD31	**Pinedale Array**	**31.57**	**101**	*e*P	**P**	**02 40 05.0**	**+1.6**
	8.8nm,1.8s						
PDAR	**Pinedale Array**	**31.57**	**101**	P	**P**	**02 40 05.0**	**+1.6**
	0.8nm,0.6s,baz=304,slow=6.5,SNR=7.4						
R11A	**Troy Canyon, C**	**31.90**	**113**	*e*P	**P**	**02 40 09.7**	**+3.4**
	3.8nm,1.3s						
RSSD	**Black Hills**	**33.47**	**94**	*e*P	**P**	**02 40 22.7**	**+2.7**
	4.6nm,0.7s						
ULM	**Lac du Bonnet**	**33.73**	**79**	P	**P**	**02 40 23.0**	**+1.0**
	0.8nm,0.5s,baz=323,slow=9.5,SNR=3.5						
PV01	**Paradox Valley**	**35.52**	**105**	*e*P	**P**	**02 40 40.8**	**+2.9**
	20nm,2.0s						
WUAZ	**Wupatki**	**36.19**	**111**	*e*P	**P**	**02 40 46.5**	**+3.0**
	3.7nm,0.8s						
SDCO	**Great Sand Dun**	**37.38**	**103**	*e*P	**P**	**02 40 56.8**	**+3.1**
	12nm,1.9s						
KLR	**Kul'dur**	**42.56**	**291**	P	**P**	**02 41 35.1**	**-1.2**
	2.5nm,0.6s,baz=53,slow=6.2,SNR=11						
NRIK	**Noril'sk**	**44.81**	**334**	P	**P**	**02 41 55.7**	**+1.5**
	2.9nm,0.4s,baz=72,slow=7.6,SNR=4.1						
LTX	**Lajitas**	**44.99**	**108**	*e*P	**P**	**02 41 56.6**	**+0.4**
TXAR	**Lajitas Array**	**44.99**	**108**	P	**P**	**02 41 56.6**	**+0.4**
	0.4nm,0.8s,baz=305,slow=6.3,SNR=3.5						
ARA0	**ARCESS Array S**	**52.01**	**0**	*e*P	**P**	**02 42 51.5**	**+2.0**
ARCES	**ARCESS Array B**	**52.01**	**0**	P	**P**	**02 42 51.5**	**+2.0**
	3.2nm,0.9s,baz=2.1,slow=9.9,SNR=2.5						
KSRS	**Korea Array**	**53.01**	**283**	P	**P**	**02 42 56.4**	**-1.0**
	0.7nm,0.4s,baz=26,slow=8.6,SNR=4.1						
SONA0	**Songino Array**	**55.16**	**306**	*e*P	**P**	**02 43 13.1**	**-0.1**
SONM	**Songino Array**	**55.16**	**306**	*e*P	**P**	**02 43 12.3**	**-0.8**
SONM	**Songino Array**	**55.16**	**306**	P	**P**	**02 43 13.1**	**-0.1**
	4.5nm,0.8s,baz=47,slow=7.3,SNR=8.8						
ZAA1	**Zalesovo Array**	**58.11**	**324**	*e*P	**P**	**02 43 30.4**	**-3.4**
ZALV	**Zalesovo Beam**	**58.11**	**323**	*e*P	**P**	**02 43 30.6**	**-3.3**
ZALV	**Zalesovo Beam**	**58.11**	**323**	P	**P**	**02 43 30.4**	**-3.5**
	0.8nm,0.4s,baz=32,slow=6.5,SNR=3.3						
HHC	**Hu-ho-hao-te**	**58.36**	**297**	*e*P	**P**	**02 43 37.5**	**+1.6**
FIA0	**FINESS Array S**	**60.14**	**0**	*e*P	**P**	**02 43 46.7**	**-1.0**
FINES	**FINESS Array B**	**60.14**	**0**	P	**P**	**02 43 46.7**	**-1.0**
	0.6nm,0.5s,baz=28,slow=6.3,SNR=4.1						
HFS	**Hagfors**	**61.05**	**7**	P	**P**	**02 43 53.3**	**-0.8**
	0.6nm,0.5s,baz=20,slow=4.7,SNR=6.6						
EKA	**Eskdalemuir Ar**	**63.86**	**18**	P	**P**	**02 44 13.1**	**+0.2**
	1.2nm,0.5s,baz=348,slow=5.1,SNR=6.1						
MK32	**Makanchi Array**	**65.12**	**321**	*e*P	**P**	**02 44 19.4**	**-1.9**
MKAR	**Makanchi Array**	**65.12**	**321**	P	**P**	**02 44 19.4**	**-1.9**
	0.4nm,0.5s,baz=38,slow=7.5,SNR=4.0						
WHN	**Wuhan**	**65.31**	**288**	P	**P**	**02 44 22.6**	**-0.1**
AKASG	**Malin Array Be**	**70.88**	**358**	P	**P**	**02 44 56.1**	**-1.2**
	0.3nm,0.3s,baz=6.1,slow=6.0,SNR=2.8						
AKBB	**Malin Array Si**	**70.88**	**358**	*e*P	**P**	**02 44 56.1**	**-1.2**
	24nm,2.0s						
VYHS	**Vyhne**	**72.95**	**5**	*e*P	**P**	**02 45 07.0**	**-2.9**
KSH	**Kashi**	**73.69**	**322**	P	**P**	**02 45 17.1**	**+2.6**
KMI	**Kunming**	**75.46**	**294**	P	**P**	**02 45 25.8**	**+0.6**
KBZ	**Khabaz**	**76.94**	**348**	P	**P**	**02 45 34.0**	**+1.1**
	0.4nm,0.4s,baz=73,slow=20,SNR=2.8						
ESDC	**Sonseca Array**	**78.78**	**23**	P	**P**	**02 45 43.5**	**+0.1**
	1.0nm,0.7s,baz=340,slow=4.8,SNR=6.1						
MDT	**Midelt**	**85.24**	**26**	P	**P**	**02 46 17.3**	**-0.2**
	2.6nm,0.9s,baz=29,slow=5.5,SNR=4.9						
BOSA	**Boshof**	**149.86**	**2**	PKPbc	**PKPbc**	**02 53 29.3**	**-1.5**
	3.6nm,0.6s,baz=26,slow=2.4,SNR=6.7						
MAW	**Mawson**	**161.50**	**226**	PKPab	**PKPab**	**02 54 23.7**	**-1.1**
	1.2nm,0.5s,baz=236,slow=7.3,SNR=4.7						

*ISK **14** 02:35:29.9,36°.96N×26°.79E,h13km,ML2.5/12*
*ATH **14** 02:35:30.7,36°.98N×26°.78E,h39km±3km,ML2.4/1,Error ellipse: s-maj=3.8km s-min=1.6km az=322.0*
*ISCJB **14** 02:35:31.4±0.5,36°.93N±0°.03×26°.81E±0°.03,h25km±5km, Error ellipse: s-maj=5.2km s-min=4.1km az=11.6*
*DDA **14** 02:35:31.1,36°.96N×26°.84E,h9km±2km,ML2.6*

ISC 14 02:35:31.3±1.1,36°.94N±0°.03×26°.83E±0°.02,h24km±12km, n31,σ1°52/46,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.41**	**72**	PG	**Pb**	**02 35 39.1**	**-0.8**
BODT				SG	**Sb**	**02 35 45.6**	**-0.2**
BDRM	**Kayabasi**	**0.51**	**75**	IAML_P			
	comp=Z,2μm,0.1s						
BDRM				*i* P	**Pb**	**02 35 41.5**	**-0.2**
BDRM				*i* S	**Sb**	**02 35 49.4**	**+0.7**
DAT	**Datca**	**0.64**	**109**	IAML_P			
	comp=Z,601nm,0.2s						
DAT				*i* P	**Pn**	**02 35 44.8**	**-0.1**
DAT				*i* S	**Sb**	**02 35 53.0**	**+0.6**
DATC	**Datca-Mugla**	**0.69**	**104**	PG	**Pb**	**02 35 44.7**	**0.0**
DATC				SG	**Sn**	**02 35 55.1**	**-0.4**
AMGA	**Amorgos Island**	**0.76**	**262**	P	**Pb**	**02 35 45.1**	**-0.6**
AMGA				S	**Sb**	**02 35 55.9**	**+0.3**
SMG	**Samos**	**0.77**	**1**	P	**Pb**	**02 35 45.1**	**-0.9**
SMG				S	**Sb**	**02 35 56.3**	**+0.1**
SMG				AML	AML	02 36 00.3	
	comp=E,587μm,0.2s						
SMG				AML	AML	02 36 00.3	
	comp=N,556μm,0.3s						
GCAM	**G?zelcaml?**	**0.83**	**23**	PG	**Pb**	**02 35 46.5**	**-0.5**
GCAM				SG	**Sn**	**02 35 58.7**	**-0.2**
GCAM	**G?zelcaml?**	**0.83**	**23**	*i* P	**Pb**	**02 35 46.1**	**-0.9**
BBRN	**Bozburun-Marma**	**1.02**	**104**	PG	**Pn**	**02 35 50.7**	**+0.6**
ANAF	**Anafi Island**	**1.02**	**236**	P	**Pb**	**02 35 49.9**	**-0.4**
APE	**Apeiranthos**	**1.05**	**278**	PG	**Pn**	**02 35 50.3**	**-0.2**
APE				SG	**Sn**	**02 36 04.4**	**0.0**
APE	**Apeiranthos**	**1.05**	**278**	P	**Pn**	**02 35 50.4**	**-0.2**
AYDN	**Tasoluk**	**1.11**	**49**	IAML_P			
	comp=Z,800nm,0.1s						
AYDN				*i* P	**Pn**	**02 35 51.3**	**-0.1**
AYDN				*i* S	**Sn**	**02 36 07.0**	**+1.0**
DGB	**zmir**	**1.12**	**2**	*i* P	**Pb**	**02 35 52.1**	**+0.2**
DGB				*i* S	**Sn**	**02 36 08.8**	**+2.8**
ARG	**Arkhangelos**	**1.27**	**124**	PN	**Pb**	**02 35 54.2**	**-0.3**
ARG	**Arkhangelos**	**1.27**	**124**	P	**Pb**	**02 35 54.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**40**	PN	**Pb**	**02 35 54.9**	**-0.5**
ZEY	**zmir**	**1.33**	**349**	*i* P	**Pn**	**02 35 53.7**	**-0.6**
ZEY				*i* S	**Sb**	**02 36 12.7**	**+0.6**
KARP	**Karpathos**	**1.41**	**169**	P	**Pn**	**02 35 56.0**	**+0.4**
TURN	**Turunc**	**1.43**	**92**	PN	**Pn**	**02 35 52.6**	**-3.0**
TURN				SN	**Sn**	**02 36 09.7**	**-4.0**
TURN	**Turunc**	**1.43**	**92**	IAML_P			
	comp=Z,753nm,0.1s						
TURN				*i* P	**Pn**	**02 35 53.2**	**-2.5**
TURN				*i* S	**Sn**	**02 36 09.7**	**-4.0**
URLA	**Izmir**	**1.43**	**353**	PN	**Pn**	**02 35 55.7**	**-0.1**
URLA	**Izmir**	**1.43**	**353**	IAML_P			
	comp=Z,589nm,0.3s						
URLA				*i* P	**Pb**	**02 35 56.4**	**-1.0**
URLA				*i* S	**Sb**	**02 36 18.1**	**+3.0**
BLCB	**Balcova**	**1.46**	**7**	PN	**Pn**	**02 35 56.6**	**+0.5**
DALY	**Dalyan (Mula)**	**1.47**	**94**	PN	**Pb**	**02 35 57.4**	**-0.5**
DALY	**Dalyan (Mula)**	**1.47**	**94**	IAML_P			
	comp=Z,87nm,0.1s						
DALY				*i* P	**Pb**	**02 35 59.6**	**+1.7**
CHOS	**Chios island**	**1.57**	**337**	PN	**Pn**	**02 35 57.4**	**-0.4**
CHOS	**Chios island**	**1.57**	**337**	P	**Pn**	**02 35 56.9**	**-0.8**
FETY	**Fethiye**	**1.84**	**99**	PN	**Pn**	**02 36 02.4**	**+1.0**
FETY	**Fethiye**	**1.84**	**99**	IAML_P			
	comp=Z,324nm,0.1s						
FETY				*i* P	**Pb**	**02 36 05.6**	**+1.4**
FETY				*i* S	**Sb**	**02 36 31.0**	**+4.3**
SIGR	**SIGRI**	**2.40**	**342**	P	**Pn**	**02 36 08.5**	**-0.5**

*MDD **14** 02:38:06.5±1.3,36°.76N×11°.28W,h20km,mbLg2.8/35, Error ellipse: s-maj=11.5km s-min=8.5km az=53.0, PRXIMO*

*IGIL **14** 02:38:07.3,36°.70N×11°.30W,h31km,ML2.5*
*INMG **14** 02:38:07.7±1.1,36°.70N×11°.32W,h31km,ML2.6,Error ellipse: s-maj=4.5km s-min=3.3km az=65.0*
*CNRM **14** 02:38:08.1,36°.30N×10°.86W,h10km,ml3.5*

ISC 14 02:38:03.4±2.5,36°.67N±0°.05×11°.3W±0°.1,h31km±19km, n80,σ2°10/156,2C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.05**	**76**	⇑*e*Pn	**Pn**	**02 38 38.0**	**+2.2**
PFVI				*e*Sn	**Sn**	**02 39 00.2**	**-0.2**
PFVI				A	A	02 39 02.2	
	27nm,0.2s						
PFVI	**Vila Bisbo**	**2.05**	**76**	P	**Pn**	**02 38 38.0**	**+2.2**
	7.4nm,0.1s,SNR=48						
PFVI				S	**Sn**	**02 39 00.7**	**+0.3**
	79nm,0.2s,SNR=5.6						
PFVI	**Vila Bisbo**	**2.05**	**76**	P	**Pb**	**02 38 38.8**	**-1.2**
PFVI				S	**Sn**	**02 39 01.7**	**+1.3**
MORF	**Marmelete**	**2.23**	**73**	*e*P	**Pn**	**02 38 40.5**	**+2.2**
MORF				*e*S	**Sn**	**02 39 04.8**	**-0.1**
MORF				AML	AML	02 39 07.5	
	comp=N,56nm,0.5s						
MORF	**Marmelete**	**2.23**	**73**	⇑*e*Pn	**Pn**	**02 38 40.5**	**+2.2**
MORF				*e*Sn	**Sn**	**02 39 05.1**	**+0.2**
MORF				A	A	02 39 09.9	
	comp=N,30nm,0.2s						
MORF	**Marmelete**	**2.23**	**73**	P	**Pn**	**02 38 40.5**	**+2.2**
MORF				S	**Sn**	**02 39 05.1**	**+0.2**
	comp=N,30nm,0.2s						
PTEO	**Sao Teotonio**	**2.25**	**66**	*e*Pn	**Pn**	**02 38 41.0**	**+2.4**
PTEO				*e*Sn	**Sn**	**02 39 05.8**	**+0.5**
PTEO				A	A	02 39 08.7	

comp=N,4.9nm,0.2s,SNR=5.7
HORN Hornachuelos 4.98 75 P Pn 02 39 20.1 +4.0
HORN S Sn 02 40 13.8 +1.2
ZHG ZHG 5.01 129 P Pn 02 39 16.1 -0.4
ZHG S Sn 02 40 11.8 -1.7
SRHM Skhour des Reh 5.05 145 P Pn 02 39 19.4 +2.2
SRHM S Sn 02 40 13.1 -1.4
EMIJ Mijas 5.27 89 P Pn 02 39 22.7 +2.7
comp=N,0.5nm,0.2s,SNR=7.9
EMIJ S Sn 02 40 20.2 +0.4
comp=N,1.6nm,0.3s,SNR=7.9
POLO Lamas de Olo 5.44 29 *e*Pn **Pn 02 39 24.0 +1.6**
POLO *e*Sn **Sn 02 40 20.9 -3.1**
POLO A A 02 40 25.6
comp=N,2.0nm,0.3s
POLO Lamas de Olo 5.44 29 P Pn 02 39 24.0 +1.6
POLO S Sn 02 40 20.9 -3.1
comp=N,2.0nm,0.3s
EADA Adamuz 5.57 72 P Pn 02 39 26.2 +2.0
comp=N,1.3nm,0.1s,SNR=7.9
EADA S Sn 02 40 26.1 -1.2
comp=N,3.5nm,0.2s,SNR=7.9
MVO Moncorvo 5.60 35 *e*Pn **Pn 02 39 26.0 +1.5**
MVO *e*Sn **Sn 02 40 26.1 -1.8**
MVO A A 02 40 28.3
comp=N,10.0nm,0.5s
MVO Moncorvo 5.60 35 P Pn 02 39 26.1 +1.5
comp=N,1.4nm,0.1s,SNR=8.3
MVO S Sn 02 40 25.6 -2.2
comp=N,3.4nm,0.2s,SNR=12
PCAB Cabril 5.64 26 *e*Pn **Pn 02 39 26.9 +1.7**
PCAB *e*Sn **Sn 02 40 26.8 -2.2**
PCAB A A 02 40 30.7
comp=N,5.0nm,0.5s
PCAB Cabril 5.64 26 P Pn 02 39 26.9 +1.7
PCAB S Sn 02 40 26.8 -2.2
comp=N,2.5nm,0.5s
ELOB Lobios 5.77 25 P Pn 02 39 28.4 +1.4
comp=N,0.5nm,0.1s,SNR=8.9
ELOB S Sn 02 40 29.5 -2.7
comp=N,3.2nm,0.1s,SNR=7.9
PGAV Gavieira, Arco 5.79 23 *e*Pn **Pn 02 39 28.7 +1.4**
PGAV *e*Sn **Sn 02 40 30.5 -2.2**
PGAV A A 02 40 35.5
comp=N,5.0nm,0.6s
PGAV Gavieira, Arco 5.79 23 P Pn 02 39 28.7 +1.4
PGAV S Sn 02 40 30.5 -2.2
comp=N,5.0nm,0.6s
EZAM Zamans 5.83 20 S Sn 02 40 30.2 -3.4
comp=N,1.5nm,0.1s,SNR=7.9
IFR Ifrane 5.98 120 *e*P **Pn 02 39 30.4 +0.5**
IFR *e*S **Sn 02 40 30.9 -6.5**
LCRM LCR 6.08 117 P Pn 02 39 31.8 +0.6
LCRM S Sn 02 40 36.7 -3.1
OUK Oukaimeden 6.16 151 P Pn 02 39 34.5 +1.8
OUK S Sn 02 40 39.3 -2.9
ELGU Los Guajares, 6.18 86 P Pn 02 39 36.0 +3.4
comp=N,0.4nm,0.1s,SNR=7.9
PAB San Pablo 6.20 60 P Pn 02 39 35.2 +2.3
comp=N,0.4nm,0.2s,SNR=7.9
PAB S Sn 02 40 40.0 -2.8
comp=N,2.1nm,0.2s,SNR=7.9
PBRG Braganca 6.24 33 *e*Pn **Pn 02 39 35.1 +1.7**
PBRG *e*Sn **Sn 02 40 40.5 -3.1**
PBRG A A 02 40 43.9
comp=N,4.1nm,0.3s
PBRG Braganca 6.24 33 P Pn 02 39 35.1 +1.7
PBRG S Sn 02 40 40.5 -3.1
comp=N,2.0nm,0.3s
ECAL Calabor 6.35 33 P Pn 02 39 37.0 +2.0
comp=N,0.4nm,0.2s,SNR=5.5
ECAL S Sn 02 40 44.1 -2.3
comp=N,25nm,0.5s,SNR=7.9
ESDC Sonseca Array 6.53 60 P Pn 02 39 39.4 +2.1
comp=N,2.2nm,0.1s,baz=246,slow=13,SNR=17
ESDC S Sn 02 40 48.5 -2.3
comp=N,1.4nm,0.3s,baz=246,slow=23,SNR=17
TTIG Tnine Tigouga, 6.56 158 P Pn 02 39 36.4 -1.6
TTIG S Sn 02 40 45.8 -6.0
MD31 MD31 6.60 123 P Pn 02 39 40.4 +1.9
MD31 S Sn 02 40 47.8 -4.9
EAGO Agolada(Pontev 6.61 21 P Pn 02 39 39.5 +1.0
comp=N,1.4nm,0.2s,SNR=7.9
EAGO S Sn 02 40 49.1 -3.6
comp=N,1.4nm,0.3s,SNR=7.9
EQES Quesada 6.68 78 P Pn 02 39 41.8 +2.3
comp=N,0.4nm,0.2s,SNR=7.9
EQES S Sn 02 40 52.4 -2.2
comp=N,0.6nm,0.2s,SNR=7.9
MDT Midelt 6.74 123 P Pn 02 39 42.3 +2.0
MDT S Sn 02 40 53.0 -3.0
OUZM OUZ 6.89 145 P Pn 02 39 43.6 +1.2
OUZM S Sn 02 40 56.3 -3.5
EPON Pontenova 7.38 24 P Pn 02 39 50.1 +1.1
comp=N,4.2nm,0.3s,SNR=7.9
EPON S Sn 02 41 08.3 -3.3
comp=N,1.5nm,0.2s,SNR=7.9
ARF Arif 7.88 130 P Pn 02 39 56.1 +0.1
ARF S Sn 02 41 20.6 -3.5
ETOB Tobarra 8.00 73 S Sn 02 41 24.2 -2.9
comp=N,0.4nm,0.2s,SNR=7.9
EARI Arriondas 8.11 33 P Pn 02 40 01.0 +1.9
comp=N,0.2nm,0.2s,SNR=7.9
EARI S Sn 02 41 27.5 -2.2
comp=N,0.4nm,0.2s,SNR=7.9
TDRA Tendrara 8.45 113 P Pn 02 40 04.6 +0.6
TDRA S Sn 02 41 36.9 -1.5

*IDC **14** 02:50:36.2±0.6, 16°.66S×173°.64W, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.3/33, mbtmp4.3/16, ML3.5/1, Error ellipse: s-maj=26.2km s-min=15.0km az=128.0*
*ISCJB **14** 02:50:39.0±0.4, 16°.93S±0°.08×173°.62W±0°.08, h35km, mb4.3/25, Error ellipse: s-maj=13.9km s-min=8.0km az=143.6*
*NEIC **14** 02:50:40.5±2.0, 16°.98S×173°.55W, h35km±2km, mb4.4/17, Error ellipse: s-maj=18.3km s-min=16.9km az=169.0*
ISC 14 02:50:40.3±0.4, 17°.00S±0°.09×173°.43W±0°.08, h35km, n80, σ1§02/81, mb4.3/25, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.92**	**122**	*e*Pn	**Pn**	**02 51 37.8**	**-0.3**
NIUE				*e*Sn	**Sn**	**02 52 19.5**	**-3.4**
MARNC	**Mare, Loyalty**	**18.06**	**253**	*e*Pn	**Pn**	**02 54 46.4**	**-2.2**
	160nm,1.4s						
DZM	**Mont Dzumac**	**19.62**	**252**	*e*P	**P**	**02 55 05.1**	**-0.9**
	8.7nm,1.1s						
DZM	**Mont Dzumac**	**19.62**	**252**	P	**P**	**02 55 05.1**	**-0.9**
	0.1nm,0.3s,baz=133,slow=19,SNR=2.6						
OUZ	**Omahuta**	**21.52**	**210**	*e*P	**P**	**02 55 27.8**	**+1.5**
	19nm,1.1s						
URZ	**Urewera**	**22.74**	**200**	*e*P	**P**	**02 55 40.9**	**+1.5**
	6.0nm,0.6s						
URZ	**Urewera**	**22.74**	**200**	P	**P**	**02 55 42.6**	**+3.1**
	6.6nm,0.6s,baz=42,slow=2.7,SNR=5.0						
BKZ	**Black Stump Fm**	**23.77**	**200**	*e*P	**P**	**02 55 49.0**	**-0.7**
	17nm,1.3s						
RPZ	**Rata Peaks**	**29.69**	**203**	P	P	02 56 47.9	+4.9
	11nm,0.9s,baz=1.3,slow=8.8,SNR=4.7						
ARMA	**Armidale**	**34.51**	**241**	*e*P	**P**	**02 57 24.3**	**-1.2**
	8.4nm,1.0s						
STKA	**Stephens Creek**	**43.23**	**241**	*e*P	**P**	**02 58 38.9**	**+0.5**
	2.2nm,0.9s						
STKA	**Stephens Creek**	**43.23**	**241**	P	**P**	**02 58 39.0**	**+0.6**
	9.5nm,0.8s,baz=57,slow=6.6,SNR=13						
WB2	**Warramunga Arr**	**49.45**	**258**	*e*P	**P**	**02 59 26.3**	**-1.2**
	6.9nm,1.2s						
WR1	**Warramunga Arr**	**49.46**	**258**	*e*P	**P**	**02 59 26.1**	**-1.5**
WRA	**Warramunga Arr**	**49.47**	**258**	P	**P**	**02 59 26.1**	**-1.5**
	0.9nm,0.3s,baz=96,slow=7.7,SNR=10.0						
AS31	**Alice Springs**	**49.60**	**253**	*e*P	**P**	**02 59 28.0**	**-0.6**
	5.8nm,0.5s						
ASAR	**Alice Springs**	**49.60**	**253**	P	**P**	**02 59 27.9**	**-0.7**
	19nm,0.7s,baz=88,slow=8.5,SNR=169						
JNU	**Nakatsue**	**72.87**	**314**	*e*P	**P**	**03 02 04.9**	**-1.0**
	5.2nm,0.8s						
JNU	**Nakatsue**	**72.87**	**314**	P	**P**	**03 02 04.9**	**-1.0**
	3.0nm,0.6s,baz=80,slow=6.9,SNR=3.9						
QSPA	**South Pole Qui**	**73.05**	**180**	P	**P**	**03 02 09.5**	**+2.8**
	1.4nm,0.8s,baz=102,slow=2.5,SNR=6.1						
PETK	**Petropavlovsk-**	**74.14**	**342**	P	**P**	**03 02 12.4**	**-0.6**
	3.8nm,0.7s,baz=108,slow=9.3,SNR=7.3						
PEA1	**Petropavlovsk-**	**74.14**	**342**	*e*P	**P**	**03 02 12.4**	**-0.6**
BEKR	**Beckworth**	**75.12**	**40**	*e*P	**P**	**03 02 19.9**	**+0.7**
	3.2nm,1.0s						
NV01	**Mina Array Sit**	**75.54**	**42**	*e*P	**P**	**03 02 21.9**	**+0.2**
NVAR	**Mina Array Bea**	**75.54**	**42**	P	**P**	**03 02 21.9**	**+0.2**
	0.5nm,0.5s,baz=226,slow=6.8,SNR=5.5						
TXAR	**Lajitas Array**	**81.53**	**56**	P	**P**	**03 02 56.1**	**+1.3**
	0.4nm,0.8s,baz=224,slow=3.5,SNR=4.6						
LTX	**Lajitas**	**81.53**	**56**	*e*P	**P**	**03 02 56.1**	**+1.3**
KLR	**Kul'dur**	**81.84**	**327**	P	**P**	**03 02 55.4**	**-0.4**
	1.1nm,0.8s,baz=150,slow=18,SNR=3.0						
MCMT	**McKenzie Canyo**	**82.52**	**39**	*e*P	**P**	**03 03 01.0**	**+1.2**
SMCO	**Snowmass**	**83.44**	**46**	*e*P	**P**	**03 03 05.5**	**+0.6**
	2.5nm,1.0s						
BW06	**Boulder Array**	**83.48**	**42**	*e*P	**P**	**03 03 04.8**	**0.0**
	2.3nm,0.8s						
PD31	**Pinedale Array**	**83.48**	**42**	*e*P	**P**	**03 03 04.8**	**0.0**
	2.1nm,0.8s						
PDAR	**Pinedale Array**	**83.48**	**42**	P	**P**	**03 03 04.6**	**-0.2**
	2.0nm,0.8s,baz=219,slow=3.5,SNR=12						
ILAR	**Eielson Array**	**84.02**	**11**	P	**P**	**03 03 05.8**	**-0.9**
	0.6nm,0.7s,baz=211,slow=5.5,SNR=14						
ILB	**Eielson Array**	**84.02**	**11**	*e*P	**P**	**03 03 05.8**	**-0.9**
	0.8nm,0.8s						
PRP	**Porcupine Dome**	**84.94**	**11**	*e*P	**P**	**03 03 11.5**	**-0.1**
	2.7nm,1.0s						
YKA	**Yellowknife Ar**	**91.58**	**23**	P	**P**	**03 03 43.2**	**+0.1**
	0.7nm,1.0s,baz=234,slow=4.6,SNR=8.3						
YKB5	**Yellowknife Ar**	**91.58**	**23**	*e*P	**P**	**03 03 43.2**	**+0.1**
CM31	**Chiang Mai Arr**	**93.08**	**288**	*e*P	**P**	**03 03 52.5**	**+1.4**
	8.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**93.08**	**288**	P	**P**	**03 03 52.5**	**+1.4**
	1.2nm,0.3s,baz=115,slow=2.8,SNR=8.2						
ARA0	**ARCESS Array S**	**126.18**	**352**	*e*PKPdf	**PKiKP**	**03 09 38.8**	**-0.1**
ARCES	**ARCESS Array B**	**126.18**	**352**	PKP	**PKiKP**	**03 09 38.8**	**-0.1**
	2.9nm,0.8s,baz=342,slow=0.3,SNR=3.3						
HFS	**Hagfors**	**136.62**	**355**	PKP	**PKiKP**	**03 09 59.4**	**-0.8**
	1.1nm,0.7s,baz=94,slow=5.8,SNR=2.4						
KMBO	**Kilima Mbogo**	**144.79**	**242**	PKP	**PKPdf**	**03 10 15.4**	**+0.5**
	1.8nm,0.6s,baz=197,slow=3.4,SNR=4.6						
OJC	**Ojcow**	**145.19**	**345**	*e*PKP	**PKPdf**	**03 10 14.2**	**0.0**
KSP	**Ksiaz**	**145.35**	**349**	*e*PKP	**PKPdf**	**03 10 15.1**	**+0.7**
CLL	**Collm**	**145.39**	**353**	*i* PKPbc	**PKPbc**	**03 10 14.2**	**-0.2**
	comp=Z,5.0nm,0.9s						
CLL				*i* (PKPab)	**PKPab**	**03 10 15.5**	**+0.9**
	comp=Z,6.0nm,0.7s						
KOLS	**Kolonicke sedl**	**145.68**	**342**	*e*PKP	**PKPab**	**03 10 16.0**	**+0.2**
BRG	**Berggiesshubel**	**145.70**	**352**	*e*PKP	**PKPab**	**03 10 15.6**	**-0.1**
	comp=Z,4.6nm,0.9s						
UPC	**Upice**	**145.73**	**349**	*e*PKP	**PKPab**	**03 10 16.5**	**+0.6**
NIE	**Niedzica**	**145.80**	**344**	*e*PKP	**PKPab**	**03 10 16.9**	**+0.6**
DPC	**Dobruska-Polom**	**145.82**	**349**	*e*PKP	**PKPab**	**03 10 16.7**	**+0.4**
DPC				*e*pPKP	sPKPbc	03 10 30.6	0.0
OKC	**Ostrava-Krasne**	**145.94**	**347**	*e*PKP	**PKPab**	**03 10 17.5**	**+0.8**
PVCC	**Panska Ves**	**145.94**	**351**	*e*PKP	**PKPab**	**03 10 16.7**	**0.0**
MORC	**Moravsky Berou**	**146.12**	**347**	*e*PKP	**PKPab**	**03 10 17.3**	**-0.1**
LANS	**Liptovska Anna**	**146.26**	**345**	*e*PKP	**PKPab**	**03 10 18.6**	**+0.6**
PRU	**Pruhonice**	**146.47**	**351**	*e*PKP	**PKPab**	**03 10 18.2**	**-0.5**
VRAC	**Vranov**	**146.76**	**348**	*e*PKP	**PKPab**	**03 10 20.2**	**+0.3**
VRAC	**Vranov**	**146.76**	**348**	PKPbc	**PKPbc**	**03 10 18.4**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=41,slow=5.2,SNR=3.7						
JAVC	**Velka Javorina**	**146.96**	**347**	*e*PKP	**PKiKP**	**03 10 21.8**	**-0.1**
VYHS	**Vyhne**	**147.03**	**345**	*e*PKP	**PKPab**	**03 10 20.7**	**-0.2**
KRUC	**Moravsky**	**147.04**	**348**	*e*PKP	**PKPbc**	**03 10 19.7**	**+0.3**
MLR	**Muntele Rosu**	**147.30**	**334**	PKPbc	**PKPbc**	**03 10 19.4**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=325,slow=12,SNR=3.0						
BR101	**Keskin Array S**	**147.36**	**319**	*e*PKPbc	**PKPbc**	**03 10 21.5**	**+0.7**
BRTR	**Keskin Array B**	**147.36**	**319**	PKPbc	**PKPbc**	**03 10 21.5**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=124,slow=2.5,SNR=12						
KHC	**Kasperske Hory**	**147.45**	**351**	*e*PKP	**PKPbc**	**03 10 21.1**	**+0.5**
GEC2	**GERESS Array S**	**147.71**	**351**	*e*PKPbc	**PKPbc**	**03 10 21.7**	**+0.3**
GERES	**GERESS Array B**	**147.71**	**351**	PKPbc	**PKPbc**	**03 10 21.7**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=27,slow=3.3,SNR=9.7						
CONA	**Conrad Observa**	**148.23**	**348**	*e*PKiKP	**PKPbc**	**03 10 23.4**	**+0.6**
	comp=Z,8.1nm,1.5s						
CONA	**Conrad Observa**	**148.23**	**348**	*e*PKiKP	**PKPbc**	**03 10 23.4**	**+0.6**
	comp=Z,8.1nm,1.5s						
MMAI	**Mount Meron Ar**	**149.53**	**307**	PKPbc	**PKiKP**	**03 10 27.9**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=304,slow=47,SNR=2.5						
WTTA	**Wattenberg**	**149.54**	**353**	*i* PKiKP	**PKPbc**	**03 10 26.7**	**+0.4**
	comp=Z,3.6nm,0.7s						
WTTA	**Wattenberg**	**149.54**	**353**	*i* PKiKP	**PKPbc**	**03 10 26.7**	**+0.4**
	comp=Z,3.6nm,0.7s						
SQTA	**Sankt Quirin**	**149.62**	**354**	*i* PKPbc	**PKPbc**	**03 10 26.2**	**-0.2**
	comp=Z,9.1nm,1.4s						
SQTA	**Sankt Quirin**	**149.62**	**354**	*i* PKPbc	**PKPbc**	**03 10 26.2**	**-0.2**
	comp=Z,9.1nm,1.4s						
DAVA	**Damuels**	**149.68**	**356**	*e*PKiKP	**PKPbc**	**03 10 26.9**	**+0.3**
	comp=Z,5.5nm,0.9s						
DAVA	**Damuels**	**149.68**	**356**	*e*PKiKP	**PKPbc**	**03 10 26.9**	**+0.3**
	comp=Z,5.5nm,0.9s						
FETA	**Feichten**	**149.87**	**354**	*e*PKPbc	**PKPbc**	**03 10 24.9**	**-2.2**
	comp=Z,5.1nm,1.0s						
FETA	**Feichten**	**149.87**	**354**	*e*PKPbc	**PKPbc**	**03 10 24.9**	**-2.2**
	comp=Z,5.1nm,1.0s						
DAVOX	**Davos/Dischmat**	**150.18**	**355**	PKPbc	**PKiKP**	**03 10 28.8**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=24,slow=13,SNR=7.3						

MEX 14 02:58:18.6±0.6, 16°.35N×98°.21W, h17km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.09**	**58**	*e*P	Pg	02 58 20.9	-1.2
PNIG				*e*S	Sg	02 58 23.8	-0.6

WEL 14 02:58:29.7, 42°S±4°×17°3E±°, h12km, ML3.5/23, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.53**	**24**	P	Pg	02 58 40.5	+0.4
LTZ	**Lake Taylor**	**0.59**	**206**	P	Pb	02 58 42.7	+0.6
KHZ	**Kahutara**	**0.70**	**104**	P	Pb	02 58 43.9	0.0
KHZ				S	Sb	02 58 53.0	-0.5
DSZ	**Denniston Nort**	**0.79**	**309**	P	Pn	02 58 47.2	+0.6
AMCZ	**Amberley**	**0.93**	**179**	P	Pn	02 58 49.6	+1.1
INZ	**Inchbonnie**	**0.99**	**241**	P	Pn	02 58 49.9	+0.5
BSWZ	**Blackbirch Sta**	**1.08**	**61**	P	Pg	02 58 50.3	-0.1
OXZ	**Oxford**	**1.16**	**202**	P	Pg	02 58 52.6	+0.6
NNZ	**Nelson**	**1.18**	**29**	P	Pg	02 58 52.2	-0.1
TUWZ	**Tuamarina**	**1.28**	**51**	P	Pb	02 58 53.7	0.0
CMWZ	**Cape Campbell**	**1.29**	**68**	P	Pg	02 58 55.8	+1.4
CRLZ	**Canterbury Las**	**1.32**	**180**	P	Pg	02 58 54.8	-0.3
QRZ	**Quartz Range**	**1.42**	**357**	P	Pg	02 58 57.1	+0.1
QRZ				S	Sg	02 59 16.0	+0.5
MQZ	**McQueen's Vall**	**1.46**	**179**	P	Pn	02 58 56.0	+0.2
MQZ				S	Sn	02 59 14.9	+0.1
OKCZ	**Okains Bay**	**1.51**	**168**	P	Pb	02 58 57.2	-0.4
TCW	**Tory Channel**	**1.62**	**51**	P	Pb	02 58 59.4	0.0
WVZ	**Waitaha Valley**	**1.62**	**239**	P	Pg	02 59 00.9	+0.2
WVZ				S	Sg	02 59 23.3	+1.6
AKCZ	**Akaroa Harbour**	**1.64**	**173**	P	Pn	02 58 58.8	+0.5
DUWZ	**D'Urville Isla**	**1.75**	**34**	P	Pb	02 59 01.9	+0.2
RPZ	**Rata Peaks**	**1.86**	**218**	P	Pb	02 59 02.6	-1.0
BHW	**Baring Head**	**1.88**	**64**	P	Pb	02 59 02.9	-1.0
PLWZ	**Palliser**	**2.08**	**72**	P	Pn	02 59 04.6	+0.2
MSWZ	**Moikau Station**	**2.13**	**68**	P	Pn	02 59 05.5	+0.4
CAW	**Cannon Point**	**2.16**	**59**	P	Pn	02 59 06.4	+1.0
KIW	**Kapiti Island**	**2.21**	**52**	P	Pb	02 59 08.1	-1.5
PAWZ	**Paruwai Farm**	**2.27**	**68**	P	Pn	02 59 07.7	+0.6
OGWZ	**Otaki Gorge**	**2.39**	**54**	P	Pn	02 59 10.0	+1.4
MTW	**Mount Morrison**	**2.42**	**64**	P	Pn	02 59 09.4	+0.4
FOZ	**Fox Glacier**	**2.43**	**237**	P	Pb	02 59 12.3	-1.0
HOWZ	**Holdsworth Sta**	**2.56**	**59**	P	Pn	02 59 12.0	+1.1
MRZ	**Mangatainoka R**	**2.73**	**55**	P	Pn	02 59 13.9	+0.6
LBZ	**Lake Benmore**	**2.78**	**219**	P	Pn	02 59 15.5	+1.5
NMEZ	**Namu Road**	**2.99**	**19**	P	Pb	02 59 21.6	-1.2
WAZ	**Wanganui**	**3.07**	**36**	P	Pb	02 59 23.5	-0.7
NBEZ	**Newall Road No**	**3.12**	**18**	P	Pb	02 59 22.8	-2.3
PREZ	**Palmer Road**	**3.13**	**22**	P	Pb	02 59 23.6	-1.7
KHEZ	**Kahui Hut**	**3.13**	**20**	P	Pb	02 59 23.3	-2.0
ODZ	**Otahua Downs**	**3.14**	**206**	P	Pn	02 59 19.2	+0.2
PKE	**Pukeiti**	**3.22**	**19**	P	Pb	02 59 24.5	-2.4
TSZ	**Takapari Road**	**3.34**	**50**	P	Pn	02 59 23.2	+1.5
JCZ	**Jackson Bay**	**3.35**	**236**	P	Pn	02 59 24.1	+2.2
VRZ	**Vera Road**	**3.52**	**28**	P	Pb	02 59 28.8	-3.1
PKVZ	**Pokaka**	**3.61**	**36**	P	Pb	02 59 31.3	-2.1
WKZ	**Wanaka**	**3.67**	**224**	P	Pn	02 59 27.1	+0.7
TUVZ	**Tukino**	**3.77**	**39**	P	Pb	02 59 32.4	-3.7
NGZ	**Nguruhoe**	**3.81**	**37**	P	Pn	02 59 32.5	+4.1
WTVZ	**West Tongariro**	**3.86**	**37**	P	Pb	02 59 34.3	-3.5
HIZ	**Hauiti**	**4.10**	**25**	P	Pn	02 59 36.6	+4.4
TUZ	**Tuapeka**	**4.28**	**209**	P	Pn	02 59 35.8	+1.1
SYZ	**Scrubby Hill**	**4.96**	**209**	P	Pn	02 59 44.7	+0.8
AWAZ	**Awhitu Peninsu**	**5.41**	**17**	P	Pn	02 59 55.0	+4.9
MBAZ	**Motutapu North**	**5.75**	**19**	P	Pn	03 00 00.2	+5.4
WIAZ	**Waiheke Island**	**5.78**	**20**	P	Pn	02 59 59.9	+4.6

*ROM **14** 02:59:02.9±0.1, 38°.948N±0°.009×15°.35E±0°.02, h279km±1km, ML3.4/26, Error ellipse: s-maj=1.6km s-min=0.4km az=115.0*
*ISCJB **14** 02:59:03.2±0.3, 38°.95N±0°.03×15°.44E±0°.07, h279km±3km, mb3.3/8, Error ellipse: s-maj=9.1km s-min=4.5km az=23.7*
*IDC **14** 02:59:04.2±1.2, 39°.08N×15°.21E, h281km±13km, mb2.9/9, mb1 2.9/12, mb1mx2.8/50, mbtmp3.5/12, Error ellipse: s-maj=24.8km s-min=11.4km az=105.0*
ISC 14 02:59:03.5±0.7, 38°.94N±0°.05×15°.44E±0°.06, h276km±6km, n139, σ1§26/161, mb3.2/8, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOPP	**Joppolo**	**0.48**	**134**	P	**Pn**	**02 59 39.9**	**+0.4**
JOPP				S	**S**	**03 00 07.2**	**-0.7**
JOPP				AML	AML		
	comp=E,802μm,0.2s						
JOPP				AML	AML		
	comp=N,736μm,1.5s						
JOPP				AML	AML		
	comp=E,802μm,0.2s						
JOPP				AML	AML		
	comp=N,736μm,1.5s						
JOPP				AML	AML		
	comp=E,802μm,0.2s						
JOPP				AML	AML		
	comp=N,736μm,1.5s						
JOPP	**Joppolo**	**0.48**	**134**	S	**S**	**03 00 05.0**	**-2.9**
JOPP	**Joppolo**	**0.48**	**134**	S	**S**	**03 00 05.2**	**-2.7**
VPL	**Vulcano Piano**	**0.67**	**212**	P	**Pn**	**02 59 40.7**	**+0.7**
CAR1	**CAROLEI**	**0.68**	**62**	P	**Pn**	**02 59 40.6**	**+0.6**
CAR1				S	**S**	**03 00 08.5**	**-0.3**
CAR1				AML	AML		
	comp=E,502μm,0.7s						
CAR1				AML	AML		
	comp=N,590μm,0.6s						
CAR1				AML	AML		
	comp=E,874μm,0.7s						
CAR1				AML	AML		
	comp=N,873μm,0.9s						
CAR1				AML	AML		
	comp=E,874μm,0.7s						
CAR1				AML	AML		
	comp=N,873μm,0.9s						
CAR1				AML	AML		
	comp=N,873μm,0.9s						
CAR1				AML	AML		
	comp=E,874μm,0.7s						
CAR1	**CAROLEI**	**0.68**	**62**	S	**S**	**03 00 07.2**	**-1.6**
MSRU	**Castanea**	**0.68**	**175**	P	**Pn**	**02 59 39.8**	**-0.3**
MSRU	**Castanea**	**0.68**	**175**	P	**Pn**	**02 59 40.0**	**-0.1**
MSRU				S	**S**	**03 00 08.1**	**-0.9**
MSRU				AML	AML		
	comp=E,641μm,1.1s						
MSRU				AML	AML		
	comp=N,554μm,1.0s						
MSRU				AML	AML		
	comp=E,641μm,1.1s						
MSRU				AML	AML		
	comp=N,554μm,1.0s						
MSRU	**Castanea**	**0.68**	**175**	P	**Pn**	**02 59 40.0**	**-0.1**
MSRU	**Castanea**	**0.68**	**175**	S	**S**	**03 00 07.3**	**-1.6**
MILZ	**Milazzo**	**0.69**	**194**	P	**Pn**	**02 59 40.1**	**0.0**
CET2	**Cetraro**	**0.71**	**34**	P	**Pn**	**02 59 40.8**	**+0.7**
CET2	**Cetraro**	**0.71**	**34**	P	**Pn**	**02 59 40.8**	**+0.7**
CET2				S	**S**	**03 00 08.4**	**-0.6**
CET2				AML	AML		
	comp=E,672μm,0.4s						
CET2				AML	AML		
	comp=N,918μm,1.1s						
CET2				AML	AML		
	comp=E,892μm,0.4s						
CET2				AML	AML		
	comp=N,983μm,1.1s						
CET2				AML	AML		
	comp=E,888μm,0.4s						
CET2				AML	AML		
	comp=N,983μm,1.1s						
CET2				AML	AML		
	comp=E,888μm,0.4s						
CET2				AML	AML		
	comp=N,983μm,1.1s						
CET2	**Cetraro**	**0.71**	**34**	S	**S**	**03 00 07.9**	**-1.1**
MSCL	**Scilla**	**0.76**	**159**	P	**Pn**	**02 59 40.6**	**+0.2**
MSCL				S	**S**	**03 00 08.5**	**-1.1**
MSCL				AML	AML		
	comp=E,753μm,1.1s						
MSCL				AML	AML		
	comp=N,682μm,0.7s						
MSCL				AML	AML		
	comp=E,753μm,1.1s						
MSCL				AML	AML		
	comp=N,682μm,0.7s						
MSCL	**Scilla**	**0.76**	**159**	P	**Pn**	**02 59 40.7**	**+0.2**
MSCL	**Scilla**	**0.76**	**159**	S	**S**	**03 00 08.0**	**-1.6**
CEL	**Celeste**	**0.77**	**152**	P	**Pn**	**02 59 40.6**	**+0.2**
CEL				S	**S**	**03 00 08.3**	**-1.4**
GRI	**Girifalco**	**0.78**	**99**	P	**Pn**	**02 59 41.0**	**+0.7**
GRI				S	**S**	**03 00 09.4**	**-0.1**
GRI				AML	AML		
	comp=E,444μm,0.4s						
GRI				AML	AML		
	comp=N,566μm,0.5s						
GRI				AML	AML		
	comp=N,566μm,0.5s						
GRI				AML	AML		
	comp=E,444μm,0.4s						
GRI	**Girifalco**	**0.78**	**99**	P	**Pn**	**02 59 41.5**	**+1.1**
GRI	**Girifalco**	**0.78**	**99**	P	**Pn**	**02 59 41.8**

PLAC				AML	AML	
	comp=N,369μm,1.4s					
PLAC				AML	AML	
	comp=E,310μm,0.4s					
PLAC				AML	AML	
	comp=E,362μm,1.4s					
PLAC				AML	AML	
	comp=N,369μm,1.4s					
PLAC				AML	AML	
	comp=N,292μm,0.5s					
PLAC	**Placanica**	**0.92**	**122**	P	**Pn**	**02 59 42.2 +1.2**
PLAC	**Placanica**	**0.92**	**122**	S	**S**	**03 00 05.0 -5.7**
T0702	**Acquaformosa (**	**0.93**	**33**	P	**Pn**	**02 59 41.7 +0.7**
T0702				S	**S**	**03 00 09.8 -0.9**
T0702	**Acquaformosa (**	**0.93**	**33**	S	**S**	**03 00 09.9 -0.9**
CELI	**Celico**	**0.95**	**61**	P	**Pn**	**02 59 42.9 +1.7**
CELI				S	**S**	**03 00 10.5 -0.6**
CELI				AML	AML	
	comp=E,480μm,1.1s					
CELI				AML	AML	
	comp=N,516μm,0.8s					
CELI				AML	AML	
	comp=E,480μm,1.1s					
CELI				AML	AML	
	comp=N,516μm,0.8s					
CELI	**Celico**	**0.95**	**61**	P	**Pn**	**02 59 42.9 +1.7**
CELI	**Celico**	**0.95**	**61**	S	**S**	**03 00 11.7 +0.7**
MTTG	**Motta San Giov**	**0.96**	**168**	P	**Pn**	**02 59 41.8 +0.6**
MTTG				S	**S**	**03 00 10.9 -0.2**
MTTG				AML	AML	
	comp=E,322μm,1.5s					
MTTG				AML	AML	
	comp=N,373μm,0.6s					
MTTG				AML	AML	
	comp=E,322μm,1.5s					
MTTG				AML	AML	
	comp=N,374μm,0.6s					
MTTG				AML	AML	
	comp=E,322μm,1.5s					
MTTG				AML	AML	
	comp=N,374μm,0.6s					
MTTG	**Motta San Giov**	**0.96**	**168**	P	**Pn**	**02 59 42.0 +0.8**
MTTG	**Motta San Giov**	**0.96**	**168**	S	**S**	**03 00 11.0 -0.2**
SERS	**Sersale**	**0.98**	**84**	P	**Pn**	**02 59 42.7 +1.3**
SERS				S	**S**	**03 00 10.8 -0.5**
SERS				AML	AML	
	comp=E,226μm,0.4s					
SERS				AML	AML	
	comp=N,210μm,1.4s					
SERS				AML	AML	
	comp=E,233μm,0.3s					
SERS				AML	AML	
	comp=N,202μm,0.6s					
SERS				AML	AML	
	comp=E,234μm,0.3s					
SERS				AML	AML	
	comp=N,202μm,0.6s					
SERS				AML	AML	
	comp=N,202μm,0.6s					
SERS				AML	AML	
	comp=E,234μm,0.3s					
SERS	**Sersale**	**0.98**	**84**	P	**Pn**	**02 59 42.7 +1.3**
SERS	**Sersale**	**0.98**	**84**	S	**S**	**03 00 07.0 -4.3**
AIO	**Antillo**	**0.98**	**190**	P	**Pn**	**02 59 42.4 +1.0**
AIO				S	**S**	**03 00 10.6 -0.8**
AIO				AML	AML	
	comp=E,249μm,0.3s					
AIO				AML	AML	
	comp=N,188μm,0.4s					
AIO				AML	AML	
	comp=E,249μm,0.3s					
AIO				AML	AML	
	comp=N,188μm,0.4s					
AIO				AML	AML	
	comp=E,249μm,0.3s					
AIO				AML	AML	
	comp=N,188μm,0.4s					
AIO	**Antillo**	**0.98**	**190**	S	**S**	**03 00 12.9 +1.5**
SOI	**Samo**	**0.99**	**151**	P	**Pn**	**02 59 42.0 +0.6**
SOI				S	**S**	**03 00 10.9 -0.4**
SOI				AML	AML	
	comp=E,170μm,1.4s					
SOI				AML	AML	
	comp=N,168μm,0.4s					
SOI	**Samo**	**0.99**	**151**	P	**Pn**	**02 59 42.0 +0.6**
SOI	**Samo**	**0.99**	**151**	S	**S**	**03 00 10.4 -0.9**
MUCR	**Ucria**	**1.00**	**206**	P	**Pn**	**02 59 41.7 +0.1**
MUCR	**Ucria**	**1.00**	**206**	P	**Pn**	**02 59 41.7 +0.1**
MUCR				AML	AML	
	comp=E,110μm,0.4s					
MUCR				AML	AML	
	comp=N,173μm,0.5s					
MUCR				AML	AML	
	comp=E,110μm,0.4s					
MUCR				AML	AML	
	comp=N,173μm,0.5s					
MUCR	**Ucria**	**1.00**	**206**	S	**S**	**03 00 14.9 +3.3**
TIP	**Timpagrande**	**1.05**	**77**	P	**Pn**	**02 59 43.1 +1.5**
TIP				S	**S**	**03 00 11.8 -0.1**
TIP				AML	AML	
	comp=E,168μm,0.7s					
TIP				AML	AML	
	comp=N,157μm,0.6s					
TIP				AML	AML	
	comp=E,168μm,0.7s					
TIP				AML	AML	
	comp=N,157μm,0.6s					
TIP				AML	AML	
	comp=E,168μm,0.7s					
TIP				AML	AML	
	comp=N,157μm,0.6s					
TIP	**Timpagrande**	**1.05**	**77**	P	**Pn**	**02 59 43.1 +1.5**
TIP	**Timpagrande**	**1.05**	**77**	S	**S**	**03 00 06.0 -5.9**
T0721	**Laino Castello**	**1.08**	**23**	P	**Pn**	**02 59 42.6 +0.9**
T0721				S	**S**	**03 00 10.9 -1.1**
T0721	**Laino Castello**	**1.08**	**23**	P	**Pn**	**02 59 42.7 +0.9**
T0721	**Laino Castello**	**1.08**	**23**	S	**S**	**03 00 12.4 +0.4**
MSFR	**San Fratello**	**1.12**	**216**	P	**Pn**	**02 59 41.9 -0.2**
MSFR	**San Fratello**	**1.12**	**216**	P	**Pn**	**02 59 42.7 +0.5**
BULG	**Bulgheria - Ca**	**1.14**	**358**	P	**Pn**	**02 59 41.3 -0.8**
BULG	**Bulgheria - Ca**	**1.14**	**358**	P	**Pn**	**02 59 42.8 +0.8**
BULG	**Bulgheria - Ca**	**1.14**	**358**	P	**Pn**	**02 59 43.3 +1.2**
MGR	**Morigerati**	**1.20**	**4**	P	**Pn**	**02 59 43.4 +1.1**
MGR				S	**S**	**03 00 12.7 -0.4**
MGR				AML	AML	
	comp=E,81μm,1.0s					
MGR				AML	AML	
	comp=N,99μm,1.0s					
MGR				AML	AML	
	comp=E,81μm,1.0s					
MGR				AML	AML	
	comp=N,99μm,1.0s					
PIPA	**Pietrapaola**	**1.20**	**63**	P	**Pn**	**02 59 43.9 +1.5**
PIPA				AML	AML	
	comp=E,144μm,0.6s					
PIPA				AML	AML	
	comp=N,112μm,1.3s					
PIPA				AML	AML	
	comp=E,212μm,1.3s					
PIPA				AML	AML	
	comp=N,192μm,1.0s					
PIPA				AML	AML	
	comp=N,192μm,1.0s					
PIPA				AML	AML	
	comp=E,212μm,1.3s					
PIPA	**Pietrapaola**	**1.20**	**63**	P	**Pn**	**02 59 44.1 +1.7**
LADO	**San Nicola del**	**1.25**	**74**	P	**Pn**	**02 59 43.9 +1.2**
LADO	**San Nicola del**	**1.25**	**74**	P	**Pn**	**02 59 44.2 +1.5**
MTSN	**Montesano sull**	**1.34**	**10**	P	**Pn**	**02 59 44.0 +0.7**
MTSN				AML	AML	
	comp=E,85μm,1.0s					
MTSN				AML	AML	
	comp=N,72μm,1.4s					
MTSN				AML	AML	
	comp=E,85μm,1.0s					
MTSN				AML	AML	
	comp=N,72μm,1.4s					
MTSN				AML	AML	
	comp=N,72μm,1.4s					
MTSN				AML	AML	
	comp=E,85μm,1.0s					
MTSN	**Montesano sull**	**1.34**	**10**	P	**Pn**	**02 59 44.1 +0.7**
ORI	**Oriolo Calabro**	**1.37**	**35**	P	**Pn**	**02 59 44.8 +1.4**
ORI				S	**S**	**03 00 14.7 -0.3**
ORI				AML	AML	
	comp=E,309μm,0.4s					
ORI				AML	AML	
	comp=N,258μm,0.4s					
ORI				AML	AML	
	comp=E,309μm,0.4s					
ORI				AML	AML	
	comp=N,258μm,0.4s					
ORI	**Oriolo Calabro**	**1.37**	**35**	P	**Pn**	**02 59 45.0 +1.6**
ORI	**Oriolo Calabro**	**1.37**	**35**	S	**S**	**03 00 16.3 +1.3**
GALF	**Gagliano Caste**	**1.41**	**209**	P	**Pn**	**02 59 44.8 +0.9**
GALF				AML	AML	
	comp=E,80μm,1.5s					
GALF				AML	AML	
	comp=N,82μm,0.4s					
GALF				AML	AML	
	comp=N,82μm,0.4s					
GALF				AML	AML	
	comp=E,80μm,1.5s					
GALF	**Gagliano Caste**	**1.41**	**209**	P	**Pn**	**02 59 45.2 +1.4**
GALF	**Gagliano Caste**	**1.41**	**209**	P	**Pn**	**02 59 45.3 +1.4**
MCEL	**Monticello**	**1.41**	**11**	P	**Pn**	**02 59 44.9 +1.1**
MCEL				AML	AML	
	comp=E,110μm,1.0s					
MCEL				AML	AML	
	comp=N,95μm,0.5s					
MCEL				AML	AML	
	comp=E,110μm,1.0s					
MCEL				AML	AML	
	comp=N,95μm,0.5s					
MCEL				AML	AML	
	comp=E,110μm,1.0s					
MCEL				AML	AML	
	comp=N,95μm,0.5s					
MCEL	**Monticello**	**1.41**	**11**	P	**Pn**	**02 59 45.4 +1.6**
SLCN	**Sala Consilina**	**1.45**	**6**	P	**Pn**	**02 59 45.1 +1.1**
SLCN				AML	AML	
	comp=E,224μm,0.5s					
SLCN				AML	AML	
	comp=N,159μm,0.4s					
SLCN				AML	AML	
	comp=E,224μm,0.5s					
SLCN				AML	AML	
	comp=N,159μm,0.4s					
SLCN				AML	AML	
	comp=N,159μm,0.4s					
SLCN				AML	AML	
	comp=E,224μm,0.5s					
SLCN	**Sala Consilina**	**1.45**	**6**	P	**Pn**	**02 59 45.6 +1.5**
GIB	**Gibilmanna**	**1.46**	**230**	P	**Pn**	**02 59 44.2 0.0**
GIB	**Gibilmanna**	**1.46**	**230**	P	**Pn**	**02 59 44.4 +0.2**
PTRP	**Pietrapertosa**	**1.65**	**17**	P	**Pn**	**02 59 46.8 +1.4**
PTRP	**Pietrapertosa**	**1.65**	**17**	P	**Pn**	**02 59 47.2 +1.8**
HLNI	**Lentini**	**1.65**	**196**	P	**Pn**	**02 59 45.7 +0.2**
HLNI	**Lentini**	**1.65**	**196**	P	**Pn**	**02 59 45.9 +0.4**
VAE	**Valguarnera**	**1.67**	**209**	P	**Pn**	**02 59 47.2 +1.5**
	comp=E,2.6nm,0.3s,baz=93,slow=21,SNR=8.1					
HCRL	**Carlentini**	**1.69**	**191**	P	**Pn**	**02 59 46.1 +0.4**
HCRL				AML	AML	
	comp=E,97μm,1.4s					
HCRL				AML	AML	
	comp=N,128μm,1.4s					
HCRL				AML	AML	
	comp=N,128μm,1.4s					
HCRL				AML	AML	
	comp=E,97μm,1.4s					
HCRL	**Carlentini**	**1.69**	**191**	P	**Pn**	**02 59 46.2 +0.4**
AGST	**Augusta-Monte**	**1.69**	**186**	P	**Pn**	**02 59 45.9 +0.2**
AGST	**Augusta-Monte**	**1.69**	**186**	P	**Pn**	**02 59 45.9 +0.2**
SOLUN	**Solunto**	**1.72**	**241**	P	**Pn**	**02 59 45.9 0.0**
SOLUN	**Solunto**	**1.72**	**241**	P	**Pn**	**02 59 46.0 0.0**
ALJA	**Alia**	**1.78**	**229**	P	**Pn**	**02 59 47.5 +1.0**
ALJA				AML	AML	
	comp=E,77μm,0.8s					
ALJA				AML	AML	
	comp=N,93μm,1.5s					
ALJA	**Alia**	**1.78**	**229**	P	**Pn**	**02 59 47.5 +1.0**
MPG	**Monte Pellegri**	**1.81**	**245**	P	**Pn**	**02 59 46.7 0.0**
MPG	**Monte Pellegri**	**1.81**	**245**	P	**Pn**	**02 59 46.8 +0.1**
SSY	**Sortino**	**1.81**	**189**	P	**Pn**	**02 59 47.0 +0.3**
SSY				AML	AML	
	comp=E,110μm,1.5s					
SSY				AML	AML	
	comp=N,192μm,0.8s					
SSY				AML	AML	
	comp=E,110μm,1.5s					
SSY				AML	AML	
	comp=N,192μm,0.8s					
SSY	**Sortino**	**1.81**	**189**	P	**Pn**	**02 59 47.1 +0.4**
HVZN	**Vizzini**	**1.85**	**198**	P	**Pn**	**02 59 48.5 +1.4**
HVZN	**Vizzini**	**1.85**	**198**	AML	AML	
	comp=E,578μm,0.9s					
HVZN				AML	AML	
	comp=N,493μm,0.9s					
HVZN				AML	AML	
	comp=N,493μm,0.9s					
HVZN				AML	AML	
	comp=E,578μm,0.9s					
MEU	**Monte Lauro**	**1.88**	**192**	P	**Pn**	**02 59 48.1 +0.7**
ACER	**Acerenza**	**1.88**	**12**	P	**Pn**	**02 59 47.8 +0.6**
ACER	**Acerenza**	**1.88**	**12**	P	**Pn**	**02 59 47.8 +0.6**
MATE	**Matera**	**1.96**	**29**	P	**Pn**	**02 59 47.9 +0.2**
MATE				S	**S**	**03 00 22.5 -0.5**
MATE	**Matera**	**1.96**	**29**	P	**Pn**	**02 59 48.0 +0.2**
LTRZ	**Laterza**	**1.97**	**32**	P	**Pn**	**02 59 48.0 +0.1**
LTRZ				S	**S**	**03 00 23.0 -0.1**
LTRZ	**Laterza**	**1.97**	**32**	P	**Pn**	**02 59 48.0 +0.1**
CORL	**Corleone**	**1.98**	**239**	P	**Pn**	**02 59 48.2 +0.2**
CORL				S	**S**	**03 00 22.1 -1.3**
CORL	**Corleone**	**1.98**	**239**	P	**Pn**	**02 59 48.3 +0.2**
HAVL	**Avola**	**1.99**	**187**	P	**Pn**	**02 59 48.8 +0.6**
HMDC	**Modica**	**2.05**	**195**	P	**Pn**	**02 59 49.5 +0.8**
AMUR	**Altamura**	**2.16**	**24**	P	**Pn**	**02 59 49.9 +0.4**
CLTB	**Caltabellotta**	**2.22**	**233**	P	**Pn**	**02 59 50.5 +0.3**
CLTB	**Caltabellotta**	**2.22**	**233**	AML	AML	
	comp=E,120μm,0.5s					
CLTB				AML	AML	
	comp=E,120μm,0.5s					
CLTB				AML	AML	
	comp=N,130μm,0.5s					
CLTB				AML	AML	
	comp=N,130μm,0.5s					
CRJA	**Costa Raja**	**2.23**	**240**	P	**Pn**	**02 59 50.6 +0.4**
NOCI	**Noci**	**2.23**	**34**	P	**Pn**	**02 59 49.9 -0.3**
MMGO	**Monte Magaggia**	**2.32**	**237**	P	**Pn**	**02 59 50.7 -0.3**
MMGO	**Monte Magaggia**	**2.32**	**237**	S	**S**	**03 00 28.0 -0.8**
ABTA	**Abfaltersbach**	**8.09**	**346**	*i* Pn	**Pn**	**03 00 58.1 +0.1**
	comp=N,2.9nm,0.6s					
WTTA	**Wattenberg**	**8.77**	**343**	*i* Pn	**Pn**	**03 01 07.4 +0.9**
	comp=N,2.8nm,0.5s					
FETA	**Feichten**	**8.78**	**338**	*i* Pn	**Pn**	**03 01 08.1 +1.5**
	comp=N,4.3nm,0.9s					
DAVOX	**Davos/Dischmat**	**8.83**	**334**	P	**Pn**	**03 01 07.5 +0.2**
	comp=N,0.4nm,0.3s,baz=162,slow=20,SNR=4.1					
SQTA	**Sankt Quirin**	**8.83**	**341**	*i* Pn	**Pn**	**03 01 08.6 +1.4**
	comp=N,5.5nm,0.5s					
WATA	**Walderalm**	**8.85**	**343**	*i* Pn	**Pn**	**03 01 08.9 +1.4**
	comp=N,6.6nm,0.5s					
MOTA	**Moosalm**	**8.97**	**341**	*i* Pn	**Pn**	**03 01 10.2 +1.1**
	comp=N,1.5nm,0.6s					
GERES	**GERESS Array B**	**9.98**	**353**	P	**Pn**	**03 01 20.7 -0.8**
	comp=N,0.0nm,0.3s,baz=172,slow=14,SNR=3.7					
BRG	**Berggiesshubel**	**11.98**	**355**	*e*P	**Pn**	**03 01 48.9 +2.9**
	comp=N,2.7nm,0.9s					
AKASG	**Malin Array Be**	**15.26**	**35**	P	**P**	**03 02 24.8 +0.4**
	comp=N,1.3nm,0.3s,baz=235,slow=9.8,SNR=5.8					
EKA	**Eskdalemuir Ar**	**20.60**	**329**	P	**P**	**03 03 19.1 -2.8**
	comp=N,0.2nm,0.3s,baz=140,slow=12,SNR=3.5					
HFS	**Hagfors**	**21.24**	**358**	P	**P**	**03 03 26.4 -1.7**
	comp=N,0.6nm,0.4s,baz=184,slow=11,SNR=6.5					
NOA	**NORSAR Array B**	**22.28**	**355**	P	**P**	**03 03 36.4 -1.2**
	comp=N,0.3nm,0.5s,baz=162,slow=8.6,SNR=2.7					
FINES	**FINESS Array B**	**23.47**	**13**	P	**P**	**03 03 48.0 -0.3**
	comp=N,1.5nm,0.3s,baz=190,slow=8.5,SNR=25					
TORD	**Torodi Ar. Bea**	**28.43**	**209**	P	**P**	**03 04 33.7 +0.6**
	comp=N,0.3nm,0.6s,baz=19,slow=9.3,SNR=3.1					
ARCES	**ARCESS Array B**	**31.13**	**7**	P	**P**	**03 04 55.0 -1.3**
	comp=N,4.3nm,1.0s,baz=182,slow=9.0,SNR=9.1					
DBIC	**Dimbokro**	**36.99**	**215**	P	**P**	**03 05 47.3 +0.2**
	comp=N,0.7nm,0.4s,baz=22,slow=16,SNR=5.9					
MKAR	**Makanchi Array**	**48.28**	**58**	P	**P**	**03 07 18.1 +1.0**
	comp=N,0.3nm,0.4s,baz=296,slow=6.0,SNR=3.7					
YKA	**Yellowknife Ar**	**71.25**	**338**	P	**P**	**03 09 52.4 0.0**
	comp=N,0.1nm,0.3s,baz=34,slow=5.3,SNR=3.2					

*ISCJB **14** 03:13:00.6±1.2,29.°7N±0.°10,×81.°40E±0.°10,h10km,mb3.5/4,*
MS4.1/1,Error ellipse: s-maj=21.9km s-min=8.8km az=156.1
*IDC **14** 03:13:02.0±1.8,29.°81N×81.°76E,h0km,mb3.6/5,*
mb1 3.6/6,mb1mx3.3/48,mbtmp3.6/6,ML3.2/1,MS4.1/1,
Ms1 4.1/1,ms1mx3.1/33,Error ellipse: s-maj=54.2km
s-min=25.8km az=65.0

ISC 14 03:13:02.1±1.3,29.°7N±0.°2×81.°33E±0.°09,h10km,n8,
σ1§87/8,mb3.6/4,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.98**	**260**	*e*P	**Pg**	**03 13 20.9**	**-0.1**
PTH				*e*S	**Sg**	**03 13 32.9**	**-0.9**
MKAR	**Makanchi Array**	**17.05**	**2**	Pn	**Pn**	**03 16 58.6**	**-2.0**
	0.1nm,0.3s,baz=192,slow=13,SNR=2.5						
KURBB	**Kurchatov Arra**	**20.97**	**355**	P	**P**	**03 17 47.3**	**+2.1**
	1.3nm,0.6s,baz=178,slow=10.0,SNR=15						
ZALV	**Zalesovo Beam**	**24.33**	**5**	P	**P**	**03 18 20.3**	**+0.5**
	0.5nm,0.3s,baz=189,slow=12,SNR=3.3						
SONM	**Songino Array**	**26.44**	**40**	P	**P**	**03 18 37.0**	**-2.2**
	0.7nm,0.8s,baz=233,slow=9.1,SNR=4.0						
HFS	**Hagfors**	**53.64**	**325**	P	**P**	**03 22 25.3**	**+1.8**
	1.8nm,0.8s,baz=94,slow=10,SNR=4.7						
GERES	**GERESS Array B**	**53.90**	**311**	LR	LR	03 50 40.1	
	comp=Z,146nm,18.2s,baz=210,slow=42						
WRA	**Warramunga Arr**	**71.03**	**127**	P	**P**	**03 24 20.8**	**+0.3**
	0.3nm,0.5s,baz=321,slow=6.6,SNR=2.9						

*SJA **14** 03:13:25.5±0.6,21.°03S×67.°47W,h241km±13km,ML3.3,*
MW3.7
*ISCJB **14** 03:13:28.4±1.2,21.°01S±0.°04×67.°5W±0.°1,h202km±20km,*
Error ellipse: s-maj=16.3km s-min=6.8km az=173.9
*GUC **14** 03:13:29.5±0.7,20.°94S×67.°66W,h217km±11km,ML3.5*

ISC 14 03:13:27.7±2.5,20.°99S±0.°05×67.°47W±0.°09,
h210km±27km,n18,σ1§01/32,6C-6D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.78**	**298**	⇓*i*P	**Pn**	**03 14 05.7**	**+0.3**
PB08				*i* S	**S**	**03 14 33.4**	**-0.8**
PB08				IAML		03 14 37.1	
	comp=N,72nm,0.3s						
PB09	**IPOC Station P**	**1.83**	**244**	⇑*i*P	**Pn**	**03 14 06.5**	**+1.0**
GO01	**Chusmiza**	**2.08**	**309**	⇓*i*P	**Pn**	**03 14 08.7**	**+0.4**
GO01				*i* S	**S**	**03 14 40.0**	**+0.4**
GO01				IAML		03 14 47.3	
	comp=E,280nm,0.1s						
PB02	**IPOC Station P**	**2.29**	**261**	*i* P	**Pn**	**03 14 10.5**	**+0.5**
PB02				*i* S	**S**	**03 14 43.2**	**+0.6**
PB02	**IPOC Station P**	**2.29**	**261**	⇓*i*P	**Pn**	**03 14 10.1**	**+0.1**
PB02				*i* S	**S**	**03 14 41.2**	**-1.4**
PB02				IAML		03 14 42.4	
	comp=N,253nm,0.4s						
PB07	**IPOC Station P**	**2.37**	**251**	⇓*i*P	**Pn**	**03 14 11.1**	**+0.2**
PB07				*i* S	**S**	**03 14 43.1**	**-1.2**
PB07				IAML		03 14 44.3	
	comp=N,139nm,0.3s						
PB03	**IPOC Station P**	**2.37**	**243**	⇓*i*P	**Pn**	**03 14 11.5**	**+0.5**
PB03				*i* S	**S**	**03 14 43.6**	**-0.8**
PB03				IAML		03 14 44.7	
	comp=E,78nm,0.3s						
PB11	**IPOC Station P**	**2.38**	**300**	*i* P	**Pn**	**03 14 11.3**	**+0.1**
PB11				*i* S	**S**	**03 14 46.2**	**+1.6**
PB11	**IPOC Station P**	**2.38**	**300**	⇑*i*P	**Pn**	**03 14 11.1**	**-0.1**
PB11				*i* S	**S**	**03 14 42.9**	**-1.7**
PB11				IAML		03 14 45.9	
	comp=N,389nm,0.2s						
PB06	**IPOC Station P**	**2.59**	**228**	⇓*i*P	**Pn**	**03 14 14.2**	**+0.8**
PB06				*i* S	**S**	**03 14 48.9**	**+0.1**
PB06				IAML		03 14 51.2	
	comp=E,54nm,0.3s						
MNMC	**Minye Minye**	**2.72**	**312**	⇑*i*P	**Pn**	**03 14 15.4**	**+0.4**
MNMC				*i* S	**S**	**03 14 50.5**	**-0.9**
MNMC				IAML		03 14 56.5	
	comp=N,305nm,0.1s						
MNMCX	**Minye Minye**	**2.72**	**312**	*i* P	**Pn**	**03 14 15.3**	**+0.4**
MNMCX				*i* S	**S**	**03 14 52.5**	**+1.0**
PSGC	**Pisagua**	**2.84**	**299**	⇑*i*P	**Pn**	**03 14 15.5**	**-0.7**
PSGC				*i* S	**S**	**03 14 50.6**	**-3.0**
PSGC				IAML		03 14 52.8	
	comp=N,112nm,0.3s						
PB15	**IPOC Station P**	**2.88**	**220**	*i* P	**Pn**	**03 14 16.7**	**-0.1**
PB15	**IPOC Station P**	**2.88**	**220**	⇑*i*P	**Pn**	**03 14 17.7**	**+0.9**
PB15				*i* S	**S**	**03 14 55.7**	**+1.0**
HJA	**Humahuaca**	**2.92**	**139**	*i* P	**Pn**	**03 14 17.5**	**+0.1**
HJA				IAML		03 14 19.8	
	comp=Z,66nm,0.2s						
PB16	**IPOC Station P**	**3.26**	**324**	⇑*i*P	**Pn**	**03 14 22.6**	**+1.1**
PB16				*i* S	**S**	**03 15 03.6**	**+0.4**
AZAP	**Zapla**	**3.92**	**146**	*i* P	**Pn**	**03 14 28.6**	**-0.5**
AZAP				IAML		03 14 29.1	
	comp=Z,29nm,0.3s						

*IDC **14** 03:18:20.6±5.1,29.°41N×82.°25E,h0km,mb3.6/5,*
mb1 3.6/6,mb1mx3.3/48,mbtmp3.6/6,ML3.2/1,MS3.7/1,
Ms1 3.7/1,ms1mx3.0/29,Error ellipse: s-maj=87.4km
s-min=48.7km az=174.0
*ISCJB **14** 03:18:25.9±2.7,29.°7N±0.°3×82.°3E±0.°2,h35km,mb3.5/5,*
MS3.5/1,Error ellipse: s-maj=45.9km s-min=10.2km
az=154.8

ISC 14 03:18:26.8±3.2,29.°6N±0.°4×82.°3E±0.°2,h35km,n8,σ1§10/8,
mb3.5/5,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.80**	**268**	*e*P	**Pn**	**03 18 55.1**	**-0.5**
PTH				*e*S	**Sn**	**03 19 17.9**	**+0.5**
MKAR	**Makanchi Array**	**17.15**	**0**	P	**Pn**	**03 22 22.6**	**-1.1**
	0.1nm,0.3s,baz=178,slow=10.0,SNR=3.4						
KURBB	**Kurchatov Arra**	**21.18**	**353**	P	**P**	**03 23 09.7**	**+0.7**
	1.3nm,0.6s,baz=178,slow=9.9,SNR=15						
GEYT	**Alibeck**	**21.69**	**299**	LR	LR	03 33 07.9	
	comp=Z,184nm,20.5s,baz=65,slow=41						
ZALV	**Zalesovo Beam**	**24.39**	**4**	P	**P**	**03 23 41.6**	**0.0**
	1.2nm,0.6s,baz=198,slow=9.3,SNR=3.8						
BVAR	**Borovoye Array**	**24.97**	**343**	P	**P**	**03 23 48.7**	**+1.8**
	0.4nm,0.5s,baz=156,slow=12,SNR=2.7						
SONM	**Songino Array**	**26.00**	**39**	P	**P**	**03 23 57.0**	**+0.6**
	0.8nm,0.8s,baz=223,slow=10,SNR=4.3						
HFS	**Hagfors**	**54.22**	**325**	P	**P**	**03 27 48.2**	**-0.5**
	1.1nm,0.6s,baz=108,slow=7.7,SNR=3.8						

*ISCJB **14** 03:19:16.9±0.7,60.°2S±0.°1×28.°1W±0.°4,h150km,mb3.9/7,*
Error ellipse: s-maj=30.6km s-min=8.5km az=145.9
*IDC **14** 03:19:18.7±5.1,60.°14S×28.°09W,h153km±47km,mb3.7/7,*
mb1 3.7/8,mb1mx3.5/21,mbtmp4.1/8,Error ellipse:
s-maj=29.5km s-min=16.6km az=52.0

ISC 14 03:19:17.4±0.6,60.°3S±0.°1×28.°0W±0.°2,h150km,n17,
σ2§27/20,mb3.9/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.09**	**150**	P	**P**	**03 22 20.6**	**-1.4**
VNA3	**Neumayer Olymp**	**13.18**	**154**	P	**Pn**	**03 22 21.3**	**+2.8**
VNA3				S	**Sn**	**03 24 38.2**	**-5.8**
SNAA	**Sanae**	**15.10**	**149**	P	**P**	**03 22 47.0**	**+2.6**
SNAA				S	**Sn**	**03 25 29.5**	**-0.8**
SNAA	**Sanae**	**15.10**	**149**	P	**P**	**03 22 45.7**	**+1.3**
	0.5nm,0.3s,baz=6.9,slow=7.6,SNR=45						
SNAA				S	**Sn**	**03 25 26.6**	**-3.6**
	0.1nm,0.3s,baz=284,slow=19,SNR=3.4						
QSPA	**South Pole Qui**	**29.90**	**180**	P	**P**	**03 25 13.9**	**+3.3**
	1.2nm,0.8s,baz=191,slow=2.3,SNR=6.9						
PLCA	**Paso Flores**	**32.63**	**287**	P	**P**	**03 25 33.6**	**-1.1**
	1.6nm,0.8s,baz=243,slow=4.5,SNR=4.1						
CFA	**Coronel Fontan**	**39.09**	**299**	P	**P**	**03 26 28.9**	**-0.7**
	1.9nm,0.4s,baz=163,slow=7.4,SNR=4.6						
CPUP	**Villa Florida**	**39.49**	**316**	P	**P**	**03 26 32.5**	**-0.6**
	1.6nm,0.6s,baz=163,slow=6.7,SNR=9.3						
BDFB	**Brasilia**	**46.96**	**333**	P	**P**	**03 27

1.0nm,0.4s,baz=252,slow=2.9,SNR=4.8
INK Inuvik 148.76 316 PKPbc **PKPbc 03 38 43.9 -1.2**
1.1nm,0.7s,baz=48,slow=4.9,SNR=7.9
SONM Songino Array 151.09 95 PKPbc **PKiKP 03 38 53.8 +1.7**
1.3nm,0.3s,baz=215,slow=4.2,SNR=6.5
ILAR Eielson Array 152.49 306 PKPbc **PKiKP 03 38 53.6 -0.6**
0.8nm,0.5s,baz=294,slow=0.6,SNR=14

MEX 14 03:46:13.8±0.4, 15°.93N×98°.31W, h1km±2km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.50**	**21**	*e*P	Pg	03 46 22.8	-0.5
PNIG				*e*S	Sg	03 46 30.4	+0.6
TLIG	**Tlapa**	**1.65**	**351**	*i* P	Pn	03 46 40.5	-3.5
TLIG				*e*S	Sn	03 47 01.1	-4.7
HUIG	**Huatulco**	**2.12**	**94**	*e*P	Pn	03 46 46.5	-3.9
HUIG				*i* S	Sn	03 47 12.7	-4.8
CAIG	**El Cayaco**	**2.19**	**301**	*i* P	Pn	03 46 48.0	-3.2
CAIG				*i* S	Sn	03 47 13.7	-5.2

SJA 14 03:48:28.3±0.7, 32°.80S×70°.18W, h116km±5km, ML3.0, MW3.9
ISCJB 14 03:48:29.6±1.2, 32°.78S±0°.06×70°.21W±0°.07, h113km±9km, Error ellipse: s-maj=11.6km s-min=6.8km az=135.7
GUC 14 03:48:29.7±0.5, 32°.61S×70°.09W, h75km±7km, ML3.2
ISC 14 03:48:30.9±2.5, 32°.78S±0°.06×70°.20W±0°.06, h102km±19km, n13, σ0°.85/24, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.55**	**228**	*e*P	**Pn**	**03 48 46.4**	**-0.9**
PEL				*e*S	**Sn**	**03 48 58.8**	**-0.9**
PEL				IAML		03 49 00.5	
	comp=N,896nm,0.6s						
FCH	**Farellones**	**0.56**	**188**	*e*P	**Pn**	**03 48 47.1**	**-0.6**
FCH				*e*S	**Sn**	**03 49 00.1**	**-0.2**
FCH				IAML		03 49 00.8	
	comp=E,2μm,0.2s						
CLCH	**Cerro Calan**	**0.68**	**205**	*e*P	**Pn**	**03 48 47.9**	**-0.6**
CLCH				*i* S	**Sn**	**03 49 01.6**	**0.0**
CLCH				IAML		03 49 03.1	
	comp=E,894nm,0.3s						
ROCH	**El Roble**	**0.71**	**254**	↑*i*P	**Pn**	**03 48 48.2**	**-0.7**
ROCH				*i* S	**Sn**	**03 49 02.4**	**0.0**
ROCH				IAML		03 49 03.6	
	comp=E,2μm,0.5s						
ROC1	**El Roble**	**0.72**	**254**	*i* P	**Pn**	**03 48 48.2**	**-0.8**
ROC1				*i* S	**Sn**	**03 49 03.4**	**+0.9**
FSR	**Penalolen**	**0.75**	**202**	*e*P	**Pn**	**03 48 49.4**	**+0.3**
FSR				*e*S	**Sn**	**03 49 03.7**	**+1.0**
ANTU	**Antumapu**	**0.87**	**205**	*i* P	**Pn**	**03 48 50.6**	**+0.4**
ANTU				*i* S	**Sn**	**03 49 05.8**	**+1.0**
ANTU				IAML		03 49 06.7	
	comp=N,1μm,0.5s						
AUSP	**Uspallata**	**0.88**	**51**	*i* P	**Pn**	**03 48 50.0**	**-0.5**
AUSP				*i* S	**Sn**	**03 49 06.9**	**+1.6**
ARCO	**CERRO ARCO**	**1.07**	**94**	*i* P	**Pn**	**03 48 51.8**	**-0.6**
ARCO				*i* S	**Sn**	**03 49 08.4**	**-0.1**
LMEL	**Las Melosas**	**1.07**	**180**	*e*P	**Pn**	**03 48 52.1**	**-0.3**
LMEL				*e*S	**Sn**	**03 49 10.1**	**+1.5**
LMEL				IAML		03 49 16.0	
	comp=N,680nm,0.1s						
RTLS	**Leoncito**	**1.24**	**38**	*i* P	**Pn**	**03 48 54.3**	**-0.1**
RTLS				*i* S	**Sn**	**03 49 13.0**	**+0.8**
RTLS				IAML		03 49 14.5	
	comp=Z,165nm,0.3s						
ACCO	**Cerro Coronel**	**2.38**	**24**	*i* P	**Pn**	**03 49 08.8**	**-0.1**
ACAN	**Cantantal**	**2.59**	**80**	*i* P	**Pn**	**03 49 10.0**	**-1.3**

DDA 14 03:49:18.5, 37°.28N×37°.10E, h5km±2km, ML2.7
ISK 14 03:49:18.1, 37°.31N×37°.12E, h11km, ML1.9/7
ISCJB 14 03:49:18.1±0.6, 37°.26N±0°.03×37°.09E±0°.03, h2km±6km, Error ellipse: s-maj=5.8km s-min=3.5km az=25.9
ISC 14 03:49:18.8±0.9, 37°.29N±0°.03×37°.10E±0°.02, h9km±7km, n20, σ0°.62/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.14**	**142**	PG	**Pg**	**03 49 22.1**	**+0.1**
GAZ				SG	**Sg**	**03 49 24.9**	**+0.7**
HCB	**Kahramanmara**	**0.17**	**291**	IAML_P			
	comp=Z,7μm,0.1s						
HCB				*i* P	**Pg**	**03 49 22.2**	**-0.2**
HCB				*i* S	**Sg**	**03 49 25.0**	**+0.1**
KMRS	**Kahramanmaras**	**0.27**	**324**	PG	**Pg**	**03 49 24.2**	**-0.1**
KMRS				SG	**Sg**	**03 49 28.1**	**+0.1**
KAMA	**Osmaniye**	**0.36**	**254**	IAML_P			
	comp=Z,3μm,0.1s						
KAMA				*i* P	**Pb**	**03 49 26.6**	**-0.9**
KAMA				*i* S	**Sg**	**03 49 31.2**	**+0.4**
GZT	**Gaziantep**	**0.37**	**79**	IAML_P			
	comp=Z,3μm,0.1s						
GZT				*i* P	**Pg**	**03 49 26.2**	**-0.1**
GZT				*i* S	**Sg**	**03 49 31.5**	**+0.3**
KUZU	**Kuzuini**	**0.51**	**183**	*i* P	**Pb**	**03 49 30.2**	**+0.2**
KUZU				*i* S	**Sn**	**03 49 42.3**	**+1.1**
ANDN	**Andirin**	**0.67**	**296**	IAML_P			
	comp=Z,1μm,0.2s						
ANDN				*i* P	**Pb**	**03 49 32.0**	**-0.7**
ANDN				*i* S	**Sb**	**03 49 41.9**	**-0.4**
ATAB	**Bozova**	**0.97**	**79**	IAML_P			
	comp=Z,4μm,0.1s						
ATAB				*i* P	**Pn**	**03 49 38.0**	**-0.6**
ATAB				*i* S	**Sn**	**03 49 51.7**	**-0.8**
KOZT	**Kozan**	**1.03**	**281**	PG	**Pg**	**03 49 38.4**	**-0.3**
ELBS	**KAHRAMANMARAS**	**1.04**	**1**	IAML_P			
	comp=Z,710nm,0.2s						
ELBS				*i* P	**Pn**	**03 49 40.0**	**+0.3**
ELBS				*i* S	**Sn**	**03 49 55.4**	**+1.0**
SAIM	**ADANA**	**1.06**	**311**	IAML_P			
	comp=Z,398nm,0.1s						
SAIM				*i* P	**Pn**	**03 49 39.6**	**-0.4**
SAIM				*i* S	**Sn**	**03 49 55.7**	**+0.7**
CEYT	**Ceyhan**	**1.12**	**256**	PN	**Pn**	**03 49 40.3**	**-0.3**
TAHT	**Tahtakopru-Hat**	**1.17**	**219**	PN	**Pn**	**03 49 41.5**	**+0.2**
AKCD	**Akcadag**	**1.20**	**33**	IAML_P			
	comp=Z,863nm,0.2s						
AKCD				*i* P	**Pn**	**03 49 42.4**	**+0.5**
AKCD				*i* S	**Sn**	**03 49 59.4**	**+1.0**
SURC	**SANLIURFA_SURC**	**1.27**	**108**	IAML_P			
	comp=Z,329nm,0.2s						
SURC				*i* P	**Pg**	**03 49 43.0**	**-0.3**
SURC				*i* S	**Sn**	**03 49 60.0**	**-0.1**
DARE	**Darende-Malaty**	**1.32**	**13**	PN	**Pn**	**03 49 42.4**	**-1.1**
AKO	**Adana**	**1.33**	**278**	IAML_P			
	comp=Z,201nm,0.1s						
AKO				*i* P	**Pg**	**03 49 45.0**	**+0.7**
URFA	**Urfa**	**1.38**	**83**	PN	**Pn**	**03 49 43.5**	**-0.8**
SANL	**SANLIURFA_Merk**	**1.51**	**94**	IAML_P			
	comp=Z,876nm,0.1s						
SANL				*i* P	**Pg**	**03 49 48.0**	**+0.2**
SANL				*i* S	**Sg**	**03 50 07.2**	**-0.2**
HEKM	**Malatya_Hekimh**	**1.73**	**23**	IAML_P			
	comp=Z,26nm,0.1s						
HEKM				*i* P	**Pg**	**03 49 52.9**	**+0.9**
HEKM				*i* S	**Sg**	**03 50 15.1**	**+0.7**

JMA 14 03:52:21.8±0.1, 41°.30N×139°.21E, h16km±3km, M1.4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.81**	**14**	P	Pb	03 52 37.1	-0.3
JOSM				S	Sb	03 52 47.9	-0.2
JIW	**Iwasaki**	**0.93**	**139**	P	Pb	03 52 38.8	-0.7
JIW				S	Sb	03 52 51.3	-0.3
JSR	**Shiriuchi**	**0.94**	**75**	S	Sb	03 52 51.7	-0.1
JSI2	**Shiura 2**	**0.94**	**105**	P	Pb	03 52 39.2	-0.5
JSI2				S	Sb	03 52 51.6	-0.3
JYM2	**Yakumo 2**	**1.19**	**46**	S	Sb	03 52 59.3	+0.1

JMA 14 03:53:39.6±0.1, 36°.62N×137°.85E, h17km±1km, M0.2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.29**	**137**	P	Pg	03 53 45.7	-0.3
JNG				S	Sg	03 53 49.7	-0.7
MAT	**Matsushiro**	**0.30**	**105**	P	Pg	03 53 45.6	-0.4
MAT				S	Sg	03 53 49.6	-0.8
MAT	**Matsushiro**	**0.30**	**105**	P	Pg	03 53 45.6	-0.4
MAT				S	Sg	03 53 49.6	-0.8

ISC 14 04:00:19.1±1.4, 51°.44N±0°.07×16°.09E±0°.03, h0km, n19, σ0°.90/36, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**168**	*i* Pg	**Pg**	**04 00 31.4**	**+0.7**
KSP				*e*Sg	**Sb**	**04 00 39.9**	**-1.7**
UPC	**Upice**	**0.93**	**183**	*e*PG	**Pb**	**04 00 37.5**	**-0.6**
UPC				*e*SG	**Sb**	**04 00 50.2**	**-0.8**
	comp=Z,31nm,0.4s						
DPC	**Dobruska-Polom**	**1.10**	**172**	*e*PG	**Pg**	**04 00 40.2**	**+0.1**
DPC				*e*SG	**Sb**	**04 00 54.8**	**-1.0**
	comp=Z,19nm,0.8s						
PVCC	**Panska Ves**	**1.32**	**227**	*e*PG	**Pn**	**04 00 44.8**	**0.0**
PVCC				*e*SG	**Sn**	**04 01 03.7**	**+0.6**
	comp=Z,50nm,0.2s						
KRLC	**Kraliky**	**1.43**	**162**	*e*PG	**Pb**	**04 00 46.4**	**-0.2**
KRLC				*e*SG	**Sg**	**04 01 04.7**	**-0.3**
	comp=Z,5.3nm,0.6s						
BRG	**Berggiesshubel**	**1.46**	**248**	PG	**Pn**	**04 00 46.0**	**-0.7**
BRG				SG	**Sn**	**04 01 06.9**	**+0.3**
	17nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.73**	**209**	*e*PG	**Pb**	**04 00 51.5**	**-0.3**
GOPC				*e*SG	**Sg**	**04 01 15.6**	**+0.9**
	comp=Z,5.2nm,0.6s						
PRU	**Pruhonice**	**1.75**	**215**	*e*PG	**Pg**	**04 00 52.3**	**-0.3**
PRU				*e*SG	**Sg**	**04 01 16.4**	**+1.1**
	comp=Z,7.4nm,0.2s						
MORC	**Moravsky Berou**	**1.90**	**150**	*e*PN	**Pn**	**04 00 52.0**	**-0.8**
MORC				*e*SG	**Sb**	**04 01 18.9**	**0.0**
CLL	**Collm**	**1.94**	**267**	*e*Pg	**Pb**	**04 00 55.0**	**-0.3**
CLL				*e*Sg	**Sg**	**04 01 21.0**	**-0.3**
	comp=Z,6.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.07**	**140**	*e*PG	**Pb**	**04 00 56.9**	**-0.6**
OKC				*e*SG	**Sg**	**04 01 24.3**	**-1.2**
	comp=Z,10nm,0.6s						
VRAC	**Vranov**	**2.15**	**171**	*e*PN	**Pn**	**04 00 57.0**	**+0.8**
VRAC				*e*SG	**Sg**	**04 01 27.9**	**-0.3**
KRUC	**Moravsky**	**2.38**	**175**	*e*SG	**Sg**	**04 01 35.4**	**-0.2**
NKC	**Novy Kostel**	**2.60**	**244**	*e*PG	**Pg**	**04 01 08.7**	**-0.3**
NKC				*e*SG	**Sg**	**04 01 43.9**	**+1.2**
	comp=Z,14nm,0.3s						
JAVC	**Velka Javorina**	**2.77**	**158**	*e*PN	**Pn**	**04 01 06.3**	**+1.5**
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PN	**Pn**	**04 01 05.5**	**+0.2**
KHC				*e*PG	**Pb**	**04 01 11.4**	**+1.2**
KHC				*e*SN	**Sn**	**04 01 40.0**	**0.0**
KHC				*e*SG	**Sg**	**04 01 49.7**	**+0.3**
	comp=Z,4.4nm,0.6s						
LANS	**Liptovska Anna**	**3.15**	**135**	*e*PG	**Pg**	**04 01 19.9**	**+0.5**
LANS				*e*SG	**Sg**	**04 02 02.9**	**+2.7**
MODS	**Modra-Piesok**	**3.16**	**165**	*e*SG	**Sg**	**04 01 59.1**	**-1.4**
VYHS	**Vyhne**	**3.44**	**148**	*e*PG	**Pg**	**04 01 25.0**	**+0.1**

MEX 14 04:00:19.1±0.5, 16°.16N×98°.28W, h5km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.27**	**31**	*e*P	Pg	04 00 22.6	-1.9
PNIG				*e*S	Sg	04 00 26.6	-1.4
TLIG	**Tlapa**	**1.42**	**349**	*e*P	Pn	04 00 42.1	-3.7
TLIG				*i* S	Sb	04 00 59.9	-4.9

TIF 14 04:00:20.0, 42°.31N×43°.06E, h0km
NORS 14 04:00:20.4±0.0, 42°.29N×42°.98E, h6km, MPVA3.7
DDA 14 04:00:21.3, 42°.26N×43°.06E, h5km±3km, ML3.0
ISK 14 04:00:21.2, 42°.35N×43°.03E, h7km, ML2.8/9
ISC 14 04:00:21.3±0.9, 42°.33N±0°.02×43°.01E±0°.02, h4km±6km, n50, σ1°.07/85, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKB	**Tkibuli**	**0.03**	**333**	P	**Pg**	**04 00 22.1**	**-0.1**
TKB				S	**Sg**	**04 00 23.2**	**+0.3**
SRKG	**Sareki**	**0.25**	**90**	P	**Pg**	**04 00 25.4**	**-0.7**
SRKG				S	**Sg**	**04 00 29.8**	**+0.3**
ONI	**Oni**	**0.42**	**51**	PG	**Pg**	**04 00 29.2**	**-0.2**
ONI				SG	**Sg**	**04 00 35.7**	**+0.8**
ONI	**Oni**	**0.42**	**51**	P	**Pg**	**04 00 29.2**	**-0.2**
ONI				S	**Sb**	**04 00 36.4**	**-1.7**
ONI	**Oni**	**0.42**	**51**	*e*Pg	**Pg**	**04 00 29.2**	**-0.2**
ONI				*e*Sg	**Sb**	**04 00 36.4**	**-1.7**
DIGR	**Digorskoe uzhe**	**0.71**	**36**	*i* Pg	**Pg**	**04 00 34.8**	**-0.1**
DIGR				*e*Sg	**Sg**	**04 00 45.1**	**+0.9**
ZEI	**Tsey**	**0.80**	**55**	*e*Pg	**Pg**	**04 00 36.3**	**-0.4**
ZEI				*e*Sg	**Sb**	**04 00 49.0**	**-0.3**
EPOS	**Posof**	**0.85**	**195**	*i* P	**Pb**	**04 00 38.4**	**-0.3**
NEY	**Neytrino**	**0.95**	**347**	*i* Pg	**Pg**	**04 00 39.5**	**+0.1**
NEY				*e*Sg	**Sg**	**04 00 52.1**	**+0.4**
AKH	**Akhalkalaki**	**0.98**	**158**	PG	**Pb**	**04 00 40.9**	**-0.1**
AKH	**Akhalkalaki**	**0.98**	**158**	P	**Pb**	**04 00 40.8**	**-0.2**
AKH				S	**Sn**	**04 00 55.0**	**-1.4**
AKH	**Akhalkalaki**	**0.98**	**158**	*e*Pg	**Pb**	**04 00 40.8**	**-0.2**
AKH				*e*Sg	**Sn**	**04 00 55.0**	**-1.4**
LACR	**Lac**	**1.07**	**62**	*e*Pg	**Pg**	**04 00 41.6**	**-0.3**
LACR				*e*Sg	**Sn**	**04 00 57.5**	**-1.1**
KORR	**Kora**	**1.09**	**45**	*e*Pg	**Pg**	**04 00 41.0**	**-1.1**
KORR				*e*Sg	**Sn**	**04 00 57.9**	**-1.0**
GUDG	**Gudauri**	**1.09**	**82**	P	**Pn**	**04 00 43.7**	**+0.1**
LSNR	**Lesken**	**1.12**	**32**	*e*Pg	**Pg**	**04 00 42.8**	**0.0**
LSNR				*e*Sg	**Sn**	**04 00 59.2**	**-0.6**
BGD	**Bogdanovka**	**1.15**	**157**	P	**Pb**	**04 00 43.4**	**-0.4**
BATM	**Batumi**	**1.22**	**234**	PN	**Pn**	**04 00 44.9**	**-0.2**
BATM				SN	**Sn**	**04 01 03.2**	**+1.2**
BATM	**Batumi**	**1.22**	**234**	P	**Pn**	**04 00 44.9**	**-0.2**
BATM				S	**Sn**	**04 01 03.3**	**+1.2**
NCK	**Nalchik**	**1.25**	**20**	*e*Pg	**Pn**	**04 00 46.5**	**+1.0**
NCK				*e*Sg	**Sn**	**04 01 03.8**	**+1.1**
ARNR	**Ardon**	**1.27**	**47**	*e*Pg	**Pn**	**04 00 46.9**	**+1.1**
ARNR				*e*Sg	**Sn**	**04 01 04.7**	**+1.4**
STDR	**Stavd-Durt**	**1.30**	**36**	*e*Pg	**Pb**	**04 00 48.2**	**+2.0**
STDR				*e*Sg	**Sn**	**04 01 05.5**	**+1.5**
BCA	**Borcka**	**1.36**	**230**	PN	**Pn**	**04 00 46.9**	**-0.2**
BCA				SN	**Sn**	**04 01 06.9**	**+1.3**
KZRT	**Kazreti**	**1.40**	**132**	P	**Pn**	**04 00 47.2**	**-0.5**
KZRT				S	**Sn**	**04 01 07.2**	**+0.6**
DBOC	**Borcka**	**1.40**	**226**	IAML_P			
	comp=Z,4μm,0.2s						
DBOC				*i* P	**Pg**	**04 00 48.8**	**+0.6**
DBOC				*i* S	**Sn**	**04 01 06.5**	**-0.1**
DOMR	**Dombai**	**1.41**	**314**	*e*Pg	Pn	04 00 41.4	-6.4
DOMR				*e*Sg	**Sg**	**04 01 00.9**	**-5.5**
TBLG	**Delisi**	**1.42**	**114**	PN	**Pb**	**04 00 47.9**	**-0.4**
TBLG				SN	**Sn**	**04 01 07.6**	**+0.6**
TBLG	**Delisi**	**1.42**	**114**	P	**Pb**	**04 00 47.8**	**-0.4**
TBLG				S	**Sn**	**04 01 07.6**	**+0.6**
TBLG	**Delisi**	**1.42**	**114**	IAML_P			
	comp=Z,4μm,0.2s						
TBLG				*i* P	**Pg**	**04 00 48.6**	**+0.1**
TBLG				*i* S	**Sn**	**04 01 07.4**	**+0.4**
TBLG	**Delisi**	**1.42**	**114**	*e*Pg	**Pb**	**04 00 47.8**	**-0.4**
TBLG				*e*Sg	**Sn**	**04 01 07.6**	**+0.6**
SHA1	**Shidzhatmaz**	**1.43**	**350**	*e*Pg	**Pb**	**04 00 48.7**	**0.0**
SHA1				*e*Sg	**Sn**	**04 01 08.8**	**+1.1**
BTNK	**Botanikuri**	**1.48**	**115**	IAML_P			
	comp=Z,2μm,0.2s						
BTNK				*i* P	**Pg**	**04 00 49.5**	**-0.2**
BTNK				*i* S	**Sg**	**04 01 09.8**	**+1.0**
DAGI	**Agillar**	**1.49**	**214**	IAML_P			
	comp=Z,4μm,0.6s						
DAGI				*i* P	**Pg**	**04 00 50.7**	**+0.8**
DAGI				*i* S	**Sg**	**04 01 11.6**	**+2.3**
DBAD	**Bademkaya**	**1.64**	**217**	IAML_P			
	comp=Z,8μm,0.4s						
DBAD				*i* P	**Pg**	**04 00 52.2**	**-0.4**
DBAD				*i* S	**Sg**	**04 01 15.2**	**+1.3**
KIV	**Kislovodsk**	**1.65**	**352**	PN	**Pn**	**04 00 51.4**	**+0.3**
KARS	**Kars**	**1.70**	**178**	PN	**Pb**	**04 00 52.9**	**-0.3**
DDEM	**Demirkent**	**1.72**	**214**	IAML_P			
	comp=Z,6μm,0.3s						
DDEM				*i* P	**Pg**	**04 00 54.2**	**0.0**
DDEM				*i* S	**Sg**	**04 01 17.5**	**+1.1**
PYA1	**Pyatigorsk**	**1.74**	**2**	*e*Pg	**Pn**	**04 00 50.9**	**-1.4**
PYA1				*e*Sg	**Sn**	**04 01 15.2**	**+0.3**
ARXR	**Arkhyz**	**1.77**	**315**	*e*Pg	**Pg**	**04 00 55.4**	**+0.1**
ARXR				*e*Sg	**Sg**	**04 01 21.0**	**+2.7**
SENK	**Senkaya-Erzuru**	**1.83**	**196**	PN	**Pb**	**04 00 54.4**	**-1.1**
DIGO	**Kars**	**1.93**	**172**	IAML_P			
	comp=Z,534nm,0.3s						
DIGO				*i* P	**Pg**	**04 00 57.7**	**-0.5**
DIGO				*i* S	**Sb**	**04 01 22.0**	**+0.3**
KOPR	**Koprukoy-ERZUR**	**2.49**	**201**	PN	**Pn**	**04 01 03.5**	**+0.7**
EATA	**Eleskirt**	**2.49**	**189**	IAML_P			
	comp=Z,108nm,0.2s						
EATA				*i* P	**Pb**	**04 01 06.5**	**-0.3**
KRIK	**Erzurum-spir**	**2.53**	**219**	*i* P	**Pb**	**04 01 07.0**	**-0.4**
KRIK				*i* S	**Sg**	**04 01 42.2**	**-0.4**
GNI	**Garni**	**2.54**	**148**	PN	**Pn**	**04 01 03.8**	**+0.4**
AGRB	**Hanur-Agry**	**2.75**	**180**	PN	**Pn**	**04 01 07.6**	**+1.3**
BAYT	**Aydıntepe-Bayb**	**2.90**	**229**	PN	**Pn**	**04 01 08.9**	**+0.5**
BAYB	**BAYBURT**	**2.93**	**226**	IAML_P			
	comp=Z,479nm,0.5s						
BAYB				*i* P	**Pb**	**04 01 13.4**	**-0.7**
BAYB				*i* S	**Sg**	**04 01 54.8**	**-0.6**
KOPT	**Kop Dagi**	**2.99**	**220**	IAML_P			
	comp=Z,247nm,0.2s						
KOPT				*i* P	**Pg**	**04 01 18.1**	**-0.4**
KELT	**Kelkit**	**3.57**	**234**	IAML_P			
	comp=Z,2.8nm,0.2s						
KELT				*i* P	**Pb**	**04 01 23.8**	**-1.3**

IDC 14 04:25:32.5±8.4, 26°.15N×57°.77E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/40, mbtmp3.5/3, Error ellipse: s-maj=170.8km s-min=55.1km az=116.0
TEH 14 04:25:34.6, 26°.52N×57°.60E, h10km, ML3.7
OMAN 14 04:25:34.7±0.7, 26°.62N×58°.10E, h10km, ml3.5/9, Error ellipse: s-maj=12.8km s-min=4.1km az=230.0
ISCJB 14 04:25:35.5±0.4, 26°.57N±0°.03×57°.74E±0°.05, h10km, mb3.4/3, Error ellipse: s-maj=6.8km s-min=4.1km az=1.6
ISC 14 04:25:35.5±0.9, 26°.48N±0°.04×57°.69E±0°.06, h10km, n36, σ1°.51/37, mb3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.31**	**325**	*e*Pg	**Pg**	**04 25 59.2**	**-1.6**
NIAN				IAMB	IAmb	04 26 36.4	
	comp=Z,0.0nm,0.5s						
SHME	**Shamm**	**1.46**	**253**	*e*Pn	**Pg**	**04 26 05.1**	**+1.7**
GENO	**Geno**	**1.63**	**304**	*e*Sg	**Sg**	**04 26 26.6**	**-1.4**
MDH	**Madha**	**1.72**	**227**	P	**Pb**	**04 26 06.2**	**-1.0**
MDH	**Madha**	**1.72**	**227**	*e*Pn	**Pg**	**04 26 06.5**	**-2.0**
MSFE	**Esma-Masafi**	**1.77**	**231**	*e*Pn	**Pg**	**04 26 10.1**	**+0.5**
HATD	**Hatta, Dubai**	**2.17**	**221**	*e*Pn	**Pb**	**04 26 13.6**	**-1.3**
ASHO	**Ashiyiah**	**2.32**	**220**	P	**Pb**	**04 26 16.5**	**-1.0**
	SNR=5.3						
ASHO	**Ashiyiah**	**2.32**	**220**	*e*Pn	**Pb**	**04 26 16.3**	**-1.2**
NAZ	**Nazwa, Dubai**	**2.36**	**231**	P	**Pg**	**04 26 20.1**	**-0.6**
NAZ	**Nazwa, Dubai**	**2.36**	**231**	*e*Pn	**Pg**	**04 26 18.2**	**-2.5**
SOHO	**SOHO**	**2.56**	**204**	P	**Pn**	**04 26 17.1**	**0.0**
FAQ	**Al Faqa, Dubai**	**2.56**	**228**	P	**Pb**	**04 26 20.5**	**-1.1**
	SNR=9.7						
FAQ	**Al Faqa, Dubai**	**2.56**	**228**	*e*Pn	**Pb**	**04 26 21.5**	**-0.1**
CHBR	**Chabahar**	**2.67**	**109**	*e*Pn	**Pn**	**04 26 19.3**	**+0.8**
ASUD	**Al Ashush, Dub**	**2.82**	**230**	*e*Pn	**Pb**	**04 26 24.5**	**-1.5**
HOQ	**Hoqain**	**2.91**	**187**	*e*Pn	**Pn**	**04 26 22.6**	**+0.7**
BIDO	**Bidbid**	**2.98**	**172**	*e*Pn	**Pn**	**04 26 23.2**	**+0.4**
NGRK	**Negar Kerman**	**3.26**	**345**	*e*Pn	**Pn**	**04 26 27.1**	**+0.1**
NGRK				IAMB	IAmb	04 27 27.2	
	comp=Z,0.0nm,0.4s						
ARQ	**Araqi**	**3.31**	**199**	P	**Pb**	**04 26 30.9**	**-3.5**
	SNR=5.7						
WSAR	**Wadi Sarin**	**3.34**	**165**	P	**Pn**	**04 26 28.2**	**+0.4**
	SNR=64						
CHMN	**Cheshme madani**	**3.37**	**358**	*e*Pn	**Pn**	**04 26 28.4**	**-0.1**
SMDO	**Samad**	**3.43**	**174**	P	**Pn**	**04 26 30.0**	**+0.9**
	SNR=15						
SMDO				S	**Sn**	**04 27 13.2**	**+3.3**
TVBK	**TV Kerman**	**3.58**	**347**	*e*Pn	**Pn**	**04 26 32.2**	**+0.7**
TVBK				IAMB	IAmb	04 26 41.0	
	comp=Z,0.0nm,0.3s						
BSY	**Bisya**	**3.75**	**187**	P	**Pn**	**04 26 36.7**	**+3.3**
	SNR=12						
KHGB	**Koh Gabri**	**4.02**	**345**	*e*Pn	**Pn**	**04 26 39.2**	**+1.8**
KHGB				IAMB	IAmb	04 27 46.7	
	comp=Z,0.0nm,0.6s						
SZD1	**Zahaedan-tmp**	**4.10**	**42**	*e*Pn	**Pn**	**04 26 39.0**	**+0.6**
ZHSF	**Zahedan**	**4.14**	**41**	*e*Pn	**Pn**	**04 26 40.1**	**+1.1**
GHIR	**Ghir-Karzin**	**4.55**	**294**	*e*Pn	**Pn**	**04 26 45.3**	**+0.8**
BSRN	**Basiran**	**5.60**	**13**	*e*Pn	**Pn**	**04 27 00.1**	**+1.0**
IKOO	**Kooshah**	**6.03**	**11**	*e*Pn	**Pn**	**04 27 05.5**	**+0.5**
TPRV	**Parvadeh(Tabas**	**6.58**	**353**	*e*Pn	**Pn**	**04 27 11.1**	**-1.3**
KHMZ	**Khomeyn**	**9.85**	**319**	*e*Pn	**Pn**	**04 27 58.6**	**+1.2**
BRTR	**Keskin Array B**	**24.00**	**309**	P	**P**	**04 30 51.8**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=119,slow=10,SNR=5.7						
FINES	**FINESS Array B**	**40.91**	**337**	P	**P**	**04 33 18.9**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=126,slow=14,SNR=3.0						
TORD	**Torodi Ar.

MDJ	**Mudanjiang**	**6.52**	**133**	Pn	**Pn**	**04 41 07.0**	**+2.1**
MDJ				Sg	**Sg**	**04 42 52.4**	**-5.7**
MDJ				smax	smax		
	comp=Z,1μm,0.8s						
MDJ				smax	smax		
	comp=Z,1μm,0.8s						
MDJ	**Mudanjiang**	**6.52**	**133**	*e*Pn	**Pn**	**04 41 01.9**	**-3.0**
MDJ				*e*Sn	**Sn**	**04 42 18.2**	**-1.0**
USA0B	**Ussuriysk Arra**	**8.03**	**126**	*e*Pn	**Pn**	**04 41 28.1**	**+2.5**
USA0B				*e*Sn	**Sn**	**04 42 52.5**	**-3.8**
USRK	**Ussuriysk Ar.**	**8.03**	**126**	Pn	**Pn**	**04 41 24.7**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=316,slow=16,SNR=10						
USRK				Sn	**Sn**	**04 42 55.5**	**-0.8**
	comp=Z,3.8nm,0.3s,baz=312,slow=21,SNR=5.1						
USRK				Lg	Lg	04 43 40.2	
	comp=Z,15nm,0.3s,baz=303,slow=32,SNR=7.3						
VLA	**Vladivostok**	**8.74**	**132**	*i* P	**Pn**	**04 41 35.1**	**-0.2**
MSHR	**Mys Shultsa**	**8.81**	**137**	*i* P	**Pn**	**04 41 37.5**	**+1.2**
BJT	**Baijiatuau**	**10.45**	**210**	*e*Pn	**Pn**	**04 42 00.8**	**+2.0**
ULN	**Ulaanbaatar**	**10.63**	**268**	*e*Pn	**Pn**	**04 41 59.1**	**-2.3**
ULN				*e*Sn	**Sn**	**04 44 03.7**	**+3.1**
ULN	**Ulaanbaatar**	**10.63**	**268**	*i* P	**Pn**	**04 41 59.6**	**-1.8**
SONA0	**Songino Array**	**11.07**	**269**	*e*Pn	**Pn**	**04 42 03.5**	**-3.9**
SONA0				*e*Sn	**Sn**	**04 44 15.3**	**+4.0**
SONM	**Songino Array**	**11.07**	**269**	*e*Pn	**Pn**	**04 42 03.2**	**-4.2**
SONM				*e*Sn	**Sn**	**04 44 12.4**	**+1.1**
SONM	**Songino Array**	**11.07**	**269**	Pn	**Pn**	**04 42 03.5**	**-3.9**
	comp=Z,1.6nm,0.3s,baz=81,slow=11,SNR=44						
SONM				Sn	**Sn**	**04 44 15.3**	**+4.0**
	comp=Z,1.1nm,0.3s,baz=74,slow=23,SNR=4.5						
SONM				Lg	Lg	04 45 08.6	
	comp=Z,3.6nm,0.3s,baz=92,slow=27,SNR=5.7						
SONM				LR	LR	04 46 45.8	
	comp=Z,353nm,18.2s,baz=111,slow=40						
HHC	**Hu-ho-hao-te**	**11.65**	**228**	*e*P	**Pn**	**04 42 15.5**	**+0.1**
HHC				S	**Sn**	**04 44 22.0**	**-3.5**
HHC				SS	**SnSn**	**04 44 36.3**	**-0.8**
HHC				pmax	pmax		
	comp=Z,340nm,3.9s						
HHC				LR	LR		
	comp=Z,1μm,6.2s						
HHC				LR	LR		
	comp=Z,2μm,5.6s						
HHC				LR	LR		
	comp=Z,2μm,7.2s						
NKL	**Nikolayevsk**	**11.76**	**64**	*e*P	**Pn**	**04 42 17.0**	**+0.3**
NKL				pmax	pmax		
	comp=Z,26nm,1.0s						
KSRS	**Korea Array**	**12.37**	**161**	Pn	**Pn**	**04 42 23.4**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=6.5						
KSRS				Lg	Lg	04 45 55.6	
	comp=Z,1.3nm,0.3s,baz=348,slow=29,SNR=4.9						
KSRS				LR	LR	04 47 21.3	
	comp=Z,239nm,19.1s,baz=341,slow=38						
KS15	**Wonju Array Si**	**12.37**	**161**	*e*Pn	**Pn**	**04 42 23.4**	**-1.7**
TLY	**Talaya**	**12.53**	**288**	*e*Pn	**Pn**	**04 42 23.2**	**-3.9**
TLY				*e*Sn	**Sn**	**04 44 39.4**	**-7.3**
TLY	**Talaya**	**12.53**	**288**	*i* P	**Pn**	**04 42 30.7**	**+3.6**
ZAK	**Zakamensk**	**12.75**	**282**	*e*P	**Pn**	**04 42 27.0**	**-3.2**
ZAK				*e*		04 44 49.8	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YAK	**Yakutsk**	**13.31**	**14**	*e*P	**Pn**	**04 42 37.3**	**-0.4**
YAK				*e*S	**Sn**	**04 45 03.3**	**-2.3**
YAK				pmax	pmax		
	comp=Z,27nm,0.5s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.5s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.4s						
YAK				smax	smax		
	comp=N,84nm,1.3s						
YAK				smax	smax		
	comp=E,43nm,1.5s						
YAK				MLR	MLR		
	comp=Z,11μm,8.0s						
YAK				MLR	MLR		
	comp=N,14μm,7.0s						
YAK				MLR	MLR		
	comp=E,2μm,2.0s						
YSS	**Yuzh-Sakhalins**	**13.43**	**93**	*e*P	**Pn**	**04 42 43.7**	**+4.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,12.0s						
TIA	**Tai'an**	**13.75**	**200**	P	**Pn**	**04 42 43.4**	**-0.5**
TIA				S	**Sn**	**04 45 13.8**	**-2.8**
TIA				LR	LR		
	comp=Z,590nm,9.5s						
TIA				LR	LR		
	comp=Z,290nm,10.4s						
TIA				LR	LR		
	comp=Z,920nm,10.2s						
MOY	**Mondy**	**14.17**	**288**	*e*P	**P**	**04 42 59.9**	**+2.6**
MOY				*e*		04 45 31.0	
MOY				pmax	pmax		
	comp=Z,18nm,1.8s						
MAJO	**Matsushiro**	**16.90**	**133**	*e*Pn	**Pn**	**04 43 26.4**	**+0.8**
MAJO	**Matsushiro**	**16.90**	**133**	*e*P	**Pn**	**04 43 26.4**	**+0.8**
MJAR	**Matsushiro Arr**	**16.91**	**133**	*e*Pn	**P**	**04 43 28.4**	**+0.9**
MJAR	**Matsushiro Arr**	**16.91**	**133**	Pn	**Pn**	**04 43 26.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=325,slow=12,SNR=2.5						
JNU	**Nakatsue**	**17.20**	**157**	*e*Pn	**P**	**04 43 30.5**	**-0.4**
	comp=Z,22nm,1.3s						
JNU	**Nakatsue**	**17.20**	**157**	P	**Pn**	**04 43 29.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=109,slow=2.3,SNR=4.3						
JNU				LR	LR	04 49 21.7	
	comp=Z,138nm,21.4s,baz=5.0,slow=35						
NJ2	**Nanjing**	**17.49**	**192**	*e*P	**Pn**	**04 43 31.5**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,18nm,0.7s						
XAN	**Xi'an**	**18.45**	**220**	P	**Pn**	**04 43 42.8**	**-1.9**
XAN				S	**Sn**	**04 47 02.8**	**-8.0**
XAN				pmax	pmax		
	comp=Z,99nm,5.7s						
XAN				LR	LR		
	comp=Z,1μm,8.1s						
XAN				LR	LR		
	comp=Z,1μm,10.3s						
XAN				LR	LR		
	comp=Z,1μm,12.8s						
MA2	**Magadan**	**19.03**	**47**	*e*P	**Pn**	**04 43 53.0**	**+1.5**
	comp=Z,25nm,0.9s						
MA2	**Magadan**	**19.03**	**47**	*i* P	**Pn**	**04 43 52.9**	**+1.4**
MA2				pmax	pmax		
	comp=Z,32nm,1.0s						
LZH	**Lanzhou**	**19.20**	**234**	*e*P	**Pn**	**04 43 53.3**	**-0.7**
LZH				pP	sP	04 43 56.5	-1.0
LZH				sP	pP	04 43 59.3	+3.2
LZH				SS	S	04 47 48.3	+18
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
LZH				LR	LR		
	comp=Z,920nm,10.8s						
LZH				LR	LR		
	comp=Z,700nm,10.3s						
LZH				LR	LR		
	comp=Z,1μm,12.2s						
WHN	**Wuhan**	**19.83**	**202**	P	**Pn**	**04 44 00.4**	**-0.9**
WHN				pP	**sP**	**04 44 04.4**	**+0.2**
WHN				S	**Sn**	**04 47 44.8**	**+0.8**
WHN				pmax	pmax		
	comp=Z,180nm,1.6s						
WHN				LR	LR		
	comp=Z,1μm,10.9s						
WHN				LR	LR		
	comp=Z,370nm,10.8s						
WHN				LR	LR		
	comp=Z,2μm,14.0s						
SEY	**Seymchan**	**21.09**	**39**	*ce*P	**P**	**04 44 14.6**	**+1.4**
SEY	**Seymchan**	**21.09**	**39**	P	**P**	**04 44 13.7**	**+0.4**
	comp=Z,9.4nm,0.9s,baz=249,slow=9.9,SNR=13						
SEY				Lg	Lg	04 50 36.0	
	comp=Z,5.9nm,0.8s,baz=27,slow=14,SNR=8.5						
ENH	**Enshi**	**21.57**	**213**	*e*P	**P**	**04 44 17.2**	**-1.4**
	comp=Z,16nm,0.9s						
PEA1	**Petropavlovsk-**	**21.97**	**67**	*e*P	**P**	**04 44 23.8**	**+1.1**
PEA0B	**Petropavlovsk-**	**21.97**	**67**	*e*P	**P**	**04 44 25.1**	**+2.3**
	comp=Z,94nm,0.9s						
PETK	**Petropavlovsk-**	**21.97**	**67**	P	**P**	**04 44 23.8**	**+1.1**
	comp=Z,56nm,0.8s,baz=257,slow=5.3,SNR=58						
PETK				LR	LR	04 54 20.5	
	comp=Z,162nm,18.7s,baz=298,slow=41						
PET	**Petropavlovsk**	**22.55**	**67**	*e*P	**P**	**04 44 28.1**	**-0.7**
	comp=Z,68nm,1.4s						
PET	**Petropavlovsk**	**22.55**	**67**	*e*P	**P**	**04 44 28.2**	**-0.7**
PET				pmax	pmax		
	comp=Z,68nm,1.4s						
TIXI	**Tiksi**	**22.60**	**5**	*i* P	**P**	**04 44 28.9**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,20nm,1.1s						
TIXI	**Tiksi**	**22.60**	**5**	P	**P**	**04 44 29.1**	**-0.2**
	comp=Z,15nm,0.9s,baz=170,slow=6.1,SNR=23						
DGZ	**Jazzator, Alta**	**22.95**	**285**	*e*P	**P**	**04 44 35.3**	**+2.0**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.3s						
CD2	**Chengdu**	**23.39**	**225**	P	**P**	**04 44 41.1**	**+3.2**
CD2				pmax	pmax		
	comp=Z,50nm,1.1s						
CD2				LR	LR		
	comp=Z,730nm,9.5s						
CD2				LR	LR		
	comp=Z,1μm,10.0s						
CD2				LR	LR		
	comp=Z,800nm,10.0s						
ZAA1	**Zalesovo Array**	**23.92**	**296**	*e*P	**P**	**04 44 43.5**	**+0.7**
ZAA1				*e*ScP	**ScP**	**04 52 08.9**	**+5.8**
ZAA0	**Zalesovo Array**	**23.92**	**296**	*e*P	**P**	**04 44 41.0**	**-1.8**
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**23.92**	**296**	*e*P	**P**	**04 44 42.0**	**-0.9**
ZALV	**Zalesovo Beam**	**23.92**	**296**	*i* P	**P**	**04 44 45.0**	**+2.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**23.92**	**296**	P	**P**	**04 44 43.5**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=94,slow=7.3,SNR=6.0						
ZALV				Lg	Lg	04 52 08.9	
	comp=Z,3.3nm,0.9s,baz=93,slow=25,SNR=7.4						
WMQ	**Urumqi**	**24.70**	**271**	*e*P	**P**	**04 44 49.3**	**-0.8**
WMQ	**Urumqi**	**24.70**	**271**	*e*P	**P**	**04 44 49.5**	**-0.6**
	comp=Z,17nm,0.7s						
WMQ	**Urumqi**	**24.70**	**271**	*e*P	**P**	**04 44 49.5**	**-0.6**
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
SSLB	**Suanglung**	**25.50**	**184**	*e*P	**P**	**04 44 56.1**	**-1.4**
	comp=Z,13nm,1.1s						
TPUB	**Ta-pu**	**26.00**	**185**	*e*P	**P**	**04 45 00.2**	**-1.8**
	comp=Z,28nm,1.4s						
NRIK	**Noril'sk**	**26.35**	**332**	P	**P**	**04 45 05.4**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=118,slow=11,SNR=3.9						
NRIK				Lg	Lg	04 53 22.4	
	comp=Z,6.1nm,0.6s,baz=40,slow=20,SNR=5.6						
MK32	**Makanchi Array**	**27.07**	**280**	*e*P	**P**	**04 45 12.4**	**+0.9**
MKAR	**Makanchi Array**	**27.07**	**280**	*e*P	**P**	**04 45 11.7**	**+0.2**
MKAR	**Makanchi Array**	**27.07**	**280**	P	**P**	**04 45 12.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=84,slow=8.5,SNR=4.4						
MKAR				Lg	Lg	04 53 41.0	
	comp=Z,0.2nm,0.3s,baz=88,slow=33,SNR=4.8						
MAKZ	**Makanchi**	**27.27**	**281**	*e*P	**P**	**04 45 14.0**	**+0.7**
	comp=Z,3.3nm,1.0s						
MAKZ	**Makanchi**	**27.27**	**281**	*e*P	**P**	**04 45 14.0**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURK	**Kurchatov**	**28.21**	**290**	*e*P	**P**	**04 45 20.3**	**-1.3**
	comp=Z,3.6nm,0.9s						
KURK	**Kurchatov**	**28.21**	**290**	*ce*P	**P**	**04 45 22.2**	**+0.6**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KURBB	**Kurchatov Arra**	**28.29**	**290**	P	**P**	**04 45 23.3**	**+1.0**
	comp=Z,4.0nm,0.6s,baz=80,slow=9.8,SNR=18						
BILL	**Bilibino**	**28.41**	**33**	*e*P	**P**	**04 45 22.4**	**-0.9**
BILL				*e*		04 46 15.4	
BILL				*e*PPP	PPP	04 46 21.9	
BILL				*e*		04 48 36.2	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KMI	**Kunming**	**28.82**	**221**	P	**P**	**04 45 25.1**	**-2.4**
KMI				pP	pP	04 45 28.9	-1.9
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,59nm,4.1s						
KMI				LR	LR		
	comp=Z,730nm,14.3s						
KMI				LR	LR		
	comp=Z,1μm,14.8s						
KMI				LR	LR		
	comp=Z,470nm,17.5s						
QIZ	**Qiongzhong**	**31.98**	**204**	P	**P**	**04 45 53.8**	**-1.4**
QIZ				S	**S**	**04 51 07.1**	**+0.5**
QIZ				LR	LR		
	comp=Z,130nm,13.7s						
QIZ				LR	LR		
	comp=Z,340nm,17.7s						
QIZ				LR	LR		
	comp=Z,300nm,11.8s						
BRVK	**Borovoye**	**32.62**	**297**	*i* P	**P**	**04 46 02.0**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK	**Ala-Archa**	**33.85**	**277**	*ce*P	**P**	**04 46 13.3**	**+1.7**
AAK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
AAK	**Ala-Archa**	**33.85**	**277**	LR	LR	04 59 58.7	
	comp=Z,91nm,18.8s,baz=349,slow=36						
KK31	**Karatay Array**	**36.20**	**281**	*e*P	**P**	**04 46 33.2**	**+1.5**
	comp=Z,2.7nm,0.7s						
KK31	**Karatay Array**	**36.20**	**281**	*e*P	**P**	**04 46 33.2**	**+1.5**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**36.20**	**281**	*e*P	**P**	**04 46 32.1**	**+0.4**
KKAR	**Karatay Array**	**36.20**	**281**	*e*P	**P**	**04 46 32.1**	**+0.4**
CM31	**Chiang Mai Arr**	**36.34**	**221**	*e*P	**P**	**04 46 33.4**	**+0.4**
	comp=Z,6.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**36.34**	**221**	*i* P	**P**	**04 46 34.5**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**36.34**	**221**	P	**P**	**04 46 33.4**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=20,slow=8.8,SNR=5.9						
CMAR				LR	LR	05 02 55.1	
	comp=Z,299nm,18.8s,baz=30,slow=39						
GAMB	**Gambell**	**37.01**	**42**	*e*P	**P**	**04 46 38.7**	**+0.5**
	comp=Z,7.0nm,1.3s						
ARU	**Arti**	**38.21**	**306**	LR	LR	05 02 21.1	
	comp=Z,172nm,21.3s,baz=38,slow=36						
GAR	**Garm**	**38.43**	**275**	*e*P	**P**	**04 46 52.6**	**+1.8**
	comp=Z,7.6nm,1.0s						
GAR	**Garm**	**38.43**	**275**	*e*P	**P**	**04 46 52.6**	**+1.8**
GAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ABKAR	**Akbulak array**	**40.03**	**295**	*e*P	**P**	**04 47 05.7**	**+1.8**
	comp=Z,4.6nm,0.8s						
ILAR	**Eielson Array**	**46.99**	**36**	P	**P**	**04 47 59.8**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=293,slow=8.0,SNR=13						
ILAR				LR	LR	05 07 09.0	
	comp=Z,70nm,21.4s,baz=280,slow=35						
ILB	**Eielson Array**	**46.99**	**36**	*e*P	**P**	**04 47 59.8**	**+0.1**
	comp=Z,4.6nm,1.2s						
PRP	**Porcupine Dome**	**47.17**	**35**	*e*P	**P**	**04 48 02.6**	**+1.3**
	comp=Z,3.0nm,0.7s						
SML	**Sawmill**	**47.77**	**40**	*e*P	**P**	**04 48 06.2**	**+0.3**
	comp=Z,9.3nm,1.0s						
SML	**Sawmill**	**47.77**	**40**	*e*P	**P**	**04 48 06.2**	**+0.3**
SML				pmax	pmax		
	comp=Z,9.0nm,1.0s						
OBN	**Obninsk**	**50.03**	**312**	*e*P	**P**	**04 48 23.7**	**+0.5**
OBN				*e*PPP	PPP	04 51 11.2	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FIA0	**FINESS Array S**	**51.30**	**322**	*e*P	**P**	**04 48 31.8**	**-1.0**
FIA0	**FINESS Array S**	**51.30**	**322**	*e*P	**P**	**04 48 31.8**	**-1.0**
FINES	**FINESS Array B**	**51.30**	**322**	*i* P	**P**	**04 48 34.7**	**+2.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**51.30**	**322**	P	**P**	**04 48 31.8**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=67,slow=7.3,SNR=8.8						
KIV	**Kislovodsk**	**52.93**	**297**	*e*P	**P**	**04 48 44.2**	**-1.1**
KIV				pmax	pmax		
	comp=Z,22nm,1.0s						
TULEG	**Thule**	**54.22**	**3**	*e*P	**P**	**04 48 57.0**	**+2.9**
	comp=Z,5.3nm,0.7s						
AKASG	**Malin Array Be**	**56.20**	**310**	*i* P	**P**	**04 49 07.1**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**56.20**	**310**	P	**P**	**04 49 07.2**	**-1.5**
	comp=Z,1.4nm,0.4s,baz=46,slow=8.5,SNR=9.5						
AKBB	**Malin Array Si**	**56.20**	**310**	*e*P	**P**	**04 49 07.2**	**-1.5**
	comp=Z,2.1nm,0.6s						
AKBB	**Malin Array Si**	**56.20**	**310**	*e*P	**P**	**04 49 07.2**	**-1.5**
AKBB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB200	**NORSAR Array S**	**57.16**	**327**	*e*P	**P**	**04 49 14.0**	**-1.5**
NOA	**NORSAR Array B**	**57.16**	**327**	P	**P**	**04 49 14.0**	**-1.5**
NOA	**NORSAR Array B**	**57.16**	**327**	P	**P**	**04 49 14.0**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=45,slow=6.9,SNR=2.5						
YKA	**Yellowknife Ar**	**59.58**	**27**	P	**P**	**04 49 31.3**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=322,slow=6.8,SNR=12						
YKB5	**Yellowknife Ar**	**59.58**	**27**	*e*P	**P**	**04 49 31.3**	**-1.0**
BR101	**Keskin Array S**	**60.84**	**298**	*e*P	**P**	**04 49 41.3**	**-0.2**
BRTR	**Keskin Array B**	**60.84**	**298**	*i* P	**P**	**04 49 43.2**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**60.84**	**298**	P	**P**	**04 49 41.3**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=67,slow=4.9,SNR=6.0						
CLL	**Collm**	**63.37**	**319**	*i* P	**P**	**04 49 56.8**	**-1.3**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CLL	**Collm**	**63.37**	**319**	*i* P	**P**	**04 49 56.8**	**-1.3**
	comp=Z,5.0nm,0.3s						
WR1	**Warramunga Arr**	**69.66**	**169**	*e*P	**P**	**04 50 38.5**	**0.0**
WRA	**Warramunga Arr**	**69.66**	**169**	P	**P**	**04 50 38.5**	**0.0**
	comp=Z,1.0nm,0.8s,baz=355,slow=7.6,SNR=3.1						
FFC	**Flin Flon**	**69.71**	**26**	*i* P	**P**	**04 50 41.2**	**+2.7**
AS31	**Alice Springs**	**73.28**	**170**	*e*P	**P**	**04 50 59.9**	**-0.4**
	comp=Z,1.4nm,1.1s						
ASAR	**Alice Springs**	**73.28**	**170**	P	**P**	**04 50 59.9**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=344,slow=4.9,SNR=6.5						
HLID	**Hailey**	**74.79**	**39**	*e*P	**P**	**04 51 10.0**	**+0.7**
	comp=Z,2.2nm,1.1s						
BEKR	**Beckworth**	**75.15**	**45**	*e*P	**P**	**04 51 12.3**	**+0.8**
	comp=Z,2.5nm,0.8s						
NV01	**Mina Array Sit**	**77.26**	**45**	*e*P	**P**	**04 51 22.2**	**-1.4**
NVAR	**Mina Array Bea**	**77.26**	**45**	P	**P**	**04 51 22.2**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=327,slow=3.9,SNR=5.4						
PD31	**Pinedale Array**	**77.41**	**37**	*e*P	**P**	**04 51 22.2**	**-2.2**
	comp=Z,0.9nm,0.8s						
PDAR	**Pinedale Array**	**77.41**	**37**	P	**P**	**04 51 22.2**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=343,slow=1.5,SNR=3.9						
STKA	**Stephens Creek**	**82.50**	**164**	P	**P**	**04 51 51.4**	**0.0**
	comp=Z,1.4nm,0.7s,baz=165,slow=20,SNR=2.0						
ANMO	**Albuquerque**	**85.35**	**39**	*ce*P	**P**	**04 52 07.5**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,3.0nm,2.5s						
TXAR	**Lajitas Array**	**91.39**	**39**	P	**P**	**04 52 35.5**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=316,slow=7.0,SNR=3.6						

SJA 14 04:41:31.3±0.7, 30°.42S×72°.32W, h37km±32km, ML2.7, MW3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AROD	**Rodeo**	**2.47**	**85**	*i* S	Sn	04 42 42.5	+4.0
ACDV	**Cuesta del Vie**	**2.78**	**86**	*i* P	Pn	04 42 16.4	+3.1
ROC1	**El Roble**	**2.78**	**157**	*i* P	Pn	04 42 16.0	+2.5
ROC1				*i* S	Sn	04 42 49.2	+3.3
ACCO	**Cerro Coronel**	**2.81**	**94**	*i* P	Pn	04 42 16.6	+2.6
RTLS	**Leoncito**	**2.93**	**119**	*i* P	Pn	04 42 18.9	+3.2
RTLS				IAML		04 42 54.4	
	comp=Z,24nm,0.4s						

ISCJB 14 04:45:45.1±2.5, 27°.1N±0°.4×62°.4E±0°.3, h10km, Error ellipse: s-maj=65.8km s-min=18.2km az=152.4
OMAN 14 04:45:47.2±38.0, 26°.77N×62°.62E, h18km±999km, Error ellipse: s-maj=3164.0km s-min=14.3km az=249.0
DSN 14 04:45:53.0±1.8, 27°.29N×61°.82E, h10km, ML3.8/5, Error ellipse: s-maj=82.7km s-min=12.2km az=151.0
ISC 14 04:45:26.4±1.6, 27°.1N±0°.3×62°.5E±0°.2, h10km, n12, σ2s92/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**5.80**	**261**	*i* P	**Pb**	**04 47 10.5**	**+2.8**
	SNR=7.6						
MSFE	**Esma-Masafi**	**5.96**	**254**	*i* P	**Pb**	**04 47 13.9**	**+3.5**
	SNR=7.0						
SOHO	**SOHO**	**6.16**	**242**	P	**Pb**	**04 47 16.2**	**+2.5**
	SNR=54						
SOHO				S	**Sb**	**04 48 26.0**	**-1.4**
HATD	**Hatta, Dubai**	**6.17**	**250**	P	**Pb**	**04 47 16.4**	**+2.4**
HATD				S	**Sb**	**04 48 24.3**	**-3.8**
HATD	**Hatta, Dubai**	**6.17**	**250**	P	**Pb**	**04 47 17.1**	**+3.0**
ASHO	**Ashiyiah**	**6.29**	**249**	*i* P	**Pb**	**04 47 18.2**	**+2.2**
	SNR=15						
ASHO				S	**Sb**	**04 48 25.8**	**-5.6**
ASHO	**Ashiyiah**	**6.29**	**249**	P	**Pb**	**04 47 18.2**	**+2.2**
	SNR=16						
ASHO				S	**Sb**	**04 48 31.2**	**-0.3**
FAQ	**Al Faqa, Dubai**	**6.66**	**251**	*i* P	**Pb**	**04 47 24.8**	**+2.6**
	SNR=7.4						
FAQ	**Al Faqa, Dubai**	**6.66**	**251**	P	**Pb**	**04 47 25.0**	**+2.7**
	SNR=7.4						
FAQ				S	**Sb**	**04 48 40.1**	**-1.8**
ASUD	**Al Ashush, Dub**	**6.92**	**251**	P	**Pb**	**04 47 28.5**	**+1.7**
THW	**Thamme Wali**	**9.80**	**53**	P	**Pn**	**04 47 46.8**	**-0.7**
CEP	**Cherat**	**10.51**	**48**	P	**Pn**	**04 47 56.0**	**-1.2**

IDC 14 05:12:17.4±3.5, 55°.68N×86°.36E, h0km, mb1 2.8/2, mb1mx2.7/40, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=29.2km s-min=27.9km az=180.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.95**	**208**	*i*		05 24 28.3	
	baz=24,slow=336,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.95**	**208**	Pn	Pn	05 12 50.4	-1.3
	2.5nm,0.3s,baz=30,slow=16,SNR=18						
ZALV				Lg	Lg	05 13 19.2	
	3.9nm,0.3s,baz=29,slow=24,SNR=13						
ZALV				*i*		05 24 27.9	
	4.0nm,0.3s,baz=46,slow=8.3,SNR=26						
KURBB	**Kurchatov Arra**	**6.91**	**226**	Pn	Pn	05 14 00.2	+0.3
	0.1nm,0.3s,baz=43,slow=13,SNR=3.0						
KURBB				Lg	Lg	05 15 58.1	
	0.0nm,0.3s,baz=37,slow=29,SNR=3.3						

ARA0	**ARCESS Array S**	**6.82 113**	Pn	**Pn**	**05 30 13.7**	**+2.8**
	baz=308,slow=12					
ARA0			Sn	**Sn**	**05 31 27.1**	**-1.5**
	baz=308,slow=22					
ARA0	**ARCESS Array S**	**6.82 113**	Pn	**Pn**	**05 30 13.7**	**+2.8**
	baz=308,slow=12					
ARA0			Sn	**Sn**	**05 31 27.1**	**-1.5**
	baz=308,slow=22					
ARA0	**ARCESS Array S**	**6.82 113**	*e*P	**Pn**	**05 30 13.7**	**+2.8**
ARA0			*e*S	**Sn**	**05 31 27.1**	**-1.5**
SALU	**Saltoluokta**	**6.87 141**	*e*P	**Pn**	**05 30 16.0**	**+4.4**
SALU	**Saltoluokta**	**6.87 141**	*e*P	**Pn**	**05 30 16.0**	**+4.4**
KONS	**Konsvik**	**6.93 160**	*e*P	**Pn**	**05 30 15.3**	**+3.0**
KONS			*e*S	**Sn**	**05 31 26.0**	**-5.1**
KONS			IAML		05 31 31.6	
	comp=Z,6.0nm,0.5s					
KONS	**Konsvik**	**6.93 160**	*e*P	**Pn**	**05 30 15.3**	**+3.0**
KONS			IAML		05 31 31.6	
	comp=Z,6.0nm,0.5s					
STOK	**Stokkvaagen**	**7.08 161**	*e*P	**Pn**	**05 30 17.5**	**+3.1**
STOK	**Stokkvaagen**	**7.08 161**	*e*P	**Pn**	**05 30 17.5**	**+3.1**
KEV	**Kevo**	**7.10 109**	*e*P	**Pn**	**05 30 18.4**	**+3.7**
KEV	**Kevo**	**7.10 109**	*e*P	**Pn**	**05 30 17.0**	**+2.4**
KEV			*e*S	**Sn**	**05 31 32.0**	**-3.2**
HEF	**Hetta**	**7.14 123**	*e*P	Pn	05 30 20.6	+5.3
HEF	**Hetta**	**7.14 123**	*e*P	**Pn**	**05 30 18.3**	**+3.1**
HEF			*e*S	**Sn**	**05 31 33.9**	**-2.4**
SGF	**Sodankyl**	**8.58 122**	*e*S	**Sn**	**05 32 07.7**	**-4.0**
HFS	**Hagfors**	**13.26 166**	Pn	**Pn**	**05 31 40.0**	**+1.1**
	baz=345,slow=14					
HFS	**Hagfors**	**13.26 166**	Pn	**Pn**	**05 31 40.0**	**+1.1**
	baz=345,slow=14					
FIA0	**FINESS Array S**	**13.66 139**	Pn	**Pn**	**05 31 45.0**	**+0.6**
	baz=331,slow=10					
FIA0	**FINESS Array S**	**13.66 139**	Pn	**Pn**	**05 31 45.0**	**+0.6**
	baz=331,slow=10					

IDC 14 05:38:31.3±2.3, 4°.57S×153°.21E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/25, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/14, Error ellipse: s-maj=180.2km s-min=27.7km az=127.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.91**	**229**	P	P	05 43 46.0	-1.0
	0.5nm,0.3s,baz=55,slow=9.8,SNR=11						
WRA				LR	LR	05 54 53.3	
	comp=Z,51nm,19.0s,baz=15,slow=41						
ASAR	**Alice Springs**	**26.60**	**223**	P	P	05 44 12.6	+1.0
	0.3nm,0.7s,baz=56,slow=9.3,SNR=3.3						
ILAR	**Eielson Array**	**81.79**	**22**	P	P	05 50 51.8	-0.1
	0.3nm,0.7s,baz=236,slow=6.4,SNR=3.7						

KRSC 14 05:38:38.9±10.0, 49°.86N×157°.79E, h49km±10km, ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.35**	**308**	*e*P	Pn	05 39 02.3	+0.9
SKR				*e*S	Sn	05 39 19.1	+0.9
PAU	**Pauzhetka**	**1.72**	**339**	*e*P	Pn	05 39 09.5	+3.1
PAU				*e*S	Sn	05 39 29.7	+2.5
ALID	**Alaid**	**1.75**	**306**	*e*P	Pn	05 39 09.0	+2.0
ALID				*e*S	Sn	05 39 30.5	+2.3
KDTR	**Khodutka, Kamc**	**1.96**	**5**	*e*P	Pn	05 39 12.1	+2.5
KDTR				*e*S	Sn	05 39 35.4	+2.4
ASAK	**Asacha**	**2.53**	**1**	*e*P	Pn	05 39 20.3	+2.8
RUS	**Russkaya**	**2.62**	**10**	*e*P	Pn	05 39 21.0	+2.4
RUS				*e*S	Sn	05 39 52.6	+3.5
MTVR	**Mutnovka**	**2.64**	**5**	*e*P	Pn	05 39 22.4	+3.3
MTVR				*e*S	Sn	05 39 53.0	+3.1
KRMR	**Karymshinskiy**	**2.98**	**4**	*e*P	Pn	05 39 27.7	+4.1
KRMR				*e*S	Sn	05 40 02.4	+4.3
APC	**Apacha**	**3.09**	**353**	*e*P	Pn	05 39 28.6	+3.4
DALK	**Dalny**	**3.23**	**10**	*e*P	Pn	05 39 30.3	+3.3
DALK				*e*S	Sn	05 40 08.4	+4.2
UGLR	**Uglovaya**	**3.41**	**10**	*e*P	Pn	05 39 33.5	+3.8
AVH	**Avacha**	**3.46**	**9**	*e*P	Pn	05 39 34.9	+4.6
SMAR	**Somma**	**3.46**	**10**	*e*P	Pn	05 39 34.3	+3.8
KOK	**Koryaka**	**3.48**	**8**	*e*P	Pn	05 39 35.0	+4.5
SDLR	**Sedlovina**	**3.49**	**11**	*e*P	Pn	05 39 33.8	+3.1
KRER	**Koryakskii**	**3.50**	**9**	*e*P	Pn	05 39 34.9	+4.0
SPN	**Mys Shipunski**	**3.53**	**22**	*e*P	Pn	05 39 33.7	+2.6
SPN				*e*S	Sn	05 40 14.1	+2.6
KRX	**Arik**	**3.54**	**8**	*e*P	Pn	05 39 35.8	+4.3
MKZ	**Mys Kozlova**	**5.29**	**26**	*e*P	Pn	05 39 58.3	+3.1
KBTR	**Krutoberegovo**	**7.04**	**24**	*e*P	Pn	05 40 22.7	+3.5

ISCJB 14 05:45:15.2±0.8, 31°.78S±0°.03×69°.45W±0°.05, h118km±8km, Error ellipse: s-maj=7.1km s-min=4.3km az=12.5
SJA 14 05:45:15.1±0.5, 31°.79S×69°.42W, h111km±2km, ML3.5, MW3.6
GUC 14 05:45:15.4±0.5, 31°.75S×69°.55W, h105km±14km, ML3.4

ISC 14 05:45:16.4±1.6, 31°.77S±0°.03×69°.47W±0°.05, h108km±12km, n21, σ1§01/35, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.15**	**101**	*e*P	**Pn**	**05 45 31.7**	**-0.2**
RTLS				IAML		05 45 31.8	
	comp=Z,3μm,0.2s						
RTLS				*e*S	**Sn**	**05 45 44.2**	**+0.8**
AUSP	**Uspallata**	**0.46**	**171**	*e*P	**Pn**	**05 45 33.1**	**-0.1**
RTCV	**Cerro Valdivia**	**0.80**	**97**	*e*S	**Sn**	**05 45 49.5**	**-0.3**
RTLL	**Cerro Villicun**	**0.96**	**63**	*e*P	**Pn**	**05 45 36.4**	**-0.6**
RTLL				*e*S	**Sn**	**05 45 52.4**	**-0.2**
RTLL				IAML		05 45 53.9	
	comp=Z,455nm,0.3s						
ASAL	**Salagasta**	**0.98**	**147**	*e*P	**Pn**	**05 45 36.8**	**-0.5**
ASAL				*e*S	**Sn**	**05 45 52.4**	**-0.7**
ARCO	**CERRO ARCO**	**1.16**	**157**	*e*P	**Pn**	**05 45 38.9**	**-0.5**
ARCO				*e*S	**Sn**	**05 45 56.5**	**-0.2**
ARCO				IAML		05 45 59.4	
	comp=Z,1μm,0.3s						
AMOG	**MOGNA**	**1.18**	**46**	*e*P	**Pn**	**05 45 39.2**	**-0.2**
AMOG				*e*S	**Sn**	**05 45 56.5**	**-0.3**
ACCO	**Cerro Coronel**	**1.23**	**16**	*e*P	**Pn**	**05 45 40.4**	**+0.1**
ACCO				*e*S	**Sn**	**05 45 59.5**	**+1.2**
AAGR	**Agrelo**	**1.42**	**158**	*e*P	**Pn**	**05 45 41.8**	**-0.5**
AROD	**Rodeo**	**1.60**	**360**	*e*P	**Pn**	**05 45 45.1**	**+0.5**
AROD				*e*S	**Sn**	**05 46 07.4**	**+1.3**
ACDV	**Cuesta del Vie**	**1.62**	**11**	*e*P	**Pn**	**05 45 45.0**	**+0.2**
ACDV				*e*S	**Sn**	**05 46 07.2**	**+0.9**
ACDV				IAML		05 46 08.4	
	comp=Z,194nm,0.7s						
FCH	**Farellones**	**1.70**	**204⇑**	*e*P	**Pn**	**05 45 46.2**	**+0.3**
FCH				*i* S	**Sn**	**05 46 09.6**	**+1.3**
FCH				IAML		05 46 10.9	
	comp=E,461nm,0.3s						
PEL	**Peldehue**	**1.71**	**217**	*e*P	**Pn**	**05 45 45.0**	**-0.8**
PEL				*e*S	**Sn**	**05 46 07.7**	**-0.4**
PEL				IAML		05 46 09.8	
	comp=E,380nm,0.5s						
ROCH	**El Roble**	**1.77**	**227**	*e*P	**Pn**	**05 45 45.7**	**-0.9**
ROCH				*i* S	**Sn**	**05 46 09.3**	**-0.4**
ROCH				IAML		05 46 11.4	
	comp=E,461nm,0.2s						
CLCH	**Cerro Calan**	**1.85**	**209**	*e*P	**Pn**	**05 45 47.3**	**-0.2**
CLCH				*e*S	**Sn**	**05 46 11.7**	**+0.4**
CLCH				IAML		05 46 13.6	
	comp=E,1μm,0.3s						
GO04	**Tololo Observa**	**1.96**	**324**	*e*P	**Pn**	**05 45 48.5**	**-0.5**
GO04				*e*S	**Sn**	**05 46 14.1**	**+0.2**
ACAN	**Cantantal**	**2.00**	**105**	*e*P	**Pn**	**05 45 48.5**	**-0.8**
LMEL	**Las Melosas**	**2.16**	**196**	*e*P	**Pn**	**05 45 51.2**	**-0.3**
LMEL				*e*S	**Sn**	**05 46 22.5**	**+4.1**
LMEL				IAML		05 46 25.2	
	comp=N,189nm,0.2s						
LSCH	**La Serena**	**2.40**	**320**	*e*P	**Pn**	**05 45 53.3**	**-1.2**
LSCH				*i* S	**Sn**	**05 46 22.4**	**-1.3**
LSCH				IAML		05 46 24.0	
	comp=N,116nm,0.2s						
AGUA	**GUANDACOL**	**2.43**	**21**	*e*P	**Pn**	**05 45 55.2**	**+0.3**
LCO	**Las Campanas**	**2.95**	**339**	IAML		05 46 39.6	
	comp=E,102nm,0.3s						

ISCJB 14 06:10:25.7±0.5, 1°.96S±0°.05×80°.30W±0°.04, h10km, Error ellipse: s-maj=6.9km s-min=4.8km az=156.3
IGQ 14 06:10:26.3±0.3, 2°.53S×8°.04W±°, h8km, MLv3.9

ISC 14 06:10:25.3±1.0, 2°.09S±0°.05×80°.29W±0°.04, h10km, n54, σ1§19/55, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORR	**Playas El Morr**	**0.55**	**185**	P	**Pn**	**06 10 39.9**	**+0.6**
SALI	**Salinas**	**0.70**	**262**	P	**Pg**	**06 10 39.2**	**+0.2**
SALI				S	**Sb**	**06 10 50.5**	**+1.1**
MILO	**Milagro-Astudi**	**0.76**	**104**	P	**Pg**	**06 10 40.8**	**+0.7**
MILO				S	**Sb**	**06 10 51.9**	**+0.8**
COHC	**Cochancay**	**1.10**	**110**	P	**Pb**	**06 10 45.7**	**-0.8**
IGUA	**Igualata**	**1.76**	**70**	P	**Pn**	**06 10 55.9**	**-0.5**
BMAS	**Trigal station**	**1.91**	**72**	P	**Pn**	**06 10 58.0**	**-0.2**
BMAS				S	**Sn**	**06 11 22.5**	**+0.1**
BBIL	**Ulba Tungurahu**	**1.91**	**71**	P	**Pn**	**06 10 58.4**	**+0.1**
ARRY	**Arrayan**	**1.93**	**73**	P	**Pn**	**06 10 57.9**	**-0.6**
PAT1	**Patacocha**	**1.94**	**73**	P	**Pn**	**06 10 58.8**	**0.0**
BPAT	**Tungurahua Vol**	**1.95**	**73**	P	**Pn**	**06 10 58.8**	**-0.1**
RETU	**Refugio**	**1.95**	**71**	P	**Pn**	**06 10 59.3**	**+0.3**
BULB	**Ulba Tungurahu**	**1.99**	**71**	P	**Pn**	**06 10 59.5**	**+0.1**
BRUN	**Tungurahua Vol**	**2.00**	**71**	P	**Pn**	**06 10 59.2**	**-0.2**
ILLI	**Illinizas Sur**	**2.08**	**49**	P	**Pn**	**06 10 58.7**	**-2.0**
PIS1	**Pisayambo**	**2.17**	**62**	P	**Pn**	**06 11 02.0**	**+0.1**
PISA	**Pisayambo**	**2.17**	**62**	P	**Pn**	**06 11 02.2**	**+0.3**
BMOR	**Cotopaxi Volca**	**2.28**	**54**	P	**Pn**	**06 11 03.5**	**-0.1**
MCRA	**Macar, Loja**	**2.29**	**172**	P	**Pn**	**06 11 01.6**	**-1.6**
BREF	**Cotopaxi Volca**	**2.33**	**53**	P	**Pn**	**06 11 04.5**	**+0.2**
BVC2	**Cotopaxi Volca**	**2.36**	**53**	P	**Pn**	**06 11 04.9**	**+0.2**
BTAM	**Cotopaxi Volca**	**2.36**	**53**	P	**Pn**	**06 11 04.5**	**-0.1**
VC1	**Cotopaxi 1**	**2.38**	**53**	P	**Pn**	**06 11 05.2**	**+0.4**
PITA	**Cotopaxi Volc**	**2.40**	**51**	P	**Pn**	**06 11 05.1**	**-0.1**
COV1	**Cotopaxi Volc**	**2.41**	**54**	P	**Pn**	**06 11 04.8**	**-0.6**
TERV	**Terraza Guagua**	**2.54**	**42**	P	**Pn**	**06 11 07.3**	**+0.1**
ANTG	**Antisana-Guama**	**2.58**	**52**	P	**Pn**	**06 11 08.1**	**+0.5**
ANTM	**Antisana-La Mi**	**2.58**	**53**	P	**Pn**	**06 11 08.3**	**+0.6**
YANA	**Yana**	**2.61**	**41**	P	**Pn**	**06 11 06.3**	**-1.7**
ANTS	**Antisana-Sarah**	**2.65**	**53**	P	**Pn**	**06 11 09.4**	**+0.8**
ANTI	**Antisana**	**2.68**	**53**	P	**Pn**	**06 11 10.1**	**+1.0**
ARDO	**Archidona, Ten**	**2.72**	**66**	P	**Pn**	**06 11 09.3**	**+0.2**
PULU	**Pululahua**	**2.76**	**41**	P	**Pn**	**06 11 08.7**	**-1.3**
PAC1	**Pacto, Paraso**	**2.78**	**33**	P	**Pn**	**06 11 07.0**	**-3.0**
OTAV	**Otavalo**	**2.96**	**39**	*e*P	**Pn**	**06 11 10.6**	**-2.2**
OTAV	**Otavalo**	**2.96**	**39**	*e*P	**Pn**	**06 11 10.6**	**-2.2**
CUIC	**Cuicocha-Domo**	**3.06**	**39**	P	**Pn**	**06 11 13.2**	**-0.9**
GCUF	**Volcan Galeras**	**4.42**	**42**	*e*P	**Pn**	**06 11 35.1**	**+2.2**
GCUF	**Volcan Galeras**	**4.42**	**42**	*e*P	**Pn**	**06 11 35.1**	**+2.2**
CRUC	**La Cruz**	**4.94**	**43**	*e*P	**Pn**	**06 11 40.5**	**+0.6**
CRUC	**La Cruz**	**4.94**	**43**	*e*P	**Pn**	**06 11 40.5**	**+0.6**
SOTA	**Rioblanco**	**5.58**	**41**	*e*P	**Pn**	**06 11 50.2**	**+1.3**
SOTA	**Rioblanco**	**5.58**	**41**	*e*P	**Pn**	**06 11 50.2**	**+1.3**
POPC	**Popayan, Colom**	**5.85**	**38**	*e*P	**Pn**	**06 11 51.2**	**-1.2**
POPC	**Popayan, Colom**	**5.85**	**38**	*e*P	**Pn**	**06 11 51.2**	**-1.2**
PCON	**Cinco Dias**	**5.87**	**42**	*e*P	**Pn**	**06 11 53.7**	**+0.8**
PCON	**Cinco Dias**	**5.87**	**42**	*e*P	**Pn**	**06 11 53.7**	**+0.8**
FLOC	**Florencia**	**5.90**	**52**	*e*P	**Pn**	**06 11 53.4**	**+0.5**
FLOC	**Florencia**	**5.90**	**52**	*e*P	**Pn**	**06 11 53.4**	**+0.5**
PTLC	**Puerto Leguiza**	**5.94**	**68**	*e*P	**Pn**	**06 11 50.5**	**-2.9**
PTLC	**Puerto Leguiza**	**5.94**	**68**	*e*P	**Pn**	**06 11 50.5**	**-2.9**
MARP	**Paez Belalcaza**	**6.54**	**42**	*e*P	**Pn**	**06 12 02.7**	**+0.7**
MARP	**Paez Belalcaza**	**6.54**	**42**	*e*P	**Pn**	**06 12 02.7**	**+0.7**
YOTC	**Yotoco, Valle**	**7.21**	**33**	*e*P	Pn	06 12 05.8	-5.2
YOTC	**Yotoco, Valle**	**7.21**	**33**	*e*P	Pn	06 12 05.8	-5.2

MEX 14 06:23:48.1±0.5, 17°.27N×100°.56W, h45km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.35**	**128**	*e*P	Pn	06 23 55.8	-1.5
CAIG				*e*S	Sn	06 24 02.1	-1.8
ZIIG	**Zihuatanejo**	**0.93**	**292**	*e*P	Pn	06 24 03.5	-1.3
ZIIG				*i* S	Sn	06 24 14.4	-2.6
ARIG	**Puente Sto Nin**	**1.03**	**11**	*i* P	Pn	06 24 04.5	-1.7
ARIG				*e*S	Sn	06 24 17.4	-2.1
MEIG	**Mezcala**	**1.11**	**54**	*e*S	Sn	06 24 19.1	-2.5
PLIG	**Platanillo**	**1.51**	**42**	*e*P	Pn	06 24 11.1	-1.7
PLIG				*e*S	Sn	06 24 29.5	-1.8
TLIG	**Tlapa**	**1.93**	**81**	*e*P	Pn	06 24 17.2	-1.3
TLIG				*i* S	Sn	06 24 40.0	-1.6

IDC 14 07:20:21.0±0.7, 51°.00N×178°.87E, h0km, mb4.2/19, mb1 4.4/22, mb1mx4.2/38, mbtmp4.2/22, ML4.9/2, MS3.6/25, Ms1 3.5/25, ms1mx3.4/49, Error ellipse: s-maj=22.1km s-min=11.9km az=167.0
MOS 14 07:20:24.7±1.0, 51°.02N×178°.92E, h33km, mb4.6/36, Error ellipse: s-maj=8.7km s-min=8.0km az=105.6
NEIC 14 07:20:26.5±0.0, 50°.92N×178°.93E, h30km, mb4.4/82, ML4.2(AEIC), After AEIC.

ISC 14 07:20:24.3±1.3, 50°.90N±0°.09×178°.90E±0°.04, h20km±9km, n234, σ1§17/233, mb4.4/95, MS3.6/23, 9C-7D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.70**	**59**	*e*Pn	**Pn**	**07 20 53.9**	**+1.2**
GAEA	**Gareloi East**	**1.72**	**58**	*e*Pn	**Pn**	**07 20 54.6**	**+1.5**
TASE	**Tanaga Southea**	**2.14**	**63**	*e*Pn	**Pn**	**07 21 00.6**	**+1.7**
TASE				*e*Sn	**Sb**	**07 21 28.4**	**+0.1**
TAFP	**Tanaga Falls P**	**2.19**	**62**	*e*Pn	**Pn**	**07 21 01.3**	**+1.7**
TAFP				*e*Sn	**Sb**	**07 21 29.6**	**-0.5**
KICM	**Kanaga Island**	**2.65**	**66**	*e*Pn	**Pn**	**07 21 07.7**	**+1.8**
KICM				*e*Sn	**Sb**	**07 21 41.5**	**-1.6**
KIKV	**Kanaga Island**	**2.65**	**67**	*e*Pn	**Pn**	**07 21 07.6**	**+1.7**
KIWB	**Kanaga Island**	**2.65**	**67**	*e*Pn	**Pn**	**07 21 07.5**	**+1.6**
KIWB				*e*Sn	**Sn**	**07 21 38.7**	**+1.2**
KINC	**Kanaga Island**	**2.69**	**66**	*e*Pn	**Pn**	**07 21 08.1**	**+1.7**
KINC				*e*Sn	**Sb**	**07 21 42.2**	**-2.2**
KIRH	**Kanaga Island**	**2.70**	**67**	*e*Pn	**Pn**	**07 21 08.5**	**+1.9**
ADK	**Adak**	**2.94**	**69**	*e*Pn	**Pn**	**07 21 11.1**	**+1.3**
ADK				*e*Sn	**Sn**	**07 21 45.3**	**+0.9**
ADK	**Adak**	**2.94**	**69**	*e*P	**Pn**	**07 21 11.1**	**+1.3**
ADK				*e*		07 21 45.3	
ADAG	**Mount Adagdak**	**3.02**	**67**	*e*Pn	**Pn**	**07 21 13.0**	**+2.1**
ETKA	**Kagalaska Isla**	**3.10**	**70**	*e*Pn	**Pn**	**07 21 13.5**	**+1.5**
GSTD	**Great Sitkin T**	**3.31**	**68**	*e*Pn	**Pn**	**07 21 16.5**	**+1.5**
GSTD				*e*Sn	**Sn**	**07 21 55.6**	**+1.9**
GSMY	**Great Sitkin M**	**3.36**	**68**	*e*Pn	**Pn**	**07 21 17.1**	**+1.6**
GSMY				*e*Sn	**Sn**	**07 21 57.1**	**+2.3**
GSTR	**Great Sitkin T**	**3.37**	**67**	*e*Pn	**Pn**	**07 21 17.4**	**+1.6**
GSTR				*e*Sn	**Sn**	**07 21 55.5**	**+0.4**
SMY	**Shemya**	**3.49**	**303**	*e*Pn	**Pn**	**07 21 18.9**	**+1.5**
SMY	**Shemya**	**3.49**	**303**	*e*P	**Pn**	**07 21 18.9**	**+1.5**
ATKA	**Atka Island**	**4.50**	**71**	*e*Pn	**Pn**	**07 21 32.8**	**+1.5**
ATKA				*e*Sn	**Sn**	**07 22 23.3**	**+0.3**
KOWE	**Korovin West**	**4.51**	**68**	*e*Pn	**Pn**	**07 21 33.2**	**+1.7**
KOFP	**Korovin Flat P**	**4.58**	**70**	*e*Pn	**Pn**	**07 21 34.6**	**+2.2**
KOSE	**Korovin Southe**	**4.62**	**69**	*e*Pn	**Pn**	**07 21 35.1**	**+2.1**
NIKH	**Nikolski High**	**7.85**	**70**	*e*Pn	**Pn**	**07 22 18.8**	**+1.6**
NIKH				*e*Sn	**Sn**	**07 23 46.3**	**+0.9**
SPIA	**Saint Paul Isl**	**8.95**	**41**	*e*Pn	**Pn**	**07 22 35.1**	**+2.8**
SPIA				*e*Sn	**Sn**	**07 24 15.6**	**+3.1**
UNV	**Unalaska Valle**	**9.40**	**66**	*e*Pn	**Pn**	**07 22 40.2**	**+1.7**
AKUT	**Akutan**	**9.89**	**65**	*e*Pn	**Pn**	**07 22 47.2**	**+2.1**
PETK	**Petropavlovsk-**	**13.24**	**288**	*e*Pn	**Pn**	**07 23 32.4**	**+1.4**
PETK	**Petropavlovsk-**	**13.24**	**288**	*e*P	**Pn**	**07 23 32.4**	**+1.4**
PETK	**Petropavlovsk-**	**13.24**	**288**	Pn	**Pn**	**07 23 30.7**	**-0.2**
	0.2nm,0.3s,baz=64,slow=14,SNR=5.2						
PETK				LR	LR	07 29 43.8	
	comp=Z,87nm,18.5s,baz=90,slow=43						
GAMB	**Gambell**	**13.84**	**18**	*e*Pn	**Pn**	**07 23 40.1**	**+1.0**
CHGN	**Chignik**	**14.48**	**59**	*e*Pn	**Pn**	**07 23 48.3**	**+0.5**
OHAK	**Old Harbor**	**17.43**	**58**	*e*Pn	**Pn**	**07 24 25.3**	**-0.6**
	56nm,1.6s						
KDAK	**Kodiak Island**	**17.90**	**56**	*e*Pn	**Pn**	**07 24 31.1**	**-0.6**
KDAK				*e*P	**P**	**07 24 31.5**	**-0.8**
KDAK	**Kodiak Island**	**17.90**	**56**	*i* P	**Pn**	**07 24 29.9**	**-1.8**
KDAK	**Kodiak Island**	**17.90**	**56**	Pn	**Pn**	**07 24 29.6**	**-2.2**
	1.0nm,0.3s,baz=142,slow=3.0,SNR=24						
MA2	**Magadan**	**18.11**	**309⇑**	*e*P	**P**	**07 24 36.1**	**+1.5**
MA2				pmax	pmax		
	comp=Z,14nm,1.7s						
MA2	**Magadan**	**18.11**	**309**	P	**Pn**	**07 24 34.6**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=87,slow=8.4,SNR=4.2						
MA2				LR	LR	07 31 23.4	
	comp=Z,246nm,18.9s,baz=130,slow=37						
BILL	**Bilibino**	**18.27**	**345**	*e*P	**P**	**07 24 36.3**	**0.0**
	comp=Z,11nm,0.9s						
BILL	**Bilibino**	**18.27**	**345**	*e*P	**P**	**07 24 36.7**	**+0.4**
BILL				pmax	pmax		
	comp=Z,14nm,1.0s						
RSO	**Redoubt South**	**18.48**	**48**	*e*P	**P**	**07 24 39.0**	**+0.1**
RDOG	**Red Dog Mine**	**19.38**	**21**	*e*P	**P**	**07 24 49.3**	**+0.8**
	comp=Z,13nm,0.8s						
PPLA	**Purkeypile**	**19.62**	**41**	*e*P	**P**	**07 24 52.1**	**+0.8**
	comp=Z,14nm,0.6s						
CAST	**Castle Rocks**	**19.89**	**40**	*e*P	**P**	**07 24 54.8**	**+0.7**
	comp=Z,14nm,0.8s						
IMAR	**Indian Mountai**	**20.55**	**32**	*e*P	**P**	**07 25 01.1**	**-0.1**
BPAW	**Bear Paw Mtn.**	**20.62**	**39**	*e*P	**P**	**07 25 02.4**	**+0.3**
	comp=Z,14nm,1.0s						
KNK	**Knik Glacier**	**20.77**	**47**	*e*P	**P**	**07 25 02.3**	**-1.4**
	comp=Z,22nm,1.3s						
SML	**Sawmill**	**20.93**	**46**	*e*P	**P**	**07 25 04.4**	**-1.1**
	comp=Z,24nm,1.0s						
SML	**Sawmill**	**20.93**	**46**	*e*P	**P**	**07 25 04.4**	**-1.1**
SML				pmax	pmax		
	comp=Z,24nm,1.0s						
MLY	**Manley**	**21.14**	**37**	*e*P	**P**	**07 25 08.0**	**+0.3**
	comp=Z,9.4nm,0.9s						
RND	**Reindeer**	**21.22**	**42**	*e*P	**P**	**07 25 09.1**	**+0.5**
	comp=Z,11nm,0.8s						
GLI	**Glacier Island**	**21.28**	**49**	*e*P	**P**	**07 25 07.5**	**-1.6**
	comp=Z,12nm,0.8s						
MCK	**McKinley**	**21.31**	**41**	*e*P	**P**	**07 25 09.5**	**0.0**
	comp=Z,21nm,1.2s						
KUR	**Kuril'sk**	**21.40**	**267⇓**	*e*P	**P**	**07 25 11.5**	**+1.0**
SCM	**Sheep Creek Mo**	**21.40**	**46**	*e*P	**P**	**07 25 09.0**	**-1.5**
	comp=Z,14nm,0.7s						
SCM	**Sheep Creek Mo**	**21.40**	**46**	*e*P	**P**	**07 25 09.0**	**-1.5**
SCM				pmax	pmax		
	comp=Z,14nm,0.7s						
DHY	**Denali Highway**	**21.74**	**43**	*e*P	**P**	**07 25 13.2**	**-1.0**
	comp=Z,18nm,0.8s						
WRH	**Wood River Hil**	**21.93**	**39**	*e*P	**P**	**07 25 14.3**	**-1.8**
	comp=Z,6.0nm,0.9s						
KLU	**Klutina**	**21.97**	**48**	*e*P	**P**	**07 25 15.8**	**-0.8**
	comp=Z,7.1nm,0.8s						
MDM	**Murphy Dome**	**22.07**	**38**	*e*P	**P**	**07 25 16.6**	**-1.0**
	comp=Z,14nm,0.8s						
CCB	**Clear Creek Bu**	**22.11**	**39**	*e*P	**P**	**07 25 17.3**	**-0.7**
	comp=Z,8.2nm,1.0s						
COLA	**College**	**22.18**	**38**	*e*P	**P**	**07 25 18.2**	**-0.5**
	comp=Z,15nm,0.8s						
COLA	**College**	**22.18**	**38**	*ce*P	**P**	**07 25 18.9**	**+0.1**
COLA				pmax	pmax		
	comp=Z,12nm,1.0s						
ILAR	**Eielson Array**	**22.52**	**39**	*e*P	**P**	**07 25 20.9**	**-1.6**
ILAR	**Eielson Array**	**22.52**	**39**	*e*P	**P**	**07 25 20.9**	**-1.6**
ILAR	**Eielson Array**	**22.52**	**39**	P	**P**	**07 25 19.6**	**-2.9**
	comp=Z,1.9nm,0.6s,baz=234,slow=7.5,SNR=28						
ILB	**Eielson Array**	**22.52**	**39**	*e*P	**P**	**07 25 21.4**	**-1.1**
	comp=Z,5.0nm,0.9s						
PAX	**Paxson**	**22.54**	**44**	*e*P	**P**	**07 25 21.3**	**-1.5**
	comp=Z,14nm,1.2s						
PAX	**Paxson**	**22.54**	**44**	*e*P	**P**	**07 25 21.3**	**-1.5**
PAX				pmax	pmax		
	comp=Z,14nm,1.2s						
TYV	**Tymovskoe**	**22.72**	**284**	*e*P	**P**	**07 25 24.9**	**+0.2**
TYV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RIDG	**Independent Ri**	**23.03**	**42**	*e*P	**P**	**07 25 26.1**	**-1.7**
	comp=Z,5.2nm,0.8s						
**M

comp=Z,1.2nm,0.3s,baz=67,slow=9.1,SNR=5.1
HLID Hailey 44.47 72 *eP* **P 07 28 34.7 +0.6**
comp=Z,5.7nm,0.9s
BMN Battle Mountai 44.54 78 *eP* **P 07 28 35.6 +1.0**
comp=Z,3.9nm,0.8s
BMN Battle Mountai 44.54 78 *eP* **P 07 28 35.6 +1.0**
BMN pmax pmax
comp=Z,4.0nm,0.8s
MCMT McKenzie Canyo 44.70 70 *eP* **P 07 28 36.2 +0.2**
BOZ Bozeman (W) 45.01 68 *eP* **P 07 28 38.4 +0.1**
comp=Z,5.1nm,0.8s
BOZ Bozeman (W) 45.01 68 *eP* **P 07 28 38.4 +0.1**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
NV01 Mina Array Sit 45.06 81 *eP* **P 07 28 40.1 +1.2**
NVAR Mina Array Bea 45.06 81 *eP* **P 07 28 39.7 +0.9**
NVAR Mina Array Bea 45.06 81 P **P 07 28 40.1 +1.2**
comp=Z,1.5nm,0.8s,baz=290,slow=7.0,SNR=11
TLY Talaya 45.09 302*c i P* **P 07 28 38.6 -0.1**
ULN Ulaanbaatar 45.16 296*d i P* **P 07 28 39.9 +0.4**
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 45.55 296 P **P 07 28 42.7 +0.2**
comp=Z,2.7nm,0.9s,baz=57,slow=10,SNR=16
SONM LR LR 07 50 17.1
comp=Z,75nm,18.2s,baz=80,slow=40
ELK Elko 45.58 76 *eP* **P 07 28 43.8 +0.8**
comp=Z,3.6nm,0.8s
ZAK Zakamensk 45.95 300 *eP* **P 07 28 45.3 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
H17A Grant Village 46.29 69 *eP* **P 07 28 49.6 +1.0**
comp=Z,9.3nm,1.3s
HHC Hu-ho-hao-te 46.42 285 *eP* **P 07 28 49.6 +0.2**
R11A Troy Canyon, C 46.80 79 *eP* **P 07 28 52.6 +0.1**
comp=Z,2.7nm,0.8s
NJ2 Nanjing 47.37 270 *eP* **P 07 28 55.8 -1.0**
DUG Dugway, Tooele 47.39 75 *eP* **P 07 28 58.0 +0.9**
comp=Z,9.4nm,1.2s
DUG Dugway, Tooele 47.39 75 *eP* **P 07 28 58.0 +0.9**
DUG pmax pmax
comp=Z,9.0nm,1.2s
BW06 Boulder Array 47.84 70 *eP* **P 07 29 00.7 +0.1**
comp=Z,7.7nm,0.9s
PD31 Pinedale Array 47.84 70 *eP* **P 07 29 01.1 +0.5**
comp=Z,6.6nm,0.9s
PDAR Pinedale Array 47.84 70 *eP* **P 07 29 00.6 0.0**
PDAR Pinedale Array 47.84 70 P **P 07 29 01.1 +0.5**
comp=Z,6.5nm,0.8s,baz=316,slow=4.1,SNR=41
PDAR LR LR 07 49 05.6
comp=Z,35nm,18.7s,baz=285,slow=36
PFO Pinyon Flats O 49.25 85 LR LR 07 48 38.9
comp=Z,76nm,18.9s,baz=293,slow=34
U15A North Rim 50.05 79 *eP* **P 07 29 18.4 +0.7**
comp=Z,4.6nm,0.8s
O20A White River Ci 50.21 72 *eP* **P 07 29 18.7 -0.1**
comp=Z,8.8nm,0.8s
PV09 Paradox Valley 50.68 75 *eP* **P 07 29 23.2 +0.6**
ULM Lac du Bonnet 51.15 55 LR LR 07 51 00.4
comp=Z,96nm,20.9s,baz=318,slow=36
WUAZ Wupatki 51.20 79 *eP* **P 07 29 26.8 +0.5**
comp=Z,4.0nm,0.8s
WHN Wuhan 51.23 272 P **P 07 29 25.9 -0.4**
PV01 Paradox Valley 51.26 75 *eP* **P 07 29 27.0 +0.3**
comp=Z,4.1nm,0.8s
ISCO Idaho Springs 52.00 71 *eP* **P 07 29 32.9 +0.5**
comp=Z,3.8nm,1.1s
ISCO Idaho Springs 52.00 71 *eP* **P 07 29 32.9 +0.5**
ISCO pmax pmax
comp=Z,4.0nm,1.1s
S22A 4UR Ranch, Cre 52.56 74 *eP* **P 07 29 37.0 +0.4**
comp=Z,3.6nm,0.9s
SDCO Great Sand Dun 53.37 73 *eP* **P 07 29 42.8 +0.2**
comp=Z,6.4nm,1.3s
LZH Lanzhou 54.11 285 *eP* **P 07 29 48.3 +0.5**
LZH pP sP 07 30 00.6 +5.4
LZH sP pwP 07 30 04.3 +6.7
GTA Gaotai 54.38 291 *eP* **P 07 29 49.8 +0.1**
GTA pP sP 07 30 00.3 +3.3
GTA sP pwP 07 30 04.6 +5.1
T25A Trinidad 54.42 73 *eP* **P 07 29 50.4 +0.2**
comp=Z,9.4nm,1.1s
ANMO Albuquerque 54.61 76⇑ *eP* **P 07 29 51.3 -0.2**
ANMO pmax pmax
comp=Z,4.0nm,2.5s
ANMO Albuquerque 54.61 76 LR LR 07 50 04.0
comp=Z,74nm,21.7s,baz=303,slow=33
DGZ Jazzator, Alta 54.68 307⇓ *i P* **P 07 29 51.7 0.0**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
MNTX Cornudas Mount 57.46 78 *eP* **P 07 30 12.2 +0.5**
comp=Z,2.5nm,1.0s
KURK Kurchatov 58.29 313 *eP* **P 07 30 16.8 -0.4**
comp=Z,8.2nm,0.9s
KURK Kurchatov 58.29 313*c i P* **P 07 30 16.4 -0.8**
KURK pmax pmax
comp=Z,9.0nm,1.3s
WMQ Urumqi 58.37 302 *eP* **P 07 30 21.6 +3.6**
WMQ pP sP 07 30 29.8 +4.4
WMQ sP pwP 07 30 38.8 +11
MK32 Makanchi Array 59.18 307 *eP* **P 07 30 22.6 -0.9**
MKAR Makanchi Array 59.18 307 *i P* **P 07 30 22.6 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 59.18 307 P **P 07 30 22.6 -0.9**
comp=Z,1.4nm,0.8s,baz=60,slow=7.2,SNR=4.5
MKAR LR LR 07 56 35.1
comp=Z,81nm,20.4s,baz=36,slow=37
WMOK Wichita Mounta 59.42 71 *eP* **P 07 30 25.1 -0.2**
comp=Z,3.4nm,0.8s
WMOK Wichita Mounta 59.42 71 *eP* **P 07 30 25.1 -0.2**
WMOK pmax pmax
comp=Z,3.0nm,0.8s
LPIG La Paz 59.69 88 LR LR 07 54 44.3
comp=Z,51nm,18.4s,baz=215,slow=35
TX31 Lajitas Ar. Si 60.16 79 *eP* **P 07 30 30.8 +0.2**
comp=Z,2.6nm,1.0s
TXAR Lajitas Array 60.16 79 P **P 07 30 31.1 +0.5**
comp=Z,0.7nm,0.7s,baz=296,slow=4.6,SNR=10
BRVK Borovoye 60.32 319 *eP* **P 07 30 30.8 -0.4**
comp=Z,4.8nm,0.8s
BRVK Borovoye 60.32 319*c i P* **P 07 30 30.7 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
PRGR Permogore 61.78 337 P **P 07 30 38.2 -2.8**
PRGR pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 62.23 327 *eP* **P 07 30 43.9 -0.1**
comp=Z,14nm,0.7s
ARU Arti 62.23 327*d i P* **P 07 30 44.0 -0.1**
ARU S **S 07 39 10.3 +1.9**
ARU SS **SS 07 43 06.3 -4.4**
ARU pmax pmax
comp=Z,20nm,1.0s
KMI Kunming 62.34 276 P **P 07 30 46.8 +1.2**
MIAR Mount Ida 62.65 68 *eP* **P 07 30 47.1 -0.1**
comp=Z,9.4nm,1.0s
MIAR Mount Ida 62.65 68 *eP* **P 07 30 47.1 -0.1**
MIAR pmax pmax
comp=Z,9.0nm,1.0s
W41B Gary Mavity, V 62.98 67 *eP* **P 07 30 48.9 -0.6**
comp=Z,6.5nm,0.8s
WLAR White Oak Lake 63.52 69 *eP* **P 07 30 53.3 +0.3**
comp=Z,15nm,0.8s
HKT Hockley 64.55 73⇓ *eP* **P 07 30 59.3 -0.4**
HKT pmax pmax
comp=Z,4.0nm,1.1s
OXF Oxford 65.10 66 *eP* **P 07 31 03.5 +0.2**
comp=Z,32nm,1.1s
OXF Oxford 65.10 66 *eP* **P 07 31 03.5 +0.2**
OXF pmax pmax
comp=Z,32nm,1.1s
BOOM Boomskoye usch 65.42 308 *eP* **P 07 31 05.9 +0.3**
BOOM Boomskoye usch 65.42 308 *eP* **P 07 31 05.9 +0.3**
FINES FINESS Array B 65.91 346 LR LR 08 04 52.0
comp=Z,43nm,18.1s,baz=10.0,slow=41
AAK Ala-Archa 66.04 309 *eP* **P 07 31 09.7 +0.2**
comp=Z,3.3nm,0.9s
AAK Ala-Archa 66.04 309⇑ *eP* **P 07 31 09.3 -0.2**
AAK pmax pmax
comp=Z,10.0nm,2.5s
ABKAR Akbulak array 67.42 322 *eP* **P 07 31 18.1 +0.1**
comp=Z,7.2nm,1.4s
KSH Kashi 67.60 305 P **P 07 31 23.4 +3.9**
KSH pP pwP 07 31 33.5 +4.0
KSH S **S 07 40 16.9 +1.6**
KSH Kashi 67.60 305 SS SS 07 44 38.3 +3.0
KK31 Karatay Array 67.62 311 *eP* **P 07 31 19.1 -0.3**
comp=Z,4.4nm,1.0s
KK31 Karatay Array 67.62 311 *eP* **P 07 31 19.1 -0.3**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
NB200 NORSAR Array S 67.97 354 *eP* **P 07 31 19.8 -1.6**
NOA NORSAR Array B 67.97 354 P **P 07 31 19.8 -1.6**
comp=Z,1.1nm,0.8s,baz=345,slow=8.1,SNR=3.5
NOA LR LR 08 00 20.9
comp=Z,26nm,21.0s,baz=325,slow=35
SHL Shillong 68.78 285 *eP* **P 07 31 27.1 0.0**
comp=Z,12nm,1.1s
SHL Shillong 68.78 285 *eP* **P 07 31 27.1 0.0**
SHL pmax pmax
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 69.61 274 *eP* **P 07 31 31.9 -0.2**
CMAR Chiang Mai Arr 69.61 274 *i P* **P 07 31 32.0 -0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 69.61 274 P **P 07 31 30.8 -1.4**
comp=Z,0.9nm,0.3s,baz=34,slow=5.9,SNR=4.4
CMAR LR LR 08 03 52.1
comp=Z,14nm,19.8s,baz=125,slow=38
OBN Obninsk 69.78 338 *eP* **P 07 31 30.7 -1.9**
OBN *e* 07 31 54.2
OBN *e* 07 34 08.3
OBN *e*PPP PPP 07 35 49.7
OBN pmax pmax
comp=Z,6.0nm,1.0s
JIRN Jiri 70.68 290 *eP* **P 07 31 39.6 +0.6**
comp=Z,63nm,1.1s
GAR Garm 70.86 309 *eP* **P 07 31 39.6 -0.1**
comp=Z,10nm,0.8s
GAR Garm 70.86 309 *eP* **P 07 31 39.6 -0.1**
GAR pmax pmax
comp=Z,11nm,0.8s
RAMN Ramite 70.96 289 *eP* **P 07 31 40.6 0.0**
comp=Z,41nm,1.0s
KKN Kakani 71.12 291 *eP* **P 07 31 42.0 +0.5**
PKI Pulchoki 71.21 291 *eP* **P 07 31 42.1 -0.1**
PKIN Phulchoki 71.21 291 *eP* **P 07 31 42.1 0.0**
comp=Z,12nm,0.8s
DANN Dangsing 71.60 292 *eP* **P 07 31 44.7 +0.2**
comp=Z,38nm,0.9s
KOLN Koldanda 72.12 292 *eP* **P 07 31 47.5 -0.1**
comp=Z,18nm,0.9s
PYUN Piuthan 72.24 293 *eP* **P 07 31 48.3 +0.1**
comp=Z,39nm,0.9s
NIL Nilore 73.47 303 *eP* **P 07 31 55.7 +0.4**
comp=Z,14nm,1.0s
NIL Nilore 73.47 303 *eP* **P 07 31 55.7 +0.4**
NIL pmax pmax
comp=Z,14nm,1.0s
PPT Papeete 73.58 149 LR LR 08 02 34.5
comp=Z,221nm,18.8s,baz=102,slow=34
AKASG Malin Array Be 75.53 341 *eP* **P 07 32 06.4 -0.5**
AKASG Malin Array Be 75.53 341 *eP* **P 07 32 06.4 -0.5**
AKASG Malin Array Be 75.53 341 P **P 07 32 05.1 -1.8**
comp=Z,2.0nm,0.7s,baz=24,slow=6.2,SNR=4.0
AKASG LR LR 08 09 13.6
comp=Z,43nm,18.2s,baz=355,slow=39
KIEV Kiev 75.54 341⇓ *eP* **P 07 32 05.6 -1.3**
KIEV pmax pmax
comp=Z,2.0nm,0.8s
GEYT Alibeck 77.43 316 LR LR 08 08 44.6
comp=Z,71nm,20.5s,baz=305,slow=38
KBZ Khabaz 78.29 329 P **P 07 32 22.6 +0.2**
comp=Z,2.6nm,0.8s,baz=106,slow=2.5,SNR=5.9
ZEI Tsey 78.80 328 *eP* **P 07 32 24.8 -0.8**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
BUR08 Bucovina Ar. S 79.26 342 *eP* **P 07 32 27.5 -0.5**
comp=Z,4.8nm,0.9s
BURAR Bucovina Array 79.28 342 *eP* **P 07 32 27.5 -0.6**
WB2 Warramunga Arr 80.67 222 *eP* **P 07 32 35.9 +0.2**
comp=Z,20nm,1.6s
WR1 Warramunga Arr 80.68 222 *eP* **P 07 32 34.9 -0.8**
WRA Warramunga Arr 80.68 222 *i P* **P 07 32 36.0 +0.3**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 80.68 222 P **P 07 32 34.9 -0.8**
comp=Z,1.7nm,0.7s,baz=31,slow=6.1,SNR=14
KBA Koelnbreinsper 81.61 350 P **P 07 32 41.9 +1.2**
KBA pmax pmax
comp=Z,5.0nm,1.3s
ASAR Alice Springs 84.17 221 *eP* **P 07 32 54.0 +0.2**
ASAR Alice Springs 84.17 221 P **P 07 32 54.4 +0.5**
comp=Z,1.5nm,0.8s,baz=22,slow=5.2,SNR=15
ASAR LR LR 08 07 48.2
comp=Z,22nm,19.1s,baz=97,slow=34
BR101 Keskin Array S 84.75 334 *eP* **P 07 32 56.8 -0.2**
BR131 Keskin Array S 84.75 334 *eP* **P 07 32 56.9 -0.2**
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 84.75 334 P **P 07 32 56.8 -0.2**
comp=Z,2.2nm,0.7s,baz=34,slow=3.1,SNR=15
BRTR LR LR 08 17 21.1
comp=Z,21nm,18.4s,baz=316,slow=40
BOSA Boshof 150.18 308 PKPbc **PKPbc 07 40 12.8 -0.8**
comp=Z,2.6nm,0.9s,baz=9.0,slow=1.5,SNR=6.2

NNC 14 07:25:07.0±0.5, 50°.02N×78°.62E, h0km, mb3.8, mpv3.5, 17C-7D, Error ellipse: s-maj=7.2km s-min=2.5km az=84.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.57**	**353**	⇑P		Pg	07 25 18.0	+0.1
KUR07				⇑S		Sg	07 25 26.6	+1.3
KUR06	**Kurchatov Arra**	**0.59**	**354**	⇑P		Pg	07 25 18.4	+0.1
KUR06				⇓S		Sg	07 25 27.0	+1.0
KUR14	**Kurchatov Arra**	**0.60**	**358**	⇑P		Pg	07 25 18.4	-0.1
KUR14				⇓S		Sg	07 25 26.9	+0.7
KUR15	**Kurchatov Arra**	**0.60**	**356**	⇑P		Pg	07 25 18.5	-0.1
KUR15				⇓S		Sg	07 25 27.7	+1.4
KURBB	**Kurchatov Arra**	**0.61**	**354**	⇑P		Pg	07 25 18.7	+0.1
KURBB	45nm,0.3s						
				⇑S		Sg	07 25 27.8	+1.3
	88nm,0.5s						
KUR16	**Kurchatov Arra**	**0.61**	**353**	⇑P		Pg	07 25 18.8	-0.1
KUR16				⇑S		Sg	07 25 27.7	+1.0
KUR17	**Kurchatov Arra**	**0.62**	**351**	⇓P		Pg	07 25 19.0	+0.1
KUR17				⇑S		Sg	07 25 28.2	+1.2
KUR05	**Kurchatov Arra**	**0.63**	**355**	⇑P		Pg	07 25 18.8	-0.2
KUR05				⇓S		Sg	07 25 27.9	+0.7
KUR04	**Kurchatov Arra**	**0.65**	**356**	⇑P		Pg	07 25 19.5	0.0
KUR04				⇑S		Sg	07 25 28.6	+0.8
SEM	**Semipalatinsk**	**1.12**	**69**	P		Pg	07 25 26.6	-1.8
SEM	11nm,0.1s						
				S		Sg	07 25 41.3	-1.5
	112nm,0.4s						
MK31	**Makanchi Array**	**4.05**	**141**	⇑Pn		Pn	07 26 11.0	+0.8
	0.4nm,0.2s,baz=276,slow=6.8,SNR=86						
MK31				⇑Pg		Pb	07 26 20.1	+0.9
	1.7nm,0.3s,baz=326,slow=13,SNR=25						
MK31				⇓Lg		Lg	07 27 14.7
	13nm,0.5s,baz=332,slow=34,SNR=17						
OTUK	**Ortayu**	**4.49**	**249**	⇑Pn		Pn	07 26 18.2	+1.9
OTUK				⇓Lg		Lg	07 27 30.6
	7.0nm,0.6s						
KAPS	**Kapalarasan**	**4.76**	**174**	Pg		Pb	07 26 32.3	+0.9
	1.4nm,0.3s						
KAPS				Lg		Lg	07 27 35.0
	15nm,0.5s						
ZSN	**Zaisan**	**4.87**	**119**	Pg		Pb	07 26 35.2	+2.1
	2.6nm,0.2s						
ZSN				Lg		Lg	07 27 37.9
	4.2nm,0.5s						
PDGK	**Podgornoye**	**6.72**	**175**	⇑Lg		Lg	07 28 41.4
	5.2nm,0.6s						

DDA 14 07:31:26.1, 37°.20N×28°.03E, h7km±1km, ML2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYDN	**Tasoluk**	**0.47**	**345**	IAML_P			
	comp=Z,1μm,0.3s						
AYDN				*i* P		Pb	07 31 36.2	-0.6
AYDN				*i* S		Sb	07 31 43.3	-0.8
AYDN	**Tasoluk**	**0.47**	**345**	IAML_P			
	comp=Z,1μm,0.3s						
AYDN				*i* P		Pb	07 31 36.4	-0.5
AYDN				*i* S		Sb	07 31 43.3	-0.8
BDRM	**Kayabasi**	**0.49**	**254**	*i* P		Pg	07 31 32.9	-2.7
BDRM				*i* S		Sg	07 31 39.4	-2.4
BDRM	**Kayabasi**	**0.49**	**254**	*i* P		Pg	07 31 32.6	-2.9
TURN	**Turunc**	**0.56**	**125**	*i* P		Pg	07 31 35.8	-1.2
TURN	**Turunc**	**0.56**	**125**	*i* P		Pg	07 31 35.5	-1.4
DAT	**Datca**	**0.59**	**218**	*i* P		Pg	07 31 36.0	-1.6

IDC 14 07:42:25.7±2.2, 6°.56S×129°.43E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.5/25, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=147.0km s-min=30.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.13**	**161**	Pn		Pn	07 45 46.6	-0.8
	0.5nm,0.3s,baz=343,slow=13,SNR=21						
WRA				Sn		Sn	07 48 11.6	-14
	0.8nm,0.3s,baz=331,slow=22,SNR=8.2						
ASAR	**Alice Springs**	**17.55**	**166**	P		Pn	07 46 32.5	+0.5
	0.4nm,0.3s,baz=347,slow=11,SNR=23						
ASAR				S		Sn	07 49 36.4	-12
	0.1nm,0.3s,baz=350,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**67.55**	**327**	P		P	07 53 24.0	0.0
	0.2nm,0.3s,baz=122,slow=8.1,SNR=3.1						

*IDC **14** 08:04:22.2±2.1, 4°.28S×130°.25E, h0km, mb4.1/2, mb1 4.1/5, mb1mx3.7/39, mbtmp3.9/5, ML4.1/3, Error ellipse: s-maj=85.2km s-min=23.8km az=70.0*
*ISCJB **14** 08:04:36.8±0.4, 4°.81S±0°.03×129°.93E±0°.05, h150km, mb4.0/5, Error ellipse: s-maj=7.0km s-min=4.5km az=160.3*
*NEIC **14** 08:04:38.2±1.5, 4°.75S×129°.90E, h150km±13km, mb4.1/12, Error ellipse: s-maj=25.6km s-min=9.7km az=76.0*
*DJA **14** 08:04:41.4±0.6, 4°.5±7°.×13°.0E±°, h155km±5km, M4.4/6, mb4.2/6, mB5.1/1, MLv4.5/6, Mw(mB)4.5/1*
ISC 14 08:04:38.0±0.6, 4°.83S±0°.05×130°.00E±0°.06, h150km, n35, σ2°.33/45, mb4.1/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.32**	**342**	P		Pn	08 05 02.2	+3.5
BNDI				S		Sn	08 05 19.2	+4.8
FAKI	**Fak Fak**	**2.94**	**50**	*e*Pn		Pn	08 05 25.8	+1.1
FAKI				*e*Sn		Sn	08 06 00.1	-0.6
FAKI	**Fak Fak**	**2.94**	**50**	P		Pn	08 05 25.9	+1.2
FAKI				S		Sn	08 05 59.7	-1.0
SAUI	**Saumlaki**	**3.38**	**158**	*e*Pn		Pn	08 05 32.2	+1.8
SAUI				*e*Sn		Sn	08 06 13.0	+2.1
SWI	**Sorong**	**4.14**	**18**	P		Pn	08 05 40.0	-0.1
SANI	**Sanana**	**4.87**	**304**	P		Pn	08 05 49.1	-0.6
MTN	**Manton Dam**	**8.04**	**172**	*e*Pn		Pn	08 06 33.8	+1.7
MTN				*e*Sn		Sn	08 08 00.8	-0.9
LUWI	**Luwuk**	**8.14**	**297**	*e*Pn		Pn	08 06 32.7	-0.7
MRSI	**Marisa**	**9.63**	**303**	P		Pn	08 06 53.0	-0.2
	25nm,1.0s						
BKSI	**Bulukumba**	**9.85**	**267**	P		Pn	08 06 58.5	+2.3
	11nm,0.7s						
SPSI	**Sidrap Palu**	**10.24**	**274**	P		Pn	08 07 03.7	+2.4
	7.8nm,1.4s						
MPSI	**Mapaga**	**11.32**	**297**	P		Pn	08 07 16.2	+0.6
FITZ	**Fitzroy Crossi**	**13.86**	**198**	*e*Pn		Pn	08 07 48.9	+0.7
FITZ				*e*Sn		Sn	08 10 15.6	-6.2
FITZ	**Fitzroy Crossi**	**13.86**	**198**	Pn		Pn	08 07 47.8	-0.4
	0.5nm,0.3s,baz=22,slow=10,SNR=14						
FITZ				Sn		Sn	08 10 16.0	-5.8
	0.6nm,0.3s,baz=148,slow=22,SNR=6.4						
WRAB	**Tennant Creek**	**15.60**	**165**	*e*Pn		Pn	08 08 10.7	+0.8
	6.2nm,0.9s						
WR1	**Warramunga Arr**	**15.60**	**165**	*e*Pn		Pn	08 08 09.4	-0.6
WRA	**Warramunga Arr**	**15.60**	**165**	Pn		Pn	08 08 09.4	-0.6
	0.7nm,0.3s,baz=348,slow=13,SNR=27						
WRA				Sn		Sn	08 10 55.7	-8.0
	3.3nm,0.3s,baz=342,slow=20,SNR=12						
WB2	**Warramunga Arr**	**15.61**	**165**	*e*Pn		Pn	08 08 09.8	-0.2
	3.9nm,0.6s						
COEN	**Coen**	**15.84**	**126**	*e*Pn		Pn	08 08 14.6	+1.7
	7.7nm,0.8s						
JAGI	**Jajag, Banyuwa**	**16.15**	**256**	*e*Pn		P	08 08 16.2	-0.9
	66nm,1.5s						
KKM	**Kota Kinabalu**	**17.50**	**308**	*e*P		P	08 08 30.8	-1.2
	11nm,0.7s						
MBWA	**Marble Bar**	**19.05**	**211**	*e*P		P	08 08 49.0	+0.2
	30nm,1.3s						
AS31	**Alice Springs**	**19.10**	**169**	*e*P		P	08 08 50.8	+1.4
	1.8nm,0.8s						
AS31				*e*S		S	08 12 18.3	+0.1
ASAR	**Alice Springs**	**19.10**	**169**	*e*P		P	08 08 51.4	+2.0
ASAR	**Alice Springs**	**19.10**	**169**	P		Pn	08 08 52.5	+0.6
	0.6nm,0.3s,baz=346,slow=10,SNR=28						
ASAR				S		S	08 12 21.1	+2.9
	0.5nm,0.3s,baz=359,slow=27,SNR=5.7						
SBUM	**Sibu**	**19.18**	**292**	*e*P		P	08 08 49.2	-1.1
	6.1nm,0.8s						
PSA00	**Pilbara Seismi**	**19.34**	**210**	*e*P		P	08 08 52.8	+0.8
	22nm,1.1s						
CMAR	**Chiang Mai Arr**	**38.38**	**308**	*e*P		P	08 11 44.5	-0.5
CMAR	**Chiang Mai Arr**	**38.38**	**308**	P		P	08 11 44.9	-0.1
	1.9nm,0.6s,baz=140,slow=7.3,SNR=7.3						
CHTO	**Chiang Mai**	**38.58**	**308**	*e*P		P	08 11 45.5	-1.1
	3.3nm,0.7s						
MK31	**Makanchi Array**	**66.43**	**326**	*e*P		P	08 15 10.5	-0.7
	1.3nm,0.8s						
MK32	**Makanchi Array**	**66.43**	**326**	*e*P		P	08 15 11.0	-0.2
MKAR	**Makanchi Array**	**66.43**	**326**	*e*P		P	08 15 10.4	-0.8
MKAR	**Makanchi Array**	**66.43**	**326**	P		P	08 15 11.0	-0.2
	1.1nm,0.4s,baz=124,slow=7.3,SNR=17						
MAKZ	**Makanchi**	**66.61**	**326**	*e*P		P	08 15 11.9	-0.4
	5.4nm,1.3s						

*ISCJB **14** 08:13:38.5±1.4, 18°.9S±0°.6×177°.8W±0°.3, h532km, mb3.5/9, Error ellipse: s-maj=84.4km s-min=14.3km az=152.4*
*IDC **14** 08:13:41.7±5.5, 18°.91S×177°.85W, h560km±67km, mb3.0/9, mb1 3.2/10, mb1mx3.0/37, mbtmp3.9/10, Error ellipse: s-maj=85.2km s-min=23.3km az=154.0*
ISC 14 08:13:39.2±1.6, 18°.9S±0°.6×177°.8W±0°.3, h532km, n11, σ0°.62/11, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.13**	**255**	P		P	08 16 51.6	+1.1
	0.2nm,0.3s,baz=90,slow=19,SNR=4.8						
CTA	**Charters Tower**	**33.30**	**262**	P		P	08 19 38.1	+0.1
	3.1nm,0.4s,baz=95,slow=9.4,SNR=9.4						
STKA	**Stephens Creek**	**38.70**	**242**	P		P	08 20 17.0	-0.5
	3.9nm,1.2s,baz=76,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**45.06**	**260**	P		P	08 21 07.5	-0.4
	0.7nm,0.3s,baz=95,slow=7.9,SNR=12						
ASAR	**Alice Springs**	**45.12**	**255**	P		P	08 21 08.4	+0.1
	1.6nm,0.5s,baz=87,slow=8.3,SNR=32						
FITZ	**Fitzroy Crossi**	**53.48**	**261**	P		P	08 22 10.1	+0.1
	2.3nm,0.9s,baz=129,slow=6.5,SNR=2.3						
YBH	**Yreka Blue Hor**	**78.92**	**39**	P		P	08 24 48.1	+0.5
	0.3nm,0.3s,baz=180,slow=6.1,SNR=2.7						
NVAR	**Mina Array Bea**	**79.72**	**43**	P		P	08 24 52.0	-0.1
	0.4nm,0.6s,baz=226,slow=11,SNR=3.9						
TXAR	**Lajitas Array**	**86.01**	**57**	P		P	08 25 24.3	+0.5
	0.4nm,0.7s,baz=212,slow=6.6,SNR=6.8						
ILAR	**Eielson Array**	**86.72**	**13**	P		P	08 25 25.9	-0.3
	0.3nm,0.6s,baz=230,slow=5.5,SNR=6.2						
GERES	**GERESS Array B**	**148.73**	**345**	PKPbc		**PKPbc**	**08 32 25.8**	**-0.8**
	0.7nm,0.6s,baz=66,slow=2.5,SNR=3.5						

*JMA **14** 08:18:26.9±0.4, 44°.00N×148°.19E, h0km, M3.5*
*SKHL **14** 08:18:27.5±0.2, 44°.28N×148°.43E, h32km±1km, mb3.6/1*
ISC 14 08:18:21.7±3.1, 44°.2N±0°.1×148°.3E±0°.1, h3km±17km, n9, σ1°.00/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.12**	**343**	*i* P		**Pn**	**08 18 45.0**	**+0.7**
KUR				AMB	AMB	08 18 45.0
	30nm,0.3s					
KUR				AMB	AMB	08 18 45.0
	20nm,0.3s					
KUR				*i* S		**Sg**	**08 18 56.8**	**-1.0**
KUR				A	A	08 18 57.0
	180nm,0.5s					
KUR				A	A	08 18 57.0
	340nm,0.5s					
YUK	**Yuzh-Kuril'sk**	**1.78**	**267**	*e*P		**Pg**	**08 18 57.0**	**+1.2**

YUK				*e*S	Sg	08 19 19.0	+0.2
YUK				A	A	08 19 22.0	
	60nm,0.4s						
YUK				A	A	08 19 22.0	
	170nm,0.4s						
GRPR	**Tuman**	**1.85**	**266**	*e*P	Pg	08 18 58.0	+0.9
GRPR				*e*S	Sg	08 19 21.0	0.0
GRPR				A	A	08 19 21.0	
	180nm,0.3s						
GRPR				A	A	08 19 21.0	
	210nm,0.3s						
NEM2	**Nemuro 2**	**2.03**	**248**	P	Pg	08 19 00.8	+0.2
NEM2				*e*S	Sb	08 19 25.2	+0.4
GLVR	**Golovnino**	**2.07**	**259**	*e*P	Pg	08 19 01.0	-0.3
GLVR				*e*S	Sg	08 19 28.0	-0.1
GLVR				A	A	08 19 29.0	
	250nm,0.3s						
GLVR				A	A	08 19 29.0	
	150nm,0.3s						
JRA	**Rausu**	**2.32**	**266**	P	Pg	08 19 05.8	-0.3
JRA				*e*S	Sb	08 19 34.1	+1.0
JNK	**Nakash**	**2.67**	**259**	P	Pb	08 19 10.4	+0.3
JAK	**Akkeshi**	**2.88**	**248**	P	Pb	08 19 13.3	-0.3
JAR	**Ashorobuto**	**3.41**	**257**	P	Pb	08 19 21.3	-1.4
JAR				*e*S	Sb	08 20 02.5	-2.1

ISCJB ***14*** *08:36:27.1±0.2,6°.56S×0°.03×129°.91E±0°.03,h150km, mb4.4/33,Error ellipse: s-maj=4.9km s-min=3.4km az=163.9*
NEIC ***14*** *08:36:29.4±1.7,6°.57S×129°.88E,h158km±10km,mb4.6/26, Error ellipse: s-maj=16.2km s-min=9.3km az=62.0*
DJA ***14*** *08:36:30.2±0.3,7°.S±3°.×13°.0E±°,h180km±6km,M4.8/7, mB4.8/3,mb4.7/6,MLv4.9/7,Mw(mB)4.1/3*
IDC ***14*** *08:36:32.7±2.3,6°.57S×129°.87E,h186km±22km,mb3.8/15, mb1 3.9/19,mb1mx3.9/33,mbtmp4.4/19,Error ellipse: s-maj=15.6km s-min=9.1km az=69.0*

ISC 14 08:36:28.7±0.3,**6°.65S**±0°.04×**129°.90E**±0°.05,**h150**km,**n103,** σ1§**85**/112,**mb4.4**/33,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.93**	**134**	*e*Pn	Pn	08 37 06.0	+3.0
SAUI				*e*Sn	Sn	08 37 31.0	+1.7
SAUI	**Saumlaki**	**1.93**	**134**	P	Pn	08 37 07.2	+4.2
SAUI				S	Sn	08 37 34.0	+4.7
BNDI	**Bandanaira**	**2.11**	**0**	P	Pn	08 37 09.1	+3.9
BNDI				S	Sn	08 37 38.1	+4.9
FAKI	**Fak Fak**	**4.38**	**32**	*e*Pn	Pn	08 37 34.3	+0.2
FAKI				*e*Sn	Sn	08 38 20.9	-4.0
FAKI	**Fak Fak**	**4.38**	**32**	P	Pn	08 37 34.3	+0.2
SWI	**Sorong**	**5.90**	**13**	P	Pn	08 37 54.5	+0.3
SANI	**Sanana**	**6.00**	**319**	P	Pn	08 37 58.6	+3.1
SANI				S	Sn	08 39 05.8	+2.4
MTN	**Manton Dam**	**6.28**	**169**	*e*Pn	Pn	08 38 00.7	+1.5
MTN				*e*Sn	Sn	08 39 09.7	-0.3
SOEI	**Soe**	**6.37**	**241**	*e*Pn	Pn	08 38 01.7	+1.2
SOEI	**Soe**	**6.37**	**241**	P	Pn	08 38 02.2	+1.7
BATI	**Baumata**	**7.11**	**240**	P	Pn	08 38 12.6	+2.3
BATI				S	Sn	08 39 30.0	+0.1
TNTI	**Ternate**	**7.79**	**341**	*e*Pn	Pn	08 38 18.5	-0.9
BNSI	**Bone**	**9.99**	**282**	P	Pn	08 38 50.7	+2.0
	50nm,0.8s						
KAPI	**Kappang**	**10.22**	**279**	P	Pn	08 38 55.0	+3.3
	0.8nm,0.3s,baz=253,slow=14,SNR=1.6						
SPSI	**Sidrap Palu**	**10.43**	**284**	P	Pn	08 39 06.1	+12
MRSI	**Marisa**	**10.63**	**311**	P	Pn	08 39 00.6	+3.4
JAY	**Jayapura**	**11.53**	**70**	P	Pn	08 39 13.0	+4.0
	0.8nm,0.3s,baz=204,slow=18,SNR=2.9						
FITZ	**Fitzroy Crossi**	**12.12**	**200**	*e*Pn	Pn	08 39 17.0	+0.4
FITZ				*e*Sn	Sn	08 41 25.1	-5.5
FITZ	**Fitzroy Crossi**	**12.12**	**200**	P	Pn	08 39 15.9	-0.7
	1.5nm,0.3s,baz=32,slow=10,SNR=24						
FITZ				S	Sn	08 41 23.3	-7.3
	3.6nm,0.3s,baz=213,slow=19,SNR=5.6						
PLAI	**Plampang**	**12.20**	**259**	P	Pn	08 39 17.1	-0.6
WRAB	**Tennant Creek**	**13.90**	**162**	*e*Pn	Pn	08 39 38.1	-1.3
WR1	**Warramunga Arr**	**13.90**	**162**	*e*Pn	Pn	08 39 37.7	-1.8
WRA	**Warramunga Arr**	**13.90**	**162**	P	Pn	08 39 37.7	-1.8
	2.7nm,0.3s,baz=348,slow=13,SNR=79						
WRA				S	Sn	08 42 04.2	-9.4
	3.5nm,0.3s,baz=344,slow=22,SNR=7.6						
WB2	**Warramunga Arr**	**13.91**	**162**	*e*Pn	Pn	08 39 38.5	-1.1
COEN	**Coen**	**14.94**	**120**	*e*Pn	Pn	08 39 53.6	+1.0
JAGI	**Jajag, Banyuwa**	**15.71**	**262**	*e*Pn	Pn	08 40 02.2	+0.2
	47nm,1.1s						
PMG	**Port Moresby**	**17.31**	**100**	*e*P	P	08 40 20.1	-0.5
	42nm,1.0s						
PMG	**Port Moresby**	**17.31**	**100**	P	Pn	08 40 22.7	+1.2
	1.6nm,0.3s,baz=99,slow=15,SNR=7.4						
PMG				S	S	08 43 27.7	-5.8
	0.5nm,0.3s,baz=292,slow=19,SNR=2.7						
AS31	**Alice Springs**	**17.36**	**168**	*e*P	P	08 40 22.7	+1.6
	11nm,0.6s						
AS31				*e*S	S	08 43 30.8	-3.5
ASAR	**Alice Springs**	**17.36**	**168**	*e*P	P	08 40 22.7	+1.6
ASAR	**Alice Springs**	**17.36**	**168**	P	P	08 40 23.1	+2.0
	3.6nm,0.3s,baz=331,slow=8.2,SNR=164						
ASAR				S	S	08 43 30.7	-3.6
	1.1nm,0.3s,baz=353,slow=20,SNR=5.6						
PSA00	**Pilbara Seismi**	**17.74**	**212**	*e*P	P	08 40 26.7	+1.5
	54nm,0.4s						
SBUM	**Sibu**	**19.82**	**297**	*e*P	P	08 40 48.6	+0.6
	14nm,1.1s						
CTA	**Charters Tower**	**20.75**	**132**	P	P	08 41 00.0	+2.2
	22nm,0.8s,baz=310,slow=12,SNR=27						
CTAO	**Charters Tower**	**20.75**	**132**	*e*P	P	08 40 58.6	+0.7
	19nm,0.8s						
GIRL	**Giralia**	**21.93**	**222**	*e*P	P	08 41 11.1	+0.8
	219nm,1.4s						
STKA	**Stephens Creek**	**27.38**	**158**	*e*P	P	08 42 00.5	+0.4
	1.9nm,0.4s						
STKA	**Stephens Creek**	**27.38**	**158**	P	P	08 42 01.1	+1.1
	6.7nm,0.4s,baz=340,slow=7.4,SNR=26						
NWAO	**Narrogin (SRO)**	**28.68**	**203**	P	P	08 42 11.6	-0.1
	2.1nm,0.3s,baz=43,slow=7.2,SNR=6.2						
PSI	**Prapat**	**32.31**	**286**	*e*P	P	08 42 43.9	-0.1
	17nm,0.8s						
CAN	**Canberra**	**33.51**	**151**	*e*P	P	08 42 55.3	+1.2
	14nm,0.7s						
TOO	**Toolangi**	**33.90**	**157**	*e*P	P	08 42 59.0	+1.6
	47nm,1.5s						
UTTA	**Uttaradit**	**37.77**	**310**	P	P	08 43 31.1	+0.5
	24μm,0.6s						
DZM	**Mont Dzumac**	**38.45**	**117**	*e*P	P	08 43 36.6	+0.3
	23nm,1.6s						
DZM	**Mont Dzumac**	**38.45**	**117**	P	P	08 43 37.5	+1.2
	4.3nm,0.9s,baz=276,slow=12,SNR=4.0						
PHRA	**Phrae**	**38.48**	**311**	P	P	08 43 36.8	+0.3
	1.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**39.43**	**310**	*e*P	P	08 43 43.4	-0.9
CMAR	**Chiang Mai Arr**	**39.43**	**310**	P	P	08 43 44.2	-0.1
	3.0nm,0.5s,baz=136,slow=7.1,SNR=11						
WHN	**Wuhan**	**39.87**	**339**	*e*P	P	08 43 44.0	-3.8
NJ2	**Nanjing**	**39.90**	**345**	*e*P	P	08 43 49.8	+1.8
MJAR	**Matsushiro Arr**	**43.66**	**10**	P	P	08 44 17.1	-1.5
	2.8nm,0.7s,baz=192,slow=10,SNR=9.8						
MAJO	**Matsushiro**	**43.66**	**10**	*e*P	P	08 44 17.0	-1.6
	5.0nm,0.8s						
MAT	**Matsushiro**	**43.66**	**10**	P	P	08 44 16.8	-1.8
KSRS	**Korea Array**	**43.91**	**358**	P	P	08 44 19.9	-0.6
	0.7nm,0.5s,baz=5.7,slow=29,SNR=4.1						
CD2	**Chengdu**	**44.95**	**328**	P	P	08 44 30.5	+1.5
XAN	**Xi'an**	**45.08**	**335**	P	P	08 44 28.8	-1.2
XAN	**Xi'an**	**45.08**	**335**	*e*P	P	08 44 28.7	-1.2
	7.4nm,0.6s						
LZH	**Lanzhou**	**49.05**	**332**	*e*P	P	08 45 01.8	+1.0
LZH				pP	pP	08 45 32.6	-0.9
LZH				sP	sP	08 45 50.4	+0.8
HHC	**Hu-ho-hao-te**	**50.18**	**342**	*e*P	P	08 45 12.3	+3.1
USRK	**Ussuriysk Ar.**	**50.65**	**2**	P	P	08 45 12.3	-0.1
	3.9nm,0.6s,baz=194,slow=7.8,SNR=7.2						
RPZ	**Rata Peaks**	**51.58**	**142**	P	P	08 45 20.6	+1.1
	3.2nm,0.5s,baz=338,slow=5.4,SNR=3.1						
RAMN	**Ramite**	**53.59**	**310**	*e*P	P	08 45 34.5	-0.4
	52nm,0.4s						
GTA	**Gaotai**	**53.61**	**331**	*e*P	P	08 45 34.8	+0.1
JIRN	**Jiri**	**54.28**	**311**	*e*P	P	08 45 39.2	-0.9
	18nm,0.4s						
PKI	**Pulchoki**	**54.82**	**310**	*e*P	P	08 45 42.8	-1.1
	12nm,0.5s						
PKIN	**Phulchoki**	**54.83**	**310**	*e*P	P	08 45 42.8	-1.1
	12nm,0.5s						
DMN	**Daman**	**55.07**	**310**	*e*P	P	08 45 44.9	-0.7
	9.8nm,0.4s						
KOLN	**Koldanda**	**56.30**	**310**	*e*P	P	08 45 53.7	-0.6
	14nm,0.4s						
DANN	**Dangsing**	**56.47**	**310**	*e*P	P	08 45 54.6	-1.0
	7.4nm,0.4s						
PYUN	**Piuthan**	**56.93**	**310**	*e*P	P	08 45 58.2	-0.6
	15nm,0.5s						
ULN	**Ulaanbaatar**	**57.90**	**342**	*e*P	P	08 46 05.0	-0.1
	5.0nm,0.7s						
SONA0	**Songino Array**	**58.08**	**342**	*e*P	P	08 46 06.5	+0.2
SONM	**Songino Array**	**58.08**	**342**	*e*P	P	08 46 05.8	-0.5
SONM	**Songino Array**	**58.08**	**342**	P	P	08 46 06.5	+0.2
	1.3nm,0.4s,baz=155,slow=6.8,SNR=12						
WMQ	**Urumqi**	**63.04**	**327**	*e*P	P	08 46 41.4	+1.4
PETK	**Petropavlovsk-**	**64.02**	**18**	P	P	08 46 45.9	-0.3
	1.7nm,0.6s,baz=112,slow=1.6,SNR=4.1						
PEA1	**Petropavlovsk-**	**64.03**	**18**	*e*P	P	08 46 45.9	-0.3
KSH	**Kashi**	**67.69**	**317**	SS	SS	09 00 20.6	+0.6
MK32	**Makanchi Array**	**67.87**	**327**	*e*P	P	08 47 11.2	+0.2
MKAR	**Makanchi Array**	**67.87**	**327**	*e*P	P	08 47 10.7	-0.3
MKAR	**Makanchi Array**	**67.87**	**327**	P	P	08 47 11.2	+0.2
	22nm,0.4s,baz=126,slow=7.7,SNR=75						
BOOM	**Boomskoye usch**	**69.21**	**320**	*e*P	P	08 47 19.5	-0.1
	23nm,0.8s						
AAK	**Ala-Archa**	**70.21**	**320**	*e*P	P	08 47 25.8	+0.2
	9.1nm,0.6s						
ZALV	**Zalesovo Beam**	**71.22**	**334**	*e*P	P	08 47 30.3	-0.9
ZALV	**Zalesovo Beam**	**71.22**	**334**	P	P	08 47 30.5	-0.8
	3.5nm,0.6s,baz=128,slow=5.4,SNR=12						
ZAA1	**Zalesovo Array**	**71.22**	**334**	*e*P	P	08 47 30.5	-0.8
GAR	**Garm**	**71.34**	**315**	*e*P	P	08 47 32.3	-0.3
	17nm,0.8s						
KURK	**Kurchatov**	**72.16**	**329**	*e*P	P	08 47 36.6	-0.4
	6.6nm,0.6s						
VNDA	**Vanda**	**72.81**	**173**	*e*P	P	08 47 40.8	+0.4
VNDA	**Vanda**	**72.81**	**173**	P	P	08 47 40.6	+0.2
	0.3nm,0.4s,baz=307,slow=9.3,SNR=5.9						
KK31	**Karatay Array**	**73.01**	**319**	*e*P	P	08 47 41.9	-0.3
	9.9nm,1.1s						
KKAR	**Karatay Array**	**73.01**	**319**	*e*P	P	08 47 41.9	-0.3
	9.9nm,1.1s						
MAW	**Mawson**	**75.24**	**201**	*e*P	P	08 47 54.8	+0.2
	1.0nm,1.0s						
MAW	**Mawson**	**75.24**	**201**	P	P	08 47 55.3	+0.7
	2.3nm,0.6s,baz=88,slow=9.0,SNR=7.3						
BRVK	**Borovoye**	**77.78**	**328**	*e*P	P	08 48 08.6	-0.6
	5.1nm,0.8s						
TIXI	**Tiksi**	**78.14**	**360**	*e*P	P	08 48 09.8	-0.9
	3.9nm,0.5s						
ABKAR	**Akbulak array**	**82.17**	**322**	*e*P	P	08 48 31.8	-1.1
	2.0nm,0.6s						
ILAR	**Eielson Array**	**93.07**	**25**	P	P	08 49 22.8	-2.3
	0.6nm,0.7s,baz=270,slow=4.4,SNR=6.0						
YKA	**Yellowknife Ar**	**107.48**	**26**	PKiKP	**PKiKP**	08 54 36.3	-1.0
	0.2nm,0.6s,baz=293,slow=1.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**128.64**	**281**	PKP	**PKPdf**	08 55 18.2	-0.9
	0.5nm,0.5s,baz=99,slow=2.2,SNR=5.2						
TOA1	**Torodi Ar. Sit**	**128.64**	**281**	*e*PKPdf	**PKPdf**	08 55 18.2	-0.9
CPUP	**Villa Florida**	**146.48**	**168**	PKPbc	**PKPdf**	08 55 53.0	+1.6
	1.7nm,0.8s,baz=230,slow=1.9,SNR=5.4						
LPAZ	**La Paz**	**151.06**	**142**	PKPbc	**PKPbc**	08 56 05.8	0.0
	0.7nm,0.4s,baz=23,slow=8.7,SNR=7.3						

SOME ***14*** *08:45:12.6,44°.63N×82°.23E,h20km*
NNC ***14*** *08:45:14.6±1.4,44°.66N×82°.09E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=14.9km s-min=5.6km az=124.0*

ISC 14 08:45:11.6±1.7,**44°.67N**±0°.05×**82°.22E**±0°.07,**h1**km±13km, **n18,** σ1§**03**/32,**5C,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.77**	**260**	P	Pg	08 45 45.1	-0.3
	10nm,0.3s						
DJR				S	Sg	08 46 09.0	+0.6
	5.7nm,0.3s						
DJR	**Jarkent**	**1.77**	**260**	*e*P	Pg	08 45 45.1	-0.3
	10nm,0.3s						
DJR				*e*S	Sg	08 46 09.0	+0.6
	5.7nm,0.3s						
KTMS	**Ketmen**	**1.81**	**228**	P	Pg	08 45 46.5	+0.2
	7.6nm,0.2s						
KTMS				S	Sg	08 46 11.6	+1.7
	20nm,0.3s						
KTMS	**Ketmen**	**1.81**	**228**	*e*P	Pb	08 45 45.2	-0.4
	7.6nm,0.2s						
KTMS				*e*S	Sb	08 46 09.2	+0.3
	20nm,0.3s						
KAPS	**Kapalarasan**	**2.12**	**288**	Pg	Pb	08 45 51.0	+0.2
	4.2nm,0.2s						
KAPS				Lg	Lg	08 46 18.5	
	12nm,0.4s						
KAPS	**Kapalarasan**	**2.12**	**288**	*e*P	Pb	08 45 51.0	+0.2
	4.2nm,0.2s						
KAPS				*e*S	Sb	08 46 19.0	+1.3
	14nm,0.4s						
MK31	**Makanchi Array**	**2.13**	**1**	Pn	Pg	08 45 52.0	-0.4
	9.6nm,0.3s,baz=188,slow=16,SNR=121						
MK31				⇑Sn	Sg	08 46 20.1	+0.2
	15nm,0.2s,baz=181,slow=27,SNR=18						
MAKZ	**Makanchi**	**2.15**	**356**	⇑Pn	Pb	08 45 51.6	+0.3
	2.8nm,0.4s						
MAKZ				⇑Sn	Sg	08 46 20.2	-0.4
	3.6nm,0.3s						
PDGK	**Podgornoye**	**2.38**	**237**	Pg	Pb	08 45 54.5	-0.8
	2.7nm,0.2s						
PDGK				Lg	Lg	08 46 25.4	
	7.5nm,0.5s						
PDGK	**Podgornoye**	**2.38**	**237**	⇑Pg	Pb	08 45 55.1	-0.1
	2.8nm,0.4s						
PDGK				⇑Lg	Lg	08 46 25.9	
	11nm,0.5s						
SHLS	**Shalkode**	**2.50**	**234**	*e*P	Pn	08 45 53.6	+0.1
	13nm,0.6s						
SHLS				*e*S	Sn	08 46 23.1	-1.5
	23nm,0.4s						
UZB	**Uzymbulak**	**2.76**	**238**	*e*P	Pb	08 46 02.0	+0.2
	3.9nm,0.5s						
UZB				*e*S	Sb	08 46 37.5	+1.3
	4.2nm,0.5s						
MNBS	**Baschi**	**2.80**	**259**	Pg	Pb	08 46 01.7	-0.7
	4.1nm,0.1s						
MNBS				Lg	Lg	08 46 37.2	
	12nm,0.3s						
MNBS	**Baschi**	**2.80**	**259**	*e*P	Pb	08 46 01.7	-0.7
	4.1nm,0.1s						
MNBS				*e*S	Sb	08 46 37.2	0.0
	12nm,0.3s						
KPKS	**Kokpek**	**2.81**	**246**	*e*P	Pb	08 46 02.9	+0.2
	5.8nm,0.1s						
KPKS				*e*S	Sb	08 46 38.9	+1.2
	15nm,0.5s						
ARXS	**Arharly**	**3.18**	**263**	*e*P	Pb	08 46 08.7	-0.1
	5.9nm,1.1s						
ARXS				*e*S	Sb	08 46 48.8	+0.8
	5.6nm,0.4s						
SATY	**Saty**	**3.19**	**241**	*e*P	Pb	08 46 08.7	-0.4
	6.6nm,0.3s						
SATY				*e*S	Sb	08 46 49.0	+0.5
	12nm,0.2s						
TNSS	**Tian-Shan**	**4.14**	**249**	*e*P	Pb	08 46 27.5	+2.0
	0.8nm,0.3s						
TNSS				*e*S	Sg	08 47 21.3	-3.4
	5.3nm,0.8s						

GUC 14 09:00:52.8±0.6,**17°.09S**×**69°.84W,h176**km±4km,**ML4.0, 3C-7D,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**1.28**	**166**	⇑*e*P	Pn	09 01 23.1	0.0
PB16				*e*S	Sn	09 01 46.0	-0.5
PB12	**IPOC Station P**	**1.58**	**197**	⇑*i*P	Pn	09 01 24.8	-0.5
PB12				*i* S	Sn	09 01 49.3	-1.4
PB12				IAML		09 01 51.0	
	comp=E,1μm,0.5s						
MNMC	**Minye Minye**	**2.04**	**173**	⇓*i*P	Pn	09 01 30.4	+0.1
MNMC				*i* S	Sn	09 01 59.0	-0.7
MNMC				IAML		09 02 05.5	
	comp=E,747nm,0.2s						
PSGC	**Pisagua**	**2.51**	**186**	⇑*i*P	Pn	09 01 34.7	-0.8
PSGC				*i* S	Sn	09 02 06.8	-1.9
PSGC				IAML		09 02 09.0	
	comp=E,158nm,0.3s						
GO01	**Chusmiza**	**2.64**	**167**	⇓*i*P	Pn	09 01 37.7	+0.3
GO01				*i* S	Sn	09 02 12.1	0.0
GO01				IAML		09 02 19.6	
	comp=E,306nm,0.1s						
PB11	**IPOC Station P**	**2.66**	**176**	⇓*i*P	Pn	09 01 37.1	-0.3
PB11				*i* S	Sn	09 02 11.2	-0.9
PB11				IAML		09 02 12.2	
	comp=N,356nm,0.3s						
PB08	**IPOC Station P**	**3.10**	**168**	⇓*i*P	Pn	09 01 43.1	+0.2
PB08				*i* S	Sn	09 02 21.8	-0.2
PB08				IAML		09 02 24.6	
	comp=E,224nm,0.1s						
PB01	**IPOC Station P**	**3.95**	**175**	⇓*i*P	Pn	09 01 52.5	-0.7
PB01				*i* S	Sn	09 02 37.4	-3.1
PB02	**IPOC Station P**	**4.21**	**181**	⇓*i*P	Pn	09 01 56.1	-0.4
PB02				*i* S	Sn	09 02 43.5	-3.0
PB02				IAML		09 02 48.9	
	comp=N,340nm,0.3s						
PB07	**IPOC Station P**	**4.61**	**181**	⇓*i*P	Pn	09 02 01.5	-0.4

NSSP ***14*** *09:12:45.3,38°.47N×45°.45E,h10km,Ms3.5*
TEH ***14*** *09:12:46.4,38°.40N×45°.35E,h5km,ML3.2*
DDA ***14*** *09:12:46.1,38°.43N×45°.46E,h7km±4km,ML2.8*
AZER ***14*** *09:12:48.0±1.3,38°.44N×45°.32E,h6km,ml3.3/13,Error ellipse: s-maj=10.2km s-min=5.5km az=41.0*
ISK ***14*** *09:12:47.2,38°.30N×45°.39E,h17km,ML3.1/4*

ISC 14 09:12:46.9±1.0,**38°.48N**±0°.02×**45°.44E**±0°.02,**h8**km±9km, **n41,** σ1§**11**/64,**1C-3D,Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.24**	**145**	*e*Pg	Pg	09 12 51.7	-0.1
ISHB				*e*Sg	Sg	09 12 55.0	-0.1
ISHB				IAMB	IAmb	09 12 56.2	
	comp=Z,0.0nm,0.3s						
IMRD	**Marand**	**0.31**	**41**	*e*Pg	Pb	09 12 55.0	+0.1
IMRD				IAMB	IAmb	09 13 01.9	
	comp=Z,0.0nm,0.2s						
ITBZ	**Tabriz**	**0.61**	**114**	*e*Pg	Pg	09 12 59.0	+0.3
ITBZ				IAMB	IAmb	09 12 59.5	
	comp=Z,0.0nm,0.2s						
ORD	**Ordubad**	**0.62**	**44**	P	Pb	09 13 01.0	+0.8
	SNR=586						
ORD				S	Sn	09 13 11.1	-1.3
NAX	**Nakhchivan**	**0.69**	**3**	P	Pn	09 13 02.2	-1.0
	SNR=102						
NAX				S	Sn	09 13 13.6	-0.6
IAZR	**Azarshahr**	**0.91**	**152**	IAMB	IAmb	09 13 18.2	
	comp=Z,0.0nm,0.4s						
IAZR				*e*Pg	Pg	09 13 03.2	-1.2
MAKU	**Maku**	**1.05**	**326**	*e*Pg	Pg	09 13 06.7	-0.5
GRS	**Goris**	**1.23**	**34**	⇓*i*P	Pn	09 13 10.0	-0.6
GRS				⇓*i*S	Sb	09 13 27.0	+0.3
IHRS	**Heris**	**1.27**	**97**	*e*Pg	Pg	09 13 11.6	+0.3
IHRS				IAMB	IAmb	09 13 12.7	
	comp=Z,0.0nm,0.2s						
YOVA	**Hakkari_Yksek**	**1.27**	**226**	IAML_P			
	comp=Z,2μm,0.3s						
YOVA				*i* P	Pg	09 13 10.8	-0.6
YOVA				*i* S	Sn	09 13 31.1	+2.5
HYR	**Heyderabad**	**1.32**	**340**	P	Pg	09 13 12.3	+0.1
	SNR=18						
HYR				S	Sg	09 13 32.5	+3.1
CLDR	**Caldiran**	**1.36**	**299**	PN	Pg	09 13 13.0	-0.1
CLDR				SN	Sg	09 13 31.8	+1.0
CLDR	**Caldiran**	**1.36**	**299**	IAML_P			
	comp=Z,3μm,0.4s						
CLDR				*i* P	Pg	09 13 13.3	+0.2
CLDR				*i* S	Sg	09 13 33.4	+2.6
VMUR	**Van-Muradiye**	**1.55**	**290**	IAML_P			
	comp=Z,372nm,0.3s						
VMUR				*i* P	Pg	09 13 16.7	+0.1
VMUR				*i* S	Sg	09 13 37.9	+1.2
TVAN	**Van**	**1.60**	**272**	IAML_P			
	comp=Z,611nm,0.3s						
TVAN				*i* P	Pg	09 13 17.2	-0.4
HAKT	**HAKKARI**	**1.65**	**237**	IAML_P			
	comp=Z,493nm,0.4s						
HAKT				*i* P	Pb	09 13 17.2	-0.6
HAKT				*i* S	Sg	09 13 39.8	-0.3
MAHB	**Mahabad**	**1.73**	**173**	*e*Pn	Pn	09 13 17.1	-0.3
MAHB				IAMB	IAmb	09 13 45.6	
	comp=Z,0.0nm,0.4s						
DYDN	**Diyadin**	**1.73**	**308**	IAML_P			
	comp=Z,157nm,0.2s						
DYDN				*i* P	Pg	09 13 20.7	+0.5
DYDN				*i* S	Sg	09 13 41.5	-1.0
IGDI	**IGDIR**	**1.74**	**323**	IAML_P			
	comp=Z,541nm,0.3s						
IGDI				*i* P	Pb	09 13 19.2	0.0
IGDI				*i* S	Sn	09 13 39.9	-0.2
GNI	**Garni**	**1.75**	**342**	PN	Pg	09 13 19.9	-0.7
GNI				SN	Sg	09 13 44.1	+0.8
GNI	**Garni**	**1.75**	**342**	⇓*i*P	Pg	09 13 20.0	-0.5
GNI				⇑*i*S	Sg	09 13 44.7	+1.4
TASB	**TASBURUN-IGDIR**	**1.77**	**328**	PN	Pb	09 13 19.6	-0.1
TASB				SN	Sg	09 13 43.4	-0.4
ISRB	**Sarab**	**1.87**	**110**	*e*Pn	Pb	09 13 21.8	+0.3
ISRB				IAMB	IAmb	09 13 23.1	
	comp=Z,0.0nm,0.4s						
GEVA	**Gevas**	**1.88**	**266**	IAML_P			
	comp=Z,540nm,0.3s						
GEVA				*i* P	Pb	09 13 20.6	-1.0
GEVA				*i* S	Sg	09 13 49.2	+1.9
**CUK

AHML	**Horco Molle**	**1.60**	**49**	*eP*	**Pn**	**09 19 07.3**	**+1.3**
AHML				IAML		09 19 07.4	
	comp=Z,861nm,0.3s						
AHML				*i* S	**Sn**	**09 19 31.0**	**+0.1**
AHML	**Horco Molle**	**1.60**	**49**	⇓*i* P	**Pn**	**09 19 07.3**	**+1.3**
AHML				*i* S	**Sn**	**09 19 30.3**	**-0.5**
AHML				IAML		09 19 32.3	
	comp=E,379nm,0.4s						
ACLC	**CERRO LA CRUZ**	**1.60**	**188**	*eP*	**Pn**	**09 19 07.8**	**+1.7**
VCA	**Vinchina**	**1.61**	**236**	*eP*	**Pn**	**09 19 08.6**	**+2.4**
VCA				*eS*	**Sn**	**09 19 34.3**	**+3.0**
VCA	**Vinchina**	**1.61**	**236**	⇑*i* P	**Pn**	**09 19 08.5**	**+2.3**
VCA				*eS*	**Sn**	**09 19 33.1**	**+1.8**
VCA				IAML		09 19 37.8	
	comp=N,3μm,0.4s						
FSA	**Cafayete**	**1.83**	**21**	*eP*	**Pn**	**09 19 10.8**	**+2.2**
FSA				IAML		09 19 11.0	
	comp=Z,351nm,0.3s						
FSA				*i* S	**Sn**	**09 19 37.0**	**+1.6**
APLL	**PUNTA DE LOS L**	**2.56**	**177**	*eP*	**Pn**	**09 19 17.7**	**+1.1**
APLL				IAML		09 19 18.1	
	comp=Z,2μm,0.2s						
APLL				*eS*	**Sn**	**09 19 49.3**	**-0.8**
GO03	**Copiap**	**3.15**	**274**	*eP*n	**Pn**	**09 19 25.4**	**+1.6**
GO03				*eS*n	**Sn**	**09 20 03.5**	**+0.7**
GO03	**Copiap**	**3.15**	**274**	*eS*	**Sn**	**09 20 04.8**	**+1.9**
GO03	**Copiap**	**3.15**	**274**	⇑*i* P	**Pn**	**09 19 25.5**	**+1.6**
GO03				*i* S	**Sn**	**09 20 03.3**	**+0.5**
GO03				IAML		09 20 05.2	
	comp=E,2μm,0.2s						
SLA	**San Lorenzo**	**3.28**	**19**	*eS*	**Sn**	**09 20 07.4**	**+1.4**
SLA	**San Lorenzo**	**3.28**	**19**	*eP*	**Pn**	**09 19 28.1**	**+2.5**
SLA				*i* S	**Sn**	**09 20 08.1**	**+2.1**
SLA				IAML		09 20 13.5	
	comp=E,47nm,0.5s						
AMOG	**MOGNA**	**3.47**	**206**	*eP*	**Pn**	**09 19 28.7**	**+0.9**
GO02	**Mina Guanaco**	**3.72**	**315**	*eP*n	**Pn**	**09 19 34.2**	**+2.9**
GO02				*eS*n	**Sn**	**09 20 16.2**	**+0.2**
LCO	**Las Campanas**	**3.72**	**251**	*eP*n	**Pn**	**09 19 32.3**	**+1.1**
LCO				*eS*n	**Sn**	**09 20 15.6**	**-0.4**
LCO	**Las Campanas**	**3.72**	**251**	*i* P	**Pn**	**09 19 32.4**	**+1.1**
LCO				*i* S	**Sn**	**09 20 16.8**	**+0.8**
LCO	**Las Campanas**	**3.72**	**251**	*eP*	**Pn**	**09 19 32.5**	**+1.3**
RTLL	**Cerro Villicun**	**3.81**	**204**	*eP*	**Pn**	**09 19 31.6**	**-0.6**
RTLL				*eS*	**Sn**	**09 20 17.1**	**-0.9**
RTLL				IAML		09 20 19.4	
	comp=Z,440nm,0.3s						
AZAP	**Zapla**	**3.88**	**23**	*i* P	**Pn**	**09 19 35.0**	**+1.7**
AZAP				IAML		09 19 35.9	
	comp=Z,43nm,0.3s						
TCA	**Tanti**	**3.94**	**153**	*eP*	**Pn**	**09 19 34.0**	**+0.2**
TCA				*eS*	**Sn**	**09 20 18.7**	**-2.2**
TCA				IAML		09 20 19.4	
	comp=Z,211nm,0.4s						
CFA	**Coronel Fontan**	**3.99**	**199**	*eP*	**Pn**	**09 19 35.0**	**+0.6**
CFA				*eS*	**Sn**	**09 20 20.8**	**-1.1**
CFA	**Coronel Fontan**	**3.99**	**199**	P	**Pn**	**09 19 35.0**	**+0.6**
	comp=Z,195nm,0.3s,baz=21,slow=13,SNR=286						
CFA				S	**Sn**	**09 20 20.5**	**-1.4**
	comp=Z,167nm,0.3s,baz=154,slow=18,SNR=18						
SJA	**San Juan**	**4.02**	**203**	*eS*	**Sn**	**09 20 21.9**	**-0.9**
ZON	**Zonda**	**4.08**	**205**	*i* P	**Pn**	**09 19 36.4**	**+0.7**
ZON				IAML		09 19 37.2	
	comp=Z,275nm,0.2s						
ZON				*eS*	**Sn**	**09 20 22.3**	**-1.8**
GO04	**Tololo Observa**	**4.29**	**236**	*eP*n	**Pn**	**09 19 39.4**	**+0.9**
GO04				*eS*n	**Sn**	**09 20 30.3**	**+1.3**
GO04	**Tololo Observa**	**4.29**	**236**	⇑*i* P	**Pn**	**09 19 39.1**	**+0.7**
GO04				*i* S	**Sn**	**09 20 29.8**	**+0.8**
ACAN	**Cantantal**	**4.45**	**185**	*eP*	**Pn**	**09 19 40.8**	**+0.5**
LSCH	**La Serena**	**4.50**	**242**	*eP*	**Pn**	**09 19 40.6**	**-0.3**
LSCH				*i* S	**Sn**	**09 20 32.3**	**-1.2**
RTLS	**Leoncito**	**4.55**	**209**	*eP*	**Pn**	**09 19 43.0**	**+1.1**
RTLS				IAML		09 20 37.1	
	comp=Z,158nm,0.5s						
MRA	**San Martin**	**4.65**	**170**	*eP*	**Pn**	**09 19 42.9**	**-0.1**
MRA				*i* S	**Sn**	**09 20 34.3**	**-3.0**
MRA				IAML		09 20 50.9	
	comp=Z,92nm,0.5s						
HJA	**Humahuaca**	**4.75**	**14**	*i* P	**Pn**	**09 19 47.1**	**+2.4**
HJA				IAML		09 19 48.6	
	comp=Z,21nm,0.4s						
ASAL	**Salagasta**	**5.09**	**201**	*eP*	**Pn**	**09 19 49.0**	**+0.3**
ARCO	**CERRO ARCO**	**5.35**	**201**	*eP*	**Pn**	**09 19 52.8**	**+0.5**
ARCO				IAML		09 20 56.4	
	comp=Z,123nm,0.4s						
PB10	**IPOC Station P**	**5.54**	**320**	*eP*n	**Pn**	**09 19 56.0**	**+1.4**
PB10				*eS*n	**Sn**	**09 20 55.5**	**-2.4**
LVC	**Limon Verde**	**5.58**	**338**	*eP*n	**Pn**	**09 19 57.5**	**+2.0**
LVC				*eS*n	**Sn**	**09 20 58.2**	**-1.2**
LVC	**Limon Verde**	**5.58**	**338**	P	**Pn**	**09 19 56.9**	**+1.5**
	comp=Z,5.1nm,0.3s,baz=147,slow=12,SNR=64						
LVC				S	**Sn**	**09 20 58.6**	**-0.9**
	comp=Z,14nm,0.3s,baz=358,slow=22,SNR=21						
LVC	**Limon Verde**	**5.58**	**338**	*eP*	**Pn**	**09 19 57.7**	**+2.3**
PB04	**IPOC Station P**	**6.31**	**329**	*eP*n	**Pn**	**09 20 05.5**	**+0.5**
PB04				*eS*n	**Sn**	**09 21 13.3**	**-3.3**
PEL	**Peldehue**	**6.31**	**212**	*eP*n	**Pn**	**09 20 03.7**	**-1.1**
PEL				*eS*n	**Sn**	**09 21 13.8**	**-2.6**
ROC1	**El Roble**	**6.34**	**215**	*eP*n	**Pn**	**09 20 03.9**	**-1.4**
ROC1				*eS*n	**Sn**	**09 21 14.4**	**-2.9**
PB01	**IPOC Station P**	**7.22**	**339**	*eP*n	**Pn**	**09 20 16.9**	**-0.1**
PB01				*eS*n	**Sn**	**09 21 35.4**	**-2.8**
GO05	**Huala**	**8.44**	**211**	*eP*n	**Pn**	**09 20 29.4**	**-3.4**
GO05				*eS*n	**Sn**	**09 22 01.7**	**-5.3**
GO01	**Chusmiza**	**8.44**	**344**	*eP*n	**Pn**	**09 20 33.0**	**-0.5**
GO01				*eS*n	**Sn**	**09 22 03.6**	**-4.5**
CPUP	**Villa Florida**	**8.48**	**82**	P	**Pn**	**09 20 32.4**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=257,slow=12,SNR=6.7						
PB11	**IPOC Station P**	**8.48**	**341**	*eP*n	**Pn**	**09 20 32.1**	**-1.6**
PB11				*eS*n	**Sn**	**09 22 04.7**	**-3.7**
MNMC	**Minye Minye**	**9.06**	**342**	*eP*n	**Pn**	**09 20 40.2**	**-1.3**
MNMC				*eS*n	**Sn**	**09 22 18.9**	**-3.7**
TRQA	**Tornquist**	**10.93**	**160**	*eP*n	**Pn**	**09 21 03.2**	**-2.3**
TRQA	**Tornquist**	**10.93**	**160**	*eP*	**Pn**	**09 21 06.7**	**+1.2**
LPAZ	**La Paz**	**11.57**	**353**	*eP*n	**Pn**	**09 21 14.3**	**-0.1**
LPAZ	**La Paz**	**11.57**	**353**	P	**Pn**	**09 21 14.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=168,slow=7.5,SNR=4.7						
LPAZ	**La Paz**	**11.57**	**353**	*eP*	**Pn**	**09 21 15.1**	**+0.6**
GO06	**Curarrehue**	**12.37**	**197**	*eP*n	**Pn**	**09 21 22.8**	**-1.4**
SIV	**San Ignacio**	**12.88**	**25**	P	**Pn**	**09 21 30.5**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=211,slow=10,SNR=46						
PLCA	**Paso Flores**	**13.25**	**193**	*eP*n	**Pn**	**09 21 34.0**	**-1.4**
PLCA	**Paso Flores**	**13.25**	**193**	P	**Pn**	**09 21 34.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=15,slow=12,SNR=2.6						
PLCA	**Paso Flores**	**13.25**	**193**	*eP*	**Pn**	**09 21 35.5**	**+0.1**
PTGB	**Pitanga**	**13.49**	**80**	*eP*	**P**	**09 21 42.6**	**+0.8**
TRCB	**Terra Rica**	**13.67**	**72**	*eP*	**P**	**09 21 44.0**	**+0.2**
TER01	**Tubaro-SC**	**15.51**	**97**	*eP*	**P**	**09 22 06.0**	**+1.8**
FRTB	**Fartura**	**16.09**	**78**	*eP*	**P**	**09 22 11.8**	**+1.2**
ITRB	**Iturama**	**16.99**	**65**	*eP*	**P**	**09 22 21.4**	**+0.9**
PET01	**Itanhaem-SP**	**17.80**	**83**	*eP*	**P**	**09 22 29.9**	**+0.6**
BB19B	**Bebedouro**	**17.85**	**72**	*eP*	**P**	**09 22 30.4**	**+0.5**
SPB	**Sao Paulo**	**17.86**	**81**	*eP*	**Pn**	**09 22 31.6**	**-0.2**
RCLB	**Rio Claro- Sao**	**18.16**	**77**	*eP*	**P**	**09 22 33.6**	**+0.2**
NNA	**Nana**	**18.41**	**327**	*eP*	**P**	**09 22 36.2**	**0.0**
	comp=Z,28nm,1.3s						
CLDB	**Colider**	**19.73**	**33**	*eP*	**P**	**09 22 50.4**	**0.0**
ESAR	**Angra dos Reis**	**20.65**	**82**	*eP*	**P**	**09 23 00.0**	**-0.1**
PMNB	**Patos De Minas**	**20.77**	**68**	*eP*	**P**	**09 23 01.1**	**-0.5**
BSCB	**Bom Sucesso**	**21.07**	**76**	*eP*	**P**	**09 23 05.9**	**+1.2**
BDFB	**Brasilia**	**21.14**	**59**	*eP*	**P**	**09 23 04.6**	**-0.9**
	comp=Z,12nm,1.1s						
BDFB	**Brasilia**	**21.14**	**59**	P	**P**	**09 23 04.4**	**-1.1**
	comp=Z,4.0nm,0.4s,baz=238,slow=8.5,SNR=8.5						
VAS01	**Vassouras-RJ**	**21.76**	**80**	*eP*	**P**	**09 23 12.6**	**+0.6**
DUB01	**Friburgo-RJ**	**22.76**	**81**	*eP*	**P**	**09 23 22.2**	**+0.6**
CAM01	**Campos-RJ**	**23.47**	**81**	*eP*	**P**	**09 23 28.1**	**+0.2**
MCI6	**Montes Claros**	**23.73**	**67**	*eP*	**P**	**09 23 29.3**	**-1.2**
MCI8	**Montes Claros**	**23.79**	**67**	*eP*	**P**	**09 23 30.1**	**-0.8**
MCI9	**Montes Claros**	**23.79**	**67**	*eP*	**P**	**09 23 29.7**	**-1.3**
SJMB	**Sao Joao De Ma**	**25.09**	**74**	*eP*	**P**	**09 23 40.9**	**-1.8**
BSFB	**Barra de Sao F**	**25.33**	**75**	*eP*	**P**	**09 23 44.7**	**-0.1**
PTGA	**Pitinga**	**27.71**	**15**	*eP*	**P**	**09 24 06.7**	**+0.5**
	comp=Z,9.3nm,0.8s						
PTGA	**Pitinga**	**27.71**	**15**	P	**P**	**09 24 06.0**	**-0.1**
	comp=Z,6.2nm,0.3s,baz=310,slow=22,SNR=19						
PTGA	**Pitinga**	**27.71**	**15**	*eP*	**P**	**09 24 06.3**	**+0.2**
SDV	**Santo Domingo**	**36.70**	**353**	*eP*	**P**	**09 25 23.9**	**-0.7**
VNA3	**Neumayer Olymp**	**53.46**	**160**	P	**P**	**09 27 36.9**	**+1.1**
SNAA	**Sanae**	**55.66**	**160**	P	**P**	**09 27 52.4**	**+0.7**
SNAA	**Sanae**	**55.66**	**160**	P	**P**	**09 27 52.7**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=272,slow=8.9,SNR=21						
QSPA	**South Pole Qui**	**62.39**	**180**	*eP*	**P**	**09 28 40.1**	**+2.0**
	comp=Z,5.0nm,0.6s						
TXAR	**Lajitas Array**	**66.96**	**325**	P	**P**	**09 29 09.9**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=144,slow=6.7,SNR=3.3						
DBIC	**Dimbokro**	**68.80**	**70**	P	**P**	**09 29 19.3**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=202,slow=5.1,SNR=4.2						
VNDA	**Vanda**	**70.99**	**190**	P	**P**	**09 29 33.1**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=144,slow=4.5,SNR=6.2						
TORD	**Torodi Ar. Bea**	**77.72**	**68**	P	**P**	**09 30 11.3**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=276,slow=6.4,SNR=11						
PDAR	**Pinedale Array**	**80.57**	**329**	P	**P**	**09 30 28.7**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=120,slow=5.3,SNR=2.8						
MODS	**Modra-Piesok**	**106.51**	**44**	*e*PDIF	**Pdif**	**09 32 31.8**	**+3.8**
ASAR	**Alice Springs**	**125.08**	**203**	PKP	**PKiKP**	**09 37 14.9**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=142,slow=1.6,SNR=11						
WRA	**Warramunga Arr**	**128.33**	**205**	PKP	**PKiKP**	**09 37 21.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=152,slow=2.0,SNR=26						
KURBB	**Kurchatov Arra**	**145.22**	**40**	PKPbc	**PKPab**	**09 37 51.6**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=299,slow=3.6,SNR=8.9						
AAK	**Ala-Archa**	**145.35**	**54**	PKPbc	**PKPab**	**09 37 53.3**	**+1.3**
	comp=Z,1.0nm,0.4s,baz=178,slow=1.9,SNR=5.1						
ZALV	**Zalesovo Beam**	**146.59**	**31**	PKPbc	**PKPbc**	**09 37 54.7**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=302,slow=3.5,SNR=3.2						
MKAR	**Makanchi Array**	**149.20**	**44**	PKPbc	**PKiKP**	**09 38 03.2**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=309,slow=3.3,SNR=6.4						

*IDC **14** 09:18:22.7±1.3, 6°.89S×129°.24E, h0km, mb3.9/3, mb1 4.1/6, mb1mx3.7/43, mbtmp4.0/6, ML4.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/39, Error ellipse: s-maj=80.7km s-min=20.5km az=70.0*
*ISCJB **14** 09:18:35.0±0.4, 7°.51S±0°.04×129°.35E±0°.05, h134km, mb3.9/13, Error ellipse: s-maj=6.8km s-min=4.6km az=152.7*
*NEIC **14** 09:18:36.8±0.9, 7°.43S×129°.38E, h134km±11km, mb4.0/13, Error ellipse: s-maj=13.0km s-min=9.5km az=75.0*
ISC 14 09:18:36.3±0.6, 7°.52S±0°.05×129°.41E±0°.06, h134km, n32, σ3°25/45, mb3.9/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.93**	**104**	*e*Pn	**Pn**	**09 19 09.4**	**-0.3**
SAUI				*e*Sn	**Sn**	**09 19 37.5**	**+2.3**
FAKI	**Fak Fak**	**5.37**	**32**	*e*Pn	**Pn**	**09 19 53.9**	**-0.7**
FAKI				*e*Sn	**Sn**	**09 20 50.0**	**-5.5**
SOEI	**Soe**	**5.55**	**246**	*e*Pn	**Pn**	**09 19 58.4**	**+1.3**
SOEI				*e*Sn	**Sn**	**09 20 57.8**	**-2.1**
MTN	**Manton Dam**	**5.56**	**162**	*e*Pn	**Pn**	**09 20 01.0**	**+4.0**
MTN				*e*Sn	**Sn**	**09 21 02.2**	**+2.3**
FITZ	**Fitzroy Crossi**	**11.14**	**199**	*e*Pn	**Pn**	**09 21 12.4**	**+0.6**
FITZ				*e*Sn	**Sn**	**09 23 10.3**	**-4.4**
FITZ	**Fitzroy Crossi**	**11.14**	**199**	Pn	**Pn**	**09 21 11.1**	**-0.8**
	0.8nm,0.3s,baz=23,slow=13,SNR=20						
FITZ				Sn	**Sn**	**09 23 09.2**	**-5.5**
	1.0nm,0.3s,baz=170,slow=23,SNR=7.3						
WRAB	**Tennant Creek**	**13.24**	**159**	*e*Pn	**Pn**	**09 21 40.9**	**+1.6**
WRAB				*e*Sn	**Sn**	**09 24 01.0**	**-4.5**
WR1	**Warramunga Arr**	**13.24**	**159**	*e*Pn	**Pn**	**09 21 39.8**	**+0.4**
WR1				*e*Sn	**Sn**	**09 24 02.0**	**-3.6**
WRA	**Warramunga Arr**	**13.24**	**159**	Pn	**Pn**	**09 21 39.8**	**+0.4**
	1.1nm,0.3s,baz=333,slow=14,SNR=45						
WRA				Sn	**Sn**	**09 24 02.0**	**-3.6**
	2.5nm,0.3s,baz=329,slow=22,SNR=11						
WB2	**Warramunga Arr**	**13.25**	**159**	*e*Pn	**Pn**	**09 21 39.6**	**+0.3**
WB2				*e*Sn	**Sn**	**09 24 00.4**	**-5.3**
COEN	**Coen**	**14.96**	**116**	*e*Pn	**P**	**09 22 03.7**	**+0.4**
	18nm,1.4s						
COEN				*e*Sn	**Sn**	**09 24 40.9**	**-6.0**
JAGI	**Jajag, Banyuwa**	**15.14**	**265**	*e*Pn	**Pn**	**09 22 04.1**	**+0.8**
	56nm,1.3s						
AS31	**Alice Springs**	**16.62**	**165**	*e*P	**Pn**	**09 22 23.3**	**+1.7**
	1.4nm,0.6s						
AS31				*e*S	**Sn**	**09 25 19.6**	**-7.4**
ASAR	**Alice Springs**	**16.63**	**165**	*e*P	**Pn**	**09 22 25.9**	**+4.3**
ASAR				*e*S	**Sn**	**09 25 28.6**	**+1.6**
ASAR	**Alice Springs**	**16.63**	**165**	P	**Pn**	**09 22 25.4**	**+3.8**
	0.8nm,0.3s,baz=343,slow=10,SNR=68						
ASAR				S	**Sn**	**09 25 19.9**	**-7.1**
	0.2nm,0.3s,baz=333,slow=19,SNR=4.4						
FORT	**Forrest**	**23.18**	**183**	*e*P	**P**	**09 23 32.8**	**+1.6**
	11nm,0.8s						
BBOO	**Buckleboo**	**25.91**	**167**	*e*P	**P**	**09 23 54.1**	**-1.9**
	25nm,1.4s						
STKA	**Stephens Creek**	**26.77**	**157**	P	**P**	**09 24 10.4**	**+6.7**
	1.3nm,0.4s,baz=335,slow=8.8,SNR=6.4						
NWAO	**Narrogin (SRO)**	**27.69**	**202**	LR	LR	09 35 50.0	
	comp=Z,56nm,18.7s,baz=5.5,slow=37						
NACB	**Ninganchiao**	**32.41**	**347**	*e*P	**P**	**09 24 52.7**	**-0.9**
	16nm,0.8s						
MJAR	**Matsushiro Arr**	**44.60**	**10**	*e*P	**P**	**09 26 37.8**	**+2.6**
URZ	**Urewera**	**52.74**	**133**	*e*P	**P**	**09 27 39.0**	**+1.6**
	10nm,1.3s						
MK31	**Makanchi Array**	**68.34**	**327**	*e*P	**P**	**09 29 23.1**	**-0.1**
	0.6nm,0.9s						
MK32	**Makanchi Array**	**68.34**	**327**	*e*P	**P**	**09 29 22.4**	**-0.8**
MKAR	**Makanchi Array**	**68.34**	**327**	*e*P	**P**	**09 29 22.7**	**-0.5**
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**09 29 22.4**	**-0.8**
	0.6nm,0.4s,baz=118,slow=7.7,SNR=13						
KURBB	**Kurchatov Arra**	**72.65**	**329**	P	**P**	**09 29 48.0**	**-1.2**
	0.2nm,0.3s,baz=134,slow=5.2,SNR=4.0						
KURK	**Kurchatov**	**72.66**	**329**	*e*P	**P**	**09 29 49.2**	**0.0**
	4.1nm,1.4s						
KK31	**Karatay Array**	**73.34**	**319**	*e*P	**P**	**09 29 52.0**	**-1.6**
	1.9nm,1.4s						
KKAR	**Karatay Array**	**73.34**	**319**	*e*P	**P**	**09 29 52.0**	**-1.5**
	1.9nm,1.4s						
QSPA	**South Pole Qui**	**82.46**	**180**	*e*P	**P**	**09 30 44.8**	**+1.1**
	3.4nm,1.4s						
ABKAR	**Akbulak array**	**82.55**	**322**	*e*P	**P**	**09 30 46.0**	**+1.8**
	0.3nm,0.8s						

*DDA **14** 09:35:55.6, 39°.27N×26°.19E, h7km±2km, ML2.5*
*ISCJB **14** 09:35:56.8±0.4, 39°.27N±0°.02×26°.18E±0°.03, h8km±3km, Error ellipse: s-maj=4.0km s-min=3.5km az=145.2*
*THE **14** 09:35:56.9, 39°.27N×26°.17E, h7km±1km, ML2.1/3, Error ellipse: s-maj=1.8km s-min=0.7km az=122.0*
*ISK **14** 09:35:56.3, 39°.27N×26°.20E, h6km, ML2.1/14*
ISC 14 09:35:56.6±0.8, 39°.27N±0°.02×26°.19E±0°.02, h14km±5km, n30, σ0°75/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.07**	**112**	P	**Pg**	**09 35 59.5**	**+0.1**
PRK				S	**Sg**	**09 36 00.5**	**-0.8**
GPNR	**Gulpinar-Canak**	**0.19**	**347**	PG	**Pg**	**09 36 00.9**	**-0.1**
GPNR				SG	**Sg**	**09 36 04.3**	**+0.4**
SIGR	**SIGRI**	**0.27**	**257**	PG	**Pg**	**09 36 02.2**	**0.0**
SIGR				SG	**Sg**	**09 36 06.3**	**+0.2**
SIGR	**SIGRI**	**0.27**	**257**	P	**Pg**	**09 36 01.6**	**-0.6**
SIGR				S	**Sg**	**09 36 06.1**	**0.0**
AYVA	**Ayvalik**	**0.39**	**85**	IAML_P			
	comp=Z,2μm,0.1s						
AYVA				*i* P	**Pg**	**09 36 04.3**	**-0.1**
AYVA				*i* S	**Sb**	**09 36 10.8**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.55**	**31**	IAML_P			
	comp=Z,482nm,0.1s						
BAYC				*i* P	**Pg**	**09 36 07.1**	**-0.2**
BAYC				*i* S	**Sb**	**09 36 15.4**	**-0.2**
EZN	**Ezine**	**0.56**	**11**	PG	**Pg**	**09 36 07.4**	**-0.3**
EZN				SG	**Sg**	**09 36 15.6**	**+0.4**
EZN	**Ezine**	**0.56**	**11**	P	**Pg**	**09 36 07.7**	**0.0**
EZN				S	**Sb**	**09 36 15.8**	**-0.3**
BOZC	**Bozcaada**	**0.58**	**350**	PG	**Pg**	**09 36 07.9**	**-0.1**
BOZC	**Bozcaada**	**0.58**	**350**	*i* P	**Pg**	**09 36 05.7**	**-2.3**
ZEDA	**zmir-Bergama**	**0.76**	**114**	IAML_P			
	comp=Z,1μm,0.1s						
ZEDA				*i* P	**Pb**	**09 36 11.5**	**0.0**
ZEDA				*i* S	**Sb**	**09 36 22.8**	**+1.2**
CHOS	**Chios island**	**0.89**	**187**	PG	**Pb**	**09 36 13.9**	**+0.1**
CHOS	**Chios island**	**0.89**	**187**	P	**Pg**	**09 36 13.6**	**-0.2**
CHOS				S	**Sb**	**09 36 26.2**	**+0.6**
URLA	**Izmir**	**0.96**	**161**	PG	**Pb**	**09 36 15.2**	**+0.1**
URLA	**Izmir**	**0.96**	**161**	IAML_P			
	comp=Z,580nm,0.2s						
URLA				*i* P	**Pg**	**09 36 15.0**	**-0.3**
URLA				*i* S	**Sb**	**09 36 28.5**	**+0.8**
LIA	**Limnos Island**	**1.00**	**309**	P	**Pb**	**09 36 16.1**	**+0.5**
LIA				S	**Sb**	**09 36 29.6**	**+1.0**
GELI	**Tayfur-Gelibol**	**1.15**	**11**	PN	**Pg**	**09 36 18.3**	**-0.4**
LPK	**Lapseki**	**1.18**	**22**	PN	**Pb**	**09 36 19.1**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.19**	**84**	IAML_P			
	comp=Z,1μm,0.2s						
STEP				*i* P	**Pg**	**09 36 18.8**	**-0.8**
STEP				*i* S	**Sb**	**09 36 35.3**	**+1.1**
BALY	**Balya**	**1.20**	**67**	IAML_P			
	comp=Z,629nm,0.3s						
BALY				*i* P	**Pg**	**09 36 19.1**	**-0.7**
BALY				*i* S	**Sn**	**09 36 36.6**	**+1.5**
SMTH	**Samothraki Isl**	**1.30**	**337**	P	**Pb**	**09 36 21.0**	**+0.2**
SMTH				S	**Sn**	**09 36 38.4**	**+0.9**
AKHS	**Akhisar**	**1.32**	**107**	IAML_P			
	comp=Z,260nm,0.3s						
AKHS				*i* P	**Pg**	**09 36 21.9**	**-0.2**
AKHS				*i* S	**Sb**	**09 36 38.6**	**+0.5**
BALB	**Balikesir**	**1.36**	**74**	PN	**Pg**	**09 36 22.5**	**-0.2**
KRBG	**Karabiga-Canak**	**1.41**	**37**	PN	**Pn**	**09 36 22.2**	**+0.4**
ERIK	**Erikli-Kesan**	**1.42**	**10**	PN	**Pb**	**09 36 23.1**	**+0.3**
ENEZ	**Enez**	**1.46**	**359**	PN	**Pg**	**09 36 24.4**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.60**	**28**	PN	**Pn**	**09 36 25.6**	**+1.1**
ALN	**Alexandroupoli**	**1.63**	**356**	PN	**Pb**	**09 36 26.1**	**-0.2**
DURS	**Dursunbey**	**1.80**	**79**	*i* P	**Pn**	**09 36 27.6**	**+0.4**
DURS				*i* S	**Sn**	**09 36 50.2**	**+0.3**
KIBA	**Kibaya**	**45.38**	**165**	*i* P	**P**	**09 44 12.5**	**-2.3**

*NNC **14** 09:47:32.6±2.4, 53°.49N×87°.85E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=19.9km s-min=9.6km az=66.0, Suspected Mining explosion.*
KRAR 14 09:47:28.6±0.1, 53°.61N×87°.72E, M2.6, 6C-4D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.75**	**282**	⇑Pn	Pg	09 48 05.4	+3.2
	2.1nm,0.5s						
ZAA0				⇓Sn	Sg	09 48 31.2	+6.2
	17nm,0.8s						
KURBB	**Kurchatov Arra**	**6.40**	**246**	⇓Pn	Pn	09 49 09.7	+5.7
	8.6nm,0.7s						
KURBB				⇑Sn	Sn	09 50 21.3	+3.6
	16nm,0.7s						
KURBB				⇑Lg	Lg	09 50 56.2	
	22nm,0.8s						
MK31	**Makanchi Array**	**7.66**	**209**	⇓Pn	Pn	09 49 24.3	+2.9
	1.6nm,0.7s,baz=327,slow=27,SNR=6.3						
MK31				⇑Sn	Sn	09 50 53.8	+5.0
	0.9nm,0.6s,baz=248,slow=27,SNR=2.8						
MK31				⇑Lg	Lg	09 51 37.0	
	5.7nm,0.7s,baz=32,slow=29,SNR=3.3						
MAKZ	**Makanchi**	**7.74**	**211**	⇓Sn	Sn	09 50 53.8	+3.0
	3.4nm,0.8s						
MAKZ				⇑Lg	Lg	09 51 37.2	
	6.1nm,0.8s						

*IDC **14** 09:59:14.8±0.9, 29°.33N×81°.99E, h0km, mb3.9/13, mb1 4.0/16, mb1mx3.7/65, mbtmp3.9/16, ML4.0/3, M

KLR	Kul'dur	42.18	48	P		P	10 07 10.9 +0.6
	0.6nm,0.5s,baz=254,slow=8.5,SNR=4.2						
FIA0	FINESS Array S	48.33	328	*eP*		P	10 07 58.9 0.0
FINES	FINESS Array B	48.33	328	P		P	10 07 58.9 0.0
	1.3nm,0.6s,baz=114,slow=9.2,SNR=5.6						
TIXI	Tiksi	49.05	18	P		P	10 08 05.4 +1.0
	0.7nm,0.3s,baz=137,slow=1.4,SNR=3.5						
ARA0	ARCESS Array S	51.05	338	*eP*		P	10 08 19.8 +0.3
ARCES	ARCESS Array B	51.05	338	P		P	10 08 19.8 +0.3
	3.4nm,1.0s,baz=98,slow=6.7,SNR=3.8						
HFS	Hagfors	54.14	325	P		P	10 08 42.5 0.0
	2.4nm,0.6s,baz=100,slow=8.1,SNR=7.1						
NB200	NORSAR Array S	55.38	326	*eP*		P	10 08 50.9 -0.7
NOA	NORSAR Array B	55.38	326	P		P	10 08 50.9 -0.7
	0.7nm,0.6s,baz=118,slow=5.2,SNR=2.5						
WRA	Warramunga Arr	70.41	128	P		P	10 10 30.4 -1.6
	0.5nm,0.6s,baz=325,slow=6.1,SNR=7.9						
WR1	Warramunga Arr	70.41	128	*eP*		P	10 10 30.4 -1.6
WRAB	Tennant Creek	70.41	128	*eP*		P	10 10 30.1 -2.0
	12nm,1.5s						
WB2	Warramunga Arr	70.42	128	*eP*		P	10 10 31.3 -0.8
	8.8nm,1.4s						
WC3	Warramunga Arr	70.44	128	*eP*		P	10 10 30.1 -2.2
	4.4nm,1.1s						
AS31	Alice Springs	72.67	131	*eP*		P	10 10 43.3 -2.3
	0.7nm,1.0s						
ASAR	Alice Springs	72.67	131	P		P	10 10 44.6 -1.1
	0.4nm,0.7s,baz=316,slow=6.7,SNR=5.4						
TOA1	Torodi Ar. Sit	75.40	277	*eP*		P	10 11 00.7 -1.1
TORD	Torodi Ar. Bea	75.40	277	P		P	10 11 00.7 -1.1
	0.3nm,0.6s,baz=61,slow=6.3,SNR=2.6						
BMAR	Burnt Mountain	77.11	17	*eP*		P	10 11 12.1 +1.4

DSN ***14*** *10:02:36.6±2.6, 26°.71N×58°.13E, h10km, ML4.0/8, Error ellipse: s-maj=39.7km s-min=10.4km az=2.0*
NEIC ***14*** *10:02:38.2±0.0, 26°.56N×57°.82E, h15km, mb3.9/4, ML4.0(THR), MN4.2(TEH), After TEH.*
IDC ***14*** *10:02:39.0±1.0, 26°.49N×57°.58E, h0km, mb3.7/11, mb1 3.8/12, mb1mx3.6/57, mbtmp3.8/12, ML4.0/1, MS2.8/3, Ms1 2.8/3, ms1mx2.5/44, Error ellipse: s-maj=20.9km s-min=20.1km az=94.0*
OMAN ***14*** *10:02:40.3±0.6, 26°.70N×58°.15E, h29km±20km, ml3.8/12, Error ellipse: s-maj=29.2km s-min=5.7km az=23.0*
TEH ***14*** *10:02:41.9, 26°.63N×57°.64E, h11km, ML4.0*
ISC 14 10:02:36.9±0.6, 26°.23N±0°.03×58°.03E±0°.03, h10km, n73, σ1§50/76, mb3.8/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.70	322	IAMB	IAmb	10 03 25.2	
	comp=Z,0.0nm,0.4s						
NIAN				*e*Pg	Pn	10 03 04.1	-2.5
SHME	Shamm	1.70	264	*eP*	Pg	10 03 09.6	0.0
	SNR=7.5						
SHME				S	Sg	10 03 34.1	+2.4
SHME	Shamm	1.70	264	*e*Pn	Pg	10 03 09.8	+0.2
MDH	Madha	1.81	240	*eP*	Pg	10 03 11.7	+0.1
	SNR=6.1						
MDH	Madha	1.81	240	P	Pg	10 03 11.9	+0.2
	SNR=11						
MDH	Madha	1.81	240	*e*Pn	Pg	10 03 11.7	+0.1
MSFE	Esma-Masafi	1.89	243	*eP*	Pg	10 03 12.7	-0.5
	SNR=25						
MSFE	Esma-Masafi	1.89	243	*e*Pn	Pg	10 03 12.8	-0.4
GENO	Geno	2.03	306	*e*Pn	Pn	10 03 10.7	-0.6
GENO				IAMB	IAmb	10 03 38.5	
	comp=N,0.0nm,0.3s						
HATD	Hatta, Dubai	2.21	231	*eP*	Pg	10 03 19.3	+0.1
	SNR=8.2						
HATD	Hatta, Dubai	2.21	231	*e*Pn	Pb	10 03 18.0	+1.1
UMQ	Umm Al-Quwin	2.24	252	*e*Pn	Pb	10 03 17.3	-0.2
CHBR	Chabahar	2.30	105	*e*Pn	Pg	10 03 22.0	+1.0
ASHO	Ashiyiah	2.35	230	*eP*	Pg	10 03 21.8	-0.2
	SNR=21						
ASHO	Ashiyiah	2.35	230	P	Pg	10 03 22.3	+0.3
	SNR=8.5						
ASHO				S	Sg	10 03 54.2	+1.7
ASHO	Ashiyiah	2.35	230	*e*Pn	Pb	10 03 20.2	+0.8
NAZ	Nazwa, Dubai	2.46	240	*eP*	Pb	10 03 22.7	+1.4
	SNR=19						
NAZ	Nazwa, Dubai	2.46	240	P	Pg	10 03 25.5	+1.4
	SNR=12						
NAZ				S	Sg	10 03 56.9	+0.8
NAZ	Nazwa, Dubai	2.46	240	*e*Pn	Pb	10 03 22.3	+1.0
SOHO	SOHO	2.48	213	P	Pb	10 03 22.5	+0.8
	SNR=5.3						
FAQ	Al Faqa, Dubai	2.65	237	*i* P	Pb	10 03 24.8	+0.4
	SNR=18						
FAQ	Al Faqa, Dubai	2.65	237	P	Pg	10 03 28.2	+0.5
	SNR=9.4						
FAQ				S	Sg	10 04 00.8	-1.2
FAQ	Al Faqa, Dubai	2.65	237	*e*Pn	Pg	10 03 26.4	-1.3
BIDO	Bidbid	2.70	178	*e*Pn	Pg	10 03 27.9	-0.7
HOQ	Hoqain	2.71	194	P	Pg	10 03 27.7	-1.2
	SNR=5.8						
HOQ	Hoqain	2.71	194	*e*Pn	Pg	10 03 27.9	-1.0
ASUD	Al Ashush, Dub	2.91	237	P	Pb	10 03 27.5	-1.5
ASUD	Al Ashush, Dub	2.91	237	*e*Pn	Pb	10 03 29.0	+0.1
ALNE	Al Ain	2.99	224	*e*Pn	Pg	10 03 34.4	+0.2
WSAR	Wadi Sarin	3.03	169	Pn	Pg	10 03 33.7	-1.2
	comp=N,16nm,0.3s,baz=340,slow=6.2,SNR=282						
WSAR				Sn	Sg	10 04 13.1	-1.0
	comp=N,26nm,0.3s,baz=58,slow=9.4,SNR=14						
SMDO	Samad	3.15	180	P	Pb	10 03 35.5	+2.3
	SNR=12						
SMDO				S	Sg	10 04 17.7	-0.6
ARQ	Araqi	3.19	206	P	Pg	10 03 37.1	-0.8
	SNR=8.0						
ARQ				S	Sg	10 04 18.9	-0.4
NGRK	Negar Kerman	3.59	342	*e*Pn	Pn	10 03 32.0	-1.0
NGRK				IAMB	IAmb	10 04 24.9	
	comp=Z,0.0nm,0.4s						
CHMN	Cheshme madani	3.65	353	*e*Pn	Pn	10 03 35.0	+1.3
CHMN				IAMB	IAmb	10 04 41.5	
	comp=Z,0.0nm,0.8s						
TVBK	TV Kerman	3.91	344	*e*Pn	Pn	10 03 37.5	+0.2
TVBK				IAMB	IAmb	10 04 40.9	
	comp=Z,0.0nm,0.6s						
SZD1	Zahaedan-tmp	4.11	37	*e*Pn	Pb	10 03 46.4	-3.0
ZHSF	Zahedan	4.16	35	*e*Pn	Pn	10 03 42.0	+1.4
JLN	Jalan Bani Buh	4.25	162	P	Pb	10 03 50.5	-1.3
JLN				S	Sb	10 04 43.0	-0.1
KHGB	Koh Gabri	4.35	342	*e*Pn	Pn	10 03 43.0	-0.3
KHGB				IAMB	IAmb	10 04 50.6	
	comp=Z,0.0nm,0.8s						
GHIR	Ghir-Karzin	4.93	296	*e*Pn	Pn	10 03 46.0	-5.2
IKAZ	Kazeroun	6.51	304	*e*Pn	Pn	10 04 10.8	-2.3
IDAH	Dahanechah	6.68	13	*e*Pn	Pn	10 04 19.1	+3.7
TPRV	Parvadeh(Tabas	6.88	351	*e*Pn	Pn	10 04 17.1	-0.8
TKDS	Koohdasht(Taba	7.40	354	*e*Pn	Pn	10 04 26.3	+1.2
TNSJ	Nastanj	7.81	351	*e*Pn	Pn	10 04 31.5	+0.8
KHMZ	Khomeyn	10.24	319	*e*Pn	Pn	10 04 59.0	-5.1
GEYT	Alibeck	11.67	0	LR	LR	10 11 09.2	
	comp=Z,12nm,19.1s,baz=235,slow=45						
KKAR	Karatay Array	19.68	28	*eP*	P	10 07 04.2	-1.9
EIL	Elat	20.66	285	P	P	10 07 15.7	-1.3
	comp=Z,2.7nm,0.7s,baz=103,slow=14,SNR=2.8						
AAK	Ala-Archa	21.21	35	*eP*	P	10 07 21.4	-1.5
	comp=Z,2.4nm,0.8s						
AAK				P	P	10 07 25.1	+2.2
AAK	Ala-Archa	21.21	35	P	P	10 07 25.1	+2.2
	comp=Z,2.0nm,0.2s,baz=225,slow=13,SNR=3.7						
BOOM	Boomskoye usch	21.88	38	*eP*	P	10 07 29.0	-1.1
	comp=Z,22nm,1.4s						
ABKAR	Akbulak array	23.04	3	*eP*	P	10 07 39.2	-3.0
AKTO	Aktyubinsk	24.17	360	P	P	10 07 53.0	-0.2
	comp=Z,2.0nm,0.4s,baz=139,slow=11,SNR=6.5						
BR101	Keskin Array S	24.39	310	*eP*	P	10 07 55.5	-0.1
BR131	Keskin Array S	24.39	310	*eP*	P	10 07 56.0	+0.4
	comp=Z,2.7nm,0.9s						
BRTR	Keskin Array B	24.39	310	*eP*	P	10 07 51.8	-3.8
BRTR				P	P	10 07 55.5	-0.1
BRTR	Keskin Array B	24.39	310	P	P	10 07 55.5	-0.1
	comp=Z,1.4nm,0.7s,baz=124,slow=12,SNR=9.8						
BRTR				LR	LR	10 19 51.1	
	comp=Z,35nm,18.2s,baz=98,slow=43						
MK32	Makanchi Array	28.12	37	*eP*	P	10 08 34.6	+5.7
MKAR	Makanchi Array	28.12	37	*eP*	P	10 08 23.2	-5.7
MKAR				P	sP	10 08 34.6	+1.1
MKAR	Makanchi Array	28.12	37	P	P	10 08 34.6	+5.7
	comp=Z,0.2nm,0.4s,baz=230,slow=8.5,SNR=3.1						
KURBB	Kurchatov Arra	28.99	27	P	P	10 08 40.0	+3.5
	comp=Z,0.2nm,0.2s,baz=230,slow=8.5,SNR=2.5						
IDI	Anoyia	29.76	296	LR	LR	10 23 09.7	
	comp=Z,38nm,18.8s,baz=280,slow=42						
ZALV	Zalesovo Beam	34.06	28	P	P	10 09 24.2	+3.0
	comp=Z,0.7nm,0.4s,baz=223,slow=7.9,SNR=3.2						
ZAA1	Zalesovo Array	34.06	28	*eP*	P	10 09 24.2	+3.0
GEC2	GERESS Array S	41.02	315	*eP*	P	10 10 19.2	-1.2
	comp=Z,3.9nm,1.3s						
GERES	GERESS Array B	41.02	315	P	P	10 10 19.5	-0.8
	comp=Z,0.5nm,0.5s,baz=114,slow=11,SNR=4.8						
FIA0	FINESS Array S	41.26	337	*eP*	P	10 10 23.6	+1.6
FINES	FINESS Array B	41.26	337	*eP*	P	10 10 20.6	-1.4
FINES				P	P	10 10 23.6	+1.6
FINES	FINESS Array B	41.26	337	P	P	10 10 23.6	+1.6
	comp=Z,1.5nm,0.8s,baz=123,slow=10,SNR=3.7						
TORD	Torodi Ar. Bea	54.24	268	P	P	10 12 03.7	+0.4
	comp=Z,0.7nm,0.5s,baz=69,slow=7.7,SNR=6.0						
TOA1	Torodi Ar. Sit	54.24	268	*eP*	P	10 12 03.7	+0.4
ASAR	Alice Springs	88.54	117	P	P	10 15 36.3	+6.1
	comp=Z,0.2nm,0.6s,baz=310,slow=5.8,SNR=3.3						

KRSC ***14*** *10:19:05.5±10.0, 56°.20N×163°.17E, h20km±10km, ML5.7, FELT [V] at Pogodniy, Ust-Kamchatsk; [IV-V] at Krutoberegovo; [II] at GMS Kronoki.*
IDC ***14*** *10:19:05.6±0.5, 56°.19N×162°.74E, h0km, mb4.7/34, mb1 4.8/37, mb1mx4.8/39, mbtmp4.7/37, ML4.6/3, MS4.3/31, Ms1 4.3/31, ms1mx4.2/46, Error ellipse: s-maj=12.5km s-min=9.5km az=169.0*
BJI ***14*** *10:19:06.6±0.0, 56°.61N×162°.22E, h10km, mb5.0/52, mB5.0/41, Ms5.1/51, Ms7 4.9/50*
MOS ***14*** *10:19:06.5±1.1, 56°.30N×162°.98E, h14km, mb5.1/66, MS4.6/19, Error ellipse: s-maj=5.3km s-min=3.2km az=75.7*
ISCJB ***14*** *10:19:08.4±0.4, 56°.31N±0°.02×162°.81E±0°.02, h27km±2km, mb4.9/267, MS4.6/53, Error ellipse: s-maj=3.2km s-min=1.7km az=148.8*
NEIC ***14*** *10:19:08.1±1.8, 56°.19N×162°.70E, h17km±3km, mb5.0/304, Error ellipse: s-maj=12.9km s-min=10.5km az=143.0*
GCMT ***14*** *10:19:11.1±0.2, 56°.30N±0°.01×163°.04E±0°.03, h22km±1km, MW5.1/93, Moment Tensor Solution. s36,c44; s93,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.85±.18; $M_{\theta\theta}$-4.07±.16; $M_{\phi\phi}$2.22±.12; $M_{r\theta}$0.90±.24; $M_{\theta\phi}$-2.63±.11; $M_{r\phi}$2.23±.27; Best double couple: $M_0$4.95600×10^{16} NP1:φ=32.00000°, δ=75.00000°, λ=37.00000°. NP2: φ=291.00000°, δ=54.00000°, λ=161.00000°. Principal axes: T 4.5140, Plg37.0000°, Azm257.0000°; N 0.8840, Plg50.0000°, Azm51.0000°; P -5.3980, Plg13.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 10:19:06.8±0.5, 56°.06N±0°.02×162°.82E±0°.02, h10km±2km, h10km:pP-P, n905, σ1§47/954, mb4.9/276, MS4.6/53, 37C-13D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.15	1	*i* P	Pg	10 19 10.8	+0.7
KBTR	Krutoberegovo	0.15	1	PN	Pg	10 19 10.8	+0.7
KBG	Krutoberegovo	0.20	342	*i* P	Pg	10 19 11.5	+0.4
KBG				*e*S	Sg	10 19 14.8	+0.8
KBG	Krutoberegovo	0.20	342	PN	Pg	10 19 11.5	+0.4
KBG				S	Sg	10 19 14.8	+0.8
SMKR	Semkarok	0.92	305	*i* P	Pg	10 19 24.2	-0.2
SMKR	Semkarok	0.92	305	PN	Pg	10 19 24.2	-0.2
BDR	Baidarnaya	1.03	300	*i* P	Pb	10 19 26.8	+0.1
BDR	Baidarnaya	1.03	300	PN	Pb	10 19 26.8	+0.1
SRKR	Sorokina	1.09	304	*i* P	Pb	10 19 27.5	-0.3
SRKR	Sorokina	1.09	304	PN	Pb	10 19 27.5	-0.3
CIRR	Tsirk	1.16	274	*eP*	Pg	10 19 30.5	+1.5
CIRR	Tsirk	1.16	274	PN	Pg	10 19 30.5	+1.5
LGNR	Loginova	1.19	272	*eP*	Pg	10 19 31.3	+1.6
LGNR	Loginova	1.19	272	PN	Pg	10 19 31.3	+1.6
BZGR	Bezymyannyi-Gr	1.20	265	*eP*	Pg	10 19 31.4	+1.7
BZGR	Bezymyannyi-Gr	1.20	265	PN	Pg	10 19 31.4	+1.7
KLY	Klyuchi	1.24	283	*i* P	Pn	10 19 29.0	-1.0
KLY	Klyuchi	1.24	283	PN	Pn	10 19 29.0	-1.0
BZWR	Bezymyannyi-We	1.31	267	*eP*	Pg	10 19 33.1	+1.3
BZWR	Bezymyannyi-We	1.31	267	PN	Pg	10 19 33.1	+1.3
BZMR	Bezymyannaya	1.31	265	*eP*	Pg	10 19 33.1	+1.2
BZMR	Bezymyannaya	1.31	265	PN	Pg	10 19 33.1	+1.2
KIRR	Kirishev	1.39	267	*i* P	Pg	10 19 34.4	+0.9
KIRR				*e*S	Sg	10 19 55.9	+4.3
KIRR	Kirishev	1.39	267	PN	Pg	10 19 34.4	+0.9
KIRR				S	Sg	10 19 55.9	+4.3
KPT	Kopyto	1.46	267	*eP*	Pg	10 19 35.3	+0.6
KPT	Kopyto	1.46	267	PN	Pg	10 19 35.3	+0.6
KMNR	Kamenistaya	1.48	259	*eP*	Pg	10 19 36.6	+1.4
KMNR	Kamenistaya	1.48	259	PN	Pg	10 19 36.6	+1.4
TUMD	Tumrok D	1.62	239	*eP*	Pg	10 19 38.5	+0.8
TUMD				*e*S	Sg	10 20 01.2	+2.5
MKZ	Mys Kozlova	1.63	203	*eP*	Pg	10 19 38.8	+0.8
MKZ				*e*S	Sg	10 20 01.8	+2.7
MKZ	Mys Kozlova	1.63	203	PN	Pg	10 19 38.8	+0.8
MKZ				S	Sg	10 20 01.8	+2.7
KOZ	Kozyrevsk	1.65	271	*i* P	Pg	10 19 38.6	+0.2
KOZ	Kozyrevsk	1.65	271	PN	Pg	10 19 38.6	+0.2
TUMR	Tumrok	1.70	244	PN	Pb	10 19 38.5	+0.4
TUMR				S	Sg	10 20 01.2	-0.2
KZV	Kizimen	1.72	237	*eP*	Pg	10 19 40.5	+0.8
KZV	Kizimen	1.72	237	PN	Pg	10 19 40.5	+0.8
SRDR	Sredinnyy	1.75	280	*i* P	Pb	10 19 39.3	+0.3
SRDR	Sredinnyy	1.75	280	PN	Pb	10 19 39.3	+0.3
BKI	Bering	1.98	114	*eP*	Pn	10 19 39.8	-0.5
BKI				*e*S	Sn	10 20 03.6	-1.5
BKI	Bering	1.98	114	PN	Pn	10 19 39.8	-0.5
BKI				S	Sn	10 20 03.6	-1.5
ESO	Esso	2.32	268	*eP*	Pb	10 19 47.5	-1.1
ESO				*e*S	Sg	10 20 19.4	-1.7
ESO	Esso	2.32	268	PN	Pb	10 19 47.5	-1.1
ESO				S	Sg	10 20 19.4	-1.7
OSSR	Ossora	3.20	2	*eP*	Pn	10 19 55.5	-1.5
OSSR	Ossora	3.20	2	PN	Pn	10 19 55.5	-1.5
SPN	Mys Shipunski	3.38	210	*i* P	Pn	10 20 03.1	+3.6
SPN				*e*S	Sb	10 20 44.0	-3.9
SPN	Mys Shipunski	3.38	210	PN	Pn	10 20 03.1	+3.6
PALN	Palana	3.40	334	*eP*	Pn	10 19 59.9	+0.1
PALN				*e*S	Sn	10 20 41.1	+1.0
PALN	Palana	3.40	334	PN	Pn	10 19 59.9	+0.1
PALN				S	Sn	10 20 41.1	+1.0
NLC	Nalytchevo	3.53	216	*eP*	Pb	10 20 05.7	-3.5
NLC				*e*S	Sb	10 20 49.7	-2.3
NLC	Nalytchevo	3.53	216	PN	Pb	10 20 05.7	-3.5
SDLR	Sedlovina	3.60	221	*eP*	Pb	10 20 07.2	-3.3
SDLR	Sedlovina	3.60	221	PN	Pb	10 20 07.2	-3.3
KRX	Arik	3.63	223	*eP*	Pb	10 20 09.1	-1.9
KRX	Arik	3.63	223	PN	Pb	10 20 09.1	-1.9
KRER	Koryakskii	3.63	222	*eP*	Pb	10 20 07.7	-3.4
KRER	Koryakskii	3.63	222	PN	Pb	10 20 07.7	-3.4
SMAR	Somma	3.65	221	*eP*	Pb	10 20 08.0	-3.3
SMAR				*e*S	Sb	10 20 54.1	-1.5
SMAR	Somma	3.65	221	PN	Pb	10 20 08.0	-3.3
SMAR				S	Sb	10 20 54.1	-1.5
AVH	Avacha	3.67	222	*eP*	Pb	10 20 08.8	-2.8
AVH	Avacha	3.67	222	PN	Pb	10 20 08.8	-2.8
UGLR	Uglovaya	3.68	221	*eP*	Pb	10 20 08.7	-3.1
UGLR	Uglovaya	3.68	221	PN	Pb	10 20 08.7	-3.1
KOK	Koryaka	3.69	223	*eP*	Pb	10 20 08.8	-3.1
KOK	Koryaka	3.69	223	PN	Pb	10 20 08.8	-3.1
DALK	Dalny	3.85	220	*eP*	Pn	10 20 10.1	+4.2
DALK				*e*S	Sb	10 20 57.4	-3.8
DALK	Dalny	3.85	220	PN	Pn	10 20 10.1	+4.2
PET	Petropavlovsk	3.89	220	*e*Pn	Pn	10 20 10.7	+4.2
PET				*e*Sn	Sn	10 20 52.4	+0.3
PET	Petropavlovsk	3.89	220	*i* P	Pb	10 20 11.6	-3.7
PET	Petropavlovsk	3.89	220	↑*i* PN	Pb	10 20 10.9	-4.4
PET				pmax	pmax		
	comp=Z,936nm,0.6s						
PET				MLR	MLR		
	comp=Z,4μm,14.0s						
I44RU	PETROPAVLOVSK-	4.19	227	*i*		10 44 10.0	
	baz=41,slow=322,SNR=3.4						
PEA1	Petropavlovsk-	4.19	227	*e*Pn	Pn	10 20 15.2	+4.6
PEA0B	Petropavlovsk-	4.20	227	*e*Pn	Pn	10 20 15.1	+4.4
PEA0B				*e*Sn	Sn	10 20 58.8	-0.9
PETK	Petropavlovsk-	4.20	227	Pn	Pn	10 20 15.2	+4.5
	comp=Z,23nm,0.3s,baz=59,slow=16,SNR=170						
PETK				Lg	Lg	10 21 13.6	
	comp=Z,20nm,0.3s,baz=57,slow=29,SNR=3.4						
PETK				LR	LR	10 22 07.5	
	comp=Z,3μm,22.0s,baz=17,slow=43						
KRMR	Karymshinskiy	4.24	222	*eP*	Pb	10 20 16.6	-4.6
KRMR				*e*S	Sb	10 21 08.4	-4.0
KRMR	Karymshinskiy	4.24	222	PN	Pb	10 20 16.6	-4.6
KRMR				S	Sb	10 21 08.4	-4.0
RUS	Russkaya	4.42	217	*eP*	Pn	10 20 18.2	+4.4
RUS				*e*S	Sb	10 21 11.7	-6.1
RUS	Russkaya	4.42	217	PN	Pn	10 20 18.2	+4.4
GRL	Gorelyy	4.48	220	*eP*	Pb	10 20 21.5	-4.0
GRL	Gorelyy	4.48	220	PN	Pb	10 20 21.5	-4.0
MTVR	Mutnovka	4.50	219	*eP*	Pn	10 20 20.2	+5.3
MTVR				*e*S	Sb	10 21 15.5	-4.5
MTVR	Mutnovka	4.50	219	PN	Pn	10 20 20.2	+5.3
MTVR				S	Sb	10 21 15.5	-4.5
APC	Apacha	4.55	229	*eP*	Pn	10 20 21.1	+5.5
APC	Apacha	4.55	229	PN	Pn	10 20 21.1	+5.5
ASAK	Asacha	4.68	220	*eP*	Pb	10 20 24.3	-4.5
ASAK	Asacha	4.68	220	PN	Pb	10 20 24.3	-4.5
TILK	Tilichiki	4.74	20	*eP*	Pn	10 20 17.5	-0.6
TILK				*e*S	Sn	10 21 09.8	-3.1
TILK	Tilichiki	4.74	20	PN	Pn	10 20 17.5	-0.6
TILK				S	Sn	10 21 09.8	-3.1
KDTR	Khodutka, Kamc	5.10	215	*eP*	Pn	10 20 27.9	+4.9
KDTR				*e*S	Sb	10 21 30.0	-7.1
KDTR	Khodutka, Kamc	5.10	215	PN	Pn	10 20 27.9	+4.9
PAU	Pauzhetka	5.82	220	*eP*	Pn	10 20 39.7	+6.8
PAU				*e*S	Sn	10 21 46.8	+7.2
PAU	Pauzhetka	5.82	220	PN	Pn	10 20 39.7	+6.8
KMSK	Kamenskaya	6.66	14	*eP*	Pn	10 20 44.4	0.0
KMSK				*e*S	Sn	10 21 58.2	-2.0
KMSK	Kamenskaya	6.66	14	PN	Pn	10 20 44.4	0.0
KMSK				S	Sn	10 21 58.2	-2.0
SKR	Severo-Kuril's	6.71	219	*eP*	Pn	10 20 50.0	+4.8
SKR				*e*S	Sn	10 22 10.6	+9.0
SKR	Severo-Kuril's	6.71	219	*e*PN	Pn	10 20 49.5	+4.3
SKR				pmax	pmax		
	comp=Z,1μm,2.9s						
SKR				pmax	pmax		
	comp=Z,742nm,1.2s						
SKR				pmax	pmax		
	comp=Z,900nm,5.9s						
SKR				MLR	MLR		
	comp=Z,6μm,12.0s						
SKR				MLR	MLR		
	comp=Z,4μm,12.0s						
ALID	Alaid	6.77	223	*eP*	Pn	10 20 52.4	+6.2
ALID	Alaid	6.77	223	PN	Pn	10 20 52.4	+6.2
MA2	Magadan	7.33	304	*e*Pn	Pn	10 20 53.5	-0.2
MA2				*e*Sn	Sn	10 22 10.5	-6.4
MA2	Magadan	7.33	304	↑*e*PN	Pn	10 20 54.6	+0.9
MA2				pmax	pmax		
	comp=Z,15nm,0.6s						
MA2	Magadan	7.33	304	Pn	Pn	10 20 55.1	+1.4
	comp=Z,2.1nm,0.3s,baz=108,slow=12,SNR=11						
MA2				Lg	Lg	10 22 56.3	
	comp=Z,1.0nm,0.3s,baz=162,slow=7.2,SNR=3.6						
MA2				LR	LR	10 23 58.3	
	comp=Z,4μm,18.7s,baz=106,slow=40						
SMY	Shemya	7.38	112	*e*Pn	Pn	10 20 55.0	+0.6
SMY	Shemya	7.38	112	*e*PN	Pn	10 20 55.0	+0.6
SEY	Seymchan	8.69	327	*i* PN	Pn	10 21 17.1	+4.8
SEY	Seymchan	8.69	327	Pn	Pn	10 21 14.2	+1.9
	comp=Z,0.4nm,0.3s,baz=99,slow=14,SNR=8.2						
SEY				Lg	Lg	10 23 43.2	
	comp=Z,0.3nm,0.3s,baz=22,slow=14,SNR=3.7						
SEY				LR	LR	10 25 14.6	
	comp=Z,2μm,19.7s,baz=136,slow=43						
OKH	Okha	11.74	266	*c i* PN	Pn	10 21 59.3	+5.3
OKH				*e*S	Sn	10 24 13.5	+8.6
OKH				pmax	pmax		
	comp=Z,300nm,9.3s						
OKH				smax	smax		
	comp=E,300nm,9.4s						
OKH				MLR	MLR		
	comp=Z,3μm,13.0s						
BILL	Bilibino	12.13	6	*e*Pn	Pn	10 22 00.0	+0.7
BILL	Bilibino	12.13	6	*e*PN	Pn	10 21 57.6	-1.7
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,1μm,13.0s						
ADK	Adak	12.76

comp=Z,260nm,1.0s
NIKH Nikolski High 16.68 89 *e*Pn **Pn 10 23 00.8 +0.5**
comp=Z,72nm,0.8s
ASAJ Asahikawa 17.56 236 P **P 10 23 13.4 +1.0**
comp=Z,1.9nm,0.3s,baz=45,slow=6.6,SNR=62
ASAJ LR LR 10 29 22.6
comp=Z,1μm,21.0s,baz=55,slow=35
UNV Unalaska Valle 17.69 84 *e*Pn **P 10 23 14.5 +0.8**
comp=Z,52nm,0.9s
ANM Nome 17.72 48 *e*P **P 10 23 14.5 +0.4**
comp=Z,81nm,1.2s
ANM Nome 17.72 48 *e*P **P 10 23 14.5 +0.4**
ANM pmax pmax
comp=Z,81nm,1.2s
YAK Yakutsk 17.91 303*c i*P **Pn 10 23 15.8 +0.3**
YAK *e*S **Sn 10 26 34.1 -0.9**
YAK pmax pmax
comp=Z,286nm,0.8s
YAK pmax pmax
comp=N,46nm,1.0s
YAK pmax pmax
comp=E,310nm,1.0s
YAK smax smax
comp=N,643nm,2.8s
YAK smax smax
comp=E,352nm,2.4s
AKUT Akutan 18.00 83 *e*Pn **P 10 23 18.7 +1.5**
comp=E,49nm,0.7s
ERM Erimo 18.97 230 *e*P **Pn 10 23 28.4 -0.2**
comp=E,103nm,1.1s
ERM Erimo 18.97 230⇑ *e*P **P 10 23 27.8 -0.1**
ERM pmax pmax
comp=Z,33nm,0.5s
FALS False Pass 19.08 79 *e*P **Pn 10 23 29.8 0.0**
comp=Z,129nm,0.6s
RDOG Red Dog Mine 19.71 39 *e*P **Pn 10 23 36.9 -0.5**
comp=Z,94nm,1.1s
TEY Ternei 19.85 247⇑ *e*P **Pn 10 23 39.6 +0.5**
TEY *e*S **S 10 27 20.0 -0.7**
TEY pmax pmax
comp=Z,20nm,0.7s
TEY pmax pmax
comp=E,10.0nm,0.7s
TEY MLR MLR
comp=E,2μm,15.0s
TEY MLR MLR
comp=N,1μm,18.0s
TEY MLR MLR
comp=Z,2μm,16.0s
KLR Kul'dur 19.93 263*c i*P **Pn 10 23 39.3 -0.7**
KLR pmax pmax
comp=Z,66nm,1.2s
KLR Kul'dur 19.93 263 P **Pn 10 23 39.8 -0.2**
comp=Z,1.0nm,0.3s,baz=60,slow=10,SNR=102
KLR LR LR 10 32 08.9
comp=Z,1μm,18.6s,baz=61,slow=39
ZEA Zeya 20.44 278 *e*P **P 10 23 43.0 -0.9**
ZEA *e* 10 24 12.0
ZEA pmax pmax
comp=N,26nm,0.8s
ZEA pmax pmax
comp=E,47nm,0.8s
ZEA pmax pmax
comp=Z,56nm,0.8s
ZEA pmax pmax
comp=Z,300nm,4.0s
ZEA pmax pmax
comp=E,300nm,3.0s
ZEA MLR MLR
comp=N,1μm,13.0s
ZEA MLR MLR
comp=E,2μm,13.0s
ZEA MLR MLR
comp=Z,2μm,13.0s
SDPT Sand Point 20.55 77 *e*P **P 10 23 43.8 -1.2**
comp=Z,111nm,1.2s
TIXI Tiksi 21.15 331 *e*P **P 10 23 52.0 +0.5**
TIXI *e*P **pP 10 23 52.1 -2.3**
TIXI Tiksi 21.15 331*ce*P **P 10 23 51.7 +0.3**
TIXI pmax pmax
comp=Z,56nm,1.3s
TIXI Tiksi 21.15 331 P **P 10 23 51.9 +0.5**
comp=Z,23nm,0.6s,baz=116,slow=13,SNR=55
CHGN Chignik 21.39 73 *e*P **P 10 23 53.5 -0.7**
comp=Z,86nm,1.0s
SVW2 Sparrevohn 21.97 60 *e*P **P 10 24 00.5 +0.2**
comp=Z,28nm,1.2s
IMAR Indian Mountai 22.77 47 *e*P **P 10 24 08.8 -0.1**
USA0B Ussuriysk Arra 22.84 252 *e*P **P 10 24 08.7 -1.0**
comp=Z,12nm,0.6s
USRK Ussuriysk Ar. 22.84 252 *e*P **P 10 24 09.2 -0.5**
USRK Ussuriysk Ar. 22.84 252 P **P 10 24 09.4 -0.3**
comp=Z,11nm,0.6s,baz=51,slow=9.3,SNR=12
USRK LR LR 10 34 22.3
comp=Z,840nm,19.5s,baz=42,slow=40
PPLA Purkeypile 23.42 55 *e*P **P 10 24 16.0 +0.3**
CAST Castle Rocks 23.44 53 *e*P **P 10 24 15.9 +0.2**
comp=Z,29nm,0.8s
MDJ Mudanjiang 23.85 255 P **P 10 24 19.1 -0.8**
MDJ pP pP 10 24 22.1 -0.7
MDJ sP sP 10 24 23.4 -0.6
MDJ S **S 10 28 35.8 +0.2**
MDJ sS sS 10 28 41.8 +1.3
MDJ SS **SnSn 10 29 16.4 +2.2**
MDJ PcS **PcS 10 31 41.5 -0.5**
MDJ pmax pmax
comp=Z,15nm,0.8s
MDJ pmax pmax
comp=Z,170nm,3.7s
MDJ LR LR
comp=Z,2μm,15.1s
MDJ LR LR
comp=Z,2μm,15.1s
MDJ LR LR
comp=Z,2μm,15.9s
OHAK Old Harbor 23.86 69 *e*P **P 10 24 18.6 -1.2**
comp=Z,5.9nm,0.7s
BPAW Bear Paw Mtn. 23.90 51 *e*P **P 10 24 20.1 -0.1**
comp=Z,114nm,1.2s
MLY Manley 23.98 49 *e*P **P 10 24 20.6 -0.4**
comp=Z,48nm,0.9s
KDAK Kodiak Island 24.07 67 *e*P **P 10 24 20.7 -1.2**
comp=Z,29nm,0.9s
KDAK Kodiak Island 24.07 67 *i* P **P 10 24 21.3 -0.5**
KDAK Kodiak Island 24.07 67 P **P 10 24 21.6 -0.2**
comp=Z,14nm,0.7s,baz=300,slow=8.8,SNR=11
KDAK LR LR 10 33 45.1
comp=Z,1μm,18.1s,baz=269,slow=36
SUA Susitna One 24.25 58 *e*P **P 10 24 22.9 -0.7**
comp=Z,110nm,0.9s
COLD Coldfoot 24.28 44 *e*P **P 10 24 22.9 -0.8**
comp=Z,15nm,1.0s
BRLK Bradley Lake 24.47 62 *e*P **P 10 24 24.1 -1.5**
comp=Z,62nm,0.9s
BWN Browne 24.56 51 *e*P **P 10 24 27.1 +0.8**
comp=Z,133nm,1.1s
TOLK Toolik Lake Re 24.65 40 *e*P **P 10 24 27.1 0.0**
comp=Z,145nm,1.0s
TOLK Toolik Lake Re 24.65 40 P **P 10 24 27.8 +0.7**
baz=264,SNR=126
RC01 Rabbit Creek A 24.79 59 *e*P **P 10 24 27.9 -0.4**
comp=Z,24nm,0.9s
MCK McKinley 24.82 52 *e*P **P 10 24 28.2 -0.5**
comp=Z,72nm,1.1s
MCK McKinley 24.82 52 *e*P **P 10 24 28.2 -0.5**
MCK pmax pmax
comp=Z,72nm,1.1s
RND Reindeer 24.89 53 *e*P **P 10 24 28.4 -0.9**
comp=Z,36nm,0.9s
RND Reindeer 24.89 53 *e*P **P 10 24 28.4 -0.9**
RND pmax pmax
comp=Z,36nm,0.9s
PMR Palmer 24.99 57 *e*P **P 10 24 29.2 -0.9**
comp=Z,26nm,1.0s
PMR Palmer 24.99 57 *e*P **P 10 24 29.2 -0.9**
PMR pmax pmax
comp=Z,26nm,1.0s
MDM Murphy Dome 25.05 49 *e*P **P 10 24 30.4 -0.3**
comp=Z,30nm,1.0s
GHO Glory Hole Cre 25.06 57 *e*P **P 10 24 30.3 -0.6**
comp=Z,22nm,1.0s
SEW Seward 25.11 61 *e*P **P 10 24 29.7 -1.5**
comp=Z,68nm,1.0s
WRH Wood River Hil 25.14 50 *e*P **P 10 24 31.5 +0.1**
comp=Z,158nm,1.2s
TCOL CIGO, UAF Yank 25.21 49 P **P 10 24 31.8 -0.3**
baz=274,SNR=14

COLA College 25.22 49 *e*P **P 10 24 32.4 +0.3**
comp=Z,53nm,0.9s
COLA College 25.22 49*d i*P **P 10 24 31.6 -0.5**
COLA pmax pmax
comp=Z,10.0nm,0.7s
CCB Clear Creek Bu 25.25 50 *e*P **P 10 24 32.4 -0.1**
comp=Z,116nm,1.2s
SML Sawmill 25.33 57 *e*P **P 10 24 32.7 -0.6**
comp=Z,71nm,0.8s
SML Sawmill 25.33 57 *e*P **P 10 24 32.7 -0.6**
SML pmax pmax
comp=Z,71nm,0.8s
KNK Knik Glacier 25.34 58 *e*P **P 10 24 33.0 -0.3**
comp=Z,92nm,1.0s
POKR Poker Plat Res 25.38 49 P **P 10 24 33.5 -0.2**
baz=273
DHY Denali Highway 25.59 54 *e*P **P 10 24 34.8 -1.0**
comp=Z,40nm,0.9s
ILAR Eielson Array 25.64 50 *e*P **P 10 24 35.4 -0.7**
ILAR Eielson Array 25.64 50 P **P 10 24 35.1 -0.8**
comp=Z,13nm,0.8s,baz=263,slow=7.9,SNR=96
ILAR LR LR 10 35 17.3
comp=Z,643nm,18.5s,baz=263,slow=38
ILB Eielson Array 25.64 50 *e*P **P 10 24 35.3 -0.7**
comp=Z,20nm,0.8s
HDA Harding Lake 25.64 50 *e*P **P 10 24 34.5 -1.5**
comp=Z,25nm,0.7s
HDA Harding Lake 25.64 50 P **P 10 24 35.0 -1.0**
baz=275,SNR=36
MJB9 Matsu-Tunnel 25.64 231 *e*P **P 10 24 37.1 +0.7**
MAJO Matsushiro 25.65 231 *e*P **P 10 24 37.1 +0.8**
comp=Z,74nm,0.8s
MAJO Matsushiro 25.65 231*c i*P **P 10 24 36.7 +0.4**
MAJO pmax pmax
comp=Z,46nm,0.8s
MAT Matsushiro 25.65 231 P **P 10 24 36.8 +0.5**
MAT S **S 10 29 03.8 -0.6**
MJAR Matsushiro Arr 25.65 231 *e*P **P 10 24 36.3 0.0**
MJAR Matsushiro Arr 25.65 231 P **P 10 24 37.4 +1.1**
comp=Z,29nm,0.7s,baz=22,slow=6.9,SNR=101
MJAR LR LR 10 36 16.8
comp=Z,1μm,18.4s,baz=40,slow=40
SCM Sheep Creek Mo 25.80 56 *e*P **P 10 24 37.4 -0.2**
comp=Z,208nm,0.8s
GLI Glacier Island 26.09 59 *e*P **P 10 24 39.0 -1.2**
comp=Z,27nm,0.8s
PRP Porcupine Dome 26.16 48 *e*P **P 10 24 40.8 -0.1**
comp=Z,34nm,0.9s
FYU Fort Yukon 26.23 45 *e*P **P 10 24 41.9 +0.6**
comp=Z,114nm,1.2s
BOD Bodaibo 26.23 294 *e*P **P 10 24 40.4 -1.0**
BOD pmax pmax
comp=Z,32nm,1.3s
BMAR Burnt Mountain 26.46 43 *e*P **P 10 24 43.9 +0.3**
PAX Paxson 26.47 54 *e*P **P 10 24 43.4 -0.2**
comp=Z,6.0nm,0.8s
KLU Klutina 26.52 57 *e*P **P 10 24 43.7 -0.4**
comp=Z,29nm,0.9s
HIA Hailar 26.63 274 *e*P **P 10 24 43.8 -1.4**
comp=Z,18nm,0.8s
RIDG Independent Ri 26.63 52 *e*P **P 10 24 43.4 -1.7**
comp=Z,27nm,0.8s
CN2 Changchun 26.65 258 *e*P **P 10 24 44.3 -1.0**
CN2 *es*P sP 10 24 51.3 +1.8
CN2 *e*S **S 10 29 16.5 -3.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,770nm,14.0s
CN2 LR LR
comp=Z,1μm,17.0s
DIV Divide 26.67 58 *e*P **P 10 24 44.8 -0.6**
comp=Z,39nm,1.0s
HARP HAARP 26.70 55 *e*P **P 10 24 46.0 +0.3**
comp=Z,32nm,0.9s
EYAK Cordova Ski Ar 26.81 59 *e*P **P 10 24 46.0 -0.6**
comp=Z,28nm,1.0s
SCRK Sand Creek 26.98 51 *e*P **P 10 24 47.0 -1.3**
comp=Z,39nm,0.8s
DOT Dot Lake 26.99 52 *e*P **P 10 24 46.8 -1.4**
comp=Z,16nm,0.9s
INU Inuyama 27.17 231 *e*P **P 10 24 50.1 +0.1**
MENT Mentasta 27.26 53 *e*P **P 10 24 50.5 -0.2**
comp=Z,10nm,0.8s
JHJ Hachijo jima 2 27.95 224 LR LR 10 38 05.4
comp=Z,297nm,18.6s,baz=54,slow=41
EGAK Eagle 28.07 49 *e*P **P 10 24 56.9 -1.1**
comp=Z,36nm,0.9s
BCAR Beaver Creek A 28.10 53 *e*P **P 10 24 58.6 +0.3**
TGL Tana Glacier 28.15 58 *e*P **P 10 24 57.9 -0.9**
comp=Z,23nm,1.2s
BALM Baldy 28.31 57 *e*P **P 10 24 60.0 -0.2**
comp=Z,15nm,1.1s
CTGM Chitina Glacie 28.80 57 *e*P **P 10 25 04.9 +0.3**
comp=Z,9.7nm,1.0s
DAWY Dawson 28.95 50 *e*P **P 10 25 05.8 -0.1**
comp=Z,6.3nm,0.8s
EPYK Eagle Plains 29.65 45 *e*P **P 10 25 11.7 -0.2**
comp=Z,39nm,1.0s
EPYK Eagle Plains 29.65 45 P **P 10 25 12.9 +1.0**
baz=280,SNR=22
KSRS Korea Array 29.84 246 P **P 10 25 13.8 0.0**
comp=Z,3.7nm,0.8s,baz=35,slow=8.8,SNR=12
KSRS PcP **PcP 10 28 18.1 +1.4**
comp=Z,3.4nm,0.9s,baz=23,slow=1.9,SNR=7.8
KSRS LR LR 10 37 57.5
comp=Z,484nm,18.6s,baz=60,slow=38
KS15 Wonju Array Si 29.86 246 *e*P **P 10 25 14.0 0.0**
KSAR Wonju Array Be 29.86 246 *e*P **P 10 25 13.1 -0.9**
INK Inuvik 30.57 41 *e*P **P 10 25 20.3 +0.4**
comp=Z,30nm,0.9s
HYT Haines Junctio 30.64 56 *e*P **P 10 25 21.4 +0.5**
comp=Z,13nm,0.8s
WHY Whitehorse 31.91 56 *e*P **P 10 25 32.1 +0.1**
comp=Z,15nm,0.8s
BESE Bessie Mountai 32.69 59 *e*P **P 10 25 38.4 -0.4**
comp=Z,12nm,1.1s
JIS Juneau Island 33.03 60 *e*P **P 10 25 43.1 +1.4**
comp=Z,37nm,1.0s
SIT Sitka 33.08 62 *e*P **P 10 25 43.7 +1.6**
comp=Z,52nm,1.1s
TLY Talaya 34.23 288⇑ *e*P **P 10 25 53.0 +0.8**
BJT Baijiatuau 34.31 262 *e*P **P 10 25 53.7 +0.7**
comp=Z,8.4nm,0.6s
NRIK Noril'sk 34.45 323 P **P 10 25 53.2 -0.7**
comp=Z,2.9nm,0.5s,baz=84,slow=6.1,SNR=9.6
NRIK LR LR 10 40 14.7
comp=Z,693nm,18.8s,baz=74,slow=37
ULN Ulaanbaatar 34.46 280 *e*P **P 10 25 53.6 -0.8**
comp=Z,10nm,1.0s
ULN Ulaanbaatar 34.46 280*c i*P **P 10 25 53.3 -1.1**
ULN pmax pmax
comp=Z,19nm,1.7s
WRAK Wrangell Islan 34.83 62 *e*P **P 10 25 57.4 +0.1**
comp=Z,5.8nm,0.6s
SONA0 Songino Array 34.84 281 *e*P **P 10 25 57.7 0.0**
SONA0 *e*PcP **PcP 10 28 30.3 -0.2**
SONA0 *e*ScP **ScP 10 32 17.2 +1.6**
SONM Songino Array 34.84 281 *e*P **P 10 25 56.2 -1.4**
SONM *e*PcP **PcP 10 28 29.4 -1.1**
SONM Songino Array 34.84 281 P **P 10 25 57.7 0.0**
comp=Z,10nm,0.7s,baz=58,slow=8.8,SNR=44
SONM PcP **PcP 10 28 30.3 -0.2**
comp=Z,4.4nm,1.1s,baz=87,slow=3.2,SNR=3.7
SONM ScP **ScP 10 32 17.2 +1.6**
comp=Z,3.9nm,1.1s,baz=79,slow=1.3,SNR=9.8
SONM LR LR 10 41 38.5
comp=Z,908nm,19.4s,baz=56,slow=39
DLBC Dease Lake 35.05 58 *e*P **P 10 26 00.8 +1.5**
comp=Z,9.1nm,0.7s
ZAK Zakamensk 35.11 286 *e*P **P 10 25 58.5 -1.5**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
MOY Mondy 35.64 290 *e*P **P 10 26 03.4 -1.1**
MOY pmax pmax
comp=Z,16nm,2.4s
HHC Hu-ho-hao-te 36.32 267 *e*P **P 10 26 09.6 -0.8**
HHC S **S 10 31 46.0 -5.1**
HHC pmax pmax
comp=Z,91nm,1.0s
HHC pmax pmax
comp=Z,330nm,5.1s
HHC LR LR

comp=Z,720nm,13.9s
HHC LR LR
comp=Z,1μm,14.7s
HHC LR LR
comp=Z,1μm,14.1s
H11N2 WAKE ISLAND Hy 36.40 174 T T 11 05 00.8
baz=357,slow=76
H11N3 WAKE ISLAND Hy 36.42 173 T T 11 05 01.9
baz=357,slow=76
H11N1 WAKE ISLAND Hy 36.42 174 T T 11 05 01.5
baz=357,slow=76
BTO Baotou 37.35 268 *e*P **P 10 26 16.5 -2.7**
NJ2 Nanjing 38.73 250 *e*P **P 10 26 30.3 -0.5**
NJ2 sP **sP 10 26 36.9 +1.9**
NJ2 S **S 10 32 28.8 +1.2**
NJ2 sS **sS 10 32 33.3 +0.6**
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 pmax pmax
comp=Z,95nm,3.6s
NJ2 LR LR
comp=Z,1μm,23.1s
NJ2 LR LR
comp=Z,1μm,22.2s
NJ2 LR LR
comp=Z,1μm,22.6s
YKW3 Yellowknife Ar 39.89 46 *e*P **P 10 26 40.3 +0.2**
comp=Z,22nm,0.9s
YKA Yellowknife Ar 39.93 46 *e*P **P 10 26 39.5 -0.9**
YKA Yellowknife Ar 39.93 46 P **P 10 26 40.5 +0.1**
comp=Z,5.8nm,0.6s,baz=300,slow=8.0,SNR=49
YKA PcP **PcP 10 28 46.3 +0.8**
comp=Z,1.3nm,0.8s,baz=311,slow=3.5,SNR=5.0
YKA ScP **ScP 10 32 34.3 +0.1**
comp=Z,1.2nm,0.9s,baz=300,slow=3.9,SNR=6.8
YKB5 Yellowknife Ar 39.93 46 *e*P **P 10 26 40.5 +0.1**
YKB5 *e*PcP **PcP 10 28 46.4 +0.8**
YKB5 *e*ScP **ScP 10 32 34.4 +0.1**
RES Resolute Bay 39.97 24 *e*P **P 10 26 40.0 -0.7**
comp=Z,11nm,0.8s
RES Resolute Bay 39.97 24 P **P 10 26 40.7 +0.1**
RES pmax pmax
comp=Z,16nm,1.2s
WHN Wuhan 42.31 254 P **P 10 27 01.8 +1.4**
WHN PcP **PcP 10 28 55.0 +1.1**
WHN S **S 10 33 29.6 +8.6**
WHN ScS **ScS 10 36 57.0 -5.2**
WHN pmax pmax
comp=Z,180nm,7.2s
WHN LR LR
comp=Z,760nm,12.7s
WHN LR LR
comp=Z,3μm,14.8s
WHN LR LR
comp=Z,3μm,16.5s
ZAA1 Zalesovo Array 42.55 301 *e*P **P 10 27 01.1 -1.0**
ZAA1 *e*PP **PP 10 28 41.5 +1.2**
ZALV Zalesovo Beam 42.55 301 *e*P **P 10 27 00.9 -1.2**
ZALV Zalesovo Beam 42.55 301 P **P 10 27 01.1 -1.0**
comp=Z,1.0nm,0.5s,baz=46,slow=6.4,SNR=4.2
ZALV PP **PP 10 28 41.5 +1.1**
comp=Z,9.5nm,1.1s,baz=54,slow=10,SNR=5.9
ZALV LR LR 10 45 57.9
comp=Z,521nm,19.2s,baz=67,slow=38
NVS Novosibirsk 42.78 303 *e*P **P 10 27 03.8 -0.1**
NVS *e* 10 28 42.6
NVS pmax pmax
comp=Z,39nm,1.7s
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,17nm,1.8s
TULEG Thule 43.67 15 *e*P **P 10 27 10.3 -0.6**
comp=E,9.9nm,1.1s
DGZ Jazzator, Alta 43.82 295*d i*P **P 10 27 12.1 -0.5**
DGZ pmax pmax
comp=Z,9.0nm,0.8s
GTA Gaotai 43.88 275 P **P 10 27 13.6 +0.4**
GTA pP sP 10 27 17.4 0.0
GTA sP pP 10 27 20.4 +4.2
GTA S **S 10 33 43.5 -0.8**
GTA pmax pmax
comp=Z,91nm,0.9s
GTA pmax pmax
comp=Z,1μm,5.2s
GTA LR LR
comp=Z,1μm,21.6s
GTA LR LR
comp=Z,1μm,22.3s
GTA LR LR
comp=Z,2μm,13.7s
LZH Lanzhou 43.97 269 *e*P **P 10 27 15.1 +1.1**
LZH pP sP 10 27 19.8 +1.6
LZH sP pP 10 27 22.8 +5.8
LZH S **S 10 33 40.4 -5.3**
LZH sS pS 10 33 49.8 +0.6
LZH pmax pmax
comp=Z,62nm,1.0s
LZH pmax pmax
comp=Z,150nm,4.6s
LZH LR LR
comp=Z,2μm,12.5s
LZH LR LR
comp=Z,2μm,14.1s
LZH LR LR
comp=Z,2μm,14.9s
KBS Kingsbay 44.15 352 *e*P **P 10 27 14.8 +0.1**
comp=Z,16nm,0.9s
KBS Kingsbay 44.15 352*ce*P **P 10 27 14.7 0.0**
KBS pmax pmax
comp=Z,69nm,1.3s
SPA0 Spitsbergen Ar 44.46 351 *e*P **P 10 27 17.3 0.0**
comp=Z,76nm,0.9s
SPITS Spitsbergen Ar 44.46 351 P **P 10 27 17.2 0.0**
SPITS pmax pmax
comp=Z,23nm,0.6s
YULB Yu-li 44.55 240 *e*P **P 10 27 15.8 -2.7**
comp=Z,3.6nm,0.9s
B05A Bryant 44.57 67 P **P 10 27 18.7 +0.3**
baz=310
KIP Kipapa 45.11 124⇑ *e*P **P 10 27 24.2 +1.2**
KIP pmax pmax
comp=Z,56nm,1.0s
B08A Colville Reser 45.93 65 *e*P **P 10 27 29.6 +0.3**
comp=Z,12nm,0.9s
C09A Chrisman Ranch 46.83 65 *e*P **P 10 27 36.8 +0.5**
comp=Z,9.4nm,0.9s
NEW Newport 47.11 64 *e*P **P 10 27 38.8 +0.2**
comp=Z,8.2nm,1.0s
NEW Newport 47.11 64 P **P 10 27 37.9 -0.6**
baz=311
I04A Tendick Farm, 47.34 72 P **P 10 27 41.0 +0.5**
baz=313
DAG Danmarks Havn 47.43 0 *i* P **P 10 27 40.0 -0.6**
DAG pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 47.43 0 *i* P **P 10 27 40.0 -0.6**
comp=Z,9.0nm,0.8s
WMQ Urumqi 47.51 288 *e*P **P 10 27 41.8 +0.1**
WMQ pP sP 10 27 48.3 +2.1
WMQ sP pP 10 27 52.6 +7.8
WMQ pmax pmax
comp=Z,120nm,1.1s
WMQ pmax pmax
comp=Z,140nm,3.6s
WMQ LR LR
comp=Z,8μm,17.9s
WMQ LR LR
comp=Z,5μm,18.7s
WMQ LR LR
comp=Z,3μm,23.7s
WMQ Urumqi 47.51 288 *e*P **P 10 27 41.8 +0.1**
comp=Z,37nm,0.8s
KURK Kurchatov 47.54 301 *e*P **P 10 27 40.7 -1.1**
comp=Z,28nm,0.9s
KURK Kurchatov 47.54 301*de*P **P 10 27 40.5 -1.3**
KURK pmax pmax
comp=Z,17nm,0.8s
I05D Terrebonne, OR 47.54 71 P **P 10 27 42.6 +0.6**
baz=313
E09A Wood Farm, Sta 47.75 66 *e*P **P 10 27 43.7 +0.2**
comp=Z,15nm,1.0s
CD2 Chengdu 47.85 264 P **P 10 27 46.6 +2.1**
CD2 pmax pmax
comp=Z,40nm,0.4s
CD2 LR LR

comp=Z,1μm,15.3s
CD2 LR LR
comp=Z,1μm,17.4s
CD2 LR LR
comp=Z,860nm,15.3s
J04D Umpqua Nationa 47.88 72 P P 10 27 45.3 +0.5
baz=313
PINE Pine Mountain 48.12 71 eP P 10 27 47.9 +1.2
comp=Z,6.3nm,0.8s
WALA Waterton Lakes 48.18 61 eP P 10 27 47.6 +0.6
comp=Z,16nm,0.8s
J05D Fort Rock, OR 48.31 72 P P 10 27 48.3 +0.2
baz=314,SNR=7.8
MK31 Makanchi Array 48.32 295 eP P 10 27 46.2 -1.7
comp=Z,8.6nm,0.8s
MK32 Makanchi Array 48.32 295 eP P 10 27 46.3 -1.6
MK32 ePP PP 10 29 40.5 +0.4
MKAR Makanchi Array 48.32 295 eP P 10 27 46.1 -1.8
MKAR Makanchi Array 48.32 295 P P 10 27 46.3 -1.6
comp=Z,9.3nm,0.7s,baz=57,slow=6.7,SNR=72
MKAR PP PP 10 29 40.5 +0.4
comp=Z,1.9nm,0.7s,baz=53,slow=9.8,SNR=3.8
MKAR LR LR 10 49 00.4
comp=Z,469nm,19.5s,baz=36,slow=37
MAKZ Makanchi 48.47 295 eP P 10 27 47.5 -1.6
comp=Z,17nm,1.1s
L04D Klamath Falls 48.48 73 P P 10 27 49.6 +0.2
baz=314
F10A Beach Ranch, E 48.58 66 eP P 10 27 50.9 +0.8
comp=Z,8.1nm,0.8s
K05A Summer Lake 48.88 72 eP P 10 27 54.3 +1.8
comp=Z,7.6nm,1.0s
M04C Macdoel 49.03 73 P P 10 27 54.0 +0.4
baz=314
N02D Trinity Center 49.12 75 P P 10 27 54.7 +0.5
baz=315
BMO Blue Mountains 49.30 67 eP P 10 27 56.3 +0.7
comp=Z,7.6nm,1.1s
MSO Missoula 49.67 63 eP P 10 27 58.9 +0.5
comp=Z,6.6nm,0.8s
MSO Missoula 49.67 63 P P 10 27 58.0 -0.4
baz=313,SNR=9.0
J08A Circle Bar Ran 49.73 70 eP P 10 27 59.6 +0.7
comp=Z,3.6nm,1.1s
MOD Modoc Plateau 49.77 72 eP P 10 28 00.1 +0.9
comp=Z,6.3nm,0.8s
PLID Pearl Lake 49.82 66 eP P 10 27 58.6 -1.0
comp=Z,4.9nm,0.6s
BRVK Borovoye 49.83 308 eP P 10 27 58.2 -1.1
comp=Z,12nm,1.0s
BRVK Borovoye 49.83 308 deP P 10 27 58.1 -1.2
BRVK pmax pmax
comp=Z,12nm,1.1s
O03E Paynes Creek 50.09 75 P P 10 28 02.0 +0.4
baz=315
FCC Fort Churchill 50.18 41 eP P 10 28 02.3 +0.4
comp=Z,31nm,0.9s
WVOR Wild Horse Val 50.28 71 eP P 10 28 03.2 +0.1
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 50.28 71 P P 10 28 04.1 +1.0
WVOR pmax pmax
comp=Z,11nm,1.1s
LVZ Lovozero 50.57 337⇓ eP P 10 28 07.1 +2.3
LVZ pmax pmax
comp=Z,42nm,1.5s
HRY Holter Researc 50.80 62 eP P 10 28 07.8 +0.8
SUMG Summit 50.81 8 eP P 10 28 06.6 -0.4
comp=Z,38nm,1.1s
SUMG Summit 50.81 8 i P P 10 28 06.8 -0.2
SUMG pmax pmax
comp=Z,93nm,1.1s
SUMG Summit 50.81 8 i P P 10 28 06.8 -0.2
comp=Z,93nm,1.1s
EGMT Eagleton 50.91 60 eP P 10 28 08.2 +0.5
comp=Z,16nm,0.9s
EGMT Eagleton 50.91 60 P P 10 28 07.9 +0.2
baz=314,SNR=5.5
ARA0 ARCESS Array S 50.95 342 eP P 10 28 06.6 -1.0
ARA0 ePcP PcP 10 29 21.7 -2.0
ARCES ARCESS Array B 50.95 342 eP P 10 28 06.4 -1.3
ARCES ARCESS Array B 50.95 342 eP P 10 28 06.4 -1.3
ARCES ARCESS Array B 50.95 342 P P 10 28 06.6 -1.0
comp=Z,8.9nm,0.9s,baz=44,slow=11,SNR=9.9
ARCES PcP PcP 10 29 21.7 -2.0
comp=Z,9.4nm,1.0s,baz=2.9,slow=7.3,SNR=4.2
ARCES LR LR 10 52 37.8
comp=Z,202nm,19.4s,baz=24,slow=40
BEKR Beckworth 51.17 74 eP P 10 28 10.8 +0.9
comp=Z,3.0nm,0.8s
SVE Sverdlovsk 51.21 316 eP P 10 28 09.2 -0.5
SVE pmax pmax
comp=Z,9.0nm,0.8s
SVE MLR MLR
comp=Z,895nm,13.0s
DLMT Dillon 51.36 64 eP P 10 28 11.7 +0.5
comp=Z,6.3nm,0.8s
MCMT McKenzie Canyo 51.61 65 eP P 10 28 13.4 +0.2
BOZ Bozeman (W) 51.68 63 eP P 10 28 14.3 +0.7
comp=Z,4.4nm,0.7s
BOZ Bozeman (W) 51.68 63 P P 10 28 13.6 0.0
baz=315,SNR=13
HLID Hailey 51.70 67 eP P 10 28 14.4 +0.6
comp=Z,3.2nm,0.7s
HLID Hailey 51.70 67 P P 10 28 14.0 +0.2
baz=315,SNR=9.1
PAHR Pah Rah Range 51.81 74 eP P 10 28 15.7 +1.0
comp=Z,2.7nm,0.8s
VCNR Virginia City 51.96 74 eP P 10 28 16.3 +0.4
comp=Z,4.9nm,0.8s
PNTR Pine Nut 52.14 74 eP P 10 28 18.8 +1.5
comp=Z,10nm,0.7s
PDGK Podgornoye 52.15 293 P P 10 28 15.9 -1.2
PDGK pmax pmax
comp=Z,17nm,0.9s
OTUK Ortayu 52.22 302 P P 10 28 16.6 -0.9
OTUK pmax pmax
comp=Z,24nm,0.9s
ARU Arti 52.29 317 eP P 10 28 17.1 -0.8
comp=Z,9.8nm,0.9s
ARU Arti 52.29 317 c iP P 10 28 16.7 -1.1
ARU S S 10 35 41.7 -0.8
ARU SS SS 10 39 19.2 -0.1
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU MLR MLR
comp=Z,636nm,15.0s
QLMT Earthquake Lak 52.32 64 eP P 10 28 19.3 +0.8
YERR Yerington 52.41 74 eP P 10 28 20.3 +1.1
comp=Z,5.2nm,0.8s
WAKR Walker 52.65 75 eP P 10 28 22.8 +1.8
comp=Z,4.9nm,0.8s
PRGR Permogore 52.77 328 eP P 10 28 19.7 -1.6
PRGR pmax pmax
comp=Z,18nm,0.7s
TMCR Tamitsa 52.84 333 eP P 10 28 20.9 -0.9
TMCR pmax pmax
comp=Z,40nm,1.0s
KMI Kunming 52.90 260 P P 10 28 23.3 +0.3
KMI pP pP 10 28 26.6 +0.5
KMI sP sP 10 28 29.1 +1.6
KMI pmax pmax
comp=Z,14nm,0.8s
KMI pmax pmax
comp=Z,60nm,3.2s
KMI LR LR
comp=Z,1μm,19.9s
KMI LR LR
comp=Z,930nm,21.3s
KMI LR LR
comp=Z,750nm,13.1s
KVN Kaiserville 52.98 73 eP P 10 28 24.8 +1.4
comp=Z,5.5nm,1.0s
LKWY Lake 53.03 63 eP P 10 28 25.6 +1.9
comp=Z,11nm,0.9s
RYN Ryan 53.05 74 eP P 10 28 25.1 +1.1
comp=Z,3.7nm,0.9s
H17A Grant Village 53.06 64 eP P 10 28 26.0 +2.0
comp=Z,13nm,1.1s
H17A Grant Village 53.06 64 P P 10 28 25.5 +1.5
baz=316,SNR=10.0
RLMT Red Lodge 53.19 62 eP P 10 28 26.2 +1.3
comp=Z,14nm,0.8s
RLMT Red Lodge 53.19 62 P P 10 28 25.7 +0.8
baz=316,SNR=19
FLWY Flagg Ranch 53.22 64 eP P 10 28 26.1 +1.0
comp=Z,11nm,0.9s
IMW Indian Meadow 53.23 64 eP P 10 28 26.7 +1.4
comp=Z,9.2nm,0.9s
DGMT Dagmar 53.24 56 eP P 10 28 25.3 +0.3
comp=Z,15nm,0.8s
ELK Elko 53.27 70 eP P 10 28 26.1 +0.5
comp=Z,2.3nm,0.8s
PRZ Przheval'sk 53.31 293 eP P 10 28 24.3 -1.5
comp=Z,28nm,1.1s
NV01 Mina Array Sit 53.32 74 eP P 10 28 27.3 +1.4
NVAR Mina Array Bea 53.32 74 eP P 10 28 26.8 +0.9
NVAR Mina Array Bea 53.32 74 P P 10 28 27.3 +1.4
comp=Z,2.8nm,0.7s,baz=308,slow=7.9,SNR=18
NVAR LR LR 10 48 58.0
comp=Z,217nm,19.7s,baz=348,slow=34
FXWY Fox Creek 53.37 65 eP P 10 28 27.5 +1.2
comp=Z,6.2nm,0.7s
NV11 Mina Array Sit 53.39 74 eP P 10 28 27.4 +1.0
MOOW Moose Ponds 53.44 64 eP P 10 28 28.1 +1.3
comp=Z,5.0nm,1.1s
MSF Maaselka 53.44 338 P P 10 28 26.5 +0.3
MSF pmax pmax
comp=Z,18nm,1.9s
MDPB Devils Postpil 53.48 75 eP P 10 28 28.6 +1.5
comp=Z,6.6nm,1.0s
TPAW Teton Pass 53.52 65 eP P 10 28 28.9 +1.5
comp=Z,11nm,0.8s
OMMB Old Mammoth Mi 53.53 75 eP P 10 28 28.9 +1.3
comp=Z,1.9nm,0.7s
LAO LASA Array 53.56 59 eP P 10 28 28.4 +1.0
comp=Z,16nm,0.9s
LAO LASA Array 53.56 59 P P 10 28 27.9 +0.5
baz=316,SNR=10
LOHW Long Hollow 53.61 64 eP P 10 28 29.3 +1.4
comp=Z,5.7nm,0.6s
SNOW Snow King Moun 53.64 64 eP P 10 28 29.8 +1.5
comp=Z,4.8nm,0.9s
REDW Red Top Meadow 53.66 65 eP P 10 28 29.7 +1.3
comp=Z,4.6nm,0.8s
KIRV Kirov 53.95 324 P P 10 28 29.7 -0.2
comp=Z,16nm,0.8s,baz=243,slow=10,SNR=5.7
QIZ Qiongzhong 53.99 249 P P 10 28 30.3 -0.5
QIZ S S 10 36 11.0 +4.5
QIZ LR LR
comp=Z,500nm,15.2s
QIZ LR LR
comp=Z,380nm,17.7s
QIZ LR LR
comp=Z,660nm,17.6s
TIN Tinemaha, Big 54.36 75 P P 10 28 34.6 +1.2
baz=318
TKM2 Tokmak 2 54.43 296 P P 10 28 33.0 -1.0
SNR=13
BOOM Boomskoye usch 54.57 295 eP P 10 28 34.4 -0.6
comp=Z,26nm,0.9s
USP Ospenovka 54.73 297 P P 10 28 35.0 -1.0
SNR=26
BW06 Boulder Array 54.74 64 P P 10 28 36.8 +0.5
baz=317,SNR=14
PDAR Pinedale Array 54.74 64 eP P 10 28 36.7 +0.3
PDAR Pinedale Array 54.74 64 P P 10 28 37.1 +0.8
comp=Z,6.2nm,0.6s,baz=326,slow=2.8,SNR=62
PDAR LR LR 10 52 45.1
comp=Z,255nm,21.0s,baz=332,slow=37
VES Vestal, Richgr 54.79 77 P P 10 28 37.1 +0.7
baz=318
CHMS Chumysh 54.80 296 P P 10 28 35.7 -0.8
SNR=8.3
R11A Troy Canyon, C 54.83 72 P P 10 28 37.4 +0.4
baz=318,SNR=6.5
GRAC Grapevine Rang 54.87 74 P P 10 28 37.5 +0.5
baz=318
CWC Cottonwood Cre 54.89 75 P P 10 28 37.8 +0.4
baz=318
DUG Dugway, Tooele 54.95 69 P P 10 28 38.5 +0.8
baz=317,SNR=5.1
KBK Karagaybulak 54.95 296 P P 10 28 37.1 -0.7
SNR=13
KLMR Klimovskoe 55.17 330 eP P 10 28 37.3 -1.5
KLMR pmax pmax
comp=Z,27nm,1.5s
AAK Ala-Archa 55.19 296 P P 10 28 38.7 -0.8
SNR=29
AAK Ala-Archa 55.19 296 eP P 10 28 38.1 -1.3
comp=Z,35nm,0.9s
AAK Ala-Archa 55.19 296 c iP P 10 28 37.9 -1.6
AAK pmax pmax
comp=Z,54nm,1.3s
KZA Kyzart 55.22 295 P P 10 28 39.4 -0.5
SNR=9.2
ISA Isabella, Lake 55.25 76 P P 10 28 40.5 +0.6
baz=318
UCH Uchtor 55.48 296 P P 10 28 41.2 -0.7
SNR=14
MPMC Manual Prospec 55.50 75 P P 10 28 42.5 +0.7
baz=318,SNR=6.8
FURC Furnace Creek, 55.53 75 P P 10 28 43.2 +1.5
baz=318
EKS2 Erkin-Say 55.53 297 P P 10 28 41.1 -0.8
SNR=34
ULM Lac du Bonnet 55.66 50 P P 10 28 43.0 +0.5
ULM Lac du Bonnet 55.66 50 P P 10 28 43.0 +0.5
comp=Z,16nm,0.9s,baz=312,slow=7.3,SNR=12
ULM LR LR 10 54 08.7
comp=Z,332nm,18.2s,baz=338,slow=38
MDND Maddock 55.80 54 eP P 10 28 42.8 -0.8
comp=Z,36nm,0.8s
MDND Maddock 55.80 54 P P 10 28 44.5 +0.9
baz=318
LRMC Laurel Mtn Rad 55.82 76 P P 10 28 44.8 +0.8
baz=318
LSA Lhasa 55.83 273 eP P 10 28 45.1 +0.6
comp=Z,28nm,0.8s
AML Almayashu 55.96 296 P P 10 28 44.4 -0.9
SNR=19
EDW2 Edwards Air Fo 56.10 77 P P 10 28 45.9 0.0
baz=319
SHOC Shoshone, Teco 56.27 75 P P 10 28 47.4 +0.3
baz=319
K22A Casper 56.35 62 P P 10 28 47.5 -0.3
baz=318
GSC Goldstone, Bar 56.43 75 P P 10 28 49.2 +0.8
baz=319
RSSD Black Hills 56.48 60 eP P 10 28 49.4 +0.7
comp=Z,8.7nm,0.6s
RSSD Black Hills 56.48 60 P P 10 28 49.1 +0.4
baz=318
RWWY Rawlins 56.72 64 eP P 10 28 50.6 +0.1
comp=Z,10nm,1.1s
KSH Kashi 56.73 293 P P 10 28 53.0 +2.5
KSH pP sP 10 28 58.4 +3.4
KSH PP PP 10 31 02.1 +5.8
KSH S S 10 36 43.9 +0.9
KSH SS SS 10 40 32.3 +2.1
KSH pmax pmax
comp=Z,72nm,1.4s
KSH pmax pmax
comp=Z,170nm,2.7s
KSH LR LR
comp=Z,540nm,9.5s
KSH LR LR
comp=Z,650nm,11.4s
KSH LR LR
comp=Z,1μm,12.5s
BFSC Mount Baldy Ra 56.76 77 P P 10 28 51.9 +1.2
baz=319
TUQ Turquoise Moun 56.81 75 P P 10 28 51.4 +0.3
baz=319,SNR=5.2
KKAR Karatay Array 56.83 299 eP P 10 28 49.2 -1.8
comp=Z,39nm,0.9s
KKAR eP P 10 28 49.4 -1.6
HEC Hector,Ludlow 57.04 75 P P 10 28 53.1 +0.4
baz=319
ABKAR Akbulak array 57.07 310 eP P 10 28 51.5 -1.1
comp=Z,3.4nm,0.6s
AGMN Agassiz Nation 57.13 51 P P 10 28 53.3 +0.3
baz=319,SNR=8.2
O20A White River Ci 57.35 66 P P 10 28 55.7 +0.8
baz=319,SNR=23
GMRC Granite Mounta 57.44 75 P P 10 28 56.7 +1.1
baz=319,SNR=7.7
BELC Belle Mtn. Jos 57.84 76 P P 10 28 58.5 0.0
baz=319
PFO Pinyon Flats O 57.89 77 P P 10 28 58.9 +0.2
baz=320
N23A Red Feather La 57.95 63 P P 10 28 59.7 +0.5
baz=319,SNR=11
FIA1 FINESS Array S 58.01 337 eP P 10 28 58.0 -1.0
FIA0 FINESS Array S 58.01 337 eP P 10 28 58.4 -0.6
FINES FINESS Array B 58.01 337 eP P 10 28 58.1 -0.9
FINES FINESS Array B 58.01 337 P P 10 28 58.4 -0.6
comp=Z,12nm,0.7s,baz=38,slow=9.6,SNR=24
FINES LR LR 10 57 27.2
comp=Z,283nm,19.1s,baz=38,slow=40
IRM Iron Mountain 58.19 75 P P 10 29 01.7 +0.9
baz=320
PV22 Blue Mesa, Par 58.27 67 eP P 10 29 02.5 +1.1
comp=Z,13nm,0.8s
PV11 David Mesa, Pa 58.40 67 eP P 10 29 03.9 +1.5
comp=Z,16nm,0.7s
BC3 Big Chuckawall 58.40 76 P P 10 29 03.1 +0.8
baz=320
MONP2 Monument Peak 58.45 77 P P 10 29 03.6 +0.8
baz=320
SHL Shillong 58.61 270 eP P 10 29 01.0 -2.9
PDMCI Parker Dam,Lak 58.62 74 P P 10 29 04.6 +0.9
baz=320
PV01 Paradox Valley 58.68 67 eP P 10 29 05.0 +0.6
comp=Z,3.4nm,0.6s
SMCO Snowmass 58.72 65 eP P 10 29 05.7 +0.9
comp=Z,12nm,0.8s
Y12C Blythe 58.83 75 eP P 10 29 06.6 +1.4
comp=Z,9.3nm,0.8s
Y12C Blythe 58.83 75 P P 10 29 05.8 +0.7
baz=320
ISCO Idaho Springs 58.94 64 P P 10 29 07.2 +1.0
baz=319,SNR=22
WUAZ Wupatki 59.19 71 P P 10 29 08.7 +0.9
baz=320,SNR=10
GLA Glamis 59.20 76 P P 10 29 08.2 +0.4
baz=320
EYMN Ely 59.28 49 eP P 10 29 08.0 0.0
comp=Z,32nm,0.8s
EYMN Ely 59.28 49 P P 10 29 08.0 0.0
baz=321,SNR=8.2
MVCO Mesa Verde 59.42 68 P P 10 29 10.1 +0.7
baz=320
PHRA Phrae 59.59 258 P P 10 29 12.5 +1.9
comp=Z,1.1nm,1.5s
Q24A Divide 59.80 64 P P 10 29 12.7 +0.5
baz=320
OGNE Ogallala 59.85 61 P P 10 29 13.0 +0.8
baz=320
S22A 4UR Ranch, Cre 59.87 66 P P 10 29 13.6 +0.9
baz=320,SNR=24
LAMP Lampang 59.90 258 P P 10 29 15.3 +2.6
comp=Z,20μm,0.8s,comp=Z,360μm
MOS Moscow 60.00 328 eP P 10 29 16.5 +3.6
GAR Garm 60.01 296 eP P 10 29 12.1 -1.3
comp=Z,48nm,0.9s
UTTA Uttaradit 60.03 257 P P 10 29 14.6 +1.1
comp=Z,15μm,0.8s,comp=Z,450μm
CMMT Chiang Mai 60.04 259 P P 10 29 14.9 +1.2
comp=Z,3.7nm,1.0s
JIRN Jiri 60.17 276 eP P 10 29 13.7 -1.2
ECSD EROS Data Cent 60.28 55 eP P 10 29 15.7 +0.6
comp=Z,7.8nm,0.9s
ECSD EROS Data Cent 60.28 55 P P 10 29 15.3 +0.2
baz=321
E38A The Farm, Brul 60.30 50 P P 10 29 15.2 +0.1
baz=322
CMAR Chiang Mai Arr 60.33 259 eP P 10 29 16.4 +0.8
CMAR Chiang Mai Arr 60.33 259 i P P 10 29 16.6 +0.9
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 60.33 259 P P 10 29 15.9 +0.2
comp=Z,3.6nm,0.8s,baz=18,slow=6.9,SNR=15
CMAR PcP PcP 10 29 59.6 -1.1
comp=Z,3.9nm,0.6s,baz=15,slow=2.8,SNR=9.1
CMAR LR LR 10 56 42.9
comp=Z,428nm,20.2s,baz=50,slow=37
W18A Petrified Fore 60.36 70 eP P 10 29 16.5 +0.6
comp=Z,6.5nm,0.8s
W18A Petrified Fore 60.36 70 P P 10 29 16.8 +1.0
baz=320
RAMN Ramite 60.49 275 eP P 10 29 15.2 -1.8
comp=Z,62nm,0.7s
VSU Vasula 60.53 335 c iP P 10 29 16.0 -0.5
VSU pmax pmax
comp=Z,136nm,1.7s
VSU Vasula 60.53 335 eP P 10 29 15.9 -0.5
VSU IAmb IAmb 10 29 16.6
comp=Z,78nm,0.7s
SDCO Great Sand Dun 60.55 65 P P 10 29 17.8 +0.5
baz=320,SNR=16
KKN Kakani 60.58 277 eP P 10 29 16.4 -1.1
comp=Z,56nm,0.8s
F38A Pierce - Schro 60.67 51 P P 10 29 17.8 +0.1
baz=322,SNR=8.7
PKI Pulchoki 60.68 276 eP P 10 29 16.7 -1.6
comp=Z,65nm,0.8s
PKIN Phulchoki 60.68 276 eP P 10 29 17.0 -1.3
comp=Z,55nm,0.9s
X18A Snowflake 60.69 71 eP P 10 29 19.2 +1.0
comp=Z,14nm,0.9s
DMN Daman 60.82 277 eP P 10 29 18.3 -0.9
comp=Z,45nm,0.9s
SPMN Marine on St. 60.84 52 eP P 10 29 18.9 +0.2
comp=Z,20nm,0.8s
SPMN Marine on St. 60.84 52 P P 10 29 18.9 +0.2
baz=322
OBN Obninsk 60.85 328 eP P 10 29 17.2 -1.5
comp=Z,21nm,0.5s
OBN Obninsk 60.85 328⇓ eP P 10 29 18.3 -0.4
OBN e 10 30 00.7
OBN e 10 31 30.7
OBN pmax pmax
comp=Z,43nm,2.5s
OBN MLR MLR
comp=Z,299nm,17.0s
OBN Obninsk 60.85 328 P P 10 29 18.2 -0.4
comp=Z,4.7nm,0.4s,baz=246,slow=23,SNR=3.8
CHGR Chuyangaron 60.86 297 eP P 10 29 16.8 -2.3
comp=Z,16nm,0.8s
E39A Mellen 60.91 49 P P 10 29 19.6 +0.4
baz=322
NC204 NORSAR Array S 60.95 345 eP P 10 29 18.4 -1.0
NC405 NORSAR Array S 60.97 344 eP P 10 29 18.8 -0.7
DANN Dangsing 60.99 278 eP P 10 29 19.0 -1.4
comp=Z,95nm,0.8s
KSCO Kaye Shedlock' 61.03 63 P P 10 29 21.1 +0.7
baz=321,SNR=6.8
NB201 NORSAR Array S 61.09 345 eP P 10 29 19.5 -0.8
F39A Loretta 61.11 50 P P 10 29 20.4 -0.3
baz=322
NB2 NORSAR Subarra 61.11 345 P P 10 29 19.1 -1.4
comp=Z,2.4nm,0.6s,baz=18,slow=6.9
NB200 NORSAR Array S 61.11 345 eP P 10 29 19.7 -0.7
NOA NORSAR Array B 61.11 345 P P 10 29 19.7 -0.7
comp=Z,3.6nm,0.6s,baz=18,slow=6.9,SNR=16
214A Organ Pipe Nat 61.13 75 P P 10 29 21.6 +0.6
baz=321,SNR=7.3
E40A Wakefield 61.13 49 P P 10 29 20.8 0.0
baz=323
D41A Chassel 61.20 48 P P 10 29 21.1 -0.1
baz=323
G38A Ridgeland 61.30 51 P P 10 29 22.1 +0.2
baz=322
BGNE Belgrade 61.36 58 P P 10 29 22.9 +0.4
baz=321
F40A Park Falls 61.45 49 P P 10 29 22.6 -0.3
baz=323
H38A Maiden Rock 61.50 52 P P 10 29 24.0 +0.7
baz=322
G39A Holcombe 61.50 51 P P 10 29 23.1 -0.2
baz=322
E41A Kenton 61.51 48 P P 10 29 23.5 +0.2
baz=323
KOLN Koldanda 61.53 278 eP P 10 29 22.6 -1.4
comp=Z,49nm,0.7s
T25A Trinidad 61.58 65 P P 10 29 24.2 +0.1
baz=321,SNR=9.5
HFS Hagfors 61.59 343 P P 10 29 22.5 -1.2
comp=Z,3.5nm,0.6s,baz=2.7,slow=3.1,SNR=9.1
PYUN Piuthan 61.61 279 eP P 10 29 23.0 -1.5
comp=Z,131nm,0.9s
G40A Rib Lake 61.94 50 P P 10 29 26.5 +0.3
baz=323,SNR=5.1
TUC Tucson 61.95 73 eP P 10 29 27.8 +1.2
comp=Z,7.3nm,1.1s
TUC Tucson 61.95 73 P P 10 29 27.4 +0.8
baz=321
E42A Champion 61.97 48 P P 10 29 26.2 -0.3
baz=323
KKM Kota Kinabalu 61.97 235 eP P 10 29 26.6 -0.3
comp=Z,9.9nm,1.1s
F41A Three Lakes 62.03 49 eP P 10 29 26.9 +0.1

comp=Z,22nm,0.8s
F41A Three Lakes 62.03 49 P P 10 29 27.5 +0.7
baz=323,SNR=5.2
TASM ASL Pad, Albuq 62.21 68 P P 10 29 29.1 +0.6
baz=321,SNR=16
TASM ASL Pad, Albuq 62.21 68 P P 10 29 28.9 +0.4
baz=321,SNR=15
ANMO Albuquerque 62.21 68 eP P 10 29 29.6 +1.1
comp=Z,6.9nm,0.6s
ANMO Albuquerque 62.21 68 deP P 10 29 29.6 +1.1
ANMO pmax pmax
comp=Z,11nm,1.3s
ANMO Albuquerque 62.21 68 P P 10 29 29.5 +1.1
baz=321
UMPA Umpang Tak 62.21 257 P P 10 29 31.0 +2.6
comp=Z,26µm,0.8s
LPSR Galich'ya Gora 62.27 325 eP P 10 29 27.1 -1.2
LPSR pmax pmax
comp=Z,20nm,1.0s
SCHQ Schefferville 62.28 30 P P 10 29 27.5 -0.9
comp=Z,3.2nm,0.7s,baz=19,slow=8.2,SNR=5.9
H40A Chili 62.37 51 P P 10 29 29.1 0.0
baz=323
I39A Houston 62.48 52 P P 10 29 30.7 +0.8
baz=323
VRH Novokhopyorsk 62.53 323 eP P 10 29 29.3 -0.8
VRH pmax pmax
comp=Z,50nm,1.6s
NIL Nilore 62.60 290 eP P 10 29 29.6 -1.3
comp=Z,19nm,0.8s
CBKS Cedar Bluff 62.61 61 P P 10 29 31.0 +0.1
baz=322
Y22D IRIS PASSCAL I 62.64 69 P P 10 29 32.7 +1.4
baz=321
H41A Junction City 62.69 50 P P 10 29 31.5 +0.2
baz=323
G42A Mountain 62.71 49 P P 10 29 31.7 +0.3
baz=324
J39A Decorah 62.81 52 P P 10 29 31.7 -0.4
baz=323,SNR=5.3
I40A Norwalk 62.85 51 P P 10 29 32.0 -0.4
baz=323
J40A Soldiers Grove 63.19 52 P P 10 29 34.8 +0.2
baz=323
MATQ Matagami 63.21 39 P P 10 29 35.3 +0.7
baz=327
K39A Oelwein 63.23 53 P P 10 29 34.3 -0.6
baz=323
ISAL Salakas 63.28 334 eP P 10 29 35.0 0.0
ISAL IAmb IAmb 10 29 42.0
comp=Z,14nm,1.1s
VSR Storozhevoye 63.37 324 eP P 10 29 33.4 -2.3
VSR pmax pmax
comp=Z,30nm,1.8s
121A Cookes Peak, D 63.38 71 P P 10 29 35.7 -0.6
baz=322,SNR=7.0
D47A Chapleau 63.41 44 P P 10 29 35.4 -0.6
baz=325
IIGN Ignalina 63.46 334 eP P 10 29 36.0 -0.2
IIGN IAmb IAmb 10 29 37.3
comp=Z,12nm,0.7s
E46A Sault Ste Mari 63.49 45 P P 10 29 36.8 +0.2
baz=325
J41A Loganville 63.53 51 P P 10 29 36.8 -0.1
baz=324
K40A Colesburg 63.57 52 P P 10 29 37.0 -0.1
baz=323
I42A Draeger Farm, 63.59 50 P P 10 29 37.4 +0.1
baz=324
H43A Windswept, Lux 63.61 49 P P 10 29 37.1 -0.2
baz=324
L39A Vinton 63.65 53 P P 10 29 37.4 -0.2
baz=323
NACGM Naroch 63.72 333 e P 10 29 37.0 -0.9
NACGM eLQ LQ 10 54 47.0
NACGM eLR LR 10 57 36.0
JFWS Jewell Farm 63.79 52 P P 10 29 38.5 -0.1
baz=324
F46A Macinaw City C 63.80 46 P P 10 29 38.3 -0.3
baz=325
E47A Iron Bridge 63.83 45 P P 10 29 38.4 -0.4
baz=325
PABE Paberze 63.86 335 eP P 10 29 35.8 -3.0
PABE IAmb IAmb 10 29 39.6
comp=Z,44nm,0.7s
FAKI Fak Fak 63.87 214 eP P 10 29 39.5 +0.1
comp=Z,16nm,1.0s
KSU1 Kansas State U 63.90 58 P P 10 29 39.0 -0.4
baz=322
I43A Langenfeld Bro 63.92 50 P P 10 29 39.2 -0.2
baz=324
J42A Columbus 63.96 51 P P 10 29 39.3 -0.4
baz=324
LSQQ Lebel-sur-Quev 64.03 39 P P 10 29 39.7 -0.3
baz=328
G45A Suttons Bay 64.03 47 P P 10 29 39.9 -0.2
baz=325
L40A Anamosa 64.04 53 P P 10 29 40.4 +0.2
baz=323
KBL Kabul 64.10 294 eP P 10 29 38.7 -2.3
comp=Z,12nm,0.9s
CHGQ Chibougamau 64.21 37 P P 10 29 40.9 -0.3
baz=329
E48A Lockeyer 64.25 44 P P 10 29 40.9 -0.7
baz=326
K42A Prairie Point, 64.30 51 P P 10 29 41.5 -0.4
baz=324
VLDQ Val d'Or 64.66 40 eP P 10 29 42.2 -1.9
comp=Z,16nm,0.8s
AMTX Amarillo 64.72 65 eP P 10 29 44.3 -0.6
comp=Z,12nm,0.8s
AMTX Amarillo 64.72 65 P P 10 29 44.9 0.0
baz=322
L42A Oliver, Polo 64.78 52 P P 10 29 44.6 -0.5
baz=324
N40A Mertquake, Sal 64.82 54 P P 10 29 46.3 +0.9
baz=324,SNR=7.0
MSTX Muleshoe 64.88 66 eP P 10 29 46.5 +0.5
comp=Z,33nm,1.1s
MSTX Muleshoe 64.88 66 P P 10 29 45.8 -0.1
baz=322,SNR=11
E51A G1948 Merrick 65.23 42 P P 10 29 47.2 -0.8
baz=327
D52A ZEK Kipawa Sen 65.26 41 P P 10 29 47.7 -0.4
baz=328
N41A Harden Midland 65.29 53 P P 10 29 48.4 0.0
baz=324
MNTX Cornudas Mount 65.30 70 P P 10 29 49.8 +1.2
baz=322,SNR=48
M43A Waltham Townsh 65.55 52 P P 10 29 50.1 0.0
baz=324
D54A Lac Fusel, La 65.76 40 P P 10 29 50.8 -0.5
baz=328
N43A Stutzman Famil 65.86 52 P P 10 29 51.7 -0.3
baz=324
HDIL Hopedale 66.11 52 P P 10 29 53.7 0.0
baz=325
E54A Lac Daplat, Po 66.17 41 P P 10 29 54.2 +0.2
baz=328
K47A Vermontville 66.24 48 P P 10 29 54.6 +0.1
baz=326
WMOK Wichita Mounta 66.29 63 P P 10 29 55.3 +0.3
baz=323,SNR=35
N44A Piper City 66.43 52 P P 10 29 55.8 0.0
baz=325
PMG Port Moresby 66.52 197⇓ eP P 10 29 55.5 -0.9
PMG pmax pmax
comp=Z,68nm,1.2s
PMG Port Moresby 66.52 197 LR LR 10 54 20.0
comp=Z,95nm,21.4s,baz=346,slow=32
L47A Sherwood 66.73 49 P P 10 29 57.2 -0.5
baz=326
G53A Haliburton 66.75 43 P P 10 29 56.8 -0.9
baz=328
P43A Skaggs, Pawnee 66.76 53 P P 10 29 57.9 0.0
baz=325
GEYT Alibeck 66.78 304 P P 10 29 57.6 -0.5
comp=Z,123nm,0.6s,baz=20,slow=4.6,SNR=5.5
GEYT LR LR 11 01 19.7
comp=Z,451nm,19.4s,baz=50,slow=38
K49A Clarkson 66.79 47 P P 10 29 58.2 +0.2
baz=326
PEMO Pembroke 66.79 41 P P 10 29 58.4 +0.5
baz=328
TUL1 Leonard 66.83 60 P P 10 29 57.7 -0.7
baz=324
AKASG Malin Array Be 66.86 330 eP P 10 29 57.6 -0.7
AKASG Malin Array Be 66.86 330 P P 10 29 57.4 -1.0
comp=Z,11nm,0.8s,baz=29,slow=6.5,SNR=26
AKBB Malin Array Si 66.86 330 eP P 10 29 57.2 -1.1
comp=Z,14nm,0.9s
KIEV Kiev 66.87 330 eP P 10 29 57.2 -1.2
comp=Z,13nm,0.9s
KIEV Kiev 66.87 330⇑ iP P 10 29 57.2 -1.2
KIEV Kiev 66.87 330 diP P 10 29 57.5 -0.9
KIEV pmax pmax
comp=Z,13nm,1.0s
Q42A Golden Eagle 66.89 54 P P 10 29 58.9 +0.2
baz=325
I51A Listowel 66.92 45 P P 10 29 59.0 +0.1
baz=327
R41A Rosebud 67.00 55 P P 10 29 59.7 +0.2
baz=324,SNR=15
O45A Potomac 67.06 52 P P 10 29 59.6 -0.2
baz=325
L48A N Adams 67.08 48 P P 10 29 59.5 -0.3
baz=326
CCM Cathedral Cave 67.26 55 eP P 10 30 02.9 +1.8
comp=Z,21nm,0.9s
CCM Cathedral Cave 67.26 55 P P 10 30 01.0 0.0
baz=324
TRQ Mont Tremblant 67.30 39 eP P 10 30 01.5 +0.2
S41A Jillco Farms, 67.40 56 P P 10 30 01.6 -0.4
baz=324,SNR=16
N47A Urbana 67.42 50 P P 10 30 02.3 +0.3
baz=326
ABTX Abilene, Hawle 67.54 65 P P 10 30 02.5 -0.5
baz=323,SNR=10
P45A Graceland, Par 67.64 52 eP P 10 30 05.2 +1.7
comp=Z,16nm,0.8s
P45A Graceland, Par 67.64 52 P P 10 30 02.8 -0.6
baz=325
N48A Decatur 67.72 49 P P 10 30 03.1 -0.9
baz=326
P46A Rosedale 67.80 52 P P 10 30 04.2 -0.3
baz=326
U40A Yellville 67.88 58 P P 10 30 05.9 +0.8
baz=324,SNR=15
Q45A Warren Harvey, 67.98 53 P P 10 30 05.1 -0.5
baz=325
BEL Belsk 67.98 336 eP P 10 30 06.3 +0.9
BEL Belsk 67.98 336 eP P 10 30 06.3 +0.9
N49A Columbus Grove 68.03 49 P P 10 30 05.6 -0.3
baz=326
TX31 Lajitas Ar. Si 68.07 70 eP P 10 30 07.2 +0.7
LTX Lajitas 68.07 70 eP P 10 30 07.8 +1.3
TXAR Lajitas Array 68.07 70 eP P 10 30 07.2 +0.7
TXAR Lajitas Array 68.07 70 P P 10 30 07.8 +1.3
comp=Z,18nm,0.6s,baz=299,slow=4.4,SNR=322
TXAR LR LR 10 59 44.3
comp=Z,156nm,18.0s,baz=0.0,slow=36
X37A Clayton 68.09 61 eP P 10 30 07.4 +1.0
comp=Z,18nm,1.0s
OLIL Olney 68.13 53 eP P 10 30 06.3 -0.3
comp=Z,13nm,0.8s
O48A Farmland 68.17 50 P P 10 30 06.4 -0.4
baz=325
KVAR Kislovodsk Arr 68.33 318 P P 10 30 09.0 +1.1
comp=Z,3.4nm,0.4s,baz=56,slow=3.6,SNR=3.1
KIV Kislovodsk 68.33 318 eP P 10 30 08.4 +0.6
comp=Z,11nm,1.1s
KIV Kislovodsk 68.33 318 eP P 10 30 06.2 -1.6
KIV pmax pmax
comp=Z,20nm,0.9s
KIV MLR MLR
comp=Z,932nm,17.0s
U41A Viola 68.33 57 P P 10 30 08.8 +0.9
baz=325,SNR=12
W39A Magazine 68.37 59 eP P 10 30 09.0 +0.9
comp=Z,8.2nm,0.8s
W39A Magazine 68.37 59 P P 10 30 08.8 +0.6
baz=324
KBZ Khabaz 68.44 318 P P 10 30 08.7 +0.3
comp=Z,5.8nm,0.7s,baz=39,slow=6.7,SNR=8.4
KBZ LR LR 11 04 40.4
comp=Z,577nm,19.1s,baz=26,slow=40
S44A Carbondale 68.46 54 P P 10 30 09.0 +0.3
baz=325
TRTT Trang 68.69 252 P P 10 30 15.4 +5.1
comp=Z,12nm,1.5s
Q47A Bedord North L 68.71 52 P P 10 30 09.9 -0.3
baz=326
P48A Milroy 68.71 51 P P 10 30 09.6 -0.6
baz=326
SKLT Songkhla 68.76 250 P P 10 30 12.5 +1.8
comp=Z,10nm,0.9s,comp=Z,548nm
S45A Carrier Mills 68.78 54 P P 10 30 11.1 +0.5
baz=326
N51A Ashland 68.79 48 P P 10 30 11.1 +0.4
baz=327
ZEI Tsey 68.86 316 eP P 10 30 09.0 -2.3
ZEI pmax pmax
comp=Z,8.0nm,0.9s
O50A Cable 68.91 49 P P 10 30 11.7 +0.3
baz=327
MIAR Mount Ida 69.00 59 P P 10 30 12.8 +0.8
baz=325
Q48A North Vernon 69.02 51 P P 10 30 12.3 +0.2
baz=326
ACSO Alum Creek Sta 69.11 48 P P 10 30 13.3 +0.6
baz=327
W41B Gary Mavity, V 69.12 58 P P 10 30 14.4 +1.6
baz=325,SNR=17
JCT Junction City 69.17 66 eP P 10 30 11.4 -1.9
comp=Z,40nm,1.0s
JCT Junction City 69.17 66 P P 10 30 13.4 +0.1
baz=324,SNR=27
R47A Wooly Knot Far 69.19 52 P P 10 30 12.7 -0.5
baz=326
P50A Jamestown 69.28 49 P P 10 30 13.5 -0.3
baz=327
O51A Pataskala 69.34 48 P P 10 30 13.8 -0.3
baz=327
WCI Wyandotte Cave 69.35 52 eP P 10 30 14.4 +0.2
comp=Z,12nm,0.8s
WCI Wyandotte Cave 69.35 52 P P 10 30 14.3 +0.1
baz=326
M54A Oil Creek Stat 69.39 45 P P 10 30 13.9 -0.5
baz=328
R48A Northridge Ran 69.39 51 P P 10 30 13.4 -1.0
baz=326
X40A Basin Creek Fa 69.40 59 eP P 10 30 14.6 +0.1
comp=Z,21nm,1.0s
X40A Basin Creek Fa 69.40 59 P P 10 30 14.6 +0.1
baz=325
N53A Lisbon 69.51 47 P P 10 30 14.6 -0.6
baz=328
KWP Kalwaria Pacla 69.56 334 eP P 10 30 16.0 +0.6
KWP Kalwaria Pacla 69.56 334 eP P 10 30 15.1 -0.2
comp=Z,310nm,0.9s
KWP Kalwaria Pacla 69.56 334 eP P 10 30 16.0 +0.6
S47A Hartford 69.62 53 P P 10 30 15.6 -0.2
baz=326
T46A Princeton 69.62 54 P P 10 30 16.1 +0.3
baz=326
O52A Adamsville 69.69 48 P P 10 30 15.9 -0.4
baz=328
P51A Williamsport 69.70 49 P P 10 30 16.0 -0.3
baz=327
OJC Ojcow 69.72 336 eP P 10 30 16.4 +0.1
OJC Ojcow 69.72 336 eP P 10 30 16.4 +0.1
N54A Moraine State 69.73 46 P P 10 30 16.1 -0.4
baz=328
M55A Ridgway 69.78 45 P P 10 30 16.2 -0.6
baz=329
R49A Shelbyville 69.79 51 P P 10 30 16.6 -0.3
baz=327
O53A New Philadelph 69.83 47 P P 10 30 16.4 -0.7
baz=328
Q50A Georgetown 69.85 50 P P 10 30 17.1 -0.1
baz=327
S48A Wiedeman Farm, 69.93 52 P P 10 30 17.8 0.0
baz=326
P52A Corning 69.97 48 P P 10 30 18.4 +0.4
baz=328
T47A Sharon Grove 70.02 53 P P 10 30 18.4 +0.2
baz=326
U46A Springville 70.05 54 P P 10 30 18.8 +0.3
baz=326
CLL Collm 70.11 340 eP P 10 30 17.0 -1.7
CLL e 10 30 23.0
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 70.11 340 eP P 10 30 18.0 -0.7
comp=Z,8.0nm,1.1s
CLL epP **sP 10 30 23.0 -0.4**
CLL i 10 30 31.5
CLL i PcP **PcP 10 30 40.0 -0.6**
CLL eSS SS 10 44 00.0 +2.4
CLL eSSSS 10 48 42.0
S49A Springfield 70.16 51 P P 10 30 19.2 0.0
baz=327
R50A Paris 70.17 50 P P 10 30 19.1 -0.1
baz=327
O54A Avella 70.23 47 P P 10 30 19.5 0.0
baz=328
UPC Upice 70.28 338 eP P 10 30 19.8 +0.1
UPC MLR MLR
comp=Z,500nm,18.4s
UPC Upice 70.28 338 eP P 10 30 19.8 +0.1
UPC AMS AMS 11 05 50.0
comp=Z,500nm,18.4s
KIS Kishinev 70.31 328 ePcP PcP 10 30 28.0 -14
KIS Kishinev 70.31 328 eP P 10 30 20.0 +0.1
KIS e 10 30 28.0
KIS e 10 30 42.0
KIS MLR MLR
comp=Z,800nm,15.0s
KIS MLR MLR
comp=N,800nm,15.0s
KOLS Kolonicke sedl 70.32 334 eP P 10 30 20.0 0.0
KOLS pmax pmax
comp=Z,9.0nm,1.0s
KOLS Kolonicke sedl 70.32 334 eP P 10 30 20.0 0.0
BRG Berggiesshubel 70.35 340 eP P 10 30 19.6 -0.5
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 70.35 340 eP P 10 30 19.6 -0.5
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=N,263nm,16.9s
BRG MLR MLR
comp=E,195nm,18.4s
BRG MLR MLR
comp=Z,252nm,13.8s
NIE Niedzica 70.35 335 eP P 10 30 20.6 +0.4
NIE Niedzica 70.35 335 eP P 10 30 20.6 +0.4
DPC Dobruska-Polom 70.36 338 eP P 10 30 20.7 +0.4
DPC MLR MLR
comp=Z,400nm,15.3s
DPC Dobruska-Polom 70.36 338 eP P 10 30 20.7 +0.4
DPC AMS AMS 11 04 50.0
comp=Z,400nm,15.3s
U47A Clarksville 70.39 54 P P 10 30 21.0 +0.4
baz=326
WVT Waverly 70.40 54 eP P 10 30 20.5 -0.2
comp=Z,19nm,0.8s
WVT Waverly 70.40 54 P P 10 30 21.0 +0.4
baz=326
P53A Whipple 70.40 48 P P 10 30 21.0 +0.3
baz=328
OKC Ostrava-Krasne 70.45 337 eP P 10 30 21.1 +0.4
OKC Ostrava-Krasne 70.45 337 eP P 10 30 21.1 +0.4
R51A Hillsboro 70.47 50 P P 10 30 21.3 +0.3
baz=327
Q52A Bidwell 70.47 49 P P 10 30 21.7 +0.6
baz=328
V46A Holladay 70.54 55 P P 10 30 22.0 +0.5
baz=326
PVCC Panska Ves 70.55 339 AMS AMS 11 09 20.0
comp=Z,400nm,16.4s
UZH Uzhgorod 70.59 333 eP P 10 30 24.4 +2.8
UZH e 10 30 31.4
T49A Edmonton 70.62 52 P P 10 30 22.1 +0.1
baz=327
S50A Richmond 70.64 51 P P 10 30 22.4 +0.3
baz=327
MORC Moravsky Berou 70.64 337 eP P 10 30 21.5 -0.5
comp=Z,11nm,0.8s
MORC Moravsky Berou 70.64 337⇑ iP P 10 30 22.1 +0.1
MORC Moravsky Berou 70.64 337 P P 10 30 22.1 +0.1
MORC Moravsky Berou 70.64 337 eP P 10 30 22.0 +0.1
O55A Ligonier 70.64 46 P P 10 30 22.1 0.0
baz=329
U48A Cassie Pea, Po 70.66 53 P P 10 30 22.7 +0.4
baz=326
P54A Burton 70.68 47 P P 10 30 22.5 +0.2
baz=328
BURAR Bucovina Array 70.77 331 eP P 10 30 22.3 -0.5
BURAR Bucovina Array 70.77 331⇑ iP P 10 30 22.5 -0.4
BURAR Bucovina Array 70.77 331 P P 10 30 22.5 -0.4
GNI Garni 70.77 314 diP P 10 30 24.1 +1.0
GNI pmax pmax
comp=Z,19nm,0.9s
GNI Garni 70.77 314 P P 10 30 23.3 +0.2
comp=Z,9.3nm,0.6s,baz=234,slow=3.5,SNR=4.2
V47A Nunnelly 70.79 54 P P 10 30 23.3 +0.3
baz=326
LANS Liptovska Anna 70.79 335 eP P 10 30 24.3 +1.4
LANS Liptovska Anna 70.79 335 eP P 10 30 24.3 +1.4
R52A Catlettsburg 70.84 49 P P 10 30 23.4 0.0
baz=328
SSPA Standing Stone 70.84 45 P P 10 30 22.7 -0.6
baz=329
Q53A Leroy 70.87 48 P P 10 30 23.5 0.0
baz=328
O56A Blue Knob Stat 70.89 45 P P 10 30 23.5 -0.2
baz=329
T50A Nancy 71.00 52 P P 10 30 24.1 -0.2
baz=327
TRPA Tarpa 71.00 333⇑ iP P 10 30 24.5 +0.4
TRPA Tarpa 71.00 333⇑ eP P 10 30 23.1 -1.0
U49A Red Boiling Sp 71.00 52 P P 10 30 24.3 0.0
baz=327
OXF Oxford 71.00 56 P P 10 30 24.9 +0.6
baz=326
S51A Beattyville 71.02 50 P P 10 30 24.6 +0.2
baz=327
Q54A Coxs Mills 71.06 48 P P 10 30 24.8 +0.1
baz=328
PRU Pruhonice 71.07 339 eP P 10 30 24.4 -0.1
PRU MLR MLR
comp=Z,400nm,17.7s
PRU Pruhonice 71.07 339 eP P 10 30 24.4 -0.1
PRU AMS AMS 11 03 10.0
comp=Z,400nm,17.7s
R53A Hurricane 71.14 49 P P 10 30 25.6 +0.5
baz=328
BIZ Bicaz 71.14 330⇑ iP P 10 30 24.4 -0.6
KECS Kecovo 71.18 335 eP P 10 30 25.6 +0.4
KECS pmax pmax
comp=Z,29nm,0.8s
KECS Kecovo 71.18 335 eP P 10 30 25.6 +0.4
V48A Smith Brothers 71.18 54 P P 10 30 25.1 -0.3
baz=327
W47A Westpoint 71.23 55 P P 10 30 26.3 +0.5
baz=326
VRAC Vranov 71.29 337⇑ iP P 10 30 25.9 0.0
VRAC Vranov 71.29 337 P P 10 30 25.9 0.0
VRAC Vranov 71.29 337 eP P 10 30 26.1 +0.2
X46A Booneville 71.35 56 P P 10 30 26.8 +0.3
baz=326,SNR=5.6
Q55A Buckhannon 71.36 47 P P 10 30 26.5 0.0
baz=328
TESR Tescani 71.38 330⇑ iP P 10 30 26.1 -0.4
T51A Gray 71.43 51 P P 10 30 27.3 +0.4
baz=327
JAVC Velka Javorina 71.48 337 eP P 10 30 28.3 +1.2
U50A Jamestown 71.50 52 P P 10 30 27.6 +0.3
baz=327
TREC Trest 71.54 338 eP P 10 30 27.6 +0.2
TREC MLR MLR
comp=Z,700nm,18.8s
TREC Trest 71.54 338 eP P 10 30 27.6 +0.2
TREC AMS AMS 11 06 40.0
comp=Z,700nm,18.8s
VYHS Vyhne 71.56 336 eP P 10 30 28.0 +0.5
VYHS pmax pmax
comp=Z,91nm,3.2s
VYHS Vyhne 71.56 336 eP P 10 30 28.0 +0.5
KRUC Moravsky 71.57 337 eP P 10 30 27.9 +0.4
V49A McMinnville 71.57 53 P P 10 30 27.9 +0.1
baz=327
HKT Hockley 71.61 64⇑ eP P 10 30 28.6 +0.6
HKT pmax pmax
comp=Z,14nm,1.9s
W48A Pulaski 71.62 54 P P 10 30 28.9 +0.8
baz=327,SNR=6.0
R54A Victor 71.67 48 P P 10 30 28.5 +0.1
baz=328
X47A Russelville 71.72 55 P P 10 30 28.7 0.0
baz=326

T52A	Hallie	71.73	50	P	P	10 30 28.4	-0.3
baz=328							
PSZ	Piszkesteto	71.85	335	⇑iP	P	10 30 28.9	-0.4
PSZ	Piszkesteto	71.85	335	eP	P	10 30 30.0	+0.7
LTVH	Ltavrtes, Hu	71.85	333	eP	P	10 30 30.0	+0.8
U51A	La Follette	71.89	51	P	P	10 30 30.4	+0.6
baz=327							
W49A	Belvidere	71.94	54	P	P	10 30 30.5	+0.4
baz=327							
VRI	Vrincioaia	71.95	329	⇑iP	P	10 30 30.1	+0.2
VRI	Vrincioaia	71.95	329	P	P	10 30 30.1	+0.2
TZTN	Tazewell	71.96	51	eP	P	10 30 32.0	+1.9
comp=Z,9.8nm,0.8s							
PLOR	Plostina	71.98	329	⇑iP	P	10 30 36.6	+6.4
V50A	Pikevile	72.01	52	P	P	10 30 30.4	0.0
baz=327							
SWET	Sewanee	72.01	53	eP	P	10 30 30.4	-0.1
comp=Z,28nm,0.7s							
MODS	Modra-Piesok	72.02	337	eP	P	10 30 30.0	-0.3
MODS				pmax	pmax		
comp=Z,12nm,1.1s							
MODS	Modra-Piesok	72.02	337	eP	P	10 30 30.0	-0.3
T53A	Wise	72.03	50	P	P	10 30 30.5	-0.1
baz=328							
KHC	Kasperske Hory	72.08	339	eP	P	10 30 30.7	0.0
KHC				e		10 30 35.0	
KHC	Kasperske Hory	72.08	339	eP	P	10 30 30.7	0.0
KHC				epP	sP	10 30 35.0	-0.5
X48A	Hartselle	72.14	55	P	P	10 30 31.5	+0.3
baz=327,SNR=5.8							
CFR	Carcaliu	72.16	328	⇑iP	P	10 30 30.4	-0.7
CFR	Carcaliu	72.16	328	P	P	10 30 30.4	-0.7
U52A	Thorn Hill	72.16	51	P	P	10 30 31.3	-0.1
baz=328							
V51A	Loudon	72.23	52	eP	P	10 30 31.2	-0.5
comp=Z,17nm,0.8s							
V51A	Loudon	72.23	52	P	P	10 30 31.3	-0.5
baz=327							
W50A	Signal Mountai	72.31	53	eP	P	10 30 31.6	-0.6
comp=Z,15nm,0.8s							
W50A	Signal Mountai	72.31	53	P	P	10 30 32.0	-0.3
baz=327							
GEC2	GERESS Array S	72.33	339	eP	P	10 30 31.6	-0.7
GERES	GERESS Array B	72.33	339	eP	P	10 30 31.3	-1.0
GERES	GERESS Array B	72.33	339	P	P	10 30 31.6	-0.7
comp=Z,2.9nm,0.7s,baz=35,slow=5.1,SNR=23							
GERES				LR	LR	11 06 39.4	
comp=Z,265nm,18.1s,baz=28,slow=40							
X49A	Woodville	72.42	54	P	P	10 30 33.0	+0.1
baz=327							
MLR	Muntele Rosu	72.51	330	eP	P	10 30 33.0	-0.4
comp=Z,10.0nm,0.9s							
MLR	Muntele Rosu	72.51	330	⇓iP	P	10 30 34.3	+0.8
MLR	Muntele Rosu	72.51	330	P	P	10 30 34.2	+0.8
V52A	Sevierville	72.53	51	P	P	10 30 33.6	+0.1
baz=328							
U53A	Fall Branch	72.53	50	P	P	10 30 32.5	-1.1
baz=328							
Y48A	Jasper	72.53	55	P	P	10 30 33.1	-0.4
baz=327,SNR=6.7							
HYB	Hyderabad	72.55	275	iP	P	10 30 32.5	-1.4
W51A	Cleveland	72.58	53	P	P	10 30 34.1	+0.2
baz=327							
CSKK	Cskako	72.75	336	eP	P	10 30 35.1	+0.4
CONA	Conrad Observa	72.75	337	eP	P	10 30 35.0	+0.3
comp=Z,10nm,1.0s							
X50B	Fort Payne	72.77	54	P	P	10 30 35.3	+0.3
baz=327							
Y49A	Blount Mountai	72.93	54	P	P	10 30 35.9	0.0
baz=327,SNR=6.7							
ARR	Arges	72.99	331	⇑iP	P	10 30 37.0	+0.8
W52A	Murphy	73.01	52	P	P	10 30 36.6	+0.1
baz=326,SNR=5.2							
DIKM	Dikmen	73.03	322	⇑iP	P	10 30 37.6	+1.2
147A	Livingston	73.05	57	P	P	10 30 37.2	+0.5
baz=327,SNR=6.5							
U55A	TA2, Sparta	73.07	49	P	P	10 30 36.7	-0.1
baz=328							
MOA	Molln	73.17	338	eP	P	10 30 37.3	+0.1
comp=Z,7.9nm,1.1s							
Y50A	Piedmont	73.21	54	P	P	10 30 37.5	0.0
baz=327,SNR=6.1							
W53A	Cullowhee	73.28	51	P	P	10 30 38.1	0.0
baz=328							
V54A	Nebo	73.30	50	P	P	10 30 38.2	+0.1
baz=328							
LRAL	Lakeview Retre	73.34	55	P	P	10 30 38.5	+0.1
baz=327,SNR=22							
T57A	Hurt	73.40	48	P	P	10 30 38.8	+0.1
baz=329							
Z49A	Columbiana	73.43	55	P	P	10 30 39.9	+1.1
baz=327,SNR=8.1							
X52A	Dahlonega	73.44	52	P	P	10 30 39.2	+0.2
baz=328							
GZR	Gura Zlata	73.47	332	⇑iP	P	10 30 38.8	-0.2
Y51A	Rockmart	73.50	53	P	P	10 30 39.3	-0.1
baz=328,SNR=6.4							
BZS	Buzias	73.57	333	⇑iP	P	10 30 39.1	-0.4
BZS	Buzias	73.57	333	P	P	10 30 39.1	-0.4
Z50A	Ashland	73.66	54	P	P	10 30 40.2	0.0
baz=327,SNR=9.6							
W54A	Cherokee Point	73.78	51	P	P	10 30 42.0	+1.1
baz=328,SNR=5.4							
X53A	Estanolee	73.78	52	P	P	10 30 41.3	+0.3
baz=328,SNR=5.7							
149A	Jones	73.81	55	P	P	10 30 41.4	+0.3
baz=327,SNR=7.0							
BFO	Black Forest	73.81	343	iP	P	10 30 42.4	+1.5
CDF	Champ du Feu	73.91	343	eP	P	10 30 40.6	-1.0
CDF				pmax	pmax		
comp=Z,6.0nm,0.9s							
BEHE	Becsehely	73.93	336	eP	P	10 30 36.0	-5.6
Y52A	Lilburn	73.98	53	P	P	10 30 42.8	+0.6
baz=328							
KBA	Koelnbreinsper	74.09	339	iP	P	10 30 43.6	+0.8
comp=Z,23nm,1.0s							
KMSC	Kings Mountain	74.10	50	P	P	10 30 43.2	+0.4
baz=329,SNR=5.7							
SOKA	Soboth	74.12	338	iP	P	10 30 42.9	+0.1
comp=Z,4.6nm,0.8s							
V57A	Coltrane Farms	74.13	49	P	P	10 30 43.4	+0.5
baz=329							
150A	Ectetic	74.15	55	P	P	10 30 43.2	0.0
baz=327,SNR=6.0							
X54A	Belton	74.15	51	P	P	10 30 43.0	-0.1
baz=328,SNR=5.1							
249A	Camden	74.17	56	P	P	10 30 44.3	+1.1
baz=327,SNR=6.4							
WATA	Walderalm	74.19	340	epP	P	10 30 44.5	+1.1
comp=Z,6.5nm,0.8s							
U58A	Oxford	74.20	47	P	P	10 30 43.5	+0.2
baz=330							
WTTA	Wattenberg	74.25	340	iP	P	10 30 44.0	+0.3
comp=Z,7.6nm,0.8s							
MOTA	Moosalm	74.27	340	iP	P	10 30 44.3	+0.5
comp=Z,4.9nm,0.7s							
SQTA	Sankt Quirin	74.37	340	epP	P	10 30 45.0	+0.6
comp=Z,14nm,0.8s							
OBKA	Obir	74.38	338	epP	P	10 30 44.9	+0.5
comp=Z,21nm,0.9s							
Z52A	Williamson	74.39	53	P	P	10 30 44.5	-0.1
baz=328,SNR=7.5							
W56A	Indian Trail	74.43	50	P	P	10 30 44.8	+0.1
baz=329							
HAU	Haudompre	74.45	344	eP	P	10 30 43.5	-1.2
HAU				pmax	pmax		
comp=Z,11nm,1.2s							
MYKA	Terra Mystica	74.46	338	iP	P	10 30 44.6	-0.1
comp=Z,6.3nm,1.0s							
V58A	Windy Hill, Pi	74.48	48	P	P	10 30 45.1	+0.1
baz=329							
151A	Opelika	74.54	54	P	P	10 30 45.5	+0.1
baz=328							
X55A	Gracelyn & Ava	74.54	51	P	P	10 30 45.4	+0.1
baz=329							
HINF	Hinteralfeld	74.55	343	eP	P	10 30 44.2	-1.1
HINF				pmax	pmax		
comp=Z,23nm,1.7s							
250A	Grady	74.56	55	P	P	10 30 45.6	0.0
baz=327							
ABTA	Abfaltersbach	74.57	339	iP	P	10 30 45.3	-0.1
comp=Z,14nm,0.9s							
Y54A	Tignall	74.60	52	P	P	10 30 45.9	+0.2
baz=328,SNR=7.0							
FETA	Feichten	74.65	341	eP	P	10 30 45.9	-0.1
comp=Z,8.0nm,0.9s							
W57A	Gilead	74.66	49	P	P	10 30 45.8	-0.3
baz=329							
152A	Waverly Hall	74.69	54	P	P	10 30 45.8	-0.5
baz=328,SNR=5.6							
Z53A	Monticello	74.70	53	P	P	10 30 46.6	+0.3
baz=328							
X56A	White Oak	74.78	50	P	P	10 30 47.6	+0.9
baz=329							
251A	Midway	74.86	55	P	P	10 30 47.7	+0.5
baz=328,SNR=7.8							
V59A	Middlesex	74.87	47	P	P	10 30 48.1	+0.9
baz=330							
BRAL	Brewton	74.88	56	P	P	10 30 48.7	+1.3
baz=327							
Y55A	Saluda	74.90	51	P	P	10 30 48.7	+1.2
baz=329,SNR=5.2							
350A	Dozier	75.00	56	P	P	10 30 49.6	+1.5
baz=327							
W58A	Raeford	75.10	49	P	P	10 30 48.9	+0.3
baz=329,SNR=5.4							
BRTR	Keskin Array B	75.30	322	eP	P	10 30 49.1	-0.8
BRTR	Keskin Array B	75.30	322	P	P	10 30 50.2	+0.4
comp=Z,2.5nm,0.7s,baz=70,slow=3.9,SNR=14							
BRTR				LR	LR	11 09 38.6	
comp=Z,256nm,18.5s,baz=27,slow=40							
351A	Pinckard	75.46	55	P	P	10 30 51.7	+1.0
baz=328							
LOR	Lormes	75.54	345	eP	P	10 30 53.6	+2.6
LOR				pmax	pmax		
comp=Z,26nm,1.6s							
SSF	Saint Saulge	75.79	346	eP	P	10 30 53.0	+0.6
SSF				pmax	pmax		
comp=Z,58nm,2.1s							
CABF	La Chapelle	75.85	344	eP	P	10 30 52.0	-0.8
CABF				pmax	pmax		
comp=Z,27nm,1.6s							
VTS	Vitosha	75.92	330	⇓iP	P	10 30 53.0	-0.4
255A	Hazlehurst	76.33	53	P	P	10 30 56.2	+0.5
baz=329							
TCF	Toulx Ste Croi	76.73	346	eP	P	10 30 56.7	-1.0
TCF				pmax	pmax		
comp=Z,14nm,1.4s							
LPL	La Plagne	76.81	343	eP	P	10 30 58.4	-0.1
LPL				pmax	pmax		
comp=Z,20nm,1.2s							
LPG	La Plagne	76.82	343	eP	P	10 30 58.7	+0.1
LPG				pmax	pmax		
comp=Z,24nm,1.2s							
CTAO	Charters Tower	77.14	196	eP	P	10 31 01.4	+1.2
comp=Z,19nm,0.9s							
PDG	Podgorica	77.15	333	⇑iP	P	10 30 59.7	-0.4
MBDF	Montbardon	77.57	343	eP	P	10 31 03.1	+0.4
MBDF				pmax	pmax		
comp=Z,6.0nm,0.8s							
VIVF	Saint-Julien-l	77.78	344	eP	P	10 31 03.2	-0.5
VIVF				pmax	pmax		
comp=Z,11nm,1.4s							
DZM	Mont Dzumac	77.88	177	eP	P	10 31 08.0	+3.6
comp=Z,30nm,1.1s							
DZM	Mont Dzumac	77.88	177	eLR	LR	10 55 14.3	
comp=Z,266nm,25.1s							
PGF	Pioggiola	79.29	341	eP	P	10 31 11.4	-0.7
PGF				pmax	pmax		
comp=Z,14nm,0.9s							
WRAB	Tennant Creek	79.44	207	eP	P	10 31 14.6	+1.7
comp=Z,20nm,1.1s							
WRAB	Tennant Creek	79.44	207	⇑iP	P	10 31 14.5	+1.7
WRAB				pmax	pmax		
comp=Z,25nm,1.7s							
WB2	Warramunga Arr	79.44	207	eP	P	10 31 14.5	+1.5
comp=Z,19nm,0.9s							
WR1	Warramunga Arr	79.45	207	eP	P	10 31 14.1	+1.1
WRA	Warramunga Arr	79.45	207	P	P	10 31 14.1	+1.1
comp=Z,5.0nm,0.9s,baz=17,slow=5.8,SNR=13							
WRA				LR	LR	11 03 41.6	
comp=Z,69nm,21.7s,baz=25,slow=34							
WC3	Warramunga Arr	79.45	207	eP	P	10 31 13.2	+0.2
comp=Z,13nm,1.1s							
MTLF	Montolieu	79.62	346	eP	P	10 31 13.7	-0.1
MTLF				pmax	pmax		
comp=Z,38nm,2.0s							
TAOE	Nuku Hiva Isla	79.92	123	eLR	LR	10 56 05.2	
comp=Z,289nm,22.9s							
ETSF	Etsaut	80.41	348	eP	P	10 31 18.4	+0.2
ETSF				pmax	pmax		
comp=Z,6.0nm,0.8s							
TIP	Timpagrande	80.84	334	⇑iP	P	10 31 20.6	+0.1
EIDS	Eidsvold	81.72	191	eP	P	10 31 26.9	+2.0
comp=Z,12nm,1.1s							
PMOR	Pomariorio Ree	81.92	132	eT	T	12 01 22.8	
comp=Z,13nm,0.2s							
AS31	Alice Springs	83.12	207	eP	P	10 31 33.7	+1.3
comp=Z,2.5nm,0.8s							
ASAR	Alice Springs	83.12	207	eP	P	10 31 32.8	+0.4
ASAR	Alice Springs	83.12	207	P	P	10 31 33.7	+1.3
comp=Z,8.2nm,0.9s,baz=12,slow=4.5,SNR=41							
ASAR				LR	LR	11 06 08.2	
comp=Z,119nm,21.9s,baz=24,slow=34							
PPT2	Papeete2	83.57	135	eLR	LR	10 57 31.8	
comp=Z,598nm,29.8s							
ESDC	Sonseca Array	83.97	350	eP	P	10 31 36.4	-0.5
ESDC				eP	P	10 31 37.0	+0.2
ESDC	Sonseca Array	83.97	350	P	P	10 31 36.4	-0.5
comp=Z,4.2nm,0.8s,baz=0.5,slow=5.6,SNR=15							
KEST	Kesra	85.81	339	eP	P	10 31 46.3	+0.1
comp=Z,7.6nm,1.0s							
KEST	Kesra	85.81	339	P	P	10 31 46.3	+0.1
comp=Z,2.3nm,0.5s,baz=251,slow=6.0,SNR=4.7							
KEST				LR	LR	11 14 20.0	
comp=Z,124nm,19.2s,baz=323,slow=39							
STKA	Stephens Creek	89.44	198	eP	P	10 32 04.6	+1.4
comp=Z,2.3nm,1.0s							
STKA	Stephens Creek	89.44	198	P	P	10 32 04.7	+1.4
comp=Z,9.8nm,1.0s,baz=338,slow=15,SNR=6.5							
STKA				LR	LR	11 14 48.6	
comp=Z,89nm,18.4s,baz=19,slow=37							
TOA1	Torodi Ar. Sit	109.26	340	ePP	PP	10 38 01.5	-3.4
TORD	Torodi Ar. Bea	109.26	340	PP	PP	10 38 01.5	-3.5
comp=Z,1.5nm,1.1s,baz=35,slow=5.4,SNR=4.1							
VNDA	Vanda	133.32	180	ePKPdf	PKiKP	10 38 21.6	-0.6
VNDA	Vanda	133.32	180	PKP	PKPdf	10 38 21.0	+0.1
comp=Z,0.7nm,0.7s,baz=308,slow=4.3,SNR=4.3							
CPUP	Villa Florida	138.59	61	PKP	PKiKP	10 38 33.3	-1.1
comp=Z,2.1nm,1.0s,baz=45,slow=1.7,SNR=3.4							
BOSA	Boshof	139.32	294	PKP	PKiKP	10 38 34.8	-1.2
comp=Z,1.2nm,0.6s,baz=22,slow=5.4,SNR=2.6							
PLCA	Paso Flores	142.42	89	ePKPpre	PKPdf	10 38 36.7	-2.2
PLCA	Paso Flores	142.42	89	ePKIKP	PKPdf	10 38 36.7	-2.2
PLCA	Paso Flores	142.42	89	PKP	PKiKP	10 38 40.9	-1.1
comp=Z,1.7nm,0.8s,baz=316,slow=3.4,SNR=8.5							
MAW	Mawson	143.30	219	ePKPdf	PKPdf	10 38 38.3	-1.1
MAW	Mawson	143.30	219	PKP	PKPbc	10 38 37.5	+0.9
comp=Z,4.5nm,0.9s,baz=348,slow=4.4,SNR=4.0							
TRQA	Tornquist	145.33	78	ePKPbc	PKPab	10 38 44.6	+0.6
TRQA	Tornquist	145.33	78	ePKIKP	PKPab	10 38 44.6	+0.6
QSPA	South Pole Qui	145.81	180	ePKPdf	PKPbc	10 38 44.5	-0.1
SYO	Syowa Base	152.01	220	⇓iPKPdf	PKPdf	10 38 55.4	+1.7
SNAA	Sanae	163.19	196	PKPab	PKPab	10 39 57.7	-0.5
VNA3	Neumayer Olymp	164.42	189	PKPab	PKPab	10 40 03.0	-0.5
VNA1	Neumayer--Stat	164.85	191	PKPab	PKPab	10 40 05.1	-0.2

KRSC 14 10:48:16.0±10.0, 56°.14N×163°.08E, h7km±10km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.16	295	iP		Pg	10 48 20.8	+1.5
KBG	Krutoberegovo	0.24	299	iP		Pg	10 48 21.4	+0.7
KBG				eS		Sg	10 48 24.5	+0.6
SMKR	Semkarok	1.00	297	eP		Pg	10 48 34.7	-0.5
SMKR				eS		Sb	10 48 48.8	-0.4
BDR	Baidarnaya	1.13	293	eP		Pg	10 48 37.1	-0.5
BDR				eS		Sg	10 48 52.2	-0.1
SRKR	Sorokina	1.18	297	eP		Pg	10 48 37.8	-0.9
SRKR				eS		Sg	10 48 54.0	0.0
CIRR	Tsirk	1.31	270	eP		Pn	10 48 40.7	-0.2
CIRR				eS		Sn	10 48 58.6	0.0
LGNR	Loginova	1.34	269	eP		Pb	10 48 41.6	-0.1
BZGR	Bezymyannyi-Gr	1.35	262	eP		Pb	10 48 41.7	-0.1
BZGR				eS		Sb	10 48 58.8	-0.5
KLY	Klyuchi	1.37	278	iP		Pn	10 48 39.2	-2.3
KLY				eS		Sb	10 48 56.2	-3.4
BZWR	Bezymyannyi-We	1.46	264	eP		Pn	10 48 43.2	+0.2
BZWR				eS		Sn	10 49 02.1	-0.4
BZMR	Bezymyannaya	1.47	263	eP		Pb	10 48 43.6	-0.2
KIRR	Kirishev	1.55	264	eP		Pn	10 48 44.3	+0.1
KPT	Kopyto	1.61	265	eP		Pn	10 48 45.5	+0.5
KPT				eS		Sb	10 49 07.2	+0.4
MKZ	Mys Kozlova	1.77	206	eP		Pb	10 48 48.8	+0.1
MKZ				eS		Sb	10 49 11.6	+0.6
TUMD	Tumrok D	1.79	239	eP		Pb	10 48 49.0	-0.1
TUMD				eS		Sb	10 49 11.7	0.0
KOZ	Kozyrevsk	1.80	269	eP		Pb	10 48 48.5	-0.8
KOZ				eS		Sb	10 49 12.2	+0.1
KZV	Kizimen	1.89	238	eP		Pb	10 48 50.5	-0.4
KZV				eS		Sb	10 49 15.5	+0.8
BKI	Bering	1.89	119	eP		Pb	10 48 50.3	-0.5
BKI				eS		Sg	10 49 15.8	-0.8
SRDR	Sredinnyy	1.89	277	eP		Pn	10 48 49.4	+0.6
ESO	Esso	2.47	267	eP		Pb	10 48 59.2	-1.5
SPN	Mys Shipunski	3.53	212	eP		Pn	10 49 12.7	+1.5
NLC	Nalytchevo	3.68	218	eS		Sn	10 50 01.0	+4.1
SDLR	Sedlovina	3.76	222	eP		Pn	10 49 17.3	+2.7
KRX	Arik	3.79	224	eP		Pn	10 49 16.5	+1.5
KRER	Koryakskii	3.79	223	eP		Pn	10 49 19.1	+4.0
SMAR	Somma	3.80	223	eP		Pn	10 49 18.4	+3.2
AVH	Avacha	3.83	223	eP		Pn	10 49 18.8	+3.4
AVH				eS		Sb	10 50 05.7	-4.7
UGLR	Uglovaya	3.84	222	eP		Pn	10 49 18.6	+3.0
KOK	Koryaka	3.84	224	eP		Pn	10 49 19.1	+3.4
DALK	Dalny	4.00	221	eP		Pn	10 49 21.4	+3.6
DALK				eS		Sn	10 50 09.0	+4.1
KRMR	Karymshinskiy	4.40	223	eP		Pn	10 49 26.9	+3.7
KRMR				eS		Sn	10 50 19.1	+4.5

ISCJB ***14*** *11:00:30.3±0.6, 13°.18N±0°.03×120°.53E±0°.04, h31km±5km, mb3.7/6, MS2.9/1, Error ellipse: s-maj=6.4km s-min=4.9km az=3.3*

IDC ***14*** *11:00:32.8±1.9, 13°.28N×120°.82E, h48km±24km, mb3.5/6, mb1 3.7/6, mb1mx3.3/39, mbtmp3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.5/37, Error ellipse: s-maj=42.0km s-min=16.0km az=65.0*

ISC 14 11:00:29.5±1.2, 13°.16N±0°.03×120°.61E±0°.04, h18km±5km, n17, σ1.22/26, mb3.7/6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.48	44	⇓eP		Pb	11 00 40.0	+0.5
PGP				iS		Sb	11 00 46.5	+0.3
LUBP	Lubang	0.67	328	eP		Pb	11 00 43.3	+0.6
LUBP				eS		Sb	11 00 52.6	+0.9
SJMP	San Jose	0.85	144	eP		Pn	11 00 47.7	+1.0
SJMP				eS		Sn	11 00 59.7	+1.0
TGY	Tagaytay City	0.99	19	P		Pg	11 00 49.6	+0.7
347nm,0.3s,baz=204,slow=10.0,SNR=12								
TGY				S		Sb	11 01 00.1	-0.9
256nm,0.3s,baz=187,slow=16,SNR=10.0								
BUSP	Coron	1.22	199	eP		Pb	11 00 52.1	+0.1
BUSP				eS		Sg	11 01 08.4	-0.6
BOAC	Boac	1.24	76	eP		Pg	11 00 53.0	-0.5
BOAC				eS		Sg	11 01 11.8	+2.0
OTRP	Odiongan	1.59	120	eP		Pb	11 00 57.9	-0.5
OTRP				eS		Sb	11 01 18.6	+0.4
POLP	Polilio Island	2.03	39	eP		Pb	11 01 04.6	-1.2
POLP				eS		Sg	11 01 33.9	-1.0
ENPP	El Nido	2.26	211	eP		Pn	11 01 06.5	+0.5
ENPP				eS		Sn	11 01 31.3	-2.0
BALP	Baler	2.73	20	eP		Pn	11 01 10.6	-2.0
BALP				eS		Sn	11 01 47.6	+2.5
CMAR	Chiang Mai Arr	21.49	287	P		P	11 05 19.5	+2.0
0.5nm,0.4s,baz=94,slow=11,SNR=2.8								
KSRS	Korea Array	25.06	14	LR		LR	11 15 59.6	
comp=Z,33nm,18.8s,baz=95,slow=37								
WRA	Warramunga Arr	35.56	157	P		P	11 07 25.3	-0.7
0.5nm,0.4s,baz=332,slow=10,SNR=14								
SONM	Songino Array	36.55	344	P		P	11 07 34.1	-0.2
0.5nm,0.6s,baz=148,slow=8.4,SNR=2.4								
ASAR	Alice Springs	38.84	160	P		P	11 07 53.9	0.0
0.8nm,0.5s,baz=339,slow=7.6,SNR=34								
MKAR	Makanchi Array	46.41	324	P		P	11 08 54.6	-0.5
0.5nm,0.6s,baz=122,slow=6.7,SNR=5.8								
KURBB	Kurchatov Arra	50.59	326	P		P	11 09 26.0	-1.1
1.1nm,0.2s,baz=120,slow=6.6,SNR=3.6								

MEX 14 11:06:45.4±0.9, 16°.29N×98°.24W, h10km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.15	46	eP		Pg	11 06 48.3	-0.6
PNIG				eS		Sg	11 06 51.3	0.0
TLIG	Tlapa	1.31	346	eP		Pn	11 07 05.7	-4.1
TLIG				eS		Sb	11 07 21.9	-5.1

IDC 14 11:21:22.1±2.1, 12°.97S×167°.66E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/39, mbtmp3.6/4, Error ellipse: s-maj=115.1km s-min=26.9km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	30.43	228	P		P	11 27 37.0	+0.5
1.0nm,0.3s,baz=52,slow=9.7,SNR=6.2								
WRA	Warramunga Arr	32.65	253	P		P	11 27 55.8	-0.4
0.6nm,0.9s,baz=89,slow=9.1,SNR=3.4								
ASAR	Alice Springs	33.68	247	P		P	11 28 04.9	-0.2
0.5nm,0.5s,baz=75,slow=9.4,SNR=24								
ILAR	Eielson Array	84.74	18	P		P	11 33 57.5	-0.3
0.1nm,0.5s,baz=238,slow=5.5,SNR=3.0								
ARCES	ARCESS Array B	118.65	346	PKP		PKiKP	11 40 12.1	+0.4
5.2nm,1.1s,baz=62,slow=1.6,SNR=9.3								
EKA	Eskdalemuir Ar	137.12	352	PKP		PKPdf	11 40 45.9	-1.2
2.2nm,0.8s,baz=21,slow=1.0,SNR=4.3								

IDC 14 11:33:11.8±2.5, 5°.91S×130°.61E, h0km, mb4.0/1, mb1 3.8/4, mb1mx3.5/33, mbtmp3.7/4, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/34, Error ellipse: s-maj=108.8km s-min=28.8km az=77.0, Banda Sea

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

n81,σ1§10/104, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**1.01**	**20**	P	**Pg**	**12 02 00.9**	**0.0**
KFL				S	**Sn**	**12 02 15.7**	**-0.9**
KFL	**Anninata**	**1.01**	**20**	P	**Pg**	**12 02 00.6**	**-0.3**
KFL				S	**Sg**	**12 02 13.9**	**-0.1**
KFL				AML	AML	12 02 20.5	
	comp=N,2152μm,0.4s						
KFL				AML	AML	12 02 20.7	
	comp=E,2036μm,0.4s						
VLS	**Valsamata**	**1.03**	**11**	P	**Pg**	**12 02 01.4**	**0.0**
VLS				S	**Sn**	**12 02 16.7**	**-0.5**
VLS	**Valsamata**	**1.03**	**11**	P	**Pg**	**12 02 01.3**	**-0.1**
VLS				S	**Sg**	**12 02 15.0**	**+0.2**
VLS				AML	AML	12 02 23.0	
	comp=E,524μm,0.3s						
VLS				AML	AML	12 02 26.4	
	comp=N,881μm,0.5s						
VLS	**Valsamata**	**1.03**	**11**	P	**Pg**	**12 02 01.3**	**0.0**
VLS				S	**Sb**	**12 02 15.2**	**-0.2**
VLS	**Valsamata**	**1.03**	**11**	P	**Pg**	**12 02 01.4**	**0.0**
MES3	**Kyparissia**	**1.06**	**85**	P	**Pg**	**12 02 02.1**	**+0.1**
MES3				S	**Sn**	**12 02 16.9**	**-0.9**
MES2	**Methoni**	**1.14**	**107**	P	**Pb**	**12 02 03.5**	**-0.1**
MES2				S	**Sg**	**12 02 18.1**	**-0.1**
AMT	**Artemida-Makis**	**1.14**	**71**	P	**Pg**	**12 02 03.4**	**-0.2**
AMT	**Artemida-Makis**	**1.14**	**71**	P	**Pg**	**12 02 03.1**	**-0.4**
AMT				S	**Sb**	**12 02 18.7**	**-0.1**
AMT				AML	AML	12 02 27.1	
	comp=E,1040μm,0.5s						
AMT				AML	AML	12 02 33.0	
	comp=N,1075μm,0.5s						
PYL	**PYLOS**	**1.15**	**103**	P	**Pb**	**12 02 03.4**	**-0.3**
PYL				S	**Sn**	**12 02 20.6**	**+0.6**
PYL	**PYLOS**	**1.15**	**103**	P	**Pb**	**12 02 03.1**	**-0.7**
PYL				S	**Sn**	**12 02 19.5**	**-0.4**
RLS	**Riolos of Patr**	**1.26**	**44**	P	**Pg**	**12 02 05.9**	**+0.1**
RLS				S	**Sn**	**12 02 24.4**	**+1.7**
RLS	**Riolos of Patr**	**1.26**	**44**	P	**Pn**	**12 02 05.0**	**-0.6**
ITM	**Ithomi**	**1.26**	**89**	P	**Pn**	**12 02 05.2**	**-0.4**
ITM				S	**Sn**	**12 02 24.3**	**+1.5**
ITM	**Ithomi**	**1.26**	**89**	P	**Pn**	**12 02 04.8**	**-0.9**
ITM	**Ithomi**	**1.26**	**89**	P	**Pn**	**12 02 05.3**	**-0.4**
ITM				S	**Sg**	**12 02 22.1**	**0.0**
ITM	**Ithomi**	**1.26**	**89**	P	**Pn**	**12 02 05.4**	**-0.2**
FSK	**Fiskardo**	**1.30**	**7**	P	**Pn**	**12 02 06.2**	**0.0**
FSK	**Fiskardo**	**1.30**	**7**	P	**Pn**	**12 02 05.9**	**-0.4**
FSK				S	**Sn**	**12 02 23.9**	**0.0**
DRO	**Drossia**	**1.34**	**54**	P	**Pn**	**12 02 06.6**	**-0.1**
EVGI	**Lefkada island**	**1.48**	**9**	P	**Pn**	**12 02 08.9**	**+0.3**
EVGI	**Lefkada island**	**1.48**	**9**	P	**Pn**	**12 02 08.6**	**0.0**
TRIP	**Tripoli**	**1.57**	**76**	P	**Pn**	**12 02 10.1**	**+0.1**
TRIP				S	**Sg**	**12 02 33.0**	**+0.8**
VLX	**Vlachokerasia**	**1.63**	**82**	P	**Pb**	**12 02 11.6**	**-0.5**
VLX	**Vlachokerasia**	**1.63**	**82**	P	**Pn**	**12 02 11.3**	**+0.5**
LKD2	**Lefkada island**	**1.64**	**8**	P	**Pn**	**12 02 11.4**	**+0.5**
LKD2				S	**Sg**	**12 02 34.1**	**-0.3**
LAKA	**Lakka**	**1.68**	**50**	P	**Pb**	**12 02 12.5**	**-0.4**
LAKA	**Lakka**	**1.68**	**50**	P	**Pb**	**12 02 12.8**	**-0.1**
PVO	**Paravola**	**1.72**	**32**	P	**Pb**	**12 02 13.1**	**-0.5**
PVO				S	**Sg**	**12 02 36.2**	**-0.8**
PVO	**Paravola**	**1.72**	**32**	P	**Pb**	**12 02 12.9**	**-0.7**
GUR	**Goura**	**1.76**	**63**	P	**Pn**	**12 02 12.4**	**-0.2**
GUR	**Goura**	**1.76**	**63**	P	**Pn**	**12 02 12.4**	**-0.2**
EFP	**Efpalio**	**1.76**	**44**	P	**Pn**	**12 02 13.3**	**+0.7**
EFP	**Efpalio**	**1.76**	**44**	P	**Pn**	**12 02 13.2**	**+0.7**
TRAZ	**Trapeza**	**1.79**	**55**	P	**Pb**	**12 02 14.0**	**-0.7**
TRAZ	**Trapeza**	**1.79**	**55**	P	**Pb**	**12 02 13.8**	**-0.9**
TRIZ	**Trizonia**	**1.82**	**48**	P	**Pb**	**12 02 14.8**	**-0.4**
TRIZ				S	**Sb**	**12 02 38.6**	**+0.5**
TRIZ	**Trizonia**	**1.82**	**48**	P	**Pn**	**12 02 14.1**	**+0.9**
SERG	**Sergoula**	**1.84**	**47**	P	**Pn**	**12 02 14.5**	**+0.9**
SERG	**Sergoula**	**1.84**	**47**	P	**Pn**	**12 02 14.5**	**+0.9**
VLI	**Veliai**	**2.12**	**101**	P	**Pn**	**12 02 18.4**	**+1.0**
DSF	**Desfina**	**2.13**	**54**	P	**Pn**	**12 02 18.2**	**+0.6**
PROD	**Prodromos**	**2.30**	**61**	P	**Pn**	**12 02 21.0**	**+1.1**
DID	**Didima**	**2.33**	**81**	P	**Pn**	**12 02 21.0**	**+0.7**
DID	**Didima**	**2.33**	**81**	P	**Pn**	**12 02 20.9**	**+0.6**
KYTH	**Kithira**	**2.34**	**112**	P	**Pn**	**12 02 22.2**	**+1.6**
IGT	**Igoumenitsa**	**2.37**	**360**	P	**Pn**	**12 02 22.1**	**+1.3**
AGG	**Agios Georgios**	**2.43**	**39**	P	**Pn**	**12 02 22.4**	**+0.7**
AGG	**Agios Georgios**	**2.43**	**39**	P	**Pn**	**12 02 22.2**	**+0.5**
AXAR	**Agios Charalam**	**2.43**	**48**	P	**Pn**	**12 02 23.4**	**+1.7**
VILL	**Villia**	**2.55**	**66**	P	**Pn**	**12 02 24.5**	**+1.0**
ATAL	**Atalanti**	**2.61**	**53**	P	**Pn**	**12 02 24.8**	**+0.7**
KPRO	**Kipourio**	**2.90**	**16**	P	**Pn**	**12 02 29.4**	**+1.2**
NEST	**Nestorio**	**3.29**	**9**	P	**Pn**	**12 02 35.5**	**+1.8**
SERS	**Sersale**	**3.44**	**304**	P	**Pn**	**12 02 38.0**	**+2.3**
MSCL	**Scilla**	**3.77**	**288**	P	**Pn**	**12 02 42.1**	**+1.9**
JOPP	**Joppolo**	**3.81**	**294**	P	**Pn**	**12 02 43.1**	**+2.3**
MCSR	**Castroreale**	**4.15**	**284**	P	**Pn**	**12 02 47.6**	**+2.2**
MCSR	**Castroreale**	**4.15**	**284**	S	**Sn**	**12 03 32.8**	**-1.4**
HAVL	**Avola**	**4.18**	**269**	P	**Pn**	**12 02 46.7**	**+0.8**
HAVL	**Avola**	**4.18**	**269**	P	**Pn**	**12 02 46.7**	**+0.8**
HAVL				S	**Sn**	**12 03 33.6**	**-1.4**
T0702	**Acquaformosa (**	**4.21**	**309**	S	**Sn**	**12 03 38.0**	**+2.3**
SSY	**Sortino**	**4.22**	**271**	P	**Pn**	**12 02 47.4**	**+1.1**
SSY				S	**Sn**	**12 03 33.2**	**-2.6**
SSY	**Sortino**	**4.22**	**271**	P	**Pn**	**12 02 47.5**	**+1.1**
HPAC	**Pachino**	**4.22**	**265**	P	**Pn**	**12 02 49.0**	**+2.6**
HCRL	**Carlentini**	**4.25**	**273**	P	**Pn**	**12 02 46.9**	**+0.3**
HCRL	**Carlentini**	**4.25**	**273**	P	**Pn**	**12 02 47.0**	**+0.3**
MEU	**Monte Lauro**	**4.33**	**271**	P	**Pn**	**12 02 49.5**	**+1.5**
MEU				S	**Sn**	**12 03 38.0**	**-0.7**
MEU	**Monte Lauro**	**4.33**	**271**	S	**Sn**	**12 03 39.0**	**+0.3**
HLNI	**Lentini**	**4.37**	**274**	P	**Pn**	**12 02 48.7**	**+0.3**
NOCI	**Noci**	**4.43**	**326**	P	**Pn**	**12 02 47.7**	**-1.5**
HMDC	**Modica**	**4.46**	**269**	P	**Pn**	**12 02 50.3**	**+0.7**
HMDC				S	**Sn**	**12 03 39.8**	**-2.0**
HMDC	**Modica**	**4.46**	**269**	P	**Pn**	**12 02 50.9**	**+1.3**
HVZN	**Vizzini**	**4.50**	**272**	P	**Pn**	**12 02 51.4**	**+1.2**
HVZN				S	**Sn**	**12 03 40.5**	**-2.3**
MNO	**Monte Soro**	**4.56**	**281**	P	**Pn**	**12 02 53.2**	**+2.1**
MNO	**Monte Soro**	**4.56**	**281**	S	**Sn**	**12 03 42.2**	**-2.3**
MCPD	**Capo d'Orlando**	**4.56**	**284**	P	**Pn**	**12 02 53.5**	**+2.5**
MCPD	**Capo d'Orlando**	**4.56**	**284**	S	**Sn**	**12 03 42.8**	**-1.4**
BULG	**Bulgheria - Ca**	**4.86**	**308**	P	**Pn**	**12 02 57.2**	**+2.0**
ARRO	**Arrone**	**7.95**	**315**	P	**Pn**	**12 03 37.9**	**+0.3**

SJA 14 12:07:23.0±0.7, 30.°66S×72.°11W, h25km±7km, ML2.6, MW3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**1.23**	**67**	*i* P	Pn	12 07 44.0	-0.8
GO04				*i* S	Sn	12 07 58.9	-1.9
LCO	**Las Campanas**	**2.05**	**37**	*i* P	Pb	12 07 59.0	-0.7
LCO				*i* S	Sb	12 08 24.5	-0.3
ROC1	**El Roble**	**2.49**	**158**	*i* P	Pn	12 08 02.5	+0.4
ROC1				*i* S	Sb	12 08 35.8	-1.7
ACCO	**Cerro Coronel**	**2.62**	**89**	*i* P	Pn	12 08 06.8	+2.7
ACDV	**Cuesta del Vie**	**2.63**	**80**	*i* P	Pb	12 08 07.2	-2.3
ACDV				*i* S	Sb	12 08 39.4	-2.0
RTLS	**Leoncito**	**2.66**	**116**	*i* P	Pb	12 08 07.5	-2.6
RTLS				IAML		12 08 15.7	
	comp=Z,25nm,0.8s						
RTLS				*i* S	Sb	12 08 40.8	-1.7
AUSP	**Uspallata**	**2.80**	**125**	*i* P	Pn	12 08 09.4	+2.9
AUSP				*i* S	Sb	12 08 43.8	-2.6
AMOG	**MOGNA**	**3.12**	**96**	*i* P	Pn	12 08 13.7	+2.9
AGUA	**GUANDACOL**	**3.35**	**70**	*i* P	Pb	12 08 18.8	-2.9
ASAL	**Salagasta**	**3.39**	**125**	*i* P	Pn	12 08 17.7	+3.3
ASAL				*i* S	Sb	12 09 05.0	+1.7
CFA	**Coronel Fontan**	**3.45**	**107**	*i* P	Pn	12 08 18.2	+3.0
CFA				*i* S	Sn	12 08 59.5	+4.2
ARCO	**CERRO ARCO**	**3.47**	**130**	*i* P	Pb	12 08 20.3	-3.5
VCA	**Vinchina**	**3.90**	**62**	*i* P	Pb	12 08 27.2	-4.0
ACLC	**CERRO LA CRUZ**	**4.64**	**76**	*i* P	Pn	12 08 34.1	+2.5
APLL	**PUNTA DE LOS L**	**4.82**	**88**	*i* P	Pn	12 08 35.5	+1.5
MRA	**San Martin**	**5.73**	**109**	*i* P	Pn	12 08 49.0	+2.4

*ISCJB **14** 12:09:35.3±0.2, 8.°23S±0.°03×122.°10E±0.°03, h200km, mb4.5/60, Error ellipse: s-maj=4.6km s-min=2.9km az=136.9*
*NEIC **14** 12:09:36.9±2.2, 8.°25S×122.°13E, h207km±7km, mb4.5/52, Error ellipse: s-maj=15.0km s-min=10.8km az=71.0*

*DJA **14** 12:09:37.2±0.2, 8.°3S±2.°×122.°2E±.°, h199km±3km, M4.5/26, mB5.1/11, mb4.7/26, MLv4.6/13, Mw(mB)4.4/11*
*IDC **14** 12:09:38.4±1.0, 8.°15S×122.°13E, h215km±9km, mb4.1/16, mb1 4.1/20, mb1mx4.1/31, mbtmp4.6/20, Error ellipse: s-maj=14.2km s-min=7.6km az=55.0*

ISC 14 12:09:36.3±0.3, 8.°33S±0.°04×122.°09E±0.°04, h200km, n158, σ1§70/173, mb4.5/60, 1D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.34**	**154**	*e*Pn	**Pn**	**12 10 04.1**	**+1.3**
MMRI				*e*Sn	**Sn**	**12 10 24.2**	**+0.6**
MMRI	**Maumere**	**0.34**	**154**	P	**Pn**	**12 10 04.2**	**+1.3**
WSI	**Waingapu**	**2.21**	**233**	P	**Pn**	**12 10 17.1**	**+0.1**
BASI	**Baing, Sumba**	**2.40**	**218**	P	**Pn**	**12 10 19.2**	**+0.2**
BATI	**Baumata**	**2.43**	**140**	P	**Pn**	**12 10 21.3**	**+1.9**
SOEI	**Soe**	**2.58**	**124**	*e*Pn	**Pn**	**12 10 22.8**	**+1.6**
SOEI				*e*Sn	**Sn**	**12 10 53.3**	**-2.9**
SOEI	**Soe**	**2.58**	**124**	P	**Pn**	**12 10 22.8**	**+1.6**
BSSI	**Bau Bau, Buton**	**2.69**	**324**	P	**Pn**	**12 10 22.8**	**+0.5**
BKSI	**Bulukumba**	**3.57**	**327**	P	**Pn**	**12 10 33.0**	**+0.3**
KAPI	**Kappang**	**4.03**	**325**	P	**Pn**	**12 10 40.0**	**+1.6**
	7.3nm,0.3s,baz=143,slow=9.4,SNR=37						
KAPI				S	**Sn**	**12 11 28.0**	**+0.7**
	1.8nm,0.3s,baz=218,slow=16,SNR=2.5						
PLAI	**Plampang**	**4.29**	**263**	P	**Pn**	**12 10 42.4**	**+0.7**
BNSI	**Bone**	**4.37**	**333**	P	**Pn**	**12 10 44.8**	**+2.1**
SPSI	**Sidrap Palu**	**4.91**	**332**	P	**Pn**	**12 10 51.3**	**+1.7**
TTSI	**Tana Toraja**	**5.71**	**337**	P	**Pn**	**12 11 01.9**	**+2.0**
SRBI	**Singaraja**	**6.81**	**272**	P	**Pn**	**12 11 14.6**	**+0.6**
SANI	**Sanana**	**7.35**	**32**	P	**Pn**	**12 11 22.5**	**+1.4**
JAGI	**Jajag, Banyuwa**	**7.85**	**268**	*e*Pn	**Pn**	**12 11 26.0**	**-1.7**
JAGI				*e*Sn	**Sn**	**12 12 51.3**	**-5.0**
KMMI	**Kalianget**	**8.15**	**278**	P	**Pn**	**12 11 35.9**	**+4.4**
BNDI	**Bandanaira**	**8.64**	**65**	P	**Pn**	**12 11 40.1**	**+2.2**
MTN	**Manton Dam**	**9.96**	**118**	*e*Pn	**Pn**	**12 11 55.0**	**0.0**
MTN				*e*Sn	**Sn**	**12 13 38.8**	**-7.7**
PWJI	**Pagerwojo**	**10.18**	**271**	P	**Pn**	**12 11 57.5**	**-0.4**
MTKI	**Muara Teweh, K**	**10.25**	**315**	P	**Pn**	**12 12 01.5**	**+2.6**
FITZ	**Fitzroy Crossi**	**10.31**	**161**	*e*Pn	**Pn**	**12 11 59.8**	**+0.3**
FITZ				*e*Sn	**Sn**	**12 13 55.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**10.31**	**161**	P	**Pn**	**12 11 59.9**	**+0.3**
	5.5nm,0.3s,baz=354,slow=9.1,SNR=140						
FITZ				S	**Sn**	**12 13 51.4**	**-3.3**
	4.5nm,0.3s,baz=6.4,slow=13,SNR=8.7						
TNTI	**Ternate**	**10.46**	**30**	*e*Pn	**Pn**	**12 12 02.7**	**+1.2**
TNTI	**Ternate**	**10.46**	**30**	P	**Pn**	**12 12 03.5**	**+1.9**
FAKI	**Fak Fak**	**11.45**	**63**	*e*Pn	**Pn**	**12 12 13.1**	**-1.2**
FAKI				*e*Sn	**Sn**	**12 14 21.3**	**-0.8**
FAKI	**Fak Fak**	**11.45**	**63**	P	**Pn**	**12 12 13.8**	**-0.5**
UGM	**Wanagama**	**11.46**	**271**	*e*Pn	**Pn**	**12 12 14.2**	**-0.2**
UGM				*e*Sn	**Sn**	**12 14 16.0**	**-6.2**
SMRI	**Semarang**	**11.61**	**275**	*e*Pn	**Pn**	**12 12 16.8**	**+0.5**
SMRI	**Semarang**	**11.61**	**275**	P	**Pn**	**12 12 18.5**	**+2.2**
SWI	**Sorong**	**11.77**	**51**	P	**Pn**	**12 12 18.4**	**+0.1**
SGSI	**Sangihe**	**12.42**	**16**	P	P	12 12 36.6	+6.0
MBWA	**Marble Bar**	**12.96**	**190**	*e*Pn	**P**	**12 12 37.9**	**+1.4**
PSA00	**Pilbara Seismi**	**13.34**	**189**	*e*Pn	**Pn**	**12 12 39.1**	**+0.9**
CISI	**Cisompet, Garu**	**14.15**	**272**	*e*Pn	**Pn**	**12 12 48.3**	**0.0**
CISI	**Cisompet, Garu**	**14.15**	**272**	P	**P**	**12 12 49.7**	**-0.3**
SBUM	**Sibu**	**14.54**	**317**	*e*Pn	**Pn**	**12 12 53.1**	**+0.1**
SBUM	**Sibu**	**14.54**	**317**	P	**P**	**12 12 55.0**	**+0.8**
CBJI	**Citeko**	**15.23**	**276**	P	**Pn**	**12 13 01.9**	**+0.5**
KSM	**Kuching**	**15.25**	**309**	*e*Pn	**Pn**	**12 13 00.5**	**-1.2**
	25nm,0.8s						
KSM	**Kuching**	**15.25**	**309**	P	**P**	**12 13 04.0**	**+1.9**
TPI	**Tanjungpandan**	**15.39**	**290**	P	**P**	**12 13 05.3**	**+1.7**
KKM	**Kota Kinabalu**	**15.43**	**338**	*e*Pn	**P**	**12 13 05.6**	**+1.5**
	47nm,1.0s						
KKM	**Kota Kinabalu**	**15.43**	**338**	P	**P**	**12 13 06.0**	**+1.9**
CGJI	**Cibinong**	**16.34**	**275**	P	**P**	**12 13 13.5**	**-0.6**
WR1	**Warramunga Arr**	**16.55**	**136**	*e*P	**Pn**	**12 13 18.9**	**+1.5**
WR1				*e*S	**S**	**12 16 14.9**	**-4.5**
WRA	**Warramunga Arr**	**16.55**	**136**	P	**Pn**	**12 13 18.9**	**+1.5**
	3.7nm,0.3s,baz=14,slow=24,SNR=137						
WRA				S	**S**	**12 16 15.0**	**-4.5**
	4.2nm,0.3s,baz=314,slow=19,SNR=12						
WRAB	**Tennant Creek**	**16.55**	**135**	*e*P	**Pn**	**12 13 17.7**	**+0.3**
	26nm,0.6s						
WB2	**Warramunga Arr**	**16.56**	**135**	*e*P	**Pn**	**12 13 18.8**	**+1.3**
	32nm,0.7s						
PPBI	**Pangkal Pinang**	**17.02**	**290**	P	**P**	**12 13 22.5**	**+1.0**
GENI	**Geniyam**	**18.87**	**73**	P	**P**	**12 13 42.2**	**+0.5**
AS31	**Alice Springs**	**19.00**	**145**	*e*P	**Pn**	**12 13 45.5**	**-0.7**
	12nm,0.6s						
AS31				*e*S	**S**	**12 17 12.2**	**+4.1**
AS31				*e*ScP	**ScP**	**12 21 14.3**	**-2.2**
ASAR	**Alice Springs**	**19.00**	**145**	*e*P	**Pn**	**12 13 46.5**	**+0.4**
ASAR	**Alice Springs**	**19.00**	**145**	P	**Pn**	**12 13 45.6**	**-0.5**
	2.4nm,0.3s,baz=332,slow=14,SNR=202						
ASAR				S	**S**	**12 17 07.2**	**-0.8**
	baz=330,slow=21,SNR=5.4						
ASAR				ScP	**ScP**	**12 21 14.0**	**-2.5**
	0.3nm,0.3s,baz=334,slow=2.1,SNR=4.8						
DSRI	**Dabo**	**19.11**	**293**	P	**P**	**12 13 46.2**	**+2.0**
JAY	**Jayapura**	**19.41**	**74**	P	**P**	**12 13 47.1**	**-0.4**
	baz=263,slow=8.3						
TPRI	**Tanjung Pinang**	**19.77**	**297**	P	**Pn**	**12 13 55.6**	**+0.2**
MYKOM	**Kota Tinggi**	**20.77**	**298**	*e*P	**P**	**12 14 03.1**	**+1.0**
	31nm,1.1s						
MYKOM	**Kota Tinggi**	**20.77**	**298**	P	**P**	**12 14 03.0**	**+0.9**
COEN	**Coen**	**21.43**	**107**	*e*P	**P**	**12 14 09.1**	**+0.2**
	55nm,1.1s						
BKNI	**Bangkinang**	**22.67**	**291**	*e*P	**P**	**12 14 21.2**	**+0.3**
	80nm,1.1s						
FORT	**Forrest**	**23.02**	**167**	*e*P	**P**	**12 14 26.2**	**+2.3**
	15nm,0.8s						
DLV	**T Lat**	**24.26**	**326**	*e*P	**P**	**12 14 36.7**	**+1.3**
	21nm,0.9s						
IPM	**Ipoh**	**24.56**	**300**	*e*P	**P**	**12 14 38.4**	**+0.4**
	7.1nm,0.9s						
PMG	**Port Moresby**	**24.80**	**94**	*e*P	**P**	**12 14 40.8**	**+0.7**
	21nm,0.8s						
PMG	**Port Moresby**	**24.80**	**94**	P	**P**	**12 14 39.5**	**-0.6**
	22nm,0.7s,baz=231,slow=1.7,SNR=8.8						
NWAO	**Narrogin (SRO)**	**24.89**	**190**	*e*P	**P**	**12 14 43.1**	**+2.4**
	15nm,1.3s						
PSI	**Prapat**	**25.61**	**295**	*e*P	**P**	**12 14 47.3**	**-0.3**
	6.7nm,0.7s						
CTA	**Charters Tower**	**26.14**	**119**	P	**P**	**12 14 52.5**	**+0.3**
	8.6nm,0.9s,baz=292,slow=11,SNR=14						
CTAO	**Charters Tower**	**26.14**	**119**	*e*P	**P**	**12 14 53.6**	**+1.4**
	13nm,1.0s						
GSI	**Gunungsitoli**	**26.24**	**290**	*e*P	**P**	**12 14 52.5**	**-0.7**
	39nm,1.3s						
BBOO	**Buckleboo**	**27.59**	**154**	*e*P	**P**	**12 15 05.5**	**+0.5**
	19nm,1.1s						
STKA	**Stephens Creek**	**29.64**	**145**	*e*P	**P**	**12 15 25.1**	**+2.0**
	1.5nm,1.1s						
STKA	**Stephens Creek**	**29.64**	**145**	P	**P**	**12 15 25.6**	**+2.5**
	2.3nm,0.4s,baz=338,slow=7.4,SNR=14						
CHAI	**Chiayaphum**	**31.24**	**320**	P	**P**	**12 15 38.9**	**+1.6**
	20μm,0.8s,337μm						
TPUB	**Ta-pu**	**31.47**	**357**	*e*P	**P**	**12 15 39.0**	**-0.3**
	28nm,1.5s						
YULB	**Yu-li**	**31.54**	**359**	*e*P	**P**	**12 15 39.1**	**-0.8**
	9.7nm,1.0s						
SSLB	**Suanglung**	**31.94**	**358**	*e*P	**P**	**12 15 42.8**	**-0.6**
	7.0nm,0.6s						
YHNB	**Yeheng**	**32.80**	**359**	*e*P	**P**	**12 15 49.5**	**-1.4**
	12nm,1.1s						
UTTA	**Uttaradit**	**33.52**	**321**	P	**P**	**12 16 01.6**	**+4.4**
	7μm,0.8s						
LAMP	**Lampang**	**34.68**	**320**	P	**P**	**12 16 09.5**	**+2.3**
	17μm,0.8s						
CM31	**Chiang Mai Arr**	**35.07**	**320**	*e*P	**P**	**12 16 08.9**	**-1.6**
	6.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**35.07**	**320**	P	**P**	**12 16 10.9**	**+0.4**
	2.1nm,0.5s,baz=146,slow=6.5,SNR=18						
CMMT	**Chiang Mai**	**35.33**	**320**	P	**P**	**12 16 13.7**	**+1.0**
	3.8nm,1.3s						
CHTO	**Chiang Mai**	**35.33**	**320**	*e*P	**P**	**12 16 13.1**	**+0.4**
	4.9nm,0.6s						
KMI	**Kunming**	**38.22**	**331**	P	**P**	**12 16 38.8**	**+1.5**
WHN	**Wuhan**	**39.36**	**349**	P	**P**	**12 16 47.3**	**+1.0**
ENH	**Enshi**	**40.24**	**343**	*e*P	**P**	**12 16 53.5**	**-0.2**
	11nm,1.0s						
NJ2	**Nanjing**	**40.27**	**356**	*e*P	**P**	**12 16 55.4**	**+1.6**
JNU	**Nakatsue**	**42.06**	**11**	*e*P	**P**	**12 17 06.2**	**-2.3**
	11nm,1.2s						
CD2	**Chengdu**	**42.79**	**337**	*i*P	**P**	**12 17 14.0**	**-0.4**
XAN	**Xi'an**	**43.95**	**344**	P	**P**	**12 17 22.8**	**-0.8**
XAN	**Xi'an**	**43.95**	**344**	*e*P	**P**	**12 17 22.9**	**-0.8**
	11nm,0.9s						
SHL	**Shillong**	**44.71**	**320**	*e*P	**P**	**12 17 28.7**	**-1.2**
	12nm,0.5s						
INU	**Inuyama**	**45.67**	**17**	*e*P	P	12 17 32.6	-4.5
	13nm,1.2s						
KSAR	**Wonju Array Be**	**45.85**	**6**	*e*P	**P**	**12 17 38.6**	**+0.2**
KSRS	**Korea Array**	**45.87**	**6**	P	**P**	**12 17 38.3**	**-0.3**
	2.9nm,0.8s,baz=182,slow=9.8,SNR=12						
KSRS				PcP	**PcP**	**12 19 12.8**	**+0.5**
	0.3nm,0.5s,baz=197,slow=2.8,SNR=4.4						
MAJO	**Matsushiro**	**47.13**	**18**	*e*P	**P**	**12 17 47.6**	**-0.9**
	9.3nm,0.7s						
MAT	**Matsushiro**	**47.13**	**18**	P	**P**	**12 17 46.8**	**-1.7**
MJAR	**Matsushiro Arr**	**47.13**	**18**	*e*P	**P**	**12 17 47.0**	**-1.5**
MJAR	**Matsushiro Arr**	**47.13**	**18**	P	**P**	**12 17 47.3**	**-1.2**
	8.9nm,0.6s,baz=196,slow=9.1,SNR=27						
MJB9	**Matsu-Tunnel**	**47.13**	**18**	*e*P	**P**	**12 17 47.7**	**-0.8**
	9.4nm,0.7s						
LZH	**Lanzhou**	**47.40**	**340**	*e*P	**P**	**12 17 51.4**	**+0.7**
LZH				pP	pP	12 18 34.3	+0.2
LZH				sP	sP	12 19 00.3	+4.2
LSA	**Lhasa**	**48.12**	**323**	*e*P	**P**	**12 17 57.2**	**+0.5**
	9.1nm,0.6s						
BJT	**Baijiatuau**	**48.41**	**354**	*e*P	**P**	**12 17 58.1**	**-0.1**
	11nm,0.5s						
HHC	**Hu-ho-hao-te**	**49.88**	**350**	*e*P	**P**	**12 18 11.4**	**+1.9**
HYB	**Hyderabad**	**50.05**	**301**	*i* P	**P**	**12 18 09.0**	**-2.1**
GTA	**Gaotai**	**51.80**	**338**	*e*P	**P**	**12 18 24.3**	**+0.5**
GTA				pP	pP	12 19 09.8	+1.5
GTA				sP	PcP	12 19 35.3	+1.2
USA0B	**Ussuriysk Arra**	**53.05**	**9**	*e*P	**P**	**12 18 32.3**	**-0.4**
	12nm,0.6s						
USRK	**Ussuriysk Ar.**	**53.05**	**9**	*e*P	**P**	**12 18 32.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**53.05**	**9**	P	**P**	**12 18 32.2**	**-0.5**
	11nm,0.5s,baz=204,slow=7.6,SNR=24						
MDJ	**Mudanjiang**	**53.13**	**7**	*e*P	**P**	**12 18 32.9**	**-0.5**
	12nm,0.8s						
ULN	**Ulaanbaatar**	**57.51**	**348**	*e*P	**P**	**12 19 04.3**	**-0.4**
	16nm,1.1s						
SONA0	**Songino Array**	**57.62**	**348**	*e*P	**P**	**12 19 05.3**	**-0.1**
SONM	**Songino Array**	**57.62**	**348**	*e*P	**P**	**12 19 05.2**	**-0.3**
SONM	**Songino Array**	**57.62**	**348**	P	**P**	**12 19 05.3**	**-0.1**
	12nm,0.7s,baz=164,slow=8.5,SNR=36						
WMQ	**Urumqi**	**60.54**	**332**	*e*P	**P**	**12 19 26.0**	**+0.4**
WMQ				sP	sP	12 20 42.3	+9.2
TLY	**Talaya**	**61.84**	**347**	*e*P	**P**	**12 19 34.3**	**+0.2**
	8.4nm,1.0s						
KSH	**Kashi**	**63.93**	**322**	P	**P**	**12 19 48.3**	**+0.1**
NRN	**Naryn**	**65.09**	**323**	*e*P	**P**	**12 19 55.2**	**-0.7**
	4.5nm,0.8s						
MK31	**Makanchi Array**	**65.30**	**331**	*e*P	**P

KLU	**Klutina**	**2.13**	**106**	*e*Pn	**Pn**	**12 24 27.6**	**-0.4**
KLU				*e*Sn	**Sn**	**12 24 53.2**	**-0.1**
PS11	**TAPS Pump St11**	**2.22**	**89**	*e*Pn	**Pn**	**12 24 30.1**	**+1.0**
DIV	**Divide**	**2.34**	**114**	*e*Pn	**Pn**	**12 24 30.1**	**-0.7**
DIV				*e*Sn	**Sn**	**12 24 58.6**	**+0.2**
PAX	**Paxson**	**2.34**	**67**	*e*Pn	**Pn**	**12 24 31.4**	**+0.6**
PAX				*e*Sn	**Sn**	**12 24 58.8**	**+0.3**
HARP	**HAARP**	**2.37**	**81**	*e*Pn	**Pn**	**12 24 32.2**	**+1.1**
BRLK	**Bradley Lake**	**2.41**	**188**	*e*Pn	**Pn**	**12 24 32.8**	**+1.1**
PS10	**TAPS Pump St10**	**2.41**	**56**	*e*Pn	**Pn**	**12 24 33.0**	**+1.3**
PS12	**TAPS Pump St12**	**2.49**	**103**	*e*Pn	**Pn**	**12 24 32.4**	**-0.3**
WRH	**Wood River Hil**	**2.53**	**21**	*e*Pn	**Pn**	**12 24 33.3**	**0.0**
HOM	**Homer**	**2.59**	**197**	*e*Pn	**Pn**	**12 24 36.0**	**+1.9**
HOM				*e*Sn	**Sn**	**12 25 03.7**	**-0.7**
ILS	**Iliamna Low So**	**2.60**	**214**	*e*Pn	**Pn**	**12 24 35.3**	**+1.0**
EYAK	**Cordova Ski Ar**	**2.67**	**125**	*e*Pn	**Pn**	**12 24 34.5**	**-0.7**
HDA	**Harding Lake**	**2.71**	**31**	*e*Pn	**Pn**	**12 24 36.0**	**+0.2**
HDA				*e*Sn	**Sn**	**12 25 07.5**	**+0.1**
CCB	**Clear Creek Bu**	**2.74**	**22**	*e*Pn	**Pn**	**12 24 36.0**	**-0.1**
CCB				*e*Sn	**Sn**	**12 25 07.1**	**-0.9**
SVW2	**Sparrevohn**	**2.78**	**250**	*e*Pn	**Pn**	**12 24 36.1**	**-0.6**
SVW2				*e*Sn	**Sn**	**12 25 08.9**	**-0.2**
TT01	**Tatalina**	**2.81**	**288**	*e*Pn	**Pn**	**12 24 36.3**	**-0.9**
PS08	**TAPS Pump Stn8**	**2.85**	**31**	*e*Pn	**Pn**	**12 24 37.9**	**+0.2**
MLY	**Manley**	**2.92**	**355**	*e*Pn	**Pn**	**12 24 38.5**	**-0.1**
RIDG	**Independent Ri**	**2.93**	**54**	*e*Pn	**Pn**	**12 24 40.8**	**+2.1**
COLA	**College**	**2.94**	**20**	*e*Pn	**Pn**	**12 24 39.0**	**+0.2**
COLA				*e*Sn	**Sn**	**12 25 13.2**	**+0.3**
MDM	**Murphy Dome**	**2.96**	**16**	*e*Pn	**Pn**	**12 24 39.3**	**+0.1**
MDM				*e*Sn	**Sn**	**12 25 13.4**	**-0.2**
ILAR	**Eielson Array**	**3.03**	**28**	*e*Pn	**Pn**	**12 24 39.4**	**-0.7**
ILAR				*e*Sn	**Sn**	**12 25 15.0**	**-0.2**
ILAR	**Eielson Array**	**3.03**	**28**	P	**Pn**	**12 24 40.2**	**0.0**
	14nm,0.3s,baz=211,slow=14,SNR=511						
ILAR				S	**Sn**	**12 25 13.9**	**-1.3**
	11nm,0.3s,baz=216,slow=21,SNR=15						
ILB	**Eielson Array**	**3.03**	**28**	*e*Pn	**Pn**	**12 24 40.2**	**0.0**
ILB				*e*Sn	**Sn**	**12 25 13.9**	**-1.3**
MENT	**Mentasta**	**3.10**	**72**	*e*Pn	**Pn**	**12 24 41.3**	**+0.1**
MENT				*e*Sn	**Sn**	**12 25 15.9**	**-1.2**
DOT	**Dot Lake**	**3.19**	**59**	*e*Pn	**Pn**	**12 24 43.1**	**+0.8**
AUL	**Augustine Lava**	**3.19**	**211**	*e*Pn	**Pn**	**12 24 43.1**	**+0.8**
PS07	**TAPS Pump Stn7**	**3.30**	**14**	*e*Pn	**Pn**	**12 24 44.1**	**+0.4**
SCRK	**Sand Creek**	**3.37**	**54**	*e*Pn	**Pn**	**12 24 46.0**	**+1.0**
HMT	**Hamilton**	**3.39**	**120**	*e*Pn	**Pn**	**12 24 45.8**	**+0.8**
HMT				*e*Sn	**Sn**	**12 25 22.9**	**-1.1**
MCARA	**McCarthy VSAT**	**3.49**	**99**	*e*Pn	**Pn**	**12 24 46.9**	**+0.4**
CRQM	**Cirque**	**3.66**	**109**	*e*Pn	**Pn**	**12 24 48.9**	**0.0**
CRQM				*e*Sn	Sn	12 25 42.3	+11
PS06	**TAPS Pump Stn6**	**3.74**	**3**	*e*Pn	**Pn**	**12 24 50.1**	**+0.3**
TGL	**Tana Glacier**	**3.80**	**108**	*e*Pn	**Pn**	**12 24 51.2**	**+0.5**
BALM	**Baldy**	**3.91**	**103**	*e*Pn	**Pn**	**12 24 52.1**	**-0.2**
BALM				*e*Sn	**Sn**	**12 25 36.0**	**-0.8**
PRP	**Porcupine Dome**	**3.97**	**29**	*e*Pn	**Pn**	**12 24 53.8**	**+0.6**
PRP				*e*Sn	**Sn**	**12 25 37.1**	**-1.3**
BCAR	**Beaver Creek A**	**4.00**	**73**	*e*Pn	**Pn**	**12 24 53.2**	**-0.1**
BCAR				*e*Sn	**Sn**	**12 25 34.2**	**-4.7**
IM3	**Indian Mountai**	**4.17**	**340**	*e*Pn	**Pn**	**12 24 55.9**	**+0.2**
IMAR	**Indian Mountai**	**4.17**	**340**	*e*Pn	**Pn**	**12 24 56.0**	**+0.4**
IMAR				*e*Sn	**Sn**	**12 25 41.0**	**-1.9**
CTGM	**Chitina Glacie**	**4.40**	**102**	*e*Pn	**Pn**	**12 24 59.6**	**+0.7**
KDAK	**Kodiak Island**	**4.53**	**196**	*e*Pn	**Pn**	**12 24 59.3**	**-1.4**
KDAK	**Kodiak Island**	**4.53**	**196**	P	**Pn**	**12 24 59.1**	**-1.5**
	0.6nm,0.3s,baz=49,slow=10,SNR=14						
KDAK				S	**Sn**	**12 25 48.5**	**-3.5**
	0.6nm,0.3s,baz=317,slow=19,SNR=2.7						
PS05	**TAPS Pump Stn5**	**4.70**	**358**	*e*Pn	**Pn**	**12 25 03.5**	**+0.6**
EGAK	**Eagle**	**4.84**	**53**	*e*Pn	**Pn**	**12 25 06.8**	**+2.0**
FYU	**Fort Yukon**	**4.94**	**24**	*e*Pn	**Pn**	**12 25 06.8**	**+0.7**
COLD	**Coldfoot**	**5.11**	**360**	*e*Pn	**Pn**	**12 25 09.2**	**+0.7**
COLD				*e*Sn	**Sn**	**12 26 04.8**	**-1.3**
OHAK	**Old Harbor**	**5.17**	**199**	*e*Pn	**Pn**	**12 25 07.7**	**-1.7**
PCA	**Pinnacle**	**5.23**	**109**	*e*Pn	**Pn**	**12 25 10.4**	**0.0**
DAWY	**Dawson**	**5.27**	**64**	*e*Pn	**Pn**	**12 25 11.2**	**+0.4**
BM3	**Burnt Mountain**	**5.81**	**22**	*e*Pn	**Pn**	**12 25 18.6**	**+0.4**
BMAR	**Burnt Mountain**	**5.83**	**22**	*e*Pn	**Pn**	**12 25 18.5**	**+0.1**
HYT	**Haines Junctio**	**6.22**	**97**	*e*Pn	**Pn**	**12 25 24.2**	**+0.3**
TOLK	**Toolik Lake Re**	**6.54**	**2**	*e*Pn	**Pn**	**12 25 29.4**	**+1.3**
CHGN	**Chignik**	**7.21**	**219**	*e*Pn	**Pn**	**12 25 37.9**	**+0.6**
EPYK	**Eagle Plains**	**7.23**	**48**	*e*Pn	**Pn**	**12 25 39.3**	**+1.7**
ANM	**Nome**	**7.25**	**296**	*e*Pn	**Pn**	**12 25 38.6**	**+0.9**
ANM				*e*Sn	**Sn**	**12 26 58.0**	**-0.4**
WHY	**Whitehorse**	**7.50**	**95**	*e*Pn	**Pn**	**12 25 41.0**	**-0.3**
BESE	**Bessie Mountai**	**8.39**	**108**	*e*Pn	**Pn**	**12 25 54.2**	**+0.8**
SIT	**Sitka**	**9.09**	**117**	*e*Pn	**Pn**	**12 26 01.9**	**-0.9**
INK	**Inuvik**	**9.31**	**41**	*e*Pn	**Pn**	**12 26 06.4**	**+0.5**
INK	**Inuvik**	**9.31**	**41**	P	**Pn**	**12 26 05.3**	**-0.6**
	0.4nm,0.3s,baz=237,slow=13,SNR=28						
INK				S	**Sn**	**12 27 46.3**	**-2.6**
	0.1nm,0.3s,baz=220,slow=16,SNR=1.8						
GAMB	**Gambell**	**9.92**	**289**	*e*Pn	**Pn**	**12 26 14.8**	**+0.6**
YKA	**Yellowknife Ar**	**16.41**	**73**	P	**Pn**	**12 27 40.7**	**+0.1**
	0.1nm,0.3s,baz=285,slow=10,SNR=5.0						
YKB5	**Yellowknife Ar**	**16.41**	**73**	*e*Pn	**Pn**	**12 27 40.7**	**+0.1**
RES	**Resolute Bay**	**22.76**	**34**	P	**P**	**12 28 50.4**	**-0.8**
	0.6nm,0.6s,baz=304,slow=6.7,SNR=3.7						
NV01	**Mina Array Sit**	**30.71**	**126**	*e*P	**P**	**12 30 04.6**	**+1.0**
NVAR	**Mina Array Bea**	**30.71**	**126**	P	**P**	**12 30 04.6**	**+1.0**
	0.1nm,0.3s,baz=316,slow=7.6,SNR=3.8						

SJA 14 12:27:42.3±0.8, 30°.65S×70°.00W, h121km±8km, ML2.7, MW3.7,1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACCO	**Cerro Coronel**	**0.81**	**86**	*i* P	Pn	12 28 03.8	+0.8
ACCO				*i* S	Sn	12 28 20.3	+1.8
ACDV	**Cuesta del Vie**	**0.90**	**58**	*i* P	Pn	12 28 04.6	+1.0
ACDV				*i* S	Sn	12 28 20.8	+1.2
RTLS	**Leoncito**	**1.29**	**153**	*i* P	Pn	12 28 09.0	+1.2
RTLS				IAML		12 28 29.1	
	comp=Z,84nm,0.2s						
RTLS				⇑*i* S	Sn	12 28 29.3	+2.2
AUSP	**Uspallata**	**1.65**	**162**	*i* P	Pn	12 28 13.3	+1.4
AUSP				*i* S	Sn	12 28 36.0	+1.6
RTCV	**Cerro Valdivia**	**1.74**	**135**	*i* P	Pn	12 28 13.1	+0.5
RTCV				*i* S	Sn	12 28 36.8	+1.0
AGUA	**GUANDACOL**	**1.74**	**49**	*i* P	Pn	12 28 14.2	+1.4

MEX 14 12:44:36.3±0.7, 15°.96N×97°.33W, h20km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.88**	**299**	*i* P	Pb	12 44 49.9	-3.0
PNIG				*i* S	Sb	12 45 01.4	-2.8

*ISCJB **14** 12:44:59.3±3.1, 26°.49S±0°.09×24°.9E±0°.5, h10km, Error ellipse: s-maj=69.0km s-min=8.4km az=8.2*
*EAF **14** 12:45:01.1±0.9, 26°.54S×24°.76E, h10km±25km, MD3.6*
*BUL **14** 12:45:01.8±1.1, 26°.55S×24°.79E, h0km±27km, MD3.9*
ISC 14 12:45:00.1±2.8, 26°.52S±0°.08×24°.8E±0°.3, h10km, n8, σ0°72/10, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**2.13**	**168**	*i* P	**Pn**	**12 45 36.3**	**+0.4**
BOSA				*i* S	**Sn**	**12 46 02.0**	**-0.5**
BOSA	**Boshof**	**2.13**	**168**	*i* P	**Pn**	**12 45 36.3**	**+0.4**
BOSA				*i* S	**Sn**	**12 46 02.0**	**-0.5**
MSNA	**Messina**	**6.35**	**50**	*i* P	**Pn**	**12 46 34.1**	**+0.3**
MSNA	**Messina**	**6.35**	**50**	*i* P	**Pn**	**12 46 34.1**	**+0.3**
MATP	**Matopo**	**6.97**	**30**	*i* P	**Pn**	**12 46 43.3**	**+0.9**
MATP	**Matopo**	**6.97**	**30**	*i* P	**Pn**	**12 46 43.3**	**+0.9**
BLWY	**Bulawayo**	**7.27**	**30**	*i* P	**Pn**	**12 46 45.9**	**-0.7**
BLWY	**Bulawayo**	**7.27**	**30**	*i* P	**Pn**	**12 46 45.9**	**-0.7**

*ISCJB **14** 12:58:40.5±0.7, 6°.78S±0°.06×106°.63E±0°.04, h10km, Error ellipse: s-maj=8.6km s-min=5.1km az=14.1*
*DJA **14** 12:58:40.3±0.4, 7°S±3°×10°7E±°, h10km, M3.7/4, MLv3.7/4*
*IDC **14** 12:59:00.8±48.0, 7°.61S×109°.72E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/35, mbtmp3.5/3, Error ellipse: s-maj=803.6km s-min=186.7km az=133.0*
ISC 14 12:58:39.4±0.9, 6°.76S±0°.08×106°.65E±0°.05, h10km, n8, σ1°79/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.26**	**201**	S	**Sg**	**12 58 49.2**	**+0.9**
SBJI	**Serang**	**0.82**	**321**	P	**Pg**	**12 58 56.1**	**+0.9**
CGJI	**Cibinong**	**0.96**	**279**	P	**Pb**	**12 58 58.6**	**+0.4**
CGJI				S	**Sb**	**12 59 12.1**	**+1.2**
LEM	**Lembang**	**0.96**	**94**	P	**Pg**	**12 58 59.3**	**+1.3**
LEM				S	**Sb**	**12 59 13.0**	**+1.8**
CISI	**Cisompet, Garu**	**1.40**	**124**	P	**Pn**	**12 59 04.9**	**-0.2**
CISI				S	**Sb**	**12 59 25.1**	**+1.4**
WRA	**Warramunga Arr**	**29.89**	**119**	P	**P**	**13 04 44.1**	**-3.5**
	0.7nm,1.1s,baz=295,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**31.11**	**126**	P	P	13 04 53.7	-4.7
	0.1nm,0.6s,baz=303,slow=8.8,SNR=3.4						
STKA	**Stephens Creek**	**41.06**	**132**	P	**P**	**13 06 23.2**	**-0.1**
	1.9nm,0.9s,baz=310,slow=12,SNR=4.2						

IDC 14 13:08:37.1±8.8, 41°.47N×95°.98E, h0km, mb1 3.5/3, mb1mx3.2/36, mbtmp3.5/3, ML3.3/3, Error ellipse: s-maj=118.3km s-min=32.1km az=167.0, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.77**	**46**	Pn	Pn	13 10 59.4	+0.5
	1.0nm,0.3s,baz=230,slow=16,SNR=7.7						
SONM				Lg	Lg	13 13 45.8	
	0.3nm,0.3s,baz=236,slow=30,SNR=2.8						
MKAR	**Makanchi Array**	**11.18**	**303**	Pn	Pn	13 11 13.8	-4.3
	0.2nm,0.3s,baz=120,slow=13,SNR=6.1						
ZALV	**Zalesovo Beam**	**14.55**	**333**	Pn	Pn	13 12 06.2	+2.1
	0.2nm,0.3s,baz=143,slow=12,SNR=2.5						

SJA 14 13:12:14.5±0.4, 33°.65S×66°.50W, h11km±5km, ML3.7, MW4.2, San Luis Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRA	**San Martin**	**1.39**	**28**	*i* P	Pb	13 12 40.8	+0.2
MRA				*i* S	Sg	13 13 00.2	+0.8
MRA				IAML		13 13 01.6	
	comp=Z,870nm,0.3s						
ACAN	**Cantantal**	**1.49**	**337**	*i* P	Pb	13 12 42.6	+0.4
AVIZ	**Vizcacheras**	**1.70**	**276**	*i* P	Pb	13 12 46.0	+0.3
ARCO	**CERRO ARCO**	**2.20**	**291**	*i* P	Pb	13 12 53.5	-0.8
ARCO				IAML		13 13 27.8	
	comp=Z,622nm,0.3s						
RTCV	**Cerro Valdivia**	**2.48**	**315**	*i* P	Pb	13 12 57.2	-1.9
TCA	**Tanti**	**2.81**	**35**	*i* P	Pb	13 13 02.2	-2.6
TCA				IAML		13 13 45.3	
	comp=Z,311nm,0.3s						

*JMA **14** 13:13:06.4±0.2, 43°.92N×148°.45E, h0km, M3.6*
*SKHL **14** 13:13:10.8±0.6, 44°.30N×148°.42E, h32km±1km, mb3.9/2*
ISC 14 13:13:07.8±3.1, 44°.26N±0°.09×148°.4E±0°.2, h10km, n12, σ0°91/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.05**	**338**	*i* P	**Pb**	**13 13 28.1**	**0.0**
KUR				AMB	AMB	13 13 29.4	
	80nm,0.2s						
KUR				AMB	AMB	13 13 29.4	
	10.0nm,0.2s						
KUR				AMB	AMB	13 13 29.4	
	20nm,0.2s						
KUR				*i* S	**Sg**	**13 13 41.2**	**-0.5**
KUR				A	A	13 13 43.0	
	230nm,0.4s						
KUR				A	A	13 13 43.0	
	120nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.86**	**264**	*i* P	**Pn**	**13 13 40.0**	**+0.3**
YUK				AMB	AMB	13 13 42.9	
	40nm,0.3s						
YUK				AMB	AMB	13 13 42.9	
	50nm,0.3s						
YUK				*i* S	**Sn**	**13 14 02.0**	**-1.2**
YUK				A	A	13 14 08.1	
	230nm,0.4s						
YUK				A	A	13 14 08.1	
	240nm,0.4s						
LAGR	**Lagunnoye**	**1.91**	**265**	*e*S	**Sn**	**13 14 03.0**	**-1.5**
GRPR	**Tuman**	**1.93**	**263**	*e*P	**Pn**	**13 13 41.0**	**+0.4**
GRPR				*i* S	**Sn**	**13 14 04.0**	**-0.9**
GRPR				A	A	13 14 09.0	
	200nm,0.2s						
GRPR				A	A	13 14 09.0	
	130nm,0.2s						
NEM2	**Nemuro 2**	**2.14**	**246**	P	**Pn**	**13 13 42.7**	**-0.8**
NEM2				*e*S	**Sn**	**13 14 09.4**	**-0.7**
GLVR	**Golovnino**	**2.16**	**257**	*i* P	**Pn**	**13 13 45.0**	**+1.2**
GLVR				*i* S	**Sn**	**13 14 10.0**	**-0.6**
GLVR				A	A	13 14 13.0	
	220nm,0.3s						
GLVR				A	A	13 14 13.0	
	70nm,0.3s						
JRA	**Rausu**	**2.40**	**263**	P	**Pn**	**13 13 48.0**	**+0.9**
JRA				*e*S	**Sn**	**13 14 17.8**	**+1.2**
JAK	**Akkeshi**	**2.99**	**246**	P	**Pn**	**13 13 54.8**	**-0.4**
JAR	**Ashorobuto**	**3.51**	**256**	P	**Pn**	**13 14 03.4**	**+1.1**
JAR				*e*S	**Sn**	**13 14 45.1**	**+1.2**
JCH	**Churui**	**4.04**	**248**	*e*S	**Sn**	**13 14 57.1**	**+0.2**
JNBK	**Urakawa-nobuka**	**4.59**	**246**	P	**Pn**	**13 14 17.6**	**+0.4**
JKB	**Kayabe**	**5.91**	**249**	P	**Pn**	**13 14 35.6**	**+0.3**

*IGQ **14** 13:16:31.1±1.4, 2°S±4°×7°8W±°, h7km, MLv4.0*
*ISCJB **14** 13:16:34.6±0.2, 1°.38S±0°.03×77°.82W±0°.05, h184km±2km, mb4.3/43, Error ellipse: s-maj=7.5km s-min=4.7km az=6.4*
*IDC **14** 13:16:34.8±2.1, 1°.21S×77°.60W, h166km±20km, mb3.7/13, mb1 3.9/16, mb1mx3.8/30, mbtmp4.2/16, Error ellipse: s-maj=22.4km s-min=11.4km az=59.0*
*NEIC **14** 13:16:35.4±0.6, 1°.15S×77°.50W, h170km±6km, mb4.4/36, Error ellipse: s-maj=10.7km s-min=4.8km az=64.0*
ISC 14 13:16:34.4±0.6, 1°.46S±0°.04×77°.82W±0°.06, h174km±6km, n133, σ1°44/138, mb4.3/43, 2D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**0.20**	**261**	P	**Pn**	**13 16 59.0**	**+1.3**
ARDO	**Archidona, Ten**	**0.46**	**3**	P	**Pn**	**13 16 59.2**	**+0.7**
ARDO				S	**Sn**	**13 17 17.2**	**+0.2**
BULB	**Ulba Tungurahu**	**0.59**	**272**	P	**Pn**	**13 17 00.3**	**+0.9**
BRUN	**Tungurahua Vol**	**0.59**	**274**	P	**Pn**	**13 17 00.4**	**+1.1**
BPAT	**Tungurahua Vol**	**0.61**	**266**	P	**Pn**	**13 17 00.8**	**+1.1**
PAT1	**Patacocha**	**0.62**	**266**	P	**Pn**	**13 17 00.9**	**+1.2**
RETU	**Refugio**	**0.62**	**271**	P	**Pn**	**13 17 00.9**	**+1.2**
ARRY	**Arrayan**	**0.63**	**266**	P	**Pn**	**13 17 00.5**	**+0.9**
BMAS	**Trigal station**	**0.66**	**266**	P	**Pn**	**13 17 00.7**	**+1.0**
BTAM	**Cotopaxi Volca**	**0.97**	**324**	P	**Pn**	**13 17 02.7**	**+0.7**
BVC2	**Cotopaxi Volca**	**0.99**	**324**	P	**Pn**	**13 17 03.1**	**+0.9**
BREF	**Cotopaxi Volca**	**1.00**	**322**	P	**Pn**	**13 17 04.4**	**+2.1**
VC1	**Cotopaxi 1**	**1.00**	**325**	P	**Pn**	**13 17 03.0**	**+0.8**
ANTM	**Antisana-La Mi**	**1.00**	**336**	P	**Pn**	**13 17 03.0**	**+0.8**
ANTS	**Antisana-Sarah**	**1.02**	**340**	P	**Pn**	**13 17 03.5**	**+1.1**
ANTG	**Antisana-Guama**	**1.04**	**336**	P	**Pn**	**13 17 03.2**	**+0.7**
ANTI	**Antisana**	**1.06**	**341**	P	**Pn**	**13 17 03.5**	**+0.8**
PITA	**Cotopaxi Volc**	**1.08**	**326**	P	**Pn**	**13 17 03.6**	**+0.9**
ILLI	**Illinizas Sur**	**1.17**	**309**	P	**Pn**	**13 17 04.2**	**+0.7**
NINA	**Atacazo Ninahu**	**1.33**	**323**	P	**Pn**	**13 17 05.3**	**+0.4**
REVS	**Reventador Sur**	**1.36**	**9**	P	**Pn**	**13 17 05.6**	**+0.7**
CONE	**Cono NE Rev Vo**	**1.39**	**7**	P	**Pn**	**13 17 06.2**	**+0.9**
GGPC	**Guagua Pichinc**	**1.49**	**329**	P	**Pn**	**13 17 06.7**	**+0.2**
YANA	**Yana**	**1.53**	**331**	P	**Pn**	**13 17 07.0**	**+0.3**
CAYA	**Cayambe**	**1.53**	**354**	P	**Pn**	**13 17 07.9**	**+1.1**
PULU	**Pululahua**	**1.62**	**335**	P	**Pn**	**13 17 07.8**	**+0.2**
CASC	**Dorado de Casc**	**1.66**	**17**	P	**Pn**	**13 17 08.4**	**+0.8**
COHC	**Cochancay**	**1.75**	**235**	P	**Pn**	**13 17 08.5**	**+0.2**
IMBA	**Imbabura, San**	**1.77**	**348**	P	**Pn**	**13 17 10.5**	**+1.5**
OTAV	**Otavalo**	**1.80**	**340**	*e*Pn	**Pn**	**13 17 09.0**	**-0.4**
OTAV	**Otavalo**	**1.80**	**340**	‖*i* P	**Pn**	**13 17 09.4**	**-0.1**
OTAV	**Otavalo**	**1.80**	**340**	‖*i* P	**Pn**	**13 17 09.4**	**-0.1**
CUIC	**Cuicocha-Domo**	**1.83**	**343**	P	**Pn**	**13 17 10.2**	**+0.5**
YAHU	**Yahuarcocha**	**1.84**	**352**	P	**Pn**	**13 17 10.5**	**+0.8**
COTA	**Cotacachi**	**1.86**	**344**	P	**Pn**	**13 17 11.0**	**+0.9**
MILO	**Milagro-Astudi**	**1.91**	**245**	P	**Pn**	**13 17 09.2**	**-0.9**
URCU	**Urcuqui**	**1.94**	**347**	P	**Pn**	**13 17 11.3**	**+0.5**
PAC1	**Pacto, Paraso**	**1.97**	**331**	P	**Pn**	**13 17 10.8**	**-0.1**
MAG1	**Magdalena**	**2.39**	**305**	P	**Pn**	**13 17 15.3**	**-0.2**
GCUF	**Volcan Galeras**	**2.71**	**10**	*e*P	**Pn**	**13 17 20.4**	**+0.6**
GCUF	**Volcan Galeras**	**2.71**	**10**	*e*P	**Pn**	**13 17 20.4**	**+0.6**
CRUC	**La Cruz**	**3.13**	**16**	*e*P	**Pn**	**13 17 23.9**	**-0.9**
CRUC	**La Cruz**	**3.13**	**16**	*e*P	**Pn**	**13 17 23.9**	**-0.9**
GONZ	**Gonzanam**	**3.17**	**210**	P	**Pn**	**13 17 26.0**	**+0.7**
SALI	**Salinas**	**3.25**	**257**	P	**Pn**	**13 17 24.7**	**-1.1**
PTLC	**Puerto Leguiza**	**3.43**	**62**	*e*P	**Pn**	**13 17 26.8**	**-1.4**
PTLC	**Puerto Leguiza**	**3.43**	**62**	*e*P	**Pn**	**13 17 26.8**	**-1.4**
BBAC	**Balboa, Cauca**	**3.51**	**9**	*e*P	**Pn**	**13 17 29.3**	**-0.1**
BBAC				*e*S	**Sn**	**13 18 11.3**	**-0.9**
BBAC	**Balboa, Cauca**	**3.51**	**9**	*e*P	**Pn**	**13 17 29.3**	**-0.1**
BBAC				*e*S	**Sn**	**13 18 11.3**	**-0.9**
MCRA	**Macar, Loja**	**3.59**	**216**	P	**Pn**	**13 17 26.9**	**-3.3**
MCRA				S	**Sn**	**13 18 10.3**	**-3.5**
FLOC	**Florencia**	**3.72**	**36**	*e*P	**Pn**	**13 17 31.9**	**0.0**
FLOC	**Florencia**	**3.72**	**36**	*e*P	**Pn**	**13 17 31.9**	**0.0**
SOTA	**Rioblanco**	**3.77**	**19**	*e*P	**Pn**	**13 17 34.0**	**+1.0**
SOTA	**Rioblanco**	**3.77**	**19**	*e*P	**Pn**	**13 17 34.0**	**+1.0**
PCON	**Cinco Dias**	**4.03**	**21**	*e*P	**Pn**	**13 17 35.5**	**-0.8**
PCON	**Cinco Dias**	**4.03**	**21**	*e*P	**Pn**	**13 17 35.5**	**-0.8**
POPC	**Popayan, Colom**	**4.14**	**16**	*e*P	**Pn**	**13 17 36.9**	**-0.5**
POPC	**Popayan, Colom**	**4.14**	**16**	*e*P	**Pn**	**13 17 36.9**	**-0.5**
MARP	**Paez Belalcaza**	**4.67**	**24**	*e*P	**Pn**	**13 17 45.1**	**+0.8**
MARP	**Paez Belalcaza**	**4.67**	**24**	*e*P	**Pn**	**13 17 45.1**	**+0.8**
YOTC	**Yotoco, Valle**	**5.61**	**15**	*e*P	**Pn**	**13 17 53.2**	**-3.2**
YOTC	**Yotoco, Valle**	**5.61**	**15**	*e*P	**Pn**	**13 17 53.2**	**-3.2**
ATAH	**Atahualpa**	**5.67**	**186**	P	**Pn**	**13 17 59.7**	**+2.3**
	6.8nm,0.3s,baz=12,slow=7.9,SNR=50						
ATAH				S	**Sn**	**13 19 03.0**	**+0.5**
	17nm,0.3s,baz=316,slow=1.2,SNR=17						
PRAC	**Prado**	**5.92**	**30**	*e*P	**Pn**	**13 17 59.5**	**-0.9**
PRAC	**Prado**	**5.92**	**30**	*e*P	**Pn**	**13 17 59.5**	**-0.9**
CHIC	**Chingaza**	**7.30**	**34**	*e*P	**Pn**	**13 18 18.4**	**-0.6**
CHIC	**Chingaza**	**7.30**	**34**	*e*P	**Pn**	**13 18 18.4**	**-0.6**
RUSC	**La Rusia**	**8.70**	**33**	*e*P	**Pn**	**13 18 38.7**	**+1.1**
RUSC	**La Rusia**	**8.70**	**33**	*e*P	**Pn**	**13 18 38.7**	**+1.1**
NNA	**Nana**	**10.50**	**175**	S	**Sn**	**13 20 49.7**	**-7.9**
	2.7nm,0.3s,baz=60,slow=20,SNR=6.6						
SMLC	**San Martn de**	**10.86**	**20**	*e*P	**Pn**	**13 19 04.6**	**-0.8**
SMLC	**San Martn de**	**10.86**	**20**	*e*P	**Pn**	**13 19 04.6**	**-0.8**
SJCC	**San Jacinto, C**	**11.59**	**13**	*e*P	**Pn**	**13 19 15.2**	**+0.3**
SJCC	**San Jacinto, C**	**11.59**	**13**	*e*P	**Pn**	**13 19 15.2**	**+0.3**
SDV	**Santo Domingo**	**12.53**	**35**	*e*Pn	**Pn**	**13 19 22.5**	**-4.6**
SDV	**Santo Domingo**	**12.53**	**35**	P	**Pn**	**13 19 24.7**	**-2.5**
	0.7nm,0.3s,baz=272,slow=14,SNR=2.7						
SDV				S	Sn	13 21 22.0	-24
	0.9nm,0.3s,baz=344,slow=18,SNR=2.9						
LPAZ	**La Paz**	**17.56**	**148**	*e*P	**Pn**	**13 20 30.5**	**+1.1**
	28nm,1.4s						
LPAZ	**La Paz**	**17.56**	**148**	P	**Pn**	**13 20 30.9**	**+1.5**
	1.8nm,0.3s,baz=330,slow=10,SNR=39						
PTGA	**Pitinga**	**17.87**	**88**	*e*P	**P**	**13 20 28.9**	**-1.9**

RSPR 14 13:40:30.4, 18.97N×64.10W, h59km±2km, MD3.1/4
ISC 14 13:40:32.4±2.1, 19.1N±0.1×64.42W±0.07, h22km, n22, σ0.56/29, 2C-9D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.33	165	⇓eP	Pb	13 40 39.8	+0.2
ABV	Anegada	0.33	165	⇓eP	Pb	13 40 39.8	+0.2
ABV				eS	Sn	13 40 47.8	-0.2
ABVI	Anegada Island	0.33	165	⇓eP	Pb	13 40 39.8	+0.2
ABVI				eS	Sn	13 40 47.8	-0.2
STVI	Saint Thomas	0.86	216	⇓eP	Pb	13 40 48.0	-0.6
STVI	Saint Thomas	0.86	216	eS	Sn	13 41 01.3	+0.3
STVI	Saint Thomas	0.86	216	⇓eP	Pb	13 40 48.0	-0.6
STVI				eS	Sn	13 41 01.3	+0.3
STVI	Saint Thomas	0.86	216	⇓eP	Pb	13 40 48.0	-0.6
STVI				eS	Sn	13 41 01.3	+0.3
CUPR	Culebra, Puert	1.10	228	⇑eP	Pn	13 40 51.7	-0.7
CUPR	Culebra, Puert	1.10	228	eS	Pn	13 41 08.0	+1.0
CUPR	Culebra, Puert	1.10	228	⇑eP	Pn	13 40 51.7	-0.7
CUPR				eS	Sn	13 41 08.0	+1.0
MTP	Monte Pirata	1.43	229	⇓eP	Pn	13 40 56.7	-0.3
MTP	Monte Pirata	1.43	229	eS	Sb	13 41 16.4	+0.3
MTP	Monte Pirata	1.43	229	⇓eP	Pn	13 40 56.7	-0.3
MTP				eS	Sb	13 41 16.4	+0.3
MTP	Monte Pirata	1.43	229	⇓eP	Pn	13 40 56.7	-0.3
MTP				eS	Sb	13 41 16.4	+0.3
CBYP	Canovanas	1.56	241	ePn	Pn	13 40 58.5	-0.5
HUMP	Col San Antoni	1.62	237	ePn	Pn	13 40 59.6	-0.1
SJG	San Juan	1.88	241	ePn	Pn	13 41 04.1	+0.8
OBIP	Obispado Ponce	2.30	245	ePn	Pn	13 41 08.8	-0.2
AOPR	Arecibo Observ	2.32	253	ePn	Pn	13 41 08.5	-0.8
MPR	Mayaguez	2.71	253	ePn	Pn	13 41 15.5	+0.9
PCDR	Punta Cana, DR	3.79	263	ePn	Pn	13 41 29.4	-0.1
SDDR	Presa de Saban	6.49	271	ePn	Pn	13 42 06.3	-0.4

IDC 14 13:42:59.2±1.3, 26.51N×57.39E, h0km, mb3.6/12, mb1 3.7/13, mb1mx3.6/46, mbtmp3.7/13, ML3.9/1, MS3.0/4, Ms1 3.0/4, ms1mx2.6/41, Error ellipse: s-maj=26.4km s-min=19.5km az=157.0
OMAN 14 13:42:59.7±1.1, 26.79N×58.14E, h23km, ml3.9/14, Error ellipse: s-maj=10.5km s-min=8.9km az=22.0
DSN 14 13:43:00.3±2.1, 26.54N×58.10E, h10km, ML3.9/7, Error ellipse: s-maj=44.8km s-min=18.3km az=147.0
NEIC 14 13:43:00.6±0.6, 26.53N×57.43E, h10km, mb4.0/4, ML3.9(THR), MN4.0(TEH), Error ellipse: s-maj=12.5km s-min=9.0km az=141.0
TEH 14 13:43:04.5, 26.73N×57.62E, h14km, ML3.9
ISC 14 13:42:57.1±1.4, 26.41N±0.03×58.02E±0.04, h3km±10km, n71, σ1.81/78, mb3.7/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	1.56	318	ePg	Pn	13 43 25.6	-0.2
NIAN				IAMB	IAmb	13 43 49.7	
	comp=Z,0.0nm,0.6s						
SHME	Shamm	1.72	259	eP	Pg	13 43 31.4	+1.4
	SNR=75						
SHME	Shamm	1.72	259	ePn	Pg	13 43 30.8	+0.7
MDH	Madha	1.90	235	P	Pb	13 43 32.7	+0.2
	SNR=19						
MDH				S	Sg	13 44 00.0	+1.9
MDH	Madha	1.90	235	ePn	Pb	13 43 32.5	+0.1
GENO	Geno	1.92	301	ePn	Pn	13 43 31.6	+0.7
GENO				IAMB	IAmb	13 44 06.1	
	comp=Z,0.0nm,0.5s						
MSFE	Esma-Masafi	1.97	239	eP	Pb	13 43 33.7	0.0
	SNR=27						
MSFE				S	Sg	13 44 02.8	+2.4
MSFE	Esma-Masafi	1.97	239	ePn	Pb	13 43 33.7	0.0
UMQ	Umm Al-Quwin	2.29	248	ePn	Pg	13 43 40.1	-0.9
HATD	Hatta, Dubai	2.31	228	eP	Pb	13 43 39.3	-0.2
	SNR=24						
HATD	Hatta, Dubai	2.31	228	P	Pg	13 43 41.7	+0.2
HATD				S	Sg	13 44 10.6	-1.0
HATD	Hatta, Dubai	2.31	228	ePn	Pb	13 43 39.7	+0.1
ASHO	Ashiyiah	2.46	226	eP	Pb	13 43 42.3	+0.2
	SNR=25						
ASHO	Ashiyiah	2.46	226	P	Pg	13 43 44.4	+0.1
	SNR=10						
ASHO				S	Sg	13 44 18.2	+2.0
ASHO	Ashiyiah	2.46	226	ePn	Pb	13 43 41.1	-1.0
NAZ	Nazwa, Dubai	2.55	237	eP	Pg	13 43 45.1	-0.9
	SNR=18						
NAZ	Nazwa, Dubai	2.55	237	P	Pg	13 43 47.1	+1.1
	SNR=15						
NAZ				S	Sg	13 44 21.5	+2.4
NAZ	Nazwa, Dubai	2.55	237	ePn	Pg	13 43 46.5	+0.5
SOHO	SOHO	2.63	211	P	Pb	13 43 43.7	-1.2
SOHO				S	Sg	13 44 21.0	-0.6
FAQ	Al Faqa, Dubai	2.74	233	eP	Pb	13 43 47.8	+1.0
	SNR=17						
FAQ	Al Faqa, Dubai	2.74	233	P	Pg	13 43 48.9	-0.8
	SNR=12						
FAQ				S	Sg	13 44 28.2	+2.9
FAQ	Al Faqa, Dubai	2.74	233	ePn	Pb	13 43 47.8	+1.0
BIDO	Bidbid	2.87	178	P	Pb	13 43 49.6	+0.5
BIDO				S	Sg	13 44 28.9	-0.5
BIDO	Bidbid	2.87	178	ePn	Pb	13 43 50.2	+1.1
ASUD	Al Ashush, Dub	3.00	234	iP	Pb	13 43 51.1	-0.1
	SNR=13						
ASUD	Al Ashush, Dub	3.00	234	P	Pg	13 43 53.7	-1.0
	SNR=7.4						
ASUD				S	Sg	13 44 30.9	-2.8
ASUD	Al Ashush, Dub	3.00	234	ePn	Pb	13 43 51.5	+0.2
ALNE	Al Ain	3.11	222	ePn	Pb	13 43 51.2	-1.9
WSAR	Wadi Sarin	3.20	170	P	Pb	13 43 55.2	+0.5
WSAR				S	Sb	13 44 32.1	-2.0
WSAR	Wadi Sarin	3.20	170	Pn	Pb	13 43 54.9	+0.3
	comp=Z,12nm,0.3s,baz=342,slow=6.0,SNR=166						
WSAR				Sn	Sb	13 44 33.1	-1.0
	comp=Z,6.0nm,0.3s,baz=79,slow=4.6,SNR=12						
AJN	Ajban	3.29	237	ePn	Pb	13 43 55.7	-0.5
SMDO	Samad	3.33	179	P	Pb	13 43 56.9	-0.1
	SNR=12						
SMDO				S	Sb	13 44 38.2	+0.2
ARQ	Araqi	3.34	204	P	Pg	13 43 60.0	-1.2
	SNR=11						
ARQ				S	Sg	13 44 42.1	-2.4
NGRK	Negar Kerman	3.42	341	ePn	Pn	13 43 52.8	+1.0
NGRK				IAMB	IAmb	13 44 45.2	
	comp=Z,0.0nm,0.6s						
CHMN	Cheshme madani	3.47	353	ePn	Pb	13 43 56.6	-2.8
BSY	Bisya	3.72	192	P	Pb	13 44 03.6	+0.1
BSY				S	Sb	13 44 51.6	+2.6
TVBK	TV Kerman	3.74	343	IAMB	IAmb	13 44 10.4	
	comp=Z,0.0nm,0.4s						
SZD1	Zahaedan-tmp	3.97	39	ePn	Pb	13 44 07.6	-0.3
KHGB	Koh Gabri	4.18	341	ePn	Pn	13 44 03.9	+1.8
KHGB				IAMB	IAmb	13 45 09.5	
	comp=Z,0.0nm,1.1s						
JLN	Jalan Bani Buh	4.42	163	P	Pb	13 44 12.0	-3.5
JLN				S	Sn	13 44 59.7	+2.5
MZR	Muzera	5.34	232	ePn	Pn	13 44 20.0	+2.2
IKAZ	Kazeroun	6.41	303	ePn	Pn	13 44 32.2	-0.6
IDAH	Dahanechah	6.51	14	ePn	Pn	13 44 39.9	+5.7
IRAM	Ramesheh	7.30	319	ePn	Pn	13 44 45.0	+0.1
ANAR	Anarak	7.72	332	ePn	Pn	13 44 51.0	+0.4
GEYT	Alibeck	11.49	0	LR	LR	13 51 07.1	
	comp=Z,21nm,18.4s,baz=195,slow=43						
NIL	Nilore	15.03	58	ePn	P	13 46 36.9	+0.7
	comp=Z,30nm,1.4s						
DAMY	Dhamar	17.34	230	ePn	Pn	13 46 59.5	-1.2
	comp=Z,19nm,1.2s						
GNI	Garni	17.61	324	LR	LR	13 53 21.0	
	comp=Z,42nm,20.9s,baz=120,slow=36						
KK31	Karatay Array	19.53	28	eP	Pn	13 47 28.0	+1.0
	comp=Z,4.2nm,1.0s						
EIL	Elat	20.61	284	P	P	13 47 33.0	-4.6
	comp=Z,2.5nm,0.8s,baz=34,slow=20,SNR=8.6						
AAK	Ala-Archa	21.07	36	P	P	13 47 49.4	+6.7
	comp=Z,1.1nm,0.4s,baz=172,slow=7.1,SNR=3.3						
ABKAR	Akbulak array	22.86	3	eP	P	13 48 02.7	+1.1
	comp=Z,3.4nm,0.9s						
AKTO	Aktyubinsk	23.99	0	P	P	13 48 15.4	+2.5
	comp=Z,3.0nm,0.8s,baz=171,slow=9.4,SNR=7.3						
BR101	Keskin Array S	24.27	309	eP	P	13 48 13.8	-2.0
BRTR	Keskin Array B	24.27	309	P	P	13 48 13.8	-2.0
	comp=Z,1.8nm,0.7s,baz=130,slow=10,SNR=12						
MK32	Makanchi Array	27.98	37	eP	P	13 48 52.1	+3.0
MKAR	Makanchi Array	27.98	37	P	P	13 48 52.1	+3.0
	comp=Z,0.4nm,0.8s,baz=217,slow=9.5,SNR=2.2						
BVAR	Borovoye Array	28.16	16	P	P	13 48 54.0	+3.4
	comp=Z,0.6nm,0.7s,baz=199,slow=7.5,SNR=3.2						
KURBB	Kurchatov Arra	28.84	28	P	P	13 48 58.9	+2.3
	comp=Z,0.2nm,0.5s,baz=231,slow=8.3,SNR=3.2						
AKASG	Malin Array Be	32.73	326	P	P	13 49 30.1	-0.9
	comp=Z,0.3nm,0.3s,baz=128,slow=7.7,SNR=2.6						
ZALV	Zalesovo Beam	33.91	29	P	P	13 49 46.9	+5.7
	comp=Z,0.7nm,0.4s,baz=253,slow=7.6,SNR=3.6						
ZAA1	Zalesovo Array	33.91	29	eP	P	13 49 46.9	+5.7
GERES	GERESS Array B	40.89	315	P	P	13 50 39.2	-1.4
	comp=Z,0.4nm,0.3s,baz=111,slow=10,SNR=4.5						
KHC	Kasperske Hory	41.05	316	eP	P	13 50 40.0	-1.9
FIA0	FINESS Array S	41.10	337	eP	P	13 50 41.9	0.0
FINES	FINESS Array B	41.10	337	P	P	13 50 41.9	0.0
	comp=Z,1.1nm,0.7s,baz=120,slow=5.5,SNR=3.9						
NRIK	Noril'sk	46.34	14	LR	LR	14 12 28.4	
	comp=Z,41nm,18.3s,baz=166,slow=38						
NOA	NORSAR Array B	46.75	331	LR	LR	14 13 45.9	
	comp=Z,22nm,18.6s,baz=350,slow=40						
TOA1	Torodi Ar. Sit	54.24	267	eP	P	13 52 23.1	-1.6
TORD	Torodi Ar. Bea	54.24	267	P	P	13 52 23.1	-1.6
	comp=Z,0.5nm,0.5s,baz=61,slow=7.7,SNR=3.9						

JMA 14 13:54:29.8, 38.43N×142.19E, h44km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.58	258	P	Pn	13 54 41.6	-0.1
JIKH				S	Sn	13 54 49.8	-0.5
JIO	Ouri	0.66	272	P	Pn	13 54 42.8	0.0
JIO				S	Sn	13 54 51.9	-0.2
JKMT	Kesennumamotoy	0.68	304	P	Pn	13 54 43.0	0.0
JKMT				S	Sn	13 54 52.4	-0.1
OFUJ	Ofunato	0.77	328	P	Pn	13 54 44.3	+0.1
OFUJ				S	Sn	13 54 54.5	-0.2
JMK	Ichinoseki	0.92	305	P	Pn	13 54 46.5	+0.2
JMK				S	Sn	13 54 58.6	+0.2
JOU	Okura	1.20	267	P	Pn	13 54 50.6	+0.4
JOU				S	Sn	13 55 05.7	+0.4
JMM	Marumori	1.24	243	P	Pn	13 54 50.3	-0.3
JOM	Ohasama	1.25	326	P	Pn	13 54 51.4	+0.5
JOM				S	Sn	13 55 07.1	+0.5
JFK	Kawauchi	1.49	225	P	Pn	13 54 53.8	-0.3
JFK				eS	Sn	13 55 12.0	-0.3
JYK	Kaneyama	1.51	289	P	Pn	13 54 55.0	+0.6
JYK				eS	Sn	13 55 13.8	+0.9
JRG	Rokugo	1.55	309	P	Pn	13 54 55.7	+0.8
JYS	Shiratake	1.68	264	P	Pn	13 54 57.5	+0.7
JYS				eS	Sn	13 55 18.1	+1.0
JFT	Otama	1.72	239	P	Pn	13 54 58.1	+0.8
JFT				S	Sn	13 55 18.7	+0.6

DDA 14 14:00:31.7, 38.36N×33.45E, h7km±3km, ML2.6
ISK 14 14:00:31.5, 38.39N×33.44E, h20km, ML2.5/4
ISC 14 14:00:32.1±1.1, 38.38N±0.03×33.43E±0.03, h13km±10km, n19, σ0.82/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULT	Sultanhani-AKS	0.20	159	PG	Pb	14 00 37.1	-0.4
SULT				SG	Sb	14 00 41.0	-0.2
AKSY	AKSARAY - Alti	0.37	44	iP	Pb	14 00 40.9	+0.3
AKSY				iS	Sb	14 00 46.1	-0.2
CHBY	Cihanbeyli	0.47	295	PG	Pg	14 00 41.1	-0.2
CHBY				SG	Sb	14 00 48.9	-0.1
SERE	Sereflikochisa	0.57	11	PG	Pg	14 00 43.2	-0.1
SERE				SG	Sb	14 00 51.9	-0.2
YAYX	Yaylak	0.63	28	PG	Pg	14 00 44.0	-0.4
KULU	Kulu	0.74	333	PG	Pb	14 00 46.5	-0.3
KIRS	Kırehir-Merke	0.84	27	IAML_P			
	comp=Z,2μm,0.2s						
KIRS				iP	Pn	14 00 48.7	-1.0
KIRS				iS	Sn	14 01 02.1	+0.1
LADK	Ladik-KONYA	0.86	258	PG	Pb	14 00 48.7	-0.1
KKUL	Konya-Kulu	0.88	333	IAML_P			
	comp=Z,404nm,0.2s						
KKUL				iP	Pn	14 00 50.5	+0.3
KKUL				iS	Sn	14 01 03.6	+0.6
KONT	Konya--Tatoy	0.95	243	PG	Pn	14 00 50.4	-0.6
KONT	Konya--Tatoy	0.95	243	IAML_P			
	comp=Z,779nm,0.1s						
KONT				iP	Pn	14 00 50.5	-0.6
KONT				iS	Sn	14 01 05.7	+1.2
KDHN	Kadinhani	1.04	278	IAML_P			
	comp=Z,950nm,0.3s						
KDHN				iP	Pg	14 00 51.9	-0.2
KDHN				iS	Sn	14 01 06.7	-0.1
KERG	Konya-Eregli	1.11	150	IAML_P			
	comp=Z,41nm,0.2s						
KERG				iP	Pg	14 00 53.8	+0.3
BBAL	Bala	1.18	348	IAML_P			
	comp=Z,733nm,0.3s						
BBAL				iP	Pg	14 00 55.2	+0.3
BBAL				iS	Sn	14 01 12.3	+1.8
AVNS	Nevsehir-Avano	1.19	69	iP	Pg	14 00 55.7	+0.8
AVNS				iS	Sn	14 01 11.7	+1.2
CDAG	Cicekdag	1.44	30	IAML_P			
	comp=Z,1μm,0.5s						
CDAG				iP	Pg	14 00 58.9	-0.9
CDAG				iS	Sg	14 01 19.9	+1.4
YAHY	KAYSERI_Yahyal	1.55	100	iP	Pg	14 01 01.4	-0.5
YAHY				iS	Sg	14 01 22.7	+0.7
SIRC	Yozgat	1.65	54	IAML_P			
	comp=Z,356nm,0.2s						
SIRC				iP	Pb	14 01 01.9	-0.4
SIRC				iS	Sg	14 01 25.2	+0.1
COAL	Corum-Alaca	2.23	32	IAML_P			
	comp=Z,21nm,0.1s						
COAL				iP	Pb	14 01 10.1	-2.1
COAL				iS	Sg	14 01 44.8	+1.2

KRSC 14 14:16:28.1±10.0, 58.93N×160.78E, h1km±10km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALN	Palana	0.45	291	eP	Pb	14 16 39.2	+0.5
PALN				eS	Sb	14 16 46.4	+0.5
OSSR	Ossora	1.22	74	eP	Pb	14 16 52.0	+0.1
OSSR				eS	Sb	14 17 08.5	+0.4
SRKR	Sorokina	2.29	175	eP	Pn	14 17 08.1	+1.1
SRKR				eS	Sb	14 17 39.3	+0.3
BDR	Baidarnaya	2.38	174	eP	Pb	14 17 10.4	-1.3
BDR				eS	Sb	14 17 41.1	-0.4
SMKR	Semkarok	2.38	171	eP	Pb	14 17 10.6	-1.1
KLY	Klyuchi	2.62	182	eP	Pb	14 17 13.9	-1.9
KLY				eS	Sb	14 17 47.7	-0.8
SRDR	Sredinnyy	2.68	193	eP	Pb	14 17 15.6	-1.2
KOZ	Kozyrevsk	2.92	190	eP	Pb	14 17 18.7	-2.2
TILK	Tilichiki	3.12	58	eP	Pb	14 17 22.4	-1.8
TILK				eS	Sb	14 18 01.2	-1.4
ESO	Esso	3.21	201	eP	Pb	14 17 23.0	-2.9
ESO				eS	Sb	14 18 03.0	-2.5
TUMD	Tumrok D	3.74	183	eP	Pn	14 17 30.8	+3.9
KMSK	Kamenskaya	4.44	35	eP	Pn	14 17 40.6	+4.2

NNC 14 14:21:54.0±2.9, 37.64N×71.62E, h174km±53km, mb2.7, mpv3.6, 3C-3D, Error ellipse: s-maj=32.8km s-min=15.8km az=28.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.46	23	⇑P	Pn	14 23 13.8	-0.1
	4.1nm,0.5s						
AAK				⇓S	Sn	14 24 17.2	+0.5
	4.4nm,0.6s						
KK31	Karatay Array	5.52	352	P	Pn	14 23 14.5	0.0
	2.3nm,0.4s,baz=174,slow=12,SNR=20						
KK31				⇑S	Sn	14 24 18.5	+0.6
	3.8nm,0.3s,baz=163,slow=14,SNR=16						
TKM2	Tokmak 2	6.09	29	⇓P	Pn	14 23 21.8	-0.4
	3.8nm,0.6s						
AB31	Akbulak array	14.35	328	⇑P	P	14 25 10.6	-0.6
	0.5nm,0.4s,baz=156,slow=9.2,SNR=19						
AB31				⇓S	Sn	14 27 47.2	-1.6
	0.9nm,0.7s,baz=149,slow=22,SNR=3.7						

IDC 14 14:25:33.3±6.6, 31.58S×178.42W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/19, mbtmp3.5/2, Error ellipse: s-maj=273.0km s-min=61.1km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.70	268	P	P	14 33 32.0	-0.3
	0.3nm,0.7s,baz=106,slow=7.7,SNR=7.2						
WRA	Warramunga Arr	43.80	274	P	P	14 33 41.2	+0.1
	0.6nm,0.5s,baz=115,slow=7.9,SNR=7.3						
FINES	FINESS Array B	146.12	339	PKPbc	PKPdf	14 45 13.7	0.0
	1.6nm,0.8s,baz=35,slow=4.7,SNR=4.0						

IDC 14 14:56:56.4±0.8, 13.89N×92.99E, h0km, mb4.0/9, mb1 4.0/10, mb1mx3.7/58, mbtmp3.9/10, ML3.6/1, MS3.1/4, Ms1 3.2/4, ms1mx2.8/37, Error ellipse: s-maj=28.7km s-min=16.1km az=63.0
ISCJB 14 14:56:59.0±0.4, 13.96N±0.05×93.05E±0.06, h32km, mb4.0/13, MS3.2/3, Error ellipse: s-maj=9.7km s-min=6.1km az=147.1
NEIC 14 14:57:00.9±1.9, 13.90N×93.07E, h31km±14km, mb4.1/7, Error ellipse: s-maj=7.4km s-min=4.5km az=78.0
ISC 14 14:57:01.2±0.7, 13.97N±0.09×93.10E±0.08, h32km, n40, σ1.16/39, mb4.0/13, MS3.2/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	2.32	189	ePn	Pn	14 57 36.6	-0.6
CM31	Chiang Mai Arr	7.17	51	ePn	Pn	14 58 45.2	+1.3
CMAR	Chiang Mai Arr	7.17	51	Pn	Pn	14 58 45.5	+1.6
	0.3nm,0.3s,baz=241,slow=15,SNR=9.4						
CMAR				Sn	Sn	15 00 01.7	-2.7
	0.6nm,0.3s,baz=240,slow=28,SNR=11						
CMAR				LR	LR	15 02 03.2	
	comp=Z,86nm,18.6s,baz=192,slow=42						
CHTO	Chiang Mai	7.40	49	ePn	Pn	14 58 47.3	+0.3
PALK	Pallekele	13.88	243	Sn	Sn	15 02 36.1	-13
	0.6nm,0.3s,baz=116,slow=5.7,SNR=3.0						
RAMN	Ramite	14.28	336	eP	Pn	15 00 19.8	-1.6
	13nm,0.4s						
JIRN	Jiri	15.07	336	eP	Pn	15 00 30.1	-2.1
	16nm,0.4s						
DLV	T Lat	15.13	96	ePn	Pn	15 00 32.3	-0.7
	20nm,1.4s						
PKI	Pulchoki	15.32	333	eP	Pn	15 00 33.4	-2.1
	12nm,0.4s						
PKIN	Phulchoki	15.33	333	eP	Pn	15 00 33.3	-2.3
	13nm,0.4s						
DMN	Daman	15.49	332	eP	Pn	15 00 35.3	-2.3
BKNI	Bangkinang	15.67	149	ePn	Pn	15 00 38.3	-1.4
	64nm,0.5s						
LSA	Lhasa	15.76	354	ePn	Pn	15 00 42.1	+0.7
	5.6nm,0.5s						
KOLN	Koldanda	16.34	329	eP	Pn	15 00 46.6	-1.9
	13nm,0.5s						
DANN	Dangsing	16.74	330	eP	Pn	15 00 52.0	-1.6
	16nm,0.9s						
PYUN	Piuthan	16.92	328	eP	Pn	15 00 55.5	-0.3
H08S3	Diego Garcia H	29.64	225	T	T	15 33 44.7	
	baz=44						
H08S2	Diego Garcia H	29.65	225	T	T	15 33 47.5	
	baz=44						
H08S1	Diego Carcia H	29.66	225	T	T	15 33 46.9	
	baz=44						
MK31	Makanchi Array	33.96	347	eP	P	15 03 41.9	+0.2
	1.9nm,0.9s						
MK32	Makanchi Array	33.96	347	eP	P	15 03 41.9	+0.2
MKAR	Makanchi Array	33.96	347	eP	P	15 03 41.7	+0.1
MKAR	Makanchi Array	33.96	347	P	P	15 03 41.9	+0.2
	1.9nm,0.7s,baz=162,slow=8.8,SNR=14						
MKAR				LR	LR	15 21 28.2	
	comp=Z,38nm,18.4s,baz=140,slow=43						
MAKZ	Makanchi	34.04	346	eP	P	15 03 42.8	+0.4
	1.6nm,0.8s						
SONA0	Songino Array	35.53	15	eP	P	15 03 56.3	+0.9
SONM	Songino Array	35.53	15	P	P	15 03 56.3	+0.9
	0.9nm,0.4s,baz=198,slow=9.2,SNR=3.9						
KURBB	Kurchatov Arra	38.43	345	P	P	15 04 20.2	+0.5
	2.1nm,0.7s,baz=161,slow=7.9,SNR=11						
KS15	Wonju Array Si	38.76	46	eP	P	15 04 23.6	+0.9
	57nm,1.9s						
KSRS	Korea Array	38.79	47	LR	LR	15 23 01.5	
	comp=Z,42nm,18.9s,baz=258,slow=40						
ZALV	Zalesovo Beam	40.42	352	P	P	15 04 36.4	+0.1
	1.7nm,0.7s,baz=170,slow=9.0,SNR=5.7						
ZALV				LR	LR	15 25 02.9	
	comp=Z,26nm,18.8s,baz=64,slow=42						
ZAA1	Zalesovo Array	40.42	352	eP	P	15 04 36.4	+0.1
BVAR	Borovoye Array	42.94	340	P	P	15 04 56.3	-0.7
	0.7nm,0.8s,baz=161,slow=9.2,SNR=3.6						
ABKAR	Akbulak array	44.46	329	eP	P	15 05 09.7	+0.4
ABKAR				epP	pP	15 05 19.3	+0.7
WR1	Warramunga Arr	52.74	129	eP	P	15 06 13.0	-0.4
WR1				ePcP	PcP	15 07 23.4	+0.6
WRA	Warramunga Arr	52.74	129	P	P	15 06 13.0	-0.4
	0.9nm,0.6s,baz=316,slow=11,SNR=9.1						
WRA				PcP	PcP	15 07 23.4	+0.6
	0.9nm,0.5s,baz=319,slow=2.8,SNR=11						
AS31	Alice Springs	54.69	133	eP	P	15 06 27.6	0.0
	1.4nm,1.3s						
ASAR	Alice Springs	54.69	133	P	P	15 06 27.9	+0.3
	1.3nm,0.4s,baz=307,slow=6.9,SNR=64						
ASAR				PcP	PcP	15 07 30.6	+0.5
	0.5nm,0.5s,baz=321,slow=4.3,SNR=5.9						
BR101	Keskin Array S	57.78	308	eP	P	15 06 50.0	+0.4
BRTR	Keskin Array B	57.78	308	P	P	15 06 50.0	+0.4
	0.5nm,0.7s,baz=106,slow=4.7,SNR=3.4						
BOSA	Boshof	78.01	236	P	P	15 08 56.9	-0.2
	0.9nm,0.4s,baz=44,slow=2.0,SNR=5.8						

JMA 14 14:58:43.6±0.1, 23.24N×120.98E, h0km, M3.1
ISCJB 14 14:58:44.7±0.2, 23.20N±0.01×120.98E±0.01, h7km±2km, Error ellipse: s-maj=2.1km s-min=1.7km az=152.2
TAP 14 14:58:44.0, 23.22N×120.96E, h6km, ML3.6, B
**ISC 14 14:58:

	baz=157						
TWGBT	Beinan	0.41	165	⇓P	Pg	14 58 52.7	+0.1
	baz=157						
TWGBT				S	Sg	14 58 58.0	0.0
	baz=157						
SNST	Tainan City	0.43	270	⇑iP	Pb	14 58 53.7	-0.6
	baz=271						
SNST				S	Sb	14 59 00.7	-0.3
	baz=271						
EHY	Hungye	0.43	49	⇑iP	Pg	14 58 53.1	+0.2
	baz=59						
EHY				S	Sg	14 58 58.4	-0.2
	baz=59						
TWK	Hsinying	0.44	276	⇑iP	Pb	14 58 53.8	-0.7
	baz=277						
TWK				iS	Sb	14 59 00.6	-0.8
	baz=277						
CHN5	Tsauling	0.46	325	⇓iP	Pg	14 58 53.9	+0.5
	baz=327						
CHN5				S	Sb	14 59 00.7	-1.1
	baz=327						
WHYT	Xinyi Township	0.48	348	⇑P	Pg	14 58 54.1	+0.3
	baz=356						
WHYT				S	Sg	14 59 00.9	+0.7
	baz=356						
TTN	Taitung	0.49	160	P	Pb	14 58 55.1	-0.2
	baz=159						
HGSD	Ruisui	0.50	57	⇑eP	Pb	14 58 55.1	-0.5
	baz=57						
CHN2	Minshiung	0.55	305	P	Pb	14 58 56.5	+0.2
	baz=306						
CHN2				S	Sb	14 59 05.4	+1.1
	baz=306						
VWDT	VWDT	0.55	17	⇑P	Pg	14 58 54.8	-0.4
	baz=10.0						
SSD	Sandimen	0.56	213	⇑iP	Pg	14 58 54.9	-0.5
	baz=212						
SSD				eS	Sg	14 59 01.3	-1.4
	baz=212						
SSLB	Suanglung	0.56	359	⇑P	Pg	14 58 55.0	-0.4
	baz=356						
SSLB				S	Sg	14 59 01.5	-1.3
	baz=356						
CHY	Chiayi	0.57	299	eP	Pb	14 58 56.0	-0.7
	baz=300						
CHN3	Shinhua	0.57	255	⇑iP	Pb	14 58 57.5	+0.8
	baz=256						
CHN3				eS	Sn	14 59 08.0	-0.5
	baz=256						
WGK	Gukeng	0.59	321	⇓iP	Pb	14 58 57.2	+0.2
	baz=323						
WGK				S	Sb	14 59 06.5	+0.9
	baz=323						
WDLH	Douliu	0.61	320	eP	Pb	14 58 57.4	+0.1
	baz=321						
EGFH	Guangfu	0.62	44	P	Pg	14 58 56.6	+0.2
	baz=54						
EGFH				S	Sg	14 59 04.2	-0.2
	baz=54						
ECL	Taimali	0.62	181	⇑iP	Pg	14 58 56.1	-0.4
	baz=169						
ECL				S	Sg	14 59 04.0	-0.6
	baz=169						
WJS	Zhushan	0.64	340	eP	Pb	14 58 58.2	+0.3
	baz=341						
TWM1	Shoushan	0.64	232	P	Pb	14 58 58.1	+0.2
	baz=221						
SGLT	Jiouru	0.66	222	⇑P	Pb	14 58 58.1	-0.1
	baz=213						
SMLT	Sun Moon Lake	0.66	355	⇑iP	Pg	14 58 57.2	0.0
	baz=1.0						
SMLT				S	Sb	14 59 07.7	-0.1
	baz=1.0						
WLGB	Puzi	0.66	293	eP	Pb	14 58 58.1	-0.2
	baz=294						
WLGB				S	Sn	14 59 09.5	-1.3
	baz=294						
MASBT	Mashibuluo	0.68	207	⇑P	Pg	14 58 56.9	-0.7
	baz=211						
TYC	Yuchr	0.69	352	⇑iP	Pg	14 58 57.8	+0.1
	baz=358						
TAI1	Yung-k'ang	0.70	255	eP	Pn	14 59 00.2	-0.4
	baz=271						
WNT	Mingjian	0.70	339	P	Pb	14 58 59.2	+0.2
	baz=340						
CHN8	Yiju	0.70	280	eP	Pg	14 58 58.0	0.0
	baz=281						
SCLT	Jiali	0.71	266	eP	Pb	14 58 59.7	+0.6
	baz=267						
SCLT				S	Sn	14 59 11.7	-0.2
	baz=267						
ESL	Shilin	0.73	36	eP	Pg	14 58 58.7	+0.2
	baz=45						
ESL				eS	Sg	14 59 08.6	+0.5
	baz=45						
SNJT	Kaohsiung City	0.74	231	eP	Pn	14 59 01.2	-0.1
	baz=248						
OWD	Renai	0.76	15	⇑eP	Pg	14 58 58.0	-1.0
	baz=15						
WSF	Szhu	0.80	301	P	Pb	14 59 00.6	0.0
	baz=302						
WSF				S	Sn	14 59 13.2	-0.9
	baz=302						
DPDB	Guoxing	0.81	358	eP	Pg	14 58 59.5	-0.5
	baz=8.0						
SSPT	Xinbi	0.82	207	⇑P	Pg	14 59 00.1	-0.1
	baz=198						
EAST	Anshuo	0.84	187	⇑iP	Pg	14 59 00.3	-0.4
	baz=186						
CHGB	Renai	0.86	13	⇑eP	Pg	14 58 60.0	-1.0
	baz=22						
TAW	Tawu	0.86	184	eP	Pg	14 59 00.3	-0.7
	baz=183						
RLNB	Erlin	0.87	320	eP	Pb	14 59 01.5	-0.3
	baz=321						
ENLB	Shoufeng	0.90	41	P	Pb	14 59 02.6	+0.3
	baz=35						
WTCT	Ta-ch'eng	0.90	316	eP	Pb	14 59 02.5	+0.2
	baz=316						
SCZT	Fangliau	0.90	201	⇑P	Pg	14 59 01.0	-0.8
	baz=193						
WCHH	Zhanghua	0.93	337	eP	Pb	14 59 02.5	-0.4
	baz=337						
HWA	Hwalien	0.95	38	eP	Pn	14 59 03.7	-0.5
	baz=46						
TCU	Taichung	0.96	344	eP	Pn	14 59 04.0	-0.3
	baz=331						
WHF	Hehuan Shan	0.96	17	eP	Pg	14 59 01.8	-1.1
	baz=17						
WLCH	Liuqiu	1.02	212	eP	Pn	14 59 07.2	+2.1
	baz=197						
TWD	Chiawan	1.03	34	eP	Pg	14 59 04.2	-0.1
	baz=35						
TWD				eS	Sg	14 59 17.0	-0.7
	baz=35						
TWP	Hsiaoliuchiu	1.03	213	eP	Pn	14 59 06.8	+1.5
	baz=213						
TDCB	Techi	1.04	10	eP	Pg	14 59 03.3	-1.2
	baz=10.0						
WHP	Taichung City	1.05	359	eP	Pn	14 59 05.8	+0.2
	baz=7.0						
NACB	Ninganchiao	1.11	31	P	Pg	14 59 05.2	-0.6
	baz=32						
NACB				S	Sg	14 59 20.0	-0.2
	baz=32						
TWQ1	Liyutan	1.14	351	eP	Pn	14 59 07.2	+0.5
	baz=353						
TWQ1				eS	Sn	14 59 24.0	+1.5
	baz=353						
WDJ	Dajia District	1.16	345	eP	Pn	14 59 07.2	+0.2
	baz=332						
WDGT	Dungji	1.20	272	⇑P	Pb	14 59 06.8	-0.7
	baz=271						
WDGT				S	Sb	14 59 23.1	-0.1
	baz=271						
NSY	Sanyi	1.20	351	eP	Pn	14 59 08.4	+0.8
	baz=353						
NSY				eS	Sn	14 59 26.1	+1.9
	baz=353						
HEN	Hengchun	1.23	190	eP	Pg	14 59 08.4	+0.4
	baz=189						
NNSB	Datong	1.26	18	eP	Pn	14 59 07.7	-0.9
	baz=17						
NNS	Nan Shan	1.27	17	eP	Pn	14 59 07.7	-1.0
	baz=17						
TWK1	Hengchun	1.28	187	eP	Pg	14 59 09.5	+0.5
	baz=177						
TWKBT	Hengchun	1.28	186	eP	Pg	14 59 09.2	+0.2
	baz=175						
TWKBT				eS	Sn	14 59 28.7	+2.6
	baz=175						
LAY	Lan-yu	1.29	155	eP	Pn	14 59 07.2	-1.7
	baz=155						
PHUB	P'eng-hu	1.31	283	⇑P	Pn	14 59 08.3	-0.8
	baz=283						
PHUB				S	Sb	14 59 25.5	-0.9
	baz=283						
TSEB	Hengchuen, Pin	1.32	183	eP	Pg	14 59 10.3	+0.6
	baz=174						
NMLH	Miaoli	1.32	353	eP	Pg	14 59 09.9	+0.1
	baz=353						
PNG	Penghu	1.34	285	eP	Pn	14 59 08.9	-0.6
	baz=285						
PNG				eS	Sb	14 59 26.6	-0.5
	baz=285						
ENA	Nanau	1.40	30	eP	Pb	14 59 10.8	0.0
	baz=44						
NSTT	Nanjuang	1.40	1	eP	Pg	14 59 11.4	+0.1
	baz=1.0						
VCHM	Qimei	1.41	270	⇑P	Pn	14 59 09.6	-0.9
	baz=269						
VCHM				eS	Sb	14 59 28.4	-0.9
	baz=269						
LIOB	Emei	1.42	2	eP	Pg	14 59 12.0	+0.3
	baz=346						
NDT	Datong Townshi	1.46	20	eP	Pg	14 59 12.8	+0.3
	baz=20						
YHNB	Yeheng	1.49	15	eP	Pn	14 59 11.1	-0.5
	baz=14						
ENTT	Nioudou	1.52	21	eP	Pb	14 59 12.5	-0.4
	baz=21						
SBCB	Hsinchu	1.56	1	eP	Pg	14 59 15.1	+0.7
	baz=359						
TWC	Suao	1.60	30	⇓P	Pg	14 59 14.6	-0.6
	baz=33						
TWC				eS	Sg	14 59 36.2	+0.2
	baz=33						
NWLT	Wulai	1.62	18	eP	Pb	14 59 15.0	+0.2
	baz=17						
TWE	Neicheng	1.62	23	eP	Pb	14 59 14.9	+0.2
	baz=38						
SLBB	Yuanshan	1.64	22	eP	Pb	14 59 14.8	-0.3
	baz=40						
WLTB	Daxi	1.65	9	eP	Pg	14 59 16.6	+0.6
	baz=15						
ILA	Ilan	1.70	25	eP	Pb	14 59 15.8	-0.1
	baz=38						
EOS1	EOS1	1.70	39	eP	Pn	14 59 16.0	+0.1
	baz=56						
NCUH	Zhongli	1.75	7	eP	Pg	14 59 18.1	+0.1
	baz=4.0						
NHDH	Xindian Distri	1.81	16	eP	Pg	14 59 19.4	+0.3
	baz=15						
NTC	Toucheng	1.81	26	eP	Pg	14 59 19.6	+0.4
	baz=41						
TATO	Taipei	1.81	15	eP	Pb	14 59 18.3	+0.5
	baz=15						
EGS		1.84	28	eP	Pb	14 59 17.8	-0.6
	baz=43						
TIPB	Shuangxi	1.91	24	eP	Pg	14 59 20.4	-0.8
	baz=38						
TWS1	Kuangyinshan	1.92	12	eP	Pb	14 59 20.3	+0.6
	baz=10.0						
NWF	Wu-fen Shan	1.99	22	eP	Pg	14 59 21.8	-0.7
	baz=38						
WFSB	Wu-fen Shan	1.99	22	eP	Pb	14 59 20.8	-0.1
	baz=38						
YM01	YM01	2.00	16	eP	Pb	14 59 21.2	+0.2
	baz=11						
YM10	YM10	2.00	16	eP	Pb	14 59 20.0	-1.1
	baz=357						
TWB1	Santiao Chiao	2.01	28	eP	Pb	14 59 21.0	-0.3
	baz=40						
YM11	YM11	2.01	16	eP	Pb	14 59 21.4	0.0
	baz=12						
ANP	Anpu	2.02	14	eP	Pb	14 59 21.5	0.0
	baz=353						
YM07	YM07	2.04	17	eP	Pb	14 59 21.7	0.0
	baz=357						
YM08	YM08	2.04	16	eP	Pb	14 59 22.0	+0.2
	baz=12						
JYNG	Yonagunijimaku	2.19	56	P	Pn	14 59 22.2	+1.1
JYNG				eS	Sb	14 59 51.0	-0.6
YOJ	Yonaguni jima	2.24	56	eP	Pn	14 59 22.3	+0.4
	baz=58						
YOJ	Yonaguni jima	2.24	56	P	Pn	14 59 22.8	+0.9
YOJ				eS	Sb	14 59 51.4	-1.8
PTMZ	Houxiangcun	2.47	317	eP	Pn	14 59 26.0	+1.0
	baz=317						
KNMB	Chin-men Tao	2.66	298	eP	Pn	14 59 27.8	+0.1
	baz=297						
HATJ	Hateruma jima	2.73	72	P	Pn	14 59 30.4	+1.7
HATJ				S	Sn	15 00 01.7	-0.2
IRIF	Iriomote-Funau	2.77	66	P	Pn	14 59 29.7	+0.6
IRIF				eS	Sn	15 00 03.2	+0.5
JKRS	Kuro-shima	2.97	69	P	Pn	14 59 32.7	+0.8
JKRS				eS	Sn	15 00 07.9	+0.2
ZPLA	Ao Xicun	3.03	284	eP	Pn	14 59 32.2	-0.5
	baz=282						
MATB	Ma-tsu	3.06	343	eP	Pn	14 59 33.3	+0.2
	baz=342						
JIJ	Ishigaki jima	3.12	68	P	Pn	14 59 33.8	-0.2
JIJ				eS	Sn	15 00 10.7	-0.9
AXDP	Jialang	3.21	302	eP	Pn	14 59 35.5	+0.3
	baz=301						
JISG	Ishigakijimahi	3.35	65	P	Pn	14 59 37.0	-0.1
MHZQ	Yeshan	3.36	329	eP	Pn	14 59 38.0	+0.7
	baz=328						
LYJJ	Jianjiangzhen	3.49	342	eP	Pn	14 59 39.6	+0.5
	baz=341						
JTJ	Tarama	3.70	67	P	Pn	14 59 42.5	+0.6
JTJ				S	Sn	15 00 27.1	+1.3
XPSS	Dashiqiu	3.76	349	eP	Pn	14 59 43.2	+0.4
	baz=350						
JIRB	Irabujima	4.17	67	P	Pn	14 59 50.8	+2.4
JIRB				eS	Sn	15 00 36.3	-1.0

ISCJB ***14*** *15:04:44.9±0.5, 36°.25N±0°.03×69°.81E±0°.07, h150km, Error ellipse: s-maj=7.9km s-min=4.6km az=168.6*
NEIC ***14*** *15:04:46.0±0.7, 36°.30N×69°.75E, h137km±12km, mb4.0/2, Error ellipse: s-maj=13.5km s-min=9.4km az=104.0*
NNC ***14*** *15:04:49.4±2.4, 36°.55N×69°.70E, h146km±36km, mb3.3, mpv4.2, Error ellipse: s-maj=21.3km s-min=14.0km az=33.0*

ISC 14 15:04:45.6±0.9, 36°.27N±0°.06×69°.77E±0°.09, h150km, n38, σ1§42/42, 7C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.82	199	ePn	Pn	15 05 18.9	-0.1
KBL				eSn	Sn	15 05 43.2	-1.2
NIL	Nilore	3.87	131	ePn	Pn	15 05 44.7	+0.4
ARSB	Arslanbob	5.64	25	ePn	Pn	15 06 08.5	+1.0
KSH	Kashi	5.88	55	Pn	Pn	15 06 07.4	-3.4
KSH				Sn	Sn	15 07 08.5	-8.8
AML	Almayashu	6.60	26	P	Pn	15 06 20.8	+0.3
	SNR=50						
KK31	Karatay Array	6.85	5	⇓P	Pn	15 06 23.8	+0.2
	8.8nm,0.5s,baz=194,slow=14,SNR=72						
KK31				⇑S	Sn	15 07 38.2	-2.2
	2.4nm,0.3s,baz=196,slow=25,SNR=4.7						
KKAR	Karatay Array	6.85	5	ePn	Pn	15 06 23.5	0.0
UCH	Uchtor	7.00	30	P	Pn	15 06 26.3	+0.4
	SNR=47						
NRN	Naryn	7.08	41	ePn	Pn	15 06 25.8	-1.2
EKS2	Erkin-Say	7.09	25	P	Pn	15 06 27.9	+1.0
	SNR=17						
KZA	Kyzart	7.19	35	P	Pn	15 06 28.7	+0.1
	SNR=10						
AAK	Ala-Archa	7.33	28	P	Pn	15 06 31.0	+0.8
	SNR=14						
AAK	Ala-Archa	7.33	28	ePn	Pn	15 06 30.5	+0.3
AAK	Ala-Archa	7.33	28	⇑P	Pn	15 06 31.3	+1.1
	7.7nm,0.5s						
AAK				⇑S	Sn	15 07 51.3	-1.0
	18nm,0.7s						
FRU1	Bishkek	7.53	28	ePn	Pn	15 06 32.8	+0.1
CHMS	Chumysh	7.74	28	P	Pn	15 06 36.1	+0.7
	SNR=19						
BOOM	Boomskoye usch	7.83	36	ePn	Pn	15 06 37.8	+0.9
USP	Ospenovka	7.88	26	P	Pn	15 06 38.3	+0.9
	SNR=11						
TKM2	Tokmak 2	8.02	32	P	Pn	15 06 39.6	+0.3
	SNR=10						
TKM2	Tokmak 2	8.02	32	⇑P	Pn	15 06 39.9	+0.6
	8.3nm,0.5s						
PYUN	Piuthan	13.84	122	eP	Pn	15 07 56.7	+1.1
PYUN				eS	Sn	15 10 17.8	-11
MK31	Makanchi Array	14.07	38	ePn	Pn	15 07 58.7	+0.4
MK31	Makanchi Array	14.07	38	⇑P	Pn	15 07 59.5	+1.2
	0.4nm,0.4s,baz=227,slow=13,SNR=9.3						
DANN	Dangsing	14.21	120	eP	Pn	15 07 59.4	-1.1
KOLN	Koldanda	14.46	122	eP	Pn	15 08 04.8	+1.3
AB31	Akbulak array	14.83	334	⇑P	Pn	15 08 08.3	+0.6
	1.1nm,0.4s,baz=146,slow=12,SNR=48						
AB31				S	Sn	15 10 48.8	-3.5
	3.4nm,0.4s,baz=153,slow=24,SNR=8.3						
ABKAR	Akbulak array	14.83	334	ePn	Pn	15 08 07.8	+0.1
DMN	Daman	15.61	119	eP	Pn	15 08 16.9	-0.9
	5.0nm,0.4s						
WMQ	Urumqi	15.64	56	eP	P	15 08 19.3	+0.4
PKIN	Phulchoki	15.83	119	eP	Pn	15 08 18.5	-2.1
	3.9nm,0.3s						
PKI	Pulchoki	15.85	119	eP	Pn	15 08 18.9	-1.9
	7.2nm,0.3s						
JIRN	Jiri	16.35	117	eP	Pn	15 08 24.2	-2.8
	14nm,0.4s						
AKTO	Aktyubinsk	16.51	333	⇑P	Pn	15 08 29.8	+1.5
	2.3nm,1.0s						
BRVK	Borovoye	16.79	1	eP	Pn	15 08 32.3	+0.6
	13nm,2.0s						
RAMN	Ramite	17.06	118	eP	P	15 08 33.7	-1.2
	2.7nm,0.2s						
ZAA0	Zalesovo Array	20.55	26	eP	P	15 09 13.3	+1.2
	4.8nm,0.6s						
ZALV	Zalesovo Beam	20.55	26	eP	P	15 09 13.9	+1.8
HHC	Hu-ho-hao-te	32.77	69	eP	P	15 11 07.3	+2.9

ISCJB ***14*** *15:05:49.7±0.8, 13°.98N±0°.09×145°.4E±0°.2, h100km, mb3.7/17, Error ellipse: s-maj=22.2km s-min=10.4km az=19.3*
IDC ***14*** *15:05:50.3±1.2, 13°.99N×145°.41E, h89km±8km, mb3.5/17, mb1 3.6/17, mb1mx3.5/49, mbtmp3.8/17, Error ellipse: s-maj=29.2km s-min=15.0km az=91.0*

ISC 14 15:05:51.3±1.0, 14°.0N±0°.1×145°.4E±0°.2, h100km, n24, σ0§81/19, mb3.8/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.62	234	P	Pn	15 06 07.9	-0.1
	2μm,0.3s,baz=101,slow=3.9,SNR=1629						
GUMO				S	Sn	15 06 19.7	-0.8
	3μm,0.3s,baz=87,slow=16,SNR=44						
H11S3	WAKE ISLAND Hy 20.94	75		T	T	15 32 33.3	
	baz=261,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy 20.96	75		T	T	15 32 32.0	
	baz=261,slow=75,SNR=14						
H11S2	WAKE ISLAND Hy 20.96	75		T	T	15 32 31.3	
	baz=261,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy 21.36	72		T	T	15 33 31.9	
	baz=257,slow=75,SNR=18						
H11N2	WAKE ISLAND Hy 21.37	71		T	T	15 33 30.2	
	baz=257,slow=75,SNR=7.6						
H11N3	WAKE ISLAND Hy 21.38	72		T	T	15 33 26.2	
	baz=257,slow=75,SNR=7.2						
JNU	Nakatsue	23.20	328	P	P	15 10 49.8	+0.2
	2.2nm,0.5s,baz=66,slow=2.3,SNR=5.4						
MJAR	Matsushiro Arr	23.39	345	P	P	15 10 51.8	+0.6
	0.9nm,0.7s,baz=170,slow=10,SNR=4.6						
KSRS	Korea Array	28.10	330	P	P	15 11 33.1	-0.5
	0.6nm,0.4s,baz=145,slow=9.7,SNR=4.5						
WRA	Warramunga Arr	35.40	198	P	P	15 12 38.4	+0.7
	0.6nm,0.6s,baz=19,slow=9.0,SNR=9.3						
KLR	Kul'dur	36.92	345	P	P	15 12 50.9	+0.5
	0.4nm,0.3s,baz=135,slow=11,SNR=2.6						
ASAR	Alice Springs	39.04	197	P	P	15 13 09.2	+0.8
	0.3nm,0.6s,baz=22,slow=6.8,SNR=10.0						
PETK	Petropavlovsk-	40.27	11	P	P	15 13 18.7	+0.5
	2.9nm,1.0s,baz=123,slow=3.5,SNR=5.4						
SONM	Songino Array	46.72	324	P	P	15 14 11.2	+0.9
	0.6nm,0.5s,baz=147,slow=8.0,SNR=2.5						
MKAR	Makanchi Array	61.57	316	P	P	15 15 58.4	+0.3
	0.5nm,0.3s,baz=91,slow=8.6,SNR=12						
ZALV	Zalesovo Beam	61.62	324	P	P	15 15 59.3	+1.1
	0.8nm,0.4s,baz=106,slow=6.4,SNR=2.9						
KURBB	Kurchatov Arra	64.67	320	P	P	15 16 18.1	-0.3
	0.9nm,0.6s,baz=98,slow=6.8,SNR=7.2						
NRIK	Noril'sk	65.95	341	P	P	15 16 26.6	+0.3
	1.4nm,0.4s,baz=117,slow=7.2,SNR=7.9						
ILAR	Eielson Array	68.02	25	P	P	15 16 38.7	-0.9
	0.2nm,0.5s,baz=251,slow=4.8,SNR=8.4						
BVAR	Borovoye Array	69.95	322	P	P	15 16 50.7	-1.0
	0.3nm,0.3s,baz=94,slow=8.8,SNR=5.3						
YKA	Yellowknife Ar	82.31	27	P	P	15 18 01.7	+0.1
	0.2nm,0.5s,baz=286,slow=5.2,SNR=4.2						
ARCES	ARCESS Array B	86.89	342	P	P	15 18 23.4	-1.2
	2.4nm,0.9s,baz=81,slow=7.9,SNR=5.6						
FINES	FINESS Array B	91.04	335	P	P	15 18 42.7	-1.5
	0.7nm,0.6s,baz=75,slow=11,SNR=5.3						

IDC 14 15:08:37.0±5.4, 11°.87S×167°.13E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse: s-maj=238.1km s-min=41.9km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	33.66	245	P	P	15 15 19.7	-0.1
	0.2nm,0.6s,baz=70,slow=10,SNR=3.4						
ILAR	Eielson Array	83.87	18	P	P	15 21 08.2	0.0
	0.5nm,0.8s,baz=227,slow=5.1,SNR=4.9						
MKAR	Makanchi Array	95.05	317	P	P	15 22 02.0	0.0
	0.3nm,0.5s,baz=101,slow=6.2,SNR=3.8						

NIED ***14*** *15:49:00, 36°.90N×139°.40E, h5km, Mw3.8 Best double couple: M0 5.26000×10^14 NP1:φs6.00000°, δ67.00000°, λ-18.00000°. NP2:φs103.00000°, δ73.00000°, λ-156.00000°.*
ISCJB ***14*** *15:49:53.5±0.5, 36°.91N±0°.02×139°.40E±0°.04, h9km±4km, mb3.7/2, MS3.1/3, Error ellipse: s-maj=6.1km s-min=3.7km az=23.2*
IDC ***14*** *15:49:53.3±1.3, 36°.87N×139°.42E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.3/37, mbtmp3.6/4, ML3.2/2, MS2.9/7, Ms1 2.9/7, ms1mx2.7/40, Error ellipse: s-maj=15.6km s-min=12.2km az=149.0*
JMA ***14*** *15:49:53.7, 36°.91N×139°.40E, h4km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs102.00000°, δ63.00000°, λ-144.00000°. NP2: φs354.00000°, δ58.00000°, λ-32.00000°. Principal axes: T Plg3.0000°; Azm227.0000°; N Plg46.0000°, Azm134.0000°; P Plg44.0000°, Azm320.0000°;*
JMA Felt II J1.

ISC 14 15:49:54.2±1.1, 36°.91N±0°.03×139°.39E±0°.03, h5km±10km, n25, σ0§85/22, MS2.7/3, 5C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	Katashina	0.18	218	⇑P	Pg	15 49 57.6	-0.2
JKT				S	Sg	15 50 00.3	+0.1
JSB	Shiboa	0.43	82	⇑P	Pg	15 50 02.5	-0.1
JHK	Hiroka	0.45	319	⇓P	Pg	15 50 02.7	-0.2
JHK				S	Sg	15 50 09.0	+0.2
JAG	Ashikaga	0.48	174	P	Pg	15 50 03.3	-0.3
JAG				S	Sg	15 50 10.0	+0.1
JFY	Yanaizu	0.56	27	⇑P	Pg	15 50 04.6	-0.4
JFY				S	Sg	15 50 11.9	-0.4
JNS	Sasagawa	0.91	357	P	Pg	15 50 11.2	-0.5
JNS				S	Sg	15 50 23.4	-0.2
JRY	Ryogami san	0.97	204	⇑P	Pg	15 50 12.2	-0.7
JRY				S	Sb	15 50 25.4	-1.3
JFT	Otama	0.97	51	⇑P	Pg	15 50 12.1	-0.8
JFT				S	Sg	15 50 24.9	-0.7
MJAR	Matsushiro Arr	1.01	249	Pg	Pg	15 50 13.0	-0.7
	23nm,0.3s,baz=71,slow=15,SNR=952						
MJAR				Lg	Lg	15 50 26.1	
	9.4nm,0.3s,baz=70,slow=30,SNR=11						
MAT	Matsushiro	1.01	249	P	Pg	15 50 13.3	-0.4
MAT				S	Sg	15 50 26.8	-0.1
JHJ	Hachijo jima 2	3.79	175

ASAJ LR LR 15 55 03.0
comp=Z,48nm,20.6s,baz=160,slow=41
JNU Nakatsue 7.94 244 LR LR 15 55 14.7
comp=Z,98nm,20.0s,baz=26,slow=40
KLR Kul'dur 13.51 338 LR LR 15 57 25.8
comp=Z,21nm,18.9s,baz=128,slow=33
PETK Petropavlovsk- 20.64 33 LR LR 16 02 47.9
comp=Z,31nm,19.0s,baz=234,slow=38
H11N2 WAKE ISLAND Hy 29.50 118 T T 16 26 05.0
baz=312,slow=75,SNR=16
H11N1 WAKE ISLAND Hy 29.51 118 T T 16 26 07.5
baz=312,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 29.52 118 T T 16 26 06.9
baz=312,slow=75,SNR=11
H11S1 WAKE ISLAND Hy 30.18 120 T T 16 26 56.4
baz=314,slow=75,SNR=15
H11S3 WAKE ISLAND Hy 30.18 120 T T 16 26 59.0
baz=314,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 30.19 120 T T 16 27 01.8
baz=314,slow=75,SNR=12
CMAR Chiang Mai Arr 39.90 254 LR LR 16 15 56.1
comp=Z,9.2nm,19.9s,baz=125,slow=39
ILAR Eielson Array 50.47 32 P **P 15 58 51.8 -0.9**
0.4nm,0.7s,baz=277,slow=7.2,SNR=5.3
WRA Warramunga Arr 56.74 186 P **P 15 59 38.2 -0.9**
0.7nm,0.7s,baz=2.5,slow=6.7,SNR=8.9
PFO Pinyon Flats O 80.45 55 LR LR 16 33 38.9
comp=Z,64nm,19.5s,baz=136,slow=33

NNC 14 15:56:25.0±3.4, 37°.05N×70°.93E, h237km±75km, mb2.4, mpv3.6, 2C-3D, Error ellipse: s-maj=43.6km s-min=21.1km az=18.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.06**	**357**	P	Pn	15 57 53.9	+0.3
	2.1nm,0.5s,baz=170,slow=12,SNR=19						
KK31				⇓S	S	15 59 04.5	+0.3
	3.0nm,0.4s,baz=184,slow=25,SNR=5.5						
AAK	**Ala-Archa**	**6.22**	**25**	⇓P	Pn	15 57 55.6	-0.1
	2.7nm,0.3s						
AAK				⇑S	S	15 59 08.7	+0.6
	14nm,0.8s						
TKM2	**Tokmak 2**	**6.87**	**30**	⇓P	Pn	15 58 03.7	-0.3
	2.0nm,0.6s						
AB31	**Akbulak array**	**14.58**	**330**	⇑P	Pn	15 59 40.5	+0.1
	0.5nm,0.5s,baz=147,slow=11,SNR=8.0						

*DDA **14** 16:02:09.4, 38°.29N×26°.46E, h18km±1km, ML3.3*
*ISCJB **14** 16:02:10.6±0.3, 38°.25N±0°.02×26°.53E±0°.02, h12km±2km, Error ellipse: s-maj=3.1km s-min=2.5km az=155.9*
*ATH **14** 16:02:10.5, 38°.22N×26°.47E, h35km±1km, ML3.3/4, Error ellipse: s-maj=3.0km s-min=1.0km az=243.0*
*ISK **14** 16:02:10.1, 38°.26N×26°.55E, h18km, ML3.1/32*
*THE **14** 16:02:11.0, 38°.25N×26°.52E, h2km±1km, ML3.1/4, Error ellipse: s-maj=1.4km s-min=0.5km az=356.0*
ISC 14 16:02:11.0±0.8, 38°.26N±0°.02×26°.54E±0°.02, h14km±5km, n84, σ0°66/111, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.11**	**23**	PG	**Pg**	**16 02 14.1**	**-0.2**
URLA				SG	**Sg**	**16 02 16.6**	**+0.1**
URLA	**Izmir**	**0.11**	**23**	IAML_P			
	comp=Z,118μm,0.1s						
URLA				*i* P	**Pg**	**16 02 14.1**	**-0.2**
URLA				*i* S	**Sg**	**16 02 16.8**	**+0.3**
CESE	**eme**	**0.20**	**290**	PG	**Pg**	**16 02 15.6**	**0.0**
KRBN	**Karaburun**	**0.33**	**1**	PG	**Pg**	**16 02 17.7**	**-0.1**
KRBN				SG	**Sb**	**16 02 23.3**	**-0.6**
DGB	**zmir**	**0.34**	**128**	*i* P	**Pb**	**16 02 18.4**	**-0.5**
DGB				*i* S	**Sg**	**16 02 22.9**	**+0.3**
CHOS	**Chios island**	**0.40**	**288**	PG	**Pg**	**16 02 19.1**	**-0.1**
CHOS				SG	**Sb**	**16 02 25.7**	**-0.4**
CHOS	**Chios island**	**0.40**	**288**	P	**Pb**	**16 02 19.6**	**-0.4**
CHOS				S	**Sb**	**16 02 25.4**	**-0.7**
CHOS	**Chios island**	**0.40**	**288**	P	**Pb**	**16 02 19.6**	**-0.4**
CHOS				S	**Sb**	**16 02 26.0**	**0.0**
CHOS				AML	AML	16 02 26.3	
	comp=N,8987μm,0.3s						
CHOS				AML	AML	16 02 26.9	
	comp=E,9567μm,0.5s						
BLCB	**Balcova**	**0.41**	**72**	PG	**Pg**	**16 02 19.0**	**-0.3**
BLCB				SG	**Sg**	**16 02 24.4**	**-0.5**
FOCM	**Foa**	**0.47**	**18**	PG	**Pg**	**16 02 19.9**	**-0.5**
SMG	**Samos**	**0.60**	**157**	P	**Pg**	**16 02 22.3**	**-0.5**
SMG				S	**Sb**	**16 02 31.7**	**+0.1**
SMG	**Samos**	**0.60**	**157**	P	**Pg**	**16 02 22.6**	**-0.1**
SMG				S	**Sb**	**16 02 32.1**	**+0.5**
SMG				AML	AML	16 02 33.7	
	comp=N,11041μm,0.2s						
SMG				AML	AML	16 02 33.7	
	comp=E,8672μm,0.2s						
GCAM	**G?zelcaml?**	**0.78**	**136**	PG	**Pg**	**16 02 25.6**	**-0.6**
GCAM				SG	**Sb**	**16 02 36.8**	**-0.1**
GCAM	**G?zelcaml?**	**0.78**	**136**	IAML_P			
	comp=Z,6μm,0.1s						
GCAM				*i* P	**Pb**	**16 02 26.6**	**+0.2**
GCAM				*i* S	**Sg**	**16 02 36.4**	**-0.1**
ZEDA	**zmir-Bergama**	**0.82**	**31**	*i* P	**Pg**	**16 02 26.6**	**-0.3**
ZEDA				*i* S	**Sb**	**16 02 38.5**	**+0.6**
PRK	**Paraskevi**	**1.00**	**348**	P	**Pn**	**16 02 30.9**	**+0.2**
PRK				S	**Sn**	**16 02 45.3**	**+0.6**
PRK	**Paraskevi**	**1.00**	**348**	P	**Pn**	**16 02 30.8**	**+0.1**
PRK				AML	AML	16 02 48.2	
	comp=N,2578μm,0.4s						
PRK				AML	AML	16 02 48.7	
	comp=E,3599μm,0.7s						
AYVA	**Ayvalik**	**1.05**	**6**	*i* P	**Pn**	**16 02 31.7**	**+0.3**
AYVA				*i* S	**Sg**	**16 02 44.2**	**-0.8**
SIGR	**SIGRI**	**1.09**	**331**	PN	**Pg**	**16 02 31.3**	**-0.8**
SIGR	**SIGRI**	**1.09**	**331**	P	**Pg**	**16 02 31.2**	**-0.8**
SIGR				S	**Sb**	**16 02 46.7**	**+1.0**
SIGR	**SIGRI**	**1.09**	**331**	P	**Pg**	**16 02 31.3**	**-0.8**
SIGR				S	**Sg**	**16 02 45.7**	**-0.5**
SIGR				AML	AML	16 02 45.8	
	comp=N,1139μm,0.4s						
SIGR				AML	AML	16 02 45.9	
	comp=E,1042μm,0.3s						
GOMA	**Golmarmara-Man**	**1.17**	**67**	PN	**Pg**	**16 02 32.5**	**-1.0**
AKHS	**Akhisar**	**1.17**	**58**	IAML_P			
	comp=Z,2μm,0.2s						
AKHS				*i* P	**Pb**	**16 02 33.0**	**0.0**
AKHS				*i* S	**Sn**	**16 02 49.3**	**+0.5**
AKS	**Akhisar**	**1.17**	**58**	PN	**Pg**	**16 02 32.5**	**-1.1**
AYDN	**Tasoluk**	**1.22**	**119**	*i* P	**Pg**	**16 02 33.9**	**-0.6**
AYDN				*i* S	**Sb**	**16 02 49.9**	**+0.5**
GPNR	**Gulpinar-Canak**	**1.23**	**345**	PN	**Pb**	**16 02 33.4**	**-0.7**
BODT	**Bodrum**	**1.34**	**153**	PN	**Pn**	**16 02 34.5**	**-0.9**
BODT	**Bodrum**	**1.34**	**153**	P	**Pn**	**16 02 34.7**	**-0.7**
BODT				S	**Sn**	**16 02 55.7**	**+2.6**
BDRM	**Kayabasi**	**1.39**	**149**	IAML_P			
	comp=Z,3μm,0.2s						
BDRM				*i* P	**Pb**	**16 02 37.0**	**+0.2**
APE	**Apeiranthos**	**1.44**	**214**	PN	**Pn**	**16 02 35.7**	**-1.0**
APE	**Apeiranthos**	**1.44**	**214**	P	**Pn**	**16 02 36.2**	**-0.5**
APE				S	**Sg**	**16 02 57.0**	**-0.3**
APE	**Apeiranthos**	**1.44**	**214**	P	**Pn**	**16 02 35.1**	**-1.6**
STEP	**BALIKESIR_Sava**	**1.44**	**39**	*i* P	**Pn**	**16 02 36.5**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.48**	**0**	*i* P	**Pn**	**16 02 36.7**	**-0.6**
AMGA	**Amorgos Island**	**1.52**	**200**	P	**Pn**	**16 02 37.5**	**-0.3**
AMGA				S	**Sn**	**16 02 58.2**	**+0.8**
EZN	**Ezine**	**1.57**	**354**	PN	**Pn**	**16 02 38.1**	**-0.4**
EZN	**Ezine**	**1.57**	**354**	P	**Pn**	**16 02 38.3**	**-0.2**
MANT	**Manisa**	**1.60**	**81**	*i* P	**Pg**	**16 02 41.5**	**-0.3**
BOZC	**Bozcaada**	**1.62**	**347**	PN	**Pn**	**16 02 38.4**	**-0.8**
BOZC	**Bozcaada**	**1.62**	**347**	IAML_P			
	comp=Z,4μm,0.3s						
BOZC				*i* P	**Pn**	**16 02 39.6**	**+0.4**
KULA	**Kula-Manisa**	**1.68**	**81**	PN	**Pn**	**16 02 39.5**	**-0.6**
KULA	**Kula-Manisa**	**1.68**	**81**	P	**Pn**	**16 02 41.0**	**+0.9**
KULA				S	**Sg**	**16 03 03.9**	**-1.3**
BALB	**Balikesir**	**1.73**	**37**	PN	**Pn**	**16 02 40.3**	**-0.3**
DAT	**Datca**	**1.74**	**151**	PN	**Pn**	**16 02 39.9**	**-1.0**
LIA	**Limnos Island**	**1.95**	**327**	P	**Pn**	**16 02 43.5**	**-0.1**
LIA				S	**Sn**	**16 03 08.6**	**+0.7**
SERI	**Serifos**	**1.97**	**237**	P	**Pn**	**16 02 43.3**	**-0.7**
SERI				S	**Sn**	**16 03 09.7**	**+1.2**
GONE	**Gonen-Balikesi**	**1.99**	**26**	PN	**Pn**	**16 02 43.9**	**-0.4**
USAK	**Uak-Merkez**	**1.99**	**76**	IAML_P			
	comp=Z,600nm,0.2s						
USAK				*i* P	**Pb**	**16 02 47.3**	**+0.2**
DURS	**Dursunbey**	**2.01**	**48**	IAML_P			
	comp=Z,675nm,0.3s						
DURS				*i* P	**Pn**	**16 02 44.7**	**0.0**
THR3	**Thira Island,**	**2.06**	**207**	P	**Pn**	**16 02 45.2**	**0.0**
DION	**Dionisos Attik**	**2.06**	**266**	P	**Pn**	**16 02 45.1**	**-0.2**
DION	**Dionisos Attik**	**2.06**	**266**	P	**Pn**	**16 02 44.6**	**-0.8**
THR6	**Thira Island,**	**2.11**	**206**	P	**Pn**	**16 02 45.5**	**-0.4**
LPK	**Lapseki**	**2.11**	**5**	PN	**Pn**	**16 02 45.4**	**-0.6**
GELI	**Tayfur-Gelibol**	**2.13**	**359**	PN	**Pn**	**16 02 46.1**	**-0.1**
TURN	**Turunc**	**2.15**	**130**	PN	**Pn**	**16 02 44.3**	**-2.1**
KRBG	**Karabiga-Canak**	**2.21**	**15**	PN	**Pn**	**16 02 47.1**	**-0.1**
VLY	**Voula,Athens**	**2.21**	**260**	P	**Pn**	**16 02 46.9**	**-0.4**
DALY	**Dalyan (Mula)**	**2.21**	**130**	PN	**Pn**	**16 02 47.2**	**-0.1**
EDC	**Edincik**	**2.32**	**26**	PN	**Pn**	**16 02 48.6**	**-0.2**
SMTH	**Samothraki Isl**	**2.34**	**341**	P	**Pn**	**16 02 48.7**	**-0.4**
SMTH	**Samothraki Isl**	**2.34**	**341**	P	**Pn**	**16 02 48.7**	**-0.4**
ARG	**Arkhangelos**	**2.40**	**148**	PN	**Pn**	**16 02 49.6**	**-0.3**
ERIK	**Erikli-Kesan**	**2.41**	**359**	PN	**Pn**	**16 02 50.0**	**0.0**
KCTX	**Karacabey (Bur**	**2.45**	**35**	PN	**Pn**	**16 02 50.4**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.47**	**11**	PN	**Pn**	**16 02 50.8**	**-0.1**
ENEZ	**Enez**	**2.49**	**353**	PN	**Pn**	**16 02 51.1**	**0.0**
VILL	**Villia**	**2.55**	**269**	P	**Pn**	**16 02 52.0**	**0.0**
TVSB	**Tavsanli**	**2.57**	**62**	PN	**Pn**	**16 02 52.3**	**0.0**
FETY	**Fethiye**	**2.59**	**128**	PN	**Pn**	**16 02 52.6**	**0.0**
ALN	**Alexandroupoli**	**2.66**	**352**	PN	**Pn**	**16 02 53.7**	**+0.2**
ALN	**Alexandroupoli**	**2.66**	**352**	P	**Pn**	**16 02 53.4**	**-0.1**
ALN				S	**Sn**	**16 03 27.5**	**+2.0**
ALN	**Alexandroupoli**	**2.66**	**352**	P	**Pn**	**16 02 53.6**	**+0.2**
DID	**Didima**	**2.72**	**255**	P	**Pn**	**16 02 54.1**	**-0.3**
THAS	**Thassos island**	**2.73**	**329**	P	**Pn**	**16 02 54.3**	**-0.2**
THAS				S	**Sn**	**16 03 28.4**	**+1.1**
THAS	**Thassos island**	**2.73**	**329**	P	**Pn**	**16 02 54.3**	**-0.2**
PROD	**Prodromos**	**2.87**	**271**	P	**Pn**	**16 02 56.2**	**-0.1**
OUR	**Ouranopolis**	**2.87**	**317**	P	**Pn**	**16 02 56.4**	**+0.1**
RDO	**Rodhopi**	**2.98**	**345**	P	**Pn**	**16 02 58.1**	**+0.2**
RDO	**Rodhopi**	**2.98**	**345**	P	**Pn**	**16 02 58.1**	**+0.2**
KAVA	**Kavala**	**3.15**	**331**	P	**Pn**	**16 03 00.1**	**-0.1**
SERG	**Sergoula**	**3.53**	**274**	P	**Pn**	**16 03 05.5**	**0.0**
LAKA	**Lakka**	**3.59**	**271**	P	**Pn**	**16 03 07.4**	**+1.1**
ANX	**Ano Chora**	**3.65**	**277**	P	**Pn**	**16 03 08.0**	**+0.9**

*ISCJB **14** 16:06:24.3±0.9, 13°.2N±0°.1×89°.68W±0°.06, h54km±20km, Error ellipse: s-maj=19.9km s-min=5.3km az=22.7*
*SNET **14** 16:06:24.5±1.0, 13°.28N×89°.68W, h48km±14km, ML3.6*
*UCR **14** 16:06:24.8±1.2, 13°.28N×89°.68W, h46km±13km, MD3.5, ML3.6*
ISC 14 16:06:25.6±1.8, 13°.3N±0°.1×89°.67W±0°.06, h47km±21km, n49, σ0°71/64, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.53**	**4**	*e*P	**Pn**	**16 06 36.6**	**-0.8**
CEVE				*e*S	**Sn**	**16 06 47.0**	**+1.2**
CEVE				IAML		16 06 49.9	
	comp=Z,5μm,0.3s						
CEVE	**Cerro Verde**	**0.53**	**4**	*e*P	**Pn**	**16 06 36.6**	**-0.8**
CEVE				*e*S	**Sn**	**16 06 47.0**	**+1.2**
CEVE				IAML		16 06 49.9	
	comp=Z,5μm,0.3s						
SBLS	**San Blas**	**0.54**	**4**	*e*P	**Pn**	**16 06 36.8**	**-0.8**
SBLS	**San Blas**	**0.54**	**4**	*e*P	**Pn**	**16 06 36.8**	**-0.8**
SNJE	**San Jose**	**0.57**	**6**	*e*P	**Pn**	**16 06 37.2**	**-0.6**
SNJE	**San Jose**	**0.57**	**6**	*e*P	**Pn**	**16 06 37.2**	**-0.6**
SNET	**Serv Nac Est T**	**0.57**	**47**	*e*P	**Pn**	**16 06 36.7**	**-1.0**
SNET				*e*S	**Sn**	**16 06 46.8**	**+0.3**
SNET	**Serv Nac Est T**	**0.57**	**47**	*e*P	**Pn**	**16 06 36.7**	**-1.0**
SNET				*e*S	**Sn**	**16 06 46.8**	**+0.3**
BOQS	**Boqueron**	**0.58**	**40**	*e*P	**Pn**	**16 06 37.3**	**-0.6**
BOQS				*e*S	**Sn**	**16 06 47.3**	**+0.5**
UEES	**San Salvador**	**0.60**	**44**	*e*P	**Pn**	**16 06 37.2**	**-0.8**
UEES				IAML		16 06 50.6	
	comp=Z,3μm,0.2s						
UEES	**San Salvador**	**0.60**	**44**	*e*P	**Pn**	**16 06 37.2**	**-0.8**
UEES				IAML		16 06 50.6	
	comp=Z,3μm,0.2s						
RTR	**El Retiro**	**0.60**	**2**	*e*P	**Pn**	**16 06 37.6**	**-0.6**
RTR	**El Retiro**	**0.60**	**2**	*e*P	**Pn**	**16 06 37.6**	**-0.6**
CUSC	**San Salvador**	**0.64**	**47**	*e*P	**Pn**	**16 06 38.0**	**-0.6**
CUSC	**San Salvador**	**0.64**	**47**	*e*P	**Pn**	**16 06 38.0**	**-0.6**
UDBS	**Soyapango**	**0.65**	**49**	*e*P	**Pn**	**16 06 38.1**	**-0.6**
UDBS				*e*S	**Sn**	**16 06 48.9**	**+0.7**
UDBS	**Soyapango**	**0.65**	**49**	*e*P	**Pn**	**16 06 38.1**	**-0.6**
UDBS				*e*S	**Sn**	**16 06 48.9**	**+0.7**
LFRS	**El Faro**	**0.67**	**61**	*e*P	**Pn**	**16 06 38.2**	**-0.9**
UNIC	**Santa Ana**	**0.70**	**8**	*e*P	**Pn**	**16 06 38.7**	**-0.7**
UNIC	**Santa Ana**	**0.70**	**8**	*e*P	**Pn**	**16 06 38.7**	**-0.7**
LFU	**La Fuente**	**0.70**	**50**	*e*P	**Pn**	**16 06 39.0**	**-0.4**
LFU	**La Fuente**	**0.70**	**50**	*e*P	**Pn**	**16 06 39.0**	**-0.4**
LBRS	**Las Brisas**	**0.75**	**54**	*e*P	**Pn**	**16 06 39.6**	**-0.4**
PAVA	**Las Pavas**	**0.82**	**59**	*e*P	**Pn**	**16 06 40.7**	**-0.3**
PAVA				*e*S	**Sn**	**16 06 53.7**	**+1.5**
PAVA	**Las Pavas**	**0.82**	**59**	*e*P	**Pn**	**16 06 40.7**	**-0.3**
PAVA				*e*S	**Sn**	**16 06 53.7**	**+1.5**
UESV	**Ojushtada**	**0.86**	**84**	*e*P	**Pn**	**16 06 41.9**	**+0.5**
UESV	**Ojushtada**	**0.86**	**84**	*e*P	**Pn**	**16 06 41.9**	**+0.5**
SNVI	**San Vicente**	**0.86**	**68**	*e*P	**Pn**	**16 06 40.8**	**-0.8**
SNVI				*e*S	**Sn**	**16 06 53.6**	**+0.3**
SNVI	**San Vicente**	**0.86**	**68**	*e*P	**Pn**	**16 06 40.8**	**-0.8**
SNVI				*e*S	**Sn**	**16 06 53.6**	**+0.3**
TECA	**Tecapa**	**1.15**	**80**	*e*P	**Pn**	**16 06 44.5**	**-1.0**
TECA	**Tecapa**	**1.15**	**80**	*e*P	**Pn**	**16 06 44.5**	**-1.0**
IXG	**Ixpaco**	**1.16**	**319**	*e*P	**Pn**	**16 06 45.1**	**-0.6**
IXG				*e*S	**Sn**	**16 06 59.6**	**-1.0**
VICT	**Victoria**	**1.20**	**56**	*e*P	**Pn**	**16 06 45.7**	**-0.4**
VICT				*e*S	**Sn**	**16 07 01.2**	**-0.1**
VICT	**Victoria**	**1.20**	**56**	*e*P	**Pn**	**16 06 45.7**	**-0.4**
VICT				*e*S	**Sn**	**16 07 01.2**	**-0.1**
PACA	**Pacayal**	**1.32**	**82**	*e*P	**Pn**	**16 06 47.2**	**-0.5**
PACA	**Pacayal**	**1.32**	**82**	*e*P	**Pn**	**16 06 47.2**	**-0.5**
LCY	**Lacayo**	**1.34**	**84**	*e*P	**Pn**	**16 06 47.7**	**-0.4**
LCY	**Lacayo**	**1.34**	**84**	*e*P	**Pn**	**16 06 47.7**	**-0.4**
VSM	**San Miguel**	**1.36**	**84**	*e*P	**Pn**	**16 06 48.3**	**-0.1**
VSM	**San Miguel**	**1.36**	**84**	*e*P	**Pn**	**16 06 48.3**	**-0.1**
PCG	**Pacaya**	**1.43**	**320**	*e*S	**Sn**	**16 07 07.2**	**+0.1**
NBG	**Las Nubes**	**1.45**	**333**	*e*P	**Pn**	**16 06 50.4**	**+0.8**
NBG				*e*S	**Sn**	**16 07 08.3**	**+0.7**
CAHU	**Cacacuatique**	**1.49**	**71**	*e*P	**Pn**	**16 06 49.5**	**-0.7**
CAHU	**Cacacuatique**	**1.49**	**71**	*e*P	**Pn**	**16 06 49.5**	**-0.7**
FUG	**Fuego 3**	**1.62**	**315**	*e*P	**Pn**	**16 06 52.1**	**+0.2**
LCND	**La Caada**	**1.73**	**89**	*e*P	**Pn**	**16 06 52.7**	**-0.5**
LCND	**La Caada**	**1.73**	**89**	*e*P	**Pn**	**16 06 52.7**	**-0.5**
CNCH	**Conchagua**	**1.78**	**90**	*e*P	**Pn**	**16 06 53.5**	**-0.6**
CNCH	**Conchagua**	**1.78**	**90**	*e*P	**Pn**	**16 06 53.5**	**-0.6**

*ISCJB **14** 16:22:47.7±1.2, 15°.0N±0°.1×94°.52W±0°.05, h35km, mb3.7/3, MS3.3/6, Error ellipse: s-maj=16.5km s-min=7.2km az=5.7*
*MEX **14** 16:22:48.9±0.5, 14°.88N×94°.53W, h30km, MD4.0*
*IDC **14** 16:22:55.3±1.4, 16°.72N×93°.29W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/47, mbtmp3.5/5, ML3.4/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/24, Error ellipse: s-maj=38.3km s-min=12.8km az=22.0*
*NEIC **14** 16:22:57.4±0.0, 15°.40N×95°.00W, h66km, MD4.0(MEX), After MEX.*
ISC 14 16:22:49.3±1.4, 15°.0N±0°.1×94°.57W±0°.05, h35km, n19, σ2°47/16, mb3.7/3, MS3.3/6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.49**	**61**	*e*P	**Pn**	**16 23 11.6**	**-2.0**
PCIG				*i* S	**Sn**	**16 23 30.1**	**-1.7**
HUIG	**Huatulco**	**1.68**	**298**	*e*Pn	**Pn**	**16 23 15.6**	**-0.6**
HUIG				*e*Sn	**Sn**	**16 23 31.0**	**-5.6**
HUIG	**Huatulco**	**1.68**	**298**	*e*P	**Pn**	**16 23 15.6**	**-0.6**
HUIG				*i* S	**Sn**	**16 23 36.3**	**-0.3**
CMIG	**Matias Romero**	**2.13**	**352**	*e*Sn	**Sn**	**16 23 43.1**	**-4.5**
CMIG	**Matias Romero**	**2.13**	**352**	*i* P	**Pn**	**16 23 21.7**	**-0.7**
CMIG				*i* S	**Sn**	**16 23 47.4**	**-0.2**
CMIG	**Matias Romero**	**2.13**	**352**	Pn	**Pn**	**16 23 23.8**	**+1.4**
	21nm,0.3s,baz=158,slow=10,SNR=86						
CMIG				Lg	Lg	16 23 45.8	
	21nm,0.3s,baz=162,slow=16,SNR=6.1						
CMIG				LR	LR	16 23 54.1	
	comp=Z,214nm,21.5s,baz=257,slow=38						
APG	**El Apazote**	**3.96**	**89**	Pn	**Pn**	**16 23 46.9**	**-0.9**
	3.5nm,0.3s,baz=316,slow=11,SNR=32						
APG				Lg	Lg	16 24 38.2	
	9.8nm,0.3s,baz=289,slow=13,SNR=4.7						
TLIG	**Tlapa**	**4.62**	**304**	*e*Pn	**Pn**	**16 23 54.6**	**-2.2**
TEIG	**Tepich**	**7.95**	**48**	*e*Pn	**Pn**	**16 24 41.9**	**-0.5**
TXAR	**Lajitas Array**	**16.58**	**331**	Pn	**P**	**16 26 42.1**	**+0.7**
	0.0nm,0.3s,baz=145,slow=10.0,SNR=3.4						
TXAR				Sn	Sn	16 29 31.8	-10
	0.1nm,0.3s,baz=41,slow=23,SNR=4.1						
ANMO	**Albuquerque**	**22.58**	**334**	LR	LR	16 37 01.7	
	comp=Z,77nm,18.2s,baz=149,slow=39						
SJG	**San Juan**	**27.41**	**80**	LR	LR	16 39 11.7	
	comp=Z,32nm,21.9s,baz=246,slow=38						
NVAR	**Mina Array Bea**	**31.37**	**323**	P	P	16 29 12.9	+5.9
	1.0nm,0.9s,baz=146,slow=8.3,SNR=3.6						
SADO	**Sadowa**	**32.45**	**21**	LR	LR	16 41 56.4	
	comp=Z,54nm,20.7s,baz=147,slow=38						
YBH	**Yreka Blue Hor**	**36.09**	**323**	LR	LR	16 45 56.1	
	comp=Z,63nm,18.9s,baz=152,slow=39						
SCHQ	**Schefferville**	**45.22**	**22**	LR	LR	16 51 11.0	
	comp=Z,102nm,18.5s,baz=317,slow=39						
YKA	**Yellowknife Ar**	**49.54**	**348**	P	**P**	**16 31 37.0**	**+0.7**
	0.5nm,0.6s,baz=154,slow=7.0,SNR=4.6						
ILAR	**Eielson Array**	**60.98**	**337**	P	**P**	**16 33 02.1**	**+3.3**
	0.7nm,1.1s,baz=145,slow=5.3,SNR=3.8						
NOA	**NORSAR Array B**	**84.47**	**28**	LR	LR	17 10 10.0	
	comp=Z,22nm,21.7s,baz=350,slow=34						

JMA 14 16:40:51.1±0.1, 35°.91N×141°.00E, h18km±1km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.24**	**209**	P	Pg	16 40 56.4	-0.2
CHOJ				S	Sg	16 41 00.2	-0.1
JIHU	**Itakohorinouch**	**0.39**	**278**	P	Pb	16 40 59.5	0.0
JHYU	**Hitachinakayam**	**0.54**	**322**	P	Pg	16 41 02.0	0.0
JHYU				S	Sb	16 41 09.6	0.0
JYT	**Yasato**	**0.73**	**296**	P	Pb	16 41 04.8	-0.4
JYT				*e*S	Sb	16 41 14.3	-0.5
JHO	**Hitachi**	**0.78**	**334**	P	Pb	16 41 05.9	-0.3
JHO				S	Sb	16 41 16.5	+0.1
BSO4	**Boso 4**	**1.06**	**211**	P	Pg	16 41 12.0	+0.3
MAT	**Matsushiro**	**2.34**	**286**	P	Pn	16 41 29.2	+0.4
MAT				S	Sn	16 41 57.3	+0.2

*IDC **14** 16:47:59.0±1.8, 8°.78S×123°.53E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/33, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=125.5km s-min=27.2km az=62.0*
*ISCJB **14** 16:48:03.2±0.7, 8°.96S±0°.10×123°.3E±0°.1, h86km, mb3.0/1, Error ellipse: s-maj=19.0km s-min=6.3km az=136.3*
*DJA **14** 16:48:03.7±0.4, 9°.S±4°×12°.3E±°, h10km, M3.4/6, MLv3.4/6*
ISC 14 16:48:04.7±1.0, 9°.00S±0°.08×123°.4E±0°.1, h86km, n10, σ3°64/14, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.15**	**131**	P	**Pn**	**16 48 27.4**	**+1.4**
MMRI	**Maumere**	**1.19**	**288**	P	**Pn**	**16 48 23.4**	**-2.9**
MMRI				S	**Sn**	**16 48 39.4**	**-3.2**
BATI	**Baumata**	**1.23**	**167**	P	**Pn**	**16 48 31.3**	**+4.4**
BBSI	**Bau Bau**	**3.58**	**347**	P	**Pn**	**16 48 56.0**	**-2.0**
BSSI	**Bau Bau, Buton**	**4.03**	**315**	P	**Pn**	**16 49 03.4**	**-0.7**
BKSI	**Bulukumba**	**4.88**	**318**	P	**Pn**	**16 49 14.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**9.31**	**167**	Pn	**Pn**	**16 50 17.1**	**+1.1**
	0.4nm,0.3s,baz=346,slow=9.4,SNR=17						
FITZ				Sn	**Sn**	**16 51 55.9**	**-3.2**
	0.2nm,0.3s,baz=326,slow=18,SNR=1.9						
WRA	**Warramunga Arr**	**15.19**	**137**	Pn	**Pn**	**16 51 34.4**	**-0.1**
	0.1nm,0.3s,baz=314,slow=13,SNR=11						
WRA				Sn	**Sn**	**16 54 16.4**	**-5.7**
	0.1nm,0.3s,baz=318,slow=23,SNR=2.8						
ASAR	**Alice Springs**	**17.72**	**147**	P	**Pn**	**16 52 09.5**	**+3.5**
	0.2nm,0.3s,baz=319,slow=11,SNR=20						
ASAR				S	**Sn**	**16 55 18.4**	**-4.9**
	0.0nm,0.3s,baz=319,slow=20,SNR=2.7						

APYP	**Conner**	**1.06**	**174**	*e*P	Pn	17 10 33.5	-0.7
APYP				*e*S	Sb	17 10 48.8	+0.6
SGCP	**Mt. Cagua**	**1.10**	**128**	*e*P	Pn	17 10 34.4	-0.4
SGCP				*e*S	Sn	17 10 49.0	-0.1
BBP	**Basco**	**1.71**	**27**	*e*P	Pn	17 10 43.3	+0.2
CAUP	**Cauayan**	**2.07**	**161**	*e*P	Pb	17 10 50.9	-1.1
PALP	**Palanan**	**2.22**	**146**	*e*P	Pn	17 10 51.5	+1.3
PALP				*e*S	Sb	17 11 20.7	-0.9
BOLP	**Bolinao**	**2.78**	**205**	*e*P	Pn	17 10 58.9	+1.0
BOLP				*e*S	Sb	17 11 34.8	-2.8
SMPP	**San Manuel, Pa**	**2.79**	**189**	*e*P	Pn	17 10 57.5	-0.5
SMPP				*e*S	Sn	17 11 33.7	+2.8
BALP	**Baler**	**3.19**	**172**	*e*P	Pn	17 11 03.9	+0.3
BALP				*e*S	Pb	17 11 11.6	+0.5

IDC ***14*** *17:28:22.8±5.1, 16°.67S×168°.58E, h186km±46km, mb3.3/5, mb1 3.5/6, mb1mx3.2/30, mbtmp3.8/6, Error ellipse: s-maj=43.7km s-min=27.0km az=6.0*
ISCJB ***14*** *17:28:23.1±1.2, 16°.70S±0°.10×168°.5E±0°.2, h200km, mb3.5/5, Error ellipse: s-maj=25.2km s-min=13.6km az=7.3*

ISC 14 17:28:24.3±1.4, 16°.8S±0°.1×168°.6E±0°.2, h200km, n6, σ0.82/7, mb3.5/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.66**	**200**	P	**Pn**	**17 29 47.5**	**+0.4**
DZM	1.5nm,0.3s,baz=87,slow=11,SNR=25			S	**Sn**	**17 30 51.8**	**-1.0**
URZ	1.2nm,0.3s,baz=311,slow=19,SNR=3.9 **Urewera**	**22.70**	**162**	P	**P**	**17 33 09.5**	**+0.6**
WRA	1.5nm,0.4s,baz=23,slow=7.7,SNR=4.0 **Warramunga Arr**	**32.61**	**259**	P	**P**	**17 34 37.2**	**-0.2**
ASAR	0.6nm,0.9s,baz=73,slow=10,SNR=3.2 **Alice Springs**	**33.19**	**252**	P	**P**	**17 34 42.0**	**-0.3**
FITZ	0.5nm,0.5s,baz=77,slow=9.4,SNR=25 **Fitzroy Crossi**	**40.91**	**262**	P	**P**	**17 35 48.1**	**+0.8**
ILAR	1.3nm,0.3s,baz=73,slow=7.4,SNR=4.1 **Eielson Array**	**88.06**	**18**	P	**P**	**17 40 50.9**	**-0.7**
	0.4nm,0.6s,baz=238,slow=5.7,SNR=4.7						

DJA 14 17:49:05.2±1.0, 8°S±10°×107°E±°, h89km±11km, M3.5/5, MLv3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.54**	**355**	P	Pn	17 49 21.6	+1.4
SKJI				S	Sn	17 49 34.2	+2.8
CISI	**Cisompet, Garu**	**1.21**	**90**	P	Pn	17 49 27.6	+0.3
CISI				S	Sn	17 49 44.9	+1.0
LEM	**Lembang**	**1.24**	**55**	P	Pn	17 49 27.0	-0.8
LEM				S	Sn	17 49 45.9	+1.1
CGJI	**Cibinong**	**1.29**	**316**	P	Pn	17 49 29.0	+0.7
CGJI				S	Sn	17 49 46.9	+1.1

KRSC 14 18:17:11.9±10.0, 55°.47N×162°.91E, h60km±10km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.74**	**356**	*e*P	Pn	18 17 27.2	+0.6
KBTR				*e*S	Sn	18 17 38.1	+0.7
KBG	**Krutoberegovo**	**0.80**	**352**	*e*P	Pn	18 17 27.9	+0.6
KBG				*e*S	Sn	18 17 39.3	+0.7
MKZ	**Mys Kozlova**	**1.14**	**217**	*e*P	Pn	18 17 33.0	+1.3
MKZ				*e*S	Sn	18 17 47.9	+1.5
BZGR	**Bezymyannyi-Gr**	**1.34**	**292**	*e*P	Pn	18 17 36.0	+1.5
SMKR	**Semkarok**	**1.38**	**325**	*e*P	Pn	18 17 36.2	+1.2
SMKR				*e*S	Sn	18 17 54.1	+1.8
CIRR	**Tsirk**	**1.38**	**299**	*e*P	Pn	18 17 36.7	+1.6
LGNR	**Loginova**	**1.40**	**297**	*e*P	Pn	18 17 37.2	+1.8
BZMR	**Bezymyannaya**	**1.45**	**290**	*e*P	Pn	18 17 37.2	+1.2
BZWR	**Bezymyannyi-We**	**1.45**	**291**	*e*P	Pn	18 17 38.0	+1.9
TUMD	**Tumrok D**	**1.46**	**261**	*e*P	Pn	18 17 38.3	+2.3
TUMD				*e*S	Sn	18 17 57.0	+2.9
BDR	**Baidarnaya**	**1.46**	**320**	*e*P	Pn	18 17 37.6	+1.6
KLY	**Klyuchi**	**1.53**	**305**	*e*P	Pn	18 17 37.0	+0.1
KLY				*e*S	Sn	18 17 55.1	-0.6
KIRR	**Kirishev**	**1.53**	**290**	*e*P	Pn	18 17 39.8	+2.7
KZV	**Kizimen**	**1.54**	**258**	*e*P	Pn	18 17 39.5	+2.3
KZV				*e*S	Sn	18 17 58.6	+2.4
SRKR	**Sorokina**	**1.54**	**321**	*e*P	Pn	18 17 38.6	+1.5
SRKR				*e*S	Sn	18 17 58.0	+1.9
KPT	**Kopyto**	**1.60**	**289**	*e*P	Pn	18 17 40.1	+2.1
KPT				*e*S	Sn	18 17 59.9	+2.3
BKI	**Bering**	**1.77**	**97**	*e*P	Pn	18 17 43.2	+3.0
BKI				*e*S	Sn	18 18 04.9	+3.3
KOZ	**Kozyrevsk**	**1.81**	**290**	*e*P	Pn	18 17 43.7	+2.9
KOZ				*e*S	Sn	18 18 06.5	+3.8
SRDR	**Sredinnyy**	**1.99**	**297**	*e*P	Pn	18 17 46.0	+2.8
SRDR				*e*S	Sn	18 18 10.6	+3.6
ESO	**Esso**	**2.42**	**283**	*e*P	Pn	18 17 51.7	+2.6
SPN	**Mys Shipunski**	**2.92**	**217**	*e*P	Pn	18 17 56.8	+1.0
SPN				*e*S	Sn	18 18 29.4	-0.2
NLC	**Nalytchevo**	**3.11**	**224**	*e*S	Sn	18 18 36.6	+2.4
SDLR	**Sedlovina**	**3.22**	**229**	*e*P	Pn	18 18 03.4	+3.4
KRER	**Koryakskii**	**3.26**	**230**	*e*P	Pn	18 18 04.3	+3.6
KRX	**Arik**	**3.26**	**231**	*e*P	Pn	18 18 04.3	+3.6
SMAR	**Somma**	**3.26**	**229**	*e*P	Pn	18 18 04.0	+3.3
AVH	**Avacha**	**3.29**	**230**	*e*P	Pn	18 18 04.7	+3.7
UGLR	**Uglovaya**	**3.29**	**228**	*e*P	Pn	18 18 04.5	+3.5
KOK	**Koryaka**	**3.31**	**231**	*e*P	Pn	18 18 04.0	+2.7
DALK	**Dalny**	**3.45**	**227**	*e*P	Pn	18 18 06.1	+3.0
DALK				*e*S	Sn	18 18 44.9	+2.3
KRMR	**Karymshinskiy**	**3.86**	**229**	*e*P	Pn	18 18 13.0	+4.4
KRMR				*e*S	Sn	18 18 55.9	+3.3
RUS	**Russkaya**	**4.00**	**222**	*e*P	Pn	18 18 14.1	+3.5
MTVR	**Mutnovka**	**4.09**	**225**	*e*P	Pn	18 18 15.4	+3.4
KDTR	**Khodutka, Kamc**	**4.66**	**220**	*e*P	Pn	18 18 21.4	+1.8
TILK	**Tilichiki**	**5.28**	**18**	*e*P	Pn	18 18 30.8	+2.7

IDC 14 18:31:02.9±2.1, 18°.94N×145°.33E, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.3/46, mbtmp3.4/4, Error ellipse: s-maj=195.9km s-min=25.9km az=114.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.12**	**196**	P	P	18 38 39.9	-0.7
ASAR	0.2nm,0.3s,baz=18,slow=8.4,SNR=9.8 **Alice Springs**	**43.79**	**195**	P	P	18 39 11.1	+0.5
YKA	0.2nm,0.9s,baz=19,slow=6.8,SNR=4.1 **Yellowknife Ar**	**77.94**	**28**	P	P	18 43 02.7	+0.1
NVAR	0.2nm,0.4s,baz=289,slow=5.3,SNR=4.1 **Mina Array Bea**	**83.27**	**52**	P	P	18 43 32.1	0.0
	0.4nm,0.6s,baz=273,slow=7.1,SNR=3.9						

MEX 14 18:33:55.9±0.3, 16°.00N×98°.27W, h6km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**20**	*e*P	Pg	18 34 03.4	-0.4
PNIG				*e*S	Sg	18 34 09.6	+0.3

MAN 14 18:50:51.1, 13°.80N×120°.59E, h32km, mb3.8, ML2.5, MS2.1, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**259**	*e*P	Pn	18 51 02.0	+2.2
LUBP				*e*S	Sn	18 51 07.3	+1.7
PGP	**Puerto Galera**	**0.46**	**129**	*e*P	Pn	18 51 01.8	+0.3
PGP				*i* S	Sb	18 51 06.4	-1.5
SJMP	**San Jose**	**1.43**	**159**	*e*P	Pb	18 51 16.3	-0.8
SJMP				*e*S	Sn	18 51 32.9	+0.5

ISCJB ***14*** *19:00:24.6±0.6, 38°.08N±0°.03×37°.64E±0°.07, h11km, Error ellipse: s-maj=7.9km s-min=4.3km az=22.3*
DDA ***14*** *19:00:24.2, 38°.10N×37°.64E, h7km±2km, ML2.8*
ISK ***14*** *19:00:24.1, 38°.10N×37°.64E, h9km, ML2.0/7*

ISC 14 19:00:24.6±0.9, 38°.08N±0°.03×37°.64E±0°.05, h11km, n13, σ0.41/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.31**	**46**	*i* P	**Pg**	**19 00 30.8**	**-0.1**
AKCD				*i* S	**Sg**	**19 00 35.4**	**+0.3**
ELBS	**KAHRAMANMARAS** comp=Z,1μm,0.1s	**0.47**	**301**	IAML_P			
ELBS				*i* P	**Pg**	**19 00 33.7**	**-0.1**
DARE	**Darende-Malaty**	**0.50**	**346**	PG	**Pg**	**19 00 34.2**	**-0.3**
DARE				SG	**Sg**	**19 00 41.4**	**+0.2**
GZT	**Gaziantep** comp=Z,778nm,0.1s	**0.73**	**185**	IAML_P			
GZT				*i* P	**Pg**	**19 00 38.6**	**-0.1**
KMRS	**Kahramanmaras**	**0.82**	**226**	PG	**Pg**	**19 00 40.2**	**-0.3**
HEKM	**Malatya_Hekimh** comp=Z,1μm,0.1s	**0.83**	**17**	IAML_P			
HEKM				*i* P	**Pb**	**19 00 40.9**	**-0.4**
HCB	**Kahramanmara** comp=Z,917nm,0.1s	**0.94**	**218**	IAML_P			
HCB				*i* P	**Pn**	**19 00 43.5**	**-0.3**
GAZ	**Gaziantep**	**0.97**	**201**	PG	**Pb**	**19 00 43.6**	**+0.1**
GAZ				SG	**Sn**	**19 00 57.5**	**-0.6**
URFA	**Urfa**	**1.13**	**124**	PN	**Pb**	**19 00 46.3**	**0.0**
CUKAN	**kangal_SIVAS**	**1.24**	**354**	*i* P	**Pg**	**19 00 48.7**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.34**	**77**	PN	**Pb**	**19 00 49.7**	**-0.3**
KOZT	**Kozan**	**1.56**	**248**	PN	**Pn**	**19 00 52.7**	**+0.4**
TAHT	**Tahtakopru-Hat**	**2.06**	**215**	PN	**Pn**	**19 01 00.2**	**+1.0**

BJI ***14*** *19:09:20.3±0.0, 10°.86S×112°.94E, h9km, mb4.4/6, mB4.9/4*
ISCJB ***14*** *19:09:24.1±0.4, 10°.53S±0°.05×112°.28E±0°.04, h24km, mb4.0/17, MS4.2/2, Error ellipse: s-maj=7.8km s-min=4.6km az=41.9*
NEIC ***14*** *19:09:24.3±2.8, 10°.56S×112°.39E, h16km±6km, mb4.4/9, Error ellipse: s-maj=16.4km s-min=13.4km az=213.0*
IDC ***14*** *19:09:28.4±5.2, 10°.47S×112°.38E, h38km±44km, mb3.8/11, mb1 3.9/14, mb1mx3.8/36, mbtmp4.0/14, ML3.7/2, MS3.8/3, Ms1 3.8/3, ms1mx3.3/51, Error ellipse: s-maj=37.5km s-min=15.7km az=52.0*
DJA ***14*** *19:09:28.9±0.8, 10°.5±16°×111°.2E±°, h86km±59km, M4.5/8, mb4.8/2, mB4.9/1, MLv4.3/8, Mw(mB)4.2/1*

ISC 14 19:09:25.8±0.6, 10°.43S±0°.06×112°.47E±0°.06, h24km, n62, σ1.23/58, mb4.1/17, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**2.56**	**330**	P	**Pn**	**19 10 05.5**	**-0.3**
JAGI	**Jajag, Banyuwa**	**2.56**	**41**	*e*Pn	**Pb**	**19 10 09.9**	**-1.2**
JAGI	**Jajag, Banyuwa**	**2.56**	**41**	P	**Pb**	**19 10 10.1**	**-0.9**
JAGI				S	**Sb**	**19 10 40.9**	**-1.2**
UGM	**Wanagama**	**3.15**	**322**	*e*Pn	**Pn**	**19 10 14.0**	**+0.1**
UGM	**Wanagama**	**3.15**	**322**	P	**Pn**	**19 10 14.5**	**+0.5**
UGM				S	**Sn**	**19 10 50.4**	**-0.4**
YOGI	**Yogyakarta**	**3.36**	**320**	P	**Pn**	**19 10 17.7**	**+0.8**
YOGI				S	**Sn**	**19 10 54.4**	**-1.7**
SMRI	**Semarang**	**3.91**	**329**	*e*Pn	**Pn**	**19 10 26.2**	**+1.8**
CISI	**Cisompet, Garu**	**5.41**	**301**	*e*Pn	**Pn**	**19 10 44.5**	**-0.5**
CISI				*e*Sn	Sn	19 11 38.2	-8.4
PLAI	**Plampang** 68nm,0.7s,0.3nm	**5.47**	**74**	P	**Pn**	**19 10 49.4**	**+3.5**
XMIS	**Christmas Isla**	**6.70**	**269**	*e*Pn	Pn	19 10 59.1	-3.7
KAPI	**Kappang**	**9.00**	**54**	*e*Pn	**Pn**	**19 11 33.0**	**-1.4**
KAPI	**Kappang**	**9.00**	**54**	Pn	Pn	19 11 38.5	+4.2
	1.3nm,0.3s,baz=169,slow=10,SNR=3.2						
KAPI				Sn	**Sn**	**19 13 16.0**	**+0.9**
	0.9nm,0.3s,baz=206,slow=16,SNR=1.5						
KAPI				LR	LR	19 16 06.7	
	comp=Z,83nm,18.4s,baz=218,slow=44						
BNSI	**Bone**	**9.65**	**52**	P	Pn	19 12 03.0	+20
MMRI	**Maumere**	**9.80**	**80**	*e*Pn	**Pn**	**19 11 43.6**	**-1.7**
MNAI	**Manna**	**11.19**	**302**	*e*Pn	**Pn**	**19 12 02.9**	**-1.5**
SOEI	**Soe**	**11.64**	**88**	*e*Pn	**Pn**	**19 12 10.0**	**-0.6**
GIRL	**Giralia**	**12.27**	**172**	*e*Pn	Pn	19 12 15.1	-4.0
MBWA	**Marble Bar**	**12.75**	**148**	*e*Pn	Pn	19 12 21.8	-4.0
SBUM	**Sibu**	**12.79**	**359**	*e*Pn	**Pn**	**19 12 26.4**	**+0.1**
PSA00	**Pilbara Seismi**	**13.15**	**148**	*e*Pn	**Pn**	**19 12 27.7**	**-3.5**
FITZ	**Fitzroy Crossi**	**14.87**	**122**	*e*Pn	**Pn**	**19 12 53.9**	**-0.7**
FITZ				*e*Sn	Sn	19 15 26.8	-12
FITZ	**Fitzroy Crossi**	**14.87**	**122**	Pn	**Pn**	**19 12 55.2**	**+0.6**
	0.2nm,0.3s,baz=301,slow=10,SNR=6.5						
FITZ				Sn	Sn	19 15 27.7	-11
	0.2nm,0.3s,baz=183,slow=22,SNR=3.9						
SANI	**Sanana**	**15.80**	**59**	P	P	19 13 22.4	+12
PSI	**Prapat**	**18.83**	**314**	P	**P**	**19 13 43.2**	**-0.9**
	baz=357,slow=1.8,SNR=6.3						
MORW	**Morawa**	**18.85**	**170**	*e*P	**P**	**19 13 44.5**	**+0.3**
	51nm,1.7s						
FAKI	**Fak Fak**	**21.00**	**71**	*e*P	**P**	**19 14 06.8**	**-1.0**
	14nm,1.0s						
WRA	**Warramunga Arr**	**23.11**	**117**	P	**P**	**19 14 31.8**	**+1.6**
	4.7nm,0.9s,baz=289,slow=11,SNR=17						
WR1	**Warramunga Arr**	**23.11**	**117**	*e*P	**P**	**19 14 31.8**	**+1.6**
WB2	**Warramunga Arr**	**23.12**	**117**	*e*P	**P**	**19 14 30.0**	**-0.3**
	26nm,1.6s						
AS31	**Alice Springs**	**24.31**	**126**	*e*P	**P**	**19 14 43.5**	**+1.6**
	1.0nm,0.8s						
ASAR	**Alice Springs**	**24.31**	**126**	*e*P	**P**	**19 14 40.4**	**-1.4**
ASAR	**Alice Springs**	**24.31**	**126**	P	**P**	**19 14 43.0**	**+1.2**
	1.8nm,0.8s,baz=302,slow=8.6,SNR=25						
FORT	**Forrest**	**24.90**	**147**	*e*P	**P**	**19 14 47.2**	**+0.2**
	14nm,0.9s						
TGY	**Tagaytay City**	**25.78**	**19**	LR	LR	19 25 22.3	
	comp=Z,200nm,19.5s,baz=160,slow=37						
CMAR	**Chiang Mai Arr**	**31.65**	**335**	*e*P	**P**	**19 15 47.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**31.65**	**335**	P	**P**	**19 15 48.6**	**+1.2**
	0.7nm,0.6s,baz=174,slow=8.4,SNR=8.7						
STKA	**Stephens Creek**	**34.36**	**133**	*e*P	**P**	**19 16 11.2**	**+0.2**
	3.1nm,1.4s						
STKA	**Stephens Creek**	**34.36**	**133**	P	**P**	**19 16 12.3**	**+1.4**
	2.8nm,0.9s,baz=306,slow=8.7,SNR=3.1						
WHN	**Wuhan**	**40.77**	**2**	P	**P**	**19 17 02.5**	**-2.7**
JIRN	**Jiri**	**45.62**	**327**	*e*P	**P**	**19 17 44.5**	**-0.4**
	20nm,0.7s						
DMN	**Daman**	**46.18**	**326**	*e*P	**P**	**19 17 49.2**	**0.0**
	18nm,0.8s						
KKN	**Kakani**	**46.22**	**326**	*e*P	**P**	**19 17 49.8**	**+0.3**
	7.8nm,0.8s						
KOLN	**Koldanda**	**47.15**	**324**	*e*P	**P**	**19 17 57.1**	**+0.4**
	14nm,0.7s						
DANN	**Dangsing**	**47.50**	**325**	*e*P	**P**	**19 17 59.9**	**+0.3**
	20nm,0.7s						
PYUN	**Piuthan**	**47.75**	**324**	*e*P	**P**	**19 18 01.8**	**+0.4**
	15nm,1.0s						
KSRS	**Korea Array**	**49.79**	**16**	P	**P**	**19 18 18.4**	**+1.9**
	1.5nm,0.8s,baz=200,slow=7.5,SNR=5.2						
MAJO	**Matsushiro**	**52.63**	**26**	*e*P	**P**	**19 18 38.5**	**+0.5**
MJAR	**Matsushiro Arr**	**52.63**	**26**	P	**P**	**19 18 38.4**	**+0.5**
	0.7nm,0.6s,baz=208,slow=9.5,SNR=3.9						
SONA0	**Songino Array**	**58.25**	**355**	*e*P	**P**	**19 19 19.4**	**+1.0**
SONM	**Songino Array**	**58.25**	**355**	P	**P**	**19 19 19.4**	**+1.0**
	1.2nm,0.5s,baz=174,slow=2.9,SNR=2.4						
MK32	**Makanchi Array**	**63.02**	**337**	*e*P	**P**	**19 19 51.5**	**+0.7**
MKAR	**Makanchi Array**	**63.02**	**337**	P	**P**	**19 19 51.5**	**+0.7**
	0.8nm,0.5s,baz=146,slow=7.2,SNR=15						
ZALV	**Zalesovo Beam**	**68.28**	**343**	*e*P	**P**	**19 20 24.3**	**-0.3**
ZALV	**Zalesovo Beam**	**68.28**	**343**	P	**P**	**19 20 25.3**	**+0.7**
	1.5nm,0.6s,baz=144,slow=3.5,SNR=6.5						
ZAA1	**Zalesovo Array**	**68.28**	**343**	*e*P	**P**	**19 20 25.3**	**+0.7**
PETK	**Petropavlovsk-**	**74.09**	**26**	P	**P**	**19 21 00.7**	**+0.9**
	1.5nm,0.6s,baz=221,slow=2.4,SNR=4.9						
PEA1	**Petropavlovsk-**	**74.09**	**26**	*e*P	**P**	**19 21 00.7**	**+0.9**
ABKAR	**Akbulak array**	**75.15**	**327**	*e*P	**P**	**19 21 06.6**	**+0.6**
	2.6nm,0.9s						
TIXI	**Tiksi**	**82.62**	**5**	*e*P	**P**	**19 21 46.7**	**+0.2**
	2.2nm,0.9s						
KVAR	**Kislovodsk Ar**	**83.03**	**317**	LR	LR	20 03 27.1	
	comp=Z,411nm,19.1s,baz=328,slow=39						
BR101	**Keskin Array S**	**88.13**	**311**	*e*P	**P**	**19 22 16.2**	**+1.3**
BRTR	**Keskin Array B**	**88.13**	**311**	P	**P**	**19 22 16.3**	**+1.3**
	0.5nm,0.7s,baz=127,slow=9.2,SNR=4.3						

MAN 14 19:17:37.1, 13°.14N×120°.52E, h21km, mb4.2, ML3.0, MS2.7, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.56**	**50**	*i* P	Pb	19 17 46.7	-1.5
PGP				*i* S	Sb	19 17 52.8	-3.0
LUBP	**Lubang**	**0.65**	**336**	*e*P	Pb	19 17 50.2	+0.4
LUBP				*e*S	Sb	19 17 59.5	+1.1
SJMP	**San Jose**	**0.89**	**139**	*e*P	Pn	19 17 54.4	0.0
SJMP				*e*S	Sn	19 18 07.2	+0.5
BUSP	**Coron**	**1.17**	**195**	*e*P	Pb	19 17 58.9	+0.3
BUSP				*e*S	Sn	19 18 14.8	+1.3
BOAC	**Boac**	**1.33**	**76**	*e*P	Pn	19 17 59.7	-0.7
BOAC				*e*S	Sb	19 18 19.1	+1.2
OTRP	**Odiongan**	**1.66**	**118**	*e*P	Pn	19 18 05.1	+0.1
OTRP				*e*S	Sn	19 18 25.1	-0.5
GQP	**Guinayangan**	**2.02**	**68**	*e*P	Pn	19 18 11.0	+1.0
GQP				*e*S	Sn	19 18 33.2	-1.5
POLP	**Polilio Island**	**2.10**	**41**	*e*P	Pn	19 18 12.5	+1.6
POLP				*e*S	Sb	19 18 40.0	0.0
AUQP	**San Andres**	**2.11**	**85**	*e*P	Pb	19 18 17.6	+3.0
AUQP				*e*S	Sb	19 18 45.2	+4.8
ENPP	**El Nido**	**2.20**	**209**	*e*P	Pn	19 18 13.1	+0.8
ENPP				*e*S	Sn	19 18 38.6	-0.3
CUYO	**Cuyo Island**	**2.33**	**168**	*e*P	Pn	19 18 14.3	+0.2
CUYO				*e*S	Sn	19 18 41.8	-0.3
RCP	**Roxas**	**2.68**	**126**	*e*P	Pb	19 18 25.2	+0.8
BALP	**Baler**	**2.78**	**21**	*e*P	Pn	19 18 21.3	+0.9
SMPP	**San Manuel, Pa**	**3.00**	**3**	*e*P	Pn	19 18 23.6	+0.2
GUIM	**Jordan**	**3.22**	**141**	*e*P	Pn	19 18 27.6	+1.2
GUIM				*e*S	Sn	19 19 04.9	+0.8
APYP	**Conner**	**4.75**	**8**	*e*P	Pn	19 18 51.8	+4.3

ISCJB ***14*** *19:18:15.0±0.6, 0°.77N±0°.02×92°.40E±0°.02, h15km±4km, mb5.4/296, MS5.2/501, Error ellipse: s-maj=3.4km s-min=2.7km az=25.6*
BJI ***14*** *19:18:15.8±0.0, 0°.80N×92°.27E, h17km, mb5.2/74, mB5.3/63, Ms5.5/91, Ms7 5.2/81*
NEIC ***14*** *19:18:16.0±0.0, 0°.65N×92°.56E, h23km, Moment Tensor Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.07; $M_{\theta\theta}$=1.12; $M_{\phi\phi}$ 1.20; $M_{r\theta}$=1.13; $M_{\theta\phi}$=2.91; $M_{\phi r}$0.40; Best double couple: M_0=3.40000×10^{17} NP1:ϕ_s281.00000°, δ88.00000°, λ159.00000°. NP2:ϕ_s11.00000°, δ69.00000°, λ2.00000°. Principal axes: T 3.4400, Plg15.0000°, Azm234.0000°; N -0.1800, Plg69.0000°, Azm95.0000°; P -3.2600, Plg13.0000°, Azm327.0000°;*
NEIC ***14*** *19:18:16.6±1.8, 0°.77N×92°.40E, h17km±2km, mb5.6/163, MS5.3/454, MW5.7, MW5.6 Error ellipse: s-maj=11.6km s-min=10.3km az=209.0, Moment Tensor Solution. s49 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.19; $M_{\theta\theta}$-1.78; $M_{\phi\phi}$1.97; $M_{r\theta}$-0.40; $M_{\theta\phi}$-3.49; $M_{\phi r}$0.06; Best double couple: M_0=4.00000×10^{17} NP1:ϕ_s104.00000°, δ89.00000°, λ-174.00000°. NP2:ϕ_s14.00000°, δ84.00000°, λ-1.00000°. Principal axes: T 4.0700, Plg3.0000°, Azm239.0000°; N -0.1800, Plg84.0000°, Azm113.0000°; P -3.9000, Plg5.0000°, Azm329.0000°;*
MOS ***14*** *19:18:17.1±0.9, 0°.87N×92°.46E, h27km, mb5.8/87, MS5.0/43 Error ellipse: s-maj=6.1km s-min=3.5km az=118.0*
KLM ***14*** *19:18:17.0, 0°.77N×92°.42E, h10km, mb5.7*
IDC ***14*** *19:18:18.5±3.1, 0°.78N±2°.39E, h26km±20km, mb4.9/42, mb1 5.0/45, mb1mx5.0/47, mbtmp5.1/45, ML5.3/3, MS5.0/47, Ms1 4.9/47, ms1mx4.8/62, Error ellipse: s-maj=9.5km s-min=7.5km az=74.0*
GCMT ***14*** *19:18:18.6±0.1, 0°.78N±0°.01×92°.49E±0°.01, h34km, MW5.7/115, Moment Tensor Solution. s101, c188; s115, c336; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.28±.04; $M_{\theta\theta}$-1.71±.04; $M_{\phi\phi}$ 1.99±.04; $M_{r\theta}$-1.07±.06; $M_{\theta\phi}$-3.47±.03; $M_{\phi r}$-0.81±.07; Best double couple: M_0=4.16000×10^{17} NP1:ϕ_s13.00000°, δ78.00000°, λ-15.00000°. NP2:ϕ_s106.00000°, δ75.00000°, λ-168.00000°. Principal axes: T 4.0770, Plg2.0000°, Azm59.0000°; N 0.1640, Plg71.0000°, Azm155.0000°; P -4.2420, Plg19.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
DJA ***14*** *19:18:19.7±0.8, 1°.N±3°×9°.3E±°, h28km±6km, M5.5/65, mB5.8/38, mb5.5/65, MLv6.2/6, Mw(mB)5.4/38, Mwp6.3/3*

ISC 14 19:18:18.4±0.4, 0°.79N±0°.03×92°.43E±0°.03, h27km±2km, h27km:pP-P, n1449, σ1.36/1302, mb5.5/300, MS5.2/501, 66C-88D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.17**	**84**	*e*Pn	**Pn**	**19 19 34.3**	**+0.1**
GSI	**Gunungsitoli**	**5.17**	**84**	P	**Pn**	**19 19 34.6**	**+0.5**
GSI				S	**Sn**	**19 20 29.6**	**-3.4**
LHMI	**Lhok Sumawe**	**6.31**	**46**	*e*Pn	**Pn**	**19 19 51.0**	**+1.2**
LHMI	**Lhok Sumawe**	**6.31**	**46**	P	**Pn**	**19 19 51.5**	**+1.7**
	10μm,0.9s,83μm36μm29nm						
PSI	**Prapat**	**6.80**	**73**	*e*Pn	**Pn**	**19 19 56.2**	**-0.4**
PSI	**Prapat**	**6.80**	**73**	*e*P	**Pn**	**19 19 56.2**	**-0.4**
PSI	**Prapat**	**6.80**	**73**	Pn	**Pn**	**19 19 56.7**	**+0.1**
	86nm,0.3s,baz=278,slow=1.1,SNR=138						
PSI				Sn	**Sn**	**19 21 10.6**	**-2.5**
	61

comp=Z,265nm,1.0s
CM31 Chiang Mai Arr 18.69 20 P Pn 19 22 35.4 +0.1
SNR=82
CMAR Chiang Mai Arr 18.69 20 *e*P P 19 22 34.6 -0.2
CMAR Chiang Mai Arr 18.69 20 *e*P P 19 22 34.6 -0.2
CMAR Chiang Mai Arr 18.69 20 P Pn 19 22 35.4 +0.1
comp=Z,2.1nm,0.3s,baz=215,slow=13,SNR=170
CMAR S **Sn 19 26 04.7 +1.0**
comp=Z,0.2nm,0.3s,baz=206,slow=16,SNR=2.8
CMAR LR LR 19 30 12.5
comp=Z,2μm,18.4s,baz=221,slow=38
LAMP Lampang 18.99 21 P Pn 19 22 40.1 +1.2
comp=Z,338μm,0.9s
CHTO Chiang Mai 19.02 19 *e*P P 19 22 38.5 +0.1
comp=Z,160nm,1.0s
CHTO Chiang Mai 19.02 19 *e*P P 19 22 38.5 +0.1
CHTO pmax pmax
comp=Z,160nm,1.0s
CHTO Chiang Mai 19.02 19 P Pn 19 22 39.0 -0.3
SNR=53
CMMT Chiang Mai 19.02 19 P Pn 19 22 39.4 +0.1
comp=Z,94nm,1.0s,comp=Z,1μm
DLV T Lat 19.41 55 *e*P Pn 19 22 43.7 -0.5
comp=Z,669nm,1.2s
PBKI Pangkalan Bun 19.55 100 P Pn 19 22 46.5 +0.8
SMRI Semarang 19.59 114 *e*P Pn 19 22 47.5 +1.4
comp=Z,326nm,1.0s
SMRI Semarang 19.59 114 P Pn 19 22 48.5 +2.4
SKNT Sakolnakorn 19.70 35 P P 19 22 46.2 +0.3
comp=Z,222nm,1.2s,comp=Z,7μm
SBUM Sibu 19.85 85 *e*P Pn 19 22 48.5 -0.8
comp=Z,215nm,1.1s
SBUM Sibu 19.85 85 P Pn 19 22 49.0 -0.3
UGM Wanagama 20.01 116 *e*P Pn 19 22 50.5 -0.6
comp=Z,442nm,1.5s
UGM LR LR
comp=Z,3μm,19.0s
UGM Wanagama 20.01 116 P Pn 19 22 53.8 +2.7
NONG Nongkai 20.14 31 P P 19 22 51.5 +0.8
comp=Z,7.0nm,1.1s,comp=Z,231nm
PANO Nakornpanom 20.20 36 P P 19 22 51.9 +0.6
comp=Z,8.2nm,1.0s,comp=Z,142nm
NGJI Ngawi 20.64 113 P Pn 19 23 01.5 +3.0
PCJI Pacitan 20.71 116 P Pn 19 23 00.1 +0.7
PWJI Pagerwojo 21.21 115 P P 19 23 05.2 +2.9
GRJI Gresik 21.42 111 P P 19 23 10.7 +6.1
HYB Hyderabad 21.43 321 *i* P **P 19 23 06.0 +1.3**
comp=Z,320nm,1.0s
HYB *e*S **S 19 27 00.0 -1.4**
DGAR Diego Garcia 21.52 247 *e*P P 19 23 06.5 +0.9
comp=Z,783nm,1.0s
DGAR Diego Garcia 21.52 247 *d i*P **P 19 23 06.9 +1.3**
DGAR pmax pmax
comp=Z,1μm,1.7s
DGAR Diego Garcia 21.52 247 P P 19 23 06.5 +0.9
SNR=5.8
H08S2 Diego Garcia H 21.57 247 T T 19 44 39.9
baz=70,slow=74
H08S3 Diego Garcia H 21.57 247 T T 19 44 39.9
baz=70
H08S1 Diego Garcia H 21.59 247 T T 19 44 39.9
baz=70,slow=74
BRDH Bariadhala 21.77 358 P P 19 23 09.1 +0.9
comp=Z,90nm,0.3s,baz=134,slow=4.2,SNR=6.9
BRDH S **S 19 27 09.2 +1.4**
comp=Z,88nm,0.4s,baz=200,slow=23,SNR=3.5
BRDH LR LR 19 33 38.5
comp=Z,10μm,19.1s,baz=166,slow=42
H08N1 Diego Garcia H 22.52 251 P P 19 23 13.4 -2.6
baz=112,slow=5.8,SNR=8.3
H08N2 Diego Garcia H 22.52 251 P P 19 23 15.3 -0.8
baz=112,slow=5.8,SNR=7.6
MTKI Muara Teweh, K 22.54 94 P P 19 23 17.4 +0.9
H08N3 Diego Garcia H 22.54 251 P P 19 23 17.0 +0.8
baz=112,slow=5.8,SNR=8.0
KMMI Kalianget 22.86 110 P P 19 23 32.6 +13
SLVN Son La 23.29 28 *e*P P 19 23 25.6 +1.3
comp=Z,84nm,0.8s
SLVN LR LR
comp=Z,5μm,19.0s
JAGI Jajag, Banyuwa 23.53 113 *e*P P 19 23 26.1 -0.5
comp=Z,64nm,1.0s
JAGI LR LR
comp=Z,4μm,18.0s
KKM Kota Kinabalu 24.31 77 *e*P P 19 23 34.3 +0.2
comp=Z,153nm,0.8s
KKM LR LR
comp=Z,4μm,19.0s
KKM Kota Kinabalu 24.31 77 P P 19 23 35.0 +0.9
BKB Balikpapan 24.55 95 P P 19 23 38.6 +2.3
SHL Shillong 24.64 359 *e*P P 19 23 35.9 -1.3
comp=Z,198nm,0.7s
SHL LR LR
comp=Z,3μm,21.0s
SHL Shillong 24.64 359 *e*P P 19 23 37.0 -0.1
SHL *e*S **S 19 28 00.0 +2.8**
QIZ Qiongzhong 24.91 42 P P 19 23 40.3 +0.9
QIZ sP **pP 19 23 46.0 +0.1**
QIZ S **S 19 28 04.5 +3.2**
QIZ sS **sS 19 28 10.8 -1.3**
QIZ pmax pmax
comp=Z,19nm,0.9s
QIZ pmax pmax
comp=Z,590nm,4.3s
QIZ LR LR
comp=Z,6μm,18.1s
QIZ LR LR
comp=Z,6μm,19.6s
QIZ LR LR
comp=Z,4μm,15.2s
QIZ Qiongzhong 24.91 42 *e*P P 19 23 39.8 +0.4
comp=Z,99nm,1.3s
SGKI Sangatta, Kali 25.21 93 P P 19 23 45.0 +2.8
JBP Jabalpur 25.32 332 *e*P P 19 23 44.9 +1.8
JBP *e*S **S 19 28 12.0 +4.3**
KMI Kunming 26.17 22 P P 19 23 53.6 +2.6
KMI pP sP 19 24 00.4 +0.1
KMI sP pwP 19 24 07.0 +3.6
KMI S **S 19 28 25.0 +3.4**
KMI sS sS 19 28 36.3 +3.9
KMI pmax pmax
comp=Z,52nm,1.1s
KMI pmax pmax
comp=Z,180nm,3.2s
KMI LR LR
comp=Z,3μm,16.2s
KMI LR LR
comp=Z,6μm,14.9s
KMI LR LR
comp=Z,3μm,14.7s
KMI Kunming 26.17 22 *e*P P 19 23 52.9 +1.9
comp=Z,74nm,1.0s
KMI LR LR
comp=Z,2μm,19.0s
RAMN Ramite 26.61 348 *e*P P 19 23 56.7 +1.7
comp=Z,1μm,1.3s
JIRN Jiri 27.38 348 *e*P P 19 24 03.3 +1.2
comp=Z,1μm,1.2s
PKI Pulchoki 27.47 346 *e*P P 19 24 03.4 +0.6
comp=Z,807nm,1.6s
MPSI Mapaga 27.47 91 P P 19 24 02.8 +0.1
PKIN Phulchoki 27.48 346 *e*P P 19 24 03.5 +0.7
DMN Daman 27.58 346 *e*P P 19 24 04.5 +0.8
comp=Z,423nm,1.4s
TTSI Tana Toraja 27.65 98 P P 19 24 04.4 +0.2
KKN Kakani 27.71 346 *e*P P 19 24 05.7 +0.8
comp=Z,862nm,1.6s
SPSI Sidrap Palu 27.73 100 P P 19 24 09.5 +4.5
comp=Z,15nm,0.9s,comp=Z,441nm
KAPI Kappang 27.90 102 *e*P P 19 24 06.8 +0.3
comp=Z,48nm,1.0s
KAPI LR LR
comp=Z,3μm,19.0s
KAPI Kappang 27.90 102 P P 19 24 07.1 +0.6
comp=Z,3.8nm,0.4s,baz=288,slow=12,SNR=4.7
GKN Gorkha 28.07 345 *e*P P 19 24 09.1 +1.1
KOLN Koldanda 28.13 343 *e*P P 19 24 09.7 +1.1
comp=Z,336nm,1.3s
BNSI Bone 28.13 101 P P 19 24 10.1 +1.5
BKSI Bulukumba 28.32 103 P P 19 24 11.4 +1.2
PYUN Piuthan 28.62 342 *e*P P 19 24 13.8 +0.8
comp=Z,549nm,1.1s
DANN Dangsing 28.64 344 *e*P P 19 24 13.6 +0.4
comp=Z,297nm,1.0s
LSA Lhasa 28.78 358 *e*P P 19 24 16.3 +1.7
comp=Z,135nm,0.8s
LSA LR LR
comp=Z,20μm,22.0s
LSA Lhasa 28.78 358 P P 19 24 16.6 +1.9
LSA Lhasa 28.78 358 P P 19 24 16.6 +1.9
GYA Guiyang 28.97 27⇑ *i*P **P 19 24 17.9 +1.9**
GYA PP **PnPn 19 25 11.0 +2.7**
GYA S **S 19 29 05.9 +0.3**
GYA ScP **ScP 19 31 05.9 +1.4**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,330nm,8.0s
GYA LR LR
comp=Z,4μm,17.8s
GYA LR LR
comp=Z,6μm,20.8s
GYA LR LR
comp=Z,4μm,16.7s
MRSI Marisa 29.51 90 P P 19 24 20.7 -0.2
GZH Guangzhou 30.07 41 P P 19 24 32.0 +6.4
GZH PP **PP 19 25 29.9 -3.9**
GZH S S 19 29 33.8 +11
GZH LR LR
comp=Z,7μm,15.7s
GZH LR LR
comp=Z,7μm,17.2s
LUWI Luwuk 30.40 93 *e*P P 19 24 28.4 -0.3
comp=Z,158nm,1.1s
LUWI LR LR
comp=Z,3μm,19.0s
LUWI Luwuk 30.40 93 P P 19 24 27.0 -1.7
MMRI Maumere 31.15 108 PFAKE 19 24 50.0 +15
MMRI LR LR
comp=Z,2μm,20.0s
TGY Tagaytay City 31.15 64 P P 19 24 37.0 +1.6
TGY Tagaytay City 31.15 64 P P 19 24 37.0 +1.6
comp=Z,135nm,0.4s,baz=243,slow=2.7,SNR=8.8
GIRL Giralia 31.52 139 *e*P P 19 24 40.4 +1.9
comp=Z,294nm,1.4s
KMSI Cibinong 31.55 90 P P 19 24 40.6 +1.7
CD2 Chengdu 31.83 19 P P 19 24 41.6 +0.5
CD2 sP pP 19 24 47.4 -0.3
CD2 PP **PnPn 19 25 44.0 -2.1**
CD2 PcP **PcP 19 27 31.5 -0.4**
CD2 S **S 19 29 49.9 -0.2**
CD2 sS sS 19 30 02.3 +1.3
CD2 pmax pmax
comp=Z,130nm,1.0s
CD2 pmax pmax
comp=Z,470nm,8.4s
CD2 LR LR
comp=Z,4μm,15.8s
CD2 LR LR
comp=Z,6μm,14.8s
CD2 LR LR
comp=Z,4μm,16.9s
RCP Roxas 31.94 69‖ *e*P **P 19 24 43.9 +1.6**
CTBH Cotabato--PC H 32.36 78⇑ *i*P **P 19 24 46.6 +0.7**
CGP Cagayan de Oro 33.03 76 *e*P P 19 24 52.9 +1.1
SGSI Sangihe 33.20 85 P P 19 24 55.3 +2.0
SOEI Soe 33.38 109 *e*P P 19 24 52.8 -2.3
comp=Z,54nm,0.9s
SOEI LR LR
comp=Z,4μm,22.0s
SOEI Soe 33.38 109 P P 19 24 52.5 -2.6
ENH Enshi 33.51 27 *e*P P 19 24 55.8 0.0
comp=Z,107nm,1.1s
ENH LR LR
comp=Z,4μm,19.0s
DAV Davao City (W) 33.64 78 *e*P P 19 24 57.7 +0.6
comp=Z,203nm,0.6s
DAV Davao City (W) 33.64 78⇑ *i*P **P 19 24 57.0 -0.2**
DAV Davao City (W) 33.64 78 P P 19 24 57.8 +0.6
comp=Z,176nm,0.4s,baz=72,slow=2.2,SNR=5.7
DAV LR LR 19 39 17.7
comp=Z,2μm,21.5s,baz=257,slow=37
SANI Sanana 33.67 95 P P 19 24 57.1 -0.4
comp=Z,35nm,1.5s
BHK Bhakra 34.02 335 *e*P P 19 25 03.0 +2.7
KNMB Chin-men Tao 34.43 45 PFAKE 19 25 20.0 +16
KNMB LR LR
comp=Z,3μm,18.0s
MBWA Marble Bar 34.47 131 *e*P P 19 25 04.4 +0.1
comp=Z,49nm,1.1s
MBWA LR LR
comp=Z,2μm,20.0s
PSAD1 Pilbara Seismi 34.72 131 PFAKE 19 25 20.0 +14
PSAD1 LR LR
comp=Z,4μm,19.0s
PSAC1 Pilbara Seismi 34.75 131 PFAKE 19 25 20.0 +13
PSAC1 LR LR
comp=Z,3μm,19.0s
PSAB1 Pilbara Seismi 34.78 131 PFAKE 19 25 20.0 +13
PSAB1 LR LR
comp=Z,3μm,18.0s
PSAD3 Pilbara Seismi 34.79 131 PFAKE 19 25 20.0 +13
PSAD3 LR LR
comp=Z,3μm,19.0s
PSAA1 Pilbara Seismi 34.79 131 PFAKE 19 25 20.0 +13
PSAA1 LR LR
comp=Z,3μm,18.0s
PSAA2 Pilbara Seismi 34.79 131 PFAKE 19 25 20.0 +13
PSAA2 LR LR
comp=Z,3μm,19.0s
PSA00 Pilbara Seismi 34.80 131 *e*P P 19 25 07.0 -0.1
comp=Z,51nm,1.0s
PSA00 LR LR
comp=Z,3μm,19.0s
PSAB2 Pilbara Seismi 34.80 131 PFAKE 19 25 20.0 +13
PSAB2 LR LR
comp=Z,3μm,19.0s
PSAA3 Pilbara Seismi 34.81 131 PFAKE 19 25 20.0 +13
PSAA3 LR LR
comp=Z,3μm,18.0s
PSAC3 Pilbara Seismi 34.81 131 PFAKE 19 25 20.0 +13
PSAC3 LR LR
comp=Z,3μm,19.0s
PSAB3 Pilbara Seismi 34.82 131 PFAKE 19 25 20.0 +13
PSAB3 LR LR
comp=Z,3μm,19.0s
PSAC2 Pilbara Seismi 34.84 131 PFAKE 19 25 20.0 +13
PSAC2 LR LR
comp=Z,3μm,19.0s
QZH Quanzhou 34.87 44⇑ *i*P **P 19 25 08.9 +1.2**
QZH PP **PP 19 26 28.1 +1.0**
QZH S **S 19 30 39.5 +2.1**
QZH pmax pmax
comp=Z,30nm,0.9s
QZH pmax pmax
comp=Z,400nm,7.8s
QZH LR LR
comp=Z,4μm,17.5s
QZH LR LR
comp=Z,1μm,16.6s
QZH LR LR
comp=Z,3μm,13.7s
TNTI Ternate 34.94 90 *e*P P 19 25 07.2 -1.2
comp=Z,77nm,1.5s
TNTI LR LR
comp=Z,500nm,22.0s
TNTI Ternate 34.94 90 P P 19 25 07.8 -0.6
comp=Z,26nm,1.6s
TPUB Ta-pu 35.36 49 *e*P P 19 25 11.8 -0.2
comp=Z,40nm,1.3s
TPUB LR LR
comp=Z,2μm,18.0s
TWG Pinlang 35.42 50 *e*P P 19 25 14.4 +1.9
comp=Z,255nm,1.3s
TWG LR LR
comp=Z,6μm,18.0s
SSLB Suanglung 35.88 48 *e*P P 19 25 17.5 +1.0
comp=Z,47nm,1.3s
SSLB LR LR
comp=Z,2μm,19.0s
YULB Yu-li 35.91 49 *e*P P 19 25 18.3 +1.6
comp=Z,28nm,0.9s
YULB LR LR
comp=Z,3μm,19.0s
WHN Wuhan 36.18 33⇑ *i*P **P 19 25 20.1 +1.3**
WHN PP **PP 19 26 42.8 +1.3**
WHN PcP **PcP 19 27 44.1 -0.1**
WHN S **S 19 31 00.0 +2.7**
WHN pmax pmax
comp=Z,79nm,1.0s
WHN LR LR
comp=Z,9μm,15.5s
WHN LR LR
comp=Z,7μm,15.8s
WHN LR LR
comp=Z,8μm,13.8s
XAN Xi'an 36.51 23 P P 19 25 22.0 +0.3
XAN S **S 19 30 59.5 -2.9**
XAN SS **SnSn 19 33 29.4 -3.2**
XAN pmax pmax
comp=Z,99nm,1.2s
XAN pmax pmax
comp=Z,250nm,3.6s
XAN LR LR
comp=Z,4μm,20.6s
XAN LR LR
comp=Z,5μm,17.9s
XAN LR LR
comp=Z,2μm,12.8s
XAN Xi'an 36.51 23 *e*P P 19 25 21.6 -0.1
comp=Z,90nm,0.9s
XAN LR LR
comp=Z,2μm,20.0s
NACB Ninganchiao 36.58 48 *e*P P 19 25 24.1 +1.7
comp=Z,27nm,0.9s
NACB LR LR
comp=Z,3μm,19.0s
LZH Lanzhou 36.69 16 *e*P P 19 25 23.6 +0.3
LZH pP pP 19 25 26.3 -3.7
LZH PP **PP 19 26 49.5 +2.3**
LZH PcP **PcP 19 27 46.0 +0.2**
LZH S **S 19 31 02.5 -2.8**
LZH SS **SnSn 19 33 30.1 -6.9**
LZH pmax pmax
comp=Z,61nm,1.3s
LZH pmax pmax
comp=Z,210nm,4.3s
LZH LR LR
comp=Z,3μm,17.6s
LZH LR LR
comp=Z,6μm,17.3s
LZH LR LR
comp=Z,4μm,17.6s
YHNB Yeheng 36.71 47 *e*P P 19 25 25.8 +2.2
comp=Z,43nm,1.1s
YHNB LR LR
comp=Z,2μm,20.0s
TATO Taipei 36.97 47 *e*P P 19 25 26.8 +1.1
comp=Z,79nm,1.3s
TATO LR LR
comp=Z,2μm,20.0s
MEEK Meekatharra 37.15 139 P P 19 25 28.0 +0.8
baz=37,SNR=26
MORW Morawa 37.30 145 *e*P P 19 25 29.6 +1.1
comp=Z,54nm,0.9s
MORW LR LR
comp=Z,3μm,19.0s
MORW Morawa 37.30 145 P P 19 25 29.9 +1.4
baz=38,SNR=22
MSEY Mahe Island 37.31 261 *e*P P 19 25 30.6 +1.8
comp=Z,88nm,0.9s
MSEY LR LR
comp=Z,2μm,18.0s
MSEY Mahe Island 37.31 261 P P 19 25 30.4 +1.6
MSEY Mahe Island 37.31 261 P P 19 25 30.4 +1.6
MSEY Mahe Island 37.31 261 *i* P **P 19 25 31.5 +2.7**
NIL Nilore 37.31 333 *e*P P 19 25 28.1 -0.4
comp=Z,166nm,1.1s
NIL LR LR
comp=Z,2μm,18.0s
FITZ Fitzroy Crossi 37.68 122 *e*P P 19 25 31.2 -0.5
comp=Z,78nm,1.0s
FITZ *e*PcP **PcP 19 27 49.0 0.0**
FITZ LR LR
comp=Z,1μm,19.0s
FITZ Fitzroy Crossi 37.68 122 P P 19 25 31.2 -0.5
baz=38,SNR=36
FITZ Fitzroy Crossi 37.68 122 P P 19 25 31.8 0.0
comp=Z,28nm,0.7s,baz=311,slow=5.9,SNR=67
FITZ PcP **PcP 19 27 49.4 +0.5**
comp=Z,14nm,1.0s,baz=288,slow=3.2,SNR=2.6
FITZ LR LR 19 41 12.8
comp=Z,1μm,20.4s,baz=311,slow=36
YOJ Yonaguni jima 37.81 49 PFAKE 19 25 40.0 +7.2
YOJ LR LR
comp=Z,2μm,20.0s
JLN Jalan Bani Buh 38.52 306 P P 19 25 40.1 +1.3
SNR=12
JLN P **P 19 25 40.1 +1.3**
SNR=12
BLDU Ballidu 38.84 146 P P 19 25 42.4 +0.9
baz=39,SNR=9.9
GTA Gaotai 39.03 9 P P 19 25 43.8 +0.8
GTA pP pP 19 25 48.3 -1.4
GTA sP sP 19 25 51.1 -1.3
GTA S **S 19 31 37.5 -3.2**
GTA pmax pmax
comp=Z,30nm,1.1s
GTA pmax pmax
comp=Z,270nm,6.2s
GTA LR LR
comp=Z,1μm,17.9s
GTA LR LR
comp=Z,2μm,18.6s
GTA LR LR
comp=Z,1μm,18.6s
DQM DQM 39.08 301 P P 19 25 45.0 +1.4
SNR=5.5
DQM P **P 19 25 45.0 +1.4**
SNR=5.5
MHTO MHTO 39.17 303 P P 19 25 44.8 +0.5
SNR=5.5
MHTO P **P 19 25 44.8 +0.5**
SNR=5.5
KNRA Kununurra 39.45 116 P P 19 25 45.7 -1.0
baz=40,SNR=16
MUN Mundaring 39.61 147 P P 19 25 48.6 +0.8
baz=40,SNR=15
WSAR Wadi Sarin 39.67 307 P P 19 25 50.0 +1.5
SNR=8.6
NJ2 Nanjing 39.87 36 *e*P P 19 25 51.1 +1.2
NJ2 pP **pP 19 25 55.8 -0.8**
NJ2 pP **sP 19 25 57.8 -1.5**
NJ2 S **S 19 31 56.3 +3.2**
NJ2 pmax pmax
comp=Z,26nm,0.7s
NJ2 pmax pmax
comp=Z,600nm,4.4s
NJ2 LR LR
comp=Z,5μm,19.6s
NJ2 LR LR
comp=Z,6μm,22.6s
NJ2 LR LR
comp=Z,2μm,21.6s
FAKI Fak Fak 39.98 95 *e*P P 19 25 49.9 -1.3
comp=Z,78nm,1.3s
FAKI Fak Fak 39.98 95 P P 19 26 04.1 +13
KBL Kabul 40.06 329 *e*P P 19 25 51.7 -0.2
comp=Z,55nm,1.3s
KBL LR LR
comp=Z,2μm,22.0s
KBL Kabul 40.06 329 P P 19 25 52.0 +0.2
KLBR Kellerberrin 40.17 146 P P 19 25 53.0 +0.6
baz=40,SNR=14
BIDO Bidbid 40.22 307 P P 19 25 54.6 +1.6
SNR=14
BIDO P **P 19 25 54.6 +1.6**
SNR=14
SSE Sheshan 40.63 39 P P 19 25 55.8 -0.5
SSE S **S 19 32 07.0 +2.4**
SSE pmax pmax
comp=Z,11nm,0.7s
SSE pmax pmax
comp=Z,67nm,3.7s
SSE LR LR
comp=Z,2μm,18.2s
SSE LR LR
comp=Z,2μm,17.3s
SSE Sheshan 40.63 39 PFAKE 19 26 10.0 +14
SSE LR LR
comp=Z,3μm,18.0s
MTN Manton Dam 40.71 111 P P 19 25 56.4 -0.8
baz=41,SNR=10
NWAO Narrogin (SRO) 40.89 147 *e*P P 19 25 58.5 +0.1
comp=Z,48nm,0.9s
NWAO *e*PcP **PcP 19 27 58.9 +0.1**
NWAO LR LR
comp=Z,3μm,19.0s
NWAO Narrogin (SRO) 40.89 147 P P 19 25 58.7 +0.3

baz=41,SNR=7.4
NWAO Narrogin (SRO) 40.89 147 P P 19 25 58.9 +0.4
comp=Z,40nm,0.9s,baz=323,slow=8.5,SNR=17
NWAO PcP **PcP 19 27 58.9 +0.1**
comp=Z,7.5nm,0.8s,baz=301,slow=5.9,SNR=2.2
HOQ Hoqain 40.90 306 P P 19 26 00.8 +2.1
SNR=7.5
KSH Kashi 41.37 341 P P 19 26 00.8 -1.6
KSH pP pP 19 26 04.5 -4.6
KSH PP **PnPn 19 27 40.9 -2.1**
KSH S **S 19 32 12.5 -3.2**
KSH SS **SS 19 35 11.1 -9.1**
KSH pmax pmax
comp=Z,110nm,0.8s
KSH LR LR
comp=Z,2μm,15.1s
KSH LR LR
comp=Z,3μm,16.9s
KSH LR LR
comp=Z,2μm,16.2s
SOHO SOHO 41.79 307 P P 19 26 07.0 +1.1
SNR=14
SOHO P **P 19 26 07.0 +1.1**
SNR=14
KDU Kakadu 41.92 110 P P 19 26 06.1 -1.0
baz=42,SNR=8.4
TIA Tai'an 42.04 30 P P 19 26 08.5 +0.7
TIA S **S 19 32 26.3 +0.9**
TIA LR LR
comp=Z,1μm,14.7s
TIA LR LR
comp=Z,2μm,16.2s
TIA LR LR
comp=Z,2μm,18.6s
RKGY Rocky Gully 42.06 149 P P 19 26 08.9 +0.9
baz=42,SNR=6.2
ALNE Al Ain 42.38 306 *i* P **P 19 26 12.2 +1.4**
SNR=14
ALNE Al Ain 42.38 306 *i* P **P 19 26 12.2 +1.4**
SNR=14
ASHO Ashiyiah 42.43 307 *i* P **P 19 26 12.4 +1.2**
SNR=10
ASHO Ashiyiah 42.43 307 *i* P **P 19 26 12.4 +1.2**
SNR=10
ASHO Ashiyiah 42.43 307 P P 19 26 12.4 +1.2
SNR=5.5
ASHO P **P 19 26 12.4 +1.2**
SNR=5.5
HATD Hatta, Dubai 42.44 307 *i* P **P 19 26 12.0 +0.8**
SNR=6.9
HATD Hatta, Dubai 42.44 307 *i* P **P 19 26 12.0 +0.8**
SNR=6.9
HATD Hatta, Dubai 42.44 307 P P 19 26 12.5 +1.3
SNR=8.7
HATD P **P 19 26 12.5 +1.3**
SNR=8.7
KMBL Kambalda 42.47 141 P P 19 26 11.8 +0.5
baz=43,SNR=14
MSFE Esma-Masafi 42.67 308 *i* P **P 19 26 14.9 +1.7**
SNR=6.8
MSFE Esma-Masafi 42.67 308 *i* P **P 19 26 14.9 +1.7**
SNR=6.8
BTO Baotou 42.73 20 *e*P **P 19 26 14.1 +0.6**
FAQ Al Faqa, Dubai 42.83 307 *i* P **P 19 26 15.0 +0.6**
SNR=7.3
FAQ Al Faqa, Dubai 42.83 307 *i* P **P 19 26 15.0 +0.6**
SNR=7.3
FAQ Al Faqa, Dubai 42.83 307 P P 19 26 15.4 +1.0
FAQ P **P 19 26 15.4 +1.0**
TARG Taragay, Kyrgy 42.84 344 *e*P **P 19 26 14.9 +0.2**
comp=Z,157nm,1.2s
TARG LR LR
comp=Z,2μm,20.0s
ASUD Al Ashush, Dub 42.99 306 P P 19 26 17.3 +1.6
ASUD P **P 19 26 17.3 +1.6**
WMQ Urumqi 43.05 355 *e*P **P 19 26 17.5 +1.5**
WMQ pP sP 19 26 25.3 -0.2
WMQ sP pwP 19 26 31.4 +2.8
WMQ PP **PP 19 28 00.6 +4.3**
WMQ S **S 19 32 41.4 +1.1**
WMQ sS sS 19 32 53.9 +2.5
WMQ pmax pmax
comp=Z,270nm,2.3s
WMQ pmax pmax
comp=Z,2μm,3.8s
WMQ LR LR
comp=Z,3μm,24.3s
WMQ LR LR
comp=Z,4μm,20.9s
WMQ LR LR
comp=Z,9μm,24.3s
WMQ Urumqi 43.05 355 *e*P **P 19 26 16.6 +0.5**
comp=Z,556nm,1.8s
WMQ LR LR
comp=Z,1μm,21.0s
GAR Garm 43.08 335 *e*P **P 19 26 15.2 -1.2**
comp=Z,263nm,1.2s
GAR LR LR
comp=Z,4μm,19.0s
NRN Naryn 43.10 342 *e*P **P 19 26 16.9 +0.1**
comp=Z,108nm,1.1s
NRN LR LR
comp=Z,5μm,22.0s
WRKA Warakurna 43.17 129 P P 19 26 17.6 +0.3
baz=43,SNR=13
CHGR Chuyangaron 43.31 333 PFAKE 19 26 30.0 +12
CHGR LR LR
comp=Z,6μm,18.0s
PRZ Przheval'sk 43.38 345 *e*P **P 19 26 19.9 +1.1**
comp=Z,269nm,1.1s
PRZ LR LR
comp=Z,2μm,20.0s
KDJ Kajisay 43.39 343 *e*P **P 19 26 18.7 -0.1**
comp=Z,161nm,1.1s
KDJ LR LR
comp=Z,3μm,21.0s
HHC Hu-ho-hao-te 43.49 21⇑*i*P **P 19 26 21.3 +1.7**
HHC sP pwP 19 26 32.9 +0.7
HHC S **S 19 32 49.8 +3.0**
HHC LR LR
comp=Z,3μm,14.3s
HHC LR LR
comp=Z,5μm,14.5s
HHC LR LR
comp=Z,4μm,13.5s
SHLS Shalkode 43.75 346*d i*P **P 19 26 21.4 -0.3**
SHLS *e* 19 28 04.4
SHLS *e*S **S 19 32 49.5 -1.1**
SHLS pmax pmax
comp=Z,229nm,1.9s
SHLS smax smax
comp=N,88nm,2.7s
SHLS MLR MLR
comp=Z,1μm,26.0s
SHLS Shalkode 43.75 346⇓*i*P **P 19 26 21.5 -0.3**
comp=Z,229nm,1.9s
SHLS *e*PP **PP 19 28 04.4 +0.5**
SHLS *e*S **S 19 32 49.6 -1.1**
comp=Z,88nm,2.7s
SHLS *e*LR LR 19 44 24.9
comp=Z,1μm,26.2s
ULHL Ulahol 43.77 343 P P 19 26 22.9 +1.0
SNR=6.1
UZB Uzynbulak 43.85 346*d i*P **P 19 26 22.6 +0.1**
UZB *e* 19 28 05.5
UZB *e*S **S 19 32 52.0 -0.1**
UZB pmax pmax
comp=Z,170nm,2.7s
UZB Uzynbulak 43.85 346⇓*i*P **P 19 26 22.7 +0.1**
comp=Z,170nm,2.7s
UZB *e*PP **PP 19 28 05.6 +0.6**
UZB *e*S **S 19 32 52.1 -0.1**
PDGK Podgornoye 43.91 346 P P 19 26 23.1 +0.1
PDGK pmax pmax
comp=Z,219nm,1.3s
SATY Saty 43.92 345*d i*P **P 19 26 23.4 +0.3**
SATY *e* 19 28 07.4
SATY *e*S **S 19 32 52.9 -0.2**
SATY pmax pmax
comp=Z,356nm,2.5s
SATY Saty 43.92 345⇓*i*P **P 19 26 23.4 +0.3**
comp=Z,356nm,2.5s
SATY *e*PP **PcP 19 28 07.4 -1.5**
SATY *e*S **S 19 32 53.0 -0.2**
KZA Kyzart 43.92 342 P P 19 26 23.9 +0.5
SNR=45

ZHN Zhinishke 44.01 345*d i*P **P 19 26 23.8 0.0**
ZHN *e* 19 28 07.4
ZHN pmax pmax
comp=Z,100nm,1.9s
ZHN Zhinishke 44.01 345⇓*i*P **P 19 26 23.8 0.0**
comp=Z,100nm,1.9s
ZHN *e*PP **PP 19 28 07.4 +0.7**
KPKS Kokpek 44.23 346 *e*PP PP 19 28 08.4 -0.5
KPKS *e*S **S 19 32 57.3 -0.3**
comp=Z,122nm,4.8s
UCH Uchtor 44.29 341 P P 19 26 27.0 +0.6
SNR=78
MDOK Medeo 44.38 344 *i* P **P 19 26 27.1 +0.3**
MDOK *e* 19 28 10.8
MDOK *e*S **S 19 32 59.3 -0.5**
MDOK pmax pmax
comp=Z,3μm,2.2s
MDOK smax smax
comp=E,505nm,2.1s
MDOK MLR MLR
comp=Z,890nm,21.0s
MDOK Medeo 44.38 344 *i* P **P 19 26 27.2 +0.3**
comp=Z,3μm,2.2s
MDOK *e*PP **PP 19 28 10.8 +0.2**
MDOK *e*S **S 19 32 59.4 -0.5**
comp=Z,505nm,2.1s
MDOK *e*LR LR 19 45 06.4
comp=Z,890nm,20.7s
AAA Alma-Ata 44.46 344 *e*P **P 19 26 25.6 -1.7**
AAA *e* 19 28 13.9
AAA *e*S **S 19 33 00.4 -0.4**
AAA pmax pmax
comp=Z,109nm,1.9s
AAA smax smax
comp=N,287nm,5.1s
AAA MLR MLR
comp=Z,1μm,23.0s
AAA Alma-Ata 44.46 344 *e*P **P 19 26 25.7 -1.7**
comp=Z,109nm,1.9s
AAA *e*PP **PP 19 28 13.9 +2.6**
AAA *e*S **S 19 33 00.4 -0.4**
comp=Z,288nm,5.1s
AAA *e*LR LR 19 45 17.3
comp=Z,1μm,22.9s
AML Almayashu 44.48 340 P P 19 26 28.6 +0.6
SNR=114
KBK Karagaybulak 44.54 342 P P 19 26 29.0 +0.9
SNR=98
TKM2 Tokmak 2 44.58 342 P P 19 26 28.7 +0.3
SNR=94
TKM2 Tokmak 2 44.58 342 *i* P **P 19 26 28.3 -0.2**
TKM2 pmax pmax
comp=Z,176nm,1.3s
BJT Baijiatuau 44.63 26 *e*P **P 19 26 29.4 +0.8**
comp=Z,60nm,0.9s
BJT LR LR
comp=Z,2μm,22.0s
BJI Beijing 44.65 26 P P 19 26 30.8 +2.0
BJI S **S 19 33 07.4 +3.9**
BJI pmax pmax
comp=Z,33nm,1.1s
BJI LR LR
comp=Z,910nm,19.4s
BJI LR LR
comp=Z,1μm,20.6s
AAK Ala-Archa 44.67 341 P P 19 26 29.8 +0.7
SNR=45
AAK Ala-Archa 44.67 341 *e*P **P 19 26 29.6 +0.6**
comp=Z,99nm,1.3s
AAK LR LR
comp=Z,4μm,22.0s
AAK Ala-Archa 44.67 341 *i* P **P 19 26 29.9 +0.7**
SNR=61
AAK Ala-Archa 44.67 341 *i* P **P 19 26 29.9 +0.7**
SNR=61
AAK Ala-Archa 44.67 341 *i* P **P 19 26 29.7 +0.6**
AAK pmax pmax
comp=Z,109nm,1.4s
AAK Ala-Archa 44.67 341 P P 19 26 29.8 +0.7
SNR=43
AAK P **P 19 26 29.8 +0.7**
SNR=43
AAK Ala-Archa 44.67 341 P P 19 26 29.3 +0.2
comp=Z,52nm,1.2s,baz=152,slow=5.8,SNR=78
AAK PcP **PP 19 28 12.5 -1.2**
comp=Z,6.4nm,0.7s,baz=179,slow=5.1,SNR=2.4
AAK LR LR 19 45 10.9
comp=Z,3μm,21.7s,baz=142,slow=36
FRU1 Bishkek 44.78 341 *e*P **P 19 26 30.1 +0.2**
comp=Z,150nm,1.4s
FRU1 LR LR
comp=Z,4μm,22.0s
CHMS Chumysh 44.91 342 P P 19 26 30.9 0.0
SNR=33
EKS2 Erkin-Say 44.92 340 P P 19 26 32.0 +0.9
SNR=67
USP Ospenovka 45.23 342 P P 19 26 33.8 +0.4
SNR=83
KUU Kurty 45.25 344*d i*P **P 19 26 33.1 -0.4**
KUU *e*S **S 19 33 11.2 -0.9**
KUU pmax pmax
comp=Z,410nm,1.9s
KUU smax smax
comp=N,205nm,4.2s
KUU MLR MLR
comp=Z,1μm,20.0s
KUU Kurty 45.25 344⇓*i*P **P 19 26 33.2 -0.4**
comp=Z,410nm,1.9s
KUU *e*S **S 19 33 11.3 -0.9**
comp=Z,205nm,4.2s
KUU *e*LR LR 19 45 58.8
comp=Z,1μm,20.5s
TDK Taldyqorghan 45.74 346 *i* P **P 19 26 36.9 -0.5**
TDK *e* 19 28 25.7
TDK *e*S **S 19 33 25.4 +6.2**
TDK pmax pmax
comp=Z,371nm,2.8s
TDK smax smax
comp=E,148nm,5.0s
TDK MLR MLR
comp=Z,1μm,23.0s
TDK Taldyqorghan 45.74 346 *i* P **P 19 26 36.9 -0.5**
comp=Z,371nm,2.8s
TDK *e*PP **PP 19 28 25.7 +0.8**
TDK *e*S **S 19 33 25.5 +6.2**
comp=Z,148nm,5.0s
TDK *e*LR LR 19 45 41.5
comp=Z,1μm,23.4s
IUG Iuzhnay 45.84 337*d i*P **P 19 26 38.3 -0.1**
IUG *e* 19 28 28.5
IUG pmax pmax
comp=Z,150nm,2.2s
IUG MLR MLR
comp=Z,689nm,19.0s
IUG Iuzhnay 45.84 337⇓*i*P **P 19 26 38.3 -0.1**
comp=Z,150nm,2.2s
IUG *e*PP **PP 19 28 28.6 +2.4**
IUG *e*LR LR 19 46 10.1
comp=Z,689nm,19.1s
JBG Jabagly 45.88 337*d i*P **P 19 26 38.5 -0.2**
JBG *e* 19 28 22.7
JBG *e*S **S 19 33 20.0 -1.5**
JBG pmax pmax
comp=Z,134nm,1.8s
JBG smax smax
comp=N,100nm,4.8s
JBG MLR MLR
comp=Z,649nm,17.0s
WR1 Warramunga Arr 45.94 119 *e*PcP **PcP 19 28 16.1 -0.1**
WRA Warramunga Arr 45.94 119 P **P 19 26 38.9 -0.6**
comp=Z,58nm,0.9s,baz=296,slow=8.5,SNR=139
WRA PcP **PcP 19 28 16.1 -0.1**
comp=Z,7.4nm,0.8s,baz=288,slow=2.3,SNR=4.1
WRA LR LR 19 47 38.9
comp=Z,768nm,18.8s,baz=325,slow=38
WRAB Tennant Creek 45.95 119 *e*P **P 19 26 39.0 -0.4**
comp=Z,78nm,0.8s
WRAB LR LR
comp=Z,1μm,20.0s
WRAB Tennant Creek 45.95 119*d i*P **P 19 26 39.1 -0.4**
WRAB pmax pmax
comp=Z,80nm,1.0s
WB2 Warramunga Arr 45.95 119 *e*P **P 19 26 39.1 -0.4**
comp=Z,82nm,0.8s
WB2 LR LR
comp=Z,1μm,20.0s
WR5 Warramunga Arr 46.02 119 PFAKE 19 26 50.0 +10

WR5 LR LR
comp=Z,900nm,20.0s
WR6 Warramunga Arr 46.05 119 PFAKE 19 26 50.0 +10
WR6 LR LR
comp=Z,900nm,20.0s
WR9 Warramunga Arr 46.10 119 PFAKE 19 26 50.0 +9.3
WR9 LR LR
comp=Z,1μm,22.0s
FORT Forrest 46.17 136 *e*P **P 19 26 41.2 +0.2**
comp=Z,84nm,0.9s
FORT Forrest 46.17 136 P P 19 26 41.3 +0.2
baz=46,SNR=9.2
DL2 Dalian 46.41 32 P P 19 26 44.8 +2.1
DL2 S **S 19 33 30.4 +1.5**
DL2 pmax pmax
comp=Z,48nm,1.0s
DL2 pmax pmax
comp=Z,400nm,3.9s
DL2 LR LR
comp=Z,1μm,17.2s
DL2 LR LR
comp=Z,2μm,19.5s
DL2 LR LR
comp=Z,2μm,15.7s
KK31 Karatay Array 46.47 338 *i* P **P 19 26 43.0 -0.2**
KK31 pmax pmax
comp=Z,138nm,1.4s
KKAR Karatay Array 46.47 338 *e*P **P 19 26 42.9 -0.4**
comp=Z,102nm,1.0s
KKAR *e*PP **PP 19 28 34.8 +2.1**
MK31 Makanchi Array 46.67 350 *i* P **P 19 26 44.5 -0.2**
MK31 pmax pmax
comp=Z,85nm,1.1s
MKAR Makanchi Array 46.67 350 P P 19 26 44.7 0.0
comp=Z,25nm,0.6s,baz=172,slow=8.3,SNR=222
MKAR PP **PP 19 28 38.6 +3.8**
comp=Z,27nm,1.1s,baz=173,slow=11,SNR=3.6
MKAR LR LR 19 50 10.2
comp=Z,1μm,18.4s,baz=164,slow=41
MAKZ Makanchi 46.74 350 *e*P **P 19 26 45.0 -0.2**
comp=Z,102nm,1.3s
MAKZ *e*PP **PP 19 28 33.2 -2.3**
MAKZ LR LR
comp=Z,2μm,19.0s
ZSN Zaisan 46.94 353*d i*P **P 19 26 47.8 +1.0**
ZSN *e* 19 28 36.8
ZSN *e*S **S 19 33 36.6 +0.3**
ZSN pmax pmax
comp=Z,122nm,3.0s
ZSN smax smax
comp=E,37nm,4.8s
ZSN MLR MLR
comp=Z,361nm,19.0s
ZSN Zaisan 46.94 353⇓*i*P **P 19 26 47.8 +1.0**
comp=Z,122nm,3.0s
ZSN *e*PP **PP 19 28 36.9 -0.7**
ZSN *e*S **S 19 33 36.6 +0.3**
comp=Z,37nm,4.8s
ZSN *e*LR LR 19 48 59.5
comp=Z,360nm,19.4s
BTLS Baital 46.97 342*d i*P **P 19 26 46.3 -0.7**
BTLS *e* 19 28 39.1
BTLS *e*S **S 19 33 32.1 -4.7**
BTLS pmax pmax
comp=Z,42nm,1.2s
BTLS smax smax
comp=E,36nm,3.4s
BTLS MLR MLR
comp=Z,752nm,20.0s
BTLS Baital 46.97 342⇓*i*P **P 19 26 46.4 -0.7**
comp=Z,42nm,1.2s
BTLS *e*PP **PP 19 28 39.1 +1.3**
BTLS *e*S **S 19 33 32.1 -4.7**
comp=Z,36nm,3.4s
BTLS *e*LR LR 19 45 50.1
comp=Z,752nm,19.9s
AS31 Alice Springs 47.05 124 *e*P **P 19 26 47.6 -0.5**
comp=Z,20nm,1.3s
AS31 *e*ScP **ScP 19 32 12.9 +0.6**
ASAR Alice Springs 47.05 124 *e*P **P 19 26 47.4 -0.6**
ASAR *e*PcP **PcP 19 28 20.0 0.0**
ASAR Alice Springs 47.05 124 P **P 19 26 47.9 -0.1**
comp=Z,14nm,0.9s,baz=298,slow=7.1,SNR=66
ASAR PcP **PcP 19 28 20.1 0.0**
comp=Z,13nm,0.8s,baz=294,slow=2.8,SNR=7.3
ASAR ScP **ScP 19 32 12.9 +0.6**
comp=Z,1.1nm,0.8s,baz=293,slow=4.7,SNR=3.3
ASAR LR LR 19 47 59.0
comp=Z,1μm,19.1s,baz=299,slow=38
GENI Genyem 47.85 94 P **P 19 26 53.3 -1.1**
comp=Z,118nm,1.1s
TJN Taejon 47.97 38*d i*P **P 19 26 55.8 +0.9**
JNU Nakatsue 48.35 44 *e*P **P 19 26 58.5 +0.4**
comp=Z,30nm,1.1s
JNU Nakatsue 48.35 44 P **P 19 26 58.8 +0.7**
comp=Z,7.4nm,0.9s,baz=304,slow=5.3,SNR=4.6
SONM Songino Array 48.41 13 *e*P **P 19 26 59.0 +0.7**
SONM Songino Array 48.41 13 P **P 19 26 58.7 +0.4**
comp=Z,52nm,1.0s,baz=196,slow=8.2,SNR=56
SONM LR LR 19 50 44.2
comp=Z,2μm,18.2s,baz=201,slow=40
ABPO Ambohimpanom 48.53 244 *e*P **P 19 27 00.6 +0.8**
comp=Z,65nm,1.0s
ABPO *e*PcP **PcP 19 28 25.3 -0.3**
ABPO LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 48.53 244 *i* P **P 19 27 00.9 +1.1**
ULN Ulaanbaatar 48.58 13 *e*P **P 19 27 00.1 +0.5**
comp=Z,34nm,1.1s
ULN LR LR
comp=Z,2μm,18.0s
ULN Ulaanbaatar 48.58 13*d i*P **P 19 27 00.2 +0.5**
ULN pmax pmax
comp=Z,57nm,1.7s
ULN Ulaanbaatar 48.58 13 P **P 19 27 00.4 +0.7**
SNR=22
ULN P **P 19 27 00.4 +0.7**
SNR=22
GEYT Alibeck 48.59 324 *e*P **P 19 27 00.4 +0.6**
GEYT Alibeck 48.59 324 P **P 19 27 00.8 +1.0**
comp=Z,59nm,1.0s,baz=142,slow=7.5,SNR=112
GEYT LR LR 19 49 29.9
comp=Z,2μm,18.1s,baz=170,slow=38
GYA0B ALIBECK ARRAY 48.59 324 *e*P **P 19 27 00.3 +0.5**
comp=Z,104nm,1.0s
GYA0B LR LR
comp=Z,3μm,18.0s
DGZ Jazzator, Alta 48.92 356*d i*P **P 19 27 03.0 +0.8**
DGZ pmax pmax
comp=Z,16nm,1.2s
KS15 Wonju Array Si 48.97 38 *e*P **P 19 27 04.2 +1.6**
KSAR Wonju Array Be 48.97 38 *e*P **P 19 27 02.9 +0.3**
KSRS Korea Array 49.00 38 P **P 19 27 03.5 +0.6**
comp=Z,10nm,0.7s,baz=227,slow=8.3,SNR=41
KSRS LR LR 19 50 31.9
comp=Z,2μm,18.1s,baz=234,slow=40
DAMY Dhamar 49.40 289 *e*P **P 19 27 07.1 +0.5**
comp=Z,58nm,1.1s
ZAK Zakamensk 50.27 9 *e*P **P 19 27 12.8 +0.3**
ZAK pmax pmax
comp=Z,17nm,1.3s
OTUK Ortayu 50.37 343 *i* P **P 19 27 13.3 +0.1**
OTUK pmax pmax
comp=Z,270nm,1.4s
QIS Mount Isa 50.79 117 P P 19 27 16.7 -0.1
baz=51,SNR=9.2
KURK Kurchatov 51.11 349 *e*P **P 19 27 18.1 -0.6**
comp=Z,160nm,1.2s
KURK LR LR
comp=Z,2μm,21.0s
KURK Kurchatov 51.11 349*d i*P **P 19 27 18.4 -0.3**
KURK pmax pmax
comp=Z,221nm,1.7s
KURK Kurchatov 51.11 349 P P 19 27 18.7 0.0
SNR=49
KURK P **P 19 27 18.7 0.0**
SNR=49
MOY Mondy 51.21 7 *e*P **P 19 27 20.6 +1.0**
TLY Talaya 51.59 9 *e*P **P 19 27 23.2 +1.0**
comp=Z,44nm,1.4s
TLY LR LR
comp=Z,799nm,19.0s
TLY Talaya 51.59 9*d i*P **P 19 27 23.6 +1.3**
TLY Talaya 51.59 9 P **P 19 27 23.8 +1.5**
SNR=12
TLY P **P 19 27 23.8 +1.5**
SNR=12

BRZS Berezniki 51.83 344 *d* iP **P 19 27 23.4 -0.7**
BRZS *e* 19 29 23.2
BRZS *e*S **S 19 34 44.0 -0.8**
BRZS pmax pmax
comp=Z,164nm,1.7s
BRZS smax smax
comp=N,74nm,3.3s
BRZS MLR MLR
comp=Z,750nm,16.0s
BRZS Berezniki 51.83 344 ⇓ *i* P **P 19 27 23.5 -0.7**
comp=Z,164nm,1.7s
BRZS *e*PP **PP 19 29 23.3 +1.1**
BRZS *e*S **S 19 34 44.1 -0.8**
comp=Z,74nm,3.3s
BRZS *e*LR LR 19 49 45.5
comp=Z,750nm,16.4s
CN2 Changchun 51.94 30 *e*P **P 19 27 26.9 +1.9**
CN2 *e*sP sP 19 27 33.9 -0.7
CN2 *e*S **S 19 34 48.4 +1.9**
CN2 SS **SS 19 38 23.3 -0.5**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,710nm,22.0s
IRK Irkutsk 52.23 9 *e*P **P 19 27 27.7 +0.7**
IRK *e* 19 29 30.7
IRK pmax pmax
comp=Z,95nm,2.7s
COEN Coen 52.34 108 PFAKE 19 27 40.0 +11
COEN LR LR
comp=Z,800nm,18.0s
BBOO Buckleboo 52.98 133 P **P 19 27 32.5 -0.5**
baz=53,SNR=7.6
ZAA0 Zalesovo Array 53.35 354 *e*P **P 19 27 34.9 -0.4**
comp=Z,173nm,1.3s
ZAA0 LR LR
comp=Z,2μm,19.0s
ZALV Zalesovo Beam 53.35 354 *e*P **P 19 27 34.5 -0.8**
ZALV Zalesovo Beam 53.35 354 P **P 19 27 35.1 -0.2**
comp=Z,32nm,0.6s,baz=182,slow=7.1,SNR=143
ZALV LR LR 19 54 19.2
comp=Z,1μm,19.2s,baz=250,slow=40
ZALV PKPPKP 19 57 50.4
comp=Z,1.7nm,0.8s,baz=288,slow=6.1,SNR=5.3
GUMO Guam 53.43 74 LR LR 19 50 15.9
comp=Z,389nm,20.6s,baz=244,slow=36
HIA Hailar 53.68 22 *e*P **P 19 27 38.5 +0.7**
comp=Z,33nm,1.1s
HIA LR LR
comp=Z,2μm,20.0s
INU Inuyama 53.85 45 *e*P **P 19 27 39.2 0.0**
comp=Z,20nm,0.9s
INU LR LR
comp=Z,2μm,21.0s
CIT Chita 54.05 16 *e*P **P 19 27 41.4 +0.9**
CIT *e* 19 27 48.1
CIT *e* 19 27 54.5
CIT pmax pmax
comp=Z,86nm,1.3s
FURI Furi 54.10 280 PFAKE 19 27 50.0 +8.1
FURI LR LR
comp=Z,900nm,20.0s
NVS Novosibirsk 54.40 353 ⇑ *i* P **P 19 27 42.6 -0.3**
NVS *e* 19 27 55.1
NVS *e*S **S 19 35 17.3 -2.3**
NVS pmax pmax
comp=Z,103nm,1.2s
NVS pmax pmax
comp=N,54nm,1.3s
NVS pmax pmax
comp=E,26nm,1.1s
NVS smax smax
comp=N,37nm,2.0s
NVS smax smax
comp=E,42nm,1.9s
MDJ Mudanjiang 54.65 32 P P 19 27 51.4 +6.5
MDJ pP sP 19 27 54.8 +0.3
MDJ sP pwP 19 27 55.8 -1.9
MDJ S **S 19 35 27.3 +4.0**
MDJ SS **SS 19 39 10.0 +3.5**
MDJ pmax pmax
comp=E,14nm,1.4s
MDJ pmax pmax
comp=E,560nm,4.6s
MDJ LR LR
comp=E,2μm,19.9s
MDJ LR LR
comp=E,3μm,16.7s
MDJ Mudanjiang 54.65 32 PFAKE 19 28 00.0 +15
MDJ LR LR
comp=Z,1μm,21.0s
LKRN Lenkeran, Azer 54.93 319 P **P 19 27 48.2 +1.1**
KMBO Kilima Mbogo 55.20 268 *e*P **P 19 27 49.7 -0.1**
KMBO *e*sP **P 19 27 50.1 +0.3**
KMBO LR LR
comp=Z,1μm,22.0s
KMBO Kilima Mbogo 55.20 268 *i* P **P 19 27 50.1 +0.3**
SNR=10
KMBO Kilima Mbogo 55.20 268 *i* P **P 19 27 50.1 +0.3**
SNR=10
KMBO Kilima Mbogo 55.20 268 P **P 19 27 51.1 +1.3**
SNR=6.1
KMBO P **P 19 27 51.1 +1.3**
SNR=6.1
KMBO Kilima Mbogo 55.20 268 P **P 19 27 50.2 +0.4**
comp=Z,8.7nm,0.7s,baz=59,slow=12,SNR=19
KMBO LR LR 19 47 42.3
comp=Z,988nm,19.6s,baz=93,slow=32
BRVK Borovoye 55.26 344 *e*P **P 19 27 47.6 -1.5**
comp=Z,74nm,1.3s
BRVK LR LR
comp=Z,3μm,22.0s
BRVK Borovoye 55.26 344 *d* iP **P 19 27 47.5 -1.7**
BRVK pmax pmax
comp=Z,43nm,1.1s
BRVK Borovoye 55.26 344 P **P 19 27 48.2 -1.0**
SNR=22
BRVK P **P 19 27 48.2 -1.0**
SNR=22
MJB9 Matsu-Tunnel 55.27 45 PFAKE 19 28 00.0 +10
MJB9 LR LR
comp=Z,2μm,19.0s
MAJO Matsushiro 55.27 45 *e*P **P 19 27 50.1 +0.5**
MAJO *e*PcP **PcP 19 28 51.2 +0.9**
MAJO LR LR
comp=Z,2μm,19.0s
MAJO Matsushiro 55.27 45 ⇓ *i* P **P 19 27 49.7 +0.1**
MAT Matsushiro 55.27 45 P **P 19 27 49.7 +0.1**
MAT S **S 19 35 33.0 +1.0**
MJAR Matsushiro Arr 55.27 45 *e*P **P 19 27 50.7 +1.1**
MJAR Matsushiro Arr 55.27 45 P **P 19 27 50.1 +0.5**
comp=Z,2.7nm,0.7s,baz=234,slow=7.4,SNR=10
MJAR PcP **PcP 19 28 51.2 +0.9**
comp=Z,4.7nm,1.0s,baz=254,slow=4.6,SNR=4.6
MJAR LR LR 19 52 09.8
comp=Z,2μm,21.1s,baz=250,slow=37
HTT Hallett 55.38 133 P **P 19 27 50.7 +0.2**
baz=56,SNR=5.7
PMG Port Moresby 55.43 102 P **P 19 27 51.5 +0.4**
comp=Z,9.0nm,0.7s,baz=343,slow=21,SNR=4.2
NAI Nairobi 55.66 268 PFAKE 19 28 00.0 +7.0
NAI LR LR
comp=Z,1μm,22.0s
USA0B Ussuriysk Arra 55.67 34 *e*P **P 19 27 52.9 +0.6**
comp=Z,18nm,0.9s
USA0B LR LR
comp=Z,1μm,20.0s
USRK Ussuriysk Ar. 55.67 34 *e*P **P 19 27 53.4 +1.0**
USRK Ussuriysk Ar. 55.67 34 P **P 19 27 53.6 +1.3**
comp=Z,6.3nm,0.9s,baz=231,slow=9.7,SNR=8.8
USRK LR LR 19 53 50.0
comp=Z,2μm,18.1s,baz=215,slow=38
AB31 Akbulak array 55.74 335 ⇑ *e*P **P 19 27 52.0 -0.7**
AB31 pmax pmax
comp=Z,107nm,1.3s
ABKAR Akbulak array 55.74 335 *e*P **P 19 27 51.7 -1.0**
comp=Z,113nm,1.3s
CTA Charters Tower 56.63 115 P **P 19 27 59.9 +0.3**
comp=Z,39nm,1.0s,baz=288,slow=8.9,SNR=28
CTA LR LR 19 54 51.6
comp=Z,710nm,18.5s,baz=294,slow=39
CTAO Charters Tower 56.63 115 *e*P **P 19 27 59.2 -0.5**
comp=Z,47nm,0.9s
CTAO LR LR
comp=Z,1μm,20.0s
STKA Stephens Creek 56.70 130 *e*P **P 19 27 59.2 -0.7**
comp=Z,6.6nm,1.0s
STKA LR LR
comp=Z,300nm,20.0s
STKA Stephens Creek 56.70 130 P **P 19 27 59.8 -0.1**
baz=57,SNR=12
STKA Stephens Creek 56.70 130 P **P 19 27 59.9 0.0**
comp=Z,20nm,0.9s,baz=307,slow=7.7,SNR=23
STKA LR LR 19 52 55.9
comp=Z,1μm,18.9s,baz=297,slow=37
MNGR Mingechevir, A 57.14 320 P **P 19 28 04.2 +1.4**
SEKA Sheki 57.30 320 P **P 19 28 04.9 +0.8**
NAX Nakhchivan 57.36 318 P **P 19 28 05.2 +0.6**
AKTO Aktyubinsk 57.45 335 LR LR 19 53 35.8
comp=Z,1μm,21.1s,baz=145,slow=37
GANJ Ganja 57.56 319 P **P 19 28 06.9 +1.0**
ZKTA Zakatala 57.89 321 P **P 19 28 09.5 +1.3**
MAK Makhachkala 58.06 322 *e*P **P 19 28 06.2 -3.1**
MAK *e*S **S 19 36 08.0 -0.6**
MAK pmax pmax
comp=Z,56nm,0.6s
MAK MLR MLR
comp=Z,525nm,15.0s
GNI Garni 58.35 318 *e*P **P 19 28 12.2 +0.6**
comp=Z,135nm,1.4s
GNI LR LR
comp=Z,1μm,20.0s
GNI Garni 58.35 318 *i* P **P 19 28 12.6 +1.0**
SNR=15
GNI Garni 58.35 318 *i* P **P 19 28 12.6 +1.0**
SNR=15
GNI Garni 58.35 318 *d* iP **P 19 28 12.3 +0.7**
GNI pmax pmax
comp=Z,536nm,1.3s
GNI Garni 58.35 318 P **P 19 28 12.6 +1.0**
SNR=14
GNI P **P 19 28 12.6 +1.0**
SNR=14
GNI Garni 58.35 318 LR LR 19 54 19.3
comp=Z,1μm,21.9s,baz=124,slow=37
TEY Ternei 58.80 35 ⇑ *e*P P 19 28 28.8 +14
TEY pmax pmax
comp=Z,20nm,0.7s
KLR Kul'dur 58.84 29 *d* iP **P 19 28 15.0 +0.4**
KLR pmax pmax
comp=Z,19nm,1.1s
KLR Kul'dur 58.84 29 P **P 19 28 15.4 +0.7**
comp=Z,12nm,1.0s,baz=254,slow=6.5,SNR=23
KLR LR LR 19 57 59.8
comp=Z,1μm,18.0s,baz=224,slow=40
ARPS Mount Arapiles 59.05 135 P **P 19 28 16.9 +0.5**
baz=59,SNR=12
TBLG Delisi 59.15 320 *e*P **P 19 28 17.7 +0.8**
comp=Z,238nm,1.3s
GROC Groznyy 59.24 322 ⇓ *i* P **P 19 28 17.7 +0.2**
GROC *e* 19 29 04.3
GROC *e* 19 30 31.6
GROC *e*S **S 19 36 21.6 -2.4**
GROC pmax pmax
comp=Z,164nm,1.2s
BOD Bodaibo 59.39 13 ⇑ *i* P **P 19 28 18.4 +0.1**
BOD pmax pmax
comp=Z,67nm,1.4s
CMSA Cobar Meteorol 59.77 128 P **P 19 28 21.5 +0.1**
baz=60,SNR=43
AKH Akhalkalaki 59.80 319 *e*P **P 19 28 22.2 +0.6**
comp=Z,104nm,1.4s
AKH LR LR
comp=Z,1μm,21.0s
ZEA Zeya 60.09 23 *e*P **P 19 28 23.1 -0.1**
ZEA *e*S **S 19 36 36.0 +1.5**
ZEA *e*PS **PnS 19 36 53.0 +3.3**
ZEA pmax pmax
comp=N,18nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA pmax pmax
comp=Z,200nm,8.0s
ZEA smax smax
comp=E,400nm,8.0s
ZEA smax smax
comp=N,300nm,7.0s
ZEA MLR MLR
comp=E,1μm,15.0s
ZEA MLR MLR
comp=Z,2μm,15.0s
ZEI Tsey 60.22 321 *e*P **P 19 28 23.8 -0.7**
ZEI pmax pmax
comp=Z,36nm,1.2s
RMQ Roma 60.61 121 P **P 19 28 28.4 +1.1**
baz=61,SNR=16
NCK Nalchik 60.77 321 ⇓ *i* P **P 19 28 28.5 +0.5**
NCK pmax pmax
comp=Z,94nm,1.4s
ASF Jabal al Asfar 60.84 307 LR LR 19 54 35.9
comp=Z,1μm,19.1s,baz=66,slow=36
NEY Neytrino 61.20 321 *d* iP **P 19 28 31.9 +0.8**
NEY pmax pmax
comp=Z,31nm,2.5s
ERM Erimo 61.27 41 PFAKE 19 28 40.0 +8.6
ERM LR LR
comp=Z,1μm,18.0s
KBZ Khabaz 61.32 321 P **P 19 28 32.3 +0.6**
comp=Z,35nm,1.1s,baz=114,slow=5.3,SNR=60
KBZ LR LR 19 57 14.4
comp=Z,676nm,19.8s,baz=122,slow=38
SVE Sverdlovsk 61.40 341 *c* iP **P 19 28 31.3 -0.7**
SVE *e*S **S 19 36 49.2 -2.0**
SVE pmax pmax
comp=Z,147nm,1.4s
SVE MLR MLR
comp=Z,2μm,19.0s
KIV Kislovodsk 61.57 321 *e*P **P 19 28 33.6 +0.1**
comp=Z,129nm,1.3s
KIV LR LR
comp=Z,600nm,20.0s
KIV Kislovodsk 61.57 321 *i* P **P 19 28 33.7 +0.2**
SNR=20
KIV Kislovodsk 61.57 321 *i* P **P 19 28 33.7 +0.2**
SNR=20
KIV Kislovodsk 61.57 321 *e*P **P 19 28 33.6 +0.1**
KIV *e* 19 30 49.3
KIV *e* 19 36 56.8
KIV pmax pmax
comp=Z,218nm,1.1s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 61.57 321 P **P 19 28 33.9 +0.4**
SNR=36
KIV P **P 19 28 33.9 +0.4**
SNR=36
EIL Elat 61.66 304 LR LR 19 54 24.9
comp=Z,1μm,18.7s,baz=110,slow=35
MBAR Mbarara 61.70 269 *e*P **P 19 28 35.3 +0.2**
comp=Z,44nm,1.3s
MBAR LR LR
comp=Z,1μm,19.0s
MBAR Mbarara 61.70 269 *c* iP **P 19 28 35.9 +0.8**
MBAR pmax pmax
comp=Z,28nm,1.1s
ARU Arti 61.80 339 *e*P **P 19 28 32.9 -1.7**
comp=Z,110nm,1.4s
ARU LR LR
comp=Z,3μm,19.0s
ARU Arti 61.80 339 *d* iP **P 19 28 33.0 -1.7**
ARU 19 29 15.1
ARU 19 30 46.9
ARU S **S 19 36 56.4 +0.2**
ARU pmax pmax
comp=Z,102nm,1.6s
ARU MLR MLR
comp=Z,3μm,18.0s
ARU Arti 61.80 339 LR LR 19 56 51.9
comp=Z,6μm,19.0s,baz=138,slow=37
ASAJ Asahikawa 61.92 39 P **P 19 28 36.2 +0.4**
comp=Z,4.8nm,0.6s,baz=249,slow=9.7,SNR=9.3
TOO Toolangi 62.02 134 *e*P **P 19 28 37.5 +0.8**
comp=Z,66nm,1.1s
TOO LR LR
comp=Z,2μm,22.0s
TOO Toolangi 62.02 134 P **P 19 28 37.8 +1.1**
baz=62,SNR=9.1
GRNR Gornyy 62.14 30 *e*P **P 19 28 38.7 +1.6**
GRNR pmax pmax
comp=Z,17nm,1.1s
EIDS Eidsvold 62.31 119 *e*P **P 19 28 38.2 -0.5**
comp=Z,21nm,0.9s
EIDS LR LR
comp=Z,900nm,18.0s
EIDS Eidsvold 62.31 119 P **P 19 28 39.0 +0.3**
baz=62,SNR=9.9
MMAI Mount Meron Ar 62.31 307 LR LR 19 55 43.3
comp=Z,2μm,19.8s,baz=115,slow=36
YNG Young 62.90 130 P **P 19 28 42.7 +0.2**
baz=63,SNR=5.8
SOC Sochi 63.28 320 *e*P **P 19 28 43.3 -1.6**
SOC *e* 19 31 03.5
SOC *e*PPP PPP 19 32 32.8
SOC *e*S **S 19 37 17.1 +1.8**
SOC pmax pmax
comp=Z,65nm,1.3s
SOC MLR MLR
comp=Z,477nm,16.0s
YSS Yuzh-Sakhalins 63.44 36 PFAKE 19 29 00.0 +14
YSS LR LR
comp=Z,700nm,18.0s
YSS Yuzh-Sakhalins 63.44 36 *e*P **P 19 28 44.4 -1.4**
YSS *e**SP **pP 19 28 51.7 -1.1**
YSS *e* 19 31 05.5
YSS *e*PPP PPP 19 32 33.4
YSS *e*S **S 19 37 18.1 +1.0**
YSS *e*PS **PnS 19 37 28.8 -6.9**
YSS *e*SS **SS 19 41 26.1 +1.7**
YSS pmax pmax
comp=Z,10.0nm,1.0s
CAN Canberra 63.73 130 *e*P **P 19 28 48.3 +0.2**
comp=Z,43nm,1.3s
CAN LR LR
comp=Z,2μm,20.0s
YUK Yuzh-Kuril'sk 63.95 40 *e*P **P 19 28 51.1 +1.8**
YUK *e* 19 31 14.6
YUK *e*PPP PPP 19 32 43.6
YUK *e*S **S 19 37 17.7 -5.9**
YUK SS **SS 19 41 26.1 -6.5**
YUK MLR MLR
comp=Z,998nm,20.0s
ARMA Armidale 64.19 124 *e*P **P 19 28 51.9 +0.6**
comp=Z,35nm,1.0s
ARMA LR LR
comp=Z,1μm,19.0s
ARMA Armidale 64.19 124 P **P 19 28 52.4 +1.1**
baz=64,SNR=12
ANN Anapa 65.29 320 *e*P **P 19 28 56.6 -1.4**
ANN *e* 19 31 23.0
ANN *e*S **S 19 37 41.3 +1.2**
ANN *e*SS **SS 19 42 01.5 +8.0**
ANN pmax pmax
comp=Z,21nm,1.3s
ANN MLR MLR
comp=Z,909nm,21.0s
LSZ Lusaka 65.43 253 *i* P **P 19 28 59.7 +0.1**
LSZ Lusaka 65.43 253 *e*P **P 19 28 59.4 -0.2**
comp=Z,38nm,0.8s
LSZ LR LR
comp=Z,1μm,21.0s
LSZ Lusaka 65.43 253 *i* P **P 19 28 59.7 +0.1**
DIKM Dikmen 65.46 316 ⇓ *i* P **P 19 29 00.2 +1.0**
TAU Tasmania Unive 65.59 139 *e*P **P 19 29 00.2 +0.2**
comp=Z,47nm,0.9s
SNOP Sinop 65.64 317 *e*P **P 19 29 00.4 +0.1**
comp=Z,121nm,1.2s
SNOP LR LR
comp=Z,800nm,21.0s
NKL Nikolayevsk 65.68 30 *e*P **P 19 29 00.5 +0.2**
NKL *e*S **S 19 37 44.0 -0.5**
NKL pmax pmax
comp=Z,21nm,1.0s
NKL smax smax
comp=N,600nm,11.0s
NKL smax smax
comp=E,500nm,11.0s
NKL MLR MLR
comp=E,2μm,16.0s
NKL MLR MLR
comp=N,1μm,16.0s
NKL MLR MLR
comp=Z,3μm,15.0s
KUR Kuril'sk 65.77 40 *d* iP P 19 29 09.1 +8.0
KUR *i* 19 29 14.4
KUR *i* S **S 19 37 51.9 +6.0**
KUR *e* 19 38 49.2
KUR pmax pmax
comp=Z,51nm,2.9s
KUR MLR MLR
comp=Z,819nm,14.0s
KUR MLR MLR
comp=N,559nm,15.0s
KUR MLR MLR
comp=E,223nm,12.0s
VRH Novokhopyorsk 65.86 328 *e*P **P 19 29 00.1 -1.4**
VRH pmax pmax
comp=Z,110nm,1.8s
VRH MLR MLR
comp=Z,1μm,16.0s
BR131 Keskin Array S 65.90 314 *e*P **P 19 29 01.6 -0.7**
comp=Z,24nm,0.9s
BR131 Keskin Array S 65.90 314 P **P 19 29 02.0 -0.3**
SNR=26
BRTR Keskin Array B 65.90 314 *e*P **P 19 29 01.4 -0.8**
BRTR Keskin Array B 65.90 314 *e*P **P 19 29 01.5 -0.8**
BRTR Keskin Array B 65.90 314 P **P 19 29 02.3 0.0**
comp=Z,14nm,0.8s,baz=132,slow=7.2,SNR=96
BRTR PKP2bc 19 57 43.3
comp=Z,0.5nm,0.8s,baz=286,slow=4.5,SNR=3.8
BRTR LR LR 19 58 13.6
comp=Z,1μm,20.8s,baz=110,slow=36
MATP Matopo 65.95 247 *i* P **P 19 29 03.3 +0.4**
MATP Matopo 65.95 247 *i* P **P 19 29 03.3 +0.4**
ILGA Ilgaz 66.32 315 *e*P **P 19 29 04.9 -0.1**
comp=Z,139nm,1.4s
BZK Bozkurt 66.45 316 ⇑ *i* P **P 19 29 06.4 +0.9**
ANTO Ankara 66.56 314 P **P 19 29 06.5 0.0**
SNR=13
ANTO P **P 19 29 06.5 0.0**
SNR=13
BR231 Keskin MP Arra 66.56 314 *e*P **P 19 29 06.5 0.0**
comp=Z,249nm,2.0s
KIRV Kirov 66.76 337 LR LR 19 59 36.2
comp=Z,2μm,20.9s,baz=175,slow=37
YAK Yakutsk 67.22 18 *d* iP **P 19 29 09.5 -0.5**
YAK *e**PP **pwP 19 29 22.2 -0.7**
YAK *e* 19 29 34.1
YAK *e*PPP PPP 19 33 19.9
YAK *e*S **S 19 38 00.8 -2.1**
YAK *e**SS sS 19 38 25.1 +11
YAK *e* 19 38 59.9
YAK pmax pmax
comp=Z,343nm,0.9s
YAK pmax pmax
comp=N,174nm,1.1s
YAK pmax pmax
comp=E,153nm,1.1s
YAK smax smax
comp=N,861nm,2.3s
YAK smax smax
comp=E,2μm,2.3s
VSR Storozhevoye 67.24 327 *d* iP **P 19 29 08.2 -2.2**
VSR pmax pmax
comp=Z,39nm,1.4s
SIM Simferopol' 67.50 319 *d* iP **P 19 29 12.4 +0.2**
SIM *i* S **S 19 38 08.0 +1.0**
SIM pmax pmax
comp=Z,34nm,0.9s
MDUB Mudurnu 67.92 314 *e*P **P 19 29 14.7 -0.4**
comp=Z,355nm,1.1s
HNR Honiara 67.98 100 P **P 19 29 16.3 +0.5**
comp=Z,29nm,0.4s,baz=178,slow=9.0,SNR=4.9
LPSR Galich'ya Gora 68.06 328 *e*P **P 19 29 14.2 -1.3**
LPSR pmax pmax
comp=Z,40nm,1.1s
LPSR MLR MLR
comp=Z,1μm,20.0s
CASY Casey 68.16 172 *e*P **P 19 29 16.0 +0.1**
comp=Z,47nm,1.1s
NRIK Noril'sk 68.51 358 P **P 19 29 17.2 -0.8**
comp=Z,42nm,1.1s,baz=171,slow=4.9,SNR=54
NRIK PKP2bc 19 57 34.5
comp=Z,1.7nm,0.5s,baz=56,slow=3.4,SNR=4.0

NRIK LR LR 20 03 43.5
comp=Z,1µm,19.4s,baz=182,slow=40
ARG Arkhangelos 68.98 309 *eP* **P 19 29 23.4 +1.8**
ARG Arkhangelos 68.98 309 P **P 19 29 23.4 +1.8**
KULA Kula-Manisa 69.19 311 P **P 19 29 23.1 +0.1**
MANT Manisa 69.26 311 *eP* **P 19 29 23.4 -0.3**
comp=Z,260nm,1.6s
LBTB Lobatse 69.44 243 *eP* **P 19 29 24.7 -0.1**
comp=Z,158nm,0.9s
KARP Karpathos 69.57 308 *eP* **P 19 29 25.2 -0.1**
comp=Z,134nm,0.8s
KARP LR LR
comp=Z,2µm,18.0s
BALB Balikesir 70.09 312 *eP* **P 19 29 28.2 -0.2**
comp=Z,753nm,1.7s
BALB LR LR
comp=Z,3µm,20.0s
PRGR Permogore 70.19 338⇓*iP* **P 19 29 27.7 -0.8**
PRGR 19 32 03.1
PRGR pmax pmax
comp=Z,107nm,1.0s
MOS Moscow 70.29 331 *eP* **P 19 29 27.2 -2.1**
MOS *e* 19 29 34.5
MOS *e* 19 29 41.6
MOS *e* 19 29 48.1
MOS *e* 19 32 04.1
MOS *eS* **S 19 38 35.9 -3.7**
MOS pmax pmax
comp=Z,144nm,1.3s
CTYL Yalikoy Yolu 70.32 314⇑*iP* **P 19 29 30.0 +0.2**
SMG Samos 70.36 310 P **P 19 29 30.3 +0.1**
BOSA Boshof 70.45 239 *iP* **P 19 29 30.9 -0.2**
BOSA Boshof 70.45 239 *eP* **P 19 29 30.4 -0.6**
comp=Z,82nm,1.0s
BOSA Boshof 70.45 239 *iP* **P 19 29 30.9 -0.2**
BOSA Boshof 70.45 239 P **P 19 29 30.8 -0.3**
comp=Z,53nm,0.9s,baz=80,slow=5.2,SNR=81
BOSA LR LR 19 57 41.0
comp=Z,807nm,18.9s,baz=55,slow=34
OBN Obninsk 70.51 330 *eP* **P 19 29 30.2 -0.5**
comp=Z,239nm,1.8s
OBN Obninsk 70.51 330⇑*iP* **P 19 29 30.4 -0.2**
OBN Obninsk 70.51 330*dP* **P 19 29 29.8 -0.8**
OBN *e* 19 29 46.5
OBN *e* 19 32 05.6
OBN *e*PPP PPP 19 33 43.0
OBN pmax pmax
comp=Z,120nm,1.7s
OBN MLR MLR
comp=Z,1µm,19.0s
PHSR Pinarhisar 70.91 314⇑*iP* **P 19 29 34.1 +0.7**
MFTR Murfatlar 71.05 317⇑*iP* **P 19 29 34.6 +0.5**
PSN Preselentsi 71.06 316 *eP* **P 19 29 34.4 +0.2**
TLCR 71.10 318⇓*iP* **P 19 29 34.7 +0.3**
CHOS Chios island 71.13 310 P **P 19 29 35.5 +0.6**
PRK Paraskevi 71.19 311 P **P 19 29 36.4 +1.3**
MAW Mawson 71.30 192 *eP* **P 19 29 35.6 +0.5**
comp=Z,7.8nm,0.8s
MAW Mawson 71.30 192 P **P 19 29 35.8 +0.7**
baz=71,SNR=30
MAW Mawson 71.30 192 P **P 19 29 36.0 +0.9**
comp=Z,30nm,0.8s,baz=9.7,slow=6.6,SNR=42
MAW LR LR 19 57 20.5
comp=Z,388nm,18.1s,baz=29,slow=33
EZN Ezine 71.30 312 *eP* **P 19 29 35.8 +0.1**
EZN Ezine 71.30 312 P **P 19 29 35.8 +0.1**
EZN Ezine 71.30 312⇑*iP* **P 19 29 36.3 +0.6**
EZN Ezine 71.30 312 P **P 19 29 36.3 +0.6**
TLB Topalu 71.43 317⇑*iP* **P 19 29 36.9 +0.4**
TLB Topalu 71.43 317 P **P 19 29 36.9 +0.4**
ICOR Ion Corvin 71.45 317⇓*iP* **P 19 29 36.2 -0.4**
PRD Provadia 71.46 316 *eP* **P 19 29 37.1 +0.5**
SIGR SIGRI 71.49 311 P **P 19 29 36.4 -0.5**
EDRB Edirne 71.53 314 P **P 19 29 37.2 0.0**
CFR Carcaliu 71.55 318⇑*iP* **P 19 29 37.6 +0.4**
CFR Carcaliu 71.55 318 P **P 19 29 37.5 +0.4**
KIS Kishinev 71.69 320 *eP* **P 19 29 36.0 -2.0**
comp=Z,220nm,1.5s
KIS LRM MLR 20 01 36.0
comp=Z,800nm,22.0s
KIS Kishinev 71.69 320 *eP* **P 19 29 36.0 -2.0**
KIS *e* 19 29 51.0
KIS pmax pmax
comp=Z,220nm,1.5s
ALN Alexandroupoli 71.78 313 *eP* **P 19 29 38.6 -0.1**
comp=Z,67nm,1.3s
ALN LR LR
comp=Z,600nm,19.0s
ALN Alexandroupoli 71.78 313 P **P 19 29 38.6 -0.1**
VAM Vamos 71.89 307 P **P 19 29 40.4 +1.0**
SMTH Samothraki Isl 72.05 312 *eP* **P 19 29 39.4 -0.9**
SMTH Samothraki Isl 72.05 312 P **P 19 29 39.4 -0.9**
KLMR Klimovskoe 72.11 336⇓*iP* **P 19 29 39.5 -0.7**
KLMR *e* 19 32 15.0
KLMR pmax pmax
comp=Z,83nm,1.2s
RDO Rodhopi 72.22 313 *eP* **P 19 29 40.7 -0.6**
RDO Rodhopi 72.22 313 P **P 19 29 40.7 -0.6**
DIM Dimitrovgrad 72.46 314 *eP* **P 19 29 42.8 +0.1**
BISRR Bisoca 72.62 318⇑*iP* **P 19 29 43.7 0.0**
SULR 72.68 317⇑*iP* **P 19 29 44.7 +0.8**
DION Dionisos Attik 72.68 310 P **P 19 29 43.6 -0.6**
THAS Thassos island 72.68 312 P P 19 29 38.7 -5.4
VRI Vrincioaia 72.70 318⇓*iP* **P 19 29 45.0 +0.9**
VRI Vrincioaia 72.70 318 P **P 19 29 45.0 +0.9**
AKASG Malin Array Be 72.71 324 *eP* **P 19 29 42.8 -1.2**
AKASG Malin Array Be 72.71 324 P **P 19 29 43.1 -0.9**
comp=Z,7.8nm,0.7s,baz=92,slow=4.7,SNR=55
AKASG PP **PP 19 32 30.2 +4.2**
comp=Z,2.3nm,0.8s,baz=99,slow=6.8,SNR=5.0
AKASG LR LR 20 05 54.3
comp=Z,499nm,18.2s,baz=115,slow=39
AKBB Malin Array Si 72.71 324 *eP* **P 19 29 42.7 -1.3**
comp=Z,21nm,1.0s
AKBB LR LR
comp=Z,900nm,19.0s
KIEV Kiev 72.72 324 *eP* **P 19 29 42.8 -1.2**
comp=Z,18nm,1.0s
KIEV LR LR
comp=Z,900nm,19.0s
KIEV Kiev 72.72 324⇓*iP* **P 19 29 43.3 -0.7**
KIEV Kiev 72.72 324 *iP* **P 19 29 43.2 -0.8**
SNR=13
KIEV Kiev 72.72 324 *iP* **P 19 29 43.2 -0.8**
SNR=13
KIEV Kiev 72.72 324*diP* **P 19 29 42.9 -1.2**
KIEV pmax pmax
comp=Z,16nm,1.1s
PTL Penteli 72.73 310 *eP* **P 19 29 43.9 -0.5**
PTL Penteli 72.73 310 P **P 19 29 43.9 -0.5**
VLY Voula,Athens 72.74 309 *eP* **P 19 29 43.3 -1.2**
VLY Voula,Athens 72.74 309 P **P 19 29 43.3 -1.2**
SGRR Singureni 72.74 316⇑*iP* **P 19 29 45.2 +0.9**
PLOR Plostina 72.75 318⇑*iP* **P 19 29 45.5 +1.0**
PLOR Plostina 72.75 318 P **P 19 29 45.4 +1.0**
ATHU Athens Univers 72.77 310 *eP* **P 19 29 43.2 -1.5**
ATHU Athens Univers 72.77 310 P **P 19 29 43.2 -1.5**
ATH Athens Observa 72.83 310 P **P 19 29 44.1 -0.9**
SECR 72.91 317⇑*iP* **P 19 29 46.7 +1.4**
KAVA Kavala 72.93 313 *eP* **P 19 29 45.5 0.0**
KAVA Kavala 72.93 313 P **P 19 29 45.5 0.0**
TESR Tescani 72.95 319⇓*iP* **P 19 29 45.8 +0.2**
RZN Rozhen 72.96 314 *eP* **P 19 29 45.7 -0.2**
SKR Severo-Kuril's 73.00 37 *eP* **P 19 29 46.8 +1.1**
SKR *eS* **S 19 39 07.3 -3.6**
SKR pmax pmax
comp=Z,71nm,0.9s
SKR pmax pmax
comp=Z,300nm,5.1s
SKR pmax pmax
comp=Z,700nm,5.4s
ZIMR 73.01 316⇑*iP* **P 19 29 46.4 +0.5**
PLD Plovdiv 73.07 314 P **P 19 29 46.0 -0.3**
DID Didima 73.09 309 *eP* **P 19 29 44.9 -1.7**
DID Didima 73.09 309 P **P 19 29 44.9 -1.7**
MLR Muntele Rosu 73.12 318 *eP* **P 19 29 46.9 +0.1**
comp=Z,163nm,1.2s
MLR LR LR
comp=Z,1µm,22.0s
MLR Muntele Rosu 73.12 318⇑*iP* **P 19 29 47.7 +1.0**
MLR Muntele Rosu 73.12 318 P **P 19 29 47.7 +1.0**
OUR Ouranopolis 73.16 312 *eP* **P 19 29 45.6 -1.3**
OUR Ouranopolis 73.16 312 P **P 19 29 45.6 -1.3**
VILL Villia 73.18 310 P **P 19 29 46.2 -0.9**

PAIG Paliouri 73.30 312 P **P 19 29 47.4 -0.3**
LTK Loutraki 73.41 309 *eP* **P 19 29 46.8 -1.7**
LTK Loutraki 73.41 309 P **P 19 29 46.8 -1.7**
BIZ Bicaz 73.44 319⇑*iP* **P 19 29 48.8 +0.4**
PRAR RASCA 73.48 320⇑*iP* **P 19 29 49.1 +0.4**
NVR Nevrokopi 73.50 313 P **P 19 29 48.4 -0.5**
HUMR Humele 73.51 316⇑*iP* **P 19 29 49.3 +0.4**
ATAL Atalanti 73.52 310 *eP* **P 19 29 48.2 -0.9**
ATAL Atalanti 73.52 310 P **P 19 29 48.2 -0.9**
PLG Polygyros 73.57 312 P **P 19 29 49.1 -0.3**
DOPR Dopca 73.63 318⇑*iP* **P 19 29 49.6 0.0**
SRS Serrai 73.64 313 P **P 19 29 49.0 -0.7**
SRS Serrai 73.64 313 P **P 19 29 48.8 -0.9**
MMB Musomiste 73.65 313 *eP* **P 19 29 49.4 -0.4**
VLX Vlachokerasia 73.73 309 *eP* **P 19 29 46.3 -4.2**
VLX Vlachokerasia 73.73 309 P **P 19 29 46.3 -4.2**
SOH Sokhos 73.74 312 P **P 19 29 49.4 -1.0**
AXAR Agios Charalam 73.81 310 *eP* **P 19 29 52.1 +1.3**
AXAR Agios Charalam 73.81 310 P **P 19 29 52.1 +1.3**
MA2 Magadan 73.81 27 *eP* **P 19 29 49.5 -0.8**
comp=Z,55nm,1.6s
MA2 LR LR
comp=Z,1µm,19.0s
MA2 Magadan 73.81 27*deP* **P 19 29 50.0 -0.3**
MA2 pmax pmax
comp=Z,39nm,1.9s
MA2 Magadan 73.81 27 P **P 19 29 50.0 -0.3**
comp=Z,2.8nm,0.3s,baz=311,slow=3.3,SNR=5.5
MA2 LR LR 20 06 41.7
comp=Z,1µm,18.3s,baz=244,slow=39
DSF Desfina 73.83 310 P **P 19 29 49.5 -1.5**
GUR Goura 73.88 309 *eP* **P 19 29 50.3 -1.0**
GUR Goura 73.88 309 P **P 19 29 50.3 -1.0**
HORT Hortiatis 73.88 312 P **P 19 29 50.3 -1.0**
ARR Arges 73.97 317⇑*iP* **P 19 29 51.6 -0.1**
TRAZ Trapeza 74.03 310 P **P 19 29 51.0 -1.1**
ITM Ithomi 74.05 308 PFAKE 19 30 00.0 +7.8
ITM LR LR
comp=Z,700nm,21.0s
AGG Agios Georgios 74.11 310 *eP* **P 19 29 51.0 -1.6**
comp=Z,116nm,1.9s
AGG LR LR
comp=Z,900nm,21.0s
KALE Kalithea 74.13 310 *eP* **P 19 29 51.6 -1.1**
KALE Kalithea 74.13 310 P **P 19 29 51.6 -1.1**
KNT Kendrikon 74.16 313 P **P 19 29 52.1 -0.7**
KKB Krupnik 74.18 313 *eP* **P 19 29 52.2 -0.7**
SERG Sergoula 74.20 310 P **P 19 29 52.0 -1.1**
BURAR Bucovina Array 74.21 320 *eP* **P 19 29 53.1 +0.1**
BURAR Bucovina Array 74.21 320⇑*iP* **P 19 29 54.3 +1.2**
BURAR Bucovina Array 74.21 320 P **P 19 29 54.2 +1.2**
LAKA Lakka 74.22 310 *eP* **P 19 29 52.8 -0.4**
LAKA Lakka 74.22 310 P **P 19 29 52.8 -0.4**
LIT Litokhoron 74.22 312 P **P 19 29 52.0 -1.2**
BUR08 Bucovina Ar. S 74.23 320 *eP* **P 19 29 53.7 +0.5**
comp=Z,27nm,0.9s
VTS Vitosha 74.25 314 *eP* **P 19 29 52.7 -0.8**
comp=Z,262nm,2.0s
VTS *eP* **P 19 29 53.4 0.0**
VTS LR LR
comp=Z,500nm,22.0s
VTS Vitosha 74.25 314 P **P 19 29 53.4 0.0**
VTS Vitosha 74.25 314⇓*iP* **P 19 29 53.5 0.0**
VTS Vitosha 74.25 314 *eP* **P 19 29 53.1 -0.4**
AMT Artemida-Makis 74.29 309 P **P 19 29 53.8 +0.2**
EFP Efpalio 74.31 310 P **P 19 29 50.7 -3.0**
ANX Ano Chora 74.34 310 P **P 19 29 53.1 -0.9**
DRO Drossia 74.37 309 P **P 19 29 53.8 -0.3**
VAY Valandovo 74.43 313 *eP* **P 19 29 53.8 -0.5**
VAY Valandovo 74.43 313 P **P 19 29 53.8 -0.5**
VAY Valandovo 74.43 313 *i*PKP **P 19 29 53.6 -0.7**
TIXI Tiksi 74.47 11 *eP* **P 19 29 52.8 -1.1**
comp=Z,194nm,1.7s
TIXI LR LR
comp=Z,1µm,18.0s
TIXI Tiksi 74.47 11*diP* **P 19 29 52.8 -1.1**
TIXI pmax pmax
comp=Z,110nm,1.7s
TIXI Tiksi 74.47 11 P **P 19 29 53.3 -0.6**
comp=Z,24nm,0.6s,baz=221,slow=3.4,SNR=142
TIXI LR LR 20 06 54.7
comp=Z,1µm,18.2s,baz=205,slow=39
GRG Griva 74.48 312 P **P 19 29 53.9 -0.8**
TMCR Tamitsa 74.49 338 *eP* **P 19 29 52.1 -2.1**
TMCR pmax pmax
comp=Z,84nm,1.1s
LOT Lotru 74.58 317⇑*iP* **P 19 29 54.9 -0.4**
PVO Paravola 74.64 310 P **P 19 29 54.5 -1.1**
PEA0B Petropavlovsk- 74.75 35 PFAKE 19 30 10.0 +14
PEA0B LR LR
comp=Z,1µm,18.0s
PETK Petropavlovsk- 74.75 35 P **P 19 29 57.8 +1.9**
comp=Z,1.6nm,0.9s,baz=250,slow=16,SNR=2.4
PETK LR LR 20 05 40.7
comp=Z,927nm,18.3s,baz=244,slow=38
STIP Stip 74.80 313 *i*PKP **P 19 29 54.4 -2.0**
WAKE Wake Island 74.86 70 PFAKE 19 30 10.0 +13
WAKE LR LR
comp=Z,2µm,22.0s
PUNG Punghina 74.86 316⇑*iP* **P 19 29 57.2 +0.4**
SUR Sutherland 74.95 236 *eP* **P 19 29 58.2 +0.4**
comp=Z,95nm,0.8s
SUR LR LR
comp=Z,2µm,21.0s
SUR Sutherland 74.95 236 P **P 19 29 58.7 +0.8**
SNR=5.1
SUR P **P 19 29 58.7 +0.8**
SNR=5.1
FNA Florina 75.20 312 *eP* **P 19 29 57.6 -1.3**
comp=Z,27nm,1.3s
FNA Florina 75.20 312 P **P 19 29 57.7 -1.2**
GZR Gura Zlata 75.24 317⇑*iP* **P 19 29 59.3 +0.2**
PET Petropavlovsk 75.27 35 PFAKE 19 30 10.0 +11
PET LR LR
comp=Z,1µm,19.0s
PET Petropavlovsk 75.27 35 *eP* **P 19 29 59.4 +0.5**
PET *eS* **S 19 39 34.8 -1.6**
PET *eSS* **SS 19 44 27.2 +0.8**
PET pmax pmax
comp=Z,400nm,4.3s
PET pmax pmax
comp=Z,200nm,11.2s
DEV Deva 75.28 317⇑*iP* **P 19 30 00.3 +1.1**
DEV Deva 75.28 317 P **P 19 30 00.2 +1.1**
BIA Bitola 75.29 312 *i*PKP **P 19 29 58.6 -0.8**
HERR Herculane 75.37 316⇑*iP* **P 19 30 00.0 +0.3**
SKO Skopje 75.40 313 *i*PKP **P 19 29 58.9 -1.0**
DZM Mont Dzumac 75.51 113 *eP* **P 19 30 01.4 +0.4**
comp=Z,39nm,1.1s
DZM Mont Dzumac 75.51 113 *e*LR LR 19 53 06.3
comp=Z,1µm,25.4s
DZM Mont Dzumac 75.51 113 *eP* **P 19 30 01.4 +0.4**
comp=Z,22nm,1.1s
DZM Mont Dzumac 75.51 113 P **P 19 30 01.8 +0.7**
comp=Z,13nm,1.0s,baz=306,slow=22,SNR=6.5
NACGM Naroch 75.56 327 *e* **P 19 30 01.0 +0.4**
NACGM *e*LQ LQ 19 58 25.0
NACGM *e*LR LR 20 06 11.0
LVV L'vov 75.59 322 *eP* **P 19 29 59.7 -1.1**
LVV *eS* **S 19 39 34.3 -5.9**
LVV MLR MLR
comp=Z,500nm,20.0s
PUL Pulkovo 75.61 332⇓*eP* **P 19 30 00.6 -0.1**
PUL pmax pmax
comp=Z,38nm,0.4s
DRGR 75.64 318⇑*iP* **P 19 30 01.8 +0.5**
DRGR 75.64 318 P **P 19 30 01.7 +0.5**
IDID Didziasalis 75.73 327 *eP* **P 19 30 01.6 +0.1**
IDID IAmb IAmb 19 30 02.6
comp=Z,14nm,1.0s
IGT Igoumenitsa 75.73 311 *eP* **P 19 30 01.2 -0.7**
IGT Igoumenitsa 75.73 311 P **P 19 30 01.2 -0.7**
IGT Igoumenitsa 75.73 311 P **P 19 30 01.4 -0.5**
MDVR Moldovita 75.83 316⇑*iP* **P 19 30 02.7 +0.3**
OUENC Ouen Island, N 75.91 113 *eP* **P 19 30 04.0 +0.8**
comp=Z,33nm,1.1s
TSUM Tsumeb 75.96 250 *eP* **P 19 30 03.9 +0.1**
comp=Z,32nm,1.0s
TSUM LR LR
comp=Z,900nm,18.0s
IIGN Ignalina 76.02 327 *eP* **P 19 30 03.3 +0.2**
IIGN IAmb IAmb 19 30 04.3
comp=Z,17nm,0.9s
SEY Seymchan 76.05 24 P **P 19 30 02.9 -0.3**

comp=Z,7.4nm,1.0s,baz=252,slow=4.2,SNR=8.7
TRPA Tarpa 76.08 320⇑*iP* **P 19 30 04.5 +0.8**
TRPA Tarpa 76.08 320⇓*eP* **P 19 30 03.1 -0.6**
BZS Buzias 76.09 317⇑*iP* **P 19 30 04.0 +0.2**
BZS Buzias 76.09 317 P **P 19 30 03.9 +0.2**
ISAL Salakas 76.14 328 *eP* **P 19 30 04.1 +0.2**
ISAL IAmb IAmb 19 30 04.8
comp=Z,34nm,1.5s
SIRR Siria 76.21 318⇓*iP* **P 19 30 04.7 +0.2**
LTVH Ltavrtes, Hu 76.32 319 *eP* P 19 30 10.0 +5.0
KWP Kalwaria Pacla 76.36 321 *eP* **P 19 30 05.7 +0.4**
KWP Kalwaria Pacla 76.36 321 *eP* **P 19 30 05.5 +0.3**
comp=Z,706nm,1.3s
KWP Kalwaria Pacla 76.36 321 *eP* **P 19 30 05.7 +0.4**
UZH Uzhgorod 76.37 320 *eP* **P 19 30 04.5 -0.8**
UZH *e* 19 30 16.5
UZH *e* 19 32 53.4
UZH *eS* **S 19 39 46.4 -2.4**
TIR Tirane 76.43 312 PFAKE 19 30 20.0 +14
TIR LR LR
comp=Z,1µm,21.0s
TIR Tirane 76.43 312 P P 19 30 16.4 +11
KOLS Kolonicke sedl 76.46 320 *eP* **P 19 30 06.7 +0.8**
KOLS pmax pmax
comp=Z,100nm,1.6s
KOLS Kolonicke sedl 76.46 320 *eP* **P 19 30 06.7 +0.8**
PVY Plav 76.61 314⇑*iP* **P 19 30 05.8 -1.2**
IVA Berane 76.71 314⇑*iP* **P 19 30 06.6 -0.9**
VSU Vasula 76.82 331*deP* **P 19 30 07.2 -0.4**
VSU pmax pmax
comp=Z,212nm,1.3s
VSU Vasula 76.82 331 *eP* **P 19 30 07.2 -0.4**
VSU IAmb IAmb 19 30 08.3
comp=Z,137nm,1.0s
DIVS Divibare 76.89 315⇓*iP* **P 19 30 07.8 -0.7**
KOME Kolasin 76.98 314⇑*iP* **P 19 30 08.4 -0.6**
PDG Podgorica 77.08 313⇑*iP* **P 19 30 09.1 -0.4**
PDG Podgorica 77.08 313⇓*iP* **P 19 30 08.4 -1.1**
TTG Podgorica 77.08 313⇑*iP* **P 19 30 08.8 -0.6**
TTG Podgorica 77.08 313 *eP* **P 19 30 08.9 -0.6**
comp=Z,40nm,0.9s
TTG LR LR
comp=Z,900nm,21.0s
DRME Dracevica, Mon 77.09 313⇑*iP* **P 19 30 08.6 -0.9**
DRME Dracevica, Mon 77.09 313⇓*iP* **P 19 30 08.7 -0.8**
PLE Pljevlja 77.16 314⇑*iP* **P 19 30 09.4 -0.7**
PLE Pljevlja 77.16 314 P **P 19 30 11.7 +1.6**
FRGS Fruska Gora 77.23 316⇓*iP* **P 19 30 09.7 -0.6**
BBLS Lazići 77.25 315⇓*iP* **P 19 30 10.6 +0.1**
PABE Paberze 77.28 327 *eP* **P 19 30 09.1 -1.2**
PABE IAmb IAmb 19 30 10.9
comp=Z,114nm,1.4s
BUM Brajici-Budva 77.32 313⇑*iP* **P 19 30 10.1 -0.8**
NKY Niksic 77.35 314⇑*iP* **P 19 30 10.5 -0.6**
NKY Niksic 77.35 314 P **P 19 30 12.3 +1.2**
CEME Cevo 77.35 313⇑*iP* **P 19 30 10.4 -0.7**
NKME Niksic 77.37 314⇑*iP* **P 19 30 10.5 -0.7**
UPM Unac-Piva 77.48 314⇑*iP* **P 19 30 11.0 -1.0**
UPM Unac-Piva 77.48 314 *eP* **P 19 30 11.4 -0.6**
KECS Kecovo 77.50 320 *eP* **P 19 30 12.1 +0.4**
KECS pmax pmax
comp=Z,237nm,1.6s
KECS Kecovo 77.50 320 *eP* **P 19 30 12.1 +0.4**
HAPS Han Pijesak,Bl 77.62 315 *eP* **P 19 30 11.1 -1.5**
LVZ Lovozero 77.62 341 PFAKE 19 30 20.0 +8.0
LVZ LR LR
comp=Z,3µm,20.0s
HCY Herceg Novi 77.64 313 *eP* **P 19 30 11.3 -1.3**
BRY Bratogost 77.69 314⇑*iP* **P 19 30 12.2 -0.9**
BRY Bratogost 77.69 314 P **P 19 30 13.1 0.0**
BRY Bratogost 77.69 314 *eP* **P 19 30 12.2 -0.9**
PSZ Piszkesteto 77.76 319 *eP* **P 19 30 13.0 -0.3**
comp=Z,45nm,1.6s
PSZ Piszkesteto 77.76 319 P **P 19 30 13.7 +0.4**
PSZ Piszkesteto 77.76 319⇓*eP* **P 19 30 12.1 -1.2**
TREB Trebinje 77.80 314 *eP* **P 19 30 12.2 -1.3**
NIE Niedzica 77.83 321 *eP* **P 19 30 14.4 +0.8**
NIE Niedzica 77.83 321 *eP* **P 19 30 14.4 +0.8**
APA Apatity 77.87 340⇓*iP* **P 19 30 11.6 -1.7**
APA pmax pmax
comp=Z,23nm,1.0s
BEL Belsk 78.10 323 *eP* **P 19 30 15.8 +0.9**
BEL Belsk 78.10 323 *eP* **P 19 30 15.8 +0.9**
SYO Syowa Base 78.17 197⇑*eP* **P 19 30 14.0 -1.0**
SYO Syowa Base 78.17 197⇓*iPcP* **PcP 19 30 23.4 -1.0**
FIA1 FINESS Array S 78.19 333 *eP* **P 19 30 14.4 -0.8**
comp=Z,38nm,0.9s
FINES FINESS Array B 78.19 333 *eP* **P 19 30 14.3 -0.9**
FINES FINESS Array B 78.19 333 P **P 19 30 14.7 -0.5**
comp=Z,22nm,0.8s,baz=102,slow=8.0,SNR=73
FINES LR LR 20 06 45.9
comp=Z,1µm,20.6s,baz=110,slow=37
STON Ston 78.29 314 *eP* **P 19 30 13.4 -2.8**
LANS Liptovska Anna 78.31 320 *eP* **P 19 30 17.0 +0.8**
LANS Liptovska Anna 78.31 320 *eP* **P 19 30 17.0 +0.8**
OJC Ojcow 78.33 321 *eP* **P 19 30 16.8 +0.5**
OJC Ojcow 78.33 321 *eP* **P 19 30 16.0 -0.3**
comp=Z,173nm,1.8s
OJC Ojcow 78.33 321 *eP* **P 19 30 16.8 +0.5**
TIP Timpagrande 78.41 310 *eP* **P 19 30 16.9 -0.1**
comp=Z,79nm,1.7s
TIP LR LR
comp=Z,600nm,21.0s
TIP Timpagrande 78.41 310⇑*iP* **P 19 30 17.8 +0.8**
PBUR Paburg 78.54 327 *eP* **P 19 30 15.6 -1.6**
PBUR IAmb IAmb 19 30 17.9
comp=Z,64nm,0.7s
VYHS Vyhne 78.57 319 *eP* **P 19 30 18.0 +0.3**
VYHS pmax pmax
comp=Z,47nm,1.4s
VYHS Vyhne 78.57 319 *eP* **P 19 30 18.0 +0.3**
MATE Matera 78.67 311⇑*iP* **P 19 30 19.0 +0.7**
SRO2 Moca 78.72 319 *eP* **P 19 30 18.1 -0.3**
SRO2 Moca 78.72 319 *eP* **P 19 30 18.1 -0.3**
CSKK Cskako 78.73 318 *eP* **P 19 30 18.1 -0.5**
SRO Srobarova 78.78 319 *eP* **P 19 30 19.2 +0.4**
SRO Srobarova 78.78 319 *eP* **P 19 30 19.2 +0.4**
TIH Tihany 78.89 318⇓*eP* **P 19 30 19.0 -0.4**
CEL Celeste 78.94 309 PFAKE 19 30 30.0 +10
CEL LR LR
comp=Z,400nm,19.0s
BLY Banja Luka 78.98 315 *eP* **P 19 30 19.6 -0.4**
comp=Z,86nm,1.4s
BLY LR LR
comp=Z,600nm,20.0s
BLY Banja Luka 78.98 315⇑*iP* **P 19 30 20.0 0.0**
BLY Banja Luka 78.98 315⇓*iP* **P 19 30 20.0 0.0**
MGRS Mrkonjic Grad 79.00 315 *eP* **P 19 30 19.1 -1.0**
KLNR Kaliningrad 79.12 326*diP* **P 19 30 19.5 -1.0**
KLNR pmax pmax
comp=Z,126nm,1.1s
OKC Ostrava-Krasne 79.29 321 *eP* **P 19 30 22.0 +0.4**
OKC *e* 19 30 36.5
OKC Ostrava-Krasne 79.29 321 *eP* **P 19 30 22.0 +0.4**
OKC *ex* x 19 30 36.5
JAVC Velka Javorina 79.40 320⇓*iP* **P 19 30 23.7 +1.4**
SMOL Smolenice 79.50 319 *eP* **P 19 30 23.6 +0.9**
SMOL Smolenice 79.50 319 *eP* **P 19 30 23.6 +0.9**
BEHE Becsehely 79.56 317⇓*iP* **P 19 30 23.5 +0.4**
BEHE Becsehely 79.56 317⇓*eP* **P 19 30 23.1 -0.1**
MODS Modra-Piesok 79.57 319 *eP* **P 19 30 22.9 -0.2**
MODS pmax pmax
comp=Z,218nm,1.4s
MODS Modra-Piesok 79.57 319 *eP* **P 19 30 22.9 -0.2**
ZST Bratislava 79.65 319 *eP* **P 19 30 23.2 -0.4**
ZST Bratislava 79.65 319 *eP* **P 19 30 23.2 -0.4**
MORC Moravsky Berou 79.66 320 *eP* **P 19 30 23.9 +0.2**
comp=Z,69nm,1.5s
MORC Moravsky Berou 79.66 320⇓*iP* **P 19 30 24.2 +0.5**
MORC Moravsky Berou 79.66 320 P **P 19 30 24.2 +0.5**
MORC Moravsky Berou 79.66 320⇓*iP* **P 19 30 24.0 +0.3**
WDD Wied Dalam 79.73 306 PFAKE 19 30 40.0 +16
WDD LR LR
comp=Z,500nm,18.0s
SOP Sopron 79.92 318 P **P 19 30 25.6 +0.6**
SOP Sopron 79.92 318⇓*eP* **P 19 30 25.0 0.0**
ZAG Zagreb 80.00 316⇓*iP* **P 19 30 25.8 +0.3**
VRAC Vranov 80.18 320⇑*iP* **P 19 30 27.2 +0.8**
VRAC Vranov 80.18 320 P **P 19 30 27.1 +0.7**
VRAC Vranov 80.18 320⇓*iP* **P 19 30 26.7 +0.3**
KRLC Kraliky 80.20 321 *eP* **P 19 30 27.6 +1.0**
KRLC *e* 19 30 40.9

KRLC	**Kraliky**	**80.20 321**	*e*P		**P**	**19 30 27.6**	**+1.0**
KRLC			*e*x		x	19 30 40.9	
KRUC	**Moravsky**	**80.27 320**	⇓*i*P		**P**	**19 30 27.2**	**+0.3**
CRES	**Cresnjev**	**80.36 316**	⇓*i*P		**P**	**19 30 27.1**	**-0.4**
CONA	**Conrad Observa**	**80.42 318**	*e*P		**P**	**19 30 28.0**	**+0.1**
	comp=Z,26nm,1.1s,SNR=18						
BOJS	**Bojanci**	**80.46 316**	*i* P		**P**	**19 30 28.1**	**+0.1**
ARSA	**Arzberg**	**80.54 318**	*i* P		**P**	**19 30 29.1**	**+0.6**
	comp=Z,138nm,1.6s,SNR=35						
DPC	**Dobruska-Polom**	**80.54 321**	*e*P		**P**	**19 30 29.4**	**+1.0**
DPC			*e*			19 30 43.1	
DPC			*e*S		**S**	**19 40 30.6**	**-3.0**
DPC			MLR	MLR			
	comp=Z,900nm,22.4s						
DPC	**Dobruska-Polom**	**80.54 321**	*e*P		**P**	**19 30 29.4**	**+1.0**
DPC			*e*x		x	19 30 43.1	
DPC			*e*S		**S**	**19 40 30.6**	**-3.0**
DPC			AMS	AMS		20 11 10.0	
	comp=Z,900nm,22.4s						
KSP	**Ksiaz**	**80.65 321**	*e*P		**P**	**19 30 30.3**	**+1.4**
KSP	**Ksiaz**	**80.65 321**	*e*P		**P**	**19 30 30.3**	**+1.4**
PERS	**Pernice**	**80.72 317**	*i* P		**P**	**19 30 29.8**	**+0.3**
UPC	**Upice**	**80.77 321**	*e*P		**P**	**19 30 30.4**	**+0.9**
UPC			*e*S		**S**	**19 40 37.9**	**+2.1**
UPC			MLR	MLR			
	comp=Z,900nm,17.4s						
UPC	**Upice**	**80.77 321**	*e*P		**P**	**19 30 30.4**	**+0.9**
UPC			*e*S		**S**	**19 40 37.9**	**+2.1**
UPC			AMS	AMS		20 11 30.0	
	comp=Z,900nm,17.4s						
SOKA	**Soboth**	**80.78 317**	*e*P		**P**	**19 30 30.4**	**+0.5**
	comp=Z,83nm,1.0s,SNR=70						
VISS	**Visnje**	**80.79 316**	*e*P		**P**	**19 30 29.6**	**-0.1**
TREC	**Trest**	**80.89 320**	*e*P		**P**	**19 30 30.9**	**+0.6**
TREC			*e*			19 30 45.1	
TREC			MLR	MLR			
	comp=Z,700nm,16.7s						
TREC	**Trest**	**80.89 320**	*e*P		**P**	**19 30 30.9**	**+0.6**
TREC			*e*x		x	19 30 45.1	
TREC			AMS	AMS		20 07 20.0	
	comp=Z,700nm,16.7s						
KEV	**Kevo**	**80.93 341**	PFAKE			19 30 40.0	+10
KEV			LR	LR			
	comp=Z,2μm,20.0s						
CLTB	**Caltabellotta**	**80.97 308**	*e*P		**P**	**19 30 30.7**	**-0.3**
	comp=Z,202nm,1.9s						
LJU	**Ljubljana**	**81.04 316**	⇓*i*P		**P**	**19 30 31.0**	**-0.1**
CEY	**Cerknica**	**81.06 316**	⇓*i*P		**P**	**19 30 30.8**	**-0.5**
OBKA	**Obir**	**81.09 317**	*e*P		**P**	**19 30 31.9**	**+0.4**
	comp=Z,54nm,1.0s,SNR=23						
ARCES	**ARCESS Array B**	**81.34 341**	*e*P		**P**	**19 30 32.0**	**-0.2**
ARCES	**ARCESS Array B**	**81.34 341**	P		**P**	**19 30 32.2**	**0.0**
	comp=Z,29nm,0.8s,baz=109,slow=6.6,SNR=34						
ARCES			LR	LR		20 08 39.5	
	comp=Z,2μm,19.6s,baz=119,slow=37						
ARE0	**ARCESS Array S**	**81.34 341**	*e*P		**P**	**19 30 32.1**	**-0.1**
ARE0			LR	LR			
	comp=Z,100nm,19.0s						
JAVS	**Javornik**	**81.34 316**	*e*P		**P**	**19 30 32.4**	**-0.4**
AQU	**L'Aquila**	**81.36 313**	*e*P		**P**	**19 30 33.3**	**+0.4**
	comp=Z,115nm,1.0s						
AQU			LR	LR			
	comp=Z,700nm,20.0s						
AQU	**L'Aquila**	**81.36 313**	P		**P**	**19 30 33.5**	**+0.6**
AQU	**L'Aquila**	**81.36 313**	⇓*i*P		**P**	**19 30 33.2**	**+0.3**
GOPC	**GO Pecny, Ondr**	**81.44 320**	*e*P		**P**	**19 30 33.8**	**+0.6**
GOPC			*e*			19 30 47.3	
GOPC			*e*S		**S**	**19 40 38.8**	**-4.2**
GOPC			MLR	MLR			
	comp=Z,600nm,16.4s						
GOPC	**GO Pecny, Ondr**	**81.44 320**	*e*P		**P**	**19 30 33.8**	**+0.6**
GOPC			*e*x		x	19 30 47.3	
GOPC			*e*S		**S**	**19 40 38.8**	**-4.2**
GOPC			AMS	AMS		20 11 40.0	
	comp=Z,600nm,16.4s						
MOA	**Molln**	**81.47 318**	*e*P		**P**	**19 30 33.5**	**+0.1**
	comp=Z,29nm,1.2s,SNR=13						
TRI	**Trieste**	**81.52 316**	*e*P		**P**	**19 30 32.8**	**-0.8**
	comp=Z,30nm,0.9s						
TRI	**Trieste**	**81.52 316**	P		**P**	**19 30 33.5**	**-0.1**
PRU	**Pruhonice**	**81.61 320**	*e*P		**P**	**19 30 34.7**	**+0.7**
PRU			*e*			19 30 47.7	
PRU			*e*S		**S**	**19 40 45.1**	**+0.5**
PRU			MLR	MLR			
	comp=Z,600nm,18.7s						
PRU	**Pruhonice**	**81.61 320**	*e*P		**P**	**19 30 34.7**	**+0.7**
PRU			*e*x		x	19 30 47.7	
PRU			*e*S		**S**	**19 40 45.1**	**+0.5**
PRU			AMS	AMS		20 07 10.0	
	comp=Z,600nm,18.7s						
PVCC	**Panska Ves**	**81.68 321**	*e*P		**P**	**19 30 35.1**	**+0.7**
PVCC			*e*			19 30 49.6	
PVCC			*e*S		**S**	**19 40 44.7**	**-0.6**
PVCC			MLR	MLR			
	comp=Z,800nm,18.6s						
PVCC	**Panska Ves**	**81.68 321**	*e*P		**P**	**19 30 35.1**	**+0.7**
PVCC			*e*x		x	19 30 49.6	
PVCC			*e*S		**S**	**19 40 44.7**	**-0.6**
PVCC			AMS	AMS		20 12 00.0	
	comp=Z,800nm,18.6s						
MYKA	**Terra Mystica**	**81.72 317**	*e*P		**P**	**19 30 35.2**	**+0.3**
	comp=Z,93nm,1.5s,SNR=38						
KBA	**Koelnbreinsper**	**81.99 317**	*e*P		**P**	**19 30 36.0**	**-0.3**
	comp=Z,49nm,1.4s,SNR=17						
KBA	**Koelnbreinsper**	**81.99 317**	P		**P**	**19 30 36.2**	**-0.1**
GEC2	**GERESS Array S**	**81.99 319**	*e*P		**P**	**19 30 36.7**	**+0.6**
	comp=Z,124nm,1.1s						
GERES	**GERESS Array B**	**81.99 319**	*e*P		**P**	**19 30 35.9**	**-0.3**
GERES	**GERESS Array B**	**81.99 319**	P		**P**	**19 30 36.8**	**+0.6**
	comp=Z,42nm,0.8s,baz=100,slow=5.5,SNR=326						
GERES			LR	LR		20 10 51.5	
	comp=Z,316nm,19.8s,baz=106,slow=38						
KHC	**Kasperske Hory**	**82.11 319**	*e*P		**P**	**19 30 36.6**	**-0.1**
	comp=Z,34nm,1.5s						
KHC	**Kasperske Hory**	**82.11 319**	*e*P		**P**	**19 30 37.0**	**+0.3**
KHC			*e*			19 30 51.5	
KHC			*e*S		**S**	**19 40 46.9**	**-3.0**
KHC			MLR	MLR			
	comp=Z,600nm,15.8s						
KHC	**Kasperske Hory**	**82.11 319**	*e*P		**P**	**19 30 37.0**	**+0.3**
KHC			*e*x		x	19 30 51.5	
KHC			*e*S		**S**	**19 40 46.9**	**-3.0**
KHC			AMS	AMS		20 13 10.0	
	comp=Z,600nm,15.8s						
BRG	**Berggiesshubel**	**82.12 321**	*i* P		**P**	**19 30 37.4**	**+0.7**
	comp=Z,83nm,1.6s						
BRG			*i*			19 30 51.0	
	comp=Z,55nm,1.5s						
BRG			*e*PP		**PP**	**19 33 42.5**	**-2.4**
	comp=Z,32nm,2.0s						
BRG			S		**S**	**19 40 49.0**	**-0.9**
BRG			SS		**SS**	**19 46 02.0**	**-7.6**
BRG	**Berggiesshubel**	**82.12 321**	*i* P		**P**	**19 30 37.4**	**+0.7**
BRG			*i*			19 30 51.0	
BRG			*e*			19 33 42.5	
BRG			S		**S**	**19 40 49.0**	**-0.9**
BRG			pmax	pmax			
	comp=Z,83nm,1.6s						
BRG			MLR	MLR			
	comp=N,519nm,21.1s						
BRG			MLR	MLR			
	comp=E,958nm,20.2s						
BRG			MLR	MLR			
	comp=Z,1μm,19.1s						
RPZ	**Rata Peaks**	**82.32 134**	P		**P**	**19 30 37.2**	**-0.7**
	comp=Z,18nm,0.8s,baz=18,slow=9.8,SNR=7.2						
RPZ			LR	LR		20 03 24.5	
	comp=Z,693nm,21.5s,baz=280,slow=33						
RUE	**Ruedersdorf**	**82.46 323**	*e*P		**P**	**19 30 38.0**	**-0.4**
RUE			IAmb	IAmb		19 30 39.5	
	comp=Z,71nm,1.0s						
ABTA	**Abfaltersbach**	**82.51 317**	*e*P		**P**	**19 30 38.9**	**-0.1**
	comp=Z,51nm,1.5s,SNR=15						
CLL	**Collm**	**82.77 322**	*e*P		**P**	**19 30 40.0**	**-0.1**
	comp=Z,34nm,1.1s						
CLL	**Collm**	**82.77 322**	⇓*i*P		**P**	**19 30 39.8**	**-0.3**
CLL			*i*			19 30 53.7	
CLL			*e*S		**S**	**19 40 53.0**	**-3.5**
CLL			pmax	pmax			
	comp=Z,44nm,1.3s						
CLL			MLR	MLR			
	comp=Z,600nm,20.0s						
CLL	**Collm**	**82.77 322**	⇓*i*P		**P**	**19 30 39.8**	**-0.3**
	comp=Z,44nm,1.3s						
CLL			*i*			19 30 53.7	
CLL			*e*			19 31 05.0	
CLL			*e*S		**S**	**19 40 53.0**	**-3.5**
CLL			*e*PS		**PnS**	**19 41 51.0**	**+2.1**
CLL			*e*PPS	PPS		19 42 12.0	
CLL			*e*SS		**SS**	**19 46 16.0**	**-3.2**
CLL			*e*			19 50 08.0	
CLL			*e*SSSS			19 52 30.0	
CLL			Lm	MLR		20 12 00.0	
	comp=N,500nm,21.4s						
CLL			Lm	MLR		20 12 00.0	
	comp=E,400nm,19.8s						
CLL			Lm	MLR		20 12 00.0	
	comp=Z,600nm,20.0s						
OXZ	**Oxford**	**82.98 134**	PFAKE			19 30 50.0	+8.7
OXZ			LR	LR			
	comp=Z,1μm,18.0s						
NKC	**Novy Kostel**	**82.98 320**	*e*P		**P**	**19 30 42.1**	**+0.9**
NKC			*e*			19 30 56.0	
NKC			MLR	MLR			
	comp=Z,700nm,16.3s						
NKC	**Novy Kostel**	**82.98 320**	*e*P		**P**	**19 30 42.1**	**+0.9**
NKC			*e*x		x	19 30 56.0	
NKC			AMS	AMS		20 12 40.0	
	comp=Z,700nm,16.3s						
WTTA	**Wattenberg**	**83.17 317**	*e*P		**P**	**19 30 42.3**	**-0.2**
	comp=Z,65nm,0.9s,SNR=30						
WATA	**Walderalm**	**83.21 317**	*e*P		**P**	**19 30 42.3**	**-0.4**
	comp=Z,55nm,1.1s,SNR=18						
BILL	**Bilibino**	**83.26 21**	*e*P		**P**	**19 30 42.3**	**0.0**
	comp=Z,21nm,1.5s						
BILL	**Bilibino**	**83.26 21**	*e*P		**P**	**19 30 42.2**	**0.0**
BILL			*e*			19 30 46.7	
BILL			*e*			19 33 50.6	
BILL			*e*PPP	PPP		19 35 44.1	
BILL			pmax	pmax			
	comp=Z,12nm,1.7s						
BILL			MLR	MLR			
	comp=Z,1μm,20.0s						
THZ	**Tophouse**	**83.42 132**	*e*P		**P**	**19 30 42.4**	**-1.3**
	comp=Z,23nm,0.8s						
SQTA	**Sankt Quirin**	**83.45 317**	*e*P		**P**	**19 30 43.6**	**-0.2**
	comp=Z,27nm,0.6s,SNR=25						
MOTA	**Moosalm**	**83.53 317**	*e*P		**P**	**19 30 44.0**	**-0.4**
	comp=Z,20nm,0.5s,SNR=31						
GRA1	**Grafenberg Arr**	**83.70 320**	*e*P		**P**	**19 30 45.3**	**+0.4**
	comp=Z,39nm,1.0s						
GRFO	**Grafenberg**	**83.70 320**	*e*P		**P**	**19 30 45.6**	**+0.6**
	comp=Z,35nm,1.0s						
VLC	**Villacollemand**	**83.73 314**	*e*P		**P**	**19 30 44.8**	**-0.5**
	comp=Z,37nm,1.2s						
FETA	**Feichten**	**83.76 317**	*e*P		**P**	**19 30 45.7**	**+0.2**
	comp=Z,46nm,1.0s,SNR=22						
RETA	**Reute**	**83.78 318**	*e*P		**P**	**19 30 45.7**	**+0.2**
	comp=Z,22nm,0.5s,SNR=33						
KEST	**Kesra**	**83.92 306**	*e*P		**P**	**19 30 47.2**	**+0.7**
	comp=Z,71nm,0.9s						
KEST			LR	LR			
	comp=Z,500nm,20.0s						
KEST	**Kesra**	**83.92 306**	P		**P**	**19 30 47.7**	**+1.2**
	comp=Z,46nm,0.9s,baz=308,slow=1.4,SNR=37						
KEST			LR	LR		20 10 42.1	
	comp=Z,362nm,19.7s,baz=17,slow=38						
KHZ	**Kahutara**	**83.96 133**	*e*P		**P**	**19 30 45.6**	**-0.8**
	comp=Z,23nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**84.04 317**	*e*P		**P**	**19 30 46.9**	**-0.2**
	comp=Z,94nm,1.0s						
DAVA	**Damuels**	**84.36 317**	*e*P		**P**	**19 30 49.0**	**+0.5**
	comp=Z,120nm,0.9s,SNR=41						
PGF	**Pioggiola**	**84.62 312**	*e*P		**P**	**19 30 49.4**	**-0.5**
PGF			pmax	pmax			
	comp=Z,46nm,1.1s						
TUE	**Stuetta**	**84.66 316**	*e*P		**P**	**19 30 49.9**	**-0.2**
	comp=Z,28nm,0.8s						
NORES	**NORESS Array B**	**84.85 331**	P		**P**	**19 30 49.8**	**-0.7**
NB2	**NORSAR Subarra**	**85.05 331**	P		**P**	**19 30 50.5**	**-1.0**
	comp=Z,27nm,1.4s,baz=96,slow=6.2						
NB2	**NORSAR Subarra**	**85.05 331**	P		**P**	**19 30 50.3**	**-1.3**
NB2	**NORSAR Subarra**	**85.05 331**	P		**P**	**19 30 50.5**	**-1.0**
	baz=96,slow=6.2						
NOA	**NORSAR Array B**	**85.05 331**	P		**P**	**19 30 50.5**	**-1.0**
	comp=Z,7.3nm,0.9s,baz=96,slow=5.7,SNR=12						
NOA			LR	LR		20 12 52.6	
	comp=Z,417nm,18.2s,baz=80,slow=38						
NAO01	**NORSAR Array S**	**85.19 331**	*e*P		**P**	**19 30 51.6**	**-0.6**
	comp=Z,87nm,1.4s						
NBO00	**NORSAR Array S**	**85.26 331**	*e*P		**P**	**19 30 52.0**	**-0.6**
	comp=Z,76nm,1.4s						
NC204	**NORSAR Array S**	**85.30 331**	*e*P		**P**	**19 30 52.2**	**-0.6**
	comp=Z,156nm,1.9s						
ABSA	**Djebel Ababsia**	**85.46 306**	P		**P**	**19 30 55.7**	**+1.5**
BFO	**Black Forest**	**85.48 318**	*e*P		**P**	**19 30 53.6**	**-0.4**
	comp=Z,13nm,0.8s						
CMAH	**Djebel Manchou**	**85.52 306**	P		**P**	**19 30 55.3**	**+0.8**
KONO	**Kongsberg**	**85.69 330**	⇑*e*P		**P**	**19 30 54.8**	**+0.1**
KONO			pmax	pmax			
	comp=Z,24nm,1.3s						
SBF	**Sospel**	**85.84 314**	*e*P		**P**	**19 30 55.5**	**-0.4**
SBF			pmax	pmax			
	comp=Z,63nm,1.1s						
BKZ	**Black Stump Fm**	**85.88 129**	*e*P		**P**	**19 30 55.1**	**-1.1**
	comp=Z,37nm,1.2s						
SENIN	**Lac Senin/Sane**	**86.06 316**	*e*P		**P**	**19 30 56.9**	**-0.2**
	comp=Z,202nm,1.9s						
CKFL	**Kef-Lekhel**	**86.07 306**	P		**P**	**19 30 58.5**	**+1.2**
CDF	**Champ du Feu**	**86.19 318**	*e*P		**P**	**19 30 56.6**	**-1.0**
CDF			pmax	pmax			
	comp=Z,16nm,1.1s						
CASM	**Ain Smara**	**86.25 306**	P		**P**	**19 30 59.0**	**+0.9**
ECH	**Echery**	**86.25 318**	*e*P		**P**	**19 30 57.7**	**-0.1**
	comp=Z,21nm,1.0s						
HSPB	**Hornsund (broa**	**86.30 347**	*e*P		**P**	**19 30 57.5**	**+0.1**
URZ	**Urewera**	**86.30 128**	*e*P		**P**	**19 30 56.8**	**-1.5**
	comp=Z,36nm,1.0s						
CTEI	**Djebel Teioual**	**86.32 306**	P		**P**	**19 30 59.7**	**+1.2**
MBDF	**Montbardon**	**86.36 315**	*e*P		**P**	**19 30 57.5**	**-1.1**
MBDF			pmax	pmax			
	comp=Z,13nm,0.9s						
VNDA	**Vanda**	**86.38 168**	*e*P		**P**	**19 30 57.3**	**-0.5**
VNDA			*e*PcP		**P**	**19 30 57.5**	**-0.3**
VNDA	**Vanda**	**86.38 168**	P		**P**	**19 30 57.3**	**-0.5**
	comp=Z,8.5nm,1.0s,baz=31,slow=7.8,SNR=3.1						
VNDA			LR	LR		20 03 46.4	
	comp=Z,926nm,20.1s,baz=294,slow=32						
SPA0	**Spitsbergen Ar**	**86.39 348**	*e*P		**P**	**19 30 57.2**	**-0.6**
	comp=Z,45nm,1.1s						
FRF	**La Foret Royal**	**86.39 313**	*e*P		**P**	**19 30 58.3**	**-0.3**
FRF			pmax	pmax			
	comp=Z,34nm,1.1s						
LPG	**La Plagne**	**86.40 315**	*e*P		**P**	**19 30 58.4**	**-0.5**
LPG			pmax	pmax			
	comp=Z,30nm,1.0s						
LPL	**La Plagne**	**86.42 315**	*e*P		**P**	**19 30 58.5**	**-0.4**
LPL			pmax	pmax			
	comp=Z,34nm,1.0s						
BNI	**Bardonecchia**	**86.44 315**	*e*P		**P**	**19 30 58.3**	**-0.7**
	comp=Z,22nm,1.1s						
HINF	**Hinteralfeld**	**86.44 318**	*e*P		**P**	**19 31 00.2**	**+1.4**
HINF			pmax	pmax			
	comp=Z,6.0nm,1.0s						
LMR	**La Mourre**	**86.49 313**	*e*P		**P**	**19 30 58.7**	**-0.3**
LMR			pmax	pmax			
	comp=Z,34nm,1.5s						
DFRA	**Djebel Bou Aff**	**86.76 306**	P		**P**	**19 31 02.0**	**+1.3**
HAU	**Haudompre**	**86.79 318**	*e*P		**P**	**19 30 59.6**	**-0.8**
HAU			pmax	pmax			
	comp=Z,37nm,1.1s						
TAM	**Tamanrasset**	**86.84 293**	*e*P		**P**	**19 31 02.2**	**+0.8**
	comp=Z,20nm,0.9s						
TAM			LR	LR			
	comp=Z,500nm,19.0s						
CABF	**La Chapelle**	**86.91 316**	*e*P		**P**	**19 31 01.0**	**-0.2**
CABF			pmax	pmax			
	comp=Z,100nm,1.6s						
WLF	**Walferdange**	**86.98 320**	⇑P		**P**	**19 31 01.7**	**+0.4**
	comp=Z,28nm,1.6s						
WLF			⇑sP		**pwP**	**19 31 16.0**	**+1.6**
ORIF	**Oris-en-Rattie**	**87.00 315**	*e*P		**P**	**19 31 01.5**	**-0.1**
ORIF			pmax	pmax			
	comp=Z,56nm,1.6s						
MEM	**Membach**	**87.12 320**	⇓P		**P**	**19 31 01.9**	**0.0**
MEM			⇓pP		**pP**	**19 31 09.6**	**+0.4**
MEM			⇓sP		**pwP**	**19 31 16.2**	**+1.2**
KBS	**Kingsbay**	**87.40 349**	*e*P		**P**	**19 31 02.0**	**-0.7**
	comp=Z,21nm,1.0s						
KBS			LR	LR			
	comp=Z,2μm,21.0s						
KBS	**Kingsbay**	**87.40 349**	⇑*e*P		**P**	**19 31 02.3**	**-0.5**
KBS			pmax	pmax			
	comp=Z,72nm,1.3s						
SBA	**Scott Base**	**87.49 168**	*e*P		**P**	**19 31 03.7**	**+0.5**
	comp=Z,16nm,0.8s						
BCLA	**Clavier**	**87.56 320**	⇓P		**P**	**19 31 03.9**	**-0.2**
BCLA			⇓sP		**pwP**	**19 31 18.2**	**+1.0**
VIVF	**Saint-Julien-l**	**87.85 315**	*e*P		**P**	**19 31 05.4**	**-0.3**
VIVF			pmax	pmax			
	comp=Z,51nm,1.7s						
GIVF	**Givet**	**87.86 320**	*e*P		**P**	**19 31 05.0**	**-0.5**
GIVF			pmax	pmax			
	comp=Z,34nm,1.2s						
SSB	**Saint Sauveur**	**87.95 315**	*e*P		**P**	**19 31 06.3**	**+0.1**
	comp=Z,18nm,0.9s						
DOU	**Dourbes**	**88.00 320**	⇑P		**P**	**19 31 06.7**	**+0.5**
	comp=Z,16nm,2.3s						
SNF	**Seneffe**	**88.21 320**	⇓P		**P**	**19 31 07.2**	**0.0**
BAIF	**Baives**	**88.25 320**	*e*P		**P**	**19 31 07.1**	**-0.3**
BAIF			pmax	pmax			
	comp=Z,26nm,1.0s						
LOR	**Lormes**	**88.45 317**	*e*P		**P**	**19 31 08.0**	**-0.4**
LOR			pmax	pmax			
	comp=Z,47nm,1.2s						
SMF	**Signal de Mont**	**88.46 316**	*e*P		**P**	**19 31 07.9**	**-0.6**
SMF			pmax	pmax			
	comp=Z,46nm,1.4s						
SSF	**Saint Saulge**	**88.69 317**	*e*P		**P**	**19 31 09.3**	**-0.2**
SSF			pmax	pmax			
	comp=Z,60nm,1.6s						
AVF	**Avril sur Loir**	**88.80 317**	*e*P		**P**	**19 31 09.5**	**-0.5**
AVF			pmax	pmax			
	comp=Z,33nm,1.2s						
BGF	**Bois d'Agland**	**89.14 316**	*e*P		**P**	**19 31 11.7**	**0.0**
BGF			pmax	pmax			
	comp=Z,43nm,1.1s						
MTLF	**Montolieu**	**89.62 313**	*e*P		**P**	**19 31 14.1**	**+0.1**
MTLF			pmax	pmax			
	comp=Z,41nm,1.4s						
RJF	**Les Rejaudoux**	**90.09 315**	*e*P		**P**	**19 31 16.5**	**+0.4**
RJF			pmax	pmax			
	comp=Z,77nm,1.6s						
TOC2	**Torodi Ar. Sit**	**90.51 283**	PFAKE			19 31 30.0	+11
TOC2			LR	LR			
	comp=Z,800nm,19.0s						
TOC3	**Torodi Ar. Sit**	**90.51 283**	PFAKE			19 31 30.0	+11
TOC3			LR	LR			
	comp=Z,800nm,19.0s						
TOB2	**Torodi Ar. Sit**	**90.52 283**	PFAKE			19 31 30.0	+11
TOB2			LR	LR			
	comp=Z,5μm,19.0s						
TOB3	**Torodi Ar. Sit**	**90.53 283**	PFAKE			19 31 30.0	+11
TOB3			LR	LR			
	comp=Z,800nm,18.0s						
TOC1	**Torodi Ar. Sit**	**90.53 283**	PFAKE			19 31 30.0	+11
TOC1			LR	LR			
	comp=Z,900nm,19.0s						
TOA2	**Torodi Ar. Sit**	**90.53 283**	PFAKE			19 31 30.0	+11
TOA2			LR	LR			
	comp=Z,4μm,19.0s						
TOC4	**Torodi Ar. Sit**	**90.53 283**	PFAKE			19 31 30.0	+11
TOC4			LR	LR			
	comp=Z,900nm,18.0s						
TOA0	**Torodi Ar. Sit**	**90.53 283**	*e*P		**P**	**19 31 18.6**	**-0.3**
	comp=Z,18nm,1.3s						
TOA0			LR	LR			
	comp=Z,900nm,19.0s						
TORD	**Torodi Ar. Bea**	**90.53 283**	P		**P**	**19 31 17.8**	**-1.0**
	comp=Z,6.9nm,1.0s,baz=45,slow=3.9,SNR=22						
TORD			LR	LR		20 10 59.6	
	comp=Z,554nm,18.2s,baz=0.0,slow=35						
TOA3	**Torodi Ar. Sit**	**90.54 283**	PFAKE			19 31 30.0	+11
TOA3			LR	LR			
	comp=Z,800nm,19.0s						
TOA1	**Torodi Ar. Sit**	**90.54 283**	PFAKE			19 31 30.0	+11
TOA1			LR	LR			
	comp=Z,800nm,18.0s						
TOB4	**Torodi Ar. Sit**	**90.55 283**	PFAKE			19 31 30.0	+11
TOB4			LR	LR			
	comp=Z,900nm,19.0s						
TOB5	**Torodi Ar. Sit**	**90.55 283**	PFAKE			19 31 30.0	+11
TOB5			LR	LR			
	comp=Z,900nm,19.0s						
TOC7	**Torodi Ar. Sit**	**90.55 283**	PFAKE			19 31 30.0	+11
TOC7			LR	LR			
	comp=Z,900nm,19.0s						
TOC5	**Torodi Ar. Sit**	**90.56 283**	PFAKE			19 31 30.0	+11
TOC5			LR	LR			
	comp=Z,1μm,19.0s						
LFF	**La Frestale**	**90.65 315**	*e*P		**P**	**19 31 19.0**	**+0.3**
LFF			pmax	pmax			
	comp=Z,29nm,1.0s						
QSPA	**South Pole Qui**	**90.74 180**	*e*P		**P**	**19 31 19.0**	**+0.1**
	comp=Z,59nm,1.2s						
LDF	**La Druitiere**	**91.11 318**	*e*P		**P**	**19 31 20.4**	**-0.4**
LDF			pmax	pmax			
	comp=Z,38nm,1.1s						
MFF	**Saint Martin d**	**91.21 316**	*e*P		**P**	**19 31 21.0**	**-0.3**
MFF			pmax	pmax			
	comp=Z,104nm,1.8s						
FLN	**La Foliniere**	**91.34 319**	*e*P		**P**	**19 31 21.5**	**-0.3**
FLN			pmax	pmax			
	comp=Z,58nm,1.4s						
GRR	**Gorron**	**91.61 318**	*e*P		**P**	**19 31 22.9**	**-0.2**
GRR			pmax	pmax			
	comp=Z,54nm,1.3s						
ETSF	**Etsaut**	**91.66 313**	*e*P		**P**	**19 31 24.0**	**+0.4**
ETSF			pmax	pmax			
	comp=Z,28nm,1.4s						
GAMB	**Gambell**	**91.90 26**	PFAKE			19 31 40.0	+16
GAMB			LR	LR			
	comp=Z,1μm,18.0s						
SJPF	**Ste Jean**	**92.14 313**	*e*P		**P**	**19 31 26.3**	**+0.6**
SJPF			pmax	pmax			
	comp=Z,43nm,1.2s						
SNAA	**Sanae**	**92.41 198**	P		**P**	**19 31 26.7**	**+0.3**
SNAA	**Sanae**	**92.41 198**	*e*P		**P**	**19 31 26.6**	**+0.3**
	comp=Z,22nm,0.9s						
SNAA	**Sanae**	**92.41 198**	*c i*P		**P**	**19 31 26.7**	**+0.3**
EKA	**Eskdalemuir Ar**	**92.55 325**	P		**P**	**19 31 26.6**	**-0.7**
EKA			pmax	pmax			
	comp=Z,1.0nm,0.4s						
VNA2	**Neumayer--Watz**	**93.95 199**	P		**P**	**19 31 33.8**	**+0.3**
	baz=95,slow=3.

IMAR Indian Mountai 98.79 22 *e*P **P 19 31 54.2 -1.3**
SDPT Sand Point 99.02 34 PFAKE 19 32 10.0 +13
SDPT LR LR
comp=Z,400nm,21.0s
TOLK Toolik Lake Re 99.17 19 PFAKE 19 32 10.0 +13
TOLK LR LR
comp=Z,2µm,18.0s
TOLK Toolik Lake Re 99.17 19 P **Pdif 19 31 57.3 +0.1**
baz=297
SVW2 Sparrevohn 99.79 27 PFAKE 19 32 10.0 +10
SVW2 LR LR
comp=Z,700nm,18.0s
MLY Manley 100.33 23 PFAKE 19 32 10.0 +7.6
MLY LR LR
comp=Z,500nm,21.0s
SUMG Summit 100.61 347 PFAKE 19 32 20.0 +16
SUMG LR LR
comp=Z,700nm,21.0s
BPAW Bear Paw Mtn. 100.62 24 PFAKE 19 32 10.0 +6.3
BPAW LR LR
comp=Z,900nm,19.0s
BWN Browne 101.19 23 PFAKE 19 32 20.0 +14
BWN LR LR
comp=Z,1µm,19.0s
MDM Murphy Dome 101.31 22 PFAKE 19 32 20.0 +13
MDM LR LR
comp=Z,600nm,19.0s
COLA College 101.50 22 PFAKE 19 32 20.0 +12
COLA LR LR
comp=Z,500nm,19.0s
WRH Wood River Hil 101.59 23 PFAKE 19 32 20.0 +12
WRH LR LR
comp=Z,600nm,21.0s
MCK McKinley 101.60 23 PFAKE 19 32 20.0 +12
MCK LR LR
comp=Z,1µm,18.0s
CCB Clear Creek Bu 101.62 22 PFAKE 19 32 20.0 +12
CCB LR LR
comp=Z,400nm,20.0s
FYU Fort Yukon 101.62 20 PFAKE 19 32 20.0 +12
FYU LR LR
comp=Z,1µm,19.0s
RND Reindeer 101.78 24 PFAKE 19 32 20.0 +11
RND LR LR
comp=Z,700nm,18.0s
SUA Susitna One 101.81 26 PFAKE 19 32 20.0 +11
SUA LR LR
comp=Z,500nm,20.0s
ILAR Eielson Array 101.91 22 P **Pdif 19 32 08.7 -0.8**
comp=Z,0.2nm,0.6s,baz=283,slow=4.5,SNR=3.5
ILAR PP **PP 19 36 24.4 +4.1**
comp=Z,1.0nm,0.9s,baz=296,slow=7.2,SNR=5.7
ILAR PKKPbc **PKKPbc 19 48 13.3 -3.6**
comp=Z,0.9nm,0.8s,baz=147,slow=2.9,SNR=7.0
ILAR PKKP **PKKPdf 19 48 23.8 +0.6**
comp=Z,0.4nm,0.8s,baz=149,slow=1.9,SNR=3.2
TULEG Thule 102.04 356 PFAKE 19 32 20.0 +10
TULEG LR LR
comp=Z,900nm,20.0s
PRP Porcupine Dome 102.05 21 PFAKE 19 32 20.0 +10
PRP LR LR
comp=Z,800nm,18.0s
HDA Harding Lake 102.06 22 PFAKE 19 32 20.0 +10
HDA LR LR
comp=Z,600nm,22.0s
KDAK Kodiak Island 102.40 30 PFAKE 19 32 20.0 +8.3
KDAK LR LR
comp=Z,1µm,20.0s
RC01 Rabbit Creek A 102.41 26 PFAKE 19 32 20.0 +8.3
RC01 LR LR
comp=Z,600nm,18.0s
PMR Palmer 102.46 26 PFAKE 19 32 20.0 +8.1
PMR LR LR
comp=Z,900nm,18.0s
GHO Glory Hole Cre 102.47 25 PFAKE 19 32 20.0 +7.9
GHO LR LR
comp=Z,600nm,19.0s
DHY Denali Highway 102.52 24 PFAKE 19 32 20.0 +7.6
DHY LR LR
comp=Z,700nm,19.0s
SML Sawmill 102.71 25 PFAKE 19 32 20.0 +6.9
SML LR LR
comp=Z,600nm,19.0s
KNK Knik Glacier 102.83 26 PFAKE 19 32 20.0 +6.4
KNK LR LR
comp=Z,900nm,18.0s
SCM Sheep Creek Mo 103.12 25 PFAKE 19 32 30.0 +15
SCM LR LR
comp=Z,600nm,20.0s
RIDG Independent Ri 103.20 23 PFAKE 19 32 30.0 +15
RIDG LR LR
comp=Z,600nm,21.0s
PAX Paxson 103.34 23 PFAKE 19 32 30.0 +14
PAX LR LR
comp=Z,900nm,18.0s
SCRK Sand Creek 103.40 22 PFAKE 19 32 30.0 +14
SCRK LR LR
comp=Z,600nm,18.0s
DOT Dot Lake 103.54 23 PFAKE 19 32 30.0 +13
DOT LR LR
comp=Z,500nm,20.0s
GLI Glacier Island 103.66 26 PFAKE 19 32 30.0 +13
GLI LR LR
comp=Z,800nm,18.0s
KLU Klutina 103.87 25 PFAKE 19 32 30.0 +12
KLU LR LR
comp=Z,600nm,19.0s
EGAK Eagle 104.00 21 PFAKE 19 32 30.0 +11
EGAK LR LR
comp=Z,900nm,19.0s
MENT Mentasta 104.04 23 PFAKE 19 32 30.0 +11
MENT LR LR
comp=Z,700nm,18.0s
DIV Divide 104.11 25 PFAKE 19 32 30.0 +11
DIV LR LR
comp=Z,700nm,19.0s
INK Inuvik 104.23 16 *e*PKKPbc PKKPbc 19 48 06.1 -4.0
INK LR LR
comp=Z,1µm,21.0s
INK Inuvik 104.23 16 PKKPbc PKKPbc 19 48 06.3 -3.8
comp=Z,2.5nm,0.8s,baz=89,slow=2.6,SNR=9.8
INK PKKP **PKKPdf 19 48 20.5 +1.6**
comp=Z,1.7nm,1.0s,baz=166,slow=2.9,SNR=2.9
EYAK Cordova Ski Ar 104.40 26 PFAKE 19 32 30.0 +9.4
EYAK LR LR
comp=Z,1µm,20.0s
RES Resolute Bay 104.50 2 Pdiff **Pdif 19 32 27.5 +6.8**
comp=Z,0.3nm,0.4s,baz=326,slow=3.6,SNR=3.1
RES PKKPbc **PKKPbc 19 48 05.9 -3.5**
comp=Z,0.9nm,0.8s,baz=253,slow=7.0,SNR=4.1
EPYK Eagle Plains 104.55 18 PFAKE 19 32 30.0 +8.8
EPYK LR LR
comp=Z,1µm,18.0s
DAWY Dawson 105.04 21 PFAKE 19 36 50.0 +12
DAWY LR LR
comp=Z,800nm,22.0s
HMT Hamilton 105.15 26 PFAKE 19 36 50.0 +12
HMT LR LR
comp=Z,900nm,18.0s
TGL Tana Glacier 105.54 25 PFAKE 19 36 50.0 +11
TGL LR LR
comp=Z,600nm,20.0s
BALM Baldy 105.59 24 PFAKE 19 36 50.0 +11
BALM LR LR
comp=Z,500nm,20.0s
CTGM Chitina Glacie 106.05 24 PFAKE 19 36 50.0 +10
CTGM LR LR
comp=Z,800nm,19.0s
BCPM Bancas Point 107.31 25 PFAKE 19 36 50.0 +7.8
BCPM LR LR
comp=Z,500nm,20.0s
WHY Whitehorse 108.79 22 PFAKE 19 37 00.0 +15
WHY LR LR
comp=Z,700nm,20.0s
SKAG Skagway 109.36 24 PFAKE 19 37 00.0 +14
SKAG LR LR
comp=Z,500nm,20.0s
BESE Bessie Mountai 110.11 24 PFAKE 19 37 00.0 +12
BESE LR LR
comp=Z,600nm,20.0s
JIS Juneau Island 110.49 24 PFAKE 19 37 00.0 +12
JIS LR LR
comp=Z,600nm,19.0s
SDHHI Sand Hill 110.69 69 PFAKE 19 37 00.0 +10
SDHHI LR LR
comp=Z,2µm,22.0s

UWB Uwekahuna B 110.70 69 PFAKE 19 37 00.0 +10
UWB LR LR
comp=Z,3µm,18.0s
SIT Sitka 110.85 26 PFAKE 19 37 00.0 +11
SIT LR LR
comp=Z,600nm,20.0s
STCH Steam Cracks 110.85 69 PFAKE 19 37 00.0 +10
STCH LR LR
comp=Z,2µm,18.0s
JCUZ Jacuzzi 110.87 69 PFAKE 19 37 00.0 +10
JCUZ LR LR
comp=Z,2µm,18.0s
DLBC Dease Lake 112.11 23 PFAKE 19 37 00.0 +8.6
DLBC LR LR
comp=Z,700nm,21.0s
WRAK Wrangell Islan 112.53 25 PFAKE 19 37 00.0 +7.9
WRAK LR LR
comp=Z,700nm,19.0s
YKW3 Yellowknife Ar 113.61 13 PFAKE 19 37 10.0 +16
YKW3 LR LR
comp=Z,700nm,22.0s
YKA Yellowknife Ar 113.67 13 PKiKP **PKiKP 19 36 52.8 -1.3**
comp=Z,0.4nm,0.7s,baz=333,slow=2.3,SNR=4.9
YKA PP **PP 19 37 49.2 +3.2**
comp=Z,2.5nm,1.1s,baz=333,slow=6.6,SNR=8.4
YKA PKKPbc **PKKPbc 19 47 37.0 -2.8**
comp=Z,1.8nm,0.8s,baz=148,slow=3.1,SNR=24
YKA PKKPab **PKKPab 19 47 43.5 -2.0**
comp=Z,1.9nm,0.8s,baz=143,slow=4.4,SNR=17
YKA PKKP **PKKPdf 19 47 56.5 -4.7**
comp=Z,0.9nm,0.8s,baz=146,slow=4.0,SNR=3.6
TBI Tubuai 116.00 116 *e*LR LR 20 12 06.8
comp=Z,438nm,28.8s
PPT2 Papeete2 116.86 109 *e*LR LR 20 12 20.0
comp=Z,411nm,25.8s
FCC Fort Churchill 120.40 4 PFAKE 19 37 20.0 +13
FCC LR LR
comp=Z,800nm,20.0s
LLLB Lilloоet 121.05 25 PFAKE 19 37 20.0 +11
LLLB LR LR
comp=Z,700nm,19.0s
B05A Bryant 122.70 27 P **PKPdf 19 37 11.2 -0.7**
baz=318
B06A Marblemount 122.79 26 PFAKE 19 37 20.0 +7.7
B06A LR LR
comp=Z,600nm,20.0s
FFC Flin Flon 123.41 10 PFAKE 19 37 20.0 +6.6
FFC LR LR
comp=Z,900nm,20.0s
E04D Cinebar 123.74 28 P **PKPdf 19 37 13.4 -0.6**
baz=316
B08A Colville Reser 123.84 25 PFAKE 19 37 30.0 +16
B08A LR LR
comp=Z,500nm,21.0s
LON Longmire 123.95 28 PFAKE 19 37 30.0 +15
LON LR LR
comp=Z,500nm,22.0s
LTY Liberty 124.10 27 PFAKE 19 37 30.0 +15
LTY LR LR
comp=Z,600nm,22.0s
C09A Chrisman Ranch 124.72 25 PFAKE 19 37 30.0 +14
C09A LR LR
comp=Z,600nm,20.0s
NEW Newport 124.83 24 PFAKE 19 37 30.0 +14
NEW LR LR
comp=Z,700nm,20.0s
NEW Newport 124.83 24 P **PKPdf 19 37 15.9 -0.2**
baz=323
D08A Wollman Farm, 125.02 26 PFAKE 19 37 30.0 +13
D08A LR LR
comp=Z,500nm,20.0s
WALA Waterton Lakes 125.39 21 PFAKE 19 37 30.0 +12
WALA LR LR
comp=Z,700nm,20.0s
J01E Myrtle Point 125.44 32 P **PKPdf 19 37 17.1 -0.2**
baz=313
I04A Tendick Farm, 125.80 31 P **PKPdf 19 37 17.7 -0.4**
baz=315
J04D Umpqua Nationa 126.34 31 P **PKPdf 19 37 19.0 -0.4**
baz=315
HUMO Hull Mountain 126.35 32 *e*PKPdf **PKPdf 19 37 18.8 -0.4**
G08A Pilot Rock 126.36 27 PFAKE 19 37 30.0 +10
G08A LR LR
comp=Z,500nm,20.0s
PINE Pine Mountain 126.54 30 *e*PKPdf **PKiKP 19 37 20.0 -0.1**
J05D Fort Rock, OR 126.76 30 P **PKPdf 19 37 19.7 -0.4**
baz=316
L04D Klamath Falls 126.96 32 P **PKPdf 19 37 19.9 -0.6**
baz=315
I07A Izee 127.02 29 PFAKE 19 37 30.0 +9.0
I07A LR LR
comp=Z,500nm,19.0s
M02C Callahan 127.24 33 P **PKPdf 19 37 19.9 -1.1**
baz=314
MSO Missoula 127.24 23 *e*PKPdf **PKPdf 19 37 20.3 -0.5**
MSO LR LR
comp=Z,500nm,18.0s
MSO Missoula 127.24 23 P **PKPdf 19 37 20.4 -0.5**
baz=326
BMO Blue Mountains 127.44 26 PFAKE 19 37 30.0 +8.2
BMO LR LR
comp=Z,400nm,20.0s
M04C Macdoel 127.52 32 P **PKPdf 19 37 20.5 -1.1**
baz=315
EGMT Eagleton 127.69 19 *e*PKPdf **PKPdf 19 37 20.6 -1.0**
EGMT LR LR
comp=Z,800nm,20.0s
EGMT Eagleton 127.69 19 P **PKPdf 19 37 21.3 -0.3**
baz=332
RCBR Riachuelo 128.19 263 *e*P **PKiKP 19 37 25.7 +1.6**
MOD Modoc Plateau 128.23 31 *e*PKPdf **PKPdf 19 37 22.2 -0.8**
CHGQ Chibougamau 128.24 349 P **PKPdf 19 37 22.3 -0.3**
baz=17
ULM Lac du Bonnet 128.66 7 PFAKE 19 37 30.0 +6.0
ULM LR LR
comp=Z,1µm,21.0s
ULM Lac du Bonnet 128.66 7 PKP **PKPdf 19 37 23.2 -0.1**
comp=Z,2.6nm,0.7s,baz=333,slow=2.3,SNR=3.4
WVOR Wild Horse Val 128.68 29 PFAKE 19 37 40.0 +16
WVOR LR LR
comp=Z,500nm,22.0s
DGMT Dagmar 128.86 14 PFAKE 19 37 40.0 +16
DGMT LR LR
comp=Z,700nm,19.0s
MATQ Matagami 128.93 352 P **PKPdf 19 37 22.6 -1.2**
baz=13
DLMT Dillon 128.98 23 PFAKE 19 37 40.0 +15
DLMT LR LR
comp=Z,600nm,22.0s
BOZ Bozeman (W) 129.15 22 PFAKE 19 37 40.0 +15
BOZ LR LR
comp=Z,500nm,20.0s
BOZ Bozeman (W) 129.15 22 P **PKPdf 19 37 24.1 -0.5**
baz=328
ORV Oroville 129.26 34 PFAKE 19 37 40.0 +15
ORV LR LR
comp=Z,300nm,18.0s
LMN Caledonia Moun 129.39 340 PFAKE 19 37 40.0 +14
LMN LR LR
comp=Z,700nm,18.0s
HLID Hailey 129.73 25 PFAKE 19 37 40.0 +13
HLID LR LR
comp=Z,500nm,22.0s
HLID Hailey 129.73 25 P **PKPdf 19 37 25.8 0.0**
baz=324
ALF01 Guarapari-ES 130.19 243 *e*P **PKiKP 19 37 29.0 +1.2**
RIB01 Linhares ES 130.27 245 *e*P **PKiKP 19 37 28.7 +0.7**
RLMT Red Lodge 130.40 20 PFAKE 19 37 40.0 +12
RLMT LR LR
comp=Z,500nm,18.0s
LKWY Lake 130.48 21 PFAKE 19 37 40.0 +12
LKWY LR LR
comp=Z,1µm,20.0s
H17A Grant Village 130.56 22 PFAKE 19 37 40.0 +12
H17A LR LR
comp=Z,900nm,19.0s
AGMN Agassiz Nation 130.58 7 *e*PKPdf **PKPdf 19 37 24.6 -2.4**
AGMN Agassiz Nation 130.58 7 P **PKPdf 19 37 26.1 -0.9**
baz=349
PNTR Pine Nut 130.63 33 PFAKE 19 37 40.0 +11
PNTR LR LR
comp=Z,600nm,22.0s
CAM01 Campos-RJ 130.65 242 *e*P **PKiKP 19 37 29.3 +0.6**
FLWY Flagg Ranch 130.79 22 PFAKE 19 37 40.0 +11
FLWY LR LR
comp=Z,500nm,20.0s

BSFB Barra de Sao F 130.81 246 *e*P **PKiKP 19 37 31.1 +2.0**
BMN Battle Mountai 130.88 30 PFAKE 19 37 40.0 +11
BMN LR LR
comp=Z,400nm,20.0s
MOOW Moose Ponds 131.05 22 PFAKE 19 37 40.0 +11
MOOW LR LR
comp=Z,500nm,19.0s
WAKR Walker 131.13 33 PFAKE 19 37 40.0 +10
WAKR LR LR
comp=Z,500nm,22.0s
SJMB Sao Joao De Ma 131.15 246 *e*P **PKiKP 19 37 31.1 +1.3**
TPAW Teton Pass 131.20 23 PFAKE 19 37 40.0 +10
TPAW LR LR
comp=Z,600nm,20.0s
LOHW Long Hollow 131.22 22 PFAKE 19 37 40.0 +10
LOHW LR LR
comp=Z,500nm,20.0s
EMMW East Machias 131.29 341 PFAKE 19 37 40.0 +11
EMMW LR LR
comp=Z,600nm,20.0s
SNOW Snow King Moun 131.29 22 PFAKE 19 37 40.0 +10
SNOW LR LR
comp=Z,600nm,19.0s
REDW Red Top Meadow 131.34 23 PFAKE 19 37 40.0 +10
REDW LR LR
comp=Z,500nm,19.0s
EYMN Ely 131.34 4 PFAKE 19 37 40.0 +11
EYMN LR LR
comp=Z,700nm,20.0s
KVN Kaiserville 131.46 32 *e*PKPdf **PKPdf 19 37 29.0 -0.2**
KVN LR LR
comp=Z,400nm,20.0s
C40A Isle Royale Na 131.47 1 PFAKE 19 37 40.0 +10
C40A LR LR
comp=Z,700nm,20.0s
RYN Ryan 131.54 33 PFAKE 19 37 40.0 +10
RYN LR LR
comp=Z,400nm,18.0s
ELK Elko 131.60 28 *e*PKPdf **PKPdf 19 37 28.6 -0.9**
ELK LR LR
comp=Z,500nm,21.0s
ELK Elko 131.60 28 *e*PKIKP **PKPdf 19 37 28.6 -0.9**
ELK MLR MLR
comp=Z,500nm,21.0s
ELK Elko 131.60 28 PKP **PKPdf 19 37 29.6 +0.1**
comp=Z,1.6nm,0.9s,baz=284,slow=5.0,SNR=6.2
NVAR Mina Array Bea 131.81 33 *e*PKPdf **PKPdf 19 37 29.2 -0.7**
NVAR Mina Array Bea 131.81 33 PKP **PKiKP 19 37 30.6 -0.4**
comp=Z,2.4nm,0.8s,baz=298,slow=1.4,SNR=12
MDPB Devils Postpil 131.95 34 PFAKE 19 37 40.0 +8.7
MDPB LR LR
comp=Z,400nm,22.0s
OMMB Old Mammoth Mi 132.01 34 PFAKE 19 37 40.0 +8.5
OMMB LR LR
comp=Z,400nm,20.0s
D47A Chapleau 132.19 356 P **PKPdf 19 37 29.8 -0.4**
baz=6.1
BW06 Boulder Array 132.34 22 PFAKE 19 37 40.0 +8.1
BW06 LR LR
comp=Z,600nm,20.0s
PD31 Pinedale Array 132.34 22 *e*PKPdf **PKPdf 19 37 29.4 -1.5**
PDAR Pinedale Array 132.34 22 *e*PKPdf **PKPdf 19 37 29.6 -1.3**
PDAR Pinedale Array 132.34 22 PKP **PKPdf 19 37 30.5 -0.3**
comp=Z,1.5nm,0.8s,baz=329,slow=1.7,SNR=8.9
ESAR Angra dos Reis 132.65 239 *e*P **PKiKP 19 37 32.5 -0.2**
PEMO Pembroke 132.84 350 P **PKPdf 19 37 31.1 -0.2**
baz=14
FRNY Flat Rock 132.90 346 PFAKE 19 37 40.0 +7.3
FRNY LR LR
comp=Z,700nm,21.0s
RSSD Black Hills 132.93 16 PFAKE 19 37 40.0 +6.9
RSSD LR LR
comp=Z,700nm,20.0s
RSSD Black Hills 132.93 16 P **PKPdf 19 37 31.2 -0.7**
baz=337
E46A Sault Ste Mari 132.96 357 P **PKPdf 19 37 31.6 0.0**
baz=4.5
E39A Mellen 132.96 3 P **PKPdf 19 37 31.4 -0.1**
baz=356
E42A Champion 132.98 0 P **PKPdf 19 37 31.1 -0.5**
baz=360
F51A Arnstein 132.99 353 P **PKPdf 19 37 31.6 0.0**
baz=10
E43A Lone Tree Farm 133.03 359 PFAKE 19 37 40.0 +7.1
E43A LR LR
comp=Z,800nm,20.0s
DUG Dugway, Tooele 133.16 27 PFAKE 19 37 40.0 +6.5
DUG LR LR
comp=Z,300nm,20.0s
DUG Dugway, Tooele 133.16 27 P **PKPdf 19 37 32.2 -0.1**
baz=324
R11A Troy Canyon, C 133.29 30 *e*PKPdf **PKPdf 19 37 31.8 -0.9**
R11A LR LR
comp=Z,300nm,20.0s
R11A Troy Canyon, C 133.29 30 P **PKPdf 19 37 32.5 -0.2**
baz=320
COWI Conover 133.29 1 PFAKE 19 37 40.0 +6.5
COWI LR LR
comp=Z,700nm,20.0s
LONY Lake Ozonia 133.33 347 PFAKE 19 37 40.0 +6.4
LONY LR LR
comp=Z,900nm,20.0s
F44A Big Bay de Noc 133.43 359 P **PKPdf 19 37 31.7 -0.7**
baz=1.6
F40A Park Falls 133.44 2 P **PKPdf 19 37 32.5 -0.1**
baz=356
BANO Bancroft 133.59 351 P **PKPdf 19 37 32.4 -0.4**
baz=13
KLBO Killbear Provi 133.59 353 P **PKPdf 19 37 32.9 +0.1**
baz=10
F41A Three Lakes 133.65 1 PFAKE 19 37 40.0 +5.8
F41A LR LR
comp=Z,700nm,21.0s
H56A Elgin 133.71 349 P **PKPdf 19 37 32.7 -0.3**
baz=16
DAC Darwin (Calif) 133.75 34 *e*PKPdf **PKPdf 19 37 33.7 +0.1**
SUSD Miller 133.84 11 P **PKPdf 19 37 33.1 -0.2**
baz=344
NCB Newcomb 133.87 347 PFAKE 19 37 40.0 +5.3
NCB LR LR
comp=Z,500nm,20.0s
SPMN Marine on St. 133.95 5 PFAKE 19 37 40.0 +5.2
SPMN LR LR
comp=Z,1µm,22.0s
TPNV Topopah Spring 134.00 32 *e*PKPdf **PKPdf 19 37 31.1 -2.9**
TPNV Topopah Spring 134.00 32 *e*PKIKP **PKPdf 19 37 31.1 -2.9**
SADO Sadowa 134.02 352 PKP **PKPdf 19 37 33.7 +0.1**
comp=Z,3.9nm,0.8s,baz=240,slow=0.2,SNR=2.5
TER01 Tubaro-SC 134.07 230 *e*P **PKiKP 19 37 36.9 +1.4**
G40A Rib Lake 134.08 3 PFAKE 19 37 50.0 +15
G40A LR LR
comp=Z,600nm,20.0s
G47A Hillman 134.12 356 P **PKPdf 19 37 34.0 +0.2**
baz=5.2
RWWY Rawlins 134.13 21 PFAKE 19 37 50.0 +14
RWWY LR LR
comp=Z,500nm,22.0s
MCI6 Montes Claros 134.15 247 *e*P **PKiKP 19 37 36.0 -0.1**
G42A Mountain 134.16 1 PFAKE 19 37 50.0 +15
G42A LR LR
comp=Z,600nm,20.0s
MCI9 Montes Claros 134.18 247 *e*P **PKiKP 19 37 36.3 +0.2**
GLMI Grayling 134.51 357 PFAKE 19 37 50.0 +14
GLMI LR LR
comp=Z,1µm,22.0s
HRV Adam Dziewonsk 134.55 343 PFAKE 19 37 50.0 +14
HRV LR LR
comp=Z,600nm,22.0s
H41A Junction City 134.76 2 PFAKE 19 37 50.0 +14
H41A LR LR
comp=Z,1µm,20.0s
GSC Goldstone, Bar 134.90 34 P **PKPdf 19 37 35.7 0.0**
baz=317
PASC Pasadena Art C 134.90 37 PFAKE 19 37 50.0 +13
PASC LR LR
comp=Z,400nm,20.0s
SHPR Sheep Range 134.91 32 PFAKE 19 37 50.0 +13
SHPR LR LR
comp=Z,400nm,20.0s
H43A Windswept, Lux 134.94 0 PFAKE 19 37 50.0 +13
H43A LR LR
comp=Z,700nm,21.0s
ECSD EROS Data Cent 134.94 9 *e*PKPdf **PKPdf 19 37 34.0 -1.4**
ECSD LR LR
comp=Z,700nm,20.0s
ECSD EROS Data Cent 134.94 9 P **PKPdf 19 37 35.8 +0.4**

baz=347
CNLB Canela 134.96 228 *e*P PKiKP 19 37 38.8 +1.5
SPB Sao Paulo 134.97 237 *e*P PKiKP 19 37 38.1 +0.7
O20A White River Ci 135.11 23 PFAKE 19 37 50.0 +12
O20A LR LR
comp=Z,600nm,21.0s
O20A White River Ci 135.11 23 P **PKPdf 19 37 36.4 +0.3**
baz=330
N23A Red Feather La 135.28 20 PFAKE 19 37 50.0 +12
N23A LR LR
comp=Z,500nm,22.0s
I41A Arkdale 135.30 2 PFAKE 19 37 50.0 +12
I41A LR LR
comp=Z,800nm,21.0s
MEDO Medina 135.49 350 PFAKE 19 37 50.0 +12
MEDO LR LR
comp=Z,900nm,22.0s
I42A Draeger Farm, 135.50 1 PFAKE 19 37 50.0 +12
I42A LR LR
comp=Z,900nm,22.0s
BINY Binghamton 135.95 348 PFAKE 19 37 50.0 +11
BINY LR LR
comp=Z,900nm,20.0s
BINY Binghamton 135.95 348 P **PKPdf 19 37 37.2 -0.1**
baz=17
TRQA Tornquist 136.07 209 *e*P **PKPdf 19 37 37.5 -0.2**
PV23 Carpenter Ridg 136.25 25 PFAKE 19 37 50.0 +10
PV23 LR LR
comp=Z,900nm,19.0s
PV10 Paradox Valley 136.30 25 PFAKE 19 37 50.0 +10
PV10 LR LR
comp=Z,1μm,21.0s
ISCO Idaho Springs 136.37 20 PFAKE 19 37 50.0 +10
ISCO LR LR
comp=Z,400nm,20.0s
PV19 Morning Glory 136.38 25 PFAKE 19 37 50.0 +10
PV19 LR LR
comp=Z,500nm,19.0s
PV07 Paradox Valley 136.41 24 PFAKE 19 37 50.0 +10
PV07 LR LR
comp=Z,700nm,21.0s
U15A North Rim 136.43 29 *e*PKPdf **PKPdf 19 37 37.9 -0.9**
SMCO Snowmass 136.43 22 PFAKE 19 37 50.0 +9.5
SMCO LR LR
comp=Z,600nm,19.0s
JFWS Jewell Farm 136.43 3 PFAKE 19 37 50.0 +10
JFWS LR LR
comp=Z,700nm,21.0s
OGNE Ogallala 136.43 16 PFAKE 19 37 50.0 +10
OGNE LR LR
comp=Z,600nm,18.0s
PV12 Saucer Basin, 136.45 24 PFAKE 19 37 50.0 +10
PV12 LR LR
comp=Z,500nm,21.0s
PV13 Radium Mtn., P 136.57 25 PFAKE 19 37 50.0 +9.3
PV13 LR LR
comp=Z,700nm,20.0s
W13A Hualapai Mount 136.65 32 *e*PKPdf **PKPdf 19 37 39.0 -0.1**
ODNJ Ogdensburg 136.69 346 PFAKE 19 37 50.0 +10
ODNJ LR LR
comp=Z,700nm,18.0s
K43A Burlington 136.70 1 PFAKE 19 37 50.0 +10
K43A LR LR
comp=Z,900nm,20.0s
FRTB Fartura 136.84 236 *e*P **PKiKP 19 37 41.7 +0.4**
BC3 Big Chuckawall 136.86 35 P **PKPdf 19 37 39.5 0.0**
baz=317
BGNE Belgrade 136.92 12 PFAKE 19 37 50.0 +9.0
BGNE LR LR
comp=Z,700nm,20.0s
AAM Ann Arbor 136.96 356 PFAKE 19 37 50.0 +9.0
AAM LR LR
comp=Z,600nm,21.0s
N59A State Game Lan 137.12 347 P **PKPdf 19 37 40.0 +0.4**
baz=18
L40A Anamosa 137.22 4 PFAKE 19 37 50.0 +8.5
L40A LR LR
comp=Z,700nm,19.0s
ALLY Alegheny Colle 137.23 352 PFAKE 19 37 50.0 +8.4
ALLY LR LR
comp=Z,800nm,20.0s
M54A Oil Creek Stat 137.29 351 PFAKE 19 37 50.0 +8.3
M54A LR LR
comp=Z,1μm,21.0s
M54A Oil Creek Stat 137.29 351 P **PKPdf 19 37 40.2 +0.3**
baz=12
Y12C Blythe 137.31 34 PFAKE 19 37 50.0 +8.0
Y12C LR LR
comp=Z,400nm,19.0s
LUPA Lehigh Univers 137.33 346 PFAKE 19 37 50.0 +8.2
LUPA LR LR
comp=Z,100nm,22.0s
PLCA Paso Flores 137.34 199 *e*PKPdf **PKPdf 19 37 40.5 +0.5**
PLCA Paso Flores 137.34 199 PKP **PKPdf 19 37 40.1 +0.1**
comp=Z,8.0nm,1.0s,baz=156,slow=1.9,SNR=6.6
PLCA Paso Flores 137.34 199 *e*P **PKiKP 19 37 42.6 +0.7**
L42A Oliver, Polo 137.36 2 PFAKE 19 37 50.0 +8.2
L42A LR LR
comp=Z,1μm,21.0s
M52A Chesterland 137.49 353 PFAKE 19 37 50.0 +7.9
M52A LR LR
comp=Z,800nm,21.0s
MVCO Mesa Verde 137.51 25 PFAKE 19 37 50.0 +7.4
MVCO LR LR
comp=Z,400nm,20.0s
WUAZ Wupatki 137.60 29 PFAKE 19 37 50.0 +7.3
WUAZ LR LR
comp=Z,400nm,19.0s
O60A Telford 137.61 346 P **PKPdf 19 37 40.5 +0.1**
baz=18
S22A 4UR Ranch, Cre 137.73 23 PFAKE 19 37 50.0 +6.9
S22A LR LR
comp=Z,600nm,20.0s
O59A Robesonia 137.80 347 P **PKPdf 19 37 41.4 +0.6**
baz=17
M50A Fremont 137.80 355 PFAKE 19 37 50.0 +7.3
M50A LR LR
comp=Z,800nm,20.0s
SSPA Standing Stone 137.84 349 PFAKE 19 37 50.0 +7.2
SSPA LR LR
comp=Z,700nm,22.0s
M48A Edgerton 137.84 357 PFAKE 19 37 50.0 +7.2
M48A LR LR
comp=Z,800nm,21.0s
N55A Marion Center 137.90 350 P **PKPdf 19 37 41.6 +0.6**
baz=13
M46A Old House Fiel 137.99 359 PFAKE 19 37 50.0 +6.9
M46A LR LR
comp=Z,800nm,22.0s
PSUB Penn St. - Bra 137.99 346 PFAKE 19 37 50.0 +6.9
PSUB LR LR
comp=Z,800nm,22.0s
PAGS Pennsylvania G 137.99 348 PFAKE 19 37 50.0 +6.9
PAGS LR LR
comp=Z,700nm,20.0s
M44A Midewin, Midew 138.02 1 PFAKE 19 37 50.0 +6.8
M44A LR LR
comp=Z,600nm,20.0s
N53A Lisbon 138.15 352 PFAKE 19 37 50.0 +6.5
N53A LR LR
comp=Z,800nm,21.0s
N53A Lisbon 138.15 352 P **PKPdf 19 37 41.5 +0.1**
baz=10
N51A Ashland 138.22 354 PFAKE 19 37 50.0 +6.4
N51A LR LR
comp=Z,800nm,20.0s
SDCO Great Sand Dun 138.23 21 PFAKE 19 37 50.0 +5.9
SDCO LR LR
comp=Z,500nm,19.0s
BDFB Brasilia 138.28 247 *e*PKPdf **PKPdf 19 37 40.9 -1.6**
BDFB Brasilia 138.28 247 PKP **PKPdf 19 37 42.7 +0.3**
comp=Z,7.9nm,0.8s,baz=156,slow=4.4,SNR=8.9
O56A Blue Knob Stat 138.32 350 PFAKE 19 37 50.0 +6.1
O56A LR LR
comp=Z,700nm,18.0s
N49A Columbus Grove 138.37 356 PFAKE 19 37 50.0 +6.1
N49A LR LR
comp=Z,700nm,22.0s
X16A Lo Mia Camp, P 138.44 30 *e*PKPdf **PKPdf 19 37 41.4 -1.1**
113A Mohawk Valley, 138.47 34 PFAKE 19 37 50.0 +5.7
113A LR LR
comp=Z,400nm,22.0s
N48A Decatur 138.49 357 P **PKPdf 19 37 42.4 +0.4**
baz=3.9
N47A Urbana 138.49 358 P **PKPdf 19 37 42.6 +0.5**
baz=2.9
O55A Ligonier 138.51 350 P **PKPdf 19 37 42.9 +0.8**
baz=12
N41A Harden Midland 138.59 4 PFAKE 19 37 50.0 +5.6
N41A LR LR
comp=Z,600nm,19.0s
GO06 Curarrehue 138.68 199 *e*PKPdf **PKPdf 19 37 40.8 -1.8**
O54A Avella 138.70 352 P **PKPdf 19 37 43.4 +0.9**
baz=11
W18A Petrified Fore 138.71 28 PFAKE 19 37 50.0 +5.0
W18A LR LR
comp=Z,400nm,19.0s
W18A Petrified Fore 138.71 28 P **PKPdf 19 37 43.7 +0.8**
baz=325
SDMD Soldier's Deli 138.80 347 PFAKE 19 37 50.0 +5.2
SDMD LR LR
comp=Z,400nm,19.0s
HDIL Hopedale 138.82 2 PFAKE 19 37 50.0 +5.2
HDIL LR LR
comp=Z,600nm,20.0s
O52A Adamsville 138.96 353 PFAKE 19 37 50.0 +4.9
O52A LR LR
comp=Z,700nm,20.0s
ACSO Alum Creek Sta 138.96 355 PFAKE 19 37 50.0 +4.9
ACSO LR LR
comp=Z,700nm,21.0s
ITRB Iturama 139.01 240 *e*P **PKiKP 19 37 45.6 -0.2**
SFIN Lafayette 139.03 359 PFAKE 19 37 50.0 +4.8
SFIN LR LR
comp=Z,800nm,22.0s
CBKS Cedar Bluff 139.03 15 PFAKE 19 37 50.0 +4.6
CBKS LR LR
comp=Z,700nm,20.0s
O49A Covington 139.11 356 PFAKE 19 37 50.0 +4.5
O49A LR LR
comp=Z,700nm,19.0s
MCWV Mont Chateau 139.13 351 PFAKE 19 37 50.0 +4.5
MCWV LR LR
comp=Z,400nm,22.0s
T25A Trinidad 139.16 21 PFAKE 19 38 00.0 +14
T25A LR LR
comp=Z,400nm,20.0s
P54A Burton 139.28 352 P **PKPdf 19 37 43.7 +0.1**
baz=11
KSU1 Kansas State U 139.45 11 PFAKE 19 38 00.0 +14
KSU1 LR LR
comp=Z,900nm,22.0s
TRCB Terra Rica 139.61 235 *e*P **PKiKP 19 37 47.0 0.0**
P51A Williamsport 139.71 355 PFAKE 19 38 00.0 +13
P51A LR LR
comp=Z,600nm,19.0s
P45A Graceland, Par 139.88 0 PFAKE 19 38 00.0 +13
P45A LR LR
comp=Z,800nm,21.0s
CBN Corbin Frederi 140.07 347 PFAKE 19 38 00.0 +13
CBN LR LR
comp=Z,800nm,21.0s
Q51A Peebles 140.19 355 PFAKE 19 38 00.0 +12
Q51A LR LR
comp=Z,500nm,21.0s
BLO Bloomington 140.22 359 PFAKE 19 38 00.0 +12
BLO LR LR
comp=Z,500nm,20.0s
ANMO Albuquerque 140.30 25 *e*PKPdf **PKPdf 19 37 43.4 -2.4**
ANMO LR LR
comp=Z,400nm,21.0s
ANMO Albuquerque 140.30 25 PKhKP PKPpre 19 37 39.3
comp=Z,0.9nm,0.6s,baz=315,slow=8.6,SNR=2.5
ANMO PKP **PKPdf 19 37 45.5 -0.3**
comp=Z,2.4nm,0.9s,baz=120,slow=3.0,SNR=4.9
R58B Mineral 140.41 348 PFAKE 19 38 00.0 +12
R58B LR LR
comp=Z,600nm,19.0s
TUC Tucson 140.44 32 PFAKE 19 38 00.0 +11
TUC LR LR
comp=Z,400nm,20.0s
OLIL Olney 140.67 1 PFAKE 19 38 00.0 +11
OLIL LR LR
comp=Z,800nm,20.0s
SLM Saint Louis 140.69 3 PFAKE 19 38 00.0 +11
SLM LR LR
comp=Z,600nm,21.0s
S57A Dark Hollow, R 140.82 349 PFAKE 19 38 00.0 +11
S57A LR LR
comp=Z,600nm,20.0s
Y22D IRIS PASSCAL I 140.85 26 PFAKE 19 38 00.0 +11
Y22D LR LR
comp=Z,600nm,19.0s
R47A Wooly Knot Far 141.10 359 P **PKPdf 19 37 46.4 -0.5**
baz=1.7
WCI Wyandotte Cave 141.16 358 PFAKE 19 38 00.0 +10
WCI LR LR
comp=Z,701nm,21.0s
CCM Cathedral Cave 141.20 5 PFAKE 19 38 00.0 +10
CCM LR LR
comp=Z,801nm,21.0s
FVM French Village 141.33 4 PFAKE 19 38 00.0 +10
FVM LR LR
comp=Z,600nm,20.0s
CPUP Villa Florida 141.37 226 *e*PKPpre PKPpre 19 37 40.8
CPUP *e*PKPdf **PKPdf 19 37 47.5 -0.2**
CPUP Villa Florida 141.37 226 PKhKP PKPpre 19 37 41.3
comp=Z,5.0nm,0.7s,baz=93,slow=2.0,SNR=14
CPUP PKP **PKPdf 19 37 47.9 +0.2**
comp=Z,7.0nm,0.9s,baz=136,slow=1.2,SNR=11
CPUP Villa Florida 141.37 226 *e*P **PKPdf 19 37 49.0 +1.3**
USIN University of 141.44 0 PFAKE 19 38 00.0 +10
USIN LR LR
comp=Z,800nm,22.0s
U32A Winter Ranch, 141.52 15 PFAKE 19 38 00.0 +9.5
U32A LR LR
comp=Z,700nm,21.0s
S51A Beattyville 141.59 355 PFAKE 19 38 00.0 +9.4
S51A LR LR
comp=Z,500nm,21.0s
BLA Blacksburg 141.62 351 PFAKE 19 38 00.0 +9.3
BLA LR LR
comp=Z,700nm,22.0s
SIUC Southern Illin 141.66 2 PFAKE 19 38 00.0 +9.3
SIUC LR LR
comp=Z,800nm,20.0s
U59A Littleton 141.94 347 PFAKE 19 38 00.0 +8.7
U59A LR LR
comp=Z,700nm,20.0s
T49A Edmonton 142.25 357 PFAKE 19 38 00.0 +8.0
T49A LR LR
comp=Z,600nm,19.0s
T45A Paducah 142.37 1 PFAKE 19 38 00.0 +7.8
T45A LR LR
comp=Z,1μm,22.0s
V60A Jim Taylor Roa 142.38 346 PFAKE 19 38 00.0 +7.8
V60A LR LR
comp=Z,700nm,20.0s
T47A Sharon Grove 142.41 359 PFAKE 19 38 00.0 +7.7
T47A LR LR
comp=Z,500nm,20.0s
PBMO Poplar Bluff 142.53 4 PFAKE 19 38 00.0 +7.5
PBMO LR LR
comp=Z,600nm,19.0s
MSTX Muleshoe 142.59 21 PFAKE 19 38 00.0 +7.1
MSTX LR LR
comp=Z,700nm,20.0s
OK024 West corner E0 142.61 13 PFAKE 19 38 00.0 +7.2
OK024 LR LR
comp=Z,900nm,20.0s
HHAR Hobbs 142.65 8 PFAKE 19 38 00.0 +7.2
HHAR LR LR
comp=Z,800nm,20.0s
PARMO Parma 142.68 3 PFAKE 19 38 00.0 +7.2
PARMO LR LR
comp=Z,800nm,21.0s
TUL1 Leonard 142.69 11 PFAKE 19 38 00.0 +7.1
TUL1 LR LR
comp=Z,1μm,20.0s
U41A Viola 142.84 6 P **PKPdf 19 37 44.6 -5.4**
baz=353
PVMO Portageville 142.94 3 PFAKE 19 38 00.0 +6.6
PVMO LR LR
comp=Z,2μm,20.0s
EPT El Paso 142.98 27 PFAKE 19 38 00.0 +6.2
EPT LR LR
comp=Z,300nm,19.0s
V56A Mocksville 143.00 350 PFAKE 19 38 00.0 +6.5
V56A LR LR
comp=Z,500nm,20.0s
CNNC Cliffs of the 143.03 347 PFAKE 19 38 00.0 +6.4
CNNC LR LR
comp=Z,800nm,20.0s
WMOK Wichita Mounta 143.13 15 *e*PKPpre PKPab 19 37 46.0 -0.1
WMOK LR LR
comp=Z,600nm,21.0s
WMOK Wichita Mounta 143.13 15 *e*PKIKP PKPab 19 37 46.0 -0.1
WMOK MLR MLR
comp=Z,600nm,21.0s
WMOK Wichita Mounta 143.13 15 P PKPab 19 37 45.9 -0.2
baz=341
AQDB Aquidauana 143.21 236 *e*P **PKiKP 19 37 53.2 -1.2**
V54A Nebo 143.25 352 P PKPab 19 37 45.9 -0.7
baz=9.4
WVT Waverly 143.27 0 *e*PKPpre PKPab 19 37 46.2 -0.3
WVT LR LR
comp=Z,1μm,21.0s
WVT Waverly 143.27 0 *e*PKIKP PKPab 19 37 46.2 -0.3
WVT MLR MLR
comp=Z,1μm,21.0s
WVT Waverly 143.27 0 P PKPab 19 37 45.5 -1.0
baz=360
V52A Sevierville 143.37 355 PFAKE 19 38 00.0 +5.7
V52A LR LR
comp=Z,600nm,21.0s
HALT Halls 143.45 2 PFAKE 19 38 00.0 +5.6
HALT LR LR
comp=Z,600nm,20.0s
V53A Saluda 143.46 353 PFAKE 19 38 00.0 +5.4
V53A LR LR
comp=Z,1μm,21.0s
V53A Saluda 143.46 353 P PKPab 19 37 46.6 -0.8
baz=8.0
V51A Loudon 143.47 356 PFAKE 19 38 00.0 +5.5
V51A LR LR
comp=Z,900nm,21.0s
GDL2 Guadalupe Moun 143.55 24 *e*PKPpre PKPpre 19 37 44.5
GDL2 *e*PKPdf PKPbc 19 37 48.3 -0.5
MNTX Cornudas Mount 143.55 26 *e*PKPpre PKPpre 19 37 47.9
MNTX LR LR
comp=Z,600nm,19.0s
W57A Gilead 143.55 350 *e*PKPpre PKPpre 19 37 46.8
W57A LR LR
comp=Z,500nm,22.0s
W57A Gilead 143.55 350 P PKPab 19 37 47.4 -0.3
baz=13
V47A Nunnelly 143.57 360 P PKPab 19 37 46.9 -0.9
baz=0.1
V46A Holladay 143.60 1 P PKPab 19 37 46.9 -0.9
baz=359
V49A McMinnville 143.60 358 P PKPab 19 37 46.4 -1.4
baz=2.9,SNR=5.2
V48A Smith Brothers 143.65 359 PFAKE 19 38 00.0 +5.1
V48A LR LR
comp=Z,600nm,19.0s
V48A Smith Brothers 143.65 359 P PKPab 19 37 46.6 -1.5
baz=1.3
V50A Pikevile 143.66 357 P PKPab 19 37 46.8 -1.3
baz=4.2,SNR=5.4
W56A Indian Trail 143.67 350 P PKPab 19 37 47.3 -0.8
baz=12
W39A Magazine 143.74 9 *e*PKPpre PKPbc 19 37 48.5 -0.6
W39A LR LR
comp=Z,700nm,21.0s
W39A Magazine 143.74 9 P PKPab 19 37 48.5 +0.1
baz=350
KMSC Kings Mountain 143.78 351 PFAKE 19 38 00.0 +4.8
KMSC LR LR
comp=Z,1μm,21.0s
KMSC Kings Mountain 143.78 351 P PKPab 19 37 47.2 -1.4
baz=11
CPCT Cooper Cave 143.84 356 PFAKE 19 38 00.0 +4.7
CPCT LR LR
comp=Z,700nm,20.0s
WHAR Wooly Hollow 143.84 7 *e*PKPpre PKPpre 19 37 47.9
WHAR LR LR
comp=Z,700nm,22.0s
W41B Gary Mavity, V 143.96 7 *e*PKPdf PKPab 19 37 48.6 -0.6
W41B LR LR
comp=Z,800nm,22.0s
W41B Gary Mavity, V 143.96 7 P PKPab 19 37 48.6 -0.6
baz=352
W54A Cherokee Point 143.96 352 P PKPab 19 37 48.5 -0.7
baz=9.2
W53A Cullowhee 143.99 354 P PKPab 19 37 48.4 -1.1
baz=7.5
X37A Clayton 144.06 11 *e*PKPdf **PKPab 19 37 49.6 0.0**
X37A LR LR
comp=Z,900nm,19.0s
PEL Peldehue 144.11 205 *e*PKPdf **PKPab 19 37 49.7 -0.2**
PEL Peldehue 144.11 205 *e*PKIKP **PKPab 19 37 49.7 -0.2**
BIRD Birdtown, Kers 144.13 350 *e*PKPdf **PKPab 19 37 49.7 -0.1**
BIRD LR LR
comp=Z,600nm,18.0s
W50A Signal Mountai 144.14 357 PFAKE 19 38 00.0 +4.0
W50A LR LR
comp=Z,500nm,20.0s
W50A Signal Mountai 144.14 357 P **PKPab 19 37 48.8 -1.2**
baz=3.9
BG3 Lake Jocassee 144.14 353 *e*PKPdf **PKPab 19 37 49.5 -0.5**
BG3 LR LR
comp=Z,700nm,21.0s
W51A Cleveland 144.14 356 P **PKPab 19 37 48.9 -1.0**
baz=4.8
W52A Murphy 144.14 355 PFAKE 19 38 00.0 +4.0
W52A LR LR
comp=Z,600nm,20.0s
W52A Murphy 144.14 355 P **PKPab 19 37 48.6 -1.4**
baz=6.2
W47A Westpoint 144.15 0 P **PKPab 19 37 49.0 -1.0**
SNR=9.5
SWET Sewanee 144.15 358 PFAKE 19 38 00.0 +4.0
SWET LR LR
comp=Z,500nm,20.0s
PAULI Pauline 144.17 352 PFAKE 19 38 00.0 +4.0
PAULI LR LR
comp=Z,900nm,18.0s
W48A Pulaski 144.25 359 P **PKPab 19 37 48.8 -1.6**
baz=1.1,SNR=8.5
W46A Michie 144.26 1 P **PKPab 19 37 49.4 -1.0**
baz=359
W49A Belvidere 144.26 358 P **PKPab 19 37 48.7 -1.7**
baz=2.3,SNR=9.5
Y60A Bolivia 144.29 347 PFAKE 19 38 00.0 +3.8
Y60A LR LR
comp=Z,900nm,20.0s
UALR University of 144.34 7 *e*PKPdf **PKPab 19 37 50.1 -0.5**
UALR LR LR
comp=Z,600nm,21.0s
X56A White Oak 144.37 351 P **PKPab 19 37 49.9 -0.9**
baz=11,SNR=7.0
ROC1 El Roble 144.39 204 *e*PKPdf **PKPab 19 37 50.8 -0.5**
MIAR Mount Ida 144.40 9 *e*PKPdf **PKPab 19 37 50.6 -0.3**
MIAR LR LR
comp=Z,700nm,20.0s
MIAR Mount Ida 144.40 9 *e*PKIKP **PKPab 19 37 50.6 -0.3**
MIAR MLR MLR
comp=Z,700nm,20.0s
MIAR Mount Ida 144.40 9 P **PKPab 19 37 50.9 0.0**
baz=350
PLAL Pickwick Lake 144.41 1 *e*PKPdf **PKPab 19 37 49.6 -1.4**
PLAL LR LR
comp=Z,900nm,22.0s
X55A Gracelyn & Ava 144.49 352 P **PKPab 19 37 50.1 -1.1**
baz=10
X54A Belton 144.51 353 P **PKPab 19 37 49.9 -1.5**
baz=9.0
X40A Basin Creek Fa 144.56 8 *e*PKPdf **PKPab 19 37 51.2 -0.3**
X40A LR LR
comp=Z,600nm,19.0s
X40A Basin Creek Fa 144.56 8 P **PKPab 19 37 50.7 -0.8**
baz=351
JSC Jenkinsville 144.62 351 *e*PKPdf **PKPab 19 37 50.9 -0.8**
JSC LR LR
comp=Z,1μm,22.0s
JSC Jenkinsville 144.62 351 *e*PKIKP **PKPab 19 37 50.9 -0.8**
JSC MLR MLR
comp=Z,1μm,22.0s
X52A Dahlonega 144.63 355 P **PKPab 19 37 50.5 -1.2**
baz=6.4,SNR=6.0
X53A Estanollee 144.67 354 P **PKPab 19 37 50.7 -1.2**
baz=7.4,SNR=8.8
Y58A Scranton 144.70 349 P **PKPab 19 37 51.5 -0.5**
baz=14
X51A Calhoun 144.74 356 *e*PKPdf **PKPab 19 37 51.1 -1.1**
X51A LR LR

comp=Z,600nm,19.0s
X51A Calhoun 144.74 356 P PKPab 19 37 51.3 -0.9
baz=4.7,SNR=9.7
HODGE Hodges 144.81 352 ePKPdf PKPab 19 37 51.6 -0.8
HODGE LR LR
comp=Z,700nm,21.0s
X46A Booneville 144.83 1 P PKPab 19 37 51.3 -1.2
baz=358
OXF Oxford 144.84 3 ePKPdf PKPab 19 37 51.0 -1.5
OXF Oxford 144.84 3 ePKIKP PKPab 19 37 51.0 -1.5
X49A Woodville 144.87 358 P PKPab 19 37 51.3 -1.3
baz=2.2,SNR=7.4
ABTX Abilene, Hawle 144.87 18 ePKPdf PKPab 19 37 51.9 -0.9
ABTX LR LR
comp=Z,600nm,19.0s
ABTX Abilene, Hawle 144.87 18 P PKPab 19 37 51.7 -1.0
baz=339
X47A Russelville 144.88 0 P PKPab 19 37 50.7 -1.9
baz=360,SNR=12
X50B Fort Payne 144.89 357 P PKPab 19 37 51.1 -1.6
baz=3.4,SNR=10
X48A Hartselle 144.94 359 ePKPdf PKPab 19 37 51.1 -1.8
X48A LR LR
comp=Z,600nm,21.0s
X48A Hartselle 144.94 359 P PKPab 19 37 51.4 -1.5
baz=1.0,SNR=13
Y55A Saluda 145.04 352 P PKPbc 19 37 52.1 -1.2
baz=10.0,SNR=8.3
Y54A Tignall 145.23 353 P PKPbc 19 37 52.9 -0.9
baz=8.6,SNR=21
CCAR Cane Creek 145.25 6 PFAKE 19 38 10.0 +12
CCAR LR LR
comp=Z,800nm,19.0s
Z59A Georgetown, SC 145.26 348 P PKPbc 19 37 53.7 -0.3
baz=15
Z58A St. Stephen 145.28 349 P PKPbc 19 37 53.7 -0.3
baz=14,SNR=8.3
WLAR White Oak Lake 145.31 8 ePKPbc PKPbc 19 37 53.9 -0.3
WLAR LR LR
comp=Z,900nm,21.0s
Y53A Monroe 145.34 354 P PKPbc 19 37 53.4 -0.8
baz=7.0,SNR=11
Y52A Lilburn 145.37 355 ePKPbc PKPbc 19 37 53.2 -1.1
Y52A LR LR
comp=Z,800nm,19.0s
Y52A Lilburn 145.37 355 P PKPbc 19 37 53.7 -0.7
baz=6.2,SNR=18
Y51A Rockmart 145.42 356 P PKPbc 19 37 53.5 -1.0
baz=4.5,SNR=33
Y48A Jasper 145.48 359 P PKPbc 19 37 53.3 -1.4
baz=0.8,SNR=21
Z57A Bowman 145.49 350 P PKPbc 19 37 54.1 -0.6
baz=12,SNR=9.0
Y49A Blount Mountai 145.52 358 ePKPdf PKPdf 19 37 53.1 -1.7
Y49A Blount Mountai 145.52 358 P PKPdf 19 37 53.5 -1.3
baz=2.1,SNR=25
Z56A Williston 145.57 351 P PKPdf 19 37 54.2 -0.6
baz=11
NHSC New Hope 145.57 349 ePKPdf PKPdf 19 37 53.0 -1.8
NHSC LR LR
comp=Z,600nm,20.0s
NHSC New Hope 145.57 349 P PKPdf 19 37 54.5 -0.4
baz=13
GOGA Godfrey 145.76 354 ePKPdf PKPdf 19 37 54.3 -0.9
GOGA Godfrey 145.76 354 ePKP2 PKPdf 19 37 54.3 -0.9
GOGA Godfrey 145.76 354 P PKPdf 19 37 54.8 -0.4
baz=7.3,SNR=15
Z41A Richland Creek 145.78 8 PFAKE 19 38 10.0 +11
Z41A LR LR
comp=Z,600nm,19.0s
Z41A Richland Creek 145.78 8 P PKPbc 19 37 55.4 -0.2
baz=351
Z55A Blythe 145.79 352 P PKPdf 19 37 55.0 -0.2
baz=9.7
Z54A Sparta 145.87 353 P PKPdf 19 37 55.3 -0.1
baz=8.5,SNR=28
Z53A Monticello 145.91 354 P PKPdf 19 37 55.2 -0.2
baz=7.2,SNR=13
Z51A Franklin 146.00 356 P PKPdf 19 37 55.4 -0.2
baz=4.3,SNR=10
Z52A Williamson 146.07 355 P PKPbc 19 37 56.2 -0.4
baz=5.7,SNR=28
WHTX Lake Whitney, 146.08 15 PFAKE 19 38 10.0 +10
WHTX LR LR
comp=Z,1μm,21.0s
Z50A Ashland 146.10 358 ePKPdf PKPdf 19 37 55.2 -0.6
Z50A LR LR
comp=Z,800nm,21.0s
Z50A Ashland 146.10 358 P PKPdf 19 37 55.7 -0.1
baz=3.0,SNR=13
157A Early Branch 146.14 350 P PKPbc 19 37 56.3 -0.4
baz=12
Z49A Columbiana 146.19 358 P PKPdf 19 37 55.8 -0.1
baz=1.9,SNR=15
TX31 Lajitas Ar. Si 146.33 26 ePKPdf PKPbc 19 37 57.0 -0.6
TXAR Lajitas Array 146.33 26 ePKPdf PKPdf 19 37 56.4 0.0
TXAR Lajitas Array 146.33 26 PKPbc PKPbc 19 37 57.1 -0.4
comp=Z,14nm,0.8s,baz=280,slow=1.1,SNR=109
LRAL Lakeview Retre 146.35 359 ePKPdf PKPdf 19 37 55.9 -0.3
LRAL LR LR
comp=Z,600nm,20.0s
LRAL Lakeview Retre 146.35 359 P PKPdf 19 37 56.3 +0.1
baz=1.1,SNR=9.6
155A Kite 146.42 352 P PKPbc 19 37 57.2 -0.3
baz=9.3,SNR=9.7
154A Montrose 146.51 353 ePKPdf PKPbc 19 37 57.1 -0.7
154A Montrose 146.51 353 P PKPbc 19 37 57.2 -0.7
baz=8.1
153A Fort Valley 146.56 354 P PKPbc 19 37 57.4 -0.6
baz=6.8
152A Waverly Hall 146.62 356 ePKPdf PKPdf 19 37 57.0 +0.3
152A LR LR
comp=Z,700nm,20.0s
152A Waverly Hall 146.62 356 P PKPdf 19 37 57.2 +0.6
baz=5.2,SNR=5.8
GO04 Tololo Observa 146.71 207 ePKPdf PKPbc 19 37 58.4 -0.4
148A Greensboro 146.75 360 P PKPbc 19 37 57.6 -0.9
baz=0.1
150A Eclectic 146.75 358 P PKPbc 19 37 57.7 -0.8
baz=2.9,SNR=12
149A Jones 146.79 359 P PKPdf 19 37 57.7 +0.8
baz=1.5
151A Opelika 146.80 357 P PKPbc 19 37 57.8 -0.9
baz=4.1,SNR=12
JCT Junction City 146.80 20 ePKPdf PKPdf 19 37 56.2 -0.9
JCT ePKPbc PKPbc 19 37 58.4 -0.5
JCT LR LR
comp=Z,500nm,20.0s
JCT Junction City 146.80 20 ePKIKP PKPdf 19 37 56.2 -0.9
JCT e 19 37 58.4
JCT MLR MLR
comp=Z,500nm,20.0s
JCT Junction City 146.80 20 P PKPdf 19 37 57.8 +0.7
baz=337
CLDB Colider 146.88 251 eP PKPbc 19 37 59.8 +0.3
NATX Nacogdoches 146.94 11 PFAKE 19 38 10.0 +8.2
NATX LR LR
comp=Z,700nm,19.0s
NATX Nacogdoches 146.94 11 P PKPbc 19 37 58.7 -0.4
baz=347
255A Hazlehurst 147.11 352 ePKPbc PKPbc 19 37 58.8 -0.8
255A LR LR
comp=Z,600nm,20.0s
255A Hazlehurst 147.11 352 P PKPbc 19 37 59.1 -0.5
baz=9.4
253A Americus 147.17 355 PFAKE 19 38 10.0 +7.8
253A LR LR
comp=Z,600nm,20.0s
435B Jarrell 147.19 16 PFAKE 19 38 10.0 +7.7
435B LR LR
comp=Z,1μm,22.0s
254A Abbeville 147.19 353 P PKPbc 19 37 59.4 -0.5
baz=7.9
251A Midway 147.23 357 P PKPbc 19 37 59.5 -0.4
baz=4.0
252A Lumpkin 147.28 356 P PKPbc 19 37 59.4 -0.7
baz=5.3
SLBS Sierra La Lagu 147.38 40 PFAKE 19 38 10.0 +7.0
SLBS LR LR
comp=Z,500nm,20.0s
250A Grady 147.39 358 PFAKE 19 38 10.0 +7.3
250A LR LR
comp=Z,700nm,22.0s
250A Grady 147.39 358 P PKPbc 19 37 59.5 -0.8
baz=2.5
HPIG 147.39 31 ePKPdf PKPdf 19 37 57.9 -0.5
HPIG ePKPbc PKPbc 19 38 00.5 -0.4
HPIG LR LR
comp=Z,500nm,21.0s
249A Camden 147.41 359 P PKPbc 19 37 60.0 -0.4
baz=0.9
LCO Las Campanas 147.64 208 ePKPdf PKPdf 19 37 59.8 +0.9
LCO Las Campanas 147.64 208 eP PKPbc 19 38 00.1 -1.4
352A Blakely 147.81 356 PFAKE 19 38 10.0 +6.1
352A LR LR
comp=Z,900nm,21.0s
352A Blakely 147.81 356 P PKPbc 19 38 01.1 -0.5
baz=5.0
353A Camilla 147.88 355 P PKPbc 19 38 01.5 -0.3
baz=6.3
BRAL Brewton 148.22 359 PFAKE 19 38 10.0 +4.5
BRAL LR LR
comp=Z,600nm,20.0s
456A Hilliard 148.22 351 P PKPbc 19 38 02.4 -0.2
baz=11
455A Stateville 148.35 353 P PKPbc 19 38 02.5 -0.4
baz=8.7
453A Whigham 148.38 355 P PKPbc 19 38 02.7 -0.4
baz=6.2
HKT Hockley 148.44 14 ePKPdf PKPdf 19 37 58.9 -0.8
HKT ePKPbc PKPbc 19 38 03.2 +0.1
HKT LR LR
comp=Z,1μm,21.0s
HKT Hockley 148.44 14 ePKIKP PKPdf 19 37 58.9 -0.8
HKT e 19 38 03.3
HKT MLR MLR
comp=Z,1μm,21.0s
GO03 Copiap 148.58 210 ePKPbc PKPbc 19 38 03.2 -0.6
833A Chaparral WMA, 148.91 20 ePKPdf PKPdf 19 37 59.4 -1.2
833A ePKPbc PKPbc 19 38 04.5 -0.1
833A LR LR
comp=Z,500nm,21.0s
833A Chaparral WMA, 148.91 20 P PKPbc 19 38 04.2 -0.3
baz=337
556A Lake Butler 148.99 351 P PKPbc 19 38 04.6 -0.1
baz=10
656A Willston 149.63 351 P PKPbc 19 38 05.5 -0.8
baz=10.0
758A Lake Helen 149.80 349 P PKPbc 19 38 06.5 -0.2
baz=13
GO02 Mina Guanaco 150.18 214 ePKPdf PKPdf 19 38 03.5 +0.4
GO02 ePKPbc PKPbc 19 38 08.0 -0.2
857A Zephyrhills 150.66 350 P PKPbc 19 38 08.3 -0.5
baz=11
DWPF Disney Wildern 150.67 349 PFAKE 19 38 10.0 +0.5
DWPF LR LR
comp=Z,600nm,20.0s
MTP Monte Pirata 151.34 312 ePKPbc PKPbc 19 38 09.8 -0.9
CBYP Canovanas 151.45 313 ePKPbc PKPbc 19 38 09.7 -1.3
CBYP LR LR
comp=Z,500nm,22.0s
HUMP Col San Antoni 151.53 312 ePKPdf PKPdf 19 38 04.2 -0.7
HUMP ePKPbc PKPbc 19 38 09.9 -1.1
HUMP LR LR
comp=Z,600nm,22.0s
LVC Limon Verde 151.71 219 ePKPdf PKPdf 19 38 05.2 -0.4
LVC ePKPbc PKPbc 19 38 12.0 +0.1
LVC Limon Verde 151.71 219 ePKIKP PKPdf 19 38 05.2 -0.4
LVC e 19 38 12.0
LVC Limon Verde 151.71 219 eP PKPdf 19 38 07.7 +2.1
SJG San Juan 151.77 313 ePKPbc PKPbc 19 38 10.8 -0.8
SJG LR LR
comp=Z,600nm,21.0s
SJG San Juan 151.77 313 ePKIKP PKPbc 19 38 10.9 -0.8
SJG MLR MLR
comp=Z,600nm,21.0s
LNIG Linares 151.99 23 PFAKE 19 38 20.0 -1.2
LNIG LR LR
comp=Z,500nm,21.0s
OBIP Obispado Ponce 152.15 313 ePKPbc PKPbc 19 38 10.7 -1.8
ICMP Isla Caja de M 152.19 313 ePKPdf PKPdf 19 38 05.2 -0.7
ICMP ePKPbc PKPbc 19 38 11.8 -0.8
ICMP LR LR
comp=Z,800nm,22.0s
AGP Aguadilla 152.30 315 PFAKE 19 38 20.0 -2.7
AGP LR LR
comp=Z,500nm,22.0s
PTGA Pitinga 152.40 270 ePKPdf PKPdf 19 38 06.2 -0.2
PTGA ePKPbc PKPbc 19 38 12.6 -0.6
PTGA LR LR
comp=Z,700nm,19.0s
PTGA Pitinga 152.40 270 eP PKPdf 19 38 07.4 +1.0
MPR Mayaguez 152.42 314 PFAKE 19 38 20.0 -3.2
MPR LR LR
comp=Z,400nm,21.0s
PB04 IPOC Station P 152.68 217 ePKPbc PKPbc 19 38 12.2 -1.7
PB01 IPOC Station P 153.22 220 ePKPdf PKPdf 19 38 05.6 -1.9
PB01 ePKPbc pPKPdf 19 38 14.6 -0.3
PB01 ePKPab PKPab 19 38 26.0 -0.6
GO01 Chusmiza 154.00 223 ePKPdf PKPdf 19 38 09.2 0.0
GO01 ePKPbc PKPbc 19 38 16.8 -0.4
PB11 IPOC Station P 154.24 222 ePKPdf PKPdf 19 38 09.0 -0.1
PB11 ePKPbc PKPbc 19 38 17.1 -0.1
PB11 ePKPab PKPab 19 38 30.5 -0.6
MNMC Minye Minye 154.64 223 ePKPdf PKPdf 19 38 10.1 +0.3
MNMC ePKPbc PKiKP 19 38 18.2 -0.1
SDDR Presa de Saban 154.66 322 ePKPdf PKPdf 19 38 08.9 -0.6
SDDR ePKPbc PKPbc 19 38 17.3 -0.7
SDDR ePKPab PKPab 19 38 31.8 -0.9
SDDR LR LR
comp=Z,400nm,20.0s
LPAZ La Paz 155.41 230 ePKPdf PKPdf 19 38 10.9 -0.4
LPAZ ePKPbc sPKPdf 19 38 20.1 -1.2
LPAZ ePKPab PKPab 19 38 35.5 -1.2
LPAZ La Paz 155.41 230 ePKIKP PKPdf 19 38 10.9 -0.4
LPAZ e 19 38 20.1
LPAZ e 19 38 35.5
LPAZ La Paz 155.41 230 PKP PKPdf 19 38 11.6 +0.3
comp=Z,8.5nm,0.8s,baz=96,slow=1.7,SNR=24
LPAZ PKPab PKPab 19 38 36.8 +0.1
comp=Z,13nm,0.7s,baz=219,slow=3.4,SNR=12
LPAZ La Paz 155.41 230 eP PKPdf 19 38 13.7 +2.4
MYIG Mrida 158.28 5 PFAKE 19 38 20.0 +5.9
MYIG LR LR
comp=Z,400nm,21.0s
MTDJ Mount Denham 158.68 333 PFAKE 19 38 30.0 +15
MTDJ LR LR
comp=Z,400nm,19.0s
TEIG Tepich 159.10 2 PFAKE 19 38 30.0 +15
TEIG LR LR
comp=Z,500nm,20.0s
SDV Santo Domingo 160.58 300 eP PKPdf 19 38 20.5 +3.3
OTAV Otavalo 170.82 276 ePKPdf PKPdf 19 38 24.3 -1.6
OTAV Otavalo 170.82 276 ePKIKP PKPdf 19 38 24.3 -1.6
OTAV Otavalo 170.82 276 eP PKPdf 19 38 30.0 +4.1

MAN 14 19:19:23.0, 13°.19N×120°.49E, h32km, mb4.0, ML2.7, MS2.3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PGP	Puerto Galera	0.55	56	‖	eP	Pb	19 19 31.9	-2.5
PGP					i S	Sb	19 19 38.5	-3.6
LUBP	Lubang	0.59	336		eP	Pn	19 19 35.9	+0.7
LUBP					eS	Sn	19 19 44.5	+0.9
SJMP	San Jose	0.95	140		eP	Pn	19 19 39.8	-0.3
SJMP					eS	Sn	19 19 52.6	0.0
BUSP	Coron	1.21	193		eP	Pb	19 19 58.9	+14
BOAC	Boac	1.35	78		eP	Pn	19 19 45.8	+0.3
BOAC					eS	Sn	19 20 02.9	+0.6
ENPP	El Nido	2.23	208		eP	Pn	19 19 58.3	+0.6

ISCJB ***14*** *19:31:03.3±1.0, 6°.17S±0°.04×149°.53E±0°.05, h64km±10km, mb4.6/44, Error ellipse: s-maj=9.4km s-min=5.9km az=30.9*
NEIC ***14*** *19:31:04.0±1.7, 6°.19S×149°.58E, h56km±7km, mb4.8/35, Error ellipse: s-maj=13.5km s-min=11.0km az=119.0*
IDC ***14*** *19:31:04.1±0.6, 6°.17S×149°.46E, h50km±4km, mb3.8/22, mb1 3.9/23, mb1mx3.8/48, mbtmp4. 1/23, Error ellipse: s-maj=14.6km s-min=7.5km az=110.0*
ISC 14 19:31:03.9±0.5, 6°.19S±0°.05×149°.54E±0°.06, h54km±5km, h53km:pP-P, n78, σ1°50/94, mb4.7/44, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RABL	Rabaul	3.28	53		ePn	Pn	19 31 54.5	+1.6
PMG	Port Moresby	3.97	216		ePn	Pn	19 32 04.2	+1.9
PMG					eSn	Sn	19 32 48.3	+0.7
PMG					e		19 32 49.1	
PMG	Port Moresby	3.97	216		P	Pn	19 32 03.8	+1.5
	69nm,0.3s,baz=12,slow=4.2,SNR=152							
PMG					S	Sn	19 32 49.1	+1.5
	55nm,0.3s,baz=84,slow=16,SNR=9.9							
MANU	Manus Island	4.65	332		ePn	Pn	19 32 17.9	+6.2
COEN	Coen	9.94	219		ePn	Pn	19 33 24.6	+0.5
COEN					eSn	Sn	19 35 07.6	-6.7
HNR	Honiara	10.80	108		ePn	Pn	19 33 33.1	-2.8
CTA	Charters Tower	14.18	193		P	Pn	19 34 23.7	+1.8
	0.3nm,0.3s,baz=19,slow=15,SNR=7.2							
CTAO	Charters Tower	14.18	193		ePn	Pn	19 34 23.7	+1.8
EIDS	Eidsvold	19.13	176		eP	Pn	19 35 24.8	+0.8
	8.0nm,0.6s							
MTN	Manton Dam	19.31	249		eP	P	19 35 24.5	-0.2
	96nm,1.8s							
WRAB	Tennant Creek	20.11	226		eP	P	19 35 34.6	+1.2
	29nm,0.8s							
WB2	Warramunga Arr	20.12	226		eP	Pn	19 35 34.8	-0.9
	28nm,0.8s							
WR1	Warramunga Arr	20.12	226		eP	P	19 35 34.6	+1.0
WR1					epP	pP	19 35 45.7	+1.4
WR1					eS	S	19 39 12.9	-3.9
WR1					ePcP	PcP	19 39 47.7	+0.6
WRA	Warramunga Arr	20.12	226		P	P	19 35 34.6	+1.0
	4.4nm,0.4s,baz=52,slow=11,SNR=65							
WRA					pP	pP	19 35 45.7	+1.4
	14nm,0.5s,baz=49,slow=11,SNR=24							
WRA					S	S	19 39 12.9	-3.9
	3.0nm,0.9s,baz=48,slow=21,SNR=4.2							
WRA					PcP	PcP	19 39 47.7	+0.6
	2.6nm,0.7s,baz=41,slow=2.4,SNR=6.2							
DZM	Mont Dzumac	22.72	136		eP	P	19 36 02.4	+0.9
	16nm,1.0s							
DZM	Mont Dzumac	22.72	136		P	P	19 36 03.3	+1.7
	5.9nm,0.5s,baz=338,slow=20,SNR=14							
DZM					pP	pP	19 36 14.2	+1.6
	14nm,0.9s,baz=320,slow=8.2,SNR=6.5							
AS31	Alice Springs	22.98	219		eP	P	19 36 04.4	+0.3
	3.6nm,0.7s							
ASAR	Alice Springs	22.98	219		eP	P	19 36 04.2	0.0
ASAR	Alice Springs	22.98	219		P	P	19 36 04.5	+0.3
	6.7nm,0.6s,baz=51,slow=9.7,SNR=86							
ASAR					pP	pP	19 36 16.4	+1.1
	6.8nm,0.6s,baz=47,slow=9.6,SNR=13							
ASAR					PcP	PcP	19 39 53.4	+0.7
	1.5nm,0.7s,baz=59,slow=2.9,SNR=5.7							
ASAR					S	S	19 40 12.6	+1.9
	2.3nm,0.9s,baz=36,slow=23,SNR=8.8							
SARN	Sarigan	23.05	351		eP	P	19 36 03.2	-1.6
	45nm,1.4s							
OUENC	Ouen Island, N	23.22	136		eP	P	19 36 04.9	-1.6
	10nm,0.9s							
MARNC	Mare, Loyalty	23.48	132		eP	P	19 36 06.4	-2.6
	79nm,1.1s							
ARMA	Armidale	24.18	176		eP	P	19 36 12.9	-2.5
	19nm,1.3s							
SOEI	Soe	25.27	260		eP	P	19 36 25.0	-0.5
	23nm,0.9s							
FITZ	Fitzroy Crossi	26.15	241		eP	P	19 36 33.5	+0.2
	22nm,0.8s							
FITZ	Fitzroy Crossi	26.15	241		P	P	19 36 33.4	+0.1
	5.8nm,0.4s,baz=52,slow=7.5,SNR=56							
FITZ					pP	pP	19 36 45.8	0.0
	17nm,0.6s,baz=82,slow=8.0,SNR=9.4							
STKA	Stephens Creek	26.61	195		eP	P	19 36 37.7	+0.3
	1.2nm,0.7s							
STKA	Stephens Creek	26.61	195		P	P	19 36 39.1	+1.7
	4.7nm,0.6s,baz=23,slow=10.0,SNR=4.8							
MMRI	Maumere	27.18	263		eP	P	19 36 39.8	-2.8
	38nm,1.2s							
LUWI	Luwuk	27.19	280		eP	P	19 36 42.4	-0.3
	21nm,1.0s							
WAKE	Wake Island	30.41	33		eP	P	19 37 08.8	-2.5
	81nm,0.9s							
FORT	Forrest	31.70	217		eP	P	19 37 23.2	+0.7
	15nm,0.8s							
MBWA	Marble Bar	32.47	240		eP	P	19 37 29.4	0.0
	133nm,1.7s							
PSA00	Pilbara Seismi	32.53	239		eP	P	19 37 29.9	-0.1
	93nm,1.8s							
GIRL	Giralia	37.76	241		eP	P	19 38 16.3	+1.4
	769nm,1.8s							
MORW	Morawa	38.96	230		eP	P	19 38 25.3	+0.3
	75nm,1.9s							
NWAO	Narrogin (SRO)	40.12	224		eP	P	19 38 34.5	-0.1
	31nm,1.3s							
TPUB	Ta-pu	40.70	317		eP	P	19 38 39.7	+0.2
	28nm,1.4s							
KHZ	Kahutara	41.88	153		eP	P	19 38 48.6	-0.2
	48nm,1.6s							
JNU	Nakatsue	42.92	337		eP	P	19 38 57.5	0.0
	13nm,1.2s							
JNU	Nakatsue	42.92	337		P	P	19 38 58.8	+1.3
	3.5nm,0.7s,baz=158,slow=5.4,SNR=3.4							
JNU					pP	pP	19 39 09.9	-1.9
	4.1nm,0.7s,baz=56,slow=19,SNR=2.4							
MJAR	Matsushiro Arr	43.81	347		P	P	19 39 04.2	-0.4
	1.0nm,0.7s,baz=174,slow=10.0,SNR=5.4							
MAJO	Matsushiro	43.81	347		eP	P	19 39 04.2	-0.4
KSRS	Korea Array	47.88	337		P	P	19 39 36.7	+0.1
	1.3nm,0.6s,baz=157,slow=8.3,SNR=9.2							
KSRS					pP	pP	19 39 49.5	-1.5
	0.9nm,0.6s,baz=156,slow=9.3,SNR=3.6							
KULM	Kulim	50.12	282		eP	P	19 39 54.5	+0.2
	11nm,1.5s							
ASAJ	Asahikawa	50.46	354		P	P	19 39 56.7	+0.5
	3.1nm,0.6s,baz=202,slow=11,SNR=6.7							
USRK	Ussuriysk Ar.	52.60	344		eP	P	19 40 08.5	-3.7
USRK	Ussuriysk Ar.	52.60	344		P	P	19 40 14.3	+2.1
	1.5nm,0.6s,baz=138,slow=5.2,SNR=4.3							
CMAR	Chiang Mai Arr	55.57	297		P	P	19 40 35.4	+1.0
	0.2nm,0.4s,baz=121,slow=5.6,SNR=3.6							
CMAR					pP	pP	19 40 50.0	+1.0
	0.5nm,0.7s,baz=116,slow=8.4,SNR=2.9							
KLR	Kul'dur	57.34	346		P	P	19 40 47.5	+1.1
	0.6nm,0.4s,baz=210,slow=5.7,SNR=3.7							
HON	Honolulu	58.26	60		eP	P	19 40 54.1	+0.8
	169nm,1.1s							
PEA0B	Petropavlovsk-	59.48	6		eP	P	19 41 01.7	+0.6
	124nm,1.9s							
PETK	Petropavlovsk-	59.48	6		eP	P	19 41 01.2	0.0
PETK	Petropavlovsk-	59.48	6		P	P	19 41 01.6	+0.4
	6.1nm,0.5s,baz=156,slow=6.3,SNR=32							
PEA1	Petropavlovsk-	59.48	6		eP	P	19 41 01.6	+0.4
KHLU	Kahalu`u	59.49	63		eP	P	19 41 02.0	0.0
	257nm,1.5s							
KHU	Kahuku	59.62	64		eP	P	19 41 02.7	-0.4
	372nm,1.5s							
CASY	Casey	65.76	196		eP	P	19 41 42.9	0.0
	37nm,1.8s							
VNDA	Vanda	71.59	177		eP	P	19 42 19.0	0.0
VNDA					e		19 42 19.5	
VNDA	Vanda	71.59	177		P	P	19 42 20.1	+1.1
	1.8nm,0.7s,baz=328,slow=7.7,SNR=16							
VNDA					pP	pP	19 42 32.8	-1.0
	2.6nm,0.7s,baz=328,slow=6.5,SNR=10							
TIXI	Tiksi	78.87	353		P	P	19 43 02.2	+1.4
	0.3nm,0.4s,baz=124,slow=7.3,SNR=3.5							
MK32	Makanchi Array	79.26	320		eP	P	19 43 03.3	-0.2
MKAR	Makanchi Array	79.26	320		P	P	19 43 03.3	-0.2
	0.2nm,0.4s,baz=104,slow=8.3,SNR=8.9							
ZALV	Zalesovo Beam	80.53	327		P	P	19 43 10.0	-0.2
	0.9nm,0.5s,baz=70,slow=6.0,SNR=4.2							
ZAA1	Zalesovo Array	80.53	327		eP	P	19 43 10.0	-0.2
KURBB	Kurchatov Arra	82.90	323		P	P	19 43 22.5	-0.3
	0.2nm,0.6s,baz=121,slow=4.3,SNR=3.8							
AAK	Ala-Archa	83.28	314		P	P	19 43 24.4	-0.7
	0.6nm,0.5s,baz=4.4,slow=12,SNR=2.1							
QSPA	South Pole Qui	83.78	180		eP	P	19 43 27.7	+0.4
ILAR	Eielson Array	84.67	23		P	P	19 43 30.5	-1.1
	0.9nm,0.8s,baz=253,slow=5.1,SNR=10.0							
ILB	Eielson Array	84.67	23		eP	P	19 43 31.0	-0.5
	9.8nm,1.6s							
BVAR	Borovoye Array	88.41	324		P	P	19 43 49.2	-0.9
	0.3nm,0.7s,baz=134,slow=4.2,SNR=2.2							
INK	Inuvik	90.91	21		eP	P	19 44 01.1	-0.3
	16nm,1.9s							
INK	Inuvik	90.91	21		P	P	19 44 02.0	+0.6
	1.4nm,1.1s,baz=304,slow=7.3,SNR=2.6							
LPAZ	La Paz	136.55	121		PKP	PKPdf	19 50 22.5	+0.7
	1.4nm,0.7s,baz=311,slow=5.2,SNR=5.8							
CPUP	Villa Florida	138.48	142		PKP	PKPdf	19 50 25.6	+1.3
	1.0nm,0.6s,baz=198,slow=3.9,SNR=3.0							
TORD	Torodi Ar. Bea	147.58	285		PKPbc	PKPbc	19 50 43.1	-0.2
	1.0nm,0.4s,baz=90,slow=3.4,SNR=13							
TOA1	Torodi Ar. Sit	147.58	285		ePKPbc	PKPbc	19 50 43.1	-0.2

BDFB Brasilia 152.20 141 PKPbc **PKiKP 19 50 55.2 +0.2**
11nm,0.6s,baz=256,slow=1.8,SNR=15

MEX 14 19:43:25.6±0.5, 13°.85N×91°.66W, h26km±13km, MD4.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.38**	**321**	*eP*	Pn	19 44 01.6	-1.4
PCIG				*eS*	Sn	19 44 28.1	-3.2
CCIG	**Comitan**	**2.46**	**349**	*eP*	Pn	19 44 02.0	-2.3
CCIG				*i* S	Sn	19 44 31.1	-2.6
CMIG	**Matias Romero**	**4.47**	**316**	*eP*	Pn	19 44 30.0	-1.8
CMIG				*eS*	Sn	19 45 20.5	-2.6

IDC 14 19:43:54.6±2.1, 6°.03S×130°.31E, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.4/44, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=90.9km s-min=27.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.83**	**200**	Pn	Pn	19 46 57.2	-1.2
baz=15,slow=11							
FITZ				Sn	Sn	19 49 06.4	-16
0.1nm,0.3s,baz=132,slow=12,SNR=4.1							
WRA	**Warramunga Arr**	**14.37**	**165**	Pn	Pn	19 47 21.2	+1.6
0.2nm,0.3s,baz=349,slow=13,SNR=15							
WRA				Sn	Sn	19 49 46.9	-13
0.3nm,0.3s,baz=344,slow=22,SNR=8.8							
ASAR	**Alice Springs**	**17.87**	**169**	P	Pn	19 48 04.5	-0.4
0.1nm,0.3s,baz=349,slow=11,SNR=13							
ASAR				S	Sn	19 51 11.7	-13
0.1nm,0.3s,baz=348,slow=26,SNR=4.5							
MKAR	**Makanchi Array**	**67.59**	**326**	P	P	19 54 53.2	+0.1
0.4nm,0.4s,baz=127,slow=6.9,SNR=9.9							

MAN 14 19:45:55.9, 13°.20N×122°.50E, h1km, mb4.3, ML3.2, MS2.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.21**	**56**	*eP*	Pg	19 45 59.8	-0.2
AUQP				*eS*	Sg	19 46 05.2	+2.5
BOAC	**Boac**	**0.68**	**292**	*eP*	Pg	19 46 09.1	+0.1
BOAC				*eS*	Sb	19 46 20.5	0.0
GQP	**Guinayangan**	**0.70**	**356**	⇓*eP*	Pg	19 46 09.0	-0.3
GQP				*eS*	Sg	19 46 17.6	-0.8
SJMP	**San Jose**	**1.53**	**241**	*eP*	Pn	19 46 24.1	-0.3
POLP	**Polilio Island**	**1.61**	**340**	*eP*	Pn	19 46 25.9	+0.4
POLP				*eS*	Sg	19 46 47.6	0.0

DJA 14 19:47:29.3±2.0, 2°N±8°×122°3E±°, h31km±30km, M4.1/4, MLv4.1/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.71**	**141**	P	Pn	19 47 57.1	+0.2
LUWI	**Luwuk**	**2.94**	**183**	P	Pn	19 48 13.7	-0.2
LUWI				S	Sn	19 48 48.8	+0.7
APSI	**Ampana**	**3.07**	**204**	P	Pn	19 48 15.8	+0.1
MPSI	**Mapaga**	**3.39**	**243**	P	Pb	19 48 24.9	-3.9

*ISCJB **14** 19:58:22.2±0.2, 33°.24N±0°.03×75°.89E±0°.04, h28km, mb4.1/30, Error ellipse: s-maj=5.1km s-min=3.0km az=149.4*
*IDC **14** 19:58:22.0±0.7, 33°.07N×75°.76E, h18km±3km, mb3.8/21, mb1 3.9/24, mb1mx3.8/53, mbtmp3.9/24, ML3.4/3, Error ellipse: s-maj=17.3km s-min=12.1km az=51.0*
*BJI **14** 19:58:23.9±0.0, 33°.08N×75°.69E, h25km, mb4.3/16, mB4.4/7, ML4.3/1, Ms4.3/2, Ms7 4.0/2*
*NEIC **14** 19:58:24.4±2.1, 33°.12N×75°.74E, h36km±7km, mb4.3/19, Error ellipse: s-maj=16.5km s-min=9.3km az=180.0*
*NDI **14** 19:58:24.9±2.2, 33°.16N×76°.10E, h6km±7km, ML4.4*
ISC 14 19:58:23.2±0.4, 33°.25N±0°.04×75°.81E±0°.05, h28km, n98, σ1°.74/102, mb4.0/31, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**0.82**	**186**	*eP*	**Pb**	**19 58 38.5**	**-0.4**
THN				*ex*	x	19 58 41.5	
JMU	**Jammu**	**0.94**	**235**	*eS*	Sn	19 59 24.0	+31
DHRM	**DHARAMSHALA**	**1.08**	**158**	*eP*	**Pn**	**19 58 42.2**	**-0.5**
DHRM				*eS*	**Sn**	**19 58 56.8**	**-0.1**
DHRM				IAML		19 59 01.4	
comp=E,28μm,0.3s							
DHRM				IAML		19 59 01.4	
comp=N,23μm,0.3s							
BHK	**Bhakra**	**1.90**	**164**	*ex*	**Pb**	**19 58 56.0**	**-1.3**
BHK				*eS*	**Sb**	**19 59 20.1**	**-0.5**
BHK	**Bhakra**	**1.90**	**164**	*eS*	**Pb**	**19 58 56.0**	**-1.3**
CHCP	**Chirah Chowk**	**2.17**	**281**	P	**Pb**	**19 59 00.4**	**-1.4**
NIL	**Nilore**	**2.18**	**281**	*ePn*	**Pb**	**19 59 00.3**	**-1.6**
SMLA	**Simla**	**2.41**	**151**	*eP*	**Pn**	**19 59 01.9**	**+1.1**
SMLA				*eS*	**Sn**	**19 59 30.3**	**+1.0**
SMLA				IAML		19 59 35.7	
comp=N,9μm,0.3s							
SMLA				IAML		19 59 35.9	
comp=E,6μm,0.2s							
SARP	**Sargodha**	**2.97**	**244**	P	**Pn**	**19 59 09.6**	**+1.2**
CEP	**Cherat**	**3.31**	**281**	P	**Pn**	**19 59 14.6**	**+1.3**
THW	**Thamme Wali**	**3.45**	**263**	P	**Pn**	**19 59 15.2**	**+0.1**
DDI	**Dehra Dun**	**3.49**	**146**	*eP*	**Pn**	**19 59 17.1**	**+1.4**
DDI				*eS*	**Sn**	**19 59 55.9**	**-0.2**
DDI				IAML		20 00 13.9	
comp=N,2μm,0.2s							
DDI				IAML		20 00 14.0	
comp=E,2μm,0.3s							
JOSI	**Joshimath**	**4.17**	**129**	*eP*	**Pn**	**19 59 26.4**	**+1.2**
JOSI				*ex*	**Sn**	**20 00 15.2**	**+2.1**
JOSI				IAML		20 00 32.1	
comp=N,844nm,0.1s							
JOSI				IAML		20 00 35.9	
comp=E,885nm,0.4s							
NDI	**New Delhi**	**4.71**	**165**	*eP*	**Pn**	**19 59 34.0**	**+1.5**
NDI				*ex*	**Sb**	**20 00 47.0**	**+5.6**
SONA	**Sohna**	**5.11**	**167**	*eP*	**Pn**	**19 59 37.9**	**+0.1**
SONA				*eS*	**Sn**	**20 00 31.9**	**-4.0**
KUDL	**Kundal**	**5.13**	**173**	*eP*	Pn	19 59 32.2	-5.9
KUDL				*eS*	Sn	20 00 26.3	-10
KUDL				IAML		20 00 48.8	
comp=E,245nm,0.1s							
KUDL				IAML		20 00 53.9	
comp=N,276nm,0.8s							
PTH	**Pithoragarh**	**5.27**	**133**	*ex*	Sn	20 00 23.1	-17
KBL	**Kabul**	**5.78**	**285**	*ePn*	**Pn**	**19 59 47.8**	**+0.6**
KSH	**Kashi**	**6.25**	**1**	Pn	**Pn**	**19 59 56.5**	**+2.8**
KSH				Sn	**Sn**	**20 01 01.5**	**-2.8**
GAR	**Garm**	**7.26**	**324**	*ePn*	**Pn**	**20 00 09.4**	**+1.9**
CHGR	**Chuyangaron**	**7.63**	**317**	*ePn*	**Pn**	**20 00 15.1**	**+2.5**
PYUN	**Piuthan**	**8.03**	**128**	*eP*	**Pn**	**20 00 18.0**	**-0.3**
comp=N,25nm,0.3s							
NRN	**Naryn**	**8.17**	**1**	*ePn*	**Pn**	**20 00 22.3**	**+2.1**
ARSB	**Arslanbob**	**8.37**	**345**	*ePn*	**Pn**	**20 00 25.3**	**+2.6**
DANN	**Dangsing**	**8.40**	**123**	*eP*	**Pn**	**20 00 22.7**	**-0.7**
comp=N,20nm,0.3s							
TARG	**Taragay, Kyrgy**	**8.61**	**10**	*ePn*	Pn	20 00 31.7	+5.4
KOLN	**Koldanda**	**8.66**	**127**	*eP*	**Pn**	**20 00 26.4**	**-0.4**
comp=N,16nm,0.3s							
KDJ	**Kajisay**	**8.93**	**7**	*ePn*	**Pn**	**20 00 34.4**	**+3.9**
BOOM	**Boomskoye usch**	**9.22**	**1**	*ePn*	**Pn**	**20 00 38.0**	**+3.5**
GKN	**Gorkha**	**9.23**	**122**	*eP*	**Pn**	**20 00 33.3**	**-1.3**
comp=N,45nm,0.3s							
AAK	**Ala-Archa**	**9.43**	**354**	*ePn*	**Pn**	**20 00 39.1**	**+1.8**
AAK	**Ala-Archa**	**9.43**	**354**	Pn	Pn	20 00 42.2	+4.9
comp=N,0.6nm,0.3s,baz=164,slow=8.7,SNR=9.3							
DMN	**Daman**	**9.79**	**123**	*eP*	**Pn**	**20 00 41.0**	**-1.5**
comp=N,58nm,0.6s							
KKN	**Kakani**	**9.81**	**121**	*eP*	**Pn**	**20 00 41.0**	**-1.7**
comp=N,39nm,0.6s							
PKIN	**Phulchoki**	**10.02**	**122**	*eP*	**Pn**	**20 00 43.8**	**-1.8**
comp=N,37nm,0.5s							
PKI	**Pulchoki**	**10.03**	**122**	*eP*	**Pn**	**20 00 44.0**	**-1.8**
comp=N,31nm,0.4s							
JIRN	**Jiri**	**10.54**	**119**	*eP*	**Pn**	**20 00 50.9**	**-1.9**
comp=N,53nm,0.4s							
KKAR	**Karatay Array**	**10.68**	**339**	*ePn*	**Pn**	**20 00 55.1**	**+0.8**
RAMN	**Ramite**	**11.25**	**121**	*eP*	**Pn**	**20 00 59.5**	**-2.9**
comp=N,15nm,0.3s							
LSA	**Lhasa**	**13.56**	**101**	*ePn*	**P**	**20 01 39.9**	**-3.0**
MAKZ	**Makanchi**	**14.33**	**17**	*ePn*	**Pn**	**20 01 45.0**	**+0.9**
MK32	**Makanchi Array**	**14.40**	**18**	*ePn*	**Pn**	**20 01 46.2**	**+1.1**
MKAR	**Makanchi Array**	**14.40**	**18**	Pn	**Pn**	**20 01 46.2**	**+1.1**
comp=N,0.2nm,0.3s,baz=202,slow=13,SNR=14							
GEYT	**Alibeck**	**15.13**	**293**	*ePn*	**Pn**	**20 01 55.4**	**+0.4**
GEYT	**Alibeck**	**15.13**	**293**	Pn	**P**	**20 02 00.7**	**+0.8**
comp=N,0.1nm,0.3s,baz=106,slow=21,SNR=3.2							
GYA0B	**ALIBECK ARRAY**	**15.13**	**293**	*ePn*	**P**	**20 01 58.6**	**-1.3**
comp=N,20nm,1.9s							
SHL	**Shillong**	**15.95**	**115**	*ePn*	**P**	**20 02 07.9**	**-1.3**
comp=N,32nm,1.5s							
KURBB	**Kurchatov Arra**	**17.47**	**6**	P	**P**	**20 02 25.5**	**-0.2**
comp=N,0.1nm,0.3s,baz=192,slow=10,SNR=12							
KURK	**Kurchatov**	**17.57**	**6**	*ePn*	**Pn**	**20 02 26.0**	**0.0**
comp=N,6.8nm,1.0s							
ABKAR	**Akbulak array**	**19.88**	**328**	*eP*	**P**	**20 02 52.4**	**+0.2**
comp=N,13nm,1.8s							
BVAR	**Borovoye Array**	**20.14**	**350**	P	Pn	20 02 57.5	+0.6
comp=N,5.3nm,0.5s,baz=160,slow=9.5,SNR=54							
BRVK	**Borovoye**	**20.19**	**350**	*eP*	Pn	20 02 56.6	-1.0
comp=N,24nm,1.3s							
GTA	**Gaotai**	**20.26**	**66**	*eP*	**P**	**20 02 52.6**	**-4.0**
GTA				pP	Pn	20 02 56.8	-1.8
GTA				sP	pP	20 02 59.8	-5.3
AKTO	**Aktyubinsk**	**21.60**	**328**	P	**P**	**20 03 13.1**	**+2.4**
comp=N,4.8nm,0.6s,baz=119,slow=11,SNR=7.1							
ZAA0	**Zalesovo Array**	**21.66**	**15**	*eP*	**P**	**20 03 11.6**	**+0.3**
comp=N,3.6nm,1.1s							
ZALV	**Zalesovo Beam**	**21.66**	**15**	*eP*	**P**	**20 03 12.2**	**+1.0**
ZALV	**Zalesovo Beam**	**21.66**	**15**	P	**P**	**20 03 12.4**	**+1.1**
comp=N,0.9nm,0.4s,baz=209,slow=12,SNR=6.3							
CHTO	**Chiang Mai**	**25.20**	**119**	*eP*	**P**	**20 03 47.0**	**+0.4**
comp=N,22nm,1.8s							
CM31	**Chiang Mai Arr**	**25.42**	**120**	*eP*	**P**	**20 03 48.2**	**-0.4**
comp=N,37nm,1.6s							
CMAR	**Chiang Mai Arr**	**25.42**	**120**	*eP*	**P**	**20 03 47.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**25.42**	**120**	P	**P**	**20 03 48.6**	**0.0**
comp=N,2.2nm,0.8s,baz=312,slow=10,SNR=15							
GNI	**Garni**	**25.76**	**294**	*eP*	**P**	**20 03 52.5**	**+0.8**
comp=N,14nm,1.2s							
ARU	**Arti**	**26.06**	**338**	*eP*	**P**	**20 03 55.9**	**+1.9**
comp=N,8.1nm,1.2s							
ARU	**Arti**	**26.06**	**338**	P	**P**	**20 03 55.4**	**+1.4**
comp=N,0.7nm,0.5s,baz=124,slow=2.5,SNR=5.2							
PBA	**Port Blair**	**26.51**	**140**	*eP*	P	20 03 57.4	-1.0
comp=N,276nm,1.5s							
SONA0	**Songino Array**	**27.21**	**49**	*eP*	**P**	**20 04 05.4**	**+0.7**
SONM	**Songino Array**	**27.21**	**49**	*eP*	**P**	**20 04 05.9**	**+1.2**
SONM	**Songino Array**	**27.21**	**49**	P	**P**	**20 04 05.4**	**+0.7**
comp=N,1.5nm,0.5s,baz=253,slow=15,SNR=2.9							
TLY	**Talaya**	**27.32**	**39**	*eP*	**P**	**20 04 06.3**	**+0.8**
comp=N,6.6nm,0.6s							
HHC	**Hu-ho-hao-te**	**29.37**	**65**	*eP*	**P**	**20 04 25.4**	**+1.4**
HHC				pmax	pmax		
comp=N,13nm,0.8s							
HHC				pmax	pmax		
comp=N,88nm,4.6s							
BRTR	**Keskin Array B**	**34.27**	**293**	pP	pP	20 05 14.4	-1.6
comp=N,1.1nm,0.7s,baz=97,slow=7.4,SNR=8.2							
AKASG	**Malin Array Be**	**38.06**	**311**	P	**P**	**20 05 39.5**	**+0.4**
comp=N,0.2nm,0.4s,baz=82,slow=6.6,SNR=4.2							
YOJ	**Yonaguni jima**	**41.96**	**89**	*eP*	**P**	**20 06 11.4**	**-0.4**
comp=N,143nm,1.7s							
KS15	**Wonju Array Si**	**42.24**	**69**	*eP*	**P**	**20 06 15.7**	**+1.8**
KSRS	**Korea Array**	**42.27**	**69**	P	**P**	**20 06 15.7**	**+1.6**
comp=N,1.1nm,0.9s,baz=188,slow=35,SNR=4.4							
FINES	**FINESS Array B**	**42.37**	**327**	*eP*	**P**	**20 06 14.7**	**+0.1**
FINES	**FINESS Array B**	**42.37**	**327**	P	**P**	**20 06 16.4**	**+1.7**
comp=N,1.1nm,0.9s,baz=110,slow=28,SNR=3.1							
KLR	**Kul'dur**	**43.96**	**51**	P	**P**	**20 06 29.2**	**+1.5**
comp=N,0.4nm,0.5s,baz=294,slow=12,SNR=2.6							
ARCES	**ARCESS Array B**	**45.64**	**338**	*eP*	**P**	**20 06 40.5**	**-0.4**
ARCES	**ARCESS Array B**	**45.64**	**338**	P	**P**	**20 06 42.9**	**+2.0**
comp=N,5.9nm,1.1s,baz=108,slow=10,SNR=4.2							
TIXI	**Tiksi**	**47.38**	**20**	P	**P**	**20 06 55.8**	**+1.5**
comp=N,0.9nm,0.3s,baz=302,slow=1.5,SNR=4.2							
NC405	**NORSAR Array S**	**49.09**	**325**	*eP*	**P**	**20 07 07.5**	**-0.3**
comp=N,3.8nm,1.0s							
NB201	**NORSAR Array S**	**49.29**	**325**	*eP*	**P**	**20 07 10.5**	**+1.2**
comp=N,35nm,1.2s							
NOA	**NORSAR Array B**	**49.33**	**325**	P	**P**	**20 07 10.3**	**+0.7**
comp=N,1.1nm,0.9s,baz=104,slow=7.0,SNR=2.7							
MAJO	**Matsushiro**	**50.49**	**68**	*eP*	**P**	**20 07 20.2**	**+1.4**
MJAR	**Matsushiro Arr**	**50.49**	**68**	P	**P**	**20 07 20.2**	**+1.3**
comp=N,0.9nm,0.7s,baz=282,slow=11,SNR=8.4							
TOA1	**Torodi Ar. Sit**	**69.71**	**273**	*eP*	**P**	**20 09 30.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**69.71**	**273**	P	**P**	**20 09 30.1**	**-0.8**
comp=N,0.4nm,0.6s,baz=79,slow=6.9,SNR=3.5							
INK	**Inuvik**	**76.41**	**11**	*eP*	**P**	**20 10 11.1**	**+1.5**
comp=N,6.9nm,0.9s							
INK	**Inuvik**	**76.41**	**11**	P	**P**	**20 10 10.9**	**+1.3**
comp=N,1.1nm,0.8s,baz=21,slow=8.1,SNR=4.6							
INK				pP	**pP**	**20 10 17.5**	**-1.7**
comp=N,1.4nm,0.8s,baz=12,slow=13,SNR=3.9							
ILAR	**Eielson Array**	**76.75**	**17**	P	**P**	**20 10 13.1**	**+1.5**
comp=N,0.8nm,1.0s,baz=304,slow=4.1,SNR=7.3							
ILAR				pP	**pP**	**20 10 18.9**	**-2.8**
comp=N,0.5nm,0.9s,baz=312,slow=6.5,SNR=4.2							
ILB	**Eielson Array**	**76.75**	**17**	*eP*	**P**	**20 10 12.9**	**+1.3**
comp=N,4.1nm,1.1s							
WRA	**Warramunga Arr**	**76.91**	**125**	P	**P**	**20 10 13.0**	**-0.2**
comp=N,1.2nm,0.6s,baz=325,slow=5.7,SNR=12							
WRA				pP	**pP**	**20 10 18.9**	**-3.9**
comp=N,1.2nm,0.9s,baz=323,slow=5.8,SNR=4.2							
WR1	**Warramunga Arr**	**76.91**	**125**	*eP*	**P**	**20 10 13.0**	**-0.2**
BOSA	**Boshof**	**77.99**	**224**	P	**P**	**20 10 19.4**	**+0.2**
comp=N,1.9nm,0.9s,baz=43,slow=6.6,SNR=3.8							
ASAR	**Alice Springs**	**79.15**	**128**	P	**P**	**20 10 25.2**	**-0.3**
comp=N,1.2nm,0.7s,baz=320,slow=5.6,SNR=11							
ASAR				pP	**pP**	**20 10 31.3**	**-4.0**
comp=N,0.9nm,0.8s,baz=316,slow=5.9,SNR=5.1							
YKA	**Yellowknife Ar**	**84.22**	**5**	P	**P**	**20 10 52.5**	**+0.8**
comp=N,0.5nm,0.5s,baz=342,slow=5.0,SNR=7.4							
YKA				pP	**pP**	**20 10 59.0**	**-2.4**
comp=N,0.3nm,0.6s,baz=344,slow=5.3,SNR=3.8							
YKB5	**Yellowknife Ar**	**84.22**	**5**	*eP*	**P**	**20 10 52.5**	**+0.8**

*NNC **14** 19:59:48.1±1.5, 32°.19N×76°.42E, h0km, mb4.9, Error ellipse: s-maj=18.8km s-min=12.6km az=119.0*
*MOS **14** 20:00:04.5±1.2, 33°.16N×75°.79E, h43km, mb4.8/30, Error ellipse: s-maj=6.7km s-min=4.0km az=99.9*
*ISCJB **14** 20:00:06.1±0.4, 33°.22N±0°.02×75°.76E±0°.03, h54km±4km, mb4.6/95, MS4.3/9, Error ellipse: s-maj=4.9km s-min=3.4km az=139.9*
*BJI **14** 20:00:06.7±0.0, 33°.34N×76°.13E, h33km, mb4.6/31, mB4.9/20, ML4.7/2, Ms4.5/17, Ms7 4.2/16*
*NDI **14** 20:00:06.0±1.7, 33°.08N×75°.52E, h10km±5km, ML4.5*
*NEIC **14** 20:00:07.8±2.4, 33°.10N×75°.73E, h62km±3km, mb4.7/55, Error ellipse: s-maj=12.8km s-min=9.2km az=51.0*
NEIC Felt at Bhadarwah and Kishtwar.
*IDC **14** 20:00:08.6±0.5, 33°.02N×75°.67E, h68km±3km, mb4.0/33, mb1 4.1/33, mb1mx4.0/48, mbtmp4.3/33, MS4.3/9, Ms1 4.3/9, ms1mx3.7/42, Error ellipse: s-maj=11.6km s-min=9.1km az=23.0*
ISC 14 20:00:07.9±0.3, 33°.03N±0°.04×75°.62E±0°.04, h66km±3km, h66km:pP-P, n258, σ1°.85/277, mb4.6/95, 26C-12D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**0.60**	**172**	*eP*	Pn	20 00 15.5	-5.9
THN				*ex*	x	20 00 21.5	
DHRM	**DHARAMSHALA**	**0.97**	**144**	*ex*	**Pn**	**20 00 23.7**	**-2.3**
DHRM				*eP*	**Pn**	**20 00 27.3**	**+1.3**
DHRM				*eS*	**Sn**	**20 00 41.1**	**+1.7**
DHRM				IAML		20 00 42.3	
comp=E,17μm,0.4s							
DHRM				IAML		20 00 42.4	
comp=N,9μm,0.3s							
SRNI	**Srinagar**	**1.24**	**329**	*eP*	**Pn**	**20 00 28.0**	**-1.3**
BHK	**Bhakra**	**1.75**	**157**	*eP*	**Pn**	**20 00 38.2**	**+2.1**
BHK				*ex*	**Sn**	**20 00 55.8**	**-1.6**
CHCP	**Chirah Chowk**	**2.07**	**288**	P	**Pn**	**20 00 41.2**	**+0.8**
NIL	**Nilore**	**2.08**	**288**	*ePn*	**Pn**	**20 00 41.3**	**+0.8**
NIL	**Nilore**	**2.08**	**288**	*eP*	**Pn**	**20 00 41.3**	**+0.8**
SMLA	**Simla**	**2.31**	**145**	*eP*	**Pn**	**20 00 45.0**	**+1.4**
SMLA				*eS*	**Sn**	**20 01 15.0**	**+4.1**
SMLA				IAML		20 01 17.2	
comp=N,4μm,0.3s							
SMLA				IAML		20 01 17.4	
comp=E,3μm,0.4s							
CEP	**Cherat**	**3.20**	**285**	P	**Pn**	**20 00 57.0**	**+1.1**
THW	**Thamme Wali**	**3.27**	**267**	P	**Pn**	**20 00 57.6**	**+0.8**
DDI	**Dehra Dun**	**3.41**	**142**	*eP*	**Pn**	**20 01 00.9**	**+2.3**
DDI				*eS*	**Sn**	**20 01 40.1**	**+2.2**
DDI				IAML		20 02 12.2	
comp=E,2μm,0.4s							
DDI				IAML		20 02 13.5	
comp=N,2μm,0.3s							
JOSI	**Joshimath**	**4.16**	**125**	*eP*	**Pn**	**20 01 10.1**	**+0.9**
JOSI				*eS*	**Sn**	**20 01 59.4**	**+2.7**
JOSI				IAML		20 02 40.0	
comp=E,2μm,1.4s							
NDI	**New Delhi**	**4.55**	**162**	*eP*	**Pn**	**20 01 17.0**	**+2.8**
KUDL	**Kundal**	**4.93**	**171**	*eP*	Pn	20 01 13.7	-5.7
KUDL				*eS*	**Sn**	**20 02 08.6**	**-6.6**
SONA	**Sohna**	**4.93**	**165**	*eS*	**Sn**	**20 02 15.3**	**+0.1**
PTH	**Pithoragarh**	**5.25**	**130**	*eS*	**Sn**	**20 02 23.8**	**+0.6**
KBL	**Kabul**	**5.68**	**287**	*ePn*	**Pn**	**20 01 30.3**	**+0.4**
KBL	**Kabul**	**5.68**	**287**	*eP*	**Pn**	**20 01 30.3**	**+0.4**
KSH	**Kashi**	**6.48**	**2**	Pn	**Pn**	**20 01 37.0**	**-3.7**
KSH				Sn	Sn	20 02 44.1	-9.1
GAR	**Garm**	**7.34**	**326**	*ePn*	**Pn**	**20 01 51.1**	**-1.4**
GAR	**Garm**	**7.34**	**326**	*eP*	**Pn**	**20 01 51.1**	**-1.4**
CHGR	**Chuyangaron**	**7.68**	**319**	*ePn*	**Pn**	**20 01 55.4**	**-1.7**
NRN	**Naryn**	**8.39**	**2**	*ePn*	Pn	20 02 01.8	-5.2
NRN	**Naryn**	**8.39**	**2**	*eP*	Pn	20 02 01.8	-5.2
ARSB	**Arslanbob**	**8.54**	**346**	*ePn*	**Pn**	**20 02 05.9**	**-2.9**
TARG	**Taragay, Kyrgy**	**8.85**	**11**	*ePn*	**Pn**	**20 02 12.7**	**-0.7**
KZA	**Kyzart**	**9.03**	**358**	P	**Pn**	**20 02 14.2**	**-1.7**
SNR=9.2							
KDJ	**Kajisay**	**9.16**	**7**	*ePn*	**Pn**	**20 02 15.3**	**-2.2**
KDJ	**Kajisay**	**9.16**	**7**	*eP*	**Pn**	**20 02 15.3**	**-2.2**
AML	**Almayashu**	**9.21**	**351**	P	**Pn**	**20 02 16.3**	**-2.0**
SNR=9.6							
UCH	**Uchtor**	**9.22**	**355**	P	**Pn**	**20 02 18.1**	**-0.3**
SNR=9.2							
BOOM	**Boomskoye usch**	**9.44**	**1**	*ePn*	**Pn**	**20 02 19.2**	**-2.1**
BOOM	**Boomskoye usch**	**9.44**	**1**	*eP*	**Pn**	**20 02 19.2**	**-2.1**
AAK	**Ala-Archa**	**9.63**	**355**	P	**Pn**	**20 02 23.9**	**+0.1**
SNR=5.1							
AAK	**Ala-Archa**	**9.63**	**355**	*ePn*	**Pn**	**20 02 21.0**	**-2.8**
AAK	**Ala-Archa**	**9.63**	**355**	⇑Pn	**Pn**	**20 02 20.6**	**-3.1**
comp=E,72nm,1.2s							
AAK				⇑Sn	Sn	20 04 21.6	+11
comp=E,99nm,0.8s							
AAK	**Ala-Archa**	**9.63**	**355**	*c iP*	**Pn**	**20 02 20.7**	**-3.1**
AAK				pmax	pmax		
comp=Z,12nm,0.7s							
AAK	**Ala-Archa**	**9.63**	**355**	P	**Pn**	**20 02 21.8**	**-2.0**
comp=Z,1.9nm,0.3s,baz=148,slow=7.3,SNR=8.4							
AAK				S	**Sn**	**20 04 10.0**	**-0.5**
comp=Z,4.3nm,0.3s,baz=237,slow=21,SNR=3.6							
AAK				LR	LR	20 06 21.8	
comp=Z,2μm,19.7s,baz=174,slow=39							
PRZ	**Przheval'sk**	**9.69**	**12**	*ePn*	**Pn**	**20 02 24.2**	**-0.3**
PRZ	**Przheval'sk**	**9.69**	**12**	*eP*	**Pn**	**20 02 24.3**	**-0.3**
EKS2	**Erkin-Say**	**9.72**	**352**	P	**Pn**	**20 02 26.1**	**+1.1**
SNR=10							
FRU1	**Bishkek**	**9.79**	**356**	*ePn*	**Pn**	**20 02 26.0**	**+0.1**
FRU1	**Bishkek**	**9.79**	**356**	*eP*	**Pn**	**20 02 26.0**	**+0.1**
TKM2	**Tokmak 2**	**9.87**	**360**	P	**Pn**	**20 02 25.6**	**-1.5**
SNR=10							
TKM2	**Tokmak 2**	**9.87**	**360**	⇑Pn	**Pn**	**20 02 24.1**	**-3.0**
comp=Z,41nm,1.1s							
TKM2				⇑Sn	Sn	20 04 26.8	+10
comp=Z,239nm,1.9s							
TKM2	**Tokmak 2**	**9.87**	**360**	P	**Pn**	**20 02 24.1**	**-3.0**
TKM2				pmax	pmax		
comp=Z,41nm,1.1s							
MDOK	**Medeo**	**10.18**	**6**	⇑Pn	Pn	20 02 26.8	-4.4
MDOK	**Medeo**	**10.18**	**6**	P	Pn	20 02 26.8	-4.4
PDGK	**Podgornoye**	**10.72**	**15**	⇑Pn	Pn	20 02 32.5	-6.2
comp=Z,19nm,0.5s							
PDGK				⇓Sn	**Sn**	**20 04 41.4**	**+4.4**
comp=Z,164nm,1.3s							
PDGK	**Podgornoye**	**10.72**	**15**	P	Pn	20 02 32.5	-6.1
PDGK				S	**Sn**	**20 04 41.4**	**+4.4**
PDGK				pmax	pmax		
comp=Z,19nm,0.5s							

AKTO Aktyubinsk 21.70 328 P **P 20 04 53.4 +0.2**
comp=Z,29nm,0.6s,baz=125,slow=11,SNR=12
ZAA0 Zalesovo Array 21.91 15 *e*P **P 20 04 52.7 -2.7**
comp=Z,29nm,1.1s
ZALV Zalesovo Beam 21.91 15 *e*P **P 20 04 52.3 -3.1**
ZALV Zalesovo Beam 21.91 15 P **P 20 04 54.1 -1.3**
comp=Z,9.6nm,0.7s,baz=208,slow=9.3,SNR=12
ZALV pP **pP 20 05 12.1 +1.7**
comp=Z,9.0nm,0.4s,baz=210,slow=10,SNR=6.8
ZALV LR LR 20 14 30.4
comp=Z,658nm,18.1s,baz=250,slow=39
ZAA1 Zalesovo Array 21.91 15 *e*P **P 20 04 54.1 -1.4**
ZAA1 *e*pP **pP 20 05 12.1 +1.6**
NVS Novosibirsk 22.45 12 *e*P **P 20 05 00.2 -1.1**
NVS *e*S **S 20 08 58.2 -4.9**
NVS pmax pmax
comp=Z,100nm,1.8s
NVS pmax pmax
comp=N,70nm,1.9s
NVS pmax pmax
comp=E,10.0nm,1.1s
NVS smax smax
comp=N,43nm,1.8s
NVS smax smax
comp=E,30nm,2.0s
LZH Lanzhou 23.41 75 *e*P **P 20 05 16.5 +5.2**
LZH pP pP 20 05 27.8 +0.6
LZH sP sP 20 05 32.5 -2.9
KMI Kunming 24.93 101 P **P 20 05 25.5 +0.3**
KMI S **S 20 09 43.6 -0.6**
KMI pmax pmax
comp=E,15nm,1.0s
KMI pmax pmax
comp=E,96nm,5.7s
KMI LR LR
comp=E,390nm,15.3s
KMI Kunming 24.93 101 *e*P **P 20 05 24.7 -0.5**
comp=E,27nm,0.5s
KMI Kunming 24.93 101 *e*P **P 20 05 24.7 -0.5**
KMI pmax pmax
comp=Z,27nm,0.5s
CHTO Chiang Mai 25.23 118 *e*P **P 20 05 27.2 -0.6**
comp=Z,42nm,1.6s
CHTO Chiang Mai 25.23 118 *e*P **P 20 05 27.2 -0.6**
CHTO pmax pmax
comp=Z,42nm,1.6s
CMMT Chiang Mai 25.23 118 P P 20 05 35.6 +7.8
comp=Z,5.5nm,1.6s
GROC Groznyy 25.45 302 *e*P **P 20 05 27.0 -2.5**
GROC *e* 20 06 04.4
GROC *e*S **S 20 09 53.6 +1.9**
GROC pmax pmax
comp=Z,41nm,1.4s
CM31 Chiang Mai Arr 25.45 119 *e*P **P 20 05 29.9 +0.2**
comp=Z,24nm,0.9s
CMAR Chiang Mai Arr 25.45 119 *e*P **P 20 05 28.6 -1.2**
CMAR Chiang Mai Arr 25.45 119 P **P 20 05 30.2 +0.4**
comp=Z,5.5nm,0.9s,baz=308,slow=11,SNR=7.4
GNI Garni 25.70 295 *ce*P **P 20 05 35.3 +3.2**
GNI pmax pmax
comp=Z,307nm,1.7s
GNI Garni 25.70 295 P **P 20 05 35.6 +3.5**
comp=Z,12nm,0.9s,baz=214,slow=13,SNR=5.8
SVE Sverdlovsk 25.93 341 *e*P **P 20 05 35.0 +1.3**
SVE pmax pmax
comp=Z,22nm,0.9s
SVE MLR MLR
comp=Z,783nm,17.0s
PALK Pallekele 26.06 168 LR LR 20 16 27.5
comp=Z,1μm,19.2s,baz=295,slow=38
ARU Arti 26.20 338 *e*P **P 20 05 36.3 +0.1**
comp=Z,17nm,0.8s
ARU Arti 26.20 338 *c i*P **P 20 05 37.0 +0.9**
ARU PPP PPP 20 06 25.4
ARU 20 09 05.4
ARU S **S 20 10 07.0 +3.7**
ARU pmax pmax
comp=Z,16nm,0.8s
ARU MLR MLR
comp=Z,739nm,17.0s
ARU Arti 26.20 338 P **P 20 05 36.0 -0.2**
comp=Z,4.9nm,0.6s,baz=162,slow=2.9,SNR=18
ARU LR LR 20 16 47.9
comp=Z,2μm,18.1s,baz=120,slow=38
MOY Mondy 26.21 37 *e*P **P 20 05 36.9 +0.4**
MOY *e* 20 05 55.8
MOY pmax pmax
comp=Z,29nm,2.3s
ZEI Tsey 26.72 301 *e*P **P 20 05 42.8 +1.6**
ZEI pmax pmax
comp=Z,13nm,1.5s
ZAK Zakamensk 26.73 41 *e*P **P 20 05 40.5 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
AKH Akhalkalaki 26.80 297 *e*P **P 20 05 42.0 +0.1**
comp=Z,77nm,1.8s
AKH Akhalkalaki 26.80 297 *e*P **P 20 05 42.0 +0.1**
AKH pmax pmax
comp=Z,77nm,1.8s
SONA0 Songino Array 27.48 48 *e*P **P 20 05 47.0 -0.9**
SONA0 *e*pP **pP 20 06 05.3 +0.6**
SONM Songino Array 27.48 48 *e*P **P 20 05 46.7 -1.2**
SONM Songino Array 27.48 48 P **P 20 05 47.0 -0.9**
comp=Z,3.7nm,0.8s,baz=242,slow=9.8,SNR=6.2
SONM pP **pP 20 06 05.3 +0.6**
comp=Z,3.1nm,0.6s,baz=246,slow=10.0,SNR=3.4
SONM LR LR 20 17 55.6
comp=Z,651nm,18.6s,baz=281,slow=39
KBZ Khabaz 27.62 302 P **P 20 05 50.1 +1.1**
comp=Z,0.7nm,0.6s,baz=98,slow=9.8,SNR=2.8
NEY Neytrino 27.65 301 *e*P **P 20 05 53.9 +4.3**
KIV Kislovodsk 27.82 303 *e*P **P 20 05 54.1 +3.2**
KIV pmax pmax
comp=Z,14nm,1.1s
ULN Ulaanbaatar 27.90 49 *e*P **P 20 05 51.7 0.0**
ULN pmax pmax
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 29.61 64 *e*P **P 20 06 07.8 +0.9**
HHC S **S 20 10 55.0 -2.6**
HHC SS **SnSn 20 12 30.4 -1.4**
HHC pmax pmax
comp=Z,83nm,0.8s
HHC pmax pmax
comp=Z,280nm,4.5s
HHC LR LR
comp=Z,680nm,12.5s
HHC LR LR
comp=Z,730nm,11.8s
HHC LR LR
comp=Z,750nm,13.9s
KIRV Kirov 31.02 333 P **P 20 06 19.6 +0.6**
comp=Z,9.0nm,0.7s,baz=103,slow=13,SNR=4.1
WHN Wuhan 32.89 84 P **P 20 06 35.5 -0.2**
WHN pP **pP 20 06 48.8 -4.1**
WHN sP sP 20 06 53.3 -7.7
WHN pmax pmax
comp=Z,18nm,0.8s
BR101 Keskin Array S 34.21 293 *es*P sP 20 07 11.6 -0.1
BR131 Keskin Array S 34.21 293 *e*P **P 20 06 49.7 +2.4**
comp=Z,11nm,1.0s
BRTR Keskin Array B 34.21 293 *e*P **P 20 06 48.9 +1.6**
BRTR Keskin Array B 34.21 293 *e*P **P 20 06 48.9 +1.6**
BRTR Keskin Array B 34.21 293 P **P 20 06 49.5 +2.1**
comp=Z,4.2nm,1.1s,baz=100,slow=8.8,SNR=9.2
BRTR sP **sP 20 07 11.6 -0.1**
comp=Z,5.6nm,0.8s,baz=94,slow=6.3,SNR=8.0
PRGR Permogore 34.50 335 *e*P **P 20 06 48.9 -0.4**
MOS Moscow 34.73 322 *e*P **P 20 06 50.8 -0.6**
OBN Obninsk 35.03 321 *e*P **P 20 06 55.0 +1.1**
OBN *e* 20 08 13.2
OBN *e*PPP PPP 20 08 27.0
OBN pmax pmax
comp=Z,7.0nm,1.2s
BOD Bodaibo 35.84 35 *e*P **P 20 07 00.3 -0.5**
BOD pmax pmax
comp=Z,7.0nm,1.4s
KLMR Klimovskoe 36.36 331 *e*P **P 20 07 04.0 -1.2**
KLMR pmax pmax
comp=Z,21nm,2.0s
NRIK Noril'sk 36.97 7 P **P 20 07 11.4 +1.1**
comp=Z,4.9nm,0.6s,baz=190,slow=5.9,SNR=8.5
AKASG Malin Array Be 38.08 312 *e*P **P 20 07 19.9 -0.1**
AKASG Malin Array Be 38.08 312 *e*P **P 20 07 19.9 -0.1**
AKASG Malin Array Be 38.08 312 P **P 20 07 20.4 +0.4**
comp=Z,2.0nm,0.6s,baz=80,slow=6.9,SNR=12
AKBB Malin Array Si 38.08 312 *e*P **P 20 07 19.9 -0.1**
comp=Z,6.0nm,0.6s
KIEV Kiev 38.09 312 *e*P **P 20 07 19.9 -0.2**
comp=Z,5.9nm,0.6s
KIEV Kiev 38.09 312 *i*P **P 20 07 20.4 +0.3**
KIEV Kiev 38.09 312 *e*P **P 20 07 21.4 +1.3**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
PLOR Plostina 39.34 304 *i*P **P 20 07 33.3 +2.7**
MLR Muntele Rosu 39.83 303 *e*P **P 20 07 37.3 +2.4**
comp=Z,9.7nm,0.9s
MLR Muntele Rosu 39.83 303 *i*P **P 20 07 37.8 +3.0**
DOPR Dopca 40.22 304 *i*P **P 20 07 40.1 +2.2**
MTUR Matau 40.45 303 *i*P P 20 07 50.9 +11
JOF Joensuu 40.75 331 P **P 20 07 42.9 +0.8**
JOF pmax pmax
comp=Z,16nm,0.8s
VSU Vasula 41.24 323 *e*P **P 20 07 45.8 -0.3**
VSU pmax pmax
comp=Z,78nm,2.5s
ZEA Zeya 41.74 44 *e*P **P 20 07 51.3 +1.0**
ZEA pmax pmax
comp=Z,12nm,1.0s
TRPA Tarpa 42.20 307 *i*P **P 20 07 56.3 +2.2**
KOLS Kolonicke sedl 42.39 308 *e*P **P 20 07 57.3 +1.6**
KOLS Kolonicke sedl 42.39 308 *e*P **P 20 07 57.3 +1.6**
FINES FINESS Array B 42.46 327 P **P 20 07 57.0 +1.0**
comp=Z,3.1nm,0.7s,baz=115,slow=9.0,SNR=11
KS15 Wonju Array Si 42.47 69 *ep*P pP 20 08 13.9 +0.1
KSRS Korea Array 42.50 69 P **P 20 07 56.2 -0.4**
comp=Z,3.5nm,1.0s,baz=267,slow=7.2,SNR=8.0
KSRS pP **pP 20 08 13.9 -0.2**
comp=Z,1.7nm,0.7s,baz=275,slow=8.4,SNR=3.6
MDVR Moldovita 42.84 302 *i*P **P 20 08 01.5 +2.1**
SUF Sumiainen 42.86 329 P **P 20 07 59.9 +0.7**
SUF pmax pmax
comp=Z,17nm,2.0s
MSF Maaselka 42.97 334 P **P 20 08 01.0 +0.9**
NIE Niedzica 43.70 309 P **P 20 08 06.8 +0.5**
NIE pmax pmax
comp=Z,3.0nm,0.9s
PSZ Piszkesteto 43.97 307 *i*P **P 20 08 10.3 +1.8**
KLR Kul'dur 44.23 51 *c i*P **P 20 08 10.4 0.0**
KLR pmax pmax
comp=Z,4.0nm,1.0s
KLR Kul'dur 44.23 51 P **P 20 08 10.5 0.0**
comp=Z,3.1nm,0.9s,baz=289,slow=11,SNR=6.9
KLR pP **pP 20 08 29.2 +1.4**
comp=Z,2.5nm,0.5s,baz=282,slow=8.1,SNR=7.1
YAK Yakutsk 44.69 33 *e*P **P 20 08 13.9 0.0**
YAK *e* 20 08 32.1
YAK pmax pmax
comp=Z,65nm,0.8s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,28nm,0.9s
MORC Moravsky Berou 45.49 310 *i*P **P 20 08 20.1 -0.4**
MORC Moravsky Berou 45.49 310 P **P 20 08 21.7 +1.2**
MORC pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 45.79 338 P **P 20 08 23.9 +1.4**
comp=Z,2.8nm,0.5s,baz=109,slow=9.2,SNR=18
JNU Nakatsue 45.83 74 *e*P **P 20 08 23.4 0.0**
comp=Z,14nm,1.2s
JNU Nakatsue 45.83 74 P **P 20 08 23.5 0.0**
comp=Z,8.4nm,1.1s,baz=35,slow=8.0,SNR=2.9
DPC Dobruska-Polom 46.26 310 P **P 20 08 28.1 +1.5**
DPC pmax pmax
comp=Z,23nm,1.1s
TIXI Tiksi 47.64 20 *e*P **P 20 08 36.0 -0.9**
comp=Z,19nm,1.7s
TIXI *e*P **P 20 08 36.7 -0.2**
TIXI Tiksi 47.64 20 *e*P **P 20 08 36.9 0.0**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 47.64 20 P **P 20 08 36.7 -0.2**
comp=Z,1.9nm,0.6s,baz=259,slow=2.5,SNR=6.9
GEC2 GERESS Array S 48.05 308 *e*P **P 20 08 41.1 +0.6**
comp=Z,13nm,1.9s
GERES GERESS Array B 48.05 308 P **P 20 08 41.7 +1.1**
comp=Z,0.3nm,0.6s,baz=97,slow=6.9,SNR=3.9
NC405 NORSAR Array S 49.18 325 *e*P **P 20 08 49.2 +0.2**
comp=Z,79nm,1.7s
NORES NORESS Array B 49.23 324 P **P 20 08 49.7 +0.3**
MOX Moxa 49.25 311 P **P 20 08 50.5 +0.8**
MOX pmax pmax
comp=Z,5.0nm,0.9s
NB2 NORSAR Subarra 49.41 325 P **P 20 08 51.0 +0.2**
comp=Z,10nm,1.0s,baz=95,slow=7.9
NB200 NORSAR Array S 49.41 325 *e*P **P 20 08 51.2 +0.4**
NB200 *e*pP **pP 20 09 09.3 +0.8**
NOA NORSAR Array B 49.41 325 P **P 20 08 51.2 +0.4**
comp=Z,2.9nm,0.6s,baz=96,slow=7.4,SNR=18
NOA pP **pP 20 09 09.3 +0.8**
comp=Z,0.8nm,0.6s,baz=101,slow=7.2,SNR=2.6
KMBO Kilima Mbogo 49.62 235 *e*P **P 20 08 53.0 -0.2**
comp=Z,11nm,1.5s
KMBO Kilima Mbogo 49.62 235 P **P 20 08 53.2 0.0**
comp=Z,0.7nm,0.3s,baz=54,slow=19,SNR=2.3
NKL Nikolayevsk 49.73 46 *e*P **P 20 08 53.0 -0.2**
NKL pmax pmax
comp=Z,21nm,1.0s
MJB9 Matsu-Tunnel 50.72 67 *e*P **P 20 09 00.0 -1.0**
comp=Z,12nm,0.6s
MAJO Matsushiro 50.72 67 *e*P **P 20 09 00.0 -1.0**
comp=Z,12nm,0.6s
MAJO Matsushiro 50.72 67 *de*P **P 20 09 00.1 -1.0**
MAJO pmax pmax
comp=Z,10.0nm,1.0s
MJAR Matsushiro Arr 50.72 67 *e*P **P 20 09 00.2 -0.9**
MJAR Matsushiro Arr 50.72 67 *e*P **P 20 09 00.2 -0.9**
MJAR Matsushiro Arr 50.72 67 P **P 20 09 00.8 -0.3**
comp=Z,6.6nm,0.9s,baz=283,slow=10,SNR=15
MJAR pP **pP 20 09 19.3 +0.6**
comp=Z,6.6nm,0.7s,baz=280,slow=9.7,SNR=12
SPA0 Spitsbergen Ar 51.72 347 *e*P **P 20 09 08.8 +0.9**
comp=Z,71nm,2.0s
SPITS Spitsbergen Ar 51.72 347 P **P 20 09 09.4 +1.5**
comp=Z,1.6nm,0.6s,baz=107,slow=11,SNR=5.4
YSS Yuzh-Sakhalins 51.77 53 *e*P **P 20 09 08.3 -0.4**
comp=Z,18nm,1.1s
YSS Yuzh-Sakhalins 51.77 53 *e*P **P 20 09 08.5 -0.2**
YSS pmax pmax
comp=Z,10.0nm,1.2s
SENIN Lac Senin/Sane 52.68 306 *e*P **P 20 09 16.4 +0.7**
comp=Z,6.1nm,0.8s
MA2 Magadan 54.79 37 *e*P **P 20 09 30.2 -0.4**
MA2 pmax pmax
comp=Z,6.0nm,1.1s
SEY Seymchan 55.22 33 *e*P **P 20 09 34.8 +1.1**
SEY Seymchan 55.22 33 P **P 20 09 34.2 +0.5**
comp=Z,6.2nm,0.9s,baz=253,slow=9.7,SNR=6.6
KUR Kuril'sk 55.60 55 P **P 20 09 32.6 -4.1**
KUR S S 20 17 42.0 +24
KUR pmax pmax
comp=Z,58nm,1.9s
KUR MLR MLR
comp=Z,269nm,16.0s
PEA1 Petropavlovsk- 59.82 44 *ep*P pP 20 10 23.1 -1.1
PEA0B Petropavlovsk- 59.82 44 *e*P **P 20 10 04.7 -1.5**
comp=Z,144nm,1.8s
PETK Petropavlovsk- 59.82 44 *e*P **P 20 10 05.8 -0.4**
PETK Petropavlovsk- 59.82 44 P **P 20 10 06.8 +0.6**
comp=Z,3.8nm,0.9s,baz=284,slow=6.0,SNR=4.4
PETK pP **pP 20 10 23.1 -1.1**
comp=Z,1.1nm,0.6s,baz=305,slow=5.2,SNR=1.6
BILL Bilibino 60.06 26 *e*P **P 20 10 09.1 +1.5**
BILL *e* 20 10 54.3
BILL *e* 20 12 15.8
BILL pmax pmax
comp=Z,5.0nm,1.7s
ESDC Sonseca Array 62.47 301 *e*P **P 20 10 25.2 +0.8**
ESDC *e*P **P 20 10 25.8 +1.4**
ESDC Sonseca Array 62.47 301 P **P 20 10 25.8 +1.4**
comp=Z,1.6nm,0.8s,baz=62,slow=7.4,SNR=9.2
ESLA Sonseca Array 62.47 301 *e*P **P 20 10 25.8 +1.3**
comp=Z,10nm,1.1s
PAB San Pablo 62.79 301 *e*P **P 20 10 27.8 +1.2**
comp=Z,33nm,1.8s
SOEI Soe 62.89 124 *e*P **P 20 10 29.5 +2.0**
comp=Z,59nm,1.4s
SUMG Summit 65.54 342 *e*P **P 20 10 43.7 -0.7**
comp=Z,16nm,1.3s
SUMG Summit 65.54 342 *e*P **P 20 10 46.5 +2.1**
SUMG Summit 65.54 342 *i*P **P 20 10 46.5 +2.1**
TULEG Thule 68.45 352 *e*P **P 20 10 59.8 -2.5**
comp=Z,46nm,2.0s
ANGG Ammassalik, Gr 69.15 336 *e*P **P 20 11 08.2 +1.4**
comp=Z,68nm,1.8s
TOA1 Torodi Ar. Sit 69.56 273 *e*P **P 20 11 10.7 +0.5**
TOA1 *es*P **sP 20 11 36.5 +0.5**
TOA0 Torodi Ar. Sit 69.56 273 *e*P **P 20 11 10.2 0.0**
comp=Z,32nm,1.8s
TORD Torodi Ar. Bea 69.56 273 P **P 20 11 10.7 +0.5**
comp=Z,1.4nm,0.7s,baz=75,slow=4.3,SNR=5.7
TORD sP **sP 20 11 36.5 +0.5**
comp=Z,1.7nm,0.5s,baz=37,slow=5.6,SNR=3.1
GAMB Gambell 69.99 26 *e*P **P 20 11 12.6 +0.6**
comp=Z,7.5nm,0.8s
TOLK Toolik Lake Re 73.26 16 *e*P **P 20 11 32.4 +0.7**
comp=Z,8.8nm,1.0s
COLD Coldfoot 74.22 17 *e*P **P 20 11 38.1 +0.8**
comp=Z,4.4nm,1.1s
IMAR Indian Mountai 74.27 19 *e*P **P 20 11 37.7 +0.1**
BMAR Burnt Mountain 75.36 15 *e*P **P 20 11 44.8 +1.0**
MLY Manley 75.81 18 *e*P **P 20 11 47.1 +0.6**
comp=Z,4.1nm,1.0s
BPAW Bear Paw Mtn. 76.47 19 *e*P **P 20 11 50.9 +0.6**
comp=Z,9.1nm,1.2s
MDM Murphy Dome 76.52 18 *e*P **P 20 11 51.2 +0.7**
comp=Z,10nm,1.2s
INK Inuvik 76.65 11 *e*P **P 20 11 52.0 +0.8**
comp=Z,6.9nm,0.9s
INK Inuvik 76.65 11 P **P 20 11 52.3 +1.2**
comp=Z,5.5nm,0.9s,baz=347,slow=7.2,SNR=18
INK pP **pP 20 12 10.3 +0.7**
comp=Z,2.8nm,0.7s,baz=3.9,slow=5.9,SNR=4.7
COLA College 76.68 18 *de*P **P 20 11 52.4 +1.1**
COLA pmax pmax
comp=Z,6.0nm,0.9s
CAST Castle Rocks 76.69 20 *e*P **P 20 11 52.5 +1.0**
comp=Z,9.4nm,0.9s
WR1 Warramunga Arr 76.92 124 *ep*P pP 20 12 12.5 +0.3
WRA Warramunga Arr 76.92 124 P **P 20 11 52.6 -0.7**
comp=Z,16nm,0.5s,baz=326,slow=5.7,SNR=264
WRA pP **pP 20 12 12.5 +0.3**
comp=Z,6.9nm,0.9s,baz=346,slow=32,SNR=6.7
ILAR Eielson Array 77.01 17 *e*P **P 20 11 52.9 -0.4**
ILAR Eielson Array 77.01 17 P **P 20 11 53.5 +0.3**
comp=Z,2.6nm,0.9s,baz=311,slow=4.9,SNR=16
ILAR pP **pP 20 12 11.8 0.0**
comp=Z,0.9nm,0.5s,baz=304,slow=4.8,SNR=4.9
ILAR PP **PP 20 14 47.8 +1.2**
comp=Z,0.5nm,0.8s,baz=313,slow=9.0,SNR=4.0
ILB Eielson Array 77.01 17 *e*P **P 20 11 53.4 +0.1**
comp=Z,4.1nm,1.1s
BOSA Boshof 77.72 224 P **P 20 11 58.1 +0.3**
comp=Z,1.6nm,0.5s,baz=56,slow=3.0,SNR=9.0
DBIC Dimbokro 78.42 270 *e*P **P 20 12 02.3 +0.4**
comp=Z,28nm,1.4s
DBIC Dimbokro 78.42 270 *e*P **P 20 12 02.3 +0.4**
DBIC pmax pmax
comp=Z,28nm,1.4s
DBIC Dimbokro 78.42 270 P **P 20 12 02.8 +0.9**
comp=Z,2.8nm,0.9s,baz=57,slow=9.1,SNR=2.4
AS31 Alice Springs 79.14 127 *e*P **P 20 12 05.6 -0.1**
comp=Z,1.0nm,0.6s
ASAR Alice Springs 79.14 127 *e*P **P 20 12 05.5 -0.2**
ASAR Alice Springs 79.14 127 *e*P **P 20 12 05.5 -0.2**
ASAR Alice Springs 79.14 127 P **P 20 12 06.2 +0.5**
comp=Z,3.4nm,0.9s,baz=319,slow=6.1,SNR=15
ASAR pP **pP 20 12 24.8 +0.2**
comp=Z,3.8nm,0.8s,baz=316,slow=5.3,SNR=8.2
DAWY Dawson 79.35 15 *e*P **P 20 12 05.8 -0.4**
comp=Z,13nm,1.5s
HARP HAARP 79.40 18 *e*P **P 20 12 08.2 +1.6**
comp=Z,19nm,0.9s
BCAR Beaver Creek A 79.68 16 *e*P **P 20 12 08.8 +0.8**
KDAK Kodiak Island 80.90 24 *ce*P **P 20 12 16.4 +1.8**
YKW3 Yellowknife Ar 84.38 5 *e*P **P 20 12 32.9 +0.3**
comp=Z,3.5nm,0.9s
YKA Yellowknife Ar 84.45 5 *e*P **P 20 12 32.8 -0.1**
YKA Yellowknife Ar 84.45 5 *e*P **P 20 12 32.8 -0.1**
YKA Yellowknife Ar 84.45 5 P **P 20 12 33.6 +0.6**
comp=Z,2.9nm,0.8s,baz=346,slow=5.2,SNR=25
YKA pP **pP 20 12 51.8 +0.1**
comp=Z,1.4nm,0.4s,baz=346,slow=5.1,SNR=6.2
YKA sP **sP 20 12 59.0 -0.1**
comp=Z,1.7nm,0.5s,baz=345,slow=5.3,SNR=4.5
YKB5 Yellowknife Ar 84.45 5 *ep*P **pP 20 12 51.8 +0.1**
YKB5 *es*P sP 20 12 59.0 -0.1
CTAO Charters Tower 85.61 117 *e*P **P 20 12 39.2 -0.2**
comp=Z,7.6nm,0.8s
CTAO Charters Tower 85.61 117 *e*P **P 20 12 39.2 -0.2**
CTAO pmax pmax
comp=Z,8.0nm,0.8s
STKA Stephens Creek 89.67 129 *e*P **P 20 12 59.4 +0.7**
comp=Z,7.4nm,1.8s
STKA Stephens Creek 89.67 129 P **P 20 12 59.7 +1.1**
comp=Z,1.7nm,0.9s,baz=304,slow=14,SNR=1.9
STKA LR LR 21 00 48.5
comp=Z,76nm,18.1s,baz=0.2,slow=41
FFC Flin Flon 92.58 359 *ce*P **P 20 13 14.4 +2.5**

ISCJB ***14*** *20:03:30.7±0.3,33°.04N±0°.04×75°.64E±0°.04, h16km, mb4.6/93, MS3.1/1, Error ellipse: s-maj=6.2km s-min=4.4km az=22.4*
IDC ***14*** *20:03:32.8±0.6,33°.00N×75°.64E, h18km±3km, mb4.2/31, mb1 4.3/35, mb1mx4.2/53, mbtmp4.3/35, ML4.0/4, MS3.2/1, Ms1 3.2/1, ms1mx2.8/42, Error ellipse: s-maj=13.5km s-min=10.3km az=23.0*
MOS ***14*** *20:03:35.1±1.1,33°.16N×75°.68E, h46km, mb4.8/16, Error ellipse: s-maj=8.5km s-min=5.3km az=98.1*
NEIC ***14*** *20:03:36.6±2.0,33°.09N×75°.71E, h48km±7km, mb4.7/80, Error ellipse: s-maj=15.1km s-min=11.5km az=168.0*
ISC 14 20:03:32.8±0.4,**33°.18N**±0°.06×**75°.70E**±0°.04,**h16**km,**n182,**
σ1§**41**/199,**mb4.6**/93,**Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Time ISC	Res ISC
CHCP	**Chirah Chowk**	**2.10**	**284**	P	**Pb**	**20 04 11.1**		**+0.6**
NIL	**Nilore**	**2.10**	**284**	*e*Pn	**Pb**	**20 04 11.0**		**+0.4**
NIL				*e*Sn	**Sb**	**20 04 37.4**		**+0.9**
NIL	**Nilore**	**2.10**	**284**	*e*P	**Pb**	**20 04 11.0**		**+0.4**
NIL				*e*		20 04 37.4		
KBL	**Kabul**	**5.71**	**286**	*e*Pn	**Pn**	**20 04 60.0**		**+2.9**
KBL				*e*Sn	**Sn**	**20 06 03.6**		**+1.3**
KBL	**Kabul**	**5.71**	**286**	*e*P	**Pn**	**20 05 00.0**		**+2.9**
KBL				*e*		20 06 03.6		
GAR	**Garm**	**7.26**	**325**	*e*Pn	**Pn**	**20 05 20.8**		**+2.4**
GAR				*e*Sn	**Sn**	**20 06 38.7**		**-1.8**
GAR	**Garm**	**7.26**	**325**	*e*P	**Pn**	**20 05 20.8**		**+2.4**
GAR				*e*		20 06 38.7		
NRN	**Naryn**	**8.24**	**2**	*e*Pn	**Pn**	**20 05 35.7**		**+3.7**
NRN	**Naryn**	**8.24**	**2**	*e*P	**Pn**	**20 05 35.7**		**+3.7**
ARSB	**Arslanbob**	**8.41**	**346**	*e*Pn	**Pn**	**20 05 36.4**		**+2.2**
TARG	**Taragay, Kyrgy**	**8.70**	**10**	*e*Pn	**Pn**	**20 05 42.6**		**+4.3**
KDJ	**Kajisay**	**9.01**	**7**	*e*Pn	**Pn**	**20 05 45.8**		**+3.4**
KDJ	**Kajisay**	**9.01**	**7**	*e*P	**Pn**	**20 05 45.8**		**+3.4**
AAK	**Ala-Archa**	**9.49**	**355**	*e*Pn	**Pn**	**20 05 52.4**		**+3.5**
AAK	**Ala-Archa**	**9.49**	**355**	Pn	Pn	20 05 53.8		+4.8
	0.9nm,0.3s,baz=169,slow=16,SNR=1.7							
AAK				Sn	**Sn**	**20 07 31.3**		**-4.1**
	1.0nm,0.3s,baz=298,slow=18,SNR=2.6							
KKAR	**Karatay Array**	**10.71**	**339**	*e*Pn	**Pn**	**20 06 07.4**		**+1.8**
KKAR				*e*Sn	**Sn**	**20 07 58.0**		**-7.2**
KKAR	**Karatay Array**	**10.71**	**339**	*e*P	**Pn**	**20 06 07.4**		**+1.8**
MAKZ	**Makanchi**	**14.43**	**18**	*e*Pn	**Pn**	**20 06 57.9**		**+1.6**
MAKZ	**Makanchi**	**14.43**	**18**	*e*P	**Pn**	**20 06 57.9**		**+1.6**
MK32	**Makanchi Array**	**14.50**	**18**	*e*Pn	**Pn**	**20 06 59.2**		**+1.9**
MK32				*e*Sn	**Sn**	**20 09 34.6**		**-3.0**
MKAR	**Makanchi Array**	**14.50**	**18**	Pn	**Pn**	**20 06 59.2**		**+1.9**
	0.6nm,0.3s,baz=203,slow=13,SNR=4.6							
MKAR				Sn	**Sn**	**20 09 34.6**		**-3.0**
	0.5nm,0.3s,baz=206,slow=25,SNR=4.1							
GEYT	**Alibeck**	**15.07**	**293**	Pn	**Pn**	**20 07 05.8**		**+0.7**
	1.1nm,0.3s,baz=121,slow=11,SNR=2.9							
GEYT				Sn	**Sn**	**20 09 49.4**		**-2.4**
	0.5nm,0.3s,baz=133,slow=12,SNR=3.1							
KURBB	**Kurchatov Arra**	**17.55**	**6**	P	**P**	**20 07 38.2**		**+0.5**
	0.4nm,0.3s,baz=199,slow=10,SNR=13							
KURK	**Kurchatov**	**17.66**	**6**	*e*Pn	**Pn**	**20 07 36.9**		**-1.0**
	14nm,0.7s							
KURK	**Kurchatov**	**17.66**	**6**	*e*P	**Pn**	**20 07 36.9**		**-1.0**
KURK				pmax	pmax			
	comp=Z,14nm,0.7s							
ABKAR	**Akbulak array**	**19.90**	**328**	*e*P	**P**	**20 08 01.3**		**-2.1**
	comp=Z,17nm,0.8s							

BVAR	Borovoye Array	20.20	351	P	Pn	20 08 08.0 -0.7
	comp=Z,31nm,0.6s,baz=167,slow=11,SNR=72					
BRVK	Borovoye	20.25	351	eP	P	20 08 08.0 +0.7
BRVK				ePn	P	20 08 08.1 +0.9
BRVK				epP	P	20 08 08.6 +1.4
BRVK	Borovoye	20.25	351	eP	P	20 08 08.0 +0.7
AKTO	Aktyubinsk	21.61	328	P	P	20 08 22.9 +0.9
	comp=Z,29nm,0.5s,baz=129,slow=10,SNR=12					
ZAA0	Zalesovo Array	21.75	15	eP	P	20 08 23.3 -0.1
	comp=Z,8.7nm,0.8s					
ZALV	Zalesovo Beam	21.75	15	eP	P	20 08 23.0 -0.4
ZALV	Zalesovo Beam	21.75	15	eP	P	20 08 23.0 -0.4
ZALV	Zalesovo Beam	21.75	15	P	P	20 08 24.4 +0.9
	comp=Z,7.9nm,0.4s,baz=213,slow=11,SNR=10.0					
ZAA1	Zalesovo Array	21.76	15	eP	P	20 08 24.4 +0.9
NVS	Novosibirsk	22.30	12	eP	P	20 08 29.0 -0.3
NVS				pmax	pmax	
	comp=N,21nm,1.5s					
NVS				pmax	pmax	
	comp=Z,31nm,1.5s					
NVS				pmax	pmax	
	comp=E,13nm,1.7s					
CHTO	Chiang Mai	25.24	119	eP	P	20 08 58.4 +0.2
	comp=E,3.8nm,0.8s					
CHTO	Chiang Mai	25.24	119	eP	P	20 08 58.4 +0.2
CHTO				pmax	pmax	
	comp=Z,4.0nm,0.8s					
CM31	Chiang Mai Arr	25.46	119	eP	P	20 08 59.3 -0.9
	comp=Z,9.1nm,0.8s					
CMAR	Chiang Mai Arr	25.46	119	eP	P	20 08 59.6 -0.6
CMAR	Chiang Mai Arr	25.46	119	eP	P	20 08 59.6 -0.6
CMAR	Chiang Mai Arr	25.46	119	P	P	20 09 00.2 0.0
	comp=Z,2.9nm,0.9s,baz=305,slow=9.4,SNR=4.2					
GNI	Garni	25.70	295	eP	P	20 09 04.3 +1.9
	comp=Z,33nm,1.1s					
GNI	Garni	25.70	295	eP	P	20 09 04.4 +1.9
GNI				pmax	pmax	
	comp=Z,33nm,1.1s					
GNI	Garni	25.70	295	P	P	20 09 04.1 +1.7
	comp=Z,7.1nm,0.9s,baz=179,slow=3.8,SNR=2.2					
ARU	Arti	26.09	338	eP	P	20 09 06.1 +0.6
	comp=Z,15nm,0.9s					
ARU	Arti	26.09	338	eP	P	20 09 06.1 +0.6
ARU				pmax	pmax	
	comp=Z,15nm,0.9s					
ARU	Arti	26.09	338	P	P	20 09 06.9 +1.4
	comp=Z,3.9nm,0.7s,baz=113,slow=7.6,SNR=6.1					
AKH	Akhalkalaki	26.79	297	eP	P	20 09 13.7 +1.4
	comp=Z,18nm,1.3s					
AKH	Akhalkalaki	26.79	297	eP	P	20 09 13.7 +1.4
AKH				pmax	pmax	
	comp=Z,18nm,1.3s					
SONA0	Songino Array	27.33	49	eP	P	20 09 19.4 +2.4
SONM	Songino Array	27.33	49	eP	P	20 09 18.9 +1.9
SONM	Songino Array	27.33	49	P	P	20 09 19.4 +2.4
	comp=Z,3.3nm,0.9s,baz=241,slow=11,SNR=3.9					
BR101	Keskin Array S	34.22	293	eP	P	20 10 19.6 +1.7
BR131	Keskin Array S	34.22	293	eP	P	20 10 18.6 +0.8
	comp=Z,5.0nm,0.8s					
BRTR	Keskin Array B	34.22	293	eP	P	20 10 18.6 +0.8
BRTR	Keskin Array B	34.22	293	eP	P	20 10 18.7 +0.8
BRTR	Keskin Array B	34.22	293	P	P	20 10 19.6 +1.7
	comp=Z,2.3nm,0.8s,baz=104,slow=9.0,SNR=3.9					
BRTR				pP	pP	20 10 23.7 +0.2
	comp=Z,3.7nm,0.9s,baz=97,slow=7.6,SNR=8.6					
OBN	Obninsk	34.96	321	eP	P	20 10 23.8 -0.1
	comp=Z,11nm,0.9s					
OBN	Obninsk	34.96	321	eP	P	20 10 23.1 -0.8
OBN				e		20 11 40.7
OBN				pmax	pmax	
	comp=Z,6.0nm,1.2s					
OBN	Obninsk	34.96	321	LR	LR	20 26 26.7
	comp=Z,33nm,19.4s,baz=359,slow=39					
NRIK	Noril'sk	35.82	7	P	P	20 10 41.0 +1.4
	comp=Z,8.5nm,0.8s,baz=178,slow=5.4,SNR=6.1					
IPM	Ipoh	37.06	135	eP	P	20 10 40.3 -2.0
	comp=Z,8.5nm,1.2s					
AKASG	Malin Array Be	38.04	312	eP	P	20 10 47.9 -2.3
AKASG	Malin Array Be	38.04	312	P	P	20 10 49.9 -0.3
	comp=Z,1.3nm,0.5s,baz=82,slow=7.4,SNR=5.2					
AKBB	Malin Array Si	38.04	312	eP	P	20 10 49.5 -0.7
	comp=Z,4.6nm,0.8s					
KIEV	Kiev	38.05	312	eP	P	20 10 49.2 -1.0
	comp=Z,4.3nm,0.7s					
MLR	Muntele Rosu	39.80	303	eP	P	20 11 03.8 -1.5
	comp=Z,7.7nm,0.8s					
MLR	Muntele Rosu	39.80	303	eP	P	20 11 03.8 -1.5
MLR				pmax	pmax	
	comp=Z,8.0nm,0.8s					
ALN	Alexandroupoli	39.93	296	eP	P	20 11 04.1 -2.1
	comp=Z,4.7nm,1.2s					
ALN	Alexandroupoli	39.93	296	eP	P	20 11 04.1 -2.1
ALN				pmax	pmax	
	comp=Z,5.0nm,1.2s					
BURAR	Bucovina Array	40.35	306	eP	P	20 11 08.8 -0.9
BURAR	Bucovina Array	40.35	306	eP	P	20 11 08.8 -0.9
KS15	Wonju Array Si	42.35	69	eP	P	20 11 27.1 +0.9
FIA1	FINESS Array S	42.38	327	eP	P	20 11 26.7 +0.6
	comp=Z,14nm,1.3s					
FIA0	FINESS Array S	42.38	327	eP	P	20 11 26.8 +0.7
FINES	FINESS Array B	42.38	327	P	P	20 11 26.8 +0.7
	comp=Z,2.8nm,0.7s,baz=107,slow=10,SNR=3.9					
FINES				pP	pP	20 11 32.1 +0.5
	comp=Z,1.4nm,0.4s,baz=119,slow=11,SNR=2.8					
KSRS	Korea Array	42.38	69	P	P	20 11 27.1 +0.7
	comp=Z,1.3nm,0.7s,baz=275,slow=7.3,SNR=4.5					
MDJ	Mudanjiang	42.76	58	eP	P	20 11 29.2 -0.1
	comp=Z,19nm,1.4s					
OJC	Ojcow	43.99	310	eP	P	20 11 39.1 -0.1
	comp=Z,6.3nm,1.0s					
KLR	Kul'dur	44.08	51	P	P	20 11 41.2 +1.2
	comp=Z,1.9nm,0.5s,baz=281,slow=9.3,SNR=6.1					
USRK	Ussuriysk Ar.	44.50	59	P	P	20 11 44.4 +1.0
	comp=Z,0.8nm,0.5s,baz=263,slow=8.2,SNR=4.5					
YAK	Yakutsk	44.53	33	eP	P	20 11 43.9 +0.5
YAK				pmax	pmax	
	comp=Z,60nm,0.9s					
YAK				pmax	pmax	
	comp=N,20nm,1.0s					
YAK				pmax	pmax	
	comp=E,23nm,0.9s					
KEV	Kevo	45.31	338	eP	P	20 11 50.6 +1.2
	comp=E,148nm,1.9s					
KEV	Kevo	45.31	338	eP	P	20 11 50.6 +1.2
KEV				pmax	pmax	
	comp=Z,148nm,1.9s					
MORC	Moravsky Berou	45.45	309	eP	P	20 11 51.7 +0.7
	comp=Z,12nm,1.5s					
MORC	Moravsky Berou	45.45	309	eP	P	20 11 51.7 +0.7
MORC				pmax	pmax	
	comp=Z,12nm,1.5s					
ARA0	ARCESS Array S	45.68	338	eP	P	20 11 53.7 +1.2
ARCES	ARCESS Array B	45.68	338	eP	P	20 11 53.3 +0.8
ARCES	ARCESS Array B	45.68	338	P	P	20 11 53.7 +1.2
	comp=Z,3.8nm,0.6s,baz=113,slow=8.1,SNR=11					
ARCES				pP	pP	20 11 59.0 +1.0
	comp=Z,3.4nm,0.6s,baz=115,slow=8.2,SNR=2.5					
ARE0	ARCESS Array S	45.68	338	eP	P	20 11 54.0 +1.5
	comp=Z,5.5nm,2.0s					
JNU	Nakatsue	45.72	74	eP	P	20 11 53.5 +0.2
	comp=Z,20nm,1.5s					
JNU	Nakatsue	45.72	74	P	P	20 11 53.6 +0.2
	comp=Z,5.9nm,0.9s,baz=275,slow=6.4,SNR=4.1					
KKM	Kota Kinabalu	46.28	117	eP	P	20 11 58.6 +0.6
	comp=Z,9.4nm,1.2s					
TIXI	Tiksi	47.48	20	eP	P	20 12 06.6 +0.1
	comp=Z,17nm,2.0s					
TIXI	Tiksi	47.48	20	P	P	20 12 06.4 0.0
	comp=Z,1.3nm,0.5s,baz=232,slow=3.7,SNR=3.2					
GERES	GERESS Array B	48.01	308	P	P	20 12 10.9 -0.2
	comp=Z,0.3nm,0.6s,baz=92,slow=7.0,SNR=2.3					
NC405	NORSAR Array S	49.10	325	eP	P	20 12 19.4 +0.2
	comp=Z,136nm,1.9s					
NC602	NORSAR Array S	49.16	324	eP	P	20 12 19.1 -0.5
	comp=Z,90nm,1.9s					
NC303	NORSAR Array S	49.27	325	eP	P	20 12 19.9 -0.6
	comp=Z,99nm,1.9s					
NB201	NORSAR Array S	49.30	325	eP	P	20 12 19.6 -1.2
	comp=Z,91nm,1.5s					
NB2	NORSAR Subarra	49.34	325	P	P	20 12 20.6 -0.4
	comp=Z,3.0nm,0.6s,baz=96,slow=7.4					
NOA	NORSAR Array B	49.34	325	P	P	20 12 21.0 0.0
	comp=Z,2.0nm,0.6s,baz=101,slow=7.2,SNR=8.4					
NOA				pP	pP	20 12 26.9 +0.2
	comp=Z,1.2nm,0.6s,baz=95,slow=7.5,SNR=3.5					
NBO00	NORSAR Array S	49.55	325	eP	P	20 12 22.3 -0.4
	comp=Z,48nm,1.4s					
NC204	NORSAR Array S	49.57	325	eP	P	20 12 23.5 +0.7
	comp=Z,66nm,1.7s					
MJB9	Matsu-Tunnel	50.60	68	eP	P	20 12 30.4 -0.6
	comp=Z,8.7nm,0.7s					
MAJO	Matsushiro	50.60	68	eP	P	20 12 30.2 -0.8
	comp=Z,8.7nm,0.6s					
MAJO	Matsushiro	50.60	68	eP	P	20 12 30.2 -0.8
MAJO				pmax	pmax	
	comp=Z,9.0nm,0.6s					
MJAR	Matsushiro Arr	50.60	68	eP	P	20 12 30.6 -0.3
MJAR	Matsushiro Arr	50.60	68	P	P	20 12 31.3 +0.3
	comp=Z,3.7nm,0.7s,baz=282,slow=10.0,SNR=7.5					
SPA0	Spitsbergen Ar	51.60	347	eP	P	20 12 37.9 0.0
	comp=Z,24nm,1.2s					
SPITS	Spitsbergen Ar	51.60	347	P	P	20 12 39.4 +1.5
	baz=115,slow=12					
YSS	Yuzh-Sakhalins	51.62	54	eP	P	20 12 36.5 -1.9
	comp=Z,27nm,1.5s					
YSS	Yuzh-Sakhalins	51.62	54	eP	P	20 12 39.3 +0.8
YSS				pmax	pmax	
	comp=Z,10.0nm,0.7s					
SENIN	Lac Senin/Sane	52.65	306	eP	P	20 12 46.3 -0.1
	comp=Z,30nm,1.8s					
KBS	Kingsbay	52.69	347	eP	P	20 12 45.3 -0.7
	comp=Z,19nm,1.6s					
KBS	Kingsbay	52.69	347	eP	P	20 12 45.3 -0.7
KBS				pmax	pmax	
	comp=Z,19nm,1.6s					
SEY	Seymchan	55.06	33	P	P	20 13 04.3 +0.8
	comp=Z,3.1nm,0.7s,baz=278,slow=15,SNR=6.1					
PETK	Petropavlovsk-	59.67	44	P	P	20 13 37.0 +0.8
	comp=Z,1.1nm,0.6s,baz=298,slow=4.4,SNR=2.6					
BILL	Bilibino	59.90	26	eP	P	20 13 38.4 +0.9
	comp=Z,4.0nm,1.0s					
BILL	Bilibino	59.90	26	eP	P	20 13 36.7 -0.8
BILL				pmax	pmax	
	comp=Z,3.0nm,1.0s					
PET	Petropavlovsk	60.25	44	eP	P	20 13 40.2 +0.1
	comp=Z,25nm,1.1s					
PET	Petropavlovsk	60.25	44	eP	P	20 13 40.2 +0.1
ESDC	Sonseca Array	62.45	301	eP	P	20 13 54.4 -1.0
ESDC				eP	P	20 13 55.5 +0.1
ESDC	Sonseca Array	62.45	301	P	P	20 13 55.5 +0.1
	comp=Z,1.3nm,0.7s,baz=63,slow=8.1,SNR=6.0					
TULEG	Thule	68.31	352	eP	P	20 14 32.6 0.0
	comp=Z,4.5nm,0.7s					
TOA0	Torodi Ar. Sit	69.62	273	eP	P	20 14 39.9 -1.8
	comp=Z,9.9nm,1.4s					
TOA1	Torodi Ar. Sit	69.62	273	eP	P	20 14 40.2 -1.5
TORD	Torodi Ar. Bea	69.62	273	P	P	20 14 40.2 -1.5
	comp=Z,1.4nm,0.8s,baz=64,slow=5.0,SNR=4.0					
TOLK	Toolik Lake Re	73.11	16	eP	P	20 15 02.5 +0.5
	comp=Z,5.6nm,0.6s					
COLD	Coldfoot	74.07	17	eP	P	20 15 07.7 +0.1
	comp=Z,3.4nm,1.0s					
IMAR	Indian Mountai	74.11	19	eP	P	20 15 07.7 -0.2
BMAR	Burnt Mountain	75.20	15	eP	P	20 15 15.1 +0.8
MLY	Manley	75.65	19	eP	P	20 15 17.2 +0.4
	comp=Z,2.7nm,0.8s					
BPAW	Bear Paw Mtn.	76.31	19	eP	P	20 15 20.4 -0.2
	comp=Z,3.5nm,0.8s					
MDM	Murphy Dome	76.36	18	eP	P	20 15 21.5 +0.7
	comp=Z,6.3nm,1.1s					
INK	Inuvik	76.50	11	P	P	20 15 22.2 +0.8
	comp=Z,6.1nm,0.9s,baz=10,slow=5.9,SNR=10					
CAST	Castle Rocks	76.53	20	eP	P	20 15 21.9 +0.1
	comp=Z,7.7nm,0.8s					
ILAR	Eielson Array	76.85	17	eP	P	20 15 23.2 -0.4
ILAR	Eielson Array	76.85	17	P	P	20 15 23.6 0.0
	comp=Z,0.9nm,0.5s,baz=301,slow=4.8,SNR=9.1					
ILAR				PP	PP	20 18 17.1 +1.3
	comp=Z,0.6nm,0.9s,baz=320,slow=8.3,SNR=4.7					
PPLA	Purkeypile	76.90	20	eP	P	20 15 25.0 +0.9
	comp=Z,33nm,1.8s					
WR1	Warramunga Arr	76.94	124	eP	P	20 15 23.9 -0.8
WRA	Warramunga Arr	76.94	124	P	P	20 15 23.9 -0.8
	comp=Z,1.6nm,0.6s,baz=325,slow=5.6,SNR=6.1					
WRA				pP	pP	20 15 30.2 -0.4
	comp=Z,1.0nm,0.4s,baz=326,slow=5.6,SNR=3.8					
WB2	Warramunga Arr	76.95	124	eP	P	20 15 23.6 -1.2
	comp=Z,36nm,1.8s					
WC3	Warramunga Arr	76.97	124	eP	P	20 15 24.1 -0.8
	comp=Z,36nm,1.8s					
SVW2	Sparrevohn	77.22	23	eP	P	20 15 25.6 -0.1
	comp=Z,27nm,1.8s					
RND	Reindeer	77.44	19	eP	P	20 15 26.9 -0.1
	comp=Z,12nm,1.6s					
RND	Reindeer	77.44	19	eP	P	20 15 27.0 -0.1
RND				pmax	pmax	
	comp=Z,12nm,1.6s					
BOSA	Boshof	77.88	224	eP	P	20 15 28.8 -1.2
	comp=Z,33nm,1.8s					
BOSA	Boshof	77.88	224	P	P	20 15 28.8 -1.2
	comp=Z,1.4nm,0.6s,baz=57,slow=4.0,SNR=3.8					
BOSA				pP	pP	20 15 34.2 -1.7
	comp=Z,2.5nm,0.5s,baz=29,slow=2.6,SNR=4.1					
DHY	Denali Highway	78.11	19	eP	P	20 15 29.7 -1.1
	comp=Z,8.7nm,1.4s					
RIDG	Inpendent Ri	78.21	17	eP	P	20 15 30.6 -0.8
	comp=Z,39nm,2.0s					
SCRK	Sand Creek	78.22	17	eP	P	20 15 31.7 +0.3
	comp=Z,12nm,1.9s					
SUA	Susitna One	78.45	21	eP	P	20 15 33.3 +0.5
	comp=Z,40nm,1.8s					
DOT	Dot Lake	78.48	17	eP	P	20 15 33.2 +0.5
	comp=Z,21nm,1.9s					
DBIC	Dimbokro	78.49	270	eP	P	20 15 32.2 -1.4
	comp=Z,27nm,1.4s					
DBIC	Dimbokro	78.49	270	P	P	20 15 32.5 -1.1
	comp=Z,5.8nm,1.0s,baz=339,slow=8.0,SNR=2.7					
PAX	Paxson	78.69	18	eP	P	20 15 34.4 +0.4
	comp=Z,2.5nm,0.7s					
PAX	Paxson	78.69	18	eP	P	20 15 34.4 +0.4
PAX				pmax	pmax	
	comp=Z,3.0nm,0.7s					
SML	Sawmill	78.87	20	eP	P	20 15 35.0 +0.1
	comp=Z,7.7nm,0.9s					
SML	Sawmill	78.87	20	eP	P	20 15 35.0 +0.1
SML				pmax	pmax	
	comp=Z,8.0nm,0.9s					
SCM	Sheep Creek Mo	79.13	19	eP	P	20 15 36.9 +0.4
	comp=Z,55nm,1.9s					
SCM	Sheep Creek Mo	79.13	19	eP	P	20 15 36.9 +0.4
SCM				pmax	pmax	
	comp=Z,55nm,1.9s					
KNK	Knik Glacier	79.15	20	eP	P	20 15 37.8 +1.3
	comp=Z,30nm,1.6s					
AS31	Alice Springs	79.18	127	eP	P	20 15 36.4 -0.7
	comp=Z,2.9nm,1.5s					
ASAR	Alice Springs	79.18	127	eP	P	20 15 37.1 0.0
ASAR	Alice Springs	79.18	127	P	P	20 15 36.7 -0.4
	comp=Z,0.9nm,0.7s,baz=321,slow=5.2,SNR=6.3					
ASAR				pP	pP	20 15 42.7 -0.3
	comp=Z,1.6nm,0.8s,baz=315,slow=5.9,SNR=5.7					
HARP	HAARP	79.24	18	eP	P	20 15 38.6 +1.6
	comp=Z,16nm,0.8s					
BCAR	Beaver Creek A	79.52	16	eP	P	20 15 39.6 +1.1
BRLK	Bradley Lake	79.74	22	eP	P	20 15 39.6 -0.1
	comp=Z,62nm,1.6s					
KLU	Klutina	79.80	19	eP	P	20 15 40.7 +0.7
	comp=Z,26nm,1.7s					
KDAK	Kodiak Island	80.73	24	eP	P	20 15 46.2 +1.2
	comp=Z,89nm,1.6s					
KDAK	Kodiak Island	80.73	24	eP	P	20 15 46.2 +1.2
KDAK				pmax	pmax	
	comp=Z,89nm,1.6s					
BALM	Baldy	81.12	18	eP	P	20 15 48.6 +1.3
	comp=Z,11nm,1.2s					
BALM	Baldy	81.12	18	eP	P	20 15 48.6 +1.3
BALM				pmax	pmax	
	comp=Z,11nm,1.2s					
YKW3	Yellowknife Ar	84.23	5	eP	P	20 16 03.4 +0.2
	comp=Z,2.7nm,0.9s					
YKA	Yellowknife Ar	84.30	5	eP	P	20 16 03.6 +0.1
YKA	Yellowknife Ar	84.30	5	eP	P	20 16 03.6 +0.1
YKA	Yellowknife Ar	84.30	5	P	P	20 16 03.8 +0.2
	comp=Z,2.5nm,0.6s,baz=345,slow=5.2,SNR=10					
YKA				pP	pP	20 16 09.9 +0.4
	comp=Z,1.6nm,0.5s,baz=345,slow=5.3,SNR=9.5					
YKB5	Yellowknife Ar	84.30	5	eP	P	20 16 03.8 +0.2
CTAO	Charters Tower	85.61	117	eP	P	20 16 09.9 -0.9
	comp=Z,11nm,1.3s					
CTAO	Charters Tower	85.61	117	eP	P	20 16 09.9 -0.9
CTAO				pmax	pmax	
	comp=Z,11nm,1.3s					

GUC 14 20:04:24.2±0.5, 19°.83S×70°.88W, h30km±3km, ML3.6, 3C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	Pisagua	0.75	72	↓iP	Pb	20 04 38.1	-0.8
PSGC				eS	Sb	20 04 48.2	-0.7
PB11	IPOC Station P	1.16	87	↓iP	Pn	20 04 45.0	+0.4
PB11				eS	Sb	20 05 00.7	+0.3
PB11				IAML		20 05 05.3	
	comp=N,1μm,0.3s						
PB12	IPOC Station P	1.32	24	↑iP	Pn	20 04 47.1	+0.5
PB12				eS	Sb	20 05 04.5	-0.4
PB12				IAML		20 05 08.2	
	comp=N,935nm,0.2s						
MNMC	Minye Minye	1.40	60	↓iP	Pb	20 04 49.0	-0.9
MNMC				eS	Sb	20 05 07.6	+0.2
MNMC				IAML		20 05 10.0	
	comp=E,4μm,0.3s						
GO01	Chusmiza	1.60	85	↓iP	Pb	20 04 52.5	-0.9
GO01				eS	Sb	20 05 14.0	+0.6
GO01				IAML		20 05 16.6	
	comp=N,3μm,0.2s						
PB08	IPOC Station P	1.66	101	↑iP	Pb	20 04 53.2	-1.1
PB08				eS	Sb	20 05 15.0	0.0
PB08				IAML		20 05 16.0	
	comp=N,427nm,0.3s						
PB02	IPOC Station P	1.75	148	↑eP	Pn	20 04 54.1	+1.5
PB02				eS	Sb	20 05 16.8	-0.5
PB02				IAML		20 05 24.0	
	comp=E,2μm,0.1s						
PB01	IPOC Station P	1.78	133	eP	Pb	20 04 55.0	-1.3
PB01				eS	Sb	20 05 17.4	-0.8
PB07	IPOC Station P	2.11	154	eP	Pn	20 04 58.9	+1.3

TAP 14 20:07:18.5, 23°.22N×120°.98E, h6km±1km, ML2.3, 1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	Lidau	0.05	132	↓P	Pg	20 07 19.8	-0.2
	baz=127						
ELDTW				S	Sg	20 07 21.1	+0.1
STYT	Tauyuan	0.21	254	eP	Pg	20 07 21.8	-0.9
	baz=252						
STYT				eS	Sg	20 07 24.5	-0.9
	baz=252						
TWF1	Yuli	0.32	66	eP	Pg	20 07 25.2	+0.4
	baz=66						
ALS	Alishan	0.33	331	eP	Pg	20 07 24.5	-0.5
	baz=332						
TPUB	Ta-pu	0.33	284	eP	Pg	20 07 24.8	-0.1
	baz=283						
WTP	Ta-pu	0.34	274	eP	Pg	20 07 24.9	-0.2
	baz=273						
YULB	Yu-li	0.34	60	P	Pg	20 07 25.2	+0.1
	baz=60						
CHN4	Tsaushan	0.38	290	eP	Pg	20 07 26.0	+0.2
	baz=290						
CHKT	Chengkung	0.38	109	eP	Pg	20 07 25.9	+0.1
	baz=108						
SLGT	Liugui	0.38	233	eP	Pg	20 07 25.4	-0.4
	baz=233						
SGST	Jiashian	0.39	249	eP	Pg	20 07 26.0	-0.1
	baz=248						
TWGBT	Beinan	0.41	167	eP	Pg	20 07 26.9	+0.4
	baz=166						
EHY	Hungye	0.42	48	eP	Pg	20 07 26.6	-0.2
	baz=49						
TWK	Hsinying	0.45	276	eP	Pg	20 07 27.4	+0.2
	baz=275						
CHN5	Tsauling	0.46	324	eP	Pg	20 07 27.8	+0.3
	baz=323						
WHYT	Xinyi Township	0.48	346	eP	Pg	20 07 27.8	-0.1
	baz=346						
VWDT	VWDT	0.55	16	eP	Pg	20 07 29.4	+0.3
	baz=15						
SSD	Sandimen	0.57	214	eP	Pg	20 07 28.5	-1.0
	baz=213						
SMLT	Sun Moon Lake	0.66	354	eP	Pg	20 07 31.0	-0.2
	baz=354						
MASBT	Mashibuluo	0.69	208	eP	Pg	20 07 30.6	-1.0
	baz=207						

TAP 14 20:07:22.9, 23°.21N×120°.96E, h8km, ML2.2, 6C-5D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	Lidau	0.06	113	↓P	Pg	20 07 25.2	+0.5
	baz=111						
ELDTW				S	Sg	20 07 26.6	+0.4
	baz=111						
STYT	Tauyuan	0.19	255	↑P	Pg	20 07 27.2	+0.4
	baz=254						
STYT				S	Sg	20 07 29.9	+0.4
	baz=254						
TPUB	Ta-pu	0.32	286	↓P	Pg	20 07 29.7	+0.6
	baz=295						
TPUB				S	Sb	20 07 35.1	-1.1
	baz=295						
WTP	Ta-pu	0.32	276	↓P	Pb	20 07 30.4	-0.5
	baz=276						
WTP				S	Sb	20 07 35.3	-0.9
	baz=276						
ALS	Alishan	0.33	335	↓P	Pg	20 07 30.0	+0.5
	baz=336						
ALS				S	Sg	20 07 34.6	+0.7
	baz=336						
TWF1	Yuli	0.34	66	eP	Pg	20 07 29.6	0.0
	baz=66						
TWF1				S	Sg	20 07 35.0	+0.9
	baz=66						
TWF1	Yuli	0.34	66	S	Pg	20 07 29.5	-0.1
	baz=66						
YULB	Yu-li	0.36	60	eP	Pg	20 07 29.6	-0.4
	baz=60						
YULB				S	Sg	20 07 35.0	+0.3
	baz=60						
YULB	Yu-li	0.36	60	S	Pg	20 07 29.6	-0.4
	baz=60						
SLGT	Liugui	0.36	233	↑P	Pg	20 07 30.8	+0.8
	baz=228						
SLGT				eS	Sg	20 07 36.0	+1.2
	baz=228						
CHN4	Tsaushan	0.36	292	eP	Pb	20 07 31.4	-0.2
	baz=300						
CHN4				S	Sb	20 07 36.5	-1.1
	baz=300						
SGST	Jiashian	0.37	250	↑eP	Pb	20 07 31.4	-0.3
	baz=249						
SGST				S	Sb	20 07 36.8	-0.9
	baz=249						
CHKT	Chengkung	0.39	107	eP	Pb	20 07 31.8	-0.3
	baz=107						
CHN1	Nanshi	0.40	266	↑eP	Pb	20 07 32.2	0.0
	baz=262						
CHN1				S	Sb	20 07 38

WHYT	**Xinyi Township**	**0.49 349**	⇑P	Pg	20 07 33.1	+0.7
	baz=355					
WHYT			eS	Sg	20 07 39.7	+0.8
	baz=355					
HGSD	**Ruisui**	**0.51 57**	eP	Pg	20 07 33.2	+0.4
	baz=51					
HGSD			eS	Sb	20 07 40.9	-0.8
	baz=51					
SSD	**Sandimen**	**0.55 213**	eP	Pg	20 07 33.9	+0.3
	baz=213					
SSD			eS	Sg	20 07 40.6	-0.3
	baz=213					
VWDT	**VWDT**	**0.56 17**	eP	Pg	20 07 33.9	0.0
	baz=15					
VWDT			eS	Sg	20 07 41.3	+0.1
	baz=15					
SSLB	**Suanglung**	**0.57 360**	eP	Pg	20 07 34.0	0.0
	baz=360					
SSLB			eS	Sg	20 07 40.3	-1.2
	baz=360					
WGK	**Gukeng**	**0.60 322**	eP	Pb	20 07 35.2	-0.4
	baz=323					
WGK			eS	Sb	20 07 44.7	+0.5
	baz=323					
ECL	**Taimali**	**0.61 180**	eP	Pg	20 07 35.3	+0.5
	baz=180					
ECL			eS	Sg	20 07 43.4	+0.7
	baz=180					
WDLH	**Douliu**	**0.61 321**	eP	Pb	20 07 35.5	-0.4
	baz=321					
WDLH			eS	Sb	20 07 45.5	+0.8
	baz=321					
EGFH	**Guangfu**	**0.63 43**	eP	Pg	20 07 35.1	+0.1
	baz=51					
EGFH			eS	Sg	20 07 43.2	0.0
	baz=51					
WJS	**Zhushan**	**0.64 341**	eP	Pb	20 07 36.0	-0.4
	baz=346					
WJS			eS	Sb	20 07 46.3	+0.7
	baz=346					
MASBT	**Mashibuluo**	**0.67 207**	eP	Pg	20 07 35.9	+0.1
	baz=209					
MASBT			eS	Sg	20 07 44.2	-0.4
	baz=209					
SMLT	**Sun Moon Lake**	**0.67 355**	eP	Pb	20 07 36.4	-0.5
	baz=356					
SMLT			eS	Sg	20 07 45.2	+0.6
	baz=356					
TYC	**Yuchr**	**0.69 352**	eP	Pg	20 07 36.7	+0.4
	baz=3.0					
TYC			eS	Sb	20 07 47.8	+0.8
	baz=3.0					
WNT	**Mingjian**	**0.71 339**	eP	Pb	20 07 37.4	-0.2
	baz=340					
WNT			eS	Sb	20 07 48.0	+0.5
	baz=340					
ESL	**Shilin**	**0.74 36**	eP	Pb	20 07 37.7	-0.4
	baz=43					
ESL			eS	Sg	20 07 47.6	+0.7
	baz=43					
OWD	**Renai**	**0.77 15**	eP	Pg	20 07 37.0	-0.7
	baz=15					
DPDB	**Guoxing**	**0.82 358**	eP	Pg	20 07 39.0	+0.3
	baz=7.0					
EAST	**Anshuo**	**0.83 187**	eP	Pg	20 07 38.5	-0.4
	baz=187					
CHGB	**Renai**	**0.87 13**	eP	Pg	20 07 38.9	-0.7
	baz=22					
SCZT	**Fangliau**	**0.89 201**	eP	Pg	20 07 40.2	+0.2
	baz=195					
SCZT			eS	Sn	20 07 54.3	-0.6
	baz=195					
WHF	**Hehuan Shan**	**0.97 17**	eP	Pg	20 07 41.2	-0.4
	baz=18					
WHF			eS	Sb	20 07 55.2	-0.2
	baz=18					
WHP	**Taichung City**	**1.06 359**	eP	Pb	20 07 43.5	-0.1
	baz=8.0					
WHP			eS	Sn	20 07 58.6	-0.6
	baz=8.0					
NACB	**Ninganchiao**	**1.12 31**	eP	Pb	20 07 44.6	0.0
	baz=32					
NACB			eS	Sg	20 07 58.5	-0.6
	baz=32					
WDGT	**Dungji**	**1.20 273**	eP	Pn	20 07 46.2	+0.2
	baz=271					
WDGT			eS	Sn	20 08 02.5	+0.1
	baz=271					
HEN	**Hengchun**	**1.22 190**	eP	Pb	20 07 45.8	-0.4
	baz=178					
NNSB	**Datong**	**1.27 18**	eP	Pn	20 07 46.2	-0.9
	baz=26					
NNSB			eS	Sg	20 08 04.2	+0.3
	baz=26					
PHUB	**P'eng-hu**	**1.31 284**	eP	Pn	20 07 46.8	-0.7
	baz=283					
PHUB			eS	Sn	20 08 05.8	+0.6
	baz=283					
PNG	**Penghu**	**1.34 286**	eP	Pn	20 07 47.7	-0.2
	baz=285					
PNG			eS	Sg	20 08 06.5	+0.5
	baz=285					
VCHM	**Qimei**	**1.41 270**	eS	Sb	20 08 07.5	0.0
	baz=269					
NDT	**Datong Townshi**	**1.47 20**	eP	Pn	20 07 49.7	-0.2
	baz=19					
YHNB	**Yeheng**	**1.50 15**	eP	Pn	20 07 50.3	+0.1
	baz=16					
YHNB			eS	Sn	20 08 10.1	0.0
	baz=16					
NSK	**Sanguang**	**1.50 14**	eP	Pn	20 07 50.5	+0.3
	baz=27					
NSK			eS	Sb	20 08 10.6	+0.2
	baz=27					
ENTT	**Nioudou**	**1.53 21**	eP	Pn	20 07 50.8	+0.2
	baz=30					
ENTT			eS	Sb	20 08 10.9	-0.1
	baz=30					
NWLT	**Wulai**	**1.64 18**	eP	Pn	20 07 52.4	+0.3
	baz=16					
TIPB	**Shuangxi**	**1.92 24**	eP	Pn	20 07 57.1	+1.1
	baz=37					

*SJA **14** 20:36:47.5±0.6,24.°12S×67.°18W,h194km±6km,ML2.4, MW3.2*
*ISCJB **14** 20:36:49.0±1.1,24.°05S±0.°06×67.°25W±0.°04, h178km±12km,Error ellipse: s-maj=10.0km s-min=5.4km az=19.9*
*GUC **14** 20:36:50.1±0.4,24.°02S×67.°54W,h219km±10km,ML3.6*
ISC 14 20:36:46.8±2.7,**24.°12S**±0.°08×**67.°21W**±0.°05, **h204**km±23km,**n25**,σ1§**11**/38,**3C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.67**	**112**	eP	**Pn**	**20 37 23.1**	**+0.6**
SLA				IAML		20 37 24.3	
	comp=Z,21nm,0.6s						
SLA				eS	**S**	**20 37 49.0**	**-0.9**
HJA	**Humahuaca**	**1.88**	**62**	eP	**Pn**	**20 37 25.5**	**+0.6**
HJA				IAML		20 37 31.3	
	comp=Z,9.9nm,0.3s						
HJA				eS	**S**	**20 37 53.9**	**-0.1**
AZAP	**Zapla**	**1.96**	**94**	eP	**Pn**	**20 37 25.6**	**+0.1**
AZAP				IAML		20 37 26.9	
	comp=Z,25nm,0.5s						
AZAP				eS	**S**	**20 37 54.6**	**-0.5**
PB15	**IPOC Station P**	**2.26**	**293**	eP	**Pn**	**20 37 29.6**	**+1.0**
PB15				eS	**S**	**20 38 00.4**	**-0.1**
PB15	**IPOC Station P**	**2.26**	**293**	⇑iP	**Pn**	**20 37 29.6**	**+1.0**
PB15				eS	**S**	**20 37 59.9**	**-0.7**
PB15				IAML		20 38 04.3	
	comp=E,430nm,0.2s						
GO02	**Mina Guanaco**	**2.40**	**244**	⇑iP	**Pn**	**20 37 30.6**	**+0.4**
GO02				i S	**S**	**20 38 02.9**	**-0.6**
PB06	**IPOC Station P**	**2.58**	**302**	eP	**Pn**	**20 37 33.2**	**+1.2**
PB06	**IPOC Station P**	**2.58**	**302**	⇑iP	**Pn**	**20 37 33.1**	**+1.0**
PB06				eS	**S**	**20 38 05.6**	**-1.2**
PB06				IAML		20 38 07.0	
	comp=E,84nm,0.1s						
PB09	**IPOC Station P**	**2.97**	**321**	eP	**Pn**	**20 37 38.4**	**+1.8**
PB09	**IPOC Station P**	**2.97**	**321**	eP	**Pn**	**20 37 38.4**	**+1.8**
PB09				eS	**S**	**20 38 14.8**	**0.0**
PB05	**IPOC Station P**	**3.02**	**294**	eP	**Pn**	**20 37 37.8**	**+0.8**
PB05	**IPOC Station P**	**3.02**	**294**	eP	**Pn**	**20 37 37.7**	**+0.8**
PB03	**IPOC Station P**	**3.12**	**311**	eP	**Pn**	**20 37 39.3**	**+1.1**
PB03	**IPOC Station P**	**3.12**	**311**	eP	**Pn**	**20 37 39.1**	**+0.9**
PB03				eS	**S**	**20 38 16.3**	**-1.5**
PB03				IAML		20 38 19.5	
	comp=N,73nm,0.2s						
PB10	**IPOC Station P**	**3.12**	**280**	eP	**Pn**	**20 37 39.2**	**+1.1**
PB04	**IPOC Station P**	**3.23**	**303**	eP	**Pn**	**20 37 40.6**	**+0.9**
PB04	**IPOC Station P**	**3.23**	**303**	eP	**Pn**	**20 37 40.5**	**+0.9**
PB04				eS	**S**	**20 38 18.8**	**-1.5**
PB04				IAML		20 38 22.4	
	comp=E,47nm,0.4s						
PB07	**IPOC Station P**	**3.42**	**313**	eP	**Pn**	**20 37 42.9**	**+1.0**
PB07	**IPOC Station P**	**3.42**	**313**	eP	**Pn**	**20 37 42.8**	**+0.9**
PB07				eS	**S**	**20 38 23.1**	**-1.4**
PB07				IAML		20 38 28.5	
	comp=E,68nm,0.5s						
PB01	**IPOC Station P**	**3.71**	**325**	eP	**Pn**	**20 37 46.0**	**+0.7**
PB01				eS	**S**	**20 38 29.2**	**-1.5**
PB01				IAML		20 38 32.5	
	comp=N,33nm,0.2s						
PB02	**IPOC Station P**	**3.73**	**318**	eP	**Pn**	**20 37 47.0**	**+1.4**
PB02	**IPOC Station P**	**3.73**	**318**	eP	**Pn**	**20 37 46.1**	**+0.6**
PB02				eS	**S**	**20 38 29.0**	**-2.0**
PB02				IAML		20 38 34.1	
	comp=E,64nm,0.3s						
PB08	**IPOC Station P**	**4.34**	**335**	eP	**Pn**	**20 37 55.2**	**+1.7**
PB11	**IPOC Station P**	**4.89**	**332**	eP	**Pn**	**20 38 00.0**	**-0.1**
PSGCX	**Pisagua**	**5.25**	**328**	⇓eP	**Pn**	**20 38 05.0**	**+0.4**

*JMA **14** 20:40:02.7±0.2,24.°02N×121.°67E,h0km,M3.1*
*TAP **14** 20:40:03.8,24.°04N×121.°67E,h7km,ML3.6,C*
ISC 14 20:40:03.8±0.8,**24.°03N**±0.°02×**121.°69E**±0.°02,**h10**km±5km, **n117**,σ0§**86**/166,**6C-20D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.10**	**236**	⇓iP	**Pg**	**20 40 06.4**	**0.0**
	baz=228						
TWD	**Chiawan**	**0.10**	**299**	⇓iP	**Pg**	**20 40 05.9**	**-0.5**
	baz=304						
TWD				i S	**Sg**	**20 40 07.4**	**-0.8**
	baz=304						
ENLB	**Shoufeng**	**0.15**	**213**	P	**Pg**	**20 40 07.9**	**+0.7**
	baz=207						
ENLB				S	**Sg**	**20 40 11.8**	**+2.3**
	baz=207						
NACB	**Ninganchiao**	**0.17**	**328**	⇓P	**Pg**	**20 40 07.0**	**-0.4**
	baz=333						
NACB				S	**Sg**	**20 40 09.3**	**-0.7**
	baz=333						
ESL	**Shilin**	**0.32**	**228**	P	**Pg**	**20 40 09.7**	**-0.5**
	baz=225						
WHF	**Hehuan Shan**	**0.41**	**286**	⇓iP	**Pg**	**20 40 11.6**	**-0.4**
	baz=285						
WHF				S	**Sg**	**20 40 17.0**	**-0.4**
	baz=285						
EGFH	**Guangfu**	**0.43**	**214**	eP	**Pb**	**20 40 12.5**	**-1.1**
	baz=221						
CHGB	**Renai**	**0.47**	**274**	⇓P	**Pb**	**20 40 13.1**	**-1.3**
	baz=273						
CHGB				S	**Sg**	**20 40 19.3**	**-0.2**
	baz=273						
OWD	**Renai**	**0.48**	**261**	P	**Pb**	**20 40 13.2**	**-1.2**
	baz=260						
OWD				S	**Sb**	**20 40 19.8**	**-1.8**
	baz=260						
NNSB	**Datong**	**0.49**	**325**	⇓P	**Pg**	**20 40 13.3**	**-0.1**
	baz=324						
NNSB				S	**Sg**	**20 40 19.7**	**-0.1**
	baz=324						
NNS	**Nan Shan**	**0.50**	**325**	⇓iP	**Pg**	**20 40 13.6**	**-0.1**
	baz=324						
NNS				i S	**Sg**	**20 40 20.0**	**-0.3**
	baz=324						
TWT	**Tachien**	**0.52**	**295**	⇓iP	**Pb**	**20 40 14.3**	**-0.9**
	baz=293						
TWT				S	**Sb**	**20 40 21.3**	**-1.6**
	baz=293						
TDCB	**Techi**	**0.54**	**295**	⇓P	**Pb**	**20 40 14.3**	**-1.1**
	baz=294						
TDCB				S	**Sg**	**20 40 21.2**	**-0.1**
	baz=294						
VWDT	**VWDT**	**0.57**	**241**	⇓P	**Pb**	**20 40 15.0**	**-1.0**
	baz=243						
VWDT				S	**Sb**	**20 40 23.0**	**-1.2**
	baz=243						
HGSD	**Ruisui**	**0.59**	**205**	eP	**Pb**	**20 40 16.2**	**-0.1**
	baz=192						
HGSD				eS	**Sb**	**20 40 26.0**	**+1.4**
	baz=192						
NDT	**Datong Townshi**	**0.59**	**344**	⇓iP	**Pb**	**20 40 15.5**	**-0.8**
	baz=342						
NDT				S	**Sg**	**20 40 23.3**	**+0.2**
	baz=342						
TWC	**Suao**	**0.59**	**14**	eP	**Pg**	**20 40 14.9**	**-0.5**
	baz=7.0						
ENTT	**Nioudou**	**0.62**	**349**	⇓iP	**Pb**	**20 40 16.0**	**-0.8**
	baz=348						
ENTT				S	**Sg**	**20 40 24.1**	**+0.2**
	baz=348						
EHY	**Hungye**	**0.62**	**213**	⇑iP	**Pg**	**20 40 15.7**	**-0.2**
	baz=212						
EOS1	**EOS1**	**0.65**	**38**	eP	**Pb**	**20 40 17.9**	**+0.6**
	baz=24						
TWE	**Neicheng**	**0.69**	**358**	⇓P	**Pb**	**20 40 17.2**	**-0.7**
	baz=357						
TWE				eS	**Sb**	**20 40 27.1**	**-0.4**
	baz=357						
YHNB	**Yeheng**	**0.70**	**336**	⇓P	**Pb**	**20 40 17.7**	**-0.5**
	baz=325						
YHNB				S	**Sg**	**20 40 26.3**	**-0.3**
	baz=325						
DPDB	**Guoxing**	**0.70**	**270**	eP	**Pb**	**20 40 17.5**	**-0.7**
	baz=270						
DPDB				eS	**Sb**	**20 40 27.1**	**-0.8**
	baz=270						
NSK	**Sanguang**	**0.71**	**335**	⇓iP	**Pb**	**20 40 17.8**	**-0.6**
	baz=325						
NSK				S	**Sg**	**20 40 26.9**	**0.0**
	baz=325						
SSLB	**Suanglung**	**0.72**	**250**	⇓P	**Pb**	**20 40 17.6**	**-0.9**
	baz=261						
SSLB				S	**Sg**	**20 40 26.0**	**-1.1**
	baz=261						
WHP	**Taichung City**	**0.72**	**290**	⇓P	**Pb**	**20 40 18.2**	**-0.4**
	baz=289						
WHP				S	**Sb**	**20 40 27.5**	**-1.2**
	baz=289						
YULB	**Yu-li**	**0.73**	**210**	⇑P	**Pg**	**20 40 17.3**	**-0.6**
	baz=212						
ILA	**Ilan**	**0.73**	**4**	eP	**Pg**	**20 40 17.8**	**-0.2**
	baz=2.0						
SMLT	**Sun Moon Lake**	**0.74**	**259**	⇓iP	**Pb**	**20 40 18.2**	**-0.6**
	baz=259						
SMLT				S	**Sb**	**20 40 27.7**	**-1.3**
	baz=259						
NWLT	**Wulai**	**0.76**	**347**	P	**Pb**	**20 40 18.7**	**-0.5**
	baz=344						
NWLT				eS	**Sg**	**20 40 28.1**	**-0.5**
	baz=344						
TWF1	**Yuli**	**0.77**	**208**	eP	**Pg**	**20 40 18.0**	**-0.7**
	baz=223						
TWF1				eS	**Sb**	**20 40 30.0**	**+0.2**
	baz=223						
NTC	**Toucheng**	**0.83**	**9**	eP	**Pg**	**20 40 19.7**	**-0.1**
	baz=354						
WHYT	**Xinyi Township**	**0.84**	**247**	eP	**Pb**	**20 40 20.4**	**-0.1**
	baz=247						
EGS		**0.84**	**15**	eP	**Pb**	**20 40 20.6**	**+0.1**
	baz=12						
NSTT	**Nanjuang**	**0.87**	**314**	P	**Pb**	**20 40 20.9**	**-0.1**
	baz=313						
NSTT				eS	**Sb**	**20 40 32.3**	**-0.5**
	baz=313						
LIOB	**Emei**	**0.87**	**315**	P	**Pb**	**20 40 21.2**	**+0.1**
	baz=314						
LIOB				eS	**Sb**	**20 40 32.8**	**0.0**
	baz=314						
TWQ1	**Liyutan**	**0.90**	**291**	eP	**Pn**	**20 40 22.4**	**-0.2**
	baz=290						
WJS	**Zhushan**	**0.91**	**257**	eP	**Pn**	**20 40 22.5**	**-0.1**
	baz=258						
WJS				eS	**Sn**	**20 40 35.7**	**-0.1**
	baz=258						
WLTB	**Daxi**	**0.91**	**334**	eP	**Pb**	**20 40 21.6**	**-0.2**
	baz=331						
WLTB				eS	**Sb**	**20 40 34.9**	**+0.9**
	baz=331						
NSY	**Sanyi**	**0.93**	**294**	eP	**Pn**	**20 40 22.6**	**-0.5**
	baz=294						
WNT	**Mingjian**	**0.93**	**261**	eP	**Pn**	**20 40 22.9**	**-0.2**
	baz=260						
WNT				eS	**Sn**	**20 40 36.3**	**-0.2**
	baz=260						
TCU	**Taichung**	**0.94**	**277**	eP	**Pn**	**20 40 23.4**	**+0.3**
	baz=270						
NHDH	**Xindian Distri**	**0.94**	**351**	eP	**Pb**	**20 40 21.8**	**-0.4**
	baz=348						
TIPB	**Shuangxi**	**0.94**	**7**	⇓P	**Pb**	**20 40 22.0**	**-0.3**
	baz=353						
TIPB				eS	**Sb**	**20 40 35.4**	**+0.5**
	baz=353						
TATO	**Taipei**	**0.96**	**349**	⇓P	**Pb**	**20 40 22.7**	**+0.1**
	baz=345						
TATO				eS	**Sg**	**20 40 34.1**	**-0.7**
	baz=345						
NMLH	**Miaoli**	**0.96**	**302**	eP	**Pn**	**20 40 24.8**	**+1.3**
	baz=301						
CHKT	**Chengkung**	**0.97**	**198**	eP	**Pg**	**20 40 22.0**	**-0.6**
	baz=191						
SBCB	**Hsinchu**	**0.99**	**320**	eP	**Pn**	**20 40 24.3**	**+0.4**
	baz=318						
SBCB				eS	**Sb**	**20 40 36.4**	**0.0**
	baz=318						
TWB1	**Santiao Chiao**	**1.01**	**15**	eP	**Pg**	**20 40 23.0**	**-0.3**
	baz=4.0						
HSN	**Hsinchu**	**1.01**	**320**	eP	**Pn**	**20 40 24.8**	**+0.7**
	baz=321						
WDJ	**Dajia District**	**1.01**	**288**	eP	**Pn**	**20 40 24.9**	**+0.8**
	baz=288						
TAP	**Taipei**	**1.02**	**350**	eP	**Pb**	**20 40 23.9**	**+0.3**
	baz=339						
CHN5	**Tsauling**	**1.02**	**245**	P	**Pn**	**20 40 24.4**	**+0.1**
	baz=238						
CHN5				eS	**Sn**	**20 40 40.2**	**+1.3**
	baz=238						
WCHH	**Zhanghua**	**1.04**	**273**	eP	**Pn**	**20 40 24.3**	**-0.1**
	baz=273						
NWF	**Wu-fen Shan**	**1.04**	**4**	eP	**Pb**	**20 40 24.0**	**0.0**
	baz=359						
WFSB	**Wu-fen Shan**	**1.04**	**4**	eP	**Pg**	**20 40 23.4**	**-0.4**
	baz=359						
NCUH	**Zhongli**	**1.04**	**334**	eP	**Pn**	**20 40 25.1**	**+0.6**
	baz=331						
NCUH				eS	**Sn**	**20 40 40.9**	**+1.7**
	baz=331						
ELDTW	**Lidau**	**1.04**	**217**	eP	**Pg**	**20 40 22.3**	**-1.6**
	baz=220						
NCU	**National Centr**	**1.04**	**334**	eP	**Pn**	**20 40 24.9**	**+0.3**
	baz=331						
NCU				eS	**Sn**	**20 40 40.5**	**+1.3**
	baz=331						
WGK	**Gukeng**	**1.09**	**252**	eP	**Pn**	**20 40 25.4**	**+0.3**
	baz=254						
TWS1	**Kuangyinshan**	**1.09**	**347**	eP	**Pn**	**20 40 25.9**	**+0.7**
	baz=344						
TWS1				eS	**Sn**	**20 40 41.3**	**+0.9**
	baz=344						
WDLH	**Douliu**	**1.11**	**252**	eP	**Pn**	**20 40 25.7**	**+0.3**
	baz=254						
YM01	**YM01**	**1.12**	**354**	eP	**Pn**	**20 40 25.6**	**0.0**
	baz=360						
YM10	**YM10**	**1.13**	**354**	eP	**Pn**	**20 40 25.7**	**-0.1**
	baz=338						
YM11	**YM11**	**1.14**	**355**	eP	**Pb**	**20 40 25.6**	**0.0**
	baz=1.0						
YM07	**YM07**	**1.14**	**357**	eP	**Pn**	**20 40 25.9**	**0.0**
	baz=352						
NTST	**Danshui**	**1.15**	**349**	eP	**Pn**	**20 40 26.9**	**+0.9**
	baz=345						
YM08	**YM08**	**1.16**	**355**	eP	**Pn**	**20 40 26.3**	**+0.2**
	baz=1.0						
CHN4	**Tsaushan**	**1.21**	**236**	⇑P	**Pn**	**20 40 27.4**	**+0.5**
	baz=232						
CHN4				eS	**Sn**	**20 40 45.5**	**+2.1**
	baz=232						
TPUB	**Ta-pu**	**1.22**	**233**	⇑P	**Pn**	**20 40 27.2**	**+0.3**
	baz=237						
TPUB				S	**Sn**	**20 40 44.0**	**+0.6**
	baz=237						
STYT	**Tauyuan**	**1.22**	**225**	P	**Pg**	**20 40 26.4**	**-0.9**
	baz=230						
STYT				S	**Sb**	**20 40 43.0**	**+0.2**
	baz=230						
JYNG	**Yonagunijimaku**	**1.22**	**70**	P	**Pg**	**20 40 26.6**	**-0.6**
CHN2	**Minshiung**	**1.22**	**246**	eP	**Pn**	**20 40 27.8**	**+0.9**
	baz=249						
CHN2				eS	**Sn**	**20 40 44.9**	**+1.4**
	baz=249						
RLNB	**Erlin**	**1.23**	**264**	⇑P	**Pn**	**20 40 27.6**	**+0.6**
	baz=253						
RLNB				eS	**Sn**	**20 40 46.0**	**+2.3**
	baz=253						
TWY	**Chenhua**	**1.24**	**356**	eP	**Pn**	**20 40 28.4**	**+1.2**
	baz=340						
WTP	**Ta-pu**	**1.26**	**232**	⇑iP	**Pn**	**20 40 27.9**	**+0.4**
	baz=237						
WTP				S	**Sn**	**20 40 46.0**	**+1.4**
	baz=237						
CHY	**Chiayi**	**1.28**	**246**	eP	**Pn**	**20 40 28.3**	**+0.5**
	baz=248						
YOJ	**Yonaguni jima**	**1.28**	**70**	eP	**Pg**	**20 40 27.2**	**-1.2**
	baz=66						
YOJ	**Yonaguni jima**	**1.28**	**70**	P	**Pg**	**20 40 27.5**	**-0.9**
WTCT	**Ta-ch'eng**	**1.30**	**263**	eP	**Pn**	**20 40 28.9**	**+0.8**
	baz=263						
TWG	**Pinlang**	**1.33**	**205**	eP	**Pn**	**20 40 27.7**	**-0.8**
	baz=210						
TWGBT	**Beinan**	**1.33**	**205**	eP	**Pn**	**20 40 27.6**	**-0.9**
	baz=210						
TWK	**Hsinying**	**1.34**	**236**	P	**Pb**	**20 40 29.5**	**+0.4**
	baz=240						
TWK				S	**Sn**	**20 40 48.8**	**+2.2**
	baz=240						
CHN1	**Nanshi**	**1.36**	**232**	P	**Pb**	**20 40 29.6**	**+0.2**
	baz=237						
CHN1				S	**Sn**	**20 40 49.7**	**+2.7**
	baz=237						
SNST	**Tainan City**	**1.36**	**234**	eP	**Pb**	**20 40 29.8**	**+0.4**
	baz=237						
SGST	**Jiashian**	**1.39**	**227**	P	**Pg**	**20 40 30.1**	**-0.4**
	baz=233						
SGST				S	**Sn**	**20 40 50.5**	**+2.8**
	baz=233						
WSF	**Szhu**	**1.40**	**254**	eP	**Pg**	**20 40 30.4**	**-0.4**
	baz=255						
SLGT	**Liugui**	**1.41**	**223**	eP	**Pn**	**20 40 29.7**	**+0.1**
	baz=228						
CHN8	**Yiju**	**1.52**	**244**	eP	**Pg**	**20 40 33.6**	**+0.7**
	baz=248						
SSD	**Sandimen**	**1.61**	**217**	eP	**Pb**	**20 40 33.2**	**-0.4**
	baz=211						
PCYT	**Pengchaiyu**	**1.63**	**12**	eP	**Pn**	**20 40 33.0**	**+0.4**
	baz=348						
TWM1	**Shoushan**	**1.67**	**224**	eP	**Pn**	**20 40 33.8**	**+0.5**
	baz=230						
SGLT	**Jiouru**	**1.71**	**221**	eP	**Pg**	**20 40 35.6**	**-0.9**
	baz=213						
MASBT	**Mashibuluo**	**1.71**	**215**	eP	**Pn**	**20 40 33.5**	**-0.3**
	baz=223						
MASBT				eS	**Sg**	**20 40 58.7**	**-0.3**
	baz=223						
EAST	**Anshuo**	**1.81**	**205**	eP	**Pn**	**20 40 35.0**	**-0.2**
	baz=195						
SSPT	**Xinbi**	**1.85**	**214**	eP	**Pb**	**20 40 37.6**	**-0.2**
	baz=208						
IRIF	**Iriomote-Funau**	**1.89**	**80**	P	**Pn**	**20 40 36.1**	**0.0**
SCZT	**Fangliau**	**1.92**	**211**	eP	**Pn**	**20 40 37.7**	**+1.0**
	baz=204						
LAY	**Lan-yu**	**1.99**	**184**	eP	**Pn**	**20 40 35.5**	**-2.0**
	baz=189						
PHUB	**P'eng-hu**	**2.01**	**256**	eP	**Pn**	**20 40 38.1**	**+0.3**
	baz=259						
PHUB				eS	**Sb**	**20 41 04.3**	**-1.2**
	baz=259						
PNG	**Penghu**	**2.01**	**257**	eP	**Pn**	**20 40 38.0**	**+0.1**
	baz=260						
WDGT	**Dungji**	**2.02**	**248**	eP	**Pn**	**20 40 38.2**	**+0.3**
	baz=251						
JKRS	**Kuro-shima**	**2.13**	**84**	P	**Pn**	**20 40 39.9**	**+0.5**
JKRS				S	**Sn**	**20 41 08.0**	**+2.1**
VCHM	**Qimei**	**2.23**	**249**	eP	**Pn**	**20 40 41.2**	**+0.4**
	baz=238						
TWK1	**Hengchun**	**2.23**	**202**	eP	**Pn**	**20 40 41.9**	**+1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=207						
TWKBT	**Hengchun**	2.23	201	*e*P	Pn	20 40 41.2	+0.3
	baz=207						
JIJ	**Ishigaki jima**	2.26	81	P	Pn	20 40 40.9	-0.4
JIJ				S	Sn	20 41 09.0	-0.3
PTTC	**Pingtan**	2.28	310	*e*P	Pn	20 40 41.0	-0.5
	baz=295						
JISG	**Ishigakijimahi**	2.45	76	P	Pn	20 40 43.6	-0.3
JISG				*e*S	Sn	20 41 13.5	-0.5
PTMZ	**Houxiangcun**	2.55	294	*e*P	Pn	20 40 44.5	-0.8
	baz=293						
MATB	**Ma-tsu**	2.64	324	*e*P	Pn	20 40 46.0	-0.5
	baz=322						
KNM	**Kinmen**	3.00	278	*e*P	Pn	20 40 53.5	+2.1
	baz=277						
KNMB	**Chin-men Tao**	3.05	279	*e*P	Pn	20 40 52.3	+0.2
	baz=278						
LYJJ	**Jianjiangzhen**	3.06	326	*e*P	Pn	20 40 52.5	+0.2
	baz=325						
MHZQ	**Yeshan**	3.17	311	*e*P	Pn	20 40 54.1	+0.3
	baz=297						
AXDP	**Jialang**	3.50	285	*e*P	Pn	20 40 58.4	0.0
	baz=284						
ZPLA	**Ao Xicun**	3.61	269	*e*P	Pn	20 41 00.1	+0.3
	baz=269						

NDI ***14*** *20:40:50.6±2.9, 24°.08N×92°.32E, h12km±10km, ML3.2*
IDC ***14*** *20:40:51.1±6.9, 24°.05N×92°.59E, h29km±51km, mb3.6/9, mb1 3.8/10, mb1mx3.4/51, mbtmp3.7/10, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/36, Error ellipse: s-maj=25.3km s-min=14.3km az=70.0*
ISC 14 20:40:50.8±1.3, 24°.06N±0°.04×92°.46E±0°.06, h26km±11km, n20, σ1$27/27, mb3.8/9, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SILR	**SILCHAR**	0.79	24	*e*P	Pb	20 41 06.2	+0.4
SILR				*e*S	Sn	20 41 17.6	+0.5
SILR				IAML		20 41 32.0	
	comp=N,978nm,0.4s						
SILR				IAML		20 41 32.5	
	comp=E,1μm,0.6s						
BELO	**BELONIA**	1.23	229	*e*P	Pn	20 41 11.5	-0.7
BELO				*e*S	Sb	20 41 29.3	+0.7
BELO				IAML		20 41 31.7	
BELO				IAML		20 41 34.9	
BRDH	**Bariadhala**	1.56	209	Pn	Pn	20 41 17.7	+0.9
	comp=E,86nm,0.3s,baz=49,slow=23,SNR=10						
BRDH				Sn	Sb	20 41 38.6	+0.3
	comp=E,370nm,0.3s,baz=360,slow=21,SNR=26						
BRDH				LR	LR	20 42 21.9	
	comp=E,363nm,19.3s,baz=339,slow=56						
SHL	**Shillong**	1.59	341	*e*P	Pn	20 41 16.9	-0.5
SHL				*e*S	Sb	20 41 38.9	-0.6
SHL				IAML		20 41 40.7	
	comp=E,535nm,0.6s						
SHL				IAML		20 41 41.1	
	comp=N,300nm,0.3s						
KOHI	**KOHIMA**	2.24	42	*e*P	Pn	20 41 27.2	+1.0
KOHI				*e*S	Sb	20 41 57.5	-0.4
KOHI				IAML		20 42 22.7	
	comp=E,148nm,0.2s						
KOHI				IAML		20 42 23.3	
	comp=N,80nm,0.6s						
TEZP	**TEZPUR**	2.57	7	*e*P	Pn	20 41 30.2	-0.5
TEZP				*e*S	Sn	20 42 03.0	+1.9
TEZP				IAML		20 42 12.5	
	comp=E,43nm,0.2s						
TEZP				IAML		20 42 13.2	
	comp=N,63nm,0.2s						
MOKO	**MOKOCHONG**	2.93	39	*e*P	Pn	20 41 37.4	+1.6
MOKO				*e*S	Sb	20 42 14.7	-3.2
MOKO				IAML		20 42 18.5	
	comp=E,93nm,0.1s						
MOKO				IAML		20 42 18.6	
	comp=N,570nm,1.0s						
GTK	**Tadong**	4.76	314	*e*P	Pn	20 42 02.1	+1.1
GTK				*e*S	Sn	20 42 52.3	-3.0
CMAR	**Chiang Mai Arr**	8.22	131	Pn	Pn	20 42 47.2	-1.2
	comp=N,0.1nm,0.3s,baz=308,slow=13,SNR=6.6						
AAK	**Ala-Archa**	23.76	326	P	P	20 46 02.4	+1.2
	comp=N,0.3nm,0.3s,baz=150,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	24.11	343	P	P	20 46 04.0	-0.3
	comp=N,2.1nm,0.9s,baz=146,slow=11,SNR=11						
SONM	**Songino Array**	26.19	22	P	P	20 46 23.6	+0.3
	comp=N,1.7nm,0.7s,baz=196,slow=10,SNR=2.9						
KURBB	**Kurchatov Arra**	28.64	341	P	P	20 46 45.4	+0.3
	comp=N,0.9nm,0.9s,baz=156,slow=9.4,SNR=5.0						
ZALV	**Zalesovo Beam**	30.40	351	P	P	20 47 00.9	+0.3
	comp=N,0.9nm,0.6s,baz=157,slow=8.8,SNR=3.8						
WRA	**Warramunga Arr**	59.81	133	P	P	20 50 53.1	-1.0
	comp=N,1.1nm,0.6s,baz=324,slow=7.2,SNR=18						
ASAR	**Alice Springs**	62.20	137	P	P	20 51 09.7	-0.6
	comp=N,1.0nm,0.6s,baz=318,slow=7.1,SNR=18						
GERES	**GERESS Array B**	65.03	314	P	P	20 51 29.8	+0.9
	comp=N,0.3nm,0.5s,baz=57,slow=4.9,SNR=3.8						
NOA	**NORSAR Array B**	65.05	328	P	P	20 51 27.9	-0.7
	comp=N,0.7nm,0.7s,baz=87,slow=6.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	85.42	282	LR	LR	21 36 39.3	
	comp=N,53nm,20.0s,baz=305,slow=39						
TXAR	**Lajitas Array**	124.70	17	PKP	PKiKP	20 59 49.0	-0.1
	comp=N,0.5nm,1.0s,baz=328,slow=3.2,SNR=3.2						

IDC ***14*** *21:01:38.3±0.8, 33°.10N×75°.77E, h0km, mb3.8/13, mb1 3.9/17, mb1mx3.8/40, mbtmp3.8/17, ML3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/36, Error ellipse: s-maj=22.8km s-min=15.1km az=49.0*
ISCJB ***14*** *21:01:39.8±0.3, 33°.23N±0°.03×75°.79E±0°.04, h16km, mb3.7/14, Error ellipse: s-maj=5.8km s-min=3.1km az=153.7*
NNC ***14*** *21:01:43.2±1.9, 33°.11N×75°.83E, h39km±15km, mb4.0, Error ellipse: s-maj=14.1km s-min=11.9km az=134.0*
NDI ***14*** *21:01:43.8±1.3, 33°.10N×75°.72E, h9km±4km, ML3.8*
ISC 14 21:01:40.9±0.5, 33°.09N±0°.04×75°.72E±0°.06, h16km, n53, σ2$23/66, mb3.7/14, 10C-4D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	0.97	150	*e*P	Pn	21 02 02.0	+1.9
DHRM				*e*S	Sn	21 02 16.9	+3.2
DHRM				IAML		21 02 21.6	
	comp=N,2μm,0.3s						
DHRM				IAML		21 02 22.0	
	comp=E,2μm,0.2s						
BHK	**Bhakra**	1.77	160	*e*P	Pg	21 02 15.4	+0.5
BHK				*e*x	x	21 02 43.0	
CHCP	**Chirah Chowk**	2.13	286	P	Pn	21 02 16.4	+0.5
SMLA	**Simla**	2.31	148	*e*P	Pb	21 02 22.1	0.0
SMLA				*e*S	Sb	21 02 50.8	+0.3
SMLA				IAML		21 02 56.7	
	comp=E,1μm,0.5s						
SMLA				IAML		21 02 56.7	
	comp=N,1μm,0.5s						
SARP	**Sargodha**	2.83	246	P	Pn	21 02 24.5	-0.9
CEP	**Cherat**	3.27	284	P	Pn	21 02 33.9	+2.2
THW	**Thamme Wali**	3.36	266	P	Pn	21 02 33.7	+0.9
DDI	**Dehra Dun**	3.40	144	*e*P	Pn	21 02 36.9	+3.5
DDI				*e*S	Sn	21 03 16.5	+3.1
DDI				IAML		21 03 32.8	
	comp=N,260nm,0.6s						
DDI				IAML		21 03 33.5	
	comp=E,242nm,0.2s						
JOSI	**Joshimath**	4.13	127	*e*P	Pn	21 02 48.3	+4.7
JOSI				*e*S	Sn	21 03 33.7	+2.1
JOSI				IAML		21 04 02.9	
	comp=E,293nm,0.6s						
JOSI				IAML		21 04 07.6	
	comp=N,338nm,0.7s						
NDI	**New Delhi**	4.58	163	*e*x	Pb	21 03 02.0	+1.1
SONA	**Sohna**	4.96	166	*e*P	Pn	21 02 58.6	+3.8
SONA				*e*S	Sn	21 03 52.9	+1.0
SONA				IAML		21 04 32.2	
	comp=E,76nm,0.3s						
SONA				IAML		21 04 33.4	
	comp=N,1μm,1.2s						
KUDL	**Kundal**	4.97	172	*e*P	Pn	21 02 50.9	-4.0
KUDL				*e*S	Sn	21 03 45.2	-6.9
PYUN	**Piuthan**	8.00	127	*e*P	Pn	21 03 38.2	+1.5
	comp=N,15nm,0.4s						
PYUN				*e*S	Sn	21 05 01.3	-5.7
DANN	**Dangsing**	8.38	122	*e*P	Pn	21 03 43.7	+1.7
	comp=N,11nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda**	8.62	126	*e*P	Pn	21 03 47.7	+2.4
	comp=N,6.5nm,0.3s						
GKN	**Gorkha**	9.21	121	*e*P	Pn	21 03 55.0	+1.8
	comp=N,16nm,0.2s						
AAK	**Ala-Archa**	9.58	355	⇑Pn	Pn	21 03 58.0	-0.4
	comp=N,9.3nm,1.2s						
AAK				⇑Sn	Sn	21 05 46.1	+0.4
	comp=N,8.5nm,0.9s						
AAK	**Ala-Archa**	9.58	355	Pn	Pn	21 04 00.2	+1.9
	comp=N,0.4nm,0.3s,baz=172,slow=14,SNR=8.9						
AAK				Sn	Sn	21 05 41.1	-4.6
	comp=N,0.2nm,0.3s,baz=324,slow=19,SNR=2.2						
AAK				LR	LR	21 07 59.8	
	comp=N,131nm,19.3s,baz=151,slow=40						
DMN	**Daman**	9.77	122	*e*P	Pn	21 04 02.6	+1.5
	comp=N,22nm,0.6s						
KKN	**Kakani**	9.79	120	*e*P	Pn	21 04 02.6	+1.2
	comp=N,26nm,0.6s						
TKM2	**Tokmak 2**	9.82	359	⇓Pn	Pn	21 04 02.7	+1.1
	comp=N,3.0nm,0.5s						
TKM2				⇑Sn	Sn	21 05 50.2	-1.4
	comp=N,6.6nm,0.9s						
BHPL	**Bhopal**	9.93	171	*e*x	Pn	21 04 00.0	-3.0
BHPL				*e*S	Sn	21 05 50.8	-3.4
PKIN	**Phulchoki**	10.00	121	*e*P	Pn	21 04 05.6	+1.4
	comp=N,12nm,0.5s						
PKI	**Pulchoki**	10.01	121	*e*P	Pn	21 04 05.8	+1.3
	comp=N,16nm,0.5s						
MDOK	**Medeo**	10.11	6	⇑Pn	Pn	21 04 05.7	+0.1
JIRN	**Jiri**	10.53	118	*e*P	Pn	21 04 12.8	+1.2
	comp=N,24nm,0.3s						
PDGK	**Podgornoye**	10.64	15	⇑Pn	Pn	21 04 13.6	+0.8
	comp=N,12nm,0.6s						
PDGK				⇑Sn	Sn	21 06 11.9	+0.2
	comp=N,13nm,1.1s						
KK31	**Karatay Array**	10.80	339	⇑Pn	Pn	21 04 14.9	-0.1
	comp=N,4.6nm,0.8s,baz=160,slow=11,SNR=36						
KK31				⇓Sn	Sn	21 06 15.5	0.0
	comp=N,5.0nm,0.6s,baz=163,slow=23,SNR=7.3						
NGP	**Nagpur**	12.26	165	⇑*e*x	Pn	21 04 31.0	-3.9
NGP				*e*S	Sn	21 06 45.0	-6.2
MAKZ	**Makanchi**	14.51	17	⇑P	Pn	21 05 04.5	-1.1
	comp=N,3.8nm,0.8s						
MK31	**Makanchi Array**	14.58	18	P	Pn	21 05 05.0	-1.5
	comp=N,1.7nm,0.6s,baz=196,slow=12,SNR=14						
MKAR	**Makanchi Array**	14.58	18	Pn	Pn	21 05 05.0	-1.6
	comp=N,0.2nm,0.3s,baz=201,slow=13,SNR=15						
MKAR				Sn	Sn	21 07 45.1	-2.6
	comp=N,0.3nm,0.3s,baz=184,slow=25,SNR=7.1						
GEYT	**Alibeck**	15.12	294	Pn	Pn	21 05 14.8	+0.8
	comp=N,0.1nm,0.3s,baz=104,slow=6.1,SNR=2.2						
KURBB	**Kurchatov Arra**	17.64	6	⇓P	Pn	21 05 45.6	-0.3
	comp=N,4.2nm,0.7s						
KURBB	**Kurchatov Arra**	17.64	6	P	Pn	21 05 43.9	-2.0
	comp=N,0.1nm,0.3s,baz=193,slow=11,SNR=17						
AB31	**Akbulak array**	19.98	329	P	P	21 06 12.7	+0.2
	comp=N,1.4nm,0.6s,baz=137,slow=11,SNR=22						
BVAR	**Borovoye Array**	20.29	351	P	P	21 06 12.7	-3.1
	comp=N,8.3nm,0.5s,baz=162,slow=9.5,SNR=4.5						
AKTO	**Aktyubinsk**	21.69	328	⇓P	P	21 06 31.1	+0.1
	comp=N,9.2nm,0.6s						
AKTO	**Aktyubinsk**	21.69	328	P	P	21 06 31.1	+0.1
	comp=N,8.3nm,0.6s,baz=126,slow=11,SNR=22						
ZAA0	**Zalesovo Array**	21.83	15	⇑P	P	21 06 31.4	-1.0
	comp=N,0.6nm,1.1s						
ZALV	**Zalesovo Beam**	21.83	15	P	P	21 06 31.4	-1.1
	comp=N,2.7nm,0.7s,baz=210,slow=12,SNR=10.0						
CMAR	**Chiang Mai Arr**	25.41	119	P	P	21 07 07.9	+0.1
	comp=N,1.0nm,0.9s,baz=310,slow=9.7,SNR=5.3						
ARU	**Arti**	26.18	338	P	P	21 07 13.4	-1.0
	comp=N,1.3nm,0.7s,baz=110,slow=7.1,SNR=7.2						
BRTR	**Keskin Array B**	34.27	293	P	P	21 08 28.2	+1.8
	comp=N,0.6nm,0.8s,baz=92,slow=8.9,SNR=2.8						
ARCES	**ARCESS Array B**	45.77	338	P	P	21 10 00.7	-0.5
	comp=N,3.2nm,1.0s,baz=108,slow=8.6,SNR=4.9						
NB2	**NORSAR Subarra**	49.42	325	P	P	21 10 29.1	-0.7
	comp=Z,0.8nm,0.6s,baz=98,slow=7.4						
NOA	**NORSAR Array B**	49.42	325	P	P	21 10 29.5	-0.3
	comp=Z,0.5nm,0.8s,baz=96,slow=8.1,SNR=5.1						
MJAR	**Matsushiro Arr**	50.62	68	P	P	21 10 39.9	+0.6
	comp=Z,1.1nm,0.7s,baz=285,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	69.64	273	P	P	21 12 49.1	-0.8
	comp=Z,0.8nm,0.7s,baz=60,slow=6.4,SNR=5.2						
WRA	**Warramunga Arr**	76.88	124	P	P	21 13 32.4	-0.2
	comp=Z,0.7nm,0.9s,baz=322,slow=5.6,SNR=3.3						
ILAR	**Eielson Array**	76.93	17	P	P	21 13 32.6	+0.4
	comp=Z,0.2nm,0.5s,baz=317,slow=5.0,SNR=3.4						
ASAR	**Alice Springs**	79.11	127	P	P	21 13 44.1	-0.8
	comp=Z,0.5nm,0.8s,baz=325,slow=5.8,SNR=3.8						
YKA	**Yellowknife Ar**	84.39	5	P	P	21 14 11.9	-0.2
	comp=Z,0.8nm,0.7s,baz=344,slow=5.1,SNR=9.6						

IDC 14 21:03:32.7±3.6, 4°.27S×150°.96E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.4/29, mbtmp3.6/2, Error ellipse: s-maj=146.6km s-min=46.4km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	22.48	225	P	P	21 08 34.4	+0.5
	1.3nm,0.3s,baz=50,slow=10,SNR=28						
ASAR	**Alice Springs**	25.36	219	P	P	21 09 00.9	-0.8
	0.3nm,0.5s,baz=49,slow=8.9,SNR=7.2						
TORD	**Torodi Ar. Bea**	148.40	288	PKPbc	PKPbc	21 23 22.0	-0.3
	0.2nm,0.5s,baz=88,slow=3.5,SNR=2.5						

IDC 14 21:15:44.5±5.1, 21°.57N×106°.44W, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.5/34, mbtmp3.3/4, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/16, Error ellipse: s-maj=92.7km s-min=35.9km az=126.0, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	5.04	237	T	T	21 21 53.1	
	SNR=16						
H06N1	**SOCORRO T-PHAS**	5.04	239	T	T	21 21 52.0	
	SNR=18						
TXAR	**Lajitas Array**	8.13	17	Pn	Pn	21 17 46.6	+2.7
	0.2nm,0.3s,baz=196,slow=14,SNR=11						
TXAR				Lg	Lg	21 19 58.2	
	0.3nm,0.3s,baz=194,slow=31,SNR=4.8						
ANMO	**Albuquerque**	13.32	360	LR	LR	21 24 33.2	
	comp=Z,72nm,18.3s,baz=186,slow=40						
NVAR	**Mina Array Bea**	19.66	331	P	P	21 20 15.2	0.0
	0.3nm,0.3s,baz=162,slow=13,SNR=2.9						
ELK	**Elko**	20.52	341	LR	LR	21 27 25.6	
	comp=Z,75nm,18.1s,baz=162,slow=34						
PDAR	**Pinedale Array**	21.30	354	P	P	21 20 34.7	+1.7
	0.9nm,0.8s,baz=164,slow=11,SNR=7.2						
ILAR	**Eielson Array**	50.66	339	P	P	21 24 44.2	-1.1
	0.3nm,0.7s,baz=146,slow=8.3,SNR=3.4						

NIED ***14*** *21:21:00, 36°.40N×140°.00E, h71km, Mw3.7 Best double couple: M0=4.47000×10^14 NP1:ϕs=283.00000°, δ54.00000°, λ-141.00000°. NP2:ϕs=168.00000°, δ59.00000°, λ-43.00000°.*
ISCJB ***14*** *21:21:01.9±0.5, 36°.34N±0°.03×140°.06E±0°.05, h74km±4km, mb3.6/5, Error ellipse: s-maj=7.1km s-min=5.3km az=22.2*
IDC ***14*** *21:21:03.8±1.6, 36°.28N×139°.95E, h78km±15km, mb3.3/5, mb1 3.4/8, mb1mx3.2/41, mbtmp3.6/8, Error ellipse: s-maj=20.9km s-min=9.2km az=65.0*
JMA ***14*** *21:21:03.4, 36°.35N×140°.03E, h61km±1km, M3.7*
JMA Felt II J1.
ISC 14 21:21:03.0±0.9, 36°.34N±0°.04×140°.06E±0°.05, h68km±7km, n28, σ1$17/33, mb3.6/5, 1C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	0.16	135	P	Pn	21 21 13.0	-0.1
JYT				S	Sn	21 21 20.0	-0.5
JAG	**Ashikaga**	0.49	280	⇓P	Pn	21 21 15.3	-0.3
JAG				S	Sn	21 21 23.8	-1.0
JKT	**Katashina**	0.78	303	⇓P	Pn	21 21 18.6	-0.2
JKT				S	Sn	21 21 29.9	-0.5
JRY	**Ryogami san**	0.99	251	⇑P	Pn	21 21 21.4	+0.1
JRY				*e*S	Sn	21 21 34.4	-0.4
JFY	**Yanaizu**	1.10	345	⇓P	Pn	21 21 22.7	0.0
JFT	**Otama**	1.20	11	⇓P	Pn	21 21 24.2	+0.3
JFT				S	Sn	21 21 40.0	+0.4
JFK	**Kawauchi**	1.22	32	⇓P	Pn	21 21 24.1	-0.1
JFK				S	Sn	21 21 39.3	-0.8
JHK	**Hiroka**	1.23	318	⇓P	Pn	21 21 24.5	+0.1
JHK				S	Sn	21 21 40.2	-0.2
JOD2	**Odawara 2**	1.33	217	⇓P	Pn	21 21 26.3	+0.6
JOD2				S	Sn	21 21 43.4	+0.7
JYN	**Shimob**	1.49	236	P	Pn	21 21 29.3	+1.5
MJAR	**Matsushiro Arr**	1.50	278	P	Pn	21 21 27.6	-0.3
	12nm,0.3s,baz=136,slow=6.8,SNR=281						
MJAR				S	Sn	21 21 45.7	-1.1
	7.3nm,0.3s,baz=121,slow=17,SNR=12						
MJAR				LR	LR	21 22 05.8	
	comp=Z,67nm,20.9s,baz=125,slow=44						
MAT	**Matsushiro**	1.51	278	P	Pn	21 21 28.5	+0.5
MAT				*e*S	Sn	21 21 44.7	-2.1
MAT	**Matsushiro**	1.51	278	P	Pn	21 21 28.7	+0.7
JHJ	**Hachijo jima 2**	3.22	184	P	Pn	21 21 51.7	+0.5
	25nm,0.3s,baz=320,slow=20,SNR=14						
JHJ				S	Sn	21 22 28.4	0.0
	45nm,0.3s,baz=73,slow=19,SNR=6.7						
ASAJ	**Asahikawa**	8.01	13	P	Pn	21 22 56.6	+0.1
	0.6nm,0.3s,baz=200,slow=18,SNR=5.6						
KSRS	**Korea Array**	9.78	280	P	Pn	21 23 25.1	+4.2
	0.4nm,0.3s,baz=95,slow=14,SNR=4.9						
USRK	**Ussuriysk Ar.**	9.98	324	P	Pn	21 23 25.7	+2.2
	0.2nm,0.3s,baz=140,slow=14,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	28.76	118	T	T	21 57 07.4	
	baz=312,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	28.77	118	T	T	21 57 05.4	
	baz=312,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	28.78	118	T	T	21 57 06.8	
	baz=312,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	29.43	120	T	T	21 57 50.9	
	baz=314,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	29.43	120	T	T	21 57 51.1	
	baz=314,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	29.44	120	T	T	21 57 52.0	
	baz=314,slow=76,SNR=26						
ZALV	**Zalesovo Beam**	41.58	313	P	P	21 28 43.2	-0.7
	0.6nm,0.5s,baz=91,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	43.57	303	P	P	21 28 59.4	-0.7
	1.0nm,1.1s,baz=96,slow=8.7,SNR=4.3						
ILAR	**Eielson Array**	50.66	32	P	P	21 29 55.7	+0.7
	0.4nm,0.6s,baz=276,slow=6.6,SNR=4.5						
WRA	**Warramunga Arr**	56.24	186	P	P	21 30 35.7	-0.6
	0.5nm,0.4s,baz=3.3,slow=6.7,SNR=20						
ASAR	**Alice Springs**	59.96	187	P	P	21 31 00.9	-1.5
	0.2nm,0.4s,baz=5.7,slow=7.0,SNR=3.3						

BJI ***14*** *21:31:14.8±0.0, 18°.49S×173°.32W, h8km, mb5.1/35, mB5.5/30, Ms4.9/25, Ms7 4.7/22*
IDC ***14*** *21:31:14.6±0.7, 18°.79S×173°.50W, h0km, mb4.6/16, mb1 4.8/16, mb1mx4.7/24, mbtmp4.6/16, MS4.5/33, Ms1 4.5/33, ms1mx4.5/38, Error ellipse: s-maj=25.9km s-min=16.4km az=128.0*
ISCJB ***14*** *21:31:14.3±2.6, 18°.72S±0°.04×173°.37W±0°.05, h7km±16km, mb4.8/81, MS4.6/45, Error ellipse: s-maj=9.1km s-min=5.5km az=32.7*
NEIC ***14*** *21:31:19.8±2.8, 18°.76S×173°.37W, h39km±25km, mb4.8/53, Error ellipse: s-maj=11.7km s-min=10.3km az=122.0*
GCMT ***14*** *21:31:20.8±0.2, 18°.92S±0°.02×172°.85W±0°.01, h23km, MW5.0/85, Moment Tensor Solution. s52,c72; s85,c120; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.98±.20; Mθθ0.19±.14; Mφφ-4.18±.13; Mrθ0.64±.24; Mφθ-0.96±.08; Mφr2.25±.17; Best double couple: M0=4.79100×10^16 NP1:ϕs14.00000°, δ60.00000°, λ92.00000°. NP2: ϕs189.00000°, δ30.00000°, λ86.00000°. Principal axes: T 4.5930, Plg75.0000°, Azm290.0000°; N 0.3880, Plg2.0000°, Azm193.0000°; P -4.9880, Plg15.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***14*** *21:31:24.8±2.1, 17°.84S×174°.61W, h33km, mb5.2/26 Error ellipse: s-maj=12.8km s-min=10.3km az=113.1*
ISC 14 21:31:18.9±0.6, 18°.94S±0°.06×173°.35W±0°.07, h28km±3km, h28km:pP-P, n331, σ1$54/314, mb4.9/80, MS4.5/45, 35C-40D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	3.24	93	*e*Pn	Pn	21 31 59.7	-8.3
NIUE				*e*Sn	Sn	21 32 30.8	-15
RAO	**Raoul Island**	11.08	201	*e*Pn	Pn	21 33 52.2	-3.3
RAR	**Rarotonga**	12.96	102	Pn	Pn	21 34 12.8	-8.4
	22nm,0.3s,baz=276,slow=5.4,SNR=11						
RAR				Sn	Sn	21 36 24.7	-20
	2.7nm,0.3s,baz=122,slow=18,SNR=2.1						
RAR				LR	LR	21 38 24.6	
	comp=Z,920nm,19.6s,baz=294,slow=33						
MARNC	**Mare, Loyalty**	17.66	259	*e*Pn	P	21 35 23.9	+0.1
	332nm,1.0s						
PINNC	**Pines Island,**	18.32	255	*e*P	Pn	21 35 32.5	+1.3
	96nm,0.7s						
DZM	**Mont Dzumac**	19.18	257	*e*P	P	21 35 41.0	+0.4
	218nm,1.1s						
DZM				*e*S	Sn	21 39 11.8	-4.2
	565nm,24.6s						
DZM				*e*LR	LR	21 40 09.0	
	comp=Z,3μm,21.8s						
DZM	**Mont Dzumac**	19.18	257	*e*P	Pn	21 35 43.0	+1.3
	101nm,1.0s						
DZM	**Mont Dzumac**	19.18	257	P	Pn	21 35 41.7	+0.1
	0.9nm,0.3s,baz=84,slow=16,SNR=45						
DZM				LR	LR	21 42 17.4	
	comp=Z,3μm,18.4s,baz=88,slow=35						
OUZ	**Omahuta**	19.92	213	*e*P	P	21 35 49.3	+0.9
	20nm,0.9s						
OUZ	**Omahuta**	19.92	213	P	P	21 35 49.3	+0.9
MXZ	**

RPZ Rata Peaks 27.96 205 P P 21 37 12.8 +5.7
26nm,0.9s,baz=325,slow=1.9,SNR=14
LBZ Lake Benmore 28.87 205 *e*P **P** **21 37 18.1 +2.9**
20nm,1.2s
EIDS Eidsvold 33.49 253 *e*P **P** **21 37 54.4 -1.6**
15nm,1.0s
ARMA Armidale 33.68 243 *e*P **P** **21 37 56.9 -0.9**
14nm,1.0s
TAOE Nuku Hiva Isla 33.69 77 *e*T T 22 12 53.0
31nm,0.2s
CAN Canberra 37.01 236 P **P** **21 38 26.6 +0.3**
CAN pmax pmax
comp=Z,20nm,1.1s
CTAO Charters Tower 38.03 261 *e*P **P** **21 38 32.4 -2.7**
comp=Z,43nm,0.9s
CTAO Charters Tower 38.03 261 *e*P **P** **21 38 32.4 -2.7**
CTAO pmax pmax
comp=Z,43nm,0.9s
PMG Port Moresby 39.36 278 *e*P **P** **21 38 46.0 -0.3**
comp=Z,25nm,0.9s
PMG Port Moresby 39.36 278 *ce*P **P** **21 38 45.5 -0.8**
PMG pmax pmax
comp=Z,105nm,0.9s
STKA Stephens Creek 42.40 243 *e*P **P** **21 39 10.0 -1.2**
comp=Z,3.3nm,0.9s
STKA Stephens Creek 42.40 243 *e*P **P** **21 39 10.0 -1.2**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 42.40 243 P **P** **21 39 09.3 -1.9**
comp=Z,14nm,0.9s,baz=93,slow=10.0,SNR=17
STKA LR LR 21 55 24.0
comp=Z,1μm,18.2s,baz=69,slow=34
KIP Kipapa 42.83 21⇑*e*P **P** **21 39 13.5 -1.1**
KIP pmax pmax
comp=Z,47nm,1.1s
ASAR Alice Springs 49.15 255 P **P** **21 40 02.5 -2.1**
comp=Z,45nm,0.8s,baz=87,slow=8.5,SNR=295
ASAR PcP **PcP** **21 41 28.1 +0.2**
comp=Z,5.8nm,0.8s,baz=91,slow=5.5,SNR=4.4
ASAR S **S** **21 47 04.0 -4.6**
comp=Z,1.4nm,0.9s,baz=89,slow=16,SNR=7.2
ASAR LR LR 22 00 35.7
comp=Z,930nm,18.2s,baz=86,slow=36
WRAB Tennant Creek 49.16 260 *e*P **P** **21 40 02.5 -2.3**
comp=Z,31nm,0.9s
WRAB Tennant Creek 49.16 260⇓*e*P **P** **21 40 02.6 -2.2**
WRAB pmax pmax
comp=Z,33nm,1.0s
WRA Warramunga Arr 49.17 260 P **P** **21 40 02.0 -2.8**
comp=Z,23nm,0.9s,baz=94,slow=7.0,SNR=64
WRA LR LR 22 00 08.8
comp=Z,2μm,18.7s,baz=100,slow=35
FORT Forrest 53.93 245 *e*P **P** **21 40 38.6 -1.7**
comp=Z,41nm,1.1s
SBA Scott Base 59.75 185 *e*P **P** **21 41 23.8 +3.0**
comp=Z,12nm,1.1s
SBA Scott Base 59.75 185 P P 21 41 27.0 +6.2
SBA pmax pmax
comp=Z,12nm,1.1s
VNDA Vanda 59.88 186 *e*P **P** **21 41 21.0 -0.7**
comp=Z,1.6nm,0.8s
VNDA Vanda 59.88 186 P **P** **21 41 23.4 +1.7**
comp=Z,1.4nm,0.8s,baz=15,slow=8.7,SNR=3.6
VNDA LR LR 22 04 44.7
comp=Z,198nm,18.7s,baz=24,slow=34
SOEI Soe 60.87 269 *e*P **P** **21 41 28.0 -1.6**
comp=Z,33nm,0.9s
PSA00 Pilbara Seismi 62.29 255 *e*P **P** **21 41 38.2 -0.8**
comp=Z,29nm,1.0s
CASY Casey 67.24 205 *e*P **P** **21 42 12.4 +2.0**
comp=Z,4.0nm,0.8s
QSPA South Pole Qui 71.12 180 *e*P **P** **21 42 36.5 +1.7**
comp=Z,12nm,1.0s
MJAR Matsushiro Arr 71.67 321 P **P** **21 42 36.9 -1.4**
comp=Z,4.9nm,0.9s,baz=165,slow=6.2,SNR=14
MJAR LR LR 22 08 33.1
comp=Z,216nm,21.7s,baz=145,slow=31
MAJO Matsushiro 71.67 321 *e*P **P** **21 42 36.9 -1.4**
MAJO Matsushiro 71.67 321 *de*P **P** **21 42 37.5 -0.8**
MAJO pmax pmax
comp=Z,8.0nm,1.0s
MAT Matsushiro 71.67 321 P **P** **21 42 37.5 -0.8**
MAT S **S** **21 52 02.8 +6.4**
YUK Yuzh-Kuril'sk 72.94 330 *e*P **P** **21 42 43.6 -2.0**
YUK MLR MLR
comp=Z,262nm,21.0s
KUR Kuril'sk 72.96 332⇓*e*P **P** **21 42 45.8 +0.1**
KKM Kota Kinabalu 73.65 282 P **P** **21 42 51.0 +0.4**
JNU Nakatsue 74.26 314 *e*P **P** **21 42 51.7 -1.9**
comp=Z,9.3nm,1.0s
LPIG La Paz 74.86 58 LR LR 22 07 10.1
comp=Z,238nm,21.4s,baz=216,slow=29
PFO Pinyon Flats O 75.30 46 LR LR 22 10 40.2
comp=Z,169nm,18.5s,baz=272,slow=31
PET Petropavlovsk 75.66 343 *e*P **P** **21 42 59.8 -1.4**
PET *e*S **S** **21 52 37.3 -3.2**
PET pmax pmax
comp=Z,23nm,1.2s
PET pmax pmax
comp=Z,100nm,14.6s
PETK Petropavlovsk- 76.00 342 P **P** **21 43 01.4 -1.8**
comp=Z,4.6nm,0.8s,baz=124,slow=8.9,SNR=5.5
SBUM Sibu 76.11 278 *e*P **P** **21 43 04.8 0.0**
comp=Z,8.4nm,0.9s
SBUM Sibu 76.11 278 P **P** **21 43 05.0 +0.3**
YBH Yreka Blue Hor 76.39 37 LR LR 22 12 18.8
comp=Z,421nm,18.0s,baz=238,slow=32
YSS Yuzh-Sakhalins 76.57 331 *e*P **P** **21 43 04.8 -1.7**
comp=Z,31nm,1.0s
YSS Yuzh-Sakhalins 76.57 331 *e*P **P** **21 43 06.5 -0.1**
YSS *e**SP **sP** **21 43 16.9 +0.4**
YSS *e*PS PnS 21 53 15.7 -16
YSS MLR MLR
comp=Z,300nm,16.0s
TPUB Ta-pu 76.89 300 *e*P **P** **21 43 07.2 -1.8**
comp=Z,15nm,1.0s
NVAR Mina Array Bea 76.93 41 P **P** **21 43 08.7 -0.5**
comp=Z,1.7nm,0.6s,baz=229,slow=9.5,SNR=6.5
NVAR LR LR 22 11 53.3
comp=Z,221nm,18.9s,baz=262,slow=32
KVN Kaiserville 77.43 41 *e*P **P** **21 43 10.6 -1.3**
comp=Z,1.6nm,0.8s
KVN Kaiserville 77.43 41 *e*P **P** **21 43 10.6 -1.3**
KVN pmax pmax
comp=Z,2.0nm,0.8s
KSM Kuching 77.57 276 *e*P **P** **21 43 13.5 +0.4**
comp=Z,92nm,1.1s
SHPR Sheep Range 77.83 44 *e*P **P** **21 43 13.4 -0.7**
comp=Z,2.9nm,1.2s
MOD Modoc Plateau 77.87 38 *e*P **P** **21 43 12.1 -2.2**
comp=Z,3.0nm,0.9s
KDAK Kodiak Island 78.36 11 LR LR 22 11 24.7
comp=Z,286nm,20.1s,baz=182,slow=31
TUC Tucson 78.60 50 *e*P **P** **21 43 18.6 +0.2**
comp=Z,5.0nm,1.0s
TUC Tucson 78.60 50 *e*P **P** **21 43 18.6 +0.2**
TUC pmax pmax
comp=Z,5.0nm,1.0s
KSRS Korea Array 78.72 316 P **P** **21 43 19.4 +0.7**
comp=Z,7.3nm,0.9s,baz=127,slow=5.9,SNR=24
KSRS LR LR 22 14 44.4
comp=Z,206nm,19.2s,baz=135,slow=33
319A Douglas 79.23 52 *e*P **P** **21 43 22.2 +0.3**
comp=Z,5.7nm,0.8s
QZH Quanzhou 79.29 301⇑*i*P **P** **21 43 22.3 +0.1**
QZH S **S** **21 53 27.5 +6.4**
QZH LR LR
comp=Z,180nm,19.0s
QZH LR LR
comp=Z,160nm,15.6s
QZH LR LR
comp=Z,190nm,16.1s
U15A North Rim 79.71 46 *e*P **P** **21 43 22.6 -2.0**
comp=Z,0.9nm,0.8s
ELK Elko 80.20 41 *e*P **P** **21 43 25.0 -2.2**
ELK Elko 80.20 41 *e*P **P** **21 43 25.0 -2.2**
USRK Ussuriysk Ar. 80.23 323 P **P** **21 43 27.4 +0.5**
comp=Z,2.3nm,0.9s,baz=91,slow=7.6,SNR=5.4
USRK LR LR 22 14 21.8
comp=Z,421nm,20.3s,baz=136,slow=32
G08A Pilot Rock 80.76 36 *e*P **P** **21 43 28.7 -1.2**
comp=Z,4.8nm,1.0s
PMSA Palmer Station 80.94 156 LR LR 22 10 45.0
comp=Z,157nm,20.6s,baz=272,slow=29
BBB Bella Bella 81.02 26 LR LR 22 15 47.8
comp=Z,245nm,18.3s,baz=188,slow=33
NKL Nikolayevsk 82.03 334 *e*P **P** **21 43 34.0 -2.2**

NKL pmax pmax
comp=Z,120nm,1.0s
F10A Beach Ranch, E 82.14 36 *e*P **P** **21 43 35.1 -2.0**
comp=Z,1.9nm,1.0s
GRNR Gornyy 82.22 330 *e*P **P** **21 43 37.1 -0.2**
HLID Hailey 82.33 39 *e*P **P** **21 43 35.3 -3.0**
NJ2 Nanjing 82.34 308 *e*P **P** **21 43 39.3 +1.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
TXAR Lajitas Array 82.55 56 P **P** **21 43 39.3 -0.4**
comp=Z,1.1nm,0.6s,baz=222,slow=4.9,SNR=5.1
TXAR LR LR 22 14 40.1
comp=Z,153nm,18.2s,baz=0.0,slow=32
PV16 Nyswonger Mesa 82.98 46 *e*P **P** **21 43 40.1 -1.8**
comp=Z,1.4nm,1.0s
USHA Ushuaia 82.98 146 LR LR 22 13 05.4
comp=Z,191nm,21.8s,baz=190,slow=30
PV23 Carpenter Ridg 82.99 45 *e*P **P** **21 43 40.5 -1.5**
comp=Z,4.4nm,0.8s
ANMO Albuquerque 83.04 50 *e*P **P** **21 43 41.5 -0.8**
comp=Z,3.0nm,1.0s
ANMO Albuquerque 83.04 50 *de*P **P** **21 43 41.8 -0.4**
ANMO pmax pmax
comp=Z,11nm,1.7s
ANMO Albuquerque 83.04 50 LR LR 22 12 30.3
comp=Z,104nm,20.7s,baz=236,slow=30
KLR Kul'dur 83.50 327 *ce*P **P** **21 43 43.9 -0.1**
KLR pmax pmax
comp=Z,4.0nm,1.1s
MA2 Magadan 83.53 343⇑*e*P **P** **21 43 42.7 -1.2**
MA2 pmax pmax
comp=Z,24nm,2.5s
NEW Newport 83.59 34 LR LR 22 13 54.7
comp=Z,309nm,21.1s,baz=198,slow=31
MYKOM Kota Tinggi 83.77 274 P **P** **21 43 47.0 +0.8**
CN2 Changchun 83.82 320 *e*P **P** **21 43 45.3 -0.5**
CN2 *es*P pP 21 43 52.3 -0.8
CN2 *e*S **S** **21 54 06.5 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,130nm,18.0s
CN2 LR LR
comp=Z,140nm,18.0s
CN2 LR LR
comp=Z,160nm,21.0s
LNIG Linares 84.06 61 *e*P **P** **21 43 45.1 -2.3**
comp=Z,7.7nm,1.1s
QIZ Qiongzhong 84.27 292 P **P** **21 43 49.8 +1.2**
QIZ S **S** **21 54 18.3 +5.5**
QIZ pmax pmax
comp=Z,200nm,9.2s
QIZ LR LR
comp=Z,100nm,18.6s
QIZ LR LR
comp=Z,200nm,17.6s
QIZ LR LR
comp=Z,240nm,16.7s
RND Reindeer 84.29 11 P **P** **21 43 47.7 -0.1**
RND pmax pmax
comp=Z,9.0nm,1.0s
MAW Mawson 84.47 199 *e*P **P** **21 43 49.8 +1.1**
comp=Z,1.6nm,1.0s
MAW Mawson 84.47 199 *e*P **P** **21 43 49.8 +1.1**
MAW pmax pmax
comp=Z,2.0nm,1.0s
MAW Mawson 84.47 199 P **P** **21 43 49.8 +1.1**
comp=Z,3.9nm,0.9s,baz=149,slow=5.9,SNR=4.7
MAW LR LR 22 21 01.5
comp=Z,621nm,18.5s,baz=108,slow=35
MCK McKinley 84.57 11 P **P** **21 43 48.4 -0.8**
MCK pmax pmax
comp=Z,16nm,1.1s
PDAR Pinedale Array 84.86 42 P **P** **21 43 50.2 -1.2**
comp=Z,1.6nm,0.8s,baz=197,slow=4.0,SNR=9.2
PDAR LR LR 22 15 42.9
comp=Z,114nm,19.8s,baz=254,slow=31
DLBC Dease Lake 84.96 21 LR LR 22 18 15.1
comp=Z,230nm,18.1s,baz=218,slow=33
CMIG Matias Romero 85.02 70 LR LR 22 13 38.6
comp=Z,183nm,18.7s,baz=204,slow=30
WHN Wuhan 85.12 304⇑P **P** **21 43 52.8 +0.2**
WHN S **S** **21 54 25.8 +5.1**
WHN pmax pmax
comp=Z,340nm,9.3s
WHN LR LR
comp=Z,460nm,17.8s
WHN LR LR
comp=Z,320nm,12.8s
WHN LR LR
comp=Z,630nm,20.2s
BOZ Bozeman (W) 85.12 38 P **P** **21 43 52.5 0.0**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
RIDG Independent Ri 85.35 12 *e*P **P** **21 43 50.1 -3.1**
comp=Z,6.7nm,1.0s
SCRK Sand Creek 85.74 13 *e*P **P** **21 43 54.3 -0.8**
comp=Z,6.3nm,1.0s
COLA College 85.81 11 *e*P **P** **21 43 54.1 -1.2**
comp=Z,18nm,0.7s
COLA College 85.81 11 *d*P **P** **21 43 54.5 -0.8**
COLA pmax pmax
comp=Z,19nm,0.9s
ILAR Eielson Array 85.89 11 P **P** **21 43 54.1 -1.6**
comp=Z,4.1nm,0.8s,baz=201,slow=5.9,SNR=24
ILAR LR LR 22 17 21.2
comp=Z,162nm,20.1s,baz=197,slow=32
SEY Seymchan 85.93 345⇑*e*P **P** **21 43 55.3 -0.6**
PRP Porcupine Dome 86.81 11 *e*P **P** **21 43 59.7 -0.7**
comp=Z,9.7nm,1.0s
EGAK Eagle 87.03 13 *e*P **P** **21 44 00.4 -0.9**
comp=Z,6.9nm,1.0s
PLCA Paso Flores 87.11 132 LR LR 22 17 27.5
comp=Z,225nm,18.0s,baz=268,slow=32
IPM Ipoh 87.31 276 P **P** **21 44 05.0 +1.1**
KULM Kulim 87.92 276 P **P** **21 44 08.0 +1.2**
BILL Bilibino 88.00 352 *e*P **P** **21 44 04.7 -1.2**
comp=Z,6.5nm,0.9s
BILL Bilibino 88.00 352 *e*P **P** **21 44 05.0 -0.9**
BILL *e* 21 44 18.4
BILL *e* 21 47 31.0
BILL pmax pmax
comp=Z,8.0nm,1.0s
APG El Apazote 88.27 74 LR LR 22 18 28.5
comp=Z,131nm,18.1s,baz=346,slow=32
ZEA Zeya 88.47 329 *e*P **P** **21 44 08.3 -0.1**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,28nm,1.2s
PSI Prapat 88.75 273 P **P** **21 44 10.9 0.0**
PSI pmax pmax
comp=Z,29nm,1.1s
ENH Enshi 88.85 302 *e*P **P** **21 44 10.9 +0.1**
comp=Z,18nm,1.1s
SYO Syowa Base 89.16 191⇑*e*pP **P** **21 44 15.4 +3.9**
VNA3 Neumayer Olymp 89.35 175 P **P** **21 44 13.4 +0.9**
XAN Xi'an 90.73 306 P **P** **21 44 20.8 +1.2**
XAN pmax pmax
comp=Z,13nm,1.8s
XAN pmax pmax
comp=Z,140nm,4.4s
XAN LR LR
comp=Z,200nm,12.5s
XAN LR LR
comp=Z,170nm,11.4s
XAN LR LR
comp=Z,130nm,14.7s
HHC Hu-ho-hao-te 91.45 313 *e*P **P** **21 44 24.3 +1.4**
HHC S S 21 55 10.9 -10
HHC SS **SS** **22 01 28.8 +1.3**
HHC pmax pmax
comp=Z,55nm,1.3s
HHC pmax pmax
comp=Z,170nm,5.2s
HHC LR LR
comp=Z,140nm,16.5s
HHC LR LR
comp=Z,200nm,16.5s
HHC LR LR
comp=Z,260nm,16.1s
INK Inuvik 91.68 14 P **P** **21 44 22.5 -0.5**
INK pmax pmax
comp=Z,2.0nm,1.0s

BTO Baotou 92.44 312 *e*P **P** **21 44 27.0 -0.4**
KMI Kunming 92.59 296 P **P** **21 44 29.5 +0.9**
KMI pP pP 21 44 36.8 +0.8
KMI SKS **SKSac** **21 55 03.0 +2.1**
KMI S **S** **21 55 30.9 -0.9**
KMI SS **SS** **22 01 44.8 +0.2**
KMI pmax pmax
comp=Z,12nm,1.0s
KMI pmax pmax
comp=Z,120nm,4.9s
KMI LR LR
comp=Z,180nm,23.5s
KMI LR LR
comp=Z,220nm,20.0s
KMI LR LR
comp=Z,320nm,19.4s
YKA Yellowknife Ar 93.31 23 P **P** **21 44 32.2 +1.5**
comp=Z,0.7nm,0.8s,baz=234,slow=4.3,SNR=6.2
YKA LR LR 22 21 38.9
comp=Z,17nm,18.2s,baz=226,slow=32
CMAR Chiang Mai Arr 93.76 288 P **P** **21 44 35.0 +1.1**
CMAR Chiang Mai Arr 93.76 288 P **P** **21 44 35.0 +1.1**
comp=Z,6.7nm,1.0s,baz=104,slow=2.5,SNR=23
CMAR LR LR 22 25 36.8
comp=Z,164nm,18.9s,baz=100,slow=35
CHTO Chiang Mai 93.87 288 *e*P **P** **21 44 35.6 +1.2**
comp=Z,7.4nm,0.9s
CHTO Chiang Mai 93.87 288 *e*P **P** **21 44 35.6 +1.2**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
LZH Lanzhou 95.35 306 *e*P **P** **21 44 41.9 +0.9**
LZH pP PcP 21 44 44.4 +3.2
LZH sP pP 21 44 46.3 -2.1
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,89nm,4.3s
LZH LR LR
comp=Z,140nm,13.0s
LZH LR LR
comp=Z,270nm,16.8s
LZH LR LR
comp=Z,290nm,18.2s
ULM Lac du Bonnet 96.64 39 LR LR 22 25 51.1
comp=Z,457nm,18.1s,baz=267,slow=34
ULN Ulaanbaatar 97.09 318⇑*e*P **P** **21 44 47.9 -0.7**
ULN pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 97.50 318 LR LR 22 23 48.1
comp=Z,129nm,22.0s,baz=86,slow=32
TIXI Tiksi 98.41 344⇑*e*P **P** **21 44 53.1 -0.6**
TIXI pmax pmax
comp=Z,4.0nm,1.4s
LPAZ La Paz 98.55 110 LR LR 22 20 09.7
comp=Z,145nm,20.9s,baz=244,slow=30
KURK Kurchatov 115.80 318⇑*i*PKIKP **PKPdf** **21 49 58.7 0.0**
KURK pmax pmax
comp=Z,8.0nm,2.5s
KSH Kashi 117.58 305 PKP **PKiKP** **21 50 03.1 +0.4**
KSH PP **PP** **21 51 21.3 +5.9**
KSH SKS **SKSdf** **21 57 14.6 +1.5**
KSH SS **SS** **22 07 27.3 +1.5**
KSH AMB AMB
comp=Z,89nm,3.1s
KSH LR LR
comp=Z,130nm,9.1s
KSH LR LR
comp=Z,170nm,8.8s
KSH LR LR
comp=Z,260nm,12.6s
AAK Ala-Archa 118.76 309 *i*PKIKP **PKiKP** **21 50 05.3 +0.4**
BRVK Borovoye 120.73 321 *e*PKPdf **PKPdf** **21 50 06.1 -2.0**
BRVK Borovoye 120.73 321⇓*i*PKIKP **PKPdf** **21 50 08.1 0.0**
GAR Garm 121.96 305 *e*PKPdf **PKPdf** **21 50 11.1 0.0**
GAR Garm 121.96 305 *e*PKIKP **PKPdf** **21 50 11.1 0.0**
KBL Kabul 122.97 299 *e*PKPdf **PKPdf** **21 50 13.1 -0.2**
KBL Kabul 122.97 299 *e*PKIKP **PKPdf** **21 50 13.1 -0.2**
SVE Sverdlovsk 125.13 327 *e*PKIKP **PKiKP** **21 50 16.9 +0.1**
ARU Arti 126.34 327 *e*PKPdf **PKPdf** **21 50 17.6 -1.1**
ARU *e*PP **PP** **21 52 10.2 -3.8**
ARU Arti 126.34 327⇓*i*PKIKP **PKPdf** **21 50 18.9 +0.2**
ARU pmax pmax
comp=Z,9.0nm,1.7s
ABKAR Akbulak array 127.91 318 *e*PKPdf **PKiKP** **21 50 22.7 +0.2**
KLMR Klimovskoe 132.11 339 *e*PKIKP **PKiKP** **21 50 33.1 +2.5**
KLMR pmax pmax
comp=Z,18nm,1.5s
FIA0 FINESS Array S 135.38 347 *e*PKPdf **PKPdf** **21 50 35.0 -0.6**
FIA0 FINESS Array S 135.38 347 *e*PKIKP **PKPdf** **21 50 35.1 -0.6**
FINES FINESS Array B 135.38 347 PKP **PKPdf** **21 50 35.0 -0.6**
comp=Z,2.5nm,1.0s,baz=347,slow=7.7,SNR=3.9
OBN Obninsk 137.34 335 *e*PKIKP **PKPdf** **21 50 39.4 -0.1**
OBN *e* 21 53 26.4
OBN *e*PPP PPP 21 56 17.7
OBN pmax pmax
comp=Z,5.0nm,1.1s
VSR Storozhevoye 138.83 329 *i*PKIKP **PKPdf** **21 50 41.7 -0.7**
KIV Kislovodsk 140.89 318 *i*PKIKP **PKiKP** **21 50 48.9 -0.3**
KIV pmax pmax
comp=Z,10.0nm,1.1s
AKASG Malin Array Be 143.59 336 PKP PKPbc 21 50 48.2 -0.1
comp=Z,0.8nm,0.5s,baz=39,slow=4.0,SNR=8.8
AKBB Malin Array Si 143.59 336 *e*PKPpre PKPpre 21 50 43.1
AKBB *e*PKPdf PKPbc 21 50 48.4 +0.1
AKBB Malin Array Si 143.59 336 *e*PKHKP PKPpre 21 50 43.1
ANN Anapa 143.66 322 *e*PKHKP PKPpre 21 50 49.2
ANN pmax pmax
comp=Z,17nm,1.1s
KMBO Kilima Mbogo 143.92 240 *e*PKPdf PKPab 21 50 49.8 -0.4
KMBO Kilima Mbogo 143.92 240 PKP **PKPdf** **21 50 52.5 -0.6**
comp=Z,1.6nm,0.6s,baz=77,slow=4.8,SNR=3.9
BEL Belsk 145.34 345 *e*PKP **PKPdf** **21 50 54.9 +1.0**
BEL Belsk 145.34 345 *e*PKIKP **PKPdf** **21 50 54.9 +1.0**
SIM Simferopol' 145.44 325 *d*PKIKP **PKPab** **21 50 55.5 +0.9**
SIM pmax pmax
comp=Z,37nm,1.0s
LVV L'vov 146.19 340 *e*PKIKP **PKPab** **21 50 57.0 -0.2**
KIS Kishinev 146.63 332 *e* **PKPdf** **21 50 56.0 -0.3**
KIS XM 21 50 57.5
comp=Z,180nm,1.5s
DIKM Dikmen 146.76 319⇓*i*P **PKiKP** **21 51 04.9 +3.7**
KWP Kalwaria Pacla 146.78 341 *e*PKP **PKPab** **21 50 59.2 -0.3**
KWP Kalwaria Pacla 146.78 341 *e*PKP2 **PKPab** **21 50 59.2 -0.3**
OJC Ojcow 147.07 344 *e*PKP **PKPbc** **21 50 59.5 +0.5**
OJC Ojcow 147.07 344 *e*PKIKP **PKPbc** **21 50 59.6 +0.5**
KSP Ksiaz 147.26 349 *e*PKP **PKPab** **21 51 00.7 -0.6**
KSP Ksiaz 147.26 349 *e*PKIKP **PKPab** **21 51 00.7 -0.6**
CLL Collm 147.31 353 *e*PKIKP **PKPbc** **21 51 00.0 +0.3**
CLL *i* 21 51 02.8
CLL *i* 21 51 14.1
CLL pmax pmax
comp=Z,20nm,1.0s
CLL Collm 147.31 353 *e*PKPbc **PKPbc** **21 51 00.0 +0.3**
comp=Z,20nm,1.0s
CLL *i* PKPab **PKiKP** **21 51 02.8 +0.8**
comp=Z,29nm,1.2s
CLL *i* pPKiKP **sPKPab** **21 51 14.1 +2.5**
comp=Z,60nm,1.0s
CLL *e* 21 54 03.0
BZK Bozkurt 147.34 321⇓*i*P **PKPbc** **21 51 00.3 +0.2**
PRAR RASCA 147.44 335⇑*i*P **PKPbc** **21 51 01.3 +1.1**
KOLS Kolonicke sedl 147.53 341 *e*PKIKP **PKPbc** **21 51 01.0 +0.6**
KOLS Kolonicke sedl 147.53 341 *e*PKP **PKPbc** **21 51 01.0 +0.6**
UPC Upice 147.63 349 *e*PKP2 **PKiKP** **21 51 02.0 -0.7**
UPC Upice 147.63 349 *e*PKP **PKiKP** **21 51 02.0 -0.7**
BURAR Bucovina Array 147.63 336⇓*i*P **PKPbc** **21 51 01.8 +0.9**
BURAR Bucovina Array 147.63 336⇓PKP2 **PKPbc** **21 51 01.8 +0.9**
NIE Niedzica 147.67 343 *e*PKP **PKPbc** **21 51 01.7 +0.9**
NIE Niedzica 147.67 343 *e*PKP2 **PKPbc** **21 51 01.7 +0.9**
DPC Dobruska-Polom 147.72 348 *e*PKIKP **PKPbc** **21 51 01.8 +0.9**
DPC Dobruska-Polom 147.72 348 *e*PKP **PKPbc** **21 51 01.8 +0.9**
UZH Uzhgorod 147.79 340 *e*PKIKP **PKPbc** **21 51 00.9 -0.2**
UZH *e* 21 51 05.3
UZH *e* 21 51 12.7
OKC Ostrava-Krasne 147.82 346 *e*PKP2 **PKiKP** **21 51 02.4 -0.7**
OKC Ostrava-Krasne 147.82 346 *e*PKP **PKiKP** **21 51 02.4 -0.7**
OKC *ex* x 21 51 18.6
BIZ Bicaz 147.84 335⇑*i*P **PKPbc** **21 51 02.1 +0.8**
PVCC Panska Ves 147.86 350 *e*PKP2 **PKiKP** **21 51 02.5 -0.7**
PVCC Panska Ves 147.86 350 *e*PKP **PKiKP** **21 51 02.5 -0.7**
PVCC *ep*PKP **pPKPbc** **21 51 09.4 +0.7**
TESR Tescani 147.95 334⇓*i*P **PKPbc** **21 51 02.3 +0.7**
MORC Moravsky Berou 148.02 347⇑*i*P **PKiKP** **21 51 03.2 -0.4**
MORC Moravsky Berou 148.02 347⇑PKP2 **PKiKP** **21 51 03.2 -0.4**

MORC	Moravsky Berou	148.02	347	*e*PKP	PKPbc	21 51 02.3	+0.5
LANS	Liptovska Anna	148.14	344	*e*PKIKP	PKPbc	21 51 02.2	+0.1
LANS	Liptovska Anna	148.14	344	*e*PKP	PKPbc	21 51 02.2	+0.1
TRPA	Tarpa	148.15	340	⇓*i*P	PKPbc	21 51 02.9	+0.9
TRPA	Tarpa	148.15	340	*e*P	PKiKP	21 51 04.0	+0.2
UCC	Uccle	148.16	3	⇑PKP	PKPab	21 51 18.0	+13
CFR	Carcaliu	148.32	330	⇓*i*P	PKPbc	21 51 03.3	+0.7
CFR	Carcaliu	148.32	330	⇓PKP2	PKPbc	21 51 03.3	+0.7
PRU	Pruhonice	148.38	350	*e*PKIKP	PKPbc	21 51 03.0	+0.4
PRU				*e*		21 51 18.5	
PRU	Pruhonice	148.38	350	*e*PKP	PKPbc	21 51 03.0	+0.4
PRU				*ep*PKP	sPKPab	21 51 18.5	+2.6
MEM	Membach	148.40	1	⇓PKP	PKPab	21 51 18.2	+12
ARCR	ARCALIA	148.40	337	⇑*i*P	PKiKP	21 51 04.0	-0.4
GOPC	GO Pecny, Ondr	148.42	350	*e*PKIKP	PKiKP	21 51 03.9	-0.5
GOPC				*e*		21 51 18.1	
GOPC	GO Pecny, Ondr	148.42	350	*e*PKP	PKiKP	21 51 03.9	-0.5
GOPC				*ep*PKP	sPKPab	21 51 18.1	+2.1
VRI	Vrincioaia	148.43	333	⇓*i*P	PKPbc	21 51 03.8	+0.9
VRI	Vrincioaia	148.43	333	⇓PKP2	PKPbc	21 51 03.8	+0.9
NKC	Novy Kostel	148.44	353	*e*PKP2	PKPab	21 51 06.2	+0.1
NKC	Novy Kostel	148.44	353	*e*PKP	PKPab	21 51 06.2	+0.1
SNF	Seneffe	148.44	3	⇑PKP	PKPab	21 51 17.1	+11
PLOR	Plostina	148.47	333	⇑*i*P	PKPbc	21 51 03.2	+0.1
PLOR	Plostina	148.47	333	⇑PKIKP	PKPbc	21 51 03.2	+0.1
BCLA	Clavier	148.57	2	⇑PKP	PKPab	21 51 19.2	+13
VRAC	Vranov	148.66	347	⇑*i*P	PKiKP	21 51 04.8	-0.1
VRAC	Vranov	148.66	347	⇑PKP2	PKiKP	21 51 04.8	-0.1
VRAC	Vranov	148.66	347	*e*PKP	PKPbc	21 51 03.7	+0.3
HARR	Harsova	148.78	330	⇓*i*P	PKPdf	21 51 01.8	+1.8
HARR	Harsova	148.78	330	⇓PKIKP	PKPdf	21 51 01.8	+1.8
TLB	Topalu	148.81	330	⇓*i*P	PKiKP	21 51 04.9	-0.4
TLB	Topalu	148.81	330	⇓PKP2	PKiKP	21 51 04.9	-0.4
JAVC	Velka Javorina	148.85	346	*e*PKP	PKiKP	21 51 05.5	+0.2
BR131	Keskin Array S	148.85	317	*e*PKPbc	PKPbc	21 51 04.7	+0.3
BRTR	Keskin Array B	148.85	317	PKPbc	PKPbc	21 51 04.7	+0.3
	comp=Z,7.7nm,0.9s,baz=137,slow=2.3,SNR=27						
DOU	Dourbes	148.87	3	⇑PKP	PKPab	21 51 20.1	+12
VYHS	Vyhne	148.91	344	*e*PKIKP	PKPbc	21 51 04.7	+0.6
VYHS	Vyhne	148.91	344	*e*PKP	PKPbc	21 51 04.7	+0.6
DOPR	Dopca	148.91	334	⇑*i*P	PKiKP	21 51 05.3	-0.2
KRUC	Moravsky	148.94	348	PKIKP	PKPbc	21 51 04.7	+0.6
KRUC	Moravsky	148.94	348	*e*PKP	PKPbc	21 51 04.5	+0.4
CJR	Cluj-Napoca	148.99	337	⇓*i*P	PKiKP	21 51 05.9	+0.2
CJR	Cluj-Napoca	148.99	337	⇓PKP2	PKiKP	21 51 05.9	+0.2
LTVH	Ltavrtes, Hu	149.01	340	*e*P	PKPab	21 51 08.0	-0.4
MLR	Muntele Rosu	149.06	333	⇓*i*P	PKPbc	21 51 05.2	+0.5
MLR	Muntele Rosu	149.06	333	⇓PKIKP	PKPbc	21 51 05.2	+0.5
PSZ	Piszkesteto	149.15	343	⇓*i*P	PKiKP	21 51 05.6	-0.4
PSZ	Piszkesteto	149.15	343	⇓PKIKP	PKiKP	21 51 05.6	-0.4
PSZ	Piszkesteto	149.15	343	*e*P	PKPab	21 51 10.1	+1.0
DRGR		149.25	338	⇑*i*P	PKPbc	21 51 05.6	+0.6
DRGR		149.25	338	⇑PKIKP	PKPbc	21 51 05.6	+0.6
ANTO	Ankara	149.31	318	*e*PKPdf	PKPdf	21 50 57.9	-3.2
ANTO				*e*PKPbc	PKiKP	21 51 06.3	-0.3
ANTO	Ankara	149.31	318	⇑*i*P	PKPbc	21 51 06.0	+0.6
ANTO	Ankara	149.31	318	⇑PKP2	PKPbc	21 51 06.0	+0.6
WLF	Walferdange	149.34	1	⇑PKP	PKPab	21 51 21.2	+11
KHC	Kasperske Hory	149.37	351	*e*PKIKP	PKPbc	21 51 05.8	+0.6
KHC				*e*		21 51 11.3	
KHC				*e*		21 51 20.2	
KHC	Kasperske Hory	149.37	351	*e*PKP	PKPbc	21 51 05.8	+0.6
KHC				*ep*PKP	sPKPdf	21 51 11.3	+0.3
KHC				*ex*		21 51 20.2	
SECR		149.37	332	⇓*i*P	PKPbc	21 51 04.8	-0.5
MBAR	Mbarara	149.39	233	PKIKP	PKiKP	21 51 08.5	+0.8
MODS	Modra-Piesok	149.40	346	*e*PKIKP	PKPbc	21 51 05.5	+0.2
MODS				*e*		21 51 12.3	
MODS	Modra-Piesok	149.40	346	*e*PKP	PKPbc	21 51 05.5	+0.2
MODS				*e*		21 51 12.3	
ZST	Bratislava	149.60	346	*e*PKIKP	PKPbc	21 51 06.2	+0.4
ZST				*e*		21 51 11.0	
ZST	Bratislava	149.60	346	*e*PKP	PKPbc	21 51 06.2	+0.4
ZST				*e*		21 51 11.0	
GERES	GERESS Array B	149.63	351	PKPbc	PKPbc	21 51 05.7	-0.2
	comp=Z,2.8nm,1.0s,baz=37,slow=2.5,SNR=18						
ARR	Arges	149.71	334	⇓*i*P	PKiKP	21 51 08.2	+1.0
LOT	Lotru	149.99	336	⇑*i*P	PKPbc	21 51 07.4	+0.4
SIRR	Siria	150.06	339	⇓*i*P	PKiKP	21 51 08.0	+0.1
CSKK	Cskako	150.10	344	*e*P	PKiKP	21 51 08.0	+0.2
CONA	Conrad Observa	150.13	348	*i*PKiKP	PKiKP	21 51 08.0	0.0
	SNR=9.6						
SOP	Sopron	150.21	346	*e*P	PKPab	21 51 12.1	-1.2
HUMR	Humele	150.24	333	⇓*i*P	PKPbc	21 51 07.7	+0.3
GZR	Gura Zlata	150.41	337	⇑*i*P	PKPbc	21 51 08.4	+0.5
GZR	Gura Zlata	150.41	337	⇑PKHKP	PKPbc	21 51 08.4	+0.5
TIH	Tihany	150.62	344	*e*P	PKiKP	21 51 09.0	+0.1
BZS	Buzias	150.64	338	⇑*i*P	PKPbc	21 51 08.7	+0.3
BZS	Buzias	150.64	338	⇑PKHKP	PKPbc	21 51 08.7	+0.3
BFO	Black Forest	150.65	358	*e*PKPdf	PKPdf	21 51 01.8	-1.1
BFO				*e*PKPbc	PKPbc	21 51 08.5	+0.1
BFO	Black Forest	150.65	358	*i*PKHKP	PKPbc	21 51 09.4	+1.1
HERR	Herculane	150.99	337	⇓*i*P	PKiKP	21 51 10.0	+0.2
BEHE	Becsehely	151.30	345	*e*P	PKPbc	21 51 09.1	-0.8
RETA	Reutte	151.33	354	*e*PKiKP	PKiKP	21 51 10.6	+0.1
	comp=Z,3.9nm,0.9s						
MDVR	Moldovita	151.33	337	⇓*i*P	PKiKP	21 51 10.8	+0.2
WATA	Walderalm	151.39	353	*e*PKiKP	PKiKP	21 51 10.7	0.0
	comp=Z,4.1nm,1.0s						
MOTA	Moosalm	151.43	354	*e*PKiKP	PKiKP	21 51 10.8	0.0
	comp=Z,10nm,1.2s,SNR=6.4						
WTTA	Wattenberg	151.46	353	*e*PKiKP	PKiKP	21 51 11.0	0.0
	comp=Z,9.0nm,1.2s						
SOKA	Soboth	151.49	348	*e*PKiKP	PKPbc	21 51 10.5	+0.1
	comp=Z,6.7nm,1.0s,SNR=5.5						
SQTA	Sankt Quirin	151.55	353	*e*PKiKP	PKiKP	21 51 11.1	0.0
	comp=Z,6.4nm,1.1s						
DAVA	Damuels	151.60	355	*e*PKiKP	PKPbc	21 51 09.8	-1.0
	comp=Z,4.7nm,1.1s						
FETA	Feichten	151.79	354	*e*PKiKP	PKiKP	21 51 11.8	+0.2
	comp=Z,7.0nm,1.1s						
ABTA	Abfaltersbach	151.85	351	*e*PKiKP	PKPbc	21 51 11.3	0.0
	comp=Z,12nm,1.1s,SNR=7.9						
FUORN	Ofenpass-Fuorn	152.23	355	*e*PKPdf	PKPdf	21 51 06.3	+0.7
VTS	Vitosha	152.53	333	⇓*i*P	PKPbc	21 51 12.5	-0.5
VTS	Vitosha	152.53	333	⇓PKIKP	PKPbc	21 51 12.5	-0.5
MANT	Manisa	152.76	320	*e*PKPdf	PKPdf	21 51 04.4	-2.3
MANT				*e*PKPbc	PKPbc	21 51 12.1	-1.6
BLY	Banja Luka	152.80	343	*e*PKPdf	PKPdf	21 51 06.4	+0.2
BLY				*e*PKPbc	PKiKP	21 51 14.2	+0.6
BLY	Banja Luka	152.80	343	⇓*i*P	PKiKP	21 51 14.1	+0.6
EZN	Ezine	153.15	325	⇓*i*P	PKPbc	21 51 14.4	+0.2
EZN	Ezine	153.15	325	⇓PKIKP	PKPbc	21 51 14.4	+0.2
BNI	Bardonecchia	153.96	360	*e*PKPdf	PKPdf	21 51 05.5	-2.5
BNI				*e*PKPbc	PKPbc	21 51 15.7	-0.3
BNI	Bardonecchia	153.96	360	*e*PKIKP	PKPdf	21 51 05.5	-2.5
BNI				*e*		21 51 15.7	

IDC ***14*** *21:59:45.3±13.0, 23°.10S×178°.75W, h531km±63km, mb3.7/3, mb1 3.8/5, mb1mx3.2/39, mbtmp4.6/5, Error ellipse: s-maj=203.2km s-min=46.9km az=57.0*

ISC 14 21:59:54.9±2.3, 23°.9S±0°.2×180°.0E±0°.2, h500km, n23, σ1§71/27, mb4.3/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	5.68	161	P	P	22 01 27.2	-0.8
GLKZ				S	S	22 02 47.8	+3.6
DZM	Mont Dzumac	12.57	276	P	P	22 02 42.3	+2.7
	0.9nm,0.3s,baz=224,slow=23,SNR=12						
WCZ	Waipu Caves	12.95	201	P	P	22 02 44.9	+1.6
MKAZ	Moumakai	13.80	196	P	P	22 02 52.2	0.0
HAZ	Te Kaha	13.95	187	P	P	22 02 52.7	-1.1
HAZ				S	S	22 05 18.7	-2.7
WMGZ	Waiomatatini S	13.95	185	P	P	22 02 55.3	+1.4
PKGZ	Pakihiroa	14.04	186	P	P	22 02 54.0	-0.9
RUGZ	Raukumara Rang	14.16	187	P	P	22 02 56.3	0.0
RUGZ				S	S	22 05 25.9	+0.1
PUZ	Puketiti	14.21	185	P	P	22 02 58.0	+1.3
PUZ				S	S	22 05 25.0	-1.6
TWGZ	Tauwhareparae	14.34	186	P	P	22 03 00.1	+2.0
TWGZ				S	S	22 05 28.0	-1.1
URZ	Urewera	14.53	189	P	P	22 02 59.9	0.0
	1.4nm,0.3s,baz=281,slow=4.2,SNR=11						
URZ				S	S	22 05 27.7	-4.9
	1.5nm,0.3s,baz=12,slow=24,SNR=7.1						
URZ	Urewera	14.53	189	P	P	22 02 58.6	-1.4
CNGZ	Carnagh Statio	14.62	185	P	P	22 03 01.7	+0.7
MUGZ	Murupara	14.79	190	P	P	22 03 00.9	-1.8
MTHZ	Maungataniwha	15.15	189	P	P	22 03 05.7	-0.8
BKZ	Black Stump Fm	15.51	190	P	P	22 03 07.9	-2.3
TWVZ	Taurewa	15.61	193	P	P	22 03 11.5	+0.1
KWHZ	Kaweka Forest	15.77	190	P	P	22 03 11.1	-1.9
BHHZ	Black Hill Sta	15.90	191	P	P	22 03 11.0	-3.3
KRHZ	Kereru	15.99	190	P	P	22 03 14.2	-1.1
STKA	Stephens Creek	34.68	248	P	P	22 06 01.5	-0.7
	3.4nm,0.6s,baz=90,slow=10,SNR=14						
ASAR	Alice Springs	41.99	261	P	P	22 07 00.8	-1.1
	6.7nm,0.7s,baz=97,slow=6.7,SNR=54						
WRA	Warramunga Arr	42.36	266	P	P	22 07 02.9	-1.9
	7.1nm,0.3s,baz=95,slow=8.3,SNR=117						

ISCJB ***14*** *22:04:44.0±0.5, 27°.00S±0°.04×26°.71E±0°.04, h10km, Error ellipse: s-maj=6.1km s-min=3.6km az=143.5*
EAF ***14*** *22:04:43.5±1.6, 27°.06S×27°.31E, h0km±149km, MD4.0*
PRE ***14*** *22:04:44.3±2.0, 26°.93S×26°.71E, h2km, ML2.9*
BUL ***14*** *22:04:45.4±2.0, 27°.06S×27°.31E, h0km±103km, MD4.4*

ISC 14 22:04:44.0±0.7, 26°.88S±0°.04×26°.71E±0°.04, h10km, n20, σ2§25/37, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.59	95	*e*P	Pg	22 04 56.2	+0.7
PRYS				*e*S	Sg	22 05 02.8	-0.5
PRYS				AML	AML	22 05 07.9	
	comp=Z,232nm,0.7s						
WDLM	Western Deep L	0.79	55	*e*P	Pb	22 05 01.4	+1.5
WDLM				*e*S	Sg	22 05 10.7	+1.2
WDLM				AML	AML	22 05 15.1	
	comp=Z,468nm,0.2s						
KLOF	Kloof	0.97	57	*e*P	Pg	22 05 04.3	+1.6
KLOF				*e*S	Sb	22 05 17.9	+2.0
KLOF				AML	AML	22 05 24.2	
	comp=Z,776nm,0.2s						
KSR	Koster	1.04	10	*e*P	Pg	22 05 04.5	+0.5
KSR				*e*S	Sg	22 05 19.2	+1.6
KSR				AML	AML	22 05 25.9	
	comp=Z,185nm,0.7s						
SWZ	Schweizer	1.26	256	*e*P	Pn	22 05 09.5	+1.7
SWZ				*e*S	Sb	22 05 26.4	+2.0
SWZ				AML	AML	22 05 29.9	
	comp=Z,431nm,0.3s						
ERPM	east rand prop	1.48	69	*e*P	Pb	22 05 13.3	+1.7
ERPM				*e*S	Sg	22 05 33.9	+2.3
ERPM				AML	AML	22 05 34.9	
	comp=Z,181nm,0.3s						
LBTB	Lobatse	2.11	332	*e*P	Pn	22 05 22.7	+3.3
LBTB				*e*S	Sn	22 05 49.4	+3.5
LBTB				AML	AML	22 06 06.3	
	comp=Z,88nm,0.5s						
BOSA	Boshof	2.15	216	*i*P	Pn	22 05 23.0	+2.9
BOSA				*i*S	Sg	22 05 53.1	-0.2
BOSA	Boshof	2.15	216	*e*P	Pn	22 05 22.1	+2.0
BOSA				*e*S	Sn	22 05 48.7	+1.7
BOSA				AML	AML	22 05 54.1	
	comp=Z,95nm,0.5s						
BOSA	Boshof	2.15	216	*i*P	Pn	22 05 23.0	+2.9
BOSA				*i*S	Sg	22 05 53.1	-0.2
PKA	Prieska	4.46	230	*e*P	Pn	22 05 52.1	+0.3
PKA				*e*S	Sn	22 06 43.6	-0.1
PKA				AML	AML	22 07 12.2	
	comp=Z,9.8nm,0.5s						
MSNA	Messina	5.43	34	*e*P	Pn	22 06 07.5	+2.3
MSNA				*e*S	Sn	22 07 06.1	-1.7
MSNA				AML	AML	22 07 46.1	
	comp=Z,23nm,0.6s						
CBTN	Chibotane	5.81	60	*e*P	Pg	22 06 48.9	+14
CBTN				*e*		22 06 49.3	
	baz=254,slow=18						
CBTN				*e*S	Sg	22 07 46.1	-4.4
CBTN				IAML		22 07 50.2	
	comp=Z,116nm,0.3s						
MATP	Matopo	6.63	15	*i*P	Pn	22 06 23.6	+1.9
MATP				*i*S	Sn	22 07 33.7	-3.8
MATP	Matopo	6.63	15	*i*P	Pn	22 06 23.6	+1.9
MATP				*i*S	Sn	22 07 33.7	-3.8
BUFB	Buffelsbos	7.44	193	*e*P	Pn	22 06 33.2	+0.6
BUFB				*e*S	Sn	22 07 55.1	-2.1
BUFB				AML	AML	22 07 59.0	
	comp=Z,6.4nm,0.4s						
CVNA	Calvinia	7.61	231	*e*P	Pn	22 06 35.4	+0.3
CVNA				*e*S	Sn	22 07 58.7	-2.7
CVNA				AML	AML	22 08 43.5	
	comp=Z,26nm,0.5s						
KOMG	Komaggas	8.63	248	*e*P	Pn	22 06 50.2	+1.2
KOMG				*e*S	Sn	22 08 23.4	-3.1
KOMG				AML	AML	22 09 22.9	
	comp=Z,8.8nm,0.6s						
LSZ	Lusaka	11.63	7	*i*P	Pn	22 07 28.0	-2.2
LSZ	Lusaka	11.63	7	*i*P	Pn	22 07 28.0	-2.2

MAN 14 22:22:24.5, 10°.98N×125°.22E, h26km, mb3.8, ML2.6, MS2.1, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.30	308	⇑*e*P	Pn	22 22 33.1	-0.1
PLP				*e*S	Sn	22 22 40.2	+1.4
BESP	Borongan	0.65	19	*e*P	Pb	22 22 37.1	-0.2
MSLP	Maasin	0.91	203	*e*P	Pb	22 22 41.8	+0.1
MSLP				*e*S	Sn	22 22 54.9	+1.0
CNP	Catarman	1.61	340	*e*P	Pn	22 22 52.1	+0.8
CNP				*e*S	Sb	22 23 18.4	+4.9

DJA 14 22:23:54.6±1.7, 9°S±7°×11°1E±°, h23km±19km, M3.8/6, MLv3.8/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	1.04	359	P	Pn	22 24 12.5	-1.3
PWJI	Pagerwojo	1.35	26	P	Pn	22 24 16.7	-1.3
PWJI				S	Sn	22 24 31.8	-3.5
UGM	Wanagama	1.48	333	P	Pn	22 24 20.1	+0.2
UGM				S	Sn	22 24 38.4	-0.1
YOGI	Yogyakarta	1.67	328	P	Pn	22 24 23.2	+0.7
YOGI				S	Sn	22 24 44.3	+1.0
JAGI	Jajag, Banyuwa	3.02	76	P	Pn	22 24 40.6	-0.4
CISI	Cisompet, Garu	3.74	296	P	Pn	22 24 51.3	+0.2

IDC ***14*** *22:26:20.0±1.5, 45°.74N×106°.66W, h0km, mb1 3.3/2, mb1mx3.1/30, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=58.8km s-min=9.1km az=133.0*
ISCJB ***14*** *22:26:20.2±0.6, 45°.88N±0°.04×106°.80W±0°.06, h0km, Error ellipse: s-maj=6.5km s-min=5.2km az=158.5*
NEIC ***14*** *22:26:20.6±1.5, 45°.86N×106°.81W, h0km, MN2.6, Error ellipse: s-maj=14.2km s-min=6.4km az=160.0, Suspected Mining explosion.*
NEIC 14 km [9 miles] W of Colstrip.

ISC 14 22:26:17.0±0.8, 45°.69N±0°.04×106°.80W±0°.03, h0km, n26, σ1§69/35, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	LASA Array	1.07	22	*e*Pg	Pb	22 26 38.3	-0.2
RLMT	Red Lodge	1.83	253	*e*Pn	Pg	22 26 53.8	+1.7
RLMT				*e*Sn	Sg	22 27 17.9	+2.2
GCMT	Greycliff	2.01	274	*e*Pn	Pg	22 26 55.7	+0.1
GCMT				*e*Sn	Sg	22 27 20.9	-0.7
RSSD	Black Hills	2.52	128	*e*Pn	Pg	22 27 04.8	-0.5
H17A	Grant Village	2.97	245	*e*Pn	Pb	22 27 10.1	-0.9
H17A				*e*Sn	Sg	22 27 52.0	-0.6
K22A	Casper	3.05	176	*e*Pn	Pb	22 27 11.4	-0.9
EGMT	Eagleton	3.09	320	*e*Pn	Pn	22 27 08.4	+1.3
EGMT				*e*Sn	Sn	22 27 45.5	+0.7
FLWY	Flagg Ranch	3.20	241	*e*Pn	Pb	22 27 14.3	-0.6
QLMT	Earthquake Lak	3.38	257	*e*Pn	Pg	22 27 20.2	-1.6
BOZ	Bozeman (W)	3.39	270	*e*Pn	Pb	22 27 15.3	-2.7
LOHW	Long Hollow	3.42	234	*e*Pn	Pb	22 27 19.6	+1.0
IMW	Indian Meadow	3.45	240	*e*Pn	Pb	22 27 20.3	+1.1
BW06	Boulder Array	3.53	215	*e*Pn	Pg	22 27 23.0	-1.8
BW06				*e*Sn	Sb	22 28 03.2	-0.9
PD31	Pinedale Array	3.53	215	*e*Pn	Pg	22 27 22.1	-2.6
PDAR	Pinedale Array	3.53	215	*e*Pn	Pb	22 27 20.6	0.0
PDAR	Pinedale Array	3.53	215	Pn	Pb	22 27 19.5	-1.1
	0.4nm,0.3s,baz=47,slow=14,SNR=4.4						
PDAR				Pg	Pg	22 27 27.6	+2.8
	1.7nm,0.3s,baz=45,slow=18,SNR=12						
PDAR				Sn	Sb	22 28 04.7	+0.6
	0.5nm,0.3s,baz=44,slow=25,SNR=5.5						
PDAR				Lg	Lg	22 28 14.8	
	2.2nm,0.3s,baz=40,slow=30,SNR=6.5						
HRY	Holter Researc	3.64	288	*e*Pn	Pb	22 27 19.3	-3.0
FXWY	Fox Creek	3.65	237	*e*Pn	Pb	22 27 22.9	+0.4
TPAW	Teton Pass	3.69	235	*e*Pn	Pb	22 27 20.6	-2.8
TPAW				*e*Sn	Sn	22 27 59.3	-0.7
REDW	Red Top Meadow	3.72	233	*e*Pn	Pb	22 27 23.8	0.0
LRM	Limekiln Ridge	3.96	274	*e*Pn	Pb	22 27 27.2	-0.6
RWWY	Rawlins	4.01	184	*e*Pn	Pb	22 27 26.9	-1.9
RWWY				*e*Sn	Sn	22 28 09.0	+1.1
MCMT	McKenzie Canyo	4.36	261	*e*Pn	Pn	22 27 28.1	+3.4
MCMT				*e*Sn	Sn	22 28 13.1	-3.2
PHWY	Pilot Hill	4.50	167	*e*Pn	Pb	22 27 31.2	-5.9
PHWY				*e*Sn	Sb	22 28 30.4	-1.5
I56US	NEWPORT INFRAS	7.51	294	*i*		23 13 50.0	
	baz=106,slow=318,SNR=1.9						
ULM	Lac du Bonnet	8.63	54	Pn	Pn	22 28 23.2	+0.1
	0.3nm,0.3s,baz=247,slow=12,SNR=2.7						

PRU 14 22:43:18.5±0.0, 50°.12N×19°.26E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.36	74	*e*Pg	Pg	22 43 25.0	-0.4
OJC				*e*Sg	Sg	22 43 29.9	-0.2
OKC	Ostrava-Krasne	0.77	249	*e*PG	Pg	22 43 32.3	-1.0
OKC				*e*SG	Sg	22 43 43.9	+0.6
	comp=Z,11nm,0.9s						
NIE	Niedzica	0.97	136	*e*Pg	Pg	22 43 37.0	-0.1
NIE				*e*Sg	Sg	22 43 50.3	+0.6
LANS	Liptovska Anna	0.98	172	*e*PG	Pg	22 43 37.3	0.0
LANS				*e*SG	Sg	22 43 49.2	-0.7
MORC	Moravsky Berou	1.16	253	*e*PG	Pg	22 43 40.7	0.0
MORC				*e*SG	Sg	22 43 56.1	+0.3
KRLC	Kraliky	1.60	269	*e*SG	Sn	22 44 08.6	-0.8
VYHS	Vyhne	1.65	190	*e*PN	Pn	22 43 47.5	-1.2
VYHS				*e*SN	Sn	22 44 08.8	-1.9
DPC	Dobruska-Polom	1.90	278	*e*SG	Sg	22 44 19.0	-0.5
VRAC	Vranov	1.91	246	*e*SG	Sb	22 44 18.3	-0.3
KHC	Kasperske Hory	3.82	257	*e*SG	Sg	22 45 19.9	-1.4

ROM 14 22:45:22.9±0.1, 42°.453N±0°.003×13°.321E±0°.005, h10km, ML0.9/5, Error ellipse: s-maj=0.3km s-min=0.3km az=243.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	Campotosto	0.10	38	P	Pg	22 45 26.0	+0.4
CAMP				S	Sg	22 45 28.1	+0.5
AQU	L'Aquila	0.12	149	P	Pg	22 45 25.4	-0.3
AQU	L'Aquila	0.12	149	P	Pg	22 45 26.2	+0.5
AQU				S	Sg	22 45 28.2	+0.6
AQU				AML	AML		
	comp=E,57μm,1.3s						
AQU				AML	AML		
	comp=N,57μm,0.2s						
AQU				AML	AML		
	comp=N,57μm,0.2s						
AQU				AML	AML		
	comp=E,57μm,1.3s						
AQU	L'Aquila	0.12	149	S	Sg	22 45 28.2	+0.6
FIAM	Fiamignano	0.24	219	P	Pg	22 45 28.6	+0.8
FIAM				S	Sg	22 45 32.6	+1.5
FIAM				AML	AML		
	comp=E,22μm,0.8s						
FIAM				AML	AML		
	comp=N,16μm,0.6s						
FIAM				AML	AML		
	comp=E,22μm,0.8s						
FIAM				AML	AML		
	comp=N,16μm,0.6s						
FIAM	Fiamignano	0.24	219	P	Pg	22 45 28.6	+0.8
FIAM	Fiamignano	0.24	219	S	Sg	22 45 32.5	+1.5
TERO	Teramo	0.27	51	P	Pg	22 45 28.3	0.0
TERO	Teramo	0.27	51	P	Pg	22 45 28.4	0.0
TERO				AML	AML		
	comp=E,30μm,1.5s						
TERO				AML	AML		
	comp=N,26μm,1.3s						
TERO				AML	AML		
	comp=N,26μm,1.3s						
TERO				AML	AML		
	comp=E,30μm,1.5s						
TERO	Teramo	0.27	51	S	Sg	22 45 32.3	+0.3
FAGN	Fagnano	0.27	134	P	Pg	22 45 28.9	+0.5
FAGN	Fagnano	0.27	134	P	Pg	22 45 29.0	+0.6
FAGN

PRK				AML	AML	23 20 04.0	
	comp=N,2432μm,0.4s						
AYVA	**Ayvalik**	**0.30**	**62**	*i* P	**Pg**	**23 20 02.4**	**-0.8**
AYVA				*i* S	**Sg**	**23 20 06.0**	**-1.3**
AYVA				IAML_P			
	comp=Z,1μm,0.1s						
SIGR	**SIGRI**	**0.39**	**276**	PG	**Pg**	**23 20 04.2**	**-0.7**
SIGR	**SIGRI**	**0.39**	**276**	P	**Pg**	**23 20 04.4**	**-0.5**
SIGR				S	**Sb**	**23 20 10.7**	**-1.0**
BAYC	**CANAKKALE_Bayr**	**0.59**	**15**	*i* P	**Pn**	**23 20 10.9**	**-0.2**
BAYC				IAML_P			
	comp=Z,838nm,0.1s						
ZEDA	**zmir-Bergama**	**0.60**	**110**	*i* P	**Pg**	**23 20 08.3**	**-0.5**
EZN	**Ezine**	**0.65**	**358**	PG	**Pb**	**23 20 10.3**	**0.0**
BOZC	**Bozcaada**	**0.71**	**341**	PG	**Pb**	**23 20 10.8**	**-0.5**
BOZC				SG	**Sb**	**23 20 21.0**	**+0.1**
BOZC	**Bozcaada**	**0.71**	**341**	*i* P	**Pb**	**23 20 10.8**	**-0.5**
CHOS	**Chios island**	**0.82**	**197**	PG	**Pg**	**23 20 12.4**	**-0.5**
CHOS				SG	**Sb**	**23 20 25.1**	**+1.0**
CHOS	**Chios island**	**0.82**	**197**	P	**Pb**	**23 20 13.0**	**-0.1**
CHOS				S	**Sb**	**23 20 25.1**	**+1.0**
CHOS				AML	AML	23 20 26.5	
	comp=E,311μm,0.2s						
CHOS				AML	AML	23 20 26.8	
	comp=N,332μm,0.6s						
URLA	**Izmir**	**0.83**	**167**	PG	**Pb**	**23 20 13.6**	**+0.2**
URLA	**Izmir**	**0.83**	**167**	*i* P	**Pg**	**23 20 12.8**	**-0.3**
URLA				*i* S	**Sb**	**23 20 24.3**	**-0.1**
PSRA	**Psara**	**0.88**	**225**	P	**Pb**	**23 20 14.3**	**+0.1**
PSRA				S	**Sn**	**23 20 27.2**	**-0.5**
ZEY	**zmir**	**0.94**	**173**	*i* P	**Pg**	**23 20 14.6**	**-0.6**
ZEY				*i* S	**Sb**	**23 20 28.0**	**+0.5**
BLCB	**Balcova**	**0.95**	**145**	PG	**Pn**	**23 20 16.3**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.08**	**79**	*i* P	**Pg**	**23 20 17.9**	**0.0**
STEP				*i* S	**Sn**	**23 20 33.5**	**+0.8**
LIA	**Limnos Island**	**1.16**	**309**	P	**Pn**	**23 20 19.6**	**+0.6**
LIA				AML	AML	23 20 36.8	
	comp=N,171μm,0.3s						
LIA				AML	AML	23 20 37.0	
	comp=E,150μm,0.4s						
DGB	**zmir**	**1.19**	**159**	*i* P	**Pb**	**23 20 18.9**	**-0.6**
DGB				*i* S	**Sb**	**23 20 33.4**	**-1.4**
DGB				IAML_P			
	comp=Z,244nm,0.1s						
GELI	**Tayfur-Gelibol**	**1.23**	**4**	PN	**Pg**	**23 20 20.5**	**-0.2**
LPK	**Lapseki**	**1.24**	**15**	PN	**Pg**	**23 20 20.8**	**-0.1**
BALB	**Balikesir**	**1.27**	**68**	PN	**Pn**	**23 20 21.0**	**+0.5**
KRBG	**Karabiga-Canak**	**1.42**	**31**	PN	**Pb**	**23 20 23.6**	**+0.2**
SMTH	**Samothraki Isl**	**1.44**	**334**	P	**Pn**	**23 20 22.9**	**0.0**
ERIK	**Erikli-Kesan**	**1.50**	**5**	PN	**Pb**	**23 20 24.8**	**0.0**
SMG	**Samos**	**1.51**	**165**	P	**Pb**	**23 20 25.2**	**+0.3**
ENEZ	**Enez**	**1.57**	**354**	PN	**Pb**	**23 20 25.6**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.64**	**22**	PN	**Pb**	**23 20 27.2**	**0.0**
EDC	**Edincik**	**1.65**	**44**	PN	**Pb**	**23 20 27.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.72**	**135**	PN	**Pn**	**23 20 27.8**	**+1.1**
ALN	**Alexandroupoli**	**1.74**	**352**	PN	**Pn**	**23 20 27.8**	**+0.9**
ALN	**Alexandroupoli**	**1.74**	**352**	P	**Pn**	**23 20 27.4**	**+0.4**
KCTX	**Karacabey (Bur**	**1.89**	**54**	PN	**Pn**	**23 20 30.4**	**+1.3**
KULA	**Kula-Manisa**	**1.92**	**109**	PN	**Pb**	**23 20 31.4**	**-0.5**
RDO	**Rodhopi**	**2.07**	**343**	PN	**Pn**	**23 20 32.3**	**+0.8**

IDC ***14*** *23:32:32.4±0.7,0.˙43S×130.˙64E,h0km,mb4.3/12, mb1 4.5/14,mb1mx4.2/33,mbtmp4.4/14,ML4.4/2,MS3.7/10, Ms1 3.6/10,ms1mx3.4/35,Error ellipse: s-maj=31.5km s-min=13.0km az=74.0*

ISCJB ***14*** *23:32:35.9±0.3,0.˙49S±0.˙04×130.˙42E±0.˙05,h33km, mb4.7/32,MS3.5/7,Error ellipse: s-maj=7.3km s-min=5.3km az=146.0*

NEIC ***14*** *23:32:37.5±0.3,0.˙57S×130.˙35E,h35km,mb4.6/21,Error ellipse: s-maj=10.0km s-min=5.1km az=54.0*

DJA ***14*** *23:32:39.6±0.7,1.˚S±6.˚×13.˚0E±.˚,h50km±7km,M4.7/12, mB5.4/4,mb4.7/12,MLv4.8/6,Mw(mB)4.8/4*

ISC 14 23:32:38.0±0.5,0.˙54S±0.˙06×130.˙42E±0.˙08,h35km,n80, σ1**$**50/72**,mb4.5/32,MS3.6/7,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.98**	**142**	*e*Pn		**Pn**	**23 33 22.9**	**0.0**
FAKI	**Fak Fak**	**2.98**	**142**	P		**Pn**	**23 33 23.5**	**+0.6**
TNTI	**Ternate**	**3.32**	**293**	*e*Pn		**Pn**	**23 33 24.4**	**-3.1**
TNTI	**Ternate**	**3.32**	**293**	P		**Pn**	**23 33 29.6**	**+2.1**
BNDI	**Bandanaira**	**3.99**	**187**	P		**Pn**	**23 33 37.4**	**+0.7**
SANI	**Sanana**	**4.68**	**251**	P		**Pn**	**23 33 43.9**	**-2.3**
LUWI	**Luwuk**	**7.67**	**266**	*e*Pn		**Pn**	**23 34 25.7**	**-1.6**
LUWI	**Luwuk**	**7.67**	**266**	P		**Pn**	**23 34 28.1**	**+0.8**
	66nm,0.7s,0.3nm							
APSI	**Ampana**	**8.78**	**268**	P		**Pn**	**23 34 46.7**	**+4.1**
	143nm,0.8s,1μm0.5nm							
DAV	**Davao City (W)**	**8.97**	**328**	LR		LR	23 38 18.3	
	comp=Z,339nm,21.9s,baz=142,slow=38							
MPSI	**Mapaga**	**10.56**	**275**	P		**Pn**	**23 35 08.0**	**+1.0**
	12nm,0.9s,4μm							
TTSI	**Tana Toraja**	**10.88**	**257**	P		Pn	23 35 26.7	+15
BNSI	**Bone**	**10.99**	**249**	P		Pn	23 35 29.6	+17
SOEI	**Soe**	**11.01**	**214**	P		Pn	23 35 28.8	+16
SPSI	**Sidrap Palu**	**11.17**	**252**	P		**Pn**	**23 35 13.9**	**-1.5**
BKSI	**Bulukumba**	**11.33**	**245**	P		**Pn**	**23 35 19.8**	**+2.3**
KAPI	**Kappang**	**11.54**	**247**	Pn		**Pn**	**23 35 22.2**	**+1.8**
	2.1nm,0.3s,baz=62,slow=9.3,SNR=10							
PLAI	**Plampang**	**15.04**	**236**	P		**P**	**23 36 10.7**	**-2.4**
KKM	**Kota Kinabalu**	**15.62**	**295**	*e*Pn		**Pn**	**23 36 13.4**	**-2.4**
	26nm,1.2s							
FITZ	**Fitzroy Crossi**	**18.07**	**195**	P		**Pn**	**23 36 42.0**	**-4.4**
	0.3nm,0.3s,baz=10,slow=13,SNR=5.3							
COEN	**Coen**	**18.36**	**137**	*e*P		**P**	**23 36 49.5**	**-0.3**
	28nm,1.1s							
SBUM	**Sibu**	**18.44**	**279**	*e*P		**Pn**	**23 36 51.7**	**+0.7**
	17nm,1.4s							
PMG	**Port Moresby**	**18.84**	**118**	LR		LR	23 46 43.1	
	comp=Z,297nm,19.8s,baz=300,slow=46							
WRAB	**Tennant Creek**	**19.65**	**169**	*e*P		**P**	**23 37 02.2**	**-1.8**
	10nm,0.6s							
WRA	**Warramunga Arr**	**19.66**	**169**	P		**P**	**23 37 02.1**	**-2.0**
	1.2nm,0.3s,baz=349,slow=9.7,SNR=37							
WRA				S		S	23 40 29.1	-15
	0.7nm,0.3s,baz=347,slow=22,SNR=6.2							
WRA				LR		LR	23 45 26.9	
	comp=Z,371nm,21.2s,baz=10.0,slow=39							
GUMO	**Guam**	**20.05**	**45**	LR		LR	23 43 51.5	
	comp=Z,158nm,19.2s,baz=222,slow=34							
KSM	**Kuching**	**20.21**	**276**	*e*P		**P**	**23 37 10.5**	**+0.4**
	24nm,1.0s							
AS31	**Alice Springs**	**23.23**	**172**	*e*P		**P**	**23 37 42.3**	**0.0**
	12nm,0.8s							
ASAR	**Alice Springs**	**23.23**	**172**	*e*P		**P**	**23 37 41.4**	**-0.9**
ASAR				S		**S**	**23 41 53.2**	**+1.1**
ASAR	**Alice Springs**	**23.23**	**172**	P		**P**	**23 37 41.9**	**-0.4**
	18nm,0.8s,baz=348,slow=9.8,SNR=56							
ASAR				S		**S**	**23 41 53.3**	**+1.1**
	2.9nm,1.0s,baz=358,slow=22,SNR=5.7							
ASAR				LR		LR	23 47 39.1	
	comp=Z,186nm,21.6s,baz=356,slow=39							
CTA	**Charters Tower**	**24.85**	**142**	P		**P**	**23 37 57.0**	**-0.4**
	2.6nm,0.7s,baz=334,slow=11,SNR=4.0							
QIZ	**Qiongzhong**	**28.05**	**315**	P		**P**	**23 38 24.8**	**-1.5**
QIZ				S		**S**	**23 43 08.3**	**-0.5**
HNR	**Honiara**	**30.68**	**108**	LR		LR	23 52 20.1	
	comp=Z,150nm,21.6s,baz=274,slow=39							
PANO	**Nakornpanom**	**30.91**	**306**	P		P	23 38 57.8	+6.1
	0.2nm,1.6s,182nm							
PSI	**Prapat**	**31.66**	**276**	*e*P		**P**	**23 38 57.4**	**-1.1**
	16nm,1.1s							
CHAI	**Chaiyaphum**	**32.48**	**301**	P		**P**	**23 39 06.0**	**+0.4**
	19μm,0.7s							
NONG	**Nongkai**	**32.58**	**306**	P		**P**	**23 39 06.8**	**+0.4**
	0.3nm,0.8s							
STKA	**Stephens Creek**	**32.91**	**162**	P		**P**	**23 39 09.4**	**+0.4**
	4.0nm,0.8s,baz=340,slow=8.8,SNR=6.0							
STKA				LR		LR	23 55 28.4	
	comp=Z,165nm,18.9s,baz=352,slow=42							
NJ2	**Nanjing**	**34.22**	**342**	*e*P		**P**	**23 39 21.8**	**+1.4**
WHN	**Wuhan**	**34.49**	**335**	P		**P**	**23 39 25.1**	**+2.3**
WHN				S		S	23 44 58.3	+9.1
NWAO	**Narrogin (SRO)**	**34.52**	**200**	P		**P**	**23 39 25.3**	**+2.2**
	11nm,0.8s,baz=40,slow=6.1,SNR=5.4							
NANT	**Nan**	**34.95**	**305**	P		**P**	**23 39 30.7**	**+3.7**
	15μm,0.8s,652μm							
LAMP	**Lampang**	**35.70**	**304**	P		P	23 39 39.0	+5.5
	63μm,0.5s							
CMAR	**Chiang Mai Arr**	**36.24**	**303**	*e*P		**P**	**23 39 37.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**36.24**	**303**	P		**P**	**23 39 38.9**	**+0.8**
	6.1nm,1.0s,baz=124,slow=6.8,SNR=19							
CMMT	**Chiang Mai**	**36.41**	**304**	P		**P**	**23 39 40.1**	**+0.6**
	5.4nm,0.9s							
CHTO	**Chiang Mai**	**36.41**	**304**	*e*P		**P**	**23 39 38.2**	**-1.3**
	7.9nm,0.8s							
KMI	**Kunming**	**36.99**	**316**	P		**P**	**23 39 46.1**	**+1.4**
MJAR	**Matsushiro Arr**	**37.60**	**10**	P		**P**	**23 39 48.0**	**-1.4**
	4.6nm,0.9s,baz=198,slow=10,SNR=8.2							
MAT	**Matsushiro**	**37.60**	**10**	P		**P**	**23 39 48.1**	**-1.3**
KSRS	**Korea Array**	**37.88**	**357**	LR		LR	23 53 20.4	
	comp=Z,88nm,20.3s,baz=177,slow=33							
LZH	**Lanzhou**	**44.04**	**329**	*e*P		**P**	**23 40 43.9**	**+1.2**
LZH				pP		pP	23 40 50.4	-2.7
LZH				sP		sP	23 40 53.8	-3.4
HHC	**Hu-ho-hao-te**	**44.62**	**340**	*e*P		**P**	**23 40 49.6**	**+2.4**
ULN	**Ulaanbaatar**	**52.33**	**340**	*e*P		**P**	**23 41 46.4**	**-0.1**
	6.2nm,1.1s							
SONM	**Songino Array**	**52.53**	**340**	*e*P		**P**	**23 41 47.7**	**-0.3**
	2.6nm,1.0s							
SONM	**Songino Array**	**52.53**	**340**	P		**P**	**23 41 47.9**	**-0.1**
	1.6nm,0.8s,baz=159,slow=8.6,SNR=4.4							
WMQ	**Urumqi**	**58.32**	**325**	*e*P		**P**	**23 42 28.5**	**-1.2**
WMQ				sP		pP	23 42 40.8	+0.5
MK31	**Makanchi Array**	**63.15**	**325**	*e*P		**P**	**23 43 01.9**	**-0.5**
	12nm,1.8s							
MKAR	**Makanchi Array**	**63.15**	**325**	*e*P		**P**	**23 43 01.4**	**-1.0**
MKAR	**Makanchi Array**	**63.15**	**325**	P		**P**	**23 43 02.2**	**-0.2**
	2.2nm,0.5s,baz=120,slow=8.4,SNR=31							
MAKZ	**Makanchi**	**63.33**	**325**	*e*P		**P**	**23 43 03.5**	**-0.2**
	7.1nm,1.3s							
KSH	**Kashi**	**63.66**	**315**	P		**P**	**23 43 06.9**	**+0.8**
KDJ	**Kajisay**	**63.97**	**318**	*e*P		**P**	**23 43 08.3**	**+0.2**
	3.7nm,0.8s							
BOOM	**Boomskoye usch**	**64.95**	**318**	*e*P		**P**	**23 43 14.0**	**-0.6**
	4.2nm,1.1s							
AAK	**Ala-Archa**	**65.98**	**318**	LR		LR	00 14 44.2	
	comp=Z,37nm,19.1s,baz=78,slow=38							
ZAA0	**Zalesovo Array**	**66.05**	**332**	*e*P		**P**	**23 43 20.5**	**-0.7**
	6.9nm,0.9s							
ZALV	**Zalesovo Beam**	**66.05**	**332**	*e*P		**P**	**23 43 20.0**	**-1.2**
ZALV	**Zalesovo Beam**	**66.05**	**332**	P		**P**	**23 43 20.2**	**-1.0**
	2.3nm,0.7s,baz=104,slow=6.3,SNR=11							
ZALV				LR		LR	00 14 58.0	
	comp=Z,26nm,18.7s,baz=64,slow=38							
ARSB	**Arslanbob**	**66.47**	**316**	*e*P		**P**	**23 43 24.4**	**0.0**
	5.1nm,0.9s							
KURK	**Kurchatov**	**67.30**	**327**	*e*P		**P**	**23 43 28.8**	**-0.4**
	13nm,0.9s							
KKAR	**Karatay Array**	**68.85**	**317**	*e*P		**P**	**23 43 38.2**	**-1.0**
TIXI	**Tiksi**	**72.08**	**359**	*e*P		**P**	**23 43 58.5**	**+0.3**
	3.7nm,1.0s							
BVAR	**Borovoye Array**	**72.89**	**327**	P		**P**	**23 44 03.3**	**-0.2**
	5.0nm,0.9s,baz=118,slow=8.6,SNR=26							
BRVK	**Borovoye**	**72.96**	**327**	*e*P		**P**	**23 44 02.9**	**-1.0**
	7.9nm,0.8s							
NRIK	**Noril'sk**	**75.44**	**346**	P		**P**	**23 44 17.6**	**-0.4**
	0.8nm,0.4s,baz=162,slow=3.8,SNR=4.7							
ABKAR	**Akbulak array**	**77.77**	**321**	*e*P		**P**	**23 44 30.2**	**-1.4**
VNDA	**Vanda**	**78.77**	**173**	*e*P		**P**	**23 44 37.4**	**+0.8**
	13nm,1.6s							
VNDA	**Vanda**	**78.77**	**173**	P		**P**	**23 44 36.6**	**0.0**
	1.0nm,0.8s,baz=321,slow=7.3,SNR=6.1							
TOLK	**Toolik Lake Re**	**86.86**	**21**	*e*P		**P**	**23 45 19.7**	**+0.9**
	6.7nm,0.8s							
VYHS	**Vyhne**	**104.58**	**320**	*e*PDIF		**Pdif**	**23 46 41.5**	**+1.4**

ISCJB ***14*** *23:39:12.3±0.5,15.˚47S±0.˚02×73.˚14W±0.˚03,h84km±4km, mb5.6/256,Error ellipse: s-maj=4.8km s-min=2.5km az=142.9*

NEIC ***14*** *23:39:15.0±0.0,15.˚69S×73.˚33W,h105km,mb5.7/178, MW5.5,MW5.5,ML5.2(ARE),Moment Tensor Solution. s7 Moment tensor: Scale 1017Nm; Mrr1.63; Mθθ0.40; Mφφ-2.03; Mrθ-0.57; Mrφ0.31; Mθr-0.97; Best double couple: M0.2.20000×1017 NP1:φ193.00000°,δ62.00000°, λ114.00000°. NP2:φ331.00000°,δ36.00000°,λ53.00000°. Principal axes: T 2.1000, Plg65.0000°, Azm145.0000°; N 0.1700, Plg21.0000°, Azm2.0000°; P -2.2800, Plg13.0000°, Azm266.0000°; After ARE.*

NEIC Felt [III] at Arequipa, Caraveli and Yauca.

LIM ***14*** *23:39:15.0,15.˚69S×73.˚33W,h105km,MB5.7(NEIC), MW5.5(NEIC),MW5.5(NEIC)*

MOS ***14*** *23:39:17.2±0.9,15.˚34S×73.˚17W,h118km,mb5.8/67, Error ellipse: s-maj=8.0km s-min=5.6km az=85.7*

IDC ***14*** *23:39:17.2±0.4,15.˚53S×73.˚11W,h113km±3km,mb5.0/23, mb1 5.1/29,mb1mx5.1/33,mbtmp5.4/29,MS4.2/12, Ms1 4.2/12,ms1mx4.0/24,Error ellipse: s-maj=12.6km s-min=8.2km az=68.0*

BJI ***14*** *23:39:17.1±0.0,15.˚60S×73.˚20W,h110km,mB5.3/19*

NEIC ***14*** *23:39:17.0±0.0,15.˚71S×73.˚44W,h110km,Moment Tensor Solution. s31 Moment tensor: Scale 1017Nm; Mrr1.85; Mθθ-0.43; Mφφ-1.41; Mrθ0.05; Mrφ0.00; Mθr-0.82; Best double couple: M0.1.90000×1017 NP1:φ179.0000°, δ58.00000°,λ89.00000°. NP2:φ1.00000°,δ32.00000°, λ92.00000°. Principal axes: T 2.0400, Plg76.0000°, Azm85.0000°; N -0.4300, Plg0.0000°, Azm179.0000°; P -1.6000, Plg13.0000°, Azm269.0000°;*

VAO ***14*** *23:39:19.0±0.3,15.˚63S×73.˚09W,h130km,mb5.4*

GCMT ***14*** *23:39:20.0±0.1,15.˚67S±0.˚01×73.˚42W±0.˚01,h126km, MW5.4/113,Moment Tensor Solution. s109,c174; s113,c233; Duration: 1*3 Moment tensor: Scale 1017 Nm; Mrr1.40±.02; Mθθ-0.07±.02; Mφφ-1.33±.03; Mrθ-0.06±.02; Mrφ-0.60±.03; Mθr-1.04±.02; Best double couple: M01.81900×1017 NP1:φ191.00000°,δ63.00000°, λ79.00000°. NP2:φ34.00000°,δ29.00000°,λ111.00000°. Principal axes: T 1.7620, Plg70.0000°, Azm77.0000°; N 0.1160, Plg10.0000°, Azm196.0000°; P -1.8760, Plg17.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 14 23:39:16.5±0.3,15.˚68S±0.˚04×73.˚16W±0.˚05,h111km±2km, h111km:pP-P,n1461,σ1**$18/1667,mb5.7/251,37C-21D, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PB12	**IPOC Station P**	**3.98**	**137**	⇓*i*P		**Pn**	**23 40 15.2**	**-0.6**
PB12				*e*S		**Sn**	**23 40 58.1**	**-3.5**
PB16	**IPOC Station P**	**4.38**	**128**	*i* P		**Pn**	**23 40 22.5**	**+0.9**
PB16				*e*S		**Sn**	**23 41 10.5**	**-1.5**
I08BO	**LAS PENAS INFR**	**4.56**	**97**	*i*			00 02 30.0	
	baz=269,slow=320,SNR=0.7							
MNMC	**Minye Minye**	**4.83**	**136**	*e*Pn		**Pn**	**23 40 26.7**	**-0.7**
MNMC	**Minye Minye**	**4.83**	**136**	⇓*i*P		**Pn**	**23 40 26.9**	**-0.5**
MNMC				*e*S		**Sn**	**23 41 20.0**	**-2.4**
PSGC	**Pisagua**	**4.86**	**144**	⇓*i*P		**Pn**	**23 40 26.4**	**-1.1**
PSGC				*e*S		**Sn**	**23 41 17.9**	**-4.8**
LPAZ	**La Paz**	**4.88**	**98**	P		**Pn**	**23 40 31.4**	**+3.1**
	350nm,0.3s,baz=287,slow=9.4,SNR=1396							
LPAZ				S		**Sn**	**23 41 28.8**	**+4.8**
	40nm,0.3s,baz=180,slow=20,SNR=3.4							
NNA	**Nana**	**5.12**	**315**	*e*Pn		**Pn**	**23 40 27.5**	**-3.6**
NNA	**Nana**	**5.12**	**315**	*i* P		**Pn**	**23 40 28.9**	**-2.2**
NNA	**Nana**	**5.12**	**315**	P		**Pn**	**23 40 27.9**	**-3.3**
	50nm,0.3s,baz=135,slow=13,SNR=73							
NNA				S		**Sn**	**23 41 25.7**	**-3.4**
	261nm,0.3s,baz=229,slow=19,SNR=9.2							
NNA				LR		LR	23 42 37.4	
	comp=Z,6μm,20.4s,baz=166,slow=40							
PB11	**IPOC Station P**	**5.26**	**141**	*e*Pn		**Pn**	**23 40 32.2**	**-0.8**
PB11	**IPOC Station P**	**5.26**	**141**	⇓*i*P		**Pn**	**23 40 32.1**	**-0.9**
GO01	**Chusmiza**	**5.48**	**137**	*e*Pn		**Pn**	**23 40 36.1**	**-0.2**
PB08	**IPOC Station P**	**5.85**	**140**	*i* P		**Pn**	**23 40 40.7**	**-0.5**
PB01	**IPOC Station P**	**6.37**	**147**	*e*Pn		**Pn**	**23 40 46.7**	**-1.4**
PB01	**IPOC Station P**	**6.37**	**147**	*e*P		**Pn**	**23 40 46.7**	**-1.4**
PB02	**IPOC Station P**	**6.41**	**152**	*i* P		**Pn**	**23 40 47.4**	**-1.1**
PB04	**IPOC Station P**	**7.21**	**157**	*e*Pn		**Pn**	**23 40 57.5**	**-1.9**
LVC	**Limon Verde**	**7.98**	**150**	*e*Pn		**Pn**	**23 41 09.5**	**-0.6**
LVC	**Limon Verde**	**7.98**	**150**	P		**Pn**	**23 41 10.2**	**+0.1**
	198nm,0.3s,baz=342,slow=8.7,SNR=811							
LVC				S		**Sn**	**23 42 35.1**	**-3.8**
	181nm,0.3s,baz=78,slow=23,SNR=14							
LVC				LR		LR	23 44 21.9	
	comp=Z,2μm,21.3s,baz=319,slow=38							
PB10	**IPOC Station P**	**8.17**	**163**	*e*Pn		**Pn**	**23 41 09.9**	**-2.4**
ATAH	**Atahualpa**	**9.92**	**328**	P		**Pn**	**23 41 34.6**	**-1.9**
	1.9nm,0.3s,baz=70,slow=2.7,SNR=12							
ATAH				S		**Sn**	**23 43 30.4**	**+4.2**
	8.9nm,0.3s,baz=93,slow=17,SNR=2.7							
GO02	**Mina Guanaco**	**10.01**	**161**	*e*Pn		**Pn**	**23 41 36.5**	**-1.1**
SIV	**San Ignacio**	**11.64**	**93**	P		**Pn**	**23 41 57.6**	**-1.7**
	25nm,0.3s,baz=282,slow=10,SNR=442							
GO03	**Copiap**	**12.16**	**168**	*e*Pn		**Pn**	**23 42 05.4**	**-0.7**
LCO	**Las Campanas**	**13.46**	**171**	*e*Pn		**Pn**	**23 42 23.7**	**+0.4**
LCO	**Las Campanas**	**13.46**	**171**	P		**P**	**23 42 27.7**	**-1.0**
LCO				pmax		pmax		
	comp=Z,284nm,1.2s							
LCO	**Las Campanas**	**13.46**	**171**	*e*P		**Pn**	**23 42 25.0**	**+1.7**
GO04	**Tololo Observa**	**14.59**	**172**	*e*Pn		**Pn**	**23 42 38.2**	**+0.4**
CFA	**Coronel Fontan**	**16.48**	**165**	P		**P**	**23 43 03.5**	**+1.6**
	comp=Z,3.2nm,0.3s,baz=340,slow=12,SNR=50							
OTAV	**Otavalo**	**16.66**	**341**	*e*Pn		**Pn**	**23 43 03.8**	**-0.1**
	comp=Z,276nm,1.4s							
OTAV	**Otavalo**	**16.66**	**341**	*e*P		**Pn**	**23 43 03.9**	**0.0**
OTAV	**Otavalo**	**16.66**	**341**	P		**P**	**23 43 06.4**	**+2.0**
OTAV				pmax		pmax		
	comp=Z,276nm,1.5s							
OTAV	**Otavalo**	**16.66**	**341**	*e*P		**Pn**	**23 43 03.9**	**0.0**
OTAV	**Otavalo**	**16.66**	**341**	*e*P		**P**	**23 43 05.2**	**+0.8**
AQDB	**Aquidauana**	**17.27**	**109**	*e*P		**Pn**	**23 43 11.1**	**+0.2**
GCUF	**Volcan Galeras**	**17.30**	**346**	*e*P		**Pn**	**23 43 12.8**	**+1.0**
GCUF	**Volcan Galeras**	**17.30**	**346**	*e*P		**Pn**	**23 43 12.8**	**+1.0**
FLOC	**Florencia**	**17.33**	**352**	*e*P		**Pn**	**23 43 11.9**	**+0.3**
FLOC	**Florencia**	**17.33**	**352**	*e*P		**Pn**	**23 43 11.9**	**+0.3**
ROC1	**El Roble**	**17.33**	**174**	*e*P		**Pn**	**23 43 12.7**	**+1.0**
PEL	**Peldehue**	**17.53**	**173**	*e*P		**Pn**	**23 43 14.7**	**+0.7**
	comp=Z,611nm,1.2s							
PEL	**Peldehue**	**17.53**	**173**	P		**Pn**	**23 43 14.7**	**+0.7**
PEL				pmax		pmax		
	comp=Z,611nm,1.2s							
CLDB	**Colider**	**17.56**	**76**	*e*P		**P**	**23 43 13.3**	**-0.6**
SOTA	**Rioblanco**	**18.03**	**349**	*e*P		**Pn**	**23 43 21.3**	**+0.7**
SOTA	**Rioblanco**	**18.03**	**349**	*e*P		**Pn**	**23 43 21.3**	**+0.7**
BBAC	**Balboa, Cauca**	**18.05**	**347**	*e*P		**Pn**	**23 43 20.7**	**+0.2**
BBAC	**Balboa, Cauca**	**18.05**	**347**	*e*P		**Pn**	**23 43 20.7**	**+0.2**
CPUP	**Villa Florida**	**18.17**	**128**	*e*P		**Pn**	**23 43 21.1**	**-0.5**
	comp=Z,89nm,0.8s							
CPUP	**Villa Florida**	**18.17**	**128**	P		**P**	**23 43 21.0**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=311,slow=12,SNR=42							
CPUP	**Villa Florida**	**18.17**	**128**	*e*P		**Pn**	**23 43 21.3**	**-0.4**
PCON	**Cinco Dias**	**18.18**	**350**	*e*P		**Pn**	**23 43 25.9**	**+3.5**
PCON	**Cinco Dias**	**18.18**	**350**	*e*P		**Pn**	**23 43 25.9**	**+3.5**
POPC	**Popayan, Colom**	**18.43**	**349**	*e*P		**P**	**23 43 24.0**	**+0.2**
POPC	**Popayan, Colom**	**18.43**	**349**	*e*P		**P**	**23 43 24.0**	**+0.2**
GO05	**Huala**	**19.28**	**177**	*e*P		**P**	**23 43 33.1**	**+0.5**
	comp=Z,169nm,1.0s							
PRAC	**Prado**	**19.35**	**355**	*e*P		**Pn**	**23 43 34.5**	**-1.1**
PRAC	**Prado**	**19.35**	**355**	*e*P		**Pn**	**23 43 34.5**	**-1.1**
VILC	**Villavicencio,**	**19.67**	**358**	*e*P		**P**	**23 43 37.9**	**+0.8**
VILC	**Villavicencio,**	**19.67**	**358**	*e*P		**P**	**23 43 37.9**	**+0.8**
PTGA	**Pitinga**	**19.76**	**42**	*e*P		**P**	**23 43 36.9**	**-1.0**
	comp=Z,318nm,0.8s							
PTGA	**Pitinga**	**19.76**	**42**	P		**P**	**23 43 37.5**	**-0.4**
	comp=Z,19nm,0.3s,baz=218,slow=12,SNR=196							
PTGA	**Pitinga**	**19.76**	**42**	*e*P		**P**	**23 43 37.1**	**-0.8**
YOTC	**Yotoco, Valle**	**19.79**	**351**	*e*P		**P

SLPA	Patience	31.75	23	e		P	23 45 31.0 +0.8
SLBI	Saint Lucia, B	31.88	23	e		P	23 45 30.2 -1.2
SLW	Petit Monier	31.89	23	e		P	23 45 31.9 +0.4
TGUH	Tegucigalpa,Un	32.67	334	eP		P	23 45 38.3 0.0
	comp=Z,54nm,1.0s						
BBL	Barber's Block	33.09	21	e		P	23 45 38.0 -4.0
MDPO	Dominica; Chan	33.14	21	e		P	23 45 41.0 -1.4
MDPV	Dominica, Penn	33.20	21	e		P	23 45 42.3 -0.7
BANI	BANI	33.97	5	eP		P	23 45 49.1 -0.6
CRPR	Cabo Rojo, PR	34.00	10	eP		P	23 45 48.5 -1.3
	comp=Z,314nm,1.5s						
OBIP	Obispado Ponce	34.13	11	eP		P	23 45 48.7 -2.3
	comp=Z,76nm,0.8s						
MPR	Mayaguez	34.20	10	eP		P	23 45 50.1 -1.4
	comp=Z,116nm,0.9s						
SJG	San Juan	34.28	12	eP		P	23 45 50.4 -1.9
	comp=Z,46nm,0.8s						
SJG	San Juan	34.28	12	P		P	23 45 50.3 -1.9
	comp=Z,42nm,0.8s,baz=171,slow=6.2,SNR=12						
PCDR	Punta Cana, DR	34.30	8	eP		P	23 45 51.0 -1.4
	comp=Z,229nm,0.8s						
HUMP	Col San Antoni	34.37	12	eP		P	23 45 51.0 -2.0
	comp=Z,57nm,1.1s						
MTP	Monte Pirata	34.39	13	eP		P	23 45 51.3 -2.0
	comp=Z,53nm,1.1s						
AOPR	Arecibo Observ	34.40	11	eP		P	23 45 49.8 -3.5
	comp=Z,82nm,0.6s						
SDDR	Presa de Saban	34.49	3	eP		P	23 45 53.4 -0.8
	comp=Z,46nm,1.3s						
CBYP	Canovanas	34.50	12	eP		P	23 45 52.1 -2.1
	comp=Z,81nm,0.7s						
APG	El Apazote	34.95	330	P		P	23 45 58.0 -0.3
	comp=Z,16nm,0.9s,baz=338,slow=17,SNR=6.6						
ANWB	Willy Bob	34.99	19	eP		P	23 45 54.8 -3.5
	comp=Z,200nm,0.6s						
ANWB	Willy Bob	34.99	19	e		P	23 45 53.8 -4.5
RCBR	Riachuelo	37.83	79	eP		P	23 46 22.9 +0.2
	comp=Z,91nm,0.9s						
RCBR	Riachuelo	37.83	79	eP		P	23 46 23.0 +0.2
EFI	East Falkland	37.88	165	eP		P	23 46 22.6 0.0
	comp=Z,175nm,1.0s						
EFI	East Falkland	37.88	165	c iP		P	23 46 24.5 +1.9
EFI					pmax	pmax	
	comp=Z,164nm,1.1s						
TEIG	Tepich	38.65	337	eP		P	23 46 28.7 -0.7
	comp=Z,170nm,1.1s						
TEIG				epP		pP	23 46 56.7 +0.9
CMIG	Matias Romero	38.98	326	P		P	23 46 32.4 +0.2
	comp=Z,15nm,0.9s,baz=134,slow=5.5,SNR=11						
USHA	Ushuaia	39.24	176	P		P	23 46 35.4 +1.5
	comp=Z,52nm,1.0s,baz=348,slow=6.3,SNR=8.5						
TLIG	Tlapa	41.45	322	eP		P	23 46 54.0 +1.2
TLIG				epP		pP	23 47 20.8 +1.4
061Z	Ochoppi	41.98	350	P		P	23 46 56.6 -0.1
	baz=169						
060Z	West Palm Beac	42.45	350	P		P	23 46 59.8 -0.7
	baz=170						
059Z	Ave Maria	42.53	349	P		P	23 47 00.6 -0.7
	baz=168						
059A	Moore Haven	43.10	350	P		P	23 47 04.6 -1.1
	baz=169						
058A	Arcadia	43.30	349	P		P	23 47 06.5 -0.9
	baz=168						
959A	Okeechobee	43.59	350	P		P	23 47 09.2 -0.6
	baz=170						
859A	Kempfer Cattle	44.12	350	P		P	23 47 13.7 -0.3
	baz=170						
857A	Zephyrhills	44.56	349	P		P	23 47 16.4 -1.0
	baz=168						
758A	Lake Helen	45.06	350	P		P	23 47 20.7 -0.7
	baz=169						
757A	Oxford	45.19	349	P		P	23 47 21.9 -0.6
	baz=168						
656A	Willston	45.69	349	P		P	23 47 25.8 -0.6
	baz=168						
657A	Interlachen	45.78	349	P		P	23 47 26.8 -0.3
	baz=168						
655A	Horseshoe Beac	45.97	348	P		P	23 47 27.4 -1.2
	baz=167						
557A	Orange Park	46.18	350	P		P	23 47 29.8 -0.4
	baz=169						
556A	Lake Butler	46.28	349	P		P	23 47 30.9 -0.1
	baz=168						
555A	McAlpin	46.51	348	P		P	23 47 31.7 -1.0
	baz=167						
554A	Perry	46.62	347	P		P	23 47 32.6 -1.0
	baz=166						
457A	Yulee	46.74	350	P		P	23 47 34.1 -0.4
	baz=169						
553A	Crawfordville	46.88	347	P		P	23 47 34.8 -0.8
	baz=165						
456A	Hilliard	46.92	350	P		P	23 47 35.2 -0.8
	baz=169						
552A	Lynn Haven	47.02	346	P		P	23 47 36.1 -0.7
	baz=164						
455A	Stateville	47.12	348	P		P	23 47 37.0 -0.5
	baz=167						
454A	Quitman	47.22	348	P		P	23 47 37.5 -0.7
	baz=166						
453A	Whigham	47.49	347	eP		P	23 47 40.2 -0.3
	comp=Z,82nm,1.1s						
453A				epP		pP	23 48 09.5 +1.7
453A	Whigham	47.49	347	P		P	23 47 40.1 -0.3
	baz=166,SNR=5.3						
357A	Townsend	47.51	350	P		P	23 47 40.0 -0.5
	baz=169						
356A	Blackshear	47.52	350	P		P	23 47 39.9 -0.8
	baz=168						
451A	Vernon	47.60	345	eP		P	23 47 41.4 +0.2
	comp=Z,538nm,1.9s						
451A	Vernon	47.60	345	P		P	23 47 40.6 -0.6
	baz=164						
355A	Pearson	47.67	349	P		P	23 47 41.1 -0.7
	baz=168						
452A	Marianna	47.69	346	P		P	23 47 41.4 -0.5
	baz=165,SNR=5.8						
LNIG	Linares	47.80	327	eP		P	23 47 42.6 -0.3
LNIG				epP		pP	23 48 10.0 -0.1
ZAIG	Zacatecas	47.84	322	epP		pP	23 48 12.4 +1.6
HOPE	Hope Point	47.89	152	eP		P	23 47 44.8 +1.5
	comp=Z,278nm,1.1s						
TIGA	Tifton	47.91	348	eP		P	23 47 43.3 -0.3
TIGA				epP		pP	23 48 13.4 +2.5
TIGA	Tifton	47.91	348	P		P	23 47 42.7 -0.9
	baz=167						
353A	Camilla	47.95	347	P		P	23 47 42.9 -1.0
	baz=166						
257A	Skidaway Islan	47.98	351	P		P	23 47 43.6 -0.5
	baz=170						
450A	Crestview	47.99	344	P		P	23 47 43.6 -0.6
	baz=163						
449A	Pace	48.11	344	P		P	23 47 44.6 -0.6
	baz=162						
256A	Glennville	48.12	350	P		P	23 47 44.9 -0.3
	baz=169,SNR=7.0						
255A	Hazlehurst	48.17	349	eP		P	23 47 45.5 -0.1
	comp=Z,206nm,1.5s						
255A	Hazlehurst	48.17	349	P		P	23 47 45.1 -0.5
	baz=168,SNR=7.0						
351A	Pinckard	48.19	346	P		P	23 47 45.2 -0.6
	baz=164						
352A	Blakely	48.23	346	eP		P	23 47 46.0 -0.2
	comp=Z,152nm,1.4s						
352A	Blakely	48.23	346	P		P	23 47 45.6 -0.5
	baz=165						
254A	Abbeville	48.34	348	P		P	23 47 46.3 -0.6
	baz=167,SNR=7.6						
BRAL	Brewton	48.45	344	P		P	23 47 47.3 -0.5
	baz=162						
350A	Dozier	48.51	345	P		P	23 47 47.4 -0.9
	baz=163,SNR=5.9						
158A	Hollywood	48.61	352	P		P	23 47 48.3 -0.7
	baz=171						
253A	Americus	48.62	348	eP		P	23 47 48.4 -0.7
	comp=Z,146nm,1.2s						
253A	Americus	48.62	348	P		P	23 47 48.1 -1.0
	baz=166,SNR=5.6						
349A	Repton	48.66	344	P		P	23 47 49.1 -0.3
	baz=162,SNR=7.8						
157A	Early Branch	48.67	351	P		P	23 47 49.4 0.0
	baz=170						
252A	Lumpkin	48.69	347	P		P	23 47 48.6 -0.9
	baz=165,SNR=15						
156A	Sylvania	48.72	351	P		P	23 47 49.2 -0.6
	baz=170,SNR=8.3						
RGRS	Roger Stewart	48.78	352	eP		P	23 47 50.6 +0.3
RGRS				epP		pP	23 48 19.9 +2.5
CSU	Charleston Sou	48.84	352	eP		P	23 47 51.0 +0.2
CSU				epP		pP	23 48 19.2 +1.2
155A	Kite	48.85	350	P		P	23 47 50.4 -0.4
	baz=168,SNR=24						
251A	Midway	48.93	346	P		P	23 47 50.5 -1.0
	baz=165,SNR=38						
154A	Montrose	48.95	349	eP		P	23 47 51.4 -0.3
	comp=Z,237nm,1.0s						
154A	Montrose	48.95	349	P		P	23 47 51.0 -0.6
	baz=168,SNR=7.1						
NHSC	New Hope	48.97	352	eP		P	23 47 52.1 +0.3
NHSC				epP		pP	23 48 20.2 +1.2
NHSC	New Hope	48.97	352	P		P	23 47 51.9 +0.1
	baz=171,SNR=15						
250A	Grady	49.02	345	eP		P	23 47 51.5 -0.7
250A				epP		pP	23 48 20.3 +0.5
250A	Grady	49.02	345	P		P	23 47 51.3 -0.9
	baz=164,SNR=10						
153A	Fort Valley	49.13	348	P		P	23 47 52.4 -0.6
	baz=167,SNR=5.4						
Z58A	St. Stephen	49.15	353	P		P	23 47 53.0 -0.1
	baz=172,SNR=7.1						
KVTX	Kingsville	49.21	331	eP		P	23 47 53.8 +0.1
	comp=Z,391nm,1.0s						
KVTX				epP		pP	23 48 23.2 +2.0
Z57A	Bowman	49.23	352	P		P	23 47 53.3 -0.4
	baz=171,SNR=9.6						
249A	Camden	49.24	344	P		P	23 47 53.2 -0.6
	baz=162,SNR=11						
151A	Opelika	49.33	346	P		P	23 47 53.4 -1.1
	baz=165,SNR=10						
152A	Waverly Hall	49.33	347	eP		P	23 47 53.6 -0.9
	comp=Z,96nm,0.9s						
152A	Waverly Hall	49.33	347	P		P	23 47 53.6 -0.9
	baz=166,SNR=40						
Z56A	Williston	49.36	351	P		P	23 47 54.3 -0.3
	baz=170						
Z55A	Blythe	49.38	350	P		P	23 47 54.2 -0.6
	baz=169						
PMSA	Palmer Station	49.44	175	P		P	23 47 56.6 +1.7
	comp=Z,48nm,1.0s,baz=334,slow=6.0,SNR=3.9						
PMSA	Palmer Station	49.44	175	eP		P	23 47 55.5 +0.6
Z54A	Sparta	49.51	349	P		P	23 47 55.0 -0.8
	baz=168,SNR=19						
150A	Eclectic	49.57	346	P		P	23 47 55.4 -0.9
	baz=164,SNR=26						
Y60A	Bolivia	49.64	354	P		P	23 47 56.6 -0.2
	baz=174						
Z53A	Monticello	49.69	349	P		P	23 47 56.2 -1.0
	baz=167,SNR=21						
Y58A	Scranton	49.70	353	P		P	23 47 57.0 -0.3
	baz=172,SNR=5.5						
149A	Jones	49.75	345	P		P	23 47 56.6 -1.1
	baz=163,SNR=27						
Z52A	Williamson	49.77	348	P		P	23 47 57.1 -0.7
	baz=166,SNR=41						
GOGA	Godfrey	49.80	349	eP		P	23 47 57.1 -0.9
	comp=Z,65nm,1.0s						
GOGA	Godfrey	49.80	349	P		P	23 47 57.2 -0.8
	baz=167,SNR=17						
Y56A	Pelion	49.80	351	P		P	23 47 57.3 -0.8
	baz=170						
Y57A	Sumter	49.90	352	P		P	23 47 58.2 -0.6
	baz=171,SNR=5.6						
148A	Greensboro	49.99	344	P		P	23 47 58.5 -1.0
	baz=162,SNR=11						
Y55A	Saluda	50.03	351	P		P	23 47 59.3 -0.5
	baz=169,SNR=20						
Z51A	Franklin	50.05	347	P		P	23 47 59.1 -0.9
	baz=165,SNR=8.5						
Y54A	Tignall	50.10	350	P		P	23 47 59.5 -0.8
	baz=168,SNR=19						
Z50A	Ashland	50.16	346	eP		P	23 47 59.7 -1.1
	comp=Z,94nm,0.8s						
Z50A	Ashland	50.16	346	P		P	23 47 60.0 -0.9
	baz=164,SNR=46						
X60A	Albert Glenn T	50.19	355	P		P	23 48 00.5 -0.5
	baz=174						
LRAL	Lakeview Retre	50.21	345	P		P	23 48 00.2 -1.0
	baz=163,SNR=30						
X59A	McDuffie Farm,	50.24	354	P		P	23 48 00.8 -0.5
	baz=173						
Z49A	Columbiana	50.25	345	P		P	23 48 00.4 -1.0
	baz=163,SNR=33						
Y53A	Monroe	50.25	349	P		P	23 48 00.5 -1.0
	baz=167,SNR=18						
JSC	Jenkinsville	50.28	351	eP		P	23 48 01.2 -0.5
JSC				epP		pP	23 48 30.2 +1.2
X57A	Johnson Farm,	50.30	353	P		P	23 48 01.2 -0.6
	baz=172						
X58A	Rowland	50.30	353	P		P	23 48 01.2 -0.6
	baz=172						
Y52A	Lilburn	50.35	348	eP		P	23 48 00.4 -1.8
Y52A				epP		pP	23 48 29.8 +0.1
Y52A	Lilburn	50.35	348	P		P	23 48 01.2 -1.0
	baz=167						
HKT	Hockley	50.36	334	eP		P	23 48 02.9 +0.7
HKT				epP		pP	23 48 29.8 0.0
HKT	Hockley	50.36	334	eP		P	23 48 02.2 0.0
HODGE	Hodges	50.38	350	eP		P	23 48 01.8 -0.6
HODGE				epP		pP	23 48 30.9 +1.1
VBMS	Vicksburg	50.45	341	P		P	23 48 02.4 -0.6
	baz=158						
X56A	White Oak	50.45	352	P		P	23 48 02.4 -0.6
	baz=170						
X55A	Gracelyn & Ava	50.52	351	P		P	23 48 02.9 -0.6
	baz=170						
833A	Chaparral WMA,	50.58	330	eP		P	23 48 04.6 +0.5
833A				epP		pP	23 48 32.2 +0.6
833A	Chaparral WMA,	50.58	330	P		P	23 48 04.0 -0.1
	baz=147						
Y51A	Rockmart	50.59	347	P		P	23 48 03.0 -1.0
	baz=165						
W60A	Pink Hill	50.64	355	P		P	23 48 04.3 -0.1
	baz=175						
W61A	Ground Anchor	50.71	356	P		P	23 48 05.0 +0.2
	baz=176						
X54A	Belton	50.71	350	P		P	23 48 04.3 -0.6
	baz=169						
Y50A	Piedmont	50.73	346	P		P	23 48 03.9 -1.1
	baz=165						
W58A	Raeford	50.75	354	P		P	23 48 04.8 -0.3
	baz=173						
W59A	Clinton	50.82	354	P		P	23 48 05.2 -0.5
	baz=174						
X53A	Estanollee	50.83	349	P		P	23 48 04.8 -0.9
	baz=168						
CNNC	Cliffs of the	50.84	355	eP		P	23 48 05.9 0.0
	comp=Z,43nm,0.8s						
CNNC	Cliffs of the	50.84	355	P		P	23 48 05.5 -0.3
	baz=174						
Y49A	Blount Mountai	50.86	346	eP		P	23 48 04.5 -1.5
	comp=Z,250nm,1.8s						
Y49A	Blount Mountai	50.86	346	P		P	23 48 04.7 -1.3
	baz=164						
PAULI	Pauline	50.89	351	eP		P	23 48 05.8 -0.4
PAULI				epP		pP	23 48 34.5 +0.8
W57A	Gilead	50.97	353	P		P	23 48 06.2 -0.6
	baz=172						
W56A	Indian Trail	51.02	352	P		P	23 48 06.6 -0.6
	baz=171						
X52A	Dahlonega	51.04	349	P		P	23 48 06.2 -1.2
	baz=167						
Y48A	Jasper	51.09	345	P		P	23 48 06.3 -1.5
	baz=163						
KMSC	Kings Mountain	51.13	351	eP		P	23 48 07.6 -0.4
	comp=Z,102nm,0.9s						
KMSC	Kings Mountain	51.13	351	P		P	23 48 07.6 -0.4
	baz=170						
X51A	Calhoun	51.19	348	eP		P	23 48 07.5 -1.0
X51A				epP		pP	23 48 36.6 +0.7
X51A	Calhoun	51.19	348	P		P	23 48 07.5 -1.0
	baz=166						
W54A	Cherokee Point	51.21	351	P		P	23 48 08.1 -0.5
	baz=169						
BG3	Lake Jocassee	51.24	350	eP		P	23 48 08.7 -0.2
BG3				epP		pP	23 48 37.5 +1.3
X50B	Fort Payne	51.26	347	P		P	23 48 07.8 -1.2
	baz=165						
V61A	Roper	51.29	356	P		P	23 48 09.1 -0.1
	baz=176						
V60A	Jim Taylor Roa	51.31	356	P		P	23 48 09.2 -0.2
	baz=175						
V59A	Middlesex	51.39	355	P		P	23 48 09.6 -0.3
	baz=174						
W53A	Cullowhee	51.45	350	P		P	23 48 09.8 -0.8
	baz=168						
X49A	Woodville	51.46	346	P		P	23 48 09.2 -1.3
	baz=164						
NATX	Nacogdoches	51.48	336	P		P	23 48 10.8 +0.1
	baz=154						
V58A	Windy Hill, Pi	51.50	354	P		P	23 48 10.1 -0.7
	baz=173						
W52A	Murphy	51.52	349	eP		P	23 48 10.2 -0.8
W52A				epP		pP	23 48 39.3 +0.9
W52A	Murphy	51.52	349	P		P	23 48 10.1 -0.9
	baz=167						
X48A	Hartselle	51.58	345	eP		P	23 48 09.9 -1.5
	comp=Z,294nm,1.6s						
X48A	Hartselle	51.58	345	P		P	23 48 10.1 -1.2
	baz=163						
V57A	Coltrane Farms	51.67	353	P		P	23 48 11.4 -0.7
	baz=172						
V56A	Mocksville	51.68	352	P		P	23 48 11.7 -0.4
	baz=171						
W51A	Cleveland	51.75	348	P		P	23 48 11.7 -0.9
	baz=166						
V55A	Taylorsville	51.81	352	P		P	23 48 12.8 -0.4
	baz=170						
U61A	Possum Corner	51.82	357	P		P	23 48 12.9 -0.2
	baz=176						
435B	Jarrell	51.83	333	P		P	23 48 13.1 -0.3
	baz=150						
X47A	Russelville	51.84	345	P		P	23 48 11.8 -1.6
	baz=162						
V54A	Nebo	51.85	351	P		P	23 48 12.8 -0.6
	baz=170						
V53A	Saluda	51.88	350	eP		P	23 48 12.8 -0.9
	comp=Z,51nm,1.0s						
V53A	Saluda	51.88	350	P		P	23 48 12.7 -1.0
	baz=168						
W50A	Signal Mountai	51.90	347	eP		P	23 48 12.4 -1.4
	comp=Z,104nm,0.9s						
W50A	Signal Mountai	51.90	347	P		P	23 48 12.6 -1.2
	baz=165						
U59A	Littleton	51.94	355	P		P	23 48 13.7 -0.2
	baz=175						
CPCT	Cooper Cave	51.98	348	eP		P	23 48 13.4 -1.0
CPCT				epP		pP	23 48 42.2 +0.4
U60A	Pendleton	52.01	356	P		P	23 48 14.3 -0.2
	baz=175						
W49A	Belvidere	52.03	346	P		P	23 48 13.4 -1.3
	baz=164						
U58A	Oxford	52.04	354	P		P	23 48 14.3 -0.5
	baz=174						
SWET	Sewanee	52.05	347	eP		P	23 48 13.4 -1.5
	comp=Z,100nm,0.8s						
X46A	Booneville	52.07	344	P		P	23 48 13.4 -1.6
	baz=161						
Z41A	Richland Creek	52.15	339	eP		P	23 48 14.7 -1.0
Z41A				epP		pP	23 48 44.5 +1.2
Z41A	Richland Creek	52.15	339	P		P	23 48 15.7 0.0
	baz=156						
U57A	Blanch	52.16	354	P		P	23 48 15.0 -0.6
	baz=173						
V52A	Sevierville	52.19	349	eP		P	23 48 14.3 -1.6
	comp=Z,141nm,1.0s						
V52A	Sevierville	52.19	349	P		P	23 48 14.8 -1.1
	baz=168						
U56A	King	52.19	353	P		P	23 48 15.8 -0.1
	baz=171						
W48A	Pulaski	52.20	346	P		P	23 48 14.6 -1.4
	baz=163						
OXF	Oxford	52.25	343	eP		P	23 48 15.0 -1.4
OXF				epP		pP	23 48 44.2 +0.1
OXF	Oxford	52.25	343	P		P	23 48 15.3 -1.1
OXF	Oxford	52.25	343	P		P	23 48 14.8 -1.6
	baz=160						
V51A	Loudon	52.29	348	eP		P	23 48 15.9 -0.7
V51A				epP		pP	23 48 44.7 +0.5
V51A	Loudon	52.29	348	P		P	23 48 15.5 -1.1
	baz=167						
V50A	Pikevile	52.31	348	P		P	23 48 15.7 -1.1
	baz=166						
PLAL	Pickwick Lake	52.34	345	eP		P	23 48 14.8 -2.2
PLAL				epP		pP	23 48 44.2 -0.5
CCAR	Cane Creek	52.41	340	eP		P	23 48 18.0 +0.5
CCAR				epP		pP	23 48 46.8 +1.6
U55A	TA2, Sparta	52.43	352	P		P	23 48 17.1 -0.7
	baz=171						
W47A	Westpoint	52.47	345	P		P	23 48 16.4 -1.6
	baz=163						
U53A	Fall Branch	52.52	350	P		P	23 48 17.2 -1.2
	baz=169						
T59A	Double "B" Far	52.53	356	P		P	23 48 18.4 0.0
	baz=175						
U54A	Nelsons Funny	52.56	351	P		P	23 48 17.9 -0.9
	baz=170						
W46A	Michie	52.56	344	P		P	23 48 16.6 -2.1
	baz=162						
V49A	McMinnville	52.57	347	P		P	23 48 17.3 -1.5
	baz=165						
JCT	Junction City	52.57	331	eP		P	23 48 18.9 0.0
JCT				epP		pP	23 48 46.8 +0.1
JCT	Junction City	52.57	331	P		P	23 48 18.5 -0.5
	baz=147						
T58A	Grand View Acr	52.59	355	P		P	23 48 18.6 -0.2
	baz=174						
T60A	Surry	52.64	356	P		P	23 48 19.1 -0.1
	baz=176						
WLAR	White Oak Lake	52.65	339	eP		P	23 48 20.1 +0.7
	comp=Z,344nm,1.0s						
U52A	Thorn Hill	52.68	350	P		P	23 48 18.2 -1.4
	baz=168						
X43A	Marvell	52.69	342	P		P	23 48 18.4 -1.2
	baz=159						
T57A	Hurt	52.71	354	P		P	23 48 19.3 -0.4
	baz=173						
V48A	Smith Brothers	52.75	346	eP		P	23 48 18.9 -1.2
	comp=Z,135nm,1.0s						
V48A	Smith Brothers	52.75	346	P		P	23 48 18.8 -1.3
	baz=164						
U51A	La Follette	52.78	349	P		P	23 48 19.1 -1.2
	baz=167						
WHTX	Lake Whitney,	52.81	334	eP		P	23 48 20.4 -0.1
WHTX				epP		pP	23 48 48.9 +0.5
WHTX	Lake Whitney,	52.81	334	P		P	23 48 20.3 -0.3
	baz=150						
T56A	Rocky Mt	52.82	353	P		P	23 48 20.4 -0.2
	baz=172						
HPIG		52.83	323	eP		P	23 48 21.1 +0.1
HPIG				epP		pP	23 48 48.9 +0.2
TZTN	Tazewell	52.86	350	eP		P	23 48 19.8 -1.1
	comp=Z,80nm,1.0s						
TZTN	Tazewell	52.86	350	P		P	23 48 19.7 -1.1
	baz=168						
U50A	Jamestown	52.98	348	P		P	23 48 20.3 -1.4
	baz=166						
V47A	Nunnelly	53.00	345	P		P	23 48 20.0 -1.9
	baz=163						
T55A	Pulaski	53.00	352	P		P	23 48 21.7 -0.3
	baz=171						
BLA	Blacksburg	53.05	353	eP		P	23 48 22.0 -0.3
BLA				epP		pP	23 48 52.0 +1.9
BLA	Blacksburg	53.05	353	P		P	23 48 22.0 -0.3
	baz=172						
T54A	Tazewell	53.05	352	P		P	23 48 21.5 -0.9
	baz=170						
T53A	Wise	53.12	351	P		P	23 48 21.8 -1.1
	baz=169						
V46A	Holladay	53.12	345	P		P	23 48 20.4 -2.4
	baz=162						
SLBS	Sierra La Lagu	53.13	317	eP		P	23 48 23.9 +0.7
SLBS				epP		pP	23 48 51.5 +0.6
S60A	Water View	53.20	357	P		P	23 48 23.4 +0.1
	baz=176						
S58A	Poland Farm, P	53.21	355	P		P	23 48 23.2 -0.1
	baz=174						
U49A	Red Boiling Sp	53.26	347	P		P	23 48 22.3 -1.5
	baz=165						
X40A	Basin Creek Fa	53.28	340	eP		P	23 48 23.6 -0.3
	comp=Z,38nm,1.6s						
X40A				epP		pP	23 48 52.5 +0.8
X40A	Basin Creek Fa	53.28	340	P		P	23 48 23.0 -1.0
	baz=156						
S59A	Mechanicsville	53.30	356	P		P	23 48 23.9 -0.1
	baz=175						
T52A	Hallie	53.31	350	P		P	23 48 23.0 -1.2
	baz=168						
T51A	Gray	53.34	349	P		P	23 48 23.4 -0.9
	baz=167						
WVT	Waverly	53.37	345	eP		P	23 48 22.6 -1.9
	comp=Z,91nm,1.1s						
WVT	Waverly	53.37	345	P		P	23 48 22.6 -1.9

WVT			pmax	pmax		
	comp=Z,91nm,1.1s					
WVT	**Waverly**	**53.37 345**	P	**P**	**23 48 22.7**	**-1.9**
	baz=163					
UALR	**University of**	**53.39 340**	*e*P	**P**	**23 48 23.6**	**-1.1**
UALR			*ep*P	**pP**	**23 48 52.8**	**+0.4**
S56A	**Natural Bridge**	**53.41 354**	P	**P**	**23 48 24.6**	**-0.4**
	baz=172					
U48A	**Cassie Pea, Po**	**53.43 347**	P	**P**	**23 48 23.5**	**-1.5**
	baz=164					
S57A	**Dark Hollow, R**	**53.43 354**	P	**P**	**23 48 24.8**	**-0.2**
	baz=173					
U47A	**Clarksville**	**53.53 346**	P	**P**	**23 48 24.0**	**-1.7**
	baz=163					
R58B	**Mineral**	**53.54 355**	*e*P	**P**	**23 48 25.9**	**+0.1**
R58B			*ep*P	**pP**	**23 48 55.5**	**+1.9**
R58B	**Mineral**	**53.54 355**	P	**P**	**23 48 25.6**	**-0.2**
	baz=175					
T50A	**Nancy**	**53.56 348**	P	**P**	**23 48 24.5**	**-1.4**
	baz=166					
TXAR	**Lajitas Array**	**53.58 327**	*e*P	**P**	**23 48 25.4**	**-0.9**
TXAR	**Lajitas Array**	**53.58 327**	P	**P**	**23 48 25.8**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=146,slow=9.1,SNR=19					
TXAR			pP	**pP**	**23 48 54.2**	**+0.2**
	comp=Z,38nm,1.0s,baz=144,slow=9.4,SNR=33					
TX31	**Lajitas Ar. Si**	**53.58 327**	*e*P	**P**	**23 48 26.3**	**-0.1**
	comp=Z,66nm,1.0s					
MIAR	**Mount Ida**	**53.59 339**	*e*P	**P**	**23 48 25.6**	**-0.7**
	comp=Z,92nm,1.0s					
MIAR	**Mount Ida**	**53.59 339**	P	**P**	**23 48 25.8**	**-0.4**
	baz=156					
S55A	**Lewisburg**	**53.61 353**	P	**P**	**23 48 26.1**	**-0.3**
	baz=171					
U46A	**Springville**	**53.67 345**	P	**P**	**23 48 24.9**	**-1.8**
	baz=162					
W41B	**Gary Mavity, V**	**53.72 341**	*e*P	**P**	**23 48 26.1**	**-1.0**
	comp=Z,442nm,1.8s					
W41B	**Gary Mavity, V**	**53.72 341**	P	**P**	**23 48 26.2**	**-1.0**
	baz=157					
R59A	**King George, V**	**53.72 356**	P	**P**	**23 48 27.3**	**+0.3**
	baz=176					
S53A	**Williamson**	**53.74 351**	P	**P**	**23 48 26.2**	**-1.1**
	baz=170					
CBN	**Corbin Frederi**	**53.74 356**	*e*P	**P**	**23 48 27.4**	**+0.1**
	comp=Z,82nm,0.8s					
CBN			*ep*P	**pP**	**23 48 57.4**	**+2.3**
CBN	**Corbin Frederi**	**53.74 356**	P	**P**	**23 48 27.3**	**0.0**
	baz=175					
R60A	**Leonardtown, M**	**53.76 357**	P	**P**	**23 48 27.7**	**+0.3**
	baz=176					
T49A	**Edmonton**	**53.78 348**	*e*P	**P**	**23 48 26.2**	**-1.4**
	comp=Z,180nm,0.9s					
T49A	**Edmonton**	**53.78 348**	P	**P**	**23 48 26.4**	**-1.2**
	baz=165					
WHAR	**Wooly Hollow**	**53.84 341**	*e*P	**P**	**23 48 27.2**	**-0.8**
	comp=Z,127nm,1.1s					
R58A	**Rapidan**	**53.88 355**	P	**P**	**23 48 28.4**	**+0.1**
	baz=174					
S52A	**Salyersville**	**53.89 350**	P	**P**	**23 48 26.9**	**-1.5**
	baz=168					
R57A	**Stanardsville**	**53.93 355**	P	**P**	**23 48 28.7**	**+0.1**
	baz=174					
S51A	**Beattyville**	**53.94 350**	*e*P	**P**	**23 48 26.7**	**-2.0**
S51A			*ep*P	**pP**	**23 48 56.7**	**+0.4**
S51A	**Beattyville**	**53.94 350**	P	**P**	**23 48 27.2**	**-1.5**
	baz=168					
T48A	**Bowling Green**	**53.97 347**	P	**P**	**23 48 27.4**	**-1.5**
	baz=164					
T47A	**Sharon Grove**	**54.01 346**	*e*P	**P**	**23 48 27.9**	**-1.4**
	comp=Z,79nm,1.0s					
T47A	**Sharon Grove**	**54.01 346**	P	**P**	**23 48 27.8**	**-1.5**
	baz=164					
R54A	**Victor**	**54.08 352**	P	**P**	**23 48 28.9**	**-0.8**
	baz=171					
S50A	**Richmond**	**54.12 349**	P	**P**	**23 48 28.9**	**-1.1**
	baz=167					
T46A	**Princeton**	**54.25 345**	P	**P**	**23 48 29.2**	**-1.7**
	baz=163					
W39A	**Magazine**	**54.25 339**	*e*P	**P**	**23 48 31.1**	**+0.1**
	comp=Z,490nm,1.8s					
W39A	**Magazine**	**54.25 339**	P	**P**	**23 48 31.1**	**+0.1**
	baz=156					
X37A	**Clayton**	**54.27 337**	*e*P	**P**	**23 48 31.3**	**+0.1**
	comp=Z,331nm,1.3s					
ABTX	**Abilene, Hawle**	**54.31 332**	*e*P	**P**	**23 48 30.5**	**-1.0**
ABTX			*ep*P	**pP**	**23 48 59.8**	**+0.3**
ABTX	**Abilene, Hawle**	**54.31 332**	P	**P**	**23 48 31.2**	**-0.4**
	baz=148					
R53A	**Hurricane**	**54.35 351**	P	**P**	**23 48 30.6**	**-1.1**
	baz=170					
Q59A	**Harwood**	**54.36 357**	P	**P**	**23 48 31.6**	**-0.1**
	baz=176					
S49A	**Springfield**	**54.39 348**	P	**P**	**23 48 30.6**	**-1.4**
	baz=166					
T45A	**Paducah**	**54.41 345**	P	**P**	**23 48 30.6**	**-1.5**
	baz=162					
S48A	**Wiedeman Farm,**	**54.42 347**	P	**P**	**23 48 30.6**	**-1.6**
	baz=165					
R52A	**Catlettsburg**	**54.46 351**	P	**P**	**23 48 30.9**	**-1.6**
	baz=169					
S47A	**Hartford**	**54.54 347**	P	**P**	**23 48 31.6**	**-1.4**
	baz=164					
R51A	**Hillsboro**	**54.58 350**	P	**P**	**23 48 32.1**	**-1.2**
	baz=168					
Q57A	**Strasburg**	**54.65 355**	P	**P**	**23 48 34.2**	**+0.4**
	baz=174					
PBMO	**Poplar Bluff**	**54.66 343**	*e*P	**P**	**23 48 32.4**	**-1.5**
	comp=Z,288nm,1.6s					
R50A	**Paris**	**54.69 349**	P	**P**	**23 48 32.9**	**-1.3**
	baz=167					
U41A	**Viola**	**54.70 341**	P	**P**	**23 48 33.0**	**-1.3**
	baz=158					
Q55A	**Buckhannon**	**54.77 353**	P	**P**	**23 48 34.7**	**-0.1**
	baz=172					
Q53A	**Leroy**	**54.81 352**	P	**P**	**23 48 34.3**	**-0.7**
	baz=170					
S46A	**Don Dixon Farm**	**54.82 346**	P	**P**	**23 48 33.6**	**-1.4**
	baz=163					
Q54A	**Coxs Mills**	**54.85 353**	P	**P**	**23 48 34.3**	**-1.0**
	baz=171					
R49A	**Shelbyville**	**54.86 348**	P	**P**	**23 48 33.8**	**-1.5**
	baz=166					
SDMD	**Soldier's Deli**	**54.91 357**	*e*P	**P**	**23 48 36.1**	**+0.4**
	comp=Z,35nm,0.9s					
U40A	**Yellville**	**55.00 341**	P	**P**	**23 48 35.7**	**-0.8**
	baz=157					
Q52A	**Bidwell**	**55.02 351**	P	**P**	**23 48 35.3**	**-1.2**
	baz=170					
S45A	**Carrier Mills**	**55.02 345**	P	**P**	**23 48 35.2**	**-1.3**
	baz=162					
WCI	**Wyandotte Cave**	**55.02 347**	*e*P	**P**	**23 48 35.2**	**-1.4**
	comp=Z,260nm,0.9s					
WCI	**Wyandotte Cave**	**55.02 347**	P	**P**	**23 48 35.2**	**-1.4**
WCI			pmax	pmax		
	comp=Z,260nm,1.0s					
WCI	**Wyandotte Cave**	**55.02 347**	P	**P**	**23 48 35.1**	**-1.4**
	baz=165					
USIN	**University of**	**55.07 346**	*e*P	**P**	**23 48 35.6**	**-1.3**
USIN			*ep*P	**pP**	**23 49 04.5**	**-0.3**
P59A	**Jarrettsville**	**55.09 357**	P	**P**	**23 48 36.9**	**0.0**
	baz=176					
R48A	**Northridge Ran**	**55.10 348**	P	**P**	**23 48 35.7**	**-1.4**
	baz=165					
R47A	**Wooly Knot Far**	**55.14 347**	P	**P**	**23 48 35.8**	**-1.6**
	baz=164					
Q50A	**Georgetown**	**55.17 350**	P	**P**	**23 48 36.1**	**-1.6**
	baz=168					
S44A	**Carbondale**	**55.20 344**	P	**P**	**23 48 36.7**	**-1.2**
	baz=161					
SIUC	**Southern Illin**	**55.22 345**	*e*P	**P**	**23 48 36.6**	**-1.3**
	comp=Z,155nm,0.9s					
Q51A	**Peebles**	**55.25 350**	*e*P	**P**	**23 48 36.9**	**-1.3**
Q51A			*ep*P	**pP**	**23 49 06.3**	**+0.4**
Q51A	**Peebles**	**55.25 350**	P	**P**	**23 48 36.8**	**-1.3**
	baz=168					
P55A	**Reedsville**	**55.25 354**	P	**P**	**23 48 37.9**	**-0.3**
	baz=172					
P60A	**Greenville**	**55.25 358**	P	**P**	**23 48 37.9**	**-0.3**
	baz=177					
R46A	**Gibon Southern**	**55.27 346**	P	**P**	**23 48 36.8**	**-1.5**
	baz=163					
HHAR	**Hobbs**	**55.29 340**	*e*P	**P**	**23 48 37.9**	**-0.7**
	comp=Z,357nm,1.7s					
PSUB	**Penn St. - Bra**	**55.36 358**	*e*P	**P**	**23 48 38.8**	**-0.1**
PSUB			*ep*P	**pP**	**23 49 08.4**	**+1.5**
MCWV	**Mont Chateau**	**55.40 354**	*e*P	**P**	**23 48 39.0**	**-0.2**
MCWV			*ep*P	**pP**	**23 49 08.6**	**+1.4**
MCWV	**Mont Chateau**	**55.40 354**	P	**P**	**23 48 38.9**	**-0.4**
	baz=172					
P53A	**Whipple**	**55.41 352**	*e*P	**P**	**23 48 38.0**	**-1.3**
P53A			*ep*P	**pP**	**23 49 08.0**	**+0.6**
P53A	**Whipple**	**55.41 352**	P	**P**	**23 48 38.5**	**-0.9**
	baz=171					
P54A	**Burton**	**55.42 353**	P	**P**	**23 48 38.7**	**-0.6**
	baz=172					
MVL	**Millersville**	**55.47 357**	*e*P	**P**	**23 48 40.1**	**+0.4**
	comp=Z,74nm,1.0s					
Q49A	**Aurora**	**55.50 349**	P	**P**	**23 48 38.3**	**-1.6**
	baz=166					
R45A	**Skylar, Fairfi**	**55.53 346**	P	**P**	**23 48 38.9**	**-1.3**
	baz=162					
Q48A	**North Vernon**	**55.58 348**	P	**P**	**23 48 38.9**	**-1.6**
	baz=166					
TUL1	**Leonard**	**55.60 338**	*e*P	**P**	**23 48 40.2**	**-0.6**
TUL1			*ep*P	**pP**	**23 49 09.0**	**+0.4**
TUL1	**Leonard**	**55.60 338**	P	**P**	**23 48 40.3**	**-0.4**
	baz=154					
P51A	**Williamsport**	**55.65 351**	*e*P	**P**	**23 48 39.6**	**-1.4**
P51A			*ep*P	**pP**	**23 49 08.5**	**-0.2**
P51A	**Williamsport**	**55.65 351**	P	**P**	**23 48 39.3**	**-1.7**
	baz=169					
P52A	**Corning**	**55.66 352**	P	**P**	**23 48 39.6**	**-1.5**
	baz=170					
PAGS	**Pennsylvania G**	**55.72 357**	*e*P	**P**	**23 48 41.5**	**0.0**
PAGS			*ep*P	**pP**	**23 49 11.1**	**+1.7**
Q47A	**Bedord North L**	**55.73 347**	P	**P**	**23 48 40.1**	**-1.5**
	baz=165					
WMOK	**Wichita Mounta**	**55.74 334**	*e*P	**P**	**23 48 40.6**	**-1.2**
	comp=Z,103nm,1.4s					
WMOK	**Wichita Mounta**	**55.74 334**	P	**P**	**23 48 40.7**	**-1.2**
	baz=150					
O60A	**Telford**	**55.75 358**	P	**P**	**23 48 41.7**	**0.0**
	baz=178					
O59A	**Robesonia**	**55.77 357**	P	**P**	**23 48 42.0**	**+0.1**
	baz=177					
FVM	**French Village**	**55.79 344**	*e*P	**P**	**23 48 40.8**	**-1.3**
	comp=Z,217nm,1.4s					
FVM	**French Village**	**55.79 344**	P	**P**	**23 48 40.8**	**-1.3**
FVM			pmax	pmax		
	comp=Z,217nm,1.4s					
S41A	**Jillco Farms,**	**55.80 342**	P	**P**	**23 48 40.8**	**-1.3**
	baz=158					
O56A	**Blue Knob Stat**	**55.89 355**	*e*P	**P**	**23 48 43.0**	**+0.2**
	comp=Z,144nm,1.2s					
O56A	**Blue Knob Stat**	**55.89 355**	P	**P**	**23 48 42.8**	**+0.1**
	baz=174					
P50A	**Jamestown**	**55.89 350**	P	**P**	**23 48 41.2**	**-1.5**
	baz=168					
O55A	**Ligonier**	**55.89 354**	P	**P**	**23 48 42.6**	**-0.2**
	baz=173					
OLIL	**Olney**	**55.91 346**	*e*P	**P**	**23 48 41.4**	**-1.4**
OLIL			*ep*P	**pP**	**23 49 10.2**	**-0.6**
OK023	**East Waterloo**	**55.95 336**	*e*P	**P**	**23 48 42.8**	**-0.5**
OK023			*ep*P	**pP**	**23 49 10.9**	**-0.2**
BLO	**Bloomington**	**55.98 347**	*ep*P	pP	23 49 11.2	-0.1
P49A	**Miami Univ. Ec**	**55.98 349**	P	**P**	**23 48 41.4**	**-2.0**
	baz=167					
O54A	**Avella**	**55.98 353**	P	**P**	**23 48 42.3**	**-1.0**
	baz=172					
Q46A	**CEJHS Indians,**	**56.02 347**	P	**P**	**23 48 41.5**	**-2.1**
	baz=164					
LUPA	**Lehigh Univers**	**56.03 358**	*e*P	**P**	**23 48 44.0**	**+0.4**
LUPA			*ep*P	**pP**	**23 49 13.9**	**+2.2**
P48A	**Milroy**	**56.04 349**	P	**P**	**23 48 41.7**	**-2.1**
	baz=166					
Q45A	**Warren Harvey,**	**56.07 346**	P	**P**	**23 48 42.5**	**-1.5**
	baz=163					
CCM	**Cathedral Cave**	**56.09 343**	*e*P	**P**	**23 48 42.7**	**-1.4**
	comp=Z,156nm,1.5s					
CCM	**Cathedral Cave**	**56.09 343**	P	**P**	**23 48 42.7**	**-1.4**
CCM			pmax	pmax		
	comp=Z,156nm,1.5s					
CCM	**Cathedral Cave**	**56.09 343**	P	**P**	**23 48 42.6**	**-1.5**
	baz=159					
BRNJ	**Basking Ridge**	**56.09 359**	*e*P	**P**	**23 48 44.5**	**+0.4**
BRNJ			*ep*P	**pP**	**23 49 13.8**	**+1.7**
O52A	**Adamsville**	**56.09 352**	*e*P	**P**	**23 48 43.0**	**-1.2**
O52A			*ep*P	**pP**	**23 49 12.4**	**+0.2**
O52A	**Adamsville**	**56.09 352**	P	**P**	**23 48 42.9**	**-1.2**
	baz=170					
O53A	**New Philadelph**	**56.14 353**	P	**P**	**23 48 43.4**	**-1.1**
	baz=171					
SSPA	**Standing Stone**	**56.20 356**	P	**P**	**23 48 45.0**	**0.0**
	baz=175					
P47A	**Martinsville**	**56.23 348**	P	**P**	**23 48 43.4**	**-1.7**
	baz=165					
O51A	**Pataskala**	**56.23 351**	P	**P**	**23 48 43.7**	**-1.5**
	baz=169					
MNTX	**Cornudas Mount**	**56.34 327**	*e*P	**P**	**23 48 45.1**	**-1.0**
	comp=Z,95nm,1.3s					
MNTX	**Cornudas Mount**	**56.34 327**	P	**P**	**23 48 45.2**	**-1.0**
	baz=142					
R41A	**Rosebud**	**56.35 343**	P	**P**	**23 48 44.8**	**-1.2**
	baz=159					
SLM	**Saint Louis**	**56.35 344**	*e*P	**P**	**23 48 45.2**	**-0.8**
SLM			*ep*P	**pP**	**23 49 14.0**	**-0.1**
SLM	**Saint Louis**	**56.35 344**	P	**P**	**23 48 45.2**	**-0.8**
N59A	**State Game Lan**	**56.36 358**	*e*P	**P**	**23 48 46.3**	**+0.2**
N59A			*ep*P	**pP**	**23 49 15.9**	**+1.7**
N59A	**State Game Lan**	**56.36 358**	P	**P**	**23 48 46.1**	**+0.1**
	baz=177					
ACSO	**Alum Creek Sta**	**56.37 351**	*e*P	**P**	**23 48 44.9**	**-1.2**
ACSO			*ep*P	**pP**	**23 49 14.3**	**+0.4**
ACSO	**Alum Creek Sta**	**56.37 351**	P	**P**	**23 48 44.8**	**-1.4**
	baz=169					
O50A	**Cable**	**56.39 350**	P	**P**	**23 48 44.6**	**-1.7**
	baz=168					
PAL	**Palisades**	**56.40 359**	*e*P	**P**	**23 48 46.1**	**-0.2**
PAL			*ep*P	**pP**	**23 49 16.1**	**+1.7**
PAL	**Palisades**	**56.40 359**	P	**P**	**23 48 46.1**	**-0.2**
PAL	**Palisades**	**56.40 359**	P	**P**	**23 48 45.7**	**-0.6**
	baz=179					
N55A	**Marion Center**	**56.43 355**	P	**P**	**23 48 46.4**	**-0.2**
	baz=174					
ODNJ	**Ogdensburg**	**56.49 359**	*e*P	**P**	**23 48 46.6**	**-0.3**
	comp=Z,108nm,1.8s					
ODNJ			*ep*P	**pP**	**23 49 16.7**	**+1.7**
O49A	**Covington**	**56.55 350**	*e*P	**P**	**23 48 45.8**	**-1.6**
O49A			*ep*P	**pP**	**23 49 15.2**	**0.0**
O49A	**Covington**	**56.55 350**	P	**P**	**23 48 45.6**	**-1.8**
	baz=167					
P46A	**Rosedale**	**56.55 347**	P	**P**	**23 48 45.6**	**-1.8**
	baz=164					
P45A	**Graceland, Par**	**56.58 347**	*e*P	**P**	**23 48 45.8**	**-1.9**
P45A			*ep*P	**pP**	**23 49 15.1**	**-0.5**
P45A	**Graceland, Par**	**56.58 347**	P	**P**	**23 48 45.7**	**-1.9**
	baz=163					
CPRX	**Cap Rock**	**56.63 329**	*ep*P	pP	23 49 13.0	-3.3
N53A	**Lisbon**	**56.65 353**	P	**P**	**23 48 47.1**	**-1.0**
	baz=171					
Q42A	**Golden Eagle**	**56.69 344**	P	**P**	**23 48 47.3**	**-1.1**
	baz=160					
YLE	**Yale**	**56.71 0**	*e*P	**P**	**23 48 48.6**	**+0.2**
	comp=Z,172nm,1.0s					
YLE			*ep*P	**pP**	**23 49 18.8**	**+2.0**
N54A	**Moraine State**	**56.71 354**	*e*P	**P**	**23 48 47.6**	**-0.9**
N54A			*ep*P	**pP**	**23 49 17.6**	**+1.0**
N54A	**Moraine State**	**56.71 354**	P	**P**	**23 48 48.0**	**-0.5**
	baz=172					
O48A	**Farmland**	**56.76 349**	P	**P**	**23 48 47.0**	**-1.9**
	baz=166					
N52A	**McGinn's Farm,**	**56.76 352**	P	**P**	**23 48 47.5**	**-1.3**
	baz=170					
MSTX	**Muleshoe**	**56.87 331**	*e*P	**P**	**23 48 49.1**	**-0.9**
MSTX			*ep*P	**pP**	**23 49 17.6**	**-0.2**
MSTX	**Muleshoe**	**56.87 331**	P	**P**	**23 48 49.0**	**-0.9**
	baz=146					
N50A	**Nevada**	**56.92 351**	P	**P**	**23 48 48.4**	**-1.7**
	baz=169					
O47A	**Sheridan**	**56.93 348**	P	**P**	**23 48 48.0**	**-2.1**
	baz=165					
N51A	**Ashland**	**56.95 352**	*e*P	**P**	**23 48 49.1**	**-1.2**
N51A			*ep*P	**pP**	**23 49 18.2**	**-0.2**
N51A	**Ashland**	**56.95 352**	P	**P**	**23 48 48.6**	**-1.6**
	baz=170					
KSPA	**Keystone Colle**	**57.00 358**	*e*P	**P**	**23 48 50.7**	**+0.1**
KSPA			*ep*P	**pP**	**23 49 20.8**	**+2.1**
M55A	**Ridgway**	**57.09 355**	P	**P**	**23 48 51.0**	**-0.3**
	baz=174					
P43A	**Skaggs, Pawnee**	**57.11 345**	P	**P**	**23 48 49.9**	**-1.5**
	baz=161					
AMTX	**Amarillo**	**57.12 332**	*e*P	**P**	**23 48 49.8**	**-1.9**
AMTX			*ep*P	**pP**	**23 49 18.6**	**-1.0**
AMTX	**Amarillo**	**57.12 332**	P	**P**	**23 48 50.5**	**-1.2**
	baz=147					
M54A	**Oil Creek Stat**	**57.22 354**	*e*P	**P**	**23 48 50.7**	**-1.4**
	comp=Z,121nm,1.0s					
M54A	**Oil Creek Stat**	**57.22 354**	P	**P**	**23 48 51.5**	**-0.6**
	baz=173					
N49A	**Columbus Grove**	**57.23 350**	*e*P	**P**	**23 48 50.0**	**-2.2**
N49A			*ep*P	**pP**	**23 49 20.3**	**+0.2**
N49A	**Columbus Grove**	**57.23 350**	P	**P**	**23 48 50.7**	**-1.5**
	baz=168					
M53A	**WI Miller and**	**57.25 353**	P	**P**	**23 48 51.3**	**-1.0**
	baz=172					
SFIN	**Lafayette**	**57.26 347**	*e*P	**P**	**23 48 50.2**	**-2.2**
SFIN			*ep*P	**pP**	**23 49 19.5**	**-0.9**
SFIN	**Lafayette**	**57.26 347**	P	**P**	**23 48 50.2**	**-2.2**
	baz=164					
O45A	**Potomac**	**57.27 347**	P	**P**	**23 48 50.2**	**-2.3**
	baz=164					
N48A	**Decatur**	**57.32 349**	P	**P**	**23 48 51.0**	**-1.8**
	baz=167					
BRYW	**Bryant College**	**57.33 1**	*e*P	**P**	**23 48 53.0**	**+0.1**
	comp=Z,148nm,0.9s					
BRYW			*ep*P	**pP**	**23 49 22.5**	**+1.3**
M51A	**Elyria**	**57.34 352**	P	**P**	**23 48 51.4**	**-1.5**
	baz=170					
O44A	**Mansfield**	**57.34 346**	P	**P**	**23 48 50.7**	**-2.3**
	baz=163					
ALLY	**Alegheny Colle**	**57.40 354**	*e*P	**P**	**23 48 52.4**	**-1.0**
ALLY			*ep*P	**pP**	**23 49 22.1**	**+0.5**
M52A	**Chesterland**	**57.43 353**	P	**P**	**23 48 52.4**	**-1.3**
	baz=171					
N47A	**Urbana**	**57.46 349**	P	**P**	**23 48 51.8**	**-2.0**
	baz=166					
HSIG		**57.51 320**	*ep*P	pP	23 49 22.9	+0.4
M50A	**Fremont**	**57.53 351**	*e*P	**P**	**23 48 53.0**	**-1.3**
M50A			*ep*P	**pP**	**23 49 22.5**	**+0.3**
M50A	**Fremont**	**57.53 351**	P	**P**	**23 48 52.8**	**-1.5**
	baz=169					
BINY	**Binghamton**	**57.65 358**	*e*P	**P**	**23 48 55.4**	**+0.2**
	comp=Z,136nm,1.0s					
BINY	**Binghamton**	**57.65 358**	P	**P**	**23 48 55.3**	**+0.2**
	baz=177					
QUA2	**Belchertown**	**57.67 1**	*e*P	**P**	**23 48 55.2**	**0.0**
QUA2			*ep*P	**pP**	**23 49 25.1**	**+1.5**
N46A	**Monticello**	**57.68 348**	P	**P**	**23 48 53.2**	**-2.1**
	baz=165					
L53A	**Girard**	**57.72 354**	P	**P**	**23 48 54.8**	**-0.8**
	baz=172					
M49A	**Liberty Center**	**57.74 350**	P	**P**	**23 48 54.1**	**-1.6**
	baz=168					
L55A	**Hinsdale**	**57.78 355**	P	**P**	**23 48 55.9**	**-0.2**
	baz=174					
N45A	**Kentland**	**57.80 347**	P	**P**	**23 48 54.1**	**-2.1**
	baz=164					
WES	**Weston**	**57.80 2**	*e*P	**P**	**23 48 56.3**	**+0.2**
WES			*ep*P	**pP**	**23 49 26.1**	**+1.6**
PLIO	**Pelee Island,**	**57.81 352**	P	**P**	**23 48 54.6**	**-1.6**
	baz=169					
ERPA	**Erie**	**57.85 354**	*e*P	**P**	**23 48 55.8**	**-0.7**
ERPA			*ep*P	**pP**	**23 49 25.3**	**+0.6**
ERPA	**Erie**	**57.85 354**	P	**P**	**23 48 55.7**	**-0.9**
	baz=172					
M48A	**Edgerton**	**57.87 350**	*ep*P	pP	23 49 24.6	-0.1
M48A	**Edgerton**	**57.87 350**	P	**P**	**23 48 54.8**	**-1.9**
	baz=167					
N44A	**Piper City**	**57.88 347**	P	**P**	**23 48 54.4**	**-2.3**
	baz=163					
L54A	**Sinclairville**	**57.90 355**	P	**P**	**23 48 56.5**	**-0.4**
	baz=173					
M47A	**Cromwell**	**57.91 349**	P	**P**	**23 48 55.0**	**-1.9**
	baz=166					
HRV	**Adam Dziewonsk**	**57.91 1**	*e*P	**P**	**23 48 57.0**	**+0.1**
	comp=Z,126nm,1.0s					
HRV			*ep*P	**pP**	**23 49 26.7**	**+1.4**
HRV	**Adam Dziewonsk**	**57.91 1**	P	**P**	**23 48 57.0**	**+0.1**
HRV	**Adam Dziewonsk**	**57.91 1**	P	**P**	**23 48 56.8**	**-0.2**
	baz=182					
HDIL	**Hopedale**	**57.92 346**	*e*P	**P**	**23 48 55.5**	**-1.5**
HDIL			*ep*P	**pP**	**23 49 24.5**	**-0.7**
HDIL	**Hopedale**	**57.92 346**	P	**P**	**23 48 55.0**	**-2.0**
	baz=162					
ASCN	**Ascension**	**57.92 90**	*e*P	**P**	**23 48 58.4**	**+0.7**
	comp=Z,529nm,1.1s					
M46A	**Old House Fiel**	**58.10 348**	*e*P	**P**	**23 48 56.8**	**-1.4**
M46A			*ep*P	**pP**	**23 49 25.8**	**-0.5**
M46A	**Old House Fiel**	**58.10 348**	P	**P**	**23 48 56.1**	**-2.1**
	baz=165					
L50A	**Kingsville**	**58.12 352**	P	**P**	**23 48 56.2**	**-2.1**
	baz=169					
TRY	**Troy**	**58.12 360**	*e*P	**P**	**23 48 59.0**	**+0.6**
TRY			*ep*P	**pP**	**23 49 28.4**	**+1.8**
319A	**Douglas**	**58.24 324**	*e*P	**P**	**23 48 59.8**	**+0.2**
	comp=Z,151nm,1.0s					
N43A	**Stutzman Famil**	**58.26 346**	P	**P**	**23 48 57.7**	**-1.7**
	baz=162					
M45A	**Boilermakers S**	**58.26 348**	P	**P**	**23 48 56.9**	**-2.5**
	baz=164					
L48A	**N Adams**	**58.27 350**	P	**P**	**23 48 57.7**	**-1.8**
	baz=167					
121A	**Cookes Peak, D**	**58.28 326**	P	**P**	**23 49 00.1**	**+0.2**
	baz=140					
MMNY	**Mt. Morris Dam**	**58.29 356**	*e*P	**P**	**23 48 59.3**	**-0.2**
	comp=Z,199nm,1.3s					
K55A	**Perry**	**58.29 356**	P	**P**	**23 48 59.3**	**-0.4**
	baz=175					
L49A	**Milan**	**58.33 351**	P	**P**	**23 48 58.4**	**-1.4**
	baz=168					
M44A	**Midewin, Midew**	**58.43 347**	*e*P	**P**	**23 48 58.6**	**-1.9**
M44A			*ep*P	**pP**	**23 49 27.0**	**-1.7**
M44A	**Midewin, Midew**	**58.43 347**	P	**P**	**23 48 58.0**	**-2.5**
	baz=163					
L47A	**Sherwood**	**58.43 349**	P	**P**	**23 48 58.6**	**-2.0**
	baz=167					
N41A	**Harden Midland**	**58.46 344**	*e*P	**P**	**23 48 59.4**	**-1.4**
N41A			*ep*P	**pP**	**23 49 28.4**	**-0.7**
N41A	**Harden Midland**	**58.46 344**	P	**P**	**23 48 58.8**	**-2.0**
	baz=160					
AAM	**Ann Arbor**	**58.50 351**	*e*P	**P**	**23 48 59.8**	**-1.2**
AAM			*ep*P	**pP**	**23 49 29.1**	**+0.1**
AAM	**Ann Arbor**	**58.50 351**	P	**P**	**23 48 59.8**	**-1.2**
AAM	**Ann Arbor**	**58.50 351**	P	**P**	**23 48 59.3**	**-1.7**
	baz=168					
K52A	**Tillsonburg**	**58.58 353**	P	**P**	**23 49 00.3**	**-1.3**
	baz=172					
K51A	**Iona Station**	**58.62 353**	P	**P**	**23 49 00.3**	**-1.5**
	baz=171					
L46A	**Eue Claire**	**58.67 349**	P	**P**	**23 48 59.8**	**-2.4**
	baz=165					
M43A	**Waltham Townsh**	**58.68 346**	P	**P**	**23

ACTO	Acton	59.34	354	P	P	23 49 05.7	-1.1
	baz=172						
L43A	Garden Prairie	59.34	347	P	P	23 49 05.2	-1.7
	baz=163						
NCB	Newcomb	59.37	359	eP	P	23 49 06.8	-0.3
	comp=Z,54nm,1.3s						
LAZ	Ladron	59.37	328	eP	P	23 49 07.8	+0.3
L42A	Oliver, Polo	59.38	346	eP	P	23 49 05.7	-1.5
L42A				epP	pP	23 49 34.6	-0.8
L42A	Oliver, Polo	59.38	346	P	P	23 49 05.3	-1.9
	baz=162						
PECO	Prince Edward	59.43	357	P	P	23 49 06.7	-0.7
	baz=176						
ANMO	Albuquerque	59.45	328	eP	P	23 49 07.9	-0.1
ANMO				epP	pP	23 49 35.8	-0.5
ANMO	Albuquerque	59.45	328c	iP	P	23 49 07.7	-0.3
ANMO				i *PP	pP	23 49 35.7	-0.6
ANMO				pmax	pmax		
	comp=Z,12nm,1.0s						
ANMO	Albuquerque	59.45	328	P	P	23 49 08.0	-0.1
	baz=142						
TASM	ASL Pad, Albuq	59.45	328	P	P	23 49 07.9	-0.2
	baz=142						
TASM	ASL Pad, Albuq	59.45	328	P	P	23 49 07.9	-0.2
	baz=142						
J49A	Marlette	59.46	352	P	P	23 49 05.5	-2.2
	baz=169						
DRWO	Darlington Wes	59.48	355	P	P	23 49 07.2	-0.6
	baz=174						
DRCO	St. Marys Ceme	59.48	355	P	P	23 49 07.1	-0.6
	baz=174						
J48A	Bridge Port	59.49	351	P	P	23 49 05.9	-1.9
	baz=168						
I53A	Kortright Cn E	59.51	355	P	P	23 49 06.7	-1.2
	baz=173						
WLVO	Wesleyville	59.51	356	P	P	23 49 07.3	-0.6
	baz=174						
J47A	Sunmer	59.60	350	P	P	23 49 07.0	-1.6
	baz=167						
PKRO	Pickering	59.60	355	P	P	23 49 07.7	-0.8
	baz=174						
I51A	Listowel	59.63	353	P	P	23 49 07.4	-1.4
	baz=171						
LBNH	Lisbon	59.64	1	eP	P	23 49 09.2	+0.4
LBNH				epP	pP	23 49 38.9	+1.5
LBNH	Lisbon	59.64	1	eP	P	23 49 09.3	+0.4
LBNH				e*PP	pP	23 49 38.9	+1.5
LBNH	Lisbon	59.64	1	P	P	23 49 08.9	0.0
	baz=182						
CBKS	Cedar Bluff	59.65	336	eP	P	23 49 08.1	-1.0
CBKS				epP	pP	23 49 37.8	+0.7
CBKS	Cedar Bluff	59.65	336	eP	P	23 49 08.1	-1.0
CBKS				e*PP	pP	23 49 37.8	+0.7
CBKS	Cedar Bluff	59.65	336	P	P	23 49 08.6	-0.5
	baz=150						
VT1	Waterbury	59.72	0	eP	P	23 49 09.7	+0.3
VT1				epP	pP	23 49 39.4	+1.4
I55A	Frankford	59.75	356	P	P	23 49 09.0	-0.6
	baz=175						
K43A	Burlington	59.75	347	eP	P	23 49 08.0	-1.6
K43A				epP	pP	23 49 37.0	-0.9
K43A	Burlington	59.75	347	P	P	23 49 07.9	-1.8
	baz=163						
TUC	Tucson	59.79	323	eP	P	23 49 10.7	+0.5
TUC				epP	pP	23 49 37.8	-0.8
TUC	Tucson	59.79	323	eP	P	23 49 10.7	+0.5
TUC				e*PP	pP	23 49 37.8	-0.8
TUC	Tucson	59.79	323	P	P	23 49 10.0	-0.3
	baz=137						
I52A	Shelburne	59.80	354	P	P	23 49 09.0	-1.0
	baz=172						
L40A	Anamosa	59.82	345	eP	P	23 49 08.9	-1.3
L40A				epP	pP	23 49 37.8	-0.8
L40A	Anamosa	59.82	345	P	P	23 49 08.4	-1.8
	baz=160						
J46A	Howard City	59.84	349	P	P	23 49 08.0	-2.3
	baz=166						
BASO	Ashfield	59.91	353	P	P	23 49 09.4	-1.3
	baz=171						
BWLO	Walkerton	59.95	353	P	P	23 49 09.8	-1.2
	baz=171						
I49A	Point Hope	59.98	352	P	P	23 49 09.2	-2.0
	baz=170						
LONY	Lake Ozonia	60.02	359	eP	P	23 49 11.1	-0.4
LONY				epP	pP	23 49 40.7	+0.7
LONY	Lake Ozonia	60.02	359	P	P	23 49 11.2	-0.4
	baz=179						
WVL	Waterville	60.04	3	eP	P	23 49 12.4	+0.8
	comp=Z,105nm,1.2s						
WVL				epP	pP	23 49 42.0	+2.0
DELO	Deloro Mine	60.05	356	P	P	23 49 11.1	-0.6
	baz=175						
K42A	Prairie Point,	60.05	346	P	P	23 49 10.1	-1.6
	baz=162						
H56A	Elgin	60.05	357	P	P	23 49 11.4	-0.3
	baz=177						
H55A	Tweed	60.05	357	P	P	23 49 11.3	-0.3
	baz=176						
J45A	Montague	60.06	349	P	P	23 49 09.6	-2.2
	baz=166						
L39A	Vinton	60.09	344	P	P	23 49 10.1	-1.8
	baz=159						
BRCO	Bruce Peninsul	60.11	353	P	P	23 49 10.7	-1.4
	baz=171						
SCIA	State Center	60.22	343	P	P	23 49 11.6	-1.3
	baz=158						
T25A	Trinidad	60.22	331	eP	P	23 49 13.4	+0.1
T25A				epP	pP	23 49 42.1	+0.5
T25A	Trinidad	60.22	331	P	P	23 49 13.4	+0.1
	baz=145						
FRNY	Flat Rock	60.23	360	eP	P	23 49 12.9	+0.1
	comp=Z,90nm,1.0s						
FRNY				epP	pP	23 49 42.1	+0.8
I47A	Gladwin	60.31	351	P	P	23 49 11.6	-1.8
	baz=168						
EMMW	East Machias	60.32	5	eP	P	23 49 13.9	+0.4
	comp=Z,109nm,1.1s						
EMMW				epP	pP	23 49 43.1	+1.1
H52A	Wyevale	60.34	354	P	P	23 49 12.1	-1.5
	baz=173						
I48A	Sherman Twp	60.35	351	P	P	23 49 12.0	-1.7
	baz=168						
JFWS	Jewell Farm	60.38	346	eP	P	23 49 12.9	-1.1
	comp=Z,194nm,1.6s						
JFWS				epP	pP	23 49 41.9	-0.5
JFWS	Jewell Farm	60.38	346	eP	P	23 49 12.9	-1.1
JFWS				e*PP	pP	23 49 41.9	-0.5
JFWS				pmax	pmax		
	comp=Z,194nm,1.6s						
JFWS	Jewell Farm	60.38	346	P	P	23 49 12.2	-1.8
	baz=161						
I46A	Reed City	60.39	350	P	P	23 49 11.7	-2.3
	baz=167						
K40A	Colesburg	60.40	345	P	P	23 49 12.2	-1.9
	baz=160						
SADO	Sadowa	60.41	355	eP	P	23 49 13.0	-1.0
SADO				epP	pP	23 49 42.7	+0.2
J43A	Natural Harves	60.41	347	P	P	23 49 12.6	-1.6
	baz=163						
BMRO	Meriville Lake	60.43	353	P	P	23 49 12.9	-1.4
	baz=171						
J42A	Columbus	60.51	347	P	P	23 49 13.2	-1.7
	baz=162						
PLVO	Plevna	60.53	357	eP	P	23 49 14.7	-0.3
PLVO				epP	pP	23 49 44.3	+0.9
PLVO	Plevna	60.53	357	P	P	23 49 14.5	-0.5
	baz=176						
BANO	Bancroft	60.56	356	P	P	23 49 14.3	-0.9
	baz=175						
K39A	Oelwein	60.60	344	P	P	23 49 13.3	-2.2
	baz=160						
I45A	Fountain	60.62	349	P	P	23 49 13.3	-2.3
	baz=166						
HAL	Halifax	60.66	8	eP	P	23 49 16.5	+0.7
	comp=Z,137nm,1.4s						
HAL	Halifax	60.66	8	eP	P	23 49 16.5	+0.7
HAL				pmax	pmax		
	comp=Z,137nm,1.4s						
MOQ	Mont Orford	60.71	1	eP	P	23 49 16.6	+0.4
MOQ				epP	pP	23 49 46.3	+1.5
G53A	Haliburton	60.72	356	P	P	23 49 15.4	-0.8
	baz=174						
214A	Organ Pipe Nat	60.73	322	P	P	23 49 16.8	+0.2
	baz=136						
G55A	Calabogie	60.73	357	P	P	23 49 15.6	-0.6
	baz=176						
J41A	Loganville	60.76	346	P	P	23 49 15.1	-1.4
	baz=162						
PKME	Peaks-Kenny Pk	60.76	3	eP	P	23 49 16.9	+0.4
	comp=Z,107nm,0.9s						
PKME				epP	pP	23 49 46.7	+1.7
PKME	Peaks-Kenny Pk	60.76	3	P	P	23 49 16.5	+0.1
	baz=184						
GGN	Saint George	60.78	5	eP	P	23 49 17.1	+0.6
	comp=Z,94nm,1.1s						
GGN				epP	pP	23 49 46.9	+1.8
H48A	Harrisville	60.80	352	P	P	23 49 14.8	-2.0
	baz=169						
H47A	Mio	60.83	351	P	P	23 49 14.9	-2.0
	baz=168						
I43A	Langenfeld Bro	60.84	348	P	P	23 49 15.6	-1.4
	baz=164						
ORIO	Orleans, Innes	60.88	358	P	P	23 49 16.6	-0.6
	baz=178						
H46A	Fife Lake	60.93	350	P	P	23 49 15.8	-1.9
	baz=167						
J40A	Soldiers Grove	60.96	345	P	P	23 49 16.3	-1.6
	baz=161						
X18A	Snowflake	60.97	326	eP	P	23 49 18.8	+0.5
X18A				epP	pP	23 49 47.4	+0.6
KSCO	Kaye Shedlock'	60.99	334	eP	P	23 49 18.5	+0.1
KSCO				epP	pP	23 49 47.2	+0.8
KSCO	Kaye Shedlock'	60.99	334	P	P	23 49 18.2	-0.2
	baz=148						
I42A	Draeger Farm,	61.01	347	eP	P	23 49 16.9	-1.2
I42A				epP	pP	23 49 46.6	0.0
I42A	Draeger Farm,	61.01	347	P	P	23 49 16.9	-1.2
	baz=163						
ALFO	Alfred	61.04	359	P	P	23 49 18.0	-0.3
	baz=178						
KLBO	Killbear Provi	61.08	354	P	P	23 49 17.3	-1.3
	baz=172						
TOBO	Tobermory, Bru	61.09	353	P	P	23 49 17.0	-1.7
	baz=171						
BUKO	Buck Lake	61.09	355	P	P	23 49 17.8	-0.9
	baz=173						
GLMI	Grayling	61.11	351	eP	P	23 49 17.5	-1.4
	comp=Z,100nm,1.0s						
GLMI				epP	pP	23 49 47.5	+0.4
GLMI	Grayling	61.11	351	P	P	23 49 17.0	-1.9
	baz=168						
J39A	Decorah	61.14	345	P	P	23 49 17.4	-1.7
	baz=160						
H45A	Beulah	61.15	350	P	P	23 49 17.1	-2.1
	baz=166						
PEMO	Pembroke	61.18	357	P	P	23 49 18.8	-0.5
	baz=176						
SDCO	Great Sand Dun	61.22	331	eP	P	23 49 19.9	-0.2
	comp=Z,196nm,1.1s						
SDCO	Great Sand Dun	61.22	331	P	P	23 49 20.3	+0.1
	baz=144						
F55A	Otter Lake	61.29	357	P	P	23 49 19.4	-0.6
	baz=177						
W18A	Petrified Fore	61.29	326	eP	P	23 49 20.2	-0.3
	comp=Z,308nm,1.3s						
W18A				epP	pP	23 49 49.7	+0.7
W18A	Petrified Fore	61.29	326	P	P	23 49 20.8	+0.2
	baz=139						
H43A	Windswept, Lux	61.33	348	eP	P	23 49 18.9	-1.4
H43A				epP	pP	23 49 48.5	-0.1
H43A	Windswept, Lux	61.33	348	P	P	23 49 18.9	-1.4
	baz=164						
BGNE	Belgrade	61.33	339	eP	P	23 49 19.9	-0.5
BGNE				epP	pP	23 49 49.1	+0.4
BGNE	Belgrade	61.33	339	P	P	23 49 19.8	-0.6
	baz=153						
G47A	Hillman	61.34	351	P	P	23 49 18.7	-1.7
	baz=168						
I41A	Arkdale	61.38	346	eP	P	23 49 19.6	-1.1
I41A				epP	pP	23 49 49.0	+0.3
I41A	Arkdale	61.38	346	P	P	23 49 19.2	-1.5
	baz=162						
I40A	Norwalk	61.40	346	P	P	23 49 19.6	-1.3
	baz=161						
F52A	Sundridge	61.44	355	P	P	23 49 19.9	-1.2
	baz=173						
G45A	Suttons Bay	61.49	350	P	P	23 49 19.4	-2.0
	baz=166						
ALGO	Algonquin Park	61.50	356	P	P	23 49 20.7	-0.7
	baz=175						
H42A	Shiocton	61.52	348	eP	P	23 49 20.5	-1.1
H42A				epP	pP	23 49 50.0	+0.4
H42A	Shiocton	61.52	348	P	P	23 49 20.2	-1.4
	baz=163						
I39A	Houston	61.58	345	eP	P	23 49 20.9	-1.2
	comp=Z,132nm,0.9s						
I39A	Houston	61.58	345	P	P	23 49 20.6	-1.5
	baz=160						
F51A	Arnstein	61.62	355	P	P	23 49 20.7	-1.5
	baz=173						
TRQ	Mont Tremblant	61.62	359	eP	P	23 49 21.8	-0.6
TRQ				epP	pP	23 49 51.6	+0.6
G46A	Petoskey	61.63	351	P	P	23 49 20.5	-1.9
	baz=167						
F49A	Sandfield	61.68	353	P	P	23 49 20.8	-1.9
	baz=170						
X16A	Lo Mia Camp, P	61.71	324	eP	P	23 49 23.9	+0.5
	comp=Z,111nm,1.1s						
LMN	Caledonia Moun	61.71	7	eP	P	23 49 22.9	0.0
	comp=Z,108nm,0.9s						
LMN				epP	pP	23 49 52.8	+1.3
GBN	Guysborough	61.71	9	eP	P	23 49 23.4	+0.5
	comp=Z,113nm,1.1s						
F48A	Evansville	61.81	353	P	P	23 49 21.7	-1.8
	baz=170						
S22A	4UR Ranch, Cre	61.85	330	eP	P	23 49 24.5	+0.1
	comp=Z,87nm,1.2s						
S22A	4UR Ranch, Cre	61.85	330	P	P	23 49 24.3	-0.1
	baz=143						
H41A	Junction City	61.86	347	eP	P	23 49 22.9	-1.0
H41A				epP	pP	23 49 52.0	+0.1
H41A	Junction City	61.86	347	P	P	23 49 22.3	-1.6
	baz=162						
113A	Mohawk Valley,	61.87	322	epP	pP	23 49 52.9	+0.2
E52A	Mattawa	61.87	356	P	P	23 49 22.7	-1.3
	baz=174						
E53A	Dumoine, Ponti	61.90	356	P	P	23 49 23.5	-0.6
	baz=175						
E54A	Lac Daplat, Po	61.93	357	P	P	23 49 23.7	-0.6
	baz=176						
H40A	Chili	62.03	346	P	P	23 49 23.8	-1.3
	baz=161						
Q24A	Divide	62.05	332	eP	P	23 49 25.8	0.0
Q24A				epP	pP	23 49 54.5	+0.7
Q24A	Divide	62.05	332	P	P	23 49 25.6	-0.1
	baz=145						
F46A	Macinaw City C	62.06	351	P	P	23 49 23.3	-1.9
	baz=168						
G43A	Wallace	62.07	348	eP	P	23 49 24.1	-1.2
G43A				epP	pP	23 49 53.2	0.0
G43A	Wallace	62.07	348	P	P	23 49 23.6	-1.7
	baz=164						
F45A	CMU Biological	62.09	350	P	P	23 49 23.6	-1.8
	baz=167						
E51A	G1948 Merrick	62.19	355	P	P	23 49 25.0	-1.0
	baz=173						
E50A	Wahnapitae	62.19	354	P	P	23 49 24.3	-1.7
	baz=172						
G42A	Mountain	62.20	348	eP	P	23 49 24.8	-1.4
G42A				epP	pP	23 49 54.0	-0.2
G42A	Mountain	62.20	348	P	P	23 49 24.7	-1.4
	baz=164						
PQI	Presque Isle	62.23	4	eP	P	23 49 26.8	+0.4
PQI				epP	pP	23 49 56.8	+1.7
MVCO	Mesa Verde	62.25	329	eP	P	23 49 26.4	-0.6
MVCO				epP	pP	23 49 55.1	-0.4
MVCO	Mesa Verde	62.25	329	P	P	23 49 27.0	0.0
	baz=141						
Y14A	Wickenburg	62.25	323	eP	P	23 49 27.1	+0.3
	comp=Z,123nm,1.2s						
H39A	Augusta	62.30	345	P	P	23 49 25.2	-1.7
	baz=160						
G41A	Antigo	62.33	347	P	P	23 49 25.6	-1.5
	baz=163						
OGNE	Ogallala	62.38	336	eP	P	23 49 27.6	0.0
OGNE				epP	pP	23 49 56.5	+0.6
OGNE	Ogallala	62.38	336	P	P	23 49 27.3	-0.2
	baz=149						
E48A	Lockeyer	62.40	353	P	P	23 49 25.9	-1.5
	baz=170						
WUAZ	Wupatki	62.48	325	eP	P	23 49 29.3	+0.8
WUAZ				epP	pP	23 49 58.0	+0.9
WUAZ	Wupatki	62.48	325	P	P	23 49 28.7	+0.3
	baz=138						
E47A	Iron Bridge	62.51	352	P	P	23 49 26.6	-1.6
	baz=169						
F43A	Flat Rock, Esc	62.52	349	P	P	23 49 26.5	-1.7
	baz=165						
F44A	Big Bay de Noc	62.53	350	P	P	23 49 26.5	-1.8
	baz=166						
H38A	Maiden Rock	62.54	345	P	P	23 49 27.3	-1.2
	baz=159						
D52A	ZEK Kipawa Sen	62.55	356	P	P	23 49 28.0	-0.4
	baz=174						
E46A	Sault Ste Mari	62.57	351	P	P	23 49 26.9	-1.7
	baz=168						
G40A	Rib Lake	62.60	347	eP	P	23 49 27.9	-0.9
G40A				epP	pP	23 49 57.1	+0.1
G40A	Rib Lake	62.60	347	P	P	23 49 27.3	-1.6
	baz=162						
D54A	Lac Fusel, La	62.62	357	P	P	23 49 28.0	-0.9
	baz=176						
F42A	Maple Grove Fa	62.63	348	P	P	23 49 27.4	-1.6
	baz=164						
E45A	Wooded Hills,	62.69	351	P	P	23 49 27.6	-1.8
	baz=167						
GLA	Glamis	62.71	321	eP	P	23 49 30.3	+0.5
	comp=Z,122nm,1.5s						
GLA	Glamis	62.71	321	eP	P	23 49 30.3	+0.5
GLA				pmax	pmax		
	comp=Z,122nm,1.5s						
GLA	Glamis	62.71	321	P	P	23 49 30.4	+0.5
	baz=134						
D51A	Lot 18 Range I	62.73	355	P	P	23 49 28.7	-0.9
	baz=174						
LATQ	La Tuque	62.77	0	P	P	23 49 29.4	-0.5
	baz=181						
F41A	Three Lakes	62.81	348	eP	P	23 49 29.1	-1.1
F41A				epP	pP	23 49 58.8	+0.4
F41A	Three Lakes	62.81	348	P	P	23 49 28.7	-1.5
	baz=163						
G39A	Holcombe	62.84	346	P	P	23 49 29.1	-1.4
	baz=161						
G38A	Ridgeland	62.90	345	P	P	23 49 29.3	-1.5
	baz=160						
ECSD	EROS Data Cent	62.90	341	eP	P	23 49 29.9	-1.0
	comp=Z,417nm,1.8s						
ECSD	EROS Data Cent	62.90	341	P	P	23 49 29.9	-1.0
	baz=155						
ISCO	Idaho Springs	62.94	332	eP	P	23 49 31.6	0.0
ISCO				epP	pP	23 50 00.4	+0.6
ISCO	Idaho Springs	62.94	332	eP	P	23 49 31.6	0.0
ISCO				e*PP	pP	23 50 00.4	+0.6
ISCO	Idaho Springs	62.94	332	P	P	23 49 31.4	-0.2
	baz=145						
BATG	Bathurst New B	62.99	5	eP	P	23 49 31.8	+0.4
	comp=Z,111nm,1.0s						
PV01	Paradox Valley	63.00	329	eP	P	23 49 32.4	+0.4
	comp=Z,135nm,1.2s						
E43A	Lone Tree Farm	63.02	349	eP	P	23 49 30.0	-1.6
E43A				epP	pP	23 49 59.7	+0.1
E43A	Lone Tree Farm	63.02	349	P	P	23 49 30.0	-1.6
	baz=165						
D46A	Sault St. Mari	63.05	352	P	P	23 49 29.7	-2.0
	baz=168						
D48A	Paudash Townsh	63.05	353	P	P	23 49 29.9	-1.8
	baz=171						
SMCO	Snowmass	63.06	331	eP	P	23 49 32.8	+0.3
	comp=Z,92nm,1.1s						
E44A	Grand Marais A	63.07	350	P	P	23 49 30.2	-1.7
	baz=166						
D47A	Chapleau	63.08	352	P	P	23 49 30.2	-1.8
	baz=170						
D49A	Beulah Townshi	63.09	354	P	P	23 49 30.7	-1.4
	baz=171						
PV02	Paradox Valley	63.14	329	eP	P	23 49 33.5	+0.6
	comp=Z,115nm,1.2s						
PV13	Radium Mtn., P	63.15	329	eP	P	23 49 33.0	+0.1
	comp=Z,121nm,1.2s						
COWI	Conover	63.16	348	eP	P	23 49 31.6	-1.0
COWI				epP	pP	23 50 01.0	+0.3
SPMN	Marine on St.	63.19	345	eP	P	23 49 31.8	-0.9
SPMN				epP	pP	23 50 01.1	+0.2
SPMN	Marine on St.	63.19	345	P	P	23 49 31.5	-1.2
	baz=159						
F40A	Park Falls	63.20	347	P	P	23 49 31.8	-1.1
	baz=162						
IKP	In-Ko-Pah, Jac	63.22	320	P	P	23 49 34.1	+0.7
	baz=133						
PV05	Paradox Valley	63.22	329	eP	P	23 49 33.6	+0.2
PV05				epP	pP	23 50 02.1	+0.1
PV03	Paradox Valley	63.23	329	eP	P	23 49 33.4	-0.1
	comp=Z,90nm,1.3s						
E42A	Champion	63.24	349	P	P	23 49 31.7	-1.4
	baz=164						
PV18	Skein Mesa, Pa	63.26	329	eP	P	23 49 33.6	0.0
PV18				epP	pP	23 50 02.5	+0.4
PV12	Saucer Basin,	63.26	329	eP	P	23 49 34.0	+0.3
PV12				epP	pP	23 50 02.9	+0.7
PV07	Paradox Valley	63.28	329	eP	P	23 49 34.4	+0.7
PV07				epP	pP	23 50 03.1	+0.7
PV11	David Mesa, Pa	63.28	329	eP	P	23 49 34.1	+0.4
	comp=Z,87nm,1.2s						
PV16	Nyswonger Mesa	63.31	329	eP	P	23 49 34.3	+0.3
PV16				epP	pP	23 50 03.1	+0.5
PV04	Paradox Valley	63.37	329	eP	P	23 49 34.8	+0.4
PV04				epP	pP	23 50 03.3	+0.4
F39A	Loretta	63.38	346	P	P	23 49 32.7	-1.3
	baz=161						
PV14	Lion Creek, Pa	63.41	329	eP	P	23 49 35.0	+0.3
PV14				epP	pP	23 50 03.5	+0.2
PV22	Blue Mesa, Par	63.42	329	eP	P	23 49 35.1	+0.4
	comp=Z,84nm,1.3s						
PV10	Paradox Valley	63.42	329	eP	P	23 49 34.6	-0.2
PV10				epP	pP	23 50 03.4	0.0
PV23	Carpenter Ridg	63.47	329	eP	P	23 49 35.5	+0.4
PV23				epP	pP	23 50 04.1	+0.4
E41A	Kenton	63.48	348	P	P	23 49 33.1	-1.5
	baz=163						
BC3	Big Chuckawall	63.50	321	P	P	23 49 35.5	+0.3
	baz=134						
PV21	Cone Mtn., Par	63.53	329	eP	P	23 49 35.9	+0.4
	comp=Z,128nm,1.6s						
W13A	Hualapai Mount	63.59	323	eP	P	23 49 36.8	+1.0
W13A				epP	pP	23 50 05.3	+0.8
F37A	Hinrichs Farm,	63.61	345	P	P	23 49 34.4	-1.1
	baz=159						
VLDQ	Val d'Or	63.62	357	eP	P	23 49 35.0	-0.5
	comp=Z,64nm,1.0s						
F38A	Pierce - Schro	63.64	346	P	P	23 49 34.7	-1.0
	baz=160						
U15A	North Rim	63.65	325	eP	P	23 49 37.1	+0.7
	comp=Z,91nm,1.2s						
E40A	Wakefield	63.65	347	P	P	23 49 35.0	-0.8
	baz=162						
IRM	Iron Mountain	63.66	322	P	P	23 49 36.7	+0.6
	baz=134						
E39A	Mellen	63.73	347	P	P	23 49 35.4	-0.9
	baz=162						
D41A	Chassel	63.97	348	eP	P	23 49 37.0	-0.8
D41A				epP	pP	23 50 06.7	+0.7
D41A	Chassel	63.97	348	P	P	23 49 36.9	-0.9
	baz=164						
N23A	Red Feather La	63.98	333	eP	P	23 49 38.3	-0.1
N23A				epP	pP	23 50 08.1	+1.4
N23A	Red Feather La	63.98	333	P	P	23 49 38.2	-0.2
	baz=145						
PFO	Pinyon Flats O	64.08	320	epP	pP	23 50 08.6	+1.0
PFO	Pinyon Flats O	64.08	320	P	P	23 49 39.8	+0.7
	baz=133						
PHWY	Pilot Hill	64.09	333	eP	P	23 49 39.4	+0.3
PHWY				epP	pP	23 50 08.2	+0.7
E38A	The Farm, Brul	64.17	346	eP	P	23 49 38.4	-0.8
E38A				epP	pP	23 50 07.7	+0.3
E38A	The Farm, Brul	64.17	346	P	P	23 49 38.0	-1.2
	baz=160						
SUSD	Miller	64.29	340	P	P	23 49 39.1	-1.0
	baz=152						
GMRC	Granite Mounta	64.40	322	P	P	23 49 41.5	+0.4
	baz=134						
O20A	White River Ci	64.41	331	eP	P	23 49 41.4	+0.2
O20A				epP	pP	23 50 10.4	+0.7
O20A	White River Ci	64.41	331	P	P	23 49 41.3	+0.1
	baz=142						
LSQQ	Lebel-sur-Quev	64.54	357	P	P	23 49 40.9	-0.6
	baz=176						
HEC	Hector,Ludlow	64.84	322	P	P	23 49 44.1	+0.2

C40A Isle Royale Na 64.90 348 *e*P **P 23 49 43.4 -0.5**
C40A *ep*P **pP 23 50 12.7 +0.6**
C40A Isle Royale Na 64.90 348 P **P 23 49 42.9 -0.9**
baz=163
RWWY Rawlins 65.18 332 *e*P **P 23 49 46.2 +0.1**
comp=Z,379nm,1.6s
MATQ Matagami 65.27 357 P **P 23 49 45.3 -1.0**
baz=175
CHGQ Chibougamau 65.31 359 P **P 23 49 45.8 -0.7**
baz=179
SHPR Sheep Range 65.31 324 *e*P **P 23 49 47.7 +0.6**
comp=Z,100nm,1.2s
EYMN Ely 65.42 347 *e*P **P 23 49 46.1 -1.2**
comp=Z,120nm,1.1s
EYMN Ely 65.42 347 P **P 23 49 46.0 -1.3**
baz=161
GSC Goldstone, Bar 65.44 322 *ep*P pP 23 50 17.4 +0.9
GSC Goldstone, Bar 65.44 322 P **P 23 49 48.4 +0.6**
baz=133
MWC Mount Wilson 65.48 320 *ep*P pP 23 50 17.7 +0.9
PASC Pasadena Art C 65.52 320 *ep*P pP 23 50 17.9 +1.0
TAOE Nuku Hiva Isla 65.59 267 *e*LR LR 00 09 40.5
comp=Z,2µm,27.2s
K22A Casper 65.66 334 *e*P **P 23 49 49.1 0.0**
comp=Z,133nm,1.3s
K22A Casper 65.66 334 P **P 23 49 49.0 0.0**
baz=145
RSSD Black Hills 65.85 336 *e*P **P 23 49 50.4 0.0**
comp=Z,106nm,1.4s
RSSD Black Hills 65.85 336 *e*P **P 23 49 50.4 0.0**
RSSD pmax pmax
comp=Z,106nm,1.4s
RSSD Black Hills 65.85 336 P **P 23 49 50.4 0.0**
baz=148
EDW2 Edwards Air Fo 65.88 321 P **P 23 49 51.2 +0.6**
baz=132
LRMC Laurel Mtn Rad 66.09 321 P **P 23 49 52.8 +0.8**
baz=133
DRLN Deer Lake 66.12 11 *e*P **P 23 49 51.5 -0.2**
comp=Z,156nm,1.0s
DRLN *ep*P **PcP 23 50 21.4 +0.2**
FURC Furnace Creek, 66.27 323 P **P 23 49 54.1 +1.1**
baz=134
MPMC Manual Prospec 66.36 322 P **P 23 49 53.9 +0.1**
baz=133
ARVC Arvin 66.55 320 P **P 23 49 55.4 +0.6**
baz=132
DAC Darwin (Calif) 66.57 322 *e*P **P 23 49 58.0 +2.9**
DAC *ep*P **pP 23 50 26.3 +2.4**
DAC Darwin (Calif) 66.57 322 P **P 23 49 58.0 +2.9**
ISA Isabella, Lake 66.69 321 P **P 23 49 56.4 +0.7**
baz=132
DUG Dugway, Tooele 66.71 328 *e*P **P 23 49 56.6 +0.7**
comp=Z,247nm,1.1s
DUG Dugway, Tooele 66.71 328 *e*P **P 23 49 56.6 +0.7**
DUG pmax pmax
comp=Z,247nm,1.1s
DUG Dugway, Tooele 66.71 328 P **P 23 49 56.5 +0.6**
baz=138
AGMN Agassiz Nation 66.83 344 P **P 23 49 55.6 -0.7**
baz=156
VNA3 Neumayer Olymp 66.84 162 P **P 23 49 57.1 +0.9**
R11A Troy Canyon, C 66.85 325 *e*P **P 23 49 57.8 +0.9**
comp=Z,111nm,1.4s
R11A Troy Canyon, C 66.85 325 P **P 23 49 57.7 +0.9**
baz=135
CWC Cottonwood Cre 66.97 322 P **P 23 49 58.1 +0.5**
baz=133
VNA1 Neumayer--Stat 67.08 161 P **P 23 49 59.2 +1.6**
BW06 Boulder Array 67.09 332 *e*P **P 23 49 58.2 -0.2**
BW06 *ep*P **pP 23 50 27.1 +0.2**
BW06 Boulder Array 67.09 332 P **P 23 49 57.6 -0.8**
baz=142
PD31 Pinedale Array 67.09 332 *e*P **P 23 49 58.0 -0.3**
comp=Z,65nm,1.3s
PDAR Pinedale Array 67.09 332 *e*P **P 23 49 57.5 -0.8**
PDAR *ep*P **pP 23 50 26.7 -0.2**
PDAR Pinedale Array 67.09 332 P **P 23 49 57.6 -0.8**
comp=Z,2.6nm,0.7s,baz=147,slow=6.5,SNR=20
PDAR pP **PcP 23 50 24.8 -0.9**
comp=Z,47nm,1.2s,baz=134,slow=7.7,SNR=18
PDAR LR LR 00 22 04.7
comp=Z,124nm,18.3s,baz=146,slow=38
HWUT Hardware Ranch 67.14 330 *e*P **P 23 49 58.4 -0.2**
HWUT *ep*P **PcP 23 50 26.0 0.0**
VES Vestal, Richgr 67.18 321 P **P 23 49 59.3 +0.5**
baz=132
MDND Maddock 67.52 341 *e*P **P 23 50 00.8 +0.2**
MDND *ep*P **pP 23 50 30.2 +0.9**
MDND Maddock 67.52 341 P **P 23 50 00.8 +0.2**
baz=153
PAGB Antelope Grade 67.82 320 *ep*P pP 23 50 32.8 +1.1
REDW Red Top Meadow 68.15 331 *e*P **P 23 50 05.0 0.0**
comp=Z,108nm,1.3s
MLAC Mammoth, Mammo 68.22 322 P **P 23 50 06.2 +0.6**
baz=132
LOHW Long Hollow 68.23 332 *e*P **P 23 50 05.4 0.0**
comp=Z,56nm,1.2s
TPAW Teton Pass 68.30 331 *e*P **P 23 50 05.9 0.0**
comp=Z,70nm,1.3s
OMMB Old Mammoth Mi 68.30 322 *e*P **P 23 50 06.7 +0.6**
OMMB *ep*P **pP 23 50 35.7 +0.6**
NV11 Mina Array Sit 68.36 323 *e*P **P 23 50 07.0 +0.7**
MDPB Devils Postpil 68.36 322 *e*P **P 23 50 07.4 +0.9**
MDPB *ep*P **pP 23 50 36.2 +0.9**
ELK Elko 68.37 327 *e*P **P 23 50 06.7 +0.2**
comp=Z,50nm,1.0s
MOOW Moose Ponds 68.40 332 *e*P **P 23 50 06.5 0.0**
comp=Z,67nm,1.4s
FXWY Fox Creek 68.44 331 *e*P **P 23 50 06.8 -0.1**
comp=Z,52nm,1.0s
NVAR Mina Array Bea 68.45 323 *e*P **P 23 50 07.1 +0.1**
NVAR *e*PcP **PcP 23 50 31.3 -0.2**
NVAR *ep*P **pP 23 50 36.0 +0.2**
NVAR Mina Array Bea 68.45 323 P **P 23 50 07.0 0.0**
comp=Z,4.1nm,0.9s,baz=145,slow=5.4,SNR=14
NVAR pP **pP 23 50 36.4 +0.6**
comp=Z,18nm,1.0s,baz=132,slow=4.0,SNR=13
IMW Indian Meadow 68.60 332 *e*P **P 23 50 08.1 +0.2**
IMW *ep*P **pP 23 50 37.3 +0.8**
ULM Lac du Bonnet 68.62 345 *e*P **P 23 50 06.2 -1.3**
comp=Z,282nm,1.4s
ULM Lac du Bonnet 68.62 345 P **P 23 50 06.3 -1.1**
comp=Z,49nm,0.7s,baz=157,slow=6.0,SNR=64
ULM pP **pP 23 50 35.2 -0.9**
comp=Z,40nm,0.6s,baz=157,slow=7.2,SNR=11
ULM LR LR 00 22 38.4
comp=Z,150nm,19.9s,baz=102,slow=38
FLWY Flagg Ranch 68.64 332 *e*P **P 23 50 08.5 +0.5**
FLWY *ep*P **pP 23 50 37.8 +1.1**
KVN Kaiserville 68.75 324 *e*P **P 23 50 07.1 -1.7**
KVN Kaiserville 68.75 324 *e*P **P 23 50 07.1 -1.7**
RLMT Red Lodge 68.82 333 *e*P **P 23 50 09.2 +0.1**
comp=Z,111nm,1.3s
RLMT Red Lodge 68.82 333 P **P 23 50 09.1 0.0**
baz=143
H17A Grant Village 68.83 332 *e*P **P 23 50 12.9 +3.7**
H17A *ep*P **pP 23 50 41.9 +4.0**
LAO LASA Array 68.84 336 *e*P **P 23 50 09.2 +0.2**
LAO *ep*P **pP 23 50 38.2 +0.3**
LAO LASA Array 68.84 336 P **P 23 50 08.7 -0.3**
baz=146
SNAA Sanae 69.06 161 P **P 23 50 11.1 +1.0**
SNAA Sanae 69.06 161 *e*P **P 23 50 10.7 +0.6**
comp=Z,115nm,0.9s
SNAA Sanae 69.06 161 *c i*P **P 23 50 10.4 +0.3**
WAKR Walker 69.15 323 *e*P **P 23 50 12.8 +1.5**
WAKR *ep*P **pP 23 50 41.7 +1.5**
BMN Battle Mountai 69.22 325 *e*P **P 23 50 11.7 +0.1**
BMN *ep*P **pP 23 50 41.5 +1.0**
BMN Battle Mountai 69.22 325 *e*P **P 23 50 11.7 +0.1**
BMN *e**PP **pP 23 50 41.5 +1.0**
CMB Columbia Colle 69.41 322 *e*P **P 23 50 13.2 +0.6**
CMB *ep*P **pP 23 50 42.1 +0.5**
CMB Columbia Colle 69.41 322 *e*P **P 23 50 13.2 +0.6**
CMB *e**PP **pP 23 50 42.1 +0.5**
CMLA Cha da Macela 69.48 39 *i* P **P 23 50 14.9 +1.8**
GCMT Greycliff 69.52 334 *e*P **P 23 50 13.7 +0.4**
DGMT Dagmar 69.59 339 *e*P **P 23 50 14.4 +0.9**
DGMT *ep*P **pP 23 50 43.6 +1.0**
DGMT Dagmar 69.59 339 P **P 23 50 13.9 +0.4**
baz=148
PNTR Pine Nut 69.64 323 *e*P **P 23 50 15.5 +1.2**
PNTR *ep*P **pP 23 50 44.6 +1.4**
PAHR Pah Rah Range 69.93 324 *e*P **P 23 50 17.0 +1.0**
comp=Z,170nm,1.2s
HLID Hailey 70.00 329 *e*P **P 23 50 17.1 +0.7**
comp=Z,69nm,1.2s
HLID Hailey 70.00 329 P **P 23 50 16.8 +0.5**
baz=138
MACI Morro de la Ar 70.08 52 *e*P **P 23 50 17.6 +0.4**
comp=Z,195nm,0.9s
MCMT McKenzie Canyo 70.20 331 *e*P **P 23 50 18.4 +0.8**
MCMT *ep*P **pP 23 50 47.7 +1.3**
BOZ Bozeman (W) 70.23 332 *e*P **P 23 50 17.7 0.0**
comp=Z,75nm,1.4s
BOZ Bozeman (W) 70.23 332 *e*P **P 23 50 17.7 0.0**
BOZ pmax pmax
comp=Z,75nm,1.4s
BOZ Bozeman (W) 70.23 332 P **P 23 50 17.7 0.0**
baz=141
AFDM Forest Hills D 70.35 322 *e*P **P 23 50 19.2 +0.8**
AFDM *ep*P **pP 23 50 48.0 +0.6**
SCHQ Schefferville 70.44 4 *e*P **P 23 50 18.2 -0.3**
comp=Z,88nm,0.9s
SCHQ Schefferville 70.44 4 P **P 23 50 17.2 -1.3**
comp=Z,61nm,0.9s,baz=184,slow=4.6,SNR=39
SCHQ pP **pP 23 50 46.2 -1.5**
comp=Z,71nm,0.9s,baz=173,slow=8.2,SNR=11
SCHQ LR LR 00 23 39.8
comp=Z,86nm,19.6s,baz=192,slow=38
DLMT Dillon 70.49 332 *e*P **P 23 50 20.0 +0.7**
DLMT *ep*P **pP 23 50 48.9 +0.8**
BEKR Beckworth 70.59 323 *e*P **P 23 50 20.8 +0.8**
BEKR *ep*P **pP 23 50 49.8 +0.7**
LIC Lamto 70.87 78 *e*P **P 23 50 21.1 -1.0**
comp=Z,370nm,1.1s
TIC Toumodi 71.01 77 *e*P **P 23 50 22.1 -0.8**
ORV Oroville 71.05 322 *e*P **P 23 50 23.7 +1.1**
ORV *ep*P **pP 23 50 53.0 +1.4**
ORV Oroville 71.05 322 P **P 23 50 23.7 +1.1**
DBIC Dimbokro 71.18 77 *e*P **P 23 50 22.5 -1.4**
comp=Z,211nm,1.2s
DBIC Dimbokro 71.18 77 P **P 23 50 23.0 -0.9**
DBIC Dimbokro 71.18 77 P **P 23 50 22.9 -0.9**
comp=Z,81nm,0.9s,baz=234,slow=6.1,SNR=48
DBIC LR LR 00 20 09.5
comp=Z,179nm,19.3s,baz=244,slow=34
KIC Kosan Boka 71.18 78 *e*P **P 23 50 23.1 -0.9**
comp=Z,432nm,1.1s
EGMT Eagleton 71.33 335 *e*P **P 23 50 24.4 +0.2**
EGMT *ep*P **pP 23 50 53.4 +0.2**
EGMT Eagleton 71.33 335 P **P 23 50 24.1 -0.1**
baz=143
WVOR Wild Horse Val 71.37 326 *e*P **P 23 50 25.1 +0.5**
WVOR *ep*P **pP 23 50 53.6 -0.1**
WVOR Wild Horse Val 71.37 326 P **P 23 50 25.1 +0.5**
TBI Tubuai 71.61 250 *e*S **S 23 59 36.4 -0.8**
comp=Z,716nm,24.2s
TBI Tubuai 71.61 250 *e*LR LR 00 12 34.0
comp=Z,377nm,42.0s
O03E Paynes Creek 71.71 323 P **P 23 50 26.1 -0.6**
baz=131
MOD Modoc Plateau 71.92 325 *e*P **P 23 50 28.6 +0.6**
MOD *ep*P **pP 23 50 57.6 +0.6**
J08A Circle Bar Ran 71.92 327 *e*P **P 23 50 28.1 +0.3**
MSO Missoula 72.21 332 *e*P **P 23 50 30.5 +1.0**
MSO *ep*P **pP 23 50 59.6 +1.2**
MSO Missoula 72.21 332 P **P 23 50 30.1 +0.5**
baz=139
O02D Mt. Diablo Mer 72.21 322 P **P 23 50 29.9 +0.3**
baz=130
BMO Blue Mountains 72.37 329 *e*P **P 23 50 30.5 0.0**
comp=Z,83nm,1.4s
BMO Blue Mountains 72.37 329 *e*P **P 23 50 30.5 0.0**
BMO pmax pmax
comp=Z,83nm,1.4s
N02D Trinity Center 72.67 323 P **P 23 50 32.6 +0.2**
baz=130
M04C Macdoel 72.70 324 P **P 23 50 32.9 +0.3**
baz=131
PPT2 Papeete2 72.75 256 *e*S **S 23 59 50.3 -0.3**
comp=Z,434nm,30.0s
PPT2 Papeete2 72.75 256 *e*LR LR 00 12 59.0
comp=Z,401nm,26.5s
K05A Summer Lake 72.79 325 *e*P **P 23 50 34.2 +1.0**
comp=Z,216nm,1.6s
I07A Izee 72.96 327 *e*P **P 23 50 34.6 +0.6**
comp=Z,116nm,1.4s
M02C Callahan 73.03 323 P **P 23 50 34.4 0.0**
baz=130
F10A Beach Ranch, E 73.13 330 *e*P **P 23 50 35.6 +0.6**
F10A *ep*P **pP 23 51 05.0 +1.2**
K04D Chiloquin, OR 73.20 325 P **P 23 50 36.0 +0.5**
baz=131
L04D Klamath Falls 73.25 324 P **P 23 50 35.7 -0.1**
baz=131
J05D Fort Rock, OR 73.35 325 P **P 23 50 37.1 +0.7**
baz=132
G08A Pilot Rock 73.51 328 *e*P **P 23 50 37.7 +0.4**
G08A *ep*P **pP 23 51 05.6 -0.5**
PINE Pine Mountain 73.53 326 *e*P **P 23 50 38.2 +0.7**
comp=Z,181nm,1.6s
KRMB Red Mountain 73.72 323 *e*P **P 23 50 39.4 +0.8**
KRMB *ep*P **pP 23 51 09.3 +1.5**
J04D Umpqua Nationa 73.80 325 P **P 23 50 39.4 +0.3**
baz=131
WALA Waterton Lakes 73.88 333 *e*P **P 23 50 39.8 +0.5**
WALA *ep*P **pP 23 51 09.3 +0.8**
L02E Cave Junction 73.95 323 P **P 23 50 40.3 +0.6**
baz=130
E09A Wood Farm, Sta 73.96 329 *e*P **P 23 50 40.4 +0.7**
E09A *ep*P **pP 23 51 09.7 +1.0**
I05D Terrebonne, OR 74.11 326 P **P 23 50 41.6 +0.9**
baz=132
FFC Flin Flon 74.29 343 *e*P **P 23 50 40.7 -0.7**
comp=Z,53nm,1.2s
FFC Flin Flon 74.29 343 *i* P **P 23 50 40.7 -0.7**
K02D Willamette Mer 74.32 324 P **P 23 50 42.6 +0.6**
baz=130
I04A Tendick Farm, 74.33 325 P **P 23 50 41.9 0.0**
baz=131
QSPA South Pole Qui 74.48 180 *e*P **P 23 50 43.6 +0.9**
comp=Z,90nm,0.8s
HAWA Hanford 74.56 329 *e*P **P 23 50 44.0 +0.8**
HAWA *ep*P **pP 23 51 13.7 +1.5**
G05D Wamic, OR 74.70 327 P **P 23 50 44.9 +0.9**
baz=132
D08A Wollman Farm, 74.72 329 *e*P **P 23 50 45.1 +1.0**
D08A *ep*P **pP 23 51 14.4 +1.3**
NEW Newport 74.72 331 *e*P **P 23 50 43.8 -0.4**
NEW *ep*P **pP 23 51 13.7 +0.4**
NEW Newport 74.72 331 P **P 23 50 44.4 +0.3**
baz=136
J01E Myrtle Point 74.77 324 P **P 23 50 45.3 +0.9**
baz=130
I03D Drain, OR 74.78 325 P **P 23 50 45.1 +0.6**
baz=130
H04A Detroit Lake 74.79 326 *e*P **P 23 50 44.8 +0.2**
H04A *ep*P **pP 23 51 14.3 +0.8**
C09A Chrisman Ranch 74.93 330 *e*P **P 23 50 46.5 +1.1**
C09A *ep*P **pP 23 51 15.8 +1.4**
I02D Swisshome 75.32 325 P **P 23 50 48.2 +0.6**
baz=130
G03D McMinnville, O 75.71 326 P **P 23 50 50.4 +0.6**
baz=131
LTY Liberty 75.73 329 *e*P **P 23 50 50.9 +0.9**
LTY *ep*P **pP 23 51 20.2 +1.2**
B08A Colville Reser 75.83 330 *e*P **P 23 50 50.3 -0.2**
B08A *ep*P **pP 23 51 20.4 +0.7**
LON Longmire 75.96 328 *e*P **P 23 50 51.9 +0.6**
LON *ep*P **pP 23 51 21.1 +0.8**
LON Longmire 75.96 328 P **P 23 50 51.9 +0.6**
FCC Fort Churchill 76.13 349 *e*P **P 23 50 51.5 -0.4**
FCC *ep*P **pP 23 51 21.4 0.0**
F04D Rainier, OR 76.14 327 P **P 23 50 53.0 +0.7**
baz=131
E04D Cinebar 76.22 327 P **P 23 50 53.1 +0.4**
baz=131
D05A Enumclaw 76.34 328 *e*P **P 23 50 54.3 +1.0**
D05A *ep*P **pP 23 51 23.3 +0.9**
D04E Lakebay 76.74 328 P **P 23 50 55.6 +0.1**
baz=131
B05A Bryant 77.11 329 P **P 23 50 57.5 -0.2**
baz=132
D03D Eldon 77.14 328 P **P 23 50 58.5 +0.7**
baz=131
NLWA Neilton Lookou 77.44 327 *e*P **P 23 51 00.9 +1.3**
NLWA *ep*P **pP 23 51 29.8 +1.1**
A04D Lummi Island 77.72 329 P **P 23 51 01.6 +0.6**
baz=132
IVI Ivigtut 79.18 12 *e*P **P 23 51 08.5 -0.2**
comp=Z,119nm,1.0s
TOA0 Torodi Ar. Sit 79.38 73 *e*P **P 23 51 10.3 -0.5**
TORD Torodi Ar. Bea 79.38 73 pP pP 23 51 40.0 -0.6
TORD Torodi Ar. Bea 79.38 73 *e*P **P 23 51 09.6 -1.2**
TORD *ep*P **pP 23 51 40.6 0.0**
TORD Torodi Ar. Bea 79.38 73 P **P 23 51 10.8 0.0**
comp=Z,174nm,0.8s,baz=240,slow=5.1,SNR=403
TORD pP **pP 23 51 40.0 -0.6**
comp=Z,45nm,1.0s,baz=251,slow=4.8,SNR=3.0
TORD LR LR 00 26 18.2
comp=Z,198nm,18.1s,baz=295,slow=36
NRS Narsarsuaq 79.72 13 *e*P **P 23 51 11.3 -0.3**
comp=Z,62nm,1.0s
NRS Narsarsuaq 79.72 13 P **P 23 51 11.3 -0.3**
NRS pmax pmax
comp=Z,62nm,1.0s
NRS Narsarsuaq 79.72 13 *i* P **P 23 51 11.4 -0.3**
MORF Marmelete 80.31 47 *e*P **P 23 51 15.1 -0.4**
MORF AMb AMB 23 51 18.9
comp=Z,156nm,1.8s
MORF Marmelete 80.31 47 *e*P **P 23 51 16.8 +1.3**
comp=Z,154nm,1.5s
MORF Marmelete 80.31 47 *e*P **P 23 51 15.0 -0.4**
PTEO Sao Teotonio 80.37 47 *e*P **P 23 51 17.3 +1.6**
comp=Z,250nm,1.4s
PNCL Nicolau / Gran 80.77 46 *e*P **P 23 51 18.8 +1.0**
comp=Z,102nm,1.3s
SBA Scott Base 80.78 191 *e*P **P 23 51 19.2 +1.9**
comp=Z,95nm,1.3s
SBA Scott Base 80.78 191 P **P 23 51 19.2 +1.9**
SBA pmax pmax
comp=Z,95nm,1.3s
MESJ Messejana 80.86 47 *e*P **P 23 51 17.9 -0.4**
MESJ AMb AMB 23 51 21.0
comp=Z,88nm,1.1s
MESJ Messejana 80.86 47 *e*P **P 23 51 19.3 +1.0**
comp=Z,88nm,1.2s
MESJ Messejana 80.86 47 *e*P **P 23 51 17.9 -0.4**
PCVE Castro Verde 80.89 47 *e*P **P 23 51 18.9 +0.4**
comp=Z,109nm,1.4s
PBEJ Beja 81.19 47 *e*P **P 23 51 22.1 +2.0**
comp=Z,89nm,1.1s
EVO Evora 81.33 46 *e*P **P 23 51 20.8 0.0**
PMTG Montargil 81.43 45 *e*P **P 23 51 22.1 +0.8**
comp=Z,104nm,1.5s
PTOM Tomar 81.56 45 *e*P **P 23 51 22.9 +0.9**
comp=Z,134nm,1.9s
PCAS Casmilo, Conde 81.71 45 *e*P **P 23 51 23.5 +0.7**
comp=Z,81nm,2.1s
VNDA Vanda 81.83 190 *e*P **P 23 51 24.6 +1.7**
comp=Z,56nm,1.1s
VNDA Vanda 81.83 190 *e*P **P 23 51 24.6 +1.7**
VNDA pmax pmax
comp=Z,56nm,1.1s
VNDA Vanda 81.83 190 P **P 23 51 24.7 +1.8**
comp=Z,36nm,1.1s,baz=133,slow=4.8,SNR=101
VNDA pP **pP 23 51 52.8 +1.0**
comp=Z,16nm,1.1s,baz=109,slow=4.4,SNR=4.3
VNDA LR LR 00 23 26.1
comp=Z,101nm,20.6s,baz=110,slow=32
COI Coimbra 81.84 44 *e*P **P 23 51 24.4 +0.9**
comp=Z,200nm,1.4s
PTO Porto 82.16 44 *e*P **P 23 51 25.9 +0.8**
comp=Z,186nm,1.7s
PMRV Marv??o 82.17 45 *e*P **P 23 51 25.8 +0.6**
comp=Z,38nm,1.4s
PCBR Castelo Branco 82.30 45 *e*P **P 23 51 24.9 -1.0**
comp=Z,75nm,1.3s
PVIS Viseu 82.43 44 *e*P **P 23 51 27.1 +0.5**
comp=Z,166nm,1.5s
MTE Manteigas 82.52 45 *e*P **P 23 51 27.8 +0.7**
comp=Z,127nm,1.3s
MTE Manteigas 82.52 45 *e*P **P 23 51 27.9 +0.7**
comp=Z,79nm,1.1s
PGAV Gavieira, Arco 82.77 43 *e*P **P 23 51 28.3 -0.1**
comp=Z,168nm,1.7s
POLO Lamas de Olo 82.80 44 *e*P **P 23 51 29.1 +0.5**
comp=Z,73nm,1.4s
PCAB Cabril 82.81 43 *e*P **P 23 51 28.9 +0.4**
comp=Z,204nm,1.3s
PVRL Vila Real 82.81 44 *e*P **P 23 51 29.2 +0.6**
comp=Z,136nm,1.4s
MVO Moncorvo 83.22 44 *e*P **P 23 51 31.5 +0.8**
comp=Z,168nm,1.2s
SYO Syowa Base 83.32 160 ‖ *i*P **P 23 51 29.8 -0.9**
SYO Syowa Base 83.32 160 ‖ *i*PcP **PcP 23 51 32.8 -2.1**
SYO Syowa Base 83.32 160 ‖ *e*pP pP 23 51 57.4 -2.5
PBRG Braganca 83.70 44 *e*P **P 23 51 33.8 +0.7**
comp=Z,202nm,1.5s
SFJD Kangerlussuaq 84.11 9 *i* P **P 23 51 33.5 -1.0**
SFJD pmax pmax
comp=Z,48nm,1.1s
SFJD Kangerlussuaq 84.11 9 *i* P **P 23 51 33.5 -1.0**
comp=Z,48nm,1.1s
PAB San Pablo 84.33 46 *e*P **P 23 51 37.3 +0.9**
comp=Z,165nm,0.8s
PAB San Pablo 84.33 46 *e*P **P 23 51 37.3 +0.9**
PAB pmax pmax
comp=Z,165nm,0.8s
YKA Yellowknife Ar 84.41 342 P **P 23 51 35.3 -0.9**
comp=Z,37nm,0.8s,baz=136,slow=5.1,SNR=360
YKA pP **pP 23 52 05.8 +0.1**
comp=Z,40nm,0.9s,baz=136,slow=5.1,SNR=11
YKA PKKP **PKKPbc 00 09 47.7 -3.0**
comp=Z,0.4nm,0.8s,baz=320,slow=2.1,SNR=6.3
YKA LR LR 00 34 11.7
comp=Z,9.1nm,18.1s,baz=138,slow=39
YKW3 Yellowknife Ar 84.47 342 *e*P **P 23 51 35.8 -0.6**
ESDC Sonseca Array 84.65 46 *e*P **P 23 51 38.5 +0.4**
ESDC Sonseca Array 84.65 46 P **P 23 51 39.0 +1.0**
comp=Z,80nm,0.8s,baz=256,slow=5.2,SNR=276
ESLA Sonseca Array 84.65 46 *e*P **P 23 51 39.2 +1.1**
comp=Z,137nm,1.0s
ANGG Ammassalik, Gr 85.35 14 *e*P **P 23 51 40.5 -0.3**
comp=Z,58nm,1.0s
TSUM Tsumeb 85.64 109 *e*P **P 23 51 44.8 +1.2**
comp=Z,59nm,0.8s
TAM Tamanrasset 85.93 65 *e*P **P 23 51 46.2 +1.3**
comp=Z,143nm,1.2s
TAM Tamanrasset 85.93 65 P **P 23 51 46.2 +1.3**
TAM pmax pmax
comp=Z,143nm,1.2s
ILULI Ilulissat 86.11 8 *e*P **P 23 51 43.5 -1.0**
comp=Z,91nm,1.0s
ILULI Ilulissat 86.11 8 *i* P **P 23 51 43.9 -0.6**
ILULI pmax pmax
comp=Z,110nm,1.1s
ILULI Ilulissat 86.11 8 *i* P **P 23 51 43.9 -0.6**
comp=Z,110nm,1.1s
DLBC Dease Lake 87.22 334 *e*P **P 23 51 50.9 +0.7**
DLBC *ep*P **pP 23 52 20.9 +1.0**
IGLA Glengowla, Co 87.74 33 *e*P **P 23 51 52.7 0.0**
SJPF Ste Jean 87.95 44 *e*P **P 23 51 53.7 -0.3**
SJPF pmax pmax
comp=Z,57nm,1.0s
ETSF Etsaut 88.31 45 *e*P **P 23 51 55.4 -0.4**
ETSF pmax pmax
comp=Z,23nm,0.8s
IWEX Carrickbyrne, 88.61 34 *e*P **P 23 51 56.5 -0.3**
QUIF Quistinic 88.69 39 *e*P **P 23 51 56.1 -1.2**
QUIF pmax pmax
comp=Z,61nm,1.3s
ROSF Rostrenen 88.80 39 *e*P **P 23 51 57.2 -0.7**
ROSF pmax pmax
comp=Z,215nm,1.6s
EPF Esparros 88.97 45 *e*P **P 23 51 58.4 -0.5**
EPF pmax pmax
comp=Z,52nm,1.2s
DSB Dublin 89.23 34 *e*P **P 23 51 59.6 -0.1**
BESE Bessie Mountai 89.40 333 *e*P **P 23 52 01.6 +1.1**
BESE *ep*P **pP 23 52 31.5 +1.3**
IDGL Inch Island, C 89.50 32 *e*P **P 23 52 00.6 -0.4**
BOSA Boshof 89.77 120 *e*P **P 23 52 03.7 +0.5**
comp=Z,55nm,1.3s
BOSA Boshof 89.77 120 *e*P **P 23 52 03.7 +0.5**
BOSA pmax pmax
comp=Z,55nm,1.3s
BOSA Boshof 89.77 120 P **P 23 52 03.4 +0.2**
comp=Z,14nm,0.7s,baz=248,slow=3.6,SNR=34
LFF La Frestale 89.97 43 *e*P **P 23 52 02.4 -1.0**
LFF pmax pmax
comp=Z,74nm,0.8s
MFF Saint Martin d 90.03 41 *e*P **P 23 52 02.5 -1.2**
MFF pmax pmax

comp=Z,36nm,0.8s
GRR Gorron 90.29 39 *e*P **P 23 52 03.4 -1.4**
GRR pmax pmax
comp=Z,44nm,0.9s
MTLF Montolieu 90.36 45 *e*P **P 23 52 04.3 -1.0**
MTLF pmax pmax
comp=Z,37nm,1.0s
WHY Whitehorse 90.52 334 *e*P **P 23 52 06.0 +0.2**
comp=Z,86nm,1.8s
MONM Monmouth 90.56 36 *e*P **P 23 52 05.6 -0.3**
MONM lAmb lAmb 23 52 06.9
comp=Z,49nm,0.8s
RJF Les Rejaudoux 90.61 43 *e*P **P 23 52 05.3 -1.1**
RJF pmax pmax
comp=Z,46nm,0.9s
OLDB Oldbury-Upon-S 90.63 36 *e*P **P 23 52 06.1 -0.1**
FLN La Foliniere 90.67 39 *e*P **P 23 52 05.4 -1.2**
FLN pmax pmax
comp=Z,70nm,1.1s
HLM1 Long Mynd 90.80 35 lAmb lAmb 23 52 05.6
comp=Z,332nm,1.9s
HLM1 *e*P **P 23 52 05.8 -1.4**
LDF La Druitiere 90.82 39 *e*P **P 23 52 06.1 -1.2**
LDF pmax pmax
comp=Z,48nm,0.9s
GAL1 Galloway 90.84 33 lAmb lAmb 23 52 06.7
comp=Z,105nm,1.8s
GAL1 *e*P **P 23 52 06.8 -0.4**
MAW Mawson 91.01 165 *e*P **P 23 52 08.6 +0.7**
comp=Z,14nm,1.0s
MAW Mawson 91.01 165 P **P 23 52 08.8 +0.9**
comp=Z,27nm,0.7s,baz=230,slow=6.5,SNR=37
MAW LR LR 00 31 11.5
comp=Z,104nm,21.6s,baz=222,slow=34
SUMG Summit 91.01 10 *e*P **P 23 52 08.2 +0.1**
comp=Z,190nm,1.0s
SUMG Summit 91.01 10⇑ *i*P **P 23 52 08.8 +0.7**
SUMG *i* 23 52 39.3
SUMG pmax pmax
comp=Z,480nm,1.0s
SUMG Summit 91.01 10⇑ *i*P **P 23 52 08.8 +0.7**
comp=Z,479nm,1.0s
SUMG *i* 23 52 39.3
LAWE Loch Awe, Argy 91.12 31 *e*P **P 23 52 08.1 -0.3**
LBTB Lobatse 91.16 116 *e*P **P 23 52 10.6 +0.9**
comp=Z,70nm,1.3s
LBTB Lobatse 91.16 116 *e*P **P 23 52 10.6 +0.9**
LBTB pmax pmax
comp=Z,71nm,1.3s
RES Resolute Bay 91.21 354 *e*P **P 23 52 08.4 -0.1**
RES *e*pP **pP 23 52 38.8 +0.4**
RES Resolute Bay 91.21 354 *e*P **P 23 52 08.4 -0.1**
RES *e**PP **pP 23 52 38.8 +0.4**
PGBU Glenifferbraes 91.38 32 *e*P **P 23 52 09.3 -0.3**
PGBU lAmb lAmb 23 52 11.5
comp=Z,95nm,1.3s
TCF Toulx Ste Croi 91.42 42 *e*P **P 23 52 08.9 -1.3**
TCF pmax pmax
comp=Z,34nm,1.0s
KPL Plockton 91.48 30 *e*P **P 23 52 09.7 -0.4**
HYT Haines Junctio 91.71 334 *e*P **P 23 52 12.7 +1.4**
HYT *e*pP **pP 23 52 42.4 +1.3**
CWF Charnwood Fore 91.77 35 *e*P **P 23 52 10.8 -0.8**
CWF lAmb lAmb 23 52 12.2
comp=Z,78nm,1.4s
ESK Eskdalemuir 91.82 32 *e*P **P 23 52 11.2 -0.6**
ESK Eskdalemuir 91.82 32 *i*P **P 23 52 12.2 +0.5**
BGF Bois d'Agland 91.93 42 *e*P **P 23 52 11.4 -1.1**
BGF pmax pmax
comp=Z,65nm,0.9s
TULEG Thule 92.07 1 *e*P **P 23 52 10.4 -2.1**
TULEG *e*pP **pP 23 52 42.6 +0.3**
MDO Dochfour 92.16 30 *e*P **P 23 52 13.0 -0.3**
EDMD Edmundbyers 92.26 33 *e*P **P 23 52 13.7 -0.2**
EDMD lAmb lAmb 23 52 14.4
comp=Z,142nm,1.7s
AVF Avril sur Loir 92.34 42 *e*P **P 23 52 13.0 -1.4**
AVF pmax pmax
comp=Z,22nm,1.0s
SSF Saint Saulge 92.53 42 *e*P **P 23 52 13.7 -1.6**
SSF pmax pmax
comp=Z,34nm,1.1s
VIVF Saint-Julien-l 92.55 44 *e*P **P 23 52 14.9 -0.5**
VIVF pmax pmax
comp=Z,29nm,1.2s
SSB Saint Sauveur 92.60 44 *e*P **P 23 52 15.8 +0.1**
comp=Z,75nm,1.6s
SSB Saint Sauveur 92.60 44 *e*P **P 23 52 15.8 +0.1**
SSB pmax pmax
comp=Z,75nm,1.6s
SMF Signal de Mont 92.61 42 *e*P **P 23 52 14.5 -1.1**
SMF pmax pmax
comp=Z,63nm,1.0s
LOR Lormes 92.83 42 *e*P **P 23 52 15.1 -1.6**
LOR pmax pmax
comp=Z,69nm,1.6s
SCO Scoresbysund 92.88 15 *e*P **P 23 52 16.2 0.0**
comp=Z,15nm,1.1s
SCO Scoresbysund 92.88 15 *i*P **P 23 52 16.8 +0.5**
SCO pmax pmax
comp=Z,13nm,1.1s
SCO Scoresbysund 92.88 15 *i*P **P 23 52 16.8 +0.5**
comp=Z,13nm,1.1s
KEST Kesra 93.10 54 *e*P **P 23 52 20.3 +2.1**
comp=Z,19nm,1.0s
KEST Kesra 93.10 54 P **P 23 52 18.3 0.0**
comp=Z,12nm,0.9s,baz=333,slow=2.8,SNR=8.8
KEST LR LR 00 34 21.3
comp=Z,61nm,20.7s,baz=274,slow=36
LMR La Mourre 93.31 46 *e*P **P 23 52 18.3 -0.6**
LMR pmax pmax
comp=Z,61nm,1.4s
ORIF Oris-en-Rattie 93.38 44 *e*P **P 23 52 19.1 -0.2**
ORIF pmax pmax
comp=Z,27nm,0.6s
FRF La Foret Royal 93.47 46 *e*P **P 23 52 19.0 -0.7**
FRF pmax pmax
comp=Z,33nm,1.2s
MBDF Montbardon 93.92 45 *e*P **P 23 52 21.4 -0.5**
MBDF pmax pmax
comp=Z,32nm,1.2s
BNI Bardonecchia 93.96 44 *e*P **P 23 52 22.9 +0.8**
comp=Z,16nm,1.2s
BNI Bardonecchia 93.96 44 P **P 23 52 22.9 +0.8**
BNI pmax pmax
comp=Z,16nm,1.2s
BAIF Baives 93.99 39 *e*P **P 23 52 20.7 -1.2**
BAIF pmax pmax
comp=Z,12nm,1.0s
DAWY Dawson 94.04 336 *e*P **P 23 52 21.5 -0.4**
DAWY *e*pP **pP 23 52 51.7 0.0**
CABF La Chapelle 94.06 43 *e*P **P 23 52 21.4 -1.0**
CABF pmax pmax
comp=Z,15nm,0.9s
SBF Sospel 94.11 46 *e*P **P 23 52 21.8 -0.9**
SBF pmax pmax
comp=Z,55nm,1.3s
LPL La Plagne 94.14 44 *e*P **P 23 52 22.7 -0.3**
LPL pmax pmax
comp=Z,30nm,0.8s
INK Inuvik 94.14 341 *e*P **P 23 52 21.6 -0.5**
comp=Z,34nm,1.2s
INK Inuvik 94.14 341 *e*P **P 23 52 21.6 -0.5**
INK pmax pmax
comp=Z,34nm,1.2s
LPG La Plagne 94.15 44 *e*P **P 23 52 22.9 -0.2**
LPG pmax pmax
comp=Z,31nm,0.8s
EPYK Eagle Plains 94.18 339 *e*P **P 23 52 21.8 -0.6**
comp=Z,18nm,1.2s
EPYK Eagle Plains 94.18 339 P **P 23 52 22.2 -0.2**
baz=120
SNF Seneffe 94.19 39⇑P **P 23 52 22.4 -0.3**
comp=Z,34nm,1.4s
DOU Dourbes 94.24 39⇑P **P 23 52 22.5 -0.5**
comp=Z,14nm,1.1s
UCC Uccle 94.33 38 *e*P **P 23 52 23.5 +0.1**
comp=Z,39nm,1.1s
UCC Uccle 94.33 38 *e*P **P 23 52 23.5 +0.1**
UCC pmax pmax
comp=Z,39nm,1.1s
UCC Uccle 94.33 38⇑P **P 23 52 22.9 -0.5**
GIVF Givet 94.38 39 *e*P **P 23 52 22.9 -0.8**
GIVF pmax pmax
comp=Z,67nm,1.2s
BCAR Beaver Creek A 94.55 335 *e*P **P 23 52 23.6 -0.6**
BCAR *e*pP **pP 23 52 53.8 -0.3**
HAU Haudompre 94.66 41 *e*P **P 23 52 22.2 -2.9**
HAU pmax pmax
comp=Z,26nm,1.2s
BCLA Clavier 94.78 39⇑P **P 23 52 25.3 -0.2**
comp=Z,13nm,1.4s
HINF Hinteralfeld 94.93 42 *e*P **P 23 52 24.8 -1.5**
HINF pmax pmax
comp=Z,23nm,1.3s
EGAK Eagle 95.05 336 *e*P **P 23 52 25.9 -0.6**
EGAK *e*pP **pP 23 52 56.2 -0.1**
WLF Walferdange 95.06 40 *e*P **P 23 52 27.3 +0.5**
comp=Z,259nm,1.1s
WLF Walferdange 95.06 40 *e*P **P 23 52 27.3 +0.5**
WLF pmax pmax
comp=Z,259nm,1.1s
WLF Walferdange 95.06 40⇑P **P 23 52 27.1 +0.3**
comp=Z,45nm,1.4s
BKZ Black Stump Fm 95.24 227 *e*P **P 23 52 31.0 +2.9**
comp=Z,28nm,1.3s
ECH Echery 95.24 41 *e*P **P 23 52 27.7 0.0**
comp=Z,35nm,1.1s
ECH Echery 95.24 41 *e*P **P 23 52 27.7 0.0**
ECH pmax pmax
comp=Z,35nm,1.1s
MEM Membach 95.26 39⇑P **P 23 52 27.3 -0.4**
comp=Z,18nm,1.1s
HGN Heimansgroeve 95.27 39 *e*P **P 23 52 27.8 +0.1**
comp=Z,97nm,1.3s
CDF Champ du Feu 95.38 41 *e*P **P 23 52 27.2 -1.2**
CDF pmax pmax
comp=Z,28nm,1.2s
KLU Klutina 95.67 333 *e*P **P 23 52 28.7 -0.7**
KLU *e*pP **pP 23 52 59.0 -0.3**
DOT Dot Lake 95.72 335 *e*P **P 23 52 28.9 -0.7**
DOT *e*pP **pP 23 52 59.1 -0.3**
SCRK Sand Creek 95.82 335 *e*P **P 23 52 29.5 -0.6**
SCRK *e*pP **pP 23 52 59.6 -0.4**
BFO Black Forest 96.03 42 *i*P **P 23 52 32.2 +0.9**
PAX Paxson 96.04 334 *e*P **P 23 52 30.1 -1.0**
PAX *e*pP **pP 23 53 00.2 -0.8**
PAX Paxson 96.04 334 *e*P **P 23 52 30.1 -1.0**
PAX *e**PP **pP 23 53 00.2 -0.8**
RIDG Independent Ri 96.08 335 *e*P **P 23 52 30.4 -0.8**
RIDG *e*pP **pP 23 53 01.4 +0.3**
WTSB Winterswijk 96.15 38 *e*P **P 23 52 31.4 -0.3**
comp=Z,80nm,1.0s
TUE Stuetta 96.16 44 *e*P **P 23 52 32.3 +0.1**
comp=Z,31nm,1.2s
VLC Villacollemand 96.23 46 *e*P **P 23 52 31.8 -0.6**
comp=Z,43nm,1.3s
LSZ Lusaka 96.47 108 *e*P **P 23 52 35.8 +1.6**
comp=Z,27nm,1.4s
DAVA Damuels 96.74 43 *e*PcP **PcP 23 52 35.3 +0.5**
comp=Z,23nm,0.9s,SNR=6.4
FUORN Ofenpass-Fuorn 96.81 44 *e*P **P 23 52 35.5 +0.3**
comp=Z,13nm,0.9s
PRP Porcupine Dome 97.04 336 *e*P **P 23 52 35.2 -0.4**
PRP *e*pP **pP 23 53 05.4 -0.1**
FETA Feichten 97.23 43 *e*PcP Pdif 23 52 37.2 +0.2
comp=Z,16nm,1.0s,SNR=9.6
FETA *e*PP **PP 23 56 34.8 -0.1**
comp=Z,8.5nm,1.8s
ILAR Eielson Array 97.30 335 *e*P **P 23 52 35.2 -1.4**
ILAR *e*pP **pP 23 53 05.4 -1.1**
ILAR Eielson Array 97.30 335 *e*P **P 23 52 35.2 -1.4**
ILAR *e**PP **pP 23 53 05.4 -1.1**
ILAR Eielson Array 97.30 335 P **P 23 52 34.6 -2.0**
comp=Z,1.3nm,0.8s,baz=150,slow=3.1,SNR=12
ILAR pP **pP 23 53 05.7 -0.9**
comp=Z,2.8nm,0.9s,baz=154,slow=3.9,SNR=11
ILAR PP **PP 23 56 32.0 -2.7**
comp=Z,0.8nm,0.9s,baz=106,slow=6.4,SNR=4.1
ILB Eielson Array 97.30 335 *e*P **P 23 52 36.1 -0.5**
ILB *e*pP **pP 23 53 06.4 -0.2**
FYU Fort Yukon 97.33 337 *e*P Pdif 23 52 36.7 -0.1
FYU *e*pP pP 23 53 07.1 +0.5
RETA Reutte 97.37 43 *e*PcP Pdif 23 52 38.0 +0.4
comp=Z,16nm,0.9s,SNR=8.8
RETA PP **PP 23 56 32.5 -3.4**
comp=Z,11nm,1.6s
BMAR Burnt Mountain 97.43 338 *e*P **P 23 52 36.5 -0.7**
MOTA Moosalm 97.56 43 *e*PcP Pdif 23 52 38.7 +0.2
comp=Z,7.4nm,0.7s,SNR=17
MOTA *e*PP **PP 23 56 34.9 -2.5**
comp=Z,16nm,1.8s
SQTA Sankt Quirin 97.59 43 *e*PcP Pdif 23 52 39.0 +0.4
comp=Z,39nm,1.2s,SNR=18
CCB Clear Creek Bu 97.62 335 *e*P **P 23 52 37.4 -0.7**
CCB *e*pP **pP 23 53 07.9 -0.1**
DAG Danmarks Havn 97.62 11 *i*P Pdif 23 52 38.6 +0.7
DAG pmax pmax
comp=Z,9.0nm,1.0s
DAG Danmarks Havn 97.62 11 *i*P Pdif 23 52 38.6 +0.7
comp=Z,9.0nm,1.0s
POKR Poker Plat Res 97.64 336 P **P 23 52 37.0 -1.1**
baz=111
WRH Wood River Hil 97.67 335 *e*P **P 23 52 37.7 -0.6**
WRH *e*pP **pP 23 53 08.3 +0.1**
COLA College 97.72 335 *e*P **P 23 52 37.5 -0.9**
COLA College 97.72 335 *c e*P **P 23 52 37.4 -1.1**
COLA pmax pmax
comp=Z,12nm,1.2s
TCOL CIGO, UAF Yank 97.72 335 P **P 23 52 37.8 -0.7**
baz=110
WATA Walderalm 97.86 43 *e*Pdiff Pdif 23 52 39.9 +0.1
comp=Z,6.7nm,0.7s,SNR=13
WTTA Wattenberg 97.89 43 *e*Pdiff Pdif 23 52 40.5 +0.5
comp=Z,39nm,0.9s,SNR=25
MDM Murphy Dome 97.90 335 *e*P **P 23 52 38.4 -1.0**
MDM *e*pP **pP 23 53 08.6 -0.7**
AQU L'Aquila 97.91 48 *e*P Pdif 23 52 40.0 0.0
comp=Z,23nm,1.0s
AQU L'Aquila 97.91 48 *e*P Pdif 23 52 40.0 0.0
AQU pmax pmax
comp=Z,23nm,1.0s
GRFO Grafenberg 98.22 41 *e*P Pdif 23 52 41.5 +0.3
comp=Z,22nm,1.0s
GRFO Grafenberg 98.22 41 *e*P Pdif 23 52 41.5 +0.3
GRFO pmax pmax
comp=Z,22nm,1.0s
GRA1 Grafenberg Arr 98.22 41 *e*P Pdif 23 52 42.0 +0.8
comp=Z,30nm,1.1s
GRF Grafenberg Arr 98.22 41 *e*P Pdif 23 52 42.0 +0.8
GRF pmax pmax
comp=Z,30nm,1.1s
CASY Casey 98.23 182 *e*P Pdif 23 52 42.2 +1.3
comp=Z,11nm,0.9s
ABTA Abfaltersbach 98.34 44 *e*Pdiff Pdif 23 52 42.3 +0.5
comp=Z,22nm,1.0s,SNR=16
ABTA *e*PP **PP 23 56 39.3 -4.1**
comp=Z,7.7nm,1.3s
BPAW Bear Paw Mtn. 98.75 334 *e*P **P 23 52 42.3 -0.9**
MUD Monsted U'grnd 98.75 34 *i*P Pdif 23 52 43.5 +0.2
MUD pmax pmax
comp=Z,47nm,1.1s
MUD Monsted U'grnd 98.75 34 *i*P Pdif 23 52 43.5 +0.2
comp=Z,47nm,1.1s
KBA Koelnbreinsper 98.97 44 *e*Pdiff Pdif 23 52 44.9 +0.1
comp=Z,7.6nm,0.7s
KBA *e*PP **PP 23 56 44.1 -4.2**
comp=Z,6.7nm,1.1s
CAST Castle Rocks 99.01 333 *e*P **Pdif 23 52 43.2 -1.1**
MYKA Terra Mystica 99.07 44 *e*Pdiff **Pdif 23 52 45.5 +0.4**
comp=Z,12nm,0.8s,SNR=7.7
MYKA *e*PP **PP 23 56 44.7 -4.3**
comp=Z,14nm,1.2s
NKC Novy Kostel 99.12 40 *e*P **Pdif 23 52 45.9 +0.7**
NKC *e* 23 53 17.6
NKC Novy Kostel 99.12 40 *e*PDIFF **Pdif 23 52 45.9 +0.7**
NKC *ex* x 23 53 17.6
KHC Kasperske Hory 99.59 42 *e*Pdif **Pdif 23 52 47.5 +0.2**
comp=Z,3.1nm,1.0s
KHC Kasperske Hory 99.59 42 *e*P **Pdif 23 52 47.5 +0.2**
KHC Kasperske Hory 99.59 42 *e*PDIFF **Pdif 23 52 47.5 +0.2**
KHC *e*sP **sP 23 53 23.9 -5.9**
GEC2 GERESS Array S 99.61 42 *e*Pdif **Pdif 23 52 47.8 +0.3**
comp=Z,12nm,1.0s
GERES GERESS Array B 99.61 42 *e*Pdif **Pdif 23 52 47.0 -0.4**
GERES GERESS Array B 99.61 42 P **Pdif 23 52 47.2 -0.2**
comp=Z,5.2nm,0.8s,baz=247,slow=2.8,SNR=42
GERES PKKP **PKKPbc 00 09 10.8 0.0**
comp=Z,0.1nm,0.2s,baz=90,slow=3.1,SNR=4.2
TOLK Toolik Lake Re 99.61 339 P **Pdif 23 52 46.3 -0.6**
baz=108
OBKA Obir 99.65 44 *e*Pdiff **Pdif 23 52 48.2 +0.5**
comp=Z,10nm,0.9s,SNR=7.1
CLL Collm 99.71 39 *e*Pdif **Pdif 23 52 47.7 0.0**
comp=Z,15nm,1.0s
CLL Collm 99.71 39 *i*P **Pdif 23 52 48.2 +0.5**
CLL pmax pmax
comp=Z,16nm,1.0s
CLL Collm 99.71 39⇑ *i*Pdif **Pdif 23 52 48.2 +0.5**
comp=Z,16nm,1.0s
CLL *e* 23 56 41.0
CLL LmV 00 36 00.0
comp=Z,200nm,20.3s
MOA Molln 99.76 43 *e*Pdiff **Pdif 23 52 48.5 +0.5**
comp=Z,13nm,0.8s,SNR=6.1
SOKA Soboth 100.02 44 *e*Pdiff **Pdif 23 52 49.4 +0.1**
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 100.20 40 *e*P **Pdif 23 52 50.3 +0.4**
comp=Z,28nm,1.2s
BRG *e*pP pP 23 53 21.8 +1.5
comp=Z,11nm,1.3s
BRG Berggiesshubel 100.20 40 *e*P **Pdif 23 52 50.3 +0.4**
BRG *e**PP pP 23 53 21.8 +1.6
BRG pmax pmax
comp=Z,28nm,1.2s
BRG pmax pmax
comp=Z,11nm,1.3s
PRU Pruhonice 100.39 41 *e*P **Pdif 23 52 51.1 +0.3**
PRU Pruhonice 100.39 41 *e*PDIFF **Pdif 23 52 51.1 +0.3**
PRU *ex* x 23 53 23.1
IMAR Indian Mountai 100.40 336 *e*Pdif **Pdif 23 52 48.8 -1.6**
ARSA Arzberg 100.46 44 *e*Pdiff **Pdif 23 52 51.4 +0.2**
comp=Z,8.9nm,1.2s
PVCC Panska Ves 100.51 40 *e*P **Pdif 23 52 51.8 +0.5**
PVCC Panska Ves 100.51 40 *e*PDIFF **Pdif 23 52 51.8 +0.5**
GOPC GO Pecny, Ondr 100.53 41 *e*P **Pdif 23 52 51.9 +0.5**
GOPC GO Pecny, Ondr 100.53 41 *e*PDIFF **Pdif 23 52 51.9 +0.5**
CONA Conrad Observa 100.82 43 *e*Pdiff **Pdif 23 52 53.6 +0.7**
comp=Z,9.6nm,1.1s,SNR=6.8
CONA *e*PP **PP 23 57 00.3 -1.8**
comp=Z,6.1nm,1.4s
TREC Trest 100.85 42 *e*P **Pdif 23 52 53.5 +0.6**
TREC Trest 100.85 42 *e*PDIFF **Pdif 23 52 53.5 +0.6**
NB2 NORSAR Subarra 100.88 30 P **Pdif 23 52 53.3 +0.5**
comp=Z,0.9nm,0.8s,baz=261,slow=4.8
NOA NORSAR Array B 100.88 30 P **Pdif 23 52 52.9 +0.1**
comp=Z,4.1nm,1.1s,baz=260,slow=4.4,SNR=4.2
KRUC Moravsky 101.39 42 *e*PDIFF **Pdif 23 52 55.8 +0.6**
UPC Upice 101.41 41 *e*P **Pdif 23 52 56.0 +0.7**
UPC Upice 101.41 41 *e*PDIFF **Pdif 23 52 56.0 +0.7**
VRAC Vranov 101.56 42⇑ *i*P **Pdif 23 52 57.4 +1.4**
VRAC Vranov 101.56 42⇑P **Pdif 23 52 57.4 +1.4**
VRAC Vranov 101.56 42 *e*PDIFF **Pdif 23 52 56.6 +0.6**
DPC Dobruska-Polom 101.58 41 *e*P **Pdif 23 52 57.1 +1.0**
DPC Dobruska-Polom 101.58 41 *e*PDIFF **Pdif 23 52 57.1 +1.0**
DPC *ex* x 23 53 28.8
KRLC Kraliky 101.82 41 *e*P **Pdif 23 52 58.6 +1.4**
KRLC Kraliky 101.82 41 *e*PDIFF **Pdif 23 52 58.6 +1.4**
MODS Modra-Piesok 101.84 43 *e*P **Pdif 23 52 57.1 -0.2**
MODS Modra-Piesok 101.84 43 *e*PDIF **Pdif 23 52 57.1 -0.2**
PDG Podgorica 102.16 49⇑ *i*P **Pdif 23 52 58.5 -0.3**
JAVC Velka Javorina 102.18 42 *e*PDIFF **Pdif 23 53 00.4 +1.5**
MORC Moravsky Berou 102.25 42⇓ *i*P **Pdif 23 53 00.5 +1.3**
MORC Moravsky Berou 102.25 42⇓P **Pdif 23 53 00.5 +1.3**
MORC Moravsky Berou 102.25 42 *e*PDIFF **Pdif 23 53 00.4 +1.3**
VYHS Vyhne 102.88 43 *e*P **Pdif 23 53 01.9 0.0**
VYHS Vyhne 102.88 43 *e*PDIF **Pdif 23 53 01.9 0.0**
PSZ Piszkesteto 103.49 44⇓ *i*P **Pdif 23 53 05.6 +0.9**
PSZ Piszkesteto 103.49 44⇓P **Pdif 23 53 05.6 +0.9**
MDVR Moldovita 104.29 47⇓ *i*P **Pdif 23 53 09.1 +0.8**
BZS Buzias 104.34 46⇑ *i*P **Pdif 23 53 09.7 +1.2**
BZS Buzias 104.34 46⇑P **Pdif 23 53 09.7 +1.2**
SIRR Siria 104.46 46⇑ *i*P **Pdif 23 53 10.1 +1.1**
GZR Gura Zlata 105.12 47⇑ *i*P **Pdif 23 53 12.6 +0.6**
GZR Gura Zlata 105.12 47⇑P **Pdif 23 53 12.6 +0.6**
DRGR 105.24 45⇓ *i*P **Pdif 23 53 13.4 +0.9**
DRGR 105.24 45⇓P **Pdif 23 53 13.5 +0.9**
TRPA Tarpa 105.28 44⇑ *i*P **Pdif 23 53 13.3 +0.8**
BURAR Bucovina Array 107.03 44 *e*Pdif **Pdif 23 53 20.6 +0.1**
BURAR Bucovina Array 107.03 44⇑ *i*P **Pdif 23 53 22.3 +1.8**
BURAR Bucovina Array 107.03 44⇑P **Pdif 23 53 22.3 +1.8**
MLR Muntele Rosu 107.35 47⇑ *i*P **Pdif 23 53 18.8 -3.2**
MLR Muntele Rosu 107.35 47⇑P **Pdif 23 53 18.8 -3.2**
MLR Muntele Rosu 107.35 47 PKKPbc PKKPbc 00 08 46.0 -1.5
comp=Z,1.1nm,0.7s,baz=39,slow=6.4,SNR=3.9
BIZ Bicaz 107.57 45⇑ *i*P **Pdif 23 53 24.5 +1.7**
ARCES ARCESS Array B 107.61 21 PKKPbc PKKPbc 00 08 44.9 -2.4
comp=Z,3.3nm,0.8s,baz=79,slow=3.4,SNR=10
FINES FINESS Array B 108.05 30 PKKPbc PKKPbc 00 08 43.6 -2.0
comp=Z,1.1nm,0.4s,baz=106,slow=4.3,SNR=14
AKASG Malin Array Be 109.80 41 PKIKP **PKiKP 23 57 34.0 -0.5**
comp=Z,0.4nm,0.3s,baz=275,slow=2.6,SNR=7.8
AKASG PKKP **PKKPab 00 08 50.9 +2.0**
comp=Z,1.0nm,0.7s,baz=71,slow=4.5,SNR=4.1
DZM Mont Dzumac 110.59 239 *e*LR LR 00 30 33.3
comp=Z,424nm,33.0s
APA Apatity 110.70 23⇓ *i*PKIKP **PKiKP 23 57 36.3 +0.7**
APA *i* *PP **PP 23 58 10.6 -3.5**
APA pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 112.69 53 PKiKP **PKiKP 23 57 40.6 +0.2**
comp=Z,2.6nm,1.0s,baz=177,slow=2.5,SNR=12
BRTR PP PP 23 58 19.6 -10
comp=Z,1.6nm,1.1s,baz=265,slow=7.7,SNR=4.4
BRTR PKKPab **PKKPab 00 08 37.8 +1.1**
comp=Z,1.3nm,0.9s,baz=125,slow=8.5,SNR=7.7
MMAI Mount Meron Ar 113.79 61 PKiKP **PKiKP 23 57 43.2 +0.5**
comp=Z,1.6nm,0.5s,baz=78,slow=4.4,SNR=16
OBN Obninsk 114.00 36 *i*PKIKP **PKiKP 23 57 41.3 -0.9**
OBN *e* 23 58 11.2
OBN *e* 23 58 33.7
OBN *e*PPP PPP 00 01 00.4
OBN pmax pmax
comp=Z,13nm,1.7s
KLMR Klimovskoe 114.59 30 *e*PKIKP PKPdf 23 57 41.9 -1.3
KLMR pmax pmax
comp=Z,15nm,1.3s
ASF Jabal al Asfar 115.00 62 PKP **PKiKP 23 57 45.4 +0.3**
comp=Z,6.8nm,0.9s,baz=296,slow=2.8,SNR=7.3
BILL Bilibino 115.67 339 *i*PKIKP **PKPdf 23 57 45.3 +0.1**
BILL *e* 23 58 48.7
BILL *e*PPP PPP 00 01 15.9
BILL pmax pmax
comp=Z,4.0nm,1.7s
LPSR Galich'ya Gora 115.71 39 *e*PKIKP **PKiKP 23 57 45.6 0.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 116.04 40 *e*PKIKP **PKPdf 23 57 44.8 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.2s
SOC Sochi 117.17 49 *i*PKIKP **PKPdf 23 57 47.9 -0.9**
SOC *e* 23 59 00.8
SOC *e*PPP PPP 00 01 33.9
SOC *e* 00 04 25.9
SOC *e*SS SS 00 14 55.7 -5.8
SOC pmax pmax
comp=Z,21nm,0.5s
PRGR Permogore 117.23 28 *e*PKIKP **PKPdf 23 57 47.8 -0.5**
PRGR pmax pmax
comp=Z,11nm,0.9s
VRH Novokhopyorsk 117.63 40 *e*PKIKP **PKPdf 23 57 49.0 -0.4**
VRH pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 119.28 48 *i*PKIKP **PKiKP 23 57 53.6 +0.6**
KIV pmax pmax
comp=Z,48nm,1.0s
KIV MLR MLR
comp=Z,154nm,22.0s
KVAR Kislovodsk Arr 119.29 48 PKP **PKiKP 23 57 53.6 +0.6**
comp=Z,3.8nm,0.3s,baz=82,slow=23,SNR=9.9
NEY Neytrino 119.38 49⇓ *i*PKIKP **PKPdf 23 57 52.8 -0.5**
KBZ Khabaz 119.46 48 PKP **PKiKP 23 57 53.6 +0.4**
comp=Z,10nm,0.8s,baz=228,slow=3.0,SNR=24
KBZ PKKPab **PKKPab 00 08 09.7 +3.2**
comp=Z,1.3nm,0.8s,baz=124,slow=5.6,SNR=4.1
NCK Nalchik 119.99 49⇓ *i*PKIKP **PKiKP 23 57 54.9 +0.6**
ZEI Tsey 120.29 49 *i*PKIKP **PKPdf 23 57 55.0 -0.1**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
GNI Garni 121.20 52 *c i*PKIKP **PKPdf 23 57 56.7 -0.2**
GNI pmax pmax
comp=Z,63nm,1.3s
GNI Garni 121.20 52 PKP **PKiKP 23 57 57.3 +0.3**
comp=Z,8.4nm,0.7s,baz=279,slow=3.7,SNR=5.8

STKA	**Stephens Creek**	122.15	215		PKP	**PKiKP**	**23 57 59.1**	**+0.1**
	comp=Z,7.0nm,0.7s,baz=121,slow=3.1,SNR=14							
TIXI	**Tiksi**	122.52	352	*e*	PKPdf	**PKPdf**	**23 57 57.6**	**-0.6**
TIXI	**Tiksi**	122.52	352	⇓*i*	PKIKP	**PKPdf**	**23 57 57.4**	**-0.8**
H11N3	**WAKE ISLAND Hyd**	122.88	284		T	T	02 12 15.9	
	baz=98							
H11N2	**WAKE ISLAND Hyd**	122.89	284		T	T	02 12 18.1	
	baz=98							
H11N1	**WAKE ISLAND Hyd**	122.89	284		T	T	02 12 20.7	
	baz=98							
H11S2	**WAKE ISLAND Hyd**	122.93	282		T	T	02 12 25.1	
	baz=104							
H11S1	**WAKE ISLAND Hyd**	122.93	282		T	T	02 12 29.4	
	baz=104							
H11S3	**WAKE ISLAND Hyd**	122.94	282		T	T	02 12 24.7	
	baz=104							
SEY	**Seymchan**	123.19	337	⇓*i*	PKIKP	**PKiKP**	**23 58 00.5**	**+0.5**
NRIK	**Noril'sk**	125.02	8		PKP	**PKiKP**	**23 58 03.4**	**0.0**
	comp=Z,5.6nm,0.8s,baz=80,slow=3.9,SNR=17							
ARU	**Arti**	125.42	31	*e*	PKPdf	**PKiKP**	**23 58 04.4**	**-0.2**
ARU	**Arti**	125.42	31	*c i*	PKIKP	**PKiKP**	**23 58 04.6**	**0.0**
ARU					pmax	pmax		
	comp=Z,27nm,2.5s							
PETK	**Petropavlovsk-**	125.51	325		PKP	**PKiKP**	**23 58 04.8**	**-0.1**
	comp=Z,11nm,0.9s,baz=78,slow=3.1,SNR=11							
MA2	**Magadan**	125.75	334	⇑*i*	PKIKP	**PKPdf**	**23 58 04.3**	**-0.5**
SVE	**Sverdlovsk**	126.22	29	*e*	PKIKP	**PKiKP**	**23 58 06.6**	**+0.4**
SVE					pmax	pmax		
	comp=Z,17nm,1.5s							
CTAO	**Charters Tower**	127.42	229	*e*	PKPdf	**PKiKP**	**23 58 09.9**	**+0.1**
AKTO	**Aktyubinsk**	127.74	37		PKIKP	**PKiKP**	**23 58 10.0**	**+0.5**
AKTO	**Aktyubinsk**	127.74	37		PKP	**PKiKP**	**23 58 09.9**	**+0.5**
	comp=Z,15nm,0.9s,baz=313,slow=2.4,SNR=50							
ABKAR	**Akbulak array**	129.36	38	*e*	PKPdf	**PKiKP**	**23 58 12.6**	**-0.1**
ASAR	**Alice Springs**	132.78	215	*e*	PKPpre	PKPpre	23 58 05.7	
ASAR					PKP	**PKPdf**	**23 58 18.8**	**-0.6**
ASAR	**Alice Springs**	132.78	215		PKP	**PKPdf**	**23 58 18.8**	**-0.6**
	comp=Z,5.6nm,0.4s,baz=130,slow=1.9,SNR=54							
ASAR					pPKP	**pPKPdf**	**23 58 49.4**	**-0.8**
	comp=Z,8.9nm,1.1s,baz=148,slow=2.4,SNR=4.8							
ASAR					PP	**PP**	**00 00 42.9**	**-1.3**
	comp=Z,2.0nm,1.1s,baz=138,slow=6.0,SNR=4.8							
ASAR					PKKP	**PKKPdf**	**00 08 10.5**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=325,slow=1.5,SNR=5.7							
BRVK	**Borovoye**	132.94	29	*e*	PKPdf	**PKiKP**	**23 58 19.9**	**+0.1**
BRVK	**Borovoye**	132.94	29	*c i*	PKIKP	**PKPdf**	**23 58 19.0**	**+0.4**
WSAR	**Wadi Sarin**	134.10	73		PKP	**PKPdf**	**23 58 21.8**	**0.0**
	comp=Z,3.7nm,0.8s,baz=320,slow=4.1,SNR=4.7							
NKL	**Nikolayevsk**	134.13	332	*e*	PKIKP	**PKPdf**	**23 58 21.0**	**+0.2**
NKL					pmax	pmax		
	comp=Z,78nm,1.5s							
WRA	**Warramunga Arr**	135.46	218		PKP	**PKPdf**	**23 58 24.7**	**+0.3**
	comp=Z,26nm,0.9s,baz=135,slow=2.4,SNR=48							
WRAB	**Tennant Creek**	135.46	218	*e*	PKPdf	**PKPdf**	**23 58 24.9**	**+0.5**
WRAB	**Tennant Creek**	135.46	218	*c i*	PKIKP	**PKPdf**	**23 58 23.7**	**-0.7**
WRAB					pmax	pmax		
	comp=Z,21nm,0.8s							
NVS	**Novosibirsk**	136.86	20	*e*	PKIKP	**PKPdf**	**23 58 26.1**	**+0.2**
NVS				*e*			23 58 57.9	
NVS				*e*			00 01 10.3	
NVS					pmax	pmax		
	comp=E,10.0nm,1.6s							
NVS					pmax	pmax		
	comp=Z,34nm,1.6s							
YSS	**Yuzh-Sakhalins**	136.89	324	*e*	PKIKP	**PKPdf**	**23 58 26.3**	**+0.1**
YSS				*e*			23 58 56.9	
YSS					pmax	pmax		
	comp=Z,20nm,0.9s							
BOD	**Bodaibo**	137.59	354	*e*	PKHKP	PKPpre	23 58 14.0	
BOD					pmax	pmax		
	comp=Z,9.0nm,1.2s							
GRNR	**Gornyy**	137.68	332	*e*	PKIKP	**PKiKP**	**23 58 29.4**	**-0.1**
ZALV	**Zalesovo Beam**	138.12	19	*e*	PKPpre	PKPpre	23 58 17.2	
ZALV					PKPpre	PKPpre	23 58 24.9	
ZALV					PKP	**PKiKP**	**23 58 29.2**	**-1.1**
ZALV	**Zalesovo Beam**	138.12	19		PKIKP	**PKPdf**	**23 58 25.0**	**-3.2**
ZALV	**Zalesovo Beam**	138.12	19		PKhKP	PKPpre	23 58 24.9	
	comp=Z,36nm,0.8s,baz=291,slow=2.3,SNR=9.7							
ZALV					PKP	**PKiKP**	**23 58 29.2**	**-1.1**
	comp=Z,34nm,0.8s,baz=338,slow=3.0,SNR=59							
KURK	**Kurchatov**	138.33	27	*e*	PKPdf	**PKiKP**	**23 58 29.9**	**-0.9**
KURK	**Kurchatov**	138.33	27	*c i*	PKIKP	**PKPdf**	**23 58 29.1**	**+0.4**
KURBB	**Kurchatov Arra**	138.35	27		PKhKP	PKPpre	23 58 19.4	
	comp=Z,1.3nm,0.7s,baz=309,slow=3.1,SNR=2.1							
KURBB					PKP	**PKPdf**	**23 58 27.8**	**-1.0**
	comp=Z,8.1nm,0.8s,baz=312,slow=2.2,SNR=8.8							
KURBB					PP	**PP**	**00 01 14.3**	**-4.7**
	comp=Z,1.7nm,1.1s,baz=312,slow=7.6,SNR=4.9							
KKAR	**Karatay Array**	138.70	41	*e*	PKPdf	**PKPdf**	**23 58 30.2**	**+0.5**
ZEA	**Zeya**	138.80	342	*e*	PKIKP	**PKPdf**	**23 58 29.4**	**-0.1**
ZEA					pmax	pmax		
	comp=Z,23nm,1.0s							
ERM	**Erimo**	139.24	317	*e*	PKPdf	**PKPdf**	**23 58 30.3**	**-0.4**
ERM	**Erimo**	139.24	317	*d i*	PKIKP	**PKiKP**	**23 58 32.4**	**-0.5**
ERM					pmax	pmax		
	comp=Z,55nm,1.3s							
KLR	**Kul'dur**	140.85	334	*c e*	PKIKP	**PKPdf**	**23 58 33.4**	**0.0**
EKS2	**Erkin-Say**	140.97	40		P	**PKiKP**	**23 58 36.1**	**-0.6**
	SNR=7.4							
USP	**Ospenovka**	141.07	38		P	**PKiKP**	**23 58 35.5**	**-1.2**
	SNR=5.8							
AML	**Almayashu**	141.21	40		P	**PKPdf**	**23 58 29.3**	**-5.5**
	SNR=11							
AAK	**Ala-Archa**	141.43	39		P	**PKPdf**	**23 58 31.1**	**-3.8**
	SNR=7.0							
AAK	**Ala-Archa**	141.43	39	*e*	PKPpre	PKPpre	23 58 30.0	
AAK	**Ala-Archa**	141.43	39	⇓*e*	PKIKP	**PKPdf**	**23 58 34.8**	**-0.1**
AAK	**Ala-Archa**	141.43	39		PKhKP	PKPpre	23 58 30.2	
	comp=Z,7.9nm,0.9s,baz=232,slow=3.4,SNR=17							
UCH	**Uchtor**	141.67	40		P	**PKPdf**	**23 58 31.9**	**-3.7**
	SNR=11							
KBK	**Karagaybulak**	141.69	39		P	**PKPdf**	**23 58 31.7**	**-3.7**
	SNR=6.5							
TKM2	**Tokmak 2**	141.93	38		P	**PKPdf**	**23 58 31.8**	**-4.0**
	SNR=6.1							
KZA	**Kyzart**	142.21	40		P	**PKPdf**	**23 58 33.6**	**-3.0**
	SNR=9.0							
DGZ	**Jazzator, Alta**	142.58	21	*c e*	PKIKP	**PKPdf**	**23 58 34.9**	**-1.8**
MAKZ	**Makanchi**	142.71	28	*e*	PKPpre	PKPpre	23 58 32.2	
MAKZ	**Makanchi**	142.71	28	*e*	PKHKP	PKPpre	23 58 32.2	
ULHL	**Ulahol**	142.71	39		P	**PKPdf**	**23 58 35.1**	**-2.2**
	SNR=12							
MKAR	**Makanchi Array**	142.86	28	*e*	PKPpre	PKPpre	23 58 33.0	
MKAR	**Makanchi Array**	142.86	28		PKhKP	PKPpre	23 58 32.9	
	comp=Z,5.9nm,0.6s,baz=315,slow=3.2,SNR=45							
MKAR					pPKP	pPKPdf	23 59 06.7	-1.4
	comp=Z,4.7nm,0.8s,baz=325,slow=3.0,SNR=2.8							
IRK	**Irkutsk**	143.47	3	*e*	PKIKP	PKPab	23 58 34.4	0.0
IRK				*e*			23 59 03.1	
IRK					pmax	pmax		
	comp=Z,69nm,2.2s							
MOY	**Mondy**	143.80	6	*e*	PKIKP	PKPbc	23 58 37.2	+0.6
MOY					pmax	pmax		
	comp=Z,74nm,1.7s							
TLY	**Talaya**	144.00	3	*e*	PKPdf	PKPbc	23 58 37.8	+0.7
TLY	**Talaya**	144.00	3	*e*	PKIKP	PKPbc	23 58 37.8	+0.7
KSH	**Kashi**	144.08	43		PKP	PKPbc	23 58 37.6	-0.3
KSH					PP	**PP**	**00 01 57.5**	**+2.9**
KSH					SKS	**SKSdf**	**00 05 38.3**	**-0.9**
KSH					SKKS	**SKKSac**	**00 08 33.8**	**-3.3**
KSH					AMB	AMB		
	comp=Z,250nm,3.3s							
KSH					LR	LR		
	comp=Z,81nm,9.3s							
KSH					LR	LR		
	comp=Z,77nm,8.6s							
KSH					LR	LR		
	comp=Z,370nm,10.6s							
USRK	**Ussuriysk Ar.**	144.46	328		PKP	**PKPab**	**23 58 38.3**	**-0.2**
	comp=Z,38nm,0.9s,baz=48,slow=1.8,SNR=48							
USRK					pPKP	**pPKPdf**	**23 59 09.3**	**-1.7**
	comp=Z,14nm,0.9s,baz=29,slow=3.3,SNR=3.7							
MJAR	**Matsushiro Arr**	145.24	313	*e*	PKPbc	**PKPbc**	**23 58 40.9**	**-0.6**
MJAR	**Matsushiro Arr**	145.24	313		PKPbc	**PKPbc**	**23 58 40.4**	**-1.1**
	comp=Z,73nm,1.0s,baz=68,slow=3.0,SNR=128							
MJAR					pPKP	pPKPab	23 59 10.6	-1.6
	comp=Z,34nm,1.0s,baz=102,slow=0.8,SNR=5.0							
MAJO	**Matsushiro**	145.24	313	*e*	PKPbc	**PKPbc**	**23 58 40.9**	**-0.5**
MAJO	**Matsushiro**	145.24	313	*e*	PKIKP	**PKPbc**	**23 58 40.9**	**-0.5**
MAT	**Matsushiro**	145.24	313		PKP	**PKPbc**	**23 58 40.6**	**-0.9**
ZAK	**Zakamensk**	145.27	4	*e*	PKIKP	**PKPab**	**23 58 41.6**	**+0.2**
ZAK				*e*			23 59 11.5	
ZAK					pmax	pmax		
	comp=Z,118nm,1.1s							
MDJ	**Mudanjiang**	145.33	331		PKPbc	**PKPdf**	**23 58 40.6**	**-0.8**
WMQ	**Urumqi**	147.57	26		PKPbc	**PKPdf**	**23 58 46.4**	**+1.1**
WMQ					pPKP	pPKPbc	23 59 19.3	+0.4
WMQ					LR	LR		
	comp=Z,890nm,31.3s							
WMQ					LR	LR		
	comp=Z,2μm,39.2s							
WMQ					LR	LR		
	comp=Z,610nm,39.1s							
CN2	**Changchun**	147.81	334	*e*	PKPbc	**PKPdf**	**23 58 44.8**	**-0.8**
CN2					PP	**PP**	**00 02 19.5**	**+3.7**
CN2					AMB	AMB		
	comp=Z,200nm,8.0s							
ULN	**Ulaanbaatar**	147.91	360	*e*	PKPdf	**PKPdf**	**23 58 46.8**	**+0.9**
SONM	**Songino Array**	147.94	1	*e*	PKPdf	**PKPdf**	**23 58 46.4**	**+0.5**
SONM	**Songino Array**	147.94	1		PKPbc	**PKPdf**	**23 58 46.8**	**+0.9**
	comp=Z,74nm,0.9s,baz=334,slow=1.7,SNR=77							
SONM					pPKPbc	**pPKPbc**	**23 59 20.6**	**+0.8**
	comp=Z,32nm,1.0s,baz=334,slow=1.0,SNR=4.4							
KSRS	**Korea Array**	151.39	323		PKP	**PKPdf**	**23 58 52.5**	**+1.0**
	comp=Z,5.7nm,0.9s,baz=48,slow=0.9,SNR=25							
KSRS					PKPbc	**PKiKP**	**23 58 58.3**	**+0.2**
	comp=Z,54nm,0.9s,baz=14,slow=1.5,SNR=91							
KSRS					pPKPbc	**pPKPbc**	**23 59 28.1**	**-0.8**
	comp=Z,22nm,0.9s,baz=341,slow=2.5,SNR=5.7							
KSAR	**Wonju Array Be**	151.42	323	*e*	PKPdf	**PKPdf**	**23 58 51.9**	**+0.4**
KSAR	**Wonju Array Be**	151.42	323	*e*	PKIKP	**PKPdf**	**23 58 51.9**	**+0.4**
HYB	**Hyderabad**	152.84	82	*i*	PKP	**PKPdf**	**23 58 55.0**	**+0.7**
HYB				*e*			23 59 01.5	
HYB				*e*	PKPAB	**PKPab**	**23 59 14.0**	**+1.0**
HYB				*e*			23 59 47.0	
PALK	**Pallekele**	153.09	105		PKPbc	**PKiKP**	**23 59 02.4**	**+0.1**
	baz=299,slow=2.6							
DL2	**Dalian**	153.47	334		P	**PKPbc**	**23 59 01.8**	**-0.4**
HHC	**Hu-ho-hao-te**	154.59	352	*e*	PKPbc	**PKPdf**	**23 58 57.4**	**+1.2**
HHC					PP	**PP**	**00 03 00.3**	**+6.0**
HHC					AMB	AMB		
	comp=Z,160nm,9.4s							
GTA	**Gaotai**	155.57	13	*e*	PKP	**PKPdf**	**23 58 58.8**	**+1.2**
TIY	**Taiyuan**	157.50	348	*e*	PKP	**PKPdf**	**23 59 03.1**	**+3.0**
TIA	**Tai'an**	157.59	338		PKP	**PKPdf**	**23 59 01.0**	**+0.8**
LZH	**Lanzhou**	159.50	7		PKP	**PKPdf**	**23 59 04.0**	**+1.3**
LZH					pPKP	pPKPdf	23 59 28.8	-4.8
LZH					sPKP		23 59 39.6	
LZH					PKPab	**PKPab**	**23 59 41.3**	**+0.3**
NJ2	**Nanjing**	160.37	328	*e*	PKP	**PKPdf**	**23 59 02.9**	**-0.6**
NJ2					PP	**PP**	**00 03 26.3**	**-0.2**
NJ2					SKKS		00 10 04.0	
NJ2					LR	LR		
	comp=Z,770nm,24.8s							
NJ2					LR	LR		
	comp=Z,780nm,25.0s							
NJ2					LR	LR		
	comp=Z,630nm,25.0s							
XAN	**Xi'an**	161.62	354		PKP	**PKPdf**	**23 59 05.4**	**+0.5**
SHL	**Shillong**	162.91	52	*e*	P	**PKPdf**	**23 59 07.0**	**+0.4**
WHN	**Wuhan**	163.68	336		PKP	**PKPdf**	**23 59 07.3**	**+0.4**
WHN					LR	LR		
	comp=Z,320nm,18.5s							
BRDH	**Bariadhala**	164.06	62		PKPab	**PKPab**	**00 00 02.6**	**+1.3**
	comp=Z,41nm,0.3s,baz=281,slow=0.5,SNR=7.1							
CD2	**Chengdu**	164.58	10		PKP	**PKPdf**	**23 59 06.8**	**-1.0**
KULM	**Kulim**	168.02	149	*e*	PKPdf	**PKPdf**	**23 59 11.1**	**+0.2**
GYA	**Guiyang**	169.28	1		PKP	**PKPdf**	**23 59 11.3**	**-0.2**
GYA					pPKP	pPKPdf	23 59 38.0	-4.5
GYA					sPKP		23 59 48.8	
GYA					PKS	**PKSdf**	**00 02 42.4**	**-1.9**
GYA					AMB	AMB		
	comp=Z,190nm,9.3s							
GYA					LR	LR		
	comp=Z,100nm,17.4s							
GYA					LR	LR		
	comp=Z,120nm,20.8s							
GYA					LR	LR		
	comp=Z,170nm,19.9s							
KMI	**Kunming**	169.85	22		PKP	**PKPdf**	**23 59 11.9**	**-0.1**
KMI					pPKP	pPKPdf	23 59 41.1	-2.0
CHTO	**Chiang Mai**	171.84	66	*e*	PKPdf	**PKPdf**	**23 59 13.2**	**+0.3**
CHTO				*e*	PKPab	**PKPab**	**00 00 35.9**	**0.0**
CMMT	**Chiang Mai**	171.85	66		P	**PKPdf**	**23 59 13.2**	**+0.2**
	comp=Z,6.6nm,2.0s							
CMAR	**Chiang Mai Arr**	171.96	69	*e*	PKPdf	**PKPdf**	**23 59 12.8**	**-0.2**
CMAR				*e*	PKPab	**PKPab**	**00 00 36.2**	**-0.2**
CMAR	**Chiang Mai Arr**	171.96	69		PKP	**PKPdf**	**23 59 12.9**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=268,slow=2.0,SNR=15							
CMAR					PKPab	**PKPab**	**00 00 36.8**	**+0.3**
	comp=Z,20nm,1.1s,baz=284,slow=5.6,SNR=31							
CMAR					PP	**PP**	**00 04 26.3**	**-1.6**
	comp=Z,3.0nm,0.9s,baz=288,slow=5.9,SNR=8.2							
LAMP	**Lampang**	172.56	67		P	**PKPdf**	**23 59 14.2**	**+0.9**
	comp=Z,19μm,1.2s							
QIZ	**Qiongzhong**	175.60	320		PKP	**PKPdf**	**23 59 14.1**	**-0.2**
SKNT	**Sakolnakorn**	176.97	64		P	**PKPdf**	**23 59 15.1**	**+0.5**
	comp=Z,24nm,1.1s							
PANO	**Nakornpanom**	177.41	55		P	**PKPdf**	**23 59 15.3**	**+0.6**
	comp=Z,0.5nm,1.8s							

SOME ***14*** *23:59:58.6, 42°.92N×77°.35E, h10km*
KRNET ***14*** *23:59:58.5±0.1, 42°.91N×77°.36E, h21km, mb2.4*
NNC ***14*** *23:59:59.0±0.5, 42°.98N×77°.35E, h0km, mb2.3, mpv2.7,*
Error ellipse: s-maj=5.2km s-min=2.7km az=171.0
ISC 14 23:59:58.2±1.1, 42°.92N±0°.02×77°.35E±0°.02, h5km±10km, n33, σ0°52/66, 27C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	0.33	318	⇓*i*	P	**Pg**	**00 00 05.0**	**+0.4**
	21nm,0.1s							
MDOK					*e* S	**Sg**	**00 00 09.2**	**+0.2**
	35nm,0.2s							
KOTS	**Kotyrbulak**	0.36	332	⇑*i*	P	**Pg**	**00 00 05.7**	**+0.5**
	32nm,0.1s							
KOTS					*e* S	**Sg**	**00 00 10.5**	**+0.5**
	85nm,0.3s							
MTBS	**Maitube**	0.71	288	*e*	P	**Pg**	**00 00 12.0**	**+0.3**
	2.6nm,0.1s							
MTBS					*e* S	**Sg**	**00 00 21.3**	**+0.4**
	4.5nm,0.1s							
KDJ	**Kajisay**	0.80	189	⇓*i*	P	**Pg**	**00 00 13.7**	**+0.3**
	baz=89							
KDJ				⇓*i*	S	**Sg**	**00 00 24.4**	**+0.6**
	baz=89							
ZHN	**Zhinishke**	0.84	72	*e*	P	**Pg**	**00 00 14.5**	**+0.2**
	9.7nm,0.1s							
ZHN					*e* S	**Sg**	**00 00 25.3**	**+0.2**
	24nm,0.1s							
KTBS	**Karatobe**	0.93	329		P	**Pg**	**00 00 16.1**	**0.0**
	2.8nm,0.1s							
KTBS					S	**Sg**	**00 00 28.1**	**0.0**
	24nm,0.3s							
KTBS	**Karatobe**	0.93	329	⇑*i*	P	**Pg**	**00 00 16.1**	**0.0**
	2.8nm,0.1s							
KTBS					*e* S	**Sg**	**00 00 28.3**	**+0.1**
	31nm,0.2s							
CHKK	**Chushkaly**	0.97	345		P	**Pg**	**00 00 16.8**	**-0.1**
	3.3nm,0.1s							
CHKK					S	**Sg**	**00 00 29.3**	**-0.2**
	66nm,0.2s							
CHKK	**Chushkaly**	0.97	345	*e*	P	**Pg**	**00 00 16.8**	**-0.1**
	3.3nm,0.1s							
CHKK					*e* S	**Sg**	**00 00 29.7**	**+0.2**
	66nm,0.2s							
KST	**Kastek**	1.02	278	*e*	P	**Pg**	**00 00 17.9**	**+0.1**
	2.6nm,0.1s							
KST					*e* S	**Sg**	**00 00 31.2**	**+0.2**
	6.7nm,0.3s							
ULHL	**Ulahol**	1.06	231	⇑*i*	P	**Pg**	**00 00 18.4**	**0.0**
	baz=32							
ULHL				⇑*i*	S	**Sg**	**00 00 32.5**	**+0.4**
	baz=32							
BOOM	**Boomskoye usch**	1.12	248	⇑*i*	P	**Pg**	**00 00 19.3**	**-0.4**
	baz=49							
BOOM				⇑*i*	S	**Sg**	**00 00 34.4**	**+0.2**
	baz=49							
KPKS	**Kokpek**	1.12	60	*e*	P	**Pg**	**00 00 19.7**	**0.0**
	9.1nm,0.1s							
KPKS					*e* S	**Sg**	**00 00 34.3**	**+0.1**
	21nm,0.4s							
DGS	**Degeres**	1.20	286	*e*	P	**Pb**	**00 00 21.2**	**-0.2**
	2.2nm,0.1s							
DGS					*e* S	**Sg**	**00 00 36.6**	**-0.1**
	5.8nm,0.3s							
KUU	**Kurty**	1.22	323		P	**Pb**	**00 00 21.6**	**-0.2**
	1.9nm,0.1s							
KUU					S	**Sg**	**00 00 37.4**	**0.0**
	5.4nm,0.1s							
KUU	**Kurty**	1.22	323	*e*	P	**Pg**	**00 00 21.1**	**-0.5**
	2.6nm,0.3s							
KUU				*e*	S	**Sg**	**00 00 36.9**	**-0.5**
	12nm,0.2s							
TARG	**Taragay, Kyrgy**	1.23	164	⇑*i*	P	**Pg**	**00 00 21.3**	**-0.6**
	baz=65							
TARG				⇑*i*	S	**Sg**	**00 00 37.6**	**-0.3**
	baz=65							
UZB	**Uzynbulak**	1.25	79	*e*	P	**Pg**	**00 00 22.1**	**-0.1**
	3.2nm,0.1s							
UZB				*e*	S	**Sg**	**00 00 38.3**	**-0.1**
	9.9nm,0.1s							
TKM2	**Tokmak 2**	1.28	271	⇑*P*		**Pn**	**00 00 23.5**	**+0.5**
	0.7nm,0.4s							
TKM2				⇑*S*		**Sn**	**00 00 40.5**	**-0.3**
	2.6nm,0.5s							
TKM2	**Tokmak 2**	1.28	271	⇑*i*	P	**Pg**	**00 00 22.6**	**-0.2**
	baz=71							
TKM2				⇑*i*	S	**Sb**	**00 00 39.9**	**0.0**
	baz=71							
ARXS	**Arharly**	1.34	15	P		**Pg**	**00 00 23.6**	**-0.3**
	2.1nm,0.2s							
ARXS				S		**Sg**	**00 00 40.9**	**-0.4**
	22nm,0.1s							
ARXS	**Arharly**	1.34	15	*e*	P	**Pg**	**00 00 23.6**	**-0.3**
	2.0nm,0.1s							
ARXS				*e*	S	**Sb**	**00 00 41.1**	**-0.3**
	30nm,0.1s							
PDGK	**Podgornoye**	1.62	75	P		**Pb**	**00 00 28.5**	**-0.2**
	1.2nm,0.1s							
PDGK				S		**Sb**	**00 00 49.3**	**-0.3**
	2.9nm,0.2s							
PDGK	**Podgornoye**	1.62	75	⇑*P*		**Pb**	**00 00 28.2**	**-0.5**
	3.2nm,0.6s							
PDGK				⇑*S*		**Sb**	**00 00 49.7**	**+0.2**
	6.5nm,0.8s							
PDGK	**Podgornoye**	1.62	75	⇓*e*	P	**Pn**	**00 00 27.7**	**+0.1**
	baz=74							
PDGK				⇓*i*	S	**Sn**	**00 00 49.0**	**0.0**
	baz=74							
KZA	**Kyzart**	1.76	242	⇑*i*	P	**Pb**	**00 00 30.9**	**-0.4**
	baz=43							
KZA				⇑*i*	S	**Sg**	**00 00 54.6**	**-0.2**
	baz=43							
KBK	**Karagaybulak**	1.79	262	⇑*i*	P	**Pb**	**00 00 31.1**	**-0.4**
	baz=63							
KBK				⇑*i*	S	**Sg**	**00 00 55.0**	**-0.5**
	baz=63							
CHMS	**Chumysh**	1.91	273	⇑*i*	P	**Pb**	**00 00 32.8**	**-0.7**
	baz=73							
CHMS				⇑*i*	S	**Sb**	**00 00 57.4**	**-0.2**
	baz=73							
USP	**Ospenovka**	2.11	280	⇑*i*	P	**Pb**	**00 00 35.8**	**-1.2**
	baz=81							
USP				⇑*i*	S	**Sb**	**00 01 02.7**	**-0.9**
	baz=81							
AAK	**Ala-Archa**	2.12	263	⇑Pn		**Pb**	**00 00 37.0**	**-0.1**
	1.1nm,0.7s							
AAK				⇓Sn		**Sg**	**00 01 05.7**	**-0.5**
	2.7nm,0.5s							
AAK	**Ala-Archa**	2.12	263	⇑*i*	P	**Pb**	**00 00 35.9**	**-1.3**
	baz=64							
AAK				⇑*i*	S	**Sb**	**00 01 02.9**	**-0.9**
	baz=64							
UCH	**Uchtor**	2.20	253	⇓*i*	P	**Pn**	**00 00 37.2**	**+1.3**
	baz=53							
UCH				⇓*i*	S	**Sb**	**00 01 05.5**	**-1.1**
	baz=53							
AML	**Almayashu**	2.81	255	⇑*i*	P	**Pn**	**00 00 45.6**	**+1.4**
	baz=55							
AML				⇑*i*	S	**Sn**	**00 01 20.0**	**+1.3**
	baz=55							

ISCJB ***15*** *00:07:16.9±0.8, 37°.30N±0°.05×37°.08E±0°.06, h9km±8km,*
Error ellipse: s-maj=9.6km s-min=6.0km az=41.9
DDA ***15*** *00:07:16.3, 37°.31N×37°.11E, h5km±2km, ML2.6*
ISK ***15*** *00:07:16.4, 37°.31N×37°.12E, h6km, ML1.8/5*
ISC 15 00:07:16.8±0.9, 37°.29N±0°.04×37°.10E±0°.03, h11km±9km, n16, σ0°38/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	0.15	144		PG	**Pg**	**00 07 20.1**	**-0.2**
GAZ					SG	**Sg**	**00 07

mb4.1/31, Error ellipse: s-maj=4.2km s-min=3.4km az=154.2
*NNC **15** 00:44:15.5±1.5, 39.96N×72.40E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=13.3km s-min=7.2km az=178.0*
*MOS **15** 00:44:16.1±1.1, 39.85N×72.42E, h47km, mb4.4/14, Error ellipse: s-maj=7.1km s-min=4.7km az=76.4*
*NEIC **15** 00:44:17.1±0.6, 39.91N×72.35E, h41km±6km, mb4.2/8, Error ellipse: s-maj=7.9km s-min=5.4km az=150.0*
ISC 15 00:44:15.4±1.0, 39.73N±0.03×72.39E±0.02, h31km±7km, n185, σ2§11/223, mb4.1/31, 40C-33D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.52**	**242**	⇑*i*	*P*		**Pb**	**00 44 23.8**	**-2.5**
	baz=49								
DRK				⇑*i*	S		**Sb**	**00 44 33.2**	**-0.7**
	baz=49								
ARSB	**Arslanbob**	**1.66**	**16**	*e*Pn			**Pn**	**00 44 41.6**	**-0.8**
ARSB	**Arslanbob**	**1.66**	**16**	⇓*i*	*P*		**Pn**	**00 44 41.4**	**-1.1**
	baz=10.0								
ARSB				⇓*i*	S		**Sn**	**00 45 03.3**	**+0.5**
	baz=10.0								
GAR	**Garm**	**1.76**	**246**	*e*Pn			**Pb**	**00 44 46.3**	**-0.8**
GAR	**Garm**	**1.76**	**246**	*e*PN			**Pb**	**00 44 46.3**	**-0.8**
ARK	**Arkit**	**2.09**	**351**	⇑*i*	*P*		**Pn**	**00 44 48.9**	**+0.5**
	baz=47								
ARK				⇑*i*	S		**Sb**	**00 45 16.2**	**-2.2**
	baz=47								
AML	**Almayashu**	**2.60**	**22**	P			**Pn**	**00 44 55.4**	**-0.2**
	SNR=410								
KSH	**Kashi**	**2.78**	**93**	Pn			**Pn**	**00 44 56.4**	**-1.4**
KSH				Sn			**Sn**	**00 45 28.9**	**-1.4**
KSH				smax			smax		
	comp=N,3μm,0.7s								
KSH				smax			smax		
	comp=E,1μm,0.5s								
UCH	**Uchtor**	**2.97**	**32**	P			**Pn**	**00 45 00.6**	**-0.2**
	SNR=43								
UCH	**Uchtor**	**2.97**	**32**	⇑*i*	*P*		**Pn**	**00 45 00.9**	**+0.1**
	baz=29								
UCH				⇑*i*	S		**Sn**	**00 45 35.9**	**+0.3**
	baz=29								
IUG	**Iuzhnay**	**3.00**	**324**	Pg			**Pb**	**00 45 06.7**	**-1.5**
	605nm,0.3s								
IUG				Lg			Lg	00 45 47.1	
	382nm,0.3s								
IUG	**Iuzhnay**	**3.00**	**324**	*e*P			**Pb**	**00 45 06.7**	**-1.5**
	605nm,0.3s								
IUG				*e*S			**Sb**	**00 45 47.1**	**+2.6**
	1μm,0.7s								
MRKS	**Merke**	**3.08**	**12**	*e*P			**Pn**	**00 45 05.6**	**+3.6**
	170nm,0.4s								
MRKS				*e*S			**Sb**	**00 45 45.4**	**-1.3**
	312nm,0.7s								
EKS2	**Erkin-Say**	**3.11**	**19**	P			**Pn**	**00 45 05.2**	**+2.8**
	SNR=18								
EKS2	**Erkin-Say**	**3.11**	**19**	⇓*i*	*P*		**Pn**	**00 45 02.7**	**+0.3**
	baz=17								
EKS2				⇓*i*	S		**Sn**	**00 45 39.2**	**+0.6**
	baz=17								
KZA	**Kyzart**	**3.20**	**42**	P			**Pn**	**00 45 04.4**	**+0.6**
	SNR=47								
KZA	**Kyzart**	**3.20**	**42**	⇓*i*	*P*		**Pn**	**00 45 03.6**	**-0.2**
	baz=40								
KZA				⇓*i*	S		**Sn**	**00 45 41.1**	**0.0**
	baz=40								
NRN	**Naryn**	**3.24**	**57**	*e*Pn			**Pn**	**00 45 04.0**	**-0.3**
NRN	**Naryn**	**3.24**	**57**	*e*PN			**Pn**	**00 45 04.0**	**-0.3**
NRN	**Naryn**	**3.24**	**57**	⇑*i*	*P*		**Pn**	**00 45 02.7**	**-1.6**
	baz=55								
NRN				⇑*i*	S		**Sn**	**00 45 40.2**	**-1.7**
	baz=55								
DZA	**Taraz**	**3.26**	**346**	*e*P			**Pb**	**00 45 08.4**	**-4.1**
	614nm,0.6s								
DZA				*e*S			**Sb**	**00 45 49.4**	**-2.4**
	1μm,0.3s								
AAK	**Ala-Archa**	**3.31**	**28**	P			**Pn**	**00 45 07.8**	**+2.6**
	SNR=97								
AAK	**Ala-Archa**	**3.31**	**28**	*e*Pn			**Pn**	**00 45 06.1**	**+0.9**
AAK				Sn			**Sn**	**00 45 47.2**	**+3.6**
AAK	**Ala-Archa**	**3.31**	**28**	⇓Pn			**Pn**	**00 45 06.9**	**+1.7**
	112nm,0.8s								
AAK				⇑Lg			Lg	00 45 52.4	
	172nm,0.6s								
AAK	**Ala-Archa**	**3.31**	**28**	*c i*PN			**Pn**	**00 45 07.5**	**+2.3**
AAK				pmax			pmax		
	comp=Z,96nm,0.8s								
AAK	**Ala-Archa**	**3.31**	**28**	⇑*i*	*P*		**Pn**	**00 45 06.1**	**+0.9**
	baz=26								
AAK				⇑*i*	S		**Sn**	**00 45 44.0**	**+0.4**
	baz=26								
AAK	**Ala-Archa**	**3.31**	**28**	Pn			**Pn**	**00 45 05.6**	**+0.4**
	comp=Z,11nm,0.3s,baz=195,slow=10,SNR=206								
AAK				Sn			**Sn**	**00 45 47.2**	**+3.6**
	comp=Z,29nm,0.3s,baz=153,slow=14,SNR=9.0								
CHM	**Chimkent**	**3.34**	**322**	*e*P			**Pb**	**00 45 13.1**	**-0.8**
	comp=Z,526nm,0.5s								
CHM				*e*S			**Sb**	**00 45 57.8**	**+3.8**
	comp=Z,2μm,0.4s								
KBK	**Karagaybulak**	**3.51**	**33**	P			**Pn**	**00 45 08.8**	**+0.9**
	SNR=33								
KBK	**Karagaybulak**	**3.51**	**33**	⇓*i*	*P*		**Pn**	**00 45 08.6**	**+0.7**
	baz=30								
KBK				⇓*i*	S		**Sn**	**00 45 48.3**	**-0.1**
	baz=30								
FRU1	**Bishkek**	**3.51**	**28**	*e*Pn			**Pn**	**00 45 07.6**	**-0.3**
FRU1	**Bishkek**	**3.51**	**28**	*e*PN			**Pn**	**00 45 07.6**	**-0.3**
FRU1	**Bishkek**	**3.51**	**28**	⇑*i*	*P*		**Pn**	**00 45 08.1**	**+0.2**
	baz=26								
FRU1				⇑*i*	S		**Sn**	**00 45 48.8**	**+0.4**
	baz=26								
KK31	**Karatay Array**	**3.66**	**338**	*e*Pn			**Pn**	**00 45 09.9**	**+0.2**
KK31	**Karatay Array**	**3.66**	**338**	Pn			**Pn**	**00 45 09.8**	**0.0**
	comp=Z,18nm,0.7s,baz=156,slow=16,SNR=941								
KK31				⇓Sn			**Sn**	**00 45 53.8**	**+2.0**
	comp=Z,91nm,0.6s,baz=140,slow=24,SNR=4.7								
KK31				⇑Lg			Lg	00 46 03.7	
	comp=Z,231nm,0.7s,baz=153,slow=29,SNR=3.6								
KK31	**Karatay Array**	**3.66**	**338**	*e*PN			**Pn**	**00 45 10.0**	**+0.2**
KKAR	**Karatay Array**	**3.66**	**338**	*e*Pn			**Pn**	**00 45 09.4**	**-0.4**
KKAR	**Karatay Array**	**3.66**	**338**	*e*PN			**Pn**	**00 45 09.4**	**-0.4**
CHMS	**Chumysh**	**3.72**	**28**	P			**Pn**	**00 45 13.0**	**+2.3**
	SNR=82								
CHMS	**Chumysh**	**3.72**	**28**	⇓*i*	*P*		**Pn**	**00 45 11.3**	**+0.6**
	baz=26								
CHMS				⇓*i*	S		**Sn**	**00 45 53.6**	**+0.1**
	baz=26								
BOOM	**Boomskoye usch**	**3.85**	**43**	*e*Pn			**Pn**	**00 45 12.9**	**+0.3**
BOOM	**Boomskoye usch**	**3.85**	**43**	*e*PN			**Pn**	**00 45 12.9**	**+0.3**
ULHL	**Ulahol**	**3.85**	**48**	P			**Pn**	**00 45 14.1**	**+1.5**
	SNR=15								
ULHL	**Ulahol**	**3.85**	**48**	⇑*i*	*P*		**Pn**	**00 45 12.0**	**-0.7**
	baz=46								
ULHL				⇑*i*	S		**Sn**	**00 45 55.7**	**-1.3**
	baz=46								
USP	**Ospenovka**	**3.88**	**23**	P			**Pn**	**00 45 15.3**	**+2.4**
	SNR=8.8								
USP	**Ospenovka**	**3.88**	**23**	⇓*i*	*P*		**Pn**	**00 45 13.7**	**+0.9**
	baz=21								
USP				⇓*i*	S		**Sn**	**00 45 57.7**	**+0.4**
	baz=21								
TKM2	**Tokmak 2**	**4.00**	**36**	P			**Pn**	**00 45 16.7**	**+2.0**
	SNR=24								
TKM2	**Tokmak 2**	**4.00**	**36**	⇓Pn			**Pn**	**00 45 15.8**	**+1.1**
	comp=Z,12nm,0.6s								
TKM2				⇓Pg			**Pb**	**00 45 28.9**	**+3.6**
	comp=Z,33nm,0.5s								
TKM2				⇓Lg			Lg	00 46 16.7	
	comp=Z,171nm,1.1s								
TKM2	**Tokmak 2**	**4.00**	**36**	PN			**Pn**	**00 45 15.0**	**+0.3**
TKM2	**Tokmak 2**	**4.00**	**36**	⇑*i*	*P*		**Pn**	**00 45 15.2**	**+0.5**
	baz=34								
TKM2				⇑*i*	S		**Sn**	**00 45 59.7**	**-1.0**
	baz=34								
KST	**Kastek**	**4.27**	**38**	Pg			**Pb**	**00 45 28.4**	**-1.3**
	comp=Z,37nm,0.6s								
KST				Lg			Lg	00 46 23.7	
	comp=Z,85nm,0.4s								
KST	**Kastek**	**4.27**	**38**	*e*P			**Pb**	**00 45 27.8**	**-1.9**
	comp=Z,37nm,0.6s								
KST				*e*S			**Sb**	**00 46 23.2**	**+2.4**
	comp=Z,85nm,0.4s								
DGS	**Degeres**	**4.33**	**35**	Pg			**Pb**	**00 45 30.5**	**-0.4**
	comp=Z,65nm,0.7s								
DGS				Lg			Lg	00 46 27.3	
	comp=Z,201nm,0.8s								
DGS	**Degeres**	**4.33**	**35**	*e*P			**Pb**	**00 45 30.3**	**-0.6**
	comp=Z,65nm,0.7s								
DGS				*e*S			**Sb**	**00 46 26.8**	**+4.1**
	comp=Z,201nm,0.8s								
KDJ	**Kajisay**	**4.35**	**55**	*e*Pn			**Pn**	**00 45 20.2**	**+0.8**
KDJ	**Kajisay**	**4.35**	**55**	*e*PN			**Pn**	**00 45 20.3**	**+0.8**
KDJ	**Kajisay**	**4.35**	**55**	⇑*i*	*P*		**Pn**	**00 45 18.6**	**-0.9**
	baz=54								
KDJ				⇑*i*	S		**Sn**	**00 46 07.2**	**-2.0**
	baz=54								
AAA	**Alma-Ata**	**4.86**	**43**	*e*PN			Pb	00 45 44.9	+5.0
KNDC	**Almaty**	**4.90**	**43**	⇑Pn			Pn	00 45 31.7	+4.8
	comp=Z,72nm,0.6s								
KNDC				⇑Lg			Lg	00 46 47.3	
	comp=Z,563nm,1.2s								
MDOK	**Medeo**	**4.90**	**44**	⇑Pn			**Pn**	**00 45 28.4**	**+1.4**
	comp=Z,24nm,0.7s								
MDOK				⇓Lg			Lg	00 46 47.9	
	comp=Z,240nm,1.2s								
MDOK	**Medeo**	**4.90**	**44**	PN			**Pn**	**00 45 28.4**	**+1.4**
MDOK				pmax			pmax		
	comp=Z,24nm,0.7s								
MDOK	**Medeo**	**4.90**	**44**	*e*P			**Pb**	**00 45 36.0**	**-4.6**
	comp=Z,25nm,0.5s								
MDOK				*e*S			**Sb**	**00 46 36.4**	**-2.7**
	comp=Z,71nm,0.9s								
KOTS	**Kotyrbulak**	**4.99**	**44**	Pg			**Pb**	**00 45 41.3**	**-0.7**
	comp=Z,31nm,0.4s								
KOTS				Lg			Lg	00 46 45.7	
	comp=Z,140nm,0.5s								
KOTS	**Kotyrbulak**	**4.99**	**44**	*e*P			**Pb**	**00 45 41.3**	**-0.7**
	comp=Z,31nm,0.4s								
KOTS				*e*S			**Sb**	**00 46 45.7**	**+4.2**
	comp=Z,140nm,0.5s								
KUU	**Kurty**	**5.10**	**34**	Pg			**Pb**	**00 45 41.5**	**-2.4**
	comp=Z,24nm,0.6s								
KUU				Lg			Lg	00 46 45.7	
	comp=Z,111nm,0.5s								
KUU	**Kurty**	**5.10**	**34**	*e*P			**Pb**	**00 45 41.5**	**-2.4**
	comp=Z,24nm,0.6s								
KUU				*e*S			**Sb**	**00 46 45.7**	**+1.0**
	comp=Z,111nm,0.5s								
KTBS	**Karatobe**	**5.12**	**38**	Pg			**Pb**	**00 45 42.9**	**-1.2**
	comp=Z,30nm,0.9s								
KTBS				Lg			Lg	00 46 47.9	
	comp=Z,166nm,1.1s								
KTBS	**Karatobe**	**5.12**	**38**	*e*P			**Pb**	**00 45 42.9**	**-1.2**
	comp=Z,30nm,0.9s								
KTBS				*e*S			**Sb**	**00 46 47.9**	**+2.8**
	comp=Z,166nm,1.1s								
PRZ	**Przheval'sk**	**5.31**	**57**	*e*Pn			**Pn**	**00 45 33.5**	**+0.8**
PRZ	**Przheval'sk**	**5.31**	**57**	*e*PN			**Pn**	**00 45 33.5**	**+0.8**
CHKK	**Chushkaly**	**5.37**	**38**	Pg			**Pb**	**00 45 47.4**	**-1.0**
	comp=Z,12nm,0.4s								
CHKK				Lg			Lg	00 46 56.3	
	comp=Z,59nm,0.4s								
CHKK	**Chushkaly**	**5.37**	**38**	*e*P			**Pb**	**00 45 47.4**	**-1.0**
	comp=Z,12nm,0.4s								
CHKK				*e*S			**Sb**	**00 46 56.3**	**+3.9**
	comp=Z,59nm,0.4s								
SATY	**Saty**	**5.62**	**52**	Pg			**Pb**	**00 45 51.6**	**-1.1**
	comp=Z,66nm,0.6s								
SATY				Lg			Lg	00 47 03.0	
	comp=Z,86nm,1.1s								
SATY	**Saty**	**5.62**	**52**	*e*P			**Pb**	**00 45 51.6**	**-1.1**
	comp=Z,66nm,0.6s								
SATY				*e*S			**Sb**	**00 47 03.0**	**+3.4**
	comp=Z,86nm,1.1s								
KURS	**Kuram**	**5.74**	**47**	Pg			**Pb**	**00 45 54.7**	**0.0**
	comp=Z,18nm,0.8s								
KURS				Lg			Lg	00 47 08.4	
	comp=Z,49nm,0.9s								
KURS	**Kuram**	**5.74**	**47**	*e*P			**Pb**	**00 45 54.7**	**0.0**
	comp=Z,18nm,0.8s								
KURS				*e*S			**Sb**	**00 47 08.4**	**+5.5**
	comp=Z,49nm,0.9s								
KBL	**Kabul**	**5.83**	**208**	*e*Pn			**Pn**	**00 45 43.5**	**+3.8**
KBL	**Kabul**	**5.83**	**208**	*e*PN			**Pn**	**00 45 43.6**	**+3.8**
CEP	**Cherat**	**5.91**	**184**	P			**Pn**	**00 45 45.3**	**+4.5**
CEP				S			**Sn**	**00 46 56.0**	**+8.5**
ARXS	**Arharly**	**6.04**	**40**	Pg			**Pb**	**00 45 59.8**	**-0.1**
	comp=Z,23nm,0.6s								
ARXS				Lg			Lg	00 47 17.8	
	comp=Z,50nm,0.6s								
ARXS	**Arharly**	**6.04**	**40**	*e*P			**Pb**	**00 45 59.8**	**-0.1**
	comp=Z,23nm,0.6s								
ARXS				*e*S			**Sb**	**00 47 17.8**	**+6.1**
	comp=Z,50nm,0.6s								
CHCP	**Chirah Chowk**	**6.10**	**173**	P			Pn	00 45 48.6	+5.2
NIL	**Nilore**	**6.11**	**173**	*e*Pn			**Pn**	**00 45 48.0**	**+4.5**
NIL	**Nilore**	**6.11**	**173**	*e*PN			**Pn**	**00 45 48.0**	**+4.5**
PDGK	**Podgornoye**	**6.43**	**54**	Pg			**Pb**	**00 46 06.5**	**0.0**
	comp=Z,9.5nm,0.6s								
PDGK				Lg			Lg	00 47 28.6	
	comp=Z,30nm,1.2s								
PDGK	**Podgornoye**	**6.43**	**54**	⇑Pn			**Pn**	**00 45 47.9**	**-0.1**
	comp=Z,25nm,0.9s								
PDGK				⇓Lg			Lg	00 47 37.5	
	comp=Z,80nm,0.9s								
PDGK	**Podgornoye**	**6.43**	**54**	PN			**Pn**	**00 45 47.9**	**-0.1**
PDGK				pmax			pmax		
	comp=Z,25nm,0.9s								
THN	**Thein Dam**	**7.76**	**159**	*e*P			**Sn**	**00 47 32.0**	**-1.0**
THN				*e*S			**Sn**	**00 47 41.5**	**+8.5**
OTUK	**Ortayu**	**8.51**	**360**	⇑Pn			**Pn**	**00 46 15.2**	**-1.3**
	comp=Z,9.0nm,0.6s								
OTUK				⇑Lg			Lg	00 48 41.8	
	comp=Z,62nm,0.7s								
OTUK	**Ortayu**	**8.51**	**360**	P			**Pn**	**00 46 15.2**	**-1.3**
OTUK				pmax			pmax		
	comp=Z,9.0nm,0.6s								
MAKZ	**Makanchi**	**9.94**	**42**	*e*Pn			**Pn**	**00 46 36.5**	**+0.4**
MAKZ	**Makanchi**	**9.94**	**42**	⇓Pn			**Pn**	**00 46 40.6**	**+4.5**
	comp=Z,4.1nm,1.2s								
MAKZ				⇓Lg			Lg	00 49 27.4	
	comp=Z,10nm,1.0s								
MAKZ	**Makanchi**	**9.94**	**42**	*e*P			**Pn**	**00 46 36.5**	**+0.4**
MK31	**Makanchi Array**	**10.10**	**42**	*e*Pn			**Pn**	**00 46 38.6**	**+0.5**
MK31	**Makanchi Array**	**10.10**	**42**	⇓Pn			Pn	00 46 43.5	+5.3
	comp=Z,2.2nm,0.7s,baz=228,slow=13,SNR=5.7								
MK31				⇓Lg			Lg	00 49 29.1	
	comp=Z,12nm,0.9s,baz=220,slow=24,SNR=3.6								
MK31	**Makanchi Array**	**10.10**	**42**	*e*P			**Pn**	**00 46 38.6**	**+0.5**
MKAR	**Makanchi Array**	**10.10**	**42**	*e*Pn			**Pn**	**00 46 38.4**	**+0.3**
MKAR				Lg			Lg	00 49 30.9	
MKAR	**Makanchi Array**	**10.10**	**42**	*i* P			**Pn**	**00 46 40.0**	**+1.9**
MKAR				pmax			pmax		
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**10.10**	**42**	Pn			**Pn**	**00 46 37.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=222,slow=13,SNR=9.7								
MKAR				Lg			Lg	00 49 30.9	
	comp=Z,0.3nm,0.3s,baz=218,slow=25,SNR=2.9								
GEYT	**Alibeck**	**11.28**	**265**	Pn			**Pn**	**00 46 54.4**	**0.0**
	comp=Z,6.2nm,0.3s,baz=96,slow=8.8,SNR=3.8								
GEYT				Sn			**Sn**	**00 48 59.3**	**0.0**
	comp=Z,4.7nm,0.3s,baz=99,slow=9.6,SNR=3.7								
GEYT				LR			LR	00 51 55.8	
	comp=Z,98nm,19.9s,baz=50,slow=41								
GYA0B	**ALIBECK ARRAY**	**11.28**	**265**	*e*Pn			**Pn**	**00 46 54.4**	**0.0**
GYA0B	**ALIBECK ARRAY**	**11.28**	**265**	⇓Pn			**Pn**	**00 46 54.1**	**-0.2**
GYA0B				⇑Sn			**Sn**	**00 49 04.0**	**+4.7**
KURBB	**Kurchatov Arra**	**11.72**	**20**	⇑Pn			**Pn**	**00 47 01.9**	**+1.6**
	comp=Z,4.7nm,0.6s								
KURBB	**Kurchatov Arra**	**11.72**	**20**	Pn			Pn	00 46 55.2	-5.1
	comp=Z,0.0nm,0.3s,baz=204,slow=11,SNR=3.4								
KURBB				Lg			Lg	00 50 22.8	
	comp=Z,0.2nm,0.3s,baz=215,slow=30,SNR=7.3								
KURK	**Kurchatov**	**11.83**	**20**	*e*Pn			**Pn**	**00 47 01.0**	**-0.7**
KURK	**Kurchatov**	**11.83**	**20**	⇑Pn			**Pn**	**00 47 02.5**	**+0.7**
	comp=Z,5.7nm,1.2s								
KURK	**Kurchatov**	**11.83**	**20**	*c e*P			**Pn**	**00 47 02.9**	**+1.1**
KURK				pmax			pmax		
	comp=Z,5.0nm,1.0s								
WMQ	**Urumqi**	**12.14**	**65**	*e*P			**Pn**	**00 47 10.8**	**+4.7**
AB31	**Akbulak array**	**13.01**	**321**	⇓Pn			**Pn**	**00 47 19.4**	**+1.5**
	comp=Z,8.1nm,0.6s,baz=127,slow=14,SNR=55								
AB31				⇑Sn			**Sn**	**00 49 42.0**	**+0.6**
	comp=Z,4.7nm,0.6s,baz=151,slow=20,SNR=4.8								
AB31	**Akbulak array**	**13.01**	**321**	P			**Pn**	**00 47 19.4**	**+1.5**
AB31				S			**Sn**	**00 49 42.0**	**+0.6**
AB31				pmax			pmax		
	comp=Z,8.0nm,0.6s								
AB31				smax			smax		
	comp=N,5.0nm,0.5s								
ABKAR	**Akbulak array**	**13.01**	**321**	*e*Pn			**Pn**	**00 47 14.4**	**-3.5**
BVAR	**Borovoye Array**	**13.37**	**355**	Pn			**Pn**	**00 47 19.5**	**-3.3**
	comp=N,0.9nm,0.3s,baz=171,slow=12,SNR=28								
BRVK	**Borovoye**	**13.41**	**355**	*e*Pn			**Pn**	**00 47 21.6**	**-1.8**
BRVK	**Borovoye**	**13.41**	**355**	⇑Pn			**Pn**	**00 47 23.5**	**+0.1**
	comp=N,7.1nm,0.8s								
BRVK	**Borovoye**	**13.41**	**355**	*c i*P			**Pn**	**00 47 23.2**	**-0.2**
PYUN	**Piuthan**	**14.54**	**140**	*e*P			**Pn**	**00 47 36.5**	**-2.7**
	comp=N,30nm,0.6s								
DGZ	**Jazzator, Alta**	**14.60**	**42**	*c e*P			**Pn**	**00 47 39.2**	**-0.5**
AKTO	**Aktyubinsk**	**14.72**	**321**	⇓Pn			**Pn**	**00 47 42.8**	**+1.5**
	comp=N,13nm,0.8s								
AKTO				⇓Sn			**Sn**	**00 50 24.7**	**+1.4**
	comp=N,4.7nm,0.6s								
AKTO	**Aktyubinsk**	**14.72**	**321**	P			**Pn**	**00 47 42.8**	**+1.5**
AKTO				pmax			pmax		
	comp=Z,13nm,0.7s								
AKTO	**Aktyubinsk**	**14.72**	**321**	Pn			**Pn**	**00 47 38.0**	**-3.4**
	comp=Z,0.4nm,0.3s,baz=132,slow=15,SNR=11								
AKTO				Sn			Sn	00 50 14.1	-9.2
	comp=Z,0.7nm,0.3s,baz=156,slow=19,SNR=4.3								
DANN	**Dangsing**	**14.74**	**137**	*e*P			**Pn**	**00 47 38.0**	**-3.9**
	comp=Z,21nm,0.5s								
KOLN	**Koldanda**	**15.12**	**139**	*e*P			**Pn**	**00 47 44.1**	**-2.9**
	comp=Z,13nm,0.5s								
DMN	**Daman**	**16.05**	**135**	*e*P			**Pn**	**00 47 55.6**	**-3.4**
	comp=Z,14nm,0.8s								
PKI	**Pulchoki**	**16.24**	**134**	*e*P			**Pn**	**00 47 59.1**	**-2.5**
	comp=Z,38nm,1.1s								
ZAA0	**Zalesovo Array**	**16.54**	**27**	*e*Pn			**Pn**	**00 48 04.9**	**+0.1**
	comp=Z,9.0nm,0.9s								
ZALV	**Zalesovo Beam**	**16.54**	**27**	*e*Pn			**Pn**	**00 48 03.4**	**-1.4**
ZALV				Lg			Lg	00 52 54.1	
ZALV	**Zalesovo Beam**	**16.54**	**27**	*i* P			**P**	**00 48 06.5**	**-0.6**
ZALV				pmax			pmax		
	comp=Z,6.0nm,0.6s								
ZALV	**Zalesovo Beam**	**16.54**	**27**	Pn			**Pn**	**00 48 02.6**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=218,slow=11,SNR=24								
ZALV				Lg			Lg	00 52 54.1	
	comp=Z,0.2nm,0.3s,baz=233,slow=19,SNR=3.1								
JIRN	**Jiri**	**16.61**	**132**	*e*P			**Pn**	**00 48 04.9**	**-1.4**
	comp=Z,23nm,0.5s								
NVS	**Novosibirsk**	**16.78**	**22**	*e*P			**Pn**	**00 48 08.3**	**+0.5**
NVS				*e*				00 51 10.3	
RAMN	**Ramite**	**17.39**	**133**	*e*P			**Pn**	**00 48 14.8**	**-1.1**
	comp=Z,18nm,0.6s								
SVE	**Sverdlovsk**	**18.76**	**340**	*e*P			**Pn**	**00 48 33.2**	**+0.9**
SVE				pmax			pmax		
	comp=Z,10.0nm,0.8s								
ARU	**Arti**	**19.03**	**336**	*e*P			**P**	**00 48 33.6**	**-1.0**
	comp=Z,12nm,0.8s								
ARU	**Arti**	**19.03**	**336**	*c i*P			**P**	**00 48 33.3**	**-1.3**
ARU				S			**Sn**	**00 52 05.2**	**-2.3**
ARU				pmax			pmax		
	comp=Z,4.0nm,0.8s								
ARU	**Arti**	**19.03**	**336**	P			**P**	**00 48 33.2**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=127,slow=5.1,SNR=3.9								
GROC	**Groznyy**	**20.20**	**289**	*e*P			**P**	**00 48 48.4**	**+1.0**
GROC				*e*				00 49 07.0	
GROC				*e*S			Sn	00 52 34.2	-1.6
GROC				*e*				00 53 05.1	
GROC				pmax			pmax		
	comp=Z,26nm,1.4s								
GTA	**Gaotai**	**21.12**	**82**	*e*P			**P**	**00 48 58.0**	**+0.4**
GTA				pP			pP	00 49 05.9	-1.2
GTA				sP			sP	00 49 09.8	-1.8
GTA				pmax			pmax		
	comp=Z,7.0nm,1.2s								
GNI	**Garni**	**21.17**	**280**	*e*P			**P**	**00 49 00.0**	**+1.8**
	comp=Z,16nm,0.8s								
GNI	**Garni**	**21.17**	**280**	*d i*P			**P**	**00 49 00.8**	**+2.6**
GNI				pmax			pmax		
	comp=Z,135nm,1.3s								
GNI	**Garni**	**21.17**	**280**	P			**P**	**00 48 59.8**	**+1.6**
	comp=Z,8.6nm,0.7s,baz=16,slow=14,SNR=7.3								
ZEI	**Tsey**	**21.59**	**287**	*e*P			**P**	**00 49 03.2**	**+0.5**
ZEI				pmax			p

comp=Z,4.9nm,0.8s,baz=35,slow=5.6,SNR=4.6
YKA Yellowknife Ar 77.97 3 P P 00 56 09.5 -0.5
comp=Z,1.5nm,0.7s,baz=351,slow=5.8,SNR=18
WRA Warramunga Arr 82.80 123 P **P 00 56 35.2 -1.4**
comp=Z,1.1nm,0.6s,baz=323,slow=4.3,SNR=10
ASAR Alice Springs 85.23 126 P **P 00 56 48.0 -1.0**
comp=Z,1.0nm,0.7s,baz=323,slow=5.1,SNR=8.3

IDC 15 00:54:42.3±2.2, 1°.02S×129°.25E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/24, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=132.0km s-min=27.0km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.46**	**165**	P	P	00 59 09.2	-1.6
	0.2nm,0.3s,baz=345,slow=12,SNR=10						
ASAR	**Alice Springs**	**22.96**	**169**	P	P	00 59 49.7	+1.0
	1.0nm,0.5s,baz=351,slow=12,SNR=14						
MKAR	**Makanchi Array**	**62.87**	**326**	P	P	01 05 10.2	-0.1
	0.3nm,0.6s,baz=112,slow=8.3,SNR=4.3						

MEX 15 00:59:32.5±0.7, 16°.34N×98°.08W, h14km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.07**	**321**	*i* P	Pg	00 59 34.1	-1.2
PNIG				*eS*	Sg	00 59 36.7	-0.6

*NORS **15** 01:05:56.9±0.0, 42°.65N×44°.48E, h2km, MPVA2.7*
*TIF **15** 01:05:58.2, 42°.77N×44°.52E, h9km±3km*
*ISCJB **15** 01:06:00.7±0.5, 42°.67N±0°.03×44°.45E±0°.04, h12km±5km, Error ellipse: s-maj=5.2km s-min=4.2km az=137.0*
ISC 15 01:06:00.8±1.1, 42°.68N±0°.03×44°.47E±0°.03, h6km±9km, n14, σ1§06/27, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**0.20**	**319**	*i* Pg	**Pg**	**01 06 03.0**	**-1.8**
LACR				*eS*g	**Sg**	**01 06 08.2**	**+0.7**
GUDG	**Gudauri**	**0.21**	**179**	P	**Pg**	**01 06 04.8**	**-0.2**
GUDG				S	**Sg**	**01 06 09.9**	**+2.0**
VLKR	**Vladikavkaz**	**0.40**	**22**	*e*Pg	**Pg**	**01 06 08.1**	**-0.5**
VLKR				*eS*g	**Sb**	**01 06 15.6**	**-1.1**
ZEI	**Tsey**	**0.44**	**285**	*e*Pg	**Pg**	**01 06 07.9**	**-1.4**
ZEI				*eS*g	**Sg**	**01 06 15.5**	**+0.5**
KMGR	**Komgaron**	**0.48**	**37**	*e*Pg	**Pg**	**01 06 09.6**	**-0.4**
KMGR				*eS*g	**Sb**	**01 06 18.3**	**-0.6**
KORR	**Kora**	**0.51**	**324**	*i* Pg	**Pg**	**01 06 10.5**	**-0.1**
KORR				*eS*g	**Sb**	**01 06 19.5**	**-0.3**
ARNR	**Ardon**	**0.52**	**345**	*e*Pg	**Pg**	**01 06 10.7**	**-0.1**
ARNR				*eS*g	**Sb**	**01 06 20.4**	**+0.2**
STDR	**Stavd-Durt**	**0.76**	**337**	*e*Pg	**Pn**	**01 06 18.2**	**+0.2**
STDR				*eS*g	**Sn**	**01 06 30.7**	**+1.0**
ONI	**Oni**	**0.76**	**264**	P	**Pg**	**01 06 14.6**	**-0.8**
ONI				S	**Sg**	**01 06 25.8**	**+0.5**
LSNR	**Lesken**	**0.77**	**322**	*e*Pg	**Pg**	**01 06 15.7**	**+0.1**
LSNR				*eS*g	**Sb**	**01 06 27.5**	**+0.2**
TBLG	**Delisi**	**0.96**	**168**	P	**Pg**	**01 06 18.2**	**-1.1**
TBLG				S	**Sg**	**01 06 34.2**	**+2.4**
LGD	**Lagodekhi**	**1.56**	**122**	P	**Pn**	**01 06 28.6**	**-0.5**
LGD				S	**Sn**	**01 06 49.8**	**+0.2**
SHA1	**Shidzhatmaz**	**1.70**	**309**	*e*Pg	**Pn**	**01 06 30.8**	**-0.4**
SHA1				*eS*g	**Sn**	**01 06 54.5**	**+1.1**
DDFL	**Dedoflistskaro**	**1.73**	**135**	P	**Pn**	**01 06 29.9**	**-1.6**

*BJI **15** 01:21:39.4±0.0, 5°.54S×151°.95E, h43km, mb4.9/31, mB5.0/21, Ms4.4/16, Ms7 4.3/13*
*IDC **15** 01:21:41.9±0.5, 5°.45S×151°.69E, h31km±3km, mb4.4/20, mb1 4.6/22, mb1mx4.5/32, mbtmp4.6/22, ML3.6/2, MS4.0/25, Ms1 4.0/25, ms1mx3.9/35, Error ellipse: s-maj=16.4km s-min=10.8km az=94.0*
*GCMT **15** 01:21:43.6±0.3, 5°.60S±0°.02×151°.71E±0°.03, h40km±1km, MW4.9/64, Moment Tensor Solution. s46,c61; s64,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.48±.20; $M_{\theta\theta}$-2.94±.12; $M_{\phi\phi}$0.46±.14; $M_{r\theta}$-0.33±.12; $M_{\phi r}$-0.87±.12; $M_{r\phi}$-1.13±.14; Best double couple: $M_0$3.09900×10^{16} NP1:ϕ_s235.00000°, δ55.00000°, λ61.00000°. NP2: ϕ_s99.00000°, δ44.00000°, λ125.00000°. Principal axes: T 2.9870, Plg66.0000°, Azm89.0000°; N 0.2300, Plg23.0000°, Azm252.0000°; P -3.2100, Plg6.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **15** 01:21:43.2±0.7, 5°.49S±0°.03×151°.58E±0°.04, h52km±6km, mb4.8/106, MS4.1/29 Error ellipse: s-maj=6.4km s-min=4.2km az=17.0*
*NEIC **15** 01:21:44.6±2.6, 5°.44S×151°.63E, h55km±3km, mb4.9/90, Error ellipse: s-maj=14.0km s-min=9.7km az=108.0*
*DJA **15** 01:21:49.5±1.4, 6°.5S±6°.×15°.2E±1°.1, h91km±12km, M5.2/9, mB5.4/4, mb5.0/9, MLv5.4/1, Mw(mB)4.8/4*
ISC 15 01:21:43.4±0.6, 5°.51S±0°.04×151°.73E±0°.05, h43km±4km, n223, σ1§56/233, mb4.8/106, MS4.1/30, 2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.38**	**18**	*e*Pn	**Pn**	**01 22 07.2**	**+1.1**
RABL				*eS*n	**Sn**	**01 22 24.7**	**+1.6**
MANU	**Manus Island**	**5.55**	**308**	*e*Pn	**Pn**	**01 23 04.4**	**+1.0**
PMG	**Port Moresby**	**5.96**	**229**	*e*Pn	**Pn**	**01 23 11.0**	**+1.8**
PMG				*eS*n	**Sn**	**01 24 17.6**	**+1.4**
PMG	**Port Moresby**	**5.96**	**229**	Pn	**Pn**	**01 23 08.9**	**-0.2**
	29nm,0.3s,baz=33,slow=6.5,SNR=36						
PMG				Sn	**Sn**	**01 24 17.6**	**+1.4**
	108nm,0.3s,baz=48,slow=15,SNR=11						
HNR	**Honiara**	**9.03**	**116**	LR	LR	01 27 35.9	
	comp=Z,761nm,21.5s,baz=302,slow=39						
GENI	**Genyem**	**11.89**	**284**	P	**Pn**	**01 24 34.9**	**+4.5**
	107nm,1.2s,2μm						
COEN	**Coen**	**11.89**	**224**	P	**Pn**	**01 24 31.2**	**+0.7**
	baz=12						
CTA	**Charters Tower**	**15.44**	**200**	Pn	**Pn**	**01 25 18.8**	**+0.4**
	0.7nm,0.3s,baz=16,slow=14,SNR=2.6						
CTAO	**Charters Tower**	**15.44**	**200**	*e*Pn	**Pn**	**01 25 11.5**	**-6.9**
	14nm,0.7s						
QIS	**Mount Isa**	**19.04**	**217**	P	**Pn**	**01 26 03.8**	**+0.7**
	baz=19,SNR=20						
EIDS	**Eidsvold**	**19.76**	**182**	*e*P	**Pn**	**01 26 11.7**	**0.0**
	19nm,0.8s						
EIDS	**Eidsvold**	**19.76**	**182**	P	**Pn**	**01 26 11.9**	**+0.2**
	baz=20,SNR=3.3						
GUMO	**Guam**	**20.16**	**340**	*e*P	**P**	**01 26 12.7**	**-1.5**
	364nm,1.1s						
GUMO	**Guam**	**20.16**	**340**	P	**P**	**01 26 14.6**	**+0.3**
	98nm,0.9s,baz=186,slow=11,SNR=4.9						
GUMO				LR	LR	01 34 55.1	
	comp=Z,226nm,18.4s,baz=192,slow=40						
KDU	**Kakadu**	**20.30**	**248**	P	**P**	**01 26 15.7**	**0.0**
	baz=20,SNR=19						
RMQ	**Roma**	**21.06**	**187**	P	**P**	**01 26 26.3**	**+2.4**
	baz=21						
KWAJ	**Kwajalein Atol**	**21.28**	**48**	*e*P	**P**	**01 26 24.8**	**-1.6**
	258nm,1.1s						
MTN	**Manton Dam**	**21.59**	**249**	*e*P	**P**	**01 26 30.4**	**+0.7**
	33nm,0.8s						
MTN	**Manton Dam**	**21.59**	**249**	P	**P**	**01 26 30.9**	**+1.2**
	baz=22,SNR=6.7						
DZM	**Mont Dzumac**	**21.77**	**141**	*e*P	**P**	**01 26 32.5**	**+0.8**
	16nm,0.7s						
DZM	**Mont Dzumac**	**21.77**	**141**	P	**P**	**01 26 33.1**	**+1.4**
	14nm,0.7s,baz=325,slow=5.5,SNR=31						
DZM				LR	LR	01 33 54.8	
	comp=Z,1μm,21.2s,baz=312,slow=34						
WC3	**Warramunga Arr**	**22.17**	**228**	*e*P	**P**	**01 26 34.9**	**-1.0**
	85nm,0.6s						
WC3	**Warramunga Arr**	**22.17**	**228**	P	**P**	**01 26 35.8**	**-0.1**
	baz=22						
WRAB	**Tennant Creek**	**22.17**	**228**	*e*P	**P**	**01 26 36.5**	**+0.6**
	112nm,0.6s						
WB2	**Warramunga Arr**	**22.17**	**228**	*e*P	**P**	**01 26 35.3**	**-0.7**
	105nm,0.6s						
WR1	**Warramunga Arr**	**22.18**	**228**	*e*P	**P**	**01 26 35.7**	**-0.4**
WR1				*eS*	**S**	**01 30 34.8**	**-3.3**
WR1				*e*ScP	**ScP**	**01 34 07.3**	**+1.1**
WRA	**Warramunga Arr**	**22.18**	**228**	P	**P**	**01 26 35.7**	**-0.4**
	74nm,0.7s,baz=53,slow=9.8,SNR=268						
WRA				S	**S**	**01 30 34.8**	**-3.3**
	6.1nm,1.1s,baz=53,slow=15,SNR=6.5						
WRA				ScP	**ScP**	**01 34 07.3**	**+1.1**
	1.6nm,0.7s,baz=58,slow=2.3,SNR=7.4						
WRA				LR	LR	01 35 21.6	
	comp=Z,336nm,21.4s,baz=155,slow=37						
ANA2	**Anatahan**	**22.51**	**345**	*e*P	**P**	**01 26 37.7**	**-1.9**
	96nm,0.6s						
SARN	**Sarigan**	**22.83**	**345**	*e*P	**P**	**01 26 43.4**	**+0.4**
	46nm,0.8s						
KNRA	**Kununurra**	**24.70**	**244**	P	**P**	**01 27 00.8**	**0.0**
	baz=25,SNR=18						
ARMA	**Armidale**	**24.78**	**180**	*e*P	**P**	**01 27 03.0**	**+1.6**
	13nm,0.6s						
ARMA	**Armidale**	**24.78**	**180**	P	**P**	**01 27 02.9**	**+1.4**
	baz=25,SNR=14						
AS31	**Alice Springs**	**24.91**	**222**	*e*P	**P**	**01 27 02.9**	**+0.2**
	24nm,0.8s						
AS31				*e*PcP	**PcP**	**01 30 38.6**	**+0.9**
AS31				*e*ScP	**ScP**	**01 34 15.6**	**+2.1**
ASAR	**Alice Springs**	**24.91**	**222**	*e*P	**P**	**01 27 02.1**	**-0.5**
ASAR	**Alice Springs**	**24.91**	**222**	P	**P**	**01 27 02.8**	**+0.1**
	70nm,0.7s,baz=56,slow=9.0,SNR=218						
ASAR				PcP	**PcP**	**01 30 38.6**	**+0.9**
	1.4nm,0.7s,baz=40,slow=3.0,SNR=3.3						
ASAR				ScP	**ScP**	**01 34 15.6**	**+2.1**
	1.0nm,0.6s,baz=48,slow=2.5,SNR=6.4						
ASAR				LR	LR	01 36 32.1	
	comp=Z,364nm,21.4s,baz=88,slow=36						
SANI	**Sanana**	**25.91**	**277**	P	P	01 27 26.4	+15
CMSA	**Cobar Meteorol**	**26.51**	**192**	P	**P**	**01 27 17.0**	**+0.1**
	baz=27						
LHI	**Lord Howe Isla**	**26.78**	**166**	*e*P	**P**	**01 27 17.8**	**-1.5**
	151nm,1.4s						
SOEI	**Soe**	**27.54**	**260**	*e*P	**P**	**01 27 24.5**	**-2.0**
	26nm,0.6s						
SOEI	**Soe**	**27.54**	**260**	P	P	01 27 40.2	+14
MGCD	**Mangrove Creek**	**27.57**	**181**	P	**P**	**01 27 28.1**	**+1.6**
	baz=28,SNR=5.0						
STKA	**Stephens Creek**	**27.90**	**199**	*e*P	**P**	**01 27 28.8**	**-0.6**
	3.7nm,0.9s						
STKA	**Stephens Creek**	**27.90**	**199**	P	**P**	**01 27 29.1**	**-0.4**
	baz=28,SNR=11						
STKA	**Stephens Creek**	**27.90**	**199**	P	**P**	**01 27 28.8**	**-0.6**
	5.1nm,0.6s,baz=25,slow=13,SNR=13						
STKA				LR	LR	01 39 03.4	
	comp=Z,438nm,19.1s,baz=38,slow=37						
FITZ	**Fitzroy Crossi**	**28.39**	**242**	*e*P	**P**	**01 27 33.5**	**-0.5**
	43nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.39**	**242**	P	**P**	**01 27 33.4**	**-0.5**
	baz=28,SNR=27						
FITZ	**Fitzroy Crossi**	**28.39**	**242**	P	**P**	**01 27 33.4**	**-0.5**
	50nm,0.7s,baz=60,slow=7.3,SNR=77						
FITZ				LR	LR	01 40 46.7	
	comp=Z,329nm,18.1s,baz=58,slow=40						
WAKE	**Wake Island**	**28.68**	**30**	*e*P	**P**	**01 27 34.0**	**-2.5**
	110nm,1.1s						
DAV	**Davao City (W)**	**28.93**	**295**	LR	LR	01 38 40.7	
	comp=Z,294nm,18.2s,baz=129,slow=35						
WRKA	**Warakurna**	**29.70**	**227**	P	**P**	**01 27 45.1**	**-0.5**
	baz=30,SNR=132						
HTT	**Hallett**	**30.23**	**202**	P	**P**	**01 27 50.3**	**+0.1**
	baz=30,SNR=8.0						
BBOO	**Buckleboo**	**30.85**	**206**	*e*P	**P**	**01 27 55.4**	**-0.2**
	19nm,1.0s						
BBOO	**Buckleboo**	**30.85**	**206**	P	**P**	**01 27 55.5**	**-0.1**
	baz=31,SNR=8.9						
ARPS	**Mount Arapiles**	**32.41**	**195**	P	**P**	**01 28 10.2**	**+1.0**
	baz=32,SNR=5.9						
FORT	**Forrest**	**33.57**	**219**	*e*P	**P**	**01 28 19.0**	**-0.5**
	51nm,0.6s						
FORT	**Forrest**	**33.57**	**219**	P	**P**	**01 28 19.1**	**-0.4**
	baz=34,SNR=28						
PSAD1	**Pilbara Seismi**	**34.72**	**240**	*e*P	**P**	**01 28 28.8**	**-0.9**
	24nm,0.8s						
PSAB2	**Pilbara Seismi**	**34.73**	**240**	*e*P	**P**	**01 28 28.0**	**-1.8**
	41nm,1.0s						
PSA00	**Pilbara Seismi**	**34.75**	**240**	*e*P	**P**	**01 28 29.3**	**-0.6**
	33nm,1.0s						
OUZ	**Omahuta**	**35.80**	**149**	*e*P	**P**	**01 28 41.1**	**+2.4**
	28nm,1.1s						
TGY	**Tagaytay City**	**36.23**	**303**	LR	LR	01 41 11.5	
	comp=Z,181nm,21.5s,baz=22,slow=32						
TAU	**Tasmania Unive**	**37.45**	**185**	*e*P	**P**	**01 28 52.8**	**+0.1**
	72nm,1.5s						
MEEK	**Meekatharra**	**37.93**	**233**	P	**P**	**01 28 56.5**	**-0.4**
	baz=38,SNR=10						
KMBL	**Kambalda**	**38.01**	**224**	P	**P**	**01 28 57.2**	**-0.4**
	baz=38,SNR=6.6						
GIRL	**Giralia**	**39.99**	**241**	*e*P	**P**	**01 29 15.3**	**+1.1**
	203nm,1.1s						
GIRL	**Giralia**	**39.99**	**241**	P	**P**	**01 29 15.6**	**+1.4**
	baz=40,SNR=3.4						
JHJ	**Hachijo jima 2**	**40.05**	**344**	LR	LR	01 42 52.0	
	comp=Z,193nm,21.9s,baz=198,slow=32						
THZ	**Tophouse**	**40.74**	**156**	*e*P	**P**	**01 29 20.6**	**+0.3**
	12nm,1.0s						
KLBR	**Kellerberrin**	**41.05**	**227**	P	**P**	**01 29 21.8**	**-1.1**
	baz=41,SNR=6.7						
MORW	**Morawa**	**41.08**	**231**	*e*P	**P**	**01 29 22.2**	**-0.9**
	19nm,1.1s						
MORW	**Morawa**	**41.08**	**231**	P	**P**	**01 29 24.8**	**+1.7**
	baz=41,SNR=5.9						
YULB	**Yu-li**	**41.33**	**315**	*e*P	**P**	**01 29 24.5**	**-0.8**
	11nm,0.9s						
BFZ	**Birch Farm**	**41.35**	**151**	*e*P	**P**	**01 29 25.7**	**+0.5**
	16nm,1.0s						
KHZ	**Kahutara**	**41.55**	**155**	*e*P	**P**	**01 29 27.0**	**+0.3**
	10nm,0.7s						
RPZ	**Rata Peaks**	**41.69**	**159**	*e*P	**P**	**01 29 27.3**	**-0.7**
	41nm,1.3s						
RPZ	**Rata Peaks**	**41.69**	**159**	P	**P**	**01 29 28.7**	**+0.7**
	9.0nm,0.9s,baz=288,slow=20,SNR=4.2						
OXZ	**Oxford**	**41.72**	**158**	*e*P	**P**	**01 29 28.2**	**0.0**
	13nm,0.8s						
LBZ	**Lake Benmore**	**41.97**	**160**	*e*P	**P**	**01 29 30.3**	**0.0**
	20nm,1.3s						
YHNB	**Yeheng**	**42.10**	**317**	*e*P	**P**	**01 29 29.8**	**-1.9**
	53nm,1.3s						
NWAO	**Narrogin (SRO)**	**42.13**	**225**	LR	LR	01 47 31.8	
	comp=Z,265nm,20.2s,baz=68,slow=37						
MLZ	**Mavora Lakes**	**42.20**	**163**	*e*P	**P**	**01 29 32.5**	**+0.4**
	27nm,1.3s						
MQZ	**McQueen's Vall**	**42.28**	**157**	*e*P	**P**	**01 29 33.3**	**+0.6**
	21nm,1.4s						
MUN	**Mundaring**	**42.37**	**227**	P	**P**	**01 29 33.6**	**-0.1**
	baz=42						
JNU	**Nakatsue**	**43.21**	**334**	*e*P	**P**	**01 29 41.6**	**+1.1**
	34nm,1.5s						
JNU	**Nakatsue**	**43.21**	**334**	P	**P**	**01 29 40.8**	**+0.3**
	8.4nm,0.7s,baz=135,slow=7.1,SNR=6.5						
JNU				LR	LR	01 46 05.0	
	comp=Z,109nm,20.6s,baz=186,slow=34						
MJAR	**Matsushiro Arr**	**43.70**	**344**	*e*P	**P**	**01 29 45.5**	**+1.2**
MJAR	**Matsushiro Arr**	**43.70**	**344**	P	**P**	**01 29 43.4**	**-0.9**
	3.2nm,1.0s,baz=171,slow=9.7,SNR=6.0						
MJAR				LR	LR	01 46 37.9	
	comp=Z,176nm,20.7s,baz=170,slow=34						
MAJO	**Matsushiro**	**43.70**	**344**	*e*P	P	01 29 39.4	-4.9
	6.5nm,0.8s						
XMIS	**Christmas Isla**	**45.86**	**261**	*e*P	**P**	**01 30 01.1**	**-0.9**
	91nm,1.1s						
QIZ	**Qiongzhong**	**47.92**	**302**	P	**P**	**01 30 18.8**	**+0.9**
QIZ				S	**S**	**01 37 12.4**	**-0.3**
QIZ				LR	LR		
	comp=N,150nm,16.9s						
QIZ				LR	LR		
	comp=E,200nm,25.9s						
QIZ				LR	LR		
	comp=Z,300nm,25.0s						
KSRS	**Korea Array**	**48.16**	**334**	P	**P**	**01 30 18.6**	**-0.8**
	1.0nm,0.5s,baz=157,slow=7.8,SNR=5.6						
KSRS				LR	LR	01 51 22.6	
	comp=Z,72nm,18.3s,baz=158,slow=37						
KS15	**Wonju Array Si**	**48.16**	**334**	*e*P	**P**	**01 30 18.6**	**-0.8**
	15nm,1.4s						
NJ2	**Nanjing**	**48.73**	**322**	*e*P	**P**	**01 30 23.4**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
WHN	**Wuhan**	**50.63**	**317**	P	**P**	**01 30 37.9**	**-0.6**
WHN				S	**S**	**01 37 52.1**	**+1.6**
WHN				LR	LR		
	comp=N,720nm,20.3s						
WHN				LR	LR		
	comp=E,1μm,24.5s						
WHN				LR	LR		
	comp=Z,700nm,24.8s						
PANO	**Nakornpanom**	**51.70**	**297**	P	P	01 30 58.0	+11
SKNT	**Sakolnakorn**	**52.20**	**296**	P	P	01 31 01.2	+11
USRK	**Ussuriysk Ar.**	**52.58**	**342**	P	**P**	**01 30 53.7**	**+1.0**
	3.3nm,0.8s,baz=170,slow=8.8,SNR=5.6						
USRK				LR	LR	01 50 11.8	
	comp=Z,116nm,21.9s,baz=144,slow=33						
TIA	**Tai'an**	**52.66**	**325**	P	P	01 31 02.6	+9.1
NONG	**Nongkai**	**53.34**	**297**	P	**P**	**01 31 00.7**	**+1.9**
	0.4nm,1.2s						
CN2	**Changchun**	**54.51**	**337**	*e*P	**P**	**01 31 08.3**	**+1.4**
CN2				*eS*	**S**	**01 38 43.4**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,140nm,15.0s						
CN2				LR	LR		
	comp=E,120nm,15.0s						
CN2				LR	LR		
	comp=Z,120nm,17.0s						
UTTA	**Uttaradit**	**55.53**	**296**	P	P	01 31 25.8	+11
XAN	**Xi'an**	**56.40**	**317**	P	**P**	**01 31 19.8**	**-1.0**
XAN				pP	pP	01 31 30.8	-2.4
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,40nm,4.3s						
LAMP	**Lampang**	**56.62**	**296**	P	P	01 31 34.1	+12
CM31	**Chiang Mai Arr**	**57.22**	**296**	*e*P	**P**	**01 31 27.1**	**+0.4**
	9.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**57.22**	**296**	P	**P**	**01 31 27.1**	**+0.4**
	2.8nm,0.8s,baz=114,slow=5.6,SNR=10						
CMAR				pP	**pP**	**01 31 36.5**	**-2.7**
	5.7nm,0.8s,baz=121,slow=5.0,SNR=5.3						
CMAR				LR	LR	01 55 45.9	
	comp=Z,48nm,20.2s,baz=110,slow=36						
CMMT	**Chiang Mai**	**57.33**	**296**	P	**P**	**01 31 30.4**	**+2.8**
	4.5nm,1.8s						
PETK	**Petropavlovsk-**	**58.61**	**4**	P	**P**	**01 31 35.4**	**-0.5**
	1.8nm,0.6s,baz=160,slow=5.4,SNR=7.4						
PETK				LR	LR	01 53 18.4	
	comp=Z,117nm,21.5s,baz=173,slow=32						
PEA1	**Petropavlovsk-**	**58.62**	**4**	*e*P	**P**	**01 31 35.4**	**-0.5**
HHC	**Hu-ho-hao-te**	**59.00**	**325**	*e*P	**P**	**01 31 41.3**	**+2.3**
HHC				S	**S**	**01 39 39.6**	**-3.1**
HHC				pmax	pmax		
	comp=Z,79nm,1.0s						
HHC				pmax	pmax		
	comp=Z,250nm,6.1s						
HHC				LR	LR		
	comp=N,490nm,15.3s						
HHC				LR	LR		
	comp=E,590nm,16.1s						
HHC				LR	LR		
	comp=Z,640nm,16.0s						
LZH	**Lanzhou**	**61.00**	**317**	*e*P	**P**	**01 31 54.4**	**+1.5**
LZH				pP	pP	01 32 06.0	+0.6
LZH				sP	sP	01 32 09.8	-0.6
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
GTA	**Gaotai**	**65.45**	**318**	P	**P**	**01 32 21.8**	**-0.5**
GTA				pP	pP	01 32 33.3	-1.6
GTA				sP	sP	01 32 38.1	-1.8
GTA				S	**S**	**01 41 01.6**	**-2.5**
GTA				sS	pS	01 41 21.4	+1.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,70nm,7.1s						
GTA				LR	LR		
	comp=N,71nm,19.6s						
GTA				LR	LR		
	comp=E,110nm,19.6s						
GTA				LR	LR		
	comp=Z,170nm,22.0s						
ULN	**Ulaanbaatar**	**66.03**	**329**	*e*P	**P**	**01 32 25.8**	**-0.1**
	18nm,1.5s						
SONA0	**Songino Array**	**66.36**	**328**	*e*P	**P**	**01 32 27.8**	**-0.1**
SONM	**Songino Array**	**66.36**	**328**	P	**P**	**01 32 27.8**	**-0.1**
	4.3nm,0.6s,baz=144,slow=5.1,SNR=15						
SONM				pP	**pP**	**01 32 37.9**	**-2.8**
	2.4nm,0.5s,baz=140,slow=7.0,SNR=4.6						
SONM				LR	LR	02 01 27.3	
	comp=Z,141nm,20.0s,baz=142,slow=36						
JIRN	**Jiri**	**71.24**	**301**	*e*P	**P**	**01 32 58.1**	**-0.9**
	49nm,1.0s						
PKI	**Pulchoki**	**71.88**	**301**	*e*P	**P**	**01 33 01.1**	**-1.7**
	3.0nm,0.4s						
PKIN	**Phulchoki**	**71.89**	**301**	*e*P	**P**	**01 33 01.5**	**-1.3**
KKN	**Kakani**	**72.05**	**301**	*e*P	**P**	**01 33 02.5**	**-1.2**
	8.4nm,0.5s						
DMN	**Daman**	**72.15**	**301**	*e*P	**P**	**01 33 03.3**	**-1.1**
	87nm,1.1s						
VNDA	**Vanda**	**72.17**	**178**	*e*P	**P**	**01 33 04.1**	**+0.9**
	8.1nm,0.8s						
VNDA	**Vanda**	**72.17**	**178**	P	**P**	**01 33 03.2**	**0.0**
	7.3nm,0.8s,baz=331,slow=6.9,SNR=44						
KOLN	**Koldanda**	**73.47**	**301**	*e*P	**P**	**01 33 11.1**	**-1.1**
	22nm,0.7s						
DANN	**Dangsing**	**73.50**	**302**	*e*P	**P**	**01 33 10.0**	**-2.4**
	33nm,0.8s						
PYUN	**Piuthan**	**74.08**	**301**	*e*P	**P**	**01 33 14.0**	**-1.7**
	50nm,0.9s						
BILL	**Bilibino**	**74.09**	**6**	*e*P	**P**	**01 33 16.8**	**+2.1**
	4.5nm,0.9s						
WMQ	**Urumqi**	**75.54**	**318**	*e*P	**P**	**01 33 21.3**	**-2.4**
WMQ				pP	pP	01 33 36.4	-0.2
WMQ				pmax	pmax		
	comp=Z,67nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,390nm,4.3s						
WMQ				LR	LR		
	comp=N,2μm,38.8s						
WMQ				LR	LR		
	comp=E,2μm,39.2s						
WMQ				LR	LR		
	comp=Z,350nm,30.1s						
TIXI	**Tiksi**	**78.45**	**353**	*e*P	**P**	**01 33 39.7**	**+0.4**
	2.3nm,0.8s						
SUA	**Susitna One**	**80.04**	**24**	*e*P	**P**	**01 33 49.6**	**+1.3**
	6.0nm,0.8s						
MK31	**Makanchi Array**	**80.16**	**319**	*e*P	**P**	**01 33 48.4**	**-0.9**
	7.

ILAR	**Eielson Array**	**83.21**	**22**	P		**P**	**01 34 03.2**	**-1.7**
	2.6nm,0.6s,baz=247,slow=4.8,SNR=38							
ILAR				pP		**PcP**	**01 34 13.9**	**+4.5**
	1.7nm,0.7s,baz=250,slow=4.8,SNR=4.5							
ILAR				LR		LR	02 08 59.8	
	comp=Z,117nm,19.0s,baz=272,slow=34							
ILB	**Eielson Array**	**83.21**	**22**	*e*P		**P**	**01 34 04.7**	**-0.2**
	3.3nm,0.6s							
BOOM	**Boomskoye usch**	**83.30**	**314**	*e*P		**P**	**01 34 05.9**	**-0.2**
	7.1nm,0.6s							
KURK	**Kurchatov**	**83.67**	**322**	*e*P		**P**	**01 34 05.8**	**-1.7**
	15nm,1.1s							
DOT	**Dot Lake**	**83.80**	**24**	*e*P		**P**	**01 34 07.6**	**-0.4**
	3.5nm,1.0s							
AAK	**Ala-Archa**	**84.38**	**314**	*e*P		**P**	**01 34 09.9**	**-1.6**
	7.8nm,0.8s							
QSPA	**South Pole Qui**	**84.46**	**180**	*e*P		**P**	**01 34 11.8**	**+0.3**
	20nm,0.8s							
MAW	**Mawson**	**84.51**	**203**	*e*P		**P**	**01 34 11.6**	**+0.1**
	3.3nm,1.4s							
MAW	**Mawson**	**84.51**	**203**	P		**P**	**01 34 11.6**	**+0.1**
	2.3nm,0.5s,baz=70,slow=9.3,SNR=4.2							
MAW				LR		LR	02 08 53.0	
	comp=Z,156nm,20.8s,baz=84,slow=34							
ARSB	**Arslanbob**	**85.20**	**312**	*e*P		**P**	**01 34 15.6**	**-0.1**
	36nm,1.4s							
EGAK	**Eagle**	**85.42**	**23**	*e*P		**P**	**01 34 15.6**	**-0.6**
	3.0nm,0.8s							
HYT	**Haines Junctio**	**85.55**	**28**	*e*P		**P**	**01 34 16.6**	**-0.5**
	5.0nm,0.9s							
NRIK	**Noril'sk**	**86.28**	**341**	LR		LR	02 12 57.2	
	comp=Z,77nm,20.4s,baz=147,slow=36							
KK31	**Karatay Array**	**87.34**	**314**	*e*P		**P**	**01 34 25.7**	**-0.4**
	8.3nm,1.3s							
KKAR	**Karatay Array**	**87.34**	**314**	*e*P		**P**	**01 34 25.7**	**-0.4**
	8.3nm,1.3s							
EPYK	**Eagle Plains**	**87.72**	**22**	*e*P		**P**	**01 34 28.1**	**+0.7**
	4.0nm,0.8s							
NLWA	**Neilton Lookou**	**90.23**	**43**	*e*P		P	01 34 33.7	-5.9
	31nm,1.4s							
HUMO	**Hull Mountain**	**90.24**	**47**	*e*P		**P**	**01 34 41.1**	**+1.3**
	9.4nm,0.9s							
AFDM	**Forest Hills D**	**91.32**	**51**	*e*P		**P**	**01 34 46.6**	**+1.7**
	4.7nm,0.9s							
K05A	**Summer Lake**	**91.77**	**47**	*e*P		**P**	**01 34 48.2**	**+1.2**
	15nm,0.9s							
PINE	**Pine Mountain**	**91.84**	**46**	*e*P		**P**	**01 34 48.4**	**+1.0**
	11nm,0.8s							
MOD	**Modoc Plateau**	**92.12**	**48**	*e*P		**P**	**01 34 49.7**	**+1.0**
	9.5nm,1.0s							
PNTR	**Pine Nut**	**92.40**	**51**	*e*P		**P**	**01 34 51.9**	**+1.8**
	8.3nm,0.9s							
PAHR	**Pah Rah Range**	**92.62**	**51**	*e*P		**P**	**01 34 52.0**	**+1.0**
	4.6nm,1.0s							
SYO	**Syowa Base**	**92.65**	**200**	‖*i*X		**P**	**01 34 48.0**	**-2.3**
SYO	**Syowa Base**	**92.65**	**200**	‖*e*PcP		**P**	**01 34 50.6**	**+0.3**
MDPB	**Devils Postpil**	**92.68**	**53**	*e*P		**P**	**01 34 53.2**	**+1.7**
	8.6nm,1.1s							
I07A	**Izee**	**92.90**	**46**	*e*P		**P**	**01 34 53.0**	**+0.8**
	7.1nm,0.9s							
NV01	**Mina Array Sit**	**93.36**	**52**	*e*P		**P**	**01 34 55.4**	**+0.8**
NVAR	**Mina Array Bea**	**93.36**	**52**	P		**P**	**01 34 55.4**	**+0.8**
	7.8nm,0.8s,baz=254,slow=6.8,SNR=26							
NVAR				pP		**pP**	**01 35 06.5**	**-1.1**
	3.3nm,0.9s,baz=255,slow=9.3,SNR=4.1							
NVAR				LR		LR	02 12 31.0	
	comp=Z,129nm,18.9s,baz=264,slow=33							
NV11	**Mina Array Sit**	**93.47**	**52**	*e*P		**P**	**01 34 56.1**	**+1.1**
	0.6nm,0.9s							
KVN	**Kaiserville**	**93.56**	**51**	*e*P		**P**	**01 34 54.2**	**-1.3**
	5.2nm,0.8s							
J08A	**Circle Bar Ran**	**93.59**	**47**	*e*P		**P**	**01 34 56.2**	**+0.8**
	8.9nm,1.1s							
DAC	**Darwin (Calif)**	**93.77**	**54**	*e*P		**P**	**01 34 59.9**	**+3.4**
	7.4nm,0.8s							
BMO	**Blue Mountains**	**94.53**	**46**	*e*P		**P**	**01 34 60.0**	**+0.3**
	6.7nm,1.3s							
R11A	**Troy Canyon, C**	**95.48**	**52**	*e*P		**P**	**01 35 05.5**	**+1.2**
	3.0nm,1.1s							
SHPR	**Sheep Range**	**95.74**	**54**	*e*P		**P**	**01 35 07.2**	**+1.7**
	3.8nm,0.9s							
YKA	**Yellowknife Ar**	**96.54**	**28**	P		**P**	**01 35 08.4**	**+0.2**
	0.2nm,0.5s,baz=272,slow=4.7,SNR=5.0							
YKA				PKKPbc		**PKKPbc**	**01 51 50.8**	**-4.0**
	0.2nm,0.6s,baz=90,slow=2.9,SNR=3.7							
YKA				LR		LR	02 15 16.2	
	comp=Z,9.0nm,18.7s,baz=281,slow=33							
YKB5	**Yellowknife Ar**	**96.54**	**28**	*e*P		**P**	**01 35 08.4**	**+0.2**
HLID	**Hailey**	**96.55**	**47**	*e*P		**P**	**01 35 09.7**	**+0.7**
	1.4nm,0.8s							
PD31	**Pinedale Array**	**100.11**	**48**	*e*Pdif		**Pdif**	**01 35 24.6**	**-0.4**
PDAR	**Pinedale Array**	**100.11**	**48**	P		**Pdif**	**01 35 24.6**	**-0.4**
	1.3nm,0.7s,baz=267,slow=2.7,SNR=9.9							
SNAA	**Sanae**	**101.19**	**188**	P		**Pdif**	**01 35 28.7**	**-0.4**
SMCO	**Snowmass**	**102.21**	**51**	*e*Pdif		**Pdif**	**01 35 36.2**	**+1.5**
VNA3	**Neumayer Olymp**	**102.42**	**186**	P		**Pdif**	**01 35 28.6**	**-5.9**
VNA2	**Neumayer--Watz**	**102.46**	**187**	P		**Pdif**	**01 35 40.7**	**+6.1**
VNA1	**Neumayer--Stat**	**102.82**	**187**	P		**Pdif**	**01 35 37.1**	**+0.9**
FIA0	**FINESS Array S**	**111.25**	**335**	*e*PKiKP		**PKiKP**	**01 40 11.8**	**-0.5**
FINES	**FINESS Array B**	**111.25**	**335**	PKiKP		**PKiKP**	**01 40 11.8**	**-0.5**
	1.2nm,0.8s,baz=123,slow=27,SNR=3.8							
AKASG	**Malin Array Be**	**114.44**	**324**	PKP		PKPdf	01 40 17.4	-1.3
	0.4nm,0.4s,baz=58,slow=3.1,SNR=3.2							
AKBB	**Malin Array Si**	**114.44**	**324**	*e*PKiKP		PKPdf	01 40 17.4	-1.3
BR101	**Keskin Array S**	**114.97**	**311**	*e*PKiKP		**PKiKP**	**01 40 18.5**	**-1.8**
BRTR	**Keskin Array B**	**114.97**	**311**	PKP		**PKiKP**	**01 40 18.5**	**-1.8**
	0.4nm,0.8s,baz=153,slow=3.6,SNR=4.2							
NB200	**NORSAR Array S**	**117.20**	**340**	*e*PKPdf		**PKPdf**	**01 40 22.7**	**-1.1**
NOA	**NORSAR Array B**	**117.20**	**340**	PKP		**PKPdf**	**01 40 22.7**	**-1.1**
	0.6nm,0.7s,baz=49,slow=2.2,SNR=3.3							
KOLS	**Kolonicke sedl**	**119.26**	**324**	*e*PKP		**PKiKP**	**01 40 28.4**	**+0.3**
VTS	**Vitosha**	**121.44**	**317**	*e*PKPdf		**PKPdf**	**01 40 31.6**	**-1.1**
VYHS	**Vyhne**	**121.46**	**325**	*e*PKP		**PKiKP**	**01 40 33.0**	**+0.5**
CLL	**Collm**	**122.94**	**330**	*e*PKPdf		**PKPdf**	**01 40 34.0**	**-1.0**
CLL				LmV			02 34 00.0	
	comp=Z,100nm,19.7s							
CONA	**Conrad Observa**	**123.44**	**326**	*e*PKiKP		**PKPdf**	**01 40 36.2**	**-0.1**
	comp=Z,0.9nm,0.5s							
FNA	**Florina**	**123.47**	**316**	*e*PKPdf		**PKPdf**	**01 40 35.5**	**-0.9**
KHC	**Kasperske Hory**	**123.98**	**328**	*e*PKPDF		**PKPdf**	**01 40 36.5**	**-0.7**
GEC2	**GERESS Array S**	**124.09**	**328**	*e*PKPdf		**PKPdf**	**01 40 36.5**	**-1.0**
GERES	**GERESS Array B**	**124.09**	**328**	PKP		**PKPdf**	**01 40 36.9**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=62,slow=1.6,SNR=15							
ABTA	**Abfaltersbach**	**125.98**	**326**	*e*PKiKP		**PKiKP**	**01 40 42.7**	**+1.1**
	comp=Z,1.7nm,0.7s							
WTTA	**Wattenberg**	**126.15**	**327**	*e*PKiKP		**PKPdf**	**01 40 41.5**	**-0.1**
	comp=Z,1.2nm,0.4s							
MOTA	**Moosalm**	**126.38**	**328**	*e*PKiKP		**PKPdf**	**01 40 41.3**	**-0.7**
	comp=Z,1.5nm,0.5s							
SQTA	**Sankt Quirin**	**126.40**	**327**	*e*PKiKP		**PKPdf**	**01 40 41.8**	**-0.2**
	comp=Z,3.7nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**127.28**	**327**	*e*PKPdf		**PKPdf**	**01 40 40.4**	**-3.5**
LPAZ	**La Paz**	**135.01**	**119**	*e*PKPdf		**PKiKP**	**01 41 00.9**	**-0.3**
LPAZ	**La Paz**	**135.01**	**119**	PKP		**PKPdf**	**01 41 00.6**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=300,slow=1.3,SNR=8.4							
CPUP	**Villa Florida**	**137.63**	**140**	PKP		**PKPdf**	**01 41 04.5**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=267,slow=19,SNR=6.6							
SDV	**Santo Domingo**	**137.86**	**83**	*e*PKPdf		**PKPdf**	**01 41 05.3**	**+0.7**
SPB	**Sao Paulo**	**145.56**	**148**	*e*PKPdf		**PKPdf**	**01 41 16.3**	**-1.6**
PTGA	**Pitinga**	**147.75**	**100**	*e*PKPdf		**PKPdf**	**01 41 19.8**	**-2.0**
TOA0	**Torodi Ar. Sit**	**149.50**	**287**	*e*PKPbc		**PKPbc**	**01 41 27.6**	**-1.5**
TORD	**Torodi Ar. Bea**	**149.50**	**287**	PKPbc		**PKPbc**	**01 41 27.3**	**-1.8**
	comp=Z,7.7nm,0.6s,baz=100,slow=3.0,SNR=40							
TORD				pPKPbc		**pPKPdf**	**01 41 38.9**	**+0.8**
	comp=Z,16nm,0.7s,baz=89,slow=2.7,SNR=20							
TOA1	**Torodi Ar. Sit**	**149.50**	**287**	*e*PKPbc		**PKPbc**	**01 41 27.3**	**-1.8**
BDFB	**Brasilia**	**151.30**	**137**	*e*PKPbc		**PKPbc**	**01 41 33.9**	**+0.4**
BDFB	**Brasilia**	**151.30**	**137**	PKPbc		**PKPbc**	**01 41 33.1**	**-0.4**
	comp=Z,14nm,0.7s,baz=208,slow=19,SNR=3.7							

ISCJB ***15*** *01:36:37.7±0.3, 5.°46S±0.°05×151.°66E±0.°07, h57km, mb4.6/35, MS3.6/4, Error ellipse: s-maj=10.8km s-min=5.4km az=25.1*

IDC ***15*** *01:36:37.4±0.7, 5.°44S×151.°56E, h33km±4km, mb4.1/13, mb1 4.3/15, mb1mx4.1/40, mbtmp4.3/15, ML3.2/2, MS3.6/5, Ms1 3.6/5, ms1mx3.3/25, Error ellipse: s-maj=21.1km s-min=13.5km az=111.0*

NEIC ***15*** *01:36:39.1±2.6, 5.°44S×151.°67E, h59km±6km, mb4.7/29, Error ellipse: s-maj=18.4km s-min=8.3km az=103.0*

ISC 15 01:36:38.9±0.4, **5.°43S**±0.°06×**151.°61E**±0.°08, **h57**km, **n63,** σ**2.°04/71, mb4.6**/35, **MS3.6**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.35**	**24**	*e*Pn	**Pn**	**01 37 02.6**	**+1.1**
RABL				*e*Sn	**Sn**	**01 37 16.6**	**-1.8**
MANU	**Manus Island**	**5.41**	**308**	*e*Pn	Pn	01 37 52.3	-4.7
PMG	**Port Moresby**	**5.93**	**228**	*e*Pn	**Pn**	**01 38 07.0**	**+2.9**
PMG				*e*Sn	**Sn**	**01 39 08.1**	**-2.6**
PMG	**Port Moresby**	**5.93**	**228**	Pn	**Pn**	**01 38 04.0**	**-0.2**
	8.4nm,0.3s,baz=28,slow=10,SNR=19						
PMG				Sn	**Sn**	**01 39 10.0**	**-0.7**
	3.5nm,0.3s,baz=39,slow=14,SNR=2.2						
HNR	**Honiara**	**9.17**	**116**	LR	LR	01 42 29.2	
	comp=Z,127nm,19.9s,baz=324,slow=38						
CTA	**Charters Tower**	**15.48**	**199**	Pn	**Pn**	**01 40 13.3**	**-0.4**
	0.4nm,0.3s,baz=75,slow=20,SNR=2.5						
CTAO	**Charters Tower**	**15.48**	**199**	*e*Pn	**Pn**	**01 40 13.6**	**-0.1**
	7.3nm,0.9s						
EIDS	**Eidsvold**	**19.84**	**181**	*e*P	**P**	**01 41 05.2**	**+0.1**
	10nm,0.8s						
MTN	**Manton Dam**	**21.51**	**249**	*e*P	**P**	**01 41 22.2**	**-1.1**
	23nm,1.0s						
DZM	**Mont Dzumac**	**21.90**	**140**	*e*P	**P**	**01 41 28.2**	**+0.6**
	15nm,1.4s						
DZM	**Mont Dzumac**	**21.90**	**140**	P	**P**	**01 41 28.2**	**+0.6**
	2.6nm,0.6s,baz=342,slow=20,SNR=9.0						
DZM				LR	LR	01 49 18.6	
	comp=Z,192nm,19.3s,baz=237,slow=35						
WC3	**Warramunga Arr**	**22.13**	**228**	*e*P	**P**	**01 41 32.5**	**+2.5**
	29nm,0.6s						
WRAB	**Tennant Creek**	**22.13**	**228**	*e*P	**P**	**01 41 32.7**	**+2.7**
	39nm,0.6s						
WB2	**Warramunga Arr**	**22.14**	**228**	*e*P	**P**	**01 41 33.0**	**+3.0**
	35nm,0.6s						
WR1	**Warramunga Arr**	**22.15**	**228**	*e*P	**P**	**01 41 31.0**	**+0.9**
WR1				*e*ScP	**ScP**	**01 49 01.9**	**+3.5**
WRA	**Warramunga Arr**	**22.15**	**228**	P	**P**	**01 41 31.0**	**+0.9**
	24nm,0.6s,baz=49,slow=11,SNR=106						
WRA				ScP	**ScP**	**01 49 01.9**	**+3.5**
	1.4nm,1.0s,baz=43,slow=3.9,SNR=3.5						
AS31	**Alice Springs**	**24.89**	**221**	*e*P	**P**	**01 41 58.5**	**+1.9**
	8.4nm,0.6s						
AS31				*e*ScP	**ScP**	**01 49 09.9**	**+4.2**
ASAR	**Alice Springs**	**24.89**	**221**	*e*P	**P**	**01 41 56.8**	**+0.1**
ASAR	**Alice Springs**	**24.89**	**221**	P	**P**	**01 41 57.2**	**+0.5**
	26nm,0.7s,baz=56,slow=9.0,SNR=172						
ASAR				ScP	**ScP**	**01 49 09.9**	**+4.2**
	0.4nm,0.7s,baz=32,slow=3.6,SNR=4.0						
LHI	**Lord Howe Isla**	**26.88**	**166**	*e*P	**P**	**01 42 11.0**	**-3.4**
	171nm,1.4s						
STKA	**Stephens Creek**	**27.93**	**198**	*e*P	**P**	**01 42 23.9**	**0.0**
	1.9nm,1.3s						
STKA	**Stephens Creek**	**27.93**	**198**	P	**P**	**01 42 23.9**	**0.0**
	2.8nm,0.7s,baz=21,slow=13,SNR=5.1						
STKA				LR	LR	01 53 27.5	
	comp=Z,134nm,18.7s,baz=36,slow=36						
FITZ	**Fitzroy Crossi**	**28.32**	**241**	*e*P	**P**	**01 42 27.6**	**+0.1**
	12nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.32**	**241**	P	**P**	**01 42 26.9**	**-0.6**
	12nm,0.7s,baz=67,slow=7.7,SNR=27						
CAN	**Canberra**	**29.84**	**184**	*e*P	**P**	**01 42 40.8**	**-0.1**
	14nm,1.3s						
FORT	**Forrest**	**33.56**	**218**	*e*P	**P**	**01 43 11.9**	**-1.6**
	18nm,0.7s						
FOZ	**Fox Glacier**	**41.21**	**160**	*e*P	**P**	**01 44 17.9**	**-0.1**
	8.8nm,1.0s						
RPZ	**Rata Peaks**	**41.80**	**159**	LR	LR	01 59 51.5	
	comp=Z,143nm,21.0s,baz=328,slow=33						
TATO	**Taipei**	**42.09**	**317**	*e*P	**P**	**01 44 27.2**	**+1.6**
	81nm,1.4s						
MJAR	**Matsushiro Arr**	**43.59**	**344**	P	**P**	**01 44 38.0**	**+0.4**
	0.5nm,0.4s,baz=176,slow=8.1,SNR=3.5						
MAJO	**Matsushiro**	**43.60**	**344**	*e*P	**P**	**01 44 38.0**	**+0.4**
SLVN	**Son La**	**53.80**	**301**	*e*P	**P**	**01 45 53.2**	**-3.0**
	2.7nm,1.0s						
XAN	**Xi'an**	**56.27**	**317**	*e*P	**P**	**01 46 10.6**	**-3.2**
	4.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**57.08**	**296**	*e*P	**P**	**01 46 17.2**	**-2.6**
KHLH	**Kahului Airpor**	**57.30**	**61**	*e*P	**P**	**01 46 19.8**	**-1.5**
	64nm,0.9s						
HLK	**Haleakala**	**57.40**	**61**	*e*P	**P**	**01 46 21.0**	**-1.3**
	166nm,1.2s						
NPH	**North Pit**	**57.79**	**63**	*e*P	**P**	**01 46 22.9**	**-2.1**
	77nm,0.6s						
SBLHI	**Steaming Bluff**	**57.80**	**63**	*e*P	**P**	**01 46 22.5**	**-2.5**
	215nm,1.2s						
PETK	**Petropavlovsk-**	**58.54**	**4**	P	**P**	**01 46 32.1**	**+2.7**
	1.8nm,0.8s,baz=163,slow=11,SNR=3.0						
PETK				LR	LR	02 09 27.7	
	comp=Z,51nm,19.5s,baz=158,slow=34						
PEA1	**Petropavlovsk-**	**58.55**	**4**	*e*P	**P**	**01 46 32.1**	**+2.7**
SONA0	**Songino Array**	**66.23**	**328**	*e*P	**P**	**01 47 22.8**	**+1.7**
SONM	**Songino Array**	**66.23**	**328**	P	**P**	**01 47 22.8**	**+1.7**
	1.6nm,0.8s,baz=144,slow=5.0,SNR=5.7						
VNDA	**Vanda**	**72.25**	**178**	P	**P**	**01 47 59.1**	**+1.4**
	0.9nm,0.6s,baz=318,slow=7.7,SNR=5.7						
MK32	**Makanchi Array**	**80.02**	**319**	*e*P	**P**	**01 48 43.7**	**+1.3**
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**01 48 43.7**	**+1.3**
	1.1nm,0.8s,baz=98,slow=5.7,SNR=8.5						
MKAR				pP	**PcP**	**01 48 53.5**	**+3.8**
	0.4nm,0.5s,baz=96,slow=6.1,SNR=3.2						
ZALV	**Zalesovo Beam**	**81.02**	**327**	P	**P**	**01 48 47.7**	**+0.2**
	0.7nm,0.3s,baz=123,slow=5.3,SNR=4.6						
ZAA1	**Zalesovo Array**	**81.02**	**327**	*e*P	**P**	**01 48 47.7**	**+0.2**
ILAR	**Eielson Array**	**83.18**	**22**	P	**P**	**01 48 59.3**	**+0.7**
	0.8nm,0.7s,baz=245,slow=5.7,SNR=13						
ILAR				pP	**pP**	**01 49 09.9**	**-5.1**
	0.8nm,0.7s,baz=254,slow=5.0,SNR=3.9						
ILB	**Eielson Array**	**83.18**	**22**	*e*P	**P**	**01 48 59.3**	**+0.7**
	4.6nm,1.1s						
KURK	**Kurchatov**	**83.53**	**322**	*e*P	**P**	**01 49 01.7**	**+1.0**
	3.8nm,1.0s						
PRP	**Porcupine Dome**	**84.04**	**22**	*e*P	**P**	**01 49 01.1**	**-2.1**
	1.3nm,0.8s						
KK31	**Karatay Array**	**87.20**	**314**	*e*P	**P**	**01 49 17.3**	**-2.0**
	4.7nm,1.1s						
KKAR	**Karatay Array**	**87.20**	**314**	*e*P	**P**	**01 49 17.7**	**-1.6**
	4.7nm,1.1s						
PINE	**Pine Mountain**	**91.87**	**46**	*e*P	**P**	**01 49 43.7**	**+2.3**
	5.2nm,0.8s						
NV01	**Mina Array Sit**	**93.40**	**52**	*e*P	**P**	**01 49 51.0**	**+2.4**
NVAR	**Mina Array Bea**	**93.40**	**52**	P	**P**	**01 49 51.0**	**+2.4**
	3.2nm,0.8s,baz=256,slow=6.8,SNR=13						
NVAR				pP	**pP**	**01 50 02.3**	**-2.9**
	0.9nm,0.7s,baz=249,slow=6.3,SNR=3.0						
NV11	**Mina Array Sit**	**93.52**	**52**	*e*P	**P**	**01 49 51.8**	**+2.7**
	0.3nm,0.9s						
PDAR	**Pinedale Array**	**100.14**	**48**	P	**Pdif**	**01 50 20.0**	**+0.9**
	0.5nm,0.8s,baz=224,slow=2.5,SNR=3.5						
GEC2	**GERESS Array S**	**123.96**	**328**	*e*PKPdf	**PKiKP**	**01 55 31.7**	**+0.5**
GERES	**GERESS Array B**	**123.96**	**328**	PKP	**PKiKP**	**01 55 31.7**	**+0.5**
	0.2nm,0.5s,baz=35,slow=3.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**149.36**	**287**	PKPbc	**PKPbc**	**01 56 23.0**	**+0.4**
	0.8nm,0.3s,baz=64,slow=2.0,SNR=31						
TORD				pPKPbc	**pPKPdf**	**01 56 34.3**	**-1.2**
	2.4nm,0.7s,baz=18,slow=4.1,SNR=7.6						
TOA1	**Torodi Ar. Sit**	**149.37**	**287**	*e*PKPbc	**PKPbc**	**01 56 23.0**	**+0.4**
BDFB	**Brasilia**	**151.44**	**137**	PKPbc	**PKPbc**	**01 56 27.3**	**-0.3**
	0.8nm,0.3s,baz=198,slow=9.6,SNR=4.0						

ISCJB ***15*** *02:10:43.7±0.6, 18.°86N±0.°08×145.°5E±0.°2, h600km, mb3.4/10, Error ellipse: s-maj=22.0km s-min=10.7km az=2.0*

IDC ***15*** *02:10:44.4±1.2, 18.°79N×145.°55E, h600km±18km, mb2.8/10, mb1 3.2/12, mb1mx2.9/38, mbtmp4.0/12, Error ellipse: s-maj=21.3km s-min=17.2km az=98.0*

ISC 15 02:10:44.4±0.8, **18.°78N**±0.°09×**145.°5E**±0.°2, **h600**km, **n12,** σ**0.°72/13, mb3.4**/10, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.20**	**187**	P	**P**	**02 12 18.5**	**-0.5**
	11nm,0.3s,baz=3.2,slow=18,SNR=4.9						
GUMO				S	**S**	**02 13 36.6**	**+0.5**
	6.5nm,0.3s,baz=24,slow=20,SNR=2.7						
JHJ	**Hachijo jima 2**	**15.18**	**341**	P	**P**	**02 13 54.5**	**+0.4**
	7.5nm,0.3s,baz=90,slow=20,SNR=3.7						
KLR	**Kul'dur**	**32.34**	**343**	P	**P**	**02 16 26.1**	**+0.3**
	1.0nm,0.4s,baz=159,slow=3.2,SNR=8.3						
WRA	**Warramunga Arr**	**40.01**	**196**	P	**P**	**02 17 29.4**	**+0.2**
	0.2nm,0.5s,baz=17,slow=9.5,SNR=5.5						
SONM	**Songino Array**	**42.97**	**321**	P	**P**	**02 17 52.6**	**+0.3**
	0.7nm,0.5s,baz=122,slow=6.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**44.04**	**277**	P	**P**	**02 18 00.8**	**0.0**
	1.1nm,0.3s,baz=67,slow=6.9,SNR=3.3						
MKAR	**Makanchi Array**	**58.28**	**314**	P	**P**	**02 19 43.2**	**+0.2**
	0.5nm,0.4s,baz=88,slow=9.1,SNR=5.0						
ILAR	**Eielson Array**	**63.65**	**26**	P	**P**	**02 20 17.2**	**-0.5**
	0.8nm,0.7s,baz=250,slow=5.8,SNR=8.5						
INK	**Inuvik**	**69.37**	**23**	P	**P**	**02 20 52.0**	**-0.7**
	1.2nm,0.9s,baz=220,slow=11,SNR=3.7						
YKA	**Yellowknife Ar**	**78.00**	**28**	P	**P**	**02 21 42.2**	**+0.6**
	0.5nm,0.5s,baz=286,slow=5.3,SNR=5.8						
NVAR	**Mina Array Bea**	**83.22**	**52**	P	**P**	**02 22 10.1**	**+0.6**
	0.5nm,0.5s,baz=290,slow=2.7,SNR=3.5						
FINES	**FINESS Array B**	**86.74**	**335**	P	**P**	**02 22 23.9**	**-1.7**
	0.5nm,0.4s,baz=87,slow=4.1,SNR=7.1						

ROM 15 02:13:34.8±0.3, **40.°04N**±0.°01×**16.°24E**±0.°01, **h26**km±2km, **ML1.8**/8, **Error ellipse: s-maj=1.1km s-min=0.8km az=33.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORI	**Oriolo Calabro**	**0.16**	**82**	P	Pb	02 13 40.4	+0.2
ORI				S	Sb	02 13 44.5	+0.7
SALB	**San Lorenzo Be**	**0.18**	**153**	P	Pb	02 13 40.5	0.0
SALB				S	Sb	02 13 44.1	-0.3
SALB				AML	AML		
	comp=E,354μm,0.9s						
SALB				AML	AML		
	comp=N,284μm,0.3s						
SALB				AML	AML		
	comp=E,354μm,0.9s						
SALB				AML	AML		
	comp=N,284μm,0.3s						
SALB				AML	AML		
	comp=E,354μm,0.9s						
SALB				AML	AML		
	comp=N,284μm,0.3s						
SCHR	**S. Chirico Rap**	**0.20**	**322**	P	Pb	02 13 39.7	-1.0
SCHR				AML	AML		
	comp=E,216μm,0.4s						
SCHR				AML	AML		
	comp=N,232μm,1.3s						
SCHR				AML	AML		
	comp=E,216μm,0.4s						
SCHR				AML	AML		
	comp=N,232μm,1.3s						
SCHR				AML	AML		
	comp=N,232μm,1.3s						
SCHR				AML	AML		
	comp=E,216μm,0.4s						
SCHR	**S. Chirico Rap**	**0.20**	**322**	P	Pb	02 13 39.7	-1.0
T0721	**Laino Castello**	**0.23**	**242**	P	Pb	02 13 41.3	+0.4
T0721				S	Sb	02 13 46.3	+1.1
T0721				AML	AML		
	comp=E,475μm,1.3s						
T0721				AML	AML		
	comp=N,383μm,0.8s						
T0721				AML	AML		
	comp=E,475μm,1.3s						
T0721				AML	AML		
	comp=N,384μm,0.8s						
T0721				AML	AML		
	comp=E,475μm,1.3s						
T0721				AML	AML		
	comp=N,384μm,0.8s						
T0721	**Laino Castello**	**0.23**	**242**	P	Pn	02 13 41.8	-0.8
T0721	**Laino Castello**	**0.23**	**242**	P	Pn	02 13 42.1	-0.4
SIRI	**Monte Sirino -**	**0.32**	**296**	P	Pb	02 13 41.9	-0.4
SIRI				S	Sb	02 13 48.2	+0.8
SIRI				AML	AML		
	comp=E,312μm,0.4s		

az=94.0
ISCJB ***15*** *02:37:18.4±1.0, 24°.18N±0°.07×142°.3E±0°.2, h150km, mb3.5/7, Error ellipse: s-maj=28.5km s-min=10.5km az=1.8*
JMA ***15*** *02:37:18.7±0.1, 24°.23N×141°.60E, h144km, M4.2*

ISC 15 02:37:19.9±1.1, 24°.20N±0°.10×142°.2E±0°.2, h150km, n14, σ1§52/15, mb3.6/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.43**	**360**	P	**Pn**	**02 37 59.2**	**-0.9**
JHH2				S	**Sn**	**02 38 30.2**	**-1.0**
CBIJ	**Chichi jima**	**2.89**	**0**	P	**Pn**	**02 38 05.0**	**-0.8**
CBIJ				S	**Sn**	**02 38 40.8**	**-0.6**
BSO3	**Boso 3**	**10.67**	**353**	P	**Pn**	**02 39 47.3**	**-1.1**
JAG	**Ashikaga**	**12.41**	**350**	P	**Pn**	**02 40 08.7**	**-2.7**
MJAR	**Matsushiro Arr**	**12.77**	**345**	P	**Pn**	**02 40 15.1**	**-1.0**
	0.2nm,0.3s,baz=224,slow=14,SNR=5.3						
KSRS	**Korea Array**	**17.98**	**321**	P	**Pn**	**02 41 21.5**	**+1.1**
	0.3nm,0.3s,baz=139,slow=11,SNR=7.3						
USRK	**Ussuriysk Ar.**	**21.63**	**340**	P	**P**	**02 41 59.6**	**+1.5**
	2.0nm,0.7s,baz=143,slow=11,SNR=4.9						
KLR	**Kul'dur**	**26.30**	**344**	P	**P**	**02 42 43.8**	**+2.5**
	1.6nm,0.5s,baz=164,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**44.53**	**191**	P	**P**	**02 45 14.9**	**-1.8**
	0.3nm,0.4s,baz=6.9,slow=8.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**51.69**	**321**	LR	LR	03 08 59.6	
	comp=Z,20nm,19.8s,baz=71,slow=37						
MKAR	**Makanchi Array**	**52.34**	**311**	P	**P**	**02 46 16.8**	**+0.4**
	0.3nm,0.4s,baz=89,slow=8.6,SNR=5.7						
ILAR	**Eielson Array**	**60.26**	**28**	P	**P**	**02 47 12.8**	**+0.7**
	0.7nm,0.9s,baz=252,slow=5.4,SNR=7.3						
YKA	**Yellowknife Ar**	**74.69**	**28**	P	**P**	**02 48 43.8**	**+1.2**
	0.2nm,0.5s,baz=290,slow=6.1,SNR=3.7						
FINES	**FINESS Array B**	**80.54**	**334**	P	**P**	**02 49 15.8**	**+0.7**
	1.3nm,0.9s,baz=67,slow=11,SNR=3.9						

IDC 15 02:37:28.4±1.9, 19°.56S×174°.19W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.8/34, mbtmp3.8/6, MS3.4/4, Ms1 3.4/4, ms1mx3.0/29, Error ellipse: s-maj=128.0km s-min=22.8km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.27**	**259**	LR	LR	02 47 32.5	
	comp=Z,135nm,21.9s,baz=92,slow=33						
PPT	**Papeete**	**23.42**	**89**	LR	LR	02 50 39.6	
	comp=Z,73nm,19.4s,baz=123,slow=34						
HNR	**Honiara**	**26.95**	**288**	LR	LR	02 54 00.7	
	comp=Z,74nm,18.1s,baz=46,slow=37						
ASAR	**Alice Springs**	**48.22**	**255**	P	P	02 46 09.6	-1.6
	1.1nm,0.7s,baz=86,slow=8.7,SNR=14						
ASAR				PcP	PcP	02 47 38.3	-0.2
	0.6nm,0.7s,baz=98,slow=5.8,SNR=3.9						
WRA	**Warramunga Arr**	**48.28**	**260**	P	P	02 46 13.1	+1.5
	1.9nm,0.8s,baz=100,slow=6.1,SNR=3.6						
NVAR	**Mina Array Bea**	**77.92**	**42**	P	P	02 49 27.9	-0.6
	2.1nm,0.9s,baz=227,slow=8.0,SNR=5.8						
TXAR	**Lajitas Array**	**83.56**	**56**	P	P	02 50 00.3	+1.5
	0.6nm,0.9s,baz=224,slow=8.7,SNR=5.1						
KLR	**Kul'dur**	**83.60**	**328**	LR	LR	03 22 31.3	
	comp=Z,28nm,19.1s,baz=188,slow=32						
PDAR	**Pinedale Array**	**85.86**	**42**	P	P	02 50 09.2	-1.0
	0.4nm,0.7s,baz=263,slow=4.2,SNR=3.2						
ILAR	**Eielson Array**	**86.65**	**11**	P	P	02 50 13.8	+0.4
	0.2nm,0.8s,baz=220,slow=6.7,SNR=3.3						

NIED ***15*** *02:44:00, 36°.90N×140°.60E, h5km, Mw3.8 Best double couple: M0:5.07000×10^14 NP1:φs344.00000°, δ22.00000°, λ-115.00000°. NP2:φs190.00000°, δ70.00000°, λ-80.00000°.*
ISCJB ***15*** *02:44:33.5±0.7, 36°.85N±0°.03×140°.66E±0°.05, h16km±5km, mb3.7/10, Error ellipse: s-maj=7.2km s-min=4.7km az=27.0*
JMA ***15*** *02:44:34.1, 36°.87N×140°.56E, h7km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs173.00000°, δ58.00000°, λ-88.00000°. NP2: φs348.00000°, δ32.00000°, λ-94.00000°. Principal axes: T Plg13.0000°, Azm261.0000°; N Plg2.0000°, Azm351.0000°; P Plg77.0000°, Azm90.0000°;*
JMA Felt II J1.
IDC ***15*** *02:44:39.8±2.4, 36°.69N×140°.57E, h57km±24km, mb3.5/11, mb1 3.7/12, mb1mx3.5/34, mbtmp3.8/12, ML3.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/23 Error ellipse: s-maj=19.5km s-min=10.7km az=57.0*

ISC 15 02:44:34.0±1.0, 36°.86N±0°.03×140°.55E±0°.05, h10km±7km, n28, σ1§10/28, mb3.8/10, 5C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.23**	**3**	⇑P	**Pg**	**02 44 38.6**	**-0.1**
JFFD				S	**Sg**	**02 44 41.7**	**-0.2**
JHO	**Hitachi**	**0.25**	**176**	P	**Pg**	**02 44 39.3**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.31**	**40**	⇑P	**Pg**	**02 44 40.0**	**-0.2**
ONAJ				eS	**Sg**	**02 44 44.3**	**-0.1**
JSB	**Shiboa**	**0.51**	**282**	⇑P	**Pb**	**02 44 44.9**	**-0.3**
JSB				S	**Sb**	**02 44 52.4**	**-0.3**
JFK	**Kawauchi**	**0.57**	**27**	⇑P	**Pg**	**02 44 44.8**	**-0.2**
JFT	**Otama**	**0.68**	**346**	P	**Pg**	**02 44 47.1**	**0.0**
JFT				eS	**Sb**	**02 44 56.5**	**-0.8**
JYT	**Yasato**	**0.70**	**204**	⇑P	**Pg**	**02 44 47.4**	**0.0**
JYT				S	**Sb**	**02 44 56.9**	**-0.9**
MJAR	**Matsushiro Arr**	**1.91**	**261**	P	**Pb**	**02 45 07.6**	**-1.3**
	8.7nm,0.3s,baz=84,slow=16,SNR=170						
MJAR				LR	LR	02 45 31.1	
	comp=Z,46nm,19.1s,baz=75,slow=27						
MJAR				S	**Sb**	**02 45 33.0**	**+0.2**
	9.6nm,0.3s,baz=36,slow=29,SNR=9.2						
MAT	**Matsushiro**	**1.91**	**261**	P	**Pb**	**02 45 07.9**	**-1.0**
MAT				S	**Sb**	**02 45 33.4**	**+0.6**
JHJ	**Hachijo jima 2**	**3.79**	**190**	P	**Pn**	**02 45 35.3**	**+2.8**
	10nm,0.3s,baz=78,slow=23,SNR=3.1						
JHJ				S	**Sn**	**02 46 14.7**	**-2.4**
	9.0nm,0.3s,baz=49,slow=18,SNR=2.8						
KSRS	**Korea Array**	**10.10**	**277**	LR	LR	02 50 38.8	
	comp=Z,45nm,20.1s,baz=104,slow=35						
PETK	**Petropavlovsk-**	**20.19**	**31**	P	Pn	02 49 11.4	+0.9
	2.6nm,0.9s,baz=216,slow=14,SNR=3.0						
SONM	**Songino Array**	**27.31**	**304**	P	**P**	**02 50 18.7**	**-0.2**
	0.6nm,0.6s,baz=100,slow=7.7,SNR=4.8						
H11N2	**WAKE ISLAND Hy 28.66 119**			T	T	03 20 18.9	
	baz=312,slow=75,SNR=220						
H11N1	**WAKE ISLAND Hy 28.67 119**			T	T	03 20 19.4	
	baz=312,slow=75,SNR=306						
H11N3	**WAKE ISLAND Hy 28.68 119**			T	T	03 20 20.3	
	baz=312,slow=75,SNR=222						
H11S1	**WAKE ISLAND Hy 29.36 121**			T	T	03 21 09.9	
	baz=314,slow=75,SNR=560						
H11S3	**WAKE ISLAND Hy 29.36 121**			T	T	03 21 10.8	
	baz=314,slow=75,SNR=177						
H11S2	**WAKE ISLAND Hy 29.37 121**			T	T	03 21 11.5	
	baz=314,slow=75,SNR=295						
ZALV	**Zalesovo Beam**	**41.52**	**313**	P	**P**	**02 52 20.7**	**-0.5**
	0.5nm,0.4s,baz=72,slow=9.5,SNR=3.2						
MKAR	**Makanchi Array**	**43.62**	**302**	P	**P**	**02 52 38.1**	**-0.4**
	0.3nm,0.5s,baz=88,slow=7.4,SNR=3.6						
ILAR	**Eielson Array**	**50.01**	**32**	P	**P**	**02 53 29.6**	**+1.4**
	0.3nm,0.8s,baz=280,slow=5.4,SNR=4.8						
WRA	**Warramunga Arr**	**56.80**	**187**	P	**P**	**02 54 16.9**	**-1.6**
	1.4nm,0.7s,baz=6.4,slow=6.8,SNR=7.3						
ASAR	**Alice Springs**	**60.53**	**187**	P	**P**	**02 54 43.7**	**-0.7**
	1.0nm,1.0s,baz=8.5,slow=2.5,SNR=5.8						
ARCES	**ARCESS Array B**	**63.91**	**339**	P	**P**	**02 55 08.2**	**+1.5**
	3.2nm,0.9s,baz=48,slow=10.0,SNR=3.8						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**02 55 38.3**	**+1.3**
	1.1nm,0.8s,baz=46,slow=8.0,SNR=4.3						
NVAR	**Mina Array Bea**	**75.64**	**53**	P	**P**	**02 56 18.8**	**-0.9**
	0.6nm,0.6s,baz=290,slow=4.3,SNR=3.8						
TXAR	**Lajitas Array**	**90.77**	**52**	P	**P**	**02 57 37.6**	**-0.1**
	0.3nm,0.7s,baz=299,slow=2.6,SNR=3.6						

NIED ***15*** *03:10:00, 29°.30N×130°.50E, h32km, Mw4.1 Best double couple: M0:1.41000×10^15 NP1:φs326.00000°, δ10.00000°, λ-155.00000°. NP2:φs212.00000°, δ86.00000°, λ-81.00000°.*
JMA ***15*** *03:10:10.6±0.1, 29°.33N×130°.54E, h24km, M3.8*
IDC ***15*** *03:10:12.0±1.5, 29°.37N×130°.40E, h44km±14km, mb3.4/12, mb1 3.5/16, mb1mx3.5/34, mbtmp3.6/16, ML3.1/4, MS3.1/6, Ms1 3.1/6, ms1mx2.9/28, Error ellipse: s-maj=21.3km s-min=8.8km az=104.0*

ISC 15 03:10:10.0±1.2, 29°.32N±0°.03×130°.59E±0°.06, h29km±9km, n38, σ0§92/49, mb3.7/12, MS3.0/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.81**	**310**	P	**Pn**	**03 10 24.9**	**-0.6**
JNN				eS	**Sn**	**03 10 36.8**	**+0.2**
JYAK	**Yakushimahirau**	**0.92**	**356**	P	**Pn**	**03 10 27.4**	**+0.5**
JYAK				eS	**Sb**	**03 10 39.8**	**+0.5**
JMTN	**Minamitane**	**1.11**	**14**	P	**Pb**	**03 10 30.8**	**+0.2**
JZK	**Kikaishima**	**1.14**	**209**	P	**Pb**	**03 10 31.9**	**+0.9**
JKC	**Kuchinoerabu**	**1.19**	**343**	P	**Pn**	**03 10 31.2**	**+0.5**
JKC				S	**Sb**	**03 10 47.4**	**+0.4**
JTAJ	**Takarajima**	**1.23**	**263**	P	**Pn**	**03 10 31.6**	**+0.5**
JTAJ				eS	**Sb**	**03 10 46.9**	**-1.0**
JAM	**Amami Oshima**	**1.25**	**224**	P	**Pn**	**03 10 32.0**	**+0.5**
JAM				eS	**Sn**	**03 10 47.5**	**+0.2**
JTN	**Tanegashima 3**	**1.37**	**14**	P	**Pb**	**03 10 34.8**	**-0.3**
JAMN	**Amaminishikomi**	**1.64**	**230**	P	**Pn**	**03 10 37.8**	**+1.0**
JAMN				eS	**Sb**	**03 10 58.4**	**-1.4**
JTSR	**Tashiro 2**	**1.86**	**9**	P	**Pb**	**03 10 42.4**	**-1.0**
JTSR				S	**Sb**	**03 11 05.6**	**-0.7**
JTK	**Tokunoshima**	**2.10**	**224**	P	**Pn**	**03 10 44.2**	**+1.0**
JTK				eS	**Sn**	**03 11 08.6**	**+0.2**
JOKE	**Okinoerabujima**	**2.64**	**223**	P	**Pn**	**03 10 51.7**	**+1.1**
JOKE				eS	**Sn**	**03 11 22.8**	**+1.1**
JYRO	**Yoronjima**	**2.96**	**220**	P	**Pn**	**03 10 55.2**	**+0.1**
JYRO				eS	**Sn**	**03 11 30.7**	**+1.0**
JOW	**Kunigami**	**3.21**	**220**	P	**Pn**	**03 10 59.0**	**+0.5**
JOW	**Kunigami**	**3.21**	**220**	P	**Pn**	**03 10 58.5**	**0.0**
	1.0nm,0.3s,baz=108,slow=15,SNR=12						
JOW				S	**Sn**	**03 11 35.8**	**0.0**
	2.4nm,0.3s,baz=64,slow=28,SNR=3.9						
JIH	**Iheya**	**3.25**	**226**	P	**Pn**	**03 10 59.2**	**+0.3**
JMZ	**Minamidaito 2**	**3.53**	**171**	P	**Pn**	**03 11 02.9**	**+0.1**
JMZ				eS	**Sn**	**03 11 41.0**	**-2.6**
JNU	**Nakatsue**	**3.80**	**4**	P	**Pn**	**03 11 08.4**	**+1.8**
	6.5nm,0.3s,baz=326,slow=4.0,SNR=16						
JNU				S	**Sn**	**03 11 51.1**	**+0.8**
	1.4nm,0.3s,baz=136,slow=6.3,SNR=3.5						
JNU				LR	LR	03 12 57.4	
	comp=Z,176nm,20.8s,baz=181,slow=44						
JAGN	**Aguni-jima**	**4.02**	**228**	P	**Pn**	**03 11 09.8**	**+0.2**
JKE	**Kume jima 2**	**4.50**	**229**	P	**Pn**	**03 11 16.1**	**-0.1**
JKE				eS	**Sn**	**03 12 09.4**	**+1.9**
KSRS	**Korea Array**	**8.41**	**345**	LR	LR	03 15 45.8	
	comp=Z,139nm,19.0s,baz=174,slow=40						
ASAJ	**Asahikawa**	**17.60**	**30**	P	**P**	**03 14 14.5**	**+0.7**
	0.1nm,0.3s,baz=201,slow=16,SNR=1.7						
ASAJ				LR	LR	03 21 20.3	
	comp=Z,83nm,19.7s,baz=214,slow=38						
KLR	**Kul'dur**	**19.91**	**2**	P	**P**	**03 14 38.5**	**-0.6**
	0.1nm,0.3s,baz=189,slow=8.0,SNR=8.0						
DAV	**Davao City (W)**	**22.63**	**193**	LR	LR	03 22 10.8	
	comp=Z,38nm,20.7s,baz=106,slow=32						
SONM	**Songino Array**	**26.27**	**321**	P	**P**	**03 15 41.3**	**-1.6**
	1.2nm,0.6s,baz=142,slow=13,SNR=8.0						
CMAR	**Chiang Mai Arr**	**30.80**	**257**	LR	LR	03 30 06.0	
	comp=Z,31nm,19.1s,baz=140,slow=39						
PETK	**Petropavlovsk-**	**30.98**	**32**	LR	LR	03 29 16.8	
	comp=Z,32nm,19.6s,baz=156,slow=37						
MKAR	**Makanchi Array**	**41.14**	**309**	P	**P**	**03 17 51.1**	**-0.5**
	0.4nm,0.5s,baz=93,slow=9.7,SNR=5.4						
MKAR				PcP	**PcP**	**03 19 49.9**	**-0.6**
	0.3nm,0.7s,baz=103,slow=4.6,SNR=2.7						
WRA	**Warramunga Arr**	**49.11**	**175**	P	**P**	**03 18 55.4**	**+0.5**
	1.1nm,0.8s,baz=354,slow=7.6,SNR=3.8						
ASAR	**Alice Springs**	**52.77**	**176**	P	**P**	**03 19 23.1**	**+0.5**
	0.4nm,0.9s,baz=356,slow=6.9,SNR=9.4						
ILAR	**Eielson Array**	**60.73**	**29**	P	**P**	**03 20 19.2**	**+0.6**
	0.3nm,1.0s,baz=281,slow=6.8,SNR=5.0						
STKA	**Stephens Creek**	**61.75**	**169**	P	**P**	**03 20 26.9**	**+1.1**
	1.6nm,0.8s,baz=337,slow=17,SNR=2.2						
FINES	**FINESS Array B**	**71.21**	**331**	P	**P**	**03 21 25.4**	**-0.5**
	0.6nm,0.5s,baz=71,slow=6.0,SNR=3.7						
AKASG	**Malin Array Be**	**74.54**	**320**	P	**P**	**03 21 45.4**	**-0.4**
	1.2nm,0.5s,baz=58,slow=6.6,SNR=3.7						
YKA	**Yellowknife Ar**	**74.85**	**26**	P	**P**	**03 21 48.8**	**+1.4**
	0.1nm,0.5s,baz=298,slow=5.7,SNR=4.0						
BRTR	**Keskin Array B**	**76.79**	**308**	P	**P**	**03 21 58.9**	**-0.2**
	0.9nm,0.7s,baz=88,slow=4.7,SNR=9.0						
NOA	**NORSAR Array B**	**77.46**	**334**	P	**P**	**03 22 01.1**	**-1.3**
	0.4nm,0.7s,baz=50,slow=5.5,SNR=2.4						
PDAR	**Pinedale Array**	**89.46**	**40**	P	**P**	**03 23 03.8**	**-0.8**
	0.2nm,0.5s,baz=303,slow=5.0,SNR=2.6						

IDC ***15*** *03:22:28.5±0.7, 8°.88S×158°.43E, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.1/22, mbtmp4.0/13, ML3.4/2, Error ellipse: s-maj=19.2km s-min=17.5km az=13.0*
ISCJB ***15*** *03:22:31.1±0.3, 8°.94S±0°.06×158°.35E±0°.05, h29km, mb4.4/24, Error ellipse: s-maj=8.7km s-min=7.3km az=29.3*
NEIC ***15*** *03:22:33.7±2.3, 8°.90S×158°.39E, h35km±2km, mb4.6/17, Error ellipse: s-maj=17.3km s-min=10.9km az=73.0*

ISC 15 03:22:32.5±0.5, 8°.91S±0°.08×158°.39E±0°.06, h29km, n44, σ1§48/47, mb4.2/24, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.63**	**109**	*i* P	**Pn**	**03 22 56.5**	**-2.8**
HNR				*i* S	**Sb**	**03 23 24.5**	**+2.4**
HNR	**Honiara**	**1.63**	**109**	*e*Pn	**Pn**	**03 22 58.5**	**-0.8**
HNR				*e*Sn	**Sn**	**03 23 19.0**	**-0.2**
HNR	**Honiara**	**1.63**	**109**	Pn	**Pn**	**03 22 58.3**	**-0.9**
	166nm,0.3s,baz=183,slow=8.6,SNR=15						
HNR				Sn	**Sn**	**03 23 19.9**	**+0.6**
	392nm,0.3s,baz=64,slow=12,SNR=7.2						
DZM	**Mont Dzumac**	**15.21**	**150**	*e*Pn	**Pn**	**03 26 06.3**	**+0.8**
	17nm,1.4s						
DZM	**Mont Dzumac**	**15.21**	**150**	Pn	**Pn**	**03 26 06.3**	**+0.8**
	0.1nm,0.3s,baz=330,slow=20,SNR=2.3						
OUENC	**Ouen Island, N**	**15.70**	**150**	*e*Pn	**Pn**	**03 26 09.8**	**-1.9**
	20nm,1.0s						
CTA	**Charters Tower**	**16.16**	**225**	Pn	**Pn**	**03 26 19.2**	**+1.5**
	0.1nm,0.3s,baz=56,slow=18,SNR=2.9						
WR1	**Warramunga Arr**	**25.70**	**242**	*e*P	**P**	**03 28 00.1**	**-0.4**
WRA	**Warramunga Arr**	**25.70**	**242**	P	**P**	**03 28 00.1**	**-0.4**
	1.8nm,0.9s,baz=67,slow=9.9,SNR=5.5						
SAUI	**Saumlaki**	**26.81**	**270**	*e*P	**P**	**03 28 09.8**	**-0.7**
	209nm,0.9s						
AS31	**Alice Springs**	**27.64**	**235**	*e*P	**P**	**03 28 18.0**	**+0.1**
	2.6nm,1.4s						
ASAR	**Alice Springs**	**27.64**	**235**	*e*P	**P**	**03 28 17.8**	**-0.1**
ASAR	**Alice Springs**	**27.64**	**235**	P	**P**	**03 28 18.0**	**+0.1**
	1.0nm,1.0s,baz=74,slow=7.2,SNR=6.5						
STKA	**Stephens Creek**	**27.67**	**212**	*e*P	**P**	**03 28 18.6**	**+0.5**
	0.8nm,1.0s						
STKA	**Stephens Creek**	**27.67**	**212**	P	**P**	**03 28 18.6**	**+0.5**
	1.9nm,0.8s,baz=65,slow=8.1,SNR=2.4						
SARN	**Sarigan**	**28.33**	**334**	*e*P	**P**	**03 28 22.4**	**-1.7**
WAKE	**Wake Island**	**29.17**	**16**	*e*P	**P**	**03 28 28.9**	**-2.6**
	188nm,1.3s						
THZ	**Tophouse**	**35.15**	**161**	*e*P	**P**	**03 29 24.3**	**+0.5**
	12nm,1.3s						
FORT	**Forrest**	**35.67**	**228**	*e*P	**P**	**03 29 26.6**	**-1.8**
	21nm,1.3s						
KHZ	**Kahutara**	**35.94**	**161**	*e*P	**P**	**03 29 25.7**	**-4.7**
	3.0nm,0.9s						
JHJ2	**Mitsune**	**45.37**	**338**	*e*P	**P**	**03 30 48.2**	**-0.2**
	79nm,0.9s						
MJAR	**Matsushiro Arr**	**49.02**	**338**	P	**P**	**03 31 17.4**	**+0.5**
	1.0nm,0.6s,baz=179,slow=7.1,SNR=4.1						
MAJO	**Matsushiro**	**49.02**	**338**	*e*P	**P**	**03 31 17.4**	**+0.5**
SLVN	**Son La**	**61.34**	**300**	*e*P	**P**	**03 32 45.3**	**-0.9**
	10nm,1.5s						
CM31	**Chiang Mai Arr**	**64.63**	**295**	*e*P	**P**	**03 33 09.6**	**+1.6**
	8.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**64.63**	**295**	P	**P**	**03 33 09.6**	**+1.6**
	1.5nm,0.3s,baz=110,slow=5.2,SNR=3.5						
VNDA	**Vanda**	**68.61**	**179**	P	**P**	**03 33 33.7**	**+1.3**
	0.7nm,0.8s,baz=345,slow=6.4,SNR=3.4						
SONA0	**Songino Array**	**72.76**	**326**	*e*P	**P**	**03 33 59.1**	**+0.8**
SONM	**Songino Array**	**72.76**	**326**	P	**P**	**03 33 59.1**	**+0.8**
	1.5nm,0.7s,baz=137,slow=5.6,SNR=9.2						
MCK	**McKinley**	**82.60**	**21**	*e*P	**P**	**03 34 54.0**	**+1.4**
	7.5nm,1.0s						
ILAR	**Eielson Array**	**83.94**	**21**	P	**P**	**03 34 59.8**	**+0.3**
	0.9nm,0.9s,baz=239,slow=5.5,SNR=13						
ILB	**Eielson Array**	**83.94**	**21**	*e*P	**P**	**03 34 59.8**	**+0.3**
	1.2nm,0.9s						
DOT	**Dot Lake**	**84.32**	**22**	*e*P	**P**	**03 35 03.3**	**+1.7**
	3.3nm,0.8s						
MK31	**Makanchi Array**	**87.05**	**318**	*e*P	**P**	**03 35 17.5**	**+2.0**
	1.2nm,1.1s						
MK32	**Makanchi Array**	**87.05**	**318**	*e*P	**P**	**03 35 15.9**	**+0.5**
MKAR	**Makanchi Array**	**87.05**	**318**	P	**P**	**03 35 15.9**	**+0.5**
	0.8nm,0.7s,baz=103,slow=5.8,SNR=6.2						
NV01	**Mina Array Sit**	**90.27**	**51**	*e*P	**P**	**03 35 30.1**	**-1.1**
NVAR	**Mina Array Bea**	**90.27**	**51**	P	**P**	**03 35 30.1**	**-1.1**
	0.7nm,0.8s,baz=254,slow=6.5,SNR=2.2						
DLMT	**Dillon**	**95.57**	**45**	*e*P	**P**	**03 35 59.1**	**+3.7**
	3.3nm,0.7s						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**03 35 59.0**	**+0.3**
	0.3nm,0.9s,baz=266,slow=4.8,SNR=3.5						
YKB5	**Yellowknife Ar**	**96.45**	**28**	*e*P	**P**	**03 35 59.0**	**+0.3**
ESDC	**Sonseca Array**	**145.54**	**336**	PKPbc	**PKPbc**	**03 42 08.4**	**-0.2**
	0.9nm,0.8s,baz=19,slow=5.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**156.74**	**283**	PKPab	**PKPab**	**03 42 56.7**	**+1.1**
	0.3nm,0.8s,baz=53,slow=5.6,SNR=2.3						
TOA1	**Torodi Ar. Sit**	**156.74**	**283**	*e*PKPab	**PKPab**	**03 42 56.7**	**+1.1**

DDA ***15*** *03:32:05.6, 40°.81N×35°.89E, h19km±1km, ML3.4*
ISK ***15*** *03:32:05.4, 40°.81N×35°.91E, h3km, ML3.5/11*

ISC 15 03:32:05.6±1.1, 40°.82N±0°.02×35°.93E±0°.02, h8km±13km, n33, σ1§20/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.27**	**18**	PG	**Pb**	**03 32 11.9**	**-0.9**
KVT				SG	**Sb**	**03 32 16.5**	**-1.1**
HAVZ	**Havza**	**0.30**	**327**	*i* P	**Pb**	**03 32 12.4**	**-0.8**
ERBA	**Erbaa**	**0.64**	**103**	IAML_P			
	comp=Z,17μm,0.1s						
ERBA				*i* P	**Pb**	**03 32 18.5**	**-0.5**
ERBA				*i* S	**Sg**	**03 32 25.7**	**-0.5**
TOKA	**Tokat**	**0.65**	**140**	IAML_P			
	comp=Z,931nm,0.3s						
TOKA				*i* P	**Pb**	**03 32 19.5**	**+0.3**
TOKA				*i* S	**Sg**	**03 32 22.5**	**-4.0**
TOKT	**Tokat**	**0.68**	**137**	PG	**Pb**	**03 32 19.7**	**-0.1**
COAL	**Corum-Alaca**	**0.92**	**232**	*i* P	**Pg**	**03 32 22.7**	**-0.6**
COAL				*i* S	**Sb**	**03 32 35.7**	**-0.5**
DIKM	**Dikmen**	**0.97**	**329**	PG	**Pn**	**03 32 25.0**	**-0.5**
RSDY	**Resadiye-TOKAT**	**1.14**	**111**	PN	**Pn**	**03 32 28.4**	**+0.5**
CORM	**Corum**	**1.19**	**238**	PN	**Pb**	**03 32 27.9**	**-0.5**
SVSK	**Karacayir**	**1.22**	**138**	PN	**Pg**	**03 32 29.2**	**+0.3**
YOZ	**Yozgat**	**1.27**	**202**	PN	**Pn**	**03 32 29.4**	**-0.4**
SINO	**SINOP_Merkez**	**1.31**	**335**	*i* P	**Pg**	**03 32 31.9**	**+1.1**
SINO				*i* S	**Sg**	**03 32 49.5**	**+1.6**
SNOP	**Sinop**	**1.31**	**336**	PN	**Pg**	**03 32 31.0**	**+0.2**
SCER	**sogukcermik**	**1.32**	**136**	IAML_P			
	comp=Z,5μm,0.3s						
SCER				*i* P	**Pg**	**03 32 31.8**	**+0.8**
SCER				*i* S	**Sg**	**03 32 50.5**	**+2.3**
CUSAR	**Sarkisla-SIVAS**	**1.42**	**170**	*i* P	**Pg**	**03 32 32.9**	**0.0**
CUSAR				*i* S	**Sg**	**03 32 53.9**	**+2.5**
TOS	**Tosya**	**1.46**	**279**	PN	**Pg**	**03 32 33.3**	**-0.4**
ORDU	**Ordu-Boztepe**	**1.47**	**83**	*i* P	**Pg**	**03 32 34.0**	**+0.2**
ORDU				*i* S	**Sg**	**03 32 52.8**	**+0.1**
SIRC	**Yozgat**	**1.60**	**202**	*i* P	**Pg**	**03 32 35.9**	**-0.4**
SIRC				*i* S	**Sg**	**03 32 56.9**	**-0.2**
KAST	**KASTAMONU**	**1.66**	**294**	*i* P	**Pg**	**03 32 38.0**	**+0.7**
KAST				*i* S	**Sg**	**03 32 58.9**	**+0.1**
CUALT	**Altinyayla-SIV**	**1.67**	**158**	*i* P	**Pg**	**03 32 38.6**	**+1.0**
CUALT				*i* S	**Sg**	**03 33 02.1**	**+2.8**
CUZAR	**Zara_SIVAS**	**1.69**	**123**	*i* P	**Pg**	**03 32 37.4**	**-0.5**
CDAG	**Cicekdag**	**1.69**	**225**	*i* P	**Pb**	**03 32 36.7**	**-0.3**
CDAG				*i* S	**Sg**	**03 33 01.3**	**+1.3**
ILGA	**Ilgaz**	**1.70**

baz=13
GENI Genyem 12.79 278 P Pn 03 39 02.4 +0.7
626nm,1.0s,13μm
COEN Coen 13.37 225 *e*Pn **Pn 03 39 11.3 +1.8**
COEN *e*Sn **Sn 03 41 31.3 -5.2**
COEN Coen 13.37 225 P **Pn 03 39 11.1 +1.6**
baz=13,SNR=43
CTA Charters Tower 16.75 202 P P 03 39 53.9 -0.4
4.8nm,0.3s,baz=28,slow=14,SNR=64
CTA LR LR 03 45 33.7
comp=Z,4μm,20.7s,baz=25,slow=34
CTAO Charters Tower 16.75 202 *e*Pn **Pn 03 39 53.5 +0.6**
145nm,1.0s
CTAO Charters Tower 16.75 202 *e*P **Pn 03 39 53.6 +0.6**
CTAO pmax pmax
comp=Z,145nm,1.0s
GUMO Guam 19.65 336 *e*P **Pn 03 40 29.2 +1.1**
comp=Z,6μm,1.2s
GUMO Guam 19.65 336 P **Pn 03 40 28.8 +0.7**
comp=Z,24nm,0.3s,baz=171,slow=7.2,SNR=34
GUMO LR LR 03 48 32.5
comp=Z,2μm,18.9s,baz=164,slow=38
KWAJ Kwajalein Atol 19.80 48 *e*P **Pn 03 40 29.2 -0.7**
comp=Z,398nm,0.9s
KWAJ *e*S **S 03 44 05.6 -1.8**
KWAJ Kwajalein Atol 19.80 48 *e*P **Pn 03 40 29.2 -0.7**
KWAJ *e*S **S 03 44 05.6 -1.8**
KWAJ pmax pmax
comp=Z,398nm,0.9s
QIS Mount Isa 20.49 218 P **P 03 40 35.7 +0.5**
baz=20,SNR=128
FAKI Fak Fak 20.61 274 *e*P **P 03 40 36.2 -0.3**
comp=Z,259nm,0.8s
FAKI Fak Fak 20.61 274 P **P 03 40 36.2 -0.3**
comp=Z,677nm,1.8s,comp=Z,11μmcomp=Z,11μm
FAKI S **S 03 44 19.6 -3.7**
comp=Z,677nm,1.8s,comp=Z,11μmcomp=Z,11μm
EIDS Eidsvold 20.80 184 *e*P **P 03 40 38.8 +0.3**
comp=Z,254nm,0.8s
EIDS Eidsvold 20.80 184 P **P 03 40 39.3 +0.8**
baz=21,SNR=30
TARA Tarawa 20.90 74 *e*P Pn 03 40 42.5 -0.3
comp=Z,297nm,1.0s
TARA *e*S **S 03 44 27.0 -2.1**
SAUI Saumlaki 21.68 260 *e*P **P 03 40 47.4 -0.7**
comp=Z,656nm,0.6s
SAUI Saumlaki 21.68 260 P **P 03 40 49.3 +1.3**
KDU Kakadu 21.69 247 P **P 03 40 47.4 -0.7**
baz=22,SNR=319
PALU Palau 21.79 303 P **P 03 40 51.1 +2.0**
baz=22,SNR=16
SWI Sorong 21.85 279 P **P 03 40 53.6 +3.7**
SWI pmax pmax
comp=Z,759nm,0.6s
SWI Sorong 21.85 279 P **P 03 40 51.6 +1.7**
DZM Mont Dzumac 21.87 144 *e*P **P 03 40 48.9 -1.2**
comp=Z,692nm,1.0s
DZM *e*S **S 03 44 43.1 -5.1**
comp=Z,6μm,27.6s
DZM *e*LR LR 03 46 11.0
comp=Z,21μm,26.8s
DZM Mont Dzumac 21.87 144 *e*P **P 03 40 48.7 -1.4**
comp=Z,262nm,0.8s
DZM *e*S **S 03 44 49.1 +0.9**
DZM *e*ScP **ScP 03 48 23.4 +4.3**
DZM Mont Dzumac 21.87 144 P **P 03 40 49.3 -0.8**
comp=Z,198nm,0.5s,baz=321,slow=9.0,SNR=215
DZM S **S 03 44 49.1 +0.9**
comp=Z,15nm,0.7s,baz=69,slow=22,SNR=2.5
DZM ScP **ScP 03 48 21.6 +2.5**
comp=Z,22nm,1.0s,baz=75,slow=9.3,SNR=5.8
DZM LR LR 03 48 34.9
comp=Z,7μm,21.4s,baz=322,slow=34
ANA2 Anatahan 21.89 341 *e*P **P 03 40 51.9 +1.6**
comp=Z,318nm,0.8s
ONTNC Ouen Toro 22.06 145 *e*P **P 03 40 50.5 -1.5**
comp=Z,784nm,1.3s
RMQ Roma 22.19 190 P **P 03 40 53.4 0.0**
baz=22,SNR=83
SARN Sarigan 22.21 342 *e*P **P 03 40 55.6 +1.9**
comp=Z,203nm,0.9s
OUENC Ouen Island, N 22.37 144 *e*P **P 03 40 53.8 -1.5**
comp=Z,340nm,1.0s
MARNC Mare, Loyalty 22.40 140 *e*P **P 03 40 53.7 -1.9**
comp=Z,907nm,1.2s
BNDI Bandanaira 22.86 269 P **P 03 40 59.4 -1.2**
PINNC Pines Island, 22.88 143 *e*P **P 03 40 58.7 -1.9**
comp=Z,805nm,1.4s
MTN Manton Dam 22.98 248 *e*P **P 03 41 00.4 -1.4**
comp=Z,1μm,1.1s
MTN *e*S **S 03 45 06.4 -0.6**
MTN Manton Dam 22.98 248 P **P 03 41 01.0 -0.7**
baz=23,SNR=97
WRAB Tennant Creek 23.64 228 *e*P **P 03 41 07.4 -0.6**
comp=Z,771nm,0.6s
WRAB *e*S **S 03 45 19.9 +2.0**
WRAB Tennant Creek 23.64 228*c i*P **P 03 41 07.3 -0.7**
WRAB pmax pmax
comp=Z,93nm,0.4s
WR1 Warramunga Arr 23.66 228 *e*P **P 03 41 08.1 -0.1**
WR1 *e*PcP **PcP 03 44 50.9 -0.3**
WR1 *e*S **S 03 45 15.9 -2.1**
WR1 *e*ScP **ScP 03 48 23.5 -0.2**
WRA Warramunga Arr 23.66 228 P **P 03 41 08.0 -0.1**
comp=Z,516nm,0.6s,baz=60,slow=8.7,SNR=238
WRA sP **sP 03 41 31.4 +0.8**
comp=Z,407nm,0.7s,baz=51,slow=10,SNR=6.2
WRA PcP **PcP 03 44 50.9 -0.3**
comp=Z,39nm,0.8s,baz=53,slow=2.2,SNR=5.4
WRA S **S 03 45 15.9 -2.1**
comp=Z,8.6nm,0.6s,baz=52,slow=14,SNR=4.4
WRA ScP **ScP 03 48 23.5 -0.2**
comp=Z,13nm,0.9s,baz=56,slow=3.2,SNR=4.8
WRA LR LR 03 52 07.4
comp=Z,2μm,18.4s,baz=45,slow=41
WRA P3KP 04 15 30.1
comp=Z,1.1nm,0.8s,baz=239,slow=1.6,SNR=3.4
ARMA Armidale 25.79 182 *e*P **P 03 41 28.2 +0.7**
comp=Z,138nm,0.8s
ARMA Armidale 25.79 182 P **P 03 41 28.1 +0.7**
baz=26,SNR=147
TNTI Ternate 25.98 281 *e*P **P 03 41 30.2 +0.9**
comp=Z,207nm,1.2s
TNTI Ternate 25.98 281 P **P 03 41 29.2 -0.1**
comp=Z,261nm,1.1s,comp=Z,4μm
KNRA Kununurra 26.13 243 P **P 03 41 30.1 -0.4**
baz=26,SNR=402
AS31 Alice Springs 26.38 222 *e*P **P 03 41 32.2 -0.6**
comp=Z,61nm,0.8s
AS31 *e*PcP **PcP 03 44 56.9 -0.3**
AS31 *e*S **S 03 46 00.0 -1.4**
AS31 *e*ScP **ScP 03 48 32.2 +0.9**
ASAR Alice Springs 26.38 222 P **P 03 41 32.6 -0.2**
comp=Z,106nm,0.6s,baz=55,slow=9.0,SNR=122
ASAR PcP **PcP 03 44 56.9 -0.3**
comp=Z,36nm,0.9s,baz=63,slow=3.5,SNR=4.4
ASAR S **S 03 46 00.0 -1.4**
comp=Z,5.8nm,0.9s,baz=42,slow=21,SNR=2.7
ASAR ScP **ScP 03 48 32.2 +0.9**
comp=Z,7.1nm,1.0s,baz=50,slow=3.3,SNR=4.3
ASAR PKiKP **PKiKP 03 52 35.9 -0.4**
comp=Z,2.2nm,1.0s,baz=42,slow=0.1,SNR=3.4
ASAR LR LR 03 53 32.5
comp=Z,902nm,18.2s,baz=52,slow=40
FUNA Funafuti 26.48 100 *e*P **P 03 41 31.7 -2.1**
comp=Z,368nm,1.4s
H11S3 WAKE ISLAND Hy 26.63 30 T T 04 09 14.4
baz=210,slow=76,SNR=256
H11S2 WAKE ISLAND Hy 26.64 30 T T 04 09 19.4
baz=210,slow=76,SNR=329
H11S1 WAKE ISLAND Hy 26.65 30 T T 04 09 11.5
baz=210,slow=76,SNR=338
SANI Sanana 26.91 274 P **P 03 41 37.0 -0.7**
LHI Lord Howe Isla 27.49 168 *e*P **P 03 41 41.1 -1.5**
comp=Z,107nm,0.8s
LHI Lord Howe Isla 27.49 168 P **P 03 41 44.9 +2.3**
baz=28,SNR=3.9
CMSA Cobar Meteorol 27.70 193 P **P 03 41 44.5 0.0**
baz=28,SNR=36
H11N1 WAKE ISLAND Hy 27.77 29 T T 04 12 11.7
baz=195,slow=75
H11N3 WAKE ISLAND Hy 27.78 29 T T 04 11 08.0
baz=195
H11N2 WAKE ISLAND Hy 27.78 29 T T 04 12 04.0
baz=195,slow=75
MSVF Nonsavu 27.95 120*d i*P **P 03 41 48.8 +1.7**
MSVF pmax pmax
comp=Z,78nm,1.2s
NFK Norfolk Island 28.29 151 P **P 03 41 49.8 0.0**
baz=28,SNR=3.5
SGSI Sangihe 28.48 286 P **P 03 41 53.5 +1.8**
MGCD Mangrove Creek 28.59 183 P **P 03 41 53.2 +0.7**
baz=29,SNR=32
MNI Manado 28.59 281 P **P 03 41 56.4 +3.7**
MNI pmax pmax
comp=Z,505nm,0.5s
SOEI Soe 28.81 258 *e*P **P 03 41 55.0 +0.3**
comp=Z,105nm,0.7s
SOEI Soe 28.81 258 P **P 03 41 55.5 +0.7**
DDMP Don Marcelino, 29.07 291 *e*P **P 03 41 56.0 -0.9**
STKA Stephens Creek 29.19 200 *e*P **P 03 41 56.9 -0.9**
comp=Z,24nm,0.6s
STKA *e*PcP **PcP 03 45 04.2 +0.4**
STKA *e*ScP **ScP 03 48 43.1 +3.4**
STKA Stephens Creek 29.19 200 P **P 03 41 56.8 -0.9**
baz=29,SNR=159
STKA Stephens Creek 29.19 200 *e*P **P 03 41 56.9 -0.9**
STKA *e* 03 45 04.2
STKA *e* 03 48 43.2
STKA pmax pmax
comp=Z,24nm,0.6s
STKA Stephens Creek 29.19 200 P **P 03 41 57.0 -0.7**
comp=Z,114nm,0.7s,baz=6.3,slow=9.2,SNR=91
STKA PcP **PcP 03 45 04.2 +0.4**
comp=Z,17nm,1.0s,baz=45,slow=4.3,SNR=2.1
STKA ScP **ScP 03 48 43.1 +3.4**
comp=Z,13nm,1.1s,baz=0.0,slow=7.1,SNR=2.6
STKA LR LR 03 53 44.9
comp=Z,2μm,19.0s,baz=15,slow=36
RIV Riverview 29.20 183 P **P 03 41 59.7 +1.9**
baz=29,SNR=3.7
KMSI Cibinong 29.27 279 P **P 03 41 59.4 +0.7**
BATI Baumata 29.46 257 P **P 03 42 00.3 -0.2**
DAV Davao City (W) 29.54 293 *e*P **P 03 42 00.3 -0.8**
comp=Z,217nm,0.4s
DAV Davao City (W) 29.54 293⇑*e*P **PcP 03 45 00.6 -4.4**
DAV Davao City (W) 29.54 293 P **P 03 42 00.3 -0.8**
comp=Z,209nm,0.4s,baz=112,slow=11,SNR=1.7
DAV LR LR 03 53 49.2
comp=Z,1μm,19.4s,baz=119,slow=36
FITZ Fitzroy Crossi 29.82 241 *e*P **P 03 42 02.5 -1.1**
comp=Z,299nm,0.7s
FITZ *e*S **S 03 46 51.0 -4.8**
FITZ Fitzroy Crossi 29.82 241 P **P 03 42 03.0 -0.6**
baz=30,SNR=662
FITZ Fitzroy Crossi 29.82 241 P **P 03 42 02.6 -1.0**
comp=Z,261nm,0.5s,baz=72,slow=7.8,SNR=9.3
FITZ S **S 03 46 51.0 -4.8**
comp=Z,19nm,0.8s,baz=253,slow=24,SNR=1.3
YNG Young 29.92 187 P **P 03 42 05.1 +0.9**
baz=30,SNR=8.5
BBSI Bau Bau 30.16 267 P **P 03 42 06.3 -0.4**
LUWI Luwuk 30.22 276 *e*P **P 03 42 08.3 +1.1**
comp=Z,404nm,0.8s
LUWI Luwuk 30.22 276 P **P 03 42 07.7 +0.5**
MMRI Maumere 30.66 261 *e*P **P 03 42 10.7 -0.4**
comp=Z,164nm,0.5s
MMRI Maumere 30.66 261 P **P 03 42 10.2 -0.9**
SCPH Surigao 30.73 298⇑*e*P **P 03 42 10.4 -1.2**
CNB Canberra Magne 30.81 186 P **P 03 42 12.9 +0.7**
baz=31,SNR=20
CTBH Cotabato--PC H 30.82 292⇑*i*P **P 03 42 16.0 +3.5**
CAN Canberra 30.86 186 *e*P **P 03 42 12.8 +0.3**
comp=Z,69nm,0.7s
CAN Canberra 30.86 186 P **P 03 42 12.8 +0.3**
baz=31
CAN Canberra 30.86 186 *e*P **P 03 42 12.8 +0.3**
CAN pmax pmax
comp=Z,69nm,0.7s
WRKA Warakurna 31.18 227 P **P 03 42 14.8 -0.7**
baz=31,SNR=916
MRSI Marisa 31.26 278 P **P 03 42 16.0 -0.3**
APSI Ampana 31.35 276 P **P 03 42 17.4 +0.3**
HTT Hallett 31.55 203 P **P 03 42 20.2 +1.4**
baz=32,SNR=72
BBOO Buckleboo 32.22 207 *e*P **P 03 42 23.8 -0.7**
comp=Z,56nm,1.0s
BBOO Buckleboo 32.22 207 P **P 03 42 25.3 +0.8**
baz=32,SNR=28
BSSI Bau Bau, Buton 32.24 266 P **P 03 42 24.5 -0.5**
BASI Baing, Sumba 32.47 258 P **P 03 42 26.3 -0.7**
MILA Mila 32.56 185 P **P 03 42 29.3 +1.8**
baz=33,SNR=4.1
BKSI Bulukumba 32.60 267 P **P 03 42 27.1 -1.0**
comp=Z,74nm,1.1s,comp=Z,577nm
BNSI Bone 32.63 269 P **P 03 42 28.1 -0.2**
KAPI Kappang 32.97 268 *e*P **P 03 42 30.1 -1.1**
comp=Z,207nm,1.1s
KAPI Kappang 32.97 268 *e*P **P 03 42 30.2 -1.1**
KAPI pmax pmax
comp=Z,207nm,1.1s
KAPI Kappang 32.97 268 P **P 03 42 30.2 -1.1**
SNR=24
KAPI Kappang 32.97 268 ScP **ScP 03 48 53.4 +0.7**
comp=Z,3.6nm,0.3s,baz=146,slow=17,SNR=2.3
KAPI LR LR 03 58 23.2
comp=Z,463nm,18.1s,baz=82,slow=41
TTSI Tana Toraja 32.98 271 P **P 03 42 31.2 -0.2**
SPSI Sidrap Palu 32.98 270 P **P 03 42 30.7 -0.7**
comp=Z,170nm,0.9s,comp=Z,1μm
MPSI Mapaga 33.26 277 P **P 03 42 33.0 -0.8**
TOO Toolangi 33.58 191 *e*P **P 03 42 35.4 -0.9**
comp=Z,50nm,0.8s
TOO Toolangi 33.58 191 P **P 03 42 37.4 +1.0**
baz=34,SNR=12
TOO Toolangi 33.58 191 *e*P **P 03 42 35.4 -0.9**
TOO pmax pmax
comp=Z,50nm,0.8s
ARPS Mount Arapiles 33.65 196 P **P 03 42 37.8 +0.9**
baz=34,SNR=37
PVCP Virac 33.68 303 *e*P **P 03 42 38.0 +0.5**
RCP Roxas 33.93 298⇑*e*P **P 03 42 41.7 +2.0**
FORT Forrest 35.03 219 *e*P **P 03 42 48.2 -0.7**
comp=Z,570nm,0.6s
FORT Forrest 35.03 219 P **P 03 42 48.9 0.0**
baz=35,SNR=252
PLAI Plampang 35.07 261 P **P 03 42 45.9 -3.6**
SGKI Sangatta, Kali 35.41 275 P **P 03 42 54.9 +2.4**
comp=Z,242nm,1.0s,comp=Z,2μm
SJMP San Jose 35.75 298 *e*P **P 03 42 57.0 +1.6**
SMKI Samarinda 35.82 275 P **P** 03 43 01.3 +5.4
BKB Balikpapan 36.03 274 P **P** 03 43 02.8 +5.0
OUZ Omahuta 36.08 150 *e*P **P 03 42 59.2 +1.3**
comp=Z,191nm,1.3s
OUZ Omahuta 36.08 150 P **P 03 42 58.6 +0.7**
MBWA Marble Bar 36.14 240 P **P 03 42 58.0 -0.7**
SNR=6.5
PSA00 Pilbara Seismi 36.20 239 *e*P **P 03 42 58.4 -0.7**
comp=Z,318nm,0.9s
WCZ Waipu Caves 37.02 150 P **P 03 43 05.8 -0.1**
LUBP Lubang 37.08 300 *e*P **P 03 43 06.6 0.0**
BATP Bataraza 37.35 291 *e*P **P 03 43 08.5 -0.5**
SRBI Singaraja 37.55 263 P **P 03 43 08.5 -2.2**
IGBI Denpasar 37.66 261 P **P 03 43 07.6 -4.0**
ABAZ Army Bay 37.78 151 P **P 03 43 13.3 +1.0**
GRZ Great Barrier 37.82 150 P **P 03 43 13.2 +0.5**
SMPP San Manuel, Pa 37.86 304 *e*P **P 03 43 12.6 -0.7**
WTAZ Waiatarua 37.92 151 P **P 03 43 14.4 +0.9**
MBAZ Motutapu North 37.95 151 P **P 03 43 14.2 +0.5**
KKM Kota Kinabalu 38.04 286 *e*P **P 03 43 15.4 +0.5**
comp=Z,284nm,1.0s
KKM Kota Kinabalu 38.04 286 P **P 03 43 16.0 +1.0**
AWAZ Awhitu Peninsu 38.06 151 P **P 03 43 15.7 +1.0**
WIAZ Waiheke Island 38.08 150 P **P 03 43 16.1 +1.3**
MOO Moorlands 38.09 187 P **P 03 43 16.0 +1.1**
baz=38,SNR=60
APYP Conner 38.29 306 *e*P **P 03 43 18.9 +2.1**
KUZ Kuaotunu 38.34 150 P **P 03 43 18.1 +1.1**
MKAZ Moumakai 38.34 151 P **P 03 43 18.1 +1.1**
TAU Tasmania Unive 38.54 187 *e*P **P 03 43 19.0 +0.4**
comp=Z,230nm,0.8s
TAU Tasmania Unive 38.54 187 *e*P **P 03 43 19.0 +0.4**
TAU pmax pmax
comp=Z,230nm,0.8s
BOLP Bolinao 38.62 303 *e*P **P 03 43 22.4 +2.8**
JAGI Jajag, Banyuwa 38.62 262 *e*P **P 03 43 16.2 -3.6**
comp=Z,234nm,1.1s
JAGI Jajag, Banyuwa 38.62 262 P **P 03 43 15.5 -4.2**
TOZ Tahuroa Road 39.00 151 P **P 03 43 23.9 +1.4**
NIUE Niue 39.10 115 *e*P **P 03 43 24.6 +1.0**
comp=Z,633nm,1.4s
JOW Kunigami 39.19 324 *e*P **P 03 43 24.2 -0.1**
comp=Z,164nm,0.9s
GMJI Gumukmas 39.31 263 P **P 03 43 22.3 -3.2**
HIZ Hauiti 39.32 152 *e*P **P 03 43 26.8 +1.5**
comp=Z,954nm,1.4s
HIZ *e*S **S 03 49 21.3 -0.2**
HIZ Hauiti 39.32 152 P **P 03 43 25.7 +0.5**
MEEK Meekatharra 39.40 232 P **P 03 43 26.1 0.0**
baz=39,SNR=714
JHJ2 Mitsune 39.41 343 *e*P **P 03 43 26.2 +0.2**
comp=Z,219nm,1.0s
KMBL Kambalda 39.48 224 P **P 03 43 26.4 -0.3**
baz=40,SNR=88
NEZ North Egmont 39.60 154 P **P 03 43 31.4 +3.8**
OPRZ Ohinepanea 39.61 150 P **P 03 43 28.3 +0.7**
GRRZ Galatos Road 39.79 151 P **P 03 43 30.4 +1.3**
TARZ Mount Tarawera 39.89 150 P **P 03 43 32.8 +2.7**
HAZ Te Kaha 40.17 149 P **P 03 43 32.5 +0.3**
URZ Urewera 40.21 150 *e*P **P 03 43 32.4 -0.1**
comp=Z,193nm,0.7s
URZ Urewera 40.21 150 ScP **ScP 03 49 19.5 +0.5**
comp=Z,11nm,0.7s,baz=300,slow=20,SNR=6.6
URZ LR LR 03 59 21.5
comp=Z,1μm,20.0s,baz=354,slow=35
GRJI Gresik 40.22 265 P **P 03 43 35.5 +2.5**
OTVZ Oturere 40.22 152 P **P 03 43 33.6 +0.7**
QRZ Quartz Range 40.25 157 P **P 03 43 33.6 +0.8**
RUGZ Raukumara Rang 40.27 149 P **P 03 43 33.2 0.0**
MXZ Matakaoa Point 40.29 148 *e*P **P 03 43 31.5 -1.7**
comp=Z,105nm,0.5s
RAGZ Rawiri 40.54 150 P **P 03 43 36.0 +0.6**
BKZ Black Stump Fm 40.61 151 *e*P **P 03 43 35.9 -0.1**
comp=Z,146nm,0.6s
TKGZ Te Karaka 40.72 149 P **P 03 43 36.9 +0.2**
RIGZ Rimuhau 40.88 150 P **P 03 43 38.5 +0.3**
YOJ Yonaguni jima 40.89 316 *e*P **P 03 43 39.3 +0.9**
comp=Z,236nm,0.7s
YOJ Yonaguni jima 40.89 316 *e*P **P 03 43 39.3 +0.9**
YOJ pmax pmax
comp=Z,237nm,0.7s
PWJI Pagerwojo 40.92 263 P **P 03 43 36.2 -2.6**
PBKI Pangkalan Bun 41.12 271 P **P 03 43 41.3 +0.8**
SBUM Sibu 41.17 279 *e*P **P 03 43 41.9 +1.1**
comp=Z,126nm,1.5s
SBUM Sibu 41.17 279 P **P 03 43 42.0 +1.1**
THZ Tophouse 41.19 157 *e*P **P 03 43 40.4 -0.3**
comp=Z,212nm,0.7s
THZ *e*S **S 03 49 53.3 +3.9**
NGJI Ngawi 41.24 264 P **P 03 43 42.5 +1.1**
TWG Pinlang 41.25 313 *e*P **P 03 43 41.2 -0.2**
comp=Z,92nm,0.8s
MHGZ Mahia Peninsul 41.29 150 P **P 03 43 41.5 0.0**
GIRL Giralia 41.43 241 *e*P **P 03 43 43.3 +0.4**
comp=Z,418nm,0.6s
GIRL Giralia 41.43 241 P **P 03 43 42.9 0.0**
baz=42,SNR=92
SNZO South Karori 41.54 155 *e*P **P 03 43 43.1 -0.3**
comp=Z,480nm,1.1s
FOZ Fox Glacier 41.65 161 *e*P **P 03 43 44.6 +0.2**
comp=Z,286nm,1.2s
NACB Ninganchiao 41.70 315 *e*P **P 03 43 45.6 +0.6**
comp=Z,318nm,1.3s
BFZ Birch Farm 41.70 153 *e*P **P 03 43 44.4 -0.5**
comp=Z,174nm,0.7s
LTZ Lake Taylor 41.83 158 *e*P **P 03 43 45.9 0.0**
comp=Z,257nm,0.7s
LTZ *e*S **S 03 50 01.5 +2.7**
TPUB Ta-pu 41.86 313 *e*P **P 03 43 46.4 0.0**
comp=Z,53nm,0.7s
SSLB Suanglung 41.92 314 *e*P **P 03 43 46.9 0.0**
comp=Z,72nm,0.7s
KHZ Kahutara 42.00 157 *e*P **P 03 43 46.1 -1.0**
comp=Z,975nm,1.5s
YHNB Yeheng 42.17 315 *e*P **P 03 43 50.2 +1.2**
comp=Z,127nm,0.8s
UGM Wanagama 42.19 263 *e*P **P 03 43 48.3 -0.9**
comp=Z,205nm,0.8s
UGM Wanagama 42.19 263 P **P 03 43 47.7 -1.5**
OXZ Oxford 42.22 159 *e*P **P 03 43 48.5 -0.5**
comp=Z,176nm,0.6s
RPZ Rata Peaks 42.22 160 *e*P **P 03 43 48.7 -0.3**
comp=Z,289nm,1.2s
RPZ Rata Peaks 42.22 160 ScP **ScP 03 49 25.5 -1.4**
comp=Z,5.1nm,0.8s,baz=297,slow=2.3,SNR=1.7
SMRI Semarang 42.24 265 *e*P **P 03 43 49.1 -0.6**
comp=Z,180nm,0.9s
SMRI Semarang 42.24 265 P **P 03 43 48.7 -1.0**
TATO Taipei 42.28 315 *e*P **P 03 43 50.7 +1.0**
comp=Z,137nm,0.8s
TATO Taipei 42.28 315 P **P 03 43 51.1 +1.3**
SNR=6.7
INU Inuyama 42.35 341 *e*P **P 03 43 49.0 -1.2**
comp=Z,42nm,0.9s
YOGI Yogyakarta 42.41 263 P **P 03 43 50.4 -0.6**
KLBR Kellerberrin 42.52 227 P **P 03 43 50.7 -1.0**
baz=43,SNR=83
LBZ Lake Benmore 42.54 162 *e*P **P 03 43 51.1 -0.5**
comp=Z,137nm,1.0s
MORW Morawa 42.55 231 *e*P **P 03 43 51.0 -0.9**
comp=Z,239nm,0.6s
MORW Morawa 42.55 231 P **P 03 43 51.6 -0.3**
baz=43,SNR=171
WKZ Wanaka 42.58 163 *e*P **P 03 43 51.6 -0.4**
comp=Z,267nm,1.4s
CRLZ Canterbury Las 42.65 159 *e*P **P 03 43 52.6 +0.2**
comp=Z,383nm,1.3s
DCZ Deep Cove 42.66 165 *e*P **P 03 43 52.8 +0.3**
comp=Z,77nm,0.8s
MQZ McQueen's Vall 42.77 159 *e*P **P 03 43 53.4 -0.1**
comp=Z,136nm,0.6s
BLDU Ballidu 42.79 228 P **P 03 43 53.1 -0.7**
baz=43,SNR=61
MLZ Mavora Lakes 42.82 164 *e*P **P 03 43 54.3 +0.4**
comp=Z,445nm,1.2s
JNU Nakatsue 42.83 333 *e*P **P 03 43 54.0 -0.1**
comp=Z,794nm,1.4s
KSM Kuching 42.91 277 *e*P **P 03 43 55.3 +0.2**
comp=Z,299nm,1.1s
KSM Kuching 42.91 277 P **P 03 43 56.0 +1.0**
MJAR Matsushiro Arr 43.08 343 P **P 03 43 54.1 -2.0**
comp=Z,25nm,0.9s,baz=168,slow=7.8,SNR=25
MJAR pP **pP 03 44 12.0 -1.3**
comp=Z,49nm,1.0s,baz=176,slow=8.3,SNR=11
MJAR PcP **PcP 03 45 44.5 -0.5**
comp=Z,36nm,0.9s,baz=173,slow=3.7,SNR=8.4
MJAR ScP **ScP 03 49 31.9 +1.5**
comp=Z,6.6nm,0.9s,baz=160,slow=3.7,SNR=6.1
MJAR LR LR 03 59 52.7
comp=Z,3μm,21.9s,baz=180,slow=33
MAJO Matsushiro 43.08 343 *e*P **P 03 43 54.4 -1.6**
comp=Z,82nm,1.2s
MAJO *e*pP **pP 03 44 11.9 -1.3**
MAJO *e*PP **PcP 03 45 44.5 -0.5**
MAJO *e*PcP PP 03 45 45.8 +8.4
MAJO *e*ScP **ScP 03 49 31.9 +1.5**
MAJO Matsushiro 43.08 343*c i*P **P 03 43 53.9 -2.1**
MAJO pmax pmax
comp=Z,27nm,0.9s
MAT Matsushiro 43.08 343 P **P 03 43 53.7 -2.3**
MAT S **S 03 50 15.2 -2.0**
MJB9 Matsu-Tunnel 43.08 343 *e*P **P 03 43 54.5 -1.6**
comp=Z,80nm,1.2s
WHZ Wether Hill Ro 43.26 165 *e*P **P 03 43 55.5 -1.9**
comp=Z,78nm,0.8s
ODZ Otahua Downs 43.27 162 *e*P **P 03 43 57.5 0.0**
comp=Z,100nm,1.0s
NWAO Narrogin (SRO) 43.61 225 *e*P **P 03 43 59.8 -0.6**
comp=Z,50nm,0.7s
NWAO Narrogin (SRO) 43.61 225 P P 03 43 55.2 -5.2
baz=44,SNR=4.1
NWAO Narrogin (SRO) 43.61 225 *e*P **P 03 43 59.8 -0.6**
NWAO pmax pmax
comp=Z,50nm,0.7s
MUN Mundaring 43.85 227 P **P 03 44 01.4 -1.0**
baz=44,SNR=23
QZH Quanzhou 44.33 313⇑*i*P **P 03 44 06.8 +0.5**
QZH pP **pwP 03 44 24.4 -0.6**
QZH sP **sP 03 44 34.8 +4.4**
QZH S **S 03 50 34.9 -0.8**
QZH pmax pmax
comp=Z,120nm,1.1s
QZH LR LR
comp=Z,1μm,19.9s
QZH LR LR
comp=Z,1μm,20.8s
QZH LR LR
comp=Z,4μm,28.4s

JCJI	**Jatiwangi**	**44.39 265**	P	**P**	**03 44 06.2 -0.8**
CISI	**Cisompet, Garu**	**44.86 264**	*e*P	**P**	**03 44 08.2 -2.6**
comp=Z,918nm,0.7s					
CISI	**Cisompet, Garu**	**44.86 264**	P	**P**	**03 44 08.4 -2.3**
LEM	**Lembang**	**45.04 265**	P	**P**	**03 44 11.2 -1.1**
TPI	**Tanjungpandan**	**45.12 271**	P	**P**	**03 44 12.8 0.0**
CBJI	**Citeko**	**45.80 265**	P	**P**	**03 44 18.4 +0.2**
SKJI	**Sukabumi**	**46.10 265**	P	**P**	**03 44 18.3 -2.2**
HKPS	**Hong Kong Po S**	**46.27 307**	*e*P	**P**	**03 44 23.4 +1.7**
comp=Z,186nm,1.3s					
PPBI	**Pangkal Pinang**	**46.67 271**	P	**P**	**03 44 24.7 -0.3**
CGJI	**Cibinong**	**46.95 265**	P	**P**	**03 44 24.6 -2.6**
DLV	**T Lat**	**47.03 291**	*e*P	**P**	**03 44 28.9 +0.9**
comp=Z,788nm,1.4s					
XMIS	**Christmas Isla**	**47.11 260**	*e*P	**P**	**03 44 30.0 +1.5**
comp=Z,320nm,1.3s					
ERM	**Erimo**	**47.15 350**	*e*P	**P**	**03 44 28.5 +0.4**
comp=Z,28nm,0.8s					
ERM	**Erimo**	**47.15 350**	*e*P	**P**	**03 44 28.5 +0.4**
ERM			pmax	pmax	
comp=Z,28nm,0.8s					
TJN	**Taejon**	**47.15 332***c i*P		**P**	**03 44 28.3 0.0**
GZH	**Guangzhou**	**47.32 307**	P	**P**	**03 44 31.8 +2.0**
GZH			S	**S**	**03 51 20.9 +2.2**
KSRS	**Korea Array**	**47.77 333**	P	**P**	**03 44 33.4 +0.3**
comp=Z,44nm,0.8s,baz=149,slow=8.2,SNR=150					
KSRS			pP	**pP**	**03 44 51.4 +1.0**
comp=Z,30nm,0.9s,baz=149,slow=8.2,SNR=4.4					
KSRS			ScP	**ScP**	**03 49 49.9 +0.1**
comp=Z,9.0nm,1.1s,baz=141,slow=5.0,SNR=6.2					
KSRS			LR	LR	04 03 40.3
comp=Z,589nm,18.8s,baz=170,slow=35					
KS15	**Wonju Array Si**	**47.77 333**	*e*P	**P**	**03 44 33.8 +0.7**
comp=Z,68nm,0.9s					
KS15			*e*pP	**pP**	**03 44 51.4 +0.9**
KS15			*e*ScP	**ScP**	**03 49 49.9 0.0**
KSAR	**Wonju Array Be**	**47.77 333**	*e*P	**P**	**03 44 33.4 +0.3**
KSAR	**Wonju Array Be**	**47.77 333**	*e*P	**P**	**03 44 33.4 +0.3**
QIZ	**Qiongzhong**	**48.36 300**	P	**P**	**03 44 39.4 +1.4**
QIZ			S	**S**	**03 51 36.5 +2.9**
QIZ			sS	**sS**	**03 52 02.5 -0.8**
QIZ			pmax	pmax	
comp=Z,34nm,1.1s					
QIZ			pmax	pmax	
comp=Z,410nm,7.1s					
QIZ			LR	LR	
comp=Z,820nm,22.2s					
QIZ			LR	LR	
comp=Z,2μm,20.6s					
QIZ			LR	LR	
comp=Z,3μm,22.6s					
QIZ	**Qiongzhong**	**48.36 300**	*e*P	**P**	**03 44 40.1 +2.1**
comp=Z,114nm,1.3s					
TPRI	**Tanjung Pinang**	**48.57 275**	P	**P**	**03 44 39.3 -0.4**
NJ2	**Nanjing**	**48.65 321**	*e*P	**P**	**03 44 41.3 +1.3**
NJ2			pP	**sP**	**03 45 01.3 -3.5**
NJ2			sP	pP	03 45 10.6 +14
NJ2			PcP	**PcP**	**03 46 07.3 +2.8**
NJ2			sS	**sS**	**03 52 04.5 -2.5**
NJ2			pmax	pmax	
comp=Z,47nm,0.8s					
NJ2			pmax	pmax	
comp=Z,590nm,3.5s					
NJ2			LR	LR	
comp=Z,2μm,23.8s					
NJ2			LR	LR	
comp=Z,2μm,20.1s					
NJ2			LR	LR	
comp=Z,4μm,22.5s					
YUK	**Yuzh-Kuril'sk**	**48.74 353**	*e*P	**P**	**03 44 39.4 -1.0**
YUK			*i* *PP	**pP**	**03 44 55.5 -2.5**
YUK			*e*		03 46 02.1
YUK			*e*		03 46 30.4
YUK			*i* S	**S**	**03 51 35.3 -2.8**
YUK			*i* *SS	**sS**	**03 52 06.7 -1.1**
YUK			*i*		03 54 23.6
YUK			*i* SS	**SS**	**03 55 08.4 -1.1**
YUK			pmax	pmax	
comp=Z,185nm,1.8s					
YUK			pmax	pmax	
comp=Z,134nm,0.9s					
YUK			pmax	pmax	
comp=N,93nm,1.0s					
YUK			pmax	pmax	
comp=E,94nm,1.0s					
RAR	**Rarotonga**	**48.86 114**	LR	LR	04 02 43.9
comp=E,659nm,21.4s,baz=264,slow=33					
JMBI	**JAMBI**	**49.20 272**	P	P	03 44 49.4 +4.9
MYKOM	**Kota Tinggi**	**49.35 276**	*e*P	**P**	**03 44 45.7 +0.1**
comp=E,172nm,1.3s					
MYKOM	**Kota Tinggi**	**49.35 276**	P	**P**	**03 44 46.0 +0.4**
KUR	**Kuril'sk**	**49.73 355***c i*P		**P**	**03 44 50.3 +2.4**
KUR			*i* *PP	**pP**	**03 45 07.3 +1.9**
KUR			S	S	03 52 02.9 +11
KUR			pmax	pmax	
comp=Z,1μm,4.7s					
KUR			pmax	pmax	
comp=Z,285nm,1.4s					
KUR			pmax	pmax	
comp=N,169nm,1.5s					
KUR			pmax	pmax	
comp=E,88nm,1.3s					
KUR			MLR	MLR	
comp=Z,800nm,16.0s					
KUR			MLR	MLR	
comp=N,900nm,19.0s					
MCQ	**Macquarie Isla**	**50.08 175**	*e*P	**P**	**03 44 53.9 +3.4**
comp=N,207nm,0.9s					
MCQ	**Macquarie Isla**	**50.08 175**	*e*P	**P**	**03 44 53.9 +3.4**
MCQ			pmax	pmax	
comp=Z,207nm,0.9s					
XMAS	**Kiritimati**	**50.10 84**	*e*P	**P**	**03 44 52.4 +1.0**
comp=Z,199nm,1.0s					
WHN	**Wuhan**	**50.68 316**	P	**P**	**03 44 56.3 +0.9**
WHN			S	**S**	**03 52 07.9 +2.2**
WHN			LR	LR	
comp=Z,4μm,19.7s					
WHN			LR	LR	
comp=Z,3μm,20.3s					
VLA	**Vladivostok**	**51.07 340***d i*P		**P**	**03 44 58.5 +0.4**
VLA			pmax	pmax	
comp=Z,65nm,0.9s					
TEY	**Ternei**	**51.43 345**⇑*e*P		**P**	**03 45 00.0 -0.8**
TEY			*e*		03 45 22.6
TEY			pmax	pmax	
comp=N,30nm,0.8s					
TEY			pmax	pmax	
comp=Z,50nm,0.8s					
DL2	**Dalian**	**51.95 329**	P	**P**	**03 45 05.0 +0.2**
DL2			pP	**pP**	**03 45 21.4 -0.4**
DL2			sP	**sP**	**03 45 32.8 +3.5**
DL2			S	**S**	**03 52 23.8 +0.8**
DL2			sS	**sS**	**03 52 54.6 +1.6**
DL2			pmax	pmax	
comp=Z,120nm,1.1s					
DL2			pmax	pmax	
comp=Z,590nm,5.3s					
DL2			LR	LR	
comp=Z,990nm,33.8s					
DL2			LR	LR	
comp=Z,1μm,30.7s					
DL2			LR	LR	
comp=Z,3μm,31.4s					
BKNI	**Bangkinang**	**51.97 274**	*e*P	**P**	**03 45 04.3 -1.1**
comp=Z,149nm,0.7s					
USA0B	**Ussuriysk Arra**	**52.00 341**	*e*P	**P**	**03 45 05.1 +0.1**
comp=Z,106nm,0.9s					
USRK	**Ussuriysk Ar.**	**52.00 341**	P	**P**	**03 45 05.1 0.0**
comp=Z,51nm,0.8s,baz=171,slow=8.0,SNR=104					
USRK			pP	**pP**	**03 45 24.2 +1.8**
comp=Z,30nm,0.8s,baz=168,slow=7.4,SNR=3.2					
USRK			PcP	**PcP**	**03 46 17.0 +0.4**
comp=Z,12nm,0.8s,baz=144,slow=2.7,SNR=1.7					
USRK			ScP	**ScP**	**03 50 07.7 -0.1**
comp=Z,2.3nm,0.7s,baz=148,slow=1.4,SNR=3.5					
USRK			LR	LR	04 07 08.4
comp=Z,536nm,19.1s,baz=143,slow=36					
YSS	**Yuzh-Sakhalins**	**52.02 351**	*e*P	**P**	**03 45 05.3 +0.2**
comp=Z,85nm,1.0s					
YSS	**Yuzh-Sakhalins**	**52.02 351***oe*P		**P**	**03 45 04.6 -0.5**
YSS			*e*		03 45 22.8
YSS			*e*		03 47 12.0
YSS			*e*S	**S**	**03 52 19.6 -4.0**
YSS			pmax	pmax	
comp=Z,50nm,1.1s					
YSS			MLR	MLR	
comp=Z,400nm,13.0s					
YSS			MLR	MLR	
comp=N,300nm,15.0s					
YSS			MLR	MLR	
comp=E,400nm,16.0s					
PANO	**Nakornpanom**	**52.26 296**	P	**P**	**03 45 08.6 +1.1**
comp=E,3.2nm,1.0s,comp=E,40nm					
TIA	**Tai'an**	**52.51 323**	P	**P**	**03 45 09.1 +0.1**
TIA			pP	**pP**	**03 45 27.8 +1.6**
TIA			sP	**sP**	**03 45 38.8 +5.0**
TIA			S	**S**	**03 52 31.5 +0.7**
TIA			pmax	pmax	
comp=E,60nm,0.8s					
TIA			pmax	pmax	
comp=E,270nm,2.6s					
TIA			LR	LR	
comp=E,1μm,25.3s					
TIA			LR	LR	
comp=E,870nm,21.4s					
TIA			LR	LR	
comp=E,3μm,27.8s					
IPM	**Ipoh**	**52.52 279**	*e*P	**P**	**03 45 08.6 -0.9**
comp=E,217nm,1.4s					
IPM	**Ipoh**	**52.52 279**	P	**P**	**03 45 09.0 -0.6**
SKNT	**Sakolnakorn**	**52.77 295**	P	**P**	**03 45 11.9 +0.6**
comp=E,120nm,0.9s					
KULM	**Kulim**	**53.02 280**	*e*P	**P**	**03 45 12.1 -1.1**
comp=E,104nm,0.7s					
KULM	**Kulim**	**53.02 280**	P	**P**	**03 45 13.0 -0.2**
MDJ	**Mudanjiang**	**53.17 339**	P	**P**	**03 45 13.3 -0.4**
MDJ			pP	pP	03 45 30.9 -0.3
MDJ			sP	sP	03 45 38.9 0.0
MDJ			PP	**PP**	**03 47 18.8 +4.3**
MDJ			ScS	ScS	03 54 55.4 -1.7
MDJ			pmax	pmax	
comp=E,89nm,0.9s					
MDJ			LR	LR	
comp=E,1μm,28.7s					
MDJ			LR	LR	
comp=E,880nm,29.5s					
MDJ			LR	LR	
comp=E,4μm,28.7s					
MDJ	**Mudanjiang**	**53.17 339**	*e*P	**P**	**03 45 13.3 -0.4**
comp=E,110nm,0.9s					
MDJ			*e*PcP	**PcP**	**03 46 21.0 -0.1**
SKLT	**Songkhla**	**53.39 282**	P	**P**	**03 45 16.1 +0.2**
comp=E,77nm,1.2s,comp=E,770nm					
KHON	**Khomkaen**	**53.62 294**	P	**P**	**03 45 18.8 +1.3**
comp=E,183μm,0.9s					
NONG	**Nongkai**	**53.88 296**	P	**P**	**03 45 20.1 +0.7**
comp=E,3.1nm,1.3s					
ENH	**Enshi**	**53.99 313**	*e*P	**P**	**03 45 20.8 +0.7**
comp=E,249nm,1.1s					
ENH			*e*PcP	**PcP**	**03 46 28.1 +3.6**
CN2	**Changchun**	**54.06 336**	*e*P	**P**	**03 45 19.9 -0.3**
CN2			*e*pP	pP	03 45 39.3 +1.4
CN2			*e*sP	sP	03 45 48.5 +2.9
CN2			PcP	**PcP**	**03 46 24.3 -0.1**
CN2			ScP	**ScP**	**03 50 17.8 +1.1**
CN2			*e*S	**S**	**03 52 49.6 -1.9**
CN2			pmax	pmax	
comp=E,50nm,0.9s					
CN2			pmax	pmax	
comp=E,500nm,8.0s					
CN2			LR	LR	
comp=E,700nm,18.0s					
CN2			LR	LR	
comp=E,600nm,18.0s					
CN2			LR	LR	
comp=E,1μm,19.0s					
CHAI	**Chaiyaphum**	**54.24 293**	P	**P**	**03 45 22.5 +0.4**
comp=E,179μm,1.1s					
GYA	**Guiyang**	**54.26 307**⇑*i*P		**P**	**03 45 22.8 +0.7**
GYA			pP	pP	03 45 41.8 +2.5
GYA			sP	sP	03 45 50.5 +3.6
GYA			PP	**PP**	**03 47 24.6 -0.1**
GYA			S	**S**	**03 52 50.8 -4.2**
GYA			pmax	pmax	
comp=E,60nm,1.1s					
GYA			pmax	pmax	
comp=E,440nm,8.4s					
GYA			LR	LR	
comp=E,1μm,23.0s					
GYA			LR	LR	
comp=E,2μm,22.1s					
GYA			LR	LR	
comp=E,3μm,21.5s					
PSI	**Prapat**	**54.36 277**	*e*P	**P**	**03 45 21.6 -1.5**
comp=E,104nm,1.3s					
PSI	**Prapat**	**54.36 277**	*e*P	**P**	**03 45 21.6 -1.5**
PSI			pmax	pmax	
comp=Z,104nm,1.3s					
SLVN	**Son La**	**54.39 300**	*e*P	**P**	**03 45 24.6 +1.5**
comp=Z,56nm,1.1s					
SLVN			*e*PcP	**PcP**	**03 46 24.6 -1.6**
TRTT	**Trang**	**54.42 283**	P	**P**	**03 45 23.4 0.0**
comp=Z,211nm,1.1s,comp=Z,2μm					
KIP	**Kipapa**	**54.61 60**	*e*P	**P**	**03 45 28.3 +3.7**
comp=Z,118nm,0.9s					
KIP	**Kipapa**	**54.61 60**⇓*e*P		**P**	**03 45 27.3 +2.7**
KIP			pmax	pmax	
comp=Z,281nm,1.6s					
OPA	**Opana**	**54.71 60**	*e*P	**P**	**03 45 27.4 +2.0**
comp=Z,312nm,0.9s					
OPA	**Opana**	**54.71 60**	*e*P	**P**	**03 45 27.4 +2.0**
OPA			pmax	pmax	
comp=Z,312nm,0.9s					
KRAB	**Krabi**	**54.98 283**	P	**P**	**03 45 27.4 0.0**
comp=Z,521μm,0.9s					
SKR	**Severo-Kuril's**	**55.06 3**	*e*P	**P**	**03 45 27.0 -0.3**
SKR			*e*S	**S**	**03 52 59.9 -4.7**
SKR			*e*		03 55 02.4
SKR			pmax	pmax	
comp=Z,211nm,1.0s					
SKR			pmax	pmax	
comp=Z,900nm,3.2s					
SKR			pmax	pmax	
comp=Z,400nm,4.1s					
SKR			MLR	MLR	
comp=Z,900nm,18.0s					
SKR			MLR	MLR	
comp=Z,900nm,16.0s					
GSI	**Gunungsitoli**	**55.52 275**	*e*P	**P**	**03 45 29.8 -1.6**
comp=Z,480nm,1.5s					
PHET	**Kaeng Krachan**	**55.61 289**	P	**P**	**03 45 33.1 +1.1**
comp=Z,366μm,1.0s					
BJT	**Baijiatuau**	**55.67 326**	*e*P	**P**	**03 45 31.9 -0.1**
comp=Z,43nm,1.2s					
BJT	**Baijiatuau**	**55.67 326**	*e*P	**P**	**03 45 31.9 -0.1**
BJT			pmax	pmax	
comp=Z,43nm,1.2s					
KHLU	**Kahalu`u**	**55.81 63**	*e*P	**P**	**03 45 35.8 +2.3**
comp=Z,256nm,1.0s					
TYV	**Tymovskoe**	**55.85 352**	*e*P	**P**	**03 45 33.3 +0.3**
TYV			*e*S	**S**	**03 53 16.0 +0.8**
TYV			pmax	pmax	
comp=Z,300nm,3.2s					
TYV			pmax	pmax	
comp=Z,83nm,0.9s					
TYV			smax	smax	
comp=N,17nm,1.6s					
TYV			smax	smax	
comp=N,600nm,7.5s					
KHU	**Kahuku**	**55.94 63**	*e*P	**P**	**03 45 34.8 +0.3**
comp=N,288nm,0.9s					
KHU	**Kahuku**	**55.94 63**	*e*P	**P**	**03 45 34.8 +0.3**
KHU			pmax	pmax	
comp=Z,288nm,0.9s					
UTTA	**Uttaradit**	**56.12 295**	P	**P**	**03 45 36.4 +0.9**
comp=Z,247μm,1.1s					
AIN	**Ainahou**	**56.12 63**	*e*P	**P**	**03 45 34.8 -1.0**
comp=Z,339nm,1.2s					
HPAH	**Hawaii Prepara**	**56.13 62**	*e*P	**P**	**03 45 39.0 +3.3**
comp=Z,220nm,0.9s					
HMH	**Humu'ula Sheep**	**56.17 63**	*e*P	**P**	**03 45 38.6 +2.4**
comp=Z,392nm,1.2s					
POHA	**Pohakuloa**	**56.18 63**	*e*P	**P**	**03 45 37.1 +0.8**
comp=Z,255nm,0.8s					
NANT	**Nan**	**56.32 296**	P	**P**	**03 45 37.7 +0.7**
comp=Z,292μm,0.7s					
TIY	**Taiyuan**	**56.33 322**	*e*P	**P**	**03 45 37.3 +0.5**
TIY			PcP	**PcP**	**03 46 34.3 +0.9**
TIY			S	**S**	**03 53 23.3 +1.0**
TIY			ScS	**ScS**	**03 55 15.3 -4.8**
TIY			pmax	pmax	
comp=Z,74nm,1.0s					
TIY			pmax	pmax	
comp=Z,660nm,5.3s					
TIY			LR	LR	
comp=Z,600nm,14.9s					
TIY			LR	LR	
comp=Z,1μm,18.0s					
TIY			LR	LR	
comp=Z,3μm,35.3s					
XAN	**Xi'an**	**56.45 316**	P	**P**	**03 45 37.4 -0.3**
XAN			pP	pP	03 45 56.8 +1.8
XAN			sP	sP	03 46 05.4 +2.8
XAN			PP	**PP**	**03 47 48.5 +4.4**
XAN			S	**S**	**03 53 21.0 -2.8**
XAN			sS	sS	03 53 56.5 +2.8
XAN			ScS	**ScS**	**03 55 16.3 -4.8**
XAN			pmax	pmax	
comp=Z,43nm,0.7s					
XAN			pmax	pmax	
comp=Z,530nm,4.4s					
XAN			LR	LR	
comp=Z,1μm,21.1s					
XAN			LR	LR	
comp=Z,2μm,20.6s					
XAN			LR	LR	
comp=Z,2μm,23.6s					
XAN	**Xi'an**	**56.45 316**	*e*P	**P**	**03 45 37.7 0.0**
comp=Z,62nm,0.8s					
XAN	**Xi'an**	**56.45 316**	*e*P	**P**	**03 45 37.7 0.0**
XAN			pmax	pmax	
comp=Z,62nm,0.8s					
SRDT	**SRDT**	**56.46 290**	P	**P**	**03 45 39.2 +1.2**
comp=Z,169nm,1.1s,comp=Z,2μm					
KLR	**Kul'dur**	**56.59 344***c i*P		**P**	**03 45 38.1 -0.2**
KLR			pmax	pmax	
comp=Z,166nm,1.1s					
LHMI	**Lhok Sumawe**	**56.65 279**	*e*P	**P**	**03 45 39.5 0.0**
comp=Z,232nm,0.9s					
GRNR	**Gornyy**	**56.85 348**	*e*P	**P**	**03 45 40.6 +0.4**
GRNR			pmax	pmax	
comp=Z,42nm,1.0s					
KMI	**Kunming**	**56.86 304**	P	**P**	**03 45 42.9 +1.9**
KMI			pP	pwP	03 46 00.3 -0.5
KMI			sP	sP	03 46 08.3 +2.9
KMI			PP	**PP**	**03 47 46.8 -1.3**
KMI			S	**S**	**03 53 32.9 +2.9**
KMI			sS	sS	03 54 03.1 +4.3
KMI			SS	**SS**	**03 57 25.3 +6.0**
KMI			pmax	pmax	
comp=Z,95nm,1.3s					
KMI			pmax	pmax	
comp=Z,360nm,3.1s					
KMI			LR	LR	
comp=Z,590nm,19.8s					
KMI			LR	LR	
comp=Z,2μm,25.4s					
KMI			LR	LR	
comp=Z,4μm,27.7s					
UMPA	**Umpang Tak**	**57.21 292**	P	**P**	**03 45 44.4 +1.1**
comp=Z,310μm,1.1s					
PET	**Petropavlovsk**	**57.54 4**	*e*P	**P**	**03 45 45.2 +0.3**
comp=Z,108nm,0.8s					
PET	**Petropavlovsk**	**57.54 4***c i*P		**P**	**03 45 44.6 -0.3**
PET			*e**PP	**pP**	**03 46 03.2 +0.2**
PET			*e**SP	**sP**	**03 46 11.3 +0.5**
PET			*e*		03 46 38.2
PET			*e*		03 47 56.2
PET			*e*S	**S**	**03 53 37.4 0.0**
PET			*e*		03 55 23.7
PET			*e*SS	**SS**	**03 57 28.1 -0.4**
PET			pmax	pmax	
comp=Z,163nm,0.9s					
PET			pmax	pmax	
comp=Z,400nm,13.0s					
PET			MLR	MLR	
comp=Z,700nm,15.0s					
PET			MLR	MLR	
comp=Z,600nm,18.0s					
PEA0B	**Petropavlovsk-**	**57.56 3**	*e*P	**P**	**03 45 45.5 +0.4**
comp=Z,368nm,1.2s					
PETK	**Petropavlovsk-**	**57.56 3**	P	**P**	**03 45 45.3 +0.2**
comp=Z,123nm,0.8s,baz=169,slow=6.9,SNR=92					
PETK			pP	**pP**	**03 46 02.2 -1.0**
comp=Z,117nm,1.0s,baz=132,slow=4.2,SNR=6.9					
PETK			ScP	**ScP**	**03 50 34.1 +2.1**
comp=Z,3.3nm,0.9s,baz=157,slow=3.2,SNR=2.3					
PETK			LR	LR	04 07 33.9
comp=Z,469nm,21.6s,baz=190,slow=33					
PETK			PKP2bc		04 15 42.9
comp=Z,4.8nm,0.9s,baz=48,slow=2.2,SNR=4.6					
PEA1	**Petropavlovsk-**	**57.56 3**	*e*P	**P**	**03 45 45.3 +0.1**
PEA1			*e*pP	**pP**	**03 46 02.2 -1.0**
PEA1			*e*ScP	**ScP**	**03 50 34.1 +2.1**
PPT	**Papeete**	**57.77 108**	LR	LR	04 08 32.3
comp=Z,525nm,18.8s,baz=282,slow=34					
PPT2	**Papeete2**	**57.78 108**	*e*S	**S**	**03 53 43.8 +1.9**
comp=Z,723nm,24.2s					
PPT2			*e*LQ	LQ	04 00 19.4
comp=Z,3μm,32.8s					
PPT2			*e*LR	LR	04 02 57.3
comp=Z,3μm,34.5s					
CM31	**Chiang Mai Arr**	**57.79 295**	*e*P	**P**	**03 45 49.1 +1.7**
comp=Z,157nm,1.0s					
CM31			*e*pP	**pP**	**03 46 05.6 +1.1**
CM31	**Chiang Mai Arr**	**57.79 295**	P	**P**	**03 45 48.7 +1.3**
SNR=41					
CMAR	**Chiang Mai Arr**	**57.79 295**	P	**P**	**03 45 48.4 +1.0**
comp=Z,67nm,0.8s,baz=115,slow=5.2,SNR=172					
CMAR			pP	**pP**	**03 46 05.6 +1.1**
comp=Z,34nm,0.8s,baz=117,slow=4.4,SNR=4.5					
CMAR			LR	LR	04 08 53.8
comp=Z,866nm,21.9s,baz=98,slow=34					
CMAR			PKPPKP		04 15 29.2
comp=Z,1.5nm,0.4s,baz=294,slow=3.3,SNR=5.9					
CMMT	**Chiang Mai**	**57.90 295**	P	**P**	**03 45 48.8 +0.7**
comp=Z,68nm,1.2s,comp=Z,628nm					
CHTO	**Chiang Mai**	**57.90 295**	*e*P	**P**	**03 45 48.9 +0.7**
comp=Z,150nm,1.1s					
CHTO	**Chiang Mai**	**57.90 295**	*e*P	**P**	**03 45 48.9 +0.7**
CHTO			pmax	pmax	
comp=Z,150nm,1.1s					
CHTO	**Chiang Mai**	**57.90 295**	P	**P**	**03 45 48.8 +0.6**
SNR=46					
TIAR	**Tiarei**	**57.99 108**	*e*P	**P**	**03 45 50.3 +1.4**
comp=Z,55nm,1.0s					
NKL	**Nikolayevsk**	**58.37 351**	*e*P	**P**	**03 45 50.0 -0.7**
NKL			*e*		03 46 10.0
NKL			*e*S	S	03 54 10.0 +22
NKL			pmax	pmax	
comp=E,16nm,0.9s					
NKL			pmax	pmax	
comp=Z,170nm,0.9s					
NKL			pmax	pmax	
comp=N,350nm,8.0s					
NKL			pmax	pmax	
comp=Z,500nm,9.0s					
NKL			MLR	MLR	
comp=E,700nm,16.0s					
CD2	**Chengdu**	**58.58 310**⇓*i*P		**P**	**03 45 52.4 -0.4**
CD2			pP	pP	03 46 10.3 0.0
CD2			sP	sP	03 46 18.9 +1.0
CD2			PcP	**PcP**	**03 46 45.8 +3.4**
CD2			PP	**PP**	**03 48 07.0 +3.8**
CD2			S	**S**	**03 53 54.0 +2.0**
CD2			SS	**SS**	**03 57 51.3 +5.4**
CD2			pmax	pmax	
comp=E,370nm,0.7s					
CD2			pmax	pmax	
comp=E,650nm,4.7s					
CD2			LR	LR	
comp=E,3μm,24.3s					
CD2			LR	LR	
comp=E,3μm,24.3s					
CD2			LR	LR	
comp=E,4μm,24.3s					
TBI	**Tubuai**	**58.64 115**	*e*S	**S**	**03 53 54.1 +1.2**
comp=E,813nm,41.2s					
TBI			*e*LQ	LQ	04 00 47.5
comp=E,3μm,35.8s					
TBI			*e*LR	LR	04 03 15.0
comp=E,7μm,30.2s,baz=280					
HHC	**Hu-ho-hao-te**	**58.84 324**	*e*P	**P**	**03 45 55.0 +0.5**
HHC			pP	pwP	03 46 15.8 +2.0
HHC			sP	sP	03 46 25.3 +6.2
HHC			S	**S**	**03 53 57.4 +2.3**
HHC			sS	sS	03 54 22.8 -1.5

HHC SS **SS** **03 57 48.0 -1.7**
HHC pmax pmax
comp=E,670nm,1.1s
HHC pmax pmax
comp=E,3μm,6.1s
HHC LR LR
comp=E,5μm,15.6s
HHC LR LR
comp=E,7μm,16.0s
HHC LR LR
comp=E,6μm,15.6s
PMOR Pomariorio Ree 59.17 105 *e*P **P** **03 45 58.2 +1.1**
comp=E,440nm,1.3s
VAH Vaihoa 59.45 105 *e*P **P** **03 45 59.8 +0.9**
comp=E,235nm,1.2s
BTO Baotou 59.60 323 *e*P **P** **03 46 01.0 +1.3**
SMY Shemya 59.81 15 *e*P **P** **03 46 03.6 +2.9**
comp=E,178nm,0.9s
SMY Shemya 59.81 15 *e*P **P** **03 46 03.6 +2.9**
SMY pmax pmax
comp=Z,178nm,0.9s
LZH Lanzhou 61.06 316 *e*P **P** **03 46 11.1 +1.3**
LZH pP pP 03 46 30.4 +3.1
LZH sP sP 03 46 42.3 +7.5
LZH PcS **PcS** **03 50 52.8 -2.5**
LZH S **S** **03 54 22.3 -1.6**
LZH sS sS 03 54 57.8 +4.8
LZH pmax pmax
comp=Z,170nm,1.4s
LZH pmax pmax
comp=Z,620nm,4.3s
LZH LR LR
comp=Z,1μm,17.9s
LZH LR LR
comp=Z,1μm,17.3s
LZH LR LR
comp=Z,3μm,19.0s
KIWB Kanaga Island 61.70 21 *e*P **P** **03 46 14.4 +0.8**
ZEA Zeya 61.89 343 *e*P **P** **03 46 14.0 -0.8**
ZEA *e* 03 46 33.0
ZEA *e*S **S** **03 54 30.0 -3.4**
ZEA *e*PS 03 54 57.0
ZEA pmax pmax
comp=N,200nm,2.0s
ZEA pmax pmax
comp=Z,500nm,2.0s
ZEA pmax pmax
comp=N,120nm,1.0s
ZEA pmax pmax
comp=E,35nm,1.0s
ZEA pmax pmax
comp=Z,170nm,1.0s
ZEA smax smax
comp=N,200nm,8.0s
ADK Adak 61.89 21 *e*P **P** **03 46 15.8 +0.9**
comp=N,199nm,1.1s
ADK Adak 61.89 21 *e*P **P** **03 46 15.8 +0.9**
ADK pmax pmax
comp=Z,199nm,1.1s
MA2 Magadan 63.92 359 *e*P **P** **03 46 27.8 -0.4**
comp=Z,187nm,1.0s
MA2 Magadan 63.92 359*c i*P **P** **03 46 27.4 -0.8**
MA2 pmax pmax
comp=Z,269nm,1.3s
CIT Chita 65.46 335 *e*P **P** **03 46 39.1 +0.6**
CIT *e* 03 46 56.9
CIT *e* 03 47 11.1
CIT pmax pmax
comp=Z,228nm,1.3s
GTA Gaotai 65.48 317 ⇑P **P** **03 46 39.9 +1.0**
GTA pP pP 03 47 00.0 +3.4
GTA sP PcP 03 47 08.3 -2.0
GTA PP **PP** **03 49 02.0 -1.9**
GTA ScP 03 51 07.3
GTA S **S** **03 55 21.4 +2.6**
GTA sS sS 03 55 52.6 +4.0
GTA pmax pmax
comp=Z,59nm,1.3s
GTA pmax pmax
comp=Z,530nm,7.6s
GTA LR LR
comp=Z,590nm,22.0s
GTA LR LR
comp=Z,1μm,20.6s
GTA LR LR
comp=Z,2μm,21.6s
BRDH Bariadhala 65.56 297 LR LR 04 15 22.3
comp=Z,448nm,20.2s,baz=156,slow=36
NIKH Nikolski High 65.75 24 *e*P **P** **03 46 40.0 -0.2**
comp=Z,246nm,1.2s
ULN Ulaanbaatar 65.78 328 *e*P **P** **03 46 41.6 +0.9**
comp=Z,39nm,1.1s
ULN Ulaanbaatar 65.78 328*c i*P **P** **03 46 41.3 +0.6**
ULN pmax pmax
comp=Z,75nm,1.7s
ULN Ulaanbaatar 65.78 328 P **P** **03 46 41.5 +0.8**
SNR=39
SONA0 Songino Array 66.11 328 *e*P **P** **03 46 43.3 +0.5**
SONA0 *e*PcP **PcP** **03 47 13.8 +1.0**
SONM Songino Array 66.11 328 P **P** **03 46 43.3 +0.5**
comp=Z,19nm,0.6s,baz=148,slow=5.9,SNR=52
SONM PcP **PcP** **03 47 13.8 +1.0**
comp=Z,35nm,0.6s,baz=140,slow=4.8,SNR=8.1
SONM LR LR 04 14 13.6
comp=Z,1μm,21.8s,baz=143,slow=35
SONM PKP2bc 04 15 19.5
comp=Z,5.8nm,0.9s,baz=282,slow=2.4,SNR=11
SHL Shillong 66.20 300 *e*P **P** **03 46 44.3 +0.4**
comp=Z,264nm,1.1s
SHL Shillong 66.20 300 *e*P **P** **03 46 44.3 +0.4**
SHL pmax pmax
comp=Z,264nm,1.1s
SHL Shillong 66.20 300⇑*i*P **P** **03 46 42.0 -1.9**
SHL *e*S **S** **03 55 29.0 +0.8**
TAOE Nuku Hiva Isla 66.63 98 *e*P **P** **03 46 47.2 +0.4**
comp=Z,257nm,1.2s
SEY Seymchan 67.27 360*c e*P **P** **03 46 49.4 -0.3**
UNV Unalaska Valle 67.35 25 *e*P **P** **03 46 49.9 -0.5**
comp=Z,120nm,1.3s
AKUT Akutan 67.86 25 *e*P **P** **03 46 53.9 +0.3**
comp=Z,198nm,1.2s
LSA Lhasa 68.11 304 *e*P **P** **03 46 57.5 +1.2**
comp=Z,135nm,1.4s
LSA Lhasa 68.11 304 *e*P **P** **03 46 57.5 +1.2**
LSA pmax pmax
comp=Z,135nm,1.4s
CASY Casey 68.29 197 *e*P **P** **03 46 55.9 -0.2**
comp=Z,51nm,0.8s
SPIA Saint Paul Isl 68.38 21 *e*P **P** **03 46 59.3 +2.5**
comp=Z,277nm,1.0s
YAK Yakutsk 68.71 349 *e*P **P** **03 46 58.5 -0.2**
YAK *e**PP **pP** **03 47 16.7 -0.4**
YAK *e* 03 47 24.9
YAK *e* 03 49 35.4
YAK *e*S **S** **03 55 55.5 -1.0**
YAK *e**SS **sS** **03 56 32.8 +6.0**
YAK *e* 03 56 52.7
YAK pmax pmax
comp=Z,608nm,1.5s
YAK pmax pmax
comp=N,461nm,1.5s
YAK pmax pmax
comp=E,142nm,1.0s
YAK pmax pmax
comp=Z,746nm,1.8s
YAK pmax pmax
comp=N,827nm,2.1s
YAK pmax pmax
comp=E,498nm,2.1s
YAK smax smax
comp=N,2μm,12.6s
YAK smax smax
comp=E,326nm,10.3s
ZAK Zakamensk 69.27 329 *e*P **P** **03 47 02.8 +0.1**
ZAK pmax pmax
comp=Z,54nm,1.4s
BOD Bodaibo 69.54 339⇑*i*P **P** **03 47 03.3 -0.7**
BOD pmax pmax
comp=Z,70nm,1.3s
TLY Talaya 69.86 330 *e*P **P** **03 47 06.7 +0.6**
comp=Z,43nm,1.3s
TLY Talaya 69.86 330*c i*P **P** **03 47 06.1 0.0**
TLY Talaya 69.86 330 P **P** **03 47 06.2 0.0**
SNR=22
SDPT Sand Point 70.95 26 *e*P **P** **03 47 11.8 -0.8**
comp=Z,255nm,1.4s

RAMN Ramite 71.14 300 *e*P **P** **03 47 14.6 -0.1**
comp=Z,96nm,0.7s
MOY Mondy 71.19 329 *e*P **P** **03 47 14.1 -0.3**
MOY pmax pmax
comp=Z,114nm,1.5s
JIRN Jiri 71.68 301 *e*P **P** **03 47 18.1 0.0**
comp=Z,135nm,0.7s
RKT Rikitea 71.86 113 *e*LR LR 04 09 23.5
comp=Z,5μm,31.5s
PKI Pulchoki 72.32 301 *e*P **P** **03 47 21.5 -0.4**
comp=Z,183nm,0.8s
PKIN Phulchoki 72.33 301 *e*P **P** **03 47 21.6 -0.3**
comp=Z,87nm,0.6s
CHGN Chignik 72.46 26 *e*P **P** **03 47 21.1 -0.6**
comp=Z,95nm,1.1s
KKN Kakani 72.49 301 *e*P **P** **03 47 22.7 -0.1**
comp=Z,122nm,0.6s
DMN Daman 72.59 301 *e*P **P** **03 47 23.6 +0.1**
comp=Z,487nm,1.0s
BILL Bilibino 73.01 5 *e*P **P** **03 47 24.8 +0.1**
comp=Z,151nm,1.0s
BILL Bilibino 73.01 5*c i*P **P** **03 47 24.7 -0.1**
BILL *i* 03 47 42.0
BILL *i* S **SKiKP** **03 56 53.7 +2.5**
BILL pmax pmax
comp=Z,222nm,1.3s
BILL MLR MLR
comp=Z,1μm,19.0s
GKN Gorkha 73.09 301 *e*P **P** **03 47 26.2 -0.1**
GAMB Gambell 73.10 16 *e*P **P** **03 47 25.7 +0.4**
comp=Z,104nm,1.0s
VNDA Vanda 73.11 178 *e*P **P** **03 47 25.3 +0.1**
comp=Z,60nm,0.8s
VNDA Vanda 73.11 178 P **P** **03 47 25.4 +0.1**
comp=Z,43nm,0.8s,baz=331,slow=7.0,SNR=60
VNDA LR LR 04 15 48.0
comp=Z,402nm,19.6s,baz=354,slow=33
SBA Scott Base 73.65 177 *e*P **P** **03 47 29.2 +0.8**
comp=Z,53nm,1.0s
SBA Scott Base 73.65 177 *e*P **P** **03 47 29.2 +0.8**
SBA pmax pmax
comp=Z,53nm,1.0s
KOLN Koldanda 73.92 300 *e*P **P** **03 47 30.9 -0.4**
comp=Z,126nm,0.7s
DANN Dangsing 73.93 301 *e*P **P** **03 47 30.9 -0.5**
comp=Z,94nm,0.5s
SII Sitkinak Islan 74.50 27 *e*P **P** **03 47 34.0 +0.2**
comp=Z,178nm,0.9s
PYUN Piuthan 74.53 301 *e*P **P** **03 47 34.1 -0.7**
comp=Z,417nm,1.0s
OHAK Old Harbor 75.28 27 *e*P **P** **03 47 38.0 -0.2**
ANM Nome 75.50 17 *e*P **P** **03 47 40.0 +0.7**
comp=Z,105nm,1.0s
ANM Nome 75.50 17 *e*P **P** **03 47 40.0 +0.7**
ANM pmax pmax
comp=Z,105nm,1.0s
WMQ Urumqi 75.56 317 P **P** **03 47 40.4 +0.2**
WMQ PcP **PcP** **03 47 48.8 -4.1**
WMQ pP pP 03 47 57.4 -1.4
WMQ sP sP 03 48 12.3 +5.9
WMQ S **S** **03 57 17.1 +1.2**
WMQ ScS **SKKSac** **03 57 45.8 +1.0**
WMQ pmax pmax
comp=Z,350nm,1.3s
WMQ pmax pmax
comp=Z,1μm,3.8s
WMQ LR LR
comp=Z,1μm,17.5s
WMQ LR LR
comp=Z,2μm,29.9s
WMQ LR LR
comp=Z,8μm,30.7s
WMQ Urumqi 75.56 317 *e*P **P** **03 47 41.3 +1.1**
comp=Z,183nm,1.3s
WMQ Urumqi 75.56 317 *e*P **P** **03 47 41.3 +1.1**
WMQ pmax pmax
comp=Z,183nm,1.3s
KDAK Kodiak Island 75.91 27 *e*P **P** **03 47 42.0 +0.2**
comp=Z,81nm,1.0s
KDAK Kodiak Island 75.91 27 *i* P **P** **03 47 41.8 0.0**
HYB Hyderabad 76.44 289 *i* P **P** **03 47 45.0 -0.7**
comp=Z,200nm,1.0s
HYB *e* 03 47 56.5
HYB *e*S **S** **03 57 26.0 -0.4**
SVW2 Sparrevohn 76.55 23 *e*P **P** **03 47 45.8 +0.4**
comp=Z,39nm,0.8s
RSO Redoubt South 77.32 24 *e*P **P** **03 47 48.8 -1.1**
HOM Homer 77.34 25 *e*P **P** **03 47 52.5 +2.7**
comp=Z,318nm,0.8s
TIXI Tiksi 77.62 352 *e*P **P** **03 47 49.7 -1.4**
comp=Z,46nm,1.2s
TIXI Tiksi 77.62 352⇓*e*P **P** **03 47 50.3 -0.8**
TIXI pmax pmax
comp=Z,67nm,1.7s
BRLK Bradley Lake 77.72 26 *e*P **P** **03 47 51.5 -0.5**
comp=Z,92nm,0.9s
DGZ Jazzator, Alta 77.88 323*c i*P **P** **03 47 53.3 0.0**
DGZ pmax pmax
comp=Z,62nm,1.2s
SEW Seward 78.52 26 *e*P **P** **03 47 56.1 -0.2**
comp=Z,110nm,1.0s
ZSN Zaisan 78.68 320*c i*P **P** **03 47 57.8 +0.3**
ZSN *e*S **S** **03 57 49.4 -0.1**
ZSN pmax pmax
comp=Z,27nm,1.1s
ZSN Zaisan 78.68 320⇑*i*P **P** **03 47 57.9 +0.3**
comp=Z,28nm,1.1s
ZSN *e*S **S** **03 57 49.4 -0.1**
RDOG Red Dog Mine 78.70 16 *e*P **P** **03 47 57.9 +0.7**
comp=Z,197nm,0.8s
RC01 Rabbit Creek A 78.91 25 *e*P **P** **03 47 58.1 -0.4**
comp=Z,192nm,1.1s
CAST Castle Rocks 79.23 22 *e*P **P** **03 47 59.1 -1.1**
comp=Z,110nm,1.0s
PMR Palmer 79.42 24 *e*P **P** **03 48 00.6 -0.6**
comp=Z,92nm,1.0s
PMR Palmer 79.42 24 *e*P **P** **03 48 00.6 -0.6**
PMR pmax pmax
comp=Z,92nm,1.0s
GHO Glory Hole Cre 79.59 24 *e*P **P** **03 48 01.9 -0.4**
comp=Z,94nm,0.9s
KNK Knik Glacier 79.60 25 *e*P **P** **03 48 02.1 -0.2**
comp=Z,193nm,1.4s
SML Sawmill 79.85 24 *e*P **P** **03 48 03.2 -0.5**
comp=Z,202nm,0.8s
SML Sawmill 79.85 24 *e*P **P** **03 48 03.2 -0.5**
SML pmax pmax
comp=Z,202nm,0.8s
GLI Glacier Island 79.92 26 *e*P **P** **03 48 04.0 +0.1**
comp=Z,140nm,0.9s
BPAW Bear Paw Mtn. 80.01 22 *e*P **P** **03 48 03.2 -1.2**
comp=Z,88nm,1.3s
MK31 Makanchi Array 80.14 319 *e*P **P** **03 48 05.6 +0.1**
comp=Z,128nm,1.2s
MK31 Makanchi Array 80.14 319 *i* P **P** **03 48 05.6 +0.1**
MK31 pmax pmax
comp=Z,93nm,0.9s
MK32 Makanchi Array 80.14 319 *e*P **P** **03 48 05.7 +0.1**
MKAR Makanchi Array 80.14 319 P **P** **03 48 05.7 +0.1**
comp=Z,31nm,0.5s,baz=104,slow=6.7,SNR=223
MKAR pP **pP** **03 48 24.4 +0.2**
comp=Z,16nm,0.8s,baz=102,slow=5.3,SNR=4.3
MKAR S **S** **03 58 10.3 +5.3**
comp=Z,0.4nm,0.8s,baz=107,slow=14,SNR=4.8
MKAR PKKPbc **PKKPbc** **04 06 51.0 -0.1**
comp=Z,4.6nm,0.9s,baz=304,slow=2.6,SNR=16
MKAR PKPPKP **P'P'df** **04 14 49.4 -3.6**
comp=Z,0.8nm,0.9s,baz=323,slow=3.0,SNR=4.3
MKAR LR LR 04 22 07.2
comp=Z,703nm,22.0s,baz=104,slow=34
SCM Sheep Creek Mo 80.28 25 *e*P **P** **03 48 05.8 -0.2**
comp=Z,131nm,1.0s
EYAK Cordova Ski Ar 80.35 26 *e*P **P** **03 48 08.8 +2.6**
comp=Z,89nm,1.2s
MAKZ Makanchi 80.35 319 *e*P **P** **03 48 06.7 0.0**
comp=Z,249nm,1.3s
MAKZ Makanchi 80.35 319 P **P** **03 48 06.3 -0.3**
MAKZ pmax pmax
comp=Z,234nm,1.4s
RND Reindeer 80.46 23 *e*P **P** **03 48 05.6 -1.3**
comp=Z,116nm,0.8s
RND Reindeer 80.46 23 *e*P **P** **03 48 05.6 -1.3**
RND pmax pmax
comp=Z,116nm,0.8s
MCK McKinley 80.59 23 *e*P **P** **03 48 06.3 -1.3**
comp=Z,203nm,1.0s
MCK McKinley 80.59 23 *e*P **P** **03 48 06.3 -1.3**

MCK pmax pmax
comp=Z,203nm,1.0s
DIV Divide 80.61 26 *e*P **P** **03 48 07.8 0.0**
comp=Z,94nm,0.9s
MLY Manley 80.61 21 *e*P **P** **03 48 07.0 -0.6**
comp=Z,109nm,0.8s
BWN Browne 80.62 22 *e*P **P** **03 48 07.7 0.0**
comp=Z,267nm,1.2s
DHY Denali Highway 80.87 23 *e*P **P** **03 48 08.4 -0.8**
comp=Z,89nm,1.0s
HMT Hamilton 80.91 27 *e*P **P** **03 48 09.2 -0.2**
comp=Z,108nm,1.0s
ZAA0 Zalesovo Array 80.94 326 *e*P **P** **03 48 08.7 -0.9**
comp=Z,43nm,0.8s
ZALV Zalesovo Beam 80.94 326 P **P** **03 48 08.6 -1.0**
comp=Z,35nm,0.6s,baz=112,slow=5.5,SNR=75
ZALV pP **pP** **03 48 26.5 -1.7**
comp=Z,15nm,0.7s,baz=108,slow=6.0,SNR=4.7
ZALV S **S** **03 58 12.2 -0.8**
comp=Z,6.4nm,1.0s,baz=119,slow=8.6,SNR=9.3
ZALV PKKPbc **PKKPbc** **04 06 48.6 -1.1**
comp=Z,2.5nm,0.7s,baz=313,slow=3.9,SNR=5.3
ZALV PKPPKP **P'P'df** **04 14 49.9 -1.1**
comp=Z,2.2nm,0.7s,baz=299,slow=6.4,SNR=5.6
ZAA1 Zalesovo Array 80.94 326 *e*P **P** **03 48 08.6 -1.0**
ZAA1 *e*pP **pP** **03 48 26.5 -1.7**
ZAA1 *e*PKKPbc **PKKPbc** **04 06 48.6 -1.0**
SHLS Shalkode 81.06 315*c i*P **P** **03 48 09.3 -1.4**
SHLS pmax pmax
comp=Z,90nm,1.5s
SHLS Shalkode 81.06 315⇑*i*P **P** **03 48 09.3 -1.4**
comp=Z,90nm,1.5s
PDGK Podgornoye 81.08 315 P P 03 48 20.1 +9.3
PDGK pmax pmax
comp=Z,94nm,1.3s
WRH Wood River Hil 81.29 22 *e*P **P** **03 48 09.8 -1.4**
comp=Z,125nm,1.1s
UZB Uzynbulak 81.37 315*c i*P **P** **03 48 12.2 -0.1**
UZB *e*S **S** **03 58 17.1 -1.2**
UZB pmax pmax
comp=Z,75nm,1.6s
UZB Uzynbulak 81.37 315⇑*i*P **P** **03 48 12.2 -0.1**
comp=Z,76nm,1.6s
UZB *e*S **S** **03 58 17.2 -1.2**
HARP HAARP 81.45 25 *e*P **P** **03 48 12.1 -0.1**
comp=Z,75nm,0.8s
MDM Murphy Dome 81.48 22 *e*P **P** **03 48 11.0 -1.3**
comp=Z,148nm,1.4s
CCB Clear Creek Bu 81.48 22 *e*P **P** **03 48 10.1 -2.1**
comp=Z,82nm,1.0s
TCOL CIGO, UAF Yank 81.57 22 P **P** **03 48 10.7 -2.0**
baz=240
COLA College 81.58 22 *e*P **P** **03 48 11.0 -1.7**
comp=Z,134nm,0.9s
COLA College 81.58 22*c i*P **P** **03 48 10.8 -1.9**
COLA pmax pmax
comp=Z,114nm,1.0s
PAX Paxson 81.58 24 *e*P **P** **03 48 12.4 -0.5**
comp=Z,27nm,0.9s
PAX Paxson 81.58 24 *e*P **P** **03 48 12.4 -0.5**
PAX pmax pmax
comp=Z,27nm,0.9s
HDA Harding Lake 81.69 22 *e*P **P** **03 48 12.2 -1.2**
comp=Z,40nm,0.8s
HDA Harding Lake 81.69 22 P **P** **03 48 11.9 -1.4**
baz=241
KPKS Kokpek 81.69 315*c e*P **P** **03 48 13.6 -0.3**
KPKS pmax pmax
comp=Z,101nm,2.0s
KPKS Kokpek 81.69 315⇑*e*P **P** **03 48 13.7 -0.3**
comp=Z,101nm,2.0s
SATY Saty 81.79 314 *e*P **P** **03 48 14.0 -0.5**
SATY *e*S **S** **03 58 22.4 -0.1**
SATY pmax pmax
comp=Z,56nm,1.2s
SATY smax smax
comp=E,57nm,5.0s
SATY Saty 81.79 314 *e*P **P** **03 48 14.1 -0.5**
comp=E,56nm,1.1s
SATY *e*S **S** **03 58 22.4 -0.1**
comp=E,57nm,5.0s
ZHN Zhinishke 81.79 315 *e*P **P** **03 48 13.3 -1.2**
ZHN pmax pmax
comp=Z,15nm,1.4s
ZHN Zhinishke 81.79 315 *e*P **P** **03 48 13.3 -1.2**
comp=Z,16nm,1.4s
POKR Poker Plat Res 81.85 22 P **P** **03 48 12.3 -1.9**
baz=240
ILAR Eielson Array 81.89 22 P **P** **03 48 12.4 -2.0**
comp=Z,46nm,0.7s,baz=250,slow=5.5,SNR=235
ILAR pP **pP** **03 48 31.6 -1.7**
comp=Z,28nm,0.8s,baz=252,slow=5.7,SNR=7.7
ILAR PKiKP **PKiKP** **03 53 36.2 -0.8**
comp=Z,1.2nm,0.7s,baz=263,slow=2.8,SNR=5.4
ILAR PKKPbc **PKKPbc** **04 06 47.0 -1.0**
comp=Z,3.3nm,0.8s,baz=349,slow=1.4,SNR=12
ILAR PKPPKP **P'P'df** **04 14 43.1 -5.5**
comp=Z,0.7nm,0.9s,baz=357,slow=1.7,SNR=4.5
ILAR LR LR 04 19 39.9
comp=Z,563nm,21.9s,baz=242,slow=32
ILB Eielson Array 81.89 22 *e*P **P** **03 48 12.4 -2.0**
comp=Z,78nm,0.9s
ILB *e*pP **pP** **03 48 31.6 -1.7**
ILB *e*PKiKP **PKiKP** **03 53 36.2 -0.8**
TARG Taragay, Kyrgy 81.90 313 *e*P **P** **03 48 15.4 -0.1**
comp=Z,56nm,1.2s
COLD Coldfoot 81.98 19 *e*P **P** **03 48 15.5 +0.7**
comp=Z,26nm,1.1s
BALM Baldy 82.06 26 *e*P **P** **03 48 15.2 -0.3**
comp=Z,76nm,0.9s
BALM Baldy 82.06 26 *e*P **P** **03 48 15.2 -0.3**
BALM pmax pmax
comp=Z,76nm,0.9s
NVS Novosibirsk 82.12 327 *e*P **P** **03 48 15.6 -0.2**
NVS *e**PP **pP** **03 48 32.7 -1.7**
NVS *e* 03 51 27.6
NVS *e*S **S** **03 58 23.3 -1.8**
NVS pmax pmax
comp=N,44nm,1.6s
NVS pmax pmax
comp=Z,132nm,1.6s
NVS pmax pmax
comp=E,89nm,1.4s
NVS pmax pmax
comp=Z,90nm,2.3s
NVS smax smax
comp=E,54nm,2.0s
RIDG Independent Ri 82.19 23 *e*P **P** **03 48 15.4 -0.6**
comp=E,106nm,1.0s
TDK Taldyqorghan 82.26 316 *e*P **P** **03 48 15.8 -1.0**
TDK *e*S **S** **03 58 27.8 +0.7**
TDK pmax pmax
comp=Z,70nm,1.2s
TDK smax smax
comp=E,163nm,5.8s
TDK Taldyqorghan 82.26 316 *e*P **P** **03 48 15.8 -1.0**
comp=E,70nm,1.2s
TDK *e*S **S** **03 58 27.8 +0.7**
comp=E,163nm,5.8s
MENT Mentasta 82.28 24 *e*P **P** **03 48 16.2 -0.3**
comp=E,54nm,1.0s
KDJ Kajisay 82.45 313 *e*P **P** **03 48 17.6 -0.5**
comp=E,94nm,1.0s
KDJ Kajisay 82.45 313 *e*P **P** **03 48 17.6 -0.5**
KDJ pmax pmax
comp=Z,94nm,1.0s
DOT Dot Lake 82.46 24 *e*P **P** **03 48 16.7 -0.8**
comp=Z,122nm,0.9s
CTGM Chitina Glacie 82.48 27 *e*P **P** **03 48 18.1 +0.3**
comp=Z,123nm,0.8s
MDOK Medeo 82.78 314 *e*P **P** **03 48 18.4 -1.3**
MDOK *e*S **S** **03 58 33.1 +0.4**
MDOK pmax pmax
comp=Z,333nm,1.1s
MDOK smax smax
comp=E,491nm,10.5s
MDOK Medeo 82.78 314 *e*P **P** **03 48 18.4 -1.3**
comp=E,333nm,1.1s
MDOK *e*S **S** **03 58 33.2 +0.4**
comp=E,491nm,10.5s
MDOK *e*LR LR 04 22 25.2
comp=E,355nm,21.9s
KSH Kashi 82.78 311 P **P** **03 48 22.1 +2.3**
KSH pP pP 03 48 41.9 +3.3
KSH PP **PP** **03 51 35.0 +4.3**
KSH S **S** **03 58 34.6 +1.7**
KSH SS **SS** **04 04 05.8 +8.9**

KSH pmax pmax
comp=E,190nm,1.2s
KSH pmax pmax
comp=E,950nm,3.2s
KSH LR LR
comp=E,2µm,10.4s
KSH LR LR
comp=E,2µm,10.2s
TNSS Tian-Shan 82.82 314 *e*P **P 03 48 20.6 +0.4**
TNSS pmax pmax
comp=Z,46nm,0.7s
TNSS Tian-Shan 82.82 314 *e*P **P 03 48 20.6 +0.4**
comp=Z,46nm,0.7s
TOLK Toolik Lake Re 82.94 18 *e*P **P 03 48 19.9 +0.1**
comp=Z,58nm,0.9s
TOLK Toolik Lake Re 82.94 18 P **P 03 48 19.9 +0.1**
baz=238
ULHL Ulahol 83.16 313 P **P 03 48 22.4 +0.7**
SNR=30
NRN Naryn 83.16 312 *e*P **P 03 48 22.4 +0.5**
comp=Z,70nm,1.1s
NRN Naryn 83.16 312 *e*P **P 03 48 22.5 +0.5**
NRN pmax pmax
comp=Z,70nm,1.1s
FYU Fort Yukon 83.35 21 *e*P **P 03 48 21.7 -0.2**
comp=Z,58nm,0.8s
BOOM Boomskoye usch 83.43 314 *e*P **P 03 48 23.8 +0.7**
comp=Z,108nm,1.3s
KUU Kurty 83.44 315*c i*P **P 03 48 22.8 -0.1**
KUU *e*S **S 03 58 35.9 -3.2**
KUU pmax pmax
comp=Z,165nm,0.9s
KUU smax smax
comp=E,406nm,5.9s
KUU Kurty 83.44 315⇑ *i*P **P 03 48 22.8 -0.1**
comp=E,165nm,0.8s
KUU *e*S **S 03 58 36.0 -3.2**
comp=E,406nm,5.9s
KURK Kurchatov 83.57 322 *e*P **P 03 48 22.9 -0.5**
comp=E,322nm,1.4s
KURK Kurchatov 83.57 322 *e*P **P 03 48 22.9 -0.5**
KURK pmax pmax
comp=Z,322nm,1.4s
KURK Kurchatov 83.57 322 P **P 03 48 23.1 -0.3**
SNR=87
KURBB Kurchatov Arra 83.60 322 PKKPbc PKKPbc 04 06 43.3 0.0
comp=Z,5.2nm,0.9s,baz=285,slow=3.1,SNR=20
KURBB PKPPKP **P'P'df 04 14 50.9 +4.5**
comp=Z,7.3nm,1.0s,baz=293,slow=2.8,SNR=17
TKM2 Tokmak 2 83.76 314 P **P 03 48 25.3 +0.5**
SNR=57
TKM2 Tokmak 2 83.76 314 P **P 03 48 25.1 +0.2**
TKM2 pmax pmax
comp=Z,103nm,1.3s
KZA Kyzart 83.84 313 P **P 03 48 26.8 +1.3**
SNR=180
NIL Nilore 83.85 304 *e*P **P 03 48 24.6 -0.7**
comp=Z,225nm,1.1s
NIL Nilore 83.85 304 *e*P **P 03 48 24.6 -0.7**
NIL pmax pmax
comp=Z,225nm,1.1s
SIT Sitka 84.02 31 *e*P **P 03 48 26.3 +0.8**
comp=Z,80nm,1.0s
SIT Sitka 84.02 31 *e*P **P 03 48 26.3 +0.8**
SIT pmax pmax
comp=Z,80nm,1.0s
EGAK Eagle 84.09 23 *e*P **P 03 48 25.5 -0.2**
comp=Z,69nm,1.0s
HYT Haines Junctio 84.17 28 *e*P **P 03 48 27.1 +0.6**
comp=Z,161nm,1.1s
KBK Karagaybulak 84.18 314 P **P 03 48 27.5 +0.5**
SNR=57
CHMS Chumysh 84.39 314 P **P 03 48 28.3 +0.5**
SNR=53
UCH Uchtor 84.41 313 P **P 03 48 29.4 +0.9**
SNR=153
FRU1 Bishkek 84.44 314 *e*P **P 03 48 29.3 +1.2**
comp=Z,110nm,0.8s
H02S1 DAWSON INLET T 84.50 36 T T 05 21 39.4
SNR=127
AAK Ala-Archa 84.50 313 P **P 03 48 29.0 +0.5**
SNR=75
AAK Ala-Archa 84.50 313 *e*P **P 03 48 29.0 +0.5**
comp=Z,174nm,1.3s
AAK Ala-Archa 84.50 313 P **P 03 48 28.7 +0.1**
AAK pmax pmax
comp=Z,85nm,0.9s
AAK Ala-Archa 84.50 313 P **P 03 48 29.2 +0.6**
SNR=62
AAK Ala-Archa 84.50 313 PKKPbc PKKPbc 04 06 41.4 +0.4
comp=Z,7.0nm,0.7s,baz=163,slow=1.9,SNR=14
AAK PKPPKP 04 14 45.5
comp=Z,11nm,1.1s,baz=229,slow=2.5,SNR=16
AAK LR LR 04 26 37.1
comp=Z,619nm,21.7s,baz=86,slow=36
DAWY Dawson 84.52 24 *e*P **P 03 48 28.0 -0.1**
comp=Z,159nm,1.4s
USP Ospenovka 84.62 314 P **P 03 48 29.5 +0.5**
SNR=101
BESE Bessie Mountai 84.72 30 *e*P **P 03 48 29.6 +0.5**
comp=Z,105nm,1.1s
SKAG Skagway 84.75 29 *e*P **P 03 48 31.9 +2.7**
comp=Z,61nm,1.1s
AML Almayashu 84.99 313 P **P 03 48 32.2 +0.9**
SNR=258
EKS2 Erkin-Say 85.03 313 P **P 03 48 32.0 +0.8**
SNR=57
BTLS Baital 85.28 316*c i*P **P 03 48 32.0 -0.2**
BTLS pmax pmax
comp=Z,129nm,1.3s
BTLS Baital 85.28 316⇑ *i*P **P 03 48 32.1 -0.2**
comp=Z,129nm,1.3s
WHY Whitehorse 85.34 28 *e*P **P 03 48 32.5 +0.2**
comp=Z,74nm,1.4s
WRAK Wrangell Islan 85.41 33 *e*P **P 03 48 32.6 +0.1**
comp=Z,105nm,1.3s
QSPA South Pole Qui 85.44 180 *e*P **P 03 48 32.2 -0.6**
comp=Z,168nm,1.1s
QSPA South Pole Qui 85.44 180 P **P 03 48 32.2 -0.6**
comp=Z,67nm,0.7s,baz=167,slow=1.3,SNR=78
QSPA pP **pP 03 48 49.9 -1.7**
comp=Z,147nm,1.0s,baz=0.8,slow=3.3,SNR=7.2
NRIK Noril'sk 85.71 341 P **P 03 48 33.1 -0.7**
comp=Z,22nm,0.6s,baz=121,slow=5.1,SNR=28
NRIK pP **pP 03 48 51.1 -1.7**
comp=Z,16nm,0.5s,baz=112,slow=8.9,SNR=5.6
NRIK LR LR 04 25 28.7
comp=Z,664nm,21.8s,baz=108,slow=35
MAW Mawson 85.84 203 *e*P **P 03 48 34.3 -0.2**
comp=Z,8.9nm,0.8s
MAW Mawson 85.84 203 P **P 03 48 34.7 +0.2**
baz=86,SNR=26
MAW Mawson 85.84 203 *e*P **P 03 48 34.3 -0.2**
MAW pmax pmax
comp=Z,9.0nm,0.8s
MAW Mawson 85.84 203 P **P 03 48 33.9 -0.6**
comp=Z,34nm,0.6s,baz=98,slow=8.1,SNR=33
MAW PKKPbc **PKKPbc 04 06 35.5 -2.8**
comp=Z,5.1nm,0.6s,baz=266,slow=1.6,SNR=12
MAW PKPPKP **P'P'df 04 14 41.6 -0.8**
comp=Z,2.5nm,0.9s,baz=282,slow=5.9,SNR=3.9
MAW LR LR 04 23 42.6
comp=Z,685nm,21.7s,baz=88,slow=33
EPYK Eagle Plains 86.39 22 *e*P **P 03 48 37.0 -0.3**
comp=Z,187nm,0.9s
EPYK Eagle Plains 86.39 22 P **P 03 48 37.0 -0.3**
baz=250
DZA Taraz 86.84 313 *e*P **P 03 48 39.3 -0.7**
DZA pmax pmax
comp=Z,14nm,0.7s
DZA Taraz 86.84 313 *e*P **P 03 48 39.3 -0.7**
comp=Z,14nm,0.7s
GAR Garm 87.02 309 *e*P **P 03 48 41.1 +0.1**
comp=Z,260nm,1.3s
GAR Garm 87.02 309 *e*P **P 03 48 41.1 +0.1**
GAR pmax pmax
comp=Z,260nm,1.3s
OTUK Ortayu 87.03 319 P P 03 48 50.3 +10
OTUK pmax pmax
comp=Z,113nm,1.2s
DLBC Dease Lake 87.12 31 *e*P **P 03 48 41.6 +0.5**
comp=Z,113nm,1.2s
JBG Jabagly 87.34 313 *e*P **P 03 48 42.4 -0.2**
JBG pmax pmax
comp=Z,122nm,2.3s
KBL Kabul 87.43 305 *e*P **P 03 48 42.4 -0.9**
comp=Z,51nm,1.3s
KBL Kabul 87.43 305 *e*P **P 03 48 42.4 -0.9**
KBL pmax pmax
comp=Z,51nm,1.3s
KK31 Karatay Array 87.47 313 *e*P **P 03 48 42.7 -0.3**
comp=Z,68nm,1.3s
KK31 Karatay Array 87.47 313 *i*P **P 03 48 42.7 -0.3**
KK31 pmax pmax
comp=Z,24nm,0.8s
KKAR Karatay Array 87.47 313 *e*P **P 03 48 42.7 -0.3**
comp=Z,68nm,1.3s
KKAR Karatay Array 87.47 313 *e*P **P 03 48 42.7 -0.3**
KKAR pmax pmax
comp=Z,68nm,1.3s
IUG luzhnay 87.68 312*ce*P **P 03 48 44.0 -0.1**
IUG pmax pmax
comp=Z,88nm,2.1s
IUG luzhnay 87.68 312⇑ *e*P **P 03 48 44.0 -0.1**
comp=Z,88nm,2.1s
KRMB Red Mountain 87.92 48 *e*P **P 03 48 48.7 +3.3**
KHMM Horse Mountain 87.97 49 *e*P **P 03 48 49.3 +3.7**
comp=Z,26nm,1.0s
CHM Chimkent 88.02 313 *e*P **P 03 48 43.9 -1.7**
CHM pmax pmax
comp=Z,28nm,1.0s
CHM Chimkent 88.02 313 *e*P **P 03 48 44.0 -1.7**
comp=Z,28nm,1.0s
J01E Myrtle Point 88.13 47 P **P 03 48 45.8 -0.3**
baz=262
INK Inuvik 88.18 21 *e*P **P 03 48 44.7 -1.0**
comp=Z,150nm,1.3s
INK Inuvik 88.18 21 *e*P **P 03 48 44.7 -1.0**
INK pmax pmax
comp=Z,150nm,1.3s
L02E Cave Junction 88.23 48 P **P 03 48 46.1 -0.6**
baz=262
K02D Willamette Mer 88.26 47 P **P 03 48 46.9 0.0**
baz=262,SNR=6.5
I02D Swisshome 88.32 46 P **P 03 48 46.5 -0.5**
baz=262
O02D Mt. Diablo Mer 88.59 50 P **P 03 48 48.4 -0.1**
baz=263
I03D Drain, OR 88.62 46 P **P 03 48 48.5 +0.1**
baz=262,SNR=5.3
M02C Callahan 88.69 48 P **P 03 48 48.9 0.0**
baz=263
N02D Trinity Center 88.75 49 P **P 03 48 49.6 +0.4**
baz=263
NLWA Neilton Lookou 88.76 42 *e*P **P 03 48 51.6 +2.6**
comp=Z,52nm,1.1s
HUMO Hull Mountain 88.77 47 *e*P **P 03 48 50.9 +1.7**
comp=Z,29nm,1.1s
F03A Seaside 88.77 44 *e*P **P 03 48 50.3 +1.2**
comp=Z,75nm,1.0s
COR Corvallis 88.77 45 P **P 03 48 52.1 +3.0**
COR pmax pmax
comp=Z,295nm,1.7s
WDC Whiskeytown Da 88.83 49 *e*P **P 03 48 53.3 +3.8**
comp=Z,20nm,1.4s
G03D McMinnville, O 88.88 45 P **P 03 48 50.0 +0.4**
baz=262
BVAR Borovoye Array 89.04 323 S **SKSac 03 59 11.0 -3.0**
comp=Z,13nm,1.2s,baz=81,slow=8.9,SNR=11
BVAR PKKPbc PKKPbc 04 06 29.2 -1.1
comp=Z,1.5nm,0.6s,baz=291,slow=4.0,SNR=5.7
BRVK Borovoye 89.11 323 *e*P **P 03 48 48.8 -1.7**
comp=Z,230nm,1.2s
BRVK Borovoye 89.11 323*c i*P **P 03 48 49.1 -1.4**
BRVK pmax pmax
comp=Z,154nm,1.0s
BRVK Borovoye 89.11 323 P **P 03 48 49.3 -1.1**
SNR=68
H04D Lebanon 89.17 45 P **P 03 48 52.0 +1.1**
baz=263,SNR=8.7
L04D Klamath Falls 89.20 48 P **P 03 48 52.2 +0.8**
baz=263,SNR=6.0
PGC Sidney 89.21 41 *e*P **P 03 48 50.4 -0.6**
comp=Z,39nm,1.0s
D03D Eldon 89.30 42 P **P 03 48 51.9 +0.4**
baz=263
I04A Tendick Farm, 89.31 46 P **P 03 48 51.3 -0.4**
baz=263,SNR=9.6
O03E Paynes Creek 89.36 50 P **P 03 48 52.9 +0.8**
baz=264
J04D Umpqua Nationa 89.46 47 P **P 03 48 53.1 +0.4**
baz=263,SNR=12
D04E Lakebay 89.47 43 P **P 03 48 52.9 +0.6**
baz=263
M04C Macdoel 89.49 48 P **P 03 48 52.5 -0.2**
baz=264
E04D Cinebar 89.53 43 P **P 03 48 53.5 +0.9**
baz=263
H04A Detroit Lake 89.58 45 *e*P **P 03 48 54.6 +1.7**
comp=Z,40nm,1.3s
A04D Lummi Island 89.71 41 P **P 03 48 53.9 +0.5**
baz=263
AFDM Forest Hills D 89.85 51 *e*P **P 03 48 56.4 +2.1**
comp=Z,11nm,1.2s
D05A Enumclaw 90.00 43 *e*P **P 03 48 56.6 +1.8**
comp=Z,37nm,1.1s
B05A Bryant 90.05 42 P **P 03 48 55.4 +0.4**
baz=263
LON Longmire 90.07 43 *e*P **P 03 48 56.2 +0.9**
comp=Z,17nm,1.4s
LON Longmire 90.07 43 *e*P **P 03 48 56.2 +0.9**
LON pmax pmax
comp=Z,17nm,1.4s
J05D Fort Rock, OR 90.10 47 P **P 03 48 55.1 -0.5**
baz=264,SNR=34
I05D Terrebonne, OR 90.14 46 P **P 03 48 55.9 +0.3**
baz=264,SNR=15
CMB Columbia Colle 90.22 52 *e*P **P 03 48 58.4 +2.3**
comp=Z,14nm,1.4s
CMB Columbia Colle 90.22 52 *e*P **P 03 48 58.4 +2.3**
CMB pmax pmax
comp=Z,14nm,1.4s
F05D White Salmon 90.22 44 P **P 03 48 56.6 +0.7**
baz=264
G05D Wamic, OR 90.25 45 P **P 03 48 56.4 +0.3**
baz=264
K05A Summer Lake 90.29 47 *e*P **P 03 48 56.7 +0.2**
comp=Z,60nm,1.2s
PINE Pine Mountain 90.37 46 *e*P **P 03 48 56.7 -0.2**
comp=Z,57nm,1.0s
BEKR Beckworth 90.41 50 *e*P **P 03 48 59.1 +1.9**
comp=Z,12nm,1.2s
LLLB Lillooet 90.46 39 *e*P **P 03 48 57.5 +0.6**
comp=Z,14nm,0.9s
B06A Marblemount 90.49 42 *e*P **P 03 48 58.7 +1.7**
comp=Z,20nm,0.9s
MOD Modoc Plateau 90.65 48 *e*P **P 03 48 59.4 +1.3**
comp=Z,33nm,1.3s
LTY Liberty 90.90 43 *e*P **P 03 48 58.9 -0.2**
comp=Z,14nm,1.1s
VCNR Virginia City 90.91 51 *e*P **P 03 49 02.0 +2.5**
comp=Z,23nm,1.4s
PNTR Pine Nut 90.93 51 *e*P **P 03 49 02.7 +3.1**
comp=Z,11nm,0.7s
WAKR Walker 91.00 52 *e*P **P 03 49 01.8 +1.8**
comp=Z,13nm,1.3s
VES Vestal, Richgr 91.06 54 P **P 03 48 59.8 -0.1**
baz=265
PAHR Pah Rah Range 91.15 50 *e*P **P 03 49 02.6 +2.1**
comp=Z,17nm,1.2s
YERR Yerington 91.20 51 *e*P **P 03 49 02.4 +1.6**
comp=Z,14nm,1.1s
MDPB Devils Postpil 91.21 53 *e*P **P 03 49 03.8 +2.8**
comp=Z,20nm,1.2s
OMMB Old Mammoth Mi 91.27 53 *e*P **P 03 49 02.1 +0.7**
comp=Z,14nm,1.3s
F07A Phinny Hill Vi 91.29 44 *e*P **P 03 49 03.3 +2.5**
comp=Z,34nm,1.1s
CIS Catalina Islan 91.41 57 P **P 03 49 02.1 +0.4**
baz=266
I07A Izee 91.43 46 *e*P **P 03 49 01.3 -0.4**
comp=Z,39nm,1.0s
ISA Isabella, Lake 91.54 55 *e*P **P 03 49 04.4 +2.1**
comp=Z,7.7nm,1.1s
ISA Isabella, Lake 91.54 55 P **P 03 49 02.5 +0.2**
baz=266
HAWA Hanford 91.60 44 *e*P **P 03 49 02.5 +0.2**
comp=Z,38nm,1.1s
PASC Pasadena Art C 91.66 56 *e*P **P 03 49 05.2 +2.4**
comp=Z,38nm,1.2s
RYN Ryan 91.73 52 *e*P **P 03 49 04.2 +0.9**
comp=Z,14nm,1.1s
MWC Mount Wilson 91.77 56 *e*P **P 03 49 06.0 +2.4**
comp=Z,54nm,1.1s
EDW2 Edwards Air Fo 91.87 55 P **P 03 49 03.8 -0.1**
baz=266,SNR=7.2
NV01 Mina Array Sit 91.88 52 *e*P **P 03 49 03.1 -0.9**
NVAR Mina Array Bea 91.88 52 P **P 03 49 03.1 -0.9**
comp=Z,11nm,0.8s,baz=251,slow=6.9,SNR=29
NVAR PKKP **PKKPdf 04 06 18.6 -1.5**
comp=Z,0.6nm,0.7s,baz=94,slow=2.7,SNR=2.8
NVAR PKPPKP **P'P'df 04 14 29.5 -2.8**
comp=Z,0.5nm,0.7s,baz=86,slow=5.0,SNR=4.9
NVAR LR LR 04 23 51.3
comp=Z,625nm,20.8s,baz=268,slow=31
B08A Colville Reser 91.90 42 *e*P **P 03 49 02.5 -1.1**
comp=Z,23nm,1.3s
G08A Pilot Rock 91.91 45 *e*P **P 03 49 03.9 -0.1**
comp=Z,43nm,1.2s
CWC Cottonwood Cre 91.92 54 P **P 03 49 03.9 -0.3**
baz=266
WVOR Wild Horse Val 91.93 48 *e*P **P 03 49 04.2 +0.1**
comp=Z,30nm,1.1s
WVOR Wild Horse Val 91.93 48 *e*P **P 03 49 04.2 +0.1**
WVOR pmax pmax
comp=Z,29nm,1.1s
E08A Dider Farm, El 91.94 44 *e*P **P 03 49 06.2 +2.3**
comp=Z,39nm,1.0s
NV11 Mina Array Sit 92.00 52 *e*P **P 03 49 04.1 -0.4**
comp=Z,1.4nm,1.0s
D08A Wollman Farm, 92.08 43 *e*P **P 03 49 06.5 +2.0**
comp=Z,25nm,1.1s
KVN Kaiserville 92.09 51 *e*P **P 03 49 04.5 -0.5**
comp=Z,25nm,1.4s
KVN Kaiserville 92.09 51 *e*P **P 03 49 04.5 -0.5**
KVN pmax pmax
comp=Z,25nm,1.4s
BFSC Mount Baldy Ra 92.10 56 P **P 03 49 05.2 +0.2**
baz=266
J08A Circle Bar Ran 92.11 47 *e*P **P 03 49 04.4 -0.5**
comp=Z,30nm,1.0s
DAC Darwin (Calif) 92.30 54 *e*P **P 03 49 08.2 +2.2**
comp=Z,31nm,1.2s
DAC Darwin (Calif) 92.30 54 *e*P **P 03 49 08.2 +2.2**
DAC pmax pmax
comp=Z,31nm,1.2s
MPMC Manual Prospec 92.36 54 P **P 03 49 06.0 -0.3**
baz=266,SNR=8.4
MURC Murrieta 92.44 57 P **P 03 49 06.9 +0.4**
baz=266
109C Camp Elliot, M 92.47 57 P **P 03 49 06.9 +0.3**
baz=266
CPE Camp Elliot 92.47 57 *e*P **P 03 49 09.6 +3.0**
comp=Z,30nm,1.1s
GRAC Grapevine Rang 92.53 53 P **P 03 49 06.7 -0.1**
baz=266,SNR=6.6
C09A Chrisman Ranch 92.57 42 *e*P **P 03 49 06.8 +0.1**
comp=Z,21nm,1.1s
E09A Wood Farm, Sta 92.57 44 *e*P **P 03 49 06.7 0.0**
comp=Z,64nm,1.1s
BMN Battle Mountai 92.85 50 *e*P **P 03 49 10.6 +2.2**
comp=Z,9.3nm,1.0s
GSC Goldstone, Bar 92.87 55 *e*P **P 03 49 10.9 +2.3**
comp=Z,10nm,1.0s
GSC Goldstone, Bar 92.87 55 P **P 03 49 08.6 +0.1**
baz=266
FURC Furnace Creek, 92.90 54 P **P 03 49 08.5 +0.1**
baz=266,SNR=8.5
MONP2 Monument Peak 93.05 57 P **P 03 49 09.1 -0.5**
baz=267
BMO Blue Mountains 93.05 45 *e*P **P 03 49 08.3 -0.8**
comp=Z,46nm,1.2s
BMO Blue Mountains 93.05 45 *e*P **P 03 49 08.3 -0.8**
BMO pmax pmax
comp=Z,46nm,1.2s
PFO Pinyon Flats O 93.06 57 *e*P **P 03 49 12.5 +3.0**
comp=Z,12nm,1.0s
PFO Pinyon Flats O 93.06 57 P **P 03 49 10.3 +0.8**
baz=267
F10A Beach Ranch, E 93.17 44 *e*P **P 03 49 08.8 -0.9**
comp=Z,38nm,1.0s
HEC Hector,Ludlow 93.23 55 P **P 03 49 10.2 0.0**
baz=267
IKP In-Ko-Pah, Jac 93.30 58 P **P 03 49 10.7 +0.1**
baz=267
SHOC Shoshone, Teco 93.34 54 P **P 03 49 10.7 +0.1**
baz=267,SNR=6.1
NEW Newport 93.36 42 *e*P **P 03 49 09.5 -0.9**
comp=Z,27nm,1.0s
NEW Newport 93.36 42 *e*P **P 03 49 09.5 -0.9**
NEW pmax pmax
comp=Z,27nm,1.0s
NEW Newport 93.36 42 P **P 03 49 09.8 -0.6**
baz=267
TPNV Topopah Spring 93.42 53 *e*P **P 03 49 10.8 -0.3**
comp=Z,22nm,1.1s
TPNV Topopah Spring 93.42 53 *e*P **P 03 49 10.8 -0.3**
TPNV pmax pmax
comp=Z,23nm,1.1s
BELC Belle Mtn. Jos 93.46 56 P **P 03 49 11.4 +0.1**
baz=267,SNR=5.7
SWSC Sam W. Stewart 93.57 57 P **P 03 49 12.1 +0.4**
baz=267
GMRC Granite Mounta 93.78 56 P **P 03 49 13.0 +0.2**
baz=267,SNR=8.1
BC3 Big Chuckawall 93.90 57 P **P 03 49 13.0 -0.3**
baz=267,SNR=6.1
SYO Syowa Base 93.94 199⇓ *e*P **P 03 49 10.0 -2.6**
SYO Syowa Base 93.94 199⇓ *i*P **P 03 49 12.4 -0.2**
SYO Syowa Base 93.94 199⇓ *e*P P 03 49 21.7 +9.1
PLID Pearl Lake 93.99 45 *e*P **P 03 49 12.6 -1.1**
comp=Z,16nm,1.0s
R11A Troy Canyon, C 94.01 52 *e*P **P 03 49 14.3 +0.5**
comp=Z,13nm,1.2s
R11A Troy Canyon, C 94.01 52 P **P 03 49 14.1 +0.3**
baz=267,SNR=18
IRM Iron Mountain 94.18 56 P **P 03 49 15.0 +0.6**
baz=267,SNR=12
LDFC Landfair 94.25 55 *e*P **P 03 49 18.3 +3.4**
comp=Z,55nm,1.1s
SHPR Sheep Range 94.27 54 *e*P **P 03 49 16.9 +1.9**
comp=Z,19nm,1.3s
ELK Elko 94.38 50 *e*P **P 03 49 17.0 +1.5**
comp=Z,9.7nm,1.1s
ELK Elko 94.38 50 *e*P **P 03 49 17.0 +1.5**
ELK pmax pmax
comp=Z,10.0nm,1.1s
GLA Glamis 94.39 57 P **P 03 49 16.5 +1.0**
baz=267
Y12C Blythe 94.68 57 *e*P **P 03 49 19.5 +2.8**
comp=Z,21nm,1.5s
Y12C Blythe 94.68 57 P **P 03 49 18.0 +1.3**
baz=268
SVE Sverdlovsk 94.96 327 *e*P **P 03 49 15.8 -1.7**
SVE *e*S **SKSac 03 59 43.3 -3.7**
SVE pmax pmax
comp=Z,70nm,1.5s
SVE MLR MLR
comp=Z,885nm,18.0s
PDMCI Parker Dam,Lak 95.02 56 P **P 03 49 18.7 +0.5**
baz=268
HLID Hailey 95.08 47 *e*P **P 03 49 18.3 -0.3**
comp=Z,9.1nm,1.2s
HLID Hailey 95.08 47 P **P 03 49 18.9 +0.4**
baz=269
YKW3 Yellowknife Ar 95.16 28 *e*P **P 03 49 17.3 -0.9**
YKA Yellowknife Ar 95.16 28 P **P 03 49 17.7 -0.6**
comp=Z,13nm,0.8s,baz=270,slow=4.7,SNR=66
YKA pP **pP 03 49 35.6 -1.8**
comp=Z,8.3nm,0.8s,baz=270,slow=4.6,SNR=8.2
YKA PKiKP **PKiKP 03 53 58.7 -0.4**
comp=Z,3.0nm,0.7s,baz=277,slow=1.4,SNR=15
YKA PKKP **PKKPdf 04 06 12.9 -1.7**
comp=Z,1.6nm,0.7s,baz=90,slow=3.0,SNR=14
YKA PKPPKP 04 14 23.8
comp=Z,0.4nm,0.9s,baz=83,slow=2.3,SNR=4.0
YKA LR LR 04 26 46.1
comp=Z,103nm,21.6s,baz=290,slow=32
YKB5 Yellowknife Ar 95.16 28 *e*P **P 03 49 17.7 -0.6**
YKB5 *e*pP **pP 03 49 35.6 -1.8**
W13A Hualapai Mount 95.25 55 *e*P **P 03 49 20.0 +0.4**
comp=Z,15nm,1.2s
AB31 Akbulak array 95.28 319 *i*P **P 03 49 16.9 -2.2**
AB31 pmax pmax
comp=Z,22nm,0.8s
ABKAR Akbulak array 95.28 319 *e*P **P 03 49 17.1 -2.0**
comp=Z,31nm,0.8s
MSO Missoula 95.47 44 *e*P **P 03 49 21.1 +0.8**
comp=Z,6.3nm,1.0s
MSO Missoula 95.47 44 P **P 03 49 20.3 +0.1**
baz=269
WALA Waterton Lakes 95.52 41 *e*P **P 03 49 20.4 0.0**
comp=Z,53nm,1.1s

WSAR	Wadi Sarin	95.62	293	P	P	03 49 20.1	-1.2
WSAR	Wadi Sarin	95.62	293	PKKP	PKKPbc	04 06 10.8	-1.4
	comp=Z,5.8nm,0.6s,baz=280,slow=8.0,SNR=2.5						
Y14A	Wickenburg	95.95	56	eP	P	03 49 25.2	+2.6
	comp=Z,8.8nm,1.4s						
214A	Organ Pipe Nat	96.06	58	P	P	03 49 22.8	-0.4
	baz=268,SNR=5.6						
ARU	Arti	96.11	326	eP	P	03 49 20.0	-2.7
	comp=Z,45nm,0.8s						
ARU				epP	pP	03 49 41.1	-0.5
ARU				ePP	PP	03 53 17.4	+1.2
ARU	Arti	96.11	326	d iP	P	03 49 20.8	-1.9
ARU				*PP	pP	03 49 40.0	-1.6
ARU						03 53 13.1	
ARU				S	SKSac	03 59 50.3	-2.8
ARU				pmax	pmax		
	comp=Z,56nm,0.8s						
ARU	Arti	96.11	326	PP	PP	03 53 16.8	+0.6
	baz=98,slow=6.9						
ARU				PKKP	PKKPbc	04 06 10.2	-2.0
	comp=Z,2.3nm,0.2s,baz=272,slow=3.1,SNR=7.9						
ARU				PKPPKP		04 14 24.9	
	comp=Z,1.1nm,0.3s,baz=262,slow=3.7,SNR=5.7						
MHTO	MHTO	96.14	291	P	P	03 49 22.1	-1.5
	SNR=5.6						
DUG	Dugway, Tooele	96.21	50	eP	P	03 49 25.5	+1.7
	comp=Z,8.2nm,1.4s						
DUG	Dugway, Tooele	96.21	50	eP	P	03 49 25.5	+1.7
DUG				pmax	pmax		
	comp=Z,8.0nm,1.4s						
DUG	Dugway, Tooele	96.21	50	P	P	03 49 23.7	-0.1
	baz=269						
MCMT	McKenzie Canyo	96.22	46	eP	P	03 49 25.1	+1.2
GEYT	Alibeck	96.47	308	P	P	03 49 23.9	-1.0
	comp=Z,193nm,0.8s,baz=58,slow=5.4,SNR=5.2						
GEYT				LR	LR	04 34 15.9	
	comp=Z,483nm,21.6s,baz=80,slow=36						
GYA0B	ALIBECK ARRAY	96.47	308	eP	P	03 49 28.9	+4.0
	comp=Z,29nm,1.3s						
LRM	Limekiln Ridge	96.50	45	eP	P	03 49 26.6	+1.5
AKTO	Aktyubinsk	96.53	320	PKKP	PKKPbc	04 06 11.8	+1.0
	comp=Z,5.3nm,0.7s,baz=283,slow=4.4,SNR=16						
U15A	North Rim	96.58	54	eP	P	03 49 26.4	+0.6
	comp=Z,13nm,1.3s						
BOZ	Bozeman (W)	97.08	45	eP	P	03 49 26.8	-0.8
	comp=Z,9.2nm,1.1s						
BOZ	Bozeman (W)	97.08	45	eP	P	03 49 26.8	-0.8
BOZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BOZ	Bozeman (W)	97.08	45	P	P	03 49 27.3	-0.3
	baz=271						
QLMT	Earthquake Lak	97.23	46	eP	Pdif	03 49 30.2	+1.7
H06N1	SOCORRO T-PHAS	97.28	72	T	T	05 37 40.2	
H06S1	SOCORRO T	97.30	72	T	T	05 37 42.8	
WUAZ	Wupatki	97.31	55	eP	Pdif	03 49 31.6	+2.6
	comp=Z,9.2nm,1.1s						
WUAZ	Wupatki	97.31	55	P	Pdif	03 49 29.2	+0.2
	baz=270						
H06E1	SOCORRO T-PHAS	97.33	72	T	T	05 37 40.7	
FXWY	Fox Creek	97.54	47	eP	P	03 49 29.5	-0.3
	comp=Z,7.1nm,0.9s						
TPAW	Teton Pass	97.60	47	eP	Pdif	03 49 32.1	+1.9
	comp=Z,9.2nm,1.0s						
IMW	Indian Meadow	97.60	46	eP	Pdif	03 49 32.1	+1.9
	comp=Z,7.2nm,1.1s						
REDW	Red Top Meadow	97.67	47	eP	Pdif	03 49 32.1	+1.6
	comp=Z,10nm,1.1s						
SNOW	Snow King Moun	97.74	47	eP	Pdif	03 49 32.8	+2.0
	comp=Z,9.8nm,1.0s						
MOOW	Moose Ponds	97.74	47	eP	Pdif	03 49 32.2	+1.4
	comp=Z,6.9nm,0.9s						
FLWY	Flagg Ranch	97.77	46	eP	Pdif	03 49 33.0	+2.1
	comp=Z,6.1nm,0.8s						
TUC	Tucson	97.78	58	eP	Pdif	03 49 34.4	+3.3
	comp=Z,10nm,1.4s						
TUC	Tucson	97.78	58	eP	Pdif	03 49 34.4	+3.4
TUC				pmax	pmax		
	comp=Z,10.0nm,1.4s						
TUC	Tucson	97.78	58	P	Pdif	03 49 31.8	+0.8
	baz=270						
LOHW	Long Hollow	97.85	47	eP	Pdif	03 49 32.9	+1.6
	comp=Z,5.0nm,1.0s						
H17A	Grant Village	97.85	46	eP	Pdif	03 49 34.0	+2.8
	comp=Z,9.8nm,0.8s						
H17A	Grant Village	97.85	46	P	Pdif	03 49 31.6	+0.3
	baz=271						
LKWY	Lake	97.97	46	eP	Pdif	03 49 35.1	+3.2
	comp=Z,6.6nm,0.8s						
LKWY	Lake	97.97	46	eP	Pdif	03 49 35.1	+3.3
LKWY				pmax	pmax		
	comp=Z,7.0nm,0.8s						
EGMT	Eagleton	98.30	42	eP	Pdif	03 49 33.9	+1.0
	comp=Z,22nm,1.3s						
EGMT	Eagleton	98.30	42	P	P	03 49 32.4	-0.5
	baz=272						
GCMT	Greycliff	98.45	45	eP	Pdif	03 49 36.2	+2.4
X18A	Snowflake	98.48	56	eP	Pdif	03 49 37.5	+3.3
	comp=Z,6.9nm,1.1s						
BW06	Boulder Array	98.63	48	eP	P	03 49 33.8	-1.0
	comp=Z,14nm,1.2s						
BW06	Boulder Array	98.63	48	P	P	03 49 34.0	-0.7
	baz=272						
PD31	Pinedale Array	98.63	48	eP	P	03 49 34.1	-0.7
	comp=Z,12nm,1.1s						
PD31				ePP	PP	03 53 40.0	+3.7
PDAR	Pinedale Array	98.63	48	P	P	03 49 33.4	-1.4
	comp=Z,7.7nm,1.0s,baz=238,slow=2.2,SNR=25						
PDAR				pP	pP	03 49 53.8	-0.4
	comp=Z,4.2nm,1.1s,baz=274,slow=5.2,SNR=3.2						
PDAR				PP	PP	03 53 40.0	+3.7
	comp=Z,2.0nm,0.8s,baz=272,slow=5.6,SNR=5.7						
PDAR				PKiKP	PKiKP	03 54 05.7	-0.4
	comp=Z,2.8nm,0.7s,baz=236,slow=2.1,SNR=4.8						
PDAR				PKKP	PKKPbc	04 06 05.2	+0.2
	comp=Z,0.7nm,0.5s,baz=116,slow=5.9,SNR=5.3						
PDAR				LR	LR	04 30 45.9	
	comp=Z,489nm,18.8s,baz=278,slow=33						
W18A	Petrified Fore	98.65	55	eP	Pdif	03 49 38.0	+3.1
	comp=Z,10nm,1.0s						
W18A	Petrified Fore	98.65	55	P	P	03 49 34.6	-0.4
	baz=270						
RLMT	Red Lodge	98.76	45	eP	Pdif	03 49 37.6	+2.3
	comp=Z,7.7nm,1.0s						
RLMT	Red Lodge	98.76	45	P	P	03 49 35.0	-0.2
	baz=272						
PV09	Paradox Valley	99.08	52	eP	Pdif	03 49 39.6	+2.7
PV14	Lion Creek, Pa	99.17	52	eP	Pdif	03 49 39.1	+1.8
	comp=Z,17nm,1.4s						
PV23	Carpenter Ridg	99.18	52	eP	Pdif	03 49 39.9	+2.5
	comp=Z,20nm,1.2s						
PV21	Cone Mtn., Par	99.20	52	eP	Pdif	03 49 39.6	+2.2
	comp=Z,6.0nm,1.0s						
PV20	West Nyswonger	99.21	52	eP	Pdif	03 49 40.0	+2.5
	comp=Z,15nm,1.3s						
PV17	East Wray Mesa	99.22	52	eP	Pdif	03 49 39.3	+1.9
	comp=Z,8.4nm,1.1s						
PV16	Nyswonger Mesa	99.25	52	eP	Pdif	03 49 39.6	+1.9
	comp=Z,9.9nm,1.2s						
PV04	Paradox Valley	99.26	52	eP	Pdif	03 49 39.6	+2.0
	comp=Z,12nm,1.0s						
PV11	David Mesa, Pa	99.29	52	eP	Pdif	03 49 40.4	+2.6
	comp=Z,18nm,1.3s						
PV03	Paradox Valley	99.31	52	eP	Pdif	03 49 39.6	+1.7
	comp=Z,12nm,1.4s						
PV13	Radium Mtn., P	99.33	52	eP	Pdif	03 49 40.5	+2.5
	comp=Z,9.3nm,1.4s						
PV12	Saucer Basin,	99.34	52	eP	Pdif	03 49 40.2	+2.1
	comp=Z,16nm,1.2s						
PV22	Blue Mesa, Par	99.35	52	eP	Pdif	03 49 39.8	+1.8
	comp=Z,6.1nm,1.0s						
PV02	Paradox Valley	99.40	52	eP	Pdif	03 49 40.8	+2.5
	comp=Z,12nm,1.3s						
MVCO	Mesa Verde	99.61	53	P	Pdif	03 49 39.1	-0.2
	baz=272						
O20A	White River Ci	99.72	50	P	Pdif	03 49 38.7	-0.9
	baz=272						
RES	Resolute Bay	100.13	14	ePdif	Pdif	03 49 40.1	-0.3
RES	Resolute Bay	100.13	14	eP	Pdif	03 49 40.1	-0.3
LAO	LASA Array	100.78	43	P	Pdif	03 49 44.0	0.0
	baz=275						
K22A	Casper	100.87	48	P	Pdif	03 49 44.2	-0.5
	baz=274						
S22A	4UR Ranch, Cre	100.92	53	ePdif	Pdif	03 49 46.2	+1.1
S22A	4UR Ranch, Cre	100.92	53	P	Pdif	03 49 45.0	-0.2
	baz=273						
N23A	Red Feather La	101.42	49	P	Pdif	03 49 46.7	-0.6
	baz=274						
ISCO	Idaho Springs	101.75	50	P	Pdif	03 49 48.8	-0.1
	baz=274						
DGMT	Dagmar	101.96	42	P	Pdif	03 49 50.0	+0.8
	baz=277						
SDCO	Great Sand Dun	101.97	53	P	Pdif	03 49 49.3	-0.6
	baz=274						
PRGR	Permogore	102.10	332	eP	Pdif	03 49 46.3	-3.1
PRGR						03 53 56.1	
PRGR				e		04 00 21.6	
PRGR				pmax	pmax		
	comp=Z,22nm,1.0s						
SNAA	Sanae	102.31	188	P	Pdif	03 49 49.3	-1.0
SNAA	Sanae	102.31	188	PKKP	PKKPbc	04 05 52.0	-3.1
SNAA	Sanae	102.31	188	PKiKP	PKiKP	03 53 56.1	-16
SNAA	Sanae	102.31	188	ePdif	Pdif	03 49 51.4	+1.1
SNAA	Sanae	102.31	188 ‖	eP	Pdif	03 49 49.3	-1.0
SNAA	Sanae	102.31	188	PKKPbc	PKKPbc	04 05 51.7	-3.3
	comp=Z,6.3nm,0.9s,baz=264,slow=2.3,SNR=9.9						
FFC	Flin Flon	102.43	35	i P	Pdif	03 49 53.1	+2.0
RSSD	Black Hills	102.55	46	ePdif	Pdif	03 49 53.1	+0.9
RSSD	Black Hills	102.55	46	eP	Pdif	03 49 53.1	+0.9
RSSD	Black Hills	102.55	46	P	Pdif	03 49 51.9	-0.3
	baz=276						
SPITS	Spitsbergen Ar	103.04	352	PKKPbc	PKKPbc	04 05 50.1	-2.9
	comp=Z,3.1nm,0.6s,baz=157,slow=4.5,SNR=18						
VNA3	Neumayer Olymp	103.50	186	P	Pdif	03 49 54.9	-0.7
VNA3	Neumayer Olymp	103.50	186	PKiKP	PKiKP	03 54 03.1	-11
VNA3	Neumayer Olymp	103.50	186	PKKP	PKKPbc	04 05 48.1	-3.3
VNA2	Neumayer--Watz	103.56	187	P	Pdif	03 49 57.3	+1.5
	baz=148,slow=4.3						
VNA2	Neumayer--Watz	103.56	187	PKKP	PKKPbc	04 05 47.8	-3.4
VNA2	Neumayer--Watz	103.56	187	PKiKP	PKiKP	03 54 12.8	-1.2
	baz=148,slow=4.3						
VNA1	Neumayer--Stat	103.92	186	P	Pdif	03 49 51.4	-6.0
VNA1	Neumayer--Stat	103.92	186	PKKP	PKKPbc	04 05 45.7	-4.4
VNA1	Neumayer--Stat	103.92	186	PKiKP	PKiKP	03 54 19.4	+4.8
TXAR	Lajitas Array	103.96	61	Pdiff	Pdif	03 50 01.7	+3.0
	comp=Z,0.4nm,0.9s,baz=260,slow=3.6,SNR=3.6						
TXAR				PKiKP	PKiKP	03 54 15.4	-0.6
	comp=Z,4.5nm,1.0s,baz=242,slow=1.9,SNR=13						
TXAR				PKKPbc	PKKPbc	04 05 49.4	+0.5
	comp=Z,2.5nm,0.8s,baz=121,slow=4.4,SNR=15						
TXAR				PKKPab	PKKPdf	04 06 09.2	+11
	comp=Z,2.0nm,0.7s,baz=99,slow=5.8,SNR=8.8						
TXAR				PKPPKP	P'P'df	04 14 11.0	+1.0
	comp=Z,1.1nm,1.1s,baz=95,slow=2.6,SNR=5.4						
MAK	Makhachkala	104.28	313	eP	Pdif	03 49 57.1	-2.4
MAK				i		03 54 14.4	
MAK				e		04 00 32.4	
MAK				e		04 01 13.0	
MAK				pmax	pmax		
	comp=Z,21nm,0.3s						
TMCR	Tamitsa	104.69	336	eP	Pdif	03 49 58.1	-2.8
TMCR				pmax	pmax		
	comp=Z,12nm,0.6s						
APA	Apatity	105.09	340 ⇑	i P	Pdif	03 50 09.7	+7.1
APA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KLMR	Klimovskoe	105.16	332	eP	Pdif	03 49 59.7	-3.3
KLMR				pmax	pmax		
	comp=Z,47nm,1.5s						
ARA0	ARCESS Array S	106.61	343	ePdif	Pdif	03 50 09.1	-0.2
ARA0				ePKiKP	PKiKP	03 54 19.3	-0.3
ARCES	ARCESS Array B	106.61	343	Pdiff	Pdif	03 50 09.1	-0.2
	comp=Z,3.7nm,1.0s,baz=64,slow=6.1,SNR=5.1						
ARCES				PKiKP	PKiKP	03 54 19.3	-0.3
	comp=Z,4.9nm,0.7s,baz=100,slow=2.0,SNR=21						
ARCES				PKKPbc	PKKPbc	04 05 41.1	-0.9
	comp=Z,3.4nm,0.7s,baz=240,slow=2.1,SNR=14						
GNI	Garni	106.72	310	PKiKP	PKiKP	03 54 20.5	-0.3
	comp=Z,3.1nm,0.3s,baz=152,slow=5.1,SNR=3.7						
ZEI	Tsey	106.92	313	eP	Pdif	03 50 09.6	-2.0
ZEI				pmax	pmax		
	comp=Z,12nm,0.9s						
ULM	Lac du Bonnet	107.00	39	Pdiff	Pdif	03 50 09.8	-1.7
	comp=Z,3.1nm,0.9s,baz=243,slow=4.5,SNR=3.5						
ULM				PKiKP	PKiKP	03 54 20.0	-0.8
	comp=Z,8.4nm,0.7s,baz=277,slow=3.0,SNR=13						
ULM				PKKPab	PKKPab	04 05 54.0	+0.1
	comp=Z,3.7nm,0.7s,baz=97,slow=3.9,SNR=7.1						
ABTX	Abilene, Hawle	107.17	57	P	PKiKP	03 54 21.5	-0.2
	baz=276						
JCT	Junction City	107.24	60	P	PKiKP	03 54 21.4	-0.5
	baz=275						
AGMN	Agassiz Nation	107.46	41	P	PKiKP	03 54 21.4	-0.4
	baz=283						
KBZ	Khabaz	107.48	314	Pdiff	Pdif	03 50 12.8	-0.9
	comp=Z,2.3nm,0.7s,baz=108,slow=2.9,SNR=5.8						
KBZ				PKiKP	PKiKP	03 54 23.3	+1.5
	comp=Z,2.5nm,0.9s,baz=108,slow=2.2,SNR=3.7						
DAG	Danmarks Havn	107.65	358	i P	PKiKP	03 54 23.8	+2.5
DAG				i		03 54 40.3	
DAG	Danmarks Havn	107.65	358	i P	PKKPbc	04 05 37.0	-1.8
	comp=Z,4.0nm,0.9s						
WMOK	Wichita Mounta	107.66	55	P	PKiKP	03 54 22.3	-0.2
	baz=277						
MOS	Moscow	107.74	328	eP	Pdif	03 50 12.8	-1.8
MOS				MLR	MLR		
	comp=Z,900nm,20.0s						
ECSD	EROS Data Cent	107.91	46	ePdif	Pdif	03 50 17.3	+1.6
ECSD	EROS Data Cent	107.91	46	P	PKiKP	03 54 22.1	-0.7
	baz=281						
KSU1	Kansas State U	108.75	50	P	PKiKP	03 54 23.8	-0.7
	baz=280						
TUL1	Leonard	109.92	54	P	PKiKP	03 54 26.5	-0.2
	baz=279						
F37A	Hinrichs Farm,	110.23	43	P	PKiKP	03 54 26.9	-0.1
	baz=285						
SPMN	Marine on St.	110.24	43	P	PKiKP	03 54 26.9	-0.1
	baz=285						
EYMN	Ely	110.38	40	P	PKiKP	03 54 27.2	-0.1
	baz=287						
F38A	Pierce - Schro	110.68	42	P	PKiKP	03 54 27.6	-0.2
	baz=286						
H38A	Maiden Rock	110.74	44	P	PKiKP	03 54 27.6	-0.4
	baz=285						
FIA0	FINESS Array S	110.81	336	ePdif	Pdif	03 50 26.6	-1.6
FIA0	FINESS Array S	110.81	336	eP	Pdif	03 50 26.6	-1.6
FINES	FINESS Array B	110.81	336	Pdiff	Pdif	03 50 26.6	-1.6
	comp=Z,2.1nm,0.5s,baz=71,slow=4.9,SNR=19						
FINES				PKiKP	PKiKP	03 54 27.2	-0.4
	comp=Z,8.4nm,0.9s,baz=76,slow=3.0,SNR=12						
FINES				PKKPbc	PKKPbc	04 05 26.1	-2.2
	comp=Z,6.0nm,0.6s,baz=231,slow=2.1,SNR=20						
G38A	Ridgeland	110.90	43	P	PKiKP	03 54 27.9	-0.4
	baz=285						
ANN	Anapa	111.07	316	i PKIKP	PKiKP	03 54 32.8	+4.2
ANN				e		03 55 08.8	
ANN				e		04 00 58.8	
ANN				e		04 01 34.8	
ANN				eSP	SP	04 04 33.9	+2.4
ANN				pmax	pmax		
	comp=Z,18nm,1.0s						
ANN				MLR	MLR		
	comp=E,495nm,24.0s						
ANN				MLR	MLR		
	comp=N,994nm,24.0s						
ANN				MLR	MLR		
	comp=Z,1μm,24.0s						
F39A	Loretta	111.33	42	P	PKiKP	03 54 28.4	-0.7
	baz=286						
G39A	Holcombe	111.34	43	P	PKiKP	03 54 28.0	-1.2
	baz=286						
H39A	Augusta	111.42	44	P	PKiKP	03 54 28.5	-0.8
	baz=286						
E39A	Mellen	111.44	42	P	PKiKP	03 54 28.8	-0.5
	baz=287						
I39A	Houston	111.48	44	P	PKiKP	03 54 28.5	-1.0
	baz=285						
J39A	Decorah	111.48	45	P	PKiKP	03 54 28.6	-0.9
	baz=285						
K39A	Oelwein	111.51	46	P	PKiKP	03 54 28.7	-0.8
	baz=284						
L39A	Vinton	111.57	46	P	PKiKP	03 54 28.9	-0.8
	baz=284						
W39A	Magazine	111.65	54	P	PKiKP	03 54 29.4	-0.6
	baz=280						
SUMG	Summit	111.66	4	i PKIKP	PKiKP	03 54 30.5	+1.0
SUMG				pmax	pmax		
	comp=Z,49nm,1.1s						
SUMG	Summit	111.66	4	i P	PKiKP	03 54 30.5	+1.0
	comp=Z,49nm,1.1s						
E40A	Wakefield	111.86	41	P	PKiKP	03 54 29.5	-0.6
	baz=287						
F40A	Park Falls	111.87	42	P	PKiKP	03 54 29.5	-0.6
	baz=287						
C40A	Isle Royale Na	111.89	40	P	PKiKP	03 54 29.7	-0.4
	baz=288						
MIAR	Mount Ida	111.93	55	P	PKiKP	03 54 30.1	-0.4
	baz=280						
G40A	Rib Lake	112.00	43	P	PKiKP	03 54 29.7	-0.7
	baz=287						
K40A	Colesburg	112.05	46	P	PKiKP	03 54 29.8	-0.8
	baz=285						
VSU	Vasula	112.05	333	c iPKIKP	PKiKP	03 54 29.9	-0.1
VSU				pmax	pmax		
	comp=Z,56nm,1.0s						
VSU	Vasula	112.05	333	eP	PKiKP	03 54 26.2	-3.8
VSU				IAmb	IAmb	03 54 34.7	
	comp=Z,43nm,0.8s						
H40A	Chili	112.05	43	P	PKiKP	03 54 29.7	-0.9
	baz=286						
I40A	Norwalk	112.10	44	P	PKiKP	03 54 29.7	-0.9
	baz=286						
J40A	Soldiers Grove	112.14	45	P	PKiKP	03 54 30.2	-0.6
	baz=286						
L40A	Anamosa	112.15	46	P	PKiKP	03 54 30.1	-0.7
	baz=285						
N40A	Mertquake, Sal	112.17	48	P	PKiKP	03 54 30.3	-0.5
	baz=284						
U40A	Yellville	112.18	53	P	PKiKP	03 54 30.6	-0.4
	baz=281						
H41A	Junction City	112.56	43	P	PKiKP	03 54 30.6	-0.9
	baz=287						
I41A	Arkdale	112.57	44	P	PKiKP	03 54 30.9	-0.6
	baz=286						
F41A	Three Lakes	112.60	42	P	PKiKP	03 54 31.3	-0.3
	baz=288						
JFWS	Jewell Farm	112.62	45	P	PKiKP	03 54 31.0	-0.7
	baz=286						
J41A	Loganville	112.66	45	P	PKiKP	03 54 31.2	-0.6
	baz=286						
G41A	Antigo	112.71	43	P	PKiKP	03 54 31.1	-0.6
	baz=287						
N41A	Harden Midland	112.75	48	P	PKiKP	03 54 31.5	-0.5
	baz=284						
Z41A	Richland Creek	112.78	56	P	PKiKP	03 54 31.4	-0.8
	baz=280						
S41A	Jillco Farms,	112.80	51	P	PKiKP	03 54 31.3	-0.8
	baz=282						
M41A	Milan	112.81	47	P	PKiKP	03 54 31.3	-0.7
	baz=285						
W41B	Gary Mavity, V	112.89	54	P	PKiKP	03 54 31.7	-0.6
	baz=281						
U41A	Viola	112.92	52	P	PKiKP	03 54 31.7	-0.8
	baz=282						
R41A	Rosebud	112.92	50	P	PKiKP	03 54 31.7	-0.7
	baz=283						
CCM	Cathedral Cave	113.08	51	P	PKiKP	03 54 32.4	-0.2
	baz=283						
E42A	Champion	113.17	41	P	PKiKP	03 54 32.1	-0.5
	baz=289						
G42A	Mountain	113.20	42	P	PKiKP	03 54 32.3	-0.4
	baz=288						
I42A	Draeger Farm,	113.28	44	P	PKiKP	03 54 32.2	-0.6
	baz=287						
L42A	Oliver, Polo	113.28	46	P	PKiKP	03 54 32.5	-0.5
	baz=286						
K42A	Prairie Point,	113.30	45	P	PKiKP	03 54 32.5	-0.5
	baz=286						
J42A	Columbus	113.30	45	P	PKiKP	03 54 32.6	-0.3
	baz=287						
H42A	Shiocton	113.36	43	P	PKiKP	03 54 32.5	-0.5
	baz=288						
Q42A	Golden Eagle	113.43	49	P	PKiKP	03 54 33.1	-0.2
	baz=284						
DIKM	Dikmen	113.44	314 ⇑	i P	PKiKP	03 54 31.1	-2.1
IDID	Didziasalis	113.58	330	eP	PKiKP	03 54 29.4	-3.6
IDID				IAmb	IAmb	03 54 37.9	
	comp=Z,16nm,1.2s						
IZAR	Zarasai	113.61	330	eP	PKiKP	03 54 30.4	-2.7
IZAR				IAmb	IAmb	03 54 37.0	
	comp=Z,8.5nm,0.8s						
G43A	Wallace	113.70	42	P	PKiKP	03 54 33.5	-0.1
	baz=289						
ISAL	Salakas	113.76	330	eP	PKiKP	03 54 31.9	-1.5
ISAL				IAmb	IAmb	03 54 38.4	
	comp=Z,12nm,1.0s						
J43A	Natural Harves	113.77	44	P	PKiKP	03 54 33.3	-0.6
	baz=287						
E43A	Lone Tree Farm	113.79	41	P	PKiKP	03 54 33.4	-0.3
	baz=290						
I43A	Langenfeld Bro	113.81	44	P	PKiKP	03 54 33.4	-0.5
	baz=288						
IIGN	Ignalina	113.82	330	eP	PKiKP	03 54 31.2	-2.3
IIGN				IAmb	IAmb	03 54 38.6	
	comp=Z,15nm,0.9s						
F43A	Flat Rock, Esc	113.85	41	P	PKiKP	03 54 33.3	-0.6
	baz=289						
H43A	Windswept, Lux	113.89	43	P	PKiKP	03 54 33.4	-0.6
	baz=288						
L43A	Garden Prairie	113.89	46	P	PKiKP	03 54 33.4	-0.7
	baz=286						
N43A	Stutzman Famil	113.92	47	P	PKiKP	03 54 33.8	-0.4
	baz=286						
HDIL	Hopedale	113.94	47	P	PKiKP	03 54 33.9	-0.3
	baz=285						
M43A	Waltham Townsh	113.95	46	P	PKiKP	03 54 33.6	-0.6
	baz=286						
P43A	Skaggs, Pawnee	114.01	48	P	PKPdf	03 54 34.0	-0.4
	baz=285						
K43A	Burlington	114.03	45	P	PKPdf	03 54 33.9	-0.4
	baz=287						
SCO	Scoresbysund	114.04	358	i PKIKP	PKiKP	03 54 33.8	+0.3
SCO				i		03 54 52.8	
SCO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SCO	Scoresbysund	114.04	358	i P	PKiKP	03 54 33.8	+0.3
	comp=Z,5.7nm,0.9s						
SCO				i		03 54 52.8	
BZK	Bozkurt	114.25	314 ⇑	i P	PKPdf	03 54 33.3	-1.4
ASF	Jabal al Asfar	114.29	303	PKP	PKPdf	03 54 35.0	-0.3
	comp=Z,5.3nm,0.8s,baz=208,slow=2.7,SNR=6.1						
ASF				pPKP	pPKiKP	03 54 54.3	-0.9
	comp=Z,7.0nm,0.9s,baz=321,slow=2.3,SNR=4.3						
AKASG	Malin Array Be	114.29	324	PKP	PKPdf	03 54 34.0	-0.5
	comp=Z,12nm,0

BRTR PKKPbc **PKKPbc** **04 05 12.8 -0.5**
comp=Z,5.8nm,0.7s,baz=215,slow=3.5,SNR=19
N45A Kentland 115.16 47 P **PKiKP** **03 54 36.2 -0.4**
baz=287
O45A Potomac 115.18 47 P **PKiKP** **03 54 35.9 -0.8**
baz=286
Q45A Warren Harvey, 115.23 49 P **PKiKP** **03 54 36.2 -0.6**
baz=286
R45A Skylar, Fairfi 115.29 50 P **PKiKP** **03 54 36.2 -0.7**
baz=285
OXF Oxford 115.31 54 P **PKiKP** **03 54 36.0 -1.0**
baz=283
MMAI Mount Meron Ar 115.36 304 PKP **PKiKP** **03 54 37.0 -0.3**
comp=Z,6.8nm,0.7s,baz=82,slow=7.7,SNR=9.2
P45A Graceland, Par 115.36 48 P **PKiKP** **03 54 36.6 -0.4**
baz=286
KMBO Kilima Mbogo 115.40 267 *e*PKPdf **PKiKP** **03 54 41.0 +2.9**
KMBO Kilima Mbogo 115.40 267 PKP **PKiKP** **03 54 38.2 +0.1**
comp=Z,10nm,1.1s,baz=7.5,slow=3.9,SNR=8.1
KMBO pPKP **pPKiKP** **03 54 57.5 -0.5**
comp=Z,8.4nm,0.9s,baz=46,slow=3.2,SNR=5.7
D46A Sault St. Mari 115.51 40 P **PKiKP** **03 54 36.5 -0.6**
baz=292
E46A Sault Ste Mari 115.53 40 *e*PKPdf **PKiKP** **03 54 36.9 -0.3**
E46A Sault Ste Mari 115.53 40 P **PKiKP** **03 54 36.7 -0.4**
baz=292
G46A Petoskey 115.55 41 P **PKiKP** **03 54 36.4 -0.7**
baz=291
SFJD Kangerlussuaq 115.56 10 *i* P **PKiKP** **03 54 34.2 -2.3**
SFIN Lafayette 115.60 47 *e*PKPdf **PKiKP** **03 54 37.4 0.0**
SFIN Lafayette 115.60 47 P **PKiKP** **03 54 36.9 -0.5**
baz=287
H46A Fife Lake 115.60 42 P **PKiKP** **03 54 36.4 -0.9**
baz=290
I46A Reed City 115.64 43 P **PKiKP** **03 54 36.4 -1.0**
baz=290
L46A Eue Claire 115.68 45 *e*PKPdf **PKiKP** **03 54 37.5 0.0**
L46A Eue Claire 115.68 45 P **PKiKP** **03 54 37.3 -0.3**
baz=288
J46A Howard City 115.70 44 P **PKiKP** **03 54 37.0 -0.6**
baz=289
N46A Monticello 115.71 47 P **PKiKP** **03 54 37.2 -0.4**
baz=288
ANTO Ankara 115.73 312 *e*PKPdf **PKPdf** **03 54 37.8 0.0**
ANTO Ankara 115.73 312 ⇓*iP* **PKPdf** **03 54 37.8 0.0**
ANTO Ankara 115.73 312 ⇓PKIKP **PKPdf** **03 54 37.8 0.0**
P46A Rosedale 115.74 48 P **PKiKP** **03 54 37.3 -0.4**
baz=286
BR231 Keskin MP Arra 115.75 312 *e*PKPdf **PKPdf** **03 54 38.6 +0.8**
M46A Old House Fiel 115.83 46 *e*PKPdf **PKiKP** **03 54 38.0 +0.1**
M46A Old House Fiel 115.83 46 P **PKPdf** **03 54 37.7 -0.2**
baz=288
U46A Springville 115.86 52 P **PKPdf** **03 54 37.4 -0.6**
baz=284
GLMI Grayling 115.89 42 P **PKiKP** **03 54 37.3 -0.6**
baz=291
T46A Princeton 115.91 51 P **PKPdf** **03 54 37.4 -0.7**
baz=285
X46A Booneville 115.96 54 P **PKPdf** **03 54 37.5 -0.8**
baz=283
KIS Kishinev 116.03 321 *e*PKP **PKiKP** **03 54 41.0 +3.0**
KIS Kishinev 116.03 321 *e*PP PP 03 56 13.0 +30
KIS *e*SKKS 04 02 25.0
KIS Kishinev 116.03 321 *e*PS PS 04 04 34.0 -52
KIS Kishinev 116.03 321 *e*PPS PPS 04 05 50.0
KIS *e*L L 04 33 10.0
KIS LRM MLR 04 42 00.0
comp=Z,900nm,20.0s
KIS Kishinev 116.03 321 *e*P **PKKPbc** **04 05 10.0 -0.3**
KIS Kishinev 116.03 321 *e*PKIKP **PKiKP** **03 54 41.0 +3.0**
KIS *e* 03 55 44.0
KIS MLR MLR
comp=Z,900nm,20.0s
D47A Chapleau 116.03 39 P **PKPdf** **03 54 37.5 -0.6**
baz=293
V46A Holladay 116.04 52 P **PKPdf** **03 54 37.4 -1.0**
baz=284
E47A Iron Bridge 116.16 40 P **PKPdf** **03 54 36.9 -1.4**
baz=293
WVT Waverly 116.19 52 *e*PKPdf **PKPdf** **03 54 37.8 -0.9**
WVT Waverly 116.19 52 *e*PKIKP **PKPdf** **03 54 37.8 -0.9**
WVT Waverly 116.19 52 P **PKPdf** **03 54 37.8 -0.9**
baz=284
H47A Mio 116.25 42 P **PKPdf** **03 54 37.9 -0.7**
baz=291
G47A Hillman 116.27 41 P **PKPdf** **03 54 38.0 -0.5**
baz=292
PLAL Pickwick Lake 116.27 53 *e*PKPdf **PKPdf** **03 54 37.4 -1.5**
AQBJ Aqaba 116.29 301 PKP **PKiKP** **03 54 41.2 +2.1**
J47A Sunmer 116.31 44 *e*PKPdf **PKPdf** **03 54 38.5 -0.1**
J47A Sunmer 116.31 44 P **PKPdf** **03 54 38.1 -0.6**
baz=290
O47A Sheridan 116.31 47 P **PKPdf** **03 54 38.1 -0.7**
baz=288
M47A Cromwell 116.37 46 P **PKPdf** **03 54 38.2 -0.6**
baz=289
K47A Vermontville 116.38 44 P **PKPdf** **03 54 38.2 -0.6**
baz=290
EIL Elat 116.38 301 PKP **PKPdf** **03 54 38.1 -1.1**
comp=Z,21nm,0.9s,baz=347,slow=4.0,SNR=5.6
L47A Sherwood 116.47 45 P **PKPdf** **03 54 38.2 -0.9**
baz=289
N47A Urbana 116.47 46 P **PKPdf** **03 54 38.4 -0.7**
baz=288
P47A Martinsville 116.47 48 P **PKPdf** **03 54 38.7 -0.5**
baz=287
NC303 NORSAR Array S 116.48 340 *e*PKPdf **PKiKP** **03 54 39.6 +1.1**
V47A Nunnelly 116.51 52 P **PKPdf** **03 54 38.5 -0.8**
baz=284
Q47A Bedord North L 116.51 49 P **PKPdf** **03 54 38.9 -0.4**
baz=287
T47A Sharon Grove 116.53 51 *e*PKPdf **PKPdf** **03 54 39.1 -0.3**
T47A Sharon Grove 116.53 51 P **PKPdf** **03 54 38.9 -0.4**
baz=285
U47A Clarksville 116.53 51 P **PKPdf** **03 54 38.5 -0.9**
baz=285
S47A Hartford 116.55 50 P **PKPdf** **03 54 38.5 -0.8**
baz=286
X47A Russelville 116.56 54 P **PKPdf** **03 54 38.4 -1.1**
baz=284
W47A Westpoint 116.59 53 P **PKPdf** **03 54 38.3 -1.2**
baz=284
R47A Wooly Knot Far 116.62 49 P **PKPdf** **03 54 38.7 -0.7**
baz=286
NC204 NORSAR Array S 116.64 341 *e*PKPdf **PKiKP** **03 54 40.9 +2.0**
NB2 NORSAR Subarra116.66 340 PKPdf **PKPdf** **03 54 37.4 -1.5**
comp=Z,5.1nm,0.7s,baz=44,slow=1.9
NB2 NORSAR Subarra116.66 340 PKIKP **PKiKP** **03 54 42.1 +3.2**
NB2 pmax pmax
comp=Z,7.0nm,0.6s
NB2 NORSAR Subarra116.66 340 PKPdf **PKPdf** **03 54 37.4 -1.5**
baz=44,slow=1.9
NB200 NORSAR Array S 116.66 340 *e*PKPdf **PKPdf** **03 54 38.2 -0.7**
NOA NORSAR Array B 116.66 340 PKP **PKPdf** **03 54 38.2 -0.7**
comp=Z,10nm,0.7s,baz=46,slow=1.9,SNR=22
NOA pPKP pPKPdf 03 54 56.8 -2.0
comp=Z,5.5nm,0.7s,baz=44,slow=1.9,SNR=5.2
NOA PKKPbc **PKKPbc** **04 05 05.4 -3.2**
comp=Z,1.7nm,0.8s,baz=42,slow=3.5,SNR=7.5
NOA PKKP **PKKPdf** **04 05 31.9 -2.7**
comp=Z,1.4nm,0.9s,baz=227,slow=3.8,SNR=3.4
MDUB Mudurnu 116.72 313 *e*PKPdf **PKPdf** **03 54 39.4 -0.4**
TLCR 116.73 319 ⇑*iP* **PKPdf** **03 54 39.0 -0.4**
TLCR 116.73 319 ⇑PKIKP **PKPdf** **03 54 39.0 -0.4**
NC602 NORSAR Array S 116.77 340 *e*PKPdf **PKiKP** **03 54 39.6 +0.5**
NORES NORESS Array B 116.77 340 PKIKP **PKiKP** **03 54 39.9 +0.8**
NORES pmax pmax
comp=Z,2.0nm,0.4s
WCI Wyandotte Cave 116.81 49 *e*PKPdf **PKPdf** **03 54 39.3 -0.6**
WCI Wyandotte Cave 116.81 49 *e*PKIKP **PKPdf** **03 54 39.3 -0.6**
WCI Wyandotte Cave 116.81 49 P **PKPdf** **03 54 39.2 -0.6**
baz=287
NBO00 NORSAR Array S 116.82 340 *e*PKPdf **PKPdf** **03 54 38.9 -0.3**
F48A Evansville 116.82 40 P **PKPdf** **03 54 38.5 -1.1**
baz=293
E48A Lockeyer 116.85 39 P **PKPdf** **03 54 39.3 -0.4**
baz=294
NAO01 NORSAR Array S 116.92 340 *e*PKPdf **PKiKP** **03 54 40.8 +1.4**
APG El Apazote 116.94 76 PKKPab PKKPab 04 05 09.6 -1.1
comp=Z,2.0nm,0.6s,baz=202,slow=18,SNR=3.1
K48A Perry 116.94 44 P **PKPdf** **03 54 39.6 -0.4**
baz=290
N48A Decatur 116.95 46 P **PKPdf** **03 54 39.5 -0.5**
baz=289
M48A Edgerton 116.97 45 *e*PKPdf **PKPdf** **03 54 39.8 -0.3**
M48A Edgerton 116.97 45 P **PKPdf** **03 54 39.5 -0.5**
baz=289
J48A Bridge Port 117.00 43 *e*PKPdf **PKPdf** **03 54 40.0 -0.1**
J48A Bridge Port 117.00 43 P **PKiKP** **03 54 40.2 +0.1**
baz=291
L48A N Adams 117.02 45 P **PKPdf** **03 54 39.9 -0.2**
baz=290
Q48A North Vernon 117.03 48 P **PKPdf** **03 54 39.9 -0.4**
baz=287
D49A Beulah Townshi 117.03 38 P **PKPdf** **03 54 39.6 -0.4**
baz=295
T48A Bowling Green 117.05 50 P **PKPdf** **03 54 39.4 -0.9**
baz=286
O48A Farmland 117.05 47 P **PKPdf** **03 54 39.8 -0.5**
baz=288
V48A Smith Brothers 117.08 52 *e*PKPdf **PKPdf** **03 54 39.6 -0.9**
V48A Smith Brothers 117.08 52 P **PKPdf** **03 54 39.5 -0.9**
baz=285
R48A Northridge Ran 117.08 49 P **PKPdf** **03 54 39.8 -0.5**
baz=287
U48A Cassie Pea, Po 117.10 51 P **PKPdf** **03 54 39.6 -0.8**
baz=286
P48A Milroy 117.10 48 P **PKPdf** **03 54 39.8 -0.6**
baz=288
W48A Pulaski 117.14 53 P **PKPdf** **03 54 39.6 -0.9**
baz=285
S48A Wiedeman Farm, 117.15 50 P **PKPdf** **03 54 40.0 -0.5**
baz=286
KLNR Kalinigrad 117.16 331 *i* PKIKP **PKiKP** **03 54 40.5 +0.6**
CFR Carcaliu 117.18 319 ⇑*iP* **PKPdf** **03 54 39.7 -0.6**
CFR Carcaliu 117.18 319 ⇑*iP* **PKKPbc** **04 05 03.2 -3.0**
CFR Carcaliu 117.18 319 ⇑PKIKP **PKPdf** **03 54 39.7 -0.6**
148A Greensboro 117.22 56 P **PKPdf** **03 54 39.9 -0.9**
baz=283
F49A Sandfield 117.22 40 P **PKPdf** **03 54 40.1 -0.3**
baz=294
X48A Hartselle 117.22 53 *e*PKPdf **PKPdf** **03 54 40.0 -0.8**
X48A Hartselle 117.22 53 P **PKPdf** **03 54 39.7 -1.1**
baz=284
Y48A Jasper 117.25 54 P **PKPdf** **03 54 39.9 -0.8**
baz=284
CLTN Cedars of Leba 117.37 52 *e*PKPdf **PKPdf** **03 54 40.5 -0.5**
MFTR Murfatlar 117.37 318 ⇑*iP* **PKiKP** **03 54 41.0 +0.3**
K49A Clarkson 117.41 44 P **PKPdf** **03 54 39.5 -1.3**
baz=291
I49A Point Hope 117.41 42 *e*PKPdf **PKPdf** **03 54 40.7 -0.1**
I49A Point Hope 117.41 42 P **PKPdf** **03 54 39.6 -1.1**
baz=292
J49A Marlette 117.41 43 P **PKPdf** **03 54 39.5 -1.3**
baz=292
L49A Milan 117.43 44 P **PKiKP** **03 54 40.9 0.0**
baz=290
AAM Ann Arbor 117.44 44 *e*PKPdf **PKPdf** **03 54 40.6 -0.3**
AAM Ann Arbor 117.44 44 *e*PKIKP **PKPdf** **03 54 40.6 -0.3**
AAM Ann Arbor 117.44 44 P **PKPdf** **03 54 40.3 -0.6**
baz=291
TLB Topalu 117.47 319 ⇑*iP* **PKiKP** **03 54 41.3 +0.4**
TLB Topalu 117.47 319 ⇑*iP* **PKKPbc** **04 05 03.5 -1.6**
TLB Topalu 117.47 319 ⇑PKIKP **PKiKP** **03 54 41.3 +0.4**
M49A Liberty Center 117.50 45 P **PKPdf** **03 54 40.7 -0.3**
baz=290
HARR Harsova 117.50 319 ⇓*iP* **PKiKP** **03 54 41.2 +0.3**
HARR Harsova 117.50 319 ⇓PKIKP **PKiKP** **03 54 41.2 +0.3**
N49A Columbus Grove 117.54 46 *e*PKPdf **PKPdf** **03 54 41.1 -0.1**
N49A Columbus Grove 117.54 46 P **PKPdf** **03 54 41.0 -0.1**
baz=290
TESR Tescani 117.59 321 ⇑*iP* **PKPdf** **03 54 40.6 -0.5**
TESR Tescani 117.59 321 ⇑*iP* **PKKPbc** **04 05 06.0 +1.2**
P49A Miami Univ. Ec 117.60 47 P **PKPdf** **03 54 40.7 -0.6**
baz=288
LRAL Lakeview Retre 117.60 55 *e*PKPdf **PKPdf** **03 54 41.1 -0.4**
LRAL Lakeview Retre 117.60 55 P **PKPdf** **03 54 40.8 -0.6**
baz=284
Q49A Aurora 117.63 48 P **PKPdf** **03 54 40.7 -0.7**
baz=288
R49A Shelbyville 117.64 49 P **PKPdf** **03 54 40.7 -0.7**
baz=287
LVV L'vov 117.67 325 *e*PKIKP **PKiKP** **03 54 42.8 +1.7**
LVV *e* 03 56 02.7
LVV *e* 04 01 29.7
LVV *e*SS SS 04 12 16.5 +15
LVV MLR MLR
comp=Z,1μm,23.0s
O49A Covington 117.67 47 *e*PKPdf **PKPdf** **03 54 41.1 -0.3**
O49A Covington 117.67 47 P **PKPdf** **03 54 40.8 -0.6**
baz=289
W49A Belvidere 117.68 53 P **PKPdf** **03 54 40.8 -0.8**
baz=285
U49A Red Boiling Sp 117.69 51 P **PKPdf** **03 54 40.9 -0.7**
baz=286
S49A Springfield 117.70 49 P **PKPdf** **03 54 41.0 -0.5**
baz=287
T49A Edmonton 117.71 50 *e*PKPdf **PKPdf** **03 54 41.0 -0.6**
T49A Edmonton 117.71 50 P **PKPdf** **03 54 41.0 -0.6**
baz=287
249A Camden 117.74 56 P **PKPdf** **03 54 41.1 -0.7**
baz=283
BIZ Bicaz 117.75 322 ⇑*iP* **PKiKP** **03 54 42.1 +0.7**
BIZ Bicaz 117.75 322 ⇑*iP* **PKKPbc** **04 05 03.1 -1.2**
TOBO Tobermory, Bru 117.77 40 P **PKPdf** **03 54 40.9 -0.5**
baz=294
E50A Wahnapitae 117.78 39 P **PKPdf** **03 54 41.0 -0.4**
baz=295
X49A Woodville 117.78 53 P **PKPdf** **03 54 40.8 -1.0**
baz=285
V49A McMinnville 117.79 52 P **PKPdf** **03 54 41.1 -0.7**
baz=286
VRI Vrincioaia 117.81 320 ⇑*iP* **PKPdf** **03 54 39.5 -2.0**
VRI Vrincioaia 117.81 320 ⇑*iP* **PKKPbc** **04 05 01.5 -2.5**
VRI Vrincioaia 117.81 320 ⇑PKIKP **PKPdf** **03 54 39.5 -2.0**
349A Repton 117.81 57 P **PKPdf** **03 54 41.8 -0.1**
baz=282
PLOR Plostina 117.86 320 ⇓*iP* **PKKPbc** **04 05 03.0 -0.9**
149A Jones 117.87 55 P **PKPdf** **03 54 41.5 -0.5**
baz=283
Y49A Blount Mountai 117.88 54 *e*PKPdf **PKPdf** **03 54 41.5 -0.5**
Y49A Blount Mountai 117.88 54 P **PKPdf** **03 54 41.1 -0.9**
baz=284
SWET Sewanee 117.92 52 *e*PKPdf **PKPdf** **03 54 40.9 -1.2**
Z49A Columbiana 117.94 55 P **PKPdf** **03 54 41.5 -0.6**
baz=284
BISRR Bisoca 117.95 320 ⇑*iP* **PKPdf** **03 54 41.4 -0.5**
BISRR Bisoca 117.95 320 ⇓*iP* **PKKPbc** **04 05 04.5 +0.9**
BUR08 Bucovina Ar. S 117.99 323 *e*PKPdf **PKiKP** **03 54 43.1 +1.1**
BURAR Bucovina Array 117.99 323 ⇑*iP* **PKiKP** **03 54 43.4 +1.4**
BURAR Bucovina Array 117.99 323 ⇑*iP* **PKKPbc** **04 05 03.5 0.0**
BURAR Bucovina Array 117.99 323 ⇑PKIKP **PKiKP** **03 54 43.4 +1.4**
MATQ Matagami 118.10 35 P **PKPdf** **03 54 41.3 -0.7**
baz=299
L50A Kingsville 118.12 44 P **PKPdf** **03 54 41.9 -0.3**
baz=291
BASO Ashfield 118.16 42 P **PKPdf** **03 54 41.5 -0.7**
baz=293
M50A Fremont 118.18 45 *e*PKPdf **PKPdf** **03 54 42.1 -0.2**
M50A Fremont 118.18 45 P **PKPdf** **03 54 41.6 -0.8**
baz=291
O50A Cable 118.20 46 P **PKPdf** **03 54 42.0 -0.5**
baz=290
BMRO Melville Lake 118.22 41 P **PKPdf** **03 54 41.5 -0.8**
baz=294
P50A Jamestown 118.25 47 P **PKPdf** **03 54 41.6 -1.0**
baz=289
T50A Nancy 118.27 50 P **PKPdf** **03 54 41.8 -0.9**
baz=287
R50A Paris 118.28 49 P **PKPdf** **03 54 41.9 -0.8**
baz=288
N50A Nevada 118.33 46 P **PKPdf** **03 54 41.9 -0.8**
baz=290
D51A Lot 18 Range I 118.33 38 P **PKPdf** **03 54 41.7 -0.7**
baz=297
X50B Fort Payne 118.34 53 P **PKPdf** **03 54 41.8 -1.1**
baz=285
Q50A Georgetown 118.36 48 P **PKPdf** **03 54 42.2 -0.6**
baz=289
BEL Belsk 118.40 328 *e*P **PKiKP** **03 54 45.0 +2.4**
BEL *e*pP **pPKPdf** **03 55 02.5 +0.1**
BEL Belsk 118.40 328 *e*PKIKP **PKiKP** **03 54 44.9 +2.4**
BEL *e*PP **pPKPdf** **03 55 02.5 +0.1**
S50A Richmond 118.41 49 P **PKPdf** **03 54 42.4 -0.6**
baz=288
W50A Signal Mountai 118.41 52 *e*PKPdf **PKPdf** **03 54 42.5 -0.6**
W50A Signal Mountai 118.41 52 P **PKPdf** **03 54 42.4 -0.6**
baz=286
Y50A Piedmont 118.42 54 P **PKPdf** **03 54 42.4 -0.7**
baz=285
Z50A Ashland 118.42 55 *e*PKPdf **PKPdf** **03 54 42.6 -0.5**
Z50A Ashland 118.42 55 P **PKPdf** **03 54 42.6 -0.5**
baz=284
U50A Jamestown 118.44 51 P **PKPdf** **03 54 42.3 -0.7**
baz=287
250A Grady 118.44 56 *e*PKPdf **PKPdf** **03 54 43.0 -0.2**
250A Grady 118.44 56 P **PKPdf** **03 54 42.5 -0.7**
baz=283
V50A Pikevile 118.45 52 P **PKPdf** **03 54 42.3 -0.7**
baz=286
BWLO Walkerton 118.46 41 P **PKPdf** **03 54 42.6 -0.3**
baz=294
MLR Muntele Rosu 118.46 320 *e*PKPdf **PKPdf** **03 54 42.6 -0.4**
MLR Muntele Rosu 118.46 320 ⇑*iP* **PKPdf** **03 54 42.6 -0.4**
MLR Muntele Rosu 118.46 320 ⇑*iP* **PKKPbc** **04 05 00.8 -1.0**
MLR Muntele Rosu 118.46 320 ⇑PKIKP **PKPdf** **03 54 42.6 -0.4**
MLR Muntele Rosu 118.46 320 PKP **PKPdf** **03 54 42.4 -0.6**
comp=Z,5.2nm,0.7s,baz=85,slow=3.3,SNR=3.0
MLR pPKP **pPKPdf** **03 55 01.7 -1.2**
comp=Z,20nm,1.0s,baz=29,slow=4.5,SNR=6.4
MLR PKKPbc **PKKPbc** **04 04 60.0 -1.8**
comp=Z,20nm,0.7s,baz=311,slow=1.8,SNR=21
150A Eclectic 118.50 55 P **PKPdf** **03 54 42.4 -0.8**
baz=284
F51A Arnstein 118.50 39 P **PKPdf** **03 54 42.3 -0.5**
baz=296
E51A G1948 Merrick 118.50 38 P **PKPdf** **03 54 42.2 -0.7**
baz=296
KWP Kalwaria Pacla 118.51 326 *e*P **PKPdf** **03 54 42.6 -0.2**
KWP *e*pP **pPKPdf** **03 55 02.5 -0.2**
KWP Kalwaria Pacla 118.51 326 *e*PKPdf **PKPdf** **03 54 42.4 -0.4**
KWP Kalwaria Pacla 118.51 326 *e*PKIKP **PKPdf** **03 54 42.6 -0.2**
KWP *e*PP **pPKPdf** **03 55 02.5 -0.2**
350A Dozier 118.51 57 P **PKPdf** **03 54 43.0 -0.2**
baz=283
KLBO Killbear Provi 118.56 40 P **PKPdf** **03 54 42.3 -0.7**
baz=295
ANGG Ammassalik, Gr 118.57 5 *e*PKPdf **PKiKP** **03 54 43.8 +1.4**
SECR 118.58 320 ⇑*iP* **PKiKP** **03 54 43.4 +0.3**
SECR 118.58 320 ⇑*iP* **PKKPbc** **04 04 59.8 -1.4**
DOPR Dopca 118.61 321 ⇑*iP* **PKiKP** **03 54 43.4 +0.3**
DOPR Dopca 118.61 321 ⇑*iP* **PKKPbc** **04 05 00.2 -0.9**
ACSO Alum Creek Sta 118.63 46 *e*PKPdf **PKPdf** **03 54 43.0 -0.3**
ACSO Alum Creek Sta 118.63 46 P **PKPdf** **03 54 42.8 -0.5**
baz=290
I51A Listowel 118.67 42 P **PKPdf** **03 54 42.8 -0.4**
baz=294
K51A Iona Station 118.76 43 P **PKPdf** **03 54 42.6 -0.9**
baz=292
Q51A Peebles 118.77 48 *e*PKPdf **PKPdf** **03 54 43.1 -0.4**
Q51A Peebles 118.77 48 P **PKPdf** **03 54 42.9 -0.6**
baz=289
M51A Elyria 118.81 45 P **PKPdf** **03 54 42.8 -0.8**
baz=291
LSQQ Lebel-sur-Quev 118.82 35 P **PKPdf** **03 54 42.5 -0.8**
baz=300
N51A Ashland 118.82 45 *e*PKPdf **PKPdf** **03 54 43.1 -0.5**
N51A Ashland 118.82 45 P **PKPdf** **03 54 43.0 -0.6**
baz=291
P51A Williamsport 118.83 47 P **PKPdf** **03 54 42.8 -0.8**
baz=290
R51A Hillsboro 118.83 48 P **PKPdf** **03 54 42.9 -0.8**
baz=289
W51A Cleveland 118.86 52 P **PKPdf** **03 54 43.5 -0.4**
baz=286
O51A Pataskala 118.93 46 P **PKPdf** **03 54 43.6 -0.3**
baz=290
F52A Sundridge 118.93 39 P **PKPdf** **03 54 43.3 -0.3**
baz=296
PHSR Pinarhisar 118.93 316 ⇓*iP* **PKPdf** **03 54 43.6 -0.2**
X51A Calhoun 118.94 53 *e*PKPdf **PKiKP** **03 54 45.3 +1.2**
X51A Calhoun 118.94 53 P **PKPdf** **03 54 43.3 -0.8**
baz=286
Y51A Rockmart 118.95 54 P **PKPdf** **03 54 43.4 -0.7**
baz=285
CPCT Cooper Cave 118.96 52 *e*PKPdf **PKPdf** **03 54 43.6 -0.5**
T51A Gray 118.97 50 P **PKPdf** **03 54 43.8 -0.2**
baz=288
D52A ZEK Kipawa Sen 118.97 38 P **PKPdf** **03 54 43.3 -0.4**
baz=297
V51A Loudon 118.99 51 *e*PKPdf **PKPdf** **03 54 43.7 -0.4**
V51A Loudon 118.99 51 P **PKPdf** **03 54 43.3 -0.8**
baz=287
VLDQ Val d'Or 119.01 36 *e*PKPdf **PKPdf** **03 54 42.2 -1.5**
Z51A Franklin 119.01 54 P **PKPdf** **03 54 43.2 -1.0**
baz=285
S51A Beattyville 119.03 49 *e*PKPdf **PKPdf** **03 54 43.8 -0.4**
S51A Beattyville 119.03 49 P **PKPdf** **03 54 43.7 -0.4**
baz=288
BUKO Buck Lake 119.04 40 P **PKPdf** **03 54 43.5 -0.4**
baz=296
H52A Wyevale 119.07 41 P **PKPdf** **03 54 43.4 -0.6**
baz=295
151A Opelika 119.09 55 P **PKPdf** **03 54 43.9 -0.5**
baz=284
U51A La Follette 119.09 51 P **PKPdf** **03 54 43.3 -1.0**
baz=287
KOLS Kolonicke sedl 119.10 325 *e*PKIKP **PKiKP** **03 54 44.6 +0.6**
KOLS Kolonicke sedl 119.10 325 *e*PKP **PKiKP** **03 54 44.6 +0.6**
I52A Shelburne 119.12 41 P **PKPdf** **03 54 43.8 -0.3**
baz=294
251A Midway 119.12 56 P **PKPdf** **03 54 44.1 -0.3**
baz=284
E52A Mattawa 119.13 38 P **PKPdf** **03 54 43.4 -0.7**
baz=297
351A Pinckard 119.16 57 P **PKPdf** **03 54 44.0 -0.5**
baz=283
451A Vernon 119.19 57 P **PKPdf** **03 54 43.9 -0.7**
baz=283
UZH Uzhgorod 119.24 325 *e*PKIKP **PKiKP** **03 54 45.9 +1.7**
UZH *e* 03 55 02.5
J52A Paris 119.25 42 P **PKPdf** **03 54 44.0 -0.4**
baz=294
MANT Manisa 119.28 312 *e*PKPdf **PKiKP** **03 54 45.1 +0.2**
M52A Chesterland 119.31 44 P **PKPdf** **03 54 44.2 -0.4**
baz=292
TRPA Tarpa 119.34 324 ⇑*iP* **PKiKP** **03 54 44.5 +0.1**
TRPA Tarpa 119.34 324 ⇑*iP* **PKKPbc** **04 04 57.9 -0.6**
TRPA Tarpa 119.34 324 *e*P **PKiKP** **03 54 45.0 +0.6**
N52A McGinn's Farm, 119.35 45 P **PKPdf** **03 54 44.5 -0.1**
baz=291
ARR Arges 119.35 321 ⇓*iP* **PKiKP** **03 54 46.1 +1.4**
ACTO Acton 119.38 42 P **PKPdf** **03 54 44.0 -0.6**
baz=294
SZH Strazhica 119.39 318 *e*P **PKPdf** **03 54 44.6 0.0**
BALB Balikesir 119.39 313 *e*PKPdf **PKiKP** **03 54 46.5 +1.7**
TZTN Tazewell 119.40 50 *e*PKPdf **PKPdf** **03 54 44.8 -0.1**
TZTN Tazewell 119.40 50 P **PKPdf** **03 54 44.6 -0.3**
baz=288
P52A Corning 119.45 47 P **PKPdf** **03 54 44.1 -0.7**
baz=290
HUMR Humele 119.49 320 ⇑*iP* **PKPdf** **03 54 44.8 0.0**
O52A Adamsville 119.49 46 *e*PKPdf **PKPdf** **03 54 44.5 -0.5**
O52A Adamsville 119.49 46 P **PKPdf** **03 54 44.4 -0.5**
baz=291
SADO Sadowa 119.49 40 *e*PKPdf **PKPdf** **03 54 44.4 -0.4**
R52A Catlettsburg 119.51 48 P **PKPdf** **03 54 44.6 -0.4**
baz=289
W52A Murphy 119.53 52 *e*PKPdf **PKPdf** **03 54 45.2 0.0**
W52A Murphy 119.53 52 P **PKPdf** **03 54 44.7 -0.5**
baz=287
152A Waverly Hall 119.55 55 *e*PKPdf **PKPdf** **03 54 45.0 -0.2**
152A Waverly Hall 119.55 55 P **PKPdf** **03 54 44.7 -0.6**
baz=285
V52A Sevierville 119.57 51 *e*PKPdf **PKPdf** **03 54 45.1 -0.1**
V52A Sevierville 119.57 51 P **PKPdf** **03 54 45.0 -0.2**
baz=287
Q52A Bidwell 119.58 47 P **PKPdf** **03 54 44.6 -0.5**
baz=290
U52A Thorn Hill 119.58 50 P **PKPdf** **03 54 45.1 -0.2**
baz=288
I53A Kortright Cn E 119.60 41 P **PKPdf** **03 54 44.6 -0.4**
baz=295
452A Marianna 119.61 57 P **PKPdf** **03 54 44.8 -0.6**
baz=284
T52A Hallie 119.65 50 *e*PKPdf **PKiKP** **03 54 47.2 +1.8**
T52A Hallie 119.65 50 P **PKPdf** **03 54 44.5 -0.8**
baz=288
ALGO Algonquin Park 119.66 39 P **PKPdf** **03 54 44.6 -0.5**
baz=297
Z52A Williamson 119.66 54 P **PKPdf** **03 54 44.9 -0.6**
baz=285
352A Blakely 119.67 56 *e*PKPdf **PKiKP** **03 54 45.6 +0.1**
352A Blakely 119.67 56 P **PKPdf** **03 54 45.0 -0.5**
baz=284
G53A Haliburton 119.67 40 P **PKPdf** **03 54 44.6 -0.5**
baz=296
X52A Dahlonega 119.69 53 P **PKiKP** **03 54 45.6 0.0**

baz=286
252A Lumpkin 119.70 56 P PKPdf 03 54 45.2 -0.4
baz=284
E53A Dumoine, Ponti 119.70 38 P PKPdf 03 54 44.7 -0.5
baz=298
TYNO Tyneside 119.72 42 P PKPdf 03 54 44.5 -0.8
baz=294
Y52A Lilburn 119.76 53 *e*PKPdf **PKPdf 03 54 45.6 -0.1**
Y52A Lilburn 119.76 53 P PKPdf 03 54 45.4 -0.2
baz=286
OJC Ojcow 119.81 327 *e*P **PKiKP 03 54 45.3 0.0**
OJC *ep*P **pPKPdf 03 55 05.2 +0.1**
OJC Ojcow 119.81 327 *e*PKPdf **PKiKP 03 54 45.3 0.0**
OJC Ojcow 119.81 327 *e*PKIKP **PKiKP 03 54 45.3 0.0**
OJC *e**PP **pPKPdf 03 55 05.2 +0.1**
BOSA Boshof 119.82 233 *i* P **PKiKP 03 54 46.4 +0.3**
BOSA Boshof 119.82 233 *i* P **PKiKP 03 54 46.4 +0.3**
BOSA Boshof 119.82 233 PKP **PKPdf 03 54 45.6 -0.4**
comp=Z,16nm,0.6s,baz=123,slow=1.5,SNR=25
BOSA pPKP **pPKPdf 03 55 04.3 -1.7**
comp=Z,7.0nm,0.7s,baz=176,slow=3.3,SNR=3.7
BOSA SKP 03 58 16.6
comp=Z,3.2nm,0.7s,baz=161,slow=2.3,SNR=3.2
M53A WI Miller and 119.82 44 P PKPdf 03 54 44.7 -0.8
baz=293
CHGQ Chibougamau 119.84 33 P PKPdf 03 54 44.6 -0.7
baz=303
LOT Lotru 119.86 321⇑ *i P* **PKPdf 03 54 37.9 -7.7**
PKRO Pickering 119.89 41 P PKPdf 03 54 44.8 -0.7
baz=295
DRGR 119.89 323⇓ *i P* **PKPdf 03 54 45.5 -0.1**
DRGR 119.89 323⇓ PKIKP **PKPdf 03 54 45.5 -0.1**
O53A New Philadelph 119.89 46 P PKPdf 03 54 45.4 -0.3
baz=292
D54A Lac Fusel, La 119.94 37 P PKPdf 03 54 45.0 -0.6
baz=299
N53A Lisbon 119.95 45 *e*PKPdf **PKiKP 03 54 45.9 0.0**
N53A Lisbon 119.95 45 P PKPdf 03 54 45.3 -0.5
baz=292
NIE Niedzica 119.96 326 *e*P **PKiKP 03 54 46.0 +0.3**
NIE *ep*P **pPKPdf 03 55 05.7 +0.1**
NIE Niedzica 119.96 326 *e*PKIKP **PKiKP 03 54 46.0 +0.3**
NIE *e**PP **pPKPdf 03 55 05.6 +0.1**
E54A Lac Daplat, Po 119.97 38 P PKPdf 03 54 45.3 -0.3
baz=298
PLCA Paso Flores 119.98 143 *e*PKPdf **PKiKP 03 54 46.2 +0.1**
PLCA Paso Flores 119.98 143 PKIKP **PKPdf 03 54 46.0 0.0**
PLCA Paso Flores 119.98 143 PKP **PKPdf 03 54 46.0 0.0**
comp=Z,16nm,0.6s,baz=234,slow=3.1,SNR=21
PLCA PKKPbc **PKKPbc 04 04 54.2 -1.9**
comp=Z,6.0nm,0.7s,baz=79,slow=6.0,SNR=9.8
PLCA Paso Flores 119.98 143 *e*P **PKiKP 03 54 47.9 +1.8**
MATP Matopo 120.02 243 *i P* **PKiKP 03 54 46.8 0.0**
MATP Matopo 120.02 243 *i P* **PKiKP 03 54 46.8 0.0**
R53A Hurricane 120.03 48 *e*PKPdf **PKPdf 03 54 45.7 -0.3**
R53A Hurricane 120.03 48 P PKPdf 03 54 45.6 -0.5
baz=290
ERPA Erie 120.03 43 P PKPdf 03 54 45.0 -0.9
baz=294
T53A Wise 120.03 50 P PKPdf 03 54 45.7 -0.5
baz=289
P53A Whipple 120.04 46 *e*PKPdf **PKPdf 03 54 45.7 -0.2**
P53A Whipple 120.04 46 P PKPdf 03 54 45.8 -0.2
baz=291
LTVH Ltavrtes, Hu 120.09 324 *e*P **PKiKP 03 54 47.1 +1.2**
W53A Cullowhee 120.11 52 P PKPdf 03 54 46.1 -0.3
baz=287
S53A Williamson 120.11 49 P PKPdf 03 54 45.4 -0.9
baz=289
STCO Saint Catharin 120.14 42 P PKPdf 03 54 45.4 -0.6
baz=295
DRWO Darlington Wes 120.15 41 P PKPdf 03 54 45.4 -0.6
baz=296
Y53A Monroe 120.15 53 P PKPdf 03 54 46.2 -0.2
baz=286
BANO Bancroft 120.16 39 P PKPdf 03 54 45.5 -0.6
baz=297
Q53A Leroy 120.16 47 P PKPdf 03 54 45.8 -0.4
baz=290
DRCO St. Marys Ceme 120.16 41 P PKPdf 03 54 45.5 -0.6
baz=296
253A Americus 120.19 55 *e*PKPdf **PKiKP 03 54 46.8 +0.2**
253A Americus 120.19 55 P PKPdf 03 54 46.0 -0.5
baz=285
X53A Estanollee 120.19 53 P PKPdf 03 54 46.0 -0.4
baz=287
U53A Fall Branch 120.20 50 P PKPdf 03 54 46.1 -0.3
baz=288
DEV Deva 120.20 322⇑ *i P* **PKPdf 03 54 45.3 -0.8**
DEV Deva 120.20 322⇑ PKIKP **PKPdf 03 54 45.3 -0.8**
V53A Saluda 120.23 51 *e*PKPdf **PKPdf 03 54 46.5 -0.1**
V53A Saluda 120.23 51 P PKPdf 03 54 46.1 -0.5
baz=288
ALN Alexandroupoli 120.24 315 *e*PKPdf **PKPdf 03 54 45.4 -1.0**
ALN Alexandroupoli 120.24 315 P PKPdf 03 54 45.3 -1.0
ALN Alexandroupoli 120.24 315 *e*PKIKP **PKPdf 03 54 45.4 -1.0**
PEMO Pembroke 120.28 39 P PKPdf 03 54 45.8 -0.5
baz=298
353A Camilla 120.29 56 P PKPdf 03 54 46.7 0.0
baz=284
Z53A Monticello 120.32 54 P PKPdf 03 54 46.0 -0.7
baz=286
453A Whigham 120.33 57 *e*PKPdf **PKiKP 03 54 47.3 +0.4**
453A Whigham 120.33 57 P PKPdf 03 54 46.7 -0.1
baz=284
BG3 Lake Jocassee 120.34 52 *e*PKPdf **PKiKP 03 54 47.1 +0.3**
CRAR CRAIOVA 120.34 320⇓ *i P* **PKiKP 03 54 48.2 +1.7**
CRAR CRAIOVA 120.34 320⇓ PKIKP **PKiKP 03 54 48.2 +1.7**
WLVO Wesleyville 120.34 41 P PKPdf 03 54 46.1 -0.3
baz=296
GOGA Godfrey 120.37 54 *e*PKPdf **PKPdf 03 54 46.8 0.0**
GOGA Godfrey 120.37 54 *e*PKIKP **PKPdf 03 54 46.8 0.0**
GOGA Godfrey 120.37 54 P PKPdf 03 54 46.3 -0.4
baz=286
553A Crawfordville 120.39 58 P PKPdf 03 54 46.6 -0.3
baz=284
L54A Sinclairville 120.44 43 P PKPdf 03 54 46.1 -0.6
baz=294
EZN Ezine 120.45 314⇓ *i P* **PKPdf 03 54 46.2 -0.5**
EZN Ezine 120.45 314⇓ PKIKP **PKPdf 03 54 46.2 -0.5**
J54A Appleton 120.46 42 P PKPdf 03 54 46.3 -0.4
baz=295
N54A Moraine State 120.48 44 *e*PKPdf **PKPdf 03 54 46.7 -0.1**
N54A Moraine State 120.48 44 P PKPdf 03 54 46.4 -0.4
baz=293
M54A Oil Creek Stat 120.50 44 *e*PKPdf **PKPdf 03 54 46.3 -0.5**
M54A Oil Creek Stat 120.50 44 P PKPdf 03 54 46.3 -0.5
baz=293
RDO Rodhopi 120.50 316 P PKPdf 03 54 45.5 -1.3
GZR Gura Zlata 120.51 321⇑ *i P* **PKPdf 03 54 46.8 0.0**
GZR Gura Zlata 120.51 321⇑ *i P* **PKKPbc 04 04 56.2 +2.0**
GZR Gura Zlata 120.51 321⇑ PKIKP **PKPdf 03 54 46.8 0.0**
O54A Avella 120.51 45 P PKPdf 03 54 46.7 -0.2
baz=292
SCHQ Schefferville 120.52 25 *e*PKPdf **PKiKP 03 54 46.8 +0.2**
SCHQ Schefferville 120.52 25 PKP **PKPdf 03 54 46.4 -0.1**
comp=Z,24nm,0.7s,baz=38,slow=3.9,SNR=11
SCHQ PKKPbc **PKKPab 04 04 53.8 -0.2**
comp=Z,6.6nm,0.6s,baz=112,slow=3.7,SNR=6.6
LANS Liptovska Anna 120.57 326 *e*PKIKP **PKiKP 03 54 47.7 +0.8**
LANS Liptovska Anna 120.57 326 *e*PKP **PKiKP 03 54 47.7 +0.8**
SRE Strehaia 120.57 320⇑ *i P* **PKPdf 03 54 44.4 -2.5**
SRE Strehaia 120.57 320⇑ PKIKP **PKPdf 03 54 44.4 -2.5**
DELO Deloro Mine 120.58 40 P PKPdf 03 54 46.4 -0.5
baz=297
Q54A Coxs Mills 120.62 47 *e*PKPdf **PKPdf 03 54 46.8 -0.3**
Q54A Coxs Mills 120.62 47 P PKPdf 03 54 46.7 -0.4
baz=291
MEDO Medina 120.63 42 *e*PKPdf **PKiKP 03 54 47.2 +0.1**
MEDO Medina 120.63 42 P PKPdf 03 54 46.6 -0.4
baz=295
P54A Burton 120.65 46 P PKPdf 03 54 46.8 -0.5
baz=292
I55A Frankford 120.68 40 P PKPdf 03 54 46.6 -0.5
baz=297
PLVO Plevna 120.69 39 *e*PKPdf **PKPdf 03 54 46.8 -0.3**
PLVO Plevna 120.69 39 P PKPdf 03 54 46.7 -0.4
baz=298
U54A Nelsons Funny 120.73 50 *e*PKPdf **PKiKP 03 54 47.7 +0.1**
U54A Nelsons Funny 120.73 50 P PKPdf 03 54 47.0 -0.5
baz=289
T54A Tazewell 120.73 49 P PKPdf 03 54 47.1 -0.4
baz=290
F55A Otter Lake 120.76 38 P PKPdf 03 54 46.7 -0.5
baz=299

SMTH Samothraki Isl 120.77 315 P PKPdf 03 54 46.1 -1.3
SIRR Siria 120.78 323⇑ *i P* **PKiKP 03 54 47.6 +0.2**
TIGA Tifton 120.79 56 *e*PKPdf **PKiKP 03 54 48.0 +0.2**
TIGA Tifton 120.79 56 P PKPdf 03 54 47.4 -0.3
baz=285
R54A Victor 120.79 48 P PKPdf 03 54 47.1 -0.4
baz=290
G55A Calabogie 120.81 39 P PKPdf 03 54 47.0 -0.3
baz=298
H55A Tweed 120.84 40 P PKPdf 03 54 47.0 -0.4
baz=297
RZN Rozhen 120.85 317 *e*P **PKPdf 03 54 47.2 -0.5**
Y54A Tignall 120.86 53 P PKPdf 03 54 47.6 -0.1
baz=287
V54A Nebo 120.86 51 P PKPdf 03 54 47.6 -0.1
baz=288
154A Montrose 120.88 55 P PKPdf 03 54 47.2 -0.6
baz=286
HOPE Hope Point 120.89 174 *e*PKPdf **PKiKP 03 54 48.5 +1.2**
W54A Cherokee Point 120.89 52 P PKPdf 03 54 47.4 -0.4
baz=288
254A Abbeville 120.90 55 P PKPdf 03 54 47.4 -0.5
baz=285
OKC Ostrava-Krasne 120.90 328 *e*PKIKP **PKiKP 03 54 47.9 +0.4**
OKC *e* 03 55 07.4
OKC MLR MLR
comp=Z,800nm,21.6s
OKC Ostrava-Krasne 120.90 328 *e*PKP **PKiKP 03 54 47.9 +0.4**
OKC *ex* x 03 54 50.6
OKC *ep*PKP **pPKPdf 03 55 07.4 +0.2**
OKC *e*PKKP **PKKPbc 04 04 55.0 +2.2**
OKC AMS AMS 04 46 40.0
comp=Z,800nm,21.6s
X54A Belton 120.91 52 P PKPdf 03 54 47.5 -0.3
baz=287
Z54A Sparta 120.92 54 P PKPdf 03 54 47.5 -0.3
baz=286
454A Quitman 120.94 57 P PKPdf 03 54 47.4 -0.5
baz=284
LBTB Lobatse 120.96 237 *e*PKPdf **PKPdf 03 54 47.9 -0.5**
HERR Herculane 120.97 321⇓ *i P* **PKPdf 03 54 47.4 -0.2**
HERR Herculane 120.97 321⇓ *i P* **PKKPbc 04 04 47.5 -4.9**
PSZ Piszkesteto 120.98 325 *e*PKPdf **PKPdf 03 54 47.5 -0.1**
PSZ Piszkesteto 120.98 325⇑ *i P* **PKPdf 03 54 44.4 -3.3**
PSZ Piszkesteto 120.98 325 *e*PKIKP **PKPdf 03 54 47.5 -0.1**
PSZ Piszkesteto 120.98 325 *e*P **PKiKP 03 54 49.1 +1.3**
J55A Hilton 121.01 41 *e*PKPdf **PKPdf 03 54 47.1 -0.6**
J55A Hilton 121.01 41 P PKPdf 03 54 47.2 -0.6
baz=296
SIGR SIGRI 121.01 314 P PKPdf 03 54 45.9 -1.9
554A Perry 121.04 58 P PKPdf 03 54 47.7 -0.5
baz=284
L55A Hinsdale 121.06 43 P PKPdf 03 54 47.6 -0.3
baz=295
K55A Perry 121.07 42 P PKPdf 03 54 47.4 -0.5
baz=296
MCWV Mont Chateau 121.08 46 P PKPdf 03 54 47.2 -0.8
baz=292
HODGE Hodges 121.09 53 *e*PKPdf **PKiKP 03 54 48.4 +0.1**
BZS Buzias 121.12 322⇓ *i P* **PKPdf 03 54 47.8 -0.1**
BZS Buzias 121.12 322⇓ PKIKP **PKPdf 03 54 47.8 -0.1**
M55A Ridgway 121.13 43 P PKPdf 03 54 47.7 -0.4
baz=294
P55A Reedsville 121.16 46 P PKPdf 03 54 47.8 -0.4
baz=292
Q55A Buckhannon 121.16 47 P PKPdf 03 54 48.0 -0.3
baz=292
MMNY Mt. Morris Dam 121.18 42 *e*PKPdf **PKPdf 03 54 47.8 -0.3**
LIA Limnos Island 121.23 315 P PKPdf 03 54 47.0 -1.3
PECO Prince Edward 121.25 40 P PKPdf 03 54 47.8 -0.4
baz=297
N55A Marion Center 121.25 44 *e*PKPdf **PKPdf 03 54 47.8 -0.6**
N55A Marion Center 121.25 44 P PKPdf 03 54 47.8 -0.6
baz=294
O55A Ligonier 121.26 45 P PKPdf 03 54 48.0 -0.3
baz=293
MORC Moravsky Berou 121.26 328 *e*PKPdf **PKPdf 03 54 47.8 -0.2**
MORC Moravsky Berou 121.26 328⇑ *i P* **PKiKP 03 54 48.9 +0.7**
MORC Moravsky Berou 121.26 328⇑ *i P* **PKKPbc 04 04 51.1 -0.4**
MORC Moravsky Berou 121.26 328⇑⇑ PKIKP **PKiKP 03 54 48.9 +0.7**
MORC Moravsky Berou 121.26 328 *e*PKP **PKPdf 03 54 47.9 -0.2**
MORC *e* 03 55 07.9
MORC *e*PKKP **PKKPbc 04 04 53.5 +2.0**
PAULI Pauline 121.27 52 *e*PKPdf **PKiKP 03 54 49.0 +0.4**
VYHS Vyhne 121.27 326 *e*PKIKP **PKPdf 03 54 48.0 -0.1**
VYHS Vyhne 121.27 326 *e*PKP **PKPdf 03 54 48.0 -0.1**
THAS Thassos island 121.28 316 P PKPdf 03 54 46.6 -1.7
KSP Ksiaz 121.29 329 *e*P **PKiKP 03 54 48.6 +0.4**
KSP *ep*P **pPKPdf 03 55 08.2 +0.2**
KSP Ksiaz 121.29 329 *e*PKIKP **PKiKP 03 54 48.6 +0.4**
KSP *e**PP **pPKPdf 03 55 08.1 +0.2**
S55A Lewisburg 121.30 48 P PKPdf 03 54 48.1 -0.4
baz=291
T55A Pulaski 121.31 49 P PKPdf 03 54 47.9 -0.7
baz=290
U55A TA2, Sparta 121.32 50 P PKPdf 03 54 48.4 -0.3
baz=290
155A Kite 121.39 54 P PKPdf 03 54 48.6 -0.1
baz=286
R55A Marlinton 121.39 47 P PKPdf 03 54 48.2 -0.6
baz=291
V55A Taylorsville 121.41 50 P PKPdf 03 54 48.4 -0.3
baz=289
H56A Elgin 121.41 39 P PKPdf 03 54 48.1 -0.4
baz=298
355A Pearson 121.42 56 P PKPdf 03 54 48.5 -0.4
baz=285
455A Stateville 121.43 57 P PKPdf 03 54 48.3 -0.6
baz=285
MDVR Moldovita 121.46 321⇓ *i P* **PKPdf 03 54 48.4 -0.2**
VTS Vitosha 121.46 318 *e*PKPdf **PKPdf 03 54 48.2 -0.6**
VTS Vitosha 121.46 318 *e* P **PKPdf 03 54 48.4 -0.4**
VTS Vitosha 121.46 318⇑ *i P* **PKPdf 03 54 48.2 -0.6**
VTS Vitosha 121.46 318⇑ *i P* **PKKPbc 04 04 50.2 -0.5**
VTS Vitosha 121.46 318⇑⇑ PKIKP **PKPdf 03 54 48.2 -0.6**
VTS Vitosha 121.46 318 *e*P **PKiKP 03 54 50.9 +1.9**
ORIO Orleans, Innes 121.47 38 P PKPdf 03 54 48.3 -0.2
baz=299
Z55A Blythe 121.49 54 P PKPdf 03 54 48.3 -0.7
baz=287
KRLC Kraliky 121.49 328 *e*PKIKP **PKiKP 03 54 49.1 +0.4**
KRLC *e* 03 55 08.5
KRLC Kraliky 121.49 328 *e*PKP **PKiKP 03 54 49.1 +0.4**
KRLC *ex* x 03 54 51.9
KRLC *ep*PKP **pPKPdf 03 55 08.5 +0.1**
Y55A Saluda 121.50 53 P PKPdf 03 54 49.0 0.0
baz=288
X55A Gracelyn & Ava 121.52 52 P PKPdf 03 54 48.8 -0.2
baz=288
KMSC Kings Mountain 121.54 51 *e*PKPdf **PKPdf 03 54 49.0 0.0**
KMSC Kings Mountain 121.54 51 P PKPdf 03 54 49.0 0.0
baz=288
BLA Blacksburg 121.55 49 *e*PKPdf **PKPdf 03 54 48.9 -0.2**
BLA Blacksburg 121.55 49 *e*PKIKP **PKPdf 03 54 48.9 -0.2**
BLA Blacksburg 121.55 49 P PKPdf 03 54 48.7 -0.3
baz=290
DPC Dobruska-Polom 121.57 329 *e*PKIKP **PKiKP 03 54 49.2 +0.4**
DPC *e* 03 55 08.9
DPC MLR MLR
comp=Z,900nm,25.0s
DPC Dobruska-Polom 121.57 329 *e*PKP **PKiKP 03 54 49.2 +0.4**
DPC *ex* x 03 54 52.1
DPC *ep*PKP **pPKPdf 03 55 08.9 +0.3**
DPC *e*PKKP **PKKPbc 04 04 52.4 +2.0**
DPC *e*SKKP 04 08 52.4
DPC AMS AMS 04 45 10.0
comp=Z,900nm,25.0s
MMB Musomiste 121.57 317 *e*P **PKPdf 03 54 48.2 -0.7**
255A Hazlehurst 121.58 55 *e*PKPdf **PKPdf 03 54 49.2 0.0**
255A Hazlehurst 121.58 55 P PKPdf 03 54 48.8 -0.4
baz=286
NVR Nevrokopi 121.58 317 P PKPdf 03 54 47.4 -1.6
UPC Upice 121.63 329 *e*PKIKP **PKPdf 03 54 48.7 0.0**
UPC *e* 03 55 08.1
UPC MLR MLR
comp=Z,1μm,22.3s
UPC Upice 121.63 329 *e*PKP **PKPdf 03 54 48.7 0.0**
UPC *ex* x 03 54 52.1
UPC *ep*PKP **pPKPdf 03 55 08.1 -0.5**
UPC *e*PKKP **PKKPbc 04 04 52.2 +2.1**
UPC AMS AMS 04 46 00.0
comp=Z,1μm,22.3s
555A McAlpin 121.64 57 *e*PKPdf **PKiKP 03 54 49.6 +0.1**
555A McAlpin 121.64 57 P PKPdf 03 54 48.8 -0.5

baz=284
JAVC Velka Javorina 121.71 327 *e*PKP **PKiKP 03 54 50.3 +1.1**
JAVC *e* 03 55 10.1
JAVC *e*PKKP **PKKPbc 04 04 52.2 +2.4**
O56A Blue Knob Stat 121.75 45 *e*PKPdf **PKPdf 03 54 49.1 -0.2**
O56A Blue Knob Stat 121.75 45 P PKPdf 03 54 49.3 0.0
baz=294
ALFO Alfred 121.76 38 P PKPdf 03 54 48.5 -0.6
baz=300
LSZ Lusaka 121.77 249 *i P* **PKiKP 03 54 50.5 +0.2**
LSZ Lusaka 121.77 249 *e*PKPdf **PKPdf 03 54 50.1 0.0**
LSZ Lusaka 121.77 249 *i P* **PKiKP 03 54 50.5 +0.2**
LSZ Lusaka 121.77 249 PKKPab PKKPab 04 04 50.2 +0.4
comp=Z,3.0nm,0.9s,baz=235,slow=2.1,SNR=4.2
SRS Serrai 121.86 316 P PKPdf 03 54 48.0 -1.5
JSC Jenkinsville 121.87 52 *e*PKPdf **PKiKP 03 54 49.9 +0.1**
JSC Jenkinsville 121.87 52 *e*PKIKP **PKiKP 03 54 49.9 +0.1**
U56A King 121.88 50 P PKPdf 03 54 49.1 -0.6
baz=290
KKB Krupnik 121.89 317 *e*P **PKPdf 03 54 49.2 -0.3**
T56A Rocky Mt 121.91 49 P PKPdf 03 54 49.3 -0.4
baz=291
MBAR Mbarara 121.93 266 *e*PKPdf **PKiKP 03 54 51.5 +0.7**
SRO Srobarova 121.94 326 *e*PKIKP **PKiKP 03 54 49.6 +0.1**
SRO Srobarova 121.94 326 *e*PKP **PKiKP 03 54 49.6 +0.1**
V56A Mocksville 121.97 50 *e*PKPdf **PKPdf 03 54 49.8 0.0**
V56A Mocksville 121.97 50 P PKPdf 03 54 49.6 -0.2
baz=290
X56A White Oak 121.98 52 P PKPdf 03 54 49.6 -0.2
baz=288
Y56A Pelion 121.98 53 P PKPdf 03 54 49.8 -0.1
baz=288
S56A Natural Bridge 122.02 48 P PKPdf 03 54 49.4 -0.5
baz=291
356A Blackshear 122.02 56 P PKPdf 03 54 49.5 -0.5
baz=286
VRAC Vranov 122.04 328⇑ *i P* **PKPdf 03 54 49.6 +0.1**
VRAC Vranov 122.04 328 *e*PKP **PKPdf 03 54 49.4 -0.2**
VRAC *e* 03 55 09.4
VRAC *e*PKKP **PKKPbc 04 04 50.0 +1.5**
VRAC Vranov 122.04 328 PKP **PKPdf 03 54 49.6 +0.1**
comp=Z,19nm,0.9s,baz=45,slow=2.2,SNR=16
VRAC pPKP **pPKPdf 03 55 09.4 0.0**
comp=Z,15nm,0.8s,baz=112,slow=1.9,SNR=7.2
VRAC PKKPbc **PKKPab 04 04 47.5 0.0**
comp=Z,2.9nm,0.7s,baz=226,slow=6.1,SNR=5.0
256A Glennville 122.04 55 P PKPdf 03 54 49.9 -0.2
baz=286
Z56A Williston 122.07 53 *e*PKPdf **PKiKP 03 54 50.7 +0.4**
Z56A Williston 122.07 53 P PKiKP 03 54 50.2 -0.1
baz=287
SSPA Standing Stone 122.08 44 *e*PKPdf **PKPdf 03 54 49.5 -0.4**
SSPA Standing Stone 122.08 44 P PKPdf 03 54 49.5 -0.4
baz=294
LATQ La Tuque 122.09 35 P PKPdf 03 54 49.0 -0.7
baz=303
W56A Indian Trail 122.13 51 P PKPdf 03 54 49.9 -0.2
baz=289
556A Lake Butler 122.14 57 P PKPdf 03 54 49.6 -0.7
baz=285
156A Sylvania 122.17 54 P PKPdf 03 54 49.6 -0.7
baz=287
656A Willston 122.19 58 *e*PKPdf **PKiKP 03 54 50.5 -0.1**
656A Willston 122.19 58 P PKPdf 03 54 49.6 -0.8
baz=284
MODS Modra-Piesok 122.20 327 *e*PKIKP **PKPdf 03 54 49.8 -0.1**
MODS Modra-Piesok 122.20 327 *e*PKP **PKPdf 03 54 49.8 -0.1**
CSKK Cskako 122.21 325 *e*P **PKPdf 03 54 49.1 -0.9**
456A Hilliard 122.27 56 P PKPdf 03 54 49.5 -1.0
baz=285
KRUC Moravsky 122.29 328 PKIKP **PKiKP 03 54 50.4 +0.2**
KRUC Moravsky 122.29 328 *e*PKP **PKiKP 03 54 50.3 +0.1**
KRUC *e* 03 55 09.9
KRUC *e*PKKP **PKKPbc 04 04 48.9 +1.4**
KNT Kendrikon 122.31 317 P PKPdf 03 54 48.8 -1.5
PVCC Panska Ves 122.35 330 *e*PKIKP **PKiKP 03 54 50.7 +0.4**
PVCC *e* 03 55 10.4
PVCC MLR MLR
comp=Z,700nm,21.4s
PVCC Panska Ves 122.35 330 *e*PKP **PKiKP 03 54 50.7 +0.4**
PVCC *ex* x 03 54 53.5
PVCC *ep*PKP **pPKPdf 03 55 10.4 +0.4**
PVCC AMS AMS 04 47 00.0
comp=Z,700nm,21.4s
Q57A Strasburg 122.35 46 P PKPdf 03 54 49.9 -0.6
baz=293
BIRD Birdtown, Kers 122.38 52 *e*PKPdf **PKPdf 03 54 50.6 0.0**
ZST Bratislava 122.40 326 *e*PKIKP **PKPdf 03 54 50.0 -0.3**
ZST Bratislava 122.40 326 *e*PKP **PKPdf 03 54 50.0 -0.3**
S57A Dark Hollow, R 122.44 48 *e*PKPdf **PKPdf 03 54 50.3 -0.4**
S57A Dark Hollow, R 122.44 48 P PKPdf 03 54 50.1 -0.6
baz=292
BRG Berggiesshubel 122.44 330 *i* PKP **PKiKP 03 54 50.4 -0.1**
comp=Z,94nm,1.4s
BRG pPKP **pPKPdf 03 55 10.3 +0.1**
comp=Z,48nm,0.9s
BRG PP PP 03 56 50.4 +24
comp=Z,52nm,2.0s
BRG SKP 03 58 26.3
comp=Z,11nm,1.1s
BRG PKKP **PKKPbc 04 04 48.7 +1.7**
comp=Z,31nm,1.6s
BRG PS PS 04 06 47.0 +24
BRG SKKP 04 08 47.0
comp=Z,22nm,1.6s
BRG Berggiesshubel 122.44 330 *i* PKIKP **PKiKP 03 54 50.4 -0.1**
BRG 03 55 10.3
BRG pmax pmax
comp=Z,94nm,1.4s
BRG MLR MLR
comp=Z,864nm,17.6s
BRG MLR MLR
comp=N,519nm,19.9s
BRG MLR MLR
comp=E,584nm,19.9s
LONY Lake Ozonia 122.45 39 *e*PKPdf **PKPdf 03 54 49.8 -0.7**
LONY Lake Ozonia 122.45 39 P PKPdf 03 54 49.9 -0.6
baz=300
FRGS Fruska Gora 122.45 322 *e*P **PKPdf 03 54 49.9 -0.6**
VAY Valandovo 122.47 317 *i P* **PKPdf 03 54 49.6 -1.0**
JTS Las Juntas de 122.47 81 *e*PKPdf **PKiKP 03 54 51.7 +0.1**
V57A Coltrane Farms 122.50 50 P PKPdf 03 54 50.6 -0.2
baz=290
T57A Hurt 122.50 48 *e*PKPdf **PKPdf 03 54 50.6 -0.2**
T57A Hurt 122.50 48 P PKPdf 03 54 50.6 -0.2
baz=291
R57A Stanardsville 122.56 47 P PKPdf 03 54 50.7 -0.1
baz=293
157A Early Branch 122.56 54 P PKPdf 03 54 50.3 -0.7
baz=287
STIP Stip 122.56 318 *i P* **PKPdf 03 54 49.1 -1.7**
W57A Gilead 122.58 51 *e*PKPdf **PKPdf 03 54 50.9 -0.1**
W57A Gilead 122.58 51 P PKPdf 03 54 50.6 -0.4
baz=290
MORH Mrgy, Hungar 122.61 324 *e*P **PKPdf 03 54 50.3 -0.4**
MORH Mrgy, Hungar 122.61 324 *e*P **PKPdf 03 54 50.1 -0.6**
Z57A Bowman 122.61 53 P PKPdf 03 54 50.5 -0.6
baz=288
GOPC GO Pecny, Ondr 122.62 329 *e*PKIKP **PKiKP 03 54 52.1 +1.2**
GOPC *e* 03 55 10.4
GOPC MLR MLR
comp=Z,900nm,21.5s
GOPC GO Pecny, Ondr 122.62 329 *e*PKP **PKiKP 03 54 52.1 +1.2**
GOPC *ex* x 03 54 53.5
GOPC *ep*PKP **pPKPdf 03 55 10.4 -0.2**
GOPC *e*PKKP **PKKPbc 04 04 47.7 +1.4**
GOPC *e*SKKP 04 08 47.3
GOPC AMS AMS 04 46 50.0
comp=Z,900nm,21.5s
CLL Collm 122.62 331 *e*PKPdf **PKiKP 03 54 50.8 0.0**
CLL Collm 122.62 331⇓ *i* PKIKP **PKiKP 03 54 50.8 0.0**
CLL *i* 03 55 09.9
CLL pmax pmax
comp=Z,54nm,1.1s
CLL Collm 122.62 331⇓ *i* PKPdf **PKiKP 03 54 50.8 0.0**
comp=Z,13nm,0.9s
CLL *i* PKPdfmax 03 54 52.3
comp=Z,54nm,1.1s
CLL *i* 03 54 55.0
CLL *i* pPKPdf **pPKPdf 03 55 09.9 -0.6**
comp=Z,41nm,0.8s
CLL *e*PP **PP 03 56 35.0 +7.0**
CLL *ep*PP 03 56 44.0
CLL *i* 03 57 02.2
CLL *e* 03 59 36.0

CLL eSKKSac SKKSac 04 03 18.0 -3.4
CLL i PKKPbc **PKKPbc** **04 04 47.6 +1.3**
comp=Z,33nm,1.5s
CLL ePS **PS** **04 06 21.0 -3.4**
CLL e 04 06 47.0
CLL ePPS PPS 04 07 45.0
CLL ePcPPKPre 04 08 42.0
comp=Z,25nm,1.3s
CLL e 04 09 06.0
CLL eSS SS 04 13 36.0 +32
CLL eSSS 04 14 06.0
CLL eSSS SSS 04 18 06.0
CLL eSSSS 04 21 00.0
CLL e 04 22 30.0
TREC Trest 122.63 328 ePKIKP **PKPdf** **03 54 50.6 -0.1**
TREC e 03 55 10.8
TREC MLR MLR
comp=Z,1μm,20.9s
TREC Trest 122.63 328 ePKP **PKPdf** **03 54 50.6 -0.1**
TREC ex x 03 54 53.9
TREC epPKP **pPKPdf** **03 55 10.8 +0.2**
TREC ePKKP **PKKPbc** **04 04 48.0 +1.7**
TREC AMS AMS 04 46 30.0
comp=Z,1μm,20.9s
Y57A Sumter 122.64 52 ePKPdf **PKiKP** **03 54 51.6 +0.3**
Y57A Sumter 122.64 52 P **PKiKP** **03 54 51.2 -0.1**
baz=289
U57A Blanch 122.64 49 P **PKPdf** **03 54 50.6 -0.5**
baz=291
TIH Tihany 122.68 325 eP **PKiKP** **03 54 52.0 +1.0**
757A Oxford 122.69 58 P **PKPdf** **03 54 50.7 -0.7**
baz=284
BINY Binghamton 122.69 42 ePKPdf **PKPdf** **03 54 50.9 -0.2**
BINY Binghamton 122.69 42 P **PKPdf** **03 54 50.7 -0.3**
baz=297
657A Interlachen 122.70 58 P **PKPdf** **03 54 50.6 -0.8**
baz=285
PRU Pruhonice 122.70 329 ePKIKP **PKPdf** **03 54 50.8 0.0**
PRU e 03 55 10.6
PRU MLR MLR
comp=Z,1μm,20.4s
PRU Pruhonice 122.70 329 ePKP **PKPdf** **03 54 50.8 0.0**
PRU ex x 03 54 53.8
PRU epPKP **pPKPdf** **03 55 10.6 -0.1**
PRU ePKKP **PKKPbc** **04 04 46.9 +0.9**
PRU eSKKP 04 08 47.3
PRU AMS AMS 04 47 00.0
comp=Z,1μm,20.4s
557A Orange Park 122.70 57 P **PKPdf** **03 54 51.2 -0.2**
baz=285
857A Zephyrhills 122.71 59 P **PKPdf** **03 54 51.1 -0.4**
baz=284
X57A Johnson Farm, 122.72 52 P **PKPdf** **03 54 51.1 -0.2**
baz=289
GRG Griva 122.74 317 P **PKPdf** **03 54 50.0 -1.2**
DION Dionisos Attik 122.83 313 P **PKPdf** **03 54 49.8 -1.6**
MRKA Markates 122.84 314 P **PKPdf** **03 54 50.3 -1.1**
XOR Xorichti 122.86 315 P **PKPdf** **03 54 49.6 -1.9**
DIVS Divibare 122.87 321 ⇑i P **PKPdf** **03 54 51.0 -0.4**
R58A Rapidan 122.93 47 P **PKPdf** **03 54 51.3 -0.3**
baz=293
SKO Skopje 122.94 318 P **PKPdf** **03 54 50.8 -0.7**
SKO Skopje 122.94 318 i P **PKPdf** **03 54 51.3 -0.2**
FRNY Flat Rock 122.95 38 ePKPdf **PKPdf** **03 54 50.9 -0.5**
NCB Newcomb 122.99 39 ePKPdf **PKPdf** **03 54 51.6 0.0**
SOP Sopron 122.99 326 eP **PKiKP** **03 54 53.0 +1.4**
MHLO Agia Marina, M 123.00 311 P **PKPdf** **03 54 50.6 -1.2**
V58A Windy Hill, Pi 123.03 50 P **PKPdf** **03 54 51.5 -0.3**
baz=291
SMIA Simia 123.04 314 P **PKPdf** **03 54 50.6 -1.2**
LIT Litokhoron 123.04 316 ePKPdf **PKPdf** **03 54 51.2 -0.6**
LIT Litokhoron 123.04 316 P **PKPdf** **03 54 50.7 -1.1**
LIT Litokhoron 123.04 316 ePKIKP **PKPdf** **03 54 51.2 -0.6**
T58A Grand View Acr 123.06 48 P **PKPdf** **03 54 51.8 -0.1**
baz=292
PAGS Pennsylvania G 123.06 44 ePKPdf **PKPdf** **03 54 51.4 -0.3**
KSPA Keystone Colle 123.12 42 ePKPdf **PKPdf** **03 54 51.8 -0.1**
IDI Anoyia 123.13 310 PKP **PKPdf** **03 54 51.8 -0.4**
comp=Z,60nm,0.9s,baz=344,slow=9.1,SNR=19
IDI PKKPbc **PKKPbc** **04 04 44.7 +0.8**
comp=Z,6.4nm,0.5s,baz=232,slow=2.0,SNR=9.1
R58B Mineral 123.15 47 ePKPdf **PKPdf** **03 54 51.6 -0.3**
R58B Mineral 123.15 47 P **PKPdf** **03 54 51.7 -0.3**
baz=293
S58A Poland Farm, P 123.16 47 ePKPdf **PKPdf** **03 54 51.6 -0.5**
S58A Poland Farm, P 123.16 47 P **PKPdf** **03 54 51.5 -0.5**
baz=292
W58A Raeford 123.21 51 P **PKPdf** **03 54 52.1 -0.1**
baz=290
CONA Conrad Observa 123.23 327 ePKiKP **PKiKP** **03 54 52.2 -0.1**
comp=Z,27nm,0.9s,SNR=23
CONA ePKKPab **PKKPbc** **04 04 44.2 +0.3**
comp=Z,13nm,0.9s,SNR=7.0
Y58A Scranton 123.24 52 ePKPdf **PKiKP** **03 54 52.7 +0.2**
Y58A Scranton 123.24 52 P **PKPdf** **03 54 51.9 -0.4**
baz=289
U58A Oxford 123.25 49 P **PKPdf** **03 54 52.0 -0.2**
baz=291
ATAL Atalanti 123.25 314 P **PKPdf** **03 54 50.6 -1.6**
958A Wauchula 123.28 60 P **PKPdf** **03 54 52.0 -0.5**
baz=284
X58A Rowland 123.28 51 ePKPdf **PKiKP** **03 54 52.6 0.0**
X58A Rowland 123.28 51 P **PKPdf** **03 54 52.0 -0.3**
baz=290
Z58A St. Stephen 123.31 53 P **PKPdf** **03 54 52.1 -0.4**
baz=289
SDMD Soldier's Deli 123.32 45 ePKPdf **PKPdf** **03 54 52.2 -0.1**
BBLS Lazići 123.35 321 ⇑i P **PKPdf** **03 54 52.2 -0.1**
O59A Robesonia 123.39 44 P **PKPdf** **03 54 52.1 -0.4**
baz=296
N59A State Game Lan 123.41 43 ePKPdf **PKPdf** **03 54 52.6 +0.1**
N59A State Game Lan 123.41 43 P **PKPdf** **03 54 52.2 -0.3**
baz=296
MVL Millersville 123.41 44 ePKPdf **PKiKP** **03 54 52.6 0.0**
CBN Corbin Frederi 123.42 46 ePKPdf **PKPdf** **03 54 52.6 0.0**
CBN Corbin Frederi 123.42 46 P **PKPdf** **03 54 52.4 -0.1**
baz=293
DWPF Disney Wildern 123.43 59 ePKPdf **PKiKP** **03 54 53.3 +0.3**
DWPF Disney Wildern 123.43 59 P **PKPdf** **03 54 52.5 -0.3**
baz=284
BIA Bitola 123.45 317 P **PKPdf** **03 54 52.4 -0.2**
BIA Bitola 123.45 317 i P **PKPdf** **03 54 52.4 -0.2**
858A St. Cloud 123.47 59 P **PKPdf** **03 54 52.8 0.0**
baz=284
AXAR Agios Charalam 123.48 314 P **PKiKP** **03 54 53.8 +0.9**
MOQ Mont Orford 123.51 37 ePKPdf **PKPdf** **03 54 52.3 -0.3**
FNA Florina 123.52 317 ePKPdf **PKPdf** **03 54 52.1 -0.6**
FNA Florina 123.52 317 P **PKPdf** **03 54 51.1 -1.6**
FNA Florina 123.52 317 ePKIKP **PKPdf** **03 54 52.1 -0.6**
P59A Jarrettsville 123.52 45 P **PKPdf** **03 54 52.4 -0.2**
baz=295
HAPS Han Pijesak,BI 123.52 321 eP **PKPdf** **03 54 51.8 -0.9**
BEHE Becsehely 123.56 325 eP **PKPdf** **03 54 52.2 -0.3**
BEHE Becsehely 123.56 325 eP **PKiKP** **03 54 53.0 +0.2**
DID Didima 123.56 313 P **PKPdf** **03 54 50.9 -2.0**
NKC Novy Kostel 123.59 331 ePKIKP **PKiKP** **03 54 52.9 +0.1**
NKC e 03 55 12.7
NKC MLR MLR
comp=Z,800nm,22.4s
NKC Novy Kostel 123.59 331 ePKP **PKiKP** **03 54 52.9 +0.1**
NKC ex x 03 54 55.8
NKC epPKP **pPKPdf** **03 55 12.7 +0.3**
NKC AMS AMS 04 46 30.0
comp=Z,800nm,22.4s
THL Klokotos Trika 123.60 315 P **PKPdf** **03 54 50.5 -2.3**
AGG Agios Georgios 123.61 315 ePKPdf **PKPdf** **03 54 52.4 -0.5**
AGG Agios Georgios 123.61 315 P **PKPdf** **03 54 51.3 -1.6**
AGG Agios Georgios 123.61 315 ePKIKP **PKPdf** **03 54 52.4 -0.5**
R59A King George, V 123.61 46 P **PKPdf** **03 54 52.6 -0.2**
baz=294
ACCN Adirondack Com 123.63 39 ePKPdf **PKPdf** **03 54 52.4 -0.4**
S59A Mechanicsville 123.66 47 P **PKPdf** **03 54 52.8 -0.2**
baz=293
V59A Middlesex 123.71 50 P **PKPdf** **03 54 52.8 -0.3**
baz=291
KHC Kasperske Hory 123.72 329 ePKPdf **PKiKP** **03 54 53.2 +0.1**
KHC Kasperske Hory 123.72 329 ePKIKP **PKiKP** **03 54 53.2 +0.1**
KHC Kasperske Hory 123.72 329 ePKP **PKPdf** **03 54 52.9 +0.1**
KHC ex x 03 54 56.0
KHC epPKP **pPKPdf** **03 55 13.0 +0.2**
KHC ePKKP **PKKPbc** **04 04 42.7 +0.7**
KHC eSKKP 04 08 42.0
KHC AMS AMS 04 48 50.0
comp=Z,900nm,24.7s

MOX Moxa 123.72 331 PKIKP **PKiKP** **03 54 53.1 +0.1**
VT1 Waterbury 123.72 38 ePKPdf **PKiKP** **03 54 53.1 -0.1**
OHR Ohrid 123.76 318 i P **PKiKP** **03 54 55.5 +2.0**
IMMV Iera Moni Meta 123.76 310 P **PKPdf** **03 54 51.0 -2.3**
W59A Clinton 123.77 50 P **PKPdf** **03 54 53.0 -0.2**
baz=291
T59A Double "B" Far 123.77 48 ePKPdf **PKiKP** **03 54 53.4 -0.1**
T59A Double "B" Far 123.77 48 P **PKPdf** **03 54 53.2 -0.1**
baz=293
ARSA Arzberg 123.82 326 ePKPdf **PKPdf** **03 54 51.7 -1.3**
comp=Z,20nm,1.0s,SNR=6.2
ARSA ePKKPab **PKKPbc** **04 04 42.7 +1.2**
comp=Z,10nm,1.1s,SNR=5.0
LUPA Lehigh Univers 123.82 43 ePKPdf **PKPdf** **03 54 53.1 -0.1**
U59A Littleton 123.83 49 ePKPdf **PKPdf** **03 54 53.1 -0.3**
U59A Littleton 123.83 49 P **PKPdf** **03 54 53.0 -0.3**
baz=292
GEC2 GERESS Array S 123.83 329 ePKPdf **PKiKP** **03 54 53.3 -0.2**
GEC2 GERESS Array S 123.83 329 ePKIKP **PKiKP** **03 54 53.3 -0.2**
GERES GERESS Array B 123.83 329 PKP **PKiKP** **03 54 53.2 -0.2**
comp=Z,30nm,0.9s,baz=76,slow=1.7,SNR=44
GERES pPKP **pPKPdf** **03 55 12.4 -0.7**
comp=Z,22nm,0.7s,baz=73,slow=1.9,SNR=10
GERES PKKPbc **PKKPab** **04 04 40.4 +0.4**
comp=Z,4.6nm,0.7s,baz=202,slow=1.4,SNR=22
GERES SKKPbc SKKPbc 04 08 39.2 +13
comp=Z,2.4nm,0.9s,baz=214,slow=3.3,SNR=8.7
X59A McDuffie Farm, 123.85 51 P **PKPdf** **03 54 53.0 -0.5**
baz=290
KPRO Kipourio 123.89 316 P **PKPdf** **03 54 52.5 -1.0**
NEST Nestorio 123.90 317 P **PKPdf** **03 54 53.1 -0.4**
859A Kempfer Cattle 123.90 59 P **PKPdf** **03 54 53.2 -0.5**
baz=284
O60A Telford 123.92 43 P **PKPdf** **03 54 53.4 0.0**
baz=296
TRY Troy 123.95 40 ePKPdf **PKiKP** **03 54 53.8 +0.2**
P60A Greenville 123.99 44 P **PKPdf** **03 54 53.3 -0.2**
baz=296
UPM Unac-Piva 124.00 321 eP **PKPdf** **03 54 53.0 -0.7**
KALE Kalithea 124.00 314 P **PKPdf** **03 54 53.5 -0.2**
EVR Evrytania 124.02 315 P **PKPdf** **03 54 52.3 -1.5**
GUR Goura 124.04 313 P **PKPdf** **03 54 52.7 -1.2**
TRAZ Trapeza 124.04 314 P **PKPdf** **03 54 51.6 -2.2**
SERG Sergoula 124.05 314 P **PKPdf** **03 54 52.6 -1.2**
PSUB Penn St. - Bra 124.06 44 ePKPdf **PKPdf** **03 54 53.7 0.0**
WET Wettzell 124.07 329 PKIKP **PKiKP** **03 54 53.9 +0.1**
ANX Ano Chora 124.08 314 P **PKPdf** **03 54 53.6 -0.3**
VLI Veliai 124.08 312 P **PKPdf** **03 54 50.9 -3.0**
ODNJ Ogdensburg 124.12 42 ePKPdf **PKPdf** **03 54 53.7 -0.1**
S60A Water View 124.14 47 P **PKPdf** **03 54 54.0 +0.1**
baz=294
MOA Molln 124.15 327 ePKPdf **PKPdf** **03 54 53.1 -0.6**
comp=Z,22nm,1.1s,SNR=8.7
MOA ePKKPab **PKKPbc** **04 04 42.3 +2.1**
comp=Z,20nm,1.3s,SNR=6.1
PDG Podgorica 124.16 320 ⇓i P **PKPdf** **03 54 53.5 -0.3**
PDG Podgorica 124.16 320 eP **PKPdf** **03 54 53.0 -0.8**
TTG Podgorica 124.16 320 ePKPdf **PKPdf** **03 54 53.5 -0.3**
TTG Podgorica 124.16 320 ePKIKP **PKPdf** **03 54 53.5 -0.3**
CNNC Cliffs of the 124.16 50 P **PKPdf** **03 54 53.7 -0.3**
baz=291
ROC1 El Roble 124.19 135 ePKPdf **PKPdf** **03 54 54.4 -0.1**
VLX Vlachokerasia 124.24 313 P **PKPdf** **03 54 53.6 -0.7**
U60A Pendleton 124.26 48 P **PKPdf** **03 54 53.7 -0.4**
baz=293
BLY Banja Luka 124.26 323 ePKPdf **PKPdf** **03 54 54.0 0.0**
BLY Banja Luka 124.26 323 ⇓i P **PKiKP** **03 54 54.3 +0.1**
BLY Banja Luka 124.26 323 eP **PKPdf** **03 54 53.6 -0.3**
TRIP Tripoli 124.26 313 P **PKPdf** **03 54 54.3 0.0**
TIR Tirane 124.27 318 ePKPdf **PKiKP** **03 54 54.3 -0.1**
TIR Tirane 124.27 318 ⇑i P **PKiKP** **03 54 54.6 +0.2**
TIR Tirane 124.27 318 ⇑PKIKP **PKiKP** **03 54 54.6 +0.2**
LBNH Lisbon 124.28 38 ePKPdf **PKPdf** **03 54 54.0 0.0**
LBNH Lisbon 124.28 38 ePKIKP **PKPdf** **03 54 54.0 0.0**
LBNH Lisbon 124.28 38 P **PKPdf** **03 54 54.0 0.0**
baz=302
T60A Surry 124.31 47 ePKPdf **PKiKP** **03 54 54.6 0.0**
T60A Surry 124.31 47 P **PKPdf** **03 54 54.2 -0.1**
baz=293
DRME Dracevica, Mon 124.32 319 eP **PKPdf** **03 54 53.2 -0.9**
PEL Peldehue 124.33 136 ePKPdf **PKPdf** **03 54 54.3 -0.2**
PEL Peldehue 124.33 136 ePKIKP **PKPdf** **03 54 54.3 -0.2**
BRNJ Basking Ridge 124.33 43 ePKPdf **PKiKP** **03 54 54.4 -0.1**
X60A Albert Glenn T 124.33 51 P **PKPdf** **03 54 54.1 -0.2**
baz=291
HNH Hanover 124.33 38 ePKPdf **PKiKP** **03 54 54.6 +0.2**
PVO Paravola 124.35 315 P **PKPdf** **03 54 54.1 -0.2**
W60A Pink Hill 124.36 50 P **PKPdf** **03 54 54.3 -0.1**
baz=291
ZAG Zagreb 124.37 325 eP **PKPdf** **03 54 54.2 +0.1**
BRY Bratogost 124.38 320 eP **PKPdf** **03 54 53.6 -0.8**
PERS Pernice 124.40 326 ePKPdf **PKPdf** **03 54 53.6 -0.6**
PERS e 04 04 40.3
SOKA Soboth 124.42 326 ePKiKP **PKPdf** **03 54 54.1 -0.2**
comp=Z,37nm,1.3s,SNR=21
SOKA i PKKPab **PKKPbc** **04 04 38.6 -0.6**
comp=Z,6.7nm,0.9s
V60A Jim Taylor Roa 124.44 49 ePKPdf **PKPdf** **03 54 54.5 0.0**
V60A Jim Taylor Roa 124.44 49 P **PKPdf** **03 54 54.3 -0.2**
baz=292
DRO Drossia 124.49 314 P **PKPdf** **03 54 54.3 -0.3**
MGRS Mrkonjic Grad 124.50 323 eP **PKPdf** **03 54 51.3 -3.2**
GRA1 Grafenberg Arr 124.54 331 ePKPdf **PKiKP** **03 54 56.2 +1.6**
GRFO Grafenberg 124.54 331 ePKPdf **PKiKP** **03 54 56.2 +1.6**
KSCT Kent School, K 124.56 41 ePKPdf **PKPdf** **03 54 54.5 -0.1**
TREB Trebinje 124.59 320 eP **PKPdf** **03 54 52.9 -1.8**
060Z West Palm Beac 124.60 61 P **PKPdf** **03 54 54.9 -0.2**
baz=284
060A Indiantown 124.61 60 P **PKPdf** **03 54 55.3 +0.1**
baz=284
PAL Palisades 124.62 42 ePKPdf **PKiKP** **03 54 54.9 -0.1**
PAL Palisades 124.62 42 ePKIKP **PKiKP** **03 54 54.9 -0.1**
PAL Palisades 124.62 42 P **PKPdf** **03 54 54.6 -0.1**
baz=298
HCY Herceg Novi 124.64 320 eP **PKPdf** **03 54 54.3 -0.5**
ITM Ithomi 124.65 313 ePKPdf **PKPdf** **03 54 54.9 0.0**
CRES Cresnjev 124.67 325 eP **PKPdf** **03 54 54.0 -0.7**
CPNY Central Park 124.69 42 ePKPdf **PKiKP** **03 54 55.3 +0.2**
IGT Igoumenitsa 124.79 316 P **PKPdf** **03 54 54.3 -0.8**
OBKA Obir 124.79 326 ePKiKP **PKPdf** **03 54 54.7 -0.3**
comp=Z,26nm,1.0s,SNR=7.3
OBKA ePKKPab **PKKPbc** **04 04 38.7 +0.9**
comp=Z,15nm,0.9s,SNR=5.5
U61A Possum Corner 124.84 48 P **PKPdf** **03 54 55.3 0.0**
baz=293
W61A Ground Anchor 124.87 50 P **PKiKP** **03 54 55.6 -0.1**
baz=292
LKD2 Lefkada island 124.89 315 P **PKPdf** **03 54 51.2 -4.2**
STON Ston 124.93 321 P **PKPdf** **03 54 54.1 -1.1**
STON Ston 124.93 321 ⇑i P **PKiKP** **03 54 56.3 +0.7**
V61A Roper 124.95 49 P **PKPdf** **03 54 55.5 0.0**
baz=293
WTSB Winterswijk 124.96 335 ePKP **PKiKP** **03 54 55.7 +0.3**
comp=Z,182nm,1.6s
WTSB eX 03 55 13.3
BOJS Bojanci 124.98 325 i PKPdf **PKPdf** **03 54 55.1 -0.2**
BOJS i 03 54 57.6
QUA2 Belchertown 125.02 40 ePKPdf **PKiKP** **03 54 56.1 +0.3**
LJU Ljubljana 125.08 326 ePKPdf **PKPdf** **03 54 55.2 -0.3**
LJU i 03 54 57.7
LJU i 03 55 15.3
LJU Ljubljana 125.08 326 eP **PKPdf** **03 54 54.9 -0.6**
KBA Koelnbreinsper 125.11 327 ePKiKP **PKPdf** **03 54 55.1 -0.6**
comp=Z,39nm,1.2s,SNR=11
KBA ePKKPab **PKKPbc** **04 04 36.7 +0.1**
comp=Z,9.3nm,0.8s
KBA Koelnbreinsper 125.11 327 PKIKP **PKPdf** **03 54 55.1 -0.6**
PQI Presque Isle 125.17 33 ePKPdf **PKPdf** **03 54 55.1 -0.5**
MYKA Terra Mystica 125.22 327 ePKPdf **PKPdf** **03 54 55.3 -0.6**
comp=Z,25nm,0.9s,SNR=7.4
MYKA ePKKPab **PKKPbc** **04 04 36.5 +0.5**
comp=Z,9.7nm,0.8s
UDBI Udbina 125.23 323 P **PKPdf** **03 54 55.7 -0.2**
PKME Peaks-Kenny Pk 125.28 35 ePKPdf **PKiKP** **03 54 56.1 -0.1**
PKME Peaks-Kenny Pk 125.28 35 P **PKiKP** **03 54 56.2 -0.1**
baz=305
CEY Cerknica 125.31 325 eP **PKPdf** **03 54 55.5 -0.5**
FSCY Frank Sound, G 125.37 70 ePKPdf **PKiKP** **03 54 57.2 +0.1**
HRV Adam Dziewonsk 125.41 39 ePKPdf **PKiKP** **03 54 56.5 -0.1**
HRV Adam Dziewonsk 125.41 39 ePKIKP **PKiKP** **03 54 56.5 -0.1**
HRV Adam Dziewonsk 125.41 39 P **PKPdf** **03 54 56.1 -0.1**
baz=301
WVL Waterville 125.46 36 ePKPdf **PKPdf** **03 54 55.7 -0.5**
RIY Rijeka 125.52 325 eP **PKiKP** **03 54 58.1 +1.4**

WES Weston 125.62 39 ePKPdf **PKiKP** **03 54 57.2 +0.3**
TRI Trieste 125.71 326 ePKPdf **PKPdf** **03 54 56.5 -0.2**
TRI Trieste 125.71 326 ePKIKP **PKPdf** **03 54 56.5 -0.2**
BRYW Bryant College 125.73 40 ePKPdf **PKiKP** **03 54 57.4 +0.1**
NVLJ Novalja 125.73 324 P **PKPdf** **03 54 56.5 -0.3**
ABTA Abfaltersbach 125.77 327 ePKPdf **PKPdf** **03 54 55.9 -1.0**
comp=Z,65nm,1.0s,SNR=27
EKA Eskdalemuir Ar 125.78 343 PKIKP **PKiKP** **03 54 58.7 +1.8**
EKA pmax pmax
comp=Z,30nm,0.6s
BATG Bathurst New B 125.85 32 ePKPdf **PKPdf** **03 54 57.0 +0.1**
GO04 Tololo Observa 125.85 133 ePKPdf **PKiKP** **03 54 58.3 +0.1**
WATA Walderalm 125.89 328 ePKiKP **PKPdf** **03 54 56.9 -0.3**
comp=Z,46nm,1.0s,SNR=9.3
WTTA Wattenberg 125.91 328 ePKiKP **PKPdf** **03 54 56.9 -0.3**
comp=Z,185nm,1.7s,SNR=34
MOTA Moosalm 126.13 329 ePKiKP **PKPdf** **03 54 57.3 -0.3**
comp=Z,49nm,0.9s,SNR=33
STU Stuttgart 126.14 331 ePKPdf **PKiKP** **03 54 58.3 +0.4**
STU Stuttgart 126.14 331 PKIKP **PKiKP** **03 54 57.9 0.0**
SQTA Sankt Quirin 126.16 328 ePKIKP **PKPdf** **03 54 57.8 +0.1**
comp=Z,82nm,1.0s,SNR=30
FASA Fasano 126.19 319 eP **PKPdf** **03 54 57.5 -0.3**
HGN Heimansgroeve 126.22 335 ePKP **PKPdf** **03 54 57.2 -0.2**
comp=Z,80nm,1.0s
HGN eX 03 55 15.6
RETA Reutte 126.22 329 ePKiKP **PKPdf** **03 54 57.8 0.0**
comp=Z,26nm,0.9s,SNR=7.4
MEM Membach 126.30 334 ⇑PKP **PKiKP** **03 54 58.3 +0.2**
MEM ⇑pPKP **pPKPdf** **03 55 17.2 -0.4**
BEBN Eben Emael 126.30 335 ⇑pPKP pPKPdf 03 55 18.4 +0.8
BAI Bari 126.36 319 eP PKiKP 03 55 11.3 +13
TAR1 Taranto 126.38 318 eP **PKiKP** **03 55 00.2 +1.6**
MASS Massafra 126.42 319 eP **PKiKP** **03 54 59.9 +1.2**
LCO Las Campanas 126.53 131 ePKPdf **PKiKP** **03 54 59.7 +0.1**
LCO Las Campanas 126.53 131 PKIKP **PKiKP** **03 54 59.7 +0.1**
LCO Las Campanas 126.53 131 eP **PKiKP** **03 55 00.3 +0.7**
LCO Las Campanas 126.53 131 eP **PKPdf** **03 54 58.6 -0.6**
FETA Feichten 126.54 328 ePKiKP **PKPdf** **03 54 58.6 +0.2**
comp=Z,92nm,1.1s,SNR=54
MATE Matera 126.70 319 ⇓i P **PKPdf** **03 54 58.8 +0.1**
TRQA Tornquist 126.73 146 ePKPdf **PKPdf** **03 54 58.9 -0.1**
TRQA Tornquist 126.73 146 eP **PKiKP** **03 55 00.4 +1.0**
TRQA Tornquist 126.73 146 eP **PKPdf** **03 54 58.4 -0.6**
BCLA Clavier 126.74 335 ⇑PKP **PKiKP** **03 55 01.8 +2.8**
BCLA ⇑pPKP **pPKPdf** **03 55 18.6 +0.2**
GGN Saint George 126.76 34 ePKPdf **PKPdf** **03 54 58.5 -0.2**
DAVA Damuels 126.80 329 i PKiKP **PKiKP** **03 54 59.2 -0.2**
SNR=9.0
UCC Uccle 126.85 336 ePKPdf **PKiKP** **03 54 59.5 +0.4**
BFO Black Forest 126.87 331 ePKPdf **PKPdf** **03 54 58.1 -0.7**
BFO Black Forest 126.87 331 i PKIKP **PKPdf** **03 54 59.1 +0.2**
WLF Walferdange 126.93 333 ePKPdf **PKiKP** **03 55 00.3 +0.9**
WLF Walferdange 126.93 333 ePKIKP **PKiKP** **03 55 00.3 +0.9**
WLF Walferdange 126.93 333 ⇑PKP **PKiKP** **03 55 00.1 +0.7**
WLF ⇑pPKP **pPKPdf** **03 55 19.0 +0.2**
SNF Seneffe 127.11 335 ⇑PKP **PKiKP** **03 55 01.8 +2.1**
SNF ⇑pPKP **pPKPdf** **03 55 19.4 +0.3**
DAVOX Davos/Dischmat 127.14 329 PKP **PKPdf** **03 54 59.5 -0.2**
comp=Z,51nm,0.9s,baz=58,slow=3.9,SNR=16
DAVOX pPKP **pPKPdf** **03 55 19.5 -0.1**
comp=Z,38nm,0.8s,baz=127,slow=2.2,SNR=6.8
DAVOX SKPbc SKPbc 03 58 16.5
comp=Z,11nm,1.1s,baz=120,slow=0.6,SNR=3.6
IDGL Inch Island, C 127.16 346 ePKPDF **PKiKP** **03 54 59.5 -0.2**
DOU Dourbes 127.29 335 ⇑PKP **PKiKP** **03 55 00.4 +0.3**
DOU ⇓PKPab **pPKPdf** **03 55 19.6 +0.1**
TIP Timpagrande 127.40 317 ePKPdf **PKPdf** **03 55 00.5 +0.3**
TIP Timpagrande 127.40 317 P **PKPdf** **03 55 00.3 +0.1**
TIP Timpagrande 127.40 317 ⇑i P **PKiKP** **03 55 00.9 +0.1**
LMN Caledonia Moun 127.42 33 ePKPdf **PKPdf** **03 55 00.1 +0.1**
ECH Echery 127.51 332 ePKPdf **PKPdf** **03 55 00.3 +0.2**
ECH Echery 127.51 332 ePKIKP **PKPdf** **03 55 00.3 +0.2**
BCIP Isla Barro Col 127.54 82 ePKPdf **PKPdf** **03 55 01.1 0.0**
BCIP Isla Barro Col 127.54 82 eP **PKPdf** **03 54 56.9 -4.1**
BCIP Isla Barro Col 127.54 82 ePKIKP **PKPdf** **03 55 01.1 0.0**
BCIP Isla Barro Col 127.54 82 eP **PKPdf** **03 54 56.9 -4.1**
ATAH Atahualpa 127.58 103 PKP **PKPdf** **03 55 01.9 +0.2**
comp=Z,135nm,1.0s,baz=269,slow=2.4,SNR=52
ATAH SKP 03 58 24.9
comp=Z,9.4nm,1.0s,baz=132,slow=12,SNR=3.3
TUE Stuetta 127.62 329 ePKPdf **PKPdf** **03 55 00.6 0.0**
AQU L'Aquila 127.87 322 ePKPdf **PKiKP** **03 55 02.2 +0.6**
AQU L'Aquila 127.87 322 ePKIKP **PKiKP** **03 55 02.2 +0.6**
AQU L'Aquila 127.87 322 eP **PKPdf** **03 54 56.8 -4.2**
NNA Nana 127.95 109 ePKPdf **PKiKP** **03 55 02.5 0.0**
NNA Nana 127.95 109 i PKIKP **PKiKP** **03 55 03.1 +0.6**
NNA Nana 127.95 109 PKP **PKPdf** **03 55 02.1 +0.2**
comp=Z,91nm,0.9s,baz=288,slow=3.5,SNR=17
DSB Dublin 128.51 344 ePKPDF **PKiKP** **03 55 02.4 0.0**
VLC Villacollemand 128.55 326 ePKPdf **PKiKP** **03 55 03.9 +1.1**
OTAV Otavalo 128.59 93 eP **PKPdf** **03 55 03.5 -0.2**
OTAV Otavalo 128.59 93 eP **PKPdf** **03 55 03.5 -0.2**
OTAV Otavalo 128.59 93 eP **PKiKP** **03 55 05.5 +1.1**
OTAV Otavalo 128.59 93 eP **PKPdf** **03 55 03.6 -0.2**
SENIN Lac Senin/Sane 128.73 330 ePKPdf **PKiKP** **03 55 03.5 +0.1**
IGLA Glengowla, Co 129.11 346 ePKPDF **PKPdf** **03 55 03.2 +0.3**
GO02 Mina Guanaco 129.33 128 ePKPdf **PKPdf** **03 55 04.5 -0.1**
IWEX Carrickbyrne, 129.40 344 ePKPDF **PKiKP** **03 55 04.1 -0.1**
GCUF Volcan Galeras 129.78 92 eP **PKiKP** **03 55 06.9 +0.1**
GCUF Volcan Galeras 129.78 92 eP **PKiKP** **03 55 06.9 +0.1**
BBAC Balboa, Cauca 129.94 91 eP **PKPdf** **03 55 05.5 -0.4**
BBAC Balboa, Cauca 129.94 91 eP **PKPdf** **03 55 05.5 -0.4**
TSUM Tsumeb 130.06 240 ePKPdf **PKiKP** **03 55 06.7 0.0**
CRUC La Cruz 130.21 92 eP **PKPdf** **03 55 06.9 +0.3**
CRUC La Cruz 130.21 92 eP **PKPdf** **03 55 06.9 +0.3**
POPC Popayan, Colom 130.55 91 eP **PKPdf** **03 55 06.5 -0.6**
POPC Popayan, Colom 130.55 91 eP **PKPdf** **03 55 06.5 -0.6**
SOTA Rioblanco 130.59 91 eP **PKPdf** **03 55 07.9 +0.3**
SOTA Rioblanco 130.59 91 eP **PKPdf** **03 55 07.9 +0.3**
PCON Cinco Dias 130.81 91 eP **PKPdf** **03 55 08.2 +0.2**
PCON Cinco Dias 130.81 91 eP **PKPdf** **03 55 08.2 +0.2**
YOTC Yotoco, Valle 130.96 89 eP **PKPdf** **03 55 07.0 -0.8**
YOTC Yotoco, Valle 130.96 89 eP **PKPdf** **03 55 07.0 -0.8**
PLMC San Jos del P 131.05 87 eP **PKiKP** **03 55 09.0 +0.2**
PLMC San Jos del P 131.05 87 eP **PKiKP** **03 55 09.0 +0.2**
LVC Limon Verde 131.10 125 ePKPdf **PKiKP** **03 55 09.6 +0.5**
LVC Limon Verde 131.10 125 PKP **PKPdf** **03 55 08.0 -0.1**
comp=Z,77nm,1.0s,baz=255,slow=2.6,SNR=4.7
LVC SKPab **SKPab** **03 58 29.1 +1.8**
comp=Z,42nm,0.8s,baz=258,slow=4.1,SNR=15
LVC Limon Verde 131.10 125 eP **PKiKP** **03 55 09.3 +0.2**
LVC Limon Verde 131.10 125 eP **PKPdf** **03 55 07.5 -0.7**
MARP Paez Belalcaza 131.29 90 eP **PKiKP** **03 55 09.1 -0.4**
MARP Paez Belalcaza 131.29 90 eP **PKiKP** **03 55 09.1 -0.4**
PB01 IPOC Station P 131.34 123 ePKPdf **PKPdf** **03 55 08.2 -0.1**
FLOC Florencia 131.50 92 eP **PKPdf** **03 55 09.0 +0.3**
FLOC Florencia 131.50 92 eP **PKPdf** **03 55 09.0 +0.3**
PB11 IPOC Station P 131.76 121 ePKPpre PKPpre 03 54 55.8
UREC San Jos de Ur 131.82 84 eP **PKPdf** **03 55 07.5 -1.7**
UREC San Jos de Ur 131.82 84 eP **PKPdf** **03 55 07.5 -1.7**
HELC Santa Helena 131.83 86 eP **PKPdf** **03 55 09.6 -0.1**
HELC Santa Helena 131.83 86 eP **PKPdf** **03 55 09.6 -0.1**
MNMC Minye Minye 132.08 121 ePKPpre PKPpre 03 54 57.7
SJCC San Jacinto, C 132.10 81 eP **PKiKP** **03 55 10.9 +0.1**
SJCC San Jacinto, C 132.10 81 eP **PKiKP** **03 55 10.9 +0.1**
GO01 Chusmiza 132.19 122 ePKPdf **PKiKP** **03 55 11.1 -0.3**
PTLC Puerto Leguiza 132.22 94 eP **PKPdf** **03 55 09.7 -0.3**
PTLC Puerto Leguiza 132.22 94 eP **PKPdf** **03 55 09.7 -0.3**
PRAC Prado 132.40 89 eP **PKPdf** **03 55 09.1 -1.3**
PRAC Prado 132.40 89 eP **PKPdf** **03 55 09.1 -1.3**
NORC Norcasia 132.48 87 eP **PKPdf** **03 55 09.9 -0.6**
**NORC Norcasia

CHIC	Chingaza	133.59	88	eP	PKPdf	03 55 12.4	-0.7
VILC	Villavicencio,	133.61	89	eP	PKPdf	03 55 11.4	-1.3
VILC	Villavicencio,	133.61	89	eP	PKPdf	03 55 11.4	-1.3
BRRC	Barranca, Sant	133.63	85	eP	PKiKP	03 55 14.1	+0.2
BRRC	Barranca, Sant	133.63	85	eP	PKiKP	03 55 14.1	+0.2
CODC	Agustn Codazz	133.81	81	eP	PKPdf	03 55 13.1	+0.2
CODC	Agustn Codazz	133.81	81	eP	PKPdf	03 55 13.1	+0.2
OCAC	Ocana	134.00	83	eP	PKiKP	03 55 14.5	-0.3
OCAC	Ocana	134.00	83	eP	PKiKP	03 55 14.5	-0.3
GIRC	Giron, Santand	134.15	85	eP	PKPdf	03 55 13.4	-0.3
GIRC	Giron, Santand	134.15	85	eP	PKPdf	03 55 13.4	-0.3
BARC	Barichara	134.16	85	eP	PKPdf	03 55 10.7	-3.2
BARC	Barichara	134.16	85	eP	PKPdf	03 55 10.7	-3.2
KEST	Kesra	134.22	318	ePKPdf	PKiKP	03 55 15.2	+0.6
KEST				eSKPbc	SKPab	03 58 41.3	+1.3
KEST	Kesra	134.22	318	PKP	PKPdf	03 55 11.9	-1.4
	comp=Z,16nm,0.8s,baz=314,slow=2.2,SNR=7.7						
KEST				pPKP	pPKPdf	03 55 32.2	-1.1
	comp=Z,46nm,1.0s,baz=344,slow=5.0,SNR=8.8						
KEST				SKPbc	SKPbc	03 58 37.1	+0.1
	comp=Z,26nm,1.1s,baz=304,slow=2.6,SNR=6.4						
RUSC	La Rusia	134.26	86	eP	PKPdf	03 55 07.3	-7.1
RUSC	La Rusia	134.26	86	eP	PKPdf	03 55 07.3	-7.1
LPAZ	La Paz	134.52	118	ePKPpre	PKPpre	03 55 02.5	
LPAZ				ePKPdf	PKPdf	03 55 14.7	-0.3
LPAZ				eSKPbc	SKPab	03 58 41.9	-0.6
LPAZ	La Paz	134.52	118	PKhKP	PKPpre	03 55 04.9	
	comp=Z,3.8nm,0.4s,baz=355,slow=0.7,SNR=17						
LPAZ				PKP	PKPdf	03 55 14.7	-0.3
	comp=Z,50nm,0.7s,baz=260,slow=3.8,SNR=25						
LPAZ				SKPab	SKPab	03 58 41.9	-0.6
	comp=Z,26nm,0.9s,baz=295,slow=2.1,SNR=12						
SDDR	Presa de Saban	134.63	68	ePKPdf	PKPdf	03 55 15.0	+0.6
MAHO	Mahon	134.78	326	PKS		03 59 12.6	
CMAH	Djebel Manchou	134.97	320	P	SKPbc	03 58 40.8	+1.4
URIC	Uribia, Colomb	135.10	78	eP	PKPdf	03 55 15.8	+0.5
URIC	Uribia, Colomb	135.10	78	eP	PKPdf	03 55 15.8	+0.5
CKFL	Kef-Lekhel	135.56	320	P	SKPbc	03 58 43.0	+1.6
CASM	Ain Smara	135.79	320	P	SKPbc	03 58 43.0	+1.0
DFRA	Djebel Bou Aff	136.00	321	P	SKPbc	03 58 44.4	+1.7
EBR	Ebro Roquetas	136.15	329	PKIKP	PKPdf	03 55 16.5	-0.1
SDV	Santo Domingo	136.63	82	ePKPdf	PKPdf	03 55 13.8	-4.7
SDV				eSKPbc	SKiKP	03 58 49.0	-1.6
SDV	Santo Domingo	136.63	82	eP	PKPdf	03 55 18.8	+0.3
SDV	Santo Domingo	136.63	82	eP	PKPdf	03 55 18.8	+0.3
SDV	Santo Domingo	136.63	82	PKhKP	PKPpre	03 55 10.6	
	comp=Z,5.4nm,0.6s,baz=265,slow=9.1,SNR=3.0						
SDV				PKP	PKPdf	03 55 17.3	-1.2
	comp=Z,218nm,1.0s,baz=268,slow=2.3,SNR=43						
SDV				SKP		03 58 47.6	
	comp=Z,51nm,1.1s,baz=277,slow=5.0,SNR=6.1						
SDV	Santo Domingo	136.63	82	eP	PKPdf	03 55 19.2	+0.8
SDV	Santo Domingo	136.63	82	eP	PKPdf	03 55 17.9	-0.5
CPUP	Villa Florida	137.65	138	ePKPpre	PKPpre	03 55 10.0	
CPUP				ePKPdf	PKPdf	03 55 18.0	-1.8
CPUP				eSKPbc	SKPbc	03 58 48.8	+1.0
CPUP	Villa Florida	137.65	138	ePKHKP	PKPpre	03 55 10.0	
CPUP				e		03 55 18.0	
CPUP	Villa Florida	137.65	138	PKhKP	PKPpre	03 55 07.5	
	comp=Z,6.4nm,0.8s,baz=251,slow=1.0,SNR=7.7						
CPUP				PKP	PKPdf	03 55 18.0	-1.8
	comp=Z,15nm,0.9s,baz=216,slow=4.1,SNR=12						
CPUP				SKP		03 58 48.8	
	comp=Z,8.9nm,1.1s,baz=236,slow=3.7,SNR=3.0						
CPUP	Villa Florida	137.65	138	eP	PKPdf	03 55 20.7	+0.9
CPUP	Villa Florida	137.65	138	eP	PKPdf	03 55 19.4	-0.5
UCM	Universidad Co	138.36	332	PKS		03 59 23.1	
MPR	Mayaguez	138.63	68	ePKPdf	PKPdf	03 55 22.4	+0.6
PBRG	Braganca	138.63	337	ePKPdf	PKPdf	03 55 16.5	-4.7
CRPR	Cabo Rojo, PR	138.71	68	ePKPpre	PKPpre	03 55 13.1	
AOPR	Arecibo Observ	138.95	67	ePKPdf	PKPdf	03 55 22.4	0.0
PGAV	Gavieira, Arco	139.08	338	ePKPdf	PKPdf	03 55 21.3	-0.8
PGAV	Gavieira, Arco	139.08	338	eLR	LR	04 44 55.1	
	comp=Z,504nm,20.0s						
EMPR	Esperanza - Ma	139.13	67	ePKPdf	PKPdf	03 55 23.2	+0.5
ESDC	Sonseca Array	139.20	332	PKhKP	PKPpre	03 55 14.1	
	comp=Z,2.1nm,0.8s,baz=32,slow=3.2,SNR=7.0						
ESDC				PP	PP	03 58 15.6	+0.4
	comp=Z,0.6nm,0.6s,baz=31,slow=6.7,SNR=4.2						
ESDC				SKPbc	SKPbc	03 58 49.7	-2.1
	comp=Z,1.2nm,0.7s,baz=39,slow=2.6,SNR=2.8						
ESDC				SKKPbc	SKKPbc	04 07 34.1	+3.5
	comp=Z,2.8nm,0.9s,baz=228,slow=4.2,SNR=4.5						
MVO	Moncorvo	139.29	337	ePKPdf	PKPdf	03 55 21.9	-0.6
MVO				i LQ	LQ	03 55 43.1	
MVO	Moncorvo	139.29	337	eLR	LR	04 45 21.4	
	comp=Z,283nm,22.0s						
CART	Cartagena	139.32	327	PKS		03 59 27.1	
CNLB	Canela	139.39	147	eP	PKiKP	03 55 25.7	+0.4
CNLB	Canela	139.39	147	eP	PKPdf	03 55 22.5	-0.5
POLO	Lamas de Olo	139.41	337	ePKPdf	PKPdf	03 55 18.9	-3.8
PVRL	Vila Real	139.46	337	ePKPdf	PKPdf	03 55 21.7	-1.1
PVRL				i LQ	LQ	03 55 41.1	
PAB	San Pablo	139.48	333	ePKPdf	PKiKP	03 55 25.1	-0.1
SJG	San Juan	139.57	67	ePKPdf	PKPdf	03 55 22.2	-1.3
SJG	San Juan	139.57	67	eP	PKPdf	03 55 23.3	-0.2
SJG	San Juan	139.57	67	ePKIKP	PKPdf	03 55 22.2	-1.3
SJG	San Juan	139.57	67	eP	PKPdf	03 55 23.3	-0.2
SJG	San Juan	139.57	67	SKPbc	SKPbc	03 58 53.1	-0.3
	comp=Z,37nm,1.1s,baz=1.4,slow=1.0,SNR=5.5						
CBYP	Canovanas	139.80	67	ePKPdf	PKPdf	03 55 24.6	+0.6
HUMP	Col San Antoni	139.84	67	ePKPpre	PKPpre	03 55 15.3	
PTO	Porto	139.92	338	ePKPdf	PKPdf	03 55 23.9	+0.4
MTP	Monte Pirata	140.12	67	ePKPdf	PKPdf	03 55 22.6	-1.9
MTE	Manteigas	140.15	336	ePKPdf	PKPdf	03 55 21.2	-2.9
MTE	Manteigas	140.15	336	ePP	PP	03 58 25.4	+4.5
MTE	Manteigas	140.15	336	eLR	LR	04 45 55.5	
	comp=Z,294nm,20.0s						
ITAB	Concordia	140.27	144	eP	PKPdf	03 55 24.1	-0.4
PCBR	Castelo Branco	140.59	336	ePKPdf	PKPdf	03 55 22.4	-2.4
PCBR				i LQ	LQ	03 55 45.2	
COI	Coimbra	140.65	337	ePKPdf	PKiKP	03 55 29.0	+1.5
SIV	San Ignacio	140.75	122	PKhKP	PKPpre	03 55 17.5	
	comp=Z,3.5nm,0.5s,baz=253,slow=4.2,SNR=24						
SIV				PKP	PKPdf	03 55 24.1	-1.7
	comp=Z,43nm,0.9s,baz=243,slow=4.2,SNR=25						
SIV				SKPbc	SKPbc	03 58 57.6	+0.9
	comp=Z,41nm,1.1s,baz=256,slow=3.7,SNR=11						
PCAS	Casmilo, Conde	140.82	337	ePKPdf	PKiKP	03 55 28.2	+0.3
PMRV	Marv??o	140.91	335	ePKPdf	PKPdf	03 55 22.4	-3.0
PMRV				i LQ	LQ	03 55 45.6	
PMRV	Marv??o	140.91	335	eLR	LR	04 44 11.2	
	comp=Z,417nm,24.0s						
TER01	Tubaro-SC	140.93	149	eP	PKiKP	03 55 28.5	+0.1
TER01	Tubaro-SC	140.93	149	eP	PKPdf	03 55 25.4	-0.4
ABVI	Anegada Island	141.06	66	ePKPdf	PKPdf	03 55 25.8	-0.4
PTOM	Tomar	141.16	337	ePKPdf	PKPdf	03 55 22.6	-3.2
PTOM				i LQ	LQ	03 55 46.0	
PMTG	Montargil	141.55	336	ePKPdf	PKPdf	03 55 24.3	-2.2
PMTG				i LQ	LQ	03 55 45.7	
EVO	Evora	141.92	335	ePKPdf	PKPdf	03 55 22.7	-4.5
LIJA	Lijar	142.09	331	PKP	PKPdf	03 55 22.0	-5.7
PBEJ	Beja	142.29	335	ePKPdf	PKPdf	03 55 24.9	-3.0
PBEJ				i LQ	LQ	03 55 49.2	
PNCL	Nicolau / Gran	142.49	336	ePKPdf	PKPdf	03 55 24.1	-4.1
AQDB	Aquidauana	142.56	133	eP	PKPdf	03 55 27.2	-1.7
MESJ	Messejana	142.59	335	ePKPdf	PKPdf	03 55 26.4	-2.0
MESJ				AMS	AMS	05 00 05.1	
	comp=Z,302nm,17.7s						
MESJ	Messejana	142.59	335	ePKPdf	PKPdf	03 55 25.0	-3.4
MESJ				i LQ	LQ	03 55 47.7	
MESJ	Messejana	142.59	335	ePKIKP	PKPdf	03 55 26.4	-2.0
SEUS	St. Eustatius	142.64	67	e	PKiKP	03 55 34.7	+2.6
BSK	Brimstone Hill	142.81	67	e	PKPdf	03 55 30.1	+0.8
SKI	Saint Kitts	142.91	67	e	PKiKP	03 55 32.7	0.0
PBDV	Barranco-do-Ve	142.97	334	ePKPdf	PKPdf	03 55 30.1	+0.9
PBDV				i LQ	LQ	03 55 49.3	
PTEO	Sao Teotonio	143.06	335	ePKPdf	PKPdf	03 55 28.7	-0.5
PTEO				i LQ	LQ	03 55 52.8	
NVBH	Bath Hotel, Ne	143.08	67	e	PKPdf	03 55 29.8	0.0
NEV	Hard Times	143.12	67	e	PKPdf	03 55 30.8	+0.8
MORF	Marmelete	143.23	335	ePKPdf	PKPbc	03 55 27.4	+0.7
MORF				AMS	AMS	04 55 54.3	
	comp=E,407nm,22.9s						
MORF	Marmelete	143.23	335	ePKPdf	PKPbc	03 55 27.9	+1.2
MORF				i LQ	LQ	03 55 49.6	
MORF	Marmelete	143.23	335	ePKIKP	PKPbc	03 55 27.4	+0.7
PFVI	Vila Bisbo	143.45	335	ePKPdf	PKPdf	03 55 30.7	+0.7
MLYT	Lee's Yard	143.58	68	e	PKPbc	03 55 28.0	-0.2
ANWB	Willy Bob	143.69	66	ePKPdf	PKPdf	03 55 31.4	+0.5
ANWB	Willy Bob	143.69	66	e	PKPdf	03 55 31.7	+0.8
BPA	Boggy Peak	143.80	67	e	PKPbc	03 55 29.8	+0.9
JAC01	Canania-SP	144.44	146	eP	PKPbc	03 55 31.0	+0.3
BBL	Barber's Block	144.55	70	e	PKPdf	03 55 33.2	+0.8
MDPO	Dominica; Chan	144.56	69	e	PKPdf	03 55 34.1	+1.7
MDPV	Dominica, Penn	144.57	69	e	PKiKP	03 55 35.5	-0.7
MDN	Morne-Daniel	144.68	70	e	PKPdf	03 55 33.6	+0.9
DWS	Wesley	144.69	69	e	PKiKP	03 55 35.8	-0.6
FRTB	Fartura	144.72	143	eP	PKPdf	03 55 32.7	+0.1
DBCT	Belle View Cho	144.73	70	e	PKPdf	03 55 32.6	-0.2
H07N1	FLORES T-PHASE	144.80	5	ePKP	PKPdf	03 55 32.3	0.0
DLPL	La Plaine	144.81	70	e	PKPdf	03 55 33.2	+0.3
MDT	Midelt	144.84	326	PKP	PKPdf	03 55 32.2	-0.4
	comp=E,150nm,1.0s,baz=62,slow=5.6,SNR=6.3						
FDF	Fort de France	145.04	71	ePKPbc	PKPdf	03 55 34.3	+0.9
FDF	Fort de France	145.04	71	e	PKPdf	03 55 33.9	+0.6
FDF	Fort de France	145.04	71	ePKIKP	PKPdf	03 55 34.3	+0.9
H07S1	FLORES T-PHASE	145.11	5	ePKP	PKPbc	03 55 31.9	-0.5
SVB	Belmont	145.26	73	ePKPbc	PKPbc	03 55 32.4	-1.1
SVB	Belmont	145.26	73	e	PKPbc	03 55 32.2	-1.3
SVV	Soufriere Volc	145.28	73	e	PKPab	03 55 34.2	+0.5
FCV	Fort Charlotte	145.29	73	e	PKPbc	03 55 33.6	0.0
SSV	Crater Summit	145.30	73	e	PKPbc	03 55 32.1	-1.6
SFAN	Fancy Village	145.31	73	e	PKPbc	03 55 32.1	-1.6
SLB	Belfond	145.34	72	e	PKPab	03 55 35.5	+1.5
SVCV	St. Vincent, C	145.36	73	e	PKPbc	03 55 33.1	-0.7
SLBI	Saint Lucia, B	145.37	72	e	PKPab	03 55 34.0	0.0
MCLT	Moule a Chique	145.46	72	e	PKPab	03 55 34.6	+0.2
TPP	Pointe-a-Pierr	145.53	78	e	PKPab	03 55 35.1	+0.4
TRN	Trinidad (W)	145.54	78	e	PKPdf	03 55 33.8	-0.3
PGRA	Graciosa	145.64	1	ePKP	PKPab	03 55 35.8	+1.4
SPB	Sao Paulo	145.77	146	ePKPdf	PKPbc	03 55 35.0	+0.1
SPB	Sao Paulo	145.77	146	eP	PKPab	03 55 35.6	+0.3
SPB	Sao Paulo	145.77	146	eP	PKPdf	03 55 33.2	-1.2
ROSA	Rosais	145.94	2	ePKP	PKiKP	03 55 38.3	-0.1
AVE	Averroes	145.96	330	PKP	PKPdf	03 55 33.4	-1.0
AVE	Averroes	145.96	330	PKS		03 59 13.9	
PSCM	Serra do Cume	145.98	360	ePKP	PKiKP	03 55 37.8	-0.7
PCED	Cedros	146.02	2	ePKP	PKPab	03 55 37.0	+1.2
ADH	Angra Heroismo	146.02	0	ePKP	PKPab	03 55 36.3	+0.5
PMAN	Manadas	146.03	1	ePKP	PKiKP	03 55 39.0	+0.4
HOR	Horta	146.12	2	ePKP	PKPab	03 55 37.3	+1.1
PICO	Pico	146.16	2	ePKP	PKPab	03 55 36.8	+0.4
TOSP	Speyside	146.29	76	e	PKPbc	03 55 36.2	-0.5
RCLB	Rio Claro- Sao	146.63	144	eP	PKPbc	03 55 37.8	+0.3
RCLB	Rio Claro- Sao	146.63	144	eP	PKPdf	03 55 35.7	-0.3
PTGA	Pitinga	146.81	98	ePKPdf	PKPdf	03 55 36.9	+0.4
PTGA				eSKPbc	SKPbc	03 59 11.2	0.0
PTGA	Pitinga	146.81	98	PKPbc	PKPdf	03 55 36.5	+0.1
	comp=E,67nm,0.7s,baz=239,slow=3.5,SNR=54						
PTGA				SKPbc	SKPbc	03 59 11.2	0.0
	comp=E,20nm,0.8s,baz=256,slow=4.2,SNR=2.5						
PTGA	Pitinga	146.81	98	eP	PKPdf	03 55 37.2	+0.7
PSET	Sete Cidades	146.83	358	ePKP	PKPab	03 55 38.9	-0.1
ITRB	Iturama	146.84	137	eP	PKPab	03 55 38.9	-0.7
ITRB	Iturama	146.84	137	eP	PKPdf	03 55 36.1	-0.2
BART	Pico Bartolome	146.85	357	ePKP	PKPbc	03 55 38.4	+0.6
GRON	Grota Negra	146.87	358	ePKP	PKiKP	03 55 41.3	+0.9
CMLA	Cha da Macela	146.88	358	ePKP	PKPdf	03 55 35.8	-0.1
CMLA	Cha da Macela	146.88	358	i PKP2	PKiKP	03 55 40.8	+0.4
BBGH	Gun Hill	146.90	73	e	PKiKP	03 55 45.6	+4.6
PDA	Ponta Delgada	146.90	358	ePKP	PKPab	03 55 39.1	-0.1
BB19B	Bebedouro	147.05	141	eP	PKPbc	03 55 39.5	+0.7
BB19B	Bebedouro	147.05	141	eP	PKPdf	03 55 36.4	-0.3
PSMN	Pico do Norte,	147.61	357	ePKP	PKPbc	03 55 39.0	-0.8
PSMA	Santa Maria	147.62	357	ePKP	PKiKP	03 55 41.1	-0.8
CLDB	Colider	147.66	118	eP	PKPdf	03 55 38.9	+1.1
CLDB	Colider	147.66	118	eP	PKPdf	03 55 37.0	-0.8
ESAR	Angra dos Reis	147.84	149	eP	PKPdf	03 55 37.7	-0.1
VAS01	Vassouras-RJ	148.97	150	eP	PKPbc	03 55 43.1	-0.7
VAS01	Vassouras-RJ	148.97	150	eP	PKPdf	03 55 39.6	-0.2
BSCB	Bom Sucesso	149.32	146	eP	PKPdf	03 55 40.3	-0.2
DUB01	Friburgo-RJ	149.66	151	eP	PKPdf	03 55 41.4	+0.4
PMPST	Porto Santo, M	149.84	342	ePKPdf	PKiKP	03 55 46.6	0.0
PMPST				i LQ	LQ	03 56 05.8	
PMPS	Porto Santo	149.86	342	ePKPdf	PKPbc	03 55 45.0	-0.7
PMPS				i LQ	LQ	03 56 06.0	
CAM01	Campos-RJ	150.22	152	eP	PKPdf	03 55 41.5	-0.2
TOA0	Torodi Ar. Sit	150.25	289	ePKPdf	PKPdf	03 55 41.3	-0.6
TORD	Torodi Ar. Bea	150.25	289	PKPbc	PKPbc	03 55 45.1	-2.1
	comp=E,64nm,0.9s,baz=303,slow=6.3,SNR=160						
TORD				pPKPbc	pPKPbc	03 56 04.9	-1.7
	comp=E,152nm,0.9s,baz=107,slow=2.9,SNR=7.8						
TOA1	Torodi Ar. Sit	150.25	289	ePKPbc	PKPbc	03 55 45.1	-2.1
PMOZ	Porto Moniz, M	150.34	343	ePKPdf	PKiKP	03 55 47.9	+0.1
PMOZ				i LQ	LQ	03 56 07.3	
PMAR	Madeira	150.35	342	ePKPdf	PKPbc	03 55 46.5	-0.6
PMAR				i LQ	LQ	03 56 07.4	
FUL	Funchal	150.41	342	ePKPdf	PKPbc	03 55 46.4	-0.6
FUL				i LQ	LQ	03 56 07.9	
BDFB	Brasilia	151.24	135	ePKPdf	PKPdf	03 55 44.4	+0.8
BDFB				ePKPbc	PKPbc	03 55 47.9	-1.7
BDFB	Brasilia	151.24	135	PKPbc	PKPbc	03 55 47.9	-1.7
	comp=E,82nm,0.8s,baz=27,slow=0.2,SNR=36						
ALF01	Guarapari-ES	151.69	152	eP	PKPdf	03 55 43.0	-1.1
RIB01	Linhares ES	152.97	152	eP	PKPdf	03 55 46.1	+0.1
SJMB	Sao Joao De Ma	153.10	149	eP	PKPdf	03 55 46.2	+0.1
MCI6	Montes Claros	153.12	142	eP	PKPdf	03 55 46.2	-0.1
BSFB	Barra de Sao F	153.17	150	eP	PKPdf	03 55 46.1	-0.1
MCI9	Montes Claros	153.21	142	eP	PKPdf	03 55 46.6	+0.2
JANB	Januaria	154.17	139	eP	PKPdf	03 55 48.5	+0.7
MDP	Montagnes des	154.60	88	PKP	PKPdf	03 55 47.0	-1.5
	comp=E,50nm,1.1s,baz=270,slow=2.0,SNR=2.5						
MDP				PKPbc	PKPbc	03 55 56.9	0.0
	comp=E,50nm,0.7s,baz=263,slow=3.1,SNR=14						
KIC	Kosan Boka	157.60	276	ePKIKP	PKPdf	03 55 54.0	+1.6
	comp=E,466nm,1.3s						
DBIC	Dimbokro	157.70	277	ePKPdf	PKPdf	03 55 54.8	+2.3
DBIC				ePKPab	PKPab	03 56 25.2	+0.1
DBIC				ePP	PP	04 00 06.4	+1.5
DBIC	Dimbokro	157.70	277	ePKIKP	PKPdf	03 55 54.8	+2.3
DBIC				e		03 56 25.2	
DBIC				e		04 00 06.4	
DBIC	Dimbokro	157.70	277	PKP	PKPdf	03 55 51.6	-0.9
	comp=E,14nm,1.0s,baz=63,slow=4.5,SNR=5.7						
DBIC				PKPab	PKPab	03 56 25.2	+0.1
	comp=E,41nm,0.6s,baz=66,slow=4.5,SNR=14						
DBIC				PP	PP	04 00 06.4	+1.5
	comp=E,9.5nm,0.8s,baz=108,slow=3.3,SNR=3.8						
TIC	Toumodi	157.86	276	ePKIKP	PKPdf	03 55 54.3	+1.6
LIC	Lamto	157.90	275	ePKIKP	PKPdf	03 55 54.3	+1.6
	comp=E,308nm,1.3s						
RCBR	Riachuelo	166.52	140	eP	PKPdf	03 56 02.7	+1.3

ISCJB ***15*** *03:51:35.0±1.6, 37°.22N±0°.06×72°.1E±0°.2, h150km, Error ellipse: s-maj=25.4km s-min=6.6km az=169.5*
NNC ***15*** *03:51:37.4±13.0, 37°.68N×71°.63E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=107.9km s-min=82.0km az=171.0*

ISC 15 03:51:33.8±1.7, 37°.16N±0°.09×71°.9E±0°.2, h150km, n9, σ1§54/12, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.82	19	⇑Pn	Pn	03 53 00.1	+1.9
	4.6nm,0.7s						
AAK				Sn	Sn	03 54 04.0	-0.2
	9.3nm,0.8s						
KK31	Karatay Array	6.04	350	⇓Pn	Pn	03 53 02.4	+1.4
	1.3nm,0.3s,baz=172,slow=14,SNR=35						
KK31				⇑Sn	Sn	03 54 06.9	-2.2
	15nm,0.5s,baz=180,slow=25,SNR=22						
TKM2	Tokmak 2	6.41	25	⇓Pn	Pn	03 53 07.6	+1.6
	13nm,1.1s						
TKM2				⇑Sn	Sn	03 54 16.1	-2.2
	7.5nm,1.1s						
PYUN	Piuthan	12.97	131	eP	Pn	03 54 32.3	-0.5
	9.1nm,0.4s						
DANN	Dangsing	13.27	128	eP	Pn	03 54 37.8	+1.1
	21nm,0.8s						
KOLN	Koldanda	13.58	130	eP	Pn	03 54 40.4	-0.2
DMN	Daman	14.63	127	eP	P	03 54 55.1	-1.1
	3.7nm,0.2s						
JIRN	Jiri	15.31	124	eP	P	03 55 04.1	+0.3
	24nm,0.4s						
RAMN	Ramite	16.05	125	eP	P	03 55 11.0	-0.9
	6.9nm,0.5s						

ISCJB ***15*** *04:06:49.2±1.9, 6°.2S±0°.2×150°.0E±0°.2, h52km, mb3.6/4, Error ellipse: s-maj=35.5km s-min=15.6km az=151.8*
IDC ***15*** *04:06:54.5±5.8, 6°.40S×149°.98E, h77km±44km, mb3.6/5, mb1 3.8/6, mb1mx3.4/39, mbtmp3.9/6, ML2.3/1, Error ellipse: s-maj=47.0km s-min=25.3km az=2.0*

ISC 15 04:06:50.7±1.9, 6°.2S±0°.2×150°.0E±0°.2, h52km, n7, σ0§73/8, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.30	221	P	Pn	04 07 54.2	+0.7
	12nm,0.3s,baz=22,slow=13,SNR=13						
PMG				S	Sn	04 08 42.3	-0.1
	6.7nm,0.3s,baz=261,slow=20,SNR=7.8						
WRA	Warramunga Arr	20.50	227	P	P	04 11 24.8	+0.3
	4.8nm,0.7s,baz=53,slow=10,SNR=26						
DZM	Mont Dzumac	22.39	137	P	P	04 11 45.5	+0.5
	2.6nm,0.9s,baz=319,slow=20,SNR=2.8						
ASAR	Alice Springs	23.31	220	P	P	04 11 54.3	-0.1
	0.6nm,0.5s,baz=51,slow=9.3,SNR=12						
FITZ	Fitzroy Crossi	26.59	241	P	P	04 12 24.1	-0.2
	2.8nm,0.6s,baz=55,slow=8.5,SNR=7.5						
STKA	Stephens Creek	26.77	196	P	P	04 12 24.4	-1.4
	1.0nm,0.6s,baz=27,slow=11,SNR=2.7						
TORD	Torodi Ar. Bea	148.05	285	PKPbc	PKPbc	04 26 31.7	+0.1
	0.2nm,0.5s,baz=60,slow=0.8,SNR=4.3						

ISCJB ***15*** *04:22:06.1±1.5, 43°.40N±0°.06×146°.90E±0°.08, h28km±7km, Error ellipse: s-maj=11.9km s-min=7.4km az=144.0*
JMA ***15*** *04:22:06.1±0.3, 43°.31N×146°.92E, h47km±5km, M3.5*
SKHL ***15*** *04:22:06.6±0.3, 43°.30N×146°.88E, h53km±4km, mb3.7/5*

ISC 15 04:22:03.7±2.2, 43°.44N±0°.08×147°.00E±0°.07, h12km±11km, n12, σ0§69/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.92	266	P	Pb	04 22 22.0	+0.5
NEM2				eS	Sg	04 22 33.8	+0.4
YUK	Yuzh-Kuril'sk	1.02	306	i P	Pn	04 22 24.0	+0.2
YUK				AMB	AMB	04 22 25.6	
	30nm,0.4s						
YUK				i S	Sb	04 22 37.0	+0.4
YUK				A	A	04 22 41.0	
	300nm,0.2s						
YUK				A	A	04 22 41.0	
	260nm,0.2s						
GRPR	Tuman	1.05	302	eP	Pb	04 22 24.0	+0.2
GRPR				AMB	AMB	04 22 25.0	
	70nm,0.4s						
GRPR				AMB	AMB	04 22 25.0	
	50nm,0.4s						
GRPR				AMB	AMB	04 22 25.0	
	40nm,0.4s						
GRPR				i S	Sg	04 22 37.0	-0.6
GRPR				A	A	04 22 38.0	
	800nm,0.4s						
GRPR				A	A	04 22 38.0	

KHEZ	Kahui Hut	6.85	48	P	Pn	04 34 36.0	-2.6
KHEZ	Kahui Hut	6.85	48	P	Pn	04 34 36.0	-2.6
PREZ	Palmer Road	6.89	48	P	Pn	04 34 37.9	-1.3
PREZ	Palmer Road	6.89	48	P	Pn	04 34 36.8	-2.4
PKE	Pukeiti	6.91	47	P	Pn	04 34 37.0	-2.4
PKE	Pukeiti	6.91	47	P	Pn	04 34 37.0	-2.4
WAZ	Wanganui	7.08	55	P	Pn	04 34 41.7	0.0
WAZ	Wanganui	7.08	55	P	Pn	04 34 40.5	-1.2

SOME ***15*** *04:40:35.4, 43°.17N×71°.53E, h0km*
NNC ***15*** *04:40:36.3±4.1, 43°.40N×71°.48E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=60.3km s-min=12.1km az=173.0*
KRNET ***15*** *04:40:37.5±0.1, 42°.81N×71°.56E, h11km, mb2.4*
ISC 15 04:40:36.5±1.2, 43°.11N±0°.05×71°.57E±0°.02, h11km±11km, n20, σ1§41/37, 16C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.77**	**270**	⇑P	**Pb**	**04 40 51.7**	**-0.2**
	0.5nm,0.3s,baz=332,slow=9.5,SNR=105						
KK31				⇑S	**Sb**	**04 41 02.2**	**-0.2**
	4.5nm,0.5s,baz=342,slow=28,SNR=21						
MRKS	**Merke**	**1.27**	**106**	P	**Pg**	**04 41 03.8**	**+2.9**
	3.6nm,0.2s						
MRKS				S	**Sg**	**04 41 19.3**	**+1.8**
	9.9nm,0.3s						
MRKS	**Merke**	**1.27**	**106**	*e*P	**Pb**	**04 41 00.8**	**+0.2**
	3.2nm,0.1s						
MRKS				*e*S	**Sb**	**04 41 17.6**	**+0.6**
	15nm,0.2s						
IUG	**Iuzhnay**	**1.49**	**230**	P	**Pg**	**04 41 06.3**	**+1.3**
	12nm,0.1s						
IUG				S	**Sb**	**04 41 22.8**	**-0.3**
	27nm,0.3s						
IUG	**Iuzhnay**	**1.49**	**230**	*e*P	**Pb**	**04 41 03.8**	**-0.3**
	12nm,0.1s						
IUG				*e*S	**Sg**	**04 41 23.0**	**-1.3**
	27nm,0.3s						
EKS2	**Erkin-Say**	**1.69**	**105**	⇑*i*P	**Pg**	**04 41 08.6**	**-0.2**
	baz=95						
EKS2				⇑*i*S	**Sg**	**04 41 31.2**	**+0.5**
	baz=95						
AML	**Almayashu**	**1.85**	**121**	⇓*i*P	**Pn**	**04 41 09.6**	**+1.1**
	baz=13						
AML				⇓*i*S	**Sn**	**04 41 33.1**	**+1.0**
	baz=13						
ARSB	**Arslanbob**	**2.07**	**149**	⇑*i*P	**Pn**	**04 41 11.5**	**+0.1**
	baz=44						
ARSB				⇑*i*S	**Sn**	**04 41 37.0**	**-0.2**
	baz=44						
AAK	**Ala-Archa**	**2.20**	**101**	⇑Pn	**Pb**	**04 41 17.0**	**+0.5**
	3.0nm,0.7s						
AAK				⇑Sn	**Sb**	**04 41 46.0**	**+2.2**
	1.5nm,0.3s						
AAK	**Ala-Archa**	**2.20**	**101**	⇑*i*P	**Pb**	**04 41 17.2**	**+0.7**
	baz=94						
AAK				⇑*i*S	**Sg**	**04 41 46.3**	**-1.0**
	baz=94						
CHMS	**Chumysh**	**2.34**	**92**	⇑*i*P	**Pb**	**04 41 19.9**	**+1.2**
	baz=84						
CHMS				⇑*i*S	**Sg**	**04 41 50.5**	**-1.1**
	baz=84						
UCH	**Uchtor**	**2.35**	**111**	⇑*i*P	**Pb**	**04 41 18.3**	**-0.7**
	baz=4.0						
UCH				⇑*i*S	**Sb**	**04 41 48.4**	**+0.2**
	baz=4.0						
ARLS	**Aral**	**2.39**	**121**	⇓*i*P	**Pb**	**04 41 18.0**	**-1.6**
	baz=14						
ARLS				⇓*i*S	**Sb**	**04 41 47.9**	**-1.3**
	baz=14						
BTLS	**Baital**	**2.63**	**42**	*e*P	**Pb**	**04 41 24.0**	**+0.4**
	0.7nm,0.1s						
BTLS				*e*S	**Sb**	**04 41 57.1**	**+1.1**
	2.7nm,0.2s						
KZA	**Kyzart**	**2.91**	**110**	⇑*i*P	**Pb**	**04 41 26.6**	**-2.0**
	baz=4.0						
KZA				⇑*i*S	**Sb**	**04 42 02.2**	**-2.2**
	baz=4.0						
TKM2	**Tokmak 2**	**2.96**	**92**	⇓Pg	**Pg**	**04 41 33.5**	**+0.2**
	3.3nm,1.2s						
TKM2				⇓Lg	Lg	04 42 16.8	
	1.3nm,0.4s						
KTBS	**Karatobe**	**3.78**	**79**	Pg	**Pg**	**04 41 49.2**	**+0.4**
	0.6nm,0.3s						
KTBS				Lg	Lg	04 42 37.8	
	3.3nm,0.6s						
KTBS	**Karatobe**	**3.78**	**79**	*e*P	**Pg**	**04 41 46.3**	**-2.5**
	0.6nm,0.3s						
KTBS				*e*S	**Sg**	**04 42 35.1**	**-2.6**
	3.3nm,0.6s						
CHKK	**Chushkaly**	**4.02**	**77**	Pg	**Pg**	**04 41 54.2**	**+0.8**
	1.1nm,0.2s						
CHKK				Lg	Lg	04 42 45.0	
	2.6nm,0.3s						
CHKK	**Chushkaly**	**4.02**	**77**	*e*P	**Pg**	**04 41 50.9**	**-2.5**
	1.1nm,0.2s						
CHKK				*e*S	**Sg**	**04 42 43.6**	**-1.8**
	3.5nm,0.3s						

TEH ***15*** *04:47:43.8, 36°.22N×45°.34E, h5km, ML3.5*
ISN ***15*** *04:47:43.6±1.3, 36°.23N×45°.35E, h0km±5km, ML2.8*
ISCJB ***15*** *04:47:46.5±0.4, 36°.17N±0°.03×45°.27E±0°.05, h10km, Error ellipse: s-maj=5.3km s-min=4.8km az=174.6*
AZER ***15*** *04:47:48.6±8.2, 35°.99N×45°.41E, h5km, ml3.2/4, Error ellipse: s-maj=65.8km s-min=54.4km az=43.0*
ISC 15 04:47:44.6±0.8, 36°.21N±0°.03×45°.38E±0°.03, h10km, n31, σ1§72/37, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	**0.62**	**25**	*e*Pg	**Pb**	**04 47 56.7**	**-0.9**
MAHB				IAMB	IAmb	04 48 07.8	
	comp=Z,0.0nm,0.4s						
IKRK	**Kirkuk**	**1.17**	**227**	*e*Pg	**Pn**	**04 48 09.0**	**+2.0**
IKRK				*e*Sg	**Sn**	**04 48 27.0**	**+4.0**
IAZR	**Azarshahr**	**1.54**	**18**	*e*Pn	**Pb**	**04 48 13.0**	**-0.5**
IAZR				IAMB	IAmb	04 48 46.1	
	comp=Z,0.0nm,0.4s						
IDHR	**Dehrash**	**1.71**	**151**	*e*Pn	**Pb**	**04 48 16.5**	**+0.1**
IDHR				IAMB	IAmb	04 48 20.4	
	comp=Z,0.0nm,0.2s						
ILIN	**Lien**	**1.82**	**134**	*e*Pn	**Pb**	**04 48 17.7**	**-0.5**
ILIN				IAMB	IAmb	04 48 49.1	
	comp=Z,0.0nm,0.3s						
MSL	**Mosul**	**1.84**	**277**	*e*Pn	**Pb**	**04 48 17.0**	**-1.4**
MSL				AML	AML	04 48 21.7	
	comp=Z,188nm,0.2s						
MSL				*e*Sn	**Sg**	**04 48 41.0**	**-2.8**
MSL	**Mosul**	**1.84**	**277**	*e*Pn	**Pb**	**04 48 17.0**	**-1.4**
IVIS	**Veis**	**2.06**	**144**	*e*Pn	**Pg**	**04 48 23.0**	**-1.2**
ISHB	**Shabestar**	**2.08**	**5**	*e*Pn	**Pb**	**04 48 22.2**	**-0.4**
ISHB				IAMB	IAmb	04 48 56.1	
	comp=Z,0.0nm,0.4s						
IGHG	**Ghaleghazi**	**2.11**	**152**	*e*Pn	**Pg**	**04 48 24.4**	**-0.7**
IGHG				IAMB	IAmb	04 48 26.8	
	comp=Z,0.0nm,0.2s						
KCHF	**Cheshme Sefid,**	**2.36**	**144**	*e*Pn	**Pb**	**04 48 27.6**	**+0.3**
KCHF				IAMB	IAmb	04 49 06.5	
	comp=Z,0.0nm,0.8s						
ISRB	**Sarab**	**2.44**	**48**	*e*Pn	**Pb**	**04 48 27.6**	**-1.1**
IHRS	**Heris**	**2.49**	**32**	*e*Pn	**Pb**	**04 48 29.5**	**-0.1**
IMRD	**Marand**	**2.52**	**6**	*e*Pn	**Pb**	**04 48 28.6**	**-1.4**
IMRD				IAMB	IAmb	04 49 12.6	
	comp=Z,0.0nm,0.5s						
IBZA	**Bozab**	**2.67**	**130**	*e*Pn	**Pb**	**04 48 32.0**	**-0.7**
IBZA				IAMB	IAmb	04 49 18.3	
	comp=Z,0.0nm,0.7s						
IKOM	**Komasi**	**2.68**	**139**	*e*Pn	**Pb**	**04 48 31.8**	**-0.9**
IKOM				IAMB	IAmb	04 49 23.7	
	comp=Z,0.0nm,0.6s						
ZNJK	**Zanjan**	**2.71**	**79**	*e*Pn	**Pn**	**04 48 29.5**	**+1.1**
ORD	**Ordubad**	**2.76**	**10**	P	**Pg**	**04 48 36.4**	**-1.1**
ORD				S	**Sg**	**04 49 14.2**	**+0.9**
NAX	**Nakhchivan**	**2.96**	**2**	S	**Sg**	**04 49 18.6**	**-1.2**
IBDR	**Badra**	**3.12**	**171**	*e*Pn	**Pn**	**04 48 35.0**	**+1.1**
IBDR				AML	AML	04 48 36.6	
	comp=Z,69nm,0.4s						
IBDR				*e*Sn	**Sn**	**04 49 13.0**	**+1.7**
IBDR	**Badra**	**3.12**	**171**	*e*Pn	**Pn**	**04 48 35.0**	**+1.1**
MAKU	**Maku**	**3.19**	**350**	*e*Pn	**Pb**	**04 48 39.2**	**-2.3**
GRMI	**Germi**	**3.28**	**37**	*e*Pn	**Pn**	**04 48 38.4**	**+2.2**
IDOB	**Doab**	**3.33**	**136**	*e*Pn	**Pb**	**04 48 41.0**	**-2.9**
IDOB				IAMB	IAmb	04 49 42.9	
	comp=N,0.0nm,0.5s						
LRK	**Lerik**	**3.39**	**43**	P	**Pb**	**04 48 44.3**	**-0.5**
LRK				S	**Sb**	**04 49 27.3**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.45**	**97**	*e*Pn	**Pb**	**04 48 42.0**	**-3.9**
ASTR	**Astara**	**3.59**	**48**	S	**Sb**	**04 49 32.2**	**+0.4**
IKMR	**Kamar-syah**	**3.65**	**137**	*e*Pn	**Pb**	**04 48 46.3**	**-2.8**
ASAO	**Ashtian**	**4.14**	**112**	*e*Pn	**Pn**	**04 48 49.2**	**+1.0**
KHMZ	**Khomeyn**	**4.50**	**122**	*e*Pn	**Pn**	**04 48 54.2**	**+1.2**
RTB	**Rutbah**	**5.25**	**234**	*e*Pn	**Pn**	**04 49 05.0**	**+1.8**
RTB				AML	AML	04 49 06.3	
	comp=Z,33nm,0.7s						
RTB				*e*Sn	**Sn**	**04 50 03.0**	**-0.7**

ISCJB ***15*** *04:50:37.1±0.3, 60°.08N±0°.02×152°.48W±0°.06, h113km±3km, mb3.9/1, Error ellipse: s-maj=5.1km s-min=3.3km az=36.0*
NEIC ***15*** *04:50:39.2±0.0, 60°.08N×152°.55W, h103km, ML2.9(AEIC), After AEIC.*
IDC ***15*** *04:50:41.1±8.4, 60°.43N×152°.63W, h109km±74km, mb3.4/1, mb1 3.5/3, mb1mx3.0/36, mbtmp3.7/3, ML3.5/2, Error ellipse: s-maj=66.9km s-min=37.0km az=18.0*
ISC 15 04:50:38.1±1.0, 60°.08N±0°.03×152°.52W±0°.04, h109km±6km, n83, σ0§68/100, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.26**	**256**	P	**Pn**	**04 50 53.5**	**-0.3**
IVE				S	**Sn**	**04 51 04.8**	**-0.7**
ILS	**Iliamna Low So**	**0.30**	**246**	P	**Pn**	**04 50 53.6**	**-0.4**
ILS				S	**Sn**	**04 51 05.1**	**-0.7**
ILW	**Iliamna West**	**0.31**	**267**	P	**Pn**	**04 50 53.8**	**-0.3**
ILW				S	**Sn**	**04 51 05.5**	**-0.5**
RED	**Redoubt Volcan**	**0.36**	**340**	P	**Pn**	**04 50 53.9**	**-0.3**
RED				S	**Sn**	**04 51 05.9**	**-0.4**
RDSO	**Redoubt South**	**0.39**	**343**	P	**Pn**	**04 50 54.0**	**-0.4**
RDSO				S	**Sn**	**04 51 05.9**	**-0.8**
RDWB	**Redoubt West**	**0.44**	**339**	P	**Pn**	**04 50 54.2**	**-0.5**
RDWB				S	**Sn**	**04 51 06.2**	**-1.0**
RDN	**Redoubt North**	**0.45**	**344**	P	**Pn**	**04 50 54.6**	**-0.2**
RDJH	**Redoubt Jeurge**	**0.53**	**345**	P	**Pn**	**04 50 54.9**	**-0.4**
RDJH				S	**Sn**	**04 51 08.0**	**-0.2**
HOM	**Homer**	**0.61**	**133**	P	**Pn**	**04 50 56.2**	**+0.5**
HOM				S	**Sn**	**04 51 09.7**	**+0.9**
AUL	**Augustine Lava**	**0.84**	**214**	P	**Pn**	**04 50 57.7**	**0.0**
AUL				S	**Sn**	**04 51 12.3**	**-0.1**
AUW	**Augustine West**	**0.86**	**215**	P	**Pn**	**04 50 57.9**	**0.0**
AUI	**Augustine Isla**	**0.88**	**212**	P	**Pn**	**04 50 57.9**	**-0.2**
AUI				S	**Sn**	**04 51 12.5**	**-0.5**
BRLK	**Bradley Lake**	**0.88**	**110**	P	**Pn**	**04 50 58.3**	**+0.2**
BRLK				S	**Sn**	**04 51 13.4**	**+0.3**
CKL	**Chakachamna La**	**1.12**	**4**	P	**Pn**	**04 51 00.9**	**+0.2**
CKT	**Bend**	**1.14**	**8**	P	**Pn**	**04 51 00.9**	**+0.1**
SPWE	**Spurr West**	**1.20**	**359**	P	**Pn**	**04 51 02.0**	**+0.5**
CRP	**Crater Peak**	**1.21**	**8**	P	**Pn**	**04 51 02.0**	**+0.4**
CRP				S	**Sn**	**04 51 19.4**	**0.0**
SLKM	**Skilak Lake**	**1.22**	**68**	P	**Pn**	**04 51 02.0**	**+0.3**
FONW	**Fourpeaked Sta**	**1.44**	**210**	P	**Pn**	**04 51 03.9**	**-0.3**
SEW	**Seward**	**1.54**	**88**	P	**Pn**	**04 51 05.4**	**+0.2**
SEW				S	**Sn**	**04 51 24.8**	**-1.1**
FIB	**Fire Island**	**1.59**	**46**	P	**Pn**	**04 51 07.1**	**+1.2**
RC01	**Rabbit Creek A**	**1.71**	**52**	P	**Pn**	**04 51 07.5**	**+0.1**
RC01				S	**Sn**	**04 51 29.5**	**-0.1**
SVW2	**Sparrevohn**	**1.82**	**305**	P	**Pn**	**04 51 08.3**	**-0.6**
KAHG	**Katmai Hook Gl**	**1.90**	**214**	P	**Pn**	**04 51 10.1**	**+0.2**
KAHC	**Katmai Hardscr**	**1.92**	**223**	P	**Pn**	**04 51 10.1**	**-0.1**
KARR	**Katmai Rainbow**	**1.94**	**216**	P	**Pn**	**04 51 10.7**	**+0.4**
PWL	**Port Wells**	**2.21**	**67**	P	**Pn**	**04 51 13.1**	**-0.7**
PWL				S	**Sn**	**04 51 39.7**	**-1.4**
PMR	**Palmer**	**2.25**	**46**	P	**Pn**	**04 51 13.6**	**-0.6**
KDAK	**Kodiak Island**	**2.30**	**181**	P	**Pn**	**04 51 13.8**	**-1.1**
KDAK				S	**Sn**	**04 51 41.8**	**-1.4**
KABU	**Katmai Buttres**	**2.31**	**219**	P	**Pn**	**04 51 15.4**	**+0.3**
KELA	**Mount Kelaz**	**2.33**	**227**	P	**Pn**	**04 51 15.3**	**-0.1**
ACHA	**Angle Creek He**	**2.37**	**219**	P	**Pn**	**04 51 16.3**	**+0.4**
KNK	**Knik Glacier**	**2.40**	**54**	P	**Pn**	**04 51 15.7**	**-0.5**
GHO	**Glory Hole Cre**	**2.44**	**44**	P	**Pn**	**04 51 16.4**	**-0.4**
SML	**Sawmill**	**2.68**	**48**	P	**Pn**	**04 51 19.5**	**-0.3**
GLI	**Glacier Island**	**2.80**	**71**	P	**Pn**	**04 51 21.7**	**+0.3**
PPLA	**Purkeypile**	**2.83**	**3**	P	**Pn**	**04 51 22.6**	**+0.7**
OHAK	**Old Harbor**	**2.89**	**188**	P	**Pn**	**04 51 21.1**	**-1.5**
JPK	**Jack Peak**	**3.08**	**69**	P	**Pn**	**04 51 24.2**	**-0.9**
SCM	**Sheep Creek Mo**	**3.08**	**53**	P	**Pn**	**04 51 24.7**	**-0.5**
PLK3	**Peulik 3**	**3.09**	**221**	P	**Pn**	**04 51 26.0**	**+0.8**
PLK1	**Peulik 1**	**3.12**	**225**	P	**Pn**	**04 51 26.2**	**+0.6**
PLK4	**Peulik 4**	**3.16**	**221**	P	**Pn**	**04 51 26.8**	**+0.5**
HUR	**Hurricane**	**3.22**	**24**	P	**Pn**	**04 51 27.9**	**+1.0**
TT01	**Tatalina**	**3.30**	**331**	P	**Pn**	**04 51 27.9**	**-0.1**
CAST	**Castle Rocks**	**3.36**	**3**	P	**Pn**	**04 51 28.8**	**0.0**
EYAK	**Cordova Ski Ar**	**3.40**	**79**	P	**Pn**	**04 51 29.4**	**+0.1**
DIV	**Divide**	**3.49**	**70**	P	**Pn**	**04 51 30.4**	**-0.1**
KLU	**Klutina**	**3.53**	**63**	P	**Pn**	**04 51 30.5**	**-0.6**
SII	**Sitkinak Islan**	**3.64**	**195**	P	**Pn**	**04 51 31.2**	**-1.4**
RND	**Reindeer**	**3.77**	**26**	P	**Pn**	**04 51 34.5**	**+0.2**
CHUM	**Lake Minchumin**	**3.82**	**1**	P	**Pn**	**04 51 34.9**	**0.0**
PS12	**TAPS Pump St12**	**3.88**	**66**	P	**Pn**	**04 51 35.5**	**-0.2**
DHY	**Denali Highway**	**3.88**	**37**	P	**Pn**	**04 51 35.9**	**0.0**
MCK	**McKinley**	**4.04**	**23**	P	**Pn**	**04 51 38.5**	**+0.6**
BPAW	**Bear Paw Mtn.**	**4.10**	**9**	P	**Pn**	**04 51 38.8**	**+0.1**
HARP	**HAARP**	**4.25**	**54**	P	**Pn**	**04 51 40.8**	**0.0**
BWN	**Browne**	**4.35**	**18**	P	**Pn**	**04 51 42.9**	**+0.8**
PAX	**Paxson**	**4.45**	**46**	P	**Pn**	**04 51 43.5**	**0.0**
KHIT	**Khitrov Hills**	**4.63**	**81**	P	**Pn**	**04 51 46.1**	**+0.2**
PS10	**TAPS Pump St10**	**4.64**	**41**	P	**Pn**	**04 51 46.8**	**+0.8**
NEA	**Nenana**	**4.79**	**18**	P	**Pn**	**04 51 47.8**	**-0.2**
MCARA	**McCarthy VSAT**	**4.84**	**70**	P	**Pn**	**04 51 48.9**	**+0.2**
WRH	**Wood River Hil**	**4.87**	**23**	P	**Pn**	**04 51 48.7**	**-0.3**
MLY	**Manley**	**5.04**	**9**	P	**Pn**	**04 51 51.8**	**+0.4**
HDA	**Harding Lake**	**5.06**	**29**	P	**Pn**	**04 51 51.2**	**-0.5**
CCB	**Clear Creek Bu**	**5.08**	**24**	P	**Pn**	**04 51 51.6**	**-0.3**
KIAG	**Kiagna River**	**5.09**	**76**	P	**Pn**	**04 51 52.7**	**+0.5**
BALM	**Baldy**	**5.11**	**75**	P	**Pn**	**04 51 52.5**	**+0.1**
RIDG	**Independent Ri**	**5.16**	**41**	P	**Pn**	**04 51 53.5**	**+0.5**
COLA	**College**	**5.28**	**22**	P	**Pn**	**04 51 54.4**	**-0.1**
MDM	**Murphy Dome**	**5.28**	**20**	P	**Pn**	**04 51 54.6**	**0.0**
IL1	**Eielson Array**	**5.38**	**27**	P	**Pn**	**04 51 55.7**	**-0.3**
ILAR	**Eielson Array**	**5.38**	**27**	P	**Pn**	**04 51 55.8**	**-0.2**
	2.7nm,0.3s,baz=215,slow=14,SNR=109						
ILAR				S	**Sn**	**04 52 52.9**	**-3.8**
	0.6nm,0.3s,baz=228,slow=22,SNR=4.9						
PS07	**TAPS Pump Stn7**	**5.60**	**19**	P	**Pn**	**04 51 59.2**	**+0.3**
SCRK	**Sand Creek**	**5.60**	**42**	P	**Pn**	**04 51 58.5**	**-0.6**
YUK2	**White River**	**5.94**	**68**	P	**Pn**	**04 52 04.2**	**+0.5**
YUK3	**Moose Creek**	**6.12**	**69**	P	**Pn**	**04 52 06.5**	**+0.3**
YUK1	**Sand Pete Hill**	**6.17**	**65**	P	**Pn**	**04 52 07.0**	**+0.2**
PRP	**Porcupine Dome**	**6.33**	**27**	P	**Pn**	**04 52 08.7**	**-0.2**
EGAK	**Eagle**	**7.07**	**43**	*e*Pn	**Pn**	**04 52 18.1**	**-0.6**
	2.9nm,0.6s						
YKA	**Yellowknife Ar**	**18.20**	**66**	P	**Pn**	**04 54 43.5**	**+0.3**
	0.2nm,0.3s,baz=277,slow=9.8,SNR=18						
SONM	**Songino Array**	**54.94**	**306**	P	**P**	**04 59 58.6**	**+1.2**
	0.5nm,0.4s,baz=38,slow=7.3,SNR=5.3						

ISK ***15*** *04:50:53.4, 39°.70N×25°.60E, h9km, ML3.8/42*
IDC ***15*** *04:50:53.0±2.1, 39°.58N×25°.75E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.2/31, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=51.4km s-min=20.0km az=156.0*
DDA ***15*** *04:50:53.3, 39°.69N×25°.61E, h27km±1km, ML3.9*
ISCJB ***15*** *04:50:53.5±0.4, 39°.67N±0°.01×25°.57E±0°.02, h10km±3km, mb3.2/2, Error ellipse: s-maj=2.0km s-min=2.0km az=179.0*
ATH ***15*** *04:50:53.7, 39°.67N×25°.57E, h28km±1km, ML3.4/17, Error ellipse: s-maj=1.5km s-min=0.7km az=73.0*
THE ***15*** *04:50:54.4, 39°.69N×25°.59E, h13km, ML3.4/13, Error ellipse: s-maj=1.0km s-min=0.5km az=78.0*
SOF ***15*** *04:50:56.1, 39°.88N×25°.47E, h2km*
ISC 15 04:50:54.3±0.9, 39°.68N±0°.02×25°.59E±0°.02, h15km±7km, n237, σ0§94/267, 12C-10D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.38**	**305**	P	**Pg**	**04 51 02.3**	**+0.3**
LIA				S	**Sg**	**04 51 07.3**	**+0.1**
LIA	**Limnos Island**	**0.38**	**305**	P	**Pg**	**04 51 02.3**	**+0.3**
LIA				S	**Sg**	**04 51 07.7**	**+0.4**
LIA				AML	AML	04 51 14.0	
	comp=E,12514μm,0.7s						
LIA				AML	AML	04 51 17.4	
	comp=N,9240μm,0.5s						
BOZC	**Bozcaada**	**0.39**	**66**	PG	**Pg**	**04 51 01.6**	**-0.6**
BOZC				SG	**Sg**	**04 51 07.1**	**-0.5**
BOZC	**Bozcaada**	**0.39**	**66**	IAML_P			
	comp=Z,53μm,0.2s						
BOZC				*i* P	**Pg**	**04 51 02.2**	**0.0**
BOZC				*i* S	**Sg**	**04 51 07.2**	**-0.4**
GPNR	**Gulpinar-Canak**	**0.48**	**118**	PG	**Pg**	**04 51 03.2**	**-0.6**
GPNR				SG	**Sg**	**04 51 10.3**	**+0.1**
SIGR	**SIGRI**	**0.51**	**156**	PG	**Pg**	**04 51 04.1**	**-0.4**
SIGR	**SIGRI**	**0.51**	**156**	P	**Pg**	**04 51 04.0**	**-0.4**
SIGR				S	**Sg**	**04 51 11.4**	**+0.1**
SIGR	**SIGRI**	**0.51**	**156**	P	**Pg**	**04 51 04.1**	**-0.4**
SIGR				S	**Sg**	**04 51 11.6**	**+0.3**
SIGR				AML	AML	04 51 11.8	
	comp=E,17180μm,0.3s						
SIGR				AML	AML	04 51 12.6	
	comp=N,26564μm,0.3s						
GOKC	**Gokceada-Canak**	**0.57**	**26**	PG	**Pb**	**04 51 05.1**	**-1.0**
GOKC				SG	**Sb**	**04 51 13.1**	**-1.1**
EZN	**Ezine**	**0.58**	**76**	PG	**Pb**	**04 51 05.1**	**-1.2**
EZN	**Ezine**	**0.58**	**76**	P	**Pb**	**04 51 05.0**	**-1.2**
EZN				S	**Sb**	**04 51 13.1**	**-1.3**
EZN	**Ezine**	**0.58**	**76**	*i* P	**Pb**	**04 51 05.1**	**-1.2**
EZN				S	**Sb**	**04 51 13.3**	**-1.1**
PRK	**Paraskevi**	**0.69**	**129**	P	**Pb**	**04 51 08.4**	**+0.4**
PRK				S	**Sg**	**04 51 18.4**	**+1.7**
PRK	**Paraskevi**	**0.69**	**129**	P	**Pb**	**04 51 08.2**	**+0.2**
PRK				S	**Sg**	**04 51 17.8**	**+1.1**
PRK				AML	AML	04 51 18.7	
	comp=N,15634μm,0.4s						
PRK				AML	AML	04 51 20.7	
	comp=E,25644μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.74**	**85**	*i* P	**Pb**	**04 51 08.9**	**-0.1**
BAYC				*i* S	**Sb**	**04 51 18.1**	**-0.8**
SMTH	**Samothraki Isl**	**0.79**	**357**	P	**Pb**	**04 51 09.3**	**-0.5**
SMTH				S	**Sg**	**04 51 20.9**	**+0.9**
SMTH	**Samothraki Isl**	**0.79**	**357**	P	**Pb**	**04 51 09.4**	**-0.4**
SMTH				S	**Sg**	**04 51 21.0**	**+0.9**
SMTH				AML	AML	04 51 22.0	
	comp=E,5130μm,0.5s						
SMTH				AML	AML	04 51 22.2	
	comp=N,4074μm,0.3s						
AYVA	**Ayvalik**	**0.93**	**113**	*i* P	**Pb**	**04 51 11.8**	**-0.3**
AYVA				*i* S	**Sg**	**04 51 25.3**	**+0.8**
GELI	**Tayfur-Gelibol**	**0.99**	**43**	PG	**Pb**	**04 51 12.3**	**-0.8**
LPK	**Lapseki**	**1.13**	**52**	PN	**Pn**	**04 51 15.1**	**-0.6**
ENEZ	**Enez**	**1.14**	**22**	PN	**Pn**	**04 51 15.5**	**-0.2**
SKY	**Skiros Island**	**1.14**	**225**	P	**Pn**	**04 51 15.2**	**-0.6**
SKY				S	**Sb**	**04 51 30.0**	**-0.3**
SKY	**Skiros Island**	**1.14**	**225**	P	**Pn**	**04 51 15.3**	**-0.4**
SKY				S	**Sb**	**04 51 30.0**	**-0.3**
SKY				AML	AML	04 51 35.9	
	comp=N,2858μm,0.2s						
SKY				AML	AML	04 51 38.3	
	comp=E,4710μm,0.2s						
PSRA	**Psara**	**1.14**	**181**	P	**Pn**	**04 51 16.0**	**+0.3**
PSRA				S	**Sn**	**04 51 31.2**	**+0.1**
PSRA				AML	AML	04 51 34.7	
	comp=N,9524μm,0.2s						
PSRA				AML	AML	04 51 34.9	
	comp=E,10443μm,0.6s						
THAS	**Thassos island**	**1.14**	**324**	P	**Pn**	**04 51 14.9**	**-0.9**
THAS				S	**Sb**	**04 51 30.5**	**+0.1**
THAS	**Thassos island**	**1.14**	**324**	P	**Pn**	**04 51 15.7**	**-0.1**
THAS				S	**Sb**	**04 51 30.4**	**+0.1**
THAS				AML	AML	04 51 32.3	
	comp=N,3559μm,0.3s						
THAS				AML	AML	04 51 34.2	
	comp=E,3537μm,0.3s						
CAND	**Candarli**	**1.19**	**127**	PN	**Pn**	**04 51 16.6**	**+0.2**
ERIK	**Erikli-Kesan**	**1.22**	**35**	PN	**Pn**	**04 51 16.5**	**-0.3**
ALN	**Alexandroupoli**	**1.26**	**16**	PN	**Pn**	**04 51 16.9**	**-0.6**
ALN	**Alexandroupoli**	**1.26**	**16**	P	**Pn**	**04 51 16.8**	**-0.7**
ALN				S	**Sn**	**04 51 34.1**	**-0.1**
ALN	**Alexandroupoli**	**1.26**	**16**	P	**Pn**	**04 51 17.3**	**-0.2**
ALN				AML	AML	04 51 35.3	
	comp=E,1968μm,0.5s						
ALN				AML	AML	04 51 42.3	
	comp=N,1582μm,0.7

KDZ	Kurdzhali	1.97 356	*i* P	Pb	04 51 31.2	+1.3
TKR	Tekirdag	1.98 48	PN	Pn	04 51 27.7	+0.4
SMIA	Simia	2.01 247	P	Pn	04 51 28.0	+0.2
SMIA			S	Sn	04 51 53.1	+0.3
SMIA	Simia	2.01 247	P	Pn	04 51 27.8	-0.1
SMIA			AML	AML	04 52 08.1	
	comp=E,2407μm,0.6s					
SMIA			AML	AML	04 52 15.1	
	comp=N,1926μm,0.6s					
GOMA	Golmarmara-Man	2.05 118	PN	Pn	04 51 28.9	+0.6
SOH	Sokhos	2.06 304	P	Pn	04 51 28.7	+0.3
SOH	Sokhos	2.06 304	P	Pn	04 51 28.5	+0.1
SOH			AML	AML	04 52 03.1	
	comp=E,1412μm,0.5s					
SOH			AML	AML	04 52 03.9	
	comp=N,1166μm,0.4s					
DION	Dionisos Attik	2.06 219	P	Pn	04 51 28.1	-0.3
DION	Dionisos Attik	2.06 219	P	Pn	04 51 27.9	-0.5
FYTO	Fytoko, Volos	2.07 263	P	Pn	04 51 28.6	+0.1
FYTO	Fytoko, Volos	2.07 263	P	Pn	04 51 29.3	+0.8
SRS	Serrai	2.09 314	P	Pn	04 51 29.0	+0.1
SRS	Serrai	2.09 314	P	Pn	04 51 29.0	+0.1
SRS			AML	AML	04 52 03.4	
	comp=E,1005μm,0.5s					
SRS			AML	AML	04 52 04.0	
	comp=N,618μm,0.5s					
RZN	Rozhen	2.11 342	*i* P	Pn	04 51 29.7	+0.4
PTL	Penteli	2.12 220	P	Pn	04 51 28.6	-0.6
PTL	Penteli	2.12 220	P	Pn	04 51 28.6	-0.6
HORT	Hortiatis	2.12 296	PN	Pn	04 51 29.7	+0.4
HORT	Hortiatis	2.12 296	P	Pn	04 51 29.5	+0.2
HORT	Hortiatis	2.12 296	P	Pn	04 51 29.5	+0.2
NVR	Nevrokopi	2.12 322	P	Pn	04 51 29.4	+0.1
NVR	Nevrokopi	2.12 322	P	Pn	04 51 29.5	+0.1
NVR			AML	AML	04 52 06.4	
	comp=N,321μm,0.4s					
NVR			AML	AML	04 52 06.9	
	comp=E,626μm,0.4s					
TNSA	Tinos	2.17 189	P	Pn	04 51 29.3	-0.5
CRLT	Corlu	2.19 48	PN	Pn	04 51 30.2	0.0
SMG	Samos	2.20 153	P	Pn	04 51 30.1	-0.3
SMG	Samos	2.20 153	P	Pn	04 51 30.1	-0.3
KCTX	Karacabey (Bur	2.21 74	PN	Pn	04 51 30.6	+0.2
ATHU	Athens Univers	2.22 220	P	Pn	04 51 28.6	-2.0
THE	Thessaloniki	2.22 296	P	Pn	04 51 31.6	+0.9
ATAL	Atalanti	2.23 244	P	Pn	04 51 30.4	-0.3
ATAL	Atalanti	2.23 244	P	Pn	04 51 31.9	+1.1
DURS	Dursunbey	2.23 91	IAML_P			
	comp=Z,6μm,0.3s					
DURS			*i* P	Pn	04 51 31.6	+0.8
VLY	Voula,Athens	2.30 218	P	Pn	04 51 31.2	-0.5
VLY	Voula,Athens	2.30 218	P	Pn	04 51 31.2	-0.5
VIL2	Platees	2.33 232	P	Pn	04 51 32.0	-0.1
EDRB	Edirne	2.33 22	PN	Pn	04 51 32.7	+0.5
VILL	Villia	2.33 230	P	Pn	04 51 31.9	-0.4
GCAM	G?zelcaml?	2.36 146	PN	Pn	04 51 33.6	+1.1
GCAM	G?zelcaml?	2.36 146	*i* P	Pn	04 51 33.0	+0.5
DIM	Dimitrovgrad	2.37 359	*e*P	Pn	04 51 33.3	+0.7
MMB	Musomiste	2.37 324	*i* P	Pn	04 51 33.1	+0.3
KIRK	Kırklareli	2.39 28	*i* P	Pn	04 51 34.6	+1.6
LIT	Litokhoron	2.42 281	P	Pn	04 51 33.4	0.0
PHSR	Pinarhisar	2.44 36	PN	Pn	04 51 34.4	+0.7
PHSR	Pinarhisar	2.44 36 ⇑	*i*P	Pb	04 51 36.1	-1.8
PHSR	Pinarhisar	2.44 36	S	Sb	04 52 07.7	-0.1
AYDB	Zeytinkoy-Aydi	2.50 133	PN	Pn	04 51 35.1	+0.5
PLD	Plovdiv	2.51 345	PN	Pn	04 51 35.6	+1.0
PLD	Plovdiv	2.51 345	*e*P	Pn	04 51 36.7	+2.1
SLVT	Silivri	2.53 51	PN	Pn	04 51 35.0	+0.1
KNT	Kendrikon	2.53 307	P	Pn	04 51 35.8	+0.9
KNT	Kendrikon	2.53 307	P	Pn	04 51 35.8	+0.9
ORLT	Orhaneli	2.57 81	PN	Pn	04 51 36.2	+0.7
MANT	Manisa	2.60 116	*i* P	Pn	04 51 37.5	+1.4
APE	Apeiranthos	2.61 181 ⇑	*i*P	Pn	04 51 37.5	+1.5
APE	Apeiranthos	2.61 181	S	Sb	04 52 11.4	-1.3
APE	Apeiranthos	2.61 181	P	Pn	04 51 35.1	-1.0
AGG	Agios Georgios	2.61 256	P	Pn	04 51 36.2	+0.1
AGG	Agios Georgios	2.61 256	P	Pn	04 51 36.2	+0.1
ELBA	Catalca	2.62 55	*i* P	Pn	04 51 37.7	+1.6
MDNY	Mudanya-Bursa	2.62 74	PN	Pn	04 51 37.0	+0.9
LOUT	Loutraki	2.65 231	P	Pn	04 51 36.3	-0.3
ARMT	Armutlu	2.66 70	PN	Pn	04 51 37.5	+0.8
KULA	Kula-Manisa	2.66 115	PN	Pn	04 51 37.7	+0.9
KULA	Kula-Manisa	2.66 115	P	Pn	04 51 37.6	+0.8
SERI	Serifos	2.66 199	P	Pn	04 51 36.0	-0.7
SERI	Serifos	2.66 199	P	Pn	04 51 36.0	-0.7
AYDN	Tasoluk	2.70 138	*i* P	Pn	04 51 38.1	+0.8
CTKS	Kestanelik-??a	2.71 54	PN	Pn	04 51 38.6	+1.2
CTYL	Yalikoy Yolu	2.73 48	PN	Pn	04 51 38.0	+0.4
CTYL	Yalikoy Yolu	2.73 48 ⇑	*i*P	Pn	04 51 39.2	+1.6
CTYL	Yalikoy Yolu	2.73 48	S	Sn	04 52 10.0	-0.3
KIYI	Yalıkoy-Catalc	2.74 48	PN	Pn	04 51 38.5	+0.8
GRG	Griva	2.75 299	P	Pn	04 51 39.1	+1.1
GRG	Griva	2.75 299	P	Pn	04 51 38.9	+0.9
THL	Klokotos Trika	2.76 269	P	Pn	04 51 38.6	+0.5
THL	Klokotos Trika	2.76 269	P	Pn	04 51 38.7	+0.7
ULDT	Uludag	2.77 79	*i* P	Pn	04 51 39.5	+1.2
VAY	Valandovo	2.83 306	*e*Pn	Pg	04 51 48.5	0.0
EPID	Epidavros	2.83 224	P	Pn	04 51 38.6	-0.5
USAK	Uak-Merkez	2.83 109	*i* P	Pn	04 51 40.3	+1.1
DID	Didima	2.85 221	P	Pn	04 51 38.5	-0.8
DID	Didima	2.85 221	P	Pn	04 51 38.9	-0.5
BGKT	Bogazkoy	2.85 57	PN	Pn	04 51 40.2	+0.9
AMGA	Amorgos Island	2.86 175	P	Pn	04 51 38.6	-0.8
AMGA	Amorgos Island	2.86 175	P	Pn	04 51 38.9	-0.5
GEMT	Gemlik	2.86 74	PN	Pn	04 51 40.3	+0.8
JMB	Yambol	2.88 15	*e*P	Pb	04 51 43.0	-2.4
SHAP	Saphane-Kutahy	2.89 102	PN	Pn	04 51 41.0	+1.0
KKB	Krupnik	2.90 320	*e*P	Pn	04 51 41.4	+1.5
BUY	Buyukada	2.94 65	PN	Pn	04 51 40.7	+0.2
BODT	Bodrum	2.94 152	P	Pn	04 51 40.8	+0.2
KALE	Kalithea	2.98 245	P	Pn	04 51 41.4	+0.2
KALE	Kalithea	2.98 245	P	Pn	04 51 41.4	+0.2
ISK	Istanbul-Kandi	2.99 61	PN	Pn	04 51 42.0	+0.8
ISK	Istanbul-Kandi	2.99 61	P	Pn	04 51 40.1	-1.1
KAVV	Kandilli-Istan	2.99 61	PN	Pn	04 51 41.8	+0.6
BDRM	Kayabasi	2.99 150	*i* P	Pn	04 51 41.9	+0.6
TVSB	Tavsanli	3.00 93	PN	Pn	04 51 42.7	+1.2
SERG	Sergoula	3.03 246	P	Pn	04 51 42.0	+0.3
EVR	Evrytania	3.03 257	P	Pn	04 51 42.6	+0.7
EVR	Evrytania	3.03 257	P	Pn	04 51 42.8	+0.9
ANX	Ano Chora	3.05 250	P	Pn	04 51 42.8	+0.6
ANX	Ano Chora	3.05 250	P	Pn	04 51 42.9	+0.7
IZI	Iznik	3.05 76	PN	Pn	04 51 43.2	+1.0
KLYT	Kilyos	3.07 58	PN	Pn	04 51 42.9	+0.7
KLYT	Kilyos	3.07 58 ⇓	*i*P	Pn	04 51 44.2	+2.0
KLYT	Kilyos	3.07 58	S	Sg	04 52 29.9	-2.9
GDZ	Gediz	3.07 100	*i* P	Pn	04 51 43.3	+0.8
GUR	Goura	3.08 237	P	Pn	04 51 42.5	0.0
GUR	Goura	3.08 237	P	Pn	04 51 42.6	+0.1
EFP	Efpalio	3.13 248	P	Pn	04 51 43.8	+0.7
MHLO	Agia Marina, M	3.13 198	P	Pn	04 51 41.9	-1.3
LAKA	Lakka	3.16 244	P	Pn	04 51 44.4	+0.8
LAKA	Lakka	3.16 244	P	Pn	04 51 44.3	+0.8
STIP	Stip	3.28 309	*i* Pn	Pn	04 51 45.0	-0.1
KHAL	Karahalli	3.31 112	*i* P	Pn	04 51 47.9	+2.2
PVO	Paravola	3.33 253	P	Pn	04 51 47.3	+1.3
DAT	Datca	3.34 151	*i* P	Pn	04 51 46.6	+0.4
TRIP	Tripoli	3.37 231	P	Pn	04 51 47.3	+0.7
FNA	Florina	3.41 290	P	Pn	04 51 48.2	+1.2
TAVA	DENİZLİ_Tavas	3.42 129	*i* P	Pn	04 51 48.5	+1.3
AUBOZ	BOZOYÜK	3.43 85	*i* P	Pn	04 51 48.5	+1.1
VTS	Vitosha	3.43 330	P	Pn	04 51 48.4	+1.0
VTS	Vitosha	3.43 330 ⇑	*i*P	Pn	04 51 49.3	+1.9
VTS	Vitosha	3.43 330	S	Sg	04 52 45.1	+0.6
VTS	Vitosha	3.43 330	*i* P	Pn	04 51 49.0	+1.6
DRO	Drossia	3.49 242	P	Pn	04 51 49.0	+0.9
DRO	Drossia	3.49 242	P	Pn	04 51 48.9	+0.8
BIA	Bitola	3.52 294	*i* Pn	Pb	04 51 53.9	-2.5
AXS	Araxos	3.60 247	P	Pn	04 51 50.4	+0.8
VLI	Veliai	3.62 216	P	Pn	04 51 49.7	-0.3
TURN	Turunc	3.67 139	*i* P	Pn	04 51 50.5	0.0
GEYV	SAKARYA_Geyve	3.70 76	*i* P	Pn	04 51 52.0	+1.1
BORA	Eskisehir	3.75 85	*i* P	Pn	04 51 53.1	+1.3
AFYO	Afyonkarahisar	3.77 102	*i* P	Pn	04 51 54.1	+2.2
KAND	Kocaeli-Kandir	3.79 67	*i* P	Pn	04 51 52.5	+0.4
KZIL	AFYON_Kizioren	3.82 110	*i* P	Pn	04 51 54.4	+1.7
SRCK	Saricakaya, Es	3.89 83	*i* P	Pn	04 51 55.4	+1.8
MPEP	Malo Peshtene	3.92 340	P	Pn	04 51 55.5	+1.4
BRDR	BURDUR-Merkez	4.02 118	*i* P	Pn	04 51 57.1	+1.6
SAHE	Sakarya_HENDEK	4.19 72	*i* P	Pn	04 51 59.2	+1.4
IDI	Anoyia	4.42 187	Pn	Pn	04 52 01.2	+0.2
	comp=Z,0.4nm,0.3s,baz=7.6,slow=15,SNR=2.0					
IDI			Sn	Sn	04 52 51.1	-1.1
	comp=Z,1.0nm,0.3s,baz=64,slow=15,SNR=1.6					
ICOR	Ion Corvin	4.73 20 ⇓	*i*P	Pn	04 52 06.6	+1.5
TLB	Topalu	5.23 20 ⇓	*i*P	Pn	04 52 14.7	+2.8
PDG	Podgorica	5.52 302 ⇓	*i*P	Pn	04 52 17.7	+1.8
HERR	Herculane	5.70 337 ⇑	*i*P	Pn	04 52 20.7	+2.2
ARR	Arges	5.72 353 ⇓	*i*P	Pn	04 52 20.5	+1.6
CFR	Carcaliu	5.81 18 ⇓	*i*P	Pn	04 52 21.2	+1.3
MLR	Muntele Rosu	5.81 2 ⇑	*i*P	Pn	04 52 22.4	+2.3
MDVR	Moldovita	5.85 332 ⇑	*i*P	Pn	04 52 21.9	+1.3
BISRR	Bisoca	5.92 8 ⇓	*i*P	Pn	04 52 28.6	+7.1
GZR	Gura Zlata	6.07 341 ⇑	*i*P	Pn	04 52 25.5	+1.9
BRTR	Keskin Array B	6.21 87	Pn	Pn	04 52 26.6	+1.1
	comp=Z,2.8nm,0.3s,baz=269,slow=6.5,SNR=140					
BRTR			Sn	Sn	04 53 34.9	-1.5
	comp=Z,2.6nm,0.3s,baz=266,slow=25,SNR=11					
BRTR			Lg	Lg	04 54 06.2	
	baz=274,slow=20,SNR=1.0					
PLOR	Plostina	6.21 7 ⇑	*i*P	Pn	04 52 27.0	+1.4
VRI	Vrincioaia	6.24 7 ⇑	*i*P	Pn	04 52 27.5	+1.7
DOPR	Dopca	6.28 359 ⇑	*i*P	Pn	04 52 28.1	+1.6
BZS	Buzias	6.61 335 ⇑	*i*P	Pn	04 52 32.7	+1.7
BIZ	Bicaz	7.26 3 ⇓	*i*P	Pn	04 52 41.9	+2.0
BURAR	Bucovina Array	7.93 358 ⇓	*i*P	Pn	04 52 51.8	+2.6
TORD	Torodi Ar. Bea	33.79 225	P	P	04 57 36.4	+0.5
	comp=Z,0.3nm,0.5s,baz=37,slow=8.5,SNR=4.1					
MKAR	Makanchi Array	41.13 61	P	P	04 58 38.4	+0.6
	comp=Z,0.2nm,0.5s,baz=276,slow=6.5,SNR=2.2					

DJA 15 04:52:42.6±1.1, 7°S±4°×10°5E±°, h10km, M4.1/6, MLv4.1/6, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.61	57	P	Pg	04 52 54.7	+0.3
CGJI				S	Sg	04 53 02.7	+0.2
SBJI	Serang	1.25	49	P	Pn	04 53 05.8	-0.4
SBJI				S	Sn	04 53 23.6	+0.5
SKJI	Sukabumi	1.37	92	P	Pn	04 53 07.6	-0.2
SKJI				S	Sg	04 53 27.3	+0.6
CBJI	Citeko	1.74	72	P	Pn	04 53 13.1	+0.2
LEM	Lembang	2.42	87	P	Pn	04 53 22.0	-0.5
LEM				S	Sb	04 53 57.3	+0.9
CISI	Cisompet, Garu	2.68	103	P	Pn	04 53 25.7	-0.2
CISI				S	Sn	04 53 58.2	-0.3

*IDC **15** 05:02:23.3±0.4, 38°.75N×88°.10E, h0km, mb4.3/30, mb1 4.4/35, mb1mx4.4/44, mbtmp4.3/35, ML4.3/5, MS3.5/5, Ms1 3.4/5, ms1mx3.1/45, Error ellipse: s-maj=12.9km s-min=9.8km az=21.0*

*ISCJB **15** 05:02:23.8±0.2, 38°.89N±0°.02×88°.06E±0°.03, h10km, mb4.7/99, MS3.7/5, Error ellipse: s-maj=3.7km s-min=2.5km az=29.9*

*MOS **15** 05:02:24.0±1.2, 38°.87N×88°.05E, h13km, mb4.9/33, Error ellipse: s-maj=7.1km s-min=4.4km az=124.2*

*BJI **15** 05:02:24.5±0.0, 38°.75N×88°.01E, h8km, mb4.8/34, mB4.5/19, ML4.8/14, Ms4.2/26, Ms7 4.0/28*

*NEIC **15** 05:02:25.8±2.8, 38°.80N×88°.10E, h15km±4km, mb4.7/57, Error ellipse: s-maj=12.5km s-min=9.4km az=104.0*

*NNC **15** 05:02:27.8±2.5, 38°.98N×87°.90E, h12km±24km, mb4.8, mpv4.9, Error ellipse: s-maj=26.0km s-min=17.8km az=138.0*

ISC 15 05:02:26.2±0.2, 38°.91N±0°.03×88°.11E±0°.02, h10km, n288, σ2s10/273, mb4.6/105, MS3.8/6, 34C-19D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	4.92	357	*e*Pn	Pn	05 03 42.5	+2.2
WMQ				Sg	Sg	05 05 01.3	-2.9
WMQ	Urumqi	4.92	357	*e*Pn	Pn	05 03 42.9	+2.6
WMQ	Urumqi	4.92	357	*e*P	Pn	05 03 42.9	+2.6
PDGK	Podgornoye	7.86	307	⇑Pn	Pn	05 04 19.9	-0.9
PDGK	56nm,0.6s			⇓Sn	Sn	05 05 47.3	-2.5
PDGK	346nm,0.6s			⇓Lg	Lg	05 06 34.4	
	594nm,1.2s						
PDGK	Podgornoye	7.86	307	P	Pn	05 04 19.8	-0.9
PDGK						05 05 47.2	
PDGK				pmax	pmax		
	comp=Z,56nm,0.6s						
PDGK				smax	smax		
	comp=N,346nm,0.6s						
PRZ	Przheval'sk	8.19	299	*e*Pn	Pn	05 04 22.4	-2.9
PRZ	Przheval'sk	8.19	299	*e*P	Pn	05 04 22.4	-2.9
TARG	Taragay, Kyrgy	8.36	293	*e*Pn	Pn	05 04 28.5	+0.7
KDJ	Kajisay	8.92	295	*e*Pn	Pn	05 04 36.0	+0.7
KDJ	Kajisay	8.92	295	P	Pn	05 04 36.0	+0.7
MK31	Makanchi Array	8.96	333	*e*Pn	Pn	05 04 35.5	-0.1
MK31				*e*Sn	Sn	05 06 14.4	-2.3
MK31	Makanchi Array	8.96	333	⇑Pn	Pn	05 04 35.4	-0.3
	comp=N,8.2nm,0.3s,baz=151,slow=14,SNR=261						
MK31				⇑Sn	Sn	05 06 14.4	-2.3
	comp=N,80nm,0.8s,baz=147,slow=25,SNR=4.6						
MK31				⇓Lg	Lg	05 07 05.2	
	comp=N,58nm,0.7s						
MK31	Makanchi Array	8.96	333	*e*P	Pn	05 04 35.6	-0.1
MK31				*e*		05 06 14.4	
MK32	Makanchi Array	8.96	333	*e*Pn	Pn	05 04 35.5	-0.2
MK32				*e*Sn	Sn	05 06 09.4	-7.2
MKAR	Makanchi Array	8.96	333	*e*Pn	Pn	05 04 34.9	-0.8
MKAR	Makanchi Array	8.96	333	*e*P	Pn	05 04 34.9	-0.8
MKAR	Makanchi Array	8.96	333	Pn	Pn	05 04 35.5	-0.2
	comp=N,9.4nm,0.3s,baz=149,slow=14,SNR=163						
MKAR				Sn	Sn	05 06 09.4	-7.2
	baz=144,slow=27,SNR=1.9						
MKAR				Lg	Lg	05 07 10.3	
	comp=N,4.6nm,0.3s,baz=143,slow=28,SNR=2.7						
MAKZ	Makanchi	9.09	332	*e*Pn	Pn	05 04 37.1	-0.2
MAKZ				*e*Sn	Sn	05 06 17.7	-2.0
MAKZ	Makanchi	9.09	332	⇑Pn	Pn	05 04 37.0	-0.4
	comp=N,34nm,0.7s						
MAKZ				⇑Sn	Sn	05 06 19.9	+0.1
	comp=N,27nm,0.5s						
MAKZ	Makanchi	9.09	332	P	Pn	05 04 36.9	-0.4
MAKZ				pmax	pmax		
	comp=Z,34nm,0.7s						
GTA	Gaotai	9.11	83	P	Pn	05 04 37.8	0.0
GTA				pP		05 04 41.4	
GTA				sP		05 04 43.8	
GTA				S	Sn	05 06 19.8	-0.7
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,52nm,4.9s						
GTA				smax	smax		
	comp=Z,130nm,1.0s						
GTA				smax	smax		
	comp=Z,120nm,0.9s						
GTA				LR	LR		
	comp=Z,340nm,8.2s						
GTA				LR	LR		
	comp=Z,640nm,10.3s						
GTA				LR	LR		
	comp=Z,770nm,10.0s						
MDOK	Medeo	9.37	300	⇓Pn	Pn	05 04 41.6	+0.1
MDOK				Sn	Sn	05 06 24.7	-2.3
	comp=Z,96nm,0.9s						
MDOK	Medeo	9.37	300	P	Pn	05 04 41.6	+0.1
MDOK				S	Sn	05 06 24.7	-2.3
MDOK				smax	smax		
	comp=N,95nm,0.9s						
KSH	Kashi	9.44	278	P	Pn	05 04 46.4	+4.1
KSH				pP		05 04 50.3	
KSH				S	Sn	05 06 32.8	+4.2
KSH				pmax	pmax		
	comp=N,61nm,0.6s						
KSH				LR	LR		
	comp=N,1μm,3.8s						
KNDC	Almaty	9.45	301	⇓Pn	Pn	05 04 42.9	+0.4
KNDC				⇑Sn	Sn	05 06 28.7	-0.1
	comp=N,141nm,0.6s						
NRN	Naryn	9.61	289	*e*Pn	Pn	05 04 44.3	-0.5
NRN				*e*Sn	Sn	05 06 27.6	-5.3
NRN	Naryn	9.61	289	*e*P	Pn	05 04 44.3	-0.5
NRN				*e*		05 06 27.6	
ULHL	Ulahol	9.62	294	P	Pn	05 04 44.8	-0.2
	SNR=54						
BOOM	Boomskoye usch	9.91	295	*e*Pn	Pn	05 04 48.3	-0.5
BOOM	Boomskoye usch	9.91	295	*e*P	Pn	05 04 48.3	-0.5
TKM2	Tokmak 2	10.28	297	P	Pn	05 04 53.6	-0.4
	SNR=54						
TKM2	Tokmak 2	10.28	297	⇑Pn	Pn	05 04 53.4	-0.5
	comp=N,37nm,0.6s						
TKM2				⇓Sn	Sn	05 06 46.0	-3.3
	comp=N,31nm,0.6s						
TKM2	Tokmak 2	10.28	297	P	Pn	05 04 53.4	-0.5
TKM2						05 06 46.0	
TKM2				pmax	pmax		
	comp=Z,37nm,0.6s						
TKM2				smax	smax		
	comp=N,31nm,0.6s						
KZA	Kyzart	10.29	292	P	Pn	05 04 53.4	-0.9
	SNR=19						
KBK	Karagaybulak	10.66	295	P	Pn	05 04 59.3	+0.3
	SNR=19						
DGZ	Jazzator, Alta	10.80	358	*d i*P	Pn	05 05 01.6	+0.6
UCH	Uchtor	10.86	292	P	Pn	05 05 01.4	-0.7
	SNR=13						
AAK	Ala-Archa	10.97	294	P	Pn	05 05 04.2	+0.8
	SNR=7.1						
AAK	Ala-Archa	10.97	294	*e*Pn	Pn	05 05 03.8	+0.4
AAK	Ala-Archa	10.97	294	⇑Pn	Pn	05 05 03.6	+0.3
	comp=N,14nm,0.9s						
AAK				⇓Sn	Sn	05 07 02.1	-4.2
	comp=N,33nm,1.0s						
AAK	Ala-Archa	10.97	294	*c i*P	Pn	05 05 03.2	-0.2
AAK	Ala-Archa	10.97	294	Pn	Pn	05 05 03.7	+0.3
	comp=N,2.5nm,0.3s,baz=109,slow=16,SNR=13						
AAK				Sn	Sn	05 07 12.7	+6.4
	comp=N,0.9nm,0.3s,baz=121,slow=19,SNR=1.7						
AAK				Lg	Lg	05 08 19.9	
	comp=N,0.4nm,0.3s,baz=202,slow=22,SNR=1.8						
AAK				LR	LR	05 09 53.3	
	comp=N,89nm,18.4s,baz=108,slow=41						
DANN	Dangsing	11.13	200	*e*P	Pn	05 05 05.3	-0.4
	comp=N,46nm,1.0s						
USP	Ospenovka	11.15	297	P	Pn	05 05 04.8	-0.9
	SNR=15						
JIRN	Jiri	11.33	189	*e*P	Pn	05 05 09.0	+0.5
	comp=N,36nm,0.7s						
PKIN	Phulchoki	11.52	192	*e*P	Pn	05 05 10.6	-0.5
PKI	Pulchoki	11.53	192	*e*P	Pn	05 05 11.3	+0.1
PYUN	Piuthan	11.59	203	*e*P	Pn	05 05 09.5	-2.4
	comp=N,27nm,0.8s						
KOLN	Koldanda	11.72	200	*e*P	Pn	05 05 13.0	-0.8
	comp=N,14nm,0.6s						
ARSB	Arslanbob	11.83	287	*e*Pn	Pn	05 05 19.5	+4.4
RAMN	Ramite	11.99	186	*e*P	Pn	05 05 17.5	+0.1
	comp=N,13nm,0.5s						
LZH	Lanzhou	12.81	98	*e*P	Pn	05 05 26.0	-2.5
LZH				PP	PnPn	05 05 41.9	+5.7
LZH				pmax	pmax		
	comp=N,29nm,1.2s						
LZH				LR	LR		
	comp=N,490nm,11.4s						
LZH				LR	LR		
	comp=N,330nm,10.5s						
LZH				LR	LR		
	comp=N,310nm,12.5s						
CHCP	Chirah Chowk	13.07	251	P	Pn	05 05 29.1	-2.8
NIL	Nilore	13.08	251	*e*Pn	Pn	05 05 28.4	-3.7
NIL	Nilore	13.08	251	*e*P	Pn	05 05 28.4	-3.7
KURBB	Kurchatov Arra	13.53	333	⇑Pn	Pn	05 05 34.8	-3.3
	comp=N,12nm,0.5s						
KURBB				⇑Sn	Sn	05 08 10.6	+2.1
	comp=N,30nm,0.6s						
KURBB	Kurchatov Arra	13.53	333	Pn	Pn	05 05 35.5	-2.6
	comp=N,0.7nm,0.3s,baz=148,slow=12,SNR=48						
KURBB				Sn	Sn	05 08 02.4	-6.0
	comp=N,0.3nm,0.3s,baz=128,slow=28,SNR=4.2						
KURBB				Lg	Lg	05 09 30.4	
	baz=149,slow=31,SNR=3.0						
KURK	Kurchatov	13.58	333	*e*Pn	Pn	05 05 36.0	-2.7
KURK	Kurchatov	13.58	333	⇑Pn	Pn	05 05 36.9	-1.8
	comp=N,8.2nm,0.7s						
KURK				⇑Sn	Sn	05 08 11.9	+2.3
	comp=N,40nm,1.1s						
KURK	Kurchatov	13.58	333	*c e*P	Pn	05 05 36.5	-2.2
SHL	Shillong	13.68	165	*e*Pn	Pn	05 05 39.0	-1.4
SHL	Shillong	13.68	165	*e*P	Pn	05 05 39.0	-1.4
GAR	Garm	13.85	276	*e*Pn	Pn	05 05 39.8	-2.9
GAR	Garm	13.85	276	*e*P	Pn	05 05 39.8	-2.9
KK31	Karatay Array	13.93	293	*e*Pn	Pn	05 05 42.1	-1.5
KK31	Karatay Array	13.93	293	Pn	Pn	05 05 42.2	-1.4
	comp=N,4.6nm,0.6s,baz=98,slow=12,SNR=17						
KK31	Karatay Array	13.93	293	*e*P	Pn	05 05 42.1	-1.5
KKAR	Karatay Array	13.93	293	*e*Pn	Pn	05 05 42.1	-1.6
KKAR				*e*Pn	P	05 05 42.5	-9.3
KKAR	Karatay Array	13.93	293	*e*P	Pn	05 05 42.1	-1.6
CEP	Cherat	14.00	254	P	Pn	05 05 41.7	-3.0
CEP				S	Sn	05 08 07.0	-13
THW	Thamme Wali	14.60	250	P	Pn	05 05 47.5	-5.3
OTUK	Ortayu

comp=Z,590nm,10.5s
HHC LR LR
comp=Z,610nm,9.1s
KMI Kunming 18.48 134 P **P 05 06 42.3 -0.2**
KMI pmax pmax
comp=Z,60nm,0.8s
KMI Kunming 18.48 134 *eP* **P 05 06 42.4 -0.2**
comp=Z,43nm,0.7s
KMI Kunming 18.48 134 *eP* **P 05 06 42.4 -0.2**
KMI pmax pmax
comp=Z,43nm,0.7s
BVAR Borovoye Array 18.66 325 P **P 05 06 43.1 -1.0**
comp=Z,1.6nm,0.3s,baz=125,slow=12,SNR=24
BRVK Borovoye 18.73 325 *eP* **P 05 06 43.0 -1.9**
BRVK *e*Pn **P 05 06 43.7 -1.2**
BRVK Borovoye 18.73 325 ⇓P **P 05 06 43.7 -1.2**
comp=Z,12nm,0.6s
BRVK Borovoye 18.73 325 *c iP* **P 05 06 44.3 -0.6**
TIY Taiyuan 19.12 86 *eP* **P 05 06 49.3 -0.1**
TIY pmax pmax
comp=Z,42nm,0.6s
TIY LR LR
comp=Z,140nm,7.8s
TIY LR LR
comp=Z,250nm,8.8s
TIY LR LR
comp=Z,400nm,10.5s
GYA Guiyang 19.91 123 ⇑ *iP* **P 05 06 58.4 +0.3**
GYA PP **PnPn 05 07 17.3 +3.6**
GYA S **S 05 10 44.4 +2.2**
GYA SS Sn 05 11 06.0 +22
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,100nm,6.2s
BJI Beijing 21.67 78 P **P 05 07 18.1 +1.2**
CHTO Chiang Mai 22.12 152 *eP* **P 05 07 20.0 -1.9**
comp=Z,3.8nm,0.8s
CHTO Chiang Mai 22.12 152 *eP* **P 05 07 20.0 -1.9**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CMMT Chiang Mai 22.12 152 P **P 05 07 22.5 +0.5**
comp=Z,2.9nm,1.3s
SLVN Son La 22.16 138 *eP* **P 05 07 23.1 +0.7**
comp=Z,28nm,0.9s
CM31 Chiang Mai Arr 22.45 152 *eP* **P 05 07 22.6 -2.8**
comp=Z,20nm,1.1s
CMAR Chiang Mai Arr 22.45 152 *eP* **P 05 07 23.4 -2.0**
CMAR Chiang Mai Arr 22.45 152 P **P 05 07 22.8 -2.6**
comp=Z,8.4nm,0.9s,baz=322,slow=9.7,SNR=23
AB31 Akbulak array 22.60 306 *i P* **P 05 07 26.6 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 22.60 306 *eP* **P 05 07 26.9 +0.2**
comp=Z,6.5nm,0.6s
ABKAR *eP* **P 05 07 27.0 +0.2**
LAMP Lampang 22.65 151 P **P 05 07 28.1 +0.6**
comp=Z,17μm,0.9s
WHN Wuhan 23.07 103 P **P 05 07 30.9 -1.0**
WHN S S 05 11 31.3 -12
WHN LR LR
comp=Z,470nm,10.5s
WHN LR LR
comp=Z,480nm,11.1s
WHN LR LR
comp=Z,810nm,14.5s
TIA Tai'an 23.12 88 P **P 05 07 32.8 +0.4**
TIA pmax pmax
comp=Z,9.0nm,0.8s
GEYT Alibeck 23.47 277 P **P 05 07 34.9 -1.1**
comp=Z,40nm,0.6s,baz=81,slow=4.7,SNR=2.8
GYA0B ALIBECK ARRAY 23.47 277 *eP* **P 05 07 36.1 +0.1**
comp=Z,14nm,0.6s
UTTA Uttaradit 23.71 149 P **P 05 07 38.1 -0.3**
comp=Z,20μm,0.9s,comp=Z,247μm
AKTO Aktyubinsk 24.13 308 P **P 05 07 42.0 -0.2**
comp=Z,4.1nm,0.8s,baz=111,slow=8.8,SNR=12
AKTO LR LR 05 18 18.9
comp=Z,165nm,19.0s,baz=103,slow=40
NONG Nongkai 24.55 144 P **P 05 07 45.3 -0.9**
comp=Z,1.3nm,1.0s,comp=Z,56nm
BOD Bodaibo 25.31 33 *eP* **P 05 07 52.5 -0.2**
BOD pmax pmax
comp=Z,7.0nm,1.7s
SVE Sverdlovsk 25.44 324 *eP* **P 05 07 59.2 +5.3**
SVE pmax pmax
comp=Z,32nm,1.1s
NJ2 Nanjing 25.88 96 *eP* **P 05 07 57.0 -1.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 LR LR
comp=Z,530nm,15.2s
NJ2 LR LR
comp=Z,950nm,23.9s
NJ2 LR LR
comp=Z,970nm,22.2s
SKNT Sakolnakorn 25.88 143 P **P 05 07 57.1 -1.2**
comp=Z,18nm,0.9s,comp=Z,15μm
CHAI Chaiyaphum 25.95 148 P **P 05 07 59.4 +0.5**
comp=Z,12μm,0.8s
PANO Nakornpanom 26.04 142 P **P 05 07 59.4 -0.2**
comp=Z,0.3nm,1.1s
ARU Arti 26.21 322 *eP* **P 05 08 03.2 +2.3**
comp=Z,9.8nm,0.7s
ARU Arti 26.21 322 *d iP* **P 05 08 03.5 +2.6**
ARU 05 08 39.5
ARU SS 05 13 39.7
ARU pmax pmax
comp=Z,11nm,0.8s
ARU Arti 26.21 322 P **P 05 08 01.3 +0.4**
comp=Z,3.6nm,0.4s,baz=120,slow=5.3,SNR=11
ARU LR LR 05 19 07.8
comp=Z,359nm,19.0s,baz=134,slow=38
CN2 Changchun 28.29 68 *eP* P 05 08 31.5 +12
WSAR Wadi Sarin 29.52 247 P **P 05 08 29.1 -1.7**
comp=Z,5.4nm,0.8s,baz=83,slow=7.7,SNR=2.9
TJN Taejon 31.03 82⇓ *eP* P 05 08 41.8 -2.2
KSRS Korea Array 31.16 80 P **P 05 08 44.6 -0.6**
comp=Z,2.9nm,0.5s,baz=287,slow=9.2,SNR=9.3
KLR Kul'dur 32.60 57⇓ *eP* **P 05 08 57.8 +0.1**
KLR pmax pmax
comp=Z,2.0nm,0.6s
KBZ Khabaz 33.97 293 PP PP 05 10 21.6 -4.9
comp=Z,1.2nm,0.6s,baz=100,slow=14,SNR=4.0
VSR Storozhevoye 36.04 306⇑ *eP* **P 05 09 27.2 -0.3**
VSR pmax pmax
comp=Z,3.0nm,0.7s
LPSR Galich'ya Gora 36.22 309 *eP* **P 05 09 29.1 +0.1**
LPSR pmax pmax
comp=Z,7.0nm,0.6s
KLMR Klimovskoe 37.05 322 *eP* **P 05 09 36.2 +0.2**
KLMR pmax pmax
comp=Z,16nm,1.4s
TIXI Tiksi 38.70 19 *eP* **P 05 09 49.4 -0.3**
comp=Z,5.0nm,0.8s
TIXI *eP* **P 05 09 49.5 -0.3**
TIXI Tiksi 38.70 19⇑ *eP* **P 05 09 49.1 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 38.70 19 P **P 05 09 49.5 -0.3**
comp=Z,3.9nm,0.5s,baz=239,slow=5.0,SNR=16
MAJO Matsushiro 39.30 77 *eP* **P 05 09 54.2 -1.1**
MAJO Matsushiro 39.30 77 *eP* **P 05 09 54.2 -1.1**
MJAR Matsushiro Arr 39.30 77 P **P 05 09 54.2 -1.1**
comp=Z,0.9nm,0.3s,baz=289,slow=8.4,SNR=3.2
YSS Yuzh-Sakhalins 40.10 60⇑ *eP* **P 05 10 02.6 +0.8**
YSS pmax pmax
comp=Z,60nm,0.8s
ASAJ Asahikawa 40.51 65 P **P 05 10 04.0 -1.2**
comp=Z,2.2nm,0.3s,baz=294,slow=20,SNR=2.8
ASAJ LR LR 05 28 24.3
comp=Z,93nm,22.0s,baz=349,slow=38
BRTR Keskin Array B 41.59 289 *eP* **P 05 10 13.8 -0.6**
BRTR Keskin Array B 41.59 289 *i P* **P 05 10 15.1 +0.7**
BRTR pmax pmax
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 41.59 289 P **P 05 10 14.4 0.0**
comp=Z,10nm,0.8s,baz=98,slow=7.2,SNR=40
BRTR PP **PP 05 11 50.4 +0.1**
comp=Z,1.4nm,1.0s,baz=79,slow=7.5,SNR=3.0
AKASG Malin Array Be 42.34 306 P **P 05 10 19.5 -0.7**
comp=Z,0.7nm,0.5s,baz=66,slow=8.7,SNR=2.3
AKASG PcP **PcP 05 12 11.8 -1.7**
comp=Z,0.2nm,0.3s,baz=68,slow=3.5,SNR=3.5
AKBB Malin Array Si 42.34 306 *eP* **P 05 10 21.0 +0.8**
comp=Z,7.1nm,1.1s

KIEV Kiev 42.35 306 *eP* **P 05 10 21.1 +0.9**
comp=Z,6.2nm,1.1s
KIEV Kiev 42.35 306⇑ *iP* **P 05 10 23.7 +3.5**
KIEV Kiev 42.35 306⇓ *eP* **P 05 10 21.7 +1.5**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
MMAI Mount Meron Ar 42.57 279 P **P 05 10 20.7 -1.7**
comp=Z,1.6nm,0.2s,baz=88,slow=10,SNR=3.8
FINES FINESS Array B 43.58 322 P **P 05 10 29.3 -0.8**
comp=Z,2.0nm,1.0s,baz=96,slow=9.9,SNR=4.5
MA2 Magadan 43.88 41 *eP* **P 05 10 33.0 +0.5**
comp=Z,13nm,0.7s
MA2 Magadan 43.88 41 *ceP* **P 05 10 33.0 +0.5**
MA2 pmax pmax
comp=Z,15nm,0.8s
MA2 Magadan 43.88 41 P **P 05 10 32.2 -0.3**
comp=Z,11nm,0.6s,baz=258,slow=12,SNR=4.3
MA2 PcP **PP 05 12 18.4 +3.9**
comp=Z,5.0nm,0.6s,baz=177,slow=1.9,SNR=4.1
ARA0 ARCESS Array S 44.62 334 *eP* **P 05 10 38.2 -0.1**
ARCES ARCESS Array B 44.62 334 P **P 05 10 38.2 -0.1**
comp=Z,3.7nm,0.9s,baz=96,slow=7.3,SNR=3.2
SEY Seymchan 44.67 36 P **P 05 10 39.0 +0.2**
SEY Seymchan 44.67 36 P **P 05 10 39.0 +0.2**
comp=Z,3.5nm,0.6s,baz=249,slow=9.5,SNR=7.8
VRI Vrincioaia 44.88 300⇑ *iP* **P 05 10 42.2 +1.5**
VRI Vrincioaia 44.88 300⇑⇑P **P 05 10 42.2 +1.5**
BURAR Bucovina Array 45.48 302 *eP* **P 05 10 45.9 +0.3**
BURAR Bucovina Array 45.48 302⇓ *iP* P 05 10 50.9 +5.3
BURAR Bucovina Array 45.48 302 P **P 05 10 45.9 +0.3**
BURAR pmax pmax
comp=Z,19nm,0.9s
MLR Muntele Rosu 45.50 299⇑ *iP* **P 05 10 47.8 +2.0**
MLR Muntele Rosu 45.50 299⇑⇑P **P 05 10 47.8 +2.0**
DOPR Dopca 45.76 300⇓ *iP* **P 05 10 49.5 +1.8**
KWP Kalwaria Pacla 46.65 306 P **P 05 10 55.0 +0.3**
KWP pmax pmax
comp=Z,164nm,0.9s
GZR Gura Zlata 47.68 300⇑ *iP* P 05 11 07.8 +5.0
GZR Gura Zlata 47.68 300⇑⇑P P 05 11 07.8 +5.0
NIE Niedzica 48.23 306 *eP* P 05 11 12.3 +5.3
NIE Niedzica 48.23 306 *eP* P 05 11 12.3 +5.3
OJC Ojcow 48.35 307 *eP* **P 05 11 11.1 +3.2**
OJC Ojcow 48.35 307 *eP* **P 05 11 06.9 -0.9**
comp=Z,10nm,0.8s
OJC Ojcow 48.35 307 P **P 05 11 06.9 -0.9**
OJC pmax pmax
comp=Z,10.0nm,0.8s
PEA1 Petropavlovsk- 48.47 49 *eP* **P 05 11 07.3 -1.4**
PETK Petropavlovsk- 48.47 49 P **P 05 11 07.3 -1.4**
comp=Z,3.4nm,0.6s,baz=275,slow=4.0,SNR=8.5
MDVR Moldovita 48.58 300⇓ *iP* **P 05 11 10.1 +0.4**
PSZ Piszkesteto 48.88 304 *eP* **P 05 11 16.1 +4.0**
VYHS Vyhne 49.40 305 *eP* **P 05 11 20.4 +4.4**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 49.40 305 *eP* **P 05 11 20.4 +4.4**
MORC Moravsky Berou 49.87 307 *eP* **P 05 11 19.6 +0.1**
comp=Z,8.8nm,0.9s
MORC Moravsky Berou 49.87 307⇑ *iP* P 05 11 24.9 +5.4
MORC Moravsky Berou 49.87 307 P **P 05 11 19.6 +0.1**
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 49.87 307 *eP* P 05 11 24.7 +5.2
JAVC Velka Javorina 50.04 306 *eP* P 05 11 26.9 +6.0
BILL Bilibino 50.23 29 *i P* **P 05 11 22.5 +0.6**
BILL *i* 05 11 27.4
BILL *i* 05 12 41.4
BILL pmax pmax
comp=Z,1.0nm,0.9s
KRLC Kraliky 50.26 307 *eP* P 05 11 27.6 +5.1
KRLC *e* 05 11 30.3
KRLC Kraliky 50.26 307 *eP* P 05 11 27.6 +5.1
KRLC *ex* x 05 11 30.3
DPC Dobruska-Polom 50.47 308 *eP* P 05 11 29.4 +5.3
DPC *e* 05 11 31.8
DPC Dobruska-Polom 50.47 308 *eP* P 05 11 29.4 +5.3
DPC *ex* x 05 11 31.8
TIH Tihany 50.48 303 *eP* **P 05 11 25.1 +0.9**
NC405 NORSAR Array S 50.51 322 *eP* **P 05 11 25.5 +1.3**
comp=Z,24nm,0.8s
VRAC Vranov 50.59 307 *eP* **P 05 11 29.4 +4.4**
UPC Upice 50.61 308 *eP* P 05 11 30.4 +5.3
UPC Upice 50.61 308 *eP* P 05 11 30.4 +5.3
NC303 NORSAR Array S 50.65 322 *eP* **P 05 11 28.6 +3.3**
comp=Z,22nm,1.0s
NORES NORESS Array B 50.66 322 P **P 05 11 25.6 +0.3**
NB2 NORSAR Subarra 50.76 322 P **P 05 11 25.7 -0.4**
comp=Z,3.1nm,0.5s,baz=79,slow=7.9
NB2 NORSAR Subarra 50.76 322 P **P 05 11 30.2 +4.1**
NB2 pmax pmax
comp=Z,204nm,3.7s
NOA NORSAR Array B 50.76 322 P **P 05 11 26.0 -0.1**
NOA NORSAR Array B 50.76 322 P **P 05 11 26.0 -0.1**
comp=Z,2.8nm,0.7s,baz=73,slow=7.0,SNR=7.4
KRUC Moravsky 50.79 306 *eP* **P 05 11 29.7 +3.2**
NC204 NORSAR Array S 50.93 323 *eP* **P 05 11 27.9 +0.4**
comp=Z,20nm,1.0s
PDG Podgorica 51.03 297⇑ *iP* **P 05 11 28.8 +0.4**
CONA Conrad Observa 51.47 305 *eP* P 05 11 36.8 +5.1
comp=Z,4.9nm,0.7s
PVCC Panska Ves 51.49 309 *eP* P 05 11 37.1 +5.4
PVCC Panska Ves 51.49 309 *eP* P 05 11 37.1 +5.4
PRU Pruhonice 51.67 308 *eP* P 05 11 38.1 +5.1
PRU Pruhonice 51.67 308 *eP* P 05 11 38.1 +5.1
BRG Berggiesshubel 51.77 309 *i P* **P 05 11 38.2 +4.4**
comp=Z,6.3nm,0.8s
BRG Berggiesshubel 51.77 309 *i P* **P 05 11 38.2 +4.4**
BRG pmax pmax
comp=Z,6.0nm,0.8s
ARSA Arzberg 51.90 304 *eP* P 05 11 39.6 +4.7
comp=Z,4.8nm,0.7s
CLL Collm 52.21 310⇑ *iP* **P 05 11 41.7 +4.7**
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 52.21 310⇑ *ipP* **P 05 11 41.7 +4.7**
comp=Z,12nm,1.0s
SOKA Sobotin 52.41 304 *eP* **P 05 11 43.4 +4.7**
comp=Z,10nm,0.9s
MOA Molln 52.51 305 *eP* P 05 11 44.5 +5.1
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 52.53 307 *eP* P 05 11 44.6 +5.1
KHC *e* 05 11 46.6
KHC Kasperske Hory 52.53 307 *eP* P 05 11 44.6 +5.1
KHC *ex* x 05 11 46.6
GERES GERESS Array B 52.55 307 P **P 05 11 38.2 -1.5**
comp=Z,0.3nm,0.5s,baz=74,slow=7.2,SNR=3.3
OBKA Obir 52.78 304 *eP* P 05 11 46.4 +4.9
comp=Z,6.8nm,1.0s
VNDS Vrh nad Dolski 52.82 303 *i P* P 05 11 46.5 +4.8
VISS Visnje 52.84 303 *i P* P 05 11 46.8 +5.0
MYKA Terra Mystica 53.33 304 *eP* **P 05 11 49.9 +4.4**
comp=Z,3.5nm,0.8s
KBA Koelnbreinsper 53.36 305 *eP* **P 05 11 46.0 +0.1**
comp=Z,2.0nm,0.5s
MATE Matera 53.47 296⇑ *iP* **P 05 11 50.6 +4.1**
ABTA Abfaltersbach 54.01 305 *epP* **P 05 11 53.7 +3.1**
comp=Z,0.5nm,0.3s
WTTA Wattenberg 54.39 305 *epP* **P 05 11 56.7 +3.3**
comp=Z,12nm,0.7s
WATA Walderalm 54.40 306 *epP* **P 05 11 56.5 +3.1**
comp=Z,2.9nm,0.5s
SQTA Sankt Quirin 54.67 306 *epP* **P 05 11 57.7 +2.4**
comp=Z,2.9nm,0.5s
MOTA Moosalm 54.70 306 *eP* **P 05 12 00.1 +4.5**
comp=Z,7.0nm,0.6s
RETA Reutte 54.86 306 *epP* **P 05 11 59.3 +2.6**
comp=Z,6.3nm,0.6s
DAVA Damuels 55.49 306 *epP* **P 05 12 04.6 +3.3**
comp=Z,4.0nm,0.8s
CDF Champ du Feu 56.68 308 *eP* **P 05 12 13.7 +4.0**
CDF pmax pmax
comp=Z,9.0nm,1.0s
HINF Hinteralfeld 57.18 308 *eP* **P 05 12 17.1 +3.9**
HINF pmax pmax
comp=Z,25nm,1.5s
HAU Haudompre 57.41 308 *eP* **P 05 12 19.1 +4.3**
HAU pmax pmax
comp=Z,14nm,1.2s
PGF Pioggiola 57.97 301 *eP* **P 05 12 17.8 -1.1**
PGF pmax pmax
comp=Z,10.0nm,0.7s
LPG La Plagne 58.19 305 *eP* **P 05 12 20.9 +0.2**
LPG pmax pmax
comp=Z,31nm,0.8s

SBF Sospel 58.44 303 *eP* **P 05 12 21.8 -0.4**
SBF pmax pmax
comp=Z,31nm,0.8s
MBDF Montbardon 58.50 304 *eP* **P 05 12 24.3 +1.6**
MBDF pmax pmax
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 58.99 305 *eP* **P 05 12 25.4 -0.6**
ORIF pmax pmax
comp=Z,11nm,0.6s
SMF Signal de Mont 59.53 307 *eP* **P 05 12 33.4 +3.8**
SMF pmax pmax
comp=Z,9.0nm,0.7s
AVF Avril sur Loir 59.77 308 *eP* **P 05 12 35.1 +3.9**
AVF pmax pmax
comp=Z,11nm,1.0s
EKA Eskdalemuir Ar 59.77 319 P **P 05 12 34.9 +3.8**
EKA pmax pmax
comp=Z,3.0nm,0.5s
VIVF Saint-Julien-l 59.79 305 *eP* **P 05 12 35.5 +4.0**
VIVF pmax pmax
comp=Z,36nm,1.8s
TCF Toulx Ste Croi 60.70 308 *eP* **P 05 12 41.8 +4.1**
TCF pmax pmax
comp=Z,14nm,0.9s
KEST Kesra 60.83 294 *eP* **P 05 12 38.5 -0.3**
comp=Z,2.9nm,0.8s
KEST Kesra 60.83 294 P **P 05 12 38.5 -0.3**
comp=Z,3.7nm,0.7s,baz=215,slow=18,SNR=3.9
CAF Calviac 61.41 306 *eP* **P 05 12 46.9 +4.3**
CAF pmax pmax
comp=Z,16nm,1.2s
MTLF Montolieu 62.06 305 *eP* **P 05 12 46.6 -0.3**
MTLF pmax pmax
comp=Z,43nm,1.7s
LFF La Frestale 62.24 307 *eP* **P 05 12 52.5 +4.5**
LFF pmax pmax
comp=Z,14nm,0.8s
TULEG Thule 63.90 354 *eP* **P 05 13 01.8 +3.2**
comp=Z,6.8nm,0.6s
ETSF Etsaut 64.05 305 *eP* **P 05 13 04.5 +4.3**
ETSF pmax pmax
comp=Z,7.0nm,0.7s
IMAR Indian Mountai 65.16 23 *eP* **P 05 13 05.9 -1.1**
COLA College 67.72 22 *eP* **P 05 13 24.2 +0.8**
comp=Z,13nm,0.6s
COLA College 67.72 22 *ceP* **P 05 13 23.2 -0.1**
COLA pmax pmax
comp=Z,3.0nm,0.8s
MANU Manus Island 67.89 112 *eP* **P 05 13 23.3 -1.9**
comp=Z,291nm,0.1s
ESDC Sonseca Array 67.91 304 *eP* **P 05 13 23.7 -1.4**
ESDC *eP* **P 05 13 24.4 -0.8**
ESDC Sonseca Array 67.91 304 P **P 05 13 24.4 -0.8**
comp=Z,1.3nm,0.5s,baz=52,slow=6.0,SNR=8.9
PRP Porcupine Dome 67.93 21 *eP* **P 05 13 25.4 +0.6**
comp=Z,4.2nm,1.2s
ILAR Eielson Array 68.08 22 *eP* **P 05 13 24.7 -0.9**
ILAR Eielson Array 68.08 22 P **P 05 13 25.1 -0.6**
comp=Z,1.7nm,0.6s,baz=313,slow=5.3,SNR=25
INK Inuvik 68.67 15 P **P 05 13 28.8 -0.4**
comp=Z,1.4nm,0.6s,baz=332,slow=5.6,SNR=11
DHY Denali Highway 69.17 24 *eP* **P 05 13 32.1 -0.6**
comp=Z,6.4nm,1.0s
SUA Susitna One 69.22 26 *eP* **P 05 13 33.3 +0.4**
comp=Z,8.8nm,0.6s
BCAR Beaver Creek A 70.86 22 *eP* **P 05 13 42.8 -0.1**
KDAK Kodiak Island 71.12 30 *i P* **P 05 13 45.6 +1.1**
WRAB Tennant Creek 72.80 135⇑ *eP* **P 05 13 53.4 -1.6**
WRAB pmax pmax
comp=Z,8.0nm,1.0s
WRA Warramunga Arr 72.80 135 P **P 05 13 53.3 -1.7**
comp=Z,5.6nm,0.7s,baz=337,slow=6.2,SNR=40
ASAR Alice Springs 75.58 137 P **P 05 14 09.7 -1.5**
comp=Z,4.3nm,0.8s,baz=321,slow=5.5,SNR=28
YKA Yellowknife Ar 77.30 11 *i P* **P 05 14 20.0 -0.5**
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 77.30 11 P **P 05 14 20.0 -0.5**
comp=Z,2.8nm,0.6s,baz=335,slow=5.7,SNR=21
YKA LR LR 05 52 52.7
comp=Z,7.1nm,19.4s,baz=90,slow=39
TOA1 Torodi Ar. Sit 79.11 278 *eP* **P 05 14 29.1 -2.2**
TORD Torodi Ar. Bea 79.11 278 P **P 05 14 29.1 -2.2**
comp=Z,2.4nm,0.6s,baz=43,slow=4.9,SNR=16
CTAO Charters Tower 80.01 126 *eP* **P 05 14 35.0 -0.9**
comp=Z,7.8nm,0.8s
STKA Stephens Creek 86.20 137 *eP* P 05 15 05.4 -2.3
comp=Z,0.9nm,0.8s
STKA Stephens Creek 86.20 137 P P 05 15 05.4 -2.3
comp=Z,4.4nm,0.8s,baz=308,slow=5.4,SNR=6.6
FFC Flin Flon 86.34 6 *eP* **P 05 15 07.5 -0.7**
comp=Z,6.9nm,0.9s
FFC Flin Flon 86.34 6 *i P* **P 05 15 07.9 -0.3**
DBIC Dimbokro 88.16 277 *eP* P 05 15 15.4 -2.3
comp=Z,12nm,1.0s
DBIC Dimbokro 88.16 277 P P 05 15 15.4 -2.3
comp=Z,2.2nm,0.6s,baz=41,slow=3.8,SNR=4.3
BOSA Boshof 89.14 231 P **P 05 15 20.5 -1.5**
comp=Z,2.1nm,0.9s,baz=0.0,slow=4.0,SNR=2.8
ULM Lac du Bonnet 91.15 3 P **P 05 15 30.2 -0.9**
comp=Z,1.7nm,0.8s,baz=359,slow=7.0,SNR=3.0
VNA2 Neumayer-Watz 127.97 205 PKPdf **PKPdf 05 21 29.8 -1.3**
VNA3 Neumayer Olymp 128.76 204 PKPdf **PKPdf 05 21 31.3 -1.3**
SIV San Ignacio 144.66 302 PKP **PKPab 05 22 01.1 -1.1**
comp=Z,2.3nm,0.6s,baz=85,slow=5.5,SNR=18
CPUP Villa Florida 148.49 283 PKPbc **PKPdf 05 22 11.1 +1.4**
comp=Z,4.3nm,0.7s,baz=62,slow=2.4,SNR=15
LPAZ La Paz 149.33 311 PKP **PKPdf 05 22 10.3 -1.8**
comp=Z,0.7nm,0.7s,baz=6.2,slow=4.6,SNR=3.1
LPAZ PKPbc **pPKPdf 05 22 15.3 -0.7**
comp=Z,3.2nm,0.9s,baz=0.7,slow=5.7,SNR=8.3

IDC 15 05:02:54.0±45.0, 17°.52S×175°.84W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/31, mbtmp4.2/3, Error ellipse: s-maj=844.5km s-min=162.5km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.96**	**241**	P		P	05 10 39.0	+0.4
	2.4nm,0.8s,baz=72,slow=9.6,SNR=2.6							
WRA	**Warramunga Arr**	**47.10**	**259**	P		P	05 11 27.5	-0.7
	0.7nm,0.4s,baz=97,slow=7.1,SNR=23							
ASAR	**Alice Springs**	**47.25**	**254**	P		P	05 11 29.4	+0.1
	6.7nm,0.7s,baz=87,slow=8.7,SNR=68							

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*GUC **15** 05:08:01.2±0.4, 37°.58S×74°.15W, h9km±5km, ML4.1*
*ISCJB **15** 05:08:06.2±0.8, 37°.54S±0°.05×73°.5W±0°.1, h33km, mb3.9/7, Error ellipse: s-maj=13.3km s-min=6.6km az=174.5*
*IDC **15** 05:08:09.3±2.9, 37°.58S×73°.35W, h52km±24km, mb3.7/7, mb1 3.8/10, mb1mx3.6/27, mbtmp3.9/10, ML3.7/3, Error ellipse: s-maj=29.7km s-min=13.7km az=81.0*
ISC 15 05:08:07.0±0.9, 37°.57S±0°.05×73°.7W±0°.1, h35km, n22, σ1§84/27, mb3.8/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.65**	**55**	*eP*		**Pn**	**05 08 33.5**	**+0.1**
CCHI				*i*		**Sn**	**05 08 57.8**	**+4.4**
CCHI				IAML			05 09 05.8	
	comp=E,4μm,0.6s							
GO06	**Curarrehue**	**2.69**	**139**	*eP*		**Pn**	**05 08 48.1**	**+0.3**
GO06				*e*S		**Sn**	**05 09 23.8**	**+4.6**
GO06				IAML			05 09 32.5	
	comp=E,256nm,0.4s							
GO05	**Huala**	**2.95**	**30**	*eP*		**Pn**	**05 08 50.7**	**-0.7**
GO05				*e*S		**Sn**	**05 09 29.0**	**+3.4**
GO05				IAML			05 09 46.1	
	comp=E,554nm,0.5s							
CHPI	**Pichilemu**	**3.47**	**25**	*eP*		**Pn**	**05 08 58.2**	**-0.4**
PLCA	**Paso Flores**	**4.02**	**143**	*eP*		**Pn**	**05 09 06.4**	**+0.3**
PLCA	**Paso Flores**	**4.02**	**143**	P		**Pn**	**05 09 06.7**	**+0.6**
	comp=E,1.1nm,0.3s,baz=326,slow=13,SNR=25							
PLCA				S		**Sn**	**05 09 50.0**	**-1.9**
	comp=E,4.1nm,0.3s,baz=352,slow=13,SNR=4.8							
PLCA				Lg		Lg	05 10 07.7	
	comp=E,3.0nm,0.3s,baz=75,slow=23,SNR=3.0							
LMEL	**Las Melosas**	**4.70**	**39**	*eP*		**Pn**	**05 09 15.8**	**+0.1**
ANTU	**Antumapu**	**4.73**	**33**	*eP*		**Pn**	**05 09 15.8**	**-0.1**
PEL	**Peldehue**	**5.08**	**30**	*eP*		**Pn**	**05 09 19.4**	**-1.3**
CFA	**Coronel Fontan**	**7.49**	**39**	P		**Pn**	**05 09 52.2**	**-1.5**
	comp=E,2.0nm,0.3s,baz=210,slow=13,SNR=24							
CFA				S		**Sn**	**05 11 15.8**	**-1.6**
	comp=E,1.6nm,0.3s,baz=171,slow=22,SNR=1.7							

CFA				Lg	Lg	05 11 35.8	
	comp=E,0.9nm,0.3s,baz=111,slow=22,SNR=2.1						
LVC	**Limon Verde**	**15.48**	**17**	P	**P**	**05 11 48.8**	**+1.6**
	comp=E,0.4nm,0.3s,baz=177,slow=12,SNR=4.3						
CPUP	**Villa Florida**	**17.85**	**56**	P	**Pn**	**05 12 10.7**	**-1.9**
	comp=E,0.1nm,0.3s,baz=236,slow=18,SNR=2.9						
LPAZ	**La Paz**	**21.77**	**15**	P	**P**	**05 12 57.3**	**+0.9**
	comp=E,2.8nm,0.9s,baz=198,slow=9.6,SNR=7.7						
SIV	**San Ignacio**	**24.24**	**31**	P	**P**	**05 13 20.3**	**-0.4**
	comp=E,2.3nm,0.8s,baz=220,slow=18,SNR=14						
JTS	**Las Juntas de**	**48.76**	**345**	P	**P**	**05 16 49.2**	**+0.7**
	comp=E,5.8nm,0.9s,baz=165,slow=12,SNR=2.8						
TXAR	**Lajitas Array**	**72.22**	**333**	P	**P**	**05 19 29.9**	**+1.4**
	comp=E,0.8nm,0.9s,baz=160,slow=9.1,SNR=8.1						
DBIC	**Dimbokro**	**77.63**	**72**	P	**P**	**05 19 58.8**	**-1.2**
	comp=E,5.0nm,1.1s,baz=211,slow=5.9,SNR=3.7						
PDAR	**Pinedale Array**	**86.35**	**334**	P	**P**	**05 20 46.3**	**+0.9**
	comp=E,0.2nm,0.4s,baz=138,slow=5.7,SNR=2.4						
TORD	**Torodi Ar. Bea**	**86.71**	**71**	P	**P**	**05 20 46.0**	**-1.5**
	comp=E,0.5nm,0.8s,baz=233,slow=4.7,SNR=2.7						
AAK	**Ala-Archa**	**155.27**	**68**	PKPbc	PKPdf	05 28 04.8	+8.4
	comp=E,0.8nm,0.4s,baz=225,slow=5.7,SNR=2.5						
AAK				PKPab	**PKPab**	**05 28 20.8**	**-0.9**
	comp=E,0.7nm,0.4s,baz=333,slow=4.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**156.36**	**48**	PKPab	**PKPab**	**05 28 24.3**	**-1.6**
	comp=E,0.6nm,0.8s,baz=293,slow=5.6,SNR=3.4						
MKAR	**Makanchi Array**	**160.06**	**55**	PKPab	**PKPab**	**05 28 41.4**	**-0.7**
	comp=E,0.3nm,0.6s,baz=289,slow=4.4,SNR=2.8						

IDC 15 05:18:17.4±2.4, 4°59'N×95°67'E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/46, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=72.2km s-min=22.8km az=47.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.70**	**119**	Pn	Pn	05 19 18.3	+2.4
	1.0nm,0.3s,baz=302,slow=9.5,SNR=4.4						
PSI				Sn	Sn	05 20 03.0	+2.6
	1.4nm,0.3s,baz=10,slow=9.6,SNR=2.2						
PSI				Lg	Lg	05 20 16.4	
	3.2nm,0.3s,baz=93,slow=23,SNR=6.3						
CMAR	**Chiang Mai Arr**	**14.15**	**13**	Pn	P	05 21 48.4	+1.3
	baz=197,slow=12,SNR=2.7						
H08S2	**Diego Garcia H**	**26.12**	**242**	T	T	05 50 51.9	
	baz=62,slow=76,SNR=7.4						
H08S3	**Diego Garcia H**	**26.12**	**242**	T	T	05 50 52.2	
	baz=62,slow=76,SNR=6.9						
H08S1	**Diego Carcia H**	**26.14**	**242**	T	T	05 50 52.8	
	baz=62,slow=76,SNR=6.4						
SONM	**Songino Array**	**44.06**	**10**	P	P	05 26 27.2	+0.1
	0.4nm,0.7s,baz=189,slow=8.3,SNR=2.3						
WRA	**Warramunga Arr**	**45.15**	**124**	P	P	05 26 35.3	-0.9
	0.6nm,0.6s,baz=305,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**46.67**	**129**	P	P	05 26 48.1	0.0
	0.6nm,0.5s,baz=297,slow=7.8,SNR=6.7						

IDC 15 05:50:11.7±13.0, 18°01'S×178°11'W, h403km±150km, mb3.2/6, mb1 3.4/6, mb1mx3.1/28, mbtmp3.9/6, Error ellipse: s-maj=71.3km s-min=27.8km az=2.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.61**	**191**	P	P	05 54 20.8	-0.5
	3.7nm,0.6s,baz=23,slow=7.7,SNR=3.0						
STKA	**Stephens Creek**	**38.83**	**241**	P	P	05 57 00.8	+0.8
	2.9nm,0.7s,baz=87,slow=8.7,SNR=4.6						
WRA	**Warramunga Arr**	**44.89**	**260**	P	P	05 57 47.8	-0.7
	0.5nm,0.5s,baz=94,slow=6.6,SNR=10						
ASAR	**Alice Springs**	**45.04**	**254**	P	P	05 57 49.8	+0.1
	6.2nm,0.6s,baz=89,slow=8.4,SNR=66						
NVAR	**Mina Array Bea**	**79.30**	**44**	P	P	06 01 34.0	-0.1
	0.2nm,0.5s,baz=224,slow=7.6,SNR=2.5						
TXAR	**Lajitas Array**	**85.81**	**58**	P	P	06 02 08.0	+0.6
	0.2nm,0.7s,baz=234,slow=4.3,SNR=2.3						
BRTR	**Keskin Array B**	**145.05**	**315**	PKPbc	PKPdf	06 09 01.4	-0.8
	0.7nm,0.5s,baz=90,slow=2.0,SNR=4.0						
GERES	**GERESS Array B**	**147.78**	**345**	PKPbc	PKPbc	06 09 09.3	-0.6
	0.2nm,0.3s,baz=48,slow=1.6,SNR=1.3						

MEX 15 06:05:36.1±0.6, 14°33'N×92°42'W, h14km±53km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.57**	**331**	*i* P	Pn	06 05 59.8	-3.7
PCIG				*e*S	Sn	06 06 18.5	-5.2
CCIG	**Comitan**	**1.96**	**8**	*e*P	Pn	06 06 05.4	-3.7
CCIG				*i* S	Sn	06 06 28.7	-4.9
CMIG	**Matias Romero**	**3.63**	**320**	*e*P	Pn	06 06 29.5	-2.4
CMIG				*i* S	Sn	06 07 10.8	-3.8

*ISK **15** 06:24:08.6, 38°.97N×26°.06E, h10km, ML2.9/25*
*DDA **15** 06:24:09.0, 39°.00N×26°.07E, h22km±4km, ML3.0*
*THE **15** 06:24:09.8, 38°.99N×26°.08E, h5km±1km, ML2.5/7, Error ellipse: s-maj=1.8km s-min=0.7km az=285.0*
*ATH **15** 06:24:09.4, 38°.98N×26°.07E, h16km±2km, ML2.5/6, Error ellipse: s-maj=2.9km s-min=0.9km az=28.0*
*ISCJB **15** 06:24:10.0±0.4, 38°.98N±0°.02×26°.07E±0°.03, h16km±5km, Error ellipse: s-maj=4.2km s-min=3.0km az=167.5*

ISC 15 06:24:09.1±0.8, 38°.99N±0°.02×26°.07E±0°.02, h17km±6km, n55, σ0°84/77, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.28**	**323**	PG	**Pg**	**06 24 15.1**	**-0.2**
SIGR				SG	**Sg**	**06 24 19.5**	**0.0**
SIGR	**SIGRI**	**0.28**	**323**	P	**Pg**	**06 24 15.1**	**-0.2**
SIGR				S	**Sg**	**06 24 19.7**	**+0.2**
SIGR	**SIGRI**	**0.28**	**323**	P	**Pg**	**06 24 15.1**	**-0.2**
SIGR				S	**Sg**	**06 24 19.7**	**+0.2**
SIGR				AML	AML	06 24 20.1	
	comp=E,4590μm,0.4s						
SIGR				AML	AML	06 24 22.0	
	comp=N,2762μm,0.6s						
PRK	**Paraskevi**	**0.30**	**30**	P	**Pb**	**06 24 16.3**	**+0.3**
PRK				S	**Sg**	**06 24 20.1**	**0.0**
PRK	**Paraskevi**	**0.30**	**30**	P	**Pb**	**06 24 16.4**	**+0.4**
PRK				S	**Sb**	**06 24 20.8**	**+0.1**
PRK				AML	AML	06 24 21.7	
	comp=N,5268μm,0.4s						
PRK				AML	AML	06 24 22.0	
	comp=E,3882μm,0.5s						
GPNR	**Gulpinar-Canak**	**0.47**	**6**	PG	**Pg**	**06 24 18.7**	**+0.1**
GPNR				SG	**Sb**	**06 24 26.0**	**+0.4**
KRBN	**Karaburun**	**0.54**	**136**	PG	**Pg**	**06 24 19.6**	**-0.3**
CAND	**Candarli**	**0.57**	**93**	PG	**Pg**	**06 24 20.6**	**+0.2**
AYVA	**Ayvalik**	**0.58**	**56**	IAML_P			
	comp=Z,1μm,0.1s						
AYVA				*i* P	**Pg**	**06 24 20.6**	**+0.1**
AYVA				*i* S	**Sb**	**06 24 29.4**	**+0.9**
FOCM	**Foa**	**0.58**	**118**	PG	**Pg**	**06 24 20.6**	**0.0**
PSRA	**Psara**	**0.60**	**222**	P	**Pb**	**06 24 21.4**	**+0.4**
CHOS	**Chios island**	**0.60**	**181**	PG	**Pg**	**06 24 20.5**	**-0.5**
CHOS	**Chios island**	**0.60**	**181**	P	**Pg**	**06 24 20.5**	**-0.5**
CHOS				S	**Sb**	**06 24 31.0**	**+1.8**
CHOS	**Chios island**	**0.60**	**181**	P	**Pg**	**06 24 20.6**	**-0.3**
CHOS				S	**Sg**	**06 24 29.4**	**+0.4**
CHOS				AML	AML	06 24 34.0	
	comp=E,1937μm,0.4s						
CHOS				AML	AML	06 24 34.4	
	comp=N,793μm,0.3s						
CESE	**eme**	**0.68**	**165**	PG	**Pg**	**06 24 22.1**	**-0.3**
URLA	**Izmir**	**0.75**	**147**	PG	**Pg**	**06 24 23.2**	**-0.5**
URLA	**Izmir**	**0.75**	**147**	IAML_P			
	comp=Z,4μm,0.1s						
URLA				*i* P	**Pg**	**06 24 23.1**	**-0.6**
URLA				*i* S	**Sn**	**06 24 36.0**	**+0.3**
ZEDA	**zmir-Bergama**	**0.78**	**91**	IAML_P			
	comp=Z,6μm,0.1s						
ZEDA				*i* P	**Pb**	**06 24 24.3**	**+0.1**
ZEDA				*i* S	**Sn**	**06 24 36.2**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.84**	**26**	IAML_P			
	comp=Z,3μm,0.1s						
BAYC				*i* P	**Pn**	**06 24 27.0**	**+0.9**
BAYC				*i* S	**Sn**	**06 24 38.3**	**+0.3**
BOZC	**Bozcaada**	**0.85**	**359**	PG	**Pb**	**06 24 25.5**	**+0.1**
BOZC	**Bozcaada**	**0.85**	**359**	IAML_P			
	comp=Z,3μm,0.2s						
BOZC				*i* P	**Pb**	**06 24 25.6**	**+0.2**
BOZC				*i* S	**Sn**	**06 24 38.9**	**+0.5**
EZN	**Ezine**	**0.86**	**13**	PG	**Pb**	**06 24 25.9**	**+0.4**
EZN	**Ezine**	**0.86**	**13**	P	**Pb**	**06 24 25.7**	**+0.2**
EZN				S	**Sg**	**06 24 37.9**	**+0.7**
LIA	**Limnos Island**	**1.14**	**323**	P	**Pb**	**06 24 30.8**	**+0.5**
LIA				S	**Sg**	**06 24 47.3**	**+1.1**
LIA	**Limnos Island**	**1.14**	**323**	P	**Pg**	**06 24 31.0**	**-0.1**
LIA				S	**Sn**	**06 24 46.0**	**+0.5**
LIA				AML	AML	06 24 48.3	
	comp=E,407μm,0.3s						
LIA				AML	AML	06 24 49.1	
	comp=N,359μm,0.3s						
SKY	**Skiros Island**	**1.19**	**265**	P	**Pg**	**06 24 32.4**	**+0.3**
SKY	**Skiros Island**	**1.19**	**265**	P	**Pg**	**06 24 32.6**	**+0.5**
SKY				S	**Sg**	**06 24 48.4**	**+0.7**
SKY				AML	AML	06 24 51.3	
	comp=N,194μm,0.3s						
SKY				AML	AML	06 24 54.0	
	comp=E,219μm,0.3s						
SMG	**Samos**	**1.41**	**155**	P	**Pn**	**06 24 35.0**	**+1.1**
SMG				S	**Sg**	**06 24 54.6**	**0.0**
SMG	**Samos**	**1.41**	**155**	P	**Pb**	**06 24 35.8**	**+0.9**
SMG				S	**Sg**	**06 24 54.9**	**+0.4**
SMG				AML	AML	06 24 58.6	
	comp=N,260μm,0.6s						
SMG				AML	AML	06 24 58.7	
	comp=E,329μm,0.5s						
GELI	**Tayfur-Gelibol**	**1.44**	**12**	PN	**Pb**	**06 24 36.2**	**+0.7**
LPK	**Lapseki**	**1.48**	**21**	PN	**Pb**	**06 24 36.2**	**+0.1**
SMTH	**Samothraki Isl**	**1.54**	**344**	P	**Pb**	**06 24 37.8**	**+0.7**
SMTH				S	**Sg**	**06 24 58.0**	**-0.8**
SMTH	**Samothraki Isl**	**1.54**	**344**	P	**Pg**	**06 24 38.5**	**-0.2**
BALB	**Balikesir**	**1.55**	**64**	PN	**Pn**	**06 24 36.4**	**+0.6**
GCAM	**G?zelcaml?**	**1.57**	**144**	PN	**Pn**	**06 24 36.7**	**+0.6**
GONE	**Gonen-Balikesi**	**1.64**	**49**	PN	**Pb**	**06 24 38.5**	**-0.2**
KRBG	**Karabiga-Canak**	**1.69**	**33**	PN	**Pn**	**06 24 38.9**	**+1.1**
ERIK	**Erikli-Kesan**	**1.72**	**11**	PN	**Pb**	**06 24 39.8**	**-0.3**
ENEZ	**Enez**	**1.75**	**2**	PN	**Pn**	**06 24 39.8**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.76**	**125**	PN	**Pn**	**06 24 40.1**	**+1.2**
RKY	**Sarkoy-Tekirda**	**1.90**	**26**	PN	**Pn**	**06 24 42.1**	**+1.4**
ALN	**Alexandroupoli**	**1.91**	**359**	PN	**Pn**	**06 24 41.9**	**+1.1**
ALN	**Alexandroupoli**	**1.91**	**359**	P	**Pn**	**06 24 42.2**	**+1.4**
ALN				S	**Sb**	**06 25 06.3**	**-0.6**
ALN	**Alexandroupoli**	**1.91**	**359**	P	**Pb**	**06 24 43.6**	**+0.2**
EDC	**Edincik**	**1.94**	**45**	PN	**Pn**	**06 24 42.6**	**+1.4**
APE	**Apeiranthos**	**1.96**	**193**	PN	**Pn**	**06 24 41.8**	**+0.3**
APE	**Apeiranthos**	**1.96**	**193**	P	**Pn**	**06 24 41.5**	**0.0**
DURS	**Dursunbey**	**1.96**	**71**	IAML_P			
	comp=Z,417nm,0.3s						
DURS				*i* P	**Pn**	**06 24 42.1**	**+0.5**
DURS				*i* S	**Sb**	**06 25 08.6**	**+0.1**
MANT	**Manisa**	**2.00**	**103**	IAML_P			
	comp=Z,251nm,0.3s						
MANT				*i* P	**Pg**	**06 24 47.8**	**+0.2**
OUR	**Ouranopolis**	**2.10**	**310**	PN	**Pn**	**06 24 44.4**	**+1.0**
KCTX	**Karacabey (Bur**	**2.18**	**53**	PN	**Pn**	**06 24 45.7**	**+1.2**
RDO	**Rodhopi**	**2.20**	**349**	PN	**Pn**	**06 24 46.5**	**+1.8**
ARMT	**Armutlu**	**2.67**	**53**	PN	**Pn**	**06 24 53.0**	**+1.8**
TVSB	**Tavsanli**	**2.67**	**79**	PN	**Pn**	**06 24 52.8**	**+1.4**
KRUC	**Moravsky**	**12.23**	**329**	*e*PG	**Pn**	**06 26 58.8**	**-3.6**
KRUC				*e*SG		06 27 08.7	

*ISK **15** 06:30:23.5, 38°.30N×38°.12E, h10km, ML2.0/6, Suspected Mining explosion.*
*ISCJB **15** 06:30:24.8±0.5, 38°.30N±0°.03×38°.18E±0°.03, h0km, Error ellipse: s-maj=4.0km s-min=3.3km az=172.0*
*DDA **15** 06:30:24.7, 38°.31N×38°.18E, h10km±5km, ML2.9*

ISC 15 06:30:23.8±0.8, 38°.31N±0°.03×38°.20E±0°.03, h0km, n15, σ0°75/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.22**	**267**	*i* P	**Pg**	**06 30 28.6**	**+0.6**
AKCD				*i* S	**Sg**	**06 30 32.3**	**+1.5**
HEKM	**Malatya_Hekimh**	**0.60**	**342**	IAML_P			
	comp=Z,4μm,0.1s						
HEKM				*i* P	**Pb**	**06 30 37.0**	**-0.4**
HEKM				*i* S	**Sb**	**06 30 46.3**	**-0.2**
DARE	**Darende-Malaty**	**0.62**	**295**	PG	**Pg**	**06 30 34.9**	**-0.8**
DARE				SG	**Sg**	**06 30 43.3**	**-0.4**
ELZG	**Elazig**	**0.65**	**73**	IAML_P			
	comp=Z,2μm,0.1s						
ELZG				*i* P	**Pb**	**06 30 37.7**	**-0.4**
ELZG				*i* S	**Sb**	**06 30 48.4**	**+0.6**
CUGUR	**Gurin_SVAS**	**0.84**	**300**	*i* P	**Pb**	**06 30 40.7**	**-0.6**
CUGUR				*i* S	**Sb**	**06 30 54.4**	**+1.2**
ELBS	**KAHRAMANMARAS**	**0.84**	**272**	IAML_P			
	comp=Z,669nm,0.2s						
ELBS				*i* P	**Pg**	**06 30 40.4**	**+0.6**
ELBS				*i* S	**Sb**	**06 30 53.1**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.88**	**85**	PG	**Pb**	**06 30 41.7**	**-0.3**
SVRC				SG	**Sb**	**06 30 55.6**	**+1.3**
KEMA	**Kemaliye**	**0.99**	**13**	IAML_P			
	comp=Z,592nm,0.1s						
KEMA				*i* P	**Pg**	**06 30 42.9**	**+0.1**
KEMA				*i* S	**Sb**	**06 30 57.5**	**0.0**
URFA	**Urfa**	**1.00**	**150**	PG	**Pb**	**06 30 43.7**	**-0.3**
GZT	**Gaziantep**	**1.07**	**208**	*i* P	**Pn**	**06 30 46.4**	**+0.2**
GZT				*i* S	**Sn**	**06 31 02.0**	**+0.1**
CUKAN	**kangal_SIVAS**	**1.16**	**331**	*i* P	**Pn**	**06 30 47.5**	**+0.1**
CUKAN				*i* S	**Sn**	**06 31 04.3**	**+0.3**
KMRS	**Kahramanmaras**	**1.30**	**232**	PN	**Pg**	**06 30 47.5**	**-1.2**
GAZ	**Gaziantep**	**1.38**	**215**	PN	**Pg**	**06 30 48.9**	**-1.3**
HCB	**Kahramanmara**	**1.40**	**227**	IAML_P			
	comp=Z,1μm,0.2s						
HCB				*i* P	**Pb**	**06 30 50.8**	**-0.1**
HCB				*i* S	**Sn**	**06 31 10.6**	**+0.8**
SVSK	**Karacayir**	**1.86**	**330**	PN	**Pn**	**06 30 55.9**	**-1.0**

*IDC **15** 06:33:33.9±60.0, 5°.08S×106°.65E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/26, mbtmp3.8/3, Error ellipse: s-maj=1066.0km s-min=248.4km az=144.0*
*ISCJB **15** 06:34:05.4±0.8, 7°.94S±0°.09×107°.64E±0°.05, h100km, mb3.5/3, Error ellipse: s-maj=13.4km s-min=4.9km az=24.6*
*DJA **15** 06:34:07.3±0.5, 7°.S±7°×10°.8E±°, h128km±5km, M3.8/9, mb4.1/1, MLv3.7/9*

ISC 15 06:34:07.0±1.1, 7°.9S±0°.1×107°.63E±0°.06, h100km, n11, σ2°43/18, mb3.4/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.40**	**27**	P	**Pn**	**06 34 26.5**	**+4.3**
CISI				S	**Sn**	**06 34 40.6**	**+7.1**
LEM	**Lembang**	**1.08**	**359**	P	**Pn**	**06 34 27.0**	**-1.5**
LEM				S	**Sn**	**06 34 43.0**	**-1.6**
SKJI	**Sukabumi**	**1.40**	**310**	P	**Pn**	**06 34 31.9**	**-0.1**
SKJI				S	**Sn**	**06 34 53.3**	**+2.4**
CGJI	**Cibinong**	**2.32**	**304**	P	**Pn**	**06 34 43.3**	**-0.4**
CGJI				S	**Sn**	**06 35 10.2**	**-1.6**
UGM	**Wanagama**	**2.86**	**90**	P	**Pn**	**06 34 51.3**	**+0.4**
UGM				S	**Sn**	**06 35 25.2**	**+0.4**
PCJI	**Pacitan**	**3.52**	**95**	P	**Pn**	**06 34 59.8**	**+0.1**
PCJI				S	**Sn**	**06 35 39.1**	**-1.4**
PWJI	**Pagerwojo**	**4.13**	**92**	P	**Pn**	**06 35 08.1**	**+0.1**
PWJI				S	**Sn**	**06 35 54.5**	**-0.8**
JAGI	**Jajag, Banyuwa**	**6.48**	**95**	P	**Pn**	**06 35 39.8**	**0.0**
WRA	**Warramunga Arr**	**28.49**	**118**	P	**P**	**06 39 51.3**	**-1.8**
	0.5nm,0.7s,baz=308,slow=8.8,SNR=10						
ASAR	**Alice Springs**	**29.65**	**125**	P	**P**	**06 40 02.9**	**-0.5**
	0.6nm,0.7s,baz=297,slow=8.8,SNR=5.9						
STKA	**Stephens Creek**	**39.57**	**132**	P	**P**	**06 41 28.6**	**+0.1**
	1.4nm,0.6s,baz=321,slow=11,SNR=4.1						

*IDC **15** 06:45:30.3±1.4, 62°.90N×149°.03W, h56km±18km, mb2.8/2, mb1 3.3/6, mb1mx3.0/36, mbtmp3.2/6, ML3.0/4, Error ellipse: s-maj=23.5km s-min=9.7km az=110.0*
*ISCJB **15** 06:45:31.1±0.3, 62°.88N±0°.02×148°.71W±0°.05, h78km±4km, mb3.0/2, Error ellipse: s-maj=4.0km s-min=2.9km az=168.2*
*NEIC **15** 06:45:32.2±0.0, 62°.86N×148°.70W, h61km, ML3.1(AEIC), After AEIC.*

ISC 15 06:45:31.9±0.9, 62°.89N±0°.03×148°.72W±0°.04, h67km±8km, n70, σ0°90/91, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.43**	**283**	*e*Pn	**Pn**	**06 45 44.0**	**+0.3**
RND	**Reindeer**	**0.53**	**353**	*e*Pn	**Pn**	**06 45 45.1**	**+0.3**
RND				*e*Sn	**Sn**	**06 45 54.7**	**+0.5**
DHY	**Denali Highway**	**0.64**	**72**	*e*Pn	**Pn**	**06 45 45.6**	**-0.5**
DHY				*e*Sn	**Sn**	**06 45 56.5**	**0.0**
MCK	**McKinley**	**0.86**	**353**	*e*Pn	**Pn**	**06 45 49.1**	**+0.7**
MCK				*e*Sn	**Sn**	**06 46 01.9**	**+1.2**
SML	**Sawmill**	**1.10**	**170**	*e*Pn	**Pn**	**06 45 50.9**	**-0.5**
GHO	**Glory Hole Cre**	**1.12**	**185**	*e*Pn	**Pn**	**06 45 51.6**	**-0.3**
GHO				*e*Pn	**Pn**	**06 45 51.6**	**-0.3**
GHO				*e*Sn	**Sn**	**06 46 05.7**	**-1.0**
GHO				*e*Sn	Sn	06 46 05.8	-0.9
SCM	**Sheep Creek Mo**	**1.24**	**148**	*e*Pn	**Pn**	**06 45 52.6**	**-0.8**
SCM				*e*Sn	**Sn**	**06 46 09.4**	**0.0**
PMR	**Palmer**	**1.31**	**189**	*e*Pn	**Pn**	**06 45 54.2**	**0.0**
BWN	**Browne**	**1.33**	**346**	*e*Pn	**Pn**	**06 45 55.1**	**+0.5**
BWN				*e*Pn	Pn	06 45 55.2	+0.6
PS10	**TAPS Pump St10**	**1.44**	**67**	*e*Pn	**Pn**	**06 45 57.1**	**+1.1**
KNK	**Knik Glacier**	**1.48**	**175**	*e*Pn	**Pn**	**06 45 56.9**	**+0.4**
KNK				*e*Pn	Pn	06 45 57.0	+0.4
KNK				*e*Sn	**Sn**	**06 46 15.5**	**+0.4**
PAX	**Paxson**	**1.49**	**85**	*e*Pn	**Pn**	**06 45 57.1**	**+0.5**
PAX				*e*Sn	**Sn**	**06 46 15.6**	**+0.3**
BPAW	**Bear Paw Mtn.**	**1.59**	**321**	*e*Pn	**Pn**	**06 45 58.3**	**+0.3**
PPLA	**Purkeypile**	**1.59**	**272**	*e*Pn	**Pn**	**06 45 58.9**	**+0.8**
WRH	**Wood River Hil**	**1.62**	**10**	*e*Pn	**Pn**	**06 45 58.5**	**+0.2**
WRH				*e*Sn	**Sn**	**06 46 17.2**	**-1.0**
CAST	**Castle Rocks**	**1.62**	**291**	*e*Pn	**Pn**	**06 45 59.0**	**+0.6**
CAST				*e*Sn	**Sn**	**06 46 18.9**	**+0.6**
PS11	**TAPS Pump St11**	**1.71**	**117**	*e*Pn	**Pn**	**06 46 00.7**	**+1.2**
HARP	**HAARP**	**1.71**	**105**	*e*Pn	**Pn**	**06 46 00.6**	**+1.0**
HARP				*e*		06 46 00.8	
HARP				*e*Sn	**Sn**	**06 46 22.1**	**+1.5**
HDA	**Harding Lake**	**1.72**	**26**	*e*Pn	**Pn**	**06 45 59.9**	**+0.2**
CCB	**Clear Creek Bu**	**1.81**	**12**	*e*Pn	**Pn**	**06 46 00.9**	**0.0**
PS08	**TAPS Pump Stn8**	**1.87**	**26**	*e*Pn	**Pn**	**06 46 01.7**	**+0.1**
RC01	**Rabbit Creek A**	**1.87**	**195**	*e*Pn	**Pn**	**06 46 02.8**	**+1.2**
CHUM	**Lake Minchumin**	**1.91**	**303**	*e*Pn	**Pn**	**06 46 02.8**	**+0.7**
KLU	**Klutina**	**1.92**	**136**	*e*Pn	**Pn**	**06 46 02.5**	**+0.1**
KLU				*e*Sn	**Sn**	**06 46 25.3**	**-0.2**
RIDG	**Independent Ri**	**1.95**	**62**	*e*Pn	**Pn**	**06 46 03.8**	**+1.0**
COLA	**College**	**2.03**	**10**	*e*Pn	**Pn**	**06 46 04.2**	**+0.4**
COLA				*e*Sn	**Sn**	**06 46 27.2**	**-1.0**
ILAR	**Eielson Array**	**2.06**	**22**	P	**Pn**	**06 46 04.2**	**0.0**
	3.2nm,0.3s,baz=206,slow=14,SNR=97						
ILAR				S	**Sn**	**06 46 28.5**	**-0.4**
	14nm,0.3s,baz=206,slow=23,SNR=46						
ILB	**Eielson Array**	**2.06**	**22**	*e*Pn	**Pn**	**06 46 04.1**	**-0.1**
ILB				*e*Sn	**Sn**	**06 46 28.5**	**-0.4**
JPK	**Jack Peak**	**2.09**	**150**	*e*Pn	**Pn**	**06 46 04.7**	**0.0**
MDM	**Murphy Dome**	**2.09**	**6**	*e*Pn	**Pn**	**06 46 05.0**	**+0.3**
MDM				*e*Sn	**Sn**	**06 46 28.6**	**-1.2**
VMT	**TAPS Tl Valdez**	**2.12**	**147**	*e*Pn	**Pn**	**06 46 05.5**	**+0.5**
GLI	**Glacier Island**	**2.15**	**158**	*e*Pn	**Pn**	**06 46 05.5**	**-0.1**
PS12	**TAPS Pump St12**	**2.19**	**129**	*e*Pn	**Pn**	**06 46 06.4**	**+0.4**
DOT	**Dot Lake**	**2.24**	**68**	*e*Pn	**Pn**	**06 46 07.1**	**+0.4**
DIV	**Divide**	**2.24**	**140**	*e*Pn	**Pn**	**06 46 06.2**	**-0.6**
DIV				*e*Sn	**Sn**	**06 46 33.5**	**0.0**
MLY	**Manley**	**2.33**	**338**	*e*Pn	**Pn**	**06 46 08.6**	**+0.6**
SCRK	**Sand Creek**	**2.39**	**61**	*e*Pn	**Pn**	**06 46 09.4**	**+0.5**
SCRK				*e*Sn	**Sn**	**06 46 37.5**	**+0.4**
PS07	**TAPS Pump Stn7**	**2.44**	**4**	*e*Pn	**Pn**	**06 46 10.2**	**+0.8**
EYAK	**Cordova Ski Ar**	**2.74**	**148**	*e*Pn	**Pn**	**06 46 14.0**	**+0.6**
SEW	**Seward**	**2.81**	**188**	*e*Pn	**Pn**	**06 46 15.6**	**+1.1**
PRP	**Porcupine Dome**	**2.99**	**26**	*e*Pn	**Pn**	**06 46 17.5**	**+0.5**
MCARA	**McCarthy VSAT**	**3.07**	**117**	*e*Pn	**Pn**	**06 46 18.7**	**+0.7**
RSO	**Redoubt South**	**3.10**	**220**	*e*Pn	**Pn**	**06 46 22.0**	**+3.4**
BCA3	**Beaver Creek A**	**3.17**	**84**	*e*Pn	**Pn**	**06 46 19.4**	**+0.1**
BRLK	**Bradley Lake**	**3.30**	**199**	*e*Pn	**Pn**	**06 46 21.9**	**+0.8**
BRLK				*e*Pn	Pn	06 46 22.1	+1.0
HMT	**Hamilton**	**3.33**	**138**	*e*Pn	**Pn**	**06 46 22.0**	**+0.5**
TT01	**Tatalina**	**3.34**	**274**	*e*Pn	**Pn**	**06 46 22.0**	**+0.3**
TT01				*e*Pn	**Pn**	**06 46 22.0**	**+0.3**
TGL	**Tana Glacier

0.8nm,0.3s
KZA Kyzart 3.44 71⇑iP Pn 07 01 11.9 +1.0
baz=76
KZA ⇑iS Sn 07 01 52.8 +0.6
baz=76
TKM2 Tokmak 2 3.99 60 ⇓Pg Pb 07 01 26.9 -0.4
1.0nm,0.6s
TKM2 ⇓Lg Lg 07 02 08.8
1.0nm,0.6s

IDC 15 07:04:47.6±4.7, 28°56'S×71°58'E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/54, mbtmp4.1/3, Error ellipse: s-maj=171.6km s-min=40.4km az=41.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**20.82**	**2**	T	T	07 30 41.2	
	baz=182,slow=76,SNR=26						
H08S2	**Diego Garcia H**	**20.82**	**3**	T	T	07 30 41.2	
	baz=182,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**20.83**	**3**	T	T	07 30 42.4	
	baz=182,slow=76,SNR=17						
ASAR	**Alice Springs**	**55.63**	**100**	P	P	07 14 25.6	-0.1
	1.6nm,0.8s,baz=251,slow=6.5,SNR=15						
WRA	**Warramunga Arr**	**57.31**	**96**	P	P	07 14 37.6	-0.1
	2.6nm,0.9s,baz=246,slow=6.3,SNR=12						
SONM	**Songino Array**	**82.23**	**23**	P	P	07 17 10.2	-0.4
	1.0nm,0.7s,baz=203,slow=5.6,SNR=6.2						
YKA	**Yellowknife Ar**	**145.81**	**5**	PKPbc	PKPdf	07 24 27.6	+0.1
	1.6nm,0.7s,baz=330,slow=3.5,SNR=12						

*ISK **15** 07:09:57.9, 39°02'N×41°18'E, h6km, ML4.4/11*
*NEIC **15** 07:09:58.0±0.0, 39°02'N×41°18'E, h5km, mb4.0/7, ML4.4(ISK), After ISK.*
*DDA **15** 07:09:58.5, 39°01'N×41°18'E, h16km±1km, ML4.4*
*AZER **15** 07:09:59.1±3.3, 39°13'N×40°89'E, h16km, ml4.2/6, Error ellipse: s-maj=40.2km s-min=18.4km az=129.0*
*IDC **15** 07:09:59.3±0.9, 39°10'N×41°18'E, h0km, mb3.8/9, mb1 4.0/17, mb1mx3.8/61, mbtmp3.9/17, ML3.7/7, MS3.4/28, Ms1 3.4/28, ms1mx3.3/52, Error ellipse: s-maj=16.0km s-min=9.0km az=166.0*
*MOS **15** 07:09:59.1±1.2, 39°03'N×41°07'E, h11km, mb4.3/17, Error ellipse: s-maj=7.0km s-min=4.0km az=76.8*
ISC 15 07:10:00.6±0.7, 39°01'N±0°01'×41°20'E±0°01', h13km±4km, n212, σ1§84/232, mb4.2/25, MS3.4/19, 34C-27D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.07**	**214**	⇓iP	**Pg**	**07 10 02.0**	**-1.5**
BNGL				iS	**Sg**	**07 10 04.6**	**-1.0**
VRTB	**Varto-Mus**	**0.25**	**53**	PG	**Pb**	**07 10 05.2**	**-1.9**
VRTB				SG	**Sb**	**07 10 09.0**	**-2.4**
VRTB	**Varto-Mus**	**0.25**	**53**	IAML_P			
	comp=Z,257μm,0.2s						
VRTB				⇓iP	**Pb**	**07 10 05.4**	**-1.7**
VRTB				iS	**Sb**	**07 10 10.7**	**-0.7**
KARO	**Karliova-Bingo**	**0.32**	**339**	PG	**Pg**	**07 10 05.3**	**-2.0**
KARO				SG	**Sb**	**07 10 10.6**	**-2.9**
MUSM	**Mu-Merkez**	**0.37**	**139**	IAML_P			
	comp=Z,92μm,0.1s						
MUSM				⇑iP	**Pg**	**07 10 06.2**	**-2.0**
MUSM				iS	**Sg**	**07 10 11.7**	**-1.6**
BNGB	**Bingl**	**0.40**	**268**	PG	**Pg**	**07 10 06.9**	**-1.8**
BNGB				SG	**Sb**	**07 10 13.4**	**-2.3**
BINT	**Bingol**	**0.57**	**257**	P	Pg	07 10 06.8	-5.0
ECAT	**Cat-ERZURUM**	**0.62**	**344**	⇓iP	**Pg**	**07 10 11.0**	**-1.8**
ECAT				iS	**Sb**	**07 10 20.5**	**-1.7**
YEDI	**Yedisu-Bingol**	**0.67**	**311**	PG	**Pg**	**07 10 11.2**	**-2.4**
YEDI				SG	**Sb**	**07 10 21.6**	**-1.7**
SVAN	**Silvan-Diyarba**	**0.85**	**180**	PG	**Pb**	**07 10 15.9**	**-1.4**
SVAN				SG	**Sn**	**07 10 28.8**	**-1.9**
SVAN	**Silvan-Diyarba**	**0.85**	**180**	IAML_P			
	comp=Z,120μm,0.2s						
SVAN				⇓iP	**Pn**	**07 10 16.4**	**-1.9**
SVAN				iS	**Sn**	**07 10 28.6**	**-2.1**
HANI	**Diyarbakir_Han**	**0.86**	**227**	IAML_P			
	comp=Z,20μm,0.1s						
HANI				⇓iP	**Pb**	**07 10 15.8**	**-1.6**
HANI				iS	**Sb**	**07 10 27.8**	**-1.0**
BLIS	**Bitlis-Merkez**	**0.93**	**129**	IAML_P			
	comp=Z,112μm,0.2s						
BLIS				⇑iP	**Pg**	**07 10 15.6**	**-3.0**
BLIS				iS	**Sb**	**07 10 29.3**	**-1.6**
MLAZ	**Malazgirt-MUS**	**1.06**	**82**	PG	**Pg**	**07 10 18.4**	**-2.7**
KOPR	**Koprukoy-ERZUR**	**1.11**	**27**	PN	**Pg**	**07 10 19.3**	**-2.6**
KOPR				SN	**Sn**	**07 10 36.9**	**-0.2**
BTMN	**Batman**	**1.11**	**177**	IAML_P			
	comp=Z,42μm,0.3s						
BTMN				⇓iP	**Pn**	**07 10 21.7**	**-0.2**
BTMN				iS	**Sn**	**07 10 37.4**	**+0.2**
KOPT	**Kop Dagi**	**1.15**	**332**	IAML_P			
	comp=Z,13μm,0.1s						
KOPT				⇓iP	**Pn**	**07 10 20.7**	**-1.9**
KOPT				iS	**Sn**	**07 10 38.9**	**+0.7**
SRTM	**Siirt_Merkez**	**1.16**	**150**	⇑iP	**Pn**	**07 10 21.9**	**-0.7**
SRTM				iS	**Sn**	**07 10 38.0**	**-0.3**
HOMI	**Horasan**	**1.17**	**28**	⇓iP	**Pb**	**07 10 20.6**	**-2.2**
HOMI				iS	**Sn**	**07 10 42.8**	**+4.0**
ADCV	**BITLIS_Adilcev**	**1.21**	**99**	IAML_P			
	comp=Z,14μm,0.2s						
ADCV				⇑iP	**Pn**	**07 10 21.8**	**-1.5**
ADCV				iS	**Sn**	**07 10 39.3**	**-0.3**
ERZN	**Erzincan**	**1.28**	**297**	PN	**Pb**	**07 10 22.7**	**-1.9**
ERZN				SN	**Sn**	**07 10 41.8**	**+0.4**
TNCL	**Tunceli-Merkez**	**1.29**	**275**	⇑iP	**Pn**	**07 10 22.6**	**-1.8**
TNCL				iS	**Sn**	**07 10 40.5**	**-1.1**
TUTA	**Tutak**	**1.32**	**72**	⇑iP	**Pn**	**07 10 22.7**	**-2.1**
TUTA				iS	**Sg**	**07 10 44.7**	**+1.6**
EATA	**Eleskirt**	**1.32**	**49**	IAML_P			
	comp=Z,26μm,0.3s						
EATA				⇓iP	**Pb**	**07 10 23.5**	**-1.8**
EATA				iS	**Sn**	**07 10 43.8**	**+1.3**
KRIK	**Erzurum-spir**	**1.34**	**351**	⇓iP	**Pb**	**07 10 24.0**	**-1.7**
KRIK				iS	**Sg**	**07 10 43.2**	**-0.8**
EUZM	**Uzumlu**	**1.36**	**301**	IAML_P			
	comp=Z,141μm,0.4s						
EUZM				⇑iP	**Pn**	**07 10 23.7**	**-1.6**
EUZM				iS	**Sn**	**07 10 41.7**	**-1.5**
DIYA	**Diyarbakir**	**1.37**	**218**	IAML_P			
	comp=Z,34μm,0.2s						
DIYA				⇓iP	**Pg**	**07 10 25.7**	**-1.3**
DIYA				iS	**Sg**	**07 10 44.5**	**-0.3**
BAYB	**BAYBURT**	**1.45**	**330**	IAML_P			
	comp=Z,21μm,0.3s						
BAYB				⇑iP	**Pg**	**07 10 26.3**	**-2.1**
BAYB				iS	**Sg**	**07 10 47.2**	**0.0**
AGRB	**Hanur-Agry**	**1.50**	**67**	PN	**Pb**	**07 10 27.0**	**-1.4**
AKDM	**Akdamar-Van**	**1.55**	**115**	PN	**Pb**	**07 10 27.8**	**-1.4**
BAYT	**Aydıntepe-Bayb**	**1.61**	**330**	PN	**Pg**	**07 10 28.9**	**-2.6**
SVRC	**Sivrice-ELAZIĞ**	**1.61**	**248**	PN	**Pb**	**07 10 28.6**	**-1.6**
GEVA	**Gevas**	**1.61**	**115**	⇑iP	**Pn**	**07 10 27.8**	**-1.1**
GEVA				iS	**Sg**	**07 10 52.9**	**+0.3**
MARD	**Mardin**	**1.72**	**191**	⇓iP	**Pb**	**07 10 30.8**	**-1.4**
MARD				iS	**Sg**	**07 10 55.5**	**-0.5**
VANB	**Van**	**1.76**	**103**	PN	**Pb**	**07 10 31.3**	**-1.5**
SIRN	**Sırnak**	**1.79**	**147**	⇑iP	**Pb**	**07 10 31.7**	**-1.5**
SIRN				iS	**Sg**	**07 10 56.4**	**-1.7**
SENK	**Senkaya-Erzuru**	**1.79**	**29**	PN	**Pb**	**07 10 31.0**	**-2.3**
TVAN	**Van**	**1.79**	**105**	⇑iP	**Pb**	**07 10 31.1**	**-2.2**
TVAN				iS	**Sg**	**07 10 58.5**	**+0.3**
ELZG	**Elazig**	**1.80**	**254**	⇑iP	**Pb**	**07 10 31.7**	**-1.8**
ELZG				iS	**Sg**	**07 11 00.8**	**+2.2**
VMUR	**Van-Muradiye**	**1.85**	**90**	⇑iP	**Pb**	**07 10 32.3**	**-2.0**
VMUR				iS	**Sg**	**07 11 00.4**	**+0.3**
KELT	**Kelkit**	**1.89**	**308**	⇑iP	**Pb**	**07 10 33.5**	**-1.4**
KELT				iS	**Sg**	**07 10 58.8**	**-2.4**
REFA	**Refahiye_ERZN**	**1.93**	**282**	⇑iP	**Pg**	**07 10 35.9**	**-1.7**
REFA				iS	**Sg**	**07 11 05.9**	**+3.2**
DDEM	**Demirkent**	**1.93**	**13**	iP	**Pb**	**07 10 33.3**	**-2.4**
DDEM				iS	**Sg**	**07 11 02.6**	**-0.1**
DYDN	**Diyadin**	**2.01**	**74**	⇑iP	**Pb**	**07 10 34.3**	**-2.7**
DYDN				iS	**Sg**	**07 11 04.5**	**-0.6**
DBAD	**Bademkaya**	**2.04**	**11**	⇓iP	**Pb**	**07 10 35.0**	**-2.6**
DBAD				iS	**Sg**	**07 11 02.9**	**-3.4**
ILIC	**ilic-Erzincan**	**2.09**	**283**	PN	**Pb**	**07 10 35.7**	**-2.7**
KEMA	**Kemaliye**	**2.12**	**278**	⇑iP	**Pb**	**07 10 36.5**	**-2.4**
KEMA				iS	**Sg**	**07 11 07.7**	**-1.0**
CLDR	**Caldiran**	**2.12**	**85**	PN	**Pb**	**07 10 36.1**	**-2.9**
CLDR	**Caldiran**	**2.12**	**85**	⇑iP	**Pb**	**07 10 36.9**	**-2.1**
CLDR				iS	**Sg**	**07 11 07.0**	**-1.8**
DAGI	**Agillar**	**2.14**	**15**	⇓iP	**Pb**	**07 10 36.6**	**-2.6**
DAGI				iS	**Sg**	**07 11 09.8**	**+0.3**
DIGO	**Kars**	**2.19**	**49**	iP	**Pb**	**07 10 37.9**	**-2.3**
DIGO				iS	**Sg**	**07 11 12.2**	**+1.2**
KTUT	**Trabzon**	**2.26**	**331**	⇓iP	**Pg**	**07 10 41.6**	**-2.4**
KTUT	**Trabzon**	**2.26**	**331**	S	**Sb**	**07 11 06.8**	**-2.3**
URFA	**Urfa**	**2.44**	**231**	PN	**Pb**	**07 10 40.5**	**-3.8**
BCA	**Borcka**	**2.46**	**7**	PN	**Pn**	**07 10 40.3**	**0.0**
BCA	**Borcka**	**2.46**	**7**	⇑iP	**Pn**	**07 10 40.5**	**+0.2**
BATM	**Batumi**	**2.62**	**8**	P	**Pn**	**07 10 42.9**	**+0.3**
BATM	**Batumi**	**2.62**	**8**	⇓iP	**Pn**	**07 10 42.9**	**+0.3**
BGD	**Bogdanovka**	**2.91**	**38**	P	**Pn**	**07 10 47.1**	**+0.4**
BGD				S	**Sg**	**07 11 33.3**	**-0.8**
HYR	**Heyderabad**	**2.92**	**75**	P	**Pn**	**07 10 48.0**	**+1.2**
	SNR=39						
HYR				S	**Sb**	**07 11 25.4**	**-2.7**
DARE	**Darende-Malaty**	**2.94**	**263**	PN	**Pn**	**07 10 47.8**	**+0.8**
GNI	**Garni**	**2.97**	**66**	ePn	**Pn**	**07 10 48.4**	**+1.0**
GNI	**Garni**	**2.97**	**66**	ceP	**Pn**	**07 10 48.3**	**+0.8**
GNI				pmax	pmax		
	comp=Z,539nm,1.0s						
GNI	**Garni**	**2.97**	**66**	Pn	**Pn**	**07 10 48.1**	**+0.6**
	comp=Z,7.7nm,0.3s,baz=130,slow=3.3,SNR=20						
GNI				Lg	Lg	07 11 32.4	
	comp=Z,0.5nm,0.3s,baz=140,slow=21,SNR=4.4						
GNI				LR	LR	07 11 48.2	
	comp=Z,134nm,19.8s,baz=252,slow=37						
AKH	**Akhalkalaki**	**2.98**	**35**	P	**Pn**	**07 10 48.1**	**+0.4**
AKH				S	**Sg**	**07 11 34.6**	**-1.5**
AKH	**Akhalkalaki**	**2.98**	**35**	ePn	**Pn**	**07 10 48.0**	**+0.4**
AKH	**Akhalkalaki**	**2.98**	**35**	⇑iP	**Pn**	**07 10 47.9**	**+0.4**
AKH	**Akhalkalaki**	**2.98**	**35**	eP	**Pn**	**07 10 48.0**	**+0.4**
NAX	**Nakhchivan**	**3.35**	**86**	P	**Pn**	**07 10 54.0**	**+1.4**
NAX	**Nakhchivan**	**3.35**	**86**	P	**Pn**	**07 10 54.0**	**+1.4**
	SNR=46						
NAX				S	**Sb**	**07 11 36.6**	**-3.9**
SBZ	**Shahbuz**	**3.41**	**82**	P	**Pn**	**07 10 54.8**	**+1.3**
	SNR=37						
SBZ				S	**Sb**	**07 11 37.6**	**-4.5**
KZRT	**Kazreti**	**3.42**	**45**	P	**Pn**	**07 10 54.2**	**+0.7**
TKB	**Tkibuli**	**3.61**	**22**	P	**Pn**	**07 10 56.8**	**+0.6**
SRKG	**Sareki**	**3.70**	**26**	P	**Pn**	**07 10 57.1**	**-0.3**
ORD	**Ordubad**	**3.74**	**90**	P	**Pn**	**07 10 59.2**	**+1.2**
	SNR=7.6						
QZX	**Qazax, Azerbai**	**3.80**	**56**	P	**Pn**	**07 10 58.5**	**-0.3**
	SNR=5.6						
QZX				S	**Sn**	**07 11 45.6**	**+2.2**
TBLG	**Delisi**	**3.84**	**44**	P	**Pg**	**07 11 11.3**	**-2.7**
TBLG				S	**Sg**	**07 12 02.6**	**-1.1**
TBLG	**Delisi**	**3.84**	**44**	ePn	**Pn**	**07 11 00.2**	**+0.9**
TBLG	**Delisi**	**3.84**	**44**	eP	**Pn**	**07 11 00.2**	**+0.9**
GDB	**GEDABAY**	**3.90**	**63**	P	**Pn**	**07 11 00.5**	**+0.2**
	SNR=9.7						
GDB				S	**Sn**	**07 11 49.5**	**+3.5**
ONI	**Oni**	**3.97**	**25**	P	**Pn**	**07 11 01.8**	**+0.7**
ONI				S	**Sg**	**07 12 05.2**	**-2.7**
ONI	**Oni**	**3.97**	**25**	eP	**Pn**	**07 11 01.8**	**+0.7**
GUDG	**Gudauri**	**4.26**	**35**	P	**Pn**	**07 11 01.4**	**-3.9**
ZEI	**Tsey**	**4.30**	**28**	eP	**Pn**	**07 11 04.7**	**-1.1**
ZEI				pmax	pmax		
	comp=Z,82nm,0.9s						
NEY	**Neytrino**	**4.39**	**15**	diP	**Pn**	**07 11 08.1**	**+1.0**
DDFL	**Dedofliistskaro**	**4.49**	**56**	P	**Pb**	**07 11 18.1**	**-1.1**
DDFL				S	**Sg**	**07 12 30.5**	**+6.0**
SOC	**Sochi**	**4.71**	**347**	diP	**Pn**	**07 11 11.3**	**+0.1**
SOC				e		07 12 08.5	
SOC				pmax	pmax		
	comp=Z,83nm,0.5s						
SOC				MLR	MLR		
	comp=Z,251nm,12.0s						
LGD	**Lagodekhi**	**4.78**	**52**	P	**Pb**	**07 11 26.1**	**+2.1**
LGD				S	**Sg**	**07 12 30.5**	**-3.3**
NCK	**Nalchik**	**4.83**	**21**	iP	**Pn**	**07 11 15.4**	**+2.4**
NCK				pmax	pmax		
	comp=Z,27nm,0.9s						
SHA1	**Shidzhatmaz**	**4.85**	**13**	iP	**Pn**	**07 11 14.8**	**+1.4**
KBZ	**Khabaz**	**4.89**	**15**	Pn	**Pn**	**07 11 14.9**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=190,slow=12,SNR=14						
KBZ				LR	LR	07 13 28.5	
	comp=Z,476nm,18.8s,baz=193,slow=44						
KIV	**Kislovodsk**	**5.07**	**12**	ePn	**Pn**	**07 11 17.9**	**+1.6**
KIV	**Kislovodsk**	**5.07**	**12**	⇓iP	**Pn**	**07 11 17.5**	**+1.2**
KIV	**Kislovodsk**	**5.07**	**12**	eP	**Pn**	**07 11 17.9**	**+1.6**
KIV				pmax	pmax		
	comp=Z,67nm,1.0s						
KIV				MLR	MLR		
	comp=Z,145nm,7.0s						
KVAR	**Kislovodsk Arr**	**5.07**	**12**	Pn	**Pn**	**07 11 18.0**	**+1.7**
	baz=95,slow=21,SNR=6.3						
KVAR				LR	LR	07 13 31.1	
	comp=Z,376nm,19.3s,baz=85,slow=42						
PYA1	**Pyatigorsk**	**5.25**	**15**	iP	**Pn**	**07 11 21.2**	**+2.5**
DIKM	**Dikmen**	**5.25**	**302**	⇓iP	Pb	07 11 25.3	-6.9
BTLR	**Botlikh**	**5.28**	**45**	iP	**Pn**	**07 11 22.3**	**+3.2**
GROC	**Groznyy**	**5.44**	**38**	eP	**Pb**	**07 11 32.4**	**-3.0**
GROC				e		07 12 20.2	
GROC				pmax	pmax		
	comp=Z,58nm,1.0s						
GROC				smax	smax		
	comp=N,156nm,1.4s						
GROC				smax	smax		
	comp=E,213nm,1.5s						
GROC				smax	smax		
	comp=E,89nm,1.5s						
SNOP	**Sinop**	**5.47**	**305**	ePn	**Pn**	**07 11 23.7**	**+2.0**
GNBR	**Gunib**	**5.53**	**51**	iP	**Pn**	**07 11 25.4**	**+2.8**
AKT	**Akhty**	**5.58**	**62**	iP	**Pn**	**07 11 25.7**	**+2.4**
BR101	**Keskin Array S**	**5.90**	**279**	ePn	**Pn**	**07 11 28.8**	**+1.0**
BR131	**Keskin Array S**	**5.90**	**279**	ePn	**Pn**	**07 11 28.8**	**+1.0**
BRTR	**Keskin Array B**	**5.90**	**279**	iP	**Pn**	**07 11 28.7**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BRTR	**Keskin Array B**	**5.90**	**279**	Pn	**Pn**	**07 11 28.8**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=106,slow=15,SNR=20						
BRTR				Lg	Lg	07 13 12.9	
	baz=111,slow=23,SNR=1.5						
BRTR				LR	LR	07 13 59.2	
	comp=Z,382nm,20.1s,baz=82,slow=41						
ILGA	**Ilgaz**	**6.09**	**292**	ePn	Pn	07 11 34.6	+4.1
MAK	**Makhachkala**	**6.19**	**48**	eP	**Pn**	**07 11 31.5**	**-0.1**
MAK				eS	**Sn**	**07 12 43.2**	**+1.0**
MAK				pmax	pmax		
	comp=Z,53nm,0.5s						
MAK				MLR	MLR		
	comp=Z,166nm,12.0s						
BZK	**Bozkurt**	**6.23**	**301**	⇑iP	Pn	07 11 38.2	+6.1
HWQ	**Hawqa**	**6.33**	**223**	eP	**Pn**	**07 11 34.5**	**+0.9**
ANN	**Anapa**	**6.43**	**335**	eP	Pn	07 11 38.2	+3.3
ANN				eS	Sb	07 12 57.6	-11
ANN				pmax	pmax		
	comp=Z,12nm,0.7s						
ANN				MLR	MLR		
	comp=Z,264nm,11.0s						
ANN				MLR	MLR		
	comp=E,255nm,11.0s						
ANN				MLR	MLR		
	comp=N,151nm,11.0s						
ANTO	**Ankara**	**6.56**	**280**	ePn	**Pn**	**07 11 36.5**	**-0.3**
ANTO	**Ankara**	**6.56**	**280**	eP	**Pn**	**07 11 36.5**	**-0.3**
DQRL	**Deir Qamar**	**6.97**	**222**	eP	Pb	07 11 54.7	-6.8
RCY	**Rachaya**	**7.00**	**220**	eP	Pb	07 11 52.4	-10
SUDU	**Sudak**	**7.47**	**324**	eP	Pn	07 11 55.7	+6.5
MMAI	**Mount Meron Ar**	**7.60**	**220**	Pn	**Pn**	**07 11 54.1**	**+3.0**
	comp=N,4.0nm,0.3s,baz=62,slow=10,SNR=7.5						
MMAI				Lg	Lg	07 14 01.9	
	comp=N,3.1nm,0.3s,baz=26,slow=27,SNR=3.6						
MMAI				LR	LR	07 14 45.2	
	comp=N,222nm,20.4s,baz=15,slow=37						
ASF	**Jabal al Asfar**	**7.67**	**208**	Pn	**Pn**	**07 11 53.1**	**+1.2**
	comp=N,0.4nm,0.3s,baz=352,slow=8.5,SNR=18						
ASF				Lg	Lg	07 13 58.8	
	comp=N,0.8nm,0.3s,baz=18,slow=20,SNR=2.6						
MDUB	**Mudurnu**	**7.84**	**284**	ePn	Pn	07 11 58.4	+4.0
SEV	**Sevastopol'**	**7.89**	**317**	eP	Pb	07 12 04.9	-12
SEV				eS	**Sn**	**07 13 28.9**	**+5.0**
EIL	**Elat**	**10.64**	**211**	Lg	Lg	07 15 31.8	
	comp=N,0.2nm,0.3s,baz=58,slow=17,SNR=3.6						
EIL				LR	LR	07 17 14.4	
	comp=N,89nm,20.9s,baz=31,slow=41						
TLCR		**11.07**	**308**	⇓iP	Pn	07 12 44.4	+5.9
TLCR		**11.07**	**308**	⇓P	Pn	07 12 44.4	+5.9
CFR	**Carcaliu**	**11.49**	**307**	⇑iP	Pn	07 12 49.3	+5.1
CFR	**Carcaliu**	**11.49**	**307**	⇑P	Pn	07 12 49.3	+5.1
VORD	**Divnogorie**	**12.03**	**354**	eP	**Pn**	**07 12 53.1**	**+1.5**
VORD				pmax	pmax		
	comp=Z,20nm,0.5s						
VRH	**Novokhopyorsk**	**12.20**	**2**	eP	**Pn**	**07 12 53.7**	**-0.2**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSR	**Storozhevoye**	**12.29**	**354**	eP	**Pn**	**07 12 54.9**	**-0.2**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRI	**Vrincioaia**	**12.69**	**307**	⇓iP	Pn	07 13 05.3	+4.7
VRI	**Vrincioaia**	**12.69**	**307**	⇓P	Pn	07 13 05.3	+4.7
MLR	**Muntele Rosu**	**13.02**	**305**	⇑iP	P	07 13 10.1	-5.6
MLR	**Muntele Rosu**	**13.02**	**305**	Pn	**Pn**	**07 13 07.1**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=212,slow=11,SNR=3.9						
GEYT	**Alibeck**	**13.31**	**89**	LR	LR	07 19 46.1	
	comp=Z,78nm,18.6s,baz=285,slow=44						
IDI	**Anoyia**	**13.53**	**259**	LR	LR	07 18 29.5	
	comp=Z,100nm,20.7s,baz=86,slow=38						
BIZ	**Bicaz**	**13.59**	**311**	⇓iP	**P**	**07 13 17.5**	**-4.3**
LPSR	**Galich'ya Gora**	**13.69**	**354**	eP	**Pn**	**07 13 13.4**	**-0.8**
LPSR				pmax	pmax		
	comp=Z,20nm,0.7s						
VTS	**Vitosha**	**14.07**	**291**	⇓iP	**P**	**07 13 27.8**	**+0.4**
VTS	**Vitosha**	**14.07**	**291**	⇓P	**P**	**07 13 27.8**	**+0.4**
AKASG	**Malin Array Be**	**14.43**	**328**	Pn	**Pn**	**07 13 22.5**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=134,slow=12,SNR=8.8						
AKBB	**Malin Array Si**	**14.43**	**328**	ePn	**Pn**	**07 13 25.3**	**+1.0**
AKBB	**Malin Array Si**	**14.43**	**328**	eP	**Pn**	**07 13 25.3**	**+1.0**
KIEV	**Kiev**	**14.43**	**328**	⇑iP	**P**	**07 13 26.6**	**-4.5**
KIEV	**Kiev**	**14.43**	**328**	iP	**Pn**	**07 13 25.2**	**+0.9**
BURAR	**Bucovina Array**	**14.45**	**312**	ePn	**P**	**07 13 27.5**	**-4.0**
BURAR	**Bucovina Array**	**14.45**	**312**	⇑iP	**P**	**07 13 30.2**	**-1.3**
BURAR	**Bucovina Array**	**14.45**	**312**	⇑P	**P**	**07 13 30.2**	**-1.3**
GZR	**Gura Zlata**	**15.06**	**301**	⇑iP	**P**	**07 13 38.7**	**+0.5**
OBN	**Obninsk**	**16.41**	**351**	iP	**Pn**	**07 13 48.6**	**-1.8**
OBN				pmax	pmax		
	comp=Z,13nm,1.2s						
OBN				MLR	MLR		
	comp=Z,62nm,15.0s						
AKTO	**Aktyubinsk**	**16.49**	**41**	Pn	**Pn**	**07 13 50.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=237,slow=12,SNR=8.1						
AKTO				LR	LR	07 21 26.0	
	comp=Z,77nm,21.6s,baz=227,slow=42						
ABKAR	**Akbulak array**	**16.87**	**47**	ePn	**Pn**	**07 13 55.4**	**-0.8**
ABKAR				ePn	**P**	**07 13 56.3**	**-1.9**
VYHS	**Vyhne**	**18.67**	**308**	eP	Pn	07 14 25.1	+6.6
VYHS	**Vyhne**	**18.67**	**308**	eP	Pn	07 14 25.1	+6.6
KIRV	**Kirov**	**20.32**	**10**	LR	LR	07 23 00.4	
	comp=Z,151nm,19.3s,baz=187,slow=39						
VRAC	**Vranov**	**20.35**	**308**	LR	LR	07 24 47.4	
	comp=Z,44nm,19.2s,baz=136,slow=44						
ARU	**Arti**	**20.88**	**28**	eP	**P**	**07 14 41.2**	**-0.9**
	comp=Z,6.3nm,0.7s						
ARU	**Arti**	**20.88**	**28**	P	**P**	**07 14 41.4**	**-0.7**
ARU				S	**S**	**07 18 34.9**	**+0.5**
ARU				SS	**SnSn**	**07 18 55.1**	**+0.3**
ARU	**Arti**	**20.88**	**28**	P	**P**	**07 14 41.2**	**-0.9**
	comp=Z,3.0nm,0.6s,baz=251,slow=5.2,SNR=9.6						
ARU				LR	LR	07 24 56.8	
	comp=Z,192nm,18.7s,baz=218,slow=43						
VSU	**Vasula**	**21.59**	**339**	ceP	**P**	**07 14 50.9**	**+1.2**
VSU				pmax	pmax		
	comp=Z,45nm,0.7s						
WSAR	**Wadi Sarin**	**21.61**	**132**	LR	LR	07 24 19.7	
	comp=Z,123nm,21.4s,baz=332,slow=40						
KBA	**Koelnbreinsper**	**21.81**	**301**	P	**P**	**07 14 53.8**	**+1.3**
KBA				pmax	pmax		
	comp=Z,11nm,1.1s						
KLMR	**Klimovskoe**	**21.90**	**358**	eP	**P**	**07 14 51.3**	**-1.7**
KLMR				pmax	pmax		
	comp=Z,16nm,1.2s						
SVE	**Sverdlovsk**	**21.95**	**29**	eP	P	07 15 00.4	+6.8
SVE				pmax	pmax		
	comp=Z,15nm,0.9s						
GERES	**GERESS Array B**	**22.00**	**306**	P	**P**	**07 14 54.0**	**-0.4**
GERES	**GERESS Array B**	**22.00**	**306**	P	**P**	**07 14 54.0**	**-0.4**
	comp=Z,0.4nm,0.2s,baz=102,slow=12,SNR=5.0						
GERES				LR	LR	07 24 38.0	
	comp=Z,71nm,19.5s,baz=112,slow=40						
KK31	**Karatay Array**	**22.43**	**70**	eP	**P**	**07 15 00.4**	**+1.5**
	comp=Z,5.2nm,0.8s						
KK31	**Karatay Array**	**22.43**	**70**	eP

KMBO	**Kilima Mbogo**	**40.10**	**186**	LR	LR	07 34 36.7	
	comp=Z,57nm,18.9s,baz=242,slow=37						
ULN	**Ulaanbaatar**	**47.31**	**57**	*c*eP	**P**	**07 18 35.9**	**+2.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BOD	**Bodaibo**	**49.25**	**42**	*e*P	**P**	**07 18 47.8**	**-0.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.6s						
DBIC	**Dimbokro**	**52.45**	**244**	LR	LR	07 45 21.0	
	comp=Z,38nm,18.7s,baz=48,slow=40						
TIXI	**Tiksi**	**52.80**	**23**	*i* P	**P**	**07 19 16.1**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
CMAR	**Chiang Mai Arr**	**53.70**	**95**	LR	LR	07 47 32.5	
	comp=Z,31nm,18.2s,baz=190,slow=42						
WHN	**Wuhan**	**59.22**	**74**	P	P	07 20 05.3	+3.8
MJAR	**Matsushiro Arr**	**72.84**	**57**	LR	LR	07 56 14.5	
	comp=Z,52nm,19.5s,baz=205,slow=38						
PETK	**Petropavlovsk-**	**73.11**	**34**	LR	LR	07 59 09.8	
	comp=Z,54nm,18.3s,baz=124,slow=40						
YKA	**Yellowknife Ar**	**76.98**	**349**	LR	LR	07 56 47.7	
	comp=Z,7.1nm,18.2s,baz=34,slow=37						
RSO	**Redoubt South**	**80.22**	**7**	*e*P	**P**	**07 22 12.7**	**+2.1**

ISCJB ***15*** *07:10:30.0±0.6, 65°.56N±0°.02×134°.68W±0°.05, h11km±4km, mb4.0/21, MS3.4/1, Error ellipse: s-maj=3.5km s-min=2.7km az=37.7*

NEIC ***15*** *07:10:30.0±0.0, 65°.64N×134°.58W, h1km, mb4.2/10, MW4.0, MW4.0(OTT) Best double couple: NP1: ϕs=283.00000°, δ83.00000°, λ137.00000°. NP2: ϕs=20.00000°, δ47.00000°, λ10.00000°. Principal axes: T 1.3900, Plg35.0000°, Azm232.0000°; N -0.2900, Plg46.0000°, Azm96.0000°; P -1.1000, Plg23.0000°, Azm339.0000°; After OTT.*

PGC ***15*** *07:10:30.9±0.1, 65°.64N×134°.58W, h1km, mb4.3, ML4.7/12, Mw4.0, 200km south of Fort McPherson, Nt Northern Yukon Territory, Canada*

IDC ***15*** *07:10:30.8±0.5, 65°.67N×134°.69W, h0km, mb3.9/16, mb1 4.1/21, mb1mx3.9/57, mbtmp4.0/21, ML4.1/5, MS3.2/7, Ms1 3.3/7, ms1mx2.9/52, Error ellipse: s-maj=11.2km s-min=9.3km az=58.0*

ISC 15 07:10:31.4±1.4, 65°.66N±0°.03×134°.46W±0°.04, h9km±9km, n130, σ2°36/167, mb4.1/21, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPYK	**Eagle Plains**	**1.17**	**309**	*e*Pn	**Pn**	**07 10 54.5**	**+0.5**
EPYK				*e*Sg	**Sg**	**07 11 08.7**	**-0.3**
EPYK	**Eagle Plains**	**1.17**	**309**	P	**Pn**	**07 10 54.0**	**+0.1**
	baz=129						
DAWY	**Dawson**	**2.64**	**235**	*e*Pn	**Pn**	**07 11 13.2**	**-1.0**
DAWY				*e*Sn	**Sn**	**07 11 41.6**	**-4.7**
DAWY	**Dawson**	**2.64**	**235**	Pn	**Pn**	**07 11 12.8**	**-1.4**
DAWY				Pg	**Pb**	**07 11 19.3**	**+0.5**
DAWY				Sg	**Sb**	**07 11 51.5**	**+0.2**
INK	**Inuvik**	**2.69**	**7**	*e*Pn	**Pn**	**07 11 16.4**	**+1.6**
INK				*e*Sn	**Sb**	**07 11 51.0**	**-1.7**
INK	**Inuvik**	**2.69**	**7**	Pn	**Pn**	**07 11 16.4**	**+1.6**
	9.3nm,0.3s,baz=179,slow=14,SNR=383						
INK				Pg	**Pg**	**07 11 22.8**	**0.0**
	54nm,0.3s,baz=191,slow=14,SNR=111						
INK				Lg	Lg	07 11 57.5	
	212nm,0.3s,baz=91,slow=22,SNR=9.5						
INK				LR	LR	07 12 13.4	
	comp=Z,88nm,18.1s,baz=246,slow=38						
INK	**Inuvik**	**2.69**	**7**	Pn	**Pn**	**07 11 15.8**	**+1.0**
INK				Sn	**Sn**	**07 11 47.8**	**+0.4**
EGAK	**Eagle**	**2.96**	**256**	*e*Pn	**Pn**	**07 11 16.5**	**-1.9**
EGAK				*e*Sn	**Sn**	**07 11 50.1**	**-3.9**
BCAR	**Beaver Creek A**	**4.11**	**234**	*e*Pn	**Pn**	**07 11 33.0**	**-1.4**
BCAR				*e*Sn	**Sn**	**07 12 19.7**	**-2.8**
BVCY	**Beaver Creek**	**4.30**	**224**	Pn	**Pn**	**07 11 35.9**	**-1.0**
BVCY				Sn	**Sn**	**07 12 24.4**	**-2.8**
SCRK	**Sand Creek**	**4.40**	**252**	*e*Sn	**Sn**	**07 12 28.6**	**-1.2**
YUK1	**Sand Pete Hill**	**4.42**	**220**	Pn	**Pn**	**07 11 37.4**	**-1.3**
YUK1				Sn	**Sn**	**07 12 26.7**	**-3.5**
BMAR	**Burnt Mountain**	**4.42**	**298**	*e*Pn	**Pn**	**07 11 39.0**	**+0.4**
BMAR				*e*Sn	**Sn**	**07 12 32.1**	**+2.0**
FYU	**Fort Yukon**	**4.47**	**287**	*e*Pn	**Pn**	**07 11 39.5**	**+0.2**
DOT	**Dot Lake**	**4.59**	**248**	*e*Pn	**Pn**	**07 11 37.7**	**-3.2**
DOT				*e*Sn	**Sn**	**07 12 30.1**	**-4.2**
DOT	**Dot Lake**	**4.59**	**248**	Pn	**Pn**	**07 11 38.7**	**-2.2**
DOT				Sn	**Sn**	**07 12 30.4**	**-3.9**
PRP	**Porcupine Dome**	**4.59**	**273**	*e*Sn	**Sn**	**07 12 29.3**	**-5.2**
YUK4	**Talbot Arm**	**4.71**	**205**	Pn	**Pn**	**07 11 40.9**	**-1.9**
YUK3	**Moose Creek**	**4.72**	**217**	Pn	**Pn**	**07 11 41.8**	**-1.0**
YUK3				Sn	**Sn**	**07 12 35.3**	**-2.5**
YUK5	**Granite Creek**	**4.79**	**200**	Pn	**Pn**	**07 11 43.4**	**-0.4**
YUK5				Sn	**Sn**	**07 12 36.1**	**-3.3**
YUK5				Sg	**Sb**	**07 12 57.6**	**+4.4**
YUK2	**White River**	**4.81**	**219**	Pn	**Pn**	**07 11 42.8**	**-1.1**
YUK2				Sn	**Sn**	**07 12 37.4**	**-2.3**
WHY	**Whitehorse**	**5.02**	**182**	*e*Pn	**Pn**	**07 11 46.1**	**-0.8**
WHY	**Whitehorse**	**5.02**	**182**	Pn	**Pn**	**07 11 46.0**	**-0.9**
HYT	**Haines Junctio**	**5.04**	**197**	*e*Pn	**Pn**	**07 11 46.4**	**-0.7**
HYT				*e*Sn	**Sn**	**07 12 44.5**	**-1.0**
HYT	**Haines Junctio**	**5.04**	**197**	Pn	**Pn**	**07 11 46.5**	**-0.7**
HYT				Sn	**Sn**	**07 12 42.6**	**-3.0**
HYT				Sg	**Sb**	**07 13 04.3**	**+4.0**
YUK6	**Outpost Mounta**	**5.04**	**202**	Pn	**Pn**	**07 11 46.7**	**-0.6**
YUK6				Sg	**Sb**	**07 13 05.7**	**+5.1**
ILAR	**Eielson Array**	**5.30**	**266**	Pn	**Pn**	**07 11 48.3**	**-2.4**
	2.2nm,0.3s,baz=78,slow=12,SNR=90						
ILAR				Sn	**Sn**	**07 12 51.7**	**-0.1**
	9.8nm,0.3s,baz=80,slow=18,SNR=5.2						
ILAR				Lg	Lg	07 13 13.7	
	18nm,0.3s,baz=67,slow=30,SNR=7.1						
ILAR				LR	LR	07 14 11.7	
	comp=Z,366nm,19.2s,baz=87,slow=42						
YUK7	**Dusty Glacier**	**5.41**	**200**	Pn	**Pn**	**07 11 51.8**	**-0.5**
YUK7				Sn	**Sn**	**07 12 51.0**	**-3.7**
YUK7				Sg	**Sg**	**07 13 18.3**	**-6.4**
HDA	**Harding Lake**	**5.43**	**262**	*e*Pn	**Pn**	**07 11 50.7**	**-1.8**
HDA	**Harding Lake**	**5.43**	**262**	P	**Pn**	**07 11 50.6**	**-1.8**
	baz=71						
POKR	**Poker Plat Res**	**5.45**	**270**	P	**Pn**	**07 11 50.9**	**-1.7**
	baz=79						
PAX	**Paxson**	**5.49**	**246**	*e*Pn	**Pn**	**07 11 51.8**	**-1.6**
PAX	**Paxson**	**5.49**	**246**	Pn	**Pn**	**07 11 51.5**	**-1.9**
PAX				Sn	**Sn**	**07 12 52.2**	**-4.4**
CTGM	**Chitina Glacie**	**5.63**	**216**	*e*Pn	**Pn**	**07 11 55.2**	**-0.1**
CTGM	**Chitina Glacie**	**5.63**	**216**	Pn	**Pn**	**07 11 54.6**	**-0.7**
CTGM				Sn	**Sn**	**07 12 56.3**	**-3.9**
COLA	**College**	**5.68**	**268**	*e*Pn	**Pn**	**07 11 53.9**	**-1.8**
TCOL	**CIGO, UAF Yank**	**5.68**	**268**	P	**Pn**	**07 11 53.8**	**-2.0**
	baz=76						
HARP	**HAARP**	**5.71**	**240**	*e*Pn	**Pn**	**07 11 55.9**	**-0.5**
HARP	**HAARP**	**5.71**	**240**	Pn	**Pn**	**07 11 55.2**	**-1.2**
CCB	**Clear Creek Bu**	**5.72**	**266**	*e*Pn	**Pn**	**07 11 53.7**	**-2.6**
BALM	**Baldy**	**5.83**	**221**	*e*Pn	**Pn**	**07 11 57.7**	**-0.4**
BALM	**Baldy**	**5.83**	**221**	Pn	**Pn**	**07 11 57.5**	**-0.6**
BALM				Sn	**Sn**	**07 13 01.7**	**-3.4**
KIAG	**Kiagna River**	**5.93**	**220**	Pn	**Pn**	**07 11 59.0**	**-0.4**
KIAG				Sn	**Sn**	**07 13 02.0**	**-5.5**
DHY	**Denali Highway**	**6.17**	**251**	*e*Sn	**Sn**	**07 13 09.5**	**-3.8**
DHRN	**Dharma Camp**	**6.17**	**70**	Pn	**Pn**	**07 12 02.8**	**+0.2**
DHRN				Sn	**Sn**	**07 13 11.0**	**-2.2**
BCPM	**Bancas Point**	**6.19**	**205**	*e*Pn	**Pn**	**07 12 03.7**	**+0.8**
RKAV	**Rock Avalanche**	**6.22**	**213**	Pn	**Pn**	**07 12 04.2**	**+0.8**
RKAV				Sn	**Sn**	**07 13 08.4**	**-6.2**
SKAG	**Skagway**	**6.23**	**184**	*e*Pn	**Pn**	**07 12 03.2**	**-0.1**
SAMH	**Samovar Hills**	**6.25**	**210**	Pn	**Pn**	**07 12 03.6**	**-0.2**
SAMH				Sn	**Sn**	**07 13 12.7**	**-2.6**
PLBC	**Pleasant Camp**	**6.28**	**189**	Pn	**Pn**	**07 12 04.2**	**+0.1**
PLBC				Sn	**Sn**	**07 13 11.6**	**-4.4**
PLBC				Sg	**Sb**	**07 13 44.3**	**+8.3**
PNL	**Peninsula**	**6.42**	**203**	Pn	**Pn**	**07 12 06.1**	**0.0**
PNL				Sn	**Sn**	**07 13 16.7**	**-2.7**
MESA	**MESA**	**6.47**	**215**	Pn	**Pn**	**07 12 08.3**	**+1.5**
MESA				Sn	**Sn**	**07 13 17.9**	**-2.9**
COLD	**Coldfoot**	**6.50**	**291**	Pn	**Pn**	**07 12 06.5**	**-0.6**
COLD				Sn	**Sn**	**07 13 16.1**	**-5.2**
BWN	**Browne**	**6.55**	**264**	*e*Pn	**Pn**	**07 12 06.7**	**-1.1**
TOLK	**Toolik Lake Re**	**6.60**	**304**	*e*Pn	**Pn**	**07 12 09.3**	**+0.9**
TOLK	**Toolik Lake Re**	**6.60**	**304**	P	**Pn**	**07 12 09.4**	**+1.0**
	baz=110						
KLU	**Klutina**	**6.60**	**236**	*e*Pn	**Pn**	**07 12 08.8**	**+0.3**
DIV	**Divide**	**6.81**	**233**	*e*Pn	**Pn**	**07 12 10.5**	**-0.9**
DIV	**Divide**	**6.81**	**233**	Pn	**Pn**	**07 12 10.8**	**-0.5**
MLY	**Manley**	**6.84**	**272**	*e*Pn	**Pn**	**07 12 09.4**	**-2.3**
SCM	**Sheep Creek Mo**	**6.87**	**242**	*e*Pn	**Pn**	**07 12 13.0**	**+0.8**
HMT	**Hamilton**	**6.95**	**224**	*e*Pn	**Pn**	**07 12 13.9**	**+0.6**
BESE	**Bessie Mountai**	**7.10**	**182**	*e*Pn	**Pn**	**07 12 14.7**	**-0.7**
BESE	**Bessie Mountai**	**7.10**	**182**	Pn	**Pn**	**07 12 14.9**	**-0.5**
BESE				Sn	**Sn**	**07 13 28.7**	**-7.6**
EYAK	**Cordova Ski Ar**	**7.24**	**230**	*e*Pn	**Pn**	**07 12 17.6**	**+0.5**
JIS	**Juneau Island**	**7.41**	**180**	*e*Pn	**Pn**	**07 12 19.2**	**-0.3**
GLI	**Glacier Island**	**7.43**	**236**	*e*Pn	**Pn**	**07 12 19.9**	**0.0**
DLBC	**Dease Lake**	**7.54**	**162**	*e*Pn	**Pn**	**07 12 21.4**	**+0.1**
DLBC	**Dease Lake**	**7.54**	**162**	Pn	**Pn**	**07 12 20.8**	**-0.6**
	10nm,0.3s,baz=360,slow=10,SNR=130						
DLBC				Lg	Lg	07 14 23.0	
	4.2nm,0.3s,baz=232,slow=23,SNR=3.1						
DLBC	**Dease Lake**	**7.54**	**162**	Pn	**Pn**	**07 12 20.8**	**-0.6**
DLBC				Sg	Sg	07 14 23.7	-9.2
PMR	**Palmer**	**7.69**	**245**	*e*Pn	**Pn**	**07 12 23.6**	**+0.2**
CAST	**Castle Rocks**	**7.91**	**262**	*e*Pn	**Pn**	**07 12 24.4**	**-2.0**
IMAR	**Indian Mountai**	**7.92**	**281**	*e*Pn	**Pn**	**07 12 25.6**	**-1.0**
KUKN	**Kugluktuk,NWT**	**7.96**	**65**	Pn	**Pn**	**07 12 26.6**	**-0.5**
KUKN				Sn	**Sn**	**07 13 50.9**	**-6.2**
PPLA	**Purkeypile**	**8.18**	**258**	*e*Pn	**Pn**	**07 12 29.4**	**-0.9**
RC01	**Rabbit Creek A**	**8.24**	**243**	*e*Pn	**Pn**	**07 12 32.8**	**+1.9**
FNBB	**Fort Nelson**	**8.62**	**137**	Pn	**Pn**	**07 12 36.5**	**+0.3**
YKW3	**Yellowknife Ar**	**9.21**	**101**	Pn	**Pn**	**07 12 44.8**	**+0.7**
YKW3				Sn	Sn	07 14 19.3	-8.3
YKA	**Yellowknife Ar**	**9.24**	**101**	Pn	**Pn**	**07 12 44.2**	**-0.4**
	3.1nm,0.3s,baz=293,slow=13,SNR=91						
YKA				Sn	Sn	07 14 19.2	-9.3
	2.6nm,0.3s,baz=234,slow=24,SNR=4.2						
YKB5	**Yellowknife Ar**	**9.24**	**101**	*e*Pn	**Pn**	**07 12 44.2**	**-0.4**
YKW1	**Yellowknife Ar**	**9.28**	**101**	Pn	**Pn**	**07 12 45.4**	**+0.2**
YKW1				Sn	**Sn**	**07 14 21.9**	**-7.6**
KDAK	**Kodiak Island**	**11.62**	**236**	Pn	**Pn**	**07 13 15.6**	**-1.6**
	0.1nm,0.3s,baz=46,slow=16,SNR=2.3						
KDAK				LR	LR	07 18 07.5	
	comp=Z,206nm,18.1s,baz=37,slow=40						
DIB	**Dawson Inlet,**	**12.53**	**174**	Pn	**Pn**	**07 13 29.4**	**-0.3**
BBB	**Bella Bella**	**13.89**	**164**	LR	LR	07 19 43.7	
	comp=Z,89nm,19.1s,baz=315,slow=40						
RES	**Resolute Bay**	**15.80**	**38**	*e*Pn	**Pn**	**07 14 11.5**	**-2.1**
	13nm,0.6s						
RES	**Resolute Bay**	**15.80**	**38**	Pn	**Pn**	**07 14 11.2**	**-2.4**
	0.9nm,0.3s,baz=239,slow=9.2,SNR=38						
RES				LR	LR	07 20 31.8	
	comp=Z,128nm,20.1s,baz=317,slow=38						
RES	**Resolute Bay**	**15.80**	**38**	Pn	**Pn**	**07 14 10.5**	**-3.1**
FFC	**Flin Flon**	**19.25**	**109**	*e*P	**P**	**07 14 56.0**	**+0.3**
	12nm,1.0s						
NEW	**Newport**	**19.70**	**144**	LR	LR	07 23 07.6	
	comp=Z,67nm,18.2s,baz=282,slow=38						
FCC	**Fort Churchill**	**19.74**	**91**	*e*P	**Pn**	**07 15 03.3**	**+0.9**
	5.8nm,0.6s						
TULEG	**Thule**	**22.37**	**34**	*e*P	**P**	**07 15 30.2**	**+1.0**
	8.7nm,0.9s						
J05D	**Fort Rock, OR**	**23.59**	**155**	P	**P**	**07 15 44.2**	**+1.8**
	baz=346						
BOZ	**Bozeman (W)**	**23.61**	**137**	P	**P**	**07 15 43.9**	**+1.3**
	baz=336						
O02D	**Mt. Diablo Mer**	**26.38**	**160**	P	**P**	**07 16 10.0**	**+2.2**
	baz=349						
O03E	**Paynes Creek**	**26.42**	**158**	P	**P**	**07 16 09.3**	**+1.2**
	baz=348						
PDAR	**Pinedale Array**	**26.80**	**137**	P	**P**	**07 16 13.1**	**+1.4**
	0.4nm,0.5s,baz=1.9,slow=4.5,SNR=4.3						
FRB	**Frobisher Bay**	**27.09**	**63**	P	**P**	**07 16 15.1**	**+1.3**
	4.1nm,0.7s,baz=302,slow=11,SNR=8.7						
ELK	**Elko**	**27.24**	**147**	LR	LR	07 29 01.8	
	comp=Z,92nm,18.1s,baz=208,slow=41						
KVN	**Kaiserville**	**28.27**	**152**	*e*P	**P**	**07 16 24.3**	**-0.6**
	1.6nm,0.7s						
WAKR	**Walker**	**28.56**	**155**	*e*P	**P**	**07 16 27.8**	**+0.3**
	5.2nm,0.7s						
NVAR	**Mina Array Bea**	**28.84**	**153**	P	**P**	**07 16 31.2**	**+1.2**
	2.4nm,0.7s,baz=328,slow=8.9,SNR=19						
ANMO	**Albuquerque**	**34.96**	**138**	*e*P	**P**	**07 17 26.4**	**+2.7**
	3.0nm,0.8s						
SPA0	**Spitsbergen Ar**	**35.33**	**10**	*e*P	**P**	**07 17 26.6**	**+0.3**
	11nm,1.1s						
SPITS	**Spitsbergen Ar**	**35.33**	**10**	P	**P**	**07 17 26.6**	**+0.3**
	3.7nm,0.9s,baz=30,slow=8.6,SNR=6.5						
LTX	**Lajitas**	**41.02**	**137**	*e*P	**P**	**07 18 15.8**	**+1.0**
TXAR	**Lajitas Array**	**41.02**	**137**	P	**P**	**07 18 15.8**	**+1.0**
	0.4nm,0.8s,baz=354,slow=6.9,SNR=5.2						
ARA0	**ARCESS Array S**	**44.36**	**10**	*e*P	**P**	**07 18 41.6**	**+0.3**
ARCES	**ARCESS Array B**	**44.36**	**10**	P	**P**	**07 18 41.6**	**+0.3**
	1.7nm,0.6s,baz=356,slow=6.7,SNR=5.7						
NB200	**NORSAR Array S**	**51.07**	**21**	*e*P	**P**	**07 19 32.4**	**-1.1**
NOA	**NORSAR Array B**	**51.07**	**21**	P	**P**	**07 19 32.3**	**-1.1**
	0.7nm,0.8s,baz=343,slow=7.8,SNR=2.3						
HFS	**Hagfors**	**52.30**	**19**	P	**P**	**07 19 43.8**	**+1.3**
	1.9nm,0.4s,baz=2.9,slow=5.8,SNR=6.5						
FINES	**FINESS Array B**	**52.39**	**12**	P	**P**	**07 19 43.5**	**+0.4**
	3.2nm,0.5s,baz=357,slow=8.0,SNR=8.7						
ZAA1	**Zalesovo Array**	**57.02**	**334**	*e*P	**P**	**07 20 17.5**	**+0.7**
ZALV	**Zalesovo Beam**	**57.02**	**334**	P	**P**	**07 20 17.5**	**+0.6**
	0.7nm,0.4s,baz=27,slow=9.7,SNR=2.2						
SONA0	**Songino Array**	**57.56**	**316**	*e*P	**P**	**07 20 22.3**	**+1.4**
SONM	**Songino Array**	**57.56**	**316**	P	**P**	**07 20 22.3**	**+1.4**
	0.3nm,0.5s,baz=39,slow=5.5,SNR=2.1						
KURBB	**Kurchatov Arra**	**61.31**	**337**	P	**P**	**07 20 47.3**	**+0.7**
	0.3nm,0.3s,baz=16,slow=5.2,SNR=3.6						
HHC	**Hu-ho-hao-te**	**62.28**	**308**	*e*P	**P**	**07 20 53.3**	**-0.1**
AKASG	**Malin Array Be**	**63.30**	**12**	P	**P**	**07 21 00.1**	**+0.2**
	3.1nm,0.5s,baz=353,slow=7.1,SNR=3.5						
MK32	**Makanchi Array**	**64.34**	**333**	*e*P	**P**	**07 21 07.5**	**+0.6**
MKAR	**Makanchi Array**	**64.34**	**333**	P	**P**	**07 21 07.5**	**+0.6**
	0.5nm,0.6s,baz=20,slow=7.3,SNR=2.8						
ABKAR	**Akbulak array**	**64.89**	**350**	*e*P	**P**	**07 21 10.8**	**+0.4**
	1.4nm,0.8s						
WMQ	**Urumqi**	**66.08**	**328**	*e*P	**P**	**07 21 22.0**	**+3.7**
LZH	**Lanzhou**	**69.07**	**312**	*e*P	**P**	**07 21 34.9**	**-2.5**
LZH				pP	pP	07 21 37.5	-2.9
LZH				sP	sP	07 21 39.4	-2.1
KSH	**Kashi**	**72.53**	**336**	P	**P**	**07 21 59.6**	**+1.3**
BR101	**Keskin Array S**	**74.55**	**9**	*e*P	**P**	**07 22 11.7**	**+1.5**
BRTR	**Keskin Array B**	**74.55**	**9**	P	**P**	**07 22 11.7**	**+1.5**
	0.6nm,0.6s,baz=345,slow=5.9,SNR=2.4						
KMI	**Kunming**	**79.59**	**309**	P	**P**	**07 22 39.9**	**+1.0**
TOA1	**Torodi Ar. Sit**	**94.90**	**43**	*e*P	**P**	**07 23 54.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**94.91**	**43**	P	**P**	**07 23 54.5**	**+0.7**
	0.3nm,0.7s,baz=335,slow=6.4,SNR=2.9						

VIE 15 07:23:53.7±1.2, 47°.84N×14°.10E, h0km, ml1.4/2, Error ellipse: s-maj=10.9km s-min=4.3km az=31.0, Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOA	**Molln**	**0.11**	**85**	*i* Pg	Pg	07 23 55.8	0.0
	2.4nm,0.1s						
MOA				*e*Sg	Sg	07 23 57.6	+0.3
	20nm,0.2s						
CONA	**Conrad Observa**	**1.19**	**85**	Pg	Pg	07 24 16.8	+0.3
	0.6nm,0.2s						
CONA				Sg	Sn	07 24 34.2	-0.3
	2.2nm,0.3s						

NIED ***15*** *07:26:00, 45°.40N×151°.00E, h38km, Mw4.0 Best double couple: M0 1.19000×10^15 NP1:ϕs131.00000°, δ55.00000°, λ-21.00000°. NP2:ϕs233.00000°, δ73.00000°, λ-143.00000°.*

SKHL ***15*** *07:26:53.5±0.8, 45°.15N×151°.19E, h37km±2km, mb4.3/7*

JMA ***15*** *07:26:53.6±0.6, 45°.40N×151°.04E, h30km, M4.4*

ISCJB ***15*** *07:26:53.8±0.6, 45°.15N±0°.08×151°.00E±0°.07, h35km, mb3.6/14, MS3.0/1, Error ellipse: s-maj=12.4km s-min=3.8km az=150.1*

MOS ***15*** *07:26:56.1±1.0, 45°.18N×151°.14E, h26km, mb4.1/3, Error ellipse: s-maj=13.2km s-min=8.4km az=139.3*

IDC ***15*** *07:27:00.4±2.6, 45°.39N×150°.80E, h73km±24km, mb3.3/14, mb1 3.5/19, mb1mx3.4/57, mbtmp3.7/19, MS2.9/5, Ms1 2.9/5, ms1mx2.6/28, Error ellipse: s-maj=26.7km s-min=15.7km az=149.0*

ISC 15 07:26:54.8±0.7, 45°.01N±0°.09×151°.08E±0°.07, h35km, n62, σ1°54/73, mb3.6/14, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.29**	**277**	*c i* PN	**Pn**	**07 27 29.9**	**-0.1**
KUR				*i* S	**Sn**	**07 27 56.3**	**-0.6**
KUR				pmax	pmax		
	comp=Z,82nm,0.2s						
KUR				pmax	pmax		
	comp=N,75nm,0.1s						
KUR				pmax	pmax		
	comp=E,29nm,0.1s						
KUR				smax	smax		
	comp=N,423nm,0.5s						
KUR				smax	smax		
	comp=E,107nm,0.3s						
KUR	**Kuril'sk**	**2.29**	**277**	*e*P	**Pn**	**07 27 29.8**	**-0.2**
KUR				AMB	AMB	07 27 31.0	
	comp=E,50nm,0.5s						
KUR				*e*S	**Sn**	**07 27 56.4**	**-0.5**
KUR				A	A	07 27 58.5	
	comp=E,470nm,0.5s						
KUR				A	A	07 27 58.5	
	comp=E,240nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.86**	**257**	*e*PN	**Pn**	**07 27 53.3**	**+1.7**
YUK				*i* S	**Sn**	**07 28 37.7**	**+2.1**
YUK				pmax	pmax		
	comp=N,31nm,0.3s						
YUK				pmax	pmax		
	comp=Z,205nm,0.3s						
YUK				pmax	pmax		
	comp=E,85nm,0.4s						
YUK				smax	smax		
	comp=N,112nm,0.6s						
YUK				smax	smax		
	comp=E,169nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.86**	**257**	*e*P	**Pn**	**07 27 53.3**	**+1.7**
YUK				AMB	AMB	07 27 56.8	
	comp=E,30nm,0.3s						
YUK				AMB	AMB	07 27 56.8	
	comp=E,90nm,0.3s						
YUK				AMB	AMB	07 27 56.8	
	comp=E,20nm,0.3s						
YUK				*e*S	**Sn**	**07 28 37.7**	**+2.1**
YUK				A	A	07 28 53.0	
	comp=E,110nm,0.6s						
YUK				A	A	07 28 53.0	
	comp=E,170nm,0.6s						
LAGR	**Lagunnoye**	**3.90**	**258**	*e*PN	**Pn**	**07 27 53.4**	**+1.2**
LAGR				*e*S	**Sn**	**07 28 38.0**	**+1.2**
LAGR				pmax	pmax		
	comp=Z,92nm,0.4s						
LAGR				smax	smax		
	comp=E,184nm,0.6s						
LAGR				smax	smax		
	comp=N,426nm,0.5s						
LAGR	**Lagunnoye**	**3.90**	**258**	*e*P	**Pn**	**07 27 53.0**	**+0.8**
LAGR				AMB	AMB	07 27 54.0	
	comp=N,50nm,0.4s						
LAGR				*e*S	**Sn**	**07 28 38.0**	**+1.2**
LAGR				A	A	07 28 54.0	
	comp=N,230nm,0.6s						
LAGR				A	A	07 28 54.0	
	comp=N,180nm,0.6s						
GRPR	**Tuman**	**3.93**	**257**	*e*PN	**Pn**	**07 27 53.6**	**+1.0**
GRPR				*e*S	**Sn**	**07 28 38.1**	**+0.6**
GRPR				pmax	pmax		
	comp=Z,103nm,0.4s						
GRPR				pmax	pmax		
	comp=N,75nm,0.2s						
GRPR				pmax	pmax		
	comp=E,62nm,0.2s						
GRPR				smax	smax		
	comp=E,169nm,0.4s						
GRPR				smax	smax		
	comp=N,154nm,0.6s						
GRPR	**Tuman**	**3.93**	**257**	*e*P	**Pn**	**07 27 53.0**	**+0.4**
GRPR				AMB	AMB	07 27 57.0	
	comp=N,80nm,0.4s						
GRPR				AMB	AMB	07 27 57.0	
	comp=N,60nm,0.4s						
GRPR				AMB	AMB	07 27 57.0	
	comp=N,40nm,0.4s						
GRPR				*e*S	**Sn**	**07 28 38.0**	**+0.6**
GRPR				A	A	07 28 50.0	
	comp=N,150nm,0.6s						
GRPR				A	A	07 28 50.0	
	comp=N,170nm,0.6s						
NEM2	**Nemuro 2**	**4.17**	**249**	P	**Pn**	**07 27 56.2**	**+0.2**
NEM2				*e*S	**Sn**	**07 28 42.3**	**-1.2**
GLVR	**Golovnino**	**4.18**	**254**	*e*PN	**Pn**	**07 27 57.1**	**+1.0**
GLVR				*e*S	**Sn**	**07 28 44.4**	**+0.7**
GLVR				pmax	pmax		
	comp=Z,242nm,0.7s						
GLVR				pmax	pmax		

KSRS	Korea Array	18.94	255	P	Pn	07 31 14.3 +0.8
	comp=Z,0.2nm,0.3s,baz=59,slow=10,SNR=3.3					
SONM	Songino Array	30.61	291	P	P	07 33 05.2 -0.2
	comp=Z,0.2nm,0.4s,baz=92,slow=10,SNR=2.4					
WHN	Wuhan	32.12	256	P	P	07 33 09.8 -9.0
ILAR	Eielson Array	38.80	37	P	P	07 34 15.5 -0.2
	comp=Z,0.3nm,0.8s,baz=260,slow=8.1,SNR=3.6					
INK	Inuvik	43.88	31	P	P	07 34 58.2 +0.9
	comp=Z,0.4nm,0.6s,baz=256,slow=4.2,SNR=3.7					
MKAR	Makanchi Array	46.49	298	P	P	07 35 17.9 -0.4
	comp=Z,0.7nm,0.5s,baz=73,slow=7.8,SNR=7.9					
KURK	Kurchatov	47.16	304	P	P	07 35 23.2 -0.3
KURK	Kurchatov	47.16	304	eP	P	07 35 23.2 -0.3
KURBB	Kurchatov Arra	47.25	304	P	P	07 35 23.2 -0.9
	comp=Z,0.4nm,0.3s,baz=76,slow=8.1,SNR=4.5					
CMAR	Chiang Mai Arr	50.57	256	LR	LR	07 59 32.1
	comp=Z,15nm,19.2s,baz=315,slow=39					
RES	Resolute Bay	52.93	18	P	P	07 36 06.1 -0.8
	comp=Z,0.4nm,0.5s,baz=314,slow=4.1,SNR=5.1					
YKA	Yellowknife Ar	53.17	35	P	P	07 36 09.1 +0.3
	comp=Z,0.1nm,0.5s,baz=300,slow=7.3,SNR=2.7					
FINES	FINESS Array B	65.00	334	P	P	07 37 27.7 -3.0
	comp=Z,0.7nm,0.5s,baz=22,slow=5.1,SNR=3.7					
NB2	NORSAR Subarra	69.41	340	P	P	07 37 56.9 -1.9
	comp=Z,0.4nm,0.5s,baz=27,slow=6.5					
NOA	NORSAR Array B	69.41	340	eP	P	07 37 57.6 -1.1
NOA				pmax	pmax	
	comp=Z,1.0nm,0.5s					
NOA	NORSAR Array B	69.41	340	P	P	07 37 56.9 -1.9
	comp=Z,0.8nm,0.5s,baz=30,slow=6.3,SNR=4.3					
ASAR	Alice Springs	70.12	197	P	P	07 38 06.5 +3.1
	comp=Z,0.1nm,0.3s,baz=18,slow=5.3,SNR=4.6					
KBZ	Khabaz	71.03	313	P	P	07 38 08.6 -0.4
	comp=Z,2.6nm,0.8s,baz=42,slow=5.7,SNR=6.8					
AKASG	Malin Array Be	72.19	325	P	P	07 38 13.9 -1.8
	comp=Z,0.9nm,0.4s,baz=38,slow=6.3,SNR=5.0					
CLL	Collm	77.45	335	eP	P	07 38 45.0 -1.1
BRTR	Keskin Array B	78.67	316	i P	P	07 38 54.2 +0.9
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
BRTR	Keskin Array B	78.67	316	P	P	07 38 52.6 -0.7
	comp=Z,0.5nm,0.7s,baz=54,slow=7.3,SNR=3.6					
TXAR	Lajitas Array	79.60	59	P	P	07 38 59.4 +0.9
	comp=Z,0.2nm,0.7s,baz=289,slow=3.2,SNR=3.7					

ROM 15 07:27:16.1±0.1, 40°.059N±0°.005×16°.204E±0°.007, h7km, ML1.2/3, Error ellipse: s-maj=0.8km s-min=0.2km az=225.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHR	S. Chirico Rap	0.17	325	P	Pg	07 27 20.3	+0.6
SCHR	S. Chirico Rap	0.17	325	P	Pg	07 27 20.3	+0.7
SCHR	S. Chirico Rap	0.17	325	P	Pg	07 27 20.4	+0.7
SCHR				S	Sg	07 27 23.1	+1.0
SALB	San Lorenzo Be	0.21	149	P	Pg	07 27 21.1	+0.7
SALB	San Lorenzo Be	0.21	149	P	Pg	07 27 21.1	+0.7
SALB				S	Sg	07 27 24.5	+1.2
SALB				AML	AML		
	comp=E,74μm,0.1s						
SALB				AML	AML		
	comp=N,84μm,0.1s						
SALB				AML	AML		
	comp=N,84μm,0.1s						
SALB				AML	AML		
	comp=E,74μm,0.1s						
SALB	San Lorenzo Be	0.21	149	P	Pg	07 27 21.1	+0.8
SALB	San Lorenzo Be	0.21	149	S	Sg	07 27 24.5	+1.2
T0721	Laino Castello	0.21	235	P	Pg	07 27 18.8	-1.6
SIRI	Monte Sirino -	0.29	296	P	Pg	07 27 22.6	+0.8
SIRI	Monte Sirino -	0.29	296	P	Pg	07 27 22.7	+0.9
SIRI				S	Sg	07 27 27.1	+1.5
SIRI				AML	AML		
	comp=E,93μm,1.6s						
SIRI				AML	AML		
	comp=N,93μm,0.2s						
SIRI				AML	AML		
	comp=N,93μm,0.2s						
SIRI				AML	AML		
	comp=E,93μm,1.6s						
SIRI	Monte Sirino -	0.29	296	P	Pb	07 27 22.7	-0.9
SIRI	Monte Sirino -	0.29	296	S	Sb	07 27 27.7	-0.9
CUC	Castrocucco	0.31	258	P	Pb	07 27 23.4	-0.6
CUC				S	Sb	07 27 28.1	-1.1
CUC	Castrocucco	0.31	258	P	Pb	07 27 23.8	-0.1
MTSN	Montesano sull	0.40	301	P	Pg	07 27 24.4	+0.4
MTSN	Montesano sull	0.40	301	P	Pg	07 27 24.6	+0.6
MTSN				S	Sb	07 27 31.4	-0.6
MTSN				AML	AML		
	comp=E,36μm,1.1s						
MTSN				AML	AML		
	comp=N,42μm,1.1s						
MTSN				AML	AML		
	comp=E,36μm,1.1s						
MTSN				AML	AML		
	comp=N,42μm,1.1s						
MTSN	Montesano sull	0.40	301	P	Pg	07 27 24.7	+0.7
MCEL	Monticello	0.41	311	P	Pg	07 27 24.8	+0.7
MCEL	Monticello	0.41	311	P	Pb	07 27 25.0	-0.7
MCEL				S	Sb	07 27 31.5	-0.6
MCEL	Monticello	0.41	311	P	Pb	07 27 25.3	-0.4

WEL 15 07:28:28.4, 45°.S±4°.×16°.7E±°, h17km±3km, ML4.0/18, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.17	108	P	Pb	07 28 33.9	+0.8
DCZ				S	Sb	07 28 38.0	+1.8
MLZ	Mavora Lakes	0.84	87	P	Pb	07 28 44.1	-0.4
MLZ				S	Sg	07 28 56.4	+0.5
WHZ	Wether Hill Ro	0.86	124	P	Pg	07 28 45.0	-0.1
WHZ				S	Sn	07 28 57.9	-0.1
MSZ	Milford Sound	1.02	44	P	Pb	07 28 44.4	-3.3
WKZ	Wanaka	1.59	69	P	Pn	07 28 55.7	-0.1
APZ	The Paps	1.60	153	P	Pb	07 28 57.6	0.0
EAZ	Earnscleugh	1.69	85	P	Pn	07 28 57.6	+0.4
JCZ	Jackson Bay	1.88	45	P	Pn	07 28 58.8	-1.1
JCZ				S	Sb	07 29 26.3	+0.7
SYZ	Scrubby Hill	1.91	127	P	Pn	07 29 00.8	+0.7
TUZ	Tuapeka	1.97	107	P	Pn	07 29 01.7	+0.7
TUZ				S	Sn	07 29 25.7	+0.4
LBZ	Lake Benmore	2.53	67	P	Pn	07 29 07.8	-1.0
HHSZ	Highcliff Hill	2.62	102	P	Pn	07 29 10.5	+0.7
ODZ	Otahua Downs	2.65	83	P	Pn	07 29 09.7	-0.7
FOZ	Fox Glacier	2.79	49	P	Pn	07 29 11.2	-1.0
GCSZ	Gaunt Creek Bo	3.21	50	P	Pn	07 29 16.6	-1.5
RPZ	Rata Peaks	3.40	62	P	Pn	07 29 19.2	-1.5
WVZ	Waitaha Valley	3.60	51	P	Pn	07 29 22.3	-1.1
OXZ	Oxford	4.21	62	P	Pn	07 29 30.0	-1.9
OXZ				S	Sn	07 30 16.1	-4.6
INZ	Inchbonnie	4.22	52	P	Pn	07 29 30.4	-1.5
MOZ	McQueen's Vall	4.43	69	P	Pn	07 29 34.1	-0.7
LTZ	Lake Taylor	4.66	58	P	Pn	07 29 37.0	-1.0
AMCZ	Amberley	4.68	63	P	Pn	07 29 37.1	-1.1
OKCZ	Okains Bay	4.70	71	P	Pn	07 29 38.1	-0.4
DSZ	Denniston Nort	5.10	46	P	Pn	07 29 41.6	-2.4
KHZ	Kahutara	5.64	60	P	Pn	07 29 50.8	-0.6
THZ	Tophouse	5.67	52	P	Pn	07 29 51.0	-0.9
QRZ	Quartz Range	6.15	44	P	Pn	07 29 56.0	-2.4
NNZ	Nelson	6.30	51	P	Pn	07 29 59.8	-0.7
TUWZ	Tuamarina	6.47	55	P	Pn	07 30 03.0	+0.1
DUWZ	D'Urville Isla	6.88	50	P	Pn	07 30 08.5	0.0
KHEZ	Kahui Hut	8.05	43	P	Pn	07 30 23.1	-1.6
PKE	Pukeiti	8.12	43	P	Pn	07 30 23.9	-1.6
VRZ	Vera Road	8.55	45	P	Pn	07 30 31.3	-0.1

IDC ***15*** *07:37:05.8±0.8, 2°.07S×120°.99E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/41, mbtmp4.0/10, ML4.3/1, Error ellipse: s-maj=36.9km s-min=15.6km az=70.0*
ISCJB ***15*** *07:37:08.3±1.5, 2°.24S±0°.03×120°.91E±0°.04, h22km±13km, mb3.9/9, Error ellipse: s-maj=7.6km s-min=5.3km az=25.2*
DJA ***15*** *07:37:08.4±0.2, 2°.S±2°.×12°.1E±°, h10km, M4.3/13, mb4.3/2, mbB4.5/1, MLv4.3/13, Mw(mB)3.7/1*
ISC 15 07:37:07.5±2.0, 2°.17S±0°.04×120°.73E±0°.05, h13km±13km, n24, σ1°.35/32, mb3.9/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	1.25	226	P	Pn	07 37 30.5	-0.3
TTSI				S	Sb	07 37 47.2	+0.1
APSI	Ampana	1.55	36	P	Pb	07 37 36.0	-0.2
APSI				S	Sg	07 37 59.1	+1.5
SPSI	Sidrap Palu	2.02	208	P	Pn	07 37 41.9	+0.6
SPSI				S	Sb	07 38 09.3	0.0
BNSI	Bone	2.30	196	P	Pn	07 37 45.0	-0.2
BNSI				S	Sb	07 38 17.8	+0.5
LUWI	Luwuk	2.33	61	P	Pn	07 37 45.9	+0.3
MPSI	Mapaga	2.62	342	P	Pb	07 37 53.1	-1.3
MPSI				S	Sb	07 38 25.6	-1.0
MRSI	Marisa	2.90	25	P	Pn	07 37 54.6	+1.3
MRSI				S	Sn	07 38 28.3	+0.3
KAPI	Kappang	2.99	199	Pn	Pn	07 37 55.5	+0.9
	36nm,0.3s,baz=8.1,slow=3.5,SNR=40						
KAPI				Sn	Sb	07 38 35.4	-1.7
	17nm,0.3s,baz=323,slow=20,SNR=4.4						
BKSI	Bulukumba	3.19	191	P	Pn	07 37 58.9	+1.5
GTOI	Gorontalo	3.60	39	P	Pn	07 38 02.0	-1.1
BKB	Balikpapan	3.93	283	P	Pb	07 38 13.6	-3.1
BSSI	Bau Bau, Buton	3.95	183	P	Pn	07 38 08.3	+0.4
SANI	Sanana	5.26	89	P	Pn	07 38 24.5	-1.4
SANI				S	Sn	07 39 23.9	-2.5
MTKI	Muara Teweh, K	5.95	282	P	Pb	07 38 50.3	-0.9
PBKI	Pangkalan Bun	9.06	266	P	Pn	07 39 26.3	+8.2
WRA	Warramunga Arr	22.11	144	P	P	07 42 02.5	-0.4
	2.4nm,0.6s,baz=322,slow=10.0,SNR=17						
ASAR	Alice Springs	24.89	150	P	P	07 42 30.7	+0.4
	2.6nm,1.0s,baz=321,slow=8.1,SNR=13						
ASAR				PcP	PcP	07 46 06.4	+0.2
	0.6nm,0.5s,baz=332,slow=2.0,SNR=10						
CMAR	Chiang Mai Arr	29.66	315	P	P	07 43 16.0	+2.8
	0.7nm,0.3s,baz=130,slow=8.4,SNR=4.0						
STKA	Stephens Creek	35.50	149	P	P	07 44 03.7	-0.4
	2.0nm,0.7s,baz=321,slow=8.1,SNR=4.4						
SONM	Songino Array	51.35	348	P	P	07 46 11.5	-0.4
	1.4nm,0.7s,baz=170,slow=9.4,SNR=8.6						
MKAR	Makanchi Array	59.30	330	P	P	07 47 10.4	+1.4
	0.8nm,0.6s,baz=128,slow=8.2,SNR=5.5						
VNDA	Vanda	78.44	172	P	P	07 49 09.4	+1.9
	0.4nm,0.7s,baz=329,slow=5.2,SNR=4.1						
ILAR	Eielson Array	92.97	25	P	P	07 50 19.1	-1.2
	0.2nm,0.7s,baz=270,slow=5.4,SNR=3.4						
ARCES	ARCESS Array B	93.85	339	P	P	07 50 22.8	-1.5
	1.9nm,0.8s,baz=72,slow=4.0,SNR=8.7						

ISCJB ***15*** *07:38:23.3±0.9, 4°.6N±0°.1×94°.5E±0°.1, h33km, mb4.0/9, Error ellipse: s-maj=25.1km s-min=8.6km az=37.4*
IDC ***15*** *07:38:31.1±4.9, 4°.85N×94°.92E, h84km±42km, mb3.7/9, mb1 3.8/11, mb1mx3.5/45, mbtmp4.0/11, Error ellipse: s-maj=63.8km s-min=14.8km az=54.0*
ISC 15 07:38:25.3±1.1, 4°.6N±0°.2×94°.5E±0°.1, h33km, n11, σ1°.36/12, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.78	111	P	Pn	07 39 36.2	+0.9
	2.8nm,0.3s,baz=326,slow=8.3,SNR=6.8						
PSI				S	Sn	07 40 30.0	+0.3
	4.8nm,0.3s,baz=309,slow=19,SNR=4.5						
CMAR	Chiang Mai Arr	14.48	17	P	Pn	07 41 48.6	+0.5
	0.6nm,0.3s,baz=209,slow=11,SNR=9.3						
AAK	Ala-Archa	41.86	338	P	P	07 46 14.0	+1.4
	1.6nm,0.6s,baz=89,slow=4.4,SNR=5.1						
MKAR	Makanchi Array	43.37	348	P	P	07 46 23.0	-1.6
	1.5nm,0.5s,baz=157,slow=7.4,SNR=21						
WRA	Warramunga Arr	46.14	123	P	P	07 46 45.6	-1.4
	1.9nm,0.6s,baz=316,slow=11,SNR=25						
ASAR	Alice Springs	47.60	128	P	P	07 46 57.6	-0.9
	0.4nm,0.4s,baz=298,slow=7.7,SNR=11						
KURBB	Kurchatov Arra	47.81	346	P	P	07 46 58.4	-1.2
	1.4nm,0.6s,baz=170,slow=6.7,SNR=11						
ZALV	Zalesovo Beam	49.86	353	P	P	07 47 13.2	-2.0
	1.1nm,0.3s,baz=175,slow=8.8,SNR=5.9						
BRTR	Keskin Array B	64.84	312	P	P	07 49 02.5	+0.9
	0.7nm,0.5s,baz=138,slow=7.0,SNR=3.8						
FINES	FINESS Array B	75.77	333	P	P	07 50 07.2	-0.5
	1.2nm,0.5s,baz=108,slow=4.2,SNR=9.9						
GERES	GERESS Array B	80.50	319	P	P	07 50 35.5	+1.2
	0.2nm,0.3s,baz=98,slow=4.2,SNR=3.6						

SNET ***15*** *07:40:42.2±1.0, 13°.36N×92°.45W, h15km±999km, ML3.5*
IDC ***15*** *07:40:48.4±3.8, 13°.12N×91°.65W, h0km, mb3.3/2, mb1 3.6/5, mb1mx3.4/39, mbtmp3.3/5, ML3.3/3, Error ellipse: s-maj=58.5km s-min=34.5km az=162.0*
UCR ***15*** *07:41:01.5±1.5, 14°.77N×90°.86W, h72km±9km, MD3.5, ML2.9*
ISC 15 07:40:51.3±1.4, 13°.18N±0°.10×91°.38W±0°.06, h28km, n20, σ2°.11/20, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	1.33	42	eP	Pb	07 41 17.8	+2.0
IXG				eS	Sn	07 41 28.8	-2.4
FUG	Fuego 3	1.36	22	eP	Pn	07 41 12.9	-1.7
FUG				eS	Sn	07 41 20.5	-11
NBG	Las Nubes	1.72	36	eP	Pn	07 41 15.9	-3.8
NBG				eS	Sn	07 41 25.6	-15
SBLS	San Blas	1.83	69	eP	Pb	07 41 26.1	+1.9
SBLS	San Blas	1.83	69	eP	Pb	07 41 26.1	+1.9
RTR	El Retiro	1.83	67	eP	Pb	07 41 27.2	+2.9
RTR	El Retiro	1.83	67	eP	Pb	07 41 27.2	+2.9
SNJE	San Jose	1.85	68	eP	Pb	07 41 27.3	+2.6
SNJE	San Jose	1.85	68	eP	Pb	07 41 27.3	+2.6
APG	El Apazote	2.02	26	Pn	Pb	07 41 27.4	-0.1
	8.5nm,0.3s,baz=196,slow=12,SNR=53						
APG				Sn	Sb	07 41 54.3	+2.1
	4.4nm,0.3s,baz=317,slow=22,SNR=5.4						
UEES	San Salvador	2.15	75	eS	Sb	07 42 09.8	+14
LBRS	Las Brisas	2.34	76	eP	Pb	07 41 34.2	+1.3
PACA	Pacayal	2.99	84	eP	Pb	07 41 43.5	-0.4
PACA	Pacayal	2.99	84	eP	Pb	07 41 43.5	-0.4
LCND	La Caada	3.40	87	IAML		07 41 49.2	
	comp=Z,46nm,0.3s						
LCND	La Caada	3.40	87	IAML		07 41 49.2	
	comp=Z,46nm,0.3s						
CMIG	Matias Romero	5.15	319	Pn	Pn	07 42 05.1	-1.5
	comp=Z,0.6nm,0.3s,baz=136,slow=7.3,SNR=7.1						
CMIG				Sn	Sn	07 43 04.5	-0.7
	comp=Z,0.4nm,0.3s,baz=99,slow=20,SNR=2.4						
TXAR	Lajitas Array	19.71	327	P	Pn	07 45 20.2	-0.1
	comp=Z,0.0nm,0.3s,baz=148,slow=14,SNR=3.4						
YKA	Yellowknife Ar	51.96	347	P	P	07 49 57.9	+0.4
	comp=Z,0.1nm,0.5s,baz=148,slow=7.5,SNR=5.9						
ILAR	Eielson Array	63.83	337	P	P	07 51 22.1	+1.3
	comp=Z,0.4nm,0.9s,baz=117,slow=5.2,SNR=4.6						

SOME ***15*** *07:56:21.6, 44°.72N×82°.23E, h20km*
ISCJB ***15*** *07:56:22.7±2.3, 44°.7N±0°.1×82°.3E±0°.2, h10km, Error ellipse: s-maj=21.7km s-min=7.3km az=42.0*
NNC ***15*** *07:56:22.6±1.7, 44°.50N×76°.76E, h0km, mb2.6, mpv2.6, Error ellipse: s-maj=14.6km s-min=7.8km az=95.0*
ISC 15 07:56:21.9±2.1, 44°.73N±0°.09×82°.2E±0°.1, h10km, n7, σ0°.71/12, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.77	258	P	Pb	07 56 54.6	+0.1
	1.6nm,0.1s						
DJR				S	Sg	07 57 18.4	-0.4
	2.0nm,0.4s						
DJR	Jarkent	1.77	258	eP	Pb	07 56 54.6	+0.1
	1.6nm,0.1s						
DJR				eS	Sg	07 57 18.4	-0.4
	2.0nm,0.4s						
MK31	Makanchi Array	2.06	2	||Pn	Pb	07 56 58.7	-0.8
	0.4nm,0.3s,baz=188,slow=13,SNR=39						
MK31				⇑Sn	Sb	07 57 25.1	-0.1
	0.4nm,0.3s,baz=186,slow=28,SNR=22						
MAKZ	Makanchi	2.08	356	⇑Pn	Pn	07 56 58.2	+1.2
	1.3nm,0.5s						
MAKZ				⇑Sn	Sb	07 57 25.5	-0.3
	2.4nm,0.5s						
KAPS	Kapalarasan	2.09	286	Pg	Pb	07 56 59.3	-0.7
	1.2nm,0.2s						
KAPS				Lg	Lg	07 57 26.4	
	2.2nm,0.3s						
KAPS	Kapalarasan	2.09	286	eP	Pb	07 56 59.3	-0.7
	1.2nm,0.2s						
KAPS				eS	Sb	07 57 26.4	+0.4
	2.2nm,0.3s						
PDGK	Podgornoye	2.41	235	Pg	Pb	07 57 04.4	-1.0
	0.4nm,0.2s						
PDGK				Lg	Lg	07 57 35.6	
	0.8nm,0.4s						

BJI ***15*** *08:02:32.9±0.0, 27°.00S×177°.83W, h147km, mb5.4/32, mB5.3/25*
ISCJB ***15*** *08:02:35.5±0.2, 27°.51S±0°.02×177°.92W±0°.04, h180km, mb5.2/106, Error ellipse: s-maj=5.2km s-min=3.0km az=21.0*
IDC ***15*** *08:02:37.9±0.8, 27°.13S×178°.03W, h180km±8km, mb4.8/21, mb1 4.9/23, mb1mx4.9/27, mbtmp5.3/23, MS3.7/5, Ms1 3.7/5, ms1mx3.3/23, Error ellipse: s-maj=11.4km s-min=10.3km az=143.0*
NEIC ***15*** *08:02:37.3±2.7, 27°.16S×177°.92W, h180km±5km, mb4.9/180, Error ellipse: s-maj=13.1km s-min=9.6km az=156.0*
MOS ***15*** *08:02:37.4±1.0, 27°.09S×178°.15W, h183km, mb5.1/23, Error ellipse: s-maj=10.2km s-min=8.1km az=105.2*
GCMT ***15*** *08:02:40.3±0.2, 27°.06S±0°.02×177°.76W±0°.01, h188km±1km, MW5.2/97, Moment Tensor Solution. s61,c78; s97,c147; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.20±.02; Mθθ-0.45±.02; Mφφ 0.65±.02; Mrθ-0.28±.02; Mθφ-0.10±.02; Mφr-0.58±.02; Best double couple: M0 0.86300×10^17 NP1:φs 31.00000°, δ82.00000°, λ-53.00000°. NP2:φs 132.00000°, δ38.00000°, λ-166.00000°. Principal axes: T 0.9510, Plg27.0000°, Azm92.0000°; N -0.1760, Plg37.0000°, Azm204.0000°; P -0.7740, Plg41.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 08:02:37.1±0.2, 27°.30S±0°.04×177°.91W±0°.05, h180km, n692, σ1°.63/694, mb5.1/105, 43C-42D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	1.93	180	P	Pn	08 03 17.1	+3.7
RIZ				S	Sn	08 03 48.8	+7.0
RAO	Raoul Island	1.94	180	ePn	Pn	08 03 17.1	+3.7
RAO				ePn	Pn	08 03 17.2	+3.8
RAO				eSn	Sn	08 03 45.9	+4.1
RAO	Raoul Island	1.94	180	P	Pn	08 03 17.2	+3.7
	4μm,0.3s,baz=50,slow=22,SNR=61						
RAO				S	Sn	08 03 45.9	+4.1
	3μm,0.3s,baz=78,slow=22,SNR=9.3						
GLKZ	Green Lake	1.95	180	P	Pn	08 03 17.5	+3.9
GLKZ				S	Sn	08 03 49.9	+7.9
MXZ	Matakaoa Point	10.71	196	ePn	Pn	08 05 02.8	-3.0
MXZ	Matakaoa Point	10.71	196	P	Pn	08 05 00.4	-5.4
OUZ	Omahuta	10.72	221	ePn	Pn	08 05 08.8	+2.9
OUZ	Omahuta	10.72	221	P	P	08 05 11.3	-2.2
WCZ	Waipu Caves	10.84	216	P	Pn	08 05 10.4	+2.9
WMGZ	Waiomatatini S	10.93	196	P	Pn	08 05 03.4	-5.2
NIUE	Niue	10.99	44	ePn	Pn	08 05 06.2	-3.4
NIUE				eSn	Sn	08 06 58.0	-14
NIUE	Niue	10.99	44	P	Pn	08 05 06.1	-3.5
	baz=11,SNR=10.0						
HAZ	Te Kaha	11.04	198	P	Pn	08 05 04.4	-5.6
PKGZ	Pakihiroa	11.08	197	P	Pn	08 05 04.3	-6.3
PUZ	Puketiti	11.21	196	P	Pn	08 05 05.7	-6.6
RUGZ	Raukumara Rang	11.26	198	P	Pn	08 05 07.9	-5.1
TWGZ	Tauwhareparae	11.38	197	P	Pn	08 05 08.9	-5.5
TWGZ				S	Sn	08 07 14.7	-6.1
MWZ	Matawai	11.65	198	P	Pn	08 05 11.9	-6.0
MWZ				S	Sn	08 07 19.7	-7.6
TKGZ	Te Karaka	11.66	197	P	Pn	08 05 12.8	-5.2
URZ	Urewera	11.70	200	ePn	Pn	08 05 16.3	-2.2
URZ	Urewera	11.70	200	P	Pn	08 05 14.8	-3.7
	2.9nm,0.3s,baz=268,slow=5.4,SNR=18						
URZ				S	Sn	08 07 20.8	-7.6
	8.6nm,0.3s,baz=227,slow=21,SNR=9.8						
URZ	Urewera	11.70	200	P	Pn	08 05 13.8	-4.7
URZ				S	Sn	08 07 22.0	-6.4
TOZ	Tahuroa Road	11.79	206	P	Pn	08 05 21.2	+1.6
RAGZ	Rawiri	11.83	198	P	Pn	08 05 14.2	-6.1
MUGZ	Murupara	12.00	200	P	Pn	08 05 16.7	-5.7
PRGZ	Paritu Road	12.11	196	P	Pn	08 05 21.0	-2.8
SNGZ	Shannon Statio	12.12	198	P	Pn	08 05 19.7	-4.2
RAHZ	Arahi	12.31	199	P	Pn	08 05 20.7	-5.7
MTHZ	Maungataniwha	12.32	200	P	Pn	08 05 21.9	-4.7
NMHZ	Naumai	12.56	199	P	Pn	08 05 25.0	-4.7
NFK	Norfolk Island	12.61	259	P	P	08 05 32.7	-1.9
	baz=13,SNR=4.7						
HIZ	Hauiti	12.72	207	ePn	Pn	08 05 31.5	0.0
HIZ	Hauiti	12.72	207	P	Pn	08 05 30.7	-0.8
BKZ	Black Stump Fm	12.72	200	ePn	Pn	08 05 26.0	-5.7
BKZ	Black Stump Fm	12.72	200	P	Pn	08 05 25.9	-5.7
KWHZ	Kaweka Forest	12.98	200	P	Pn	08 05 28.8	-6.1
NGZ	Ngauruhoe	13.02	203	P	Pn	08 05 32.5	-3.0
BHHZ	Black Hill Sta	13.15	201	P	Pn	08 05 33.3	-3.8
KAHZ	Kahuranaki	13.19	198	P	Pn	08 05 32.6	-5.0
KRHZ	Kereru	13.19	200	P	Pn	08 05 35.4	-2.2
PKVZ	Pokaka	13.21	204	P	Pn	08 05 36.8	-1.1
VRZ	Vera Road	13.28	206	P	Pn	08 05 39.2	+0.5
PXZ	Pawanui	13.41	198	P	Pn	08 05 37.1	-3.3
PNHZ	Pukenui	13.49	200	P	Pn	08 05 35.8	-5.6
PKE	Pukeiti	13.65	208	P	P	08 05 45.1	-1.1
PRHZ	Porangahau	13.70	198	P	Pn	08 05 36.9	-7.0
WAZ	Wanganui	13.75	204	P	Pn	08 05 40.3	-4.3
DVHZ	Dannevirke	13.86	199	P	Pn	08 05 41.1	-4.8
MARNC	Mare, Loyalty	14.06	291	ePn	P	08

MGCD Mangrove Creek 27.34 250 P P 08 08 06.9 +1.6
baz=28,SNR=6.1
HNR Honiara 27.44 306 P P 08 08 05.0 -1.3
HNR Honiara 27.44 306 eP P 08 08 05.2 -1.1
comp=Z,268nm,0.8s
HNR Honiara 27.44 306 eP P 08 08 05.3 -1.1
HNR pmax pmax
comp=Z,268nm,0.8s
HNR Honiara 27.44 306 P P 08 08 05.5 -0.9
comp=Z,113nm,0.5s,baz=184,slow=1.8,SNR=4.1
EIDS Eidsvold 27.82 267 eP P 08 08 11.1 +1.4
comp=Z,22nm,0.8s
EIDS Eidsvold 27.82 267 P P 08 08 11.1 +1.4
baz=28,SNR=16
PPT2 Papeete2 27.86 76 eLR LR 08 14 55.1
comp=Z,452nm,29.0s
PPT Papeete 27.87 76 LR LR 08 17 00.3
comp=Z,140nm,18.9s,baz=332,slow=31
CAN Canberra 29.28 246 eP P 08 08 22.6 +0.1
comp=Z,19nm,1.0s
CAN Canberra 29.28 246 eP P 08 08 22.6 +0.1
CAN pmax pmax
comp=Z,19nm,1.0s
MILA Mila 29.40 242 P P 08 08 25.5 +1.9
baz=30,SNR=12
YNG Young 29.67 248 P P 08 08 27.9 +1.9
baz=30,SNR=5.3
RMQ Roma 29.69 264 P P 08 08 27.4 +1.1
baz=30,SNR=20
TARA Tarawa 29.83 341 eP P 08 08 25.6 -1.9
comp=Z,202nm,0.8s
CMSA Cobar Meteorol 31.89 254 P P 08 08 47.1 +1.7
baz=32,SNR=9.3
CTA Charters Tower 33.51 275 P P 08 09 00.5 +0.8
CTA pmax pmax
comp=Z,95nm,0.7s
CTAO Charters Tower 33.51 275 eP P 08 09 00.6 +1.0
comp=Z,57nm,0.6s
CTAO Charters Tower 33.51 275 eP P 08 09 00.6 +1.0
CTAO pmax pmax
comp=Z,57nm,0.6s
STKA Stephens Creek 35.36 253 eP P 08 09 15.4 -0.1
comp=Z,1.2nm,0.9s
STKA Stephens Creek 35.36 253 P P 08 09 16.8 +1.3
baz=36,SNR=5.4
STKA Stephens Creek 35.36 253 eP P 08 09 15.4 -0.1
STKA Stephens Creek 35.36 253 P P 08 09 16.1 +0.6
comp=Z,5.3nm,0.8s,baz=85,slow=14,SNR=5.6
STKA PcP **PcP 08 11 43.1 +1.6**
comp=Z,25nm,0.8s,baz=130,slow=5.3,SNR=9.1
PMG Port Moresby 37.45 292 eP P 08 09 32.6 -0.6
comp=Z,26nm,0.8s
PMG Port Moresby 37.45 292⇓eP P 08 09 32.8 -0.5
HTT Hallett 37.54 250 P P 08 09 34.8 +0.9
baz=38,SNR=13
COEN Coen 38.60 282 P P 08 09 43.7 +0.7
baz=39,SNR=14
QIS Mount Isa 39.27 270 P P 08 09 48.4 0.0
baz=39,SNR=15
BBOO Buckleboo 39.98 251 P P 08 09 54.1 -0.1
baz=40,SNR=8.4
MANU Manus Island 41.66 301 eP P 08 10 07.5 -0.6
comp=Z,135nm,0.2s
ASAR Alice Springs 43.44 264 eP P 08 10 21.8 -0.7
ASAR Alice Springs 43.44 264 eP P 08 10 21.8 -0.7
ASAR Alice Springs 43.44 264 P P 08 10 22.2 -0.2
comp=Z,14nm,0.7s,baz=95,slow=7.0,SNR=142
ASAR PcP **PcP 08 12 07.8 +0.3**
comp=Z,8.2nm,0.8s,baz=105,slow=4.3,SNR=5.1
ASAR ScP **ScP 08 15 41.0 -0.9**
comp=Z,2.8nm,1.0s,baz=119,slow=4.6,SNR=5.0
ASAR S **S 08 16 37.7 +0.4**
comp=Z,1.8nm,1.0s,baz=102,slow=13,SNR=4.2
ASAR PKiKP **PKiKP 08 19 08.6 -1.0**
comp=Z,0.2nm,0.4s,baz=132,slow=1.2,SNR=4.6
WB2 Warramunga Arr 44.14 269 eP P 08 10 27.4 -0.6
comp=Z,52nm,0.8s
WRAB Tennant Creek 44.14 269 eP P 08 10 27.6 -0.4
comp=Z,46nm,0.8s
WRAB Tennant Creek 44.14 269 eP P 08 10 27.6 -0.4
WRAB pmax pmax
comp=Z,46nm,0.8s
WRA Warramunga Arr 44.15 269 P P 08 10 27.4 -0.6
comp=Z,37nm,0.7s,baz=129,slow=9.0,SNR=101
WRA PcP **PcP 08 12 10.5 +0.6**
comp=Z,21nm,0.9s,baz=76,slow=4.1,SNR=12
WRA ScP **ScP 08 15 44.8 0.0**
comp=Z,4.1nm,1.1s,baz=109,slow=4.5,SNR=4.7
WRA S **S 08 16 46.6 -0.9**
comp=Z,1.6nm,1.0s,baz=98,slow=17,SNR=4.2
WRA PKiKP **PKiKP 08 19 09.2 -1.0**
comp=Z,0.7nm,0.6s,baz=158,slow=0.9,SNR=6.2
FORT Forrest 46.99 252 eP P 08 10 48.8 -1.4
comp=Z,50nm,0.7s
FORT Forrest 46.99 252 P P 08 10 49.4 -0.8
baz=47,SNR=20
WRKA Warakurna 48.02 260 P P 08 10 57.6 -0.7
baz=48,SNR=48
KDU Kakadu 48.53 277 P P 08 11 01.3 -0.9
baz=49,SNR=30
MTN Manton Dam 49.65 276 eP P 08 11 09.6 -1.2
comp=Z,18nm,0.8s
MTN Manton Dam 49.65 276 P P 08 11 10.6 -0.2
baz=50,SNR=6.2
KNRA Kununurra 50.62 272 P P 08 11 18.1 +0.1
baz=51,SNR=8.4
SBA Scott Base 51.12 184 eP P 08 11 24.5 +3.7
comp=Z,31nm,0.9s
SBA Scott Base 51.12 184 eP P 08 11 24.5 +3.7
SBA pmax pmax
comp=Z,31nm,0.9s
VNDA Vanda 51.17 186 P P 08 11 24.6 +3.4
comp=Z,11nm,1.2s,baz=6.3,slow=9.2,SNR=7.0
HPAH Hawaii Prepara 51.74 27 eP P 08 11 26.8 +0.5
comp=Z,91nm,0.9s
KIP Kipapa 52.13 24⇓eP P 08 11 29.7 +0.7
KIP pmax pmax
comp=Z,43nm,1.3s
FITZ Fitzroy Crossi 52.51 267 P P 08 11 31.7 -0.3
baz=53,SNR=8.4
FAKI Fak Fak 53.40 288 eP P 08 11 37.5 -1.1
comp=Z,28nm,1.0s
FAKI Fak Fak 53.40 288 P P 08 11 37.3 -1.3
KLBR Kellerberrin 55.48 249 P P 08 11 52.6 -0.8
baz=56,SNR=4.1
MEEK Meekatharra 56.00 255 P P 08 11 56.0 -1.2
baz=56,SNR=8.3
BLDU Ballidu 56.58 250 P P 08 12 00.2 -1.0
baz=57,SNR=5.2
MORW Morawa 57.54 251 eP P 08 12 07.7 -0.2
comp=Z,5.2nm,0.8s
SANI Sanana 59.19 285 P P 08 12 17.9 -1.6
LUWI Luwuk 62.47 284 P P 08 12 41.1 -0.6
BKSI Bulukumba 62.71 279 P P 08 12 41.8 -1.5
QSPA South Pole Qui 62.79 180 eP P 08 12 46.2 +3.0
comp=Z,24nm,0.8s
BNSI Bone 63.16 279 P P 08 12 46.1 -0.1
KAPI Kappang 63.18 279 eP P 08 12 46.3 -0.1
comp=Z,22nm,1.0s
KAPI Kappang 63.18 279 eP P 08 12 46.3 -0.1
KAPI pmax pmax
comp=Z,22nm,1.0s
PLAI Plampang 63.21 274 P P 08 12 45.8 -0.8
APSI Ampana 63.51 284 P P 08 12 47.6 -0.9
SPSI Sidrap Palu 63.66 280 P P 08 12 48.1 -1.4
comp=Z,21nm,1.2s
TTSI Tana Toraja 64.05 281 P P 08 12 52.4 +0.3
MPSI Mapaga 65.64 284 P P 08 13 01.0 -1.3
JHJ2 Mitsune 72.27 324 eP P 08 13 41.5 -1.3
comp=Z,312nm,0.7s
JHJ Hachijo jima 2 72.29 324 P P 08 13 42.5 -0.4
comp=Z,271nm,0.7s
SBUM Sibu 73.35 282 P P 08 13 50.0 +0.4
KSM Kuching 74.55 280 eP P 08 13 56.3 -0.2
comp=Z,49nm,0.9s
KSM Kuching 74.55 280 P P 08 13 57.0 +0.5
MAW Mawson 75.23 200 eP P 08 14 01.2 +1.7
comp=Z,3.2nm,0.6s
MAW Mawson 75.23 200 P P 08 14 01.3 +1.7
baz=75,SNR=28
MAW Mawson 75.23 200 P P 08 14 01.2 +1.7
comp=Z,13nm,0.6s,baz=133,slow=7.1,SNR=52
MJAR Matsushiro Arr 75.76 325 P P 08 14 02.3 -0.6
comp=Z,159nm,0.8s,baz=165,slow=5.8,SNR=340
MJAR LR LR 08 43 27.8
comp=Z,34nm,21.9s,baz=185,slow=32
MAJO Matsushiro 75.76 325 eP P 08 14 02.6 -0.4
comp=Z,189nm,0.8s
MAJO Matsushiro 75.76 325 d iP P 08 14 02.5 -0.4
MAJO pmax pmax
comp=Z,200nm,0.8s
MAT Matsushiro 75.76 325 P P 08 14 02.4 -0.5
MAT S **S 08 23 31.2 +1.3**
YOJ Yonaguni jima 76.77 307 P P 08 14 08.0 -0.9
YOJ pmax pmax
comp=Z,189nm,0.8s
JNU Nakatsue 77.31 318 P P 08 14 11.4 -0.4
comp=Z,68nm,0.7s,baz=100,slow=2.1,SNR=58
ERM Erimo 77.79 331 eP P 08 14 15.6 +1.5
comp=Z,61nm,1.1s
ERM Erimo 77.79 331 deP P 08 14 15.2 +1.1
ERM pmax pmax
comp=Z,111nm,1.3s
TATO Taipei 78.18 306 eP P 08 14 15.2 -1.5
comp=Z,126nm,1.0s
ADK Adak 78.85 1 eP P 08 14 19.2 -0.5
ADK Adak 78.85 1 eP P 08 14 19.2 -0.5
ASAJ Asahikawa 79.74 332 P P 08 14 26.3 +1.5
comp=Z,65nm,0.8s,baz=191,slow=0.4
SYO Syowa Base 80.14 193⇓ iPcP PcP 08 14 31.0 -2.3
QZH Quanzhou 80.27 304⇓ iP P 08 14 27.4 -0.6
QZH pmax pmax
comp=Z,35nm,0.8s
QZH pmax pmax
comp=Z,260nm,3.1s
SKR Severo-Kuril's 80.98 344 eP P 08 14 30.6 -0.5
SKR pmax pmax
comp=Z,98nm,0.7s
SNAA Sanae 81.24 178 P P 08 14 33.5 +1.0
SNAA Sanae 81.24 178 eP P 08 14 33.3 +0.7
comp=Z,10nm,1.1s
SNAA Sanae 81.24 178 eP P 08 14 33.3 +0.7
SNAA pmax pmax
comp=Z,10.0nm,1.1s
VNA3 Neumayer Olymp 81.38 176 P P 08 14 34.9 +1.7
TJN Taejon 81.65 318 deP P 08 14 35.2 +0.2
VNA2 Neumayer--Watz 81.81 177 P P 08 14 37.6 +2.1
baz=180,slow=4.0
YSS Yuzh-Sakhalins 82.01 334 eP P 08 14 37.5 +0.8
comp=Z,74nm,0.6s
YSS Yuzh-Sakhalins 82.01 334 κ iP P 08 14 37.8 +1.2
YSS pmax pmax
comp=Z,110nm,0.7s
YSS pmax pmax
comp=Z,400nm,2.5s
VNA1 Neumayer--Stat 82.04 177 P P 08 14 38.5 +1.9
KSRS Korea Array 82.05 319 P P 08 14 37.7 +0.6
comp=Z,53nm,0.8s,baz=136,slow=6.0,SNR=184
KSRS LR LR 08 49 24.9
comp=Z,34nm,18.1s,baz=138,slow=34
KSAR Wonju Array Be 82.07 319 eP P 08 14 37.7 +0.5
KSAR Wonju Array Be 82.07 319 eP P 08 14 37.7 +0.5
PET Petropavlovsk 82.56 346 eP P 08 14 39.1 -0.3
comp=Z,26nm,0.6s
PET Petropavlovsk 82.56 346 eP P 08 14 38.7 -0.6
PET eS **S 08 24 40.4 -0.4**
PET eSS **SS 08 30 07.2 -0.1**
PET pmax pmax
comp=Z,38nm,0.8s
PETK Petropavlovsk- 82.84 345 P P 08 14 40.7 -0.1
comp=Z,44nm,0.6s,baz=122,slow=6.6,SNR=111
PETK PKiKP **PKiKP 08 19 58.1 -0.9**
comp=Z,3.0nm,0.8s,baz=131,slow=4.0,SNR=3.5
PETK LR LR 08 45 30.6
comp=Z,49nm,21.9s,baz=148,slow=31
TEY Ternei 83.08 329⇑ eP P 08 14 42.3 +0.1
TEY pmax pmax
comp=Z,20nm,1.1s
ISA Isabella, Lake 84.05 45 eP P 08 14 48.2 +0.6
comp=Z,5.3nm,0.8s
ISA Isabella, Lake 84.05 45 eP P 08 14 48.2 +0.6
ISA pmax pmax
comp=Z,5.0nm,0.8s
IPM Ipoh 84.12 278 eP P 08 14 47.8 -0.6
comp=Z,42nm,1.0s
IPM Ipoh 84.12 278 P P 08 14 49.0 +0.6
NJ2 Nanjing 84.30 310 eP P 08 14 49.8 +1.0
NJ2 pmax pmax
comp=Z,97nm,0.9s
CMB Columbia Colle 84.42 42 P P 08 14 50.1 +0.8
CMB pmax pmax
comp=Z,9.0nm,0.8s
PLCA Paso Flores 84.56 133 eP P 08 14 53.1 +2.9
comp=Z,13nm,0.9s
PLCA Paso Flores 84.56 133 eP P 08 14 53.1 +2.9
PLCA pmax pmax
comp=Z,13nm,0.9s
PLCA Paso Flores 84.56 133 P P 08 14 52.5 +2.3
comp=Z,12nm,0.9s,baz=239,slow=5.5,SNR=17
PLCA LR LR 08 45 07.4
comp=Z,50nm,20.9s,baz=253,slow=30
USRK Ussuriysk Ar. 84.63 326 eP P 08 14 50.3 +0.1
USRK Ussuriysk Ar. 84.63 326 P P 08 14 50.9 +0.8
comp=Z,51nm,0.9s,baz=138,slow=3.5,SNR=92
AFDM Forest Hills D 84.67 41 eP P 08 14 50.3 -0.3
comp=Z,10nm,1.1s
KULM Kulim 84.83 279 P P 08 14 52.0 +0.1
WDC Whiskeytown Da 84.87 39 P P 08 14 53.1 +1.7
WDC pmax pmax
comp=Z,13nm,1.0s
PSI Prapat 85.20 276 P P 08 14 52.7 -1.2
comp=Z,43nm,1.0s,baz=169,slow=3.9,SNR=12
TYV Tymovskoe 85.26 336 eP P 08 14 53.9 +0.8
TYV pmax pmax
comp=Z,200nm,3.2s
TYV pmax pmax
comp=Z,35nm,0.9s
113A Mohawk Valley, 85.34 50 eP P 08 14 55.0 +1.0
comp=Z,4.7nm,1.0s
PNTR Pine Nut 85.57 42 eP P 08 14 56.2 +1.0
comp=Z,14nm,0.9s
NVAR Mina Array Bea 85.92 43 P P 08 14 57.7 +0.7
comp=Z,5.9nm,0.7s,baz=222,slow=8.6,SNR=43
NV11 Mina Array Sit 86.01 43 eP P 08 14 55.6 -1.8
comp=Z,0.6nm,1.0s
MDJ Mudanjiang 86.13 325 P P 08 14 58.3 +0.7
MDJ pmax pmax
comp=Z,320nm,5.0s
KVN Kaiserville 86.44 42 P P 08 15 00.3 +0.8
KVN pmax pmax
comp=Z,6.0nm,0.8s
WHN Wuhan 86.56 307 ⇓P P 08 15 00.8 +0.8
WHN LR LR
comp=Z,380nm,34.0s
TRTT Trang 86.86 280 P P 08 15 02.8 +1.0
comp=Z,71nm,1.2s
PANO Nakornpanom 87.09 291 P P 08 15 03.9 +1.1
comp=Z,1.8nm,1.1s,comp=Z,40nm
TUC Tucson 87.12 51 eP P 08 15 05.2 +2.4
comp=Z,8.8nm,0.9s
TUC Tucson 87.12 51 eP P 08 15 05.2 +2.4
TUC pmax pmax
comp=Z,9.0nm,0.9s
KDAK Kodiak Island 87.39 13 ceP P 08 15 05.2 +1.9
SKNT Sakolnakorn 87.53 290 P P 08 15 06.0 +1.0
GRNR Gornyy 87.57 333 eP P 08 15 06.0 +1.6
GRNR pmax pmax
comp=Z,42nm,1.0s
CN2 Changchun 87.73 323 eP P 08 15 05.6 +0.3
CN2 es P pwP 08 15 57.1 +4.7
CN2 eS **S 08 25 31.8 -0.3**
CN2 pmax pmax
comp=Z,90nm,1.1s
CN2 pmax pmax
comp=Z,300nm,3.0s
BMN Battle Mountai 87.84 42 P P 08 15 07.4 +1.3
BMN pmax pmax
comp=Z,5.0nm,0.9s
TIA Tai'an 87.93 313 P P 08 15 07.4 +1.0
TIA pmax pmax
comp=Z,92nm,0.9s
KHON Khomkaen 88.19 289 P P 08 15 10.0 +1.9
WVOR Wild Horse Val 88.29 40 P P 08 15 09.4 +1.3
WVOR pmax pmax
comp=Z,6.0nm,1.0s
KLR Kul'dur 88.41 330⇓ iP P 08 15 09.2 +0.8
KLR pmax pmax
comp=Z,77nm,1.0s
KLR Kul'dur 88.41 330 P P 08 15 09.1 +0.7
comp=Z,34nm,0.8s,baz=107,slow=2.4,SNR=64
CHAI Chaiyaphum 88.69 289 P P 08 15 11.3 +0.9
NONG Nongkai 88.76 291 P P 08 15 12.0 +1.3
comp=Z,2.6nm,1.1s,comp=Z,95nm
X18A Snowflake 88.96 50 eP P 08 15 11.5 -0.1
comp=Z,7.4nm,1.1s
PHET Kaeng Krachan 89.28 285 P P 08 15 15.5 +2.3
comp=Z,129μm,1.0s
LON Longmire 89.43 35 P P 08 15 13.7 +0.4
LON pmax pmax
comp=Z,5.0nm,0.6s
MA2 Magadan 90.34 345 eP P 08 15 16.8 -0.4
comp=Z,21nm,0.8s
MA2 Magadan 90.34 345 deP P 08 15 16.5 -0.6
MA2 pmax pmax
comp=Z,23nm,0.8s
SRDT SRDT 90.39 286 P P 08 15 20.4 +2.0
comp=Z,30nm,1.0s,comp=Z,3μm
BMO Blue Mountains 90.58 38 P P 08 15 19.3 +0.6
BMO pmax pmax
comp=Z,4.0nm,0.9s
TX31 Lajitas Ar. Si 90.65 57 eP P 08 15 19.7 +0.2
comp=Z,3.0nm,1.1s
TXAR Lajitas Array 90.65 57 P P 08 15 20.7 +1.3
comp=Z,1.3nm,0.8s,baz=210,slow=6.8,SNR=15
TXAR PKKPbc **PKKPbc 08 32 46.9 +1.5**
comp=Z,1.0nm,0.9s,baz=80,slow=2.5,SNR=8.1
UTTA Uttaradit 90.77 289 P P 08 15 21.9 +1.8
comp=Z,40μm,1.2s,comp=Z,405μm
BJI Beijing 90.78 315⇓ eP P 08 15 20.5 +0.9
BJI pP **pP 08 15 56.3 -7.4**
BJI sP **pwP 08 16 10.6 +3.7**
BJI S **S 08 26 03.9 +3.4**
BJI pmax pmax
comp=Z,35nm,0.9s
NANT Nan 91.14 290 P P 08 15 23.7 +1.9
comp=Z,83μm,0.9s
UMPA Umpang Tak 91.48 287 P P 08 15 25.8 +2.3
comp=Z,28μm,1.1s
ANMO Albuquerque 91.58 51 eP P 08 15 25.4 +1.6
comp=Z,4.6nm,1.0s
ANMO Albuquerque 91.58 51⇑ iP P 08 15 25.3 +1.5
ANMO pmax pmax
comp=Z,5.0nm,1.0s
TIY Taiyuan 91.87 312 eP P 08 15 26.4 +1.5
LAMP Lampang 91.91 290 P P 08 15 27.4 +2.0
comp=Z,61μm,0.9s,comp=Z,472μm
SML Sawmill 91.95 14 eP P 08 15 23.8 -0.8
comp=Z,12nm,0.9s
SML Sawmill 91.95 14 eP P 08 15 23.8 -0.8
SML pmax pmax
comp=Z,13nm,0.9s
PAYA Payao 92.10 291 P P 08 15 27.9 +1.6
comp=Z,83μm,0.9s
XAN Xi'an 92.31 307 P P 08 15 27.9 +0.9
XAN pmax pmax
comp=Z,52nm,0.9s
XAN pmax pmax
comp=Z,170nm,4.8s
CMAR Chiang Mai Arr 92.45 289 P P 08 15 29.5 +1.6
comp=Z,8.9nm,0.8s,baz=142,slow=3.5,SNR=40
KMI Kunming 92.50 297 P P 08 15 29.8 +1.5
KMI pmax pmax
comp=Z,42nm,1.3s
CMMT Chiang Mai 92.61 290 P P 08 15 30.1 +1.4
comp=Z,16nm,1.2s
CHTO Chiang Mai 92.62 290 eP P 08 15 30.5 +1.8
comp=Z,23nm,0.9s
CHTO Chiang Mai 92.62 290 eP P 08 15 30.5 +1.8
CHTO pmax pmax
comp=Z,23nm,0.9s
SEY Seymchan 92.99 347⇓ eP P 08 15 29.3 0.0
RND Reindeer 93.29 13 P P 08 15 30.8 0.0
RND pmax pmax
comp=Z,23nm,1.0s
MCK McKinley 93.57 12 P P 08 15 31.8 -0.2
MCK pmax pmax
comp=Z,15nm,1.1s
ZEA Zeya 93.59 331 eP P 08 15 32.4 +0.1
ZEA pmax pmax
comp=N,22nm,1.2s
ZEA pmax pmax
comp=Z,36nm,1.2s
IMW Indian Meadow 93.65 42 eP P 08 15 33.0 -0.2
comp=Z,5.9nm,1.0s
PD31 Pinedale Array 93.84 43 eP P 08 15 33.1 -0.9
comp=Z,5.2nm,1.1s
PDAR Pinedale Array 93.84 43 P P 08 15 34.1 +0.1
comp=Z,3.1nm,0.9s,baz=205,slow=3.1,SNR=16
PDAR PKKPbc **PKKPbc 08 32 38.0 -0.1**
comp=Z,0.8nm,0.6s,baz=90,slow=3.6,SNR=6.0
HHC Hu-ho-hao-te 94.14 314 eP P 08 15 36.6 +1.3
HHC S **S 08 26 35.6 +5.0**
HHC sS sS 08 27 42.3 -6.1
HHC pmax pmax
comp=Z,57nm,1.3s
HHC pmax pmax
comp=Z,170nm,7.3s
BOZ Bozeman (W) 94.22 40 P P 08 15 36.4 +0.8
BOZ pmax pmax
comp=Z,2.0nm,0.9s
CD2 Chengdu 94.51 302 ⇓P P 08 15 38.6 +1.5
COLA College 94.81 12 eP P 08 15 37.3 -0.3
comp=Z,14nm,0.8s
COLA College 94.81 12⇑ iP P 08 15 37.2 -0.3
COLA pmax pmax
comp=Z,13nm,0.8s
IMAR Indian Mountai 94.82 10 eP P 08 15 37.4 -0.2
ILAR Eielson Array 94.90 13 eP P 08 15 37.0 -1.0
ILAR Eielson Array 94.90 13 P P 08 15 37.1 -1.0
comp=Z,3.7nm,0.7s,baz=224,slow=5.8,SNR=38
ILAR PP PP 08 19 16.5 -13
comp=Z,2.4nm,1.1s,baz=226,slow=5.7,SNR=5.3
RDOG Red Dog Mine 95.72 6 eP P 08 15 40.4 -1.3
comp=Z,6.1nm,0.9s
BILL Bilibino 95.78 354 i P P 08 15 41.1 -0.9
BILL i 08 19 42.5
BILL pmax pmax
comp=Z,4.0nm,0.9s
PRP Porcupine Dome 95.83 13 eP P 08 15 41.6 -0.9
comp=Z,6.1nm,0.9s
LZH Lanzhou 96.94 307 eP P 08 15 49.3 +1.1
LZH pP pP 08 16 23.8 -8.6
LZH pmax pmax
comp=Z,26nm,1.2s
LPAZ La Paz 99.32 114 P Pdif 08 16 02.6 +2.6
comp=Z,1.0nm,0.8s,baz=237,slow=6.0,SNR=3.4
SONM Songino Array 100.90 318 P Pdif 08 16 05.6 0.0
comp=Z,3.3nm,1.0s,baz=106,slow=5.1,SNR=13
SONM PP **PP 08 20 10.5 -5.8**
comp=Z,1.0nm,0.8s,baz=132,slow=7.4,SNR=3.0
GTA Gaotai 101.30 308 P Pdif 08 16 08.4 +0.8
GTA pP pPdif 08 16 47.9 -3.9
GTA sP sPdif 08 17 07.0 -3.2
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,90nm,5.1s
GTA LR LR
comp=Z,100nm,20.3s
GTA LR LR
comp=Z,160nm,21.3s
GTA LR LR
comp=Z,63nm,18.9s
CPUP Villa Florida 101.83 128 PKKPbc PKKPbc 08 32 14.6 0.0
comp=Z,1.1nm,0.6s,baz=61,slow=3.6,SNR=4.8
YKA Yellowknife Ar 102.62 25 P Pdif 08 16 12.6 -0.1
comp=Z,0.7nm,0.8s,baz=239,slow=4.3,SNR=14
YKB5 Yellowknife Ar 102.62 25 ePdif Pdif 08 16 12.6 -0.1
ZAK Zakamensk 103.88 320 eP Pdif 08 16 17.9 -0.9
ZAK pmax pmax
comp=Z,3.0nm,1.2s
WMQ Urumqi 111.36 309 ePKP PKiKP 08 20 50.0 +0.4
WMQ LR LR
comp=Z,2μm,39.0s
WMQ LR LR
comp=Z,2μm,39.1s
WMQ LR LR
comp=Z,290nm,31.1s
DGZ Jazzator, Alta 113.20 315⇑ iPKIKP PKiKP 08 20 54.1 +1.1
DGZ pmax pmax
comp=Z,1.0nm,0.6s
BDFB Brasilia 115.32 125 PKKPab PKKPab 08 31 39.5 -0.7
comp=Z,9.7nm,0.7s,baz=63,slow=5.8,SNR=15
ZAA0 Zalesovo Array 115.76 319 ePKPdf PKPdf 08 20 56.8 -0.8
ZALV Zalesovo Beam 115.76 319 PKP PKPdf 08 20 56.1 -1.4
comp=Z,5.0nm,0.7s,baz=108,slow=1.8,SNR=17
MKAR Makanchi Array 115.82 311 ePKPdf PKPdf 08 20 57.1 -0.9
MKAR Makanchi Array 115.82 311 ePKIKP PKPdf 08 20 57.1 -0.9
MKAR Makanchi Array 115.82 311 PKP PKPdf 08 20 56.9 -1.1

comp=Z,4.0nm,0.6s,baz=200,slow=1.3,SNR=39
MAKZ **Makanchi** 116.04 311 *e*PKPdf **PKPdf** 08 20 57.5 -0.9
MAKZ **Makanchi** 116.04 311 *e*PKIKP **PKPdf** 08 20 57.5 -0.9
NVS **Novosibirsk** 116.84 320 *e*PKIKP PKPpre 08 20 52.8
NRIK **Noril'sk** 116.84 337 PKP **PKPdf** 08 20 58.9 -0.3
comp=Z,8.3nm,0.7s,baz=100,slow=3.6,SNR=24
KSH **Kashi** 118.70 302 PKP **PKPdf** 08 21 02.8 -1.1
KSH sPKP 08 22 01.1
KSH PP **PP** 08 22 28.1 +3.2
KSH SKS **SKSdf** 08 27 54.8 -4.2
KSH SKKS **SKKSac** 08 29 03.3 -3.3
KSH AMB AMB
comp=Z,180nm,4.1s
KURK **Kurchatov** 118.95 315 *e*PKPdf **PKPdf** 08 21 02.7 -1.0
KURK **Kurchatov** 118.95 315 PKIKP **PKPdf** 08 21 02.8 -1.0
KURBB **Kurchatov Arra** 118.99 315 PKP **PKPdf** 08 21 02.8 -1.1
comp=Z,9.6nm,0.6s,baz=104,slow=1.8,SNR=62
KURBB PP **sPKPdf** 08 22 17.4 +9.3
comp=Z,2.0nm,0.7s,baz=94,slow=6.9,SNR=4.3
TKM2 **Tokmak 2** 119.68 306 P **PKPdf** 08 21 05.0 -0.7
SNR=12
KZA **Kyzart** 119.77 305 P **PKiKP** 08 21 06.5 +0.2
SNR=7.7
KBK **Karagaybulak** 120.10 305 P **PKPdf** 08 21 06.7 +0.1
SNR=6.9
BOSA **Boshof** 120.12 204 PKP **PKiKP** 08 21 08.4 +1.2
comp=Z,3.1nm,0.6s,baz=150,slow=2.7,SNR=12
CHMS **Chumysh** 120.31 306 P **PKPdf** 08 21 06.5 -0.2
SNR=6.8
UCH **Uchtor** 120.34 305 P **PKPdf** 08 21 07.2 -0.2
SNR=16
AAK **Ala-Archa** 120.43 305 P **PKPdf** 08 21 07.0 -0.1
SNR=6.5
AAK **Ala-Archa** 120.43 305 *e*PKIKP **PKPdf** 08 21 07.0 -0.1
AAK **Ala-Archa** 120.43 305 PKP **PKPdf** 08 21 06.9 -0.2
comp=Z,3.4nm,0.5s,baz=131,slow=4.2,SNR=14
USP **Ospenovka** 120.53 306 P **PKPdf** 08 21 06.8 -0.4
SNR=8.1
AML **Almayashu** 120.92 305 P **PKPdf** 08 21 08.6 +0.2
SNR=23
EKS2 **Erkin-Say** 120.95 305 P **PKiKP** 08 21 08.4 +0.2
SNR=6.3
KBL **Kabul** 123.03 295 *e*PKPdf **PKiKP** 08 21 13.2 +0.5
KBL **Kabul** 123.03 295 *e*PKIKP **PKiKP** 08 21 13.2 +0.5
BVAR **Borovoye Array** 124.22 317 PKP **PKPdf** 08 21 13.4 -0.5
comp=Z,13nm,0.6s,baz=95,slow=1.4,SNR=76
BRVK **Borovoye** 124.29 317 *e*PKPdf **PKPdf** 08 21 14.0 0.0
BRVK **Borovoye** 124.29 317 *c i*PKIKP **PKPdf** 08 21 13.8 -0.2
BRVK pmax pmax
comp=Z,26nm,1.7s
KBS **Kingsbay** 128.11 358 *e*PKPdf **PKiKP** 08 21 21.2 0.0
KBS **Kingsbay** 128.11 358⇑ *e*PKIKP **PKiKP** 08 21 21.3 0.0
KBS pmax pmax
comp=Z,56nm,0.9s
KBS **Kingsbay** 128.11 358 *e*PKPdf **PKPdf** 08 21 21.1 +0.4
SPA0 **Spitsbergen Ar** 128.63 356 *e*PKPdf **PKiKP** 08 21 22.7 +0.4
SPA0 **Spitsbergen Ar** 128.63 356 *e*PKPdf **PKiKP** 08 21 22.3 -0.1
SPITS **Spitsbergen Ar** 128.63 356 PKP **PKiKP** 08 21 22.2 -0.1
comp=Z,11nm,0.7s,baz=114,slow=1.7,SNR=17
HSPB **Hornsund (broa** 129.82 356 *e*PKPdf **PKPdf** 08 21 24.3 +0.3
LSZ **Lusaka** 130.67 214 *e*PKPdf **PKiKP** 08 21 28.9 +0.5
LSZ **Lusaka** 130.67 214 *e*PKIKP **PKiKP** 08 21 28.9 +0.5
ARU **Arti** 130.73 322 *e*PKPdf **PKPdf** 08 21 26.1 -0.1
ARU **Arti** 130.73 322 *i* PKIKP **PKPdf** 08 21 26.6 +0.4
ARU 08 23 42.4
ARU SS SS 08 40 53.5 -5.4
ARU **Arti** 130.73 322 PKP **PKPdf** 08 21 26.5 +0.3
comp=Z,12nm,0.6s,baz=350,slow=0.3,SNR=43
ABKAR **Akbulak array** 130.91 313 *e*PKPdf **PKPdf** 08 21 24.4 -2.3
AKTO **Aktyubinsk** 132.04 315 PKIKP **PKPdf** 08 21 29.0 +0.1
AKTO **Aktyubinsk** 132.04 315 PKP **PKPdf** 08 21 28.9 +0.1
comp=Z,8.8nm,0.6s,baz=86,slow=4.3,SNR=31
GEYT **Alibeck** 132.26 298 PKP **PKiKP** 08 21 30.5 -0.3
comp=Z,5.7nm,0.6s,baz=191,slow=1.5,SNR=8.1
KIRV **Kirov** 134.80 327 PKP **PKiKP** 08 21 35.0 -0.2
comp=Z,25nm,0.6s,baz=120,slow=2.4,SNR=8.0
HAMF **Hammerfest** 134.91 350 *e*PKPdf **PKPdf** 08 21 33.6 -0.1
PRGR **Permogore** 135.15 332 *e*PKIKP **PKPdf** 08 21 32.4 -1.9
PRGR pmax pmax
comp=Z,12nm,0.6s
ARCES **ARCESS Array B** 135.59 348 PKhKP PKPpre 08 21 29.1
comp=Z,5.0nm,1.0s,baz=22,slow=1.0,SNR=6.0
ARCES PKP **PKPdf** 08 21 35.6 +0.6
comp=Z,22nm,0.7s,baz=12,slow=1.3,SNR=25
ARCES SKPbc **SKPbc** 08 24 48.8 -0.6
comp=Z,3.8nm,0.7s,baz=26,slow=4.3,SNR=4.9
ARE0 **ARCESS Array S** 135.59 348 *e*PKPdf **PKPdf** 08 21 34.5 -0.4
KTK1 **Kautokeino** 136.44 349 *e*PKPdf **PKPdf** 08 21 36.0 -0.5
TRO **Tromso** 136.52 352 *e*PKPdf **PKPdf** 08 21 36.9 +0.3
KLMR **Klimovskoe** 138.06 334 *e*PKHKP PKPpre 08 21 33.5
KLMR pmax pmax
comp=Z,11nm,0.6s
H10S3 **ASCENSION HYDR** 140.47 153 T T 10 58 15.3
baz=205,slow=74,SNR=6.6
H10S2 **ASCENSION HYDR** 140.47 153 T T 10 58 38.1
baz=205,slow=74,SNR=6.6
H10S1 **ASCENSION HYDR** 140.49 153 T T 10 58 20.4
baz=205,slow=74,SNR=4.9
H10N3 **ASCENSION HYDR** 141.54 153 T T 10 59 26.1
baz=204,slow=75,SNR=7.4
H10N1 **ASCENSION HYDR** 141.55 153 T T 10 59 24.4
baz=204,slow=75,SNR=27
H10N2 **ASCENSION HYDR** 141.56 153 T T 10 59 22.9
baz=204,slow=75,SNR=12
VRH **Novokhopyorsk** 141.80 320 *e*PKIKP **PKPdf** 08 21 45.3 -1.5
VRH pmax pmax
comp=Z,10.0nm,0.4s
MOS **Moscow** 141.80 328 *e*PKHKP PKPpre 08 21 38.7
NSS **Namsos** 142.23 353 *e*PKPdf **PKPdf** 08 21 42.2 -5.0
FIA1 **FINESS Array S** 142.26 341 *e*PKPpre PKPpre 08 21 42.8
FINES **FINESS Array B** 142.26 341 *e*PKPpre PKPpre 08 21 41.6
FINES **FINESS Array B** 142.26 341 PKhKP PKPpre 08 21 41.9
comp=Z,16nm,0.6s,baz=46,slow=5.5,SNR=50
GNI **Garni** 142.63 301 PKhKP PKPpre 08 21 46.9
comp=Z,10nm,0.7s,baz=183,slow=7.7,SNR=4.9
OBN **Obninsk** 142.65 328 *i* PKIKP **PKPdf** 08 21 45.5 -2.7
OBN pmax pmax
comp=Z,15nm,0.7s
LPSR **Galich'ya Gora** 142.75 323 *e*PKHKP PKPpre 08 21 43.8
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ZEI **Tsey** 142.85 306 *i* PKHKP PKPpre 08 21 43.6
ZEI pmax pmax
comp=Z,18nm,0.9s
TASB **TASBURUN-IGDIR** 143.03 301 P PKPbc 08 21 46.5 -0.4
ONI **Oni** 143.21 305 P PKPbc 08 21 48.1 +0.8
VSR **Storozhevoye** 143.25 321 *e*PKHKP PKPpre 08 21 44.6
VSR pmax pmax
comp=Z,20nm,0.5s
CLDR **Caldiran** 143.37 300 P PKPbc 08 21 48.8 +0.7
KBZ **Khabaz** 143.38 307 PKhKP PKPpre 08 21 47.5
comp=Z,21nm,1.0s,baz=98,slow=1.7,SNR=24
KVAR **Kislovodsk Arr** 143.47 308 PKP PKPbc 08 21 48.9 +0.9
comp=Z,9.5nm,0.7s,baz=342,slow=6.4,SNR=12
KIV **Kislovodsk** 143.47 308 P PKPab 08 21 47.6 +0.7
KIV **Kislovodsk** 143.47 308 *e*PKPpre PKPab 08 21 47.6 +0.7
KIV **Kislovodsk** 143.47 308 *i* PKIKP PKPab 08 21 47.6 +0.7
KIV pmax pmax
comp=Z,90nm,1.1s
KIV MLR MLR
comp=Z,123nm,24.0s
SHA1 **Shidzhatmaz** 143.54 308 *i* PKIKP PKPbc 08 21 48.3 -0.1
CUKT **Cukurca** 143.77 296 P PKPbc 08 21 49.2 +0.1
AGRB **Hanur-Agry** 144.03 300 P PKPbc 08 21 50.5 +0.6
AKDM **Akdamar-Van** 144.18 298 P PKPbc 08 21 50.7 +0.3
VSU **Vasula** 144.42 338 *c i*PKIKP **PKPab** 08 21 49.9 0.0
VSU pmax pmax
comp=Z,359nm,0.7s
VSU **Vasula** 144.42 338 *e*P **PKPab** 08 21 49.4 -0.5
VSU IAmb IAmb 08 21 50.5
comp=Z,389nm,0.6s
MOL **Molde** 144.55 356 *e*PKPab **PKPab** 08 21 50.1 -0.1
BATM **Batumi** 144.69 304 P PKPbc 08 21 51.8 +0.2
BCA **Borcka** 144.77 304 P **PKPab** 08 21 52.3 +0.4
KOPR **Koprukoy-ERZUR** 144.84 301 P **PKPdf** 08 21 52.9 +0.1
DOMB **Dombas** 144.95 354 *e*PKPab PKPbc 08 21 51.4 -0.4
AKN **Aaknes** 144.98 356 *e*PKPdf **PKPbc** 08 21 52.0 +0.1
KARO **Karliova-Bingo** 145.56 300 P **PKPab** 08 21 55.9 +0.7
SVAN **Silvan-Diyarba** 145.59 298 P **PKPab** 08 21 55.6 +0.5
SOC **Sochi** 145.65 308 *e*PKIKP **PKPdf** 08 21 52.7 -1.1
SOC *e* 08 25 16.0
SOC *e*PPP PPP 08 28 44.2
SOC pmax pmax
comp=Z,104nm,1.2s
SOC pmax pmax
comp=Z,36nm,0.8s
FOO **Floro** 145.65 357 *e*PKPbc **PKPdf** 08 21 53.6 +0.4
NB2 **NORSAR Subarra** 145.71 352 PKP **PKPdf** 08 21 53.4 -0.1
comp=Z,52nm,0.8s,baz=24,slow=2.9
NB2 **NORSAR Subarra** 145.71 352 PKPab **PKPdf** 08 21 53.4 -0.1
baz=24,slow=2.9
NOA **NORSAR Array B** 145.71 352 PKPbc **PKPdf** 08 21 53.1 -0.3
comp=Z,35nm,0.7s,baz=15,slow=3.2,SNR=116
BNGB **Bingl** 145.89 300 P **PKPab** 08 21 56.9 +0.6
YEDI **Yedisu-Bingol** 145.93 301 P **PKPab** 08 21 56.8 +0.3
NC602 **NORSAR Array S** 145.97 352 *e*PKPbc **PKPdf** 08 21 54.2 +0.4
HYA **Hoyanger** 146.03 356 *e*PKPdf **PKPdf** 08 21 52.7 -1.1
SUE **Sulen** 146.21 358 *e*PKPbc **PKPbc** 08 21 55.4 -0.2
SKAR **Skarslia** 146.36 354 *e*PKPbc **PKPdf** 08 21 55.3 +0.7
SLIT **Slitere, Latvi** 146.50 340 *e*P **PKPdf** 08 21 55.2 +0.4
SLIT IAmb IAmb 08 21 56.3
comp=Z,192nm,0.7s
IZAR **Zarasai** 146.66 335 *e*P **PKPbc** 08 21 57.1 0.0
IZAR IAmb IAmb 08 21 58.9
comp=Z,55nm,0.7s
ASK **Askoy** 146.76 357 *e*PKPbc **PKPbc** 08 21 57.2 0.0
IDID **Didziasalis** 146.79 334 *e*P **PKPbc** 08 21 57.7 +0.3
IDID IAmb IAmb 08 21 58.4
comp=Z,38nm,0.6s
ISAL **Salakas** 146.84 335 *e*P **PKPbc** 08 21 57.6 +0.1
ISAL IAmb IAmb 08 21 58.5
comp=Z,24nm,0.7s
ANN **Anapa** 146.84 311 *d i*PKP2 **PKPbc** 08 21 57.8 -0.1
ANN pmax pmax
comp=Z,223nm,1.2s
BER **Bergen** 146.85 357 *e*PKPbc **PKPbc** 08 21 57.5 +0.1
IIGN **Ignalina** 146.97 335 *e*P **PKPbc** 08 21 57.8 -0.2
IIGN IAmb IAmb 08 21 59.0
comp=Z,37nm,0.7s
SVRC **Sivrice-ELAZID** 147.04 299 P **PKPab** 08 22 00.2 -0.7
KONO **Kongsberg** 147.25 353 *e*PKPdf **PKPdf** 08 21 57.1 +1.1
KONO **Kongsberg** 147.25 353 *e*PKIKP **PKPdf** 08 21 57.1 +1.1
KONO **Kongsberg** 147.25 353 *e*PKPbc **PKPbc** 08 21 58.2 -0.4
ODD1 **Odda** 147.25 356 *e*PKPbc **PKPbc** 08 21 58.4 -0.3
URFA **Urfa** 147.55 297 P **PKPbc** 08 22 01.2 +1.0
PABE **Paberze** 147.68 337 *e*P **PKPbc** 08 21 59.4 -0.5
PABE IAmb IAmb 08 22 00.6
comp=Z,247nm,0.7s
BLS5 **Blasjo** 147.75 356 *e*PKPbc **PKPbc** 08 22 00.2 +0.2
PBUR **Paburg** 147.94 339 *e*P **PKPbc** 08 21 60.0 -0.6
PBUR IAmb IAmb 08 22 01.1
comp=Z,134nm,0.7s
KMY **Karmoy** 148.03 357 *e*PKPbc **PKPbc** 08 22 00.7 +0.1
RSDY **Resadiye-TOKAT** 148.17 303 P **PKiKP** 08 22 02.8 -0.5
DARE **Darende-Malaty** 148.42 300 P **PKiKP** 08 22 03.7 -0.3
SVSK **Karacayir** 148.52 303 P **PKiKP** 08 22 03.9 -0.1
HOMB **Homborsund** 148.72 353 *e*PKPdf **PKPdf** 08 21 57.5 -0.9
HOMB *e*PKPbc **PKPbc** 08 22 02.4 0.0
SNART **Snartemo** 148.77 355 *e*PKPbc **PKPbc** 08 22 02.7 +0.1
AKASG **Malin Array Be** 148.84 326 *e*PKPdf **PKPdf** 08 21 58.5 -0.3
AKASG *e*PKPbc **PKPbc** 08 22 02.7 -0.3
AKASG **Malin Array Be** 148.84 326 *e*PKIKP **PKPdf** 08 21 58.6 -0.3
AKASG **Malin Array Be** 148.84 326 PKPbc **PKPbc** 08 22 02.5 -0.5
comp=Z,47nm,0.6s,baz=40,slow=3.7,SNR=78
KIEV **Kiev** 148.85 326 *e*PKPbc **PKPbc** 08 22 02.9 -0.2
KIEV **Kiev** 148.85 326 *i*P **PKPbc** 08 22 03.1 +0.1
KIEV **Kiev** 148.85 326 *d i*PKP2 **PKPbc** 08 22 02.6 -0.4
KIEV pmax pmax
comp=Z,46nm,0.5s
GAZ **Gaziantep** 148.86 297 P **PKPab** 08 22 08.3 +0.2
KVT **Kavak** 148.94 305 P **PKPab** 08 22 08.8 +0.5
SIM **Simferopol'** 148.98 313 *d i*PKP2 **PKPbc** 08 22 04.2 +0.6
SIM pmax pmax
comp=Z,71nm,0.6s
KMRS **Kahramanmaras** 149.05 298 P **PKPbc** 08 22 04.6 +0.5
SNOP **Sinop** 149.28 307 P **PKiKP** 08 22 05.2 -0.3
SNOP **Sinop** 149.28 307 *e*PKPbc **PKPbc** 08 22 05.0 +0.6
DIKM **Dikmen** 149.35 306 ⇑ *i*P **PKiKP** 08 22 05.5 -0.2
KAC **Achnashellach** 149.37 8 *e*P **PKPbc** 08 22 04.2 +0.1
ASF **Jabal al Asfar** 149.47 288 P **PKiKP** 08 22 06.5 +0.2
ASF **Jabal al Asfar** 149.47 288 PKPbc **PKiKP** 08 22 06.6 +0.2
comp=Z,32nm,0.8s,baz=355,slow=2.2,SNR=42
KPL **Plockton** 149.48 8 *e*P **PKPbc** 08 22 04.2 -0.1
MCD **Coleburn Disti** 149.50 6 *e*P **PKPbc** 08 22 03.8 -0.6
MDO **Dochfour** 149.53 7 *e*P **PKPbc** 08 22 03.7 -0.8
BNN **Bunyan** 149.62 301 P **PKPbc** 08 22 05.2 -0.4
TAHT **Tahtakopru-Hat** 149.78 296 P **PKiKP** 08 22 06.9 +0.2
YOZ **Yozgat** 149.85 303 P **PKPbc** 08 22 06.2 +0.1
KOZT **Kozan** 149.90 298 P **PKPbc** 08 22 06.5 +0.4
CEYT **Ceyhan** 150.04 297 P **PKiKP** 08 22 07.4 +0.2
HSUJ **Al Zarqa** 150.07 287 P **PKiKP** 08 22 08.1 +0.6
BZK **Bozkurt** 150.15 308 P **PKiKP** 08 22 07.3 +0.1
BZK **Bozkurt** 150.15 308 ⇓ *i*P **PKiKP** 08 22 07.5 +0.3
YURE **YUREGIR** 150.16 297 P **PKiKP** 08 22 07.8 +0.3
CORM **Corum** 150.22 304 P **PKiKP** 08 22 07.8 +0.1
DRUM **Mains of Drumt** 150.23 5 *e*P **PKPbc** 08 22 05.7 -0.5
WALA **Wala** 150.40 286 P **PKiKP** 08 22 08.9 +0.8
KRTS **Karatas** 150.40 297 P **PKPbc** 08 22 07.2 -0.1
SHMJ **Saham** 150.42 289 P **PKiKP** 08 22 09.2 +1.0
MUD **Monsted U'grnd** 150.43 352 *i* PKIKP **PKPbc** 08 22 06.6 -0.1
MUD **Monsted U'grnd** 150.43 352 *i* P **PKPbc** 08 22 06.6 -0.1
HSNJ **Maan** 150.47 284 P **PKiKP** 08 22 09.8 +1.3
KARJ 150.53 286 P **PKiKP** 08 22 09.7 +1.3
KARA **Karaisali** 150.54 298 P **PKPbc** 08 22 08.1 +0.5
INVG **Invergeldie, C** 150.57 7 *e*P **PKPbc** 08 22 06.5 -0.5
LAWE **Loch Awe, Argy** 150.57 9 *e*P **PKPbc** 08 22 06.8 -0.2
ILGA **Ilgaz** 150.64 306 *e*PKPbc **PKiKP** 08 22 08.8 +0.2
ILGA *e*PKPab **PKPab** 08 22 16.4 +0.8
COP **Copenhagen** 150.67 348 *i* PKIKP **PKPbc** 08 22 07.7 +0.5
COP **Copenhagen** 150.67 348 *i* P **PKPbc** 08 22 07.7 +0.5
BSD **Bornholm Skovb** 150.69 345 *i* PKIKP **PKPbc** 08 22 07.1 -0.2
BSD **Bornholm Skovb** 150.69 345 *i* P **PKPbc** 08 22 07.1 -0.2
MMAI **Mount Meron Ar** 150.72 289 PKPbc **PKiKP** 08 22 09.7 +0.8
comp=Z,81nm,0.6s,baz=66,slow=3.6,SNR=114
EAB **Aberfoyle** 150.77 7 *e*P **PKPbc** 08 22 06.3 -1.2
CANT **Cankiri** 150.84 305 P **PKPbc** 08 22 08.6 +0.3
HRFI **Mount Harif** 151.02 283 P **PKiKP** 08 22 10.1 +0.6
MERS **Mersin** 151.03 297 P **PKiKP** 08 22 09.3 -0.1
EIL **Elat** 151.07 282 PKPbc **PKiKP** 08 22 09.9 +0.3
comp=Z,63nm,0.9s,baz=334,slow=0.8,SNR=29
BR131 **Keskin Array S** 151.08 303 *e*PKPdf **PKPdf** 08 22 02.7 -0.3
BR131 *e*PKPbc **PKPbc** 08 22 08.8 -0.2
BR131 *e*PKPab **PKPab** 08 22 17.3 0.0
BRTR **Keskin Array B** 151.08 303 PKPbc **PKPbc** 08 22 08.3 -0.6
comp=Z,15nm,0.6s,baz=107,slow=1.3,SNR=8.4
PGBU **Glenifferbraes** 151.12 8 *e*P **PKPbc** 08 22 08.2 -0.1
EDI **Edinburgh** 151.15 6 *e*P **PKPbc** 08 22 07.7 -0.7
YAYX **Yaylak** 151.15 302 P **PKPbc** 08 22 08.9 -0.2
ESY **Stoneypath** 151.21 6 *e*P **PKPbc** 08 22 07.5 -1.1
KIS **Kishinev** 151.24 320 *e*PKP **PKPbc** 08 22 08.0 -0.9
KIS **Kishinev** 151.24 320 *e*PKIKP **PKPbc** 08 22 08.0 -0.9
KIS *e* 08 22 17.0
EBL **Broad Law** 151.31 6 *e*P **PKPbc** 08 22 08.0 -0.8
KIZK **Mersin** 151.40 297 P **PKPbc** 08 22 09.9 +0.3
AFSR **Afar-Bala (An** 151.58 303 P **PKPbc** 08 22 10.2 +0.1
ANTO **Ankara** 151.66 304 P **PKiKP** 08 22 10.8 +0.2
ANTO **Ankara** 151.66 304 *e*PKPbc **PKPbc** 08 22 09.3 -0.9
ANTO *e*PKPab **PKPab** 08 22 19.5 -0.2
ANTO **Ankara** 151.66 304 ⇓ *i*P **PKiKP** 08 22 10.6 0.0
ANTO **Ankara** 151.66 304 ⇓ PKIKP **PKiKP** 08 22 10.6 0.0
PHNC **Paralimni** 151.69 294 P **PKiKP** 08 22 10.8 +0.1
GKP **Gorka Klasztor** 151.73 341 *e*PKP **PKPbc** 08 22 10.1 +0.3
GKP **Gorka Klasztor** 151.73 341 *e*PKIKP **PKPbc** 08 22 10.1 +0.3
KULU **Kulu** 151.74 302 P **PKPbc** 08 22 10.4 -0.1
BEL **Belsk** 151.74 335 *e*PKP **PKiKP** 08 22 10.6 +0.4
BEL **Belsk** 151.74 335 *e*PKIKP **PKiKP** 08 22 10.6 +0.4
KEBE **Keben-Mersin** 151.74 297 P **PKiKP** 08 22 11.1 +0.2
IKL **Isikli** 151.80 296 P **PKPbc** 08 22 10.7 +0.2
IAS **Iasi** 151.83 322 ⇑ *i*P **PKiKP** 08 22 11.7 +1.1
IAS **Iasi** 151.83 322 ⇑ PKIKP **PKiKP** 08 22 11.7 +1.1
LVV **L'vov** 151.92 329 *e*PKIKP **PKPbc** 08 22 10.4 0.0
LVV *e* 08 22 19.6
LVV *e* 08 23 03.1
BERE **Bereket-Mersin** 152.15 297 P **PKPbc** 08 22 11.1 -0.4
TLCR 152.21 317 ⇓ *i*P **PKiKP** 08 22 11.9 +0.5
TLCR 152.21 317 ⇓ PKIKP **PKiKP** 08 22 11.9 +0.5
TEKE **Tekeli-Mersin** 152.27 296 P **PKPbc** 08 22 11.5 -0.1
EDMD **Edmundbyers** 152.34 5 *e*P **PKPbc** 08 22 09.6 -1.5
LADK **Ladik-KONYA** 152.43 301 P **PKPbc** 08 22 10.9 -1.2
KESW **Keswick, Cumbr** 152.48 7 *e*P **PKPbc** 08 22 11.5 +0.1
KONT **Konya--Tatoy** 152.50 300 P **PKPbc** 08 22 10.8 -1.3
CFR **Carcaliu** 152.62 318 ⇑ *i*P **PKiKP** 08 22 12.6 +0.3
CFR **Carcaliu** 152.62 318 ⇑ PKIKP **PKiKP** 08 22 12.6 +0.3
MDUB **Mudurnu** 152.64 306 *e*PKPbc **PKiKP** 08 22 13.0 +0.4
MDUB *e*PKPab **PKPab** 08 22 23.8 0.0
KWP **Kalwaria Pacla** 152.65 330 *e*PKP **PKiKP** 08 22 12.7 +0.5
KWP **Kalwaria Pacla** 152.65 330 *e*PKPab **PKPab** 08 22 23.2 -0.1
KWP **Kalwaria Pacla** 152.65 330 *e*PKIKP **PKiKP** 08 22 12.7 +0.5
SZAC **Souni** 152.66 293 P **PKPbc** 08 22 12.7 +0.1
TESR **Tescani** 152.74 321 ⇑ *i*P **PKPbc** 08 22 12.6 +0.3
BIZ **Bicaz** 152.78 322 ⇑ *i*P **PKiKP** 08 22 13.5 +0.9
BUR08 **Bucovina Ar. S** 152.82 324 *e*PKPdf **PKPdf** 08 22 05.9 +0.6
BUR08 *e*PKPbc **PKiKP** 08 22 13.2 +0.4
BUR08 *e*PKPab **PKPab** 08 22 24.5 +0.2
BURAR **Bucovina Array** 152.83 324 *e*PKPdf **PKPdf** 08 22 05.9 +0.6
BURAR *e*PKPbc **PKiKP** 08 22 13.1 +0.3
BURAR *e*PKPab **PKPab** 08 22 24.2 -0.2
BURAR **Bucovina Array** 152.83 324 ⇓ *i*P **PKiKP** 08 22 13.8 +1.0
BURAR **Bucovina Array** 152.83 324 ⇓ PKIKP **PKiKP** 08 22 13.8 +1.0
ALFC **Alefka** 152.84 294 P **PKiKP** 08 22 13.7 +0.6
MFTR **Murfatlar** 152.96 315 ⇑ *i*P **PKiKP** 08 22 13.6 +0.6
TLB **Topalu** 152.99 316 ⇓ *i*P **PKiKP** 08 22 13.8 +0.8
TLB **Topalu** 152.99 316 ⇓ PKIKP **PKiKP** 08 22 13.8 +0.8
HARR **Harsova** 153.00 317 ⇓ *i*P **PKiKP** 08 22 13.8 +0.7
HARR **Harsova** 153.00 317 ⇓ PKIKP **PKiKP** 08 22 13.8 +0.7
VRI **Vrincioaia** 153.07 320 ⇓ *i*P **PKiKP** 08 22 13.4 +0.2
VRI **Vrincioaia** 153.07 320 ⇓ PKIKP **PKiKP** 08 22 13.4 +0.2
PLOR **Plostina** 153.12 320 ⇓ *i*P **PKiKP** 08 22 16.0 +2.6
PLOR **Plostina** 153.12 320 ⇓ PKIKP **PKiKP** 08 22 16.0 +2.6
GULT **Gulveren** 153.14 306 P **PKPab** 08 22 25.5 -0.4
KOLS **Kolonicke sedl** 153.35 330 *e*PKP2 **PKPab** 08 22 26.5 +0.1
KOLS **Kolonicke sedl** 153.35 330 *e*PKP **PKPab** 08 22 26.5 +0.1
PSN **Preselentsi** 153.35 315 P **PKiKP** 08 22 14.5 +0.6
PSN **Preselentsi** 153.35 315 *e*P **PKiKP** 08 22 14.4 +0.6
RUE **Ruedersdorf** 153.37 344 *e*P **PKPbc** 08 22 13.4 0.0
RUE IAmb IAmb 08 22 15.3
comp=Z,46nm,0.8s
UZH **Uzhgorod** 153.56 329 *e*PKP2 **PKPab** 08 22 26.7 -0.5
CAVI **Cavuskoy** 153.70 306 P **PKPab** 08 22 28.6 +0.4
MLR **Muntele Rosu** 153.74 320 *e*PKPbc **PKPbc** 08 22 14.8 +0.1
MLR *e*PKPab **PKPab** 08 22 28.1 -0.2
MLR **Muntele Rosu** 153.74 320 ⇑ *i*P **PKiKP** 08 22 16.1 +1.3
MLR **Muntele Rosu** 153.74 320 ⇑ PKIKP **PKiKP** 08 22 16.1 +1.3
DOPR **Dopca** 153.77 321 ⇑ *i*P **PKiKP** 08 22 15.3 +0.6
TRPA **Tarpa** 153.81 328 ⇑ *e*P **PKPab** 08 22 28.1 -0.2
NIE **Niedzica** 153.84 332 *e*PKP **PKPdf** 08 22 06.5 -0.1
NIE **Niedzica** 153.84 332 *e*PKIKP **PKPdf** 08 22 06.5 -0.1
SECR 153.93 319 ⇑ *i*P **PKPab** 08 22 29.1 +0.1
PRD **Provadia** 154.09 314 *e*P **PKPab** 08 22 30.8 +1.1
KSP **Ksiaz** 154.13 339 *e*PKP **PKiKP** 08 22 16.1 +0.9
KSP **Ksiaz** 154.13 339 *e*PKIKP **PKiKP** 08 22 16.1 +0.9
TVSB **Tavsanli** 154.24 305 P **PKiKP** 08 22 16.2 +0.2
ARMT **Armutlu** 154.26 308 P **PKPab** 08 22 30.1 -0.5
KORT **Korkueli** 154.28 299 P **PKPab** 08 22 30.4 -0.5
CTYL **Yalikoy Yolu** 154.29 310 ⇓ *i*P **PKPab** 08 22 31.3 +0.7
LANS **Liptovska Anna** 154.39 333 *e*PKIKP **PKiKP** 08 22 17.2 +1.3
LANS **Liptovska Anna** 154.39 333 *e*PKP **PKiKP** 08 22 17.2 +1.3
LANS *e* 08 22 31.6
KECS **Kecovo** 154.48 331 *e*PKP2 **PKPab** 08 22 31.5 +0.4
KECS **Kecovo** 154.48 331 *e*PKP **PKPab** 08 22 31.5 +0.4
UPC **Upice** 154.51 339 *e*PKIKP **PKPdf** 08 22 06.5 -1.0
UPC **Upice** 154.51 339 *e*PKPDF **PKPdf** 08 22 06.5 -1.0
UPC ⇑ *e*PKP **PKiKP** 08 22 16.6 +0.6
UPC *e*PKPAB **PKPab** 08 22 31.7 +0.5
DPC **Dobruska-Polom** 154.54 339 *e*PKIKP **PKPdf** 08 22 08.0 +0.4
DPC **Dobruska-Polom** 154.54 339 *e*PKPDF **PKPdf** 08 22 08.0 +0.4
DPC ⇑ *e*PKP **PKiKP** 08 22 17.0 +0.8
DPC *e*PKPAB **PKPab** 08 22 31.9 +0.5
ARR **Arges** 154.55 321 ⇓ *i*P **PKiKP** 08 22 17.9 +1.5
MORC **Moravsky Berou** 154.61 336 ⇑ *i*P **PKiKP** 08 22 17.1 +0.8
MORC **Moravsky Berou** 154.61 336 ⇑ PKIKP **PKiKP** 08 22 17.1 +0.8
MORC **Moravsky Berou** 154.61 336 *e*PKP **PKPdf** 08 22 07.9 +0.2
MORC *e* 08 22 31.7
KRLC **Kraliky** 154.63 338 *e*PKIKP **PKPdf** 08 22 07.9 +0.2
KRLC *e* 08 22 31.7
KRLC **Kraliky** 154.63 338 *e*PKPDF **PKPdf** 08 22 07.9 +0.2
KRLC ⇑ *e*PKP **PKiKP** 08 22 16.9 +0.6
KRLC *e*PKPAB **PKPab** 08 22 31.7 -0.1
LTVH **Ltavrtes, Hu** 154.64 327 *e*P **PKPab** 08 22 32.0 +0.2
CLL **Collm** 154.64 344 ⇓ *e*PKIKP **PKPdf** 08 22 08.0 +0.4
CLL *i* 08 22 31.2
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL **Collm** 154.64 344 *e*PKPdf **PKPdf** 08 22 08.0 +0.4
comp=Z,7.0nm,1.0s
CLL ⇓ *i*PKPbc **PKPbc** 08 22 16.3 +0.1
comp=Z,30nm,0.7s
CLL *e* 08 22 22.0
CLL *i* PKPab **PKPab** 08 22 31.2 -0.5
comp=Z,30nm,0.7s
CLL *e*PP **PP** 08 26 04.0 -3.4
CLL *e*(sPP) 08 26 59.0
DRGR 154.66 326 ⇓ *i*P **PKPbc** 08 22 16.5 0.0
DRGR 154.66 326 ⇓ PKIKP **PKPbc** 08 22 16.5 0.0
ELL **Elmali** 154.68 299 P **PKPab** 08 22 32.6 0.0
PHSR **Pinarhisar** 154.74 311 ⇑ *i*P **PKPab** 08 22 33.5 +1.0
BRG **Berggiesshubel** 154.79 342 *i* PKP **PKPdf** 08 22 07.7 -0.1
comp=Z,6.0nm,0.9s
BRG *i* 08 22 17.0
comp=Z,17nm,0.7s
BRG *i* 08 22 32.4
comp=Z,13nm,0.7s
BRG **Berggiesshubel** 154.79 342 *i* PKIKP **PKPdf** 08 22 07.7 -0.1
BRG *i* 08 22 32.3
BRG pmax pmax
comp=Z,6.0nm,0.9s
PVCC **Panska Ves** 154.93 341 *e*PKIKP **PKPdf** 08 22 08.4 +0.4
PVCC **Panska Ves** 154.93 341 *e*PKPDF **PKPdf** 08 22 08.4 +0.4
PVCC ⇑ *e*PKP **PKiKP** 08 22 17.7 +0.8
PVCC *e*PKPAB **PKPab** 08 22 33.5 +0.5
LOT **Lotru** 154.98 322 ⇓ *i*P **PKPab** 08 22 34.3 +0.7
WTSB **Winterswijk** 155.11 353 *e*PKP **PKPab** 08 22 33.2 -0.4
comp=Z,141nm,1.8s
KULA **Kula-Manisa** 155.13 303 P **PKPab** 08 22 34.2 -0.2
EDRB **Edirne** 155.16 312 P **PKPab** 08 22 34.6 +0.3
EDRB **Edirne** 155.16 312 P **PKPab** 08 22 35.0 +0.7
VYHS **Vyhne** 155.16 333 *e*PKIKP **PKPdf** 08 22 12.9 +4.5
VYHS *e* 08 22 34.4
VYHS **Vyhne** 155.16 333 *e*PKP **PKPdf** 08 22 12.9 +4.5
VYHS *e* 08 22 17.9
VYHS *e* 08 22 34.4
PSZ **Piszkesteto** 155.16 331 ⇓ *i*P **PKPab** 08 22 35.2 +1.0
PSZ **Piszkesteto** 155.16 331 ⇓ PKP2 **PKPab** 08 22 35.2 +1.0
PSZ **Piszkesteto** 155.16 331 *e*P **PKPab** 08 22 34.0 -0.2
JAVC **

KHC ePKPAB **PKPab 08 22 39.9 +0.2**
MDVR Moldovita 156.52 323⇑iP PKPab 08 22 40.9 +0.8
BOZC Bozcaada 156.52 308 P **PKPab 08 22 39.9 -0.3**
PRK Paraskevi 156.61 307 P **PKPab 08 22 41.7 +1.1**
GERES GERESS Array B 156.69 340 PKP **PKPdf 08 22 08.7 -1.8**
comp=Z,0.8nm,0.4s,baz=76,slow=4.1,SNR=7.0
GERES PKPab **PKPab 08 22 40.7 0.0**
comp=Z,4.0nm,0.6s,baz=43,slow=4.4,SNR=10
URLA Izmir 156.71 304 P **PKPab 08 22 40.7 -0.5**
SOP Sopron 156.72 335 eP **PKPab 08 22 40.1 -0.6**
SMG Samos 156.76 303 P **PKPab 08 22 41.1 -0.3**
CONA Conrad Observa 156.77 336 ePKPab **PKPab 08 22 41.9 +0.8**
comp=Z,15nm,0.7s,SNR=9.4
SIGR SIGRI 156.92 307 P **PKPab 08 22 41.4 -0.5**
SIGR SIGRI 156.92 307 P **PKPab 08 22 41.5 -0.5**
VTS Vitosha 156.99 317 P **PKPab 08 22 43.3 +0.9**
VTS Vitosha 156.99 317⇑iP PKPab 08 22 43.7 +1.4
VTS Vitosha 156.99 317⇑PKP2 PKPab 08 22 43.7 +1.4
VTS Vitosha 156.99 317 eP **PKPab 08 22 43.2 +0.9**
MORH Mrgy, Hungar 157.02 330⇑eP **PKPab 08 22 41.1 -1.0**
THAS Thassos island 157.09 311 P **PKPab 08 22 42.4 -0.2**
KARP Karpathos 157.13 297 P **PKPab 08 22 42.4 -0.7**
KARP Karpathos 157.13 297 ePKPdf **PKPdf 08 22 12.6 +1.2**
MOA Molln 157.39 338 ePKPab **PKPab 08 22 43.9 +0.2**
comp=Z,24nm,1.2s,SNR=5.8
ARSA Arzberg 157.46 336 i PKPab **PKPab 08 22 43.9 -0.1**
comp=Z,4.9nm,0.5s
KKB Krupnik 157.50 316 eP **PKPab 08 22 44.9 +0.5**
SOH Sokhos 157.89 313 P **PKPab 08 22 45.3 -0.9**
KNT Kendrikon 158.00 314 P **PKPab 08 22 45.6 -1.0**
KNT Kendrikon 158.00 314 P **PKPab 08 22 46.0 -0.6**
PLG Polygyros 158.06 312 P **PKPab 08 22 46.4 -0.5**
PAIG Palíouri 158.12 311 P **PKPab 08 22 45.9 -1.2**
VAY Valandovo 158.13 315 P **PKPab 08 22 47.2 +0.1**
VAY Valandovo 158.13 315 i P **PKPab 08 22 47.5 +0.4**
SOKA Soboth 158.13 336 ePKPab **PKPab 08 22 46.9 0.0**
comp=Z,37nm,1.3s,SNR=10
STIP Stip 158.16 316 i P **PKPab 08 22 45.3 -1.9**
HORT Hortiatis 158.17 313 P **PKPab 08 22 46.1 -1.3**
KBA Koelnbreinsper 158.36 339 ePKPab **PKPab 08 22 48.8 +0.7**
comp=Z,7.3nm,0.5s
NPS Neapolis 158.42 297 P **PKPab 08 22 48.8 +0.1**
GRG Griva 158.43 314 P **PKPab 08 22 47.0 -1.5**
DBIC Dimbokro 158.44 161 PKP **PKPdf 08 22 13.9 +0.3**
comp=Z,6.9nm,1.0s,baz=15,slow=4.1,SNR=3.2
OBKA Obir 158.45 336 ePKPab **PKPab 08 22 47.9 -0.5**
comp=Z,15nm,0.8s
SKO Skopje 158.45 318 P **PKPab 08 22 49.5 +1.0**
SKO Skopje 158.45 318 i P **PKPab 08 22 49.7 +1.2**
BFO Black Forest 158.45 349 ePKPdf **PKPdf 08 22 11.6 -1.1**
BFO Black Forest 158.45 349 ePKIKP **PKPdf 08 22 11.6 -1.1**
LAST Lasithi 158.55 297 P **PKPab 08 22 49.8 +0.5**
MYKA Terra Mystica 158.66 338 i PKPab **PKPab 08 22 48.8 -0.5**
comp=Z,11nm,0.6s,SNR=9.8
WATA Walderalm 158.66 342 ePKPab **PKPab 08 22 50.3 +0.9**
comp=Z,6.7nm,0.6s
WTTA Wattenberg 158.71 342 ePKPab **PKPab 08 22 50.0 +0.4**
comp=Z,15nm,0.6s,SNR=6.0
NEO Neokhori 158.72 310 P **PKPab 08 22 48.5 -1.3**
RETA Reutte 158.73 344 ePKPab **PKPab 08 22 49.7 +0.2**
comp=Z,13nm,0.6s
MOTA Moosalm 158.78 343 ePKPab **PKPab 08 22 49.9 +0.1**
comp=Z,5.3nm,0.5s
LIT Litokhoron 158.82 312 P **PKPab 08 22 49.4 -0.8**
SQTA Sankt Quirin 158.87 343 ePKPab **PKPab 08 22 50.3 +0.1**
comp=Z,8.2nm,0.7s
ABTA Abfaltersbach 158.92 340 ePKPab **PKPab 08 22 50.3 -0.1**
comp=Z,5.4nm,0.4s
SMIA Simia 158.93 309 P **PKPab 08 22 50.2 -0.5**
VLY Voula,Athens 158.95 305 P **PKPab 08 22 49.5 -1.3**
DAVA Damuels 159.13 345 ePKPab **PKPab 08 22 51.5 +0.1**
comp=Z,16nm,0.6s,SNR=8.7
ATAL Atalanti 159.14 308 P **PKPab 08 22 50.2 -1.4**
FETA Feichten 159.18 343 ePKPab **PKPab 08 22 51.9 +0.3**
comp=Z,5.7nm,0.6s
FNA Florina 159.18 315 ePKPdf **PKPdf 08 22 14.4 +0.6**
OHR Ohrid 159.34 317 i P **PKPab 08 22 52.5 0.0**
PDG Podgorica 159.42 322⇑iP PKPab 08 22 52.8 +0.2
AGG Agios Georgios 159.47 310 P **PKPab 08 22 51.3 -1.8**
AGG Agios Georgios 159.47 310 ePKPdf **PKPdf 08 22 14.1 -0.1**
AGG Agios Georgios 159.47 310 P **PKPab 08 22 51.7 -1.4**
AGG Agios Georgios 159.47 310 ePKIKP **PKPdf 08 22 14.1 -0.1**
LOUT Loutraki 159.48 307 P **PKPab 08 22 51.2 -2.0**
DID Didima 159.49 305 P **PKPab 08 22 50.7 -2.5**
KRND KRANIDI 159.60 305 P **PKPab 08 22 51.6 -2.1**
DSF Desfina 159.62 308 P **PKPab 08 22 52.1 -1.7**
IMMV Iera Moni Meta 159.65 299 P **PKPab 08 22 53.5 -0.5**
IMMV Iera Moni Meta 159.65 299 P **PKPab 08 22 54.4 +0.4**
GVD Gavdhos 159.74 297 P **PKPab 08 22 54.4 0.0**
EVR Evrytania 159.87 310 P **PKPab 08 22 52.5 -2.4**
GUR Goura 159.96 307 P **PKPab 08 22 54.5 -0.8**
TUE Stuetta 160.02 345 ePKPdf **PKPdf 08 22 12.5 -2.3**
EFP Efpalio 160.04 309 P **PKPab 08 22 55.1 -0.4**
LAKA Lakka 160.08 308 P **PKPab 08 22 55.3 -0.5**
KTHR Kythira 160.13 302 P **PKPab 08 22 55.6 -0.5**
VLX Vlachokerasia 160.17 305 P **PKPab 08 22 55.6 -0.7**
TRIP Tripoli 160.18 306 P **PKPab 08 22 55.9 -0.4**
DRO Drossia 160.40 308 P **PKPab 08 22 57.4 +0.3**
SENIN Lac Senin/Sane 160.53 349 ePKPdf **PKPdf 08 22 13.5 -1.9**
IGT Igoumenitsa 160.53 313 P **PKPab 08 22 56.9 -0.8**
ITM Ithomi 160.58 305 ePKPdf **PKPdf 08 22 14.1 -1.3**
ITM Ithomi 160.58 305 P **PKPab 08 22 57.4 -0.6**
AMT Artemida-Makis 160.58 307 P **PKPab 08 22 57.3 -0.7**
LKD2 Lefkada island 160.72 311 P **PKPab 08 22 58.2 -0.3**
PYL PYLOS 160.83 305 P **PKPab 08 22 58.3 -0.8**
VLS Valsamata 161.07 310 P **PKPab 08 22 58.9 -0.3**
TIP Timpagrande 162.97 318 P **PKPab 08 23 09.1 +0.7**
TOA0 Torodi Ar. Sit 165.91 178 ePKPdf **PKPdf 08 22 21.5 +0.4**
TORD Torodi Ar. Bea 165.91 178 PKP **PKPdf 08 22 20.5 -0.5**
comp=Z,4.6nm,0.9s,baz=179,slow=1.3,SNR=20
TORD PKPab **PKPab 08 23 22.6 +1.0**
comp=Z,2.7nm,0.8s,baz=173,slow=3.5,SNR=9.5
ESDC Sonseca Array 166.68 21 PKP **PKPdf 08 22 21.6 +0.5**
comp=Z,0.2nm,0.3s,baz=338,slow=2.8,SNR=4.8
ESDC PKPab **PKPab 08 23 24.6 0.0**
comp=Z,2.7nm,0.7s,baz=328,slow=4.0,SNR=9.2
KEST Kesra 169.57 325 PKPab **PKPab 08 23 36.2 -1.3**
comp=Z,5.2nm,0.8s,baz=25,slow=2.1,SNR=4.2

*DDA **15** 08:05:41.0,39°.05N×41°.29E, h7km±1km, ML2.6*
*ISK **15** 08:05:41.7,39°.08N×41°.13E, h16km, ML1.9/3*
ISC 15 08:05:42.0±1.0,**39°.02N**±0°.04×**41°.20E**±0°.04,**h9**km±11km,
n7,σ1°27/14,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.24**	**54**	PG	**Pb**	**08 05 47.9**	**+0.9**
VRTB				SG	**Sg**	**08 05 52.4**	**+2.0**
MUSM	**Mu-Merkez**	**0.38**	**140**	IAML_P			
MUSM	comp=Z,3μm,0.2s			*i* P	**Pg**	**08 05 48.9**	**-0.5**
MUSM				*i* S	**Sg**	**08 05 54.4**	**-0.1**
BNGB	**Bingl**	**0.41**	**266**	PG	**Pg**	**08 05 49.6**	**-0.4**
BNGB				SG	**Sg**	**08 05 55.3**	**-0.1**
YEDI	**Yedisu-Bingol**	**0.66**	**310**	PG	**Pg**	**08 05 53.6**	**-1.2**
YEDI				SG	**Sg**	**08 06 02.2**	**-1.3**
HANI	**Diyarbakir_Han**	**0.87**	**226**	*i* P	**Pn**	**08 06 02.5**	**+2.1**
HANI				*i* S	**Sb**	**08 06 11.9**	**+0.9**
BTMN	**Batman**	**1.13**	**177**	IAML_P			
BTMN	comp=Z,205nm,0.2s			eP	**Pb**	**08 06 03.3**	**-0.3**
BTMN				*i* S	**Sn**	**08 06 20.0**	**+0.5**
SRTM	**Siirt_Merkez**	**1.17**	**151**	IAML_P			
SRTM	comp=Z,426nm,0.3s			*i* P	**Pn**	**08 06 03.4**	**-1.2**
SRTM				*i* S	**Sb**	**08 06 19.0**	**-0.6**

IDC 15 08:17:27.0±4.8,**6°.17S×154°.81E, h271**km±39km,**mb3.6**/4,
mb1 3.6/7,**mb1mx3.2**/40,**mbtmp4.2**/7,**Error ellipse:**
s-maj=47.1km s-min=18.1km az=15.0,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.23**	**247**	P	Pn	08 19 24.8	+1.5
	0.8nm,0.3s,baz=57,slow=12,SNR=3.4						
CTA	**Charters Tower**	**16.14**	**210**	P	P	08 20 58.8	+0.6
	0.3nm,0.3s,baz=26,slow=13,SNR=5.2						
DZM	**Mont Dzumac**	**19.40**	**146**	P	P	08 21 32.7	-0.8
	1.3nm,0.3s,baz=261,slow=8.6,SNR=30						
WRA	**Warramunga Arr**	**24.14**	**234**	P	P	08 22 18.9	-0.1
	2.1nm,0.4s,baz=60,slow=9.9,SNR=46						
ASAR	**Alice Springs**	**26.59**	**227**	P	P	08 22 40.2	-0.7
	1.2nm,0.3s,baz=56,slow=9.1,SNR=25						
STKA	**Stephens Creek**	**28.41**	**204**	P	P	08 22 56.6	-0.3
	1.4nm,0.7s,baz=30,slow=9.5,SNR=3.7						
RPZ	**Rata Peaks**	**40.03**	**162**	P	P	08 24 37.3	+1.2
	7.3nm,0.6s,baz=3.1,slow=8.1,SNR=7.8						
TORD	**Torodi Ar. Bea**	**152.62**	**287**	PKPbc	PKPbc	08 36 52.5	0.0
	0.1nm,0.5s,baz=52,slow=1.8,SNR=2.9						

*DDA **15** 08:23:50.2,38°.43N×33°.40E, h7km±3km, ML2.6*
*ISK **15** 08:23:50.1,38°.40N×33°.37E, h12km, ML2.1/8*
ISC 15 08:23:50.2±0.9,**38°.37N**±0°.03×**33°.40E**±0°.03,**h17**km±7km,
n16,σ0°95/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULT	**Sultanhani-AKS**	**0.19**	**152**	PG	**Pg**	**08 23 55.4**	**+0.4**
SULT				SG	**Sg**	**08 23 59.4**	**+1.2**
AKSY	**AKSARAY - Alti**	**0.40**	**45**	IAML_P			
AKSY	comp=Z,991nm,0.1s			*i* P	**Pb**	**08 23 58.9**	**0.0**
AKSY				*i* S	**Sg**	**08 24 03.6**	**-0.3**
CHBY	**Cihanbeyli**	**0.45**	**298**	PG	**Pg**	**08 23 58.8**	**-0.6**
CHBY				SG	**Sg**	**08 24 05.1**	**-0.5**
SERE	**Sereflikochisa**	**0.59**	**13**	PG	**Pb**	**08 24 01.6**	**-0.5**
SERE				SG	**Sb**	**08 24 09.9**	**-0.4**
YAYX	**Yaylak**	**0.65**	**29**	PG	**Pg**	**08 24 02.2**	**-0.9**
KULU	**Kulu**	**0.74**	**335**	PG	**Pb**	**08 24 04.0**	**-0.7**
LADK	**Ladik-KONYA**	**0.83**	**259**	PG	**Pg**	**08 24 06.2**	**-0.2**
KIRS	**Kırehir-Merke**	**0.86**	**28**	*i* P	**Pg**	**08 24 06.1**	**-0.9**
KIRS				*i* S	**Sb**	**08 24 17.6**	**-0.5**
KKUL	**Konya-Kulu**	**0.89**	**335**	*i* P	**Pn**	**08 24 09.8**	**+1.8**
KKUL				*i* S	**Sn**	**08 24 21.1**	**+0.6**
KONT	**Konya--Tatoy**	**0.92**	**243**	PG	**Pg**	**08 24 08.1**	**0.0**
KONT	**Konya--Tatoy**	**0.92**	**243**	*i* P	**Pg**	**08 24 08.1**	**0.0**
KONT				*i* S	**Sn**	**08 24 22.5**	**+1.2**
KDHN	**Kadinhani**	**1.02**	**279**	IAML_P			
KDHN	comp=Z,410nm,0.3s			*i* P	**Pn**	**08 24 10.6**	**+0.8**
KDHN				*i* S	**Sn**	**08 24 24.2**	**+0.4**
AFSR	**Afar-Bala (An**	**1.11**	**347**	PG	**Pn**	**08 24 11.0**	**0.0**
KERG	**Konya-Eregli**	**1.11**	**149**	eP	**Pb**	**08 24 08.3**	**-2.7**
KERG				*i* S	**Sg**	**08 24 26.0**	**-0.3**
AVNS	**Nevsehir-Avano**	**1.22**	**69**	IAML_P			
AVNS	comp=Z,655nm,0.2s			*i* P	**Pg**	**08 24 14.0**	**+0.3**
AVNS				*i* S	**Sn**	**08 24 30.1**	**+1.5**
CDAG	**Cicekdag**	**1.46**	**31**	IAML_P			
CDAG	comp=Z,257nm,0.1s			*i* P	**Pg**	**08 24 18.0**	**-0.4**
CDAG				*i* S	**Sg**	**08 24 37.5**	**+0.1**

PGC 15 08:26:57.3±0.1,**66°.65N×135°.53W, h20**km,**ML3.4/7,**
100km southwest of Fort McPherson, Nt Northern
Yukon Territory, Canada,Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**1.84**	**24**	Pn	Pn	08 27 27.7	+0.1
INK				Sn	Sn	08 27 51.0	+0.7
DAWY	**Dawson**	**3.06**	**214**	Pn	Pn	08 27 43.3	-1.2
DAWY				Sn	Sn	08 28 19.0	-1.5
DOT	**Dot Lake**	**4.69**	**234**	Pn	Pn	08 28 04.6	-2.4
DOT				Pg	Pb	08 28 21.1	+2.3
DOT				Sn	Sn	08 28 57.8	-2.9
DOT				Sg	Sb	08 29 21.7	+6.9
BVCY	**Beaver Creek**	**4.83**	**211**	Pn	Pn	08 28 07.5	-1.4
YUK1	**Sand Pete Hill**	**5.01**	**208**	Pn	Pn	08 28 10.0	-1.4
YUK1				Sn	Sn	08 29 04.8	-3.9
YUK1				Sg	Sb	08 29 29.8	+5.8
YUK3	**Moose Creek**	**5.34**	**206**	Pn	Pn	08 28 14.8	-1.2
YUK3				Sn	Sn	08 29 12.2	-4.9
YUK3				Sg	Sb	08 29 43.1	+9.4
YUK2	**White River**	**5.40**	**208**	Pn	Pn	08 28 15.5	-1.2
YUK2				Sn	Sn	08 29 15.2	-3.1
YUK4	**Talbot Arm**	**5.50**	**196**	Pn	Pn	08 28 16.5	-1.7
PAX	**Paxson**	**5.62**	**234**	Pn	Pn	08 28 18.8	-0.9
PAX				Sn	Sn	08 29 19.2	-4.6
YUK5	**Granite Creek**	**5.63**	**192**	Sg	Sb	08 29 51.7	+10
COLD	**Coldfoot**	**5.80**	**282**	Pn	Pn	08 28 21.5	-0.6
COLD				Sn	Sn	08 29 23.0	-4.8
YUK6	**Outpost Mounta**	**5.86**	**194**	Pn	Pn	08 28 23.2	0.0
YUK6				Sn	Sn	08 29 25.6	-4.2
YUK6				Sg	Sb	08 29 59.7	+11
HARP	**HAARP**	**5.94**	**229**	Pn	Pn	08 28 23.9	-0.2
WHY	**Whitehorse**	**6.02**	**177**	Pn	Pn	08 28 24.9	-0.3
WHY				Sg	Sb	08 30 02.8	+10
YUK7	**Dusty Glacier**	**6.25**	**192**	Pn	Pn	08 28 29.3	+0.8
YUK7				Sg	Sb	08 30 09.8	+10
CTGM	**Chitina Glacie**	**6.25**	**207**	Pn	Pn	08 28 27.4	-1.1
CTGM				Sn	Sn	08 29 34.2	-5.2
BALM	**Baldy**	**6.39**	**211**	Pn	Pn	08 28 28.6	-1.6
BALM				Sg	Sb	08 30 15.4	+12
KIAG	**Kiagna River**	**6.49**	**211**	Pn	Pn	08 28 31.5	-0.3
PLBC	**Pleasant Camp**	**7.23**	**183**	Sg	Sb	08 30 40.0	+12
KUKN	**Kugluktuk,NWT**	**8.00**	**72**	Pn	Pn	08 28 50.8	-1.5
KUKN				Sn	Sn	08 30 14.6	-7.4
DLBC	**Dease Lake**	**8.62**	**160**	Pn	Pn	08 28 59.7	-1.1
DLBC				Sg	Sn	08 31 24.8	+47
FNBB	**Fort Nelson**	**9.65**	**138**	Pn	Pn	08 29 12.6	-2.3
YKW3	**Yellowknife Ar**	**9.85**	**105**	Pn	Pn	08 29 15.2	-2.3
YKW3				Sn	Sn	08 30 58.0	-9.3
YKW1	**Yellowknife Ar**	**9.93**	**105**	Pn	Pn	08 29 16.7	-1.9
YKW1				Sn	Sn	08 31 00.0	-9.2
RES	**Resolute Bay**	**15.30**	**41**	Pn	Pn	08 30 28.5	-3.3

*IDC **15** 08:32:17.8±1.7,23°.04S×169°.54E, h0km, mb4.1/7,*
mb1 4.3/8, mb1mx4.0/24, mbtmp4.1/8, ML4.3/1, MS3.2/3,
Ms1 3.2/3, ms1mx2.8/31, Error ellipse: s-maj=62.8km
s-min=23.5km az=168.0
*NEIC **15** 08:32:18.6±1.3,23°.08S×169°.53E, h9km±9km, mb4.0/1,*
Error ellipse: s-maj=27.5km s-min=15.3km az=148.0
ISC 15 08:32:21.4±1.0,**23°.0S**±0°.1×**169°.52E**±0°.08,**h23**km,**n21,**
σ0°89/23,mb4.1/7,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**1.94**	**280**	ePn	**Pn**	**08 32 52.7**	**-0.3**
PINNC				eSn	**Sn**	**08 33 16.9**	**+0.2**
MARNC	**Mare, Loyalty**	**2.02**	**317**	ePn	**Pn**	**08 32 53.2**	**-0.8**
MARNC				eSn	**Sb**	**08 33 22.4**	**+0.3**
OUENC	**Ouen Island, N**	**2.53**	**282**	ePn	**Pn**	**08 33 00.4**	**-0.7**
OUENC				eSn	**Sn**	**08 33 29.8**	**-1.5**
DZM	**Mont Dzumac**	**2.98**	**287**	Pn	**Pn**	**08 33 07.2**	**-0.1**
	40nm,0.3s,baz=120,slow=11,SNR=1360						
DZM				Sn	**Sn**	**08 33 43.2**	**+0.8**
	18nm,0.3s,baz=111,slow=15,SNR=4.4						
DZM				LR	LR	08 34 28.7	
	comp=Z,277nm,18.3s,baz=184,slow=43						
HNR	**Honiara**	**16.28**	**324**	LR	LR	08 41 34.0	
	comp=Z,74nm,18.8s,baz=86,slow=34						
CTA	**Charters Tower**	**21.83**	**273**	P	**P**	**08 37 13.9**	**+1.7**
	4.8nm,0.7s,baz=93,slow=12,SNR=9.7						
CTAO	**Charters Tower**	**21.83**	**273**	eP	**P**	**08 37 13.1**	**+0.9**
	4.6nm,0.7s						
STKA	**Stephens Creek**	**26.27**	**244**	LR	LR	08 47 33.0	
	comp=Z,93nm,20.9s,baz=235,slow=35						
ASAR	**Alice Springs**	**32.66**	**262**	P	**P**	**08 38 51.7**	**-0.3**
	2.9nm,0.9s,baz=90,slow=9.0,SNR=24						
WR1	**Warramunga Arr**	**32.84**	**268**	eP	**P**	**08 38 52.0**	**-1.5**
WRA	**Warramunga Arr**	**32.84**	**268**	P	**P**	**08 38 52.0**	**-1.5**
	0.3nm,0.4s,baz=95,slow=8.4,SNR=3.9						
PETK	**Petropavlovsk-**	**76.44**	**353**	P	**P**	**08 44 09.1**	**+0.3**
	1.5nm,0.7s,baz=134,slow=4.3,SNR=3.6						
PEA1	**Petropavlovsk-**	**76.45**	**353**	eP	**P**	**08 44 09.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**80.28**	**295**	P	**P**	**08 44 32.1**	**+1.3**
	0.7nm,0.3s,baz=108,slow=6.0,SNR=4.5						
SONA0	**Songino Array**	**90.34**	**323**	eP	**P**	**08 45 20.9**	**+0.2**
SONM	**Songino Array**	**90.34**	**323**	P	**P**	**08 45 20.9**	**+0.3**
	0.8nm,0.9s,baz=123,slow=5.3,SNR=3.1						
NV01	**Mina Array Sit**	**91.06**	**48**	eP	**P**	**08 45 24.4**	**+0.1**
NVAR	**Mina Array Bea**	**91.06**	**48**	eP	**P**	**08 45 23.7**	**-0.7**
NVAR	**Mina Array Bea**	**91.06**	**48**	P	**P**	**08 45 24.4**	**+0.1**
	1.5nm,0.9s,baz=218,slow=8.0,SNR=7.4						
CLL	**Collm**	**146.37**	**333**	ePKPbc	**PKPab**	**08 52 01.0**	**+0.1**
GERES	**GERESS Array B**	**147.85**	**329**	PKPbc	**PKiKP**	**08 52 05.3**	**-1.1**
	0.8nm,0.6s,baz=29,slow=2.2,SNR=5.4						

*ISK **15** 08:48:18.8,37°.20N×37°.30E, h14km, ML2.0/2*
*DDA **15** 08:48:19.4,37°.14N×37°.15E, h7km±3km, ML2.6*
*ISCJB **15** 08:48:20.8±1.2,37°.16N±0°.06×37°.18E±0°.09, h7km±7km,*
Error ellipse: s-maj=14.3km s-min=7.9km az=143.5
ISC 15 08:48:20.5±1.3,**37°.19N**±0°.05×**37°.17E**±0°.07,**h9**km±9km,**n6,**
σ0°76/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.04**	**119**	PG	**Pg**	**08 48 21.9**	**-0.4**
GAZ				SG	**Sg**	**08 48 24.1**	**+0.5**
HCB	**Kahramanmara**	**0.26**	**306**	IAML_P			
HCB	comp=Z,4μm,0.1s			*i* P	**Pg**	**08 48 25.1**	**-0.5**
HCB				*i* S	**Sg**	**08 48 29.9**	**+0.7**
KMRS	**Kahramanmaras**	**0.38**	**326**	PG	**Pg**	**08 48 27.9**	**-0.1**
KMRS				SG	**Sb**	**08 48 34.7**	**-0.8**
KAMA	**Osmaniye**	**0.40**	**269**	IAML_P			
KAMA	comp=Z,724nm,0.1s			*i* P	**Pg**	**08 48 27.3**	**-1.1**
KAMA				*i* S	**Sg**	**08 48 34.6**	**+1.0**
ANDN	**Andirin**	**0.76**	**301**	IAML_P			
ANDN	comp=Z,957nm,0.1s			*i* P	**Pb**	**08 48 36.1**	**+0.1**
ANDN				*i* S	**Sn**	**08 48 49.5**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.13**	**224**	PN	**Pg**	**08 48 41.9**	**-0.4**
TAHT				SN	**Sn**	**08 48 58.9**	**+0.6**

TEH 15 08:57:49.0,37°.45N×50°.27E, h20km,**ML3.7,Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QALM	**Alamut, Qazvin**	**1.06**	**163**	IAMB	IAmb	08 58 28.0	
QALM	comp=Z,0.0nm,0.1s			ePg	Pg	08 58 09.6	-0.1
IGZV	**Ghazvin**	**1.06**	**182**	eSg	Sn	08 58 23.2	-0.2
IGZV				ePg	Pn	08 58 09.1	+0.1
IGZV				IAMB	IAmb	08 58 25.9	
ZNJK	**Zanjan**	**1.49**	**239**	ePg	Pg	08 58 17.0	-0.8
CHTH	**Charan**	**1.69**	**156**	ePg	Pb	08 58 19.5	0.0
IMHD	**Mahdasht**	**1.79**	**170**	ePn	Pb	08 58 21.4	+0.2
IMHD				IAMB	IAmb	08 58 50.5	
QABG	**Abgarm-Qazvin**	**1.82**	**198**	ePn	Pb	08 58 21.9	0.0
QABG	comp=Z,4μm,0.2s			IAMB	IAmb	08 58 50.7	
IPRN	**Peran**	**2.05**	**125**	ePn	Pb	08 58 24.1	-1.6
IPRN	comp=Z,0.0nm,0.5s			IAMB	IAmb	08 58 53.6	
DAMV	**Damavand**	**2.27**	**143**	ePn	Pb	08 58 28.1	-1.5
GRMI	**Germi**	**2.31**	**307**	ePn	Pn	08 58 27.6	+1.5
IALA	**Alasht**	**2.45**	**123**	ePn	Pn	08 58 29.9	+1.7
IALA	comp=Z,2μm,0.2s			IAMB	IAmb	08 59 04.5	
IFIR	**Firoozkooh**	**2.69**	**131**	ePn	Pn	08 58 33.5	+2.0
IFIR	comp=Z,964nm,0.2s			IAMB	IAmb	08 59 14.2	
ISHM	**Shahmirzad**	**2.93**	**123**	ePn	Pn	08 58 36.9	+2.1
ISHM	comp=N,337nm,0.2s			IAMB	IAmb	08 59 13.6	
IKIA	**Kiasar**	**3.01**	**113**	ePn	Pn	08 58 38.6	+2.8
IKIA	comp=Z,803nm,0.2s			IAMB	IAmb	08 59 18.2	
GHVR	**GHOM**	**3.08**	**164**	ePn	Pn	08 58 39.4	+2.8
IANJ	**Anjilo**	**3.54**	**123**	ePn	Pn	08 58 45.4	+2.3
IANJ	comp=Z,103nm,0.4s			IAMB	IAmb	08 59 38.6	

*ISCJB **15** 08:59:21.5±0.5,21°.88N±0°.05×121°.28E±0°.02, h13km±6km,*
Error ellipse: s-maj=9.0km s-min=3.3km az=12.7
*JMA **15** 08:59:21.0±0.3,21°.88N×121°.00E, h48km, M3.9*
*TAP **15** 08:59:23.1,21°.94N×121°.14E, h17km, ML3.5, D*
ISC 15 08:59:23.6±1.3,**21°.95N**±0°.05×**121°.18E**±0°.03,**h22**km±5km,
n79,σ1°06/118,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.26**	**258**	P	**Pb**	**08 59 29.8**	**-0.1**
TSEB	baz=271			eS	**Sb**	**08 59 34.7**	**+0.6**
TWKBT	**Hengchun**	**0.34**	**268**	P	**Pb**	**08 59 30.4**	**-0.6**
TWKBT	baz=279			eS	**Sb**	**08 59 35.4**	**-0.6**
TWK1	**Hengchun**	**0.34**	**268**	P	**Pb**	**08 59 30.2**	**-0.8**
TWK1	baz=279			eS	**Sb**	**08 59 35.4**	**-0.7**
LAY	**Lan-yu**	**0.36**	**76**	P	**Pb**	**08 59 32.0**	**+0.7**
HEN	**Hengchun**	**0.41**	**277**	P	**Pb**	**08 59 31.7**	**-0.4**
HEN	baz=284			eS	**Sb**	**08 59 37.7**	**-0.2**
TAW	**Tawu**	**0.48**	**327**	P	**Pb**	**08 59 33.1**	**-0.3**
TAW	baz=346			eS	**Sb**	**08 59 40.4**	**+0.4**
EAST	**Anshuo**	**0.52**	**325**	P	**Pb**	**08 59 33.8**	**-0.4**
EAST	baz=343			eS	**Sb**	**08 59 41.4**	**0.0**
SCZT	**Fangliau**	**0.66**	**309**	P	**Pb**	**08 59 36.3**	**-0.3**
SCZT	baz=313			eS	**Sb**	**08 59 44.7**	**-0.6**
ECL	**Taimali**	**0.67**	**342**	eP	**Pb**	**08 59 35.6**	**-1.1**
ECL	baz=346			eS	**Sb**	**08 59 44.7**	**-1.0**
SSPT	**Xinbi**	**0.77**	**313**	P	**Pn**	**08 59 39.2**	**0.0**
SSPT	baz=330			eS	**Sn**	**08 59 49.7**	**-0.4**
TTN	**Taitung**	**0.80**	**358**	P	**Pb**	**08 59 38.7**	**-0.1**
TTN	baz=1.0			eS	**Sn**	**08 59 52.1**	**+1.3**
MASBT	**Mashibuluo**	**0.82**	**323**	*i* P	**Pb**	**08 59 38.7**	**-0.6**
WLCH	**Liuqiu**	**0.84**	**298**	eP	**Pn**	**08 59 40.7**	**+0.6**
TWP	**Hsiaoliuch

baz=343
YULB Yu-li 1.44 4 *eP* **Pn 08 59 46.3 -2.1**
baz=6.0
TWK Hsinying 1.45 334 P **Pb 08 59 49.8 -0.2**
baz=339
TWK *eS* **Sb 09 00 08.7 +0.5**
baz=339
CHN4 Tsaushan 1.49 339 P **Pb 08 59 50.2 -0.4**
baz=343
HGSD Ruisui 1.55 8 P **Pn 08 59 48.9 -1.0**
baz=10.0
ALS Alishan 1.59 348 P **Pn 08 59 50.6 -0.1**
baz=352
CHY Chiayi 1.69 336 *eS* **Sb 09 00 13.9 -0.9**
baz=340
CHN5 Tsauling 1.70 344 P **Pb 08 59 53.6 -0.7**
baz=348
CHN5 *eS* **Sb 09 00 16.4 +1.2**
baz=348
EGFH Guangfu 1.72 8 *eP* **Pn 08 59 51.6 -0.7**
baz=9.0
WHYT Xinyi Township 1.76 350 P **Pb 08 59 54.9 -0.4**
baz=354
WHYT *eS* **Sb 09 00 16.7 -0.2**
baz=354
VWDT VWDT 1.79 359 P **Pn 08 59 53.2 0.0**
baz=9.0
SSLB Suanglung 1.84 354 P **Pn 08 59 54.6 +0.7**
baz=9.0
WJS Zhushan 1.90 348 P **Pb 08 59 56.9 -0.8**
baz=352
WDGT Dungji 1.91 313 *eP* **Pn 08 59 53.4 -1.5**
baz=318
SMLT Sun Moon Lake 1.94 353 P **Pb 08 59 57.0 -1.3**
baz=356
SMLT *eS* **Sb 09 00 22.1 0.0**
baz=356
TYC Yuchr 1.96 351 P **Pn 08 59 57.2 +1.6**
baz=355
TYC *eS* **Sb 09 00 23.4 +0.7**
baz=355
WNT Mingjian 1.97 347 *eP* **Pb 08 59 57.4 -1.4**
baz=351
WNT *eS* **Sb 09 00 22.1 -0.8**
baz=351
OWD Renai 1.99 0 P **Pn 08 59 56.3 +0.2**
baz=12
DPDB Guoxing 2.08 354 P **Pn 08 59 58.7 +1.4**
baz=357
DPDB *eS* **Sb 09 00 25.8 -0.4**
baz=357
CHGB Renai 2.10 360 P **Pn 08 59 58.2 +0.6**
baz=2.0
PHUB P'eng-hu 2.14 317 *eS* **Sn 09 00 22.4 -1.6**
baz=322
TWD Chiawan 2.15 10 *eP* **Pn 08 59 57.1 -1.1**
baz=11
WHF Hehuan Shan 2.18 2 *eP* **Pn 08 59 58.2 -0.8**
baz=13
PNG Penghu 2.19 317 P **Pn 08 59 59.0 +0.3**
baz=323
PNG *eS* **Sn 09 00 24.7 -0.6**
baz=323
NACB Ninganchiao 2.24 10 *eP* **Pn 08 59 59.4 -0.1**
baz=11
ETLH Xiulin Townshi 2.26 7 *eP* **Pn 08 59 58.7 -1.1**
baz=9.0
WHP Taichung City 2.32 355 P **Pn 09 00 02.4 +1.8**
baz=358
WHP *eS* **Sb 09 00 31.9 -1.3**
baz=358
TWQ1 Liyutan 2.41 351 *eP* **Pn 09 00 02.9 +1.1**
baz=355
TWQ1 *eS* **Sb 09 00 34.7 -1.0**
baz=355
NNSB Datong 2.47 4 P **Pn 09 00 03.0 +0.3**
baz=14
NSY Sanyi 2.48 351 *eS* **Sb 09 00 36.8 -0.9**
baz=355
NNS Nan Shan 2.48 4 *eP* **Pn 09 00 04.0 +1.2**
baz=14
ENA Nanau 2.52 12 *eP* **Pn 09 00 02.1 -1.1**
baz=12
NDT Datong Townshi 2.66 7 *eP* **Pn 09 00 05.6 +0.4**
baz=16
NDT *eS* **Sn 09 00 38.1 +1.4**
baz=16
NSTT Nanjuang 2.67 357 *eP* **Pn 09 00 06.7 +1.3**
baz=360
LIOB Emei 2.68 357 *eP* **Pn 09 00 08.1 +2.6**
baz=359
LIOB *eS* **Sn 09 00 37.9 +0.5**
baz=359
ENTT Nioudou 2.70 8 *eP* **Pn 09 00 05.6 -0.1**
baz=9.0
YHNB Yeheng 2.71 4 P **Pn 09 00 07.1 +1.1**
baz=351
NSK Sanguang 2.71 4 *eP* **Pn 09 00 06.9 +0.9**
baz=351
TWC Suao 2.71 13 *eP* **Pn 09 00 06.9 +1.0**
baz=5.0
TWC *eS* **Sn 09 00 39.1 +1.0**
baz=5.0
EOS1 EOS1 2.73 19 P **Pn 09 00 06.8 +0.7**
baz=29
EOS1 *eS* **Sn 09 00 39.8 +1.5**
baz=29
NWLT Wulai 2.83 6 P **Pn 09 00 08.4 +0.9**
baz=15
JYNG Yonagunijimaku 2.97 33 P **Pn 09 00 10.2 +0.7**
JYNG *eS* **Sn 09 00 45.9 +1.5**
YOJ Yonaguni jima 3.01 34 P **Pn 09 00 10.6 +0.6**
baz=33
YOJ Yonaguni jima 3.01 34 P **Pn 09 00 10.8 +0.8**
YOJ *eS* **Sn 09 00 47.1 +1.6**
TIPB Shuangxi 3.06 11 P **Pn 09 00 12.8 +2.1**
baz=12
HATJ Hateruma jima 3.20 49 P **Pn 09 00 12.7 +0.1**
HATJ *eS* **Sn 09 00 49.4 -0.7**
IRIF Iriomote-Funau 3.34 44 P **Pn 09 00 15.0 +0.5**
IRIF S **Sn 09 00 53.7 +0.2**
JKRS Kuro-shima 3.46 48 P **Pn 09 00 16.5 +0.3**
JKRS *eS* **Sn 09 00 56.3 -0.2**
JIJ Ishigaki jima 3.63 48 P **Pn 09 00 19.5 +0.9**
JIJ *eS* **Sn 09 00 59.1 -1.7**
JISG Ishigakijimahi 3.90 47 P **Pn 09 00 21.8 -0.4**
JISG *eS* **Sn 09 01 07.8 +0.5**
JTJ Tarama 4.20 50 P **Pn 09 00 26.7 +0.3**
JTJ *eS* **Sn 09 01 13.8 -1.0**
MATB Ma-tsu 4.33 345 *eP* **Pn 09 00 27.4 -0.7**
baz=351
JIRB Irabujima 4.66 51 P **Pn 09 00 33.2 +0.6**
JIRB S **Sn 09 01 26.0 0.0**

NIED ***15*** *09:07:00, 35°.20N×139°.30E, h104km, Mw3.9 Best double couple: M₀7.60000×10¹⁴ NP1:φs181.00000°, δ32.00000°, λ95.00000°. NP2:φs355.00000°, δ58.00000°, λ87.00000°.*
ISCJB ***15*** *09:07:14.5±0.4, 35°.29N±0°.04×139°.43E±0°.08, h120km±3km, mb3.9/11, Error ellipse: s-maj=10.9km s-min=5.8km az=165.2*
JMA ***15*** *09:07:15.8±0.2, 35°.28N×139°.38E, h110km±2km, M3.7 Broadband fault plane solution: P waves. NP1: φs346.00000°, δ58.00000°, λ86.00000°. NP2: φs174.00000°, δ32.00000°, λ97.00000°. Principal axes: T Plg76.0000°, Azm243.0000°; N Plg4.0000°, Azm348.0000°; P Plg13.0000°, Azm79.0000°;*
JMA Felt I J1.
IDC ***15*** *09:07:15.2±1.1, 35°.33N×139°.56E, h116km±7km, mb3.6/11, mb1 3.7/15, mb1mx3.4/54, mbtmp4.0/15, MS2.2/1, Ms1 2.2/1, ms1mx2.0/50 Error ellipse: s-maj=28.1km s-min=6.2km az=69.0*
ISC 15 09:07:15.3±0.8, 35°.30N±0°.05×139°.43E±0°.07, h113km±5km, n36, σ0°89/41, mb3.8/11, 5C-2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYO	**Yokosk**	**0.20**	**111**	⇑P	**Pn**	**09 07 31.9**	**+0.8**
JOD2	**Odawara 2**	**0.28**	**263**	⇑P	**Pn**	**09 07 31.3**	**-0.1**
JOD2				S	**Sn**	**09 07 42.9**	**-0.6**
JIM2	**Oshima 3**	**0.58**	**180**	⇑P	**Pn**	**09 07 32.7**	**-0.4**
JIM2				S	**Sn**	**09 07 46.1**	**-0.4**
JFNN	**Fujinakano**	**0.62**	**261**	P	**Pn**	**09 07 33.6**	**+0.2**
JFNN				S	**Sn**	**09 07 47.1**	**+0.1**
JIZS	**Izushimoda**	**0.74**	**218**	P	**Pn**	**09 07 34.3**	**0.0**
JIZS				S	**Sn**	**09 07 48.3**	**-0.3**
JYN	**Shimob**	**0.75**	**286**	⇓P	**Pn**	**09 07 34.7**	**+0.2**
JYN				S	**Sn**	**09 07 49.1**	**+0.1**
JRY	**Ryogami san**	**0.84**	**329**	⇑P	**Pn**	**09 07 36.1**	**+0.8**
JRY				S	**Sn**	**09 07 51.2**	**+0.9**
SHZ3	**Shizuoka 3**	**1.03**	**257**	P	**Pn**	**09 07 37.2**	**+0.1**
JAG	**Ashikaga**	**1.12**	**1**	⇑P	**Pn**	**09 07 38.7**	**+0.6**
JAG				S	**Sn**	**09 07 56.0**	**+0.7**
BSO1	**Boso 1**	**1.42**	**116**	P	**Pn**	**09 07 41.7**	**+0.9**
MJAR	**Matsushiro Arr**	**1.59**	**322**	P	**Pn**	**09 07 43.6**	**+0.2**
	3.8nm,0.3s,baz=164,slow=11,SNR=241						
MJAR				S	**Sn**	**09 08 05.0**	**+0.2**
	9.5nm,0.3s,baz=161,slow=20,SNR=30						
MAT	**Matsushiro**	**1.59**	**322**	P	**Pn**	**09 07 44.0**	**+0.6**
MAT				S	**Sn**	**09 08 05.4**	**+0.6**
MAT	**Matsushiro**	**1.59**	**322**	P	**Pn**	**09 07 44.2**	**+0.8**
MAT				S	**Sn**	**09 08 05.4**	**+0.6**
TK02	**Tokai 2**	**1.93**	**226**	⇓P	**Pn**	**09 07 47.4**	**0.0**
JHJ	**Hachijo jima 2**	**2.19**	**172**	P	**Pn**	**09 07 51.8**	**+0.8**
	89nm,0.3s,baz=330,slow=20,SNR=27						
JHJ				S	**Sn**	**09 08 19.8**	**+1.7**
	82nm,0.3s,baz=296,slow=22,SNR=7.9						
JNU	**Nakatsue**	**7.41**	**255**	P	**Pn**	**09 09 01.3**	**+0.4**
	1.1nm,0.3s,baz=67,slow=4.6,SNR=10						
ASAJ	**Asahikawa**	**9.14**	**14**	P	**Pn**	**09 09 21.9**	**-2.2**
	1.3nm,0.3s,baz=227,slow=10,SNR=11						
KSRS	**Korea Array**	**9.53**	**286**	P	**Pn**	**09 09 32.4**	**+2.9**
	0.2nm,0.3s,baz=100,slow=14,SNR=8.8						
KSRS				LR	LR	09 13 05.3	
	comp=Z,13nm,19.2s,baz=235,slow=36						
H11N2	**WAKE ISLAND Hy 28.75 115**			T	T	09 42 49.9	
	baz=308,slow=75,SNR=48						
H11N1	**WAKE ISLAND Hy 28.75 115**			T	T	09 42 50.5	
	baz=308,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hy 28.76 115**			T	T	09 42 52.2	
	baz=308,slow=75,SNR=48						
H11S3	**WAKE ISLAND Hy 29.37 118**			T	T	09 43 34.8	
	baz=310,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy 29.37 118**			T	T	09 43 36.4	
	baz=310,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy 29.39 118**			T	T	09 43 36.8	
	baz=310,slow=75,SNR=19						
MKAR	**Makanchi Array**	**43.71**	**303**	P	**P**	**09 15 09.0**	**0.0**
	0.6nm,0.7s,baz=92,slow=8.9,SNR=4.6						
KURBB	**Kurchatov Arra**	**45.83**	**309**	P	**P**	**09 15 25.2**	**-0.5**
	0.7nm,0.4s,baz=81,slow=7.2,SNR=8.2						
BVAR	**Borovoye Array**	**50.57**	**313**	P	**P**	**09 16 02.4**	**+0.2**
	0.5nm,0.4s,baz=90,slow=7.4,SNR=4.0						
WRA	**Warramunga Arr**	**55.15**	**186**	P	**P**	**09 16 35.0**	**-1.1**
	2.2nm,0.3s,baz=0.2,slow=7.2,SNR=99						
ASAR	**Alice Springs**	**58.88**	**186**	P	**P**	**09 17 01.9**	**-0.5**
	0.6nm,0.4s,baz=358,slow=5.6,SNR=31						
ARCES	**ARCESS Array B**	**65.05**	**339**	P	**P**	**09 17 43.4**	**+0.3**
	4.5nm,1.0s,baz=46,slow=7.8,SNR=4.0						
FINES	**FINESS Array B**	**69.59**	**332**	P	**P**	**09 18 11.6**	**-0.2**
	1.5nm,0.8s,baz=77,slow=6.2,SNR=4.5						
KBZ	**Khabaz**	**70.81**	**310**	P	**P**	**09 18 20.4**	**+0.9**
	1.1nm,0.8s,baz=166,slow=4.2,SNR=2.7						
AKASG	**Malin Array Be**	**74.68**	**322**	P	**P**	**09 18 41.8**	**-0.5**
	0.7nm,0.4s,baz=50,slow=5.7,SNR=5.1						
HFS	**Hagfors**	**75.00**	**335**	P	**P**	**09 18 44.0**	**+0.1**
	1.3nm,0.7s,baz=132,slow=2.2,SNR=4.2						
BRTR	**Keskin Array B**	**78.79**	**311**	P	**P**	**09 19 06.5**	**+0.7**
	0.5nm,0.8s,baz=69,slow=7.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**117.37**	**312**	PKP	**PKPdf**	**09 25 46.5**	**-1.6**
	0.5nm,1.0s,baz=2.7,slow=2.3,SNR=3.6						

IDC 15 09:12:55.8±2.8, 53°.53N×87°.79E, h0km, mb1 3.0/2, mb1mx2.9/55, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=26.7km s-min=18.3km az=84.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**285**	*i*		09 24 33.3	
	baz=102,slow=340,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.81**	**285**	Pn	Pn	09 13 27.8	-0.4
	3.1nm,0.3s,baz=100,slow=12,SNR=19						
ZALV				Sn	Sn	09 13 51.1	-0.8
	4.3nm,0.3s,baz=106,slow=26,SNR=14						
KURBB	**Kurchatov Arra**	**6.40**	**247**	Pn	Pn	09 14 31.5	+0.2
	0.1nm,0.3s,baz=63,slow=14,SNR=4.3						
KURBB				Sn	Sn	09 15 45.6	+0.6
	0.1nm,0.3s,baz=41,slow=17,SNR=2.7						
KURBB				Lg	Lg	09 16 18.6	
	0.0nm,0.3s,baz=64,slow=32,SNR=6.0						
MKAR	**Makanchi Array**	**7.61**	**210**	Pn	Pn	09 14 49.2	+1.4
	0.3nm,0.3s,baz=25,slow=13,SNR=8.8						
MKAR				Sn	Sn	09 16 14.1	-0.6
	0.1nm,0.3s,baz=25,slow=22,SNR=2.8						
MKAR				Lg	Lg	09 16 51.4	
	0.0nm,0.3s,baz=31,slow=24,SNR=2.4						

IDC ***15*** *09:14:26.5±7.0, 6°.55S×154°.08E, h95km±52km, mb3.7/5, mb1 3.8/7, mb1mx3.4/40, mbtmp4.0/7, MS3.1/3, Ms1 3.1/3, ms1mx2.7/33, Error ellipse: s-maj=51.6km s-min=32.1km az=89.0*
ISC 15 09:14:19.6±1.5, 6°.6S±0°.2×154°.5E±0°.2, h48km, n10, σ0°98/9, mb3.9/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.10**	**118**	LR	LR	09 18 02.0	
	comp=Z,99nm,21.3s,baz=320,slow=33						
PMG	**Port Moresby**	**7.80**	**248**	P	**Pn**	**09 16 10.4**	**-0.1**
	1.1nm,0.3s,baz=90,slow=11,SNR=2.8						
PMG				S	**Sn**	**09 17 38.3**	**+0.8**
	0.9nm,0.3s,baz=345,slow=19,SNR=1.9						
PMG				LR	LR	09 19 47.8	
	comp=Z,167nm,18.0s,baz=34,slow=43						
CTA	**Charters Tower**	**15.64**	**210**	P	**P**	**09 18 00.2**	**-0.2**
	0.2nm,0.3s,baz=44,slow=14,SNR=5.2						
WRA	**Warramunga Arr**	**23.66**	**234**	P	**P**	**09 19 25.8**	**-1.1**
	4.2nm,0.9s,baz=54,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**26.09**	**227**	P	**P**	**09 19 48.2**	**-0.9**
	1.0nm,0.8s,baz=60,slow=8.9,SNR=12						
STKA	**Stephens Creek**	**27.92**	**204**	P	**P**	**09 20 06.8**	**+1.5**
	1.6nm,0.5s,baz=36,slow=14,SNR=6.7						
FITZ	**Fitzroy Crossi**	**30.38**	**245**	P	**P**	**09 20 26.6**	**-0.8**
	3.5nm,0.8s,baz=81,slow=13,SNR=3.6						
ASAJ	**Asahikawa**	**51.58**	**349**	LR	LR	09 43 19.8	
	comp=Z,24nm,20.2s,baz=271,slow=34						
MKAR	**Makanchi Array**	**82.76**	**319**	P	**P**	**09 26 39.0**	**+0.4**
	0.7nm,0.6s,baz=104,slow=5.0,SNR=8.1						
TORD	**Torodi Ar. Bea**	**152.44**	**286**	PKPbc	**PKPbc**	**09 34 11.7**	**+0.1**
	1.2nm,0.6s,baz=95,slow=3.1,SNR=7.2						

IDC 15 09:15:04.2±1.9, 6°.81S×155°.02E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/39, mbtmp3.9/4, ML1.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/30, Error ellipse: s-maj=81.9km s-min=30.0km az=141.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.20**	**251**	Pn	Pn	09 17 02.8	-1.7
	0.6nm,0.3s,baz=112,slow=11,SNR=3.6						
PMG				Sn	Sn	09 18 41.5	+3.4
	0.5nm,0.3s,baz=338,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**23.95**	**235**	LR	LR	09 27 58.8	
	comp=Z,66nm,21.0s,baz=105,slow=32						
ASAR	**Alice Springs**	**26.32**	**228**	P	P	09 20 42.9	+1.0
	0.7nm,0.6s,baz=62,slow=9.2,SNR=4.2						
STKA	**Stephens Creek**	**27.91**	**205**	LR	LR	09 31 55.7	
	comp=Z,41nm,18.2s,baz=30,slow=36						
MKAR	**Makanchi Array**	**83.28**	**319**	P	P	09 27 33.5	+0.6
	0.6nm,0.8s,baz=92,slow=6.1,SNR=3.7						
YKA	**Yellowknife Ar**	**96.16**	**28**	P	P	09 28 34.3	+0.5
	0.4nm,0.8s,baz=269,slow=4.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**153.00**	**286**	PKPbc	PKPbc	09 35 03.2	-1.5
	0.8nm,0.6s,baz=105,slow=3.1,SNR=5.7						

ISCJB ***15*** *09:21:19.0±0.8, 60°.95N±0°.03×29°.04E±0°.08, h0km, Error ellipse: s-maj=6.3km s-min=3.7km az=30.5*
BER ***15*** *09:21:23.9±3.1, 60°.81N×28°.90E, h0km, ML2.5(NAO), Suspected explosion*
MOS ***15*** *09:21:23.5, 60°.84N×28°.94E, M2.4, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
HEL ***15*** *09:21:23.0±0.5, 60°.85N×28°.92E, h0km, ML2.4, Explosion*
IDC ***15*** *09:21:24.2±1.9, 60°.83N×28°.91E, h0km, mb1 3.3/3, mb1mx2.9/55, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=16.0km s-min=11.6km az=145.0*
NAO ***15*** *09:21:24.1±1.8, 60°.79N×28°.79E, ML2.5*
ISC 15 09:21:23.3±1.1, 60°.90N±0°.03×28°.63E±0°.06, h0km, n27, σ2°11/48, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.64**	**236**	PG	**Pg**	**09 21 36.5**	**+1.1**
VJF				SG	**Sb**	**09 21 47.2**	**+0.6**
FIA0	**FINESS Array S**	**1.35**	**295**	Pg	**Pn**	**09 21 50.0**	**+0.7**
	baz=116,slow=16						
FIA0				Lg	Lg	09 22 11.0	
	baz=110,slow=28						
FIA0				Rg	Rg	09 22 18.8	
	baz=117,slow=37						
FIA0	**FINESS Array S**	**1.35**	**295**	Pg	**Pn**	**09 21 50.0**	**+0.7**
	baz=116,slow=16						
FIA0				Sg	**Sn**	**09 22 11.0**	**+3.0**
	baz=110,slow=28						
FIA0				Rg	Rg	09 22 18.8	
	baz=117,slow=37						
FIA0	**FINESS Array S**	**1.35**	**295**	PG	**Pn**	**09 21 49.5**	**+0.2**
FIA0				SN	**Sn**	**09 22 10.6**	**+2.6**
FINES	**FINESS Array B**	**1.35**	**295**	Pg	**Pn**	**09 21 49.9**	**+0.5**
	3.9nm,0.3s,baz=117,slow=16,SNR=74						
FINES				Lg	Lg	09 22 11.4	
	11nm,0.3s,baz=114,slow=30,SNR=41						
FINES				Rg	Rg	09 22 17.3	
	98nm,0.7s,baz=110,slow=29,SNR=65						
PVF	**Pernaja**	**1.40**	**257**	PG	**Pn**	**09 21 50.1**	**0.0**
	baz=75						
PVF				MSG		09 22 09.1	
	comp=Z,47nm,0.2s						
PVF				SN	**Sn**	**09 22 11.8**	**+2.5**
KAF	**Kangasniemi**	**1.65**	**319**	PG	**Pg**	**09 21 55.5**	**+0.6**
KAF				MSG		09 22 16.1	
	comp=Z,26nm,0.2s						
KAF				SN	**Sg**	**09 22 19.6**	**+3.4**
ARBE	**Arbavere**	**1.97**	**223**	PG	**Pb**	**09 21 59.7**	**-0.2**
ARBE				SG	**Sg**	**09 22 27.5**	**+1.0**
SUF	**Sumiainen**	**2.17**	**328**	PG	**Pb**	**09 22 03.4**	**-0.1**
SUF				MSG		09 22 30.9	
	comp=Z,13nm,0.2s						
SUF				SG	**Sg**	**09 22 34.2**	**+1.2**
MEF	**Metsahovi**	**2.20**	**254**	PB	**Pn**	**09 22 02.7**	**+1.8**
	baz=70						
KEF	**Keuruu**	**2.21**	**307**	PB	**Pb**	**09 22 03.7**	**-0.2**
KEF				SG	**Sg**	**09 22 36.1**	**+2.1**
JOF	**Joensuu**	**2.39**	**31**	PG	**Pn**	**09 22 04.0**	**+0.4**
JOF				SG	**Sn**	**09 22 34.5**	**+0.8**
VSU	**Vasula**	**2.62**	**202**	PN	**Pn**	**09 22 07.0**	**+0.2**
VSU				SG	**Sb**	**09 22 44.4**	**+0.6**
RAF	**Rauma**	**3.35**	**275**	PN	**Pn**	**09 22 19.6**	**+2.8**
OUF	**Merijarvi**	**3.92**	**334**	PG	**Pb**	**09 22 35.6**	**+2.5**
	baz=145						
OUL	**Oulu**	**4.38**	**345**	PG	**Pb**	**09 22 43.1**	**+2.1**
OUL				SG	**Sg**	**09 23 42.9**	**-1.0**
HFS	**Hagfors**	**7.41**	**271**	Pn	**Pn**	**09 23 14.2**	**+1.7**
	baz=92,slow=11						
HFS				Sn	**Sn**	**09 24 35.1**	**-2.1**
	baz=75,slow=28						
HFS				Lg	Lg	09 25 12.3	
	baz=80,slow=28						
HFS	**Hagfors**	**7.41**	**271**	Pn	**Pn**	**09 23 14.2**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=82,slow=13,SNR=6.6						
HFS				Sn	**Sn**	**09 24 35.0**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=58,slow=22,SNR=2.7						
HFS				Lg	Lg	09 25 11.2	
	comp=Z,0.3nm,0.3s,baz=101,slow=29,SNR=2.8						
HFS	**Hagfors**	**7.41**	**271**	Pn	**Pn**	**09 23 14.2**	**+1.7**
	baz=92,slow=11						
HFS				Sn	**Sn**	**09 24 35.1**	**-2.1**
	baz=75,slow=28						
NRA0	**NORESS Array S**	**8.35**	**276**	Pn	**Pn**	**09 23 26.6**	**+1.2**
	baz=95,slow=12						
NRA0				Sn	**Sn**	**09 24 57.9**	**-2.4**
	baz=99,slow=22						
NRA0				Lg	Lg	09 25 44.0	
	baz=72,slow=28						
NRA0	**NORESS Array S**	**8.35**	**276**	Pn	**Pn**	**09 23 26.6**	**+1.2**
	baz=95,slow=12						
NRA0				Sn	**Sn**	**09 24 57.9**	**-2.4**
	baz=99,slow=22						
NRA0				Sg	**Sg**	**09 25 44.0**	**-7.1**
	baz=72,slow=28						
NB2	**NORSAR Subarra**	**8.47**	**279**	Pn	**Pn**	**09 23 27.4**	**+0.3**
	baz=86,slow=14						
NB2	**NORSAR Subarra**	**8.47**	**279**	Pn	**Pn**	**09 23 27.4**	**+0.3**
	baz=86,slow=14						
NOA	**NORSAR Array B**	**8.47**	**279**	Pn	**Pn**	**09 23 27.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=80,slow=14,SNR=10.0						
NOA				Sn	**Sn**	**09 25 03.9**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=195,slow=17,SNR=2.7						
ARA0	**ARCESS Array S**	**8.77**	**353**	Pn	**Pn**	**09 23 31.3**	**+0.1**
	baz=162,slow=14						
ARA0				Sn	**Sn**	**09 25 06.7**	**-3.9**
	baz=166,slow=28						
ARA0	**ARCESS Array S**	**8.77**	**353**	Pn	**Pn**	**09 23 31.3**	**+0.1**
	baz=162,slow=14						
ARA0				Sn	**Sn**	**09 25 06.7**	**-3.9**
	baz=166,slow=28						
ARCES	**ARCESS Array B**	**8.77**	**353**	Pn	**Pn**	**09 23 30.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=5.2						
ARCES				Sn	**Sn**	**09 25 07.0**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=162,slow=29,SNR=2.6						
ARCES				Lg	Lg	09 25 52.2	
	comp=Z,0.4nm,0.3s,baz=167,slow=29,SNR=5.7						

NNC 15 09:26:48.5±6.6, 36°.88N×70°.78E, h132km±152km, mb2.8, mpv3.7, 4C-4D, Error ellipse: s-maj=55.5km s-min=40.6km az=17.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.22**	**358**	⇓P	Pn	09 28 18.5	+0.6
	1.0nm,0.3s,baz=180,slow=13,SNR=26						
KK31				⇓S	Sn	09 29 29.2	+1.4
	2.7nm,0.5s,baz=184,slow=23,SNR=10.0						
AAK	**Ala-Archa**	**6.42**	**25**	⇓P	Pn	09 28 20.7	-0.1
	1.7nm,0.3s						
AAK				⇑S	Sn	09 29 33.9	+1.0
	5.7nm,0.7s						
TKM2	**Tokmak 2**	**7.08**	**30**	⇑P	Pn	09 28 29.4	-0.2
	6.4nm,0.5s						
TKM2				⇑S	Sn	09 29 47.2	-1.5
	2.5nm,0.7s						
AB31	**Akbulak array**	**14.67**	**331**	⇓P	Pn	09 30 10.0	+0.6
	0.1nm,0.3s,baz=0.0,slow=0.1,SNR=6.8						
AB31				⇑S	Sn	09 32 51.6	0.0
	2.0nm,1.2s,baz=238,slow=3.1,SNR=3.9						

IDC 15 09:28:45.5±1.6, 2°.60N×128°.34E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.5/51, mbtmp3.8/5, Error ellipse: s-maj=94.1km s-min=23.3km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.74**	**187**	P	P	09 33 27.9	0.0
	2.2nm,0.9s,baz=24,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**23.16**	**166**	P	P	09 33 54.5	+0.7
	1.3nm,0.4s,baz=345,slow=11,SNR=51						
ASAR	**Alice Springs**	**26.66**	**169**	P	P	09 34 25.9	-0.5
	0.2nm,0.3s,baz=350,slow=8.2,SNR=6.7						
ASAR				PcP	PcP	09 37 48.5	-2.0
	0.3nm,0.5s,baz=352,slow=1.8,SNR=5.6						
STKA	**Stephens Creek**	**36.52**	**161**	P	P	09 35 53.3	+0.4
	1.4nm,0.3s,baz=350,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**59.40**	**325**	P	P	09 38 50.6	+0.7
	0.4nm,0.4s,baz=118,slow=7.2,SNR=5.9						

BJI ***15*** *09:34:58.5±0.0, 36°.66N×141°.11E, h6km, mb4.6/18, mB4.8/15, Ms4.0/12, Ms7 3.7/9*
NIED ***15*** *09:35:00, 36°.90N×140°.60E, h5km, Mw4.3 Best double couple: M₀3.56000×10¹⁵ NP1:φs345.00000°, δ24.00000°, λ-102.00000°. NP2:φs177.00000°, δ66.00000°, λ-85.00000°.*
MOS ***15*** *09:35:02.8±1.4, 36°.89N×140°.68E, h14km, mb4.4/16, Error ellipse: s-maj

IDC ***15*** *09:35:02.7±0.6, 36°.90N×140°.50E, h0km, mb4.1/28, mb1 4.3/31, mb1mx4.2/57, mbtmp4.2/31, ML3.7/3, MS3.5/4, Ms1 3.5/4, ms1mx3.0/35, Error ellipse: s-maj=13.5km s-min=10.6km az=148.0*

JMA ***15*** *09:35:03.9, 36°.87N×140°.56E, h7km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs=176.00000°, δ63.00000°, λ-79.00000°. NP2: φs=333.00000°, δ29.00000°, λ-110.00000°. Principal axes: T Plg17.0000°, Azm258.0000°; N Plg10.0000°, Azm351.0000°; P Plg70.0000°, Azm109.0000°;*

JMA Felt III J1.

ISCJB ***15*** *09:35:03.7±0.5, 36°.91N±0°.02×140°.59E±0°.03, h12km±3km, mb4.4/98, MS3.9/8 Error ellipse: s-maj=4.3km s-min=2.8km az=141.4*

NEIC ***15*** *09:35:04.9±1.1, 36°.96N×140°.44E, h10km±2km, mb4.6/67, Error ellipse: s-maj=14.6km s-min=8.9km az=133.0*

NEIC Felt at Hitachi, Iwaki, Koriyama, Shirakawa, Tokai, Tokyo, Tsuchiura and Utsunomiya. Recorded [3 JMA] in Fukushima.

ISC 15 09:35:03.8±0.8, 36°.89N±0°.03×140°.59E±0°.03, h6km±5km, n191, σ1°.42/208, mb4.5/98, MS3.9/8, 16C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.20**	**354**	⇑P	**Pg**	**09 35 08.3**	**+0.4**
JFFD				S	**Sg**	**09 35 11.6**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.27**	**38**	⇑P	**Pg**	**09 35 09.7**	**+0.5**
ONAJ				S	**Sg**	**09 35 14.0**	**+1.2**
JHO	**Hitachi**	**0.28**	**183**	⇑P	**Pg**	**09 35 09.0**	**-0.2**
JFK	**Kawauchi**	**0.53**	**25**	⇑P	**Pg**	**09 35 14.2**	**+0.1**
JFK				S	**Sg**	**09 35 21.7**	**+0.7**
JSB	**Shiboa**	**0.54**	**279**	⇑P	**Pg**	**09 35 14.7**	**+0.4**
JSB				S	**Sg**	**09 35 22.3**	**+1.0**
JFT	**Otama**	**0.66**	**342**	⇑P	**Pg**	**09 35 16.5**	**-0.1**
JFT				S	**Sg**	**09 35 26.2**	**+1.0**
JYT	**Yasato**	**0.73**	**206**	⇑P	**Pg**	**09 35 17.1**	**-0.8**
JYT				S	**Sg**	**09 35 27.6**	**+0.3**
JFY	**Yanaizu**	**0.88**	**307**	⇑P	**Pg**	**09 35 20.1**	**-0.6**
JFY				S	**Sg**	**09 35 31.8**	**-0.3**
JAG	**Ashikaga**	**1.02**	**244**	⇑P	**Pg**	**09 35 22.1**	**-1.4**
JAG				S	**Sg**	**09 35 36.8**	**+0.1**
MJAR	**Matsushiro Arr**	**1.94**	**260**	*e*Pn	**Pn**	**09 35 36.6**	**-0.8**
MJAR				*e*Sn	**Sn**	**09 36 03.2**	**+1.1**
MJAR	**Matsushiro Arr**	**1.94**	**260**	*e*P	**Pn**	**09 35 36.6**	**-0.8**
MJAR				*e*		09 36 03.2	
MJAR	**Matsushiro Arr**	**1.94**	**260**	Pn	**Pn**	**09 35 37.0**	**-0.4**
	18nm,0.3s,baz=81,slow=16,SNR=674						
MJAR				Lg	Lg	09 36 03.1	
	32nm,0.3s,baz=81,slow=28,SNR=12						
MJAR				LR	LR	09 36 40.1	
	comp=Z,1μm,20.4s,baz=85,slow=53						
MAJO	**Matsushiro**	**1.94**	**261**	*e*Pn	**Pn**	**09 35 37.8**	**+0.4**
MAJO				*e*Sn	**Sb**	**09 36 04.5**	**+0.3**
MAJO				*e*		09 36 40.1	
MAJO	**Matsushiro**	**1.94**	**261**	*c i*P	**Pn**	**09 35 37.5**	**+0.1**
MAT	**Matsushiro**	**1.94**	**261**	P	**Pn**	**09 35 37.4**	**0.0**
MAT				S	**Sb**	**09 36 03.7**	**-0.5**
MJB9	**Matsu-Tunnel**	**1.95**	**261**	*e*Pn	**Pn**	**09 35 37.8**	**+0.3**
MJB9				*e*Sn	**Sb**	**09 36 04.3**	**+0.1**
INU	**Inuyama**	**3.27**	**243**	*e*Pn	**Pn**	**09 35 56.8**	**+1.1**
JHJ	**Hachijo jima 2**	**3.82**	**190**	Pn	**Pn**	**09 36 03.4**	**+0.2**
	26nm,0.3s,baz=315,slow=24,SNR=10						
JHJ				Sn	**Sn**	**09 36 48.9**	**+0.5**
	24nm,0.3s,baz=292,slow=19,SNR=3.3						
JHJ2	**Mitsune**	**3.82**	**190**	*e*Pn	**Pn**	**09 36 04.3**	**+1.2**
ERM	**Erimo**	**5.49**	**20**	*e*Pn	**Pn**	**09 36 25.7**	**-0.5**
ERM	**Erimo**	**5.49**	**20**	*ce*P	**Pn**	**09 36 27.7**	**+1.5**
ERM				pmax	pmax		
	comp=Z,36nm,0.7s						
ASAJ	**Asahikawa**	**7.38**	**11**	Pn	**Pn**	**09 36 52.2**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=238,slow=14,SNR=17						
GLVR	**Golovnino**	**7.81**	**27**	*e*P	**Pn**	**09 36 58.3**	**+0.3**
GLVR				*e*S	**Sn**	**09 38 25.8**	**-0.9**
GLVR				pmax	pmax		
	comp=Z,260nm,0.7s						
GLVR				pmax	pmax		
	comp=E,210nm,0.6s						
GRPR	**Tuman**	**8.12**	**27**	*e*P	**Pn**	**09 36 59.0**	**-3.2**
GRPR				*e*S	**Sn**	**09 38 27.2**	**-7.1**
GRPR				pmax	pmax		
	comp=Z,95nm,0.4s						
LAGR	**Lagunnoye**	**8.18**	**27**	*e*P	**Pn**	**09 37 04.5**	**+1.5**
LAGR				*e*S	**Sn**	**09 38 36.9**	**+1.1**
LAGR				pmax	pmax		
	comp=Z,141nm,0.4s						
LAGR				pmax	pmax		
	comp=N,76nm,0.1s						
LAGR				pmax	pmax		
	comp=E,118nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**8.19**	**28**	*e*P	**Pn**	**09 37 02.2**	**-1.0**
YUK				*i* S	**Sn**	**09 38 32.9**	**-3.1**
YUK				pmax	pmax		
	comp=N,63nm,0.7s						
YUK				pmax	pmax		
	comp=Z,87nm,0.7s						
YUK				pmax	pmax		
	comp=E,37nm,0.4s						
TEY	**Ternei**	**8.68**	**341**	⇑*e*P	Pn	09 37 17.8	+7.9
TEY				pmax	pmax		
	comp=N,30nm,0.9s						
TEY				pmax	pmax		
	comp=Z,20nm,0.8s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.8s						
JNU	**Nakatsue**	**8.81**	**248**	Pn	**Pn**	**09 37 14.4**	**+2.7**
	comp=E,0.2nm,0.3s,baz=59,slow=11,SNR=8.0						
USA0B	**Ussuriysk Arra**	**9.80**	**321**	*e*Pn	Pn	09 37 31.7	+6.4
USRK	**Ussuriysk Ar.**	**9.80**	**321**	*e*Pn	Pn	09 37 31.5	+6.2
USRK	**Ussuriysk Ar.**	**9.80**	**321**	Pn	**Pn**	**09 37 29.3**	**+4.0**
	comp=E,0.2nm,0.3s,baz=134,slow=13,SNR=20						
USRK				LR	LR	09 41 08.1	
	comp=E,103nm,20.3s,baz=131,slow=38						
KUR	**Kuril'sk**	**9.98**	**31**	*e*P	**Pn**	**09 37 28.0**	**+0.3**
KUR				*e*S	**Sn**	**09 39 19.1**	**-0.9**
KUR				pmax	pmax		
	comp=Z,38nm,0.6s						
KUR				smax	smax		
	comp=E,39nm,0.7s						
KUR				smax	smax		
	comp=N,21nm,0.5s						
KSRS	**Korea Array**	**10.12**	**277**	Pn	**Pn**	**09 37 34.0**	**+4.3**
	comp=N,0.2nm,0.3s,baz=98,slow=14,SNR=10						
CN2	**Changchun**	**13.45**	**306**	*e*P	**Pn**	**09 38 16.0**	**+0.9**
CN2				pmax	pmax		
	comp=N,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=N,100nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,13.0s						
CN2				LR	LR		
	comp=N,200nm,13.0s						
KLR	**Kul'dur**	**13.91**	**335**	Pn	**Pn**	**09 38 22.3**	**+0.8**
	comp=N,0.1nm,0.3s,baz=143,slow=20,SNR=4.0						
TYV	**Tymovskoe**	**14.05**	**5**	*e*P	**Pn**	**09 38 19.9**	**-3.4**
TYV				pmax	pmax		
	comp=Z,11nm,0.7s						
NJ2	**Nanjing**	**18.55**	**261**	*e*P	**P**	**09 39 21.0**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,26nm,0.5s						
PETK	**Petropavlovsk-**	**20.15**	**31**	*e*P	Pn	09 39 39.7	-0.8
PETK	**Petropavlovsk-**	**20.15**	**31**	P	**P**	**09 39 38.5**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=216,slow=9.0,SNR=6.7						
PEA1	**Petropavlovsk-**	**20.15**	**31**	*e*P	**P**	**09 39 38.5**	**-0.1**
WHN	**Wuhan**	**22.68**	**261**	P	**P**	**09 40 05.8**	**-0.3**
HHC	**Hu-ho-hao-te**	**22.89**	**289**	*e*P	**P**	**09 40 08.3**	**0.0**
HHC				pmax	pmax		
	comp=Z,240nm,4.0s						
HHC				LR	LR		
	comp=Z,630nm,10.5s						
HHC				LR	LR		
	comp=Z,590nm,10.5s						
HHC				LR	LR		
	comp=Z,610nm,11.1s						
MA2	**Magadan**	**23.64**	**13**	*e*P	**P**	**09 40 14.2**	**-1.4**
	comp=Z,8.4nm,0.8s						
MA2	**Magadan**	**23.64**	**13**	⇑*e*P	**P**	**09 40 16.1**	**+0.5**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MA2	**Magadan**	**23.64**	**13**	*ce*P	**P**	**09 40 15.2**	**-0.4**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MA2	**Magadan**	**23.64**	**13**	P	**P**	**09 40 14.9**	**-0.7**
	comp=Z,7.1nm,0.7s,baz=194,slow=8.2,SNR=11						
ULN	**Ulaanbaatar**	**26.89**	**305**	⇓*e*P	**P**	**09 40 46.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SEY	**Seymchan**	**27.07**	**12**	⇑*e*P	**P**	**09 40 48.4**	**+1.6**
SEY	**Seymchan**	**27.07**	**12**	P	**P**	**09 40 46.2**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=213,slow=4.0,SNR=5.2						
BOD	**Bodaibo**	**27.30**	**329**	*e*P	**P**	**09 40 47.5**	**-1.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,2.0s						
SONA0	**Songino Array**	**27.32**	**304**	*e*P	**P**	**09 40 48.6**	**-0.9**
SONM	**Songino Array**	**27.32**	**304**	P	**P**	**09 40 48.6**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=108,slow=8.2,SNR=20						
H11N2	**WAKE ISLAND Hy**	**28.65**	**119**	T	T	10 10 49.4	
	baz=312,slow=75,SNR=690						
H11N1	**WAKE ISLAND Hy**	**28.65**	**119**	T	T	10 10 50.0	
	baz=312,slow=75,SNR=572						
H11N3	**WAKE ISLAND Hy**	**28.66**	**119**	T	T	10 10 50.8	
	baz=312,slow=75,SNR=542						
H11S1	**WAKE ISLAND Hy**	**29.34**	**122**	T	T	10 11 39.7	
	baz=314,slow=76,SNR=1701						
H11S3	**WAKE ISLAND Hy**	**29.34**	**122**	T	T	10 11 38.6	
	baz=314,slow=76,SNR=889						
H11S2	**WAKE ISLAND Hy**	**29.36**	**122**	T	T	10 11 42.7	
	baz=314,slow=76,SNR=718						
LZH	**Lanzhou**	**29.44**	**280**	*e*P	**P**	**09 41 09.1**	**+0.6**
LZH				pP	sP	09 41 11.4	+0.1
LZH				sP	pP	09 41 12.8	+2.3
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZH				pmax	pmax		
	comp=Z,68nm,4.5s						
LZH				LR	LR		
	comp=Z,200nm,13.8s						
LZH				LR	LR		
	comp=Z,160nm,15.5s						
LZH				LR	LR		
	comp=Z,220nm,16.5s						
GTA	**Gaotai**	**31.98**	**287**	*e*P	**P**	**09 41 33.9**	**+3.1**
GTA				pP	sP	09 41 36.9	+3.3
GTA				sP	pP	09 41 40.0	+7.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,35nm,5.1s						
GTA				LR	LR		
	comp=Z,84nm,16.1s						
GTA				LR	LR		
	comp=Z,63nm,17.5s						
GTA				LR	LR		
	comp=Z,97nm,14.1s						
KMI	**Kunming**	**34.28**	**261**	P	**P**	**09 41 52.3**	**+1.1**
KMI				pmax	pmax		
	comp=Z,11nm,0.8s						
BILL	**Biiibino**	**34.36**	**17**	⇓*e*P	**P**	**09 41 50.8**	**-0.3**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TIXI	**Tiksi**	**35.36**	**354**	*e*P	**P**	**09 41 58.0**	**-1.7**
TIXI				*e*P	**pP**	**09 41 58.3**	**-3.3**
TIXI	**Tiksi**	**35.36**	**354**	⇓*e*P	**P**	**09 41 58.5**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	**35.36**	**354**	P	**P**	**09 41 58.0**	**-1.7**
	comp=Z,2.4nm,0.8s,baz=99,slow=4.5,SNR=5.6						
DGZ	**Jazzator, Alta**	**39.94**	**306**	⇓*i*P	**P**	**09 42 38.8**	**-0.1**
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ	**Urumqi**	**40.32**	**297**	*e*P	**P**	**09 42 43.3**	**+1.3**
WMQ				LR	LR		
	comp=Z,2μm,38.9s						
WMQ				LR	LR		
	comp=Z,770nm,37.5s						
WMQ				LR	LR		
	comp=Z,380nm,21.5s						
ZAA0	**Zalesovo Array**	**41.53**	**313**	*e*P	**P**	**09 42 50.0**	**-1.7**
	comp=Z,3.7nm,0.8s						
ZAA1	**Zalesovo Array**	**41.53**	**313**	*e*P	**P**	**09 42 50.7**	**-1.1**
ZAA1				*e*PcP	**PcP**	**09 44 47.6**	**-1.5**
ZALV	**Zalesovo Beam**	**41.53**	**313**	*e*P	**P**	**09 42 50.9**	**-0.8**
ZALV	**Zalesovo Beam**	**41.53**	**313**	P	**P**	**09 42 50.7**	**-1.1**
	comp=Z,3.3nm,0.6s,baz=90,slow=8.5,SNR=8.7						
ZALV				PcP	**PcP**	**09 44 47.6**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=93,slow=2.9,SNR=3.4						
NRIK	**Noril'sk**	**43.12**	**335**	P	**P**	**09 43 05.1**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=82,slow=20,SNR=3.7						
NRIK				LR	LR	10 01 23.5	
	comp=Z,46nm,18.5s,baz=62,slow=37						
MK31	**Makanchi Array**	**43.64**	**302**	*e*P	**P**	**09 43 07.5**	**-1.6**
	comp=Z,1.3nm,0.9s						
MK32	**Makanchi Array**	**43.64**	**302**	*e*P	**P**	**09 43 08.8**	**-0.2**
MKAR	**Makanchi Array**	**43.64**	**302**	*i* P	**P**	**09 43 09.8**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**43.64**	**302**	P	**P**	**09 43 08.8**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=89,slow=10,SNR=9.6						
MKAR				PcP	**PcP**	**09 44 55.4**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=91,slow=5.8,SNR=2.7						
KURK	**Kurchatov**	**45.50**	**308**	*e*P	**P**	**09 43 22.4**	**-1.4**
	comp=Z,6.5nm,0.8s						
KURK	**Kurchatov**	**45.50**	**308**	P	**P**	**09 43 22.8**	**-1.0**
KURBB	**Kurchatov Arra**	**45.57**	**308**	P	**P**	**09 43 22.8**	**-1.6**
	comp=Z,2.6nm,0.6s,baz=83,slow=7.8,SNR=17						
SVW2	**Sparrevohn**	**46.04**	**37**	*e*P	**P**	**09 43 28.4**	**+0.5**
	comp=Z,4.4nm,0.9s						
PDGK	**Podgornoye**	**46.26**	**298**	P	**P**	**09 43 29.4**	**-0.7**
PDGK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
IMAR	**Indian Mountai**	**47.11**	**31**	*e*P	**P**	**09 43 38.3**	**+2.0**
RSO	**Redoubt South**	**47.43**	**38**	*e*P	**P**	**09 43 40.1**	**+1.1**
KDAK	**Kodiak Island**	**47.65**	**42**	*e*P	**P**	**09 43 41.1**	**+0.5**
	comp=Z,78nm,1.8s						
KDAK	**Kodiak Island**	**47.65**	**42**	*i* P	**P**	**09 43 44.2**	**+3.6**
CAST	**Castle Rocks**	**47.72**	**34**	*e*P	**P**	**09 43 41.5**	**+0.4**
	comp=Z,2.4nm,0.9s						
MCK	**McKinley**	**49.12**	**34**	*e*P	**P**	**09 43 52.7**	**+0.8**
	comp=Z,22nm,1.9s						
KSH	**Kashi**	**49.86**	**294**	P	**P**	**09 44 01.5**	**+3.5**
KSH				pP	sP	09 44 06.8	+5.9
KSH				PP	**PP**	**09 45 57.1**	**+4.5**
KSH				S	**S**	**09 51 11.4**	**+3.0**
KSH				ScS	**ScS**	**09 53 48.8**	**-1.5**
KSH				pmax	pmax		
	comp=Z,220nm,7.1s						
HDA	**Harding Lake**	**49.96**	**33**	*e*P	**P**	**09 43 58.7**	**+0.4**
	comp=Z,6.9nm,1.3s						
ILAR	**Eielson Array**	**49.97**	**32**	P	**P**	**09 43 58.1**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=254,slow=5.9,SNR=16						
ILB	**Eielson Array**	**49.97**	**32**	*e*P	**P**	**09 43 58.2**	**-0.2**
	comp=Z,2.4nm,0.8s						
OTUK	**Ortayu**	**49.98**	**306**	P	**P**	**09 43 57.8**	**-0.9**
OTUK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AAK	**Ala-Archa**	**49.98**	**298**	⇓*e*P	**P**	**09 44 01.1**	**+2.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**50.18**	**312**	P	**P**	**09 43 59.4**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=57,slow=11,SNR=8.3						
BRVK	**Borovoye**	**50.24**	**312**	⇓*e*P	**P**	**09 44 01.9**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SCRK	**Sand Creek**	**51.29**	**33**	*e*P	**P**	**09 44 08.9**	**+0.4**
	comp=Z,7.7nm,1.5s						
DOT	**Dot Lake**	**51.29**	**34**	*e*P	**P**	**09 44 10.3**	**+2.0**
	comp=Z,2.8nm,0.9s						
ARSB	**Arslanbob**	**51.45**	**297**	*e*P	**P**	**09 44 11.2**	**+1.2**
	comp=Z,4.4nm,0.8s						
EPYK	**Eagle Plains**	**53.98**	**30**	*e*P	**P**	**09 44 29.2**	**+0.9**
	comp=Z,32nm,1.9s						
GAR	**Garm**	**54.16**	**295**	*e*P	**P**	**09 44 28.9**	**-1.2**
	comp=Z,5.8nm,0.9s						
INK	**Inuvik**	**54.82**	**27**	*e*P	**P**	**09 44 34.4**	**+0.2**
	comp=Z,13nm,1.9s						
INK	**Inuvik**	**54.82**	**27**	P	**P**	**09 44 34.6**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=280,slow=4.3,SNR=6.8						
ARU	**Arti**	**56.03**	**318**	*e*P	**P**	**09 44 42.3**	**-0.8**
	comp=Z,7.1nm,0.6s						
ARU	**Arti**	**56.03**	**318**	*d i*P	**P**	**09 44 43.0**	**-0.2**
ARU				S	**S**	**09 52 30.7**	**-1.1**
ARU				SS	**SS**	**09 56 10.7**	**-6.6**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARU	**Arti**	**56.03**	**318**	P	**P**	**09 44 42.8**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=107,slow=2.1,SNR=8.8						
WR1	**Warramunga Arr**	**56.83**	**187**	*e*P	**P**	**09 44 47.9**	**-1.3**
WRA	**Warramunga Arr**	**56.83**	**187**	P	**P**	**09 44 47.9**	**-1.3**
	comp=Z,3.7nm,0.7s,baz=31,slow=1.6,SNR=25						
ABKAR	**Akbulak array**	**57.53**	**310**	*e*P	**P**	**09 44 52.7**	**-1.2**
	comp=Z,5.1nm,0.7s						
AKTO	**Aktyubinsk**	**58.28**	**312**	P	**P**	**09 45 01.6**	**+2.4**
	comp=Z,2.0nm,0.8s,baz=89,slow=11,SNR=6.1						
SPA0	**Spitsbergen Ar**	**60.54**	**349**	*e*P	**P**	**09 45 14.4**	**+0.1**
	comp=Z,69nm,1.7s						
SPITS	**Spitsbergen Ar**	**60.54**	**349**	P	**P**	**09 45 14.6**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=41,slow=13,SNR=4.1						
AS31	**Alice Springs**	**60.55**	**187**	*e*P	**P**	**09 45 15.1**	**0.0**
	comp=Z,5.9nm,2.0s						
ASAR	**Alice Springs**	**60.56**	**187**	P	**P**	**09 45 14.4**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=10,0,slow=6.2,SNR=19						
RES	**Resolute Bay**	**62.91**	**14**	*e*P	**P**	**09 45 30.4**	**+0.1**
	comp=Z,2.3nm,0.9s						
RES	**Resolute Bay**	**62.91**	**14**	P	**P**	**09 45 28.5**	**-1.8**
RES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARA0	**ARCESS Array S**	**63.90**	**339**	*e*P	**P**	**09 45 35.6**	**-1.4**
ARCES	**ARCESS Array B**	**63.90**	**339**	P	**P**	**09 45 35.6**	**-1.4**
	comp=Z,3.1nm,0.9s,baz=30,slow=7.3,SNR=3.4						
ARCES				LR	LR	10 17 41.0	
	comp=Z,165nm,18.3s,baz=176,slow=40						
YKA	**Yellowknife Ar**	**64.27**	**30**	*i* P	**P**	**09 45 39.4**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**64.27**	**30**	P	**P**	**09 45 38.7**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=305,slow=6.6,SNR=6.5						
YKB5	**Yellowknife Ar**	**64.27**	**30**	*e*P	**P**	**09 45 38.7**	**-0.8**
SUF	**Sumiainen**	**67.82**	**333**	P	**P**	**09 46 02.3**	**0.0**
FIA0	**FINESS Array S**	**68.64**	**332**	*e*P	**P**	**09 46 05.6**	**-1.8**
FINES	**FINESS Array B**	**68.64**	**332**	*i* P	**P**	**09 46 07.9**	**+0.5**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**09 46 05.6**	**-1.8**
	comp=Z,3.5nm,0.8s,baz=22,slow=6.6,SNR=7.8						
VAF	**Ylistaro**	**68.84**	**334**	P	**P**	**09 46 10.3**	**+1.6**
H04A	**Detroit Lake**	**69.70**	**49**	*e*P	**P**	**09 46 15.2**	**+0.7**
	comp=Z,7.0nm,1.0s						
KBZ	**Khabaz**	**70.50**	**310**	P	**P**	**09 46 18.9**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=39,slow=6.5,SNR=5.2						
KIV	**Kislovodsk**	**70.50**	**311**	*e*P	**P**	**09 46 19.1**	**-0.3**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV				MLR	MLR		
	comp=Z,68nm,18.0s						
PINE	**Pine Mountain**	**70.94**	**49**	*e*P	**P**	**09 46 24.0**	**+1.7**
	comp=Z,11nm,0.9s						
K05A	**Summer Lake**	**71.55**	**50**	*e*P	**P**	**09 46 26.9**	**+0.9**
	comp=Z,42nm,1.9s						
BMO	**Blue Mountains**	**72.51**	**47**	*e*P	**P**	**09 46 32.2**	**+0.6**
	comp=Z,1.7nm,0.8s						
J08A	**Circle Bar Ran**	**72.67**	**49**	*e*P	**P**	**09 46 33.5**	**+1.0**
	comp=Z,4.1nm,1.0s						
AKASG	**Malin Array Be**	**74.01**	**322**	P	**P**	**09 46 38.7**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=45,slow=5.1,SNR=4.2						
AKBB	**Malin Array Si**	**74.01**	**322**	*e*P	**P**	**09 46 39.3**	**-0.8**
	comp=Z,21nm,1.8s						
NB2	**NORSAR Subarra**	**74.06**	**337**	P	**P**	**09 46 40.5**	**+0.1**
	comp=Z,5.5nm,1.1s,baz=41,slow=6.2						
NB200	**NORSAR Array S**	**74.06**	**337**	*e*P	**P**	**09 46 39.0**	**-1.3**
NOA	**NORSAR Array B**	**74.06**	**337**	P	**P**	**09 46 39.0**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=39,slow=5.8,SNR=6.3						
NOA				LR	LR	10 25 08.4	
	comp=Z,12nm,18.4s,baz=100,slow=41						
CMB	**Columbia Colle**	**74.49**	**54**	*e*P	**P**	**09 46 43.1**	**-0.2**
	comp=Z,8.3nm,1.3s						
HRY	**Holter Researc**	**74.51**	**43**	*e*P	**P**	**09 46 43.8**	**+0.4**
YERR	**Yerington**	**74.69**	**53**	*e*P	**P**	**09 46 44.8**	**+0.2**
	comp=Z,5.8nm,0.9s						
HLID	**Hailey**	**74.95**	**47**	*e*P	**P**	**09 46 46.6**	**+0.6**
	comp=Z,1.6nm,0.9s						
BOZ	**Bozeman (W)**	**75.31**	**44**	*e*P	**P**	**09 46 48.4**	**+0.4**
	comp=Z,14nm,1.8s						
RYN	**Ryan**	**75.35**	**53**	*e*P	**P**	**09 46 49.0**	**+0.6**
	comp=Z,4.4nm,1.0s						
KVN	**Kaiserville**	**75.37**	**52**	*e*P	**P**	**09 46 48.8**	**+0.3**
	comp=Z,4.4nm,0.8s						
NV01	**Mina Array Sit**	**75.60**	**53**	*e*P	**P**	**09 46 50.9**	**+1.0**
NVAR	**Mina Array Bea**	**75.60**	**53**	P	**P**	**09 46 50.9**	**+1.0**
	comp=Z,4.2nm,0.8s,baz=286,slow=5.3,SNR=28						
ELK	**Elko**	**76.15**	**49**	*e*P	**P**	**09 46 53.6**	**+0.6**
	comp=Z,2.1nm,0.9s						
H17A	**Grant Village**	**76.64**	**44**	*e*P	**P**	**09 46 58.0**	**+2.2**
	comp=Z,5.2nm,1.3s						
FRB	**Frobisher Bay**	**77.06**	**13**	P	**P**	**09 46 57.0**	**-0.4**
FRB				pmax	pmax		
	comp=Z,12nm,2.5s						
R11A	**Troy Canyon, C**	**77.37**	**51**	*e*P	**P**	**09 47 00.7**	**+0.8**
	comp=Z,3.7nm,0.9s						
TPNV	**Topopah Spring**	**77.79**	**53**	*e*P	**P**	**09 47 02.7**	**+0.4**
	comp=Z,6.9nm,0.9s						
DUG	**Dugway, Tooele**	**77.95**	**49**	*e*P	**P**	**09 47 03.5**	**+0.4**
	comp=Z,3.8nm,1.0s						
BUR08	**Bucovina Ar. S**	**78.00**	**321**	*e*P	**P**	**09 47 02.8**	**-0.3**
	comp=Z,12nm,1.6s						
PD31	**Pinedale Array**	**78.24**	**45**	*e*P	**P**	**09 47 05.3**	**+0.6**
	comp=Z,8.4nm,1.9s

LPAZ	La Paz	147.34	59	*e*PKPbc	PKPab	09 54 50.7	-0.7
LPAZ	La Paz	147.34	59	PKPbc	PKPbc	09 54 50.1	+0.5
	comp=Z,4.3nm,0.7s,baz=349,slow=1.9,SNR=22						

*IDC **15** 09:37:00.5±0.9, 47.°04N×142.°58E, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.5/51, mbtmp3.5/8, ML3.5/1, Error ellipse: s-maj=22.5km s-min=21.1km az=116.0*
*MOS **15** 09:37:00.7±1.0, 46.°96N×142.°64E, h12km, mb4.2/7, Error ellipse: s-maj=13.9km s-min=7.9km az=102.1*
MOS Felt (III-IV) at Sanatornoye, Troitskoye, Kholmsk; (II-III) at Sinegorsk, Yuzhno-Sakhalinsk.
*SKHL **15** 09:37:00.8±0.4, 47.°00N×142.°47E, h10km, mb4.7/7*
SKHL Felt (III-IV) at Sanatornyi, Troitskoye, Kholmsk; (II-III) at Sinegorsk, Yuzhno-Sahalinsk.
*ISCJB **15** 09:37:01.3±0.6, 47.°04N±0.°03×142.°55E±0.°06, h14km±4km, mb3.8/15, Error ellipse: s-maj=8.0km s-min=4.1km az=153.8*

ISC 15 09:37:03.1±0.8, 46.°98N±0.°04×142.°70E±0.°06, h14km±5km, n38, σ1.°79/45, mb3.8/15, 3D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.05**	**130**	*i* PN	**Pg**	**09 37 05.0**	**-0.7**
YSS				*e*		09 37 08.1	
YSS				pmax	pmax		
	comp=Z,5μm,0.4s						
YSS	**Yuzh-Sakhalins**	**0.05**	**130**	*i* Pg	**Pg**	**09 37 05.1**	**-0.7**
YSS				AMB	AMB	09 37 05.3	
	comp=Z,4μm,0.4s						
YSS				*e*Sg	**Sg**	**09 37 08.1**	**+0.6**
YSS				A	A	09 37 09.5	
	comp=Z,7μm,0.5s						
UGL	**Uglegorsk**	**2.14**	**349**	*e*PN	**Pn**	**09 37 39.7**	**+1.4**
UGL				*e*S	**Sb**	**09 38 08.2**	**+0.3**
UGL				pmax	pmax		
	comp=Z,161nm,0.9s						
UGL				smax	smax		
	comp=E,439nm,1.0s						
UGL				smax	smax		
	comp=N,452nm,0.8s						
UGL	**Uglegorsk**	**2.14**	**349**	*e*Pb	**Pn**	**09 37 39.0**	**+0.7**
UGL				*e*Pg	**Pb**	**09 37 42.1**	**+0.6**
UGL				AMB	AMB	09 37 44.9	
	comp=N,160nm,0.9s						
UGL				*e*Sb	**Sn**	**09 38 01.8**	**-2.7**
UGL				*e*Sg	**Sg**	**09 38 11.0**	**-0.8**
UGL				A	A	09 38 17.2	
	comp=N,670nm,0.7s						
ASAJ	**Asahikawa**	**2.87**	**182**	Pn	**Pn**	**09 37 48.4**	**+0.1**
	comp=N,4.4nm,0.3s,baz=5.8,slow=20,SNR=8.2						
ASAJ				Sn	**Sn**	**09 38 23.3**	**+0.7**
	comp=N,14nm,0.3s,baz=249,slow=32,SNR=15						
TYV	**Tymovskoe**	**3.88**	**360**	*e*P	**Pn**	**09 38 01.9**	**-0.3**
TYV				*e*Pg	**Pg**	**09 38 17.4**	**0.0**
TYV				AMB	AMB	09 38 23.6	
	comp=N,20nm,0.9s						
TYV				*e*Sg	**Sg**	**09 39 09.0**	**+1.3**
TYV				A	A	09 39 11.5	
	comp=N,20nm,1.0s						
KUR	**Kuril'sk**	**4.00**	**114**	*i* PN	**Pn**	**09 38 03.1**	**-0.7**
TEY	**Ternei**	**4.67**	**248**	*e*PN	**Pn**	**09 38 12.5**	**-0.6**
TEY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TEY	**Ternei**	**4.67**	**248**	*e*P	**Pn**	**09 38 11.8**	**-1.3**
TEY				AMB	AMB	09 38 15.9	
	comp=Z,20nm,0.7s						
GRNR	**Gornyy**	**5.61**	**315**	*e*PN	**Pn**	**09 38 24.9**	**-1.1**
GRNR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GRNR	**Gornyy**	**5.61**	**315**	*e*P	**Pn**	**09 38 24.9**	**-1.1**
GRNR				AMB	AMB	09 38 25.2	
	comp=Z,8.0nm,0.8s						
GRNR				*e*S	**Sn**	**09 39 25.8**	**-4.4**
GRNR				*e*Sg	**Sg**	**09 40 04.0**	**+0.9**
GRNR				A	A	09 40 07.0	
	comp=Z,28nm,0.8s						
NKL	**Nikolayevsk**	**6.31**	**349**	*e*PN	**Pn**	**09 38 35.5**	**0.0**
NKL	**Nikolayevsk**	**6.31**	**349**	*e*P	**Pn**	**09 38 35.5**	**0.0**
KLR	**Kul'dur**	**7.67**	**291**	Sn	Sn	09 40 10.3	-11
	comp=Z,0.1nm,0.3s,baz=158,slow=19,SNR=1.9						
KLR				Lg	Lg	09 40 56.0	
	comp=Z,0.1nm,0.3s,baz=168,slow=16,SNR=3.2						
USRK	**Ussuriysk Ar.**	**8.01**	**254**	Lg	Lg	09 41 20.0	
	comp=Z,0.2nm,0.3s,baz=56,slow=26,SNR=6.6						
EKMR	**Ekimchan**	**8.74**	**318**	*e*P	**Pn**	**09 39 08.0**	**-1.0**
EKMR				*e*Sg	**Sg**	**09 41 49.0**	**+5.7**
EKMR				A	A	09 41 55.9	
	comp=Z,16nm,1.0s						
EKMR				A	A	09 41 55.9	
	comp=Z,12nm,1.0s						
BMKR	**Bomnak**	**11.67**	**317**	*e*P	**Pn**	**09 39 48.0**	**-1.0**
BMKR				AMB	AMB	09 39 49.0	
	comp=Z,3.0nm,0.8s						
BMKR				*e*Sg		09 43 25.5	
BMKR				A	A	09 43 34.0	
	comp=Z,8.0nm,1.0s						
ZEA	**Zeya**	**11.95**	**310**	*e*Sg		09 43 37.5	
KROS	**Kirovskiy**	**12.43**	**313**	*e*Sg		09 43 38.0	
SEY	**Seymchan**	**16.89**	**15**	*i* P	**Pn**	**09 40 58.5**	**-0.2**
ULN	**Ulaanbaatar**	**24.01**	**285**	*i* P	**P**	**09 42 17.0**	**-0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL	**Bilibino**	**24.30**	**21**	*i* P	**P**	**09 42 20.7**	**+1.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**24.45**	**285**	P	**P**	**09 42 20.5**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=90,slow=8.8,SNR=2.4						
TIXI	**Tiksi**	**25.59**	**350**	*e*P	**P**	**09 42 31.7**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ZAK	**Zakamensk**	**26.04**	**292**	*e*P	**P**	**09 42 35.9**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
WHN	**Wuhan**	**27.33**	**243**	P	**P**	**09 42 52.1**	**+4.8**
MKAR	**Makanchi Array**	**40.37**	**293**	*i* P	**P**	**09 44 44.4**	**+4.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**40.37**	**293**	P	**P**	**09 44 38.6**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=62,slow=11,SNR=2.0						
KURK	**Kurchatov**	**41.16**	**300**	*i* P	**P**	**09 44 44.2**	**-2.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KURBB	**Kurchatov Arra**	**41.25**	**300**	P	**P**	**09 44 46.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=70,slow=8.7,SNR=2.5						
BRVK	**Borovoye**	**45.09**	**306**	*i* P	**P**	**09 45 17.6**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**54.85**	**34**	P	**P**	**09 46 31.1**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=303,slow=6.9,SNR=2.9						
OBN	**Obninsk**	**60.84**	**321**	*i* P	**P**	**09 47 13.3**	**-1.1**
OBN				*i*		09 49 30.2	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV	**Kislovodsk**	**65.28**	**308**	*e*P	**P**	**09 47 43.4**	**-0.9**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
BORG	**Borgarnes**	**67.91**	**353**	*i* P	**P**	**09 48 01.5**	**+1.0**
PDAR	**Pinedale Array**	**70.15**	**48**	P	**P**	**09 48 15.9**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=180,slow=0.7,SNR=3.0						
ASAR	**Alice Springs**	**70.77**	**189**	P	**P**	**09 48 18.8**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=9.3,slow=5.3,SNR=5.8						
TXAR	**Lajitas Array**	**83.36**	**54**	P	**P**	**09 49 29.9**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=298,slow=1.9,SNR=2.7						

*DDA **15** 09:40:03.5, 40.°40N×36.°53E, h7km±4km, ML2.5*
*ISK **15** 09:40:03.9, 40.°37N×36.°49E, h5km, ML2.0/6*
*ISCJB **15** 09:40:04.3±0.6, 40.°41N±0.°03×36.°55E±0.°04, h2km±6km, Error ellipse: s-maj=6.2km s-min=4.2km az=140.5*

ISC 15 09:40:03.1±1.1, 40.°43N±0.°04×36.°55E±0.°04, h10km±7km, n15, σ1.°08/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKT	**Tokat**	**0.11**	**183**	PG	**Pg**	**09 40 05.9**	**0.0**
TOKT				SG	**Sg**	**09 40 07.4**	**-0.5**
ERBA	**Erbaa**	**0.29**	**31**	*i* P	**Pn**	**09 40 11.5**	**-2.1**
RSDY	**Resadiye-TOKAT**	**0.59**	**93**	PG	**Pn**	**09 40 16.8**	**-0.8**
SVSK	**Karacayir**	**0.62**	**146**	PG	**Pb**	**09 40 15.6**	**-0.3**
SVSK				SG	**Sb**	**09 40 24.7**	**+0.1**
KVT	**Kavak**	**0.76**	**329**	PG	**Pn**	**09 40 19.5**	**-0.4**
HAVZ	**Havza**	**0.90**	**316**	IAML_P			
	comp=Z,640nm,0.2s						
HAVZ				*i* P	**Pn**	**09 40 21.2**	**-0.7**
HAVZ				*i* S	**Sn**	**09 40 35.3**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**1.04**	**193**	*i* P	**Pb**	**09 40 22.9**	**-0.4**
CUSAR				*i* S	**Sn**	**09 40 38.6**	**+0.1**
CUZAR	**Zara_SIVAS**	**1.08**	**120**	*i* P	**Pn**	**09 40 24.7**	**+0.3**
CUZAR				*i* S	**Sn**	**09 40 39.6**	**+0.1**
CUALT	**Altinyayla-SIV**	**1.17**	**172**	*i* P	**Pg**	**09 40 26.1**	**+0.5**
CUALT				*i* S	**Sg**	**09 40 41.5**	**+0.8**
COAL	**Corum-Alaca**	**1.21**	**262**	*e*P	**Pn**	**09 40 23.7**	**-2.5**
COAL				*i* S	**Sg**	**09 40 44.5**	**+2.3**
YOZ	**Yozgat**	**1.23**	**231**	PN	**Pb**	**09 40 26.4**	**-0.2**
CUKAN	**kangal_SIVAS**	**1.32**	**147**	*i* P	**Pg**	**09 40 28.6**	**+0.2**
CUKAN				*i* S	**Sg**	**09 40 47.0**	**+1.5**
CORM	**Corum**	**1.49**	**261**	PN	**Pb**	**09 40 31.2**	**+0.2**
SIRC	**Yozgat**	**1.54**	**225**	IAML_P			
	comp=Z,247nm,0.3s						
SIRC				*i* P	**Pb**	**09 40 31.2**	**-0.5**
SIRC				*i* S	**Sg**	**09 40 53.8**	**+1.2**
SNOP	**Sinop**	**1.88**	**328**	PN	**Pb**	**09 40 38.0**	**+0.4**

IDC 15 09:42:09.4±2.1, 4.°10N×86.°88E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/45, mbtmp3.5/5, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/27, Error ellipse: s-maj=59.7km s-min=27.3km az=49.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**6.91**	**297**	Pn	Pn	09 43 52.4	+0.3
	1.3nm,0.3s,baz=116,slow=12,SNR=4.3						
PALK				Sn	Sn	09 45 02.6	-8.9
	8.2nm,0.3s,baz=115,slow=1.6,SNR=6.6						
WSAR	**Wadi Sarin**	**33.27**	**307**	LR	LR	10 00 59.0	
	comp=Z,29nm,18.9s,baz=146,slow=34						
MKAR	**Makanchi Array**	**42.72**	**355**	P	P	09 50 07.2	-1.1
	0.4nm,0.6s,baz=186,slow=8.6,SNR=4.6						
SONM	**Songino Array**	**46.70**	**18**	P	P	09 50 40.5	+0.3
	0.5nm,0.7s,baz=203,slow=11,SNR=2.9						
KURBB	**Kurchatov Arra**	**46.90**	**353**	P	P	09 50 41.8	+0.3
	0.5nm,0.6s,baz=174,slow=7.0,SNR=6.2						
WRA	**Warramunga Arr**	**52.38**	**119**	P	P	09 51 23.7	-0.2
	0.4nm,0.7s,baz=294,slow=8.1,SNR=4.6						

*IDC **15** 09:48:29.4±0.7, 1.°00N×97.°31E, h0km, mb4.3/18, mb1 4.4/20, mb1mx4.2/44, mbtmp4.3/20, ML4.2/2, MS3.8/15, Ms1 3.8/15, ms1mx3.6/33, Error ellipse: s-maj=24.5km s-min=13.4km az=56.0*
*ISCJB **15** 09:48:31.8±0.3, 0.°98N±0.°04×97.°32E±0.°04, h27km, mb4.5/40, MS3.9/13, Error ellipse: s-maj=6.1km s-min=4.2km az=43.8*
*DJA **15** 09:48:31.7±0.8, 1.°N±3.°×9.°7E±.°, h17km±4km, M4.8/9, mb4.7/6, mB5.0/3, MLv4.8/9, Mw(mB)4.3/3*
*NEIC **15** 09:48:34.9±1.2, 1.°02N×97.°41E, h35km±3km, mb4.6/34, Error ellipse: s-maj=19.0km s-min=10.4km az=53.0*
*KLM **15** 09:48:34.0, 1.°10N×97.°20E, h27km, mb4.5*

ISC 15 09:48:33.6±0.5, 0.°97N±0.°05×97.°35E±0.°06, h27km, n137, σ1.°30/134, mb4.6/45, MS3.9/13, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.40**	**34**	*e*Pn	**Pn**	**09 48 43.7**	**+0.1**
GSI	**Gunungsitoli**	**0.40**	**34**	P	**Pb**	**09 48 43.0**	**+0.7**
GSI				S	**Sn**	**09 48 50.3**	**0.0**
TPTI		**2.28**	**356**	P	**Pn**	**09 49 08.0**	**-1.5**
TPTI				S	**Sn**	**09 49 34.8**	**-2.0**
PSI	**Prapat**	**2.41**	**41**	Pn	**Pn**	**09 49 10.8**	**-0.5**
	9.5nm,0.3s,baz=205,slow=9.7,SNR=18						
PSI				LR	LR	09 49 38.0	
	comp=Z,773nm,21.6s,baz=298,slow=29						
SISI	**Saibi**	**2.87**	**143**	P	**Pn**	**09 49 20.5**	**+3.0**
PDSI	**Padang**	**3.63**	**121**	P	**Pn**	**09 49 28.7**	**+0.7**
BKNI	**Bangkinang**	**3.74**	**100**	*e*Pn	**Pn**	**09 49 31.0**	**+1.5**
BKNI	**Bangkinang**	**3.74**	**100**	P	**Pn**	**09 49 31.1**	**+1.5**
LHMI	**Lhok Sumawe**	**4.25**	**355**	*e*Pn	**Pn**	**09 49 36.5**	**0.0**
PPSI	**Pulau Pagai**	**4.56**	**144**	P	**Pn**	**09 49 43.9**	**+3.1**
IPM	**Ipoh**	**5.06**	**46**	*e*Pn	**Pn**	**09 49 49.1**	**+1.3**
KULM	**Kulim**	**5.41**	**37**	*e*Pn	**Pn**	**09 49 52.6**	**0.0**
KULM	**Kulim**	**5.41**	**37**	P	**Pn**	**09 49 53.0**	**+0.5**
MYKOM	**Kota Tinggi**	**6.55**	**83**	P	**Pn**	**09 50 10.0**	**+1.8**
CMBY	**CAMPBELL BAY**	**6.91**	**330**	*e*P	**Pn**	**09 50 13.6**	**+0.4**
SKLT	**Songkhla**	**6.97**	**28**	P	Pn	09 50 23.9	+10
TRTT	**Trang**	**7.21**	**19**	P	**Pn**	**09 50 18.3**	**+1.0**
	50nm,0.7s,0.2nm						
MNAI	**Manna**	**7.70**	**133**	P	**Pn**	**09 50 26.0**	**+1.9**
MNAI				S	**Sn**	**09 51 47.1**	**-3.4**
DGPR	**DIGLIPUR**	**12.90**	**340**	*e*P	**Pn**	**09 51 36.4**	**+1.2**
SBUM	**Sibu**	**14.93**	**84**	*e*Pn	**Pn**	**09 52 03.5**	**+0.5**
SBUM	**Sibu**	**14.93**	**84**	P	**P**	**09 52 06.0**	**-2.3**
DLV	**T Lat**	**15.52**	**45**	*e*Pn	**Pn**	**09 52 10.7**	**-0.2**
	21nm,0.6s						
CHAI	**Chaiyaphum**	**15.53**	**17**	P	**P**	**09 52 16.7**	**+1.8**
	19μm,0.7s						
UTTA	**Uttaradit**	**16.97**	**11**	P	**P**	**09 52 34.1**	**+3.2**
	13μm,0.7s,202μm						
CM31	**Chiang Mai Arr**	**17.45**	**5**	*e*Pn	**Pn**	**09 52 33.7**	**-1.5**
	11nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.45**	**5**	*e*Pn	**Pn**	**09 52 32.3**	**-2.9**
CMAR	**Chiang Mai Arr**	**17.45**	**5**	P	**Pn**	**09 52 34.3**	**-0.9**
	1.1nm,0.3s,baz=194,slow=11,SNR=27						
PHRA	**Phrae**	**17.65**	**9**	P	**Pn**	**09 52 37.7**	**0.0**
	1.1nm,0.5s						
PALK	**Pallekele**	**17.74**	**291**	LR	LR	09 58 58.0	
	comp=Z,539nm,18.7s,baz=116,slow=36						
CHTO	**Chiang Mai**	**17.80**	**5**	*e*Pn	**Pn**	**09 52 37.9**	**-1.7**
	4.8nm,0.8s						
CMMT	**Chiang Mai**	**17.80**	**5**	P	**P**	**09 52 40.5**	**+0.3**
	3.1nm,0.8s						
PAYA	**Payao**	**18.45**	**8**	P	**Pn**	**09 52 48.5**	**+1.1**
	25μm,0.8s						
KKM	**Kota Kinabalu**	**19.48**	**75**	*e*P	**Pn**	**09 52 60.0**	**-0.2**
	34nm,1.1s						
KKM	**Kota Kinabalu**	**19.48**	**75**	P	**Pn**	**09 53 01.0**	**+0.9**
MDRS	**Chennai**	**20.78**	**306**	*e*P	**P**	**09 53 13.3**	**+0.6**
SLVN	**Son La**	**21.23**	**17**	*e*P	**P**	**09 53 16.5**	**-1.1**
	17nm,0.8s						
TRD	**Trivandrum**	**21.65**	**291**	*e*P	**P**	**09 53 22.5**	**+0.4**
QIZ	**Qiongzhong**	**21.73**	**34**	P	**P**	**09 53 24.1**	**+1.1**
BWNR	**Bhubaneshwar**	**22.28**	**330**	*e*P	**P**	**09 53 28.7**	**-0.1**
BWNR				IAmb	IAmb	09 53 31.7	
	comp=Z,20nm,1.2s						
MPSI	**Mapaga**	**22.55**	**91**	P	**P**	**09 53 30.8**	**-1.1**
KMI	**Kunming**	**24.57**	**12**	P	**P**	**09 53 53.9**	**+2.2**
HYB	**Hyderabad**	**24.68**	**313**	*e*P	**P**	**09 53 52.8**	**+0.2**
HYB				IAmb	IAmb	09 54 00.1	
	comp=Z,12nm,1.2s						
SHL	**Shillong**	**25.02**	**348**	*e*P	**P**	**09 53 55.1**	**-0.6**
	comp=Z,18nm,0.7s						
SHL	**Shillong**	**25.02**	**348**	*e*P	**P**	**09 53 56.1**	**+0.4**
BOK	**Bokaro**	**25.27**	**335**	*e*P	**P**	**09 53 58.8**	**+1.0**
BOK				IAmb	IAmb	09 54 00.2	
	comp=Z,14nm,0.5s						
LUWI	**Luwuk**	**25.50**	**94**	*e*P	**P**	**09 53 58.7**	**-1.2**
	comp=Z,15nm,0.6s						
H08S2	**Diego Garcia H**	**26.23**	**251**	T	T	10 21 09.9	
	baz=71,slow=75,SNR=1907						
H08S3	**Diego Garcia H**	**26.23**	**251**	T	T	10 21 16.0	
	baz=71,slow=75,SNR=2323						
H08S1	**Diego Carcia H**	**26.25**	**251**	T	T	10 21 17.0	
	baz=71,slow=75,SNR=2481						
TGY	**Tagaytay City**	**26.73**	**60**	LR	LR	10 04 12.0	
	comp=Z,187nm,21.7s,baz=291,slow=35						
GOA	**Goa**	**27.34**	**303**	*e*P	**P**	**09 54 17.5**	**+1.0**
RAMN	**Ramite**	**27.82**	**339**	*e*P	**P**	**09 54 22.5**	**+1.4**
	comp=Z,15nm,0.5s						
JIRN	**Jiri**	**28.62**	**339**	*e*P	**P**	**09 54 29.4**	**+1.1**
	comp=Z,27nm,0.7s						
PKIN	**Phulchoki**	**28.84**	**338**	*e*P	**P**	**09 54 31.0**	**+0.9**
	comp=Z,9.9nm,0.6s						
POO	**Poona**	**28.92**	**309**	*e*P	**P**	**09 54 31.7**	**+0.9**
KKN	**Kakani**	**29.07**	**338**	*e*P	**P**	**09 54 32.9**	**+0.8**
KOLN	**Koldanda**	**29.73**	**335**	*e*P	**P**	**09 54 39.0**	**+1.0**
	comp=Z,19nm,0.6s						
BOM	**Bombay**	**29.94**	**308**	*e*P	**P**	**09 54 39.1**	**-0.6**
DANN	**Dangsing**	**30.17**	**336**	*e*P	**P**	**09 54 41.6**	**-0.4**
	comp=Z,11nm,0.5s						
WHN	**Wuhan**	**33.55**	**27**	P	**P**	**09 55 12.3**	**+1.0**
XAN	**Xi'an**	**34.64**	**17**	P	**P**	**09 55 19.6**	**-1.2**
XAN				pP	pP	09 55 26.3	-2.5
XAN				PP	**PP**	**09 56 43.3**	**+3.7**
XAN				S	S	10 00 59.3	+10
XAN				sS	sS	10 01 09.4	+7.3
XAN				SS	**SS**	**10 03 24.8**	**+5.1**
XAN	**Xi'an**	**34.64**	**17**	*e*P	**P**	**09 55 19.2**	**-1.5**
	comp=Z,8.7nm,0.6s						
LZH	**Lanzhou**	**35.46**	**9**	*e*P	**P**	**09 55 31.9**	**+4.0**
LZH				pP	sP	09 55 41.3	+2.0
LZH				sP	pP	09 55 45.3	+9.3
SMLA	**Simla**	**35.57**	**329**	*e*P	**P**	**09 55 29.1**	**+0.4**
SMLA				IAmb	IAmb	09 55 31.0	
	comp=Z,7.6nm,0.6s						
DHRM	**DHARAMSHALA**	**36.91**	**330**	*e*P	**P**	**09 55 40.6**	**+0.1**
DHRM				IAmb	IAmb	09 55 42.3	
	comp=Z,8.3nm,0.4s						
NJ2	**Nanjing**	**36.98**	**31**	*e*P	**P**	**09 55 41.6**	**+0.8**
GTA	**Gaotai**	**38.33**	**3**	P	**P**	**09 55 52.0**	**-0.3**
GTA				pP	pP	09 56 01.0	+0.6
GTA				sP	sP	09 56 05.9	+2.3
GTA				S	**S**	**10 01 48.3**	**+3.1**
GTA				sS	sS	10 02 03.8	+5.3
H01W3	**Cape Leeuwin H**	**38.97**	**158**	T	T	10 37 16.0	
	baz=333,slow=76,SNR=73						
H01W2	**Cape Leeuwin H**	**38.99**	**158**	T	T	10 37 16.8	
	baz=333,slow=76,SNR=82						
H01W1	**Cape Leeuwin H**	**38.99**	**158**	T	T	10 37 13.5	
	baz=333,slow=76,SNR=68						
TIA	**Tai'an**	**39.57**	**25**	P	P	09 55 53.3	-9.3
WR1	**Warramunga Arr**	**41.78**	**122**	*e*P	**P**	**09 56 20.1**	**-1.1**
WRA	**Warramunga Arr**	**41.78**	**122**	P	**P**	**09 56 20.1**	**-1.1**
	comp=Z,3.6nm,0.5s,baz=305,slow=9.3,SNR=49						
BJT	**Baijiatuau**	**42.48**	**22**	*e*P	**P**	**09 56 25.5**	**-0.9**
	comp=Z,13nm,0.6s						
BJI	**Beijing**	**42.50**	**22**	*e*P	**P**	**09 56 27.3**	**+0.7**
KSH	**Kashi**	**43.04**	**336**	P	**P**	**09 56 31.6**	**+0.4**
KSH				sP	sP	09 56 46.1	+3.5
KSH				PP	**PP**	**09 58 13.3**	**+1.8**
KSH				S	**S**	**10 02 52.4**	**-3.1**
KSH				SS	SS	10 05 56.4	-12
ASAR	**Alice Springs**	**43.13**	**127**	*e*P	**P**	**09 56 31.9**	**-0.2**
ASAR	**Alice Springs**	**43.13**	**127**	P	**P**	**09 56 32.1**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=298,slow=7.7,SNR=30						
AS31	**Alice Springs**	**43.13**	**127**	*e*P	**P**	**09 56 31.7**	**-0.4**
	comp=Z,1.8nm,1.3s						
WMQ	**Urumqi**	**43.53**	**350**	*e*P	**P**	**09 56 34.3**	**-0.7**
TARG	**Taragay, Kyrgy**	**44.24**	**339**	*e*P	**P**	**09 56 41.3**	**+0.1**
	comp=Z,4.9nm,0.8s						
NRN	**Naryn**	**44.66**	**337**	*e*P	**P**	**09 56 44.9**	**+0.5**
	comp=Z,14nm,1.4s						
KDJ	**Kajisay**	**44.82**	**339**	*e*P	**P**	**09 56 45.7**	**+0.2**
	comp=Z,5.2nm,0.8s						
BOOM	**Boomskoye usch**	**45.59**	**338**	*e*P	**P**	**09 56 52.0**	**+0.4**
	comp=Z,3.4nm,0.7s						
ARSB	**Arslanbob**	**45.81**	**334**	*e*P	**P**	**09 56 53.8**	**+0.4**
	comp=Z,7.5nm,0.8s						
KS15	**Wonju Array Si**	**45.92**	**34**	*e*P	**P**	**09 56 53.8**	**-0.2**
	comp=Z,27nm,1.4s						
KSAR	**Wonju Array Be**	**45.92**	**34**	*e*P	**P**	**09 56 53.7**	**-0.4**
KSRS	**Korea Array**	**45.95**	**34**	P	**P**	**09 56 53.9**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=224,slow=8.9,SNR=9.7						
KSRS				LR	LR	10 18 50.6	
	comp=Z,140nm,18.1s,baz=204,slow=40						
AAK	**Ala-Archa**	**46.28**	**337**	LR	LR	10 18 19.1	
	comp=Z,140nm,20.5s,baz=146,slow=39						
SONA0	**Songino Array**	**47.34**	**8**	*e*P	**P**	**09 57 05.5**	**+0.3**
SONA0				*e*PcP	**PcP**	**09 58 36.3**	**+0.5**
SONM	**Songino Array**	**47.34**	**8**	P	**P**	**09 57 05.5**	**+0.3**
	comp=Z,3.0nm,0.4s,baz=191,slow=9.5,SNR=22						
SONM				PcP	**PcP**	**09 58 36.3**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=193,slow=3.1,SNR=4.7						
MK31	**Makanchi Array**	**47.50**	**346**	*e*P	**P**	**09 57 06.7**	**+0.3**
	comp=Z,6.0nm,0.6s						
MK32	**Makanchi Array**	**47.50**	**346**	*e*P	**P**	**09 57 06.8**	**+0.4**
MKAR	**Makanchi Array**	**47.50**	**346**	*e*P	**P**	**09 57 06.4**	**+0.1**
MKAR	**Makanchi Array**	**47.50**	**346**	P	**P**	**09 57 06.8**	**+0.4**
	comp=Z,9.2nm,0.5s,baz=160,slow=8.1,SNR=147						
MKAR				LR	LR	10 21 02.4	
	comp=Z,119nm,20.7s,baz=161,slow=41						
MAKZ	**Makanchi**	**47.59**	**346**	*e*P	**P**	**09 57 07.2**	**+0.2**
	comp=Z,7.1nm,0.6s						
KK31	**Karatay Array**	**48.33**	**334**	*e*P	**P**	**09 57 13.4**	**+0.5**
	comp=Z,10nm,1.5s						
KKAR	**Karatay Array**	**48.33**	**334**	*e*P	**P**	**09 57 12.9**	**+0.1**
KKAR				*e*P	**P**	**09 57 13.5**	**+0.7**
CN2	**Changchun**	**49.44**	**27**	*e*P	**P**	**09 57 20.9**	**-0.4**
MAJO	**Matsushiro**	**51.76**	**42**	*e*P	**P**	**09 57 37.5**	**-1.5**
MJAR	**Matsushiro Arr**	**51.76**	**42**	P	**P**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**0.62**	**15**	*i* P	Pb	10 08 08.4	-0.2
NY14				*i* S	Sn	10 08 18.8	-0.4
LAPC	**Finca la Perla**	**0.77**	**20**	*i* P	Pb	10 08 10.2	-0.8
LAPC				*i* S	Sb	10 08 20.8	-0.2
GBS3	**Finca Las Img**	**0.77**	**18**	*i* P	Pb	10 08 10.5	-0.6
JTS	**Las Juntas de**	**0.77**	**71**	*eP*	Pb	10 08 10.6	-0.6
JTS				*eS*	Sb	10 08 21.7	+0.5
GPS3	**Bodega del ICE**	**0.78**	**25**	*i* P	Pb	10 08 10.8	-0.4
GPS3				*i* S	Sb	10 08 22.0	+0.6
GPS2	**Hotel Rincn d**	**0.78**	**26**	*i* P	Pb	10 08 10.7	-0.6
LIM1	**Limonal**	**0.79**	**34**	*i* P	Pb	10 08 10.8	-0.5
LIM1				*i* S	Sb	10 08 22.0	+0.4
COLC	**Colonia**	**0.79**	**38**	*i* P	Pb	10 08 10.9	-0.5
BUEV	**Buena Vista**	**0.80**	**21**	*i* P	Pb	10 08 11.2	-0.5
GPS1	**Guardaparques**	**0.80**	**25**	*i* P	Pb	10 08 11.1	-0.6
CUI	**Cuipilapa**	**0.81**	**41⇑**	*eP*	Pb	10 08 11.2	-0.5
CUI				*i* P	Pn	10 08 11.2	-1.2
CUI				*i* S	Sb	10 08 22.4	+0.2
CUI				*eS*	Sn	10 08 22.8	-1.0
GUAB	**Guayabo de Bag**	**0.81**	**35**	*i* P	Pb	10 08 11.2	-0.4
GB1A	**Borinquen Arri**	**0.83**	**21⇑**	*i* P	Pb	10 08 11.6	-0.4
GB1A				*eS*	Sb	10 08 23.1	+0.3
MESS	**Mesas**	**0.85**	**35**	*i* P	Pb	10 08 11.7	-0.8
MESS				*i* S	Sb	10 08 23.8	+0.3
ACAL	**Aguas Claras**	**0.88**	**48**	*i* P	Pb	10 08 12.6	-0.3
ACAL				*i* S	Sn	10 08 24.9	-0.6
AMAS	**Alto Masis**	**0.90**	**51**	*i* P	Pb	10 08 12.6	-0.6
AMAS				*i* S	Sb	10 08 25.0	+0.2
BUAI	**Buenos Aires**	**0.90**	**23**	*i* P	Pb	10 08 12.8	-0.6
PTEN	**Parque Tenorio**	**0.97**	**46**	*i* P	Pb	10 08 13.6	-0.8
CEDE	**Laguna Cedeo**	**1.07**	**66**	*eP*	Pn	10 08 16.1	0.0
CEDE				*eS*	Sn	10 08 31.4	+1.0
SRA1	**San Ramn**	**1.20**	**88⇑**	*eP*	Pn	10 08 16.9	-1.0
HDC	**Heredia**	**1.56**	**91**	*eP*	Pn	10 08 23.4	+0.5
ACON	**Acoyapa**	**1.98**	**15**	*eP*	Pn	10 08 27.6	-1.0
EDLM	**Las Mercedes**	**2.21**	**110**	*eP*	Pb	10 08 37.7	+2.1
DRK0	**Durika**	**2.54**	**108**	*eP*	Pb	10 08 40.1	-1.2
ESPN	**Las Esperanzas**	**2.54**	**33**	*eP*	Pn	10 08 35.8	-0.5
MATN	**Matagalpa**	**2.88**	**356**	*eP*	Pb	10 08 47.3	+0.3

*IDC **15** 10:09:35.6±1.3,4°.78N×127°.54E,h0km,mb4.1/6, mb1 4.2/6,mb1mx3.8/34,mbtmp4.1/6,Error ellipse: s-maj=135.3km s-min=16.4km az=68.0*

ISC 15 10:09:48.3±1.0,4°.3N±0°.1×127°.1E±0°.2,h100km,n11, σ2§68/15,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.20**	**323**	*eP*	**Pn**	**10 10 21.6**	**-1.9**
DDMP				*eS*	**Sn**	**10 10 46.9**	**-3.6**
DMPH	**Davao City--Mi**	**3.13**	**331**	*eP*	**Pn**	**10 10 37.1**	**+1.3**
DMPH				*eS*	**Sn**	**10 11 19.1**	**+6.7**
SKMP	**Bagumbayan, Su**	**3.30**	**311**	*eP*	**Pn**	**10 10 38.2**	**+0.1**
SKMP				*eS*	**Sn**	**10 11 19.2**	**+2.6**
BUKP	**Musuan**	**4.03**	**331**	*eP*	**Pn**	**10 10 48.1**	**+0.1**
BUKP				*eS*	**Sn**	**10 11 36.0**	**+1.7**
CGP	**Cagayan de Oro**	**4.71**	**330**	*eP*	**Sn**	**10 11 51.5**	**+0.8**
WRA	**Warramunga Arr**	**25.17**	**164**	P	**P**	**10 15 05.5**	**+1.0**
	4.3nm,1.0s,baz=345,slow=9.8,SNR=23						
ASAR	**Alice Springs**	**28.63**	**167**	P	**P**	**10 15 37.0**	**+1.5**
	0.3nm,0.3s,baz=349,slow=6.6,SNR=12						
STKA	**Stephens Creek**	**38.59**	**160**	P	**P**	**10 17 02.2**	**+0.6**
	2.2nm,0.4s,baz=341,slow=8.6,SNR=9.6						
SONM	**Songino Array**	**46.83**	**341**	P	**P**	**10 18 05.7**	**-2.5**
	0.4nm,0.6s,baz=142,slow=4.9,SNR=2.3						
MKAR	**Makanchi Array**	**57.24**	**325**	P	**P**	**10 19 24.5**	**-0.9**
	2.9nm,0.4s,baz=115,slow=7.8,SNR=36						
KURBB	**Kurchatov Arra**	**61.40**	**327**	P	**P**	**10 19 52.5**	**-1.4**
	3.4nm,0.5s,baz=128,slow=6.6,SNR=22						

*IDC **15** 10:14:49.7±0.7,31°.38N×86°.58E,h0km,mb3.9/16, mb1 4.1/18,mb1mx3.9/41,mbtmp3.9/18,ML3.7/2,MS4.5/3, Ms1 4.5/3,ms1mx3.1/51,Error ellipse: s-maj=19.6km s-min=15.0km az=47.0*

*ISCJB **15** 10:14:53.2±0.5,31°.33N±0°.06×86°.64E±0°.07,h33km, mb4.0/28,MS4.5/3,Error ellipse: s-maj=10.2km s-min=6.1km az=137.8*

*MOS **15** 10:14:54.2±1.5,31°.41N×86°.74E,h33km,mb4.3/14,Error ellipse: s-maj=12.4km s-min=7.5km az=93.8*

ISC 15 10:14:54.6±0.5,31°.38N±0°.07×86°.53E±0°.07,h35km,n58, σ1§61/51,**mb4.1**/28,**MS4.9**/3,**6C,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**7.46**	**140**	*e*PN	**Pn**	**10 16 42.0**	**+0.8**
SHL				*e*SN	**Sn**	**10 18 03.2**	**-1.5**
CHCP	**Chirah Chowk**	**11.43**	**285**	P	**Pn**	**10 17 33.5**	**-1.9**
SARP	**Sargodha**	**11.82**	**276**	P	**Pn**	**10 17 37.6**	**-3.2**
WMQ	**Urumqi**	**12.46**	**4**	*eP*	P	10 18 10.1	+9.3
CEP	**Cherat**	**12.57**	**285**	P	**Pn**	**10 17 48.3**	**-2.8**
THW	**Thamme Wali**	**12.62**	**280**	P	**Pn**	**10 17 49.2**	**-2.5**
AAK	**Ala-Archa**	**14.77**	**323**	*i* P	**P**	**10 18 26.1**	**-0.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LZH	**Lanzhou**	**15.15**	**67**	*eP*	**Pn**	**10 18 24.1**	**-2.0**
LZH				pP	P	10 18 26.6	-4.3
LZH				sP	pP	10 18 28.6	-13
MKAR	**Makanchi Array**	**15.74**	**349**	*eP*	**P**	**10 18 37.3**	**+0.1**
MKAR	**Makanchi Array**	**15.74**	**349**	Pn	**Pn**	**10 18 31.2**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=179,slow=13,SNR=5.8						
CMAR	**Chiang Mai Arr**	**17.07**	**136**	*eP*	**P**	**10 18 53.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**17.07**	**136**	P	**P**	**10 18 50.0**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=324,slow=12,SNR=11						
DGZ	**Jazzator, Alta**	**18.32**	**2**	*i* P	**Pn**	**10 19 08.5**	**+2.5**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
XAN	**Xi'an**	**19.02**	**76**	P	**Pn**	**10 19 16.3**	**+1.8**
KURBB	**Kurchatov Arra**	**20.13**	**345**	P	Pn	10 19 25.0	-2.4
	comp=Z,4.4nm,0.9s,baz=163,slow=10,SNR=15						
KURK	**Kurchatov**	**20.20**	**345**	*ce*P	Pn	10 19 25.8	-2.5
KURK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SONM	**Songino Array**	**22.36**	**37**	P	**P**	**10 19 49.9**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=225,slow=12,SNR=13						
ZALV	**Zalesovo Beam**	**22.59**	**357**	*eP*	**P**	**10 19 52.8**	**+0.9**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**22.59**	**357**	P	**P**	**10 19 52.1**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=188,slow=10,SNR=7.5						
ULN	**Ulaanbaatar**	**22.72**	**38**	*ce*P	**P**	**10 19 54.0**	**+0.5**
ULN				pmax	pmax		
	comp=Z,12nm,1.3s						
ZAK	**Zakamensk**	**22.73**	**29**	*eP*	**P**	**10 19 51.9**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
WHN	**Wuhan**	**23.85**	**85**	P	**P**	**10 20 05.5**	**+0.8**
TLY	**Talaya**	**23.88**	**27**	*i* P	**P**	**10 20 04.6**	**-0.2**
BVAR	**Borovoye Array**	**24.61**	**336**	P	**P**	**10 20 11.4**	**0.0**
	comp=Z,0.4nm,0.4s,baz=150,slow=12,SNR=3.8						
BRVK	**Borovoye**	**24.67**	**336**	*ce*P	**P**	**10 20 15.7**	**+3.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BOD	**Bodaibo**	**32.46**	**27**	*eP*	**P**	**10 21 17.5**	**-3.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KSRS	**Korea Array**	**34.48**	**68**	*eP*	**P**	**10 21 39.4**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**34.48**	**68**	P	**P**	**10 21 39.1**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=277,slow=8.8,SNR=5.0						
KIV	**Kislovodsk**	**36.50**	**303**	*eP*	**P**	**10 21 58.6**	**+2.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**37.68**	**57**	P	**P**	**10 22 07.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**37.68**	**57**	P	**P**	**10 22 07.0**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=255,slow=7.7,SNR=8.2						
KLR	**Kul'dur**	**38.17**	**49**	*i* P	**P**	**10 22 10.5**	**-0.1**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.4s						
ANN	**Anapa**	**40.31**	**304**	*eP*	P	10 22 38.1	+10
ANN				pmax	pmax		
	comp=Z,37nm,1.1s						
OBN	**Obninsk**	**42.25**	**319**	*i* P	**P**	**10 22 46.1**	**+1.8**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KLMR	**Klimovskoe**	**42.50**	**328**	*eP*	**P**	**10 22 46.7**	**+0.5**
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MJAR	**Matsushiro Arr**	**42.76**	**69**	P	**P**	**10 22 48.8**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=277,slow=8.9,SNR=5.2						
MJA0	**Matsu Arr-Jizo**	**42.78**	**69**	*eP*	**P**	**10 22 47.4**	**-1.6**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIEV	**Kiev**	**46.09**	**312**	*i* P	**P**	**10 23 16.8**	**+1.7**
KIEV				pmax	pmax		
	comp=Z,4.0nm,2.1s						
TIXI	**Tiksi**	**46.23**	**17**	*ce*P	**P**	**10 23 16.1**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.5s						
TIXI	**Tiksi**	**46.23**	**17**	LR	LR	10 44 25.6	
	comp=Z,1μm,19.9s,baz=0.0,slow=38						
FINES	**FINESS Array B**	**48.92**	**326**	*eP*	P	10 23 39.6	+2.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**48.92**	**326**	P	**P**	**10 23 37.1**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=99,slow=12,SNR=4.3						
MA2	**Magadan**	**50.57**	**36**	*ce*P	**P**	**10 23 51.0**	**+1.5**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.7s						
MA2	**Magadan**	**50.57**	**36**	LR	LR	10 44 49.1	
	comp=Z,1μm,21.9s,baz=189,slow=36						
SEY	**Seymchan**	**51.63**	**32**	*ce*P	**P**	**10 23 59.2**	**+1.8**
NOA	**NORSAR Array B**	**56.07**	**325**	P	**P**	**10 24 30.0**	**0.0**
NOA	**NORSAR Array B**	**56.07**	**325**	P	**P**	**10 24 30.0**	**0.0**
	comp=Z,1.6nm,0.8s,baz=90,slow=6.7,SNR=2.6						
GERES	**GERESS Array B**	**56.24**	**311**	*eP*	P	10 24 34.2	+2.8
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**56.24**	**311**	P	**P**	**10 24 32.4**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=64,slow=6.1,SNR=7.2						
GERES				LR	LR	10 51 00.9	
	comp=Z,48nm,19.5s,baz=102,slow=39						
BILL	**Bilibino**	**57.50**	**26**	*i* P	**P**	**10 24 39.1**	**-0.8**
BILL				*i*		10 24 48.9	
BILL				*i*		10 25 37.4	
BILL				*i*		10 26 52.8	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**68.61**	**132**	P	**P**	**10 25 54.3**	**0.0**
	comp=Z,0.8nm,0.5s,baz=322,slow=5.8,SNR=24						
ASAR	**Alice Springs**	**71.08**	**135**	P	**P**	**10 26 09.5**	**0.0**
	comp=Z,1.0nm,0.4s,baz=321,slow=5.9,SNR=25						
ILAR	**Eielson Array**	**75.54**	**21**	*eP*	**P**	**10 26 35.9**	**+0.7**
ILAR	**Eielson Array**	**75.54**	**21**	P	**P**	**10 26 34.3**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=286,slow=4.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**78.92**	**279**	P	**P**	**10 26 56.5**	**+1.5**
	comp=Z,2.1nm,1.1s,baz=39,slow=5.1,SNR=6.5						
BOSA	**Boshof**	**83.42**	**231**	P	**P**	**10 27 19.9**	**+1.2**
	comp=Z,2.1nm,0.5s,baz=41,slow=2.9,SNR=5.1						
YKA	**Yellowknife Ar**	**84.92**	**10**	P	**P**	**10 27 25.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=339,slow=5.2,SNR=5.6						
CPUP	**Villa Florida**	**148.04**	**270**	PKPbc	**PKPab**	**10 34 36.8**	**-2.8**
	comp=Z,1.2nm,0.7s,baz=115,slow=1.2,SNR=3.5						

*IDC **15** 10:22:10.0±0.7,0°.94N×97°.31E,h0km,mb4.5/23, mb1 4.6/25,mb1mx4.4/42,mbtmp4.5/25,ML4.3/2,MS3.7/8, Ms1 3.7/8,ms1mx3.3/53,Error ellipse: s-maj=21.5km s-min=13.7km az=50.0*

*BJI **15** 10:22:11.6±0.0,0°.50N×97°.54E,h43km,mb4.9/42, mB4.9/27,Ms4.4/23,Ms7 4.2/21*

*DJA **15** 10:22:11.0±1.9,1°.N±8°.×9°.7E±1°.0,h20km±9km,M4.8/7, mb4.7/7,mB5.0/2,MLv4.8/7,Mw(mB)4.4/2*

*ISCJB **15** 10:22:12.3±0.3,0°.92N±0°.04×97°.37E±0°.03,h27km, mb4.7/87,MS4.0/14,Error ellipse: s-maj=5.7km s-min=4.5km az=33.6*

*MOS **15** 10:22:13.5±1.0,0°.99N×97°.43E,h33km,mb5.0/43,Error ellipse: s-maj=12.0km s-min=5.9km az=100.3*

*NEIC **15** 10:22:15.6±1.5,0°.99N×97°.40E,h36km±5km,mb4.8/44, Error ellipse: s-maj=19.4km s-min=4.7km az=63.0*

*KLM **15** 10:22:16.0,1°.01N×97°.28E,h40km,mb4.6*

ISC 15 10:22:14.5±0.4,1°.01N±0°.06×97°.35E±0°.06,h27km,n220, σ1§29/222,**mb4.8**/91,**MS4.0**/14,**12C-3D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.37**	**38**	*e*Pn	**Pn**	**10 22 24.2**	**+0.2**
GSI	**Gunungsitoli**	**0.37**	**38**	P	**Pn**	**10 22 23.9**	**-0.2**
GSI				S	**Sn**	**10 22 31.8**	**+1.4**
PSI	**Prapat**	**2.37**	**41**	*e*Pn	**Pn**	**10 22 51.6**	**-0.2**
PSI	**Prapat**	**2.37**	**41**	*eP*	**Pn**	**10 22 51.6**	**-0.2**
PSI	**Prapat**	**2.37**	**41**	Pn	**Pn**	**10 22 49.5**	**-2.4**
	19nm,0.3s,baz=317,slow=12,SNR=38						
BKNI	**Bangkinang**	**3.75**	**100**	*e*Pn	**Pn**	**10 23 11.3**	**+0.7**
BKNI	**Bangkinang**	**3.75**	**100**	P	**Pn**	**10 23 10.2**	**-0.5**
LHMI	**Lhok Sumawe**	**4.21**	**355**	*e*Pn	**Pn**	**10 23 17.5**	**+0.5**
LHMI	**Lhok Sumawe**	**4.21**	**355**	P	**Pn**	**10 23 17.3**	**+0.4**
IPM	**Ipoh**	**5.03**	**47**	*e*Pn	**Pn**	**10 23 29.7**	**+1.4**
KULM	**Kulim**	**5.38**	**38**	*e*Pn	**Pn**	**10 23 33.2**	**+0.2**
KULM	**Kulim**	**5.38**	**38**	P	**Pn**	**10 23 34.0**	**+1.0**
MYKOM	**Kota Tinggi**	**6.54**	**83**	*e*Pn	**Pn**	**10 23 49.9**	**+0.8**
MYKOM	**Kota Tinggi**	**6.54**	**83**	P	**Pn**	**10 23 51.0**	**+1.9**
CMBY	**CAMPBELL BAY**	**6.87**	**330**	*eP*	**Pn**	**10 23 54.8**	**+1.3**
CMBY				IAmb	IAmb	10 23 56.5	
	comp=Z,120nm,0.3s						
SKLT	**Songkhla**	**6.93**	**28**	P	**Pn**	**10 23 55.9**	**+1.5**
	comp=Z,43nm,0.7s,comp=Z,0.1nm						
TRTT	**Trang**	**7.17**	**19**	P	**Pn**	**10 23 57.9**	**+0.2**
	comp=Z,37nm,1.5s,comp=Z,0.2nm						
MNAI	**Manna**	**7.74**	**134**	*e*Pn	**Pn**	**10 24 05.5**	**+0.1**
PMBI	**Palembang**	**8.39**	**118**	P	**Pn**	**10 24 09.8**	**-4.6**
DGPR	**DIGLIPUR**	**12.86**	**340**	*eP*	**Pn**	**10 25 18.8**	**+3.2**
SBUM	**Sibu**	**14.93**	**84**	*e*Pn	**Pn**	**10 25 45.1**	**+1.2**
UMPA	**Umpang Tak**	**15.17**	**6**	P	**P**	**10 25 51.1**	**-0.8**
	comp=Z,23μm,0.4s						
CHAI	**Chaiyaphum**	**15.48**	**17**	P	**P**	**10 25 56.2**	**+0.8**
	comp=Z,30μm,0.9s						
DLV	**T Lat**	**15.49**	**45**	*e*Pn	**Pn**	**10 25 51.5**	**-0.1**
	comp=Z,34nm,0.8s						
UTTA	**Uttaradit**	**16.92**	**11**	P	**P**	**10 26 12.7**	**+1.4**
	comp=Z,28μm,0.8s,comp=Z,247μm						
SKNT	**Sakolnakorn**	**17.15**	**22**	P	**P**	**10 26 14.2**	**+0.3**
	comp=Z,14nm,1.2s						
CM31	**Chiang Mai Arr**	**17.41**	**5**	*e*Pn	**Pn**	**10 26 15.3**	**-0.4**
	comp=Z,16nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.41**	**5**	*e*Pn	**Pn**	**10 26 14.4**	**-1.2**
CMAR	**Chiang Mai Arr**	**17.41**	**5**	*eP*	**Pn**	**10 26 14.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**17.41**	**5**	P	**Pn**	**10 26 14.8**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=196,slow=11,SNR=32						
CMAR				LR	LR	10 33 37.8	
	comp=Z,302nm,18.4s,baz=203,slow=39						
LAMP	**Lampang**	**17.55**	**7**	P	**P**	**10 26 18.9**	**+0.7**
	comp=Z,16μm,0.7s						
PANO	**Nakornpanom**	**17.55**	**24**	P	**Pn**	**10 26 17.5**	**+0.1**
	comp=Z,0.4nm,1.1s						
PHRA	**Phrae**	**17.61**	**9**	P	**Pn**	**10 26 17.8**	**-0.3**
	comp=Z,2.7nm,1.1s						
PALK	**Pallekele**	**17.72**	**291**	LR	LR	10 32 29.1	
	comp=Z,279nm,18.9s,baz=117,slow=35						
CMMT	**Chiang Mai**	**17.76**	**5**	P	**Pn**	**10 26 19.7**	**-0.3**
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**17.76**	**5**	*e*Pn	**Pn**	**10 26 18.1**	**-1.9**
	comp=Z,10nm,0.9s						
CHTO	**Chiang Mai**	**17.76**	**5**	*eP*	**Pn**	**10 26 18.1**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NONG	**Nongkai**	**17.88**	**18**	P	**P**	**10 26 22.1**	**+0.2**
	comp=Z,0.2nm,0.8s						
PAYA	**Payao**	**18.40**	**8**	P	**Pn**	**10 26 28.6**	**+0.7**
	comp=Z,61μm,0.9s						
KKM	**Kota Kinabalu**	**19.48**	**75**	*eP*	**P**	**10 26 39.4**	**-0.3**
	comp=Z,76nm,1.5s						
SLVN	**Son La**	**21.19**	**17**	*eP*	**P**	**10 26 57.6**	**-0.5**
	comp=Z,30nm,0.8s						
QIZ	**Qiongzhong**	**21.69**	**34**	P	**P**	**10 27 03.3**	**-0.2**
QIZ				S	Sn	10 31 07.3	-4.8
QIZ				pmax	pmax		
	comp=Z,17nm,1.1s						
QIZ				LR	LR		
	comp=Z,400nm,10.2s						
QIZ				LR	LR		
	comp=Z,220nm,14.2s						
QIZ				LR	LR		
	comp=Z,540nm,11.8s						
BWNR	**Bhubaneshwar**	**22.24**	**330**	*eP*	**P**	**10 27 07.2**	**-2.1**
KMI	**Kunming**	**24.53**	**12**	P	**P**	**10 27 34.5**	**+2.2**
KMI				pmax	pmax		
	comp=Z,25nm,1.0s						
KMI				LR	LR		
	comp=Z,420nm,11.4s						
KMI				LR	LR		
	comp=Z,380nm,13.1s						
KMI				LR	LR		
	comp=Z,520nm,13.8s						
HYB	**Hyderabad**	**24.65**	**312**	*eP*	**P**	**10 27 34.0**	**+0.8**
SHL	**Shillong**	**24.98**	**348**	*eP*	**P**	**10 27 36.8**	**+0.6**
	comp=Z,31nm,0.9s						
SHL	**Shillong**	**24.98**	**348**	*eP*	**P**	**10 27 36.8**	**+0.6**
SHL				pmax	pmax		
	comp=Z,31nm,0.9s						
SHL	**Shillong**	**24.98**	**348**	*eP*	**P**	**10 27 37.1**	**+0.9**
BOK	**Bokaro**	**25.23**	**335**	*eP*	**P**	**10 27 40.6**	**+2.3**
BOK				IAmb	IAmb	10 27 41.8	
H08S2	**Diego Garcia H**	**26.24**	**250**	T	T	10 54 47.7	
	baz=72,slow=76,SNR=1118						
H08S3	**Diego Garcia H**	**26.25**	**250**	T	T	10 54 47.9	
	baz=72,slow=76,SNR=1397						
H08S1	**Diego Carcia H**	**26.26**	**250**	T	T	10 54 49.2	
	baz=72,slow=76,SNR=1261						
TGY	**Tagaytay City**	**26.71**	**60**	LR	LR	10 38 25.7	
	comp=Z,87nm,21.7s,baz=145,slow=36						
NGP	**Nagpur**	**26.82**	**319**	*eP*	**P**	**10 27 53.0**	**+0.2**
NGP				IAmb	IAmb	10 28 08.6	
	comp=Z,46nm,1.9s						
GOA	**Goa**	**27.31**	**303**	*eP*	**P**	**10 27 56.2**	**-1.0**
RAMN	**Ramite**	**27.78**	**339**	*eP*	**P**	**10 28 03.8**	**+2.2**
	comp=Z,33nm,0.7s						
JIRN	**Jiri**	**28.57**	**339**	*eP*	**P**	**10 28 10.7**	**+1.8**
	comp=Z,63nm,0.7s						
DAV	**Davao City (W)**	**28.78**	**77**	LR	LR	10 40 59.7	
	comp=Z,106nm,19.7s,baz=194,slow=39						
POO	**Poona**	**28.89**	**308**	*eP*	**P**	**10 28 12.5**	**+1.1**
POO				IAmb	IAmb	10 28 18.8	
	comp=Z,15nm,1.2s						
LSA	**Lhasa**	**29.13**	**349**	P	**P**	**10 28 15.5**	**+1.6**
LSA				pmax	pmax		
	comp=Z,129nm,0.9s						
KOLN	**Koldanda**	**29.69**	**335**	*eP*	**P**	**10 28 20.0**	**+1.4**
	comp=Z,28nm,0.7s						
DANN	**Dangsing**	**30.13**	**336**	*eP*	**P**	**10 28 23.5**	**+0.9**
	comp=Z,13nm,0.5s						
PYUN	**Piuthan**	**30.24**	**334**	*eP*	**P**	**10 28 24.9**	**+1.5**
	comp=Z,32nm,1.0s						
ENH	**Enshi**	**31.30**	**20**	*eP*	**P**	**10 28 31.6**	**-0.9**
	comp=Z,23nm,0.9s						
TPUB	**Ta-pu**	**31.64**	**44**	*eP*	**P**	**10 28 35.5**	**-0.2**
	comp=Z,16nm,0.8s						
YULB	**Yu-li**	**32.17**	**44**	*eP*	**P**	**10 28 40.6**	**+0.3**
	comp=Z,14nm,0.8s						
WHN	**Wuhan**	**33.51**	**27**	P	**P**	**10 28 52.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**33.70**	**126**	*eP*	**P**	**10 28 52.5**	**-1.1**
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**33.70**	**126**	P	**P**	**10 28 52.0**	**-1.6**
	comp=Z,1.9nm,0.6s,baz=277,slow=8.8,SNR=3.5						
FITZ				LR	LR	10 44 46.9	
	comp=Z,82nm,20.3s,baz=318,slow=40						
DDI	**Dehra Dun**	**34.43**	**330**	*eP*	**P**	**10 28 59.6**	**-0.4**
DDI				IAmb	IAmb	10 29 01.0	
	comp=Z,14nm,0.4s						
XAN	**Xi'an**	**34.60**	**17**	P	**P**	**10 29 00.4**	**-1.0**
XAN				S	**S**	**10 34 33.6**	**+4.5**
XAN				pmax	pmax		
	comp=Z,25nm,0.9s						
XAN				pmax	pmax		
	comp=Z,61nm,5.1s						
XAN				LR	LR		
	comp=Z,250nm,14.1s						
XAN				LR	LR		
	comp=Z,190nm,13.3s						
XAN				LR	LR		
	comp=Z,270nm,13.0s						
XAN	**Xi'an**	**34.60**	**17**	*eP*	**P**	**10 29 00.6**	**-0.8**
	comp=Z,33nm,1.1s						
XAN	**Xi'an**	**34.60**	**17**	*eP*	**P**	**10 29 00.6**	**-0.8**
XAN				pmax	pmax		
	comp=Z,33nm,1.1s						
LZH	**Lanzhou**	**35.41**	**9**	*eP*	**P**	**10 29 07.5**	**-1.0**
LZH				pP	sP	10 29 19.0	-0.9
LZH				sP	pP	10 29 24.8	+8.2
LZH				pmax	pmax		
	comp=Z,11nm,1.4s						
LZH				LR	LR		
	comp=Z,260nm,14.6s						
LZH				LR	LR		
	comp=Z,390nm,15.7s						
LZH				LR	LR		
	comp=Z,280nm,15.7s						
SMLA	**Simla**	**35.53**	**329**	*eP*	**P**	**10 29 09.3**	**-0.1**
SMLA		

comp=Z,72nm,1.1s
WMQ pmax pmax
comp=Z,270nm,3.7s
WMQ LR LR
comp=Z,4μm,39.1s
WMQ LR LR
comp=Z,4μm,39.2s
WMQ LR LR
comp=Z,230nm,18.3s
TARG Taragay, Kyrgy 44.20 339 *e*P **P 10 30 23.2 +1.4**
comp=Z,9.6nm,0.7s
NRN Naryn 44.62 337 *e*P **P 10 30 25.6 +0.6**
comp=Z,10nm,0.6s
NRN Naryn 44.62 337 *e*P **P 10 30 25.6 +0.6**
NRN pmax pmax
comp=Z,10.0nm,0.6s
KDJ Kajisay 44.78 339 *e*P **P 10 30 26.3 +0.2**
comp=Z,18nm,0.9s
KDJ Kajisay 44.78 339 *e*P **P 10 30 26.3 +0.2**
KDJ pmax pmax
comp=Z,18nm,0.9s
PDGK Podgornoye 45.05 342 *i*P **P 10 30 29.2 +0.9**
PDGK pmax pmax
comp=Z,9.0nm,0.9s
GAR Garm 45.17 330 *e*P **P 10 30 29.0 -0.3**
comp=Z,14nm,0.9s
GAR Garm 45.17 330 *e*P **P 10 30 29.0 -0.3**
GAR pmax pmax
comp=Z,14nm,0.9s
BOOM Boomskoye usch 45.55 338 *e*P **P 10 30 33.2 +0.9**
comp=Z,5.9nm,0.7s
BOOM Boomskoye usch 45.55 338 *e*P **P 10 30 33.2 +0.9**
BOOM pmax pmax
comp=Z,6.0nm,0.7s
UCH Uchtor 45.88 336 P **P 10 30 36.3 +1.1**
SNR=14
KS15 Wonju Array Si 45.89 34 *e*P **P 10 30 35.0 +0.2**
comp=Z,20nm,1.4s
KSAR Wonju Array Be 45.89 34 *e*P **P 10 30 34.5 -0.3**
KSAR Wonju Array Be 45.89 34 *e*P **P 10 30 34.5 -0.3**
KSRS Korea Array 45.92 34 P **P 10 30 35.1 +0.1**
comp=Z,5.6nm,0.9s,baz=222,slow=9.0,SNR=13
KSRS LR LR 10 51 19.9
comp=Z,65nm,18.1s,baz=201,slow=38
TKM2 Tokmak 2 46.05 338 P **P 10 30 37.5 +1.3**
SNR=6.0
KBK Karagaybulak 46.07 337 P **P 10 30 38.3 +1.9**
SNR=6.3
AML Almayashu 46.13 336 P **P 10 30 38.5 +1.4**
SNR=9.6
AAK Ala-Archa 46.23 337 *e*P **P 10 30 38.0 +0.4**
comp=Z,6.9nm,1.1s
AAK Ala-Archa 46.23 337 *ce*P **P 10 30 37.8 +0.2**
AAK pmax pmax
comp=Z,4.0nm,0.9s
USP Ospenovka 46.76 337 P **P 10 30 43.1 +1.5**
SNR=8.8
SONA0 Songino Array 47.29 8 *e*PcP **PcP 10 32 17.3 +0.7**
SONM Songino Array 47.29 8 P **P 10 30 46.4 +0.6**
comp=Z,4.3nm,0.4s,baz=191,slow=8.6,SNR=33
SONM PcP **PcP 10 32 17.3 +0.7**
comp=Z,3.2nm,0.9s,baz=194,slow=3.4,SNR=5.2
ULN Ulaanbaatar 47.42 9 *e*P **P 10 30 47.7 +0.8**
comp=Z,12nm,1.2s
ULN Ulaanbaatar 47.42 9 *ce*P **P 10 30 47.4 +0.6**
ULN pmax pmax
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 47.46 346 *e*P **P 10 30 47.6 +0.7**
comp=Z,11nm,0.6s
MK31 Makanchi Array 47.46 346 *e*P **P 10 30 47.2 +0.2**
MK31 pmax pmax
comp=Z,10.0nm,0.6s
MKAR Makanchi Array 47.46 346 *e*P **P 10 30 47.4 +0.5**
MKAR Makanchi Array 47.46 346 *ce*P **P 10 30 47.5 +0.5**
MKAR pmax pmax
comp=Z,14nm,0.5s
MKAR Makanchi Array 47.46 346 P **P 10 30 48.0 +1.1**
comp=Z,14nm,0.5s,baz=160,slow=8.1,SNR=94
MAKZ Makanchi 47.55 346 *e*P **P 10 30 47.6 -0.1**
comp=Z,10nm,0.6s
MAKZ Makanchi 47.55 346 *e*P **P 10 30 47.6 -0.1**
MAKZ pmax pmax
comp=Z,11nm,0.6s
KK31 Karatay Array 48.29 334 *e*P **P 10 30 53.9 +0.4**
comp=Z,10nm,1.3s
KK31 Karatay Array 48.29 334 *e*P **P 10 30 53.9 +0.4**
KK31 pmax pmax
comp=Z,10.0nm,1.3s
KKAR Karatay Array 48.29 334 *e*P **P 10 30 53.9 +0.4**
KKAR *e*P **P 10 30 54.2 +0.7**
KKAR Karatay Array 48.29 334 *e*P **P 10 30 53.9 +0.4**
DGZ Jazzator, Alta 49.24 352 *i*P **P 10 31 02.1 +1.3**
DGZ pmax pmax
comp=Z,4.0nm,0.6s
CN2 Changchun 49.40 27 *e*P **P 10 31 02.0 0.0**
CN2 *e*S **S 10 38 06.8 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
ZAK Zakamensk 49.45 5 *e*P **P 10 30 58.9 -3.4**
ZAK pmax pmax
comp=Z,3.0nm,0.9s
TLY Talaya 50.77 5 *ce*P **P 10 31 13.8 +1.6**
TLY pmax pmax
comp=Z,10.0nm,0.8s
MAJO Matsushiro 51.73 42 *e*P **P 10 31 19.3 -0.4**
MAT Matsushiro 51.73 42 P **P 10 31 19.3 -0.4**
MJAR Matsushiro Arr 51.73 42 *e*P **P 10 31 18.3 -1.4**
MJAR Matsushiro Arr 51.73 42 *e*P **P 10 31 18.3 -1.4**
MJAR Matsushiro Arr 51.73 42 P **P 10 31 19.3 -0.4**
comp=Z,2.1nm,0.7s,baz=223,slow=6.4,SNR=11
OTUK Ortayu 51.78 339 *i*P **P 10 31 20.2 +0.3**
OTUK pmax pmax
comp=Z,12nm,0.5s
KURK Kurchatov 52.01 345 *e*P **P 10 31 21.9 +0.4**
comp=Z,19nm,1.2s
KURK Kurchatov 52.01 345 *ce*P **P 10 31 22.2 +0.7**
KURK pmax pmax
comp=Z,18nm,1.3s
CTA Charters Tower 52.28 116 P **P 10 31 23.5 -0.6**
CTA pmax pmax
comp=Z,5.0nm,2.0s
USRK Ussuriysk Ar. 52.85 31 *e*P **P 10 31 27.4 -0.4**
USRK Ussuriysk Ar. 52.85 31 P **P 10 31 28.7 +0.9**
comp=Z,7.5nm,0.8s,baz=231,slow=5.3,SNR=13
STKA Stephens Creek 53.12 132 *e*P **P 10 31 29.9 -0.2**
comp=Z,2.7nm,1.5s
STKA Stephens Creek 53.12 132 P **P 10 31 30.4 +0.3**
comp=Z,4.7nm,0.9s,baz=310,slow=11,SNR=6.1
STKA LR LR 10 56 16.2
comp=Z,103nm,21.1s,baz=312,slow=38
ZAA0 Zalesovo Array 53.77 351 *e*P **P 10 31 34.5 +0.1**
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 53.77 351 P **P 10 31 34.7 +0.3**
comp=Z,15nm,0.5s,baz=181,slow=6.3,SNR=72
NVS Novosibirsk 54.89 350 *e*P **P 10 31 42.2 -0.3**
KLR Kul'dur 56.35 26 *i*P **P 10 31 53.2 0.0**
KLR pmax pmax
comp=Z,12nm,0.9s
KLR Kul'dur 56.35 26 P **P 10 31 53.8 +0.6**
comp=Z,13nm,1.0s,baz=250,slow=6.9,SNR=22
BRVK Borovoye 56.54 341 *e*P **P 10 31 54.2 -0.2**
comp=Z,6.8nm,0.7s
BRVK Borovoye 56.54 341 *ce*P **P 10 31 54.4 0.0**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
AB31 Akbulak array 57.75 332 *i*P **P 10 32 02.9 -0.2**
AB31 pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 57.75 332 *e*P **P 10 32 02.9 -0.1**
comp=Z,9.2nm,0.8s
ABKAR *e*P **P 10 32 03.1 0.0**
EIDS Eidsvold 58.16 121 *e*P **P 10 32 06.2 -0.2**
comp=Z,6.8nm,0.8s
BOD Bodaibo 58.17 10 *e*P **P 10 32 05.5 -0.3**
BOD pmax pmax
comp=Z,13nm,1.0s
ASAJ Asahikawa 58.72 37 P **P 10 32 11.0 +1.0**
comp=Z,3.2nm,0.6s,baz=263,slow=8.1

YSS Yuzh-Sakhalins 60.42 34⇓*e*P **P 10 32 22.1 +0.5**
YSS pmax pmax
comp=Z,10.0nm,0.9s
ZEI Tsey 63.24 319 *e*P P 10 32 34.8 -6.2
ZEI pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 63.41 337 *d i*P **P 10 32 41.7 +0.1**
ARU S **S 10 41 14.5 +1.9**
ARU SS **SS 10 45 16.7 -3.1**
ARU pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 64.31 319 P **P 10 32 48.5 +0.8**
comp=Z,1.5nm,0.6s,baz=119,slow=10,SNR=4.7
KIV Kislovodsk 64.55 319 *e*P **P 10 32 49.0 -0.4**
KIV pmax pmax
comp=Z,17nm,1.0s
NRIK Noril'sk 68.53 356 P **P 10 33 14.1 -0.2**
comp=Z,4.3nm,0.5s,baz=156,slow=6.4,SNR=8.9
BRTR Keskin Array B 69.35 312 *i*P **P 10 33 19.7 -0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 69.35 312 P **P 10 33 19.2 -0.9**
comp=Z,1.3nm,0.8s,baz=138,slow=9.4,SNR=7.7
MA2 Magadan 71.44 26 *e*P **P 10 33 31.6 -0.6**
comp=Z,9.3nm,0.8s
MA2 Magadan 71.44 26 *ce*P **P 10 33 32.9 +0.6**
MA2 pmax pmax
comp=Z,12nm,1.7s
MA2 Magadan 71.44 26 P **P 10 33 32.6 +0.3**
comp=Z,7.3nm,0.6s,baz=226,slow=5.6,SNR=14
PRGR Permogore 71.87 337 P **P 10 33 32.3 -2.5**
PRGR pmax pmax
comp=Z,13nm,0.9s
OBN Obninsk 72.86 328 *i*P **P 10 33 40.9 +0.1**
OBN pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 73.34 10 *e*P **P 10 33 42.3 -1.1**
comp=Z,10.0nm,1.1s
TIXI *e*P **P 10 33 42.6 -0.9**
TIXI Tiksi 73.34 10 *ce*P **P 10 33 42.7 -0.7**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 73.34 10 P **P 10 33 42.6 -0.9**
comp=Z,4.3nm,0.5s,baz=278,slow=1.6,SNR=14
TIXI LR LR 11 07 51.7
comp=Z,54nm,19.0s,baz=269,slow=37
SEY Seymchan 73.87 23 *ce*P **P 10 33 47.3 +0.6**
SEY Seymchan 73.87 23 P **P 10 33 46.6 -0.1**
comp=Z,5.2nm,0.8s,baz=236,slow=5.8,SNR=12
AKASG Malin Array Be 75.50 322 P **P 10 33 54.8 -1.6**
comp=Z,2.0nm,0.5s,baz=84,slow=5.4,SNR=3.7
AKBB Malin Array Si 75.50 322 *e*P **P 10 33 55.8 -0.6**
comp=Z,3.0nm,0.6s
BUR08 Bucovina Ar. S 77.28 319 *e*P **P 10 34 06.3 -0.4**
comp=Z,5.8nm,0.9s
GRG Griva 77.99 312 P **P 10 34 09.2 -1.5**
GRG pmax pmax
comp=Z,4.0nm,0.9s
JOF Joensuu 78.38 335 P **P 10 34 12.2 -0.1**
JOF pmax pmax
comp=Z,16nm,2.6s
DRGR 78.77 318 P **P 10 34 15.5 +0.5**
DRGR pmax pmax
comp=Z,15nm,0.8s
KOLS Kolonicke sedl 79.46 320 *e*P **P 10 34 20.4 +1.8**
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 79.46 320 *e*P **P 10 34 20.4 +1.8**
SYO Syowa Base 79.87 198‖*e*X **P 10 34 19.0 -1.4**
SYO Syowa Base 79.87 198‖*e*PcP **PcP 10 34 29.8 +1.9**
FIA0 FINESS Array S 80.23 332 *e*P **P 10 34 22.6 +0.1**
FINES FINESS Array B 80.23 332 P **P 10 34 22.6 +0.1**
comp=Z,3.7nm,0.8s,baz=102,slow=8.0,SNR=6.1
MSF Maaselka 80.35 337 P **P 10 34 23.3 +0.2**
MSF pmax pmax
comp=Z,20nm,1.3s
BILL Bilibino 81.28 21 *i*P **P 10 34 28.0 0.0**
BILL pmax pmax
comp=Z,2.0nm,1.1s
VAF Ylistaro 82.18 334 P **P 10 34 33.4 +0.6**
VAF pmax pmax
comp=Z,16nm,1.0s
MORC Moravsky Berou 82.64 320 P **P 10 34 36.2 +0.6**
MORC pmax pmax
comp=Z,3.0nm,1.1s
ARA0 ARCESS Array S 82.76 340 *e*P **P 10 34 36.0 +0.3**
ARCES ARCESS Array B 82.76 340 P **P 10 34 36.0 +0.3**
comp=Z,1.9nm,0.8s,baz=92,slow=5.4,SNR=8.7
BRG Berggiesshubel 85.05 321 P **P 10 34 48.4 +0.6**
BRG pmax pmax
comp=Z,4.0nm,0.8s
GEC2 GERESS Array S 85.05 319 *e*P **P 10 34 48.6 +0.6**
comp=Z,3.6nm,0.9s
GERES GERESS Array B 85.05 319 P **P 10 34 49.0 +1.0**
comp=Z,2.8nm,0.9s,baz=104,slow=5.6,SNR=14
WET Wettzell 85.61 319 P **P 10 34 51.8 +1.1**
WET pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 85.67 321 *e*P **P 10 34 52.0 +1.1**
RAO Raoul Island 85.89 119 *e*P **P 10 34 53.0 +0.6**
comp=Z,2μm,0.5s
GRA1 Grafenberg Arr 86.72 320 *e*P **P 10 34 54.4 -1.8**
comp=Z,22nm,0.6s
GRFO Grafenberg 86.72 320 *e*P **P 10 34 54.0 -2.2**
comp=Z,19nm,0.6s
NOA NORSAR Array B 87.24 331 P **P 10 34 58.1 -0.4**
comp=Z,2.3nm,0.8s,baz=94,slow=5.0,SNR=5.1
YKA Yellowknife Ar 112.23 15 PP **PP 10 41 33.8 +1.9**
comp=Z,0.2nm,0.6s,baz=336,slow=7.5,SNR=3.4
NV01 Mina Array Sit 128.84 36 *e*PKPdf **PKiKP 10 41 22.5 +1.4**
NVAR Mina Array Bea 128.84 36 PKP **PKiKP 10 41 22.5 +1.4**
comp=Z,0.2nm,0.5s,baz=251,slow=2.8,SNR=3.3
ANMO Albuquerque 137.86 30 *c i*PKIKP **PKPdf 10 41 37.9 +0.5**
ANMO pmax pmax
comp=Z,4.0nm,2.5s
TXAR Lajitas Array 143.75 32 PKP PKPbc 10 41 45.8 +0.3
comp=Z,0.7nm,0.8s,baz=289,slow=1.5,SNR=7.9
HPIG 144.45 37 *e*PKPdf **PKPab 10 41 47.5 -0.2**
JCT Junction City 144.68 26 *e*PKPdf **PKPab 10 41 48.0 -0.2**
JCT Junction City 144.68 26 *e*PKIKP **PKPab 10 41 48.0 -0.2**
Y49A Blount Mountai 145.13 5 *e*PKPbc **PKPbc 10 41 48.6 -1.1**
Y52A Lilburn 145.28 2 *e*PKPbc **PKPbc 10 41 48.1 -2.0**
GOGA Godfrey 145.75 1 *e*PKPdf **PKPab 10 41 51.7 -0.3**
GOGA Godfrey 145.75 1 *e*PKP2 **PKPab 10 41 51.7 -0.3**
Z50A Ashland 145.78 5 *e*PKPdf **PKPdf 10 41 51.3 0.0**
LRAL Lakeview Retre 145.89 7 *e*PKPdf **PKPbc 10 41 51.6 -0.4**

*NNC **15** 10:27:36.7±0.6, 42°.97N×78°.16E, h5km±2km, mb2.7, mpv2.7, Error ellipse: s-maj=5.2km s-min=2.2km az=8.0*
*KRNET **15** 10:27:36.8±0.1, 42°.96N×78°.14E, h20km, mb2.6*
*SOME **15** 10:27:37.4, 42°.97N×78°.10E, h10km*
ISC 15 10:27:36.6±0.9, **42°.94N**±0°.03×**78°.13E**±0°.02, **h13**km±7km, **n37**, σ0s**53**/73, **11C-3D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.24**	**59**	P	**Pg**	**10 27 41.8**	**0.0**
	24nm,0.2s						
SATY				S	**Sg**	**10 27 45.4**	**+0.1**
	128nm,0.1s						
SATY	**Saty**	**0.24**	**59**	*e*P	**Pg**	**10 27 41.8**	**0.0**
SATY	24nm,0.2s						
	128nm,0.1s			*e*S	**Sg**	**10 27 45.5**	**+0.1**
ZHN	**Zhinishke**	**0.32**	**44**	P	**Pg**	**10 27 43.1**	**-0.1**
	9.9nm,0.1s						
ZHN				S	**Sg**	**10 27 47.4**	**-0.4**
	32nm,0.2s						
ZHN	**Zhinishke**	**0.32**	**44**	*e*P	**Pg**	**10 27 43.2**	**-0.1**
	baz=46						
ZHN				*e*S	**Sg**	**10 27 47.6**	**-0.2**
	baz=46						
ZHN	**Zhinishke**	**0.32**	**44**	*e*P	**Pg**	**10 27 43.2**	**-0.1**
	10nm,0.1s						
ZHN				*e*S	**Sg**	**10 27 47.5**	**-0.2**
	54nm,0.2s						
KURS	**Kuram**	**0.55**	**3**	P	**Pg**	**10 27 47.2**	**-0.2**
	3.9nm,0.1s						
KURS				S	**Sg**	**10 27 54.6**	**-0.2**
	13nm,0.2s						
KURS	**Kuram**	**0.55**	**3**	*e*P	**Pg**	**10 27 47.3**	**-0.2**
	baz=2.0						
KURS				*e*S	**Sg**	**10 27 54.5**	**-0.2**
	baz=2.0						
KURS	**Kuram**	**0.55**	**3**	*e*P	**Pg**	**10 27 47.3**	**-0.2**
	4.4nm,0.1s						
KURS				*e*S	**Sg**	**10 27 54.6**	**-0.2**
	13nm,0.2s						
KPKS	**Kokpek**	**0.67**	**37**	*e*P	**Pg**	**10 27 49.5**	**-0.1**
	baz=39						
KPKS				*e*S	**Sg**	**10 27 58.1**	**-0.3**
	baz=39						
KPKS	**Kokpek**	**0.67**	**37**	*e*P	**Pg**	**10 27 49.5**	**-0.1**
	12nm,0.1s						
KPKS				*e*S	**Sg**	**10 27 58.1**	**-0.3**
	21nm,0.3s						
MDOK	**Medeo**	**0.82**	**286**	*e*P	**Pg**	**10 27 52.4**	**-0.2**
	baz=85						
MDOK				*e*S	**Sg**	**10 28 03.3**	**-0.2**
	baz=85						
MDOK	**Medeo**	**0.82**	**286**	*e*P	**Pg**	**10 27 52.4**	**-0.2**
	2.4nm,0.3s						
MDOK				*e*S	**Sg**	**10 28 03.3**	**-0.2**
	5.2nm,0.2s						
TNSS	**Tian-Shan**	**0.87**	**277**	*e*P	**Pg**	**10 27 53.2**	**-0.4**
	baz=76						
TNSS				*e*S	**Sg**	**10 28 04.5**	**-0.6**
	baz=76						
TNSS	**Tian-Shan**	**0.87**	**277**	*e*P	**Pg**	**10 27 53.1**	**-0.4**
	0.9nm,0.1s						
TNSS				*e*S	**Sg**	**10 28 04.5**	**-0.6**
	3.4nm,0.2s						
PDGK	**Podgornoye**	**1.07**	**68**	P	**Pb**	**10 27 56.5**	**-0.5**
	0.9nm,0.2s						
PDGK				S	**Sb**	**10 28 10.5**	**-0.4**
	2.3nm,0.3s						
PDGK	**Podgornoye**	**1.07**	**68**	⇑P	**Pb**	**10 27 56.3**	**-0.8**
	1.0nm,0.5s						
PDGK				⇑S	**Sb**	**10 28 10.7**	**-0.3**
	1.9nm,0.3s						
PDGK	**Podgornoye**	**1.07**	**68**	⇑*i*P	**Pb**	**10 27 56.2**	**-0.8**
	baz=69						
PDGK				⇑*i*S	**Sb**	**10 28 09.9**	**-1.1**
	baz=69						
KDJ	**Kajisay**	**1.07**	**221**	⇑*i*P	**Pb**	**10 27 57.2**	**+0.1**
	baz=20						
KDJ				⇑*i*S	**Sg**	**10 28 11.7**	**+0.4**
	baz=20						
IZV	**Izvestkoviy**	**1.12**	**276**	*e*P	**Pb**	**10 27 57.9**	**0.0**
	baz=75						
IZV				*e*S	**Sn**	**10 28 13.3**	**-0.1**
	baz=75						
IZV	**Izvestkoviy**	**1.12**	**276**	*e*P	**Pb**	**10 27 57.9**	**0.0**
	1.6nm,0.1s						
IZV				*e*S	**Sn**	**10 28 13.3**	**-0.1**
	9.1nm,0.1s						
CHKK	**Chushkaly**	**1.24**	**318**	P	**Pb**	**10 27 59.8**	**0.0**
	4.6nm,0.1s						
CHKK				S	**Sn**	**10 28 16.1**	**0.0**
	20nm,0.2s						
CHKK	**Chushkaly**	**1.24**	**318**	*e*P	**Pb**	**10 27 59.8**	**0.0**
	baz=18						
CHKK				*e*S	**Sn**	**10 28 16.1**	**0.0**
	baz=18						
CHKK	**Chushkaly**	**1.24**	**318**	*e*P	**Pb**	**10 27 59.8**	**0.0**
	4.6nm,0.1s						
CHKK				*e*S	**Sn**	**10 28 16.1**	**0.0**
	20nm,0.2s						
ARXS	**Arharly**	**1.29**	**350**	P	**Pb**	**10 28 00.7**	**-0.1**
	1.4nm,0.2s						
ARXS				S	**Sn**	**10 28 17.6**	**0.0**
	11nm,0.2s						
ARXS	**Arharly**	**1.29**	**350**	*e*P	**Pb**	**10 28 00.7**	**-0.1**
	1.4nm,0.2s						
ARXS				*e*S	**Sb**	**10 28 17.5**	**+0.1**
	11nm,0.2s						
ULHL	**Ulahol**	**1.56**	**244**	⇓*i*P	**Pb**	**10 28 05.7**	**+0.3**
	baz=44						
ULHL				⇓*i*S	**Sg**	**10 28 26.2**	**-0.6**
	baz=44						
KUU	**Kurty**	**1.62**	**307**	P	**Pb**	**10 28 06.3**	**+0.1**
	3.2nm,0.2s						
KUU				S	**Sb**	**10 28 27.4**	**+0.7**
	16nm,0.4s						
KUU	**Kurty**	**1.62**	**307**	*e*P	**Pb**	**10 28 06.4**	**+0.1**
	baz=6.0						
KUU				*e*S	**Sb**	**10 28 27.3**	**+0.7**
	baz=6.0						
KUU	**Kurty**	**1.62**	**307**	*e*P	**Pb**	**10 28 06.4**	**+0.1**
	3.2nm,0.1s						
KUU				*e*S	**Sb**	**10 28 27.4**	**+0.7**
	16nm,0.4s						
BOOM	**Boomskoye usch**	**1.68**	**255**	⇑*i*P	**Pb**	**10 28 07.4**	**0.0**
	baz=55						
BOOM				⇑*i*S	**Sb**	**10 28 29.2**	**+0.8**
	baz=55						
KTMS	**Ketmen**	**1.70**	**72**	P	**Pb**	**10 28 07.9**	**0.0**
	2.1nm,0.3s						
KTMS				S	**Sb**	**10 28 30.2**	**+1.1**
	7.5nm,0.2s						
KTMS	**Ketmen**	**1.70**	**72**	*e*P	**Pb**	**10 28 07.9**	**0.0**
	baz=72						
KTMS				*e*S	**Sb**	**10 28 30.3**	**+1.1**
	baz=72						
KTMS	**Ketmen**	**1.70**	**72**	*e*P	**Pb**	**10 28 07.9**	**0.0**
	2.8nm,0.2s						
KTMS				*e*S	**Sb**	**10 28 30.2**	**+1.1**
	7.5nm,0.2s						
DJR	**Jarkent**	**1.84**	**40**	*e*P	**Pb**	**10 28 10.7**	**+0.5**
	2.9nm,0.2s						
DJR				*e*S	**Sb**	**10 28 34.5**	**+1.4**
	4.7nm,0.4s						
TKM2	**Tokmak 2**	**1.86**	**270**	⇑Pg	**Pb**	**10 28 10.1**	**-0.5**
	0.6nm,0.5s						
TKM2				⇓Lg	Lg	10 28 37.7	
	0.5nm,0.3s						
TKM2	**Tokmak 2**	**1.86**	**270**	⇑*i*P	**Pb**	**10 28 10.2**	**-0.4**
	baz=70						
TKM2				⇑*i*S	**Sb**	**10 28 34.2**	**+0.4**
	baz=70						
KAPS	**Kapalarasan**	**2.51**	**20**	*e*P	**Pb**	**10 28 22.9**	**+1.4**
	0.8nm,0.2s						
KAPS				*e*S	**Sg**	**10 28 55.4**	**-1.7**
	4.8nm,0.3s						

*NEIC **15** 10:39:17.1±0.0, 15°.89N×94°.46W, h16km, MD4.0(MEX), After MEX.*
MEX 15 10:39:16.3±0.6, **15°.89N**×**94°.46W, h10**km±7km, **MD4.0, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.21**	**99**	*e*Pn	Pn	10 39 35.5	-3.8
PCIG				*e*Sn	Sb	10 39 49.7	-5.3
PCIG		**1.21**	**99**	*e*P	Pn	10 39 35.0	-4.2
PCIG				*e*S	Sb	10 39 50.8	-4.1
CMIG	**Matias Romero**	**1.26**	**341**	*e*Pn	Pn	10 39 36.4	-3.6
CMIG				*e*Sn	Sb	10 39 51.2	-5.2
CMIG	**Matias Romero**	**1.26**	**341**	*e*P	Pn	10 39 36.4	-3.6
CMIG				*e*S	Sb	10 39 51.2	-5.2
HUIG	**Huatulco**	**1.59**	**266**	*e*Pn	Pn	10 39 41.3	-3.2
HUIG				*e*Sn	Sn	10 39 59.6	-5.5
HUIG	**Huatulco**	**1.59**	**266**	*i*P	Pn	10 39 41.3	-3.2
HUIG				*e*S	Sn	10 39 59.6	-5.5
CCIG	**Comitan**	**2.27**	**80**	*e*Pn	Pn	10 39 49.2	-4.8
LVIG	**Laguna Verde**	**4.24**	**334**	*e*Pn	Pn	10 40 20.6	-0.4
MYIG	**Mrida**	**6.74**	**41**	*e*Pn	Pn	10 40 53.9	-1.4
TGUH	**Tegucigalpa,Un**	**7.18**	**104**	*e*Pn	Pn	10 40 58.9	-2.5
ACON	**Acoyapa**	**9.82**	**112**	*e*Pn	Pn	10 41 34.7	-3.0

*ISCJB **15** 10:39:42.0±2.0, 22°.6N±0°.4×95°.5E±0°.7, h10km, mb3.5/2, Error ellipse: s-maj=111.6km s-min=15.1km az=145.2*
*IDC **15** 10:39:43.3±1.6, 22°.83N×95°.92E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/47, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=43.0km s-min=19.2km az=61.0*
ISC 15 10:39:43.9±1.6, **22°.5N**±0°.3×**95°.6E**±0°.3, **h10**km, **n6**, σ1s**95**/7, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMMT	**Chiang Mai**	**4.81**	**138**	P	**Pn**	**10 40 57.8**	**+1.2**
	4.4nm,0.5s						
PAYA	**Payao**	**5.07**	**127**	P	**Pn**	**10 41 01.4**	**+1.3**
	65μm,0.9s,652μm						
PAYA	**Payao**	**5.07**	**127**	P	**Sg**	**10 42 26.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**5.09**	**141**	Pn	**Pn**	**10 41 01.9**	**+1.6**
	0.5nm,0.3s,baz=322,slow=13,SNR=10.0						
CMAR				Pg	**Pg**	**10 41 19.1**	**-2.3**
	1.7nm,0.3s,baz=326,slow=17,SNR=7.2						
CMAR				Lg	Lg	10 42 26.5	

1.6nm,0.3s,baz=321,slow=30,SNR=9.0
MKAR Makanchi Array 26.55 339 P P 10 45 20.5 -1.5
0.6nm,0.5s,baz=139,slow=8.6,SNR=6.7
WRA Warramunga Arr 56.65 135 P **P 10 49 29.0 +1.4**
0.5nm,0.8s,baz=333,slow=10,SNR=3.1

IDC 15 10:49:25.3±1.1,31°.35N×86°.61E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.3/42,mbtmp3.6/5,Error ellipse: s-maj=37.8km s-min=25.8km az=54.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.78**	**349**	Pn	Pn	10 53 10.7	+1.8
	baz=171,slow=12,SNR=2.7						
KURBB	**Kurchatov Arra**	**20.18**	**345**	P	P	10 53 59.9	-1.4
	1.1nm,0.7s,baz=159,slow=9.9,SNR=4.3						
SONM	**Songino Array**	**22.34**	**37**	P	P	10 54 25.7	+0.9
	0.8nm,0.8s,baz=240,slow=5.8,SNR=3.5						
WRA	**Warramunga Arr**	**68.54**	**132**	P	P	11 00 29.8	-0.2
	0.6nm,0.8s,baz=321,slow=5.8,SNR=10						
ASAR	**Alice Springs**	**71.01**	**135**	P	P	11 00 45.1	-0.1
	0.4nm,0.4s,baz=321,slow=5.9,SNR=14						
TORD	**Torodi Ar. Bea**	**79.00**	**279**	P	P	11 01 32.1	+0.5
	0.4nm,0.6s,baz=72,slow=4.7,SNR=2.9						

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*DMN **15** 10:54:21.4±0.4,31°.72N×86°.54E,h258km±35km,Ml5.0/8, Error ellipse: s-maj=51.1km s-min=10.1km az=18.0*
*IDC **15** 10:54:24.4±0.4,31°.35N×86°.59E,h0km,mb4.9/46, mb1 4.9/49,mb1mx4.8/59,mbtmp4.8/49,ML3.8/3,MS4.5/37, Ms1 4.5/37,ms1mx4.4/46,Error ellipse: s-maj=10.8km s-min=9.1km az=20.0*
*BJI **15** 10:54:25.3±0.0,31°.61N×86°.52E,h10km,mb5.0/73, mB5.3/62,Ms5.3/86,Ms7 5.1/79*
*MOS **15** 10:54:26.9±1.2,31°.49N×86°.66E,h22km,mb5.3/106, MS4.7/23,Error ellipse: s-maj=5.7km s-min=2.8km az=121.4*
*GCMT **15** 10:54:28.7±0.2,31°.25N±0°.01×86°.55E±0°.01,h17km, MW5.2/97,Moment Tensor Solution. s58,c82; s97,c189; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_n-4.46±.20; $M_{\theta\theta}$-2.06±.14; $M_{\phi\phi}$6.52±.15; $M_{r\theta}$-0.69±.38; $M_{r\phi}$4.50±.11; $M_{\theta\phi}$2.09±.34; Best double couple: $M_0$7.23500×10^{16} NP1:ϕ_s173.00000°,δ63.00000°,λ-134.00000°. NP2: ϕ_s57.00000°,δ50.00000°,λ-37.00000°. Principal axes: T 8.6570, Plg7.0000°, Azm292.0000°; N -2.8440, Plg38.0000°, Azm197.0000°; P -5.8130, Plg51.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **15** 10:54:28.7±1.4,31°.41N×86°.59E,h28km±3km,mb5.1/147 Error ellipse: s-maj=12.4km s-min=10.9km az=58.0*
*ISCJB **15** 10:54:28.4±0.1,31°.47N±0°.02×86°.65E±0°.02,h33km, mb5.0/263,MS4.7/75,Error ellipse: s-maj=2.5km s-min=2.0km az=40.1*

ISC 15 10:54:30.2±0.2,31°.44N±0°.03×86°.53E±0°.03,h35km,n625, σ2s03/695,mb5.1/270,MS4.8/75,39C-13D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**3.78**	**185**	*e*Pn	**Pn**	**10 55 28.6**	**+2.2**
KKN	**Kakani**	**3.80**	**197**	*e*Pn	**Pn**	**10 55 27.9**	**+1.4**
KKN				*e*Sn	**Sn**	**10 56 16.9**	**+6.8**
	2μm,0.9s						
GKN	**Gorkha**	**3.80**	**206**	*e*Pn	**Pn**	**10 55 27.9**	**+1.4**
GKN				*e*Sn	**Sn**	**10 56 17.0**	**+6.9**
	1μm,0.6s						
DANN	**Dangsing**	**3.91**	**219**	*e*Pn	**Pn**	**10 55 28.5**	**+0.5**
PKIN	**Phulchoki**	**3.98**	**195**	*e*Pn	**Pn**	**10 55 30.3**	**+1.3**
PKIN				*e*Sn	**Sn**	**10 56 21.0**	**+6.5**
	2μm,0.6s						
PKI	**Pulchoki**	**3.98**	**194**	*e*Pn	**Pn**	**10 55 30.5**	**+1.4**
PKI				*e*Sn	**Sn**	**10 56 21.1**	**+6.4**
	1μm,0.8s						
DMN	**Daman**	**4.02**	**198**	*e*Pn	**Pn**	**10 55 30.7**	**+1.2**
DMN				*e*Sn	**Sn**	**10 56 22.1**	**+6.6**
	2μm,0.9s						
LSA	**Lhasa**	**4.35**	**112**	*e*Pn	**Pn**	**10 55 38.0**	**+3.8**
LSA	**Lhasa**	**4.35**	**112**	*e*P	**Pn**	**10 55 38.0**	**+3.8**
KOLN	**Koldanda**	**4.46**	**216**	*e*Pn	**Pn**	**10 55 35.2**	**-0.4**
KOLN				*e*Sn	**Sn**	**10 56 32.0**	**+5.6**
	340nm,0.5s						
RAMN	**Ramite**	**4.48**	**179**	*e*Pn	**Pn**	**10 55 36.2**	**+0.4**
RAMN				*e*Sn	**Sn**	**10 56 31.7**	**+4.8**
	2μm,0.9s						
PYUN	**Piuthan**	**4.54**	**224**	*e*Pn	**Pn**	**10 55 35.9**	**-0.7**
PYUN				*e*Sn	**Sn**	**10 56 33.5**	**+5.3**
	924nm,0.6s						
PTH	**Pithoragarh**	**5.76**	**252**	*e*P	**Pn**	**10 55 54.8**	**+1.4**
PTH				*e*S	**Sn**	**10 57 02.3**	**+3.8**
SHL	**Shillong**	**7.51**	**140**	*e*Pn	**Pn**	**10 56 16.2**	**-1.3**
SHL				*e*Sn	**Sn**	**10 57 40.2**	**-1.4**
SHL	**Shillong**	**7.51**	**140**	*e*P	**Pn**	**10 56 16.2**	**-1.3**
SHL				*e*		10 57 40.2	
BHK	**Bhakra**	**8.64**	**272**	*e*P	**Pn**	**10 56 33.0**	**+0.2**
BHK				*e*S	**Sn**	**10 58 10.8**	**+1.8**
BRDH	**Bariadhala**	**9.85**	**151**	Pn	**Pn**	**10 56 49.6**	**+0.3**
	56nm,0.3s,baz=315,slow=18,SNR=5.9						
BRDH				Sn	**Sn**	**10 58 39.2**	**+0.6**
	23nm,0.3s,baz=346,slow=22,SNR=5.5						
BRDH				LR	LR	11 02 02.2	
	comp=Z,2μm,19.4s,baz=338,slow=47						
CHCP	**Chirah Chowk**	**11.41**	**285**	P	**Pn**	**10 57 08.9**	**-1.8**
NIL	**Nilore**	**11.42**	**285**	*e*Pn	**Pn**	**10 57 08.8**	**-2.0**
NIL	**Nilore**	**11.42**	**285**	*e*P	**Pn**	**10 57 08.8**	**-2.0**
KSH	**Kashi**	**11.78**	**316**	P	**Pn**	**10 57 16.4**	**+0.6**
KSH				pP		10 57 23.1	
KSH				S	**Sn**	**10 59 24.5**	**-1.5**
KSH				SS	**SnSn**	**10 59 42.1**	**+4.0**
KSH				pmax	pmax		
	comp=Z,77nm,0.9s						
KSH				LR	LR		
	comp=N,4μm,10.9s						
KSH				LR	LR		
	comp=E,3μm,8.9s						
KSH				LR	LR		
	comp=Z,4μm,9.0s						
SARP	**Sargodha**	**11.81**	**276**	P	**Pn**	**10 57 12.0**	**-4.2**
WMQ	**Urumqi**	**12.39**	**4**	*e*P	P	10 57 29.8	-5.8
WMQ				pP	Pn	10 57 31.0	+6.9
WMQ				sP		10 57 36.5	
WMQ				S	**Sn**	**10 59 42.1**	**+1.2**
WMQ				SS	**SnSn**	**11 00 02.4**	**+9.1**
TARG	**Taragay, Kyrgy**	**12.42**	**328**	*e*Pn	**Pn**	**10 57 24.9**	**0.0**
CEP	**Cherat**	**12.55**	**285**	P	**Pn**	**10 57 22.8**	**-3.6**
CEP				S	**Sn**	**10 59 40.0**	**-5.0**
THW	**Thamme Wali**	**12.61**	**280**	P	**Pn**	**10 57 22.5**	**-4.6**
SHLS	**Shalkode**	**12.97**	**336**	*e*P	**Pn**	**10 57 28.5**	**-3.5**
SHLS				pmax	pmax		
	comp=Z,8.0nm,1.4s						
SHLS				MLR	MLR		
	comp=Z,318nm,8.0s						
SHLS	**Shalkode**	**12.97**	**336**	*e*P	**Pn**	**10 57 28.6**	**-3.5**
	comp=Z,8.4nm,1.4s						
SHLS				*e*LR	LR	11 04 50.3	
	comp=Z,318nm,7.9s						
KDJ	**Kajisay**	**13.02**	**328**	*e*Pn	**Pn**	**10 57 33.0**	**+0.2**
KDJ	**Kajisay**	**13.02**	**328**	*e*P	**Pn**	**10 57 33.0**	**+0.2**
NRN	**Naryn**	**13.07**	**323**	*e*Pn	**Pn**	**10 57 34.2**	**+0.5**
NRN	**Naryn**	**13.07**	**323**	*e*P	**Pn**	**10 57 34.2**	**+0.5**
PDGK	**Podgornoye**	**13.11**	**337**	P	**Pn**	**10 57 31.6**	**-2.4**
PDGK				pmax	pmax		
	comp=Z,36nm,1.4s						
SATY	**Saty**	**13.27**	**333**	*e*P	**Pn**	**10 57 34.6**	**-1.5**
SATY				pmax	pmax		
	comp=Z,23nm,1.1s						
SATY				MLR	MLR		
	comp=Z,399nm,9.0s						
SATY	**Saty**	**13.27**	**333**	*e*P	**Pn**	**10 57 34.6**	**-1.5**
	comp=Z,22nm,1.1s						
SATY				*e*LR	LR	11 05 50.1	
	comp=Z,399nm,8.7s						
GTA	**Gaotai**	**13.43**	**50**	⇑P	**Pn**	**10 57 36.6**	**-1.7**
GTA				pP	P	10 57 40.1	-7.1
GTA				sP		10 57 43.4	
GTA				S	**Sn**	**11 00 07.3**	**+1.0**
GTA				sS	S	11 00 13.8	-15
GTA				SS	**SnSn**	**11 00 21.8**	**+3.1**
GTA				pmax	pmax		
	comp=Z,13nm,1.4s						
GTA				pmax	pmax		
	comp=Z,290nm,5.8s						
GTA				LR	LR		
	comp=Z,7μm,14.4s						
GTA				LR	LR		
	comp=Z,8μm,11.7s						
GTA				LR	LR		
	comp=Z,9μm,13.1s						
KPKS	**Kokpek**	**13.51**	**335**	*e*P	**Pn**	**10 57 39.3**	**-0.1**
KPKS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KPKS				MLR	MLR		
	comp=Z,411nm,8.0s						
KPKS	**Kokpek**	**13.51**	**335**	*e*P	**Pn**	**10 57 39.4**	**-0.1**
	comp=Z,4.4nm,0.9s						
KPKS				*e*LR	LR	11 05 37.9	
	comp=Z,411nm,8.3s						
ULHL	**Ulahol**	**13.55**	**326**	P	**Pn**	**10 57 40.6**	**+0.4**
	SNR=8.3						
BOOM	**Boomskoye usch**	**13.88**	**326**	*e*Pn	**Pn**	**10 57 44.7**	**+0.1**
BOOM	**Boomskoye usch**	**13.88**	**326**	*e*P	**Pn**	**10 57 44.7**	**+0.1**
MDOK	**Medeo**	**13.91**	**330**	*e*P	**Pn**	**10 57 42.6**	**-2.2**
MDOK				*e*S	**Sn**	**11 00 11.6**	**-6.4**
MDOK				pmax	pmax		
	comp=Z,130nm,1.5s						
MDOK				MLR	MLR		
	comp=Z,1μm,18.0s						
MDOK	**Medeo**	**13.91**	**330**	*e*P	**Pn**	**10 57 42.7**	**-2.2**
	comp=Z,130nm,1.5s						
MDOK				*e*S	**Sn**	**11 00 11.7**	**-6.3**
MDOK				*e*LR	LR	11 03 19.3	
	comp=Z,1μm,17.9s						
KZA	**Kyzart**	**13.93**	**323**	P	**Pn**	**10 57 45.2**	**-0.2**
	SNR=16						
TKM2	**Tokmak 2**	**14.38**	**326**	P	**Pn**	**10 57 52.1**	**+0.7**
	SNR=11						
TKM2	**Tokmak 2**	**14.38**	**326**	P	**Pn**	**10 57 50.8**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,35nm,1.1s						
UCH	**Uchtor**	**14.42**	**322**	P	**Pn**	**10 57 51.8**	**-0.4**
	SNR=24						
KBK	**Karagaybulak**	**14.50**	**324**	P	**P**	**10 58 01.0**	**+1.8**
	SNR=6.2						
AAK	**Ala-Archa**	**14.72**	**323**	*e*Pn	**Pn**	**10 57 56.6**	**+0.6**
AAK	**Ala-Archa**	**14.72**	**323**	*i* P	**Pn**	**10 57 56.7**	**+0.8**
AAK				pmax	pmax		
	comp=Z,14nm,1.1s						
AAK	**Ala-Archa**	**14.72**	**323**	P	**P**	**10 57 59.6**	**-2.0**
	SNR=15						
AAK	**Ala-Archa**	**14.72**	**323**	Pn	**Pn**	**10 57 55.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=130,slow=17,SNR=5.9						
AAK				Sn	**Sn**	**11 00 46.0**	**+8.1**
	comp=Z,0.2nm,0.3s,baz=168,slow=19,SNR=2.1						
AAK				LR	LR	11 05 04.1	
	comp=Z,452nm,21.7s,baz=124,slow=43						
FRU1	**Bishkek**	**14.77**	**323**	*e*Pn	**Pn**	**10 57 57.3**	**+0.7**
FRU1	**Bishkek**	**14.77**	**323**	*e*P	**Pn**	**10 57 57.3**	**+0.7**
AML	**Almayashu**	**14.80**	**320**	P	**Pn**	**10 57 56.5**	**-0.7**
	SNR=38						
KUU	**Kurty**	**14.80**	**330**	*e*P	**Pn**	**10 57 58.9**	**+2.1**
KUU				pmax	pmax		
	comp=Z,45nm,1.3s						
KUU				MLR	MLR		
	comp=Z,536nm,9.0s						
KUU	**Kurty**	**14.80**	**330**	*e*P	**Pn**	**10 57 59.0**	**+2.1**
	comp=Z,45nm,1.3s						
KUU				*e*LR	LR	11 05 00.6	
	comp=Z,536nm,8.6s						
KBL	**Kabul**	**14.99**	**287**	*e*Pn	**Pn**	**10 57 54.6**	**-5.1**
	comp=Z,165nm,1.0s						
KBL	**Kabul**	**14.99**	**287**	*e*P	**Pn**	**10 57 54.6**	**-5.1**
KBL				pmax	pmax		
	comp=Z,165nm,1.0s						
EKS2	**Erkin-Say**	**15.11**	**321**	P	**Pn**	**10 58 02.4**	**+1.2**
	SNR=11						
LZH	**Lanzhou**	**15.12**	**68**	*e*P	**Pn**	**10 57 57.9**	**-3.5**
LZH				pP	P	10 58 01.1	-5.1
LZH				sP	pP	10 58 04.1	-13
LZH				S	**Sn**	**11 00 52.0**	**+4.2**
LZH				sS	S	11 00 57.5	-6.6
LZH				SS	**SnSn**	**11 01 07.1**	**+6.6**
LZH				pmax	pmax		
	comp=Z,42nm,1.2s						
LZH				pmax	pmax		
	comp=Z,400nm,4.3s						
LZH				LR	LR		
	comp=Z,17μm,11.4s						
LZH				LR	LR		
	comp=Z,15μm,10.6s						
LZH				LR	LR		
	comp=Z,13μm,11.9s						
GAR	**Garm**	**15.23**	**304**	*e*Pn	**Pn**	**10 57 57.7**	**-5.0**
	comp=Z,176nm,0.9s						
GAR	**Garm**	**15.23**	**304**	*e*P	**Pn**	**10 57 57.7**	**-5.0**
GAR				pmax	pmax		
	comp=Z,176nm,0.9s						
KMI	**Kunming**	**15.60**	**110**	P	**Pn**	**10 58 05.3**	**-2.4**
KMI				pP	P	10 58 11.4	-0.2
KMI				sP	pP	10 58 15.3	-6.9
KMI				S	**Sn**	**11 01 05.8**	**+6.2**
KMI				pmax	pmax		
	comp=Z,33nm,1.1s						
KMI				pmax	pmax		
	comp=Z,720nm,4.5s						
KMI				LR	LR		
	comp=Z,1μm,8.5s						
KMI				LR	LR		
	comp=Z,2μm,10.7s						
KMI				LR	LR		
	comp=Z,3μm,10.6s						
MK31	**Makanchi Array**	**15.67**	**349**	*e*Pn	**Pn**	**10 58 06.5**	**-1.9**
	comp=Z,38nm,0.9s						
MK31	**Makanchi Array**	**15.67**	**349**	*i* P	**Pn**	**10 58 06.4**	**-1.9**
MK31				pmax	pmax		
	comp=Z,51nm,0.9s						
MK32	**Makanchi Array**	**15.67**	**349**	*e*Pn	**Pn**	**10 58 06.3**	**-2.0**
MK32				*e*S	**S**	**11 01 15.8**	**+0.8**
MKAR	**Makanchi Array**	**15.67**	**349**	*e*Pn	**Pn**	**10 58 06.2**	**-2.1**
MKAR	**Makanchi Array**	**15.67**	**349**	*e*P	**Pn**	**10 58 06.2**	**-2.1**
MKAR	**Makanchi Array**	**15.67**	**349**	Pn	**Pn**	**10 58 06.3**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=164,slow=13,SNR=30						
MKAR				Sn	**S**	**11 01 15.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=149,slow=33,SNR=2.3						
MKAR				Lg	Lg	11 02 58.0	
	comp=Z,0.1nm,0.3s,baz=148,slow=12,SNR=2.2						
MKAR				LR	LR	11 04 40.0	
	comp=Z,500nm,18.2s,baz=160,slow=39						
HYB	**Hyderabad**	**15.73**	**209**	*i* P	**Pn**	**10 58 05.0**	**-4.2**
	comp=Z,120nm,1.0s						
HYB				*e*S	**Sn**	**11 01 02.0**	**-0.5**
HYB				LR	LR		
	comp=Z,6.0nm,12.0s						
MAKZ	**Makanchi**	**15.74**	**348**	*e*Pn	**Pn**	**10 58 06.5**	**-2.6**
	comp=Z,54nm,1.1s						
MAKZ	**Makanchi**	**15.74**	**348**	P	**Pn**	**10 58 06.2**	**-3.0**
MAKZ				pmax	pmax		
	comp=Z,55nm,1.2s						
ZSN	**Zaisan**	**16.04**	**356**	*e*P	**Pn**	**10 58 11.9**	**-1.0**
ZSN	**Zaisan**	**16.04**	**356**	*e*P	**Pn**	**10 58 12.0**	**-1.0**
BTLS	**Baital**	**16.72**	**328**	*e*P	**Pn**	**10 58 20.7**	**-0.9**
BTLS				*e*S	**Sn**	**11 01 29.2**	**+3.1**
BTLS				pmax	pmax		
	comp=Z,19nm,1.4s						
BTLS				smax	smax		
	comp=E,144nm,5.6s						
BTLS	**Baital**	**16.72**	**328**	*e*P	**Pn**	**10 58 20.8**	**-0.9**
	comp=E,19nm,1.4s						
BTLS				*e*S	**Sn**	**11 01 29.2**	**+3.1**
	comp=E,144nm,5.6s						
BTLS				*e*LR	LR	11 06 22.1	
	comp=E,116nm,8.9s						
JBG	**Jabagly**	**16.80**	**315**	*e*P	**Pn**	**10 58 20.5**	**-2.4**
JBG				pmax	pmax		
	comp=Z,100nm,2.1s						
JBG				MLR	MLR		
	comp=Z,337nm,9.0s						
CHTO	**Chiang Mai**	**16.85**	**135**	*e*Pn	**Pn**	**10 58 21.4**	**-2.1**
	comp=Z,25nm,0.8s						
CHTO	**Chiang Mai**	**16.85**	**135**	*e*P	**Pn**	**10 58 21.4**	**-2.1**
CHTO				pmax	pmax		
	comp=Z,25nm,0.8s						
CHTO	**Chiang Mai**	**16.85**	**135**	P	**P**	**10 58 25.7**	**+0.5**
	SNR=11						
CMMT	**Chiang Mai**	**16.85**	**135**	P	**Pn**	**10 58 21.9**	**-1.6**
	comp=Z,20nm,1.4s,comp=Z,483nm						
IUG	**Iuzhnay**	**16.96**	**314**	*e*P	**Pn**	**10 58 23.0**	**-1.8**
IUG				*e*S	**S**	**11 01 39.6**	**-1.9**
IUG				pmax	pmax		
	comp=Z,52nm,1.2s						
IUG				MLR	MLR		
	comp=Z,433nm,10.0s						
IUG	**Iuzhnay**	**16.96**	**314**	*e*P	**Pn**	**10 58 23.1**	**-1.8**
	comp=Z,52nm,1.2s						
IUG				*e*S	**S**	**11 01 39.6**	**-1.9**
IUG				*e*LR	LR	11 05 30.5	
	comp=Z,433nm,9.8s						
CM31	**Chiang Mai Arr**	**17.12**	**136**	*e*Pn	**Pn**	**10 58 25.2**	**-1.6**
	comp=Z,53nm,1.0s						
CM31	**Chiang Mai Arr**	**17.12**	**136**	P	**P**	**10 58 29.3**	**+1.0**
	SNR=15						
CMAR	**Chiang Mai Arr**	**17.12**	**136**	*e*Pn	**Pn**	**10 58 25.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**17.12**	**136**	*e*P	**Pn**	**10 58 25.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**17.12**	**136**	P	**Pn**	**10 58 23.6**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=312,slow=13,SNR=19						
CMAR				LR	LR	11 05 57.5	
	comp=Z,1μm,19.1s,baz=326,slow=41						
KK31	**Karatay Array**	**17.23**	**317**	*e*Pn	**Pn**	**10 58 26.0**	**-2.0**
	comp=Z,23nm,1.0s						
KK31	**Karatay Array**	**17.23**	**317**	*i* P	**P**	**10 58 28.5**	**-0.8**
KK31				pmax	pmax		
	comp=Z,33nm,1.3s						
KKAR	**Karatay Array**	**17.23**	**317**	*e*Pn	**Pn**	**10 58 26.0**	**-2.0**
	comp=Z,23nm,1.0s						
KKAR				*e*Pn	**P**	**10 58 26.2**	**-3.0**
KKAR	**Karatay Array**	**17.23**	**317**	*e*P	**Pn**	**10 58 26.0**	**-2.0**
KKAR				pmax	pmax		
	comp=Z,23nm,1.0s						
LAMP	**Lampang**	**17.49**	**134**	P	**P**	**10 58 33.1**	**+0.8**
	comp=Z,35μm,0.9s,comp=Z,292μm						
DGZ	**Jazzator, Alta**	**18.25**	**2**	*c i* P	**Pn**	**10 58 40.2**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA	**Guiyang**	**18.30**	**101**	‖ *i* P	**P**	**10 58 40.3**	**-1.1**
GYA				pP	pP	10 58 50.6	-1.4
GYA				PP	**sP**	**10 58 55.9**	**-1.2**
GYA				S	**Sn**	**11 02 05.6**	**+0.7**
GYA				sS	S	11 02 10.8	+1.9
GYA				SS	**SnSn**	**11 02 25.0**	**+6.3**
GYA				pmax	pmax		
	comp=Z,70nm,1.0s						
GYA				pmax	pmax		
	comp=Z,980nm,6.8s						
GYA				LR	LR		
	comp=Z,2μm,14.1s						
GYA				LR	LR		
	comp=Z,3μm,11.6s						
GYA				LR	LR		
	comp=Z,4μm,10.8s						
SLVN	**Son La**	**18.52**	**119**	*e*P	**Pn**	**10 58 43.6**	**-0.4**
	comp=Z,89nm,1.4s						
UTTA	**Uttaradit**	**18.65**	**134**	P	**Pn**	**10 58 47.0**	**+1.4**
	comp=Z,31μm,0.8s,comp=Z,270μm						
UMPA	**Umpang Tak**	**18.88**	**141**	P	**Pn**	**10 58 50.6**	**+2.2**
	comp=Z,44μm,1.1s						
XAN	**Xi'an**	**19.01**	**76**	P	**P**	**10 58 45.3**	**-3.7**
XAN				pP	Pn	10 58 49.3	-0.6
XAN				S	**Sn**	**11 02 20.9**	**-0.9**
XAN				sS	S	11 02 27.8	+4.9
XAN				pmax	pmax		
	comp=Z,20nm,1.2s						
XAN				pmax	pmax		
	comp=Z,970nm,6.7s						
XAN				LR	LR		
	comp=Z,4μm,7.9s						
XAN				LR	LR		
	comp=Z,4μm,6.8s						
XAN				LR	LR		
	comp=Z,5μm,11.1s						
XAN	**Xi'an**	**19.01**	**76**	*e*P	**P**	**10 58 46.1**	**-2.9**
	comp=Z,90nm,1.5s						
XAN	**Xi'an**	**19.01**	**76**	*e*P	**P**	**10 58 46.1**	**-2.9**
XAN				pmax	pmax		
	comp=Z,90nm,1.5s						
ENH	**Enshi**	**19.74**	**87**	*e*P	**P**	**10 58 56.1**	**-0.9**
	comp=Z,69nm,1.0s						
OTUK	**Ortayu**	**19.95**	**331**	P	**P**	**10 58 59.6**	**+0.5**
OTUK				pmax	pmax		
	comp=Z,60nm,1.0s						
KURBB	**Kurchatov Arra**	**20.06**	**345**	P	**P**	**10 59 00.0**	**-0.3**
	comp=Z,107nm,0.9s,baz=163,slow=9.9,SNR=102						
KURBB				S	**S**	**11 02 44.1**	**+0.4**
	comp=Z,0.3nm,0.2s,baz=180,slow=15,SNR=3.0						
NONG	**Nongkai**	**20.09**	**128**	P	**P**	**10 59 01.0**	**+0.1**
	comp=Z,2.1nm,1.5s						
KURK	**Kurchatov**	**20.13**	**345**	*e*P	**P**	**10 59 00.3**	**-0.7**
	comp=Z,144nm,1.0s						
KURK	**Kurchatov**	**20.13**	**345**	*c e*P	**P**	**10 59 00.2**	**-0.8**
KURK				pmax	pmax		
	comp=Z,127nm,1.0s						
SRDT	**SRDT**	**20.56**	**143**	P	**P**	**10 59 05.9**	**-0.1**
	comp=Z,36nm,1.5s,comp=Z,808nm						
CHAI	**Chaiyaphum**	**20.93**	**134**	P	**P**	**10 59 09.8**	**-0.2**
	comp=Z,106μm,1.0s						
BTO	**Baotou**	**21.04**	**58**	*e*P	**P**	**10 59 08.8**	**-2.3**
BRZS	**Berezniki**	**21.22**	**335**	*e*P	**P**	**10 59 12.3**	**-0.6**
BRZS				*e*S	**S**	**11 03 09.6**	**+2.8**
BRZS				pmax	pmax		
	comp=Z,51nm,1.1s						
BRZS				smax	smax		
	comp=N,175nm,5.4s						
BRZS				MLR	MLR		
	comp=Z,321nm,10.0s						
BRZS	**Berezniki**	**21.22**	**335**	*e*P	**P**	**10 59 12.3**	**-0.6**
	comp=Z,52nm,1.1s						
BRZS				*e*S	**S**	**11 03 09.7**	**+2.8**
	comp=Z,176nm,5.4s						
BRZS				*e*LR	LR	11 08 56.1	
	comp=Z,320nm,9.8s						
SKNT	**Sakolnakorn**	**21.42**	**128**	P	**P**	**10 59 15.5**	**+0.2**
	comp=Z,54nm,1.3s,comp=Z,2μm						
PANO	**Nakornpanom**	**21.73**	**127**	P	**P**	**10 59 17.8**	**-0.7**
	comp=Z,2.4nm,1.2s						
PHET	**Kaeng Krachan**	**22.04**	**144**	P	**P**	**10 59 22.3**	**+0.4**
	comp=Z,102μm,1.0s						
TIY	**Taiyuan**	**22.19**	**67**	*e*P	**P**	**10 59 22.5**	**-0.9**
TIY				S	**S**	**11 03 28.3**	**+2.5**
TIY				pmax	pmax		
	comp=Z,520nm,5.8s						
TIY				LR	LR		
	comp=Z,9μm,13.7s						
TIY				LR	LR		
	comp=Z,2μm,11.4s						
TIY				LR	LR		
	comp=Z,6μm,13.3s						
HHC	**Hu-ho-hao-te**	**22.23**	**58**	*e*P	**P**	**10 59 24.1**	**+0.2**
HHC				sP	pP	10 59 32.8	-1.8
HHC				PP	**sP**	**10 59 46.3**	**+6.5**
HHC				pmax	pmax		
	comp=Z,100nm,0.8s						
HHC				pmax	pmax		
	comp=Z,640nm,4.0s						
HHC				LR	LR		
	comp=Z,3μm,11.6s						
HHC				LR	LR		
	comp=Z,5μm,11.4s						
HHC				LR	LR		
	comp=Z,4μm,12.0s						
SONA0	**Songino Array**	**22.30**	**37**	*e*P	**P**	**10 59 24.6**	**0.0**
SONA0				*e*PcP	**PcP**	**11 03 19.2**	**-0.2**
SONM	**Songino Array**	**22.30**	**37

ZAK					pmax	pmax	
	comp=Z,22nm,1.3s						
MOY	**Mondy**	**22.84**	**24**	*e*P	**P**	**10 59 30.8 +0.5**
MOY					pmax	pmax	
	comp=Z,162nm,2.1s						
NVS	**Novosibirsk**	**23.50**	**355**	*e*P	**P**	**10 59 35.3 -1.4**
NVS					pmax	pmax	
	comp=Z,116nm,2.2s						
NVS					pmax	pmax	
	comp=N,100nm,2.4s						
TLY	**Talaya**	**23.82**	**27**	*e*P	**P**	**10 59 39.9 0.0**
	comp=N,12nm,1.2s						
TLY	**Talaya**	**23.82**	**27**	*ce*P	**P**	**10 59 41.4 +1.6**
TLY					pmax	pmax	
	comp=Z,74nm,2.5s						
TLY	**Talaya**	**23.82**	**27**	P	**P**	**10 59 40.8 +1.0**
	SNR=10						
WHN	**Wuhan**	**23.84**	**85**	P	**P**	**10 59 39.3 -0.9**
WHN				S	**S**	**11 03 59.4 +5.5**
WHN				LR	LR	
	comp=Z,4μm,12.4s					
WHN				LR	LR	
	comp=Z,5μm,11.9s					
WHN				LR	LR	
	comp=Z,6μm,21.1s					
GEYT	**Alibeck**	**24.18**	**293**	P	**P**	**10 59 44.0 +0.7**
	comp=Z,134nm,0.5s,baz=116,slow=8.4,SNR=18					
GEYT				LR	LR	11 11 01.4
	comp=Z,2μm,18.3s,baz=90,slow=41					
GYA0B	**ALIBECK ARRAY**	**24.18**	**293**	*e*P	**P**	**10 59 44.4 +1.0**
	comp=Z,33nm,0.9s					
QIZ	**Qiongzhong**	**24.39**	**115**	P	**P**	**10 59 44.6 -0.7**
QIZ				S	**S**	**11 04 08.3 +5.6**
QIZ				sS	**sS**	**11 04 15.8 -5.9**
QIZ				pmax	pmax	
	comp=Z,26nm,0.8s					
QIZ				pmax	pmax	
	comp=Z,880nm,4.8s					
QIZ				LR	LR	
	comp=Z,660nm,9.5s					
QIZ				LR	LR	
	comp=Z,980nm,12.4s					
QIZ				LR	LR	
	comp=Z,1μm,10.3s					
QIZ	**Qiongzhong**	**24.39**	**115**	*e*P	**P**	**10 59 44.5 -0.8**
	comp=Z,34nm,1.0s					
IRK	**Irkutsk**	**24.50**	**27**	*e*P	**P**	**10 59 48.9 +2.8**
BVAR	**Borovoye Array**	**24.54**	**336**	P	**P**	**10 59 46.5 +0.1**
	comp=Z,18nm,0.9s,baz=152,slow=10,SNR=34					
BRVK	**Borovoye**	**24.61**	**336**	*e*P	**P**	**10 59 46.5 -0.5**
	comp=Z,40nm,0.9s					
BRVK	**Borovoye**	**24.61**	**336**	*ce*P	**P**	**10 59 46.9 -0.1**
BRVK				pmax	pmax	
	comp=Z,40nm,0.8s					
PALK	**Pallekele**	**24.66**	**194**	*e*P	**P**	**10 59 48.3 +0.5**
	comp=Z,66nm,1.0s					
PALK	**Pallekele**	**24.66**	**194**	*i* P	**P**	**10 59 49.0 +1.2**
	SNR=6.5					
PALK	**Pallekele**	**24.66**	**194**	P	**P**	**10 59 47.0 -0.8**
PALK	**Pallekele**	**24.66**	**194**	P	**P**	**10 59 47.0 -0.8**
	comp=Z,58nm,1.1s,baz=295,slow=2.5,SNR=6.8					
PALK				LR	LR	11 09 13.0
	comp=Z,1μm,20.9s,baz=300,slow=36					
GZH	**Guangzhou**	**25.20**	**103**	P	**P**	**10 59 53.3 +0.7**
GZH				S	**S**	**11 04 18.9 +3.2**
GZH				LR	LR	
	comp=Z,2μm,11.4s					
GZH				LR	LR	
	comp=Z,3μm,12.2s					
BJT	**Baijiatuau**	**25.45**	**62**	*e*P	**P**	**10 59 55.3 +0.6**
	comp=Z,47nm,1.3s					
BJT	**Baijiatuau**	**25.45**	**62**	*e*P	**P**	**10 59 55.3 +0.6**
BJT				pmax	pmax	
	comp=Z,47nm,1.3s					
TIA	**Tai'an**	**25.80**	**71**	P	**P**	**10 59 59.3 +1.3**
TIA				pmax	pmax	
	comp=Z,25nm,0.9s					
TIA				pmax	pmax	
	comp=Z,600nm,5.5s					
TIA				LR	LR	
	comp=Z,3μm,9.2s					
TIA				LR	LR	
	comp=Z,2μm,9.0s					
TIA				LR	LR	
	comp=Z,3μm,9.3s					
JLN	**Jalan Bani Buh**	**25.86**	**256**	P	**P**	**11 00 01.0 +2.4**
	SNR=9.4					
JLN				P	**P**	**11 00 01.0 +2.4**
	SNR=9.4					
KRAB	**Krabi**	**25.95**	**150**	P	**P**	**11 00 05.2 +5.8**
WSAR	**Wadi Sarin**	**26.04**	**259**	P	**P**	**11 00 02.8 +2.5**
	SNR=7.4					
WSAR	**Wadi Sarin**	**26.04**	**259**	P	**P**	**11 00 00.8 +0.4**
	comp=Z,64nm,1.1s,baz=114,slow=4.9,SNR=15					
WSAR				LR	LR	11 11 20.6
	comp=Z,658nm,19.3s,baz=107,slow=39					
BIDO	**Bidbid**	**26.35**	**260**	P	**P**	**11 00 05.4 +2.3**
	SNR=5.9					
BIDO				P	**P**	**11 00 05.4 +2.3**
	SNR=5.9					
AB31	**Akbulak array**	**26.75**	**319**	*i* P	**P**	**11 00 06.8 +0.4**
AB31				pmax	pmax	
	comp=Z,11nm,0.6s					
ABKAR	**Akbulak array**	**26.75**	**319**	*e*P	**P**	**11 00 06.9 +0.5**
	comp=Z,19nm,0.8s					
SHME	**Shamm**	**27.13**	**266**	*i* P	P	11 00 17.9 +7.7
	SNR=5.4					
MSFE	**Esma-Masafi**	**27.34**	**265**	P	**P**	**11 00 17.1 +5.1**
NJ2	**Nanjing**	**27.44**	**80**	*e*P	**P**	**11 00 12.8 0.0**
NJ2				S	**S**	**11 04 52.6 +1.6**
NJ2				pmax	pmax	
	comp=Z,15nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,240nm,4.4s					
NJ2				LR	LR	
	comp=Z,3μm,13.0s					
NJ2				LR	LR	
	comp=Z,4μm,14.6s					
NJ2				LR	LR	
	comp=Z,4μm,19.5s					
HATD	**Hatta, Dubai**	**27.55**	**264**	P	**P**	**11 00 20.0 +6.1**
HATD	**Hatta, Dubai**	**27.55**	**264**	P	**P**	**11 00 18.0 +4.2**
	SNR=5.1					
HATD				P	**P**	**11 00 18.0 +4.2**
	SNR=5.1					
MHTO	**MHTO**	**27.58**	**255**	P	**P**	**11 00 18.0 +3.8**
	SNR=14					
MHTO				P	**P**	**11 00 18.0 +3.8**
	SNR=14					
ASHO	**Ashiyiah**	**27.66**	**264**	*i* P	**P**	**11 00 18.7 +3.8**
	SNR=10					
ASHO	**Ashiyiah**	**27.66**	**264**	P	**P**	**11 00 18.3 +3.4**
	SNR=20					
ASHO				P	**P**	**11 00 18.3 +3.4**
	SNR=20					
ASUD	**Al Ashush, Dub**	**28.30**	**264**	P	**P**	**11 00 24.9 +4.4**
AKTO	**Aktyubinsk**	**28.43**	**320**	P	**P**	**11 00 22.2 +0.7**
	comp=Z,4.6nm,0.7s,baz=118,slow=8.4,SNR=17					
AKTO				LR	LR	11 12 32.5
	comp=Z,1μm,20.3s,baz=127,slow=38					
QZH	**Quanzhou**	**28.92**	**95⇑**	*i* P	**P**	**11 00 27.5 +1.4**
QZH				S	**S**	**11 05 17.3 +2.8**
QZH				LR	LR	
	comp=Z,2μm,12.3s					
QZH				LR	LR	
	comp=Z,710nm,14.7s					
QZH				LR	LR	
	comp=Z,2μm,11.8s					
KULM	**Kulim**	**29.20**	**150**	P	**P**	**11 00 29.0 +0.4**
DL2	**Dalian**	**29.51**	**66⇓**	*i* P	**P**	**11 00 31.3 +0.2**
DL2				S	**S**	**11 05 27.4 +4.0**
DL2				pmax	pmax	
	comp=Z,18nm,0.6s					
DL2				pmax	pmax	
	comp=Z,300nm,5.2s					
DL2				LR	LR	
	comp=Z,2μm,12.5s					
DL2				LR	LR	
	comp=Z,5μm,13.0s					
DL2				LR	LR	
	comp=Z,6μm,12.1s					
TPTI		**29.78**	**158**	P	**P**	**11 00 31.3 -2.4**
	comp=Z,27nm,1.0s					
HIA	**Hailar**	**30.61**	**45**	*i* P	**P**	**11 00 40.5 -0.3**
HIA				pmax	pmax	
	comp=Z,40nm,0.9s					
SVE	**Sverdlovsk**	**31.09**	**332⇓**	*e*P	**P**	**11 00 45.7 +0.8**
SVE				*e*		11 11 14.0
SVE				pmax	pmax	
	comp=Z,58nm,1.2s					
SVE				MLR	MLR	
	comp=Z,824nm,11.0s					
ARU	**Arti**	**31.68**	**330**	*e*P	**P**	**11 00 50.1 0.0**
	comp=Z,46nm,1.4s					
ARU	**Arti**	**31.68**	**330**	*d i*P	**P**	**11 00 50.5 +0.4**
ARU						11 01 51.6
ARU				S	**S**	**11 06 00.0 +3.0**
ARU				pmax	pmax	
	comp=Z,35nm,1.3s					
ARU				MLR	MLR	
	comp=Z,533nm,15.0s					
ARU	**Arti**	**31.68**	**330**	P	**P**	**11 00 50.2 +0.1**
	comp=Z,3.3nm,0.5s,baz=119,slow=7.9,SNR=5.2					
ARU				LR	LR	11 13 39.3
	comp=Z,1μm,19.9s,baz=128,slow=36					
GSI	**Gunungsitoli**	**31.75**	**159**	*e*P	**P**	**11 00 51.4 +0.3**
	comp=Z,41nm,0.8s					
GSI	**Gunungsitoli**	**31.75**	**159**	P	**P**	**11 00 50.4 -0.7**
BOD	**Bodaibo**	**32.40**	**27**	*e*P	**P**	**11 00 56.0 -0.4**
BOD				pmax	pmax	
	comp=Z,24nm,1.0s					
MAK	**Makhachkala**	**32.87**	**302**	*e*P	**P**	**11 00 59.0 -1.6**
MAK				*e*S	**S**	**11 06 15.3 -0.5**
MAK				pmax	pmax	
	comp=Z,62nm,0.7s					
MAK				MLR	MLR	
	comp=Z,2μm,16.0s					
CN2	**Changchun**	**32.91**	**57⇓**	*i* P	**P**	**11 01 00.8 -0.2**
CN2				*e*S	**S**	**11 06 16.1 -0.4**
CN2				pmax	pmax	
	comp=Z,80nm,0.7s					
CN2				pmax	pmax	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=Z,4μm,18.0s					
CN2				LR	LR	
	comp=Z,900nm,18.0s					
CN2				LR	LR	
	comp=Z,3μm,15.0s					
GROC	**Groznyy**	**34.14**	**302**	*e*P	**P**	**11 01 12.2 +0.5**
GROC				*e*		11 02 24.6
GROC				pmax	pmax	
	comp=Z,22nm,0.4s					
KS15	**Wonju Array Si**	**34.42**	**68**	*e*P	**P**	**11 01 13.7 -0.5**
	comp=Z,15nm,1.0s					
KSRS	**Korea Array**	**34.45**	**68**	P	**P**	**11 01 13.3 -1.2**
	comp=Z,8.2nm,0.8s,baz=277,slow=9.2,SNR=27					
KSRS				LR	LR	11 14 27.0
	comp=Z,306nm,21.3s,baz=271,slow=35					
GNI	**Garni**	**34.73**	**296**	*ce*P	**P**	**11 01 19.7 +2.6**
GNI				pmax	pmax	
	comp=Z,73nm,1.3s					
ZEI	**Tsey**	**35.48**	**301**	*e*P	**P**	**11 01 25.6 +2.0**
ZEI				pmax	pmax	
	comp=Z,6.0nm,0.9s					
AKH	**Akhalkalaki**	**35.71**	**298**	*e*P	**P**	**11 01 27.5 +1.9**
	comp=Z,15nm,1.0s					
AKH	**Akhalkalaki**	**35.71**	**298⇑**	*i* P	**P**	**11 01 28.0 +2.4**
AKH	**Akhalkalaki**	**35.71**	**298**	*e*P	**P**	**11 01 27.5 +1.9**
AKH				pmax	pmax	
	comp=Z,15nm,1.0s					
MDJ	**Mudanjiang**	**35.97**	**56**	P	**P**	**11 01 26.9 -0.6**
MDJ				pP	pP	11 01 31.5 -7.6
MDJ				sP	sP	11 01 33.8 -10
MDJ				pmax	pmax	
	comp=Z,35nm,0.8s					
MDJ				LR	LR	
	comp=Z,2μm,15.1s					
MDJ				LR	LR	
	comp=Z,2μm,16.7s					
MDJ				LR	LR	
	comp=Z,3μm,12.7s					
MDJ	**Mudanjiang**	**35.97**	**56**	*e*P	**P**	**11 01 27.1 -0.4**
	comp=Z,25nm,0.8s					
KBZ	**Khabaz**	**36.29**	**302**	P	**P**	**11 01 29.6 -0.6**
	comp=Z,0.9nm,0.4s,baz=114,slow=10.0,SNR=3.6					
KBZ				LR	LR	11 18 39.3
	comp=Z,2μm,19.2s,baz=86,slow=40					
NEY	**Neytrino**	**36.38**	**301**	*i* P	**P**	**11 01 31.1 -0.2**
KIV	**Kislovodsk**	**36.46**	**303**	*e*P	**P**	**11 01 31.8 0.0**
KIV				pmax	pmax	
	comp=Z,11nm,0.9s					
KIV				MLR	MLR	
	comp=Z,2μm,16.0s					
ZEA	**Zeya**	**36.64**	**40**	*e*P	**P**	**11 01 34.2 +1.1**
ZEA				*e*		11 03 03.0
ZEA				pmax	pmax	
	comp=Z,35nm,1.0s					
ZEA				MLR	MLR	
	comp=Z,3μm,11.0s					
ZEA				MLR	MLR	
	comp=N,1μm,10.0s					
ZEA				MLR	MLR	
	comp=E,2μm,10.0s					
KIRV	**Kirov**	**36.95**	**328**	P	**P**	**11 01 36.1 +0.5**
	comp=E,79nm,0.9s,baz=102,slow=1.1,SNR=12					
KIRV				LR	LR	11 17 42.9
	comp=E,836nm,18.5s,baz=107,slow=38					
JNU	**Nakatsue**	**37.32**	**75**	*e*P	**P**	**11 01 39.4 +0.2**
	comp=E,30nm,1.2s					
JNU	**Nakatsue**	**37.32**	**75**	P	**P**	**11 01 39.6 +0.4**
	comp=E,8.6nm,0.9s,baz=320,slow=7.9,SNR=5.5					
JNU				LR	LR	11 18 09.3
	comp=E,1μm,18.2s,baz=283,slow=38					
KSM	**Kuching**	**37.33**	**138**	P	**P**	**11 01 40.0 +0.6**
KKM	**Kota Kinabalu**	**37.56**	**126**	*e*P	**P**	**11 01 41.0 -0.4**
	comp=E,47nm,1.0s					
KKM	**Kota Kinabalu**	**37.56**	**126**	P	**P**	**11 01 43.0 +1.6**
USA0B	**Ussuriysk Arra**	**37.64**	**57**	*e*P	**P**	**11 01 40.9 -0.8**
	comp=E,34nm,0.9s					
USRK	**Ussuriysk Ar.**	**37.64**	**57**	P	**P**	**11 01 41.9 +0.1**
	comp=E,26nm,0.8s,baz=264,slow=7.6,SNR=33					
USRK				LR	LR	11 18 32.7
	comp=E,2μm,18.7s,baz=258,slow=38					
SBUM	**Sibu**	**37.67**	**135**	*e*P	**P**	**11 01 41.7 -0.6**
	comp=E,6.7nm,1.2s					
NRIK	**Noril'sk**	**37.94**	**1**	P	**P**	**11 01 44.2 +0.2**
	comp=E,17nm,0.5s,baz=167,slow=6.5,SNR=22					
NRIK				LR	LR	11 19 05.4
	comp=E,800nm,18.2s,baz=188,slow=39					
KLR	**Kul'dur**	**38.12**	**49**	*i* P	**P**	**11 01 45.4 -0.4**
KLR				pmax	pmax	
	comp=Z,39nm,1.4s					
KLR	**Kul'dur**	**38.12**	**49**	LR	LR	11 18 54.8
	comp=Z,1μm,18.1s,baz=260,slow=39					
PPBI	**Pangkal Pinang**	**38.27**	**147**	P	**P**	**11 01 46.0 -1.3**
VRH	**Novokhopyorsk**	**38.28**	**314**	*e*P	**P**	**11 01 47.2 +0.2**
VRH				pmax	pmax	
	comp=Z,30nm,1.3s					
SOC	**Sochi**	**38.58**	**302**	*e*P	**P**	**11 01 48.8 -0.9**
SOC				*e*S	**S**	**11 07 45.5 +2.1**
SOC				*e*SS	**SnSn**	**11 10 25.8 -6.6**
SOC				pmax	pmax	
	comp=Z,16nm,0.5s					
SOC				MLR	MLR	
	comp=Z,958nm,20.0s					
VORD	**Divnogorie**	**39.73**	**313**	*e*P	**P**	**11 01 59.6 +0.5**
VORD				pmax	pmax	
	comp=Z,10.0nm,1.0s					
VSR	**Storozhevoye**	**39.85**	**314**	*i* P	**P**	**11 01 59.9 -0.3**
VSR				pmax	pmax	
	comp=Z,17nm,0.9s					
PRGR	**Permogore**	**40.13**	**331**	*e*P	**P**	**11 02 01.4 -0.9**
PRGR				pmax	pmax	
	comp=Z,51nm,1.1s					
ANN	**Anapa**	**40.27**	**304**	*e*P	P	11 02 12.0 +8.3
ANN				*e*		11 03 38.2
ANN				*e*SS	SS	11 11 06.7 -0.9
ANN				pmax	pmax	
	comp=Z,27nm,0.9s					
ANN				MLR	MLR	
	comp=N,916nm,18.0s					
ANN				MLR	MLR	
	comp=Z,919nm,18.0s					
ANN				MLR	MLR	
	comp=E,788nm,18.0s					
LPSR	**Galich'ya Gora**	**40.28**	**316**	*e*P	**P**	**11 02 04.1 +0.4**
LPSR				pmax	pmax	
	comp=Z,20nm,1.0s					
LPSR				MLR	MLR	
	comp=Z,1μm,16.0s					
TEY	**Ternei**	**40.98**	**56**	*e*P	**P**	**11 02 08.1 -1.4**
YAK	**Yakutsk**	**41.26**	**29**	*d i*P	**P**	**11 02 11.2 -0.4**
YAK				*e**PP	**pP**	**11 02 21.3 -2.1**
YAK				*e*S	**S**	**11 08 26.1 +3.2**
YAK				*e*		11 12 11.8
YAK				pmax	pmax	
	comp=Z,191nm,0.8s					
YAK				pmax	pmax	
	comp=N,30nm,1.0s					
YAK				pmax	pmax	
	comp=E,42nm,1.0s					
YAK				smax	smax	
	comp=N,280nm,3.8s					
YAK				smax	smax	
	comp=E,174nm,3.3s					
YAK				MLR	MLR	
	comp=Z,4μm,11.0s					
YAK				MLR	MLR	
	comp=N,2μm,13.0s					
YAK				MLR	MLR	
	comp=E,3μm,14.0s					
GRNR	**Gornyy**	**41.35**	**47**	*e*P	**P**	**11 02 12.5 -0.1**
GRNR				pmax	pmax	
	comp=Z,10.0nm,0.9s					
MOS	**Moscow**	**41.77**	**320**	*e*P	**P**	**11 02 17.5 +1.6**
MOS				*e*		11 02 26.6
MOS				*e*		11 03 56.3
MOS				*e*		11 08 27.5
MOS				pmax	pmax	
	comp=Z,104nm,1.2s					
MOS				MLR	MLR	
	comp=Z,400nm,16.0s					
INU	**Inuyama**	**41.97**	**71**	*e*P	**P**	**11 02 16.1 -1.7**
	comp=Z,15nm,1.0s					
OBN	**Obninsk**	**42.20**	**319**	*e*P	**P**	**11 02 19.8 +0.4**
	comp=Z,122nm,1.3s					
OBN	**Obninsk**	**42.20**	**319**	*i* P	**P**	**11 02 19.8 +0.4**
OBN				*i*		11 02 32.5
OBN				*i*		11 04 12.0
OBN				pmax	pmax	
	comp=Z,64nm,1.1s					
OBN				MLR	MLR	
	comp=Z,466nm,15.0s					
OBN	**Obninsk**	**42.20**	**319**	P	**P**	**11 02 21.3 +1.9**
	comp=Z,8.2nm,0.4s,baz=68,slow=5.4,SNR=7.2					
KLMR	**Klimovskoe**	**42.44**	**328**	*e*P	**P**	**11 02 21.1 -0.2**
KLMR				*e*		11 03 59.1
KLMR				pmax	pmax	
	comp=Z,79nm,1.0s					
MJB9	**Matsu-Tunnel**	**42.73**	**69**	*e*P	**P**	**11 02 23.1 -1.0**
	comp=Z,16nm,0.8s					
MAJO	**Matsushiro**	**42.73**	**69**	*e*P	**P**	**11 02 22.9 -1.1**
	comp=Z,15nm,0.8s					
MAJO	**Matsushiro**	**42.73**	**69**	*e*P	**P**	**11 02 22.9 -1.1**
MAJO				pmax	pmax	
	comp=Z,15nm,0.8s					
MAT	**Matsushiro**	**42.73**	**69**	P	**P**	**11 02 22.6 -1.5**
MAT				S	**S**	**11 08 42.0 -3.4**
MJAR	**Matsushiro Arr**	**42.73**	**69**	P	**P**	**11 02 23.4 -0.6**
	comp=Z,8.6nm,0.8s,baz=278,slow=10,SNR=28					
MJAR				LR	LR	11 21 54.4
	comp=Z,471nm,19.0s,baz=260,slow=39					
MMAI	**Mount Meron Ar**	**42.93**	**286**	LR	LR	11 23 07.0
	comp=Z,851nm,18.6s,baz=280,slow=40					
BR101	**Keskin Array S**	**43.27**	**296**	*e*P	**P**	**11 02 28.8 +0.2**
BRTR	**Keskin Array B**	**43.27**	**296**	P	**P**	**11 02 28.8 +0.2**
	comp=Z,0.8nm,0.6s,baz=104,slow=8.3,SNR=6.3					
BRTR				LR	LR	11 23 48.4
	comp=Z,316nm,18.1s,baz=97,slow=41					
DAV	**Davao City (W)**	**43.76**	**115**	LR	LR	11 22 48.9
	comp=Z,310nm,18.5s,baz=288,slow=39					
EIL	**Elat**	**44.12**	**282**	LR	LR	11 23 41.0
	comp=Z,1μm,18.1s,baz=78,slow=40					
MPSI	**Mapaga**	**44.21**	**128**	P	**P**	**11 02 35.5 -0.6**
NKL	**Nikolayevsk**	**44.28**	**44**	*e*P	**P**	**11 02 36.0 -0.3**
NKL				pmax	pmax	
	comp=E,200nm,6.0s					
NKL				pmax	pmax	
	comp=Z,400nm,6.0s					
NKL				pmax	pmax	
	comp=Z,25nm,0.8s					
NKL				MLR	MLR	
	comp=E,3μm,12.0s					
NKL				MLR	MLR	
	comp=Z,4μm,12.0s					
TMCR	**Tamitsa**	**44.37**	**332**	*e*P	**P**	**11 02 36.5 -0.3**
TMCR				pmax	pmax	
	comp=Z,74nm,1.0s					
SMRI	**Semarang**	**44.58**	**145**	*e*P	**P**	**11 02 40.5 +1.4**
	comp=Z,144nm,1.0s					
SMRI	**Semarang**	**44.58**	**145**	P	**P**	**11 02 37.3 -1.8**
ATD	**Arta Tunnel**	**44.85**	**254**	*e*P	**P**	**11 02 42.0 +0.6**
	comp=Z,77nm,1.3s					
ATD	**Arta Tunnel**	**44.85**	**254**	LR	LR	11 22 29.9
	comp=Z,252nm,18.6s,baz=64,slow=38					
ASAJ	**Asahikawa**	**45.27**	**57**	P	**P**	**11 02 43.8 -0.5**
	comp=Z,16nm,0.8s,baz=256,slow=13					
YSS	**Yuzh-Sakhalins**	**45.28**	**53**	*e*P	**P**	**11 02 43.6 -0.7**
	comp=Z,18nm,1.0s					
YSS	**Yuzh-Sakhalins**	**45.28**	**53⇑**	*e*P	**P**	**11 02 44.3 0.0**
YSS				*e*		11 02 54.3
YSS				pmax	pmax	
	comp=Z,20nm,1.0s					
YSS				MLR	MLR	
	comp=Z,2μm,14.0s					
YSS				MLR	MLR	
	comp=E,2μm,13.0s					
TYV	**Tymovskoe**	**45.30**	**48**	*e*P	**P**	**11 02 43.9 -0.5**
TYV				*e*S	**S**	**11 09 22.9 +0.5**
TYV				pmax	pmax	
	comp=Z,300nm,5.2s					
TYV				pmax	pmax	
	comp=Z,16nm,1.4s					
TYV				smax	smax	
	comp=N,500nm,9.8s					
TYV				MLR	MLR	
	comp=E,2μm,13.0s					
TYV				MLR	MLR	
	comp=Z,3μm,13.0s					
MRSI	**Marisa**	**45.50**	**126**	P	**P**	**11 02 44.1 -2.3**
ERM	**Erimo**	**45.85**	**60**	*e*P	**P**	**11 02 49.6 +0.7**
	comp=Z,38nm,0.8s					
ERM	**Erimo**	**45.85**	**60**	*ce*P	**P**	**11 02 49.3 +0.4**
ERM				pmax	pmax	
	comp=Z,39nm,0.8s					
AKASG	**Malin Array Be**	**46.03**	**312**	P	**P**	**11 02 49.9 -0.4**
	comp=Z,5.8nm,0.9s,baz=80,slow=7.3,SNR=15					
AKBB	**Malin Array Si**	**46.03**	**312**	*e*P	**P**	**11 02 50.4 +0.1**
	comp=Z,17nm,1.3s					
KIEV	**Kiev**	**46.04**	**312**	*e*P	**P**	**11 02 50.3 +0.1**
	comp=Z,17nm,1.3s					
KIEV	**Kiev**	**46.04**	**312⇑**	*i* P	**P**	**11 02 50.7 +0.4**
KIEV	**Kiev**	**46.04**	**312**	*i* P	**P**	**11 02 50.4 +0.1**
KIEV				pmax	pmax	
	comp=Z,7.0nm,0.9s					
TIXI	**Tiksi**	**46.17**	**17**	*e*P	**P**	**11 02 49.8 -1.2**
	comp=Z,18nm,1.1s					
TIXI				*e*P	**P**	**11 02 50.1 -0.9**
TIXI	**Tiksi**	**46.17**	**17**	*ce*P	**P**	**11 02 50.4 -0.6**
TIXI				pmax	pmax	
	comp=Z,38nm,2.5s					
TIXI	**Tiksi**	**46.17**	**17**	P	**P**	**11 02 50.1 -0.9**
	comp=Z,4.2nm,0.4s,baz=257,slow=2.4,SNR=15					
TTSI	**Tana Toraja**	**46.68**	**131**	P	**P**	**11 02 54.8 -0.9**
JOF	**Joensuu**	**46.79**	**329**	P	**P**	**11 02 56.2 +0.3**
JOF				pmax	pmax	
	comp=Z,77nm,0.9s					
CFR	**Carcaliu**	**46.86**	**304⇓**	*i* P	**P**	**11 02 58.3 +1.6**
CFR	**Carcaliu**	**46.86**	**304**	P	**P**	**11 03 00.6 +3.9**
CFR				pmax	pmax	
	comp=Z,8.0nm,1.6s					
HARR	**Harsova**	**47.04**	**304⇓**	*i* P	**P**	**11 03 00.5 +2.3**
HARR	**Harsova**	**47.04**	**304**	P	**P**	**11 03 00.5 +2.3**
MICGM	**Minsk**	**47.07**	**317**	*e*	**P**	**11 03 01.0 +2.7**
MNK	**Minsk**	**47.07**	**317**	*e*P	**P**	**11 03 01.0 +2.7**
LVZ	**Lovozero**	**47.14**	**336**	*e*P	**P**	**11 02 58.8 +0.1**
	comp=Z,69nm,1.3s					
LVZ	**Lovozero**	**47.14**	**336**	*ce*P	**P**	**11 03 00.5 +1.8**
LVZ				pmax	pmax	
	comp=Z,37nm,1.0s					
LUWI	**Luwuk**	**47.17**	**126**	P	P	11 03 12.5 +13
YUK	**Yuzh-Kuril'sk**	**47.62**	**57**	*c i*P	**P**	**11 03 01.6 -1.1**
YUK				*e*		11 04 30.0
YUK				*e*		11 04 53.2
YUK				*e*S	**S**	**11 09 55.1 -0.8**
YUK				*e*		11 12 55.6
YUK				*e*SS	**SS**	**11 13 21.4 -2.6**
YUK				pmax	pmax	

comp=Z,226nm,2.3s
YUK pmax pmax
comp=N,73nm,1.0s
YUK pmax pmax
comp=E,93nm,1.0s
YUK pmax pmax
comp=Z,166nm,1.0s
YUK MLR MLR
comp=Z,591nm,19.0s
YUK MLR MLR
comp=E,577nm,16.0s
IDID Didziasalis 47.80 318 *e*P **P 11 03 04.3 +0.5**
IDID IAmb IAmb 11 03 07.9
comp=Z,25nm,1.0s
VRI Vrincioaia 47.80 305⇑*i P* **P 11 03 06.9 +2.8**
VRI Vrincioaia 47.80 305 P **P 11 03 06.9 +2.8**
TESR Tescani 47.81 306⇑*i P* **P 11 03 06.0 +1.9**
PLOR Plostina 47.85 305⇑*i P* **P 11 03 07.3 +2.7**
PLOR Plostina 47.85 305 P **P 11 03 07.2 +2.6**
IIGN Ignalina 48.09 318 *e*P **P 11 03 06.9 +0.7**
IIGN IAmb IAmb 11 03 11.6
comp=Z,72nm,1.2s
VSU Vasula 48.11 322*ce*P **P 11 03 06.7 +0.4**
VSU pmax pmax
comp=Z,376nm,1.3s
VSU Vasula 48.11 322 *e*P **P 11 03 06.3 +0.1**
VSU IAmb IAmb 11 03 10.2
comp=Z,297nm,1.0s
BIZ Bicaz 48.15 307⇓*i P* **P 11 03 09.1 +2.3**
ISAL Salakas 48.16 318 *e*P **P 11 03 07.2 +0.5**
ISAL IAmb IAmb 11 03 10.8
comp=Z,57nm,1.1s
MLR Muntele Rosu 48.37 305 *e*P **P 11 03 10.4 +1.7**
comp=Z,38nm,0.9s
MLR Muntele Rosu 48.37 305⇑*i P* **P 11 03 11.7 +3.0**
MLR Muntele Rosu 48.37 305 *e*P **P 11 03 10.4 +1.7**
MLR pmax pmax
comp=Z,38nm,0.9s
MSF Maaselka 48.55 332 P **P 11 03 08.6 -1.0**
MSF pmax pmax
comp=Z,33nm,1.0s
BURAR Bucovina Array 48.71 308 *e*P **P 11 03 10.8 -0.4**
BURAR Bucovina Array 48.71 308⇓*i P* **P 11 03 13.5 +2.3**
BURAR Bucovina Array 48.71 308 P **P 11 03 12.6 +1.4**
BURAR pmax pmax
comp=Z,37nm,0.8s
DOPR Dopca 48.72 306⇑*i P* **P 11 03 13.6 +2.4**
BUR08 Bucovina Ar. S 48.72 308 *e*P **P 11 03 12.2 +0.9**
comp=Z,11nm,1.3s
EZN Ezine 48.83 297⇑*i P* **P 11 03 14.4 +2.3**
EZN Ezine 48.83 297 P **P 11 03 14.4 +2.3**
FIA1 FINESS Array S 48.87 326 *e*P **P 11 03 11.3 -0.8**
comp=Z,46nm,1.1s
FIA0 FINESS Array S 48.87 326 *e*P **P 11 03 11.8 -0.2**
FIA0 FINESS Array S 48.87 326 *e*P **P 11 03 11.8 -0.2**
FINES FINESS Array B 48.87 326 P **P 11 03 11.8 -0.2**
comp=Z,11nm,0.5s,baz=105,slow=8.7,SNR=42
FINES LR LR 11 24 48.5
comp=Z,516nm,18.3s,baz=100,slow=37
ALN Alexandroupoli 48.87 299 *e*P **P 11 03 12.3 -0.1**
comp=Z,14nm,1.3s
ALN Alexandroupoli 48.87 299 P **P 11 03 13.4 +1.0**
ALN pmax pmax
comp=Z,8.0nm,1.2s
KUR Kuril'sk 48.93 55*c i P* **P 11 03 14.6 +1.8**
KUR *e*S **S 11 10 22.5 +8.2**
KUR MLR MLR
comp=Z,600nm,12.0s
KUR MLR MLR
comp=N,400nm,13.0s
KUR MLR MLR
comp=E,300nm,13.0s
VOIR 49.01 305⇑*i P* **P 11 03 15.2 +1.7**
VOIR 49.01 305 P **P 11 03 15.7 +2.2**
VOIR pmax pmax
comp=Z,7.0nm,0.8s
SUF Sumiainen 49.05 328 P **P 11 03 13.5 +0.1**
SUF pmax pmax
comp=Z,94nm,0.9s
LVV L'vov 49.37 311 *e*P **P 11 03 17.6 +1.5**
LVV *e*S **S 11 10 18.8 -1.6**
LVV *e*SS **SS 11 13 53.3 +1.3**
LVV MLR MLR
comp=Z,800nm,19.0s
PABE Paberze 49.38 318 *e*P **P 11 03 15.6 -0.5**
PABE IAmb IAmb 11 03 19.8
comp=Z,341nm,1.3s
PLD Plovdiv 49.68 301 P **P 11 03 19.7 +1.1**
PLD pmax pmax
comp=Z,65nm,1.1s
SGF Sodankyl 49.92 334 P **P 11 03 23.4 +3.4**
SGF pmax pmax
comp=Z,25nm,1.2s
KWP Kalwaria Pacla 50.24 311 *e*P **P 11 03 24.8 +2.1**
KWP Kalwaria Pacla 50.24 311 *e*P **P 11 03 24.5 +1.7**
comp=Z,399nm,1.2s
KWP Kalwaria Pacla 50.24 311 *e*P **P 11 03 24.5 +1.7**
SLIT Slitere, Latvi 50.40 321 *e*P **P 11 03 23.6 -0.2**
SLIT IAmb IAmb 11 03 26.8
comp=Z,382nm,1.2s
TRPA Tarpa 50.47 309⇑*i P* **P 11 03 26.6 +2.2**
TRPA Tarpa 50.47 309 *e*P **P 11 03 27.0 +2.6**
DRGR 50.48 307⇑*i P* **P 11 03 27.2 +2.5**
MA2 Magadan 50.51 36 *e*P **P 11 03 24.6 0.0**
comp=Z,20nm,1.0s
MA2 Magadan 50.51 36*ce*P **P 11 03 24.9 +0.3**
MA2 pmax pmax
comp=Z,17nm,0.8s
MA2 Magadan 50.51 36 P **P 11 03 24.7 +0.1**
comp=Z,17nm,0.9s,baz=288,slow=8.3,SNR=12
PBUR Paburg 50.55 319 *e*P **P 11 03 24.8 -0.1**
PBUR IAmb IAmb 11 03 28.5
comp=Z,192nm,1.1s
KOLS Kolonicke sedl 50.58 310 *e*P **P 11 03 26.4 +1.1**
KOLS pmax pmax
comp=Z,8.0nm,1.1s
KOLS Kolonicke sedl 50.58 310 *e*P **P 11 03 26.4 +1.1**
UZH Uzhgorod 50.59 309 *e*P **P 11 03 27.3 +2.0**
UZH *e* 11 03 32.1
UZH *e*S **S 11 10 38.5 +1.1**
GZR Gura Zlata 50.60 305⇑*i P* **P 11 03 28.0 +2.4**
VTS Vitosha 50.67 302 *e*P **P 11 03 26.6 +0.3**
comp=Z,19nm,1.3s
VTS Vitosha 50.67 302⇑*i P* **P 11 03 28.4 +2.1**
VTS Vitosha 50.67 302 *e*P **P 11 03 26.6 +0.3**
VTS pmax pmax
comp=Z,19nm,1.3s
VAF Ylistaro 50.68 328 P **P 11 03 26.2 +0.4**
VAF pmax pmax
comp=Z,108nm,1.0s
PAIG Paliouri 50.82 298 *e*P **P 11 03 28.9 +1.7**
PAIG pmax pmax
comp=Z,27nm,1.3s
ARA0 ARCESS Array S 50.83 337 *e*P **P 11 03 26.9 0.0**
ARCES ARCESS Array B 50.83 337 *e*P **P 11 03 27.4 +0.5**
ARCES ARCESS Array B 50.83 337 *e*P **P 11 03 27.4 +0.5**
ARCES ARCESS Array B 50.83 337 P **P 11 03 26.9 0.0**
comp=Z,12nm,0.9s,baz=106,slow=7.7,SNR=14
ARCES LR LR 11 26 39.9
comp=Z,881nm,18.2s,baz=116,slow=38
LTVH Ltavrtes, Hu 50.97 308 *e*P **P 11 03 32.1 +3.8**
KNT Kendrikon 51.17 300 P **P 11 03 30.0 +0.1**
KNT pmax pmax
comp=Z,11nm,1.4s
SIRR Siria 51.27 306⇑*i P* **P 11 03 33.0 +2.5**
BEL Belsk 51.32 314 *e*P **P 11 03 33.5 +2.7**
BEL Belsk 51.32 314 *e*P **P 11 03 33.5 +2.7**
BZS Buzias 51.38 306⇑*i P* **P 11 03 33.4 +2.0**
BZS Buzias 51.38 306 P **P 11 03 34.0 +2.6**
BZS pmax pmax
comp=Z,12nm,1.3s
MDVR Moldovita 51.43 304⇓*i P* **P 11 03 33.8 +2.0**
KLNR Kaliningrad 51.54 317 *i P* **P 11 03 32.9 +0.5**
SEY Seymchan 51.57 32*ce*P **P 11 03 33.2 +0.7**
SEY Seymchan 51.57 32 P **P 11 03 33.0 +0.4**
comp=Z,30nm,1.0s,baz=253,slow=7.3,SNR=39
GRG Griva 51.58 300 P **P 11 03 32.5 -0.5**
GRG pmax pmax
comp=Z,18nm,1.1s
KECS Kecovo 51.80 309 *e*P **P 11 03 36.8 +2.4**
KECS pmax pmax
comp=Z,42nm,1.2s
KECS Kecovo 51.80 309 *e*P **P 11 03 36.8 +2.4**
NIE Niedzica 51.82 311 *e*P **P 11 03 37.7 +3.0**

NIE Niedzica 51.82 311 *e*P **P 11 03 37.7 +3.0**
AGG Agios Georgios 52.02 297 *e*P **P 11 03 35.5 -0.9**
comp=Z,60nm,1.2s
OJC Ojcow 52.07 312 *e*P **P 11 03 37.4 +0.9**
OJC Ojcow 52.07 312 *e*P **P 11 03 36.5 +0.1**
comp=Z,10nm,1.0s
OJC Ojcow 52.07 312 *e*P **P 11 03 37.4 +0.9**
PSZ Piszkesteto 52.26 309 *e*P **P 11 03 38.9 +1.0**
comp=Z,15nm,1.1s
PSZ Piszkesteto 52.26 309⇓*i P* **P 11 03 40.3 +2.3**
PSZ Piszkesteto 52.26 309 P **P 11 03 38.5 +0.5**
PSZ pmax pmax
comp=Z,13nm,1.4s
PSZ Piszkesteto 52.26 309 *e*P **P 11 03 38.0 +0.1**
FNA Florina 52.37 300 P **P 11 03 38.7 -0.2**
FNA pmax pmax
comp=Z,6.0nm,1.1s
ITM Ithomi 52.76 295 *e*P **P 11 03 41.1 -0.7**
comp=Z,29nm,1.1s
VYHS Vyhne 52.88 309 *e*P **P 11 03 44.7 +2.2**
VYHS pmax pmax
comp=Z,8.0nm,1.2s
VYHS Vyhne 52.88 309 *e*P **P 11 03 44.7 +2.2**
OKC Ostrava-Krasne 53.17 311 *e*P **P 11 03 47.4 +2.8**
OKC MLR MLR
comp=Z,700nm,16.0s
OKC Ostrava-Krasne 53.17 311 *e*P **P 11 03 47.4 +2.8**
OKC AMS AMS 11 28 40.0
comp=Z,700nm,16.0s
PLE Pljevlja 53.33 303 P **P 11 03 49.7 +3.7**
MORH Mrgy, Hungar 53.34 307 *e*P **P 11 03 45.0 -0.9**
MORC Moravsky Berou 53.56 311 *e*P **P 11 03 48.3 +0.7**
comp=Z,28nm,1.0s
MORC Moravsky Berou 53.56 311⇑*i P* **P 11 03 48.4 +0.9**
MORC Moravsky Berou 53.56 311 P **P 11 03 48.4 +0.9**
MORC pmax pmax
comp=Z,30nm,1.1s
MORC Moravsky Berou 53.56 311 *e*P **P 11 03 48.3 +0.7**
JAVC Velka Javorina 53.60 310 *e*P **P 11 03 49.8 +1.9**
MODS Modra-Piesok 53.93 310 *e*P **P 11 03 50.4 +0.2**
MODS pmax pmax
comp=Z,21nm,1.2s
MODS Modra-Piesok 53.93 310 *e*P **P 11 03 50.4 +0.2**
BRY Bratogost 54.02 303 P **P 11 03 53.4 +2.3**
ZST Bratislava 54.07 309 *e*P **P 11 03 52.3 +1.1**
ZST Bratislava 54.07 309 *e*P **P 11 03 52.3 +1.1**
KSP Ksiaz 54.22 313 *e*P **P 11 03 54.8 +2.5**
KSP Ksiaz 54.22 313 *e*P **P 11 03 54.8 +2.5**
VRAC Vranov 54.24 311⇑*i P* **P 11 03 55.5 +3.0**
VRAC Vranov 54.24 311 P **P 11 03 53.5 +1.1**
VRAC pmax pmax
comp=Z,40nm,1.2s
VRAC Vranov 54.24 311 *e*P **P 11 03 53.6 +1.1**
DPC Dobruska-Polom 54.27 312 *e*P **P 11 03 53.8 +1.1**
DPC MLR MLR
comp=Z,900nm,21.5s
DPC Dobruska-Polom 54.27 312 *e*P **P 11 03 53.8 +1.1**
DPC AMS AMS 11 29 00.0
comp=Z,900nm,21.5s
KRUC Moravsky 54.40 310 P **P 11 03 54.4 +0.8**
KRUC pmax pmax
comp=Z,28nm,1.1s
KRUC Moravsky 54.40 310 *e*P **P 11 03 54.4 +0.8**
UPC Upice 54.44 312 *e*P **P 11 03 54.9 +1.0**
UPC MLR MLR
comp=Z,900nm,18.0s
UPC Upice 54.44 312 *e*P **P 11 03 54.9 +1.0**
UPC AMS AMS 11 29 10.0
comp=Z,900nm,18.0s
PEA1 Petropavlovsk- 54.52 44 *e*P **P 11 03 54.2 -0.2**
SOP Sopron 54.52 309 P **P 11 03 56.5 +2.0**
SOP pmax pmax
comp=Z,23nm,1.1s
SOP Sopron 54.52 309 *e*P **P 11 03 56.0 +1.6**
PETK Petropavlovsk- 54.52 44 P **P 11 03 54.2 -0.2**
comp=Z,9.7nm,0.8s,baz=289,slow=1.6,SNR=14
BLY Banja Luka 54.62 305 *e*P **P 11 03 55.6 +0.3**
comp=Z,47nm,1.5s
SOEI Soe 54.63 132 *e*P **P 11 03 53.9 -1.9**
comp=Z,47nm,0.8s
CONA Conrad Observa 54.94 309 *e*P **P 11 03 58.3 +0.7**
comp=Z,44nm,1.1s,SNR=17
TREC Trest 54.96 311 *e*P **P 11 04 00.7 +3.0**
TREC MLR MLR
comp=Z,700nm,15.4s
TREC Trest 54.96 311 *e*P **P 11 04 00.7 +3.0**
TREC *ex* x 11 04 15.5
TREC AMS AMS 11 29 40.0
comp=Z,700nm,15.4s
PET Petropavlovsk 55.10 45 *e*P **P 11 03 57.1 -1.4**
PET *e*S **S 11 11 33.8 -4.9**
PET *e*SS **SS 11 15 16.1 -6.3**
PET pmax pmax
comp=Z,26nm,1.1s
PET pmax pmax
comp=Z,100nm,13.4s
PET MLR MLR
comp=Z,2μm,17.0s
ARSA Arzberg 55.28 308 *e*P **P 11 04 00.5 +0.4**
comp=Z,12nm,0.9s,SNR=6.6
GOPC GO Pecny, Ondr 55.31 312 *e*P **P 11 04 03.0 +2.8**
GOPC MLR MLR
comp=Z,700nm,22.6s
GOPC GO Pecny, Ondr 55.31 312 *e*P **P 11 04 03.0 +2.8**
GOPC AMS AMS 11 29 40.0
comp=Z,700nm,22.6s
PVCC Panska Ves 55.35 312 *e*P **P 11 04 03.5 +3.1**
PVCC MLR MLR
comp=Z,700nm,12.7s
PVCC Panska Ves 55.35 312 *e*P **P 11 04 03.5 +3.1**
PVCC AMS AMS 11 29 50.0
comp=Z,700nm,12.7s
SPA0 Spitsbergen Ar 55.40 346 *e*P **P 11 04 00.2 -0.2**
comp=Z,34nm,1.5s
SPITS Spitsbergen Ar 55.40 346 P **P 11 04 00.7 +0.3**
comp=Z,1.0nm,0.4s,baz=99,slow=10,SNR=14
PRU Pruhonice 55.45 312 *e*P **P 11 04 03.9 +2.7**
PRU MLR MLR
comp=Z,700nm,15.8s
PRU Pruhonice 55.45 312 *e*P **P 11 04 03.9 +2.7**
PRU AMS AMS 11 29 50.0
comp=Z,700nm,15.8s
RUE Ruedersdorf 55.55 315 *e*P **P 11 04 03.0 +1.2**
RUE IAmb IAmb 11 04 05.3
comp=Z,49nm,1.0s
PERS Pernice 55.67 308 *i P* **P 11 04 04.8 +1.8**
BRG Berggiesshubel 55.69 313 *i P* **P 11 04 03.9 +1.0**
comp=Z,7.7nm,0.8s
BRG *i* 11 04 05.4
comp=Z,54nm,1.2s
BRG Berggiesshubel 55.69 313 *i P* **P 11 04 03.9 +1.0**
BRG pmax pmax
comp=Z,8.0nm,0.8s
BRG MLR MLR
comp=Z,820nm,16.5s
BRG MLR MLR
comp=N,2μm,29.7s
BRG MLR MLR
comp=E,1μm,29.7s
SOKA Soboth 55.72 308 *e*P **P 11 04 05.3 +2.0**
comp=E,15nm,0.7s,SNR=15
NC405 NORSAR Array S 55.77 325 *e*P **P 11 04 03.2 -0.1**
comp=E,112nm,1.2s
NC602 NORSAR Array S 55.88 325 *e*P **P 11 04 02.9 -1.2**
comp=E,75nm,1.2s
NORES NORESS Array B 55.88 325 P **P 11 04 05.0 +0.9**
NORES pmax pmax
comp=Z,10.0nm,0.9s
NC303 NORSAR Array S 55.93 326 *e*P **P 11 04 04.1 -0.3**
comp=Z,82nm,1.1s
NB201 NORSAR Array S 55.98 325 *e*P **P 11 04 04.5 -0.3**
comp=Z,80nm,1.3s
MOA Molln 56.01 309 *e*P **P 11 04 05.7 +0.4**
comp=Z,24nm,1.3s,SNR=8.6
NB2 NORSAR Subarra 56.02 325 P **P 11 04 04.0 -1.1**
comp=Z,8.2nm,0.8s,baz=85,slow=7.4
NB2 NORSAR Subarra 56.02 325 P **P 11 04 04.1 -1.1**
NB2 pmax pmax
comp=Z,35nm,1.0s
NB200 NORSAR Array S 56.02 325 *e*P **P 11 04 04.4 -0.7**
NOA NORSAR Array B 56.02 325 P **P 11 04 04.4 -0.7**
comp=Z,23nm,1.0s,baz=86,slow=7.0,SNR=23
NOA LR LR 11 29 08.9
comp=Z,663nm,19.4s,baz=75,slow=37
OBKA Obir 56.08 308 P **P 11 04 07.2 +1.3**

comp=Z,8.7nm,0.9s
GERES GERESS Array B 56.19 311 P **P 11 04 07.4 +0.8**
comp=Z,16nm,0.9s,baz=59,slow=5.9,SNR=42
GERES LR LR 11 30 52.9
comp=Z,856nm,20.1s,baz=82,slow=39
NAO01 NORSAR Array S 56.19 325 *e*P **P 11 04 05.9 -0.4**
comp=Z,55nm,1.0s
TIP Timpagrande 56.20 299 *e*P **P 11 04 05.9 -0.9**
comp=Z,27nm,1.3s
CLL Collm 56.20 314 *e*P **P 11 04 07.5 +1.0**
comp=Z,28nm,1.2s
CLL Collm 56.20 314⇑*i P* **P 11 04 08.6 +2.1**
CLL pmax pmax
comp=Z,32nm,1.3s
CLL Collm 56.20 314⇑*i P* **P 11 04 08.6 +2.1**
comp=Z,32nm,1.3s
NC204 NORSAR Array S 56.22 326 *e*P **P 11 04 06.1 -0.5**
comp=Z,71nm,1.0s
KHC Kasperske Hory 56.22 311 *e*P **P 11 04 08.5 +1.7**
KHC *e* 11 04 19.5
KHC MLR MLR
comp=Z,900nm,18.1s
KHC Kasperske Hory 56.22 311 *e*P **P 11 04 08.5 +1.7**
KHC *ex* x 11 04 19.5
KHC AMS AMS 11 30 10.0
comp=Z,900nm,18.1s
NBO00 NORSAR Array S 56.23 325 *e*P **P 11 04 07.0 +0.4**
CEY Cerknica 56.32 307 *i P* **P 11 04 09.4 +1.9**
JAVS Javornik 56.54 307 *i P* **P 11 04 10.5 +1.4**
NKC Novy Kostel 56.74 312 P **P 11 04 13.2 +2.8**
NKC pmax pmax
comp=Z,11nm,1.1s
NKC Novy Kostel 56.74 312 AMS AMS 11 30 30.0
comp=Z,900nm,18.3s
KBA Koelnbreinsper 56.77 309 *e*P **P 11 04 10.4 -0.5**
comp=Z,4.1nm,0.7s
KBA Koelnbreinsper 56.77 309 P **P 11 04 13.6 +2.7**
KBA pmax pmax
comp=Z,8.0nm,1.2s
KMBO Kilima Mbogo 56.81 245 *e*P **P 11 04 11.0 -0.7**
comp=Z,76nm,1.3s
KMBO Kilima Mbogo 56.81 245 *i* P **P 11 04 14.0 +2.4**
SNR=15
KMBO Kilima Mbogo 56.81 245 P **P 11 04 11.2 -0.5**
comp=Z,24nm,1.0s,baz=32,slow=8.7,SNR=26
KONO Kongsberg 56.95 324*ce*P **P 11 04 12.8 +1.1**
KONO pmax pmax
comp=Z,56nm,2.5s
CEL Celeste 57.10 298 *e*P **P 11 04 12.1 -1.1**
comp=Z,152nm,1.4s
MOX Moxa 57.18 313 P **P 11 04 14.6 +1.1**
MOX pmax pmax
comp=Z,33nm,1.1s
ABTA Abfaltersbach 57.40 308 *e*P **P 11 04 15.1 -0.2**
comp=Z,3.6nm,0.4s
BILL Bilibino 57.44 26 *e*P **P 11 04 15.1 +0.1**
comp=Z,20nm,1.0s
BILL Bilibino 57.44 26*d i P* **P 11 04 15.8 +0.8**
BILL *i* 11 04 23.5
BILL *i* 11 05 11.4
BILL *i* S S 11 12 21.8 +12
BILL pmax pmax
comp=Z,27nm,1.3s
BILL MLR MLR
comp=Z,805nm,16.0s
MUD Monsted U'grnd 57.61 320 P **P 11 04 19.3 +2.9**
MUD pmax pmax
comp=Z,37nm,1.2s
GRA1 Grafenberg Arr 57.62 312 *e*P **P 11 04 16.8 +0.1**
comp=Z,50nm,1.1s
GRF Grafenberg Arr 57.62 312 P **P 11 04 19.0 +2.4**
GRF pmax pmax
comp=Z,43nm,1.2s
WTTA Wattenberg 57.87 309 *e*P **P 11 04 20.1 +1.4**
comp=Z,8.8nm,0.7s,SNR=6.7
WATA Walderalm 57.90 309 *e*P **P 11 04 20.9 +2.2**
comp=Z,5.1nm,0.5s
FUR Furstenfeldbru 57.91 310 P **P 11 04 20.9 +2.2**
FUR pmax pmax
comp=Z,89nm,1.0s
SQTA Sankt Quirin 58.16 309 *i* P **P 11 04 20.0 -0.6**
comp=Z,12nm,0.6s,SNR=5.8
MOTA Moosalm 58.20 309 P **P 11 04 20.5 -0.5**
comp=Z,20nm,0.8s,SNR=7.6
RETA Reutte 58.40 309 *e*P **P 11 04 24.0 +1.8**
comp=Z,6.5nm,0.5s,SNR=5.1
FETA Feichten 58.53 309 *e*P **P 11 04 24.0 +0.7**
comp=Z,6.9nm,0.7s,SNR=5.6
FUORN Ofenpass-Fuorn 58.94 309 *e*P **P 11 04 25.7 -0.5**
comp=Z,18nm,1.2s
DAVA Damuels 59.03 309 *e*P **P 11 04 28.4 +1.7**
comp=Z,28nm,1.1s,SNR=9.6
STU Stuttgart 59.12 311 *e*P **P 11 04 27.2 +0.1**
comp=Z,69nm,1.2s
STU Stuttgart 59.12 311 P **P 11 04 28.1 +1.0**
STU pmax pmax
comp=Z,52nm,1.2s
TNS Taunus Mts 59.25 313 P **P 11 04 28.9 +0.8**
TNS pmax pmax
comp=Z,34nm,1.1s
TUE Stuetta 59.59 309 *e*P **P 11 04 31.3 +0.7**
comp=Z,28nm,1.4s
SLE Schleitheim 59.82 310 P **P 11 04 33.6 +1.6**
SLE pmax pmax
comp=Z,25nm,1.2s
CDF Champ du Feu 60.44 311 *e*P **P 11 04 38.1 +1.8**
CDF pmax pmax
comp=Z,39nm,1.2s
ECH Echery 60.57 311 *e*P **P 11 04 37.1 0.0**
comp=Z,15nm,1.1s
ECH Echery 60.57 311 P **P 11 04 39.5 +2.4**
ECH pmax pmax
comp=Z,14nm,2.1s
WLF Walferdange 60.83 313 *e*P **P 11 04 39.2 +0.4**
comp=Z,164nm,1.0s
WLF Walferdange 60.83 313 P **P 11 04 41.3 +2.5**
WLF pmax pmax
comp=Z,178nm,1.3s
HINF Hinteralfeld 60.87 311 *e*P **P 11 04 40.9 +1.7**
HINF pmax pmax
comp=Z,40nm,1.2s
SENIN Lac Senin/Sane 60.98 309 *e*P **P 11 04 41.6 +1.5**
comp=Z,41nm,1.3s
HAU Haudompre 61.15 311 *e*P **P 11 04 42.8 +1.7**
HAU pmax pmax
comp=Z,41nm,1.3s
SAOF Saorge 61.49 306 *e*P **P 11 04 45.5 +2.0**
SAOF pmax pmax
comp=Z,39nm,1.8s
GIVF Givet 61.54 314 *e*P **P 11 04 46.0 +2.4**
GIVF pmax pmax
comp=Z,21nm,1.1s
LPG La Plagne 61.59 308 *e*P **P 11 04 43.9 -0.5**
LPG pmax pmax
comp=Z,51nm,1.2s
LPL La Plagne 61.60 308 *e*P **P 11 04 46.4 +2.0**
LPL pmax pmax
comp=Z,61nm,1.2s
SBF Sospel 61.61 306 *e*P **P 11 04 45.9 +1.6**
SBF pmax pmax
comp=Z,58nm,1.1s
MBAR Mbarara 61.63 250 *e*P **P 11 04 44.5 -0.5**
comp=Z,70nm,1.2s
MBAR Mbarara 61.63 250 P **P 11 04 44.5 -0.5**
MBAR pmax pmax
comp=Z,70nm,1.2s
CABF La Chapelle 61.71 309 *e*P **P 11 04 47.7 +2.7**
CABF pmax pmax
comp=Z,49nm,1.6s
BNI Bardonecchia 61.77 308 *e*P **P 11 04 45.5 0.0**
comp=Z,20nm,1.2s
BNI Bardonecchia 61.77 308 P **P 11 04 45.9 +0.4**
BNI pmax pmax
comp=Z,17nm,1.2s
ISO Isola 61.78 307 P **P 11 04 46.5 +1.1**
ISO pmax pmax
comp=Z,24nm,1.6s
BAIF Baives 61.93 314 *e*P **P 11 04 48.6 +2.4**
BAIF pmax pmax
comp=Z,37nm,1.4s
ORIF Oris-en-Rattie 62.35 308 *e*P **P 11 04 52.4 +3.1**
ORIF pmax pmax
comp=Z,15nm,1.1s
ABPO Ambohimpanom 62.77 222 *e*P **P 11 04 52.7 +0.4**
comp=Z,54nm,1.4s
KEST Kesra 62.87 297 *e*P **P 11 04 54.0 +1.1**

comp=Z,23nm,1.1s
KEST Kesra 62.87 297 P **P 11 04 53.0 +0.1**
comp=Z,17nm,1.1s,baz=184,slow=0.5,SNR=6.5
LOR Lormes 62.97 311 *e*P **P 11 04 54.6 +1.3**
LOR pmax pmax
comp=Z,26nm,1.3s
DAG Danmarks Havn 63.02 346 *i* P **P 11 04 51.6 -1.5**
DAG pmax pmax
comp=Z,9.0nm,1.1s
DAG Danmarks Havn 63.02 346 *i* P **P 11 04 51.6 -1.5**
comp=Z,7.4nm,1.1s
SMF Signal de Mont 63.18 310 *e*P **P 11 04 56.1 +1.4**
SMF pmax pmax
comp=Z,46nm,1.2s
VIVF Saint-Julien-l 63.19 308 *e*P **P 11 04 56.5 +1.7**
VIVF pmax pmax
comp=Z,22nm,1.6s
SSF Saint Saulge 63.27 311 *e*P **P 11 04 56.7 +1.5**
SSF pmax pmax
comp=Z,39nm,1.2s
AVF Avril sur Loir 63.45 310 *e*P **P 11 04 57.9 +1.5**
AVF pmax pmax
comp=Z,60nm,1.6s
TCF Toulx Ste Croi 64.36 310 *e*P **P 11 05 04.5 +2.0**
TCF pmax pmax
comp=Z,34nm,1.2s
EKA Eskdalemuir Ar 64.61 321 P **P 11 05 07.4 +3.5**
EKA pmax pmax
comp=Z,4.0nm,0.5s
CAF Calviac 64.92 309 *e*P **P 11 05 08.1 +2.0**
CAF pmax pmax
comp=Z,14nm,1.2s
LDF La Druitiere 65.08 313 *e*P **P 11 05 07.9 +0.8**
LDF pmax pmax
comp=Z,27nm,1.0s
RJF Les Rejaudoux 65.15 309 *e*P **P 11 05 09.9 +2.3**
RJF pmax pmax
comp=Z,74nm,1.6s
GRR Gorron 65.61 313 *e*P **P 11 05 10.2 -0.3**
GRR pmax pmax
comp=Z,106nm,1.9s
MORW Morawa 66.41 152 *e*P **P 11 05 14.2 -1.6**
comp=Z,14nm,0.8s
SCO Scoresbysund 66.55 340 *e*P **P 11 05 16.7 +0.5**
comp=Z,15nm,1.0s
SCO Scoresbysund 66.55 340 *i* P **P 11 05 16.4 +0.2**
SCO pmax pmax
comp=Z,18nm,1.1s
SCO Scoresbysund 66.55 340 *i* P **P 11 05 16.4 +0.2**
comp=Z,18nm,1.1s
SGMF Saint Gilles 66.72 313 *e*P **P 11 05 19.7 +2.1**
SGMF pmax pmax
comp=Z,64nm,1.6s
ROSF Rostrenen 67.13 314 *e*P **P 11 05 22.7 +2.5**
ROSF pmax pmax
comp=Z,144nm,1.7s
ETSF Etsaut 67.42 307 *e*P **P 11 05 25.1 +2.8**
ETSF pmax pmax
comp=Z,48nm,1.9s
WR1 Warramunga Arr 68.66 132 *e*P **P 11 05 29.2 -0.9**
WRA Warramunga Arr 68.66 132 P **P 11 05 29.2 -0.9**
comp=Z,5.7nm,0.6s,baz=320,slow=5.7,SNR=9.0
WRA LR LR 11 41 22.6
comp=Z,151nm,19.1s,baz=310,slow=41
WRAB Tennant Creek 68.66 132 *i* P **P 11 05 29.5 -0.6**
WRAB pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 69.67 345 *e*P **P 11 05 35.5 -0.7**
comp=Z,41nm,1.0s
SUMG Summit 69.67 345 *i* P **P 11 05 36.7 +0.5**
SUMG pmax pmax
comp=Z,120nm,1.1s
SUMG Summit 69.67 345 *i* P **P 11 05 36.7 +0.5**
comp=Z,125nm,1.1s
NWAO Narrogin (SRO) 70.29 153 *e*P **P 11 05 38.6 -1.3**
comp=Z,22nm,0.8s
PMG Port Moresby 70.77 114 *e*P **P 11 05 42.0 -1.3**
comp=Z,31nm,0.8s
PMG Port Moresby 70.77 114 P **P 11 05 42.5 -0.8**
comp=Z,29nm,0.7s,baz=345,slow=5.6,SNR=5.1
ESDC Sonseca Array 71.07 305 P **P 11 05 47.1 +2.2**
comp=Z,1.8nm,0.8s,baz=51,slow=7.7,SNR=6.8
ESDC LR LR 11 42 23.3
comp=Z,219nm,18.6s,baz=350,slow=40
AS31 Alice Springs 71.13 135 *e*P **P 11 05 44.4 -0.9**
comp=Z,1.4nm,1.4s
ASAR Alice Springs 71.13 135 P **P 11 05 44.5 -0.9**
comp=Z,5.9nm,0.6s,baz=315,slow=5.8,SNR=13
ASAR LR LR 11 41 30.7
comp=Z,124nm,19.0s,baz=313,slow=40
TAM Tamanrasset 71.14 286 *e*P **P 11 05 46.1 +0.4**
comp=Z,9.9nm,1.2s
TAM Tamanrasset 71.14 286 P **P 11 05 47.1 +1.4**
TAM pmax pmax
comp=Z,11nm,2.2s
TOLK Toolik Lake Re 72.04 19 *e*P **P 11 05 50.1 -0.1**
comp=Z,16nm,0.8s
COLD Coldfoot 72.80 20 *e*P **P 11 05 54.7 0.0**
comp=Z,5.6nm,1.0s
MLY Manley 74.11 22 *e*P **P 11 06 02.1 -0.4**
comp=Z,17nm,1.4s
RES Resolute Bay 74.13 0 *e*P **P 11 06 02.5 +0.1**
comp=Z,3.4nm,1.3s
RES Resolute Bay 74.13 0 P **P 11 06 02.9 +0.5**
comp=Z,0.6nm,0.5s,baz=356,slow=8.1,SNR=4.6
ANGG Ammassalik, Gr 74.16 339 *e*P **P 11 06 03.0 +0.3**
comp=Z,32nm,1.1s
BPAW Bear Paw Mtn. 74.65 23 *e*P **P 11 06 05.0 -0.7**
comp=Z,7.6nm,1.1s
FYU Fort Yukon 74.68 19 *e*P **P 11 06 06.7 +0.9**
comp=Z,33nm,1.3s
CAST Castle Rocks 74.73 23 *e*P **P 11 06 06.5 +0.4**
comp=Z,15nm,1.2s
MDM Murphy Dome 74.94 21 *e*P **P 11 06 07.3 0.0**
comp=Z,16nm,1.4s
SVW2 Sparrevohn 74.96 26 *e*P **P 11 06 08.7 +1.2**
comp=Z,9.8nm,1.0s
PPLA Purkeypile 75.04 24 *e*P **P 11 06 08.2 +0.1**
comp=Z,40nm,1.5s
COLA College 75.11 21 *e*P **P 11 06 07.8 -0.5**
comp=Z,13nm,0.9s
CCB Clear Creek Bu 75.29 21 *e*P **P 11 06 08.5 -0.7**
comp=Z,11nm,1.5s
WRH Wood River Hil 75.32 21 *e*P **P 11 06 08.4 -1.0**
comp=Z,4.4nm,0.9s
PRP Porcupine Dome 75.35 20 *e*P **P 11 06 09.6 -0.2**
comp=Z,18nm,1.2s
ILAR Eielson Array 75.48 21 P **P 11 06 09.2 -1.2**
comp=Z,5.3nm,1.0s,baz=305,slow=4.5,SNR=37
ILAR PP **PP 11 09 00.1 +0.9**
comp=Z,4.0nm,1.1s,baz=304,slow=7.5,SNR=11
ILB Eielson Array 75.48 21 *e*P **P 11 06 09.5 -0.9**
comp=Z,5.5nm,0.9s
ILB *e*PP **PP 11 09 00.1 +0.9**
MCK McKinley 75.56 22 *e*P **P 11 06 10.8 -0.1**
comp=Z,10nm,1.2s
MCK McKinley 75.56 22 P **P 11 06 12.8 +1.9**
MCK pmax pmax
comp=Z,10.0nm,1.2s
HDA Harding Lake 75.72 21 *e*P **P 11 06 11.3 -0.5**
comp=Z,7.4nm,1.2s
RND Reindeer 75.82 22 *e*P **P 11 06 11.5 -0.9**
comp=Z,5.0nm,1.1s
RND Reindeer 75.82 22 P **P 11 06 12.2 -0.2**
RND pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 76.19 14 *e*P **P 11 06 13.9 -0.5**
comp=Z,14nm,1.2s
INK Inuvik 76.19 14 P **P 11 06 14.0 -0.3**
comp=Z,7.2nm,1.0s,baz=347,slow=6.5,SNR=22
DHY Denali Highway 76.53 22 *e*P **P 11 06 16.7 +0.1**
comp=Z,5.0nm,1.0s
SFJD Kangerlussuaq 76.64 344 *e*P **P 11 06 16.7 -0.2**
comp=Z,57nm,1.0s
SFJD Kangerlussuaq 76.64 344 *i* P **P 11 06 16.2 -0.7**
comp=Z,50nm,1.1s
CTA Charters Tower 76.84 124 P **P 11 06 18.2 -0.5**
comp=Z,21nm,0.9s,baz=317,slow=7.2,SNR=21
CTAO Charters Tower 76.84 124 *e*P **P 11 06 17.9 -0.8**
comp=Z,26nm,0.9s
RIDG Independent Ri 76.84 21 *e*P **P 11 06 17.1 -1.2**
comp=Z,18nm,1.2s
GHO Glory Hole Cre 76.92 24 *e*P **P 11 06 19.2 +0.4**
comp=Z,19nm,1.2s
PMR Palmer 76.98 24 *e*P **P 11 06 18.4 -0.5**
comp=Z,9.3nm,1.1s
EPYK Eagle Plains 77.05 16 *e*P **P 11 06 18.4 -0.9**
comp=Z,9.8nm,0.8s
SML Sawmill 77.10 23 *e*P **P 11 06 19.5 -0.2**
comp=Z,35nm,1.3s
SML Sawmill 77.10 23 P **P 11 06 20.0 +0.3**
SML pmax pmax
comp=Z,35nm,1.3s
EGAK Eagle 77.14 19 *e*P **P 11 06 19.5 -0.4**
comp=Z,20nm,1.4s
DOT Dot Lake 77.15 21 *e*P **P 11 06 19.2 -0.7**
comp=Z,5.3nm,1.0s
PAX Paxson 77.21 22 *e*P **P 11 06 22.9 +2.6**
comp=Z,6.8nm,1.0s
SCM Sheep Creek Mo 77.42 23 *e*P **P 11 06 20.9 -0.7**
comp=Z,18nm,1.0s
BRLK Bradley Lake 77.60 26 *e*P **P 11 06 22.1 -0.4**
comp=Z,16nm,1.0s
DAWY Dawson 78.18 19 *e*P **P 11 06 25.5 -0.2**
comp=Z,15nm,1.4s
KDAK Kodiak Island 78.27 28 *e*P **P 11 06 25.8 -0.4**
comp=Z,26nm,1.1s
KDAK Kodiak Island 78.27 28 *ce*P **P 11 06 26.5 +0.3**
KDAK Kodiak Island 78.27 28 P **P 11 06 25.8 -0.4**
comp=Z,13nm,0.9s,baz=293,slow=2.6,SNR=8.7
TOA0 Torodi Ar. Sit 78.91 279 *e*P **P 11 06 29.7 -0.8**
comp=Z,38nm,1.0s
TOA1 Torodi Ar. Sit 78.91 279 *e*P **P 11 06 29.4 -1.0**
TORD Torodi Ar. Bea 78.91 279 P **P 11 06 29.4 -1.0**
comp=Z,21nm,1.0s,baz=90,slow=4.8,SNR=54
TORD LR LR 11 45 43.2
comp=Z,447nm,19.8s,baz=25,slow=39
BBOO Buckleboo 79.21 139 *e*P **P 11 06 30.4 -1.3**
comp=Z,26nm,1.0s
CTGM Chitina Glacie 80.01 22 *e*P **P 11 06 36.0 0.0**
comp=Z,15nm,0.9s
LBTB Lobatse 80.88 233 *e*P **P 11 06 40.5 -0.4**
comp=Z,54nm,1.1s
HYT Haines Junctio 81.29 20 *e*P **P 11 06 42.8 +0.1**
comp=Z,19nm,0.9s
STKA Stephens Creek 81.75 135 *e*P **P 11 06 44.0 -1.3**
comp=Z,2.6nm,1.4s
STKA Stephens Creek 81.75 135 P **P 11 06 43.6 -1.6**
comp=Z,6.8nm,0.9s,baz=319,slow=8.7,SNR=4.2
STKA LR LR 11 46 49.9
comp=Z,132nm,20.8s,baz=312,slow=38
WHY Whitehorse 82.18 19 *e*P **P 11 06 47.1 -0.3**
comp=Z,6.3nm,0.9s
TSUM Tsumeb 83.08 243 *e*P **P 11 06 52.2 -0.4**
comp=Z,30nm,1.5s
FRB Frobisher Bay 83.09 349 P **P 11 06 50.6 -1.3**
FRB pmax pmax
comp=Z,17nm,1.1s
BOSA Boshof 83.46 231 *e*P **P 11 06 53.8 -0.7**
comp=Z,38nm,1.1s
BOSA Boshof 83.46 231 P **P 11 06 53.1 -1.3**
comp=Z,19nm,1.0s,baz=41,slow=3.9,SNR=19
BOSA LR LR 11 42 09.9
comp=Z,293nm,19.6s,baz=36,slow=34
EIDS Eidsvold 83.62 125 *e*P **P 11 06 54.1 -1.1**
comp=Z,24nm,1.0s
YKW3 Yellowknife Ar 84.79 10 *e*P **P 11 06 59.9 -0.7**
comp=Z,8.4nm,0.9s
YKA Yellowknife Ar 84.86 10 P **P 11 06 59.9 -1.0**
comp=Z,5.9nm,0.8s,baz=339,slow=4.9,SNR=43
YKA PP **PP 11 10 17.0 +0.3**
comp=Z,0.5nm,0.9s,baz=350,slow=7.9,SNR=4.4
YKA LR LR 11 46 17.5
comp=Z,26nm,21.9s,baz=345,slow=37
YKB5 Yellowknife Ar 84.86 10 *e*P **P 11 06 59.9 -1.0**
YKB5 *e*PP **PP 11 10 17.1 +0.3**
DLBC Dease Lake 85.39 18 *e*P **P 11 07 05.6 +1.8**
comp=Z,10nm,1.0s
DLBC Dease Lake 85.39 18 P **P 11 07 04.6 +0.8**
comp=Z,14nm,1.2s,baz=306,slow=9.8,SNR=7.5
WRAK Wrangell Islan 86.45 20 *e*P **P 11 07 08.5 -0.4**
ARMA Armidale 87.17 128 *e*P **P 11 07 12.5 -0.4**
comp=Z,22nm,1.0s
DBIC Dimbokro 87.74 276 *e*P **P 11 07 16.3 +0.4**
comp=Z,62nm,1.0s
DBIC Dimbokro 87.74 276 P **P 11 07 16.2 +0.2**
comp=Z,41nm,1.0s,baz=43,slow=5.0,SNR=16
DBIC LR LR 11 50 21.1
comp=Z,630nm,19.7s,baz=44,slow=38
KIC Kosan Boka 87.80 276 *e*P **P 11 07 16.3 0.0**
comp=Z,130nm,1.1s
TIC Toumodi 87.89 276 *e*P **P 11 07 18.3 +1.6**
LIC Lamto 88.12 276 *e*P **P 11 07 17.6 -0.2**
comp=Z,160nm,1.3s
SUR Sutherland 88.81 230 *e*P **P 11 07 20.2 -0.6**
comp=Z,28nm,1.3s
SCHQ Schefferville 91.07 345 *e*P **P 11 07 30.6 -0.2**
comp=Z,10nm,1.3s
SCHQ Schefferville 91.07 345 P **P 11 07 29.6 -1.3**
comp=Z,5.1nm,0.6s,baz=28,slow=5.2,SNR=3.7
SCHQ LR LR 11 53 01.6
comp=Z,161nm,20.1s,baz=348,slow=39
DZM Mont Dzumac 93.16 114 *e*LR LR 11 37 40.7
comp=Z,278nm,34.2s
FFC Flin Flon 93.87 5 *e*P **P 11 07 43.2 -0.6**
comp=Z,14nm,1.3s
FFC Flin Flon 93.87 5 *ce*P **P 11 07 44.9 +1.1**
ULM Lac du Bonnet 98.64 2 LR LR 11 55 29.4
comp=Z,139nm,20.5s,baz=2.5,slow=37
LTX Lajitas 118.78 10 *e*PKPdf **PKPdf 11 13 14.2 -1.1**
LTX Lajitas 118.78 10 *e*PKIKP **PKPdf 11 13 14.2 -1.1**
TXAR Lajitas Array 118.78 10 PKP **PKPdf 11 13 14.2 -1.1**
comp=Z,0.7nm,0.8s,baz=299,slow=1.3,SNR=7.1
TXAR PKKPab **PKKPbc 11 23 32.3 +1.8**
comp=Z,0.5nm,0.9s,baz=177,slow=6.3,SNR=4.5
RCBR Riachuelo 120.56 283 *e*P **PKiKP 11 13 19.9 +0.9**
PPT2 Papeete2 127.63 89 *e*LR LR 11 53 24.4
comp=Z,376nm,34.8s
RIB01 Linhares ES 130.96 271 *e*P **PKiKP 11 13 40.4 +0.9**
SJMB Sao Joao De Ma 131.38 272 *e*P **PKiKP 11 13 40.5 +0.2**
ALF01 Guarapari-ES 131.79 270 *e*P **PKiKP 11 13 41.4 +0.3**
JANB Januaria 132.38 278 *e*P **PKiKP 11 13 42.0 -0.5**
SDV Santo Domingo 134.32 328 *e*PKPdf **PKPdf 11 13 44.1 -1.3**
SDV Santo Domingo 134.32 328 *e*P **PKiKP 11 13 47.0 +0.3**
ESAR Angra dos Reis 135.90 268 *e*P **PKiKP 11 13 49.0 -0.4**
PTGA Pitinga 135.99 307 *e*P **PKiKP 11 13 49.3 -0.6**
BB19B Bebedouro 138.63 273 *e*P **PKiKP 11 13 54.6 -0.5**
TIJ01 Guaruva-PR 140.61 267 *e*P **PKiKP 11 13 57.9 -1.2**
TRCB Terra Rica 142.82 273 *e*P **PKPdf 11 14 01.0 +0.6**
PTGB Pitanga 143.02 270 *e*P **PKPdf 11 14 00.2 -0.5**
CNLB Canela 143.34 262 *e*P **PKPdf 11 14 02.0 +0.8**
ITAB Concordia 143.87 266 *e*P **PKPdf 11 14 03.5 +1.4**
OTAV Otavalo 145.42 333 *e*PKPdf **PKPbc 11 14 04.6 -1.1**
OTAV Otavalo 145.42 333 *e*PKIKP **PKPbc 11 14 04.6 -1.1**
OTAV Otavalo 145.42 333 *e*P **PKPbc 11 14 05.3 -0.4**
CPUP Villa Florida 148.04 270 *e*PKPbc **PKPbc 11 14 11.1 -1.3**
CPUP Villa Florida 148.04 270 PKP **PKPdf 11 14 08.8 -0.3**
comp=Z,11nm,0.9s,baz=57,slow=3.0,SNR=13
CPUP PKPbc **PKPbc 11 14 11.7 -0.7**
comp=Z,19nm,1.0s,baz=70,slow=4.8,SNR=16
CPUP Villa Florida 148.04 270 *e*P **PKPdf 11 14 09.7 +0.5**
LPAZ La Paz 152.44 297 *e*PKPdf **PKPdf 11 14 15.6 -1.5**
LPAZ La Paz 152.44 297 *e*PKIKP **PKPdf 11 14 15.6 -1.5**
LPAZ La Paz 152.44 297 PKP **PKPdf 11 14 17.1 0.0**
comp=Z,2.8nm,0.9s,baz=2.1,slow=6.6,SNR=5.2
LPAZ PKPbc **PKPbc 11 14 23.4 -0.6**
comp=Z,7.6nm,1.1s,baz=66,slow=2.0,SNR=12
LPAZ La Paz 152.44 297 *e*P **PKPdf 11 14 16.1 -1.0**
LVC Limon Verde 156.46 286 *e*P **PKPdf 11 14 24.4 +2.1**
LCO Las Campanas 160.18 271 *e*P **PKPdf 11 14 28.3 +1.8**

BJI ***15*** *10:58:38.2±0.0,4°.57S×153°.77E, h65km, mb4.9/32, mB5.3/13, Ms4.8/10, Ms7 4.6/9*
ISCJB ***15*** *10:58:39.3±0.2,4°.59S±0°.03×153°.26E±0°.04, h55km, mb4.9/88, MS4.0/13, Error ellipse: s-maj=5.8km s-min=3.8km az=152.5*
IDC ***15*** *10:58:41.3±1.5,4°.60S×153°.21E, h57km±12km, mb4.3/28, mb1 4.3/31, mb1mx4.2/50, mbtmp4.6/31, MS3.8/10, Ms1 3.8/10, ms1mx3.5/31, Error ellipse: s-maj=14.6km s-min=8.2km az=98.0*
NEIC ***15*** *10:58:41.8±1.4,4°.61S×153°.22E, h66km±5km, mb5.0/57, Error ellipse: s-maj=15.1km s-min=12.0km az=59.0*
DJA ***15*** *10:58:45.3±1.9,5°S±8°×15°3E±1°1, h91km±14km, M5.0/18, mb4.9/18, mB4.9/2, MLv5.1/1, Mw(mB)4.2/2*
ISC 15 10:58:41.2±0.3,4°.63S±0°.04×153°.18E±0°.05,h55km,n157,σ1s23/170,mb4.9/87,MS4.0/14,4C-1D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.10**	**293**	*e*Pn	**Pn**	**10 59 02.3**	**+1.8**
RABL				*e*Sn	**Sn**	**10 59 18.7**	**+3.8**
MANU	**Manus Island**	**6.35**	**294**	*e*Pn	**Pn**	**11 00 14.0**	**+1.8**
PMG	**Port Moresby**	**7.63**	**231**	*e*Pn	**Pn**	**11 00 30.2**	**+0.4**
PMG				*e*Sn	**Sn**	**11 01 54.5**	**-0.5**
PMG	**Port Moresby**	**7.63**	**231**	P	**Pn**	**11 00 32.3**	**+2.5**
	4.8nm,0.3s,baz=52,slow=11,SNR=14						
PMG				S	**Sn**	**11 01 54.5**	**-0.5**
	3.4nm,0.3s,baz=79,slow=16,SNR=5.2						
HNR	**Honiara**	**8.23**	**126**	P	**Pn**	**11 00 38.0**	**-0.1**
HNR	**Honiara**	**8.23**	**126**	*e*Pn	**Pn**	**11 00 39.2**	**+1.1**
HNR	**Honiara**	**8.23**	**126**	P	**Pn**	**11 00 40.6**	**+2.5**
	40nm,0.3s,baz=224,slow=7.7,SNR=6.0						
HNR				S	**Sn**	**11 02 09.9**	**+0.1**
	6.2nm,0.3s,baz=180,slow=20,SNR=2.6						
PATS	**Pohnpei**	**12.49**	**24**	*e*Pn	**Pn**	**11 01 36.1**	**-0.2**
GENI	**Genyem**	**13.14**	**278**	P	**P**	**11 01 53.0**	**-0.7**
CTA	**Charters Tower**	**16.78**	**203**	P	**P**	**11 02 34.2**	**+0.2**
	0.2nm,0.3s,baz=26,slow=13,SNR=7.7						
CTAO	**Charters Tower**	**16.78**	**203**	*e*Pn	**P**	**11 02 33.5**	**-0.6**
CTAO				*e*pP	**pP**	**11 02 48.0**	**+2.3**
GUMO	**Guam**	**19.89**	**336**	P	**P**	**11 03 09.2**	**+0.9**
	5.2nm,0.3s,baz=199,slow=19,SNR=3.2						
GUMO				LR	LR	11 11 25.6	
	comp=Z,100nm,18.2s,baz=162,slow=38						
EIDS	**Eidsvold**	**20.72**	**185**	*e*P	**P**	**11 03 17.2**	**0.0**
	21nm,1.0s						
FAKI	**Fak Fak**	**20.95**	**274**	*e*P	**P**	**11 03 19.0**	**-0.9**
	75nm,1.4s						
FAKI	**Fak Fak**	**20.95**	**274**	P	**P**	**11 03 19.0**	**-0.9**
DZM	**Mont Dzumac**	**21.58**	**145**	*e*P	**P**	**11 03 25.5**	**-1.0**
	127nm,1.1s						
DZM				*e*LR	LR	11 08 45.6	
	comp=Z,1μm,26.7s						
DZM	**Mont Dzumac**	**21.58**	**145**	*e*P	**P**	**11 03 26.5**	**-0.1**
	133nm,1.4s						
DZM	**Mont Dzumac**	**21.58**	**145**	P	**P**	**11 03 26.4**	**-0.1**
	34nm,0.5s,baz=291,slow=6.7,SNR=75						
DZM				LR	LR	11 11 03.7	
	comp=Z,331nm,21.4s,baz=314,slow=34						
ONTNC	**Ouen Toro**	**21.77**	**145**	*e*P	**P**	**11 03 28.2**	**-0.2**
	40nm,1.0s						
OUENC	**Ouen Island, N**	**22.08**	**144**	*e*P	**P**	**11 03 31.5**	**-0.3**
	38nm,1.1s						
MARNC	**Mare, Loyalty**	**22.09**	**141**	*e*P	**P**	**11 03 31.2**	**-0.7**
	130nm,1.2s						
MTN	**Manton Dam**	**23.25**	**248**	*e*P	**P**	**11 03 44.0**	**-0.1**
	28nm,0.6s						
WRAB	**Tennant Creek**	**23.83**	**229**	*e*P	**P**	**11 03 49.8**	**+0.3**
	30nm,0.7s						
WB2	**Warramunga Arr**	**23.83**	**229**	*e*P	**P**	**11 03 49.9**	**+0.4**
	31nm,0.7s						
WR1	**Warramunga Arr**	**23.84**	**229**	*e*P	**P**	**11 03 50.1**	**+0.5**
WR1				*e*S	**S**	**11 08 03.9**	**+2.1**
WR1				*e*ScP	**ScP**	**11 11 06.8**	**+1.1**
WRA	**Warramunga Arr**	**23.84**	**229**	P	**P**	**11 03 50.1**	**+0.5**
	18nm,0.5s,baz=54,slow=9.5,SNR=87						
WRA				S	**S**	**11 08 03.9**	**+2.1**
	2.0nm,0.7s,baz=47,slow=16,SNR=3.0						
WRA				ScP	**ScP**	**11 11 06.8**	**+1.1**
	3.5nm,0.8s,baz=82,slow=2.6,SNR=16						
ARMA	**Armidale**	**25.69**	**183**	*e*P	**P**	**11 04 07.4**	**+1.0**
	21nm,1.0s						
AS31	**Alice Springs**	**26.53**	**223**	*e*P	**P**	**11 04 13.9**	**-0.1**
	2.6nm,0.6s						
AS31				*e*S	**S**	**11 08 43.9**	**-0.7**
AS31				*e*ScP	**ScP**	**11 11 14.3**	**+1.0**
ASAR	**Alice Springs**	**26.53**	**223**	P	**P**	**11 04 14.0**	**0.0**
	1.6nm,0.5s,baz=55,slow=9.1,SNR=70						
ASAR				S	**S**	**11 08 43.9**	**-0.7**
	1.5nm,0.9s,baz=37,slow=17,SNR=5.5						
ASAR				ScP	**ScP**	**11 11 14.3**	**+1.0**
	2.4nm,0.8s,baz=51,slow=2.8,SNR=14						
SANI	**Sanana**	**27.27**	**274**	P	**P**	**11 04 23.9**	**+3.2**
STKA	**Stephens Creek**	**29.20**	**200**	*e*P	**P**	**11 04 37.1**	**-0.7**
	2.6nm,0.9s						
STKA	**Stephens Creek**	**29.20**	**200**	P	**P**	**11 04 37.5**	**-0.3**
	7.0nm,0.8s,baz=28,slow=11,SNR=11						
FITZ	**Fitzroy Crossi**	**30.07**	**241**	*e*P	**P**	**11 04 45.1**	**-0.5**
	28nm,0.6s						
FITZ				*e*ScP	**ScP**	**11 11 23.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**30.07**	**241**	P	**P**	**11 04 45.1**	**-0.5**
	26nm,0.7s,baz=59,slow=10,SNR=7.8						
FITZ				ScP	**ScP**	**11 11 23.2**	**-1.0**
	5.1nm,0.9s,baz=192,slow=4.7,SNR=3.7						
FITZ				LR	LR	11 18 27.3	
	comp=Z,168nm,18.3s,baz=60,slow=39						
MRSI	**Marisa**	**31.62**	**278**	P	**P**	**11 04 59.0**	**-0.3**
APSI	**Ampana**	**31.71**	**276**	P	**P**	**11 05 00.3**	**+0.2**
MPSI	**Mapaga**	**33.61**	**278**	P	**P**	**11 05 15.2**	**-1.6**
FORT	**Forrest**	**35.16**	**219**	*e*P	**P**	**11 05 29.7**	**-0.2**
	24nm,0.6s						
URZ	**Urewera**	**39.94**	**150**	P	**P**	**11 06 09.9**	**-0.3**
	6.0nm,0.5s,baz=257,slow=3.2,SNR=12						
BKZ	**Black Stump Fm**	**40.35**	**152**	*e*P	**P**	**11 06 12.9**	**-0.7**
	11nm,1.1s						
THZ	**Tophouse**	**40.96**	**157**	*e*P	**P**	**11 06 18.2**	**-0.4**
	51nm,0.8s						
SNZO	**South Karori**	**41.30**	**155**	*e*P	**P**	**11 06 21.1**	**-0.2**
	29nm,0.8s						
FOZ	**Fox Glacier**	**41.44**	**162**	*e*P	**P**	**11 06 21.8**	**-0.6**
	41nm,0.9s						
SBUM	**Sibu**	**41.53**	**279**	*e*P	**P**	**11 06 23.9**	**+0.2**
	3.9nm,0.7s						
LTZ	**Lake Taylor**	**41.60**	**159**	*e*P	**P**	**11 06 24.2**	**+0.3**
	49nm,0.7s						
YULB	**Yu-li**	**41.76**	**313**	*e*P	**P**	**11 06 24.8**	**-0.6**
	9.8nm,0.8s						
KHZ	**Kahutara**	**41.76**	**157**	*e*P	**P**	**11 06 23.9**	**-1.3**
	31nm,0.8s						
PCJI	**Pacitan**	**41.88**	**263**	P	**P**	**11 06 22.3**	**-4.2**
OXZ	**Oxford**	**41.99**	**159**	*e*P	**P**	**11 06 26.2**	**-0.9**
	29nm,0.7s						
RPZ	**Rata Peaks**	**42.00**	**161**	*e*P	**P**	**11 06 26.8**	**-0.3**
	93nm,0.7s						
RPZ	**Rata Peaks**	**42.00**	**161**	P	**P**	**11 06 27.0**	**-0.1**
	85nm,0.7s,baz=308,slow=2.5,SNR=75						
LBZ	**Lake Benmore**	**42.32**	**162**	*e*P	**P**	**11 06 28.9**	**-0.8**
	30nm,0.7s						
WKZ	**Wanaka**	**42.38**	**163**	*e*P	**P**	**11 06 30.5**	**+0.4**
	131nm,1.6s						
CRLZ	**Canterbury Las**	**42.42**	**159**	*e*P	**P**	**11 06 29.9**	**-0.5**
	78nm,0.8s						
DCZ	**Deep Cove**	**42.46**	**165**	*e*P	**P**	**11 06 31.0**	**+0.2**
	32nm,0.9s						
YHNB	**Yeheng**	**42.49**	**315**	*e*P	**P**	**11 06 30.1**	**-1.4**
	14nm,0.7s						
MLZ	**Mavora Lakes**	**42.62**	**164**	*e*P	**P**	**11 06 32.7**	**+0.5**
	91nm,0.9s						
ODZ	**Otahua Downs**	**43.06**	**162**	*e*P	**P**	**11 06 34.8**	**-0.8**
	25nm,0.8s						
WHZ	**Wether Hill Ro**	**43.06**	**165**	*e*P	**P**	**11 06 34.8**	**-0.9**
	28nm,0.8s						
JNU	**Nakatsue**	**43.09**	**332**	*e*P	**P**	**11 06 35.4**	**-0.7**
	20nm,0.9s						
JNU	**Nakatsue**	**43.09**	**332**	P	**P**	**11 06 35.9**	**-0.2**
	18nm,0.8s,baz=117,slow=4.7,SNR=16						
KSM	**Kuching**	**43.26**	**277**	*e*P	**P**	**11 06 37.1**	**-0.7**
	10.0nm,0.8s						
MJAR	**Matsushiro Arr**	**43.29**	**342**	P	**P**	**11 06 36.1**	**-1.5**
	2.2nm,0.8s,baz=176,slow=8.8,SNR=5.8						
MAJO	**Matsushiro**	**43.29**	**342**	*e*P	**P**	**11 06 36.1**	**-1.5**
MAT	**Matsushiro**	**43.29**	**342**	P	**P**	**11 06 34.7**	**-2.9**
NWAO	**Narrogin (SRO)**	**43.77**	**226**	P	**P**	**11 06 41.8**	**+0.2**
	2.7nm,0.6s,baz=72,slow=13						
KSRS	**Korea Array**	**48.02**	**333**	P	**P**	**11 07 14.8**	**-0.2**
	4.9nm,0.8s,baz=152,slow=7.8,SNR=18						
KSRS				ScP	**ScP**	**11 12 31.9**	**-0.4**
	1.7nm,0.8s,baz=136,slow=5.5,SNR=6.0						
KSRS				LR	LR	11 27 19.3	
	comp=Z,81nm,18.6s,baz=265,slow=36						
KS15	**Wonju Array Si**	**48.03**	**333**	*e*P	**P**	**11 07 14.8**	**-0.2**
	5.2nm,0.9s						
KS15				*e*ScP	**ScP**	**11 12 31.9**	**-0.4**
NJ2	**Nanjing**	**48.95**	**321**	*e*P	**P**	**11 07 22.3**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ASAJ	**Asahikawa**	**49.45**	**350**	P	**P**	**11 07 25.9**	**0.0**
	2.8nm,0.6s,baz=178,slow=11,SNR=5.9						
WHN	**Wuhan**	**51.00**	**316**	P	**P**	**11 07 41.1**	**+3.3**
USA0B	**Ussuriysk Arra**	**52.21**	**341**	*e*P	**P**	**11 07 46.3**	**-0.3**
	7.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**52.21**	**

9μm,1.2s,194μm353μm
NONG Nongkai 54.24 296 P P 11 08 02.9 +0.9
0.3nm,0.8s
CN2 Changchun 54.30 335 *eP* **P 11 08 01.6 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
UTTA Uttaradit 56.47 295 P P 11 08 18.9 +0.9
23μm,0.7s
UTTA Uttaradit 56.47 295 P P 11 08 18.9 +0.9
23μm,0.7s
XAN Xi'an 56.76 316 *eP* **P 11 08 20.3 +0.4**
8.3nm,0.6s
KLR Kul'dur 56.79 343 P P 11 08 19.5 -0.3
5.1nm,0.7s,baz=186,slow=2.3,SNR=17
SRDT SRDT 56.82 290 P P 11 08 22.2 +1.7
13nm,0.7s
SRDT SRDT 56.82 290 P P 11 08 22.2 +1.7
KMI Kunming 57.21 304 P P 11 08 24.9 +1.5
KMI pmax pmax
comp=Z,15nm,0.5s
PPT Papeete 57.41 108 LR LR 11 27 23.5
comp=Z,81nm,20.5s,baz=104,slow=30
PPT2 Papeete2 57.42 108 *e*LR LR 11 25 15.6
comp=Z,217nm,31.2s
PETK Petropavlovsk- 57.65 3 P P 11 08 25.8 0.0
1.6nm,0.7s,baz=143,slow=5.3,SNR=6.0
PEA1 Petropavlovsk- 57.66 3 *eP* **P 11 08 25.8 0.0**
CM31 Chiang Mai Arr 58.15 295 *eP* **P 11 08 29.6 -0.3**
11nm,0.6s
CMAR Chiang Mai Arr 58.15 295 P P 11 08 30.2 +0.3
7.9nm,0.7s,baz=129,slow=5.2,SNR=10
CMAR LR LR 11 33 37.9
comp=Z,45nm,18.6s,baz=120,slow=36
TBI Tubuai 58.28 115 *e*LR LR 11 25 33.3
comp=Z,333nm,36.5s
CD2 Chengdu 58.92 310 P P 11 08 35.1 0.0
CD2 pmax pmax
comp=Z,30nm,0.5s
HHC Hu-ho-hao-te 59.13 324 *eP* **P 11 08 39.3 +2.8**
HHC pmax pmax
comp=Z,72nm,1.1s
HHC pmax pmax
comp=Z,330nm,5.8s
LZH Lanzhou 61.38 316 *eP* **P 11 08 53.8 +1.8**
LZH pP sP 11 09 10.9 -2.2
LZH sP pP 11 09 17.3 +10
LZH pmax pmax
comp=Z,18nm,1.1s
LZH LR LR
comp=N,310nm,17.6s
LZH LR LR
comp=E,170nm,17.6s
LZH LR LR
comp=Z,320nm,18.7s
MA2 Magadan 64.04 359 P P 11 09 08.8 -0.1
2.8nm,0.8s,baz=170,slow=12,SNR=3.4
GTA Gaotai 65.79 317 *eP* **P 11 09 22.4 +1.4**
GTA pP sP 11 09 40.9 -1.4
GTA sP PcP 11 09 48.4 -3.4
GTA pmax pmax
comp=Z,8.0nm,1.2s
BRDH Bariadhala 65.92 297 LR LR 11 39 16.3
comp=Z,58nm,19.0s,baz=172,slow=37
SONA0 Songino Array 66.39 328 *eP* **P 11 09 24.1 -0.5**
SONM Songino Array 66.39 328 P P 11 09 24.1 -0.5
1.3nm,0.6s,baz=144,slow=5.8,SNR=7.5
SONM LR LR 11 38 29.3
comp=Z,84nm,19.0s,baz=120,slow=36
VNDA Vanda 72.98 178 *eP* **P 11 10 04.8 +0.3**
42nm,1.5s
VNDA Vanda 72.98 178 P P 11 10 05.2 +0.7
7.3nm,0.7s,baz=331,slow=7.0,SNR=60
SBA Scott Base 73.52 177 *eP* **P 11 10 09.4 +1.7**
23nm,1.1s
WMQ Urumqi 75.88 317 *eP* **P 11 10 22.4 +0.3**
WMQ PcP **PcP 11 10 33.5 -0.9**
WMQ pmax pmax
comp=Z,32nm,0.7s
WMQ pmax pmax
comp=Z,790nm,6.3s
WMQ LR LR
comp=N,2μm,39.7s
WMQ LR LR
comp=E,2μm,25.3s
WMQ LR LR
comp=Z,400nm,27.7s
PTCN Pitcairn Islan 76.03 115 *eP* **P 11 10 25.8 +2.5**
1μm,0.8s
HYB Hyderabad 76.80 289 *i* P **P 11 10 27.5 -0.2**
MK31 Makanchi Array 80.45 319 Pn P 11 10 52.6 +5.4
1.3nm,0.3s,baz=112,slow=16,SNR=38
MK31 ⇑Lg Lg 11 11 23.6
3.4nm,0.5s,baz=117,slow=30,SNR=15
MK32 Makanchi Array 80.45 319 *eP* **P 11 10 47.1 -0.2**
MKAR Makanchi Array 80.45 319 P P 11 10 47.1 -0.2
4.0nm,0.7s,baz=103,slow=7.5,SNR=29
MLY Manley 80.59 21 *eP* **P 11 10 46.0 -1.6**
8.4nm,1.5s
MAKZ Makanchi 80.66 319 *eP* **P 11 10 47.2 -1.1**
8.6nm,0.8s
MAKZ Makanchi 80.66 319 ⇑Pn P 11 10 56.7 +8.3
2.1nm,0.3s
MAKZ ⇑Lg Lg 11 11 29.7
1.7nm,0.5s
ZALV Zalesovo Beam 81.22 326 P P 11 10 50.0 -1.2
2.0nm,0.7s,baz=99,slow=6.1,SNR=5.7
ZAA1 Zalesovo Array 81.23 326 *eP* **P 11 10 50.0 -1.2**
ILAR Eielson Array 81.86 22 P P 11 10 53.0 -1.4
0.6nm,0.7s,baz=256,slow=6.0,SNR=4.3
ILB Eielson Array 81.86 22 *eP* **P 11 10 53.6 -0.7**
3.7nm,1.1s
KSH Kashi 83.11 311 P P 11 11 03.9 +2.3
KSH PP **PP 11 14 17.9 +4.5**
KSH S **S 11 21 16.3 -1.2**
KSH SS **SS 11 26 43.3 +0.6**
KSH pmax pmax
comp=Z,19nm,0.4s
KSH LR LR
comp=N,600nm,10.5s
KSH LR LR
comp=E,370nm,10.4s
BOOM Boomskoye usch 83.75 313 *eP* **P 11 11 03.6 -1.3**
KURBB Kurchatov Arra 83.90 322 P P 11 11 04.5 -0.7
3.5nm,0.8s,baz=109,slow=4.0,SNR=27
TKM2 Tokmak 2 84.09 314 P P 11 11 07.0 +0.3
SNR=17
KZA Kyzart 84.17 313 P P 11 11 08.4 +1.1
SNR=19
NIL Nilore 84.19 304 *eP* **P 11 11 06.5 -0.6**
15nm,0.7s
KBK Karagaybulak 84.50 313 P P 11 11 09.1 +0.4
SNR=13
CHMS Chumysh 84.71 314 P P 11 11 10.1 +0.5
SNR=11
UCH Uchtor 84.73 313 P P 11 11 11.1 +0.9
SNR=12
AAK Ala-Archa 84.83 313 P P 11 11 10.8 +0.5
SNR=16
AAK Ala-Archa 84.83 313 *eP* **P 11 11 10.7 +0.4**
19nm,0.8s
AAK Ala-Archa 84.83 313 P P 11 11 11.0 +0.7
19nm,0.7s,baz=113,slow=5.0,SNR=47
USP Ospenovka 84.94 314 P P 11 11 11.0 +0.3
SNR=17
AML Almayashu 85.31 313 P P 11 11 13.9 +0.9
SNR=39
QSPA South Pole Qui 85.33 180 *eP* **P 11 11 12.2 0.0**
22nm,0.8s
EKS2 Erkin-Say 85.35 313 P P 11 11 13.5 +0.6
SNR=21
MAW Mawson 85.87 203 *eP* **P 11 11 15.5 +0.8**
1.2nm,1.0s
MAW Mawson 85.87 203 P P 11 11 16.5 +1.7
3.2nm,0.8s,baz=60,slow=8.1,SNR=3.8
NRIK Noril'sk 85.93 341 P P 11 11 14.0 -0.9
2.1nm,0.4s,baz=93,slow=4.9,SNR=5.3
NRIK LR LR 11 51 18.5
comp=Z,60nm,18.9s,baz=194,slow=37
GAR Garm 87.35 309 *eP* **P 11 11 22.2 -0.6**
9.1nm,0.6s
KK31 Karatay Array 87.79 313 *eP* **P 11 11 24.3 -0.4**
4.7nm,0.8s
KKAR Karatay Array 87.79 313 *eP* **P 11 11 24.1 -0.5**
4.7nm,0.8s
INK Inuvik 88.16 21 *eP* **P 11 11 24.4 -1.4**
3.6nm,1.4s
INK Inuvik 88.16 21 P P 11 11 24.7 -1.1
0.6nm,0.7s,baz=264,slow=10,SNR=3.9
BVAR Borovoye Array 89.33 323 P P 11 11 30.5 -1.1
18nm,0.7s,baz=101,slow=6.2,SNR=74
BRVK Borovoye 89.40 323 *eP* **P 11 11 30.7 -1.2**
12nm,0.8s
NVAR Mina Array Bea 91.68 52 P P 11 11 46.3 +3.0
0.3nm,0.5s,baz=292,slow=4.8,SNR=3.3
SYO Syowa Base 93.95 199⇓*eP* **P 11 11 52.2 -0.5**
SYO Syowa Base 93.95 199⇓epP pP 11 12 14.0 +5.9
YKA Yellowknife Ar 95.10 28 P P 11 11 58.1 +0.1
0.2nm,0.6s,baz=267,slow=4.2,SNR=3.6
YKB5 Yellowknife Ar 95.10 28 *eP* **P 11 11 58.1 +0.1**
ABKAR Akbulak array 95.59 319 *eP* **P 11 11 58.5 -2.1**
3.0nm,0.8s
AKTO Aktyubinsk 96.84 320 LR LR 11 54 49.2
comp=Z,53nm,21.8s,baz=76,slow=35
KOLS Kolonicke sedl 119.39 325 *e*PKP **PKiKP 11 17 25.1 +0.4**
CLL Collm 122.89 331 *e*PKPdf **PKiKP 11 17 32.0 +0.5**
FNA Florina 123.83 317 *e*PKPdf **PKPdf 11 17 32.0 -1.5**
GEC2 GERESS Array S 124.11 329 *e*PKPdf **PKPdf 11 17 33.8 -0.1**
GERES GERESS Array B 124.11 329 PKP **PKiKP 11 17 34.4 +0.2**
0.9nm,0.5s,baz=110,slow=1.6,SNR=6.4
TOA0 Torodi Ar. Sit 150.62 289 *e*PKPbc **PKPbc 11 18 26.8 -1.4**
TORD Torodi Ar. Bea 150.62 289 PKPbc **PKPbc 11 18 26.4 -1.8**
4.7nm,0.7s,baz=86,slow=2.4,SNR=38
TOA1 Torodi Ar. Sit 150.62 289 *e*PKPbc **PKPbc 11 18 26.4 -1.8**
BDFB Brasilia 150.91 134 PKPbc **PKPbc 11 18 27.0 -2.0**
2.3nm,0.4s,baz=153,slow=9.8,SNR=4.2

SAR ***15*** *11:00:47.9±0.5, 43°.56N×16°.99E, h3km±2km, ML2.4/9*
BEO 15 11:00:47.1±0.6, 43°.57N×16°.95E, h9km±4km, ML2.2/5, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGRS	**Mrkonjic Grad**	**0.85**	**6**	*e*Pg	Pg	11 01 03.5	0.0
MGRS				*e*Sg	Sb	11 01 15.2	-0.5
STON	**Ston**	**0.89**	**142**	*e*Pg	Pg	11 01 02.3	-1.8
STON				*e*Sg	Sg	11 01 15.7	0.0
STON	**Ston**	**0.89**	**142**	*e*Pg	Pg	11 01 02.2	-2.0
STON				Sg	Sg	11 01 15.4	-0.2
STON	**Ston**	**0.89**	**142**	*e*Pg	Pg	11 01 02.4	-1.7
STON				*e*Sg	Sg	11 01 15.3	-0.4
BLY	**Banja Luka**	**1.19**	**8**	*e*Pg	Pb	11 01 09.1	-0.7
BLY				*e*Sg	Sn	11 01 26.3	+0.1
BLY	**Banja Luka**	**1.19**	**8**	*e*Pg	Pb	11 01 09.6	-0.2
BLY				*e*Sg	Sg	11 01 25.4	0.0
UDBI	**Udbina**	**1.28**	**319**	*e*Pn	Pb	11 01 11.4	0.0
UDBI				Sn	Sn	11 01 34.1	+5.4
TREB	**Trebinje**	**1.33**	**129**	*e*Pg	Pn	11 01 10.2	-1.7
TREB				*e*Sg	Sg	11 01 30.1	+0.2
TREB	**Trebinje**	**1.33**	**129**	*e*Pg	Pn	11 01 10.5	-1.4
TREB				*e*Sg	Sb	11 01 29.5	+0.1
BRY	**Bratogost**	**1.34**	**119**	*e*Pg	Pn	11 01 11.1	-1.0
BRY				*e*Sg	Sn	11 01 30.1	0.0
UPM	**Unac-Piva**	**1.47**	**104**	*e*Pg	Pb	11 01 14.6	-0.1
UPM				*e*Sg	Sg	11 01 34.0	-0.4
HAPS	**Han Pijesak,Bl**	**1.54**	**70**	*e*Pg	Pn	11 01 15.2	+0.4
HAPS				*e*Sg	Sn	11 01 34.9	0.0
HAPS	**Han Pijesak,Bl**	**1.54**	**70**	*e*Pg	Pn	11 01 15.0	+0.2
HAPS				*e*Sg	Sb	11 01 35.5	+0.1
HCY	**Herceg Novi**	**1.59**	**134**	*e*Pn	Pb	11 01 16.7	0.0
HCY				*e*Sn	Sb	11 01 36.9	0.0
NVLJ	**Novalja**	**1.80**	**304**	*e*Pn	Pb	11 01 20.7	+0.5
NVLJ				Sg	Sg	11 01 47.9	+3.0
BBLS	**Lazići**	**1.80**	**80**	*e*Pn	Pn	11 01 18.8	+0.4
BBLS				*e*Sg	Sg	11 01 44.8	-0.2
PDG	**Podgorica**	**2.04**	**123**	*e*Sn	Sn	11 01 48.1	+1.0
DRME	**Dracevica, Mon**	**2.15**	**129**	*e*Pn	Pn	11 01 24.5	+1.4
DRME				*e*Sn	Sn	11 01 50.9	+1.1
DIVS	**Divibare**	**2.26**	**75**	*e*Pn	Pn	11 01 24.9	+0.1
DIVS				*e*Sg	Sg	11 01 59.0	-0.8
DIVS	**Divibare**	**2.26**	**75**	*e*Pn	Pn	11 01 26.3	+1.6
DIVS				*e*Sn	Sn	11 01 53.4	+0.6
IVAS	**Ivanjica**	**2.33**	**89**	*e*Pn	Pn	11 01 25.6	0.0
IVAS				*e*Sn	Sn	11 01 53.6	-0.7

MEX 15 11:04:36.5±0.4, 17°.43N×101°.32W, h20km±24km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.23**	**322**	*e*P	Pb	11 04 41.0	-1.1
ZIIG				*e*S	Sb	11 04 44.6	-1.1
CAIG	**El Cayaco**	**1.07**	**111**	*e*P	Pb	11 04 53.2	-3.2
CAIG				*e*S	Sb	11 05 05.9	-4.1
ARIG	**Puente Sto Nin**	**1.25**	**47**	*e*P	Pn	11 04 56.0	-2.9
ARIG				*e*S	Sb	11 05 10.6	-4.7
MEIG	**Mezcala**	**1.69**	**73**	*i* P	Pn	11 05 02.4	-2.7
MEIG				*i* S	Sn	11 05 22.9	-3.3
PLIG	**Platanillo**	**1.98**	**61**	*e*P	Pn	11 05 05.9	-3.0
PLIG				*e*S	Sn	11 05 29.2	-4.0

IDC 15 11:06:47.0±2.3, 31°.16N×87°.07E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/63, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=81.2km s-min=23.2km az=78.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.05**	**348**	Pn	Pn	11 10 32.1	-1.9
0.1nm,0.3s,baz=168,slow=13,SNR=5.2							
SONM	**Songino Array**	**22.26**	**36**	P		11 11 45.4	-0.2
0.8nm,0.8s,baz=229,slow=11,SNR=3.9							
ZALV	**Zalesovo Beam**	**22.84**	**357**	P	P	11 11 51.6	+0.1
1.2nm,0.7s,baz=167,slow=7.0,SNR=2.4							
WRA	**Warramunga Arr**	**68.12**	**132**	P	P	11 17 49.2	+0.2
0.6nm,0.8s,baz=323,slow=5.8,SNR=12							
ASAR	**Alice Springs**	**70.60**	**135**	P	P	11 18 04.2	-0.2
0.3nm,0.4s,baz=319,slow=5.9,SNR=14							

IDC 15 11:07:28.9±24.0, 31°.22N×86°.81E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/62, mbtmp3.5/3, Error ellipse: s-maj=694.2km s-min=37.0km az=98.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**22.33**	**36**	P	P	11 12 28.3	0.0
0.6nm,0.6s,baz=223,slow=9.8,SNR=2.4							
WRA	**Warramunga Arr**	**68.33**	**132**	P	P	11 18 32.0	-0.2
0.2nm,0.5s,baz=324,slow=5.8,SNR=4.7							
ASAR	**Alice Springs**	**70.80**	**135**	P	P	11 18 47.6	+0.2
0.3nm,0.5s,baz=321,slow=6.1,SNR=7.6							

IDC ***15*** *11:37:11.4±2.0, 31°.19N×86°.28E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/45, mbtmp3.5/6, ML2.8/1, Error ellipse: s-maj=70.2km s-min=20.8km az=74.0*
ISC 15 11:37:15.4±2.0, 31°.2N±0°.2×86°.2E±0°.4, h26km, n7, σ0§37/8, mb3.6/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.83**	**350**	Pn	**Pn**	**11 40 56.5**	**0.0**
0.0nm,0.3s,baz=171,slow=12,SNR=3.7							
MKAR				Sn	**Sn**	**11 43 51.4**	**+0.3**
0.1nm,0.3s,baz=169,slow=23,SNR=4.8							
CMAR	**Chiang Mai Arr**	**17.15**	**135**	P	**P**	**11 41 15.1**	**+0.3**
0.1nm,0.3s,baz=325,slow=12,SNR=3.4							
KURBB	**Kurchatov Arra**	**20.20**	**346**	P	**P**	**11 41 48.1**	**+0.1**
0.8nm,0.4s,baz=161,slow=9.8,SNR=5.4							
SONM	**Songino Array**	**22.62**	**37**	P	**P**	**11 42 14.3**	**0.0**
0.8nm,0.5s,baz=225,slow=10.0,SNR=4.0							
ZALV	**Zalesovo Beam**	**22.72**	**358**	P	**P**	**11 42 14.7**	**-0.4**
0.3nm,0.3s,baz=180,slow=5.8,SNR=3.1							
WRA	**Warramunga Arr**	**68.70**	**131**	P	**P**	**11 48 16.4**	**-0.5**
0.3nm,0.5s,baz=325,slow=6.2,SNR=11							
ASAR	**Alice Springs**	**71.16**	**134**	P	**P**	**11 48 32.1**	**+0.2**
0.5nm,0.5s,baz=321,slow=6.0,SNR=14							

IDC 15 11:41:19.3±12.0, 31°.29N×85°.00E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/45, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=606.9km s-min=44.6km az=70.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.63**	**353**	Pn	Pn	11 44 59.5	-1.3
0.1nm,0.3s,baz=174,slow=16,SNR=2.8							
WRA	**Warramunga Arr**	**69.54**	**130**	P	P	11 52 30.1	0.0
0.2nm,0.5s,baz=325,slow=5.7,SNR=3.6							
ASAR	**Alice Springs**	**71.96**	**133**	P	P	11 52 45.0	+0.1
0.2nm,0.7s,baz=321,slow=6.1,SNR=4.4							

ISCJB ***15*** *11:41:56.1±1.1, 22°.98S±0°.07×27°.5E±0°.1, h10km, Error ellipse: s-maj=15.5km s-min=8.2km az=29.3*
EAF ***15*** *11:41:57.6±1.7, 22°.92S×27°.58E, h0km±21km, MD3.7*
BUL ***15*** *11:41:59.3±2.4, 22°.92S×27°.56E, h0km±25km, MD3.9*
ISC 15 11:41:57.4±1.3, 22°.96S±0°.06×27°.56E±0°.08, h10km, n6, σ1§51/12, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.36**	**75**	*i* P	**Pn**	**11 42 35.5**	**-0.8**
MSNA				*i* S	**Sn**	**11 43 06.3**	**+1.0**
MSNA	**Messina**	**2.36**	**75**	*i* P	**Pn**	**11 42 35.5**	**-0.8**
MSNA				*i* S	**Sn**	**11 43 06.3**	**+1.0**
MATP	**Matopo**	**2.67**	**19**	*i* P	**Pn**	**11 42 40.6**	**0.0**
MATP				*i* S	**Sn**	**11 43 13.0**	**-0.2**
MATP	**Matopo**	**2.67**	**19**	*i* P	**Pn**	**11 42 40.6**	**0.0**
MATP				*i* S	**Sn**	**11 43 13.0**	**-0.2**
BOSA	**Boshof**	**6.00**	**200**	*i* P	**Pn**	**11 43 28.2**	**+1.8**
BOSA				*i* S	**Sn**	**11 44 32.9**	**-2.3**
BOSA	**Boshof**	**6.00**	**200**	*i* P	**Pn**	**11 43 28.2**	**+1.8**
BOSA				*i* S	**Sn**	**11 44 32.9**	**-2.3**

SJA ***15*** *11:47:54.6±0.9, 24°.84S×70°.58W, h40km, ML3.6, MW3.4*
ISCJB ***15*** *11:47:56.1±0.4, 24°.91S±0°.02×70°.28W±0°.07, h75km±4km, mb3.7/6, Error ellipse: s-maj=10.3km s-min=3.8km az=174.0*
NEIC ***15*** *11:47:57.0±0.0, 24°.95S×70°.22W, h60km, mb4.1/2, ML4.4(GUC), After GUC.*
NEIC Felt [II] at Copiapo, Diego de Almagro, Taltal and Tierra Amarilla.
IDC ***15*** *11:47:57.6±0.9, 24°.90S×70°.00W, h63km±7km, mb3.6/5, mb1 3.8/9, mb1mx3.6/33, mbtmp3.9/9, MS2.7/2, Ms1 2.7/2, ms1mx2.5/20, Error ellipse: s-maj=32.1km s-min=13.7km az=87.0*
GUC ***15*** *11:47:57.1±0.7, 24°.95S×70°.22W, h66km±3km, ML4.4*
ISC 15 11:47:57.0±0.7, 24°.91S±0°.04×70°.28W±0°.06, h60km±5km, n74, σ1§45/85, mb4.0/6, 5C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.31**	**338**	⇓*i* P	**Pn**	**11 48 08.7**	**+1.2**
PB14				*i* S	**Sn**	**11 48 16.9**	**+1.7**
PB14				IAML		11 48 17.4	
comp=N,14μm,0.2s							
GO02	**Mina Guanaco**	**0.67**	**112**	*e*Pn	**Pn**	**11 48 11.2**	**0.0**
GO02				*e*Sn	**Sn**	**11 48 21.0**	**-0.5**
GO02	**Mina Guanaco**	**0.67**	**112**	⇓*i* P	**Pn**	**11 48 11.1**	**-0.1**
GO02				*i* S	**Sn**	**11 48 21.4**	**-0.2**
GO02				IAML		11 48 22.7	
comp=N,45μm,0.1s							
PB10	**IPOC Station P**	**1.42**	**350**	*e*Pn	**Pn**	**11 48 21.3**	**+0.7**
PB10	**IPOC Station P**	**1.42**	**350**	*i* P	**Pn**	**11 48 21.2**	**+0.7**
PB10				*i* S	**Sn**	**11 48 41.7**	**+3.4**
PB10	**IPOC Station P**	**1.42**	**350**	⇑*i* P	**Pn**	**11 48 21.1**	**+0.6**
PB10				*i* S	**Sn**	**11 48 40.4**	**+2.1**
PB10				IAML		11 48 46.3	
comp=E,5μm,0.8s							
PB15	**IPOC Station P**	**1.85**	**24**	*i* P	**Pn**	**11 48 27.4**	**+0.8**
PB15	**IPOC Station P**	**1.85**	**24**	⇑*i* P	**Pn**	**11 48 27.4**	**+0.8**
PB15				*i* S	**Sn**	**11 48 51.4**	**+2.3**
PB05	**IPOC Station P**	**2.05**	**2**	*i* P	**Pn**	**11 48 29.0**	**-0.3**
PB05	**IPOC Station P**	**2.05**	**2**	⇑*i* P	**Pn**	**11 48 29.1**	**-0.2**
PB05				IAML		11 49 02.3	
comp=E,3μm,0.5s							
PB06	**IPOC Station P**	**2.29**	**17**	*i* P	**Pn**	**11 48 32.5**	**-0.1**
PB06	**IPOC Station P**	**2.29**	**17**	⇑*i* P	**Pn**	**11 48 32.5**	**-0.1**
PB06				*i* S	**Sn**	**11 49 00.6**	**+0.9**
PB06				IAML		11 49 08.1	
comp=E,3μm,0.3s							
PB04	**IPOC Station P**	**2.57**	**3**	*e*Pn	**Pn**	**11 48 36.0**	**-0.4**
PB04	**IPOC Station P**	**2.57**	**3**	*i* P	**Pn**	**11 48 36.0**	**-0.4**
PB04	**IPOC Station P**	**2.57**	**3**	*i* P	**Pn**	**11 48 36.0**	**-0.4**
PB04				*i* S	**Sn**	**11 49 06.7**	**+0.1**
PB04				IAML		11 49 22.6	
comp=N,4μm,0.5s							
LVC	**Limon Verde**	**2.61**	**29**	*e*Pn	**Pn**	**11 48 37.8**	**+0.6**
LVC	**Limon Verde**	**2.61**	**29**	*i* P	**Pn**	**11 48 37.7**	**+0.6**
LVC	**Limon Verde**	**2.61**	**29**	*e*P	**Pn**	**11 48 38.3**	**+1.1**
LVC				*i* S	**Sn**	**11 49 09.4**	**+1.5**
LVC	**Limon Verde**	**2.61**	**29**	P	**Pn**	**11 48 37.4**	**+0.2**
comp=N,54nm,0.3s,baz=187,slow=8.6,SNR=178							
LVC				S	**Sn**	**11 49 10.7**	**+2.9**
comp=N,200nm,0.3s,baz=143,slow=20,SNR=19							
LVC				LR	LR	11 49 37.0	
comp=N,178nm,21.8s,baz=229,slow=40							
GO03	**Copiap**	**2.67**	**179**	*e*Pn	**Pn**	**11 48 38.7**	**+1.0**
GO03	**Copiap**	**2.67**	**179**	*i* P	**Pn**	**11 48 38.5**	**+0.9**
GO03	**Copiap**	**2.67**	**179**	⇓*i* P	**Pn**	**11 48 38.5**	**+0.9**
GO03				IAML		11 49 31.3	
comp=N,2μm,0.3s							
PB03	**IPOC Station P**	**2.89**	**10**	*i* P	**Pn**	**11 48 40.0**	**-0.8**
PB03	**IPOC Station P**	**2.89**	**10**	⇑*i* P	**Pn**	**11 48 40.0**	**-0.8**
PB03				*i* S	**Sn**	**11 49 14.5**	**0.0**
PB03				IAML		11 49 28.7	
comp=E,2μm,0.3s							
PB07	**IPOC Station P**	**3.19**	**7**	*i* P	**Pn**	**11 48 44.1**	**-0.9**
PB09	**IPOC Station P**	**3.24**	**17**	*i* P	**Pn**	**11 48 46.2**	**+0.6**
PB02	**IPOC Station P**	**3.59**	**6**	*i* P	**Pn**	**11 48 49.2**	**-1.2**
PB01	**IPOC Station P**	**3.92**	**11**	*e*Pn	**Pn**	**11 48 54.0**	**-0.9**
PB01	**IPOC Station P**	**3.92**	**11**	*i* P	**Pn**	**11 48 53.9**	**-0.9**
LCO	**Las Campanas**	**4.10**	**185**	*e*Pn	**Pn**	**11 48 56.7**	**-0.7**
LCO	**Las Campanas**	**4.10**	**185**	*i* P	**Pn**	**11 48 58.5**	**+1.1**
LCO				IAML		11 50 09.2	
VCA	**Vinchina**	**4.23**	**155**	*i* P	**Pn**	**11 49 02.8**	**+3.7**
VCA				IAML		11 49 23.9	
comp=Z,153nm,0.4s							
SLA	**San Lorenzo**	**4.34**	**88**	*i* P	Pn	11 49 05.1	+4.4
SLA				IAML		11 49 17.8	
comp=Z,20nm,0.5s							
HJA	**Humahuaca**	**4.76**	**70**	*i* P	Pn	11 49 10.8	+4.2
HJA				IAML		11 49 30.0	
comp=Z,39nm,0.5s							
AZAP	**Zapla**	**4.79**	**83**	*i* P	**Pn**	**11 49 09.1**	**+2.2**
AZAP				IAML		11 49 22.5	
comp=Z,16nm,0.3s							
AZAP				*i* S	Sn	11 49 34.6	-27
AGUA	**GUANDACOL**	**4.83**	**161**	*i* P	**Pn**	**11 49 10.4**	**+3.2**
AHML	**Horco Molle**	**4.83**	**114**	*i* P	**Pn**	**11 49 07.3**	**+0.1**
AHML				*i* S	Sn	11 49 43.9	-18
AHML				IAML		11 49 50.3	
comp=Z,19nm,0.5s							
PB08	**IPOC Station P**	**4.86**	**13**	*i* P	**Pn**	**11 49 07.9**	**-0.1**
PB11	**IPOC Station P**	**5.16**	**7**	*e*Pn	**Pn**	**11 49 10.1**	**-1.8**
PB11	**IPOC Station P**	**5.16**	**7**	*i* P	**Pn**	**11 49 09.9**	**-2.0**
GO04	**Tololo Observa**	**5.26**	**185**	*e*Pn	**Pn**	**11 49 13.5**	**+0.3**
PSGCX	**Pisagua**	**5.29**	**2**	*i* P	**Pn**	**11 49 11.0**	**-2.6**
GO01	**Chusmiza**	**5.31**	**11**	*e*Pn	**Pn**	**11 49 13.5**	**-0.7**
CYA	**Choya**	**5.33**	**132**	*i* P	**Pn**	**11 49 15.7**	**+1.7**
CYA				IAML		11 50 16.6	
comp=Z,18nm,0.5s							
ACLC	**CERRO LA CRUZ**	**5.38**	**147**	*i* P	**Pn**	**11 49 16.8**	**+1.9**
ACLC				*i* S	**Sn**	**11 50 21.2**	**+5.6**
MNMC	**Minye Minye**	**5.79**	**6**	*e*Pn	**Pn**	**11 49 20.3**	**-0.3**
MNMCX	**Minye Minye**	**5.79**	**6**	*i* P	Pn	11 49 29.1	+8.5
PB12	**IPOC Station P**	**6.27**	**360**	*i* P	**Pn**	**11 49 24.8**	**-2.2**
APLL	**PUNTA DE LOS L**	**6.39**	**150**	*i* P	**Pn**	**11 49 29.1**	**+0.5**
APLL				IAML		11 49 53.7	
comp=Z,25nm,0.4s							
PB16	**IPOC Station P**	**6.58**	**6**	*i* P	**Pn**	**11 49 32.1**	**+0.4**
CFA	**Coronel Fontan**	**6.91**	**165**	*i* P	**Pn**	**11 49 36.9**	**+1.3**
CFA	**Coronel Fontan**	**6.91**	**165**	P	**Pn**	**11 49 36.6**	**+1.0**
comp=Z,4.1nm,0.3s,baz=345,slow=13,SNR=22							
CFA				S	**Sn**	**11 50 51.2**	**-1.6**
comp=Z,4.9nm,0.3s,baz

comp=Z,0.1nm,0.3s,baz=4.4,slow=13,SNR=2.0
PTGA Pitinga 26.02 24 *e*P **P 11 53 22.2 -2.4**
comp=Z,14nm,1.4s
PTGA Pitinga 26.02 24 P **P 11 53 22.3 -2.4**
comp=Z,1.6nm,0.3s,baz=315,slow=20,SNR=4.0
OTAV Otavalo 26.22 341 *e*P **P 11 53 27.5 +0.6**
comp=Z,6.4nm,1.3s
VNA3 Neumayer Olymp 57.28 160 P **P 11 57 38.4 +0.3**
VNA1 Neumayer–Stat 57.52 160 P **P 11 57 38.5 -1.3**
VNA2 Neumayer–Watz 57.88 160 P **P 11 57 40.9 -1.4**
SNAA Sanae 59.49 160 P **P 11 57 53.6 0.0**
TXAR Lajitas Array 62.75 327 P **P 11 58 16.5 +0.3**
comp=Z,0.1nm,0.6s,baz=156,slow=6.9,SNR=2.6
SYO Syowa Base 73.77 159⇓*e*X P 11 59 42.0 +18
TORD Torodi Ar. Bea 79.68 70 P **P 11 59 57.1 -1.6**
comp=Z,1.3nm,0.7s,baz=264,slow=4.5,SNR=8.0
TORD pP **pP 12 00 14.9 -1.2**
comp=Z,1.2nm,0.6s,baz=249,slow=5.1,SNR=5.8
MAW Mawson 81.43 164 P **P 12 00 08.1 +1.0**
comp=Z,2.1nm,0.7s,baz=212,slow=5.6,SNR=5.4
YKA Yellowknife Ar 93.98 341 P **P 12 01 08.5 +0.7**
comp=Z,0.1nm,0.6s,baz=138,slow=4.4,SNR=4.9
YKA pP **pP 12 01 26.3 +0.8**
comp=Z,0.3nm,0.7s,baz=136,slow=4.3,SNR=4.3
CLL Collm 105.03 40 *e*Pdif **Pdif 12 01 55.5 -2.2**
ASAR Alice Springs 126.32 208 PKP **PKPdf 12 06 53.6 -0.1**
comp=Z,0.2nm,0.6s,baz=142,slow=1.7,SNR=5.7
ASAR pPKP **pPKPdf 12 07 12.0 0.0**
comp=Z,0.3nm,0.8s,baz=129,slow=1.7,SNR=2.2
ZALV Zalesovo Beam 145.56 26 PKPbc **PKPab 12 07 28.9 +0.3**
comp=Z,0.9nm,0.4s,baz=318,slow=4.2,SNR=5.0
MKAR Makanchi Array 149.10 38 PKPbc **PKiKP 12 07 38.9 -0.8**
comp=Z,0.5nm,0.6s,baz=307,slow=4.6,SNR=5.4

*OMAN **15** 11:54:54.2±0.3,27°.13N×61°.91E,h34km,ml4.2/1,Error ellipse: s-maj=6.5km s-min=4.6km az=248.0*
*IDC **15** 11:54:54.2±1.6,27°.76N×59°.48E,h0km,mb4.0/4, mb1 4.0/5,mb1mx3.4/66,mbtmp3.9/5,ML3.8/1,Error ellipse: s-maj=54.2km s-min=24.6km az=95.0*
*DSN **15** 11:54:57.6±2.0,27°.70N×61°.11E,h10km,ML3.8/7,Error ellipse: s-maj=44.6km s-min=15.7km az=157.0*
ISC 15 11:54:56.8±1.5,26°.96N±0°.08×61°.56E±0°.10,h10km,n22, σ1§71/25,mb4.1/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**4.56**	**216**	P	**Pn**	**11 56 05.4**	**-0.6**
WSAR	**Wadi Sarin**	**4.56**	**216**	Pn	**Pn**	**11 56 05.3**	**-0.6**
	4.1nm,0.3s,baz=62,slow=5.7,SNR=31						
WSAR				Sn	**Sn**	**11 56 57.1**	**-1.9**
	13nm,0.3s,baz=54,slow=9.1,SNR=32						
SHME	**Shamm**	**4.94**	**261**	*i* P	**Pn**	**11 56 10.5**	**-0.7**
	SNR=8.2						
SHME				S	**Sn**	**11 57 04.6**	**-3.9**
MSFE	**Esma-Masafi**	**5.11**	**253**	*i* P	**Pn**	**11 56 11.9**	**-1.6**
	SNR=9.9						
JLN	**Jalan Bani Buh**	**5.18**	**203**	P	**Pn**	**11 56 13.0**	**-1.4**
	SNR=16						
JLN				S	**Sn**	**11 57 12.9**	**-1.3**
HATD	**Hatta, Dubai**	**5.33**	**248**	*i* P	**Pn**	**11 56 14.8**	**-1.8**
	SNR=7.6						
HATD	**Hatta, Dubai**	**5.33**	**248**	P	**Pn**	**11 56 14.7**	**-1.8**
	SNR=6.9						
SOHO	**SOHO**	**5.34**	**239**	P	**Pn**	**11 56 15.1**	**-1.5**
ASHO	**Ashiyiah**	**5.46**	**247**	*i* P	**Pn**	**11 56 17.3**	**-1.0**
	SNR=31						
ASHO				S	**Sn**	**11 57 23.3**	**+2.1**
ASHO	**Ashiyiah**	**5.46**	**247**	P	**Pn**	**11 56 17.3**	**-1.0**
	SNR=32						
ASHO				S	**Sn**	**11 57 24.0**	**+2.9**
JMDO	**Jabal Madar**	**5.55**	**215**	P	**Pn**	**11 56 20.3**	**+0.7**
JMDO				S	**Sn**	**11 57 23.9**	**+0.5**
NAZ	**Nazwa, Dubai**	**5.66**	**251**	P	**Pn**	**11 56 21.8**	**+0.7**
BSY	**Bisya**	**5.78**	**224**	P	**Pn**	**11 56 25.3**	**+2.7**
BSY				S	**Sn**	**11 57 30.2**	**+1.2**
FAQ	**Al Faqa, Dubai**	**5.81**	**249**	*i* P	**Pn**	**11 56 24.0**	**+0.8**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**5.81**	**249**	P	**Pn**	**11 56 24.2**	**+1.0**
	SNR=11						
ASUD	**Al Ashush, Dub**	**6.08**	**249**	*i* P	**Pn**	**11 56 27.9**	**+1.1**
	SNR=31						
ASUD	**Al Ashush, Dub**	**6.08**	**249**	P	**Pn**	**11 56 28.1**	**+1.2**
	SNR=31						
THW	**Thamme Wali**	**10.57**	**54**	P	Pn	11 57 14.5	-14
ZALV	**Zalesovo Beam**	**31.95**	**26**	P	**P**	**12 01 23.2**	**+0.6**
	0.3nm,0.3s,baz=223,slow=5.9,SNR=2.4						
FINES	**FINESS Array B**	**41.86**	**335**	P	P	12 02 33.5	-13
	0.8nm,0.3s,baz=139,slow=8.7,SNR=12						
HFS	**Hagfors**	**46.36**	**329**	P	P	12 03 10.4	-12
	1.0nm,0.3s,baz=108,slow=9.3,SNR=6.6						
ARCES	**ARCESS Array B**	**47.47**	**344**	P	P	12 03 18.5	-13
	2.3nm,0.8s,baz=147,slow=8.7,SNR=8.1						

ISK 15 12:01:11.7,38°.66N×44°.64E,h5km,ML2.2/5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.59**	**96**	PG	Pb	12 01 24.8	+0.3
VANB				SG	Sb	12 01 34.5	+1.3
AGRB	**Hanur-Agry**	**0.95**	**16**	PG	Pn	12 01 32.1	+0.2
AGRB				SG	Sn	12 01 45.3	-0.7
CLDR	**Caldiran**	**1.10**	**64**	PN	Pn	12 01 33.9	-0.1
KARO	**Karliova-Bingo**	**1.40**	**298**	PN	Pg	12 01 39.4	+0.8
BNGB	**Bingl**	**1.57**	**283**	PN	Pg	12 01 41.8	0.0

DDA 15 12:01:12.0,38°.18N×44°.13E,h7km±5km,ML3.0, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASK	**Baskale_VAN**	**0.16**	**218**	*i* P	Pg	12 01 15.5	+0.1
BASK				*i* S	Sg	12 01 18.3	+0.6
YOVA	**Hakkari_Yksek**	**0.60**	**168**	*i* P	Pb	12 01 24.8	-0.3
YOVA				*i* S	Sn	12 01 36.0	-1.3
TVAN	**Van**	**0.67**	**302**	*i* P	Pb	12 01 26.2	+0.1
HAKT	**HAKKARI**	**0.70**	**208**	IAML_P			
	comp=Z,2μm,0.1s						
HAKT				*i* P	Pg	12 01 25.5	-0.1
HAKT				*i* S	Sb	12 01 37.9	+1.2
GEVA	**Gevas**	**0.85**	**279**	*i* P	Pb	12 01 28.9	-0.3
GEVA				*i* S	Sb	12 01 41.2	+0.2

*IDC **15** 12:05:37.9±1.2,33°.09N×75°.60E,h0km,mb3.7/10, mb1 3.9/13,mb1mx3.6/54,mbtmp3.7/13,ML3.4/3,MS2.8/2, Ms1 2.8/2,ms1mx2.4/42,Error ellipse: s-maj=38.5km s-min=17.1km az=61.0*
*ISCJB **15** 12:05:40.6±0.4,33°.17N±0°.03×75°.70E±0°.06,h28km, mb3.6/9,Error ellipse: s-maj=6.8km s-min=3.8km az=166.6*
*NDI **15** 12:05:45.3±2.3,32°.90N×75°.58E,h9km±5km,ML3.8*
*NNC **15** 12:05:50.1±7.6,33°.69N×75°.09E,h0km,mb3.9,mpv3.7, Error ellipse: s-maj=104.2km s-min=58.8km az=86.0*
ISC 15 12:05:41.8±0.6,33°.15N±0°.04×75°.73E±0°.05,h28km,n36, σ2§72/53,mb3.7/9,3C-3D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**0.72**	**181**	*e*P	**Pb**	**12 05 53.6**	**-2.1**
THN				*e*S	**Sb**	**12 06 05.0**	**-0.2**
JMU	**Jammu**	**0.82**	**238**	*e*S	**Sb**	**12 06 06.5**	**-1.7**
DHRM	**DHARAMSHALA**	**1.02**	**152**	*e*P	**Pb**	**12 06 02.6**	**+1.6**
DHRM				*e*S	**Sb**	**12 06 16.8**	**+2.8**
DHRM				IAML		12 06 21.5	
	comp=E,3μm,0.3s						
DHRM				IAML		12 06 21.6	
	comp=N,4μm,0.1s						
BHK	**Bhakra**	**1.82**	**161**	*e*P	**Pb**	**12 06 15.2**	**+0.7**
BHK				*e*S	**Sb**	**12 06 37.6**	**+0.6**
SMLA	**Simla**	**2.36**	**149**	*e*P	**Pb**	**12 06 21.8**	**-1.7**
SMLA				*e*S	**Sb**	**12 06 50.5**	**-1.7**
SMLA				IAML		12 06 57.0	
	comp=N,1μm,0.2s						
SMLA				IAML		12 06 57.3	
	comp=E,1μm,0.3s						
DDI	**Dehra Dun**	**3.45**	**144**	*e*S	**Sn**	**12 07 15.9**	**+2.3**
DDI				IAML		12 07 33.1	
	comp=E,422nm,0.6s						
DDI				IAML		12 07 33.5	
	comp=N,561nm,0.2s						
JOSI	**Joshimath**	**4.16**	**127**	*e*P	Pb	12 06 48.8	-5.6
JOSI				*ex*	**Sn**	**12 07 28.9**	**-2.5**
JOSI				IAML		12 08 02.8	
	comp=E,201nm,0.6s						
JOSI				IAML		12 08 03.0	
	comp=N,706nm,0.9s						
NDI	**New Delhi**	**4.63**	**164**	*ex*	**Pb**	**12 07 01.5**	**-0.9**
NDI				*e*S	**Sn**	**12 07 41.0**	**-1.8**
SONA	**Sohna**	**5.02**	**166**	*e*P	**Pn**	**12 06 57.3**	**+2.0**
SONA				*e*S	**Sn**	**12 07 50.5**	**-1.9**
SONA				*e*S	**Sn**	**12 07 51.4**	**-1.0**
KUDL	**Kundal**	**5.03**	**172**	*e*P	**Pn**	**12 06 52.1**	**-3.4**
KUDL				*e*S	**Sn**	**12 07 45.5**	**-7.2**
KUDL				IAML		12 08 23.4	
	comp=E,59nm,0.2s						
KUDL				IAML		12 08 24.8	
	comp=N,75nm,0.8s						
KSH	**Kashi**	**6.36**	**2**	Pn	**Pn**	**12 07 15.3**	**+1.6**
KSH				Sn	**Sn**	**12 08 17.6**	**-7.8**
PYUN	**Piuthan**	**8.03**	**127**	*e*Pn	**Pn**	**12 07 38.6**	**+1.8**
PYUN				*e*Sn	**Sn**	**12 09 03.2**	**-3.5**
	comp=N,43nm,0.4s						
DANN	**Dangsing**	**8.40**	**123**	*e*Pn	**Pn**	**12 07 44.9**	**+2.9**
AAK	**Ala-Archa**	**9.52**	**354**	⇓Pn	Pn	12 08 03.2	+6.1
	comp=N,3.3nm,1.0s						
AAK				⇓Sn	**Sn**	**12 09 46.0**	**+2.7**
	comp=N,4.5nm,0.8s						
AAK	**Ala-Archa**	**9.52**	**354**	Pn	**Pn**	**12 07 58.8**	**+1.7**
	comp=N,0.2nm,0.3s,baz=102,slow=9.3,SNR=2.8						
AAK				Sn	**Sn**	**12 09 41.7**	**-1.5**
	comp=N,0.2nm,0.3s,baz=139,slow=20,SNR=2.5						
AAK				LR	LR	12 12 22.2	
	comp=N,44nm,18.9s,baz=206,slow=42						
TKM2	**Tokmak 2**	**9.75**	**359**	⇑Pn	**Pn**	**12 08 03.4**	**+3.0**
	comp=N,1.5nm,0.5s						
TKM2				⇑Sn	**Sn**	**12 09 48.4**	**-0.7**
	comp=N,2.4nm,0.7s						
DMN	**Daman**	**9.80**	**122**	*e*Sn	**Sn**	**12 09 46.9**	**-3.4**
	comp=N,37nm,0.8s						
KKN	**Kakani**	**9.82**	**120**	*e*Pn	**Pn**	**12 08 02.2**	**+0.9**
PKIN	**Phulchoki**	**10.03**	**121**	*e*Pn	**Pn**	**12 08 05.3**	**+1.1**
PKIN				*e*Sn	**Sn**	**12 09 52.1**	**-3.8**
	comp=N,22nm,0.4s						
PKI	**Pulchoki**	**10.04**	**121**	*e*Pn	**Pn**	**12 08 05.5**	**+1.1**
PKI				*e*Sn	**Sn**	**12 09 52.2**	**-4.1**
	comp=N,16nm,0.4s						
JIRN	**Jiri**	**10.56**	**118**	*e*Pn	**Pn**	**12 08 12.7**	**+1.1**
JIRN				*e*Sn	**Sn**	**12 10 04.5**	**-4.6**
	comp=N,29nm,0.4s						
KK31	**Karatay Array**	**10.75**	**339**	⇓Pn	**Pn**	**12 08 14.8**	**+1.0**
	comp=N,1.7nm,0.7s,baz=161,slow=13,SNR=16						
KK31				⇑Sn	**Sn**	**12 10 10.5**	**-2.6**
	comp=N,5.4nm,0.8s,baz=156,slow=22,SNR=8.2						
RAMN	**Ramite**	**11.26**	**120**	*e*Pn	**Pn**	**12 08 22.6**	**+1.5**
RAMN				*e*Sn	**Sn**	**12 10 20.2**	**-5.9**
	comp=N,19nm,0.4s						
NGP	**Nagpur**	**12.31**	**165**	*e*P	**Pn**	**12 08 36.7**	**+1.4**
NGP				*ex*	x	12 10 40.9	
MKAR	**Makanchi Array**	**14.52**	**18**	Pn	**Pn**	**12 09 06.0**	**+0.7**
	comp=N,0.4nm,0.3s,baz=203,slow=13,SNR=4.3						
MKAR				Sn	**Sn**	**12 11 40.5**	**-4.7**
	comp=N,0.1nm,0.3s,baz=194,slow=22,SNR=2.8						
MKAR				LR	LR	12 14 52.3	
	comp=N,36nm,19.0s,baz=246,slow=38						
KURBB	**Kurchatov Arra**	**17.58**	**6**	P	**P**	**12 09 45.4**	**-0.1**
	comp=N,0.1nm,0.3s,baz=191,slow=11,SNR=6.4						
BVAR	**Borovoye Array**	**20.23**	**351**	P	Pn	12 10 16.9	+0.3
	comp=N,5.3nm,0.5s,baz=161,slow=11,SNR=23						
AKTO	**Aktyubinsk**	**21.65**	**328**	P	**P**	**12 10 30.2**	**+0.4**
	comp=N,2.1nm,0.6s,baz=122,slow=14,SNR=7.1						
ZALV	**Zalesovo Beam**	**21.77**	**15**	P	**P**	**12 10 30.4**	**-0.7**
	comp=N,1.2nm,0.4s,baz=190,slow=13,SNR=4.2						
CMAR	**Chiang Mai Arr**	**25.43**	**119**	P	**P**	**12 11 09.3**	**+2.1**
	comp=N,0.6nm,0.5s,baz=306,slow=10.0,SNR=4.8						
SONM	**Songino Array**	**27.33**	**48**	P	**P**	**12 11 25.4**	**+1.1**
	comp=N,0.8nm,0.7s,baz=233,slow=8.1,SNR=4.9						
NOA	**NORSAR Array B**	**49.37**	**325**	P	**P**	**12 14 28.1**	**-0.4**
	comp=N,0.4nm,0.5s,baz=96,slow=7.6,SNR=2.9						
INK	**Inuvik**	**76.52**	**11**	P	**P**	**12 17 30.4**	**+1.6**
	comp=N,0.4nm,0.5s,baz=341,slow=6.3,SNR=4.6						
WRA	**Warramunga Arr**	**76.91**	**124**	P	**P**	**12 17 32.4**	**+0.7**
	comp=N,0.3nm,0.5s,baz=322,slow=5.3,SNR=6.2						
ASAR	**Alice Springs**	**79.14**	**128**	P	**P**	**12 17 44.4**	**+0.3**
	comp=N,0.6nm,0.9s,baz=319,slow=5.5,SNR=5.7						
YKA	**Yellowknife Ar**	**84.33**	**5**	P	**P**	**12 18 11.7**	**+0.9**
	comp=N,0.3nm,0.4s,baz=344,slow=5.3,SNR=10						

*IDC **15** 12:20:03.2±1.0,31°.27N×86°.35E,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.6/38,mbtmp3.7/8,MS3.1/3,Ms1 3.1/3, ms1mx2.6/35,Error ellipse: s-maj=35.7km s-min=19.7km az=64.0*
*ISCJB **15** 12:20:06.9±0.8,31°.30N±0°.10×86°.3E±0°.1,h33km,mb3.6/7, MS3.3/2,Error ellipse: s-maj=19.2km s-min=12.0km az=151.8*
*BJI **15** 12:20:11.0±0.0,31°.78N×86°.75E,h7km,Ms3.9/1, Ms7 3.7/1*
ISC 15 12:20:08.6±1.0,31°.3N±0°.1×86°.4E±0°.2,h35km,n14, σ1§04/11,mb3.6/7,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**12.60**	**4**	*e*P	**Pn**	**12 23 07.3**	**+2.0**
AAK	**Ala-Archa**	**14.80**	**324**	LR	LR	12 30 27.7	
	comp=Z,30nm,18.9s,baz=122,slow=42						
LZH	**Lanzhou**	**15.32**	**67**	*e*P	**Pn**	**12 23 41.4**	**-1.0**
LZH				pP	P	12 23 44.1	-2.7
LZH				sP	pP	12 23 46.3	-11
LZH				LR	LR		
	comp=E,310nm,10.6s						
LZH				LR	LR		
	comp=Z,260nm,11.9s						
CMAR	**Chiang Mai Arr**	**17.07**	**135**	P	**P**	**12 24 06.8**	**+0.7**
	0.4nm,0.3s,baz=313,slow=13,SNR=4.0						
KURBB	**Kurchatov Arra**	**20.22**	**345**	P	**P**	**12 24 39.5**	**-0.9**
	2.7nm,0.8s,baz=162,slow=10,SNR=11						
SONM	**Songino Array**	**22.54**	**37**	P	**P**	**12 25 05.3**	**-0.3**
	1.3nm,0.8s,baz=220,slow=14,SNR=6.7						
ZALV	**Zalesovo Beam**	**22.72**	**358**	P	**P**	**12 25 07.1**	**-0.1**
	1.6nm,0.9s,baz=178,slow=10,SNR=5.9						
KBZ	**Khabaz**	**36.28**	**303**	LR	LR	12 44 10.5	
	comp=Z,39nm,21.8s,baz=71,slow=40						
FINES	**FINESS Array B**	**48.96**	**326**	P	**P**	**12 28 50.4**	**-0.8**
	0.8nm,0.6s,baz=111,slow=8.6,SNR=4.2						
HFS	**Hagfors**	**54.94**	**324**	LR	LR	12 53 51.8	
	comp=Z,36nm,18.8s,baz=116,slow=37						
WRA	**Warramunga Arr**	**68.62**	**131**	P	**P**	**12 31 08.7**	**+0.3**
	0.4nm,0.5s,baz=323,slow=5.7,SNR=12						
ASAR	**Alice Springs**	**71.08**	**134**	P	**P**	**12 31 23.8**	**+0.3**
	0.5nm,0.5s,baz=318,slow=5.9,SNR=18						
TORD	**Torodi Ar. Bea**	**78.81**	**279**	P	**P**	**12 32 08.8**	**+0.5**
	0.5nm,0.7s,baz=54,slow=4.5,SNR=4.4						
YKA	**Yellowknife Ar**	**85.08**	**10**	P	**P**	**12 32 39.3**	**-1.1**
	0.3nm,0.9s,baz=334,slow=4.1,SNR=3.9						

KRSC 15 12:25:58.1±10.0,50°.33N×156°.97E,h54km±10km,ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.64**	**303**	*i* P	Pn	12 26 12.0	+0.7
SKR				*e*S	Sn	12 26 21.0	+0.1
ALID	**Alaid**	**1.05**	**301**	*e*P	Pn	12 26 17.3	+0.6
ALID				*e*S	Sn	12 26 30.4	-0.1
PAU	**Pauzhetka**	**1.14**	**355**	*e*P	Pn	12 26 20.2	+2.4
PAU				*e*S	Sn	12 26 34.8	+2.4
KDTR	**Khodutka, Kamc**	**1.64**	**25**	*e*P	Pn	12 26 27.1	+2.6
KDTR				*e*S	Sn	12 26 46.9	+2.5
ASAK	**Asacha**	**2.13**	**16**	*e*P	Pn	12 26 34.7	+3.3
MTVR	**Mutnovka**	**2.28**	**19**	*e*P	Pn	12 26 36.8	+3.3
MTVR				*e*S	Sn	12 27 03.9	+3.4
RUS	**Russkaya**	**2.31**	**24**	*e*P	Pn	12 26 36.2	+2.4
RUS				*e*S	Sn	12 27 03.5	+2.5
APC	**Apacha**	**2.60**	**3**	*e*P	Pn	12 26 40.9	+3.3
KRMR	**Karymshinskiy**	**2.60**	**16**	*e*P	Pn	12 26 41.2	+3.5
KRMR				*e*S	Sn	12 27 11.7	+3.6
DALK	**Dalny**	**2.92**	**22**	*e*P	Pn	12 26 45.2	+3.1
DALK				*e*S	Sn	12 27 19.5	+3.6
UGLR	**Uglovaya**	**3.10**	**21**	*e*P	Pn	12 26 48.6	+3.9
AVH	**Avacha**	**3.13**	**20**	*e*P	Pn	12 26 49.8	+4.7
AVH				*e*S	Sn	12 27 26.6	+5.3
KOK	**Koryaka**	**3.14**	**19**	*e*P	Pn	12 26 48.5	+3.3
SMAR	**Somma**	**3.15**	**21**	*e*P	Pn	12 26 50.3	+4.9
KRER	**Koryakskii**	**3.17**	**20**	*e*P	Pn	12 26 50.0	+4.3
SDLR	**Sedlovina**	**3.18**	**21**	*e*P	Pn	12 26 48.9	+3.2
NLC	**Nalytchevo**	**3.20**	**27**	*e*P	Pn	12 26 48.4	+2.5
NLC				*e*S	Sn	12 27 25.2	+2.4
KRX	**Arik**	**3.21**	**18**	*e*P	Pn	12 26 51.1	+5.0
SPN	**Mys Shipunski**	**3.36**	**33**	*e*P	Pn	12 26 51.4	+3.3
SPN				*e*S	Sn	12 27 29.2	+2.6
MKZ	**Mys Kozlova**	**5.13**	**33**	*e*P	Pn	12 27 14.9	+2.5
KBTR	**Krutoberegovo**	**6.85**	**29**	*e*P	Pn	12 27 39.3	+3.4
BKI	**Bering**	**7.32**	**45**	*e*S	Sn	12 29 01.9	-2.0

*IDC **15** 12:29:08.9±0.5,32°.41N×105°.16E,h0km,mb4.5/33, mb1 4.6/36,mb1mx4.5/52,mbtmp4.5/36,ML4.0/3,MS3.7/12, Ms1 3.7/12,ms1mx3.5/31,Error ellipse: s-maj=14.4km s-min=10.0km az=37.0*
*MOS **15** 12:29:08.8±0.9,32°.45N×105°.21E,h11km,mb5.0/50,Error ellipse: s-maj=7.1km s-min=4.4km az=113.9*
*ISCJB **15** 12:29:09.9±0.1,32°.50N±0°.02×105°.16E±0°.02,h15km, mb4.7/106,MS3.7/13,Error ellipse: s-maj=2.9km s-min=2.6km az=175.9*
*BJI **15** 12:29:10.5±0.0,32°.49N×105°.21E,h10km,mb4.7/35, mB4.6/24,ML4.7/24,Ms4.4/52,Ms7 4.1/51*
*NEIC **15** 12:29:10.8±1.8,32°.52N×105°.16E,h10km±2km,mb4.7/58, Error ellipse: s-maj=12.6km s-min=11.1km az=187.0*
NEIC Felt at Mianyang.
ISC 15 12:29:11.7±0.3,32°.51N±0°.03×105°.16E±0°.03,h15km,n271, σ1§55/294,mb4.8/106,MS3.8/13,17C,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.99**	**217**	⇑*i* Pn	**Pn**	**12 29 45.3**	**+0.4**
CD2				Pg	**Pg**	**12 29 49.0**	**-1.0**
CD2				Sn	**Sb**	**12 30 11.6**	**-0.8**
CD2				Sg	**Sg**	**12 30 15.4**	**-0.5**
CD2				smax	smax		
	comp=N,26μm,0.7s						
CD2				smax	smax		
	comp=E,16μm,1.0s						
XAN	**Xi'an**	**3.50**	**63**	Pn	**Pn**	**12 30 05.4**	**-0.3**
XAN				Pg	**Pb**	**12 30 14.3**	**+0.9**
XAN				Sn	**Sn**	**12 30 43.1**	**-3.8**
XAN				Sg	**Sb**	**12 30 56.3**	**+0.5**
XAN				smax	smax		
	comp=N,4μm,0.7s						
XAN				smax	smax		
	comp=E,3μm,0.7s						
XAN	**Xi'an**	**3.50**	**63**	*e*Pn	**Pn**	**12 30 05.9**	**+0.2**
XAN	**Xi'an**	**3.50**	**63**	*e*P	**Pn**	**12 30 05.9**	**+0.2**
LZH	**Lanzhou**	**3.73**	**343**	Pn	**Pn**	**12 30 11.8**	**+3.0**
LZH				Pg	**Pg**	**12 30 22.3**	**-0.8**
LZH				Sn	**Sn**	**12 30 51.5**	**-1.0**
LZH				Sg	**Sg**	**12 31 09.8**	**-1.6**
LZH				smax	smax		
	comp=N,6μm,0.8s						
LZH				smax	smax		
	comp=E,11μm,0.7s						
LZH				LR	LR		
	comp=N,7μm,4.6s						
LZH				LR	LR		
	comp=E,8μm,4.9s						
LZH				LR	LR		
	comp=Z,7μm,6.5s						
ENH	**Enshi**	**4.33**	**120**	*e*Pn	**Pn**	**12 30 18.3**	**+1.3**
GYA	**Guiyang**	**6.18**	**167**	⇑*i* Pn	**Pn**	**12 30 41.9**	**-0.6**
GYA				Sn	**Sn**	**12 31 53.6**	**+0.7**
GYA				Sg	**Sg**	**12 32 21.9**	**-8.1**
GYA				smax	smax		
	comp=N,530nm,0.7s						
GYA				smax	smax		
	comp=E,600nm,0.7s						
GYA				LR	LR		
	comp=N,1μm,11.2s						
GYA				LR	LR		
	comp=E,860nm,9.6s						
GYA				LR	LR		
	comp=Z,1μm,10.9s						
KMI	**Kunming**	**7.66**	**197**	Pn	**Pn**	**12 31 02.4**	**-0.6**
KMI				Pg	**Pb**	**12 31 28.3**	**+3.9**
KMI				Sn	**Sn**	**12 32 25.8**	**-3.9**
KMI				smax	smax		
	comp=N,130nm,0.8s						
KMI				smax	smax		
	comp=E,67nm,1.1s						
KMI				LR	LR		
	comp=N,760nm,5.9s						
KMI				LR	LR		
	comp=E,570nm,6.4s						
KMI				LR	LR		
	comp=Z,530nm,8.2s						
KMI	**Kunming**	**7.66**	**197**	*e*Pn	**Pn**	**12 31 03.0**	**0.0**
KMI	**Kunming**	**7.66**	**197**	*e*P	**Pn**	**12 31 03.0**	**0.0**
WHN	**Wuhan**	**8.09**	**102**	P	**Pn**	**12 31 06.3**	**-2.3**
GTA	**Gaotai**	**8.13**	**329**	P	**Pn**	**12 31 10.0**	**+0.7**
GTA				pP	Pb	12 31 14.0	-18
GTA				sP		12 31 16.1	
GTA				S	**Sn**	**12 32 40.8**	**-0.2**
GTA				pmax	pmax		
	comp=Z,39nm,1.0s						
GTA				pmax	pmax		
	comp=Z,120nm,4.8s						
GTA				smax	smax		
	comp=N,120nm,1.2s						
GTA				smax	smax		
	comp=E,120nm,1.2s						
GTA				LR	LR		
	comp=N,2μm,10.0s						
GTA				LR	LR		
	comp=E,1μm,8.6s						
GTA				LR	LR		
	comp=Z,3μm,11.3s						
BTO	**Baotou**	**8.97**	**24**	*e*P	**Pn**	**12 31 20.5**	**-0.3**
HHC	**Hu-ho-hao-te**	**9.78**	**30**	*e*P	**Pn**	**12 31 34.8**	**+2.9**
HHC				S	**Sn**	**12 33 21.4**	**-0.1**
HHC				pmax	pmax		
	comp=Z,120nm,0.8s						
HHC				pmax	pmax		
	comp=Z,390nm,3.8s						
HHC				LR	LR		
	comp=N,1μm,6.9s						
HHC				LR	LR		
	comp=E,1μm,6.9s						
HHC				LR	LR		
	comp=Z,2μm,7.8s						
TIA	**Tai'an**	**10.56**	**66**	P	**Pn**	**12 31 46

25µm,0.8s,247µm
DL2 Dalian 14.82 60 P P 12 32 51.0 +4.5
DL2 S **S** **12 35 43.3 +0.5**
CM31 Chiang Mai Arr 15.07 203 *e*Pn **Pn 12 32 43.9 -0.3**
12nm,0.8s
CMAR Chiang Mai Arr 15.07 203 Pn **Pn 12 32 43.0 -1.2**
0.5nm,0.3s,baz=14,slow=12,SNR=14
UTTA Uttaradit 15.28 197 P **P 12 32 57.8 +6.1**
PANO Nakornpanom 15.31 182 P **P 12 32 50.0 -2.1**
0.3nm,0.9s,28nm
SONA0 Songino Array 15.33 3 *e*Pn **Pn 12 32 47.4 -0.2**
SONM Songino Array 15.33 3 *e*Pn **Pn 12 32 47.9 +0.2**
SONM Songino Array 15.33 3 Pn **Pn 12 32 47.4 -0.2**
0.3nm,0.3s,baz=185,slow=14,SNR=47
SONM Lg Lg 12 37 21.9
0.3nm,0.3s,baz=186,slow=20,SNR=3.2
SONM LR LR 12 39 32.7
comp=Z,162nm,20.5s,baz=178,slow=40
ULN Ulaanbaatar 15.40 5 *e*Pn **Pn 12 32 48.7 +0.2**
19nm,1.0s
ULN Ulaanbaatar 15.40 5*ce*P **Pn 12 32 48.9 +0.4**
ULN pmax pmax
comp=Z,15nm,1.0s
BRDH Bariadhala 15.46 234 LR LR 12 40 10.2
comp=Z,242nm,19.4s,baz=50,slow=43
SKNT Sakolnakorn 15.51 184 P **P 12 32 57.4 +3.1**
comp=Z,18nm,0.9s
YHNB Yeheng 16.24 115 *e*Pn **Pn 12 33 00.7 +1.3**
comp=Z,24nm,1.0s
SSLB Suanglung 16.41 118 *e*Pn **Pn 12 33 02.1 +0.6**
comp=Z,22nm,0.9s
NACB Ninganchiao 16.67 116 *e*Pn **Pn 12 33 05.1 +0.3**
comp=Z,18nm,0.7s
CHAI Chaiyaphum 16.79 191 P **P 12 33 08.0 -0.5**
comp=Z,41µm,0.8s,comp=Z,292µm
YULB Yu-li 16.89 118 *e*Pn **Pn 12 33 08.2 +0.6**
RAMN Ramite 17.04 256 *e*P **Pn 12 33 07.8 -1.9**
comp=Z,211nm,1.1s
JIRN Jiri 17.11 259 *e*P **Pn 12 33 09.7 -1.0**
comp=Z,340nm,1.2s
UMPA Umpang Tak 17.21 201 P **P 12 33 16.9 +3.7**
comp=Z,38µm,0.8s
WMQ Urumqi 17.73 315 *e*P **P 12 33 19.5 +0.6**
WMQ sP sP 12 33 26.0 +0.5
WMQ pmax pmax
comp=Z,46nm,0.7s
WMQ pmax pmax
comp=Z,350nm,7.9s
WMQ LR LR
comp=Z,2µm,10.3s
WMQ LR LR
comp=Z,1µm,10.3s
WMQ LR LR
comp=Z,1µm,15.1s
PKI Pulchoki 17.79 259 *e*P **Pn 12 33 17.6 -1.5**
comp=Z,99nm,0.8s
PKIN Phulchoki 17.79 259 *e*P **Pn 12 33 17.4 -1.7**
comp=Z,68nm,0.8s
KKN Kakani 17.82 260 *e*P **Pn 12 33 17.9 -1.5**
comp=Z,182nm,0.9s
ZAK Zakamensk 17.91 356 *e*P **P 12 33 21.2 +0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
DMN Daman 18.02 259 *e*P **Pn 12 33 20.2 -1.8**
comp=Z,188nm,0.9s
GKN Gorkha 18.28 261 *e*P **Pn 12 33 24.2 -0.8**
comp=Z,155nm,0.7s
SRAK Srakaew 18.64 189 P **Pn 12 33 33.2 +4.0**
comp=Z,128µm,0.7s
TJN Taejon 18.71 72*ce*P **Pn 12 33 33.3 +3.3**
SRDT SRDT 18.90 198 P **Pn 12 33 37.8 +5.4**
comp=Z,12nm,1.1s,comp=Z,3µm
DANN Dangsing 18.91 263 *e*P **P 12 33 31.2 -0.9**
comp=Z,63nm,0.6s
TLY Talaya 19.18 357 *i* P **Pn 12 33 35.9 +0.2**
KOLN Koldanda 19.22 261 *e*P **P 12 33 34.6 -0.9**
comp=Z,219nm,0.9s
KS15 Wonju Array Si 19.25 69 *e*P **P 12 33 34.3 -1.2**
comp=Z,19nm,0.8s
KSAR Wonju Array Be 19.25 69 *e*P **P 12 33 34.9 -0.6**
KSAR Wonju Array Be 19.25 69 *e*P **P 12 33 34.9 -0.6**
KSRS Korea Array 19.28 69 P **P 12 33 35.8 -0.1**
comp=Z,0.4nm,0.3s,baz=250,slow=10,SNR=17
MOY Mondy 19.38 352 *e*P **Pn 12 33 39.2 +1.1**
MOY pmax pmax
comp=Z,27nm,1.9s
CN2 Changchun 19.48 49 *e*P **Pn 12 33 41.6 +2.3**
CN2 *e*S **Sn 12 37 14.9 -2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,260nm,12.0s
CN2 LR LR
comp=Z,250nm,12.0s
CN2 LR LR
comp=Z,200nm,13.0s
PYUN Piuthan 19.63 263 *e*P **P 12 33 40.0 0.0**
comp=Z,179nm,0.8s
IRK Irkutsk 19.73 358 *e*P **Pn 12 33 42.8 +0.7**
IRK pmax pmax
comp=Z,128nm,1.2s
HIA Hailar 19.98 29 *i* P **P 12 33 43.8 +0.3**
HIA pmax pmax
comp=Z,50nm,0.9s
PHET Kaeng Krachan 20.16 196 P Pn 12 33 46.6 -0.9
comp=Z,57µm,0.8s
JNU Nakatsue 21.61 81 *e*P **P 12 34 01.1 -0.2**
comp=Z,12nm,0.8s
JNU Nakatsue 21.61 81 P **P 12 34 01.8 +0.6**
comp=Z,7.0nm,0.8s,baz=3.2,slow=3.9,SNR=5.6
DGZ Jazzator, Alta 21.66 328*c i*P **P 12 34 02.5 +0.8**
DGZ pmax pmax
comp=Z,15nm,0.7s
MK31 Makanchi Array 22.55 316 *e*P **P 12 34 12.0 +0.8**
comp=Z,26nm,0.8s
MK31 Makanchi Array 22.55 316 *i* P **P 12 34 11.8 +0.7**
MK31 pmax pmax
comp=Z,26nm,0.7s
MK32 Makanchi Array 22.55 316 *e*P **P 12 34 11.9 +0.8**
MKAR Makanchi Array 22.55 316 *e*P **P 12 34 11.7 +0.5**
MKAR Makanchi Array 22.55 316 *e*P **P 12 34 11.7 +0.5**
MKAR Makanchi Array 22.55 316 P **P 12 34 11.9 +0.8**
comp=Z,32nm,0.8s,baz=114,slow=12,SNR=101
MKAR LR LR 12 43 39.0
comp=Z,239nm,18.8s,baz=110,slow=38
MAKZ Makanchi 22.74 316 *e*P **P 12 34 14.0 +0.8**
comp=Z,38nm,1.1s
MAKZ Makanchi 22.74 316 P **P 12 34 13.6 +0.4**
MAKZ pmax pmax
comp=Z,32nm,1.1s
PDGK Podgornoye 22.86 306 *i* P **P 12 34 15.0 +0.4**
PDGK pmax pmax
comp=Z,100nm,0.9s
TGY Tagaytay City 23.31 138 LR LR 12 43 34.9
comp=Z,83nm,18.6s,baz=2.0,slow=37
TARG Taragay, Kyrgy 23.59 301 *e*P **P 12 34 24.5 +2.2**
comp=Z,37nm,0.8s
USRK Ussuriysk Ar. 23.95 53 *e*P **P 12 34 24.7 -0.5**
USRK Ussuriysk Ar. 23.95 53 P **P 12 34 27.0 +1.7**
USRK Ussuriysk Ar. 23.95 53 P **P 12 34 27.0 +1.7**
comp=Z,3.1nm,0.8s,baz=239,slow=8.2,SNR=7.4
KSH Kashi 24.55 295 P **P 12 34 35.3 +4.3**
KSH pP sP 12 34 39.6 +1.6
KSH PP PnPn 12 35 13.6 +12
KSH S **S** **12 38 54.1 +2.8**
KSH SS SnSn 12 39 52.9 +17
KSH pmax pmax
comp=Z,65nm,1.3s
KSH LR LR
comp=Z,130nm,8.7s
KSH LR LR
comp=Z,130nm,7.3s
KSH LR LR
comp=Z,430nm,7.7s
NRN Naryn 24.84 299 *e*P **P 12 34 35.6 +1.7**
comp=Z,60nm,0.8s
NRN Naryn 24.84 299 *e*P **P 12 34 35.6 +1.7**
NRN pmax pmax
comp=Z,61nm,0.8s
ULHL Ulahol 24.84 301 P **P 12 34 35.6 +1.9**
SNR=23
BOOM Boomskoye usch 25.12 302 *e*P **P 12 34 37.4 +1.2**
comp=Z,41nm,0.9s
BOOM Boomskoye usch 25.12 302 *e*P **P 12 34 37.4 +1.2**
BOOM pmax pmax
comp=Z,41nm,0.9s
TKM2 Tokmak 2 25.47 303 P **P 12 34 41.0 +1.6**
SNR=26
TKM2 Tokmak 2 25.47 303 P **P 12 34 40.2 +0.8**
TKM2 pmax pmax
comp=Z,17nm,0.6s
KZA Kyzart 25.52 301 P **P 12 34 42.1 +2.0**
SNR=44
KBK Karagaybulak 25.87 302 P **P 12 34 44.9 +1.9**
SNR=11
ZAA0 Zalesovo Array 25.87 332 *e*P **P 12 34 43.1 +0.4**
comp=Z,20nm,1.1s
ZALV Zalesovo Beam 25.87 332 *e*P **P 12 34 43.0 +0.4**
ZALV Zalesovo Beam 25.87 332 P **P 12 34 42.9 +0.2**
comp=Z,10nm,0.5s,baz=135,slow=9.8,SNR=47
ZALV LR LR 12 45 10.2
comp=Z,190nm,19.9s,baz=74,slow=37
ZAA1 Zalesovo Array 25.88 332 *e*P **P 12 34 42.9 +0.2**
KLR Kul'dur 25.94 42 *i* P **P 12 34 45.1 +1.7**
KLR pmax pmax
comp=Z,12nm,0.8s
KLR Kul'dur 25.94 42 P **P 12 34 44.3 +1.0**
comp=Z,3.2nm,0.7s,baz=256,slow=10,SNR=19
BOD Bodaibo 26.02 11 *e*P **P 12 34 44.5 +0.6**
BOD pmax pmax
comp=Z,8.0nm,1.3s
UCH Uchtor 26.09 301 P **P 12 34 47.2 +1.9**
SNR=46
AAK Ala-Archa 26.19 302 *e*P **P 12 34 46.1 +0.2**
comp=Z,9.5nm,0.8s
AAK Ala-Archa 26.19 302*ce*P **P 12 34 47.6 +1.7**
AAK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 26.19 302 P **P 12 34 45.3 -0.6**
comp=Z,5.9nm,0.8s,baz=85,slow=7.0,SNR=12
AAK LR LR 12 47 07.2
comp=Z,262nm,18.9s,baz=91,slow=41
USP Ospenovka 26.33 303 P **P 12 34 48.7 +1.7**
SNR=29
ZEA Zeya 26.44 30 *e*P **P 12 34 52.4 +4.6**
ZEA pmax pmax
comp=Z,14nm,1.2s
AML Almayashu 26.67 300 P **P 12 34 52.2 +1.7**
SNR=47
KURBB Kurchatov Arra 26.69 321 P **P 12 34 50.8 +0.7**
comp=Z,13nm,0.8s,baz=128,slow=9.1,SNR=96
KURBB PcP **PcP** **12 38 12.3 -1.0**
comp=Z,1.3nm,0.5s,baz=118,slow=2.2,SNR=5.8
KURK Kurchatov 26.69 321 *e*P **P 12 34 50.1 +0.1**
comp=Z,18nm,0.8s
KURK Kurchatov 26.69 321*ce*P **P 12 34 50.9 +0.8**
KURK pmax pmax
comp=Z,34nm,1.3s
NIL Nilore 26.70 281 P **P 12 34 50.9 +0.5**
EKS2 Erkin-Say 26.71 301 P **P 12 34 52.0 +1.5**
SNR=7.3
MAJO Matsushiro 27.45 72 *e*P **P 12 34 57.3 +0.2**
MAJO Matsushiro 27.45 72 *e*P **P 12 34 57.3 +0.2**
MJAR Matsushiro Arr 27.45 72 P **P 12 34 57.3 +0.2**
comp=Z,1.6nm,0.8s,baz=260,slow=7.5,SNR=4.9
GAR Garm 28.88 293 *e*P **P 12 35 10.8 +0.8**
comp=Z,31nm,0.6s
GAR Garm 28.88 293 *e*P **P 12 35 10.8 +0.8**
GAR pmax pmax
comp=Z,31nm,0.6s
KK31 Karatay Array 29.15 301 *e*P **P 12 35 13.1 +0.8**
comp=Z,10nm,0.5s
KK31 Karatay Array 29.15 301 *e*P **P 12 35 13.0 +0.8**
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 29.15 301 *e*P **P 12 35 12.8 +0.6**
comp=Z,10nm,0.5s
KKAR *e*P **P** **12 35 13.1 +0.8**
KKAR Karatay Array 29.15 301 *e*P **P 12 35 12.8 +0.6**
KKAR *e* 12 35 13.1
KKAR pmax pmax
comp=Z,10.0nm,0.5s
OTUK Ortayu 29.25 312 *i* P **P 12 35 13.7 +0.7**
OTUK pmax pmax
comp=Z,17nm,0.7s
KBL Kabul 30.07 284 *e*P **P 12 35 21.7 +1.0**
comp=Z,28nm,1.1s
KBL Kabul 30.07 284 *e*P **P 12 35 21.7 +1.0**
KBL pmax pmax
comp=Z,28nm,1.1s
SBUM Sibu 30.64 166 *e*P **P 12 35 25.1 -0.4**
comp=Z,2.9nm,0.7s
YSS Yuzh-Sakhalins 31.98 52⇑ *e*P **P 12 35 38.9 +1.9**
YSS pmax pmax
comp=Z,12nm,1.2s
BVAR Borovoye Array 32.27 320 P **P 12 35 40.2 +0.6**
comp=Z,4.7nm,0.7s,baz=108,slow=9.5,SNR=28
BRVK Borovoye 32.34 320 *e*P **P 12 35 40.5 +0.3**
comp=Z,8.6nm,0.8s
BRVK Borovoye 32.34 320*ce*P **P 12 35 41.2 +1.0**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
YAK Yakutsk 33.47 21 *e*P **P 12 35 47.4 -2.5**
YAK *e**PP **pP** **12 35 55.4 +0.5**
YAK *e*S **S** **12 41 05.7 -5.1**
YAK *e* 12 46 17.2
YAK pmax pmax
comp=Z,54nm,0.8s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,388nm,5.4s
YAK pmax pmax
comp=E,131nm,3.7s
YAK pmax pmax
comp=N,160nm,3.7s
YAK smax smax
comp=N,178nm,3.7s
YAK smax smax
comp=E,140nm,4.0s
YAK MLR MLR
comp=Z,411nm,16.0s
YAK MLR MLR
comp=E,249nm,15.0s
YAK MLR MLR
comp=N,369nm,19.0s
LUWI Luwuk 37.30 150 *e*P **P 12 36 22.8 -0.6**
comp=N,21nm,0.8s
AB31 Akbulak array 37.43 310 *i* P **P 12 36 25.1 +0.9**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 37.43 310 *e*P **P 12 36 25.0 +0.9**
comp=Z,10nm,0.6s
ABKAR *e*P **P** **12 36 25.0 +0.9**
NRIK Noril'sk 38.19 350 P **P 12 36 31.2 +0.9**
comp=Z,6.3nm,0.6s,baz=148,slow=6.9,SNR=9.9
NRIK LR LR 12 53 26.7
comp=Z,145nm,18.0s,baz=203,slow=38
GEYT Alibeck 38.48 292 P **P 12 36 34.9 +1.6**
comp=Z,17nm,0.9s,baz=101,slow=4.8,SNR=22
GYA0B ALIBECK ARRAY 38.48 292 *e*P **P 12 36 34.9 +1.6**
comp=Z,40nm,1.1s
AKTO Aktyubinsk 38.85 312 P **P 12 36 37.2 +1.0**
comp=Z,5.7nm,0.7s,baz=89,slow=10,SNR=9.4
SVE Sverdlovsk 38.92 322 *e*P **P 12 36 38.0 +1.4**
SVE pmax pmax
comp=Z,25nm,1.1s
KAPI Kappang 39.82 157 P **P 12 36 43.6 -0.8**
comp=Z,13nm,0.8s,baz=115,slow=8.0,SNR=3.6
ARU Arti 39.88 321 *e*P **P 12 36 44.5 -0.1**
comp=Z,26nm,0.9s
ARU Arti 39.88 321*c i*P **P 12 36 45.3 +0.6**
ARU **12 38 15.9**
ARU S **S** **12 42 50.3 +1.5**
ARU SS **SS** **12 45 44.3 -0.7**
ARU pmax pmax
comp=Z,33nm,1.0s
ARU Arti 39.88 321 P **P 12 36 44.8 +0.2**
comp=Z,5.3nm,0.7s,baz=104,slow=5.4,SNR=24
TIXI Tiksi 41.20 11 *e*P **P 12 36 54.3 -1.0**
TIXI *e*P **P** **12 36 54.7 -0.6**
TIXI Tiksi 41.20 11*ce*P **P 12 36 55.2 -0.1**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 41.20 11 P **P 12 36 54.3 -1.0**
comp=Z,1.6nm,0.4s,baz=279,slow=2.8,SNR=5.8
PEA1 Petropavlovsk- 42.56 45 *e*P **P 12 37 07.3 +0.6**
PETK Petropavlovsk- 42.56 45 P **P 12 37 07.3 +0.6**
comp=Z,3.0nm,1.0s,baz=237,slow=5.0,SNR=3.4
KIRV Kirov 45.19 322 P **P 12 37 27.8 +0.1**
comp=Z,6.5nm,0.4s,baz=109,slow=23,SNR=4.8
PRGR Permogore 47.58 326 P **P 12 37 45.2 -1.2**
PRGR pmax pmax
comp=Z,14nm,0.5s
ZEI Tsey 48.61 301 *e*P **P 12 37 54.8 -0.2**
ZEI pmax pmax
comp=Z,7.0nm,0.8s
AKH Akhalkalaki 49.14 299 *e*P **P 12 37 59.1 0.0**
comp=Z,12nm,0.7s
AKH Akhalkalaki 49.14 299 *e*P **P 12 37 59.1 0.0**
AKH pmax pmax
comp=Z,12nm,0.7s
KBZ Khabaz 49.19 302 P **P 12 37 59.6 +0.5**
comp=Z,3.9nm,0.6s,baz=104,slow=5.7,SNR=12
VRH Novokhopyorsk 49.19 312 *e*P **P 12 37 57.7 -1.3**
VRH pmax pmax
comp=Z,20nm,0.6s
KIV Kislovodsk 49.30 302 *e*P **P 12 37 59.4 -0.8**
KIV pmax pmax
comp=Z,40nm,0.9s
KIV MLR MLR
comp=Z,150nm,16.0s
BILL Bilibino 49.52 26 *e*P **P 12 38 00.9 -0.4**
comp=Z,3.3nm,0.6s
BILL Bilibino 49.52 26 *i* P **P 12 37 59.8 -1.5**
BILL *i* 12 39 19.9
BILL pmax pmax
comp=Z,4.0nm,1.1s
KLMR Klimovskoe 50.43 325 *e*P **P 12 38 06.6 -1.7**
KLMR pmax pmax
comp=Z,24nm,0.9s
VSR Storozhevoye 50.79 312 *e*P **P 12 38 08.8 -2.4**
VSR pmax pmax
comp=Z,20nm,1.2s
LPSR Galich'ya Gora 50.83 314 *e*P **P 12 38 10.8 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
TMCR Tamitsa 51.33 329 *e*P **P 12 38 15.6 +0.6**
TMCR pmax pmax
comp=Z,24nm,1.2s
OBN Obninsk 52.04 317 *i* P **P 12 38 19.7 -0.8**
OBN *i* 12 38 24.5
OBN *i* 12 39 38.3
OBN pmax pmax
comp=Z,13nm,0.9s
OBN MLR MLR
comp=Z,104nm,16.0s
JOF Joensuu 54.32 327 P **P 12 38 36.6 -0.6**
JOF pmax pmax
comp=Z,11nm,2.3s
MSF Maaselka 55.18 331 P **P 12 38 42.6 -0.8**
MSF pmax pmax
comp=Z,17nm,2.9s
SGF Sodankyl 56.10 333 P **P 12 38 49.8 -0.1**
SGF pmax pmax
comp=Z,26nm,2.3s
ARA0 ARCESS Array S 56.35 335 *e*P **P 12 38 52.0 +0.3**
ARCES ARCESS Array B 56.35 335 P **P 12 38 52.0 +0.3**
comp=Z,9.0nm,0.8s,baz=82,slow=7.9,SNR=25
OUL Oulu 56.55 330 P **P 12 38 52.7 -0.4**
OUL pmax pmax
comp=Z,20nm,0.8s
SUF Sumiainen 56.70 327 P **P 12 38 53.9 -0.4**
BR101 Keskin Array S 56.83 299 *e*P **P 12 38 55.6 -0.1**
BR131 Keskin Array S 56.83 299 *e*P **P 12 38 55.7 -0.1**
comp=Z,6.1nm,0.8s
BRTR Keskin Array B 56.83 299 *e*P **P 12 38 55.5 -0.3**
BRTR Keskin Array B 56.83 299*ce*P **P 12 38 55.9 +0.1**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 56.83 299 P **P 12 38 55.6 -0.1**
comp=Z,4.8nm,0.8s,baz=99,slow=7.3,SNR=30
BRTR LR LR 13 06 55.1
comp=Z,30nm,19.8s,baz=70,slow=40
FIA0 FINESS Array S 56.90 326 *e*P **P 12 38 55.5 -0.2**
FINES FINESS Array B 56.90 326 P **P 12 38 55.5 -0.2**
comp=Z,6.1nm,0.8s,baz=94,slow=8.3,SNR=20
FINES LR LR 13 05 26.1
comp=Z,74nm,19.9s,baz=72,slow=38
VSU Vasula 57.03 322*ce*P **P 12 38 57.3 +0.7**
VSU pmax pmax
comp=Z,31nm,0.6s
AKASG Malin Array Be 57.08 313 P **P 12 38 56.9 -0.2**
comp=Z,5.7nm,0.7s,baz=67,slow=6.6,SNR=22
AKASG LR LR 13 04 48.5
comp=Z,78nm,19.8s,baz=90,slow=37
AKBB Malin Array Si 57.08 313 *e*P **P 12 38 57.0 -0.1**
comp=Z,5.8nm,1.4s
KIEV Kiev 57.09 313 *e*P **P 12 38 57.0 -0.2**
comp=Z,8.2nm,0.7s
VAF Ylistaro 58.23 328 P **P 12 39 05.7 +0.7**
VAF pmax pmax
comp=Z,16nm,1.1s
COEN Coen 58.80 136 *e*P **P 12 39 12.2 +2.6**
comp=Z,16nm,0.9s
WRAB Tennant Creek 59.16 148 *e*P **P 12 39 10.1 -1.9**
comp=Z,25nm,0.8s
WRAB Tennant Creek 59.16 148*ce*P **P 12 39 11.9 -0.1**
WRAB pmax pmax
comp=Z,35nm,1.0s
WR1 Warramunga Arr 59.16 148 *e*P **P 12 39 10.7 -1.4**
WRA Warramunga Arr 59.16 148 P **P 12 39 10.7 -1.4**
comp=Z,16nm,0.7s,baz=345,slow=7.2,SNR=36
WB2 Warramunga Arr 59.17 148 *e*P **P 12 39 11.2 -1.0**
comp=Z,27nm,0.8s
CFR Carcaliu 59.18 307 P **P 12 39 11.8 -0.1**
CFR pmax pmax
comp=Z,4.0nm,1.3s
BURAR Bucovina Array 60.41 310 *e*P **P 12 39 20.5 -0.1**
BURAR Bucovina Array 60.41 310 P **P 12 39 20.5 -0.1**
BURAR pmax pmax
comp=Z,33nm,0.9s
BUR08 Bucovina Ar. S 60.41 310 *e*P **P 12 39 20.4 -0.2**
comp=Z,6.9nm,1.2s
LVV L'vov 60.53 313 *e*P **P 12 39 21.0 -0.2**
LVV *e*S **S** **12 47 31.5 -4.8**
KWP Kalwaria Pacla 61.41 313 *e*P **P 12 39 27.3 +0.2**
KWP Kalwaria Pacla 61.41 313 *e*P **P 12 39 27.0 -0.2**
comp=Z,283nm,0.8s
KWP Kalwaria Pacla 61.41 313 *e*P **P 12 39 27.3 +0.2**
KOLS Kolonicke sedl 61.89 312 *e*P **P 12 39 31.1 +0.6**
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 61.89 312 *e*P **P 12 39 31.0 +0.6**
AS31 Alice Springs 62.25 150 *e*P **P 12 39 32.0 -1.1**
comp=Z,1.8nm,0.8s
ASAR Alice Springs 62.25 150 *e*P **P 12 39 32.3 -0.8**
ASAR Alice Springs 62.25 150 P **P 12 39 31.9 -1.2**
comp=Z,4.8nm,0.7s,baz=328,slow=6.4,SNR=37
NIE Niedzica 62.96 313 P **P 12 39 38.8 +1.2**
NIE pmax pmax
comp=Z,5.0nm,1.0s
OJC Ojcow 63.01 314 *e*P **P 12 39 37.8 -0.1**
OJC Ojcow 63.01 314 *e*P **P 12 39 37.7 -0.2**
comp=Z,25nm,1.2s
OJC Ojcow 63.01 314 *e*P **P 12 39 37.8 -0.1**
NB2 NORSAR Subarra 63.96 327 P **P 12 39 42.7 -1.3**
comp=Z,2.5nm,0.5s,baz=70,slow=6.9
NB2 NORSAR Subarra 63.96 327 P **P 12 39 41.5 -2.5**
NB2 pmax pmax
comp=Z,2.0nm,0.5s
NB200 NORSAR Array S 63.96 327 *e*P **P 12 39 42.9 -1.1**
NOA NORSAR Array B 63.96 327 P **P 12 39 42.9 -1.1**
comp=Z,3.7nm,0.6s,baz=70,slow=6.6,SNR=16
NOA LR LR 13 08 38.3
comp=Z,42nm,19.6s,baz=70,slow=37
NC204 NORSAR Array S 64.08 328 *e*P **P 12 39 44.3 -0.6**
VYHS Vyhne 64.18 312 *e*P **P 12 39 45.9 +0.2**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 64.18 312 *e*P **P 12 39 45.9 +0.2**
MORC Moravsky Berou 64.53 314 *e*P **P 12 39 47.8 -0.1**
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 64.53 314 P **P 12 39 48.8 +0.8**
MORC pmax pmax
comp=Z,13nm,0.9s
MORC Moravsky Berou 64.53 314 *e*P **P 12 39 48.1 +0.1**
GRG Griva 64.53 304 P **P 12 39 47.8 -0.3**
GRG pmax pmax
comp=Z,12nm,1.2s
JAVC Velka Javorina 64.78 313 *e*P **P 12 39 51.5 +1.9**
KSP Ksiaz 64.89 316 *e*P **P 12 39 51.1 +0.8**
KSP Ksiaz 64.89 316 *e*P **P 12 39 51.1 +0.8**
DPC Dobruska-Polom 65.05 315 *e*P **P 12 39 52.0 +0.6**
DPC *e* 12 39 59.0

DPC	**Dobruska-Polom**	**65.05**	**315**	*e*P	**P**	**12 39 52.0**	**+0.6**
DPC				*e*x	x	12 39 59.0	
UPC	**Upice**	**65.18**	**315**	*e*P	**P**	**12 39 53.3**	**+1.1**
UPC	**Upice**	**65.18**	**315**	*e*P	**P**	**12 39 53.3**	**+1.1**
VRAC	**Vranov**	**65.27**	**314**	*e*P	**P**	**12 39 53.3**	**+0.5**
VRAC	**Vranov**	**65.27**	**314**	P	**P**	**12 39 53.2**	**+0.5**
	comp=Z,3.3nm,0.4s,baz=65,slow=8.8,SNR=4.2						
KRUC	**Moravsky**	**65.48**	**314**	*e*P	**P**	**12 39 54.2**	**+0.1**
PRU	**Pruhonice**	**66.25**	**315**	*e*P	**P**	**12 39 59.9**	**+0.9**
PRU	**Pruhonice**	**66.25**	**315**	*e*P	**P**	**12 39 59.9**	**+0.9**
BRG	**Berggiesshubel**	**66.26**	**316**	*i* P	**P**	**12 39 59.2**	**+0.1**
	comp=Z,8.9nm,0.9s						
BRG				*i*		12 40 05.9	
	comp=Z,8.6nm,0.9s						
BRG	**Berggiesshubel**	**66.26**	**316**	*i* P	**P**	**12 39 59.2**	**+0.1**
BRG				*i*		12 40 05.9	
BRG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CLL	**Collm**	**66.64**	**317**	*i* P	**P**	**12 40 01.7**	**+0.2**
CLL				pmax	pmax		
	comp=Z,12nm,1.3s						
CLL	**Collm**	**66.64**	**317**	*i* P	**P**	**12 40 01.7**	**+0.2**
	comp=Z,12nm,1.3s						
PPLA	**Purkeypile**	**67.00**	**29**	*e*P	**P**	**12 40 03.7**	**-0.1**
	comp=Z,8.8nm,0.9s						
GEC2	**GERESS Array S**	**67.20**	**314**	*e*P	**P**	**12 40 05.8**	**+0.5**
	comp=Z,7.1nm,1.1s						
GERES	**GERESS Array B**	**67.20**	**314**	*e*P	**P**	**12 40 05.0**	**-0.3**
GERES	**GERESS Array B**	**67.20**	**314**	P	**P**	**12 40 05.5**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=79,slow=6.9,SNR=14						
MDM	**Murphy Dome**	**67.59**	**26**	*e*P	**P**	**12 40 06.6**	**-0.7**
	comp=Z,4.3nm,0.8s						
BMAR	**Burnt Mountain**	**67.63**	**23**	*e*P	**P**	**12 40 07.2**	**-0.4**
ILAR	**Eielson Array**	**68.18**	**26**	P	**P**	**12 40 09.7**	**-1.4**
	comp=Z,1.0nm,0.9s,baz=275,slow=4.8,SNR=7.0						
ILB	**Eielson Array**	**68.18**	**26**	*e*P	**P**	**12 40 09.0**	**-2.1**
	comp=Z,6.9nm,1.5s						
PRP	**Porcupine Dome**	**68.30**	**25**	*e*P	**P**	**12 40 11.4**	**-0.6**
	comp=Z,3.0nm,0.8s						
KDAK	**Kodiak Island**	**69.17**	**34**	*ce*P	**P**	**12 40 20.5**	**+3.2**
RIDG	**Independent Ri**	**69.48**	**27**	*e*P	**P**	**12 40 18.3**	**-0.9**
	comp=Z,4.9nm,0.6s						
DAVOX	**Davos/Dischmat**	**70.42**	**313**	P	**P**	**12 40 23.7**	**-1.7**
	comp=Z,7.6nm,0.7s,baz=64,slow=2.5,SNR=8.2						
INK	**Inuvik**	**70.53**	**20**	*e*P	**P**	**12 40 24.9**	**-0.6**
	comp=Z,2.7nm,0.7s						
BCAR	**Beaver Creek A**	**71.00**	**26**	*e*P	**P**	**12 40 28.4**	**-0.2**
DAWY	**Dawson**	**71.29**	**25**	*e*P	**P**	**12 40 30.5**	**+0.2**
	comp=Z,2.1nm,0.8s						
KMBO	**Kilima Mbogo**	**72.10**	**257**	*e*P	**P**	**12 40 35.0**	**-1.2**
	comp=Z,7.5nm,1.2s						
KMBO	**Kilima Mbogo**	**72.10**	**257**	LR	LR	13 11 16.5	
	comp=Z,37nm,20.0s,baz=94,slow=35						
RES	**Resolute Bay**	**72.25**	**5**	*e*P	**P**	**12 40 35.1**	**-0.7**
	comp=Z,4.6nm,1.1s						
RES	**Resolute Bay**	**72.25**	**5**	P	**P**	**12 40 35.8**	**0.0**
RES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
STKA	**Stephens Creek**	**72.72**	**148**	*e*P	**P**	**12 40 37.5**	**-1.6**
	comp=Z,1.4nm,0.8s						
STKA	**Stephens Creek**	**72.72**	**148**	P	**P**	**12 40 37.6**	**-1.5**
	comp=Z,6.1nm,0.7s,baz=286,slow=7.4,SNR=6.4						
YKW3	**Yellowknife Ar**	**80.02**	**18**	*e*P	**P**	**12 41 19.5**	**-0.7**
	comp=Z,2.6nm,0.7s						
YKA	**Yellowknife Ar**	**80.08**	**18**	P	**P**	**12 41 19.7**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=329,slow=5.2,SNR=30						
YKB5	**Yellowknife Ar**	**80.08**	**18**	*e*P	**P**	**12 41 19.7**	**-0.8**
ESDC	**Sonseca Array**	**82.73**	**313**	P	**P**	**12 41 34.6**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=28,slow=5.1,SNR=4.1						
MDT	**Midelt**	**87.25**	**307**	P	**P**	**12 41 57.6**	**-0.4**
	comp=Z,4.7nm,0.6s,baz=274,slow=7.8,SNR=5.8						
FFC	**Flin Flon**	**90.03**	**15**	*e*P	**P**	**12 42 09.9**	**-0.7**
	comp=Z,4.6nm,0.8s						
FFC	**Flin Flon**	**90.03**	**15**	*ce*P	**P**	**12 42 10.8**	**+0.2**
TOA1	**Torodi Ar. Sit**	**94.05**	**288**	*e*P	**P**	**12 42 29.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**94.05**	**288**	P	**P**	**12 42 29.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=56,slow=5.4,SNR=2.8						
TXAR	**Lajitas Array**	**112.68**	**27**	PKKPbc	PKKPbc	12 58 35.8	-0.3
	comp=Z,0.3nm,0.7s,baz=131,slow=4.0,SNR=3.3						
VNDA	**Vanda**	**114.91**	**168**	PKP	PKPdf	12 47 52.2	+1.5
	comp=Z,0.5nm,0.7s,baz=321,slow=4.0,SNR=3.4						
PTGA	**Pitinga**	**145.41**	**333**	*e*PKPbc	**PKPbc**	**12 48 48.6**	**-1.1**
OTAV	**Otavalo**	**147.25**	**7**	*e*PKPbc	**PKPbc**	**12 48 55.6**	**-0.1**
OTAV	**Otavalo**	**147.25**	**7**	*e*PKP2	**PKPbc**	**12 48 55.6**	**-0.1**

SJA 15 12:36:19.7±0.8, 31°.50S×68°.60W, h115km±2km, ML3.4, MW3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.04**	**132**	*e*P	Pn	12 36 36.4	+0.8
SJA				AMPG		12 36 36.6	
	comp=Z,17μm,0.3s						
SJA				*e*S	Sn	12 36 47.8	+0.4
ZON	**Zonda**	**0.08**	**234**	*e*P	Pn	12 36 36.1	+0.5
ZON				*e*S	Sn	12 36 48.2	+0.7
ZON				IAML		12 36 49.1	
	comp=Z,627nm,0.2s						
RTLL	**Cerro Villicun**	**0.20**	**33**	*e*P	Pn	12 36 36.3	+0.5
RTLL				IAML		12 36 36.6	
	comp=Z,1μm,0.3s						
RTLL				*e*S	Sn	12 36 48.9	+1.0
CFA	**Coronel Fontan**	**0.33**	**109**	*e*P	Pn	12 36 36.8	+0.6
CFA				*e*S	Sn	12 36 49.3	+0.6
RTCV	**Cerro Valdivia**	**0.37**	**172**	*e*P	Pn	12 36 37.1	+0.7
RTCV				*e*S	Sn	12 36 49.9	+0.8
AMOG	**MOGNA**	**0.56**	**9**	*e*P	Pn	12 36 38.5	+0.9
RTLS	**Leoncito**	**0.67**	**243**	*e*P	Pn	12 36 40.0	+1.3
RTLS				*e*S	Sn	12 36 54.3	+1.5
RTLS				IAML		12 36 55.7	
	comp=Z,684nm,0.5s						
AUSP	**Uspallata**	**0.99**	**223**	*e*P	Pn	12 36 42.2	+0.7
AUSP				*e*S	Sn	12 36 59.3	+1.3
ACCO	**Cerro Coronel**	**0.99**	**336**	*e*P	Pn	12 36 42.6	+1.0
ACCO				*e*S	Sn	12 36 60.0	+1.9
ASAL	**Salagasta**	**1.11**	**190**	*e*P	Pn	12 36 43.4	+0.8
ASAL				*e*S	Sn	12 37 00.8	+1.0
ARCO	**CERRO ARCO**	**1.37**	**192**	*e*P	Pn	12 36 46.3	+0.8
ARCO				*e*S	Sn	12 37 06.9	+1.9
ARCO				IAML		12 37 07.3	
	comp=Z,523nm,0.3s						
ACAN	**Cantantal**	**1.43**	**123**	*e*P	Pn	12 36 47.1	+1.1
ACAN				*e*S	Sn	12 37 06.6	+0.6
AROD	**Rodeo**	**1.52**	**330**	*e*P	Pn	12 36 48.6	+1.1
AROD				*e*S	Sn	12 37 10.1	+1.6
AAGR	**Agrelo**	**1.59**	**187**	*e*P	Pn	12 36 49.0	+1.0
AAGR				*e*S	Sn	12 37 10.4	+0.7
AGUA	**GUANDACOL**	**2.01**	**3**	*e*P	Pn	12 36 54.6	+1.5
APLL	**PUNTA DE LOS L**	**2.09**	**59**	*e*P	Pn	12 36 54.9	+0.7
APLL				IAML		12 37 21.1	
	comp=Z,78nm,0.3s						
APLL				*e*S	Sn	12 37 21.2	+0.8

ISCJB ***15*** *12:48:48.0±0.6, 40°.64N±0°.04×27°.30E±0°.04, h12km±4km, Error ellipse: s-maj=7.6km s-min=4.3km az=29.2*
ISK ***15*** *12:48:47.8, 40°.64N×27°.32E, h7km, ML1.9/11*
DDA ***15*** *12:48:48.5, 40°.63N×27°.33E, h7km±3km, ML2.7*
ISC 15 12:48:48.4±1.0, 40°.63N±0°.04×27°.29E±0°.03, h12km±6km, n15, σ0°41/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.10**	**306**	IAML_P			
	comp=Z,24μm,0.1s						
SART				*i* P	**Pg**	**12 48 51.7**	**+0.3**
SART				*i* S	**Sg**	**12 48 53.7**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.10**	**304**	PG	**Pg**	**12 48 50.9**	**-0.5**
RKY				SG	**Sg**	**12 48 53.1**	**-0.5**
KRBG	**Karabiga-Canak**	**0.23**	**179**	PG	**Pg**	**12 48 53.4**	**0.0**
KRBG				SG	**Sg**	**12 48 57.2**	**+0.5**
KNL	**Balıkesir**	**0.40**	**153**	*i* S	**Sg**	**12 49 01.6**	**-0.1**
LPK	**Lapseki**	**0.48**	**238**	PG	**Pg**	**12 48 57.8**	**0.0**
LPK				SG	**Sb**	**12 49 05.5**	**-0.2**
KESN	**Edirne-Kesan**	**0.51**	**293**	IAML_P			
	comp=Z,221nm,0.1s						
KESN				*i* P	**Pb**	**12 49 00.3**	**+0.9**
KESN				*i* S	**Sg**	**12 49 05.1**	**-0.1**
EDC	**Edincik**	**0.52**	**123**	PG	**Pg**	**12 48 58.3**	**-0.3**
EDC				SG	**Sg**	**12 49 05.7**	**+0.2**
ERIK	**Erikli-Kesan**	**0.59**	**274**	PG	**Pg**	**12 48 59.9**	**-0.1**
GONE	**Gonen-Balikesi**	**0.66**	**152**	PG	**Pg**	**12 49 01.2**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.66**	**250**	PG	**Pg**	**12 49 00.8**	**-0.5**
KCTX	**Karacabey (Bur**	**0.89**	**114**	PG	**Pg**	**12 49 05.1**	**-0.5**
ALN	**Alexandroupoli**	**0.98**	**286**	PG	**Pg**	**12 49 06.9**	**-0.5**
EZN	**Ezine**	**1.09**	**223**	PN	**Pb**	**12 49 08.7**	**-0.5**
ARMT	**Armutlu**	**1.20**	**92**	PN	**Pg**	**12 49 11.2**	**-0.2**
ARMT				SN	**Sn**	**12 49 27.1**	**0.0**
BOZC	**Bozcaada**	**1.23**	**231**	PN	**Pb**	**12 49 12.0**	**+0.4**

SOME ***15*** *12:55:46.4, 44°.67N×82°.35E, h20km*
ISCJB ***15*** *12:55:48.0±0.9, 44°.63N±0°.05×82°.40E±0°.09, h10km, Error ellipse: s-maj=10.8km s-min=4.1km az=39.4*
NNC ***15*** *12:55:48.2±1.0, 44°.71N×82°.11E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=12.3km s-min=3.4km az=121.0*
ISC 15 12:55:44.3±1.0, 44°.70N±0°.04×82°.34E±0°.05, h10km, n21, σ1°49/35, 6C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.86**	**260**	P	**Pg**	**12 56 19.4**	**-0.5**
	11nm,0.1s						
DJR				S	**Sg**	**12 56 43.3**	**-0.7**
	11nm,0.3s						
DJR	**Jarkent**	**1.86**	**260**	*e*P	**Pg**	**12 56 19.5**	**-0.5**
	11nm,0.1s						
DJR				*e*S	**Sg**	**12 56 43.3**	**-0.7**
	11nm,0.3s						
KTMS	**Ketmen**	**1.90**	**230**	P	**Pg**	**12 56 20.0**	**-0.8**
	11nm,0.2s						
KTMS				S	**Sg**	**12 56 44.0**	**-1.4**
	60nm,0.6s						
KTMS	**Ketmen**	**1.90**	**230**	*e*P	**Pg**	**12 56 20.0**	**-0.8**
	11nm,0.2s						
KTMS				*e*S	**Sg**	**12 56 44.0**	**-1.4**
	60nm,0.6s						
MK31	**Makanchi Array**	**2.10**	**359**	⇑Pn	**Pg**	**12 56 24.5**	**+0.1**
	9.1nm,0.3s,baz=182,slow=14,SNR=251						
MK31				⇑Sn	**Sg**	**12 56 52.3**	**+0.7**
	3.2nm,0.3s,baz=180,slow=18,SNR=18						
MAKZ	**Makanchi**	**2.12**	**353**	⇑Pn	**Pg**	**12 56 24.4**	**-0.7**
	3.4nm,0.5s						
MAKZ				⇑Sn	**Sg**	**12 56 52.4**	**-0.2**
	19nm,0.6s						
KAPS	**Kapalarasan**	**2.19**	**287**	Pg	**Pg**	**12 56 24.8**	**-1.6**
	5.8nm,0.2s						
KAPS				Lg	Lg	12 56 52.5	
	14nm,0.5s						
KAPS	**Kapalarasan**	**2.19**	**287**	*e*P	**Pg**	**12 56 25.0**	**-1.3**
	10nm,0.2s						
KAPS				*e*S	**Sg**	**12 56 52.9**	**-2.0**
	20nm,0.3s						
PDGK	**Podgornoye**	**2.47**	**237**	Pg	**Pb**	**12 56 29.0**	**+0.2**
	3.1nm,0.2s						
PDGK				Lg	Lg	12 57 00.4	
	16nm,0.7s						
PDGK	**Podgornoye**	**2.47**	**237**	⇑Pn	**Pb**	**12 56 28.1**	**-0.7**
	2.1nm,0.4s						
PDGK				⇑Sn	**Sb**	**12 57 00.5**	**+1.2**
	37nm,0.6s						
SHLS	**Shalkode**	**2.59**	**234**	Pg	**Pn**	**12 56 27.5**	**+1.1**
	17nm,0.2s						
SHLS				Lg	Lg	12 56 57.5	
	49nm,0.3s						
SHLS	**Shalkode**	**2.59**	**234**	*e*P	**Pn**	**12 56 27.7**	**+1.4**
	17nm,0.2s						
SHLS				*e*S	**Sn**	**12 56 57.5**	**-0.3**
	68nm,0.5s						
MNBS	**Baschi**	**2.89**	**259**	Pg	**Pb**	**12 56 36.2**	**+0.3**
	4.1nm,0.2s						
MNBS				Lg	Lg	12 57 12.0	
	28nm,0.3s						
MNBS	**Baschi**	**2.89**	**259**	*e*P	**Pb**	**12 56 36.5**	**+0.5**
	9.0nm,0.2s						
MNBS				*e*S	**Sb**	**12 57 12.0**	**+0.6**
	28nm,0.4s						
KPKS	**Kokpek**	**2.91**	**246**	*e*P	**Pb**	**12 56 37.4**	**+1.1**
	13nm,0.2s						
KPKS				*e*S	**Sb**	**12 57 13.4**	**+1.5**
	55nm,0.5s						
ARXS	**Arharly**	**3.27**	**263**	Pg	**Pb**	**12 56 43.2**	**+0.8**
	2.2nm,0.2s						
ARXS				Lg	Lg	12 57 23.5	
	14nm,0.6s						
ARXS	**Arharly**	**3.27**	**263**	*e*P	**Pb**	**12 56 43.2**	**+0.8**
	2.2nm,0.2s						
ARXS				*e*S	**Sb**	**12 57 23.5**	**+1.2**
	14nm,0.6s						
ZSN	**Zaisan**	**3.27**	**32**	Pg	**Pg**	**12 56 47.0**	**+0.1**
	1.6nm,0.3s						
ZSN				Lg	Lg	12 57 30.2	
	2.4nm,0.6s						
ZSN	**Zaisan**	**3.27**	**32**	*e*P	**Pb**	**12 56 41.0**	**-1.4**
	1.9nm,0.2s						
ZSN				*e*S	**Sb**	**12 57 21.5**	**-0.7**
	2.4nm,0.6s						
KTBS	**Karatobe**	**4.18**	**258**	Pg	**Pb**	**12 57 00.6**	**+2.5**
	0.9nm,0.3s						
KTBS				Lg	Lg	12 57 53.3	
	4.8nm,0.3s						
KTBS	**Karatobe**	**4.18**	**258**	*e*P	**Pb**	**12 57 00.6**	**+2.5**
	0.9nm,0.3s						
KTBS				*e*S	**Sg**	**12 57 53.3**	**-5.3**
	4.8nm,0.3s						

NSSC ***15*** *13:01:36.2±4.6, 33°.96N×36°.08E, h3km±999km, ML1.7*
ISCJB ***15*** *13:01:37.5±0.8, 33°.86N±0°.04×35°.88E±0°.06, h6km, Error ellipse: s-maj=7.5km s-min=5.0km az=143.6*
GRAL ***15*** *13:01:38.6±0.3, 33°.87N×35°.84E, h1km±21km, MD2.9*
ISC 15 13:01:34.6±1.3, 33°.97N±0°.06×36°.02E±0°.06, h6km, n9, σ0°95/13, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.31**	**259**	*e*P	**Pg**	**13 01 41.4**	**+0.6**
BHL				*e*S	**Sg**	**13 01 43.6**	**-1.3**
HWQ	**Hawqa**	**0.32**	**349**	*e*P	**Pn**	**13 01 46.1**	**+0.2**
DQRL	**Deir Qamar**	**0.46**	**235**	*e*P	**Pg**	**13 01 43.6**	**+0.2**
QASN	**Qassioun**	**0.48**	**154**	*e*P	**Pg**	**13 01 42.5**	**-1.4**
RCY	**Rachaya**	**0.49**	**198**	*e*P	**Pb**	**13 01 45.3**	**-0.5**
RCY				*e*S	**Sg**	**13 01 50.2**	**-0.4**
QRWL	**Qaraoun**	**0.50**	**214**	*e*P	**Pg**	**13 01 44.8**	**+0.4**
BRBR	**Barbar**	**0.56**	**186**	*e*P	**Pb**	**13 01 47.4**	**+0.5**
BRBR				AML	AML	13 01 58.9	
	comp=N,103nm,0.3s						
BRBR				AML	AML	13 02 04.0	
	comp=E,68nm,0.5s						
SHBL	**Chebaa**	**0.66**	**201**	*e*P	**Pb**	**13 01 48.0**	**-0.6**
SHBL				*e*S	**Sg**	**13 01 54.9**	**-1.0**
TOTH	**TOTAH**	**0.69**	**150**	*e*P	**Pn**	**13 01 52.0**	**+1.0**
TOTH				*e*S	**Sg**	**13 01 58.3**	**+1.4**
TOTH				AML	AML	13 02 11.3	
	comp=N,28nm,0.4s						
TOTH				AML	AML	13 02 11.9	
	comp=E,29nm,0.5s						

IDC ***15*** *13:07:51.8±4.3, 3°.73S×151°.86E, h142km±39km, mb3.3/6, mb1 3.5/7, mb1mx3.2/26, mbtmp3.7/7, MS2.6/1, Ms1 2.6/1, ms1mx2.4/13, Error ellipse: s-maj=104.9km s-min=23.2km az=125.0*
ISC 15 13:07:52.6±1.6, 3°.7S±0°.4×151°.8E±0°.6, h150km, n9, σ0°95/9, mb3.6/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.30**	**219**	P	**Pn**	**13 09 37.6**	**+0.9**
	0.7nm,0.3s,baz=266,slow=23,SNR=5.7						
PMG				S	**Sn**	**13 10 56.8**	**-1.5**
	1.7nm,0.3s,baz=214,slow=0.8,SNR=6.6						
GUMO	**Guam**	**18.53**	**338**	LR	LR	13 19 55.2	
	comp=Z,18nm,18.8s,baz=86,slow=39						
WRA	**Warramunga Arr**	**23.46**	**225**	P	**P**	**13 12 48.9**	**+0.1**
	1.2nm,0.6s,baz=53,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**26.32**	**219**	P	**P**	**13 13 14.6**	**0.0**
	0.2nm,0.6s,baz=52,slow=8.4,SNR=5.4						
FITZ	**Fitzroy Crossi**	**29.34**	**239**	P	**P**	**13 13 42.3**	**+0.8**
	2.5nm,0.9s,baz=85,slow=11,SNR=1.9						
PETK	**Petropavlovsk-**	**56.84**	**4**	P	**P**	**13 17 21.0**	**-0.3**
	0.7nm,0.7s,baz=134,slow=6.2,SNR=1.7						
ILAR	**Eielson Array**	**81.54**	**22**	P	**P**	**13 19 52.9**	**-0.2**
	0.6nm,0.9s,baz=227,slow=4.2,SNR=4.3						
YKA	**Yellowknife Ar**	**94.94**	**28**	P	**P**	**13 20 57.9**	**+0.3**
	0.2nm,0.6s,baz=269,slow=4.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	**149.03**	**289**	PKPbc	**PKiKP**	**13 27 24.1**	**-1.2**
	0.4nm,0.5s,baz=67,slow=2.3,SNR=3.3						

ISCJB ***15*** *13:20:26.0±0.3, 13°.05N±0°.04×88°.87W±0°.03, h76km±2km, mb4.4/71, Error ellipse: s-maj=7.1km s-min=2.4km az=32.2*
SNET ***15*** *13:20:26.1±0.9, 12°.94N×88°.95W, h37km±62km, ML4.8*
UCR ***15*** *13:20:26.2±1.9, 12°.94N×88°.91W, h36km±999km, MD4.1, ML4.7, mb4.4(NEIC)*
IDC ***15*** *13:20:27.5±1.5, 13°.25N×88°.62W, h72km±13km, mb4.0/14, mb1 4.2/18, mb1mx3.9/45, mbtmp4.3/18, MS3.3/9, Ms1 3.3/9, ms1mx3.1/34, Error ellipse: s-maj=27.2km s-min=9.4km az=48.0*
NEIC ***15*** *13:20:27.9±0.4, 13°.06N×88°.78W, h82km±3km, mb4.4/72, MD4.8(SNET), Error ellipse: s-maj=6.0km s-min=3.2km az=216.0*
NEIC Felt [III] at San Salvador. Also felt at Zacatecoluca.
MEX ***15*** *13:20:29.6±0.3, 12°.32N×89°.65W, h30km±232km, MD4.2*
ISC 15 13:20:26.2±0.6, 13°.03N±0°.05×88°.90W±0°.03, h65km±5km, n223, σ1°44/274, mb4.5/71, 1C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UESV	**Ojushtada**	**0.36**	**17**	*e*P	**Pn**	**13 20 39.9**	**+2.5**
UESV				*e*S	**Sn**	**13 20 50.6**	**+5.0**
UESV	**Ojushtada**	**0.36**	**17**	*e*P	**Pn**	**13 20 39.9**	**+2.5**
UESV				*e*S	**Sn**	**13 20 50.6**	**+5.0**
SNVI	**San Vicente**	**0.58**	**6**	*e*P	**Pn**	**13 20 39.5**	**-0.1**
SNVI	**San Vicente**	**0.58**	**6**	*e*P	**Pn**	**13 20 39.5**	**-0.1**
TECA	**Tecapa**	**0.60**	**40**	⇓*i*P	**Pn**	**13 20 40.1**	**+0.2**
TECA	**Tecapa**	**0.60**	**40**	⇓*i*P	**Pn**	**13 20 40.1**	**+0.2**
LFRS	**El Faro**	**0.61**	**345**	⇓*i*P	**Pn**	**13 20 39.4**	**-0.5**
PAVA	**Las Pavas**	**0.68**	**357**	*e*P	**Pn**	**13 20 40.9**	**+0.2**
PAVA				*e*S	**Sn**	**13 20 52.3**	**+1.0**
PAVA	**Las Pavas**	**0.68**	**357**	*e*P	**Pn**	**13 20 40.9**	**+0.2**
PAVA				*e*S	**Sn**	**13 20 52.3**	**+1.0**
LCY	**Lacayo**	**0.70**	**56**	⇓*i*P	**Pn**	**13 20 41.3**	**+0.3**
LCY	**Lacayo**	**0.70**	**56**	⇓*i*P	**Pn**	**13 20 41.3**	**+0.3**
PACA	**Pacayal**	**0.71**	**52**	*e*P	**Pn**	**13 20 41.4**	**+0.4**
PACA				*e*S	**Sn**	**13 20 53.4**	**+1.5**
PACA	**Pacayal**	**0.71**	**52**	*e*P	**Pn**	**13 20 41.4**	**+0.4**
PACA				*e*S	**Sn**	**13 20 53.4**	**+1.5**
PACA				*e*S	**Sn**	**13 20 53.4**	**+1.5**
LBRS	**Las Brisas**	**0.72**	**349**	⇓*i*P	**Pn**	**13 20 41.3**	**+0.2**
VSM	**San Miguel**	**0.72**	**57**	*e*P	**Pn**	**13 20 41.7**	**+0.4**
VSM	**San Miguel**	**0.72**	**57**	⇓*i*P	**Pn**	**13 20 41.7**	**+0.4**
SNET	**Serv Nac Est T**	**0.73**	**334**	*e*P	**Pn**	**13 20 40.8**	**-0.4**
SNET				*e*S	**Sn**	**13 20 51.7**	**-0.5**
SNET				IAML		13 20 53.9	
	comp=Z,19μm,0.2s						
SNET	**Serv Nac Est T**	**0.73**	**334**	*e*P	**Pn**	**13 20 40.8**	**-0.4**
SNET				*e*S	**Sn**	**13 20 51.7**	**-0.5**
SNET				IAML		13 20 53.9	
	comp=Z,19μm,0.2s						
UESS	**San Salvador**	**0.73**	**336**	*e*P	**Pn**	**13 20 41.3**	**0.0**
UESS				*e*S	**Sn**	**13 20 52.8**	**+0.5**
UESS	**San Salvador**	**0.73**	**336**	*e*P	**Pn**	**13 20 41.3**	**0.0**
UESS				*e*S	**Sn**	**13 20 52.8**	**+0.5**
UDBS	**Soyapango**	**0.74**	**340**	*e*P	**Pn**	**13 20 41.3**	**0.0**
UDBS				*e*S	**Sn**	**13 20 52.4**	**0.0**
UDBS	**Soyapango**	**0.74**	**340**	*e*P	**Pn**	**13 20 41.3**	**0.0**
UDBS				*e*S	**Sn**	**13 20 52.4**	**0.0**
OPAM	**San Salvador**	**0.74**	**337**	*e*P	**Pn**	**13 20 41.2**	**-0.2**
OPAM				*e*S	**Sn**	**13 20 52.4**	**-0.2**
OPAM				IAML		13 20 55.2	
	comp=Z,15μm,0.2s						
OPAM	**San Salvador**	**0.74**	**337**	*e*P	**Pn**	**13 20 41.2**	**-0.2**
OPAM				*e*S	**Sn**	**13 20 52.4**	**-0.2**
OPAM				IAML		13 20 55.2	
	comp=Z,15μm,0.2s						
LFU	**La Fuente**	**0.74**	**344**	⇓*i*P	**Pn**	**13 20 41.5**	**+0.1**
LFU	**La Fuente**	**0.74**	**344**	⇓*i*P	**Pn**	**13 20 41.5**	**+0.1**
UEES	**San Salvador**	**0.77**	**334**	*e*P	**Pn**	**13 20 40.9**	**-0.8**
UEES				*e*S	**Sn**	**13 20 52.7**	**-0.4**
UEES	**San Salvador**	**0.77**	**334**	*e*P	**Pn**	**13 20 40.9**	**-0.8**
UEES				*e*S	**Sn**	**13 20 52.7**	**-0.4**
BOQS	**Boqueron**	**0.79**	**332**	*i* P	**Pn**	**13 20 42.0**	**-0.1**
VICT	**Victoria**	**0.96**	**15**	*e*P	**Pn**	**13 20 44.6**	**+0.5**
VICT				*e*S	**Sn**	**13 21 00.1**	**+2.8**
VICT				IAML		13 21 03.4	
	comp=Z,11μm,0.3s						
VICT	**Victoria**	**0.96**	**15**	*e*P	**Pn**	**13 20 44.6**	**+0.5**
VICT				*e*S	**Sn**	**13 21 00.1**	**+2.8**
VICT				IAML		13 21 03.4	
	comp=Z,11μm,0.3s						
CAHU	**Cacacuatique**	**0.99**	**42**	*e*P	**Pn**	**13 20 45.3**	**+0.7**
CAHU	**Cacacuatique**	**0.99**	**42**	⇓*i*P	**Pn**	**13 20 45.3**

CCIG				*e*Sn	**Sn**	**13 22 27.7 +4.4**
CCIG	**Comitan**	**4.50**	**316**	*e*P	**Pn**	**13 21 35.9 +3.8**
CCIG				*i* S	**Sn**	**13 22 28.3 +5.0**
ESPN	**Las Esperanzas**	**4.56**	**100**	*e*Pn	**Pn**	**13 21 32.9 +0.1**
JTS	**Las Juntas de**	**4.73**	**125**	*e*Pn	**Pn**	**13 21 36.3 +1.3**
JTS				*e*Sn	**Sn**	**13 22 28.4 -0.1**
JTS	**Las Juntas de**	**4.73**	**125**	P	**Pn**	**13 21 37.1 +2.1**
	comp=N,12nm,0.3s,baz=14,slow=21,SNR=24					
JTS				S	**Sn**	**13 22 28.4 -0.1**
	comp=N,21nm,0.3s,baz=355,slow=21,SNR=1.9					
PCIG		**4.96**	**303**	*e*Pn	**Pn**	**13 21 39.7 +1.5**
PCIG				*e*Sn	**Sn**	**13 22 33.0 -1.2**
PCIG		**4.96**	**303**	*e*P	**Pn**	**13 21 38.5 +0.3**
PCIG				*e*S	**Sn**	**13 22 33.0 -1.2**
TGIG		**5.53**	**313**	*e*Pn	**Pn**	**13 21 49.8 +3.8**
TGIG				*e*Sn	**Sn**	**13 22 51.9 +3.6**
TGIG		**5.53**	**313**	*i* P	**Pn**	**13 21 50.0 +4.0**
TGIG				*i* S	**Sn**	**13 22 51.9 +3.6**
CMIG	**Matias Romero**	**7.05**	**306**	*e*Pn	**Pn**	**13 22 09.1 +2.3**
CMIG	**Matias Romero**	**7.05**	**306**	*e*P	**Pn**	**13 22 09.1 +2.3**
CMIG				*i* S	**Sn**	**13 23 25.3 -0.3**
CMIG	**Matias Romero**	**7.05**	**306**	P	**Pn**	**13 22 08.9 +2.1**
	comp=N,1.5nm,0.3s,baz=97,slow=7.3,SNR=18					
CMIG				S	**Sn**	**13 23 25.8 +0.2**
	comp=N,2.0nm,0.3s,baz=130,slow=20,SNR=2.3					
CMIG				LR	LR	13 25 18.9
	comp=N,230nm,21.9s,baz=113,slow=41					
TEIG	**Tepich**	**7.18**	**5**	*e*Pn	**Pn**	**13 22 10.7 +2.2**
MYIG	**Mrida**	**7.92**	**354**	*e*Pn	**Pn**	**13 22 20.6 +1.9**
LVIG	**Laguna Verde**	**9.81**	**314**	*e*Pn	**Pn**	**13 22 46.1 +1.5**
TLIG	**Tlapa**	**10.36**	**297**	*e*Pn	**Pn**	**13 22 54.3 +2.1**
SJCC	**San Jacinto, C**	**13.80**	**102**	*e*P	**P**	**13 23 44.8 -0.4**
SJCC	**San Jacinto, C**	**13.80**	**102**	*e*P	**P**	**13 23 44.8 -0.4**
061Z	**Ochoppi**	**14.82**	**29**	*e*Pn	**Pn**	**13 23 50.9 -1.1**
SMLC	**San Martn de**	**15.15**	**105**	*e*P	**P**	**13 23 59.4 -0.8**
SMLC	**San Martn de**	**15.15**	**105**	*e*P	**P**	**13 23 59.4 -0.8**
YOTC	**Yotoco, Valle**	**15.32**	**125**	*e*P	**P**	**13 24 04.2 +2.0**
YOTC	**Yotoco, Valle**	**15.32**	**125**	*e*P	**P**	**13 24 04.2 +2.0**
GUY2C	**Guyana, Caldas**	**15.44**	**119**	*e*P	**Pn**	**13 24 02.0 +1.4**
GUY2C	**Guyana, Caldas**	**15.44**	**119**	*e*P	**Pn**	**13 24 02.0 +1.4**
LNIG	**Linares**	**15.46**	**321**	*e*Pn	**P**	**13 24 03.0 -0.6**
	comp=N,8.6nm,1.0s					
NORC	**Norcasia**	**15.70**	**117**	*e*P	**P**	**13 24 05.6 -0.8**
NORC	**Norcasia**	**15.70**	**117**	*e*P	**P**	**13 24 05.6 -0.8**
BBAC	**Balboa, Cauca**	**15.89**	**133**	*e*P	**P**	**13 24 08.9 +0.2**
BBAC	**Balboa, Cauca**	**15.89**	**133**	*e*P	**P**	**13 24 08.9 +0.2**
POPC	**Popayan, Colom**	**15.96**	**130**	*e*P	**P**	**13 24 08.7 -0.8**
POPC	**Popayan, Colom**	**15.96**	**130**	*e*P	**P**	**13 24 08.7 -0.8**
SOTA	**Rioblanco**	**16.28**	**131**	*e*P	**P**	**13 24 16.7 +3.4**
SOTA	**Rioblanco**	**16.28**	**131**	*e*P	**P**	**13 24 16.7 +3.4**
MARP	**Paez Belalcaza**	**16.32**	**127**	*e*P	**P**	**13 24 16.7 +3.2**
MARP	**Paez Belalcaza**	**16.32**	**127**	*e*P	**P**	**13 24 16.7 +3.2**
FLOC	**Florencia**	**17.36**	**130**	*e*P	**P**	**13 24 26.4 +1.6**
FLOC	**Florencia**	**17.36**	**130**	*e*P	**P**	**13 24 26.4 +1.6**
SDDR	**Presa de Saban**	**17.93**	**68**	*e*P	**P**	**13 24 31.0 0.0**
	comp=N,19nm,1.3s					
SDV	**Santo Domingo**	**18.39**	**101**	*e*P	**P**	**13 24 35.3 -1.0**
	comp=N,15nm,1.1s					
SDV	**Santo Domingo**	**18.39**	**101**	*e*P	**P**	**13 24 36.1 -0.2**
SDV	**Santo Domingo**	**18.39**	**101**	*e*P	**P**	**13 24 36.1 -0.2**
SDV	**Santo Domingo**	**18.39**	**101**	P	**P**	**13 24 35.4 -0.9**
	comp=N,1.8nm,0.3s,baz=284,slow=6.4,SNR=12					
435B	**Jarrell**	**19.40**	**337**	*e*P	**Pn**	**13 24 48.9 +0.2**
	comp=N,26nm,0.6s					
JCT	**Junction City**	**20.08**	**332**	*e*P	Pn	13 24 56.0 -0.7
	comp=N,8.7nm,0.7s					
WHTX	**Lake Whitney,**	**20.44**	**339**	*e*P	**P**	**13 24 59.1 +0.9**
	comp=N,32nm,0.7s					
Y49A	**Blount Mountai**	**20.86**	**6**	*e*P	**P**	**13 25 04.2 +1.4**
	comp=N,6.9nm,0.6s					
GOGA	**Godfrey**	**20.89**	**13**	*e*P	**P**	**13 25 04.2 +1.2**
	comp=N,29nm,0.5s					
Y52A	**Lilburn**	**21.20**	**11**	*e*P	**P**	**13 25 06.8 +0.4**
	comp=N,13nm,0.7s					
TXAR	**Lajitas Array**	**21.24**	**322**	*e*P	**P**	**13 25 08.6 +1.6**
TXAR	**Lajitas Array**	**21.24**	**322**	P	**P**	**13 25 09.1 +2.0**
	comp=N,4.7nm,0.6s,baz=144,slow=11,SNR=40					
TXAR				PcP	**PcP**	**13 29 10.7 +0.6**
	comp=N,0.5nm,0.7s,baz=143,slow=3.9,SNR=4.8					
TXAR				LR	LR	13 33 28.7
	comp=N,44nm,18.2s,baz=0.0,slow=37					
TX31	**Lajitas Ar. Si**	**21.24**	**322**	*e*P	**P**	**13 25 08.7 +1.7**
	comp=N,16nm,1.5s					
MIAR	**Mount Ida**	**21.84**	**350**	*e*P	**P**	**13 25 14.1 +0.9**
	comp=N,17nm,0.3s					
SWET	**Sewanee**	**22.25**	**6**	*e*P	**P**	**13 25 18.2 +0.4**
	comp=N,6.1nm,0.7s					
X37A	**Clayton**	**22.25**	**346**	*e*P	**P**	**13 25 18.0 +0.3**
	comp=N,40nm,1.3s					
JSC	**Jenkinsville**	**22.27**	**17**	*e*P	**P**	**13 25 17.2 -0.6**
	comp=N,28nm,1.0s					
W39A	**Magazine**	**22.51**	**349**	*e*P	**P**	**13 25 21.1 +0.7**
	comp=N,42nm,1.9s					
ATAH	**Atahualpa**	**22.59**	**152**	LR	LR	13 32 58.9
	comp=N,96nm,20.6s,baz=342,slow=33					
CLTN	**Cedars of Leba**	**23.08**	**5**	*e*P	**P**	**13 25 26.2 -0.1**
	comp=N,3.0nm,0.7s					
WMOK	**Wichita Mounta**	**23.40**	**339**	*e*P	**P**	**13 25 29.6 +0.2**
	comp=N,18nm,1.6s					
W57A	**Gilead**	**23.45**	**19**	*e*P	**P**	**13 25 29.9 +0.1**
	comp=N,8.4nm,0.9s					
HHAR	**Hobbs**	**23.59**	**350**	*e*P	**P**	**13 25 31.2 +0.1**
	comp=N,27nm,1.8s					
PBMO	**Poplar Bluff**	**23.69**	**357**	*e*P	**P**	**13 25 31.1 -0.9**
	comp=N,36nm,1.5s					
T47A	**Sharon Grove**	**23.91**	**4**	*e*P	**P**	**13 25 33.6 -0.4**
	comp=N,8.7nm,0.6s					
V56A	**Mocksville**	**23.91**	**17**	*e*P	**P**	**13 25 33.4 -0.7**
	comp=N,10nm,1.0s					
MNTX	**Cornudas Mount**	**23.98**	**323**	*e*P	**P**	**13 25 34.4 -0.2**
	comp=N,6.1nm,1.5s					
T49A	**Edmonton**	**24.16**	**7**	*e*P	**P**	**13 25 36.2 -0.1**
	comp=N,23nm,1.7s					
U54A	**Nelsons Funny**	**24.24**	**14**	*e*P	**P**	**13 25 36.3 -0.7**
	comp=N,10nm,0.6s					
MSTX	**Muleshoe**	**24.37**	**331**	*e*P	**P**	**13 25 38.1 -0.3**
	comp=N,11nm,0.8s					
AMTX	**Amarillo**	**24.65**	**334**	*e*P	**P**	**13 25 40.5 -0.3**
CCM	**Cathedral Cave**	**25.01**	**356**	*e*P	**P**	**13 25 42.8 -1.2**
	comp=N,16nm,0.6s					
Q54A	**Coxs Mills**	**26.82**	**14**	*e*P	**P**	**13 25 59.8 -0.5**
	comp=N,11nm,0.5s					
NNA	**Nana**	**27.58**	**154**	LR	LR	13 36 22.5
	comp=N,54nm,19.1s,baz=264,slow=34					
T25A	**Trinidad**	**27.73**	**333**	*e*P	**P**	**13 26 09.5 +0.7**
	comp=N,3.8nm,0.6s					
S22A	**4UR Ranch, Cre**	**29.36**	**330**	*e*P	**P**	**13 26 24.6 +1.2**
	comp=N,3.6nm,0.7s					
ISCO	**Idaho Springs**	**30.47**	**334**	*e*P	**P**	**13 26 33.7 +0.5**
	comp=N,2.1nm,0.8s					
SMCO	**Snowmass**	**30.56**	**332**	*e*P	**P**	**13 26 34.5 +0.3**
	comp=N,3.4nm,0.8s					
PV12	**Saucer Basin,**	**30.78**	**328**	*e*P	**P**	**13 26 37.0 +1.2**
	comp=N,8.2nm,0.7s					
PV18	**Skein Mesa, Pa**	**30.78**	**328**	*e*P	**P**	**13 26 37.0 +1.2**
	comp=N,3.9nm,0.6s					
PV11	**David Mesa, Pa**	**30.80**	**328**	*e*P	**P**	**13 26 37.5 +1.5**
	comp=N,5.5nm,0.6s					
PV17	**East Wray Mesa**	**30.83**	**328**	*e*P	**P**	**13 26 37.6 +1.4**
	comp=N,7.2nm,0.6s					
PV16	**Nyswonger Mesa**	**30.83**	**328**	*e*P	**P**	**13 26 37.4 +1.1**
	comp=N,3.0nm,0.6s					
PV04	**Paradox Valley**	**30.89**	**328**	*e*P	**P**	**13 26 37.7 +0.9**
	comp=N,6.3nm,0.6s					
PV14	**Lion Creek, Pa**	**30.93**	**328**	*e*P	**P**	**13 26 37.6 +0.3**
	comp=N,4.4nm,0.8s					
PV14				*e*PcP	**PcP**	**13 29 33.2 +0.8**
PV23	**Carpenter Ridg**	**30.99**	**328**	*e*P	**P**	**13 26 38.4 +0.6**
	comp=N,4.9nm,0.8s					
O20A	**White River Ci**	**31.92**	**331**	*e*P	**P**	**13 26 47.3 +1.6**
	comp=N,5.8nm,0.8s					
SPMN	**Marine on St.**	**32.26**	**355**	*e*P	**P**	**13 26 47.4 -1.1**
	comp=N,15nm,0.4s					
SADO	**Sadowa**	**32.71**	**13**	*e*P	**P**	**13 26 51.8 -0.6**
	comp=N,50nm,1.7s					
SADO	**Sadowa**	**32.71**	**13**	P	**P**	**13 26 51.4 -1.0**
	comp=N,6.3nm,0.4s,baz=245,slow=5.6,SNR=6.9					
RSSD	**Black Hills**	**33.60**	**340**	*e*P	**P**	**13 27 01.1 +0.7**
	comp=N,6.6nm,0.6s					
PD31	**Pinedale Array**	**34.60**	**333**	*e*P	**P**	**13 27 08.8 -0.4**
	comp=N,1.4nm,0.7s					
PDAR	**Pinedale Array**	**34.60**	**333**	*e*P	**P**	**13 27 08.6 -0.6**
PDAR				*e*PcP	**PcP**	**13 29 41.8 -0.7**
PDAR	**Pinedale Array**	**34.60**	**333**	P	**P**	**13 27 09.5 +0.3**
	comp=N,1.1nm,0.5s,baz=125,slow=12,SNR=9.1					
PDAR				PcP	**PcP**	**13 29 42.1 -0.4**
	comp=N,1.1nm,0.5s,baz=148,slow=4.3,SNR=9.6					
PDAR				LR	LR	13 44 44.3
	comp=N,35nm,19.8s,baz=204,slow=42					
LPAZ	**La Paz**	**35.64**	**144**	*e*P	**P**	**13 27 19.5 +0.8**
LPAZ	**La Paz**	**35.64**	**144**	LR	LR	13 41 42.8
	comp=N,69nm,19.2s,baz=294,slow=36					
REDW	**Red Top Meadow**	**35.66**	**332**	*e*P	**P**	**13 27 19.0 +0.8**
	comp=N,8.3nm,0.6s					
SNOW	**Snow King Moun**	**35.69**	**332**	*e*P	**P**	**13 27 18.8 +0.3**
	comp=N,10nm,0.6s					
LOHW	**Long Hollow**	**35.74**	**333**	*e*P	**P**	**13 27 19.4 +0.4**
	comp=N,3.7nm,0.7s					
TPAW	**Teton Pass**	**35.80**	**332**	*e*P	**P**	**13 27 20.8 +1.2**
	comp=N,3.0nm,0.6s					
MOOW	**Moose Ponds**	**35.91**	**333**	*e*P	**P**	**13 27 20.9 +0.5**
	comp=N,4.3nm,1.3s					
ELK	**Elko**	**35.98**	**325**	*e*P	**P**	**13 27 22.1 +1.0**
	comp=N,1.4nm,0.8s					
ELK	**Elko**	**35.98**	**325**	P	**P**	**13 27 21.6 +0.6**
	comp=N,1.5nm,0.9s,baz=125,slow=4.8,SNR=6.0					
NV01	**Mina Array Sit**	**36.34**	**319**	*e*P	**P**	**13 27 25.6 +1.4**
NV01				*e*PcP	**PcP**	**13 29 48.4 +0.7**
NV01				*e*ScP	**ScP**	**13 33 30.7 +2.1**
NVAR	**Mina Array Bea**	**36.34**	**319**	*e*P	**P**	**13 27 25.7 +1.6**
NVAR				*e*PcP	**PcP**	**13 29 48.5 +0.8**
NVAR	**Mina Array Bea**	**36.34**	**319**	P	**P**	**13 27 25.6 +1.4**
	comp=N,1.5nm,0.7s,baz=133,slow=7.1,SNR=13					
NVAR				PcP	**PcP**	**13 29 48.4 +0.7**
	comp=N,2.0nm,0.6s,baz=128,slow=3.3,SNR=16					
NVAR				ScP	**ScP**	**13 33 30.7 +2.1**
	comp=N,0.4nm,0.6s,baz=140,slow=4.3,SNR=4.7					
NVAR				LR	LR	13 43 56.6
	comp=N,52nm,18.9s,baz=173,slow=39					
RLMT	**Red Lodge**	**36.38**	**335**	*e*P	**P**	**13 27 24.7 +0.3**
	comp=N,5.7nm,0.8s					
HLID	**Hailey**	**37.52**	**329**	*e*P	**P**	**13 27 35.0 +1.1**
	comp=N,1.5nm,0.8s					
ULM	**Lac du Bonnet**	**37.55**	**353**	*e*P	**P**	**13 27 33.0 -1.0**
	comp=N,26nm,1.8s					
ULM	**Lac du Bonnet**	**37.55**	**353**	P	**P**	**13 27 32.7 -1.2**
	comp=N,3.0nm,0.4s,baz=166,slow=7.6,SNR=12					
ULM				LR	LR	13 44 32.9
	comp=N,69nm,19.3s,baz=137,slow=39					
MCMT	**McKenzie Canyo**	**37.70**	**332**	*e*P	**P**	**13 27 36.9 +1.3**
BOZ	**Bozeman (W)**	**37.76**	**334**	*e*P	**P**	**13 27 36.8 +0.8**
	comp=N,2.6nm,0.6s					
HRY	**Holter Researc**	**38.72**	**335**	*e*P	**P**	**13 27 44.6 +0.6**
EGMT	**Eagleton**	**38.98**	**338**	*e*P	**P**	**13 27 46.7 +0.6**
	comp=N,21nm,0.6s					
WVOR	**Wild Horse Val**	**39.01**	**324**	*e*P	**P**	**13 27 47.1 +0.7**
	comp=N,2.1nm,0.8s					
SIV	**San Ignacio**	**39.86**	**136**	P	**P**	**13 27 54.2 +0.4**
	comp=N,3.4nm,0.6s,baz=316,slow=8.4,SNR=12					
SIV				PcP	**PcP**	**13 29 59.4 +0.8**
	comp=N,1.8nm,0.7s,baz=327,slow=7.4,SNR=4.2					
F10A	**Beach Ranch, E**	**40.64**	**329**	*e*P	**P**	**13 28 00.3 +0.3**
	comp=N,10nm,1.4s					
PINE	**Pine Mountain**	**41.17**	**324**	*e*P	**P**	**13 28 04.9 +0.4**
	comp=N,3.3nm,0.9s					
FFC	**Flin Flon**	**42.85**	**349**	*e*P	**P**	**13 28 17.5 -0.2**
	comp=N,5.0nm,0.6s					
SCHQ	**Schefferville**	**45.15**	**18**	*e*P	**P**	**13 28 34.7 -1.5**
	comp=N,35nm,1.5s					
SCHQ	**Schefferville**	**45.15**	**18**	P	**P**	**13 28 34.8 -1.3**
	comp=N,2.8nm,0.4s,baz=216,slow=13,SNR=2.5					
BDFB	**Brasilia**	**49.47**	**124**	P	**P**	**13 29 09.8 -0.5**
	comp=N,3.5nm,0.5s,baz=293,slow=10.0,SNR=5.2					
CPUP	**Villa Florida**	**49.73**	**142**	*e*P	**P**	**13 29 11.4 -0.7**
	comp=N,23nm,1.9s					
CPUP	**Villa Florida**	**49.73**	**142**	P	**P**	**13 29 11.5 -0.5**
	comp=N,1.1nm,0.5s,baz=334,slow=5.0,SNR=3.1					
YKA	**Yellowknife Ar**	**52.69**	**345**	P	**P**	**13 29 33.1 -0.6**
	comp=N,3.9nm,0.4s,baz=143,slow=7.4,SNR=145					
YKA				PcP	**PcP**	**13 30 41.5 -1.2**
	comp=N,0.8nm,0.7s,baz=146,slow=4.4,SNR=5.8					
YKB5	**Yellowknife Ar**	**52.69**	**345**	*e*PcP	**PcP**	**13 30 41.5 -1.2**
YKW3	**Yellowknife Ar**	**52.75**	**345**	*e*P	**P**	**13 29 33.4 -0.8**
	comp=N,13nm,1.1s					
DLBC	**Dease Lake**	**54.78**	**335**	*e*P	**P**	**13 29 49.9 +0.7**
	comp=N,5.3nm,0.8s					
RES	**Resolute Bay**	**61.73**	**358**	*e*P	**P**	**13 30 35.8 -1.5**
	comp=N,13nm,1.5s					
INK	**Inuvik**	**62.23**	**343**	*e*P	**P**	**13 30 40.1 -0.6**
	comp=N,7.1nm,0.7s					
INK	**Inuvik**	**62.23**	**343**	P	**P**	**13 30 40.3 -0.4**
	comp=N,6.6nm,0.6s,baz=123,slow=6.6,SNR=61					
PRP	**Porcupine Dome**	**64.72**	**337**	*e*P	**P**	**13 30 56.4 -1.0**
	comp=N,2.0nm,0.8s					
ILAR	**Eielson Array**	**64.92**	**336**	P	**P**	**13 30 57.8 -0.8**
	comp=N,2.4nm,0.9s,baz=173,slow=4.6,SNR=20					
ILB	**Eielson Array**	**64.92**	**336**	*e*P	**P**	**13 30 57.6 -0.9**
	comp=N,13nm,1.8s					
RND	**Reindeer**	**65.19**	**335**	*e*P	**P**	**13 30 59.9 -0.5**
	comp=N,6.4nm,0.9s					
BMAR	**Burnt Mountain**	**65.24**	**339**	*e*P	**P**	**13 30 59.8 -0.9**
BPAW	**Bear Paw Mtn.**	**66.32**	**335**	*e*P	**P**	**13 31 06.5 -1.2**
	comp=N,24nm,2.0s					
MLY	**Manley**	**66.54**	**336**	*e*P	**P**	**13 31 08.3 -0.7**
	comp=N,3.7nm,0.6s					
MLY				*e*pP	**sP**	**13 31 30.7 -3.2**
TOLK	**Toolik Lake Re**	**67.46**	**340**	*e*P	**P**	**13 31 14.2 -0.6**
	comp=N,4.4nm,0.6s					
JMIC	**Jan Mayen**	**74.64**	**20**	LR	LR	14 05 04.7
	comp=N,19nm,18.4s,baz=265,slow=36					
PMSA	**Palmer Station**	**79.83**	**169**	*e*P	**P**	**13 32 28.1 +1.1**
	comp=N,70nm,0.9s					
ARA0	**ARCESS Array S**	**86.09**	**19**	*e*P	**P**	**13 32 58.2 -1.4**
ARCES	**ARCESS Array B**	**86.09**	**19**	P	**P**	**13 32 58.2 -1.4**
	comp=N,1.2nm,0.7s,baz=282,slow=4.5,SNR=5.0					
SONA0	**Songino Array**	**117.89**	**348**	*e*PKPdf	**PKPdf**	**13 39 05.0 -0.6**
SONM	**Songino Array**	**117.89**	**348**	PKP	**PKPdf**	**13 39 05.0 -0.6**
	comp=N,0.5nm,0.5s,baz=287,slow=0.2,SNR=3.8					
MK32	**Makanchi Array**	**119.93**	**7**	*e*PKPdf	**PKPdf**	**13 39 07.2 -2.2**
MKAR	**Makanchi Array**	**119.93**	**7**	PKP	**PKPdf**	**13 39 07.2 -2.2**
	comp=N,0.2nm,0.3s,baz=342,slow=2.2,SNR=4.4					
WR1	**Warramunga Arr**	**138.07**	**255**	*e*PKPdf	**PKPdf**	**13 39 45.5 +1.0**
WRA	**Warramunga Arr**	**138.07**	**255**	PKP	**PKPdf**	**13 39 45.5 +1.0**
	comp=N,1.6nm,0.6s,baz=92,slow=2.4,SNR=14					
ASAR	**Alice Springs**	**138.16**	**249**	PKhKP	PKPpre	13 39 36.8
	comp=N,0.2nm,0.4s,baz=106,slow=4.3,SNR=4.9					
ASAR				PKP	**PKPdf**	**13 39 45.5 +0.9**
	comp=N,0.5nm,0.4s,baz=98,slow=2.7,SNR=8.3					
FITZ	**Fitzroy Crossi**	**146.38**	**257**	*e*PKPdf	**PKPdf**	**13 39 58.0 -1.2**
FITZ	**Fitzroy Crossi**	**146.38**	**257**	PKPbc	**PKPab**	**13 40 01.9 +0.3**
	comp=N,1.5nm,0.5s,baz=304,slow=1.9,SNR=9.4					
CMAR	**Chiang Mai Arr**	**147.77**	**346**	PKPbc	**PKPdf**	**13 40 02.9 +1.2**
	comp=N,1.9nm,0.6s,baz=348,slow=4.1,SNR=11					

IDC 15 13:39:02.6±1.9, 9°.03S×125°.67E, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.4/43, mbtmp3.7/4, ML3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/28, Error ellipse: s-maj=100.1km s-min=28.3km az=67.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.02**	**180**	Pn	Pn	13 41 14.7	+0.5
	0.8nm,0.3s,baz=5.4,slow=11,SNR=34						
FITZ				Sn	Sn	13 42 49.6	-6.9
	0.9nm,0.3s,baz=85,slow=18,SNR=3.2						
WRA	**Warramunga Arr**	**13.71**	**143**	Pn	Pn	13 42 17.7	-0.8
	0.4nm,0.3s,baz=322,slow=14,SNR=16						
WRA				Sn	Sn	13 44 39.3	-12
	0.1nm,0.3s,baz=325,slow=26,SNR=2.2						
ASAR	**Alice Springs**	**16.55**	**153**	Pn	Pn	13 42 56.5	+0.1
	0.3nm,0.3s,baz=319,slow=11,SNR=15						
ASAR				Sn	Sn	13 45 50.0	-11
	baz=319,slow=22,SNR=3.8						
PMG	**Port Moresby**	**21.22**	**93**	LR	LR	13 54 54.0	
	comp=Z,47nm,19.6s,baz=104,slow=45						
KSRS	**Korea Array**	**46.28**	**2**	LR	LR	14 07 57.2	
	comp=Z,58nm,19.9s,baz=60,slow=38						
MKAR	**Makanchi Array**	**67.67**	**329**	P	P	13 50 01.6	0.0
	0.3nm,0.6s,baz=122,slow=6.7,SNR=4.0						

WEL 15 13:39:30.8, 43°.S±1°.×17°.3E±°, h33km±2km, ML3.5/27, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMCZ	**Amberley**	**0.49**	**227**	P	Pn	13 39 42.1	+0.7
AMCZ				S	Sn	13 39 49.7	+0.9
KHZ	**Kahutara**	**0.52**	**35**	P	Pn	13 39 42.7	+1.0
KHZ				S	Sn	13 39 50.4	+1.0
LTZ	**Lake Taylor**	**0.64**	**275**	P	Pb	13 39 44.0	+0.3
LTZ				S	Sn	13 39 52.7	+0.1
EYCZ	**Eyrewell**	**0.82**	**225**	P	Pn	13 39 46.2	+0.3
CRLZ	**Canterbury Las**	**0.82**	**207**	P	Pb	13 39 46.5	-0.2
OKCZ	**Okains Bay**	**0.88**	**184**	P	Pb	13 39 47.3	-0.4
MQZ	**McQueen's Vall**	**0.93**	**202**	P	Pn	13 39 47.1	-0.4
OXZ	**Oxford**	**0.94**	**239**	P	Pn	13 39 47.7	+0.1
AKCZ	**Akaroa Harbour**	**1.04**	**189**	P	Pn	13 39 49.4	+0.4
THZ	**Tophouse**	**1.09**	**351**	P	Pb	13 39 50.6	-0.6
BSWZ	**Blackbirch Sta**	**1.25**	**26**	P	Pb	13 39 53.7	-0.2
INZ	**Inchbonnie**	**1.25**	**275**	P	Pn	13 39 52.6	+0.6
CMWZ	**Cape Campbell**	**1.35**	**36**	P	Pb	13 39 56.6	+1.1
DSZ	**Denniston Nort**	**1.48**	**317**	P	Pn	13 39 56.2	+1.1
TUWZ	**Tuamarina**	**1.53**	**23**	P	Pn	13 39 57.2	+1.4
NNZ	**Nelson**	**1.63**	**6**	P	Pb	13 39 58.9	-1.4
RPZ	**Rata Peaks**	**1.76**	**240**	P	Pn	13 39 59.2	+0.3
WVZ	**Waitaha Valley**	**1.78**	**262**	P	Pn	13 40 00.1	+1.0
TCW	**Tory Channel**	**1.84**	**28**	P	Pn	13 40 00.8	+0.9
PLWZ	**Palliser**	**2.02**	**52**	P	Pn	13 40 03.0	+0.5
QRZ	**Quartz Range**	**2.07**	**347**	P	Pn	13 40 04.9	+1.8
DUWZ	**D'Urville Isla**	**2.12**	**16**	P	Pn	13 40 05.0	+1.1
PAWZ	**Paruwai Farm**	**2.24**	**50**	P	Pn	13 40 05.6	+0.1
CAW	**Cannon Point**	**2.25**	**40**	P	Pn	13 40 06.3	+0.6
KIW	**Kapiti Island**	**2.38**	**34**	P	Pn	13 40 08.3	+0.8
FOZ	**Fox Glacier**	**2.53**	**253**	P	Pn	13 40 10.9	+1.4
OGWZ	**Otaki Gorge**	**2.53**	**38**	P	Pn	13 40 09.9	+0.4
HOWZ	**Holdsworth Sta**	**2.63**	**43**	P	Pn	13 40 12.6	+1.7
LBZ	**Lake Benmore**	**2.64**	**233**	P	Pn	13 40 11.5	+0.4
MRZ	**Mangatainoka R**	**2.84**	**41**	P	Pn	13 40 13.9	+0.1
ODZ	**Otahua Downs**	**2.84**	**218**	P	Pn	13 40 13.9	+0.1
POWZ	**Post Office Ro**	**3.14**	**40**	P	Pn	13 40 18.2	+0.3
BFZ	**Birch Farm**	**3.17**	**48**	P	Pn	13 40 18.0	-0.3
WAZ	**Wanganui**	**3.38**	**25**	P	Pn	13 40 23.5	+2.2
JCZ	**Jackson Bay**	**3.40**	**247**	P	Pn	13 40 22.4	+0.9
NMEZ	**Namu Road**	**3.47**	**9**	P	Pn	13 40 26.3	+3.9
PREZ	**Palmer Road**	**3.58**	**13**	P	Pn	13 40 26.4	+2.5
WKZ	**Wanaka**	**3.58**	**235**	P	Pn	13 40 23.8	-0.2
KHEZ	**Kahui Hut**	**3.61**	**11**	P	Pn	13 40 26.7	+2.3
NBEZ	**Newall Road No**	**3.61**	**9**	P	Pn	13 40 27.1	+2.8
EAZ	**Earnscleugh**	**3.65**	**228**	P	Pn	13 40 25.4	+0.5
PKE	**Pukeiti**	**3.70**	**10**	P	Pn	13 40 28.2	+2.6
VRZ	**Vera Road**	**3.91**	**19**	P	Pn	13 40 30.7	+2.3
TRVZ	**Turoa**	**3.98**	**28**	P	Pn	13 40 31.2	+1.6
TUZ	**Tuapeka**	**4.00**	**218**	P	Pn	13 40 29.6	0.0
BHHZ	**Black Hill Sta**	**4.01**	**34**	P	Pn	13 40 30.2	+0.3
FWVZ	**Far West T-bar**	**4.02**	**28**	P	Pn	13 40 31.6	+1.4
TUVZ	**Tukino**	**4.04**	**29**	P	Pn	13 40 31.7	+1.2
NGZ	**Ngauruhoe**	**4.11**	**28**	P	Pn	13 40 32.7	+1.3
MLZ	**Mavora Lakes**	**4.41**	**233**	P	Pn	13 40 34.7	-0.7

STKA	Stephens Creek	50.25 155	*e*P	P	13 55 53.1	-0.2
	2.3nm,1.4s					
STKA	Stephens Creek	50.25 155	P	P	13 55 52.9	-0.4
	2.4nm,0.9s,baz=286,slow=9.7,SNR=3.1					
KK31	Karatay Array	50.90 315	*e*P	P	13 55 59.2	+1.0
	3.0nm,0.8s					
KKAR	Karatay Array	50.90 315	*e*P	P	13 55 59.3	+1.2
BVAR	Borovoye Array	54.88 326	P	P	13 56 27.0	-0.3
	0.6nm,0.6s,baz=147,slow=8.3,SNR=3.6					
ABKAR	Akbulak array	59.73 319	*e*P	P	13 57 02.4	+0.8
AKTO	Aktyubinsk	61.22 320	P	P	13 57 12.5	+0.7
	1.4nm,0.7s,baz=100,slow=11,SNR=5.3					
ARU	Arti	62.51 327	*e*P	P	13 57 19.8	-0.5
	6.0nm,0.5s					
ARU	Arti	62.51 327	P	P	13 57 19.8	-0.5
	2.2nm,0.4s,baz=297,slow=23,SNR=8.5					
ARA0	ARCESS Array S	78.45 339	*e*P	P	13 58 57.6	+0.2
ARCES	ARCESS Array B	78.45 339	P	P	13 58 57.6	+0.2
	3.4nm,0.8s,baz=92,slow=8.5,SNR=7.9					
FIA0	FINESS Array S	79.48 331	*e*P	P	13 59 03.1	-0.1
FINES	FINESS Array B	79.48 331	P	P	13 59 03.1	-0.1
	0.7nm,0.5s,baz=29,slow=4.4,SNR=5.9					
PPT	Papeete	95.13 107	LR	LR	14 41 44.5	
	comp=Z,88nm,18.8s,baz=311,slow=34					

NIED ***15*** *13:51:00,45.°30N×151.°10E,h89km,Mw5.1 Best double couple: M₀=4.32000×10¹⁶ NP1:φs=246.00000°,δ21.00000°, λ86.00000°. NP2:φs=70.00000°,δ69.00000°,λ92.00000°.*
ISCJB ***15*** *13:51:40.7±0.3,46.°06N±0.°02×151.°22E±0.°02, h106km±2km,mb5.3/615,Error ellipse: s-maj=3.5km s-min=1.9km az=160.8*
BJI ***15*** *13:51:41.8±0.0,46.°13N×151.°15E,h117km,mb5.3/65, mB5.1/43*
NEIC ***15*** *13:51:42.4±0.1,46.°12N×151.°13E,mb5.3/296,Error ellipse: s-maj=3.0km s-min=1.5km az=157.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
IDC ***15*** *13:51:42.9±0.5,46.°18N×151.°16E,h109km±4km,mb4.8/46, mb1 4.8/54,mb1mx4.8/63,mbtmp5.1/54,MS3.8/21, Ms1 3.8/21,ms1mx3.6/40,Error ellipse: s-maj=8.9km s-min=7.4km az=141.0*
MOS ***15*** *13:51:42.7±1.0,46.°12N×151.°14E,h129km,mb5.3/194, Error ellipse: s-maj=5.1km s-min=4.2km az=87.0*
SKHL ***15*** *13:51:42.0±0.7,45.°86N×151.°43E,h123km±9km,mb5.3/6, Ms4.3/2,msh5.5/3*
GCMT ***15*** *13:51:44.4±0.2,46.°09N±0.°01×151.°39E±0.°02, h104km±2km,MW5.1/102,Moment Tensor Solution. s61,c79; s102,c171; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.76±.13; Mθθ-2.09±.16; Mφφ-1.68±.13; Mrθ3.40±.10; Mθφ-2.14±.12; Mφr0.59±.09; Best double couple: M₀5.20600×10¹⁶ NP1:φs68.00000°,δ66.00000°, λ107.00000°. NP2:φs210.00000°,δ29.00000°,λ56.00000°. Principal axes: T 5.3390, Plg64.0000°, Azm7.0000°; N -0.2770, Plg16.0000°, Azm241.0000°; P -5.0720, Plg19.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
JMA ***15*** *13:51:46.3±0.6,45.°27N×151.°09E,h129km,M5.1*
JMA Felt I J1.
ISC 15 13:51:43.0±0.3,**46.°10N**±0.°03×**151.°18E**±0.°03,**h115**km±2km, **h114**km:**pP-P,n1609,**σ1°**13**/1727,**mb5.3**/624,**110C-29D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.48**	**251**	*d i*PN	**Pn**	**13 52 23.3**	**+1.1**
KUR				*i* S	**Sn**	**13 52 53.7**	**+1.4**
KUR				pmax	pmax		
	comp=N,3μm,0.4s						
KUR				pmax	pmax		
	comp=Z,6μm,0.4s						
KUR				smax	smax		
	comp=E,64μm,1.0s						
KUR				smax	smax		
	comp=N,52μm,1.4s						
KUR				smax	smax		
	comp=N,25μm,0.4s						
KUR				smax	smax		
	comp=E,23μm,0.6s						
KUR	**Kuril'sk**	**2.48**	**251**	*i* P	**Pn**	**13 52 23.3**	**+1.1**
KUR				AMB	AMB	13 52 24.0	
	comp=E,440nm,0.4s						
KUR				AMB	AMB	13 52 24.0	
	comp=E,250nm,0.4s						
KUR				AMB	AMB	13 52 24.0	
	comp=E,590nm,0.4s						
KUR				*i* S	**Sn**	**13 52 54.3**	**+2.0**
KUR				A	A	13 52 55.0	
	comp=E,5μm,1.0s						
KUR				A	A	13 52 55.0	
	comp=E,2μm,0.5s						
KUR				A	A	13 52 55.0	
	comp=E,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.29**	**243**	*d i*PN	**Pn**	**13 52 46.2**	**0.0**
YUK				*i* S	**Sn**	**13 53 34.8**	**-0.6**
YUK				pmax	pmax		
	comp=E,1μm,0.2s						
YUK				pmax	pmax		
	comp=Z,6μm,0.2s						
YUK				pmax	pmax		
	comp=N,928nm,0.1s						
YUK				smax	smax		
	comp=E,7μm,0.4s						
YUK				smax	smax		
	comp=N,4μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.29**	**243**	*i* P	**Pn**	**13 52 46.3**	**0.0**
YUK				AMB	AMB	13 52 47.0	
	comp=N,90nm,0.2s						
YUK				AMB	AMB	13 52 47.0	
	comp=N,140nm,0.2s						
YUK				AMB	AMB	13 52 47.0	
	comp=N,580nm,0.2s						
YUK				*i* S	**Sn**	**13 53 35.1**	**-0.3**
YUK				A	A	13 53 38.0	
	comp=N,370nm,0.4s						
YUK				A	A	13 53 38.0	
	comp=N,730nm,0.4s						
LAGR	**Lagunnoye**	**4.33**	**244**	||*i*PN	**Pn**	**13 52 47.0**	**+0.3**
LAGR				*i* S	**Sn**	**13 53 35.9**	**-0.3**
LAGR				pmax	pmax		
	comp=Z,2μm,0.3s						
LAGR				pmax	pmax		
	comp=N,2μm,0.4s						
LAGR				pmax	pmax		
	comp=E,847nm,0.1s						
LAGR				smax	smax		
	comp=N,10μm,0.5s						
LAGR				smax	smax		
	comp=E,9μm,0.5s						
LAGR	**Lagunnoye**	**4.33**	**244**	*i* P	**Pn**	**13 52 47.0**	**+0.3**
LAGR				AMB	AMB	13 52 56.0	
	comp=E,160nm,0.3s						
LAGR				AMB	AMB	13 52 56.0	
	comp=E,850nm,0.3s						
LAGR				AMB	AMB	13 52 56.0	
	comp=E,240nm,0.3s						
LAGR				*i* S	**Sn**	**13 53 35.0**	**-1.2**
LAGR				A	A	13 53 42.0	
	comp=E,1μm,0.5s						
LAGR				A	A	13 53 42.0	
	comp=E,910nm,0.5s						
GRPR	**Tuman**	**4.37**	**243**	||*i*PN	**Pn**	**13 52 47.2**	**-0.1**
GRPR				*i* S	**Sn**	**13 53 36.1**	**-1.2**
GRPR				pmax	pmax		
	comp=Z,3μm,0.4s						
GRPR				pmax	pmax		
	comp=N,2μm,0.2s						
GRPR				pmax	pmax		
	comp=E,1μm,0.2s						
GRPR				smax	smax		
	comp=E,8μm,0.3s						
GRPR				smax	smax		
	comp=N,4μm,0.2s						
GRPR	**Tuman**	**4.37**	**243**	*i* P	**Pn**	**13 52 47.0**	**-0.3**
GRPR				AMB	AMB	13 52 48.0	
	comp=N,150nm,0.3s						
GRPR				AMB	AMB	13 52 48.0	
	comp=N,100nm,0.3s						
GRPR				AMB	AMB	13 52 48.0	
	comp=N,290nm,0.3s						
GRPR				*i* S	**Sn**	**13 53 36.0**	**-1.2**
GRPR				A	A	13 53 40.0	
	comp=N,450nm,0.4s						
GRPR				A	A	13 53 40.0	
	comp=N,820nm,0.4s						
GLVR	**Golovnino**	**4.66**	**242**	||*i*PN	**Pn**	**13 52 50.8**	**-0.3**
GLVR				*i* S	**Sn**	**13 53 42.7**	**-1.5**
GLVR				pmax	pmax		
	comp=Z,1μm,0.4s						
GLVR				pmax	pmax		
	comp=N,509nm,0.3s						
GLVR				pmax	pmax		
	comp=E,659nm,0.2s						
GLVR				smax	smax		
	comp=N,11μm,0.3s						
GLVR				smax	smax		
	comp=E,8μm,0.2s						
GLVR	**Golovnino**	**4.66**	**242**	*i* P	**Pn**	**13 52 50.0**	**-1.1**
GLVR				AMB	AMB	13 53 02.0	
	comp=E,50nm,0.3s						
GLVR				AMB	AMB	13 53 02.0	
	comp=E,70nm,0.3s						
GLVR				AMB	AMB	13 53 02.0	
	comp=E,120nm,0.3s						
GLVR				*i* S	**Sn**	**13 53 42.0**	**-2.2**
GLVR				A	A	13 53 49.0	
	comp=E,1μm,0.5s						
GLVR				A	A	13 53 49.0	
	comp=E,770nm,0.5s						
NEM2	**Nemuro 2**	**4.74**	**237**	P	**Pn**	**13 52 50.1**	**-2.1**
NEM2				*e*S	**Sn**	**13 53 40.3**	**-5.8**
JRA	**Rausu**	**4.80**	**245**	P	**Pn**	**13 52 53.6**	**+0.5**
JNK	**Nakash**	**5.23**	**244**	P	**Pn**	**13 52 58.7**	**-0.2**
JAK	**Akkeshi**	**5.57**	**238**	P	**Pn**	**13 53 01.3**	**-2.2**
JAK				*e*S	**Sn**	**13 54 00.7**	**-5.5**
JTKR	**Abashiri--Toko**	**5.57**	**250**	P	**Pn**	**13 53 04.1**	**+0.6**
SKR	**Severo-Kuril's**	**5.65**	**34**	||*i*PN	**Pn**	**13 53 03.9**	**-0.5**
SKR				*e*S	**Sn**	**13 54 04.8**	**-3.1**
SKR				pmax	pmax		
	comp=Z,900nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				smax	smax		
	comp=E,420nm,0.8s						
SKR				smax	smax		
	comp=N,600nm,0.7s						
SKR				MLR	MLR		
	comp=Z,600nm,14.0s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
SKR	**Severo-Kuril's**	**5.65**	**34**	*i* P	**Pn**	**13 53 04.2**	**-0.2**
SKR				AMB	AMB	13 53 06.0	
	comp=Z,900nm,5.0s						
SKR				AMB	AMB	13 53 06.2	
	comp=Z,120nm,0.5s						
SKR				*e*S	**Sn**	**13 54 05.5**	**-2.4**
SKR				A	A	13 54 09.9	
	comp=Z,600nm,0.8s						
SKR				A	A	13 54 09.9	
	comp=Z,420nm,0.8s						
SKR				AMS	AMS	13 55 41.3	
	comp=Z,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**5.87**	**281**	*e*Pn	**Pn**	**13 53 09.9**	**+2.4**
YSS	**Yuzh-Sakhalins**	**5.87**	**281**	||*e*PN	**Pn**	**13 53 10.2**	**+2.7**
YSS				*e*S	**Sn**	**13 54 15.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,370nm,0.8s						
YSS				pmax	pmax		
	comp=E,340nm,0.9s						
YSS				smax	smax		
	comp=N,320nm,1.2s						
YSS				MLR	MLR		
	comp=Z,800nm,15.0s						
YSS	**Yuzh-Sakhalins**	**5.87**	**281**	*e*P	**Pn**	**13 53 10.1**	**+2.6**
YSS				AMB	AMB	13 53 11.5	
	comp=Z,370nm,0.8s						
YSS				*e*S	**Sn**	**13 54 16.0**	**+2.5**
YSS				A	A	13 54 18.8	
	comp=Z,320nm,1.0s						
YSS				AMS	AMS	13 55 57.0	
	comp=Z,800nm,15.0s						
JMP	**Maruseppu**	**5.92**	**252**	P	**Pn**	**13 53 08.9**	**+0.7**
JAR	**Ashorobuto**	**5.97**	**245**	P	**Pn**	**13 53 08.9**	**0.0**
JSE	**Soyaes**	**6.14**	**262**	P	**Pn**	**13 53 13.4**	**+2.2**
JOB	**Onbets**	**6.14**	**241**	P	**Pn**	**13 53 09.8**	**-1.4**
JKK2	**Kamakawa 2**	**6.38**	**253**	P	**Pn**	**13 53 15.5**	**+1.1**
JKA	**Kamikawa-asahi**	**6.38**	**255**	*e*P	**Pn**	**13 53 16.3**	**+1.8**
ASAJ	**Asahikawa**	**6.39**	**255**	P	**Pn**	**13 53 16.2**	**+1.8**
ASAJ	**Asahikawa**	**6.39**	**255**	P	**Pn**	**13 53 16.3**	**+1.8**
	comp=Z,25nm,0.3s,baz=337,slow=30,SNR=152						
PAU	**Pauzhetka**	**6.54**	**33**	*e*P	**Pn**	**13 53 16.6**	**+0.2**
PAU				*e*S	**Sn**	**13 54 27.2**	**-2.3**
JWK2	**Keihoku**	**6.54**	**266**	P	**Pn**	**13 53 20.2**	**+3.6**
JCH	**Churui**	**6.59**	**241**	P	**Pn**	**13 53 15.8**	**-1.5**
JCH				*e*S	**Sn**	**13 54 25.5**	**-5.5**
JFR	**Furan**	**6.79**	**247**	P	**Pn**	**13 53 20.3**	**+0.3**
JSS	**Shosan**	**6.80**	**259**	P	**Pn**	**13 53 23.0**	**+3.0**
UGL	**Uglegorsk**	**6.84**	**299**	*d i*PN	**Pn**	**13 53 23.9**	**+3.3**
UGL				pmax	pmax		
	comp=Z,900nm,2.3s						
UGL				pmax	pmax		
	comp=Z,438nm,0.9s						
UGL				MLR	MLR		
	comp=Z,1μm,12.0s						
JAB	**Ashibetsu**	**6.88**	**251**	P	**Pn**	**13 53 22.6**	**+1.5**
JEM	**Erimo**	**7.07**	**238**	P	**Pn**	**13 53 22.5**	**-1.2**
ERM	**Erimo**	**7.07**	**238**	*e*Pn	**Pn**	**13 53 22.5**	**-1.3**
ERM	**Erimo**	**7.07**	**238**	*ce*PN	**Pn**	**13 53 23.0**	**-0.8**
ERM				pmax	pmax		
	comp=Z,32nm,0.4s						
JBT2	**Biratori 2**	**7.13**	**245**	P	**Pn**	**13 53 23.8**	**-0.7**
JNBK	**Urakawa-nobuka**	**7.16**	**241**	P	**Pn**	**13 53 22.3**	**-2.6**
JNBK				*e*S	**Sn**	**13 54 38.8**	**-5.8**
TYV	**Tymovskoe**	**7.40**	**313**	*e*PN	**Pn**	**13 53 31.3**	**+3.2**
TYV				*e*S	**Sn**	**13 54 53.2**	**+2.8**
TYV				pmax	pmax		
	comp=Z,900nm,1.8s						
TYV				pmax	pmax		
	comp=Z,179nm,0.6s						
TYV				smax	smax		
	comp=E,96nm,0.9s						
TYV				smax	smax		
	comp=E,2μm,5.4s						
TYV	**Tymovskoe**	**7.40**	**313**	*e*P	**Pn**	**13 53 31.3**	**+3.2**
TYV				AMB	AMB	13 53 32.4	
	comp=E,900nm,2.0s						
TYV				AMB	AMB	13 53 33.1	
	comp=E,180nm,0.6s						
TYV				*e*S	**Sn**	**13 54 53.2**	**+2.8**
TYV				A	A	13 54 58.7	
	comp=E,100nm,0.9s						
TYV				A	A	13 55 00.9	
	comp=E,2μm,5.0s						
JEW	**Eniwo**	**7.68**	**248**	P	**Pn**	**13 53 32.7**	**+0.7**
JNB	**Noboribetsu**	**8.13**	**247**	P	**Pn**	**13 53 36.4**	**-1.6**
JNB				*e*S	**Sn**	**13 55 04.0**	**-4.2**
PEA0B	**Petropavlovsk-**	**8.19**	**29**	*e*Pn	**Pn**	**13 53 38.0**	**-0.9**
PETK	**Petropavlovsk-**	**8.19**	**29**	*e*Pn	**Pn**	**13 53 37.8**	**-1.1**
PETK	**Petropavlovsk-**	**8.19**	**29**	P	**Pn**	**13 53 38.1**	**-0.7**
	comp=E,7.3nm,0.3s,baz=211,slow=8.8,SNR=109						
PEA1	**Petropavlovsk-**	**8.20**	**29**	*e*Pn	**Pn**	**13 53 38.1**	**-0.8**
JKB	**Kayabe**	**8.44**	**244**	P	**Pn**	**13 53 39.8**	**-2.4**
JKB				*e*S	**Sn**	**13 55 07.7**	**-7.9**
PET	**Petropavlovsk**	**8.46**	**32**	*e*Pn	**Pn**	**13 53 40.9**	**-1.6**
PET	**Petropavlovsk**	**8.46**	**32**	||*i*PN	**Pn**	**13 53 40.8**	**-1.7**
PET				pmax	pmax		
	comp=Z,200nm,4.2s						
PET				pmax	pmax		
	comp=Z,57nm,0.5s						
PET				MLR	MLR		
	comp=Z,700nm,15.0s						
PET				MLR	MLR		
	comp=Z,600nm,16.0s						
PET	**Petropavlovsk**	**8.46**	**32**	*i* P	**Pn**	**13 53 41.2**	**-1.3**
PET				AMB	AMB	13 53 41.5	
	comp=Z,200nm,4.0s						
PET				AMB	AMB	13 53 53.9	
	comp=Z,60nm,0.5s						
PET				*e*S	**Sn**	**13 55 12.5**	**-3.7**
PET				AMS	AMS	13 57 01.7	
	comp=Z,700nm,15.0s						
JSH	**Shimam**	**8.69**	**251**	P	**Pn**	**13 53 45.5**	**-0.1**
JSR	**Shiriuchi**	**9.02**	**243**	P	**Pn**	**13 53 47.5**	**-2.6**
JTM	**Tenmabayashi**	**9.06**	**238**	P	**Pn**	**13 53 47.3**	**-3.5**
JTM				*e*S	Sn	13 55 20.9	-10
JANG	**Nango**	**9.08**	**234**	P	**Pn**	**13 53 46.5**	**-4.4**
JANG				*e*S	Sn	13 55 20.0	-11
OKH	**Okha**	**9.16**	**327**	*d i*PN	**Pn**	**13 53 53.4**	**+1.5**
OKH				*i* S	**Sn**	**13 55 30.9**	**-2.2**
OKH				pmax	pmax		
	comp=Z,300nm,12.1s						
OKH				smax	smax		
	comp=N,600nm,6.8s						
OKH	**Okha**	**9.16**	**327**	*i* P	**Pn**	**13 53 54.9**	**+3.0**
OKH				AMB	AMB	13 53 59.0	
	comp=N,200nm,12.0s						
OKH				*i* S	**Sn**	**13 55 35.1**	**+2.0**
OKH				A	A	13 55 45.2	
	comp=N,600nm,7.0s						
OKH				AMS	AMS	13 58 06.5	
	comp=N,900nm,14.0s						
JTH	**Tanohata**	**9.18**	**231**	P	Pn	13 53 47.4	-5.0
JTH				*e*S	Sn	13 55 22.9	-11
JOSM	**Okushiri--Mats**	**9.32**	**249**	P	**Pn**	**13 53 52.5**	**-1.8**
NKL	**Nikolayevsk**	**9.80**	**320**	*e*PN	**Pn**	**13 54 02.0**	**+1.4**
NKL				*e*		13 55 56.0	
NKL				pmax	pmax		
	comp=Z,500nm,6.0s						
NKL				pmax	pmax		
	comp=N,55nm,1.0s						
NKL				pmax	pmax		
	comp=E,55nm,1.0s						
NKL				pmax	pmax		
	comp=Z,120nm,1.0s						
NKL	**Nikolayevsk**	**9.80**	**320**	*e*P	**Pn**	**13 54 02.0**	**+1.4**
NKL				AMB	AMB	13 54 03.5	
	comp=Z,500nm,6.0s						
NKL				AMB	AMB	13 54 04.5	
	comp=Z,60nm,1.0s						
NKL				AMB	AMB	13 54 04.5	
	comp=Z,120nm,1.0s						
OFUJ	**Ofunato**	**9.91**	**228**	P	**Pn**	**13 53 58.1**	**-4.1**
JRG	**Rokugo**	**10.24**	**233**	P	**Pn**	**13 54 03.4**	**-3.3**
TEY	**Ternei**	**10.28**	**269**	||*e*PN	**Pn**	**13 54 09.3**	**+2.2**
TEY				pmax	pmax		
	comp=Z,20nm,1.5s						
TEY	**Ternei**	**10.28**	**269**	*e*P	**Pn**	**13 54 09.3**	**+2.2**
TEY				AMB	AMB	13 54 09.9	
	comp=Z,60nm,1.0s						
TEY				AMB	AMB	13 54 09.9	
	comp=Z,120nm,1.0s						
JIO	**Ouri**	**10.54**	**227**	P	Pn	13 54 06.0	-4.8
JIO				*e*S	Sn	13 55 55.4	-11
GRNR	**Gornyy**	**10.86**	**301**	||*i*PN	**Pn**	**13 54 17.8**	**+2.9**
GRNR				pmax	pmax		
	comp=E,63nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,65nm,1.0s						
GRNR	**Gornyy**	**10.86**	**301**	*e*P	**Pn**	**13 54 17.8**	**+2.9**
GRNR				AMB	AMB	13 54 18.5	
	comp=Z,60nm,1.0s						
GRNR				AMB	AMB	13 54 18.5	
	comp=Z,70nm,1.0s						
JYA	**Atsumi**	**11.31**	**233**	P	**Pn**	**13 54 17.4**	**-3.7**
JFK	**Kawauchi**	**11.62**	**225**	P	**Pn**	**13 54 20.5**	**-4.8**
JFY	**Yanaizu**	**12.19**	**229**	P	**Pn**	**13 54 29.7**	**-3.0**
KLR	**Kul'dur**	**13.46**	**290**	*d i*PN	**Pn**	**13 54 51.0**	**+1.9**
KLR				pmax	pmax		
	comp=Z,52nm,1.1s						
KLR	**Kul'dur**	**13.46**	**290**	P	**Pn**	**13 54 50.5**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=103,slow=17,SNR=61						
KLR				S	**S**	**13 57 28.1**	**-4.7**
	comp=Z,0.2nm,0.3s,baz=143,slow=19,SNR=1.1						
KLR				PcP	**PcP**	**14 00 08.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=13,slow=1.9,SNR=6.7						
KLR	**Kul'dur**	**13.46**	**290**	*e*P	**Pn**	**13 54 51.0**	**+1.9**
MA2	**Magadan**	**13.50**	**359**	*e*Pn	**Pn**	**13 54 48.0**	**-1.6**
MA2	**Magadan**	**13.50**	**359**	*ce*PN	**Pn**	**13 54 49.1**	**-0.5**
MA2				pmax	pmax		
	comp=Z,106nm,2.5s						
MA2	**Magadan**	**13.50**	**359**	P	**Pn**	**13 54 48.3**	**-1.3**
	comp=Z,1.7nm,0.3s,baz=177,slow=9.5,SNR=31						
MA2				LR	LR	13 59 49.9	
	comp=Z,163nm,19.9s,baz=180,slow=36						
MA2	**Magadan**	**13.50**	**359**	*e*P	**Pn**	**13 54 49.1**	**-0.5**
MJB9	**Matsu-Tunnel**	**13.62**	**230**	*e*Pn	**Pn**	**13 54 48.6**	**-2.8**
MAJO	**Matsushiro**	**13.62**	**230**	*e*Pn	**Pn**	**13 54 48.6**	**-2.8**
MAJO				*e*Sn	**Sn**	**13 57 15.6**	**-6.0**
MAJO	**Matsushiro**	**13.62**	**230**	*i* P	**Pn**	**13 54 49.7**	**-1.7**
MAT	**Matsushiro**	**13.62**	**230**	P	**Pn**	**13 54 48.7**	**-2.7**
MAT				S	Sn	13 57 09.8	-12
MJAR	**Matsushiro Arr**	**13.62**	**230**	*e*Pn	**Pn**	**13 54 49.1**	**-2.3**
MJAR	**Matsushiro Arr**	**13.62**	**230**	P	**Pn**	**13 54 49.4**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=56						
MJAR				S	**Sn**	**13 57 15.6**	**-6.0**
	comp=Z,0.2nm,0.3s,baz=78,slow=12,SNR=1.5						
MJAR				LR	LR	14 00 54.1	
	comp=Z,206nm,18.2s,baz=45,slow=40						
USA0B	**Ussuriysk Arra**	**13.68**	**269**	*e*Pn	**Pn**	**13 54 50.8**	**-1.2**
USRK	**Ussuriysk Ar.**	**13.68**	**269**	*e*Pn	**Pn**	**13 54 51.5**	**-0.4**
USRK	**Ussuriysk Ar.**	**13.68**	**269**	P	**Pn**	**13 54 52.1**	**+0.2**
	comp=Z,3.9nm,0.3s,baz=67,slow=14,SNR=46						
EKMR	**Ekimchan**	**13.71**	**307**	*e*P	**Pn**	**13 54 52.5**	**+0.2**
EKMR				AMB	AMB	13 55 06.1	
	comp=Z,30nm,0.8s						
EKMR				AMB	AMB	13 55 06.1	
	comp=Z,20nm,0.8s						
EKMR				AMB	AMB	13 55 06.1	
	comp=Z,70nm,0.8s						
VLA	**Vladivostok**	**14.06**	**265**	*i* P	**Pn**	**13 54 56.6**	**-0.3**
VLA	**Vladivostok**	**14.06**	**265**	*e*P	**Pn**	**13 54 56.6**	**-0.3**
INU	**Inuyama**	**15.16**	**230**	*e*Pn	**Pn**	**13 55 09.4**	**-1.4**
	comp=Z,67nm,1.4s						
MDJ	**Mudanjiang**	**15.24**	**272**	P	**Pn**	**13 55 12.8**	**+0.9**
MDJ				S	**Sn**	**13 58 02.1**	**+1.7**
MDJ				SS	**S**	**13 58 16.3**	**+7.4**
MDJ				PcP	**PcP**	**14 00 10.8**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,150nm,1.1s						
MDJ				LR	LR		
	comp=Z,490nm,14.3s						
MDJ				LR	LR		
	comp=Z,310nm,15.1s						
MDJ				LR	LR		
	comp=Z,430nm,15.9s						
MDJ	**Mudanjiang**	**15.24**	**272**	*e*Pn	**Pn**	**13 55 11.4**	**-0.5**
	comp=Z,107nm,0.9s						
JHJ2	**Mitsune**	**15.62**	**218**	*e*Pn	**Pn**	**13 55 15.8**	**-1.0**
	comp=Z,173nm,0.9s						
JHJ	**Hachijo jima 2**	**15.63**	**218**	P	**Pn**	**13 55 16.3**	**-0.5**
	comp=Z,10nm,0.3s,baz=255,slow=23,SNR=6.1						
JHJ				S	Sn	13 57 56.3	-14
	comp=Z,52nm,0.3s,baz=75,slow=24,SNR=12						
SMY	**Shemya**	**16.29**	**58**	*e*Pn	**P**	**13 55 25.5**	**-0.1**
	comp=Z,298nm,1.4s						
SMY	**Shemya**	**16.29**	**58**	*e*P	**P**	**13 55 25.5**	**-0.1**
SMY				pmax	pmax		
	comp=Z,298nm,1.4s						
BMKR	**Bomnak**	**16.58**	**309**	*e*P	**P**	**13 55 29.0**	**+0.1**
	comp=Z,8.0nm,0.5s,comp=E,5.0nm,0.5s						
SEY	**Seymchan**	**16.89**	**2**	*ce*P	**Pn**	**13 55 31.5**	**-0.5**
SEY	**Seymchan**	**16.89**	**2**	P	**Pn**	**13 55 31.1**	**-0.8**
	comp=E,2.0nm,0.3s,baz=173,slow=9.7,SNR=33						
SEY	**Seymchan**	**16.89**	**2**	*e*P	**Pn**	**13 55 31.5**	**-0.5**
ZEA	**Zeya**	**17.14**	**305**	*e*P	**Pn**	**13 55 36.0**	**+0.8**
ZEA				*e*S	**S**	**13 58 48.0**	**+0.5**
ZEA				pmax	pmax		
	comp=N,47nm,1.0s						
ZEA				pmax	pmax		
	comp=E,58nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,85nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,200nm,7.0s						
ZEA				smax	smax		
	comp=N,500nm,10.0s						
ZEA				MLR	MLR		
	comp=E,500nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,600nm,15.0s						
ZEA				MLR	MLR		
	comp=N,400nm,14.0s						
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comp=N,500nm,15.0s
ZEA AMS AMS 14 03 13.0
comp=N,600nm,15.0s
KROS Kirovskiy 17.51 307 *e*P **P 13 55 37.2 -1.9**
KROS AMB AMB 13 55 38.8
comp=N,20nm,0.8s
CN2 Changchun 18.33 272 *e*P **P 13 55 46.6 -1.6**
CN2 *es*P sP 13 56 20.1 -2.2
CN2 *e*S S 13 59 00.9 -11
CN2 pmax pmax
comp=N,40nm,0.9s
CN2 pmax pmax
comp=N,200nm,3.0s
KSRS Korea Array 19.32 252 P **Pn 13 56 00.5 -0.7**
comp=N,2.5nm,0.3s,baz=60,slow=11,SNR=48
KSRS PcP **PcP 14 00 17.9 +1.5**
comp=N,0.2nm,0.3s,baz=1.0,slow=0.9,SNR=14
KS15 Wonju Array Si 19.35 252 *e*P **P 13 56 00.3 +0.9**
comp=N,54nm,0.8s
KSAR Wonju Array Be 19.35 252 *e*PcP **PcP 14 00 17.2 +0.8**
YAK Yakutsk 20.18 330 *e*P **P 13 56 06.5 -1.6**
YAK *e**PP **pP 13 56 28.5 +0.2**
YAK *e*S **S 13 59 46.0 -2.0**
YAK *e**SS **sS 14 00 15.6 -6.3**
YAK *e* 14 00 17.9
YAK *e* 14 07 23.9
YAK pmax pmax
comp=Z,731nm,0.9s
YAK pmax pmax
comp=E,362nm,1.1s
YAK pmax pmax
comp=N,236nm,0.9s
YAK smax smax
comp=N,5μm,2.0s
YAK smax smax
comp=E,4μm,2.5s
JNU Nakatsue 20.24 237 *e*P **P 13 56 09.5 +0.5**
comp=E,56nm,1.0s
JNU Nakatsue 20.24 237 P **P 13 56 10.2 +1.2**
comp=E,52nm,1.0s,baz=48,slow=6.3,SNR=20
TJN Taejon 20.30 250*ce*P **P 13 56 10.1 +0.5**
KIWB Kanaga Island 21.46 63 *e*P **P 13 56 21.9 0.0**
ADK Adak 21.75 63 *e*P **P 13 56 24.7 -0.3**
comp=E,188nm,1.2s
ADK Adak 21.75 63 *e*P **P 13 56 24.7 -0.3**
ADK pmax pmax
comp=Z,189nm,1.2s
DL2 Dalian 22.85 262 P **P 13 56 34.8 -1.5**
DL2 PP **PnPn 13 57 06.8 -0.6**
DL2 sP **sP 13 57 13.8 +1.6**
DL2 S **S 14 00 35.3 -1.5**
DL2 sS **sS 14 01 11.0 -4.5**
DL2 pmax pmax
comp=Z,91nm,0.9s
DL2 pmax pmax
comp=Z,370nm,4.1s
ATKA Atka Island 23.30 62 *e*P **P 13 56 39.7 -0.6**
comp=Z,108nm,1.2s
BILL Bilibino 23.34 14 *e*P **P 13 56 39.6 -1.0**
comp=Z,53nm,1.2s
BILL Bilibino 23.34 14 *i*P **P 13 56 39.3 -1.3**
BILL *i* 13 57 12.9
BILL *i* 14 00 24.3
BILL pmax pmax
comp=Z,38nm,1.3s
BILL Bilibino 23.34 14 *e*P **P 13 56 38.8 -1.8**
BOD Bodaibo 25.39 311 *e*P **P 13 56 56.6 -2.6**
BOD pmax pmax
comp=Z,16nm,1.4s
BJI Beijing 26.13 269⇑*e*P **P 13 57 06.9 +0.8**
BJI S **S 14 01 27.6 -1.5**
BJI sS **sS 14 02 15.0 +3.7**
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJI Beijing 26.13 269 P **P 13 57 06.6 +0.5**
BJI pmax pmax
comp=Z,51nm,0.7s
BJT Baijiatuau 26.14 269 *e*P **P 13 57 06.6 +0.4**
comp=Z,51nm,0.8s
BJT Baijiatuau 26.14 269 *e*P **P 13 57 06.6 +0.4**
BJT pmax pmax
comp=Z,51nm,0.8s
JOW Kunigami 26.46 231 P **P 13 57 10.0 +0.7**
comp=Z,4.2nm,0.9s,baz=121,slow=14,SNR=6.3
TIA Tai'an 27.29 261 P **P 13 57 17.8 +1.2**
TIA pmax pmax
comp=Z,20nm,0.7s
TIXI Tiksi 27.73 345 *e*P **P 13 57 18.0 -2.1**
comp=Z,28nm,1.0s
TIXI *e*PcP **PcP 14 00 33.6 0.0**
TIXI Tiksi 27.73 345*ce*P **P 13 57 18.3 -1.8**
TIXI pmax pmax
comp=Z,44nm,1.3s
TIXI Tiksi 27.73 345 P **P 13 57 18.5 -1.7**
comp=Z,7.9nm,0.4s,baz=90,slow=5.8,SNR=36
TIXI PcP **PcP 14 00 33.3 -0.4**
comp=Z,13nm,0.8s,baz=86,slow=2.8,SNR=9.3
TIXI S **S 14 01 49.9 -3.9**
comp=Z,2.5nm,0.8s,baz=270,slow=21,SNR=7.5
TIXI LR LR 14 08 22.6
comp=Z,139nm,20.8s,baz=90,slow=36
NJ2 Nanjing 28.52 252 *e*P **P 13 57 28.4 +0.9**
NJ2 pmax pmax
comp=Z,23nm,0.8s
NJ2 LR LR
comp=Z,990nm,23.9s
NJ2 LR LR
comp=Z,1μm,22.0s
NJ2 LR LR
comp=Z,1μm,24.4s
HHC Hu-ho-hao-te 29.00 274 *e*P **P 13 57 33.3 +1.4**
HHC pP pP 13 57 58.6 +1.7
HHC sP sP 13 58 09.8 -0.4
HHC S **S 14 02 14.9 +0.3**
HHC pmax pmax
comp=Z,170nm,0.8s
HHC pmax pmax
comp=Z,430nm,4.1s
HHC LR LR
comp=Z,2μm,10.4s
HHC LR LR
comp=Z,2μm,10.4s
HHC LR LR
comp=Z,2μm,12.1s
H11N2 WAKE ISLAND Hy 29.31 149 T T 14 28 09.8
baz=338,slow=75,SNR=120
H11N1 WAKE ISLAND Hy 29.32 149 T T 14 28 14.0
baz=338,slow=75,SNR=114
H11N3 WAKE ISLAND Hy 29.33 149 T T 14 28 10.6
baz=338,slow=75,SNR=72
TIY Taiyuan 29.78 268 *e*P **P 13 57 40.8 +2.0**
TIY pmax pmax
comp=Z,54nm,0.8s
ULN Ulaanbaatar 29.85 290 *e*P **P 13 57 38.0 -1.4**
comp=Z,14nm,0.8s
ULN *e*PcP **PcP 14 00 40.2 +0.6**
ULN Ulaanbaatar 29.85 290*ce*P **P 13 57 39.1 -0.3**
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 29.85 290 P **P 13 57 36.5 -2.9**
SNR=12
ULN Ulaanbaatar 29.85 290 *e*P **P 13 57 39.1 -0.3**
BTO Baotou 30.17 274 *e*P **P 13 57 42.6 +0.4**
SONM Songino Array 30.29 290 *e*P **P 13 57 42.2 -1.0**
SONM *e*PcP **PcP 14 00 41.3 +0.5**
SONM Songino Array 30.29 290 *e*P **P 13 57 42.2 -1.0**
SONM *e* 14 00 41.3
SONM Songino Array 30.29 290 P **P 13 57 42.9 -0.3**
comp=Z,9.3nm,0.8s,baz=73,slow=8.7,SNR=23
SONM PcP **PcP 14 00 41.5 +0.8**
comp=Z,8.0nm,0.8s,baz=128,slow=2.4,SNR=9.2
SONM LR LR 14 10 56.1
comp=Z,176nm,18.4s,baz=80,slow=38
H11S1 WAKE ISLAND Hy 30.37 150 T T 14 29 33.6
baz=338,slow=76,SNR=177
H11S3 WAKE ISLAND Hy 30.37 150 T T 14 29 30.4
baz=338,slow=76,SNR=202
H11S2 WAKE ISLAND Hy 30.39 150 T T 14 29 31.4
baz=338,slow=76,SNR=157
TLY Talaya 31.29 298 *e*P **P 13 57 51.0 -0.9**
comp=Z,13nm,0.9s
TLY *e*PcP **PcP 14 00 43.3 +0.1**
TLY Talaya 31.29 298*ce*P **P 13 57 52.0 +0.1**
TLY pmax pmax
comp=Z,16nm,0.7s
TLY Talaya 31.29 298 *e*P **P 13 57 52.0 +0.1**

ZAK Zakamensk 31.74 295 *e*P **P 13 57 54.4 -1.5**
ZAK pmax pmax
comp=Z,13nm,1.2s
RDOG Red Dog Mine 32.06 31 *e*P **P 13 57 58.4 0.0**
comp=Z,53nm,1.2s
GUMO Guam 32.84 191 LR LR 14 09 40.5
comp=Z,150nm,21.2s,baz=39,slow=33
MOY Mondy 32.92 298 *e*P **P 13 58 05.9 -0.3**
MOY pmax pmax
comp=Z,13nm,1.7s
TPUB Ta-pu 33.55 238 *e*P **P 13 58 11.9 +0.1**
comp=Z,32nm,0.7s
TWG Pinlang 33.66 237 *e*P **P 13 58 12.5 -0.2**
comp=Z,95nm,0.7s
SVW2 Sparrevohn 33.90 44 *e*P **P 13 58 15.3 +0.8**
comp=Z,35nm,1.5s
SVW2 *e*PcP **PcP 14 00 50.8 +0.6**
XAN Xi'an 34.12 265 P **P 13 58 17.5 +0.8**
XAN pP pP 13 58 42.3 +0.2
XAN sP sP 13 58 58.3 +3.0
XAN PcP **PcP 14 00 52.3 +0.9**
XAN S **S 14 03 31.6 -2.7**
XAN pmax pmax
comp=Z,57nm,1.0s
XAN pmax pmax
comp=Z,190nm,4.0s
XAN Xi'an 34.12 265 *e*P **P 13 58 17.1 +0.4**
comp=Z,63nm,1.0s
XAN Xi'an 34.12 265 *e*P **P 13 58 17.1 +0.4**
XAN pmax pmax
comp=Z,63nm,1.0s
IMAR Indian Mountai 35.08 36 *e*P **P 13 58 24.8 +0.3**
OHAK Old Harbor 35.23 51 *e*P **P 13 58 25.5 -0.4**
comp=Z,82nm,1.1s
RSO Redoubt South 35.29 45 *e*P **P 13 58 27.4 +0.8**
PPLA Purkeypile 35.54 41 *e*P **P 13 58 28.3 -0.4**
comp=Z,230nm,1.6s
PPLA *e*PcP **PcP 14 00 55.3 +0.2**
KDAK Kodiak Island 35.55 50 *e*P **P 13 58 27.6 -1.0**
comp=Z,64nm,1.2s
KDAK *e*PcP **PcP 14 00 55.6 +0.6**
KDAK Kodiak Island 35.55 50 *i*P **P 13 58 27.8 -0.8**
CAST Castle Rocks 35.60 40 *e*P **P 13 58 29.9 +0.8**
comp=Z,39nm,1.0s
CAST *e*PcP **PcP 14 00 55.7 +0.6**
SPU Mount Spurr 35.61 44 *e*P **P 13 58 29.5 +0.3**
ENH Enshi 35.93 259 *e*P **P 13 58 31.6 -0.7**
comp=Z,48nm,1.1s
ENH *e*PcP **PcP 14 00 57.7 +1.0**
BPAW Bear Paw Mtn. 36.11 39 *e*P **P 13 58 33.9 +0.5**
comp=Z,47nm,1.2s
MLY Manley 36.25 38 *e*P **P 13 58 34.9 +0.3**
comp=Z,38nm,1.0s
BRLK Bradley Lake 36.26 46 *e*P **P 13 58 34.1 -0.6**
comp=Z,16nm,0.9s
BRLK *e*PcP **PcP 14 00 56.9 -0.3**
LZH Lanzhou 36.56 271 *e*P **P 13 58 39.8 +2.0**
LZH pP pP 13 59 05.9 +2.5
LZH sP sP 13 59 21.5 +5.0
LZH PcP **PcP 14 01 00.3 +1.6**
LZH S **S 14 04 10.6 -1.3**
LZH sS sS 14 04 57.6 +2.7
LZH pmax pmax
comp=Z,780nm,4.0s
COLD Coldfoot 36.62 34 *e*P **P 13 58 38.2 +0.5**
comp=Z,16nm,1.0s
RC01 Rabbit Creek A 36.74 44 *e*P **P 13 58 38.5 -0.2**
comp=Z,46nm,1.2s
BWN Browne 36.78 39 *e*P **P 13 58 39.9 +0.8**
comp=Z,274nm,1.1s
SEW Seward 36.95 46 *e*P **P 13 58 39.6 -0.9**
comp=Z,26nm,1.1s
SEW *e*PcP **PcP 14 00 59.4 +0.2**
PMR Palmer 37.00 43 *e*P **P 13 58 40.3 -0.6**
comp=Z,25nm,1.0s
PMR *e*PcP **PcP 14 00 59.5 +0.3**
PMR Palmer 37.00 43 *e*P **P 13 58 40.3 -0.6**
PMR *e* 14 00 59.6
PMR pmax pmax
comp=Z,25nm,1.0s
TOLK Toolik Lake Re 37.00 32 *e*P **P 13 58 41.5 +0.5**
comp=Z,108nm,1.3s
TOLK Toolik Lake Re 37.00 32 P **P 13 58 41.8 +0.9**
baz=264
MCK McKinley 37.01 40 *e*P **P 13 58 41.1 0.0**
comp=Z,73nm,1.2s
MCK *e*PcP **PcP 14 00 59.4 0.0**
MCK McKinley 37.01 40 *e*P **P 13 58 41.1 0.0**
MCK *e* 14 00 59.4
MCK pmax pmax
comp=Z,73nm,1.2s
RND Reindeer 37.05 40 *e*P **P 13 58 41.1 -0.4**
comp=Z,94nm,1.2s
RND *e*PcP **PcP 14 00 59.1 -0.5**
RND Reindeer 37.05 40 *e*P **P 13 58 41.1 -0.4**
RND *e* 14 00 59.1
RND pmax pmax
comp=Z,94nm,1.2s
GHO Glory Hole Cre 37.09 43 *e*P **P 13 58 41.8 0.0**
comp=Z,62nm,1.3s
MDM Murphy Dome 37.32 38 *e*P **P 13 58 44.1 +0.5**
comp=Z,78nm,1.2s
KNK Knik Glacier 37.33 44 *e*P **P 13 58 43.4 -0.4**
comp=Z,125nm,1.3s
SML Sawmill 37.36 43 *e*P **P 13 58 44.3 +0.2**
comp=Z,137nm,1.1s
SML Sawmill 37.36 43 *e*P **P 13 58 44.3 +0.2**
SML pmax pmax
comp=Z,137nm,1.1s
WRH Wood River Hil 37.38 39 *e*P **P 13 58 44.4 +0.3**
comp=Z,103nm,1.6s
TCOL CIGO, UAF Yank 37.47 38 P **P 13 58 45.8 +0.9**
baz=270
COLA College 37.48 38 *e*P **P 13 58 45.6 +0.7**
comp=Z,143nm,1.3s
COLA College 37.48 38 *e*P **P 13 58 45.6 +0.7**
COLA pmax pmax
comp=Z,143nm,1.3s
CCB Clear Creek Bu 37.50 38 *e*P **P 13 58 45.2 +0.1**
comp=Z,22nm,0.9s
POKR Poker Plat Res 37.65 37 P **P 13 58 47.6 +1.2**
baz=270
DHY Denali Highway 37.73 41 *e*P **P 13 58 47.0 -0.3**
comp=Z,121nm,1.6s
DHY *e*PcP **PcP 14 01 02.5 +0.7**
GTA Gaotai 37.74 279⇑P **P 13 58 48.9 +1.2**
GTA pP pP 13 59 17.4 +4.2
GTA sP sP 13 59 29.5 +3.4
GTA PcP **PcP 14 01 03.6 +1.4**
GTA PcS **PcS 14 04 52.8 +1.7**
GTA ScS ScS 14 08 48.0 -0.1
GTA pmax pmax
comp=Z,120nm,1.3s
GTA pmax pmax
comp=Z,280nm,4.7s
GTA LR LR
comp=Z,250nm,20.3s
GTA LR LR
comp=Z,230nm,20.3s
GTA LR LR
comp=Z,140nm,18.6s
SCM Sheep Creek Mo 37.84 43 *e*P **P 13 58 48.1 0.0**
comp=Z,94nm,1.4s
HDA Harding Lake 37.87 39 *e*P **P 13 58 47.5 -0.7**
comp=Z,70nm,1.2s
HDA Harding Lake 37.87 39 P **P 13 58 47.6 -0.7**
baz=272
ILAR Eielson Array 37.89 38 *e*P **P 13 58 48.0 -0.5**
ILAR Eielson Array 37.89 38 P **P 13 58 48.4 0.0**
comp=Z,42nm,1.1s,baz=256,slow=6.5,SNR=113
ILAR PcP **PcP 14 01 00.9 -1.1**
comp=Z,5.0nm,0.9s,baz=283,slow=3.2,SNR=6.9
ILAR LR LR 14 14 29.4
comp=Z,74nm,19.4s,baz=301,slow=36
ILB Eielson Array 37.89 38 *e*P **P 13 58 48.1 -0.3**
comp=Z,72nm,1.3s
ILB *e*PcP **PcP 14 01 00.7 -1.3**
PRP Porcupine Dome 38.45 37 *e*P **P 13 58 53.4 +0.1**
comp=Z,58nm,1.1s
KLU Klutina 38.54 43 *e*P **P 13 58 54.3 +0.3**
comp=Z,58nm,1.0s
FYU Fort Yukon 38.55 35 *e*P **P 13 58 55.3 +1.4**
comp=Z,195nm,1.3s
PAX Paxson 38.61 41 *e*P **P 13 58 55.0 +0.4**
comp=Z,33nm,1.2s
PAX *e*PcP **PcP 14 01 04.6 +0.2**

PAX Paxson 38.61 41 *e*P **P 13 58 55.0 +0.4**
PAX *e* 14 01 04.6
PAX pmax pmax
comp=Z,33nm,1.2s
NRIK Noril'sk 38.63 329 P **P 13 58 53.7 -0.9**
comp=Z,33nm,1.1s,baz=98,slow=8.5,SNR=39
NRIK PcP **PcP 14 01 05.1 +0.9**
comp=Z,11nm,0.7s,baz=118,slow=1.2,SNR=3.9
DIV Divide 38.65 44 *e*P **P 13 58 55.4 +0.5**
comp=Z,119nm,1.5s
EYAK Cordova Ski Ar 38.73 45 *e*P **P 13 58 56.0 +0.5**
comp=Z,59nm,1.4s
HARP HAARP 38.80 42 *e*P **P 13 58 56.8 +0.7**
comp=Z,57nm,0.9s
BMAR Burnt Mountain 38.81 34 *e*P **P 13 58 57.4 +1.2**
RIDG Independent Ri 38.83 40 *e*P **P 13 58 55.9 -0.5**
comp=Z,87nm,1.3s
DOT Dot Lake 39.19 40 *e*P **P 13 58 58.7 -0.6**
comp=Z,19nm,1.2s
SCRK Sand Creek 39.19 39 *e*P **P 13 58 58.9 -0.6**
comp=Z,29nm,1.0s
MENT Mentasta 39.41 41 *e*P **P 13 59 01.3 +0.2**
comp=Z,27nm,1.3s
CD2 Chengdu 39.48 264 P **P 13 59 00.3 -1.9**
CD2 PP **PnPn 14 00 37.5 -1.5**
CD2 S **S 14 04 52.9 -2.9**
CD2 sS sS 14 05 37.3 -1.9
CD2 pmax pmax
comp=Z,130nm,3.5s
HMT Hamilton 39.49 45 *e*P **P 13 59 02.9 +1.0**
comp=Z,119nm,1.3s
GYA Guiyang 40.26 257⇑*i*P **P 13 59 09.3 +0.6**
GYA pP pP 13 59 34.6 -0.1
GYA sP sP 13 59 47.8 +0.1
GYA PP **PP 14 00 45.3 +1.8**
GYA S **S 14 05 04.3 -3.3**
GYA pmax pmax
comp=Z,70nm,0.9s
GYA pmax pmax
comp=Z,140nm,5.2s
GYA LR LR
comp=Z,510nm,18.1s
GYA LR LR
comp=Z,550nm,18.6s
GYA LR LR
comp=Z,540nm,18.8s
BCAR Beaver Creek A 40.27 40 *e*P **P 13 59 09.3 +1.0**
BALM Baldy 40.31 44 *e*P **P 13 59 09.6 +0.9**
comp=Z,81nm,1.1s
BALM Baldy 40.31 44 *e*P **P 13 59 09.6 +0.9**
BALM pmax pmax
comp=Z,81nm,1.1s
EGAK Eagle 40.34 38 *e*P **P 13 59 08.9 +0.1**
comp=Z,84nm,1.1s
CTGM Chitina Glacie 40.81 44 *e*P **P 13 59 14.0 +1.1**
comp=Z,114nm,1.0s
DAWY Dawson 41.19 39 *e*P **P 13 59 16.3 +0.5**
comp=Z,30nm,1.4s
DGZ Jazzator, Alta 41.75 299 *i*P **P 13 59 21.0 +0.3**
DGZ pmax pmax
comp=Z,12nm,0.7s
ZAA0 Zalesovo Array 41.91 306 *e*P **P 13 59 20.1 -1.6**
comp=Z,6.9nm,1.0s
ZAA0 *e*PcP **PcP 14 01 15.6 +0.5**
ZALV Zalesovo Beam 41.91 306 *e*P **P 13 59 19.6 -2.1**
ZALV *e*PcP **PcP 14 01 15.4 +0.4**
ZALV Zalesovo Beam 41.91 306 P **P 13 59 20.4 -1.3**
comp=Z,4.2nm,0.5s,baz=71,slow=6.3,SNR=16
ZALV PcP **PcP 14 01 15.7 +0.6**
comp=Z,32nm,0.8s,baz=78,slow=2.5,SNR=35
ZALV ScP **ScP 14 04 55.1 +0.5**
comp=Z,0.4nm,0.3s,baz=52,slow=51,SNR=2.9
ZALV PKiKP **PKiKP 14 08 20.0 -0.6**
comp=Z,0.9nm,0.6s,baz=280,slow=0.9,SNR=4.3
ZALV LR LR 14 19 57.5
comp=Z,294nm,19.2s,baz=70,slow=40
EPYK Eagle Plains 41.97 35 *e*P **P 13 59 23.0 +0.8**
comp=Z,104nm,1.0s
EPYK Eagle Plains 41.97 35 P **P 13 59 23.4 +1.3**
baz=278
NVS Novosibirsk 42.52 308 *e*P **P 13 59 24.8 -1.9**
NVS *e* 14 01 12.4
HYT Haines Junctio 42.67 43 *e*P **P 13 59 29.6 +1.6**
comp=Z,148nm,1.1s
INK Inuvik 42.92 32 *e*P **P 13 59 30.6 +0.9**
comp=Z,108nm,1.1s
INK Inuvik 42.92 32 *e*P **P 13 59 30.6 +0.9**
INK pmax pmax
comp=Z,108nm,1.1s
KMI Kunming 43.80 258 P **P 13 59 38.8 +1.2**
KMI pP pP 14 00 04.8 +0.9
KMI PP **PcP 14 01 22.8 +0.6**
KMI S **S 14 05 59.6 -0.3**
KMI sS sS 14 06 43.5 -0.4
KMI SS **SS 14 09 16.0 -4.0**
KMI pmax pmax
comp=Z,52nm,1.4s
KMI pmax pmax
comp=Z,170nm,4.1s
KMI LR LR
comp=Z,100nm,6.2s
KMI LR LR
comp=Z,71nm,5.6s
KMI LR LR
comp=Z,95nm,6.2s
WMQ Urumqi 43.91 291 *e*P **P 13 59 38.8 +0.7**
WMQ pP pP 14 00 04.3 +0.5
WMQ sP sP 14 00 18.8 +2.3
WMQ pmax pmax
comp=Z,78nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.7s
WMQ LR LR
comp=Z,900nm,16.3s
WMQ LR LR
comp=Z,500nm,17.3s
WMQ LR LR
comp=Z,1μm,31.7s
WMQ Urumqi 43.91 291 *e*P **P 13 59 37.2 -0.9**
comp=Z,24nm,0.5s
WMQ Urumqi 43.91 291 *e*P **P 13 59 37.2 -0.9**
WMQ pmax pmax
comp=Z,24nm,0.5s
WHY Whitehorse 43.96 43 *e*P **P 13 59 39.6 +1.2**
comp=Z,55nm,0.9s
SKAG Skagway 44.08 45 *e*P **P 13 59 40.0 +1.0**
comp=Z,37nm,1.0s
BESE Bessie Mountai 44.57 46 *e*P **P 13 59 44.5 +1.3**
comp=Z,131nm,1.6s
SIT Sitka 44.81 48 *e*P **P 13 59 47.0 +2.1**
comp=Z,152nm,1.7s
SIT Sitka 44.81 48 *e*P **P 13 59 47.0 +2.1**
SIT pmax pmax
comp=Z,152nm,1.7s
JIS Juneau Island 44.90 46 *e*P **P 13 59 47.5 +1.9**
comp=Z,98nm,1.1s
SLVN Son La 45.58 254 *e*P **P 13 59 52.3 +0.8**
comp=Z,21nm,0.9s
SLVN *e*pP **pP 14 00 17.9 0.0**
MK31 Makanchi Array 46.05 297 *e*P **P 13 59 54.5 -0.5**
comp=Z,23nm,0.7s
MK31 Makanchi Array 46.05 297 *i*P **P 13 59 54.6 -0.3**
MK31 pmax pmax
comp=Z,16nm,0.5s
MKAR Makanchi Array 46.05 297 *e*P **P 13 59 54.2 -0.7**
MKAR Makanchi Array 46.05 297 P **P 13 59 54.8 -0.1**
comp=Z,23nm,0.7s,baz=69,slow=7.4,SNR=192
MKAR PcP **PcP 14 01 30.2 +0.8**
comp=Z,16nm,0.7s,baz=58,slow=4.1,SNR=12
MKAR ScP **ScP 14 05 12.1 +0.3**
comp=Z,1.1nm,0.9s,baz=133,slow=41,SNR=3.4
MKAR LR LR 14 21 59.9
comp=Z,242nm,21.0s,baz=64,slow=40
MAKZ Makanchi 46.23 297 *e*P **P 13 59 55.7 -0.7**
comp=Z,20nm,0.8s
MAKZ Makanchi 46.23 297 P **P 13 59 55.9 -0.5**
MAKZ pmax pmax
comp=Z,19nm,0.8s
CRAG Craig 46.51 50 *e*P **P 13 59 59.9 +1.6**
comp=Z,56nm,1.2s
WRAK Wrangell Islan 46.57 48 *e*P **P 14 00 00.2 +1.5**
comp=Z,41nm,1.1s
KURK Kurchatov 46.61 303 *e*P **P 13 59 57.8 -1.3**
comp=Z,128nm,1.8s
KURK Kurchatov 46.61 303*ce*P **P 13 59 58.0 -1.2**
KURK pmax pmax

comp=Z,23nm,0.7s
KURK Kurchatov 46.61 303 P P 13 59 58.0 -1.2
SNR=15
KURK Kurchatov 46.61 303 eP P 13 59 58.0 -1.2
KURBB Kurchatov Arra 46.70 303 P P 13 59 58.8 -1.1
comp=Z,18nm,0.7s,baz=69,slow=8.4,SNR=95
KURBB PcP **PcP 14 01 31.9 +0.4**
comp=Z,13nm,0.8s,baz=70,slow=2.9,SNR=14
DLBC Dease Lake 47.01 45 eP P 14 00 04.2 +2.0
comp=Z,57nm,1.0s
DIB Dawson Inlet, 47.74 52 eP P 14 00 09.1 +1.2
comp=Z,52nm,1.1s
PANO Nakornpanom 48.10 249 P P 14 00 13.2 +2.1
comp=Z,0.6nm,0.8s
NONG Nongkai 48.39 251 P P 14 00 14.8 +1.4
comp=Z,1.9nm,0.8s
SKNT Sakolnakorn 48.63 249 P P 14 00 16.4 +1.2
comp=Z,60nm,0.9s
LSA Lhasa 48.97 272 eP P 14 00 20.1 +1.9
comp=Z,43nm,0.6s
LSA Lhasa 48.97 272 P P 14 00 20.4 +2.2
LSA Lhasa 48.97 272 eP P 14 00 20.1 +1.9
LSA pmax pmax
comp=Z,43nm,0.6s
JAY Jayapura 49.28 194 LR LR 14 17 45.2
comp=Z,79nm,21.0s,baz=9.5,slow=32
PDGK Podgornoye 49.41 294 i P P 14 00 21.0 -0.1
PDGK pmax pmax
comp=Z,25nm,1.0s
PAYA Payao 49.66 255 P P 14 00 24.9 +1.9
comp=Z,145μm,0.9s
KHON Khomkaen 49.85 250 P P 14 00 26.0 +1.5
comp=Z,124μm,0.8s
PHRA Phrae 50.02 254 P P 14 00 27.2 +1.5
comp=Z,12nm,1.0s,comp=Z,121nm
BVAR Borovoye Array 50.23 309 P P 14 00 26.4 -0.5
comp=Z,11nm,0.8s,baz=60,slow=8.8,SNR=46
BVAR PcP **PcP 14 01 44.8 +0.5**
comp=Z,11nm,0.6s,baz=66,slow=3.7,SNR=14
BVAR S **S 14 07 25.2 -5.0**
comp=Z,0.5nm,0.8s,baz=58,slow=11,SNR=2.9
BRVK Borovoye 50.27 309 eP P 14 00 25.6 -1.6
comp=Z,26nm,1.0s
BRVK Borovoye 50.27 309 ceP P 14 00 26.7 -0.6
BRVK pmax pmax
comp=Z,29nm,1.3s
BRVK Borovoye 50.27 309 P P 14 00 26.4 -0.9
SNR=9.9
BRVK Borovoye 50.27 309 eP P 14 00 26.7 -0.6
UTTA Uttaradit 50.34 253 P P 14 00 29.6 +1.5
comp=Z,69μm,0.9s,comp=Z,562μm
LAMP Lampang 50.40 255 P P 14 00 30.4 +1.8
comp=Z,130μm,0.9s,comp=Z,989μm
CMMT Chiang Mai 50.66 255 P P 14 00 31.8 +1.2
comp=Z,46nm,1.3s,comp=Z,409nm
CHTO Chiang Mai 50.66 256 eP P 14 00 31.5 +0.9
comp=Z,70nm,0.9s
CHTO epP **pP 14 00 57.2 -0.3**
CHTO Chiang Mai 50.66 256 eP P 14 00 31.5 +0.9
CHTO e*PP **pP 14 00 57.2 -0.3**
CHTO pmax pmax
comp=Z,70nm,0.9s
CHTO Chiang Mai 50.66 256 P P 14 00 32.0 +1.4
SNR=21
CHAI Chaiyaphum 50.72 250 P P 14 00 32.0 +1.0
comp=Z,66μm,0.8s,comp=Z,697μm
CM31 Chiang Mai Arr 50.91 255 eP P 14 00 34.0 +1.5
comp=Z,47nm,0.9s
CM31 Chiang Mai Arr 50.91 255 P P 14 00 34.1 +1.6
SNR=17
CMAR Chiang Mai Arr 50.91 255 eP P 14 00 33.5 +1.1
CMAR epP **pP 14 00 59.6 +0.2**
CMAR Chiang Mai Arr 50.91 255 P P 14 00 34.1 +1.6
comp=Z,27nm,0.8s,baz=36,slow=7.5,SNR=173
CMAR PcP **PcP 14 01 49.0 +1.7**
comp=Z,5.4nm,0.8s,baz=20,slow=3.6,SNR=6.1
CMAR ScP **ScP 14 05 33.5 +0.7**
comp=Z,1.5nm,0.9s,baz=30,slow=3.6,SNR=6.2
CMAR LR LR 14 24 06.8
comp=Z,66nm,18.8s,baz=16,slow=38
SHL Shillong 51.01 268 eP P 14 00 33.5 +0.1
comp=Z,108nm,0.7s
SHL Shillong 51.01 268 eP P 14 00 33.5 +0.1
SHL pmax pmax
comp=Z,108nm,0.7s
SHL Shillong 51.01 268⇑ i P P 14 00 23.5 -10
TARG Taragay, Kyrgy 51.30 293 eP P 14 00 35.3 -0.3
comp=Z,33nm,1.1s
OTUK Ortayu 51.38 303 i P P 14 00 34.4 -1.2
OTUK pmax pmax
comp=Z,28nm,1.3s
KDJ Kajisay 51.48 294 eP P 14 00 37.1 +0.4
comp=Z,26nm,0.7s
KDJ Kajisay 51.48 294 eP P 14 00 37.1 +0.4
KDJ pmax pmax
comp=Z,26nm,0.7s
FAKI Fak Fak 51.61 204 eP P 14 00 37.1 -0.5
FAKI epP **pP 14 01 03.2 -1.2**
RES Resolute Bay 51.88 18 eP P 14 00 38.8 -0.1
comp=Z,50nm,1.0s
RES Resolute Bay 51.88 18 eP P 14 00 38.8 -0.1
RES pmax pmax
comp=Z,50nm,1.0s
ULHL Ulahol 52.02 295 P P 14 00 42.0 +1.3
SNR=19
TKM2 Tokmak 2 52.08 296 P P 14 00 41.8 +0.6
SNR=20
TKM2 Tokmak 2 52.08 296 i P P 14 00 41.7 +0.6
TKM2 pmax pmax
comp=Z,25nm,1.0s
BOOM Boomskoye usch 52.08 295 eP P 14 00 41.8 +0.6
comp=Z,29nm,0.6s
BOOM Boomskoye usch 52.08 295 eP P 14 00 41.8 +0.6
BOOM pmax pmax
comp=Z,29nm,0.6s
MRSI Marisa 52.18 218 P P 14 00 42.1 +0.2
YKA Yellowknife Ar 52.24 36 P P 14 00 42.4 +0.7
comp=Z,23nm,0.8s,baz=297,slow=6.9,SNR=197
YKA PcP **PcP 14 01 52.0 +0.4**
comp=Z,6.8nm,0.8s,baz=298,slow=3.6,SNR=10
UMPA Umpang Tak 52.56 253 P P 14 00 48.0 +3.2
comp=Z,78μm,1.0s
CHMS Chumysh 52.56 296 P P 14 00 45.2 +0.7
SNR=6.3
USP Ospenovka 52.58 296 P P 14 00 44.8 +0.2
SNR=33
NRN Naryn 52.60 294 eP P 14 00 45.1 -0.1
NRN epP **pP 14 01 12.0 +0.4**
NRN Naryn 52.60 294 eP P 14 00 45.1 -0.1
NRN e*PP **pP 14 01 12.0 +0.4**
KBK Karagaybulak 52.62 296 P P 14 00 45.9 +0.8
SNR=18
KZA Kyzart 52.74 295 P P 14 00 47.5 +1.3
SNR=47
SANI Sanana 52.86 212 P P 14 00 46.4 -0.5
AAK Ala-Archa 52.91 296 P P 14 00 47.7 +0.4
SNR=13
AAK Ala-Archa 52.91 296 eP P 14 00 47.6 +0.4
comp=Z,16nm,0.8s
AAK Ala-Archa 52.91 296 i P P 14 00 48.0 +0.7
SNR=18
AAK Ala-Archa 52.91 296 P P 14 00 47.6 +0.4
AAK pmax pmax
comp=Z,31nm,1.2s
AAK Ala-Archa 52.91 296 P P 14 00 47.7 +0.4
SNR=11
AAK Ala-Archa 52.91 296 P P 14 00 48.0 +0.7
comp=Z,6.6nm,0.4s,baz=118,slow=4.6,SNR=26
AAK PcP **PcP 14 01 54.8 0.0**
comp=Z,5.8nm,1.0s,baz=97,slow=5.1,SNR=3.5
KBS Kingsbay 52.93 351 eP P 14 00 45.7 -1.0
comp=Z,32nm,1.0s
KBS Kingsbay 52.93 351 ceP P 14 00 47.2 +0.5
KBS pmax pmax
comp=Z,199nm,1.3s
SPITS Spitsbergen Ar 53.01 349 P P 14 00 46.7 -0.5
comp=Z,9.3nm,0.8s,baz=64,slow=8.4,SNR=21
SPITS PcP **PcP 14 01 54.5 +0.2**
comp=Z,18nm,0.9s,baz=163,slow=9.2,SNR=6.0
UCH Uchtor 53.12 295 P P 14 00 51.2 +2.1
SNR=5.9
LUWI Luwuk 53.20 216 P P 14 00 47.2 -2.2
EKS2 Erkin-Say 53.35 296 P P 14 00 51.0 +0.6
SNR=20
SVE Sverdlovsk 53.39 317 deP P 14 00 49.8 -0.5
SVE pmax pmax
comp=Z,61nm,1.1s

APSI Ampana 53.55 218 P P 14 00 51.8 -0.2
comp=Z,25nm,1.2s,comp=Z,470nm
JIRN Jiri 53.66 274 eP P 14 00 54.5 +1.4
comp=Z,290nm,0.8s
KSH Kashi 53.66 292 P P 14 00 57.5 +4.8
KSH pP pP 14 01 20.1 +0.3
KSH PP **PP 14 03 00.5 +6.2**
KSH S **S 14 08 22.4 +4.8**
KSH SS **SS 14 12 03.5 +4.3**
KSH pmax pmax
comp=Z,140nm,1.0s
KSH LR LR
comp=Z,270nm,9.1s
KSH LR LR
comp=Z,170nm,7.8s
AML Almayashu 53.69 296 P P 14 00 54.0 +0.9
SNR=24
SRDT SRDT 53.73 251 P P 14 00 55.2 +1.9
comp=Z,13nm,0.9s
RAMN Ramite 53.81 273 eP P 14 00 55.3 +1.2
comp=Z,310nm,0.8s
KKN Kakani 54.21 274 eP P 14 00 58.0 +1.1
comp=Z,202nm,0.9s
PKI Pulchoki 54.25 274 eP P 14 00 58.4 +1.0
comp=Z,167nm,1.2s
PKIN Phulchoki 54.26 274 eP P 14 00 58.4 +1.0
comp=Z,62nm,0.8s
DMN Daman 54.44 274 eP P 14 01 00.1 +1.4
comp=Z,204nm,0.9s
PHET Kaeng Krachan 54.45 250 P P 14 01 00.7 +2.2
comp=Z,111μm,0.9s,comp=Z,989μm
GKN Gorkha 54.52 275 eP P 14 01 00.5 +1.4
comp=Z,235nm,1.0s
ARSB Arslanbob 54.57 295 eP P 14 01 00.4 +1.0
comp=Z,108nm,1.1s
ARU Arti 54.58 317 eP P 14 00 57.2 -1.7
comp=Z,61nm,1.0s
ARU Arti 54.58 317 c i P P 14 00 57.9 -1.0
ARU 14 02 00.0
ARU S **S 14 08 30.8 +1.5**
ARU SS **SS 14 12 10.2 -2.6**
ARU pmax pmax
comp=Z,79nm,1.2s
ARU Arti 54.58 317 P **P 14 00 57.9 -1.0**
comp=Z,4.1nm,0.3s,baz=59,slow=4.5,SNR=50
ARU PcP **PcP 14 02 01.0 +0.4**
comp=Z,3.4nm,0.4s,baz=91,slow=2.4,SNR=6.4
ARU Arti 54.58 317 eP P 14 00 58.2 -0.8
LLLB Lillooet 54.75 51 eP P 14 00 59.9 -0.4
comp=Z,34nm,1.1s
DANN Dangsing 54.91 276 eP P 14 01 03.8 +1.7
comp=Z,291nm,0.9s
PGC Sidney 54.92 54 eP P 14 01 01.3 -0.2
comp=Z,15nm,0.9s
KK31 Karatay Array 55.13 298 eP P 14 01 02.4 -0.7
comp=Z,22nm,1.2s
KK31 Karatay Array 55.13 298 i P P 14 01 03.1 -0.1
KK31 pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 55.13 298 eP P 14 01 02.8 -0.4
comp=Z,22nm,1.2s
KKAR Karatay Array 55.13 298 eP P 14 01 02.8 -0.4
KKAR pmax pmax
comp=Z,22nm,1.2s
SBUM Sibu 55.17 230 eP P 14 01 04.1 +0.4
comp=Z,4.1nm,0.8s
SBUM Sibu 55.17 230 P P 14 01 05.0 +1.3
A04D Lummi Island 55.30 53 P P 14 01 04.9 +0.7
baz=302
NLWA Neilton Lookou 55.35 55 eP P 14 01 05.6 +0.9
comp=Z,48nm,1.0s
NLWA epP **pwP 14 01 35.3 +1.1**
KOLN Koldanda 55.38 276 eP P 14 01 06.8 +1.4
comp=Z,155nm,0.9s
PYUN Piuthan 55.60 276 eP P 14 01 08.3 +1.3
comp=Z,354nm,1.0s
D03D Eldon 55.72 55 P P 14 01 08.4 +1.1
baz=303
HNR Honiara 55.83 170 LR LR 14 22 21.0
comp=Z,126nm,19.8s,baz=345,slow=33
B05A Bryant 55.88 54 P P 14 01 09.0 +0.6
baz=303
B06A Marblemount 56.09 53 eP P 14 01 09.9 +0.1
comp=Z,42nm,1.1s
D04E Lakebay 56.09 55 P P 14 01 11.6 +1.7
baz=303
D05A Enumclaw 56.54 55 eP P 14 01 14.2 +1.1
comp=Z,61nm,1.2s
E04D Cinebar 56.55 56 P P 14 01 14.4 +1.2
baz=304
TAS Tashkent 56.88 297 P P 14 01 17.6 +2.0
TAS pmax pmax
comp=Z,152nm,0.6s
LON Longmire 56.88 55 eP P 14 01 16.0 +0.4
comp=Z,7.4nm,0.9s
LON Longmire 56.88 55 eP P 14 01 16.0 +0.4
LON pmax pmax
comp=Z,7.0nm,0.9s
KSM Kuching 57.02 231 eP P 14 01 17.8 +0.9
comp=Z,17nm,0.8s
KSM epP **pP 14 01 44.2 +0.2**
KSM Kuching 57.02 231 P P 14 01 18.0 +1.2
I02D Swisshome 57.18 59 P P 14 01 19.5 +1.8
baz=305
PRGR Permogore 57.18 327⇓ i P P 14 01 16.9 -0.5
PRGR e S **S 14 09 02.4 -1.2**
PRGR pmax pmax
comp=Z,69nm,1.2s
COR Corvallis 57.23 58 eP P 14 01 18.7 +0.7
comp=Z,58nm,0.9s
COR Corvallis 57.23 58 eP P 14 01 18.7 +0.7
COR pmax pmax
comp=Z,57nm,0.9s
DAG Danmarks Havn 57.24 357⇑ i P P 14 01 17.7 +0.1
DAG pmax pmax
comp=Z,85nm,1.1s
DAG Danmarks Havn 57.24 357⇑ i P P 14 01 17.7 +0.1
comp=Z,67nm,1.1s
LTY Liberty 57.24 54 eP P 14 01 18.3 +0.1
comp=Z,16nm,0.9s
B08A Colville Reser 57.37 52 eP P 14 01 19.1 +0.1
comp=Z,41nm,1.1s
APA Apatity 57.40 336⇑ i P P 14 01 17.4 -1.4
APA pmax pmax
comp=Z,12nm,0.8s
KIRV Kirov 57.48 323 P P 14 01 18.8 -0.7
comp=Z,15nm,0.8s,baz=233,slow=23,SNR=10
KIRV PcP **PcP 14 02 12.1 +0.3**
comp=Z,25nm,0.8s,baz=141,slow=5.4,SNR=8.2
F05D White Salmon 57.57 56 P P 14 01 21.5 +1.1
baz=305
GAR Garm 57.57 294 eP P 14 01 21.0 +0.3
comp=Z,307nm,0.9s
GAR Garm 57.57 294 eP P 14 01 21.0 +0.3
GAR pmax pmax
comp=Z,307nm,0.9s
KEBM Edson Butte 57.59 60 eP P 14 01 21.1 +0.4
comp=Z,107nm,1.4s
H04D Lebanon 57.60 58 P P 14 01 22.1 +1.5
baz=305
J01E Myrtle Point 57.67 60 P P 14 01 22.6 +1.5
baz=305
I03D Drain, OR 57.71 59 P P 14 01 23.3 +2.0
baz=305
AB31 Akbulak array 57.81 309 i P P 14 01 21.6 -0.4
AB31 pmax pmax
comp=Z,15nm,0.6s
ABKAR Akbulak array 57.81 309 eP P 14 01 21.4 -0.6
H04A Detroit Lake 57.83 57 eP P 14 01 23.1 +0.8
comp=Z,87nm,1.1s
H04A epP **pwP 14 01 52.5 -0.4**
G05D Wamic, OR 58.02 56 P P 14 01 24.9 +1.3
baz=305
ARCES ARCESS Array B 58.02 340 P P 14 01 22.6 -0.6
comp=Z,20nm,0.9s,baz=53,slow=7.5,SNR=38
ARCES PcP **PcP 14 02 14.2 +0.4**
comp=Z,13nm,0.8s,baz=9.5,slow=3.7,SNR=8.6
K02D Willamette Mer 58.09 60 P P 14 01 25.7 +1.5
baz=305
E07A Sunnyside 58.10 54 eP P 14 01 23.4 -0.7
comp=Z,69nm,1.4s
KULLO Kullorsuaq 58.11 9⇑ i P P 14 01 23.2 -0.5
KULLO Kullorsuaq 58.11 9⇑ i P P 14 01 23.2 -0.5
SKLT Songkhla 58.15 244 P P 14 01 27.1 +2.3
comp=Z,26nm,0.9s
AKTO Aktyubinsk 58.16 311 P P 14 01 23.8 -0.7
comp=Z,12nm,0.8s,baz=68,slow=7.3,SNR=18

AKTO PcP **PcP 14 02 14.9 +0.2**
comp=Z,12nm,0.8s,baz=59,slow=2.8,SNR=7.1
I04A Tendick Farm, 58.21 58 P P 14 01 25.9 +1.0
baz=305
TRTT Trang 58.22 246 P P 14 01 27.3 +2.0
comp=Z,32nm,1.0s
KRAB Krabi 58.24 247 P P 14 01 27.3 +1.8
comp=Z,510μm,0.7s
C09A Chrisman Ranch 58.27 52 eP P 14 01 25.4 +0.2
comp=Z,33nm,1.0s
TMCR Tamitsa 58.28 332 eP P 14 01 23.5 -1.5
TMCR pmax pmax
comp=Z,33nm,0.7s
D08A Wollman Farm, 58.34 53 eP P 14 01 25.9 +0.1
comp=Z,17nm,0.8s
HAWA Hanford 58.38 54 eP P 14 01 26.5 +0.5
comp=Z,42nm,1.2s
G06A Carlson Farm, 58.42 56 eP P 14 01 26.6 +0.2
comp=Z,82nm,1.6s
F07A Phinny Hill Vi 58.44 55 eP P 14 01 26.7 +0.2
comp=Z,64nm,0.9s
F07A epP **pwP 14 01 57.1 +1.0**
I05D Terrebonne, OR 58.52 57 P P 14 01 28.3 +1.2
baz=306
HUMO Hull Mountain 58.57 60 eP P 14 01 28.5 +1.0
comp=Z,31nm,1.6s
E08A Dider Farm, El 58.59 54 eP P 14 01 28.0 +0.6
comp=Z,27nm,0.9s
NEW Newport 58.63 51 eP P 14 01 28.1 +0.3
comp=Z,39nm,1.0s
NEW Newport 58.63 51 eP P 14 01 28.1 +0.3
NEW pmax pmax
comp=Z,39nm,1.0s
NEW Newport 58.63 51 P P 14 01 28.2 +0.4
baz=306
J04D Umpqua Nationa 58.71 59 P P 14 01 30.0 +1.4
baz=306
NIL Nilore 58.83 288 eP P 14 01 30.4 +1.0
comp=Z,188nm,0.9s
NIL Nilore 58.83 288 eP P 14 01 30.4 +1.0
NIL pmax pmax
comp=Z,188nm,0.9s
PINE Pine Mountain 59.08 58 eP P 14 01 32.6 +1.4
comp=Z,104nm,1.5s
E09A Wood Farm, Sta 59.09 54 eP P 14 01 31.6 +0.7
comp=Z,44nm,1.0s
KHMM Horse Mountain 59.12 62 eP P 14 01 32.8 +1.4
comp=Z,34nm,1.1s
L04D Klamath Falls 59.19 60 P P 14 01 33.1 +1.2
baz=306
J05D Fort Rock, OR 59.20 58 P P 14 01 33.4 +1.4
baz=306
K04D Chiloquin, OR 59.28 59 P P 14 01 33.6 +1.1
baz=306
SGF Sodankyl 59.34 338 P P 14 01 32.8 +0.5
SGF pmax pmax
comp=Z,28nm,1.0s
G08A Pilot Rock 59.34 55 eP P 14 01 33.5 +0.6
comp=Z,24nm,1.1s
M02C Callahan 59.34 61 P P 14 01 34.8 +1.9
baz=306
KULM Kulim 59.58 243 eP P 14 01 35.8 +1.1
comp=Z,39nm,0.8s
KULM Kulim 59.58 243 P P 14 01 37.0 +2.3
N02D Trinity Center 59.68 61 P P 14 01 36.7 +1.5
baz=307
M04C Macdoel 59.73 60 P P 14 01 36.9 +1.3
baz=307
K05A Summer Lake 59.73 58 eP P 14 01 36.9 +1.2
comp=Z,66nm,1.1s
I07A Izee 59.74 57 eP P 14 01 36.5 +0.9
comp=Z,49nm,1.8s
WALA Waterton Lakes 59.88 49 eP P 14 01 37.1 +0.6
comp=Z,48nm,1.0s
F10A Beach Ranch, E 59.92 54 eP P 14 01 37.3 +0.5
comp=Z,60nm,1.6s
KLMR Klimovskoe 59.96 328 eP P 14 01 33.4 -3.3
KLMR pmax pmax
comp=Z,42nm,1.5s
WDC Whiskeytown Da 60.02 61 eP P 14 01 37.9 +0.5
comp=Z,19nm,1.1s
WDC Whiskeytown Da 60.02 61 eP P 14 01 37.9 +0.5
WDC pmax pmax
comp=Z,19nm,1.1s
O02D Mt. Diablo Mer 60.11 62 P P 14 01 39.5 +1.4
baz=307
MYKOM Kota Tinggi 60.41 238 P P 14 01 42.0 +1.6
BMO Blue Mountains 60.55 55 eP P 14 01 41.8 +0.7
comp=Z,56nm,1.7s
BMO Blue Mountains 60.55 55 eP P 14 01 41.8 +0.7
BMO pmax pmax
comp=Z,56nm,1.7s
MOD Modoc Plateau 60.58 59 eP P 14 01 42.2 +0.8
comp=Z,35nm,1.1s
SOEI Soe 60.61 211 P P 14 01 41.6 -0.1
O03E Paynes Creek 60.64 61 P P 14 01 42.1 +0.4
baz=307
J08A Circle Bar Ran 60.78 57 eP P 14 01 43.7 +1.0
comp=Z,32nm,1.0s
KBL Kabul 61.05 291 eP P 14 01 43.9 -0.9
comp=Z,96nm,0.8s
KBL Kabul 61.05 291 eP P 14 01 43.9 -0.9
KBL pmax pmax
comp=Z,96nm,0.8s
PLID Pearl Lake 61.14 54 eP P 14 01 45.5 +0.3
comp=Z,63nm,1.0s
PLID epP **pP 14 02 12.4 0.0**
MSO Missoula 61.22 51 eP P 14 01 46.0 +0.4
comp=Z,53nm,1.0s
MSO Missoula 61.22 51 P P 14 01 46.4 +0.8
baz=308
WVOR Wild Horse Val 61.24 58 eP P 14 01 46.0 +0.2
comp=Z,36nm,1.0s
ORV Oroville 61.27 62 eP P 14 01 45.9 -0.1
comp=Z,33nm,1.4s
ORV Oroville 61.27 62 eP P 14 01 45.9 -0.1
ORV pmax pmax
comp=Z,33nm,1.4s
OUL Oulu 61.29 337 P P 14 01 45.4 -0.2
OUL pmax pmax
comp=Z,37nm,1.4s
JOF Joensuu 61.32 333 P P 14 01 45.4 -0.4
JOF pmax pmax
comp=Z,32nm,1.0s
MTN Manton Dam 61.38 202 eP P 14 01 46.5 -0.3
comp=Z,38nm,1.3s
SUMG Summit 61.44 3 eP P 14 01 47.3 +0.3
comp=Z,243nm,1.2s
SUMG Summit 61.44 3⇑ i P P 14 01 47.9 +0.9
SUMG pmax pmax
comp=Z,630nm,1.2s
SUMG Summit 61.44 3⇑ i P P 14 01 47.9 +0.9
comp=Z,628nm,1.2s
BEKR Beckworth 61.78 61 eP P 14 01 49.6 +0.1
comp=Z,30nm,1.1s
AFDM Forest Hills D 61.97 62 eP P 14 01 51.0 +0.3
comp=Z,24nm,1.3s
FFC Flin Flon 62.09 39 eP P 14 01 51.6 +0.4
comp=Z,59nm,0.9s
FFC Flin Flon 62.09 39 i P P 14 01 51.8 +0.6
PPBI Pangkal Pinang 62.33 233 P P 14 01 53.8 +0.6
HRY Holter Researc 62.43 50 eP P 14 01 54.5 +0.8
PAHR Pah Rah Range 62.47 60 eP P 14 01 54.7 +0.5
comp=Z,45nm,1.3s
FCC Fort Churchill 62.53 32 eP P 14 01 54.1 +0.1
comp=Z,45nm,0.8s
VCNR Virginia City 62.56 61 eP P 14 01 54.6 -0.2
comp=Z,29nm,1.2s
PSI Prapat 62.59 243 eP P 14 01 53.8 -1.3
comp=Z,22nm,0.8s
PSI Prapat 62.59 243 P P 14 01 56.0 +0.9
comp=Z,19nm,0.8s,baz=348,slow=4.3,SNR=12
EGMT Eagleton 62.70 48 eP P 14 01 55.8 +0.4
comp=Z,79nm,1.1s
EGMT Eagleton 62.70 48 P P 14 01 56.1 +0.6
baz=310
PNTR Pine Nut 62.72 61 eP P 14 01 56.0 +0.1
comp=Z,42nm,1.2s
SRBI Singaraja 62.78 221 P P 14 01 56.4 +0.2
DLMT Dillon 62.86 52 eP P 14 01 56.9 +0.2
comp=Z,18nm,0.9s
CMB Columbia Colle 62.89 62 eP P 14 01 57.2 +0.4
comp=Z,29nm,1.3s
CMB Columbia Colle 62.89 62 eP P 14 01 57.3 +0.4
CMB pmax pmax
comp=Z,29nm,1.3s
HLID Hailey 62.98 54 eP P 14 01 58.0 +0.5

comp=Z,17nm,0.9s
HLID **Hailey** **62.98** **54** P **P** **14 01 58.3 +0.8**
baz=309
YERR **Yerington** **63.00** **61** *e*P **P** **14 01 58.3 +0.6**
comp=Z,64nm,1.3s
SUF **Sumiainen** **63.04** **335** P **P** **14 01 57.1 -0.2**
SUF pmax pmax
comp=Z,61nm,0.8s
MCMT **McKenzie Canyo** **63.06** **53** *e*P **P** **14 01 58.2 +0.1**
WAKR **Walker** **63.18** **62** *e*P **P** **14 01 59.6 +0.6**
comp=Z,29nm,1.3s
BOZ **Bozeman (W)** **63.24** **51** *e*P **P** **14 01 59.9 +0.7**
comp=Z,105nm,1.6s
BOZ **Bozeman (W)** **63.24** **51** *e*P **P** **14 01 59.9 +0.7**
BOZ pmax pmax
comp=Z,105nm,1.6s
BOZ **Bozeman (W)** **63.24** **51** P **P** **14 02 00.0 +0.9**
baz=310
BKNI **Bangkinang** **63.25** **239** P **P** **14 01 59.7 +0.3**
BMN **Battle Mountai** **63.31** **59** *e*P **P** **14 02 00.5 +0.8**
comp=Z,27nm,1.0s
BMN **Battle Mountai** **63.31** **59** *e*P **P** **14 02 00.5 +0.8**
BMN pmax pmax
comp=Z,27nm,1.0s
SCO **Scoresbysund** **63.62** **357** *e*P **P** **14 02 01.6 +0.5**
comp=Z,100nm,1.1s
SCO **Scoresbysund** **63.62** **357⇑** *i*P **P** **14 02 01.9 +0.9**
SCO pmax pmax
comp=Z,81nm,1.0s
SCO **Scoresbysund** **63.62** **357⇑** *i*P **P** **14 02 01.9 +0.9**
comp=Z,81nm,1.0s
KVN **Kaiserville** **63.66** **60** *e*P **P** **14 02 02.8 +0.8**
comp=Z,46nm,1.2s
KVN **Kaiserville** **63.66** **60** *e*P **P** **14 02 02.8 +0.8**
KVN pmax pmax
comp=Z,47nm,1.2s
RYN **Ryan** **63.66** **61** *e*P **P** **14 02 02.7 +0.6**
comp=Z,27nm,1.2s
RYN *e*pP **pwP** **14 02 32.4 -0.4**
VAF **Ylistaro** **63.78** **337** P **P** **14 02 02.5 +0.4**
VAF pmax pmax
comp=Z,49nm,0.9s
ILULI **Ilulissat** **63.83** **9** *i*P **P** **14 02 01.6 -0.8**
ILULI pmax pmax
comp=Z,56nm,0.9s
ILULI **Ilulissat** **63.83** **9** *i*P **P** **14 02 01.6 -0.8**
comp=Z,56nm,0.9s
QLMT **Earthquake Lak** **63.84** **52** *e*P **P** **14 02 03.2 0.0**
NVAR **Mina Array Bea** **63.92** **61** *e*P **P** **14 02 04.2 +0.4**
NVAR **Mina Array Bea** **63.92** **61** P **P** **14 02 04.4 +0.6**
comp=Z,13nm,0.9s,baz=290,slow=6.5,SNR=59
NVAR pP **pP** **14 02 31.8 +0.8**
comp=Z,6.8nm,0.9s,baz=282,slow=7.9,SNR=5.6
MDPB **Devils Postpil** **63.95** **62** *e*P **P** **14 02 03.7 -0.4**
comp=Z,20nm,1.1s
NV11 **Mina Array Sit** **64.01** **61** *e*P **P** **14 02 04.1 -0.3**
comp=Z,2.2nm,1.3s
FIA1 **FINESS Array S** **64.05** **334** *e*P **P** **14 02 02.9 -1.0**
comp=Z,78nm,0.9s
FINES **FINESS Array B** **64.05** **334** *e*P **P** **14 02 02.9 -1.1**
FINES **FINESS Array B** **64.05** **334** *i*P **P** **14 02 03.0 -0.9**
FINES pmax pmax
comp=Z,48nm,0.7s
FINES **FINESS Array B** **64.05** **334** P **P** **14 02 03.1 -0.9**
comp=Z,57nm,0.8s,baz=46,slow=8.2,SNR=101
FINES PcP **PcP** **14 02 37.6 -0.6**
comp=Z,12nm,0.8s,baz=35,slow=5.1,SNR=5.2
FINES LR LR 14 31 58.3
comp=Z,96nm,21.3s,baz=23,slow=38
GCMT **Greycliff** **64.17** **50** *e*P **P** **14 02 05.8 +0.6**
ELK **Elko** **64.29** **57** *e*P **P** **14 02 06.5 +0.3**
comp=Z,10.0nm,1.0s
ELK **Elko** **64.29** **57** *e*P **P** **14 02 06.5 +0.3**
ELK pmax pmax
comp=Z,10.0nm,1.0s
PWJI **Pagerwojo** **64.33** **224** P **P** **14 02 06.4 0.0**
comp=Z,124nm,0.8s
PAGB **Antelope Grade** **64.43** **64** *e*P **P** **14 02 07.2 +0.2**
comp=Z,67nm,1.4s
H17A **Grant Village** **64.59** **52** *e*P **P** **14 02 10.1 +2.0**
comp=Z,51nm,1.1s
H17A **Grant Village** **64.59** **52** P **P** **14 02 10.6 +2.5**
baz=310
GSI **Gunungsitoli** **64.59** **243** *e*P **P** **14 02 08.6 +0.4**
comp=Z,156nm,1.7s
IMW **Indian Meadow** **64.71** **52** *e*P **P** **14 02 10.0 +1.0**
comp=Z,40nm,1.1s
FLWY **Flagg Ranch** **64.72** **52** *e*P **P** **14 02 09.1 +0.1**
comp=Z,27nm,1.1s
RLMT **Red Lodge** **64.82** **50** *e*P **P** **14 02 10.2 +0.6**
comp=Z,58nm,1.3s
RLMT **Red Lodge** **64.82** **50** P **P** **14 02 10.6 +1.1**
baz=311
FXWY **Fox Creek** **64.83** **53** *e*P **P** **14 02 10.8 +1.2**
comp=Z,62nm,1.5s
SMMC **Simmler** **64.85** **65** P **P** **14 02 11.3 +1.6**
baz=310
MOOW **Moose Ponds** **64.91** **52** *e*P **P** **14 02 11.3 +1.1**
comp=Z,47nm,1.3s
TPAW **Teton Pass** **64.97** **53** *e*P **P** **14 02 11.6 +0.9**
comp=Z,63nm,1.0s
LOHW **Long Hollow** **65.08** **52** *e*P **P** **14 02 12.3 +1.0**
comp=Z,65nm,1.4s
OBN **Obninsk** **65.08** **325** *e*P **P** **14 02 10.1 -0.6**
comp=Z,27nm,0.4s
OBN **Obninsk** **65.08** **325** *i*P **P** **14 02 10.0 -0.7**
OBN *i* 14 02 39.5
OBN pmax pmax
comp=Z,16nm,0.6s
OBN MLR MLR
comp=Z,109nm,15.0s
OBN **Obninsk** **65.08** **325** P **P** **14 02 10.3 -0.4**
comp=Z,3.4nm,0.4s,baz=62,slow=20,SNR=4.4
OBN **Obninsk** **65.08** **325** *e*P **P** **14 02 10.0 -0.7**
SNOW **Snow King Moun** **65.09** **53** *e*P **P** **14 02 12.6 +1.1**
comp=Z,62nm,1.3s
REDW **Red Top Meadow** **65.10** **53** *e*P **P** **14 02 12.5 +1.1**
comp=Z,81nm,1.3s
DGMT **Dagmar** **65.22** **45** *e*P **P** **14 02 11.6 -0.3**
comp=Z,105nm,1.4s
DGMT **Dagmar** **65.22** **45** P **P** **14 02 12.3 +0.4**
baz=312
PKM **Mcpherson Peak** **65.24** **65** P **P** **14 02 13.2 +0.8**
baz=310
CWC **Cottonwood Cre** **65.33** **63** P **P** **14 02 13.5 +0.6**
baz=310
AHID **Auburn Hatcher** **65.35** **53** *e*P **P** **14 02 12.7 -0.4**
comp=Z,33nm,1.3s
LAO **LASA Array** **65.39** **48** *e*P **P** **14 02 13.2 +0.2**
comp=Z,67nm,1.1s
LAO **LASA Array** **65.39** **48** P **P** **14 02 14.0 +0.9**
baz=312
GRAC **Grapevine Rang** **65.41** **62** P **P** **14 02 14.2 +1.0**
baz=310
ISA **Isabella, Lake** **65.58** **63** *e*P **P** **14 02 13.9 -0.6**
comp=Z,25nm,1.5s
ISA **Isabella, Lake** **65.58** **63** *e*P **P** **14 02 13.9 -0.6**
ISA pmax pmax
comp=Z,25nm,1.5s
R11A **Troy Canyon, C** **65.62** **60** *e*P **P** **14 02 15.1 +0.3**
comp=Z,25nm,1.1s
R11A **Troy Canyon, C** **65.62** **60** P **P** **14 02 15.3 +0.6**
baz=310
VRH **Novokhopyorsk** **65.64** **319** *e*P **P** **14 02 13.2 -1.2**
VRH pmax pmax
comp=Z,10.0nm,0.7s
HYB **Hyderabad** **65.66** **270** *i*P **P** **14 02 15.0 -0.1**
HYB *e*PcP **PcP** **14 02 46.5 +0.8**
ARVC **Arvin** **65.70** **64** P **P** **14 02 15.5 +0.3**
baz=310
DAC **Darwin (Calif)** **65.73** **62** *e*P **P** **14 02 16.3 +0.7**
comp=Z,23nm,1.4s
DAC **Darwin (Calif)** **65.73** **62** *e*P **P** **14 02 16.3 +0.7**
DAC pmax pmax
comp=Z,23nm,1.4s
GEYT **Alibeck** **65.78** **300** P **P** **14 02 16.7 +1.1**
comp=Z,72nm,0.7s,baz=8.5,slow=3.0,SNR=164
GEYT LR LR 14 35 18.7
comp=Z,124nm,18.1s,baz=55,slow=40
GYA0B **ALIBECK ARRAY** **65.78** **300** *e*P **P** **14 02 16.3 +0.6**
comp=Z,92nm,0.8s
HWUT **Hardware Ranch** **65.85** **55** *e*P **P** **14 02 16.9 +0.7**
comp=Z,22nm,1.1s
LPSR **Galich'ya Gora** **65.89** **322** *e*P **P** **14 02 15.1 -0.9**
LPSR pmax pmax
comp=Z,20nm,0.7s
MPMC **Manual Prospec** **65.94** **63** P **P** **14 02 17.3 +0.4**
baz=310
SFJD **Kangerlussuaq** **66.02** **9** *e*P **P** **14 02 16.4 -0.2**
comp=Z,38nm,0.9s
SFJD **Kangerlussuaq** **66.02** **9** P **P** **14 02 16.4 -0.2**
comp=Z,26nm,0.9s,baz=348,slow=6.9,SNR=11
SFJD **Kangerlussuaq** **66.02** **9** *i*P **P** **14 02 16.5 -0.1**
comp=Z,39nm,1.1s
CTAO **Charters Tower** **66.02** **185** *e*P **P** **14 02 17.8 +0.7**
comp=Z,19nm,1.4s
CTAO **Charters Tower** **66.02** **185** *e*P **P** **14 02 17.8 +0.7**
CTAO pmax pmax
comp=Z,19nm,1.4s
DUG **Dugway, Tooele** **66.05** **56** *e*P **P** **14 02 18.2 +0.8**
comp=Z,39nm,1.0s
DUG **Dugway, Tooele** **66.05** **56** *e*P **P** **14 02 18.3 +0.8**
DUG pmax pmax
comp=Z,39nm,1.0s
DUG **Dugway, Tooele** **66.05** **56** P **P** **14 02 18.3 +0.8**
baz=311
FURC **Furnace Creek,** **66.06** **62** P **P** **14 02 18.4 +1.0**
baz=311
FRB **Frobisher Bay** **66.09** **18** P **P** **14 02 16.4 -0.7**
FRB pmax pmax
comp=Z,110nm,0.8s
OSI **Osito Audit: C** **66.10** **64** P **P** **14 02 18.6 +0.8**
baz=311
TPNV **Topopah Spring** **66.12** **61** *e*P **P** **14 02 18.5 +0.5**
comp=Z,52nm,1.3s
TPNV **Topopah Spring** **66.12** **61** *e*P **P** **14 02 18.5 +0.5**
TPNV pmax pmax
comp=Z,52nm,1.3s
TPNV **Topopah Spring** **66.12** **61** P **P** **14 02 18.6 +0.6**
baz=311
VSU **Vasula** **66.16** **332** *ce*P **P** **14 02 17.3 -0.3**
VSU pmax pmax
comp=Z,120nm,0.9s
VSU **Vasula** **66.16** **332** *e*P **P** **14 02 16.1 -1.6**
VSU IAmb IAmb 14 02 18.3
comp=Z,103nm,0.7s
LRMC **Laurel Mtn Rad** **66.19** **63** P **P** **14 02 19.0 +0.5**
baz=311
BW06 **Boulder Array** **66.21** **53** *e*P **P** **14 02 18.8 +0.2**
comp=Z,35nm,1.0s
BW06 **Boulder Array** **66.21** **53** P **P** **14 02 19.0 +0.4**
baz=312
PD31 **Pinedale Array** **66.21** **53** *e*P **P** **14 02 18.7 +0.1**
comp=Z,35nm,1.0s
PDAR **Pinedale Array** **66.21** **53** *e*P **P** **14 02 18.7 +0.1**
PDAR **Pinedale Array** **66.21** **53** P **P** **14 02 19.0 +0.4**
comp=Z,19nm,0.8s,baz=318,slow=2.0,SNR=120
PDAR pP **PcP** **14 02 47.3 -0.6**
comp=Z,6.1nm,0.8s,baz=265,slow=1.2,SNR=5.4
EDW2 **Edwards Air Fo** **66.39** **64** P **P** **14 02 20.2 +0.6**
baz=311
MWC **Mount Wilson** **66.77** **64** *e*P **P** **14 02 22.1 -0.1**
comp=Z,75nm,1.6s
MWC **Mount Wilson** **66.77** **64** *e*P **P** **14 02 22.1 -0.1**
MWC pmax pmax
comp=Z,75nm,1.6s
VSR **Storozhevoye** **66.77** **321** *e*P **P** **14 02 20.5 -1.2**
VSR pmax pmax
comp=Z,20nm,0.7s
SHOC **Shoshone, Teco** **66.79** **62** P **P** **14 02 22.6 +0.5**
baz=311
GSC **Goldstone, Bar** **66.85** **63** *e*P **P** **14 02 22.8 +0.2**
comp=Z,21nm,1.1s
GSC **Goldstone, Bar** **66.85** **63** *e*P **P** **14 02 22.8 +0.2**
GSC pmax pmax
comp=Z,21nm,1.1s
GSC **Goldstone, Bar** **66.85** **63** P **P** **14 02 22.8 +0.2**
baz=311
VORD **Divnogorie** **66.90** **320** *e*P **P** **14 02 21.5 -0.9**
VORD pmax pmax
comp=Z,20nm,0.9s
BFSC **Mount Baldy Ra** **67.02** **64** P **P** **14 02 23.8 +0.1**
baz=311
SHPR **Sheep Range** **67.07** **61** *e*P **P** **14 02 24.6 +0.6**
comp=Z,41nm,1.3s
TUQ **Turquoise Moun** **67.31** **62** P **P** **14 02 26.0 +0.5**
baz=311
HEC **Hector,Ludlow** **67.45** **63** P **P** **14 02 26.8 +0.4**
baz=311
BBRC **Big Bear Solar** **67.46** **64** P **P** **14 02 26.9 +0.3**
baz=311
WRAB **Tennant Creek** **67.47** **197** *e*P **P** **14 02 25.9 -0.4**
comp=Z,22nm,0.9s
WRAB **Tennant Creek** **67.47** **197** *ce*P **P** **14 02 26.1 -0.2**
WRAB pmax pmax
comp=Z,25nm,1.0s
WB2 **Warramunga Arr** **67.47** **197** *e*P **P** **14 02 26.1 -0.3**
comp=Z,17nm,0.8s
WRA **Warramunga Arr** **67.48** **197** P **P** **14 02 26.2 -0.2**
comp=Z,17nm,0.8s,baz=15,slow=5.9,SNR=92
WRA pP **PcP** **14 02 53.1 +0.2**
comp=Z,7.2nm,0.8s,baz=18,slow=6.0,SNR=4.4
MDND **Maddock** **67.88** **43** P **P** **14 02 29.3 +0.5**
baz=315
ULM **Lac du Bonnet** **67.89** **40** *e*P **P** **14 02 28.3 -0.4**
comp=Z,23nm,0.9s
ULM **Lac du Bonnet** **67.89** **40** *e*P **P** **14 02 28.3 -0.4**
ULM pmax pmax
comp=Z,23nm,0.9s
ULM **Lac du Bonnet** **67.89** **40** P **P** **14 02 28.0 -0.7**
comp=Z,17nm,0.9s,baz=314,slow=7.3,SNR=25
ULM pP **PcP** **14 02 54.3 -0.1**
comp=Z,6.6nm,0.9s,baz=310,slow=10,SNR=2.9
GMRC **Granite Mounta** **67.90** **62** P **P** **14 02 29.8 +0.5**
baz=312
K22A **Casper** **67.95** **51** *e*P **P** **14 02 29.4 -0.1**
comp=Z,43nm,1.1s
K22A **Casper** **67.95** **51** P **P** **14 02 29.7 +0.2**
baz=313
LDFC **Landfair** **68.04** **62** *e*P **P** **14 02 30.0 -0.1**
comp=Z,84nm,1.1s
PFO **Pinyon Flats O** **68.18** **64** *e*P **P** **14 02 30.6 -0.4**
comp=Z,30nm,1.4s
PFO **Pinyon Flats O** **68.18** **64** *e*P **P** **14 02 30.6 -0.4**
PFO pmax pmax
comp=Z,30nm,1.4s
PFO **Pinyon Flats O** **68.18** **64** P **P** **14 02 31.0 0.0**
baz=312
TPFO **Pinon Flats** **68.18** **64** P **P** **14 02 31.2 +0.2**
baz=312
NC303 **NORSAR Array S** **68.20** **340** *e*P **P** **14 02 30.1 -0.4**
comp=Z,254nm,1.6s
BELC **Belle Mtn. Jos** **68.21** **63** P **P** **14 02 31.0 -0.2**
baz=312
NC405 **NORSAR Array S** **68.22** **340** *e*P **P** **14 02 30.3 -0.3**
comp=Z,134nm,0.8s
RWWY **Rawlins** **68.23** **52** *e*P **P** **14 02 31.3 -0.1**
comp=Z,41nm,1.1s
SLIT **Slitere, Latvi** **68.26** **333** *e*P **P** **14 02 29.8 -1.0**
SLIT IAmb IAmb 14 02 32.1
comp=Z,449nm,1.2s
RSSD **Black Hills** **68.26** **49** *e*P **P** **14 02 31.6 +0.1**
comp=Z,54nm,1.1s
RSSD **Black Hills** **68.26** **49** *e*P **P** **14 02 31.6 +0.1**
RSSD pmax pmax
comp=Z,54nm,1.1s
RSSD **Black Hills** **68.26** **49** P **P** **14 02 31.6 +0.1**
baz=314
NC204 **NORSAR Array S** **68.30** **341** *e*P **P** **14 02 30.9 -0.3**
comp=Z,132nm,0.9s
NB201 **NORSAR Array S** **68.37** **340** *e*P **P** **14 02 31.3 -0.3**
comp=Z,99nm,0.8s
NB2 **NORSAR Subarra** **68.40** **340** P **P** **14 02 31.5 -0.3**
comp=Z,54nm,0.8s,baz=28,slow=6.2
NB2 **NORSAR Subarra** **68.40** **340** P **P** **14 02 31.5 -0.3**
baz=28,slow=6.2
NOA **NORSAR Array B** **68.40** **340** P **P** **14 02 31.7 -0.1**
comp=Z,23nm,0.7s,baz=28,slow=6.3,SNR=72
NOA LR LR 14 35 10.3
comp=Z,54nm,20.5s,baz=15,slow=38
ANGG **Ammassalik, Gr** **68.41** **4** *e*P **P** **14 02 31.2 -0.5**
comp=Z,40nm,1.1s
IZAR **Zarasai** **68.46** **330** *e*P **P** **14 02 31.8 -0.4**
IZAR IAmb IAmb 14 02 33.9
comp=Z,16nm,0.8s
NBO00 **NORSAR Array S** **68.51** **341** *e*P **P** **14 02 32.2 -0.2**
comp=Z,149nm,1.2s
HFS **Hagfors** **68.59** **339** P **P** **14 02 32.5 -0.4**
comp=Z,49nm,0.7s,baz=51,slow=3.5,SNR=79
NC602 **NORSAR Array S** **68.59** **340** *e*P **P** **14 02 32.3 -0.6**
comp=Z,66nm,0.9s
NORES **NORESS Array B** **68.59** **340** P **P** **14 02 32.6 -0.3**
NORES pmax pmax
comp=Z,3.0nm,0.3s
IRM **Iron Mountain** **68.63** **63** P **P** **14 02 34.3 +0.6**
baz=312
IDID **Didziasalis** **68.63** **330** *e*P **P** **14 02 33.3 +0.1**
IDID IAmb IAmb 14 02 35.0
comp=Z,26nm,0.8s
ISAL **Salakas** **68.64** **330** *e*P **P** **14 02 33.9 +0.5**
ISAL IAmb IAmb 14 02 35.1
comp=Z,24nm,0.9s
NAO01 **NORSAR Array S** **68.65** **340** *e*P **P** **14 02 32.8 -0.5**
comp=Z,103nm,1.0s
O20A **White River Ci** **68.71** **54** *e*P **P** **14 02 34.3 0.0**
comp=Z,50nm,1.4s
O20A **White River Ci** **68.71** **54** P **P** **14 02 34.6 +0.3**
baz=313
BC3 **Big Chuckawall** **68.78** **63** P **P** **14 02 34.7 0.0**
baz=312
W13A **Hualapai Mount** **68.78** **61** *e*P **P** **14 02 35.1 +0.2**
comp=Z,24nm,1.2s
IIGN **Ignalina** **68.79** **330** *e*P **P** **14 02 34.5 +0.3**
IIGN IAmb IAmb 14 02 36.1
comp=Z,32nm,0.9s
U15A **North Rim** **68.85** **59** *e*P **P** **14 02 35.7 +0.3**
comp=Z,38nm,1.1s
SWSC **Sam W. Stewart** **69.03** **64** P **P** **14 02 36.6 +0.5**
baz=312
IKP **In-Ko-Pah, Jac** **69.03** **64** P **P** **14 02 36.6 +0.3**
baz=312
PDMCI **Parker Dam,Lak** **69.15** **62** P **P** **14 02 37.4 +0.5**
baz=312
GROC **Groznyy** **69.21** **311** *e*P **P** **14 02 38.4 +1.4**
GROC *e* 14 03 00.6
GROC *e**PP **pP** **14 03 05.7 +1.1**
GROC *e**SP **sP** **14 03 19.9 +2.1**
GROC *e*S **S** **14 11 34.6 +0.9**
GROC *e* 14 12 09.4
GROC pmax pmax
comp=Z,35nm,0.6s
DZM **Mont Dzumac** **69.25** **165** *e*P **P** **14 02 38.4 +0.9**
comp=Z,15nm,0.8s
DZM **Mont Dzumac** **69.25** **165** *e*LR LR 14 23 43.9
comp=Z,274nm,26.8s
Y12C **Blythe** **69.29** **63** *e*P **P** **14 02 37.9 +0.2**
comp=Z,40nm,1.1s
Y12C **Blythe** **69.29** **63** P **P** **14 02 38.2 +0.5**
baz=312
AGMN **Agassiz Nation** **69.31** **41** *e*P **P** **14 02 37.1 -0.5**
comp=Z,53nm,1.1s
AGMN **Agassiz Nation** **69.31** **41** P **P** **14 02 37.3 -0.3**
baz=317
PV09 **Paradox Valley** **69.31** **56** *e*P **P** **14 02 38.2 +0.1**
BORG **Borgarnes** **69.34** **357** *e*P **P** **14 02 37.1 -0.3**
comp=Z,51nm,1.1s
BORG **Borgarnes** **69.34** **357** P **P** **14 02 38.7 +1.2**
BORG pmax pmax
comp=Z,61nm,1.6s
BORG **Borgarnes** **69.34** **357** P **P** **14 02 39.2 +1.8**
comp=Z,19nm,0.8s,baz=30,slow=4.1,SNR=9.6
PV21 **Cone Mtn., Par** **69.36** **56** *e*P **P** **14 02 38.5 +0.1**
comp=Z,35nm,0.9s
PV23 **Carpenter Ridg** **69.41** **56** *e*P **P** **14 02 38.9 +0.1**
comp=Z,65nm,1.2s
PABE **Paberze** **69.44** **331** *e*P **P** **14 02 38.0 -0.2**
PABE IAmb IAmb 14 02 39.7
comp=Z,98nm,1.1s
PV10 **Paradox Valley** **69.45** **56** *e*P **P** **14 02 39.4 +0.5**
comp=Z,79nm,0.9s
PHWY **Pilot Hill** **69.45** **52** *e*P **P** **14 02 39.0 0.0**
comp=Z,37nm,1.8s
PV14 **Lion Creek, Pa** **69.46** **56** *e*P **P** **14 02 39.4 +0.4**
comp=Z,131nm,1.7s
N23A **Red Feather La** **69.47** **52** *e*P **P** **14 02 39.4 +0.3**
comp=Z,51nm,1.3s
N23A **Red Feather La** **69.47** **52** P **P** **14 02 39.8 +0.7**
baz=314
PV22 **Blue Mesa, Par** **69.48** **56** *e*P **P** **14 02 39.4 +0.2**
comp=Z,42nm,1.0s
PV20 **West Nyswonger** **69.51** **56** *e*P **P** **14 02 39.6 +0.3**
comp=Z,58nm,1.2s
PV04 **Paradox Valley** **69.51** **56** *e*P **P** **14 02 39.3 0.0**
comp=Z,44nm,1.0s
PV19 **Morning Glory** **69.52** **56** *e*P **P** **14 02 39.5 +0.2**
comp=Z,70nm,1.2s
PV17 **East Wray Mesa** **69.56** **56** *e*P **P** **14 02 39.9 +0.3**
comp=Z,72nm,0.9s
PV16 **Nyswonger Mesa** **69.56** **56** *e*P **P** **14 02 39.7 +0.1**
comp=Z,50nm,1.1s
GLA **Glamis** **69.57** **63** *e*P **P** **14 02 39.7 +0.2**
comp=Z,38nm,1.1s
GLA **Glamis** **69.57** **63** *e*P **P** **14 02 39.7 +0.2**
GLA pmax pmax
comp=Z,38nm,1.1s
GLA **Glamis** **69.57** **63** P **P** **14 02 40.0 +0.5**
baz=312
PV11 **David Mesa, Pa** **69.59** **56** *e*P **P** **14 02 40.0 +0.2**
comp=Z,100nm,1.3s
PV18 **Skein Mesa, Pa** **69.61** **56** *e*P **P** **14 02 40.3 +0.4**
comp=Z,53nm,1.0s
PV05 **Paradox Valley** **69.61** **56** *e*P **P** **14 02 40.3 +0.4**
comp=Z,60nm,1.0s
PV12 **Saucer Basin,** **69.62** **56** *e*P **P** **14 02 40.3 +0.3**
comp=Z,103nm,1.6s
PV07 **Paradox Valley** **69.63** **56** *e*P **P** **14 02 40.1 +0.1**
comp=Z,35nm,1.2s
PV03 **Paradox Valley** **69.64** **56** *e*P **P** **14 02 40.3 +0.2**
comp=Z,43nm,1.1s
PBUR **Paburg** **69.69** **332** *e*P **P** **14 02 39.0 -0.8**
PBUR IAmb IAmb 14 02 41.0
comp=Z,62nm,0.8s
PV13 **Radium Mtn., P** **69.72** **56** *e*P **P** **14 02 41.0 +0.4**
comp=Z,49nm,1.0s
PV02 **Paradox Valley** **69.74** **56** *e*P **P** **14 02 41.0 +0.3**
comp=Z,25nm,1.1s
PV01 **Paradox Valley** **69.88** **56** *e*P **P** **14 02 41.8 +0.2**
comp=Z,66nm,1.6s
KONO **Kongsberg** **70.01** **340** *e*P **P** **14 02 41.4 -0.3**
comp=Z,39nm,0.9s
KONO **Kongsberg** **70.01** **340** *e*P **P** **14 02 41.4 -0.3**
KONO pmax pmax
comp=Z,39nm,0.9s
WUAZ **Wupatki** **70.02** **59** *e*P **P** **14 02 41.9 -0.5**
comp=Z,34nm,1.2s
WUAZ **Wupatki** **70.02** **59** P **P** **14 02 43.3 +1.0**
baz=313
SMCO **Snowmass** **70.08** **54** *e*P **P** **14 02 43.2 +0.2**
comp=Z,23nm,0.8s
Y14A **Wickenburg** **70.10** **62** *e*P **P** **14 02 43.2 +0.4**
comp=Z,36nm,1.1s
KVAR **Kislovodsk Arr** **70.28** **313** P **P** **14 02 45.3 +1.5**
comp=Z,28nm,0.9s,baz=89,slow=21,SNR=37
KIV **Kislovodsk** **70.28** **313** *e*P **P** **14 02 44.7 +0.9**
comp=Z,77nm,0.9s
KIV **Kislovodsk** **70.28** **313⇑** *i*P **P** **14 02 45.3 +1.5**
KIV **Kislovodsk** **70.28** **313** *i*P **P** **14 02 45.1 +1.3**
SNR=17
KIV **Kislovodsk** **70.28** **313** *e*P **P** **14 02 45.0 +1.3**
KIV pmax pmax
comp=Z,290nm,1.1s
KIV **Kislovodsk** **70.28** **313** P **P** **14 02 45.0 +1.3**
SNR=30
KIV **Kislovodsk** **70.28** **313** *e*P **P** **14 02 45.0 +1.3**
BER **Bergen** **70.28** **343** P **P** **14 02 44.4 +1.1**
BER pmax pmax
comp=Z,113nm,0.9s
KBZ **Khabaz** **70.34** **313** P **P** **14 02 45.6 +1.7**
comp=Z,78nm,0.9s,baz=60,slow=4.5,SNR=134
KBZ LR LR 14 40 00.2
comp=Z,246nm,18.9s,baz=52,slow=41
ISCO **Idaho Springs** **70.40** **53** *e*P **P** **14 02 45.5 +0.7**
comp=Z,26nm,0.9s
ISCO **Idaho Springs** **70.40** **53** *e*P **P** **14 02 45.6 +0.7**
ISCO pmax pmax
comp=Z,26nm,0.9s
ISCO **Idaho Springs** **70.40** **53** P **P** **14 02 45.7 +0.8**
baz=314
113A **Mohawk Valley,** **70.42** **63** *e*P **P** **14 02 44.7 +0.1**
comp=Z,31nm,1.3s
ZEI **Tsey** **70.49** **312** *e*P **P** **14 02 42.6 -2.6**
ZEI pmax pmax
comp=Z,49nm,0.9s
MVCO **Mesa Verde** **70.56** **56** *e*P **P** **14 02 46.1 +0.4**
comp=Z,31nm,0.9s
MVCO **Mesa Verde** **70.56** **56** P **P** **14 02 46.2 +0.5**
baz=314
SUSD **Miller** **70.62** **46** P **P** **14 02 45.6 -0.1**
baz=316
X16A **Lo Mia Camp, P** **70.72** **60** *e*P **P** **14 02 47.5 +0.8**
comp=Z,33nm,1.0s

TBLG	Delisi	70.80	311	eP		P	14 02 47.8	+1.0
	comp=Z,171nm,0.9s							
TBLG	Delisi	70.80	311	eP		P	14 02 47.8	+1.0
TBLG				pmax	pmax			
	comp=Z,171nm,0.9s							
EIDS	Eidsvold	71.13	180	eP		P	14 02 50.1	+1.3
	comp=Z,8.1nm,0.9s							
S22A	4UR Ranch, Cre	71.15	55	eP		P	14 02 50.2	+0.9
	comp=Z,30nm,0.9s							
S22A	4UR Ranch, Cre	71.15	55	P		P	14 02 50.3	+1.0
	baz=314							
AS31	Alice Springs	71.18	197	eP		P	14 02 49.8	+0.6
	comp=Z,3.1nm,0.8s							
ASAR	Alice Springs	71.18	197	eP		P	14 02 49.7	+0.5
ASAR	Alice Springs	71.18	197	P		P	14 02 50.0	+0.9
	comp=Z,11nm,0.8s,baz=11,slow=5.1,SNR=139							
ASAR				pP		pP	14 03 17.2	-0.2
	comp=Z,7.0nm,0.9s,baz=13,slow=5.9,SNR=5.3							
ASAR				LR	LR		14 30 57.9	
	comp=Z,51nm,21.7s,baz=28,slow=33							
Q24A	Divide	71.24	53	eP		P	14 02 50.1	+0.2
	comp=Z,21nm,1.1s							
Q24A	Divide	71.24	53	P		P	14 02 50.3	+0.4
	baz=315							
W18A	Petrified Fore	71.27	59	P		P	14 02 50.7	+0.8
	baz=314							
PALK	Pallekele	71.27	261	eP		P	14 02 49.5	-0.6
	comp=Z,79nm,1.5s							
PALK	Pallekele	71.27	261	P		P	14 02 49.8	-0.3
	comp=Z,20nm,0.9s,baz=117,slow=5.1,SNR=4.7							
AKASG	Malin Array Be	71.33	325	eP		P	14 02 49.7	-0.2
AKASG	Malin Array Be	71.33	325	P		P	14 02 49.4	-0.4
	comp=Z,6.1nm,0.3s,baz=35,slow=6.1,SNR=82							
AKBB	Malin Array Si	71.33	325	eP		P	14 02 49.0	-0.8
	comp=Z,56nm,1.0s							
KIEV	Kiev	71.34	325	eP		P	14 02 48.9	-1.0
	comp=Z,54nm,1.0s							
KIEV	Kiev	71.34	325	⇑iP		P	14 02 49.5	-0.4
KIEV	Kiev	71.34	325	iP		P	14 02 49.2	-0.7
	SNR=30							
KIEV	Kiev	71.34	325	eP		P	14 02 48.9	-1.0
KIEV				pmax	pmax			
	comp=Z,54nm,1.0s							
EYMN	Ely	71.53	39	eP		P	14 02 50.5	-0.6
	comp=Z,41nm,0.9s							
EYMN	Ely	71.53	39	P		P	14 02 50.8	-0.3
	baz=319							
X18A	Snowflake	71.54	59	eP		P	14 02 52.1	+0.5
	comp=Z,31nm,1.3s							
OGNE	Ogallala	71.54	50	eP		P	14 02 51.3	-0.1
	comp=Z,147nm,0.9s							
OGNE	Ogallala	71.54	50	P		P	14 02 51.8	+0.4
	baz=316							
214A	Organ Pipe Nat	71.56	63	P		P	14 02 52.1	+0.5
	baz=313							
AKH	Akhalkalaki	71.68	311	eP		P	14 02 54.0	+1.6
	comp=Z,66nm,1.0s							
AKH	Akhalkalaki	71.68	311	⇑iP		P	14 02 54.1	+1.7
AKH	Akhalkalaki	71.68	311	eP		P	14 02 54.0	+1.6
AKH				pmax	pmax			
	comp=Z,66nm,1.0s							
SDCO	Great Sand Dun	71.90	54	eP		P	14 02 54.2	+0.3
	comp=Z,48nm,1.7s							
SDCO	Great Sand Dun	71.90	54	P		P	14 02 54.3	+0.4
	baz=315							
GNI	Garni	71.92	309	eP		P	14 02 55.5	+1.7
	comp=Z,123nm,1.2s							
GNI	Garni	71.92	309	iP		P	14 02 56.0	+2.3
	SNR=11							
GNI	Garni	71.92	309	eP		P	14 02 55.5	+1.7
GNI				pmax	pmax			
	comp=Z,123nm,1.2s							
GNI	Garni	71.92	309	P		P	14 02 55.8	+2.0
	SNR=17							
GNI	Garni	71.92	309	P		P	14 02 55.8	+2.0
	comp=Z,68nm,0.9s,baz=352,slow=1.2,SNR=22							
SOC	Sochi	72.04	315	c iP		P	14 02 54.7	+0.5
SOC				e			14 05 34.4	
SOC				ePPP	PPP		14 07 20.5	
SOC				eS	S		14 12 09.4	+2.9
SOC				e*SS	sS		14 12 59.4	+5.6
SOC				eSSS	SSS		14 20 01.0	
SOC				pmax	pmax			
	comp=Z,66nm,0.9s							
ANN	Anapa	72.25	317	eP		P	14 02 55.7	+0.3
ANN				e			14 12 51.7	
ANN				pmax	pmax			
	comp=Z,74nm,1.2s							
ANN	Anapa	72.25	317	eP		P	14 02 55.8	+0.3
ECSD	EROS Data Cent	72.30	45	eP		P	14 02 55.5	-0.3
	comp=Z,74nm,1.1s							
ECSD	EROS Data Cent	72.30	45	P		P	14 02 55.6	-0.2
	baz=318							
BATM	Batumi	72.48	312	⇑iP		P	14 02 57.7	+0.8
E38A	The Farm, Brul	72.52	40	eP		P	14 02 56.4	-0.6
	comp=Z,55nm,0.9s							
E38A	The Farm, Brul	72.52	40	P		P	14 02 56.5	-0.6
	baz=320							
TUC	Tucson	72.56	62	eP		P	14 02 57.5	-0.1
	comp=Z,27nm,1.1s							
TUC	Tucson	72.56	62	eP		P	14 02 57.5	-0.1
TUC				pmax	pmax			
	comp=Z,27nm,1.1s							
TUC	Tucson	72.56	62	P		P	14 02 58.2	+0.5
	baz=314							
KSCO	Kaye Shedlock'	72.60	52	P		P	14 02 58.2	+0.4
	baz=316							
BCA	Borcka	72.63	312	⇓iP		P	14 02 59.0	+1.2
F38A	Pierce - Schro	72.87	41	P		P	14 02 59.2	+0.1
	baz=320							
T25A	Trinidad	72.94	54	eP		P	14 03 00.1	+0.1
	comp=Z,38nm,1.0s							
T25A	Trinidad	72.94	54	P		P	14 03 00.4	+0.4
	baz=315							
MUD	Monsted U'grnd	72.97	339	P		P	14 03 00.5	+1.1
MUD				pmax	pmax			
	comp=Z,89nm,2.3s							
SPMN	Marine on St.	73.00	42	P		P	14 02 60.0	+0.1
	baz=319							
E39A	Mellen	73.14	40	P		P	14 03 00.2	-0.5
	baz=320							
LAZ	Ladron	73.30	58	eP		P	14 03 03.0	+0.9
TASM	ASL Pad, Albuq	73.31	57	P		P	14 03 03.0	+0.7
	baz=315							
TASM	ASL Pad, Albuq	73.31	57	P		P	14 03 02.9	+0.7
	baz=315							
ANMO	Albuquerque	73.32	57	eP		P	14 03 02.5	+0.3
	comp=Z,18nm,0.9s							
ANMO	Albuquerque	73.32	57	ceP		P	14 03 02.0	-0.2
ANMO				pmax	pmax			
	comp=Z,13nm,0.9s							
ANMO	Albuquerque	73.32	57	P		P	14 03 02.9	+0.7
	baz=315							
F39A	Loretta	73.33	40	P		P	14 03 01.7	-0.2
	baz=320							
E40A	Wakefield	73.38	39	P		P	14 03 02.3	+0.2
	baz=321							
D41A	Chassel	73.48	38	P		P	14 03 02.7	+0.1
	baz=321							
G38A	Ridgeland	73.48	41	P		P	14 03 02.1	-0.7
	baz=320							
GKP	Gorka Klasztor	73.49	333	eP		P	14 03 03.3	+0.7
GKP	Gorka Klasztor	73.49	333	eP		P	14 03 03.3	+0.7
BEL	Belsk	73.53	330	eP		P	14 03 03.7	+0.8
BEL	Belsk	73.53	330	eP		P	14 03 03.7	+0.8
HORU	Horodok	73.61	326	P		P	14 03 04.0	+0.6
H38A	Maiden Rock	73.66	42	P		P	14 03 03.6	-0.2
	baz=320							
F40A	Park Falls	73.68	40	P		P	14 03 03.4	-0.5
	baz=321							
SIM	Simferopol'	73.69	319	d iP		P	14 03 05.1	+1.2
SIM				ePPP	PPP		14 07 32.0	
SIM				pmax	pmax			
	comp=Z,53nm,0.9s							
G39A	Holcombe	73.70	41	P		P	14 03 03.2	-0.8
	baz=320							
E41A	Kenton	73.77	39	P		P	14 03 04.3	-0.1
	baz=321							
BNM	Barren Site	73.78	58	eP		P	14 03 05.3	+0.3
COWI	Conover	73.98	39	eP		P	14 03 05.1	-0.5
	comp=Z,130nm,1.9s							
LVV	L'vov	74.04	328	eP		P	14 03 06.0	+0.1
H39A	Augusta	74.11	41	P		P	14 03 06.3	-0.2
	baz=320							
319A	Douglas	74.13	61	eP		P	14 03 07.6	+0.7
	comp=Z,92nm,0.9s							
G40A	Rib Lake	74.15	40	eP		P	14 03 06.1	-0.6
	comp=Z,17nm,0.8s							
G40A	Rib Lake	74.15	40	P		P	14 03 06.3	-0.3
	baz=321							
121A	Cookes Peak, D	74.23	59	P		P	14 03 08.6	+1.1
	baz=315							
E42A	Champion	74.25	38	P		P	14 03 07.2	0.0
	baz=322							
F41A	Three Lakes	74.27	39	eP		P	14 03 07.1	-0.2
	comp=Z,40nm,1.0s							
F41A	Three Lakes	74.27	39	P		P	14 03 07.3	-0.1
	baz=321							
CBKS	Cedar Bluff	74.30	50	eP		P	14 03 06.8	-0.9
	comp=Z,91nm,1.5s							
CBKS	Cedar Bluff	74.30	50	eP		P	14 03 06.8	-0.9
CBKS				pmax	pmax			
	comp=Z,91nm,1.5s							
CBKS	Cedar Bluff	74.30	50	P		P	14 03 06.8	-0.9
	baz=317							
KIS	Kishinev	74.41	323	⇑iP		P	14 03 07.0	-1.1
	comp=Z,210nm,2.0s							
KIS				epP		PcP	14 03 28.0	+5.8
KIS				eS		S	14 12 32.0	-1.2
KIS	Kishinev	74.41	323	⇑iP		P	14 03 07.0	-1.1
KIS				e*PP		PcP	14 03 28.0	+5.8
KIS				eS		S	14 12 32.0	-1.2
KIS				pmax	pmax			
	comp=Z,210nm,2.0s							
SCHQ	Schefferville	74.42	22	eP		P	14 03 08.0	0.0
	comp=Z,33nm,0.9s							
SCHQ	Schefferville	74.42	22	P		P	14 03 08.4	+0.4
	comp=Z,21nm,0.8s,baz=12,slow=7.2,SNR=12							
SCHQ				LR	LR		14 38 38.3	
	comp=Z,52nm,20.3s,baz=339,slow=38							
H40A	Chili	74.56	41	P		P	14 03 08.8	-0.3
	baz=321							
I39A	Houston	74.64	42	eP		P	14 03 08.3	-1.2
	comp=Z,44nm,0.9s							
I39A	Houston	74.64	42	P		P	14 03 08.8	-0.7
	baz=320							
KWP	Kalwaria Pacla	74.68	328	eP		P	14 03 10.6	+1.0
KWP	Kalwaria Pacla	74.68	328	eP		P	14 03 10.2	+0.6
	comp=Z,2μm,1.1s							
KWP	Kalwaria Pacla	74.68	328	eP		P	14 03 10.6	+1.0
IAS	Iasi	74.78	324	P		P	14 03 11.2	+1.0
IAS				pmax	pmax			
	comp=Z,38nm,0.9s							
KSV	Kosov	74.87	326	P		P	14 03 10.6	-0.1
H41A	Junction City	74.90	40	eP		P	14 03 10.0	-0.9
	comp=Z,27nm,0.8s							
H41A	Junction City	74.90	40	P		P	14 03 10.5	-0.5
	baz=321							
J39A	Decorah	74.95	42	P		P	14 03 10.2	-1.0
	baz=320							
G42A	Mountain	74.96	39	eP		P	14 03 10.9	-0.4
	comp=Z,31nm,1.1s							
G42A	Mountain	74.96	39	P		P	14 03 11.0	-0.3
	baz=322							
SHME	Shamm	75.00	292	iP		P	14 03 12.4	+0.5
	SNR=8.1							
I40A	Norwalk	75.03	41	P		P	14 03 11.3	-0.5
	baz=321							
F43A	Flat Rock, Esc	75.04	38	P		P	14 03 11.7	0.0
	baz=322							
LEOM	Leova	75.07	323	⇑iP		P	14 03 12.2	+0.3
LEOM	Leova	75.07	323	P		P	14 03 12.2	+0.3
RUE	Ruedersdorf	75.23	335	eP		P	14 03 12.3	-0.3
RUE				IAmb	IAmb		14 03 14.6	
	comp=Z,108nm,0.9s							
OJC	Ojcow	75.23	330	eP		P	14 03 13.1	+0.4
OJC	Ojcow	75.23	330	eP		P	14 03 12.7	0.0
	comp=Z,120nm,0.9s							
OJC	Ojcow	75.23	330	eP		P	14 03 12.7	0.0
OJC				pmax	pmax			
	comp=Z,120nm,0.9s							
I41A	Arkdale	75.24	41	eP		P	14 03 12.5	-0.4
	comp=Z,24nm,0.8s							
I41A	Arkdale	75.24	41	P		P	14 03 12.6	-0.3
	baz=321							
F44A	Big Bay de Noc	75.25	38	P		P	14 03 12.1	-0.8
	baz=323							
G43A	Wallace	75.27	39	eP		P	14 03 13.0	-0.1
	comp=Z,54nm,0.9s							
G43A	Wallace	75.27	39	P		P	14 03 12.9	-0.1
	baz=322							
SCIA	State Center	75.32	44	eP		P	14 03 12.6	-0.9
	comp=Z,113nm,1.1s							
SCIA	State Center	75.32	44	P		P	14 03 13.4	0.0
	baz=320							
K39A	Oelwein	75.35	43	P		P	14 03 12.6	-1.0
	baz=320							
BUR08	Bucovina Ar. S	75.36	326	eP		P	14 03 13.9	+0.2
	comp=Z,76nm,0.8s							
BURAR	Bucovina Array	75.38	326	eP		P	14 03 14.0	+0.2
BURAR	Bucovina Array	75.38	326	⇑iP		P	14 03 14.1	+0.3
BURAR	Bucovina Array	75.38	326	P		P	14 03 14.0	+0.2
BURAR				pmax	pmax			
	comp=Z,731nm,0.7s							
STHS	Stebnicka Huta	75.39	329	eP		P	14 03 14.7	+1.0
STHS				pmax	pmax			
	comp=Z,66nm,0.9s							
STHS	Stebnicka Huta	75.39	329	eP		P	14 03 14.7	+1.0
SNOP	Sinop	75.41	316	eP		P	14 03 14.1	+0.2
	comp=Z,76nm,1.0s							
KOLS	Kolonicke sedl	75.42	328	eP		P	14 03 14.8	+0.9
KOLS				pmax	pmax			
	comp=Z,75nm,1.0s							
KOLS	Kolonicke sedl	75.42	328	eP		P	14 03 14.8	+0.9
BIR	Birlad	75.49	323	⇑iP		P	14 03 16.0	+1.7
BIR	Birlad	75.49	323	P		P	14 03 16.0	+1.7
D46A	Sault St. Mari	75.50	36	P		P	14 03 13.8	-0.6
	baz=324							
MATQ	Matagami	75.55	30	P		P	14 03 14.2	-0.4
	baz=327							
JLN	Jalan Bani Buh	75.56	287	P		P	14 03 16.6	+1.5
BIZ	Bicaz	75.57	325	⇑iP		P	14 03 15.6	+0.8
UZH	Uzhgorod	75.66	328	eP		P	14 03 14.7	-0.5
UZH				e			14 03 29.7	
DIKM	Dikmen	75.67	316	⇑iP		P	14 03 17.2	+1.8
TESR	Tescani	75.70	324	⇑iP		P	14 03 16.1	+0.6
K40A	Colesburg	75.70	42	P		P	14 03 14.9	-0.7
	baz=321							
J41A	Loganville	75.71	41	P		P	14 03 15.0	-0.6
	baz=321							
NIE	Niedzica	75.73	329	eP		P	14 03 16.8	+1.1
NIE	Niedzica	75.73	329	eP		P	14 03 16.8	+1.1
KSU1	Kansas State U	75.73	48	P		P	14 03 14.9	-1.0
	baz=318							
L39A	Vinton	75.74	43	P		P	14 03 15.4	-0.4
	baz=320							
D47A	Chapleau	75.74	35	P		P	14 03 15.2	-0.6
	baz=324							
I42A	Draeger Farm,	75.80	40	eP		P	14 03 15.4	-0.7
	comp=Z,26nm,0.8s							
I42A	Draeger Farm,	75.80	40	P		P	14 03 15.7	-0.5
	baz=322							
TLCR		75.85	322	⇑iP		P	14 03 17.2	+0.8
TLCR		75.85	322	P		P	14 03 17.1	+0.7
H43A	Windswept, Lux	75.85	39	eP		P	14 03 15.5	-0.9
	comp=Z,46nm,0.9s							
H43A	Windswept, Lux	75.85	39	P		P	14 03 16.1	-0.3
	baz=322							
HATD	Hatta, Dubai	75.86	291	iP		P	14 03 17.6	+0.9
	SNR=10							
HATD	Hatta, Dubai	75.86	291	P		P	14 03 17.5	+0.7
	SNR=5.5							
F45A	CMU Biological	75.86	37	P		P	14 03 16.6	+0.2
	baz=323							
KSP	Ksiaz	75.87	332	eP		P	14 03 17.1	+0.7
KSP	Ksiaz	75.87	332	eP		P	14 03 17.1	+0.7
TRPA	Tarpa	75.99	327	⇑iP		P	14 03 18.0	+0.9
TRPA	Tarpa	75.99	327	⇑iP		P	14 03 18.0	+0.9
BMR	Baia Mare	76.00	327	⇑iP		P	14 03 18.0	+0.8
ASHO	Ashiyiah	76.01	291	iP		P	14 03 18.4	+0.7
	SNR=6.9							
BZK	Bozkurt	76.03	317	⇑iP		P	14 03 18.4	+1.0
NAZ	Nazwa, Dubai	76.05	291	P		P	14 03 18.5	+0.7
PETR	Petresti	76.09	323	⇓iP		P	14 03 19.6	+1.9
AMTX	Amarillo	76.10	54	eP		P	14 03 18.2	+0.1
	comp=Z,75nm,0.9s							
AMTX	Amarillo	76.10	54	P		P	14 03 18.7	+0.6
	baz=317							
F46A	Macinaw City C	76.10	37	P		P	14 03 17.6	-0.2
	baz=324							
OKC	Ostrava-Krasne	76.12	331	eP		P	14 03 18.7	+0.9
OKC	Ostrava-Krasne	76.12	331	eP		P	14 03 18.7	+0.9
ODBI	Odobesti	76.13	323	⇓iP		P	14 03 20.4	+2.4
MSTX	Muleshoe	76.14	55	eP		P	14 03 18.1	-0.2
	comp=Z,58nm,1.1s							
MSTX	Muleshoe	76.14	55	P		P	14 03 18.4	0.0
	baz=317							
CFR	Carcaliu	76.15	322	⇑iP		P	14 03 18.3	+0.3
CFR	Carcaliu	76.15	322	P		P	14 03 18.4	+0.4
CFR				pmax	pmax			
	comp=Z,58nm,1.3s							
I43A	Langenfeld Bro	76.15	40	P		P	14 03 17.6	-0.5
	baz=322							
ARCR	ARCALIA	76.15	326	⇓iP		P	14 03 19.5	+1.4
J42A	Columbus	76.15	41	P		P	14 03 17.5	-0.6
	baz=322							
L40A	Anamosa	76.16	43	eP		P	14 03 17.2	-1.0
	comp=Z,29nm,0.9s							
L40A	Anamosa	76.16	43	P		P	14 03 17.5	-0.6
	baz=321							
VRI	Vrincioaia	76.19	324	⇑iP		P	14 03 19.1	+0.8
VRI	Vrincioaia	76.19	324	P		P	14 03 19.1	+0.8
PLOR	Plostina	76.23	324	⇓iP		P	14 03 19.4	+0.8
PLOR	Plostina	76.23	324	P		P	14 03 19.4	+0.8
LANS	Liptovska Anna	76.25	330	eP		P	14 03 20.5	+1.9
LANS	Liptovska Anna	76.25	330	eP		P	14 03 20.5	+1.9
D49A	Beulah Townshi	76.25	34	P		P	14 03 17.7	-0.9
	baz=326							
UPC	Upice	76.25	332	eP		P	14 03 19.0	+0.4
UPC	Upice	76.25	332	eP		P	14 03 19.0	+0.4
MNTX	Cornudas Mount	76.25	59	eP		P	14 03 19.1	+0.1
	comp=Z,29nm,1.0s							
MNTX	Cornudas Mount	76.25	59	P		P	14 03 19.4	+0.4
	baz=316							
FAQ	Al Faqa, Dubai	76.27	291	iP		P	14 03 19.3	+0.2
	SNR=12							
FAQ	Al Faqa, Dubai	76.27	291	P		P	14 03 19.3	+0.2
DPC	Dobruska-Polom	76.29	332	eP		P	14 03 19.4	+0.6
DPC	Dobruska-Polom	76.29	332	eP		P	14 03 19.4	+0.6
G45A	Suttons Bay	76.31	38	P		P	14 03 18.9	-0.1
	baz=323							
KRLC	Kraliky	76.37	332	eP		P	14 03 20.2	+0.9
KRLC	Kraliky	76.37	332	eP		P	14 03 20.2	+0.9
MORC	Moravsky Berou	76.38	331	eP		P	14 03 19.7	+0.3
	comp=Z,145nm,1.0s							
MORC	Moravsky Berou	76.38	331	⇓iP		P	14 03 20.0	+0.7
MORC	Moravsky Berou	76.38	331	eP		P	14 03 19.7	+0.3
MORC				pmax	pmax			
	comp=Z,145nm,1.0s							
MORC	Moravsky Berou	76.38	331	⇑iP		P	14 03 20.0	+0.7
KECS	Kecovo	76.45	329	eP		P	14 03 20.7	+1.0
KECS				pmax	pmax			
	comp=Z,194nm,0.9s							
KECS	Kecovo	76.45	329	eP		P	14 03 20.7	+1.0
BISRR	Bisoca	76.45	323	⇑iP		P	14 03 21.6	+1.7
K42A	Prairie Point,	76.47	41	P		P	14 03 19.2	-0.8
	baz=322							
CLL	Collm	76.49	334	eP		P	14 03 19.8	-0.1
	comp=Z,128nm,0.9s							
CLL	Collm	76.49	334	⇑iP		P	14 03 20.0	+0.1
CLL				pmax	pmax			
	comp=Z,155nm,1.0s							
CLL	Collm	76.49	334	⇑iP		P	14 03 20.0	+0.1
	comp=Z,155nm,1.0s							
ASUD	Al Ashush, Dub	76.52	291	iP		P	14 03 21.4	+0.8
	SNR=8.9							
ASUD	Al Ashush, Dub	76.52	291	P		P	14 03 21.3	+0.8
CHGQ	Chibougamau	76.53	28	P		P	14 03 19.8	-0.4
	baz=329							
BRG	Berggiesshubel	76.58	334	⇑iP		P	14 03 20.8	+0.3
	comp=Z,68nm,1.2s							
BRG				PP		PP	14 06 07.1	-6.2
	comp=Z,32nm,2.0s							
BRG	Berggiesshubel	76.58	334	⇑iP		P	14 03 20.8	+0.3
BRG				pmax	pmax			
	comp=Z,68nm,1.2s							
HARR	Harsova	76.63	322	⇓iP		P	14 03 21.8	+1.0
HARR	Harsova	76.63	322	P		P	14 03 21.7	+0.9
EKA	Eskdalemuir Ar	76.64	345	P		P	14 03 21.1	+0.4
	comp=Z,3.4nm,0.4s,baz=20,slow=5.1,SNR=24							
ALNE	Al Ain	76.64	291	iP		P	14 03 21.9	+0.7
	SNR=5.2							
DOPR	Dopca	76.65	324	⇓iP		P	14 03 22.0	+1.1
TLB	Topalu	76.66	322	⇑iP		P	14 03 21.6	+0.6
TLB	Topalu	76.66	322	P		P	14 03 21.6	+0.6
ESK	Eskdalemuir	76.67	345	eP		P	14 03 21.2	+0.4
	comp=Z,128nm,1.6s							
ESK	Eskdalemuir	76.67	345	iP		P	14 03 22.8	+2.0
PVCC	Panska Ves	76.69	333	eP		P	14 03 21.7	+0.7
PVCC	Panska Ves	76.69	333	eP		P	14 03 21.7	+0.7
CJR	Cluj-Napoca	76.75	326	⇑iP		P	14 03 22.5	+1.0
CJR	Cluj-Napoca	76.75	326	P		P	14 03 22.5	+1.0
CLZ	Clausthal	76.78	336	P		P	14 03 22.4	+0.8
CLZ				pmax	pmax			
	comp=Z,132nm,1.1s							
MLR	Muntele Rosu	76.81	324	eP		P	14 03 22.4	+0.4
	comp=Z,83nm,0.8s							
MLR	Muntele Rosu	76.81	324	⇑iP		P	14 03 22.8	+0.8
MLR	Muntele Rosu	76.81	324	eP		P	14 03 22.4	+0.4
MLR				pmax	pmax			
	comp=Z,83nm,0.8s							
MLR	Muntele Rosu	76.81	324	P		P	14 03 22.6	+0.6
	comp=Z,66nm,0.8s,baz=0.6,slow=3.3,SNR=76							
EFOR	EFORIE	76.81	321	⇑iP		P	14 03 23.2	+1.4
MFTR	Murfatlar	76.83	322	⇑iP		P	14 03 22.7	+0.8
LTVH	Ltavrtes, Hu	76.84	327	⇑iP		P	14 03 23.0	+1.1
ILGA	Ilgaz	76.87	316	eP		P	14 03 23.9	+1.4
	comp=Z,162nm,1.0s							
ISR	Istrita	76.87	323	⇓iP		P	14 03 23.6	+1.4
ISR	Istrita	76.87	323	P		P	14 03 23.7	+1.5
ISR				pmax	pmax			
	comp=Z,260nm,1.1s							
N40A	Mertquake, Sal	76.89	44	P		P	14 03 22.1	-0.2
	baz=321							
H46A	Fife Lake	76.91	38	P		P	14 03 22.7	+0.4
	baz=324							
K43A	Burlington	76.99	41	eP		P	14 03 22.3	-0.6
	comp=Z,47nm,1.1s							
VLDQ	Val d'Or	77.01	31	eP		P	14 03 21.3	-1.5
	comp=Z,66nm,1.1s							
M41A	Milan	77.01	43	P		P	14 03 22.4	-0.6
	baz=321							
VYHS	Vyhne	77.03	330	eP		P	14 03 24.0	+1.0
VYHS				pmax	pmax			
	comp=Z,52nm,1.0s							
VYHS	Vyhne	77.03	330	eP

comp=Z,33nm,1.1s
TREC Trest 77.47 332 eP P 14 03 26.3 +0.8
MOX Moxa 77.49 335 P P 14 03 26.0 +0.5
MOX pmax pmax
comp=Z,69nm,1.1s
SMOL Smolenice 77.50 331 eP P 14 03 27.7 +2.1
SMOL Smolenice 77.50 331 eP P 14 03 27.7 +2.1
E51A G1948 Merrick 77.58 33 P P 14 03 25.3 -0.8
baz=327
IDGL Inch Island, C 77.60 348 eP P 14 03 25.8 -0.2
NKC Novy Kostel 77.60 334 P P 14 03 26.8 +0.6
NKC pmax pmax
comp=Z,28nm,1.1s
NKC Novy Kostel 77.60 334 eP P 14 03 26.7 +0.6
D52A ZEK Kipawa Sen 77.61 32 P P 14 03 25.8 -0.5
baz=327
WTSB Winterswijk 77.63 338 eP P 14 03 26.5 +0.3
comp=Z,142nm,0.8s
MODS Modra-Piesok 77.67 331 eP P 14 03 26.9 +0.3
MODS pmax pmax
comp=Z,148nm,1.1s
MODS Modra-Piesok 77.67 331 eP P 14 03 26.9 +0.3
DEV Deva 77.71 326⇑iP P 14 03 27.7 +0.9
DEV Deva 77.71 326 P P 14 03 27.8 +0.9
DEV pmax pmax
comp=Z,89nm,1.1s
GOLR 77.75 324⇑iP P 14 03 28.4 +1.4
BUD Budapest 77.82 329 P P 14 03 28.8 +1.4
BUD pmax pmax
comp=Z,144nm,1.1s
WMOK Wichita Mounta 77.82 52 eP P 14 03 27.5 -0.2
comp=Z,30nm,0.9s
WMOK Wichita Mounta 77.82 52 eP P 14 03 27.5 -0.2
WMOK pmax pmax
comp=Z,31nm,0.9s
WMOK Wichita Mounta 77.82 52 P P 14 03 27.7 0.0
baz=318
SIRR Siria 77.87 327⇑iP P 14 03 28.3 +0.6
ZST Bratislava 77.88 331 eP P 14 03 28.4 +0.7
ZST Bratislava 77.88 331 eP P 14 03 28.4 +0.7
BR131 Keskin Array S 77.93 316 eP P 14 03 28.9 +0.6
comp=Z,52nm,0.9s
BR131 Keskin Array S 77.93 316 P P 14 03 29.1 +0.8
SNR=39
BRTR Keskin Array B 77.93 316 eP P 14 03 28.4 +0.1
BRTR Keskin Array B 77.93 316 P P 14 03 29.2 +0.8
comp=Z,36nm,0.9s,baz=69,slow=4.1,SNR=162
BRTR LR LR 14 42 29.0
comp=Z,41nm,18.2s,baz=54,slow=39
OK023 East Waterloo 77.97 51 eP P 14 03 28.6 +0.2
comp=Z,181nm,0.2s
BUG Bochum--Univer 77.98 338 P P 14 03 28.9 +0.7
BUG pmax pmax
comp=Z,111nm,1.1s
HUMR Humele 77.99 324⇑iP P 14 03 27.7 -0.7
N43A Stutzman Famil 77.99 42 P P 14 03 28.1 -0.3
baz=322
OK024 West corner E0 78.02 51 eP P 14 03 28.6 -0.2
comp=Z,94nm,0.3s
PRD Provadia 78.05 322 eP P 14 03 29.8 +1.1
STKA Stephens Creek 78.09 188 P P 14 03 29.8 +0.9
comp=Z,3.7nm,0.7s,baz=348,slow=5.5,SNR=8.6
STKA LR LR 14 39 26.1
comp=Z,74nm,19.7s,baz=23,slow=37
D54A Lac Fusel, La 78.11 31 P P 14 03 28.4 -0.6
baz=328
J47A Sunmer 78.12 38 eP P 14 03 29.0 -0.1
comp=Z,62nm,0.9s
J47A Sunmer 78.12 38 P P 14 03 29.3 +0.2
baz=324
K46A Dorr 78.15 39 P P 14 03 28.8 -0.4
baz=324
M44A Midewin, Midew 78.17 41 eP P 14 03 28.4 -1.0
comp=Z,51nm,1.0s
M44A Midewin, Midew 78.17 41 P P 14 03 29.0 -0.4
baz=322
GZR Gura Zlata 78.17 326⇑iP P 14 03 29.6 +0.2
CSKK Cskako 78.19 329 iP P 14 03 30.0 +0.6
KHC Kasperske Hory 78.23 333 eP P 14 03 30.1 +0.4
comp=Z,46nm,0.9s
KHC Kasperske Hory 78.23 333 eP P 14 03 30.1 +0.4
KHC pmax pmax
comp=Z,47nm,0.9s
KHC Kasperske Hory 78.23 333 eP P 14 03 30.5 +0.8
KHC ex x 14 03 45.5
ANTO Ankara 78.23 316 eP P 14 03 30.4 +0.6
comp=Z,94nm,0.9s
ANTO Ankara 78.23 316⇑iP P 14 03 31.5 +1.6
ANTO Ankara 78.23 316 eP P 14 03 30.5 +0.6
ANTO pmax pmax
comp=Z,94nm,0.9s
ANTO Ankara 78.23 316 P P 14 03 31.2 +1.3
SNR=18
HDIL Hopedale 78.24 43 eP P 14 03 29.1 -0.7
comp=Z,84nm,0.7s
HDIL Hopedale 78.24 43 P P 14 03 29.5 -0.3
baz=322
BZS Buzias 78.43 326⇑iP P 14 03 31.0 +0.2
WET Wettzell 78.43 334 P P 14 03 31.6 +0.8
WET pmax pmax
comp=Z,109nm,1.1s
GEC2 GERESS Array S 78.44 333 eP P 14 03 30.9 0.0
comp=Z,50nm,1.0s
GEC2 GERESS Array S 78.44 333 eP P 14 03 30.9 0.0
GEC2 pmax pmax
comp=Z,50nm,1.0s
GERES GERESS Array B 78.44 333 eP P 14 03 30.9 0.0
GERES GERESS Array B 78.44 333 P P 14 03 31.4 +0.4
comp=Z,26nm,0.8s,baz=34,slow=5.0,SNR=115
GRA1 Grafenberg Arr 78.45 335 eP P 14 03 31.0 +0.1
comp=Z,144nm,0.9s
GRF Grafenberg Arr 78.45 335 eP P 14 03 31.0 +0.1
GRF pmax pmax
comp=Z,144nm,0.9s
GRFO Grafenberg 78.45 335 eP P 14 03 31.0 +0.2
comp=Z,127nm,0.9s
GRFO Grafenberg 78.45 335 eP P 14 03 31.0 +0.2
GRFO pmax pmax
comp=Z,127nm,0.9s
SOP Sopron 78.51 331 P P 14 03 32.6 +1.4
SOP pmax pmax
comp=Z,22nm,1.2s
SOP Sopron 78.51 331⇑iP P 14 03 32.0 +0.9
MDUB Mudurnu 78.52 318 eP P 14 03 32.1 +0.6
comp=Z,355nm,0.9s
E54A Lac Daplat, Po 78.52 32 P P 14 03 30.4 -0.9
baz=328
CONA Conrad Observa 78.53 331 iP P 14 03 32.7 +1.3
comp=Z,99nm,1.1s,SNR=47
TUL1 Leonard 78.56 50 eP P 14 03 31.5 -0.1
comp=Z,52nm,1.3s
TUL1 Leonard 78.56 50 P P 14 03 31.6 0.0
baz=319
GRB1 Grafenberg Arr 78.59 334 P P 14 03 32.8 +1.2
GRB1 pmax pmax
comp=Z,138nm,1.1s
VLAD Vladila 78.67 324⇑iP P 14 03 33.6 +1.5
TIH Tihany 78.72 329 eP P 14 03 32.0 -0.3
HERR Herculane 78.73 326⇑iP P 14 03 32.5 0.0
TNS Taunus Mts 78.77 337 P P 14 03 33.3 +0.7
TNS pmax pmax
comp=Z,86nm,1.1s
K48A Perry 78.78 38 P P 14 03 32.6 -0.1
baz=324
N45A Kentland 78.84 41 P P 14 03 33.2 +0.1
baz=323
P43A Skaggs, Pawnee 78.85 43 P P 14 03 32.7 -0.5
baz=322
MZR Muzera 78.86 291 iP P 14 03 34.2 +0.7
SNR=8.1
MZR Muzera 78.86 291 P P 14 03 34.2 +0.7
SNR=6.6
ABTX Abilene, Hawle 78.91 54 eP P 14 03 33.7 0.0
comp=Z,36nm,1.0s
ABTX Abilene, Hawle 78.91 54 P P 14 03 33.9 +0.2
baz=318
Q42A Golden Eagle 78.93 44 P P 14 03 33.7 +0.1
baz=322
HGN Heimansgroeve 78.95 338 eP P 14 03 34.0 +0.5
comp=Z,138nm,1.0s
L47A Sherwood 78.97 39 P P 14 03 33.2 -0.6
baz=324
TX31 Lajitas Ar. Si 78.98 59 eP P 14 03 34.6 +0.4
comp=Z,52nm,1.0s
TXAR Lajitas Array 78.98 59 eP P 14 03 34.5 +0.3
TXAR Lajitas Array 78.98 59 eP P 14 03 34.5 +0.3
TXAR Lajitas Array 78.98 59 P P 14 03 34.7 +0.5
comp=Z,34nm,0.8s,baz=299,slow=4.2,SNR=336
TXAR pP pwP 14 04 04.0 -2.7
comp=Z,7.3nm,0.8s,baz=295,slow=4.5,SNR=4.3
GRC1 Grafenberg Arr 78.98 334 P P 14 03 34.7 +0.9
BEBN Eben Emael 78.98 339⇑P P 14 03 34.2 +0.5
comp=Z,15nm,1.1s
R41A Rosebud 78.99 45 P P 14 03 33.6 -0.4
baz=321
PUNG Punghina 79.03 325⇓iP P 14 03 34.3 +0.2
MORH Mrgy, Hungar 79.03 329⇑iP P 14 03 33.9 -0.2
MORH Mrgy, Hungar 79.03 329⇑iP P 14 03 34.0 0.0
MEM Membach 79.07 338 P P 14 03 34.9 +0.7
MEM pmax pmax
comp=Z,151nm,1.0s
MEM Membach 79.07 338⇑P P 14 03 34.6 +0.5
comp=Z,94nm,1.1s
G53A Haliburton 79.09 33 P P 14 03 34.1 -0.3
baz=327
MDVR Moldovita 79.09 326⇑iP P 14 03 34.4 -0.1
MOA Molln 79.13 332 iP P 14 03 35.6 +0.9
comp=Z,39nm,0.9s,SNR=13
SLBS Sierra La Lagu 79.14 67 eP P 14 03 35.8 +0.7
comp=Z,44nm,1.1s
PEMO Pembroke 79.14 32 P P 14 03 33.9 -0.8
baz=328
DSB Dublin 79.19 346 eP P 14 03 35.1 +0.3
O45A Potomac 79.22 42 P P 14 03 35.1 0.0
baz=323
ARSA Arzberg 79.24 331 iP P 14 03 36.2 +1.0
comp=Z,52nm,1.3s,SNR=19
CCM Cathedral Cave 79.25 45 eP P 14 03 35.0 -0.4
comp=Z,54nm,1.0s
CCM Cathedral Cave 79.25 45 eP P 14 03 35.0 -0.4
CCM pmax pmax
comp=Z,54nm,1.0s
CCM Cathedral Cave 79.25 45 P P 14 03 35.0 -0.4
baz=321
HHAR Hobbs 79.25 48 eP P 14 03 34.7 -0.7
comp=Z,31nm,0.9s
PHSR Pinarhisar 79.27 321⇑iP P 14 03 36.5 +1.1
FORT Forrest 79.33 200 eP P 14 03 36.2 +0.6
comp=Z,36nm,0.8s
L48A N Adams 79.34 39 P P 14 03 35.7 -0.1
baz=324
S41A Jillco Farms, 79.36 46 P P 14 03 35.4 -0.6
baz=321
SFIN Lafayette 79.40 41 eP P 14 03 35.5 -0.6
comp=Z,83nm,1.4s
SFIN Lafayette 79.40 41 P P 14 03 35.8 -0.4
baz=323
BCLA Clavier 79.42 339⇑P P 14 03 36.7 +0.6
comp=Z,65nm,1.4s
BANO Bancroft 79.44 33 P P 14 03 36.1 -0.2
baz=328
IGLA Glengowla, Co 79.48 348 eP P 14 03 36.4 +0.1
BEHE Becsehely 79.48 330⇑iP P 14 03 37.1 +0.5
BEHE Becsehely 79.48 330⇑iP P 14 03 37.0 +0.5
FRGS Fruska Gora 79.50 327⇑iP P 14 03 36.9 +0.2
HPIG 79.50 62 eP P 14 03 37.1 -0.2
comp=Z,31nm,0.9s
BEO Beograd 79.55 327 P P 14 03 36.6 -0.3
SNF Seneffe 79.60 339⇑P P 14 03 37.6 +0.6
comp=Z,64nm,1.4s
N47A Urbana 79.64 40 P P 14 03 37.2 -0.2
baz=324
TRQ Mont Tremblant 79.65 30 eP P 14 03 36.8 -0.7
KOGS Kog 79.68 330 iP P 14 03 37.9 +0.3
KTD Kalmit 79.69 336 P P 14 03 38.8 +1.2
G55A Calabogie 79.70 32 P P 14 03 36.8 -0.9
baz=328
FVM French Village 79.71 45 eP P 14 03 37.5 -0.4
comp=Z,43nm,1.1s
FVM French Village 79.71 45 eP P 14 03 37.5 -0.4
FVM pmax pmax
comp=Z,43nm,1.1s
PLVO Plevna 79.75 33 P P 14 03 37.5 -0.5
baz=328
U40A Yellville 79.75 48 P P 14 03 37.8 -0.4
baz=321
P45A Graceland, Par 79.78 42 eP P 14 03 37.8 -0.4
comp=Z,38nm,0.8s
P45A Graceland, Par 79.78 42 P P 14 03 38.0 -0.3
baz=323
X37A Clayton 79.78 50 eP P 14 03 38.2 -0.2
comp=Z,19nm,1.0s
FUR Furstenfeldbru 79.79 334 P P 14 03 39.2 +1.0
FUR pmax pmax
comp=Z,48nm,1.1s
GIVF Givet 79.84 339 eP P 14 03 38.6 +0.2
GIVF pmax pmax
comp=Z,87nm,1.2s
STU Stuttgart 79.87 336 eP P 14 03 38.6 0.0
comp=Z,85nm,1.1s
STU Stuttgart 79.87 336 eP P 14 03 38.6 0.0
STU pmax pmax
comp=Z,85nm,1.1s
WLF Walferdange 79.90 338 eP P 14 03 39.2 +0.5
comp=Z,171nm,1.0s
WLF Walferdange 79.90 338 eP P 14 03 39.2 +0.5
WLF pmax pmax
comp=Z,171nm,1.0s
WLF Walferdange 79.90 338⇑P P 14 03 39.8 +1.1
SOKA Soboth 79.90 331 iP P 14 03 39.6 +0.7
comp=Z,96nm,1.1s,SNR=44
DOU Dourbes 79.90 339 P P 14 03 39.0 +0.3
DOU pmax pmax
comp=Z,57nm,1.5s
DOU Dourbes 79.90 339⇑P P 14 03 39.1 +0.5
comp=Z,38nm,1.5s
PERS Pernice 79.91 331 iP P 14 03 39.5 +0.6
M49A Liberty Center 79.92 39 P P 14 03 39.0 +0.1
baz=325
N48A Decatur 79.95 40 P P 14 03 38.7 -0.4
baz=324
P46A Rosedale 79.96 42 P P 14 03 39.1 -0.1
baz=323
ORIO Orleans, Innes 79.97 31 P P 14 03 38.3 -0.9
baz=329
BAIF Baives 80.03 339 eP P 14 03 39.8 +0.4
BAIF pmax pmax
comp=Z,85nm,1.3s
ALFO Alfred 80.05 31 P P 14 03 38.8 -0.7
baz=330
LANF Langenberg 80.07 336 P P 14 03 40.6 +0.9
Q45A Warren Harvey, 80.09 43 P P 14 03 39.9 -0.1
baz=323
IWEX Carrickbyrne, 80.10 346 iP P 14 03 40.3 +0.6
PLD Plovdiv 80.10 323 P P 14 03 40.3 +0.4
PLD pmax pmax
comp=Z,6.0nm,1.0s
KBA Koelnbreinsper 80.11 332 iP P 14 03 41.3 +1.2
comp=Z,145nm,1.4s,SNR=54
KBA Koelnbreinsper 80.11 332 P P 14 03 41.0 +0.9
KBA pmax pmax
comp=Z,98nm,0.9s
H55A Tweed 80.12 33 P P 14 03 39.2 -0.8
baz=328
W39A Magazine 80.16 49 eP P 14 03 39.6 -0.8
comp=Z,40nm,1.1s
W39A Magazine 80.16 49 P P 14 03 40.1 -0.2
baz=320
KDZ Kurdzhali 80.17 322 eP P 14 03 45.5 +5.2
OBKA Obir 80.21 331 iP P 14 03 41.1 +0.5
comp=Z,28nm,0.9s,SNR=8.9
U41A Viola 80.24 47 P P 14 03 40.1 -0.6
baz=321
OLIL Olney 80.24 43 eP P 14 03 40.2 -0.6
comp=Z,39nm,0.9s
N49A Columbus Grove 80.28 39 eP P 14 03 40.5 -0.4
comp=Z,42nm,1.0s
N49A Columbus Grove 80.28 39 P P 14 03 40.7 -0.2
baz=325
VTS Vitosha 80.29 324 eP P 14 03 41.6 +0.5
comp=Z,146nm,1.0s
VTS Vitosha 80.29 324⇑iP P 14 03 42.0 +0.9
VTS Vitosha 80.29 324 eP P 14 03 42.3 +1.2
TYNO Tyneside 80.30 35 P P 14 03 40.9 0.0
baz=327
DIVS Divibare 80.33 327⇑iP P 14 03 41.2 -0.1
O48A Farmland 80.38 40 P P 14 03 40.8 -0.7
baz=324
MYKA Terra Mystica 80.41 332 iP P 14 03 41.9 +0.3
comp=Z,43nm,1.5s,SNR=12
JCT Junction City 80.41 56 eP P 14 03 41.6 -0.2
comp=Z,59nm,1.0s
JCT Junction City 80.41 56 eP P 14 03 41.6 -0.2
JCT pmax pmax
comp=Z,59nm,1.0s
JCT Junction City 80.41 56 P P 14 03 41.8 0.0
baz=318
RZN Rozhen 80.44 322 eP P 14 03 43.1 +1.1
WATA Walderalm 80.44 333 iPcP P 14 03 43.6 +1.7
comp=Z,103nm,1.2s,SNR=8.6
WTTA Wattenberg 80.49 333 iP P 14 03 43.3 +1.2
comp=Z,98nm,1.0s,SNR=25
CRES Cresnjev 80.50 330⇑iP P 14 03 42.1 +0.1
P47A Martinsville 80.50 41 P P 14 03 41.9 -0.2
baz=324
R45A Skylar, Fairfi 80.51 43 P P 14 03 42.0 -0.2
baz=323
S44A Carbondale 80.51 44 P P 14 03 42.1 -0.1
baz=322
ALN Alexandroupoli 80.51 321 eP P 14 03 42.5 +0.4
comp=Z,57nm,1.2s
ALN Alexandroupoli 80.51 321 P P 14 03 42.7 +0.6
ALN pmax pmax
comp=Z,44nm,1.3s
SIUC Southern Illin 80.51 44 eP P 14 03 41.8 -0.4
comp=Z,97nm,1.1s
BFO Black Forest 80.52 336 eP P 14 03 42.3 +0.2
comp=Z,60nm,1.0s
BFO Black Forest 80.52 336 iP P 14 03 42.9 +0.8
RETA Reutte 80.56 334 iP P 14 03 43.2 +0.8
comp=Z,67nm,1.2s,SNR=16
MOTA Moosalm 80.58 334 iP P 14 03 43.5 +0.8
comp=Z,95nm,1.0s,SNR=25
WHTX Lake Whitney, 80.61 53 eP P 14 03 42.4 -0.4
comp=Z,73nm,0.9s
WHTX Lake Whitney, 80.61 53 P P 14 03 42.9 +0.1
baz=319
LJU Ljubljana 80.62 331⇑iP P 14 03 42.3 -0.4
J54A Appleton 80.64 34 eP P 14 03 41.8 -1.0
comp=Z,42nm,0.9s
PBMO Poplar Bluff 80.65 46 eP P 14 03 42.7 -0.3
comp=Z,183nm,1.7s
SQTA Sankt Quirin 80.66 334 iP P 14 03 43.9 +0.9
comp=Z,84nm,1.1s,SNR=21
ABTA Abfaltersbach 80.67 333 iP P 14 03 43.2 +0.2
comp=Z,29nm,1.0s,SNR=9.4
BALB Balikesir 80.71 319 eP P 14 03 43.2 0.0
comp=Z,292nm,1.1s
PECO Prince Edward 80.72 33 P P 14 03 42.8 -0.4
baz=328
CDF Champ du Feu 80.74 337 eP P 14 03 43.5 +0.2
CDF pmax pmax
comp=Z,94nm,1.2s
HAPS Han Pijesak,Bl 80.74 327 eP P 14 03 42.8 -0.7
BBLS Lazići 80.75 327⇑iP P 14 03 44.0 +0.5
MIAR Mount Ida 80.77 49 eP P 14 03 43.6 -0.1
comp=Z,59nm,1.0s
MIAR Mount Ida 80.77 49 eP P 14 03 43.6 -0.1
MIAR pmax pmax
comp=Z,59nm,1.0s
MIAR Mount Ida 80.77 49 P P 14 03 43.8 +0.1
baz=321
MEDO Medina 80.81 34 P P 14 03 43.5 -0.2
baz=328
O49A Covington 80.81 40 P P 14 03 43.4 -0.3
baz=325
BLY Banja Luka 80.82 329 eP P 14 03 43.4 -0.3
comp=Z,12nm,1.0s
BLY Banja Luka 80.82 329⇓iP P 14 03 43.9 +0.2
BLY Banja Luka 80.82 329⇑iP P 14 03 43.4 -0.3
BOJS Bojanci 80.85 330 iP P 14 03 43.9 0.0
S45A Carrier Mills 80.85 44 P P 14 03 44.0 0.0
baz=323
N50A Nevada 80.85 39 P P 14 03 44.0 0.0
baz=325
Q47A Bedord North L 80.87 42 P P 14 03 44.2 +0.1
baz=324
WHAR Wooly Hollow 80.87 48 eP P 14 03 43.6 -0.5
comp=Z,75nm,1.0s
P48A Milroy 80.90 41 P P 14 03 43.7 -0.5
baz=324
CEY Cerknica 80.92 331 iP P 14 03 44.2 -0.1
CEY Cerknica 80.92 331⇑iP P 14 03 44.0 -0.3
MMB Musomiste 80.93 323 eP P 14 03 45.4 +0.9
R46A Gibon Southern 80.94 43 P P 14 03 44.5 +0.1
baz=323
ECH Echery 80.95 337 eP P 14 03 44.4 0.0
comp=Z,76nm,1.2s
ECH Echery 80.95 337 eP P 14 03 44.4 0.0
ECH pmax pmax
comp=Z,76nm,1.2s
KKB Krupnik 80.97 323 eP P 14 03 45.6 +1.0
W41B Gary Mavity, V 80.98 48 eP P 14 03 44.1 -0.6
comp=Z,52nm,0.9s
W41B Gary Mavity, V 80.98 48 P P 14 03 44.5 -0.3
baz=321
SLE Schleitheim 80.98 336 P P 14 03 44.7 +0.1
SLE pmax pmax
comp=Z,28nm,0.9s
FETA Feichten 80.98 334 iP P 14 03 45.6 +0.9
comp=Z,44nm,1.1s,SNR=14
M52A Chesterland 80.98 37 eP P 14 03 44.4 -0.2
comp=Z,61nm,0.9s
M52A Chesterland 80.98 37 P P 14 03 44.9 +0.2
baz=326
DAVA Damuels 81.00 334 iP P 14 03 45.7 +0.8
comp=Z,58nm,1.1s,SNR=12
LONY Lake Ozonia 81.02 31 eP P 14 03 43.8 -1.0
comp=Z,22nm,1.3s
USIN University of 81.06 43 eP P 14 03 45.1 0.0
comp=Z,57nm,0.8s
N51A Ashland 81.06 38 eP P 14 03 43.9 -1.2
comp=Z,54nm,1.0s
N51A Ashland 81.06 38 P P 14 03 44.7 -0.4
baz=326
ERPA Erie 81.07 36 P P 14 03 45.1 0.0
baz=327
L53A Girard 81.10 36 P P 14 03 45.4 +0.1
baz=327
MGRS Mrkonjic Grad 81.14 329⇑iP P 14 03 46.2 +0.7
O50A Cable 81.16 39 P P 14 03 45.3 -0.3
baz=325
P49A Miami Univ. Ec 81.17 40 P P 14 03 45.4 -0.3
baz=324
Q48A North Vernon 81.19 41 P P 14 03 45.7 -0.1
baz=324
X40A Basin Creek Fa 81.20 49 eP P 14 03 45.4 -0.6
comp=Z,40nm,1.1s
X40A Basin Creek Fa 81.20 49 P P 14 03 45.7 -0.2
baz=321
MOQ Mont Orford 81.24 29 eP P 14 03 45.3 -0.7
L54A Sinclairville 81.25 35 P P 14 03 45.9 -0.2
baz=327
S46A Don Dixon Farm 81.26 43 P P 14 03 46.1 -0.1
baz=323
EZN Ezine 81.26 320⇑iP P 14 03 46.4 +0.3
EZN Ezine 81.26 320 P P 14 03 46.3 +0.2
RIY Rijeka 81.27 331⇑iP P 14 03 45.4 -0.7
MOF Molkenrain 81.29 336 P P 14 03 46.9 +0.6
MORW Morawa 81.31 211 eP P 14 03 46.7 +0.4
comp=Z,34nm,1.5s
MANT Manisa 81.33 318 eP P 14 03 46.7 -0.1
comp=Z,367nm,1.5s
K55A Perry 81.33 34 P P 14 03 46.1 -0.4
baz=328
R47A Wooly Knot Far 81.33 42 P P 14 03 46.5 -0.1
baz=324
M53A WI Miller and 81.35 37 P P 14 03 46.7 +0.1
baz=326
HAU Haudompre 81.36 337 eP P 14 03 46.7 +0.1
HAU pmax pmax
comp=Z,7.0nm,0.2s
ACSO Alum Creek Sta 81.37 39 eP P 14 03 46.4 -0.3
comp=Z,53nm,1.0s
ACSO Alum Creek Sta 81.37 39 P P 14 03 46.6 -0.2
baz=325
SRS Serrai 81.38 323 P P 14 03 47.3 +0.5
SRS pmax pmax
comp=Z,60nm,1.3s
MMNY Mt. Morris Dam 81.39 34 eP P 14 03 46.1 -0.6
comp=Z,48nm,1.0s
HINF Hinteralfeld 81.39 337 eP P 14 03 46.6 -0.2
HINF pmax pmax
comp=Z,35nm,1.3s
ALLY Alegheny Colle 81.40 36 eP P 14 03 46.4 -0.4
comp=Z,63nm,0.9s
N52A McGinn's Farm, 81.45 38 P P 14 03 46.8 -0.3
baz=326
DAVOX Davos/Dischmat 81.46 334 P P 14 03 47.9 +0.6

comp=Z,29nm,1.0s,baz=12,slow=4.1,SNR=16
FUORN **Ofenpass-Fuorn** 81.48 334 eP P 14 03 47.9 +0.3
comp=Z,78nm,1.2s
STIP **Stip** 81.49 324 i P P 14 03 46.8 -0.5
WCI **Wyandotte Cave** 81.50 42 eP P 14 03 47.4 0.0
comp=Z,52nm,1.0s
WCI **Wyandotte Cave** 81.50 42 eP P 14 03 47.4 0.0
WCI pmax pmax
comp=Z,52nm,1.0s
WCI **Wyandotte Cave** 81.50 42 P P 14 03 47.5 +0.1
baz=324
UPM **Unac-Piva** 81.51 327 eP P 14 03 45.2 -2.4
Q49A **Aurora** 81.51 41 P P 14 03 47.4 -0.1
baz=324
P50A **Jamestown** 81.52 40 P P 14 03 47.3 -0.2
baz=325
R48A **Northridge Ran** 81.56 42 P P 14 03 47.8 +0.1
baz=324
SKO **Skopje** 81.56 325 i P P 14 03 48.7 +1.0
O51A **Pataskala** 81.60 39 P P 14 03 47.6 -0.3
baz=326
KNT **Kendrikon** 81.64 323 P P 14 03 48.7 +0.6
KNT pmax pmax
comp=Z,51nm,1.4s
VAY **Valandovo** 81.64 323 i P P 14 03 48.9 +0.8
VAY **Valandovo** 81.64 323 P P 14 03 50.1 +2.0
L55A **Hinsdale** 81.64 35 P P 14 03 47.8 -0.4
baz=328
DMTO **DMTO** 81.65 287 P P 14 03 48.7 +0.2
WLAR **White Oak Lake** 81.67 49 eP P 14 03 48.6 +0.2
comp=Z,75nm,0.9s
T46A **Princeton** 81.69 44 P P 14 03 48.9 +0.5
baz=323
M54A **Oil Creek Stat** 81.71 36 eP P 14 03 48.3 -0.2
comp=Z,49nm,1.0s
M54A **Oil Creek Stat** 81.71 36 P P 14 03 48.4 -0.2
baz=327
NCB **Newcomb** 81.71 31 eP P 14 03 47.9 -0.7
comp=Z,26nm,1.3s
N53A **Lisbon** 81.81 37 eP P 14 03 48.9 -0.2
comp=Z,60nm,1.0s
N53A **Lisbon** 81.81 37 P P 14 03 49.0 0.0
baz=326
LOMF **Lomont** 81.83 336 P P 14 03 50.3 +1.2
PMOR **Pomariorio Rede** 81.84 121 eT T 15 33 41.7
comp=Z,18nm,0.2s
TUE **Stuetta** 81.89 334 eP P 14 03 49.5 -0.2
comp=Z,87nm,1.3s
H06N1 **SOCORRO T-PHAS** 81.90 71 T T 15 35 40.0
SNR=21
BRY **Bratogost** 81.91 327 eP P 14 03 49.0 -0.7
VT1 **Waterbury** 81.92 30 eP P 14 03 49.0 -0.5
comp=Z,39nm,1.3s
P51A **Williamsport** 81.95 39 eP P 14 03 49.3 -0.4
comp=Z,50nm,1.0s
P51A **Williamsport** 81.95 39 P P 14 03 49.2 -0.6
baz=325
O52A **Adamsville** 81.96 38 eP P 14 03 49.6 -0.3
comp=Z,57nm,1.0s
O52A **Adamsville** 81.96 38 P P 14 03 49.5 -0.3
baz=326
R49A **Shelbyville** 81.97 41 P P 14 03 50.0 +0.1
baz=324
PDG **Podgorica** 82.03 326⇑ i P P 14 03 50.3 +0.2
PDG **Podgorica** 82.03 326⇑ i P P 14 03 50.0 -0.2
TTG **Podgorica** 82.03 326 eP P 14 03 49.9 -0.2
comp=Z,131nm,1.5s
TTG **Podgorica** 82.03 326 eP P 14 03 49.9 -0.2
TTG pmax pmax
comp=Z,131nm,1.5s
N54A **Moraine State** 82.04 37 eP P 14 03 50.1 -0.1
comp=Z,81nm,1.1s
N54A **Moraine State** 82.04 37 P P 14 03 50.2 -0.1
baz=327
Q50A **Georgetown** 82.06 40 P P 14 03 50.3 -0.1
baz=325
S48A **Wiedeman Farm,** 82.07 42 P P 14 03 50.5 +0.1
baz=324
T47A **Sharon Grove** 82.11 43 eP P 14 03 50.7 +0.1
comp=Z,56nm,1.1s
T47A **Sharon Grove** 82.11 43 P P 14 03 50.7 +0.1
baz=324
M55A **Ridgway** 82.11 35 P P 14 03 50.7 +0.1
baz=328
O53A **New Philadelph** 82.11 38 P P 14 03 50.4 -0.3
baz=326
TREB **Trebinje** 82.13 327 eP P 14 03 50.1 -0.6
Q51A **Peebles** 82.19 40 eP P 14 03 50.8 -0.3
comp=Z,62nm,1.0s
Q51A **Peebles** 82.19 40 P P 14 03 51.0 -0.1
baz=325
P52A **Corning** 82.23 39 P P 14 03 50.8 -0.5
baz=326
833A **Chaparral WMA,** 82.25 57 P P 14 03 52.1 +0.6
baz=319
STON **Ston** 82.25 327⇑ i P P 14 03 49.8 -1.4
PKME **Peaks-Kenny Pk** 82.26 28 P P 14 03 51.7 +0.4
baz=333
DRME **Dracevica, Mon** 82.27 326⇑ i P P 14 03 51.4 0.0
LBNH **Lisbon** 82.29 30 P P 14 03 51.9 +0.4
baz=331
HCY **Herceg Novi** 82.31 327 eP P 14 03 50.9 -0.7
S49A **Springfield** 82.32 42 P P 14 03 51.8 +0.1
baz=324
NATX **Nacogdoches** 82.33 52 eP P 14 03 52.4 +0.6
comp=Z,139nm,0.9s
NATX **Nacogdoches** 82.33 52 P P 14 03 52.6 +0.8
baz=320
FLN **La Foliniere** 82.34 342 eP P 14 03 51.6 0.0
FLN pmax pmax
comp=Z,38nm,0.8s
T48A **Bowling Green** 82.35 43 P P 14 03 51.8 -0.1
baz=324
ETX06 **Route 59 and C** 82.36 51 eP P 14 03 52.4 +0.4
comp=Z,84nm,1.1s
R50A **Paris** 82.36 41 P P 14 03 52.0 +0.1
baz=325
CLF **Chambon-Foret** 82.40 340 eP P 14 03 52.4 +0.5
comp=Z,230nm,1.5s
BIA **Bitola** 82.41 324 i P P 14 03 53.3 +1.1
LDF **La Druitiere** 82.42 341 eP P 14 03 52.0 -0.1
LDF pmax pmax
comp=Z,28nm,0.8s
ACCN **Adirondack Com** 82.42 31 eP P 14 03 52.1 -0.1
comp=Z,45nm,1.3s
WVT **Waverly** 82.44 44 eP P 14 03 52.3 -0.1
comp=Z,30nm,0.9s
WVT **Waverly** 82.44 44 eP P 14 03 52.3 -0.1
WVT pmax pmax
comp=Z,30nm,0.9s
WVT **Waverly** 82.44 44 P P 14 03 52.5 0.0
baz=323
U47A **Clarksville** 82.46 44 P P 14 03 52.6 +0.1
baz=323
O54A **Avella** 82.53 37 P P 14 03 52.9 +0.1
baz=327
OHR **Ohrid** 82.54 325 i P P 14 03 53.3 +0.4
V46A **Holladay** 82.56 45 P P 14 03 52.9 -0.1
baz=323
FNA **Florina** 82.58 324 eP P 14 03 52.7 -0.4
comp=Z,34nm,0.8s
FNA **Florina** 82.58 324 eP P 14 03 52.7 -0.4
FNA pmax pmax
comp=Z,34nm,0.8s
N55A **Marion Center** 82.60 36 eP P 14 03 52.9 -0.3
comp=Z,38nm,1.0s
N55A **Marion Center** 82.60 36 P P 14 03 53.2 0.0
baz=328
P53A **Whipple** 82.67 38 eP P 14 03 53.1 -0.4
comp=Z,25nm,1.0s
P53A **Whipple** 82.67 38 P P 14 03 53.4 -0.1
baz=326
R51A **Hillsboro** 82.68 40 P P 14 03 53.7 +0.1
baz=325
LOR **Lormes** 82.70 338 eP P 14 03 53.4 -0.2
LOR pmax pmax
comp=Z,75nm,1.1s
CABF **La Chapelle** 82.71 337 eP P 14 03 53.8 +0.1
CABF pmax pmax
comp=Z,17nm,1.0s
TIR **Tirane** 82.71 325 P P 14 03 55.5 +1.8
TIR pmax pmax
comp=Z,62nm,0.9s
Q52A **Bidwell** 82.72 39 P P 14 03 53.5 -0.3
baz=326
T49A **Edmonton** 82.76 42 eP P 14 03 53.9 -0.2
comp=Z,73nm,1.6s
T49A **Edmonton** 82.76 42 P P 14 03 54.2 +0.1
baz=324
U48A **Cassie Pea, Po** 82.76 43 P P 14 03 54.0 -0.1
baz=324
GRR **Gorron** 82.78 342 eP P 14 03 54.1 +0.2
GRR pmax pmax
comp=Z,77nm,0.8s
S50A **Richmond** 82.82 41 P P 14 03 54.2 -0.1
baz=325
V47A **Nunnelly** 82.83 44 P P 14 03 54.4 -0.1
baz=323
PPT **Papeete** 82.88 124 LR LR 14 30 50.6
comp=Z,82nm,21.9s,baz=310,slow=28
PPT2 **Papeete2** 82.90 124 eLR LR 14 29 12.7
comp=Z,396nm,36.2s
OXF **Oxford** 82.94 46 eP P 14 03 54.8 -0.2
comp=Z,66nm,1.0s
OXF **Oxford** 82.94 46 eP P 14 03 54.8 -0.2
OXF pmax pmax
comp=Z,66nm,1.0s
OXF **Oxford** 82.94 46 P P 14 03 54.9 -0.1
baz=322
O55A **Ligonier** 82.95 37 P P 14 03 55.0 0.0
baz=327
P54A **Burton** 82.97 38 P P 14 03 55.2 +0.1
baz=327
SSF **Saint Saulge** 82.98 338 eP P 14 03 54.9 -0.1
SSF pmax pmax
comp=Z,52nm,1.3s
HKT **Hockley** 83.06 54 eP P 14 03 55.8 +0.2
comp=Z,24nm,1.4s
HKT **Hockley** 83.06 54 eP P 14 03 55.8 +0.2
HKT pmax pmax
comp=Z,24nm,1.4s
R52A **Catlettsburg** 83.07 40 P P 14 03 55.3 -0.3
baz=326
U49A **Red Boiling Sp** 83.12 43 P P 14 03 56.0 +0.1
baz=324
Q53A **Leroy** 83.13 39 P P 14 03 56.1 +0.2
baz=326
T50A **Nancy** 83.15 42 P P 14 03 56.2 +0.1
baz=325
SSPA **Standing Stone** 83.17 35 eP P 14 03 55.9 -0.2
comp=Z,22nm,0.9s
SSPA **Standing Stone** 83.17 35 P P 14 03 56.0 -0.1
baz=328
MCWV **Mont Chateau** 83.19 37 eP P 14 03 56.4 +0.2
comp=Z,13nm,0.8s
MCWV **Mont Chateau** 83.19 37 P P 14 03 56.4 +0.2
baz=327
CLTN **Cedars of Leba** 83.20 43 eP P 14 03 56.4 +0.1
comp=Z,25nm,0.9s
O56A **Blue Knob Stat** 83.20 36 eP P 14 03 56.0 -0.3
comp=Z,74nm,1.5s
O56A **Blue Knob Stat** 83.20 36 P P 14 03 56.3 0.0
baz=328
KSPA **Keystone Colle** 83.22 34 eP P 14 03 55.9 -0.4
comp=Z,18nm,1.0s
S51A **Beattyville** 83.22 41 eP P 14 03 56.1 -0.2
comp=Z,28nm,0.9s
S51A **Beattyville** 83.22 41 P P 14 03 56.2 -0.2
baz=325
PLAL **Pickwick Lake** 83.24 45 eP P 14 03 56.0 -0.5
comp=Z,21nm,0.8s
V48A **Smith Brothers** 83.24 44 eP P 14 03 56.1 -0.4
comp=Z,27nm,0.9s
V48A **Smith Brothers** 83.24 44 P P 14 03 56.4 -0.1
baz=324
W47A **Westpoint** 83.26 45 P P 14 03 56.6 -0.1
baz=323
SGMF **Saint Gilles** 83.27 343 eP P 14 03 56.7 +0.3
SGMF pmax pmax
comp=Z,57nm,1.1s
AVF **Avril sur Loir** 83.27 338 eP P 14 03 56.9 +0.4
AVF pmax pmax
comp=Z,163nm,1.5s
SMF **Signal de Mont** 83.28 338 eP P 14 03 56.6 0.0
SMF pmax pmax
comp=Z,212nm,1.3s
P55A **Reedsville** 83.32 37 P P 14 03 57.2 +0.3
baz=327
X46A **Booneville** 83.32 46 P P 14 03 56.8 -0.2
baz=323
Q54A **Coxs Mills** 83.33 38 eP P 14 03 56.5 -0.5
comp=Z,36nm,1.1s
Q54A **Coxs Mills** 83.33 38 P P 14 03 57.1 +0.2
baz=327
ROSF **Rostrenen** 83.33 343 eP P 14 03 58.1 +1.3
ROSF pmax pmax
comp=Z,94nm,1.0s
ARG **Arkhangelos** 83.36 317 P P 14 03 57.2 +0.1
ARG pmax pmax
comp=Z,99nm,1.4s
R53A **Hurricane** 83.39 39 P P 14 03 57.3 +0.1
baz=326
LPL **La Plagne** 83.53 336 eP P 14 03 58.8 +0.7
LPL pmax pmax
comp=Z,63nm,1.0s
LPG **La Plagne** 83.54 336 eP P 14 03 58.9 +0.6
LPG pmax pmax
comp=Z,82nm,1.1s
T51A **Gray** 83.61 41 P P 14 03 58.3 -0.1
baz=325
BGF **Bois d'Agland** 83.62 339 eP P 14 03 58.7 +0.4
BGF pmax pmax
comp=Z,46nm,1.1s
U50A **Jamestown** 83.64 42 P P 14 03 58.7 +0.1
baz=325
Q55A **Buckhannon** 83.64 38 P P 14 03 58.8 +0.2
baz=327
AGG **Agios Georgios** 83.66 322 P P 14 03 57.9 -0.8
AGG pmax pmax
comp=Z,31nm,0.8s
V49A **McMinnville** 83.67 43 P P 14 03 58.6 -0.1
baz=324
W48A **Pulaski** 83.67 44 P P 14 03 58.7 0.0
baz=324
QUIF **Quistinic** 83.71 343 eP P 14 03 58.8 +0.1
QUIF pmax pmax
comp=Z,45nm,1.2s
X47A **Russelville** 83.72 45 P P 14 03 58.5 -0.5
baz=323
N59A **State Game Lan** 83.77 34 eP P 14 03 59.0 -0.2
comp=Z,43nm,1.1s
N59A **State Game Lan** 83.77 34 P P 14 03 59.1 0.0
baz=329
APE **Apeiranthos** 83.87 319⇑ i P P 14 03 57.7 -2.1
R54A **Victor** 83.93 39 P P 14 04 00.1 +0.1
baz=327
T52A **Hallie** 83.93 41 eP P 14 03 59.7 -0.4
comp=Z,68nm,1.4s
T52A **Hallie** 83.93 41 P P 14 04 00.3 +0.2
baz=326
HRV **Adam Dziewonsk** 83.94 30 eP P 14 03 59.8 -0.2
comp=Z,34nm,1.0s
HRV **Adam Dziewonsk** 83.94 30 eP P 14 03 59.8 -0.2
HRV pmax pmax
comp=Z,34nm,1.0s
HRV **Adam Dziewonsk** 83.94 30 P P 14 03 59.9 -0.1
baz=332
BNI **Bardonecchia** 83.97 336 eP P 14 04 00.7 +0.4
comp=Z,27nm,1.0s
BNI **Bardonecchia** 83.97 336 P P 14 04 00.7 +0.4
BNI pmax pmax
comp=Z,27nm,1.0s
PAGS **Pennsylvania G** 83.98 35 eP P 14 03 59.6 -0.6
comp=Z,39nm,1.1s
W49A **Belvidere** 84.01 44 P P 14 04 00.3 -0.2
baz=324
TCF **Toulx Ste Croi** 84.03 339 eP P 14 04 01.7 +1.3
TCF pmax pmax
comp=Z,28nm,0.9s
U51A **La Follette** 84.06 42 P P 14 04 00.5 -0.2
baz=325
IGT **Igoumenitsa** 84.07 324 P P 14 04 00.9 +0.2
SWET **Sewanee** 84.09 44 eP P 14 04 00.3 -0.7
comp=Z,57nm,0.9s
O59A **Robesonia** 84.12 34 P P 14 04 00.8 -0.2
baz=329
V50A **Pikevile** 84.12 43 P P 14 04 00.9 -0.2
baz=325
WES **Weston** 84.13 30 eP P 14 04 00.6 -0.4
comp=Z,41nm,1.0s
WES **Weston** 84.13 30 eP P 14 04 00.6 -0.4
WES pmax pmax
comp=Z,41nm,1.0s
TZTN **Tazewell** 84.14 41 eP P 14 04 00.7 -0.4
comp=Z,44nm,1.1s
TZTN **Tazewell** 84.14 41 P P 14 04 01.2 +0.1
baz=325
X48A **Hartselle** 84.17 45 eP P 14 04 00.2 -1.1
comp=Z,17nm,0.8s
X48A **Hartselle** 84.17 45 P P 14 04 00.7 -0.6
baz=324
LUPA **Lehigh Univers** 84.19 34 eP P 14 04 00.6 -0.8
comp=Z,4.6nm,1.5s
R55A **Marlinton** 84.22 38 eP P 14 04 01.5 -0.1
comp=Z,51nm,1.0s
R55A **Marlinton** 84.22 38 P P 14 04 01.7 +0.1
baz=327
T53A **Wise** 84.24 40 P P 14 04 01.7 0.0
baz=326
MBDF **Montbardon** 84.24 335 eP P 14 04 02.2 +0.5
MBDF pmax pmax
comp=Z,25nm,0.9s
AQU **L'Aquila** 84.25 330 eP P 14 04 02.5 +0.8
comp=Z,105nm,1.4s
AQU **L'Aquila** 84.25 330 P P 14 04 02.5 +0.8
AQU pmax pmax
comp=Z,105nm,1.4s
AQU **L'Aquila** 84.25 330⇑ i P P 14 04 01.9 +0.2
MFF **Saint Martin d** 84.30 341 eP P 14 04 03.1 +1.4
MFF pmax pmax
comp=Z,41nm,0.9s
Q57A **Strasburg** 84.31 37 P P 14 04 02.0 +0.1
baz=328
ORIF **Oris-en-Rattie** 84.32 336 eP P 14 04 03.3 +1.3
ORIF pmax pmax
comp=Z,63nm,0.8s
MVL **Millersville** 84.33 35 eP P 14 04 01.7 -0.2
comp=Z,24nm,1.0s
U52A **Thorn Hill** 84.34 41 P P 14 04 02.4 +0.2
baz=325
SSB **Saint Sauveur** 84.36 337 eP P 14 04 02.6 +0.5
comp=Z,92nm,1.4s
SSB **Saint Sauveur** 84.36 337 P P 14 04 02.6 +0.5
SSB pmax pmax
comp=Z,91nm,1.4s
KARP **Karpathos** 84.36 317 eP P 14 04 01.5 -0.8
comp=Z,89nm,0.7s
V51A **Loudon** 84.37 42 eP P 14 04 01.8 -0.5
comp=Z,38nm,0.9s
V51A **Loudon** 84.37 42 P P 14 04 02.3 0.0
baz=325
PAL **Palisades** 84.40 33 P P 14 04 02.2 -0.1
baz=330
W50A **Signal Mountai** 84.41 43 eP P 14 04 02.0 -0.5
comp=Z,31nm,0.9s
W50A **Signal Mountai** 84.41 43 P P 14 04 02.4 -0.1
baz=324
O60A **Telford** 84.42 34 P P 14 04 02.3 -0.1
baz=330
NWAO **Narrogin (SRO)** 84.44 208 eP P 14 04 01.9 -0.4
comp=Z,33nm,1.0s
NWAO **Narrogin (SRO)** 84.44 208 eP P 14 04 01.9 -0.4
NWAO pmax pmax
comp=Z,33nm,1.0s
X49A **Woodville** 84.47 44 P P 14 04 02.7 -0.1
baz=324
S55A **Lewisburg** 84.48 39 P P 14 04 02.7 -0.1
baz=327
Y48A **Jasper** 84.54 45 P P 14 04 02.5 -0.6
baz=324
MATE **Matera** 84.54 327⇑ i P P 14 04 02.3 -0.7
CPCT **Cooper Cave** 84.58 43 eP P 14 04 03.1 -0.2
comp=Z,38nm,0.9s
T54A **Tazewell** 84.60 40 P P 14 04 03.7 +0.2
baz=326
P59A **Jarrettsville** 84.63 35 P P 14 04 03.3 -0.2
baz=329
SDMD **Soldier's Deli** 84.63 35 eP P 14 04 03.1 -0.4
comp=Z,15nm,1.0s
SAOF **Saorge** 84.68 335 eP P 14 04 04.7 +0.9
SAOF pmax pmax
comp=Z,30nm,1.7s
V52A **Sevierville** 84.69 42 eP P 14 04 03.8 -0.2
comp=Z,46nm,1.0s
V52A **Sevierville** 84.69 42 P P 14 04 04.1 +0.2
baz=325
W51A **Cleveland** 84.70 43 P P 14 04 03.8 -0.1
baz=325
VIVF **Saint-Julien-l** 84.71 337 eP P 14 04 04.6 +0.7
VIVF pmax pmax
comp=Z,46nm,1.5s
U53A **Fall Branch** 84.73 41 P P 14 04 04.1 0.0
baz=326
LNIG **Linares** 84.77 59 eP P 14 04 03.4 -1.0
comp=Z,19nm,0.9s
P60A **Greenville** 84.77 34 P P 14 04 03.8 -0.4
baz=330
SBF **Sospel** 84.83 335 eP P 14 04 05.6 +1.0
SBF pmax pmax
comp=Z,66nm,1.0s
X50B **Fort Payne** 84.84 44 P P 14 04 04.3 -0.4
baz=324
R57A **Stanardsville** 84.89 37 P P 14 04 05.1 +0.2
baz=328
T55A **Pulaski** 84.91 39 P P 14 04 05.2 +0.2
baz=327
U54A **Nelsons Funny** 84.94 40 eP P 14 04 05.0 -0.2
comp=Z,32nm,0.9s
U54A **Nelsons Funny** 84.94 40 P P 14 04 05.3 0.0
baz=326
Y49A **Blount Mountai** 84.96 45 eP P 14 04 04.7 -0.6
comp=Z,21nm,0.8s
Y49A **Blount Mountai** 84.96 45 P P 14 04 05.0 -0.3
baz=324
BLA **Blacksburg** 84.99 39 eP P 14 04 05.1 -0.3
comp=Z,46nm,0.9s
BLA **Blacksburg** 84.99 39 eP P 14 04 05.1 -0.3
BLA pmax pmax
comp=Z,46nm,0.9s
BLA **Blacksburg** 84.99 39 P P 14 04 05.4 0.0
baz=327
R58A **Rapidan** 85.10 37 P P 14 04 05.8 -0.1
baz=328
RJF **Les Rejaudoux** 85.12 339 eP P 14 04 06.5 +0.6
RJF pmax pmax
comp=Z,24nm,0.8s
X51A **Calhoun** 85.14 43 eP P 14 04 05.8 -0.4
comp=Z,92nm,1.8s
X51A **Calhoun** 85.14 43 P P 14 04 06.0 -0.1
baz=325
W52A **Murphy** 85.15 42 eP P 14 04 05.8 -0.4
comp=Z,20nm,1.0s
W52A **Murphy** 85.15 42 P P 14 04 06.2 0.0
baz=325
S57A **Dark Hollow, R** 85.16 38 eP P 14 04 06.0 -0.2
comp=Z,43nm,1.3s
S57A **Dark Hollow, R** 85.16 38 P P 14 04 06.4 +0.2
baz=328
V53A **Saluda** 85.19 41 eP P 14 04 06.0 -0.5
comp=Z,33nm,1.3s
V53A **Saluda** 85.19 41 P P 14 04 06.6 +0.1
baz=326
Y50A **Piedmont** 85.26 44 P P 14 04 06.6 -0.1
baz=324
U55A **TA2, Sparta** 85.30 40 P P 14 04 07.0 -0.1
baz=327
T56A **Rocky Mt** 85.31 39 P P 14 04 06.8 -0.2
baz=327
LRAL **Lakeview Retre** 85.33 46 eP P 14 04 06.7 -0.5
comp=Z,18nm,1.1s
LRAL **Lakeview Retre** 85.33 46 P P 14 04 06.8 -0.3
baz=324
CAF **Calviac** 85.34 339 eP P 14 04 08.0 +1.0
CAF pmax pmax
comp=Z,34nm,0.8s
ITM **Ithomi** 85.38 322 eP P 14 04 06.5 -0.8
comp=Z,67nm,0.8s
Z49A **Columbiana** 85.43 45 P P 14 04 07.5 -0.2
baz=324
R58B **Mineral** 85.44 37 eP P 14 04 07.3 -0.2
comp=Z,50nm,1.4s
R58B **Mineral** 85.44 37 P P 14 04 07.9 +0.3
baz=328
W53A **Cullowhee** 85.44 42 P P 14 04 08.2 +0.4
baz=326
V54A **Nebo** 85.50 41 P P 14 04 08.1 +0.1
baz=326
PGF **Pioggiola** 85.54 333 eP P 14 04 08.0 -0.2
PGF pmax pmax
comp=Z,46nm,1.2s
X52A **Dahlonega** 85.56 43 P P 14 04 08.4 +0.1
baz=325

Y51A	Rockmart	85.58	44	P	P	14 04 08.1	-0.3
	baz=325						
LMR	La Mourre	85.59	335	eP	P	14 04 08.5	+0.3
LMR				pmax	pmax		
	comp=Z,65nm,1.2s						
IDI	Anoyia	85.63	319	P	P	14 04 07.4	-1.3
	comp=Z,43nm,1.1s,baz=27,slow=11,SNR=12						
LFF	La Frestale	85.66	339	eP	P	14 04 09.2	+0.7
LFF				pmax	pmax		
	comp=Z,30nm,0.8s						
S58A	Poland Farm, P	85.66	37	eP	P	14 04 08.5	-0.2
	comp=Z,15nm,0.9s						
S58A	Poland Farm, P	85.66	37	P	P	14 04 08.7	0.0
	baz=328						
T57A	Hurt	85.67	38	eP	P	14 04 08.7	0.0
	comp=Z,22nm,0.9s						
T57A	Hurt	85.67	38	P	P	14 04 08.8	0.0
	baz=328						
Z50A	Ashland	85.69	45	eP	P	14 04 08.6	-0.3
	comp=Z,74nm,0.9s						
Z50A	Ashland	85.69	45	P	P	14 04 08.9	-0.1
	baz=324						
BG3	Lake Jocassee	85.69	42	eP	P	14 04 09.1	+0.1
	comp=Z,63nm,1.0s						
U56A	King	85.73	39	P	P	14 04 09.2	+0.1
	baz=327						
V55A	Taylorsville	85.77	40	P	P	14 04 09.2	-0.1
	baz=327						
149A	Jones	85.78	46	P	P	14 04 09.6	+0.2
	baz=324						
TIP	Timpagrande	85.79	326	eP	P	14 04 09.4	0.0
	comp=Z,26nm,0.8s						
TIP	Timpagrande	85.79	326	ⅈP	P	14 04 09.6	+0.2
X53A	Estanollee	85.92	42	P	P	14 04 10.7	+0.6
	baz=326						
W54A	Cherokee Point	85.96	41	P	P	14 04 10.3	0.0
	baz=326						
Z51A	Franklin	86.00	44	P	P	14 04 10.2	-0.3
	baz=325						
T58A	Grand View Acr	86.03	38	P	P	14 04 10.5	0.0
	baz=328						
Y52A	Lilburn	86.09	43	eP	P	14 04 10.9	0.0
	comp=Z,25nm,0.9s						
Y52A	Lilburn	86.09	43	P	P	14 04 11.2	+0.3
	baz=325						
U57A	Blanch	86.11	39	P	P	14 04 11.1	+0.2
	baz=328						
249A	Camden	86.12	46	P	P	14 04 11.7	+0.7
	baz=324						
V56A	Mocksville	86.12	40	eP	P	14 04 11.0	-0.1
	comp=Z,38nm,1.0s						
V56A	Mocksville	86.12	40	P	P	14 04 11.2	+0.2
	baz=327						
150A	Eclectic	86.16	45	P	P	14 04 11.2	-0.1
	baz=324						
KMSC	Kings Mountain	86.31	41	eP	P	14 04 11.8	-0.1
	comp=Z,36nm,0.9s						
KMSC	Kings Mountain	86.31	41	P	P	14 04 12.1	+0.2
	baz=327						
X54A	Belton	86.32	42	P	P	14 04 12.4	+0.4
	baz=326						
Y53A	Monroe	86.32	43	P	P	14 04 12.2	+0.2
	baz=325						
PAULI	Pauline	86.35	41	eP	P	14 04 12.1	-0.1
	comp=Z,31nm,0.9s						
V57A	Coltrane Farms	86.38	39	P	P	14 04 12.2	-0.1
	baz=327						
T59A	Double "B" Far	86.42	37	eP	P	14 04 12.5	+0.1
	comp=Z,38nm,1.2s						
T59A	Double "B" Far	86.42	37	P	P	14 04 12.6	+0.2
	baz=329						
Z52A	Williamson	86.47	44	P	P	14 04 13.1	+0.4
	baz=325						
U58A	Oxford	86.48	38	P	P	14 04 13.0	+0.2
	baz=328						
250A	Grady	86.54	46	eP	P	14 04 13.2	+0.1
	comp=Z,306nm,1.7s						
250A	Grady	86.54	46	P	P	14 04 13.6	+0.5
	baz=324						
151A	Opelika	86.57	45	P	P	14 04 12.8	-0.4
	baz=325						
349A	Repton	86.58	47	P	P	14 04 14.2	+0.9
	baz=324						
HODGE	Hodges	86.64	42	eP	P	14 04 13.6	0.0
	comp=Z,43nm,1.0s						
W56A	Indian Trail	86.65	40	P	P	14 04 13.4	-0.2
	baz=327						
X55A	Gracelyn & Ava	86.73	41	P	P	14 04 14.3	+0.3
	baz=326						
Y54A	Tignall	86.74	42	P	P	14 04 14.7	+0.6
	baz=326						
GOGA	Godfrey	86.74	43	eP	P	14 04 14.0	-0.1
	comp=Z,74nm,1.8s						
GOGA	Godfrey	86.74	43	eP	P	14 04 14.0	-0.1
GOGA				pmax	pmax		
	comp=Z,74nm,1.8s						
GOGA	Godfrey	86.74	43	P	P	14 04 14.3	+0.2
	baz=326						
V58A	Windy Hill, Pi	86.75	39	P	P	14 04 13.9	-0.1
	baz=328						
152A	Waverly Hall	86.75	44	eP	P	14 04 13.6	-0.5
	comp=Z,19nm,0.9s						
152A	Waverly Hall	86.75	44	P	P	14 04 13.9	-0.3
	baz=325						
MTLF	Montolieu	86.78	338	eP	P	14 04 15.2	+1.1
MTLF				pmax	pmax		
	comp=Z,21nm,1.0s						
Z53A	Monticello	86.80	43	P	P	14 04 14.5	+0.2
	baz=326						
U59A	Littleton	86.84	38	eP	P	14 04 14.4	-0.1
	comp=Z,44nm,1.2s						
U59A	Littleton	86.84	38	P	P	14 04 15.1	+0.6
	baz=328						
251A	Midway	86.88	45	P	P	14 04 14.8	+0.1
	baz=325						
W57A	Gilead	86.90	40	eP	P	14 04 14.6	-0.2
	comp=Z,47nm,1.0s						
W57A	Gilead	86.90	40	P	P	14 04 14.8	0.0
	baz=327						
X56A	White Oak	86.98	41	P	P	14 04 15.4	+0.2
	baz=327						
U60A	Pendleton	87.01	37	P	P	14 04 15.5	+0.2
	baz=329						
449A	Pace	87.05	47	P	P	14 04 16.6	+1.0
	baz=324						
Y55A	Saluda	87.06	42	P	P	14 04 16.0	+0.3
	baz=326						
BIRD	Birdtown, Kers	87.11	40	eP	P	14 04 15.6	-0.2
	comp=Z,39nm,1.0s						
V59A	Middlesex	87.15	38	P	P	14 04 16.2	+0.2
	baz=328						
Z54A	Sparta	87.18	43	P	P	14 04 16.7	+0.4
	baz=326						
W58A	Raeford	87.34	39	P	P	14 04 17.4	+0.4
	baz=328						
Z55A	Blythe	87.53	42	P	P	14 04 18.6	+0.7
	baz=326						
TBI	Tubuai	87.54	128	eT	T	15 40 59.6	
	comp=Z,12nm,0.2s						
EPF	Esparros	87.55	339	eP	P	14 04 19.2	+1.3
EPF				pmax	pmax		
	comp=Z,13nm,0.9s						
154A	Montrose	87.57	43	eP	P	14 04 16.8	-1.3
	comp=Z,150nm,1.1s						
154A	Montrose	87.57	43	P	P	14 04 18.6	+0.5
	baz=326						
155A	Kite	87.87	43	P	P	14 04 20.0	+0.5
	baz=326						
ETSF	Etsaut	87.89	340	eP	P	14 04 19.1	-0.4
ETSF				pmax	pmax		
	comp=Z,22nm,1.0s						
451A	Vernon	87.91	46	eP	P	14 04 18.9	-0.8
	comp=Z,148nm,1.2s						
451A	Vernon	87.91	46	P	P	14 04 20.5	+0.8
	baz=324						
452A	Marianna	88.00	46	P	P	14 04 20.9	+0.8
	baz=325						
254A	Abbeville	88.03	44	P	P	14 04 20.9	+0.7
	baz=326						
353A	Camilla	88.07	45	P	P	14 04 21.2	+0.7
	baz=325						
Z57A	Bowman	88.13	41	P	P	14 04 21.1	+0.4
	baz=327						
TIGA	Tifton	88.30	44	eP	P	14 04 21.8	+0.2
	comp=Z,118nm,1.1s						
TIGA	Tifton	88.30	44	P	P	14 04 22.4	+0.9
	baz=326						
255A	Hazlehurst	88.44	43	eP	P	14 04 22.2	0.0
	comp=Z,116nm,1.2s						
255A	Hazlehurst	88.44	43	P	P	14 04 23.0	+0.8
	baz=326						
157A	Early Branch	88.51	42	P	P	14 04 23.5	+1.0
	baz=327						
455A	Stateville	89.15	44	P	P	14 04 26.4	+0.9
	baz=326						
555A	McAlpin	89.69	45	P	P	14 04 29.0	+0.9
	baz=326						
556A	Lake Butler	90.06	44	P	P	14 04 30.9	+1.1
	baz=326						
PBRG	Braganca	90.29	344	eP	P	14 04 31.0	+0.2
	comp=Z,38nm,2.0s						
POLO	Lamas de Olo	90.91	344	eP	P	14 04 33.0	-0.7
	comp=Z,24nm,2.1s						
OXZ	Oxford	90.95	165	eP	P	14 04 33.5	+0.2
	comp=Z,32nm,1.0s						
MVO	Moncorvo	90.97	344	eP	P	14 04 32.3	-1.6
KEST	Kesra	91.58	330	eP	P	14 04 36.7	-0.2
	comp=Z,38nm,1.0s						
KEST	Kesra	91.58	330	P	P	14 04 37.0	+0.1
	comp=Z,33nm,1.0s,baz=293,slow=2.2,SNR=11						
ESDC	Sonseca Array	91.75	341	eP	P	14 04 36.2	-1.4
ESDC	Sonseca Array	91.75	341	P	P	14 04 37.7	+0.1
	comp=Z,1.9nm,0.6s,baz=11,slow=4.2,SNR=10.0						
ESDC				LR	LR	14 51 16.0	
	comp=Z,39nm,18.2s,baz=20,slow=39						
MTE	Manteigas	91.81	344	eP	P	14 04 37.4	-0.4
PNCL	Nicolau / Gran	94.21	344	eP	P	14 04 44.7	-4.1
	comp=Z,37nm,1.4s						
TORD	Torodi Ar. Bea	114.94	327	PKP	PKiKP	14 10 09.8	-0.8
	comp=Z,1.9nm,0.8s,baz=353,slow=5.5,SNR=9.3						
ATAH	Atahualpa	122.44	64	PKP	PKPdf	14 10 25.5	0.0
	comp=Z,6.8nm,0.8s,baz=38,slow=10,SNR=3.9						
DBIC	Dimbokro	123.28	331	ePKPdf	PKPdf	14 10 26.4	-0.3
DBIC	Dimbokro	123.28	331	PKP	PKPdf	14 10 26.2	-0.4
	comp=Z,12nm,0.8s,baz=5,9,slow=0.2,SNR=6.8						
VNDA	Vanda	123.52	177	ePKPdf	PKPdf	14 10 25.1	0.0
VNDA	Vanda	123.52	177	ePKIKP	PKPdf	14 10 25.1	0.0
VNDA	Vanda	123.52	177	PKP	PKPdf	14 10 25.3	+0.2
	comp=Z,4.5nm,0.8s,baz=320,slow=4.4,SNR=30						
VNDA				PKKPbc	PKKPbc	14 20 14.6	-0.5
	comp=Z,1.3nm,0.8s,baz=212,slow=3.2,SNR=6.9						
LSZ	Lusaka	123.62	284	ePKPdf	PKiKP	14 10 27.8	+0.2
SBA	Scott Base	124.05	176	ePKPdf	PKiKP	14 10 26.6	+0.2
SBA	Scott Base	124.05	176	ePKIKP	PKiKP	14 10 26.6	+0.2
NNA	Nana	127.13	66	PKP	PKPdf	14 10 33.7	-0.3
	comp=Z,12nm,0.9s,baz=307,slow=5.0,SNR=3.7						
PTGA	Pitinga	127.20	40	ePKPdf	PKPdf	14 10 33.7	-0.4
PTGA	Pitinga	127.20	40	PKP	PKPdf	14 10 34.3	+0.1
	comp=Z,8.1nm,0.7s,baz=356,slow=2.4,SNR=13						
MAW	Mawson	130.96	210	PKP	PKiKP	14 10 40.3	-0.1
	comp=Z,3.7nm,0.6s,baz=69,slow=3.5,SNR=11						
LBTB	Lobatse	132.01	277	ePKPdf	PKPdf	14 10 43.0	0.0
LBTB	Lobatse	132.01	277	ePKIKP	PKPdf	14 10 43.0	0.0
BOSA	Boshof	134.51	273	PKIKP	PKPdf	14 10 41.0	-6.6
BOSA	Boshof	134.51	273	PKhKP	PKPpre	14 10 41.0	
	comp=Z,1.5nm,0.6s,baz=81,slow=4.9,SNR=3.5						
BOSA				PKP	PKiKP	14 10 48.9	-0.1
	comp=Z,2.6nm,0.7s,baz=349,slow=0.4,SNR=5.0						
LPAZ	La Paz	135.83	61	ePKPdf	PKPdf	14 10 50.8	-0.2
LPAZ	La Paz	135.83	61	ePKIKP	PKPdf	14 10 50.8	-0.2
QSPA	South Pole Qui	135.83	180	ePKPdf	PKPdf	14 10 49.3	+0.5
SIV	San Ignacio	139.70	53	PKhKP	PKPpre	14 10 48.5	
	comp=Z,2.8nm,0.9s,baz=300,slow=3.2,SNR=8.5						
SIV				PKP	PKPdf	14 10 57.7	+0.3
	comp=Z,7.0nm,1.0s,baz=336,slow=1.7,SNR=14						
GO04	Tololo Observa	143.82	79	ePKPpre	PKPpre	14 11 01.8	
BDFB	Brasilia	145.65	34	ePKPdf	PKPdf	14 11 08.1	0.0
BDFB	Brasilia	145.65	34	PKPbc	PKPbc	14 11 08.7	+0.2
	comp=Z,28nm,0.7s,baz=312,slow=3.1,SNR=39						
PEL	Peldehue	145.65	83	ePKPdf	PKPdf	14 11 07.6	+0.1
PEL	Peldehue	145.65	83	ePKP2	PKPdf	14 11 07.6	+0.1
CFA	Coronel Fontan	146.43	78	PKPbc	PKPdf	14 11 09.4	+0.5
	comp=Z,47nm,1.0s,baz=302,slow=2.6,SNR=40						
GO06	Curarrehue	148.36	94	ePKPbc	PKPbc	14 11 15.4	-0.1
PLCA	Paso Flores	149.48	95	PKP	PKPdf	14 11 13.3	-0.3
	comp=Z,8.2nm,0.9s,baz=271,slow=3.6,SNR=6.9						
PLCA				PKPbc	PKPbc	14 11 18.6	+0.4
	comp=Z,26nm,0.7s,baz=298,slow=2.5,SNR=66						
CPUP	Villa Florida	149.95	59	PKP	PKPdf	14 11 14.8	0.0
	comp=Z,10nm,1.2s,baz=329,slow=2.3,SNR=24						
CPUP				PKPbc	PKPbc	14 11 19.6	-0.1
	comp=Z,29nm,0.9s,baz=328,slow=3.7,SNR=44						
GO09	Cerro Castillo	151.14	116	ePKPbc	PKPbc	14 11 21.6	-0.2
SNAA	Sanae	151.55	197	PKiKP	PKPbc	14 11 22.0	-0.2
SNAA	Sanae	151.55	197	ePKPbc	PKPbc	14 11 21.8	-0.4
SNAA	Sanae	151.55	197	ePKIKP	PKPbc	14 11 21.8	-0.4
SPB	Sao Paulo	152.98	40	ePKPbc	PKPbc	14 11 26.5	-0.2
VNA2	Neumayer--Watz	153.03	195	PKiKP	PKiKP	14 11 25.8	+0.2
VNA3	Neumayer Olymp	153.15	194	PKiKP	PKPbc	14 11 25.7	-0.1
VNA1	Neumayer--Stat	153.42	195	PKiKP	PKiKP	14 11 26.5	+0.2

ISK 15 14:01:05.6, 36°.41N×33°.95E, h5km, ML1.3/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLFK	Silifke-Mersin	0.01	181	PG	Pg	14 01 06.8	+0.2
SLFK				SG	Sg	14 01 07.7	+0.4
SILI	Silifke-Mersin	0.04	206	PG	Pg	14 01 07.3	+0.5
SILI				SG	Sg	14 01 08.5	+0.8
KIZK	Mersin	0.18	65	PG	Pg	14 01 09.8	+0.7
KEBE	Keben-Mersin	0.19	283	PG	Pg	14 01 10.0	+0.6
IKL	Isikli	0.27	232	PG	Pg	14 01 11.2	+0.4
AKKU	Akkuyu-Mersin	0.40	233	PG	Pg	14 01 14.1	+0.7
TEVE	Tevekalti-Mers	0.41	274	PG	Pg	14 01 14.1	+0.6
BERE	Bereket-Mersin	0.59	265	PG	Pg	14 01 17.5	+0.6

*IDC **15** 14:05:59.1±2.7, 8°.16S×117°.83E, h0km, mb3.3/2, mb1 3.8/4, mb1mx3.5/49, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=221.2km s-min=25.7km az=52.0*
*ISCJB **15** 14:06:11.9±0.4, 8°.83S±0°.08×117°.64E±0°.03, h119km±6km, mb3.2/2, Error ellipse: s-maj=12.5km s-min=5.3km az=6.2*
*DJA **15** 14:06:13.1±0.2, 9°S±4°×11°8E±°, h107km±4km, M4.2/18, mB4.9/2, mb4.2/9, MLv4.2/18, Mw(mB)4.2/2*

ISC 15 14:06:12.2±0.8, 8°.97S±0°.08×117°.65E±0°.06, h115km±9km, n25, σ1°99/29, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.19	41	P	Pn	14 06 28.6	+0.4
PLAI				S	Sn	14 06 39.7	-0.4
IGBI	Denpasar	2.48	273	P	Pn	14 06 52.6	+1.0
IGBI				S	Sn	14 07 23.0	+1.2
SRBI	Singaraja	2.57	290	P	Pn	14 06 52.9	+0.2
SRBI				S	Sn	14 07 23.0	-0.8
WSI	Waingapu	2.70	105	P	Pn	14 06 57.6	+3.2
WSI				S	Sn	14 07 38.6	+12
BASI	Baing, Sumba	3.14	114	P	Pn	14 07 03.9	+3.7
JAGI	Jajag, Banyuwa	3.50	278	P	Pn	14 07 04.7	-0.2
BSSI	Bau Bau, Buton	3.98	45	P	Pn	14 07 10.9	-0.5
KMMI	Kalianget	4.12	297	P	Pn	14 07 13.8	+0.6
GMJI	Gumukmas	4.22	279	P	Pn	14 07 14.3	-0.3
BKSI	Bulukumba	4.38	34	P	Pn	14 07 15.8	-0.9
MMRI	Maumere	4.54	86	P	Pn	14 07 19.6	+0.6
BNSI	Bone	5.15	28	P	Pn	14 07 26.0	-1.2
GRJI	Gresik	5.52	291	P	Pn	14 07 32.3	+0.2
PWJI	Pagerwojo	5.86	279	P	Pn	14 07 37.5	+0.7
BATI	Baumata	6.05	102	P	Pn	14 07 40.4	+1.0
PCJI	Pacitan	6.45	276	P	Pn	14 07 43.9	-0.8
SOEI	Soe	6.57	97	P	Pn	14 07 47.3	+0.8
	32nm,0.8s						
WOJI	Wonogiri, Jawa	6.75	279	P	Pn	14 07 49.9	+1.1
UGM	Wanagama	7.13	278	P	Pn	14 07 55.1	+1.1
SANI	Sanana	10.77	51	P	Pn	14 08 43.5	+0.2
FITZ	Fitzroy Crossi	11.94	140	Pn	Pn	14 08 59.4	+0.6
	0.2nm,0.3s,baz=338,slow=13,SNR=2.6						
FITZ				Sn	Sn	14 11 04.5	-5.7
	0.7nm,0.3s,baz=173,slow=22,SNR=8.8						
WRA	Warramunga Arr	19.47	126	P	P	14 10 31.9	+1.7
	0.3nm,0.3s,baz=310,slow=12,SNR=22						
ASAR	Alice Springs	21.34	135	P	P	14 10 52.2	+1.9
	0.3nm,0.5s,baz=308,slow=9.4,SNR=10.0						
WHN	Wuhan	39.41	356	P	P	14 13 34.6	+3.6
MKAR	Makanchi Array	63.83	334	P	P	14 16 29.1	-3.3
	0.4nm,0.5s,baz=147,slow=7.2,SNR=4.0						

*ISCJB **15** 14:11:43.6±0.5, 5°.05S±0°.06×153°.16E±0°.07, h43km, mb4.1/16, MS3.4/2, Error ellipse: s-maj=10.8km s-min=7.6km az=26.2*

*IDC **15** 14:11:48.7±3.1, 5°.04S×153°.02E, h72km±28km, mb3.8/11, mb1 3.9/14, mb1mx3.7/40, mbtmp4.2/14, MS3.3/2, Ms1 3.4/2, ms1mx2.8/27, Error ellipse: s-maj=20.6km s-min=18.8km az=160.0*
*NEIC **15** 14:11:48.3±0.6, 5°.01S×152°.97E, h68km±6km, mb4.3/9, Error ellipse: s-maj=7.0km s-min=5.6km az=94.0*

ISC 15 14:11:46.1±0.6, 5°.01S±0°.06×153°.05E±0°.08, h43km, n35, σ1°36/35, mb4.1/16, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.20	313	ePn	Pn	14 12 07.8	+1.5
RABL				eSn	Sn	14 12 25.0	+3.6
PMG	Port Moresby	7.29	233	P	Pn	14 13 32.2	+2.0
	1.4nm,0.3s,baz=39,slow=12,SNR=6.1						
PMG				S	Sn	14 14 54.0	+2.3
	6.6nm,0.3s,baz=126,slow=7.7,SNR=8.6						
HNR	Honiara	8.13	123	P	Pn	14 13 45.6	+4.0
	6.3nm,0.3s,baz=195,slow=2.9,SNR=3.7						
CTA	Charters Tower	16.38	203	P	P	14 15 34.4	-1.1
	0.1nm,0.3s,baz=19,slow=8.8,SNR=6.2						
CTAO	Charters Tower	16.38	203	ePn	Pn	14 15 32.8	-0.3
	6.3nm,1.0s						
KWAJ	Kwajalein Atol	19.98	47	eP	P	14 16 15.5	+0.6
	725nm,1.3s						
DZM	Mont Dzumac	21.36	144	eP	P	14 16 29.4	-0.5
	12nm,0.8s						
DZM	Mont Dzumac	21.36	144	P	P	14 16 28.8	-1.2
	8.3nm,0.6s,baz=306,slow=13,SNR=31						
WR1	Warramunga Arr	23.49	229	eP	P	14 16 51.5	-0.7
WRA	Warramunga Arr	23.49	229	P	P	14 16 51.5	-0.8
	3.1nm,0.7s,baz=50,slow=10,0,SNR=11						
AS31	Alice Springs	26.16	223	eP	P	14 17 16.0	-0.6
	1.4nm,1.0s						
ASAR	Alice Springs	26.16	223	P	P	14 17 16.1	-0.6
	1.7nm,0.5s,baz=58,slow=8.9,SNR=24						
STKA	Stephens Creek	28.81	201	P	P	14 17 39.7	-0.5
	1.4nm,0.6s,baz=25,slow=14,SNR=3.8						
FITZ	Fitzroy Crossi	29.78	242	eP	P	14 17 47.9	-1.0
	46nm,1.6s						
FITZ	Fitzroy Crossi	29.78	242	P	P	14 17 48.1	-0.8
	7.7nm,0.7s,baz=70,slow=6,9,SNR=13						
CM31	Chiang Mai Arr	58.19	295	eP	P	14 21 35.2	-1.1
	14nm,1.4s						
CMAR	Chiang Mai Arr	58.19	295	LR	LR	14 47 03.4	
	comp=Z,20nm,19.2s,baz=178,slow=36						
SONA0	Songino Array	66.63	328	eP	P	14 22 32.5	+0.2
SONM	Songino Array	66.63	328	P	P	14 22 32.5	+0.2
	0.4nm,0.4s,baz=152,slow=6.5,SNR=2.2						
VNDA	Vanda	72.62	178	eP	P	14 23 08.0	-0.6
VNDA	Vanda	72.62	178	P	P	14 23 08.6	0.0
	0.6nm,0.7s,baz=329,slow=6.2,SNR=4.5						
MK31	Makanchi Array	80.64	319	eP	P	14 23 53.9	-0.6
	2.6nm,1.0s						
MK32	Makanchi Array	80.64	319	eP	P	14 23 54.1	-0.4
MKAR	Makanchi Array	80.64	319	eP	P	14 23 53.3	-1.2
MKAR	Makanchi Array	80.64	319	P	P	14 23 54.1	-0.4
	2.1nm,0.8s,baz=101,slow=6.3,SNR=13						
MAKZ	Makanchi	80.85	319	eP	P	14 23 54.3	-1.3
	3.4nm,0.8s						
ZALV	Zalesovo Beam	81.46	326	P	P	14 23 58.0	-0.7
	2.4nm,0.7s,baz=97,slow=4.7,SNR=9.8						
ZAA1	Zalesovo Array	81.46	326	eP	P	14 23 58.0	-0.7
ILAR	Eielson Array	82.26	22	P	P	14 24 01.3	-1.4
	0.2nm,0.7s,baz=238,slow=5.2,SNR=2.3						
KURK	Kurchatov	84.08	322	eP	P	14 24 11.7	-0.6
	4.7nm,1.1s						
MAW	Mawson	85.47	203	eP	P	14 24 18.5	-0.5
	3.1nm,1.5s						
MAW	Mawson	85.47	203	P	P	14 24 18.8	-0.2
	2.4nm,0.9s,baz=85,slow=7.4,SNR=6.6						
PDAR	Pinedale Array	98.81	48	LR	LR	15 05 01.2	
	comp=Z,18nm,18.7s,baz=270,slow=32						
TORD	Torodi Ar. Bea	150.60	288	PKPbc	PKPbc	14 31 33.2	-1.2
	2.9nm,0.8s,baz=36,slow=4.2,SNR=14						
TOA1	Torodi Ar. Sit	150.60	288	ePKPbc	PKPbc	14 31 33.2	-1.2

*IDC **15** 14:17:34.3±1.0, 3°.35S×135°.56E, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.7/28, mbtmp3.9/8, ML3.5/3, Error ellipse: s-maj=26.9km s-min=22.5km az=60.0*
*ISCJB **15** 14:17:35.2±0.5, 3°.58S±0°.05×135°.59E±0°.05, h20km, mb3.6/4, Error ellipse: s-maj=8.0km s-min=7.4km az=145.3*
*NEIC **15** 14:17:40.2±1.0, 3°.71S×135°.64E, h60km±12km, mb4.2/3, Error ellipse: s-maj=12.0km s-min=10.3km az=52.0*

ISC 15 14:17:37.4±0.7, 3°.80S±0°.07×135°.57E±0°.05, h20km, n20, σ2°98/26, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	3.43	285	ePn	Pn	14 18 31.2	+1.5
JAY	Jayapura	5.29	76	Pn	Pn	14 18 55.7	+0.4
	0.8nm,0.3s,baz=186,slow=22,SNR=5.6						
JAY				Sn	Sn	14 19 55.3	-0.5
	0.7nm,0.3s,baz=295,slow=21,SNR=1.5						
MTN	Manton Dam	10.00	206	ePn	Pn	14 20 04.8	+4.8
COEN	Coen	12.58	144	ePn	Pn	14 20 37.4	+2.1
LUWI	Luwuk	13.07	282	ePn	Pn	14 20 43.1	+1.0
WB2	Warramunga Arr	16.09	184	ePn	Pn	14 21 22.8	+0.2
	18nm,0.8s						
WR1	Warramunga Arr	16.09	184	ePn	Pn	14 21 22.6	0.0
WR1				eSn	Sn	14 24 16.6	-4.0
WRA	Warramunga Arr	16.09	184	Pn	Pn	14 21 22.6	0.0
	0.4nm,0.3s,baz=11,slow=14,SNR=21						
WRA				Sn	Sn	14 24 16.6	-4.0
	0.2nm,0.3s,baz=6.3,slow=21,SNR=5.7						
FITZ	Fitzroy Crossi	17.21	214	ePn	P	14 21 39.6	+1.3
	50nm,1.8s						
FITZ				S	Sn	14 24 41.5	-6.4
FITZ	Fitzroy Crossi	17.21	214	P	P	14 21 39.5	+1.3
	0.2nm,0.3s,baz=26,slow=6.7,SNR=7.9						

UGM	Wanagama	4.34	311	*e*Pn	Pn	14 25 07.2	-2.1
UGM	Wanagama	4.34	311	P	Pn	14 25 09.4	+0.2
PLAI	Plampang	4.35	64	P	Pn	14 25 07.6	-1.7
YOGI	Yogyakarta	4.58	310	P	Pn	14 25 13.0	+0.6
SMRI	Semarang	5.01	318	*e*Pn	Pn	14 25 18.0	-0.4
SMRI	Semarang	5.01	318	P	Pn	14 25 18.7	+0.3
BWJI	Bawean	5.05	347	P	Pn	14 25 18.6	-0.3
WSI	Waingapu	6.46	81	P	Pn	14 25 39.5	+1.2
BASI	Baing, Sumba	6.66	86	P	Pn	14 25 42.5	+1.5
CISI	Cisompet, Garu	6.75	298	*e*Pn	Pn	14 25 40.3	-2.1
CISI	Cisompet, Garu	6.75	298	P	Pn	14 25 44.4	+2.0
JCJI	Jatiwangi	6.97	307	P	Pn	14 25 44.1	-1.1
LEM	Lembang	7.30	302	P	Pn	14 25 50.8	+0.9
XMIS	Christmas Isla	8.05	271	*e*Pn	Pn	14 25 56.0	-4.1
BSSI	Bau Bau, Buton	8.05	55	P	Pn	14 25 59.3	-0.8
KAPI	Kappang	8.21	46	LR	LR	14 29 54.1	
	comp=Z,157nm,19.3s,baz=208,slow=43						
BKSI	Bulukumba	8.27	49	P	Pn	14 26 02.3	-0.8
PBKI	Pangkalan Bun	8.32	345	P	Pn	14 26 03.6	-0.2
MMRI	Maumere	8.56	76	P	Pn	14 26 08.2	+1.1
BNSI	Bone	8.89	45	P	Pn	14 26 11.7	+0.1
SPSI	Sidrap Palu	8.98	41	P	Pn	14 26 12.9	0.0
CGJI	Cibinong	9.05	297	P	Pn	14 26 11.5	-2.4
BATI	Baumata	9.69	87	P	Pn	14 26 20.2	-2.4
SOEI	Soe	10.32	85	*e*Pn	Pn	14 26 29.1	-2.2
SOEI	Soe	10.32	85	P	Pn	14 26 29.7	-1.7
GIRL	Giralia	11.79	178	*e*Pn	Pn	14 26 45.9	-5.3
PSA00	Pilbara Seismi	12.17	152	*e*Pn	Pn	14 26 48.8	-7.7
APSI	Ampana	12.52	39	P	Pn	14 27 01.3	0.0
MNAI	Manna	12.53	300	*e*Pn	Pn	14 26 54.1	-7.4
FITZ	Fitzroy Crossi	13.54	124	P	Pn	14 27 10.2	-5.0
	0.4nm,0.3s,baz=315,slow=7.2,SNR=5.8						
FITZ				S	Sn	14 29 29.5	-15
	0.4nm,0.3s,baz=199,slow=22,SNR=2.9						
SANI	Sanana	14.87	55	P	P	14 27 38.5	+0.5
COCO	West Island	16.71	264	*e*Pn	Pn	14 27 53.5	-3.2
	707nm,2.0s						
KKM	Kota Kinabalu	16.90	8	*e*Pn	Pn	14 27 55.9	-3.2
	12nm,0.9s						
MTN	Manton Dam	17.06	99	*e*Pn	Pn	14 27 58.5	-2.5
	73nm,1.9s						
IPM	Ipoh	19.82	319	*e*P	P	14 28 33.1	+0.5
	12nm,0.8s						
FAKI	Fak Fak	19.88	68	*e*P	P	14 28 30.7	-2.6
	12nm,0.7s						
WR1	Warramunga Arr	21.74	117	*e*P	P	14 28 52.0	-1.4
WR1				*e*pP	pP	14 29 04.9	+2.1
WRA	Warramunga Arr	21.74	117	P	P	14 28 52.0	-1.4
	10nm,0.7s,baz=291,slow=11,SNR=47						
WRA				pP	pP	14 29 04.9	+2.1
	5.6nm,0.8s,baz=287,slow=11,SNR=7.0						
WB2	Warramunga Arr	21.75	117	*e*P	P	14 28 52.7	-0.8
	10nm,0.7s						
ASAR	Alice Springs	23.01	126	*e*P	P	14 29 05.2	-1.6
ASAR	Alice Springs	23.01	126	P	P	14 29 06.0	-0.9
	5.0nm,0.6s,baz=302,slow=9.3,SNR=69						
ASAR				pP	pP	14 29 18.5	+2.2
	3.1nm,0.7s,baz=302,slow=9.4,SNR=6.6						
ASAR				PcP	PcP	14 32 56.4	+0.9
	0.8nm,0.7s,baz=338,slow=1.9,SNR=6.1						
AS31	Alice Springs	23.01	126	*e*P	P	14 29 05.6	-1.3
	2.5nm,0.6s						
KRAB	Krabi	23.86	322	P	P	14 29 18.9	+3.9
	116μm,0.6s						
FORT	Forrest	23.87	148	*e*P	P	14 29 14.1	-0.9
	49nm,0.8s						
CM31	Chiang Mai Arr	32.57	333	*e*P	P	14 30 32.0	-0.8
	6.5nm,1.0s						
CMAR	Chiang Mai Arr	32.57	333	*e*P	P	14 30 32.7	-0.1
CMAR	Chiang Mai Arr	32.57	333	P	P	14 30 33.8	+1.0
	1.8nm,0.9s,baz=167,slow=8.5,SNR=12						
CMAR				pP	pP	14 30 44.7	+0.6
	3.6nm,0.8s,baz=170,slow=8.7,SNR=5.9						
STKA	Stephens Creek	33.13	134	P	P	14 30 37.1	-0.5
	4.7nm,0.8s,baz=309,slow=8.6,SNR=7.8						
STKA				pP	pP	14 30 49.7	+1.7
	4.5nm,0.8s,baz=117,slow=24,SNR=5.2						
KMI	Kunming	37.30	343	P	P	14 31 16.8	+3.0
H08S2	Diego Garcia H	40.90	271	T	T	15 15 02.8	
	baz=96,slow=75,SNR=16						
H08S3	Diego Garcia H	40.91	271	T	T	15 15 08.1	
	baz=96,slow=75,SNR=12						
H08S1	Diego Carcia H	40.92	271	T	T	15 15 10.6	
	baz=96,slow=75,SNR=15						
WHN	Wuhan	41.10	1	P	P	14 31 51.5	+6.3
NJ2	Nanjing	42.88	6	*e*P	P	14 32 00.4	+0.8
XAN	Xi'an	44.83	354	P	P	14 32 19.3	+3.9
JIRN	Jiri	46.68	326	*e*P	P	14 32 30.6	+0.1
	22nm,0.7s						
DMN	Daman	47.25	324	*e*P	P	14 32 34.6	-0.2
KOLN	Koldanda	48.24	323	*e*P	P	14 32 41.4	-1.0
	9.8nm,0.6s						
DANN	Dangsing	48.58	324	*e*P	P	14 32 44.1	-1.1
	18nm,0.7s						
PYUN	Piuthan	48.85	323	*e*P	P	14 32 46.0	-1.1
	12nm,0.8s						
KSRS	Korea Array	49.78	15	LR	LR	14 56 07.4	
	comp=Z,19nm,19.0s,baz=181,slow=39						
HHC	Hu-ho-hao-te	51.43	358	*e*P	P	14 33 09.4	+3.1
MAJO	Matsushiro	52.38	25	*e*P	P	14 33 11.8	-1.5
MJAR	Matsushiro Arr	52.38	25	P	P	14 33 11.9	-1.5
	1.3nm,0.7s,baz=186,slow=8.8,SNR=4.6						
MJAR				LR	LR	14 57 41.0	
	comp=Z,14nm,18.1s,baz=30,slow=39						
USRK	Ussuriysk Ar.	57.17	15	P	P	14 33 47.1	-0.7
	1.4nm,0.5s,baz=181,slow=8.5,SNR=5.2						
USRK				pP	pP	14 33 58.5	-1.1
	3.3nm,0.6s,baz=205,slow=4.1,SNR=5.8						
SONA0	Songino Array	58.74	354	*e*P	P	14 33 58.9	-0.1
SONA0				*e*pP	pP	14 34 10.4	-0.3
SONM	Songino Array	58.74	354	*e*P	P	14 33 58.6	-0.4
SONM	Songino Array	58.74	354	P	P	14 33 58.9	-0.1
	1.7nm,0.5s,baz=173,slow=9.4,SNR=12						
SONM				pP	pP	14 34 10.4	-0.3
	1.8nm,0.5s,baz=176,slow=8.0,SNR=8.5						
WMQ	Urumqi	59.33	338	*e*P	P	14 34 05.0	+1.9
KSH	Kashi	61.18	327	P	P	14 34 16.3	+0.5
MK31	Makanchi Array	63.89	336	*e*P	P	14 34 33.5	-0.2
	2.6nm,1.0s						
MKAR	Makanchi Array	63.89	336	*e*P	P	14 34 33.2	-0.5
MKAR	Makanchi Array	63.89	336	P	P	14 34 33.6	-0.1
	1.6nm,0.6s,baz=146,slow=7.5,SNR=20						
GAR	Garm	63.99	323	*e*P	P	14 34 34.8	+0.1
	4.3nm,0.7s						
ARSB	Arslanbob	64.06	327	*e*P	P	14 34 35.5	+0.3
	10nm,1.0s						
AAK	Ala-Archa	64.20	329	*e*P	P	14 34 36.8	+0.8
KKAR	Karatay Array	66.62	327	*e*P	P	14 34 51.3	-0.1
ZAA0	Zalesovo Array	69.04	342	*e*P	P	14 35 05.5	-0.9
	3.6nm,0.8s						
ZALV	Zalesovo Beam	69.04	342	*e*P	P	14 35 05.7	-0.6
ZALV	Zalesovo Beam	69.04	342	P	P	14 35 06.0	-0.4
	2.5nm,0.5s,baz=159,slow=5.2,SNR=13						
ZALV				pP	pP	14 35 17.9	-0.4
	3.2nm,0.7s,baz=145,slow=4.9,SNR=6.6						
ZAA1	Zalesovo Array	69.04	342	*e*pP	pP	14 35 17.9	-0.5
VNDA	Vanda	71.06	170	P	P	14 35 18.7	+0.2
	1.2nm,0.8s,baz=278,slow=4.2,SNR=7.5						
GEYT	Alibeck	71.11	316	P	P	14 35 19.3	-0.2
	80nm,0.3s,baz=159,slow=5.9,SNR=4.7						
PETK	Petropavlovsk-	73.83	26	P	P	14 35 35.5	+0.2
	1.6nm,0.6s,baz=188,slow=2.6,SNR=5.6						
PEA1	Petropavlovsk-	73.83	26	*e*P	P	14 35 35.5	+0.1
MA2	Magadan	76.14	18	*e*P	P	14 35 48.3	-0.2
	6.0nm,0.8s						
ABKAR	Akbulak array	76.18	327	*e*P	P	14 35 49.0	0.0
NRIK	Noril'sk	82.03	351	P	P	14 36 20.4	-0.1
	1.4nm,0.5s,baz=148,slow=7.0,SNR=3.3						
NRIK				pP	pP	14 36 33.2	+0.3
	1.8nm,0.5s,baz=129,slow=2.6,SNR=2.9						
KIRV	Kirov	86.35	332	LR	LR	15 18 45.7	
	comp=Z,23nm,19.6s,baz=179,slow=38						
SNAA	Sanae	87.88	196	*e*P	P	14 36 50.9	+0.8
	3.6nm,0.8s						
BR101	Keskin Array S	89.39	311	*e*P	P	14 36 58.3	+0.4
BR101				*e*pP	pP	14 37 10.2	+0.2
BRTR	Keskin Array B	89.39	311	*e*P	P	14 36 58.0	+0.2
BRTR	Keskin Array B	89.39	311	P	P	14 36 58.3	+0.4
	0.9nm,0.8s,baz=128,slow=5.4,SNR=7.1						
BRTR				pP	pP	14 37 10.2	+0.2
	1.3nm,0.9s,baz=145,slow=6.9,SNR=4.0						
YKA	Yellowknife Ar	117.87	23	*e*PKPdf	PKiKP	14 42 47.1	+0.3
YKA	Yellowknife Ar	117.87	23	PKP	PKiKP	14 42 47.4	+0.7
	0.6nm,0.7s,baz=306,slow=1.9,SNR=8.5						
YKA				pPKP	pPKPdf	14 42 59.5	+0.4
	0.2nm,0.7s,baz=344,slow=5.0,SNR=2.7						
YKB5	Yellowknife Ar	117.87	23	*e*PKPdf	PKiKP	14 42 47.4	+0.6
YKB5				*ep*PKPdf	pPKPdf	14 42 59.5	+0.4
PLID	Pearl Lake	125.47	42	*e*PKPdf	PKPdf	14 43 02.3	0.0
NV01	Mina Array Sit	126.08	50	*e*PKPdf	PKiKP	14 43 05.3	+1.3
NVAR	Mina Array Bea	126.08	50	PKP	PKiKP	14 43 05.3	+1.3
	0.1nm,0.3s,baz=230,slow=4.1,SNR=3.7						
WVT	Waverly	148.05	34	*e*PKPbc	PKPbc	14 43 46.5	-0.1
PLAL	Pickwick Lake	148.73	36	*e*PKPbc	PKPbc	14 43 48.9	+0.4

NNC ***15*** *14:36:49.3±2.9, 37°.15N×70°.96E, h0km, mb4.0, mpv3.6,*
Error ellipse: s-maj=22.3km s-min=21.1km az=144.0
ISC 15 14:36:49.2±4.8, 36°.8N±0°.3×70°.9E±0°.2, h88km, n9,
σ0°68/12, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.71	21	P	Pn	14 38 12.3	+0.5
	SNR=44						
UCH	Uchtor	6.07	26	P	Pn	14 38 17.0	+0.3
	SNR=16						
KZA	Kyzart	6.22	31	P	Pn	14 38 18.3	-0.5
	SNR=7.5						
KK31	Karatay Array	6.27	357	⇑Pn	Pn	14 38 19.4	+0.3
	0.6nm,0.3s,baz=173,slow=12,SNR=5.8						
KK31				⇓Sn	Sn	14 39 28.4	-0.9
	3.9nm,0.5s,baz=179,slow=22,SNR=7.3						
AAK	Ala-Archa	6.42	24	P	Pn	14 38 21.5	+0.2
	SNR=9.7						
AAK	Ala-Archa	6.42	24	⇑Pn	Pn	14 38 21.2	-0.1
	3.8nm,0.4s						
AAK				⇑Sn	Sn	14 39 33.9	+0.7
	9.8nm,0.9s						
KBK	Karagaybulak	6.60	27	P	Pn	14 38 24.8	+1.1
	SNR=5.1						
TKM2	Tokmak 2	7.07	29	P	Pn	14 38 29.5	-0.6
	SNR=7.8						
TKM2	Tokmak 2	7.07	29	⇑Pn	Pn	14 38 29.3	-0.9
	8.6nm,0.9s						
TKM2				⇑Sn	Sn	14 39 48.9	-0.1
	2.6nm,0.7s						

DDA ***15*** *14:43:29.6, 40°.44N×35°.04E, h7km±2km, ML2.7*
ISK ***15*** *14:43:29.5, 40°.41N×35°.06E, h5km, ML2.1/4*
ISC 15 14:43:30.1±1.0, 40°.43N±0°.03×35°.08E±0°.04, h16km±7km,
n11, σ0°52/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COAL	Corum-Alaca	0.18	202	*i* P	Pg	14 43 34.6	-0.1
COAL				*i* S	Sg	14 43 37.9	+0.1
CORM	Corum	0.42	234	PG	Pg	14 43 38.4	-0.3
CORM				SG	Sb	14 43 45.3	-0.1
YOZ	Yozgat	0.81	167	PG	Pg	14 43 45.6	-0.2
YOZ				SG	Sn	14 43 58.2	-0.4
HAVZ	Havza	0.81	37	IAML_P			
	comp=Z,787nm,0.1s						
HAVZ				*i* P	Pg	14 43 45.9	0.0
HAVZ				*i* S	Sn	14 43 59.4	+0.8
CDAG	Cicekdag	0.97	214	IAML_P			
	comp=Z,663nm,0.1s						
CDAG				*i* P	Pg	14 43 48.9	+0.1
CDAG				*i* S	Sn	14 44 02.6	+0.1
DELI	KIRIKKALE	0.98	245	IAML_P			
	comp=Z,779nm,0.2s						
DELI				*i* P	Pg	14 43 48.9	-0.3
ILGA	Ilgaz	1.21	302	IAML_P			
	comp=Z,854nm,0.2s						
ILGA				*i* P	Pn	14 43 52.6	+0.1
SVSK	Karacayir	1.56	108	PN	Pg	14 43 59.8	-0.2
KIRS	Kırehir-Merke	1.57	215	IAML_P			
	comp=Z,247nm,0.1s						
KIRS				*i* P	Pb	14 43 58.2	-0.6
KIRS				*i* S	Sg	14 44 22.2	+1.5
SNOP	Sinop	1.60	3	PN	Pg	14 44 00.3	-0.5
PELI	Kastamonı-Ara	1.60	304	IAML_P			
	comp=Z,172nm,0.2s						
PELI				*i* P	Pb	14 43 59.3	0.0
PELI				*i* S	Sg	14 44 21.6	0.0

IDC ***15*** *14:54:50.8±8.2, 41°.41N×19°.55E, h0km, mb3.6/3,*
mb1 3.6/4, mb1mx3.3/30, mbtmp3.6/4, ML3.5/1, Error
ellipse: s-maj=153.8km s-min=28.1km az=32.0
ATH ***15*** *14:54:51.2, 41°.41N×19°.37E, h14km±1km, ML3.1/9, Error*
ellipse: s-maj=3.0km s-min=1.1km az=347.0
SKO ***15*** *14:54:52.8, 41°.41N×19°.39E, h9km, ML3.3*
TIR ***15*** *14:54:53.7, 41°.44N×19°.53E, h6km, Md3.6/5*
BEO ***15*** *14:54:53.3±0.5, 41°.31N×19°.47E, h8km±1km, ML3.3/18*
LDG ***15*** *14:54:53.3±0.1, 41°.43N×19°.51E, h2km, Ml3.6/8, Error*
ellipse: s-maj=2.9km s-min=1.5km az=29.0
ROM ***15*** *14:54:54.0, 41°.43N×19°.57E, h2km, ML3.6*
ISCJB ***15*** *14:54:54.7±0.5, 41°.38N±0°.01×19°.41E±0°.02, h30km±5km,*
mb3.6/2, Error ellipse: s-maj=2.7km s-min=1.9km
az=145.2
PDG ***15*** *14:54:54.3±0.7, 41°.39N×19°.53E, h16km±1km, MD3.4/5,*
ML3.4/13, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0
THE ***15*** *14:54:55.1, 41°.48N×19°.63E, h16km, ML3.0/10, Error*
ellipse: s-maj=1.9km s-min=1.0km az=315.0
ISC 15 14:54:53.7±0.9, 41°.39N±0°.02×19°.49E±0°.02, h19km±2km,
n194, σ1°85/263, 17C-14D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.28	98	*e*Pg	Pg	14 54 59.2	-0.9
TIR				*e*Sg	Sb	14 55 04.0	-0.4
TIR	Tirane	0.28	98	P	Pg	14 54 59.3	-0.9
TIR				S	Sb	14 55 04.3	-0.1
TIR	Tirane	0.28	98	⇓*i* P	Pg	14 54 59.3	-0.9
TIR				S	Sg	14 55 03.3	-1.2
TIR	Tirane	0.28	98	⇓*i* Pg	Pg	14 54 59.1	-0.9
TIR	Tirane	0.28	98	*i* PG	Pg	14 54 59.1	-0.9
TIR				*i* SG	Sb	14 55 03.8	-0.6
TIR	Tirane	0.28	98	P	Pg	14 54 58.8	-1.3
TIR				S	Sb	14 55 04.1	-0.4
TIR				AML	AML	14 55 05.7	
	comp=N,19704μm,0.4s						
TIR				AML	AML	14 55 06.2	
	comp=E,28319μm,0.4s						
ULC	Ulcinj	0.60	342	⇓*i* Pg	Pb	14 55 05.5	-0.1
ULC				*e*Sg	Sb	14 55 15.6	+1.9
DRME	Dracevica, Mon	0.83	344	⇑*i* Pg	Pb	14 55 10.4	+0.9
DRME				*e*Sg	Sn	14 55 23.9	+1.8
DRME	Dracevica, Mon	0.83	344	*e*Pn	Pb	14 55 09.6	+0.1
VLO	Vlora	0.92	180	*i* PG	Pn	14 55 13.3	+1.7
VLO				*i* SG	Sn	14 55 27.5	+3.3
BUM	Brajici-Budva	1.02	334	⇑*i* Pg	Pn	14 55 13.5	+0.5
BUM				*e*Sg	Sn	14 55 30.3	+3.5
OHR	Ohrid	1.02	105	*i* Pg	Pg	14 55 12.1	-1.6
OHR				*i* Sg	Sn	14 55 28.7	+1.7
OHR				*e*Lg	Lg	14 55 28.9	
	comp=N,1μm,0.8s						
PDG	Podgorica	1.06	351	*e*Pg	Pn	14 55 14.7	+1.3
PDG				*e*Sn	Sn	14 55 32.4	+4.8
PDG	Podgorica	1.06	351	⇑*i* P	Pn	14 55 14.8	+1.3
PDG	Podgorica	1.06	351	S	Sn	14 55 30.4	+2.8
PDG	Podgorica	1.06	351	*e*Pg	Pg	14 55 10.8	-3.5
PDG	Podgorica	1.06	351	*e*Pn	Pg	14 55 13.2	-1.1
TTG	Podgorica	1.06	351	⇓*i* Pg	Pn	14 55 14.9	+1.4
TTG				*e*Sg	Sn	14 55 31.7	+4.1
BCI	Bajram Curri	1.07	24	*i* PG	Pb	14 55 13.6	-0.1
BCI				*i* SG	Sn	14 55 28.4	+0.3
TPE	Tepelena	1.16	160	P	Pn	14 55 16.0	+1.1
TPE				S	Sn	14 55 33.4	+3.2
TPE	Tepelena	1.16	160	*i* PN	Pg	14 55 15.4	-0.8
TPE				*i* SN	Sn	14 55 35.1	+5.0
CEME	Cevo	1.23	340	⇑*i* Pg	Pg	14 55 17.6	0.0
CEME				*e*Sg	Sn	14 55 37.0	+4.8
PVY	Plav	1.26	16	⇓*i* Pg	Pn	14 55 18.2	+1.9
PVY				*e*Sg	Sn	14 55 37.2	+4.4
HCY	Herceg Novi	1.29	325	⇓*i* Pg	Pg	14 55 18.0	-0.8
HCY				*e*Sg	Sn	14 55 38.5	+5.0
HCY	Herceg Novi	1.29	325	*e*Pn	Pn	14 55 17.7	+0.9
BIA	Bitola	1.43	104	P	Pn	14 55 18.9	+0.2
BIA				S	Sb	14 55 36.6	-1.0
BIA	Bitola	1.43	104	*i* Pn	Pg	14 55 20.4	-1.0
BIA				*i* Sn	Sg	14 55 41.1	+1.1
NKME	Niksic	1.44	344	⇑*i* Pg	Pg	14 55 20.7	-0.7
NKME				*e*Sg	Sg	14 55 42.2	+2.0
KOME	Kolasin	1.46	1	⇑*i* Pg	Pg	14 55 21.8	-0.2
KOME				*e*Sg	Sg	14 55 42.6	+1.5
NKY	Niksic	1.47	346	⇑*i* Pg	Pg	14 55 21.8	-0.3
NKY				*e*Sg	Sg	14 55 43.5	+2.1
BEY	Berane	1.51	11	*e*Pg	Pn	14 55 20.3	+0.4
IVA	Berane	1.51	11	⇓*i* Pg	Pg	14 55 21.6	-1.3
IVA				*e*Sg	Sg	14 55 44.1	+1.4
NEST	Nestorio	1.53	129	P	Pn	14 55 21.2	+1.1
NEST				S	Sn	14 55 40.5	+1.1
NEST	Nestorio	1.53	129	P	Pb	14 55 21.9	+0.4
NEST				S	Sg	14 55 43.3	+0.2
NEST				AML	AML	14 55 48.2	
	comp=N,663μm,0.8s						
NEST				AML	AML	14 55 48.7	
	comp=E,867μm,0.6s						
FNA	Florina	1.55	112	P	Pn	14 55 21.3	+1.0
FNA				S	Sn	14 55 40.2	+0.4
FNA	Florina	1.55	112	*i* Pn	Pb	14 55 21.5	-0.2
FNA	Florina	1.55	112	P	Pb	14 55 22.2	+0.4
FNA				S	Sg	14 55 43.9	+0.2
FNA				AML	AML	14 55 46.1	
	comp=N,3536μm,0.4s						
FNA				AML	AML	14 55 49.0	
	comp=E,2591μm,0.4s						
SRN	Sarande	1.56	165	P	Pb	14 55 22.0	+0.2
SRN				S	Sg	14 55 44.4	+0.5
SRN	Sarande	1.56	165	*i* PN	Pb	14 55 22.8	+0.9
SRN				*i* SN	Sg	14 55 46.4	+2.4
SKO	Skopje	1.57	68	*e*Pg	Pg	14 55 22.7	-1.3
SKO				*e*Sg	Sg	14 55 44.4	-0.1
SKO	Skopje	1.57	68	P	Pn	14 55 21.4	+0.8
SKO	Skopje	1.57	68	*i* Pn	Pn	14 55 21.3	+0.8
SKO				*i* Sn	Sg	14 55 44.5	0.0
TREB	Trebinje	1.58	328	*e*Pn	Pn	14 55 21.7	+1.1
TREB				*e*Sg	Sg	14 55 46.5	+1.8
TREB	Trebinje	1.58	328	*e*Pn	Pn	14 55 21.6	+1.0
BRY	Bratogost	1.67	335	⇑*i* Pn	Pb	14 55 23.9	0.0
BRY				*e*Sn	Sg	14 55 48.5	+0.8
BRY	Bratogost	1.67	335	*e*Pn	Pn	14 55 23.2	+1.1
KASA	Kassiopi	1.67	168	P	Pn	14 55 22.9	+0.9
KASA				AML	AML	14 55 49.0	
	comp=E,994μm,0.5s						
KASA				AML	AML	14 55 53.8	
	comp=N,833μm,0.7s						
KEK	Kerkira	1.69	172	P	Pn	14 55 24.1	+1.9
KEK				S	Sg	14 55 47.8	-0.4
KEK	Kerkira	1.69	172	P	Pn	14 55 22.8	+0.7
KEK				AML	AML	14 55 57.1	
	comp=N,659μm,0.4s						
KEK				AML	AML	14 55 57.8	
	comp=E,521μm,0.4s						
CGL1	Ceglie Messapi	1.69	245	Pn	Pb	14 55 25.4	+1.2
FASA	Fasano	1.71	251	*e*Pn	Pn	14 55 22.9	+0.4
PENT	Pentalofos	1.73	133	P	Pn	14 55 24.2	+1.4
PENT				S	Sn	14 55 46.4	+2.1
PENT	Pentalofos	1.73	133	P	Pb	14 55 24.7	-0.2
PENT				AML	AML	14 55 56.8	
	comp=E,436μm,0.4s						
PENT				AML	AML	14 55 57.0	
	comp=N,366μm,0.3s						
UPM	Unac-Piva	1.87	347	⇑*i* Pn	Pb	14 55 27.2	-0.1
UPM				*e*Sn	Sg	14 55 52.7	-1.2
UPM	Unac-Piva	1.87	347	*e*Pn	Pb	14 55 27.0	-0.3
TAR1	Taranto	1.88	243	*e*Pn	Pn	14 55 24.5	-0.3
SJES	Sjenica	1.91	11	*e*Pg	Pg	14 55 29.0	-1.4
SJES				*e*Sg	Sg	14 55 55.3	+0.1
MASS	Massafra	1.93	248	*e*Pn	Pn	14 55 25.2	-0.3
PLE	Pljevlja	1.94	358	⇓*i* Pn	Pb	14 55 28.5	-0.1
PLE				*e*Sn	Sg	14 55 54.8	-1.6
IGT	Igoumenitsa	1.96	161	*i* Pn	Pn	14 55 27.5	+1.6
IGT	Igoumenitsa	1.96	161	P	Pn	14 55 26.8	+0.9
IGT				AML	AML	14 55 58.6	
	comp=E,429μm,0.8s						
IGT				AML	AML	14 56 00.6	
	comp=N,546μm,0.5s						
BAI	Bari	1.99	263	*e*Pn	Pg	14 55 31.7	-0.2
BAI				Sn	Sn	14 55 50.1	-0.5
STON	Ston	1.99	319	*e*Pn	Pn	14 55 27.2	+0.9
STON				*e*Sn	Sn	14 55 53.0	+2.3
STON	Ston	1.99	319	*i* Pn	Pn	14 55 27.3	+1.0
STON				Sn	Sn	14 55 52.8	+2.1
STON	Ston	1.99	319	*e*Pn	Pn	14 55 26.8	+0.5
JAN	Janina	2.02	149	P	Pn	14 55 27.4	+0.7
JAN				S	Sn	14 55 54.1	+2.7
JAN	Janina	2.02	149	P	Pn	14 55 28.2	+1.5
KPRO	Kipourio	2.02	135	P	Pn	14 55 27.5	+0.7
KPRO				S	Sn	14 55 53.5	+2.0
KPRO	Kipourio	2.02	135	P	Pn	14 55 28.9	+2.1
KZN	Kozani	2.04	121	P	Pn	14 55 28.0	+1.0
KZN				S	Sn	14 55 52.8	+0.8
KZN	Kozani

CUC	**Castrocucco**	**3.12**	**245**	P		**Pn**	**14 55 41.8**	**-0.1**
ZAGS	**Zajecar**	**3.16**	**39**	*e*Pn		**Pn**	**14 55 44.8**	**+2.5**
PLG	**Polygyros**	**3.17**	**107**	P		**Pn**	**14 55 44.3**	**+1.8**
PVO	**Paravola**	**3.18**	**150**	P		**Pn**	**14 55 44.3**	**+1.6**
MMB	**Musomiste**	**3.19**	**85**	*i* Pn		**Pn**	**14 55 44.8**	**+1.9**
MMB				*i* Sn		**Sn**	**14 56 22.5**	**+2.1**
AGG	**Agios Georgios**	**3.21**	**136**	P		**Pn**	**14 55 44.7**	**+1.6**
NVR	**Nevrokopi**	**3.29**	**89**	P		**Pn**	**14 55 46.0**	**+1.7**
FYTO	**Fytoko, Volos**	**3.29**	**126**	P		**Pn**	**14 55 46.2**	**+2.0**
VLS	**Valsamata**	**3.32**	**165**	P		**Pn**	**14 55 44.7**	**+0.1**
ANX	**Ano Chora**	**3.36**	**145**	P		**Pn**	**14 55 47.2**	**+2.0**
KFL	**Anninata**	**3.42**	**163**	P		**Pn**	**14 55 47.5**	**+1.5**
KUBS	**Kucevo**	**3.42**	**27**	*e*Pn		**Pn**	**14 55 47.0**	**+1.0**
XOR	**Xorichti**	**3.47**	**124**	P		**Pn**	**14 55 47.9**	**+1.2**
EFP	**Efpalio**	**3.49**	**147**	P		**Pn**	**14 55 49.2**	**+2.3**
PAIG	**Paliouri**	**3.50**	**113**	P		**Pn**	**14 55 49.3**	**+2.2**
MGRS	**Mrkonjic Grad**	**3.51**	**331**	*e*Pn		**Pn**	**14 55 48.6**	**+1.4**
OUR	**Ouranopolis**	**3.56**	**106**	P		**Pn**	**14 55 49.8**	**+1.9**
KALE	**Kalithea**	**3.62**	**145**	P		**Pn**	**14 55 50.9**	**+2.1**
LAKA	**Lakka**	**3.68**	**148**	P		**Pn**	**14 55 50.9**	**+1.3**
BLY	**Banja Luka**	**3.76**	**334**	⇑*i* P		**Pn**	**14 55 51.7**	**+1.1**
BLY	**Banja Luka**	**3.76**	**334**	S		**Sn**	**14 56 35.2**	**+0.9**
BLY	**Banja Luka**	**3.76**	**334**	*e*Pn		**Pn**	**14 55 52.1**	**+1.5**
MDVR	**Moldovita**	**3.76**	**25**	⇓*i* P		**Pn**	**14 55 52.4**	**+1.7**
MDVR	**Moldovita**	**3.76**	**25**	S		**Sn**	**14 56 35.3**	**+0.8**
FRGS	**Fruska Gora**	**3.78**	**3**	*e*Pn		**Pn**	**14 55 52.0**	**+1.1**
FRGS	**Fruska Gora**	**3.78**	**3**	*e*Pn		**Pn**	**14 55 51.8**	**+0.9**
KAVA	**Kavala**	**3.81**	**94**	P		**Pn**	**14 55 52.7**	**+1.4**
ATAL	**Atalanti**	**3.82**	**134**	P		**Pn**	**14 55 53.2**	**+1.8**
HERR	**Herculane**	**4.10**	**31**	⇑*i* P		**Pn**	**14 55 56.8**	**+1.6**
HERR	**Herculane**	**4.10**	**31**	S		**Sn**	**14 56 43.8**	**+1.2**
MRKA	**Markates**	**4.13**	**129**	P		**Pn**	**14 55 57.5**	**+1.8**
UDBI	**Udbina**	**4.16**	**320**	*e*Pn		**Pn**	**14 55 58.2**	**+2.0**
BZS	**Buzias**	**4.50**	**19**	*e*Pn		**Pn**	**14 56 02.2**	**+1.4**
BZS	**Buzias**	**4.50**	**19**	⇓*i* P		**Pn**	**14 56 02.2**	**+1.4**
BZS	**Buzias**	**4.50**	**19**	S		**Sn**	**14 56 52.3**	**-0.3**
TIM	**Timisoara**	**4.53**	**16**	⇓*i* P		**Pn**	**14 56 02.7**	**+1.6**
NVLJ	**Novalja**	**4.64**	**315**	*i* Pn		**Pn**	**14 56 04.1**	**+1.4**
NVLJ				Sn		**Sn**	**14 56 55.4**	**-0.7**
AQU	**L'Aquila**	**4.65**	**284**	*e*Pn		**Pn**	**14 56 05.0**	**+2.1**
GZR	**Gura Zlata**	**4.67**	**30**	⇑*i* P		**Pn**	**14 56 03.2**	**+0.1**
GZR	**Gura Zlata**	**4.67**	**30**	S		**Sn**	**14 56 58.3**	**+1.6**
MORH	**Mrgy, Hungar**	**4.87**	**353**	*e*Pn		**Pn**	**14 56 05.3**	**-0.5**
SIRR	**Siria**	**5.12**	**17**	⇑*i* P		**Pn**	**14 56 09.1**	**-0.3**
SIRR	**Siria**	**5.12**	**17**	S		**Sn**	**14 57 07.7**	**-0.3**
OZLJ	**Ozalj**	**5.14**	**327**	*e*Pn		**Pn**	**14 56 10.9**	**+1.4**
CRES	**Cresnjev**	**5.32**	**328**	*e*Pn		**Pn**	**14 56 11.7**	**-0.3**
BEHE	**Becsehely**	**5.45**	**340**	*e*Pn		**Pn**	**14 56 14.8**	**+1.0**
ARR	**Arges**	**5.46**	**42**	⇓*i* P		**Pn**	**14 56 15.5**	**+1.4**
ARR	**Arges**	**5.46**	**42**	S		**Sn**	**14 57 17.0**	**+0.5**
CEY	**Cerknica**	**5.70**	**321**	*e*Pn		**Pn**	**14 56 18.1**	**+0.8**
VOIR		**5.72**	**43**	⇑*i* P		**Pn**	**14 56 17.9**	**+0.2**
VOIR		**5.72**	**43**	S		**Sn**	**14 57 22.6**	**-0.3**
MLR	**Muntele Rosu**	**6.24**	**47**	⇑*i* P		**Pn**	**14 56 26.5**	**+1.7**
MLR	**Muntele Rosu**	**6.24**	**47**	S		**Sn**	**14 57 38.1**	**+2.6**
OBKA	**Obir**	**6.24**	**327**	*e*Pn		**Pn**	**14 56 25.6**	**+0.8**
	comp=N,2.1nm,0.2s							
OBKA				*i* Sn		**Sn**	**14 57 37.6**	**+2.1**
	comp=N,8.3nm,0.4s							
VRI	**Vrincioaia**	**6.90**	**47**	⇑*i* P		**Pn**	**14 56 35.2**	**+1.4**
VYHS	**Vyhne**	**7.12**	**356**	*e*		**Pn**	**14 56 37.7**	**+0.9**
VYHS	**Vyhne**	**7.12**	**356**	*e*PN		Pn	14 56 46.2	+9.4
VYHS				*e*SN		**Sn**	**14 57 55.5**	**-1.6**
KBA	**Koelnbreinsper**	**7.20**	**324**	Pn		**Pn**	**14 56 39.4**	**+1.3**
	comp=N,1.5nm,0.4s							
KBA				*e*Sn		**Sn**	**14 57 59.0**	**-0.3**
	comp=N,1.6nm,0.4s							
ABTA	**Abfaltersbach**	**7.34**	**319**	*e*Pn		**Pn**	**14 56 41.0**	**+1.1**
	comp=N,2.7nm,0.3s							
MOA	**Molln**	**7.46**	**332**	*e*Pn		**Pn**	**14 56 44.9**	**+3.5**
	comp=N,2.3nm,0.2s							
MOA				*e*Sn		**Sn**	**14 58 07.1**	**+1.7**
	comp=N,5.0nm,0.5s							
PGF	**Pioggiola**	**7.90**	**282**	*e*Pn		**Pn**	**14 56 47.1**	**-0.5**
PGF				*e*Sn		**Sn**	**14 58 12.2**	**-4.3**
	comp=N,0.8nm,0.3s							
WTTA	**Wattenberg**	**8.13**	**319**	*i* Pn		**Pn**	**14 56 53.1**	**+2.3**
	comp=N,5.3nm,0.3s							
WATA	**Walderalm**	**8.21**	**319**	*i* Pn		**Pn**	**14 56 54.6**	**+2.7**
	comp=N,6.3nm,0.3s							
SQTA	**Sankt Quirin**	**8.32**	**317**	*i* Pn		**Pn**	**14 56 55.3**	**+1.9**
	comp=N,4.3nm,0.4s							
MOTA	**Moosalm**	**8.46**	**318**	*i* Pn		**Pn**	**14 56 56.5**	**+1.3**
	comp=N,3.3nm,0.4s							
GERES	**GERESS Array B**	**8.50**	**333**	Pn		**Pn**	**14 56 56.7**	**+0.9**
	comp=N,0.2nm,0.3s,baz=158,slow=13,SNR=3.2							
SBF	**Sospel**	**9.23**	**290**	*e*Pn		**Pn**	**14 57 04.5**	**-1.2**
LMR	**La Mourre**	**9.80**	**286**	*e*P		**Pn**	**14 57 17.9**	**+4.3**
MBDF	**Montbardon**	**9.89**	**294**	*e*Pn		**Pn**	**14 57 13.7**	**-1.2**
LPG	**La Plagne**	**10.13**	**298**	*e*Pn		**Pn**	**14 57 17.0**	**-1.3**
LPG				*e*Sn		**Sn**	**14 59 05.2**	**-6.3**
	comp=N,1.7nm,0.2s							
LPL	**La Plagne**	**10.15**	**298**	*e*Pn		**Pn**	**14 57 17.7**	**-0.8**
LPL				*e*Sn		**Sn**	**14 59 05.6**	**-6.3**
	comp=N,3.4nm,0.2s							
ORIF	**Oris-en-Rattie**	**10.55**	**294**	*e*Pn		**Pn**	**14 57 22.3**	**-1.6**
ORIF				*e*Sn		**Sn**	**14 59 14.7**	**-6.8**
	comp=N,1.0nm,0.2s							
SMRF	**Simiane la Rot**	**10.57**	**289**	*e*Sn		**Sn**	**14 59 15.8**	**-6.1**
	comp=N,0.7nm,0.2s							
CABF	**La Chapelle**	**10.97**	**303**	*e*Pn		**Pn**	**14 57 28.6**	**-1.0**
HINF	**Hinteralfeld**	**11.06**	**310**	*e*Pn		**Pn**	**14 57 29.9**	**-0.9**
LOR	**Lormes**	**12.63**	**303**	*e*Pn		**Pn**	**14 57 51.2**	**-1.1**
	baz=118							
LOR				*e*Sn		Sn	15 00 04.6	-7.8
	comp=N,3.7nm,0.4s							
SSF	**Saint Saulge**	**12.78**	**302**	*e*Sn		Sn	15 00 08.3	-7.7
	comp=N,1.2nm,0.3s							
FINES	**FINESS Array B**	**20.48**	**9**	P		**P**	**14 59 29.3**	**-0.7**
	comp=N,1.5nm,0.7s,baz=182,slow=13,SNR=6.0							
ZALV	**Zalesovo Beam**	**44.20**	**50**	P		**P**	**15 03 00.2**	**-0.9**
	comp=N,0.5nm,0.3s,baz=278,slow=8.9,SNR=3.6							
MKAR	**Makanchi Array**	**44.37**	**61**	P		**P**	**15 03 02.6**	**0.0**
	comp=N,0.5nm,0.6s,baz=280,slow=6.2,SNR=7.4							

THE ***15*** *15:02:38.4, 41°.53N×19°.27E, h2km±1km, ML3.4/10, Error ellipse: s-maj=3.0km s-min=1.1km az=3.0*
IDC ***15*** *15:02:38.2±1.1, 41°.34N×19°.41E, h0km, mb3.7/8, mb1 3.9/12, mb1mx3.7/50, mbtmp3.8/12, ML3.8/4, MS3.1/8, Ms1 3.1/8, ms1mx2.8/43, Error ellipse: s-maj=19.6km s-min=13.9km az=165.0*
ATH ***15*** *15:02:39.2, 41°.42N×19°.41E, h16km±1km, ML3.3/13, Error ellipse: s-maj=2.1km s-min=0.9km az=337.0*
SKO ***15*** *15:02:40.7, 41°.31N×19°.37E, h8km, ML3.8*
BEO ***15*** *15:02:40.0±1.0, 41°.25N×19°.43E, h7km±3km, ML3.7/19*
LDG ***15*** *15:02:40.6±0.1, 41°.38N×19°.45E, h2km, ml3.8/13, Error ellipse: s-maj=2.8km s-min=2.1km az=44.0*
NEIC ***15*** *15:02:40.9±0.7, 41°.38N×19°.45E, h16km±4km, mb4.3/2, MD3.8(TIR), ML3.8(PDG), Error ellipse: s-maj=4.6km s-min=3.4km az=214.0*
TIR ***15*** *15:02:40.3, 41°.43N×19°.47E, h11km, Md3.8/5*
SAR ***15*** *15:02:41.2±0.6, 41°.33N×19°.45E, h11km±2km, ML3.9/1*
ROM ***15*** *15:02:41.0, 41°.39N×19°.42E, h5km, ML3.8*
PDG ***15*** *15:02:41.1±0.6, 41°.38N×19°.42E, h17km±1km, MD3.8/13, ML3.8/13, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
PRU ***15*** *15:02:42.1±0.0, 41°.53N×19°.45E, h0km, M4.3*

ISC 15 15:02:40.7±0.9, 41°.38N±0°.02×19°.44E±0°.02, h15km±6km, n280, σ1°82/372, mb3.9/8, MS3.0/4, 35C-16D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TIR	**Tirane**	**0.33**	**96**	*e*Pg		**Pg**	**15 02 46.8**	**-0.6**
TIR				*e*Sg		**Sg**	**15 02 51.6**	**-0.4**
TIR	**Tirane**	**0.33**	**96**	*e*Pg		**Pg**	**15 02 46.7**	**-0.6**
TIR	**Tirane**	**0.33**	**96**	P		**Pg**	**15 02 46.8**	**-0.6**
TIR				S		**Sb**	**15 02 54.9**	**+1.7**
TIR	**Tirane**	**0.33**	**96**	⇑*i* P		**Pg**	**15 02 46.8**	**-0.6**
TIR				S		**Sg**	**15 02 51.4**	**-0.7**
TIR	**Tirane**	**0.33**	**96**	⇓*i* Pg		**Pg**	**15 02 46.8**	**-0.6**
TIR	**Tirane**	**0.33**	**96**	*i* PG		**Pg**	**15 02 46.4**	**-1.0**
TIR				*i* SG		**Sg**	**15 02 51.8**	**-0.2**
TIR	**Tirane**	**0.33**	**96**	P		**Pg**	**15 02 46.8**	**-0.6**
TIR				S		**Sg**	**15 02 51.3**	**-0.7**
TIR				AML	AML		15 02 53.1	
	comp=N,27267μm,0.5s							
TIR				AML	AML		15 02 53.9	
	comp=E,25681μm,0.4s							
ULC	**Ulcinj**	**0.60**	**346**	⇓*i* Pg		**Pb**	**15 02 52.9**	**0.0**
ULC				*e*Sg		**Sb**	**15 03 01.4**	**+0.2**
ULC	**Ulcinj**	**0.60**	**346**	⇓P		**Pb**	**15 02 53.2**	**+0.3**
ULC				S		**Sn**	**15 03 04.2**	**0.0**
ULC	**Ulcinj**	**0.60**	**346**	*i* Pg		**Pb**	**15 02 53.1**	**+0.2**
DRME	**Dracevica, Mon**	**0.82**	**347**	⇓*i* Pg		**Pg**	**15 02 56.4**	**-0.3**
DRME				*e*Sg		**Sb**	**15 03 09.2**	**+1.5**
DRME	**Dracevica, Mon**	**0.82**	**347**	*e*Pg		**Pb**	**15 02 56.9**	**+0.2**
DRME				*e*Sg		**Sb**	**15 03 09.2**	**+1.5**
VLO	**Vlora**	**0.91**	**177**	*i* PG		**Pn**	**15 02 60.0**	**+1.0**
VLO				*i* SG		**Sn**	**15 03 14.0**	**+2.1**
BUM	**Brajici-Budva**	**1.00**	**336**	⇑*i* Pg		**Pg**	**15 02 59.9**	**-0.2**
BUM				*e*Sg		**Sn**	**15 03 15.4**	**+1.2**
PDG	**Podgorica**	**1.05**	**353**	*e*Pg		**Pn**	**15 03 02.2**	**+1.3**
PDG				*e*Sg		**Sn**	**15 03 18.6**	**+3.2**
PDG	**Podgorica**	**1.05**	**353**	⇓*i* P		**Pn**	**15 03 02.1**	**+1.2**
PDG				S		**Sb**	**15 03 14.9**	**+0.6**
PDG	**Podgorica**	**1.05**	**353**	*i* Pg		**Pg**	**15 03 00.8**	**-0.3**
PDG				*i* Sg		**Sn**	**15 03 16.9**	**+1.5**
PDG	**Podgorica**	**1.05**	**353**	*e*Pg		**Pg**	**15 03 00.7**	**-0.4**
PDG				*e*Sg		**Sn**	**15 03 16.9**	**+1.5**
TTG	**Podgorica**	**1.05**	**353**	⇓*i* Pg		**Pg**	**15 03 01.0**	**-0.1**
TTG				*e*Sg		**Sn**	**15 03 17.2**	**+1.8**
TTG	**Podgorica**	**1.05**	**353**	*e*Pg		**Pg**	**15 03 00.6**	**-0.4**
OHR	**Ohrid**	**1.06**	**104**	*i* Pg		**Pg**	**15 03 00.1**	**-1.2**
OHR				*i* Sg		**Sn**	**15 03 16.4**	**+0.7**
OHR				*e*Lg		Lg	15 03 16.6	
	comp=N,5μm,1.1s							
BCI	**Bajram Curri**	**1.09**	**25**	P		**Pg**	**15 03 00.4**	**-1.3**
BCI				S		**Sb**	**15 03 16.1**	**+0.7**
BCI	**Bajram Curri**	**1.09**	**25**	*i* PG		**Pg**	**15 03 00.5**	**-1.3**
BCI				*i* SG		**Sb**	**15 03 16.0**	**+0.7**
TPE	**Tepelena**	**1.17**	**158**	P		**Pn**	**15 03 03.5**	**+1.0**
TPE				S		**Sn**	**15 03 22.4**	**+4.2**
TPE	**Tepelena**	**1.17**	**158**	*i* PN		**Pb**	**15 03 03.0**	**+0.4**
TPE				*i* SN		**Sn**	**15 03 21.6**	**+3.4**
CEME	**Cevo**	**1.23**	**342**	⇑*i* Pg		**Pb**	**15 03 04.0**	**+0.4**
CEME				*e*Sg		**Sn**	**15 03 22.9**	**+3.2**
PVY	**Plav**	**1.27**	**18**	⇑*i* Pg		**Pg**	**15 03 05.4**	**+0.2**
PVY				*e*Sg		**Sn**	**15 03 24.3**	**+3.4**
HCY	**Herceg Novi**	**1.27**	**327**	⇑*i* Pg		**Pg**	**15 03 05.5**	**+0.2**
HCY				*e*Sg		**Sn**	**15 03 23.8**	**+3.0**
HCY	**Herceg Novi**	**1.27**	**327**	⇑*i* Pg		**Pg**	**15 03 05.4**	**+0.2**
HCY				*e*Sg		**Sn**	**15 03 23.2**	**+2.4**
NKME	**Niksic**	**1.43**	**346**	⇓*i* Pg		**Pg**	**15 03 07.8**	**-0.4**
NKME				*e*Sg		**Sg**	**15 03 28.6**	**+1.8**
NKY	**Niksic**	**1.47**	**347**	⇓*i* Pg		**Pb**	**15 03 08.2**	**+0.5**
NKY				*e*Sg		**Sg**	**15 03 28.8**	**+0.8**
KOME	**Kolasin**	**1.47**	**2**	⇑*i* Pg		**Pg**	**15 03 08.6**	**-0.3**
KOME				*e*Sg		**Sg**	**15 03 29.7**	**+1.7**
BIA	**Bitola**	**1.47**	**104**	*i* Pn		**Pn**	**15 03 08.1**	**+0.4**
BIA				*i* Sn		**Sg**	**15 03 28.8**	**+0.7**
SCTE	**Santa Cesarea**	**1.50**	**210**	P		**Pn**	**15 03 07.3**	**+0.2**
SCTE				S		**Sg**	**15 03 29.5**	**+0.4**
SCTE				AML	AML		15 03 39.1	
	comp=N,1057μm,0.5s							
SCTE				AML	AML		15 03 40.0	
	comp=E,864μm,0.8s							
IVA	**Berane**	**1.53**	**13**	⇓*i* Pg		**Pb**	**15 03 09.2**	**+0.5**
IVA				*e*Sg		**Sg**	**15 03 30.3**	**+0.4**
NEST	**Nestorio**	**1.56**	**128**	P		**Pb**	**15 03 09.4**	**+0.1**
NEST				S		**Sg**	**15 03 32.2**	**+1.3**
NEST	**Nestorio**	**1.56**	**128**	P		**Pb**	**15 03 09.4**	**+0.1**
NEST				S		**Sn**	**15 03 29.6**	**+1.6**
NEST				AML	AML		15 03 32.3	
	comp=N,1105μm,0.5s							
NEST				AML	AML		15 03 34.7	
	comp=E,1000μm,0.6s							
TREB	**Trebinje**	**1.56**	**329**	*e*Pn		**Pb**	**15 03 09.4**	**+0.1**
TREB	**Trebinje**	**1.56**	**329**	⇑*i* Pn		**Pn**	**15 03 09.1**	**+1.2**
TREB				*e*Sn		**Sg**	**15 03 30.5**	**-0.4**
SRN	**Sarande**	**1.56**	**164**	P		**Pn**	**15 03 09.1**	**+1.2**
SRN	**Sarande**	**1.56**	**164**	*i* PN		**Pb**	**15 03 10.0**	**+0.8**
SRN				*i* SN		**Sg**	**15 03 33.2**	**+2.2**
FNA	**Florina**	**1.58**	**112**	*e*Pn		**Pn**	**15 03 07.3**	**-0.9**
FNA	**Florina**	**1.58**	**112**	P		**Pn**	**15 03 09.0**	**+0.7**
FNA				S		**Sg**	**15 03 32.5**	**+0.8**
FNA	**Florina**	**1.58**	**112**	*e*Pn		**Pn**	**15 03 09.2**	**+0.9**
FNA	**Florina**	**1.58**	**112**	P		**Pn**	**15 03 09.7**	**+1.4**
FNA				S		**Sg**	**15 03 31.6**	**-0.1**
FNA				AML	AML		15 03 33.8	
	comp=N,6169μm,0.4s							
FNA				AML	AML		15 03 33.8	
	comp=E,5614μm,0.7s							
SKO	**Skopje**	**1.61**	**68**	*e*Pg		**Pb**	**15 03 10.2**	**+0.1**
SKO				*e*Sg		**Sg**	**15 03 32.8**	**+0.2**
SKO	**Skopje**	**1.61**	**68**	*i* Pn		**Pn**	**15 03 09.5**	**+0.9**
SKO				*i* Sn		**Sg**	**15 03 32.1**	**-0.5**
CGL1	**Ceglie Messapi**	**1.65**	**245**	*e*Pn		**Pn**	**15 03 09.8**	**+0.7**
CGL1				Sn		**Sn**	**15 03 30.0**	**-0.1**
BRY	**Bratogost**	**1.66**	**337**	⇓*i* Pn		**Pb**	**15 03 11.2**	**+0.2**
BRY				*e*Sn		**Sg**	**15 03 33.4**	**-0.7**
BRY	**Bratogost**	**1.66**	**337**	⇑*i* Pn		**Pb**	**15 03 10.8**	**-0.2**
BRY				*e*Sn		**Sb**	**15 03 32.8**	**+1.0**
FASA	**Fasano**	**1.67**	**251**	*e*Pn		**Pn**	**15 03 10.2**	**+0.8**
FASA				Sn		**Sn**	**15 03 32.0**	**+1.4**
KASA	**Kassiopi**	**1.68**	**167**	P		**Pn**	**15 03 10.5**	**+1.0**
KASA				S		**Sg**	**15 03 34.2**	**-0.5**
KASA				AML	AML		15 03 40.6	
	comp=N,1094μm,0.4s							
KASA				AML	AML		15 03 44.6	
	comp=E,1534μm,0.4s							
KEK	**Kerkira**	**1.69**	**170**	P		**Pn**	**15 03 10.5**	**+0.8**
KEK				S		**Sg**	**15 03 35.3**	**+0.2**
KEK	**Kerkira**	**1.69**	**170**	P		**Pn**	**15 03 10.5**	**+0.8**
PENT	**Pentalofos**	**1.75**	**132**	P		**Pb**	**15 03 12.5**	**-0.1**
PENT				S		**Sg**	**15 03 38.1**	**+0.9**
PENT	**Pentalofos**	**1.75**	**132**	P		**Pb**	**15 03 12.5**	**-0.1**
TAR1	**Taranto**	**1.84**	**243**	*e*Pn		**Pn**	**15 03 12.3**	**+0.6**
UPM	**Unac-Piva**	**1.86**	**348**	⇓*i* Pn		**Pn**	**15 03 13.9**	**+1.7**
UPM				*e*Sn		**Sb**	**15 03 39.2**	**+1.5**
UPM	**Unac-Piva**	**1.86**	**348**	⇑*i* Pn		**Pb**	**15 03 14.1**	**-0.4**
UPM				*e*Sn		**Sb**	**15 03 37.7**	**0.0**
MASS	**Massafra**	**1.89**	**247**	*e*Pn		**Pn**	**15 03 12.9**	**+0.5**
NOCI	**Noci**	**1.89**	**252**	P		**Pn**	**15 03 13.1**	**+0.7**
NOCI				AML	AML		15 03 51.1	
	comp=N,3982μm,0.4s							
NOCI				AML	AML		15 03 52.0	
	comp=E,3197μm,0.6s							
SJES	**Sjenica**	**1.92**	**12**	*e*Pg		**Pb**	**15 03 16.5**	**+1.1**
PLE	**Pljevlja**	**1.95**	**359**	⇑*i* Pn		**Pn**	**15 03 14.9**	**+1.6**
PLE				*e*Sn		**Sb**	**15 03 41.5**	**+1.5**
BAI	**Bari**	**1.95**	**263**	*e*Pn		**Pn**	**15 03 14.4**	**+1.2**
BAI				Sn		**Sn**	**15 03 37.8**	**+0.4**
STON	**Ston**	**1.97**	**320**	*e*Pn		**Pn**	**15 03 14.7**	**+1.2**
STON	**Ston**	**1.97**	**320**	*e*Pn		**Pn**	**15 03 15.3**	**+1.8**
STON				Sn		**Sn**	**15 03 38.4**	**+0.5**
STON	**Ston**	**1.97**	**320**	⇑*i* Pn		**Pn**	**15 03 14.5**	**+1.0**
STON				*e*Sn		**Sn**	**15 03 39.5**	**+1.6**
IGT	**Igoumenitsa**	**1.97**	**159**	P		**Pn**	**15 03 14.2**	**+0.7**
IGT				S		**Sb**	**15 03 42.6**	**+2.0**
IGT	**Igoumenitsa**	**1.97**	**159**	*i* Pn		**Pn**	**15 03 14.4**	**+0.9**
IGT	**Igoumenitsa**	**1.97**	**159**	P		**Pn**	**15 03 14.4**	**+0.9**
IGT				AML	AML		15 03 52.0	
	comp=N,859μm,0.7s							
IGT				AML	AML		15 03 52.1	
	comp=E,1249μm,0.8s							
JAN	**Janina**	**2.03**	**148**	P		**Pn**	**15 03 14.8**	**+0.4**
JAN				S		**Sg**	**15 03 45.2**	**-0.9**
JAN	**Janina**	**2.03**	**148**	P		**Pn**	**15 03 15.7**	**+1.3**
KPRO	**Kipourio**	**2.04**	**134**	P		**Pn**	**15 03 16.0**	**+1.4**
KPRO				S		**Sb**	**15 03 44.7**	**+1.9**
KPRO	**Kipourio**	**2.04**	**134**	P		**Pb**	**15 03 17.0**	**-0.6**
KZN	**Kozani**	**2.07**	**120**	P		**Pn**	**15 03 15.7**	**+0.7**
KZN				S		**Sg**	**15 03 46.1**	**-1.2**
KZN	**Kozani**	**2.07**	**120**	P		**Pn**	**15 03 15.8**	**+0.8**
STIP	**Stip**	**2.09**	**81**	*i* Pn		**Pb**	**15 03 18.7**	**+0.4**
STIP				*i* Sn		**Sg**	**15 03 48.8**	**+1.0**
MEV	**Metsovon**	**2.10**	**139**	P		**Pn**	**15 03 16.8**	**+1.4**
MATE	**Matera**	**2.19**	**251**	⇑*i* P		**Pn**	**15 03 17.3**	**+0.8**
MATE	**Matera**	**2.19**	**251**	S		**Sb**	**15 03 48.3**	**+1.3**
SELS	**Selova**	**2.22**	**34**	*e*Pn		**Pn**	**15 03 18.7**	**+1.7**
IVAS	**Ivanjica**	**2.25**	**13**	*e*Pn		**Pn**	**15 03 19.3**	**+1.8**
BARS	**Barje**	**2.28**	**50**	*e*Pn		**Pn**	**15 03 19.5**	**+1.7**
BARS	**Barje**	**2.28**	**50**	*e*Pn		Pg	15 03 32.5	+8.1
GRG	**Griva**	**2.28**	**100**	*e*Pn		**Pn**	**15 03 18.9**	**+1.1**
GRG	**Griva**	**2.28**	**100**	P		**Pn**	**15 03 19.0**	**+1.2**
GRG				S		**Sn**	**15 03 47.7**	**+2.0**
GRG				AML	AML		15 03 54.8	
	comp=E,626μm,0.4s							
GRG				AML	AML		15 03 55.7	
	comp=N,831μm,0.5s							
VAY	**Valandovo**	**2.36**	**90**	*e*Pn		**Pn**	**15 03 19.9**	**+1.0**
VAY	**Valandovo**	**2.36**	**90**	*i* Pn		**Pn**	**15 03 19.8**	**+1.0**
VAY				*i* Sn		**Sg**	**15 03 56.1**	**-0.4**
VAY				*e*Lg		Lg	15 03 56.8	
	comp=E,234nm,0.7s							
BBLS	**Lazići**	**2.48**	**359**	*e*Pn		**Pn**	**15 03 23.0**	**+2.4**
BBLS	**Lazići**	**2.48**	**359**	⇑*i* Pn		**Pn**	**15 03 22.7**	**+2.1**
BBLS				*e*Sn		**Sn**	**15 03 53.8**	**+3.1**
BOSS	**Bosilegrad**	**2.53**	**63**	*e*Pn		**Pn**	**15 03 22.7**	**+1.5**
KNT	**Kendrikon**	**2.62**	**94**	*e*Pn		**Pn**	**15 03 23.3**	**+0.9**
KNT	**Kendrikon**	**2.62**	**94**	P		**Pn**	**15 03 23.6**	**+1.2**
KNT				AML	AML		15 03 55.4	
	comp=E,261μm,0.5s							
KNT				AML	AML		15 03 55.5	
	comp=N,274μm,0.6s							
GRUS	**Gruza**	**2.68**	**20**	*e*Pn		**Pn**	**15 03 25.4**	**+2.2**
THL	**Klokotos Trika**	**2.68**	**132**	P		**Pn**	**15 03 24.6**	**+1.3**
THL				AML	AML		15 04 10.3	
	comp=E,231μm,0.6s							
THL				AML	AML		15 04 12.4	
	comp=N,269μm,0.6s							
TSLK	**Tsoukalades, L**	**2.72**	**160**	P		**Pn**	**15 03 24.8**	**+0.9**
HAPS	**Han Pijesak,BI**	**2.73**	**353**	*e*Pn		**Pn**	**15 03 25.4**	**+1.4**
HAPS	**Han Pijesak,BI**	**2.73**	**353**	*e*Pn		**Pn**	**15 03 24.8**	**+0.8**
HAPS				*e*Sn		**Sn**	**15 03 59.7**	**+2.9**
DIVS	**Divibare**	**2.75**	**8**	*e*Pn		**Pn**	**15 03 26.1**	**+1.8**
DIVS	**Divibare**	**2.75**	**8**	⇑*i* Pn		**Pn**	**15 03 25.8**	**+1.5**
DIVS				*e*Sn		**Sn**	**15 03 59.4**	**+2.2**
LKD2	**Lefkada island**	**2.75**	**160**	P		**Pn**	**15 03 24.9**	**+0.5**
THE	**Thessaloniki**	**2.77**	**105**	*e*Pn		**Pn**	**15 03 25.6**	**+1.1**
THE	**Thessaloniki**	**2.77**	**105**	P		**Pn**	**15 03 25.

ARSA	Arzberg	6.50	336	*i* Pn		Pn	15 04 17.4 +1.6
	comp=N,3.8nm,0.3s						
PSZ	Piszkesteto	6.54	3	*e*Pn		Pn	15 04 17.4 +1.0
PSZ	Piszkesteto	6.54	3	⇑*i*P		Pn	15 04 17.1 +0.7
MYKA	Terra Mystica	6.70	323	*e*Pn		Pn	15 04 19.8 +1.1
	comp=N,3.0nm,0.3s						
MYKA				*i* Sn		Sn	15 05 35.0 +0.3
	comp=N,4.3nm,0.3s						
ICOR	Ion Corvin	6.74	63	⇑*i*P		Pn	15 04 18.5 -0.5
VRI	Vrincioaia	6.93	47	⇑*i*P		Pn	15 04 22.8 +1.1
VRI	Vrincioaia	6.93	47	S		Sn	15 05 41.8 +1.5
CONA	Conrad Observa	7.02	340	Pn		Pn	15 04 25.8 +2.8
	comp=N,1.2nm,0.3s						
TLB	Topalu	7.08	60	⇑*i*P		Pn	15 04 23.6 0.0
TRPA	Tarpa	7.10	17	⇓*i*P		Pn	15 04 24.9 +1.0
VYHS	Vyhne	7.12	357	*e*PN		Pn	15 04 28.7 +4.4
VYHS				*e*SN		Sn	15 05 43.1 -1.9
MODS	Modra-Piesok	7.16	348	*e*SN		Sn	15 05 43.9 -1.9
KBA	Koelnbreinsper	7.18	325	*e*Pn		Pn	15 04 26.7 +1.5
	comp=N,3.4nm,0.4s,SNR=6.3						
KBA				Sn		Sn	15 05 46.5 0.0
	comp=N,5.0nm,0.4s						
VLC	Villacollemand	7.21	296	*e*Pn		Pn	15 04 26.2 +0.6
ABTA	Abfaltersbach	7.32	319	*e*Pn		Pn	15 04 28.1 +1.0
	comp=N,5.2nm,0.3s,SNR=5.8						
ABTA				*i* Sn		Sn	15 05 48.8 -1.1
	comp=N,13nm,0.7s						
BIZ	Bicaz	7.33	39	⇓*i*P		Pn	15 04 28.5 +1.3
MOA	Molln	7.44	332	*e*Pn		Pn	15 04 31.5 +2.8
	comp=N,4.8nm,0.2s,SNR=7.0						
MOA				Sn		Sn	15 05 56.3 +3.5
	comp=N,9.4nm,0.6s						
BURAR	Bucovina Array	7.47	32	*e*Pn		Pn	15 04 29.2 0.0
BURAR	Bucovina Array	7.47	32	⇑*i*P		Pn	15 04 27.9 -1.3
MANT	Manisa	7.58	109	*e*Pn		Pn	15 04 31.3 +0.5
KOLS	Kolonicke sedl	7.81	14	*e*PN		Pn	15 04 38.3 +4.6
KOLS				*e*SN		Sn	15 05 58.0 -3.9
PGF	Pioggiola	7.87	282	*e*Pn		Pn	15 04 34.6 0.0
WTTA	Wattenberg	8.11	319	*e*Pn		Pn	15 04 40.2 +2.1
	comp=N,23nm,0.5s,SNR=20						
WTTA				*e*Sn		Sn	15 06 09.4 -0.1
	comp=N,15nm,0.5s						
VRAC	Vranov	8.17	347	LR		LR	15 08 16.0
	comp=N,74nm,18.5s,baz=146,slow=41						
WATA	Walderalm	8.19	319	*i* Pn		Pn	15 04 41.9 +2.8
	comp=N,9.3nm,0.3s,SNR=7.5						
WATA				*i* Sn		Sn	15 06 12.7 +1.3
	comp=N,8.0nm,0.5s						
SQTA	Sankt Quirin	8.30	317	*e*Pn		Pn	15 04 43.0 +2.5
	comp=N,6.5nm,0.3s,SNR=5.9						
SQTA				*e*Sn		Sn	15 06 15.9 +1.9
	comp=N,8.7nm,0.4s						
FETA	Feichten	8.42	315	*e*Pn		Pn	15 04 43.8 +1.6
	comp=N,2.7nm,0.4s						
FETA				*e*Sn		Sn	15 06 17.9 +0.9
	comp=N,2.2nm,0.4s						
FUORN	Ofenpass-Fuorn	8.43	311	*e*Pn		Pn	15 04 43.7 +1.2
MOTA	Moosalm	8.43	318	*i* Pn		Pn	15 04 44.5 +2.1
	comp=N,7.4nm,0.3s,SNR=7.3						
GEC2	GERESS Array S	8.49	333	*e*Pn		Pn	15 04 43.4 +0.3
GERES	GERESS Array B	8.49	333	*e*Pn		Pn	15 04 41.7 -1.4
GERES	GERESS Array B	8.49	333	Pn		Pn	15 04 44.1 +1.0
	comp=N,0.6nm,0.3s,baz=163,slow=13,SNR=11						
GERES				LR		LR	15 08 49.4
	comp=N,106nm,19.3s,baz=71,slow=44						
KWP	Kalwaria Pacla	8.56	14	*e*Pn		Pn	15 04 43.7 -0.3
DAVOX	Davos/Dischmat	8.74	311	Pn		Pn	15 04 47.3 +0.6
	comp=N,1.0nm,0.3s,baz=146,slow=23,SNR=5.1						
KHC	Kasperske Hory	8.78	334	*e*Pn		Pn	15 04 47.8 +0.8
KHC	Kasperske Hory	8.78	334	*e*PN		Pn	15 04 47.5 +0.5
KHC				*e*SN		Sn	15 06 21.6 -4.1
TUE	Stuetta	8.88	308	*e*Pn		Pn	15 04 49.4 +0.8
DAVA	Damuels	9.04	314	*i* Pn		Pn	15 04 53.6 +2.9
	comp=N,5.6nm,0.4s,SNR=5.8						
DAVA				Sn		Sn	15 06 32.7 +0.5
	comp=N,8.2nm,0.4s						
SBF	Sospel	9.19	290	*e*P		Pn	15 04 57.4 +4.7
SBF				*e*Sn		Sn	15 06 29.7 -6.1
	comp=N,4.0nm,0.3s						
FRF	La Foret Royal	9.70	287	*e*P		Pn	15 05 03.3 +3.7
LMR	La Mourre	9.77	286	*e*Pn		Pn	15 04 58.5 -2.1
LMR				*e*Sn		Sn	15 06 43.8 -6.1
	comp=N,0.7nm,0.2s						
MBDF	Montbardon	9.85	294	*e*Pn		Pn	15 05 00.9 -1.0
MBDF				*e*Sn		Sn	15 06 46.3 -6.0
	comp=N,2.5nm,0.3s						
BNI	Bardonecchia	10.01	296	*e*Pn		Pn	15 05 03.0 -1.0
SENIN	Lac Senin/Sane	10.07	304	*e*Pn		Pn	15 05 04.5 -0.5
LPG	La Plagne	10.10	298	*e*Pn		Pn	15 05 04.5 -0.9
LPG				*e*Sn		Sn	15 06 52.5 -6.0
	comp=N,3.5nm,0.3s						
LPL	La Plagne	10.12	298	*e*Pn		Pn	15 05 04.6 -1.0
LPL				*e*Sn		Sn	15 06 52.3 -6.5
	comp=N,11nm,0.4s						
BFO	Black Forest	10.50	315	*e*Pn		Pn	15 05 10.3 -0.3
ORIF	Oris-en-Rattie	10.52	294	*e*Pn		Pn	15 05 10.3 -0.6
ORIF				*e*Sn		Sn	15 07 02.3 -6.1
	comp=N,1.8nm,0.3s						
CLL	Collm	10.87	338	*e*P		Pn	15 05 13.0 -2.6
CABF	La Chapelle	10.94	303	*e*Pn		Pn	15 05 15.5 -1.2
CABF				*e*Sn		Sn	15 07 12.7 -6.1
	comp=N,6.4nm,0.7s						
HINF	Hinteralfeld	11.03	310	*e*Pn		Pn	15 05 17.0 -0.9
HINF				*e*Sn		Sn	15 07 15.0 -6.0
	comp=N,1.4nm,0.2s						
ECH	Echery	11.07	312	*e*Pn		Pn	15 05 19.3 +0.9
CDF	Champ du Feu	11.12	313	*e*Pn		Pn	15 05 17.9 -1.2
CDF				*e*Sn		Sn	15 07 16.9 -6.2
	comp=N,0.8nm,0.2s						
LOR	Lormes	12.60	303	*e*Pn		Pn	15 05 38.4 -0.9
LOR				*e*Sn		Sn	15 07 51.7 -7.7
	comp=N,7.5nm,0.4s						
SSF	Saint Saulge	12.75	302	*e*Pn		Pn	15 05 40.5 -0.9
SSF				*e*Sn		Sn	15 07 55.2 -7.8
	comp=N,2.2nm,0.4s						
RGN	Rugen	13.79	345	*e*Pn		Pn	15 05 55.9 +0.5
MMAI	Mount Meron Ar	15.20	118	LR		LR	15 13 05.5
	comp=N,42nm,19.4s,baz=0.0,slow=41						
HFS	Hagfors	19.11	351	P		P	15 07 02.9 +0.2
	comp=N,0.2nm,0.3s,baz=166,slow=13,SNR=4.1						
HFS				LR		LR	15 15 46.9
	comp=N,60nm,18.9s,baz=143,slow=41						
NOA	NORSAR Array B	20.32	348	LR		LR	15 15 27.6
	comp=N,26nm,19.0s,baz=175,slow=38						
EKA	Eskdalemuir Ar	20.37	321	P		P	15 07 17.2 +0.7
	comp=N,2.0nm,0.7s,baz=159,slow=15,SNR=3.9						
FIA0	FINESS Array S	20.49	9	*e*P		P	15 07 17.4 -0.4
FINES	FINESS Array B	20.49	9	P		P	15 07 17.4 -0.4
	comp=N,1.7nm,0.5s,baz=176,slow=11,SNR=9.6						
AKTO	Aktyubinsk	28.05	58	LR		LR	15 21 34.8
	comp=N,23nm,19.7s,baz=223,slow=40						
ARU	Arti	29.32	46	*e*P		P	15 08 42.2 -0.2
	comp=N,22nm,2.0s						
ARU	Arti	29.32	46	LR		LR	15 21 25.4
	comp=N,84nm,21.2s,baz=98,slow=38						
TOA1	Torodi Ar. Sit	32.11	214	*e*P		P	15 09 07.9 +0.5
TORD	Torodi Ar. Bea	32.11	214	P		P	15 09 07.9 +0.5
	comp=N,0.3nm,0.6s,baz=13,slow=10,SNR=1.5						
ZALV	Zalesovo Beam	44.23	50	*e*P		P	15 10 48.4 -0.7
ZALV	Zalesovo Beam	44.23	50	P		P	15 10 48.8 -0.3
	comp=N,1.7nm,0.5s,baz=283,slow=8.0,SNR=6.6						
MK31	Makanchi Array	44.40	61	*e*P		P	15 10 49.6 -1.0
	comp=N,1.6nm,0.8s						
MKAR	Makanchi Array	44.40	61	*e*P		P	15 10 49.9 -0.7
MKAR	Makanchi Array	44.40	61	P		P	15 10 50.2 -0.3
	comp=N,1.1nm,0.6s,baz=280,slow=7.7,SNR=15						
SONM	Songino Array	59.10	52	P		P	15 12 40.4 0.0
	comp=N,0.6nm,0.8s,baz=298,slow=9.2,SNR=2.5						
YKA	Yellowknife Ar	70.10	339	P		P	15 13 51.7 0.0
	comp=N,0.6nm,0.8s,baz=45,slow=6.4,SNR=7.1						
YKB5	Yellowknife Ar	70.10	339	*e*P		P	15 13 51.7 0.0
ULM	Lac du Bonnet	72.64	323	P		P	15 14 07.1 -0.3
	comp=N,0.5nm,0.4s,baz=322,slow=1.8,SNR=3.3						
PDAR	Pinedale Array	84.44	325	LR		LR	15 55 19.2
	comp=N,35nm,18.2s,baz=226,slow=37						
ASAR	Alice Springs	123.27	93	PKP		PKPdf	15 21 35.9 -1.3
	comp=N,0.2nm,0.6s,baz=336,slow=2.0,SNR=1.8						

IDC 15 15:11:32.9±2.3,5°.99S×130°.07E,h0km,mb3.5/1, mb1 3.6/3,mb1mx3.4/21,mbtmp3.5/3,ML3.7/2,Error ellipse: s-maj=93.1km s-min=29.4km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.79	199	Pn	Pn	15 14 37.2	+1.0
	baz=24,slow=12						
WRA	Warramunga Arr	14.48	164	Pn	Pn	15 14 58.7	-0.6
	0.4nm,0.3s,baz=346,slow=13,SNR=15						
WRA				Sn	Sn	15 17 25.7	-15
	0.4nm,0.3s,baz=203,slow=24,SNR=6.6						
ASAR	Alice Springs	17.96	169	P	Pn	15 15 44.0	-0.3
	0.2nm,0.3s,baz=337,slow=8.9,SNR=16						
ASAR				S	Sn	15 18 48.2	-17
	0.1nm,0.3s,baz=352,slow=27,SNR=2.7						
MKAR	Makanchi Array	67.43	327	P	P	15 22 30.4	0.0
	0.3nm,0.6s,baz=118,slow=7.0,SNR=3.8						

*IDC **15** 15:27:35.4±1.7,4°.95N×127°.50E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.5/35,mbtmp3.9/5,Error ellipse: s-maj=106.5km s-min=21.7km az=68.0*
*NEIC **15** 15:27:43.8±0.8,5°.05N×127°.94E,h74km±9km,mb4.5/7, Error ellipse: s-maj=22.1km s-min=8.5km az=78.0*
*ISCJB **15** 15:27:44.1±0.6,5°.09N±0°.07×128°.08E±0°.2,h100km, mb3.8/6,Error ellipse: s-maj=21.8km s-min=8.7km az=169.1*
ISC 15 15:27:45.9±0.9,5°.01N±0°.10×127°.9E±0°.2,h100km,n16, σ0°.91/15,mb3.9/6,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	4.24	187	*e*Pn	Pn	15 28 48.4	0.0
GUMO	Guam	18.79	62	*e*P	P	15 31 56.9	-0.7
	325nm,1.4s						
TWG	Pinlang	18.90	340	*e*P	P	15 31 59.3	+0.6
	56nm,0.4s						
YULB	Yu-li	19.36	341	*e*P	P	15 32 03.4	-0.3
	33nm,1.8s						
TPUB	Ta-pu	19.49	340	*e*P	P	15 32 04.8	-0.4
	21nm,1.3s						
FITZ	Fitzroy Crossi	23.06	185	*e*P	P	15 32 42.7	-0.2
	76nm,1.9s						
FITZ	Fitzroy Crossi	23.06	185	P	P	15 32 43.0	0.0
	4.4nm,1.0s,baz=0.0,slow=13,SNR=2.2						
WRA	Warramunga Arr	25.59	166	P	P	15 33 07.2	+1.3
	0.8nm,0.3s,baz=344,slow=11,SNR=12						
WR1	Warramunga Arr	25.59	166	*e*P	P	15 33 07.2	+1.3
AS31	Alice Springs	29.09	169	*e*P	P	15 33 35.5	-1.8
	2.8nm,1.7s						
ASAR	Alice Springs	29.10	169	P	P	15 33 37.5	+0.3
	0.2nm,0.4s,baz=343,slow=6.9,SNR=17						
STKA	Stephens Creek	38.93	161	*e*P	P	15 35 02.8	+0.7
	4.5nm,1.7s						
STKA	Stephens Creek	38.93	161	P	P	15 35 03.3	+1.2
	1.5nm,0.4s,baz=351,slow=8.2,SNR=11						
MK32	Makanchi Array	57.19	324	*e*P	P	15 37 23.0	+0.4
MKAR	Makanchi Array	57.19	324	P	P	15 37 23.0	+0.4
	1.0nm,0.5s,baz=121,slow=7.6,SNR=15						
ILGA	Ilgaz	89.89	311	*e*pP	pP	15 40 54.5	-3.9

*ISCJB **15** 15:40:28.5±0.7,32°.0S±0°.1×57°.4E±0°.2,h11km,mb3.9/7, MS3.0/2,Error ellipse: s-maj=25.3km s-min=12.5km az=42.4*
*IDC **15** 15:40:28.3±1.4,32°.07S×57°.38E,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.7/30,mbtmp3.8/7,ML4.2/1,MS3.1/2, Ms1 3.1/2,ms1mx2.7/37,Error ellipse: s-maj=56.7km s-min=25.0km az=30.0*
*NEIC **15** 15:40:30.3±0.4,31°.99S×57°.41E,h10km,mb4.5/2,Error ellipse: s-maj=17.1km s-min=9.7km az=222.0*
ISC 15 15:40:30.5±0.8,32°.0S±0°.2×57°.4E±0°.2,h11km,n31, σ0°.52/19,mb4.0/7,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	Ambohimpanom	15.84	322	*e*Pn	Pn	15 44 13.2	-0.4
	63nm,1.9s						
OPO	Ambohidratompo	16.23	323	Pn	Pn	15 44 19.1	+0.4
	0.8nm,0.3s,baz=174,slow=10,SNR=2.6						
OPO				Sn	Sn	15 46 59.1	-20
	0.3nm,0.3s,baz=120,slow=20,SNR=1.5						
H08S1	Diego Carcia H	27.99	33	T	T	16 15 43.3	
	baz=208,slow=76,SNR=16						
H08S2	Diego Garcia H	28.00	33	T	T	16 15 41.1	
	baz=208,slow=76,SNR=14						
H08S3	Diego Garcia H	28.01	33	T	T	16 15 41.9	
	baz=208,slow=76,SNR=17						
MATP	Matopo	28.29	287	LR	LR	15 56 46.5	
	comp=Z,35nm,19.0s,baz=140,slow=35						
H08N3	Diego Garcia H	28.50	29	T	T	16 16 15.5	
	baz=204,slow=76,SNR=7.4						
H08N1	Diego Garcia H	28.51	29	T	T	16 16 18.4	
	baz=204,slow=76,SNR=7.9						
H08N2	Diego Garcia H	28.52	29	T	T	16 16 17.1	
	baz=204,slow=76,SNR=8.7						
LBTB	Lobatse	28.73	276	LR	LR	15 56 20.4	
	comp=Z,36nm,18.0s,baz=168,slow=33						
H01W2	Cape Leeuwin H	46.89	110	T	T	16 39 16.1	
	baz=258,slow=75,SNR=11						
H01W3	Cape Leeuwin H	46.89	110	T	T	16 39 14.1	
	baz=258,slow=75,SNR=15						
H01W1	Cape Leeuwin H	46.91	110	T	T	16 39 15.4	
	baz=258,slow=75,SNR=4.9						
QSPA	South Pole Qui	58.18	180	*e*P	P	15 50 24.4	+0.1
	4.9nm,0.9s						
CMAR	Chiang Mai Arr	64.03	44	P	P	15 51 04.6	+0.2
	0.9nm,0.7s,baz=226,slow=6.5,SNR=10						
ASAR	Alice Springs	66.90	104	P	P	15 51 22.8	-0.4
	0.6nm,0.8s,baz=240,slow=6.0,SNR=8.6						
WRA	Warramunga Arr	68.93	101	P	P	15 51 35.7	-0.3
	0.7nm,0.6s,baz=228,slow=6.5,SNR=5.8						
WR1	Warramunga Arr	68.93	101	*e*P	P	15 51 35.7	-0.3
TORD	Torodi Ar. Bea	69.69	301	P	P	15 51 40.9	+0.4
	0.9nm,0.8s,baz=144,slow=7.0,SNR=4.2						
TOA1	Torodi Ar. Sit	69.69	301	*e*P	P	15 51 40.9	+0.3
BR101	Keskin Array S	74.68	341	*e*P	P	15 52 09.1	-1.0
BRTR	Keskin Array B	74.68	341	P	P	15 52 09.1	-1.0
	0.7nm,0.7s,baz=175,slow=9.1,SNR=4.9						
KKAR	Karatay Array	75.69	10	*e*P	P	15 52 15.6	0.0
MK32	Makanchi Array	81.57	17	*e*P	P	15 52 48.7	+0.7
MKAR	Makanchi Array	81.57	17	P	P	15 52 48.7	+0.7
	0.4nm,0.6s,baz=151,slow=2.8,SNR=5.5						
ILAR	Eielson Array	143.93	17	PKP	PKPab	16 00 02.2	-0.1
	0.5nm,0.8s,baz=320,slow=4.2,SNR=6.2						
SCRK	Sand Creek	145.30	16	*e*PKPbc	PKPdf	16 00 08.0	+0.3
DOT	Dot Lake	145.56	17	*e*PKPdf	PKPab	16 00 08.6	+0.1
YKA	Yellowknife Ar	149.05	353	*e*PKPbc	PKPbc	16 00 17.4	-0.5
YKA	Yellowknife Ar	149.05	353	PKPbc	PKPbc	16 00 17.5	-0.3
	1.5nm,0.7s,baz=5.1,slow=2.4,SNR=31						
YKB5	Yellowknife Ar	149.05	353	*e*PKPbc	PKPbc	16 00 17.6	-0.3

*ISCJB **15** 15:57°.14.7±0.7,20°.46S±0°.02×68°.85W±0°.09,h132km±7km, Error ellipse: s-maj=13.5km s-min=4.1km az=0.0*
*IDC **15** 15:57°.15.0±1.1,20°.53S×68°.32W,h120km±15km,mb3.2/1, mb1 3.3/5,mb1mx3.1/23,mbtmp3.6/5,Error ellipse: s-maj=32.7km s-min=9.3km az=101.0*
*GUC **15** 15:57°.14.5±0.7,20°.42S×68°.71W,h126km±3km,ML3.5*
ISC 15 15:57°.14.1±0.9,20°.45S±0°.03×68°.70W±0°.08,h121km±9km, n25,σ1°.12/44,7C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.53	306	*e*P	Pn	15 57 33.3	+0.5
PB08				*e*S	Sn	15 57 48.0	+1.0
PB08	IPOC Station P	0.53	306	⇑*i*P	Pn	15 57 33.2	+0.3
PB08				*e*S	Sn	15 57 47.4	+0.5
GO01	Chusmiza	0.91	329	*e*P	Pn	15 57 36.4	+0.4
GO01				*i* S	Sn	15 57 53.0	+0.7
GO01				IAML		15 57 58.9	
	comp=E,1μm,0.1s						
PB01	IPOC Station P	0.95	231	⇑*i*P	Pn	15 57 36.3	+0.4
PB01				*e*S	Sn	15 57 53.0	+0.7
PB01				IAML		15 57 54.0	
	comp=N,2μm,0.3s						
PB11	IPOC Station P	1.13	307	*e*P	Pn	15 57 38.1	+0.3
PB11	IPOC Station P	1.13	307	⇑*i*P	Pn	15 57 38.0	+0.3
PB11				*e*S	Sn	15 57 55.9	+0.3
PB11				IAML		15 57 58.5	
	comp=E,1μm,0.3s						
PB02	IPOC Station P	1.42	232	*e*P	Pn	15 57 41.2	+0.4
PB02	IPOC Station P	1.42	232	*e*P	Pn	15 57 41.2	+0.4
PB02				*e*S	Sn	15 58 02.0	+0.9
PB02				IAML		15 58 07.1	
	comp=E,819nm,0.3s						
PB09	IPOC Station P	1.43	201	*e*P	Pn	15 57 42.2	+1.1
PB09				*e*S	Sn	15 58 03.3	+1.8
MNMC	Minye Minye	1.56	327	⇑*i*P	Pn	15 57 43.5	+0.8
MNMC				*e*S	Sn	15 58 05.5	+1.2
MNMCX	Minye Minye	1.56	327	*e*P	Pn	15 57 43.7	+1.0
MNMCX				*e*S	Sn	15 58 06.0	+1.7
PSGC	Pisagua	1.59	302	⇑*i*P	Pn	15 57 42.7	0.0
PSGC				*e*S	Sn	15 58 04.4	-0.1
PSGC				IAML		15 58 05.9	
	comp=E,512nm,0.2s						
PSGCX	Pisagua	1.59	302	*e*P	Pn	15 57 42.9	+0.1
PSGCX				*e*S	Sn	15 58 05.0	+0.5
PB07	IPOC Station P	1.69	221	*e*P	Pn	15 57 44.5	+0.5
PB07				*e*S	Sn	15 58 06.9	+0.1
PB07	IPOC Station P	1.69	221	⇑*e*P	Pn	15 57 44.3	+0.3
PB07				*i* S	Sn	15 58 07.5	+0.7
PB07				IAML		15 58 09.1	
	comp=E,507nm,0.3s						
PB03	IPOC Station P	1.87	212	*e*P	Pn	15 57 47.1	+0.9
PB03				*i* S	Sn	15 58 11.0	+0.2
PB03				IAML		15 58 11.3	
	comp=E,122nm,0.2s						
LVC	Limon Verde	2.16	185	P	Pn	15 57 51.3	+1.3
	comp=E,4.4nm,0.3s,baz=23,slow=13,SNR=12						
LVC				S	Sn	15 58 18.1	+0.7
	comp=E,11nm,0.3s,baz=77,slow=23,SNR=25						
PB04	IPOC Station P	2.31	216	*e*P	Pn	15 57 52.9	+1.2
PB04				*i* S	Sn	15 58 19.6	-0.9
PB04				IAML		15 58 28.7	
PB06	IPOC Station P	2.39	200	*e*P	Pn	15 57 53.5	+0.8
PB06				*i* S	Sn	15 58 22.4	+0.2
PB06				IAML		15 58 23.2	
	comp=N,138nm,0.4s						
PB12	IPOC Station P	2.39	320	⇑*i*P	Pn	15 57 52.1	-0.6
PB12				*i* S	Sn	15 58 22.0	-0.1
PB12				IAML		15 58 23.0	
	comp=N,324nm,0.5s						
LPAZ	La Paz	4.17	7	P	Pn	15 58 19.1	+2.4
	comp=N,0.8nm,0.3s,baz=188,slow=7.8,SNR=18						
LPAZ				S	Sn	15 59 07.1	+2.1
	comp=N,0.2nm,0.3s,baz=177,slow=13,SNR=1.5						
SIV	San Ignacio	8.49	60	P	Pn	15 59 11.1	-3.3
	comp=N,1.4nm,0.3s,baz=255,slow=12,SNR=25						
CPUP	Villa Florida	11.96	121	P	Pn	15 59 58.1	-2.7
	comp=N,0.2nm,0.3s,baz=313,slow=12,SNR=4.3						
PLCA	Paso Flores	20.28	184	P	P	16 01 41.0	+0.8
	comp=N,2.4nm,0.9s,baz=14,slow=8.7,SNR=3.2						
ASAR	Alice Springs	130.93	208	PKP	PKPdf	16 16 12.3	+0.2
	comp=N,0.3nm,1.0s,baz=157,slow=3.0,SNR=1.9						

*ATH **15** 15:58:03.1,41°.53N×19°.53E,h8km±2km,ML2.3/5,Error ellipse: s-maj=5.0km s-min=1.7km az=173.0*
*PDG **15** 15:58:05.8±0.3,41°.43N×19°.61E,h6km,ML2.5/11,Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*BEO **15** 15:58:05.2±0.6,41°.30N×19°.55E,h11km±2km,ML2.3/8*
ISC 15 15:58:05.8±1.2,41°.40N±0°.03×19°.55E±0°.03,h4km±10km, n40,σ0°.93/66,10C-2D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.24	102	*e*Pg	Pg	15 58 09.9	-0.6
TIR				*e*Sg	Sg	15 58 15.0	+1.4
TIR	Tirane	0.24	102	P	Pg	15 58 09.7	-0.8
TIR				S	Sg	15 58 13.4	-0.2
TIR				AML	AML	15 58 16.2	
	comp=E,3408μm,0.3s						
TIR				AML	AML	15 58 16.5	
	comp=N,2171μm,0.3s						
ULC	Ulcinj	0.61	338	⇑*i*Pg	Pg	15 58 16.7	-0.8
ULC				*e*Sg	Sb	15 58 27.2	-0.9
DRME	Dracevica, Mon	0.83	341	⇑*i*Pg	Pg	15 58 21.9	+0.1
DRME				*e*Sg	Sb	15 58 34.6	+0.1
OHR	Ohrid	0.98	107	*i* Pg	Pg	15 58 24.3	-0.3
OHR				*i* Sg	Sb	15 58 39.2	+0.3
BUM	Brajici-Budva	1.03	332	⇓*i*Pg	Pg	15 58 25.1	-0.4
BUM				*e*Sg	Sn	15 58 41.3	-0.7
PDG	Podgorica	1.05	348	*e*Pg	Pg	15 58 26.1	+0.1
PDG				*e*Sg	Sn	15 58 42.1	-0.5
TTG	Podgorica	1.05	348	⇑*i*Pg	Pg	15 58 25.1	-0.9
TTG				*e*Sg	Sb	15 58 41.6	+0.8
PVY	Plav	1.23	14	⇑*i*Pg	Pg	15 58 28.0	-1.5
PVY				*e*Sg	Sn	15 58 47.3	+0.1
CEME	Cevo	1.24	338	⇓*i*Pg	Pg	15 58 28.2	-1.4
CEME				*e*Sg	Sn	15 58 47.4	+0.1
HCY	Herceg Novi	1.31	323	⇑*i*Pg	Pn	15 58 29.6	-1.4
HCY				*e*Sg	Sn	15 58 51.2	+2.3
BIA	Bitola	1.39	105	*i* Pn	Pn	15 58 30.5	-1.6
BIA				*i* Sn	Sn	15 58 52.2	+1.2
NKME	Niksic	1.44	342	⇑*i*Pg	Pn	15 58 31.7	-1.0
NKME				*e*

ML4.5(THR),MN4.5(TEH),After THR.
*OMAN **15** 16:09:03.4±0.3,26°.67N×57°.94E,h10km,ml4.4/16,Error ellipse: s-maj=5.0km s-min=2.8km az=32.0*
*MOS **15** 16:09:03.8±1.4,26°.77N×57°.88E,h23km,mb4.7/44,Error ellipse: s-maj=7.2km s-min=4.6km az=109.8*
ISC 15 16:09:03.0±0.3,26°.61N±0°.03×57°.86E±0°.03,h10km,n303,σ1979/295,mb4.5/93,MS3.7/19,12C-4D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**0.97**	**185**	*e*Pg		**Pn**	**16 09 23.9**	**+1.2**
JSK1					IAMB	IAmb	16 10 00.2	
comp=Z,0.0nm,1.1s								
NIAN	**Nian**	**1.31**	**316**	*e*Pg		**Pb**	**16 09 27.8**	**0.0**
NIAN					IAMB	IAmb	16 09 51.5	
comp=Z,0.0nm,0.6s								
KHNJ	**Kahnooj**	**1.34**	**354**	*e*Pg		**Pn**	**16 09 26.1**	**-1.8**
KHNJ					IAMB	IAmb	16 09 52.0	
comp=Z,0.0nm,1.6s								
SHME	**Shamm**	**1.64**	**251**	*e*P		**Pb**	**16 09 32.9**	**-0.5**
SHME=133								
SHME				S		**Sg**	**16 09 57.1**	**+1.4**
SHME	**Shamm**	**1.64**	**251**	*e*Pn		**Pb**	**16 09 33.0**	**-0.3**
GENO	**Geno**	**1.70**	**298**	*e*Pn		**Pb**	**16 09 33.8**	**-0.7**
GENO					IAMB	IAmb	16 10 01.1	
comp=Z,0.0nm,0.6s								
MSFE	**Esma-Masafi**	**1.97**	**231**	*e*P		**Pn**	**16 09 35.6**	**-0.9**
SNR=17								
MSFE	**Esma-Masafi**	**1.97**	**231**	*e*Pn		**Pn**	**16 09 35.6**	**-0.9**
UMQ	**Umm Al-Quwin**	**2.25**	**242**	*e*P		**Pn**	**16 09 41.2**	**+0.9**
SNR=12								
UMQ	**Umm Al-Quwin**	**2.25**	**242**	P		**Pb**	**16 09 43.3**	**-0.4**
UMQ	**Umm Al-Quwin**	**2.25**	**242**	*e*Pn		**Pb**	**16 09 42.8**	**-0.9**
HATD	**Hatta, Dubai**	**2.36**	**222**	*e*P		**Pn**	**16 09 40.5**	**-1.4**
SNR=19								
HATD	**Hatta, Dubai**	**2.36**	**222**	P		**Pn**	**16 09 40.8**	**-1.1**
SNR=21								
HATD				S		**Sb**	**16 10 16.2**	**+1.3**
HATD	**Hatta, Dubai**	**2.36**	**222**	*e*Pn		**Pn**	**16 09 40.6**	**-1.3**
ASHO	**Ashiyiah**	**2.51**	**221**	*e*P		**Pn**	**16 09 43.7**	**-0.2**
SNR=36								
ASHO	**Ashiyiah**	**2.51**	**221**	P		**Pn**	**16 09 43.8**	**-0.1**
SNR=36								
ASHO				S		**Sn**	**16 10 15.9**	**+1.3**
ASHO	**Ashiyiah**	**2.51**	**221**	*e*Pn		**Pn**	**16 09 43.0**	**-1.0**
NAZ	**Nazwa, Dubai**	**2.55**	**231**	*e*P		**Pn**	**16 09 45.5**	**+1.0**
SNR=40								
NAZ	**Nazwa, Dubai**	**2.55**	**231**	P		**Pb**	**16 09 48.3**	**-0.6**
SNR=40								
NAZ	**Nazwa, Dubai**	**2.55**	**231**	*e*Pn		**Pb**	**16 09 47.2**	**-1.7**
CHBR	**Chabahar**	**2.57**	**113**	*e*Pn		**Pb**	**16 09 47.3**	**-1.9**
SOHO	**SOHO**	**2.74**	**206**	P		**Pn**	**16 09 45.7**	**-1.4**
SNR=144								
SOHO				S		**Sb**	**16 10 23.6**	**-2.1**
FAQ	**Al Faqa, Dubai**	**2.76**	**228**	*e*P		**Pn**	**16 09 47.8**	**+0.5**
SNR=16								
FAQ	**Al Faqa, Dubai**	**2.76**	**228**	P		**Pn**	**16 09 49.6**	**+2.2**
SNR=16								
FAQ	**Al Faqa, Dubai**	**2.76**	**228**	*e*Pn		**Pn**	**16 09 49.7**	**+2.4**
ASUD	**Al Ashush, Dub**	**3.02**	**230**	*i* P		**Pn**	**16 09 52.6**	**+1.7**
SNR=49								
ASUD	**Al Ashush, Dub**	**3.02**	**230**	P		**Pn**	**16 09 53.2**	**+2.4**
SNR=49								
ASUD	**Al Ashush, Dub**	**3.02**	**230**	*e*Pn		**Pn**	**16 09 53.6**	**+2.7**
HOQ	**Hoqain**	**3.05**	**189**	P		**Pn**	**16 09 50.7**	**-0.6**
SNR=11								
HOQ				S		**Sn**	**16 10 27.1**	**-0.9**
HOQ	**Hoqain**	**3.05**	**189**	*e*Pn		**Pn**	**16 09 50.8**	**-0.6**
BIDO	**Bidbid**	**3.08**	**175**	P		**Pn**	**16 09 51.4**	**-0.4**
BIDO				S		**Sn**	**16 10 26.9**	**-1.8**
BIDO	**Bidbid**	**3.08**	**175**	*e*Pn		**Pn**	**16 09 51.6**	**-0.2**
ALNE	**Al Ain**	**3.18**	**217**	*i* P		**Pn**	**16 09 52.2**	**-0.9**
SNR=20								
ALNE	**Al Ain**	**3.18**	**217**	*e*Pn		**Pn**	**16 09 54.9**	**+1.8**
NGRK	**Negar Kerman**	**3.18**	**342**	*e*Pn		**Pn**	**16 09 54.9**	**+1.4**
NGRK					IAMB	IAmb	16 10 55.7	
comp=Z,0.0nm,1.5s								
CHMN	**Cheshme madani**	**3.25**	**355**	*e*Pn		**Pn**	**16 09 56.6**	**+2.1**
CHMN					IAMB	IAmb	16 10 50.2	
comp=Z,0.0nm,0.7s								
AJN	**Ajban**	**3.30**	**232**	*i* P		**Pn**	**16 09 56.5**	**+1.8**
SNR=8.1								
AJN	**Ajban**	**3.30**	**232**	P		**Pn**	**16 09 57.2**	**+2.5**
AJN				S		**Sb**	**16 10 41.6**	**-0.2**
AJN	**Ajban**	**3.30**	**232**	*e*Pn		**Pn**	**16 09 56.8**	**+2.1**
WSAR	**Wadi Sarin**	**3.43**	**168**	Pn		**Pn**	**16 09 56.9**	**+0.4**
comp=Z,19nm,0.3s,baz=354,slow=10.0,SNR=138								
WSAR				Sn		**Sn**	**16 10 35.1**	**-2.1**
comp=Z,57nm,0.3s,baz=320,slow=22,SNR=12								
ARQ	**Araqi**	**3.48**	**201**	P		**Pn**	**16 09 59.5**	**+2.3**
SNR=21								
ARQ				S		**Sn**	**16 10 41.9**	**+3.5**
TVBK	**TV Kerman**	**3.50**	**344**	*e*Pn		**Pn**	**16 10 00.1**	**+2.2**
TVBK					IAMB	IAmb	16 11 21.2	
comp=Z,0.0nm,0.8s								
BSY	**Bisya**	**3.89**	**189**	P		**Pn**	**16 10 05.1**	**+2.2**
SNR=7.0								
BSY				S		**Sn**	**16 10 53.0**	**+4.2**
KHGB	**Koh Gabri**	**3.94**	**342**	*e*Pn		**Pn**	**16 10 05.9**	**+2.0**
KHGB					IAMB	IAmb	16 11 18.8	
comp=Z,0.0nm,1.8s								
ZHSF	**Zahedan**	**3.95**	**40**	*e*Pn		**Pn**	**16 10 04.7**	**+0.8**
WBK	**Wadi Bani Khal**	**4.11**	**165**	P		**Pn**	**16 10 07.6**	**+1.7**
WBK				S		**Sn**	**16 10 54.3**	**+0.3**
JHRM	**Jahrom**	**4.24**	**297**	*e*Pn		**Pn**	**16 10 09.7**	**+1.9**
GHIR	**Ghir-Karzin**	**4.64**	**292**	*e*Pn		**Pn**	**16 10 13.4**	**+0.1**
JLN	**Jalan Bani Buh**	**4.66**	**162**	P		**Pn**	**16 10 13.6**	**+0.1**
IPAR	**Pars**	**5.33**	**308**	*e*Pn		**Pn**	**16 10 23.7**	**+0.8**
IMEH	**Mehriz**	**5.55**	**330**	*e*Pn		**Pn**	**16 10 26.1**	**+0.2**
MHTO	**MHTO**	**5.60**	**179**	P		**Pn**	**16 10 27.5**	**+1.1**
IKOO	**Kooshah**	**5.88**	**10**	*e*Pn		**Pn**	**16 10 30.9**	**+0.4**
IKAZ	**Kazeroun**	**6.18**	**302**	*e*Pn		**Pn**	**16 10 34.4**	**-0.3**
IDAH	**Dahanechah**	**6.36**	**15**	*e*Pn		Pn	**16 10 41.8**	**+4.8**
ICHK	**Chekchek**	**6.37**	**333**	*e*Pn		**Pn**	**16 10 38.1**	**+0.9**
TPRV	**Parvadeh(Tabas**	**6.48**	**351**	*e*Pn		**Pn**	**16 10 40.5**	**+1.9**
TKDS	**Koohdasht(Taba**	**7.01**	**355**	*e*Pn		**Pn**	**16 10 47.3**	**+1.4**
KLNJ	**Kolanjah**	**7.03**	**310**	*e*Pn		**Pn**	**16 10 45.3**	**-1.1**
TNSJ	**Nastanj**	**7.41**	**352**	*e*Pn		**Pn**	**16 10 53.4**	**+2.0**
ANAR	**Anarak**	**7.47**	**332**	*e*Pn		**Pn**	**16 10 52.4**	**+0.1**
IGAR	**Gharneh**	**7.68**	**320**	*e*Pn		**Pn**	**16 10 54.9**	**-0.3**
IZEF	**Zefreh**	**7.89**	**324**	*e*Pn		**Pn**	**16 10 58.8**	**+0.6**
JHBN	**Jahan bin**	**8.41**	**313**	*e*Pn		**Pn**	**16 11 04.0**	**-1.2**
IKLH	**Kolahrood**	**8.62**	**322**	*e*Pn		**Pn**	**16 11 09.5**	**+1.4**
DMTO	**DMTO**	**9.25**	**198**	P		**Pn**	**16 11 15.1**	**-1.4**
KHMZ	**Khomeyn**	**9.86**	**318**	*e*Pn		**Pn**	**16 11 25.0**	**0.0**
IKIA	**Kiasar**	**10.21**	**341**	*e*Pn		**Pn**	**16 11 32.6**	**+2.7**
IDOB	**Doab**	**11.01**	**313**	*e*Pn		**Pn**	**16 11 39.0**	**-1.8**
GEYT	**Alibeck**	**11.29**	**1**	Pn		**Pn**	**16 11 46.9**	**+2.5**
comp=Z,1.2nm,0.3s,baz=32,slow=14,SNR=9.7								
GEYT					Lg	Lg	16 14 56.0	
comp=Z,0.8nm,0.3s,baz=196,slow=26,SNR=2.4								
GYA0B	**ALIBECK ARRAY**	**11.29**	**1**	*e*Pn		**Pn**	**16 11 42.2**	**-2.3**
IBZA	**Bozab**	**11.64**	**315**	*e*Pn		**Pn**	**16 11 47.9**	**-1.6**
KBL	**Kabul**	**12.46**	**48**	*e*Pn		**Pn**	**16 11 59.8**	**-0.8**
KBL	**Kabul**	**12.46**	**48**	*e*P		**Pn**	**16 11 59.8**	**-0.8**
NIL	**Nilore**	**15.05**	**59**	*e*Pn		**Pn**	**16 12 34.0**	**-1.8**
comp=Z,35nm,0.8s								
NIL	**Nilore**	**15.05**	**59**	*e*P		**Pn**	**16 12 34.0**	**-1.8**
NIL					pmax	pmax		
comp=Z,35nm,0.8s								
CHGR	**Chuyangaron**	**15.31**	**36**	*e*Pn		**Pn**	**16 12 35.9**	**-3.5**
comp=Z,80nm,1.7s								
GAR	**Garm**	**16.18**	**37**	*e*Pn		**Pn**	**16 12 47.3**	**-3.3**
comp=Z,17nm,0.7s								
GAR	**Garm**	**16.18**	**37**	*e*P		**Pn**	**16 12 47.3**	**-3.3**
GAR					pmax	pmax		
comp=Z,17nm,0.7s								
AKT	**Akhty**	**17.02**	**333**	*i* P		**Pn**	**16 13 00.5**	**-0.8**
GNI	**Garni**	**17.36**	**324**	*e*Pn		**Pn**	**16 13 01.8**	**-3.8**
comp=Z,25nm,1.0s								
GNI	**Garni**	**17.36**	**324**	*i* P		**Pn**	**16 13 05.6**	**0.0**
GNI					pmax	pmax		
comp=Z,47nm,0.8s								
GNI	**Garni**	**17.36**	**324**	P		**P**	**16 13 08.2**	**+1.2**
comp=Z,1.0nm,0.3s,baz=219,slow=9.0,SNR=6.7								
GNI					LR	LR	16 21 11.1	
comp=Z,90nm,18.8s,baz=112,slow=42								
GNBR	**Gunib**	**18.10**	**333**	*i* P		**Pn**	**16 13 14.0**	**-0.6**
TBLG	**Delisi**	**18.55**	**328**	*e*P		**P**	**16 13 15.4**	**-4.5**
comp=Z,32nm,1.5s								
TBLG	**Delisi**	**18.55**	**328**	*e*P		**P**	**16 13 15.4**	**-4.5**
TBLG					pmax	pmax		
comp=Z,32nm,1.5s								
BTLR	**Botlikh**	**18.63**	**332**	*i* P		**P**	**16 13 20.4**	**-0.4**
DVE	**Vedeno**	**18.91**	**333**	*i* P		**P**	**16 13 23.5**	**-0.4**
ASF	**Jabal al Asfar**	**19.08**	**292**	P		**P**	**16 13 24.4**	**-1.5**
comp=Z,0.4nm,0.3s,baz=75,slow=8.5,SNR=6.4								
KK31	**Karatay Array**	**19.42**	**29**	*e*P		**P**	**16 13 27.1**	**-2.3**
comp=Z,12nm,0.8s								
KK31	**Karatay Array**	**19.42**	**29**	*e*P		**P**	**16 13 27.1**	**-2.3**
KK31					pmax	pmax		
comp=Z,12nm,0.8s								
KKAR	**Karatay Array**	**19.42**	**29**	*e*P		**P**	**16 13 27.2**	**-2.2**
comp=Z,12nm,0.8s								
KKAR	**Karatay Array**	**19.42**	**29**	*e*P		**P**	**16 13 27.2**	**-2.2**
KKAR					pmax	pmax		
comp=Z,12nm,0.8s								
ZEI	**Tsey**	**19.76**	**328**	*e*P		**Pn**	**16 13 34.5**	**-0.3**
ZEI					pmax	pmax		
comp=Z,9.0nm,0.8s								
KSH	**Kashi**	**19.86**	**45**	P		**P**	**16 13 32.0**	**-2.4**
KSH				pP		Pn	16 13 36.3	+0.3
KSH				PP			16 14 49.8	
KSH				S		S	16 17 03.1	-15
KSH				SS		**SnSn**	**16 17 28.4**	**-5.3**
AML	**Almayashu**	**20.21**	**36**	P		**P**	**16 13 37.5**	**-1.0**
SNR=16								
EIL	**Elat**	**20.42**	**284**	P		**P**	**16 13 41.2**	**+0.8**
comp=Z,20nm,0.9s,baz=97,slow=2.9,SNR=12								
EIL					LR	LR	16 23 20.0	
comp=Z,127nm,19.7s,baz=97,slow=42								
NCK	**Nalchik**	**20.45**	**329**	*i* P		**P**	**16 13 40.9**	**+0.3**
MMAI	**Mount Meron Ar**	**20.48**	**294**	P		**P**	**16 13 41.6**	**+0.5**
comp=Z,9.9nm,0.7s,baz=100,slow=14,SNR=19								
MMAI					LR	LR	16 21 57.4	
comp=Z,104nm,21.1s,baz=240,slow=38								
ATD	**Arta Tunnel**	**20.61**	**226**	P		Pn	16 13 44.9	0.0
comp=Z,12nm,0.8s,baz=91,slow=21,SNR=4.9								
ATD					LR	LR	16 22 32.0	
comp=Z,114nm,20.1s,baz=55,slow=39								
EKS2	**Erkin-Say**	**20.63**	**35**	P		**P**	**16 13 42.2**	**-0.6**
SNR=13								
UCH	**Uchtor**	**20.72**	**37**	P		Pn	16 13 48.3	+1.9
SNR=7.2								
KBZ	**Khabaz**	**20.95**	**328**	P		Pn	16 13 50.0	+1.5
comp=Z,2.8nm,0.7s,baz=136,slow=5.8,SNR=6.5								
AAK	**Ala-Archa**	**20.99**	**36**	*e*P		**P**	**16 13 45.2**	**-1.4**
comp=Z,12nm,0.8s								
AAK	**Ala-Archa**	**20.99**	**36**	*c e*P		**P**	**16 13 47.4**	**+0.7**
AAK					pmax	pmax		
comp=Z,9.0nm,1.0s								
AAK	**Ala-Archa**	**20.99**	**36**	P		**P**	**16 13 46.1**	**-0.6**
comp=Z,6.4nm,0.8s,baz=219,slow=7.9,SNR=10								
KZA	**Kyzart**	**21.02**	**38**	P		**P**	**16 13 48.9**	**+1.6**
SNR=26								
NRN	**Naryn**	**21.03**	**41**	*e*P		**P**	**16 13 45.5**	**-1.8**
comp=Z,16nm,0.8s								
NRN	**Naryn**	**21.03**	**41**	*e*P		**P**	**16 13 45.5**	**-1.8**
NRN					pmax	pmax		
comp=Z,16nm,0.8s								
SHA1	**Shidzhatmaz**	**21.07**	**328**	*i* P		**P**	**16 13 49.1**	**+1.5**
KIV	**Kislovodsk**	**21.22**	**329**	*e*P		**P**	**16 13 46.9**	**-2.1**
comp=Z,16nm,0.9s								
KIV	**Kislovodsk**	**21.22**	**329**	*e*P		**P**	**16 13 48.9**	**-0.2**
KIV					pmax	pmax		
comp=Z,60nm,1.0s								
HYB	**Hyderabad**	**21.23**	**111**	*i* P		**P**	**16 13 53.0**	**+3.7**
USP	**Ospenovka**	**21.44**	**35**	P		**P**	**16 13 54.9**	**+3.6**
SNR=6.8								
ULHL	**Ulahol**	**21.68**	**39**	P		**P**	**16 13 54.4**	**+0.2**
SNR=16								
TKM2	**Tokmak 2**	**21.77**	**37**	P		**P**	**16 13 57.6**	**+2.5**
SNR=9.4								
TKM2	**Tokmak 2**	**21.77**	**37**	*i* P		**P**	**16 13 57.2**	**+2.0**
TKM2					pmax	pmax		
comp=Z,12nm,0.8s								
KDJ	**Kajisay**	**22.15**	**41**	*e*P		**P**	**16 13 58.3**	**-0.9**
comp=Z,35nm,0.7s								
KDJ	**Kajisay**	**22.15**	**41**	*e*P		**P**	**16 13 58.3**	**-0.9**
KDJ					pmax	pmax		
comp=Z,35nm,0.7s								
TARG	**Taragay, Kyrgy**	**22.28**	**42**	*e*P		**P**	**16 14 00.0**	**-0.8**
comp=Z,8.8nm,0.8s								
PYUN	**Piuthan**	**22.36**	**80**	*e*P		**P**	**16 14 04.4**	**+2.8**
comp=Z,49nm,1.1s								
ABKAR	**Akbulak array**	**22.67**	**4**	*e*P		**P**	**16 14 02.6**	**-1.8**
KOLN	**Koldanda**	**22.92**	**81**	*e*P		**P**	**16 14 11.4**	**+3.9**
comp=Z,30nm,1.1s								
DANN	**Dangsing**	**23.04**	**80**	*e*P		**P**	**16 14 10.2**	**+1.4**
comp=Z,134nm,1.1s								
AKTO	**Aktyubinsk**	**23.79**	**0**	P		**P**	**16 14 15.4**	**-0.4**
comp=Z,7.1nm,0.7s,baz=175,slow=10,SNR=15								
BR101	**Keskin Array S**	**24.04**	**309**	*e*P		**P**	**16 14 17.9**	**-0.5**
BR131	**Keskin Array S**	**24.04**	**309**	*e*P		**P**	**16 14 17.4**	**-1.0**
comp=Z,13nm,0.8s								
BRTR	**Keskin Array B**	**24.04**	**309**	*e*P		**P**	**16 14 16.2**	**-2.2**
BRTR	**Keskin Array B**	**24.04**	**309**	*e*P		**P**	**16 14 16.2**	**-2.2**
BRTR	**Keskin Array B**	**24.04**	**309**	P		**P**	**16 14 17.9**	**-0.5**
comp=Z,7.9nm,0.7s,baz=124,slow=12,SNR=42								
BRTR					LR	LR	16 25 31.2	
comp=Z,143nm,18.5s,baz=92,slow=41								
SNOP	**Sinop**	**24.11**	**315**	*e*P		**P**	**16 14 17.3**	**-1.6**
comp=Z,14nm,0.7s								
PDGK	**Podgornoye**	**24.23**	**41**	*i* P		**P**	**16 14 19.3**	**-0.9**
PDGK					pmax	pmax		
comp=Z,20nm,0.8s								
DMN	**Daman**	**24.26**	**81**	*e*P		**P**	**16 14 27.4**	**+6.6**
comp=Z,30nm,1.0s								
OTUK	**Ortayu**	**24.39**	**24**	P		**P**	**16 14 26.5**	**+5.1**
OTUK					pmax	pmax		
comp=Z,7.0nm,0.8s								
KKN	**Kakani**	**24.40**	**81**	*e*P		**P**	**16 14 28.3**	**+6.3**
comp=Z,17nm,0.8s								
PKIN	**Phulchoki**	**24.52**	**81**	*e*P		P	16 14 31.0	+7.9
comp=Z,11nm,0.8s								
BZK	**Bozkurt**	**24.84**	**314**	⇑*i*P		**P**	**16 14 25.9**	**+0.3**
JIRN	**Jiri**	**25.22**	**81**	*e*P		P	16 14 38.0	+8.5
RAMN	**Ramite**	**25.64**	**83**	*e*P		P	16 14 41.7	+8.4
comp=Z,20nm,1.0s								
MDUB	**Mudurnu**	**26.05**	**309**	*e*P		**P**	**16 14 35.0**	**-1.7**
comp=Z,158nm,0.8s								
MAKZ	**Makanchi**	**27.75**	**37**	*e*P		**P**	**16 14 51.4**	**-0.4**
comp=Z,22nm,1.8s								
MAKZ	**Makanchi**	**27.75**	**37**	*e*P		**P**	**16 14 51.4**	**-0.4**
MAKZ					pmax	pmax		
comp=Z,22nm,1.8s								
MK31	**Makanchi Array**	**27.91**	**37**	*e*P		**P**	**16 14 53.0**	**-0.2**
comp=Z,2.4nm,0.9s								
MK31	**Makanchi Array**	**27.91**	**37**	*e*P		**P**	**16 14 53.0**	**-0.2**
MK31					pmax	pmax		
comp=Z,2.0nm,0.9s								
MK32	**Makanchi Array**	**27.91**	**37**	*e*P		**P**	**16 14 53.7**	**+0.5**
MKAR	**Makanchi Array**	**27.91**	**37**	*e*P		**P**	**16 14 52.5**	**-0.6**
MKAR	**Makanchi Array**	**27.91**	**37**	*e*P		**P**	**16 14 52.6**	**-0.6**
MKAR	**Makanchi Array**	**27.91**	**37**	P		**P**	**16 14 53.7**	**+0.5**
comp=Z,1.5nm,0.7s,baz=230,slow=8.6,SNR=13								
BVAR	**Borovoye Array**	**28.00**	**16**	P		**P**	**16 14 52.8**	**-1.2**
comp=Z,3.1nm,0.7s,baz=206,slow=6.4,SNR=12								
BRVK	**Borovoye**	**28.00**	**16**	*e*P		**P**	**16 14 54.1**	**+0.1**
comp=Z,7.2nm,1.1s								
BRVK	**Borovoye**	**28.00**	**16**	*c i*P		**P**	**16 14 53.2**	**-0.8**
BRVK					pmax	pmax		
comp=Z,4.0nm,1.0s								
VSR	**Storozhevoye**	**28.39**	**335**	*i* P		**P**	**16 14 56.2**	**-1.2**
VSR					pmax	pmax		
comp=Z,6.0nm,1.0s								
KURBB	**Kurchatov Arra**	**28.72**	**28**	P		**P**	**16 14 59.2**	**-1.1**
comp=Z,0.6nm,0.6s,baz=228,slow=8.1,SNR=4.0								
KURK	**Kurchatov**	**28.83**	**28**	*e*P		**P**	**16 15 01.1**	**-0.2**
comp=Z,12nm,1.7s								
KURK	**Kurchatov**	**28.83**	**28**	*c e*P		**P**	**16 15 04.6**	**+3.3**
KURK					pmax	pmax		
comp=Z,3.0nm,1.0s								
IDI	**Anoyia**	**29.46**	**295**	P		**P**	**16 15 07.1**	**-0.1**
comp=Z,6.6nm,0.7s,baz=84,slow=9.1,SNR=8.5								
WMQ	**Urumqi**	**29.60**	**47**	*e*P		**P**	**16 15 09.5**	**+1.1**
SRS	**Serrai**	**31.69**	**306**	P		P	16 15 32.3	+5.5
SRS					pmax	pmax		
comp=Z,9.0nm,1.1s								
VOIR		**32.20**	**314**	⇑*i*P		**P**	**16 15 31.3**	**0.0**
VOIR		**32.20**	**314**	P		**P**	**16 15 31.8**	**+0.5**
VOIR					pmax	pmax		
comp=Z,6.0nm,1.1s								
DOPR	**Dopca**	**32.21**	**315**	⇑*i*P		**P**	**16 15 30.9**	**-0.4**
DGZ	**Jazzator, Alta**	**32.39**	**37**	*i* P		**P**	**16 15 37.4**	**+4.4**
DGZ					pmax	pmax		
comp=Z,2.0nm,0.7s								
OBN	**Obninsk**	**32.45**	**337**	*i* P		**P**	**16 15 34.5**	**+1.3**
OBN				*i*			16 16 41.4	
OBN				*i*			16 18 24.1	
OBN					pmax	pmax		
comp=Z,7.0nm,1.0s								
OBN					MLR	MLR		
comp=Z,116nm,16.0s								
AKASG	**Malin Array Be**	**32.49**	**325**	*i* P		**P**	**16 15 33.5**	**-0.1**
AKASG					pmax	pmax		
comp=Z,3.0nm,0.5s								
AKASG	**Malin Array Be**	**32.49**	**325**	P		**P**	**16 15 32.2**	**-1.5**
comp=Z,2.6nm,0.6s,baz=129,slow=8.2,SNR=12								
AKASG					LR	LR	16 31 31.9	
comp=Z,93nm,20.7s,baz=115,slow=42								
KIEV	**Kiev**	**32.49**	**325**	*e*P		**P**	**16 15 32.1**	**-1.6**
comp=Z,12nm,1.0s								
KIEV	**Kiev**	**32.49**	**325**	⇓*i*P		**P**	**16 15 33.7**	**+0.1**
KIEV	**Kiev**	**32.49**	**325**	*i* P		**P**	**16 15 33.9**	**+0.2**
KIEV					pmax	pmax		
comp=Z,10.0nm,0.9s								
BURAR	**Bucovina Array**	**33.06**	**318**	*e*P		**P**	**16 15 36.7**	**-2.1**
BURAR	**Bucovina Array**	**33.06**	**318**	⇑*i*P		**P**	**16 15 42.1**	**+3.3**
BUR08	**Bucovina Ar. S**	**33.08**	**318**	*e*P		**P**	**16 15 36.6**	**-2.4**
comp=Z,5.2nm,1.1s								
FNA	**Florina**	**33.23**	**305**	*e*P		**P**	**16 15 38.1**	**-2.2**
comp=Z,9.5nm,0.7s								
FNA	**Florina**	**33.23**	**305**	*e*P		**P**	**16 15 38.1**	**-2.2**
FNA					pmax	pmax		
comp=Z,10.0nm,0.7s								
GZR	**Gura Zlata**	**33.66**	**313**	⇓*i*P		**P**	**16 15 43.3**	**-0.7**
HERR	**Herculane**	**33.71**	**312**	⇑*i*P		**P**	**16 15 42.3**	**-2.1**
NVS	**Novosibirsk**	**33.77**	**26**	*e*P		**P**	**16 15 47.1**	**+2.3**
ZAA0	**Zalesovo Array**	**33.80**	**29**	*e*P		**P**	**16 15 44.5**	**-0.5**
comp=Z,7.1nm,0.8s								
ZALV	**Zalesovo Beam**	**33.80**	**29**	*e*P		**P**	**16 15 45.4**	**+0.4**
ZALV	**Zalesovo Beam**	**33.80**	**29**	*e*P		**P**	**16 15 45.4**	**+0.4**
ZALV	**Zalesovo Beam**	**33.80**	**29**	P		**P**	**16 15 43.7**	**-1.4**
comp=Z,5.7nm,0.7s,baz=238,slow=9.2,SNR=9.2								
ZAA1	**Zalesovo Array**	**33.80**	**29**	*e*P		**P**	**16 15 43.7**	**-1.4**
KMBO	**Kilima Mbogo**	**33.99**	**219**	*i* P		P	16 15 55.8	+8.4
KMBO					pmax	pmax		
comp=Z,1.0nm,0.3s								
KMBO	**Kilima Mbogo**	**33.99**	**219**	LR		LR	16 30 32.4	
comp=Z,88nm,18.4s,baz=91,slow=38								
MDVR	**Moldovita**	**34.15**	**312**	⇑*i*P		**P**	**16 15 48.0**	**-0.3**
DRGR		**34.24**	**315**	⇑*i*P		**P**	**16 15 48.8**	**-0.3**
DRGR		**34.24**	**315**	P		**P**	**16 15 49.7**	**+0.6**
DRGR					pmax	pmax		
comp=Z,13nm,1.7s								
BZS	**Buzias**	**34.50**	**313**	⇑*i*P		**P**	**16 15 51.1**	**-0.1**
BZS	**Buzias**	**34.50**	**313**	P		**P**	**16 15 51.5**	**+0.3**
BZS					pmax	pmax		
comp=Z,7.0nm,0.9s								
SIRR	**Siria**	**34.71**	**314**	⇓*i*P		**P**	**16 15 52.7**	**-0.4**
KOLS	**Kolonicke sedl**	**35.41**	**319**	*e*P		**P**	**16 16 00.2**	**+1.1**
KOLS	**Kolonicke sedl**	**35.41**	**319**	*e*P		**P**	**16 16 00.2**	**+1.1**
KWP	**Kalwaria Pacla**	**35.47**	**320**	*e*P		**P**	**16 15 58.0**	**-1.6**
comp=Z,183

comp=Z,0.7nm,0.7s,baz=257,slow=8.7,SNR=3.3
SONM LR LR 16 38 52.9

comp=Z,126nm,19.3s,baz=240,slow=41
ULN Ulaanbaatar 43.67 48 *c*eP **P 16 17 11.4 +3.2**
ULN pmax pmax

comp=Z,2.0nm,1.0s
SBF Sospel 43.93 307 *e*P P 16 17 16.0 +5.8
SBF pmax pmax

comp=Z,29nm,1.2s
XAN Xi'an 44.32 68 P **P 16 17 17.6 +4.2**
CDF Champ du Feu 44.69 313 *e*P **P 16 17 15.8 -0.4**
CDF pmax pmax

comp=Z,6.0nm,1.1s
ECH Echery 44.73 313 *e*P **P 16 17 13.7 -2.8**
comp=Z,12nm,1.1s
ECH Echery 44.73 313 P **P 16 17 17.0 +0.6**
ECH pmax pmax

comp=Z,11nm,1.2s
HINF Hinteralfeld 44.86 312 *e*P **P 16 17 19.3 +1.8**
HINF pmax pmax

comp=Z,7.0nm,1.2s
CABF La Chapelle 45.20 310 *e*P **P 16 17 19.2 -1.1**
CABF pmax pmax

comp=Z,93nm,2.1s
VIVF Saint-Julien-l 45.99 308 *e*P **P 16 17 29.2 +2.6**
VIVF pmax pmax

comp=Z,7.0nm,1.2s
NRIK Noril'sk 46.17 14 P **P 16 17 28.5 +1.0**
comp=Z,1.4nm,0.5s,baz=219,slow=18,SNR=3.5
NRIK LR LR 16 39 07.9

comp=Z,113nm,20.1s,baz=202,slow=39
HHC Hu-ho-hao-te 46.19 58 *e*P **P 16 17 28.4 +0.2**
NB2 NORSAR Subarra 46.50 331 P **P 16 17 28.5 -1.8**
comp=Z,6.9nm,1.1s,baz=114,slow=7.9
NB200 NORSAR Array S 46.50 331 *e*P **P 16 17 27.9 -2.4**
NOA NORSAR Array B 46.50 331 P **P 16 17 27.9 -2.4**
comp=Z,0.3nm,0.5s,baz=120,slow=7.6,SNR=2.7
NOA LR LR 16 38 55.3

comp=Z,67nm,20.8s,baz=110,slow=39
SMF Signal de Mont 46.74 310 *e*P **P 16 17 31.1 -1.3**
SMF pmax pmax

comp=Z,9.0nm,0.6s
LOR Lormes 46.80 311 *e*P **P 16 17 31.3 -1.5**
LOR pmax pmax

comp=Z,19nm,1.4s
ARA0 ARCESS Array S 46.92 345 *e*P **P 16 17 32.5 -0.9**
ARCES ARCESS Array B 46.92 345 P **P 16 17 32.5 -0.9**
comp=Z,3.6nm,0.9s,baz=140,slow=9.6,SNR=8.0
SSF Saint Saulge 47.01 311 *e*P **P 16 17 33.3 -1.2**
SSF pmax pmax

comp=Z,12nm,0.9s
AVF Avril sur Loir 47.09 310 *e*P **P 16 17 33.6 -1.5**
AVF pmax pmax

comp=Z,24nm,1.4s
BGF Bois d'Agland 47.41 310 *e*P **P 16 17 39.9 +2.3**
BGF pmax pmax

comp=Z,7.0nm,0.7s
MTLF Montolieu 47.68 305 *e*P **P 16 17 41.0 +1.3**
MTLF pmax pmax

comp=Z,50nm,1.9s
TCF Toulx Ste Croi 47.83 309 *e*P **P 16 17 39.9 -1.0**
TCF pmax pmax

comp=Z,3.0nm,0.5s
CAF Calviac 47.85 308 *e*P **P 16 17 45.1 +4.0**
CAF pmax pmax

comp=Z,6.0nm,0.8s
LFF La Frestale 48.79 308 *e*P **P 16 17 48.1 -0.1**
LFF pmax pmax

comp=Z,5.0nm,0.6s
WHN Wuhan 49.33 72 P P 16 18 00.5 +7.9
ETSF Etsaut 49.71 305 *e*P P 16 18 00.6 +5.2
ETSF pmax pmax

comp=Z,6.0nm,0.8s
BOD Bodaibo 49.97 35 *e*P **P 16 17 55.1 -1.9**
BOD pmax pmax

comp=Z,7.0nm,1.4s
SJPF Ste Jean 50.19 305 *e*P **P 16 17 59.9 +0.9**
SJPF pmax pmax

comp=Z,49nm,1.5s
ESDC Sonseca Array 52.44 301 P **P 16 18 14.6 -1.4**
comp=Z,1.1nm,0.5s,baz=69,slow=7.5,SNR=10
NJ2 Nanjing 52.85 69 *e*P **P 16 18 17.1 -2.0**
TOA0 Torodi Ar. Sit 54.10 267 *e*P **P 16 18 25.6 -2.8**
comp=Z,6.0nm,0.7s
TORD Torodi Ar. Bea 54.10 267 P **P 16 18 25.8 -2.6**
comp=Z,1.9nm,0.5s,baz=46,slow=7.6,SNR=22
TOA1 Torodi Ar. Sit 54.10 267 *e*P **P 16 18 25.8 -2.7**
CN2 Changchun 56.33 54 *e*P **P 16 18 46.1 +1.9**
TIXI Tiksi 59.01 20 *i*P **P 16 19 05.1 +2.5**
TIXI pmax pmax

comp=Z,1.0nm,0.9s
KSRS Korea Array 59.16 61 P **P 16 19 03.5 -0.6**
comp=Z,0.5nm,0.5s,baz=275,slow=7.1,SNR=2.9
KSRS LR LR 16 49 21.0

comp=Z,67nm,18.3s,baz=272,slow=41
KLR Kul'dur 60.05 47 *i*P **P 16 19 13.3 +3.2**
KLR pmax pmax

comp=Z,2.0nm,0.9s
DBIC Dimbokro 62.67 264 LR LR 16 49 02.6
comp=Z,69nm,18.1s,baz=37,slow=38
BOSA Boshof 63.20 212 LR LR 16 47 30.6
comp=Z,57nm,18.6s,baz=42,slow=36
MJAR Matsushiro Arr 67.36 59 LR LR 16 51 48.6
comp=Z,39nm,19.0s,baz=275,slow=38
YSS Yuzh-Sakhalins 67.72 48 *e*P P 16 20 07.5 +6.8
BILL Bilibino 72.16 22 *i*P **P 16 20 31.5 +3.9**
BILL pmax pmax

comp=Z,2.0nm,1.3s
BILL MLR MLR

comp=Z,324nm,23.0s
IMAR Indian Mountai 84.58 12 *e*P **P 16 21 35.9 -0.4**
MLY Manley 86.00 12 *e*P **P 16 21 42.3 -1.1**
comp=Z,9.9nm,1.6s
BPAW Bear Paw Mtn. 86.80 12 *e*P **P 16 21 46.7 -0.7**
comp=Z,4.7nm,0.9s
ILAR Eielson Array 86.90 10 P **P 16 21 48.8 +0.9**
comp=Z,0.4nm,0.7s,baz=322,slow=4.3,SNR=8.6
ILAR LR LR 17 06 09.1

comp=Z,38nm,18.2s,baz=353,slow=40
CAST Castle Rocks 87.20 13 *e*P **P 16 21 49.9 +0.6**
comp=Z,6.6nm,1.0s
WR1 Warramunga Arr 87.37 114 *e*P **P 16 21 52.1 +1.3**
WRA Warramunga Arr 87.37 114 P **P 16 21 52.1 +1.3**
comp=Z,0.5nm,0.7s,baz=17,slow=27,SNR=5.5
ASAR Alice Springs 88.85 117 P **P 16 21 57.4 -0.4**
comp=Z,0.4nm,0.7s,baz=307,slow=5.2,SNR=6.4
YKA Yellowknife Ar 91.00 357 *i*P P 16 22 12.4 +5.2
YKA pmax pmax

comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 91.00 357 P **P 16 22 07.3 +0.1**
comp=Z,0.2nm,0.7s,baz=360,slow=5.7,SNR=3.3
YKB5 Yellowknife Ar 91.00 357 *e*P **P 16 22 07.3 +0.1**

*ISCJB **15** 16:12:32.4±0.4, 24°.85N±0°.02×122°.28E±0°.02, h7km±2km, Error ellipse: s-maj=3.5km s-min=2.7km az=17.9*
*TAP **15** 16:12:32.6, 24°.86N×122°.21E, h10km, ML2.7, C*
*JMA **15** 16:12:33.2±0.1, 24°.80N×122°.22E, h50km±4km, M2.2*
ISC 15 16:12:31.9±1.1**, 24°.86N**±0°.02×**122°.30E**±0°.03**, h10**km±8km**, n67**, σ0^{s}**65**/116**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.32**	**297**	P	**Pg**	**16 12 38.2**	**-0.1**
	baz=306						
TWB1				S	**Sg**	**16 12 41.7**	**-0.9**
	baz=306						
EGS		**0.34**	**267**	P	**Pg**	**16 12 38.5**	**-0.1**
	baz=267						
EGS				S	**Sg**	**16 12 42.2**	**-0.9**
	baz=267						
EOS1	**EOS1**	**0.35**	**207**	*e*P	**Pg**	**16 12 39.7**	**+0.9**
	baz=207						
EOS1				S	**Sg**	**16 12 44.9**	**+1.3**
	baz=207						
NTC	**Toucheng**	**0.43**	**269**	P	**Pg**	**16 12 40.1**	**-0.2**
	baz=270						
NTC				S	**Sg**	**16 12 45.9**	**-0.2**
	baz=270						
TIPB	**Shuangxi**	**0.45**	**284**	P	**Pg**	**16 12 40.6**	**-0.1**
	baz=287						
TIPB				S	**Sg**	**16 12 46.9**	**+0.3**
	baz=287						
TWC	**Suao**	**0.48**	**239**	*e*P	**Pg**	**16 12 40.7**	**-0.7**
	baz=234						
TWC				*e*S	**Sg**	**16 12 47.5**	**-0.3**
	baz=234						
WFSB	**Wu-fen Shan**	**0.52**	**294**	*e*P	**Pg**	**16 12 42.5**	**+0.5**
	baz=297						
WFSB				*e*S	**Sb**	**16 12 49.9**	**-0.8**
	baz=297						
TWE	**Neicheng**	**0.59**	**256**	*e*P	**Pg**	**16 12 42.8**	**-0.7**
	baz=247						
TWE				*e*S	**Sg**	**16 12 51.1**	**-0.2**
	baz=247						
TWA	**Mucha**	**0.66**	**280**	*e*P	**Pg**	**16 12 44.8**	**0.0**
	baz=282						
TWA				*e*S	**Sg**	**16 12 54.0**	**+0.6**
	baz=282						
ENA	**Nanau**	**0.67**	**230**	*e*P	**Pg**	**16 12 44.2**	**-0.7**
	baz=215						
ENA				*e*S	**Sg**	**16 12 54.1**	**+0.5**
	baz=215						
YM07	**YM07**	**0.69**	**297**	*e*P	**Pb**	**16 12 45.8**	**-0.3**
	baz=299						
YM07				S	**Sb**	**16 12 55.7**	**-0.1**
	baz=299						
ENTT	**Nioudou**	**0.71**	**252**	*e*P	**Pg**	**16 12 45.4**	**-0.2**
	baz=250						
ENTT				*e*S	**Sg**	**16 12 55.0**	**+0.2**
	baz=250						
NHDH	**Xindian Distri**	**0.71**	**278**	*e*P	**Pg**	**16 12 45.7**	**0.0**
	baz=279						
NHDH				S	**Sb**	**16 12 55.8**	**-0.5**
	baz=279						
JYNG	**Yonagunijimaku**	**0.71**	**125**	P	**Pn**	**16 12 47.5**	**-0.6**
JYNG				*e*S	**Sn**	**16 12 58.1**	**-1.0**
YM01	**YM01**	**0.72**	**293**	*e*P	**Pb**	**16 12 46.3**	**-0.4**
	baz=295						
YM01				*e*S	**Sb**	**16 12 56.1**	**-0.5**
	baz=295						
YM08	**YM08**	**0.72**	**297**	P	**Pg**	**16 12 46.1**	**+0.3**
	baz=299						
YM08				S	**Sb**	**16 12 56.6**	**0.0**
	baz=299						
YM11	**YM11**	**0.73**	**295**	P	**Pb**	**16 12 46.5**	**-0.3**
	baz=297						
YM11				*e*S	**Sb**	**16 12 56.8**	**0.0**
	baz=297						
NWLT	**Wulai**	**0.73**	**263**	*e*P	**Pg**	**16 12 46.0**	**-0.1**
	baz=257						
NWLT				*e*S	**Sg**	**16 12 56.1**	**+0.4**
	baz=257						
YM10	**YM10**	**0.73**	**294**	*e*P	**Pb**	**16 12 46.5**	**-0.3**
	baz=295						
YM10				*e*S	**Sb**	**16 12 57.4**	**+0.4**
	baz=295						
TATO	**Taipei**	**0.75**	**279**	*e*P	**Pg**	**16 12 46.4**	**0.0**
	baz=280						
TATO				*e*S	**Sb**	**16 12 56.8**	**-0.5**
	baz=280						
TWY	**Chenhua**	**0.76**	**303**	P	**Pb**	**16 12 47.2**	**0.0**
	baz=305						
TWY				S	**Sb**	**16 12 57.6**	**0.0**
	baz=305						
YOJ	**Yonaguni jima**	**0.76**	**122**	*e*P	**Pn**	**16 12 48.6**	**-0.1**
	baz=120						
YOJ				*e*S	**Sn**	**16 12 59.9**	**-0.3**
	baz=120						
YOJ	**Yonaguni jima**	**0.76**	**122**	P	**Pn**	**16 12 48.3**	**-0.4**
YOJ				*e*S	**Sn**	**16 12 59.1**	**-1.1**
NDT	**Datong Townshi**	**0.76**	**250**	P	**Pg**	**16 12 46.8**	**+0.1**
	baz=249						
NDT				*e*S	**Sg**	**16 12 57.0**	**+0.3**
	baz=249						
ANP	**Anpu**	**0.78**	**295**	*e*P	**Pg**	**16 12 47.0**	**+0.1**
	baz=296						
PCYT	**Pengchaiyu**	**0.79**	**345**	*e*P	**Pb**	**16 12 47.9**	**+0.2**
	baz=348						
NTST	**Danshui**	**0.83**	**291**	*e*P	**Pn**	**16 12 48.7**	**-1.0**
	baz=293						
TWS1	**Kuangyinshan**	**0.84**	**287**	*e*P	**Pb**	**16 12 48.1**	**-0.5**
	baz=299						
TWS1				*e*S	**Sg**	**16 12 59.9**	**+1.0**
	baz=299						
YHNB	**Yeheng**	**0.86**	**257**	P	**Pb**	**16 12 48.2**	**-0.9**
	baz=251						
YHNB				*e*S	**Sb**	**16 13 00.1**	**-0.7**
	baz=251						
NSK	**Sanguang**	**0.88**	**258**	P	**Pb**	**16 12 49.1**	**-0.3**
	baz=252						
NSK				*e*S	**Sb**	**16 13 00.3**	**-0.8**
	baz=252						
NACB	**Ninganchiao**	**0.94**	**223**	*e*P	**Pb**	**16 12 49.3**	**-1.1**
	baz=216						
NNSB	**Datong**	**0.94**	**243**	P	**Pb**	**16 12 49.6**	**-0.8**
	baz=248						
NNSB				*e*S	**Sb**	**16 13 02.5**	**-0.5**
	baz=248						
NNS	**Nan Shan**	**0.94**	**244**	P	**Pb**	**16 12 49.9**	**-0.6**
	baz=233						
NNS				*e*S	**Sb**	**16 13 02.4**	**-0.7**
	baz=233						
WLTB	**Daxi**	**0.95**	**270**	*e*P	**Pb**	**16 12 50.2**	**-0.3**
	baz=284						
WLTB				*e*S	**Sg**	**16 13 03.0**	**+0.3**
	baz=284						
ETLH	**Xiulin Townshi**	**0.99**	**229**	P	**Pb**	**16 12 50.2**	**-1.0**
	baz=228						
ETLH				*e*S	**Sb**	**16 13 02.9**	**-1.6**
	baz=228						
TWD	**Chiawan**	**1.01**	**220**	*e*P	**Pb**	**16 12 50.6**	**-0.9**
	baz=218						
TWD				S	**Sg**	**16 13 04.9**	**+0.3**
	baz=218						
WHF	**Hehuan Shan**	**1.19**	**233**	P	**Pn**	**16 12 54.3**	**-0.7**
	baz=233						
WHF				*e*S	**Sb**	**16 13 09.8**	**-0.5**
	baz=233						
LIOB	**Emei**	**1.19**	**260**	*e*P	**Pn**	**16 12 54.0**	**-0.7**
	baz=258						
NSTT	**Nanjuang**	**1.21**	**259**	*e*P	**Pn**	**16 12 54.4**	**-0.5**
	baz=259						
NSTT				*e*S	**Sn**	**16 13 10.6**	**-0.6**
	baz=259						
TDCB	**Techi**	**1.21**	**240**	*e*P	**Pb**	**16 12 54.6**	**-0.3**
	baz=232						
TDCB				*e*S	**Sn**	**16 13 10.5**	**-1.0**
	baz=232						
CHGB	**Renai**	**1.30**	**232**	P	**Pb**	**16 12 56.2**	**-0.4**
	baz=232						
CHGB				*e*S	**Sn**	**16 13 13.5**	**-0.5**
	baz=232						
WHP	**Taichung City**	**1.37**	**245**	*e*P	**Pn**	**16 12 56.8**	**-0.3**
	baz=245						
WHP				*e*S	**Sb**	**16 13 15.1**	**-0.1**
	baz=245						
OWD	**Renai**	**1.37**	**229**	*e*P	**Pb**	**16 12 57.5**	**-0.2**
	baz=222						
OWD				*e*S	**Sb**	**16 13 15.5**	**+0.2**
	baz=222						
IRIF	**Iriomote-Funau**	**1.40**	**112**	P	**Pn**	**16 12 56.9**	**-0.6**
DPDB	**Guoxing**	**1.50**	**237**	*e*P	**Pb**	**16 13 00.1**	**+0.1**
	baz=226						
VWDT	**VWDT**	**1.53**	**224**	*e*P	**Pb**	**16 12 59.9**	**-0.5**
	baz=220						
VWDT				*e*S	**Sb**	**16 13 20.4**	**+0.6**
	baz=220						
HGSD	**Ruisui**	**1.58**	**211**	*e*P	**Pb**	**16 13 00.6**	**-0.7**
	baz=196						
SMLT	**Sun Moon Lake**	**1.61**	**233**	*e*P	**Pb**	**16 13 01.1**	**-0.7**
	baz=233						
SMLT				*e*S	**Sn**	**16 13 21.2**	**-0.2**
	baz=233						
TYC	**Yuchr**	**1.63**	**234**	*e*P	**Pn**	**16 13 00.7**	**+0.1**
	baz=234						
TYC				*e*S	**Sb**	**16 13 21.7**	**-0.9**
	baz=234						
SSLB	**Suanglung**	**1.63**	**229**	*e*P	**Pb**	**16 13 02.0**	**-0.1**
	baz=230						
SSLB				*e*S	**Sn**	**16 13 21.4**	**-0.5**
	baz=230						
JKRS	**Kuro-shima**	**1.67**	**112**	P	**Pn**	**16 13 01.3**	**0.0**
YULB	**Yu-li**	**1.73**	**212**	*e*P	**Pn**	**16 13 02.3**	**+0.2**
	baz=212						
YULB				*e*S	**Sb**	**16 13 24.6**	**-1.0**
	baz=212						
JIJ	**Ishigaki jima**	**1.75**	**106**	P	**Pn**	**16 13 02.6**	**+0.3**
WHYT	**Xinyi Township**	**1.76**	**229**	*e*P	**Pb**	**16 13 04.4**	**+0.1**
	baz=214						
TWF1	**Yuli**	**1.76**	**212**	*e*P	**Pn**	**16 13 03.2**	**+0.6**
	baz=211						
TWF1				*e*S	**Sb**	**16 13 25.6**	**-1.0**
	baz=211						
WNT	**Mingjian**	**1.77**	**237**	*e*P	**Pg**	**16 13 05.6**	**-0.3**
	baz=233						
CHN5	**Tsauling**	**1.95**	**230**	*e*P	**Pb**	**16 13 07.4**	**-0.1**
	baz=225						
ELDTW	**Lidau**	**2.04**	**215**	*e*P	**Pn**	**16 13 07.3**	**+0.8**
	baz=201						
ELDTW				*e*S	**Sn**	**16 13 32.6**	**+0.5**
	baz=201						
CHN4	**Tsaushan**	**2.17**	**226**	*e*P	**Pb**	**16 13 10.4**	**-0.9**
	baz=203						
TPUB	**Ta-pu**	**2.18**	**225**	*e*P	**Pb**	**16 13 10.6**	**-0.9**
	baz=207						
TPUB				*e*S	**Sn**	**16 13 35.8**	**+0.4**
	baz=207						
STYT	**Tauyuan**	**2.21**	**220**	*e*P	**Pn**	**16 13 09.6**	**+0.9**
	baz=199						
WTP	**Ta-pu**	**2.23**	**224**	*e*P	**Pb**	**16 13 12.3**	**0.0**
	baz=206						
WTP				*e*S	**Sb**	**16 13 41.4**	**+1.3**
	baz=206						
TWK	**Hsinying**	**2.30**	**227**	*e*P	**Pn**	**16 13 10.8**	**+0.8**
	baz=221						
SLGT	**Liugui**	**2.40**	**219**	*e*P	**Pb**	**16 13 14.2**	**-1.0**
	baz=198						
MASBT	**Mashibuluo**	**2.71**	**215**	*e*P	**Pn**	**16 13 16.2**	**+0.6**
	baz=200						
MASBT				*e*S	**Sn**	**16 13 49.2**	**+0.7**
	baz=200						
EAST	**Anshuo**	**2.81**	**209**	*e*P	**Pn**	**16 13 18.8**	**+1.8**
	baz=200						
EAST				*e*S	**Sn**	**16 13 51.9**	**+1.1**
	baz=200						
KMI	**Kunming**	**17.74**	**275**	P	**P**	**16 16 41.9**	**+1.7**

*IDC **15** 16:22:15.5±43.0, 1°.60S×101°.39E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.4/36, mbtmp3.9/3, Error ellipse: s-maj=810.3km s-min=261.1km az=148.0*
*NEIC **15** 16:22:31.2±12.0, 2°.22S×102°.24E, h57km±51km, mb4.0/3, Error ellipse: s-maj=146.0km s-min=24.0km az=141.0*
ISC 15 16:22:25.7±4.4**, 1°.9S**±0°.3×**102°.0E**±0°.4**, h35**km**, n10,** σ0^{s}**57**/10**, mb3.8**/4**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.65**	**159**	*e*Pn	**Pn**	**16 23 06.0**	**0.0**
CISI	**Cisompet, Garu**	**8.10**	**134**	*e*Pn	**Pn**	**16 24 20.2**	**-0.7**
JAGI	**Jajag, Banyuwa**	**13.76**	**119**	*e*Pn	**Pn**	**16 25 38.9**	**+0.4**
KAPI	**Kappang**	**18.00**	**100**	*e*Pn	**Pn**	**16 26 33.5**	**+0.2**
	33nm,1.6s						
WR1	**Warramunga Arr**	**36.35**	**122**	*e*P	**P**	**16 29 27.4**	**+0.6**
WRA	**Warramunga Arr**	**36.35**	**122**	P	**P**	**16 29 27.4**	**+0.6**
	0.8nm,0.6s,baz=308,slow=9.3,SNR=8.2						
AS31	**Alice Springs**	**37.73**	**128**	*e*P	**P**	**16 29 37.6**	**-0.9**
	2.2nm,1.6s						
ASAR	**Alice Springs**	**37.73**	**128**	P	**P**	**16 29 38.5**	**0.0**
	0.5nm,0.4s,baz=301,slow=8.0,SNR=44						
STKA	**Stephens Creek**	**47.76**	**133**	*e*P	**P**	**16 30 59.5**	**-0.2**
	2.9nm,1.4s						
STKA	**Stephens Creek**	**47.76**	**133**	P	**P**	**16 30 59.5**	**-0.2**
	1.2nm,0.5s,baz=297,slow=7.1,SNR=4.2						

*ISCJB **15** 16:31:23.0±0.8, 18°.55S±0°.04×71°.39W±0°.06, h62km±9km, mb4.4/10, Error ellipse: s-maj=10.1km s-min=6.9km az=4.8*
*NEIC **15** 16:31:23.0±0.0, 18°.42S×71°.20W, h41km, mb4.3/4, ML4.0(GUC), After GUC.*
*GUC **15** 16:31:23.5±0.4, 18°.39S×71°.20W, h46km±3km, ML4.1*
*IDC **15** 16:31:25.2±3.4, 18°.30S×71°.02W, h55km±30km, mb4.0/8, mb1 4.2/11, mb1mx3.8/42, mbtmp4.3/11, ML4.1/3, MS3.4/7, Ms1 3.4/7, ms1mx3.1/21, Error ellipse: s-maj=26.1km s-min=17.8km az=103.0*
ISC 15 16:31:23.8±1.6**, 18°.46S**±0°.05×**71°.30W**±0°.09**, h49**km±15km**, n93,** σ1^{s}**31**/90**, mb4.3**/10**, 5C-2D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.94**	**100**	*e*P	**Pn**	**16 31 39.1**	**-1.6**
PB12				*e*S	**Sn**	**16 31 52.6**	**-0.6**
PB12	**IPOC Station P**	**0.94**	**100**	⇓*i*P	**Pn**	**16 31 39.2**	**-1.5**
PB12				*e*S	**Sn**	**16 31 51.2**	**-2.0**
PB12				IAML		16 31 52.8	
	comp=N,4μm,0.4s						
PSGC	**Pisagua**	**1.59**	**136**	⇑*i*P	**Pn**	**16 31 49.7**	**0.0**
PSGC				*e*S	**Sn**	**16 32 10.0**	**+0.8**
PSGC				IAML		16 32 12.6	
	comp=E,2μm,0.5s						
PB16	**IPOC Station P**	**1.71**	**86**	*e*P	**Pn**	**16 31 51.9**	**+0.2**
PB16				*e*S	**Sn**	**16 32 14.0**	**+1.3**
PB16	**IPOC Station P**	**1.71**	**86**	*e*P	**Pn**	**16 31 51.8**	**+0.2**
PB16				*e*S	**Sn**	**16 32 13.2**	**+0.5**
PB16				IAML		16 32 18.0	
	comp=N,3μm,0.5s						
MNMC	**Minye Minye**	**1.75**	**113**	*e*Pn	**Pn**	**16 31 52.3**	**+0.3**
MNMC	**Minye Minye**	**1.75**	**113**	*e*P	**Pn**	**16 31 52.1**	**+0.2**
MNMC				*e*S	**Sn**	**16 32 14.9**	**+1.6**
MNMC				IAML		16 32 21.9	
	comp=E,5μm,0.1s						
PB11	**IPOC Station P**	**2.03**	**130**	*e*Pn	**Pn**	**16 31 56.0**	**+0.3**
PB11	**IPOC Station P**	**2.03**	**130**	*e*P	**Pn**	**16 31 55.9**	**+0.2**
PB11				*e*S	**Sn**	**16 32 22.1**	**+2.1**
PB11	**IPOC Station P**	**2.03**	**130**	⇑*i*P	**Pn**	**16 31 56.1**	**+0.4**
PB11				*e*S	**Sn**	**16 32 21.1**	**+1.2**
PB11				IAML		16 32 24.9	
	comp=N,3μm,0.4s						
GO01	**Chusmiza**	**2.33**	**122**	*e*Pn	**Pn**	**16 32 01.0**	**+0.9**
GO01	**Chusmiza**	**2.33**	**122**	⇑*i*P	**Pn**	**16 32 01.0**	**+0.9**
GO01				IAML		16 32 36.7	
	comp=E,2μm,0.5s						
PB08	**IPOC Station P**	**2.63**	**130**	*e*P	**Pn**	**16 32 04.6**	**+0.4**
PB08	**IPOC Station P**	**2.63**	**130**	*e*P	**Pn**	**16 32 04.8**	**+0.7**
PB08				*e*S	**Sn**	**16 32 37.1**	**+2.0**
PB01	**IPOC Station P**	**3.09**	**147**	*e*Pn	**Pn**	**16 32 10.3**	**+0.1**
PB01	**IPOC Station P**	**3.09**	**147**	*e*P	**Pn**	**16 32 10.2**	**+0.1**
PB02	**IPOC Station P**	**3.14**	**155**	*e*P	**Pn**	**16 32 10.8**	**-0.1**
PB07	**IPOC Station P**	**3.52**	**158**	*e*P	**Pn**	**16 32 16.0**	**-0.1**
PB07	**IPOC Station P**	**3.52**	**158**	⇑*i*P	**Pn**	**16 32 16.2**	**+0.1**
PB07				*i*S	**Sn**	**16 32 54.2**	**-2.3**
PB07				IAML		16 33 29.8	
	comp=E,376nm,0.6s						
LPAZ	**La Paz**	**3.72**	**55**	*e*P	**Pn**	**16 32 21.3**	**+2.1**
LPAZ	**La Paz**	**3.72**	**55**	P	**Pn**	**16 32 22.0**	**+2.8**
	comp=E,3.2nm,0.3s,baz=242,slow=8.4,SNR=60						
LPAZ				LR	LR	16 34 07.8	
	comp=E,668nm,18.6s,baz=287,slow=48						
PB09	**IPOC Station P**	**3.85**	**150**	*e*P	**Pn**	**16 32 20.9**	**+0.2**
PB03	**IPOC Station P**	**3.86**	**158**	*e*P	**Pn**	**16 32 20.8**	**0.0**
PB04	**IPOC Station P**	**4.01**	**165**	*e*Pn	**Pn**	**16 32 21.6**	**-1.2**
PB04	**IPOC Station P**	**4.01**	**165**	*e*P	**Pn**	**16 32 22.0**	**-0.8**
PB05	**IPOC Station P**	**4.50**	**167**	*e*P	**Pn**	**16 32 28.2**	**-1.3**
PB06	**IPOC Station P**	**4.53**	**159**	*e*P	**Pn**	**16 32 29.1**	**-0.9**
LVC	**Limon Verde**	**4.70**	**152**	*e*Pn	**Pn**	**16 32 33.4**	**+0.8**
LVC	**Limon Verde**	**4.70**	**152**	*e*P	**Pn**	**16 32 33.7**	**+1.1**
LVC				IAML		16 33 33.0	
	comp=Z,60nm,0.5s						
LVC	**Limon Verde**	**4.70**	**152**	P	**Pn**	**16 32 33.5**	**+0.9**
	comp=Z,22nm,0.3s,baz=350,slow=8.7,SNR=93						
LVC				S	**Sn**	**16 33 27.4**	**+1.4**
	comp=Z,25nm,0.3s,baz=78,slow=23,SNR=14						
LVC				LR	LR	16 34 38.0	
	comp=Z,346nm,21.7s,baz=332,slow=41						
PB10	**IPOC Station P**	**5.08**	**172**	*e*Pn	**Pn**	**16 32 35.6**	**-1.8**
GO02	**Mina Guanaco**	**6.86**	**167**	*e*Pn	**Pn**	**16 33 01.1**	**-1.0**
NNA	**Nana**	**8.36**	**319**	LR	LR	16 36 43.3	
	comp=Z,117nm,19.8s,baz=174,slow=38						
SIV	**San Ignacio**	**10.08**	**77**	P	**Pn**	**16 33 45.2**	**-0.8**
	comp=Z,3.2nm,0.3s,baz=282,slow=8.9,SNR=57						
SIV				LR	LR	16 38 01.2	
	comp=Z,307nm,20.4s,baz=285,slow=40						
CPUP	**Villa Florida**	**15.11**	**124**	*e*Pn	**Pn**	**16 34 51.5**	**-2.5**
	comp=Z,14nm,1.6s						
CPUP	**Villa Florida**	**15.11**	**124**	P	**Pn**	**16 34 55.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=312,slow=14,SNR=3.0						
CPUP				LR	LR	16 41 49.8	
	comp=Z,42nm,19.1s,baz=286,slow=42						
FLOC	**Florencia**	**20.37**	**347**	*e*P	Pn	16 36 01.4	+2.6
FLOC	**Florencia**	**20.37**	**347**	*e*P	Pn	16 36 01.4	+2.6
CRUC	**La Cruz**	**20.66**	**344**	*e*P	Pn	16 36 02.5	-0.2
CRUC	**La C

PTGA	Pitinga	20.84	34	P	P	16 35 59.6	-1.8
	comp=Z,12nm,0.6s,baz=206,slow=11,SNR=20						
SOTA	Rioblanco	21.12	345	eP	P	16 36 06.4	+1.4
SOTA	Rioblanco	21.12	345	eP	P	16 36 06.4	+1.4
BBAC	Balboa, Cauca	21.17	343	eP	P	16 36 06.1	+0.8
BBAC	Balboa, Cauca	21.17	343	eP	P	16 36 06.1	+0.8
POPC	Popayan, Colom	21.52	345	eP	P	16 36 09.4	+0.3
POPC	Popayan, Colom	21.52	345	eP	P	16 36 09.4	+0.3
PLCA	Paso Flores	22.21	178	P	P	16 36 20.0	+3.9
	comp=Z,3.2nm,1.0s,baz=12,slow=14,SNR=3.1						
BDFB	Brasilia	22.44	86	P	P	16 36 18.2	-0.6
	comp=Z,6.5nm,0.6s,baz=263,slow=12,SNR=10						
YOTC	Yotoco, Valle	22.84	347	eP	P	16 36 25.0	+1.9
YOTC	Yotoco, Valle	22.84	347	eP	P	16 36 25.0	+1.9
GUY2C	Guyana, Caldas	23.87	350	eP	P	16 36 34.4	+1.1
GUY2C	Guyana, Caldas	23.87	350	eP	P	16 36 34.4	+1.1
SMLC	San Martn de	27.22	354	eP	P	16 37 00.7	-2.5
SMLC	San Martn de	27.22	354	eP	P	16 37 00.7	-2.5
O52A	Adamsville	59.09	351	eP	P	16 41 19.0	0.0
	comp=Z,55nm,1.1s						
SCIA	State Center	63.39	342	eP	P	16 41 47.2	-0.8
	comp=Z,21nm,0.8s						
SDCO	Great Sand Dun	64.50	330	eP	P	16 41 54.8	-1.0
	comp=Z,2.1nm,0.9s						
DBIC	Dimbokro	70.10	76	eP	P	16 42 30.3	-1.0
	comp=Z,17nm,1.1s						
DBIC	Dimbokro	70.10	76	P	P	16 42 30.4	-1.0
	comp=Z,4.8nm,0.5s,baz=220,slow=7.9,SNR=3.0						
PDAR	Pinedale Array	70.36	331	LR	LR	17 15 06.4	
	comp=Z,51nm,19.8s,baz=345,slow=37						
NV01	Mina Array Sit	71.72	323	eP	P	16 42 41.4	+0.4
NVAR	Mina Array Bea	71.72	323	P	P	16 42 41.4	+0.4
	comp=Z,0.5nm,0.7s,baz=139,slow=8.8,SNR=3.8						
ULM	Lac du Bonnet	71.76	344	P	P	16 42 40.1	-0.6
	comp=Z,1.1nm,0.6s,baz=146,slow=7.3,SNR=3.1						
TOA1	Torodi Ar. Sit	78.51	72	eP	P	16 43 18.1	-2.2
TORD	Torodi Ar. Bea	78.51	72	P	P	16 43 18.1	-2.2
	comp=Z,2.5nm,0.6s,baz=247,slow=5.7,SNR=14						
TORD				LR	LR	17 16 52.2	
	comp=Z,71nm,18.7s,baz=315,slow=35						
SYO	Syowa Base	80.12	160	⇓eP	P	16 43 23.0	-5.2
SYO	Syowa Base	80.12	160	⇓eX	P	16 43 29.0	+0.8
YKA	Yellowknife Ar	87.59	341	P	P	16 44 06.7	+0.5
	comp=Z,2.2nm,0.7s,baz=136,slow=4.9,SNR=50						
YKB5	Yellowknife Ar	87.59	341	eP	P	16 44 06.7	+0.5
H11S2	WAKE ISLAND Hyl	25.20	280	T	T	19 08 04.6	
	baz=99,slow=74,SNR=119						
H11S1	WAKE ISLAND Hyl	25.21	280	T	T	19 08 10.6	
	baz=99,slow=74,SNR=54						
H11N3	WAKE ISLAND Hyl	25.21	281	T	T	19 08 12.7	
	baz=100,slow=74,SNR=25						
H11S3	WAKE ISLAND Hyl	25.22	280	T	T	19 08 04.9	
	baz=99,slow=74,SNR=47						
H11N2	WAKE ISLAND Hyl	25.22	281	T	T	19 08 17.5	
	baz=100,slow=74,SNR=25						
H11N1	WAKE ISLAND Hyl	25.23	281	T	T	19 08 13.3	
	baz=100,slow=74,SNR=18						
ASAR	Alice Springs	131.44	211	PKP	PKiKP	16 50 33.0	+0.4
	comp=Z,0.4nm,0.9s,baz=116,slow=1.6,SNR=8.5						
AS31	Alice Springs	131.44	211	ePKPdf	PKPdf	16 50 31.2	-0.4
WR1	Warramunga Arr	134.29	215	ePKPdf	PKiKP	16 50 38.6	+0.2
WRA	Warramunga Arr	134.29	215	PKP	PKiKP	16 50 38.6	+0.2
	comp=Z,0.5nm,0.6s,baz=130,slow=1.6,SNR=5.5						
ZAA1	Zalesovo Array	140.07	22	ePKPdf	PKPdf	16 50 47.5	+0.9
ZALV	Zalesovo Beam	140.07	22	PKP	PKPdf	16 50 47.5	+0.9
	comp=Z,0.5nm,0.4s,baz=315,slow=1.0,SNR=3.4						
MAKZ	Makanchi	144.20	32	ePKPdf	PKPbc	16 50 53.0	+0.6
MK31	Makanchi Array	144.37	32	ePKPdf	PKPdf	16 50 53.7	-0.8
MK32	Makanchi Array	144.37	32	ePKPdf	PKPdf	16 50 53.9	-0.6
MKAR	Makanchi Array	144.37	32	ePKPdf	PKPdf	16 50 53.7	-0.8
MKAR	Makanchi Array	144.37	32	PKP	PKPdf	16 50 53.9	-0.6
	comp=Z,1.1nm,0.6s,baz=321,slow=4.3,SNR=13						
MJAR	Matsushiro Arr	148.41	311	PKPbc	PKiKP	16 51 06.4	-0.3
	comp=Z,1.5nm,0.7s,baz=158,slow=1.5,SNR=5.7						
MAJO	Matsushiro	148.41	311	ePKPbc	PKiKP	16 51 06.4	-0.3
SONA0	Songino Array	150.64	3	ePKPbc	PKiKP	16 51 11.8	+0.6
SONM	Songino Array	150.64	3	PKPbc	PKiKP	16 51 11.8	+0.6
	comp=Z,1.7nm,0.7s,baz=302,slow=1.7,SNR=8.8						
WHN	Wuhan	166.91	338	PKP	PKPdf	16 51 27.6	+3.1

IDC 15 16:37:31.7±9.1, 6°.82S×127°.11E, h406km±115km, mb2.9/2, mb1 3.0/4, mb1mx2.7/27, mbtmp3.8/4, Error ellipse: s-maj=134.1km s-min=40.6km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.81	152	P	P	16 40 41.5	-0.5
	0.6nm,0.3s,baz=330,slow=11,SNR=32						
ASAR	Alice Springs	17.98	159	P	P	16 41 16.1	+0.2
	0.4nm,0.3s,baz=338,slow=11,SNR=47						
STKA	Stephens Creek	28.36	153	P	P	16 42 50.5	-0.2
	2.5nm,1.0s,baz=306,slow=17,SNR=5.8						
MKAR	Makanchi Array	66.53	328	P	P	16 47 39.6	0.0
	0.2nm,0.4s,baz=135,slow=6.8,SNR=3.7						

*DDA **15** 16:37:51.9, 36°.62N×33°.60E, h7km±2km, ML2.6*
*ISCJB **15** 16:37:52.6±0.7, 36°.62N±0°.05×33°.60E±0°.04, h6km±9km, Error ellipse: s-maj=8.8km s-min=4.8km az=152.9*
*ISK **15** 16:37:52.2, 36°.61N×33°.58E, h11km, ML2.5/15*

ISC 15 16:37:52.4±1.0, 36°.60N±0°.04×33°.59E±0°.03, h16km±8km, n25, σ0s37/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBE	Keben-Mersin	0.18	147	PG	Pg	16 37 56.6	-0.4
KEBE				SG	Sg	16 38 00.1	0.0
TEVE	Tevekalti-Mers	0.20	215	PG	Pg	16 37 57.3	0.0
SLFK	Silifke-Mersin	0.36	126	PG	Pg	16 37 59.9	+0.1
SILI	Silifke-Mersin	0.36	131	PG	Pg	16 37 59.9	+0.1
IKL	Isikli	0.37	168	PG	Pg	16 37 59.9	-0.1
BERE	Bereket-Mersin	0.39	229	PG	Pb	16 38 00.8	-0.2
OREN	Orenkoy-Mersin	0.41	195	PG	Pg	16 38 00.7	0.0
YESI	Yesilovacik-Me	0.41	174	PG	Pg	16 38 00.4	-0.3
GULN	MERSIN_Gulnar	0.42	185	IAML_P			
	comp=Z,2μm,0.1s						
GULN				i P	Pb	16 38 01.5	+0.1
AKKU	Akkuyu-Mersin	0.44	184	PG	Pg	16 38 01.4	+0.1
AKKU				SG	Sb	16 38 08.4	+0.2
TISA	Tisan-Mersin	0.45	170	PG	Pg	16 38 00.8	-0.6
AKK1	Akkuyu-Mersin	0.46	185	PG	Pb	16 38 01.9	-0.2
AKK1				SG	Sb	16 38 08.9	+0.3
KIZK	Mersin	0.46	105	PG	Pb	16 38 02.1	-0.1
KIZK				SG	Sb	16 38 09.2	+0.4
KIZK	Mersin	0.46	105	i P	Pg	16 38 01.8	+0.1
AKK2	Akkuyu-Mersin	0.47	184	PG	Pb	16 38 02.0	-0.2
ERMK	Ermenek	0.54	274	i P	Pn	16 38 04.9	-0.7
TEKE	Tekeli-Mersin	0.60	220	PG	Pg	16 38 04.2	0.0
MERS	Mersin	0.80	70	PG	Pb	16 38 07.8	-0.1
KERG	Konya-Eregli	0.92	28	i P	Pb	16 38 09.8	-0.2
GAZI	Gazipasa	1.09	251	PN	Pg	16 38 13.6	+0.2
GAZI	Gazipasa	1.09	251	IAML_P			
	comp=Z,810nm,0.2s						
GAZI				i P	Pg	16 38 13.7	+0.2
GAZI				i S	Sg	16 38 29.0	+1.3
GULE	Gulek	1.17	54	i P	Pn	16 38 14.1	-0.2
KARA	Karaisali	1.35	60	PN	Pb	16 38 17.5	+0.3
KEPZ	Antalya-Kepez	1.62	281	i P	Pg	16 38 23.2	-0.4
AKO	Adana	1.72	59	IAML_P			
	comp=Z,242nm,0.2s						
AKO				i P	Pg	16 38 25.3	-0.1

*HLW **15** 16:52:24.3, 36°.77N×30°.45E, h10km±27km, Md4.1, Ml4.4*
*ISCJB **15** 16:52:25.6±0.2, 36°.90N±0°.02×30°.51E±0°.01, h104km±3km, mb3.7/4, Error ellipse: s-maj=2.6km s-min=1.9km az=20.4*
*ISK **15** 16:52:26.3, 36°.97N×30°.49E, h92km, ML3.9/27*
*IDC **15** 16:52:26.5±1.6, 36°.92N×30°.64E, h82km±19km, mb3.6/4, mb1 3.6/10, mb1mx3.3/40, mbtmp3.9/10, Error ellipse: s-maj=20.7km s-min=13.6km az=111.0*
*DDA **15** 16:52:27.4, 36°.98N×30°.50E, h54km±4km, ML4.3*
*ATH **15** 16:52:27.3, 37°.10N×30°.19E, h27km±5km, ML3.8/4, Error ellipse: s-maj=11.1km s-min=1.3km az=105.0*
*THE **15** 16:52:27.6, 37°.03N×30°.38E, h2km±1km, ML3.6/8, Error ellipse: s-maj=3.3km s-min=0.8km az=90.0*
*NIC **15** 16:52:29.6±0.2, 36°.68N×30°.66E, h40km, mb4.2, ML3.9*
*GII **15** 16:52:31.2±0.2, 36°.60N×30°.85E, h80km, MD3.6/3*

ISC 15 16:52:26.8±0.8, 36°.89N±0°.02×30°.56E±0°.02, h88km±6km, n161, σ1s67/231, mb3.7/4, 17C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORT	Korkueli	0.20	305	PG	Pn	16 52 40.0	+0.3
KORT				SG	Sn	16 52 49.5	+0.2
ELL	Elmali	0.54	255	PG	Pn	16 52 42.6	+0.8
BCK	Bucak	0.57	3	PG	Pn	16 52 41.8	-0.3
BCK				SG	Sn	16 52 53.0	-0.4
AKUM	Antalya-Kumluc	0.59	197	⇓i P	Pn	16 52 43.1	+1.1
AKUM				i S	Sn	16 52 57.5	+4.2
KEPZ	Antalya-Kepez	0.84	89	IAML_P			
	comp=Z,46μm,0.3s						
KEPZ				⇑i P	Pn	16 52 45.4	+0.8
KEPZ				i S	Sn	16 52 58.3	+0.3
BRDR	BURDUR-Merkez	0.90	334	⇑i P	Pn	16 52 45.4	+0.1
BRDR				i S	Sn	16 52 56.6	-2.5
AKAS	Kas	1.00	230	PG	Pn	16 52 47.3	+0.8
AKAS				SG	Sn	16 53 02.4	+1.1
AKAS	Kas	1.00	230	IAML_P			
	comp=Z,82μm,0.2s						
AKAS				⇓i P	Pn	16 52 47.6	+1.0
AKAS				i S	Sn	16 53 03.7	+2.4
KSL	Kastellorizon	1.07	227	P	Pn	16 52 48.0	+0.9
KSL				S	Sn	16 53 03.9	+1.4
KSL	Kastellorizon	1.07	227	P	Pn	16 52 48.1	+0.9
KSL				S	Sn	16 53 03.2	+0.7
KSL				AML	AML	16 53 05.7	
	comp=N,5012μm,0.4s						
KSL				AML	AML	16 53 06.2	
	comp=E,7649μm,0.5s						
BAGO	Egridir - ISPA	1.12	9	IAML_P			
	comp=Z,28μm,0.1s						
BAGO				⇓i P	Pn	16 52 47.9	+0.1
BAGO				i S	Sn	16 53 04.1	+0.5
FETY	Fethiye	1.21	259	PN	Pn	16 52 49.0	+0.2
FETY				SN	Sn	16 53 05.6	+0.2
FETY	Fethiye	1.21	259	IAML_P			
	comp=Z,49μm,0.1s						
FETY				⇑i P	Pn	16 52 49.3	+0.5
FETY				i S	Sn	16 53 06.0	+0.6
ALAN	Alanya-ANTALYA	1.23	105	PN	Pn	16 52 49.7	+0.6
KZIL	AFYON_Kizioren	1.41	347	IAML_P			
	comp=Z,11μm,0.2s						
KZIL				i P	Pn	16 52 51.2	-0.2
KZIL				i S	Sn	16 53 09.5	-0.5
TAVA	DENIZLI_Tavas	1.43	294	IAML_P			
	comp=Z,15μm,0.1s						
TAVA				⇑i P	Pn	16 52 52.1	+0.4
TAVA				i S	Sn	16 53 09.8	-0.7
DENT	Denizli	1.49	306	PN	Pn	16 52 51.8	-0.6
DOGA	KONYA_Doganhis	1.51	36	IAML_P			
	comp=Z,26μm,0.2s						
DOGA				⇓i P	Pn	16 52 53.2	+0.5
DOGA				i S	Sn	16 53 12.7	+0.5
DALY	Dalyan (Mula)	1.53	268	PN	Pn	16 52 52.9	+0.2
DALY	Dalyan (Mula)	1.53	268	⇑i P	Pn	16 52 53.8	+1.1
DALY				i S	Sn	16 53 11.2	-1.2
GAZI	Gazipasa	1.56	114	PN	Pn	16 52 54.1	+0.9
GAZI	Gazipasa	1.56	114	⇑i P	Pn	16 52 54.5	+1.3
GAZI				i S	Sn	16 53 15.1	+1.9
TURN	Turunc	1.57	270	PN	Pn	16 52 57.1	+3.9
TURN	Turunc	1.57	270	⇑i P	Pn	16 52 57.1	+3.9
TURN				i S	Sn	16 53 19.2	+6.0
KHL	Karahalli	1.65	331	PN	Pn	16 52 53.7	-0.8
SHUT	Suhut-Afyon	1.67	360	PN	Pn	16 52 54.4	-0.3
KMER	Konya-Meram	1.69	58	IAML_P			
	comp=Z,5μm,0.1s						
KMER				i P	Pn	16 52 56.7	+1.7
KMER				i S	Sn	16 53 17.7	+1.2
KHAL	Karahalli	1.71	331	IAML_P			
	comp=Z,15μm,0.1s						
KHAL				⇑i P	Pn	16 52 54.6	-0.6
KHAL				i S	Sn	16 53 15.8	-0.9
KONT	Konya--Tatoy	1.79	53	PN	Pn	16 52 56.9	+0.8
KONT	Konya--Tatoy	1.79	53	IAML_P			
	comp=Z,7μm,0.1s						
KONT				⇓i P	Pn	16 52 57.7	+1.6
KONT				i S	Sn	16 53 20.0	+1.6
BOLV	Bolvadin	1.86	10	⇓i P	Pn	16 52 57.3	+0.1
BOLV				i S	Sn	16 53 20.3	0.0
MRSB	Marmaris-Mugla	1.90	266	PN	Pn	16 52 57.9	+0.3
ERMK	Ermenek	1.91	97	⇑i P	Pn	16 53 00.9	+3.0
ERMK				i S	Sn	16 53 25.7	+4.1
AFYO	Afyonkarahisar	1.91	354	⇓i P	Pn	16 52 58.8	+0.9
AFYO				i S	Sn	16 53 21.9	+0.5
LADK	Ladik-KONYA	1.95	47	PN	Pn	16 52 58.5	+0.2
BBRN	Bozburun-Marma	2.02	265	PN	Pn	16 52 59.5	+0.4
KDHN	Kadinhani	2.05	37	IAML_P			
	comp=Z,16μm,0.3s						
KDHN				⇓i P	Pn	16 53 00.1	+0.4
KDHN				i S	Sn	16 53 24.5	-0.2
ARG	Arkhangelos	2.07	252	PN	Pn	16 53 00.1	+0.3
ARG	Arkhangelos	2.07	252	P	Pn	16 52 59.8	0.0
ARG				S	Sn	16 53 25.4	+0.4
ARG	Arkhangelos	2.07	252	P	Pn	16 52 59.3	-0.5
ARG				S	Sn	16 53 23.9	-1.1
ARG				AML	AML	16 53 24.6	
	comp=N,2424μm,0.3s						
ARG				AML	AML	16 53 28.4	
	comp=E,2908μm,0.3s						
TEKE	Tekeli-Mersin	2.19	109	PN	Pn	16 53 02.9	+1.5
USAK	Uak-Merkez	2.19	327	⇑i P	Pn	16 53 01.1	-0.4
USAK				i S	Sn	16 53 27.3	-0.8
BERE	Bereket-Mersin	2.21	103	PN	Pn	16 53 03.9	+2.1
KULA	Kula-Manisa	2.21	318	PN	Pn	16 53 01.2	-0.6
KULA	Kula-Manisa	2.21	318	P	Pn	16 53 00.9	-0.9
KULA				S	Sn	16 53 27.0	-1.6
MANT	Manisa	2.25	316	⇑i P	Pn	16 53 02.3	-0.1
MANT				i S	Sn	16 53 28.6	-1.1
AYDN	Tasoluk	2.27	291	⇑i P	Pn	16 53 02.1	-0.4
AYDN				i S	Sn	16 53 28.5	-1.4
DATC	Datca-Mugla	2.33	268	PN	Pn	16 53 03.7	+0.5
GEDZ	Gediz	2.34	338	PN	Pn	16 53 03.3	-0.1
GDZ	Gediz	2.36	339	⇑i P	Pn	16 53 03.4	-0.4
GDZ				i S	Sn	16 53 30.7	-1.4
TEVE	Tevekalti-Mers	2.37	100	PN	Pn	16 53 05.8	+2.0
AYDB	Zeytinkoy-Aydi	2.37	297	PN	Pn	16 53 03.0	-0.9
SHAP	Saphane-Kutahy	2.38	334	PN	Pn	16 53 03.7	-0.3
ALFC	Alefka	2.39	136	P	Pn	16 53 03.8	-0.3
	baz=314						
ALFC				S	Sn	16 53 30.4	-2.3
DAT	Datca	2.40	267	PN	Pn	16 53 04.5	+0.3
DAT	Datca	2.40	267	⇑i P	Pn	16 53 04.5	+0.3
DAT				i S	Sn	16 53 33.7	+0.8
YORU	Yoruktepe-Mers	2.41	107	PN	Pn	16 53 06.3	+2.0
OREN	Orenkoy-Mersin	2.43	105	PN	Pn	16 53 06.5	+1.9
PPCY	Paphos	2.47	143	P	Pn	16 53 04.7	-0.4
	baz=322						
BDRM	Kayabasi	2.50	275	IAML_P			
	comp=Z,5μm,0.2s						
BDRM				⇑i P	Pn	16 53 05.2	-0.3
BDRM				i S	Sn	16 53 33.2	-2.0
CIFT	Cifteler, Eski	2.50	9	PN	Pn	16 53 05.3	-0.4
CIFT	Cifteler, Eski	2.50	9	⇓i P	Pn	16 53 05.6	-0.1
CIFT				i S	Sn	16 53 34.2	-1.3
GULN	MERSIN_Gulnar	2.51	105	i P	Pn	16 53 08.0	+2.4
GULN				i S	Sn	16 53 37.6	+2.2
CHBY	Cihanbeyli	2.51	47	PN	Pn	16 53 06.3	+0.6
TEPE	Tepekoy-Mersin	2.51	104	PN	Pn	16 53 07.7	+2.0
AKDN	Akdeniz- Kıbrı	2.52	128	PN	Pn	16 53 07.2	+1.5
AKK1	Akkuyu-Mersin	2.52	106	PN	Pn	16 53 07.7	+2.0
AKKU	Akkuyu-Mersin	2.52	106	PN	Pn	16 53 07.7	+1.9
AKK2	Akkuyu-Mersin	2.52	106	PN	Pn	16 53 07.4	+1.6
SMAA	Simav-Kutahya	2.54	331	PN	Pn	16 53 05.9	-0.2
KEBE	Keben-Mersin	2.58	99	PN	Pn	16 53 08.5	+1.9
YESI	Yesilovacik-Me	2.58	105	PN	Pn	16 53 08.6	+2.0
IKL	Isikli	2.60	103	PN	Pn	16 53 08.9	+2.0
BODT	Bodrum	2.60	275	PN	Pn	16 53 06.6	-0.3
BODT	Bodrum	2.60	275	P	Pn	16 53 06.4	-0.5
BODT				S	Sn	16 53 37.6	-0.2
TISA	Tisan-Mersin	2.62	105	PN	Pn	16 53 08.6	+1.5
KARG	Kargicak-Mersi	2.63	104	PN	Pn	16 53 09.3	+2.0
AUSIV	SIVRIHISAR	2.67	17	PN	Pn	16 53 07.3	-0.6
SVRH	Sivrihisar-ESK	2.67	16	PN	Pn	16 53 07.5	-0.4
SULT	Sultanhani-AKS	2.69	60	PN	Pn	16 53 09.6	+1.4
MAMC	Mammari	2.75	128	P	Pn	16 53 09.4	+0.5
	baz=306						
SILI	Silifke-Mersin	2.76	100	PN	Pn	16 53 10.9	+1.9
GCAM	G?zelcaml?	2.77	288	⇑i P	Pn	16 53 08.8	-0.3
GCAM				i S	Sn	16 53 40.8	-0.9
SLFK	Silifke-Mersin	2.77	99	PN	Pn	16 53 11.1	+2.0
SZAC	Souni	2.84	138	P	Pn	16 53 10.0	-0.2
	baz=317						
SZAC				S	Sn	16 53 42.0	-1.6
KERG	Konya-Eregli	2.90	78	i P	Pn	16 53 12.7	+1.7
KERG				i S	Sn	16 53 47.2	+2.1
KIZK	Mersin	2.91	97	i P	Pn	16 53 13.5	+2.4
KIZK				i S	Sn	16 53 49.6	+4.5
AKHS	Akhisar	2.94	313	i P	Pn	16 53 10.9	-0.6
AKHS				i S	Sn	16 53 44.5	-1.4
KKUL	Konya-Kulu	2.95	39	⇓i P	Pn	16 53 12.2	+0.5
KKUL				i S	Sn	16 53 45.9	-0.3
BORA	Eskisehir	2.99	350	⇓i P	Pn	16 53 12.7	+0.5
BORA				i S	Sn	16 53 46.2	-1.0
AUBOZ	BOZOYUK	3.05	352	i P	Pn	16 53 12.9	-0.1
AUBOZ				i S	Sn	16 53 47.5	-1.1
KARP	Karpathos	3.05	245	P	Pn	16 53 13.7	+0.7
KARP				S	Sn	16 53 49.9	+1.3
KARP	Karpathos	3.05	245	P	Pn	16 53 12.9	-0.1
KARP				AML	AML	16 53 51.1	
	comp=N,1836μm,0.3s						
KARP				AML	AML	16 53 52.8	
	comp=E,1195μm,0.3s						
SMG	Samos	3.08	287	P	Pn	16 53 12.4	-0.9
SMG				S	Sn	16 53 48.1	-1.0
SMG	Samos	3.08	287	P	Pn	16 53 12.2	-1.1
DURS	Dursunbey	3.17	329	⇑i P	Pn	16 53 14.3	-0.3
DURS				i S	Sn	16 53 49.6	-1.8
EREN	Erenkoy	3.22	114	i P	Pn	16 53 16.2	+1.0
EREN				i S	Sn	16 53 54.0	+1.4
PHNC	Paralimni	3.39	123	P	Pn	16 53 17.9	+0.4
	baz=302						
ZEY	zmir	3.49	294	i P	Pn	16 53 18.8	-0.1
ZEY				i S	Sn	16 53 56.4	-2.8
BRTR	Keskin Array B	3.73	40	P	Pn	16 53 21.7	-0.5
	comp=E,3.9nm,0.3s,baz=218,slow=14,SNR=55						
BRTR				S	Sn	16 54 03.2	-2.0
	comp=E,8.7nm,0.3s,baz=202,slow=25,SNR=21						
AMGA	Amorgos Island	3.74	271	P	Pn	16 53 21.6	-0.6
AMGA				S	Sn	16 54 06.3	+1.1
AMGA	Amorgos Island	3.74	271	P	Pn	16 53 21.4	-0.9
CHOS	Chios island	3.87	294	P	Pn	16 53 22.6	-1.5
CHOS	Chios island	3.87	294	P	Pn	16 53 23.6	-0.5
ANAF	Anafi Island	3.88	264	P	Pn	16 53 24.0	-0.2
ANAF				S	Sn	16 54 08.9	+0.2
ANAF	Anafi Island	3.88	264	P	Pn	16 53 23.9	-0.2
ZKR	Zakros	3.94	245	P	Pn	16 53 25.6	+0.7
ZKR				S	Sn	16 54 13.9	+3.9
ZKR	Zakros	3.94	245	P	Pn	16 53 24.6	-0.3
ZKR				AML	AML	16 54 10.4	
	comp=E,1136μm,0.8s						
ZKR				AML	AML	16 54 11.1	
	comp=N,550μm,0.6s						
STIA	Sitia Lasithi	3.99	246	P	Pn	16 53 26.7	+1.1
STIA				S	Sn	16 54 14.2	+3.0
APE	Apeiranthos	4.03	274	P	Pn	16 53 25.5	-0.6
CMBO	Columbo, Santo	4.16	266	P	Pn	16 53 28.1	+0.2
CMBO				S	Sn	16 54 16.7	+1.3
CMBO	Columbo, Santo	4.16	266	P	Pn	16 53 28.0	0.0
SIGR	SIGRI	4.38	303	P	Pn	16 53 30.3	-0.6
EZN	Ezine	4.43	313	P	Pn	16 53 31.4	-0.2
EZN				S	Sn	16 54 23.3	+1.3
LAST	Lasithi	4.46	249	P	Pn	16 53 31.6	-0.4
IDI	Anoyia	4.86	253	P	Pn	16 53 36.6	-0.8
	comp=N,3.5nm,0.3s,baz=342,slow=5.8,SNR=25						
IDI				S	Sn	16 54 27.7	-4.7
	comp=N,7.3nm,0.3s,baz=215,slow=12,SNR=11						
SERI	Serifos	4.87	275	P	Pn	16 53 36.7	-0.9
SIVA	Sivas	5.02	250	P	Pn	16 53 40.0	+0.4
HWQ	Hawqa	5.11	119	eP	Pn	16 53 40.7	-0.2
BHL	Bhannes	5.12	124	eP	Pn	16 53 39.9	-1.1
DQRL	Deir Qamar	5.18	126	eP	Pn	16 53 41.0	-0.9
ALN	Alexandroupoli	5.33	320	P	Pn	16 53 43.4	-0.5
QRWL	Qaraoun	5.36	127	eP	Pn	16 53 44.0	-0.3
HNTI	Hanita	5.36	134	Pn	Pn	16 53 43.4	-0.9
HNTI				Sn	Sn	16 54 40.9	-3.8
RCY	Rachaya	5.49	126	eP	Pn	16 53 46.0	-0.2
SHBL	Chebaa	5.53	128	eP	Pn	16 53 46.8	+0.1
MMA0B	Mount Meron ar	5.54	133	Pn	Pn	16 53 46.3	-0.6
MMAI	Mount Meron Ar	5.54	133	P	Pn	16 53 46.2	-0.7
	comp=N,35nm,0.3s,baz=324,slow=12,SNR=277						
MMAI				S	Sn	16 54 44.5	-4.8
	comp=N,31nm,0.3s,baz=306,slow=25,SNR=3.3						
GEM	Giv

n110,σ1°47/151,15C-9D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**102**	*e*Pg	**Pg**	**17 11 49.2**	**-1.5**
TIR				*e*Sg	**Sg**	**17 11 55.0**	**+0.2**
TIR	**Tirane**	**0.29**	**102**	P	**Pg**	**17 11 49.5**	**-1.1**
TIR				S	**Sg**	**17 11 57.3**	**+2.5**
TIR	**Tirane**	**0.29**	**102**	⇓*i*P	**Pg**	**17 11 49.6**	**-1.1**
TIR				S	**Sg**	**17 11 55.2**	**+0.4**
TIR	**Tirane**	**0.29**	**102**	*i* PG	**Pg**	**17 11 49.2**	**-1.5**
TIR				*i* SG	**Sg**	**17 11 54.2**	**-0.6**
ULC	**Ulcinj**	**0.58**	**342**	⇑*i*Pg	**Pb**	**17 11 56.3**	**-0.3**
ULC				*e*Sg	**Sn**	**17 12 06.5**	**-1.4**
DRME	**Dracevica, Mon**	**0.81**	**344**	⇑*i*Pg	**Pn**	**17 12 00.9**	**-0.7**
DRME				*e*Sg	**Sn**	**17 12 14.2**	**+0.8**
DRME	**Dracevica, Mon**	**0.81**	**344**	*e*Pn	**Pb**	**17 12 00.4**	**-0.1**
VLO	**Vlora**	**0.94**	**180**	P	**Pb**	**17 12 02.5**	**-0.2**
VLO				S	**Sn**	**17 12 20.1**	**+3.5**
VLO	**Vlora**	**0.94**	**180**	*i* PG	**Pb**	**17 12 02.8**	**+0.2**
VLO				*i* SG	**Sb**	**17 12 16.8**	**+1.8**
BUM	**Brajici-Budva**	**0.99**	**334**	⇑*i*Pg	**Pn**	**17 12 04.2**	**0.0**
BUM				*e*Sg	**Sn**	**17 12 20.5**	**+2.4**
OHR	**Ohrid**	**1.03**	**106**	*i* Pg	**Pb**	**17 12 02.9**	**-1.4**
OHR				*i* Sg	**Sg**	**17 12 19.9**	**+1.8**
PDG	**Podgorica**	**1.03**	**350**	*e*Pg	**Pn**	**17 12 05.3**	**+0.6**
PDG				*e*Sg	**Sn**	**17 12 21.8**	**+2.8**
PDG	**Podgorica**	**1.03**	**350**	⇓*i*P	**Pn**	**17 12 05.8**	**+1.1**
PDG				S	**Sn**	**17 12 21.0**	**+2.1**
PDG	**Podgorica**	**1.03**	**350**	*e*Pn	**Pb**	**17 12 04.0**	**-0.3**
TTG	**Podgorica**	**1.03**	**350**	⇓*i*Pg	**Pn**	**17 12 05.1**	**+0.4**
TTG				*e*Sg	**Sn**	**17 12 21.1**	**+2.1**
BCI	**Bajram Curri**	**1.05**	**24**	*i* PG	**Pb**	**17 12 03.5**	**-1.1**
BCI				*i* SG	**Sn**	**17 12 18.8**	**-0.6**
TPE	**Tepelena**	**1.18**	**160**	P	**Pn**	**17 12 06.6**	**-0.1**
TPE				S	**Sg**	**17 12 26.7**	**+3.9**
TPE	**Tepelena**	**1.18**	**160**	*i* PN	**Sn**	**17 12 06.3**	**-0.4**
TPE				*i* SN	**Sb**	**17 12 23.8**	**+1.8**
CEME	**Cevo**	**1.21**	**340**	⇑*i*Pg	**Pb**	**17 12 07.3**	**-0.1**
CEME				*e*Sg	**Sg**	**17 12 27.5**	**+3.7**
PVY	**Plav**	**1.23**	**16**	⇑*i*Pg	**Pb**	**17 12 07.8**	**0.0**
PVY				*e*Sg	**Sg**	**17 12 27.2**	**+2.7**
HCY	**Herceg Novi**	**1.27**	**325**	⇑*i*Pg	**Pg**	**17 12 08.4**	**-0.7**
HCY				*e*Sg	**Sg**	**17 12 29.4**	**+3.7**
HCY	**Herceg Novi**	**1.27**	**325**	*e*Pn	**Pb**	**17 12 08.1**	**-0.3**
NKME	**Niksic**	**1.41**	**344**	⇓*i*Pg	**Pg**	**17 12 11.0**	**-0.8**
NKME				*e*Sg	**Sg**	**17 12 33.3**	**+3.1**
BIA	**Bitola**	**1.44**	**105**	*i* Pn	**Pn**	**17 12 10.8**	**+0.4**
BIA				*i* Sn	**Sb**	**17 12 31.6**	**+2.2**
KOME	**Kolasin**	**1.44**	**1**	⇑*i*Pg	**Pg**	**17 12 12.3**	**0.0**
KOME				*e*Sg	**Sg**	**17 12 32.9**	**+1.8**
NKY	**Niksic**	**1.45**	**345**	⇓*i*Pg	**Pg**	**17 12 11.7**	**-0.8**
NKY				*e*Sg	**Sg**	**17 12 33.7**	**+2.3**
IVA	**Berane**	**1.49**	**12**	⇑*i*Pg	**Pb**	**17 12 12.0**	**-0.2**
IVA				*e*Sg	**Sg**	**17 12 35.0**	**+2.3**
NEST	**Nestorio**	**1.55**	**129**	P	**Pn**	**17 12 12.8**	**+1.0**
NEST				S	**Sg**	**17 12 36.9**	**+2.5**
TREB	**Trebinje**	**1.56**	**327**	*e*Pg	**Pb**	**17 12 12.2**	**-1.0**
TREB				*e*Sg	**Sg**	**17 12 36.3**	**+1.5**
TREB	**Trebinje**	**1.56**	**327**	*e*Pn	**Pn**	**17 12 12.0**	**+0.1**
FNA	**Florina**	**1.56**	**113**	P	**Pn**	**17 12 11.9**	**-0.1**
SKO	**Skopje**	**1.57**	**68**	*e*Pg	**Pn**	**17 12 13.2**	**+1.2**
SKO				*e*Sg	**Sg**	**17 12 35.1**	**0.0**
SKO	**Skopje**	**1.57**	**68**	*i* Pn	**Pn**	**17 12 13.2**	**+1.2**
SKO				*i* Sn	**Sg**	**17 12 35.3**	**+0.2**
SRN	**Sarande**	**1.58**	**165**	*i* PN	**Pn**	**17 12 12.9**	**+0.8**
SRN				*i* SN	**Sb**	**17 12 35.0**	**+1.7**
BRY	**Bratogost**	**1.65**	**335**	⇓*i*Pn	**Pb**	**17 12 14.0**	**-0.9**
BRY				*e*Sn	**Sg**	**17 12 38.8**	**+1.1**
BRY	**Bratogost**	**1.65**	**335**	*e*Pn	**Pn**	**17 12 12.8**	**-0.5**
CGL1	**Ceglie Messapi**	**1.70**	**244**	*e*Pn	**Pn**	**17 12 12.7**	**-1.1**
KEK	**Kerkira**	**1.71**	**172**	P	**Pn**	**17 12 13.1**	**-0.9**
FASA	**Fasano**	**1.72**	**251**	*e*Pn	**Pn**	**17 12 13.6**	**-0.5**
UPM	**Unac-Piva**	**1.84**	**347**	⇑*i*Pn	**Pb**	**17 12 17.5**	**-0.7**
UPM				*e*Sn	**Sg**	**17 12 43.7**	**-0.3**
UPM	**Unac-Piva**	**1.84**	**347**	*e*Pn	**Pb**	**17 12 18.1**	**-0.1**
SJES	**Sjenica**	**1.89**	**11**	*e*Pn	**Pb**	**17 12 18.8**	**-0.1**
TAR1	**Taranto**	**1.89**	**243**	*e*Pn	**Pn**	**17 12 15.3**	**-1.1**
PLE	**Pljevlja**	**1.92**	**358**	⇑*i*Pn	**Pb**	**17 12 18.8**	**-0.7**
PLE				*e*Sn	**Sg**	**17 12 45.4**	**-1.0**
MASS	**Massafra**	**1.93**	**247**	*e*Pn	**Pn**	**17 12 16.3**	**-0.8**
STON	**Ston**	**1.98**	**318**	*e*Pn	**Pn**	**17 12 17.8**	**+0.2**
STON	**Ston**	**1.98**	**318**	*e*Pn	**Pn**	**17 12 16.9**	**-0.7**
STON				Sn	**Sb**	**17 12 43.2**	**-1.5**
STON	**Ston**	**1.98**	**318**	*e*Pn	**Pn**	**17 12 16.6**	**-1.0**
IGT	**Igoumenitsa**	**1.98**	**161**	P	**Pn**	**17 12 17.8**	**+0.1**
BAI	**Bari**	**1.99**	**262**	*e*Pn	**Pn**	**17 12 17.3**	**-0.5**
BAI				Sn	**Sn**	**17 12 40.2**	**-2.3**
JAN	**Janina**	**2.04**	**149**	P	**Pn**	**17 12 18.9**	**+0.4**
JAN				S	**Sb**	**17 12 48.1**	**+1.5**
KPRO	**Kipourio**	**2.04**	**135**	P	**Pn**	**17 12 19.7**	**+1.2**
KPRO				S	**Sb**	**17 12 48.1**	**+1.5**
STIP	**Stip**	**2.05**	**81**	*i* Pn	**Pb**	**17 12 20.9**	**-0.6**
KZN	**Kozani**	**2.05**	**122**	P	**Pn**	**17 12 20.0**	**+1.2**
KZN				S	**Sb**	**17 12 49.3**	**+2.2**
MEV	**Metsovon**	**2.10**	**140**	P	**Pn**	**17 12 20.5**	**+1.1**
SELS	**Selova**	**2.18**	**33**	*e*Pn	**Pn**	**17 12 21.6**	**+1.2**
IVAS	**Ivanjica**	**2.22**	**13**	*e*Pn	**Pn**	**17 12 22.4**	**+1.3**
BARS	**Barje**	**2.23**	**50**	*e*Pn	**Pn**	**17 12 22.3**	**+1.1**
BARS	**Barje**	**2.23**	**50**	*e*Pn	Pg	17 12 36.2	+8.8
KTI	**Kastanea**	**2.24**	**116**	P	**Pn**	**17 12 21.6**	**+0.2**
MATE	**Matera**	**2.24**	**251**	⇓*i*P	**Pb**	**17 12 25.4**	**+0.6**
MATE	**Matera**	**2.24**	**251**	S	**Sg**	**17 12 57.4**	**+0.9**
GRG	**Griva**	**2.25**	**101**	P	**Pn**	**17 12 21.7**	**+0.3**
VAY	**Valandovo**	**2.32**	**91**	*e*Pn	**Pn**	**17 12 23.1**	**+0.7**
VAY	**Valandovo**	**2.32**	**91**	*i* Pn	**Pn**	**17 12 22.8**	**+0.4**
VAY				*i* Sn	**Sn**	**17 12 51.1**	**+0.4**
BBLS	**Lazići**	**2.46**	**359**	*e*Pn	**Pn**	**17 12 25.7**	**+1.4**
BBLS	**Lazići**	**2.46**	**359**	*e*Pn	**Pb**	**17 12 29.4**	**+0.8**
BOSS	**Bosilegrad**	**2.48**	**63**	*e*Pn	**Pn**	**17 12 25.6**	**+1.0**
KNT	**Kendrikon**	**2.58**	**94**	P	**Pn**	**17 12 26.0**	**0.0**
GRUS	**Gruza**	**2.64**	**20**	*e*Pn	**Pn**	**17 12 28.2**	**+1.5**
THL	**Klokotos Trika**	**2.67**	**133**	P	**Pn**	**17 12 27.3**	**+0.2**
THL				S	**Sb**	**17 13 04.0**	**-0.7**
HAPS	**Han Pijesak,BI**	**2.70**	**352**	*e*Pn	**Pn**	**17 12 28.1**	**+0.3**
HAPS	**Han Pijesak,BI**	**2.70**	**352**	*e*Pn	**Pn**	**17 12 27.6**	**-0.2**
DIVS	**Divibare**	**2.71**	**8**	*e*Pn	**Pn**	**17 12 29.1**	**+1.2**
DIVS	**Divibare**	**2.71**	**8**	*e*Pn	**Pn**	**17 12 29.1**	**+1.2**
BOVS	**Bovan**	**2.76**	**36**	*e*Pn	**Pn**	**17 12 30.4**	**+1.9**
TRUS	**Trudelj**	**2.89**	**13**	*e*Pn	**Pn**	**17 12 32.2**	**+2.0**
ZAPS	**Zavoj**	**2.98**	**50**	*e*Pn	**Pn**	**17 12 32.7**	**+1.1**
VTS	**Vitosha**	**3.04**	**65**	⇑*i*P	**Pn**	**17 12 33.2**	**+0.8**
VTS	**Vitosha**	**3.04**	**65**	S	**Sn**	**17 13 09.2**	**+0.5**
ZAGS	**Zajecar**	**3.14**	**39**	*e*Pn	**Pn**	**17 12 35.6**	**+1.9**
KUBS	**Kucevo**	**3.40**	**27**	*e*Pn	**Pn**	**17 12 37.8**	**+0.5**
PAIG	**Paliouri**	**3.52**	**114**	P	**Pn**	**17 12 39.4**	**+0.6**
BLY	**Banja Luka**	**3.74**	**334**	⇑*i*P	**Pn**	**17 12 44.9**	**+3.0**
BLY	**Banja Luka**	**3.74**	**334**	*e*Pn	**Pn**	**17 12 45.3**	**+3.4**
MDVR	**Moldovita**	**3.74**	**25**	⇓*i*P	**Pn**	**17 12 42.5**	**+0.5**
MDVR	**Moldovita**	**3.74**	**25**	S	**Sn**	**17 13 26.2**	**+0.3**
FRGS	**Fruska Gora**	**3.75**	**3**	*e*Pn	**Pn**	**17 12 41.3**	**-0.8**
UDBI	**Udbina**	**4.14**	**320**	*e*Pn	**Pn**	**17 12 48.8**	**+1.3**
BZS	**Buzias**	**4.48**	**20**	*e*Pn	**Pn**	**17 12 52.6**	**+0.5**
BZS	**Buzias**	**4.48**	**20**	⇑*i*P	**Pn**	**17 12 52.7**	**+0.6**
BZS	**Buzias**	**4.48**	**20**	S	**Sn**	**17 13 42.7**	**-1.3**
NVLJ	**Novalja**	**4.63**	**314**	*i* Pn	**Pn**	**17 12 54.0**	**0.0**
NVLJ				Sn	**Sn**	**17 13 46.4**	**-1.1**
MORH	**Mrgy, Hungar**	**4.84**	**353**	*e*Pn	**Pn**	**17 12 57.4**	**+0.4**
SIRR	**Siria**	**5.10**	**17**	⇓*i*P	**Pn**	**17 13 02.3**	**+1.7**
SIRR	**Siria**	**5.10**	**17**	S	**Sn**	**17 13 58.9**	**-0.5**
CRES	**Cresnjev**	**5.29**	**328**	*e*Pn	**Pn**	**17 13 03.0**	**-0.3**
CEY	**Cerknica**	**5.68**	**321**	*e*Pn	**Pn**	**17 13 08.6**	**+0.1**
VOIR		**5.71**	**43**	⇑*i*P	**Pn**	**17 13 09.1**	**+0.1**
VOIR		**5.71**	**43**	S	**Sn**	**17 14 14.3**	**-0.1**
SOKA	**Soboth**	**6.17**	**330**	*e*Pn	**Pn**	**17 13 15.8**	**+0.5**
	2.0nm,0.5s						
OBKA	**Obir**	**6.22**	**327**	*i* Pn	**Pn**	**17 13 18.4**	**+2.4**
	0.4nm,0.1s						
OBKA				*i* Sn	**Sn**	**17 14 29.8**	**+2.9**
	3.7nm,0.3s						
MLR	**Muntele Rosu**	**6.22**	**47**	⇑*i*P	**Pn**	**17 13 17.7**	**+1.6**
VYHS	**Vyhne**	**7.10**	**356**	*e*PN	**Pn**	**17 13 32.5**	**+4.5**
VYHS				*e*SN	**Sn**	**17 14 45.7**	**-2.8**
WTTA	**Wattenberg**	**8.12**	**319**	*i* Pn	**Pn**	**17 13 43.3**	**+1.2**
	4.7nm,0.5s						
GERES	**GERESS Array B**	**8.48**	**333**	Pn	**Pn**	**17 13 48.3**	**+1.2**
	0.2nm,0.3s,baz=161,slow=13,SNR=2.9						
DAVA	**Damuels**	**9.04**	**314**	*e*Pn	**Pn**	**17 13 56.4**	**+1.6**
	1.4nm,0.3s						
FINES	**FINESS Array B**	**20.46**	**9**	P	**P**	**17 16 19.7**	**-1.7**
	0.5nm,0.5s,baz=204,slow=9.9,SNR=3.5						
ZALV	**Zalesovo Beam**	**44.19**	**50**	P	**P**	**17 19 50.9**	**-1.8**
	0.5nm,0.4s,baz=298,slow=9.1,SNR=3.6						
MKAR	**Makanchi Array**	**44.36**	**61**	P	**P**	**17 19 52.1**	**-2.2**
	0.3nm,0.6s,baz=283,slow=7.9,SNR=5.2						

IDC 15 17:13:36.9±1.2,10°.98S×118°.07E,h0km,mb3.4/3,
mb1 3.5/5,mb1mx3.3/23,mbtmp3.4/5,ML3.5/2,MS2.9/1,
Ms1 2.9/1,ms1mx2.4/19,Error ellipse: s-maj=57.2km
s-min=22.0km az=61.0,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.02**	**122**	P	Pn	17 17 47.4	-1.7
	0.1nm,0.3s,baz=298,slow=14,SNR=5.4						
WRA				S	Sn	17 20 54.3	-17
	0.1nm,0.3s,baz=299,slow=24,SNR=3.2						
WRA				LR	LR	17 24 43.1	
	comp=Z,36nm,19.3s,baz=250,slow=37						
ASAR	**Alice Springs**	**19.67**	**132**	P	Pn	17 18 09.2	+0.2
	0.2nm,0.3s,baz=302,slow=12,SNR=22						
ASAR				S	S	17 21 34.6	-16
	0.1nm,0.3s,baz=302,slow=23,SNR=4.7						
NWAO	**Narrogin (SRO)**	**21.86**	**182**	P	P	17 18 31.0	-0.2
	1.4nm,0.5s,baz=0.1,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**65.80**	**334**	P	P	17 24 24.2	+0.2
	0.3nm,0.9s,baz=145,slow=7.4,SNR=2.8						
KURBB	**Kurchatov Arra**	**70.34**	**334**	P	P	17 24 52.2	-0.2
	0.2nm,0.5s,baz=145,slow=5.1						

*ISCJB **15** 17:24:52.8±0.3,30°.29N±0°.03×103°.06E±0°.04,h10km,*
mb4.1/36,MS2.6/2,Error ellipse: s-maj=4.5km
s-min=4.2km az=33.2
*IDC **15** 17:24:52.8±0.7,30°.30N×103°.01E,h0km,mb4.1/15,*
mb1 4.2/16,mb1mx3.9/40,mbtmp4.1/16,ML3.5/1,MS2.8/4,
Ms1 2.8/4,ms1mx2.6/30,Error ellipse: s-maj=24.2km
s-min=13.3km az=51.0
*MOS **15** 17:24:56.7±1.0,30°.35N×103°.09E,h39km,mb4.3/12,Error*
ellipse: s-maj=11.4km s-min=7.8km az=113.0
*BJI **15** 17:24:56.9±0.0,30°.34N×102°.97E,h24km,mb4.0/17,*
mB4.4/13,ML4.0/19,Ms3.8/15,Ms7 3.6/17
*NEIC **15** 17:24:58.6±0.6,30°.35N×103°.06E,h38km±6km,mb4.3/19,*
Error ellipse: s-maj=5.4km s-min=4.8km az=50.0

ISC 15 17:24:55.1±0.4,30°.31N±0°.04×103°.09E±0°.05,h10km,n90,
σ1°35/97,mb4.2/36,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.83**	**44**	⇓*i*Pg	**Pg**	**17 25 12.4**	**+1.3**
CD2				Sg	**Sg**	**17 25 24.9**	**+3.0**
CD2				smax	smax		
	comp=N,14μm,0.5s						
CD2				smax	smax		
	comp=E,6μm,0.6s						
GYA	**Guiyang**	**4.96**	**140**	Pn	**Pn**	**17 26 12.1**	**+2.2**
GYA				Sn	**Sn**	**17 27 05.6**	**-1.8**
GYA				Sg	**Sg**	**17 27 33.3**	**-1.3**
GYA				smax	smax		
	comp=N,330nm,0.8s						
GYA				smax	smax		
	comp=E,210nm,0.8s						
KMI	**Kunming**	**5.18**	**184**	Pn	**Pn**	**17 26 15.9**	**+3.0**
KMI				Sn	**Sn**	**17 27 15.3**	**+2.4**
KMI				Sg	**Sg**	**17 27 42.0**	**+0.5**
KMI				LR	LR		
	comp=N,240nm,3.8s						
KMI				LR	LR		
	comp=E,460nm,4.5s						
KMI				LR	LR		
	comp=Z,380nm,11.2s						
LZH	**Lanzhou**	**5.79**	**6**	Pg	**Pg**	**17 26 47.3**	**+1.2**
LZH				Sg	**Sg**	**17 28 01.1**	**0.0**
XAN	**Xi'an**	**6.18**	**52**	Pn	**Pn**	**17 26 26.0**	**-0.5**
XAN				Pg	Pb	17 26 48.4	+5.5
XAN				Sn	**Sn**	**17 27 37.5**	**+0.2**
XAN				Sg	**Sg**	**17 28 10.4**	**-3.2**
XAN				smax	smax		
	comp=N,330nm,1.0s						
XAN				smax	smax		
	comp=E,250nm,1.0s						
XAN	**Xi'an**	**6.18**	**52**	*e*Pn	**Pn**	**17 26 25.4**	**-1.1**
XAN	**Xi'an**	**6.18**	**52**	*e*P	**Pn**	**17 26 25.4**	**-1.1**
GTA	**Gaotai**	**9.47**	**344**	*e*P	**Pn**	**17 27 15.0**	**+3.3**
GTA				pP		17 27 18.3	
GTA				sP		17 27 20.9	
GTA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,57nm,5.2s						
GTA				LR	LR		
	comp=N,210nm,12.4s						
GTA				LR	LR		
	comp=E,260nm,15.1s						
GTA				LR	LR		
	comp=Z,220nm,11.3s						
WHN	**Wuhan**	**9.72**	**86**	P	**Pn**	**17 27 18.4**	**+3.3**
WHN				LR	LR		
	comp=N,580nm,9.5s						
WHN				LR	LR		
	comp=E,620nm,8.1s						
WHN				LR	LR		
	comp=Z,780nm,9.9s						
LSA	**Lhasa**	**10.37**	**270**	*e*Pn	**Pn**	**17 27 25.7**	**+1.3**
LSA	**Lhasa**	**10.37**	**270**	*e*P	**Pn**	**17 27 25.7**	**+1.3**
CM31	**Chiang Mai Arr**	**12.39**	**199**	*e*Pn	**Pn**	**17 27 51.7**	**0.0**
CMAR	**Chiang Mai Arr**	**12.39**	**199**	Pn	**Pn**	**17 27 54.4**	**+2.7**
	0.1nm,0.3s,baz=11,slow=13,SNR=7.3						
HHC	**Hu-ho-hao-te**	**12.56**	**31**	*e*P	**Pn**	**17 27 55.4**	**+1.4**
BRDH	**Bariadhala**	**12.76**	**236**	LR	LR	17 32 49.3	
	comp=Z,30nm,20.6s,baz=312,slow=38						
RAMN	**Ramite**	**14.86**	**261**	*e*P	**Pn**	**17 28 28.0**	**+2.4**
JIRN	**Jiri**	**15.03**	**264**	*e*P	**Pn**	**17 28 26.9**	**-1.0**
PKI	**Pulchoki**	**15.72**	**264**	*e*P	**Pn**	**17 28 35.9**	**-1.1**
	16nm,0.8s						
PKIN	**Phulchoki**	**15.73**	**264**	*e*P	**Pn**	**17 28 36.3**	**-0.8**
	12nm,0.8s						
KKN	**Kakani**	**15.78**	**265**	*e*P	**Pn**	**17 28 35.9**	**-1.8**
	15nm,0.6s						
DMN	**Daman**	**15.97**	**265**	*e*P	**Pn**	**17 28 38.8**	**-1.4**
DANN	**Dangsing**	**16.97**	**268**	*e*P	**Pn**	**17 28 51.1**	**-1.9**
	18nm,0.8s						
SONA0	**Songino Array**	**17.68**	**7**	*e*Pn	**Pn**	**17 29 02.6**	**+1.0**
SONM	**Songino Array**	**17.68**	**7**	*e*Pn	**Pn**	**17 29 02.1**	**+0.5**
SONM	**Songino Array**	**17.68**	**7**	P	**Pn**	**17 29 02.6**	**+1.0**
	0.2nm,0.3s,baz=187,slow=10,SNR=7.1						
SONM				LR	LR	17 36 42.0	
	comp=Z,55nm,19.5s,baz=180,slow=40						
PYUN	**Piuthan**	**17.69**	**268**	*e*P	**Pn**	**17 29 00.2**	**-1.7**
	13nm,0.8s						
WMQ	**Urumqi**	**18.20**	**322**	*e*P	**Pn**	**17 29 06.4**	**-1.5**
WMQ				LR	LR		
	comp=N,200nm,9.9s						
WMQ				LR	LR		
	comp=E,370nm,9.9s						
WMQ				LR	LR		
	comp=Z,67nm,13.1s						
ZAK	**Zakamensk**	**20.05**	**0**	*e*P	**P**	**17 29 28.8**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KS15	**Wonju Array Si**	**21.74**	**64**	*e*P	**P**	**17 29 47.8**	**+1.1**
	comp=Z,42nm,1.5s						
KSAR	**Wonju Array Be**	**21.74**	**64**	*e*P	**P**	**17 29 46.7**	**0.0**
KSAR	**Wonju Array Be**	**21.74**	**64**	*e*P	**P**	**17 29 46.7**	**0.0**
KSRS	**Korea Array**	**21.77**	**64**	P	**P**	**17 29 47.9**	**+0.8**
	comp=Z,5.0nm,0.7s,baz=247,slow=9.0,SNR=20						
KSRS				LR	LR	17 39 21.8	
	comp=Z,31nm,20.3s,baz=250,slow=40						
MK31	**Makanchi Array**	**23.03**	**321**	*e*P	**P**	**17 30 00.1**	**-0.3**
	comp=Z,3.9nm,1.1s						
MK31	**Makanchi Array**	**23.03**	**321**	*e*P	**P**	**17 30 00.1**	**-0.3**
MK31				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK32	**Makanchi Array**	**23.03**	**321**	*e*P	**P**	**17 30 00.3**	**-0.1**
MKAR	**Makanchi Array**	**23.03**	**321**	*e*P	**P**	**17 29 59.2**	**-1.2**
MKAR	**Makanchi Array**	**23.03**	**321**	P	**P**	**17 30 00.3**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=120,slow=10,SNR=29						
MKAR				LR	LR	17 39 12.6	
	comp=Z,18nm,21.4s,baz=86,slow=37						
MAKZ	**Makanchi**	**23.21**	**321**	*e*P	**P**	**17 30 01.6**	**-0.6**
	comp=Z,4.3nm,0.8s						
MAKZ	**Makanchi**	**23.21**	**321**	*e*P	**P**	**17 30 01.6**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
JNU	**Nakatsue**	**23.78**	**76**	P	**P**	**17 30 08.6**	**+0.6**
	comp=Z,4.7nm,0.9s,baz=266,slow=13,SNR=2.1						
KDJ	**Kajisay**	**23.90**	**307**	*e*P	**P**	**17 30 09.3**	**0.0**
	comp=Z,6.9nm,1.4s						
KDJ	**Kajisay**	**23.90**	**307**	*e*P	**P**	**17 30 09.3**	**0.0**
KDJ				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KSH	**Kashi**	**23.98**	**300**	P	**P**	**17 30 13.3**	**+3.3**
BOOM	**Boomskoye usch**	**24.89**	**307**	*e*P	**P**	**17 30 17.4**	**-0.9**
	comp=Z,4.1nm,0.6s						
BOOM	**Boomskoye usch**	**24.89**	**307**	*e*P	**P**	**17 30 17.4**	**-0.9**
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NIL	**Nilore**	**25.49**	**285**	*e*P	**P**	**17 30 22.5**	**-1.1**
	comp=Z,12nm,0.9s						
NIL	**Nilore**	**25.49**	**285**	*e*P	**P**	**17 30 22.5**	**-1.1**
NIL				pmax	pmax		
	comp=Z,12nm,0.9s						
AAK	**Ala-Archa**	**25.95**	**306**	P	**P**	**17 30 27.7**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=90,slow=7.1,SNR=3.9						
ZAA0	**Zalesovo Array**	**27.07**	**336**	*e*P	**P**	**17 30 36.8**	**-0.9**
	comp=Z,5.0nm,0.9s						
ZALV	**Zalesovo Beam**	**27.07**	**336**	*e*P	**P**	**17 30 36.7**	**-0.9**
ZALV	**Zalesovo Beam**	**27.07**	**336**	P	**P**	**17 30 37.2**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=143,slow=9.0,SNR=17						
KURBB	**Kurchatov Arra**	**27.36**	**325**	P	**P**	**17 30 39.4**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=132,slow=8.7,SNR=9.3						
KURK	**Kurchatov**	**27.38**	**325**	*e*P	**P**	**17 30 39.7**	**-0.7**
	comp=Z,1.7nm,0.8s						
KURK	**Kurchatov**	**27.38**	**325**	*e*P	**P**	**17 30 39.7**	**-0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OTUK	**Ortayu**	**29.51**	**316**	P	**P**	**17 30 58.9**	**-0.6**
OTUK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**37.55**	**313**	*e*P	**P**	**17 32 09.1**	**-0.3**
	comp=Z,2.9nm,1.1s						
TIXI	**Tiksi**	**43.70**	**12**	P	**P**	**17 32 58.9**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=221,slow=5.6,SNR=6.3						
AKASG	**Malin Array Be**	**57.29**	**313**	P	**P**	**17 34 41.0**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=66,slow=7.0,SNR=6.6						
AKBB	**Malin Array Si**	**57.29**	**313**	*e*P	**P**	**17 34 41.0**	**-1.9**
	comp=Z,2.1nm,0.6s						
AKBB	**Malin Array Si**	**57.29**	**313**	*e*P	**P**	**17 34 41.0**	**-1.9**
AKBB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARA0	**ARCESS Array S**	**57.62**	**336**	*e*P	**P**	**17 34 43.8**	**-1.2**
ARCES	**ARCESS Array B**	**57.62**	**336**	P	**P**	**17 34 43.8**	**-1.2**
	comp=Z,4.5nm,1.0s,baz=90,slow=8.1,SNR=4.2						
FIA0	**FINESS Array S**	**57.74**	**326**	*e*P	**P**	**17 34 44.4**	**-1.5**
FIA0	**FINESS Array S**	**57.74**	**326**	*e*P	**P**	**17 34 44.4**	**-1.5**
FINES	**FINESS Array B**	**57.74**	**326**	P	**P**	**17 34 44.4**	**-1.5**
	comp=Z,2.3nm,0.9s,baz=74,slow=10,SNR=5.0						
WR1	**Warramunga Arr**	**58.32**	**145**	*e*P	**P**	**17 34 49.9**	**-0.6**
WRA	**Warramunga Arr**	**58.32**	**145**	P	**P**	**17 34 49.9**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=332,slow=5.9,SNR=22						
AS31	**Alice Springs**	**61.28**	**148**	*e*

0.4nm,0.6s,baz=299,slow=3.5,SNR=6.2
TIXI Tiksi 67.09 12 *e*P **P 17 44 00.6 -0.8**
5.5nm,1.1s

KRSC 15 17:34:44.4±10.0, 53°08N×170°96E, h79km±10km, ML3.7, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.94**	**99**	*e*P	Pn	17 35 17.6	+2.3
SMY				*e*S	Sn	17 35 39.2	+0.3
BKI	**Bering**	**3.62**	**308**	*e*S	Sn	17 36 20.9	+1.4
MKZ	**Mys Kozlova**	**5.66**	**289**	*e*P	Pn	17 36 10.3	+4.5
MKZ				*e*S	Sn	17 37 09.7	+0.4
KBTR	**Krutoberegovo**	**5.67**	**307**	*e*P	Pn	17 36 09.7	+3.8
SPN	**Mys Shipunski**	**6.59**	**275**	S	Sn	17 37 32.9	+0.9
KZV	**Kizimen**	**6.59**	**292**	P	Pn	17 36 23.5	+4.8
KZV				*e*S	Sn	17 37 32.9	+0.5
SDLR	**Sedlovina**	**7.26**	**276**	*e*P	Pn	17 36 33.5	+5.7
SDLR				S	Sn	17 37 50.1	+1.5
UGLR	**Uglovaya**	**7.30**	**276**	*e*P	Pn	17 36 33.6	+5.3
KRER	**Koryakskii**	**7.34**	**277**	*e*S	Sn	17 37 52.6	+1.9
AVH	**Avacha**	**7.35**	**276**	*e*P	Pn	17 36 34.4	+5.5
AVH				*e*S	Sn	17 37 53.6	+2.9
DALK	**Dalny**	**7.36**	**274**	*e*S	Sn	17 37 52.3	+1.5
KDTR	**Khodutka, Kamc**	**7.97**	**266**	*e*S	Sn	17 38 04.9	-1.0

MDD 15 17:46:06.1±5.3, 35°19N×2°44E, h17km±307km, mb3.6/3, Error ellipse: s-maj=351.0km s-min=34.9km az=146.0, PRXIMO SIN SOLUCIN, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIBI	**Ibiza**	**3.93**	**347**	P	Pn	17 47 05.6	0.0
EIBI				S	Sn	17 47 46.4	-4.9
4.9nm,3.0s,SNR=7.9							
ETOB	**Tobarra**	**4.70**	**318**	P	Pn	17 47 14.8	-1.5
1.1nm,0.3s,SNR=5.6							
ETOB				S	Sn	17 48 07.0	-3.4
12nm,3.6s,SNR=7.9							
EQES	**Quesada**	**5.15**	**302**	P	Pn	17 47 21.0	-1.5
2.4nm,0.7s,SNR=8.2							
EQES				S	Sn	17 48 17.9	-3.7
7.4nm,3.8s,SNR=7.9							

TIF ***15*** *17:59:14.3, 40°45N×42°29E, h8km±1km*
DDA ***15*** *17:59:14.5, 40°44N×42°35E, h7km±1km, ML2.5*
ISK ***15*** *17:59:14.6, 40°48N×42°26E, h4km, ML2.1/7*
ISCJB ***15*** *17:59:15.1±0.7, 40°45N±0°04×42°31E±0°05, h8km±5km, Error ellipse: s-maj=7.2km s-min=6.4km az=135.5*
ISC 15 17:59:14.5±1.1, 40°45N±0°03×42°30E±0°04, h8km±9km, n19, σ0°50/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENK	**Senkaya-Erzuru**	**0.12**	**20**	PG	**Pg**	**17 59 17.3**	**-0.1**
SENK				SG	**Sg**	**17 59 19.6**	**+0.2**
HOMI	**Horasan**	**0.50**	**217**	IAML_P			
comp=Z,2μm,0.2s							
HOMI				*i* P	**Pb**	**17 59 25.0**	**-0.7**
KOPR	**Koprukoy-ERZUR**	**0.57**	**217**	PG	**Pb**	**17 59 26.4**	**-0.4**
EATA	**Eleskirt**	**0.60**	**165**	IAML_P			
comp=Z,859nm,0.2s							
EATA				*i* P	**Pg**	**17 59 26.1**	**-0.1**
DDEM	**Demirkent**	**0.61**	**317**	*i* P	**Pb**	**17 59 27.3**	**-0.3**
KARS	**Kars**	**0.62**	**73**	PG	**Pb**	**17 59 27.8**	**0.0**
DAGI	**Agillar**	**0.69**	**335**	*i* P	**Pb**	**17 59 28.9**	**-0.2**
DAGI				*i* S	**Sb**	**17 59 39.9**	**+1.1**
DBAD	**Bademkaya**	**0.73**	**322**	*i* P	**Pb**	**17 59 29.2**	**-0.5**
DIGO	**Kars**	**0.82**	**92**	IAML_P			
comp=Z,2μm,0.2s							
DIGO				*i* P	**Pg**	**17 59 30.6**	**+0.2**
AGRB	**Hanur-Agry**	**1.02**	**148**	PG	**Pn**	**17 59 35.7**	**+0.3**
KRIK	**Erzurum-spir**	**1.05**	**265**	*i* P	**Pn**	**17 59 36.4**	**+0.6**
EPOS	**Posof**	**1.11**	**17**	*i* P	**Pg**	**17 59 35.8**	**0.0**
BCA	**Borcka**	**1.12**	**333**	PN	**Pg**	**17 59 35.8**	**-0.3**
BATM	**Batumi**	**1.24**	**339**	PN	**Pg**	**17 59 38.4**	**0.0**
BATM	**Batumi**	**1.24**	**339**	P	**Pn**	**17 59 38.1**	**-0.2**
BGD	**Bogdanovka**	**1.28**	**50**	P	**Pn**	**17 59 37.9**	**-1.1**
AKH	**Akhalkalaki**	**1.32**	**43**	PN	**Pg**	**17 59 40.4**	**+0.5**
AKH	**Akhalkalaki**	**1.32**	**43**	P	**Pg**	**17 59 40.0**	**+0.1**
AKH				S	**Sn**	**17 59 57.4**	**-0.1**
BAYT	**Aydıntepe-Bayb**	**1.65**	**269**	PN	**Pb**	**17 59 44.9**	**-0.3**

NEIC ***15*** *18:13:42.8±0.0, 51°18N×179°47E, h30km, mb4.2/21, ML3.5(AEIC), After AEIC.*
ISCJB ***15*** *18:13:43.4±0.6, 51°54N±0°10×179°41E±0°06, h79km±6km, mb4.1/35, Error ellipse: s-maj=16.2km s-min=5.9km az=170.1*
IDC ***15*** *18:13:47.1±4.7, 51°81N×179°40E, h94km±43km, mb3.6/14, mb1 3.7/15, mb1mx3.6/38, mbtmp3.9/15, Error ellipse: s-maj=27.5km s-min=12.8km az=168.0*
ISC 15 18:13:43.9±1.1, 51°4N±0°1×179°42E±0°05, h75km±10km, n86, σ1°28/86, mb4.1/35, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.17**	**74**	*e*Pn	**Pn**	**18 14 04.3**	**-0.4**
GAEA	**Gareloi East**	**1.19**	**73**	*e*Pn	**Pn**	**18 14 04.6**	**-0.4**
GAEA				*e*Sn	**Sn**	**18 14 20.6**	**-0.2**
TASE	**Tanaga Southea**	**1.63**	**75**	*e*Pn	**Pn**	**18 14 10.8**	**0.0**
TASE				*e*Sn	**Sn**	**18 14 30.6**	**-0.5**
TAFP	**Tanaga Falls P**	**1.68**	**73**	*e*Sn	**Sn**	**18 14 31.9**	**-0.3**
KIMD	**Kanaga Island**	**2.11**	**80**	P	**Pn**	**18 14 17.4**	**+0.3**
KIKV	**Kanaga Island**	**2.17**	**77**	*e*Sn	**Sn**	**18 14 44.8**	**+1.0**
KIWB	**Kanaga Island**	**2.17**	**78**	*e*Pn	**Pn**	**18 14 17.8**	**-0.2**
KINC	**Kanaga Island**	**2.20**	**76**	*e*Pn	**Pn**	**18 14 18.5**	**+0.2**
KIRH	**Kanaga Island**	**2.22**	**77**	*e*Pn	**Pn**	**18 14 18.8**	**+0.3**
ADK	**Adak**	**2.46**	**78**	*e*Pn	**Pn**	**18 14 21.8**	**-0.1**
ADK				*e*Sn	**Sn**	**18 14 51.1**	**+0.2**
ADAG	**Mount Adagdak**	**2.53**	**76**	*e*Pn	**Pn**	**18 14 22.8**	**+0.1**
ADAG				*e*Sn	**Sn**	**18 14 53.8**	**+1.2**
ETKA	**Kagalaska Isla**	**2.63**	**79**	*e*Pn	**Pn**	**18 14 24.5**	**+0.4**
GSTD	**Great Sitkin T**	**2.82**	**76**	*e*Pn	**Pn**	**18 14 26.5**	**-0.2**
GSTD				*e*Sn	**Sn**	**18 15 03.5**	**+3.7**
GSMY	**Great Sitkin M**	**2.87**	**76**	*e*Pn	**Pn**	**18 14 27.5**	**+0.1**
GSTR	**Great Sitkin T**	**2.88**	**75**	*e*Pn	**Pn**	**18 14 27.6**	**0.0**
GSIG	**Igitkin Island**	**2.94**	**78**	P	**Pn**	**18 14 28.4**	**0.0**
SMY	**Shemya**	**3.53**	**293**	*e*Pn	**Pn**	**18 14 37.3**	**+1.1**
KOWE	**Korovin West**	**4.03**	**74**	*e*Pn	**Pn**	**18 14 43.3**	**+0.2**
ATKA	**Atka Island**	**4.03**	**77**	*e*Pn	**Pn**	**18 14 43.2**	**+0.1**
SPIA	**Saint Paul Isl**	**8.33**	**42**	*e*Pn	**Pn**	**18 15 43.1**	**+1.4**
PETK	**Petropavlovsk-**	**13.40**	**286**	P	**Pn**	**18 16 52.7**	**+2.0**
0.1nm,0.3s,baz=95,slow=14,SNR=2.8							
PETK				S	**Sn**	**18 19 14.7**	**-2.9**
0.1nm,0.3s,baz=96,slow=25,SNR=2.9							
IMAR	**Indian Mountai**	**19.91**	**33**	*e*P	**P**	**18 18 10.0**	**+0.9**
BPAW	**Bear Paw Mtn.**	**20.00**	**39**	*e*P	**P**	**18 18 11.2**	**+1.1**
3.4nm,1.0s							
MLY	**Manley**	**20.51**	**37**	*e*P	**P**	**18 18 16.6**	**+0.9**
11nm,1.8s							
DHY	**Denali Highway**	**21.12**	**44**	*e*P	**P**	**18 18 21.8**	**-0.6**
4.1nm,0.6s							
MDM	**Murphy Dome**	**21.44**	**39**	*e*P	**P**	**18 18 25.0**	**-0.6**
4.4nm,0.8s							
CCB	**Clear Creek Bu**	**21.48**	**40**	*e*P	**P**	**18 18 26.6**	**+0.6**
15nm,1.9s							
ILAR	**Eielson Array**	**21.90**	**40**	P	**P**	**18 18 27.6**	**-2.8**
0.3nm,0.7s,baz=247,slow=9.4,SNR=6.0							
ILB	**Eielson Array**	**21.90**	**40**	*e*P	**P**	**18 18 32.4**	**+2.0**
12nm,1.8s							
PRP	**Porcupine Dome**	**22.71**	**38**	*e*P	**P**	**18 18 37.2**	**-2.0**
14nm,1.9s							
DOT	**Dot Lake**	**22.71**	**43**	*e*P	**P**	**18 18 38.3**	**-0.9**
8.3nm,1.6s							
TOLK	**Toolik Lake Re**	**22.74**	**29**	*e*P	**P**	**18 18 39.4**	**-0.1**
5.4nm,1.3s							
SCRK	**Sand Creek**	**22.84**	**43**	*e*P	**P**	**18 18 38.8**	**-1.7**
12nm,1.8s							
FYU	**Fort Yukon**	**23.22**	**36**	*e*P	**P**	**18 18 44.0**	**-0.1**
41nm,2.0s							
MIDW	**Midway**	**23.33**	**173**	*e*P	**P**	**18 18 41.0**	**-4.4**
32nm,0.8s							
BCAR	**Beaver Creek A**	**23.58**	**46**	*e*P	**P**	**18 18 47.0**	**-0.6**
BMAR	**Burnt Mountain**	**23.80**	**34**	*e*P	**P**	**18 18 49.6**	**+0.1**
EGAK	**Eagle**	**24.23**	**42**	*e*P	**P**	**18 18 53.5**	**+0.1**
16nm,1.5s							
DAWY	**Dawson**	**24.82**	**44**	*e*P	**P**	**18 19 00.7**	**+1.9**
3.2nm,0.8s							
ASAJ	**Asahikawa**	**25.59**	**268**	P	**P**	**18 19 08.0**	**+2.1**
3.5nm,0.8s,baz=70,slow=15,SNR=3.8							
INK	**Inuvik**	**28.05**	**35**	P	**P**	**18 19 27.4**	**-0.2**
0.7nm,0.5s,baz=285,slow=10.0,SNR=5.9							
KLR	**Kul'dur**	**30.09**	**285**	P	**P**	**18 19 46.3**	**+0.4**
3.9nm,0.6s,baz=78,slow=9.0,SNR=18							
H11N2	**WAKE ISLAND Hy**	**33.15**	**202**	T	T	18 55 21.9	
baz=10,slow=76							
H11N3	**WAKE ISLAND Hy**	**33.16**	**202**	T	T	18 55 33.5	
baz=10,slow=76							
H11N1	**WAKE ISLAND Hy**	**33.17**	**202**	T	T	18 55 23.4	
baz=10,slow=76							
H11S1	**WAKE ISLAND Hy**	**34.37**	**202**	T	T	18 57 00.8	
baz=14,slow=76							
H11S2	**WAKE ISLAND Hy**	**34.39**	**202**	T	T	18 57 04.5	
baz=14,slow=76							
H11S3	**WAKE ISLAND Hy**	**34.39**	**202**	T	T	18 57 05.5	
baz=14,slow=76							
YKA	**Yellowknife Ar**	**35.99**	**46**	*e*P	**P**	**18 20 37.1**	**-0.1**
YKA	**Yellowknife Ar**	**35.99**	**46**	P	**P**	**18 20 36.7**	**-0.4**
1.0nm,0.6s,baz=283,slow=8.5,SNR=9.8							
NVAR	**Mina Array Bea**	**44.65**	**82**	P	**P**	**18 21 50.2**	**+1.1**
0.4nm,0.6s,baz=288,slow=7.3,SNR=3.1							
SONM	**Songino Array**	**45.62**	**296**	P	**P**	**18 21 56.1**	**-0.5**
2.1nm,0.6s,baz=57,slow=7.7,SNR=14							
HHC	**Hu-ho-hao-te**	**46.60**	**285**	*e*P	**P**	**18 22 03.9**	**-0.5**
PDAR	**Pinedale Array**	**47.35**	**71**	P	**P**	**18 22 10.3**	**0.0**
0.3nm,0.5s,baz=316,slow=8.3,SNR=3.9							
PV13	**Radium Mtn., P**	**50.63**	**76**	*e*P	**P**	**18 22 35.5**	**+0.1**
4.4nm,1.0s							
ZALV	**Zalesovo Beam**	**53.17**	**313**	P	**P**	**18 22 52.8**	**-1.0**
0.6nm,0.4s,baz=35,slow=6.4,SNR=3.7							
GTA	**Gaotai**	**54.51**	**291**	*e*P	**P**	**18 23 04.5**	**+0.6**
GTA				pP	pP	18 23 10.0	-13
GTA				sP	sP	18 23 12.8	-18
ARCES	**ARCESS Array B**	**57.83**	**349**	P	**P**	**18 23 25.8**	**-1.2**
6.1nm,1.0s,baz=29,slow=9.5,SNR=3.1							
KURK	**Kurchatov**	**58.16**	**313**	*e*P	**P**	**18 23 29.4**	**-0.2**
5.5nm,0.6s							
WMQ	**Urumqi**	**58.37**	**302**	*e*P	**P**	**18 23 34.0**	**+2.8**
MK31	**Makanchi Array**	**59.12**	**307**	*e*P	**P**	**18 23 35.7**	**-0.6**
7.6nm,2.0s							
MKAR	**Makanchi Array**	**59.12**	**307**	*e*P	**P**	**18 23 35.6**	**-0.7**
MKAR	**Makanchi Array**	**59.12**	**307**	P	**P**	**18 23 35.8**	**-0.5**
0.9nm,0.3s,baz=46,slow=7.2,SNR=29							
OK023	**East Waterloo**	**59.22**	**70**	*e*P	**P**	**18 23 36.3**	**-0.8**
35nm,0.8s							
MAKZ	**Makanchi**	**59.26**	**308**	*e*P	**P**	**18 23 37.0**	**-0.4**
8.7nm,1.6s							
KMI	**Kunming**	**62.61**	**277**	P	**P**	**18 24 01.1**	**+0.5**
KDJ	**Kajisay**	**65.00**	**307**	*e*P	**P**	**18 24 16.8**	**+0.8**
3.1nm,0.9s							
BOOM	**Boomskoye usch**	**65.36**	**308**	*e*P	**P**	**18 24 19.4**	**+1.1**
AAK	**Ala-Archa**	**65.96**	**309**	*e*P	**P**	**18 24 22.8**	**+0.7**
4.1nm,0.6s							
NB2	**NORSAR Subarra**	**67.47**	**354**	P	**P**	**18 24 30.1**	**-1.2**
comp=Z,0.8nm,0.5s,baz=6.4,slow=6.2							
NOA	**NORSAR Array B**	**67.47**	**354**	P	**P**	**18 24 30.1**	**-1.2**
comp=Z,1.3nm,0.6s,baz=7.1,slow=6.1,SNR=6.4							
KK31	**Karatay Array**	**67.51**	**311**	*e*P	**P**	**18 24 32.5**	**+0.7**
comp=Z,4.1nm,0.6s							
KKAR	**Karatay Array**	**67.51**	**311**	*e*P	**P**	**18 24 32.4**	**+0.6**
KSH	**Kashi**	**67.56**	**306**	P	**P**	**18 24 36.1**	**+3.8**
CMAR	**Chiang Mai Arr**	**69.90**	**275**	P	**P**	**18 24 47.8**	**+0.9**
comp=Z,0.3nm,0.6s,baz=22,slow=6.1,SNR=4.1							
GAR	**Garm**	**70.78**	**309**	*e*P	**P**	**18 24 53.0**	**+0.8**
comp=Z,23nm,0.5s							
JIRN	**Jiri**	**70.80**	**290**	*e*P	**P**	**18 24 54.2**	**+1.4**
comp=Z,27nm,0.8s							
RAMN	**Ramite**	**71.09**	**290**	*e*P	**P**	**18 24 55.3**	**+0.9**
comp=Z,13nm,0.7s							
KKN	**Kakani**	**71.24**	**291**	*e*P	**P**	**18 24 56.3**	**+1.0**
comp=Z,7.8nm,0.5s							
PKI	**Pulchoki**	**71.32**	**291**	*e*P	**P**	**18 24 56.7**	**+0.8**
comp=Z,6.5nm,0.5s							
PKIN	**Phulchoki**	**71.33**	**291**	*e*P	**P**	**18 24 56.4**	**+0.5**
comp=Z,4.5nm,0.5s							
GKN	**Gorkha**	**71.45**	**292**	*e*P	**P**	**18 24 57.4**	**+0.9**
PYUN	**Piuthan**	**72.33**	**293**	*e*P	**P**	**18 25 02.2**	**+0.4**
comp=Z,17nm,1.1s							
AKASG	**Malin Array Be**	**75.13**	**341**	P	**P**	**18 25 15.8**	**-1.8**
comp=Z,1.0nm,0.4s,baz=23,slow=6.6,SNR=2.9							
ASAR	**Alice Springs**	**84.79**	**221**	P	**P**	**18 26 11.3**	**+1.4**
comp=Z,0.3nm,0.9s,baz=24,slow=5.3,SNR=5.5							
BOSA	**Boshof**	**150.09**	**310**	PKPbc	**PKiKP**	**18 33 26.6**	**-0.1**
comp=Z,1.8nm,0.5s,baz=5.5,slow=2.3,SNR=6.7							

IDC 15 18:14:02.9±1.8, 2°35N×89°77E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/36, mbtmp3.5/6, ML3.3/2, Error ellipse: s-maj=50.1km s-min=23.4km az=55.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.27**	**299**	Pn	Pn	18 16 31.5	-0.2
0.2nm,0.3s,baz=115,slow=14,SNR=4.0							
PALK				Sn	Sn	18 18 16.5	-11
2.7nm,0.3s,baz=115,slow=11,SNR=6.5							
CMAR	**Chiang Mai Arr**	**18.36**	**29**	P	P	18 18 19.6	+0.4
0.1nm,0.3s,baz=222,slow=12,SNR=7.4							
H08S3	**Diego Garcia H**	**19.89**	**240**	T	T	18 38 56.2	
baz=60,slow=75,SNR=44							
H08S2	**Diego Garcia H**	**19.89**	**240**	T	T	18 38 59.5	
baz=60,slow=75,SNR=71							
H08S1	**Diego Garcia H**	**19.91**	**240**	T	T	18 38 57.5	
baz=60,slow=75,SNR=36							
H01W3	**Cape Leeuwin H**	**43.53**	**150**	T	T	19 08 44.9	
baz=324							
H01W2	**Cape Leeuwin H**	**43.54**	**151**	T	T	19 09 08.1	
baz=324							
H01W1	**Cape Leeuwin H**	**43.55**	**150**	T	T	19 08 41.5	
baz=324							
MKAR	**Makanchi Array**	**44.74**	**353**	P	P	18 22 18.0	-0.1
0.2nm,0.7s,baz=166,slow=8.2,SNR=3.6							
SONM	**Songino Array**	**47.53**	**15**	P	P	18 22 39.9	-0.2
0.9nm,0.5s,baz=193,slow=9.4,SNR=7.7							
WRA	**Warramunga Arr**	**49.02**	**119**	P	P	18 22 51.8	-0.2
0.2nm,0.5s,baz=304,slow=8.9,SNR=2.9							
ASAR	**Alice Springs**	**50.12**	**124**	P	P	18 23 00.2	-0.1
0.2nm,0.9s,baz=302,slow=8.5,SNR=4.4							

IDC ***15*** *18:36:51.6±4.4, 36°46N×70°86E, h248km±36km, mb3.1/7, mb1 3.2/12, mb1mx2.9/40, mbtmp3.8/12, Error ellipse: s-maj=39.8km s-min=23.0km az=173.0*
ISCJB ***15*** *18:36:52.1±0.6, 36°62N±0°04×70°65E±0°08, h250km, mb3.3/7, Error ellipse: s-maj=9.5km s-min=5.1km az=158.9*
NNC ***15*** *18:36:52.7±3.7, 36°57N×70°70E, h202km±64km, mb3.0, mpv4.1, Error ellipse: s-maj=35.3km s-min=23.5km az=31.0*
ISC 15 18:36:54.3±0.7, 36°73N±0°05×70°84E±0°08, h250km, n36, σ1°39/43, mb3.4/7, 6C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.03**	**163**	P	**Pn**	**18 37 50.0**	**+2.6**
CEP				S	**S**	**18 38 31.0**	**+1.7**
CHCP	**Chirah Chowk**	**3.65**	**146**	P	**Pn**	**18 37 56.5**	**+2.3**
THW	**Thamme Wali**	**4.00**	**169**	P	**Pn**	**18 38 00.3**	**+2.1**
AML	**Almayashu**	**5.82**	**21**	P	**Pn**	**18 38 20.9**	**+0.3**
SNR=37							
UCH	**Uchtor**	**6.18**	**26**	P	**Pn**	**18 38 25.6**	**+0.6**
SNR=50							
KZA	**Kyzart**	**6.33**	**31**	P	**Pn**	**18 38 27.1**	**+0.2**
SNR=16							
EKS2	**Erkin-Say**	**6.34**	**20**	P	**Pn**	**18 38 27.8**	**+1.1**
SNR=6.1							
KK31	**Karatay Array**	**6.37**	**358**	⇓P	**Pn**	**18 38 27.6**	**+0.6**
6.3nm,0.6s,baz=186,slow=15,SNR=91							
KK31				⇓S	**S**	**18 39 41.6**	**+0.5**
1.7nm,0.3s,baz=180,slow=19,SNR=4.7							
AAK	**Ala-Archa**	**6.53**	**24**	P	**Pn**	**18 38 30.0**	**+0.8**
SNR=29							
AAK	**Ala-Archa**	**6.53**	**24**	⇑P	**Pn**	**18 38 29.7**	**+0.5**
11nm,0.5s							
AAK				⇑S	**S**	**18 39 45.9**	**+0.7**
12nm,1.1s							
AAK	**Ala-Archa**	**6.53**	**24**	P	**Pn**	**18 38 29.7**	**+0.5**
4.7nm,0.3s,baz=188,slow=6.6,SNR=93							
AAK				S	**S**	**18 39 46.0**	**+0.8**
1.1nm,0.3s,baz=152,slow=20,SNR=6.1							
KBK	**Karagaybulak**	**6.71**	**27**	P	**Pn**	**18 38 32.3**	**+0.9**
SNR=11							
ULHL	**Ulahol**	**6.91**	**36**	P	**Pn**	**18 38 34.5**	**+0.5**
SNR=8.6							
TKM2	**Tokmak 2**	**7.18**	**29**	P	**Pn**	**18 38 37.9**	**+0.5**
SNR=16							
TKM2	**Tokmak 2**	**7.18**	**29**	⇑P	**Pn**	**18 38 37.2**	**-0.2**
6.8nm,0.5s							
TKM2				⇑S	**S**	**18 40 03.5**	**+3.4**
3.9nm,0.8s							
MKAR	**Makanchi Array**	**13.18**	**37**	P	**Pn**	**18 39 51.0**	**-1.3**
0.3nm,0.3s,baz=222,slow=13,SNR=24							
PYUN	**Piuthan**	**13.38**	**127**	*e*P	**Pn**	**18 39 54.8**	**-0.4**
5.7nm,0.5s							
DANN	**Dangsing**	**13.72**	**124**	*e*P	**P**	**18 40 00.0**	**-0.4**
6.4nm,0.3s							
KOLN	**Koldanda**	**14.00**	**126**	*e*P	**P**	**18 40 03.1**	**-0.3**
AB31	**Akbulak array**	**14.82**	**331**	⇑P	**Pn**	**18 40 12.7**	**+0.5**
0.6nm,0.6s,baz=140,slow=10,SNR=10							
AB31				⇑S	**S**	**18 43 00.1**	**+4.4**
0.8nm,0.8s							
KURBB	**Kurchatov Arra**	**14.94**	**19**	P	**P**	**18 40 12.3**	**-1.0**
0.2nm,0.3s,baz=208,slow=12,SNR=18							
KKN	**Kakani**	**15.11**	**122**	*e*P	**Pn**	**18 40 15.7**	**-0.4**
PKIN	**Phulchoki**	**15.32**	**122**	*e*P	**Pn**	**18 40 18.2**	**-0.5**
2.0nm,0.2s							
PKI	**Pulchoki**	**15.34**	**122**	*e*P	**Pn**	**18 40 18.3**	**-0.6**
2.3nm,0.3s							
JIRN	**Jiri**	**15.81**	**121**	*e*P	**Pn**	**18 40 24.6**	**-0.1**
13nm,0.4s							
BVAR	**Borovoye Array**	**16.29**	**359**	P	**Pn**	**18 40 29.0**	**-0.6**
0.6nm,0.3s,baz=166,slow=12,SNR=15							
BVAR				S	**S**	**18 43 24.1**	**-1.6**
baz=172,slow=20,SNR=3.1							
AKTO	**Aktyubinsk**	**16.52**	**330**	P	**P**	**18 40 31.2**	**+0.6**
0.4nm,0.3s,baz=127,slow=6.2,SNR=13							
RAMN	**Ramite**	**16.55**	**122**	*e*P	**Pn**	**18 40 32.2**	**-0.9**
5.9nm,0.4s							
ZALV	**Zalesovo Beam**	**19.75**	**25**	P	**P**	**18 41 04.6**	**-0.8**
0.3nm,0.3s,baz=216,slow=10,SNR=5.2							
ARU	**Arti**	**21.37**	**341**	P	**P**	**18 41 22.4**	**+0.2**
0.7nm,0.5s,baz=143,slow=5.1,SNR=4.5							
SONM	**Songino Array**	**28.31**	**56**	P	**P**	**18 42 25.0**	**0.0**
0.3nm,0.5s,baz=255,slow=6.7,SNR=3.6							
FINES	**FINESS Array B**	**37.22**	**326**	P	**P**	**18 43 40.7**	**-0.9**
0.5nm,0.4s,baz=127,slow=9.2,SNR=4.9							
ARCES	**ARCESS Array B**	**40.88**	**338**	P	**P**	**18 44 11.6**	**-0.1**
3.1nm,0.9s,baz=112,slow=7.2,SNR=7.5							
NOA	**NORSAR Array B**	**44.12**	**323**	P	**P**	**18 44 36.8**	**-1.0**
0.5nm,0.6s,baz=97,slow=7.2,SNR=3.0							
TORD	**Torodi Ar. Bea**	**65.60**	**268**	P	**P**	**18 47 09.2**	**-2.7**
0.2nm,0.2s,baz=49,slow=6.1,SNR=5.1							
YKA	**Yellowknife Ar**	**81.02**	**3**	P	**P**	**18 48 39.2**	**-1.7**
0.5nm,0.7s,baz=347,slow=5.2,SNR=6.2							

DSN ***15*** *18:51:12.5±3.1, 26°61N×58°39E, h10km, ML4.3/8, Error ellipse: s-maj=43.6km s-min=12.3km az=9.0*
TEH ***15*** *18:51:15.6, 26°76N×57°94E, h8km, ML4.0*
OMAN ***15*** *18:51:15.3±3.2, 26°71N×58°11E, h10km, ml4.0/14, ms2.9/1, Error ellipse: s-maj=33.2km s-min=17.8km az=29.0*
IDC ***15*** *18:51:16.5±1.1, 26°56N×58°06E, h0km, mb3.8/16, mb1 3.9/18, mb1mx3.7/50, mbtmp3.9/18, ML3.8/2, MS3.1/12, Ms1 3.2/12, ms1mx2.9/48, Error ellipse: s-maj=23.7km s-min=15.2km az=146.0*
ISCJB ***15*** *18:51:17.6±1.0, 26°61N±0°02×57°96E±0°04, h21km±9km, mb4.0/28, MS3.1/11, Error ellipse: s-maj=5.5km s-min=3.0km az=8.5*
NEIC ***15*** *18:51:17.1±0.6, 26°59N×58°08E, h10km, mb4.0/16, ML4.0(THR), MN4.0(TEH), Error ellipse: s-maj=12.5km s-min=8.2km az=155.0*
MOS ***15*** *18:51:18.4±1.8, 26°87N×57°92E, h17km, mb4.2/8, Error ellipse: s-maj=11.1km s-min=7.3km az=75.8*
ISC 15 18:51:18.0±1.8, 26°62N±0°04×58°01E±0°04, h12km±12km, n139, σ1°73/142, mb4.0/29, MS3.0/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.00**	**192**	*e*Pg	**Pb**	**18 51 38.0**	**+0.7**
KHNJ	**Kahnooj**	**1.35**	**349**	*e*Pg	**Pn**	**18 51 39.2**	**-3.5**
KHNJ				IAMB	IAmb	18 52 01.1	
comp=Z,0.0nm,0.9s							
SHME	**Shamm**	**1.77**	**252**	*e*P	**Pn**	**18 51 47.3**	**-1.2**
SNR=7.3							
SHME				S	**Sg**	**18 52 14.6**	**-0.4**
SHME	**Shamm**	**1.77**	**252**	*e*P

comp=Z,0.0nm,0.9s
JLN Jalan Bani Buh 4.63 164 P Pn 18 52 27.2 -0.7
JLN S Sn 18 53 18.1 -3.5
IMEH Mehriz 5.60 329 *e*Pn Pn 18 52 42.5 +1.1
MHTO MHTO 5.61 180 P Pn 18 52 41.6 +0.4
MHTO S Sn 18 53 46.8 +1.1
IKOO Kooshah 5.85 8 *e*Pn Pn 18 52 44.6 -0.1
IKAZ Kazeroun 6.29 301 *e*Pn Pn 18 52 48.7 -2.1
ITEG Tejag 6.29 6 *e*Pn Pn 18 52 52.8 +2.1
IDAH Dahanechah 6.31 14 *e*Pn Pn 18 52 54.7 +3.7
ISAD Sadrabad 6.48 325 *e*Pn Pn 18 52 53.6 +0.1
KLNJ Kolanjah 7.12 309 *e*Pn Pn 18 53 00.9 -1.5
IRAM Ramesheh 7.13 318 *e*Pn Pn 18 53 01.7 -0.7
ANAR Anarak 7.52 331 *e*Pn Pn 18 53 06.6 -1.0
ZNGN Zangjan 8.30 313 *e*Pn Pn 18 53 17.0 -1.5
IPIR Pirpir 8.65 316 *e*Pn Pn 18 53 22.4 -0.8
KHMZ Khomeyn 9.94 317 *e*Pn Pn 18 53 35.3 -5.5
ABTO Aybut 10.21 206 P Pn 18 53 43.5 -1.0
GEYT Alibeck 11.27 0 LR LR 18 59 02.1
comp=Z,84nm,18.9s,baz=25,slow=41
NIL Nilore 14.93 58 P Pn 18 54 51.2 +2.3
GAR Garm 16.09 37 *e*Pn Pn 18 55 04.6 +0.5
comp=Z,15nm,1.4s
GAR Garm 16.09 37 *e*P Pn 18 55 04.6 +0.5
GAR pmax pmax
comp=Z,15nm,1.4s
GNI Garni 17.43 324 LR LR 19 03 43.3
comp=Z,40nm,19.6s,baz=104,slow=43
ASF Jabal al Asfar 19.20 292 P Pn 18 55 43.0 +0.3
comp=Z,0.4nm,0.3s,baz=108,slow=6.4,SNR=3.4
KK31 Karatay Array 19.34 29 *e*P P 18 55 42.4 -0.9
comp=Z,6.2nm,1.3s
KK31 Karatay Array 19.34 29 *e*P P 18 55 42.4 -0.9
KK31 pmax pmax
comp=Z,6.0nm,1.3s
KKAR Karatay Array 19.34 29 *e*P P 18 55 40.4 -2.8
comp=Z,6.2nm,1.3s
KKAR Karatay Array 19.34 29 *e*P P 18 55 40.4 -2.8
KKAR pmax pmax
comp=Z,6.0nm,1.3s
ZEI Tsey 19.82 328 *e*P P 18 55 38.1 -11
ZEI pmax pmax
comp=Z,1.0nm,0.3s
EIL Elat 20.55 284 P Pn 18 55 58.1 -0.6
comp=Z,7.0nm,0.7s,baz=112,slow=4.1,SNR=6.5
EIL LR LR 19 05 34.2
comp=Z,68nm,19.5s,baz=106,slow=42
MMAI Mount Meron Ar 20.60 293 P Pn 18 55 58.4 -1.0
comp=Z,1.7nm,0.5s,baz=98,slow=11,SNR=7.4
MMAI LR LR 19 05 58.3
comp=Z,32nm,18.3s,baz=55,slow=43
ATD Arta Tunnel 20.72 226 P P 18 55 58.9 +0.4
comp=Z,4.5nm,0.4s,baz=57,slow=6.9,SNR=2.0
AAK Ala-Archa 20.90 36 *e*P P 18 56 00.8 +0.4
comp=Z,11nm,1.6s
AAK Ala-Archa 20.90 36 P P 18 56 01.0 +0.6
AAK Ala-Archa 20.90 36 P P 18 56 01.0 +0.6
comp=Z,1.6nm,0.5s,baz=211,slow=6.1,SNR=12
NRN Naryn 20.93 41 *e*P P 18 55 57.8 -3.0
comp=Z,2.6nm,0.8s
NRN Naryn 20.93 41 *e*P P 18 55 57.8 -3.0
NRN pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 21.28 328 *e*P P 18 56 06.5 +2.1
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,57nm,14.0s
BOOM Boomskoye usch 21.58 38 *e*P P 18 56 07.6 -0.1
comp=Z,6.5nm,0.9s
BOOM Boomskoye usch 21.58 38 *e*P P 18 56 07.6 -0.1
BOOM pmax pmax
comp=Z,7.0nm,0.9s
KDJ Kajisay 22.05 41 *e*P P 18 56 13.4 +0.6
comp=Z,7.8nm,0.9s
KDJ Kajisay 22.05 41 *e*P P 18 56 13.4 +0.6
KDJ pmax pmax
comp=Z,8.0nm,0.9s
TARG Taragay, Kyrgy 22.18 42 *e*P P 18 56 13.8 -0.6
comp=Z,22nm,2.0s
ABKAR Akbulak array 22.65 3 *e*P P 18 56 18.0 -0.9
comp=Z,4.6nm,1.0s
AKTO Aktyubinsk 23.78 0 P P 18 56 31.6 +1.3
comp=Z,2.1nm,0.6s,baz=186,slow=8.2,SNR=5.9
AKTO LR LR 19 06 19.1
comp=Z,55nm,20.2s,baz=168,slow=38
PDGK Podgornoye 24.13 41 P P 18 56 34.9 +1.0
PDGK pmax pmax
comp=Z,4.0nm,1.3s
BR101 Keskin Array S 24.13 309 *e*P P 18 56 36.1 +2.1
BR131 Keskin Array S 24.13 309 *e*P P 18 56 33.1 -0.9
comp=Z,2.9nm,0.8s
BRTR Keskin Array B 24.13 309 *e*P P 18 56 32.9 -1.0
BRTR Keskin Array B 24.13 309 *e*P P 18 56 32.9 -1.0
BRTR Keskin Array B 24.13 309 P P 18 56 36.1 +2.1
comp=Z,2.0nm,0.7s,baz=132,slow=12,SNR=15
BRTR LR LR 19 08 39.7
comp=Z,47nm,19.1s,baz=98,slow=43
OTUK Ortayu 24.32 24 P P 18 56 37.1 +1.7
OTUK pmax pmax
comp=Z,2.0nm,1.1s
MK31 Makanchi Array 27.81 37 *e*P P 18 57 06.6 -0.4
comp=Z,3.0nm,1.4s
MK31 Makanchi Array 27.81 37 *e*P P 18 57 06.6 -0.4
MK31 pmax pmax
comp=Z,3.0nm,1.4s
MK32 Makanchi Array 27.81 37 *e*P P 18 57 08.0 +1.0
MKAR Makanchi Array 27.81 37 *e*P P 18 57 05.8 -1.2
MKAR Makanchi Array 27.81 37 P P 18 57 08.0 +1.0
MKAR Makanchi Array 27.81 37 P P 18 57 08.0 +1.0
comp=Z,0.2nm,0.6s,baz=238,slow=8.3,SNR=2.6
BVAR Borovoye Array 27.95 16 P P 18 57 08.6 +0.5
comp=Z,1.1nm,1.0s,baz=210,slow=8.6,SNR=6.6
BRVK Borovoye 27.95 16 *e*P P 18 57 05.5 -2.6
comp=Z,2.1nm,1.0s
BRVK Borovoye 27.95 16 *e*P P 18 57 05.6 -2.6
BRVK pmax pmax
comp=Z,2.0nm,1.0s
KURBB Kurchatov Arra 28.64 28 P P 18 57 14.9 +0.6
comp=Z,0.2nm,0.6s,baz=230,slow=8.3,SNR=3.2
KURK Kurchatov 28.75 28 P P 18 57 14.9 -0.4
IDI Anoyia 29.58 295 P P 18 57 24.1 +1.2
comp=Z,3.1nm,0.6s,baz=93,slow=9.7,SNR=6.3
ARU Arti 29.79 1 LR LR 19 08 59.9
comp=Z,69nm,20.0s,baz=198,slow=36
AKASG Malin Array Be 32.55 325 P P 18 57 49.5 +0.6
comp=Z,0.2nm,0.2s,baz=133,slow=8.2,SNR=3.5
AKBB Malin Array Si 32.55 325 *e*P P 18 57 46.6 -2.2
comp=Z,27nm,1.9s
AKBB Malin Array Si 32.55 325 *e*P P 18 57 46.6 -2.2
AKBB pmax pmax
comp=Z,27nm,1.9s
KIEV Kiev 32.56 325 *e*P P 18 57 46.7 -2.2
comp=Z,29nm,2.0s
KIEV Kiev 32.56 325 *e*P P 18 57 46.7 -2.2
KIEV pmax pmax
comp=Z,29nm,2.0s
BURAR Bucovina Array 33.14 318 *e*P P 18 57 52.5 -1.6
BURAR Bucovina Array 33.14 318 *e*P P 18 57 52.5 -1.6
FNA Florina 33.33 304 *e*P P 18 57 53.6 -2.3
comp=Z,3.9nm,0.7s
FNA Florina 33.33 304 *e*P P 18 57 53.6 -2.3
FNA pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 33.72 29 P P 18 58 00.1 +1.2
comp=Z,0.6nm,0.3s,baz=236,slow=10,SNR=4.6
ZALV LR LR 19 14 01.3
comp=Z,16nm,19.5s,baz=70,slow=40
ZAA1 Zalesovo Array 33.72 29 *e*P P 18 58 00.1 +1.1
KOLS Kolonicke sedl 35.49 318 *e*P P 18 58 18.5 +4.1
KOLS Kolonicke sedl 35.49 318 *e*P P 18 58 18.5 +4.1
GTA Gaotai 36.99 59 *e*P P 18 58 32.0 +4.5
GTA pP sP 18 58 35.4 +2.2
GTA sP pP 18 58 38.1 +6.5
CMAR Chiang Mai Arr 38.54 93 LR LR 19 16 28.9
comp=Z,54nm,18.6s,baz=248,slow=39
GEC2 GERESS Array S 40.73 315 *e*P P 18 58 58.9 +0.2
comp=Z,7.3nm,1.5s
GEC2 GERESS Array S 40.73 315 *e*P P 18 58 58.9 +0.2
GEC2 pmax pmax
comp=Z,7.0nm,1.5s
GERES GERESS Array B 40.73 315 P P 18 59 00.0 +1.3
GERES GERESS Array B 40.73 315 P P 18 58 60.0 +1.3
comp=Z,0.6nm,0.7s,baz=120,slow=8.1,SNR=3.9
GERES LR LR 19 18 10.3
comp=Z,21nm,18.3s,baz=100,slow=40

KHC Kasperske Hory 40.89 315 *e*P P 18 59 00.0 +0.1
KHC Kasperske Hory 40.89 315 *e*P P 18 59 00.0 +0.1
FIA0 FINESS Array S 40.89 337 *e*P P 18 58 59.2 -0.5
FIA0 FINESS Array S 40.89 337 *e*P P 18 58 59.2 -0.5
FINES FINESS Array B 40.89 337 P P 18 58 59.2 -0.5
comp=Z,0.7nm,0.5s,baz=125,slow=11,SNR=4.9
SQTA Sankt Quirin 41.94 312 *i* pP P 18 59 10.1 +1.4
comp=Z,5.3nm,0.5s
MOTA Moosalm 42.04 312 P P 18 59 10.2 +0.7
comp=Z,3.3nm,0.7s
FETA Feichten 42.22 312 *i* P P 18 59 11.6 +0.6
comp=Z,3.1nm,0.7s
DAVA Damuels 42.84 312 *e*P P 18 59 16.5 +0.4
comp=Z,4.8nm,0.3s
NRIK Noril'sk 46.12 14 LR LR 19 19 40.1
comp=Z,31nm,18.8s,baz=156,slow=37
NOA NORSAR Array B 46.56 331 LR LR 19 21 18.5
comp=Z,22nm,19.4s,baz=130,slow=39
BKNI Bangkinang 48.94 115 *e*P P 19 00 00.7 -3.7
comp=Z,865nm,0.3s
ESDC Sonseca Array 52.55 301 P P 19 00 32.7 +1.3
comp=Z,0.6nm,0.7s,baz=70,slow=7.1,SNR=3.1
TORD Torodi Ar. Bea 54.24 267 P P 19 00 43.2 -0.9
comp=Z,1.2nm,0.5s,baz=63,slow=7.7,SNR=9.0
TOA1 Torodi Ar. Sit 54.24 267 *e*P P 19 00 43.2 -0.9

DDA ***15*** *18:56:07.6,38°.67N×43°.02E,h7km±1km,ML2.5*
ISK ***15*** *18:56:07.2,38°.65N×43°.07E,h24km,ML2.5/5*
ISCJB ***15*** *18:56:08.5±0.8,38°.66N±0°.04×43°.06E±0°.05,h23km±10km,*
Error ellipse: s-maj=7.5km s-min=6.3km az=0.8
ISC 15 18:56:07.7±1.5,38°.66N±0°.03×43°.06E±0°.03,h12km±17km,
n14,σ0°60/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**104**	PG	**Pb**	**18 56 14.6**	**+0.1**
VANB				SG	**Sb**	**18 56 19.9**	**+0.9**
ADCV	**BITLIS_Adilcev** comp=Z,2μm,0.2s	**0.30**	**299**	IAML_P			
ADCV				*i* P	**Pb**	**18 56 15.6**	**+0.5**
ADCV				*i* S	**Sb**	**18 56 20.8**	**+0.7**
TVAN	**Van**	**0.30**	**116**	*i* P	**Pb**	**18 56 14.9**	**-0.2**
TVAN				*i* S	**Sb**	**18 56 20.6**	**+0.4**
AKDM	**Akdamar-Van**	**0.34**	**191**	PG	**Pb**	**18 56 14.9**	**-0.8**
AKDM				SG	**Sb**	**18 56 20.8**	**-0.3**
GEVA	**Gevas** comp=Z,6μm,0.2s	**0.35**	**180**	IAML_P			
GEVA				*i* P	**Pb**	**18 56 15.6**	**-0.3**
VMUR	**Van-Muradiye** comp=Z,609nm,0.2s	**0.52**	**51**	IAML_P			
VMUR				*i* P	**Pb**	**18 56 18.3**	**-0.5**
MLAZ	**Malazgirt-MUS**	**0.62**	**320**	PG	**Pb**	**18 56 20.6**	**0.0**
TUTA	**Tutak**	**0.76**	**346**	*i* P	**Pb**	**18 56 22.6**	**-0.4**
BLIS	**Bitlis-Merkez**	**0.78**	**252**	*i* P	**Pb**	**18 56 23.0**	**-0.2**
BLIS				*i* S	**Sb**	**18 56 33.0**	**-0.8**
CLDR	**Caldiran**	**0.82**	**54**	PG	**Pg**	**18 56 23.7**	**0.0**
CLDR	**Caldiran** comp=Z,718nm,0.4s	**0.82**	**54**	IAML_P			
CLDR				*i* P	**Pg**	**18 56 23.5**	**-0.1**
AGRB	**Hanur-Agry**	**0.91**	**357**	PG	**Pg**	**18 56 25.2**	**-0.2**
SRTM	**Siirt_Merkez**	**1.12**	**234**	*i* P	**Pg**	**18 56 30.3**	**+1.2**
MUSM	**Mu-Merkez** comp=Z,306nm,0.2s	**1.21**	**273**	IAML_P			
MUSM				*i* P	**Pg**	**18 56 30.4**	**-0.6**

IDC ***15*** *19:06:45.4±3.1,42°.99N×105°.02W,h0km,mb2.5/1,*
mb1 3.5/3,mb1mx3.3/40,mbtmp3.3/3,ML3.5/2,MS2.8/3,
Ms1 2.7/3,ms1mx2.5/5,Error ellipse: s-maj=60.5km
s-min=11.5km az=159.0
ISCJB ***15*** *19:06:48.7±0.4,43°.60N±0°.03×105°.17W±0°.05,h0km,Error*
ellipse: s-maj=5.8km s-min=3.9km az=166.0
NEIC ***15*** *19:06:50.1±0.3,43°.61N×105°.15W,h0km,ML3.3,Error*
ellipse: s-maj=4.6km s-min=4.2km az=80.0,Suspected
Mining explosion.
NEIC 81 km [50 miles] WSW of Newcastle.
ISC 15 19:06:49.7±0.9,43°.61N±0°.04×105°.22W±0°.05,h0km,n71,
σ1°44/71,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**59**	*e*Pb	**Pg**	**19 07 08.6**	**-0.2**
K22A	**Casper**	**1.35**	**225**	*e*Pn	**Pg**	**19 07 13.5**	**-2.1**
PHWY	**Pilot Hill**	**2.31**	**184**	*e*Pn	**Pn**	**19 07 29.0**	**-0.2**
RWWY	**Rawlins**	**2.42**	**218**	*e*Pn	**Pn**	**19 07 31.4**	**+0.7**
N23A	**Red Feather La**	**2.76**	**191**	*e*Pn	**Pn**	**19 07 36.2**	**+0.7**
LAO	**LASA Array**	**3.16**	**347**	*e*Pn	**Pn**	**19 07 40.4**	**-0.3**
RLMT	**Red Lodge**	**3.27**	**299**	*e*Pn	**Pn**	**19 07 42.2**	**-0.2**
BW06	**Boulder Array**	**3.28**	**257**	*e*Pn	**Pn**	**19 07 42.8**	**+0.2**
PD31	**Pinedale Array**	**3.28**	**257**	*e*Pn	**Pn**	**19 07 42.1**	**-0.4**
PDAR	**Pinedale Array**	**3.28**	**257**	*e*Pn	**Pn**	**19 07 43.1**	**+0.6**
PDAR				Lg	Lg	19 08 29.3	
PDAR	**Pinedale Array** 4.2nm,0.3s,baz=87,slow=17,SNR=36	**3.28**	**257**	Pn	**Pn**	**19 07 42.5**	**-0.1**
PDAR				Lg	Lg	19 08 29.3	
OGNE	**Ogallala** 18nm,0.3s,baz=76,slow=34,SNR=12	**3.56**	**137**	*e*Pn	**Pn**	**19 07 47.4**	**+1.2**
ISCO	**Idaho Springs**	**3.82**	**185**	*e*Pn	**Pn**	**19 07 50.5**	**+0.5**
GCMT	**Greycliff**	**3.85**	**306**	*e*Pn	**Pn**	**19 07 50.1**	**-0.2**
LOHW	**Long Hollow**	**3.91**	**272**	*e*Pn	**Pn**	**19 07 52.0**	**+0.8**
H17A	**Grant Village**	**3.94**	**283**	*e*Pn	**Pn**	**19 07 53.9**	**+2.2**
FLWY	**Flagg Ranch**	**3.99**	**279**	*e*Pn	**Pn**	**19 07 55.1**	**+2.9**
MOOW	**Moose Ponds**	**4.01**	**274**	*e*Pn	**Pn**	**19 07 55.3**	**+2.7**
SNOW	**Snow King Moun**	**4.03**	**270**	*e*Pn	**Pn**	**19 07 55.5**	**+2.7**
REDW	**Red Top Meadow**	**4.11**	**269**	*e*Pn	**Pn**	**19 07 56.0**	**+2.1**
O20A	**White River Ci**	**4.14**	**214**	*e*Pn	**Pn**	**19 07 54.9**	**+0.6**
IMW	**Indian Meadow**	**4.15**	**276**	*e*Pn	**Pn**	**19 07 55.6**	**+1.0**
TPAW	**Teton Pass**	**4.17**	**270**	*e*Pn	**Pn**	**19 07 55.7**	**+0.9**
FXWY	**Fox Creek**	**4.22**	**272**	*e*Pn	**Pn**	**19 07 55.6**	**+0.3**
YHH	**Holmes Hill**	**4.22**	**288**	*e*Pn	**Pn**	**19 07 54.8**	**-0.7**
YHB	**Horse Butte**	**4.45**	**287**	*e*Pn	**Pn**	**19 07 59.6**	**+1.1**
SMCO	**Snowmass**	**4.62**	**197**	*e*Pn	**Pn**	**19 08 00.6**	**-0.5**
Q24A	**Divide**	**4.64**	**179**	*e*Pn	**Pn**	**19 08 01.6**	**+0.3**
DGMT	**Dagmar**	**4.92**	**8**	*e*Pn	**Pn**	**19 08 03.9**	**-0.9**
DGMT				*e*Sg	**Sg**	**19 09 25.4**	**-2.1**
BOZ	**Bozeman (W)**	**4.99**	**296**	*e*Pn	**Pn**	**19 08 06.7**	**+0.8**
HWUT	**Hardware Ranch**	**5.09**	**249**	*e*Pn	**Pn**	**19 08 08.8**	**+1.4**
EGMT	**Eagleton**	**5.44**	**326**	*e*Pn	**Pn**	**19 08 12.0**	**0.0**
LRM	**Limekiln Ridge**	**5.61**	**296**	*e*Pn	**Pn**	**19 08 16.6**	**+2.1**
HRY	**Holter Researc**	**5.61**	**306**	*e*Pn	**Pn**	**19 08 15.4**	**+0.9**
MCMT	**McKenzie Canyo**	**5.62**	**285**	*e*Pn	**Pn**	**19 08 17.1**	**+2.5**
PV22	**Blue Mesa, Par**	**5.74**	**209**	*e*Pn	**Pn**	**19 08 19.2**	**+3.0**
PV07	**Paradox Valley**	**5.78**	**208**	*e*Pn	**Pn**	**19 08 18.3**	**+1.5**
PV07				*e*Sg	**Sg**	**19 09 56.0**	**+0.7**
PV21	**Cone Mtn., Par**	**5.78**	**211**	*e*Pn	**Pn**	**19 08 18.4**	**+1.5**
SPUT	**South Promonto**	**5.82**	**249**	*e*Pn	**Pn**	**19 08 17.6**	**+0.2**
P17A	**Butcher Ranch,**	**5.85**	**227**	*e*Pn	**Pn**	**19 08 18.5**	**+0.7**
HVU	**Hansel Valley**	**5.86**	**254**	*e*Pn	**Pn**	**19 08 18.5**	**+0.6**
SDCO	**Great Sand Dun**	**5.86**	**182**	*e*Pn	**Pn**	**19 08 19.8**	**+1.7**
PV23	**Carpenter Ridg**	**5.89**	**210**	*e*Pn	**Pn**	**19 08 20.2**	**+1.7**
PV09	**Paradox Valley**	**5.90**	**211**	*e*Pn	**Pn**	**19 08 19.1**	**+0.5**
PV04	**Paradox Valley**	**5.91**	**209**	*e*Pn	**Pn**	**19 08 19.8**	**+1.2**
PV10	**Paradox Valley**	**5.97**	**210**	*e*Pn	**Pn**	**19 08 22.6**	**+3.1**
PV20	**West Nyswonger**	**5.98**	**210**	*e*Pn	**Pn**	**19 08 20.2**	**+0.6**
PV11	**David Mesa, Pa**	**5.98**	**209**	*e*Pn	**Pn**	**19 08 20.0**	**+0.4**
PV16	**Nyswonger Mesa**	**5.98**	**209**	*e*Pn	**Pn**	**19 08 20.6**	**+1.0**
SRU	**San Rafael Swe**	**6.01**	**223**	*e*Pn	**Pn**	**19 08 19.0**	**-1.0**
PV19	**Morning Glory**	**6.01**	**210**	*e*Pn	**Pn**	**19 08 22.6**	**+2.6**
PV03	**Paradox Valley**	**6.01**	**208**	*e*Pn	**Pn**	**19 08 20.7**	**+0.6**
PV02	**Paradox Valley**	**6.02**	**207**	*e*Pn	**Pn**	**19 08 21.9**	**+1.8**
PV01	**Paradox Valley**	**6.03**	**206**	*e*Pn	**Pn**	**19 08 22.8**	**+2.5**
PV17	**East Wray Mesa**	**6.03**	**209**	*e*Pn	**Pn**	**19 08 20.7**	**+0.4**
PV18	**Skein Mesa, Pa**	**6.04**	**209**	*e*Pn	**Pn**	**19 08 20.2**	**-0.2**
PV13	**Radium Mtn., P**	**6.09**	**208**	*e*Pn	**Pn**	**19 08 22.0**	**+0.9**
TMUT	**Trail Mountain**	**6.23**	**228**	*e*Pn	**Pn**	**19 08 23.0**	**-0.1**
ECSD	**EROS Data Cent**	**6.24**	**86**	*e*Sg	**Sg**	**19 10 09.2**	**-1.0**
PV05	**Paradox Valley**	**6.26**	**209**	*e*Pn	**Pn**	**19 08 22.5**	**-0.9**
CBKS	**Cedar Bluff**	**6.33**	**137**	*e*Pn	**Pn**	**19 08 22.7**	**-1.4**
CBKS				eLg	Lg	19 10 16.1	
Q16A	**Castle Valley**	**6.48**	**226**	*e*Pn	**Pn**	**19 08 26.4**	**-0.2**
T25A	**Trinidad**	**6.49**	**174**	*e*Pn	**Pn**	**19 08 27.0**	**+0.4**
DUG	**Dugway, Tooele**	**6.61**	**242**	*e*Pn	**Pn**	**19 08 28.4**	**+0.2**
HLID	**Hailey**	**6.68**	**273**	*e*Pn	**Pn**	**19 08 30.8**	**+1.6**
MSU	**Marysvale**	**7.32**	**228**	*e*Pn	**Pn**	**19 08 38.4**	**+0.4**
ULM	**Lac du Bonnet** 0.9nm,0.3s,baz=222,slow=15,SNR=4.0	**9.22**	**41**	Pn	Pn	19 09 01.6	-2.1
ULM				Lg	Lg	19 11 36.3	
ULM	0.5nm,0.3s,baz=139,slow=19,SNR=3.4 comp=Z,83nm,21.1s,baz=275,slow=40			LR	LR	19 13 07.3	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINE	**Pine Mountain**	**11.39**	**276**	*e*Pn	**Pn**	**19 09 30.4**	**-3.3**
TXAR	**Lajitas Array** comp=Z,108nm,18.2s,baz=0.0,slow=40	**14.30**	**175**	LR	LR	19 15 57.0	
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=157,slow=9.1,SNR=2.4	**19.70**	**347**	P	**Pn**	**19 11 23.5**	**+1.9**
YKA				LR	LR	19 19 58.1	
YKB5	**Yellowknife Ar** comp=Z,4.3nm,18.5s,baz=183,slow=39	**19.70**	**347**	*e*P	**Pn**	**19 11 23.5**	**+1.9**

IDC 15 19:10:23.9±7.6,21°.16S×177°.85W,h488km±85km,
mb3.0/3,mb1 3.2/4,mb1mx2.9/32,mbtmp4.0/4,Error
ellipse: s-maj=57.0km s-min=41.2km az=31.0,Fiji
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.8nm,0.3s,baz=353,slow=16,SNR=5.2	**17.59**	**193**	P	P	19 14 00.8	0.0
ASAR	**Alice Springs** 1.8nm,0.6s,baz=93,slow=8.1,SNR=39	**44.51**	**257**	P	P	19 17 51.6	+0.2
ASAR	0.3nm,0.6s,baz=100,slow=3.6,SNR=5.0			PcP	PcP	19 19 25.0	+0.5
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=95,slow=7.5,SNR=7.4	**44.65**	**263**	P	P	19 17 51.6	-1.0
KSRS	**Korea Array** 0.6nm,0.6s,baz=136,slow=6.9,SNR=3.4	**77.47**	**319**	P	P	19 21 29.2	+0.8
AKASG	**Malin Array Be** 0.7nm,0.5s,baz=43,slow=3.7,SNR=5.0	**143.65**	**331**	PKP	PKPab	19 28 59.8	-1.3

NEIC ***15*** *19:13:14.3±0.0,45°.42N×75°.98W,h18km,MN2.7(OTT),*
After OTT.
NEIC Felt at Kanata and Ottawa, Ontario.
LDO ***15*** *19:13:16.3±0.0,45°.41N×75°.97W,h11km*
OTT 15 19:13:14.3±0.0,45°.42N×75°.98W,h18km,MN2.7/8,2D,
Southern Ontario

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTT	**Ottawa**	**0.19**	**97**	Pg	Pb	19 13 18.9	0.0
OTT				Sg	Sb	19 13 21.8	-0.2
OTT	**Ottawa**	**0.19**	**97**	PG	Pb	19 13 18.9	0.0
OTT				SG	Sb	19 13 21.8	-0.2
OTT				Trac		19 13 21.8	
ORIO	**Orleans, Innes** comp=Z,886nm,0.1s	**0.34**	**84**	Pg	Pg	19 13 21.0	-0.4
ORIO				Sg	Sg	19 13 25.7	-0.6
ORIO	**Orleans, Innes**	**0.34**	**84**	PG	Pg	19 13 21.0	-0.4
ORIO				SG	Sg	19 13 25.7	-0.6
ORIO				Trac		19 13 26.1	
GAC	**Glen Almond** comp=Z,67nm,0.0s	**0.46**	**51**	⇓Pg	Pg	19 13 23.1	-0.5
GAC				Sg	Sg	19 13 29.1	-0.8
GAC	**Glen Almond**	**0.46**	**51**	⇓PG	Pg	19 13 23.1	-0.5
GAC				SG	Sg	19 13 29.1	-0.8
GAC				Trac		19 13 30.0	
VABQ	**Val Des Bois** comp=Z,61nm,0.1s	**0.56**	**28**	PG	Pg	19 13 24.8	-0.6
VABQ				SG	Sg	19 13 32.2	-0.7
VABQ				Trac		19 13 32.8	
ALFO	**Alfred** comp=Z,71nm,0.1s	**0.80**	**74**	Pg	Pb	19 13 29.0	-0.7
ALFO				Sg	Sb	19 13 39.5	-0.7
ALFO	**Alfred**	**0.80**	**74**	PG	Pb	19 13 29.0	-0.7
ALFO				SG	Sb	19 13 39.5	-0.7
ALFO				Trac		19 13 42.6	
PLVO	**Plevna** comp=Z,7.0nm,0.0s	**0.86**	**244**	Pg	Pb	19 13 30.0	-0.7
PLVO				Sg	Sb	19 13 41.7	-0.1
PLVO	**Plevna**	**0.86**	**244**	PG	Pb	19 13 30.0	-0.7
PLVO				SG	Sb	19 13 41.7	-0.1
PLVO				Trac		19 13 45.2	
PEMO	**Pembroke** comp=Z,18nm,0.0s	**0.93**	**287**	PG	Pb	19 13 31.2	-0.6
PEMO				SG	Sb	19 13 43.6	-0.2
PEMO				Trac		19 13 47.2	
CRLO	**Chalk River** comp=Z,11nm,0.0s	**1.16**	**303**	PG	Pn	19 13 35.4	-0.2
CRLO				SG	Sb	19 13 50.8	+0.2
CRLO				Trac		19 13 52.5	
GRQ	**Grand Remous** comp=Z,13nm,0.1s	**1.19**	**4**	PG	Pn	19 13 36.1	-0.1
GRQ				SG	Sn	19 13 52.0	+0.1
GRQ				Trac		19 13 54.9	
KGNO	**Kingston** comp=Z,7.6nm,0.1s	**1.24**	**197**	SG	Sn	19 13 53.4	+0.3
KGNO				Trac		19 13 55.6	
TRQ	**Mont Tremblant** comp=Z,12nm,0.1s	**1.28**	**51**	*e*Pn	Pn	19 13 37.0	-0.4
ALGO	**Algonquin Park**	**1.55**	**291**	PN	Pn	19 13 41.3	+0.3
ALGO				SG	Sb	19 14 02.6	+0.9
FRNY	**Flat Rock**	**1.79**	**108**	*e*Pn	Pn	19 13 45.1	+0.8
NCB	**Newcomb**	**1.91**	**138**	*e*Pn	Pn	19 13 46.0	-0.1
SADO	**Sadowa**	**2.33**	**255**	*e*Pn	Pn	19 13 52.5	+0.8

NNC 15 19:33:23.2±8.8,36°.94N×70°.48E,h0km,mb4.0,mpv3.6,
3C-3D,Error ellipse: s-maj=70.1km s-min=64.9km
az=140.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=61	**5.75**	**25**	P	Pn	19 34 51.0	+0.8
UCH	**Uchtor** SNR=14	**6.13**	**29**	P	Pn	19 34 55.5	0.0
KK31	**Karatay Array** 1.3nm,0.5s,baz=186,slow=13,SNR=9.8	**6.16**	**0**	⇓Pn	Pn	19 34 57.5	+2.1
KK31				⇑Sn	Sn	19 36 07.6	+1.1
EKS2	**Erkin-Say** SNR=5.4 5.1nm,0.7s,baz=189,slow=23,SNR=8.6	**6.25**	**23**	P	Pn	19 34 58.4	+1.6
KZA	**Kyzart** SNR=5.5	**6.32**	**34**	P	Pn	19 34 56.9	-1.1
AAK	**Ala-Archa** SNR=8.0	**6.47**	**27**	P	Pn	19 35 00.1	+0.2
AAK	**Ala-Archa** 2.5nm,0.4s	**6.47**	**27**	⇑Pn	Pn	19 34 59.6	-0.3
AAK	2.0nm,0.6s			⇓Sn	Sn	19 36 13.5	-1.1
TKM2	**Tokmak 2** SNR=5.1	**7.15**	**32**	P	Pn	19 35 08.2	-1.0
TKM2	**Tokmak 2** 5.2nm,0.8s	**7.15**	**32**	⇓Pn	Pn	19 35 07.3	-2.0
TKM2	0.9nm,0.7s			⇑Sn	Sn	19 36 35.2	+4.0

MEX 15 19:52:08.2±0.5,18°.47N×101°.93W,h64km±7km,MD3.7,
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URUA	**Uruapan**	**0.96**	**352**	*e*P	Pn	19 52 24.5	-1.6
URUA				*i* S	Sn	19 52 37.6	-1.8
ZIIG	**Z

PAU	Pauzhetka	2.71	14	eP	Pn	19 53 35.0	+1.1
PAU				eS	Sn	19 54 08.8	+2.1
KDTR	Khodutka, Kamc	3.31	26	eP	Pn	19 53 45.6	+3.4
KDTR				eS	Sn	19 54 25.5	+3.9
RUS	Russkaya	3.99	25	P	Pn	19 53 54.8	+3.3
RUS				eS	Sn	19 54 42.0	+3.6
DALK	Dalny	4.59	23	eP	Pn	19 54 04.5	+4.7
DALK				eS	Sn	19 54 58.8	+5.6

WEL 15 19:58:51.5±1.1, 32°S±7°×18°0E±1°6, h316km±18km, ML4.5/1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.48	34	P	Pn	19 59 52.2	-1.0
GLKZ				S	S	20 00 43.3	+0.7
MXZ	Matakaoa Point	5.52	193	P	Pn	20 00 17.6	+2.1
WMGZ	Waiomatatini S	5.75	191	P	Pn	20 00 19.5	+1.3
WMGZ				S	S	20 01 29.2	+1.0
HAZ	Te Kaha	5.82	196	P	Pn	20 00 19.9	+0.8
HAZ				S	S	20 01 30.5	+0.9
WCZ	Waipu Caves	5.91	229	P	Pn	20 00 20.9	+0.8
PUZ	Puketiti	6.03	192	P	Pn	20 00 23.2	+1.7
OUZ	Omahuta	6.03	238	P	Pn	20 00 21.9	+0.4
RUGZ	Raukumara Rang	6.04	196	P	Pn	20 00 21.2	-0.6
TWGZ	Tauwhareparae	6.18	194	P	Pn	20 00 23.9	+0.6
MWZ	Matawai	6.43	196	P	Pn	20 00 25.1	-1.2
MWZ				S	S	20 01 43.2	+0.2
URZ	Urewera	6.47	199	P	Pn	20 00 26.1	-0.6
URZ				S	S	20 01 42.4	-1.2
RAGZ	Rawiri	6.61	197	P	Pn	20 00 28.2	-0.3
MUGZ	Murupara	6.77	201	P	Pn	20 00 30.1	-0.2
KNZ	Kokohu	7.06	194	P	Pn	20 00 33.9	+0.2
RAHZ	Arahi	7.09	198	P	Pn	20 00 33.6	-0.6
MTHZ	Maungataniwha	7.10	199	P	Pn	20 00 32.7	-1.5

IDC 15 19:59:17.5±12.0, 7°.53S×128°.20E, h121km±135km, mb3.5/4, mb1 3.6/7, mb1mx3.3/43, mbtmp3.9/7, ML4.1/3, Error ellipse: s-maj=80.2km s-min=45.2km az=6.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.79	193	P	Pn	20 01 48.9	+0.2
	0.9nm,0.3s,baz=22,slow=11,SNR=76						
FITZ				S	Sn	20 03 42.4	-5.2
	1.2nm,0.3s,baz=140,slow=21,SNR=10						
WRA	Warramunga Arr	13.70	155	P	Pn	20 02 25.3	-1.5
	0.9nm,0.3s,baz=333,slow=13,SNR=68						
WRA				S	Sn	20 04 48.0	-10
	1.9nm,0.3s,baz=322,slow=23,SNR=12						
ASAR	Alice Springs	16.95	162	P	Pn	20 03 08.1	+0.6
	0.6nm,0.3s,baz=338,slow=11,SNR=74						
ASAR				S	Sn	20 06 06.5	-10
	0.2nm,0.3s,baz=320,slow=17,SNR=3.6						
PETK	Petropavlovsk-	65.39	19	P	P	20 09 47.2	+0.2
	1.0nm,0.8s,baz=209,slow=8.3,SNR=3.3						
MKAR	Makanchi Array	67.70	328	P	P	20 10 02.1	+0.2
	0.3nm,0.4s,baz=115,slow=8.1,SNR=7.7						
ZALV	Zalesovo Beam	71.28	335	P	P	20 10 23.0	-0.6
	0.5nm,0.3s,baz=134,slow=6.2,SNR=2.5						
KURBB	Kurchatov Arra	72.04	329	P	P	20 10 28.5	+0.3
	0.9nm,0.6s,baz=126,slow=5.3,SNR=9.5						

*IDC **15** 19:59:38.6±3.0, 2°.36N×95°.52E, h0km, mb4.0/6, mb1 3.9/8, mb1mx3.5/59, mbtmp3.9/8, ML3.6/2, Error ellipse: s-maj=74.4km s-min=24.8km az=37.0*
*NEIC **15** 19:59:40.9±7.0, 2°.49N×95°.70E, h8km±43km, mb4.2/10, Error ellipse: s-maj=22.9km s-min=10.0km az=55.0*
*ISCJB **15** 19:59:42.5±0.9, 2°.6N±0°.1×95°.80E±0°.08, h25km, mb4.1/13, Error ellipse: s-maj=17.9km s-min=7.8km az=30.2*
ISC 15 19:59:43.9±1.1, 2°.6N±0°.1×95°.8E±0°.1, h25km, n41, σ0°94/35, mb4.1/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	2.19	124	ePn	Pn	20 00 18.3	-0.5
PSI	Prapat	3.16	85	ePn	Pn	20 00 30.6	-1.7
PSI	Prapat	3.16	85	Pn	Pn	20 00 32.7	+0.5
	2.0nm,0.3s,baz=265,slow=12,SNR=6.8						
KULM	Kulim	5.58	61	ePn	Pn	20 01 05.4	0.0
IPM	Ipoh	5.59	70	ePn	Pn	20 01 05.3	-0.2
CM31	Chiang Mai Arr	16.11	11	ePn	Pn	20 03 28.5	-0.4
	6.3nm,1.2s						
CMAR	Chiang Mai Arr	16.11	11	ePn	P	20 03 30.6	-1.5
CMAR	Chiang Mai Arr	16.11	11	Pn	P	20 03 30.9	-1.1
	0.2nm,0.3s,baz=201,slow=12,SNR=16						
SLVN	Son La	20.28	22	eP	P	20 04 16.9	-1.0
	26nm,1.9s						
KKM	Kota Kinabalu	20.68	80	eP	P	20 04 23.4	+0.9
	10nm,1.0s						
KAPI	Kappang	25.11	107	P	P	20 05 07.5	+0.4
	7.0nm,0.8s,baz=275,slow=12,SNR=4.4						
H08S2	Diego Garcia H	25.33	246	T	T	20 31 22.9	
	baz=67,slow=76,SNR=76						
H08S3	Diego Garcia H	25.34	246	T	T	20 31 23.1	
	baz=67,slow=76,SNR=58						
H08S1	Diego Carcia H	25.35	246	T	T	20 31 24.3	
	baz=67,slow=76,SNR=70						
RAMN	Ramite	25.80	341	eP	P	20 05 15.1	+1.6
	16nm,0.6s						
JIRN	Jiri	26.60	341	eP	P	20 05 22.0	+1.2
	31nm,0.7s						
PKI	Pulchoki	26.78	339	eP	P	20 05 23.4	+1.0
PKIN	Phulchoki	26.79	339	eP	P	20 05 23.4	+1.0
	3.5nm,0.7s						
KKN	Kakani	27.03	339	eP	P	20 05 25.5	+1.0
LSA	Lhasa	27.36	351	eP	P	20 05 28.4	+0.7
	3.7nm,1.1s						
KOLN	Koldanda	27.64	336	eP	P	20 05 31.4	+1.4
	3.6nm,0.5s						
DANN	Dangsing	28.10	337	eP	P	20 05 34.8	+0.6
	7.6nm,0.6s						
H01W3	Cape Leeuwin H	41.04	157	T	T	20 51 01.8	
	baz=332,slow=76,SNR=17						
H01W2	Cape Leeuwin H	41.05	157	T	T	20 51 03.7	
	baz=332,slow=76,SNR=15						
H01W1	Cape Leeuwin H	41.05	157	T	T	20 51 03.4	
	baz=332,slow=76,SNR=17						
BJT	Baijiatuau	41.63	24	eP	P	20 07 31.6	+1.4
	15nm,0.5s						
GAR	Garm	43.06	331	eP	P	20 07 41.8	-0.2
	10nm,1.3s						
MK31	Makanchi Array	45.60	347	eP	P	20 08 02.3	+0.1
	3.0nm,1.4s						
MK32	Makanchi Array	45.60	347	eP	P	20 08 02.6	+0.5
MKAR	Makanchi Array	45.60	347	eP	P	20 08 02.0	-0.1
MKAR	Makanchi Array	45.60	347	P	P	20 08 02.6	+0.5
	1.1nm,0.5s,baz=162,slow=8.1,SNR=14						
MAKZ	Makanchi	45.69	347	eP	P	20 08 02.9	+0.1
	1.8nm,0.6s						
SONA0	Songino Array	46.03	10	eP	P	20 08 05.3	-0.3
SONM	Songino Array	46.03	10	eP	P	20 08 05.8	+0.2
SONM	Songino Array	46.03	10	P	P	20 08 05.3	-0.3
	1.0nm,0.6s,baz=193,slow=9.0,SNR=4.3						
KK31	Karatay Array	46.22	334	eP	P	20 08 05.5	-1.6
	3.8nm,1.4s						
KKAR	Karatay Array	46.22	334	eP	P	20 08 07.9	+0.8
	3.8nm,1.4s						
KURBB	Kurchatov Arra	50.07	346	P	P	20 08 35.2	-1.4
	0.5nm,0.8s,baz=172,slow=7.0,SNR=5.1						
ZALV	Zalesovo Beam	52.02	352	P	P	20 08 50.7	-0.5
	1.0nm,0.5s,baz=174,slow=7.7,SNR=5.5						
ZAA1	Zalesovo Array	52.02	352	eP	P	20 08 50.7	-0.5
BVAR	Borovoye Array	54.52	341	P	P	20 09 08.5	-1.1
	1.2nm,0.7s,baz=138,slow=9.0,SNR=7.6						

*IDC **15** 20:00:04.9±1.6, 33°.44N×118°.34W, h0km, mb3.6/5, mb1 3.9/11, mb1mx3.7/59, mbtmp3.6/11, ML3.6/6, MS3.1/6, Ms1 3.1/6, ms1mx2.8/34, Error ellipse: s-maj=21.8km s-min=10.0km az=26.0*
*ISCJB **15** 20:00:05.0±0.4, 33°.64N±0°.02×118°.36W±0°.02, h8km±2km, mb3.6/5, MS3.1/2, Error ellipse: s-maj=3.2km s-min=2.6km az=26.5*
*ANF **15** 20:00:05.6±0.1, 33°.66N×118°.37W, h12km±1km, ML4.1/45, Error ellipse: s-maj=1.5km s-min=1.4km az=80.0*
*NEIC **15** 20:00:06.2±0.0, 33°.66N×118°.37W, h1km, ML4.0(PAS), After PAS.*

NEIC Felt [III] at Harbor City, Hermosa Beach, Huntington Beach, Lomita, Long Beach, Palos Verdes Peninsula, Rancho Palos Verdes, Redondo Beach, San Pedro, Torrance and Wilmington. Felt widely in the Los Angeles area as far as Avalon, San Juan Capistrano and Valencia.
*PAS **15** 20:00:06.2, 33°.66N×118°.37W, h1km, ML4.0*
*SCEDC **15** 20:00:06.3, 33°.65N×118°.39W, h0km*
ISC 15 20:00:06.5±0.9, 33°.65N±0°.02×118°.37W±0°.02, h7km±6km, n150, σ1°33/172, mb3.8/5, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FMP	Fort Macarthur	0.09	45	P	Pg	20 00 08.2	-0.3
	baz=232						
FMP				S	Sg	20 00 10.1	+0.1
	baz=232						
CIS	Catalina Islan	0.25	189	P	Pg	20 00 11.6	+0.1
	baz=5.6						
CIS				S	Sg	20 00 15.5	+0.6
	baz=5.6						
PASC	Pasadena Art C	0.54	16	ePg	Pg	20 00 16.2	-0.7
DECC	Green Verdugo	0.60	3	P	Pg	20 00 17.3	-0.8
	baz=184						
DECC				S	Sg	20 00 25.8	-0.2
	baz=184						
MWC	Mount Wilson	0.62	24	ePg	Pg	20 00 17.9	-0.7
SCI2	San Clemente I	0.69	193	P	Pg	20 00 19.6	-0.1
	baz=11						
BLG	Laguna Peak, P	0.74	308	P	Pg	20 00 19.5	-1.2
	baz=129						
BLG				S	Sg	20 00 30.2	-0.2
	baz=129						
BFSC	Mount Baldy Ra	0.83	45	P	Pg	20 00 21.4	-1.0
	baz=226						
BFSC				S	Sg	20 00 33.3	0.0
	baz=226						
MURC	Murrieta	0.98	93	P	Pg	20 00 23.8	-1.5
	baz=273						
MURC				S	Sg	20 00 37.3	-0.7
	baz=273						
OSI	Osito Audit: C	1.00	343	ePg	Pg	20 00 24.7	-1.0
OSI	Osito Audit: C	1.00	343	P	Pg	20 00 24.7	-1.0
	baz=164						
OSI				S	Sg	20 00 38.2	-0.7
	baz=164						
SNCC	San Nicolas Is	1.05	248	ePg	Pg	20 00 25.1	-1.5
SNCC	San Nicolas Is	1.05	248	P	Pg	20 00 24.9	-1.8
	baz=67						
SNCC				S	Sg	20 00 39.7	-0.6
	baz=67						
SCZ2	Santa Cruz Isl	1.11	288	P	Pg	20 00 25.9	-1.9
	baz=108						
SCZ2				S	Sg	20 00 41.9	-0.3
	baz=108						
EDW2	Edwards Air Fo	1.26	14	P	Pg	20 00 29.0	-1.8
	baz=195						
EDW2				S	Sg	20 00 46.5	-0.7
	baz=195						
109C	Camp Elliot, M	1.30	125	P	Pg	20 00 28.4	-3.1
	baz=306						
CPE	Camp Elliot	1.30	125	ePg	Pg	20 00 28.4	-3.1
BBRC	Big Bear Solar	1.35	63	P	Pg	20 00 30.7	-1.6
	baz=244						
BBRC				Sb	Sg	20 00 49.5	-0.4
	baz=244						
SBC	Santa Barbara	1.37	306	P	Pg	20 00 30.9	-1.8
	baz=125						
ARVC	Arvin	1.52	346	P	Pn	20 00 33.1	-1.0
	baz=166						
ARVC				S	Sb	20 00 53.5	-1.0
	baz=166						
PFO	Pinyon Flats O	1.59	91	ePn	Pn	20 00 33.8	-1.3
PFO				ePg	Pn	20 00 34.0	-1.2
PFO				Lg	Lg	20 00 56.5	
PFO	Pinyon Flats O	1.59	91	P	Pn	20 00 33.9	-1.2
	baz=272						
PFO				Sb	Sn	20 00 56.7	+0.7
	baz=272						
PFO	Pinyon Flats O	1.59	91	Pg	Pn	20 00 33.9	-1.2
	11nm,0.3s,baz=279,slow=12,SNR=5.2						
PFO				Lg	Lg	20 00 56.5	
	142nm,0.3s,baz=325,slow=3.0,SNR=14						
RRX	Edison Barstow	1.67	43	P	Pn	20 00 35.3	-0.7
	baz=224						
PKM	Mcpherson Peak	1.72	316	P	Pn	20 00 35.4	-1.5
	baz=136						
PKM				S	Sn	20 00 57.4	-1.9
	baz=136						
BAR	Barrett	1.72	124	ePn	Pn	20 00 34.5	-2.3
MONP2	Monument Peak	1.80	114	P	Pn	20 00 36.3	-1.8
	baz=295						
LRMC	Laurel Mtn Rad	1.91	17	P	Pn	20 00 38.7	-0.9
	baz=198						
LRMC				S	Sn	20 01 02.3	-1.5
	baz=198						
BELC	Belle Mtn. Jos	2.00	79	P	Pn	20 00 39.8	-1.1
	baz=261						
BELC				Sb	Sb	20 01 08.5	0.0
	baz=261						
ISA	Isabella, Lake	2.01	357	ePn	Pn	20 00 40.2	-0.7
ISA	Isabella, Lake	2.01	357	P	Pn	20 00 39.8	-1.1
	baz=178						
ISA				Sb	Sb	20 01 08.7	+0.2
	baz=178						
HEC	Hector,Ludlow	2.05	55	P	Pn	20 00 40.3	-1.2
	baz=236						
HEC				Sb	Sb	20 01 10.5	+0.7
	baz=236						
GSC	Goldstone, Bar	2.09	38	ePn	Pn	20 00 41.5	-0.5
GSC	Goldstone, Bar	2.09	38	P	Pn	20 00 41.1	-0.9
	baz=219						
SMMC	Simmler	2.13	321	P	Pn	20 00 41.6	-1.0
	baz=141						
IKP	In-Ko-Pah, Jac	2.14	117	P	Pn	20 00 41.5	-1.2
	baz=298						
SWSC	Sam W. Stewart	2.26	107	P	Pn	20 00 43.8	-0.5
	baz=289						
VES	Vestal, Richgr	2.26	345	P	Pn	20 00 42.9	-1.3
	baz=165						
BC3	Big Chuckawall	2.43	89	P	Pn	20 00 44.6	-2.1
	baz=271						
MPMC	Manual Prospec	2.51	16	P	Pn	20 00 46.2	-1.6
	baz=197						
GMRC	Granite Mounta	2.51	63	P	Pn	20 00 46.5	-1.4
	baz=244						
GMRC				Sb	Sb	20 01 25.0	+1.9
	baz=244						
PAGB	Antelope Grade	2.59	324	ePn	Pn	20 00 48.2	-0.6
TUQ	Turquoise Moun	2.69	48	P	Pn	20 00 49.2	-1.1
	baz=229						
DAC	Darwin (Calif)	2.69	13	ePn	Pn	20 00 51.0	+0.6
IRM	Iron Mountain	2.73	78	P	Pn	20 00 49.2	-1.5
	baz=260						
IRM				S	Sn	20 01 22.5	-1.4
	baz=260						
CWC	Cottonwood Cre	2.79	5	P	Pn	20 00 52.1	+0.4
	baz=185						
SHOC	Shoshone, Teco	2.83	37	P	Pn	20 00 51.3	-0.7
	baz=218						
SHOC				S	Sn	20 01 26.6	+0.3
	baz=218						
GLA	Glamis	3.02	100	ePn	Pn	20 00 55.5	+0.7
GLA	Glamis	3.02	100	P	Pn	20 00 53.1	-1.7
	baz=282						
LDFC	Landfair	3.05	61	ePn	Pn	20 00 54.5	-0.6
FURC	Furnace Creek,	3.07	23	P	Pn	20 00 54.5	-0.8
	baz=204						
Y12C	Blythe	3.21	87	ePn	Pn	20 00 56.1	-1.1
Y12C	Blythe	3.21	87	P	Pn	20 00 56.0	-1.2
	baz=269						
NEE2	Needles Airpor	3.30	69	P	Pn	20 00 57.4	-1.1
	baz=251						
TIN	Tinemaha, Big	3.40	2	P	Pn	20 01 00.5	+0.5
	baz=182						
GRAC	Grapevine Rang	3.44	13	P	Pn	20 01 00.8	+0.4
	baz=194						
PDMCI	Parker Dam,Lak	3.57	78	P	Pn	20 01 01.2	-1.0
	baz=261						
TPNV	Topopah Spring	3.72	27	ePn	Pn	20 01 05.0	+0.6
SHPR	Sheep Range	3.87	42	ePn	Pn	20 01 06.9	+0.3
113A	Mohawk Valley,	3.96	102	ePn	Pn	20 01 08.8	+1.3
W13A	Hualapai Mount	3.98	67	ePn	Pn	20 01 06.6	-1.4
OMMB	Old Mammoth Mi	3.98	353	ePn	Pn	20 01 08.5	+0.3
MLAC	Mammoth, Mammo	3.99	355	P	Pn	20 01 06.7	-1.5
	baz=175						
SAO	San Andreas Ge	4.00	322	ePn	Pn	20 01 07.0	-1.2
MDPB	Devils Postpil	4.01	352	ePn	Pn	20 01 08.2	-0.3
Y14A	Wickenburg	4.47	85	ePn	Pn	20 01 14.1	-0.6
CMB	Columbia Colle	4.67	340	ePn	Pn	20 01 17.6	+0.2
NVAR	Mina Array Bea	4.77	1	ePn	Pn	20 01 19.3	+0.4
NVAR				Pg	Pb	20 01 32.0	+1.6
NVAR				Lg	Lg	20 02 34.9	
NVAR	Mina Array Bea	4.77	1	Pn	Pn	20 01 20.8	+1.9
	0.4nm,0.3s,baz=182,slow=15,SNR=9.0						
NVAR				Pg	Pb	20 01 32.0	+1.6
	1.8nm,0.3s,baz=186,slow=16,SNR=25						
NVAR				Lg	Lg	20 02 34.9	
	0.8nm,0.3s,baz=188,slow=31,SNR=1.9						
NVAR				LR	LR	20 03 34.3	
	comp=Z,220nm,20.9s,baz=110,slow=42						
NV11	Mina Array Sit	4.77	2	ePn	Pn	20 01 19.7	+0.8
WAKR	Walker	4.92	350	ePn	Pn	20 01 21.4	+0.5
RYN	Ryan	4.97	359	ePn	Pn	20 01 21.8	+0.2
214A	Organ Pipe Nat	4.97	108	Pg	Pg	20 01 41.3	-0.5
	baz=291						
R11A	Troy Canyon, C	5.20	25	ePn	Pn	20 01 24.3	-0.5
R11A	Troy Canyon, C	5.20	25	Pg	Pg	20 01 43.9	-2.2
	baz=207						
YERR	Yerington	5.37	353	ePn	Pn	20 01 25.9	-1.2
KVN	Kaiserville	5.39	2	ePn	Pn	20 01 25.5	-1.9
PNTR	Pine Nut	5.52	350	ePn	Pn	20 01 28.7	-0.5
AFDM	Forest Hills D	5.69	339	ePn	Pn	20 01 30.8	-0.6
U15A	North Rim	5.70	59	ePn	Pn	20 01 32.1	+0.3
X16A	Lo Mia Camp, P	5.80	81	ePn	Pn	20 01 33.2	+0.1
WUAZ	Wupatki	6.06	70	ePn	Pn	20 01 36.5	-0.2
WUAZ	Wupatki	6.06	70	P	Pn	20 01 36.8	+0.1
	baz=254						
PAHR	Pah Rah Range	6.10	353	ePn	Pn	20 01 38.3	+1.2
BEKR	Beckworth	6.41	346	ePn	Pn	20 01 41.1	-0.2
BMN	Battle Mountai	6.83	7	ePn	Pn	20 01 46.9	-0.2
ELK	Elko	7.50	19	ePn	Pn	20 01 57.3	+0.7
ELK				Lg	Lg	20 04 00.8	
ELK	Elko	7.50	19	Pn	Pn	20 01 59.3	+2.8
	0.2nm,0.3s,baz=208,slow=13,SNR=14						
ELK				Lg	Lg	20 04 00.8	
	0.2nm,0.3s,baz=142,slow=19,SNR=2.5						
YBH	Yreka Blue Hor	8.77	338	Pn	Pn	20 02 17.6	+3.9
	0.2nm,0.3s,baz=162,slow=9.6,SNR=2.5						
PV09	Paradox Valley	8.90	54	ePn	Pn	20 02 15.6	-0.1
PV20	West Nyswonger	8.94	56	ePn	Pn	20 02 16.9	+0.7
PV13	Radium Mtn., P	8.95	57	ePn	Pn	20 02 18.0	+1.6
PV23	Carpenter Ridg	8.96	55	ePn	Pn	20 02 16.7	+0.2
PV03	Paradox Valley	8.98	57	ePn	Pn	20 02 15.7	-1.0
PV04	Paradox Valley	9.00	56	ePn	Pn	20 02 18.7	+1.7
ANMO	Albuquerque	9.94	79	Pn	Pn	20 02 33.0	+3.1
	0.1nm,0.3s,baz=260,slow=12,SNR=4.0						
ANMO				Lg	Lg	20 05 18.8	
	0.2nm,0.3s,baz=222,slow=15,SNR=3.7						
ANMO				LR	LR	20 06 10.1	
	comp=Z,63nm,19.1s,baz=230,slow=37						
HLID	Hailey	10.37	16	ePn	Pn	20 02 36.2	+0.5
REDW	Red Top Meadow	11.34	29	ePn	Pn	20 02 50.0	+1.0
TPAW	Teton Pass	11.40	28	ePn	Pn	20 02 50.2	+0.3
BW06	Boulder Array	11.43	35	ePn	Pn	20 02 52.2	+1.9
PD31	Pinedale Array	11.43	35	ePn	Pn	20 02 51.4	+1.1
PDAR	Pinedale Array	11.43	35	ePn	Pn	20 02 53.6	+3.3
PDAR	Pinedale Array	11.43	35	Pn	Pn	20 02 54.6	+4.4
	0.1nm,0.3s,baz=225,slow=11,SNR=18						
PDAR				LR	LR	20 08 01.8	
	comp=Z,85nm,19.4s,baz=240,slow=41						
FXWY	Fox Creek	11.50	28	ePn	Pn	20 02 53.3	+2.1
LOHW	Long Hollow	11.64	29	ePn	Pn	20 02 54.4	+1.2
MOOW	Moose Ponds	11.70	28	ePn	Pn	20 02 56.0	+2.0
IMW	Indian Meadow	11.75	27	ePn	Pn	20 02 56.4	+1.7
T25A	Trinidad	11.91	69	ePn	Pn	20 02 55.3	-1.5
MCMT	McKenzie Canyo	11.95	19	ePn	Pn	20 02 58.0	+0.6
FLWY	Flagg Ranch	12.00	28	ePn	Pn	20 02 56.2	-1.9
K22A	Casper	12.93	43	ePn	Pn	20 03 11.0	+0.3
LRM	Limekiln Ridge	12.97	19	ePn	Pn	20 03 25.4	+14
TX31	Lajitas Ar. Si	13.26	105	ePn	Pn	20 03 12.5	-2.7
TXAR	Lajitas Array	13.26	105	ePn	Pn	20 03 12.1	-3.2
TXAR	Lajitas Array	13.26	105	Pn	Pn	20 03 16.0	+0.8
	0.2nm,0.3s,baz=291,slow=13,SNR=5.0						
RLMT	Red Lodge	13.43	29	ePn	Pn	20 03 17.8	+0.2
MSO	Missoula	13.59	13	ePn	Pn	20 03 19.8	+0.2
HRY	Holter Researc	13.96	19	ePn	Pn	20 03 24.9	+0.1
NEW	Newport	14.63	3	Pn	P	20 03 38.2	-2.0
	0.2nm,0.3s,baz=178,slow=17,SNR=2.9						
NEW				LR	LR	20 08 56.5	
	comp=Z,39nm,20.3s,baz=180,slow=36						
RSSD	Black Hills	15.27	43	ePn	Pn	20 03 42.8	+0.2
ABTX	Abilene, Hawle	15.72	89	ePn	Pn	20 03 48.0	-0.4
WALA	Waterton Lakes	15.75	11	ePn	Pn	20 03 48.7	0.0
EGMT	Eagleton	15.75	22	ePn	Pn	20 03 47.4	-1.3
LAO	LASA Array	15.96	32	ePn	Pn	20 03 51.7	+0.2
WMOK	Wichita Mounta	16.24	81	ePn	Pn	20 03 55.7	+0.5
DGMT	Dagmar	18.21	31	ePn	Pn	20 04 19.9	+0.2
TUL1	Leonard	18.68	77	eP	P	20 04 23.9	-1.2
MIAR	Mount Ida	20.54	81	eP	P	20 04 45.7	+0.3
CCM	Cathedral Cave	22.38	71	eP	P	20 05 06.5	+1.2
ULM	Lac du Bonnet	23.41	38	P	P	20 05 16.3	+0.4
	1.8nm,0.7s,baz=236,slow=15,SNR=2.3						
ULM				LR	LR	20 14 33.7	
	comp=Z,66nm,20.9s,baz=137,slow=37						
FFC	Flin Flon	24.01	24	eP	P	20 05 21.8	+0.2
WVT	Waverly	25.12	76	eP	P	20 05 32.7	+0.8
DLBC	Dease Lake	25.00	346	LR	LR	20 17 41.0	
	comp=Z,69nm,19.7s,baz=338,slow=40						
CLTN	Cedars of Leba	26.33	76	eP	P	20 05 43.0	+0.1
YKA	Yellowknife Ar	28.96	4	P	P	20 06 06.9	+0.7
	0.4nm,0.9s,baz=180,slow=8.6,SNR=4.9						
YKB5	Yellowknife Ar	28.96	4	eP	P	20 06 06.9	+0.7
R53A	Hurricane	29.70	70	eP	P	20 06 13.1	0.0
Q54A	Coxs Mills	30.56	69	eP	P	20 06 22.1	+1.4
ILAR	Eielson Array	35.66	339	eP	P	20 07 05.6	+0.8
ILAR	Eielson Array	35.66	339	P	P	20 07 06.8	+1.9
	0.6nm,0.9s,baz=150,slow=9.3,SNR=5.9						
ILB	Eielson Array	35.66	339	eP	P	20 07 06.8	+1.9
INK	Inuvik	35.77	350	P	P	20 07 06.4	+0.7
	2.0nm,1.1s,baz=150,slow=5.8,SNR=4.2						
IMAR	Indian Mountai	38.59	338	eP	P	20 07 30.2

1.0nm,0.8s,baz=348,slow=8.5,SNR=11
WHN Wuhan 32.52 342 P P 20 17 51.3 +8.1
STKA Stephens Creek 34.83 156 P P 20 18 04.0 +0.6
1.6nm,0.6s,baz=343,slow=11,SNR=3.3
MKAR Makanchi Array 60.28 327 P P 20 21 19.9 -0.7
0.4nm,0.5s,baz=116,slow=8.6,SNR=7.9
KURBB Kurchatov Arra 64.57 329 P P 20 21 47.5 -1.6
0.3nm,0.4s,baz=128,slow=6.2,SNR=6.1
AKTO Aktyubinsk 76.14 322 P P 20 22 59.7 -0.2
0.8nm,0.5s,baz=105,slow=7.4,SNR=2.7

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*DDA **15** 20:12:38.5, 37.°29N×37.°08E, h6km±2km, ML3.1*
*ISK **15** 20:12:38.4, 37.°31N×37.°15E, h7km, ML2.6/12*
*ISCJB **15** 20:12:39.1±0.7, 37.°28N±0.°03×37.°10E±0.°03, h1km±5km, Error ellipse: s-maj=4.8km s-min=3.8km az=169.3*
ISC 15 20:12:38.9±1.0, 37.°30N±0.°03×37.°13E±0.02, h7km±8km, n28, σ0s70/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**152**	PG	**Pg**	**20 12 42.1**	**+0.1**
GAZ				SG	**Sg**	**20 12 44.8**	**+0.6**
HCB	**Kahramanmara**	**0.18**	**283**	IAML_P			
HCB	comp=Z,27μm,0.2s			*i* P	**Pg**	**20 12 42.7**	**+0.1**
KMRS	**Kahramanmaras**	**0.27**	**318**	PG	**Pg**	**20 12 44.3**	**0.0**
GZT	**Gaziantep**	**0.35**	**81**	IAML_P			
GZT	comp=Z,10μm,0.2s			*i* P	**Pb**	**20 12 46.5**	**-1.1**
KAMA	**Osmaniye**	**0.38**	**252**	IAML_P			
KAMA	comp=Z,10μm,0.1s			*i* P	**Pb**	**20 12 46.7**	**-1.3**
KAMA				*i* S	**Sg**	**20 12 50.4**	**-1.0**
KUZU	**Kuzuini**	**0.53**	**184**	*i* P	**Pb**	**20 12 50.2**	**-0.4**
ANDN	**Andirin**	**0.68**	**294**	IAML_P			
ANDN	comp=Z,6μm,0.2s			*i* P	**Pb**	**20 12 52.7**	**-0.5**
ATAB	**Bozova**	**0.95**	**80**	*i* P	**Pn**	**20 12 58.8**	**+0.1**
ELBS	**KAHRAMANMARAS**	**1.02**	**0**	*i* P	**Pn**	**20 12 59.5**	**-0.2**
ELBS				*i* S	**Sn**	**20 13 15.2**	**+0.8**
KOZT	**Kozan**	**1.05**	**280**	PG	**Pg**	**20 12 58.5**	**-0.6**
KOZT				SG	**Sn**	**20 13 14.5**	**-0.4**
SAIM	**ADANA**	**1.07**	**309**	IAML_P			
SAIM	comp=Z,1μm,0.1s			*i* P	**Pn**	**20 12 60.0**	**-0.4**
CEYT	**Ceyhan**	**1.14**	**256**	PN	**Pn**	**20 13 01.1**	**-0.1**
CEYT				SN	**Sn**	**20 13 17.6**	**+0.5**
AKCD	**Akcadag**	**1.17**	**32**	*i* P	**Pn**	**20 13 01.7**	**-0.2**
AKCD				*i* S	**Sn**	**20 13 19.1**	**+0.9**
TAHT	**Tahtakopru-Hat**	**1.19**	**219**	PN	**Pn**	**20 13 01.8**	**-0.2**
TAHT				SN	**Sn**	**20 13 19.3**	**+0.8**
SURC	**SANLIURFA_SURC**	**1.26**	**109**	*i* P	**Pg**	**20 13 02.9**	**-0.2**
SURC				*i* S	**Sn**	**20 13 20.2**	**+0.1**
YURE	**YUREGIR**	**1.29**	**249**	PN	**Pg**	**20 13 03.7**	**+0.1**
YURE	**YUREGIR**	**1.29**	**249**	*i* P	**Pg**	**20 13 04.7**	**+1.1**
DARE	**Darende-Malaty**	**1.30**	**12**	PN	**Pg**	**20 13 03.7**	**-0.1**
URFA	**Urfa**	**1.36**	**84**	PN	**Pn**	**20 13 03.8**	**-0.5**
CUGUR	**Gurin_SVAS**	**1.42**	**5**	*i* P	**Pg**	**20 13 06.4**	**+0.2**
SANL	**SANLiURFA_Merk**	**1.49**	**95**	*i* P	**Pg**	**20 13 07.6**	**+0.1**
KRTS	**Karatas**	**1.58**	**243**	PN	**Pb**	**20 13 08.1**	**-0.3**
YAHY	**KAYSERI_Yahyal**	**1.61**	**300**	IAML_P			
YAHY	comp=Z,811nm,0.4s			*i* P	**Pb**	**20 13 08.1**	**-0.8**
KARA	**Karaisali**	**1.65**	**269**	PN	**Pb**	**20 13 08.9**	**-0.8**
HEKM	**Malatya_Hekimh**	**1.71**	**22**	IAML_P			
HEKM	comp=Z,2μm,0.3s			*i* P	**Pg**	**20 13 11.1**	**-0.5**
HEKM				*i* S	**Sg**	**20 13 35.6**	**+1.9**
BNN	**Bunyan**	**1.85**	**327**	PN	**Pn**	**20 13 11.7**	**+0.6**
SVRC	**Sivrice-ELAZID**	**2.03**	**57**	PN	**Pn**	**20 13 13.6**	**-0.1**
KIZK	**Mersin**	**2.53**	**252**	PN	**Pn**	**20 13 21.3**	**+1.0**

ATH 15 20:14:12.1, 38.°03N×20.°20E, h23km±5km, ML1.9/2, Error ellipse: s-maj=6.6km s-min=1.9km az=78.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.34**	**64**	P	Pb	20 14 19.6	-0.1
VLS				S	Sb	20 14 24.8	-0.1
VLS	comp=N,732μm,0.3s			AML	AML	20 14 25.3	
VLS	comp=E,443μm,0.1s			AML	AML	20 14 25.3	
KFL	**Anninata**	**0.47**	**80**	P	Pb	20 14 21.9	+0.1
KFL				S	Sb	20 14 29.0	+0.6
KFL	comp=N,314μm,0.3s			AML	AML	20 14 32.4	
KFL	comp=E,426μm,0.5s			AML	AML	20 14 34.2	
FSK	**Fiskardo**	**0.52**	**33**	P	Pb	20 14 22.7	+0.1
FSK				S	Sb	20 14 30.4	+0.7
EVGI	**Lefkada island**	**0.70**	**31**	P	Pb	20 14 25.7	+0.1
EVGI				S	Sn	20 14 35.8	-0.9
LKD2	**Lefkada island**	**0.84**	**25**	P	Pn	20 14 28.7	0.0
TSLK	**Tsoukalades, L**	**0.88**	**24**	P	Pn	20 14 29.2	+0.2
DRO	**Drossia**	**1.20**	**93**	P	Pb	20 14 35.0	+0.9
PVO	**Paravola**	**1.20**	**60**	P	Pb	20 14 35.1	+0.9
IGT	**Igoumenitsa**	**1.51**	**4**	P	Pb	20 14 39.5	+0.1

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*TIR **15** 20:14:18.8, 41.°27N×19.°44E, h12km, Md2.6/3*
*BEO **15** 20:14:19.4±1.6, 41.°22N×19.°42E, h0km±5km, ML2.1/3*
*PDG **15** 20:14:21.8±0.3, 41.°44N×19.°57E, h4km±1km, ML2.2/11, Error ellipse: s-maj=0.9km s-min=1.3km az=0.0*
ISC 15 20:14:18.5±1.7, 41.°25N±0.°07×19.°48E±0.°04, h10km±10km, n25, σ0s88/44, 7C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.30**	**72**	*e*Pg	**Pb**	**20 14 25.4**	**-0.7**
TIR				*e*Sg	**Sb**	**20 14 31.1**	**-0.1**
TIR	**Tirane**	**0.30**	**72**	*i* PG	**Pb**	**20 14 25.7**	**-0.4**
TIR				*i* SG	**Sb**	**20 14 30.6**	**-0.6**
ULC	**Ulcinj**	**0.73**	**346⇑**	*i*Pg	**Pg**	**20 14 32.6**	**-0.1**
ULC				*e*Sg	**Sg**	**20 14 41.9**	**-0.4**
PUK	**Puka**	**0.85**	**21**	*i* PG	**Pb**	**20 14 35.1**	**-0.3**
PUK				*i* SG	**Sb**	**20 14 47.5**	**+0.6**
DRME	**Dracevica, Mon**	**0.96**	**347⇓**	*i*Pg	**Pn**	**20 14 37.6**	**-0.5**
DRME				*e*Sg	**Sg**	**20 14 48.8**	**-0.7**
BUM	**Brajici-Budva**	**1.14**	**337⇑**	*i*Pg	**Pn**	**20 14 40.5**	**-0.1**
BUM				*e*Sg	**Sb**	**20 14 56.3**	**+1.1**
PDG	**Podgorica**	**1.19**	**352**	*e*Pg	**Pg**	**20 14 41.3**	**-0.1**
PDG				*e*Sg	**Sn**	**20 14 58.0**	**+0.5**
TTG	**Podgorica**	**1.19**	**352⇓**	*i*Pg	**Pg**	**20 14 41.4**	**0.0**
TTG				*e*Sg	**Sg**	**20 14 56.3**	**-0.5**
BCI	**Bajram Curri**	**1.20**	**21**	*i* PG	**Pg**	**20 14 42.1**	**+0.6**
BCI				*i* SG	**Sn**	**20 14 59.6**	**+1.9**
CEME	**Cevo**	**1.36**	**342⇑**	*i*Pg	**Pb**	**20 14 43.9**	**-0.3**
CEME				*e*Sg	**Sg**	**20 15 02.7**	**+0.4**
PVY	**Plav**	**1.39**	**15⇓**	*i*Pg	**Pb**	**20 14 44.4**	**-0.3**
PVY				*e*Sg	**Sb**	**20 15 02.7**	**+0.2**
HCY	**Herceg Novi**	**1.40**	**329⇓**	*i*Pg	**Pb**	**20 14 44.8**	**-0.1**
HCY				*e*Sg	**Sg**	**20 15 05.6**	**+1.9**
BIA	**Bitola**	**1.41**	**99**	*e*Pn	**Pg**	**20 14 47.2**	**+1.7**
NKME	**Niksic**	**1.56**	**346⇑**	*i*Pg	**Pb**	**20 14 47.3**	**-0.3**
NKME				*e*Sg	**Sg**	**20 15 09.6**	**+0.8**
KOME	**Kolasin**	**1.60**	**1⇑**	*i*Pg	**Pg**	**20 14 48.8**	**-0.4**
KOME				*e*Sg	**Sg**	**20 15 10.4**	**+0.5**
IVA	**Berane**	**1.65**	**11⇓**	*i*Pg	**Pb**	**20 14 48.8**	**-0.3**
IVA				*e*Sg	**Sb**	**20 15 11.0**	**+1.1**
TREB	**Trebinje**	**1.69**	**330**	*e*Pn	**Pg**	**20 14 50.3**	**-0.6**
TREB				*e*Sg	**Sg**	**20 15 12.8**	**0.0**
BRY	**Bratogost**	**1.79**	**337⇑**	*i*Pn	**Pg**	**20 14 52.2**	**-0.7**
BRY				*e*Sn	**Sg**	**20 15 17.3**	**+1.2**
UPM	**Unac-Piva**	**2.00**	**348⇑**	*i*Pn	**Pb**	**20 14 55.1**	**0.0**
UPM				*e*Sn	**Sb**	**20 15 21.6**	**+1.5**
SJES	**Sjenica**	**2.04**	**10**	*e*Pn	**Pb**	**20 14 55.8**	**0.0**
STIP	**Stip**	**2.08**	**77**	*i* Pn	**Pg**	**20 14 57.5**	**-0.9**
STON	**Ston**	**2.09**	**321**	*e*Pn	**Pn**	**20 14 53.3**	**-0.3**
STON				Sn	**Sn**	**20 15 18.0**	**-1.8**
SELS	**Selova**	**2.31**	**31**	*e*Pn	**Pb**	**20 14 59.0**	**-1.3**
BARS	**Barje**	**2.34**	**47**	*e*Pn	**Pb**	**20 15 00.1**	**-0.7**
IVAS	**Ivanjica**	**2.38**	**12**	*e*Pn	**Pb**	**20 14 59.6**	**-1.9**

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*ISCJB **15** 20:25:25.9±0.5, 38.°68N±0.°02×24.°07E±0.°03, h9km±4km, Error ellipse: s-maj=4.5km s-min=3.1km az=0.1*
*ATH **15** 20:25:25.9, 38.°68N×24.°06E, h17km±4km, ML2.7/13, Error ellipse: s-maj=4.2km s-min=0.7km az=120.0*

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*THE **15** 20:25:26.4, 38.°68N×24.°05E, h12km±2km, ML2.6/11, Error ellipse: s-maj=2.2km s-min=0.5km az=145.0*
*DDA **15** 20:25:42.5, 38.°98N×25.°57E, h6km±7km, ML2.0*
ISC 15 20:25:24.3±1.0, 38.°73N±0.°02×24.°16E±0.°02, h17km±8km, n32, σ0s96/59, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	**0.34**	**63**	P	**Pn**	**20 25 35.0**	**+0.6**
SKY				S	**Sn**	**20 25 41.4**	**+0.5**
SKY	**Skiros Island**	**0.34**	**63**	P	**Pn**	**20 25 34.8**	**+0.4**
SKY				S	**Sn**	**20 25 40.9**	**0.0**
SKY	comp=N,3199μm,0.2s			AML	AML	20 25 42.0	
SKY	comp=E,3118μm,0.2s			AML	AML	20 25 42.2	
EREA	**Eretria**	**0.35**	**210**	P	**Pb**	**20 25 32.0**	**-0.1**
EREA				S	**Sg**	**20 25 36.4**	**-0.3**
EREA	**Eretria**	**0.35**	**210**	P	**Pb**	**20 25 32.1**	**-0.1**
EREA				S	**Sg**	**20 25 36.0**	**-0.8**
EREA	comp=N,2886μm,0.4s			AML	AML	20 25 37.5	
EREA	comp=E,3574μm,0.3s			AML	AML	20 25 37.7	
MRKA	**Markates**	**0.45**	**268**	P	**Pb**	**20 25 33.5**	**-0.2**
MRKA				S	**Sg**	**20 25 38.9**	**-0.6**
MRKA	**Markates**	**0.45**	**268**	P	**Pb**	**20 25 33.4**	**-0.2**
MRKA				S	**Sg**	**20 25 38.4**	**-1.2**
MRKA	comp=N,1269μm,0.3s			AML	AML	20 25 42.7	
MRKA	comp=E,952μm,0.2s			AML	AML	20 25 43.1	
ALNA	**Alonissos**	**0.48**	**332**	P	**Pn**	**20 25 35.9**	**-0.4**
ALNA				S	**Sn**	**20 25 42.7**	**-1.5**
DION	**Dionisos Attik**	**0.67**	**195**	P	**Pb**	**20 25 37.8**	**+0.3**
DION				S	**Sb**	**20 25 47.1**	**+0.6**
DION	**Dionisos Attik**	**0.67**	**195**	P	**Pb**	**20 25 37.8**	**+0.3**
DION				S	**Sb**	**20 25 47.0**	**+0.5**
DION	comp=N,4027μm,0.4s			AML	AML	20 25 49.4	
DION	comp=E,2811μm,0.3s			AML	AML	20 25 49.4	
SKIA	**Skiathos**	**0.70**	**309**	P	**Pn**	**20 25 39.4**	**+0.1**
SKIA				S	**Sb**	**20 25 48.2**	**+0.9**
SKIA	**Skiathos**	**0.70**	**309**	P	**Pn**	**20 25 39.5**	**+0.1**
SKIA				S	**Sn**	**20 25 48.7**	**-1.0**
SKIA	comp=N,1693μm,0.6s			AML	AML	20 25 51.2	
SKIA	comp=E,1372μm,0.3s			AML	AML	20 25 51.4	
PTL	**Penteli**	**0.71**	**199**	P	**Pg**	**20 25 38.5**	**+0.2**
PTL				S	**Sg**	**20 25 48.6**	**+0.8**
PTL	**Penteli**	**0.71**	**199**	P	**Pg**	**20 25 38.5**	**+0.2**
PTL				S	**Sg**	**20 25 48.1**	**+0.3**
SMIA	**Simia**	**0.76**	**282**	P	**Pb**	**20 25 38.6**	**-0.4**
SMIA				S	**Sn**	**20 25 50.0**	**-1.2**
SMIA	comp=E,1261μm,0.4s			AML	AML	20 25 53.7	
SMIA	comp=N,1720μm,0.4s			AML	AML	20 25 54.9	
ATHU	**Athens Univers**	**0.81**	**201**	P	**Pb**	**20 25 40.0**	**+0.1**
ATHU				S	**Sn**	**20 25 51.9**	**-0.6**
ATH	**Athens Observa**	**0.83**	**205**	P	**Pb**	**20 25 40.4**	**+0.2**
ATH				S	**Sb**	**20 25 51.2**	**+0.2**
ATH	comp=N,3361μm,0.3s			AML	AML	20 25 53.6	
ATH	comp=E,1660μm,0.5s			AML	AML	20 25 53.7	
VIL2	**Platees**	**0.87**	**234**	P	**Pb**	**20 25 40.4**	**-0.5**
VIL2				S	**Sg**	**20 25 52.6**	**-0.1**
VIL2	comp=N,1856μm,0.6s			AML	AML	20 25 53.9	
VIL2	comp=E,1469μm,0.6s			AML	AML	20 25 54.4	
VILL	**Villia**	**0.87**	**230**	P	**Pb**	**20 25 40.4**	**-0.5**
VILL				S	**Sb**	**20 25 51.7**	**-0.6**
ATAL	**Atalanti**	**0.89**	**268**	P	**Pb**	**20 25 40.7**	**-0.6**
ATAL				S	**Sb**	**20 25 52.7**	**-0.1**
ATAL	comp=E,170μm,0.5s			AML	AML	20 25 55.0	
ATAL	comp=N,161μm,0.3s			AML	AML	20 25 55.9	
VLY	**Voula,Athens**	**0.92**	**198**	P	**Pb**	**20 25 42.0**	**+0.3**
VLY				S	**Sn**	**20 25 55.4**	**+0.3**
VLY	**Voula,Athens**	**0.92**	**198**	P	**Pb**	**20 25 41.7**	**0.0**
VLY				S	**Sb**	**20 25 53.4**	**-0.2**
VLY	comp=N,1317μm,0.2s			AML	AML	20 25 56.1	
VLY	comp=E,971μm,0.3s			AML	AML	20 25 56.5	
NEO	**Neokhori**	**0.93**	**309**	P	**Pn**	**20 25 43.6**	**+1.0**
NEO				S	**Sn**	**20 25 57.1**	**+1.6**
NEO	**Neokhori**	**0.93**	**309**	P	**Pn**	**20 25 43.5**	**+0.9**
NEO				S	**Sn**	**20 25 55.8**	**+0.3**
NEO	comp=E,887μm,0.4s			AML	AML	20 25 57.1	
NEO	comp=N,1158μm,0.3s			AML	AML	20 25 57.5	
XOR	**Xorichti**	**0.99**	**311**	P	**Pg**	**20 25 44.2**	**+0.7**
XOR				S	**Sn**	**20 25 58.0**	**+1.1**
XOR	**Xorichti**	**0.99**	**311**	P	**Pg**	**20 25 44.2**	**+0.7**
XOR				S	**Sn**	**20 25 56.9**	**0.0**
XOR	comp=E,462μm,0.3s			AML	AML	20 25 59.5	
XOR	comp=N,851μm,0.3s			AML	AML	20 25 59.5	
PROD	**Prodromos**	**1.09**	**245**	P	**Pb**	**20 25 44.3**	**-0.4**
PROD				S	**Sg**	**20 25 59.6**	**-0.1**
PROD	comp=N,477μm,0.3s			AML	AML	20 26 01.4	
PROD	comp=E,641μm,0.2s			AML	AML	20 26 01.8	
FYTO	**Fytoko, Volos**	**1.17**	**306**	P	**Pg**	**20 25 47.1**	**+0.2**
BOZC	**Bozcaada**	**1.84**	**52**	IAML_P			
BOZC	comp=Z,68nm,0.2s			*i* P	**Pb**	**20 25 58.1**	**+0.6**
AYVA	**Ayvalik**	**2.06**	**73**	*i* P	**Pg**	**20 26 02.9**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**2.11**	**61**	IAML_P			
BAYC	comp=Z,87nm,0.2s			*i* P	**Pb**	**20 26 03.5**	**+1.4**
BAYC				*i* S	**Sn**	**20 26 19.5**	**-5.1**
ZEDA	**zmir-Bergama**	**2.29**	**83**	*i* P	**Pb**	**20 26 04.6**	**-0.5**
STEP	**BALIKESIR_Sava**	**2.85**	**76**	IAML_P			
STEP	comp=Z,453nm,0.2s			*i* P	**Pb**	**20 26 15.7**	**+1.1**

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*ISCJB **15** 20:44:36.9±0.3, 8.°39S±0.°04×119.°85E±0.°04, h172km, mb4.2/5, Error ellipse: s-maj=6.2km s-min=4.0km az=44.6*
*NEIC **15** 20:44:36.6±0.8, 8.°37S×119.°68E, h172km±10km, mb4.2/6, Error ellipse: s-maj=18.2km s-min=8.7km az=218.0*
*IDC **15** 20:44:38.4±2.8, 8.°29S×119.°66E, h172km±22km, mb3.9/4, mb1 3.8/7, mb1mx3.4/35, mbtmp4.2/7, Error ellipse: s-maj=67.4km s-min=11.2km az=64.0*
*DJA **15** 20:44:38.8±0.2, 8.°S±3.°×12.°0E±.°, h150km±4km, M4.1/13, mB5.1/2, mb4.4/8, MLv3.9/13, Mw(mB)4.5/2*
ISC 15 20:44:36.9±0.6, 8.°38S±0.°05×119.°87E±0.°06, h172km, n45, σ1s83/53, mb4.2/5, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.35**	**162**	P	**Pn**	**20 45 07.7**	**+0.9**
WSI				S	**Sn**	**20 45 29.9**	**0.0**
BASI	**Baing, Sumba**	**1.96**	**159**	P	**Pn**	**20 45 14.2**	**+1.3**
PLAI	**Plampang**	**2.12**	**258**	P	**Pn**	**20 45 15.4**	**+0.7**
BSSI	**Bau Bau, Buton**	**2.30**	**16**	P	**Pn**	**20 45 17.0**	**+0.2**
MMRI	**Maumere**	**2.36**	**96**	*e*Pn	**Pn**	**20 45 19.0**	**+1.5**
MMRI	**Maumere**	**2.36**	**96**	P	**Pn**	**20 45 18.8**	**+1.4**
BKSI	**Bulukumba**	**3.04**	**5**	P	**Pn**	**20 45 26.9**	**+1.2**
KAPI	**Kappang**	**3.34**	**358**	P	**Pn**	**20 45 30.2**	**+0.8**
KAPI	1.9nm,0.3s,baz=177,slow=17,SNR=5.2			S	**Sn**	**20 46 10.4**	**-0.1**
BNSI	**Bone**	**3.96**	**3**	P	**Pn**	**20 45 39.1**	**+1.9**
BATI	**Baumata**	**4.16**	**116**	P	**Pn**	**20 45 41.6**	**+1.7**
SPSI	**Sidrap Palu**	**4.38**	**359**	P	**Pn**	**20 45 44.3**	**+1.6**
SOEI	**Soe**	**4.55**	**108**	*e*Pn	**Pn**	**20 45 46.4**	**+1.4**
SOEI	**Soe**	**4.55**	**108**	P	**Pn**	**20 45 47.5**	**+2.5**
SRBI	**Singaraja**	**4.62**	**273**	P	**Pn**	**20 45 46.5**	**+0.8**
JAGI	**Jajag, Banyuwa**	**5.66**	**269**	*e*Pn	**Pn**	**20 45 57.0**	**-2.3**
JAGI	**Jajag, Banyuwa**	**5.66**	**269**	P	**Pn**	**20 45 59.6**	**+0.3**
GMJI	**Gumukmas**	**6.36**	**270**	P	**Pn**	**20 46 10.1**	**+1.6**
PWJI	**Pagerwojo**	**7.99**	**272**	P	**Pn**	**20 46 29.7**	**-0.4**
PCJI	**Pacitan**	**8.60**	**271**	P	**Pn**	**20 46 39.1**	**+0.9**
WOJI	**Wonogiri, Jawa**	**8.87**	**273**	P	**Pn**	**20 46 42.5**	**+0.7**
UGM	**Wanagama**	**9.26**	**272**	P	**Pn**	**20 46 48.6**	**+1.6**
FITZ	**Fitzroy Crossi**	**11.18**	**150**	*e*Pn	**Pn**	**20 47 11.8**	**-0.1**
FITZ				S	**Sn**	**20 49 12.9**	**-3.1**
FITZ	**Fitzroy Crossi**	**11.18**	**150**	P	**Pn**	**20 47 14.7**	**+2.8**
FITZ	0.5nm,0.3s,baz=337,slow=14,SNR=37			S	**Sn**	**20 49 12.9**	**-3.1**
MTN	**Manton Dam**	**11.93**	**113**	*e*Pn	**Pn**	**20 47 22.5**	**+0.8**
CISI	**Cisompet, Garu**	**11.97**	**273**	*e*Pn	**Pn**	**20 47 19.2**	**-3.0**
FAKI	**Fak Fak**	**13.46**	**67**	P	**P**	**20 47 44.1**	**-0.5**
CGJI	**Cibinong**	**14.16**	**276**	P	**P**	**20 47 52.7**	**+0.3**
WRA	**Warramunga Arr**	**18.12**	**131**	P	**Pn**	**20 48 38.9**	**+0.9**
WRA	1.3nm,0.3s,baz=302,slow=12,SNR=63			S	**S**	**20 51 51.5**	**-3.3**
WR1	**Warramunga Arr**	**18.12**	**131**	*e*P	**Pn**	**20 48 38.9**	**+0.9**
WR1				*e*S	**S**	**20 51 51.5**	**-3.3**
WRAB	**Tennant Creek**	**18.12**	**131**	*e*P	**P**	**20 48 35.8**	**-0.3**
WB2	**Warramunga Arr**	**18.13**	**131**	*e*P	**Pn**	**20 48 38.8**	**+0.8**
AS31	**Alice Springs**	**20.30**	**140**	*e*P	**P**	**20 49 00.3**	**+0.8**
ASAR	**Alice Springs**	**20.30**	**140**	*e*P	Pn	20 49 02.5	-1.3
ASAR				S	**S**	**20 52 39.1**	**+1.3**
ASAR				ScP	**ScP**	**20 56 27.2**	**+1.0**
ASAR	**Alice Springs**	**20.30**	**140**	P	Pn	20 49 03.0	-0.8
ASAR	0.7nm,0.8s,baz=322,slow=24,SNR=3.5			S	**S**	**20 52 39.1**	**+1.3**
ASAR				ScP	**ScP**	**20 56 27.3**	**+1.0**
PSI	**Prapat**	**23.66**	**297**	*e*P	**P**	**20 49 29.2**	**-3.8**
STKA	**Stephens Creek**	**30.90**	**142**	*e*P	**P**	**20 50 40.5**	**+3.2**
STKA	**Stephens Creek**	**30.90**	**142**	P	**P**	**20 50 41.5**	**+4.2**
WHN	**Wuhan**	**39.06**	**352**	P	**P**	**20 51 48.8**	**+1.7**
MK31	**Makanchi Array**	**64.30**	**332**	*e*P	**P**	**20 54 52.2**	**-1.7**
MK32	**Makanchi Array**	**64.30**	**332**	*e*P	**P**	**20 54 54.7**	**+0.8**
MKAR	**Makanchi Array**	**64.30**	**332**	P	**P**	**20 54 54.7**	**+0.8**
ZALV	**Zalesovo Beam**	**68.77**	**339**	P	**P**	**20 55 22.0**	**0.0**
ZAA1	**Zalesovo Array**	**68.78**	**339**	*e*P	**P**	**20 55 22.0**	**-0.1**
MCMT	**McKenzie Canyo**	**121.88**	**42**	*e*PKPdf	**PKPdf**	**21 03 09.1**	**-2.1**
V53A	**Saluda**	**145.83**	**34**	*e*PKPdf	**PKPdf**	**21 03 52.8**	**-2.9**

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*ATH **15** 20:52:13.6, 37.°53N×19.°56E, h15km±2km, ML3.4/9, Error ellipse: s-maj=4.0km s-min=1.5km az=60.0*
*IDC **15** 20:52:15.4±1.4, 37.°66N×20.°10E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.4/35, mbtmp3.5/4, Error ellipse: s-maj=47.1km s-min=25.5km az=119.0*
*THE **15** 20:52:16.2, 37.°62N×19.°65E, h1km±2km, ML3.3/7, Error ellipse: s-maj=3.3km s-min=1.2km az=284.0*
ISC 15 20:52:16.2±1.8, 37.°61N±0.°06×19.°70E±0.°05, h5km±11km, n42, σ0s83/56, mb3.4/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.91**	**51**	P	**Pg**	**20 52 33.4**	**-0.2**
VLS	**Valsamata**	**0.91**	**51**	P	**Pg**	**20 52 33.3**	**-0.2**
VLS				S	**Sb**	**20 52 46.3**	**-0.5**
VLS	comp=N,5901μm,0.4s			AML	AML	20 52 50.4	
VLS	comp=E,4222μm,0.4s			AML	AML	20 52 55.7	
KFL	**Anninata**	**1.00**	**60**	P	**Pg**	**20 52 35.3**	**0.0**
KFL				S	**Sb**	**20 52 50.8**	**+1.4**
KFL	**Anninata**	**1.00**	**60**	P	**Pg**	**20 52 35.3**	**0.0**
KFL				S	**Sn**	**20 52 51.1**	**-0.2**
KFL	comp=E,8196μm,0.4s			AML	AML	20 52 54.0	
KFL	comp=N,10726μm,0.4s			AML	AML	20 52 55.3	
FSK	**Fiskardo**	**1.09**	**39**	P	**Pg**	**20 52 36.4**	**-0.6**
FSK				S	**Sb**	**20 52 52.3**	**+0.3**
FSK	**Fiskardo**	**1.09**	**39**	P	**Pg**	**20 52 36.3**	**-0.7**
FSK				S	**Sg**	**20 52 51.2**	**0.0**
VTN	**Vitineika**	**1.22**	**75**	P	**Pg**	**20 52 39.3**	**-0.2**
EVGI	**Lefkada island**	**1.26**	**37**	P	**Pg**	**20 52 39.8**	**-0.5**
EVGI	**Lefkada island**	**1.26**	**37**	P	**Pg**	**20 52 39.7**	**-0.7**
LKD2	**Lefkada island**	**1.40**	**33**	P	**Pn**	**20 52 42.0**	**-0.4**
LKD2	**Lefkada island**	**1.40**	**33**	P	**Pn**	**20 52 42.0**	**-0.4**
LKD2				S	**Sn**	**20 53 01.8**	**+0.5**
LKD2	comp=E,2041μm,0.5s			AML	AML	20 53 09.7	
LKD2	comp=N,1839μm,0.6s			AML	AML	20 53 12.7	
TSLK	**Tsoukalades, L**	**1.43**	**32**	P	**Pg**	**20 52 42.8**	**-0.7**
TSLK	**Tsoukalades, L**	**1.43**	**32**	P	**Pn**	**20 52 42.7**	**-0.1**
RLS	**Riolos of Patr**	**1.47**	**72**	P	**Pn**	**20 52 43.7**	**+0.3**
RLS				S	**Sn**	**20 53 04.1**	**+1.1**
RLS	**Riolos of Patr**	**1.47**	**72**	P	**Pn**	**20 52 43.6**	**+0.2**
AMT	**Artemida-Makis**	**1.60**	**92**	P	**Pn**	**20 52 44.4**	**-0.8**
AMT				S	**Sg**	**20 53 07.8**	**+0.2**
AMT	**Artemida-Makis**	**1.60**	**92**	P	**Pn**	**20 52 44.6**	**-0.6**
AMT	comp=E,1344μm,0.5s			AML	AML	20 53 21.4	
AMT	comp=N,1386μm,0.5s			AML	AML	20 53 28.3	
MES3	**Kyparissia**	**1.61**	**102**	P	**Pn**	**20 52 44.5**	**-0.8**
DRO	**Drossia**	**1.63**	**77**	P	**Pn**	**20 52 45.6**	**0.0**
DRO				S	**Sb**	**20 53 08.5**	**+0.8**
DRO	**Drossia**	**1.63**	**77**	P	**Pn**	**20 52 45.6**	**0.0**
DRO	comp=N,1739μm,0.4s			AML	AML	20 53 26.5	
DRO	comp=E,1784μm,0.5s			AML	AML	20 53 26.5	
PVO	**Paravola**	**1.76**	**55**	P	**Pn**	**20 52 48.0**	**+0.7**
PVO				S	**Sb**	**20 53 11.1**	**-0.2**
PVO	**Paravola**	**1.76**	**55**	P	**Pn**	**20 52 48.0**	**+0.7**
PVO				S	**Sn**	**20

ISCJB 15 20:52:24.0±0.7, 9°.06S±0°.08×74°.42W±0°.06, h145km, mb3.5/3, Error ellipse: s-maj=11.1km s-min=8.6km az=20.0
IDC 15 20:52:26.2±2.3, 9°.09S×74°.52W, h156km±30km, mb3.4/3, mb1 3.5/7, mb1mx3.3/33, mbtmp3.9/7, MS3.3/1, Ms1 3.3/1, ms1mx2.5/12, Error ellipse: s-maj=45.6km s-min=19.5km az=35.0
ISC 15 20:52:25.3±0.8, 9°.03S±0°.08×74°.46W±0°.09, h145km, n13, σ1°23/14, mb3.3/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.76**	**218**	P	**Pn**	**20 53 22.2**	**-0.2**
	19nm,0.3s,baz=320,slow=2.4,SNR=29						
NNA				S	**Sn**	**20 54 05.8**	**-0.9**
	64nm,0.3s,baz=336,slow=20,SNR=17						
ATAH	**Atahualpa**	**4.33**	**295**	P	**Pn**	**20 53 30.8**	**+0.6**
	15nm,0.3s,baz=54,slow=3.5,SNR=9.1						
ATAH				S	**Sn**	**20 54 20.4**	**-0.2**
	2.6nm,0.3s,baz=28,slow=17,SNR=4.0						
LPAZ	**La Paz**	**9.49**	**140**	P	**Pn**	**20 54 41.6**	**+2.4**
	0.1nm,0.3s,baz=350,slow=6.1,SNR=2.0						
SIV	**San Ignacio**	**14.78**	**119**	P	**Pn**	**20 55 46.3**	**-1.1**
	0.4nm,0.3s,baz=302,slow=14,SNR=16						
PLCA	**Paso Flores**	**31.76**	**174**	LR	LR	21 09 40.0	
	comp=Z,54nm,18.4s,baz=308,slow=33						
TXAR	**Lajitas Array**	**47.40**	**325**	P	**P**	**21 00 45.6**	**+0.3**
	0.3nm,0.4s,baz=158,slow=9.7,SNR=4.1						
DBIC	**Dimbokro**	**71.09**	**80**	P	**P**	**21 03 29.8**	**+1.3**
	3.2nm,0.8s,baz=241,slow=4.5,SNR=3.1						
VNA1	**Neumayer--Stat**	**73.75**	**161**	P	**P**	**21 03 44.5**	**+1.4**
VNA2	**Neumayer--Watz**	**74.11**	**162**	P	**P**	**21 03 45.0**	**-0.3**
SNAA	**Sanae**	**75.73**	**162**	P	**P**	**21 03 54.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**78.75**	**75**	P	**P**	**21 04 10.7**	**-1.7**
	0.3nm,0.6s,baz=261,slow=4.3,SNR=4.1						
ASAR	**Alice Springs**	**137.28**	**220**	PKP	**PKPdf**	**21 11 31.4**	**-1.1**
	0.2nm,0.5s,baz=134,slow=2.7,SNR=2.8						
WRA	**Warramunga Arr**	**139.59**	**224**	PKP	**PKPdf**	**21 11 36.0**	**-0.8**
	0.8nm,1.0s,baz=138,slow=2.1,SNR=3.0						

MEX 15 21:09:23.0±1.0, 17°.25N×99°.91W, h16km±9km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.40**	**239**	*eP*	Pg	21 09 29.3	-1.9
CAIG				*eS*	Sg	21 09 35.7	-1.0
ARIG	**Puente Sto Nin**	**1.10**	**338**	*eP*	Pb	21 09 40.4	-3.4
ARIG				*eS*	Sb	21 09 54.0	-3.9
PLIG	**Platanillo**	**1.20**	**19**	*eP*	Pn	21 09 42.0	-3.2
PLIG				*i* S	Sb	21 09 55.4	-5.3
PLIG				*eS*	Sb	21 09 55.4	-5.3
TLIG	**Tlapa**	**1.32**	**76**	*eP*	Pn	21 09 43.8	-3.1
TLIG				*eS*	Sb	21 09 59.9	-4.3
ZIIG	**Zihuatanejo**	**1.53**	**284**	*i* P	Pn	21 09 45.7	-3.9
ZIIG				*i* S	Sn	21 10 03.7	-5.5

IDC 15 21:14:53.9±5.8, 37°.46N×71°.95E, h135km±37km, mb3.2/1, mb1 3.0/7, mb1mx2.8/42, mbtmp3.4/7, Error ellipse: s-maj=77.2km s-min=24.9km az=144.0
ISCJB 15 21:14:54.6±1.1, 37°.55N±0°.08×71°.74E±0°.06, h150km, mb3.2/1, Error ellipse: s-maj=11.5km s-min=6.6km az=166.1
NNC 15 21:14:59.1±5.4, 37°.81N×71°.72E, h191km±67km, mb2.7, mpv3.9, Error ellipse: s-maj=51.5km s-min=31.3km az=21.0
ISC 15 21:14:56.3±1.6, 37°.7N±0°.1×71°.64E±0°.08, h150km, n23, σ1°53/30, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.73**	**19**	P	**Pn**	**21 16 07.1**	**+0.7**
	SNR=155						
UCH	**Uchtor**	**5.06**	**25**	P	**Pn**	**21 16 11.4**	**+0.5**
	SNR=100						
KZA	**Kyzart**	**5.20**	**31**	P	**Pn**	**21 16 12.1**	**-0.6**
	SNR=16						
EKS2	**Erkin-Say**	**5.25**	**18**	P	**Pn**	**21 16 14.4**	**+1.4**
	SNR=19						
AAK	**Ala-Archa**	**5.42**	**23**	P	**Pn**	**21 16 16.5**	**+1.1**
	SNR=36						
AAK	**Ala-Archa**	**5.42**	**23**	⇓P	**Pn**	**21 16 16.4**	**+1.1**
	9.3nm,0.3s						
AAK				⇑S	**Sn**	**21 17 16.8**	**-0.3**
	16nm,0.7s						
AAK	**Ala-Archa**	**5.42**	**23**	P	**Pn**	**21 16 16.0**	**+0.7**
	6.5nm,0.3s,baz=190,slow=7.1,SNR=119						
AAK				S	**Sn**	**21 17 17.2**	**0.0**
	1.3nm,0.3s,baz=19,slow=19,SNR=10						
KK31	**Karatay Array**	**5.49**	**351**	⇑P	**Pn**	**21 16 19.0**	**+2.7**
	4.4nm,0.3s,baz=175,slow=16,SNR=122						
KK31				⇑S	**Sn**	**21 17 20.8**	**+2.1**
	31nm,0.6s,baz=172,slow=21,SNR=22						
KBK	**Karagaybulak**	**5.59**	**26**	P	**Pn**	**21 16 18.2**	**+0.6**
	SNR=13						
ULHL	**Ulahol**	**5.78**	**36**	P	**Pn**	**21 16 19.3**	**-0.9**
	SNR=7.4						
CHMS	**Chumysh**	**5.83**	**23**	P	**Pn**	**21 16 21.5**	**+0.8**
	SNR=24						
USP	**Ospenovka**	**6.00**	**20**	P	**Pn**	**21 16 23.6**	**+0.6**
	SNR=8.0						
TKM2	**Tokmak 2**	**6.05**	**29**	P	**Pn**	**21 16 23.8**	**0.0**
	SNR=7.0						
TKM2	**Tokmak 2**	**6.05**	**29**	⇓P	**Pn**	**21 16 23.5**	**-0.4**
	4.6nm,0.7s						
TKM2				⇑S	**Sn**	**21 17 36.2**	**+3.9**
	2.5nm,0.7s						
GEYT	**Alibeck**	**10.71**	**276**	P	**Pn**	**21 17 26.7**	**+1.1**
	0.4nm,0.3s,baz=91,slow=15,SNR=2.9						
GEYT				S	**Sn**	**21 19 23.4**	**-0.7**
	0.6nm,0.3s,baz=82,slow=22,SNR=3.3						
MKAR	**Makanchi Array**	**12.05**	**37**	P	**Pn**	**21 17 41.3**	**-1.8**
	0.1nm,0.3s,baz=209,slow=12,SNR=3.3						
KURBB	**Kurchatov Arra**	**13.85**	**19**	P	**Pn**	**21 18 04.5**	**-1.7**
	0.0nm,0.3s,baz=211,slow=12,SNR=2.2						
AB31	**Akbulak array**	**14.34**	**328**	⇑P	**P**	**21 18 15.4**	**+0.4**
	0.3nm,0.3s,baz=136,slow=14,SNR=13						
AB31				⇓S	**Sn**	**21 20 50.1**	**-1.1**
	1.2nm,0.6s,baz=156,slow=23,SNR=11						
BVAR	**Borovoye Array**	**15.38**	**357**	P	**P**	**21 18 26.0**	**-0.5**
	0.1nm,0.3s,baz=164,slow=16,SNR=3.6						
AKTO	**Aktyubinsk**	**16.05**	**327**	⇑P	**P**	**21 18 32.7**	**-1.2**
	1.6nm,0.9s						
AKTO				⇑S	**S**	**21 21 28.9**	**-3.1**
	1.9nm,0.8s						
AKTO	**Aktyubinsk**	**16.05**	**327**	S	**S**	**21 21 29.6**	**-2.3**
	0.1nm,0.3s,baz=131,slow=20,SNR=3.1						
ZALV	**Zalesovo Beam**	**18.64**	**25**	P	**P**	**21 19 00.9**	**-1.3**
	0.1nm,0.3s,baz=204,slow=11,SNR=3.0						
YKA	**Yellowknife Ar**	**80.05**	**3**	P	**P**	**21 26 49.6**	**+0.8**
	0.3nm,0.5s,baz=354,slow=5.2,SNR=5.4						

SJA 15 22:08:22.6±0.4, 31°.39S×65°.14W, h5km, ML2.5, MW3.6, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCA	**Tanti**	**0.47**	**83**	*eP*	Pb	22 08 33.0	-0.5
TCA				IAML		22 08 40.6	
	comp=Z,271nm,0.5s						
MRA	**San Martin**	**1.13**	**205**	*eP*	Pb	22 08 44.7	0.0
MRA				IAML		22 09 04.7	
	comp=Z,155nm,0.2s						
APLL	**PUNTA DE LOS L**	**1.55**	**310**	*eP*	Pg	22 08 52.2	-0.2
ACAN	**Cantantal**	**1.95**	**243**	*eP*	Pb	22 08 58.7	0.0
ACAN				*eS*	Sg	22 09 25.6	+0.3
ACLC	**CERRO LA CRUZ**	**2.51**	**321**	*eP*	Pb	22 09 06.7	-1.6
CYA	**Choya**	**3.00**	**349**	*eP*	Pb	22 09 13.9	-2.6

IDC 15 22:12:02.2±1.6, 1°.12S×127°.55E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.6/42, mbtmp4.0/4, ML4.0/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/43, Error ellipse: s-maj=52.3km s-min=24.2km az=66.0
ISCJB 15 22:12:05.6±0.4, 1°.28S±0°.05×127°.24E±0°.05, h31km, mb3.9/4, MS3.2/2, Error ellipse: s-maj=7.0km s-min=6.2km az=32.3
DJA 15 22:12:05.7±0.4, 1°.S±3°.×12°.7E±°, h10km, M4.2/13, mb4.3/10, mB5.0/3, MLv4.1/13, Mw(mB)4.3/3
NEIC 15 22:12:07.8±1.9, 1°.21S×127°.28E, h39km±9km, mb4.3/5, Error ellipse: s-maj=18.2km s-min=14.8km az=58.0
ISC 15 22:12:07.0±0.7, 1°.15S±0°.06×127°.30E±0°.08, h31km, n38, σ1°52/39, mb4.0/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.58**	**236**	P	**Pn**	**22 12 30.5**	**-2.4**
SANI				S	**Sn**	**22 12 50.4**	**-2.0**
TNTI	**Ternate**	**1.92**	**2**	*e*Pn	**Pn**	**22 12 38.9**	**+1.4**
TNTI				*e*Sn	**Sn**	**22 12 55.9**	**-4.6**
TNTI	**Ternate**	**1.92**	**2**	P	**Pn**	**22 12 38.5**	**+1.0**
KMSI	**Cibinong**	**3.74**	**297**	P	**Pn**	**22 13 01.7**	**-0.8**
LUWI	**Luwuk**	**4.53**	**271**	*e*Pn	**Pn**	**22 13 12.4**	**-1.0**
LUWI	**Luwuk**	**4.53**	**271**	P	**Pn**	**22 13 12.9**	**-0.5**
FAKI	**Fak Fak**	**5.25**	**110**	*e*Pn	**Pn**	**22 13 24.9**	**+1.6**
FAKI	**Fak Fak**	**5.25**	**110**	P	**Pn**	**22 13 25.3**	**+2.0**
	20nm,1.3s,0.1nm						
MRSI	**Marisa**	**5.60**	**287**	P	**Pn**	**22 13 27.7**	**-0.4**
APSI	**Ampana**	**5.66**	**272**	P	**Pn**	**22 13 28.4**	**-0.5**
MPSI	**Mapaga**	**7.55**	**281**	P	**Pn**	**22 13 54.3**	**-0.6**
	2.7nm,0.5s,0.0nm						
TTSI	**Tana Toraja**	**7.71**	**256**	P	**Pn**	**22 13 56.6**	**-0.5**
BNSI	**Bone**	**7.87**	**246**	P	**Pn**	**22 13 58.9**	**-0.5**
SPSI	**Sidrap Palu**	**8.02**	**250**	P	**Pn**	**22 14 02.0**	**+0.5**
BKSI	**Bulukumba**	**8.27**	**240**	P	**Pn**	**22 14 04.5**	**-0.4**
BSSI	**Bau Bau, Buton**	**8.41**	**234**	P	**Pn**	**22 14 06.4**	**-0.4**
KAPI	**Kappang**	**8.46**	**243**	Pn	**Pn**	**22 14 08.7**	**+1.3**
	2.5nm,0.3s,baz=73,slow=6.2,SNR=9.0						
KAPI				LR	LR	22 17 19.5	
	comp=Z,68nm,19.6s,baz=100,slow=36						
MTN	**Manton Dam**	**12.22**	**162**	*e*Pn	**Pn**	**22 14 59.9**	**+0.9**
WR1	**Warramunga Arr**	**19.90**	**160**	*eP*	**P**	**22 16 35.2**	**-1.0**
WRA	**Warramunga Arr**	**19.90**	**160**	P	**P**	**22 16 35.2**	**-1.0**
	0.4nm,0.3s,baz=341,slow=12,SNR=27						
WB2	**Warramunga Arr**	**19.91**	**160**	*eP*	**P**	**22 16 35.2**	**-1.0**
	26nm,1.6s						
COEN	**Coen**	**20.21**	**130**	*eP*	**P**	**22 16 37.1**	**-2.5**
	79nm,2.0s						
AS31	**Alice Springs**	**23.28**	**165**	*eP*	**P**	**22 17 11.4**	**-0.7**
	1.2nm,0.8s						
ASAR	**Alice Springs**	**23.28**	**165**	*eP*	**P**	**22 17 11.9**	**-0.3**
ASAR	**Alice Springs**	**23.28**	**165**	P	**P**	**22 17 11.4**	**-0.7**
	3.1nm,0.7s,baz=344,slow=10,SNR=36						
KSRS	**Korea Array**	**38.42**	**1**	LR	LR	22 38 35.2	
	comp=Z,13nm,18.7s,baz=188,slow=42						
RAMN	**Ramite**	**48.12**	**309**	*eP*	**P**	**22 20 46.0**	**+1.4**
	10nm,0.6s						
JIRN	**Jiri**	**48.78**	**309**	*eP*	**P**	**22 20 51.1**	**+1.3**
PKI	**Pulchoki**	**49.35**	**309**	*eP*	**P**	**22 20 56.2**	**+2.1**
KKN	**Kakani**	**49.55**	**309**	*eP*	**P**	**22 20 56.9**	**+1.4**
KOLN	**Koldanda**	**50.86**	**308**	*eP*	**P**	**22 21 07.3**	**+1.8**
	11nm,0.6s						
DANN	**Dangsing**	**51.00**	**309**	*eP*	**P**	**22 21 08.4**	**+1.8**
	13nm,0.6s						
PYUN	**Piuthan**	**51.49**	**308**	*eP*	**P**	**22 21 12.9**	**+2.7**
	11nm,0.8s						
MK31	**Makanchi Array**	**61.89**	**327**	*eP*	**P**	**22 22 23.7**	**+0.1**
MK31				*e*PcP	**PcP**	**22 23 04.4**	**+0.2**
MK32	**Makanchi Array**	**61.89**	**327**	*eP*	**P**	**22 22 24.4**	**+0.8**
MKAR	**Makanchi Array**	**61.89**	**327**	P	**P**	**22 22 24.4**	**+0.8**
	0.6nm,0.4s,baz=113,slow=8.3,SNR=11						
KURK	**Kurchatov**	**66.16**	**329**	*eP*	**P**	**22 22 52.9**	**+1.4**
	2.2nm,0.6s						
KVAR	**Kislovodsk Arr**	**86.90**	**314**	LR	LR	23 08 55.2	
	comp=Z,22nm,19.4s,baz=116,slow=39						

NNC 15 22:12:24.9±4.5, 38°.30N×71°.95E, h230km±60km, mb2.1, mpv3.2, Error ellipse: s-maj=53.1km s-min=28.5km az=23.0
ISC 15 22:12:12.3±1.3, 37°.39N±0°.10×72°.0E±0°.2, h150km, n10, σ2°12/12, 1C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.58**	**19**	⇓P	**Pn**	**22 13 36.7**	**+3.3**
	1.0nm,0.5s						
AAK				⇓S	**Sn**	**22 14 34.7**	**-2.1**
	7.0nm,0.6s						
KK31	**Karatay Array**	**5.82**	**349**	⇓P	**Pn**	**22 13 38.5**	**+2.0**
	2.0nm,0.3s,baz=165,slow=13,SNR=34						
KK31				⇓S	**Sn**	**22 14 38.6**	**-3.7**
	5.5nm,0.4s,baz=172,slow=20,SNR=19						
PYUN	**Piuthan**	**13.09**	**132**	*eP*	**Pn**	**22 15 12.8**	**0.0**
	2.6nm,0.3s						
DANN	**Dangsing**	**13.37**	**129**	*eP*	**Pn**	**22 15 16.3**	**-0.2**
	5.3nm,0.4s						
KOLN	**Koldanda**	**13.69**	**131**	*eP*	**Pn**	**22 15 20.9**	**+0.4**
	4.0nm,0.5s						
AB31	**Akbulak array**	**14.72**	**327**	⇓P	**P**	**22 15 35.5**	**+0.4**
	0.3nm,0.3s,baz=3.4,slow=26,SNR=13						
AB31				⇑S	Sn	22 18 05.8	-11
	1.7nm,0.7s,baz=152,slow=23,SNR=9.1						
PKIN	**Phulchoki**	**14.94**	**127**	*eP*	**P**	**22 15 36.7**	**-1.4**
	3.0nm,0.4s						
PKI	**Pulchoki**	**14.95**	**127**	*eP*	**P**	**22 15 36.5**	**-1.8**
	3.0nm,0.4s						
JIRN	**Jiri**	**15.40**	**125**	*eP*	**P**	**22 15 42.1**	**-1.1**
	6.3nm,0.3s						
RAMN	**Ramite**	**16.15**	**126**	*eP*	**P**	**22 15 51.9**	**+0.5**
	7.2nm,0.6s						

JMA 15 22:17:05.4, 27°.16N×143°.43E, h113km, M3.7
IDC 15 22:17:06.7±4.5, 26°.56N×141°.77E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.4/50, mbtmp3.8/4, ML3.1/2, Error ellipse: s-maj=292.2km s-min=25.3km az=84.0
ISCJB 15 22:17:09.9±1.0, 26°.67N±0°.07×140°.96E±0°.08, h35km, mb3.7/2, Error ellipse: s-maj=11.2km s-min=9.7km az=149.9
ISC 15 22:17:12.1±1.3, 26°.66N±0°.09×141°.05E±0°.09, h35km, n6, σ2°61/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.01**	**92**	P	**Pn**	**22 17 29.6**	**-0.1**
JHH2				*e*S	**Sn**	**22 17 47.9**	**+5.2**
CBIJ	**Chichi jima**	**1.10**	**67**	P	**Pn**	**22 17 28.3**	**-2.7**
CBIJ				*e*S	**Sn**	**22 17 45.6**	**+0.6**
JHJ	**Hachijo jima 2**	**6.53**	**351**	Pn	**Pn**	**22 18 47.9**	**+2.2**
	2.0nm,0.3s,baz=253,slow=19,SNR=3.5						
JHJ				Sn	**Sn**	**22 19 58.7**	**-0.1**
	2.1nm,0.3s,baz=73,slow=19,SNR=2.6						
MJAR	**Matsushiro Arr**	**10.14**	**347**	Pn	**Pn**	**22 19 36.1**	**+0.9**
	0.1nm,0.3s,baz=162,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**46.78**	**189**	P	**P**	**22 25 38.1**	**-0.2**
	0.8nm,0.5s,baz=13,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**50.51**	**188**	P	**P**	**22 26 06.3**	**-0.6**
	0.2nm,0.5s,baz=1.4,slow=7.4,SNR=4.8						

ISCJB 15 22:19:12.7±0.3, 24°.04N±0°.01×121°.74E±0°.01, h0km±2km, Error ellipse: s-maj=2.5km s-min=1.6km az=35.0
JMA 15 22:19:12.3±0.2, 24°.03N×121°.67E, h0km, M3.3
TAP 15 22:19:13.2, 24°.05N×121°.68E, h6km, ML3.9, C
ISC 15 22:19:13.3±0.8, 24°.04N±0°.01×121°.70E±0°.02, h11km±5km, n121, σ0°84/179, 1C-24D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.10**	**235**	P	**Pg**	**22 19 16.0**	**-0.1**
	baz=224						
HWA				S	**Sg**	**22 19 18.4**	**+0.5**
	baz=224						
TWD	**Chiawan**	**0.10**	**296**	⇓*i*P	**Pg**	**22 19 15.4**	**-0.6**
	baz=292						
TWD				*i* S	**Sg**	**22 19 17.0**	**-0.9**
	baz=292						
ENLB	**Shoufeng**	**0.16**	**213**	P	**Pg**	**22 19 17.4**	**+0.6**
	baz=211						
ENLB				S	**Sg**	**22 19 21.4**	**+2.1**
	baz=211						
NACB	**Ninganchiao**	**0.17**	**327**	⇓P	**Pg**	**22 19 16.6**	**-0.5**
	baz=326						
NACB				S	**Sg**	**22 19 18.9**	**-0.7**
	baz=326						
ETLH	**Xiulin Townshi**	**0.26**	**311**	P	**Pg**	**22 19 18.3**	**-0.4**
	baz=313						
ETLH				*e*S	**Sg**	**22 19 21.8**	**-0.5**
	baz=313						
ESL	**Shilin**	**0.33**	**227**	P	**Pg**	**22 19 19.7**	**-0.2**
	baz=235						
ESL				*e*S	**Sg**	**22 19 24.0**	**-0.3**
	baz=235						
ENA	**Nanau**	**0.39**	**6**	⇓*i*P	**Pg**	**22 19 21.1**	**0.0**
	baz=4.0						
ENA				S	**Sg**	**22 19 26.7**	**+0.3**
	baz=4.0						
WHF	**Hehuan Shan**	**0.41**	**286**	⇓*i*P	**Pg**	**22 19 21.1**	**-0.4**
	baz=284						
WHF				S	**Sg**	**22 19 26.7**	**-0.3**
	baz=284						
EGFH	**Guangfu**	**0.44**	**214**	*e*P	**Pb**	**22 19 22.2**	**-0.9**
	baz=227						
EGFH				*e*S	**Sb**	**22 19 29.7**	**0.0**
	baz=227						
CHGB	**Renai**	**0.48**	**273**	⇓P	**Pb**	**22 19 22.6**	**-1.3**
	baz=272						
CHGB				S	**Sg**	**22 19 29.1**	**0.0**
	baz=272						
OWD	**Renai**	**0.48**	**260**	*e*P	**Pg**	**22 19 22.4**	**-0.4**
	baz=260						
NNSB	**Datong**	**0.48**	**324**	⇓P	**Pb**	**22 19 22.8**	**-1.2**
	baz=320						
NNSB				S	**Sg**	**22 19 29.4**	**+0.1**
	baz=320						
NNS	**Nan Shan**	**0.50**	**324**	⇓*i*P	**Pg**	**22 19 23.0**	**-0.1**
	baz=321						
NNS				*i* S	**Sg**	**22 19 29.8**	**0.0**
	baz=321						
TDCB	**Techi**	**0.54**	**294**	⇓P	**Pb**	**22 19 23.9**	**-1.0**
	baz=292						
TDCB				S	**Sg**	**22 19 30.8**	**-0.2**
	baz=292						
VWDT	**VWDT**	**0.58**	**241**	⇓P	**Pb**	**22 19 24.5**	**-1.0**
	baz=242						
VWDT				S	**Sb**	**22 19 32.8**	**-0.9**
	baz=242						
NDT	**Datong Townshi**	**0.59**	**344**	⇓*i*P	**Pb**	**22 19 25.0**	**-0.7**
	baz=338						
NDT				*i* S	**Sg**	**22 19 32.5**	**-0.1**
	baz=338						
TWC	**Suao**	**0.59**	**14**	*e*P	**Pg**	**22 19 24.7**	**-0.1**
	baz=5.0						
HGSD	**Ruisui**	**0.59**	**205**	⇓P	**Pb**	**22 19 25.9**	**+0.1**
	baz=194						
HGSD				*e*S	**Sn**	**22 19 36.8**	**-0.7**
	baz=194						
ENTT	**Nioudou**	**0.61**	**349**	⇓*i*P	**Pb**	**22 19 25.3**	**-0.8**
	baz=346						
ENTT				S	**Sg**	**22 19 33.4**	**0.0**
	baz=346						
EHY	**Hungye**	**0.63**	**213**	*e*P	**Pg**	**22 19 25.2**	**-0.3**
	baz=214						
EOS1	**EOS1**	**0.65**	**38**	*e*P	**Pb**	**22 19 27.5**	**+0.9**
	baz=23						
TWE	**Neicheng**	**0.68**	**358**	*e*P	**Pb**	**22 19 26.7**	**-0.6**
	baz=347						
YHNB	**Yeheng**	**0.69**	**335**	⇓P	**Pb**	**22 19 27.1**	**-0.5**
	baz=323						
YHNB				S	**Sg**	**22 19 35.7**	**-0.3**
	baz=323						
DPDB	**Guoxing**	**0.70**	**270**	*e*P	**Pb**	**22 19 26.8**	**-0.9**
	baz=270						
DPDB				*e*S	**Sb**	**22 19 37.0**	**-0.3**
	baz=270						
NSK	**Sanguang**	**0.71**	**334**	⇓*i*P	**Pb**	**22 19 27.3**	**-0.4**
	baz=323						
NSK				S	**Sg**	**22 19 36.1**	**-0.2**
	baz=323						
SSLB	**Suanglung**	**0.72**	**250**	⇓P	**Pb**	**22 19 27.0**	**-0.9**
	baz=263						
SSLB				S	**Sg**	**22 19 35.4**	**-1.4**
	baz=263						
WHP	**Taichung City**	**0.72**	**290**	⇓*i*P	**Pb**	**22 19 27.6**	**-0.5**
	baz=288						
WHP				S	**Sb**	**22 19 37.6**	**-0.4**
	baz=288						
ILA	**Ilan**	**0.73**	**4**	*e*P	**Pb**	**22 19 28.3**	**+0.2**
	baz=350						
YULB	**Yu-li**	**0.74**	**210**	P	**Pg**	**22 19 27.0**	**-0.6**
	baz=226						
YULB				*e*S	**Sb**	**22 19 37.5**	**-0.8**
	baz=226						
SMLT	**Sun Moon Lake**	**0.74**	**258**	⇓P	**Pb**	**22 19 27.7**	**-0.7**
	baz=259						
SMLT				S	**Sb**	**22 19 38.0**	**-0.6**
	baz=259						
NWLT	**Wulai**	**0.76**	**347**	*e*P	**Pb**	**22 19 28.1**	**-0.6**
	baz=329						
NWLT				*e*S	**Sb**	**22 19 38.0**	**-1.0**
	baz=329						
TWF1	**Yuli**	**0.77**	**208**	*e*P	**Pg**	**22 19 27.6**	**-0.6**
	baz=225						
TWF1				*e*S	**Sb**	**22 19 40.1**	**+0.8**
	baz=225						
TYC	**Yuchr**	**0.78**	**260**	P	**Pb**	**22 19 28.1**	**-0.8**
	baz=261						
TYC				*e*S	**Sg**	**22 19 38.1**	**-0.4**
	baz=261						
NTC	**Toucheng**	**0.82**	**9**	*e*P	**Pb**	**22 19 29.5**	**-0.2**
	baz=353						
EGS		**0.83**	**15**	*e*P	**Pn**	**22 19 30.7**	**-0.4**
	baz=11						
NSTT	**Nanjuang**	**0.87**	**313**	P	**Pb**	**22 19 30.3**	**-0.2**
	baz=311						
NSTT				S	**Sb**	**22 19 41.6**	**-0.5**
	baz=311						
LIOB	**Emei**	**0.87**	**315**	⇓P	**Pb**	**22 19 30.6**	**+0.1**
	baz=312						
LIOB				S	**Sb**	**22 19 41.7**	**-0.4**
	baz=312						
TWQ1	**Liyutan**	**0.90**	**290**	*e*P	**Pb**	**22 19 31.2**	**+0.3**
	baz=289						
WLTB	**Daxi**	**0.91**	**334**	*e*P	**Pb**	**22 19 30.6**	**-0.5**
	baz=330						
WJS	**Zhushan**	**0.91**	**257**	*e*P	**Pn**	**22 19 32.1**	**0.0**
	baz=258						
WJS				*e*S	**Sn**	**22 19 44.5**	**-0.8**
	baz=258						
NSY	**Sanyi**	**0.93**	**294**	*e*P	**Pn**	**22 19 32.5**	**0.0**
	baz=304						
NSY				*e*S	**Sn**	**22 19 46.3**	**+0.5**
	baz=304						
NHDH	**Xindian Distri**	**0.94**	**351**	*e*P	**Pb**	**22 19 31.1**	**-0.5**
	baz=346						
TCU	**Taichung**	**0.94**	**277**	⇑P	**Pn**	**22 19 32.9**	**+0.4**
	baz=270						
TCU				*e*S	**Sn**	**22 19 46.6**	**+0.7**
	baz=270						
WNT	**Mingjian**	**0.94**	**261**	⇓P	**Pn**	**22 19 32.9**	**+0.4**
	baz=261						
WNT				*e*S	**Sn**	**22 19 46.6**	**+0.7**
	baz=261

TWS1	Kuangyinshan	1.09 347	eP	Pn	22 19 35.3 +0.7
	baz=341				
TWS1			eS	Sn	22 19 50.1 +0.4
	baz=341				
WGK	Gukeng	1.09 252	eP	Pn	22 19 35.7 +1.0
	baz=254				
YM01	YM01	1.11 354	eP	Pn	22 19 35.1 +0.1
	baz=359				
WDLH	Douliu	1.11 252	eP	Pn	22 19 35.3 +0.4
	baz=255				
YM10	YM10	1.12 354	P	Pn	22 19 35.5 +0.4
	baz=336				
YM11	YM11	1.13 354	eP	Pn	22 19 35.4 +0.1
	baz=359				
YM07	YM07	1.14 357	eP	Pn	22 19 35.8 +0.5
	baz=350				
NTST	Danshui	1.15 349	eP	Pn	22 19 36.0 +0.7
	baz=342				
YM08	YM08	1.15 355	eP	Pb	22 19 35.4 +0.1
	baz=349				
JYNG	Yonaguni jima	1.21 70	P	Pg	22 19 36.4 -0.3
JYNG			eS	Sb	22 19 53.3 +1.2
CHN4	Tsaushan	1.22 236	⇓iP	Pn	22 19 37.3 +0.9
	baz=231				
CHN4			S	Sn	22 19 54.6 +1.7
	baz=231				
TPUB	Ta-pu	1.22 233	P	Pn	22 19 36.9 +0.5
	baz=239				
TPUB			S	Sn	22 19 53.8 +0.8
	baz=239				
STYT	Tauyuan	1.22 225	eP	Pb	22 19 36.3 -0.2
	baz=231				
STYT			S	Sb	22 19 53.0 +0.6
	baz=231				
RLNB	Erlin	1.23 264	P	Pn	22 19 37.2 +0.7
	baz=265				
RLNB			S	Sn	22 19 55.5 +2.4
	baz=265				
TWY	Chenhua	1.24 356	eP	Pb	22 19 36.7 0.0
	baz=337				
WTP	Ta-pu	1.27 232	P	Pn	22 19 37.8 +0.7
	baz=238				
WTP			eS	Sn	22 19 55.2 +1.1
	baz=238				
YOJ	Yonaguni jima	1.27 70	eP	Pg	22 19 36.9 -0.9
	baz=65				
YOJ	Yonaguni jima	1.27 70	P	Pg	22 19 36.9 -0.9
CHY	Chiayi	1.28 246	eP	Pn	22 19 37.8 +0.6
	baz=249				
WTCT	Ta-ch'eng	1.30 263	eP	Pn	22 19 37.7 +0.2
	baz=264				
WTCT			eS	Sn	22 19 56.6 +1.6
	baz=264				
TWG	Pinlang	1.34 205	eP	Pn	22 19 36.0 -2.0
	baz=211				
TWGBT	Beinan	1.34 205	eP	Pn	22 19 35.8 -2.2
	baz=211				
TWK	Hsinying	1.34 236	eP	Pb	22 19 39.2 +0.6
	baz=242				
TWK			S	Sn	22 19 58.4 +2.3
	baz=242				
CHN1	Nanshi	1.36 232	eP	Pb	22 19 39.4 +0.5
	baz=240				
CHN1			eS	Sn	22 19 58.1 +1.6
	baz=240				
SNST	Tainan City	1.37 234	eP	Pb	22 19 39.8 +0.8
	baz=239				
SGST	Jiashian	1.39 227	eP	Pg	22 19 40.0 -0.1
	baz=235				
SGST			eS	Sn	22 19 59.8 +2.6
	baz=235				
WLGB	Puzi	1.39 247	eP	Pg	22 19 39.9 -0.2
	baz=261				
WLGB			eS	Sn	22 19 59.6 +2.5
	baz=261				
WSF	Szhu	1.41 254	eP	Pg	22 19 40.0 -0.3
	baz=257				
WSF			eS	Sn	22 20 00.4 +2.9
	baz=257				
SLGT	Liugui	1.42 223	eP	Pg	22 19 40.2 -0.3
	baz=215				
CHN8	Yiju	1.52 244	eP	Pg	22 19 41.8 -0.8
	baz=248				
ECL	Taimali	1.58 206	eP	Pn	22 19 40.5 -0.9
	baz=212				
SSD	Sandimen	1.61 217	eP	Pb	22 19 42.5 -0.6
	baz=239				
SSD			eS	Sg	22 20 05.2 0.0
	baz=239				
SCLT	Jiali	1.62 238	eP	Pb	22 19 43.1 -0.2
	baz=244				
PCYT	Pengchaiyu	1.62 12	eP	Pn	22 19 42.1 +0.2
	baz=344				
TWM1	Shoushan	1.68 224	eP	Pg	22 19 46.8 +1.2
	baz=230				
MASBT	Mashibuluo	1.72 215	eP	Pn	22 19 43.4 +0.2
	baz=224				
MASBT			eS	Sg	22 20 07.8 -0.9
	baz=224				
EAST	Anshuo	1.82 206	eP	Pn	22 19 44.7 +0.1
	baz=202				
SSPT	Xinbi	1.86 214	eP	Pg	22 19 47.8 -1.2
	baz=210				
IRIF	Iriomote-Funau	1.88 80	P	Pn	22 19 45.6 +0.1
IRIF			eS	Sn	22 20 10.6 +1.4
SCZT	Fangliau	1.93 211	eP	Pn	22 19 47.1 +1.0
	baz=219				
SCZT			eS	Sg	22 20 13.9 -1.4
	baz=219				
HATJ	Hateruma jima	1.93 89	eS	Sn	22 20 11.3 +0.9
PHUB	P'eng-hu	2.01 255	eP	Pn	22 19 47.5 +0.2
	baz=259				
PHUB			eS	Sb	22 20 14.4 -0.7
	baz=259				
PNG	Penghu	2.01 257	eP	Pn	22 19 47.1 -0.2
	baz=260				
WDGT	Dungji	2.02 248	eP	Pn	22 19 47.5 +0.1
	baz=254				
WDGT			eS	Sn	22 20 14.1 +1.4
	baz=254				
WLCH	Liuqiu	2.07 216	eP	Pb	22 19 50.1 -0.9
	baz=221				
JKRS	Kuro-shima	2.12 84	P	Pn	22 19 48.9 +0.1
JKRS			eS	Sn	22 20 16.9 +1.7
VCHM	Qimei	2.23 249	eP	Pn	22 19 50.9 +0.6
	baz=240				
TWK1	Hengchun	2.24 202	eP	Pn	22 19 50.8 +0.4
	baz=209				
TWKBT	Hengchun	2.24 201	eP	Pn	22 19 50.0 -0.4
	baz=209				
JIJ	Ishigaki jima	2.26 81	P	Pn	22 19 50.5 -0.2
JIJ			S	Sn	22 20 18.7 +0.1
PTTC	Pingtan	2.28 310	⇓eP	Pn	22 19 50.6 -0.3
	baz=294				
JISG	Ishigakijimahi	2.45 77	P	Pn	22 19 53.2 -0.1
JISG			eS	Sn	22 20 22.5 -0.7
PTMZ	Houxiangcun	2.55 294	eP	Pn	22 19 54.4 -0.2
	baz=292				
MATB	Ma-tsu	2.64 323	eP	Pn	22 19 56.1 +0.3
	baz=319				
KNMB	Chin-men Tao	3.05 279	eP	Pn	22 20 01.5 0.0
	baz=279				
LYJJ	Jianjiangzhen	3.06 325	eP	Pn	22 20 01.6 0.0
	baz=321				
MHZQ	Yeshan	3.17 311	eP	Pn	22 20 03.7 +0.5
	baz=296				
XPSS	Dashiqiu	3.19 335	eP	Pn	22 20 03.3 -0.1
	baz=329				
AXDP	Jialang	3.50 285	eP	Pn	22 20 08.0 +0.2
	baz=284				
ZPLA	Ao Xicun	3.61 269	eP	Pn	22 20 09.8 +0.5
	baz=271				
ZZJH	Jiuhuzhen	3.73 277	eP	Pn	22 20 11.4 +0.4
	baz=277				

WEL 15 22:20:06.2±1.5,37°S±23°×18°0W±1°1,h5km,ML3.9/12, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.84 250		P	Pn	22 20 37.9	-0.5
MXZ				S	Sn	22 21 01.7	-0.4
WMGZ	Waiomatatini S	1.86 241		P	Pn	22 20 39.3	+0.6
WMGZ				S	Sb	22 21 03.9	-0.4
PUZ	Puketiti	2.10 237		P	Pn	22 20 42.1	+0.1
PUZ				S	Sn	22 21 09.2	+0.7
TWGZ	Tauwhareparae	2.34 237		P	Pn	22 20 45.6	+0.3
TWGZ				S	Sn	22 21 15.8	+1.4
CNGZ	Carnagh Statio	2.37 229		P	Pn	22 20 46.1	+0.4
RUGZ	Raukumara Rang	2.45 244		P	Pn	22 20 47.3	+0.4
TKGZ	Te Karaka	2.57 233		P	Pn	22 20 48.3	-0.1
RAGZ	Rawiri	2.88 236		P	Pn	22 20 53.1	+0.2
URZ	Urewera	2.98 243		P	Pn	22 20 54.5	+0.4
MHGZ	Mahia Peninsul	3.00 222		P	Pn	22 20 53.9	-0.5
SNGZ	Shannon Statio	3.09 232		P	Pn	22 20 55.4	-0.2
MTHZ	Maungataniwha	3.45 235		P	Pn	22 21 00.9	+0.2
BKZ	Black Stump Fm	3.85 234		P	Pn	22 21 05.6	-0.5
MCHZ	McNeill Hill	3.89 229		P	Pn	22 21 06.2	-0.4
KWHZ	Kaweka Forest	4.04 231		P	Pn	22 21 08.1	-0.7
BHHZ	Black Hill Sta	4.31 232		P	Pn	22 21 11.8	-0.7

IDC 15 22:56:58.6±28.0,17°95S×179°32W,h682km±263km, mb3.1/3,mb1 3.3/3,mb1mx2.8/27,mbtmp4.2/3,Error ellipse: s-maj=239.1km s-min=101.6km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.85 241		P	P	23 03 21.3	0.0
	1.5nm,0.5s,baz=87,slow=8.0,SNR=5.8						
WRA	Warramunga Arr	43.77 260		P	P	23 04 08.0	+0.1
	1.1nm,0.5s,baz=92,slow=7.3,SNR=29						
ASAR	Alice Springs	43.94 254		P	P	23 04 09.2	0.0
	6.2nm,0.7s,baz=87,slow=8.7,SNR=64						
ASAR				PcP	PcP	23 05 38.3	-0.8
	0.6nm,0.6s,baz=110,slow=4.0,SNR=3.7						
MMAI	Mount Meron Ar	145.43 302		PKPbc	PKPbc	23 15 23.1	-0.4
	0.6nm,0.5s,baz=74,slow=4.4,SNR=4.2						

*IDC **15** 23:01:14.8±0.5, 11°38S×165°18E, h0km, mb4.4/20, mb1 4.6/22, mb1mx4.4/39, mbtmp4.4/22, ML2.7/1, MS4.1/10, Ms1 4.1/10, ms1mx3.7/34, Error ellipse: s-maj=18.0km s-min=14.3km az=95.0*

*NEIC **15** 23:01:16.3±2.2, 11°32S×165°09E, h10km±2km, mb4.8/40, Error ellipse: s-maj=16.8km s-min=13.2km az=224.0*

*BJI **15** 23:01:16.5±0.0, 11°66S×164°75E, h8km, mb4.8/26, mB5.0/19, Ms4.6/8, Ms7 4.3/7*

*ISCJB **15** 23:01:18.6±0.2, 11°39S±0°03×165°01E±0°04, h34km, mb4.6/53, MS4.2/12, Error ellipse: s-maj=6.4km s-min=4.1km az=152.8*

*GCMT **15** 23:01:20.3±0.4, 11°31S±0°03×164°90E±0°03, h29km±1km, MW5.0/63, Moment Tensor Solution. s31,c34; s63,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.05±.22; $M_{\theta\theta}$=0.16±.14; $M_{\phi\phi}$=2.89±.14; $M_{r\theta}$=0.39±.19; $M_{\theta\phi}$=-0.80±.10; $M_{r\phi}$=2.11±.18; Best double couple: M_0=3.75000×10^{16} NP1:ϕ_s=332.00000°, δ30.00000°, λ-114.00000°. Principal axes: T 3.6820, Plg17.0000°, Azm259.0000°; N 0.1360, Plg12.0000°, Azm353.0000°; P -3.8190, Plg70.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 23:01:20.4±0.4,11°43S±0°05×165°12E±0°07,h34km,n123, σ1970/127,mb4.7/53,MS4.1/12,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.46 291		eP	Pn	23 02 38.0	-1.4
HNR				eS	Sn	23 03 38.0	-3.1
HNR	Honiara	5.46 291		ePn	Pn	23 02 38.5	-1.0
HNR				eSn	Sn	23 03 31.2	-10
HNR	Honiara	5.46 291		Pn	Pn	23 02 38.4	-1.0
	206nm,0.3s,baz=172,slow=3.3,SNR=27						
HNR				Sn	Sn	23 03 38.8	-2.2
	83nm,0.3s,baz=207,slow=20,SNR=7.1						
HNR				LR	LR	23 04 43.0	
	comp=Z,3μm,21.4s,baz=119,slow=38						
MARNC	Mare, Loyalty	10.38 165		ePn	Pn	23 03 45.1	-1.9
MARNC				eSn	Sn	23 05 38.7	-3.4
DZM	Mont Dzumac	10.66 173		eSn	Sn	23 05 47.4	-1.8
	3.0nm,0.3s						
DZM				eLR	LR	23 06 20.4	
	comp=Z,1μm,23.3s						
DZM	Mont Dzumac	10.66 173		Pn	Pn	23 03 52.2	+1.2
	13nm,0.3s,baz=26,slow=11,SNR=157						
DZM				Sn	Sn	23 05 48.4	-0.8
	0.8nm,0.3s,baz=122,slow=19,SNR=3.0						
DZM				LR	LR	23 07 31.4	
	comp=Z,961nm,19.7s,baz=48,slow=35						
ONTNC	Ouen Toro	10.89 173		ePn	Pn	23 03 55.5	+1.4
ONTNC				eSn	Sn	23 05 52.0	-2.8
OUENC	Ouen Island, N	11.05 172		ePn	Pn	23 03 58.3	+2.1
OUENC				eSn	Sn	23 06 01.4	+2.7
PINNC	Pines Island,	11.35 169		ePn	Pn	23 04 02.0	+1.8
PMG	Port Moresby	17.77 275		ePn	Pn	23 05 22.9	-2.5
	28nm,1.0s						
PMG	Port Moresby	17.77 275		P	Pn	23 05 25.2	-0.2
	0.9nm,0.3s,baz=83,slow=11,SNR=4.5						
PMG				LR	LR	23 12 06.7	
	comp=Z,978nm,19.2s,baz=138,slow=36						
EIDS	Eidsvold	19.20 222		eP	P	23 05 41.7	+0.2
	8.6nm,0.9s						
PATS	Pohnpei	19.36 339		eP	Pn	23 05 43.8	-0.9
	77nm,1.1s						
MANU	Manus Island	19.92 297		eP	P	23 05 48.7	-0.9
	168nm,1.0s						
CTA	Charters Tower	20.07 242		P	P	23 05 51.9	+0.7
	baz=20						
CTA	Charters Tower	20.07 242		P	P	23 05 51.8	+0.6
	36nm,1.1s,baz=70,slow=12,SNR=26						
CTA				LR	LR	23 13 44.5	
	comp=Z,927nm,18.5s,baz=86,slow=37						
CTAO	Charters Tower	20.07 242		eP	P	23 05 52.6	+1.4
	40nm,1.1s						
RMQ	Roma	21.49 224		P	P	23 06 08.2	+1.8
	baz=22,SNR=6.6						
COEN	Coen	21.55 261		eP	P	23 06 07.0	-0.2
	37nm,0.7s						
COEN	Coen	21.55 261		P	P	23 06 07.1	0.0
	baz=22,SNR=18						
ARMA	Armidale	22.67 212		eP	P	23 06 21.2	+2.1
	18nm,1.1s						
ARMA	Armidale	22.67 212		P	P	23 06 22.2	+3.1
	baz=23,SNR=4.8						
OUZ	Omahuta	24.91 163		eP	P	23 06 42.3	+2.0
	46nm,1.0s						
OUZ	Omahuta	24.91 163		P	P	23 06 45.3	+5.0
NIUE	Niue	25.23 111		eP	P	23 06 41.7	-1.7
	63nm,0.6s						
QIS	Mount Isa	26.12 246		P	P	23 06 51.2	-0.3
	baz=26,SNR=5.5						
CMSA	Cobar Meteorol	26.88 219		P	P	23 06 59.5	+1.2
	baz=27						
HAZ	Te Kaha	28.57 159		P	P	23 07 15.1	+1.8
MXZ	Matakaoa Point	28.59 158		eP	P	23 07 12.5	-0.9
	49nm,0.7s						
MXZ	Matakaoa Point	28.59 158		P	P	23 07 14.7	+1.2
RUGZ	Raukumara Rang	28.72 159		P	P	23 07 15.6	+0.8
URZ	Urewera	28.79 160		eP	P	23 07 16.2	+0.9
	11nm,0.8s						
URZ	Urewera	28.79 160		P	P	23 07 15.6	+0.4
	9.1nm,0.7s,baz=127,slow=17,SNR=3.0						
URZ				LR	LR	23 17 50.9	
	comp=Z,369nm,19.8s,baz=4.5,slow=35						
URZ	Urewera	28.79 160		P	P	23 07 16.3	+1.0
PKGZ	Pakihiroa	28.80 158		P	P	23 07 16.8	+1.5
WMGZ	Waiomatatini S	28.86 158		P	P	23 07 16.9	+1.1
TWGZ	Tauwhareparae	29.02 159		P	P	23 07 18.5	+1.1
PUZ	Puketiti	29.02 158		P	P	23 07 18.4	+1.0
RAGZ	Rawiri	29.11 160		P	P	23 07 20.2	+2.0
MTHZ	Maungataniwha	29.24 161		P	P	23 07 21.4	+2.1
SNGZ	Shannon Statio	29.34 160		P	P	23 07 21.9	+1.7
CNGZ	Carnagh Statio	29.37 159		P	P	23 07 21.4	+1.0
BKZ	Black Stump Fm	29.42 162		eP	P	23 07 22.5	+1.6
	13nm,0.7s						
STKA	Stephens Creek	29.74 223		eP	P	23 07 23.9	+0.1
	0.6nm,0.9s						
STKA	Stephens Creek	29.74 223		P	P	23 07 23.9	+0.1
	2.6nm,0.7s,baz=30,slow=8.2,SNR=5.7						
KAHZ	Kahuranaki	30.12 162		P	P	23 07 29.1	+2.0
BFZ	Birch Farm	30.75 163		eP	P	23 07 32.1	-0.5
	30nm,1.2s						
WRAB	Tennant Creek	30.76 250		eP	P	23 07 32.1	-0.9
	15nm,0.8s						
WB2	Warramunga Arr	30.76 250		eP	P	23 07 31.8	-1.2
	15nm,0.8s						
WRA	Warramunga Arr	30.77 250		P	P	23 07 32.1	-1.0
	9.2nm,0.6s,baz=79,slow=9.1,SNR=72						
THZ	Tophouse	30.98 169		eP	P	23 07 37.0	+2.3
	16nm,0.8s						
KDU	Kakadu	31.94 264		P	P	23 07 41.2	-2.1
	baz=32,SNR=26						
GUMO	Guam	31.95 321		LR	LR	23 21 28.8	
	comp=Z,391nm,18.1s,baz=136,slow=38						
AS31	Alice Springs	32.07 243		eP	P	23 07 42.5	-1.9
	2.3nm,0.6s						
AS31				ePcP	PcP	23 10 33.6	0.0
ASAR	Alice Springs	32.07 243		eP	P	23 07 42.5	-1.9
ASAR	Alice Springs	32.07 243		P	P	23 07 43.0	-1.4
	8.0nm,0.8s,baz=73,slow=9.6,SNR=70						
ASAR				PcP	PcP	23 10 33.6	0.0
	0.6nm,0.7s,baz=57,slow=4.5,SNR=4.2						
RPZ	Rata Peaks	32.58 172		eP	P	23 07 47.9	-0.7
	11nm,0.7s						
RPZ	Rata Peaks	32.58 172		P	P	23 07 48.5	-0.1
	9.3nm,0.7s,baz=256,slow=19,SNR=5.1						
LBZ	Lake Benmore	33.13 173		eP	P	23 07 53.0	-0.4
MTN	Manton Dam	33.24 264		P	P	23 07 52.8	-1.9
	baz=33,SNR=5.5						
BBOO	Buckleboo	34.12 227		eP	P	23 08 01.8	-0.4
KNRA	Kununurra	35.56 259		P	P	23 08 13.8	-1.1
	baz=36,SNR=11						
WRKA	Warakurna	37.36 244		P	P	23 08 29.0	-1.2
	baz=38,SNR=17						
FITZ	Fitzroy Crossi	38.68 255		eP	P	23 08 40.5	-0.9
	11nm,1.1s						
FITZ	Fitzroy Crossi	38.68 255		P	P	23 08 40.2	-1.2
	baz=39,SNR=9.3						
FITZ	Fitzroy Crossi	38.68 255		LR	LR	23 24 14.8	
	comp=Z,260nm,18.2s,baz=80,slow=36						
DAV	Davao City (W)	43.41 293		LR	LR	23 25 54.1	
	comp=Z,41nm,19.4s,baz=100,slow=34						
PPT	Papeete	44.21 103		LR	LR	23 25 04.8	
	comp=Z,197nm,18.2s,baz=293,slow=32						
PPT2	Papeete2	44.21 103		eLR	LR	23 21 52.0	
	comp=Z,253nm,27.2s						
TBI	Tubuai	44.77 112		eLR	LR	23 22 11.6	
	comp=Z,336nm,28.0s						
MEEK	Meekatharra	46.23 244		P	P	23 09 42.4	-0.2
	baz=46,SNR=9.7						
KKM	Kota Kinabalu	51.66 287		eP	P	23 10 23.5	-1.0
	19nm,1.0s						
MJAR	Matsushiro Arr	54.03 333		P	P	23 10 41.4	-0.1
	4.6nm,1.0s,baz=162,slow=8.5,SNR=9.2						
MAJO	Matsushiro	54.03 333		eP	P	23 10 41.4	-0.2
KSRS	Korea Array	59.84 326		P	P	23 11 22.0	-0.7
	1.5nm,0.7s,baz=151,slow=7.9,SNR=3.2						
KS15	Wonju Array Si	59.86 326		eP	P	23 11 22.0	-0.8
	9.8nm,1.0s						
NJ2	Nanjing	61.86 316		eP	P	23 11 36.3	-0.2
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
USRK	Ussuriysk Ar.	63.01 334		P	P	23 11 45.0	+1.0
	5.5nm,1.1s,baz=165,slow=7.9,SNR=9.7						
WHN	Wuhan	64.19 312		P	P	23 12 02.8	+11
CN2	Changchun	65.75 330		eP	P	23 12 00.9	-1.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VNDA	Vanda	66.11 181		P	P	23 12 04.2	+0.5
	3.6nm,0.9s,baz=6.6,slow=5.3,SNR=14						
SBA	Scott Base	66.42 180		eP	P	23 12 07.3	+1.5
	16nm,1.0s						
SKNT	Sakolnakorn	66.68 294		P	P	23 12 08.6	+0.2
	13nm,1.1s						
XAN	Xi'an	69.92 313		P	P	23 12 32.0	+3.5
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,80nm,3.7s						
KMI	Kunming	70.79 302		P	P	23 12 34.9	+0.7
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CMAR	Chiang Mai Arr	71.70 294		P	P	23 12 39.7	+0.1
	1.5nm,0.6s,baz=115,slow=4.9,SNR=7.3						
HHC	Hu-ho-hao-te	71.72 320		eP	P	23 12 39.9	+0.5
HHC				S	S	23 22 00.5	+3.3
HHC				pmax	pmax		
	comp=Z,66nm,1.2s						
HHC				pmax	pmax		
	comp=Z,180nm,6.8s						
HHC				LR	LR		
	comp=N,500nm,16.4s						
HHC				LR	LR		
	comp=E,420nm,17.4s						
HHC				LR	LR		
	comp=Z,510nm,17.1s						
CD2	Chengdu	72.34 308		P	P	23 12 47.1	+3.9
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
LZH	Lanzhou	74.56 313		eP	P	23 13 01.6	+5.3
LZH				pP	pP	23 13 04.9	-0.4
LZH				sP	sP	23 13 07.3	-1.3
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
QSPA	South Pole Qui	78.58 180		eP	P	23 13 19.2	+0.7
	17nm,1.1s						
SONA0	Songino Array	78.61 324		eP	P	23 13 19.6	+0.7
SONM	Songino Array	78.61 324		P	P	23 13 19.6	+0.7
	1.0nm,0.7s,baz=143,slow=5.0,SNR=3.4						
GTA	Gaotai	78.88 314		P	P	23 13 24.1	+3.5
GTA				pP	PcP	23 13 27.8	-1.4
GTA				sP	pP	23 13 30.3	+0.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,77nm,4.7s						
GTA				LR	LR		
	comp=N,69nm,17.5s						
GTA				LR	LR		
	comp=E,98nm,17.9s						
GTA				LR	LR		
	comp=Z,97nm,21.3s						
CTGM	Chitina Glacie	83.55 23		eP	P	23 13 44.6	-0.4
	12nm,1.0s						
CCB	Clear Creek Bu	83.70 18		eP	P	23 13 44.0	-1.4
	1.9nm,0.9s						
HDA	Harding Lake	83.80 19		eP	P	23 13 45.0	-1.0
	5.0nm,0.7s						
ILAR	Eielson Array	84.07 19		P	P	23 13 46.1	-1.2
	1.5nm,0.6s,baz=238,slow=4.9,SNR=29						
MAW	Mawson	84.14 202		eP	P	23 13 47.6	-0.1
	2.0nm,1.1s						
MAW	Mawson	84.14 202		P	P	23 13 47.6	-0.1
	4.9nm,1.0s,baz=108,slow=3.9,SNR=3.6						
SCRK	Sand Creek	84.48 20		eP	P	23 13 48.9	-0.7
	3.4nm,1.0s						
YBH	Yreka Blue Hor	84.60 46		P	P	23 13 50.4	-0.3
	2.0nm,0.8s,baz=86,slow=18,SNR=3.6						
EGAK	Eagle	85.95 20		eP	P	23 13 56.6	-0.2
	2.4nm,0.8s						
NV01	Mina Array Sit	86.74 50		eP	P	23 14 00.9	-0.7
NVAR	Mina Array Bea	86.74 50		P	P	23 14 00.9	-0.7
	0.6nm,0.3s,baz=232,slow=5.3,SNR=5.4						
WMQ	Urumqi	88.93 315		eP	P	23 14 11.8	+0.1
WMQ				LR	LR		
	comp=N,2μm,39.2s						
WMQ				LR	LR		
	comp=E,2μm,39.1s						
WMQ				LR	LR		
	comp=Z,400nm,23.1s						
CCUT	Cedar City	90.26 52		eP	P	23 14 17.8	-0.5
	4.1nm,1.1s						
MK31	Makanchi Array	93.38 317		eP	P	23 14 30.6	-1.7
	3.0nm,1.1s						
MK32	Makanchi Array	93.38 317		eP	P	23 14 31.7	-0.5
MKAR	Makanchi Array	93.38 317		P	P	23 14 31.7	-0.5
	1.8nm,0.8s,baz=90,slow=6.4,SNR=10						
MKAR				LR	LR	23 55 30.3	
	comp=Z,56nm,21.5s,baz=78,slow=35						
ZALV	Zalesovo Beam	93.50 324		P	P	23 14 30.6	-2.0
	0.8nm,0.6s,baz=93,slow=3.1,SNR=4.0						
ZAA1	Zalesovo Array	93.50 324		eP	P	23 14 30.6	-2.0
MAKZ	Makanchi	93.59 317		eP	P	23 14 33.1	-0.1
	3.3nm,1.1s						
PD31	Pinedale Array	94.27 47		eP	P	23 14 35.5	-1.2
	0.8nm,0.8s						
PDAR	Pinedale Array	94.27 47		P	P	23 14 35.5	-1.2
	1.0nm,1.0s,baz=273,slow=5.3,SNR=3.8						
YKA	Yellowknife Ar	95.59 27		P	P	23 14 39.4	-2.5
	0.6nm,0.8s,baz=256,slow=4.7,SNR=8.4						
KSH	Kashi	96.51 309		P	P	23 14 48.8	+1.9
KSH				PP	PP	23 18 44.8	+3.4
KSH				S	S	23 26 06.3	+0.8
KSH				SS	SS	23 32 47.8	+7.9

KSH pmax pmax
comp=Z,150nm,5.3s
KSH LR LR
comp=N,220nm,8.7s
KSH LR LR
comp=E,190nm,8.5s
SNAA Sanae 96.70 184 *e*P **P 23 14 46.8 -0.3**
4.1nm,0.9s
BOSA Boshof 124.42 223 PKP **PKPdf 23 20 16.9 -0.1**
1.9nm,0.6s,baz=182,slow=5.4,SNR=5.9
CLL Collm 134.20 336 *e*PKPdf **PKiKP 23 20 35.0 -0.9**
KEST Kesra 147.34 322 PKPbc **PKPbc 23 21 01.1 -0.1**
4.4nm,0.8s,baz=0.0,slow=10,SNR=3.4
ESDC Sonseca Array 150.24 343 PKPbc **PKPbc 23 21 07.2 -1.2**
0.8nm,0.7s,baz=32,slow=2.5,SNR=4.1
TORD Torodi Ar. Bea 163.71 278 PKP **PKPdf 23 21 20.4 -0.6**
1.3nm,1.0s,baz=328,slow=5.3,SNR=4.3
TOA1 Torodi Ar. Sit 163.71 278 *e*PKPdf **PKPdf 23 21 20.4 -0.6**

MEX 15 23:11:16.2±0.5, 27°34N×111°26W, h16km±10km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.66**	**32**	*e*P	Pg	23 11 26.6	-2.5
GUYB				*e*S	Sg	23 11 34.6	-3.2
SRIG	**Santa Rosalia**	**0.87**	**269**	*e*P	Pb	23 11 29.9	-3.0
SRIG				*i* S	Sb	23 11 40.1	-4.2
HSIG		**1.70**	**9**	*i* P	Pn	23 11 42.0	-3.2
HSIG				*e*S	Sn	23 12 01.7	-4.9

MOS ***15*** *23:16:45.6±1.0, 4°.81S×144°.54E, h38km, mb4.9/33, Error ellipse: s-maj=10.8km s-min=6.4km az=104.2*
NEIC ***15*** *23:16:49.2±1.0, 4°.91S×144°.62E, h65km±9km, mb4.9/52, Error ellipse: s-maj=6.9km s-min=5.4km az=51.0*
ISCJB ***15*** *23:16:49.8±0.2, 4°.99S±0°.02×144°.62E±0°.03, h82km, mb4.9/102, Error ellipse: s-maj=4.9km s-min=3.5km az=173.3*
IDC ***15*** *23:16:50.3±1.8, 4°.94S×144°.59E, h69km±16km, mb4.4/24, mb1 4.5/26, mb1mx4.4/34, mbtmp4.7/26, MS3.8/9, Ms1 3.8/9, ms1mx3.5/29, Error ellipse: s-maj=13.0km s-min=7.9km az=98.0*
DJA ***15*** *23:16:51.3±0.6, 5°.S±4°×14°.5E±°, h68km±5km, M5.0/43, mB5.3/17, mb5.1/43, MLv5.5/2, Mw(mB)4.7/17*
GCMT ***15*** *23:16:52.2±0.4, 4°.78S±0°.02×144°.34E±0°.03, h70km±3km, MW4.9/65, Moment Tensor Solution. s19,c20; s65,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.37±.17; $M_{\theta\theta}$-2.54±.11; $M_{\phi\phi}$1.18±.14; $M_{r\theta}$-1.00±.08; $M_{\theta\phi}$-0.42±.12; $M_{\phi r}$1.03±.10; Best double couple: $M_0$2.65300×10^{16} NP1:ϕ_s297.00000°, δ68.00000°, λ133.00000°. NP2: ϕ_s49.00000°, δ47.00000°, λ30.00000°. Principal axes: T 2.5180, Plg48.0000°, Azm253.0000°; N 0.2810, Plg39.0000°, Azm98.0000°; P -2.7880, Plg13.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 23:16:51.3±0.3, 5°01S±0°.04×144°.62E±0°.05, h82km, n247, σ19, 61/260, mb4.8/101, 8C-1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**150**	*e*Pn	**Pn**	**23 18 03.7**	**-0.7**
PMG				*e*Sn	**Sn**	**23 19 01.4**	**0.0**
PMG	**Port Moresby**	**5.04**	**150**	*ce*P	**Pn**	**23 18 03.9**	**-0.6**
PMG				pmax	pmax		
	comp=Z,381nm,0.7s						
PMG	**Port Moresby**	**5.04**	**150**	P	**Pn**	**23 18 03.8**	**-0.6**
	comp=Z,21nm,0.3s,baz=340,slow=6.3,SNR=32						
PMG				S	**Sn**	**23 19 02.7**	**+1.3**
	comp=Z,39nm,0.3s,baz=311,slow=20,SNR=3.7						
PMG				LR	LR	23 20 29.2	
	comp=Z,2μm,19.1s,baz=332,slow=43						
GENI	**Genyem**	**5.05**	**298**	P	**Pn**	**23 18 04.1**	**-0.6**
COEN	**Coen**	**9.00**	**189**	*e*Pn	**Pn**	**23 18 59.6**	**+1.0**
COEN	**Coen**	**9.00**	**189**	P	**Pn**	**23 18 58.5**	**-0.1**
	baz=9.0,SNR=132						
FAKI	**Fak Fak**	**12.52**	**279**	*e*Pn	**Pn**	**23 19 43.5**	**-3.0**
FAKI	**Fak Fak**	**12.52**	**279**	P	**Pn**	**23 19 42.8**	**-3.7**
	comp=Z,34nm,0.7s						
SAUI	**Saumlaki**	**13.56**	**257**	*e*Pn	**Pn**	**23 19 60.0**	**-0.4**
SAUI	**Saumlaki**	**13.56**	**257**	P	**Pn**	**23 19 59.5**	**-0.9**
KDU	**Kakadu**	**14.22**	**237**	P	**Pn**	**23 20 06.0**	**-2.8**
	baz=14,SNR=41						
CTA	**Charters Tower**	**15.07**	**174**	P	**P**	**23 20 21.9**	**-1.3**
	baz=15						
CTA	**Charters Tower**	**15.07**	**174**	P	**P**	**23 20 22.3**	**-0.9**
CTA				pmax	pmax		
	comp=Z,30nm,0.8s						
CTA	**Charters Tower**	**15.07**	**174**	P	**Pn**	**23 20 21.4**	**+1.6**
	comp=Z,1.4nm,0.3s,baz=4.7,slow=15,SNR=10						
CTAO	**Charters Tower**	**15.07**	**174**	*e*Pn	**Pn**	**23 20 20.6**	**+0.7**
	comp=Z,30nm,1.3s						
CTAO	**Charters Tower**	**15.07**	**174**	*e*P	**Pn**	**23 20 20.6**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,30nm,1.3s						
MTN	**Manton Dam**	**15.42**	**239**	*e*Pn	**Pn**	**23 20 22.2**	**-2.2**
	comp=Z,50nm,0.7s						
MTN				*e*Sn	Sn	23 23 00.3	-14
MTN	**Manton Dam**	**15.42**	**239**	P	**Pn**	**23 20 22.4**	**-2.0**
	baz=15,SNR=9.4						
HNR	**Honiara**	**15.82**	**107**	*e*Pn	**Pn**	**23 20 27.0**	**-2.4**
	comp=Z,165nm,0.9s						
HNR	**Honiara**	**15.82**	**107**	*e*P	**Pn**	**23 20 27.0**	**-2.4**
HNR				pmax	pmax		
	comp=Z,165nm,0.9s						
QIS	**Mount Isa**	**16.20**	**197**	P	**Pn**	**23 20 34.7**	**+0.5**
	baz=16,SNR=50						
WRAB	**Tennant Creek**	**17.89**	**213**	*e*P	**P**	**23 20 54.4**	**0.0**
	comp=Z,228nm,0.8s						
WRAB				*e*Sn	**Sn**	**23 24 07.9**	**-6.2**
WRAB	**Tennant Creek**	**17.89**	**213**	*ce*P	**P**	**23 20 54.6**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,321nm,1.0s						
WB2	**Warramunga Arr**	**17.89**	**213**	*e*P	**P**	**23 20 54.4**	**-0.1**
	comp=Z,203nm,0.8s						
WR1	**Warramunga Arr**	**17.90**	**213**	*e*P	**P**	**23 20 54.4**	**-0.2**
WR1				*e*S	**S**	**23 24 16.4**	**+1.1**
WRA	**Warramunga Arr**	**17.90**	**213**	P	**P**	**23 20 54.4**	**-0.2**
	comp=Z,8.4nm,0.3s,baz=39,slow=11,SNR=169						
WRA				S	**S**	**23 24 16.4**	**+1.1**
	baz=31,slow=21,SNR=7.6						
WRA				LR	LR	23 29 10.3	
	comp=Z,114nm,20.3s,baz=40,slow=41						
TNTI	**Ternate**	**18.17**	**288**	*e*P	**P**	**23 20 55.2**	**-2.4**
	comp=Z,55nm,1.3s						
TNTI	**Ternate**	**18.17**	**288**	P	**Pn**	**23 20 58.3**	**0.0**
GUMO	**Guam**	**18.48**	**1**	*e*P	**P**	**23 20 54.3**	**-6.7**
	comp=Z,305nm,1.4s						
GUMO	**Guam**	**18.48**	**1**	*e*P	**P**	**23 20 54.3**	**-6.7**
GUMO				pmax	pmax		
	comp=Z,305nm,1.4s						
SANI	**Sanana**	**18.83**	**278**	P	**P**	**23 21 04.3**	**-0.5**
	comp=Z,61nm,1.1s,comp=Z,1μm						
KNRA	**Kununurra**	**18.84**	**235**	P	**P**	**23 21 03.8**	**-1.2**
	baz=19,SNR=39						
SOEI	**Soe**	**20.73**	**256**	*e*P	**P**	**23 21 25.4**	**-0.1**
	comp=Z,259nm,1.0s						
SOEI	**Soe**	**20.73**	**256**	P	**P**	**23 21 26.3**	**+0.8**
	comp=Z,387nm,1.0s,comp=Z,3μm						
EIDS	**Eidsvold**	**21.17**	**164**	*e*P	**P**	**23 21 31.4**	**+1.3**
	comp=Z,32nm,0.8s						
EIDS	**Eidsvold**	**21.17**	**164**	P	**P**	**23 21 32.7**	**+2.6**
	baz=21,SNR=6.9						
ASAR	**Alice Springs**	**21.23**	**208**	*e*P	**P**	**23 21 30.9**	**+0.1**
ASAR	**Alice Springs**	**21.23**	**208**	*e*P	**P**	**23 21 30.9**	**+0.1**
ASAR	**Alice Springs**	**21.23**	**208**	P	**P**	**23 21 31.1**	**+0.3**
	comp=Z,63nm,0.7s,baz=35,slow=9.4,SNR=578						
ASAR				S	**S**	**23 25 24.6**	**+2.3**
	comp=Z,3.6nm,1.0s,baz=24,slow=16,SNR=3.5						
ASAR				LR	LR	23 30 05.4	
	comp=Z,274nm,19.4s,baz=32,slow=37						
ANA2	**Anatahan**	**21.25**	**3**	*e*P	**P**	**23 21 28.6**	**-2.4**
	comp=Z,163nm,0.7s						
KMSI	**Cibinong**	**21.35**	**284**	P	**P**	**23 21 31.8**	**-0.3**
	comp=Z,163nm,0.8s						
RMQ	**Roma**	**21.71**	**170**	P	**P**	**23 21 37.9**	**+2.0**
	baz=22,SNR=12						
LUWI	**Luwuk**	**22.17**	**280**	*e*P	**P**	**23 21 41.5**	**+0.6**
	comp=Z,135nm,0.8s						
LUWI	**Luwuk**	**22.17**	**280**	P	**P**	**23 21 42.3**	**+1.4**
	comp=Z,209nm,1.1s,comp=Z,3μm						
FITZ	**Fitzroy Crossi**	**22.66**	**233**	P	**P**	**23 21 44.6**	**-1.4**
	comp=Z,16nm,0.6s,baz=49,slow=12,SNR=17						
APSI	**Ampana**	**23.30**	**279**	P	**P**	**23 21 53.5**	**+1.1**
	comp=Z,150nm,1.2s,comp=Z,1μm						
MRSI	**Marisa**	**23.30**	**283**	P	**P**	**23 21 51.6**	**-0.8**
BSSI	**Bau Bau, Buton**	**24.05**	**266**	P	**P**	**23 22 00.2**	**+1.1**
	comp=Z,130nm,1.0s,comp=Z,1μm						
BASI	**Baing, Sumba**	**24.38**	**256**	P	**P**	**23 22 02.6**	**+0.5**
BKSI	**Bulukumba**	**24.40**	**268**	P	**P**	**23 22 02.4**	**+0.1**
	comp=Z,28nm,0.9s,comp=Z,327nm						
BNSI	**Bone**	**24.44**	**270**	P	**P**	**23 22 03.4**	**+0.7**
	comp=Z,82nm,1.4s,comp=Z,986nm						
WSI	**Waingapu**	**24.56**	**258**	P	**P**	**23 22 03.7**	**0.0**
KAPI	**Kappang**	**24.78**	**269**	*e*P	**P**	**23 22 04.9**	**-0.8**
	comp=Z,29nm,0.9s						
KAPI	**Kappang**	**24.78**	**269**	*e*P	**P**	**23 22 04.9**	**-0.8**
KAPI				pmax	pmax		
	comp=Z,29nm,0.9s						
KAPI	**Kappang**	**24.78**	**269**	P	**P**	**23 22 05.5**	**-0.2**
	comp=Z,15nm,0.5s,baz=71,slow=7.5,SNR=11						
SPSI	**Sidrap Palu**	**24.80**	**271**	P	**P**	**23 22 06.2**	**+0.2**
	comp=Z,19nm,1.1s,comp=Z,380nm						
TTSI	**Tana Toraja**	**24.82**	**274**	P	**P**	**23 22 07.7**	**+1.6**
	comp=Z,62nm,1.1s,comp=Z,1μm						
MPSI	**Mapaga**	**25.26**	**281**	P	**P**	**23 22 10.1**	**-0.1**
	comp=Z,15nm,1.6s,comp=Z,382nm						
WRKA	**Warakurna**	**25.34**	**217**	P	**P**	**23 22 10.4**	**-0.4**
	baz=25,SNR=87						
ARMA	**Armidale**	**26.12**	**166**	*e*P	**P**	**23 22 17.0**	**-0.9**
	comp=Z,15nm,1.0s						
ARMA	**Armidale**	**26.12**	**166**	P	**P**	**23 22 20.0**	**+2.1**
	baz=26,SNR=5.2						
CMSA	**Cobar Meteorol**	**26.41**	**178**	P	**P**	**23 22 22.1**	**+1.9**
	baz=26,SNR=12						
STKA	**Stephens Creek**	**26.87**	**186**	*e*P	**P**	**23 22 22.8**	**-1.8**
	comp=Z,1.8nm,0.9s						
STKA	**Stephens Creek**	**26.87**	**186**	P	**P**	**23 22 25.2**	**+0.7**
	baz=27,SNR=9.6						
STKA	**Stephens Creek**	**26.87**	**186**	*e*P	**P**	**23 22 28.4**	**+3.9**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
STKA	**Stephens Creek**	**26.87**	**186**	P	**P**	**23 22 24.9**	**+0.4**
	comp=Z,3.7nm,0.5s,baz=0.7,slow=10.0,SNR=12						
STKA				LR	LR	23 34 06.3	
	comp=Z,245nm,19.7s,baz=20,slow=38						
PLAI	**Plampang**	**26.91**	**260**	P	**P**	**23 22 22.5**	**-2.6**
	comp=Z,62nm,1.1s						
DZM	**Mont Dzumac**	**27.09**	**131**	*e*P	**P**	**23 22 25.7**	**-1.0**
	comp=Z,10nm,1.0s						
DZM	**Mont Dzumac**	**27.09**	**131**	P	**P**	**23 22 27.5**	**+0.8**
	comp=Z,6.0nm,0.7s,baz=356,slow=7.7,SNR=5.5						
OUENC	**Ouen Island, N**	**27.59**	**131**	*e*P	**P**	**23 22 28.1**	**-2.9**
	comp=Z,6.3nm,1.1s						
HTT	**Hallett**	**28.77**	**190**	P	**P**	**23 22 42.4**	**+0.9**
	baz=29,SNR=11						
BBOO	**Buckleboo**	**28.79**	**195**	*e*P	**P**	**23 22 41.7**	**+0.1**
	comp=Z,19nm,0.9s						
BBOO	**Buckleboo**	**28.79**	**195**	P	**P**	**23 22 42.4**	**+0.8**
	baz=29,SNR=7.3						
TARA	**Tarawa**	**28.97**	**78**	*e*P	**P**	**23 22 42.8**	**-0.6**
	comp=Z,112nm,1.1s						
PSA00	**Pilbara Seismi**	**29.11**	**233**	*e*P	**P**	**23 22 44.6**	**0.0**
	comp=Z,15nm,0.8s						
FORT	**Forrest**	**30.00**	**209**	*e*P	**P**	**23 22 52.2**	**-0.1**
FORT	**Forrest**	**30.00**	**209**	P	**P**	**23 22 52.8**	**+0.5**
	baz=30,SNR=8.4						
MEEK	**Meekatharra**	**32.85**	**226**	P	**P**	**23 23 17.4**	**-0.1**
	baz=33,SNR=30						
KMBL	**Kambalda**	**33.81**	**216**	P	**P**	**23 23 25.6**	**-0.2**
	baz=34,SNR=5.9						
UGM	**Wanagama**	**34.00**	**263**	*e*P	**P**	**23 23 26.1**	**-1.6**
	comp=Z,216nm,1.5s						
GIRL	**Giralia**	**34.20**	**236**	*e*P	**P**	**23 23 30.1**	**+0.9**
	comp=Z,250nm,1.3s						
MORW	**Morawa**	**36.12**	**225**	*e*P	**P**	**23 23 45.4**	**-0.3**
	comp=Z,77nm,1.3s						
MORW	**Morawa**	**36.12**	**225**	P	**P**	**23 23 46.1**	**+0.4**
	baz=36,SNR=8.6						
KLBR	**Kellerberrin**	**36.52**	**220**	P	**P**	**23 23 48.9**	**-0.1**
	baz=36,SNR=36						
BLDU	**Ballidu**	**36.59**	**223**	P	**P**	**23 23 49.9**	**+0.2**
	baz=36,SNR=65						
CISI	**Cisompet, Garu**	**36.67**	**264**	*e*P	**P**	**23 23 48.4**	**-2.2**
	comp=Z,109nm,1.4s						
TPI	**Tanjungpandan**	**36.95**	**272**	P	**P**	**23 23 53.8**	**+0.9**
	comp=Z,31nm,1.4s						
YHNB	**Yeheng**	**37.18**	**324**	*e*P	**P**	**23 23 54.4**	**-0.4**
	comp=Z,27nm,0.8s						
TATO	**Taipei**	**37.35**	**324**	*e*P	**P**	**23 23 55.7**	**-0.4**
	comp=Z,79nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.73**	**219**	*e*P	**P**	**23 23 59.9**	**+0.6**
	comp=Z,32nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.73**	**219**	P	**P**	**23 24 00.0**	**+0.7**
	baz=38,SNR=14						
NWAO	**Narrogin (SRO)**	**37.73**	**219**	*e*P	**P**	**23 23 59.9**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,33nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.73**	**219**	P	**P**	**23 23 59.6**	**+0.3**
	comp=Z,34nm,0.8s,baz=44,slow=8.1,SNR=16						
MUN	**Mundaring**	**37.78**	**221**	P	**P**	**23 23 59.9**	**+0.2**
	baz=38,SNR=14						
JNU	**Nakatsue**	**40.11**	**342**	*e*P	**P**	**23 24 18.1**	**-1.0**
	comp=Z,17nm,1.0s						
JNU	**Nakatsue**	**40.11**	**342**	P	**P**	**23 24 18.1**	**-1.0**
	comp=Z,8.7nm,0.8s,baz=183,slow=5.3,SNR=5.1						
QIZ	**Qiongzhong**	**41.76**	**306**	P	**P**	**23 24 33.4**	**+0.5**
QIZ				S	**S**	**23 30 43.1**	**-1.4**
QIZ				pmax	pmax		
	comp=Z,18nm,1.3s						
QIZ				LR	LR		
	comp=Z,110nm,19.1s						
QIZ				LR	LR		
	comp=Z,150nm,23.0s						
QIZ				LR	LR		
	comp=Z,180nm,24.5s						
MJA0	**Matsu Arr-Jizo**	**41.77**	**352**	*e*P	**P**	**23 24 32.2**	**-0.5**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**41.77**	**352**	*e*P	**P**	**23 24 32.2**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**41.77**	**352**	P	**P**	**23 24 31.1**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=185,slow=11,SNR=6.2						
MJAR				ScP	**ScP**	**23 30 10.2**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=192,slow=6.0,SNR=6.0						
MAJO	**Matsushiro**	**41.77**	**352**	*e*P	**P**	**23 24 31.1**	**-1.6**
MAJO				*e*ScP	**ScP**	**23 30 10.2**	**-0.5**
MAJO	**Matsushiro**	**41.77**	**352**	*e*P	**P**	**23 24 31.1**	**-1.6**
NJ2	**Nanjing**	**44.28**	**328**	*e*P	**P**	**23 24 52.4**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PDSI	**Padang**	**44.28**	**274**	P	**P**	**23 24 53.6**	**+0.2**
	comp=Z,15nm,0.6s						
BKZ	**Black Stump Fm**	**44.58**	**144**	*e*P	**P**	**23 24 57.5**	**+2.1**
	comp=Z,25nm,1.3s						
KSRS	**Korea Array**	**45.03**	**341**	P	**P**	**23 24 58.2**	**-0.6**
	comp=Z,9.4nm,0.7s,baz=160,slow=9.0,SNR=22						
KSRS				LR	LR	23 41 40.1	
	comp=Z,104nm,19.8s,baz=78,slow=33						
KS15	**Wonju Array Si**	**45.03**	**341**	*e*P	**P**	**23 24 58.6**	**-0.3**
	comp=Z,13nm,0.8s						
RPZ	**Rata Peaks**	**45.04**	**153**	*e*P	**P**	**23 25 00.3**	**+1.3**
	comp=Z,37nm,0.9s						
RPZ	**Rata Peaks**	**45.04**	**153**	P	**P**	**23 25 00.1**	**+1.2**
	comp=Z,34nm,0.8s,baz=12,slow=1.3,SNR=13						
KULM	**Kulim**	**45.09**	**283**	*e*P	**P**	**23 24 59.4**	**-0.4**
	comp=Z,18nm,1.0s						
LBZ	**Lake Benmore**	**45.18**	**154**	*e*P	**P**	**23 25 01.9**	**+1.8**
	comp=Z,25nm,0.9s						
WHN	**Wuhan**	**45.70**	**323**	P	**P**	**23 25 07.6**	**+3.3**
SKNT	**Sakolnakorn**	**45.72**	**299**	P	**P**	**23 25 06.2**	**+1.5**
	comp=Z,20nm,0.6s						
PSI	**Prapat**	**46.31**	**279**	*e*P	**P**	**23 25 08.7**	**-0.9**
	comp=Z,38nm,1.0s						
PSI	**Prapat**	**46.31**	**279**	*e*P	**P**	**23 25 08.7**	**-0.9**
PSI				pmax	pmax		
	comp=Z,38nm,1.0s						
NONG	**Nongkai**	**46.90**	**300**	P	**P**	**23 25 15.5**	**+1.6**
	comp=Z,0.4nm,0.8s						
CHAI	**Chaiyaphum**	**47.04**	**297**	P	**P**	**23 25 16.6**	**+1.6**
	comp=Z,21μm,0.6s,comp=Z,832μm						
GSI	**Gunungsitoli**	**47.42**	**276**	*e*P	**P**	**23 25 16.3**	**-1.8**
	comp=Z,16nm,0.7s						
GSI	**Gunungsitoli**	**47.42**	**276**	P	**P**	**23 25 18.7**	**+0.6**
	comp=Z,24nm,1.4s						
PHET	**Kaeng Krachan**	**48.11**	**292**	P	**P**	**23 25 25.6**	**+2.2**
	comp=Z,29μm,0.7s						
ASAJ	**Asahikawa**	**48.94**	**358**	P	**P**	**23 25 29.1**	**-0.2**
	comp=Z,3.1nm,0.3s,baz=211,slow=13,SNR=5.4						
UTTA	**Uttaradit**	**49.02**	**299**	P	**P**	**23 25 32.2**	**+1.9**
	comp=Z,11μm,0.6s,comp=Z,180μm						
NANT	**Nan**	**49.31**	**300**	P	**P**	**23 25 34.3**	**+1.7**
	comp=Z,35μm,0.9s,comp=Z,607μm						
PHRA	**Phrae**	**49.60**	**299**	P	**P**	**23 25 36.5**	**+1.8**
	comp=Z,2.5nm,1.0s						
LAMP	**Lampang**	**50.13**	**299**	P	**P**	**23 25 41.7**	**+3.0**
	comp=Z,18μm,1.0s						
PAYA	**Payao**	**50.26**	**300**	P	**P**	**23 25 41.1**	**+1.4**
	comp=Z,47μm,0.6s,comp=Z,562μm						
USRK	**Ussuriysk Ar.**	**50.29**	**348**	P	**P**	**23 25 39.4**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=191,slow=9.1,SNR=10						
KMI	**Kunming**	**50.53**	**308**	P	**P**	**23 25 43.1**	**+1.2**
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
CM31	**Chiang Mai Arr**	**50.70**	**299**	*e*P	**P**	**23 25 42.3**	**-0.8**
	comp=Z,40nm,1.4s						
CMAR	**Chiang Mai Arr**	**50.70**	**299**	P	**P**	**23 25 44.2**	**+1.1**
	comp=Z,6.6nm,0.6s,baz=119,slow=6.1,SNR=25						
CMMT	**Chiang Mai**	**50.84**	**299**	P	**P**	**23 25 46.1**	**+2.0**
	comp=Z,5.1nm,1.2s						
CHTO	**Chiang Mai**	**50.84**	**299**	*e*P	**P**	**23 25 43.0**	**-1.1**
	comp=Z,9.5nm,1.1s						
CHTO	**Chiang Mai**	**50.84**	**299**	*e*P	**P**	**23 25 43.0**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
XAN	**Xi'an**	**51.44**	**322**	P	**P**	**23 25 47.5**	**-0.9**
XAN				pP	pP	23 26 09.1	+0.4
XAN				sP	sP	23 26 19.8	+1.9
XAN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,51nm,4.7s						
XAN	**Xi'an**	**51.44**	**322**	*e*P	**P**	**23 25 45.8**	**-2.6**
	comp=Z,8.7nm,1.0s						
XAN	**Xi'an**	**51.44**	**322**	*e*P	**P**	**23 25 45.8**	**-2.6**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**51.77**	**358**	*e*P	**P**	**23 25 51.2**	**+0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2	**Chengdu**	**52.90**	**315**	P	**P**	**23 25 59.4**	**+0.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
HHC	**Hu-ho-hao-te**	**54.77**	**330**	*e*P	**P**	**23 26 15.0**	**+2.2**
HHC				S	**S**	**23 33 50.5**	**+3.0**
HHC				ScS	**ScS**	**23 35 57.4**	**+2.8**
HHC				pmax	pmax		
	comp=Z,80nm,1.0s						
HHC				pmax	pmax		
	comp=Z,290nm,5.2s						
HHC				LR	LR		
	comp=Z,700nm,15.4s						
HHC				LR	LR		
	comp=Z,820nm,14.4s						
HHC				LR	LR		
	comp=Z,810nm,15.1s						
KLR	**Kul'dur**	**55.17**	**350**	*i* P	**P**	**23 26 14.9**	**-0.5**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LZH	**Lanzhou**	**55.94**	**320**	*e*P	**P**	**23 26 26.0**	**+4.6**
LZH				pP	pP	23 26 43.5	+1.5
LZH				sP	sP	23 26 48.3	-2.8
LZH				S	**S**	**23 34 08.0**	**+4.7**
LZH				pmax	pmax		
	comp=Z,30nm,1.1s						
LZH				pmax	pmax		
	comp=Z,100nm,5.2s						
LZH				LR	LR		
	comp=Z,180nm,12.7s						
LZH				LR	LR		
	comp=Z,240nm,15.2s						
LZH				LR	LR		
	comp=Z,280nm,16.5s						
NKL	**Nikolayevsk**	**58.04**	**357**	*e*P	**P**	**23 26 35.5**	**-0.1**
NKL				pmax	pmax		
	comp=Z,22nm,1.0s						
PETK	**Petropavlovsk-**	**58.95**	**9**	P	**P**	**23 26 42.6**	**+0.6**
	comp=Z,9.1nm,0.7s,baz=168,slow=4.5,SNR=21						
PEA1	**Petropavlovsk-**	**58.96**	**9**	*e*P	**P**	**23 26 42.6**	**+0.6**
SHL	**Shillong**	**59.50**	**303**	*e*P	**P**	**23 26 48.0**	**+1.4**
GTA	**Gaotai**	**60.49**	**321**	*e*P	**P**	**23 26 50.8**	**-2.2**
GTA				pP	pP	23 27 07.5	-6.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,32nm,5.6s						
GTA				LR	LR		
	comp=Z,75nm,19.6s						
GTA				LR	LR		
	comp=Z,150nm,21.0s						
ULN	**Ulaanbaatar**	**62.13**	**332**	*e*P	**P**	**23 27 03.0**	**-1.0**
	comp=Z,3.8nm,0.7s						
ULN				*e*PP	PP	23 29 12.8	-8.9
ULN	**Ulaanbaatar**	**62.13**	**332**	*ce*P	**P**	**23 27 04.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**62.41**	**332**	*e*P	**P**	**23 27 08.5**	**+2.7**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**62.41**	**332**	P	**P**	**23 27 06.5**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=153,slow=7.0,SNR=5.0						
RAMN	**Ramite**	**64.42**	**303**	*e*P	**P**	**23 27 20.3**	**+0.7**
	comp=Z,22nm,0.5s						
MA2	**Magadan**	**64.57**	**3**	*ce*P	**P**	**23 27 19.5**	**-0.1**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MA2	**Magadan**	**64.57**	**3**	P	**P**	**23 27 19.2**	**-

MKAR	**Makanchi Array**	75.24	321	P	P	23 28 25.4	0.0
	comp=Z,4.3nm,0.5s,baz=103,slow=7.4,SNR=52						
MAKZ	**Makanchi**	75.44	321	*e*P	P	23 28 26.5	0.0
	comp=Z,8.2nm,0.7s						
MAKZ	**Makanchi**	75.44	321	*e*P	P	23 28 26.5	0.0
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PDGK	**Podgornoye**	75.74	317	*i* P	P	23 28 28.2	-0.2
PDGK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ZALV	**Zalesovo Beam**	76.93	328	P	P	23 28 33.9	-0.8
	comp=Z,3.8nm,0.6s,baz=109,slow=5.2,SNR=18						
KSH	**Kashi**	76.97	312	P	P	23 28 37.1	+1.6
KSH				PP	PP	23 31 33.0	+3.2
KSH				S	S	23 38 16.6	-0.9
KSH				SS	SS	23 43 23.4	+7.3
KSH				pmax	pmax		
	comp=Z,170nm,5.6s						
KSH				LR	LR		
	comp=Z,270nm,10.1s						
KSH				LR	LR		
	comp=Z,230nm,10.8s						
KSH				LR	LR		
	comp=Z,280nm,6.6s						
TIXI	**Tiksi**	77.21	355	*e*P	P	23 28 35.7	-0.2
	comp=Z,3.1nm,0.8s						
TIXI	**Tiksi**	77.21	355	*ce*P	P	23 28 36.3	+0.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NIL	**Nilore**	77.44	306	*e*P	P	23 28 38.0	-0.1
	comp=Z,19nm,0.6s						
NIL	**Nilore**	77.44	306	*e*P	P	23 28 38.0	-0.1
NIL				pmax	pmax		
	comp=Z,19nm,0.6s						
NVS	**Novosibirsk**	78.16	329	*e*P	P	23 28 38.9	-2.7
KZA	**Kyzart**	78.27	315	P	P	23 28 44.1	+1.1
	SNR=25						
TKM2	**Tokmak 2**	78.29	316	P	P	23 28 43.1	+0.3
	SNR=13						
TKM2	**Tokmak 2**	78.29	316	*i* P	P	23 28 42.8	0.0
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.4s						
UCH	**Uchtor**	78.84	315	P	P	23 28 47.3	+1.1
	SNR=14						
AAK	**Ala-Archa**	78.97	315	*e*P	P	23 28 47.1	+0.6
	comp=Z,3.3nm,0.6s						
AAK	**Ala-Archa**	78.97	315	*ce*P	P	23 28 47.8	+1.2
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	79.02	324	*e*P	P	23 28 45.8	-0.6
	comp=Z,8.3nm,1.1s						
KURK				*e*PP	PP	23 31 37.3	-9.2
KURK	**Kurchatov**	79.02	324	*ce*P	P	23 28 46.6	+0.2
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
USP	**Ospenovka**	79.16	316	P	P	23 28 47.9	+0.5
	SNR=8.5						
AML	**Almayashu**	79.39	314	P	P	23 28 50.1	+1.0
	SNR=15						
EKS2	**Erkin-Say**	79.49	315	P	P	23 28 49.9	+0.6
	SNR=13						
KBL	**Kabul**	81.04	306	*e*P	P	23 28 56.7	-1.2
	comp=Z,3.1nm,0.6s						
KBL	**Kabul**	81.04	306	*e*P	P	23 28 56.7	-1.2
KBL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OTUK	**Ortayu**	82.06	320	*i* P	P	23 29 02.6	-0.2
OTUK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAW	**Mawson**	82.24	203	*e*P	P	23 29 03.5	+0.2
	comp=Z,3.0nm,0.8s						
MAW	**Mawson**	82.24	203	P	P	23 29 04.3	+1.1
	baz=82,SNR=7.6						
MAW	**Mawson**	82.24	203	*e*P	P	23 29 03.5	+0.2
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAW	**Mawson**	82.24	203	P	P	23 29 03.9	+0.6
	comp=Z,11nm,0.8s,baz=80,slow=7.6,SNR=14						
MAW				LR	LR	00 02 41.8	
	comp=Z,27nm,20.8s,baz=72,slow=33						
NRIK	**Noril'sk**	83.62	343	*e*P	P	23 29 10.8	+0.4
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NRIK	**Noril'sk**	83.62	343	P	P	23 29 10.5	+0.1
	comp=Z,6.1nm,0.7s,baz=115,slow=5.9,SNR=16						
BRVK	**Borovoye**	84.66	324	*e*P	P	23 29 15.2	-0.8
	comp=Z,8.5nm,0.9s						
BRVK	**Borovoye**	84.66	324	*de*P	P	23 29 16.5	+0.5
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
DIV	**Divide**	84.69	27	*e*P	P	23 29 15.1	-0.9
	comp=Z,7.7nm,0.8s						
QSPA	**South Pole Qui**	84.95	180	*e*P	P	23 29 18.0	+0.6
	comp=Z,21nm,0.6s						
CCB	**Clear Creek Bu**	85.11	24	*e*P	P	23 29 17.5	-0.4
	comp=Z,9.5nm,0.8s						
ILAR	**Eielson Array**	85.52	24	P	P	23 29 18.9	-1.1
	comp=Z,6.9nm,0.7s,baz=253,slow=5.2,SNR=83						
FYU	**Fort Yukon**	86.80	22	*e*P	P	23 29 25.0	-1.3
	comp=Z,4.6nm,0.7s						
AB31	**Akbulak array**	90.29	319	*i* P	P	23 29 42.0	-1.2
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GEYT	**Alibeck**	90.30	308	P	P	23 29 43.3	-0.2
	comp=Z,0.8nm,0.5s,baz=2.9,slow=5.9,SNR=3.6						
INK	**Inuvik**	91.61	22	*e*P	P	23 29 49.1	+0.3
	comp=Z,4.7nm,1.2s						
INK	**Inuvik**	91.61	22	*e*P	P	23 29 49.1	+0.3
INK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BBB	**Bella Bella**	92.24	38	LR	LR	00 01 56.6	
	comp=Z,75nm,21.3s,baz=277,slow=29						
NVAR	**Mina Array Bea**	98.63	52	LR	LR	00 06 17.5	
	comp=Z,79nm,21.3s,baz=260,slow=30						
YKA	**Yellowknife Ar**	99.40	28	*i* P	Pdif	23 30 28.0	+3.6
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	99.40	28	P	Pdif	23 30 24.9	+0.5
	comp=Z,0.2nm,0.5s,baz=276,slow=5.1,SNR=4.8						
KIV	**Kislovodsk**	102.06	314	*e*P	Pdif	23 30 37.0	+0.2
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GERES	**GERESS Array B**	119.75	325	*e*PKIKP	PKiKP	23 35 36.2	+3.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	119.75	325	PKP	PKPdf	23 35 31.9	-0.4
	comp=Z,0.8nm,0.7s,baz=92,slow=2.9,SNR=4.8						
MOTA	**Moosalm**	122.02	324	*e*PKiKP	PKiKP	23 35 37.6	+0.7
	comp=Z,3.2nm,0.8s						
FETA	**Feichten**	122.40	324	*i* PKiKP	PKiKP	23 35 38.4	+0.7
	comp=Z,0.4nm,0.3s						
PLCA	**Paso Flores**	124.22	148	*e*PKIKP	PKiKP	23 35 43.2	+1.8
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PLCA	**Paso Flores**	124.22	148	PKP	PKiKP	23 35 42.7	+1.3
	comp=Z,2.4nm,0.7s,baz=323,slow=3.6,SNR=3.4						
MOQ	**Mont Orford**	128.60	33	*e*PKPpre	PKPpre	23 35 39.9	
LPAZ	**La Paz**	141.30	124	*e*PKPdf	PKPdf	23 36 11.9	-2.5
LPAZ	**La Paz**	141.30	124	*e*PKIKP	PKPdf	23 36 11.4	-3.0
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ	**La Paz**	141.30	124	PKhKP	PKPpre	23 36 09.9	
	comp=Z,1.4nm,0.5s,baz=90,slow=3.9,SNR=5.4						
CPUP	**Villa Florida**	142.27	147	*e*PKPdf	PKPdf	23 36 13.8	-1.4
CPUP	**Villa Florida**	142.27	147	*e*PKIKP	PKPdf	23 36 13.8	-1.4
CPUP	**Villa Florida**	142.27	147	PKP	PKPdf	23 36 13.5	-1.7
	comp=Z,3.6nm,0.8s,baz=221,slow=10.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	142.55	285	PKhKP	PKPpre	23 36 11.0	
	comp=Z,1.4nm,0.7s,baz=75,slow=3.0,SNR=9.7						
TORD				PKP	PKPdf	23 36 17.0	+1.1
	comp=Z,1.2nm,0.5s,baz=84,slow=3.1,SNR=13						
TOA1	**Torodi Ar. Sit**	142.56	285	*e*PKPpre	PKPpre	23 36 11.0	
TOA1				*e*PKPdf	PKPdf	23 36 17.0	+1.1
SDV	**Santo Domingo**	144.80	82	*e*PKPdf	PKPdf	23 36 20.6	+0.5
HUMP	**Col San Antoni**	147.49	64	*e*PKPbc	PKPbc	23 36 25.8	-1.2
KIC	**Kosan Boka**	149.49	274	*e*PKP1	PKPbc	23 36 32.8	+0.5
	comp=Z,65nm,1.2s						
DBIC	**Dimbokro**	149.60	275	*e*PKPdf	PKPbc	23 36 31.4	-1.2
DBIC				*e*PKPbc	PKiKP	23 36 33.8	+0.2
DBIC	**Dimbokro**	149.60	275	PKPbc	PKiKP	23 36 33.6	+0.1
	comp=Z,10.0nm,0.7s,baz=86,slow=1.9,SNR=12						
TIC	**Toumodi**	149.76	275	*e*PKP1	PKiKP	23 36 33.7	-0.3
LIC	**Lamto**	149.78	274	*e*PKP1	PKPbc	23 36 32.1	-0.9
	comp=Z,93nm,1.1s						
BDFB	**Brasilia**	155.96	149	PKP	PKPdf	23 36 38.5	+1.2
	comp=Z,2.4nm,0.8s,baz=80,slow=7.6,SNR=3.6						
BDFB				PKPab	PKPab	23 37 05.8	+1.3
	comp=Z,2.5nm,0.6s,baz=44,slow=4.8,SNR=3.9						

*THE **15** 23:39:30.3, 33°.99N×24°.20E, h0km±1km, ML3.0/8, Error ellipse: s-maj=3.1km s-min=0.9km az=202.0*
*IDC **15** 23:39:31.0±1.5, 34°.23N×24°.53E, h0km, mb3.6/3, mb1 3.4/5, mb1mx3.3/48, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=55.3km s-min=23.4km az=133.0*
*ISCJB **15** 23:39:32.5±0.8, 34°.11N±0°.03×24°.37E±0°.04, h25km±7km, mb3.4/3, Error ellipse: s-maj=6.3km s-min=3.9km az=159.3*
*HLW **15** 23:39:32.3, 34°.37N×24°.35E, h33km±39km, Ml3.4*
*ATH **15** 23:39:35.7, 34°.37N×24°.33E, h36km±1km, ML2.9/7, Error ellipse: s-maj=3.0km s-min=1.2km az=1.0*

ISC 15 23:39:33.9±1.4, **34°.15N**±0°.04×**24°.32E**±0°.04, **h23**km±12km, **n59**, σ1**57**/86, **mb3.5**/3, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	0.72	345	P	**Pb**	23 39 46.5	-1.2
GVD				S	**Sn**	23 40 00.6	+1.7
GVD	**Gavdhos**	0.72	345	P	**Pb**	23 39 47.0	-0.7
GVD				S	**Sb**	23 39 54.7	-2.4
GVD				AML	AML	23 40 05.7	
	comp=N,3737μm,0.4s						
GVD				AML	AML	23 40 06.9	
	comp=E,5390μm,0.4s						
SIVA	**Sivas**	0.96	25	P	**Pn**	23 39 51.0	-1.0
SIVA				S	**Sn**	23 40 08.8	+3.9
SIVA	**Sivas**	0.96	25	P	**Pn**	23 39 51.0	-1.0
SIVA				S	**Sb**	23 40 02.0	-2.1
SIVA				AML	AML	23 40 14.2	
	comp=E,7093μm,0.6s						
SIVA				AML	AML	23 40 16.4	
	comp=N,5613μm,0.7s						
TMBK	**Timbaki Herakl**	0.99	22	P	**Pn**	23 39 52.0	-0.5
TMBK				S	**Sn**	23 40 09.3	+3.5
PRNS	**Prines Rethymn**	1.22	7	P	**Pn**	23 39 55.5	-0.1
PRNS				S	**Sb**	23 40 14.7	+3.0
VAM	**Vamos**	1.26	356	P	**Pn**	23 39 55.7	-0.4
VAM				S	**Sb**	23 40 16.6	+3.8
VAM	**Vamos**	1.26	356	P	**Pn**	23 39 55.7	-0.4
VAM				S	**Sn**	23 40 10.0	-2.4
VAM				AML	AML	23 40 25.1	
	comp=E,974μm,0.5s						
VAM				AML	AML	23 40 28.0	
	comp=N,866μm,0.7s						
IMMV	**Iera Moni Meta**	1.34	348	P	**Pn**	23 39 56.9	-0.3
IMMV				S	**Sb**	23 40 17.6	+2.5
IMMV	**Iera Moni Meta**	1.34	348	P	**Pn**	23 39 56.9	-0.3
IMMV				S	**Sn**	23 40 12.2	-2.2
IMMV				AML	AML	23 40 25.4	
	comp=E,1420μm,0.6s						
IMMV				AML	AML	23 40 26.4	
	comp=N,1145μm,0.7s						
LAST	**Lasithi**	1.39	43	P	**Pn**	23 39 58.2	+0.2
LAST				S	**Sb**	23 40 20.5	+3.8
LAST	**Lasithi**	1.39	43	P	**Pn**	23 39 58.3	+0.2
LAST				S	**Sn**	23 40 15.2	-0.6
LAST				AML	AML	23 40 31.1	
	comp=E,392μm,0.7s						
LAST				AML	AML	23 40 31.7	
	comp=N,354μm,1.1s						
NPS	**Neapolis**	1.54	43	P	**Pn**	23 40 00.6	+0.6
NPS				S	**Sb**	23 40 24.6	+3.7
NPS	**Neapolis**	1.54	43	P	**Pn**	23 40 00.6	+0.6
NPS				S	**Sn**	23 40 18.5	-0.8
NPS				AML	AML	23 40 27.6	
	comp=E,570μm,0.5s						
NPS				AML	AML	23 40 35.1	
	comp=N,512μm,0.7s						
STIA	**Sitia Lasithi**	1.80	54	P	**Pn**	23 40 04.8	+1.2
STIA				S	**Sb**	23 40 29.4	+1.1
ZKR	**Zakros**	1.84	58	P	**Pn**	23 40 05.2	+1.1
ZKR				S	**Sb**	23 40 31.5	+2.0
ZKR	**Zakros**	1.84	58	P	**Pn**	23 40 05.3	+1.1
ZKR				S	**Sn**	23 40 26.8	+0.1
ZKR				AML	AML	23 40 46.9	
	comp=E,269μm,0.8s						
ZKR				AML	AML	23 40 48.4	
	comp=N,153μm,0.5s						
ANKY	**Antikythira Is**	1.91	334	P	**Pn**	23 40 05.4	+0.3
ANKY				S	**Sb**	23 40 31.6	+0.2
ANKY	**Antikythira Is**	1.91	334	P	**Pn**	23 40 05.3	+0.3
ANKY				S	**Sn**	23 40 26.6	-1.7
KYTH	**Kithira**	2.35	334	P	**Pn**	23 40 11.4	+0.2
KYTH				S	**Sn**	23 40 41.5	+2.1
KYTH	**Kithira**	2.35	334	P	**Pn**	23 40 12.4	+1.1
KTHR	**Kythira**	2.37	333	P	**Pn**	23 40 10.4	-1.0
KTHR				S	**Sn**	23 40 42.1	+2.4
THR6	**Thira Island,**	2.38	22	P	**Pn**	23 40 11.0	-0.4
THR5	**Thira Island,**	2.42	20	P	**Pn**	23 40 12.7	+0.7
THR3	**Thira Island,**	2.42	21	P	**Pn**	23 40 11.7	-0.4
THR2	**Thira island,**	2.47	21	P	**Pn**	23 40 12.8	+0.1
ANAF	**Anafi Island**	2.51	28	P	**Pn**	23 40 13.2	-0.1
ANAF				S	**Sb**	23 40 47.6	-1.0
ANAF	**Anafi Island**	2.51	28	P	**Pn**	23 40 12.6	-0.7
KARP	**Karpathos**	2.72	58	P	**Pn**	23 40 17.6	+1.3
KARP				S	**Sb**	23 40 52.5	-2.4
KARP	**Karpathos**	2.72	58	P	**Pn**	23 40 17.5	+1.2
SLUM	**Salum**	2.75	164	P	**Pn**	23 40 17.7	+1.0
SLUM	baz=165						
SLUM				S	**Sn**	23 40 49.3	+0.1
	baz=165						
AMGA	**Amorgos Island**	2.97	25	P	**Pn**	23 40 18.9	-0.8
APE	**Apeiranthos**	3.08	18	P	**Pn**	23 40 19.5	-1.6
KRND	**KRANIDI**	3.37	344	P	**Pn**	23 40 24.0	-1.0
PYL	**PYLOS**	3.45	323	P	**Pn**	23 40 26.5	+0.2
DID	**Didima**	3.46	346	P	**Pn**	23 40 25.0	-1.5
DAT	**Datca**	3.70	45	*i* P	**Pn**	23 40 29.6	-0.3
ARG	**Arkhangelos**	3.74	55	P	**Pn**	23 40 30.5	+0.3
ARG	**Arkhangelos**	3.74	55	P	**Pn**	23 40 30.9	+0.7
DALY	**Dalyan (Mula)**	4.43	52	*i* P	**Pn**	23 40 40.3	+0.6
DALY				*i* S	**Sn**	23 41 28.8	-1.7
TURN	**Turunc**	4.43	51	*i* P	**Pn**	23 40 37.4	-2.3
TURN				*i* S	Sn	23 41 20.7	-10
FETY	**Fethiye**	4.62	56	*i* P	**Pn**	23 40 41.1	-1.3
FETY				*i* S	**Sn**	23 41 31.4	-3.8
AKAS	**Kas**	4.80	63	*i* P	**Pn**	23 40 45.6	+0.6
SWA2		4.99	168	P	**Pn**	23 40 47.6	+0.3
	baz=169						
SWA2				S	**Sn**	23 41 43.3	-0.9
	baz=169						
TAVA	**DENIZLI_Tavas**	4.99	47	*i* P	**Pn**	23 40 49.3	+1.8
AKUM	**Antalya-Kumluc**	5.39	65	*i* P	**Pn**	23 40 52.9	0.0
KORT	**Korkueli**	5.68	58	*i* P	**Pn**	23 40 55.5	-1.6
USAK	**Uak-Merkez**	5.93	38	*i* P	**Pn**	23 41 01.5	+1.2
KEPZ	**Antalya-Kepez**	6.55	63	*i* P	**Pn**	23 41 09.7	+0.9
HMYD	**Mayadein**	7.01	126	P	**Pn**	23 41 15.2	0.0
	baz=128						
HSAF	**As Saff**	7.63	124	P	**Pn**	23 41 23.4	-0.3
	baz=125						
KOT	**Kottamia**	7.64	121	P	**Pn**	23 41 23.8	-0.1
	baz=122						
GLL	**Jalalah**	7.76	124	P	**Pn**	23 41 24.9	-0.7
	baz=125						
HFRF	**Wahat Farafira**	7.78	153	P	**Pn**	23 41 25.7	0.0
	baz=153						
BRTR	**Keskin Array B**	9.31	51	Pn	**Pn**	23 41 46.0	-0.8
	comp=N,0.0nm,0.3s,baz=226,slow=13,SNR=2.6						
AKASG	**Malin Array Be**	16.93	11	Pn	**Pn**	23 43 27.9	-1.2
	comp=N,1.0nm,0.3s,baz=197,slow=10,SNR=4.4						
FINES	**FINESS Array B**	27.34	2	P	**P**	23 45 16.3	-0.5
	comp=N,1.0nm,0.9s,baz=169,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	29.31	230	P	**P**	23 45 37.0	+2.2
	comp=N,0.3nm,0.7s,baz=25,slow=8.6,SNR=3.3						
MKAR	**Makanchi Array**	44.91	56	P	**P**	23 47 45.9	-0.9
	comp=N,0.7nm,0.5s,baz=283,slow=6.5,SNR=12						

*JMA **15** 23:46:09.8±0.4, 23°.06N×120°.62E, h0km, M3.8*
*TAP **15** 23:46:12.7, 23°.02N×120°.79E, h3km, ML4.2, C*
*ISCJB **15** 23:46:13.8±0.2, 22°.98N±0°.01×120°.80E±0°.01, h6km±2km, Error ellipse: s-maj=2.1km s-min=1.8km az=137.1*
*BJI **15** 23:46:13.0±0.0, 23°.00N×120°.80E, h5km, ML3.8/2, Ms3.7/3, Ms7 3.7/3*

ISC 15 23:46:13.5±0.9, **23°.02N**±0°.01×**120°.79E**±0°.01, **h9**km±6km, **n128**, σ0°**87**/191, **21C-13D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGT	**Liugui**	0.13	259	⇑*i* P	**Pg**	23 46 16.2	-0.3
	baz=259						
SLGT				S	**Sg**	23 46 18.4	-0.2
	baz=259						
SGST	**Jiashian**	0.20	289	P	**Pg**	23 46 17.8	+0.2
	baz=294						
SGST				S	**Sg**	23 46 21.0	+0.6
	baz=294						
ELDTW	**Lidau**	0.27	51	⇑*i* P	**Pg**	23 46 18.8	-0.3
	baz=50						
ELDTW				S	**Sg**	23 46 22.5	-0.3
	baz=50						
WTP	**Ta-pu**	0.28	325	⇓*i* P	**Pg**	23 46 19.5	+0.4
	baz=324						
WTP				S	**Sg**	23 46 24.0	+1.1
	baz=324						
CHN1	**Nanshi**	0.29	305	*e*P	**Pg**	23 46 19.9	+0.6
	baz=309						
CHN1				S	**Sb**	23 46 25.1	-0.8
	baz=309						
SSD	**Sandimen**	0.30	208	⇑*i* P	**Pg**	23 46 19.3	-0.3
	baz=208						
SSD				S	**Sg**	23 46 23.1	-0.6
	baz=208						
TPUB	**Ta-pu**	0.32	333	⇓P	**Pg**	23 46 20.4	+0.5
	baz=331						
TPUB				S	**Sg**	23 46 24.9	+0.9
	baz=331						
TWG	**Pinlang**	0.33	127	⇓*i* P	**Pg**	23 46 20.3	+0.2
	baz=127						
TWG				*e*S	**Sg**	23 46 25.5	+1.0
	baz=127						
SNST	**Tainan City**	0.33	307	⇑P	**Pb**	23 46 21.2	-0.4
	baz=310						
SNST				*e*S	**Sb**	23 46 27.4	+0.3
	baz=310						
TWGBT	**Beinan**	0.34	126	⇓P	**Pg**	23 46 20.3	+0.1
	baz=127						
TWGBT				S	**Sg**	23 46 25.1	+0.4
	baz=127						
TWK	**Hsinying**	0.37	312	⇓*i* P	**Pb**	23 46 21.7	-0.6
	baz=312						
TWK				S	**Sb**	23 46 28.5	+0.4
	baz=312						
CHN4	**Tsaushan**	0.38	332	⇓*i* P	**Pb**	23 46 22.0	-0.4
	baz=345						
CHN4				S	**Sb**	23 46 28.6	+0.3
	baz=345						
TWM1	**Shoushan**	0.39	240	P	**Pb**	23 46 22.1	-0.4
	baz=238						
CHN3	**Shinhua**	0.39	279	P	**Pb**	23 46 23.5	+0.9
	baz=278						
SGLT	**Jiouru**	0.40	223	⇑P	**Pb**	23 46 22.4	-0.3
	baz=210						
TTN	**Taitung**	0.42	128	P	**Pb**	23 46 22.8	-0.4
	baz=129						
TTN				*e*S	**Sb**	23 46 29.7	0.0
	baz=129						
MASBT	**Mashibuluo**	0.43	199	⇑P	**Pg**	23 46 21.5	-0.4
	baz=208						
MASBT				*e*S	**Sg**	23 46 26.4	-1.2
	baz=208						
ECL	**Taimali**	0.45	160	*e*P	**Pg**	23 46 22.2	-0.1
	baz=147						
ECL				*e*S	**Sg**	23 46 27.9	-0.3
	baz=147						
ALS	**Alishan**	0.49	2	⇑*i* P	**Pg**	23 46 23.3	+0.1
	baz=1.0						
ALS				S	**Sg**	23 46 30.4	+0.7
	baz=1.0						
SNJT	**Kaohsiung City**	0.49	238	*e*P	**Pn**	23 46 26.1	-0.6
	baz=224						
TAI1	**Yung-k'ang**	0.51	273	*e*P	**Pn**	23 46 26.4	-0.6
	baz=273						
TAI1				*e*S	**Sn**	23 46 36.7	+0.9
	baz=273						
CHKT	**Chengkung**	0.54	81	⇑P	**Pb**	23 46 24.7	-0.4
	baz=80						
CHKT				*e*S	**Sb**	23 46 33.7	+0.7
	baz=80						
SCLT	**Jiali**	0.57	286	*e*P	**Pb**	23 46 26.5	+0.9
	baz=305						
SCLT				*e*S	**Sn**	23 46 37.1	-0.1
	baz=305						
SSPT	**Xinbi**	0.57	201	⇑P	**Pg**	23 46 24.5	0.0
	baz=189						
TWF1	**Yuli**	0.58	55	⇑*i* P	**Pg**	23 46 24.5	-0.3
	baz=53						
TWF1				*e*S	**Sg**	23 46 31.1	-1.2
	baz=53						
CHY	**Chiayi**	0.58	325	*e*P	**Pb**	23 46 25.7	-0.2
	baz=325						
CHY				*e*S	**Sn**	23 46 36.0	-1.6
	baz=325						
CHN5	**Tsauling**	0.58	350	⇓P	**Pb**	23 46 25.4	-0.6
	baz=359						
CHN5				*e*S	**Sb**	23 46 34.4	0.0
	baz=359						
YULB	**Yu-li**	0.60	52	⇑P	**Pg**	23 46 24.6	-0.5
	baz=52						
CHN8	**Yiju**	0.62	302	*e*P	**Pb**	23 46 26.6	+0.1
	baz=320						
CHN8				*e*S	**Sn**	23 46 38.0	-0.6
	baz=320						
KAU	**Kaohsiung**	0.63	225	*e*P	**Pn**	23 46 27.7	-0.9
	baz=211						
EAST	**Anshuo**	0.64	175	⇑P	**Pg**	23 46 25.7	-0.1
	baz=161						
WLGB	**Puzi**	0.64	316	P	**Pb**	23 46 27.1	+0.3
	baz=316						
WLGB				S	**Sn**	23 46 38.0	-1.0
	baz=316						
SCZT	**Fangliau**	0.66	193	⇑*i* P	**Pg**	23 46 25.9	-0.4
	baz=192						
TAW	**Tawu**	0.67	171	*e*P	**Pg**	23 46 26.4	+0.1
	baz=158						
WHYT	**Xinyi Township**	0.68	5	*e*P	**Pg**	23 46 26.6	-0.1
	baz=6.0						
EHY	**Hungye**	0.69	45	*e*P	**Pg**	23 46 25.9	-1.0
	baz=

WTCT	**Ta-ch'eng**	**0.96**	**331**	*e*P		**Pn**	**23 46 33.1**	**-0.1**
	baz=332							
WTCT				*e*S		**Sn**	**23 46 46.8**	**-0.1**
	baz=332							
ESL	**Shilin**	**0.99**	**37**	*e*P		**Pg**	**23 46 31.6**	**-1.0**
	baz=24							
ESL				*e*S		**Sb**	**23 46 46.4**	**+0.4**
	baz=24							
OWD	**Renai**	**1.00**	**21**	*e*P		**Pg**	**23 46 31.1**	**-1.7**
	baz=34							
HEN	**Hengchun**	**1.01**	**182**	*e*P		**Pn**	**23 46 34.5**	**+0.7**
	baz=181							
DPDB	**Guoxing**	**1.02**	**7**	⇑P		**Pg**	**23 46 33.0**	**-0.1**
	baz=6.0							
DPDB				*e*S		**Sn**	**23 46 48.5**	**-0.1**
	baz=6.0							
WDGT	**Dungji**	**1.06**	**283**	⇓P		**Pb**	**23 46 34.0**	**-0.1**
	baz=285							
WDGT				S		**Sn**	**23 46 49.2**	**-0.3**
	baz=285							
TWK1	**Hengchun**	**1.07**	**179**	*e*P		**Pn**	**23 46 34.8**	**+0.1**
	baz=177							
TWKBT	**Hengchun**	**1.07**	**179**	*e*P		**Pg**	**23 46 34.0**	**-0.2**
	baz=171							
TWKBT				*e*S		**Sn**	**23 46 51.4**	**+1.7**
	baz=171							
WCHH	**Zhanghua**	**1.08**	**349**	*e*P		**Pn**	**23 46 35.0**	**+0.2**
	baz=351							
CHGB	**Renai**	**1.10**	**19**	⇑P		**Pg**	**23 46 33.5**	**-1.2**
	baz=17							
CHGB				*e*S		**Sn**	**23 46 51.0**	**+0.4**
	baz=17							
TSEB	**Hengchuen, Pin**	**1.12**	**175**	*e*P		**Pn**	**23 46 36.5**	**+1.2**
	baz=175							
ENLB	**Shoufeng**	**1.16**	**40**	*e*P		**Pg**	**23 46 33.9**	**-1.8**
	baz=27							
ENLB				S		**Sn**	**23 46 53.5**	**+1.6**
	baz=27							
LAY	**Lan-yu**	**1.21**	**144**	*e*P		**Pb**	**23 46 36.4**	**-0.1**
	baz=143							
WHF	**Hehuan Shan**	**1.21**	**21**	⇓P		**Pg**	**23 46 35.7**	**-1.0**
	baz=32							
HWA	**Hwalien**	**1.22**	**38**	*e*P		**Pb**	**23 46 35.5**	**-1.2**
	baz=52							
PHUB	**P'eng-hu**	**1.22**	**294**	⇓P		**Pb**	**23 46 35.9**	**-0.8**
	baz=295							
PHUB				S		**Sg**	**23 46 52.8**	**0.0**
	baz=295							
PNG	**Penghu**	**1.26**	**296**	⇓*i*P		**Pn**	**23 46 36.7**	**-0.5**
	baz=297							
PNG				S		**Sg**	**23 46 54.0**	**0.0**
	baz=297							
VCHM	**Qimei**	**1.26**	**279**	*e*P		**Pn**	**23 46 36.5**	**-0.8**
	baz=295							
WHP	**Taichung City**	**1.26**	**7**	*e*P		**Pg**	**23 46 37.8**	**0.0**
	baz=18							
WHP				S		**Sn**	**23 46 56.4**	**+1.8**
	baz=18							
TDCB	**Techi**	**1.28**	**15**	P		**Pn**	**23 46 37.0**	**-0.7**
	baz=27							
TDCB				*e*S		**Sn**	**23 46 55.4**	**+0.4**
	baz=27							
TWD	**Chiawan**	**1.29**	**35**	*e*P		**Pn**	**23 46 37.7**	**0.0**
	baz=33							
TWD				*e*S		**Sn**	**23 46 56.9**	**+1.7**
	baz=33							
WDJ	**Dajia District**	**1.33**	**354**	*e*P		**Pg**	**23 46 39.3**	**+0.2**
	baz=342							
WDJ				*e*S		**Sg**	**23 46 59.2**	**+2.8**
	baz=342							
ETLH	**Xiulin Townshi**	**1.34**	**28**	*e*P		**Pn**	**23 46 38.0**	**-0.6**
	baz=31							
NACB	**Ninganchiao**	**1.37**	**33**	P		**Pn**	**23 46 38.0**	**-0.8**
	baz=47							
NACB				*e*S		**Sg**	**23 46 58.8**	**+1.2**
	baz=47							
NSY	**Sanyi**	**1.39**	**359**	*e*P		**Pg**	**23 46 40.5**	**+0.2**
	baz=347							
NSY				*e*S		**Sg**	**23 47 00.5**	**+2.2**
	baz=347							
NNSB	**Datong**	**1.51**	**21**	*e*P		**Pn**	**23 46 40.7**	**-0.1**
	baz=29							
NNSB				S		**Sg**	**23 47 03.4**	**+1.4**
	baz=29							
NMLH	**Miaoli**	**1.51**	**0**	*e*P		**Pg**	**23 46 42.2**	**-0.3**
	baz=341							
NNS	**Nan Shan**	**1.52**	**21**	*e*P		**Pn**	**23 46 41.0**	**0.0**
	baz=29							
NNS				*e*S		**Sg**	**23 47 04.2**	**+1.9**
	baz=29							
NSTT	**Nanjuang**	**1.62**	**7**	*e*P		**Pn**	**23 46 42.7**	**+0.4**
	baz=349							
LIOB	**Emei**	**1.63**	**7**	*e*P		**Pn**	**23 46 42.9**	**+0.4**
	baz=349							
ENA	**Nanau**	**1.66**	**32**	*e*P		**Pb**	**23 46 43.4**	**-0.8**
	baz=49							
NDT	**Datong Townshi**	**1.71**	**23**	*e*P		**Pb**	**23 46 45.1**	**-0.1**
	baz=36							
YHNB	**Yeheng**	**1.73**	**18**	*e*P		**Pb**	**23 46 44.7**	**-0.8**
	baz=28							
YHNB				*e*S		**Sg**	**23 47 09.7**	**+0.5**
	baz=28							
NSK	**Sanguang**	**1.73**	**18**	*e*P		**Pb**	**23 46 45.2**	**-0.4**
	baz=27							
NSK				*e*S		**Sg**	**23 47 09.7**	**+0.4**
	baz=27							
ENTT	**Nioudou**	**1.77**	**24**	*e*P		**Pb**	**23 46 46.0**	**-0.1**
	baz=23							
ENTT				*e*S		**Sg**	**23 47 11.6**	**+1.2**
	baz=23							
SBCB	**Hsinchu**	**1.78**	**6**	*e*P		**Pg**	**23 46 46.8**	**-0.8**
	baz=347							
HSN	**Hsinchu**	**1.78**	**5**	*e*P		**Pb**	**23 46 46.8**	**+0.5**
	baz=348							
TWC	**Suao**	**1.86**	**31**	P		**Pb**	**23 46 47.1**	**-0.5**
	baz=29							
TWC				*e*S		**Sb**	**23 47 11.3**	**+0.3**
	baz=29							
NWLT	**Wulai**	**1.87**	**20**	*e*P		**Pb**	**23 46 47.4**	**-0.5**
	baz=23							
WLTB	**Daxi**	**1.88**	**13**	*e*P		**Pg**	**23 46 50.0**	**+0.5**
	baz=16							
TWE	**Neicheng**	**1.88**	**25**	⇓P		**Pb**	**23 46 48.5**	**+0.5**
	baz=38							
TWE				S		**Sg**	**23 47 14.1**	**+0.2**
	baz=38							
EOS1	**EOS1**	**1.96**	**39**	*e*P		**Pb**	**23 46 49.1**	**-0.2**
	baz=59							
NHDH	**Xindian Distri**	**2.05**	**19**	*e*P		**Pg**	**23 46 51.8**	**-1.0**
	baz=22							
TATO	**Taipei**	**2.05**	**18**	*e*P		**Pb**	**23 46 51.2**	**+0.2**
	baz=22							
NTC	**Toucheng**	**2.06**	**27**	*e*P		**Pb**	**23 46 50.6**	**-0.5**
	baz=46							
EGS		**2.10**	**30**	*e*P		**Pb**	**23 46 51.0**	**-0.7**
	baz=47							
TWS1	**Kuangyinshan**	**2.15**	**15**	*e*P		**Pb**	**23 46 52.3**	**-0.4**
	baz=19							
TIPB	**Shuangxi**	**2.17**	**26**	*e*P		**Pb**	**23 46 52.5**	**-0.5**
	baz=39							
TIPB				*e*S		**Sb**	**23 47 20.1**	**+0.2**
	baz=39							
WFSB	**Wu-fen Shan**	**2.24**	**24**	*e*P		**Pb**	**23 46 53.2**	**-0.9**
	baz=45							
YM01	**YM01**	**2.24**	**19**	*e*P		**Pb**	**23 46 53.5**	**-0.7**
	baz=22							
YM10	**YM10**	**2.24**	**18**	*e*P		**Pn**	**23 46 52.5**	**+1.6**
	baz=31							
YM11	**YM11**	**2.26**	**18**	*e*P		**Pb**	**23 46 54.0**	**-0.5**
	baz=22							
TWB1	**Santiao Chiao**	**2.27**	**29**	*e*P		**Pb**	**23 46 54.0**	**-0.6**
	baz=45							
YM07	**YM07**	**2.28**	**19**	*e*P		**Pb**	**23 46 54.5**	**-0.4**
	baz=23							
TWY	**Chenhua**	**2.37**	**18**	*e*P		**Pb**	**23 46 56.5**	**+0.2**
	baz=22							
JYNG	**Yonagunijimaku**	**2.44**	**54**	P		**Pn**	**23 46 53.6**	**+0.1**
JYNG				*e*S		**Sb**	**23 47 25.8**	**-1.9**
YOJ	**Yonaguni jima**	**2.50**	**54**	*e*P		**Pn**	**23 46 53.4**	**-0.9**
	baz=56							
YOJ	**Yonaguni jima**	**2.50**	**54**	P		**Pn**	**23 46 54.4**	**+0.1**
YOJ				*e*S		**Sb**	**23 47 27.2**	**-2.1**
PTMZ	**Houxiangcun**	**2.52**	**323**	*e*P		**Pn**	**23 46 54.2**	**-0.5**
	baz=324							
KNM	**Kinmen**	**2.57**	**303**	*e*P		**Pn**	**23 46 56.4**	**+1.1**
	baz=302							
KNMB	**Chin-men Tao**	**2.63**	**304**	*e*P		**Pn**	**23 46 56.1**	**0.0**
	baz=304							
PTTC	**Pingtan**	**2.64**	**340**	*e*P		**Pn**	**23 46 56.4**	**+0.2**
	baz=340							
QZH	**Quanzhou**	**2.77**	**314**	Pn		**Pn**	**23 46 57.9**	**-0.2**
QZH				Sn		**Sn**	**23 47 29.4**	**-2.3**
PCYT	**Pengchaiyu**	**2.85**	**24**	*e*P		**Pb**	**23 47 02.5**	**-2.1**
	baz=43							
ZPLA	**Ao Xicun**	**2.93**	**289**	*e*P		**Pn**	**23 47 00.1**	**-0.1**
	baz=289							
HATJ	**Hateruma jima**	**2.96**	**69**	P		**Pn**	**23 47 01.7**	**+1.1**
HATJ				*e*S		**Sn**	**23 47 35.3**	**-1.0**
IRIF	**Iriomote-Funau**	**3.00**	**64**	P		**Pn**	**23 47 01.9**	**+0.7**
IRIF				*e*S		**Sn**	**23 47 39.1**	**+1.8**
AXDP	**Jialang**	**3.18**	**307**	*e*P		**Pn**	**23 47 03.2**	**-0.6**
	baz=309							
JKRS	**Kuro-shima**	**3.20**	**67**	P		**Pn**	**23 47 05.9**	**+2.0**
JKRS				*e*S		**Sn**	**23 47 45.0**	**+2.9**
MATB	**Ma-tsu**	**3.21**	**346**	*e*P		**Pn**	**23 47 03.5**	**-0.6**
	baz=346							
ZZJH	**Jiuhuzhen**	**3.23**	**297**	*e*P		**Pn**	**23 47 04.0**	**-0.4**
	baz=298							
JIJ	**Ishigaki jima**	**3.36**	**66**	P		**Pn**	**23 47 06.0**	**-0.1**
JIJ				*e*S		**Sn**	**23 47 45.5**	**-0.6**
MHZQ	**Yeshan**	**3.46**	**333**	*e*P		**Pn**	**23 47 07.7**	**+0.1**
	baz=333							
JISG	**Ishigakijimahi**	**3.59**	**63**	P		**Pn**	**23 47 07.3**	**-2.0**
LYJJ	**Jianjiangzhen**	**3.64**	**345**	*e*P		**Pn**	**23 47 10.0**	**0.0**
	baz=344							
XPSS	**Dashiqiu**	**3.93**	**352**	*e*P		**Pn**	**23 47 14.5**	**+0.5**
	baz=350							
JTJ	**Tarama**	**3.93**	**65**	*e*S		**Sn**	**23 48 02.4**	**+2.1**

NIED ***15*** *23:46:00, 40.°40N×141.°90E, h5km, Mw4.6 Best double couple: M0=9.40000×10^15 NP1:φ=275.00000°, δ38.00000°, λ-90.00000°. NP2:φ=94.00000°, δ52.00000°, λ-90.00000°.*
BJI ***15*** *23:46:25.8±0.0, 40.°20N×142.°17E, h27km, mb5.0/51, mB4.9/34, Ms4.3/44, Ms7 4.1/43*
IDC ***15*** *23:46:26.1±0.4, 40.°32N×141.°82E, h0km, mb4.7/36, mb1 4.8/42, mb1mx4.8/51, mbtmp4.7/42, ML3.7/6, MS3.8/29, Ms1 3.9/29, ms1mx3.7/56, Error ellipse: s-maj=12.2km s-min=8.7km az=110.0*
ISCJB ***15*** *23:46:28.5±0.3, 40.°36N±0.°01×141.°87E±0.°02, h23km±2km, mb5.0/186, MS4.1/45, Error ellipse: s-maj=2.9km s-min=2.2km az=38.5*
JMA ***15*** *23:46:28.4, 40.°34N×141.°93E, h12km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φ=95.00000°, δ60.00000°, λ-96.00000°. NP2:φ=286.00000°, δ30.00000°, λ-80.00000°. Principal axes: T Plg15.0000°, Azm189.0000°; N Plg5.0000°, Azm98.0000°; P Plg74.0000°, Azm350.0000°;*
JMA Felt IV J1.
MOS ***15*** *23:46:30.9±0.9, 40.°37N×141.°87E, h43km, mb5.3/78 Error ellipse: s-maj=6.7km s-min=3.7km az=108.1*
NEIC ***15*** *23:46:32.6±0.6, 40.°41N×141.°83E, h45km±5km, mb4.9/63, Error ellipse: s-maj=6.6km s-min=4.4km az=125.0*
NEIC Felt at Misawa and Morioka. Recorded [4 JMA] in Aomori and Iwate.

ISC 15 23:46:28.9±0.6, 40.°36N±0.°02×141.°93E±0.°03, h19km±2km, n813, σ1°23/850, mb5.1/192, MS4.1/45, 56C-47D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.23**	**227**	P		**Pb**	**23 46 33.2**	**-0.7**
JKEN				*e*S		**Sb**	**23 46 36.6**	**-0.6**
JANG	**Nango**	**0.31**	**273**	⇑P		**Pg**	**23 46 34.7**	**-1.0**
JANG				*e*S		**Sg**	**23 46 38.8**	**-1.6**
JTH	**Tanohata**	**0.42**	**187**	⇑P		**Pg**	**23 46 36.5**	**-1.1**
JTH				S		**Sg**	**23 46 42.1**	**-1.3**
JKZ	**Kuzumaki**	**0.59**	**231**	⇑P		**Pb**	**23 46 39.6**	**-0.9**
JKZ				S		**Sb**	**23 46 47.6**	**-0.8**
JARK	**Aomorirokkasho**	**0.78**	**327**	P		**Pb**	**23 46 42.9**	**-0.9**
JARK				*e*S		**Sb**	**23 46 53.6**	**-0.3**
JTM	**Tenmabayashi**	**0.78**	**304**	⇑P		**Pb**	**23 46 43.4**	**-0.5**
JTM				*e*S		**Sb**	**23 46 53.8**	**-0.3**
MIYJ	**Miyakonagasawa**	**0.79**	**186**	⇑P		**Pb**	**23 46 42.6**	**-1.3**
JSZI	**Iwateshizukuis**	**0.97**	**231**	⇑P		**Pb**	**23 46 46.8**	**-0.2**
JSZI				S		**Sb**	**23 46 59.7**	**+0.3**
JAH	**Hinai**	**1.00**	**261**	⇑P		**Pb**	**23 46 47.0**	**-0.6**
JAH				S		**Sb**	**23 47 00.1**	**-0.3**
JOM	**Ohasama**	**1.01**	**209**	⇑P		**Pb**	**23 46 46.6**	**-1.1**
JOM				S		**Sb**	**23 46 59.4**	**-1.2**
JAHD	**Aomorihigashid**	**1.01**	**334**	⇑P		**Pb**	**23 46 46.6**	**-1.2**
JOT	**Ohata**	**1.22**	**327**	⇓P		**Pn**	**23 46 50.2**	**-0.7**
JOT				S		**Sb**	**23 47 06.4**	**-0.3**
JHHS	**Hirosakihyakuz**	**1.23**	**284**	P		**Pn**	**23 46 51.1**	**0.0**
OFUJ	**Ofunato**	**1.29**	**189**	⇑P		**Pn**	**23 46 50.6**	**-1.3**
OFUJ				S		**Sn**	**23 47 07.4**	**-1.2**
JSI2	**Shiura 2**	**1.35**	**302**	⇓P		**Pn**	**23 46 52.6**	**0.0**
JNTW	**Noshirotokiwa**	**1.35**	**267**	P		**Pn**	**23 46 53.2**	**+0.5**
JRG	**Rokugo**	**1.38**	**226**	⇑P		**Pn**	**23 46 53.2**	**+0.1**
JIW	**Iwasaki**	**1.48**	**280**	⇓P		**Pn**	**23 46 55.0**	**+0.5**
JMK	**Ichinoseki**	**1.51**	**201**	⇑P		**Pn**	**23 46 54.4**	**-0.4**
JYW	**Yuwa**	**1.55**	**239**	⇓P		**Pb**	**23 46 56.4**	**-0.6**
JKMT	**Kesennumamotoy**	**1.58**	**193**	P		**Pn**	**23 46 55.4**	**-0.5**
JSR	**Shiriuchi**	**1.64**	**316**	⇓P		**Pn**	**23 46 56.9**	**+0.3**
JKB	**Kayabe**	**1.67**	**336**	⇓P		**Pn**	**23 46 56.6**	**-0.5**
JYK	**Kaneyama**	**1.88**	**221**	⇑P		**Pn**	**23 47 00.4**	**+0.4**
ERM	**Erimo**	**1.90**	**29**	*e*Pn		**Pn**	**23 47 00.3**	**0.0**
ERM				*e*Sn		**Sn**	**23 47 22.2**	**-1.4**
ERM	**Erimo**	**1.90**	**29**	*ce*P		**Pn**	**23 47 01.1**	**+0.9**
ERM				pmax	pmax			
	comp=Z,298nm,0.8s							
JIO	**Ouri**	**1.95**	**193**	⇑P		**Pn**	**23 47 00.6**	**-0.4**
JIO				S		**Sn**	**23 47 24.9**	**0.0**
JYM2	**Yakumo 2**	**2.11**	**327**	⇓P		**Pn**	**23 47 03.5**	**+0.3**
JTB	**Tobi-shima**	**2.16**	**238**	P		**Pn**	**23 47 04.1**	**+0.2**
JOG3	**Oga3**	**2.23**	**260**	P		Pn	23 46 57.7	-7.0
JOSM	**Okushiri--Mats**	**2.53**	**314**	⇓P		**Pn**	**23 47 08.8**	**-0.1**
JOB	**Onbets**	**2.92**	**29**	⇓P		**Pn**	**23 47 14.9**	**+0.7**
JAR	**Ashorobuto**	**3.24**	**25**	⇓P		**Pn**	**23 47 18.8**	**+0.1**
JKK2	**Kamakawa 2**	**3.56**	**10**	P		**Pn**	**23 47 24.7**	**+1.5**
JSD	**Sado**	**3.67**	**232**	P		**Pn**	**23 47 25.6**	**+1.0**
ASAJ	**Asahikawa**	**3.79**	**7**	Pn		**Pn**	**23 47 27.7**	**+1.4**
	comp=Z,18nm,0.3s,baz=224,slow=16,SNR=39							
ASAJ				Sn		**Sn**	**23 48 13.9**	**+3.6**
	comp=Z,32nm,0.3s,baz=5.8,slow=26,SNR=7.5							
ASAJ				LR	LR		23 49 26.1	
	comp=Z,2μm,18.4s,baz=186,slow=47							
JNK	**Nakash**	**3.84**	**32**	⇓P		**Pn**	**23 47 26.0**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**4.70**	**37**	*e*P		**Pn**	**23 47 38.1**	**-0.6**
YUK				*i* S		**Sn**	**23 48 30.5**	**-2.1**
YUK				pmax	pmax			
	comp=N,292nm,0.5s							
YUK				pmax	pmax			
	comp=Z,404nm,0.5s							
YUK				pmax	pmax			
	comp=E,151nm,0.2s							
YUK				smax	smax			
	comp=N,1μm,0.4s							
YUK				smax	smax			
	comp=E,207nm,0.2s							
MJB9	**Matsu-Tunnel**	**4.80**	**219**	*e*Pn		**Pn**	**23 47 42.8**	**+2.6**
MJB9				*e*Sn		Sn	23 48 24.4	-11
MAJO	**Matsushiro**	**4.80**	**219**	*e*Pn		**Pn**	**23 47 42.6**	**+2.4**
MAJO				*e*Sn		Sn	23 48 24.8	-10
MAJO	**Matsushiro**	**4.80**	**219**	*e*P		**Pn**	**23 47 42.6**	**+2.4**
MAT	**Matsushiro**	**4.80**	**219**	P		**Pn**	**23 47 42.3**	**+2.2**
MAT				S		**Sn**	**23 48 38.3**	**+3.1**
MJAR	**Matsushiro Arr**	**4.80**	**219**	*e*Pn		**Pn**	**23 47 42.4**	**+2.3**
MJAR	**Matsushiro Arr**	**4.80**	**219**	*e*P		**Pn**	**23 47 42.4**	**+2.3**
MJAR	**Matsushiro Arr**	**4.80**	**219**	Pn		**Pn**	**23 47 40.0**	**-0.1**
	comp=E,1.7nm,0.3s,baz=21,slow=15,SNR=59							
MJAR				Lg	Lg		23 48 54.7	
	comp=E,1.6nm,0.3s,baz=21,slow=32,SNR=4.8							
MJAR				LR	LR		23 49 46.3	
	comp=E,2μm,19.5s,baz=35,slow=42							
JRY	**Ryogami san**	**4.95**	**210**	P		**Pn**	**23 47 45.1**	**+2.9**
TEY	**Ternei**	**6.10**	**322**	⇑*e*P		**Pn**	**23 48 01.3**	**+3.3**
TEY				pmax	pmax			
	comp=E,60nm,0.7s							
TEY				pmax	pmax			
	comp=N,90nm,0.6s							
TEY				pmax	pmax			
	comp=Z,100nm,0.6s							
INU	**Inuyama**	**6.33**	**219**	*e*Pn		**Pn**	**23 48 05.3**	**+4.1**
KUR	**Kuril'sk**	**6.54**	**40**	*d i*P		**Pn**	**23 48 04.1**	**+0.1**
KUR				*e*S		**Sn**	**23 49 20.6**	**+2.5**
KUR				pmax	pmax			
	comp=Z,600nm,1.2s							
KUR				pmax	pmax			
	comp=N,90nm,0.5s							
KUR				pmax	pmax			
	comp=Z,267nm,0.5s							
KUR				pmax	pmax			
	comp=E,68nm,0.4s							
KUR				smax	smax			
	comp=E,131nm,0.5s							
KUR				smax	smax			
	comp=N,87nm,0.3s							
YSS	**Yuzh-Sakhalins**	**6.62**	**5**	*e*Pn		**Pn**	**23 48 06.9**	**+1.8**
YSS				*e*Sn		**Sn**	**23 49 13.1**	**-6.9**
YSS	**Yuzh-Sakhalins**	**6.62**	**5**	⇑*e*P		**Pn**	**23 48 06.9**	**+1.8**
YSS				*e*S		**Sn**	**23 49 22.4**	**+2.4**
YSS				pmax	pmax			
	comp=Z,20nm,0.9s							
YSS				pmax	pmax			
	comp=Z,200nm,4.0s							
JHJ	**Hachijo jima 2**	**7.43**	**194**	Pn		**Pn**	**23 48 15.7**	**-0.5**
	comp=Z,22nm,0.3s,baz=337,slow=22,SNR=12							
JHJ				Sn		**Sn**	**23 49 37.0**	**-3.0**
	comp=Z,48nm,0.3s,baz=66,slow=19,SNR=4.4							
JHJ2	**Mitsune**	**7.43**	**194**	*e*Pn		**Pn**	**23 48 15.9**	**-0.3**
JHJ2				*e*Sn		**Sn**	**23 49 38.7**	**-1.2**
USA0B	**Ussuriysk Arra**	**8.31**	**301**	*e*Pn		**Pn**	**23 48 29.9**	**+1.7**
USRK	**Ussuriysk Ar.**	**8.31**	**301**	*e*Pn		**Pn**	**23 48 29.8**	**+1.5**
USRK	**Ussuriysk Ar.**	**8.31**	**301**	Pn		**Pn**	**23 48 28.8**	**+0.5**
	comp=Z,3.8nm,0.3s,baz=112,slow=15,SNR=122							
USRK				LR	LR		23 51 48.1	
	comp=Z,191nm,19.4s,baz=111,slow=39							
MDJ	**Mudanjiang**	**10.05**	**299**	*e*Pn		Pn	23 48 57.4	+5.3
GRNR	**Gornyy**	**11.10**	**342**	*e*P		**Pn**	**23 49 10.0**	**+3.5**
GRNR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KSRS	**Korea Array**	**11.29**	**260**	*e*P		**Pn**	**23 49 13.9**	**+4.8**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**11.29**	**260**	Pn		**Pn**	**23 49 11.2**	**+2.1**
	comp=Z,1.1nm,0.3s,baz=65,slow=14,SNR=25							
KSRS				Sn		**Sn**	**23 51 18.6**	**+3.9**
	comp=Z,1.9nm,0.3s,baz=71,slow=24,SNR=5.9							
KSRS				LR	LR		23 53 07.2	
	comp=Z,217nm,20.2s,baz=62,slow=36							
KS15	**Wonju Array Si**	**11.32**	**260**	*e*Pn		**Pn**	**23 49 14.0**	**+4.4**
KS15				*e*Sn		**Sn**	**23 51 21.0**	**+5.5**
KSAR	**Wonju Array Be**	**11.32**	**260**	*e*Pn		**Pn**	**23 49 13.3**	**+3.7**
KSAR				*e*Sn		**Sn**	**23 51 18.3**	**+2.8**
JNU	**Nakatsue**	**11.43**	**234**	*e*Pn		**Pn**	**23 49 14.6**	**+3.5**
JNU	**Nakatsue**	**11.43**	**234**	Pn		**Pn**	**23 49 09.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=37,slow=10,SNR=2.2							
JNU				LR	LR		23 53 51.4	
	comp=Z,487nm,19.5s,baz=42,slow=39							
KLR	**Kul'dur**	**11.43**	**324**	*i* P		**Pn**	**23 49 12.0**	**+1.0**
KLR				pmax	pmax			
	comp=Z,20nm,1.1s							
KLR	**Kul'dur**	**11.43**	**324**	Pn		**Pn**	**23 49 11.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=127,slow=14,SNR=18							
KLR				LR	LR		23 53 37.2	
	comp=Z,570nm,18.4s,baz=141,slow=38							
TJN	**Taejon**	**12.10**	**255**	*ce*P		**Pn**	**23 49 24.3**	**+4.1**
CN2	**Changchun**	**12.72**	**291**	*e*P		**P**	**23 49 35.0**	**-4.7**
CN2				*e*S		**Sn**	**23 51 55.0**	**+5.4**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CN2				pmax	pmax			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=Z,700nm,11.0s							
CN2				LR	LR			
	comp=Z,500nm,11.0s							
CN2				LR	LR			
	comp=Z,550nm,11.0s							
NKL	**Nikolayevsk**	**12.82**	**357**	*e*P		**Pn**	**23 49 29.0**	**-1.0**
NKL				pmax	pmax			
	comp=Z,20nm,0.9s							
NKL				MLR	MLR			
	comp=N,600nm,14.0s							
NKL				MLR	MLR			
	comp=Z,900nm,14.0s							
SKR	**Severo-Kuril's**	**14.31**	**39**	*ce*P		**Pn**	**23 49 50.3**	**0.0**
DL2	**Dalian**	**15.71**	**271**	P		**Pn**	**23 50 10.8**	**+1.8**
DL2				*e*S		**Sn**	**23 53 05.5**	**+3.0**
DL2				pmax	pmax			
	comp=Z,44nm,1.2s							
DL2				pmax	pmax			
	comp=Z,180nm,6.1s							
DL2				LR	LR			
	comp=Z,320nm,10.6s							
DL2				LR	LR			
	comp=Z,360nm,11.6s							
DL2				LR	LR			
	comp=Z,460nm,12.8s							
ZEA	**Zeya**	**16.66**	**328**	*e*P		**P**	**23 50 22.8**	**-0.6**
ZEA				pmax	pmax			
	comp=Z,20nm,0.8s							
ZEA				MLR	MLR			
	comp=E,400nm,14.0s							
ZEA				MLR	MLR			
	comp=Z,500nm,14.0s							
PEA0B	**Petropavlovsk-**	**16.67**	**35**	*e*Pn		**Pn**	**23 50 19.4**	**-1.9**
	comp=Z,20nm,1.3s							
PETK	**Petropavlovsk-**	**16.67**	**35**	*e*Pn		**Pn**	**23 50 18.7**	**-2.6**
PETK	**Petropavlovsk-**	**16.67**	**35**	Pn		**Pn**	**23 50 19.1**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=216,slow=7.3,SNR=5.4							
PETK				LR	LR		23 57 20.4	
	comp=Z,384nm,19.1s,baz=224,slow

comp=E,519nm,3.9s
YAK smax smax
comp=N,382nm,1.8s
YAK MLR MLR
comp=Z,2μm,17.0s
YAK MLR MLR
comp=N,2μm,19.0s
YAK MLR MLR
comp=E,705nm,22.0s
TATO Taipei 22.97 234 *e*P **P 23 51 29.8 -2.4**
comp=E,50nm,1.1s
HHC Hu-ho-hao-te 23.01 281 *e*P **P 23 51 30.4 -2.3**
HHC sP sP 23 51 40.5 0.0
HHC S **S 23 55 39.1 -3.2**
HHC pmax pmax
comp=E,85nm,0.8s
HHC pmax pmax
comp=E,290nm,4.2s
HHC LR LR
comp=E,820nm,11.5s
HHC LR LR
comp=E,750nm,12.6s
HHC LR LR
comp=E,890nm,11.5s
YHNB Yeheng 23.26 234 *e*P **P 23 51 32.5 -2.8**
comp=E,17nm,0.7s
SEY Seymchan 23.46 12 *ce*P **P 23 51 36.5 -0.3**
SEY Seymchan 23.46 12 P **P 23 51 34.9 -1.9**
comp=E,34nm,0.9s,baz=202,slow=7.4,SNR=25
SSLB Suanglung 24.17 233 *e*P **P 23 51 40.9 -3.2**
comp=E,8.6nm,0.8s
YULB Yu-li 24.26 232 *e*P **P 23 51 43.0 -1.7**
comp=E,14nm,0.7s
QZH Quanzhou 24.84 239⇓ *i*P **P 23 51 49.6 -0.4**
QZH S **S 23 56 08.6 -3.3**
QZH pmax pmax
comp=E,250nm,2.1s
QZH LR LR
comp=E,330nm,14.2s
QZH LR LR
comp=E,260nm,11.8s
QZH LR LR
comp=E,500nm,15.6s
BOD Bodaibo 25.01 324 *e*P **P 23 51 50.3 -1.0**
BOD pmax pmax
comp=Z,30nm,1.4s
ULN Ulaanbaatar 25.97 298 *e*P **P 23 51 58.7 -1.6**
comp=Z,6.8nm,0.9s
ULN Ulaanbaatar 25.97 298 *ce*P **P 23 52 00.8 +0.5**
ULN pmax pmax
comp=Z,10.0nm,1.3s
ULN Ulaanbaatar 25.97 298 P **P 23 52 00.5 +0.1**
SNR=6.4
SONA0 Songino Array 26.41 298 *e*P **P 23 52 04.3 0.0**
SONM Songino Array 26.41 298 *e*P **P 23 52 03.9 -0.3**
SONM Songino Array 26.41 298 *e*P **P 23 52 04.5 +0.2**
SONM pmax pmax
comp=Z,4.0nm,0.5s
SONM Songino Array 26.41 298 P **P 23 52 04.3 0.0**
comp=Z,3.6nm,0.5s,baz=95,slow=9.4,SNR=12
SONM LR LR 00 02 05.1
comp=Z,106nm,18.8s,baz=61,slow=36
XAN Xi'an 26.93 267 P **P 23 52 09.3 +0.3**
XAN pP sP 23 52 20.6 +3.6
XAN sP pP 23 52 26.4 +12
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN pmax pmax
comp=Z,93nm,3.8s
XAN LR LR
comp=Z,260nm,15.7s
XAN LR LR
comp=Z,250nm,12.5s
XAN LR LR
comp=Z,280nm,11.9s
ENH Enshi 28.18 259 *e*P **P 23 52 19.6 -0.6**
comp=Z,17nm,0.9s
TLY Talaya 28.57 306 *e*P **P 23 52 23.5 0.0**
comp=Z,8.7nm,0.8s
TLY Talaya 28.57 306 *ce*P **P 23 52 23.9 +0.5**
TLY pmax pmax
comp=Z,37nm,1.3s
TLY Talaya 28.57 306 P **P 23 52 24.0 +0.5**
SNR=5.3
ZAK Zakamensk 28.64 303 *e*P **P 23 52 23.1 -1.1**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
H11N2 WAKE ISLAND Hy 29.66 127 T T 00 23 32.2
baz=320,slow=75
H11N1 WAKE ISLAND Hy 29.66 127 T T 00 23 33.0
baz=320,slow=75
H11N3 WAKE ISLAND Hy 29.67 127 T T 00 23 33.6
baz=320,slow=75
LZH Lanzhou 30.06 274 *e*P **P 23 52 39.3 +2.3**
LZH pP sP 23 52 47.0 +1.9
LZH sP pP 23 52 50.9 +8.1
LZH pmax pmax
comp=Z,19nm,1.1s
LZH LR LR
comp=Z,470nm,11.9s
LZH LR LR
comp=Z,490nm,11.1s
LZH LR LR
comp=Z,600nm,12.2s
MOY Mondy 30.21 306 *e*P **P 23 52 37.8 -0.3**
MOY pmax pmax
comp=Z,24nm,2.7s
H11S1 WAKE ISLAND Hy 30.47 128 T T 00 24 34.5
baz=321,slow=76,SNR=2479
H11S3 WAKE ISLAND Hy 30.47 128 T T 00 24 31.5
baz=321,slow=76,SNR=587
H11S2 WAKE ISLAND Hy 30.48 128 T T 00 24 36.4
baz=321,slow=76,SNR=974
BILL Bilibino 30.74 18 *e*P **P 23 52 42.5 +0.1**
comp=Z,13nm,1.1s
BILL Bilibino 30.74 18 *i*P **P 23 52 40.9 -1.5**
BILL *i* 23 52 50.9
BILL *i* 23 53 46.7
BILL *i* 23 55 40.2
BILL pmax pmax
comp=Z,8.0nm,1.3s
BILL MLR MLR
comp=Z,449nm,21.0s
TIXI Tiksi 32.05 352 *e*P **P 23 52 53.0 -0.8**
comp=Z,8.4nm,0.9s
TIXI *e*P **P 23 52 53.5 -0.4**
TIXI Tiksi 32.05 352 *ce*P **P 23 52 52.8 -1.1**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 32.05 352 P **P 23 52 53.5 -0.4**
comp=Z,3.6nm,0.4s,baz=89,slow=5.5,SNR=5.8
GTA Gaotai 32.11 282 *e*P **P 23 52 55.0 0.0**
GTA pP pP 23 53 00.0 -0.8
GTA sP sP 23 53 02.8 -0.3
GTA PcP **PcP 23 55 45.3 +1.4**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA LR LR
comp=Z,160nm,17.5s
GTA LR LR
comp=Z,220nm,16.1s
GTA LR LR
comp=Z,320nm,16.8s
GYA Guiyang 32.31 256⇑ *i*P **P 23 52 55.9 -0.9**
GYA pP pP 23 53 02.8 +0.2
GYA PP **PnPn 23 54 02.0 -1.4**
GYA S **S 23 58 05.3 -4.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=Z,190nm,12.7s
GYA LR LR
comp=Z,260nm,13.5s
GYA LR LR
comp=Z,380nm,13.8s
QIZ Qiongzhong 34.76 242 P **P 23 53 19.0 +0.9**
QIZ S **S 23 58 50.3 +2.7**
QIZ LR LR
comp=Z,280nm,17.7s
QIZ LR LR
comp=Z,240nm,13.1s
QIZ LR LR
comp=Z,220nm,14.7s
KMI Kunming 35.98 257 P **P 23 53 30.5 +1.7**

KMI pP sP 23 53 36.9 0.0
KMI sP pP 23 53 39.8 +5.2
KMI pmax pmax
comp=Z,17nm,0.9s
KMI LR LR
comp=Z,240nm,12.5s
KMI LR LR
comp=Z,140nm,12.5s
KMI LR LR
comp=Z,230nm,16.2s
KMI Kunming 35.98 257 *e*P **P 23 53 28.4 -0.4**
comp=Z,13nm,0.7s
KMI Kunming 35.98 257 *e*P **P 23 53 28.4 -0.4**
KMI pmax pmax
comp=Z,13nm,0.7s
SLVN Son La 37.39 251 *e*P **P 23 53 40.8 +0.2**
comp=Z,16nm,1.0s
WMQ Urumqi 39.79 293 *e*P **P 23 54 00.9 +0.3**
WMQ pP pP 23 54 04.4 -2.1
WMQ sP sP 23 54 12.4 +3.6
WMQ pmax pmax
comp=Z,72nm,0.9s
WMQ pmax pmax
comp=Z,190nm,3.8s
WMQ LR LR
comp=Z,1μm,15.1s
WMQ LR LR
comp=Z,460nm,11.7s
WMQ Urumqi 39.79 293 *e*P **P 23 54 00.7 0.0**
comp=Z,15nm,0.8s
WMQ Urumqi 39.79 293 *e*P **P 23 54 00.7 0.0**
WMQ pmax pmax
comp=Z,15nm,0.8s
ZAA0 Zalesovo Array 40.04 310 *e*P **P 23 54 02.1 -0.4**
comp=Z,32nm,0.6s
ZAA0 *e*PcP **PcP 23 56 07.7 +0.6**
ZAA1 Zalesovo Array 40.04 310 *e*P **P 23 54 02.5 0.0**
ZAA1 *e*PcP **PcP 23 56 07.0 0.0**
ZALV Zalesovo Beam 40.04 310 P **P 23 54 02.5 0.0**
comp=Z,33nm,0.5s,baz=93,slow=8.0,SNR=140
ZALV PcP **PcP 23 56 07.0 0.0**
comp=Z,6.2nm,0.5s,baz=106,slow=3.1,SNR=8.9
ZALV LR LR 00 11 22.7
comp=Z,131nm,19.5s,baz=70,slow=37
NONG Nongkai 40.05 248 P **P 23 54 03.4 +0.5**
comp=Z,0.8nm,0.9s
SKNT Sakolnakorn 40.20 246 P **P 23 54 04.9 +0.8**
comp=Z,13nm,1.2s
RDOG Red Dog Mine 40.38 28 *e*P **P 23 54 06.3 +1.2**
comp=Z,5.5nm,0.6s
NRIK Noril'sk 40.45 334 P **P 23 54 05.1 -0.5**
comp=Z,3.6nm,0.5s,baz=105,slow=12,SNR=16
NRIK LR LR 00 11 39.2
comp=Z,468nm,19.8s,baz=96,slow=37
NVS Novosibirsk 40.90 311⇑ *i*P **P 23 54 09.6 +0.1**
NVS *e* 23 56 09.8
NVS pmax pmax
comp=E,17nm,1.3s
NVS pmax pmax
comp=Z,20nm,1.3s
PAYA Payao 41.56 252 P **P 23 54 18.1 +2.7**
comp=Z,29μm,1.1s,comp=Z,787μm
PHRA Phrae 41.85 251 P **P 23 54 18.1 +0.3**
comp=Z,2.6nm,0.9s
UTTA Uttaradit 42.11 250 P **P 23 54 20.1 +0.3**
comp=Z,17μm,0.7s,comp=Z,225μm
LAMP Lampang 42.27 252 P **P 23 54 22.0 +0.8**
comp=Z,17μm,0.6s,comp=Z,202μm
CHAI Chaiyaphum 42.32 247 P **P 23 54 22.1 +0.5**
comp=Z,17μm,1.0s,comp=Z,427μm
LSA Lhasa 42.41 272 *e*P **P 23 54 24.1 +1.3**
comp=Z,16nm,0.4s
CMMT Chiang Mai 42.58 253 P **P 23 54 24.1 +0.3**
comp=Z,6.7nm,0.9s
CHTO Chiang Mai 42.58 253 *e*P **P 23 54 24.1 +0.3**
comp=Z,8.8nm,0.8s
CHTO Chiang Mai 42.58 253 *e*P **P 23 54 24.1 +0.3**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
SVW2 Sparrevohn 42.67 39 *e*P **P 23 54 26.4 +2.4**
comp=Z,15nm,1.2s
MK31 Makanchi Array 42.77 299 *e*P **P 23 54 24.9 -0.1**
comp=Z,23nm,0.6s
MK31 Makanchi Array 42.77 299 *e*P **P 23 54 25.0 -0.1**
MK31 pmax pmax
comp=Z,23nm,0.6s
MK32 Makanchi Array 42.77 299 *e*P **P 23 54 24.9 -0.1**
MK32 *e*PcP **PcP 23 56 16.4 +0.3**
MKAR Makanchi Array 42.77 299 *ce*P **P 23 54 24.8 -0.2**
MKAR pmax pmax
comp=Z,20nm,0.6s
MKAR Makanchi Array 42.77 299 P **P 23 54 24.9 -0.1**
comp=Z,19nm,0.6s,baz=84,slow=9.7,SNR=130
MKAR PcP **PcP 23 56 16.5 +0.3**
comp=Z,3.6nm,0.8s,baz=66,slow=1.2,SNR=3.5
MKAR LR LR 00 12 33.1
comp=Z,66nm,18.2s,baz=76,slow=37
CMAR Chiang Mai Arr 42.81 252 P **P 23 54 26.1 +0.4**
comp=Z,2.0nm,0.4s,baz=44,slow=7.6,SNR=15
CMAR PcP **PcP 23 56 17.8 +1.1**
comp=Z,1.6nm,0.6s,baz=15,slow=1.4,SNR=5.8
CMAR LR LR 00 12 49.0
comp=Z,100nm,18.8s,baz=66,slow=37
MAKZ Makanchi 42.98 299 *e*P **P 23 54 26.7 0.0**
comp=Z,56nm,1.3s
MAKZ Makanchi 42.98 299 *e*P **P 23 54 26.7 0.0**
MAKZ pmax pmax
comp=Z,56nm,1.3s
SHL Shillong 43.94 266 *e*P **P 23 54 33.5 -1.4**
comp=Z,24nm,1.1s
SHL Shillong 43.94 266 *e*P **P 23 54 33.5 -1.4**
SHL pmax pmax
comp=Z,24nm,1.1s
RSO Redoubt South 44.08 40 *e*P **P 23 54 37.2 +1.6**
OHAK Old Harbor 44.08 45 *e*P **P 23 54 36.9 +1.5**
comp=Z,17nm,1.0s
KURK Kurchatov 44.26 306 *e*P **P 23 54 36.6 -0.3**
comp=Z,84nm,0.8s
KURK Kurchatov 44.26 306 *ce*P **P 23 54 36.5 -0.4**
KURK pmax pmax
comp=Z,135nm,1.3s
KURK Kurchatov 44.26 306 P **P 23 54 36.8 -0.1**
SNR=41
UMPA Umpang Tak 44.33 250 P **P 23 54 40.3 +2.4**
comp=Z,35μm,0.9s
KDAK Kodiak Island 44.40 44 *e*P **P 23 54 38.0 +0.1**
comp=Z,45nm,1.3s
KDAK Kodiak Island 44.40 44 *ce*P **P 23 54 38.9 +1.0**
KDAK Kodiak Island 44.40 44 P **P 23 54 38.4 +0.5**
comp=Z,13nm,0.5s,baz=285,slow=4.2,SNR=17
BPAW Bear Paw Mtn. 44.75 35 *e*P **P 23 54 40.5 -0.2**
comp=Z,5.4nm,0.9s
MLY Manley 44.84 34 *e*P **P 23 54 41.7 +0.2**
comp=Z,6.9nm,0.9s
COLD Coldfoot 45.07 31 *e*P **P 23 54 43.7 +0.5**
comp=Z,4.8nm,0.8s
TOLK Toolik Lake Re 45.35 29 *e*P **P 23 54 46.5 +1.1**
comp=Z,5.8nm,0.8s
TOLK Toolik Lake Re 45.35 29 P **P 23 54 46.5 +1.1**
baz=268,SNR=7.7
SRDT SRDT 45.39 248 P P 23 54 52.5 +6.2
BWN Browne 45.42 35 *e*P **P 23 54 48.1 +2.1**
comp=Z,36nm,1.1s
PDGK Podgornoye 45.65 295 P **P 23 54 47.8 -0.4**
PDGK pmax pmax
comp=Z,24nm,1.4s
PHET Kaeng Krachan 46.03 246 P **P 23 54 52.6 +1.3**
comp=Z,76μm,0.7s,comp=Z,674μm
TCOL CIGO, UAF Yank 46.07 34 P **P 23 54 52.3 +1.2**
baz=273
POKR Poker Plat Res 46.24 34 P **P 23 54 54.1 +1.7**
baz=274,SNR=6.7
ILAR Eielson Array 46.50 34 *e*P **P 23 54 55.4 +0.9**
ILAR pmax pmax
comp=Z,4.0nm,0.7s
ILAR Eielson Array 46.50 34 P **P 23 54 55.0 +0.6**
comp=Z,3.9nm,0.8s,baz=264,slow=5.9,SNR=44
ILAR LR LR 00 17 55.3
comp=Z,67nm,18.3s,baz=294,slow=41
HDA Harding Lake 46.50 35 P **P 23 54 55.1 +0.6**
baz=275
JIRN Jiri 47.20 272 *e*P **P 23 55 01.2 +0.3**
comp=Z,63nm,0.7s
RAMN Ramite 47.25 271 *e*P **P 23 55 01.1 0.0**
comp=Z,122nm,0.9s
RIDG Independent Ri 47.49 35 *e*P **P 23 55 02.6 +0.3**
comp=Z,13nm,1.4s

RIDG *e*PcP **PcP 23 56 35.1 +2.9**
KKN Kakani 47.83 273 *e*P **P 23 55 05.7 +0.1**
comp=Z,111nm,0.8s
PKI Pulchoki 47.84 273 *e*P **P 23 55 05.4 -0.4**
comp=Z,63nm,1.0s
PKIN Phulchoki 47.85 273 *e*P **P 23 55 05.5 -0.3**
comp=Z,29nm,0.8s
DMN Daman 48.05 273 *e*P **P 23 55 07.9 +0.5**
comp=Z,61nm,0.9s
GKN Gorkha 48.21 274 *e*P **P 23 55 08.3 -0.2**
comp=Z,44nm,0.6s
ULHL Ulahol 48.26 295 P **P 23 55 09.1 +0.3**
SNR=11
TKM2 Tokmak 2 48.47 296 P **P 23 55 11.1 +0.7**
SNR=64
DANN Dangsing 48.70 275 *e*P **P 23 55 12.9 +0.5**
comp=Z,322nm,0.8s
BRVK Borovoye 48.73 310 *e*P **P 23 55 12.2 +0.2**
BRVK *e*PcP **PcP 23 56 37.2 +0.4**
BRVK Borovoye 48.73 310 *ce*P **P 23 55 12.2 +0.2**
BRVK pmax pmax
comp=Z,19nm,1.3s
BRVK Borovoye 48.73 310 P **P 23 55 12.1 +0.1**
SNR=7.2
OTUK Ortayu 48.86 304 P **P 23 55 12.9 -0.2**
OTUK pmax pmax
comp=Z,25nm,1.2s
KBK Karagaybulak 49.01 296 P **P 23 55 15.0 +0.5**
SNR=73
KZA Kyzart 49.01 295 P **P 23 55 16.0 +1.2**
SNR=20
CHMS Chumysh 49.02 296 P **P 23 55 14.3 -0.1**
SNR=8.2
USP Ospenovka 49.09 297 P **P 23 55 15.2 +0.2**
SNR=21
KOLN Koldanda 49.12 274 *e*P **P 23 55 15.8 +0.3**
comp=Z,26nm,0.5s
AAK Ala-Archa 49.33 296 P **P 23 55 16.8 -0.1**
SNR=16
AAK Ala-Archa 49.33 296 *e*P **P 23 55 17.0 +0.1**
comp=Z,14nm,0.6s
AAK Ala-Archa 49.33 296 *i*P **P 23 55 17.1 +0.1**
SNR=19
AAK Ala-Archa 49.33 296 *ce*P **P 23 55 16.8 -0.1**
AAK pmax pmax
comp=Z,23nm,1.3s
AAK Ala-Archa 49.33 296 P **P 23 55 17.2 +0.3**
SNR=7.3
PYUN Piuthan 49.41 275 *e*P **P 23 55 18.1 +0.3**
comp=Z,175nm,1.1s
UCH Uchtor 49.47 296 P **P 23 55 18.8 +0.5**
SNR=14
KSH Kashi 49.48 292 P **P 23 55 22.4 +4.3**
KSH PP **PP 23 57 17.6 +5.5**
KSH pmax pmax
comp=Z,51nm,0.7s
KSH pmax pmax
comp=Z,180nm,3.7s
KSH LR LR
comp=Z,240nm,7.2s
KSH LR LR
comp=Z,150nm,7.2s
KSH LR LR
comp=Z,310nm,11.7s
KAPI Kappang 49.54 210 *e*P **P 23 55 18.7 +0.2**
comp=Z,15nm,1.1s
KAPI Kappang 49.54 210 *e*P **P 23 55 18.7 +0.2**
KAPI pmax pmax
comp=Z,15nm,1.1s
KAPI Kappang 49.54 210 P **P 23 55 18.1 -0.4**
comp=Z,5.6nm,0.6s,baz=294,slow=22,SNR=6.0
TRTT Trang 49.61 241 P **P 23 55 20.6 +1.5**
comp=Z,34nm,0.8s
KRAB Krabi 49.66 242 P **P 23 55 20.5 +1.0**
comp=Z,451μm,0.6s
EKS2 Erkin-Say 49.81 296 P **P 23 55 20.7 +0.2**
SNR=41
AML Almayashu 50.07 296 P **P 23 55 23.5 +0.7**
SNR=44
EPYK Eagle Plains 50.46 31 P **P 23 55 26.8 +1.8**
baz=282,SNR=19
INK Inuvik 51.26 28 *e*P **P 23 55 32.3 +1.4**
comp=Z,14nm,0.6s
INK Inuvik 51.26 28 P **P 23 55 32.3 +1.4**
comp=Z,13nm,0.6s,baz=295,slow=6.7,SNR=83
KK31 Karatay Array 51.86 298⇑ *e*P **P 23 55 35.6 -0.3**
KK31 pmax pmax
comp=Z,16nm,0.6s
SVE Sverdlovsk 52.95 317 *e*P **P 23 55 44.0 +0.3**
SVE pmax pmax
comp=Z,32nm,0.9s
SVE MLR MLR
comp=Z,422nm,14.0s
PSI Prapat 53.88 237 *e*P **P 23 55 51.2 +0.1**
comp=Z,13nm,0.7s
PSI Prapat 53.88 237 *e*P **P 23 55 51.2 +0.1**
PSI pmax pmax
comp=Z,13nm,0.7s
NIL Nilore 54.02 286 *e*P **P 23 55 52.8 +0.9**
comp=Z,53nm,0.8s
NIL Nilore 54.02 286 P **P 23 55 52.8 +0.9**
NIL pmax pmax
comp=Z,53nm,0.8s
ARU Arti 54.17 317 *e*P **P 23 55 52.4 -0.3**
comp=Z,35nm,1.2s
ARU Arti 54.17 317 *d i*P **P 23 55 52.5 -0.1**
ARU 23 56 56.1
ARU 23 57 53.7
ARU S **S 00 03 29.6 +1.3**
ARU SS **SS 00 07 06.8 -2.8**
ARU pmax pmax
comp=Z,26nm,1.1s
ARU MLR MLR
comp=Z,261nm,16.0s
DLBC Dease Lake 55.78 39 P **P 23 56 05.7 +1.3**
comp=Z,2.6nm,0.7s,baz=276,slow=7.3,SNR=6.0
DLBC LR LR 00 21 10.9
comp=Z,60nm,19.5s,baz=70,slow=37
GSI Gunungsitoli 55.88 238 *e*P **P 23 56 06.1 +0.5**
comp=Z,25nm,0.8s
AB31 Akbulak array 56.14 309⇑ *e*P **P 23 56 06.7 -0.3**
AB31 pmax pmax
comp=Z,17nm,0.5s
KBL Kabul 56.65 289 *e*P **P 23 56 10.6 -0.5**
comp=Z,55nm,0.9s
KBL Kabul 56.65 289 *e*P **P 23 56 10.6 -0.5**
KBL pmax pmax
comp=Z,55nm,0.9s
AKTO Aktyubinsk 56.79 311 LR LR 00 21 47.9
comp=Z,92nm,18.7s,baz=58,slow=37
SPA0 Spitsbergen Ar 57.35 349 *e*P **P 23 56 15.6 +0.4**
comp=Z,26nm,1.2s
SPA0 Spitsbergen Ar 57.35 349 *e*P **P 23 56 15.6 +0.4**
SPITS Spitsbergen Ar 57.35 349 P **P 23 56 15.6 +0.4**
comp=Z,2.1nm,0.5s,baz=84,slow=8.5,SNR=13
KBS Kingsbay 57.46 350 *e*P **P 23 56 16.5 +0.6**
PRGR Permogore 58.22 326 *e*P **P 23 56 19.7 -1.7**
PRGR pmax pmax
comp=Z,15nm,0.8s
HSPB Hornsund (broa 58.29 348 *e*P **P 23 56 22.2 +0.5**
HYB Hyderabad 58.74 267 *i*P **P 23 56 26.0 +0.2**
RES Resolute Bay 59.29 15 *e*P **P 23 56 28.9 +0.2**
comp=Z,17nm,0.9s
RES Resolute Bay 59.29 15 *e*P **P 23 56 28.9 +0.2**
RES pmax pmax
comp=Z,17nm,0.9s
RES Resolute Bay 59.29 15 LR LR 00 23 23.9
comp=Z,52nm,20.5s,baz=111,slow=37
TMCR Tamitsa 60.04 331 *e*P **P 23 56 33.7 -0.3**
TMCR pmax pmax
comp=Z,27nm,0.8s
FITZ Fitzroy Crossi 60.10 198 P **P 23 56 34.3 -0.6**
comp=Z,6.5nm,0.8s,baz=20,slow=6.3,SNR=14
CTA Charters Tower 60.27 175 P **P 23 56 35.6 -0.4**
comp=Z,3.4nm,0.5s,baz=9.2,slow=7.3,SNR=6.8
WRAB Tennant Creek 60.39 188 *e*P **P 23 56 36.3 -0.6**
comp=Z,17nm,0.8s
WRAB Tennant Creek 60.39 188 *e*P **P 23 56 36.3 -0.6**
WRAB pmax pmax
comp=Z,17nm,0.8s
WRA Warramunga Arr 60.40 188 P **P 23 56 36.4 -0.6**
comp=Z,20nm,0.7s,baz=33,slow=1.7,SNR=92
WRA LR LR 00 22 33.4
comp=Z,40nm,19.7s,baz=355,slow=36
YKW3 Yellowknife Ar 60.71 31 *e*P **P 23 56 38.7 +0.1**
comp=Z,5.7nm,0.9s
YKA Yellowknife Ar 60.75 31 P **P 23 56 39.4 +0.6**

comp=Z,4.6nm,0.8s,baz=302,slow=6.5,SNR=52
YKA LR LR 00 25 31.1
comp=Z,5.5nm,19.6s,baz=309,slow=39
HAMF Hammerfest 60.82 340 eP P 23 56 39.5 +0.2
ARCES ARCESS Array B 61.04 339 eP P 23 56 41.0 +0.2
ARCES pmax pmax
comp=Z,4.0nm,0.5s
ARCES ARCESS Array B 61.04 339 P P 23 56 40.8 0.0
comp=Z,3.6nm,0.5s,baz=55,slow=8.2,SNR=35
ARE0 ARCESS Array S 61.04 339 eP P 23 56 41.0 +0.2
KLMR Klimovskoe 61.18 327 eP P 23 56 38.9 -2.9
KLMR pmax pmax
comp=Z,17nm,1.0s
KTK1 Kautokeino 61.99 339 eP P 23 56 47.5 +0.2
SGF Sodankyl 62.05 337 P P 23 56 48.3 +0.7
SGF pmax pmax
comp=Z,37nm,2.7s
DAG Danmarks Havn 62.50 355⇓ iP P 23 56 50.6 +0.1
DAG pmax pmax
comp=Z,14nm,0.8s
DAG Danmarks Havn 62.50 355⇓ iP P 23 56 50.6 +0.1
comp=Z,19nm,0.8s
GEYT Alibeck 62.61 298 P P 23 56 51.9 0.0
comp=Z,20nm,0.8s,baz=29,slow=3.4,SNR=48
TRO Tromso 62.71 341 eP P 23 56 52.0 0.0
ASAR Alice Springs 64.13 188 P P 23 57 01.8 -0.1
comp=Z,26nm,0.9s,baz=359,slow=5.7,SNR=153
ASAR LR LR 00 24 26.0
comp=Z,95nm,20.5s,baz=6.0,slow=36
D03D Eldon 64.57 48 P P 23 57 06.8 +2.1
baz=303
KULLO Kullorsuaq 64.64 6 iP P 23 57 04.0 -0.6
KULLO pmax pmax
comp=Z,21nm,0.8s
KULLO Kullorsuaq 64.64 6 iP P 23 57 04.0 -0.6
comp=Z,21nm,0.8s
STEI Steigen 64.87 340 eP P 23 57 06.7 +0.5
E04D Cinebar 65.40 49 P P 23 57 12.1 +2.0
baz=303
VRH Novokhopyorsk 65.40 317 eP P 23 57 09.1 -0.8
VRH pmax pmax
comp=Z,50nm,1.3s
OBN Obninsk 65.69 323 eP P 23 57 11.7 0.0
comp=Z,56nm,1.5s
OBN Obninsk 65.69 323 iP P 23 57 11.8 +0.1
OBN i 23 57 38.1
OBN pmax pmax
comp=Z,28nm,1.3s
OBN MLR MLR
comp=Z,187nm,16.0s
LPSR Galich'ya Gora 66.03 319 eP P 23 57 13.6 -0.3
LPSR pmax pmax
comp=Z,20nm,1.1s
FINES FINESS Array B 66.07 332 P P 23 57 13.8 -0.2
comp=Z,18nm,0.8s,baz=51,slow=6.9,SNR=46
DZM Mont Dzumac 66.18 155 eP P 23 57 17.5 +2.3
comp=Z,7.9nm,0.9s
DZM Mont Dzumac 66.18 155 LR LR 00 23 04.7
comp=Z,109nm,21.2s,baz=37,slow=33
MOR8 Moi Rana 66.39 339 eP P 23 57 15.0 -1.2
J01E Myrtle Point 66.47 53 P P 23 57 18.7 +1.8
baz=304
I03D Drain, OR 66.52 52 P P 23 57 19.4 +2.1
baz=304
VSR Storozhevoye 66.71 318 eP P 23 57 17.3 -1.1
VSR pmax pmax
comp=Z,40nm,1.2s
MAK Makhachkala 66.75 307 eP P 23 57 18.1 -0.6
MAK eS S 00 06 09.8 +0.1
MAK pmax pmax
comp=Z,48nm,1.3s
MAK MLR MLR
comp=Z,82nm,17.0s
VORD Divnogorie 66.80 318 eP P 23 57 18.4 -0.5
VORD pmax pmax
comp=Z,20nm,1.2s
G05D Wamic, OR 66.86 50 P P 23 57 21.0 +1.6
baz=305
K02D Willamette Mer 66.89 53 P P 23 57 21.7 +1.9
baz=304
I04A Tendick Farm, 67.03 52 P P 23 57 22.4 +1.8
baz=304,SNR=6.0
L02E Cave Junction 67.23 54 P P 23 57 24.0 +2.1
baz=304
SUMG Summit 67.36 0⇓ iP P 23 57 23.8 +1.1
SUMG pmax pmax
comp=Z,58nm,0.7s
SUMG Summit 67.36 0⇓ iP P 23 57 23.8 +1.1
comp=Z,58nm,0.7s
NEW Newport 67.49 45 P P 23 57 24.6 +1.1
baz=306,SNR=5.3
J04D Umpqua Nationa 67.53 52 P P 23 57 26.0 +2.1
baz=305
GROC Groznyy 67.65 308 eP P 23 57 23.9 -0.5
GROC e 23 57 52.1
GROC eS S 00 06 23.6 +3.0
GROC pmax pmax
comp=Z,10.0nm,0.8s
VSU Vasula 67.80 329 ceP P 23 57 25.8 +0.7
VSU pmax pmax
comp=Z,37nm,1.0s
VSU Vasula 67.80 329 eP P 23 57 24.9 -0.2
VSU IAmb IAmb 23 57 26.1
comp=Z,43nm,0.7s
SEKA Sheki 67.92 306 P P 23 57 26.3 0.0
L04D Klamath Falls 67.99 53 P P 23 57 28.6 +1.8
baz=305,SNR=6.2
YBH Yreka Blue Hor 68.02 53 P P 23 57 28.9 +1.9
comp=Z,4.4nm,0.7s,baz=7.5,slow=5.1,SNR=15
J05D Fort Rock, OR 68.02 51 P P 23 57 29.0 +1.9
baz=305,SNR=5.7
ZKTA Zakatala 68.04 306 P P 23 57 27.1 +0.1
M02C Callahan 68.13 54 P P 23 57 29.8 +2.1
baz=305
N02D Trinity Center 68.46 54 P P 23 57 31.6 +1.9
baz=305
M04C Macdoel 68.52 53 P P 23 57 32.0 +1.9
baz=306,SNR=7.6
GANJ Ganja 68.79 306 P P 23 57 31.5 -0.2
SCO Scoresbysund 68.85 354 iP P 23 57 32.4 +0.9
SCO Scoresbysund 68.85 354 iP P 23 57 32.4 +0.9
O02D Mt. Diablo Mer 68.86 55 P P 23 57 34.3 +2.0
baz=306
ZEI Tsey 69.02 309 eP P 23 57 31.0 -2.3
ZEI pmax pmax
comp=Z,11nm,0.8s
KIV Kislovodsk 69.05 310 eP P 23 57 33.8 +0.4
comp=Z,45nm,0.9s
KIV Kislovodsk 69.05 310⇓ iP P 23 57 34.1 +0.8
KIV Kislovodsk 69.05 310 iP P 23 57 33.7 +0.4
SNR=25
KIV Kislovodsk 69.05 310 eP P 23 57 34.2 +0.8
KIV pmax pmax
comp=Z,164nm,1.1s
KIV MLR MLR
comp=Z,231nm,17.0s
KIV Kislovodsk 69.05 310 P P 23 57 34.2 +0.8
SNR=21
KBZ Khabaz 69.06 310 P P 23 57 33.7 +0.4
comp=Z,13nm,0.8s,baz=55,slow=4.4,SNR=39
KBZ LR LR 00 30 01.8
comp=Z,93nm,18.7s,baz=26,slow=38
TBLG Delisi 69.13 307 eP P 23 57 34.6 +0.8
comp=Z,16nm,0.9s
TBLG Delisi 69.13 307 eP P 23 57 34.6 +0.8
TBLG pmax pmax
comp=Z,16nm,0.9s
O03E Paynes Creek 69.41 54 P P 23 57 36.8 +1.2
baz=306
IZAR Zarasai 69.83 327 eP P 23 57 38.1 +0.3
IZAR IAmb IAmb 23 57 38.9
comp=Z,7.9nm,0.7s
IDID Didziasalis 69.92 327 eP P 23 57 38.7 +0.3
IDID IAmb IAmb 23 57 39.5
comp=Z,8.3nm,0.8s
ISAL Salakas 70.00 327 eP P 23 57 39.3 +0.4
ISAL IAmb IAmb 23 57 40.1
comp=Z,13nm,0.7s
GNI Garni 70.06 306 eP P 23 57 40.1 +0.4
comp=Z,30nm,1.1s
GNI Garni 70.06 306 iP P 23 57 40.6 +0.9
SNR=13
GNI Garni 70.06 306 ceP P 23 57 41.1 +1.3
GNI pmax pmax
comp=Z,126nm,1.3s
GNI Garni 70.06 306 P P 23 57 40.5 +0.7
SNR=12
MSO Missoula 70.07 45 P P 23 57 40.6 +1.0
baz=308,SNR=7.1
AKH Akhalkalaki 70.08 308⇑ iP P 23 57 40.7 +0.8
AKH Akhalkalaki 70.08 308 P P 23 57 40.6 +0.7
IIGN Ignalina 70.11 327 eP P 23 57 39.9 +0.3
IIGN IAmb IAmb 23 57 40.8
comp=Z,13nm,0.7s
SHME Shamm 70.59 288 P P 23 57 43.2 +0.2
FFC Flin Flon 70.70 34 eP P 23 57 42.7 -0.5
comp=Z,11nm,0.8s
FFC Flin Flon 70.70 34 ceP P 23 57 43.8 +0.6
PABE Paberze 70.93 328 eP P 23 57 44.2 -0.3
PABE IAmb IAmb 23 57 45.5
comp=Z,40nm,0.6s
MSFE Esma-Masafi 70.99 287 P P 23 57 45.8 +0.4
SOC Sochi 70.99 311 eP P 23 57 44.6 -0.6
SOC ePPP PPP 00 02 06.0
SOC eS S 00 06 57.9 -2.1
SOC e 00 07 46.9
SOC pmax pmax
comp=Z,17nm,0.5s
DOMB Dombas 71.10 339 eP P 23 57 45.7 +0.2
BCA Borcka 71.18 309⇓ iP P 23 57 46.9 +0.5
NB2 NORSAR Subarra 71.28 337 P P 23 57 46.3 -0.4
comp=Z,4.4nm,0.6s,baz=37,slow=6.2
NB2 NORSAR Subarra 71.28 337 P P 23 57 46.3 -0.4
baz=37,slow=6.2
NOA NORSAR Array B 71.28 337 P P 23 57 46.4 -0.2
comp=Z,6.6nm,0.6s,baz=38,slow=6.1,SNR=32
NOA LR LR 00 33 57.6
comp=Z,132nm,18.8s,baz=30,slow=40
HATD Hatta, Dubai 71.32 287 P P 23 57 47.9 +0.5
HATD Hatta, Dubai 71.32 287 P P 23 57 48.0 +0.5
PBUR Paburg 71.38 329 eP P 23 57 46.5 -0.8
PBUR IAmb IAmb 23 57 48.0
comp=Z,32nm,0.7s
NC602 NORSAR Array S 71.43 337 eP P 23 57 47.3 -0.2
NORES NORESS Array B 71.43 337 P P 23 57 47.8 +0.3
NORES pmax pmax
comp=Z,1.0nm,0.4s
SOHO SOHO 71.44 286 P P 23 57 48.2 +0.1
ASHO Ashiyiah 71.46 287 P P 23 57 48.2 -0.1
EGMT Eagleton 71.53 42 P P 23 57 49.3 +0.9
baz=310,SNR=11
ANN Anapa 71.53 313 eP P 23 57 47.9 -0.4
ANN eS S 00 07 03.0 -3.2
ANN pmax pmax
comp=Z,41nm,1.3s
AKN Aaknes 71.55 340 eP P 23 57 48.8 +0.5
FAQ Al Faqa, Dubai 71.76 287 P P 23 57 50.1 0.0
HLID Hailey 71.83 48 P P 23 57 52.0 +1.5
baz=309
STKA Stephens Creek 71.87 180 eP P 23 57 50.3 0.0
comp=Z,1.4nm,0.9s
STKA Stephens Creek 71.87 180 eP P 23 57 49.0 -1.4
STKA pmax pmax
comp=Z,4.0nm,0.6s
STKA Stephens Creek 71.87 180 P P 23 57 50.3 0.0
comp=Z,3.9nm,0.6s,baz=338,slow=6.5,SNR=7.2
STKA LR LR 00 30 19.1
comp=Z,83nm,19.4s,baz=24,slow=37
AKASG Malin Array Be 71.92 322 P P 23 57 50.4 -0.2
comp=Z,11nm,0.5s,baz=45,slow=6.6,SNR=66
AKASG LR LR 00 32 55.3
comp=Z,151nm,18.2s,baz=35,slow=39
KIEV Kiev 71.94 322 eP P 23 57 50.3 -0.4
comp=Z,19nm,0.9s
KIEV Kiev 71.94 322⇑ iP P 23 57 50.5 -0.2
KIEV Kiev 71.94 322 iP P 23 57 50.5 -0.2
SNR=16
FORT Forrest 71.94 193 eP P 23 57 51.2 +0.4
comp=Z,26nm,0.7s
ASUD Al Ashush, Dub 72.03 287 P P 23 57 52.0 +0.3
ASUD Al Ashush, Dub 72.03 287 P P 23 57 52.0 +0.3
ALNE Al Ain 72.06 287 iP P 23 57 51.8 -0.1
SNR=7.6
BOZ Boeman (W) 72.09 45 P P 23 57 53.2 +1.3
baz=310,SNR=31
SKAR Skarslia 72.42 338 eP P 23 57 54.3 +0.7
SFJD Kangerlussuaq 72.54 5 iP P 23 57 54.4 +0.4
comp=Z,7.1nm,0.6s
NVAR Mina Array Bea 72.70 54 P P 23 57 57.5 +1.8
comp=Z,2.1nm,0.6s,baz=291,slow=6.0,SNR=13
KONO Kongsberg 72.88 337 eP P 23 57 56.0 -0.2
MORW Morawa 73.14 204 eP P 23 57 58.4 +0.4
comp=Z,8.5nm,0.8s
H17A Grant Village 73.44 46 P P 23 58 03.1 +3.0
baz=311,SNR=11
ASK Askoy 73.45 339 eP P 23 57 60.0 +0.5
RLMT Red Lodge 73.67 44 P P 23 58 02.8 +1.4
baz=311,SNR=5.8
VES Vestal, Richgr 73.80 57 P P 23 58 03.7 +1.7
baz=308
CWC Cottonwood Cre 74.07 56 P P 23 58 05.7 +1.9
baz=309
LAO LASA Array 74.21 42 P P 23 58 05.6 +1.3
baz=313
R11A Troy Canyon, C 74.42 53 P P 23 58 07.3 +1.4
baz=309,SNR=6.5
MPMC Manual Prospec 74.68 56 P P 23 58 08.8 +1.4
baz=309,SNR=7.1
DIKM Dikmen 74.76 312⇓ iP P 23 58 07.8 +0.2
FURC Furnace Creek, 74.81 55 P P 23 58 09.9 +2.0
baz=309
BEL Belsk 74.89 327 eP P 23 58 09.2 +1.1
BEL Belsk 74.89 327 eP P 23 58 09.2 +1.1
TPNV Topopah Spring 74.89 54 P P 23 58 09.9 +1.3
baz=309
DUG Dugway, Tooele 74.89 50 P P 23 58 10.2 +1.7
baz=310,SNR=7.5
LVV L'vov 74.94 324 eP P 23 58 08.3 -0.1
BW06 Boulder Array 75.07 46 P P 23 58 10.4 +0.8
baz=312,SNR=5.3
PDAR Pinedale Array 75.07 46 P P 23 58 10.7 +1.0
comp=Z,2.8nm,0.6s,baz=269,slow=2.6,SNR=23
EDW2 Edwards Air Fo 75.09 57 P P 23 58 10.9 +1.2
baz=309
IAS Iasi 75.12 320⇓ iP P 23 58 09.6 +0.1
IAS Iasi 75.12 320 P P 23 58 09.6 +0.1
GKP Gorka Klasztor 75.25 329 eP P 23 58 10.8 +0.6
GKP Gorka Klasztor 75.25 329 eP P 23 58 10.8 +0.6
GSC Goldstone, Bar 75.58 56 P P 23 58 14.6 +2.0
baz=310
PRAR RASCA 75.65 321⇑ iP P 23 58 12.6 0.0
KWP Kalwaria Pacla 75.67 324 eP P 23 58 13.8 +1.1
KWP Kalwaria Pacla 75.67 324 eP P 23 58 13.8 +1.1
BFSC Mount Baldy Ra 75.71 57 P P 23 58 15.5 +2.2
baz=309
BIR Birlad 75.73 319⇑ iP P 23 58 14.4 +1.4
BIR Birlad 75.73 319 P P 23 58 14.3 +1.3
SCI2 San Clemente I 75.93 59 P P 23 58 16.4 +2.0
baz=309
BURAR Bucovina Array 75.96 321⇑ iP P 23 58 15.0 +0.5
BURAR Bucovina Array 75.96 321 P P 23 58 14.9 +0.5
BIZ Bicaz 76.01 321⇓ iP P 23 58 15.0 +0.3
TESR Tescani 76.05 320⇑ iP P 23 58 14.9 0.0
TUQ Turquoise Moun 76.06 55 P P 23 58 16.6 +1.4
baz=310
CFR Carcaliu 76.23 318⇑ iP P 23 58 15.9 0.0
CFR Carcaliu 76.23 318 P P 23 58 15.8 -0.1
PETR Petresti 76.31 319⇑ iP P 23 58 17.7 +1.4
ODBI Odobesti 76.37 319⇑ iP P 23 58 17.1 +0.4
KOLS Kolonicke sedl 76.37 324 eP P 23 58 17.4 +0.7
KOLS pmax pmax
comp=Z,9.0nm,1.2s
KOLS Kolonicke sedl 76.37 324 eP P 23 58 17.4 +0.7
NWAO Narrogin (SRO) 76.41 201 P P 23 58 16.4 -0.4
comp=Z,6.1nm,0.7s,baz=26,slow=4.0,SNR=4.4
VRI Vrincioaia 76.46 319⇑ iP P 23 58 18.1 +0.9
VRI Vrincioaia 76.46 319 P P 23 58 18.1 +0.9
OJC Ojcow 76.51 326 eP P 23 58 18.0 +0.6
OJC Ojcow 76.51 326 eP P 23 58 18.0 +0.6
PLOR Plostina 76.51 319⇓ iP P 23 58 18.2 +0.7
PLOR Plostina 76.51 319 P P 23 58 18.1 +0.6
ULM Lac du Bonnet 76.52 34 eP P 23 58 18.9 +1.5
ULM pmax pmax
comp=Z,3.0nm,0.7s
ULM Lac du Bonnet 76.52 34 P P 23 58 17.2 -0.2
comp=Z,4.8nm,0.7s,baz=287,slow=8.7,SNR=5.5
UZH Uzhgorod 76.58 324 eP P 23 58 17.6 -0.2
UZH e 23 58 30.4
MDND Maddock 76.62 37 P P 23 58 19.3 +1.2
baz=316
GMRC Granite Mounta 76.64 56 P P 23 58 20.0 +1.4
baz=310,SNR=6.6
TLB Topalu 76.69 318⇑ iP P 23 58 19.3 +0.7
TLB Topalu 76.69 318 P P 23 58 19.2 +0.7
ARCR ARCALIA 76.75 322⇓ iP P 23 58 20.0 +1.2
K22A Casper 76.80 45 P P 23 58 20.1 +0.7
baz=313
TRPA Tarpa 76.84 323⇓ iP P 23 58 20.3 +1.0
TRPA Tarpa 76.84 323 eP P 23 58 20.0 +0.8
NIE Niedzica 76.89 325 eP P 23 58 20.7 +1.1
NIE Niedzica 76.89 325 eP P 23 58 20.7 +1.1
BELC Belle Mtn. Jos 76.92 57 P P 23 58 21.0 +0.8
baz=310
BR131 Keskin Array S 76.96 311 P P 23 58 20.6 +0.3
SNR=8.4
BRTR Keskin Array B 76.96 311 P P 23 58 20.6 +0.3
comp=Z,4.8nm,0.9s,baz=78,slow=4.0,SNR=32
BRTR LR LR 00 35 24.2
comp=Z,28nm,18.9s,baz=53,slow=38
DOPR Dopca 77.05 320⇓ iP P 23 58 21.5 +0.9
ISR Istrita 77.08 319⇓ iP P 23 58 21.6 +0.8
ISR Istrita 77.08 319 P P 23 58 21.6 +0.8
RSSD Black Hills 77.10 42 eP P 23 58 21.8 +0.7
comp=Z,5.5nm,0.9s
RSSD Black Hills 77.10 42 eP P 23 58 21.8 +0.7
RSSD pmax pmax
comp=Z,5.0nm,0.9s
RSSD Black Hills 77.10 42 P P 23 58 21.6 +0.5
baz=314
MLR Muntele Rosu 77.11 320⇓ iP P 23 58 21.1 0.0
MLR Muntele Rosu 77.11 320 P P 23 58 21.1 0.0
ICOR Ion Corvin 77.14 318⇑ iP P 23 58 22.1 +1.0
WHFO Wadi Hawf 77.25 283 P P 23 58 21.1 -1.0
IRM Iron Mountain 77.37 56 P P 23 58 23.9 +1.3
baz=310,SNR=5.7
SECR 77.38 319⇓ iP P 23 58 22.6 +0.2
LANS Liptovska Anna 77.45 325 eP P 23 58 24.3 +1.5
LANS Liptovska Anna 77.45 325 eP P 23 58 24.3 +1.5
KSP Ksiaz 77.49 328 eP P 23 58 24.0 +1.1
KSP Ksiaz 77.49 328 eP P 23 58 24.0 +1.1
BC3 Big Chuckawall 77.49 56 P P 23 58 24.8 +1.4
baz=310
OKC Ostrava-Krasne 77.50 327 eP P 23 58 23.5 +0.5
OKC Ostrava-Krasne 77.50 327 eP P 23 58 23.5 +0.5
KECS Kecovo 77.50 324 eP P 23 58 23.8 +0.8
KECS pmax pmax
comp=Z,16nm,0.9s
KECS Kecovo 77.50 324 eP P 23 58 23.8 +0.8
O20A White River Ci 77.56 48 P P 23 58 24.6 +0.8
baz=313
VOIR 77.59 320⇓ iP P 23 58 25.0 +1.3
VOIR 77.59 320 P P 23 58 25.0 +1.3
DRGR 77.74 322⇓ iP P 23 58 24.5 0.0
DRGR 77.74 322 P P 23 58 24.4 0.0
MORC Moravsky Berou 77.80 327⇑ iP P 23 58 25.4 +0.7
MORC Moravsky Berou 77.80 327 P P 23 58 25.4 +0.7
MORC Moravsky Berou 77.80 327 eP P 23 58 25.5 +0.7
ARR Arges 77.85 320⇑ iP P 23 58 26.4 +1.3
DPC Dobruska-Polom 77.86 328 eP P 23 58 26.0 +0.9
DPC Dobruska-Polom 77.86 328 eP P 23 58 26.0 +0.9
DPC AMS AMS 00 35 20.0
comp=Z,200nm,13.5s
UPC Upice 77.86 328 eP P 23 58 25.9 +0.9
UPC Upice 77.86 328 eP P 23 58 25.9 +0.9
KRLC Kraliky 77.89 327 eP P 23 58 25.6 +0.4
KRLC Kraliky 77.89 327 eP P 23 58 25.6 +0.4
PDMCI Parker Dam,Lak 77.90 55 P P 23 58 27.6 +2.1
baz=311
PSZ Piszkesteto 78.19 324⇑ iP P 23 58 27.7 +0.7
PSZ Piszkesteto 78.19 324 P P 23 58 27.7 +0.7
PSZ Piszkesteto 78.19 324 eP P 23 58 28.0 +1.0
VYHS Vyhne 78.22 325 eP P 23 58 27.7 +0.6
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS Vyhne 78.22 325 eP P 23 58 27.7 +0.6
HUMR Humele 78.28 319⇓ iP P 23 58 26.8 -0.6
GLA Glamis 78.28 57 P P 23 58 29.3 +1.6
baz=311
N23A Red Feather La 78.32 46 P P 23 58 29.6 +1.5
baz=314,SNR=5.2
BRG Berggiesshubel 78.40 329 iP P 23 58 28.3 +0.3
comp=Z,12nm,0.9s
BRG Berggiesshubel 78.40 329 iP P 23 58 28.3 +0.3
BRG pmax pmax
comp=Z,12nm,0.9s
CLL Collm 78.42 330⇓ iP P 23 58 28.2 +0.2
CLL pmax pmax
comp=Z,18nm,0.7s
CLL Collm 78.42 330⇓ iP P 23 58 28.2 +0.2
comp=Z,18nm,0.7s
CLL LmV 00 33 00.0
comp=Z,100nm,18.8s
PVCC Panska Ves 78.43 329 eP P 23 58 29.1 +1.0
PVCC Panska Ves 78.43 329 eP P 23 58 29.1 +1.0
JAVC Velka Javorina 78.45 326 eP P 23 58 30.1 +1.8
VRAC Vranov 78.55 327⇓ iP P 23 58 30.0 +1.1
VRAC Vranov 78.55 327 P P 23 58 29.9 +1.1
VRAC Vranov 78.55 327 eP P 23 58 29.7 +0.8
SIRR Siria 78.61 322⇓ iP P 23 58 29.8 +0.5
SZH Strazhica 78.70 318 iP P 23 58 29.2 -0.6
GZR Gura Zlata 78.73 321⇓ iP P 23 58 29.9 -0.1
SMOL Smolenice 78.81 326 eP P 23 58 31.7 +1.4
SMOL Smolenice 78.81 326 eP P 23 58 31.7 +1.4
WUAZ Wupatki 78.82 53 P P 23 58 32.1 +1.4
baz=312
GOPC GO Pecny, Ondr 78.82 328 eP P 23 58 30.9 +0.6
GOPC GO Pecny, Ondr 78.82 328 eP P 23 58 30.9 +0.6
GOPC AMS AMS 00 36 00.0
comp=Z,200nm,22.0s
KRUC Moravsky 78.83 327 eP P 23 58 31.0 +0.6
PRU Pruhonice 78.86 328 eP P 23 58 30.8 +0.3
PRU e 23 58 36.6
PRU Pruhonice 78.86 328 eP P 23 58 30.8 +0.3
PRU ePCP pP 23 58 36.6 -0.2
PRU AMS AMS 00 35 50.0
comp=Z,200nm,21.0s
SRO Srobarova 78.97 325 eP P 23 58 32.1 +1.0
SRO Srobarova 78.97 325 eP P 23 58 32.1 +1.0
SRO2 Moca 78.97 325 eP P 23 58 31.0 -0.1
SRO2 Moca 78.97 325 eP P 23 58 31.0 -0.1
MODS Modra-Piesok 78.99 326 eP P 23 58 31.7 +0.4
MODS pmax pmax
comp=Z,15nm,1.1s
MODS Modra-Piesok 78.99 326 eP P 23 58 31.7 +0.4
TREC Trest 79.02 328 eP P 23 58 32.0 +0.5
TREC Trest 79.02 328 eP P 23 58 32.0 +0.5
PHSR Pinarhisar 79.03 316⇑ iP P 23 58 32.4 +0.8
BZS Buzias 79.12 322⇓ iP P 23 58 31.8 -0.2
BZS Buzias 79.12 322 P P 23 58 31.7 -0.2
ZST Bratislava 79.20 326 eP P 23 58 32.6 +0.2
ZST Bratislava 79.20 326 eP P 23 58 32.6 +0.2
ISCO Idaho Springs 79.26 46 P P 23 58 34.8 +1.5
baz=314,SNR=6.4
MVCO Mesa Verde 79.40 50 P P 23 58 35.5 +1.5
baz=313
PUNG Punghina 79.47 320⇑ iP P 23 58 34.0 +0.1
NKC Novy Kostel 79.49 330 eP P 23 58 34.8 +0.8
NKC Novy Kostel 79.49 330 eP P 23 58 34.8 +0.8
MDVR Moldovita 79.69 321⇑ iP P 23 58 35.3 +0.1
SOP Sopron 79.83 326 P P 23 58 37.2 +1.4
KHC Kasperske Hory 79.92 328 eP P 23 58 37.0 +0.6
KHC Kasperske Hory 79.92 328 eP P 23 58 37.0 +0.6
KHC AMS AMS 00 36 30.0
comp=Z,200nm,21.3s
CONA Conrad Observa 79.93 326 iP P 23 58 37.7 +1.2
comp=Z,12nm,0.8s,SNR=6.7
S22A 4UR Ranch, Cre 80.00 49 P P 23 58 39.0 +1.6
baz=314,SNR=8.7
MORH Mrgy, Hungar 80.04 324 eP P 23 58 36.8 -0.2
MORH Mrgy, Hungar 80.04 324 eP P 23 58 37.0 0.0
GERES GERESS Array B 80.10 328 P P 23 58 37.9 +0.4
comp=Z,7.2nm,0.8s,baz=34,slow=5.3,SNR=38
GERES LR LR 00 37 17.7
comp=Z,174nm,18.4s,baz=71,slow=38
Q24A Divide 80.10 47 P P 23 58 39.8 +1.9
baz=315
EYMN Ely 80.13 33 P P 23 58 37.7 +0.2
baz=322
EKA Eskdalemuir Ar 80.14 341 P P 23 58 37.3 0.0
EKA pmax pmax
comp=Z,9.0nm,0.6s
ESK Eskdalemuir 80.16 341 ceP P 23 58 38.2 +0.7
PLD Plovdiv 80.17 318 P P 23 58 40.2 +2.4
WET Wettzell 80.19 329 P P 23 58 38.8 +1.0

214A Organ Pipe Nat 80.28 56 P P 23 58 40.8 +2.2
baz=312
FRGS Fruska Gora 80.31 323 ||iP P 23 58 38.6 +0.1
GRF Grafenberg Arr 80.39 330 P P 23 58 40.0 +1.1
GRFO Grafenberg 80.40 330 eP P 23 58 40.0 +1.1
comp=Z,20nm,0.8s
GRFO Grafenberg 80.40 330 eP P 23 58 40.0 +1.1
GRFO pmax pmax
comp=Z,20nm,0.8s
VTS Vitosha 80.54 319 eP P 23 58 41.1 +1.1
VTS Vitosha 80.54 319 P P 23 58 41.1 +1.1
VTS Vitosha 80.54 319 ||iP P 23 58 40.9 +0.9
VTS Vitosha 80.54 319 eP P 23 58 41.1 +1.1
VTS Vitosha 80.54 319 iP P 23 58 39.6 -0.4
ARSA Arzberg 80.60 326 iP P 23 58 40.9 +0.9
comp=Z,4.9nm,0.7s
MOA Molln 80.66 327 iP P 23 58 41.1 +0.8
comp=Z,5.0nm,0.7s
SDCO Great Sand Dun 80.75 48 P P 23 58 42.9 +1.5
baz=315,SNR=6.4
EZN Ezine 80.96 315 ||iP P 23 58 42.5 +0.4
EZN Ezine 80.96 315 P P 23 58 42.4 +0.4
DIVS Divibare 81.02 322 eP P 23 58 42.1 -0.3
MMB Musomiste 81.04 318 iP P 23 58 41.8 -0.7
ECSD EROS Data Cent 81.07 39 P P 23 58 43.0 +0.4
baz=319
E38A The Farm, Brul 81.16 34 P P 23 58 42.9 -0.1
baz=322
KKB Krupnik 81.17 319 iP P 23 58 42.7 -0.5
PERS Pernice 81.26 326 iP P 23 58 44.1 +0.5
SOKA Soboth 81.26 326 iP P 23 58 44.3 +0.6
comp=Z,24nm,0.8s,SNR=11
TUC Tucson 81.33 55 eP P 23 58 44.8 +0.5
comp=Z,4.9nm,1.1s
TUC Tucson 81.33 55 eP P 23 58 44.8 +0.5
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 81.33 55 P P 23 58 45.5 +1.3
baz=313
KSCO Kaye Shedlock' 81.45 45 P P 23 58 46.0 +1.1
baz=316
SRS Serrai 81.46 318 P P 23 58 45.2 +0.5
BBLS Lazići 81.47 322 eP P 23 58 42.3 -2.5
HAPS Han Pijesak,Bl 81.52 322 eP P 23 58 44.5 -0.6
F38A Pierce - Schro 81.53 35 P P 23 58 45.5 +0.5
baz=322
OBKA Obir 81.60 326 iP P 23 58 45.8 +0.3
comp=Z,11nm,0.7s,SNR=5.6
KBA Koelnbreinsper 81.65 327 iP P 23 58 46.7 +0.9
comp=Z,21nm,0.7s,SNR=11
KBA Koelnbreinsper 81.65 327 P P 23 58 46.5 +0.7
LEGS Legarje 81.71 326 iP P 23 58 46.0 +0.1
STIP Stip 81.75 319 iP P 23 58 45.6 -0.6
CRES Cresnjev 81.75 325 ||iP P 23 58 45.9 -0.3
T25A Trinidad 81.80 48 P P 23 58 48.1 +1.2
baz=315,SNR=9.6
BLY Banja Luka 81.82 324 eP P 23 58 46.4 -0.1
VAY Valandovo 81.83 318 iP P 23 58 47.2 +0.5
MYKA Terra Mystica 81.89 327 iP P 23 58 47.0 0.0
comp=Z,8.7nm,0.6s,SNR=5.2
SKO Skopje 81.91 320 iP P 23 58 48.2 +1.1
F39A Loretta 81.97 34 P P 23 58 47.0 -0.4
baz=322
LJU Ljubljana 81.98 326 iP P 23 58 47.3 0.0
LJU Ljubljana 81.98 326 ||iP P 23 58 47.0 -0.4
E40A Wakefield 81.99 33 P P 23 58 48.0 +0.6
baz=323,SNR=6.9
SCHQ Scheffervilla 82.04 16 P P 23 58 47.1 -0.4
comp=Z,14nm,0.8s,baz=1.6,slow=8.4,SNR=4.8
PLG Polygyros 82.08 317 P P 23 58 47.9 -0.1
MGRS Mrkonjic Grad 82.12 324 eP P 23 58 49.4 +1.2
TASM ASL Pad, Albuq 82.15 50 P P 23 58 50.5 +1.8
baz=314,SNR=12
TASM ASL Pad, Albuq 82.15 50 P P 23 58 50.5 +1.8
baz=314,SNR=12
ANMO Albuquerque 82.15 50 eP P 23 58 50.6 +1.9
comp=Z,12nm,1.1s
ANMO Albuquerque 82.15 50 ceP P 23 58 50.9 +2.2
ANMO pmax pmax
comp=Z,13nm,1.3s
ANMO Albuquerque 82.15 50 P P 23 58 50.5 +1.8
baz=314
G38A Ridgeland 82.15 35 P P 23 58 48.5 +0.2
baz=322
WATA Walderalm 82.16 328 iP P 23 58 49.0 +0.6
comp=Z,10nm,0.7s,SNR=8.2
WTTA Wattenberg 82.20 328 iP P 23 58 49.3 +0.6
comp=Z,10nm,0.6s,SNR=5.5
UPM Unac-Piva 82.21 322 eP P 23 58 47.6 -1.3
ABTA Abfaltersbach 82.26 328 iP P 23 58 48.5 -0.4
comp=Z,8.0nm,1.0s
CEY Cerknica 82.26 326 ||iP P 23 58 48.5 -0.4
MOTA Moosalm 82.34 329 iP P 23 58 50.0 +0.6
comp=Z,24nm,0.9s,SNR=19
G39A Holcombe 82.36 35 P P 23 58 49.4 +0.1
baz=322
E41A Kenton 82.36 33 P P 23 58 49.4 +0.1
baz=323
RETA Reutte 82.36 329 iP P 23 58 50.2 +0.7
comp=Z,22nm,0.8s,SNR=7.3
SQTA Sankt Quirin 82.40 329 iP P 23 58 50.3 +0.6
comp=Z,8.8nm,0.6s,SNR=5.2
BFO Black Forest 82.60 331 eP P 23 58 50.8 +0.2
comp=Z,8.8nm,0.8s
BFO Black Forest 82.60 331 ceP P 23 58 51.2 +0.6
BRY Bratogost 82.61 322 eP P 23 58 50.3 -0.6
PDG Podgorica 82.63 321 ||iP P 23 58 51.0 +0.2
PDG Podgorica 82.63 321 eP P 23 58 50.6 -0.2
BIA Bitola 82.68 319 iP P 23 58 43.2 -8.0
FETA Feichten 82.76 329 iP P 23 58 52.1 +0.5
comp=Z,11nm,0.7s
G40A Rib Lake 82.80 34 P P 23 58 51.3 -0.4
baz=323
E42A Champion 82.82 32 P P 23 58 51.4 -0.4
baz=324
DSB Dublin 82.83 341 eP P 23 58 52.5 +0.9
FNA Florina 82.83 319 P P 23 58 53.7 +1.7
TREB Trebinje 82.85 322 eP P 23 58 52.9 +0.9
DRME Dracevica, Mon 82.85 321 ||iP P 23 58 52.3 +0.3
DAVA Damuels 82.87 329 iP P 23 58 52.7 +0.5
comp=Z,20nm,0.8s,SNR=7.8
OHR Ohrid 82.88 319 iP P 23 58 52.7 +0.5
F41A Three Lakes 82.89 33 P P 23 58 52.2 +0.1
baz=323
CDF Champ du Feu 82.92 331 eP P 23 58 52.0 -0.4
CDF pmax pmax
comp=Z,8.0nm,0.8s
HCY Herceg Novi 82.98 322 eP P 23 58 56.2 +3.5
121A Cookes Peak, D 83.03 53 P P 23 58 55.1 +1.8
baz=314,SNR=5.8
H40A Chili 83.22 35 P P 23 58 54.1 +0.2
baz=323
E43A Lone Tree Farm 83.24 32 P P 23 58 54.2 +0.3
baz=325
ATAL Atalanti 83.54 316 eP P 23 58 55.0 -0.6
ATAL Atalanti 83.54 316 P P 23 58 55.0 -0.6
H41A Junction City 83.55 34 P P 23 58 55.6 +0.1
baz=323
HINF Hinteralfeld 83.58 331 eP P 23 58 54.9 -0.8
HINF pmax pmax
comp=Z,14nm,1.3s
F43A Flat Rock, Esc 83.61 32 P P 23 58 56.1 +0.3
baz=325
MATQ Matagami 83.75 25 P P 23 58 55.6 -0.9
baz=331
D46A Sault St. Mari 83.97 30 P P 23 58 57.3 -0.3
baz=327
K39A Oelwein 84.07 37 P P 23 58 58.4 +0.2
baz=322
D47A Chapleau 84.18 29 P P 23 58 58.5 -0.2
baz=327
ANX Ano Chora 84.19 317 P P 23 58 58.6 -0.5
IGT Igoumenitsa 84.30 319 P P 23 58 58.9 -0.6
J41A Loganville 84.39 35 P P 23 59 59.9 0.0
baz=323
K40A Colesburg 84.41 36 P P 23 59 00.0 +0.1
baz=322
LAKA Lakka 84.42 317 eP P 23 58 59.7 -0.5
LAKA Lakka 84.42 317 P P 23 58 59.7 -0.5
I42A Draeger Farm, 84.45 34 P P 23 58 60.0 -0.1
baz=324
GUR Goura 84.46 316 eP P 23 58 59.2 -1.2
GUR Goura 84.46 316 P P 23 58 59.2 -1.2
H43A Windswept, Lux 84.47 33 P P 23 58 59.9 -0.3
baz=324

L39A Vinton 84.47 37 P P 23 59 00.1 -0.2
baz=322
D48A Paudash Townsh 84.55 28 P P 23 59 00.5 -0.1
baz=328
LSQQ Lebel-sur-Quev 84.57 25 P P 23 58 59.8 -0.8
baz=331
CHGQ Chibougamau 84.61 23 P P 23 59 00.3 -0.5
baz=333
URZ Urewera 84.61 153 LR LR 00 35 14.3
comp=Z,62nm,18.9s,baz=326,slow=35
E47A Iron Bridge 84.62 30 P P 23 59 00.7 -0.3
baz=327
D49A Beulah Townshi 84.63 28 P P 23 59 00.4 -0.7
baz=328
LAST Lasithi 84.78 313 eP P 23 59 01.9 -0.2
LAST Lasithi 84.78 313 P P 23 59 01.9 -0.2
CABF La Chapelle 84.87 331 eP P 23 59 03.8 +1.4
CABF pmax pmax
comp=Z,46nm,1.6s
AMTX Amarillo 84.95 48 P P 23 59 04.2 +1.2
baz=317
G46A Petoskey 84.95 31 P P 23 59 02.4 -0.3
baz=326
MSTX Muleshoe 84.99 49 P P 23 59 04.3 +1.1
baz=316
E48A Lockeyer 85.01 29 P P 23 59 03.1 +0.2
baz=328
MNTX Cornudas Mount 85.07 52 P P 23 59 04.7 +1.2
baz=315
LOR Lormes 85.11 333 eP P 23 59 03.0 -0.5
LOR pmax pmax
comp=Z,19nm,0.8s
FLN La Foliniere 85.24 336 eP P 23 59 03.8 -0.2
FLN pmax pmax
comp=Z,96nm,2.2s
ITM Ithomi 85.24 316 eP P 23 59 03.7 -0.6
comp=Z,35nm,0.7s
ITM Ithomi 85.24 316 P P 23 59 03.7 -0.6
LDF La Druitiere 85.28 336 eP P 23 59 03.7 -0.5
LDF pmax pmax
comp=Z,32nm,1.6s
F48A Evansville 85.39 29 P P 23 59 05.3 +0.4
baz=328
AQU L'Aquila 85.40 324 eP P 23 59 04.6 -0.4
SSF Saint Saulge 85.41 333 eP P 23 59 04.7 -0.2
SSF pmax pmax
comp=Z,13nm,0.9s
GLMI Grayling 85.46 31 P P 23 59 05.0 -0.3
baz=326
H46A Fife Lake 85.46 32 P P 23 59 05.7 +0.5
baz=326
LPL La Plagne 85.56 330 eP P 23 59 05.9 -0.1
LPL pmax pmax
comp=Z,25nm,0.8s
LPG La Plagne 85.56 330 eP P 23 59 06.0 -0.1
LPG pmax pmax
comp=Z,23nm,0.7s
SMF Signal de Mont 85.66 333 eP P 23 59 06.0 -0.2
SMF pmax pmax
comp=Z,32nm,1.2s
GRR Gorron 85.69 336 eP P 23 59 06.1 -0.1
GRR pmax pmax
comp=Z,67nm,1.9s
AVF Avril sur Loir 85.70 333 eP P 23 59 06.2 -0.1
AVF pmax pmax
comp=Z,33nm,0.8s
E51A G1948 Merrick 85.93 27 P P 23 59 06.6 -0.9
baz=330
BGF Bois d'Agland 86.08 333 eP P 23 59 08.1 -0.2
BGF pmax pmax
comp=Z,10.0nm,0.8s
N41A Harden Midland 86.12 37 P P 23 59 07.8 -0.7
baz=323
MBDF Montbardon 86.20 330 eP P 23 59 08.3 -0.8
MBDF pmax pmax
comp=Z,12nm,0.8s
SGMF Saint Gilles 86.32 337 eP P 23 59 09.5 +0.1
SGMF pmax pmax
comp=Z,10.0nm,0.7s
D54A Lac Fusel, La 86.34 25 P P 23 59 09.4 -0.1
baz=332
ORIF Oris-en-Rattie 86.38 330 eP P 23 59 10.4 +0.5
ORIF pmax pmax
comp=Z,9.0nm,0.7s
M43A Waltham Townsh 86.40 36 P P 23 59 10.5 +0.5
baz=324
ROSF Rostrenen 86.46 338 eP P 23 59 10.3 +0.2
ROSF pmax pmax
comp=Z,29nm,1.0s
TCF Toulx Ste Croi 86.53 333 eP P 23 59 10.5 0.0
TCF pmax pmax
comp=Z,13nm,1.0s
WMOK Wichita Mounta 86.68 46 P P 23 59 12.0 +0.6
baz=318,SNR=9.2
KLBO Killbear Provi 86.68 28 P P 23 59 10.8 -0.4
baz=329
E53A Dumoine, Ponti 86.69 26 P P 23 59 10.5 -0.8
baz=331
E54A Lac Daplat, Po 86.80 26 P P 23 59 11.0 -0.8
baz=331
QUIF Quistinic 86.81 337 eP P 23 59 11.6 -0.2
QUIF pmax pmax
comp=Z,36nm,1.3s
VIVF Saint-Julien-l 86.89 331 eP P 23 59 12.2 -0.1
VIVF pmax pmax
comp=Z,23nm,1.4s
MFF Saint Martin d 87.04 335 eP P 23 59 13.2 +0.2
MFF pmax pmax
comp=Z,19nm,0.8s
TUL1 Leonard 87.40 43 P P 23 59 15.6 +0.6
baz=320
PEMO Pembroke 87.44 26 P P 23 59 14.3 -0.6
baz=331
G53A Haliburton 87.45 27 P P 23 59 14.9 -0.1
baz=330
LMR La Mourre 87.48 329 eP P 23 59 14.7 -0.4
LMR pmax pmax
comp=Z,46nm,1.5s
RJF Les Rejaudoux 87.63 333 eP P 23 59 16.0 +0.2
RJF pmax pmax
comp=Z,24nm,1.2s
RPZ Rata Peaks 87.72 159 LR LR 00 31 01.7
comp=Z,73nm,21.9s,baz=10.0,slow=30
CAF Calviac 87.77 333 eP P 23 59 17.1 +0.6
CAF pmax pmax
comp=Z,16nm,0.8s
R41A Rosebud 87.78 39 P P 23 59 17.0 +0.4
baz=322,SNR=7.2
BANO Bancroft 87.78 27 P P 23 59 17.1 +0.6
baz=331
TXAR Lajitas Array 87.78 53 eP P 23 59 18.2 +1.2
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR Lajitas Array 87.78 53 P P 23 59 17.9 +1.0
comp=Z,3.0nm,0.7s,baz=295,slow=3.2,SNR=24
CCM Cathedral Cave 88.03 39 eP P 23 59 18.4 +0.5
comp=Z,14nm,0.8s
CCM Cathedral Cave 88.03 39 eP P 23 59 18.4 +0.5
CCM pmax pmax
comp=Z,14nm,0.8s
CCM Cathedral Cave 88.03 39 P P 23 59 18.7 +0.8
baz=322
PLVO Plevna 88.06 27 P P 23 59 17.9 0.0
baz=331
S41A Jillco Farms, 88.16 40 P P 23 59 18.7 +0.2
baz=322,SNR=5.4
LFF La Frestale 88.21 334 eP P 23 59 19.1 +0.5
LFF pmax pmax
comp=Z,9.0nm,0.8s
ORIO Orleans, Innes 88.22 25 P P 23 59 18.6 0.0
baz=332
ACTO Acton 88.24 29 P P 23 59 19.2 +0.4
baz=329
ALFO Alfred 88.27 25 P P 23 59 19.5 +0.7
baz=333
N47A Urbana 88.28 34 P P 23 59 19.3 +0.3
baz=326
J52A Paris 88.40 30 P P 23 59 19.6 +0.1
baz=329
H55A Tweed 88.45 27 P P 23 59 19.6 -0.2
baz=331
P45A Graceland, Par 88.49 36 P P 23 59 20.3 +0.3
baz=325
L50A Kingsville 88.51 32 P P 23 59 20.0 0.0
baz=328
M49A Liberty Center 88.51 33 P P 23 59 20.1 0.0
baz=327

U40A Yellville 88.57 41 P P 23 59 20.7 +0.2
baz=322,SNR=13
N49A Columbus Grove 88.89 33 P P 23 59 22.5 +0.7
baz=327
M50A Fremont 88.95 32 P P 23 59 22.4 +0.3
baz=328
W39A Magazine 89.00 43 P P 23 59 22.9 +0.4
baz=321
O48A Farmland 89.03 34 P P 23 59 22.6 0.0
baz=326
U41A Viola 89.05 41 P P 23 59 23.3 +0.6
baz=322
MTLF Montolieu 89.09 332 eP P 23 59 23.3 +0.5
MTLF pmax pmax
comp=Z,143nm,2.6s
JCT Junction City 89.25 49 P P 23 59 24.6 +0.8
baz=318,SNR=5.6
S44A Carbondale 89.27 38 P P 23 59 24.5 +0.7
baz=324,SNR=5.6
ERPA Erie 89.55 30 P P 23 59 25.7 +0.8
baz=330
Q47A Bedord North L 89.56 36 P P 23 59 25.8 +0.7
baz=325
L53A Girard 89.58 30 P P 23 59 25.8 +0.7
baz=329
S45A Carrier Mills 89.60 38 P P 23 59 26.0 +0.8
baz=324
MIAR Mount Ida 89.61 43 P P 23 59 26.4 +1.0
baz=321
N51A Ashland 89.63 32 P P 23 59 26.2 +0.8
baz=328
L54A Sinclairville 89.70 29 P P 23 59 26.2 +0.5
baz=330
K55A Perry 89.73 28 P P 23 59 26.2 +0.4
baz=331
O50A Cable 89.77 33 P P 23 59 27.0 +1.0
baz=327
W41B Gary Mavity, V 89.80 42 P P 23 59 26.8 +0.6
baz=322
P49A Miami Univ. Ec 89.81 34 P P 23 59 27.0 +0.8
baz=326
M53A WI Miller and 89.86 31 P P 23 59 27.6 +1.1
baz=329
Q48A North Vernon 89.87 35 P P 23 59 27.9 +1.4
baz=326
ACSO Alum Creek Sta 89.96 33 P P 23 59 27.3 +0.4
baz=328
X40A Basin Creek Fa 90.04 42 P P 23 59 28.4 +1.0
baz=322
R47A Wooly Knot Far 90.04 36 P P 23 59 28.1 +0.8
baz=325
P50A Jamestown 90.14 34 P P 23 59 28.5 +0.7
baz=327
Q49A Aurora 90.18 35 P P 23 59 28.5 +0.5
baz=326
O51A Pataskala 90.19 33 P P 23 59 28.9 +0.9
baz=328
M54A Oil Creek Stat 90.19 30 P P 23 59 28.7 +0.6
baz=330
WCI Wyandotte Cave 90.20 36 P P 23 59 28.6 +0.5
baz=326
N53A Lisbon 90.34 31 P P 23 59 29.3 +0.6
baz=329
T46A Princeton 90.44 38 P P 23 59 29.4 +0.2
baz=324
ETSF Etsaut 90.45 333 eP P 23 59 30.5 +1.2
ETSF pmax pmax
comp=Z,14nm,1.0s
O52A Adamsville 90.53 32 P P 23 59 30.4 +0.8
baz=328
N54A Moraine State 90.54 30 P P 23 59 30.3 +0.7
baz=330
P51A Williamsport 90.56 33 P P 23 59 29.9 +0.2
baz=328
M55A Ridgway 90.57 29 P P 23 59 30.4 +0.6
baz=330
R49A Shelbyville 90.65 35 P P 23 59 30.9 +0.7
baz=326
O53A New Philadelph 90.67 32 P P 23 59 30.6 +0.4
baz=329
S48A Wiedeman Farm, 90.78 36 P P 23 59 31.4 +0.6
baz=326
Q51A Peebles 90.82 34 P P 23 59 31.5 +0.5
baz=327
T47A Sharon Grove 90.84 37 P P 23 59 31.7 +0.6
baz=325
BINY Binghamton 90.93 27 P P 23 59 30.8 -0.6
baz=332
S49A Springfield 91.02 36 P P 23 59 32.4 +0.5
baz=326
R50A Paris 91.02 35 P P 23 59 32.7 +0.8
baz=327
O54A Avella 91.06 31 P P 23 59 32.7 +0.7
baz=329
N55A Marion Center 91.08 30 P P 23 59 32.7 +0.5
baz=330
WVT Waverly 91.20 38 P P 23 59 33.4 +0.6
baz=324
U47A Clarksville 91.20 38 P P 23 59 33.5 +0.7
baz=325
P53A Whipple 91.25 32 P P 23 59 33.6 +0.7
baz=329
Q52A Bidwell 91.33 33 P P 23 59 33.7 +0.4
baz=328
R51A Hillsboro 91.33 34 P P 23 59 33.9 +0.6
baz=327
V46A Holladay 91.33 39 P P 23 59 33.6 +0.2
baz=324
O55A Ligonier 91.45 30 P P 23 59 34.3 +0.4
baz=330
U48A Cassie Pea, Po 91.50 37 P P 23 59 34.9 +0.8
baz=325
V47A Nunnelly 91.59 38 P P 23 59 34.8 +0.2
baz=325
SSPA Standing Stone 91.62 29 P P 23 59 35.6 +1.0
baz=331
O56A Blue Knob Stat 91.68 30 P P 23 59 35.6 +0.6
baz=330
U49A Red Boiling Sp 91.84 37 P P 23 59 36.2 +0.4
baz=326
T50A Nancy 91.85 36 P P 23 59 35.9 +0.1
baz=326
V48A Smith Brothers 92.00 38 P P 23 59 36.6 +0.2
baz=325
W47A Westpoint 92.03 39 P P 23 59 36.8 +0.2
baz=325
N59A State Game Lan 92.14 28 P P 23 59 37.1 0.0
baz=332
T51A Gray 92.29 35 P P 23 59 37.9 +0.1
baz=327
U50A Jamestown 92.35 36 P P 23 59 38.8 +0.7
baz=326
V49A McMinnville 92.40 37 P P 23 59 38.4 +0.1
baz=326
W48A Pulaski 92.43 38 P P 23 59 38.7 +0.2
baz=325,SNR=5.2
KEST Kesra 92.62 323 P P 23 59 38.8 -0.7
comp=Z,8.4nm,1.1s,baz=252,slow=4.6,SNR=4.9
U51A La Follette 92.75 35 P P 23 59 40.7 +0.7
baz=327
W49A Belvidere 92.76 38 P P 23 59 40.1 +0.1
baz=325
X48A Hartselle 92.94 39 P P 23 59 41.1 +0.2
baz=325
U52A Thorn Hill 93.02 35 P P 23 59 41.9 +0.7
baz=327
W50A Signal Mountai 93.14 37 P P 23 59 42.4 +0.6
baz=326
X49A Woodville 93.23 38 P P 23 59 42.4 +0.2
baz=325
Y48A Jasper 93.32 39 P P 23 59 42.6 0.0
baz=325
V52A Sevierville 93.38 36 P P 23 59 43.2 +0.3
baz=327
Y49A Blount Mountai 93.73 39 P P 23 59 44.0 -0.4
baz=325
Y50A Piedmont 94.02 38 P P 23 59 46.7 +0.9
baz=326
W53A Cullowhee 94.14 36 P P 23 59 47.0 +0.5
baz=327
X52A Dahlonega 94.28 36 P P 23 59 47.7 +0.7
baz=327
Y51A Rockmart 94.33 38 P P 23 59 46.8 -0.5
baz=326
Z50A Ashland 94.45 39 P P 23 59 48.1 +0.3
baz=326,SNR=8.6
ESDC Sonseca Array 94.48 334 P P 23 59 47.7 -0.2
comp=Z,1.2nm,0.5s,baz=19,slow=4.3,SNR=18

ESDC				LR	LR	00 47 53.7	
	comp=Z,50nm,18.4s,baz=30,slow=39						
149A	**Jones**	**94.57**	**40**	P	**P**	**23 59 49.3**	**+0.9**
	baz=325						
T58A	**Grand View Acr**	**94.58**	**31**	P	**P**	**23 59 49.0**	**+0.7**
	baz=330						
X53A	**Estanollee**	**94.63**	**36**	P	**P**	**23 59 48.7**	**+0.1**
	baz=327						
Y52A	**Lilburn**	**94.82**	**37**	P	**P**	**23 59 50.3**	**+0.9**
	baz=327						
150A	**Eclectic**	**94.94**	**39**	P	**P**	**23 59 50.6**	**+0.5**
	baz=326						
Y54A	**Tignall**	**95.44**	**36**	P	**P**	**23 59 52.5**	**+0.1**
	baz=328						
Z53A	**Monticello**	**95.53**	**37**	P	**P**	**23 59 53.3**	**+0.5**
	baz=327						
155A	**Kite**	**96.59**	**36**	P	**P**	**23 59 57.5**	**0.0**
	baz=328						
254A	**Abbeville**	**96.78**	**37**	P	**P**	**23 59 58.4**	**0.0**
	baz=327						
TOA1	**Torodi Ar. Sit**	**115.23**	**316**	*e*PKiKP	**PKiKP**	**00 05 08.1**	**-1.3**
TORD	**Torodi Ar. Bea**	**115.24**	**316**	PKP	**PKiKP**	**00 05 08.1**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=308,slow=0.2,SNR=4.1						
TORD				PP	**PP**	**00 06 05.7**	**-3.3**
	comp=Z,1.4nm,1.1s,baz=31,slow=3.5,SNR=3.6						
SDV	**Santo Domingo**	**122.51**	**39**	*e*PKPdf	**PKiKP**	**00 05 24.4**	**+0.4**
SNAA	**Sanae**	**144.03**	**198**	PKPdf	**PKPab**	**00 05 59.5**	**+0.1**
LPAZ	**La Paz**	**144.59**	**56**	*e*PKPdf	PKPbc	00 06 04.4	+0.4
LPAZ	**La Paz**	**144.59**	**56**	PKP	PKPbc	00 06 04.1	+0.1
	comp=Z,4.8nm,0.5s,baz=352,slow=5.5,SNR=20						
VNA2	**Neumayer--Watz**	**145.61**	**197**	PKPdf	**PKPdf**	**00 06 04.8**	**+0.2**
	baz=63,slow=1.6						
MNMC	**Minye Minye**	**145.69**	**61**	*e*PKPdf	**PKPab**	**00 06 08.8**	**+1.5**
VNA3	**Neumayer Olymp**	**145.87**	**196**	PKPdf	**PKPdf**	**00 06 04.9**	**-0.2**
VNA1	**Neumayer--Stat**	**146.01**	**197**	PKPdf	**PKPdf**	**00 06 05.6**	**+0.3**
LVC	**Limon Verde**	**148.53**	**65**	*e*PKPbc	**PKiKP**	**00 06 16.8**	**+0.1**
BDFB	**Brasilia**	**153.90**	**22**	*e*PKPdf	**PKPdf**	**00 06 20.8**	**+1.3**
BDFB				*e*PKPbc	**PKiKP**	**00 06 28.1**	**+0.6**
BDFB				*e*PKPab	**PKPab**	**00 06 41.3**	**+0.8**
BDFB	**Brasilia**	**153.90**	**22**	PKPbc	**PKiKP**	**00 06 28.1**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=73,slow=9.3,SNR=4.0						
BDFB				PKPab	**PKPab**	**00 06 41.3**	**+0.8**
	comp=Z,5.6nm,0.8s,baz=277,slow=3.4,SNR=8.2						

*IDC **15** 23:48:06.6±1.7, 52.°46N×164.°33W, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.5/51, mbtmp3.6/5, ML3.2/2, MS3.8/4, Ms1 3.8/4, ms1mx2.9/54, Error ellipse: s-maj=38.3km s-min=25.3km az=179.0*

*ISCJB **15** 23:48:07.5±0.6, 52.°35N±0.°04×164.°57W±0.°06, h33km, mb3.8/3, Error ellipse: s-maj=6.1km s-min=5.6km az=179.8*

*NEIC **15** 23:48:07.8±0.0, 52.°40N×164.°56W, h26km, ML3.4(AEIC), After AEIC.*

ISC 15 23:48:10.7±1.0, 52.°47N±0.°08×164.°48W±0.°05, h35km, n44, σ1°59/44, mb3.9/3, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.82**	**337**	*e*Pn	**Pn**	**23 48 38.0**	**-1.4**
AKSA				*e*Sn	**Sn**	**23 49 01.1**	**-0.2**
AHB	**Akutan Harbor**	**1.83**	**335**	*e*Pn	**Pn**	**23 48 38.5**	**-1.2**
AKUT	**Akutan**	**1.83**	**336**	*e*Pn	**Pn**	**23 48 38.7**	**-1.0**
AKUT				*e*Sn	**Sn**	**23 48 56.7**	**-4.9**
UNV	**Unalaska Valle**	**1.84**	**319**	*e*Pn	**Pn**	**23 48 38.1**	**-1.6**
UNV				*e*Sn	**Sn**	**23 49 00.9**	**-0.8**
ZRO	**Akutan Zero**	**1.85**	**332**	*e*Pn	**Pn**	**23 48 38.7**	**-1.3**
AKMO	**Akutan Morgan**	**1.86**	**331**	*e*Pn	**Pn**	**23 48 38.9**	**-1.2**
AKMO				*e*Sn	**Sn**	**23 49 03.4**	**+1.0**
MREP	**Makushin Rep't**	**1.91**	**315**	*e*Pn	**Pn**	**23 48 39.2**	**-1.6**
AKRB	**Akutan Reef Bi**	**1.91**	**331**	*e*Pn	**Pn**	**23 48 39.7**	**-1.1**
AKRB				*e*Sn	**Sn**	**23 49 05.2**	**+1.5**
MSW	**Makushin Switc**	**2.00**	**317**	*e*Pn	**Pn**	**23 48 40.6**	**-1.3**
MSW				*e*Sn	**Sn**	**23 49 05.9**	**+0.2**
WESP	**Westdahl Peak**	**2.03**	**356**	*e*Pn	**Pn**	**23 48 41.7**	**-0.7**
WESP				*e*Sn	**Sn**	**23 49 07.4**	**+0.8**
MCIR	**Makushin Cirqu**	**2.07**	**317**	*e*Pn	**Pn**	**23 48 42.0**	**-1.0**
WEBT	**Westdahl Beart**	**2.13**	**356**	*e*Pn	**Pn**	**23 48 43.5**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**2.34**	**294**	*e*Pn	**Pn**	**23 48 45.1**	**-1.6**
FALS	**False Pass**	**2.47**	**14**	*e*Pn	**Pn**	**23 48 47.2**	**-1.2**
OKWE	**Okmok W'ng Wal**	**2.48**	**295**	*e*Pn	**Pn**	**23 48 47.1**	**-1.5**
OKAK	**Okmok**	**2.59**	**297**	*e*Pn	**Pn**	**23 48 47.4**	**-2.7**
NIKH	**Nikolski High**	**2.71**	**282**	*e*Pn	**Pn**	**23 48 49.2**	**-2.5**
SDPT	**Sand Point**	**3.73**	**38**	*e*Pn	**Pn**	**23 49 05.3**	**-0.4**
SDPT				*e*Sn	**Sn**	**23 49 45.5**	**-2.8**
SDPT				*e*Sg	**Sn**	**23 49 46.2**	**-2.1**
SPIA	**Saint Paul Isl**	**5.77**	**327**	*e*Pn	**Pn**	**23 49 33.1**	**-0.6**
KOFP	**Korovin Flat P**	**5.89**	**272**	*e*Pn	**Pn**	**23 49 34.6**	**-0.9**
ATKA	**Atka Island**	**5.96**	**271**	*e*Pn	**Pn**	**23 49 34.5**	**-1.9**
GSTR	**Great Sitkin T**	**7.12**	**272**	*e*Pn	**Pn**	**23 49 50.9**	**-1.3**
GSTD	**Great Sitkin T**	**7.17**	**271**	*e*Pn	**Pn**	**23 49 51.7**	**-1.4**
ETKA	**Kagalaska Isla**	**7.36**	**270**	*e*Pn	**Pn**	**23 49 54.2**	**-1.4**
ADK	**Adak**	**7.53**	**270**	*e*Pn	**Pn**	**23 49 56.7**	**-1.1**
KDAK	**Kodiak Island**	**8.64**	**47**	Pn	**Pn**	**23 50 12.0**	**-1.1**
	0.6nm,0.3s,baz=226,slow=3.5,SNR=9.9						
KDAK				Sn	Sn	23 51 40.2	-8.9
	0.1nm,0.3s,baz=356,slow=16,SNR=2.1						
MLY	**Manley**	**14.42**	**24**	*e*Pn	**Pn**	**23 51 32.9**	**+0.9**
ILAR	**Eielson Array**	**15.28**	**29**	Pn	**Pn**	**23 51 42.4**	**-1.1**
	0.0nm,0.3s,baz=223,slow=12,SNR=2.4						
INK	**Inuvik**	**21.66**	**31**	*e*P	**P**	**23 53 00.1**	**+2.4**
PEA1	**Petropavlovsk-**	**22.71**	**287**	*e*P	**P**	**23 53 10.5**	**+1.4**
PETK	**Petropavlovsk-**	**22.71**	**287**	P	**P**	**23 53 10.5**	**+1.4**
	1.3nm,0.5s,baz=71,slow=14,SNR=4.4						
ASAJ	**Asahikawa**	**35.47**	**278**	LR	LR	00 10 10.2	
	comp=Z,30nm,18.8s,baz=148,slow=37						
PD31	**Pinedale Array**	**37.43**	**83**	*e*P	**P**	**23 55 20.9**	**+0.4**
PDAR	**Pinedale Array**	**37.43**	**83**	P	**P**	**23 55 20.9**	**+0.4**
	0.8nm,0.5s,baz=291,slow=3.5,SNR=7.6						
PDAR				LR	LR	00 08 51.5	
	comp=Z,66nm,20.3s,baz=268,slow=33						
H11N2	**WAKE ISLAND Hy**	**39.53**	**225**	T	T	00 39 21.5	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**39.53**	**225**	T	T	00 39 21.5	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**39.55**	**225**	T	T	00 39 21.5	
	baz=25						
H11S1	**WAKE ISLAND Hy**	**40.70**	**225**	T	T	00 40 50.0	
	baz=24						
H11S2	**WAKE ISLAND Hy**	**40.71**	**225**	T	T	00 40 50.0	
	baz=24						
H11S3	**WAKE ISLAND Hy**	**40.71**	**225**	T	T	00 40 50.0	
	baz=24						
LTX	**Lajitas**	**49.76**	**93**	*e*P	**P**	**23 56 59.8**	**+0.1**
TXAR	**Lajitas Array**	**49.76**	**93**	P	**P**	**23 56 59.8**	**+0.1**
	0.9nm,0.5s,baz=304,slow=5.9,SNR=12						
RAR	**Rarotonga**	**73.49**	**175**	LR	LR	00 24 42.1	
	comp=Z,193nm,19.1s,baz=82,slow=30						
CTA	**Charters Tower**	**83.97**	**226**	LR	LR	00 32 19.3	
	comp=Z,195nm,21.5s,baz=44,slow=32						

JMA 15 23:49:52.8, 35.°28N×135.°48E, h9km±1km, M3.2, 3C-4D Broadband fault plane solution: P waves. NP1: ϕ_s=315.00000°, δ70.00000°, λ46.00000°. **NP2:** ϕ_s=205.00000°, δ47.00000°, λ153.00000°. **Principal axes:** T Plg46.0000°, Azm180.0000°; N Plg41.0000°, Azm333.0000°; P Plg14.0000°, Azm75.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.06**	**272**	⇓P	Pg	23 49 55.0	+0.2
JWT				S	Sg	23 49 56.3	0.0
JKY	**Yasaka**	**0.46**	**319**	⇑P	Pg	23 50 02.0	+0.1
JKS	**Kasai**	**0.60**	**241**	⇓P	Pg	23 50 04.3	-0.1
JKS				S	Sg	23 50 12.2	-0.1
JHE	**Heguri**	**0.65**	**165**	⇑P	Pg	23 50 05.2	-0.1
JKSM	**Kasumi**	**0.73**	**295**	⇓P	Pg	23 50 06.7	-0.3
TSUJ	**Tsu 2**	**0.96**	**126**	⇓P	Pg	23 50 10.8	-0.4
TSUJ				S	Sg	23 50 23.1	-0.6
JAJ2	**Tsuna**	**0.99**	**210**	⇑P	Pg	23 50 11.4	-0.4
JAJ2				S	Sg	23 50 24.4	-0.2
MAT	**Matsushiro**	**2.55**	**60**	P	Pg	23 50 40.7	-0.9
MAT				S	Sg	23 51 13.7	-0.9

ATH 15 23:55:45.6, 38.°30N×21.°81E, h8km±2km, ML0.7/1 Error ellipse: s-maj=2.4km s-min=1.0km az=268.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.03**	**221**	P	Pg	23 55 46.7	-0.4
UPR				S	Sg	23 55 48.2	+0.2
EFP	**Efpalio**	**0.14**	**32**	P	Pg	23 55 48.6	-0.1
EFP				S	Sg	23 55 51.2	+0.4
EFP				AML	AML	23 55 51.6	
	comp=E,83μm,0.2s						
EFP				AML	AML	23 55 51.9	
	comp=N,103μm,0.3s						
LAKA	**Lakka**	**0.15**	**115**	P	Pg	23 55 48.7	0.0
LAKA				S	Sg	23 55 51.6	+0.7
KALE	**Kalithea**	**0.27**	**71**	P	Pg	23 55 51.0	-0.1
KALE				S	Sg	23 55 55.3	+0.5
ANX	**Ano Chora**	**0.30**	**17**	P	Pg	23 55 51.4	-0.2
ANX				S	Sg	23 55 56.6	+0.9
DRO	**Drossia**	**0.36**	**193**	P	Pg	23 55 52.9	+0.3
DRO				S	Sg	23 55 58.6	+1.2
PVO	**Paravola**	**0.38**	**325**	P	Pg	23 55 52.7	-0.4
GUR	**Goura**	**0.56**	**131**	P	Pg	23 55 56.3	-0.1
GUR				S	Sg	23 56 03.2	-0.5

*ISCJB **16** 00:10:54.9±0.6, 45.°48N±0.°09×153.°06E±0.°10, h10km, mb4.0/22, Error ellipse: s-maj=14.0km s-min=7.8km az=151.3*

*IDC **16** 00:10:55.0±0.9, 45.°42N×153.°09E, h0km, mb3.9/16, mb1 4.0/19, mb1mx3.8/52, mbtmp3.8/19, ML3.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/39, Error ellipse: s-maj=25.9km s-min=16.4km az=166.0*

*NEIC **16** 00:10:56.5±1.7, 45.°43N×153.°10E, h10km±4km, mb4.2/11, Error ellipse: s-maj=20.8km s-min=12.3km az=127.0*

ISC 16 00:10:56.7±0.8, 45.°4N±0.°1×153.°10E±0.°09, h10km, n39, σ0°74/38, mb4.1/22, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.59**	**264**	Pn	**Pn**	**00 12 47.2**	**-0.1**
	baz=106,slow=19,SNR=1.9						
ERM	**Erimo**	**7.97**	**248**	*e*Pn	**Pn**	**00 12 52.0**	**-0.5**
ERM				*e*Sn	Sn	00 14 10.4	-12
PEA0B	**Petropavlovsk-**	**8.24**	**20**	*e*Pn	**Pn**	**00 12 55.0**	**-1.3**
PETK	**Petropavlovsk-**	**8.24**	**20**	*e*Pn	**Pn**	**00 12 54.5**	**-1.8**
PETK	**Petropavlovsk-**	**8.24**	**20**	Pn	**Pn**	**00 12 56.0**	**-0.2**
	0.4nm,0.3s,baz=185,slow=12,SNR=7.5						
PEA1	**Petropavlovsk-**	**8.25**	**20**	*e*Pn	**Pn**	**00 12 56.0**	**-0.3**
MA2	**Magadan**	**14.23**	**355**	LR	LR	00 21 19.1	
	comp=Z,35nm,18.6s,baz=107,slow=44						
KLR	**Kul'dur**	**14.96**	**292**	Pn	**Pn**	**00 14 27.9**	**-0.1**
	0.1nm,0.3s,baz=90,slow=20,SNR=2.1						
SML	**Sawmill**	**36.94**	**42**	*e*P	**P**	**00 18 07.2**	**+1.7**
	7.4nm,0.6s						
ILAR	**Eielson Array**	**37.59**	**37**	P	**P**	**00 18 10.1**	**-0.9**
	0.2nm,0.5s,baz=260,slow=9.0,SNR=4.0						
INK	**Inuvik**	**42.77**	**32**	P	**P**	**00 18 54.7**	**+0.9**
	0.8nm,0.5s,baz=311,slow=8.6,SNR=5.1						
MK32	**Makanchi Array**	**47.55**	**298**	*e*P	**P**	**00 19 31.7**	**-0.4**
MKAR	**Makanchi Array**	**47.55**	**298**	P	**P**	**00 19 31.7**	**-0.4**
	0.5nm,0.4s,baz=62,slow=5.6,SNR=1.8						
YKA	**Yellowknife Ar**	**51.98**	**36**	P	**P**	**00 20 05.4**	**-0.2**
	0.2nm,0.5s,baz=250,slow=3.7,SNR=4.5						
YKB5	**Yellowknife Ar**	**51.98**	**36**	*e*P	**P**	**00 20 05.4**	**-0.2**
RES	**Resolute Bay**	**52.09**	**18**	P	**P**	**00 20 06.7**	**+0.6**
	1.4nm,0.8s,baz=350,slow=9.6,SNR=6.4						
AAK	**Ala-Archa**	**54.42**	**297**	*e*P	**P**	**00 20 25.5**	**+1.4**
	2.2nm,0.8s						
AAK	**Ala-Archa**	**54.42**	**297**	P	**P**	**00 20 24.3**	**+0.3**
	1.3nm,0.6s,baz=79,slow=5.2,SNR=7.6						
ARU	**Arti**	**55.98**	**318**	*e*P	**P**	**00 20 33.8**	**-1.0**
	3.8nm,1.1s						
ARU	**Arti**	**55.98**	**318**	P	**P**	**00 20 33.8**	**-1.0**
	0.6nm,0.5s,baz=320,slow=2.0,SNR=4.7						
ARA0	**ARCESS Array S**	**59.09**	**341**	*e*P	**P**	**00 20 57.0**	**+0.4**
ARCES	**ARCESS Array B**	**59.09**	**341**	P	**P**	**00 20 57.0**	**+0.4**
	4.6nm,1.1s,baz=9.5,slow=7.7,SNR=4.5						
ABKAR	**Akbulak array**	**59.27**	**310**	*e*P	**P**	**00 20 58.8**	**+0.7**
	1.0nm,0.6s						
NV01	**Mina Array Sit**	**63.05**	**62**	*e*P	**P**	**00 21 24.5**	**+0.3**
NVAR	**Mina Array Bea**	**63.05**	**62**	P	**P**	**00 21 24.5**	**+0.3**
	0.5nm,0.5s,baz=304,slow=6.4,SNR=4.7						
FIA0	**FINESS Array S**	**65.23**	**335**	*e*P	**P**	**00 21 37.1**	**-0.7**
FINES	**FINESS Array B**	**65.23**	**335**	P	**P**	**00 21 37.1**	**-0.7**
	2.6nm,0.7s,baz=37,slow=7.5,SNR=12						
PD31	**Pinedale Array**	**65.53**	**53**	*e*P	**P**	**00 21 40.2**	**-0.2**
	1.0nm,0.8s						
PDAR	**Pinedale Array**	**65.53**	**53**	P	**P**	**00 21 40.2**	**-0.2**
	0.2nm,0.4s,baz=305,slow=3.2,SNR=3.3						
NB200	**NORSAR Array S**	**69.47**	**341**	*e*P	**P**	**00 22 04.7**	**-0.1**
NOA	**NORSAR Array B**	**69.47**	**341**	P	**P**	**00 22 04.7**	**-0.1**
	0.6nm,0.5s,baz=27,slow=6.4,SNR=4.3						
AS31	**Alice Springs**	**70.96**	**199**	*e*P	**P**	**00 22 13.9**	**-0.3**
	0.4nm,0.8s						
ASAR	**Alice Springs**	**70.96**	**199**	P	**P**	**00 22 13.9**	**-0.3**
	0.5nm,0.7s,baz=16,slow=6.1,SNR=5.6						
KBZ	**Khabaz**	**71.77**	**314**	P	**P**	**00 22 19.9**	**+0.9**
	1.7nm,0.5s,baz=45,slow=1.8,SNR=6.3						
AKASG	**Malin Array Be**	**72.64**	**326**	P	**P**	**00 22 23.8**	**-0.3**
	1.4nm,0.4s,baz=33,slow=6.4,SNR=9.0						
AKBB	**Malin Array Si**	**72.64**	**326**	*e*P	**P**	**00 22 24.9**	**+0.8**
	3.3nm,0.6s						
KIEV	**Kiev**	**72.65**	**326**	*e*P	**P**	**00 22 24.6**	**+0.5**
	3.2nm,0.7s						
TXAR	**Lajitas Array**	**78.15**	**60**	P	**P**	**00 22 56.3**	**+0.1**
	0.6nm,0.8s,baz=318,slow=3.6,SNR=5.1						
SWET	**Sewanee**	**83.62**	**45**	*e*P	**P**	**00 23 24.6**	**-0.7**
	6.8nm,0.7s						

*TAP **16** 00:19:38.2, 23.°02N×120.°80E, h6km, ML3.5, C*

*ISCJB **16** 00:19:39.0±0.2, 23.°00N±0.°01×120.°83E±0.°01, h6km±2km, Error ellipse: s-maj=2.2km s-min=2.0km az=163.5*

*JMA **16** 00:19:39.2, 23.°02N×120.°90E, h0km±2km, M3.2*

ISC 16 00:19:38.8±0.9, 23.°01N±0.°01×120.°83E±0.°02, h7km±8km, n104, σ0°74/143, 15C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.17**	**337**	P	**Pg**	**00 19 41.8**	**-0.5**
	baz=356						
STYT				S	**Sg**	**00 19 44.0**	**-0.5**
	baz=356						
SLGT	**Liugui**	**0.17**	**264**	⇑*i*P	**Pg**	**00 19 41.6**	**-0.6**
	baz=258						
SLGT				S	**Sg**	**00 19 43.4**	**-1.1**
	baz=258						
SGST	**Jiashian**	**0.24**	**288**	P	**Pg**	**00 19 43.3**	**-0.1**
	baz=287						
SGST				S	**Sg**	**00 19 46.9**	**+0.2**
	baz=287						
ELDTW	**Lidau**	**0.25**	**45**	⇑*i*P	**Pg**	**00 19 44.1**	**+0.4**
	baz=51						
ELDTW				S	**Sg**	**00 19 47.8**	**+0.6**
	baz=51						
TWG	**Pinlang**	**0.29**	**130**	⇓*i*P	**Pb**	**00 19 45.7**	**-0.7**
	baz=128						
TWG				S	**Sb**	**00 19 50.5**	**-1.0**
	baz=128						
TWGBT	**Beinan**	**0.30**	**129**	⇓P	**Pb**	**00 19 45.6**	**-0.9**
	baz=128						
TWGBT				S	**Sb**	**00 19 50.4**	**-1.3**
	baz=128						
WTP	**Ta-pu**	**0.31**	**320**	⇓*i*P	**Pg**	**00 19 44.9**	**+0.1**
	baz=325						
WTP				*i* S	**Sg**	**00 19 49.2**	**+0.3**
	baz=325						
SSD	**Sandimen**	**0.32**	**214**	⇑*i*P	**Pg**	**00 19 44.7**	**-0.4**
	baz=208						
SSD				*e*S	**Sg**	**00 19 48.3**	**-1.0**
	baz=208						
CHN1	**Nanshi**	**0.33**	**302**	⇓*i*P	**Pg**	**00 19 45.3**	**+0.1**
	baz=309						
CHN1				*e*S	**Sg**	**00 19 50.5**	**+1.0**
	baz=309						
TPUB	**Ta-pu**	**0.34**	**328**	⇓P	**Pg**	**00 19 45.8**	**+0.3**
	baz=331						
TPUB				S	**Sg**	**00 19 50.6**	**+0.6**
	baz=331						
SNST	**Tainan City**	**0.37**	**305**	*e*P	**Pg**	**00 19 46.6**	**+0.6**
	baz=311						
SNST				*e*S	**Sg**	**00 19 52.5**	**+1.7**
	baz=311						
TTN	**Taitung**	**0.39**	**131**	P	**Pb**	**00 19 48.2**	**+0.2**
	baz=130						
CHN4	**Tsaushan**	**0.40**	**328**	⇓*i*P	**Pg**	**00 19 47.1**	**+0.5**
	baz=342						
CHN4				S	**Sb**	**00 19 54.3**	**-0.4**
	baz=342						
TWK	**Hsinying**	**0.40**	**309**	P	**Pg**	**00 19 47.2**	**+0.5**
	baz=316						
TWK				*e*S	**Sg**	**00 19 53.3**	**+1.4**
	baz=316						
TWM1	**Shoushan**	**0.42**	**244**	*e*P	**Pg**	**00 19 47.5**	**+0.6**
	baz=239						
SGLT	**Jiouru**	**0.42**	**228**	*e*P	**Pg**	**00 19 47.6**	**+0.7**
	baz=216						
ECL	**Taimali**	**0.43**	**164**	*e*P	**Pg**	**00 19 47.2**	**+0.2**
	baz=151						
ECL				*e*S	**Sg**	**00 19 53.1**	**+0.4**
	baz=151						
CHN3	**Shinhua**	**0.43**	**279**	*e*P	**Pb**	**00 19 48.7**	**0.0**
	baz=277						
MASBT	**Mashibuluo**	**0.43**	**204**	⇑P	**Pg**	**00 19 46.9**	**-0.4**
	baz=204						
MASBT				*e*S	**Sg**	**00 19 52.0**	**-1.0**
	baz=204						
ALS	**Alishan**	**0.50**	**358**	⇑*i*P	**Pg**	**00 19 48.6**	**+0.1**
	baz=2.0						
ALS				S	**Sg**	**00 19 55.9**	**+0.8**
	baz=2.0						
CHKT	**Chengkung**	**0.50**	**80**	*e*P	**Pb**	**00 19 50.2**	**+0.3**
	baz=82						
SNJT	**Kaohsiung City**	**0.52**	**241**	*e*P	**Pb**	**00 19 51.3**	**+1.1**
	baz=229						
TWF1	**Yuli**	**0.55**	**52**	⇑*i*P	**Pb**	**00 19 49.8**	**-1.0**
	baz=46						
TWF1				S	**Sg**	**00 19 57.1**	**+0.5**
	baz=46						
SSPT	**Xinbi**	**0.58**	**205**	⇑*i*P	**Pg**	**00 19 50.0**	**+0.1**
	baz=194						
YULB	**Yu-li**	**0.58**	**49**	⇑P	**Pg**	**00 19 50.0**	**0.0**
	baz=43						
YULB				*e*S	**Sg**	**00 19 57.3**	**-0.2**
	baz=43						
CHN5	**Tsauling**	**0.60**	**347**	P	**Pg**	**00 19 50.6**	**+0.2**
	baz=349						
CHN5				*e*S	**Sb**	**00 19 59.8**	**-0.6**
	baz=349						
CHY	**Chiayi**	**0.61**	**323**	*e*P	**Pg**	**00 19 51.2**	**+0.6**
	baz=325						
CHY				*e*S	**Sb**	**00 20 00.6**	**0.0**
	baz=325						
CHN2	**Minshiung**	**0.61**	**328**	*e*P	**Pb**	**00 19 51.9**	**0.0**
	baz=330						
CHN2				*e*S	**Sb**	**00 20 01.7**	**+1.0**
	baz=330						
EAST	**Anshuo**	**0.62**	**178**	⇑P	**Pg**	**00 19 51.0**	**+0.2**
	baz=168						
EAST				*e*S	**Sg**	**00 19 59.0**	**0.0**
	baz=168						
TAW	**Tawu**	**0.65**	**174**	*e*P	**Pg**	**00 19 51.9**	**+0.5**
	baz=163						
CHN8	**Yiju**	**0.66**	**301**	*e*P	**Pb**	**00 19 52.4**	**-0.2**
	baz=315						
SCZT	**Fangliau**	**0.66**	**197**	⇑*i*P	**Pg**	**00 19 51.2**	**-0.3**
	baz=187						
EHY	**Hungye**	**0.67**	**43**	⇑P	**Pg**	**00 19 51.7**	**0.0**
	baz=45						
EHY				S	**Sg**	**00 20 00.8**	**+0.4**
	baz=45						
WLGB	**Puzi**	**0.67**	**314**	*e*P	**Pb**	**00 19 53.0**	**+0.2**
	baz=314						
WHYT	**Xinyi Township**	**0.68**	**2**	⇑*e*P	**Pg**	**00 19 51.9**	**-0.1**
	baz=16						
WGK	**Gukeng**	**0.71**	**340**	*e*P	**Pb**	**00 19 53.6**	**0.0**
	baz=343						
WGK				S	**Sb**	**00 20 04.8**	**+1.1**
	baz=343						
WDLH	**Douliu**	**0.73**	**339**	*e*P	**Pb**	**00 19 53.7**	**-0.1**
	baz=340						
HGSD	**Ruisui**	**0.73**	**49**	⇑*e*P	**Pb**	**00 19 53.6**	**-0.2**
	baz=44						
HGSD				*e*S	**Sb**	**00 20 05.1**	**+1.1**
	baz=44						
WLCH	**Liuqiu**	**0.78**	**212**	*e*P	**Pn**	**00 19 57.3**	**+1.2**
	baz=208						
SSLB	**Suanglung**	**0.78**	**9**	P	**Pg**	**00 19 53.4**	**-0.5**
	baz=17						
SSLB				*e*S	**Sb**	**00 20 06.2**	**+0.6**
	baz=17						
TWP	**Hsiaoliuchiu**	**0.79**	**213**	*e*P	**Pn**	**00 19 57.2**	**+0.9**
	baz=233						
VWDT	**VWDT**	**0.79**	**21**	⇑P	**Pg**	**00 19 53.5**	**-0.5**
	baz=25						
VWDT				*e*S	**Sb**	**00 20 06.5**	**+0.6**
	baz=25						
WJS	**Zhushan**	**0.81**	**354**	*e*P	**Pb**	**00 19 55.1**	**-0.2**
	baz=355						
WSF	**Szhu**	**0.84**	**318**	*e*P	**Pg**	**00 19 55.0**	**+0.1**
	baz=319						
EGFH	**Guangfu**	**0.86**	**40**	*e*P	**Pg**	**00 19 55.1**	**-0.2**
	baz=56						
SMLT	**Sun Moon Lake**	**0.87**	**4**	⇑*i*P	**Pg**	**00 19 55.7**	**+0.1**
	baz=16						
SMLT				S	**Sn**	**00 20 09.7**	**-1.0**
	baz=16						
WNT	**Mingjian**	**0.87**	**351**	*e*P	**Pb**	**00 19 56.5**	**+0.2**
	baz=335						
TYC	**Yuchr**	**0.89**	**2**	*e*

LIOB	Emei	1.64	6	eP		Pb	00 20 09.0	-0.3
	baz=347							
NDT	Datong Townshi	1.71	21	eP		Pb	00 20 10.6	+0.1
	baz=23							
YHNB	Yeheng	1.73	17	eP		Pb	00 20 10.8	-0.1
	baz=9.0							
YHNB				eS		Sg	00 20 35.0	+0.7
	baz=9.0							
NSK	Sanguang	1.73	16	eP		Pb	00 20 11.1	+0.2
	baz=17							
ENTT	Nioudou	1.76	22	eP		Pb	00 20 11.5	+0.1
	baz=25							
TWC	Suao	1.85	30	eP		Pb	00 20 12.7	-0.2
	baz=46							
NWLT	Wulai	1.86	19	eP		Pg	00 20 13.9	-0.7
	baz=21							
TWE	Neicheng	1.87	24	eP		Pb	00 20 13.5	+0.2
	baz=42							
TATO	Taipei	2.05	17	eP		Pb	00 20 16.2	-0.1
	baz=18							
TWA	Mucha	2.08	19	eP		Pb	00 20 16.9	0.0
	baz=20							
TIPB	Shuangxi	2.16	25	eP		Pg	00 20 18.9	-1.2
	baz=41							
NWF	Wu-fen Shan	2.23	23	eP		Pb	00 20 19.4	-0.1
	baz=41							
WFSB	Wu-fen Shan	2.23	23	eP		Pb	00 20 19.1	-0.3
	baz=41							
YM01	YM01	2.23	18	eP		Pb	00 20 18.6	-0.9
	baz=18							
YM10	YM10	2.24	17	eP		Pg	00 20 21.0	-0.7
	baz=19							
YM11	YM11	2.25	18	eP		Pb	00 20 20.4	+0.6
	baz=18							
TWB1	Santiao Chiao	2.25	28	eP		Pb	00 20 19.0	-0.8
	baz=43							
YM07	YM07	2.27	18	eP		Pb	00 20 19.9	-0.3
	baz=19							
YOJ	Yonaguni jima	2.47	54	eP		Pn	00 20 19.7	+0.3
	baz=55							
YOJ	Yonaguni jima	2.47	54	P		Pn	00 20 19.8	+0.3
YOJ				S		Sn	00 20 51.0	+1.1
PTMZ	Houxiangcun	2.55	323	eP		Pn	00 20 19.6	-1.0
	baz=321							
HATJ	Hateruma jima	2.92	69	P		Pn	00 20 26.1	+0.4
HATJ				S		Sn	00 21 00.6	-0.5
IRIF	Iriomote-Funau	2.97	63	P		Pn	00 20 27.5	+1.1
IRIF				S		Sn	00 21 02.7	+0.4
JKRS	Kuro-shima	3.16	67	P		Pn	00 20 29.3	+0.3
JKRS				eS		Sn	00 21 08.0	+1.0
MATB	Ma-tsu	3.23	346	eP		Pn	00 20 29.3	-0.6
	baz=343							
JIJ	Ishigaki jima	3.33	65	P		Pn	00 20 31.4	+0.2
JIJ				S		Sn	00 21 11.1	+0.1
JTJ	Tarama	3.90	65	S		Sn	00 21 25.6	+0.3

*IDC **16** 00:20:47.1±3.1, 25°.00S×179°.56E, h526km±33km, mb3.3/6, mb1 3.5/6, mb1mx3.1/29, mbtmp4.3/6, Error ellipse: s-maj=64.1km s-min=20.2km az=160.0*

ISC 16 00:20:43.7±1.6, 25°.1S±0°.4×179°.8E±0°.2, h507km, n13, σ1§01/14, mb3.8/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.32	272	P	P	00 26 23.1	+0.9
	5.2nm,0.3s,baz=99,slow=9.0,SNR=9.1						
STKA	Stephens Creek	34.13	250	P	P	00 26 46.5	+0.6
	0.6nm,0.4s,baz=177,slow=18,SNR=2.3						
ASAR	Alice Springs	41.68	262	P	P	00 27 47.7	-0.1
	0.9nm,0.4s,baz=89,slow=6.8,SNR=15						
ASAR				PcP	PcP	00 29 32.8	0.0
	0.3nm,0.6s,baz=100,slow=4.8,SNR=3.0						
WRA	Warramunga Arr	42.16	267	P	P	00 27 51.2	-0.4
	3.8nm,0.5s,baz=107,slow=8.2,SNR=44						
WRA				S	S	00 33 32.7	-2.0
	1.2nm,1.0s,baz=95,slow=14,SNR=3.7						
FITZ	Fitzroy Crossi	50.57	267	P	P	00 28 56.0	+0.5
	3.6nm,0.8s,baz=114,slow=5.6,SNR=5.4						
PETK	Petropavlovsk-	80.20	347	P	P	00 32 01.3	+0.7
	2.4nm,0.8s,baz=134,slow=10,SNR=3.4						
ARCES	ARCESS Array B	133.00	348	PKP	PKPdf	00 39 00.0	-0.4
	1.0nm,0.6s,baz=50,slow=6.1,SNR=3.7						
FINES	FINESS Array B	139.50	341	PKhKP	PKPpre	00 39 04.9	
	0.6nm,0.7s,baz=353,slow=21,SNR=4.4						
FINES				PKP	sPdif	00 39 11.8	-0.4
	0.5nm,0.6s,baz=90,slow=3.3,SNR=4.0						
NB2	NORSAR Subarra	143.21	351	PKP	PKPdf	00 39 17.3	-2.0
	comp=Z,0.5nm,0.6s,baz=14,slow=3.1						
NOA	NORSAR Array B	143.21	351	PKhKP	PKPpre	00 39 15.5	
	comp=Z,1.4nm,0.8s,baz=16,slow=5.0,SNR=4.1						
AKASG	Malin Array Be	145.85	326	PKPbc	PKPbc	00 39 25.2	-0.5
	comp=Z,0.9nm,0.4s,baz=45,slow=4.2,SNR=8.3						
MMAI	Mount Meron Ar	148.00	293	PKPbc	PKiKP	00 39 33.5	-0.1
	comp=Z,2.1nm,0.5s,baz=64,slow=6.6,SNR=11						
BRTR	Keskin Array B	148.13	306	PKPbc	PKPbc	00 39 32.6	+0.2
	comp=Z,0.5nm,0.6s,baz=133,slow=3.5,SNR=5.5						
BRTR				PKPab	PKPab	00 39 38.0	+0.8
	comp=Z,0.6nm,0.7s,baz=65,slow=4.6,SNR=5.6						

WEL 16 00:25:24.2, 36°S±13°×17°8E±°, h163km±11km, ML3.6/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.34	183	P	Pn	00 25 52.1	-1.1
MXZ				S	Sn	00 26 14.9	-0.8
WMGZ	Waiomatatini S	1.60	180	P	Pn	00 25 56.6	+0.8
WMGZ				S	Sn	00 26 20.7	+0.5
HAZ	Te Kaha	1.61	198	P	Pn	00 25 55.5	-0.4
PKGZ	Pakihiroa	1.69	189	P	Pn	00 25 57.3	+0.5
PKGZ				S	Sn	00 26 20.9	-1.1
RUGZ	Raukumara Rang	1.84	198	P	Pn	00 25 58.4	-0.1
RUGZ				S	Sn	00 26 24.5	-0.5
PUZ	Puketiti	1.85	184	P	Pn	00 25 58.9	+0.4
PUZ				S	Sn	00 26 23.7	-1.4
TWGZ	Tauwhareparae	1.98	190	P	Pn	00 26 01.2	+1.3
MWZ	Matawai	2.22	198	P	Pn	00 26 03.7	+1.0
MWZ				S	Sn	00 26 33.6	+0.9
KUZ	Kuaotunu	2.23	256	P	Pn	00 26 02.7	0.0
MARZ	Manawahe	2.24	218	P	Pn	00 26 04.2	+1.3
TKGZ	Te Karaka	2.26	191	P	Pn	00 26 03.7	+0.6
CNGZ	Carnagh Statio	2.27	184	P	Pn	00 26 04.4	+1.2
URZ	Urewera	2.28	206	P	Pn	00 26 03.9	+0.5
RAGZ	Rawiri	2.41	199	P	Pn	00 26 05.9	+1.0
MUGZ	Murupara	2.60	210	P	Pn	00 26 08.1	+0.9
RTZ	Ruatahuna	2.65	205	P	Pn	00 26 08.9	+1.1
SNGZ	Shannon Statio	2.69	198	P	Pn	00 26 09.3	+1.0
WIAZ	Waiheke Island	2.70	257	P	Pn	00 26 09.2	+0.9
MKAZ	Moumakai	2.75	250	P	Pn	00 26 10.1	+1.1
KNZ	Kokohu	2.86	191	P	Pn	00 26 10.6	+0.4
MTHZ	Maungataniwha	2.91	205	P	Pn	00 26 12.1	+1.2
MHGZ	Mahia Peninsul	2.96	188	P	Pn	00 26 12.2	+0.7
BKZ	Black Stump Fm	3.31	207	P	Pn	00 26 15.8	-0.2
KWHZ	Kaweka Forest	3.56	206	P	Pn	00 26 21.1	+1.9
TWVZ	Taurewa	3.69	219	P	Pn	00 26 24.4	+3.5
BHHZ	Black Hill Sta	3.75	209	P	Pn	00 26 23.5	+1.9
KAHZ	Kahuranaki	3.77	198	P	Pn	00 26 21.7	-0.1
FWVZ	Far West T-bar	3.78	216	P	Pn	00 26 25.4	+3.2
TSZ	Takapari Road	4.29	206	P	Pn	00 26 27.3	-1.2
BFZ	Birch Farm	4.77	200	P	Pn	00 26 33.4	-1.3
MRZ	Mangatainoka R	4.96	206	P	Pn	00 26 36.5	-0.8

*IDC **16** 00:33:12.0±1.2, 30°.55N×83°.97E, h0km, mb3.4/7, mb1 3.6/8, mb1mx3.3/47, mbtmp3.4/8, ML2.9/1, Error ellipse: s-maj=57.2km s-min=20.4km az=58.0*
*ISCJB **16** 00:33:14.3±1.1, 30°.7N±0°.2×84°.0E±0°.3, h26km, mb3.5/6, Error ellipse: s-maj=44.9km s-min=16.8km az=156.0*

ISC 16 00:33:16.4±1.3, 30°.7N±0°.2×84°.1E±0°.3, h26km, n8, σ1§45/8, mb3.5/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	16.14	355	Pn	Pn	00 37 00.7	-0.8
	0.0nm,0.3s,baz=168,slow=12,SNR=2.3						
KURBB	Kurchatov Arra	20.35	350	P	P	00 37 51.9	+1.2
	1.0nm,0.7s,baz=162,slow=11,SNR=6.8						
ZALV	Zalesovo Beam	23.25	1	P	P	00 38 20.4	-1.1
	0.2nm,0.3s,baz=171,slow=10,SNR=3.2						
FINES	FINESS Array B	48.37	327	P	P	00 41 57.4	+1.7
	1.2nm,0.8s,baz=293,slow=12,SNR=2.2						
GERES	GERESS Array B	55.12	311	P	P	00 42 44.7	-1.7
	0.1nm,0.2s,baz=65,slow=4.7,SNR=3.0						
WRA	Warramunga Arr	69.73	130	P	P	00 44 23.6	-0.7
	0.3nm,0.5s,baz=322,slow=5.8,SNR=7.6						
ASAR	Alice Springs	72.10	133	P	P	00 44 39.2	+0.6
	0.4nm,0.4s,baz=312,slow=5.8,SNR=6.2						
YKA	Yellowknife Ar	85.93	9	P	P	00 45 54.5	+0.7
	0.1nm,0.7s,baz=330,slow=5.8,SNR=2.8						

IDC 16 00:48:38.8±4.7, 11°.42S×122°.30E, h0km, mb4.0/1, mb1 3.6/3, mb1mx3.4/20, mbtmp3.5/3, ML2.9/2, Error ellipse: s-maj=236.0km s-min=33.8km az=55.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.36	128	Pn	Pn	00 52 02.3	-1.3
	0.0nm,0.3s,baz=301,slow=14,SNR=2.8						
ASAR	Alice Springs	16.44	139	Pn	Pn	00 52 32.4	+1.2
	0.1nm,0.3s,baz=316,slow=12,SNR=4.1						
SONM	Songino Array	60.66	348	P	P	00 58 51.8	-0.1
	0.9nm,0.5s,baz=144,slow=5.2,SNR=2.7						

*BJI **16** 01:11:27.2±0.0, 0°.00N×100°.40E, h157km, mb4.7/33, mB4.7/21*
*ISCJB **16** 01:11:28.7±0.2, 0°.09N±0°.02×100°.42E±0°.02, h174km±2km, mb4.7/144, Error ellipse: s-maj=4.6km s-min=3.0km az=138.0*
*NEIC **16** 01:11:28.9±2.3, 0°.03N×100°.41E, h165km±4km, mb4.7/91, Error ellipse: s-maj=10.7km s-min=8.9km az=193.0*
*IDC **16** 01:11:29.0±0.5, 0°.12N×100°.49E, h168km±3km, mb4.1/26, mb1 4.2/28, mb1mx4.2/34, mbtmp4.6/28, MS3.0/2, Ms1 3.0/2, ms1mx2.5/34, Error ellipse: s-maj=11.0km s-min=7.1km az=54.0*
*MOS **16** 01:11:29.0±1.0, 0°.22N×100°.56E, h174km, mb4.9/52, Error ellipse: s-maj=9.4km s-min=4.5km az=114.8*
*DJA **16** 01:11:30.3±0.2, 0°N±3°×10°0E±°, h160km±2km, M4.6/25, mB5.0/12, mb4.8/25, MLv5.1/12, Mw(mB)4.3/12*
*KLM **16** 01:11:31.0, 0°.18N×100°.32E, h166km, mb4.9*

ISC 16 01:11:29.3±0.3, 0°.12N±0°.03×100°.42E±0°.03, h168km±2km, h169km: pP-P, n621, σ1§20/647, mb4.7/143, 38C-11D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	Bangkinang	0.65	71	ePn	Pn	01 11 53.8	+0.3
BKNI				eSn	Sn	01 12 09.1	-3.0
BKNI	Bangkinang	0.65	71	P	Pn	01 11 54.6	+1.1
BKNI				S	Sn	01 12 12.8	+0.8
PDSI	Padang	1.02	178	P	Pn	01 11 56.9	+0.8
SISI	Saibi	1.96	223	P	Pn	01 12 05.8	+0.7
SISI				S	Sn	01 12 32.1	-0.7
PPSI	Pulau Pagai	2.89	188	P	Pn	01 12 16.1	0.0
PPSI				S	Sn	01 12 53.6	+1.1
PSI	Prapat	3.06	331	ePn	Pn	01 12 18.5	+0.2
PSI				eSn	Sn	01 12 53.3	-3.1
PSI	Prapat	3.06	331	eP	Pn	01 12 18.5	+0.2
PSI				e		01 12 53.3	
PSI	Prapat	3.06	331	P	Pn	01 12 18.2	-0.1
	82nm,0.3s,baz=148,slow=10,SNR=614						
PSI				S	Sn	01 12 53.8	-2.7
	25nm,0.3s,baz=157,slow=23,SNR=4.4						
PSI				LR	LR	01 13 39.8	
	comp=Z,185nm,20.7s,baz=268,slow=44						
GSI	Gunungsitoli	3.08	293	ePn	Pn	01 12 19.0	+0.6
GSI				eSn	Sn	01 12 52.9	-3.7
GSI	Gunungsitoli	3.08	293	P	Pn	01 12 19.7	+1.2
GSI				S	Sn	01 12 55.4	-1.3
JMBI	JAMBI	3.66	118	P	Pn	01 12 26.9	+1.2
MYKOM	Kota Tinggi	3.81	64	ePn	Pn	01 12 28.8	+1.2
MYKOM				eSn	Sn	01 13 10.6	-2.5
MYKOM	Kota Tinggi	3.81	64	P	Pn	01 12 29.0	+1.4
TPRI	Tanjung Pinang	4.18	79	P	Pn	01 12 33.9	+1.5
IPM	Ipoh	4.38	8	ePn	Pn	01 12 37.1	+2.1
IPM	Ipoh	4.38	8	P	Pn	01 12 37.0	+2.1
MNAI	Manna	5.12	150	ePn	Pn	01 12 44.3	-0.3
MNAI				eSn	Sn	01 13 40.6	-3.0
KULM	Kulim	5.14	3	ePn	Pn	01 12 46.2	+1.2
KULM	Kulim	5.14	3	P	Pn	01 12 46.0	+1.0
PMBI	Palembang	5.29	125	P	Pn	01 12 46.8	-0.1
LHMI	Lhok Sumawe	6.15	326	ePn	Pn	01 12 57.4	-0.8
LHMI				eSn	Sn	01 14 08.6	+0.5
LHMI	Lhok Sumawe	6.15	326	P	Pn	01 12 58.1	-0.1
	809nm,0.6s,10μm3.0nm						
SKLT	Songkhla	7.01	2	P	Pn	01 13 10.1	+0.5
	106nm,0.7s,917nm0.3nm						
TRTT	Trang	7.70	355	P	Pn	01 13 18.9	+0.1
	61nm,0.7s,0.3nm						
TPI	Tanjungpandan	7.77	112	P	Pn	01 13 22.4	+2.8
	88nm,1.0s,797nm						
KRAB	Krabi	8.14	351	P	Pn	01 13 24.0	-0.6
	314μm,0.6s,1μm						
SBJI	Serang	8.41	137	P	Pn	01 13 27.7	-0.5
	175nm,0.7s						
CGJI	Cibinong	8.51	142	P	Pn	01 13 25.6	-3.8
SKJI	Sukabumi	9.35	139	P	Pn	01 13 37.6	-3.0
CISI	Cisompet, Garu	10.60	136	ePn	Pn	01 13 52.8	-4.2
CISI				eSn	Sn	01 15 42.6	-12
CISI	Cisompet, Garu	10.60	136	P	Pn	01 13 53.2	-3.8
XMIS	Christmas Isla	11.74	154	ePn	Pn	01 14 04.8	-7.0
XMIS				eSn	Sn	01 16 07.0	-15
SBUM	Sibu	12.02	79	ePn	Pn	01 14 15.4	0.0
SMRI	Semarang	12.27	126	ePn	Pn	01 14 18.4	-0.2
SMRI	Semarang	12.27	126	P	Pn	01 14 20.4	+1.8
	128nm,1.1s						
COCO	West Island	12.73	196	eP	Pn	01 14 26.4	+1.9
COCO	West Island	12.73	196	eP	Pn	01 14 26.4	+1.9
UGM	Wanagama	12.84	129	ePn	Pn	01 14 24.1	-1.9
UGM				eSn	Sn	01 16 43.3	-5.3
WOJI	Wonogiri, Jawa	13.12	127	P	Pn	01 14 28.0	-1.4
	20nm,0.7s						
NGJI	Ngawi	13.28	124	P	P	01 14 34.8	-0.5
	54nm,0.8s						
PBA	Port Blair	13.77	327	eP	Pn	01 14 35.6	-2.0
PBA				IAmb	IAmb	01 14 36.3	
	comp=Z,55nm,0.7s						
GRJI	Gresik	13.91	120	P	P	01 14 42.5	+0.3
	comp=Z,103nm,0.6s						
PWJI	Pagerwojo	13.93	126	P	Pn	01 14 39.1	-0.6
DLV	T Lat	14.22	34	ePn	P	01 14 46.7	+0.8
DGPR	DIGLIPUR	14.95	331	eP	P	01 14 54.3	+0.5
DGPR				IAmb	IAmb	01 14 56.4	
	comp=Z,50nm,0.6s						
KMMI	Kalianget	15.27	118	P	P	01 14 58.4	+1.1
JAGI	Jajag, Banyuwa	16.12	122	ePn	P	01 15 06.9	+0.1
	comp=Z,26nm,0.8s						
KKM	Kota Kinabalu	16.83	69	eP	Pn	01 15 16.2	+0.9
	comp=Z,117nm,1.1s						
KKM	Kota Kinabalu	16.83	69	P	Pn	01 15 18.0	+2.7
SRBI	Singaraja	16.84	119	P	Pn	01 15 16.5	+1.1
SKNT	Sakolnakorn	17.11	12	P	Pn	01 15 18.7	0.0
	comp=Z,12nm,1.3s						
PANO	Nakornpanom	17.42	13	P	Pn	01 15 23.8	+1.5
	comp=Z,0.4nm,1.0s						
UTTA	Uttaradit	17.52	0	P	Pn	01 15 27.2	+3.8
	comp=Z,13μm,0.8s						
NONG	Nongkai	18.04	8	P	Pn	01 15 29.9	+0.4
	comp=Z,0.4nm,0.6s						
PHRA	Phrae	18.27	359	P	Pn	01 15 31.4	-0.9
	comp=Z,1.8nm,1.0s						
CM31	Chiang Mai Arr	18.29	356	eP	P	01 15 29.9	-0.6
	comp=Z,12nm,0.8s						
CM31				epP	pP	01 15 58.9	-0.2
CM31				ePcP	PcP	01 19 56.0	+0.8
CM31				eScP	ScP	01 23 13.4	-1.5
CMAR	Chiang Mai Arr	18.29	356	eP	Pn	01 15 32.2	-0.3
CMAR	Chiang Mai Arr	18.29	356	eP	P	01 15 30.9	+0.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	18.29	356	P	P	01 15 29.9	-0.6
	comp=Z,1.0nm,0.3s,baz=186,slow=9.7,SNR=27						
CMAR				pP	pP	01 15 58.9	-0.2
	comp=Z,1.1nm,0.3s,baz=186,slow=11,SNR=3.8						
CMAR				PcP	PcP	01 19 56.0	+0.8
	comp=Z,0.4nm,0.3s,baz=193,slow=1.9,SNR=5.6						
CMAR				ScP	ScP	01 23 13.4	-1.5
	comp=Z,0.6nm,0.3s,baz=222,slow=3.3,SNR=7.2						
LAMP	Lampang	18.31	358	P	Pn	01 15 38.1	+5.3
CMMT	Chiang Mai	18.64	356	P	Pn	01 15 39.4	+2.8
	comp=Z,4.9nm,1.0s,comp=Z,315nm						
CHTO	Chiang Mai	18.64	356	eP	P	01 15 34.7	+0.4
	comp=Z,8.1nm,0.9s						
CHTO	Chiang Mai	18.64	356	eP	P	01 15 34.7	+0.4
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PAYA	Payao	19.13	358	P	Pn	01 15 44.8	+2.4
	comp=Z,20μm,0.5s						
MPSI	Mapaga	19.48	89	P	Pn	01 15 46.2	-0.3
	comp=Z,37nm,0.9s,comp=Z,383nm						
TTSI	Tana Toraja	19.64	99	P	Pn	01 15 47.8	-0.7
SPSI	Sidrap Palu	19.75	102	P	Pn	01 15 49.2	-0.6
KAPI	Kappang	19.96	105	eP	P	01 15 49.6	+0.9
	comp=Z,14nm,0.5s						
KAPI	Kappang	19.96	105	eP	P	01 15 49.6	+0.9
KAPI				pmax	pmax		
	comp=Z,14nm,0.5s						
BNSI	Bone	20.17	103	P	Pn	01 15 53.9	-0.9
	comp=Z,26nm,1.1s,comp=Z,544nm						
BKSI	Bulukumba	20.40	106	P	Pn	01 15 56.1	-1.5
	comp=Z,12nm,0.6s,comp=Z,260nm						
PALK	Pallekele	20.91	290	eP	P	01 15 59.3	+0.4
	comp=Z,29nm,1.0s						
PALK				eS	S	01 19 46.3	+3.5
PALK	Pallekele	20.91	290	eP	P	01 15 59.3	+0.4
PALK				eS	S	01 19 46.3	+3.5
PALK				pmax	pmax		
	comp=Z,29nm,1.0s						
PALK	Pallekele	20.91	290	P	P	01 15 59.8	+0.9
	comp=Z,11nm,0.7s,baz=116,slow=8.8,SNR=4.3						
PALK				S	S	01 19 46.3	+3.5
	comp=Z,4.9nm,0.6s,baz=116,slow=8.2,SNR=2.2						
QIZ	Qiongzhong	20.95	26	eP	P	01 16 00.9	+1.8
	comp=Z,78nm,1.1s						
APSI	Ampana	21.25	93	P	P	01 15 58.2	-4.2
SLVN	Son La	21.36	9	eP	P	01 16 05.0	+1.4
	comp=Z,9.9nm,1.1s						
MRSI	Marisa	21.52	89	P	P	01 16 06.7	+1.4
	comp=Z,48nm,0.8s,comp=Z,1μm						
LUWI	Luwuk	22.38	93	eP	P	01 16 14.6	+0.7
	comp=Z,106nm,0.6s						
LUWI	Luwuk	22.38	93	P	P	01 16 16.4	+2.5
	comp=Z,156nm,0.7s,comp=Z,10μm						
MDRS	Chennai	23.78	304	eP	P	01 16 28.4	+1.7
MDRS				IAmb	IAmb	01 16 30.5	
	comp=Z,10nm,1.0s						
BWNR	Bhubaneshwar	24.64	325	ex	x	01 16 31.8	
TRD	Trivandrum	24.82	290	eP	P	01 16 35.5	-0.6
KMI	Kunming	24.96	5	P	P	01 16 39.8	+2.2
KMI				pmax	pmax		
	comp=Z,20nm,0.6s						
SANI	Sanana	25.65	95	P	P	01 16 44.7	+1.0
	comp=Z,23nm,0.9s,comp=Z,1μm						
SHL	Shillong	26.61	343	eP	P	01 16 52.3	-0.1
	comp=Z,9.9nm,0.5s						
SHL	Shillong	26.61	343	eP	P	01 16 52.3	-0.1
SHL				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SHL	Shillong	26.61	343	eP	P	01 16 52.5	+0.1
BOK	Bokaro	27.44	330	eP	P	01 17 00.8	+1.2
RAMN	Ramite	29.81	335	eP	P	01 17 22.1	+1.3
	comp=Z,9.5nm,0.3s						
TPUB	Ta-pu	30.28	39	eP	P	01 17 26.8	+2.0
	comp=Z,62nm,0.7s						
GOA	Goa	30.39	301	eP	P	01 17 26.1	+0.3
JIRN	Jiri	30.61	335	eP	P	01 17 29.1	+1.1
FITZ	Fitzroy Crossi	30.70	127	eP	P	01 17 27.3	-1.2
	comp=Z,16nm,1.4s						
LSA	Lhasa	30.72	344	eP	P	01 17 30.2	+1.2
	comp=Z,18nm,0.6s						
LSA	Lhasa	30.72	344	eP	P	01 17 30.2	+1.2
LSA				pmax	pmax		
	comp=Z,18nm,0.6s						
YULB	Yu-li	30.77	40	eP	P	01 17 31.6	+2.5
	comp=Z,31nm,0.6s						
CD2	Chengdu	30.79	6	P	P	01 17 30.8	+1.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SSLB	Suanglung	30.83	39	eP	P	01 17 30.2	+0.6
	comp=Z,36nm,0.7s						
PKI	Pulchoki	30.87	333	eP	P	01 17 30.7	+0.4
PKIN	Phulchoki	30.88	333	eP	P	01 17 30.9	+0.6
DMN	Daman	31.04	333	eP	P	01 17 32.5	+0.8
KKN	Kakani	31.12	333	eP	P	01 17 32.5	+0.2
NACB	Ninganchiao	31.52	39	eP	P	01 17 37.0	+1.4
	comp=Z,26nm,0.7s						
YHNB	Yeheng	31.74	38	eP	P	01 17 39.6	+2.0
	comp=Z,27nm,0.7s						
MEEK	Meekatharra	31.85	148	P	P	01 17 39.7	+1.1
	baz=32,SNR=5.1						
POO	Poona	31.88	307	eP	P	01 17 37.2	-1.6
KOLN	Koldanda	31.89	331	eP	P	01 17 40.2	+1.2
	comp=Z,31nm,0.5s						
FAKI	Fak Fak	31.95	96	eP	P	01 17 40.5	+0.9
	comp=Z,14nm,0.8s						
TATO	Taipei	32.03	38	eP	P	01 17 41.0	+0.9
	comp=Z,62nm,0.9s						
BHPL	Bhopal	32.06	317	eP	P	01 17 40.9	+0.5
DANN	Dangsing	32.29	332	eP	P	01 17 43.6	+0.9
	comp=Z,49nm,0.5s						
PYUN	Piuthan	32.46	330	eP	P	01 17 45.1	+1.1
	comp=Z,19nm,0.5s						
MORW	Morawa	32.63	154	eP	P	01 17 45.6	+0.3
	comp=Z,8.9nm,0.9s						
WHN	Wuhan	33.03	22	P	P	01 17 50.5	+1.8
KDU	Kakadu	34.24	113	P	P	01 17 59.8	+0.5
	baz=34,SNR=7.3						
XAN	Xi'an	34.67	12	P	P	01 18 01.6	-1.3
XAN				S	S	01 23 13.9	-6.4
XAN				pmax	pmax		
	comp=Z,17nm,0.6s						
XAN				pmax	pmax		
	comp=Z,54nm,5.9s						
XAN				LR	LR		
	comp=Z,77nm,16.3s						
XAN	Xi'an	34.67	12	eP	P

GTA LR LR
comp=Z,99nm,19.6s
GTA LR LR
comp=Z,150nm,19.6s
GTA LR LR
comp=Z,49nm,14.4s
DHRM DHARAMSHALA 39.25 327 *e*P **P 01 18 42.4 +0.6**
DHRM IAmb IAmb 01 18 43.4
comp=Z,18nm,0.7s
AS31 Alice Springs 40.19 128 *e*P **P 01 18 48.5 -0.9**
comp=Z,1.8nm,0.3s
AS31 *e*PcP **PcP 01 20 50.1 -0.2**
AS31 *e*ScP **ScP 01 24 21.8 -2.1**
ASAR Alice Springs 40.19 128 *e*P **P 01 18 48.8 -0.6**
ASAR Alice Springs 40.19 128 *e*P **P 01 18 48.8 -0.6**
ASAR Alice Springs 40.19 128 P **P 01 18 47.5 -2.0**
comp=Z,0.9nm,0.3s,baz=300,slow=7.6,SNR=17
ASAR PcP **PcP 01 20 50.1 -0.2**
comp=Z,3.7nm,0.5s,baz=309,slow=2.4,SNR=14
ASAR ScP **ScP 01 24 21.8 -2.1**
comp=Z,4.9nm,1.0s,baz=302,slow=3.5,SNR=15
FORT Forrest 40.41 142 *e*P **P 01 18 51.7 +0.6**
comp=Z,13nm,0.8s
FORT Forrest 40.41 142 P **P 01 18 49.3 -1.8**
baz=40,SNR=10.0
HHC Hu-ho-hao-te 41.79 13 *e*P **P 01 19 03.5 +1.2**
HHC pmax pmax
comp=Z,68nm,1.0s
HHC pmax pmax
comp=Z,260nm,4.5s
NIL Nilore 41.99 325 *e*P **P 01 19 05.0 +0.9**
comp=Z,18nm,1.0s
NIL Nilore 41.99 325 *e*P **P 01 19 05.0 +0.9**
NIL pmax pmax
comp=Z,18nm,1.0s
JNU Nakatsue 43.57 38 *e*P **P 01 19 18.2 +1.5**
comp=Z,72nm,0.8s
COEN Coen 44.57 110 *e*P **P 01 19 23.8 -1.1**
comp=Z,24nm,1.5s
COEN Coen 44.57 110 P **P 01 19 24.7 -0.3**
baz=45,SNR=7.3
KS15 Wonju Array Si 44.97 31 *e*P **P 01 19 29.0 +1.2**
comp=Z,13nm,0.8s
WMQ Urumqi 44.98 347 *e*P **P 01 19 28.8 +1.0**
WMQ sP sP 01 20 23.8 -0.1
WMQ pmax pmax
comp=Z,87nm,0.7s
WMQ pmax pmax
comp=Z,260nm,4.1s
WMQ LR LR
comp=Z,1μm,18.1s
WMQ LR LR
comp=Z,760nm,23.3s
WMQ LR LR
comp=Z,310nm,26.7s
WMQ Urumqi 44.98 347 *e*P **P 01 19 28.8 +1.0**
comp=Z,22nm,0.6s
WMQ *e*PcP **PcP 01 21 06.6 +0.6**
WMQ Urumqi 44.98 347 *e*P **P 01 19 28.8 +1.0**
WMQ *e* 01 21 06.6
WMQ pmax pmax
comp=Z,22nm,0.6s
KSRS Korea Array 45.00 31 *e*P **P 01 19 28.4 +0.5**
KSRS pmax pmax
comp=Z,11nm,0.6s
KSRS Korea Array 45.00 31 P **P 01 19 28.1 +0.1**
comp=Z,12nm,0.5s,baz=224,slow=8.2,SNR=38
KSRS pP **pP 01 20 05.5 +0.3**
comp=Z,4.1nm,0.9s,baz=222,slow=8.6,SNR=2.7
KSRS sP **sP 01 20 22.1 -2.0**
comp=Z,0.9nm,0.5s,baz=214,slow=8.2,SNR=1.6
KBL Kabul 45.10 323 *e*P **P 01 19 31.2 +2.1**
comp=Z,7.1nm,0.6s
KBL Kabul 45.10 323 *e*P **P 01 19 31.2 +2.1**
KBL pmax pmax
comp=Z,7.0nm,0.6s
KSH Kashi 45.14 333 P **P 01 19 29.0 -0.2**
KSH sP sP 01 20 22.3 -3.1
KSH PP **PP 01 21 17.6 -0.6**
KSH S **S 01 25 53.3 -2.6**
KSH SS **ScS 01 29 13.8 +5.3**
KSH pmax pmax
comp=Z,110nm,3.8s
KSH LR LR
comp=Z,150nm,9.7s
KSH LR LR
comp=Z,130nm,6.5s
KSH LR LR
comp=Z,210nm,8.0s
TARG Taragay, Kyrgy 46.19 336 *e*P **P 01 19 38.6 +0.9**
comp=Z,11nm,0.6s
NRN Naryn 46.69 335 *e*P **P 01 19 41.8 +0.3**
comp=Z,24nm,1.0s
NRN Naryn 46.69 335 *e*P **P 01 19 41.8 +0.3**
NRN pmax pmax
comp=Z,24nm,1.0s
KDJ Kajisay 46.78 336 *e*P **P 01 19 43.2 +1.1**
comp=Z,24nm,0.8s
KDJ Kajisay 46.78 336 *e*P **P 01 19 43.2 +1.1**
KDJ pmax pmax
comp=Z,24nm,0.8s
BBOO Buckleboo 46.89 138 *e*P **P 01 19 41.6 -1.3**
comp=Z,13nm,1.3s
PDGK Podgornoye 46.93 339 *i* P **P 01 19 43.4 +0.3**
PDGK pmax pmax
comp=Z,14nm,0.7s
ULHL Ulahol 47.26 336 P **P 01 19 47.2 +1.4**
SNR=9.8
GAR Garm 47.52 328 *e*P **P 01 19 48.3 +0.5**
comp=Z,45nm,1.2s
GAR Garm 47.52 328 *e*P **P 01 19 48.3 +0.5**
GAR pmax pmax
comp=Z,45nm,1.2s
KZA Kyzart 47.54 335 P **P 01 19 49.8 +1.6**
SNR=19
BOOM Boomskoye usch 47.59 335 *e*P **P 01 19 49.0 +0.7**
comp=Z,14nm,0.6s
BOOM Boomskoye usch 47.59 335 *e*P **P 01 19 49.0 +0.7**
BOOM pmax pmax
comp=Z,15nm,0.6s
SONA0 Songino Array 47.81 5 *e*P **P 01 19 48.9 -0.9**
SONA0 *e*pP **pP 01 20 28.6 +1.1**
SONA0 *e*PcP **PcP 01 21 16.3 +0.3**
SONM Songino Array 47.81 5 *e*P **P 01 19 50.6 +0.7**
SONM Songino Array 47.81 5 *e*P **P 01 19 50.0 +0.1**
SONM pmax pmax
comp=Z,3.0nm,0.4s
SONM Songino Array 47.81 5 P **P 01 19 48.9 -0.9**
comp=Z,2.7nm,0.4s,baz=188,slow=9.8,SNR=8.5
SONM pP **pP 01 20 28.6 +1.1**
comp=Z,3.6nm,0.8s,baz=184,slow=8.2,SNR=2.9
SONM PcP **PcP 01 21 16.3 +0.3**
comp=Z,5.6nm,0.4s,baz=195,slow=4.2,SNR=10
ULN Ulaanbaatar 47.91 6 *e*P **P 01 19 50.8 +0.2**
comp=Z,2.5nm,0.7s
ULN *e*PcP **PcP 01 21 15.8 -0.6**
ULN Ulaanbaatar 47.91 6 *ce*P **P 01 19 50.8 +0.2**
ULN pmax pmax
comp=Z,2.0nm,0.6s
UCH Uchtor 47.98 334 P **P 01 19 52.7 +1.1**
SNR=19
TKM2 Tokmak 2 48.08 336 P **P 01 19 53.4 +1.3**
SNR=6.5
TKM2 Tokmak 2 48.08 336 *i* P **P 01 19 53.2 +1.1**
TKM2 pmax pmax
comp=Z,20nm,0.5s
KBK Karagaybulak 48.14 335 P **P 01 19 54.0 +1.5**
SNR=22
AML Almayashu 48.26 333 P **P 01 19 55.0 +1.3**
SNR=39
AAK Ala-Archa 48.32 334 P **P 01 19 55.6 +1.7**
SNR=9.3
AAK Ala-Archa 48.32 334 *e*P **P 01 19 55.6 +1.7**
comp=Z,6.7nm,0.7s
AAK *e*PcP **PcP 01 21 20.4 +2.4**
AAK Ala-Archa 48.32 334 *ce*P **P 01 19 55.4 +1.5**
AAK pmax pmax
comp=Z,18nm,1.7s
CHMS Chumysh 48.50 335 P **P 01 19 56.3 +1.2**
SNR=8.8
EKS2 Erkin-Say 48.65 334 P **P 01 19 57.9 +1.5**
SNR=46
USP Ospenovka 48.83 335 P **P 01 19 58.6 +1.0**
SNR=6.1
MK31 Makanchi Array 49.13 344 *e*P **P 01 19 59.6 -0.2**
comp=Z,16nm,0.5s
MK31 *e*S **S 01 26 52.1 +0.1**
MK31 Makanchi Array 49.13 344 *e*P **P 01 19 59.6 -0.2**
MK31 *e*S **S 01 26 52.1 +0.1**
MK31 pmax pmax
comp=Z,16nm,0.5s
MK32 Makanchi Array 49.13 344 *e*P **P 01 19 59.6 -0.2**
MK32 *e*pP **pP 01 20 38.0 +0.3**
MK32 *e*S **S 01 26 50.6 -1.4**
MKAR Makanchi Array 49.13 344 *e*P **P 01 19 59.5 -0.3**
MKAR Makanchi Array 49.13 344 P **P 01 19 59.6 -0.2**
comp=Z,25nm,0.5s,baz=151,slow=8.1,SNR=180
MKAR pP **pP 01 20 38.0 +0.3**
comp=Z,2.7nm,0.5s,baz=162,slow=7.7,SNR=2.2
MKAR S **S 01 26 50.6 -1.4**
comp=Z,0.9nm,0.8s,baz=156,slow=14,SNR=5.5
MKAR LR LR 01 44 49.6
comp=Z,24nm,19.6s,baz=88,slow=41
CTA Charters Tower 49.14 117 P **P 01 20 03.5 +3.2**
CTA pmax pmax
comp=Z,10.0nm,0.8s
CTAO Charters Tower 49.14 117 *e*P **P 01 20 02.8 +2.5**
comp=Z,6.0nm,0.8s
MAKZ Makanchi 49.23 343 *e*P **P 01 20 00.4 -0.2**
comp=Z,7.9nm,0.8s
MAKZ Makanchi 49.23 343 P **P 01 20 00.4 -0.2**
MAKZ pmax pmax
comp=Z,9.0nm,0.9s
STKA Stephens Creek 50.26 133 *e*P **P 01 20 07.7 -0.9**
comp=Z,0.7nm,0.8s
STKA Stephens Creek 50.26 133 P **P 01 20 08.2 -0.4**
baz=50,SNR=4.7
STKA Stephens Creek 50.26 133 *e*P **P 01 20 08.1 -0.4**
STKA pmax pmax
comp=Z,2.0nm,0.5s
STKA Stephens Creek 50.26 133 P **P 01 20 07.7 -0.9**
comp=Z,2.3nm,0.5s,baz=308,slow=5.5,SNR=8.0
MAJO Matsushiro 50.38 40 *e*P **P 01 20 09.3 -0.1**
MAJO Matsushiro 50.38 40 *e*P **P 01 20 09.3 -0.1**
MAT Matsushiro 50.38 40 P **P 01 20 09.8 +0.3**
MJAR Matsushiro Arr 50.38 40 P **P 01 20 09.3 -0.1**
comp=Z,2.7nm,0.5s,baz=216,slow=8.2,SNR=8.9
MJA0 Matsu Arr-Jizo 50.41 40 *e*P **P 01 20 10.4 +0.7**
MJA0 pmax pmax
comp=Z,3.0nm,0.5s
KK31 Karatay Array 50.49 332 *e*P **P 01 20 10.8 +0.6**
comp=Z,6.1nm,0.7s
KK31 Karatay Array 50.49 332 *e*P **P 01 20 10.8 +0.6**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 50.49 332 *e*P **P 01 20 10.8 +0.6**
KKAR Karatay Array 50.49 332 *e*P **P 01 20 10.8 +0.6**
DGZ Jazzator, Alta 50.64 349 *i* P **P 01 20 11.2 -0.1**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
USA0B Ussuriysk Arra 52.10 28 *e*P **P 01 20 22.6 +0.5**
comp=Z,18nm,0.6s
USA0B Ussuriysk Arra 52.10 28 *e*P **P 01 20 22.6 +0.5**
USA0B pmax pmax
comp=Z,18nm,0.6s
USRK Ussuriysk Ar. 52.10 28 P **P 01 20 22.4 +0.3**
comp=Z,17nm,0.6s,baz=239,slow=4.0,SNR=92
KURK Kurchatov 53.72 343 *e*P **P 01 20 33.6 -0.2**
comp=Z,13nm,0.6s
KURK Kurchatov 53.72 343 *ce*P **P 01 20 33.9 +0.1**
KURK pmax pmax
comp=Z,13nm,0.7s
OTUK Ortayu 53.76 337 *i* P **P 01 20 34.3 +0.1**
OTUK pmax pmax
comp=Z,14nm,0.5s
GEYT Alibeck 54.12 319 *e*P **P 01 20 37.3 +0.2**
GEYT Alibeck 54.12 319 P **P 01 20 36.6 -0.4**
comp=Z,6.0nm,0.8s,baz=126,slow=7.5,SNR=11
GEYT pP **pP 01 21 15.0 -0.9**
comp=Z,2.9nm,0.7s,baz=146,slow=8.2,SNR=3.2
ZAA0 Zalesovo Array 55.19 349 *e*P **P 01 20 43.1 -1.2**
comp=Z,12nm,0.6s
ZALV Zalesovo Beam 55.19 349 *e*P **P 01 20 43.8 -0.5**
ZALV Zalesovo Beam 55.19 349 *i* P **P 01 20 43.5 -0.8**
ZALV pmax pmax
comp=Z,11nm,0.5s
ZALV Zalesovo Beam 55.19 349 P **P 01 20 43.2 -1.0**
comp=Z,11nm,0.5s,baz=177,slow=6.2,SNR=60
ZALV pP **pP 01 21 22.8 -0.2**
comp=Z,6.6nm,0.6s,baz=181,slow=6.9,SNR=3.1
ZALV ScP **ScP 01 25 24.7 -1.5**
comp=Z,0.8nm,0.6s,baz=152,slow=6.5,SNR=3.2
ZAA1 Zalesovo Array 55.19 349 *e*P **P 01 20 43.2 -1.1**
ZAA1 *e*pP **pP 01 21 22.8 -0.3**
ZAA1 *e*ScP **ScP 01 25 24.7 -1.5**
KLR Kul'dur 55.84 24 *c i* P **P 01 20 49.2 +0.1**
KLR pmax pmax
comp=Z,14nm,0.9s
ERM Erimo 56.72 37 *e*P **P 01 20 56.5 +1.0**
comp=Z,49nm,1.4s
ERM Erimo 56.72 37 *e*P **P 01 20 56.5 +1.0**
ERM pmax pmax
comp=Z,49nm,1.4s
BRVK Borovoye 58.43 339 *e*P **P 01 21 06.6 -0.5**
comp=Z,21nm,0.4s
BRVK Borovoye 58.43 339 *ce*P **P 01 21 06.8 -0.4**
BRVK pmax pmax
comp=Z,12nm,0.6s
YSS Yuzh-Sakhalins 59.48 32 *e*P **P 01 21 14.9 +0.4**
YSS pmax pmax
comp=Z,30nm,1.0s
AB31 Akbulak array 60.01 331 *i* P **P 01 21 17.9 -0.2**
AB31 pmax pmax
comp=Z,30nm,0.7s
ABKAR Akbulak array 60.01 331 *e*P **P 01 21 18.1 0.0**
comp=Z,29nm,0.8s
NKL Nikolayevsk 62.53 26 *e*P **P 01 21 33.0 -1.9**
NKL pmax pmax
comp=Z,22nm,0.8s
AKT Akhty 62.82 318 *i* P **P 01 21 37.9 +0.6**
GNI Garni 64.31 315 *e*P **P 01 21 48.6 +1.4**
comp=Z,6.7nm,0.9s
GNI Garni 64.31 315 *ce*P **P 01 21 49.0 +1.8**
GNI pmax pmax
comp=Z,76nm,2.5s
SVE Sverdlovsk 64.91 337 *e*P **P 01 21 50.5 +0.1**
SVE pmax pmax
comp=Z,43nm,1.0s
TBLG Delisi 64.96 317 *e*P **P 01 21 51.2 +0.1**
comp=Z,13nm,0.8s
TBLG Delisi 64.96 317 *e*P **P 01 21 51.2 +0.1**
TBLG pmax pmax
comp=Z,13nm,0.8s
ARU Arti 65.45 336 *e*P **P 01 21 53.6 -0.4**
comp=Z,32nm,1.2s
ARU Arti 65.45 336 *c i*P **P 01 21 53.4 -0.6**
ARU 01 22 19.9
ARU S **S 01 30 27.0 +2.1**
ARU SS **SS 01 34 35.2 -6.5**
ARU pmax pmax
comp=Z,29nm,1.2s
AKH Akhalkalaki 65.69 316 *e*P **P 01 21 58.1 +2.1**
comp=Z,4.6nm,1.0s
AKH Akhalkalaki 65.69 316 *e*P **P 01 21 58.1 +2.1**
AKH pmax pmax
comp=Z,5.0nm,1.0s
ZEI Tsey 65.96 318 *e*P **P 01 21 55.9 -1.9**
ZEI pmax pmax
comp=Z,13nm,0.6s
KBZ Khabaz 67.01 318 P **P 01 22 04.4 +0.3**
comp=Z,8.4nm,0.7s,baz=126,slow=5.6,SNR=27
KBZ pP **pP 01 22 44.6 0.0**
comp=Z,4.3nm,0.8s,baz=126,slow=6.7,SNR=3.2
SHA1 Shidzhatmaz 67.17 318 *i* P **P 01 22 05.9 +0.4**
KIV Kislovodsk 67.24 319 *e*P **P 01 22 06.6 +0.9**
comp=Z,8.2nm,1.0s
KIV Kislovodsk 67.24 319 *e*P **P 01 22 07.0 +1.3**
KIV pmax pmax
comp=Z,21nm,1.0s
OUENC Ouen Island, N 68.32 114 *e*P **P 01 22 15.3 +2.6**
comp=Z,11nm,0.7s
SKR Severo-Kuril's 68.89 34 *ce*P **P 01 22 17.9 +2.2**
NRIK Noril'sk 69.64 355 *e*P **P 01 22 17.8 -2.2**
NRIK pmax pmax
comp=Z,3.0nm,0.5s
NRIK Noril'sk 69.64 355 P **P 01 22 18.6 -1.4**
comp=Z,2.6nm,0.5s,baz=139,slow=4.3,SNR=5.1
VRH Novokhopyorsk 70.83 325 *e*P **P 01 22 27.0 -0.5**
VRH pmax pmax
comp=Z,50nm,0.7s
PEA0B Petropavlovsk- 70.88 32 *e*P **P 01 22 28.1 +0.2**
comp=Z,23nm,1.3s
PEA0B Petropavlovsk- 70.88 32 *e*P **P 01 22 28.1 +0.2**
PEA0B pmax pmax
comp=Z,23nm,1.3s
PETK Petropavlovsk- 70.88 32 *e*P **P 01 22 28.1 +0.2**
PETK Petropavlovsk- 70.88 32 *e*P **P 01 22 28.1 +0.2**
PETK Petropavlovsk- 70.88 32 P **P 01 22 27.5 -0.4**
comp=Z,5.2nm,0.6s,baz=308,slow=0.5,SNR=24
PEA1 Petropavlovsk- 70.88 32 *e*P **P 01 22 27.5 -0.4**
MA2 Magadan 70.94 24 *e*P **P 01 22 28.8 +0.7**
comp=Z,8.2nm,0.6s
MA2 Magadan 70.94 24 *e*P **P 01 22 28.8 +0.7**
MA2 pmax pmax
comp=Z,8.0nm,0.6s
PET Petropavlovsk 71.36 33 *e*P **P 01 22 31.0 +0.3**
PET pmax pmax
comp=Z,34nm,0.5s
VORD Divnogorie 72.13 324 *e*P **P 01 22 34.4 -0.9**
VORD pmax pmax
comp=Z,20nm,1.0s
BR101 Keskin Array S 72.22 312 *e*P **P 01 22 36.0 -0.3**
BR101 *e*pP **pP 01 23 16.7 -0.7**
BR131 Keskin Array S 72.22 312 *e*P **P 01 22 36.2 -0.2**
comp=Z,8.6nm,1.1s
BRTR Keskin Array B 72.22 312 *e*P **P 01 22 35.7 -0.7**
BRTR Keskin Array B 72.22 312 *e*P **P 01 22 36.2 -0.2**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 72.22 312 P **P 01 22 36.0 -0.3**
comp=Z,5.2nm,0.9s,baz=124,slow=6.5,SNR=30
BRTR pP **pP 01 23 16.7 -0.7**
comp=Z,2.1nm,0.8s,baz=118,slow=6.7,SNR=2.4
BRTR sP **sP 01 23 35.4 -0.2**
comp=Z,1.5nm,0.6s,baz=131,slow=7.2,SNR=2.6
VSR Storozhevoye 72.30 325 *i* P **P 01 22 35.2 -1.2**
VSR pmax pmax
comp=Z,24nm,0.4s
MAW Mawson 72.43 194 *e*P **P 01 22 36.1 -0.7**
comp=Z,2.1nm,1.2s
MAW Mawson 72.43 194 P **P 01 22 36.1 -0.7**
comp=Z,2.5nm,0.9s,baz=4.1,slow=4.7,SNR=2.3
ILGA Ilgaz 72.52 313 *e*P **P 01 22 39.2 +1.0**
comp=Z,11nm,1.1s
LPSR Galich'ya Gora 72.98 326 *e*P **P 01 22 39.6 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SEY Seymchan 73.52 22 *ce*P **P 01 22 44.3 +1.0**
TIXI Tiksi 73.72 9 *e*P **P 01 22 43.0 -1.3**
comp=Z,11nm,0.5s
TIXI Tiksi 73.72 9 *i* P **P 01 22 43.5 -0.8**
TIXI pmax pmax
comp=Z,5.0nm,0.4s
PRGR Permogore 73.92 336 P **P 01 22 44.1 -1.5**
PRGR pmax pmax
comp=Z,27nm,0.6s
MOS Moscow 74.92 329 *e*P **P 01 22 50.3 -1.2**
MOS *e* 01 25 41.5
MOS pmax pmax
comp=Z,27nm,0.6s
OBN Obninsk 75.24 328 *e*P **P 01 22 53.1 -0.2**
OBN pmax pmax
comp=Z,34nm,1.5s
KLMR Klimovskoe 76.13 334 *e*P **P 01 22 56.3 -2.0**
KLMR pmax pmax
comp=Z,23nm,1.4s
KARP Karpathos 76.35 307 *e*P **P 01 23 01.0 +0.8**
comp=Z,18nm,0.7s
TLCR 77.02 316⇑*i*P **P 01 23 04.0 +0.3**
TLCR 77.02 316⇑P **P 01 23 04.0 +0.3**
BOSA Boshof 77.05 241 P **P 01 23 03.9 -0.5**
comp=Z,0.9nm,0.4s,baz=104,slow=4.8,SNR=3.9
BOSA pP **pP 01 23 43.9 -1.6**
comp=Z,5.1nm,1.0s,baz=68,slow=10,SNR=3.8
TLB Topalu 77.43 316⇑*i*P **P 01 23 06.3 +0.4**
TLB Topalu 77.43 316⇑P **P 01 23 06.3 +0.4**
CFR Carcaliu 77.49 316⇓*i*P **P 01 23 06.5 +0.2**
CFR Carcaliu 77.49 316⇓P **P 01 23 06.5 +0.2**
AKASG Malin Array Be 78.08 322 *e*P **P 01 23 09.0 -0.4**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 78.08 322 P **P 01 23 08.7 -0.7**
comp=Z,2.6nm,0.6s,baz=84,slow=5.1,SNR=28
AKBB Malin Array Si 78.08 322 *e*P **P 01 23 09.3 -0.1**
comp=Z,6.5nm,0.7s
KIEV Kiev 78.09 322 *e*P **P 01 23 09.1 -0.3**
comp=Z,6.4nm,0.7s
KIEV Kiev 78.09 322⇑*i*P **P 01 23 09.0 -0.5**
KIEV Kiev 78.09 322 *e*P **P 01 23 09.2 -0.3**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
TMCR Tamitsa 78.18 337 *e*P **P 01 23 08.9 -0.7**
TMCR pmax pmax
comp=Z,14nm,0.6s
VRI Vrincioaia 78.60 317⇑*i*P **P 01 23 13.8 +1.3**
VRI Vrincioaia 78.60 317⇑P **P 01 23 13.8 +1.3**
PLOR Plostina 78.65 317⇑*i*P **P 01 23 13.8 +1.0**
PLOR Plostina 78.65 317⇑P **P 01 23 13.8 +1.0**
TESR Tescani 78.79 317⇑*i*P **P 01 23 14.4 +1.0**
SECR 78.89 316⇑*i*P **P 01 23 15.8 +1.7**
MLR Muntele Rosu 79.07 316 *e*P **P 01 23 16.2 +1.0**
comp=Z,16nm,0.9s
MLR Muntele Rosu 79.07 316⇓*i*P **P 01 23 15.8 +0.7**
MLR Muntele Rosu 79.07 316⇓P **P 01 23 15.8 +0.7**
ZIMR 79.13 314⇑*i*P **P 01 23 16.2 +0.9**
ZIMR 79.13 314⇑P **P 01 23 16.2 +0.9**
BIZ Bicaz 79.24 318⇓*i*P **P 01 23 16.2 +0.3**
PRAR RASCA 79.24 318⇑*i*P **P 01 23 15.9 0.0**
BKZ Black Stump Fm 79.29 130 *e*P **P 01 23 16.4 0.0**
comp=Z,10nm,0.6s
HUMR Humele 79.56 315⇑*i*P **P 01 23 17.9 +0.2**
VOIR 79.68 316⇑*i*P **P 01 23 18.4 0.0**
VOIR 79.68 316⇑P **P 01 23 18.4 0.0**
ARR Arges 79.95 316⇓*i*P **P 01 23 20.7 +0.9**
BURAR Bucovina Array 79.97 318⇑*i*P **P 01 23 21.2 +1.3**
BURAR Bucovina Array 79.97 318⇑P **P 01 23 21.2 +1.3**
BUR08 Bucovina Ar. S 79.98 318 *e*P **P 01 23 21.4 +1.4**
comp=Z,6.8nm,0.6s
VTS Vitosha 80.50 313 *e*P **P 01 23 22.9 0.0**
comp=Z,7.2nm,0.9s
VTS Vitosha 80.50 313⇑*i*P **P 01 23 23.5 +0.6**
VTS Vitosha 80.50 313⇑P **P 01 23 23.5 +0.6**
PUNG Punghina 80.97 315⇑*i*P **P 01 23 25.8 +0.6**
BILL Bilibino 81.04 20 *e*P **P 01 23 25.0 0.0**
BILL pmax pmax
comp=Z,1.0nm,1.0s
GZR Gura Zlata 81.25 316⇓*i*P **P 01 23 27.2 +0.5**
GZR Gura Zlata 81.25 316⇓P **P 01 23 27.2 +0.5**
VSU Vasula 81.41 329 *ce*P **P 01 23 27.9 +0.7**
VSU pmax pmax
comp=Z,75nm,2.5s
HERR Herculane 81.42 315⇓*i*P **P 01 23 28.1 +0.5**
DRGR 81.51 317⇓*i*P **P 01 23 28.8 +0.7**
DRGR 81.51 317⇓P **P 01 23 28.8 +0.7**
TRPA Tarpa 81.83 319⇑*i*P **P 01 23 30.3 +0.7**
TRPA Tarpa 81.83 319 *e*P **P 01 23 30.0 +0.4**
MDVR Moldovita 81.91 315⇑*i*P **P 01 23 30.3 +0.1**
KWP Kalwaria Pacla 81.96 320 *e*P **P 01 23 31.3 +1.0**
KWP Kalwaria Pacla 81.96 320 *e*P **P 01 23 30.8 +0.5**
comp=Z,200nm,1.3s
KWP Kalwaria Pacla 81.96 320 *e*P **P 01 23 31.3 +1.0**
BZS Buzias 82.09 316⇑*i*P **P 01 23 31.8 +0.8**
BZS Buzias 82.09 316⇑P **P 01 23 31.8 +0.8**
KOLS Kolonicke sedl 82.13 319 *e*P **P 01 23 33.2 +2.0**
KOLS pmax pmax
comp=Z,11nm,0.9s
KOLS Kolonicke sedl 82.13 319 *e*P **P 01 23 33.2 +2.0**
FIA1 FINESS Array S 82.45 332 *e*P **P 01 23 32.8 +0.2**
comp=Z,8.2nm,0.6s
FIA0 FINESS Array S 82.45 332 *e*P **P 01 23 32.6 +0.1**
FIA0 *e*pP **pP 01 24 14.3 -0.1**
FINES FINESS Array B 82.45 332 P **P 01 23 32.6 +0.1**
comp=Z,5.6nm,0.4s,baz=108,slow=5.6,SNR=59
FINES pP **pP 01 24 14.3 -0.1**
comp=Z,1.1nm,0.5s,baz=109,slow=7.5,SNR=1.7
NIE Niedzica 83.48 320 *e*P **P 01 23 39.5 +1.3**
NIE Niedzica 83.48 320 *e*P **P 01 23 39.5 +1.3**
PSZ Piszkesteto 83.56 318 *e*P **P 01 23 38.8 +0.1**
comp=Z,5.0nm,0.7s
PSZ Piszkesteto 83.56 318 *e*P **P 01 23 39.1 +0.4**
OJC Ojcow 83.91 320 *e*P **P 01 23 41.3 +1.0**
OJC Ojcow 83.91 320 *e*P **P 01 23 40.8 +0.5**
comp=Z,6.6nm,0.7s
OJC Ojcow 83.91 320 *e*P **P 01 23 41.3 +1.0**
VNDA Vanda 84.14 169 *e*P **P 01 23 41.8 +0.9**
VNDA Vanda 84.14 169 P **P 01 23 39.6 -1.3**

comp=Z,0.5nm,0.6s,baz=320,slow=6.9,SNR=4.5
MORH Mrgy, Hungar 84.22 316 eP P 01 23 43.0 +1.1
VYHS Vyhne 84.33 319 eP P 01 23 43.1 +0.6
VYHS Vyhne 84.33 319 eP P 01 23 43.0 +0.6
ARA0 ARCESS Array S 84.64 340 eP P 01 23 43.1 -0.5
ARA0 epP pP 01 24 25.9 +0.3
ARCES ARCESS Array B 84.64 340 eP P 01 23 43.7 +0.1
ARCES pmax pmax
comp=Z,4.0nm,0.5s
ARCES ARCESS Array B 84.64 340 P P 01 23 43.1 -0.5
comp=Z,4.1nm,0.5s,baz=108,slow=4.4,SNR=37
ARCES pP pP 01 24 25.9 +0.3
comp=Z,0.8nm,0.4s,baz=106,slow=4.3,SNR=1.3
OKC Ostrava-Krasne 84.92 320 eP P 01 23 46.3 +0.9
OKC Ostrava-Krasne 84.92 320 eP P 01 23 46.3 +0.9
BLY Banja Luka 85.11 315 eP P 01 23 47.6 +1.2
comp=Z,15nm,1.1s
JAVC Velka Javorina 85.13 319 eP P 01 23 48.0 +1.4
MORC Moravsky Berou 85.30 320 eP P 01 23 47.9 +0.6
comp=Z,5.9nm,0.6s
MORC Moravsky Berou 85.30 320⇑ iP P 01 23 48.3 +0.9
MORC Moravsky Berou 85.30 320 ⇑P P 01 23 48.3 +0.9
MORC Moravsky Berou 85.30 320 eP P 01 23 48.2 +0.9
MODS Modra-Piesok 85.35 318 eP P 01 23 47.8 +0.2
MODS Modra-Piesok 85.35 318 eP P 01 23 47.8 +0.2
ZST Bratislava 85.45 318 eP P 01 23 48.2 +0.2
ZST Bratislava 85.45 318 eP P 01 23 48.2 +0.2
KRLC Kraliky 85.82 320 eP P 01 23 51.5 +1.6
KRLC Kraliky 85.82 320 eP P 01 23 51.5 +1.6
KRUC Moravsky 85.99 319 eP P 01 23 51.0 +0.3
DPC Dobruska-Polom 86.14 320 eP P 01 23 52.8 +1.3
DPC Dobruska-Polom 86.14 320 eP P 01 23 52.8 +1.3
KSP Ksiaz 86.19 321 eP P 01 23 53.3 +1.6
KSP Ksiaz 86.19 321 eP P 01 23 53.3 +1.6
CONA Conrad Observa 86.26 318 i P P 01 23 49.6 -2.6
comp=Z,3.4nm,1.1s
UPC Upice 86.35 320 eP P 01 23 53.9 +1.5
UPC Upice 86.35 320 eP P 01 23 53.9 +1.5
ARSA Arzberg 86.44 317 i P P 01 23 53.2 +0.2
comp=Z,5.1nm,1.1s
TREC Trest 86.60 319 eP P 01 23 54.7 +1.0
TREC Trest 86.60 319 eP P 01 23 54.7 +1.0
SOKA Soboth 86.75 317 i P P 01 23 55.2 +0.7
comp=Z,7.2nm,0.9s
GOPC GO Pecny, Ondr 87.09 320 eP P 01 23 57.1 +1.0
GOPC GO Pecny, Ondr 87.09 320 eP P 01 23 57.1 +1.0
PRU Pruhonice 87.25 320 eP P 01 23 58.1 +1.3
PRU Pruhonice 87.25 320 eP P 01 23 58.1 +1.3
PVCC Panska Ves 87.27 320 eP P 01 23 57.6 +0.7
PVCC Panska Ves 87.27 320 eP P 01 23 57.6 +0.7
BRG Berggiesshubel 87.68 321 i P P 01 24 00.0 +1.2
comp=Z,15nm,1.0s
BRG Berggiesshubel 87.68 321 i P P 01 24 00.0 +1.2
BRG pmax pmax
comp=Z,15nm,1.0s
MYKA Terra Mystica 87.70 316 P P 01 23 57.4 -1.7
comp=Z,6.3nm,1.2s
GEC2 GERESS Array S 87.75 319 eP P 01 24 00.6 +1.3
comp=Z,4.9nm,0.9s
GERES GERESS Array B 87.75 319 eP P 01 24 00.2 +0.9
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 87.75 319 P P 01 23 59.8 +0.5
comp=Z,2.1nm,0.6s,baz=102,slow=4.3,SNR=20
KHC Kasperske Hory 87.84 319 eP P 01 24 00.4 +0.7
KHC Kasperske Hory 87.84 319 eP P 01 24 00.4 +0.7
CLL Collm 88.29 321 eP P 01 24 02.3 +0.6
comp=Z,14nm,1.3s
CLL Collm 88.29 321 i P P 01 24 02.3 +0.6
CLL pmax pmax
comp=Z,15nm,1.4s
CLL Collm 88.29 321 i P P 01 24 02.3 +0.6
comp=Z,15nm,1.4s
WET Wettzell 88.30 319 P P 01 24 03.2 +1.4
WET pmax pmax
comp=Z,9.0nm,1.0s
NKC Novy Kostel 88.61 320 eP P 01 24 04.5 +1.2
NKC Novy Kostel 88.61 320 eP P 01 24 04.5 +1.2
SPA0 Spitsbergen Ar 88.66 348 eP P 01 24 02.6 -0.4
comp=Z,66nm,1.4s
WTTA Wattenberg 89.09 317 i P P 01 24 06.0 +0.2
comp=Z,5.6nm,0.7s
GRB1 Grafenberg Arr 89.11 319 P P 01 24 09.3 +3.7
GRB1 pmax pmax
comp=Z,16nm,0.9s
WATA Walderalm 89.13 317 i P P 01 24 06.1 +0.1
comp=Z,3.5nm,0.7s
MOX Moxa 89.15 320 P P 01 24 08.3 +2.5
MOX pmax pmax
comp=Z,7.0nm,1.0s
SQTA Sankt Quirin 89.38 317 i P P 01 24 07.5 +0.4
comp=Z,6.5nm,0.6s
MOTA Moosalm 89.45 317 i P P 01 24 07.3 -0.2
comp=Z,5.0nm,0.8s
NB200 NORSAR Array S 89.51 331 eP P 01 24 06.1 -1.1
NOA NORSAR Array B 89.51 331 eP P 01 24 08.3 +1.0
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 89.51 331 P P 01 24 06.1 -1.1
comp=Z,1.0nm,0.8s,baz=92,slow=4.4,SNR=3.8
RETA Reutte 89.69 317 i PcP P 01 24 09.0 +0.6
comp=Z,5.1nm,0.7s
FETA Feichten 89.71 317 i P P 01 24 07.6 -1.0
comp=Z,7.3nm,1.4s
FUORN Ofenpass-Fuorn 90.03 316 eP P 01 24 11.8 +1.5
comp=Z,8.7nm,0.8s
DAVA Damuels 90.29 317 i PcP P 01 24 12.4 +1.0
comp=Z,6.5nm,0.8s
KEST Kesra 90.81 306 eP P 01 24 15.0 +1.1
comp=Z,11nm,0.7s
KEST Kesra 90.81 306 P P 01 24 15.0 +1.1
comp=Z,8.3nm,0.7s,baz=255,slow=0.6,SNR=16
DAG Danmarks Havn 96.31 348 P P 01 24 39.0 +0.8
DAG pmax pmax
comp=Z,6.0nm,1.3s
TOLK Toolik Lake Re 97.09 20 eP Pdif 01 24 42.6 +0.6
comp=Z,7.2nm,1.2s
TOLK Toolik Lake Re 97.09 20 P Pdif 01 24 42.3 +0.3
baz=289
MLY Manley 97.77 24 eP Pdif 01 24 45.7 +0.6
comp=Z,2.5nm,0.8s
BPAW Bear Paw Mtn. 97.94 25 eP Pdif 01 24 46.4 +0.6
comp=Z,6.8nm,0.8s
MDM Murphy Dome 98.81 24 eP Pdif 01 24 50.2 +0.5
comp=Z,3.4nm,1.1s
ILAR Eielson Array 99.41 24 P Pdif 01 24 50.9 -1.4
comp=Z,0.6nm,0.6s,baz=292,slow=4.4,SNR=8.0
ILB Eielson Array 99.41 24 ePdif Pdif 01 24 50.9 -1.4
comp=Z,4.4nm,1.4s
HDA Harding Lake 99.51 24 P Pdif 01 24 52.1 -0.7
baz=291
EPYK Eagle Plains 102.52 20 P Pdif 01 25 06.2 -0.1
baz=301
YKB5 Yellowknife Ar 112.23 17 ePKiKP PKiKP 01 29 44.0 -0.6
YKA Yellowknife Ar 112.24 17 PKiKP PKiKP 01 29 44.0 -0.6
comp=Z,0.1nm,0.4s,baz=316,slow=1.6,SNR=5.7
H04D Lebanon 121.36 35 P PKiKP 01 30 03.2 +0.3
baz=307
J01E Myrtle Point 121.45 37 P PKiKP 01 30 03.2 +0.1
baz=305
I03D Drain, OR 121.49 36 P PKiKP 01 30 03.1 0.0
baz=306
K02D Willamette Mer 121.88 37 P PKPdf 01 30 03.7 -0.2
baz=305
I04A Tendick Farm, 121.98 35 P PKPdf 01 30 04.0 0.0
baz=307
J04D Umpqua Nationa 122.49 36 P PKiKP 01 30 05.7 +0.3
baz=307
J05D Fort Rock, OR 122.97 35 P PKiKP 01 30 06.5 +0.2
baz=308
L04D Klamath Falls 122.98 37 P PKiKP 01 30 06.4 +0.1
baz=306
M02C Callahan 123.12 38 P PKiKP 01 30 06.7 +0.1
baz=305
F10A Beach Ranch, E 123.42 31 ePKPdf PKiKP 01 30 07.0 0.0
N02D Trinity Center 123.46 38 P PKiKP 01 30 07.4 +0.2
baz=305
O02D Mt. Diablo Mer 123.86 39 P PKPdf 01 30 07.9 +0.1
baz=304
O03E Paynes Creek 124.41 39 P PKPdf 01 30 08.7 -0.2
baz=306
MSO Missoula 124.42 28 P PKiKP 01 30 09.0 0.0
baz=317
EGMT Eagleton 125.37 24 P PKiKP 01 30 10.8 -0.1
baz=322
BOZ Bozeman (W) 126.42 28 P PKiKP 01 30 13.0 0.0
baz=319
NV01 Mina Array Sit 127.70 38 ePKPdf PKiKP 01 30 15.8 -0.2
NVAR Mina Array Bea 127.70 38 PKP PKiKP 01 30 15.8 -0.2
comp=Z,1.0nm,0.6s,baz=250,slow=1.8,SNR=6.0
RLMT Red Lodge 127.85 26 P PKPdf 01 30 14.6 -0.9
baz=321
ULM Lac du Bonnet 127.93 13 PKP PKPdf 01 30 14.6 -0.6
comp=Z,3.0nm,0.6s,baz=37,slow=0.4,SNR=7.4
R11A Troy Canyon, C 129.40 37 P PKiKP 01 30 19.4 +0.1
baz=310
PD31 Pinedale Array 129.53 28 ePKPdf PKPdf 01 30 18.9 +0.2
PDAR Pinedale Array 129.53 28 PKP PKPdf 01 30 18.9 +0.2
comp=Z,0.3nm,0.4s,baz=82,slow=1.3,SNR=3.4
RSSD Black Hills 130.86 23 P PKPdf 01 30 21.1 -0.1
baz=327
LSQQ Lebel-sur-Quev 130.97 358 P PKPdf 01 30 21.3 +0.3
baz=3.5
K22A Casper 131.02 26 P PKPdf 01 30 21.6 +0.1
baz=323
EYMN Ely 131.02 11 P PKiKP 01 30 21.6 -0.4
baz=344
O20A White River Ci 132.18 30 P PKiKP 01 30 24.7 -0.2
baz=320
E39A Mellen 132.70 10 P PKiKP 01 30 25.0 -0.5
baz=345
D46A Sault St. Mari 133.02 4 P PKPdf 01 30 25.1 +0.2
baz=354
F39A Loretta 133.08 11 P PKPdf 01 30 25.4 +0.3
baz=344
D52A ZEK Kipawa Sen 133.09 359 P PKPdf 01 30 25.0 0.0
baz=1.6
F40A Park Falls 133.22 10 P PKPdf 01 30 25.7 +0.4
baz=346
E46A Sault Ste Mari 133.52 5 P PKPdf 01 30 25.7 -0.1
baz=354
F41A Three Lakes 133.57 9 P PKPdf 01 30 26.5 +0.5
baz=347
E54A Lac Daplat, Po 133.60 358 P PKPdf 01 30 26.3 +0.3
baz=3.3
G39A Holcombe 133.64 11 P PKPdf 01 30 26.7 +0.6
baz=344
E50A Wahnapitae 133.64 1 P PKPdf 01 30 26.6 +0.5
baz=358
ECSD EROS Data Cent 133.76 17 P PKPdf 01 30 27.0 +0.6
baz=336
E52A Matawa 133.78 359 P PKPdf 01 30 26.9 +0.5
baz=1.3
WUAZ Wupatki 133.80 37 P PKPdf 01 30 27.4 +0.4
baz=313
F51A Arnstein 134.15 0 P PKPdf 01 30 27.6 +0.5
baz=360
H40A Chili 134.43 11 P PKPdf 01 30 27.9 +0.2
baz=345
S22A 4UR Ranch, Cre 134.71 31 P PKPdf 01 30 28.9 +0.2
baz=320
I39A Houston 134.94 12 P PKPdf 01 30 29.0 +0.4
baz=343
BANO Bancroft 135.03 358 P PKiKP 01 30 29.8 -0.5
baz=2.3
TYNO Tyneside 136.98 0 P PKiKP 01 30 33.8 -0.4
baz=360
TASM ASL Pad, Albuq 137.02 33 P PKPdf 01 30 33.8 +0.7
baz=318
TASM ASL Pad, Albuq 137.02 33 P PKPdf 01 30 33.4 +0.4
baz=318
ANMO Albuquerque 137.02 33 P PKPdf 01 30 33.9 +0.9
baz=318
L43A Garden Prairie 137.09 10 P PKiKP 01 30 34.2 -0.3
baz=346
N47A Urbana 138.82 7 P PKPdf 01 30 36.5 +0.6
baz=351
N48A Decatur 138.92 6 P PKPdf 01 30 36.4 +0.4
baz=352
SSPA Standing Stone 139.41 358 P PKPdf 01 30 37.1 +0.1
baz=2.6
O60A Telford 139.58 355 P PKPdf 01 30 38.4 +1.2
baz=6.4
O56A Blue Knob Stat 139.80 359 P PKPdf 01 30 38.8 +1.1
baz=1.6
O53A New Philadelph 139.80 2 P PKiKP 01 30 39.0 -1.1
baz=358
O51A Pataskala 139.83 4 P PKiKP 01 30 39.1 -1.1
baz=355
MNTX Comstock Mount 140.03 35 P PKiKP 01 30 40.6 -0.3
baz=317
P55A Reedsville 140.56 0 P PKiKP 01 30 41.0 -0.8
baz=360
Q53A Leroy 141.17 2 P PKiKP 01 30 41.8 -1.1
baz=357
WCI Wyandotte Cave 141.34 8 P PKPdf 01 30 41.2 +0.7
baz=349
TXAR Lajitas Array 142.76 36 PKhKP PKPpre 01 30 40.1
comp=Z,2.7nm,0.6s,baz=255,slow=1.4,SNR=51
MIAR Mount Ida 143.11 19 P PKPbc 01 30 40.4 -0.7
baz=336,SNR=13
WVT Waverly 143.13 11 P PKPab 01 30 40.2 +0.6
baz=346
U50A Jamestown 143.32 7 P PKPab 01 30 40.4 0.0
baz=351
TZTN Tazewell 143.34 5 P PKPab 01 30 40.7 +0.2
baz=353
V46A Holladay 143.39 12 P PKPab 01 30 40.9 +0.3
baz=346
X40A Basin Creek Fa 143.41 19 P PKPbc 01 30 42.1 +0.2
baz=337
U51A La Follette 143.46 6 P PKPab 01 30 41.4 +0.5
baz=353
V47A Nunnelly 143.48 11 P PKPab 01 30 41.5 +0.5
baz=347
U54A Nelsons Funny 143.49 3 P PKPbc 01 30 42.1 -0.1
baz=356
U52A Thorn Hill 143.50 5 P PKPab 01 30 41.6 +0.5
baz=354
U55A TA2, Sparta 143.54 2 P PKPbc 01 30 41.9 -0.4
baz=358
U53A Fall Branch 143.60 4 P PKPab 01 30 41.9 +0.4
baz=355
U57A Blanch 143.64 360 P PKPbc 01 30 42.1 -0.4
baz=0.4
U58A Oxford 143.66 359 P PKPbc 01 30 42.2 -0.3
baz=1.8
V48A Smith Brothers 143.69 10 P PKPab 01 30 42.0 +0.1
baz=348
U56A King 143.71 1 P PKPab 01 30 42.1 +0.2
baz=359
V49A McMinnville 143.82 9 P PKPab 01 30 42.1 -0.2
baz=349
W46A Michie 143.98 12 P PKPab 01 30 42.5 -0.5
baz=345
V51A Loudon 143.99 7 P PKPab 01 30 42.6 -0.4
baz=352
JCT Junction City 144.00 31 P PKPbc 01 30 43.6 -0.2
baz=324
V50A Pikeville 144.03 8 P PKPab 01 30 42.5 -0.6
baz=351
W47A Westpoint 144.03 11 P PKPab 01 30 42.4 -0.7
baz=346,SNR=24
V52A Sevierville 144.03 6 P PKPab 01 30 42.4 -0.7
baz=353
V57A Coltrane Farms 144.18 0 P PKPab 01 30 43.3 -0.4
baz=360,SNR=5.2
V55A Taylorsville 144.18 2 P PKPab 01 30 43.3 -0.4
baz=357,SNR=5.8
V54A Nebo 144.22 3 P PKPab 01 30 43.3 -0.5
baz=356,SNR=5.9
V60A Jim Taylor Roa 144.24 357 P PKPab 01 30 43.6 -0.3
baz=4.0
V56A Mocksville 144.25 1 P PKPab 01 30 43.4 -0.6
baz=358
W48A Pulaski 144.26 10 P PKPab 01 30 43.4 -0.6
baz=347,SNR=13
V53A Saluda 144.27 5 P PKPab 01 30 43.7 -0.4
baz=354,SNR=17
V58A Windy Hill, Pi 144.27 359 P PKPab 01 30 43.9 -0.1
baz=0.8
V59A Middlesex 144.28 358 P PKPab 01 30 44.1 +0.1
baz=2.3
W49A Belvidere 144.39 9 P PKPab 01 30 43.7 -0.8
baz=348,SNR=17
W50A Signal Mountai 144.46 8 P PKPab 01 30 44.0 -0.8
baz=350
X46A Booneville 144.49 13 P PKPab 01 30 43.9 -1.0
baz=344
Z41A Richland Creek 144.54 19 P PKPab 01 30 44.4 -0.7
baz=337
W51A Cleveland 144.57 7 P PKPab 01 30 44.5 -0.7
baz=351
X47A Russelville 144.68 12 P PKPab 01 30 44.4 -1.2
baz=346,SNR=33
W52A Murphy 144.74 6 P PKPab 01 30 45.1 -0.7
baz=352,SNR=6.4
W53A Cullowhee 144.74 5 P PKPab 01 30 45.0 -0.9
baz=354,SNR=8.3
CNNC Cliffs of the 144.79 358 P PKPab 01 30 46.0 0.0
baz=2.9
W61A Ground Anchor 144.81 356 P PKPab 01 30 46.0 0.0
baz=4.5
435B Jarrell 144.83 28 P PKPab 01 30 46.2 0.0
baz=328
W59A Clinton 144.88 358 P PKPbc 01 30 46.3 0.0
baz=2.0
KMSC Kings Mountain 144.88 3 P PKPbc 01 30 45.6 -0.7
baz=357,SNR=32
W54A Cherokee Point 144.90 4 P PKPbc 01 30 45.6 -0.8
baz=356,SNR=15
X48A Hartselle 144.91 11 P PKPbc 01 30 45.5 -1.0
baz=347,SNR=26
W57A Gilead 144.91 1 P PKPbc 01 30 45.8 -0.6
baz=359,SNR=12
W56A Indian Trail 144.92 1 P PKPbc 01 30 45.7 -0.7
baz=358,SNR=7.7
W60A Pink Hill 144.97 357 P PKPbc 01 30 46.1 -0.5
baz=3.3
X49A Woodville 144.98 10 P PKPbc 01 30 46.0 -0.7
baz=346,SNR=41
W58A Raeford 145.04 360 P PKPbc 01 30 46.3 -0.5
baz=0.6,SNR=7.6
X50B Fort Payne 145.13 9 P PKPbc 01 30 46.2 -1.0
baz=349,SNR=5.6
X51A Calhoun 145.15 8 P PKPbc 01 30 46.6 -0.5
baz=351,SNR=9.6
X52A Dahlonega 145.22 6 P PKPbc 01 30 47.0 -0.4
baz=352,SNR=16
BDFB Brasilia 145.23 242 PKPbc PKPab 01 30 48.4 +0.1
comp=Z,2.9nm,0.5s,baz=154,slow=1.4,SNR=6.4
X53A Estanollee 145.38 5 P PKPdf 01 30 47.7 -0.1
baz=354,SNR=24
Y48A Jasper 145.41 11 P PKPdf 01 30 46.9 -0.8
baz=347,SNR=14
X54A Belton 145.42 4 P PKPdf 01 30 47.4 -0.3
baz=355,SNR=23
X60A Albert Glenn T 145.46 358 P PKPbc 01 30 48.0 -0.1
baz=2.8,SNR=5.8
X59A McDuffie Farm, 145.48 359 P PKPbc 01 30 48.1 -0.1
baz=1.7,SNR=7.9
X58A Rowland 145.51 360 P PKPdf 01 30 47.3 -0.6
baz=0.4
X55A Gracelyn & Ava 145.54 3 P PKPdf 01 30 47.5 -0.5
baz=356,SNR=14
X56A White Oak 145.54 2 P PKPdf 01 30 47.8 -0.2
baz=357,SNR=14
X57A Johnson Farm, 145.60 1 P PKPdf 01 30 48.1 0.0
baz=359
Y49A Blount Mountai 145.60 10 P PKPdf 01 30 47.7 -0.4
baz=348,SNR=28
Y50A Piedmont 145.68 9 P PKPdf 01 30 47.9 -0.4
baz=349,SNR=17
Y51A Rockmart 145.77 8 P PKPdf 01 30 48.3 -0.2
baz=350,SNR=11
Y52A Lilburn 145.94 7 P PKPbc 01 30 49.6 0.0
baz=352,SNR=16
Y53A Monroe 146.00 6 P PKPbc 01 30 49.6 -0.2
baz=353,SNR=14
Y60A Bolivia 146.03 358 P PKPbc 01 30 49.7 -0.2
baz=2.5
Y57A Sumter 146.04 1 P PKPbc 01 30 49.4 -0.4
baz=359,SNR=7.3
Y55A Saluda 146.06 3 P PKPbc 01 30 49.5 -0.5
baz=356,SNR=8.6
Y54A Tignall 146.07 5 P PKPbc 01 30 49.7 -0.3
baz=354,SNR=11
Y58A Scranton 146.16 0 P PKPbc 01 30 50.0 -0.3
baz=360,SNR=6.6
Z49A Columbiana 146.22 11 P PKPdf 01 30 49.8 +0.6
baz=348,SNR=16
CPUP Villa Florida 146.25 218 PKPbc PKPbc 01 30 50.6 -0.2
comp=Z,3.4nm,0.7s,baz=146,slow=4.4,SNR=8.2
Z50A Ashland 146.27 10 P PKPbc 01 30 50.0 -0.7
baz=349,SNR=16
LRAL Lakeview Retre 146.29 11 P PKPdf 01 30 49.9 +0.6
baz=347,SNR=13
Z51A Franklin 146.33 8 P PKPbc 01 30 50.2 -0.6
baz=350
GOGA Godfrey 146.45 6 P PKPbc 01 30 50.8 -0.3
baz=353,SNR=17
148A Greensboro 146.55 12 P PKPbc 01 30 51.4 -0.1
baz=345
Z52A Williamson 146.56 7 P PKPbc 01 30 51.2 -0.3
baz=351,SNR=13
Z53A Monticello 146.57 6 P PKPbc 01 30 50.9 -0.5
baz=353,SNR=12
Z54A Sparta 146.68 5 P PKPbc 01 30 51.2 -0.6
baz=354
Z58A St. Stephen 146.73 0 P PKPbc 01 30 51.5 -0.4
baz=360
Z57A Bowman 146.75 2 P PKPbc 01 30 51.7 -0.3
baz=358
Z55A Blythe 146.75 4 P PKPbc 01 30 51.7 -0.3
baz=355,SNR=6.3
149A Jones 146.76 11 P PKPbc 01 30 51.4 -0.6
baz=347,SNR=12
150A Eclectic 146.89 10 P PKPbc 01 30 51.9 -0.5
baz=348,SNR=5.3
NHSC New Hope 146.95 1 P PKPbc 01 30 52.0 -0.5
baz=359
152A Waverly Hall 147.03 8 P PKPbc 01 30 52.5 -0.3
baz=351
151A Opelika 147.08 9 P PKPbc 01 30 52.9 0.0
baz=349
154A Montrose 147.28 6 P PKPbc 01 30 53.5 0.0
baz=354
249A Camden 147.29 12 P PKPbc 01 30 53.4 -0.1
baz=346
155A Kite 147.32 5 P PKPbc 01 30 53.6 0.0
baz=355
156A Sylvania 147.35 3 P PKPbc 01 30 53.7 0.0
baz=356
250A Grady 147.46 11 P PKPbc 01 30 53.9 -0.1
baz=348
251A Midway 147.49 9 P PKPbc 01 30 54.1 0.0
baz=349,SNR=18
252A Lumpkin 147.69 8 P PKPbc 01 30 54.7 +0.1
baz=350
349A Repton 147.88 12 P PKPbc 01 30 55.2 0.0
baz=346
254A Abbeville 147.92 6 P PKPbc 01 30 55.1 -0.1
baz=353
256A Glennville 148.00 4 P PKPbc 01 30 55.4 -0.1
baz=356
255A Hazlehurst 148.01 5 P PKPbc 01 30 55.6 +0.1
baz=355
352A Blakely 148.17 9 P PKPbc 01 30 56.2 +0.3
baz=350
351A Pinckard 148.26 10 P PKPbc 01 30 56.1 0.0
baz=348
TIGA Tifton 148.39 7 P PKPbc 01 30 56.4 0.0
baz=352
353A Camilla 148.40 8 P PKPbc 01 30 56.7 +0.2
baz=351
449A Pace 148.45 13 P PKPbc 01 30 56.2 -0.4
baz=345
356A Blackshear 148.64 4 P PKPbc 01 30 57.2 +0.1
baz=355
453A Whigham 148.87 8 P PKPbc 01 30 58.0 +0.3
baz=351
451A Vernon 148.88 10 P PKPbc 01 30 58.2 +0.4
baz=348
454A Quitman 149.10 7 P PKPbc 01 30 58.8 +0.6
baz=352
456A Hilliard 149.24 4 P PKPbc 01 30 59.2 +0.5
baz=355
552A Lynn Haven 149.43 10 P PKPbc 01 30 59.6 +0.5
baz=349
553A Crawfordville 149.51 8 P PKiKP 01 31 00.2 -0.2
baz=350
555A McAlpin 149.76 6 P PKPbc 01 31 00.3 +0.4
baz=353
556A Lake Butler 149.93 5 P PKPbc 01 31 00.6 +0.3
baz=354
557A Orange Park 149.97 4 P PKiKP 01 31 01.2 0.0
baz=356
657A Interlachen 150.38 4 P PKPbc 01 31 01.5 +0.1
baz=355
656A Willston 150.54 5 P PKPbc 01 31 01.9 +0.1
baz=354
757A Oxford 151.01 5 P PKPbc 01 31 03.1 +0.2
baz=355

758A	Lake Helen	151.04	3	P	PKiKP	01 31 03.6	+0.1
	baz=357						
857A	Zephyrhills	151.66	5	P	PKiKP	01 31 04.6	-0.2
	baz=354						
858A	St. Cloud	151.78	3	P	PKPbc	01 31 04.8	+0.1
	baz=356						
DWPF	Disney Wildern	151.88	3	P	PKiKP	01 31 05.2	-0.1
	baz=356						
859A	Kempfer Cattle	151.96	2	P	PKiKP	01 31 05.6	+0.2
	baz=357						
959A	Okeechobee	152.49	3	P	PKiKP	01 31 06.9	+0.3
	baz=357						
MDP	Montagnes des	152.61	281	PKPbc	PKiKP	01 31 07.6	+0.4
	baz=321,slow=1.3						

TEH 16 01:24:43.6, 28.°36N×51.°66E, h14km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	Kazeroun	1.42	6	ePg	Pb	01 25 10.0	-0.1
IKAZ				IAMB	IAmb	01 25 41.5	
	comp=Z,0.0nm,0.4s						
SHI	Shiraz	1.48	30	ePg	Pg	01 25 12.0	0.0
SHI				eSg	Sg	01 25 31.9	+0.6
ISRV	Sarvestan	1.63	51	ePg	Pg	01 25 14.8	-0.1
ISRV				IAMB	IAmb	01 25 44.4	
	comp=Z,0.0nm,0.4s						
JHRM	Jahrom	1.69	85	ePg	Pb	01 25 14.5	-0.1
JHRM				IAMB	IAmb	01 25 42.9	
	comp=Z,0.0nm,0.5s						
KLNJ	Kolanjah	2.64	359	ePn	Pn	01 25 27.7	+1.6
IRAM	Ramesheh	3.49	10	ePn	Pn	01 25 39.2	+1.5
ZNGN	Zangian	3.81	350	ePn	Pn	01 25 43.9	+1.8
ISAD	Sadrabad	3.95	26	ePn	Pn	01 25 46.3	+2.2
IMEH	Mehriz	3.96	40	ePn	Pn	01 25 46.7	+2.5
IPIR	Pirpir	4.36	351	ePn	Pn	01 25 51.2	+1.5
IZEF	Zefreh	4.55	7	ePn	Pn	01 25 54.5	+2.1
KHGB	Koh Gabri	4.66	63	ePn	Pn	01 25 55.6	+1.9
IKLH	Kolahrood	4.94	359	ePn	Pn	01 25 59.7	+2.0

MEX 16 01:34:46.1±0.7, 17.°12N×94.°96W, h131km±6km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.07	116	eP	Pn	01 35 02.6	-1.3
CMIG				eS	Sn	01 35 15.2	-2.1
HUIG	Huatulco	1.74	220	i P	Pn	01 35 15.5	-1.6
HUIG				i S	Sn	01 35 39.6	-1.2
TGIG		1.79	101	eP	Pn	01 35 16.0	-1.7
TGIG				eS	Sn	01 35 39.4	-2.4
PCIG		2.18	130	eP	Pn	01 35 21.6	-0.8
PCIG				eS	Sn	01 35 49.0	-1.2
TPIG	Tehuac#an	2.63	300	eP	Pn	01 35 27.0	-1.2
TPIG				eS	Sn	01 35 58.5	-2.0
CCIG	Comitan	2.83	107	eP	Pn	01 35 29.5	-1.2
CCIG				eS	Sn	01 36 03.3	-1.7
PNIG	Pinotepa	3.12	257	eP	Pn	01 35 32.5	-1.9
PNIG				i S	Sn	01 36 09.8	-1.9

*ISCJB **16** 02:06:02.9±0.3, 24.°00N±0.°01×121.°64E±0.°02, h7km±2km, Error ellipse: s-maj=3.1km s-min=2.3km az=28.6*
*JMA **16** 02:06:02.4±0.1, 23.°98N×121.°63E, h4km, M2.7*
*TAP **16** 02:06:02.8, 24.°00N×121.°61E, h8km, ML3.0, B*
ISC 16 02:06:03.0±0.8, 24.°00N±0.°02×121.°62E±0.°02, h11km±4km, n59, σ0°46/85, 1C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.03	210	P	Pg	02 06 04.9	0.0
HWA	baz=171			eS	Sg	02 06 06.7	+0.4
TWD	Chiawan	0.08	346	⇓i P	Pg	02 06 05.3	-0.2
TWD	baz=358			i S	Sg	02 06 06.9	-0.4
ENLB	Shoufeng	0.10	189	⇑P	Pg	02 06 05.7	+0.1
ENLB	baz=184			S	Sg	02 06 08.2	+0.7
NACB	Ninganchiao	0.18	353	⇓P	Pg	02 06 06.6	-0.3
NACB	baz=3.0			S	Sg	02 06 09.2	-0.3
ETLH	Xiulin Townshi	0.24	329	P	Pg	02 06 08.1	0.0
ETLH	baz=331			S	Sg	02 06 11.6	+0.1
ESL	Shilin	0.25	223	P	Pg	02 06 07.7	-0.5
ESL	baz=225			eS	Sg	02 06 11.4	-0.3
WHF	Hehuan Shan	0.35	294	⇓i P	Pg	02 06 10.2	-0.1
WHF	baz=295			S	Sg	02 06 15.2	+0.1
EGFH	Guangfu	0.37	208	eP	Pg	02 06 10.4	-0.1
OWD	Renai	0.41	264	eP	Pb	02 06 11.5	-0.9
CHGB	Renai	0.41	279	⇓P	Pg	02 06 11.4	+0.2
CHGB	baz=269			eS	Sg	02 06 16.8	+0.1
ENA	Nanau	0.44	15	P	Pg	02 06 11.6	-0.2
ENA	baz=17			S	Sg	02 06 17.5	-0.1
TWT	Tachien	0.48	302	eP	Pb	02 06 13.1	-0.5
NNSB	Datong	0.48	333	⇓P	Pg	02 06 12.6	+0.1
NNSB	baz=334			S	Sg	02 06 18.9	+0.1
TDCB	Techi	0.49	301	eP	Pb	02 06 13.0	-0.8
TDCB	baz=310			eS	Sg	02 06 19.6	+0.4
NNS	Nan Shan	0.49	333	P	Pg	02 06 12.8	+0.1
NNS	baz=335			eS	Sg	02 06 19.4	+0.1
VWDT	VWDT	0.50	241	⇓P	Pb	02 06 13.1	-0.8
VWDT	baz=233			eS	Sg	02 06 19.8	+0.4
HGSD	Ruisui	0.54	200	eP	Pb	02 06 14.9	+0.5
EHY	Hungye	0.56	209	eP	Pg	02 06 13.6	-0.4
NDT	Datong Townshi	0.61	351	eP	Pb	02 06 15.2	-0.5
DPDB	Guoxing	0.63	273	eP	Pb	02 06 15.6	-0.6
DPDB	baz=273			eS	Sb	02 06 24.3	-0.9
ENTT	Nioudou	0.64	356	⇓P	Pg	02 06 15.7	+0.2
ENTT	baz=357			S	Sg	02 06 24.1	+0.2
SSLB	Suanglung	0.64	251	⇓P	Pb	02 06 15.6	-0.7
SSLB	baz=263			eS	Sg	02 06 23.2	-0.8
TWC	Suao	0.64	19	eP	Pg	02 06 15.4	-0.2
SMLT	Sun Moon Lake	0.67	260	eP	Pb	02 06 16.4	-0.5
YULB	Yu-li	0.67	206	eP	Pg	02 06 15.8	-0.3
WHP	Taichung City	0.67	294	eP	Pb	02 06 16.6	-0.4
WHP	baz=288			eS	Sb	02 06 26.3	0.0
TYC	Yuchr	0.70	262	eP	Pb	02 06 16.8	-0.5
TYC	baz=263			eS	Sg	02 06 25.6	-0.2
TWF1	Yuli	0.71	205	eP	Pg	02 06 15.9	-0.8
NSK	Sanguang	0.71	341	⇓P	Pg	02 06 17.1	+0.2
NSK	baz=342			S	Sg	02 06 26.6	+0.3
EOS1	EOS1	0.72	40	eP	Pn	02 06 18.6	-0.6
TWE	baz=29 Neicheng	0.72	4	eP	Pb	02 06 17.3	-0.4
TWE	baz=6.0			eS	Sb	02 06 27.4	-0.2
SLBB	baz=6.0 Yuanshan	0.75	1	eP	Pb	02 06 17.9	-0.3
NWLT	baz=1.0 Wulai	0.78	352	eP	Pb	02 06 18.3	-0.4
WJS	baz=340 Zhushan	0.83	258	eP	Pb	02 06 19.9	+0.4
LIOB	baz=252 Emei	0.85	320	eP	Pb	02 06 20.2	+0.3
LIOB	baz=320			eS	Sb	02 06 31.4	+0.2
TWQ1	baz=320 Liyutan	0.85	294	eP	Pn	02 06 21.3	+0.3
CHN5	baz=287 Tsauling	0.95	245	eP	Pn	02 06 22.4	-0.1
CHN5	baz=235			eS	Sn	02 06 36.3	+0.2
ELDTW	baz=235 Lidau	0.98	215	eP	Pb	02 06 21.9	-0.2
TIPB	baz=203 Shuangxi	0.99	11	eP	Pb	02 06 22.4	+0.1
WFSB	baz=356 Wu-fen Shan	1.08	8	eP	Pn	02 06 24.1	0.0
CHN4	baz=6.0 Tsaushan	1.14	236	eP	Pn	02 06 25.3	+0.3
YM01	baz=239 YM01	1.14	358	eP	Pb	02 06 24.9	0.0
STYT	baz=7.0 Tauyuan	1.15	224	eP	Pb	02 06 24.9	-0.1
YM07	baz=226 YM07	1.17	0	eP	Pn	02 06 25.6	+0.2
WTP	baz=10.0 Ta-pu	1.19	231	eP	Pb	02 06 25.6	-0.1
TWK	baz=234 Hsinying	1.27	235	eP	Pg	02 06 27.3	-0.1
CHN1	baz=238 Nanshi	1.29	231	eP	Pg	02 06 28.2	+0.5
SGST	baz=234 Jiashian	1.32	226	eP	Pg	02 06 28.2	-0.2
SLGT	baz=229 Liugui	1.34	222	eP	Pg	02 06 28.4	-0.4
YOJ	baz=209 Yonaguni jima	1.35	70	eP	Pn	02 06 26.6	-1.3
YOJ	baz=68 Yonaguni jima	1.35	70	P	Pn	02 06 27.6	-0.3
YOJ				eS	Sb	02 06 46.0	+0.2
MASBT	Mashibuluo	1.65	213	eP	Pb	02 06 33.0	-0.6
EAST	baz=206 Anshuo	1.76	204	eP	Pn	02 06 33.8	+0.3
PHUB	baz=195 P'eng-hu	1.94	256	eP	Pn	02 06 37.1	+1.2
IRIF	baz=258 Iriomote-Funau	1.96	80	P	Pn	02 06 35.4	-0.8
HATJ	Hateruma jima	2.00	88	S	Sn	02 07 02.6	+0.7
JKRS	Kuro-shima	2.20	83	P	Pn	02 06 40.2	+0.7
JKRS				S	Sn	02 07 07.7	+1.0
JIJ	Ishigaki jima	2.33	81	P	Pn	02 06 41.8	+0.4
JIJ				S	Sn	02 07 10.4	+0.3
JISG	Ishigakijimahi	2.53	76	P	Pn	02 06 44.1	+0.1
JISG				S	Sn	02 07 15.1	+0.2

*IDC **16** 02:21:22.9±0.6, 8.°60N×141.°92E, h0km, mb4.1/19, mb1 4.3/21, mb1mx4.1/46, mbtmp4.1/21, ML3.0/1, MS3.2/13, Ms1 3.2/13, ms1mx3.1/44, Error ellipse: s-maj=21.2km s-min=12.1km az=82.0*
*ISCJB **16** 02:21:25.9±0.3, 8.°58N±0.°04×141.°93E±0.°06, h33km, mb4.3/44, MS3.2/10, Error ellipse: s-maj=8.8km s-min=5.5km az=7.6*
*NEIC **16** 02:21:28.5±2.2, 8.°53N×141.°96E, h43km±6km, mb4.5/29, Error ellipse: s-maj=19.4km s-min=14.2km az=87.0*
ISC 16 02:21:28.2±0.5, 8.°57N±0.°06×141.°94E±0.°08, h35km, n85, σ1°49/76, mb4.4/44, MS3.3/10, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.76	30	ePn	Pn	02 22 51.7	+0.4
GUMO				eSn	Sn	02 23 56.2	-0.1
GUMO	Guam	5.76	30	Pn	Pn	02 22 50.2	-1.1
GUMO	60nm,0.3s,baz=218,slow=4.7,SNR=18			Sn	Sn	02 23 55.6	-0.7
GUMO	52nm,0.3s,baz=54,slow=21,SNR=9.9			LR	LR	02 25 35.5	
	comp=Z,49nm,18.9s,baz=298,slow=44						
ANA2	Anatahan	8.56	25	ePn	Pn	02 23 36.4	+6.6
SARN	Sarigan	8.91	24	ePn	Pn	02 23 33.8	-0.8
DAV	Davao City (W)	16.27	266	LR	LR	02 30 06.0	
	comp=Z,79nm,21.2s,baz=75,slow=32						
PMG	Port Moresby	18.59	164	eP	P	02 25 42.0	-0.6
	40nm,1.2s						
PMG	Port Moresby	18.59	164	P	P	02 25 41.4	-1.2
	1.5nm,0.3s,baz=340,slow=8.3,SNR=4.8						
PMG				LR	LR	02 32 13.2	
	comp=Z,91nm,20.1s,baz=357,slow=35						
COEN	Coen	22.41	177	eP	P	02 26 26.4	+2.4
	26nm,1.4s						
JHJ	Hachijo jima 2	24.52	356	LR	LR	02 35 40.1	
	comp=Z,64nm,19.1s,baz=64,slow=35						
KAPI	Kappang	25.91	239	LR	LR	02 37 14.0	
	comp=Z,39nm,18.3s,baz=98,slow=37						
H11S3	WAKE ISLAND Hy	25.98	65	T	T	02 54 38.5	
	baz=252,slow=75						
H11S2	WAKE ISLAND Hy	25.99	65	T	T	02 54 32.9	
	baz=252,slow=75						
H11S1	WAKE ISLAND Hy	25.99	65	T	T	02 54 17.5	
	baz=252,slow=75						
JNU	Nakatsue	26.49	339	LR	LR	02 35 45.1	
	comp=Z,64nm,21.6s,baz=164,slow=33						
H11N1	WAKE ISLAND Hy	26.57	63	T	T	02 55 14.2	
	baz=248,slow=75						
H11N2	WAKE ISLAND Hy	26.58	63	T	T	02 55 16.2	
	baz=248,slow=75						
H11N3	WAKE ISLAND Hy	26.59	63	T	T	02 55 25.0	
	baz=248,slow=75						
MJAR	Matsushiro Arr	28.05	354	LR	LR	02 37 29.6	
	comp=Z,49nm,19.6s,baz=125,slow=34						
WB2	Warramunga Arr	29.30	195	eP	P	02 27 27.4	-0.1
	6.3nm,0.9s						
WR1	Warramunga Arr	29.30	195	eP	P	02 27 27.5	-0.1
WRA	Warramunga Arr	29.30	195	P	P	02 27 27.5	-0.1
	3.3nm,0.9s,baz=18,slow=9.9,SNR=12						
WRA				LR	LR	02 39 41.3	
	comp=Z,72nm,18.3s,baz=50,slow=38						
KSRS	Korea Array	31.44	338	P	P	02 27 46.4	+0.1
	0.4nm,0.4s,baz=164,slow=9.7,SNR=2.8						
KSRS				LR	LR	02 38 25.8	
	comp=Z,82nm,21.6s,baz=137,slow=33						
KS15	Wonju Array Si	31.44	338	eP	P	02 27 46.4	0.0
	18nm,1.4s						
NJ2	Nanjing	31.71	321	eP	P	02 27 48.6	-0.2
AS31	Alice Springs	32.98	194	eP	P	02 28 00.2	+0.2
	0.8nm,0.8s						
ASAR	Alice Springs	32.98	194	P	P	02 28 00.2	+0.2
	1.4nm,1.0s,baz=18,slow=7.5,SNR=12						
ASAR				LR	LR	02 41 48.4	
	comp=Z,58nm,19.8s,baz=68,slow=37						
USRK	Ussuriysk Ar.	36.54	348	eP	P	02 28 29.7	-0.8
USRK	Ussuriysk Ar.	36.54	348	P	P	02 28 29.3	-1.2
	1.3nm,0.7s,baz=168,slow=8.7,SNR=2.6						
CN2	Changchun	37.94	340	eP	P	02 28 42.6	+0.2
CN2				ePP	pwP	02 28 54.8	-0.1
DZM	Mont Dzumac	38.79	142	eP	P	02 28 49.1	-0.8
	8.1nm,1.0s						
DZM	Mont Dzumac	38.79	142	P	P	02 28 49.1	-0.8
	3.3nm,0.9s,baz=356,slow=15,SNR=1.9						
STKA	Stephens Creek	40.21	180	P	P	02 29 01.0	-0.5
	1.0nm,0.4s,baz=35,slow=18,SNR=3.2						
STKA				LR	LR	02 46 18.3	
	comp=Z,41nm,18.2s,baz=20,slow=37						
KMI	Kunming	40.78	299	P	P	02 29 04.8	-1.8
KMI				pP	pP	02 29 17.5	+1.3
KMI				sP	sP	02 29 20.9	+0.8
IPM	Ipoh	40.83	267	eP	P	02 29 06.7	-0.3
	18nm,1.3s						
FORT	Forrest	41.32	198	eP	P	02 29 10.8	+0.1
	9.5nm,0.9s						
KLR	Kul'dur	41.42	350	P	P	02 29 10.7	-0.6
	1.8nm,0.8s,baz=133,slow=7.0,SNR=7.7						
BBOO	Buckleboo	41.52	187	eP	P	02 29 11.5	-0.8
	16nm,1.1s						
CD2	Chengdu	41.94	307	eP	P	02 29 13.9	-2.0
HHC	Hu-ho-hao-te	41.95	325	eP	P	02 29 16.0	+0.1
CM31	Chiang Mai Arr	42.85	288	eP	P	02 29 23.1	-0.2
	12nm,1.4s						
CMAR	Chiang Mai Arr	42.85	288	P	P	02 29 23.1	-0.2
	1.0nm,0.3s,baz=102,slow=6.5,SNR=5.4						
LZH	Lanzhou	44.17	314	eP	P	02 29 35.5	+1.5
LZH				pP	sP	02 29 47.3	-0.3
LZH				sP	pwP	02 29 53.1	+6.4
PETK	Petropavlovsk-	46.22	13	P	P	02 29 48.9	-1.0
	0.6nm,0.4s,baz=207,slow=6.1,SNR=3.3						
PETK				LR	LR	02 47 10.7	
	comp=Z,31nm,20.1s,baz=182,slow=34						
PEA1	Petropavlovsk-	46.23	13	eP	P	02 29 48.9	-1.0
GTA	Gaotai	48.56	316	eP	P	02 30 08.4	0.0
GTA				pP	pwP	02 30 20.6	-0.5
GTA				sP	sP	02 30 25.8	+3.8
SONA0	Songino Array	49.34	329	eP	P	02 30 14.9	+0.7
SONM	Songino Array	49.34	329	P	P	02 30 14.9	+0.7
	1.2nm,0.7s,baz=150,slow=6.7,SNR=3.4						
LBZ	Lake Benmore	58.57	157	eP	P	02 31 20.4	-1.0
	12nm,1.1s						
WMQ	Urumqi	58.64	317	eP	P	02 31 23.0	+0.9
MK31	Makanchi Array	63.20	318	eP	P	02 31 52.5	-0.5
	1.7nm,0.9s						
MK32	Makanchi Array	63.20	318	eP	P	02 31 52.5	-0.5
MKAR	Makanchi Array	63.20	318	eP	P	02 31 50.9	-2.1
MKAR	Makanchi Array	63.20	318	P	P	02 31 52.5	-0.5
	0.6nm,0.8s,baz=95,slow=7.9,SNR=5.4						
ZALV	Zalesovo Beam	64.11	327	eP	P	02 31 58.1	-0.7
ZALV	Zalesovo Beam	64.11	327	P	P	02 31 57.6	-1.1
	0.8nm,0.3s,baz=101,slow=7.8,SNR=3.8						
ZAA1	Zalesovo Array	64.11	327	eP	P	02 31 57.6	-1.2
KDJ	Kajisay	65.63	312	eP	P	02 32 08.9	-0.3
	2.6nm,0.9s						
KSH	Kashi	66.09	309	P	P	02 32 13.1	+1.0
KSH				PP	PP	02 34 42.0	+4.2
KSH				S	S	02 40 55.0	-3.3
KSH	Kashi	66.09	309	SS	SS	02 45 13.0	-1.2
KURK	Kurchatov	66.64	322	eP	P	02 32 14.3	-0.9
	4.4nm,1.0s						
KURBB	Kurchatov Arra	66.67	322	P	P	02 32 13.6	-1.8
	1.5nm,0.8s,baz=104,slow=6.4,SNR=11						
NIL	Nilore	67.58	303	eP	P	02 32 20.3	-1.4
	9.3nm,0.8s						
RDOG	Red Dog Mine	69.54	19	eP	P	02 32 30.2	-3.0
	10nm,1.2s						
KDAK	Kodiak Island	69.83	31	eP	P	02 32 33.6	-1.5
	9.3nm,0.9s						
NRIK	Noril'sk	69.96	342	P	P	02 32 35.8	+0.1
	1.2nm,0.3s,baz=102,slow=7.3,SNR=2.2						
KKAR	Karatay Array	70.64	313	eP	P	02 32 39.4	-1.1
BVAR	Borovoye Array	72.12	323	P	P	02 32 48.3	-0.8
	2.2nm,0.8s,baz=103,slow=6.5,SNR=9.4						
BRVK	Borovoye	72.19	323	eP	P	02 32 48.5	-1.0
	3.8nm,0.8s						
MLY	Manley	72.79	24	eP	P	02 32 55.2	+2.2
	8.1nm,1.3s						
KNK	Knik Glacier	72.81	28	eP	P	02 32 56.9	+3.8
	26nm,0.7s						
TOLK	Toolik Lake Re	74.31	21	eP	P	02 33 04.8	+3.0
	10.0nm,1.4s						
ILAR	Eielson Array	74.31	25	P	P	02 33 01.7	-0.1
	2.3nm,0.7s,baz=248,slow=5.8,SNR=31						
ILAR				LR	LR	03 05 02.3	
	comp=Z,20nm,19.1s,baz=231,slow=35						
ILB	Eielson Array	74.31	25	eP	P	02 33 02.7	+0.9
	2.9nm,0.8s						
DOT	Dot Lake	75.28	26	eP	P	02 33 07.8	+0.3
	4.6nm,0.9s						
FYU	Fort Yukon	75.38	23	eP	P	02 33 11.0	+3.1
	10nm,1.0s						
ABKAR	Akbulak array	78.34	319	eP	P	02 33 24.8	-0.2
	1.2nm,0.8s						
EPYK	Eagle Plains	78.73	24	eP	P	02 33 30.8	+3.9
	7.1nm,1.3s						
GEYT	Alibeck	79.94	307	P	P	02 33 36.0	+1.9
	0.8nm,0.4s,baz=333,slow=0.3,SNR=3.8						
INK	Inuvik	80.08	22	eP	P	02 33 36.0	+1.9
	7.7nm,1.4s						
YKA	Yellowknife Ar	88.61	27	P	P	02 34 17.6	+0.1
	1.2nm,0.9s,baz=295,slow=5.0,SNR=12						
YKB5	Yellowknife Ar	88.61	27	eP	P	02 34 17.6	+0.1
NV01	Mina Array Sit	92.30	51	eP	P	02 34 36.6	+1.2
NVAR	Mina Array Bea	92.30	51	P	P	02 34 36.6	+1.2
	2.5nm,0.7s,baz=264,slow=5.3,SNR=7.3						
ELK	Elko	94.05	48	eP	P	02 34 47.0	+3.5
	1.9nm,1.0s						
LPAZ	La Paz	149.68	108	PKPbc	PKiKP	02 41 17.2	+0.2
	2.7nm,0.6s,baz=287,slow=1.3,SNR=18						

*IDC **16** 02:29:20.9±0.9, 31.°42N×86.°55E, h0km, mb3.5/10, mb1 3.7/11, mb1mx3.5/44, mbtmp3.5/11, MS2.5/2, Ms1 2.6/2, ms1mx2.4/36, Error ellipse: s-maj=31.8km s-min=18.9km az=63.0*
*ISCJB **16** 02:29:24.3±0.9, 31.°5N±0.°1×86.°5E±0.°2, h33km, mb3.4/9, MS2.4/1, Error ellipse: s-maj=27.2km s-min=15.2km az=155.4*
ISC 16 02:29:26.4±1.1, 31.°5N±0.°2×86.°6E±0.°2, h35km, n12, σ0°84/11, mb3.4/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	15.61	349	Pn	Pn	02 33 03.4	-0.4
	baz=165,slow=12,SNR=2.4						
CMAR	Chiang Mai Arr	17.15	136	LR	LR	02 40 36.8	
	comp=Z,15nm,19.7s,baz=185,slow=40						
KURBB	Kurchatov Arra	20.01	345	P	P	02 33 56.1	+0.3
	3.5nm,0.8s,baz=162,slow=11,SNR=14						
SONM	Songino Array	22.23	37	P	P	02 34 20.3	+0.3
	0.7nm,0.6s,baz=218,slow=9.1,SNR=2.5						
ZALV	Zalesovo Beam	22.46	357	P	P	02 34 21.8	-0.5
	0.5nm,0.4s,baz=188,slow=8.7,SNR=2.3						
ZALV				LR	LR	02 43 11.1	
	comp=Z,16nm,20.6s,baz=52,slow=37						
BVAR	Borovoye Array	24.50	336	P	P	02 34 43.8	+1.6
	0.7nm,0.6s,baz=139,slow=11,SNR=2.4						
FINES	FINESS Array B	48.83	326	P	P	02 38 07.0	-0.9
	0.5nm,0.5s,baz=102,slow=6.4,SNR=6.5						
WRA	Warramunga Arr	68.68	132	P	P	02 40 26.8	+0.3
	0.6nm,0.7s,baz=317,slow=5.7,SNR=5.6						
ASAR	Alice Springs	71.15	135	P	P	02 40 40.8	-0.8
	0.3nm,0.5s,baz=312,slow=6.0,SNR=3.5						
ILAR	Eielson Array	75.41	21	P	P	02 41 05.9	-0.2
	0.2nm,0.7s,baz=316,slow=5.1,SNR=3.8						
TORD	Torodi Ar. Bea	78.93	279	P	P	02 41 26.9	+0.1
	0.5nm,0.7s,baz=52,slow=3.9,SNR=3.0						
YKA	Yellowknife Ar	84.79	10	P	P	02 41 57.7	+0.9
	0.2nm,0.8s,baz=330,slow=5.0,SNR=3.8						

ATH 16 02:31:27.8, 40.°29N×21.°61E, h23km±3km, ML1.3/4, Error ellipse: s-maj=3.6km s-min=1.3km az=111.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.12	83	P	Pb	02 31 32.5	+0.1
KZN				S	Sb	02 31 35.5	-0.1
KZN				AML	AML	02 31 35.9	
	comp=N,212μm,0.2s						
KZN				AML	AML	02 31 37.2	
	comp=E,295μm,0.2s						
PENT	Pentalofos	0.37	255	P	Pb	02 31 35.8	-0.1
PENT				S	Sb	02 31 41.9	+0.5
PENT				AML	AML	02 31 45.2	
	comp=E,73μm,0.3s						
PENT				AML	AML	02 31 45.2	
	comp=N,74μm,0.3s						
KPRO	Kipourio	0.39	209	P	Pb	02 31 36.1	+0.1
KPRO				S	Sb	02 31 42.3	+0.6
KPRO				AML	AML	02 31 46.1	
	comp=N,120μm,0.2s						
KPRO				AML	AML	02 31 47.0	
	comp=E,130μm,0.4s						
NEST	Nestorio	0.45	286	P	Pb	02 31 36.9	-0.1
FNA	Florina	0.52	340	P	Pb	02 31 38.1	-0.3
FNA				S	Sb	02 31 46.2	+0.7
FNA				AML	AML	02 31 47.2	
	comp=E,175μm,0.4s						
FNA				AML	AML	02 31 48.0	
	comp=N,156μm,0.3s						
THL	Klokotos Trika	0.79	157	P	Pb	02 31 42.9	+0.1
GRG	Griva	0.90	42	P	Pn	02 31 45.8	+0.8

ROM 16 02:32:58.6±0.1, 43°111N±0°006×13°397E±0°006, h18km, Md1.1/2, Error ellipse: s-maj=0.7km s-min=0.5km az=199.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSP1	**Cessapalombo**	**0.14**	**262**	P	Pb	02 33 02.9	0.0
CSP1				S	Sb	02 33 06.0	+0.3
CSP1				END			
CSP1				END			
CSP1				END			
CSP1				END			
CSP1	**Cessapalombo**	**0.14**	**262**	P	Pb	02 33 02.9	0.0
CSP1	**Cessapalombo**	**0.14**	**262**	S	Sb	02 33 06.0	+0.3
FDMO	**Fiordimonte**	**0.24**	**252**	P	Pg	02 33 04.2	+0.1
FDMO				S	Sb	02 33 08.6	+0.1
FDMO	**Fiordimonte**	**0.24**	**252**	P	Pg	02 33 04.2	+0.1
FDMO	**Fiordimonte**	**0.24**	**252**	S	Sb	02 33 08.6	+0.1
CING	**Cingoli**	**0.30**	**331**	P	Pg	02 33 05.4	+0.2
GUMA	**Gualdo di Mace**	**0.40**	**97**	P	Pg	02 33 02.1	-4.7
GUMA				S	Sg	02 33 04.6	-7.7
GUMA				END			
GUMA				END			
GUMA				END			
GUMA				END			
GUMA	**Gualdo di Mace**	**0.40**	**97**	P	Pg	02 33 02.1	-4.7
GUMA	**Gualdo di Mace**	**0.40**	**97**	S	Sg	02 33 04.6	-7.7

*ISCJB **16** 02:33:42.2±0.4, 26°.33S±0°.06×177°.03W±0°.07, h150km, mb4.5/18, Error ellipse: s-maj=11.0km s-min=6.9km az=42.4*
*NEIC **16** 02:33:43.2±2.6, 26°.30S×176°.99W, h148km±8km, mb4.7/13, Error ellipse: s-maj=25.6km s-min=11.8km az=118.0*
*IDC **16** 02:33:47.6±2.5, 26°.12S×177°.14W, h174km±24km, mb3.8/9, mb1 4.0/11, mb1mx3.8/23, mbtmp4.3/11, Error ellipse: s-maj=38.7km s-min=14.5km az=156.0*

ISC 16 02:33:43.7±0.5, 26°.26S±0°.06×177°.05W±0°.09, h150km, n37, σ1§69/45, mb4.3/18, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.08**	**194**	*e*Pn	**Pn**	**02 34 31.1**	**-0.9**
RAO				*e*Sn	**Sn**	**02 35 13.9**	**+4.4**
RAO	**Raoul Island**	**3.08**	**194**	S	**Sn**	**02 35 13.9**	**+4.4**
91nm,0.3s,baz=265,slow=23,SNR=6.1							
NIUE	**Niue**	**9.71**	**44**	*e*Pn	**Pn**	**02 35 58.5**	**-1.3**
URZ	**Urewera**	**12.95**	**201**	*e*Pn	**Pn**	**02 36 40.9**	**-1.2**
URZ	**Urewera**	**12.95**	**201**	P	**P**	**02 36 47.9**	**+0.9**
1.9nm,0.3s,baz=295,slow=4.1,SNR=10							
URZ				S	**Sn**	**02 38 59.9**	**-5.3**
1.7nm,0.3s,baz=159,slow=22,SNR=7.9							
PINNC	**Pines Island,**	**14.58**	**281**	*e*Pn	**Pn**	**02 36 59.6**	**-3.4**
OUENC	**Ouen Island, N**	**15.17**	**281**	*e*Pn	**Pn**	**02 37 10.8**	**+0.6**
12nm,0.9s							
ONTNC	**Ouen Toro**	**15.55**	**281**	*e*Pn	**Pn**	**02 37 14.2**	**-0.7**
14nm,1.0s							
DZM	**Mont Dzumac**	**15.63**	**282**	*e*Pn	**P**	**02 37 19.4**	**+2.4**
19nm,1.0s							
DZM	**Mont Dzumac**	**15.63**	**282**	P	**P**	**02 37 18.9**	**+1.9**
0.2nm,0.3s,baz=89,slow=21,SNR=17							
MCQ	**Macquarie Isla**	**33.29**	**206**	*e*P	**P**	**02 40 05.9**	**-0.8**
186nm,1.3s							
CTA	**Charters Tower**	**34.21**	**273**	P	**P**	**02 40 15.8**	**+0.6**
5.3nm,0.7s,baz=118,slow=11,SNR=8.8							
AS31	**Alice Springs**	**44.34**	**262**	*e*P	**P**	**02 41 39.3**	**+0.1**
1.3nm,1.0s							
AS31				*e*pP	**pwP**	**02 42 14.3**	**-0.3**
ASAR	**Alice Springs**	**44.34**	**262**	P	**P**	**02 41 39.3**	**+0.1**
3.6nm,0.9s,baz=99,slow=8.1,SNR=26							
ASAR				pP	**pwP**	**02 42 14.3**	**-0.3**
1.2nm,0.7s,baz=106,slow=8.5,SNR=3.4							
ASAR				S	**S**	**02 48 00.8**	**-1.4**
0.1nm,0.5s,baz=99,slow=16,SNR=2.5							
WB2	**Warramunga Arr**	**44.94**	**268**	*e*P	**P**	**02 41 42.7**	**-1.2**
4.6nm,0.6s							
WR1	**Warramunga Arr**	**44.95**	**268**	*e*P	**P**	**02 41 44.4**	**+0.3**
WRA	**Warramunga Arr**	**44.95**	**267**	P	**P**	**02 41 44.4**	**+0.3**
3.3nm,0.6s,baz=96,slow=8.5,SNR=30							
WRA				S	**S**	**02 48 11.1**	**0.0**
1.2nm,1.0s,baz=94,slow=17,SNR=3.3							
FORT	**Forrest**	**48.05**	**251**	*e*P	**P**	**02 42 06.4**	**-1.6**
9.2nm,0.8s							
BYL	**Byron's Ledge**	**50.08**	**27**	*e*P	**P**	**02 42 21.5**	**-2.0**
164nm,0.9s							
STCH	**Steam Cracks**	**50.11**	**27**	*e*P	**P**	**02 42 23.4**	**-0.4**
240nm,0.6s							
HLK	**Haleakala**	**50.90**	**25**	*e*P	**P**	**02 42 28.1**	**-1.8**
218nm,1.2s							
PETK	**Petropavlovsk-**	**82.03**	**345**	P	**P**	**02 45 47.0**	**+0.3**
3.7nm,0.7s,baz=122,slow=6.7,SNR=8.1							
PEA1	**Petropavlovsk-**	**82.04**	**345**	*e*P	**P**	**02 45 47.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**84.20**	**326**	P	**P**	**02 45 59.0**	**+1.1**
2.7nm,0.8s,baz=145,slow=5.3,SNR=6.4							
NV01	**Mina Array Sit**	**84.63**	**42**	*e*P	**P**	**02 46 01.3**	**+0.7**
NVAR	**Mina Array Bea**	**84.63**	**42**	P	**P**	**02 46 01.3**	**+0.7**
1.8nm,0.9s,baz=230,slow=9.2,SNR=6.5							
LCMT	**Little Creek M**	**86.93**	**46**	*e*P	**P**	**02 46 11.7**	**-0.2**
5.5nm,0.8s							
LTX	**Lajitas**	**89.44**	**57**	*e*P	**P**	**02 46 24.9**	**+1.1**
TXAR	**Lajitas Array**	**89.44**	**57**	P	**P**	**02 46 24.9**	**+1.0**
0.4nm,0.9s,baz=207,slow=5.7,SNR=4.2							
CM31	**Chiang Mai Arr**	**92.84**	**289**	*e*P	**P**	**02 46 41.4**	**+1.7**
5.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**92.84**	**289**	P	**P**	**02 46 41.4**	**+1.7**
0.6nm,0.3s,baz=134,slow=3.9,SNR=3.4							
ILAR	**Eielson Array**	**93.71**	**12**	P	**P**	**02 46 42.4**	**-0.3**
0.4nm,0.9s,baz=209,slow=6.9,SNR=3.4							
ILB	**Eielson Array**	**93.71**	**12**	*e*P	**P**	**02 46 42.4**	**-0.3**
1.9nm,0.9s							
AKASG	**Malin Array Be**	**148.39**	**328**	PKPbc	**PKPbc**	**02 53 12.0**	**-0.1**
0.7nm,0.5s,baz=40,slow=4.1,SNR=3.1							
AKBB	**Malin Array Si**	**148.39**	**328**	*e*PKPbc	**PKPbc**	**02 53 12.0**	**-0.1**
BR101	**Keskin Array S**	**151.12**	**305**	*e*PKPbc	**PKiKP**	**02 53 19.8**	**-0.1**
BR101				*e*PKPab	**PKPab**	**02 53 28.6**	**+1.0**
BRTR	**Keskin Array B**	**151.12**	**305**	PKPbc	**PKiKP**	**02 53 19.8**	**-0.1**
0.6nm,0.8s,baz=111,slow=3.2,SNR=4.4							
BRTR				PKPab	**PKPab**	**02 53 28.6**	**+1.0**
1.5nm,0.7s,baz=105,slow=4.3,SNR=11							

*KRNET **16** 02:46:26.5±0.1, 40°.16N×71°.57E, h18km, mb3.5*
*NNC **16** 02:46:27.8±1.5, 40°.33N×71°.43E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=13.3km s-min=7.4km az=179.0*
*SOME **16** 02:46:28.1, 40°.32N×71°.50E, h0km*

ISC 16 02:46:25.6±1.3, 40°24N±0°.04×71°.61E±0°.03, h13km±10km, n36, σ1§87/60, 22C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.78**	**169**	⇑*i*P	**Pb**	**02 46 40.0**	**-1.1**
baz=65							
DRK				⇑*i*S	**Sb**	**02 46 49.6**	**-2.1**
baz=65							
ARSB	**Arslanbob**	**1.50**	**44**	⇑*i*P	**Pg**	**02 46 55.4**	**+1.0**
baz=42							
ARSB				⇑*i*S	**Sg**	**02 47 16.6**	**+2.6**
baz=42							
ARK	**Arkit**	**1.58**	**10**	⇑*i*P	**Pg**	**02 46 56.4**	**+0.5**
baz=11							
ARK				⇑*i*S	**Sg**	**02 47 18.7**	**+2.4**
baz=11							
TAS	**Tashkent**	**2.07**	**302**	⇓*e*P	**Pb**	**02 47 03.4**	**+0.4**
baz=5.0							
TAS				⇓*e*S	**Sb**	**02 47 30.1**	**+1.5**
baz=5.0							
IUG	**luzhnay**	**2.24**	**328**	*e*P	**Pg**	**02 47 08.8**	**+0.2**
82nm,0.1s							
IUG				*e*S	**Sg**	**02 47 37.7**	**0.0**
223nm,0.2s							
AML	**Almayashu**	**2.46**	**39**	⇑*i*P	**Pb**	**02 47 09.6**	**-0.2**
baz=38							
AML				⇑*i*S	**Sb**	**02 47 40.1**	**-0.1**
baz=38							
CHM	**Chimkent**	**2.56**	**325**	*e*P	**Pg**	**02 47 14.4**	**-0.4**
203nm,0.3s							
CHM				*e*S	**Sg**	**02 47 47.6**	**-0.3**
940nm,0.4s							
MRKS	**Merke**	**2.78**	**25**	Pg	**Pg**	**02 47 18.7**	**-0.2**
23nm,0.3s							
MRKS				Lg	Lg	02 47 55.1	
70nm,0.4s							
MRKS	**Merke**	**2.78**	**25**	*e*P	**Pg**	**02 47 18.7**	**-0.2**
23nm,0.3s							
MRKS				⇑*i*S	**Sg**	**02 47 55.1**	**+0.2**
70nm,0.4s							
EKS2	**Erkin-Say**	**2.92**	**33**	⇑*i*P	**Pb**	**02 47 15.6**	**-1.9**
baz=33							
EKS2				⇑*i*S	**Sn**	**02 47 50.1**	**+3.4**
baz=33							
KK31	**Karatay Array**	**2.97**	**344**	⇓Pn	**Pn**	**02 47 14.7**	**+2.2**
0.3nm,0.2s,baz=173,slow=12,SNR=239							
KK31				⇑Pg	**Pg**	**02 47 21.0**	**-1.5**
9.0nm,0.3s,baz=148,slow=12,SNR=39							
KK31				Lg	Lg	02 47 59.8	
26nm,0.2s,baz=139,slow=30,SNR=7.3							
AAK	**Ala-Archa**	**3.23**	**41**	⇑Pn	**Pb**	**02 47 20.1**	**-2.8**
1.8nm,0.4s							
AAK				⇑Pg	**Pg**	**02 47 28.2**	**+0.7**
7.2nm,0.6s							
AAK				⇑Lg	Lg	02 48 12.1	
17nm,0.3s							
TKM2	**Tokmak 2**	**4.01**	**47**	⇑Pn	**Pn**	**02 47 30.6**	**+3.7**
9.0nm,0.5s							
TKM2				⇑Sn	**Sb**	**02 48 20.8**	**-4.0**
11nm,0.5s							
TKM2				⇓Lg	Lg	02 48 39.4	
28nm,0.9s							
TKM2	**Tokmak 2**	**4.01**	**47**	⇓*i*P	**Pn**	**02 47 29.0**	**+2.1**
baz=46							
TKM2				⇓*i*S	**Sn**	**02 48 15.8**	**+1.9**
baz=46							
KST	**Kastek**	**4.30**	**48**	Pg	**Pg**	**02 47 46.9**	**-1.0**
5.5nm,0.3s							
KST				Lg	Lg	02 48 43.6	
25nm,0.7s							
KST	**Kastek**	**4.30**	**48**	*e*P	**Pg**	**02 47 46.9**	**-1.0**
5.5nm,0.3s							
KST				*e*S	**Sg**	**02 48 42.9**	**-0.7**
25nm,0.7s							
DGS	**Degeres**	**4.32**	**45**	Pg	**Pg**	**02 47 46.8**	**-1.5**
5.3nm,0.4s							
DGS				Lg	Lg	02 48 43.1	
31nm,0.6s							
DGS	**Degeres**	**4.32**	**45**	*e*P	**Pg**	**02 47 46.8**	**-1.5**
5.3nm,0.4s							
DGS				*e*S	**Sg**	**02 48 43.1**	**-1.2**
31nm,0.6s							
MTBS	**Maitube**	**4.62**	**50**	Pg	**Pg**	**02 47 54.2**	**+0.1**
2.0nm,0.2s							
MTBS				Lg	Lg	02 48 55.4	
16nm,0.4s							
MTBS	**Maitube**	**4.62**	**50**	*e*P	**Pg**	**02 47 54.2**	**+0.1**
2.0nm,0.2s							
MTBS				*e*S	**Sg**	**02 48 55.4**	**+1.5**
16nm,0.4s							
TNSS	**Tian-Shan**	**4.88**	**53**	Pg	**Pg**	**02 47 58.5**	**-0.6**
2.8nm,0.5s							
TNSS				Lg	Lg	02 49 02.8	
13nm,0.7s							
TNSS	**Tian-Shan**	**4.88**	**53**	*e*P	**Pg**	**02 47 58.5**	**-0.6**
2.8nm,0.5s							
TNSS				*e*S	**Sg**	**02 49 02.8**	**+0.6**
13nm,0.7s							
MDOK	**Medeo**	**5.01**	**53**	⇑Pn	**Pn**	**02 47 44.0**	**+3.4**
MDOK				Pg	**Pg**	**02 48 03.1**	**+1.6**
MDOK				Lg	Lg	02 49 09.9	
MDOK	**Medeo**	**5.01**	**53**	Pg	**Pg**	**02 48 01.0**	**-0.5**
2.9nm,0.4s							
MDOK				Lg	Lg	02 49 07.3	
9.0nm,0.7s							
MDOK	**Medeo**	**5.01**	**53**	*e*P	**Pg**	**02 48 01.0**	**-0.5**
2.9nm,0.4s							
MDOK				*e*S	**Sg**	**02 49 07.3**	**+1.0**
9.0nm,0.7s							
KUU	**Kurty**	**5.07**	**42**	Pg	**Pg**	**02 48 01.0**	**-1.7**
1.8nm,0.5s							
KUU				Lg	Lg	02 49 07.0	
16nm,0.6s							
KUU	**Kurty**	**5.07**	**42**	*e*P	**Pg**	**02 48 01.0**	**-1.7**
1.8nm,0.5s							
KUU				*e*S	**Sg**	**02 49 07.0**	**-1.3**
16nm,0.6s							
BTLS	**Baital**	**5.12**	**20**	Pg	**Pg**	**02 48 02.6**	**-1.0**
8.8nm,0.6s							
BTLS				Lg	Lg	02 49 09.6	
14nm,0.5s							
BTLS	**Baital**	**5.12**	**20**	*e*P	**Pg**	**02 48 02.5**	**-1.0**
8.8nm,0.6s							
BTLS				*e*S	**Sg**	**02 49 09.6**	**-0.3**
14nm,0.5s							
KTBS	**Karatobe**	**5.13**	**46**	Pg	**Pg**	**02 48 01.8**	**-2.0**
1.4nm,0.3s							
KTBS				Lg	Lg	02 49 08.3	
25nm,0.4s							
KTBS	**Karatobe**	**5.13**	**46**	*e*P	**Pg**	**02 48 01.8**	**-2.0**
1.4nm,0.3s							
KTBS				*e*S	**Sg**	**02 49 08.3**	**-1.9**
25nm,0.4s							
CHKK	**Chushkaly**	**5.39**	**46**	Pg	**Pg**	**02 48 07.1**	**-1.6**
2.4nm,0.3s							
CHKK				Lg	Lg	02 49 18.0	
11nm,0.5s							
CHKK	**Chushkaly**	**5.39**	**46**	*e*P	**Pg**	**02 48 07.1**	**-1.6**
2.4nm,0.3s							
CHKK				*e*S	**Sg**	**02 49 18.0**	**-0.5**
11nm,0.5s							
OTUK	**Ortayu**	**8.02**	**4**	⇓Pg	**Pg**	**02 48 54.3**	**-4.6**
3.9nm,1.2s							
OTUK				⇑Lg	Lg	02 50 40.8	
6.4nm,0.6s							
KURBB	**Kurchatov Arra**	**11.46**	**23**	⇑Pn	**Pn**	**02 49 11.9**	**+3.2**
0.9nm,0.5s							
KURBB				⇑Lg	Lg	02 52 31.0	
5.4nm,0.8s							
AB31	**Akbulak array**	**12.23**	**321**	Pn	**Pn**	**02 49 19.1**	**-0.3**
0.5nm,0.5s,baz=130,slow=13,SNR=18							
AB31				⇑Sn	**Sn**	**02 51 30.9**	**-4.5**
0.8nm,0.6s,baz=130,slow=24,SNR=3.3							

PRU 16 02:59:11.5±0.0, 50°29N×18°.77E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.14**	**90**	*e*Pg	Pg	02 59 14.5	+0.2
CHZP				*e*Sg	Sg	02 59 16.6	+0.6
OKC	**Ostrava-Krasne**	**0.60**	**222**	*e*PG	Pg	02 59 22.8	-0.3
OKC				*e*SG	Sg	02 59 32.4	+1.5
comp=Z,6.4nm,0.5s							
OJC	**Ojcow**	**0.66**	**96**	*e*Pg	Pg	02 59 23.5	-0.7
OJC				*e*Sg	Sg	02 59 32.4	-0.4
MORC	**Moravsky Berou**	**0.94**	**237**	*e*PG	Pg	02 59 29.2	-0.4
MORC				*e*SG	Sg	02 59 41.2	-0.6
LANS	**Liptovska Anna**	**1.23**	**158**	*e*PG	Pg	02 59 34.1	-0.9
LANS				*e*SG	Sg	02 59 50.2	-0.7
KRLC	**Kraliky**	**1.30**	**261**	*e*SG	Sg	02 59 52.7	-0.4
comp=Z,2.1nm,0.5s							
NIE	**Niedzica**	**1.32**	**131**	*e*Pg	Pg	02 59 36.2	-0.6
NIE				*e*Sg	Sg	02 59 54.1	+0.3
DPC	**Dobruska-Polom**	**1.57**	**273**	*e*PG	Pn	02 59 39.5	-1.2
DPC				*e*SG	Sn	03 00 00.4	-1.3
comp=Z,3.2nm,0.4s							
KSP	**Ksiaz**	**1.67**	**290**	*e*Pg	Pg	02 59 43.4	-0.2
VYHS	**Vyhne**	**1.80**	**179**	*e*PN	Pb	02 59 44.9	-0.4

*IDC **16** 03:02:01.2±0.4, 37°.00N×28°.44E, h0km, mb4.7/34, mb1 4.7/49, mb1mx4.7/58, mbtmp4.7/49, ML4.0/12, MS4.2/35, Ms1 4.2/35, ms1mx4.1/61, Error ellipse: s-maj=9.9km s-min=8.5km az=152.0*
*ISK **16** 03:02:01.8, 37°.04N×28°.43E, h4km, ML4.9/46*
*MED_RC **16** 03:02:01.0±0.6, 36°.99N×28°.50E, h10km, MW5.0/18, Moment Tensor Solution. Mantle waves: s18,c36; Duration: 1§1 Moment tensor: Scale 10^16 Nm; M_{rr}=3.82±.11; $M_{\theta\theta}$=2.99±.11; $M_{\phi\phi}$=0.83±.08; $M_{r\theta}$=1.43±.35; $M_{\theta\phi}$=-1.15±.09; $M_{\phi r}$=0.09±.48; Best double couple: M_0=3.92000×10^16 NP1:ϕ_s=285.00000°, δ=55.00000°, λ=-100.00000°. NP2:ϕ_s=121.00000°, δ=36.00000°, λ=-77.00000°. Principal axes: T 3.7100, Plg10.0000°, Azm21.0000°; N 0.4200, Plg8.0000°, Azm290.0000°; P -4.1300, Plg77.0000°, Azm162.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*DDA **16** 03:02:01.6, 36°.98N×28°.42E, h25km±1km, ML4.6*
*ATH **16** 03:02:02.1, 37°.02N×28°.38E, h19km±1km, ML4.6/10, Error ellipse: s-maj=2.0km s-min=0.9km az=64.0*
*GCMT **16** 03:02:02.3±0.2, 36°.89N±0°.01×28°.41E±0°.02, h14km, MW5.0/92, Moment Tensor Solution. s50,c54; s92,c156; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}=4.56±.18; $M_{\theta\theta}$=3.28±.12; $M_{\phi\phi}$=1.28±.11; $M_{r\theta}$=0.78±.25; $M_{\theta\phi}$=-1.38±.07; $M_{\phi r}$=0.85±.30; Best double couple: M_0=4.42200×10^16 NP1:ϕ_s=122.00000°, δ=52.00000°, λ=-85.00000°. NP2: ϕ_s=293.00000°, δ=38.00000°, λ=-97.00000°. Principal axes: T 4.1190, Plg7.0000°, Azm208.0000°; N 0.6060, Plg4.0000°, Azm298.0000°; P -4.7250, Plg82.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **16** 03:02:02.2±0.3, 36°.96N±0°.01×28°.47E±0°.01, h13km±2km, mb4.9/206, MS4.3/29 Error ellipse: s-maj=1.8km s-min=1.4km az=33.1*
*HLW **16** 03:02:02.9, 37°.10N×28°.42E, h32km±30km, Ml4.6*
*NIC **16** 03:02:03.4±0.2, 36°.95N×28°.37E, h12km, mb4.8, ML4.5*
*THE **16** 03:02:03.2, 36°.97N×28°.35E, h0km, ML4.5/7, Error ellipse: s-maj=1.5km s-min=0.8km az=43.0*
*NEIC **16** 03:02:03.4±2.6, 37°.04N×28°.40E, h8km±4km, mb4.9/137, ML4.6(ISK), Error ellipse: s-maj=8.4km s-min=8.0km az=79.0*
NEIC Felt at Bodrum and Fethiye.
*BJI **16** 03:02:04.8±0.0, 36°.96N×28°.35E, h45km, mb5.0/42, mB5.1/35, Ms4.6/13, Ms7 4.4/13*
*MOS **16** 03:02:04.0±1.3, 37°.05N×28°.48E, h22km, mb5.1/66, MS4.1/19, Error ellipse: s-maj=3.6km s-min=2.3km az=102.2*
*GII **16** 03:02:08.2±0.1, 36°.81N×28°.67E, h150km, mb4.7/5, MD4.7/5*

ISC 16 03:02:04.1±0.6, 36°.99N±0°.02×28°.41E±0°.01, h17km±3km, n845, σ1§85/982, mb5.0/204, MS4.3/30, 75C-31D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.19**	**128**	PG	**Pg**	**03 02 08.2**	**-0.6**
TURN				SG	**Sb**	**03 02 13.4**	**+0.8**
TURN	**Turunc**	**0.19**	**128**	⇑*i*P	**Pb**	**03 02 08.8**	**-0.5**
TURN				*i* S	**Sb**	**03 02 13.7**	**+1.1**
DALY	**Dalyan (Mula)**	**0.26**	**132**	PG	**Pg**	**03 02 07.6**	**-2.2**
DALY				SG	**Sg**	**03 02 11.9**	**-1.8**
DALY	**Dalyan (Mula)**	**0.26**	**132**	⇑*i*P	**Pg**	**03 02 08.1**	**-1.7**
DALY				*i* S	**Sg**	**03 02 12.3**	**-1.4**
DALY				IAML_P			
MRSB	**Marmaris-Mugla**	**0.33**	**212**	PG	**Pg**	**03 02 09.1**	**-1.9**
BBRN	**Bozburun-Marma**	**0.42**	**222**	PG	**Pg**	**03 02 10.9**	**-1.8**
BBRN				SG	**Sb**	**03 02 18.9**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.62**	**40**	IAML_P			
comp=Z,220μm,0.2s							
TAVA				⇑*i*P	**Pg**	**03 02 14.3**	**-2.0**
TAVA				*i* S	**Sg**	**03 02 24.2**	**-0.4**
FETY	**Fethiye**	**0.65**	**123**	PG	**Pg**	**03 02 15.6**	**-1.2**
FETY				SG	**Sg**	**03 02 24.3**	**-1.1**
FETY	**Fethiye**	**0.65**	**123**	*e*Pg	**Pg**	**03 02 14.3**	**-2.5**
FETY				*e*Pn	Pn	03 02 26.1	+7.6
FETY	**Fethiye**	**0.65**	**123**	IAML_P			
comp=Z,269μm,0.3s							
FETY				⇑*i*P	**Pg**	**03 02 14.9**	**-1.9**
FETY				*i* S	**Sg**	**03 02 24.1**	**-1.3**
DATC	**Datca-Mugla**	**0.65**	**249**	PG	**Pg**	**03 02 15.4**	**-1.4**
DAT	**Datca**	**0.72**	**249**	PG	**Pg**	**03 02 16.6**	**-1.6**
DAT	**Datca**	**0.72**	**249**	⇑*i*P	**Pg**	**03 02 16.8**	**-1.4**
DAT				*i* S	**Sn**	**03 02 29.9**	**-0.5**
BDRM	**Kayabasi**	**0.78**	**276**	IAML_P			
comp=Z,93μm,0.3s							
BDRM				⇑*i*P	**Pg**	**03 02 17.7**	**-1.6**
BDRM				*i* S	**Sn**	**03 02 31.0**	**-0.6**
AYDN	**Tasoluk**	**0.79**	**328**	IAML_P			
comp=Z,362μm,0.2s							
AYDN				⇑*i*P	**Pg**	**03 02 17.9**	**-1.6**
AYDN				*i* S	**Sg**	**03 02 29.6**	**-0.4**
ARG	**Arkhangelos**	**0.81**	**197**	PG	**Pg**	**03 02 18.4**	**-1.4**
ARG	**Arkhangelos**	**0.81**	**197**	P	**Pg**	**03 02 18.0**	**-1.8**
ARG				S	**Sg**	**03 02 30.1**	**-0.4**
ARG	**Arkhangelos**	**0.81**	**197**	P	**Pg**	**03 02 18.0**	**-1.8**
ARG				S	**Sg**	**03 02 30.1**	**-0.4**
ARG	**Arkhangelos**	**0.81**	**197**	P	**Pg**	**03 02 17.8**	**-2.1**
ARG				S	**Sg**	**03 02 29.7**	**-0.8**
ARG				AML	AML	03 02 35.3	
comp=E,62158μm,1.2s							
ARG				AML	AML	03 02 50.5	
comp=N,33309μm,1.6s							
BODT	**Bodrum**	**0.89**	**275**	PG	**Pb**	**03 02 20.1**	**-0.9**
BODT	**Bodrum**	**0.89**	**275**	*e*Pg	**Pb**	**03 02 19.1**	**-1.9**
BODT				*e*Sn	**Sg**	**03 02 33.0**	**+0.1**
BODT	**Bodrum**	**0.89**	**275**	P	**Pb**	**03 02 19.1**	**-1.9**
BODT				S	**Sg**	**03 02 33.0**	**+0.1**
DENT	**Denizli**	**0.91**	**33**	PG	**Pb**	**03 02 18.9**	**-2.5**
DIDI	**Didim-Aydin**	**1.01**	**293**	PG	**Pb**	**03 02 21.2**	**-2.0**
AYDB	**Zeytinkoy-Aydi**	**1.04**	**337**	PG	**Pb**	**03 02 21.2**	**-2.5**
GCAM	**G?zelcaml?**	**1.18**	**307**	PN	**Pn**	**03 02 24.9**	**-0.9**
GCAM	**G?zelcaml?**	**1.18**	**307**	⇑*i*P	**Pn**	**03 02 25.2**	**-0.5**
GCAM				*i* S	**Sg**	**03 02 42.1**	**-0.1**
AKAS	**Kas**	**1.22**	**128**	PN	**Pn**	**03 02 25.7**	**-0.9**
AKAS	**Kas**	**1.22**	**128**	*e*Pn	**Pn**	**03 02 26.2**	**-0.4**
AKAS				*e*Sn	**Sg**	**03 02 47.3**	**+3.6**
AKAS	**Kas**	**1.22**	**128**	IAML_P			
comp=Z,160μm,0.3s							
AKAS				⇑*i*P	**Pb**	**03 02 26.6**	**-0.3**
AKAS				*i* S	**Sg**	**03 02 47.7**	**+4.0**
ELL	**Elmali**	**1.22**	**101**	PN	**Pn**	**03 02 25.7**	**-0.9**
ELL	**Elmali**	**1.22**	**101**	P	**Pn**	**03 02 26.4**	**-0.2**
KSL	**Kastellorizon**	**1.26**	**131**	P	**Pn**	**03 02 26.6**	**-0.4**
KSL				S	**Sg**	**03 02 45.8**	**+0.9**
KSL	**Kastellorizon**	**1.26**	**131**	P	**Pn**	**03 02 26.6**	**-0.4**
KSL				S	**Sn**	**03 02 43.9**	**+0.4**
KSL				AML	AML	03 02 52.4	
comp=E,95510μm,0.7s							
KSL				AML	AML	03 02 53.8	
comp=N,66552μm,0.6s							
SMG	**Samos**	**1.44**	**300**	P	**Pn**	**03 02 28.6**	**-0.9**
SMG				S	**

USAK *i* S **Sn** **03 02 56.6 0.0**
BCK Bucak 1.80 74 PN **Pn** **03 02 34.4 0.0**
KZIL AFYON_Kizioren 1.86 47 IAML_P
comp=Z,10µm,0.3s
KZIL ⇑*i*P **Pn** **03 02 35.5 +0.1**
KZIL *i* S **Sg** **03 03 06.2 +2.1**
AKHS Akhisar 1.94 346 IAML_P
comp=Z,23µm,0.2s
AKHS ⇑*i*P **Pn** **03 02 35.3 -1.1**
AKHS *i* S **Sg** **03 03 04.7 -1.9**
AKS Akhisar 1.94 346 PN **Pn** **03 02 35.3 -1.0**
ZEY zmir 1.96 310 ⇓*i*P **Pn** **03 02 36.4 -0.2**
ZEY *i* S **Sg** **03 03 08.3 +1.2**
URLA Izmir 1.98 314 PN **Pn** **03 02 36.3 -0.7**
URLA Izmir 1.98 314 ⇓*i*P **Pn** **03 02 36.1 -0.9**
URLA *i* S **Sg** **03 03 10.7 +2.7**
AMGA Amorgos Island 2.02 266 P **Pn** **03 02 37.4 -0.1**
AMGA S **Sn** **03 03 02.9 +0.5**
AMGA Amorgos Island 2.02 266 P **Pn** **03 02 37.2 -0.3**
AMGA S **Sn** **03 03 01.8 -0.7**
AMGA AML AML 03 03 13.7
comp=N,21018µm,1.0s
AMGA AML AML 03 03 20.6
comp=E,19349µm,0.7s
BAGO Egridir - ISPA 2.14 62 ⇑*i*P **Pn** **03 02 39.9 +0.8**
BAGO *i* S **Sg** **03 03 13.7 +0.9**
SMAA Simav-Kutahya 2.15 12 PN **Pn** **03 02 38.5 -0.8**
GEDZ Gediz 2.19 21 PN **Pn** **03 02 39.4 -0.5**
ANAF Anafi Island 2.22 254 P **Pn** **03 02 39.7 -0.4**
ANAF Anafi Island 2.22 254 P **Pn** **03 02 40.0 -0.1**
ZEDA zmir-Bergama 2.23 332 ⇑*i*P **Pn** **03 02 40.2 -0.2**
ZEDA *i* S **Sg** **03 03 17.7 +1.8**
GDZ Gediz 2.25 22 ⇑*i*P **Pn** **03 02 40.2 -0.6**
GDZ *i* S **Sg** **03 03 18.4 +1.8**
SHUT Suhut-Afyon 2.30 47 PN **Pn** **03 02 40.9 -0.5**
APE Apeiranthos 2.31 273 PN **Pn** **03 02 41.5 +0.1**
APE Apeiranthos 2.31 273 P **Pn** **03 02 41.3 -0.1**
APE S **Sn** **03 03 08.8 -0.7**
APE Apeiranthos 2.31 273 ⇑*i*P **Pn** **03 02 41.6 +0.1**
APE Apeiranthos 2.31 273*c i*P **Pn** **03 02 41.7 +0.3**
APE Apeiranthos 2.31 273 P **Pn** **03 02 41.4 -0.1**
APE S **Sn** **03 03 09.3 -0.2**
APE AML AML 03 03 25.8
comp=N,5885µm,0.6s
APE AML AML 03 03 31.2
comp=E,5941µm,1.1s
AFYO Afyonkarahisar 2.33 39 ⇑*i*P **Pn** **03 02 42.2 +0.4**
AFYO *i* S **Sg** **03 03 25.6 +6.5**
CHOS Chios island 2.33 307 PN **Pn** **03 02 41.1 -0.7**
CHOS Chios island 2.33 307 P **Pn** **03 02 41.5 -0.3**
CHOS Chios island 2.33 307 P **Pn** **03 02 41.3 -0.4**
CHOS S **Sn** **03 03 09.4 -0.7**
CHOS AML AML 03 03 26.8
comp=E,10429µm,0.8s
CHOS AML AML 03 03 26.8
comp=N,14450µm,1.0s
STEP BALIKESIR_Sava 2.44 347 ⇑*i*P **Pn** **03 02 42.4 -0.8**
STEP *i* S **Sg** **03 03 22.1 -0.4**
KEPZ Antalya-Kepez 2.56 91 ⇓*i*P **Pb** **03 02 47.8 -1.7**
KEPZ *i* S **Sb** **03 03 20.7 -0.1**
ZKR Zakros 2.58 224 PN **Pn** **03 02 46.4 +1.2**
ZKR Zakros 2.58 224 P **Pn** **03 02 45.1 -0.1**
ZKR S **Sn** **03 03 15.8 -0.4**
ZKR Zakros 2.58 224 P **Pn** **03 02 45.8 +0.6**
ZKR S **Sn** **03 03 16.9 +0.7**
ZKR AML AML 03 03 30.3
comp=E,11170µm,0.7s
ZKR AML AML 03 03 31.9
comp=N,7082µm,0.8s
TVSB Tavsanli 2.59 18 PN **Pn** **03 02 45.1 -0.2**
DURS Dursunbey 2.60 1 ⇑*i*P **Pn** **03 02 45.5 0.0**
DURS *i* S **Sg** **03 03 26.4 -1.4**
BOLV Bolvadin 2.65 49 ⇑*i*P **Pn** **03 02 47.7 +1.6**
BOLV *i* S **Sg** **03 03 30.2 +1.0**
BALB Balikesir 2.67 351 PN **Pn** **03 02 45.9 -0.5**
AYVA Ayvalik 2.68 330 ⇓*i*P **Pn** **03 02 46.8 +0.3**
AYVA *i* S **Sg** **03 03 30.7 +0.5**
BALY Balya 2.81 347 ⇑*i*P **Pn** **03 02 48.2 -0.2**
BALY *i* S **Sg** **03 03 33.9 -0.6**
PRK Paraskevi 2.81 324 P **Pn** **03 02 49.1 +0.8**
PRK Paraskevi 2.81 324 P **Pn** **03 02 49.1 +0.8**
PRK Paraskevi 2.81 324 P **Pn** **03 02 48.9 +0.6**
PRK S **Sn** **03 03 22.5 +0.7**
PRK AML AML 03 03 41.7
comp=N,18868µm,1.3s
PRK AML AML 03 03 44.9
comp=E,18860µm,1.0s
DOGA KONYA_Doganhis 2.81 66 ⇓*i*P **Pn** **03 02 50.8 +2.3**
DOGA *i* S **Sg** **03 03 36.0 +1.4**
AUKIR Kırka- Seyitga 2.83 36 *i* P **Pn** **03 02 50.4 +1.8**
AUKIR *i* S **Sg** **03 03 35.5 +0.6**
NPS Neapolis 2.85 234 P **Pn** **03 02 48.8 -0.1**
NPS Neapolis 2.85 234 P **Pn** **03 02 48.8 -0.1**
NPS Neapolis 2.85 234 P **Pn** **03 02 48.7 -0.1**
NPS AML AML 03 03 41.8
comp=E,8048µm,1.1s
NPS AML AML 03 03 43.1
comp=N,6462µm,0.8s
SIGR SIGRI 3.00 318 PN **Pn** **03 02 50.9 +0.1**
SIGR SIGRI 3.00 318 P **Pn** **03 02 50.4 -0.4**
SIGR SIGRI 3.00 318 P **Pn** **03 02 49.8 -1.0**
LAST Lasithi 3.00 233 P **Pn** **03 02 51.0 +0.1**
LAST Lasithi 3.00 233 P **Pn** **03 02 50.9 -0.1**
GONE Gonen-Balikesi 3.10 350 PN **Pn** **03 02 51.7 -0.6**
BAYC CANAKKALE_Bayr 3.11 332 *i* P **Pn** **03 02 52.4 0.0**
BAYC *i* S **Sg** **03 03 41.6 -2.4**
CIFT Cifteler, Eski 3.15 41 PN **Pn** **03 02 53.2 +0.1**
CIFT Cifteler, Eski 3.15 41 *i* P **Pn** **03 02 53.8 +0.8**
CIFT *i* S **Sg** **03 03 48.7 +3.3**
AUBOZ BOZOYUK 3.18 23 PN **Pn** **03 02 53.1 -0.3**
AUBOZ BOZOYUK 3.18 23 *i* P **Pn** **03 02 53.0 -0.3**
AUBOZ *i* S **Sg** **03 03 47.2 +1.0**
ULDT Uludag 3.19 10 *i* P **Pn** **03 02 53.3 -0.4**
ULDT *i* S **Sg** **03 03 44.5 -2.2**
GAZI Gazipasa 3.23 102 PN **Pn** **03 02 54.8 +0.7**
GAZI Gazipasa 3.23 102 ⇓*i*P **Pn** **03 02 55.1 +1.1**
GAZI *i* S **Sn** **03 03 33.7 +1.5**
MHLO Agia Marina, M 3.23 266 P **Pn** **03 02 54.2 +0.1**
KMER Konya-Meram 3.24 75 ⇓*i*P **Pn** **03 02 56.1 +1.8**
KMER *i* S **Sg** **03 03 51.9 +3.6**
KCTX Karacabey (Bur 3.27 359 PN **Pn** **03 02 54.3 -0.3**
EZN Ezine 3.27 331 PN **Pn** **03 02 54.3 -0.3**
EZN Ezine 3.27 331 *e*Pg **Pb** **03 03 01.6 0.0**
EZN Ezine 3.27 331 P **Pn** **03 02 54.2 -0.3**
EZN Ezine 3.27 331 ⇓*i*P **Pn** **03 02 54.1 -0.5**
EZN Ezine 3.27 331 P **Pn** **03 02 54.2 -0.3**
KONT Konya--Tatoy 3.28 72 PN **Pn** **03 02 54.8 0.0**
KONT Konya--Tatoy 3.28 72 *i* P **Pn** **03 02 57.0 +2.3**
KONT *i* S **Sg** **03 03 57.0 +7.6**
BORA Eskisehir 3.30 28 PN **Pn** **03 02 54.5 -0.6**
BORA Eskisehir 3.30 28 *i* P **Pn** **03 02 55.8 +0.7**
BORA *i* S **Sg** **03 03 48.5 -1.5**
KDHN Kadinhani 3.31 61 *i* P **Pn** **03 02 56.7 +1.4**
KDHN *i* S **Sg** **03 03 52.4 +2.1**
IDI Anoyia 3.32 240 Pn **Pn** **03 02 56.1 +0.7**
comp=N,42nm,0.3s,baz=59,slow=13,SNR=360
IDI Sn **Sn** **03 03 36.0 +1.5**
comp=N,53nm,0.3s,baz=70,slow=6.6,SNR=7.9
IDI LR LR 03 04 34.3
comp=N,4µm,19.8s,baz=63,slow=46
KNL Balıkesir 3.34 348 *i* P **Pn** **03 02 55.2 -0.4**
KNL *i* S **Sg** **03 03 48.9 -2.6**
LADK Ladik-KONYA 3.36 68 PN **Pn** **03 02 56.0 0.0**
EDC Edincik 3.38 353 PN **Pn** **03 02 55.5 -0.5**
MDNY Mudanya-Bursa 3.39 6 PN **Pn** **03 02 55.5 -0.7**
CAVI Cavuskoy 3.39 19 PN **Pn** **03 02 56.5 +0.2**
BOZC Bozcaada 3.40 328 PN **Pn** **03 02 55.6 -0.7**
BOZC Bozcaada 3.40 328 *i* P **Pn** **03 02 56.6 +0.3**
BOZC *i* S **Sb** **03 03 47.3 +2.5**
SVRH Sivrihisar-ESK 3.46 44 PN **Pn** **03 02 57.5 +0.2**
AUSIV SIVRIHISAR 3.47 44 PN **Pn** **03 02 57.9 +0.5**
AUSIV SIVRIHISAR 3.47 44 *i* P **Pn** **03 02 58.2 +0.8**
AUSIV *i* S Sg 03 04 04.2 +8.8
GEMT Gemlik 3.49 10 PN **Pn** **03 02 58.3 +0.7**
SRCK Saricakaya, Es 3.50 29 PN **Pn** **03 02 58.2 +0.4**
SRCK Saricakaya, Es 3.50 29 *i* P **Pn** **03 02 58.6 +0.8**
SRCK *i* S **Sg** **03 04 01.6 +5.0**
KRBG Karabiga-Canak 3.50 346 PN **Pn** **03 02 57.0 -0.8**
SIVA Sivas 3.52 237 P **Pn** **03 02 59.4 +1.3**
ARMT Armutlu 3.58 5 PN **Pn** **03 02 58.4 -0.5**
ADVT Abdulvahap 3.59 16 PN **Pn** **03 02 59.3 +0.4**

LPK Lapseki 3.61 340 PN **Pn** **03 02 59.4 +0.1**
ERMK Ermenek 3.63 94 ⇓*i*P **Pn** **03 03 03.2 +3.5**
ERMK *i* S **Sb** **03 03 49.1 -2.7**
YLV Yalova 3.65 12 ⇓*i*P **Pn** **03 03 00.7 +0.9**
GELI Tayfur-Gelibol 3.72 337 PN **Pn** **03 03 01.1 +0.3**
VAM Vamos 3.76 246 P **Pn** **03 03 03.4 +2.1**
PPCY Paphos 3.82 122 P **Pn** **03 03 02.5 +0.3**
baz=303
LIA Limnos Island 3.85 320 P **Pn** **03 03 02.8 +0.2**
ALFC Alefka 3.85 117 P **Pn** **03 03 02.8 +0.1**
baz=298
ALFC S **Sn** **03 03 49.1 +1.5**
SZAC Souni 4.26 120 P **Pn** **03 03 08.1 -0.2**
baz=302
SZAC S **Sn** **03 03 59.0 +1.4**
KLYT Kilyos 4.28 6 ⇓*i*P **Pn** **03 03 08.0 -0.5**
MAMC Mammari 4.30 114 P **Pn** **03 03 09.1 +0.4**
baz=295
ALN Alexandroupoli 4.31 335 *e*Sn **Sn** **03 03 58.5 -0.3**
ALN Alexandroupoli 4.31 335 P **Pn** **03 03 08.6 -0.3**
ALN Alexandroupoli 4.31 335 P **Pn** **03 03 08.6 -0.3**
BR231 Keskin MP Arra 4.45 49 *e*Pn **Pn** **03 03 12.4 +1.4**
BR231 *e*Sn **Sn** **03 04 00.3 -2.2**
CTYL Yalikoy Yolu 4.48 359 ⇓*i*P **Pn** **03 03 10.4 -0.7**
ANTO Ankara 4.48 49 *e*Pn **Pn** **03 03 12.6 +1.3**
ANTO *e*Sn **Sn** **03 03 59.8 -3.2**
ANTO Ankara 4.48 49 *e*P **Pn** **03 03 12.6 +1.3**
ANTO *e* 03 03 59.8
ANTO Ankara 4.48 49 P **Pn** **03 03 12.8 +1.5**
SNR=96
KIZK Mersin 4.63 95 *i* P **Pn** **03 03 16.6 +3.3**
PHSR Pinarhisar 4.68 352 ⇑*i*P **Pn** **03 03 12.9 -1.1**
PAIG Paliouri 4.73 310 P **Pn** **03 03 15.3 +0.7**
OUR Ouranopolis 4.81 315 P **Pn** **03 03 16.4 +0.7**
BR101 Keskin Array S 4.93 55 *e*Pn **Pn** **03 03 19.2 +1.7**
BR101 *e*Sn **Sn** **03 04 13.4 -0.8**
BR131 Keskin Array S 4.93 55 *e*Pn **Pn** **03 03 18.6 +1.1**
BR131 *e*Sn **Sn** **03 04 08.2 -6.0**
BR131 Keskin Array S 4.93 55 P **Pn** **03 03 18.9 +1.3**
SNR=386
BRTR Keskin Array B 4.93 55 *e*Pn **Pn** **03 03 18.5 +0.9**
BRTR *e*Sn **Sn** **03 04 15.0 +0.7**
BRTR Keskin Array B 4.93 55 *i* P **Pn** **03 03 18.6 +1.1**
BRTR pmax pmax
comp=Z,175nm,0.5s
BRTR Keskin Array B 4.93 55 Pn **Pn** **03 03 19.2 +1.7**
comp=Z,44nm,0.3s,baz=234,slow=16,SNR=949
BRTR Sn **Sn** **03 04 13.4 -0.8**
comp=Z,9.6nm,0.3s,baz=222,slow=25,SNR=10
BRTR LR LR 03 05 53.4
comp=Z,4µm,20.9s,baz=235,slow=47
ITM Ithomi 5.19 274 *e*Sn **Sn** **03 04 19.2 -1.2**
KDZ Kurdzhali 5.20 334 *i* P **Pn** **03 03 25.1 +4.0**
AGG Agios Georgios 5.21 295 *e*Pn **Pn** **03 03 23.2 +1.9**
AGG *e*Sn **Sn** **03 04 15.7 -5.4**
AGG Agios Georgios 5.21 295 P **Pn** **03 03 23.2 +1.9**
SOH Sokhos 5.49 316 P **Pn** **03 03 26.3 +1.1**
SOH pmax pmax
comp=Z,38nm,0.6s
RZN Rozhen 5.49 330 *i* P **Pn** **03 03 25.6 +0.3**
DIM Dimitrovgrad 5.52 337 *i* P **Pn** **03 03 25.4 -0.1**
SRS Serrai 5.57 319 P **Pn** **03 03 26.8 +0.6**
SRS pmax pmax
comp=Z,62nm,0.9s
LIT Litokhoron 5.58 306 *e*Pn **Pn** **03 03 28.1 +1.7**
LIT *e*Sn **Sn** **03 04 27.9 -2.3**
LIT Litokhoron 5.58 306 P **Pn** **03 03 27.9 +1.5**
LIT pmax pmax
comp=Z,59nm,0.7s
THE Thessaloniki 5.59 312 P **Pn** **03 03 29.1 +2.6**
THE pmax pmax
comp=Z,69nm,0.6s
JMB Yambol 5.64 346 *i* P **Pn** **03 03 26.8 -0.4**
MATC Matruh 5.72 190 P **Pn** **03 03 26.9 -1.4**
baz=191
ILGA Ilgaz 5.79 44 *e*Pn **Pn** **03 03 30.5 +1.2**
ILGA *e*Sn **Sn** **03 04 31.6 -3.8**
MMB Musomiste 5.85 323 *i* P **Pn** **03 03 30.3 +0.2**
PLD Plovdiv 5.85 332 P **Pn** **03 03 30.7 +0.6**
PLD pmax pmax
comp=Z,6.0nm,0.8s
PLD Plovdiv 5.85 332 *i* P **Pn** **03 03 30.4 +0.3**
KNT Kendrikon 5.98 316 P **Pn** **03 03 33.3 +1.5**
KNT pmax pmax
comp=Z,56nm,0.5s
SLUM Salum 6.09 207 P **Pn** **03 03 32.1 -1.3**
baz=207
SLUM S **Sn** **03 04 37.8 -5.0**
baz=207
GRG Griva 6.13 312 P **Pn** **03 03 35.7 +1.8**
GRG pmax pmax
comp=Z,99nm,0.9s
PRD Provadia 6.25 353 *i* P **Pn** **03 03 34.6 -0.9**
VAY Valandovo 6.27 315 *i* Pn **Pn** **03 03 38.0 +2.3**
VAY Valandovo 6.27 315 P **Pn** **03 03 38.9 +3.1**
KKB Krupnik 6.38 321 *i* P **Pn** **03 03 38.4 +1.1**
PGB Panagyurishte 6.44 331 *e*P **Pn** **03 03 37.9 -0.3**
SZH Strazhica 6.55 344 *i* P **Pn** **03 03 38.5 -1.1**
BZK Bozkurt 6.58 39 ⇑*i*P **Pn** **03 03 41.1 +1.1**
FNA Florina 6.67 307 *e*Pn **Pn** **03 03 44.0 +2.7**
FNA *e*Sn **Sn** **03 04 55.2 -1.7**
FNA Florina 6.67 307 P **Pn** **03 03 44.1 +2.8**
FNA S **Sn** **03 04 55.2 -1.7**
FNA pmax pmax
comp=Z,72nm,1.2s
DQRL Deir Qamar 6.71 117 *e*P **Pn** **03 03 41.0 -0.9**
HWQ Hawqa 6.71 112 *e*P **Pn** **03 03 41.7 -0.2**
STIP Stip 6.73 316 *i* Pn **Pn** **03 03 42.6 +0.5**
HNTI Hanita 6.78 123 Pn **Pn** **03 03 42.2 -0.6**
BIA Bitola 6.83 308 *i* Pn **Pn** **03 03 47.0 +3.5**
IGT Igoumenitsa 6.84 294 P **Pn** **03 03 47.4 +3.7**
QRWL Qaraoun 6.87 118 *e*P **Pn** **03 03 43.6 -0.5**
VTS Vitosha 6.89 326 *e*Pn **Pn** **03 03 45.3 +0.9**
VTS *e*Sn **Sn** **03 05 00.8 -1.7**
VTS Vitosha 6.89 326 ⇑*i*P **Pn** **03 03 45.2 +0.9**
VTS Vitosha 6.89 326 P **Pn** **03 03 45.3 +0.9**
VTS S **Sn** **03 05 00.8 -1.7**
VTS Vitosha 6.89 326 *i* P **Pn** **03 03 46.4 +2.0**
OFRI `Ofer 6.95 127 Pn **Pn** **03 03 44.4 -0.7**
OFRI Sn **Sn** **03 05 00.0 -3.8**
MMA0B Mount Meron ar 6.97 123 Pn **Pn** **03 03 44.2 -1.4**
MMA0B Sn **Sn** **03 05 00.1 -4.5**
MMAI Mount Meron Ar 6.97 123 Pn **Pn** **03 03 44.6 -1.0**
comp=Z,77nm,0.3s,baz=305,slow=12,SNR=109
MMAI Sn **Sn** **03 04 59.7 -4.9**
comp=Z,74nm,0.3s,baz=305,slow=24,SNR=14
MMAI LR LR 03 07 35.9
comp=Z,670nm,19.8s,baz=315,slow=48
RCY Rachaya 7.00 118 *e*P **Pn** **03 03 45.0 -1.1**
SHBL Chebaa 7.02 119 *e*P **Pn** **03 03 44.9 -1.4**
GEM Giv'at Ha'Em 7.04 120 Pn **Pn** **03 03 45.1 -1.3**
KSDI Kefar Szold 7.05 120 Pn **Pn** **03 03 45.4 -1.1**
KSDI Sn **Sn** **03 05 01.2 -5.0**
DIKM Dikmen 7.05 47 ⇓*i*P **Pn** **03 03 47.8 +1.2**
NATI Neve Ativ 7.06 120 Pn **Pn** **03 03 45.4 -1.3**
NATI Sn **Sn** **03 05 01.8 -4.7**
OHR Ohrid 7.21 307 *i* Pn **Pn** **03 03 52.1 +3.4**
SLTI Sal'it 7.23 129 Pn **Pn** **03 03 47.1 -2.0**
SLTI Sn **Sn** **03 05 06.1 -4.7**
KSHT Keshet 7.27 121 Pn **Pn** **03 03 48.3 -1.3**
MPEP Malo Peshtene 7.29 332 P **Pn** **03 03 50.4 +0.6**
SKO Skopje 7.33 315 *i* Pn **Pn** **03 03 52.8 +2.4**
SKO Skopje 7.33 315 P **Pn** **03 03 52.6 +2.2**
MMLI Mount Malkishu 7.34 126 Pn **Pn** **03 03 49.0 -1.6**
MMLI Sn **Sn** **03 05 09.3 -4.3**
SHMJ Saham 7.39 123 P **Pn** **03 03 50.9 -0.3**
comp=Z,822nm,0.7s,comp=Z,2.8nmcomp=Z,5.2nm
HMYD Mayadein 7.45 164 P **Pn** **03 03 51.8 -0.3**
baz=164
HMDT Nahal Hemdat 7.53 127 Pn **Pn** **03 03 52.2 -0.9**
HMDT Sn **Sn** **03 05 13.4 -4.7**
HNAT Natroun 7.57 165 P **Pn** **03 03 53.1 -0.6**
baz=165
TLB Topalu 7.59 358 ⇓*i*P **Pn** **03 03 53.5 -0.4**
TLB Topalu 7.59 358 P **Pn** **03 03 53.5 -0.4**
KOT Kottamia 7.60 157 P **Pn** **03 03 53.2 -0.9**
baz=157
KOT S **Sn** **03 05 13.3 -6.7**
baz=157
AMAZ Amatzia 7.66 133 P **Pn** **03 03 55.0 +0.1**
comp=Z,250nm,0.8s,comp=Z,2.5nm
AMAZ Amatzia 7.66 133 Pn **Pn** **03 03 53.2 -1.7**

AMAZ Sn **Sn** **03 05 16.6 -4.7**
HHAG Hagoal 7.67 155 P **Pn** **03 03 54.8 -0.3**
baz=155
HHAG S **Sn** **03 05 15.9 -5.6**
baz=155
HSAF As Saff 7.81 159 P **Pn** **03 03 56.4 -0.6**
baz=159
KZIT Kziot 7.84 139 Pn **Pn** **03 03 56.1 -1.4**
KZIT Sn **Sn** **03 05 20.7 -5.2**
GLL Jalalah 7.89 159 P **Pn** **03 03 58.0 -0.1**
baz=158
YTIR Yattir 7.90 133 Pn **Pn** **03 03 57.1 -1.2**
YTIR Sn **Sn** **03 05 22.2 -5.1**
DSI Dead Sea 7.90 131 Pn **Pn** **03 03 56.9 -1.4**
TIR Tirane 7.94 306 *e*Pn **Pn** **03 04 00.7 +2.0**
TIR *e*Sn **Sn** **03 05 32.4 +4.4**
TIR Tirane 7.94 306 ⇑*i*P **Pn** **03 04 00.7 +2.0**
TIR Tirane 7.94 306 P **Pn** **03 04 00.7 +2.0**
TIR S **Sn** **03 05 32.4 +4.4**
HSUJ Al Zarqa 8.06 125 P **Pn** **03 04 01.8 +1.4**
comp=Z,188nm,1.0s,comp=Z,1.5nmcomp=Z,2.9nm
MZDA Masada 8.08 133 Pn **Pn** **03 03 59.1 -1.5**
MZDA Sn **Sn** **03 05 26.6 -5.0**
SWA2 8.12 199 P **Pn** **03 04 00.7 -0.5**
baz=199
WALJ Wala 8.17 129 P **Pn** **03 04 01.7 -0.2**
comp=Z,459nm,0.7s,comp=Z,2.2nm
CFR Carcaliu 8.18 359 ⇑*i*P **Pn** **03 04 01.1 -0.9**
CFR Carcaliu 8.18 359 P **Pn** **03 04 01.5 -0.5**
CFR pmax pmax
comp=Z,36nm,0.7s
TLCR 8.19 2 ⇑*i*P **Pn** **03 04 02.8 +0.7**
TLCR 8.19 2 P **Pn** **03 04 02.8 +0.7**
LISJ El Lisan 8.20 132 P **Pn** **03 04 02.6 +0.3**
comp=Z,82nm,0.5s,comp=Z,0.8nm
ISR Istrita 8.24 351 P **Pn** **03 04 04.3 +1.4**
ISR pmax pmax
comp=Z,52nm,0.8s
ASF Jabal al Asfar 8.49 122 P **Pn** **03 04 06.6 +0.2**
comp=Z,126nm,1.2s,comp=Z,0.4nm
ASF Jabal al Asfar 8.49 122 Pn **Pn** **03 04 06.1 -0.3**
comp=Z,4.8nm,0.3s,baz=253,slow=3.0,SNR=28
ASF Sn **Sn** **03 05 40.5 -1.3**
comp=Z,3.9nm,0.3s,baz=116,slow=19,SNR=4.3
SEV Sevastopol' 8.53 26 *e*P **Pn** **03 04 05.2 -1.6**
SEV *i* S **Sn** **03 05 36.0 -6.6**
SWQJ Swaqa 8.55 130 P **Pn** **03 04 07.0 -0.2**
comp=Z,141nm,1.1s,comp=Z,2.1nm
PRNI Paran 8.60 138 Pn **Pn** **03 04 05.9 -2.0**
PRNI Sn **Sn** **03 05 38.6 -6.0**
BISRR Bisoca 8.64 352 ⇓*i*P **Pn** **03 04 08.7 +0.3**
KRMI Paran Flat 8.64 141 Pn **Pn** **03 04 06.3 -2.2**
YAL Yalta 8.66 28 ⇑*i*P **Pn** **03 04 08.9 +0.4**
YAL *i* S **Sn** **03 05 42.2 -3.6**
JDRJ Daraweish 8.68 134 P **Pn** **03 04 12.1 +3.0**
comp=Z,179nm,0.8s,comp=Z,1.3nm
MLR Muntele Rosu 8.69 348 *e*Pn **Pn** **03 04 09.8 +0.7**
MLR *e*Sn **Sn** **03 05 34.2 -13**
MLR Muntele Rosu 8.69 348 ⇑*i*P **Pn** **03 04 09.9 +0.7**
MLR Muntele Rosu 8.69 348 Pn **Pn** **03 04 09.9 +0.7**
comp=Z,1.7nm,0.3s,baz=172,slow=2.4,SNR=82
MLR Lg Lg 03 06 38.4
baz=141,slow=19,SNR=2.2
MLR LR LR 03 08 08.2
comp=Z,3µm,19.9s,baz=176,slow=42
NBNS Bani Suef 8.69 163 P **Pn** **03 04 08.1 -1.0**
baz=163
VOIR 8.81 344 ⇑*i*P **Pn** **03 04 10.6 -0.1**
VOIR 8.81 344 P **Pn** **03 04 10.9 +0.2**
VOIR pmax pmax
comp=Z,24nm,1.0s
DRME Dracevica, Mon 8.81 309 *e*Pn **Pn** **03 04 14.4 +3.8**
HRFI Mount Harif 8.87 140 Pn **Pn** **03 04 09.6 -2.0**
HRFI Sn **Sn** **03 05 45.4 -5.7**
PDG Podgorica 8.90 310 ⇑*i*P **Pn** **03 04 14.9 +3.0**
PDG Podgorica 8.90 310 *e*Pn **Pn** **03 04 14.4 +2.5**
TTG Podgorica 8.90 310 *e*Pn **Pn** **03 04 14.8 +2.9**
TTG *e*Sn **Sn** **03 05 49.1 -2.6**
ALU Alushta 8.92 29 ⇑*i*P **Pn** **03 04 12.2 +0.1**
ALU *e*S **Sn** **03 05 48.6 -3.6**
PLOR Plostina 8.95 352 ⇓*i*P **Pn** **03 04 12.7 +0.1**
PLOR Plostina 8.95 352 P **Pn** **03 04 12.6 0.0**
VRI Vrincioaia 8.96 352 ⇑*i*P **Pn** **03 04 13.5 +0.9**
VRI Vrincioaia 8.96 352 P **Pn** **03 04 13.5 +0.9**
MBRI Mt Berech 9.00 141 Pn **Pn** **03 04 12.0 -1.4**
SIM Simferopol' 9.04 27*d i*P **Pn** **03 04 14.7 +0.9**
SIM *i* S **Sn** **03 05 51.6 -3.6**
SIM pmax pmax
comp=Z,66nm,0.8s
HERR Herculane 9.09 332 ⇓*i*P **Pn** **03 04 13.3 -1.2**
EIL Elat 9.12 141 Pn **Pn** **03 04 13.0 -2.0**
EIL Sn **Sn** **03 05 51.0 -6.3**
EIL Elat 9.12 141 Pn **Pn** **03 04 14.1 -0.9**
comp=Z,20nm,0.3s,baz=316,slow=3.8,SNR=71
EIL Sn **Sn** **03 05 51.4 -5.9**
comp=Z,12nm,0.3s,baz=44,slow=18,SNR=12
AQBJ Aqaba 9.12 141 P **Pn** **03 04 14.9 -0.1**
comp=Z,510nm,0.7s
HRDS Abu Rudays 9.22 152 P **Pn** **03 04 15.8 -0.6**
baz=152
DOPR Dopca 9.25 347 ⇑*i*P **Pn** **03 04 16.8 +0.1**
MDVR Moldovita 9.28 329 ⇑*i*P **Pn** **03 04 17.7 +0.5**
SUDU Sudak 9.33 30 ⇑*i*P **Pn** **03 04 17.7 0.0**
SUDU *i* S **Sn** **03 05 59.7 -2.5**
HBST Basata 9.39 144 P **Pn** **03 04 18.2 -0.5**
baz=144
GZR Gura Zlata 9.40 335 ⇓*i*P **Pn** **03 04 18.5 -0.3**
TIP Timpagrande 9.44 287 *e*Pn **Pn** **03 04 21.2 +1.8**
TIP *e*Sn **Sn** **03 05 53.3 -12**
TIP Timpagrande 9.44 287 ⇑*i*P **Pn** **03 04 20.1 +0.7**
GRB Gharib 9.45 156 P **Pn** **03 04 18.8 -0.6**
baz=156
DIVS Divibare 9.56 321 *e*Pn **Pn** **03 04 20.6 -0.4**
UPM Unac-Piva 9.56 313 *e*Pn **Pn** **03 04 24.7 +3.6**
TESR Tescani 9.60 353 ⇑*i*P **Pn** **03 04 20.8 -0.7**
BRY Bratogost 9.60 311 *e*Pn **Pn** **03 04 25.0 +3.3**
TREB Trebinje 9.62 310 *e*Pn **Pn** **03 04 24.8 +3.1**
HKAT Jabal Katrina 9.66 149 P **Pn** **03 04 21.6 -1.0**
baz=149
KTUT Trabzon 9.70 62 ⇓*i*P **Pn** **03 04 27.0 +4.2**
BBLS Lazići 9.71 318 *e*Pn **Pn** **03 04 18.7 -4.3**
HDHB Dhahab 9.76 146 P **Pn** **03 04 23.1 -0.6**
baz=146
HFRF Wahat Farafira 9.82 181 P **Pn** **03 04 24.1 -0.4**
baz=181
MATE Matera 9.84 295 ⇑*i*P **Pn** **03 04 25.5 +0.8**
ASUT 9.93 164 P **Pn** **03 04 25.7 -0.4**
baz=163
KIS Kishinev 10.00 2 ⇓*i*P **Pn** **03 04 28.0 +1.1**
comp=Z,200nm,1.5s
KIS Kishinev 10.00 2 *e*PP Pn 03 04 38.0 +11
KIS *e*S **Sn** **03 06 15.0 -3.7**
KIS *i* Li 03 07 06.0
KIS *i* LQ LQ 03 07 50.0
KIS LRM MLR 03 08 24.0
comp=Z,2µm,20.0s
CEL Celeste 10.01 281 *e*Pn **Pn** **03 04 31.1 +4.0**
BZS Buzias 10.01 331 ⇑*i*P **Pn** **03 04 26.5 -0.6**
BZS Buzias 10.01 331 P **Pn** **03 04 27.0 -0.1**
BZS pmax pmax
comp=Z,16nm,1.1s
BIZ Bicaz 10.09 351 ⇓*i*P **Pn** **03 04 27.8 -0.3**
HAPS Han Pijesak,BI 10.10 317 *e*Pn **Pn** **03 04 29.1 +0.7**
ANN Anapa 10.36 38 *e*P **Pn** **03 04 32.2 +0.4**
ANN *e*S **Sn** **03 06 27.0 -0.5**
ANN pmax pmax
comp=Z,74nm,1.5s
SIRR Siria 10.55 334 ⇑*i*P **Pn** **03 04 34.8 +0.3**
SOC Sochi 10.85 49 *e*P **Pn** **03 04 40.9 +2.3**
SOC *e* 03 06 43.7
SOC pmax pmax
comp=Z,30nm,0.8s
SOC MLR MLR
comp=Z,1µm,14.0s
BURAR Bucovina Array 10.87 348 *e*Pn **Pn** **03 04 37.8 -1.2**
BURAR Bucovina Array 10.87 348 ⇑*i*P **Pn** **03 04 39.2 +0.2**
BURAR Bucovina Array 10.87 348 P **Pn** **03 04 39.2 +0.2**
BUR08 Bucovina Ar. S 10.90 348 *e*Pn **Pn** **03 04 39.3 -0.1**
VAE Valguarnera 11.17 277 Pn **Pn** **03 04 45.2 +2.1**
comp=Z,0.9nm,0.3s,baz=344,slow=4.9,SNR=5.6
VAE Sn **Sn** **03 06 53.8 +6.1**
comp=Z,1.3nm,0.3s,baz=90,slow=20,SNR=2.6
MGRS Mrkonjic Grad 11.35 314 *e*Pn **Pn** **03 04 42.7 -2.7**

HDK1	**Dakhla**	11.45	175	P	Pn	03 04 46.8 0.0
	baz=175					
BLY	**Banja Luka**	11.49	316	*e*Pn	Pn	03 04 48.6 +1.3
BLY	**Banja Luka**	11.49	316	⇑*i*P	Pn	03 04 47.8 +0.4
BLY	**Banja Luka**	11.49	316	*e*Pn	Pn	03 04 48.6 +1.3
MORH	**Mrgy, Hungar**	11.75	325	*e*Pn	Pn	03 04 49.2 -1.7
DOMR	**Dombai**	11.90	54	*i* P	Pn	03 04 54.5 +1.4
UZH	**Uzhgorod**	12.46	341	*e*P	Pn	03 05 04.0 +3.4
UZH				*e*S	Sn	03 07 24.4 +5.4
AKH	**Akhalkalaki**	12.50	65	*e*Pn	Pn	03 05 05.1 +3.8
AKH	**Akhalkalaki**	12.50	65	P	Pn	03 05 05.1 +3.8
PSZ	**Piszkesteto**	12.59	333	*e*Pn	Pn	03 05 03.9 +1.5
PSZ	**Piszkesteto**	12.59	333	⇓*i*P	Pn	03 05 01.8 -0.6
PSZ	**Piszkesteto**	12.59	333	P	Pn	03 05 04.0 +1.5
PSZ				pmax	pmax	
	comp=Z,28nm,1.5s					
NEY	**Neytrino**	12.60	56	*i* P	Pn	03 05 04.1 +1.4
AQU	**L'Aquila**	12.74	299	*e*Pn	P	03 05 17.1 +1.5
KOLS	**Kolonicke sedl**	12.75	341	*e*P	Pn	03 05 09.3 +4.8
KOLS	**Kolonicke sedl**	12.75	341	*e*PN	Pn	03 05 09.3 +4.8
KOLS				*e*		03 05 18.7
SHA1	**Shidzhatmaz**	12.77	54	*i* P	Pn	03 05 08.2 +3.1
KIV	**Kislovodsk**	12.89	53	*e*Pn	Pn	03 05 09.5 +2.9
KIV	**Kislovodsk**	12.89	53	*i* P	Pn	03 05 10.5 +3.9
	SNR=8.4					
KIV	**Kislovodsk**	12.89	53	*e*P	Pn	03 05 10.7 +4.1
KIV				pmax	pmax	
	comp=Z,59nm,1.0s					
KIV				MLR	MLR	
	comp=Z,1μm,11.0s					
KIV	**Kislovodsk**	12.89	53	P	P	03 05 12.0 -5.3
	SNR=13					
KVAR	**Kislovodsk Arr**	12.90	53	Pn	Pn	03 05 08.0 +1.3
	baz=261,slow=19,SNR=12					
KBZ	**Khabaz**	12.93	54	Pn	Pn	03 05 10.8 +3.9
	comp=Z,0.2nm,0.3s,baz=246,slow=11,SNR=16					
KBZ				LR	LR	03 11 36.1
	comp=Z,843nm,19.2s,baz=240,slow=44					
BOJS	**Bojanci**	13.04	315	*i* P	Pn	03 05 10.0 +1.5
CRES	**Cresnjev**	13.12	316	*e*Pn	Pn	03 05 10.1 +0.5
GNI	**Garni**	13.16	71	*e*Pn	Pn	03 05 14.5 +4.2
GNI	**Garni**	13.16	71	*i* P	Pn	03 05 13.4 +3.1
	SNR=9.6					
GNI	**Garni**	13.16	71	*ce*P	Pn	03 05 13.9 +3.5
GNI				pmax	pmax	
	comp=Z,402nm,1.7s					
GNI	**Garni**	13.16	71	P	Pn	03 05 14.4 +4.0
	SNR=15					
GNI	**Garni**	13.16	71	Pn	Pn	03 05 13.4 +3.1
	comp=Z,0.5nm,0.3s,baz=231,slow=2.4,SNR=17					
GNI				LR	LR	03 11 18.1
	comp=Z,3μm,18.7s,baz=271,slow=42					
PYA1	**Pyatigorsk**	13.20	53	*i* P	Pn	03 05 14.5 +3.7
LVV	**L'vov**	13.21	347	*e*P	Pn	03 05 11.7 +0.9
ZEI	**Tsey**	13.22	59	*e*P	Pn	03 05 13.3 +2.1
ZEI				pmax	pmax	
	comp=Z,21nm,1.1s					
NCK	**Nalchik**	13.28	56	*i* P	Pn	03 05 13.4 +1.5
VISS	**Visnje**	13.45	315	*i* P	Pn	03 05 16.4 +2.3
VYHS	**Vyhne**	13.46	332	*e*P	Pn	03 05 12.7 -1.6
VYHS	**Vyhne**	13.46	332	*e*PN	Pn	03 05 12.7 -1.6
VYHS				*e*		03 05 25.7
NAX	**Nakhchivan**	13.63	76	P	Pn	03 05 19.9 +3.2
CEY	**Cerknica**	13.65	314	*e*Pn	Pn	03 05 13.1 -3.7
KIEV	**Kiev**	13.71	2	*e*Pn	Pn	03 05 16.9 -0.6
KIEV				*e*Sn	Sn	03 07 58.2 +8.8
KIEV	**Kiev**	13.71	2	P	P	03 05 25.9 -0.3
KIEV	**Kiev**	13.71	2	*i* P	Pn	03 05 17.0 -0.6
KIEV				pmax	pmax	
	comp=Z,9.0nm,1.3s					
AKASG	**Malin Array Be**	13.72	2	Pn	Pn	03 05 16.3 -1.4
	comp=Z,0.8nm,0.3s,baz=177,slow=12,SNR=22					
AKASG				Sn	Sn	03 07 56.1 +6.5
	comp=Z,0.7nm,0.3s,baz=178,slow=27,SNR=6.5					
AKASG				LR	LR	03 11 08.8
	comp=Z,1μm,19.1s,baz=180,slow=40					
AKASG				ScP	ScP	03 14 14.8 +0.6
	comp=Z,0.4nm,0.3s,baz=208,slow=1.2,SNR=5.1					
AKBB	**Malin Array Si**	13.72	2	*e*Pn	Pn	03 05 17.0 -0.7
AKBB				*e*Sn	Sn	03 07 58.3 +8.7
NIE	**Niedzica**	13.74	337	*e*P	Pn	03 05 22.1 +3.9
NIE	**Niedzica**	13.74	337	*e*P	Pn	03 05 22.1 +3.9
LJU	**Ljubljana**	13.77	315	*e*Pn	Pn	03 05 20.3 +1.9
LANS	**Liptovska Anna**	13.78	335	*e*P	P	03 05 30.6 +3.5
LANS	**Liptovska Anna**	13.78	335	*e*	P	03 05 30.6 +3.5
PERS	**Pernice**	13.81	318	*i* P	Pn	03 05 21.8 +2.7
SOKA	**Soboth**	13.88	318	*i* Pn	Pn	03 05 20.1 +0.1
	comp=Z,12nm,1.2s					
JAVS	**Javornik**	13.94	314	*i* P	Pn	03 05 20.9 0.0
BRNS	**Bernies**	13.98	158	P	Pn	03 05 22.3 +0.8
	baz=158					
MODS	**Modra-Piesok**	14.00	328	*e*P	Pn	03 05 23.7 +2.1
MODS	**Modra-Piesok**	14.00	328	*e*PN	Pn	03 05 23.7 +2.1
MODS				*e*		03 05 30.8
ARSA	**Arzberg**	14.00	321	*i* P	Pn	03 05 22.2 +0.6
	comp=Z,13nm,1.2s					
OBKA	**Obir**	14.03	317	*i* P	P	03 05 28.8 -1.1
	comp=Z,9.9nm,0.9s					
JAVC	**Velka Javorina**	14.21	330	*e*PN	Pn	03 05 28.1 +3.5
JAVC				*e*		03 05 34.2
CONA	**Conrad Observa**	14.30	324	*i* P	Pn	03 05 26.5 +0.6
	comp=Z,16nm,1.6s					
OJC	**Ojcow**	14.60	338	*e*P	P	03 05 37.5 +1.4
OJC	**Ojcow**	14.60	338	*e*Pn	Pn	03 05 26.6 -3.2
OJC	**Ojcow**	14.60	338	*e*P	P	03 05 37.6 +1.4
MYKA	**Terra Mystica**	14.61	316	*i* P	P	03 05 36.2 -0.2
	comp=Z,13nm,1.0s					
GROC	**Groznyy**	14.67	60	*e*P	Pn	03 05 27.0 -3.8
GROC				*e*S	Sn	03 08 11.9 -1.0
GROC				pmax	pmax	
	comp=Z,8.0nm,0.5s					
BTLR	**Botlikh**	14.80	62	*i* P	P	03 05 35.5 -3.0
OKC	**Ostrava-Krasne**	14.83	333	*e*P	P	03 05 40.4 +1.7
OKC				MLR	MLR	
	comp=Z,1μm,14.0s					
OKC	**Ostrava-Krasne**	14.83	333	*e*P	P	03 05 40.4 +1.7
OKC				AMS	AMS	03 11 40.0
	comp=Z,1μm,14.0s					
KRUC	**Moravsky**	14.90	328	*e*	P	03 05 40.6 +1.1
MORC	**Moravsky Berou**	15.00	332	*e*Pn	Pn	03 05 34.6 -0.7
MORC	**Moravsky Berou**	15.00	332	⇑*i*P	Pn	03 05 35.3 0.0
MORC	**Moravsky Berou**	15.00	332	P	P	03 05 40.2 -0.5
MORC				pmax	pmax	
	comp=Z,67nm,1.6s					
MORC	**Moravsky Berou**	15.00	332	*e*	P	03 05 42.2 +1.5
VRAC	**Vranov**	15.01	329	*e*PN	Pn	03 05 36.7 +1.4
VRAC				*e*		03 05 42.4
VRAC	**Vranov**	15.01	329	Pn	Pn	03 05 35.8 +0.5
	comp=Z,0.2nm,0.3s,baz=132,slow=10.0,SNR=5.9					
VRAC				LR	LR	03 12 02.3
	comp=Z,888nm,18.3s,baz=139,slow=40					
MOA	**Molln**	15.03	321	*i* P	Pn	03 05 36.9 +1.2
	comp=Z,26nm,1.2s					
KBA	**Koelnbreinsper**	15.04	317	*i* P	P	03 05 43.6 +2.3
	comp=Z,20nm,1.1s,SNR=6.9					
KBA	**Koelnbreinsper**	15.04	317	P	P	03 05 43.2 +2.0
SEKA	**Sheki**	15.18	68	P	Pn	03 05 39.9 +2.2
GNBR	**Gunib**	15.26	64	*i* P	Pn	03 05 40.1 +1.4
ABTA	**Abfaltersbach**	15.31	314	*i* P	P	03 05 42.6 -1.6
	comp=Z,15nm,1.0s					
KEST	**Kesra**	15.42	271	*e*Pn	Pn	03 05 41.7 +0.8
	comp=Z,57nm,1.1s					
KEST	**Kesra**	15.42	271	Pn	Pn	03 05 42.1 +1.2
	comp=Z,0.2nm,0.3s,baz=30,slow=8.1,SNR=3.6					
KEST				LR	LR	03 12 46.7
	comp=Z,329nm,20.0s,baz=10.0,slow=42					
TREC	**Trest**	15.47	327	*e*P	P	03 05 47.3 +1.5
TREC				MLR	MLR	
	comp=Z,1μm,13.6s					
TREC	**Trest**	15.47	327	*e*P	P	03 05 47.3 +1.5
TREC				AMS	AMS	03 11 50.0
	comp=Z,1μm,13.6s					
KRLC	**Kraliky**	15.53	331	*e*P	P	03 05 48.6 +2.0
KRLC	**Kraliky**	15.53	331	*e*P	P	03 05 48.6 +2.0
AKT	**Akhty**	15.62	67	*i* P	Pn	03 05 44.7 +1.2
MAK	**Makhachkala**	15.79	62	*e*P	Pn	03 05 45.5 -0.1
MAK				*e*S	Sn	03 08 40.0 -0.2
MAK				pmax	pmax	
	comp=Z,476nm,1.4s					
MAK				MLR	MLR	
	comp=Z,652nm,16.0s					
DPC	**Dobruska-Polom**	15.93	331	*e*P	Pn	03 05 48.2 +0.8
DPC				MLR	MLR	
	comp=Z,1μm,11.8s					
DPC	**Dobruska-Polom**	15.93	331	*e*P	Pn	03 05 48.2 +0.8
DPC				*e*pP	P	03 05 52.6 +1.6
DPC				*e*S	S	03 08 56.5 -1.1
DPC				AMS	AMS	03 14 40.0
	comp=Z,1μm,11.8s					
GEC2	**GERESS Array S**	15.98	322	*e*Pn	P	03 05 53.1 +1.5
	comp=Z,40nm,1.0s					
GERES	**GERESS Array B**	15.98	322	*e*Pn	Pn	03 05 49.1 +1.0
GERES	**GERESS Array B**	15.98	322	Pn	P	03 05 53.0 +1.5
	comp=Z,0.5nm,0.3s,baz=145,slow=9.6,SNR=84					
GERES				LR	LR	03 12 36.1
	comp=Z,1μm,18.5s,baz=135,slow=40					
GERES				ScP	ScP	03 14 19.8 +1.4
	baz=225,slow=1.7,SNR=6.4					
VORD	**Divnogorie**	15.99	26	*e*P	Pn	03 05 48.7 +0.7
VORD				pmax	pmax	
	comp=Z,20nm,1.1s					
WTTA	**Wattenberg**	16.10	315	*i* P	P	03 05 53.4 +0.4
	comp=Z,36nm,1.1s,SNR=7.2					
VSR	**Storozhevoye**	16.15	25	*c i*P	Pn	03 05 48.5 -1.7
VSR				pmax	pmax	
	comp=Z,113nm,2.0s					
WATA	**Walderalm**	16.17	315	*i* P	P	03 05 53.8 0.0
	comp=Z,18nm,0.9s					
UPC	**Upice**	16.18	331	*e*P	P	03 05 52.7 -1.0
UPC				MLR	MLR	
	comp=Z,1μm,13.3s					
UPC	**Upice**	16.18	331	*e*P	P	03 05 52.7 -1.0
UPC				*e*pP	pP	03 05 55.4 -3.1
UPC				AMS	AMS	03 14 50.0
	comp=Z,1μm,13.3s					
KHC	**Kasperske Hory**	16.23	323	*e*Pn	P	03 05 53.9 -0.5
	comp=Z,16nm,1.1s					
KHC	**Kasperske Hory**	16.23	323	*e*P	P	03 05 53.7 -0.6
KHC				*e*S	S	03 08 59.9 -3.8
KHC				MLR	MLR	
	comp=Z,1μm,14.0s					
KHC	**Kasperske Hory**	16.23	323	*e*P	P	03 05 53.7 -0.6
KHC				*e*S	S	03 08 59.9 -3.8
KHC				AMS	AMS	03 11 50.0
	comp=Z,1μm,14.0s					
GOPC	**GO Pecny, Ondr**	16.23	327	*e*P	P	03 05 55.1 +0.8
GOPC				MLR	MLR	
	comp=Z,1μm,13.2s					
GOPC	**GO Pecny, Ondr**	16.23	327	*e*P	P	03 05 55.1 +0.8
GOPC				AMS	AMS	03 12 10.0
	comp=Z,1μm,13.2s					
SQTA	**Sankt Quirin**	16.32	314	*i* P	P	03 05 55.9 +0.5
	comp=Z,38nm,1.6s					
KSP	**Ksiaz**	16.34	332	*e*P	P	03 05 55.6 +0.2
KSP	**Ksiaz**	16.34	332	*e*P	P	03 05 55.6 +0.2
PRU	**Pruhonice**	16.39	327	*e*P	Pn	03 05 53.7 +0.4
PRU				MLR	MLR	
	comp=Z,1μm,13.9s					
PRU	**Pruhonice**	16.39	327	*e*P	Pn	03 05 53.7 +0.4
PRU				*e*pP	P	03 05 57.8 +1.7
PRU				*e*S	S	03 09 06.2 -0.8
PRU				AMS	AMS	03 12 20.0
	comp=Z,1μm,13.9s					
MOTA	**Moosalm**	16.45	314	*i* P	P	03 05 57.0 +0.1
	comp=Z,18nm,0.9s					
FETA	**Feichten**	16.49	313	*i* Pn	Pn	03 05 55.5 +0.8
	comp=Z,35nm,1.1s					
VORR	**Voronezh**	16.55	24	P	P	03 05 57.0 -0.8
VORR				pmax	pmax	
	comp=Z,300nm,1.6s					
FUORN	**Ofenpass-Fuorn**	16.57	311	*e*Pn	P	03 05 59.0 +0.7
	comp=Z,35nm,1.3s					
WET	**Wettzell**	16.58	322	P	P	03 05 57.7 -0.5
WET				pmax	pmax	
	comp=Z,56nm,1.1s					
RETA	**Reutte**	16.72	314	*i* P	P	03 05 59.7 0.0
	comp=Z,14nm,1.1s					
PVCC	**Panska Ves**	16.78	328	*e*P	P	03 06 01.2 +0.8
PVCC				MLR	MLR	
	comp=Z,1μm,13.2s					
PVCC	**Panska Ves**	16.78	328	*e*P	P	03 06 01.2 +0.8
PVCC				AMS	AMS	03 12 40.0
	comp=Z,1μm,13.2s					
DAVOX	**Davos/Dischmat**	16.88	311	Pn	P	03 06 00.8 -0.8
	comp=Z,0.1nm,0.3s,baz=129,slow=7.8,SNR=12					
DAVOX				LR	LR	03 13 31.7
	comp=Z,1μm,19.4s,baz=85,slow=41					
TUE	**Stuetta**	17.06	310	*e*Pn	P	03 06 06.0 +2.4
	comp=Z,18nm,1.1s					
VRH	**Novokhopyorsk**	17.08	30	*e*P	P	03 06 02.8 -0.8
VRH				pmax	pmax	
	comp=Z,60nm,1.0s					
VRH				MLR	MLR	
	comp=Z,950nm,17.0s					
DAVA	**Damuels**	17.12	313	*i* P	P	03 06 05.1 +0.8
	comp=Z,30nm,1.2s,SNR=5.9					
LPSR	**Galich'ya Gora**	17.27	22	*e*P	Pn	03 06 04.3 0.0
LPSR				pmax	pmax	
	comp=Z,40nm,1.4s					
LPSR				MLR	MLR	
	comp=Z,650nm,14.0s					
BRG	**Berggiesshubel**	17.31	328	*i* P	P	03 06 05.8 -0.4
	comp=Z,128nm,2.3s					
BRG	**Berggiesshubel**	17.31	328	*i* P	P	03 06 05.8 -0.4
BRG				pmax	pmax	
	comp=Z,128nm,2.3s					
BRG				MLR	MLR	
	comp=Z,1μm,11.5s					
BRG				MLR	MLR	
	comp=N,2μm,22.2s					
BRG				MLR	MLR	
	comp=E,2μm,22.2s					
GRB1	**Grafenberg Arr**	17.35	321	P	P	03 06 09.7 +3.0
GRB1				pmax	pmax	
	comp=Z,36nm,0.9s					
MICGM	**Minsk**	17.52	359	*e*P	P	03 06 08.0 -0.4
MICGM				*e*LR	LR	03 43 36.0
MNK	**Minsk**	17.52	359	*e*P	P	03 06 08.0 -0.4
NKC	**Novy Kostel**	17.52	324	*e*P	P	03 06 11.0 +2.4
NKC	**Novy Kostel**	17.52	324	*e*P	P	03 06 11.0 +2.4
NKC				AMS	AMS	03 12 40.0
	comp=Z,1μm,13.4s					
GRA1	**Grafenberg Arr**	17.76	321	*e*Pn	P	03 06 14.1 +2.8
	comp=Z,49nm,1.2s					
GRF	**Grafenberg Arr**	17.76	321	P	P	03 06 14.0 +2.8
GRF				pmax	pmax	
	comp=Z,41nm,1.4s					
GRFO	**Grafenberg**	17.76	321	*e*Pn	P	03 06 14.1 +2.9
	comp=Z,54nm,1.3s					
GRFO	**Grafenberg**	17.76	321	P	P	03 06 14.1 +2.9
GRFO				pmax	pmax	
	comp=Z,37nm,1.3s					
CLL	**Collm**	18.03	327	*e*Pn	P	03 06 15.8 +1.7
	comp=Z,30nm,1.4s					
CLL	**Collm**	18.03	327	⇑*i*P	P	03 06 14.7 +0.6
CLL				*e*S	S	03 09 39.0 -1.2
CLL				pmax	pmax	
	comp=Z,82nm,2.0s					
CLL				MLR	MLR	
	comp=Z,800nm,21.1s					
CLL	**Collm**	18.03	327	⇑*i*P	P	03 06 14.7 +0.6
	comp=Z,82nm,2.0s					
CLL				*i* PP	PnPn	03 06 24.9 +0.2
CLL				*i* PPP	PPP	03 06 34.0
CLL				*e*S	S	03 09 39.0 -1.2
CLL				LmH		03 12 00.0
	comp=N,1μm,20.3s					
CLL				LmH		03 12 00.0
	comp=E,1μm,18.9s					
CLL				LmV		03 12 00.0
	comp=Z,800nm,21.1s					
CLL				Lmax		03 14 00.0
GKP	**Gorka Klasztor**	18.05	338	*e*P	P	03 06 15.5 +1.2
GKP	**Gorka Klasztor**	18.05	338	*e*P	P	03 06 15.5 +1.2
MBDF	**Montbardon**	18.07	302	*e*P	P	03 06 17.1 +2.3
MBDF				pmax	pmax	
	comp=Z,51nm,1.2s					
MOX	**Moxa**	18.19	324	P	P	03 06 18.8 +2.9
MOX				pmax	pmax	
	comp=Z,53nm,2.0s					
BNI	**Bardonecchia**	18.23	303	*e*Pn	P	03 06 19.1 +2.5
	comp=Z,50nm,1.2s					
BNI	**Bardonecchia**	18.23	303	P	P	03 06 20.4 +3.8
BNI				pmax	pmax	
	comp=Z,54nm,1.9s					
SENIN	**Lac Senin/Sane**	18.29	307	*e*Pn	P	03 06 19.7 +2.4
	comp=Z,37nm,0.9s					
STU	**Stuttgart**	18.30	316	*e*Pn	P	03 06 20.3 +3.2
	comp=Z,41nm,0.9s					
STU	**Stuttgart**	18.30	316	P	P	03 06 19.9 +2.8
STU				pmax	pmax	
	comp=Z,48nm,0.9s					
LPG	**La Plagne**	18.33	304	*e*P	P	03 06 20.7 +2.9
LPG				pmax	pmax	
	comp=Z,39nm,0.9s					
LPL	**La Plagne**	18.35	304	*e*P	P	03 06 20.0 +2.1
LPL				pmax	pmax	
	comp=Z,19nm,0.8s					
IDID	**Didziasalis**	18.36	357	*e*P	Pn	03 06 15.3 -2.5
IIGN	**Ignalina**	18.42	356	*e*P	P	03 06 15.9 -2.5
BFO	**Black Forest**	18.55	314	*e*P	Pn	03 06 20.3 +0.1
	comp=Z,59nm,1.5s					
BFO	**Black Forest**	18.55	314	*i* P	Pn	03 06 22.1 +1.9
RUE	**Ruedersdorf**	18.59	331	*e*P	Pn	03 06 20.3 -0.2
ISAL	**Salakas**	18.65	356	*e*P	P	03 06 18.3 -2.6
ORIF	**Oris-en-Rattie**	18.73	302	*e*P	Pn	03 06 24.4 +2.0
ORIF				pmax	pmax	
	comp=Z,75nm,1.5s					
PABE	**Paberze**	18.76	352	*e*P	Pn	03 06 22.3 -0.3
OBN	**Obninsk**	18.96	15	*e*P	Pn	03 06 25.8 +0.8
	comp=Z,96nm,1.3s					
OBN	**Obninsk**	18.96	15	*e*P	P	03 06 24.4 +0.1
OBN				pmax	pmax	
	comp=Z,120nm,1.7s					
OBN				MLR	MLR	
	comp=Z,957nm,18.0s					
OBN	**Obninsk**	18.96	15	P	P	03 06 23.9 -0.4
	comp=Z,1.1nm,0.3s,baz=212,slow=9.0,SNR=13					
OBN				LR	LR	03 14 32.7
	comp=Z,257nm,19.3s,baz=194,slow=40					
CABF	**La Chapelle**	19.16	307	*e*P	Pn	03 06 27.5 -0.1
CABF				pmax	pmax	
	comp=Z,20nm,0.8s					
ECH	**Echery**	19.18	312	*e*P	Pn	03 06 28.9 +1.1
	comp=Z,15nm,1.0s					
HINF	**Hinteralfeld**	19.18	311	*e*P	Pn	03 06 28.2 +0.4
HINF				pmax	pmax	
	comp=Z,34nm,1.5s					
CDF	**Champ du Feu**	19.21	313	*e*P	Pn	03 06 30.4 +2.2
CDF				pmax	pmax	
	comp=Z,27nm,1.0s					
TNS	**Taunus Mts**	19.51	319	P	Pn	03 06 32.2 +0.4
TNS				pmax	pmax	
	comp=Z,40nm,1.3s					
PBUR	**Paburg**	19.54	349	*e*P	P	03 06 29.8 -0.8
VIVF	**Saint-Julien-l**	19.54	301	*e*P	Pn	03 06 31.8 -0.3
VIVF				pmax	pmax	
	comp=Z,58nm,1.4s					
SSB	**Saint Sauveur**	19.74	302	*e*P	Pn	03 06 34.7 +0.2
	comp=Z,22nm,1.1s					
SSB	**Saint Sauveur**	19.74	302	*e*P	Pn	03 06 37.3 +2.8
SSB				pmax	pmax	
	comp=Z,22nm,1.2s					
MOS	**Moscow**	19.77	16	*e*P	P	03 06 32.1 -1.0
MOS				*e*S	S	03 10 11.7 -3.4
MOS				pmax	pmax	
	comp=Z,162nm,1.6s					
MOS				pmax	pmax	
	comp=Z,500nm,2.4s					
MOS				MLR	MLR	
	comp=Z,800nm,20.0s					
BSD	**Bornholm Skovb**	20.34	337	⇓*i*P	P	03 06 38.4 -0.9
BSD				pmax	pmax	
	comp=Z,38nm,0.7s					
BSD	**Bornholm Skovb**	20.34	337	⇓*i*P	P	03 06 38.4 -0.9
	comp=Z,38nm,0.7s					
WLF	**Walferdange**	20.46	315	*e*P	Pn	03 06 44.1 +1.1
	comp=Z,179nm,1.1s					
WLF	**Walferdange**	20.46	315	P	Pn	03 06 44.1 +1.2
WLF				pmax	pmax	
	comp=Z,167nm,1.2s					
WLF	**Walferdange**	20.46	315	⇑P	P	03 06 41.1 +0.3
SMF	**Signal de Mont**	20.62	306	*e*P	P	03 06 42.8 +0.2
SMF				pmax	pmax	
	comp=Z,73nm,1.1s					
LOR	**Lormes**	20.82	307	*e*P	P	03 06 44.7 0.0
LOR				pmax	pmax	
	comp=Z,104nm,1.8s					
BUG	**Bochum--Univer**	20.83	321	P	Pn	03 06 46.0 -1.1
BUG				pmax	pmax	
	comp=Z,66nm,1.4s					
SSF	**Saint Saulge**	20.98	306	*e*P	P	03 06 46.5 +0.1
SSF				pmax	pmax	
	comp=Z,21nm,0.8s					
AVF	**Avril sur Loir**	20.99	306	*e*P	P	03 06 46.7 +0.2
AVF				pmax	pmax	
	comp=Z,115nm,1.5s					
MEM	**Membach**	21.03	317	P	P	03 06 48.7 +1.8
MEM				pmax	pmax	
	comp=Z,52nm,1.3s					
MEM	**Membach**	21.03	317	⇓P	P	03 06 48.0 +1.1
	comp=Z,38nm,1.5s					
SLIT	**Slitere, Latvi**	21.04	351	*e*P	P	03 06 44.4 -2.5
HGN	**Heimansgroeve**	21.15	318	*e*P	P	03 06 49.1 +0.9
	comp=Z,96nm,1.2s					
HGN				*e*S	S	03 10 37.1 -5.6
HGN				*e*L	L	03 18 48.3
	comp=Z,388nm,18.4s					
BGF	**Bois d'Agland**	21.25	305	*e*P	P	03 06 49.7 +0.4
BGF				pmax	pmax	
	comp=Z,134nm,1.5s					
BEBN	**Eben Emael**	21.30	318	⇑P	P	03 06 51.6 +1.8
BCLA	**Clavier**	21.32	316	⇑P	P	03 06 51.4 +1.5
	comp=Z,62nm,1.6s					
WTSB	**Winterswijk**	21.37	321	*e*P	P	03 06 51.1 +0.6
	comp=Z,110nm,1.1s					
GIVF	**Givet**	21.43	315	*e*P	P	03 06 53.0 +1.8
GIVF				pmax	pmax	
	comp=Z,29nm,1.0s					
VSU	**Vasula**	21.51	358	*ce*P	P	03 06 52.5 +0.6
VSU				pmax	pmax	
	comp=Z,202nm,1.7s					
VSU	**Vasula**	21.51	358	*e*P	P	03 06 50.5 -1.4
DOU	**Dourbes**	21.55	315	P	P	03 06 55.8 +3.3
DOU				pmax	pmax	
	comp=Z,22nm,0.9s					
DOU	**Dourbes**	21.55	315	⇑P	P	03 06 53.2 +0.7
	comp=Z,11nm,0.9s					
TCF	**Toulx Ste Croi**	21.59	304	*e*P	P	03 06 54.9 +1.9
TCF				pmax	pmax	
	comp=Z,26nm,1.2s					
BAIF	**Baives**	21.76	315	*e*P	P	03 06 54.8 +0.1
BAIF				pmax	pmax	
	comp=Z,29nm,1.0s					
RJF	**Les Rejaudoux**	21.81	301	*e*P	P	03 06 57.5 +2.1
RJF				pmax	pmax	
	comp=Z,84nm,1.8s					
SNF	**Senelle**	21.93	316	⇑P	P	03 06 57.7 +1.2
	comp=Z,42nm,1.6s					
UCC	**Uccle**	22.03	316	*e*P	P	03 06 59.1 +1.6
	comp=Z,37nm,1.1s					
UCC	**Uccle**	22.03	316	⇑P	P	03 06 58.5 +0.9
CLF	**Chambon-Foret**	22.10	308	*e*P	P	03 06 59.9 +1.5

comp=Z,814nm,18.4s,baz=143,slow=38
FIA1 FINESS Array S 24.52 357 *e*P **P 03 07 23.0 +0.6**
comp=Z,66nm,0.9s
KLMR Klimovskoe 24.90 13⇑*i*P **P 03 07 26.1 +0.3**
KLMR pmax pmax
comp=Z,41nm,0.9s
HFS Hagfors 25.00 342 P **P 03 07 26.7 -0.1**
comp=Z,19nm,0.9s,baz=150,slow=10.0,SNR=20
HFS LR LR 03 18 17.9
comp=Z,976nm,20.0s,baz=155,slow=39
AKTO Aktyubinsk 25.07 48 P **P 03 07 27.1 -0.5**
comp=Z,34nm,1.0s,baz=249,slow=9.5,SNR=53
SGMF Saint Gilles 25.25 306 *e*P **P 03 07 32.2 +3.1**
SGMF pmax pmax
comp=Z,85nm,1.9s
ESDC Sonseca Array 25.46 286 P **P 03 07 32.0 +0.8**
comp=Z,7.4nm,0.8s,baz=81,slow=10,SNR=16
ESLA Sonseca Array 25.46 286 *e*P **P 03 07 30.4 -0.8**
comp=Z,18nm,1.0s
GUD Guadarrama 25.55 288 P **P 03 07 34.9 +2.7**
GUD pmax pmax
comp=Z,22nm,2.1s
QUIF Quistinic 25.56 305 *e*P **P 03 07 36.4 +4.5**
QUIF pmax pmax
comp=Z,40nm,1.2s
KIRV Kirov 25.59 26 P **P 03 07 30.9 -1.2**
comp=Z,12nm,0.6s,baz=237,slow=9.6,SNR=9.4
KONO Kongsberg 25.71 338*ce*P **P 03 07 34.8 +1.6**
KONO pmax pmax
comp=Z,45nm,2.5s
PAB San Pablo 25.77 286 *e*P **P 03 07 33.7 -0.3**
comp=Z,21nm,1.1s
SUF Sumiainen 25.79 358 P **P 03 07 35.5 +1.6**
SUF pmax pmax
comp=Z,58nm,1.1s
UMQ Umm Al-Quwin 25.86 108 P **P 03 07 36.1 +1.2**
AB31 Akbulak array 25.87 52 *i*P **P 03 07 34.1 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 25.87 52 *e*P **P 03 07 34.1 -0.7**
comp=Z,9.1nm,0.9s
SHME Shamm 25.95 107 P **P 03 07 35.5 -0.2**
NC602 NORSAR Array S 26.07 341 *e*P **P 03 07 37.7 +1.3**
comp=Z,34nm,1.3s
NORES NORESS Array B 26.07 341 P **P 03 07 38.0 +1.6**
NORES pmax pmax
comp=Z,6.0nm,0.8s
ASUD Al Ashush, Dub 26.10 111 P **P 03 07 37.5 +0.4**
NAZ Nazwa, Dubai 26.15 109 *i*P **P 03 07 38.1 +0.5**
SNR=12
NAZ Nazwa, Dubai 26.15 109 P **P 03 07 38.2 +0.7**
SNR=5.5
FAQ Al Faqa, Dubai 26.23 110 *i*P **P 03 07 38.7 +0.4**
SNR=7.8
VAF Ylistaro 26.32 354 P **P 03 07 40.2 +1.6**
VAF pmax pmax
comp=Z,21nm,1.0s
MSFE Esma-Masafi 26.32 108 *i*P **P 03 07 39.2 0.0**
SNR=5.7
NAO01 NORSAR Array S 26.33 341 *e*P **P 03 07 39.2 +0.4**
comp=Z,40nm,1.0s
NC405 NORSAR Array S 26.34 342 *e*P **P 03 07 37.8 -1.2**
comp=Z,32nm,1.4s
NB2 NORSAR Subarra 26.41 341 P **P 03 07 38.4 -1.2**
comp=Z,16nm,1.2s,baz=148,slow=9.3
NB200 NORSAR Array S 26.41 341 *e*P **P 03 07 38.4 -1.2**
NOA NORSAR Array B 26.41 341 P **P 03 07 38.4 -1.2**
comp=Z,5.7nm,1.0s,baz=145,slow=8.7,SNR=8.9
NOA LR LR 03 18 43.7
comp=Z,592nm,20.2s,baz=150,slow=38
NC303 NORSAR Array S 26.53 341 *e*P **P 03 07 39.5 -1.1**
comp=Z,19nm,1.1s
HATD Hatta, Dubai 26.60 109 P **P 03 07 41.7 +0.1**
HATD Hatta, Dubai 26.60 109 P **P 03 07 41.8 +0.2**
HATD S **S 03 12 14.7 -1.0**
ASHO Ashiyiah 26.62 110 *i*P **P 03 07 41.9 0.0**
SNR=6.5
ASHO Ashiyiah 26.62 110 P **P 03 07 41.8 0.0**
NC204 NORSAR Array S 26.73 341 *e*P **P 03 07 42.8 +0.3**
comp=Z,28nm,1.1s
ALNE Al Ain 26.74 111 *i*P **P 03 07 43.4 +0.5**
SNR=7.0
PRGR Permogore 26.92 18 *e*P **P 03 07 42.7 -1.4**
PRGR pmax pmax
comp=Z,45nm,1.4s
SOHO SOHO 27.29 110 P **P 03 07 48.1 +0.3**
SNR=10
MDT Midelt 27.32 271 P **P 03 07 46.7 -1.5**
comp=Z,6.5nm,0.7s,baz=254,slow=6.0,SNR=4.2
MDT LR LR 03 20 51.8
comp=Z,141nm,19.8s,baz=160,slow=41
ARU Arti 28.02 36 *e*P **P 03 07 54.0 0.0**
comp=Z,20nm,1.1s
ARU Arti 28.02 36*c i*P **P 03 07 54.5 +0.5**
ARU 03 08 41.6
ARU S **S 03 12 35.4 -2.1**
ARU pmax pmax
comp=Z,22nm,1.1s
ARU MLR MLR
comp=Z,574nm,18.0s
ARU Arti 28.02 36 P **P 03 07 53.5 -0.5**
comp=Z,2.6nm,0.2s,baz=235,slow=5.2,SNR=10
ARU LR LR 03 21 26.9
comp=Z,1μm,19.5s,baz=230,slow=42
OUL Oulu 28.17 358 P **P 03 07 56.5 +1.3**
OUL pmax pmax
comp=Z,43nm,1.0s
EKA Eskdalemuir Ar 28.18 321 P **P 03 07 54.5 -1.0**
comp=Z,7.1nm,0.9s,baz=115,slow=9.3,SNR=10
ATD Arta Tunnel 28.49 149 LR LR 03 21 11.3
comp=Z,154nm,20.4s,baz=327,slow=40
MSF Maaselka 28.96 1 *e*P **P 03 08 03.8 +1.5**
MSF pmax pmax
comp=Z,36nm,1.0s
SVE Sverdlovsk 29.21 37 *e*P **P 03 08 05.0 +0.4**
SVE *e*S **S 03 13 02.9 +6.6**
SVE pmax pmax
comp=Z,24nm,1.3s
WSAR Wadi Sarin 29.37 109 P **P 03 08 06.7 +0.3**
comp=Z,14nm,0.9s,baz=330,slow=9.4,SNR=7.5
SGF Sodankyl 30.52 359 *e*P **P 03 08 18.2 +2.2**
SGF pmax pmax
comp=Z,82nm,1.0s
APA Apatity 30.75 4⇓*i*P **P 03 08 17.3 -0.8**
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,1μm,15.0s
LVZ Lovozero 31.15 5 *e*P **P 03 08 22.1 +0.3**
comp=Z,23nm,1.1s
KK31 Karatay Array 32.54 66 *e*P **P 03 08 34.1 0.0**
comp=Z,13nm,1.5s
KK31 Karatay Array 32.54 66 *i*P **P 03 08 33.3 -0.9**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 32.54 66 *e*P **P 03 08 34.2 0.0**
comp=Z,13nm,1.5s
ARA0 ARCESS Array S 32.64 358 *e*P **P 03 08 35.2 +0.5**
ARCES ARCESS Array B 32.64 358 *e*P **P 03 08 34.8 +0.1**
ARCES ARCESS Array B 32.64 358 *e*P **P 03 08 34.8 +0.1**
ARCES ARCESS Array B 32.64 358 P **P 03 08 35.2 +0.5**
comp=Z,26nm,0.9s,baz=177,slow=6.9,SNR=49
ARCES LR LR 03 22 19.5
comp=Z,623nm,18.4s,baz=183,slow=37
ARE0 ARCESS Array S 32.64 358 *e*P **P 03 08 35.4 +0.7**
comp=Z,1.8nm,0.9s
KEV Kevo 32.83 359 *e*P **P 03 08 37.1 +0.8**
comp=Z,59nm,1.3s
KEV Kevo 32.83 359 P **P 03 08 37.1 +0.8**
KEV pmax pmax
comp=Z,59nm,1.3s
BRVK Borovoye 33.12 48 *e*P **P 03 08 39.6 +0.5**
comp=Z,9.2nm,1.4s
BRVK Borovoye 33.12 48*ce*P **P 03 08 39.4 +0.3**
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 33.12 48 P **P 03 08 39.7 +0.6**
SNR=5.3
BRVK P **P 03 08 39.7 +0.6**
SNR=5.3
BVAR Borovoye Array 33.17 48 P **P 03 08 39.6 0.0**
comp=Z,1.8nm,0.8s,baz=257,slow=5.9,SNR=14
TOA1 Torodi Ar. Sit 33.69 232 *e*P **P 03 08 43.1 -1.3**
TOA0 Torodi Ar. Sit 33.69 232 *e*P **P 03 08 44.9 +0.5**
comp=Z,43nm,0.9s
TOA0 Torodi Ar. Sit 33.69 232 P **P 03 08 45.0 +0.5**
SNR=8.4

TORD Torodi Ar. Bea 33.69 232 P **P 03 08 43.1 -1.3**
comp=Z,53nm,1.0s,baz=32,slow=7.3,SNR=135
TORD S **S 03 14 06.7 -0.3**
comp=Z,1.7nm,1.1s,baz=45,slow=14,SNR=3.7
OTUK Ortayu 33.79 56 *i*P **P 03 08 44.5 -0.5**
OTUK pmax pmax
comp=Z,13nm,0.9s
ARSB Arslanbob 34.54 69 *e*P **P 03 08 50.1 -1.7**
comp=Z,16nm,1.4s
AAK Ala-Archa 35.49 66 *e*P **P 03 09 00.3 +0.3**
comp=Z,4.9nm,0.8s
AAK Ala-Archa 35.49 66 P **P 03 09 00.3 +0.3**
AAK Ala-Archa 35.49 66*ce*P **P 03 09 00.2 +0.2**
AAK pmax pmax
comp=Z,5.0nm,1.0s
TKM2 Tokmak 2 36.27 66 *i*P **P 03 09 06.0 -0.7**
TKM2 pmax pmax
comp=Z,8.0nm,1.3s
NIL Nilore 36.48 82 *e*P **P 03 09 09.1 +0.7**
comp=Z,21nm,1.3s
NIL Nilore 36.48 82 P **P 03 09 09.1 +0.7**
NIL pmax pmax
comp=Z,21nm,1.2s
BOOM Boomskoye usch 36.57 66 *e*P **P 03 09 10.0 +0.7**
comp=Z,4.4nm,1.0s
NRN Naryn 36.77 68 *e*P **P 03 09 11.4 +0.2**
comp=Z,5.2nm,1.0s
KSH Kashi 37.09 71 P **P 03 09 12.9 -0.8**
KSH pP sP 03 09 23.6 +2.5
KSH PP **PnPn 03 10 38.9 +0.4**
KSH S **S 03 14 52.8 -6.4**
KSH SS **SnSn 03 17 20.9 -12**
KSH pmax pmax
comp=Z,180nm,4.7s
KSH LR LR
comp=Z,230nm,9.0s
KSH LR LR
comp=Z,240nm,10.2s
MBAR Mbarara 37.47 176 *e*P **P 03 09 19.8 +2.8**
comp=Z,8.0nm,0.8s
MBAR Mbarara 37.47 176 P **P 03 09 19.8 +2.8**
MBAR pmax pmax
comp=Z,8.0nm,0.8s
KDJ Kajisay 37.53 67 *e*P **P 03 09 18.0 +0.5**
comp=Z,4.7nm,0.8s
KURK Kurchatov 37.98 53 *e*P **P 03 09 20.8 0.0**
comp=Z,13nm,1.0s
KURK Kurchatov 37.98 53*ce*P **P 03 09 20.7 -0.2**
KURK pmax pmax
comp=Z,22nm,1.7s
KURK Kurchatov 37.98 53 P **P 03 09 20.6 -0.2**
SNR=9.0
KURK P **P 03 09 20.6 -0.2**
SNR=9.0
KMBO Kilima Mbogo 38.81 166 *e*P **P 03 09 26.9 -1.5**
comp=Z,4.4nm,1.0s
KMBO Kilima Mbogo 38.81 166 *i*P **P 03 09 30.7 +2.3**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 38.81 166 P **P 03 09 26.9 -1.5**
comp=Z,1.0nm,0.4s,baz=47,slow=19,SNR=3.6
KMBO LR LR 03 26 27.2
comp=Z,251nm,19.5s,baz=311,slow=38
JMIC Jan Mayen 39.12 342 LR LR 03 25 55.5
comp=Z,304nm,19.5s,baz=119,slow=37
BORG Borgarnes 40.26 330 LR LR 03 27 49.7
comp=Z,503nm,19.9s,baz=114,slow=38
MAKZ Makanchi 40.35 59 *e*P **P 03 09 40.7 -0.1**
comp=Z,2.4nm,0.8s
MK31 Makanchi Array 40.57 59 *e*P **P 03 09 42.4 -0.2**
comp=Z,4.8nm,0.8s
MK31 Makanchi Array 40.57 59⇑*e*P **P 03 09 41.9 -0.7**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK32 Makanchi Array 40.57 59 *e*P **P 03 09 41.8 -0.8**
MKAR Makanchi Array 40.57 59 *e*P **P 03 09 42.2 -0.4**
MKAR Makanchi Array 40.57 59 *i*P **P 03 09 42.4 -0.2**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 40.57 59 P **P 03 09 41.8 -0.8**
comp=Z,5.0nm,0.8s,baz=280,slow=5.8,SNR=48
MKAR LR LR 03 31 23.8
comp=Z,282nm,19.7s,baz=276,slow=44
NVS Novosibirsk 40.93 46⇑*i*P **P 03 09 46.2 +0.8**
NVS *i* 03 11 24.0
NVS pmax pmax
comp=Z,46nm,1.6s
NVS pmax pmax
comp=N,10.0nm,1.5s
NVS pmax pmax
comp=E,11nm,1.2s
SPA0 Spitsbergen Ar 41.61 356 *e*P **P 03 09 53.2 +2.5**
comp=E,25nm,1.2s
SPITS Spitsbergen Ar 41.61 356 P **P 03 09 53.2 +2.5**
comp=E,5.7nm,1.0s,baz=140,slow=11,SNR=4.9
ZAA0 Zalesovo Array 41.83 48 *e*P **P 03 09 52.2 -0.6**
comp=E,4.0nm,0.8s
ZAA1 Zalesovo Array 41.83 48 *e*P **P 03 09 52.2 -0.6**
ZALV Zalesovo Beam 41.83 48 P **P 03 09 52.2 -0.6**
comp=E,2.3nm,0.6s,baz=267,slow=9.8,SNR=12
ZALV LR LR 03 30 52.1
comp=E,459nm,19.9s,baz=250,slow=41
KBS Kingsbay 42.59 355 *e*P **P 03 09 58.2 -0.4**
comp=E,25nm,1.3s
SCO Scoresbysund 42.61 338 *e*P **P 03 09 59.0 0.0**
comp=E,20nm,1.5s
DBIC Dimbokro 42.77 233 *e*P **P 03 10 01.1 +0.3**
comp=E,25nm,1.0s
DBIC Dimbokro 42.77 233 P **P 03 10 01.1 +0.3**
comp=E,16nm,0.8s,baz=24,slow=8.6,SNR=16
DBIC LR LR 03 31 30.4
comp=E,343nm,19.1s,baz=34,slow=41
TIC Toumodi 42.90 234 *e*P **P 03 10 03.0 +1.1**
KIC Kosan Boka 42.93 233 *e*P **P 03 10 02.2 0.0**
comp=E,82nm,1.2s
LIC Lamto 43.22 233 *e*P **P 03 10 04.7 +0.2**
comp=E,63nm,0.9s
WMQ Urumqi 44.81 62 *e*P **P 03 10 18.9 +1.8**
WMQ pP sP 03 10 30.1 +5.5
WMQ pmax pmax
comp=E,57nm,0.9s
WMQ pmax pmax
comp=E,260nm,3.9s
WMQ LR LR
comp=E,880nm,21.7s
WMQ LR LR
comp=E,660nm,24.7s
WMQ LR LR
comp=E,2μm,27.7s
NRIK Noril'sk 45.10 25 P **P 03 10 21.0 +2.1**
comp=E,5.5nm,0.5s,baz=257,slow=6.5,SNR=14
NRIK LR LR 03 32 06.1
comp=E,252nm,19.6s,baz=262,slow=40
PYUN Piuthan 46.31 85 *e*P **P 03 10 28.5 -0.9**
comp=E,23nm,0.7s
DANN Dangsing 46.82 84 *e*P **P 03 10 33.7 +0.2**
comp=E,158nm,1.0s
KOLN Koldanda 46.94 85 *e*P **P 03 10 34.2 -0.1**
comp=E,17nm,0.8s
HYB Hyderabad 48.08 100 *i*P **P 03 10 42.5 -0.5**
DMN Daman 48.21 84 *e*P **P 03 10 44.2 -0.1**
comp=E,29nm,0.8s
SUMG Summit 48.23 338 *i*P **P 03 10 42.9 -1.1**
SUMG Summit 48.23 338 *i*P **P 03 10 42.9 -1.1**
PKIN Phulchoki 48.46 84 *e*P **P 03 10 45.0 -1.2**
PKI Pulchoki 48.47 84 *e*P **P 03 10 44.8 -1.5**
JIRN Jiri 49.05 83 *e*P **P 03 10 49.7 -1.2**
RAMN Ramite 49.70 84 *e*P **P 03 10 54.6 -1.0**
comp=E,98nm,1.5s
SFJD Kangerlussuaq 52.35 331 LR LR 03 35 04.9
comp=E,168nm,18.0s,baz=88,slow=38
ZAK Zakamensk 53.55 50 *e*P **P 03 11 23.6 -0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
GTA Gaotai 54.78 64 *e*P **P 03 11 34.1 +1.0**
GTA pP sP 03 11 45.0 +4.4
GTA sP pP 03 11 49.6 +11
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,52nm,4.6s
GTA LR LR
comp=Z,210nm,17.5s
GTA LR LR
comp=Z,200nm,18.9s
GTA LR LR
comp=Z,160nm,20.6s

SONA0 Songino Array 56.28 52 *e*P **P 03 11 43.8 -0.1**
SONA0 *e*PcP **PcP 03 12 41.5 +0.4**
SONM Songino Array 56.28 52 P **P 03 11 43.8 0.0**
comp=Z,5.8nm,1.1s,baz=279,slow=8.6,SNR=19
SONM PcP **PcP 03 12 41.5 +0.4**
comp=Z,3.2nm,1.1s,baz=262,slow=4.4,SNR=5.1
ULN Ulaanbaatar 56.69 52 *e*P **P 03 11 47.1 +0.4**
comp=Z,8.8nm,1.2s
ULN Ulaanbaatar 56.69 52*ce*P **P 03 11 47.1 +0.4**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 56.69 52 P **P 03 11 47.1 +0.4**
SNR=5.3
TSUM Tsumeb 56.82 192 *e*P **P 03 11 49.1 +1.3**
comp=Z,18nm,0.9s
BOD Bodaibo 57.38 39 *e*P **P 03 11 50.7 -0.5**
BOD pmax pmax
comp=Z,23nm,1.1s
TIXI Tiksi 58.52 21 *e*P **P 03 11 59.0 0.0**
comp=Z,14nm,1.4s
TIXI Tiksi 58.52 21*ce*P **P 03 11 59.8 +0.8**
TIXI pmax pmax
comp=Z,12nm,1.7s
LZH Lanzhou 59.04 66 *e*P **P 03 12 03.6 +0.2**
LZH pP sP 03 12 15.4 +4.5
LZH sP pP 03 12 21.5 +13
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.6s
LZH LR LR
comp=Z,470nm,11.2s
LZH LR LR
comp=Z,390nm,13.1s
LZH LR LR
comp=Z,510nm,14.5s
FRB Frobisher Bay 60.43 329 LR LR 03 39 38.8
comp=Z,183nm,18.5s,baz=38,slow=37
CD2 Chengdu 61.29 71 P **P 03 12 19.0 +0.2**
CD2 pmax pmax
comp=Z,30nm,0.5s
LBTB Lobatse 61.73 183 *e*P **P 03 12 23.7 +2.1**
comp=Z,14nm,0.9s
LBTB Lobatse 61.73 183 *e*P **P 03 12 23.7 +2.1**
LBTB pmax pmax
comp=Z,14nm,0.9s
HHC Hu-ho-hao-te 62.43 58 *e*P **P 03 12 26.4 0.0**
HHC S **S 03 20 48.8 -4.0**
HHC pmax pmax
comp=Z,76nm,1.1s
HHC pmax pmax
comp=Z,220nm,6.4s
HHC LR LR
comp=Z,660nm,15.7s
HHC LR LR
comp=Z,740nm,16.6s
HHC LR LR
comp=Z,760nm,16.7s
RES Resolute Bay 62.56 346 LR LR 03 40 03.0
comp=Z,274nm,21.1s,baz=40,slow=36
KMI Kunming 63.32 78 P **P 03 12 34.9 +2.3**
KMI pmax pmax
comp=Z,20nm,0.5s
SCHQ Schefferville 63.49 320 LR LR 03 39 22.7
comp=Z,204nm,21.4s,baz=81,slow=35
CHTO Chiang Mai 63.59 86 *e*P **P 03 12 33.7 -0.5**
comp=Z,14nm,1.1s
CHTO Chiang Mai 63.59 86 *e*P **P 03 12 33.7 -0.5**
CHTO pmax pmax
comp=Z,14nm,1.1s
CHTO Chiang Mai 63.59 86 P **P 03 12 33.7 -0.5**
SNR=5.0
CMMT Chiang Mai 63.59 86 P **P 03 12 33.8 -0.5**
comp=Z,7.0nm,1.3s
XAN Xi'an 63.67 66 P **P 03 12 34.8 +0.1**
XAN pP sP 03 12 48.3 +6.1
XAN sP pP 03 12 54.8 +15
XAN pmax pmax
comp=Z,11nm,1.6s
XAN pmax pmax
comp=Z,82nm,3.6s
CM31 Chiang Mai Arr 63.78 86 *e*P **P 03 12 34.9 -0.6**
comp=Z,16nm,1.0s
CMAR Chiang Mai Arr 63.78 86 P **P 03 12 34.9 -0.6**
comp=Z,6.9nm,0.8s,baz=298,slow=8.0,SNR=32
PAYA Payao 64.03 85 P **P 03 12 37.1 -0.1**
comp=Z,43μm,1.0s
LAMP Lampang 64.29 86 P **P 03 12 39.1 +0.2**
PHRA Phrae 64.78 85 P **P 03 12 41.8 -0.3**
comp=Z,2.4nm,1.2s
BOSA Boshof 65.33 183 *e*P **P 03 12 47.0 +1.6**
comp=Z,28nm,1.4s
BOSA Boshof 65.33 183 *e*P **P 03 12 47.0 +1.6**
BOSA pmax pmax
comp=Z,28nm,1.4s
BOSA Boshof 65.33 183 P **P 03 12 46.0 +0.6**
comp=Z,5.4nm,0.7s,baz=352,slow=6.6,SNR=12
UTTA Uttaradit 65.45 86 P **P 03 12 48.0 +1.6**
GYA Guiyang 65.69 74⇑*i*P **P 03 12 47.5 -0.5**
GYA pP sP 03 13 01.3 +5.7
GYA PP **PP 03 15 13.0 +0.6**
GYA S **S 03 21 25.8 -7.8**
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,110nm,5.4s
SLVN Son La 66.19 81 *e*P **P 03 12 51.0 -0.3**
comp=Z,13nm,1.1s
NONG Nongkai 67.34 84 P **P 03 12 58.7 +0.2**
comp=Z,0.2nm,1.1s
PHET Kaeng Krachan 67.39 91 P **P 03 13 01.8 +2.9**
comp=Z,21μm,0.9s
CHAI Chaiyaphum 67.61 87 P **P 03 13 00.5 +0.3**
comp=Z,17μm,1.1s
TIA Tai'an 68.47 60 P **P 03 13 05.8 +0.4**
TIA pmax pmax
comp=Z,17nm,0.8s
SKNT Sakolnakorn 68.61 84 P **P 03 13 06.0 -0.5**
comp=Z,18nm,1.1s
PANO Nakornpanom 69.01 84 P **P 03 13 09.7 +0.7**
comp=Z,0.2nm,1.1s
WHN Wuhan 69.40 67 P **P 03 13 13.3 +2.1**
CN2 Changchun 69.99 50⇑P **P 03 13 15.4 +0.8**
CN2 *e*pP sP 03 13 26.3 +4.1
CN2 pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 70.62 16 *e*P **P 03 13 19.1 +1.0**
comp=Z,22nm,1.2s
BILL Bilibino 70.62 16 *i*P **P 03 13 18.3 +0.2**
BILL pmax pmax
comp=Z,27nm,1.4s
KLR Kul'dur 70.65 43 *i*P **P 03 13 18.8 +0.2**
KLR pmax pmax
comp=Z,12nm,1.0s
KLR Kul'dur 70.65 43 LR LR 03 49 05.4
comp=Z,239nm,18.2s,baz=258,slow=40
SEY Seymchan 70.84 24*ce*P **P 03 13 20.9 +1.4**
SEY Seymchan 70.84 24 P **P 03 13 21.1 +1.6**
comp=Z,11nm,0.9s,baz=293,slow=6.6,SNR=16
NJ2 Nanjing 71.87 63 *e*P **P 03 13 26.5 +0.2**
NJ2 pmax pmax
comp=Z,25nm,0.8s
GRNR Gornyy 72.20 39 *e*P **P 03 13 29.0 +1.0**
GRNR pmax pmax
comp=Z,21nm,1.0s
MA2 Magadan 72.68 27 *e*P **P 03 13 31.8 +1.1**
comp=Z,35nm,1.1s
MA2 Magadan 72.68 27*ce*P **P 03 13 32.1 +1.4**
MA2 pmax pmax
comp=Z,86nm,2.5s
NKL Nikolayevsk 72.81 36 *e*P **P 03 13 31.0 -0.5**
NKL pmax pmax
comp=Z,43nm,1.0s
RCBR Riachuelo 73.45 249 *e*P **P 03 13 36.7 +0.8**
USA0B Ussuriysk Arra 73.67 47 *e*P **P 03 13 36.8 0.0**
comp=Z,44nm,0.9s
USA0B Ussuriysk Arra 73.67 47 *e*P **P 03 13 36.8 0.0**
USA0B pmax pmax
comp=Z,44nm,0.9s
USRK Ussuriysk Ar. 73.67 47 P **P 03 13 36.6 -0.1**
comp=Z,36nm,0.9s,baz=293,slow=5.2,SNR=73
INK Inuvik 74.14 353 *e*P **P 03 13 39.0 -0.1**
comp=Z,16nm,1.4s
INK Inuvik 74.14 353 *e*P **P 03 13 39.0 -0.1**
INK pmax pmax
comp=Z,16nm,1.4s

INK	Inuvik	74.14	353	P	P	03 13 38.8	-0.3
	comp=Z,6.2nm,1.1s,baz=1.3,slow=6.6,SNR=11						
TOLK	Toolik Lake Re	74.67	359	eP	P	03 13 43.9	+1.6
	comp=Z,25nm,1.4s						
RDOG	Red Dog Mine	74.92	4	eP	P	03 13 44.7	+1.1
	comp=Z,29nm,1.3s						
KS15	Wonju Array Si	75.06	54	eP	P	03 13 45.9	+0.9
	comp=Z,41nm,1.1s						
KSRS	Korea Array	75.08	54	P	P	03 13 45.1	+0.1
	comp=Z,25nm,0.9s,baz=299,slow=5.2,SNR=51						
TJN	Taejon	75.33	55	ceP	P	03 13 46.8	+0.3
TEY	Ternei	75.80	44	‖iP	P	03 13 48.7	-0.4
TEY				pmax	pmax		
	comp=Z,30nm,1.0s						
TEY				pmax	pmax		
	comp=N,10.0nm,1.1s						
COLD	Coldfoot	76.10	359	eP	P	03 13 51.3	+0.9
	comp=N,19nm,1.1s						
EPYK	Eagle Plains	76.33	354	eP	P	03 13 51.9	+0.1
	comp=N,20nm,1.4s						
YKW3	Yellowknife Ar	76.43	343	eP	P	03 13 51.8	-0.5
	comp=N,12nm,1.4s						
YKA	Yellowknife Ar	76.48	343	iP	P	03 13 52.1	-0.6
YKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YKA	Yellowknife Ar	76.48	343	P	P	03 13 51.7	-0.9
	comp=Z,3.3nm,1.1s,baz=33,slow=5.4,SNR=28						
YKA				LR	LR	03 48 45.6	
	comp=Z,12nm,20.5s,baz=32,slow=37						
YKB5	Yellowknife Ar	76.48	343	eP	P	03 13 51.7	-0.9
FYU	Fort Yukon	76.65	357	eP	P	03 13 55.4	+1.9
	comp=Z,65nm,1.4s						
PRP	Porcupine Dome	77.71	357	eP	P	03 14 01.0	+1.3
	comp=Z,21nm,1.2s						
YSS	Yuzh-Sakhalins	77.85	40	eP	P	03 14 02.0	+1.4
	comp=Z,65nm,1.0s						
YSS	Yuzh-Sakhalins	77.85	40	diP	P	03 14 01.4	+0.8
YSS				eS	S	03 23 51.2	-1.5
YSS				ePPS	PPS	03 24 43.4	
YSS				pmax	pmax		
	comp=Z,300nm,2.1s						
EGAK	Eagle	78.23	355	eP	P	03 14 03.1	+0.7
	comp=Z,6.4nm,1.0s						
MLY	Manley	78.31	360	eP	P	03 14 03.9	+1.0
	comp=Z,18nm,1.1s						
MDM	Murphy Dome	78.35	359	eP	P	03 14 03.8	+0.7
	comp=Z,42nm,1.2s						
COLA	College	78.42	358	eP	P	03 14 04.7	+1.3
	comp=Z,36nm,1.4s						
COLA	College	78.42	358	eP	P	03 14 04.7	+1.3
COLA				pmax	pmax		
	comp=Z,36nm,1.4s						
ILAR	Eielson Array	78.50	358	P	P	03 14 04.0	+0.1
	comp=Z,3.8nm,0.9s,baz=355,slow=3.7,SNR=33						
ILB	Eielson Array	78.50	358	eP	P	03 14 05.0	+1.1
	comp=Z,16nm,1.3s						
CCB	Clear Creek Bu	78.65	358	eP	P	03 14 05.3	+0.6
	comp=Z,22nm,1.2s						
DAWY	Dawson	78.81	355	eP	P	03 14 06.6	+0.9
	comp=Z,25nm,1.1s						
WRH	Wood River Hil	78.83	358	eP	P	03 14 06.0	+0.3
	comp=Z,31nm,1.0s						
HDA	Harding Lake	78.87	358	eP	P	03 14 06.5	+0.5
	comp=Z,29nm,1.0s						
FFC	Flin Flon	79.22	333	eP	P	03 14 07.2	-0.8
	comp=Z,4.9nm,0.9s						
FFC	Flin Flon	79.22	333	iP	P	03 14 07.6	-0.4
BPAW	Bear Paw Mtn.	79.24	360	eP	P	03 14 08.4	+0.3
	comp=Z,17nm,1.0s						
RIDG	Independent Ri	79.46	357	eP	P	03 14 10.3	+1.0
	comp=Z,28nm,1.2s						
DOT	Dot Lake	79.52	357	eP	P	03 14 10.7	+1.1
	comp=Z,24nm,1.1s						
PEA1	Petropavlovsk-	80.07	28	eP	P	03 14 11.1	-1.6
PETK	Petropavlovsk-	80.07	28	P	P	03 14 11.1	-1.6
	comp=Z,7.1nm,1.0s,baz=48,slow=2.2,SNR=8.0						
MENT	Mentasta	80.21	356	eP	P	03 14 15.1	+1.8
	comp=Z,14nm,0.9s						
DHY	Denali Highway	80.21	358	eP	P	03 14 14.1	+0.6
	comp=Z,31nm,1.1s						
ULM	Lac du Bonnet	80.22	327	eP	P	03 14 12.2	-1.4
	comp=Z,11nm,1.3s						
ULM	Lac du Bonnet	80.22	327	eP	P	03 14 12.2	-1.4
ULM				pmax	pmax		
	comp=Z,11nm,1.3s						
ULM	Lac du Bonnet	80.22	327	P	P	03 14 12.2	-1.4
	comp=Z,5.8nm,1.1s,baz=18,slow=6.5,SNR=6.5						
ULM				LR	LR	03 50 50.1	
	comp=Z,238nm,19.0s,baz=7.5,slow=36						
HARP	HAARP	80.81	357	eP	P	03 14 18.2	+1.7
	comp=Z,13nm,0.8s						
SML	Sawmill	81.51	358	eP	P	03 14 21.0	+0.7
	comp=Z,53nm,1.5s						
SML	Sawmill	81.51	358	eP	P	03 14 21.0	+0.7
SML				pmax	pmax		
	comp=Z,53nm,1.5s						
GHO	Glory Hole Cre	81.56	359	eP	P	03 14 21.4	+0.8
	comp=Z,40nm,1.0s						
WHY	Whitehorse	81.73	352	eP	P	03 14 21.7	+0.1
	comp=Z,10.0nm,1.2s						
PMR	Palmer	81.74	359	eP	P	03 14 22.2	+0.8
	comp=Z,45nm,1.2s						
PMR	Palmer	81.74	359	eP	P	03 14 22.2	+0.8
PMR				pmax	pmax		
	comp=Z,45nm,1.2s						
KNK	Knik Glacier	81.91	358	eP	P	03 14 23.3	+0.9
	comp=Z,37nm,1.1s						
BALM	Baldy	82.03	355	eP	P	03 14 24.1	+1.0
	comp=Z,27nm,1.1s						
BALM	Baldy	82.03	355	eP	P	03 14 24.1	+1.0
BALM				pmax	pmax		
	comp=Z,27nm,1.1s						
CTGM	Chitina Glacie	82.03	355	eP	P	03 14 24.1	+0.9
	comp=Z,18nm,1.3s						
MJB9	Matsu-Tunnel	82.13	50	eP	P	03 14 24.5	+0.5
	comp=Z,32nm,1.0s						
MAJO	Matsushiro	82.13	50	eP	P	03 14 24.4	+0.4
	comp=Z,30nm,1.0s						
MAJO	Matsushiro	82.13	50	eP	P	03 14 24.4	+0.4
MAJO				pmax	pmax		
	comp=Z,31nm,1.0s						
MAT	Matsushiro	82.13	50	P	P	03 14 24.0	0.0
MJAR	Matsushiro Arr	82.14	50	P	P	03 14 24.8	+0.7
	comp=Z,36nm,0.9s,baz=304,slow=5.2,SNR=55						
SVW2	Sparrevohn	82.20	2	eP	P	03 14 25.2	+1.3
	comp=Z,18nm,1.0s						
RC01	Rabbit Creek A	82.25	359	eP	P	03 14 25.0	+0.9
	comp=Z,29nm,0.9s						
RSO	Redoubt South	82.89	1	eP	P	03 14 27.9	+0.2
DLBC	Dease Lake	83.23	349	eP	P	03 14 30.8	+1.5
	comp=Z,8.8nm,1.1s						
SEW	Seward	83.24	359	eP	P	03 14 30.2	+0.9
	comp=Z,23nm,0.9s						
L40A	Anamosa	83.97	319	eP	P	03 14 32.3	-1.1
	comp=Z,15nm,0.9s						
JIS	Juneau Island	84.00	351	eP	P	03 14 35.0	+1.8
	comp=Z,15nm,1.2s						
CPCT	Cooper Cave	84.77	311	eP	P	03 14 38.1	+0.6
	comp=Z,29nm,1.4s						
T47A	Sharon Grove	85.25	314	eP	P	03 14 39.6	-0.3
	comp=Z,11nm,1.0s						
SIT	Sitka	85.31	351	eP	P	03 14 42.2	+2.4
	comp=Z,15nm,1.1s						
SIT	Sitka	85.31	351	eP	P	03 14 42.2	+2.4
SIT				pmax	pmax		
	comp=Z,15nm,1.1s						
W50A	Signal Mountai	85.41	311	eP	P	03 14 41.3	+0.4
	comp=Z,15nm,1.1s						
CLTN	Cedars of Leba	85.41	312	eP	P	03 14 41.3	+0.5
	comp=Z,4.5nm,1.2s						
WRAK	Wrangell Islan	85.52	349	eP	P	03 14 42.1	+1.2
	comp=Z,15nm,1.0s						
Y52A	Lilburn	85.55	310	eP	P	03 14 41.8	+0.2
	comp=Z,20nm,1.1s						
KDAK	Kodiak Island	85.58	1	iP	P	03 14 42.2	+1.0
RIB01	Linhares ES	85.62	242	eP	P	03 14 42.8	+0.9
BSFB	Barra de Sao F	85.62	243	eP	P	03 14 43.0	+1.1
JANB	Januaria	85.70	248	eP	P	03 14 43.6	+1.2
SJMB	Sao Joao De Ma	85.78	243	eP	P	03 14 43.0	+0.3
V48A	Smith Brothers	85.94	312	eP	P	03 14 42.6	-0.9
	comp=Z,10nm,1.4s						
WVT	Waverly	86.27	313	eP	P	03 14 43.5	-1.5
	comp=Z,15nm,1.4s						
WVT	Waverly	86.27	313	eP	P	03 14 43.5	-1.5
WVT				pmax	pmax		
	comp=Z,15nm,1.4s						
MCI8	Montes Claros	86.43	246	eP	P	03 14 47.2	+1.1
MCI9	Montes Claros	86.44	246	eP	P	03 14 46.8	+0.7
FVM	French Village	86.44	316	eP	P	03 14 45.2	-0.6
	comp=Z,9.2nm,1.0s						
FVM	French Village	86.44	316	eP	P	03 14 45.3	-0.6
FVM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MCI6	Montes Claros	86.51	246	eP	P	03 14 47.4	+1.0
152A	Waverly Hall	86.76	309	eP	P	03 14 47.9	+0.4
	comp=Z,23nm,1.0s						
CCM	Cathedral Cave	86.84	317	eP	P	03 14 47.1	-0.7
	comp=Z,8.2nm,0.9s						
CCM	Cathedral Cave	86.84	317	eP	P	03 14 47.1	-0.7
CCM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TIGA	Tifton	86.87	307	eP	P	03 14 48.5	+0.4
	comp=Z,55nm,1.4s						
LAO	LASA Array	87.29	331	eP	P	03 14 50.1	+0.2
	comp=Z,18nm,0.9s						
PBMO	Poplar Bluff	87.30	315	eP	P	03 14 49.5	-0.6
	comp=Z,12nm,1.0s						
EGMT	Eagleton	87.50	333	eP	P	03 14 50.1	-0.8
	comp=Z,25nm,1.2s						
LRAL	Lakeview Retre	87.91	311	eP	P	03 14 52.8	-0.2
	comp=Z,10.0nm,1.1s						
BGNE	Belgrade	87.94	323	eP	P	03 14 52.8	-0.3
	comp=Z,32nm,1.1s						
BDFB	Brasilia	88.83	250	P	P	03 14 59.2	+1.6
	comp=Z,14nm,0.9s,baz=63,slow=4.9,SNR=18						
PTGA	Pitinga	89.14	268	eP	P	03 14 60.0	+0.9
	comp=Z,12nm,1.2s						
PTGA	Pitinga	89.14	268	P	P	03 14 59.5	+0.4
	comp=Z,2.8nm,0.7s,baz=85,slow=7.7,SNR=4.6						
PTGA	Pitinga	89.14	268	eP	P	03 14 59.4	+0.3
VAS01	Vassouras-RJ	89.71	242	eP	P	03 15 02.1	+0.6
BOZ	Bozeman (W)	90.24	333	eP	P	03 15 03.9	-0.1
	comp=Z,3.8nm,0.9s						
BOZ	Bozeman (W)	90.24	333	eP	P	03 15 03.9	-0.1
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YHH	Holmes Hill	90.65	332	eP	P	03 15 06.7	+0.6
	comp=Z,4.6nm,1.2s						
MIAR	Mount Ida	90.68	316	eP	P	03 15 05.8	-0.2
	comp=Z,13nm,1.2s						
MIAR	Mount Ida	90.68	316	eP	P	03 15 05.8	-0.2
MIAR				pmax	pmax		
	comp=Z,13nm,1.2s						
YPP	Pitchstone Pla	91.07	332	eP	P	03 15 09.9	+1.8
	comp=Z,5.2nm,1.2s						
SDV	Santo Domingo	91.86	282	eP	P	03 15 11.7	-0.3
	comp=Z,7.1nm,0.8s						
SDV	Santo Domingo	91.86	282	P	P	03 15 11.3	-0.7
	comp=Z,4.8nm,0.7s,baz=14,slow=2.9,SNR=7.4						
SDV	Santo Domingo	91.86	282	eP	P	03 15 11.8	-0.3
PD31	Pinedale Array	91.87	330	eP	P	03 15 10.0	-1.7
	comp=Z,1.4nm,0.9s						
PDAR	Pinedale Array	91.87	330	P	P	03 15 10.0	-1.7
	comp=Z,0.6nm,0.7s,baz=57,slow=3.3,SNR=5.4						
PDAR				LR	LR	03 58 54.5	
	comp=Z,166nm,18.2s,baz=38,slow=37						
CLDB	Colider	91.89	258	eP	P	03 15 12.4	+0.5
RCLB	Rio Claro- Sao	92.71	244	eP	P	03 15 17.5	+2.0
ITRB	Iturama	93.09	248	eP	P	03 15 18.9	+1.6
SPB	Sao Paulo	93.37	243	eP	P	03 15 20.4	+2.0
SDCO	Great Sand Dun	94.30	325	eP	P	03 15 21.5	-1.5
	comp=Z,3.9nm,1.3s						
ELK	Elko	95.76	333	eP	P	03 15 29.7	+0.1
	comp=Z,1.7nm,1.0s						
ELK	Elko	95.76	333	eP	P	03 15 29.7	+0.1
ELK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MOD	Modoc Plateau	96.44	337	eP	P	03 15 32.8	+0.2
	comp=Z,5.3nm,1.2s						
NVAR	Mina Array Bea	98.91	334	LR	LR	04 01 49.4	
	comp=Z,157nm,21.7s,baz=20,slow=36						
TXAR	Lajitas Array	100.17	319	P	Pdif	03 15 48.4	-1.1
	comp=Z,0.7nm,1.0s,baz=69,slow=4.3,SNR=5.4						
ASAR	Alice Springs	115.80	101	PKP	PKPdf	03 20 45.1	-0.9
	comp=Z,0.8nm,0.8s,baz=335,slow=1.1,SNR=7.0						
AS31	Alice Springs	115.80	101	ePKPdf	PKPdf	03 20 45.1	-0.9
CTA	Charters Tower	123.78	91	PKP	PKPdf	03 21 01.4	0.0
	comp=Z,2.7nm,0.9s,baz=259,slow=5.2,SNR=3.2						
QSPA	South Pole Qui	126.84	180	ePKPdf	PKiKP	03 21 07.0	+0.6
QSPA	South Pole Qui	126.84	180	PKP	PKPdf	03 21 05.4	-0.5
	comp=Z,5.6nm,1.0s,baz=269,slow=1.2,SNR=19						
FOZ	Fox Glacier	150.03	115	ePKPbc	PKiKP	03 21 54.7	+0.4

IDC ***16*** *03:07:06.8±1.2, 36°.97N×28°.44E, h0km, mb3.6/3, mb1 3.7/7, mb1mx3.4/45, mbtmp3.6/7, ML3.4/4, Error ellipse: s-maj=24.1km s-min=17.0km az=145.0*
ISK ***16*** *03:07:07.2, 37°.01N×28°.42E, h5km, ML3.6/25*
ISCJB ***16*** *03:07:08.5±0.4, 37°.02N±0°.02×28°.39E±0°.02, h6km±3km, mb3.4/3, Error ellipse: s-maj=3.3km s-min=3.0km az=25.5*
THE ***16*** *03:07:08.7, 36°.95N×28°.36E, h2km±2km, ML3.1/3, Error ellipse: s-maj=2.9km s-min=1.0km az=192.0*
ATH ***16*** *03:07:08.2, 37°.04N×28°.39E, h18km±1km, ML3.2/1, Error ellipse: s-maj=2.5km s-min=1.2km az=68.0*
DDA ***16*** *03:07:08.0, 37°.05N×28°.41E, h6km±6km, ML3.4*
ISC 16 03:07:08.9±1.0, 37°.02N±0°.02×28°.39E±0°.02, h13km±7km, n72, σ1§04/89, mb3.7/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	Turunc	0.22	131	PG	Pg	03 07 13.8	+0.1
TURN				SG	Sb	03 07 18.7	-0.1
TURN	Turunc	0.22	131	IAML_P			
	comp=Z,81μm,0.2s						
TURN				iP	Pb	03 07 14.4	-0.4
DALY	Dalyan (Mula)	0.29	134	PG	Pg	03 07 13.7	-1.2
DALY	Dalyan (Mula)	0.29	134	IAML_P			
	comp=Z,30μm,0.2s						
DALY				iP	Pg	03 07 13.9	-1.0
MRSB	Marmaris-Mugla	0.34	208	PG	Pg	03 07 14.6	-1.2
BBRN	Bozburun-Marma	0.43	218	PG	Pg	03 07 17.3	-0.2
BBRN				SG	Sb	03 07 24.4	-0.5
TAVA	DENIZLI_Tavas	0.61	43	IAML_P			
	comp=Z,9μm,0.2s						
TAVA				iP	Pg	03 07 20.7	-0.1
DATC	Datca-Mugla	0.64	246	PG	Pg	03 07 20.8	-0.6
FETY	Fethiye	0.67	124	PG	Pg	03 07 20.8	-1.2
FETY	Fethiye	0.67	124	P	Pg	03 07 21.1	-0.9
FETY				S	Sg	03 07 31.3	+0.4
FETY	Fethiye	0.67	124	iP	Pg	03 07 21.5	-0.5
DAT	Datca	0.71	246	PG	Pg	03 07 22.9	+0.1
DAT	Datca	0.71	246	IAML_P			
	comp=Z,2μm,0.2s						
DAT				iP	Pg	03 07 23.0	+0.1
AYDN	Tasoluk	0.76	328	iP	Pb	03 07 23.8	-0.3
AYDN				iS	Sb	03 07 34.2	-0.2
BDRM	Kayabasi	0.76	274	iP	Pg	03 07 23.2	-0.5
ARG	Arkhangelos	0.83	195	PG	Pg	03 07 24.3	-0.7
ARG	Arkhangelos	0.83	195	P	Pg	03 07 23.7	-1.2
ARG				S	Sg	03 07 34.9	-0.9
ARG	Arkhangelos	0.83	195	P	Pg	03 07 23.7	-1.2
ARG				S	Sb	03 07 36.7	+0.4
ARG				AML	AML	03 07 41.0	
	comp=N,3213μm,0.5s						
ARG				AML	AML	03 07 44.0	
	comp=E,3094μm,0.9s						
BODT	Bodrum	0.87	273	PG	Pb	03 07 26.2	+0.3
BODT	Bodrum	0.87	273	P	Pg	03 07 24.9	-0.8
BODT				S	Sb	03 07 38.3	+0.9
DENT	Denizli	0.89	35	PG	Pg	03 07 24.8	-1.4
AYDB	Zeytinkoy-Aydi	1.01	337	PG	Pb	03 07 27.9	-0.4
GCAM	G?zelcaml?	1.15	307	PN	Pg	03 07 30.9	-0.1
GCAM	G?zelcaml?	1.15	307	IAML_P			
	comp=Z,14μm,0.2s						
GCAM				iP	Pg	03 07 31.9	+1.0
GCAM				iS	Sn	03 07 46.7	+0.4
ELL	Elmali	1.25	102	PN	Pn	03 07 32.1	-0.1
AKAS	Kas	1.25	128	PN	Pn	03 07 32.2	-0.1
AKAS	Kas	1.25	128	IAML_P			
	comp=Z,12μm,0.3s						
AKAS				iP	Pg	03 07 33.0	0.0
AKAS				iS	Sg	03 07 54.5	+5.2
KSL	Kastellorizon	1.29	132	P	Pb	03 07 33.1	0.0
KSL				S	Sg	03 07 50.5	-0.1
KSL	Kastellorizon	1.29	132	P	Pb	03 07 33.0	0.0
SMG	Samos	1.42	299	P	Pn	03 07 34.7	+0.2
SMG				S	Sg	03 07 54.1	-0.5
SMG	Samos	1.42	299	P	Pn	03 07 34.7	+0.2
MANT	Manisa	1.48	5	IAML_P			
	comp=Z,4μm,0.3s						
MANT				iP	Pb	03 07 36.5	+0.1
MANT				iS	Sb	03 07 55.4	+0.3
BRDR	BURDUR-Merkez	1.49	63	IAML_P			
	comp=Z,5μm,0.5s						
BRDR				iP	Pg	03 07 37.3	-0.3
KULA	Kula-Manisa	1.51	8	PN	Pb	03 07 36.3	-0.6
KULA	Kula-Manisa	1.51	8	P	Pb	03 07 36.2	-0.6
KULA				S	Sg	03 07 56.9	-0.6
KORT	Korkueli	1.57	90	PN	Pb	03 07 37.3	-0.6
KORT	Korkueli	1.57	90	iP	Pg	03 07 39.5	+0.5
DGB	zmir	1.58	311	IAML_P			
	comp=Z,4μm,0.2s						
DGB				iP	Pn	03 07 37.0	+0.3
KHAL	Karahalli	1.61	33	IAML_P			
	comp=Z,3μm,0.5s						
KHAL				iP	Pn	03 07 37.3	+0.2
AKUM	Antalya-Kumluc	1.71	113	iP	Pg	03 07 41.6	-0.2
GOMA	Golmarmara-Man	1.73	348	PN	Pb	03 07 39.8	-0.7
USAK	Uak-Merkez	1.76	16	IAML_P			
	comp=Z,2μm,0.5s						
USAK				iP	Pb	03 07 40.5	-0.7
USAK				iS	Sb	03 08 03.4	+0.2
KARP	Karpathos	1.77	214	PN	Pn	03 07 40.3	+0.9
KARP	Karpathos	1.77	214	P	Pb	03 07 40.4	-0.9
BCK	Bucak	1.81	75	PN	Pn	03 07 40.8	+0.9
KZIL	AFYON_Kizioren	1.86	48	iP	Pb	03 07 42.0	-0.9
AKHS	Akhisar	1.91	346	IAML_P			
	comp=Z,2μm,0.3s						
AKHS				iP	Pn	03 07 41.8	+0.6
URLA	Izmir	1.96	314	PN	Pb	03 07 43.2	-1.2
AMGA	Amorgos Island	2.01	265	P	Pn	03 07 43.6	+1.0
BAGO	Egridir - ISPA	2.14	62	iP	Pb	03 07 46.6	-1.0
GEDZ	Gediz	2.17	21	PN	Pn	03 07 45.9	+1.0
ANAF	Anafi Island	2.21	253	P	Pn	03 07 45.8	+0.5
APE	Apeiranthos	2.29	272	PN	Pn	03 07 47.3	+0.8
APE	Apeiranthos	2.29	272	P	Pn	03 07 47.3	+0.8
SHUT	Suhut-Afyon	2.29	48	PN	Pn	03 07 47.6	+1.0
CHOS	Chios island	2.30	307	PN	Pn	03 07 47.6	+0.9
CHOS	Chios island	2.30	307	P	Pn	03 07 47.4	+0.7
CHOS	Chios island	2.30	307	P	Pn	03 07 47.4	+0.7
ZKR	Zakros	2.59	223	PN	Pn	03 07 52.2	+1.6
ZKR	Zakros	2.59	223	P	Pn	03 07 52.1	+1.5
NPS	Neapolis	2.85	233	P	Pn	03 07 55.5	+1.3
LAST	Lasithi	3.00	233	P	Pn	03 07 57.3	+1.0
IDI	Anoyia	3.32	240	Pn	Pn	03 08 02.1	+1.4
	comp=Z,2.8nm,0.3s,baz=57,slow=18,SNR=3.1						
IDI				Sn	Sn	03 08 41.7	+1.7
	baz=281,slow=16						
DION	Dionisos Attik	3.70	288	P	Pn	03 08 07.4	+1.6
LIA	Limnos Island	3.82	320	P	Pn	03 08 08.6	+1.1
SMTH	Samothraki Isl	4.11	328	P	Pn	03 08 12.5	+1.0
BRTR	Keskin Array B	4.93	55	Pn	Pn	03 08 25.1	+2.2
	comp=Z,1.2nm,0.3s,baz=238,slow=15,SNR=10						
BRTR				Sn	Sn	03 09 20.6	+0.8
	comp=Z,0.2nm,0.3s,baz=231,slow=30,SNR=2.5						
MMAI	Mount Meron Ar	7.00	123	Pn	Pn	03 08 50.7	-0.5
	comp=Z,2.7nm,0.3s,baz=307,slow=12,SNR=6.1						
MMAI				Sn	Sn	03 10 08.3	-2.5
	comp=Z,2.3nm,0.3s,baz=298,slow=23,SNR=3.1						
MLR	Muntele Rosu	8.66	348	Pn	Pn	03 09 15.1	+1.0
	comp=Z,0.1nm,0.3s,baz=142,slow=19,SNR=1.3						
FINES	FINESS Array B	24.49	357	P	P	03 12 27.0	-0.6
	comp=Z,1.8nm,0.9s,baz=183,slow=16,SNR=2.3						
TORD	Torodi Ar. Bea	33.69	232	P	P	03 13 48.9	-1.0
	comp=Z,0.8nm,0.6s,baz=30,slow=8.9,SNR=6.7						
MKAR	Makanchi Array	40.57	59	P	P	03 14 48.2	+0.1
	comp=Z,0.2nm,0.6s,baz=280,slow=4.2,SNR=2.3						

IDC 16 03:07:42.9±1.9, 5°.69S×150°.69E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/25, mbtmp3.7/4, Error ellipse: s-maj=75.0km s-min=25.6km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.30	227	P	P	03 12 29.4	-1.9
	4.3nm,0.4s,baz=52,slow=12,SNR=22						
ASAR	Alice Springs	24.10	220	P	P	03 13 01.6	+1.2
	1.2nm,0.4s,baz=48,slow=8.2,SNR=19						
SONM	Songino Array	65.98	329	P	P	03 18 32.0	+0.7
	0.3nm,0.6s,baz=114,slow=7.0,SNR=3.0						
ILAR	Eielson Array	83.77	22	P	P	03 20 12.9	-0.9
	0.1nm,0.5s,baz=247,slow=4.9,SNR=4.0						

ISCJB ***16*** *03:18:21.6±0.3, 52°.91S±0°.05×22°.2E±0°.1, h10km, mb5.0/37, MS4.7/24, Error ellipse: s-maj=8.9km s-min=6.8km az=11.1*
IDC ***16*** *03:18:21.3±0.4, 52°.96S×22°.36E, h0km, mb4.6/20, mb1 4.7/20, mb1mx4.6/36, mbtmp4.6/20, MS4.6/18, Ms1 4.6/18, ms1mx4.5/26, Error ellipse: s-maj=17.5km s-min=13.1km az=80.0*
BJI ***16*** *03:18:23.6±0.0, 53°.10S×22°.20E, h16km, Ms5.0/2, Ms7 4.8/3*
NEIC ***16*** *03:18:23.9±2.6, 52°.93S×22°.28E, h16km±3km, mb5.3/32, Error ellipse: s-maj=15.0km s-min=13.0km az=91.0*
GCMT ***16*** *03:18:24.9±0.1, 53°.14S±0°.01×22°.55E±0°.02, h12km, MW5.3/94, Moment Tensor Solution. s50,c73; s94,c177; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr=1.12±.02; Mθθ1.11±.02; Mφφ0.01±.02; Mrθ0.09±.05; Mθφ-0.14±.01; Mφr-0.17±.05; Best double couple: M0=1.14000×10^17 NP1:φs285.00000°, δ48.00000°, λ-80.00000°. NP2:φs89.00000°, δ43.00000°, λ-102.00000°. Principal axes: T 1.1330, Plg3.0000°, Azm8.0000°; N 0.0200, Plg8.0000°, Azm98.0000°; P -1.1470, Plg82.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
**ISC 16 03:18:22.7±0.3, 52°.96S±0°.05×22°.40E±0°.08, h10km, n397, σ1§53/381, mb5.0/36, MS4.8

LBTB LR LR 03 33 36.7
comp=Z,3µm,20.9s,baz=186,slow=33
TSUM Tsumeb 33.90 352 *eP* **P 03 25 03.4 -2.5**
57nm,1.8s
HOPE Hope Point 34.07 244 *eP* **P 03 25 05.5 -1.3**
42nm,1.1s
QSPA South Pole Qui 37.26 180 *eP* **P 03 25 34.5 +0.1**
265nm,1.4s
QSPA *eP*PP **PP 03 26 58.0 -1.0**
QSPA South Pole Qui 37.26 180 P **P 03 25 34.6 +0.3**
38nm,0.8s,baz=252,slow=1.0,SNR=91
LSZ Lusaka 37.88 9 *eP* **P 03 25 38.6 -1.3**
44nm,1.7s
VNDA Vanda 47.37 169 *eP* **P 03 26 56.8 +0.5**
22nm,1.2s
VNDA *eP*PP **PP 03 28 51.6 +4.6**
VNDA Vanda 47.37 169 P **P 03 26 56.7 +0.5**
4.7nm,1.1s,baz=231,slow=11,SNR=9.8
VNDA PP **PP 03 28 49.4 +2.3**
9.9nm,1.2s,baz=227,slow=12,SNR=6.7
VNDA LR LR 03 46 26.1
comp=Z,2µm,20.1s,baz=207,slow=36
SBA Scott Base 47.62 170 *eP* **P 03 26 59.8 +1.6**
86nm,1.4s
SBA *eP*PP **PP 03 28 50.7 +1.4**
H10S2 ASCENSION HYDR 53.11 312 T T 04 25 13.0
baz=153,slow=75,SNR=42
KMBO Kilima Mbogo 53.12 19 LR LR 03 49 14.2
comp=Z,1µm,19.2s,baz=178,slow=35
H10S3 ASCENSION HYDR 53.13 312 T T 04 25 10.6
baz=153,slow=75,SNR=18
H10S1 ASCENSION HYDR 53.13 312 T T 04 25 16.2
baz=153,slow=75,SNR=40
TRQA Tornquist 57.61 248 *eP* **P 03 28 12.2 -0.5**
53nm,1.3s
PLCA Paso Flores 60.40 241 *eP* **P 03 28 31.7 -0.4**
29nm,1.4s
PLCA Paso Flores 60.40 241 P **P 03 28 31.6 -0.4**
7.0nm,1.0s,baz=168,slow=7.1,SNR=6.7
PLCA LR LR 03 52 32.8
comp=Z,188nm,19.5s,baz=158,slow=34
H08N3 Diego Garcia H 60.98 58 T T 04 34 05.8
SNR=70
H08N1 Diego Garcia H 61.00 59 T T 04 34 04.2
SNR=63
H08N2 Diego Garcia H 61.00 58 T T 04 34 10.5
SNR=37
CPUP Villa Florida 63.38 261 *eP* **P 03 28 51.9 -0.2**
47nm,1.4s
CPUP Villa Florida 63.38 261 P **P 03 28 51.4 -0.8**
6.1nm,0.9s,baz=136,slow=5.0,SNR=7.1
CPUP LR LR 03 51 08.3
comp=Z,191nm,21.1s,baz=132,slow=31
DBIC Dimbokro 63.75 330 LR LR 03 50 11.9
comp=Z,617nm,21.8s,baz=139,slow=30
H01W2 Cape Leeuwin H 64.00 114 T T 04 39 09.4
baz=221,slow=75,SNR=5.9
H01W3 Cape Leeuwin H 64.01 114 T T 04 39 11.8
baz=221,slow=75,SNR=5.3
H01W1 Cape Leeuwin H 64.01 114 T T 04 39 14.9
baz=221,slow=75,SNR=5.3
BDFB Brasilia 65.87 276 *eP* **P 03 29 08.1 -0.6**
58nm,1.8s
BDFB Brasilia 65.87 276 P **P 03 29 09.5 +0.8**
5.8nm,0.9s,baz=110,slow=4.0,SNR=6.4
PEL Peldehue 66.04 246 *eP* **P 03 29 09.3 -0.2**
75nm,1.5s
NWAO Narrogin (SRO) 67.18 115 LR LR 03 52 10.2
comp=Z,351nm,21.5s,baz=235,slow=30
TOA0 Torodi Ar. Sit 68.21 338 *eP* **P 03 29 22.7 -0.5**
7.4nm,0.9s
TORD Torodi Ar. Bea 68.21 338 P **P 03 29 23.0 -0.3**
3.4nm,0.8s,baz=179,slow=2.8,SNR=20
TORD LR LR 03 53 14.1
comp=Z,470nm,22.0s,baz=200,slow=31
TOA1 Torodi Ar. Sit 68.21 338 *eP* **P 03 29 23.0 -0.3**
GIRL Giralia 73.33 105 *eP* **P 03 29 54.1 -0.4**
234nm,1.4s
GO01 Chusmiza 75.49 257 *eP* **P 03 30 08.2 +0.4**
31nm,1.3s
PB11 IPOC Station P 75.69 256 *eP* **P 03 30 08.8 +0.3**
66nm,1.4s
TAM Tamanrasset 76.85 344 *eP* **P 03 30 16.1 +1.3**
7.5nm,1.0s
BBOO Buckleboo 77.00 128 *eP* **P 03 30 16.6 +1.0**
111nm,1.9s
LPAZ La Paz 77.49 260 *eP* **P 03 30 19.7 +0.5**
40nm,1.5s
LPAZ La Paz 77.49 260 P **P 03 30 19.7 +0.5**
4.0nm,1.1s,baz=49,slow=2.3,SNR=11
LPAZ LR LR 04 03 22.1
comp=Z,61nm,18.8s,baz=118,slow=35
LBZ Lake Benmore 79.16 157 *eP* **P 03 30 24.2 -3.1**
46nm,1.5s
PPSI Pulau Pagai 80.34 82 P **P 03 30 30.3 -3.9**
STKA Stephens Creek 80.36 131 *eP* **P 03 30 35.2 +1.1**
7.6nm,1.3s
STKA Stephens Creek 80.36 131 P **P 03 30 34.7 +0.6**
12nm,1.1s,baz=204,slow=5.0,SNR=10
ASAR Alice Springs 83.43 121 P **P 03 30 50.5 +0.1**
3.1nm,0.9s,baz=207,slow=5.4,SNR=17
ASAR LR LR 04 01 13.6
comp=Z,231nm,21.5s,baz=263,slow=31
AS31 Alice Springs 83.43 121 *eP* **P 03 30 50.5 +0.1**
2.2nm,0.8s
PSI Prapat 84.14 78 P **P 03 30 53.5 -0.7**
2.0nm,0.4s,baz=146,slow=11,SNR=3.6
ASF Jabal al Asfar 85.72 12 P **P 03 31 04.0 +2.4**
baz=149,slow=2.2
PLAI Plampang 86.25 100 P **P 03 31 08.0 +3.3**
WR1 Warramunga Arr 86.71 119 *eP* **P 03 31 06.7 -0.2**
WRA Warramunga Arr 86.71 119 P **P 03 31 06.7 -0.2**
8.2nm,1.1s,baz=208,slow=4.2,SNR=13
WB2 Warramunga Arr 86.72 119 *eP* **P 03 31 07.2 +0.3**
36nm,1.4s
WRAB Tennant Creek 86.73 119 *eP* **P 03 31 07.8 +0.8**
71nm,1.8s
KEST Kesra 89.06 349 LR LR 04 11 25.2
comp=Z,635nm,21.1s,baz=151,slow=36
BKSI Bulukumba 90.44 99 P **P 03 31 25.3 +0.7**
KAPI Kappang 90.46 99 *eP* **P 03 31 26.0 +1.3**
34nm,1.5s
BNSI Bone 91.16 99 P **P 03 31 29.1 +1.2**
SPSI Sidrap Palu 91.30 98 P **P 03 31 29.9 +1.3**
BR131 Keskin Array S 92.83 9 *eP* **P 03 31 37.0 +1.9**
23nm,1.9s
BRTR Keskin Array B 92.83 9 P **P 03 31 36.4 +1.3**
1.8nm,0.8s,baz=172,slow=6.6,SNR=11
BR101 Keskin Array S 92.83 9 *eP* **P 03 31 36.4 +1.3**
ESDC Sonseca Array 95.05 340 P **P 03 31 46.3 +1.1**
0.4nm,0.5s,baz=166,slow=3.5,SNR=4.1
GEYT Alibeck 95.69 28 LR LR 04 16 53.0
comp=Z,128nm,18.1s,baz=80,slow=37
CM31 Chiang Mai Arr 96.72 68 *eP* **P 03 31 54.6 +1.3**
13nm,0.3s
CMAR Chiang Mai Arr 96.72 68 P **P 03 31 54.6 +1.3**
1.1nm,0.3s,baz=172,slow=9.9,SNR=4.4
CMAR LR LR 04 07 16.0
comp=Z,162nm,21.8s,baz=219,slow=30
ROSC El Rosal 97.89 268 LR LR 04 13 42.9
comp=Z,145nm,20.5s,baz=158,slow=34
DZM Mont Dzumac 99.02 147 *eLR* LR 04 04 22.9
comp=Z,562nm,38.4s
DAVOX Davos/Dischmat 99.94 351 P **Pdif 03 32 06.2 -1.0**
1.8nm,0.7s,baz=207,slow=3.8,SNR=3.7
KSH Kashi 103.11 40 P **Pdif 03 32 24.3 +2.8**
TBI Tubuai 103.68 188 *eLR* LR 04 06 29.1
comp=Z,583nm,31.5s
CLL Collm 104.20 354 *eP*S PS 03 46 01.0 +5.3
CLL Lm MLR 04 22 00.0
comp=N,200nm,19.2s
CLL Lm MLR 04 22 00.0
comp=E,100nm,21.9s
CLL Lm MLR 04 22 00.0
comp=Z,300nm,19.4s
CD2 Chengdu 109.20 64 Pdif **Pdif 03 32 50.6 +1.9**
PPT2 Papeete2 109.40 188 *eLR* LR 04 09 06.7
comp=Z,967nm,33.8s
WMQ Urumqi 111.50 45 *e*PKP **PKiKP 03 36 58.0 +1.6**
WMQ LR LR
comp=Z,680nm,23.5s
MK32 Makanchi Array 111.72 40 *e*PKiKP **PKiKP 03 36 57.1 +0.4**
MKAR Makanchi Array 111.72 40 PKiKP **PKiKP 03 36 57.1 +0.4**
comp=Z,0.2nm,0.5s,baz=221,slow=2.5,SNR=2.7
BVAR Borovoye Array 112.96 29 PKiKP **PKiKP 03 36 59.4 +0.6**
comp=Z,0.8nm,0.5s,baz=225,slow=0.2,SNR=5.4
LZH Lanzhou 113.21 61 *e*PKP **PKiKP 03 36 59.9 -0.2**

LZH LR LR
comp=Z,160nm,15.2s
LZH LR LR
comp=Z,220nm,17.5s
FIA0 FINESS Array S 114.10 2 *e*PKiKP PKPdf 03 36 59.5 -1.2
FINES FINESS Array B 114.10 2 PKP PKPdf 03 36 59.5 -1.2
comp=Z,1.0nm,0.8s,baz=211,slow=4.9,SNR=2.8
WHN Wuhan 114.86 72 PKP PKPdf 03 37 01.8 -1.4
TAOE Nuku Hiva Isla 116.65 199 *eLR* LR 04 12 27.1
comp=Z,436nm,22.4s
NJ2 Nanjing 118.58 74 *e*PKP **PKiKP 03 37 13.1 +2.8**
HHC Hu-ho-hao-te 120.81 62 *e*PKP **PKiKP 03 37 17.1 +2.5**
ARA0 ARCESS Array S 122.21 1 *e*PKPdf **PKPdf 03 37 15.9 -0.2**
ARCES ARCESS Array B 122.21 1 PKP **PKPdf 03 37 15.9 -0.2**
comp=Z,1.8nm,0.7s,baz=165,slow=5.0,SNR=9.6
V61A Roper 122.71 287 P **PKPdf 03 37 17.9 -0.2**
baz=135
SONA0 Songino Array 123.08 53 *e*PKPdf **PKPdf 03 37 18.4 -0.2**
SONM Songino Array 123.08 53 PKP **PKPdf 03 37 18.4 -0.2**
comp=Z,0.4nm,0.5s,baz=210,slow=3.4,SNR=3.5
V59A Middlesex 123.65 286 P **PKPdf 03 37 19.9 0.0**
baz=134
W58A Raeford 123.71 285 P **PKPdf 03 37 19.9 -0.2**
baz=135
W57A Gilead 124.25 284 P **PKPdf 03 37 21.0 -0.1**
baz=134
Y55A Saluda 124.50 282 P **PKPdf 03 37 21.5 -0.1**
baz=135
V57A Coltrane Farms 124.63 285 P **PKPdf 03 37 21.9 +0.1**
baz=134
U57A Blanch 124.75 286 P **PKPdf 03 37 22.3 +0.3**
baz=134
Y54A Tignall 124.93 281 P **PKPdf 03 37 22.4 -0.1**
baz=135
Z53A Monticello 125.05 280 P **PKPdf 03 37 22.4 -0.3**
baz=135
GOGA Godfrey 125.08 281 P **PKPdf 03 37 22.8 0.0**
baz=135
T57A Hurt 125.09 287 P **PKPdf 03 37 23.1 +0.4**
baz=134
S57A Dark Hollow, R 125.44 287 P **PKPdf 03 37 23.6 +0.2**
baz=133
V55A Taylorsville 125.45 284 P **PKPdf 03 37 23.9 +0.5**
baz=134
Y53A Monroe 125.46 281 P **PKPdf 03 37 23.6 +0.1**
baz=135
W54A Cherokee Point 125.49 283 P **PKPdf 03 37 23.6 +0.1**
baz=134
Z52A Williamson 125.49 280 P **PKPdf 03 37 23.3 -0.2**
baz=135
T56A Rocky Mt 125.57 286 P **PKPdf 03 37 24.0 +0.4**
baz=134
151A Opelika 125.57 278 P **PKPdf 03 37 23.6 -0.1**
baz=135
O59A Robesonia 125.60 292 P **PKPdf 03 37 24.0 +0.5**
baz=133
X53A Estanollee 125.74 282 P **PKPdf 03 37 24.3 +0.3**
baz=134
150A Eclectic 126.04 278 P **PKPdf 03 37 24.6 0.0**
baz=135
T55A Pulaski 126.07 286 P **PKPdf 03 37 24.9 +0.3**
baz=133
W53A Cullowhee 126.12 282 P **PKPdf 03 37 25.1 +0.3**
baz=134
X52A Dahlonega 126.17 281 P **PKPdf 03 37 25.1 +0.2**
baz=134
Y51A Rockmart 126.37 280 P **PKiKP 03 37 26.0 +0.3**
baz=134
R55A Marlinton 126.47 287 P **PKPdf 03 37 25.5 +0.1**
baz=133
T54A Tazewell 126.49 285 P **PKPdf 03 37 25.6 +0.2**
baz=133
149A Jones 126.50 277 P **PKPdf 03 37 25.8 +0.3**
baz=135
W52A Murphy 126.52 282 *e*PKPdf **PKiKP 03 37 26.3 +0.3**
W52A Murphy 126.52 282 P **PKPdf 03 37 25.8 +0.2**
baz=134
X51A Calhoun 126.71 281 P **PKPdf 03 37 26.2 +0.4**
baz=134
BINY Binghamton 126.76 293 P **PKiKP 03 37 26.9 +0.7**
baz=132
Z49A Columbiana 126.76 278 P **PKPdf 03 37 26.4 +0.4**
baz=134
Y50A Piedmont 126.77 279 P **PKPdf 03 37 26.3 +0.3**
baz=134
V52A Sevierville 126.84 283 P **PKPdf 03 37 26.7 +0.7**
baz=134
148A Greensboro 127.00 277 P **PKPdf 03 37 26.5 +0.1**
baz=135
W51A Cleveland 127.06 281 P **PKPdf 03 37 26.9 +0.4**
baz=134
X50B Fort Payne 127.11 280 P **PKPdf 03 37 27.3 +0.7**
baz=134
Y49A Blount Mountai 127.15 279 *e*PKPdf **PKiKP 03 37 28.8 +1.6**
Y49A Blount Mountai 127.15 279 P **PKPdf 03 37 27.4 +0.7**
baz=134
V51A Loudon 127.26 282 *e*PKPdf **PKiKP 03 37 28.0 +0.6**
V51A Loudon 127.26 282 P **PKiKP 03 37 27.7 +0.4**
baz=133
O55A Ligonier 127.30 289 P **PKPdf 03 37 27.2 +0.4**
baz=132
147A Livingston 127.44 276 P **PKPdf 03 37 28.0 +0.7**
baz=135
U51A La Follette 127.46 283 P **PKPdf 03 37 27.9 +0.6**
baz=133
N55A Marion Center 127.50 290 P **PKPdf 03 37 27.9 +0.7**
baz=132
X49A Woodville 127.55 279 P **PKPdf 03 37 27.8 +0.4**
baz=134
P54A Burton 127.57 288 P **PKiKP 03 37 28.7 +0.8**
baz=132
R53A Hurricane 127.57 286 P **PKiKP 03 37 28.5 +0.6**
baz=132
V50A Pikeville 127.61 281 P **PKiKP 03 37 28.7 +0.6**
baz=133
Y48A Jasper 127.64 278 P **PKiKP 03 37 28.5 +0.3**
baz=134
Q53A Leroy 127.67 287 P **PKPdf 03 37 28.3 +0.8**
baz=132
T51A Gray 127.81 283 P **PKPdf 03 37 28.3 +0.5**
baz=133
O54A Avella 127.90 289 P **PKPdf 03 37 28.7 +0.7**
baz=132
W49A Belvidere 127.93 280 P **PKPdf 03 37 28.6 +0.5**
baz=134
X48A Hartselle 127.94 279 *e*PKPdf **PKPdf 03 37 28.5 +0.3**
X48A Hartselle 127.94 279 P **PKPdf 03 37 28.6 +0.5**
baz=134
U50A Jamestown 127.97 282 P **PKPdf 03 37 28.6 +0.4**
baz=133
P53A Whipple 128.02 287 P **PKiKP 03 37 29.6 +0.8**
baz=132
S51A Beatrville 128.06 284 P **PKiKP 03 37 29.6 +0.7**
baz=132
L55A Hinsdale 128.11 292 P **PKiKP 03 37 29.5 +0.5**
baz=131
V49A McMinnville 128.16 281 P **PKiKP 03 37 29.8 +0.6**
baz=133
N54A Moraine State 128.19 290 P **PKiKP 03 37 29.5 +0.4**
baz=131
K55A Perry 128.26 293 P **PKiKP 03 37 29.7 +0.6**
baz=131
M54A Oil Creek Stat 128.36 290 P **PKPdf 03 37 29.6 +0.8**
baz=131
T50A Nancy 128.38 283 P **PKPdf 03 37 29.5 +0.6**
baz=133
ALFO Alfred 128.40 297 P **PKiKP 03 37 29.7 +0.4**
baz=130
LATQ La Tuque 128.41 300 P **PKiKP 03 37 30.3 +1.1**
baz=130
O53A New Philadelph 128.42 288 P **PKPdf 03 37 29.7 +0.7**
baz=132
X47A Russelville 128.47 278 P **PKPdf 03 37 29.6 +0.4**
baz=134
R51A Hillsboro 128.50 285 P **PKiKP 03 37 30.5 +0.7**
baz=132
P52A Corning 128.54 287 P **PKiKP 03 37 30.1 +0.3**
baz=132
S50A Richmond 128.56 284 P **PKPdf 03 37 29.9 +0.6**
baz=132
N53A Lisbon 128.57 289 P **PKiKP 03 37 30.3 +0.4**
baz=131
U49A Red Boiling Sp 128.59 282 P **PKiKP 03 37 30.3 +0.2**
baz=133
MEDO Medina 128.76 293 P **PKiKP 03 37 30.4 +0.2**
baz=130
W47A Westpoint 128.81 279 P **PKPdf 03 37 30.3 +0.5**
baz=133

T49A Edmonton 128.84 282 *e*PKPdf **PKPdf 03 37 30.5 +0.7**
T49A Edmonton 128.84 282 P **PKPdf 03 37 30.5 +0.7**
baz=132
H55A Tweed 128.95 295 P **PKiKP 03 37 31.6 +1.2**
baz=130
I55A Frankford 129.01 294 P **PKiKP 03 37 30.9 +0.4**
baz=130
U48A Cassie Pea, Po 129.04 281 P **PKiKP 03 37 31.4 +0.5**
baz=133
V47A Nunnelly 129.16 280 P **PKPdf 03 37 30.4 -0.1**
baz=133
PLVO Plevna 129.21 296 P **PKPdf 03 37 30.9 +0.6**
baz=130
T48A Bowling Green 129.36 282 P **PKPdf 03 37 31.1 +0.3**
baz=132
R49A Shelbyville 129.42 284 P **PKPdf 03 37 31.6 +0.7**
baz=132
ACSO Alum Creek Sta 129.43 287 P **PKiKP 03 37 32.3 +0.8**
baz=131
U47A Clarksville 129.44 281 P **PKPdf 03 37 31.5 +0.5**
baz=133
P50A Jamestown 129.49 286 P **PKPdf 03 37 31.9 +0.9**
baz=131
V46A Holladay 129.50 279 P **PKPdf 03 37 31.7 +0.6**
baz=133
S48A Wiedeman Farm, 129.52 283 P **PKiKP 03 37 32.2 +0.4**
baz=132
WVT Waverly 129.55 280 *e*PKPdf **PKPdf 03 37 31.1 -0.1**
WVT Waverly 129.55 280 P **PKiKP 03 37 32.4 +0.4**
baz=133
BANO Bancroft 129.66 295 P **PKiKP 03 37 32.4 +0.5**
baz=130
O50A Cable 129.74 287 P **PKiKP 03 37 32.6 +0.4**
baz=131
CN2 Changchun 130.40 68 *e*PKP **PKPdf 03 37 32.1 -0.5**
L50A Kingsville 130.50 289 P **PKiKP 03 37 34.4 +0.7**
baz=130
PBMO Poplar Bluff 131.54 279 *e*PKPdf **PKiKP 03 37 37.4 +1.5**
W41B Gary Mavity, V 131.55 276 *e*PKPdf **PKPdf 03 37 35.5 +0.4**
W41B Gary Mavity, V 131.55 276 P **PKPdf 03 37 35.8 +0.8**
baz=133
WHAR Wooly Hollow 131.65 276 *e*PKPdf **PKiKP 03 37 36.2 0.0**
N46A Monticello 132.04 285 P **PKiKP 03 37 37.0 +0.2**
baz=130
K47A Vermontville 132.15 288 P **PKPdf 03 37 36.7 +0.7**
baz=129
U40A Yellville 132.71 276 P **PKPdf 03 37 37.6 +0.4**
baz=132
S41A Jillco Farms, 132.86 279 P **PKPdf 03 37 38.0 +0.6**
baz=131
CCM Cathedral Cave 132.87 279 P **PKPdf 03 37 37.9 +0.5**
baz=131
G47A Hillman 133.05 292 P **PKPdf 03 37 38.6 +1.1**
baz=128
R41A Rosebud 133.10 280 P **PKPdf 03 37 38.7 +0.8**
baz=131
M44A Midewin, Midew 133.11 285 P **PKPdf 03 37 38.7 +0.9**
baz=129
D48A Paudash Townsh 133.11 295 P **PKiKP 03 37 39.0 +0.2**
baz=127
I46A Reed City 133.20 289 P **PKPdf 03 37 38.3 +0.4**
baz=128
K43A Burlington 134.10 286 P **PKPdf 03 37 40.6 +1.0**
baz=128
LTX Lajitas 134.35 261 *e*PKPdf **PKPdf 03 37 38.9 -1.7**
TX31 Lajitas Ar. Si 134.35 261 *e*PKPdf **PKiKP 03 37 42.9 +0.8**
TXAR Lajitas Array 134.35 261 PKP **PKPdf 03 37 38.9 -1.7**
comp=Z,0.8nm,0.9s,baz=165,slow=3.0,SNR=7.5
L42A Oliver, Polo 134.45 285 P **PKiKP 03 37 41.6 -0.1**
baz=128
M41A Milan 134.57 283 P **PKPdf 03 37 41.6 +1.1**
baz=129
WMOK Wichita Mounta 135.20 270 P **PKPdf 03 37 42.5 +0.6**
baz=133
FRB Frobisher Bay 135.86 320 PKP **PKPdf 03 37 42.9 +0.7**
comp=Z,1.8nm,0.9s,baz=70,slow=5.7,SNR=4.1
H40A Chili 136.45 287 P **PKPdf 03 37 44.8 +0.9**
baz=126
SCIA State Center 136.47 282 *e*PKPdf **PKPdf 03 37 44.9 +0.8**
I39A Houston 136.65 286 P **PKPdf 03 37 44.9 +0.5**
baz=126
MNTX Cornudas Mount 137.08 262 P **PKPdf 03 37 45.5 0.0**
baz=136
MSTX Muleshoe 137.09 266 P **PKPdf 03 37 46.2 +0.6**
baz=134
KLR Kul'dur 137.12 65 PKP **PKPdf 03 37 46.2 +1.2**
comp=Z,0.5nm,0.5s,baz=242,slow=3.7,SNR=3.9
E40A Wakefield 137.22 290 P **PKiKP 03 37 46.8 -0.3**
baz=125
F38A Pierce - Schro 138.07 288 P **PKiKP 03 37 48.7 -0.2**
baz=124
ECSD EROS Data Cent 139.57 282 *e*PKPdf **PKPdf 03 37 49.9 +0.2**
ECSD EROS Data Cent 139.57 282 P **PKPdf 03 37 50.9 +1.2**
baz=125
ANMO Albuquerque 139.98 264 *e*PKPdf **PKPdf 03 37 51.8 +0.8**
ANMO Albuquerque 139.98 264 P **PKPdf 03 37 51.5 +0.5**
baz=133
TASM ASL Pad, Albuq 139.98 264 P **PKPdf 03 37 51.5 +0.5**
baz=133
TASM ASL Pad, Albuq 139.98 264 P **PKPdf 03 37 51.8 +0.7**
baz=133
T25A Trinidad 140.20 268 *e*PKPdf **PKPdf 03 37 52.7 +1.3**
T25A Trinidad 140.20 268 P **PKPdf 03 37 52.3 +0.9**
baz=131
TUC Tucson 140.72 257 *e*PKPdf **PKPdf 03 37 53.6 +1.3**
TUC Tucson 140.72 257 P **PKPdf 03 37 53.1 +0.9**
baz=136
SDCO Great Sand Dun 141.26 268 *e*PKPdf **PKPdf 03 37 52.6 -0.8**
SDCO Great Sand Dun 141.26 268 P **PKPdf 03 37 53.5 +0.1**
baz=130
214A Organ Pipe Nat 141.66 255 P **PKPdf 03 37 53.4 -0.5**
baz=137
S22A 4UR Ranch, Cre 142.06 267 *e*PKPdf **PKPdf 03 37 52.8 -2.0**
X16A Lo Mia Camp, P 142.60 259 *e*PKPdf **PKiKP 03 37 58.6 -0.2**
ULM Lac du Bonnet 142.60 291 PKP **PKPdf 03 37 52.2 -2.7**
comp=Z,2.6nm,0.9s,baz=169,slow=4.0,SNR=4.0
ISCO Idaho Springs 142.62 271 *e*PKPpre PKPpre 03 37 51.0
MVCO Mesa Verde 142.72 265 *e*PKPdf **PKPdf 03 37 56.9 +1.0**
SMCO Snowmass 143.06 269 *e*PKPdf **PKPdf 03 37 57.6 +0.9**
WUAZ Wupatki 143.31 260 *e*PKPpre PKPpre 03 37 54.5
N23A Red Feather La 143.49 272 *e*PKPdf **PKPdf 03 37 59.1 +1.9**
MDND Maddock 143.56 286 P **PKPdf 03 37 56.7 0.0**
baz=120
PV07 Paradox Valley 143.60 267 *e*PKPdf PKPbc 03 37 55.8 +0.9
PV12 Saucer Basin, 143.62 266 *e*PKPdf **PKPdf 03 37 59.0 +1.5**
PV16 Nyswonger Mesa 143.68 266 *e*PKPdf **PKPdf 03 37 58.8 +1.3**
PV04 Paradox Valley 143.73 266 *e*PKPdf **PKPdf 03 37 57.9 +0.3**
PV22 Blue Mesa, Par 143.75 267 *e*PKPdf PKPbc 03 37 55.8 +0.6
PV23 Carpenter Ridg 143.83 266 *e*PKPdf **PKPdf 03 37 59.7 +1.8**
PV21 Cone Mtn., Par 143.88 266 *e*PKPdf PKPbc 03 37 56.8 +1.1
PV09 Paradox Valley 143.93 266 *e*PKPdf PKPbc 03 37 57.2 +1.3
TIXI Tiksi 144.06 31 PKP **PKPab 03 37 54.6 +0.2**
comp=Z,8.7nm,0.6s,baz=263,slow=1.6,SNR=18
SWSC Sam W. Stewart 144.11 253 P PKPbc 03 37 57.4 +1.1
baz=137
RSSD Black Hills 144.21 278 *e*PKPdf **PKPab 03 37 56.6 +0.5**
O20A White River Ci 144.42 269 *e*PKPdf PKPbc 03 37 58.1 +0.8
O20A White River Ci 144.42 269 P **PKPab 03 37 57.1 +0.1**
baz=128
MONP2 Monument Peak 144.43 252 P **PKPab 03 37 57.2 0.0**
baz=137
U15A North Rim 144.48 261 *e*PKPdf PKPbc 03 37 58.1 +0.4
W13A Hualapai Mount 144.52 258 *e*PKPdf PKPbc 03 37 58.2 +0.5
IRM Iron Mountain 144.60 255 P **PKPab 03 37 57.9 +0.3**
baz=135
K22A Casper 144.88 274 *e*PKPdf **PKPab 03 37 58.5 -0.1**
K22A Casper 144.88 274 P **PKPab 03 37 57.9 -0.6**
baz=125,SNR=9.3
BELC Belle Mtn. Jos 144.99 254 P **PKPab 03 37 58.8 -0.3**
baz=136
FCC Fort Churchill 145.10 305 *e*PKPbc **PKPbc 03 37 58.5 0.0**
SRU San Rafael Swe 145.16 266 *e*PKPbc **PKPbc 03 37 59.7 +0.1**
PKCU Pink Cliffs 145.16 262 *e*PKPbc **PKPbc 03 38 00.3 +0.4**
KNB Kanab 145.19 261 *e*PKPbc **PKPbc 03 38 00.2 +0.5**
LDFC Landfair 145.22 256 *e*PKPbc **PKPdf 03 38 00.8 +0.6**
GMRC Granite Mounta 145.34 255 P **PKPbc 03 37 59.8 -0.5**
baz=135,SNR=9.9
MURC Murrieta 145.39 252 P **PKPbc 03 38 00.1 -0.2**
baz=136
Q16A Castle Valley 145.43 265 *e*PKPbc **PKPbc 03 38 00.9 +0.4**
LCMT Little Creek M 145.44 261 *e*PKPbc **PKPbc 03 38 00.9 +0.4**
MTPU Mount Pierson 145.48 263 *e*PKPbc **PKPdf 03 38 01.0 +0.1**
P17A Butcher Ranch, 145.52 266 *e*PKPdf **PKPdf 03 38 01.1 +0.5**
TMUT Trail Mountain 145.69 265 *e*PKPdf **PKPdf 03 38 01.5 +0.4**
BBRC Big Bear Solar 145.71 253 P **PKPdf 03 38 01.6 +0.4**
baz=136

SZCU	Shurtz Canyon	145.73 261	*e*PKPdf		PKPab	03 38 03.1	+1.2
HEC	Hector,Ludlow	145.77 255	P		PKPdf	03 38 01.7	+0.6
	baz=135,SNR=5.9						
MSU	Marysvale	145.78 264	*e*PKPdf		PKPbc	03 38 02.2	+0.5
CCUT	Cedar City	145.86 261	*e*PKPdf		PKPab	03 38 02.8	+0.3
TUQ	Turquoise Moun	145.95 256	P		PKPdf	03 38 02.2	+0.8
	baz=134						
BFSC	Mount Baldy Ra	146.12 253	P		PKPdf	03 38 02.7	+0.9
	baz=136						
SHPR	Sheep Range	146.23 258	*e*PKPdf		PKPab	03 38 04.1	+0.3
GSC	Goldstone, Bar	146.37 255	*e*PKPdf		PKPbc	03 38 03.8	+0.4
GSC	Goldstone, Bar	146.37 255	P		PKPbc	03 38 03.5	+0.1
	baz=134,SNR=6.8						
MPU	Maple Canyon	146.40 266	*e*PKPdf		PKPbc	03 38 04.3	+0.8
DGMT	Dagmar	146.54 284	*e*PKPdf		PKPbc	03 38 04.1	+0.7
DGMT	Dagmar	146.54 284	P		PKPbc	03 38 03.8	+0.4
	baz=118						
JLU	Jordanelle	146.64 267	*e*PKPdf		PKPbc	03 38 04.5	+0.3
EDW2	Edwards Air Fo	146.77 253	P		PKPbc	03 38 04.5	0.0
	baz=135						
BW06	Boulder Array	146.78 272	*e*PKPdf		PKPdf	03 38 03.3	+0.6
BW06	Boulder Array	146.78 272	P		PKPdf	03 38 03.8	+1.1
	baz=125,SNR=17						
PD31	Pinedale Array	146.78 272	*e*PKPdf		PKPdf	03 38 03.8	+1.1
PDAR	Pinedale Array	146.78 272	PKPbc		PKPdf	03 38 03.3	+0.6
	comp=Z,6.8nm,0.9s,baz=130,slow=4.4,SNR=29						
PSUT	Pine Spring	146.80 262	*e*PKPdf		PKPbc	03 38 05.7	+1.0
LAO	LASA Array	146.88 280	*e*PKPdf		PKPdf	03 38 03.3	+0.8
LAO	LASA Array	146.88 280	P		PKPbc	03 38 04.7	+0.2
	baz=120						
CTU	Camp Tracy	146.88 267	*e*PKPdf		PKPbc	03 38 05.5	+0.7
TPNV	Topopah Spring	147.18 258	*e*PKPdf		PKPbc	03 38 06.0	+0.3
TPNV	Topopah Spring	147.18 258	P		PKPbc	03 38 05.8	0.0
	baz=132,SNR=24						
FURC	Furnace Creek,	147.21 256	P		PKPbc	03 38 05.9	+0.3
	baz=133,SNR=10						
DUG	Dugway, Tooele	147.22 265	*e*PKPdf		PKPbc	03 38 05.6	-0.1
DUG	Dugway, Tooele	147.22 265	P		PKPbc	03 38 05.6	-0.1
	baz=128,SNR=8.9						
RES	Resolute Bay	147.28 334	*e*PKPdf		PKPdf	03 38 01.4	-0.9
RES	Resolute Bay	147.28 334	PKP		PKPdf	03 38 00.8	-1.4
	comp=Z,5.6nm,1.0s,baz=6.8,slow=6.4,SNR=5.7						
RES			PKPbc		sPKPdf	03 38 06.1	+0.9
	comp=Z,4.5nm,0.8s,baz=91,slow=2.4,SNR=14						
MPMC	Manual Prospec	147.30 255	P		PKPbc	03 38 06.7	+0.6
	baz=134,SNR=20						
HWUT	Hardware Ranch	147.32 268	*e*PKPbc		PKPbc	03 38 06.1	+0.1
ISA	Isabella, Lake	147.60 254	*e*PKPbc		PKPbc	03 38 08.0	+1.2
ISA	Isabella, Lake	147.60 254	P		PKPbc	03 38 07.4	+0.6
	baz=135,SNR=6.7						
AHID	Auburn Hatcher	147.71 271	*e*PKPbc		PKPbc	03 38 07.7	+0.6
R11A	Troy Canyon, C	147.71 260	*e*PKPdf		PKPbc	03 38 06.7	-0.5
R11A	Troy Canyon, C	147.71 260	P		PKPbc	03 38 07.4	+0.2
	baz=131,SNR=18						
BGU	Big Grassy Mou	147.79 266	*e*PKPdf		PKPbc	03 38 06.5	-0.8
FFC	Flin Flon	147.86 296	*e*PKPdf		PKPdf	03 38 05.8	+2.0
GRAC	Grapevine Rang	147.87 256	P		PKPbc	03 38 07.8	+0.3
	baz=133,SNR=18						
LOHW	Long Hollow	147.88 272	*e*PKPdf		PKPdf	03 38 06.2	+1.7
SNOW	Snow King Moun	147.89 272	*e*PKPbc		PKPbc	03 38 08.0	+0.4
RLMT	Red Lodge	147.89 276	*e*PKPdf		PKPdf	03 38 05.9	+1.4
RLMT	Red Lodge	147.89 276	P		PKPbc	03 38 07.6	+0.1
	baz=122						
REDW	Red Top Meadow	147.90 272	*e*PKPbc		PKPbc	03 38 08.6	+1.0
CWC	Cottonwood Cre	147.91 255	P		PKPbc	03 38 08.2	+0.4
	baz=134						
TPAW	Teton Pass	148.03 272	*e*PKPbc		PKPbc	03 38 08.4	+0.4
MOOW	Moose Ponds	148.04 272	*e*PKPbc		PKPbc	03 38 08.2	+0.3
HVU	Hansel Valley	148.15 268	*e*PKPbc		PKPbc	03 38 08.6	+0.4
FXWY	Fox Creek	148.15 272	*e*PKPdf		PKPdf	03 38 05.7	+0.7
IMW	Indian Meadow	148.24 272	*e*PKPdf		PKPdf	03 38 06.9	+1.6
YPP	Pitchstone Pla	148.37 273	*e*PKPbc		PKPbc	03 38 08.7	-0.2
GCMT	Greycliff	148.48 276	*e*PKPbc		PKPbc	03 38 09.2	+0.3
YFT	Old Faithful	148.48 273	*e*PKPbc		PKPbc	03 38 10.1	+0.9
YNR	Norris Junctio	148.53 274	*e*PKPbc		PKPbc	03 38 09.6	+0.4
YHH	Holmes Hill	148.67 274	*e*PKPdf		PKPdf	03 38 08.1	+2.2
YMR	Madison River	148.68 274	*e*PKPbc		PKPbc	03 38 10.7	+1.1
YHB	Horse Butte	148.86 274	*e*PKPdf		PKPdf	03 38 08.3	+2.2
ELK	Elko	149.02 264	*e*PKPdf		PKPdf	03 38 07.8	+1.2
QLMT	Earthquake Lak	149.04 274	*e*PKPdf		PKPdf	03 38 08.2	+1.8
OMMB	Old Mammoth Mi	149.24 256	*e*PKPbc		PKPbc	03 38 12.3	+1.0
NV11	Mina Array Sit	149.29 258	*e*PKPbc		PKPbc	03 38 12.2	+1.0
MDPB	Devils Postpil	149.30 256	*e*PKPbc		PKiKP	03 38 13.2	+0.6
NV01	Mina Array Sit	149.38 258	*e*PKPbc		PKiKP	03 38 12.8	+0.1
NVAR	Mina Array Bea	149.38 258	PKPbc		PKiKP	03 38 12.8	+0.1
	comp=Z,7.5nm,0.8s,baz=141,slow=3.5,SNR=32						
BOZ	Bozeman (W)	149.56 275	*e*PKPdf		PKPdf	03 38 08.6	+1.5
BOZ	Bozeman (W)	149.56 275	P		PKPbc	03 38 11.4	-0.2
	baz=121						
EGMT	Eagleton	149.62 280	*e*PKPbc		PKPbc	03 38 11.3	-0.4
EGMT	Eagleton	149.62 280	P		PKPbc	03 38 12.1	+0.4
	baz=118						
RYN	Ryan	149.64 258	*e*PKPbc		PKPbc	03 38 13.1	+1.0
KVN	Kaiserville	149.66 259	*e*PKPdf		PKPdf	03 38 09.2	+1.7
MCMT	McKenzie Canyo	149.90 273	*e*PKPbc		PKPbc	03 38 11.8	-0.8
BMN	Battle Mountai	150.01 262	*e*PKPbc		PKPbc	03 38 12.2	-0.7
DLMT	Dillon	150.03 274	*e*PKPbc		PKPbc	03 38 14.3	+0.6
WAKR	Walker	150.09 257	*e*PKPbc		PKPbc	03 38 13.0	-0.3
HLID	Hailey	150.16 269	*e*PKPbc		PKPbc	03 38 11.7	-1.5
HLID	Hailey	150.16 269	P		PKPbc	03 38 13.2	0.0
	baz=124						
LRM	Limekiln Ridge	150.17 275	*e*PKPdf		PKPdf	03 38 09.9	+1.7
HRY	Holter Researc	150.24 277	*e*PKPdf		PKPdf	03 38 09.8	+1.8
CMB	Columbia Colle	150.34 255	*e*PKPbc		PKPbc	03 38 13.4	-0.2
PNTR	Pine Nut	150.57 257	*e*PKPbc		PKiKP	03 38 16.1	+1.0
MA2	Magadan	151.23 56	*e*PKPbc		PKPbc	03 38 15.6	+0.6
AFDM	Forest Hills D	151.29 256	*e*PKPdf		PKPdf	03 38 12.8	+3.0
BEKR	Beckworth	151.53 258	*e*PKPdf		PKPdf	03 38 12.3	+1.9
MSO	Missoula	151.57 275	*e*PKPbc		PKPbc	03 38 16.7	+0.4
MSO	Missoula	151.57 275	P		PKPbc	03 38 16.5	+0.2
	baz=119						
PLID	Pearl Lake	151.94 271	*e*PKPbc		PKPbc	03 38 17.4	0.0
J08A	Circle Bar Ran	152.50 265	*e*PKPdf		PKPdf	03 38 13.4	+1.8
WALA	Waterton Lakes	152.56 280	*e*PKPbc		PKPbc	03 38 18.9	+0.3
BMO	Blue Mountains	152.61 269	*e*PKPdf		PKPdf	03 38 12.9	+1.2
O03E	Paynes Creek	152.65 257	P		PKPbc	03 38 18.5	-0.4
	baz=130						
MOD	Modoc Plateau	152.75 261	*e*PKPdf		PKPdf	03 38 13.9	+1.8
O02D	Mt. Diablo Mer	153.15 256	P		PKPbc	03 38 20.4	+0.3
	baz=130						
WDC	Whiskeytown Da	153.27 257	*e*PKPdf		PKPdf	03 38 13.8	+1.1
PETK	Petropavlovsk-	153.45 72	PKPbc		PKPbc	03 38 19.7	-0.5
	comp=Z,1.7nm,0.6s,baz=290,slow=0.1,SNR=5.3						
PEA1	Petropavlovsk-	153.45 72	*e*PKPbc		PKPbc	03 38 19.7	-0.5
K05A	Summer Lake	153.59 262	*e*PKPbc		PKiKP	03 38 24.1	+2.9
K05A			*e*PKPab		pPKPab	03 38 36.1	+0.2
M04C	Macdoel	153.60 259	P		PKPbc	03 38 21.6	+0.6
	baz=127						
N02D	Trinity Center	153.61 257	P		PKPbc	03 38 21.5	+0.5
	baz=129						
G08A	Pilot Rock	153.84 269	*e*PKPdf		PKPdf	03 38 16.6	+3.1
M02C	Callahan	153.96 258	P		PKPbc	03 38 22.0	+0.2
	baz=128						
J05D	Fort Rock, OR	154.12 263	P		PKPbc	03 38 22.4	+0.2
	baz=125						
L04D	Klamath Falls	154.14 260	P		PKPbc	03 38 22.7	+0.5
	baz=127						
PINE	Pine Mountain	154.23 264	*e*PKPab		PKPab	03 38 37.6	+1.1
J04D	Umpqua Nationa	154.62 262	P		PKPbc	03 38 23.5	+0.2
	baz=125						
I04A	Tendick Farm,	155.11 263	P		PKPdf	03 38 24.4	+9.2
	baz=124						
B08A	Colville Reser	155.51 275	*e*PKPdf		PKPdf	03 38 16.4	+0.8
B08A			*e*PKPbc		sPKPdf	03 38 23.3	+4.7
YKA	Yellowknife Ar	155.60 310	PKP		PKPdf	03 38 11.1	-4.1
	comp=Z,0.8nm,0.9s,baz=76,slow=1.3,SNR=11						
YKA			PKPab		PKPab	03 38 41.2	-0.2
	comp=Z,3.8nm,0.8s,baz=92,slow=5.0,SNR=24						
YKB5	Yellowknife Ar	155.60 310	*e*PKPdf		PKPdf	03 38 11.1	-4.1
YKB5			*e*PKPab		PKPab	03 38 41.2	-0.2
YKW3	Yellowknife Ar	155.60 310	*e*PKPdf		PKPdf	03 38 12.8	-2.4
YKW3			*e*PKPab		PKPab	03 38 41.8	+0.4
DLBC	Dease Lake	163.59 300	*e*PKPab		PKPab	03 39 18.8	+2.3
ILAR	Eielson Array	166.95 339	PKP		PKPdf	03 38 26.4	-0.8
	comp=Z,0.9nm,1.2s,baz=31,slow=2.1,SNR=4.7						
ILAR			PKPab		PKPab	03 39 30.0	-0.9
	comp=Z,0.3nm,0.6s,baz=333,slow=3.2,SNR=3.9						
ILB	Eielson Array	166.95 339	*e*PKPdf		PKPdf	03 38 26.4	-0.8
ILB			*e*PKPab		PKPab	03 39 30.0	-0.9

DJA ***16*** *03:20:00.2±1.1, 4°N±11°×12°8E±°, h13km±4km, M4.5/7, mB5.0/4, mb4.6/7, MLv4.5/7, Mw(mB)4.3/4*

IDC ***16*** *03:20:03.1±0.5, 3°.14N×126°.99E, h0km, mb4.3/21, mb1 4.3/21, mb1mx4.1/51, mbtmp4.3/21, MS3.7/3, Ms1 3.7/3, ms1mx3.1/46, Error ellipse: s-maj=28.2km s-min=12.1km az=79.0*

ISCJB ***16*** *03:20:07.6±0.3, 3°.22N±0°.04×127°.22E±0°.07, h44km, mb4.3/31, MS3.6/3, Error ellipse: s-maj=9.7km s-min=5.8km az=173.4*

NEIC ***16*** *03:20:09.0±1.6, 3°.12N×126°.91E, h44km±7km, mb4.3/16, Error ellipse: s-maj=16.7km s-min=9.3km az=125.0*

ISC 16 03:20:09.5±0.4, 3°.19N±0°.06×127°.15E±0°.09, h44km, n66,
σ1§31/61, mb4.3/31, MS3.2/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.69	287	P	Pn	03 20 35.3	-1.2
TNTI	Ternate	2.41	175	*e*Pn	Pn	03 20 46.6	+0.2
TNTI	Ternate	2.41	175	P	Pn	03 20 47.5	+1.1
MRSI	Marisa	5.86	243	P	Pn	03 21 36.8	+3.0
LUWI	Luwuk	6.06	226	P	Pn	03 21 41.8	+5.2
MPSI	Mapaga	7.78	249	P	Pn	03 22 04.6	+4.5
SPSI	Sidrap Palu	10.24	226	P	Pn	03 22 47.6	+14
KAPI	Kappang	11.00	222	Pn	Pn	03 22 44.3	+0.1
	0.4nm,0.3s,baz=276,slow=5.9,SNR=3.6						
PLAI	Plampang	15.15	218	P	P	03 23 45.4	+0.3
PLAI				pP	P	03 23 47.9	+2.8
SRBI	Singaraja	16.34	227	P	P	03 23 59.6	+1.3
	21nm,1.3s						
GUMO	Guam	20.33	58	LR	LR	03 31 32.8	
	comp=Z,113nm,21.3s,baz=178,slow=34						
FITZ	Fitzroy Crossi	21.20	184	*e*P	P	03 24 50.9	-0.6
	7.7nm,0.9s						
FITZ	Fitzroy Crossi	21.20	184	P	P	03 24 50.9	-0.6
	3.3nm,0.6s,baz=11,slow=8.2,SNR=12						
COEN	Coen	23.30	137	*e*P	P	03 25 13.9	+0.2
	20nm,1.5s						
PMG	Port Moresby	23.54	122	LR	LR	03 35 35.7	
	comp=Z,92nm,19.8s,baz=233,slow=39						
WR1	Warramunga Arr	24.05	163	*e*P	P	03 25 19.6	-1.1
WRA	Warramunga Arr	24.05	163	P	P	03 25 19.6	-1.1
	1.9nm,0.4s,baz=191,slow=23,SNR=40						
WB2	Warramunga Arr	24.05	163	*e*P	P	03 25 19.9	-0.8
	11nm,1.0s						
AS31	Alice Springs	27.49	166	*e*P	P	03 25 51.4	-0.4
	0.8nm,0.4s						
ASAR	Alice Springs	27.49	166	P	P	03 25 51.0	-0.9
	0.5nm,0.4s,baz=349,slow=7.6,SNR=14						
NJ2	Nanjing	29.75	346	*e*P	P	03 26 09.3	-2.5
WHN	Wuhan	29.78	337	P	P	03 26 14.8	+2.7
CMAR	Chiang Mai Arr	31.50	301	*e*P	P	03 26 25.2	-2.3
CMAR	Chiang Mai Arr	31.50	301	P	P	03 26 27.4	-0.1
	1.8nm,0.3s,baz=110,slow=7.8,SNR=3.4						
KMI	Kunming	32.05	315	P	P	03 26 35.8	+3.3
FORT	Forrest	33.79	179	*e*P	P	03 26 46.5	-0.8
	24nm,1.4s						
KS15	Wonju Array Si	34.10	1	*e*P	P	03 26 49.4	-0.5
KSRS	Korea Array	34.11	1	P	P	03 26 49.4	-0.6
	3.4nm,1.0s,baz=182,slow=10,SNR=7.3						
STKA	Stephens Creek	37.48	160	*e*P	P	03 27 18.3	-0.6
	2.6nm,1.4s						
STKA	Stephens Creek	37.48	160	P	P	03 27 18.4	-0.5
	2.6nm,0.4s,baz=336,slow=11,SNR=7.6						
USRK	Ussuriysk Ar.	41.07	5	P	P	03 27 48.7	0.0
	3.1nm,0.7s,baz=188,slow=9.1,SNR=7.5						
ASAJ	Asahikawa	42.99	16	P	P	03 28 04.6	+0.1
	4.7nm,0.7s,baz=213,slow=8.7,SNR=5.5						
KLR	Kul'dur	46.04	4	P	P	03 28 29.1	+0.4
	4.0nm,0.8s,baz=222,slow=4.6,SNR=11						
SONA0	Songino Array	47.94	341	*e*P	P	03 28 44.5	+0.8
SONM	Songino Array	47.94	341	*e*P	P	03 28 43.3	-0.5
SONM	Songino Array	47.94	341	P	P	03 28 44.5	+0.8
	0.9nm,0.4s,baz=161,slow=9.2,SNR=5.3						
PETK	Petropavlovsk-	55.78	22	*e*P	P	03 29 43.5	+1.6
PETK	Petropavlovsk-	55.78	22	P	P	03 29 43.1	+1.2
	5.4nm,0.9s,baz=197,slow=4.5,SNR=8.1						
PEA1	Petropavlovsk-	55.78	22	*e*P	P	03 29 43.1	+1.2
MK32	Makanchi Array	58.24	325	*e*P	P	03 29 58.3	-1.2
MKAR	Makanchi Array	58.24	325	*e*P	P	03 29 57.8	-1.7
MKAR	Makanchi Array	58.24	325	P	P	03 29 58.3	-1.2
	0.8nm,0.4s,baz=119,slow=8.4,SNR=11						
MAKZ	Makanchi	58.42	325	*e*P	P	03 30 00.5	-0.3
	2.5nm,0.8s						
KSH	Kashi	58.72	315	P	P	03 30 04.8	+1.7
ZALV	Zalesovo Beam	61.26	333	P	P	03 30 19.8	-0.2
	1.1nm,0.4s,baz=123,slow=7.4,SNR=5.7						
ZAA1	Zalesovo Array	61.26	333	*e*P	P	03 30 19.8	-0.2
KURK	Kurchatov	62.42	327	*e*P	P	03 30 26.4	-1.5
	2.8nm,0.7s						
SEY	Seymchan	62.47	13	LR	LR	03 57 40.7	
	comp=Z,223nm,20.1s,baz=326,slow=36						
TIXI	Tiksi	68.38	1	*e*P	P	03 31 05.5	-0.6
	3.6nm,0.4s						
NRIK	Noril'sk	71.05	346	P	P	03 31 22.4	-0.2
	4.2nm,0.5s,baz=118,slow=5.7,SNR=5.3						
ABKAR	Akbulak array	72.83	321	*e*P	P	03 31 32.2	-1.5
	1.2nm,0.8s						
ARU	Arti	75.61	328	*e*P	P	03 31 49.9	+0.2
	4.4nm,0.6s						
ARU	Arti	75.61	328	P	P	03 31 49.9	+0.2
	1.5nm,0.3s,baz=273,slow=12,SNR=3.1						
KIRV	Kirov	80.90	329	P	P	03 32 19.1	+0.2
	9.4nm,0.7s,baz=102,slow=16,SNR=3.5						
VNDA	Vanda	82.84	173	*e*P	P	03 32 28.7	0.0
VNDA	Vanda	82.84	173	P	P	03 32 29.7	+1.0
	0.5nm,0.5s,baz=329,slow=3.7,SNR=4.7						
MLY	Manley	83.79	25	*e*P	P	03 32 35.7	+1.7
	2.9nm,1.0s						
COLD	Coldfoot	84.23	23	*e*P	P	03 32 38.8	+2.7
	2.1nm,1.0s						
ILAR	Eielson Array	85.41	25	P	P	03 32 43.2	+1.1
	0.6nm,1.1s,baz=254,slow=5.3,SNR=3.8						
ASF	Jabal al Asfar	88.53	302	P	P	03 32 58.1	+0.1
	3.4nm,0.9s,baz=132,slow=8.6,SNR=3.6						
BR101	Keskin Array S	90.69	310	*e*P	P	03 33 06.6	-1.4
BRTR	Keskin Array B	90.69	310	P	P	03 33 06.6	-1.4
	0.9nm,0.8s,baz=61,slow=7.2,SNR=4.1						
ARCES	ARCESS Array B	91.10	340	P	P	03 33 07.7	-1.4
	3.1nm,1.0s,baz=75,slow=4.8,SNR=3.3						
TXAR	Lajitas Array	121.60	53	PKP	PKiKP	03 39 00.6	+1.2
	0.2nm,0.6s,baz=250,slow=1.8,SNR=3.5						
TORD	Torodi Ar. Bea	123.48	288	PKP	PKPdf	03 39 02.2	-0.9
	0.8nm,0.7s,baz=99,slow=2.0,SNR=7.0						
TOA1	Torodi Ar. Sit	123.48	288	*e*PKPdf	PKPdf	03 39 02.1	-0.9

ISCJB ***16*** *03:24:25.9±0.9, 32°.20N±0°.03×115°.25W±0°.04, h11km±6km, Error ellipse: s-maj=6.2km s-min=5.7km az=29.9*

ANF ***16*** *03:24:26.1±0.7, 32°.27N×115°.26W, h7km±3km, ML2.8/10, Error ellipse: s-maj=4.9km s-min=2.0km az=166.0*

ECX ***16*** *03:24:27.8±0.5, 32°.21N×115°.26W, h6km, MD3.0, ML3.2*

SCEDC ***16*** *03:24:27.2, 32°.25N×115°.24W, h16km*

ISC 16 03:24:26.3±1.1, 32°.21N±0°.03×115°.26W±0°.03, h12km±8km,
n18, σ1§03/26, 2C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.21	350	⇓*e*P	Pg	03 24 31.6	+0.7
CPBX				*e*S	Sg	03 24 35.1	+1.0
CPBX				*e*		03 24 37.6	
CPBX				IAML		03 24 37.6	
	comp=E,15μm,0.3s						
CPBX				IAML		03 24 37.8	
	comp=N,15μm,0.2s						
CPBX				⇓*e*		03 24 37.8	
WESC	Westside Schoo	0.68	324	⇓*e*P	Pg	03 24 39.9	+0.4
ECBX	El Chinero	0.76	166	⇓*e*P	Pg	03 24 41.0	0.0
RMX	La Rumorosa	0.80	300	*e*P	Pg	03 24 40.8	-0.9
RMX				*e*S	Sg	03 24 50.5	-1.7
RMX				*e*		03 24 50.8	
RMX				IAML		03 24 50.8	
	comp=N,774nm,0.3s						
IKP	In-Ko-Pah, Jac	0.84	302	P	Pg	03 24 42.0	-0.6
	baz=118,SNR=18						
IKP				S	Sg	03 24 53.3	-0.3
	baz=118						
IKP	In-Ko-Pah, Jac	0.84	302	⇓*e*P	Pg	03 24 42.5	-0.1
SWSC	Sam W. Stewart	0.86	328	P	Pg	03 24 42.0	-1.1
	baz=146,SNR=13						
SWSC				S	Sg	03 24 52.5	-1.9
	baz=146						
GLA	Glamis	0.92	23	P	Pg	03 24 42.5	-1.5
	baz=204,SNR=51						
GLA				S	Sg	03 24 55.1	-1.0
	baz=204						
SPIG	San Pedro Mart	1.17	189	⇓*e*P	Pg	03 24 48.1	-0.9
CBX	Cerro Bola	1.19	275	*e*S	Sg	03 25 04.6	-0.2
CBX				IAML		03 25 05.8	
	comp=E,1μm,0.4s						
CBX				⇑*e*		03 25 05.8	
CBX				IAML		03 25 09.7	
	comp=N,789nm,0.5s						
CBX				⇑*e*		03 25 09.7	
MONP2	Monument Peak	1.19	305	P	Pg	03 24 48.5	-0.8
	baz=123,SNR=22						
MONP2				S	Sg	03 25 04.2	-0.7
	baz=123						
BAR	Barrett	1.28	292	*e*P	Pn	03 24 49.8	-0.2
Y12C	Blythe	1.66	22	Pg	Pb	03 24 57.2	+0.4
	baz=202,SNR=23						
Y12C				Sb	Sb	03 25 18.3	+0.7
	baz=202						
109C	Camp Elliot, M	1.70	294	S	Sn	03 25 18.7	+1.3
	baz=112						
PFO	Pinyon Flats O	1.72	325	P	Pn	03 24 55.4	-0.8
	baz=143						
PFO				Sb	Sb	03 25 20.3	+0.7
	baz=143						
IRM	Iron Mountain	1.95	3	Sb	Sb	03 25 26.9	+1.0
	baz=182						
214A	Organ Pipe Nat	2.10	96	Sb	Sg	03 25 33.5	-0.1
	baz=279						
MURC	Murrieta	2.14	311	Sb	Sb	03 25 33.3	+1.8
	baz=129						

SNET ***16*** *03:25:57.3±1.2, 13°.43N×90°.35W, h1km±10km, MD3.4*

MEX ***16*** *03:25:59.4±0.3, 13°.36N×90°.92W, h15km, MD4.0*

NEIC ***16*** *03:25:59.4±0.0, 13°.36N×90°.92W, h15km, MD4.0(MEX), After MEX.*

ISC 16 03:25:55.0±2.8, 13°.5N±0°.1×90°.59W±0°.06, h17km±16km,
n21, σ1§14/37, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	1.00	70	*e*P	Pb	03 26 13.8	-0.3
SBLS				*e*S	Sb	03 26 26.6	-0.5
SBLS				*e*		03 26 26.6	
RTR	El Retiro	1.00	66	⇓*e*P	Pb	03 26 14.1	+0.1
RTR				*e*S	Sg	03 26 27.9	+0.2
SNJE	San Jose	1.03	68	*e*P	Pb	03 26 14.2	-0.4
SNET	Serv Nac Est T	1.33	81	*e*P	Pn	03 26 18.7	-0.4
SNET				*e*S	Sn	03 26 35.3	-1.1
LFU	La Fuente	1.46	80	*e*P	Pn	03 26 20.8	+0.1
TECA	Tecapa	2.03	90	*e*P	Pn	03 26 29.2	+0.5
PACA	Pacayal	2.20	90	*e*P	Pn	03 26 31.1	+0.1
PACA				*e*S	Sn	03 26 58.9	+0.9
LCY	Lacayo	2.23	91	*e*P	Pn	03 26 32.9	+1.5
LCY				*e*S	Sn	03 26 59.5	+0.8
CAHU	Cacacuatique	2.33	83	*e*P	Pb	03 26 34.9	-1.8
CAHU				*e*S	Sn	03 27 02.5	+1.3
CNCH	Conchagua	2.69	94	*e*P	Pn	03 26 39.0	+1.3
CNCH				*e*S	Sn	03 27 10.7	+0.7
CCIG	Comitan	3.15	332	*e*Pn	Pn	03 26 45.5	+1.3
CCIG				*e*Sn	Sn	03 27 22.5	+1.0
CCIG	Comitan	3.15	332	*e*P	Pn	03 26 45.5	+1.3
CCIG				*i* S	Sn	03 27 22.5	+1.0
PCIG		3.37	311	*e*Pn	Pn	03 26 47.6	+0.7
PCIG				*e*Sn	Sn	03 27 24.8	-1.8
PCIG		3.37	311	*e*P	Pn	03 26 47.6	+0.7
PCIG				*i* S	Sn	03 27 24.8	-1.8
TGIG		4.08	324	*e*Pn	Pn	03 26 58.0	+1.1
TGIG				*e*Sn	Sn	03 27 44.4	+0.1
TGIG		4.08	324	*e*P	Pn	03 26 58.0	+1.1
TGIG				*i* S	Sn	03 27 44.4	+0.1
ESTN	Estel	4.12	95	*e*Pn	Pn	03 26 58.0	+0.6
CMIG	Matias Romero	5.48	311	*e*Pn	Pn	03 27 17.2	+1

comp=N,40nm,0.4s
SMLA Simla 8.00 270 *e*P Pn 03 36 12.0 -0.4
SMLA *e*S **Sn 03 37 39.6 -2.1**
SMLA IAML 03 39 42.4
comp=N,348nm,1.1s
SMLA IAML 03 39 42.9
comp=E,29nm,0.7s
NDI New Delhi 8.51 254 *e*P Pn 03 36 19.0 -0.4
NDI *ex* x 03 37 47.5
BHK Bhakra 8.63 272 *ex* Pn 03 36 23.0 +2.0
BHK *e*S **Sn 03 37 53.3 -3.7**
DHRM DHARAMSHALA 8.72 278 *e*P Pn 03 36 21.5 -1.0
DHRM *e*S **Sn 03 37 57.0 -2.7**
DHRM IAML 03 39 10.0
comp=N,216nm,1.0s
DHRM IAML 03 39 15.5
comp=E,39nm,0.4s
THN Thein Dam 9.23 279 *e*P Pn 03 36 29.5 +0.3
THN *ex* x 03 38 14.0
BRDH Bariadhala 9.85 151 Pn **Pn 03 36 37.8 0.0**
comp=E,13nm,0.3s,baz=80,slow=23,SNR=5.0
BRDH Sn **Sn 03 38 26.9 -0.3**
comp=E,30nm,0.3s,baz=72,slow=19,SNR=3.8
BRDH LR LR 03 41 51.9
comp=E,1μm,21.4s,baz=332,slow=47
CHCP Chirah Chowk 11.40 285 P **Pn 03 36 57.5 -1.4**
NIL Nilore 11.40 285 *e*Pn Pn 03 36 56.7 -2.3
NIL Nilore 11.40 285 P **Pn 03 36 57.1 -1.9**
NIL pmax pmax
comp=Z,375nm,0.8s
BHPL Bhopal 11.48 227 *ex* Pn 03 36 57.7 -2.5
BHPL *e*S **Sn 03 39 00.0 -7.2**
BHPL IAML 03 40 35.6
comp=E,13nm,0.5s
BHPL IAML 03 40 36.2
comp=N,36nm,0.9s
KSH Kashi 11.77 316 P **Pn 03 37 06.1 +2.0**
KSH pP 03 37 09.1
KSH PP **PnPn 03 37 16.3 +4.4**
KSH S **Sn 03 39 15.3 +1.1**
KSH pmax pmax
comp=N,37nm,0.7s
KSH pmax pmax
comp=N,360nm,4.9s
KSH LR LR
comp=N,5μm,7.2s
KSH LR LR
comp=N,4μm,8.6s
KSH LR LR
comp=N,4μm,7.6s
NGP Nagpur 12.24 215 *ex* Pn 03 37 06.8 -3.7
NGP *e*S Sn 03 39 14.4 -11
WMQ Urumqi 12.39 4 *e*P Pn 03 37 14.5 +2.0
WMQ sP P 03 37 19.3 -4.8
WMQ S **Sn 03 39 31.8 +2.4**
WMQ pmax pmax
comp=N,47nm,0.9s
WMQ pmax pmax
comp=N,320nm,4.5s
WMQ LR LR
comp=N,8μm,11.3s
WMQ LR LR
comp=N,8μm,10.3s
WMQ LR LR
comp=N,6μm,13.7s
TARG Taragay, Kyrgy 12.41 328 *e*Pn Pn 03 37 16.8 +3.6
CEP Cherat 12.54 285 P **Pn 03 37 10.7 -3.9**
THW Thamme Wali 12.59 280 P **Pn 03 37 11.8 -3.5**
KDJ Kajisay 13.02 328 *e*Pn Pn 03 37 23.4 +2.2
KDJ Kajisay 13.02 328 *e*P Pn 03 37 23.4 +2.2
PDGK Podgornoye 13.11 337 P **Pn 03 37 23.1 +0.8**
PDGK pmax pmax
comp=Z,26nm,1.1s
GTA Gaotai 13.44 50 ⇑P **Pn 03 37 24.8 -2.1**
GTA pP P 03 37 28.3 -7.5
GTA sP 03 37 31.3
GTA S **Sn 03 39 51.8 -3.2**
GTA pmax pmax
comp=Z,11nm,2.1s
GTA pmax pmax
comp=Z,300nm,5.6s
GTA LR LR
comp=Z,5μm,14.8s
GTA LR LR
comp=Z,6μm,12.4s
GTA LR LR
comp=Z,7μm,12.0s
BOOM Boomskoye usch 13.88 326 *e*Pn Pn 03 37 36.0 +3.1
BOOM Boomskoye usch 13.88 326 *e*P Pn 03 37 36.0 +3.1
TKM2 Tokmak 2 14.37 326 P **Pn 03 37 40.7 +1.0**
TKM2 pmax pmax
comp=Z,34nm,1.5s
AAK Ala-Archa 14.71 323 *e*Pn P 03 37 49.4 -0.6
AAK Ala-Archa 14.71 323 *i*P Pn 03 37 44.2 0.0
AAK Ala-Archa 14.71 323 Pn **Pn 03 37 44.8 +0.5**
comp=Z,0.2nm,0.3s,baz=141,slow=14,SNR=2.0
KBL Kabul 14.98 287 *e*Pn Pn 03 37 43.1 -4.8
comp=Z,102nm,0.9s
KBL *e*Sn **Sn 03 40 28.7 -4.1**
KBL Kabul 14.98 287 *e*P Pn 03 37 43.1 -4.9
KBL *e* 03 40 28.7
KBL pmax pmax
comp=Z,102nm,0.9s
LZH Lanzhou 15.14 68 *e*P Pn 03 37 47.3 -2.7
LZH pP P 03 37 50.8 -3.9
LZH sP pP 03 37 53.3 -12
LZH PP **PnPn 03 38 00.3 +2.2**
LZH S **Sn 03 40 33.0 -3.6**
LZH sS S 03 40 40.6 -12
LZH SS **SnSn 03 40 54.4 +5.2**
LZH pmax pmax
comp=Z,29nm,1.1s
LZH pmax pmax
comp=Z,280nm,4.3s
LZH LR LR
comp=Z,4μm,10.2s
LZH LR LR
comp=Z,9μm,12.6s
LZH LR LR
comp=Z,9μm,13.9s
GAR Garm 15.22 304 *e*Pn Pn 03 37 45.6 -5.3
comp=Z,171nm,1.2s
GAR Garm 15.22 304 *e*P Pn 03 37 45.7 -5.3
GAR pmax pmax
comp=Z,171nm,1.2s
KMI Kunming 15.61 110 P **Pn 03 37 56.3 0.0**
KMI pP P 03 38 00.6 +0.5
KMI S **S 03 40 55.5 -7.3**
KMI pmax pmax
comp=Z,26nm,1.1s
KMI pmax pmax
comp=Z,560nm,3.8s
KMI LR LR
comp=Z,1μm,9.8s
KMI LR LR
comp=Z,2μm,11.3s
KMI LR LR
comp=Z,2μm,10.7s
KMI Kunming 15.61 110 *e*Pn P 03 38 01.6 +1.4
comp=Z,71nm,0.9s
MK31 Makanchi Array 15.67 349 *e*Pn Pn 03 37 54.4 -2.3
comp=Z,16nm,0.9s
MK31 Makanchi Array 15.67 349 *e*P Pn 03 37 54.4 -2.3
MK31 pmax pmax
comp=Z,16nm,0.9s
MK32 Makanchi Array 15.67 349 *e*Pn Pn 03 37 53.3 -3.4
MKAR Makanchi Array 15.67 349 *ce*P Pn 03 37 54.2 -2.5
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 15.67 349 Pn **Pn 03 37 53.3 -3.4**
comp=Z,0.2nm,0.3s,baz=160,slow=11,SNR=16
MKAR LR LR 03 44 27.2
comp=Z,243nm,18.6s,baz=162,slow=39
HYB Hyderabad 15.72 209 *i*P Pn 03 37 53.5 -4.0
comp=Z,100nm,1.0s
HYB *e* 03 38 03.0
HYB *e*S Sn 03 40 39.0 -12
HYB Hyderabad 15.72 209 *ex* Pn 03 37 53.9 -3.6
MAKZ Makanchi 15.74 348 *e*Pn Pn 03 37 55.4 -2.1
comp=Z,18nm,0.9s
MAKZ Makanchi 15.74 348 *e*P Pn 03 37 55.4 -2.1
MAKZ pmax pmax
comp=Z,18nm,0.9s
CHTO Chiang Mai 16.86 135 *e*Pn Pn 03 38 09.3 -2.6
comp=Z,43nm,1.0s
CHTO Chiang Mai 16.86 135 *e*P Pn 03 38 09.3 -2.6
CHTO pmax pmax
comp=Z,43nm,1.0s
CMMT Chiang Mai 16.86 135 P **P 03 38 13.7 -0.1**
comp=Z,22nm,0.8s,comp=Z,398nm
PAYA Payao 17.02 132 P **P 03 38 17.9 +2.4**
comp=Z,85μm,1.0s
BHJ Bhuj 17.04 246 *ex* Pn 03 38 07.1 -7.1
CM31 Chiang Mai Arr 17.13 136 *e*Pn Pn 03 38 14.2 -1.2
comp=Z,62nm,1.1s
CMAR Chiang Mai Arr 17.13 136 P **Pn 03 38 13.5 -1.9**
baz=313,slow=13,SNR=14
CMAR S **S 03 41 36.3 +2.8**
comp=Z,0.6nm,0.3s,baz=330,slow=27,SNR=4.0
CMAR LR LR 03 45 46.0
comp=Z,912nm,19.5s,baz=328,slow=41
POO Poona 17.21 225 *e*P Pn 03 38 15.7 -0.8
KK31 Karatay Array 17.22 317 *e*Pn Pn 03 38 13.9 -2.4
comp=Z,20nm,1.2s
KK31 Karatay Array 17.22 317 *i*P Pn 03 38 16.2 -0.1
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KKAR Karatay Array 17.22 317 *e*Pn Pn 03 38 13.6 -2.7
comp=Z,20nm,1.2s
KKAR Karatay Array 17.22 317 *e*P Pn 03 38 13.6 -2.7
KKAR pmax pmax
comp=Z,20nm,1.2s
LAMP Lampang 17.50 134 P **P 03 38 21.0 +0.2**
comp=Z,304μm,0.7s
PHRA Phrae 17.89 133 P **P 03 38 27.1 +2.0**
comp=Z,6.1nm,1.0s,comp=Z,130nm
DGZ Jazzator, Alta 18.25 2 *i*P P 03 38 26.7 -2.4
DGZ pmax pmax
comp=Z,8.0nm,1.0s
GYA Guiyang 18.32 101 ⇑*i*P **P 03 38 27.1 -2.8**
GYA pP Pn 03 38 31.6 +1.5
GYA S **Sn 03 41 53.1 -0.6**
GYA sS S 03 41 57.8 +0.2
GYA SS **SnSn 03 42 15.1 +7.7**
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,810nm,6.8s
GYA LR LR
comp=Z,2μm,9.3s
GYA LR LR
comp=Z,2μm,12.0s
GYA LR LR
comp=Z,4μm,11.2s
SLVN Son La 18.53 119 *e*P P 03 38 31.8 -0.4
comp=Z,44nm,1.1s
UTTA Uttaradit 18.66 134 P **Pn 03 38 35.6 +1.5**
comp=Z,40μm,0.9s,comp=Z,427μm
UMPA Umpang Tak 18.89 141 P **Pn 03 38 41.7 +4.8**
comp=Z,38μm,0.8s
XAN Xi'an 19.02 76 P **P 03 38 34.1 -3.5**
XAN pP pP 03 38 44.1 -4.0
XAN sP sP 03 38 48.6 -4.6
XAN S **S 03 42 13.8 +2.2**
XAN pmax pmax
comp=Z,40nm,1.4s
XAN pmax pmax
comp=Z,860nm,7.9s
XAN LR LR
comp=Z,2μm,10.2s
XAN LR LR
comp=Z,4μm,10.6s
XAN LR LR
comp=Z,4μm,14.7s
XAN Xi'an 19.02 76 *e*P P 03 38 34.9 -2.7
comp=Z,114nm,1.5s
XAN Xi'an 19.02 76 *e*P P 03 38 34.9 -2.7
XAN pmax pmax
comp=Z,114nm,1.5s
DGPR DIGLIPUR 19.11 161 *e*P P 03 38 38.8 +0.2
MDRS Chennai 19.18 199 *e*P Pn 03 38 40.9 +0.5
GOA Goa 19.66 219 *e*P Pn 03 38 45.9 -0.2
ENH Enshi 19.76 87 *e*P P 03 38 43.8 -1.8
comp=Z,90nm,1.1s
OTUK Ortayu 19.95 331 P **P 03 38 48.0 +0.5**
OTUK pmax pmax
comp=Z,42nm,1.2s
KURBB Kurchatov Arra 20.06 345 P **P 03 38 47.5 -1.2**
comp=Z,45nm,1.2s,baz=163,slow=10,SNR=74
NONG Nongkai 20.11 128 P **P 03 38 49.6 +0.2**
comp=Z,1.8nm,1.1s
KURK Kurchatov 20.13 345 *e*P P 03 38 48.1 -1.3
comp=Z,86nm,1.2s
KURK Kurchatov 20.13 345 *de*P P 03 38 48.1 -1.3
KURK pmax pmax
comp=Z,99nm,1.7s
PBA Port Blair 20.52 162 *e*P P 03 38 54.8 +0.9
comp=Z,166nm,0.8s
PBA Port Blair 20.52 162 *e*P P 03 38 54.7 +0.8
SRDT SRDT 20.57 143 P **P 03 38 54.7 +0.3**
comp=Z,35nm,0.9s
CHAI Chaiyaphum 20.94 134 P **P 03 38 58.1 -0.4**
comp=Z,138μm,0.9s
BTO Baotou 21.05 58 *e*P P 03 38 55.8 -3.8
BTO S **S 03 42 47.4 -4.7**
KHON Khomkaen 21.14 132 P **P 03 39 03.2 +2.6**
comp=Z,99μm,1.2s
SKNT Sakolnakorn 21.43 128 P **P 03 39 03.6 -0.2**
comp=Z,56nm,0.9s,comp=Z,2μm
PANO Nakornpanom 21.74 127 P **P 03 39 06.8 -0.3**
comp=Z,2.2nm,1.1s,comp=Z,38nm
PHET Kaeng Krachan 22.05 144 P **P 03 39 11.8 +1.5**
comp=Z,178μm,0.9s
TIY Taiyuan 22.20 67 *e*P P 03 39 09.8 -2.2
TIY S **S 03 43 15.8 +1.3**
TIY SS **SnSn 03 43 52.8 +10**
TIY pmax pmax
comp=Z,28nm,0.5s
TIY pmax pmax
comp=Z,510nm,6.6s
TIY LR LR
comp=Z,5μm,13.7s
TIY LR LR
comp=Z,990nm,10.1s
TIY LR LR
comp=Z,4μm,11.4s
HHC Hu-ho-hao-te 22.24 58 *e*P P 03 39 11.4 -1.0
HHC pP pP 03 39 20.3 -2.7
HHC PP **PnPn 03 39 33.5 -1.9**
HHC S **S 03 43 09.8 -5.4**
HHC SS **SnSn 03 43 46.5 +3.0**
HHC pmax pmax
comp=Z,100nm,0.8s
HHC pmax pmax
comp=Z,860nm,4.3s
HHC LR LR
comp=Z,2μm,11.5s
HHC LR LR
comp=Z,3μm,11.3s
HHC LR LR
comp=Z,3μm,12.0s
SONA0 Songino Array 22.31 37 *e*P P 03 39 13.0 -0.2
SONM Songino Array 22.31 37 *e*P P 03 39 11.5 -1.6
SONM Songino Array 22.31 37 P **P 03 39 13.0 -0.2**
SONM Songino Array 22.31 37 P **P 03 39 13.0 -0.2**
comp=Z,20nm,0.9s,baz=220,slow=11,SNR=35
SONM LR LR 03 48 44.0
comp=Z,2μm,21.7s,baz=230,slow=39
ZAA0 Zalesovo Array 22.53 357 *e*P P 03 39 13.4 -1.8
comp=Z,54nm,1.3s
ZALV Zalesovo Beam 22.53 357 P **P 03 39 14.7 -0.5**
comp=Z,20nm,0.9s,baz=188,slow=10,SNR=24
ZALV S **S 03 43 23.0 +3.2**
comp=Z,0.4nm,0.3s,baz=140,slow=21,SNR=1.9
ZALV LR LR 03 48 10.1
comp=Z,739nm,21.1s,baz=242,slow=37
ULN Ulaanbaatar 22.68 38 *e*P P 03 39 16.0 -1.0
comp=Z,52nm,0.9s
ULN Ulaanbaatar 22.68 38 *ce*P P 03 39 16.4 -0.6
ULN pmax pmax
comp=Z,72nm,1.3s
ZAK Zakamensk 22.68 29 *e*P P 03 39 15.9 -1.1
ZAK pmax pmax
comp=Z,26nm,1.4s
MOY Mondy 22.85 24 *e*P P 03 39 19.0 +0.2
MOY pmax pmax
comp=Z,142nm,2.1s
NVS Novosibirsk 23.50 355 ⇑*i*P **P 03 39 25.0 -0.1**
NVS *i* 03 39 54.0
NVS *e*S **S 03 43 39.4 +3.1**
NVS pmax pmax
comp=Z,46nm,1.7s
NVS pmax pmax
comp=N,35nm,1.6s
NVS pmax pmax
comp=E,15nm,1.6s
NVS smax smax
comp=N,33nm,2.4s
NVS smax smax
comp=E,21nm,2.0s
WHN Wuhan 23.86 85 P **P 03 39 28.3 -0.4**
WHN S **S 03 43 46.4 +3.9**
WHN pmax pmax
comp=E,820nm,1.7s
WHN pmax pmax
comp=E,2μm,6.1s
WHN LR LR
comp=E,2μm,6.9s
WHN LR LR
comp=E,3μm,8.1s
WHN LR LR
comp=E,5μm,20.9s
GEYT Alibeck 24.17 293 P **P 03 39 33.0 +1.3**
comp=E,8.4nm,0.9s,baz=104,slow=6.3,SNR=18
GEYT LR LR 03 50 00.8
comp=E,1μm,21.7s,baz=70,slow=39
GYA0B ALIBECK ARRAY 24.17 293 *e*P P 03 39 32.1 +0.4
comp=E,32nm,1.2s
QIZ Qiongzhong 24.40 115 P **P 03 39 34.8 +1.0**
QIZ S **S 03 43 55.3 +4.0**
QIZ pmax pmax
comp=E,34nm,0.9s
QIZ pmax pmax
comp=E,680nm,3.7s
QIZ LR LR
comp=E,480nm,14.7s
QIZ LR LR
comp=E,550nm,9.8s
QIZ LR LR
comp=E,1μm,10.8s
IRK Irkutsk 24.51 27 *e*P P 03 39 37.2 +2.6
IRK pmax pmax
comp=Z,94nm,2.5s
BVAR Borovoye Array 24.54 336 P **P 03 39 34.1 -0.7**
comp=Z,3.6nm,0.4s,baz=146,slow=11,SNR=15
BRVK Borovoye 24.60 336 *e*P P 03 39 35.1 -0.2
comp=Z,41nm,1.2s
BRVK Borovoye 24.60 336 *ce*P P 03 39 35.4 0.0
BRVK pmax pmax
comp=Z,20nm,0.8s
PALK Pallekele 24.65 194 *e*P P 03 39 36.8 +0.7
comp=Z,94nm,1.0s
PALK Pallekele 24.65 194 *e*P P 03 39 36.8 +0.7
PALK pmax pmax
comp=Z,94nm,1.0s
PALK Pallekele 24.65 194 P **P 03 39 36.9 +0.8**
comp=Z,76nm,1.0s,baz=296,slow=4.3,SNR=14
BJT Baijiatuau 25.46 62 *e*P P 03 39 43.0 -0.3
comp=Z,67nm,1.1s
BJT Baijiatuau 25.46 62 *e*P P 03 39 43.0 -0.3
BJT pmax pmax
comp=Z,67nm,1.1s
BJI Beijing 25.47 62 P **P 03 39 44.0 +0.7**
BJI pmax pmax
comp=Z,28nm,1.1s
BJI LR LR
comp=Z,2μm,18.6s
BJI LR LR
comp=Z,890nm,12.0s
BJI LR LR
comp=Z,470nm,18.6s
TIA Tai'an 25.81 71 P **P 03 39 46.4 -0.1**
TIA S **S 03 44 18.9 +5.2**
TIA pmax pmax
comp=Z,10.0nm,1.0s
TIA pmax pmax
comp=Z,430nm,5.3s
TIA LR LR
comp=Z,2μm,9.8s
TIA LR LR
comp=Z,1μm,8.8s
TIA LR LR
comp=Z,2μm,9.1s
KRAB Krabi 25.95 150 P **P 03 39 50.4 +2.5**
comp=Z,129μm,0.8s
WSAR Wadi Sarin 26.03 259 P **P 03 39 51.5 +3.0**
comp=Z,123nm,1.2s,baz=92,slow=7.7,SNR=20
WSAR LR LR 03 50 34.7
comp=Z,815nm,21.8s,baz=110,slow=38
TRTT Trang 26.51 150 P **P 03 39 55.3 +2.4**
comp=Z,36nm,1.2s
AB31 Akbulak array 26.74 319 *i*P P 03 39 55.4 +0.6
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 26.74 319 *e*P P 03 39 55.1 +0.3
comp=Z,22nm,1.2s
NJ2 Nanjing 27.46 80 *e*P P 03 40 04.3 +2.9
NJ2 pP **pP 03 40 08.5 -4.4**
NJ2 pmax pmax
comp=Z,13nm,0.9s
NJ2 LR LR
comp=Z,2μm,10.3s
NJ2 LR LR
comp=Z,1μm,13.3s
NJ2 LR LR
comp=Z,3μm,19.2s
DLV T Lat 28.07 129 *e*P P 03 40 07.0 -0.2
comp=Z,38nm,1.4s
AKTO Aktyubinsk 28.42 320 P **P 03 40 11.1 +1.2**
comp=Z,2.9nm,0.6s,baz=115,slow=8.7,SNR=9.0
AKTO LR LR 03 52 08.7
comp=Z,569nm,20.1s,baz=122,slow=38
QZH Quanzhou 28.94 95 P **P 03 40 16.3 +1.7**
QZH S **S 03 45 08.0 +4.9**
QZH LR LR
comp=Z,710nm,11.4s
QZH LR LR
comp=Z,1μm,9.0s
QZH LR LR
comp=Z,2μm,10.0s
KULM Kulim 29.20 150 *e*P P 03 40 18.1 +1.1
comp=Z,48nm,1.4s
DL2 Dalian 29.52 66 P **P 03 40 18.3 -1.3**
DL2 *e*S **S 03 45 10.8 -1.2**
DL2 pmax pmax
comp=Z,24nm,1.0s
DL2 pmax pmax
comp=Z,220nm,4.6s
DL2 LR LR
comp=Z,840nm,14.6s
DL2 LR LR
comp=Z,4μm,13.6s
DL2 LR LR
comp=Z,4μm,13.4s
HIA Hailar 30.62 45 *e*P P 03 40 29.3 -0.1
comp=Z,29nm,1.4s
HIA Hailar 30.62 45 *e*P P 03 40 29.3 -0.1
HIA pmax pmax
comp=Z,29nm,1.4s
PSI Prapat 30.80 155 *e*P P 03 40 31.2 -0.1
comp=Z,14nm,1.0s
PSI *e*PcP **PcP 03 43 28.5 +0.3**
PSI Prapat 30.80 155 *e*P P 03 40 31.2 -0.1
PSI *e* 03 43 28.5
PSI pmax pmax
comp=Z,14nm,1.0s
PSI Prapat 30.80 155 P **P 03 40 31.5 +0.2**
comp=Z,9.1nm,0.8s,baz=309,slow=4.6,SNR=5.3
PSI LR LR 03 56 13.0
comp=Z,386nm,18.3s,baz=350,slow=43
SVE Sverdlovsk 31.09 332 *e*P P 03 40 34.0 +0.7
SVE *e*S **S 03 45 36.1 -0.1**
SVE pmax pmax
comp=Z,55nm,1.5s
SVE MLR MLR
comp=Z,580nm,12.0s
SNY Shenyang 31.28 60 ⇓P **P 03 40 34.8 -0.4**
SNY S **S 03 45 48.3 +8.7**
SNY pmax pmax
comp=Z,26nm,1.6s
SNY pmax pmax
comp=Z,380nm,4.9s
SNY LR LR
comp=Z,880nm,11.3s
SNY LR LR
comp=Z,2μm,13.7s
SNY LR LR
comp=Z,1μm,14.7s

ARU **Arti** 31.67 330 *e*P P 03 40 37.1 -1.4
comp=Z,22nm,1.0s
ARU **Arti** 31.67 330*c i*P P 03 40 38.8 +0.4
ARU 03 41 40.9
ARU S S 03 45 49.4 +4.1
ARU SS SnSn 03 47 32.5 -0.7
ARU pmax pmax
comp=Z,39nm,1.4s
ARU MLR MLR
comp=Z,389nm,15.0s
ARU **Arti** 31.67 330 P P 03 40 38.1 -0.4
comp=Z,1.6nm,0.3s,baz=162,slow=3.2,SNR=14
ARU LR LR 03 53 26.4
comp=Z,798nm,19.7s,baz=128,slow=36
GSI **Gunungsitoli** 31.75 159 *e*P P 03 40 38.7 -0.8
comp=Z,51nm,0.9s
BOD **Bodaibo** 32.41 27 *e*P P 03 40 44.3 -0.6
BOD pmax pmax
comp=Z,18nm,1.1s
AKT **Akhty** 32.52 299 *i*P P 03 40 49.1 +2.8
MAK **Makhachkala** 32.85 302 *e*P P 03 40 46.8 -2.2
MAK *e*S S 03 46 03.3 -0.7
MAK pmax pmax
comp=Z,18nm,0.3s
MAK MLR MLR
comp=Z,2μm,16.0s
CN2 **Changchun** 32.92 57 ⇓P P 03 40 48.8 -0.8
CN2 *e*pP pP 03 40 52.0 -9.1
CN2 *e*S S 03 46 02.8 -2.3
CN2 pmax pmax
comp=Z,120nm,0.9s
CN2 pmax pmax
comp=Z,220nm,3.0s
CN2 LR LR
comp=Z,910nm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
MYKOM **Kota Tinggi** 33.74 148 P P 03 40 58.0 +1.1
TJN **Taejon** 34.08 70 *i*P P 03 40 59.6 -0.1
KS15 **Wonju Array Si** 34.44 68 *e*P P 03 41 00.0 -2.8
comp=Z,64nm,1.7s
KSRS **Korea Array** 34.47 68 P P 03 41 02.0 -1.1
KSRS **Korea Array** 34.47 68 P P 03 41 01.9 -1.1
comp=Z,4.8nm,0.9s,baz=275,slow=9.3,SNR=9.6
SISI **Saibi** 34.71 158 P P 03 41 07.0 +1.7
GNI **Garni** 34.71 296 *e*P P 03 41 05.6 +0.2
comp=Z,31nm,1.4s
GNI **Garni** 34.71 296*ce*P P 03 41 08.3 +2.9
GNI pmax pmax
comp=Z,108nm,1.3s
GNI **Garni** 34.71 296 P P 03 41 06.6 +1.2
comp=Z,4.6nm,0.4s,baz=197,slow=5.4,SNR=7.0
PDSI **Padang** 34.80 155 P P 03 41 06.6 +0.5
comp=Z,41nm,1.0s
AKH **Akhalkalaki** 35.70 298 *e*P P 03 41 13.6 -0.2
comp=Z,12nm,0.9s
AKH **Akhalkalaki** 35.70 298 ⇓*i*P P 03 41 16.5 +2.6
AKH **Akhalkalaki** 35.70 298 *e*P P 03 41 13.6 -0.2
AKH pmax pmax
comp=Z,12nm,0.9s
TGY **Tagaytay City** 35.93 111 LR LR 03 56 16.2
comp=Z,344nm,21.5s,baz=74,slow=37
MDJ **Mudanjiang** 35.98 56 P P 03 41 15.6 -0.4
MDJ pmax pmax
comp=Z,20nm,0.7s
MDJ pmax pmax
comp=Z,260nm,4.9s
MDJ **Mudanjiang** 35.98 56 *e*P P 03 41 15.8 -0.3
KBZ **Khabaz** 36.28 302 LR LR 03 58 27.4
comp=Z,1μm,19.2s,baz=92,slow=40
NEY **Neytrino** 36.37 301 *i*P P 03 41 22.0 +2.4
KIV **Kislovodsk** 36.45 303 *e*P P 03 41 23.5 +3.3
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,2μm,16.0s
ZEA **Zeya** 36.65 41 *e*P P 03 41 24.6 +3.0
ZEA *e* 03 42 47.4
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=Z,2μm,11.0s
ZEA MLR MLR
comp=N,800nm,10.0s
ZEA MLR MLR
comp=E,2μm,10.0s
KIRV **Kirov** 36.94 328 P P 03 41 24.2 +0.3
comp=E,32nm,0.9s,baz=115,slow=7.9,SNR=19
DOMR **Dombai** 37.17 301 *i*P P 03 41 28.3 +1.9
KSM **Kuching** 37.34 138 *e*P P 03 41 27.3 -0.5
comp=E,43nm,1.2s
KSM **Kuching** 37.34 138 P P 03 41 30.0 +2.1
KKM **Kota Kinabalu** 37.57 126 *e*P P 03 41 29.4 -0.5
comp=E,120nm,1.1s
KKM **Kota Kinabalu** 37.57 126 P P 03 41 30.0 +0.1
USA0B **Ussuriysk Arra** 37.66 57 *e*P P 03 41 29.8 -0.5
comp=E,66nm,1.0s
USA0B **Ussuriysk Arra** 37.66 57 *e*P P 03 41 29.8 -0.5
USA0B pmax pmax
comp=Z,66nm,1.0s
USRK **Ussuriysk Ar.** 37.66 57 P P 03 41 29.7 -0.6
comp=Z,47nm,0.9s,baz=259,slow=6.8,SNR=43
USRK LR LR 03 58 20.9
comp=Z,1μm,18.9s,baz=259,slow=39
SBUM **Sibu** 37.68 135 *e*P P 03 41 30.5 -0.2
comp=Z,7.7nm,0.9s
SBUM **Sibu** 37.68 135 P P 03 41 28.0 -2.7
NRIK **Noril'sk** 37.95 1 P P 03 41 31.9 -0.5
comp=Z,16nm,0.7s,baz=184,slow=7.0,SNR=10.0
NRIK LR LR 03 59 19.6
comp=Z,488nm,19.7s,baz=192,slow=40
KLR **Kul'dur** 38.14 49 *i*P P 03 41 32.3 -2.0
KLR pmax pmax
comp=Z,25nm,1.1s
KLR **Kul'dur** 38.14 49 P P 03 41 33.9 -0.4
comp=Z,20nm,1.0s,baz=272,slow=11,SNR=17
VRH **Novokhopyorsk** 38.27 314 *e*P P 03 41 36.1 +0.8
VRH pmax pmax
comp=Z,10.0nm,0.6s
VORD **Divnogorie** 39.72 313 *e*P P 03 41 48.3 +0.9
VORD pmax pmax
comp=Z,10.0nm,1.2s
VSR **Storozhevoye** 39.84 314 *e*P P 03 41 47.9 -0.6
VSR pmax pmax
comp=Z,20nm,1.9s
PRGR **Permogore** 40.12 331 *e*P P 03 41 50.3 -0.4
PRGR pmax pmax
comp=Z,55nm,1.4s
LPSR **Galich'ya Gora** 40.27 316 *e*P P 03 41 53.5 +1.5
LPSR pmax pmax
comp=Z,20nm,0.8s
TEY **Ternei** 40.99 56⇑*e*P P 03 41 57.9 -0.1
TEY pmax pmax
comp=Z,10.0nm,1.4s
YAK **Yakutsk** 41.27 29 *e*P P 03 41 59.6 -0.5
YAK *e* 03 43 37.7
YAK *e*S S 03 48 12.7 +1.3
YAK *e* 03 51 56.7
YAK pmax pmax
comp=Z,149nm,1.3s
YAK pmax pmax
comp=N,38nm,0.9s
YAK pmax pmax
comp=E,57nm,1.3s
YAK pmax pmax
comp=Z,521nm,5.1s
YAK pmax pmax
comp=N,490nm,4.9s
YAK pmax pmax
comp=E,396nm,4.9s
YAK smax smax
comp=N,709nm,6.7s
YAK smax smax
comp=E,781nm,6.5s
YAK MLR MLR
comp=Z,4μm,14.0s
YAK MLR MLR
comp=N,1μm,10.0s
YAK MLR MLR
comp=E,2μm,11.0s
GRNR **Gornyy** 41.37 47 *e*P P 03 41 57.1 -4.0
MOS **Moscow** 41.76 320 *e*P P 03 42 03.8 -0.4
MOS *e* 03 43 39.0

MOS *e* 03 44 00.5
MOS *e*S S 03 48 24.0 +5.1
MOS pmax pmax
comp=Z,300nm,1.7s
MOS pmax pmax
comp=Z,187nm,1.6s
ASF **Jabal al Asfar** 41.87 285 P P 03 42 06.6 +1.0
comp=Z,3.3nm,0.9s,baz=354,slow=1.4,SNR=8.4
ASF PP PP 03 43 46.1 +3.4
comp=Z,1.7nm,0.8s,baz=37,slow=6.7,SNR=4.2
DAMY **Dhamar** 41.96 256 *e*P P 03 42 08.6 +1.9
comp=Z,30nm,1.2s
INU **Inuyama** 41.98 71 *e*P P 03 42 04.3 -2.0
comp=Z,26nm,1.1s
OBN **Obninsk** 42.19 319 *e*P P 03 42 07.3 -0.4
comp=Z,144nm,1.4s
OBN **Obninsk** 42.19 319 *e*P P 03 42 09.7 +2.0
OBN *e* 03 43 49.1
OBN *e* 03 44 02.8
OBN pmax pmax
comp=Z,147nm,1.7s
OBN MLR MLR
comp=Z,368nm,16.0s
OBN **Obninsk** 42.19 319 P P 03 42 08.8 +1.0
comp=Z,6.9nm,0.8s,baz=89,slow=7.5,SNR=14
KLMR **Klimovskoe** 42.44 328 *e*P P 03 42 08.0 -1.7
KLMR *e* 03 43 47.9
KLMR pmax pmax
comp=Z,114nm,1.5s
SIM **Simferopol'** 42.62 304 *e*P P 03 42 16.4 +5.0
SIM *e*S S 03 48 35.2 +3.2
SIM pmax pmax
comp=Z,14nm,0.8s
MAJO **Matsushiro** 42.74 69 *e*P P 03 42 11.2 -1.4
comp=Z,16nm,0.8s
MAJO **Matsushiro** 42.74 69 *e*P P 03 42 11.2 -1.4
MAJO pmax pmax
comp=Z,16nm,0.8s
MAT **Matsushiro** 42.74 69 P P 03 42 10.6 -2.0
MJAR **Matsushiro Arr** 42.75 69 P P 03 42 11.3 -1.3
comp=Z,13nm,0.9s,baz=280,slow=10.0,SNR=24
MJAR LR LR 04 01 13.5
comp=Z,458nm,18.2s,baz=285,slow=38
BR131 **Keskin Array S** 43.26 296 *e*P P 03 42 16.9 +0.2
comp=Z,14nm,1.4s
BR131 **Keskin Array S** 43.26 296 *e*P P 03 42 17.0 +0.2
BR131 pmax pmax
comp=Z,14nm,1.4s
BRTR **Keskin Array B** 43.26 296 P P 03 42 17.6 +0.7
comp=Z,1.8nm,0.9s,baz=76,slow=5.2,SNR=10
BRTR PP PP 03 44 00.4 +2.8
comp=Z,2.2nm,1.1s,baz=110,slow=12,SNR=3.1
ANTO **Ankara** 43.89 296 *e*P P 03 42 21.0 -0.8
comp=Z,26nm,1.4s
ANTO **Ankara** 43.89 296 *e*P P 03 42 21.0 -0.8
ANTO pmax pmax
comp=Z,26nm,1.4s
EIL **Elat** 44.10 282 P P 03 42 24.5 +0.9
comp=Z,26nm,1.2s,baz=20,slow=1.2,SNR=14
NKL **Nikolayevsk** 44.30 44 *e*P P 03 42 24.0 -0.8
NKL pmax pmax
comp=Z,20nm,0.9s
NKL MLR MLR
comp=N,600nm,12.0s
NKL MLR MLR
comp=E,2μm,12.0s
NKL MLR MLR
comp=Z,3μm,12.0s
TMCR **Tamitsa** 44.37 332 *e*P P 03 42 27.1 +1.9
TMCR pmax pmax
comp=Z,104nm,1.5s
SMRI **Semarang** 44.59 145 *e*P P 03 42 27.4 -0.1
comp=Z,185nm,0.9s
ATD **Arta Tunnel** 44.84 254 *e*P P 03 42 31.1 +1.4
comp=Z,90nm,1.4s
ATD **Arta Tunnel** 44.84 254 P P 03 42 31.9 +2.2
comp=Z,28nm,1.1s,baz=48,slow=5.2,SNR=20
ATD PP PP 03 44 15.2 +0.5
comp=Z,4.6nm,0.6s,baz=46,slow=3.6,SNR=5.1
ASAJ **Asahikawa** 45.28 57 P P 03 42 32.1 -0.7
comp=Z,30nm,1.0s,baz=263,slow=18,SNR=10
YSS **Yuzh-Sakhalins** 45.29 53 *e*P P 03 42 32.1 -0.7
comp=Z,60nm,1.3s
YSS **Yuzh-Sakhalins** 45.29 53*d i*P P 03 42 32.0 -0.8
YSS *e* 03 44 19.6
YSS *e*S S 03 49 14.9 +4.1
YSS pmax pmax
comp=Z,300nm,4.7s
YSS MLR MLR
comp=E,2μm,14.0s
YSS MLR MLR
comp=Z,1μm,14.0s
AKASG **Malin Array Be** 46.02 312 *e*P P 03 42 38.0 -0.5
AKASG **Malin Array Be** 46.02 312 *e*P P 03 42 38.0 -0.5
AKASG **Malin Array Be** 46.02 312 P P 03 42 38.6 +0.1
comp=Z,0.9nm,0.4s,baz=68,slow=7.1,SNR=20
AKASG PP PP 03 44 26.4 -0.3
comp=Z,0.3nm,0.3s,baz=79,slow=8.9,SNR=4.7
AKASG LR LR 04 04 21.7
comp=Z,676nm,20.4s,baz=170,slow=39
AKBB **Malin Array Si** 46.02 312 *e*P P 03 42 38.0 -0.5
comp=Z,22nm,1.5s
AKBB **Malin Array Si** 46.02 312 *e*P P 03 42 38.0 -0.5
AKBB pmax pmax
comp=Z,23nm,1.5s
KIEV **Kiev** 46.03 312 *i*P P 03 42 39.8 +1.2
KIEV pmax pmax
comp=Z,6.0nm,1.3s
TIXI **Tiksi** 46.18 17 *e*P P 03 42 38.2 -1.2
comp=Z,17nm,1.2s
TIXI **Tiksi** 46.18 17*ce*P P 03 42 38.5 -0.9
TIXI pmax pmax
comp=Z,37nm,2.5s
TIXI **Tiksi** 46.18 17 P P 03 42 37.9 -1.5
comp=Z,3.3nm,0.5s,baz=271,slow=2.9,SNR=10
KIS **Kishinev** 46.28 307 *e*P P 03 42 43.0 +2.4
KIS LRM MLR 04 02 52.0
comp=Z,300nm,20.0s
KMMI **Kalianget** 46.41 141 P P 03 42 45.9 +4.0
PUL **Pulkovo** 46.50 325*ce*P P 03 42 44.7 +2.6
PUL pmax pmax
comp=Z,88nm,0.5s
JOF **Joensuu** 46.78 329 P P 03 42 46.2 +1.9
JOF pmax pmax
comp=Z,44nm,1.2s
CFR **Carcaliu** 46.85 304⇑*i*P P 03 42 47.1 +2.0
CFR **Carcaliu** 46.85 304 P P 03 42 47.9 +2.8
CFR pmax pmax
comp=Z,11nm,1.8s
MICGM **Minsk** 47.06 317 *e* P 03 42 48.0 +1.4
MNK **Minsk** 47.06 317 *e*P P 03 42 48.0 +1.4
MANT **Manisa** 47.34 295 *e*P P 03 42 49.4 0.0
comp=Z,137nm,1.5s
APA **Apatity** 47.45 335⇓*i*P P 03 42 40.7 -8.7
APA pmax pmax
comp=Z,5.0nm,1.1s
APA MLR MLR
comp=Z,600nm,13.0s
NACGM **Naroch** 47.73 318 *e* P 03 42 52.0 +0.2
NACGM *e*LQ LQ 04 04 18.0
NACGM *e*LR LR 04 05 52.0
VRI **Vrincioaia** 47.78 305⇑*i*P P 03 42 54.0 +1.5
VRI **Vrincioaia** 47.78 305 P P 03 42 53.9 +1.5
IDID **Didziasalis** 47.79 318 *e*P P 03 42 52.4 +0.2
IDID IAmb IAmb 03 42 55.9
comp=Z,22nm,1.1s
PLOR **Plostina** 47.84 305⇑*i*P P 03 42 53.8 +0.9
PLOR **Plostina** 47.84 305 P P 03 42 53.8 +0.9
ISR **Istrita** 47.98 304⇑*i*P P 03 42 57.2 +3.2
ISR **Istrita** 47.98 304 P P 03 42 59.1 +5.1
ISR pmax pmax
comp=Z,40nm,1.4s
IIGN **Ignalina** 48.08 318 *e*P P 03 42 55.7 +1.2
IIGN IAmb IAmb 03 42 58.4
comp=Z,83nm,1.4s
IZAR **Zarasai** 48.10 319 *e*P P 03 42 55.5 +0.8
IZAR IAmb IAmb 03 42 58.4
comp=Z,36nm,1.0s
VSU **Vasula** 48.11 322*ce*P P 03 42 57.1 +2.5
VSU pmax pmax
comp=Z,458nm,1.7s
VSU **Vasula** 48.11 322 *e*P P 03 42 54.4 -0.2
VSU IAmb IAmb 03 42 58.2
comp=Z,278nm,1.2s
BIZ **Bicaz** 48.14 307⇑*i*P P 03 42 57.0 +1.9
ISAL **Salakas** 48.15 318 *e*P P 03 42 56.0 +1.0

ISAL IAmb IAmb 03 42 58.9
comp=Z,36nm,1.1s
KAPI **Kappang** 48.16 133 P P 03 42 53.4 -2.1
comp=Z,13nm,0.9s,baz=273,slow=18,SNR=3.4
MLR **Muntele Rosu** 48.36 305 *e*P P 03 42 58.5 +1.5
comp=Z,62nm,1.1s
MLR **Muntele Rosu** 48.36 305⇑*i*P P 03 42 58.9 +1.9
MLR **Muntele Rosu** 48.36 305 P P 03 42 58.4 +1.4
comp=Z,48nm,1.2s,baz=60,slow=4.2,SNR=24
MSF **Maaselka** 48.55 333 P P 03 43 00.3 +2.3
MSF pmax pmax
comp=Z,29nm,1.8s
BKSI **Bulukumba** 48.63 133 P P 03 42 58.8 -0.4
BURAR **Bucovina Array** 48.70 308⇓*i*P P 03 43 01.5 +1.9
BURAR **Bucovina Array** 48.70 308 P P 03 43 01.5 +1.9
DOPR **Dopca** 48.71 306⇑*i*P P 03 43 00.7 +1.1
BUR08 **Bucovina Ar. S** 48.71 308 *e*P P 03 43 00.6 +0.9
comp=Z,6.5nm,1.1s
EZN **Ezine** 48.82 297 P P 03 43 01.6 +1.1
EZN **Ezine** 48.82 297⇑*i*P P 03 43 01.9 +1.4
EZN **Ezine** 48.82 297 P P 03 43 01.8 +1.3
ALN **Alexandroupoli** 48.86 299 P P 03 43 01.9 +1.2
ALN **Alexandroupoli** 48.86 299 P P 03 43 04.0 +3.3
ALN pmax pmax
comp=Z,9.0nm,1.4s
FIA1 **FINESS Array S** 48.86 326 *e*P P 03 42 59.3 -1.1
comp=Z,38nm,1.2s
FINES **FINESS Array B** 48.86 326 P P 03 42 59.7 -0.7
comp=Z,6.3nm,0.6s,baz=105,slow=9.2,SNR=43
KUR **Kuril'sk** 48.94 55*c i*P P 03 43 02.4 +1.1
KUR *e* 03 44 56.6
KUR *i*PPP PPP 03 45 48.6
KUR S S 03 50 06.2 +3.3
KUR pmax pmax
comp=Z,75nm,1.2s
KUR MLR MLR
comp=Z,519nm,13.0s
KUR MLR MLR
comp=N,544nm,14.0s
KUR MLR MLR
comp=E,557nm,20.0s
PRK **Paraskevi** 48.97 297 P P 03 43 03.5 +1.9
VOIR 48.99 305⇑*i*P P 03 43 02.7 +0.9
VOIR 48.99 305 P P 03 43 04.3 +2.5
VOIR pmax pmax
comp=Z,9.0nm,1.8s
SUF **Sumiainen** 49.05 328 P P 03 43 01.5 -0.3
SUF pmax pmax
comp=Z,65nm,1.2s
CHOS **Chios island** 49.29 296 P P 03 43 05.6 +1.4
ARR **Arges** 49.29 305⇑*i*P P 03 43 05.7 +1.6
LVV **L'vov** 49.36 311 *e*P P 03 43 05.8 +1.3
PABE **Paberze** 49.38 318 *e*P P 03 43 04.5 0.0
PABE IAmb IAmb 03 43 07.9
comp=Z,211nm,1.2s
BSSI **Bau Bau, Buton** 49.49 133 P P 03 43 06.1 +0.3
comp=Z,40nm,1.1s,comp=Z,626nm
OUL **Oulu** 49.62 331 P P 03 43 10.4 +4.3
OUL pmax pmax
comp=Z,18nm,1.7s
PLD **Plovdiv** 49.67 301 P P 03 43 10.2 +3.3
LIA **Limnos Island** 49.67 298 P P 03 43 07.8 +0.8
BMR **Baia Mare** 49.86 308 P P 03 43 13.9 +5.6
BMR pmax pmax
comp=Z,53nm,1.6s
LOT **Lotru** 49.89 305⇑*i*P P 03 43 10.8 +2.1
SGF **Sodankyl** 49.92 334 P P 03 43 11.4 +3.0
SGF pmax pmax
comp=Z,25nm,1.6s
APE **Apeiranthos** 49.97 294 P P 03 43 09.6 +0.3
PLAI **Plampang** 49.99 138 P P 03 43 09.2 -0.4
comp=Z,22nm,1.3s
SANI **Sanana** 50.14 124 P P 03 43 08.9 -1.9
KWP **Kalwaria Pacla** 50.23 311 *e*P P 03 43 12.3 +1.2
KWP **Kalwaria Pacla** 50.23 311 *e*P P 03 43 12.3 +1.2
NVR **Nevrokopi** 50.41 300 P P 03 43 12.2 -0.4
LAST **Lasithi** 50.45 292 P P 03 43 13.5 +0.5
TRPA **Tarpa** 50.46 309 *e*P P 03 43 14.1 +1.3
DRGR 50.47 307 P P 03 43 15.5 +2.5
DRGR pmax pmax
comp=Z,32nm,1.4s
MA2 **Magadan** 50.52 36 *e*P P 03 43 11.7 -1.4
comp=Z,23nm,0.9s
MA2 **Magadan** 50.52 36*ce*P P 03 43 13.1 0.0
MA2 pmax pmax
comp=Z,27nm,1.0s
MA2 **Magadan** 50.52 36 P P 03 43 12.5 -0.6
comp=Z,20nm,0.8s,baz=265,slow=12,SNR=6.7
PBUR **Paburg** 50.54 319 *e*P P 03 43 13.8 +0.5
PBUR IAmb IAmb 03 43 16.5
comp=Z,228nm,1.4s
KOLS **Kolonicke sedl** 50.56 310 *e*P P 03 43 15.7 +2.1
KOLS pmax pmax
comp=Z,10.0nm,1.4s
KOLS **Kolonicke sedl** 50.56 310 *e*P P 03 43 15.7 +2.1
UZH **Uzhgorod** 50.58 309 *e*P P 03 43 12.4 -1.3
GZR **Gura Zlata** 50.59 305⇑*i*P P 03 43 15.0 +1.1
SRS **Serrai** 50.65 300 P P 03 43 17.2 +2.8
SRS pmax pmax
comp=Z,8.0nm,1.5s
VTS **Vitosha** 50.66 302 *e*P P 03 43 14.8 +0.2
comp=Z,48nm,1.7s
VTS **Vitosha** 50.66 302 P P 03 43 16.0 +1.4
VTS **Vitosha** 50.66 302⇑*i*P P 03 43 16.0 +1.4
VTS **Vitosha** 50.66 302 P P 03 43 16.8 +2.2
VTS pmax pmax
comp=Z,16nm,1.7s
VAF **Ylistaro** 50.67 328 P P 03 43 14.6 +0.5
VAF pmax pmax
comp=Z,70nm,1.2s
PAIG **Paliouri** 50.81 298 P P 03 43 16.6 +1.1
PAIG **Paliouri** 50.81 298 P P 03 43 18.6 +3.1
PAIG pmax pmax
comp=Z,20nm,1.4s
ARA0 **ARCESS Array S** 50.83 337 *e*PcP PcP 03 44 33.2 +1.5
ARCES **ARCESS Array B** 50.83 337 P P 03 43 15.1 -0.2
comp=Z,11nm,1.0s,baz=116,slow=8.2,SNR=14
ARCES PcP PcP 03 44 33.2 +1.6
comp=Z,3.7nm,0.8s,baz=108,slow=2.9,SNR=5.3
IDI **Anoyia** 50.88 292 P P 03 43 16.8 +0.5
comp=Z,5.4nm,0.9s,baz=12,slow=9.9,SNR=6.6
LTVH **Ltavrtes, Hu** 50.96 308 *e*P P 03 43 19.1 +2.5
MRKA **Markates** 51.12 297 P P 03 43 18.6 +0.6
KNT **Kendrikon** 51.16 300 P P 03 43 20.1 +1.9
KNT pmax pmax
comp=Z,7.0nm,1.0s
SIRR **Siria** 51.26 306⇓*i*P P 03 43 21.5 +2.6
NEO **Neokhori** 51.27 297 P P 03 43 19.7 +0.6
XOR **Xorichti** 51.29 297 P P 03 43 19.7 +0.5
BEL **Belsk** 51.31 314 *e*P P 03 43 21.6 +2.5
BEL **Belsk** 51.31 314 *e*P P 03 43 21.6 +2.5
BZS **Buzias** 51.37 306⇑*i*P P 03 43 21.3 +1.6
BZS **Buzias** 51.37 306 P P 03 43 21.8 +2.1
BZS pmax pmax
comp=Z,12nm,1.7s
VAY **Valandovo** 51.37 300 *i*P P 03 43 21.0 +1.2
MDVR **Moldovita** 51.42 304⇓*i*P P 03 43 20.8 +0.6
KLNR **Kaliningrad** 51.53 317 *i*P P 03 43 21.8 +1.1
KLNR pmax pmax
comp=Z,156nm,1.2s
ATAL **Atalanti** 51.56 297 P P 03 43 21.1 -0.1
IMMV **Iera Moni Meta** 51.56 292 P P 03 43 22.0 +0.7
GRG **Griva** 51.57 300 P P 03 43 23.0 +1.7
SEY **Seymchan** 51.58 32*ce*P P 03 43 21.4 +0.4
SEY **Seymchan** 51.58 32 P P 03 43 20.1 -0.9
comp=Z,39nm,1.0s,baz=260,slow=6.1,SNR=12
STIP **Stip** 51.59 301 *i*P P 03 43 20.7 -0.7
LIT **Litokhoron** 51.67 298 *e*P P 03 43 21.6 -0.5
comp=Z,46nm,1.5s
LIT **Litokhoron** 51.67 298 P P 03 43 22.3 +0.2
LIT **Litokhoron** 51.67 298 P P 03 43 23.7 +1.6
LIT pmax pmax
comp=Z,20nm,1.6s
LTK **Loutraki** 51.75 296 P P 03 43 21.0 -1.7
NIE **Niedzica** 51.81 311 *e*P P 03 43 24.8 +1.8
NIE **Niedzica** 51.81 311 *e*P P 03 43 24.8 +1.8
AXAR **Agios Charalam** 51.82 297 P P 03 43 25.9 +2.7
AGG **Agios Georgios** 52.01 297 *e*P P 03 43 23.9 -0.8
comp=Z,41nm,1.1s
AGG **Agios Georgios** 52.01 297 P P 03 43 24.3 -0.4
OJC **Ojcow** 52.06 312 *e*P P 03 43 26.3 +1.5
OJC **Ojcow** 52.06 312 *e*P P 03 43 26.3 +1.5
VLI **Veliai** 52.07 294 P P 03 43 23.4 -1.7
SKO **Skopje** 52.08 301 *i*P P 03 43 26.5 +1.4

THL Klokotos Trika 52.14 298 P P 03 43 25.0 -0.5
PSZ Piszkesteto 52.24 309 eP P 03 43 25.7 -0.6
comp=Z,37nm,1.5s
PSZ Piszkesteto 52.24 309 eP P 03 43 27.1 +0.8
KALE Kalithea 52.30 296 P P 03 43 26.1 -0.7
VLX Vlachokerasia 52.35 295 P P 03 43 26.4 -0.9
BIA Bitola 52.35 300 i P P 03 43 28.2 +1.0
FNA Florina 52.36 300 P P 03 43 29.4 +2.1
FNA pmax pmax
comp=Z,7.0nm,1.1s
LANS Liptovska Anna 52.38 310 eP P 03 43 30.1 +2.9
LANS Liptovska Anna 52.38 310 eP P 03 43 30.1 +2.9
ANX Ano Chora 52.42 297 P P 03 43 26.9 -0.9
EVR Evrytania 52.43 297 P P 03 43 28.0 +0.1
LAKA Lakka 52.46 296 P P 03 43 27.3 -0.7
MMRI Maumere 52.51 133 P P 03 43 29.3 +0.8
comp=Z,55nm,0.9s
PENT Pentalofos 52.66 299 P P 03 43 29.3 -0.2
DRO Drossia 52.73 296 P P 03 43 29.6 -0.4
VYHS Vyhne 52.88 309 eP P 03 43 32.0 +1.1
VYHS pmax pmax
comp=Z,16nm,1.5s
VYHS Vyhne 52.88 309 eP P 03 43 32.0 +1.1
PYL PYLOS 52.96 295 P P 03 43 29.0 -2.7
OKC Ostrava-Krasne 53.16 311 eP P 03 43 35.2 +2.3
OKC MLR MLR
comp=Z,500nm,15.2s
OKC Ostrava-Krasne 53.16 311 eP P 03 43 35.2 +2.3
OKC AMS AMS 04 08 10.0
comp=Z,500nm,15.2s
SWI Sorong 53.19 118 P P 03 43 34.4 +0.9
PLE Pljevlja 53.32 303 P P 03 43 38.0 +3.7
MORH Mrgy, Hungar 53.34 307 eP P 03 43 34.0 -0.2
GKP Gorka Klasztor 53.37 316 eP P 03 43 36.1 +1.8
GKP Gorka Klasztor 53.37 316 eP P 03 43 36.1 +1.8
IGT Igoumenitsa 53.41 298 P P 03 43 35.9 +0.9
CSKK Čskako 53.42 308 eP P 03 43 36.0 +1.2
MORC Moravsky Berou 53.55 311 ⇓ i P P 03 43 37.6 +1.7
MORC Moravsky Berou 53.55 311 P P 03 43 37.7 +1.8
MORC pmax pmax
comp=Z,117nm,1.3s
MORC Moravsky Berou 53.55 311 eP P 03 43 37.7 +1.8
JAVC Velka Javorina 53.59 310 eP P 03 43 38.7 +2.5
TIH Tihany 53.74 308 eP P 03 43 38.0 +0.9
MODS Modra-Piesok 53.92 310 eP P 03 43 39.9 +1.3
MODS pmax pmax
comp=Z,36nm,1.6s
MODS Modra-Piesok 53.92 310 eP P 03 43 39.9 +1.3
KRLC Kraliky 54.00 312 eP P 03 43 41.2 +2.0
KRLC Kraliky 54.00 312 eP P 03 43 41.2 +2.0
KSP Ksiaz 54.21 313 eP P 03 43 42.1 +1.5
KSP Ksiaz 54.21 313 eP P 03 43 42.1 +1.5
VRAC Vranov 54.23 311 ⇑ i P P 03 43 43.0 +2.2
VRAC Vranov 54.23 311 eP P 03 43 43.0 +2.2
VRAC Vranov 54.23 311 P P 03 43 40.7 -0.1
comp=Z,19nm,0.9s,baz=85,slow=7.2,SNR=30
DPC Dobruska-Polom 54.26 312 eP P 03 43 41.2 +0.2
DPC MLR MLR
comp=Z,500nm,13.9s
DPC Dobruska-Polom 54.26 312 eP P 03 43 41.2 +0.2
DPC AMS AMS 04 08 40.0
comp=Z,500nm,13.9s
KRUC Moravsky 54.39 310 P P 03 43 44.0 +2.0
KRUC pmax pmax
comp=Z,27nm,1.5s
KRUC Moravsky 54.39 310 eP P 03 43 43.6 +1.6
UPC Upice 54.43 312 eP P 03 43 43.8 +1.6
UPC MLR MLR
comp=Z,600nm,15.6s
UPC Upice 54.43 312 eP P 03 43 43.8 +1.6
UPC AMS AMS 04 08 40.0
comp=Z,600nm,15.6s
SOP Sopron 54.51 309 P P 03 43 45.1 +2.3
SOP pmax pmax
comp=Z,28nm,1.4s
SOP Sopron 54.51 309 eP P 03 43 44.0 +1.2
PETK Petropavlovsk- 54.53 44 P P 03 43 41.9 -1.0
comp=Z,4.9nm,0.8s,baz=320,slow=3.9,SNR=10
PETK LR LR 04 08 56.7
comp=Z,707nm,18.3s,baz=276,slow=38
BEHE Becsehely 54.57 307 eP P 03 43 44.0 +0.8
SOEI Soe 54.64 132 eP P 03 43 45.5 +1.3
comp=Z,126nm,1.0s
SOEI Soe 54.64 132 P P 03 43 44.4 +0.2
HFS Hagfors 54.85 324 P P 03 43 44.3 -0.8
comp=Z,23nm,0.9s,baz=91,slow=9.3,SNR=23
CONA Conrad Observa 54.93 309 i P P 03 43 47.9 +1.9
comp=Z,56nm,1.5s,SNR=29
TREC Trest 54.95 311 eP P 03 43 48.3 +2.3
TREC MLR MLR
comp=Z,600nm,14.2s
TREC Trest 54.95 311 eP P 03 43 48.3 +2.3
TREC AMS AMS 04 09 10.0
comp=Z,600nm,14.2s
ARSA Arzberg 55.27 308 i P P 03 43 50.2 +1.8
comp=Z,23nm,1.5s,SNR=7.1
FAKI Fak Fak 55.28 120 eP P 03 43 47.8 -1.0
comp=Z,46nm,1.0s
FAKI Fak Fak 55.28 120 P P 03 43 49.9 +1.1
comp=Z,57nm,1.2s,comp=Z,586nm
GOPC GO Pecny, Ondr 55.30 312 eP P 03 43 50.5 +2.0
GOPC MLR MLR
comp=Z,500nm,23.7s
GOPC GO Pecny, Ondr 55.30 312 eP P 03 43 50.5 +2.0
GOPC ex x 03 51 10.7
GOPC AMS AMS 04 08 50.0
comp=Z,500nm,23.7s
PVCC Panska Ves 55.34 312 P P 03 43 51.2 +2.4
PVCC pmax pmax
comp=Z,14nm,1.8s
PVCC Panska Ves 55.34 312 eP P 03 43 50.2 +1.4
SPITS Spitsbergen Ar 55.40 346 P P 03 43 48.8 -0.1
comp=Z,2.7nm,0.5s,baz=109,slow=10.0,SNR=12
PRU Pruhonice 55.44 312 P P 03 43 51.7 +2.2
PRU pmax pmax
comp=Z,14nm,1.4s
PRU Pruhonice 55.44 312 AMS AMS 04 09 10.0
comp=Z,500nm,14.5s
RUE Ruedersdorf 55.54 315 eP P 03 43 49.4 -0.8
PERS Pernice 55.66 308 i P P 03 43 52.5 +1.2
BRG Berggiesshubel 55.68 313 eP P 03 43 51.1 -0.1
comp=Z,3.8nm,0.9s
BRG i 03 43 53.1
comp=Z,60nm,1.4s
BRG S S 03 51 21.0 -14
comp=Z,629nm,15.8s
comp=N,285nm,17.1s
comp=E,466nm,17.1s
BRG Berggiesshubel 55.68 313 eP P 03 43 51.1 -0.1
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=Z,629nm,15.8s
BRG MLR MLR
comp=N,285nm,17.1s
BRG MLR MLR
comp=E,466nm,17.1s
SOKA Soboth 55.71 308 i P P 03 43 53.6 +2.0
comp=E,58nm,1.6s,SNR=15
NC405 NORSAR Array S 55.76 325 eP P 03 43 50.9 -0.8
comp=E,74nm,1.1s
BOJS Bojanci 55.80 306 i P P 03 43 53.6 +1.5
MOA Molln 56.00 309 i P P 03 43 55.3 +1.7
comp=E,20nm,1.1s,SNR=9.1
NB2 NORSAR Subarra 56.01 325 P P 03 43 51.9 -1.6
comp=Z,6.2nm,0.8s,baz=85,slow=6.9
NOA NORSAR Array B 56.01 325 P P 03 43 52.3 -1.2
comp=Z,19nm,1.0s,baz=86,slow=6.9,SNR=21
NOA LR LR 04 08 56.6
comp=Z,408nm,19.9s,baz=135,slow=37
VISS Visnje 56.02 307 i P P 03 43 55.2 +1.5
OBKA Obir 56.07 308 i P P 03 43 55.0 +0.8
comp=Z,24nm,1.5s
GERES GERESS Array B 56.18 311 eP P 03 43 54.2 -0.8
GERES GERESS Array B 56.18 311 P P 03 43 54.7 -0.3
comp=Z,10nm,0.9s,baz=76,slow=5.6,SNR=56
GERES LR LR 04 10 41.2
comp=Z,653nm,20.1s,baz=100,slow=39
CLL Collm 56.19 314 ⇑ i P P 03 43 56.2 +1.3
CLL eS S 03 51 36.0 -5.8
CLL pmax pmax
comp=Z,55nm,1.6s
CLL Collm 56.19 314 ⇑ i P P 03 43 56.2 +1.3
comp=Z,55nm,1.6s
CLL eS S 03 51 36.0 -5.8
CLL eSS SS 03 55 30.0 +1.8
KHC Kasperske Hory 56.21 311 eP P 03 43 56.0 +0.9
KHC e 03 44 13.5
KHC MLR MLR
comp=Z,700nm,20.8s
KHC Kasperske Hory 56.21 311 eP P 03 43 56.0 +0.9
KHC ex x 03 44 13.5
KHC ex x 03 50 48.9
KHC AMS AMS 04 09 40.0
comp=Z,700nm,20.8s
JAVS Javornik 56.53 307 i P P 03 43 58.6 +1.2
WET Wettzell 56.66 311 P P 03 44 00.0 +1.7
WET pmax pmax
comp=Z,24nm,1.4s
NKC Novy Kostel 56.73 312 eP P 03 44 00.8 +2.0
NKC MLR MLR
comp=Z,700nm,17.9s
NKC Novy Kostel 56.73 312 eP P 03 44 00.8 +2.0
NKC AMS AMS 04 10 10.0
comp=Z,700nm,17.9s
KBA Koelnbreinsper 56.76 309 i P P 03 44 00.8 +1.5
comp=Z,8.3nm,0.8s
KBA Koelnbreinsper 56.76 309 P P 03 44 01.8 +2.6
KBA pmax pmax
comp=Z,10.0nm,1.1s
KMBO Kilima Mbogo 56.80 245 eP P 03 43 58.8 -1.2
comp=Z,86nm,1.2s
KMBO Kilima Mbogo 56.80 245 P P 03 44 00.3 +0.3
comp=Z,45nm,1.1s,baz=33,slow=8.8,SNR=40
KONO Kongsberg 56.94 324 ceP P 03 44 02.9 +2.8
KONO pmax pmax
comp=Z,43nm,1.3s
MOX Moxa 57.17 313 P P 03 44 03.7 +1.8
MOX pmax pmax
comp=Z,28nm,1.2s
ABTA Abfaltersbach 57.39 308 i P P 03 44 04.3 +0.7
comp=Z,15nm,1.5s
GRB1 Grafenberg Arr 57.40 312 P P 03 44 06.6 +3.1
GRB1 pmax pmax
comp=Z,43nm,1.2s
BILL Bilibino 57.44 26 eP P 03 44 03.7 +0.2
comp=Z,20nm,1.0s
BILL Bilibino 57.44 26 eP P 03 44 03.8 +0.3
BILL e 03 44 58.2
BILL e 03 46 10.7
BILL pmax pmax
comp=Z,37nm,1.7s
BILL MLR MLR
comp=Z,849nm,17.0s
MUD Monsted U'grnd 57.60 320 i P P 03 44 05.1 +0.3
MUD pmax pmax
comp=Z,100nm,1.4s
MUD Monsted U'grnd 57.60 320 i P P 03 44 05.1 +0.3
comp=Z,102nm,1.4s
GRF Grafenberg Arr 57.61 312 P P 03 44 07.8 +2.8
GRF pmax pmax
comp=Z,59nm,1.4s
GRFO Grafenberg 57.61 312 eP P 03 44 07.2 +2.2
comp=Z,82nm,1.3s
AQU L'Aquila 57.83 303 P P 03 44 12.6 +5.9
AQU pmax pmax
comp=Z,44nm,1.4s
WTTA Wattenberg 57.86 309 i P P 03 44 08.1 +1.1
comp=Z,37nm,1.4s,SNR=7.0
WATA Walderalm 57.88 309 i P P 03 44 07.8 +0.7
comp=Z,19nm,1.1s
FUR Furstenfeldbru 57.90 310 P P 03 44 09.8 +2.8
FUR pmax pmax
comp=Z,52nm,1.3s
SQTA Sankt Quirin 58.16 309 i P P 03 44 09.9 +0.9
comp=Z,15nm,0.7s,SNR=7.3
MOTA Moosalm 58.20 309 i P P 03 44 10.1 +0.7
comp=Z,32nm,1.3s,SNR=9.4
RETA Reute 58.39 309 i P P 03 44 11.8 +1.3
comp=Z,31nm,1.4s,SNR=13
FETA Feichten 58.52 309 i P P 03 44 12.5 +0.9
comp=Z,28nm,1.5s,SNR=5.7
FUORN Ofenpass-Fuorn 58.93 309 eP P 03 44 13.8 -0.7
comp=Z,49nm,1.7s
DAVA Damuels 59.02 309 i P P 03 44 16.3 +1.2
comp=Z,47nm,1.3s,SNR=9.0
STU Stuttgart 59.11 311 P P 03 44 18.7 +3.3
STU pmax pmax
comp=Z,44nm,1.1s
DAVOX Davos/Dischmat 59.14 309 P P 03 44 13.7 -2.2
comp=Z,4.0nm,0.5s,baz=115,slow=5.1,SNR=4.6
TNS Taunus Mts 59.24 313 P P 03 44 18.5 +2.1
TNS pmax pmax
comp=Z,29nm,1.1s
BUG Bochum--Univer 59.69 315 P P 03 44 22.0 +2.6
BUG pmax pmax
comp=Z,33nm,1.4s
BFO Black Forest 59.77 311 ceP P 03 44 22.1 +2.0
SLE Schleitheim 59.81 310 P P 03 44 22.3 +2.0
SLE pmax pmax
comp=Z,26nm,1.4s
CDF Champ du Feu 60.43 311 eP P 03 44 25.4 +0.7
CDF pmax pmax
comp=Z,50nm,1.3s
MEM Membach 60.66 314 P P 03 44 28.7 +2.6
MEM pmax pmax
comp=Z,31nm,1.4s
WLF Walferdange 60.82 313 P P 03 44 29.8 +2.7
WLF pmax pmax
comp=Z,40nm,1.3s
HINF Hinteralfeld 60.86 311 eP P 03 44 28.2 +0.6
HINF pmax pmax
comp=Z,85nm,1.6s
SENIN Lac Senin/Sane 60.97 309 eP P 03 44 29.9 +1.4
comp=Z,81nm,1.6s
GENI Genyem 61.14 113 P P 03 44 32.6 +2.8
comp=Z,78nm,1.2s
GIVF Givet 61.53 314 eP P 03 44 33.3 +1.3
GIVF pmax pmax
comp=Z,50nm,1.4s
LPG La Plagne 61.58 308 eP P 03 44 33.8 +1.0
LPG pmax pmax
comp=Z,55nm,1.3s
LPL La Plagne 61.59 308 eP P 03 44 33.7 +1.0
LPL pmax pmax
comp=Z,29nm,1.0s
MBAR Mbarara 61.62 250 eP P 03 44 34.0 +0.7
comp=Z,152nm,1.5s
DOU Dourbes 61.67 314 P P 03 44 36.4 +3.5
DOU pmax pmax
comp=Z,18nm,1.6s
BNI Bardonecchia 61.76 308 eP P 03 44 33.8 0.0
comp=Z,59nm,1.5s
BNI Bardonecchia 61.76 308 P P 03 44 36.4 +2.6
BNI pmax pmax
comp=Z,26nm,1.7s
BAIF Baives 61.92 314 eP P 03 44 35.9 +1.3
BAIF pmax pmax
comp=Z,62nm,1.6s
FITZ Fitzroy Crossi 61.94 137 P P 03 44 32.4 -2.6
comp=Z,12nm,1.1s,baz=346,slow=7.0,SNR=6.4
ABPO Ambohimpanom 62.76 222 eP P 03 44 41.8 +1.1
comp=Z,44nm,1.1s
LOR Lormes 62.96 311 eP P 03 44 41.9 +0.2
LOR pmax pmax
comp=Z,37nm,1.4s
DAG Danmarks Havn 63.02 346 i P P 03 44 40.7 -0.8
DAG pmax pmax
comp=Z,57nm,1.5s
DAG Danmarks Havn 63.02 346 i P P 03 44 40.7 -0.8
comp=Z,20nm,1.5s
SMF Signal de Mont 63.17 310 eP P 03 44 43.5 +0.5
SMF pmax pmax
comp=Z,44nm,1.4s
VIVF Saint-Julien-l 63.18 308 eP P 03 44 43.8 +0.7
VIVF pmax pmax
comp=Z,33nm,1.6s
SSF Saint Saulge 63.26 311 eP P 03 44 44.1 +0.5
SSF pmax pmax
comp=Z,41nm,1.2s
AVF Avril sur Loir 63.44 310 eP P 03 44 45.3 +0.5
AVF pmax pmax
comp=Z,60nm,1.6s
TCF Toulx Ste Croi 64.35 310 eP P 03 44 51.8 +1.0
TCF pmax pmax
comp=Z,83nm,1.5s
EKA Eskdalemuir Ar 64.61 321 P P 03 44 52.7 +0.4
comp=Z,3.0nm,0.6s,baz=77,slow=6.6,SNR=18
CAF Calviac 64.91 309 eP P 03 44 56.5 +2.0
CAF pmax pmax
comp=Z,31nm,1.4s
LDF La Druitiere 65.07 313 eP P 03 44 56.0 +0.6
LDF pmax pmax
comp=Z,32nm,1.2s
RJF Les Rejaudoux 65.14 309 eP P 03 44 57.1 +1.1
RJF pmax pmax
comp=Z,74nm,1.6s
GRR Gorron 65.60 313 eP P 03 44 59.3 +0.4
GRR pmax pmax
comp=Z,58nm,1.7s
MFF Saint Martin d 65.77 311 eP P 03 45 01.7 +1.7
MFF pmax pmax
comp=Z,67nm,1.8s
SCO Scoresbysund 66.55 340 eP P 03 45 02.6 -1.9
comp=Z,14nm,1.1s
ROSF Rostrenen 67.12 314 eP P 03 45 10.7 +2.1
ROSF pmax pmax
comp=Z,48nm,1.4s
WRA Warramunga Arr 68.66 132 P P 03 45 17.5 -1.1
comp=Z,20nm,0.9s,baz=317,slow=5.3,SNR=29
WRAB Tennant Creek 68.66 132 eP P 03 45 17.6 -1.0
comp=Z,75nm,1.4s
WRAB Tennant Creek 68.66 132 ceP P 03 45 20.6 +2.0
WRAB pmax pmax
comp=Z,58nm,1.3s
WB2 Warramunga Arr 68.67 132 eP P 03 45 17.2 -1.5
comp=Z,86nm,1.4s
SUMG Summit 69.67 345 eP P 03 45 23.7 -0.9
comp=Z,49nm,1.1s
SUMG Summit 69.67 345 i P P 03 45 24.4 -0.2
SUMG pmax pmax
comp=Z,120nm,1.1s
SUMG Summit 69.67 345 i P P 03 45 24.4 -0.2
comp=Z,123nm,1.1s
NWAO Narrogin (SRO) 70.30 153 eP P 03 45 27.3 -1.1
comp=Z,87nm,1.1s
NWAO Narrogin (SRO) 70.30 153 P P 03 45 26.9 -1.5
comp=Z,52nm,1.0s,baz=332,slow=7.2,SNR=10
PMG Port Moresby 70.78 114 eP P 03 45 32.0 +0.2
comp=Z,65nm,0.9s
PMG Port Moresby 70.78 114 ceP P 03 45 33.9 +2.1
PMG Port Moresby 70.78 114 P P 03 45 31.1 -0.6
comp=Z,61nm,1.0s,baz=319,slow=3.9,SNR=12
ESDC Sonseca Array 71.06 305 P P 03 45 33.6 +0.3
comp=Z,0.9nm,0.7s,baz=57,slow=5.9,SNR=6.3
TAM Tamanrasset 71.13 286 eP P 03 45 33.1 -0.9
comp=Z,16nm,1.3s
ASAR Alice Springs 71.14 135 P P 03 45 32.4 -1.4
comp=Z,17nm,0.9s,baz=318,slow=5.6,SNR=39
TOLK Toolik Lake Re 72.04 19 eP P 03 45 37.0 -1.7
comp=Z,16nm,0.9s
IMAR Indian Mountai 72.54 22 eP P 03 45 40.2 -1.4
LSZ Lusaka 72.71 239 eP P 03 45 42.2 -1.2
comp=Z,29nm,1.0s
FORT Forrest 73.37 143 eP P 03 45 45.0 -1.9
comp=Z,29nm,1.0s
RES Resolute Bay 74.14 0 P P 03 45 54.3 +3.5
RES pmax pmax
comp=Z,4.0nm,1.4s
FYU Fort Yukon 74.69 19 eP P 03 45 53.6 -0.6
comp=Z,33nm,1.3s
COLA College 75.12 21 eP P 03 45 54.8 -1.9
comp=Z,34nm,1.3s
CCB Clear Creek Bu 75.29 21 eP P 03 45 56.4 -1.4
comp=Z,14nm,1.6s
PRP Porcupine Dome 75.36 20 eP P 03 45 57.5 -0.8
comp=Z,16nm,1.3s
ILAR Eielson Array 75.49 21 P P 03 45 57.0 -1.9
comp=Z,3.7nm,0.9s,baz=317,slow=4.5,SNR=24
ILAR PP PP 03 48 44.2 -3.4
comp=Z,0.9nm,1.0s,baz=293,slow=4.9,SNR=4.6
INK Inuvik 76.20 14 P P 03 46 01.8 -1.0
comp=Z,5.9nm,0.9s,baz=338,slow=7.6,SNR=9.3
SFJD Kangerlussuaq 76.64 344 eP P 03 46 04.3 -1.0
comp=Z,37nm,1.0s
SFJD Kangerlussuaq 76.64 344 P P 03 46 07.4 +2.1
SFJD pmax pmax
comp=Z,44nm,1.7s
SFJD Kangerlussuaq 76.64 344 i P P 03 46 05.1 -0.2
comp=Z,55nm,1.3s
CTA Charters Tower 76.85 124 P P 03 46 06.0 -1.2
comp=Z,60nm,1.0s,baz=315,slow=7.1,SNR=14
CTAO Charters Tower 76.85 124 eP P 03 46 06.4 -0.8
comp=Z,66nm,1.0s
SCRK Sand Creek 76.94 20 eP P 03 46 06.1 -1.2
comp=Z,13nm,1.1s
BCAR Beaver Creek A 78.28 20 eP P 03 46 13.0 -1.7
KDAK Kodiak Island 78.28 28 ⇑ eP P 03 46 15.6 +0.9
TOA0 Torodi Ar. Sit 78.90 279 eP P 03 46 19.3 +0.5
comp=Z,59nm,1.3s
TORD Torodi Ar. Bea 78.90 279 P P 03 46 17.5 -1.4
comp=Z,23nm,1.1s,baz=94,slow=9.1,SNR=42
LBTB Lobatse 80.87 233 eP P 03 46 28.0 -1.3
comp=Z,64nm,0.9s
HYT Haines Junctio 81.30 20 eP P 03 46 31.2 +0.1
comp=Z,15nm,1.1s
STKA Stephens Creek 81.75 135 P P 03 46 32.8 -0.9
comp=Z,31nm,1.0s,baz=333,slow=6.8,SNR=23
STKA LR LR 04 27 08.7
comp=Z,86nm,18.1s,baz=313,slow=39
WHY Whitehorse 82.19 19 eP P 03 46 35.4 -0.4
comp=Z,23nm,1.5s
TSUM Tsumeb 83.07 243 eP P 03 46 40.1 -0.9
comp=Z,26nm,1.3s
FRB Frobisher Bay 83.09 349 P P 03 46 42.1 +1.8
FRB pmax pmax
comp=Z,13nm,2.9s
BOSA Boshof 83.45 231 eP P 03 46 41.8 -1.0
comp=Z,56nm,1.0s
BOSA Boshof 83.45 231 P P 03 46 41.5 -1.2
comp=Z,48nm,1.0s,baz=49,slow=4.0,SNR=29
BOSA LR LR 04 21 17.2
comp=Z,239nm,20.7s,baz=38,slow=34
YKA Yellowknife Ar 84.86 10 eP P 03 46 46.8 -2.5
YKA Yellowknife Ar 84.86 10 P P 03 46 48.1 -1.3
comp=Z,3.9nm,0.9s,baz=341,slow=4.8,SNR=29
DLBC Dease Lake 85.40 18 LR LR 04 30 19.4
comp=Z,117nm,19.1s,baz=302,slow=39
DBIC Dimbokro 87.73 276 eP P 03 47 05.5 +1.2
comp=Z,64nm,1.0s
DBIC Dimbokro 87.73 276 P P 03 47 02.5 -1.8
comp=Z,55nm,1.1s,baz=36,slow=4.5,SNR=13
DBIC LR LR 04 30 09.5
comp=Z,441nm,20.4s,baz=48,slow=38
KIC Kosan Boka 87.79 276 ePKP2 P 03 47 05.8 +1.2
comp=Z,175nm,1.3s
TIC Tounodi 87.88 276 ePKP2 P 03 47 06.0 +0.9
TOO Toolangi 88.00 137 eP P 03 47 02.5 -2.6
comp=Z,20nm,0.8s
TOO Toolangi 88.00 137 eP P 03 47 02.5 -2.6
TOO pmax pmax
comp=Z,20nm,0.8s
LIC Lamto 88.10 276 ePKP2 P 03 47 07.1 +1.0
comp=Z,133nm,1.3s
SUR Sutherland 88.80 230 eP P 03 47 10.8 +1.7
comp=Z,97nm,1.5s
SUR Sutherland 88.80 230 P P 03 47 10.5 +1.3
comp=Z,20nm,1.1s,baz=19,slow=4.1
BBB Bella Bella 91.38 20 LR LR 04 32 48.8
comp=Z,93nm,19.2s,baz=353,slow=38
DZM Mont Dzumac 93.17 114 eP P 03 47 28.8 -0.8
comp=Z,10nm,1.2s
FFC Flin Flon 93.87 5 eP P 03 47 31.3 -0.9
comp=Z,15nm,1.1s
FFC Flin Flon 93.87 5 ⇑ eP P 03 47 34.2 +2.0
ULM Lac du Bonnet 98.64 2 LR LR 04 35 26.0
comp=Z,139nm,20.6s,baz=24,slow=37
MNTX Cornudas Mount 116.20 11 ePKPdf PKPdf 03 53 00.6 +2.1
TX31 Lajitas Ar. Si 118.79 10 ePKPdf PKPdf 03 53 00.9 -2.8
TXAR Lajitas Array 118.79 10 PKP PKPdf 03 53 03.1 -0.6
comp=Z,1.2nm,1.0s,baz=355,slow=1.2,SNR=9.5
QSPA South Pole Qui 121.23 180 ePKPdf PKiKP 03 53 07.2 0.0
QSPA South Pole Qui 121.23 180 PKP PKPdf 03 53 06.7 -0.3
comp=Z,4.0nm,1.1s,baz=203,slow=1.2,SNR=5.3
MCI9 Montes Claros 132.78 276 eP PKiKP 03 53 31.3 -0.4
VAS01 Vassouras-RJ 134.75 269 eP PKiKP 03 53 36.3 +0.8
OCAC Ocana 136.07 331 eP PKPdf 03 53 37.5 +0.6
OCAC Ocana 136.07 331 eP PKPdf 03 53 37.5 +0.6
RUSC La Rusia 138.07 329 eP PKPdf 03 53 41.0 -0.1
RUSC La Rusia 138.07 329 eP PKPdf 03 53 41.0 -0.1
PTBC PUERTO BERRIO 138.08 331 eP PKPdf 03 53 39.9 -0.7
PTBC PUERTO BERRIO 138.08 331 eP PKPdf 03 53 39.9 -0.7
ROSC El Rosal 139.55 330 PKP PKPdf 03 53 44.0 +0.3
comp=Z,5.3nm,0.4s,baz=122,slow=7.2,SNR=6.6
PRAC Prado 140.80 330 eP PKPdf 03 53 46.7 +1.2
PRAC Prado 140.80 330 eP PKPdf 03 53 46.7 +1.2
YOTC Yotoco, Valle 141.17 332 eP PKPdf 03 53 46.2 0.0
YOTC Yotoco, Valle 141.17 332 eP PKPdf 03 53 46.2 0.0

POPC	Popayan, Colom	142.61 332	eP	PKPdf	03 53 46.5	-2.6
POPC	Popayan, Colom	142.61 332	eP	PKPdf	03 53 46.5	-2.6
SOTA	Rioblanco	142.95 331	eP	PKPdf	03 53 50.6	+0.7
SOTA	Rioblanco	142.95 331	eP	PKPdf	03 53 50.6	+0.7
FLOC	Florencia	143.04 329	eP	PKiKP	03 53 51.5	-1.3
FLOC	Florencia	143.04 329	eP	PKiKP	03 53 51.5	-1.3
BBAC	Balboa, Cauca	143.31 332	eP	PKPbc	03 53 47.6	+0.3
BBAC	Balboa, Cauca	143.31 332	eP	PKPbc	03 53 47.6	+0.3
CRUC	La Cruz	143.61 331	eP	PKPdf	03 53 50.6	-0.4
CRUC	La Cruz	143.61 331	eP	PKPdf	03 53 50.6	-0.4
ITAB	Concordia	143.85 266	eP	PKiKP	03 53 53.8	-0.1
GCUF	Volcan Galeras	144.08 332	eP	PKiKP	03 53 54.2	-1.3
GCUF	Volcan Galeras	144.08 332	eP	PKiKP	03 53 54.2	-1.3
AQDB	Aquidauana	144.47 279	eP	PKPdf	03 53 53.2	+1.5
OTAV	Otavalo	145.42 333	ePKPbc	PKPbc	03 53 53.9	-0.2
OTAV	Otavalo	145.42 333	eP	PKPbc	03 53 53.5	-0.6
OTAV	Otavalo	145.42 333	ePKIKP	PKPbc	03 53 53.9	-0.2
OTAV	Otavalo	145.42 333	eP	PKPbc	03 53 53.5	-0.6
OTAV	Otavalo	145.42 333	eP	PKPab	03 53 55.0	+0.7
CPUP	Villa Florida	148.03 270	ePKPdf	PKPdf	03 53 58.8	+1.2
CPUP	Villa Florida	148.03 270	PKPbc	PKPbc	03 53 59.8	-0.9
	comp=Z,28nm,1.0s,baz=63,slow=2.8,SNR=23					
CPUP	Villa Florida	148.03 270	eP	PKPbc	03 53 59.5	-1.3
LPAZ	La Paz	152.43 297	ePKPdf	PKPdf	03 54 07.8	+2.2
LPAZ			ePKPbc	PKiKP	03 54 13.8	+1.1
LPAZ	La Paz	152.43 297	PKP	PKPdf	03 54 05.2	-0.3
	comp=Z,2.4nm,1.1s,baz=8.2,slow=5.3,SNR=5.9					
LPAZ			PKPbc	PKiKP	03 54 13.8	+1.1
	comp=Z,9.6nm,1.2s,baz=40,slow=7.3,SNR=12					
LPAZ	La Paz	152.43 297	eP	PKPdf	03 54 07.8	+2.2
PLCA	Paso Flores	159.32 237	PKPab	PKPab	03 54 51.0	+0.1
	comp=Z,6.2nm,1.0s,baz=206,slow=2.6,SNR=5.4					
GO03	Copiap	159.41 275	ePKPab	PKPab	03 54 53.2	+1.5
LCO	Las Campanas	160.16 271	eP	PKPdf	03 54 18.1	+3.3

HLW ***16*** *03:34:34.9, 36°.71N×26°.95E, h33km±39km, MI4.0*
ISCJB ***16*** *03:34:36.4±0.3, 36°.61N±0°.03×26°.89E±0°.03, h145km±3km, mb3.6/7, Error ellipse: s-maj=4.6km s-min=3.5km az=154.9*
IDC ***16*** *03:34:36.7±0.8, 36°.64N×26°.83E, h137km±12km, mb3.4/7, mb1 3.4/11, mb1mx3.2/59, mbtmp3.9/11, MS3.8/1, Ms1 3.8/1, ms1mx2.5/39, Error ellipse: s-maj=18.5km s-min=10.0km az=155.0*
ATH ***16*** *03:34:37.1, 36°.65N×26°.87E, h142km±5km, ML3.6/2, Error ellipse: s-maj=5.5km s-min=1.5km az=94.0*
ISK ***16*** *03:34:38.3, 36°.71N×26°.89E, h132km, ML3.2/20*
THE ***16*** *03:34:39.5, 36°.64N×26°.81E, h151km±4km, ML3.4/7, Error ellipse: s-maj=4.2km s-min=1.1km az=94.0*
DDA ***16*** *03:34:45.2, 37°.08N×26°.84E, h8km±6km, ML3.2*

ISC 16 03:34:36.5±0.7, 36°.58N±0°.04×26°.93E±0°.04, h144km±6km, n89, σ1§71/114, mb3.8/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.54**	**74**	PG	**Pn**	**03 34 58.2**	**+0.7**
DAT				SG	**Sn**	**03 35 12.7**	**-0.8**
DAT	**Datca**	**0.54**	**74**	IAML_P			
	comp=Z,2μm,0.2s						
DAT				*i* P	**Pn**	**03 34 59.0**	**+1.5**
BODT	**Bodrum**	**0.57**	**32**	PG	**Pn**	**03 34 58.0**	**+0.5**
BODT				SG	**Sn**	**03 35 12.4**	**-1.2**
BODT	**Bodrum**	**0.57**	**32**	P	**Pn**	**03 34 58.1**	**+0.5**
BODT				S	**Sn**	**03 35 12.9**	**-0.7**
DATC	**Datca-Mugla**	**0.61**	**73**	PG	**Pn**	**03 34 58.7**	**+1.0**
BDRM	**Kayabasi**	**0.64**	**40**	IAML_P			
	comp=Z,4μm,0.3s						
BDRM				*i* P	**Pn**	**03 34 59.0**	**+1.1**
BDRM				*i* S	**Sn**	**03 35 14.6**	**+0.3**
AMGA	**Amorgos Island**	**0.87**	**287**	P	**Pn**	**03 35 00.2**	**+0.6**
BBRN	**Bozburun-Marma**	**0.91**	**83**	PG	**Pn**	**03 35 01.2**	**+1.3**
ANAF	**Anafi Island**	**0.96**	**257**	P	**Pn**	**03 35 01.5**	**+1.1**
MRSB	**Marmaris-Mugla**	**1.03**	**82**	PG	**Pn**	**03 35 02.4**	**+1.5**
MRSB				SG	**Sn**	**03 35 19.6**	**0.0**
ARG	**Arkhangelos**	**1.03**	**110**	PN	**Pn**	**03 35 02.9**	**+1.9**
ARG	**Arkhangelos**	**1.03**	**110**	P	**Pn**	**03 35 02.9**	**+1.9**
ARG	**Arkhangelos**	**1.03**	**110**	P	**Pn**	**03 35 02.8**	**+1.9**
ARG				S	**Sn**	**03 35 20.8**	**+1.2**
ARG				AML	AML	03 35 23.6	
	comp=E,4097μm,0.4s						
ARG				AML	AML	03 35 23.7	
	comp=N,1408μm,0.3s						
KARP	**Karpathos**	**1.05**	**170**	PN	**Pn**	**03 35 02.8**	**+1.6**
KARP	**Karpathos**	**1.05**	**170**	P	**Pn**	**03 35 02.8**	**+1.6**
KARP				S	**Sn**	**03 35 20.7**	**+0.7**
KARP	**Karpathos**	**1.05**	**170**	P	**Pn**	**03 35 02.7**	**+1.6**
KARP				S	**Sn**	**03 35 21.3**	**+1.4**
KARP				AML	AML	03 35 23.8	
	comp=E,2317μm,0.1s						
KARP				AML	AML	03 35 25.0	
	comp=N,4254μm,0.3s						
SMG	**Samos**	**1.13**	**356**	P	**Pn**	**03 35 01.9**	**0.0**
SMG	**Samos**	**1.13**	**356**	P	**Pn**	**03 35 01.9**	**0.0**
GCAM	**G?zelcaml?**	**1.14**	**12**	PG	**Pn**	**03 35 02.3**	**+0.4**
GCAM	**G?zelcaml?**	**1.14**	**12**	IAML_P			
	comp=Z,8μm,0.3s						
GCAM				*i* P	**Pn**	**03 35 02.8**	**+0.8**
APE	**Apeiranthos**	**1.22**	**294**	PN	**Pn**	**03 35 03.2**	**+0.4**
APE	**Apeiranthos**	**1.22**	**294**	P	**Pn**	**03 35 03.3**	**+0.5**
AYDN	**Tasoluk**	**1.32**	**35**	IAML_P			
	comp=Z,16μm,0.2s						
AYDN				*i* P	**Pn**	**03 35 05.6**	**+1.8**
TURN	**Turunc**	**1.38**	**77**	PN	**Pn**	**03 35 02.6**	**-1.6**
DALY	**Dalyan (Mula)**	**1.41**	**80**	PN	**Pn**	**03 35 06.7**	**+2.2**
DALY				SN	**Sn**	**03 35 26.4**	**+0.4**
DGB	**zmir**	**1.47**	**359**	IAML_P			
	comp=Z,6μm,0.2s						
DGB				*i* P	**Pn**	**03 35 05.5**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.56**	**29**	PN	**Pn**	**03 35 06.8**	**+0.4**
ZKR	**Zakros**	**1.57**	**202**	PN	**Pn**	**03 35 09.4**	**+3.0**
ZKR	**Zakros**	**1.57**	**202**	P	**Pn**	**03 35 08.6**	**+2.1**
ZEY	**zmir**	**1.69**	**349**	IAML_P			
	comp=Z,10μm,0.2s						
ZEY				*i* P	**Pn**	**03 35 08.5**	**+0.8**
NPS	**Neapolis**	**1.69**	**220**	P	**Pn**	**03 35 09.0**	**+1.3**
NPS				S	**Sn**	**03 35 30.6**	**-1.1**
NPS	**Neapolis**	**1.69**	**220**	P	**Pn**	**03 35 09.0**	**+1.3**
FETY	**Fethiye**	**1.73**	**88**	PN	**Pn**	**03 35 10.2**	**+2.0**
FETY				SN	**Sn**	**03 35 33.3**	**+0.9**
FETY	**Fethiye**	**1.73**	**88**	P	**Pn**	**03 35 09.6**	**+1.4**
URLA	**Izmir**	**1.80**	**352**	PN	**Pn**	**03 35 08.7**	**-0.2**
URLA	**Izmir**	**1.80**	**352**	IAML_P			
	comp=Z,4μm,0.4s						
URLA				*i* P	**Pn**	**03 35 09.7**	**+0.8**
LAST	**Lasithi**	**1.84**	**220**	P	**Pn**	**03 35 10.9**	**+1.4**
LAST				S	**Sn**	**03 35 34.9**	**+0.1**
LAST	**Lasithi**	**1.84**	**220**	P	**Pn**	**03 35 10.7**	**+1.2**
CHOS	**Chios island**	**1.93**	**339**	PN	**Pn**	**03 35 10.5**	**0.0**
CHOS	**Chios island**	**1.93**	**339**	P	**Pn**	**03 35 10.3**	**-0.2**
CHOS				S	**Sn**	**03 35 34.5**	**-2.2**
CHOS	**Chios island**	**1.93**	**339**	P	**Pn**	**03 35 10.7**	**+0.2**
KSTL	**Kastelli Herak**	**1.97**	**230**	P	**Pn**	**03 35 11.6**	**+0.7**
KSTL				S	**Sn**	**03 35 33.9**	**-3.4**
SERI	**Serifos**	**2.04**	**287**	P	**Pn**	**03 35 12.6**	**+0.8**
IDI	**Anoyia**	**2.10**	**233**	P	**Pn**	**03 35 12.4**	**-0.1**
IDI				S	**Sn**	**03 35 38.5**	**-1.6**
IDI	**Anoyia**	**2.10**	**233**	P	**Pn**	**03 35 13.5**	**+1.0**
	comp=Z,14nm,0.3s,baz=37,slow=5.4,SNR=283						
IDI				S	**Sn**	**03 35 39.4**	**-0.7**
	comp=Z,45nm,0.3s,baz=235,slow=15,SNR=23						
KSL	**Kastellorizon**	**2.18**	**101**	P	**Pn**	**03 35 15.2**	**+1.8**
KSL	**Kastellorizon**	**2.18**	**101**	P	**Pn**	**03 35 15.2**	**+1.8**
AKAS	**Kas**	**2.19**	**98**	PN	**Pn**	**03 35 16.0**	**+2.4**
MANT	**Manisa**	**2.31**	**34**	IAML_P			
	comp=Z,1μm,0.3s						
MANT				*i* P	**Pn**	**03 35 16.4**	**+1.3**
SIVA	**Sivas**	**2.32**	**228**	P	**Pn**	**03 35 16.8**	**+1.7**
KULA	**Kula-Manisa**	**2.37**	**35**	P	**Pn**	**03 35 16.5**	**+0.7**
ZEDA	**zmir-Bergama**	**2.38**	**3**	IAML_P			
	comp=Z,802nm,0.5s						
ZEDA				*i* P	**Pn**	**03 35 16.6**	**+0.8**
AKHS	**Akhisar**	**2.40**	**17**	*i* P	**Pn**	**03 35 16.6**	**+0.6**
ELL	**Elmali**	**2.40**	**85**	PN	**Pn**	**03 35 18.3**	**+2.1**
VAM	**Vamos**	**2.50**	**243**	P	**Pn**	**03 35 18.8**	**+1.5**
VAM				S	**Sn**	**03 35 48.5**	**-0.3**
VAM	**Vamos**	**2.50**	**243**	P	**Pn**	**03 35 18.8**	**+1.5**
IMMV	**Iera Moni Meta**	**2.64**	**246**	P	**Pn**	**03 35 20.6**	**+1.5**
IMMV				S	**Sn**	**03 35 50.4**	**-1.4**
IMMV	**Iera Moni Meta**	**2.64**	**246**	P	**Pn**	**03 35 20.5**	**+1.5**
SIGR	**SIGRI**	**2.76**	**342**	PN	**Pn**	**03 35 20.7**	**+0.2**
KORT	**Korkueli**	**2.78**	**80**	PN	**Pn**	**03 35 23.1**	**+2.2**
GVD	**Gavdhos**	**2.89**	**234**	P	**Pn**	**03 35 24.3**	**+2.0**
ANKY	**Antikythira Is**	**3.02**	**257**	P	**Pn**	**03 35 24.6**	**+0.8**
ANKY				S	**Sn**	**03 35 58.2**	**-2.2**
ANKY	**Antikythira Is**	**3.02**	**257**	P	**Pn**	**03 35 24.7**	**+0.8**
KYTH	**Kithira**	**3.15**	**265**	P	**Pn**	**03 35 26.6**	**+1.1**
BALY	**Balya**	**3.20**	**10**	*i* P	**Pn**	**03 35 27.1**	**+1.0**
VLI	**Velíai**	**3.21**	**274**	P	**Pn**	**03 35 27.5**	**+1.2**
SLUM	**Salum**	**5.27**	**196**	P	**Pn**	**03 35 54.5**	**+1.1**
	baz=196						
SLUM				S	**Sn**	**03 36 50.7**	**-2.7**
	baz=196						
BRTR	**Keskin Array B**	**6.15**	**57**	P	**Pn**	**03 36 05.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=239,slow=17,SNR=6.7						
BRTR				S	**Sn**	**03 37 15.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=227,slow=24,SNR=5.9						
SWA2		**7.42**	**190**	P	**Pn**	**03 36 22.7**	**+0.6**
	baz=190						
SWA2				S	**Sn**	**03 37 41.7**	**-3.3**
	baz=190						
KOT	**Kottamia**	**7.80**	**147**	P	**Pn**	**03 36 28.4**	**+1.2**
	baz=147						
KOT				S	**Sn**	**03 37 51.2**	**-3.0**
	baz=147						
MMAI	**Mount Meron Ar**	**7.82**	**115**	P	**Pn**	**03 36 28.2**	**+0.6**
	comp=Z,8.3nm,0.3s,baz=301,slow=13,SNR=20						
MMAI				S	**Sn**	**03 37 53.9**	**-0.9**
	comp=Z,4.6nm,0.3s,baz=295,slow=22,SNR=6.1						
HHAG	**Hagoal**	**7.90**	**145**	P	**Pn**	**03 36 29.2**	**+0.6**
	baz=145						
HHAG				S	**Sn**	**03 37 53.5**	**-3.0**
	baz=145						
HSAF	**As Saff**	**7.95**	**150**	P	**Pn**	**03 36 30.1**	**+0.9**
	baz=150						
GLL	**Jalalah**	**8.05**	**149**	P	**Pn**	**03 36 31.9**	**+1.3**
	baz=149						
ZAF	**Zafarana**	**8.67**	**145**	P	**Pn**	**03 36 40.4**	**+1.5**
	baz=146						
ASF	**Jabal al Asfar**	**9.34**	**115**	P	**Pn**	**03 36 49.6**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=246,slow=6.0,SNR=8.4						
ASF				S	**Sn**	**03 38 24.5**	**-6.7**
	comp=Z,0.1nm,0.3s,baz=338,slow=18,SNR=3.3						
HFRF	**Wahat Farafira**	**9.48**	**173**	S	**Sn**	**03 38 31.4**	**-3.2**
	baz=172						
HFRF				AMP		03 38 00.0	
	baz=172						
EIL	**Elat**	**9.62**	**133**	P	**Pn**	**03 36 53.3**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=145,slow=1.2,SNR=8.5						
EIL				S	**Sn**	**03 38 31.1**	**-7.0**
	comp=Z,0.3nm,0.3s,baz=41,slow=20,SNR=3.0						
GRB	**Gharib**	**9.65**	**148**	P	**Pn**	**03 36 53.8**	**+1.9**
	baz=148						
HKAT	**Jabal Katrina**	**10.00**	**141**	P	**Pn**	**03 36 58.2**	**+1.4**
	baz=142						
VAE	**Valguarnera**	**10.05**	**279**	S	Sn	03 38 37.8	-11
	comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=2.4						
FINES	**FINESS Array B**	**24.89**	**359**	P	**P**	**03 39 45.8**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=163,slow=14,SNR=3.8						
HFS	**Hagfors**	**25.06**	**344**	P	**P**	**03 39 47.4**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=151,slow=13,SNR=16						
ATD	**Arta Tunnel**	**28.78**	**146**	LR	LR	03 52 45.8	
	comp=Z,183nm,21.5s,baz=172,slow=38						
TORD	**Torodi Ar. Bea**	**32.50**	**231**	P	**P**	**03 40 54.1**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=34,slow=8.7,SNR=25						
ARCES	**ARCESS Array B**	**33.02**	**359**	P	**P**	**03 40 57.9**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=161,slow=8.5,SNR=3.3						
MKAR	**Makanchi Array**	**41.80**	**58**	P	**P**	**03 42 13.3**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=283,slow=9.9,SNR=2.5						
SPITS	**Spitsbergen Ar**	**41.95**	**357**	P	**P**	**03 42 12.1**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=183,slow=10,SNR=3.4						
ZALV	**Zalesovo Beam**	**42.99**	**47**	P	**P**	**03 42 22.0**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=253,slow=8.9,SNR=3.0						

DJA 16 03:36:26.4±0.3, 1°S±3°×12°3E±°, h10km, M4.2/13, mb4.5/3, mB4.8/1, MLv4.1/13, Mw(mB)4.0/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.41**	**221**	P	Pg	03 36 34.4	-0.1
LUWI				S	Sg	03 36 40.2	+0.3
APSI	**Ampana**	**1.40**	**263**	P	Pb	03 36 52.8	+0.1
KMSI	**Cibinong**	**1.60**	**36**	P	Pn	03 36 54.3	-0.5
MRSI	**Marisa**	**1.63**	**317**	P	Pn	03 36 54.0	-1.1
SANI	**Sanana**	**3.23**	**114**	P	Pn	03 37 15.9	-1.2
MPSI	**Mapaga**	**3.32**	**289**	P	Pn	03 37 19.0	+0.6
TTSI	**Tana Toraja**	**3.96**	**234**	P	Pn	03 37 28.2	+1.0
SPSI	**Sidrap Palu**	**4.58**	**225**	P	Pn	03 37 35.5	-0.3
BNSI	**Bone**	**4.68**	**219**	P	Pn	03 37 36.9	-0.2
BKSI	**Bulukumba**	**5.41**	**213**	P	Pn	03 37 48.3	+1.1
	9.4nm,0.5s						
BSSI	**Bau Bau, Buton**	**5.95**	**205**	P	Pn	03 37 56.0	+1.4

IDC ***16*** *03:37:41.0±0.5, 31°.24N×86°.43E, h0km, mb4.0/27, mb1 4.1/28, mb1mx4.0/74, mbtmp4.0/28, ML4.4/1, Error ellipse: s-maj=15.9km s-min=12.2km az=41.0*
ISCJB ***16*** *03:37:43.0±0.3, 31°.18N±0°.06×86°.43E±0°.07, h26km, mb4.2/33, Error ellipse: s-maj=9.7km s-min=6.7km az=139.1*
NEIC ***16*** *03:37:45.2±1.7, 31°.24N×86°.41E, h26km±5km, mb4.4/16, Error ellipse: s-maj=15.7km s-min=13.0km az=199.0*

ISC 16 03:37:44.9±0.5, 31°.23N±0°.09×86°.40E±0°.08, h26km, n56, σ1§08/56, mb4.2/33, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK32	**Makanchi Array**	**15.87**	**350**	*e*Pn	**P**	**03 41 30.2**	**+0.2**
MKAR	**Makanchi Array**	**15.87**	**350**	Pn	**P**	**03 41 30.2**	**+0.2**
	0.2nm,0.3s,baz=174,slow=11,SNR=4.8						
CHGR	**Chuyangaron**	**15.95**	**302**	*e*Pn	**Pn**	**03 41 23.4**	**-4.2**
	54nm,1.0s						
CM31	**Chiang Mai Arr**	**17.04**	**135**	*e*Pn	**Pn**	**03 41 40.0**	**-1.6**
	9.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.04**	**135**	P	**Pn**	**03 41 40.0**	**-1.6**
	0.5nm,0.3s,baz=310,slow=13,SNR=4.3						
KURBB	**Kurchatov Arra**	**20.25**	**345**	P	**P**	**03 42 18.1**	**0.0**
	2.8nm,0.7s,baz=161,slow=11,SNR=6.6						
KURK	**Kurchatov**	**20.32**	**346**	*e*P	**P**	**03 42 16.8**	**-2.0**
	9.2nm,1.0s						
SONA0	**Songino Array**	**22.54**	**37**	*e*P	**P**	**03 42 44.1**	**+1.1**
SONM	**Songino Array**	**22.54**	**37**	P	**P**	**03 42 44.1**	**+1.1**
	1.7nm,0.9s,baz=227,slow=13,SNR=4.1						
ZALV	**Zalesovo Beam**	**22.74**	**358**	P	**P**	**03 42 45.0**	**+0.2**
	1.2nm,0.6s,baz=194,slow=10,SNR=2.4						
ZAA1	**Zalesovo Array**	**22.74**	**358**	*e*P	**P**	**03 42 45.0**	**+0.2**
GEYT	**Alibeck**	**24.17**	**294**	P	**P**	**03 42 58.7**	**-0.4**
	1.1nm,0.3s,baz=75,slow=7.6,SNR=2.4						
BVAR	**Borovoye Array**	**24.70**	**336**	P	**P**	**03 43 03.9**	**+0.2**
	0.9nm,0.6s,baz=143,slow=12,SNR=3.4						
MNCI	**Minicoy**	**26.00**	**211**	*e*P	**P**	**03 43 15.0**	**-0.8**
	147nm,1.4s						
ABKAR	**Akbulak array**	**26.85**	**320**	*e*P	**P**	**03 43 23.3**	**+0.1**
	2.1nm,0.6s						
KS15	**Wonju Array Si**	**34.60**	**68**	*e*P	**P**	**03 44 31.4**	**-0.3**
	14nm,1.2s						
KSRS	**Korea Array**	**34.63**	**68**	P	**P**	**03 44 31.4**	**-0.6**
	0.6nm,0.4s,baz=274,slow=9.0,SNR=4.6						
USRK	**Ussuriysk Ar.**	**37.85**	**57**	P	**P**	**03 44 59.4**	**-0.1**
	3.6nm,0.8s,baz=252,slow=7.1,SNR=5.1						
AKASG	**Malin Array Be**	**46.10**	**312**	P	**P**	**03 46 06.0**	**-0.6**
	0.2nm,0.3s,baz=81,slow=6.4,SNR=2.6						
AKBB	**Malin Array Si**	**46.10**	**312**	*e*P	**P**	**03 46 06.0**	**-0.6**
	1.9nm,0.7s						
LUWI	**Luwuk**	**47.13**	**126**	*e*P	**P**	**03 46 15.4**	**+0.2**
	185nm,0.5s						
FIA0	**FINESS Array S**	**48.99**	**326**	*e*P	**P**	**03 46 29.5**	**+0.6**
FINES	**FINESS Array B**	**48.99**	**326**	P	**P**	**03 46 29.5**	**+0.6**
	1.5nm,0.6s,baz=108,slow=8.4,SNR=5.6						
ARA0	**ARCESS Array S**	**50.99**	**337**	*e*P	**P**	**03 46 45.0**	**+1.0**
ARCES	**ARCESS Array B**	**50.99**	**337**	P	**P**	**03 46 45.0**	**+1.0**
	2.7nm,0.9s,baz=101,slow=8.3,SNR=2.5						
PEA1	**Petropavlovsk-**	**54.75**	**44**	*e*P	**P**	**03 47 11.6**	**-0.4**
PETK	**Petropavlovsk-**	**54.75**	**44**	P	**P**	**03 47 11.6**	**-0.4**
	0.8nm,0.7s,baz=242,slow=3.1,SNR=2.4						
HFS	**Hagfors**	**54.97**	**324**	P	**P**	**03 47 13.6**	**+0.1**
	3.7nm,0.6s,baz=86,slow=7.7,SNR=7.9						
BRG	**Berggiesshubel**	**55.76**	**313**	*i* (P)	**P**	**03 47 23.1**	**+3.8**
	3.4nm,0.8s						
NB2	**NORSAR Subarra**	**56.13**	**325**	P	**P**	**03 47 21.8**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=85,slow=7.4						
NB200	**NORSAR Array S**	**56.13**	**325**	*e*P	**P**	**03 47 21.9**	**-0.1**
NOA	**NORSAR Array B**	**56.13**	**325**	P	**P**	**03 47 21.9**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=86,slow=7.1,SNR=4.6						
GEC2	**GERESS Array S**	**56.25**	**311**	*e*P	**P**	**03 47 23.6**	**+0.6**
	comp=Z,1.6nm,0.6s						
GERES	**GERESS Array B**	**56.25**	**311**	P	**P**	**03 47 23.6**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=79,slow=6.9,SNR=7.4						
DAVOX	**Davos/Dischmat**	**59.21**	**309**	P	**P**	**03 47 43.6**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=141,slow=14,SNR=3.5						
FITZ	**Fitzroy Crossi**	**61.85**	**137**	*e*P	**P**	**03 48 02.8**	**+0.8**
	comp=Z,14nm,1.5s						
FITZ	**Fitzroy Crossi**	**61.85**	**137**	P	**P**	**03 48 02.8**	**+0.8**
	comp=Z,2.9nm,1.0s,baz=346,slow=12,SNR=2.9						
EKA	**Eskdalemuir Ar**	**64.72**	**321**	P	**P**	**03 48 21.4**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=67,slow=7.8,SNR=3.9						
WRA	**Warramunga Arr**	**68.59**	**131**	P	**P**	**03 48 46.7**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=322,slow=5.8,SNR=8.2						
WR1	**Warramunga Arr**	**68.59**	**131**	*e*P	**P**	**03 48 46.6**	**+0.9**
AS31	**Alice Springs**	**71.05**	**134**	*e*P	**P**	**03 49 00.8**	**-0.1**
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**71.05**	**134**	P	**P**	**03 49 00.8**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=319,slow=5.8,SNR=8.0						
LSZ	**Lusaka**	**72.52**	**239**	*e*P	**P**	**03 49 11.0**	**+1.1**
	comp=Z,2.6nm,0.7s						
LSZ	**Lusaka**	**72.52**	**239**	P	**P**	**03 49 11.0**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=108,slow=13						
ILAR	**Eielson Array**	**75.72**	**21**	P	**P**	**03 49 26.8**	**-1.1**
	comp=Z,0.7nm,1.0s,baz=298,slow=5.8,SNR=2.5						
ILB	**Eielson Array**	**75.72**	**21**	*e*P	**P**	**03 49 26.8**	**-1.1**
	comp=Z,3.2nm,1.4s						
INK	**Inuvik**	**76.43**	**14**	P	**P**	**03 49 31.2**	**-0.5**
	comp=Z,1.0nm,1.0s,baz=354,slow=9.2,SNR=2.5						
CTA	**Charters Tower**	**76.81**	**123**	P	**P**	**03 49 33.7**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=336,slow=8.0,SNR=4.7						
TOA1	**Torodi Ar. Sit**	**78.84**	**279**	*e*P	**P**	**03 49 45.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**78.84**	**279**	P	**P**	**03 49 45.8**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=50,slow=4.8,SNR=7.3						
LBTB	**Lobatse**	**80.67**	**233**	*e*P	**P**	**03 49 56.7**	**+0.8**
	comp=Z,10nm,1.4s						
LBTB	**Lobatse**	**80.67**	**233**	P	**P**	**03 49 56.7**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=34,slow=7.3,SNR=2.8						
YKA	**Yellowknife Ar**	**85.09**	**10**	P	**P**	**03 50 18.0**	**-0.1**
	comp=Z,0.5nm,1.0s,baz=330,slow=5.7,SNR=3.4						
YKB5	**Yellowknife Ar**	**85.09**	**10**	*e*P	**P**	**03 50 18.0**	**-0.1**
DBIC	**Dimbokro**	**87.66**	**276**	*e*P	**P**	**03 50 32.6**	**+1.0**
	comp=Z,17nm,1.3s						
DBIC	**Dimbokro**	**87.66**	**276**	P	**P**	**03 50 32.6**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=20,slow=5.8,SNR=4.5						

DMN ***16*** *03:39:44.2±0.7, 32°.03N×86°.63E, h10km, Ml4.9/7, Error ellipse: s-maj=14.3km s-min=13.3km az=83.0*
IDC ***16*** *03:39:45.5±0.3, 31°.33N×86°.52E, h0km, mb4.6/44, mb1 4.6/46, mb1mx4.5/68, mbtmp4.6/46, ML3.5/1, Error ellipse: s-maj=9.9km s-min=9.3km az=25.0*
BJI ***16*** *03:39:46.4±0.0, 31°.52N×86°.36E, h7km, mb4.5/16, Ms4.4/5, Ms7 4.4/2*
NEIC ***16*** *03:39:49.7±1.7, 31°.38N×86°.51E, h24km±4km, mb4.7/59, Error ellipse: s-maj=13.8km s-min=11.1km az=214.0*
ISCJB ***16*** *03:39:50.0±0.1, 31°.45N±0°.02×86°.61E±0°.03, h33km, mb4.7/100, MS4.4/1, Error ellipse: s-maj=3.6km s-min=3.0km az=169.7*
MOS ***16*** *03:39:52.3±1.2, 31°.30N×86°.63E, h60km, mb4.9/26, Error ellipse: s-maj=8.8km s-min=5.4km az=

DGZ Jazzator, Alta 18.24 2 *i* P **Pn 03 44 03.4 +1.4**
DGZ pmax pmax
comp=Z,2.0nm,0.7s
GYA Guiyang 18.32 101⇑ *i* P **P 03 44 02.3 -0.7**
GYA pP Pn 03 44 06.8 +3.7
GYA PP **pP 03 44 10.4 -3.2**
GYA S **S 03 47 29.3 -1.4**
GYA sS Sn 03 47 33.8 +7.0
GYA SS **SnSn 03 47 40.0 -0.5**
SLVN Son La 18.54 119 *eP* **Pn 03 44 07.5 +1.7**
comp=Z,7.1nm,0.7s
XAN Xi'an 19.02 76 P **P 03 44 10.6 0.0**
XAN pP pP 03 44 18.8 -2.4
XAN S **S 03 47 49.6 +5.0**
XAN sS sS 03 48 01.5 0.0
XAN SS SnSn 03 48 21.0 +23
XAN Xi'an 19.02 76 *eP* **Pn 03 44 11.9 +0.4**
comp=Z,29nm,1.3s
XAN Xi'an 19.02 76 *eP* **Pn 03 44 11.9 +0.4**
XAN pmax pmax
comp=Z,29nm,1.3s
OTUK Ortayu 19.93 331 P **Pn 03 44 25.5 +3.3**
OTUK pmax pmax
comp=Z,10.0nm,1.3s
KURBB Kurchatov Arra 20.05 345 P **P 03 44 20.8 -0.8**
comp=Z,10nm,0.7s,baz=167,slow=9.9,SNR=35
NONG Nongkai 20.11 128 P Pn 03 44 23.7 -0.9
comp=Z,0.8nm,0.7s
KURK Kurchatov 20.11 345 *eP* **P 03 44 22.1 -0.2**
comp=Z,65nm,1.4s
KURK Kurchatov 20.11 345 *i* P **P 03 44 21.9 -0.4**
KURK pmax pmax
comp=Z,54nm,1.5s
SRDT SRDT 20.58 143 P **P 03 44 28.2 +0.6**
comp=Z,14nm,0.7s
CHAI Chaiyaphum 20.95 134 P **P 03 44 31.8 +0.2**
comp=Z,43μm,0.7s
SKNT Sakolnakorn 21.44 128 P **P 03 44 42.3 +5.4**
comp=Z,23nm,0.9s,comp=Z,4μm
PANO Nakornpanom 21.75 127 P **P 03 44 40.0 -0.2**
comp=Z,0.6nm,0.8s
PHET Kaeng Krachan 22.06 144 P **P 03 44 44.7 +1.2**
comp=Z,50μm,0.9s,comp=Z,719μm
HHC Hu-ho-hao-te 22.23 58 *eP* **P 03 44 45.3 -0.1**
HHC S **S 03 48 38.6 -9.5**
SONA0 Songino Array 22.30 37 *eP* **P 03 44 46.5 +0.4**
SONM Songino Array 22.30 37 P **P 03 44 46.5 +0.4**
comp=Z,6.1nm,0.8s,baz=223,slow=12,SNR=20
ZAA0 Zalesovo Array 22.51 357 *eP* **P 03 44 48.2 +0.1**
comp=Z,9.6nm,0.9s
ZALV Zalesovo Beam 22.51 357 P **P 03 44 48.0 -0.1**
comp=Z,4.2nm,0.6s,baz=186,slow=11,SNR=12
ZAA1 Zalesovo Array 22.52 357 *eP* **P 03 44 48.0 -0.1**
ULN Ulaanbaatar 22.66 38 *eP* **P 03 44 50.4 +0.4**
comp=Z,24nm,1.1s
ULN Ulaanbaatar 22.66 38 *c i* P **P 03 44 50.8 +0.9**
ULN pmax pmax
comp=Z,24nm,1.1s
ZAK Zakamensk 22.66 29 *eP* **P 03 44 50.1 +0.2**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
MOY Mondy 22.83 24 *eP* **P 03 44 53.6 +1.9**
MOY pmax pmax
comp=Z,78nm,2.5s
NVS Novosibirsk 23.49 355 *eP* **P 03 44 58.5 +0.5**
NVS pmax pmax
comp=N,37nm,2.0s
NVS pmax pmax
comp=Z,29nm,2.0s
WHN Wuhan 23.86 85 P **P 03 45 01.9 +0.1**
GEYT Alibeck 24.17 293 P **P 03 45 07.0 +2.3**
comp=Z,1.5nm,0.4s,baz=122,slow=14,SNR=3.8
QIZ Qiongzhong 24.40 115 P **P 03 45 06.3 -0.6**
QIZ S **S 03 49 33.3 +8.8**
QIZ LR LR
comp=Z,480nm,12.3s
QIZ LR LR
comp=Z,640nm,10.8s
BVAR Borovoye Array 24.53 336 P **P 03 45 07.8 +0.1**
comp=Z,2.0nm,0.4s,baz=145,slow=10,SNR=12
BRVK Borovoye 24.59 336 *eP* **P 03 45 10.7 +2.4**
comp=Z,9.7nm,0.9s
BRVK Borovoye 24.59 336 *i* P **P 03 45 10.3 +2.0**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
PALK Pallekele 24.67 194 *eP* **P 03 45 07.4 -1.9**
comp=Z,34nm,1.0s
PALK Pallekele 24.67 194 *eP* **P 03 45 07.4 -1.9**
PALK pmax pmax
comp=Z,34nm,1.0s
PALK Pallekele 24.67 194 P **P 03 45 07.4 -1.9**
comp=Z,22nm,0.9s,baz=112,slow=1.3,SNR=5.1
BJT Baijiatuau 25.45 62 *eP* **P 03 45 20.6 +4.3**
comp=Z,27nm,1.3s
BJT Baijiatuau 25.45 62 *eP* **P 03 45 20.6 +4.3**
BJT pmax pmax
comp=Z,27nm,1.3s
TIA Tai'an 25.81 71 P **P 03 45 14.1 -5.4**
WSAR Wadi Sarin 26.03 259 P **P 03 45 20.9 -0.8**
comp=Z,3.3nm,0.6s,baz=117,slow=11,SNR=2.3
ABKAR Akbulak array 26.73 319 *eP* **P 03 45 28.3 +0.5**
NJ2 Nanjing 27.45 80 *eP* **P 03 45 36.1 +1.7**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
AKTO Aktyubinsk 28.41 320 P **P 03 45 42.8 0.0**
comp=Z,1.9nm,0.5s,baz=110,slow=9.8,SNR=3.6
SVE Sverdlovsk 31.07 332 *eP* **P 03 46 08.8 +2.6**
SVE pmax pmax
comp=Z,23nm,1.3s
ARU Arti 31.66 330 *eP* **P 03 46 10.7 -0.7**
comp=Z,8.3nm,1.0s
ARU Arti 31.66 330 *d i* P **P 03 46 13.1 +1.7**
ARU 03 47 15.5
ARU S **S 03 51 24.1 +5.9**
ARU SS **SnSn 03 53 08.0 +2.1**
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 31.66 330 P **P 03 46 10.7 -0.7**
comp=Z,2.6nm,0.2s,baz=190,slow=3.3,SNR=4.8
MAK Makhachkala 32.85 302 *eP* **P 03 46 18.0 -4.0**
MAK *e*S **S 03 51 35.1 -1.9**
MAK pmax pmax
comp=Z,20nm,0.3s
MAK MLR MLR
comp=Z,854nm,14.0s
KS15 Wonju Array Si 34.43 69 *eP* **P 03 46 35.1 -0.7**
comp=Z,18nm,1.3s
KSAR Wonju Array Be 34.43 69 *eP* **P 03 46 31.8 -4.0**
KSAR Wonju Array Be 34.43 69 *eP* **P 03 46 31.8 -4.0**
KSRS Korea Array 34.46 68 P **P 03 46 35.1 -0.9**
comp=Z,5.3nm,0.7s,baz=275,slow=9.3,SNR=16
GNI Garni 34.71 296 *i* P **P 03 46 41.1 +2.7**
GNI pmax pmax
comp=Z,28nm,1.3s
MDJ Mudanjiang 35.97 56 *eP* **P 03 46 49.0 0.0**
comp=Z,11nm,0.6s
KIV Kislovodsk 36.44 303 *eP* **P 03 46 55.7 +2.5**
KIV pmax pmax
comp=Z,14nm,0.9s
KIRV Kirov 36.93 328 P **P 03 46 58.4 +1.4**
comp=Z,17nm,0.7s,baz=330,slow=2.5,SNR=6.3
JNU Nakatsue 37.33 75 *eP* **P 03 46 59.0 -1.8**
comp=Z,69nm,1.5s
JNU Nakatsue 37.33 75 P **P 03 46 59.0 -1.8**
comp=Z,9.2nm,0.9s,baz=16,slow=16,SNR=2.9
KKM Kota Kinabalu 37.58 126 *eP* **P 03 47 03.2 +0.1**
comp=Z,19nm,1.0s
USA0B Ussuriysk Arra 37.65 57 *eP* **P 03 47 04.0 +0.7**
comp=Z,13nm,0.8s
USA0B Ussuriysk Arra 37.65 57 *eP* **P 03 47 04.0 +0.7**
USA0B pmax pmax
comp=Z,13nm,0.8s
USRK Ussuriysk Ar. 37.65 57 *eP* **P 03 47 02.6 -0.6**
USRK Ussuriysk Ar. 37.65 57 P **P 03 47 03.5 +0.2**
comp=Z,13nm,0.8s,baz=258,slow=7.7,SNR=17
NRIK Noril'sk 37.93 1 P **P 03 47 04.8 -0.5**
comp=Z,12nm,0.6s,baz=173,slow=5.9,SNR=9.3
KLR Kul'dur 38.12 49 *i* P **P 03 47 07.8 +0.6**
KLR pmax pmax
comp=Z,9.0nm,1.0s
KLR Kul'dur 38.12 49 P **P 03 47 06.5 -0.8**
comp=Z,3.1nm,0.7s,baz=266,slow=10,SNR=9.5
GRNR Gornyy 41.35 47 *eP* **P 03 47 34.8 +0.7**
ASF Jabal al Asfar 41.86 285 P **P 03 47 38.2 -0.4**
comp=Z,1.6nm,0.7s,baz=333,slow=6.8,SNR=2.2
OBN Obninsk 42.18 319 *i* P **P 03 47 42.8 +2.1**
OBN pmax pmax
comp=Z,25nm,1.1s
KLMR Klimovskoe 42.42 328 *eP* **P 03 47 42.1 -0.5**
KLMR pmax pmax
comp=Z,19nm,1.1s
MAJO Matsushiro 42.74 69 *eP* **P 03 47 45.2 -0.4**
MAJO Matsushiro 42.74 69 *eP* **P 03 47 45.2 -0.4**
MJAR Matsushiro Arr 42.74 69 P **P 03 47 45.2 -0.4**
comp=Z,4.4nm,0.7s,baz=275,slow=10,SNR=4.2
ILGA Ilgaz 43.07 298 *eP* **P 03 47 45.7 -2.7**
comp=Z,6.3nm,1.0s
BR101 Keskin Array S 43.25 296 *eP* **P 03 47 50.2 +0.4**
BRTR Keskin Array B 43.25 296 P **P 03 47 50.2 +0.4**
comp=Z,0.5nm,0.5s,baz=98,slow=7.4,SNR=3.7
TMCR Tamitsa 44.35 332 *eP* **P 03 47 58.8 +0.7**
TMCR pmax pmax
comp=Z,27nm,1.2s
ASAJ Asahikawa 45.27 57 P **P 03 48 06.0 +0.3**
comp=Z,6.7nm,0.7s,baz=275,slow=11,SNR=1.9
YSS Yuzh-Sakhalins 45.28 53 *eP* **P 03 48 07.2 +1.4**
YSS MLR MLR
comp=Z,700nm,14.0s
YSS MLR MLR
comp=E,700nm,13.0s
AKASG Malin Array Be 46.02 312 *eP* **P 03 48 11.7 +0.2**
AKASG Malin Array Be 46.02 312 *i* P **P 03 48 14.8 +3.3**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 46.02 312 P **P 03 48 12.1 +0.6**
comp=Z,0.8nm,0.4s,baz=74,slow=7.6,SNR=7.8
AKBB Malin Array Si 46.02 312 *eP* **P 03 48 12.1 +0.6**
comp=Z,5.0nm,1.0s
KIEV Kiev 46.02 312⇓ *i* P **P 03 48 10.8 -0.8**
KIEV Kiev 46.02 312 *i* P **P 03 48 13.6 +2.0**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
TIXI Tiksi 46.16 17 *eP* **P 03 48 12.0 -0.4**
comp=Z,12nm,1.4s
TIXI Tiksi 46.16 17 *i* P **P 03 48 11.7 -0.7**
TIXI pmax pmax
comp=Z,9.0nm,1.4s
VRI Vrincioaia 47.78 305⇑ *i* P **P 03 48 25.3 -0.1**
VRI Vrincioaia 47.78 305⇑ P **P 03 48 25.3 -0.1**
VSU Vasula 48.09 322 P **P 03 48 30.4 +2.8**
VSU pmax pmax
comp=Z,114nm,1.0s
BIZ Bicaz 48.13 307⇑ *i* P **P 03 48 29.9 +1.8**
MLR Muntele Rosu 48.35 305 *eP* **P 03 48 31.5 +1.5**
comp=Z,14nm,0.9s
MLR Muntele Rosu 48.35 305⇑ *i* P **P 03 48 32.5 +2.5**
MLR Muntele Rosu 48.35 305⇑ P **P 03 48 32.5 +2.5**
BURAR Bucovina Array 48.69 308 *eP* **P 03 48 31.9 -0.7**
BURAR Bucovina Array 48.69 308⇓ *i* P **P 03 48 34.3 +1.7**
BURAR Bucovina Array 48.69 308⇓ P **P 03 48 34.3 +1.7**
BUR08 Bucovina Ar. S 48.70 308 *eP* **P 03 48 36.7 +4.0**
comp=Z,3.0nm,1.0s
FIA0 FINESS Array S 48.85 326 *eP* **P 03 48 33.3 -0.1**
FINES FINESS Array B 48.85 326 *eP* **P 03 48 32.6 -0.8**
FINES FINESS Array B 48.85 326 P **P 03 48 33.3 -0.1**
comp=Z,6.6nm,0.6s,baz=107,slow=8.5,SNR=20
VOIR 48.99 305⇓ *i* P **P 03 48 36.3 +1.5**
VOIR 48.99 305⇓ P **P 03 48 36.4 +1.6**
SUF Sumiainen 49.03 328 P **P 03 48 35.4 +0.6**
SUF pmax pmax
comp=Z,41nm,0.7s
LOT Lotru 49.88 305⇓ *i* P **P 03 48 45.4 +3.7**
KWP Kalwaria Pacla 50.22 311 *eP* **P 03 48 46.8 +2.7**
comp=Z,256nm,1.5s
TRPA Tarpa 50.45 309⇑ *i* P **P 03 48 43.4 -2.4**
MA2 Magadan 50.51 36 P **P 03 48 45.8 -0.3**
comp=Z,3.0nm,0.3s,baz=225,slow=4.3,SNR=4.8
KOLS Kolonicke sedl 50.56 310 *eP* **P 03 48 49.6 +3.0**
KOLS Kolonicke sedl 50.56 310 *eP* **P 03 48 49.6 +3.0**
GZR Gura Zlata 50.58 305⇑ *i* P **P 03 48 50.4 +3.5**
GZR Gura Zlata 50.58 305⇑ P **P 03 48 50.4 +3.5**
VAF Ylistaro 50.66 328 P **P 03 48 48.1 +1.0**
VAF pmax pmax
comp=Z,29nm,1.4s
ARA0 ARCESS Array S 50.81 337 *eP* **P 03 48 48.2 0.0**
ARCES ARCESS Array B 50.81 337 *eP* **P 03 48 48.7 +0.4**
ARCES ARCESS Array B 50.81 337 P **P 03 48 48.2 0.0**
comp=Z,3.1nm,0.7s,baz=64,slow=5.5,SNR=10.0
MDVR Moldovita 51.41 304⇑ *i* P **P 03 48 53.2 0.0**
SEY Seymchan 51.56 32 P **P 03 48 54.3 +0.4**
comp=Z,8.3nm,0.7s,baz=271,slow=5.2,SNR=12
VYHS Vyhne 52.87 309 *eP* **P 03 49 06.7 +2.8**
VYHS Vyhne 52.87 309 *eP* **P 03 49 06.7 +2.8**
OKC Ostrava-Krasne 53.15 311 *eP* **P 03 49 09.4 +3.5**
OKC Ostrava-Krasne 53.15 311 *eP* **P 03 49 09.4 +3.5**
MORC Moravsky Berou 53.54 311 *eP* **P 03 49 10.9 +2.1**
comp=Z,9.1nm,0.9s
MORC Moravsky Berou 53.54 311⇓ *i* P **P 03 49 10.6 +1.7**
MORC Moravsky Berou 53.54 311 P **P 03 49 12.4 +3.5**
MORC Moravsky Berou 53.54 311 *eP* **P 03 49 11.8 +2.9**
VRAC Vranov 54.22 311⇓ *i* P **P 03 49 16.6 +2.8**
VRAC Vranov 54.22 311 P **P 03 49 17.6 +3.8**
VRAC pmax pmax
comp=Z,15nm,0.8s
VRAC Vranov 54.22 311 *eP* **P 03 49 17.0 +3.2**
DPC Dobruska-Polom 54.25 312 *eP* **P 03 49 14.6 +0.6**
DPC Dobruska-Polom 54.25 312 *eP* **P 03 49 14.6 +0.6**
DPC *ep*P pP 03 49 17.9 -8.3
KRUC Moravsky 54.38 310 P **P 03 49 18.8 +3.8**
KRUC pmax pmax
comp=Z,10.0nm,1.2s
KRUC Moravsky 54.38 310 *eP* **P 03 49 18.2 +3.2**
UPC Upice 54.42 312 *eP* **P 03 49 17.2 +2.0**
UPC Upice 54.42 312 *eP* **P 03 49 17.2 +2.0**
UPC *ep*P pP 03 49 19.4 -8.0
PEA1 Petropavlovsk- 54.51 44 *eP* **P 03 49 15.1 -0.8**
PETK Petropavlovsk- 54.52 44 P **P 03 49 15.1 -0.8**
comp=Z,3.1nm,0.7s,baz=320,slow=2.3,SNR=9.1
SOEI Soe 54.65 132 *eP* **P 03 49 20.7 +3.3**
comp=Z,30nm,0.9s
HFS Hagfors 54.83 324 P **P 03 49 17.5 -0.5**
comp=Z,6.8nm,0.5s,baz=81,slow=9.5,SNR=20
TREC Trest 54.94 311 *eP* **P 03 49 22.5 +3.5**
TREC Trest 54.94 311 *eP* **P 03 49 22.5 +3.5**
GOPC GO Pecny, Ondr 55.29 312 *eP* **P 03 49 24.4 +2.9**
GOPC GO Pecny, Ondr 55.29 312 *eP* **P 03 49 24.4 +2.9**
PRU Pruhonice 55.43 312 *eP* **P 03 49 24.0 +1.5**
PRU Pruhonice 55.43 312 *eP* **P 03 49 24.0 +1.5**
PRU *ex* x 03 49 26.5
BRG Berggiesshubel 55.67 313 *eP* **P 03 49 25.1 +0.9**
comp=Z,3.8nm,1.1s
BRG *i* 03 49 27.9
comp=Z,11nm,0.9s
BRG Berggiesshubel 55.67 313 *eP* **P 03 49 25.1 +0.9**
BRG pmax pmax
comp=Z,4.0nm,1.1s
SOKA Soboth 55.70 308 *i* PP **P 03 49 26.3 +1.6**
comp=Z,3.8nm,0.8s
NORES NORESS Array B 55.86 325 *eP* **P 03 49 25.0 -0.4**
GERES GERESS Array B 56.17 311 P **P 03 49 27.9 0.0**
comp=Z,4.3nm,0.8s,baz=85,slow=6.2,SNR=21
CLL Collm 56.18 314 *i* P **P 03 49 31.2 +3.3**
CLL MLR MLR
comp=Z,300nm,21.2s
CLL Collm 56.18 314 *i* (P) **P 03 49 31.2 +3.3**
CLL LmV 04 14 00.0
comp=Z,300nm,21.2s
KHC Kasperske Hory 56.20 311 *eP* **P 03 49 30.0 +1.9**
comp=Z,1.8nm,0.7s
KHC Kasperske Hory 56.20 311 *eP* **P 03 49 27.6 -0.5**
KHC Kasperske Hory 56.20 311 *eP* **P 03 49 27.6 -0.5**
KHC *ep*P pP 03 49 31.5 -8.8
KMBO Kilima Mbogo 56.81 245 *eP* **P 03 49 34.0 +0.9**
comp=Z,23nm,1.1s
KMBO Kilima Mbogo 56.81 245 *i* P **P 03 49 36.4 +3.3**
KMBO pmax pmax
comp=Z,14nm,1.0s
KMBO Kilima Mbogo 56.81 245 P **P 03 49 31.1 -1.9**
comp=Z,4.6nm,0.7s,baz=42,slow=13,SNR=6.6
MOX Moxa 57.16 313 P **P 03 49 38.8 +3.9**
MOX pmax pmax
comp=Z,8.0nm,1.0s
BILL Bilibino 57.43 26 *eP* **P 03 49 37.5 +1.1**
comp=Z,11nm,1.1s
BILL Bilibino 57.43 26 *i* P **P 03 49 37.4 +1.0**
BILL pmax pmax
comp=Z,12nm,1.1s
WTTA Wattenberg 57.85 309 *i* PP **P 03 49 42.8 +2.8**
comp=Z,1.4nm,0.4s
WATA Walderalm 57.88 309 *i* PP **P 03 49 42.9 +2.8**
comp=Z,3.7nm,0.5s
SQTA Sankt Quirin 58.15 309 *i* PP **P 03 49 42.8 +0.8**
comp=Z,3.1nm,0.5s
RETA Reutte 58.38 309 *i* PP **P 03 49 45.2 +1.6**
comp=Z,3.4nm,0.5s
FETA Feichten 58.51 309 *i* PP **P 03 49 45.6 +1.0**
comp=Z,1.6nm,0.4s
DAVA Damuels 59.01 309 *i* PP **P 03 49 49.6 +1.6**
comp=Z,0.4nm,0.2s
MBAR Mbarara 61.63 250 *eP* **P 03 50 06.3 -0.1**
comp=Z,18nm,0.8s
FITZ Fitzroy Crossi 61.95 137 P **P 03 50 07.2 -1.0**
comp=Z,1.9nm,0.7s,baz=329,slow=5.9,SNR=4.7
OPO Ambohidratompo 62.44 223 P **P 03 50 10.9 -0.7**
comp=Z,9.8nm,0.8s,baz=43,slow=7.7,SNR=4.0
EKA Eskdalemuir Ar 64.60 321 P **P 03 50 24.8 -0.4**
comp=Z,1.1nm,0.6s,baz=78,slow=6.6,SNR=7.2
WR1 Warramunga Arr 68.67 132 *eP* **P 03 50 50.7 -1.0**
WRA Warramunga Arr 68.67 132 P **P 03 50 50.7 -1.0**
comp=Z,3.4nm,0.5s,baz=329,slow=6.4,SNR=6.9
WB2 Warramunga Arr 68.68 132 *eP* **P 03 50 51.0 -0.8**
comp=Z,18nm,1.3s
SUMG Summit 69.66 345 *eP* **P 03 50 57.4 -0.2**
comp=Z,16nm,1.0s
SUMG Summit 69.66 345 *i* P **P 03 50 58.1 +0.5**
SUMG pmax pmax
comp=Z,60nm,1.2s
SUMG Summit 69.66 345 *i* P **P 03 50 58.1 +0.5**
comp=Z,60nm,1.2s
NWAO Narrogin (SRO) 70.31 153 P **P 03 50 59.2 -2.4**
comp=Z,11nm,0.8s,baz=313,slow=5.6,SNR=4.0
PMG Port Moresby 70.79 114 *eP* **P 03 51 04.8 -0.1**
comp=Z,21nm,0.8s
PMG Port Moresby 70.79 114 P **P 03 51 04.4 -0.5**
comp=Z,17nm,0.6s,baz=321,slow=6.1,SNR=6.3
AS31 Alice Springs 71.15 135 *eP* **P 03 51 06.2 -0.7**
comp=Z,1.6nm,0.6s
ASAR Alice Springs 71.15 135 P **P 03 51 06.0 -0.9**
ASAR Alice Springs 71.15 135 P **P 03 51 06.0 -0.9**
comp=Z,3.3nm,0.4s,baz=319,slow=5.9,SNR=35
TOLK Toolik Lake Re 72.03 19 *eP* **P 03 51 11.7 +0.1**
comp=Z,8.2nm,0.7s
LSZ Lusaka 72.72 239 P **P 03 51 15.8 -0.8**
comp=Z,6.0nm,0.5s,baz=67,slow=5.0,SNR=8.7
MDM Murphy Dome 74.93 21 *eP* **P 03 51 29.4 +0.7**
comp=Z,3.0nm,0.8s
PRP Porcupine Dome 75.34 20 *eP* **P 03 51 32.9 +1.7**
comp=Z,6.9nm,1.4s
ILAR Eielson Array 75.47 21 P **P 03 51 30.9 -0.9**
comp=Z,1.4nm,0.7s,baz=319,slow=5.0,SNR=24
ILAR PP **PP 03 54 20.0 -0.6**
comp=Z,0.9nm,1.0s,baz=309,slow=5.7,SNR=3.3
ILB Eielson Array 75.47 21 *eP* **P 03 51 31.6 -0.3**
comp=Z,1.9nm,0.8s
ILB *e*PP **PP 03 54 20.0 -0.6**
INK Inuvik 76.18 14 *eP* **P 03 51 35.9 +0.2**
comp=Z,4.9nm,1.0s
INK Inuvik 76.18 14 P **P 03 51 35.4 -0.4**
comp=Z,3.0nm,1.0s,baz=332,slow=6.6,SNR=10
RIDG Independent Ri 76.84 21 *eP* **P 03 51 39.6 -0.1**
comp=Z,5.7nm,0.9s
CTA Charters Tower 76.85 124 P **P 03 51 38.5 -1.8**
comp=Z,13nm,0.8s,baz=324,slow=6.9,SNR=20
CTAO Charters Tower 76.85 124 *eP* **P 03 51 39.9 -0.5**
comp=Z,12nm,0.8s
EPYK Eagle Plains 77.04 16 *eP* **P 03 51 40.6 -0.1**
comp=Z,4.4nm,0.8s
SML Sawmill 77.09 23 *eP* **P 03 51 41.5 +0.4**
comp=Z,26nm,1.4s
KDAK Kodiak Island 78.26 28 *eP* **P 03 51 47.5 -0.1**
comp=Z,14nm,1.0s
KDAK Kodiak Island 78.26 28 P **P 03 51 47.6 -0.1**
comp=Z,7.7nm,0.8s,baz=319,slow=7.8,SNR=4.6
TOA1 Torodi Ar. Sit 78.90 279 *eP* **P 03 51 50.1 -1.8**
TOA0 Torodi Ar. Sit 78.90 279 *eP* **P 03 51 51.0 -0.9**
comp=Z,13nm,0.9s
TORD Torodi Ar. Bea 78.90 279 P **P 03 51 50.1 -1.8**
comp=Z,6.5nm,0.9s,baz=52,slow=4.8,SNR=16
LBTB Lobatse 80.88 233 *eP* **P 03 52 01.9 -0.5**
comp=Z,22nm,0.9s
LBTB Lobatse 80.88 233 P **P 03 52 01.9 -0.6**
comp=Z,20nm,0.9s,baz=56,slow=6.3,SNR=18
STKA Stephens Creek 81.77 135 *eP* **P 03 52 05.3 -1.5**
comp=Z,2.5nm,1.3s
STKA Stephens Creek 81.77 135 P **P 03 52 05.3 -1.5**
comp=Z,4.4nm,1.0s,baz=9.6,slow=3.4,SNR=3.8
BOSA Boshof 83.46 231 *eP* **P 03 52 14.8 -1.1**
comp=Z,13nm,0.9s
BOSA Boshof 83.46 231 P **P 03 52 14.4 -1.5**
comp=Z,13nm,1.0s,baz=51,slow=3.4,SNR=17
EIDS Eidsvold 83.64 125 *eP* **P 03 52 16.4 -0.3**
comp=Z,16nm,1.1s
YKW3 Yellowknife Ar 84.78 10 *eP* **P 03 52 21.5 -0.5**
comp=Z,9.9nm,1.5s
YKA Yellowknife Ar 84.85 10 P **P 03 52 21.6 -0.7**
comp=Z,1.4nm,0.7s,baz=331,slow=5.0,SNR=22
YKB5 Yellowknife Ar 84.85 10 *eP* **P 03 52 21.6 -0.7**
DBIC Dimbokro 87.73 276 *eP* **P 03 52 35.5 -1.9**
comp=Z,13nm,0.8s
DBIC Dimbokro 87.73 276 *eP* **P 03 52 35.5 -1.9**
DBIC pmax pmax
comp=Z,13nm,0.8s
DBIC Dimbokro 87.73 276 P **P 03 52 35.5 -1.9**
comp=Z,14nm,0.8s,baz=29,slow=6.9,SNR=9.1
KIC Kosan Boka 87.79 276 *eP* **P 03 52 36.9 -0.8**
comp=Z,107nm,1.4s
TIC Toumodi 87.88 276 *eP* **P 03 52 39.5 +1.4**
LIC Lamto 88.10 276 *eP* **P 03 52 38.9 -0.3**
comp=Z,106nm,1.8s
FFC Flin Flon 93.86 5 *eP* **P 03 53 06.5 +1.3**
comp=Z,6.3nm,1.4s
FFC Flin Flon 93.86 5 *i* P **P 03 53 06.9 +1.7**
LTX Lajitas 118.77 10 *e*PKPdf **PKPdf 03 58 36.0 -0.7**
LTX Lajitas 118.77 10 *e*PKIKP **PKPdf 03 58 36.0 -0.7**
TXAR Lajitas Array 118.77 10 PKIKP **PKPdf 03 58 36.0 -0.7**
TXAR Lajitas Array 118.77 10 PKP **PKPdf 03 58 36.0 -0.7**
comp=Z,0.3nm,0.8s,baz=10,slow=2.8,SNR=3.6
OTAV Otavalo 145.40 333 *e*PKPdf **PKPab 03 59 27.5 +0.2**
OTAV Otavalo 145.40 333 *e*PKP2 **PKPab 03 59 27.5 +0.2**
CPUP Villa Florida 148.03 270 *e*PKPdf **PKPdf 03 59 32.2 +1.6**
CPUP Villa Florida 148.03 270 PKPbc **PKPbc 03 59 32.4 -1.4**
comp=Z,3.9nm,0.8s,baz=59,slow=2.2,SNR=9.5
LPAZ La Paz 152.42 297 PKPbc **PKPbc 03 59 45.2 -0.2**
comp=Z,1.9nm,0.9s,baz=188,slow=0.9,SNR=4.8

IDC ***16*** *03:44:30.8±1.8, 38°.90N×141°.40E, h119km±15km, mb3.5/4, mb1 3.4/8, mb1mx3. 1/52, mbtmp3.9/8, Error ellipse: s-maj=30.8km s-min=11.2km az=110.0*
ISCJB ***16*** *03:44:32.1±0.6, 38°.97N±0°.05×140°.82E±0°.07, h110km±4km, mb3.7/4, Error ellipse: s-maj=10.0km s-min=7.2km az=31.7*
JMA ***16*** *03:44:33. 1±0.1, 38°.97N×140°.81E, h104km±1km, M3.0*
ISC 16 03:44:33.2±1.0, 38°.97N±0°.05×140°.83E±0°.07, h100km±8km, n20, σ1°71/33, mb3.7/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.30**	**94**	P	**Pn**	**03 44 48.2**	**+0.5**
JMK				S	Sn	03 44 59.6	+1.0
JYK	**Kaneyama**	**0.37**	**261**	P	**Pn**	**03 44 48.3**	**+0.2**
JYK				S	Sn	03 44 59.8	+0.6
JOFO	**Osakifurukawao**	**0.38**	**170**	P	**Pn**	**03 44 48.9**	**+0.8**
JOFO				S	Sn	03 45 01.0	+1.8
JRG	**Rokugo**	**0.45**	**340**	P	**Pn**	**03 44 49.2**	**+0.6**
JRG				S	Sn	03 45 01.2	+1.1
JOM	**Ohasama**	**0.61**	**36**	P	**Pn**	**03 44 50.5**	**+0.7**
JOM				S	Sn	03 45 03.2	+0.9
JOU	**Okura**	**0.62**	**192**	P	**Pn**	**03 44 50.5**	**+0.6**
JOU				S	Sn	03 45 03.2	+0.8
JIO	**Ouri**	**0.66**	**142**	P	**Pn**	**03 44 50.3**	**+0.1**
JIO				S	Sn	03 45 03.0	+0.1
JYA	**Atsumi**	**0.95**	**247**	P	**Pn**	**03 44 53.1**	**+0.1**

JYA			S	Sn	03 45 07.7	-0.3
JYS	**Shirataka**	**0.96 219**	P	Pn	03 44 53.6	+0.4
JYS			S	Sn	03 45 08.7	+0.5
JMM	**Marumori**	**1.11 182**	P	Pn	03 44 54.9	+0.1
JAW	**Awa shima**	**1.34 248**	P	Pn	03 44 57.6	+0.2
JAW			S	Sn	03 45 15.4	-0.4
MJAR	**Matsushiro Arr**	**3.19 221**	P	Pn	03 45 22.7	+1.1
0.9nm,0.3s,baz=28,slow=14,SNR=30						
MJAR			S	Sn	03 46 04.6	+5.7
0.1nm,0.3s,baz=33,slow=18,SNR=2.4						
MAT	**Matsushiro**	**3.20 221**	P	Pn	03 45 22.5	+0.9
ASAJ	**Asahikawa**	**5.31 14**	P	Pn	03 45 49.5	-0.5
1.4nm,0.3s,baz=228,slow=14,SNR=3.9						
ASAJ			S	Sn	03 46 46.9	-2.9
1.1nm,0.3s,baz=233,slow=18,SNR=2.7						
JHJ	**Hachijo jima 2**	**5.90 189**	P	Pn	03 45 56.8	-1.4
8.4nm,0.3s,baz=122,slow=21,SNR=7.9						
JHJ			S	Sn	03 46 59.9	-4.5
14nm,0.3s,baz=246,slow=20,SNR=1.9						
USRK	**Ussuriysk Ar.**	**8.43 311**	P	Pn	03 46 34.5	+2.0
0.9nm,0.3s,baz=119,slow=14,SNR=11						
SONM	**Songino Array**	**26.36 301**	P	P	03 49 59.8	-0.2
0.6nm,0.4s,baz=109,slow=9.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**40.28 311**	P	P	03 51 58.8	-1.5
0.6nm,0.4s,baz=92,slow=10,SNR=1.5						
MKAR	**Makanchi Array**	**42.72 300**	P	P	03 52 19.7	-0.6
0.7nm,0.6s,baz=87,slow=9.6,SNR=6.6						
KURBB	**Kurchatov Arra**	**44.46 306**	P	P	03 52 32.5	-1.6
2.5nm,0.5s,baz=81,slow=8.3,SNR=13						

*ISCJB **16** 03:47:31.8±0.4,52°.98S±0°.06×22°.7E±0°.2,h10km, mb4.2/15,MS3.7/4,Error ellipse: s-maj=14.0km s-min=8.7km az=180.0*
*IDC **16** 03:47:31.9±0.7,53°.04S×22°.53E,h0km,mb4.0/13, mb1 4.1/13,mb1mx4.0/32,mbtmp4.1/13,MS3.8/4, Ms1 3.8/4,ms1mx3.4/24,Error ellipse: s-maj=26.9km s-min=15.4km az=81.0*
*NEIC **16** 03:47:34.5±1.7,53°.00S×22°.63E,h16km±4km,mb4.7/11, Error ellipse: s-maj=20.5km s-min=5.4km az=74.0*
ISC 16 03:47:33.2±0.5,53°.03S±0°.08×22°.5E±0°.1,h10km,n42, σ1§12/37,mb4.1/15,MS3.7/4,1D,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.92**	**160**	⇓*e*P	**Pn**	**03 51 40.6**	**-1.5**
CRZF	**Crozet Islands**	**19.99**	**83**	*e*P	**P**	**03 52 04.0**	**-1.5**
82nm,1.1s							
SUR	**Sutherland**	**20.68**	**356**	*e*P	**P**	**03 52 13.8**	**+0.4**
108nm,1.8s							
SUR	**Sutherland**	**20.68**	**356**	P	**P**	**03 52 13.8**	**+0.4**
4.0nm,0.7s,baz=181,slow=15,SNR=5.0							
SUR				LR	LR	03 58 06.9	
comp=Z,345nm,21.6s,baz=180,slow=31							
SNAA	**Sanae**	**21.76**	**201**	P	**P**	**03 52 26.0**	**+1.4**
SNAA	**Sanae**	**21.76**	**201**	*e*P	**P**	**03 52 25.9**	**+1.3**
33nm,1.1s							
SNAA	**Sanae**	**21.76**	**201**	P	**P**	**03 52 25.4**	**+0.8**
20nm,1.0s,baz=49,slow=9.8,SNR=35							
SNAA				LR	LR	03 59 26.1	
comp=Z,427nm,20.7s,baz=68,slow=33							
VNA2	**Neumayer--Watz**	**22.36**	**206**	P	**P**	**03 52 32.3**	**+1.3**
baz=36,slow=10							
VNA1	**Neumayer--Stat**	**22.42**	**207**	P	**P**	**03 52 33.5**	**+1.9**
VNA3	**Neumayer Olymp**	**23.15**	**206**	P	**P**	**03 52 40.0**	**+0.7**
MAW	**Mawson**	**24.14**	**143**	*e*P	**P**	**03 52 50.6**	**+1.7**
4.5nm,1.6s							
MAW	**Mawson**	**24.14**	**143**	P	**P**	**03 52 50.6**	**+1.7**
2.4nm,0.9s,baz=266,slow=18,SNR=2.4							
MAW				LR	LR	04 01 40.4	
comp=Z,120nm,19.5s,baz=307,slow=35							
BOSA	**Boshof**	**24.48**	**6**	LR	LR	04 01 24.7	
comp=Z,250nm,18.0s,baz=199,slow=34							
LBTB	**Lobatse**	**28.07**	**6**	*e*P	**P**	**03 53 24.8**	**-0.1**
9.1nm,1.1s							
LBTB	**Lobatse**	**28.07**	**6**	P	**P**	**03 53 24.8**	**-0.1**
6.3nm,1.0s,baz=185,slow=4.9,SNR=3.6							
TSUM	**Tsumeb**	**33.98**	**352**	*e*P	**P**	**03 54 15.4**	**-1.6**
12nm,1.5s							
TSUM	**Tsumeb**	**33.98**	**352**	P	**P**	**03 54 16.9**	**-0.1**
2.5nm,0.8s,baz=127,slow=9.2,SNR=3.1							
QSPA	**South Pole Qui**	**37.19**	**180**	*e*P	**P**	**03 54 44.9**	**+0.6**
17nm,1.1s							
QSPA	**South Pole Qui**	**37.19**	**180**	P	**P**	**03 54 44.6**	**+0.4**
13nm,1.1s,baz=270,slow=2.4,SNR=21							
VNDA	**Vanda**	**47.29**	**169**	P	**P**	**03 56 05.0**	**-1.1**
0.8nm,0.8s,baz=261,slow=8.0,SNR=4.6							
H10S2	**ASCENSION HYDR**	**53.22**	**312**	T	T	04 54 26.5	
baz=153,slow=75,SNR=9.7							
H10S3	**ASCENSION HYDR**	**53.23**	**312**	T	T	04 54 34.2	
baz=153,slow=75,SNR=11							
H10S1	**ASCENSION HYDR**	**53.23**	**312**	T	T	04 54 22.0	
baz=153,slow=75,SNR=12							
TRQA	**Tornquist**	**57.66**	**248**	*e*P	**P**	**03 57 20.7**	**-2.8**
80nm,1.8s							
CPUP	**Villa Florida**	**63.44**	**261**	P	**P**	**03 58 02.3**	**-0.7**
3.1nm,0.9s,baz=145,slow=5.2,SNR=3.5							
TOA0	**Torodi Ar. Sit**	**68.30**	**338**	*e*P	**P**	**03 58 34.6**	**+0.3**
12nm,1.6s							
TORD	**Torodi Ar. Bea**	**68.30**	**338**	P	**P**	**03 58 34.9**	**+0.5**
1.6nm,1.1s,baz=152,slow=6.4,SNR=6.0							
TOA1	**Torodi Ar. Sit**	**68.31**	**338**	*e*P	**P**	**03 58 34.9**	**+0.5**
LPAZ	**La Paz**	**77.55**	**260**	P	**P**	**03 59 30.4**	**+0.3**
0.6nm,0.7s,baz=97,slow=2.6,SNR=4.2							
ASAR	**Alice Springs**	**83.33**	**121**	P	**P**	**04 00 00.2**	**-0.2**
0.3nm,0.6s,baz=216,slow=4.4,SNR=4.1							
AS31	**Alice Springs**	**83.33**	**121**	*e*P	**P**	**04 00 00.2**	**-0.2**
0.9nm,1.0s							
WRA	**Warramunga Arr**	**86.61**	**119**	P	**P**	**04 00 16.4**	**-0.5**
0.5nm,0.6s,baz=208,slow=5.5,SNR=7.5							
WR1	**Warramunga Arr**	**86.61**	**119**	*e*P	**P**	**04 00 16.4**	**-0.5**
BRTR	**Keskin Array B**	**92.88**	**9**	P	**P**	**04 00 47.4**	**+1.6**
0.2nm,0.4s,baz=160,slow=4.6,SNR=3.8							
BR101	**Keskin Array S**	**92.88**	**9**	*e*P	**P**	**04 00 47.4**	**+1.6**
KIS	**Kishinev**	**99.80**	**4**	*e*L	L	04 12 44.0	
KIS				LRM	MLR	04 20 10.0	
500nm,18.0s							
PD31	**Pinedale Array**	**146.85**	**272**	*e*PKPdf	**PKPdf**	**04 07 14.5**	**+1.1**
PDAR	**Pinedale Array**	**146.85**	**272**	PKPbc	**PKPdf**	**04 07 14.5**	**+1.1**
0.5nm,0.6s,baz=128,slow=5.8,SNR=5.5							
NV01	**Mina Array Sit**	**149.44**	**257**	*e*PKPbc	**PKiKP**	**04 07 23.3**	**0.0**
NVAR	**Mina Array Bea**	**149.44**	**257**	PKPbc	**PKiKP**	**04 07 23.3**	**0.0**
1.3nm,0.8s,baz=126,slow=1.6,SNR=5.6							
YKA	**Yellowknife Ar**	**155.70**	**310**	PKPab	**PKPab**	**04 07 52.7**	**+0.4**
0.6nm,0.9s,baz=94,slow=5.4,SNR=6.2							
YKB5	**Yellowknife Ar**	**155.70**	**310**	*e*PKPab	**PKPab**	**04 07 52.7**	**+0.4**

*IDC **16** 03:54:24.3±0.9,31°.28N×86°.72E,h0km,mb3.6/7, mb1 3.7/9,mb1mx3.5/36,mbtmp3.6/9,ML3.3/2,Error ellipse: s-maj=34.0km s-min=19.3km az=52.0*
*ISCJB **16** 03:54:28.0±0.8,31°.5N±0°.1×86°.7E±0°.2,h33km,mb3.6/6, Error ellipse: s-maj=26.0km s-min=11.7km az=145.1*
ISC 16 03:54:29.9±0.9,31°.5N±0°.1×86°.8E±0°.2,h35km,n10, σ1§00/10,mb3.7/6,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**14.85**	**322**	Pn	**Pn**	**03 57 57.4**	**+0.1**
0.3nm,0.3s,baz=185,slow=12,SNR=2.3							
MKAR	**Makanchi Array**	**15.71**	**349**	Pn	**Pn**	**03 58 07.1**	**-1.3**
0.1nm,0.3s,baz=162,slow=7.9,SNR=2.2							
CMAR	**Chiang Mai Arr**	**16.98**	**137**	Pn	**P**	**03 58 27.0**	**+0.7**
0.4nm,0.3s,baz=315,slow=14,SNR=4.4							
KURBB	**Kurchatov Arra**	**20.11**	**345**	P	**P**	**03 58 59.7**	**-0.9**
1.3nm,0.6s,baz=162,slow=9.9,SNR=6.3							
SONM	**Songino Array**	**22.16**	**37**	P	**P**	**03 59 23.6**	**+0.9**
0.5nm,0.6s,baz=227,slow=9.6,SNR=3.4							
FINES	**FINESS Array B**	**48.98**	**326**	P	**P**	**04 03 13.9**	**+1.2**
0.5nm,0.4s,baz=116,slow=9.4,SNR=6.7							
GERES	**GERESS Array B**	**56.35**	**311**	P	**P**	**04 04 08.0**	**+0.5**
0.5nm,0.6s,baz=60,slow=6.9,SNR=3.9							
WRA	**Warramunga Arr**	**68.49**	**132**	P	**P**	**04 05 28.1**	**-0.7**
0.4nm,0.5s,baz=323,slow=5.8,SNR=8.1							
ASAR	**Alice Springs**	**70.97**	**135**	P	**P**	**04 05 43.6**	**-0.5**
0.6nm,0.6s,baz=318,slow=6.2,SNR=8.6							
TORD	**Torodi Ar. Bea**	**79.13**	**279**	P	**P**	**04 06 30.5**	**-0.9**
0.5nm,0.7s,baz=96,slow=4.8,SNR=3.2							

*IDC **16** 04:17:45.5±1.1,31°.18N×86°.16E,h0km,mb3.6/7, mb1 3.7/8,mb1mx3.4/47,mbtmp3.6/8,ML2.6/1,Error ellipse: s-maj=40.4km s-min=20.5km az=58.0*
*ISCJB **16** 04:17:48.7±1.0,31°.3N±0°.1×86°.2E±0°.2,h33km,mb3.5/6, Error ellipse: s-maj=29.7km s-min=16.3km az=154.0*
ISC 16 04:17:50.8±1.2,31°.3N±0°.2×86°.2E±0°.2,h35km,n8,σ1§04/8, mb3.6/6,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.76**	**350**	Pn	**Pn**	**04 21 28.4**	**-1.6**
0.0nm,0.3s,baz=182,slow=13,SNR=3.6							
KURBB	**Kurchatov Arra**	**20.13**	**346**	P	**P**	**04 22 21.8**	**+0.1**
1.8nm,0.6s,baz=164,slow=11,SNR=12							
SONM	**Songino Array**	**22.58**	**37**	P	**P**	**04 22 49.0**	**+0.8**
0.3nm,0.3s,baz=216,slow=14,SNR=1.7							
BVAR	**Borovoye Array**	**24.56**	**337**	P	**P**	**04 23 07.0**	**-0.2**
0.5nm,0.4s,baz=149,slow=6.7,SNR=2.6							
FINES	**FINESS Array B**	**48.83**	**326**	P	**P**	**04 26 33.8**	**+1.3**
0.6nm,0.5s,baz=127,slow=8.2,SNR=6.3							
WRA	**Warramunga Arr**	**68.77**	**131**	P	**P**	**04 28 51.2**	**-0.3**
0.4nm,0.5s,baz=320,slow=5.7,SNR=7.6							
ASAR	**Alice Springs**	**71.23**	**134**	P	**P**	**04 29 06.2**	**-0.3**
0.4nm,0.4s,baz=319,slow=6.2,SNR=6.0							
TORD	**Torodi Ar. Bea**	**78.66**	**279**	P	**P**	**04 29 49.5**	**-0.2**
0.5nm,0.9s,baz=67,slow=4.7,SNR=1.9							

*IDC **16** 04:34:32.6±0.7,31°.37N×86°.66E,h0km,mb3.8/16, mb1 4.0/17,mb1mx3.8/38,mbtmp3.8/17,ML2.9/1,MS2.9/1, Ms1 3.1/1,ms1mx2.6/41,Error ellipse: s-maj=20.0km s-min=15.6km az=36.0*
*ISCJB **16** 04:34:35.7±0.4,31°.47N±0°.06×86°.52E±0°.06,h33km, mb3.9/22,Error ellipse: s-maj=9.3km s-min=5.9km az=38.0*
*NEIC **16** 04:34:36.5±2.7,31°.47N×86°.69E,h26km±5km,mb4.0/15, Error ellipse: s-maj=17.7km s-min=11.9km az=197.0*
ISC 16 04:34:37.5±0.5,31°.40N±0°.08×86°.51E±0°.07,h35km,n50, σ1§56/49,mb4.0/22,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.35**	**112**	*e*Pn	**Pn**	**04 35 44.5**	**+3.0**
SHL	**Shillong**	**7.49**	**140**	*e*Pn	**Pn**	**04 36 23.4**	**-1.1**
SHL				*e*Sn	**Sn**	**04 37 45.9**	**-2.5**
NIL	**Nilore**	**11.41**	**285**	*e*Pn	**Pn**	**04 37 16.3**	**-1.7**
NIL				*e*Sn	**Sn**	**04 39 24.5**	**+0.3**
WMQ	**Urumqi**	**12.43**	**4**	*e*P	P	04 37 49.6	+6.2
GAR	**Garm**	**15.24**	**304**	*e*Pn	Pn	04 38 04.5	-5.6
12nm,1.1s							
KMI	**Kunming**	**15.60**	**110**	P	**P**	**04 38 20.9**	**+2.0**
MK31	**Makanchi Array**	**15.71**	**349**	*e*Pn	**Pn**	**04 38 14.0**	**-2.1**
2.3nm,1.1s							
MK32	**Makanchi Array**	**15.71**	**349**	*e*Pn	**Pn**	**04 38 14.3**	**-1.7**
MKAR	**Makanchi Array**	**15.71**	**349**	*e*Pn	**Pn**	**04 38 12.3**	**-3.8**
MKAR	**Makanchi Array**	**15.71**	**349**	Pn	**Pn**	**04 38 14.3**	**-1.7**
0.1nm,0.3s,baz=183,slow=14,SNR=3.1							
CM31	**Chiang Mai Arr**	**17.11**	**136**	*e*Pn	**P**	**04 38 34.8**	**-0.5**
4.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**17.11**	**136**	Pn	**P**	**04 38 34.8**	**-0.5**
0.2nm,0.3s,baz=313,slow=11,SNR=7.0							
CMAR				LR	LR	04 46 05.6	
comp=Z,35nm,18.1s,baz=275,slow=41							
KKAR	**Karatay Array**	**17.25**	**317**	*e*Pn	**Pn**	**04 38 32.5**	**-3.0**
1.3nm,0.8s							
KURBB	**Kurchatov Arra**	**20.10**	**345**	P	**P**	**04 39 07.0**	**-0.9**
3.0nm,0.9s,baz=163,slow=10,SNR=15							
KURK	**Kurchatov**	**20.17**	**345**	*e*P	**P**	**04 39 08.3**	**-0.4**
8.9nm,1.4s							
SONA0	**Songino Array**	**22.35**	**37**	*e*P	**P**	**04 39 31.6**	**-0.8**
SONM	**Songino Array**	**22.35**	**37**	*e*P	**P**	**04 39 31.1**	**-1.2**
SONM	**Songino Array**	**22.35**	**37**	P	**P**	**04 39 31.6**	**-0.8**
1.7nm,0.9s,baz=228,slow=14,SNR=7.5							
ZAA0	**Zalesovo Array**	**22.57**	**357**	*e*P	**P**	**04 39 33.2**	**-1.2**
7.1nm,1.3s							
ZALV	**Zalesovo Beam**	**22.57**	**357**	P	**P**	**04 39 35.0**	**+0.6**
1.1nm,0.6s,baz=189,slow=8.4,SNR=5.9							
ZAA1	**Zalesovo Array**	**22.57**	**357**	*e*P	**P**	**04 39 35.0**	**+0.5**
ULN	**Ulaanbaatar**	**22.71**	**38**	*e*P	**P**	**04 39 33.9**	**-2.3**
3.4nm,0.8s							
WHN	**Wuhan**	**23.87**	**85**	P	P	04 39 59.1	+11
GEYT	**Alibeck**	**24.18**	**293**	P	**P**	**04 39 52.5**	**+1.8**
1.4nm,0.3s,baz=151,slow=9.1,SNR=2.7							
KSAR	**Wonju Array Be**	**34.45**	**68**	*e*P	**P**	**04 41 19.1**	**-2.8**
USRK	**Ussuriysk Ar.**	**37.68**	**57**	P	**P**	**04 41 48.6**	**-0.7**
3.1nm,0.8s,baz=256,slow=12,SNR=5.1							
MAJO	**Matsushiro**	**42.76**	**69**	*e*P	**P**	**04 42 31.8**	**+0.2**
MJAR	**Matsushiro Arr**	**42.76**	**69**	P	**P**	**04 42 31.8**	**+0.2**
1.0nm,0.6s,baz=274,slow=11,SNR=4.1							
AKASG	**Malin Array Be**	**46.05**	**312**	P	**P**	**04 42 59.0**	**+1.4**
0.1nm,0.3s,baz=74,slow=8.3,SNR=1.8							
AKBB	**Malin Array Si**	**46.05**	**312**	*e*P	**P**	**04 42 59.0**	**+1.4**
2.4nm,1.1s							
TIRR	**Tirgusor**	**46.72**	**303**	*e*P	**P**	**04 43 02.4**	**-0.5**
16nm,0.8s							
MLR	**Muntele Rosu**	**48.38**	**305**	*e*P	**P**	**04 43 17.3**	**+1.3**
3.6nm,0.9s							
FIA0	**FINESS Array S**	**48.89**	**326**	*e*P	**P**	**04 43 19.9**	**+0.4**
FINES	**FINESS Array B**	**48.89**	**326**	P	**P**	**04 43 19.9**	**+0.4**
0.9nm,0.6s,baz=108,slow=6.2,SNR=4.7							
NB200	**NORSAR Array S**	**56.04**	**325**	*e*P	**P**	**04 44 14.7**	**+2.1**
NOA	**NORSAR Array B**	**56.04**	**325**	P	**P**	**04 44 14.7**	**+2.1**
0.9nm,0.9s,baz=87,slow=6.9,SNR=2.7							
GEC2	**GERESS Array S**	**56.20**	**311**	*e*P	**P**	**04 44 16.4**	**+2.4**
GERES	**GERESS Array B**	**56.20**	**311**	P	**P**	**04 44 16.4**	**+2.4**
0.9nm,0.7s,baz=78,slow=6.5,SNR=6.0							
WRA	**Warramunga Arr**	**68.64**	**132**	P	**P**	**04 45 37.2**	**-0.1**
0.9nm,0.5s,baz=324,slow=5.9,SNR=13							
WR1	**Warramunga Arr**	**68.64**	**132**	*e*P	**P**	**04 45 37.2**	**-0.1**
WB2	**Warramunga Arr**	**68.65**	**132**	*e*P	**P**	**04 45 37.3**	**-0.1**
8.0nm,1.4s							
AS31	**Alice Springs**	**71.11**	**134**	*e*P	**P**	**04 45 51.4**	**-1.0**
0.5nm,0.8s							
ASAR	**Alice Springs**	**71.11**	**134**	P	**P**	**04 45 52.8**	**+0.3**
0.9nm,0.5s,baz=322,slow=6.5,SNR=10							
ILAR	**Eielson Array**	**75.53**	**21**	P	**P**	**04 46 18.3**	**+0.4**
0.4nm,0.8s,baz=301,slow=1.9,SNR=3.7							
ILB	**Eielson Array**	**75.53**	**21**	*e*P	**P**	**04 46 18.3**	**+0.4**
1.7nm,1.3s							
TOA1	**Torodi Ar. Sit**	**78.90**	**279**	*e*P	**P**	**04 46 39.0**	**+1.4**
TORD	**Torodi Ar. Bea**	**78.90**	**279**	P	**P**	**04 46 39.0**	**+1.4**
1.1nm,0.9s,baz=99,slow=5.1,SNR=5.5							
BOSA	**Boshof**	**83.42**	**231**	P	**P**	**04 47 01.6**	**+0.1**
3.2nm,0.7s,baz=32,slow=3.5,SNR=8.3							
YKA	**Yellowknife Ar**	**84.90**	**10**	P	**P**	**04 47 08.1**	**-0.3**
0.4nm,0.7s,baz=343,slow=4.4,SNR=6.6							
YKB5	**Yellowknife Ar**	**84.90**	**10**	*e*P	**P**	**04 47 08.1**	**-0.3**

IDC 16 04:45:51.4±2.9,52°.02N×96°.06E,h0km,mb1 2.9/3, mb1mx2.8/44,mbtmp2.9/3,ML2.5/3,Error ellipse: s-maj=51.2km s-min=20.2km az=14.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**7.05**	**290**	Pn	Pn	04 47 34.9	-1.0
0.3nm,0.3s,baz=102,slow=13,SNR=2.0							
ZALV				Sn	Sn	04 48 50.1	-6.6
0.4nm,0.3s,baz=100,slow=15,SNR=1.6							
ZALV				Lg	Lg	04 49 27.7	
1.0nm,0.3s,baz=104,slow=26,SNR=8.4							
SONM	**Songino Array**	**7.88**	**118**	Pg	Pg	04 48 15.8	-6.4
0.3nm,0.3s,baz=297,slow=19,SNR=4.0							
SONM				Lg	Lg	04 50 00.5	
0.9nm,0.3s,baz=305,slow=30,SNR=11							
MKAR	**Makanchi Array**	**10.38**	**245**	Pn	Pn	04 48 21.4	-0.1
0.1nm,0.3s,baz=49,slow=16,SNR=2.4							
MKAR				Lg	Lg	04 51 21.7	
0.1nm,0.3s,baz=52,slow=30,SNR=3.9							
KURBB	**Kurchatov Arra**	**11.06**	**270**	Pn	Pn	04 48 31.0	+0.3
0.0nm,0.3s,baz=73,slow=16,SNR=2.1							
KURBB				Lg	Lg	04 51 40.8	
0.0nm,0.3s,baz=77,slow=30,SNR=7.6							

NNC 16 04:59:07.3±2.9,43°.47N×87°.06E,h0km,mb4.0,mpv3.6, 4C-3D,Error ellipse: s-maj=20.6km s-min=15.2km az=162.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**4.27**	**340**	Pg	Pn	05 00 11.0	-2.5
1.9nm,0.4s							
ZSN				Lg	Lg	05 01 11.5	
3.2nm,0.6s							
MK31	**Makanchi Array**	**4.74**	**316**	⇑Pn	Pn	05 00 20.5	+0.5
1.1nm,0.3s,baz=135,slow=14,SNR=37							
MK31				Sn	Sn	05 01 18.2	+2.6
2.6nm,0.5s,baz=131,slow=13,SNR=8.4							
MK31				⇑Lg	Lg	05 01 37.6	
6.5nm,0.7s,baz=126,slow=30,SNR=4.5							
MAKZ	**Makanchi**	**4.91**	**315**	⇓Pn	Pn	05 00 22.8	+0.5
2.0nm,0.4s							
MAKZ				⇓Sn	Sn	05 01 19.5	-0.3
2.8nm,0.6s							
MAKZ				⇑Lg	Lg	05 01 40.6	
6.4nm,0.8s							
DJR	**Jarkent**	**5.33**	**282**	Pg	Pb	05 00 37.1	-4.1
4.2nm,0.4s							
DJR				Lg	Lg	05 01 56.4	
4.3nm,0.3s							
PDGK	**Podgornoye**	**5.52**	**271**	Pg	Pb	05 00 42.4	-2.2
1.9nm,0.2s							
PDGK				Lg	Lg	05 02 05.0	
4.6nm,0.5s							
PDGK	**Podgornoye**	**5.52**	**271**	⇓Lg	Lg	05 02 00.0	
8.5nm,0.6s							
SHLS	**Shalkode**	**5.55**	**269**	Pg	Pn	05 00 35.6	+4.2
9.4nm,0.3s							
SHLS				Lg	Lg	05 01 53.5	
24nm,0.4s							
KAPS	**Kapalarasan**	**5.81**	**291**	Pg	Pb	05 00 48.1	-1.4
2.4nm,0.2s							
KAPS				Lg	Lg	05 02 14.7	
4.9nm,0.4s							
UZB	**Uzynbulak**	**5.88**	**270**	Pg	Pb	05 00 46.7	-4.0
0.9nm,0.1s							
UZB				Lg	Lg	05 02 12.7	
5.1nm,0.6s							
KURS	**Kuram**	**6.47**	**273**	Pg	Pb	05 00 59.1	-1.7
1.9nm,0.4s							
KURS				Lg	Lg	05 02 33.6	
3.3nm,0.8s							
ARXS	**Arharly**	**6.72**	**280**	Pg	Pb	05 01 04.8	-0.2
2.4nm,0.4s							
ARXS				Lg	Lg	05 02 43.9	
6.3nm,0.3s							
KURBB	**Kurchatov Arra**	**9.22**	**324**	⇑Pn	Pn	05 01 19.3	-2.1
2.2nm,0.9s							

*NIED **16** 05:18:00,27°.10N×144°.10E,h8km,Mw4.2 Best double couple: M0=2.57000×10^15 NP1:φs=285.00000°,δ34.00000°, λ-124.00000°. NP2:φs=144.00000°,δ62.00000°, λ-69.00000°.*
*MOS **16** 05:18:06.7±0.9,26°.81N×144°.05E,h10km,mb4.8/43,Error ellipse: s-maj=10.1km s-min=5.5km az=109.5*
*BJI **16** 05:18:06.2±0.0,26°.65N×144°.29E,h18km,mb4.6/33, mB4.8/22,Ms4.1/7,Ms7 3.9/6*
*IDC **16** 05:18:06.9±0.5,26°.81N×144°.10E,h0km,mb4.4/28, mb1 4.5/33,mb1mx4.5/46,mbtmp4.4/33,ML3.6/5,MS3.1/11, Ms1 3.1/11,ms1mx2.9/59,Error ellipse: s-maj=15.0km s-min=13.5km az=71.0*
*NEIC **16** 05:18:08.5±1.1,26°.80N×144°.08E,h10km±2km,mb4.7/102, Error ellipse: s-maj=15.9km s-min=9.9km az=58.0*
*JMA **16** 05:18:09.0±0.1,27°.08N×144°.12E,h33km,M4.9*
*ISCJB **16** 05:18:11.2±0.2,27°.00N±0°.04×144°.02E±0°.03,h33km, mb4.6/140,MS3.6/8,Error ellipse: s-maj=5.4km s-min=3.7km az=5.8*
ISC 16 05:18:12.5±0.4,26°.97N±0°.05×144°.11E±0°.06,h35km,n254, σ1§55/259,mb4.7/140,MS3.6/8,14C-3D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.73**	**275**	P	**Pn**	**05 18 37.9**	**-2.1**
CBIJ				*e*S	**Sn**	**05 18 59.0**	**-1.9**
JHH2	**Haha-jima-NKT2**	**1.76**	**260**	P	**Pn**	**05 18 38.6**	**-2.0**
JHH2				*e*S	**Sn**	**05 19 01.0**	**-0.8**
JHJ2	**Mitsune**	**7.17**	**330**	*e*Pn	**Pn**	**05 19 55.2**	**+0.4**
JHJ	**Hachijo jima 2**	**7.19**	**330**	Pn	**Pn**	**05 19 54.3**	**-0.9**
7.9nm,0.3s,baz=287,slow=22,SNR=5.7							
JHJ				Sn	**Sn**	**05 21 08.4**	**-7.2**
14nm,0.3s,baz=126,slow=14,SNR=3.2							
JHJ				LR	LR	05 22 37.4	
comp=Z,44nm,19.4s,baz=104,slow=37							
BSO1	**Boso 1**	**8.12**	**341**	P	**Pn**	**05 20 06.3**	**-1.2**
BSO1				*e*S	**Sn**	**05 21 35.1**	**-2.7**
BSO3	**Boso 3**	**8.40**	**339**	P	**Pn**	**05 20 10.8**	**-0.7**
JRY	**Ryogami san**	**10.06**	**335**	P	**Pn**	**05 20 33.9**	**-0.6**
JHO	**Hitachi**	**10.08**	**343**	*e*S	**Sn**	**05 22 18.0**	**-8.5**
JAG	**Ashikaga**	**10.23**	**338**	P	**Pn**	**05 20 36.0**	**-0.8**
MJAR	**Mats

HHC Hu-ho-hao-te 30.16 306 *eP* **P 05 24 17.5 -2.0**
HHC pmax pmax
comp=Z,74nm,0.9s
HHC pmax pmax
comp=Z,290nm,4.4s
HHC LR LR
comp=Z,720nm,12.8s
HHC LR LR
comp=Z,730nm,13.7s
HHC LR LR
comp=Z,820nm,13.5s
XAN Xi'an 31.02 292 P **P 05 24 28.4 +1.4**
XAN pP sP 05 24 37.9 -1.0
XAN sP pwP 05 24 42.4 -0.5
XAN pmax pmax
comp=Z,9.0nm,1.5s
XAN pmax pmax
comp=Z,61nm,3.5s
XAN LR LR
comp=Z,72nm,15.2s
XAN LR LR
comp=Z,140nm,15.2s
XAN LR LR
comp=Z,110nm,14.2s
XAN Xi'an 31.02 292 *eP* **P 05 24 27.6 +0.6**
comp=Z,7.0nm,1.0s
XAN Xi'an 31.02 292 *eP* **P 05 24 27.6 +0.6**
XAN pmax pmax
comp=Z,7.0nm,1.0s
LZH Lanzhou 35.30 295 *eP* **P 05 25 07.0 +2.5**
LZH pP pP 05 25 11.1 -1.8
LZH sP sP 05 25 13.4 -3.0
LZH pmax pmax
comp=Z,13nm,1.0s
CD2 Chengdu 35.40 286 || *i P* **P 05 25 04.4 -0.9**
CD2 pmax pmax
comp=Z,20nm,0.6s
ULN Ulaanbaatar 35.61 316 *eP* **P 05 25 07.6 +0.7**
comp=Z,8.4nm,1.0s
ULN Ulaanbaatar 35.61 316 *ceP* **P 05 25 07.2 +0.3**
ULN pmax pmax
comp=Z,16nm,1.7s
SONA0 Songino Array 36.01 315 *eP* **P 05 25 10.8 +0.4**
SONM Songino Array 36.01 315 *eP* **P 05 25 10.1 -0.2**
SONM Songino Array 36.01 315 P **P 05 25 10.7 +0.4**
comp=Z,3.6nm,0.8s,baz=118,slow=7.8,SNR=12
SEY Seymchan 36.38 6 *i P* **P 05 25 12.7 -0.4**
SEY Seymchan 36.38 6 P **P 05 25 13.7 +0.6**
comp=Z,3.1nm,0.7s,baz=162,slow=4.8,SNR=3.7
KMI Kunming 37.10 277 P **P 05 25 21.1 +1.1**
KMI pmax pmax
comp=Z,5.0nm,0.5s
GTA Gaotai 38.73 300 *eP* **P 05 25 33.8 +0.2**
GTA pP pP 05 25 39.8 -2.2
GTA sP sP 05 25 42.6 -2.9
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,91nm,4.4s
GTA LR LR
comp=Z,130nm,21.6s
GTA LR LR
comp=Z,190nm,20.3s
GTA LR LR
comp=Z,100nm,18.6s
ZAK Zakamensk 38.85 318 *eP* **P 05 25 33.3 -1.0**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
TLY Talaya 39.13 320 *i P* **P 05 25 36.9 +0.3**
TLY pmax pmax
comp=Z,15nm,0.9s
KAPI Kappang 39.57 220 *eP* **P 05 25 38.3 -2.3**
comp=Z,13nm,1.2s
CM31 Chiang Mai Arr 42.34 268 *eP* **P 05 26 02.0 -1.5**
comp=Z,5.1nm,0.3s
CMAR Chiang Mai Arr 42.34 268 P **P 05 26 02.8 -0.6**
comp=Z,2.2nm,0.3s,baz=56,slow=8.7,SNR=6.5
CMAR LR LR 05 44 02.4
comp=Z,44nm,18.3s,baz=352,slow=37
BILL Bilibino 43.21 12 *ceP* **P 05 26 09.8 0.0**
BILL pmax pmax
comp=Z,8.0nm,1.3s
TIXI Tiksi 45.53 353 *eP* **P 05 26 28.6 +0.3**
comp=Z,4.9nm,0.8s
TIXI Tiksi 45.53 353 *ceP* **P 05 26 27.8 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
WRAB Tennant Creek 47.57 192 *eP* **P 05 26 42.8 -2.1**
comp=Z,16nm,1.0s
WRAB Tennant Creek 47.57 192 *ceP* **P 05 26 41.9 -3.0**
WRAB pmax pmax
comp=Z,24nm,1.3s
WB2 Warramunga Arr 47.58 192 *eP* **P 05 26 43.3 -1.7**
comp=Z,16nm,0.9s
WR1 Warramunga Arr 47.58 192 *eP* **P 05 26 43.2 -1.8**
WRA Warramunga Arr 47.58 192 P **P 05 26 43.2 -1.8**
comp=Z,6.8nm,0.8s,baz=14,slow=8.3,SNR=24
WMQ Urumqi 48.05 306 *eP* **P 05 26 50.8 +2.3**
FITZ Fitzroy Crossi 48.25 204 *eP* **P 05 26 49.2 -0.9**
comp=Z,13nm,0.7s
DGZ Jazzator, Alta 48.60 314 *i P* **P 05 26 53.1 +0.3**
DGZ pmax pmax
comp=Z,9.0nm,1.0s
ZAA0 Zalesovo Array 50.71 319 *eP* **P 05 27 08.9 +0.3**
comp=Z,4.0nm,0.9s
ZALV Zalesovo Beam 50.71 319 P **P 05 27 08.7 +0.1**
comp=Z,3.7nm,0.8s,baz=99,slow=6.6,SNR=9.8
ZALV PcP **PcP 05 28 25.4 0.0**
comp=Z,1.5nm,0.5s,baz=132,slow=3.8,SNR=4.5
ZAA1 Zalesovo Array 50.72 319 *eP* **P 05 27 08.7 +0.1**
ZAA1 *e*PcP **PcP 05 28 25.4 0.0**
AS31 Alice Springs 51.29 192 *eP* **P 05 27 10.7 -2.6**
comp=Z,0.7nm,0.9s
ASAR Alice Springs 51.29 192 P **P 05 27 11.2 -2.0**
comp=Z,0.8nm,0.7s,baz=10,slow=6.9,SNR=10
MK31 Makanchi Array 51.88 310 *eP* **P 05 27 17.5 -0.1**
comp=Z,5.0nm,0.8s
MK32 Makanchi Array 51.88 310 *eP* **P 05 27 18.1 +0.6**
MKAR Makanchi Array 51.88 310 *ceP* **P 05 27 18.5 +1.0**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 51.88 310 P **P 05 27 18.1 +0.6**
comp=Z,5.2nm,0.7s,baz=93,slow=8.9,SNR=31
MAKZ Makanchi 52.10 310 *eP* **P 05 27 19.8 +0.6**
comp=Z,6.8nm,0.8s
DZM Mont Dzumac 53.32 154 *eP* **P 05 27 27.6 -0.8**
comp=Z,6.5nm,0.8s
NRIK Noril'sk 53.40 338 P **P 05 27 29.2 +0.8**
comp=Z,5.7nm,0.8s,baz=123,slow=7.6,SNR=6.5
KDAK Kodiak Island 53.44 37 *ceP* **P 05 27 29.1 +0.3**
KDAK Kodiak Island 53.44 37 LR LR 05 47 15.5
comp=Z,58nm,20.3s,baz=270,slow=33
PDGK Podgornoye 54.02 305 P **P 05 27 34.0 +0.5**
PDGK pmax pmax
comp=Z,17nm,0.9s
KURK Kurchatov 54.30 315 *eP* **P 05 27 35.1 -0.1**
comp=Z,3.5nm,0.8s
KURK Kurchatov 54.30 315 *ceP* **P 05 27 35.2 -0.1**
KURK pmax pmax
comp=Z,14nm,2.5s
TOLK Toolik Lake Re 56.56 24 *eP* **P 05 27 52.8 +1.5**
comp=Z,7.9nm,1.1s
BOOM Boomskoye usch 56.70 305 *eP* **P 05 27 53.1 +0.3**
comp=Z,5.2nm,0.8s
NRN Naryn 56.80 304 *eP* **P 05 27 54.6 +0.8**
comp=Z,3.8nm,0.8s
NRN Naryn 56.80 304 *eP* **P 05 27 54.6 +0.8**
NRN pmax pmax
comp=Z,4.0nm,0.8s
ILAR Eielson Array 57.00 28 P **P 05 27 54.1 -0.3**
comp=Z,3.6nm,1.1s,baz=260,slow=5.5,SNR=20
ILB Eielson Array 57.00 28 *eP* **P 05 27 53.8 -0.6**
comp=Z,6.3nm,1.2s
KSH Kashi 57.12 301 P **P 05 27 59.8 +4.0**
KSH pP pP 05 28 05.3 +0.7
KSH PP **PP 05 30 07.6 +4.9**
KSH S **S 05 35 53.9 +5.2**
KSH SS **SS 05 39 43.9 +6.3**
KSH pmax pmax
comp=Z,27nm,0.7s
AAK Ala-Archa 57.74 305 *eP* **P 05 28 00.1 -0.1**
comp=Z,3.5nm,0.8s
AAK Ala-Archa 57.74 305 *ceP* **P 05 28 00.3 +0.1**
AAK pmax pmax
comp=Z,6.0nm,1.3s
FYU Fort Yukon 57.88 26 *eP* **P 05 28 02.6 +2.1**
comp=Z,12nm,1.0s
OTUK Ortayu 58.53 312 P **P 05 28 06.4 +0.9**
OTUK pmax pmax
comp=Z,4.0nm,0.9s
STKA Stephens Creek 58.56 183 *eP* **P 05 28 04.3 -1.4**
comp=Z,1.0nm,1.3s
STKA Stephens Creek 58.56 183 P **P 05 28 04.2 -1.5**
comp=Z,1.3nm,0.7s,baz=319,slow=11,SNR=3.5
ARSB Arslanbob 59.06 304 *eP* **P 05 28 09.7 +0.3**
comp=Z,9.8nm,0.8s
BCAR Beaver Creek A 59.14 31 *eP* **P 05 28 10.2 +0.7**
BRVK Borovoye 59.36 318 *i P* **P 05 28 11.7 +0.6**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
DAWY Dawson 60.22 30 *eP* **P 05 28 17.9 +1.1**
comp=Z,9.3nm,1.2s
KK31 Karatay Array 60.55 306 *eP* **P 05 28 20.1 +0.6**
comp=Z,8.4nm,0.8s
KK31 Karatay Array 60.55 306 *eP* **P 05 28 20.1 +0.6**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 60.55 306 *eP* **P 05 28 20.4 +0.9**
comp=Z,8.4nm,0.8s
KKAR Karatay Array 60.55 306 *eP* **P 05 28 20.4 +0.9**
KKAR pmax pmax
comp=Z,8.0nm,0.8s
EPYK Eagle Plains 61.29 27 *eP* **P 05 28 25.4 +1.3**
comp=Z,15nm,0.9s
GAR Garm 61.53 302 *eP* **P 05 28 27.1 +0.8**
comp=Z,18nm,0.8s
GAR Garm 61.53 302 *eP* **P 05 28 27.1 +0.8**
GAR pmax pmax
comp=Z,18nm,0.8s
INK Inuvik 62.43 25 *eP* **P 05 28 32.2 +0.5**
comp=Z,6.6nm,1.1s
INK Inuvik 62.43 25 *eP* **P 05 28 32.2 +0.5**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 62.43 25 P **P 05 28 32.0 +0.4**
comp=Z,4.8nm,1.0s,baz=287,slow=6.2,SNR=23
WHY Whitehorse 62.53 33 *eP* **P 05 28 33.6 +0.9**
comp=Z,14nm,1.4s
DLBC Dease Lake 65.32 35 *eP* **P 05 28 52.5 +1.5**
comp=Z,6.6nm,1.1s
DLBC Dease Lake 65.32 35 P **P 05 28 51.9 +0.9**
comp=Z,2.9nm,0.9s,baz=292,slow=4.9,SNR=6.4
ARU Arti 65.58 323 *d i P* **P 05 28 52.9 +0.4**
ARU S **S 05 37 39.8 +4.5**
ARU pmax pmax
comp=Z,8.0nm,0.9s
ABKAR Akbulak array 66.41 315 *eP* **P 05 28 58.2 +0.2**
ABKAR *eP* **P 05 28 58.5 +0.4**
YKW3 Yellowknife Ar 71.40 29 *eP* **P 05 29 29.1 +0.2**
comp=Z,4.1nm,0.9s
YKA Yellowknife Ar 71.43 29 *eP* **P 05 29 28.7 -0.3**
YKA Yellowknife Ar 71.43 29 P **P 05 29 29.2 +0.2**
comp=Z,4.2nm,0.9s,baz=294,slow=5.9,SNR=36
YKB5 Yellowknife Ar 71.43 29 *eP* **P 05 29 29.2 +0.2**
RES Resolute Bay 71.78 14 *eP* **P 05 29 31.4 +0.5**
comp=Z,5.0nm,1.0s
RES Resolute Bay 71.78 14 P **P 05 29 32.2 +1.3**
RES pmax pmax
comp=Z,5.0nm,1.3s
H04A Detroit Lake 74.04 48 *eP* **P 05 29 45.4 +0.5**
comp=Z,11nm,0.9s
ARA0 ARCESS Array S 74.22 341 *eP* **P 05 29 45.9 +0.5**
ARCES ARCESS Array B 74.22 341 P **P 05 29 45.9 +0.5**
comp=Z,2.4nm,0.7s,baz=64,slow=8.2,SNR=5.7
B08A Colville Reser 74.45 43 *eP* **P 05 29 47.1 -0.1**
comp=Z,7.4nm,0.9s
YBH Yreka Blue Hor 74.81 51 P **P 05 29 50.2 +0.7**
comp=Z,5.1nm,0.8s,baz=348,slow=5.4,SNR=16
PINE Pine Mountain 75.21 48 *eP* **P 05 29 53.4 +1.5**
comp=Z,18nm,0.9s
K05A Summer Lake 75.66 49 *eP* **P 05 29 55.4 +0.9**
comp=Z,23nm,1.0s
NEW Newport 75.84 43 *eP* **P 05 29 56.0 +0.8**
comp=Z,9.9nm,0.9s
NEW Newport 75.84 43 P **P 05 29 55.7 +0.5**
comp=Z,7.3nm,0.9s,baz=293,slow=5.8,SNR=4.1
G08A Pilot Rock 75.91 46 *eP* **P 05 29 56.1 +0.4**
comp=Z,6.3nm,1.1s
DAG Danmarks Havn 75.96 356 *i P* **P 05 29 55.3 0.0**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 75.96 356 *i P* **P 05 29 55.3 0.0**
comp=Z,2.8nm,0.8s
MOD Modoc Plateau 76.39 50 *eP* **P 05 29 58.9 +0.2**
comp=Z,6.8nm,1.0s
ORV Oroville 76.51 52 *eP* **P 05 29 58.8 -0.3**
comp=Z,9.2nm,0.9s
ORV Oroville 76.51 52 *eP* **P 05 29 58.8 -0.3**
ORV pmax pmax
comp=Z,9.0nm,0.9s
J08A Circle Bar Ran 77.02 48 *eP* **P 05 30 02.7 +0.6**
comp=Z,9.2nm,0.9s
AFDM Forest Hills D 77.13 53 *eP* **P 05 30 03.4 +0.7**
comp=Z,8.1nm,1.3s
BMO Blue Mountains 77.16 46 *eP* **P 05 30 03.9 +1.0**
comp=Z,9.4nm,1.0s
BMO Blue Mountains 77.16 46 *eP* **P 05 30 03.8 +1.0**
BMO pmax pmax
comp=Z,9.0nm,1.0s
BEKR Beckworth 77.19 52 *eP* **P 05 30 03.7 +0.6**
comp=Z,12nm,0.8s
OBN Obninsk 77.61 326 *eP* **P 05 30 04.6 -0.3**
OBN *e* 05 30 15.3
OBN *e* 05 33 00.6
OBN pmax pmax
comp=Z,3.0nm,0.9s
VCNR Virginia City 77.92 52 *eP* **P 05 30 08.0 +0.6**
comp=Z,5.5nm,0.9s
CMB Columbia Colle 77.93 53 *eP* **P 05 30 07.3 +0.1**
comp=Z,10nm,0.8s
CMB Columbia Colle 77.93 53 *eP* **P 05 30 07.3 +0.1**
CMB pmax pmax
comp=Z,10.0nm,0.8s
PNTR Pine Nut 78.04 52 *eP* **P 05 30 09.2 +1.2**
comp=Z,11nm,0.8s
VSR Storozhevoye 78.12 322 *i P* **P 05 30 06.6 -1.3**
VSR pmax pmax
comp=Z,5.0nm,0.7s
WAKR Walker 78.41 53 *eP* **P 05 30 11.1 +1.0**
comp=Z,6.8nm,0.8s
FIA0 FINESS Array S 78.81 334 *eP* **P 05 30 11.9 +0.4**
FINES FINESS Array B 78.81 334 *ceP* **P 05 30 11.8 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 78.81 334 P **P 05 30 11.9 +0.4**
comp=Z,1.5nm,0.7s,baz=45,slow=5.7,SNR=5.7
KVN Kaiserville 79.11 52 *eP* **P 05 30 14.3 +0.4**
comp=Z,7.6nm,0.9s
KVN Kaiserville 79.11 52 *eP* **P 05 30 14.3 +0.4**
KVN pmax pmax
comp=Z,8.0nm,0.9s
ZEI Tsey 79.12 312 *eP* **P 05 30 12.7 -1.2**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
BMN Battle Mountai 79.12 50 *eP* **P 05 30 14.2 +0.3**
comp=Z,4.4nm,1.0s
BMN Battle Mountai 79.12 50 *eP* **P 05 30 14.2 +0.3**
BMN pmax pmax
comp=Z,4.0nm,1.0s
NV01 Mina Array Sit 79.24 52 *eP* **P 05 30 15.1 +0.5**
NVAR Mina Array Bea 79.24 52 P **P 05 30 15.1 +0.5**
comp=Z,7.0nm,0.8s,baz=278,slow=5.8,SNR=19
KBZ Khabaz 79.35 314 P **P 05 30 15.3 +0.6**
comp=Z,9.9nm,0.8s,baz=95,slow=3.6,SNR=21
KIV Kislovodsk 79.38 314 *eP* **P 05 30 16.6 +1.5**
KIV pmax pmax
comp=Z,21nm,0.9s
HLID Hailey 79.59 46 *eP* **P 05 30 17.0 +0.6**
comp=Z,3.0nm,0.9s
NEY Neytrino 79.68 313 *i P* **P 05 30 17.4 +0.5**
NEY pmax pmax
comp=Z,1.0nm,1.0s
GNI Garni 79.73 310 *i P* **P 05 30 17.6 +0.4**
GNI pmax pmax
comp=Z,14nm,0.9s
HRY Holter Researc 79.74 43 *eP* **P 05 30 17.7 +0.6**
LRM Limekiln Ridge 79.78 44 *eP* **P 05 30 15.9 -1.6**
ISA Isabella, Lake 80.33 55 *eP* **P 05 30 20.1 -0.3**
comp=Z,6.0nm,1.1s
ISA Isabella, Lake 80.33 55 *eP* **P 05 30 20.1 -0.3**
ISA pmax pmax
comp=Z,6.0nm,1.1s
VSU Vasula 80.33 332 *i P* **P 05 30 21.8 +2.0**
VSU pmax pmax
comp=Z,23nm,1.0s
ELK Elko 80.33 49 *eP* **P 05 30 19.8 -0.8**
comp=Z,6.9nm,1.0s
ELK Elko 80.33 49 P **P 05 30 21.1 +0.6**
comp=Z,4.5nm,0.9s,baz=313,slow=5.5,SNR=5.7
BOZ Bozeman (W) 80.40 44 *eP* **P 05 30 21.1 +0.4**
comp=Z,4.9nm,0.8s
BOZ Bozeman (W) 80.40 44 *eP* **P 05 30 21.1 +0.4**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 80.71 1 *eP* **P 05 30 22.4 +0.3**
comp=Z,6.8nm,0.8s
SUMG Summit 80.71 1 *i P* **P 05 30 23.7 +1.6**
SUMG pmax pmax
comp=Z,20nm,0.9s
SUMG Summit 80.71 1 *i P* **P 05 30 23.7 +1.6**
comp=Z,20nm,0.9s
QLMT Earthquake Lak 80.89 44 *eP* **P 05 30 24.0 +0.6**
FFC Flin Flon 80.94 32 *eP* **P 05 30 23.9 +0.8**
comp=Z,12nm,0.8s
FFC Flin Flon 80.94 32 *ceP* **P 05 30 24.1 +0.9**
YHB Horse Butte 81.07 44 *eP* **P 05 30 25.1 +0.7**
comp=Z,13nm,1.0s
R11A Troy Canyon, C 81.19 52 *eP* **P 05 30 25.6 +0.5**
comp=Z,5.4nm,0.9s
YMR Madison River 81.26 44 *eP* **P 05 30 26.2 +0.8**
comp=Z,12nm,0.9s
YHH Holmes Hill 81.27 44 *eP* **P 05 30 26.6 +1.0**
comp=Z,7.4nm,1.1s
TPNV Topopah Spring 81.36 53 *eP* **P 05 30 26.3 +0.3**
comp=Z,6.5nm,0.8s
YNR Norris Junctio 81.41 44 *eP* **P 05 30 27.8 +1.6**
comp=Z,12nm,1.3s
YFT Old Faithful 81.44 44 *eP* **P 05 30 26.9 +0.5**
comp=Z,13nm,1.2s
YPP Pitchstone Pla 81.55 45 *eP* **P 05 30 28.8 +1.8**
comp=Z,4.2nm,1.0s
H17A Grant Village 81.63 44 *eP* **P 05 30 29.5 +2.1**
comp=Z,13nm,1.0s
IMW Indian Meadow 81.65 45 *eP* **P 05 30 28.7 +1.1**
comp=Z,8.7nm,0.9s
LKWY Lake 81.66 44 *eP* **P 05 30 29.9 +2.4**
comp=Z,9.0nm,0.9s
FLWY Flagg Ranch 81.71 45 *eP* **P 05 30 29.1 +1.3**
comp=Z,10nm,0.8s
FXWY Fox Creek 81.72 45 *eP* **P 05 30 29.1 +1.2**
comp=Z,5.7nm,0.9s
TPAW Teton Pass 81.84 45 *eP* **P 05 30 30.0 +1.4**
comp=Z,6.6nm,0.8s
SNOW Snow King Moun 81.98 45 *eP* **P 05 30 29.4 +0.2**
comp=Z,4.9nm,0.9s
LOHW Long Hollow 82.00 45 *eP* **P 05 30 29.7 +0.4**
comp=Z,4.0nm,0.8s
RLMT Red Lodge 82.08 43 *eP* **P 05 30 30.9 +1.2**
comp=Z,9.4nm,0.8s
DUG Dugway, Tooele 82.22 49 *eP* **P 05 30 31.0 +0.5**
comp=Z,6.9nm,0.8s
DUG Dugway, Tooele 82.22 49 *eP* **P 05 30 31.0 +0.5**
DUG pmax pmax
comp=Z,7.0nm,0.8s
PSUT Pine Spring 82.31 51 *eP* **P 05 30 31.4 +0.4**
comp=Z,5.8nm,1.0s
SHPR Sheep Range 82.34 53 *eP* **P 05 30 31.4 +0.3**
comp=Z,3.9nm,0.9s
PFO Pinyon Flats O 82.73 56 *eP* **P 05 30 33.5 +0.3**
comp=Z,4.4nm,0.9s
PFO Pinyon Flats O 82.73 56 *eP* **P 05 30 33.5 +0.3**
PFO pmax pmax
comp=Z,4.0nm,0.9s
NLU North Lily Min 82.84 49 *eP* **P 05 30 34.0 +0.3**
comp=Z,3.0nm,0.9s
JLU Jordanelle 82.94 48 *eP* **P 05 30 35.0 +0.6**
comp=Z,7.4nm,1.0s
LAO LASA Array 83.08 41 *eP* **P 05 30 34.2 -0.5**
comp=Z,15nm,0.9s
PD31 Pinedale Array 83.09 45 *eP* **P 05 30 35.3 +0.3**
comp=Z,2.9nm,0.9s
PDAR Pinedale Array 83.09 45 P **P 05 30 35.4 +0.3**
comp=Z,2.4nm,0.8s,baz=267,slow=3.0,SNR=5.6
AKASG Malin Array Be 83.73 325 *ceP* **P 05 30 37.2 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 83.73 325 P **P 05 30 37.3 -0.5**
comp=Z,1.1nm,0.5s,baz=50,slow=5.1,SNR=9.8
AKBB Malin Array Si 83.73 325 *eP* **P 05 30 37.5 -0.3**
comp=Z,3.7nm,0.8s
AKBB Malin Array Si 83.73 325 *eP* **P 05 30 37.5 -0.3**
AKBB pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 83.74 325 *eP* **P 05 30 37.5 -0.4**
comp=Z,3.7nm,0.8s
KIEV Kiev 83.74 325 *i P* **P 05 30 36.1 -1.8**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
SRU San Rafael Swe 84.30 49 *eP* **P 05 30 41.0 -0.3**
comp=Z,5.7nm,0.8s
SRU *e*S **S 05 41 08.9 +4.2**
SRU San Rafael Swe 84.30 49 *eP* **P 05 30 41.0 -0.3**
SRU *e*S **S 05 41 08.9 +4.2**
SRU pmax pmax
comp=Z,6.0nm,0.8s
NB2 NORSAR Subarra 84.36 339 P **P 05 30 40.5 -0.4**
comp=Z,1.4nm,0.9s,baz=41,slow=5.1
NB200 NORSAR Array S 84.36 339 *eP* **P 05 30 41.2 +0.3**
NOA NORSAR Array B 84.36 339 P **P 05 30 41.2 +0.3**
comp=Z,2.9nm,0.9s,baz=41,slow=4.9,SNR=4.8
Y14A Wickenburg 85.11 54 *eP* **P 05 30 45.2 -0.1**
comp=Z,5.2nm,0.9s
PV23 Carpenter Ridg 85.65 49 *eP* **P 05 30 48.1 0.0**
comp=Z,12nm,0.9s
SFJD Kangerlussuaq 85.67 6 P **P 05 30 47.7 +0.4**
comp=Z,13nm,0.9s,baz=344,slow=3.3,SNR=6.6
SFJD Kangerlussuaq 85.67 6 *i P* **P 05 30 47.7 +0.4**
comp=Z,12nm,0.7s
PV20 West Nyswonger 85.73 49 *eP* **P 05 30 48.7 +0.2**
comp=Z,11nm,1.0s
PV17 East Wray Mesa 85.77 49 *eP* **P 05 30 48.8 +0.1**
comp=Z,15nm,1.1s
PV16 Nyswonger Mesa 85.78 49 *eP* **P 05 30 48.8 +0.1**
comp=Z,8.9nm,0.9s
PV18 Skein Mesa, Pa 85.82 49 *eP* **P 05 30 48.6 -0.3**
comp=Z,9.9nm,1.0s
PV03 Paradox Valley 85.86 49 *eP* **P 05 30 48.1 -1.0**
comp=Z,7.8nm,1.1s
PV01 Paradox Valley 86.11 49 *eP* **P 05 30 49.9 -0.5**
comp=Z,7.2nm,1.3s
PHWY Pilot Hill 86.45 45 *eP* **P 05 30 51.6 -0.5**
comp=Z,8.0nm,0.8s
SMCO Snowmass 86.62 47 *eP* **P 05 30 53.0 -0.2**
comp=Z,3.9nm,0.9s
BR101 Keskin Array S 87.34 314 *eP* **P 05 30 56.1 -0.2**
BRTR Keskin Array B 87.34 314 *ceP* **P 05 30 55.7 -0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 87.34 314 P **P 05 30 56.1 -0.2**
comp=Z,1.2nm,0.8s,baz=108,slow=4.0,SNR=6.1
ANMO Albuquerque 89.24 51 *eP* **P 05 31 05.3 -0.2**
comp=Z,2.3nm,1.0s
ANMO Albuquerque 89.24 51 *ceP* **P 05 31 04.2 -1.2**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO Albuquerque 89.24 51 P **P 05 31 05.8 +0.4**
comp=Z,1.9nm,1.0s,baz=290,slow=2.5,SNR=3.0
LTX Lajitas 94.30 54 *eP* **P 05 31 29.6 +0.8**
LTX Lajitas 94.30 54 *eP* **P 05 31 29.6 +0.8**
TXAR Lajitas Array 94.30 54 P **P 05 31 29.6 +0.8**
comp=Z,0.5nm,0.6s,baz=295,slow=2.3,SNR=8.0
PTGA Pitinga 145.13 46 *e*PKPbc **PKPbc 05 37 43.9 -2.8**
PTGA Pitinga 145.13 46 PKPbc **PKPbc 05 37 46.7 0.0**
comp=Z,10nm,0.8s,baz=306,slow=4.9,SNR=9.7
LPAZ La Paz 148.28 77 PKPbc **PKPbc 05 37 56.5 0.0**
comp=Z,9.1nm,0.8s,baz=328,slow=1.9,SNR=28
PLCA Paso Flores 148.32 125 *e*PKPdf **PKPdf 05 37 50.3 -1.5**
PLCA Paso Flores 148.32 125 *e*PKIKP **PKPdf 05 37 50.3 -1.5**
PLCA Paso Flores 148.32 125 PKPbc **PKPbc 05 37 55.1 -0.1**
comp=Z,2.1nm,0.7s,baz=272,slow=3.2,SNR=7.0

ISCJB ***16*** *05:19:38.7±0.4, 52.°92S±0.°06×10.°3E±0.°1, h10km, mb4.6/20, MS4.3/10, Error ellipse: s-maj=12.9km s-min=8.1km az=5.7*
IDC ***16*** *05:19:39.0±0.5, 52.°89S×10.°33E, h0km, mb4.5/13, mb1 4.6/14, mb1mx4.4/29, mbtmp4.6/14, ML4.9/1, MS4.3/11, Ms1 4.3/11, ms1mx3.8/43, Error ellipse: s-maj=19.5km*

s-min=14.9km az=83.0
*NEIC **16** 05:19:40.8±2.0, 52°.88S×10°.42E, h10km±3km, mb4.9/18, Error ellipse: s-maj=19.6km s-min=16.0km az=89.0*
*GCMT **16** 05:19:41.8±0.3, 53°.02S±0°.02×10°.55E±0°.05, h19km±1km, MW5.0/75, Moment Tension Solution. s22,c24; s75,c107; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.46±.28; Mθθ3.85±.19; Mφφ0.60±.16; Mrθ0.14±.34; Mθφ-0.69±.10; Mφr0.57±.43; Best double couple: M0=4.25900×10^16 NP1:φs=275.00000°, δ46.00000°, λ-99.00000°. NP2: φs=108.00000°, δ45.00000°, λ-81.00000°. Principal axes: T 3.9890, Plg0.0000°, Azm11.0000°; N 0.5380, Plg7.0000°, Azm281.0000°; P -4.5290, Plg83.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 05:19:40.6±0.4, 52°.92S±0°.08×10°.4E±0°.1, h10km, n106, σ0.86/95, mb4.6/20, MS4.3/10, 2D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**19.68**	**198**	P	**P**	**05 24 09.5**	**0.0**
SNAA	**Sanae**	**19.70**	**192**	P	**P**	**05 24 09.8**	**0.0**
SNAA	**Sanae**	**19.70**	**192**	*e*P	**P**	**05 24 09.5**	**-0.3**
	164nm,1.0s						
SNAA	**Sanae**	**19.70**	**192**	P	**P**	**05 24 09.6**	**-0.2**
	3.9nm,0.3s,baz=20,slow=10,SNR=93						
SNAA				LR	LR	05 30 00.8	
	comp=Z,839nm,21.0s,baz=38,slow=32						
VNA2	**Neumayer--Watz**	**19.75**	**197**	P	**P**	**05 24 09.8**	**-0.5**
	baz=24,slow=15						
VNA3	**Neumayer Olymp**	**20.44**	**199**	P	**P**	**05 24 17.1**	**-0.7**
SYO	**Syowa Base**	**21.13**	**151**	‖*e*P	**P**	**05 24 23.0**	**-2.1**
SYO	**Syowa Base**	**21.13**	**151**	‖*i*Pn	**P**	**05 24 25.2**	**+0.1**
SUR	**Sutherland**	**21.87**	**24**	*e*P	**P**	**05 24 34.7**	**+1.1**
	86nm,1.5s						
SUR	**Sutherland**	**21.87**	**24**	P	**P**	**05 24 34.1**	**+0.4**
	22nm,1.0s,baz=188,slow=5.1,SNR=6.6						
SUR				LR	LR	05 30 56.9	
	comp=Z,761nm,21.6s,baz=204,slow=31						
BOSA	**Boshof**	**26.66**	**30**	P	**P**	**05 25 20.0**	**+0.3**
	2.2nm,0.8s,baz=203,slow=12,SNR=4.0						
BOSA				LR	LR	05 34 08.2	
	comp=Z,593nm,19.8s,baz=200,slow=33						
MAW	**Mawson**	**28.80**	**141**	*e*P	**P**	**05 25 40.3**	**+2.0**
	1.9nm,1.1s						
MAW	**Mawson**	**28.80**	**141**	P	**P**	**05 25 39.5**	**+1.2**
	3.6nm,0.9s,baz=290,slow=12,SNR=4.4						
MAW				LR	LR	05 34 43.6	
	comp=Z,283nm,22.0s,baz=281,slow=31						
LBTB	**Lobatse**	**30.14**	**28**	*e*P	**P**	**05 25 49.2**	**-1.5**
	3.4nm,0.7s						
TSUM	**Tsumeb**	**34.11**	**12**	LR	LR	05 38 01.7	
	comp=Z,949nm,20.8s,baz=186,slow=32						
QSPA	**South Pole Qui**	**37.32**	**180**	*e*P	**P**	**05 26 52.4**	**-0.3**
	11nm,1.0s						
QSPA	**South Pole Qui**	**37.32**	**180**	P	**P**	**05 26 52.2**	**-0.5**
	9.9nm,1.1s,baz=227,slow=1.2,SNR=18						
QSPA				LR	LR	05 41 26.0	
	comp=Z,821nm,19.8s,baz=250,slow=35						
H10S2	**ASCENSION HYDR**	**48.30**	**326**	T	T	06 20 28.7	
	baz=160,slow=75,SNR=4.1						
H10S3	**ASCENSION HYDR**	**48.31**	**326**	T	T	06 20 29.5	
	baz=160,slow=75,SNR=3.6						
H10S1	**ASCENSION HYDR**	**48.31**	**326**	T	T	06 20 34.6	
	baz=160,slow=75,SNR=3.8						
VNDA	**Vanda**	**48.62**	**172**	*e*P	**P**	**05 28 24.2**	**+0.4**
	12nm,0.8s						
VNDA	**Vanda**	**48.62**	**172**	P	**P**	**05 28 23.9**	**0.0**
	12nm,0.8s,baz=228,slow=7.0,SNR=42						
VNDA				LR	LR	05 48 07.2	
	comp=Z,542nm,20.0s,baz=194,slow=35						
SBA	**Scott Base**	**48.68**	**174**	*e*P	**P**	**05 28 25.8**	**+1.5**
	18nm,1.3s						
TRQA	**Tornquist**	**50.69**	**256**	*e*P	**P**	**05 28 40.4**	**+0.3**
	46nm,1.5s						
PLCA	**Paso Flores**	**53.85**	**248**	*e*P	**P**	**05 29 04.1**	**+0.5**
	8.9nm,1.4s						
PLCA	**Paso Flores**	**53.85**	**248**	P	**P**	**05 29 03.0**	**-0.7**
	3.2nm,0.9s,baz=189,slow=8.0,SNR=4.3						
CPUP	**Villa Florida**	**56.13**	**270**	*e*P	**P**	**05 29 20.2**	**+0.1**
	21nm,1.0s						
CPUP	**Villa Florida**	**56.13**	**270**	P	**P**	**05 29 20.0**	**-0.2**
	12nm,0.8s,baz=128,slow=6.4,SNR=20						
BDFB	**Brasilia**	**58.73**	**286**	*e*P	**P**	**05 29 38.4**	**-0.3**
BDFB				*e*P	**P**	**05 29 39.0**	**+0.3**
BDFB	**Brasilia**	**58.73**	**286**	P	**P**	**05 29 38.4**	**-0.3**
	8.3nm,0.9s,baz=132,slow=6.0,SNR=12						
DBIC	**Dimbokro**	**60.75**	**343**	*e*P	**P**	**05 29 52.7**	**+0.3**
	37nm,1.4s						
DBIC	**Dimbokro**	**60.75**	**343**	P	**P**	**05 29 52.3**	**-0.1**
	7.4nm,0.7s,baz=139,slow=8.5,SNR=7.2						
LVC	**Limon Verde**	**65.90**	**264**	*e*P	**P**	**05 30 28.0**	**+1.0**
	16nm,1.1s						
TOA0	**Torodi Ar. Sit**	**66.22**	**351**	*e*P	**P**	**05 30 28.4**	**-0.1**
	20nm,1.5s						
TORD	**Torodi Ar. Bea**	**66.22**	**351**	P	**P**	**05 30 26.9**	**-1.6**
	3.0nm,0.9s,baz=192,slow=4.3,SNR=14						
TORD				LR	LR	05 53 31.3	
	comp=Z,126nm,21.7s,baz=300,slow=31						
TOA1	**Torodi Ar. Sit**	**66.22**	**351**	*e*P	**P**	**05 30 26.9**	**-1.7**
H08N3	**Diego Garcia H**	**67.50**	**70**	T	T	06 44 11.1	
	baz=216,slow=75,SNR=7.9						
H08N1	**Diego Garcia H**	**67.52**	**70**	T	T	06 44 11.7	
	baz=216,slow=75,SNR=8.0						
H08N2	**Diego Garcia H**	**67.52**	**70**	T	T	06 44 13.0	
	baz=216,slow=75,SNR=8.7						
ATD	**Arta Tunnel**	**69.96**	**34**	LR	LR	05 59 40.7	
	comp=Z,83nm,20.7s,baz=170,slow=34						
LPAZ	**La Paz**	**70.26**	**269**	*e*P	**P**	**05 30 55.4**	**+0.5**
	26nm,1.0s						
LPAZ	**La Paz**	**70.26**	**269**	P	**P**	**05 30 55.3**	**+0.5**
	16nm,0.9s,baz=118,slow=6.0,SNR=50						
H01W2	**Cape Leeuwin H**	**70.44**	**122**	T	T	06 48 20.9	
	baz=219,slow=75,SNR=9.0						
H01W3	**Cape Leeuwin H**	**70.45**	**122**	T	T	06 48 20.8	
	baz=219,slow=75,SNR=8.5						
H01W1	**Cape Leeuwin H**	**70.45**	**122**	T	T	06 48 20.5	
	baz=219,slow=75,SNR=9.2						
TAM	**Tamanrasset**	**75.50**	**355**	*e*P	**P**	**05 31 26.2**	**+1.2**
	5.7nm,1.2s						
EIL	**Elat**	**84.99**	**21**	LR	LR	06 08 38.1	
	comp=Z,223nm,20.2s,baz=126,slow=35						
STKA	**Stephens Creek**	**85.49**	**140**	P	**P**	**05 32 18.8**	**+0.2**
	2.0nm,0.7s,baz=153,slow=6.8,SNR=4.2						
MMAI	**Mount Meron Ar**	**88.31**	**21**	LR	LR	06 11 60.0	
	comp=Z,144nm,18.2s,baz=210,slow=36						
ASAR	**Alice Springs**	**89.37**	**130**	P	**P**	**05 32 36.9**	**-0.6**
	2.1nm,1.1s,baz=212,slow=5.5,SNR=9.5						
AS31	**Alice Springs**	**89.38**	**130**	*e*P	**P**	**05 32 36.9**	**-0.6**
	1.5nm,1.2s						
MODS	**Modra-Piesok**	**101.08**	**5**	*e*PDIF	**Pdif**	**05 33 32.9**	**+2.9**
CD2	**Chengdu**	**115.95**	**73**	PKP	**PKiKP**	**05 38 23.3**	**0.0**
WMQ	**Urumqi**	**116.93**	**52**	*e*P	**PKiKP**	**05 38 26.1**	**+1.3**
LZH	**Lanzhou**	**119.76**	**69**	*e*PKP	**PKPdf**	**05 38 28.8**	**-1.8**
LZH				pPKP	sPKPdf	05 38 38.8	+5.3
LZH				sPKP		05 38 44.0	
SWET	**Sewanee**	**120.75**	**289**	*e*Pdif	**Pdif**	**05 34 58.8**	**+1.0**
WHN	**Wuhan**	**121.91**	**80**	PKPbc	**PKiKP**	**05 38 35.4**	**+0.6**
ARA0	**ARCESS Array S**	**122.64**	**6**	*e*PKPdf	**PKPdf**	**05 38 34.9**	**+0.1**
ARCES	**ARCESS Array B**	**122.64**	**6**	PKP	**PKPdf**	**05 38 34.9**	**+0.1**
	2.2nm,0.9s,baz=247,slow=2.5,SNR=3.9						
NJ2	**Nanjing**	**125.68**	**83**	*e*P	**PKPdf**	**05 38 41.8**	**0.0**
LTX	**Lajitas**	**127.10**	**271**	*e*PKPdf	**PKPdf**	**05 38 44.9**	**+0.1**
TX31	**Lajitas Ar. Si**	**127.10**	**271**	*e*PKPdf	**PKPdf**	**05 38 45.0**	**+0.2**
TXAR	**Lajitas Array**	**127.10**	**271**	*e*PKPdf	**PKPdf**	**05 38 44.4**	**-0.4**
TXAR	**Lajitas Array**	**127.10**	**271**	PKP	**PKPdf**	**05 38 44.9**	**+0.1**
	1.7nm,1.1s,baz=149,slow=2.9,SNR=11						
HHC	**Hu-ho-hao-te**	**127.42**	**70**	*e*P	**PKPdf**	**05 38 44.8**	**-0.3**
SONA0	**Songino Array**	**129.12**	**60**	*e*PKPdf	**PKPdf**	**05 38 47.8**	**-0.3**
SONM	**Songino Array**	**129.12**	**60**	PKP	**PKPdf**	**05 38 47.8**	**-0.3**
	0.4nm,0.5s,baz=247,slow=3.0,SNR=2.9						
MSTX	**Muleshoe**	**129.82**	**276**	*e*PKPdf	**PKiKP**	**05 38 50.3**	**-0.3**
SZCU	**Shurtz Canyon**	**138.47**	**272**	*e*PKPdf	**PKPdf**	**05 39 06.1**	**0.0**
MSU	**Marysvale**	**138.51**	**273**	*e*PKPdf	**PKiKP**	**05 39 07.2**	**-1.0**
CCUT	**Cedar City**	**138.61**	**271**	*e*PKPdf	**PKPdf**	**05 39 07.4**	**+1.0**
TCRU	**Three Creeks R**	**138.74**	**273**	*e*PKPpre	PKPpre	05 38 58.0	
NLU	**North Lily Min**	**139.35**	**275**	*e*PKPdf	**PKPdf**	**05 39 08.6**	**+0.9**
PSUT	**Pine Spring**	**139.54**	**272**	*e*PKPdf	**PKiKP**	**05 39 09.6**	**-0.7**
PD31	**Pinedale Array**	**139.54**	**280**	*e*PKPdf	**PKPdf**	**05 39 07.0**	**-1.0**
PDAR	**Pinedale Array**	**139.54**	**280**	PKP	**PKPdf**	**05 39 07.0**	**-1.0**
	0.2nm,0.3s,baz=126,slow=2.6,SNR=4.2						
R11A	**Troy Canyon, C**	**140.47**	**271**	*e*PKPdf	**PKiKP**	**05 39 11.8**	**-0.4**
RLMT	**Red Lodge**	**140.72**	**284**	*e*PKPdf	**PKPdf**	**05 39 10.3**	**+0.4**
FXWY	**Fox Creek**	**140.92**	**281**	*e*PKPdf	**PKPdf**	**05 39 10.7**	**+0.3**
ELK	**Elko**	**141.75**	**274**	*e*PKPdf	**PKPdf**	**05 39 12.9**	**+1.0**
NV01	**Mina Array Sit**	**142.16**	**269**	*e*PKPdf	**PKPdf**	**05 39 13.3**	**+0.6**
NVAR	**Mina Array Bea**	**142.16**	**269**	PKP	**PKPdf**	**05 39 13.3**	**+0.6**
	2.1nm,0.9s,baz=133,slow=2.8,SNR=7.3						
KVN	**Kaiserville**	**142.44**	**269**	*e*PKPdf	**PKPdf**	**05 39 14.2**	**+1.0**
RES	**Resolute Bay**	**144.05**	**334**	*e*PKPdf	PKPbc	05 39 13.4	+0.7
BEKR	**Beckworth**	**144.31**	**269**	*e*PKPdf	**PKPdf**	**05 39 17.8**	**+1.4**
MSO	**Missoula**	**144.38**	**283**	*e*PKPdf	PKPbc	05 39 15.1	+0.4
J08A	**Circle Bar Ran**	**145.23**	**275**	*e*PKPbc	**PKPdf**	**05 39 17.9**	**+0.1**
BMO	**Blue Mountains**	**145.35**	**278**	*e*PKPbc	**PKPab**	**05 39 18.0**	**0.0**
WALA	**Waterton Lakes**	**145.46**	**287**	*e*PKPbc	**PKPdf**	**05 39 17.9**	**-0.2**
MOD	**Modoc Plateau**	**145.50**	**272**	*e*PKPdf	**PKPab**	**05 39 19.3**	**+0.5**
F10A	**Beach Ranch, E**	**145.89**	**280**	*e*PKPdf	**PKPab**	**05 39 20.4**	**+0.3**
WDC	**Whiskeytown Da**	**146.07**	**268**	*e*PKPdf	**PKPbc**	**05 39 19.9**	**-0.2**
I07A	**Izee**	**146.25**	**275**	*e*PKPdf	**PKPab**	**05 39 21.6**	**+0.1**
K05A	**Summer Lake**	**146.33**	**272**	*e*PKPdf	**PKPab**	**05 39 21.8**	**-0.2**
G08A	**Pilot Rock**	**146.57**	**278**	*e*PKPdf	**PKPbc**	**05 39 21.9**	**+0.3**
PINE	**Pine Mountain**	**146.96**	**274**	*e*PKPdf	**PKPbc**	**05 39 23.2**	**+0.3**
HUMO	**Hull Mountain**	**147.51**	**271**	*e*PKPbc	**PKPbc**	**05 39 25.2**	**+1.0**
TIXI	**Tiksi**	**147.82**	**32**	*e*PKPdf	**PKPdf**	**05 39 21.3**	**+0.2**
TIXI				*e*PKPbc	**PKPbc**	**05 39 23.3**	**-0.8**
TIXI	**Tiksi**	**147.82**	**32**	PKPbc	**PKPbc**	**05 39 23.3**	**-0.8**
	4.9nm,0.3s,baz=220,slow=0.3,SNR=13						
B08A	**Colville Reser**	**148.31**	**282**	*e*PKPbc	**PKPbc**	**05 39 25.9**	**-0.3**
LON	**Longmire**	**149.03**	**278**	*e*PKPbc	**PKPbc**	**05 39 28.0**	**-0.1**
YKA	**Yellowknife Ar**	**150.00**	**310**	PKPbc	**PKPbc**	**05 39 29.3**	**-0.6**
	6.8nm,0.9s,baz=92,slow=2.7,SNR=50						
YKB5	**Yellowknife Ar**	**150.00**	**310**	*e*PKPbc	**PKPbc**	**05 39 29.3**	**-0.5**
YKW3	**Yellowknife Ar**	**150.01**	**311**	*e*PKPdf	**PKPdf**	**05 39 22.1**	**-2.8**
YKW3				*e*PKPbc	**PKPbc**	**05 39 29.2**	**-0.7**
ILAR	**Eielson Array**	**163.41**	**325**	PKP	**PKPdf**	**05 39 43.2**	**+1.1**
	0.6nm,1.0s,baz=272,slow=2.3,SNR=4.1						
ILAR				PKPab	**PKPab**	**05 40 33.3**	**0.0**
	0.4nm,0.8s,baz=38,slow=3.4,SNR=3.8						
ILB	**Eielson Array**	**163.41**	**325**	*e*PKPdf	**PKPdf**	**05 39 43.2**	**+1.1**
ILB				*e*PKPab	**PKPab**	**05 40 33.3**	**0.0**

*IDC **16** 05:23:50.4±0.7, 42°.49N×110°.82W, h0km, mb2.8/1, mb1 3.5/7, mb1mx3.4/51, mbtmp3.2/7, ML2.9/6, Error ellipse: s-maj=15.9km s-min=6.8km az=157.0*
*ANF **16** 05:23:51.6±0.7, 42°.80N×111°.19W, ML3.5/9, Error ellipse: s-maj=7.3km s-min=5.0km az=75.0*
*NEIC **16** 05:23:52.7±1.5, 42°.75N×111°.10W, h5km±3km, MW3.6, Error ellipse: s-maj=6.5km s-min=1.8km az=115.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^14Nm; Mrr=0.28; Mθθ-2.91; Mφφ3.19; Mrθ0.28; Mφθ0.16; Mφr-0.66; Best double couple: M0=3.10000×10^14 NP1: φs=227.00000°, δ78.00000°, λ3.00000°. NP2:φs=136.00000°, δ87.00000°, λ168.00000°. Principal axes: T 3.3200, Plg10.0000°, Azm91.0000°; N -0.3600, Plg78.0000°, Azm304.0000°; P -2.9500, Plg7.0000°, Azm182.0000°;*
NEIC Felt [IV] at Auburn; [III] at Afton, Grover and Thayne; [II] at Freedom, Wyoming. Also felt at Bedford.

ISC 16 05:23:52.1±0.8, 42.77N±0°.02×111.15W±0°.03, h7km±6km, n59, σ1.51/70, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHID	**Auburn Hatcher**	**0.04**	**90**	*e*Pg	**Pg**	**05 23 54.0**	**+0.2**
AHID				*e*Sg	**Sg**	**05 23 54.9**	**-0.1**
REDW	**Red Top Meadow**	**0.64**	**20**	*e*Pg	**Pb**	**05 24 05.0**	**-0.6**
REDW				*e*Sg	**Sg**	**05 24 12.7**	**0.0**
TPAW	**Teton Pass**	**0.74**	**11**	*e*Pg	**Pg**	**05 24 06.5**	**+0.2**
SNOW	**Snow King Moun**	**0.75**	**22**	*e*Pg	**Pb**	**05 24 07.1**	**-0.6**
FXWY	**Fox Creek**	**0.88**	**6**	*e*Pg	**Pb**	**05 24 09.2**	**-0.5**
FXWY				*e*Sg	**Sb**	**05 24 22.1**	**+0.4**
LOHW	**Long Hollow**	**0.94**	**25**	*e*Pg	**Pb**	**05 24 10.3**	**-0.4**
LOHW				*e*Sg	**Sb**	**05 24 23.3**	**-0.1**
MOOW	**Moose Ponds**	**1.03**	**17**	*e*Pg	**Pb**	**05 24 11.8**	**-0.5**
MOOW				*e*Sg	**Sg**	**05 24 25.1**	**0.0**
IMW	**Indian Meadow**	**1.14**	**8**	*e*Pg	**Pg**	**05 24 13.9**	**-0.1**
BW06	**Boulder Array**	**1.17**	**89**	*e*Pg	**Pb**	**05 24 14.0**	**-0.7**
BW06	**Boulder Array**	**1.17**	**89**	P	**Pg**	**05 24 13.6**	**-0.9**
	baz=272						
PD31	**Pinedale Array**	**1.17**	**89**	*e*Pg	**Pb**	**05 24 14.2**	**-0.5**
PD31				*e*Sg	**Sb**	**05 24 29.3**	**-0.8**
PDAR	**Pinedale Array**	**1.17**	**89**	*e*Pg	**Pb**	**05 24 13.9**	**-0.9**
PDAR	**Pinedale Array**	**1.17**	**89**	Pn	**Pg**	**05 24 12.9**	**-1.7**
	59nm,0.3s,baz=263,slow=15,SNR=410						
PDAR				Lg	Lg	05 24 30.8	
	74nm,0.3s,baz=258,slow=29,SNR=13						
HWUT	**Hardware Ranch**	**1.20**	**195**	*e*Pg	**Pb**	**05 24 14.8**	**-0.4**
FLWY	**Flagg Ranch**	**1.36**	**14**	*e*Pn	**Pg**	**05 24 17.7**	**-0.4**
YPP	**Pitchstone Pla**	**1.53**	**9**	*e*Pn	**Pb**	**05 24 20.6**	**-0.2**
HVU	**Hansel Valley**	**1.56**	**231**	*e*Pn	**Pn**	**05 24 20.3**	**0.0**
HVU				*e*Sn	**Sb**	**05 24 41.9**	**+0.7**
TCUT	**Toone Canyon**	**1.66**	**187**	*e*Pn	**Pg**	**05 24 23.6**	**-0.3**
H17A	**Grant Village**	**1.68**	**14**	*e*Pn	**Pb**	**05 24 23.4**	**0.0**
H17A	**Grant Village**	**1.68**	**14**	Pb	**Pb**	**05 24 23.1**	**-0.3**
	baz=196						
H17A				S	**Sg**	**05 24 46.4**	**+0.2**
	baz=196						
YFT	**Old Faithful**	**1.70**	**8**	*e*Pn	**Pb**	**05 24 23.5**	**-0.3**
SPUT	**South Promonto**	**1.75**	**214**	*e*Pn	**Pn**	**05 24 23.8**	**+0.9**
LKWY	**Lake**	**1.88**	**17**	*e*Pn	**Pb**	**05 24 27.0**	**+0.2**
YMR	**Madison River**	**1.91**	**4**	*e*Pn	**Pb**	**05 24 26.9**	**-0.4**
YNR	**Norris Junctio**	**1.98**	**10**	*e*Pn	**Pn**	**05 24 27.3**	**+1.1**
YHB	**Horse Butte**	**1.99**	**359**	*e*Pn	**Pn**	**05 24 27.6**	**+1.4**
YHH	**Holmes Hill**	**2.03**	**6**	*e*Pn	**Pn**	**05 24 28.1**	**+1.1**
QLMT	**Earthquake Lak**	**2.08**	**354**	*e*Pn	**Pn**	**05 24 28.5**	**+1.0**
CTU	**Camp Tracy**	**2.12**	**192**	*e*Pn	**Pb**	**05 24 29.9**	**-1.0**
JLU	**Jordanelle**	**2.17**	**186**	*e*Pn	**Pb**	**05 24 30.6**	**-1.2**
BGU	**Big Grassy Mou**	**2.31**	**218**	*e*Pn	**Pn**	**05 24 31.2**	**+0.5**
MCMT	**McKenzie Canyo**	**2.40**	**330**	*e*Pn	**Pb**	**05 24 35.2**	**-0.5**
HLID	**Hailey**	**2.52**	**290**	*e*Pn	**Pn**	**05 24 34.8**	**+1.2**
HLID	**Hailey**	**2.52**	**290**	Pb	**Pb**	**05 24 36.3**	**-1.4**
	baz=107						
RLMT	**Red Lodge**	**2.72**	**29**	*e*Pn	**Pn**	**05 24 38.6**	**+2.3**
RLMT	**Red Lodge**	**2.72**	**29**	Pb	**Pb**	**05 24 41.4**	**+0.2**
	baz=212						
RLMT				Sb	**Sg**	**05 25 16.9**	**-2.5**
	baz=212						
MPU	**Maple Canyon**	**2.77**	**188**	*e*Pn	**Pn**	**05 24 38.1**	**+1.1**
DLMT	**Dillon**	**2.80**	**339**	*e*Pn	**Pn**	**05 24 39.0**	**+1.7**
BOZ	**Bozeman (W)**	**2.85**	**353**	*e*Pn	**Pb**	**05 24 42.0**	**-1.4**
BOZ	**Bozeman (W)**	**2.85**	**353**	P	**Pb**	**05 24 41.6**	**-1.7**
	baz=174						
BOZ				Sb	**Sb**	**05 25 20.4**	**+1.9**
	baz=174						
DUG	**Dugway, Tooele**	**2.86**	**207**	*e*Pn	**Pn**	**05 24 39.1**	**+1.0**
DUG	**Dugway, Tooele**	**2.86**	**207**	P	**Pn**	**05 24 38.6**	**+0.4**
	baz=24						
NLU	**North Lily Min**	**2.89**	**194**	*e*Pn	**Pn**	**05 24 40.0**	**+1.3**
RWWY	**Rawlins**	**3.12**	**109**	*e*Pn	**Pn**	**05 24 43.7**	**+1.9**
K22A	**Casper**	**3.41**	**90**	*e*Pn	**Pn**	**05 24 48.7**	**+3.0**
K22A	**Casper**	**3.41**	**90**	P	**Pn**	**05 24 48.3**	**+2.5**
	baz=274						
O20A	**White River Ci**	**3.42**	**139**	*e*Pn	**Pn**	**05 24 48.6**	**+2.7**
O20A	**White River Ci**	**3.42**	**139**	P	**Pn**	**05 24 48.3**	**+2.4**
	baz=321						
O20A				Sb	**Sb**	**05 25 37.1**	**+2.3**
	baz=321						
ELK	**Elko**	**3.67**	**238**	Pn	**Pn**	**05 24 50.9**	**+1.5**
	1.4nm,0.3s,baz=56,slow=8.4,SNR=18						
ELK				Lg	Lg	05 25 45.6	
	2.9nm,0.3s,baz=162,slow=22,SNR=6.1						
SRU	**San Rafael Swe**	**3.68**	**172**	*e*Pn	**Pn**	**05 24 52.1**	**+2.6**
N23A	**Red Feather La**	**4.31**	**114**	*e*Pn	**Pn**	**05 25 00.8**	**+2.6**
N23A	**Red Feather La**	**4.31**	**114**	P	**Pn**	**05 25 00.7**	**+2.4**
	baz=298						
N23A				Sb	**Sb**	**05 26 03.6**	**+2.9**
	baz=298						
NEW	**Newport**	**6.92**	**325**	Pn	Pn	05 25 40.3	+6.5
	0.4nm,0.3s,baz=135,slow=10.0,SNR=4.5						
NEW				Lg	Lg	05 27 25.1	
	0.8nm,0.3s,baz=61,slow=20,SNR=12						
NVAR	**Mina Array Bea**	**6.96**	**234**	Pn	**Pn**	**05 25 37.3**	**+2.7**
	0.2nm,0.3s,baz=54,slow=12,SNR=4.5						
NVAR				Lg	Lg	05 27 28.8	
	0.8nm,0.3s,baz=51,slow=26,SNR=4.5						
ANMO	**Albuquerque**	**8.62**	**153**	Pn	**Pn**	**05 25 55.0**	**-2.3**
	0.1nm,0.3s,baz=328,slow=14,SNR=3.3						
ANMO				Pg	Pg	05 26 24.7	-12
	0.1nm,0.3s,baz=342,slow=22,SNR=4.2						
ANMO				Lg	Lg	05 28 18.4	
	0.4nm,0.3s,baz=276,slow=19,SNR=5.9						
YBH	**Yreka Blue Hor**	**8.64**	**267**	Pn	**Pn**	**05 26 01.6**	**+4.1**
	0.0nm,0.3s,baz=117,slow=14,SNR=1.7						
YBH				Pg	Pg	05 26 23.0	-14
	0.0nm,0.3s,baz=70,slow=14,SNR=3.2						
ULM	**Lac du Bonnet**	**12.90**	**49**	Pn	**Pn**	**05 26 53.8**	**-1.8**
	0.3nm,0.3s,baz=243,slow=14,SNR=6.3						
ULM				Lg	Lg	05 30 27.9	
	0.2nm,0.3s,baz=140,slow=20,SNR=3.4						
TXAR	**Lajitas Array**	**14.70**	**153**	Pn	**Pn**	**05 27 19.4**	**-0.9**
	0.0nm,0.3s,baz=328,slow=9.9,SNR=3.3						
YKA	**Yellowknife Ar**	**19.87**	**355**	P	**Pn**	**05 28 25.5**	**+0.5**
	0.3nm,0.7s,baz=171,slow=11,SNR=11						

IDC 16 05:26:21.3±1.4, 57°.63S×7°.04W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/31, mbtmp3.9/4, ML3.7/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/40, Error ellipse: s-maj=54.4km s-min=37.9km az=67.0, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**14.21**	**175**	Pn	Pn	05 29 42.8	-0.8
	0.4nm,0.3s,baz=343,slow=17,SNR=7.0						
SIV	**San Ignacio**	**57.68**	**293**	LR	LR	05 59 15.6	
	comp=Z,102nm,21.6s,baz=160,slow=34						
LPAZ	**La Paz**	**61.01**	**286**	P	P	05 36 37.6	+0.4
	1.7nm,0.8s,baz=167,slow=5.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**70.89**	**9**	P	P	05 37 40.1	+0.2
	0.8nm,1.0s,baz=178,slow=7.6,SNR=1.7						
ASAR	**Alice Springs**	**92.67**	**145**	P	P	05 39 35.6	+0.6
	0.2nm,0.5s,baz=216,slow=4.6,SNR=2.4						
YKA	**Yellowknife Ar**	**145.28**	**309**	PKPbc	PKPbc	05 45 57.4	-1.8
	1.2nm,0.8s,baz=113,slow=2.2,SNR=15						

DJA 16 05:30:35.0±0.4, 1°.5±4°.×12°.3E.°, h10km, M3.6/9, MLv3.6/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.43**	**242**	P	Pb	05 30 44.2	-0.5
LUWI				S	Sb	05 30 50.2	-1.0
APSI	**Ampana**	**1.50**	**267**	P	Pn	05 31 02.5	+0.5
KMSI	**Cibinong**	**1.63**	**31**	P	Pn	05 31 02.7	-1.1
MRSI	**Marisa**	**1.78**	**317**	P	Pn	05 31 04.1	-1.8
SANI	**Sanana**	**3.08**	**113**	P	Pn	05 31 24.7	+0.9
MPSI	**Mapaga**	**3.46**	**290**	P	Pn	05 31 31.0	+2.1
TTSI	**Tana Toraja**	**3.98**	**237**	P	Pn	05 31 35.5	-0.7
SPSI	**Sidrap Palu**	**4.59**	**227**	P	Pn	05 31 45.9	+1.4
BNSI	**Bone**	**4.66**	**221**	P	Pn	05 31 43.2	-2.3

**IDC 16 05:34:32.9±1.7,

BORA			*i* S		**Sn**	05 42 55.1	-0.4
MDNY	**Mudanya-Bursa**	**1.29 351**	PN		**Pg**	05 42 38.7	-0.1
MDNY			SN		**Sn**	05 42 57.0	+1.3
KCTX	**Karacabey (Bur**	**1.32 332**	PN		**Pg**	05 42 39.5	0.0
ADVT	**Abdulvahap**	**1.41 18**	PN		**Pb**	05 42 40.4	-0.2
SRCK	**Saricakaya, Es**	**1.47 50**	PN		**Pb**	05 42 41.2	-0.6
ARMT	**Armutlu**	**1.48 351**	PN		**Pb**	05 42 41.7	-0.2
GULT	**Gulveren**	**1.69 38**	PN		**Pn**	05 42 44.3	+0.2

*ISCJB **16** 05:42:48.2±0.3, 53°.01S±0°.05×22°.2E±0°.1, h10km, mb4.6/25, MS4.2/15, Error ellipse: s-maj=12.2km s-min=7.4km az=3.2*
*IDC **16** 05:42:48.4±0.5, 53°.02S×22°.36E, h0km, mb4.4/19, mb1 4.5/19, mb1mx4.3/45, mbtmp4.4/19, MS4.1/12, Ms1 4.1/12, ms1mx3.9/39, Error ellipse: s-maj=19.7km s-min=13.1km az=85.0*
*NEIC **16** 05:42:49.9±1.6, 53°.02S×22°.38E, h10km±2km, mb4.7/19, Error ellipse: s-maj=16.5km s-min=12.8km az=221.0*
*BJI **16** 05:42:50.6±0.0, 52°.90S×22°.27E, h16km, mB5.4/1, Ms5.2/6, Ms7 4.9/5*
*GCMT **16** 05:42:51.9±0.4, 53°.11S±0°.02×22°.76E±0°.05, h12km, MW5.2/53, Moment Tensor Solution. s32, c38; s53, c69; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-5.45±.22; Mθθ3.36±.17; Mφφ2.10±.26; Mrθ2.12±.65; Mθφ-1.53±.22; Mφr-3.93±.73; Best double couple: M0 6.59200×10^16 NP1:φs321.00000°, δ66.00000°, λ-80.00000°. NP2: φs117.00000°, δ26.00000°, λ-112.00000°. Principal axes: T 5.8800, Plg20.0000°, Azm43.0000°; N 1.4330, Plg9.0000°, Azm137.0000°; P -7.3030, Plg67.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 05:42:49.7±0.3, 53°.02S±0°.07×22°.45E±0°.10, h10km, n145, σ1§16/167, mb4.6/25, MS4.2/16, 2D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.94 160**		‖*e*Pn	**Pn**	05 46 56.0	**-2.9**
SYO	**Syowa Base**	**17.94 160**		‖*e*P	**Pn**	05 46 58.8	**-0.1**
SUR	**Sutherland**	**20.67 356**		*e*P	**P**	05 47 27.9	**-1.9**
56nm,1.2s							
SUR	**Sutherland**	**20.67 356**		P	**P**	**05 47 30.3**	**+0.6**
17nm,0.9s,baz=170,slow=13,SNR=12							
SUR				LR	LR	05 53 32.6	
comp=Z,622nm,20.3s,baz=194,slow=31							
SNAA	**Sanae**	**21.75 201**		P	**P**	**05 47 42.1**	**+1.1**
SNAA	**Sanae**	**21.75 201**		*e*P	**P**	**05 47 41.0**	**0.0**
147nm,1.4s							
SNAA	**Sanae**	**21.75 201**		P	**P**	**05 47 41.9**	**+0.9**
53nm,0.9s,baz=38,slow=9.9,SNR=43							
VNA2	**Neumayer--Watz**	**22.35 205**		P	**P**	**05 47 47.9**	**+0.6**
baz=38,slow=10.0							
VNA1	**Neumayer--Stat**	**22.41 207**		P	**P**	**05 47 48.8**	**+0.9**
VNA3	**Neumayer Olymp**	**23.13 206**		P	**P**	**05 47 54.2**	**-1.4**
MAW	**Mawson**	**24.17 143**		*e*P	**P**	**05 48 06.3**	**+0.7**
4.6nm,1.4s							
MAW	**Mawson**	**24.17 143**		P	**P**	**05 48 07.3**	**+1.6**
4.7nm,0.8s,baz=290,slow=15,SNR=4.9							
MAW				LR	LR	05 55 32.4	
comp=Z,220nm,21.8s,baz=316,slow=32							
BOSA	**Boshof**	**24.48 6**		*e*P	**P**	**05 48 08.4**	**-0.6**
17nm,1.2s							
BOSA	**Boshof**	**24.48 6**		P	**P**	**05 48 09.2**	**+0.2**
7.4nm,1.1s,baz=170,slow=9.3,SNR=7.5							
BOSA				LR	LR	05 56 12.5	
comp=Z,539nm,18.4s,baz=164,slow=33							
LBTB	**Lobatse**	**28.07 6**		*e*P	**P**	**05 48 41.6**	**+0.2**
20nm,1.3s							
LBTB	**Lobatse**	**28.07 6**		P	**P**	**05 48 41.4**	**0.0**
4.4nm,0.7s,baz=185,slow=8.7,SNR=6.4							
LBTB				LR	LR	05 57 51.9	
comp=Z,476nm,20.8s,baz=206,slow=32							
MATP	**Matopo**	**32.87 10**		LR	LR	06 00 38.2	
comp=Z,648nm,20.8s,baz=188,slow=32							
TSUM	**Tsumeb**	**33.97 352**		*e*P	**P**	**05 49 35.9**	**+2.5**
32nm,1.6s							
TSUM	**Tsumeb**	**33.97 352**		P	**P**	**05 49 34.8**	**+1.4**
6.4nm,1.0s,baz=167,slow=8.0,SNR=5.8							
QSPA	**South Pole Qui**	**37.20 180**		*e*P	**P**	**05 50 01.2**	**+0.4**
61nm,1.4s							
QSPA	**South Pole Qui**	**37.20 180**		P	**P**	**05 50 01.2**	**+0.4**
16nm,0.8s,baz=253,slow=2.3,SNR=60							
QSPA				LR	LR	06 04 02.5	
comp=Z,478nm,21.9s,baz=253,slow=34							
LSZ	**Lusaka**	**37.93 9**		*e*P	**P**	**05 50 08.5**	**+1.1**
LSZ				*e*pP	**P**	**05 50 08.6**	**+1.2**
LSZ	**Lusaka**	**37.93 9**		LR	LR	06 03 45.9	
comp=Z,685nm,19.4s,baz=182,slow=33							
OPO	**Ambohidratompo**	**39.41 39**		LR	LR	06 02 01.9	
comp=Z,133nm,21.5s,baz=2.5,slow=29							
PMSA	**Palmer Station**	**42.62 219**		LR	LR	06 04 54.6	
comp=Z,263nm,21.1s,baz=186,slow=31							
VNDA	**Vanda**	**47.31 169**		*e*P	**P**	**05 51 23.8**	**+1.1**
15nm,1.5s							
VNDA	**Vanda**	**47.31 169**		P	**P**	**05 51 23.0**	**+0.3**
0.8nm,0.6s,baz=227,slow=11,SNR=2.7							
USHA	**Ushuaia**	**49.86 229**		LR	LR	06 07 47.9	
comp=Z,214nm,21.6s,baz=283,slow=30							
H10S2	**ASCENSION HYDR**	**53.18 312**		T	T	06 49 52.8	
baz=153,slow=75,SNR=15							
H10S3	**ASCENSION HYDR**	**53.19 312**		T	T	06 49 53.8	
baz=153,slow=75,SNR=14							
H10S1	**ASCENSION HYDR**	**53.20 312**		T	T	06 49 54.2	
baz=153,slow=75,SNR=15							
TRQA	**Tornquist**	**57.62 248**		*e*P	**P**	**05 52 38.7**	**-1.0**
19nm,1.2s							
PLCA	**Paso Flores**	**60.40 241**		*e*P	**P**	**05 52 58.4**	**-0.6**
27nm,1.6s							
PLCA	**Paso Flores**	**60.40 241**		P	**P**	**05 52 59.0**	**0.0**
4.6nm,1.0s,baz=143,slow=11,SNR=3.2							
GO06	**Curarrehue**	**61.71 241**		*e*P	**P**	**05 53 07.0**	**-1.1**
7.4nm,0.9s							
CPUP	**Villa Florida**	**63.40 261**		*e*P	**P**	**05 53 17.8**	**-1.5**
14nm,1.3s							
CPUP	**Villa Florida**	**63.40 261**		P	**P**	**05 53 18.7**	**-0.6**
4.7nm,1.0s,baz=118,slow=6.7,SNR=5.1							
BDFB	**Brasilia**	**65.91 276**		P	**P**	**05 53 35.8**	**-0.1**
3.1nm,0.8s,baz=110,slow=11,SNR=4.1							
ATD	**Arta Tunnel**	**66.63 22**		P	**P**	**05 53 41.0**	**+0.7**
1.7nm,0.3s,baz=271,slow=7.2,SNR=3.9							
TOA0	**Torodi Ar. Sit**	**68.28 338**		*e*P	**P**	**05 53 50.4**	**-0.2**
7.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**68.28 338**		P	**P**	**05 53 49.9**	**-0.7**
1.4nm,0.9s,baz=172,slow=4.9,SNR=19							
TOA1	**Torodi Ar. Sit**	**68.28 338**		*e*P	**P**	**05 53 49.9**	**-0.8**
SIV	**San Ignacio**	**73.52 265**		P	**P**	**05 54 22.6**	**-0.1**
1.5nm,0.9s,baz=165,slow=8.2,SNR=5.7							
TAM	**Tamanrasset**	**76.92 344**		*e*P	**P**	**05 54 43.1**	**+1.0**
7.7nm,1.0s							
BBOO	**Buckleboo**	**76.94 128**		*e*P	**P**	**05 54 42.4**	**+0.2**
24nm,1.2s							
RPZ	**Rata Peaks**	**79.93 157**		LR	LR	06 27 37.4	
comp=Z,152nm,21.7s,baz=169,slow=34							
STKA	**Stephens Creek**	**80.30 131**		*e*P	**P**	**05 55 01.3**	**+0.6**
1.6nm,0.9s							
STKA	**Stephens Creek**	**80.30 131**		P	**P**	**05 55 01.4**	**+0.6**
5.3nm,0.8s,baz=304,slow=7.0,SNR=8.1							
ASAR	**Alice Springs**	**83.37 121**		*e*P	**P**	**05 55 16.7**	**-0.4**
ASAR	**Alice Springs**	**83.37 121**		P	**P**	**05 55 17.1**	**+0.1**
2.1nm,0.9s,baz=208,slow=5.5,SNR=10							
AS31	**Alice Springs**	**83.37 121**		*e*P	**P**	**05 55 17.1**	**0.0**
3.0nm,1.5s							
ASF	**Jabal al Asfar**	**85.77 12**		P	**P**	**05 55 30.0**	**+1.2**
3.7nm,0.9s,baz=143,slow=3.0,SNR=5.1							
WR1	**Warramunga Arr**	**86.66 119**		*e*P	**P**	**05 55 33.5**	**-0.1**
WRA	**Warramunga Arr**	**86.66 119**		P	**P**	**05 55 33.5**	**-0.1**
3.9nm,1.0s,baz=198,slow=5.0,SNR=6.7							
BR101	**Keskin Array S**	**92.88 9**		*e*P	**P**	**05 56 02.8**	**+0.4**
BRTR	**Keskin Array B**	**92.88 9**		*e*P	**P**	**05 56 01.9**	**-0.4**
BRTR	**Keskin Array B**	**92.88 9**		P	**P**	**05 56 02.8**	**+0.4**
1.6nm,0.8s,baz=177,slow=8.0,SNR=10							
SHL	**Shillong**	**98.65 59**		*e*P	**P**	**05 56 26.1**	**-2.9**
14nm,0.5s							
DAVOX	**Davos/Dischmat**	**100.01 351**		LR	LR	06 42 33.2	
comp=Z,64nm,20.3s,baz=80,slow=36							
KSH	**Kashi**	**103.14 40**		P	**Pdif**	**05 56 49.1**	**+0.5**
KSH				pP	sPdif	05 56 59.3	+7.9
KSH				PP	**PKiKP**	**06 01 06.3**	**-1.8**
KSH				S	**Sdif**	**06 08 29.4**	**-5.7**
KSH				SS	**SS**	**06 15 42.0**	**-4.6**
KSH				LR	LR		
comp=N,220nm,7.9s							
KSH				LR	LR		
comp=E,280nm,10.1s							
QIZ	**Qiongzhong**	**103.43 76**		P	**Pdif**	**05 56 53.1**	**+2.9**
QIZ				PP	**PKiKP**	**06 01 08.9**	**-0.2**
QIZ				S	**Sdif**	**06 08 41.3**	**+3.1**
QIZ				LR	LR		
comp=E,190nm,21.1s							
QIZ				LR	LR		
comp=Z,210nm,18.0s							
CD2	**Chengdu**	**109.20 64**		Pdif	**Pdif**	**05 57 16.9**	**+1.2**
WMQ	**Urumqi**	**111.52 45**		*e*PKP	**PKiKP**	**06 01 24.5**	**+1.0**
LZH	**Lanzhou**	**113.21 61**		*e*PKP	**PKiKP**	**06 01 24.8**	**-2.3**
LZH				sPKP		06 01 39.5	
LZH				LR	LR		
comp=N,150nm,15.1s							
LZH				LR	LR		
comp=E,190nm,15.0s							
LZH				LR	LR		
comp=Z,230nm,16.4s							
WHN	**Wuhan**	**114.85 72**		PKP	PKPdf	06 01 26.3	-3.8
NJ2	**Nanjing**	**118.56 74**		*e*PKP	**PKiKP**	**06 01 40.4**	**+3.1**
HHC	**Hu-ho-hao-te**	**120.81 62**		*e*PKP	**PKiKP**	**06 01 44.6**	**+3.0**
HHC				LR	LR		
comp=N,250nm,18.9s							
HHC				LR	LR		
comp=Z,270nm,20.7s							
TXAR	**Lajitas Array**	**134.37 261**		PKhKP	PKPpre	06 02 01.7	
0.3nm,1.0s,baz=144,slow=3.4,SNR=2.4							
SDCO	**Great Sand Dun**	**141.29 268**		*e*PKPdf	**PKPdf**	**06 02 18.9**	**-1.5**
ULM	**Lac du Bonnet**	**142.66 291**		PKhKP	PKPpre	06 02 17.8	
2.4nm,0.9s,baz=164,slow=3.6,SNR=3.3							
PV04	**Paradox Valley**	**143.76 266**		*e*PKPdf	**PKPdf**	**06 02 24.1**	**-0.5**
PV22	**Blue Mesa, Par**	**143.78 266**		*e*PKPpre	PKPpre	06 02 22.5	
PV09	**Paradox Valley**	**143.96 266**		*e*PKPdf	PKPbc	06 02 23.5	+0.5
TIXI	**Tiksi**	**144.09 31**		PKP	**PKPab**	**06 02 21.5**	**0.0**
14nm,0.9s,baz=272,slow=0.5,SNR=18							
O20A	**White River Ci**	**144.45 269**		*e*PKPdf	PKPbc	06 02 24.7	+0.3
U15A	**North Rim**	**144.50 261**		*e*PKPdf	PKPbc	06 02 24.9	+0.2
K22A	**Casper**	**144.91 274**		*e*PKPdf	**PKPab**	**06 02 25.2**	**-0.5**
FCC	**Fort Churchill**	**145.16 305**		*e*PKPbc	**PKPbc**	**06 02 25.7**	**0.0**
PKCU	**Pink Cliffs**	**145.19 262**		*e*PKPbc	**PKPdf**	**06 02 27.5**	**+0.2**
SRU	**San Rafael Swe**	**145.19 266**		*e*PKPbc	**PKPbc**	**06 02 26.4**	**-0.3**
KNB	**Kanab**	**145.21 261**		*e*PKPbc	**PKPab**	**06 02 27.2**	**+0.2**
LCMT	**Little Creek M**	**145.46 260**		*e*PKPbc	**PKPbc**	**06 02 27.7**	**+0.1**
Q16A	**Castle Valley**	**145.46 265**		*e*PKPbc	**PKPdf**	**06 02 27.6**	**0.0**
P17A	**Butcher Ranch,**	**145.55 266**		*e*PKPdf	**PKPdf**	**06 02 27.8**	**+0.1**
TMUT	**Trail Mountain**	**145.72 265**		*e*PKPdf	**PKPdf**	**06 02 28.1**	**-0.1**
MSU	**Marysvale**	**145.80 263**		*e*PKPdf	**PKPab**	**06 02 29.4**	**+0.3**
CCUT	**Cedar City**	**145.88 261**		*e*PKPdf	**PKPab**	**06 02 29.5**	**-0.1**
TCRU	**Three Creeks R**	**146.03 263**		*e*PKPdf	**PKPdf**	**06 02 27.8**	**-0.8**
SHPR	**Sheep Range**	**146.25 258**		*e*PKPdf	**PKPbc**	**06 02 30.1**	**0.0**
GSC	**Goldstone, Bar**	**146.39 255**		*e*PKPdf	**PKPab**	**06 02 31.0**	**-0.3**
MPU	**Maple Canyon**	**146.42 266**		*e*PKPdf	**PKPdf**	**06 02 29.7**	**+0.5**
DGMT	**Dagmar**	**146.59 284**		*e*PKPdf	**PKPdf**	**06 02 28.8**	**-0.2**
NLU	**North Lily Min**	**146.65 265**		*e*PKPdf	**PKPbc**	**06 02 30.8**	**-0.5**
JLU	**Jordanelle**	**146.67 267**		*e*PKPdf	**PKPdf**	**06 02 27.2**	**-2.4**
JLU				*e*PKPbc	**pPKPdf**	**06 02 31.8**	**0.0**
PD31	**Pinedale Array**	**146.81 272**		*e*PKPdf	**PKPdf**	**06 02 28.9**	**-0.9**
PDAR	**Pinedale Array**	**146.81 272**		PKPbc	**PKPdf**	**06 02 30.4**	**+0.6**
4.3nm,0.9s,baz=127,slow=4.7,SNR=21							
BW06	**Boulder Array**	**146.81 272**		*e*PKPdf	**PKPdf**	**06 02 29.6**	**-0.2**
PSUT	**Pine Spring**	**146.82 262**		*e*PKPdf	**PKPdf**	**06 02 30.7**	**+0.8**
CTU	**Camp Tracy**	**146.91 267**		*e*PKPdf	**PKPdf**	**06 02 29.8**	**-0.2**
LAO	**LASA Array**	**146.92 280**		*e*PKPdf	**PKPdf**	**06 02 29.8**	**+0.2**
LAO				*e*PKPbc	**sPKPdf**	**06 02 32.2**	**-0.2**
TPNV	**Topopah Spring**	**147.19 257**		*e*PKPbc	**PKPab**	**06 02 33.8**	**-0.7**
DUG	**Dugway, Tooele**	**147.25 265**		*e*PKPdf	**PKPdf**	**06 02 30.6**	**+0.1**
DUG				*e*PKPbc	**sPKPdf**	**06 02 33.3**	**0.0**
HWUT	**Hardware Ranch**	**147.35 268**		*e*PKPbc	**PKPbc**	**06 02 33.1**	**0.0**
RES	**Resolute Bay**	**147.35 334**		*e*PKPdf	**PKPdf**	**06 02 28.0**	**-1.4**
RES				*e*PKPbc	**sPKPdf**	**06 02 32.8**	**+0.6**
ISA	**Isabella, Lake**	**147.61 253**		*e*PKPdf	**PKPdf**	**06 02 30.1**	**-1.0**
ISA				*e*PKPbc	**sPKPdf**	**06 02 34.4**	**+0.4**
R11A	**Troy Canyon, C**	**147.73 260**		*e*PKPbc	**PKPbc**	**06 02 34.8**	**+0.6**
AHID	**Auburn Hatcher**	**147.74 270**		*e*PKPdf	**PKPdf**	**06 02 31.2**	**-0.1**
BGU	**Big Grassy Mou**	**147.82 266**		*e*PKPdf	**PKPdf**	**06 02 30.9**	**-0.5**
BGU				*e*PKPbc	**PKPbc**	**06 02 34.8**	**+0.4**
FFC	**Flin Flon**	**147.91 296**		*e*PKPdf	**PKPdf**	**06 02 31.5**	**+0.6**
FFC				*e*PKPbc	**PKPbc**	**06 02 34.2**	**+0.3**
FFC				*e*PKPab	**sPKPbc**	**06 02 37.0**	**+0.2**
LOHW	**Long Hollow**	**147.92 272**		*e*PKPdf	**PKPdf**	**06 02 30.7**	**-0.9**
RLMT	**Red Lodge**	**147.93 276**		*e*PKPdf	**PKPdf**	**06 02 30.3**	**-1.3**
RLMT				*e*PKPbc	**PKPbc**	**06 02 34.8**	**+0.2**
RLMT				*e*PKPab	**pPKPab**	**06 02 38.9**	**-0.4**
TPAW	**Teton Pass**	**148.06 272**		*e*PKPdf	**PKPdf**	**06 02 32.1**	**+0.2**
TPAW				*e*PKPbc	**PKPbc**	**06 02 35.4**	**+0.3**
FXWY	**Fox Creek**	**148.19 272**		*e*PKPdf	**PKPdf**	**06 02 32.2**	**+0.2**
FXWY				*e*PKPbc	**PKPbc**	**06 02 35.5**	**+0.1**
FXWY				*e*PKPab	**PKPab**	**06 02 39.1**	**+0.7**
IMW	**Indian Meadow**	**148.28 272**		*e*PKPdf	**PKPdf**	**06 02 31.3**	**-1.0**
IMW				*e*PKPbc	**PKPbc**	**06 02 35.9**	**+0.3**
LKWY	**Lake**	**148.32 274**		*e*PKPdf	**PKPdf**	**06 02 32.3**	**0.0**
LKWY				*e*PKPbc	**PKiKP**	**06 02 36.7**	**-0.7**
YFT	**Old Faithful**	**148.52 273**		*e*PKPdf	**PKPdf**	**06 02 32.6**	**+0.1**
YFT				*e*PKPbc	**PKiKP**	**06 02 37.4**	**-0.3**
YFT				*e*PKPab	**PKPab**	**06 02 40.4**	**+0.7**
YHH	**Holmes Hill**	**148.71 274**		*e*PKPdf	**PKPdf**	**06 02 31.6**	**-1.4**
ELK	**Elko**	**149.04 264**		*e*PKPdf	**PKPdf**	**06 02 33.3**	**-0.2**
OMMB	**Old Mammoth Mi**	**149.26 256**		*e*PKPdf	**PKPdf**	**06 02 32.7**	**-1.4**
NV01	**Mina Array Sit**	**149.40 257**		*e*PKPbc	**PKPbc**	**06 02 39.2**	**+0.6**
NVAR	**Mina Array Bea**	**149.40 257**		PKPbc	**PKPbc**	**06 02 39.2**	**+0.6**
7.2nm,0.9s,baz=136,slow=3.7,SNR=24							
BOZ	**Bozeman (W)**	**149.60 275**		*e*PKPdf	**PKPdf**	**06 02 33.9**	**-0.2**
EGMT	**Eagleton**	**149.66 280**		*e*PKPdf	**PKPdf**	**06 02 34.8**	**+0.8**
KVN	**Kaiserville**	**149.68 259**		*e*PKPdf	**PKPdf**	**06 02 34.6**	**0.0**
MCMT	**McKenzie Canyo**	**149.93 272**		*e*PKPdf	**PKPdf**	**06 02 34.3**	**-0.5**
MCMT				*e*pPKPab	**sPKPab**	**06 02 49.1**	**+0.8**
WAKR	**Walker**	**150.11 256**		*e*PKPdf	**PKPdf**	**06 02 36.0**	**+0.7**
HLID	**Hailey**	**150.19 269**		*e*PKPdf	**PKPdf**	**06 02 34.5**	**-0.7**
HLID				*e*PKPbc	**PKPbc**	**06 02 40.8**	**+0.5**
LRM	**Limekiln Ridge**	**150.21 274**		*e*PKPdf	**PKPdf**	**06 02 36.2**	**+0.9**
LRM				*e*PKPbc	**PKiKP**	**06 02 41.1**	**-0.1**
HRY	**Holter Researc**	**150.28 276**		*e*PKPdf	**PKPdf**	**06 02 35.8**	**+0.7**
HRY				*e*pPKPab	**sPKPab**	**06 02 52.4**	**+2.9**
CMB	**Columbia Colle**	**150.35 255**		*e*PKPdf	**PKPdf**	**06 02 36.4**	**+1.0**
CMB				*e*PKPbc	**PKiKP**	**06 02 41.7**	**+0.2**
PNTR	**Pine Nut**	**150.59 257**		*e*PKPdf	**PKPdf**	**06 02 36.3**	**+0.3**
PNTR				*e*PKPbc	**pPKPbc**	**06 02 43.0**	**-0.6**
AFDM	**Forest Hills D**	**151.30 255**		*e*PKPdf	**PKPdf**	**06 02 37.8**	**+0.9**
AFDM				*e*PKPbc	**PKPbc**	**06 02 43.0**	**+0.1**
BEKR	**Beckworth**	**151.54 258**		*e*PKPdf	**PKPdf**	**06 02 37.4**	**-0.1**
BEKR				*e*PKPbc	**PKiKP**	**06 02 44.6**	**+0.6**
MSO	**Missoula**	**151.60 275**		*e*PKPbc	**PKPbc**	**06 02 43.7**	**+0.3**
WVOR	**Wild Horse Val**	**152.09 264**		*e*PKPdf	**PKPdf**	**06 02 37.4**	**-0.7**
WVOR				*e*PKPbc	**pPKPbc**	**06 02 46.1**	**-0.7**
J08A	**Circle Bar Ran**	**152.53 265**		*e*PKPdf	**PKPdf**	**06 02 37.2**	**-1.5**
J08A				*e*PKPbc	**PKiKP**	**06 02 46.1**	**+0.2**
WALA	**Waterton Lakes**	**152.60 279**		*e*PKPbc	**PKPbc**	**06 02 45.8**	**+0.2**
BMO	**Blue Mountains**	**152.64 269**		*e*PKPdf	**PKPdf**	**06 02 38.9**	**+0.1**
BMO				*e*PKPbc	**PKPbc**	**06 02 45.8**	**0.0**
BMO				*e*PKPab	**pPKPab**	**06 02 58.3**	**-0.3**
MOD	**Modoc Plateau**	**152.78 261**		*e*PKPdf	**PKPdf**	**06 02 39.3**	**+0.2**
MOD				*e*PKPbc	**PKiKP**	**06 02 46.8**	**+0.4**
MOD				*e*PKPab	**PKPab**	**06 02 55.6**	**-1.7**
PETK	**Petropavlovsk-**	**153.44 72**		PKPbc	**PKPbc**	**06 02 46.9**	**-0.3**
2.9nm,0.9s,baz=128,slow=2.4,SNR=4.2							
PEA1	**Petropavlovsk-**	**153.44 72**		*e*PKPbc	**PKPbc**	**06 02 46.9**	**-0.3**
YKA	**Yellowknife Ar**	**155.66 310**		PKP	**PKPdf**	**06 02 37.9**	**-4.4**
1.0nm,0.9s,baz=77,slow=1.5,SNR=11							
YKA				PKPab	**PKPab**	**06 03 08.6**	**-0.1**
3.5nm,0.8s,baz=92,slow=5.0,SNR=26							
YKB5	**Yellowknife Ar**	**155.66 310**		*e*PKPab	**PKPab**	**06 03 08.6**	**-0.1**
YKW3	**Yellowknife Ar**	**155.66 310**		*e*PKPdf	**PKPdf**	**06 02 42.6**	**+0.3**
YKW3				*e*PKPab	**PKPab**	**06 03 09.1**	**+0.4**
ILAR	**Eielson Array**	**167.02 339**		PKPab	**PKPab**	**06 03 58.4**	**+0.2**
0.2nm,0.7s,baz=344,slow=3.0,SNR=4.1							

*ISCJB **16** 05:44:58.8±0.6, 39°.09N±0°.04×29°.11E±0°.04, h3km±8km, Error ellipse: s-maj=7.4km s-min=4.6km az=153.7*
*DDA **16** 05:44:58.8, 39°.09N×29°.17E, h7km±2km, ML2.7*
*ISK **16** 05:44:58.6, 39°.08N×29°.13E, h5km, ML2.5/17*

ISC 16 05:44:59.0±0.9, 39°.09N±0°.03×29°.15E±0°.03, h10km±7km, n27, σ0§40/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	**Saphane-Kutahy**	**0.09 136**		PG	**Pg**	**05 45 01.3**	**-0.1**
SHAP				SG	**Sg**	**05 45 02.8**	**-0.4**
GEDZ	**Gediz**	**0.21 101**		PG	**Pg**	**05 45 03.5**	**+0.1**
GEDZ				SG	**Sg**	**05 45 07.1**	**+0.8**
GDZ	**Gediz**	**0.26 89**		IAML_P			
comp=Z,5μm,0.1s							
GDZ				*i* P	**Pb**	**05 45 04.9**	**-1.0**
GDZ				*i* S	**Sg**	**05 45 08.5**	**+0.6**
USAK	**Uak-Merkez**	**0.38 195**		IAML_P			
comp=Z,5μm,0.1s							
USAK				*i* P	**Pb**	**05 45 07.6**	**-0.3**
TVSB	**Tavsanli**	**0.44 34**		PG	**Pg**	**05 45 06.9**	**-0.7**
KULA	**Kula-Manisa**	**0.68 214**		PG	**Pg**	**05 45 12.2**	**0.0**
KULA				SG	**Sg**	**05 45 21.7**	**+0.5**
DURS	**Dursunbey**	**0.73 315**		IAML_P			
comp=Z,1μm,0.2s							
DURS				*i* P	**Pb**	**05 45 13.8**	**-0.1**
MANT	**Manisa**	**0.75 218**		IAML_P			
comp=Z,2μm,0.1s							
MANT				*i* P	**Pb**	**05 45 13.9**	**-0.4**
MANT				*i* S	**Sg**	**05 45 23.2**	**-0.1**
KHAL	**Karahalli**	**0.76 159**		IAML_P			
comp=Z,2μm,0.3s							
KHAL				*i* P	**Pb**	**05 45 14.2**	**-0.2**
KHL	**Karahalli**	**0.82 159**		PG	**Pb**	**05 45 14.9**	**-0.4**
ORLT	**Orhaneli**	**0.98 349**		PG	**Pb**	**05 45 18.1**	**0.0**
ULDT	**Uludag**	**1.06 360**		IAML_P			
comp=Z,133nm,0.1s							
ULDT				*i* P	**Pb**	**05 45 19.3**	**-0.2**
AUBOZ	**BOZOYUK**	**1.07 39**		PN	**Pb**	**05 45 19.8**	**+0.1**
AUBOZ	**BOZOYUK**	**1.07 39**		*i* P	**Pn**	**05 45 20.5**	**+0.3**
BALB	**Balikesir**	**1.13 300**		PN	**Pn**	**05 45 20.9**	**0.0**
KZIL	**AFYON_Kizioren**	**1.14 136**		IAML_P			
comp=Z,358nm,0.1s							
KZIL				*i* P	**Pn**	**05 45 21.1**	**0.0**
SHUT	**Suhut-Afyon**	**1.22 115**		PN	**Pn**	**05 45 22.9**	**+0.7**
CAVI	**Cavuskoy**	**1.24 26**		PN	**Pn**	**05 45 22.7**	**+0.3**
BORA	**Eskisehir**	**1.29 51**		PN	**Pn**	**05 45 23.2**	**+0.1**
BORA	**Eskisehir**	**1.29 51**		*i* P	**Pg**	**05 45 23.9**	**+0.2**
BORA				*i* S	**Sn**	**05 45 40.5**	**0.0**
MDNY	**Mudanya-Bursa**	**1.30 351**		PN	**Pg**	**05 45 23.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.33 333**		PN	**Pg**	**05 45 24.3**	**-0.2**
GEMT	**Gemlik**	**1.35 1**		PN	**Pg**	**05 45 24.9**	**0.0**
ADVT	**Abdulvahap**	**1.42 19**		PN	**Pg**	**05 45 26.1**	**-0.2**
SRCK	**Saricakaya, Es**	**1.49 50**		PN	**Pb**	**05 45 26.7**	**-0.1**
ARMT	**Armutlu**	**1.50 352**		PN	**Pb**	**05 45 26.7**	**-0.2**
GULT	**Gulveren**	**1.71 38**		PN	**Pb**	**05 45 29.9**	**-0.7**

*ISCJB **16** 05:52:47.2±0.5

Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.52; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$2.66; $M_{r\theta}$0.07; $M_{\theta\phi}$-0.06; $M_{r\phi}$0.92; Best double couple: $M_0$2.80000×10^{17} NP1:ϕ_h181.00000°, δ55.00000°,λ-87.00000°. NP2:ϕ_h357.00000°, δ35.00000°, λ-93.00000°. Principal axes: T 2.8200, Plg9.0000°, Azm269.0000°; N -0.1400, Plg1.0000°, Azm359.0000°; P -2.6800, Plg80.0000°, Azm100.0000°;

ISC 16 05:57:00.6±0.2,57.58S±0.05×7.02W±0.06,h10km,n1071, σ1§**42**/621,**mb5.5**/52,**MS5.5**/635,**3C-5D,East of South Sandwich Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.13**	**182**	P	**Pn**	**06 00 09.4**	**+2.5**
VNA1				S	**Sn**	**06 02 25.6**	**-7.2**
VNA2	**Neumayer--Watz**	**13.40**	**181**	P	**Pn**	**06 00 11.3**	**+0.8**
baz=356,slow=16							
VNA2				S	Sn	06 02 28.6	-11
baz=356,slow=23							
VNA3	**Neumayer Olymp**	**13.76**	**184**	P	**Pn**	**06 00 16.8**	**+1.3**
VNA3				S	Sn	06 02 36.5	-12
SNAA	**Sanae**	**14.25**	**175**	P	**Pn**	**06 00 24.2**	**+1.9**
SNAA				S	Sn	06 02 48.4	-12
SNAA	**Sanae**	**14.25**	**175**	*e*Pn	**Pn**	**06 00 22.1**	**-0.1**
SNAA	**Sanae**	**14.25**	**175**	*c i*P	**Pn**	**06 00 21.0**	**-1.3**
SNAA	**Sanae**	**14.25**	**175**	Pn	**Pn**	**06 00 23.1**	**+0.8**
6.9nm,0.3s,baz=358,slow=13,SNR=24							
SNAA				Sn	Sn	06 02 47.1	-13
3.2nm,0.3s,baz=302,slow=22,SNR=6.6							
SNAA				LR	LR	06 04 41.3	
comp=Z,5μm,21.0s,baz=351,slow=32							
HOPE	**Hope Point**	**16.77**	**269**	*e*Pn	**P**	**06 00 57.5**	**0.0**
447nm,1.9s							
SYO	**Syowa Base**	**23.18**	**138**	‖ *i*P	**P**	**06 02 05.6**	**-1.3**
SYO	**Syowa Base**	**23.18**	**138**	‖ *i*pP	pP	06 02 08.0	-0.8
SYO	**Syowa Base**	**23.18**	**138**	‖ *i*sP	sP	06 02 11.0	+1.4
PMSA	**Palmer Station**	**27.52**	**231**	*e*P	**P**	**06 02 47.8**	**+0.9**
179nm,1.4s							
PMSA				LR	LR		
comp=Z,5μm,21.0s							
PMSA	**Palmer Station**	**27.52**	**231**	P	**P**	**06 02 47.7**	**+0.9**
comp=Z,24nm,1.1s,baz=168,slow=9.3,SNR=2.3							
PMSA	**Palmer Station**	**27.52**	**231**	*e*P	**P**	**06 02 49.0**	**+2.2**
EFI	**East Falkland**	**29.53**	**259**	*e*P	**P**	**06 03 05.7**	**+0.9**
comp=Z,269nm,1.8s							
EFI				LR	LR		
comp=Z,9μm,21.0s							
EFI	**East Falkland**	**29.53**	**259**	*e*P	**P**	**06 03 05.7**	**+0.9**
EFI				pmax	pmax		
comp=Z,269nm,1.8s							
EFI				MLR	MLR		
comp=Z,9μm,21.0s							
SUR	**Sutherland**	**31.56**	**49**	*e*P	**P**	**06 03 22.1**	**-1.1**
comp=Z,79nm,1.8s							
SUR				LR	LR		
comp=Z,8μm,20.0s							
MAW	**Mawson**	**31.88**	**137**	*e*P	**P**	**06 03 26.0**	**+0.6**
comp=Z,75nm,1.9s							
MAW				LR	LR		
comp=Z,800nm,21.0s							
MAW	**Mawson**	**31.88**	**137**	*e*P	**P**	**06 03 26.0**	**+0.6**
MAW				pmax	pmax		
comp=Z,75nm,1.9s							
MAW				MLR	MLR		
comp=Z,800nm,21.0s							
MAW	**Mawson**	**31.88**	**137**	P	**P**	**06 03 26.0**	**+0.6**
comp=Z,23nm,1.1s,baz=257,slow=6.8,SNR=16							
MAW				LR	LR	06 13 59.9	
comp=Z,3μm,21.4s,baz=263,slow=32							
QSPA	**South Pole Qui**	**32.66**	**180**	*e*P	**P**	**06 03 33.7**	**+1.2**
comp=Z,154nm,1.4s							
QSPA				LR	LR		
comp=Z,4μm,20.0s							
QSPA	**South Pole Qui**	**32.66**	**180**	P	**P**	**06 03 33.3**	**+0.8**
comp=Z,28nm,0.7s,baz=232,slow=3.1,SNR=81							
GO10	**Punta Arenas**	**35.45**	**249**	PFAKE		06 04 10.0	+13
GO10				LR	LR		
comp=Z,14μm,20.0s							
BOSA	**Boshof**	**36.70**	**52**	*e*P	**P**	**06 04 05.5**	**-2.2**
comp=Z,114nm,1.5s							
BOSA	**Boshof**	**36.70**	**52**	*e*P	**P**	**06 04 05.5**	**-2.2**
BOSA				pmax	pmax		
comp=Z,114nm,1.5s							
BOSA	**Boshof**	**36.70**	**52**	P	**P**	**06 04 06.8**	**-0.8**
comp=Z,29nm,1.3s,baz=204,slow=9.7,SNR=11							
BOSA				LR	LR	06 16 31.5	
comp=Z,5μm,19.2s,baz=204,slow=32							
CRZF	**Crozet Islands**	**36.77**	**98**	PFAKE		06 04 20.0	+12
CRZF				LR	LR		
comp=Z,8μm,20.0s							
GO09	**Cerro Castillo**	**37.17**	**251**	PFAKE		06 04 20.0	+8.6
GO09				LR	LR		
comp=Z,9μm,20.0s							
LBTB	**Lobatse**	**40.01**	**50**	*e*P	**P**	**06 04 35.6**	**+0.1**
comp=Z,56nm,1.1s							
LBTB	**Lobatse**	**40.01**	**50**	P	**P**	**06 04 34.2**	**-1.3**
comp=Z,9.7nm,0.9s,baz=211,slow=11,SNR=13							
TRQA	**Tornquist**	**40.42**	**275**	*e*P	**P**	**06 04 39.9**	**+1.1**
comp=Z,205nm,1.9s							
TRQA				LR	LR		
comp=Z,5μm,19.0s							
TRQA	**Tornquist**	**40.42**	**275**	*e*P	**P**	**06 04 39.9**	**+1.1**
TRQA				pmax	pmax		
comp=Z,205nm,1.9s							
TRQA				MLR	MLR		
comp=Z,5μm,19.0s							
TRQA	**Tornquist**	**40.42**	**275**	*e*P	**P**	**06 04 41.7**	**+3.0**
SHEL	**Horse Pasture**	**41.56**	**2**	PFAKE		06 05 00.0	+12
SHEL				LR	LR		
comp=Z,2μm,20.0s							
TSUM	**Tsumeb**	**42.41**	**36**	PFAKE		06 05 10.0	+15
TSUM				LR	LR		
comp=Z,3μm,20.0s							
GO07	**Milladeo Hill,**	**43.10**	**260**	PFAKE		06 05 10.0	+9.4
GO07				LR	LR		
comp=Z,6μm,19.0s							
PLCA	**Paso Flores**	**43.11**	**265**	*e*P	**P**	**06 05 01.3**	**+0.5**
comp=Z,79nm,1.8s							
PLCA				*e*PcP	**PcP**	**06 06 50.6**	**+0.2**
PLCA	**Paso Flores**	**43.11**	**265**	*e*P	**P**	**06 05 02.5**	**+1.7**
PLCA	**Paso Flores**	**43.11**	**265**	P	**P**	**06 05 00.7**	**-0.1**
comp=Z,8.6nm,1.2s,baz=158,slow=8.5,SNR=5.8							
PLCA				PcP	**PcP**	**06 06 50.6**	**+0.2**
comp=Z,5.8nm,0.9s,baz=125,slow=4.9,SNR=4.4							
PLCA				LR	LR	06 21 30.5	
comp=Z,2μm,20.3s,baz=161,slow=34							
PLCA	**Paso Flores**	**43.11**	**265**	*e*P	**P**	**06 05 02.4**	**+1.6**
CAM01	**Campos-RJ**	**43.68**	**310**	*e*P	**P**	**06 05 07.7**	**+2.3**
DUB01	**Friburgo-RJ**	**43.75**	**309**	*e*P	**P**	**06 05 07.4**	**+1.3**
ITAB	**Concordia**	**43.78**	**294**	*e*P	**P**	**06 05 08.6**	**+2.4**
TIJ01	**Guaruva-PR**	**43.88**	**299**	*e*P	**P**	**06 05 09.2**	**+2.0**
PET01	**Itanhaem-SP**	**43.97**	**302**	*e*P	**P**	**06 05 10.4**	**+2.7**
VAS01	**Vassouras-RJ**	**44.02**	**308**	*e*P	**P**	**06 05 10.4**	**+2.1**
GO06	**Curarrehue**	**44.42**	**265**	*e*P	**P**	**06 05 12.1**	**+0.7**
comp=Z,118nm,1.9s							
GO06				LR	LR		
comp=Z,2μm,20.0s							
SPB	**Sao Paulo**	**44.64**	**302**	PFAKE		06 05 30.0	+17
SPB				LR	LR		
comp=Z,5μm,19.0s							
SPB	**Sao Paulo**	**44.64**	**302**	*e*P	**P**	**06 05 15.5**	**+2.3**
SBA	**Scott Base**	**44.77**	**178**	*e*P	**P**	**06 05 15.1**	**+1.5**
comp=Z,346nm,1.9s							
SBA				LR	LR		
comp=Z,2μm,19.0s							
SBA	**Scott Base**	**44.77**	**178**	*e*P	**P**	**06 05 15.1**	**+1.5**
SBA				pmax	pmax		
comp=Z,346nm,1.9s							
SBA				MLR	MLR		
comp=Z,2μm,19.0s							
VNDA	**Vanda**	**44.98**	**177**	*e*P	**P**	**06 05 16.8**	**+1.5**
comp=Z,244nm,1.9s							
VNDA	**Vanda**	**44.98**	**177**	*e*P	**P**	**06 05 16.8**	**+1.5**
VNDA				pmax	pmax		
comp=Z,244nm,1.9s							
VNDA	**Vanda**	**44.98**	**177**	P	**P**	**06 05 16.4**	**+1.1**
comp=Z,19nm,1.0s,baz=211,slow=8.1,SNR=38							
VNDA				LR	LR	06 23 57.8	
comp=Z,2μm,18.9s,baz=186,slow=36							
MATP	**Matopo**	**45.29**	**50**	P	**P**	**06 05 18.0**	**-0.5**
comp=Z,16nm,0.7s,baz=208,slow=7.7,SNR=30							
RIB01	**Linhares ES**	**45.43**	**313**	*e*P	**P**	**06 05 20.8**	**+1.4**
RCLB	**Rio Claro- Sao**	**45.70**	**303**	*e*P	**P**	**06 05 24.1**	**+2.4**
BSCB	**Bom Sucesso**	**45.73**	**307**	*e*P	**P**	**06 05 23.5**	**+1.6**
PTGB	**Pitanga**	**45.86**	**296**	*e*P	**P**	**06 05 24.1**	**+1.2**
BSFB	**Barra de Sao F**	**46.04**	**313**	*e*P	**P**	**06 05 25.6**	**+1.3**
SJMB	**Sao Joao De Ma**	**46.29**	**313**	*e*P	**P**	**06 05 27.4**	**+1.1**
CPUP	**Villa Florida**	**47.12**	**290**	*e*P	**P**	**06 05 32.6**	**-0.1**
comp=Z,180nm,1.7s							
CPUP	**Villa Florida**	**47.12**	**290**	*e*P	**P**	**06 05 32.6**	**-0.1**
CPUP				pmax	pmax		
comp=Z,180nm,1.7s							
CPUP	**Villa Florida**	**47.12**	**290**	P	**P**	**06 05 32.8**	**+0.1**
comp=Z,19nm,1.1s,baz=145,slow=7.2,SNR=19							
CPUP				LR	LR	06 22 31.3	
comp=Z,4μm,21.8s,baz=156,slow=32							
CPUP	**Villa Florida**	**47.12**	**290**	*e*P	**P**	**06 05 33.9**	**+1.1**
BB19B	**Bebedouro**	**47.33**	**303**	*e*P	**P**	**06 05 36.6**	**+2.1**
TRCB	**Terra Rica**	**47.76**	**297**	*e*P	**P**	**06 05 39.5**	**+1.8**
CASY	**Casey**	**47.96**	**151**	PFAKE		06 05 50.0	+11
CASY				LR	LR		
comp=Z,5μm,20.0s							
GO05	**Huala**	**48.03**	**269**	*e*P	**P**	**06 05 41.6**	**+1.8**
comp=Z,166nm,1.8s							
GO05				LR	LR		
comp=Z,3μm,22.0s							
PMNB	**Patos De Minas**	**48.62**	**307**	*e*P	**P**	**06 05 46.1**	**+1.6**
PEL	**Peldehue**	**48.78**	**272**	*e*P	**P**	**06 05 45.4**	**-0.2**
comp=Z,76nm,1.3s							
PEL				LR	LR		
comp=Z,3μm,22.0s							
PEL	**Peldehue**	**48.78**	**272**	*e*P	**P**	**06 05 45.4**	**-0.2**
PEL				pmax	pmax		
comp=Z,76nm,1.3s							
PEL				MLR	MLR		
comp=Z,3μm,22.0s							
H10S2	**ASCENSION HYDR**	**48.87**	**350**	T	T	06 58 29.3	
baz=174,slow=75,SNR=74							
H10S3	**ASCENSION HYDR**	**48.87**	**350**	T	T	06 58 28.2	
baz=174,slow=75,SNR=66							
H10S1	**ASCENSION HYDR**	**48.88**	**350**	T	T	06 58 29.1	
baz=174,slow=75,SNR=70							
MCI6	**Montes Claros**	**49.09**	**310**	*e*P	**P**	**06 05 48.4**	**+0.3**
MCI9	**Montes Claros**	**49.19**	**311**	*e*P	**P**	**06 05 49.6**	**+0.8**
MCI8	**Montes Claros**	**49.24**	**311**	*e*P	**P**	**06 05 49.9**	**+0.7**
ITRB	**Iturama**	**49.35**	**302**	*e*P	**P**	**06 05 52.0**	**+2.0**
LSZ	**Lusaka**	**49.81**	**47**	*e*P	**P**	**06 05 53.3**	**-0.4**
comp=Z,67nm,1.4s							
LSZ				LR	LR		
comp=Z,13μm,21.0s							
LSZ	**Lusaka**	**49.81**	**47**	*e*P	**P**	**06 05 53.3**	**-0.4**
LSZ				pmax	pmax		
comp=Z,67nm,1.4s							
LSZ				MLR	MLR		
comp=Z,13μm,21.0s							
LSZ	**Lusaka**	**49.81**	**47**	P	**P**	**06 05 53.2**	**-0.4**
comp=Z,3.7nm,0.6s,baz=201,slow=8.4,SNR=16							
GO04	**Tololo Observa**	**51.14**	**274**	PFAKE		06 06 20.0	+16
GO04				LR	LR		
comp=Z,4μm,20.0s							
AQDB	**Aquidauana**	**51.21**	**295**	*e*P	**P**	**06 06 04.8**	**+0.7**
C2SB	**Chapadao do Su**	**51.31**	**299**	*e*P	**P**	**06 06 06.6**	**+1.8**
BDFB	**Brasilia**	**51.87**	**307**	*e*P	**P**	**06 06 09.6**	**+0.4**
BDFB				*e*P	**P**	**06 06 10.0**	**+0.8**
BDFB				LR	LR		
comp=Z,6μm,21.0s							
BDFB	**Brasilia**	**51.87**	**307**	*e*P	**P**	**06 06 09.6**	**+0.4**
BDFB				*e*		06 06 10.0	
BDFB				MLR	MLR		
comp=Z,6μm,21.0s							
BDFB	**Brasilia**	**51.87**	**307**	P	**P**	**06 06 09.6**	**+0.4**
comp=Z,33nm,1.0s,baz=145,slow=6.7,SNR=34							
BDFB				LR	LR	06 23 48.6	
comp=Z,5μm,21.8s,baz=150,slow=31							
LCO	**Las Campanas**	**52.00**	**275**	PFAKE		06 06 20.0	+10
LCO				LR	LR		
comp=Z,4μm,18.0s							
LCO	**Las Campanas**	**52.00**	**275**	*e*P	**P**	**06 06 11.6**	**+1.4**
GO03	**Copiap**	**52.87**	**276**	PFAKE		06 06 30.0	+14
GO03				LR	LR		
comp=Z,2μm,19.0s							
GO02	**Mina Guanaco**	**54.47**	**279**	PFAKE		06 06 40.0	+11
GO02				LR	LR		
comp=Z,5μm,22.0s							
ABPO	**Ambohimpanom**	**55.20**	**69**	*e*P	**P**	**06 06 33.4**	**-0.3**
comp=Z,75nm,1.5s							
ABPO				LR	LR		
comp=Z,3μm,19.0s							
ABPO	**Ambohimpanom**	**55.20**	**69**	*e*P	**P**	**06 06 33.4**	**-0.3**
ABPO				pmax	pmax		
comp=Z,75nm,1.5s							
ABPO				MLR	MLR		
comp=Z,3μm,19.0s							
LVC	**Limon Verde**	**56.18**	**281**	PFAKE		06 06 50.0	+9.1
LVC				LR	LR		
comp=Z,5μm,21.0s							
PB10	**IPOC Station P**	**56.32**	**279**	PFAKE		06 06 50.0	+8.5
PB10				LR	LR		
comp=Z,3μm,19.0s							
RCBR	**Riachuelo**	**56.34**	**325**	PFAKE		06 06 50.0	+8.3
RCBR				LR	LR		
comp=Z,2μm,20.0s							
PB04	**IPOC Station P**	**57.06**	**280**	PFAKE		06 07 00.0	+13
PB04				LR	LR		
comp=Z,4μm,21.0s							
PB01	**IPOC Station P**	**57.77**	**282**	PFAKE		06 07 00.0	+8.1
PB01				LR	LR		
comp=Z,6μm,18.0s							
GO01	**Chusmiza**	**58.75**	**283**	PFAKE		06 07 10.0	+11
GO01				LR	LR		
comp=Z,4μm,21.0s							
PB11	**IPOC Station P**	**58.91**	**282**	PFAKE		06 07 10.0	+10
PB11				LR	LR		
comp=Z,2μm,18.0s							
MNMC	**Minye Minye**	**59.40**	**283**	PFAKE		06 07 20.0	+17
MNMC				LR	LR		
comp=Z,4μm,22.0s							
CLDB	**Colider**	**59.56**	**301**	*e*P	**P**	**06 07 05.4**	**+1.1**
LPAZ	**La Paz**	**61.00**	**286**	P	**P**	**06 07 15.4**	**+0.6**
comp=Z,45nm,1.1s,baz=129,slow=5.3,SNR=26							
LPAZ				LR	LR	06 31 11.7	
comp=Z,3μm,21.9s,baz=114,slow=34							
LPAZ	**La Paz**	**61.00**	**286**	*e*P	**P**	**06 07 16.2**	**+1.4**
LIC	**Lamto**	**63.61**	**2**	*e*PKP1	**P**	**06 07 30.9**	**-0.6**
comp=Z,212nm,1.2s							
KIC	**Kosan Boka**	**63.75**	**3**	*e*PKP1	**P**	**06 07 31.6**	**-0.8**
comp=Z,223nm,1.4s							
TIC	**Toumodi**	**64.03**	**2**	*e*PKP1	**P**	**06 07 31.9**	**-2.4**
DBIC	**Dimbokro**	**64.06**	**2**	*e*P	**P**	**06 07 34.0**	**-0.4**
comp=Z,258nm,1.8s							
DBIC	**Dimbokro**	**64.06**	**2**	*e*P	**P**	**06 07 34.0**	**-0.4**
DBIC				pmax	pmax		
comp=Z,258nm,1.8s							
DBIC	**Dimbokro**	**64.06**	**2**	P	**P**	**06 07 33.4**	**-1.0**
comp=Z,29nm,1.1s,baz=152,slow=8.5,SNR=8.2							
DBIC				LR	LR	06 29 27.5	
comp=Z,1μm,20.6s,baz=144,slow=30							
MBAR	**Mbarara**	**64.24**	**43**	PFAKE		06 07 50.0	+14
MBAR				LR	LR		
comp=Z,5μm,19.0s							
NAI	**Nairobi**	**65.97**	**49**	PFAKE		06 08 00.0	+13
NAI				LR	LR		
comp=Z,8μm,19.0s							
KMBO	**Kilima Mbogo**	**66.29**	**50**	*e*P	**P**	**06 07 49.5**	**+0.2**
comp=Z,109nm,2.0s							
KMBO				LR	LR		
comp=Z,7μm,20.0s							
KMBO	**Kilima Mbogo**	**66.29**	**50**	*e*P	**P**	**06 07 52.5**	**+3.2**
KMBO	**Kilima Mbogo**	**66.29**	**50**	P	**P**	**06 07 51.3**	**+2.0**
comp=Z,2.4nm,0.9s,baz=198,slow=8.1,SNR=13							
KMBO				LR	LR	06 34 25.3	
comp=Z,7μm,19.0s,baz=188,slow=34							
NNA	**Nana**	**69.17**	**281**	*e*P	**P**	**06 08 07.7**	**+0.4**
comp=Z,194nm,1.8s							
NNA				LR	LR		
comp=Z,3μm,20.0s							
NNA	**Nana**	**69.17**	**281**	*e*P	**P**	**06 08 10.0**	**+2.7**
PTGA	**Pitinga**	**70.42**	**302**	*e*P	**P**	**06 08 14.6**	**-0.3**
PTGA				LR	LR		
comp=Z,2μm,20.0s							
PTGA	**Pitinga**	**70.42**	**302**	*e*P	**P**	**06 08 15.2**	**+0.3**
TOC4	**Torodi Ar. Sit**	**70.81**	**9**	PFAKE		06 08 30.0	+13
TOC4				LR	LR		
comp=Z,1μm,22.0s							
TOC5	**Torodi Ar. Sit**	**70.82**	**9**	PFAKE		06 08 30.0	+13
TOC5				LR	LR		
comp=Z,900nm,20.0s							
TOB4	**Torodi Ar. Sit**	**70.83**	**9**	PFAKE		06 08 30.0	+13
TOB4				LR	LR		
comp=Z,900nm,21.0s							
TOB3	**Torodi Ar. Sit**	**70.83**	**9**	PFAKE		06 08 30.0	+13
TOB3				LR	LR		
comp=Z,800nm,21.0s							
TOC3	**Torodi Ar. Sit**	**70.83**	**9**	PFAKE		06 08 30.0	+13
TOC3				LR	LR		
comp=Z,1μm,22.0s							
TOA3	**Torodi Ar. Sit**	**70.83**	**9**	PFAKE		06 08 30.0	+13
TOA3				LR	LR		
comp=Z,800nm,21.0s							
TOA0	**Torodi Ar. Sit**	**70.84**	**9**	*e*P	**P**	**06 08 17.1**	**-0.2**
comp=Z,261nm,1.9s							
TOA0				LR	LR		
comp=Z,900nm,22.0s							
TORD	**Torodi Ar. Bea**	**70.84**	**9**	*e*P	**P**	**06 08 16.8**	**-0.5**
TORD				*e*S	**S**	**06 17 29.3**	**-2.9**
TORD	**Torodi Ar. Bea**	**70.84**	**9**	P	**P**	**06 08 15.8**	**-1.4**
comp=Z,19nm,1.2s,baz=180,slow=8.6,SNR=26							
TORD				LR	LR	06 33 06.7	
comp=Z,876nm,21.7s,baz=285,slow=31							
TOB5	**Torodi Ar. Sit**	**70.84**	**9**	PFAKE		06 08 30.0	+13
TOB5				LR	LR		
comp=Z,900nm,22.0s							
TOA1	**Torodi Ar. Sit**	**70.84**	**9**	*e*P	**P**	**06 08 15.8**	**-1.5**
TOA1				LR	LR		
comp=Z,900nm,21.0s							
TOB2	**Torodi Ar. Sit**	**70.84**	**9**	PFAKE		06 08 30.0	+13
TOB2				LR	LR		
comp=Z,4μm,22.0s							
TOC2	**Torodi Ar. Sit**	**70.85**	**9**	PFAKE		06 08 30.0	+13
TOC2				LR	LR		
comp=Z,900nm,21.0s							
TOC7	**Torodi Ar. Sit**	**70.85**	**9**	PFAKE		06 08 30.0	+13
TOC7				LR	LR		
comp=Z,900nm,21.0s							
TOC1	**Torodi Ar. Sit**	**70.86**	**9**	PFAKE		06 08 30.0	+13
TOC1				LR	LR		
comp=Z,1μm,20.0s							
MSEY	**Mahe Island**	**71.57**	**69**	PFAKE		06 08 30.0	+8.0
MSEY				LR	LR		
comp=Z,3μm,20.0s							
FURI	**Furi**	**75.98**	**47**	PFAKE		06 09 00.0	+12
FURI				LR	LR		
comp=Z,2μm,18.0s							
WHZ	**Wether Hill Ro**	**76.81**	**176**	*e*S	**S**	**06 18 37.3**	**-1.8**
MLZ	**Mavora Lakes**	**77.34**	**176**	*e*P	**P**	**06 08 56.0**	**+0.9**
comp=Z,336nm,2.0s							
TAU	**Tasmania Unive**	**77.59**	**161**	*e*P	**P**	**06 09 00.2**	**+3.7**
comp=Z,338nm,1.8s							
TAU	**Tasmania Unive**	**77.59**	**161**	*e*P	**P**	**06 09 00.2**	**+3.7**
TAU				pmax	pmax		
comp=Z,338nm,1.8s							
ODZ	**Otahua Downs**	**77.72**	**178**	*e*P	**P**	**06 08 58.5**	**+1.3**
comp=Z,185nm,1.8s							
DGAR	**Diego Garcia**	**78.14**	**85**	PFAKE		06 09 10.0	+10
DGAR				LR	LR		
comp=Z,6μm,21.0s							
LBZ	**Lake Benmore**	**78.37**	**178**	*e*P	**P**	**06 09 01.7**	**+0.8**
comp=Z,304nm,1.8s							
PTLC	**Puerto Leguiza**	**78.39**	**289**	*e*P	**P**	**06 08 59.1**	**-2.2**
PTLC	**Puerto Leguiza**	**78.39**	**289**	*e*P	**P**	**06 08 59.1**	**-2.2**
NWAO	**Narrogin (SRO)**	**78.42**	**135**	*e*P	**P**	**06 09 01.1**	**-0.1**
comp=Z,374nm,2.0s							
NWAO				LR	LR		
comp=Z,1μm,22.0s							
NWAO	**Narrogin (SRO)**	**78.42**	**135**	*e*P	**P**	**06 09 01.1**	**-0.1**
NWAO				pmax	pmax		
comp=Z,374nm,2.0s							
NWAO				MLR	MLR		
comp=Z,1μm,22.0s							
RPZ	**Rata Peaks**	**79.06**	**179**	*e*P	**P**	**06 09 05.5**	**+0.8**
comp=Z,65nm,1.2s							
OXZ	**Oxford**	**79.46**	**179**	PFAKE		06 09 20.0	+13
OXZ				LR	LR		
comp=Z,1μm,21.0s							
LTZ	**Lake Taylor**	**80.00**	**179**	*e*P	**P**	**06 09 09.5**	**-0.3**
comp=Z,110nm,1.5s							
LTZ				LR	LR		
comp=Z,2μm,19.0s							
FLOC	**Florencia**	**80.03**	**289**	*e*P	**P**	**06 09 09.9**	**-0.4**
FLOC	**Florencia**	**80.03**	**289**	*e*P	**P**	**06 09 09.9**	**-0.4**
ATD	**Arta Tunnel**	**80.04**	**50**	PFAKE		06 09 20.0	+10
ATD				LR	LR		
comp=Z,3μm,20.0s							
OTAV	**Otavalo**	**80.33**	**286**	*e*P	**P**	**06 09 13.7**	**+1.3**
comp=Z,121nm,1.5s							
OTAV				LR	LR		
comp=Z,3μm,19.0s							
OTAV	**Otavalo**	**80.33**	**286**	*e*P	**P**	**06 09 12.3**	**-0.1**
OTAV	**Otavalo**	**80.33**	**286**	*e*P	**P**	**06 09 13.7**	**+1.3**
OTAV				pmax	pmax		
comp=Z,121nm,1.5s							
OTAV				MLR	MLR		
comp=Z,3μm,19.0s							
OTAV	**Otavalo**	**80.33**	**286**	*e*P	**P**	**06 09 12.3**	**-0.1**
OTAV	**Otavalo**	**80.33**	**286**	*e*P	**P**	**06 09 14.3**	**+1.9**
GCUF	**Volcan Galeras**	**80.60**	**287**	*e*P	**P**	**06 09 14.8**	**+0.8**
GCUF	**Volcan Galeras**	**80.60**	**287**	*e*P	**P**	**06 09 14.8**	**+0.8**
CRUC	**La Cruz**	**80.69**	**288**	*e*P	**P**	**06 09 16.6**	**+2.4**
CRUC	**La Cruz**	**80.69**	**288**	*e*P	**P**	**06 09 16.6**	**+2.4**
TAM	**Tamanrasset**	**80.75**	**12**	*e*P	**P**	**06 09 14.6**	**+0.6**
comp=Z,68nm,2.0s							
TAM				LR	LR		
comp=Z,700nm,18.0s							
TAM	**Tamanrasset**	**80.75**	**12**	*e*P	**P**	**06 09 14.6**	**+0.6**
TAM				pmax	pmax		
comp=Z,68nm,2.0s							
TAM				MLR	MLR		
comp=Z,700nm,18.0s							
SOTA	**Rioblanco**	**80.99**	**289**	*e*P	**P**	**06 09 16.8**	**+0.8**
SOTA	**Rioblanco**	**80.99**	**289**	*e*P	**P**	**06 09 16.8**	**+0.8**
THZ	**Tophouse**	**81.02**	**180**	*e*P	**P**	**06 09 15.7**	**+0.3**
comp=Z,218nm,1.7s							
PCON	**Cinco Dias**	**81.05**	**289**	*e*P	**P**	**06 09 17.6**	**+1.2**
PCON	**Cinco Dias**	**81.05**	**289**	*e*P	**P**	**06 09 17.6**	**+1.2**
VILC	**Villavicencio,**	**81.22**	**292**	*e*P	**P**	**06 09 17.5**	**+0.8**
VILC	**Villavicencio,**	**81.22**	**292**	*e*P	**P**	**06 09 17.5**	**+0.8**
BBAC	**Balboa

BRRC Barranca, Sant 83.80 294 *e*P **P 06 09 28.4 -1.6**
SDV Santo Domingo 83.84 297 *e*P **P 06 09 30.7 +0.2**
comp=Z,42nm,1.2s
SDV LR LR
comp=Z,6μm,21.0s
SDV Santo Domingo 83.84 297 *e*P **P 06 09 30.6 +0.1**
SDV Santo Domingo 83.84 297 *e*P **P 06 09 30.6 +0.1**
SDV Santo Domingo 83.84 297 *e*P **P 06 09 31.3 +0.8**
HELC Santa Helena 83.92 292 *e*P **P 06 09 30.6 -0.5**
HELC Santa Helena 83.92 292 *e*P **P 06 09 30.6 -0.5**
FORT Forrest 84.22 142 *e*P **P 06 09 29.5 -2.5**
comp=Z,111nm,1.8s
FORT LR LR
comp=Z,2μm,21.0s
HIZ Hauiti 84.25 181 *e*P **P 06 09 31.7 -0.5**
comp=Z,116nm,1.5s
URZ Urewera 84.46 183 *e*P **P 06 09 33.8 +0.7**
comp=Z,186nm,1.6s
FDF Fort de France 84.70 308 PFAKE 06 09 50.0 +15
FDF LR LR
comp=Z,1μm,21.0s
BBOO Buckleboo 84.74 149 *e*P **P 06 09 34.0 -0.7**
comp=Z,131nm,1.9s
BBOO LR LR
comp=Z,2μm,18.0s
CAN Canberra 85.27 161 PFAKE 06 09 50.0 +13
CAN LR LR
comp=Z,3μm,22.0s
SMLC San Martn de 85.44 294 *e*P **P 06 09 37.5 -0.8**
SMLC San Martn de 85.44 294 *e*P **P 06 09 37.5 -0.8**
CODC Agustn Codazz 86.11 295 *e*P P 06 09 34.0 -7.7
CODC Agustn Codazz 86.11 295 *e*P P 06 09 34.0 -7.7
SJCC San Jacinto, C 86.93 294 *e*P **P 06 09 46.7 +1.0**
SJCC San Jacinto, C 86.93 294 *e*P **P 06 09 46.7 +1.0**
URIC Uribia, Colomb 86.94 297 *e*P **P 06 09 44.9 -0.8**
URIC Uribia, Colomb 86.94 297 *e*P **P 06 09 44.9 -0.8**
STKA Stephens Creek 87.05 154 *e*P **P 06 09 46.2 +0.1**
comp=Z,14nm,1.5s
STKA LR LR
comp=Z,2μm,1.4s
STKA Stephens Creek 87.05 154 *e*P **P 06 09 46.2 +0.1**
STKA pmax pmax
comp=Z,14nm,1.5s
STKA MLR MLR
comp=Z,2μm,1.4s
STKA Stephens Creek 87.05 154 P **P 06 09 46.2 +0.1**
comp=Z,12nm,0.9s,baz=157,slow=4.9,SNR=17
STKA LR LR 06 46 59.2
comp=Z,1μm,18.0s,baz=197,slow=34
SMRC Santa Marta, M 87.55 295 *e*P **P 06 09 49.6 +1.0**
SMRC Santa Marta, M 87.55 295 *e*P **P 06 09 49.6 +1.0**
ANWB Willy Bob 87.59 309 PFAKE 06 10 00.0 +11
ANWB LR LR
comp=Z,1μm,20.0s
SEUS St. Eustatius 87.94 308 PFAKE 06 10 00.0 +10
SEUS LR LR
comp=Z,2μm,20.0s
RKT Rikitea 88.63 227 *e*LR LR 06 38 02.0
comp=Z,2μm,36.2s
BCIP Isla Barro Col 88.64 289 PFAKE 06 10 10.0 +16
BCIP LR LR
comp=Z,1μm,18.0s
PSAC3 Pilbara Seismi 89.54 132 PFAKE 06 10 10.0 +12
PSAC3 LR LR
comp=Z,2μm,19.0s
STVI Saint Thomas 89.55 306 PFAKE 06 10 10.0 +12
STVI LR LR
comp=Z,2μm,20.0s
PSAB3 Pilbara Seismi 89.57 132 PFAKE 06 10 10.0 +12
PSAB3 LR LR
comp=Z,2μm,19.0s
PSAA1 Pilbara Seismi 89.58 132 PFAKE 06 10 10.0 +12
PSAA1 LR LR
comp=Z,2μm,18.0s
MTP Monte Pirata 89.58 306 PFAKE 06 10 10.0 +12
MTP LR LR
comp=Z,2μm,22.0s
PSAB1 Pilbara Seismi 89.58 132 PFAKE 06 10 10.0 +12
PSAB1 LR LR
comp=Z,2μm,18.0s
PSAA3 Pilbara Seismi 89.59 132 PFAKE 06 10 10.0 +12
PSAA3 LR LR
comp=Z,2μm,18.0s
PSA00 Pilbara Seismi 89.59 132 PFAKE 06 10 10.0 +12
PSA00 LR LR
comp=Z,2μm,20.0s
PSAA2 Pilbara Seismi 89.60 132 PFAKE 06 10 10.0 +12
PSAA2 LR LR
comp=Z,2μm,19.0s
PSAC1 Pilbara Seismi 89.61 132 PFAKE 06 10 10.0 +12
PSAC1 LR LR
comp=Z,2μm,19.0s
PSAB2 Pilbara Seismi 89.61 132 PFAKE 06 10 10.0 +12
PSAB2 LR LR
comp=Z,2μm,18.0s
ABVI Anegada Island 89.61 307 PFAKE 06 10 10.0 +12
ABVI LR LR
comp=Z,2μm,20.0s
PSAC2 Pilbara Seismi 89.62 132 PFAKE 06 10 10.0 +11
PSAC2 LR LR
comp=Z,2μm,19.0s
CUPR Culebra, Puert 89.65 306 PFAKE 06 10 10.0 +12
CUPR LR LR
comp=Z,2μm,19.0s
PSAD1 Pilbara Seismi 89.69 132 PFAKE 06 10 10.0 +11
PSAD1 LR LR
comp=Z,2μm,20.0s
HUMP Col San Antoni 89.75 306 PFAKE 06 10 10.0 +11
HUMP LR LR
comp=Z,2μm,22.0s
ICMP Isla Caja de M 89.82 305 PFAKE 06 10 10.0 +11
ICMP LR LR
comp=Z,1μm,18.0s
SJG San Juan 89.86 305 PFAKE 06 10 10.0 +11
SJG LR LR
comp=Z,900nm,19.0s
CBYP Canovanas 89.87 306 PFAKE 06 10 10.0 +10
CBYP LR LR
comp=Z,2μm,21.0s
MBWA Marble Bar 89.91 132 PFAKE 06 10 10.0 +10
MBWA LR LR
comp=Z,2μm,19.0s
MDT Midelt 90.07 2 P **P 06 10 01.8 +1.6**
comp=Z,12nm,1.3s,baz=182,slow=3.0,SNR=8.1
MDT LR LR 06 46 11.5
comp=Z,2μm,18.9s,baz=179,slow=33
CRPR Cabo Rojo, PR 90.19 304 PFAKE 06 10 10.0 +9.1
CRPR LR LR
comp=Z,1μm,19.0s
EMPR Esperanza - Ma 90.34 305 PFAKE 06 10 10.0 +8.4
EMPR LR LR
comp=Z,2μm,22.0s
MPR Mayaguez 90.38 304 PFAKE 06 10 10.0 +8.2
MPR LR LR
comp=Z,2μm,20.0s
ARMA Armidale 90.51 162 PFAKE 06 10 10.0 +7.3
ARMA LR LR
comp=Z,4μm,21.0s
RTC Rabat Centre 91.22 0 PFAKE 06 10 20.0 +15
RTC LR LR
comp=Z,4μm,20.0s
HDC Heredia 91.54 286 PFAKE 06 10 20.0 +12
HDC LR LR
comp=Z,1μm,18.0s
SDD Santo Domingo 91.84 302 PFAKE 06 10 20.0 +11
SDD LR LR
comp=Z,2μm,19.0s
JTS Las Juntas de 92.22 286 *e*P **P 06 10 11.4 +0.8**
comp=Z,64nm,1.3s
JTS LR LR
comp=Z,1μm,20.0s
JTS Las Juntas de 92.22 286 *i* P **P 06 10 10.0 -0.5**
JTS pmax pmax
comp=Z,61nm,1.6s
JTS Las Juntas de 92.22 286 P **P 06 10 10.6 +0.1**
comp=Z,14nm,0.9s,baz=195,slow=3.8,SNR=4.4
ASAR Alice Springs 92.70 145 *e*P **P 06 10 11.8 -1.0**
ASAR Alice Springs 92.70 145 *e*P **P 06 10 11.8 -1.0**
ASAR Alice Springs 92.70 145 P **P 06 10 12.3 -0.5**
comp=Z,3.2nm,0.9s,baz=202,slow=4.3,SNR=21
ASAR LR LR 06 46 55.1
comp=Z,1μm,20.0s,baz=202,slow=32
AS31 Alice Springs 92.70 145 *e*P **P 06 10 11.7 -1.2**
comp=Z,7.4nm,1.6s
SDDR Presa de Saban 92.93 301 PFAKE 06 10 30.0 +16
SDDR LR LR
comp=Z,2μm,19.0s
TBI Tubuai 93.47 214 *e*SS SS 06 27 42.3 +2.8
comp=Z,376nm,27.2s
TBI Tubuai 93.47 214 *e*LR LR 06 40 16.0
comp=Z,1μm,22.5s
ESPN Las Esperanzas 93.49 287 PFAKE 06 10 30.0 +14
ESPN LR LR
comp=Z,1μm,21.0s
ACON Acoyapa 93.75 286 *e*P **P 06 10 17.9 +0.3**
comp=Z,69nm,1.5s
KEST Kesra 93.98 13 PFAKE 06 10 30.0 +12
KEST LR LR
comp=Z,1μm,18.0s
PALK Pallekele 94.86 84 PFAKE 06 10 30.0 +7.2
PALK LR LR
comp=Z,2μm,19.0s
CART Cartagena 94.94 5 PFAKE 06 10 30.0 +7.6
CART LR LR
comp=Z,800nm,21.0s
FITZ Fitzroy Crossi 94.99 135 PFAKE 06 10 30.0 +6.6
FITZ LR LR
comp=Z,2μm,19.0s
MTDJ Mount Denham 95.23 296 PFAKE 06 10 40.0 +16
MTDJ LR LR
comp=Z,2μm,22.0s
EIDS Eidsvold 95.34 160 PFAKE 06 10 40.0 +15
EIDS LR LR
comp=Z,3μm,21.0s
GTBY Guantanamo Bay 95.53 299 PFAKE 06 10 40.0 +14
GTBY LR LR
comp=Z,2μm,20.0s
WRA Warramunga Arr 96.32 144 P **P 06 10 28.3 -1.2**
comp=Z,2.7nm,1.1s,baz=199,slow=5.0,SNR=7.1
WR1 Warramunga Arr 96.32 144 *e*P **P 06 10 28.3 -1.2**
WB2 Warramunga Arr 96.33 144 PFAKE 06 10 40.0 +11
WB2 LR LR
comp=Z,2μm,20.0s
WRAB Tennant Creek 96.34 144 PFAKE 06 10 40.0 +10
WRAB LR LR
comp=Z,2μm,20.0s
CISI Cisompet, Garu 96.56 115 PFAKE 06 10 40.0 +9.4
CISI LR LR
comp=Z,900nm,21.0s
TGUH Tegucigalpa,Un 96.60 286 PFAKE 06 10 40.0 +9.5
TGUH LR LR
comp=Z,1μm,20.0s
ESDC Sonseca Array 96.93 2 LR LR 06 51 37.0
comp=Z,251nm,18.0s,baz=130,slow=34
KARP Karpathos 97.14 27 PFAKE 06 10 40.0 +7.4
KARP LR LR
comp=Z,1μm,18.0s
CEL Celeste 97.41 18 PFAKE 06 10 40.0 +6.2
CEL LR LR
comp=Z,1μm,19.0s
ITM Ithomi 97.50 23 PFAKE 06 10 40.0 +5.8
ITM LR LR
comp=Z,700nm,22.0s
UGM Wanagama 97.56 118 PFAKE 06 10 50.0 +15
UGM LR LR
comp=Z,2μm,19.0s
TIP Timpagrande 98.45 18 PFAKE 06 10 50.0 +12
TIP LR LR
comp=Z,1μm,19.0s
JAGI Jajag, Banyuwa 98.77 121 PFAKE 06 10 50.0 +9.5
JAGI LR LR
comp=Z,1μm,20.0s
PPT2 Papeete2 98.91 216 *e*SS SS 06 28 59.7 +2.8
comp=Z,331nm,24.5s
PPT2 Papeete2 98.91 216 *e*LR LR 06 42 48.0
comp=Z,1μm,27.0s
PPT Papeete 98.93 216 LR LR 06 49 32.6
comp=Z,698nm,18.0s,baz=139,slow=32
AGG Agios Georgios 99.36 23 PFAKE 06 10 50.0 +7.6
AGG LR LR
comp=Z,800nm,21.0s
CTAO Charters Tower 99.47 155 PFAKE 06 10 50.0 +6.4
CTAO LR LR
comp=Z,1μm,19.0s
BKNI Bangkinang 99.89 105 PFAKE 06 11 00.0 +15
BKNI LR LR
comp=Z,3μm,20.0s
OUENC Ouen Island, N 100.14 174 PFAKE 06 11 00.0 +13
OUENC LR LR
comp=Z,2μm,19.0s
ISP Isparta 100.15 29 PFAKE 06 11 00.0 +14
ISP LR LR
comp=Z,900nm,18.0s
ONTNC Ouen Toro 100.23 174 PFAKE 06 11 00.0 +13
ONTNC LR LR
comp=Z,2μm,21.0s
MANT Manisa 100.28 28 PFAKE 06 11 00.0 +13
MANT LR LR
comp=Z,2μm,21.0s
LIT Litokhoron 100.43 23 PFAKE 06 11 00.0 +13
LIT LR LR
comp=Z,600nm,20.0s
DZM Mont Dzumac 100.47 174 *e*LR LR 06 43 29.0
comp=Z,4μm,22.9s
DZM Mont Dzumac 100.47 174 PFAKE 06 11 00.0 +12
DZM LR LR
comp=Z,2μm,22.0s
FNA Florina 100.86 22 PFAKE 06 11 00.0 +11
FNA LR LR
comp=Z,700nm,20.0s
PSI Prapat 100.88 102 PFAKE 06 11 00.0 +10
PSI LR LR
comp=Z,3μm,19.0s
CCIG Comitan 101.00 283 PFAKE 06 11 00.0 +10
CCIG LR LR
comp=Z,1μm,22.0s
AQU L'Aquila 101.03 15 PFAKE 06 11 00.0 +10
AQU LR LR
comp=Z,700nm,19.0s
MTN Manton Dam 101.84 138 PFAKE 06 11 10.0 +16
MTN LR LR
comp=Z,3μm,20.0s
ALN Alexandroupoli 101.96 25 PFAKE 06 11 00.0 +6.1
ALN LR LR
comp=Z,300nm,20.0s
SOEI Soe 102.03 131 PFAKE 06 11 10.0 +15
SOEI LR LR
comp=Z,3μm,19.0s
TTG Podgorica 102.05 20 PFAKE 06 11 10.0 +16
TTG LR LR
comp=Z,800nm,22.0s
MMRI Maumere 102.20 128 PFAKE 06 11 10.0 +14
MMRI LR LR
comp=Z,1μm,21.0s
TEIG Tepich 102.28 288 PFAKE 06 11 10.0 +14
TEIG LR LR
comp=Z,1μm,22.0s
VLC Villacollemand 102.41 13 PFAKE 06 11 10.0 +14
VLC LR LR
comp=Z,600nm,20.0s
MYKOM Kota Tinggi 102.59 107 PFAKE 06 11 10.0 +13
MYKOM LR LR
comp=Z,1μm,22.0s
ANTO Ankara 102.68 30 PFAKE 06 11 10.0 +13
ANTO LR LR
comp=Z,800nm,18.0s
BRTR Keskin Array B 102.78 31 PP **PP 06 15 07.6 -4.6**
comp=Z,0.4nm,0.6s,baz=183,slow=11,SNR=4.4
BNI Bardonecchia 102.91 10 PFAKE 06 11 10.0 +12
BNI LR LR
comp=Z,900nm,19.0s
SSB Saint Sauveur 102.95 8 PFAKE 06 11 10.0 +12
SSB LR LR
comp=Z,700nm,18.0s
VTS Vitosha 103.00 22 PFAKE 06 11 10.0 +11
VTS LR LR
comp=Z,600nm,20.0s
061Z Ochoppi 103.35 297 PFAKE 06 11 10.0 +10
061Z LR LR
comp=Z,2μm,20.0s
IPM Ipoh 103.40 103 PFAKE 06 11 10.0 +8.9
IPM LR LR
comp=Z,2μm,20.0s
MYIG Mrida 103.64 287 PFAKE 06 11 10.0 +8.2
MYIG LR LR
comp=Z,1μm,19.0s
KULM Kulim 103.88 102 PFAKE 06 11 10.0 +6.8
KULM LR LR
comp=Z,2μm,20.0s
BLY Banja Luka 103.95 18 PFAKE 06 11 10.0 +7.4
BLY LR LR
comp=Z,600nm,21.0s
ILGA Ilgaz 104.03 31 PFAKE 06 11 10.0 +6.6
ILGA LR LR
comp=Z,600nm,21.0s
060A Indiantown 104.08 298 PFAKE 06 11 20.0 +16
060A LR LR
comp=Z,2μm,19.0s
SENIN Lac Senin/Sane 104.26 10 PFAKE 06 11 20.0 +16
SENIN LR LR
comp=Z,1μm,20.0s
KAPI Kappang 104.36 125 PFAKE 06 11 20.0 +15
KAPI LR LR
comp=Z,1μm,20.0s
TRI Trieste 104.37 15 PFAKE 06 11 20.0 +16
TRI LR LR
comp=Z,600nm,21.0s
059A Moore Haven 104.39 298 PFAKE 06 11 20.0 +15
059A LR LR
comp=Z,2μm,19.0s
TUE Stuetta 104.58 12 PFAKE 06 11 20.0 +14
TUE LR LR
comp=Z,700nm,20.0s
COEN Coen 104.59 150 PFAKE 06 11 20.0 +14
COEN LR LR
comp=Z,1μm,20.0s
FUORN Ofenpass-Fuorn 104.83 12 PFAKE 06 11 20.0 +13
FUORN LR LR
comp=Z,700nm,22.0s
PBA Port Blair 104.99 92 PFAKE 06 11 20.0 +12
PBA LR LR
comp=Z,4μm,22.0s
TLIG Tlapa 105.46 278 PFAKE 06 15 40.0 +16
TLIG LR LR
comp=Z,2μm,20.0s
DWPF Disney Wildern 105.49 298 PFAKE 06 15 40.0 +17
DWPF LR LR
comp=Z,2μm,20.0s
957A Wimauma 105.50 297 PFAKE 06 15 40.0 +17
957A LR LR
comp=Z,2μm,21.0s
LVIG Laguna Verde 106.10 281 PFAKE 06 15 40.0 +15
LVIG LR LR
comp=Z,500nm,19.0s
MLR Muntele Rosu 106.32 24 PFAKE 06 15 40.0 +16
MLR LR LR
comp=Z,700nm,20.0s
MLR Muntele Rosu 106.32 24 PP **PP 06 15 33.0 -5.4**
comp=Z,0.8nm,0.4s,baz=224,slow=6.1,SNR=4.0
SAUI Saumlaki 106.39 137 PFAKE 06 15 40.0 +14
SAUI LR LR
comp=Z,2μm,20.0s
658A Bunnell 106.51 299 PFAKE 06 15 40.0 +15
658A LR LR
comp=Z,2μm,22.0s
GNI Garni 106.59 39 PFAKE 06 15 40.0 +15
GNI LR LR
comp=Z,2μm,20.0s
STU Stuttgart 106.83 11 PFAKE 06 15 40.0 +15
STU LR LR
comp=Z,700nm,20.0s
656A Willston 107.07 298 PFAKE 06 15 40.0 +14
656A LR LR
comp=Z,2μm,20.0s
AKH Akhalkalaki 107.31 37 PFAKE 06 15 40.0 +13
AKH LR LR
comp=Z,1μm,20.0s
SBUM Sibu 107.38 114 PFAKE 06 15 40.0 +13
SBUM LR LR
comp=Z,600nm,20.0s
GEC2 GERESS Array S 107.44 14 *e*PP **PP 06 15 44.2 -2.4**
GEC2 LR LR
comp=Z,700nm,19.0s
GERES GERESS Array B 107.44 14 PP **PP 06 15 44.2 -2.4**
comp=Z,0.2nm,0.2s,baz=202,slow=7.4,SNR=4.0
PSZ Piszkesteto 107.48 19 PFAKE 06 15 40.0 +14
PSZ LR LR
comp=Z,400nm,20.0s
KHC Kasperske Hory 107.70 14 PFAKE 06 15 40.0 +13
KHC LR LR
comp=Z,300nm,21.0s
KHC Kasperske Hory 107.70 14 AMS AMS 06 57 40.0
comp=Z,600nm,18.7s
555A McAlpin 107.90 298 PFAKE 06 15 40.0 +12
555A LR LR
comp=Z,2μm,20.0s
456A Hilliard 107.96 299 PFAKE 06 15 40.0 +12
456A LR LR
comp=Z,900nm,20.0s
TREC Trest 108.12 15 AMS AMS 06 57 30.0
comp=Z,600nm,20.9s
257A Skidaway Islan 108.53 300 PFAKE 06 15 40.0 +11
257A LR LR
comp=Z,2μm,20.0s
MOIG Morelia 108.60 277 PFAKE 06 15 40.0 +10
MOIG LR LR
comp=Z,2μm,19.0s
GOPC GO Pecny, Ondr 108.63 15 AMS AMS 06 59 40.0
comp=Z,500nm,20.1s
NKC Novy Kostel 108.64 13 AMS AMS 07 01 10.0
comp=Z,500nm,16.5s
PRU Pruhonice 108.67 14 AMS AMS 07 02 10.0
comp=Z,400nm,19.2s
MORC Moravsky Berou 108.90 17 PFAKE 06 15 40.0 +11
MORC LR LR
comp=Z,500nm,20.0s
Y60A Bolivia 108.95 304 PFAKE 06 15 40.0 +10
Y60A LR LR
comp=Z,1μm,21.0s
OKC Ostrava-Krasne 109.05 17 AMS AMS 07 00 40.0
comp=Z,400nm,20.7s
NHSC New Hope 109.09 302 PFAKE 06 15 40.0 +10
NHSC LR LR
comp=Z,2μm,22.0s
453A Whigham 109.16 297 PFAKE 06 15 40.0 +10
453A LR LR
comp=Z,3μm,21.0s
255A Hazlehurst 109.17 299 PFAKE 06 15 40.0 +10
255A LR LR
comp=Z,1μm,19.0s
PVCC Panska Ves 109.20 14 AMS AMS 07 00 00.0
comp=Z,300nm,19.2s
LUWI Luwuk 109.24 126 PFAKE 06 15 40.0 +9.2
LUWI LR LR
comp=Z,1μm,21.0s
V62A Hyde County Ai 109.27 306 PFAKE 06 15 40.0 +10
V62A LR LR
comp=Z,2μm,22.0s
DPC Dobruska-Polom 109.27 16 AMS AMS 07 05 10.0
comp=Z,400nm,17.4s
TIGA Tifton 109.29 298 PFAKE 06 15 40.0 +10
TIGA LR LR
comp=Z,2μm,20.0s
KIV Kislovodsk 109.34 36 PFAKE 06 15 40.0 +10
KIV LR LR
comp=Z,600nm,18.0s
UPC Upice 109.38 15 AMS AMS 06 58 10.0
comp=Z,600nm,19.8s
BRG Berggiesshubel 109.46 14 *e*(P) **PP 06 16 06.3 +5.2**
comp=Z,42nm,2.0s
BRG *e* 06 25 39.0
Y58A Scranton 109.52 303 PFAKE 06 15 40.0 +9.3
Y58A LR LR
comp=Z,1μm,19.0s
451A Vernon 109.64 296 PFAKE 06 15 40.0 +9.0
451A LR LR
comp=Z,2μm,20.0s
GYA0B ALIBECK ARRAY 109.67 50 PFAKE 06 15 40.0 +9.1
GYA0B LR LR
comp=Z,2μm,20.0s
V61A Roper 109.73 306 PFAKE 06 15 40.0 +9.0
V61A LR LR
comp=Z,2μm,21.0s
CLL Collm 109.77 13 PFAKE 06 15 40.0 +9.5
CLL LR LR
comp=Z,500nm,22.0s
CLL Collm 109.77 13 *e*PP **PP 06 16 10.0 +6.7**
CLL *e*PS **PS 06 25 36.0 +5.3**
CLL *e*SS SS 06 31 30.0 +3.1
CLL *e*SSS SSS 06 35 48.0
CLL *e*SSSS 06 39 06.0
CLL LmV 07 00 00.0
comp=Z,500nm,20.6s
Z56A Williston 109.82 301 PFAKE 06 15 40.0 +8.8
Z56A LR LR
comp=Z,1μm,20.0s
X58A Rowland 109.92 303 PFAKE 06 15 40.0 +8.6

X58A LR LR
comp=Z,1μm,20.0s
Y57A Sumter 109.95 302 PFAKE 06 15 40.0 +8.5
Y57A LR LR
comp=Z,1μm,20.0s
352A Blakely 109.96 297 PFAKE 06 15 40.0 +8.4
352A LR LR
comp=Z,2μm,22.0s
PMG Port Moresby 109.98 153 PFAKE 06 15 40.0 +7.8
PMG LR LR
comp=Z,2μm,19.0s
V60A Jim Taylor Roa 110.01 305 PFAKE 06 15 40.0 +8.5
V60A LR LR
comp=Z,2μm,22.0s
154A Montrose 110.04 299 PFAKE 06 15 40.0 +8.3
154A LR LR
comp=Z,1μm,22.0s
253A Americus 110.06 298 PFAKE 06 15 40.0 +8.2
253A LR LR
comp=Z,1μm,21.0s
U61A Possum Corner 110.13 306 PFAKE 06 15 40.0 +8.3
U61A LR LR
comp=Z,2μm,22.0s
BIRD Birdtown, Kers 110.50 302 PFAKE 06 15 40.0 +7.5
BIRD LR LR
comp=Z,900nm,20.0s
JSC Jenkinsville 110.56 302 PFAKE 06 15 40.0 +7.4
JSC LR LR
comp=Z,2μm,22.0s
W57A Gilead 110.71 303 PFAKE 06 15 40.0 +7.1
W57A LR LR
comp=Z,900nm,20.0s
BRAL Brewton 110.73 295 PFAKE 06 15 40.0 +7.0
BRAL LR LR
comp=Z,2μm,20.0s
U59A Littleton 110.73 305 PFAKE 06 15 40.0 +7.1
U59A LR LR
comp=Z,1μm,21.0s
152A Waverly Hall 110.84 298 PFAKE 06 15 50.0 +17
152A LR LR
comp=Z,1μm,20.0s
GOGA Godfrey 110.87 300 PFAKE 06 15 50.0 +17
GOGA LR LR
comp=Z,1μm,19.0s
T60A Surry 110.93 307 PFAKE 06 15 50.0 +17
T60A LR LR
comp=Z,2μm,22.0s
HODGE Hodges 110.98 301 PFAKE 06 15 50.0 +17
HODGE LR LR
comp=Z,1μm,20.0s
250A Grady 111.02 297 PFAKE 06 15 50.0 +16
250A LR LR
comp=Z,3μm,20.0s
T59A Double "B" Far 111.15 306 PFAKE 06 15 50.0 +16
T59A LR LR
comp=Z,2μm,22.0s
PAULI Pauline 111.27 302 PFAKE 06 15 50.0 +16
PAULI LR LR
comp=Z,1μm,19.0s
KMSC Kings Mountain 111.31 302 PFAKE 06 15 50.0 +16
KMSC LR LR
comp=Z,1μm,22.0s
FAKI Fak Fak 111.41 136 PFAKE 06 15 50.0 +15
FAKI LR LR
comp=Z,400nm,20.0s
V56A Mocksville 111.48 303 PFAKE 06 15 50.0 +16
V56A LR LR
comp=Z,1μm,20.0s
Y52A Lilburn 111.52 299 PFAKE 06 15 50.0 +16
Y52A LR LR
comp=Z,1μm,20.0s
KBL Kabul 111.62 60 PFAKE 06 15 50.0 +15
KBL LR LR
comp=Z,1μm,21.0s
ZAIG Zacatecas 111.86 278 PFAKE 06 15 50.0 +14
ZAIG LR LR
comp=Z,2μm,22.0s
Z50A Ashland 111.90 298 PFAKE 06 15 50.0 +15
Z50A LR LR
comp=Z,1μm,22.0s
S58A Poland Farm, P 111.90 306 PFAKE 06 15 50.0 +15
S58A LR LR
comp=Z,2μm,22.0s
T57A Hurt 111.92 305 PFAKE 06 15 50.0 +15
T57A LR LR
comp=Z,2μm,22.0s
BG3 Lake Jocassee 111.92 301 PFAKE 06 15 50.0 +15
BG3 LR LR
comp=Z,1μm,20.0s
LNIG Linares 111.94 282 PFAKE 06 15 50.0 +14
LNIG LR LR
comp=Z,700nm,22.0s
AKBB Malin Array Si 111.96 24 PFAKE 06 15 50.0 +15
AKBB LR LR
comp=Z,400nm,18.0s
CBN Corbin Frederi 112.10 307 PFAKE 06 15 50.0 +15
CBN LR LR
comp=Z,2μm,22.0s
R58B Mineral 112.12 306 PFAKE 06 15 50.0 +15
R58B LR LR
comp=Z,2μm,22.0s
LRAL Lakeview Retre 112.23 297 PFAKE 06 15 50.0 +14
LRAL LR LR
comp=Z,2μm,22.0s
HNR Honiara 112.37 166 PFAKE 06 15 50.0 +13
HNR LR LR
comp=Z,1μm,20.0s
S57A Dark Hollow, R 112.42 305 PFAKE 06 15 50.0 +14
S57A LR LR
comp=Z,2μm,22.0s
V53A Saluda 112.42 301 PFAKE 06 15 50.0 +14
V53A LR LR
comp=Z,1μm,19.0s
KKM Kota Kinabalu 112.44 116 PFAKE 06 15 50.0 +13
KKM LR LR
comp=Z,1μm,18.0s
W52A Murphy 112.47 300 PFAKE 06 15 50.0 +14
W52A LR LR
comp=Z,2μm,20.0s
X51A Calhoun 112.47 299 PFAKE 06 15 50.0 +14
X51A LR LR
comp=Z,700nm,20.0s
147A Livingston 112.56 295 PFAKE 06 15 50.0 +14
147A LR LR
comp=Z,1113μm,22.0s
BLA Blacksburg 112.61 304 PFAKE 06 15 50.0 +14
BLA LR LR
comp=Z,1μm,20.0s
Y49A Blount Mountai 112.63 298 PFAKE 06 15 50.0 +13
Y49A LR LR
comp=Z,1μm,18.0s
U54A Nelsons Funny 112.67 303 PFAKE 06 15 50.0 +13
U54A LR LR
comp=Z,1μm,22.0s
PSUB Penn St. - Bra 112.73 309 PFAKE 06 15 50.0 +13
PSUB LR LR
comp=Z,2μm,21.0s
BRYW Bryant College 112.82 313 PFAKE 06 15 50.0 +13
BRYW LR LR
comp=Z,1μm,22.0s
TNTI Ternate 112.83 129 PFAKE 06 15 50.0 +12
TNTI LR LR
comp=Z,200nm,20.0s
NIL Nilore 112.88 63 PFAKE 06 15 50.0 +13
NIL LR LR
comp=Z,499nm,20.0s
SDMD Soldier's Deli 112.88 308 PFAKE 06 15 50.0 +13
SDMD LR LR
comp=Z,900nm,22.0s
V52A Sevierville 112.93 301 PFAKE 06 15 50.0 +13
V52A LR LR
comp=Z,1μm,21.0s
BRNJ Basking Ridge 112.99 310 PFAKE 06 15 50.0 +13
BRNJ LR LR
comp=Z,2μm,22.0s
PAL Palisades 113.00 311 PFAKE 06 15 50.0 +13
PAL LR LR
comp=Z,2μm,22.0s
BCX Boston College 113.03 314 PFAKE 06 15 50.0 +13
BCX LR LR
comp=Z,900nm,21.0s
CPCT Cooper Cave 113.04 300 PFAKE 06 15 50.0 +13
CPCT LR LR
comp=Z,1μm,20.0s
WES Weston 113.13 313 PFAKE 06 15 50.0 +13
WES LR LR
comp=Z,900nm,20.0s
W50A Signal Mountai 113.20 299 PFAKE 06 15 50.0 +12
W50A LR LR
comp=Z,900nm,19.0s
V51A Loudon 113.25 300 PFAKE 06 15 50.0 +12
V51A LR LR
comp=Z,2μm,20.0s
LUPA Lehigh Univers 113.26 310 PFAKE 06 15 50.0 +12
LUPA LR LR
comp=Z,200nm,21.0s
KVTX Kingsville 113.26 285 PFAKE 06 15 50.0 +12
KVTX LR LR
comp=Z,1μm,20.0s
VBMS Vicksburg 113.29 294 PFAKE 06 15 50.0 +12
VBMS LR LR
comp=Z,700nm,20.0s
HRV Adam Dziewonsk 113.33 313 PFAKE 06 15 50.0 +12
HRV LR LR
comp=Z,1μm,22.0s
ODNJ Ogdensburg 113.35 310 PFAKE 06 15 50.0 +12
ODNJ LR LR
comp=Z,2μm,21.0s
R55A Marlinton 113.36 305 PFAKE 06 15 50.0 +12
R55A LR LR
comp=Z,1μm,22.0s
X48A Hartselle 113.41 298 PFAKE 06 15 50.0 +12
X48A LR LR
comp=Z,1μm,18.0s
KSCT Kent School, K 113.43 312 PFAKE 06 15 50.0 +12
KSCT LR LR
comp=Z,1μm,22.0s
QUA2 Belchertown 113.45 313 PFAKE 06 15 50.0 +12
QUA2 LR LR
comp=Z,2μm,22.0s
TZTN Tazewell 113.48 301 PFAKE 06 15 50.0 +12
TZTN LR LR
comp=Z,2μm,20.0s
SWET Sewanee 113.51 299 PFAKE 06 15 50.0 +12
SWET LR LR
comp=Z,1μm,21.0s
PAGS Pennsylvania G 113.51 308 PFAKE 06 15 50.0 +12
PAGS LR LR
comp=Z,2μm,20.0s
DLV T Lat 113.59 105 PFAKE 06 15 50.0 +11
DLV LR LR
comp=Z,3μm,20.0s
EMMW East Machias 113.66 317 PFAKE 06 15 50.0 +12
EMMW LR LR
comp=Z,900nm,20.0s
T52A Hallie 113.69 302 PFAKE 06 15 50.0 +11
T52A LR LR
comp=Z,1μm,20.0s
N59A State Game Lan 113.69 310 PFAKE 06 15 50.0 +12
N59A LR LR
comp=Z,2μm,20.0s
HKT Hockley 114.13 288 PFAKE 06 15 50.0 +11
HKT LR LR
comp=Z,1μm,22.0s
R53A Hurricane 114.22 304 PFAKE 06 15 50.0 +11
R53A LR LR
comp=Z,1μm,20.0s
KSPA Keystone Colle 114.22 310 PFAKE 06 15 50.0 +11
KSPA LR LR
comp=Z,2μm,22.0s
CHTO Chiang Mai 114.23 93 PFAKE 06 15 50.0 +10
CHTO LR LR
comp=Z,700nm,22.0s
Q54A Coxs Mills 114.26 305 PFAKE 06 15 50.0 +10
Q54A LR LR
comp=Z,2μm,22.0s
O56A Blue Knob Stat 114.33 307 PFAKE 06 15 50.0 +10
O56A LR LR
comp=Z,1μm,21.0s
PLAL Pickwick Lake 114.34 297 PFAKE 06 15 50.0 +10
PLAL LR LR
comp=Z,1μm,22.0s
SSPA Standing Stone 114.34 308 PFAKE 06 15 50.0 +10
SSPA LR LR
comp=Z,1μm,21.0s
TRY Troy 114.35 312 PFAKE 06 15 50.0 +10
TRY LR LR
comp=Z,1μm,21.0s
V48A Smith Brothers 114.35 298 PFAKE 06 15 50.0 +10
V48A LR LR
comp=Z,1μm,19.0s
MCWV Mont Chateau 114.38 306 PFAKE 06 15 50.0 +10
MCWV LR LR
comp=Z,700nm,22.0s
S51A Beattyville 114.40 302 PFAKE 06 15 50.0 +10
S51A LR LR
comp=Z,1μm,21.0s
CLTN Cedars of Leba 114.41 299 PFAKE 06 15 50.0 +10
CLTN LR LR
comp=Z,600nm,18.0s
OXF Oxford 114.60 296 PFAKE 06 15 50.0 +10
OXF LR LR
comp=Z,2μm,20.0s
HNH Hanover 114.62 314 PFAKE 06 15 50.0 +10
HNH LR LR
comp=Z,1μm,22.0s
833A Chaparral WMA, 114.67 284 PFAKE 06 15 50.0 +9.4
833A LR LR
comp=Z,500nm,20.0s
BINY Binghamton 114.85 310 PFAKE 06 15 50.0 +9.4
BINY LR LR
comp=Z,2μm,22.0s
T49A Edmonton 114.86 300 PFAKE 06 15 50.0 +9.3
T49A LR LR
comp=Z,1μm,20.0s
ACCN Adirondack Com 114.90 312 PFAKE 06 15 50.0 +9.4
ACCN LR LR
comp=Z,1μm,19.0s
P53A Whipple 114.92 305 PFAKE 06 15 50.0 +9.2
P53A LR LR
comp=Z,1μm,20.0s
N55A Marion Center 114.93 307 PFAKE 06 15 50.0 +9.2
N55A LR LR
comp=Z,1μm,20.0s
LBNH Lisbon 114.93 314 PFAKE 06 15 50.0 +9.4
LBNH LR LR
comp=Z,1μm,21.0s
ETX06 Route 59 and C 114.97 290 PFAKE 06 15 50.0 +8.9
ETX06 LR LR
comp=Z,400nm,20.0s
NATX Nacogdoches 114.99 290 PFAKE 06 15 50.0 +8.8
NATX LR LR
comp=Z,700nm,20.0s
CHGR Chuyangaron 115.05 57 PFAKE 06 15 50.0 +8.8
CHGR LR LR
comp=Z,5μm,19.0s
WVT Waverly 115.15 298 PFAKE 06 15 50.0 +8.7
WVT LR LR
comp=Z,1μm,22.0s
Z41A Richland Creek 115.26 292 PFAKE 06 15 50.0 +8.4
Z41A LR LR
comp=Z,1μm,20.0s
CCAR Cane Creek 115.28 294 PFAKE 06 15 50.0 +8.4
CCAR LR LR
comp=Z,2μm,21.0s
X43A Marvell 115.32 295 PFAKE 06 15 50.0 +8.3
X43A LR LR
comp=Z,2μm,22.0s
VT1 Waterbury 115.33 314 PFAKE 06 15 50.0 +8.6
VT1 LR LR
comp=Z,1μm,20.0s
MET Memphis--Engin 115.35 296 PFAKE 06 15 50.0 +8.3
MET LR LR
comp=Z,2μm,22.0s
Q51A Peebles 115.42 303 PFAKE 06 15 50.0 +8.2
Q51A LR LR
comp=Z,1μm,21.0s
T47A Sharon Grove 115.50 299 PFAKE 06 15 50.0 +8.0
T47A LR LR
comp=Z,1μm,18.0s
N54A Moraine State 115.51 307 PFAKE 06 15 50.0 +8.1
N54A LR LR
comp=Z,1μm,22.0s
NCB Newcomb 115.61 312 PFAKE 06 15 50.0 +8.0
NCB LR LR
comp=Z,900nm,22.0s
O52A Adamsville 115.63 305 PFAKE 06 15 50.0 +7.9
O52A LR LR
comp=Z,1μm,21.0s
P51A Williamsport 115.66 304 PFAKE 06 15 50.0 +7.8
P51A LR LR
comp=Z,1μm,21.0s
HALT Halls 115.69 297 PFAKE 06 15 50.0 +7.6
HALT LR LR
comp=Z,1μm,21.0s
435B Jarrell 115.70 287 PFAKE 06 15 50.0 +7.4
435B LR LR
comp=Z,600nm,22.0s
N53A Lisbon 115.75 306 PFAKE 06 15 50.0 +7.7
N53A LR LR
comp=Z,900nm,22.0s
WLAR White Oak Lake 115.76 293 PFAKE 06 15 50.0 +7.5
WLAR LR LR
comp=Z,1μm,21.0s
M54A Oil Creek Stat 115.82 307 PFAKE 06 15 50.0 +7.5
M54A LR LR
comp=Z,2μm,21.0s
GAR Garm 115.85 58 PFAKE 06 15 50.0 +7.2
GAR LR LR
comp=Z,3μm,20.0s
SHL Shillong 115.91 83 PFAKE 06 15 50.0 +6.6
SHL LR LR
comp=Z,2μm,22.0s
GLAT Glass 115.96 297 PFAKE 06 15 50.0 +7.1
GLAT LR LR
comp=Z,2μm,21.0s
HBAR Harrisburg 116.05 296 PFAKE 06 15 50.0 +7.0
HBAR LR LR
comp=Z,2μm,22.0s
GNAR Gosnell 116.06 296 PFAKE 06 15 50.0 +6.9
GNAR LR LR
comp=Z,2μm,21.0s
FRNY Flat Rock 116.08 313 PFAKE 06 15 50.0 +7.2
FRNY LR LR
comp=Z,800nm,22.0s
MMNY Mt. Morris Dam 116.08 309 PFAKE 06 15 50.0 +7.1
MMNY LR LR
comp=Z,2μm,21.0s
WCI Wyandotte Cave 116.12 300 PFAKE 06 16 00.0 +17
WCI LR LR
comp=Z,2μm,19.0s
ALLY Alegheny Colle 116.14 307 PFAKE 06 15 50.0 +6.9
ALLY LR LR
comp=Z,2μm,22.0s
RABL Rabaul 116.17 157 PFAKE 06 16 00.0 +16
RABL LR LR
comp=Z,700nm,22.0s
ACSO Alum Creek Sta 116.23 304 PFAKE 06 16 00.0 +17
ACSO LR LR
comp=Z,1μm,21.0s
UALR University of 116.25 294 PFAKE 06 16 00.0 +17
UALR LR LR
comp=Z,1μm,21.0s
T45A Paducah 116.25 298 PFAKE 06 16 00.0 +17
T45A LR LR
comp=Z,2μm,20.0s
X40A Basin Creek Fa 116.26 293 PFAKE 06 16 00.0 +16
X40A LR LR
comp=Z,2μm,21.0s
PVMO Portageville 116.27 297 PFAKE 06 16 00.0 +17
PVMO LR LR
comp=Z,2μm,21.0s
LONY Lake Ozonia 116.29 313 PFAKE 06 16 00.0 +17
LONY LR LR
comp=Z,800nm,20.0s
ERPA Erie 116.46 307 PFAKE 06 16 00.0 +16
ERPA LR LR
comp=Z,1μm,21.0s
J55A Hilton 116.49 310 PFAKE 06 16 00.0 +16
J55A LR LR
comp=Z,2μm,21.0s
PARMO Parma 116.50 297 PFAKE 06 16 00.0 +16
PARMO LR LR
comp=Z,2μm,21.0s
W41B Gary Mavity, V 116.52 294 PFAKE 06 16 00.0 +16
W41B LR LR
comp=Z,1μm,21.0s
N51A Ashland 116.52 305 PFAKE 06 16 00.0 +16
N51A LR LR
comp=Z,2μm,22.0s
USIN University of 116.55 299 PFAKE 06 16 00.0 +16
USIN LR LR
comp=Z,800nm,21.0s
SLBS Sierra La Lagu 116.55 273 PFAKE 06 16 00.0 +15
SLBS LR LR
comp=Z,700nm,19.0s
M52A Chesterland 116.58 306 PFAKE 06 16 00.0 +16
M52A LR LR
comp=Z,1μm,21.0s
WHTX Lake Whitney, 116.60 288 PFAKE 06 16 00.0 +16
WHTX LR LR
comp=Z,500nm,20.0s
JCT Junction City 116.60 285 PFAKE 06 16 00.0 +16
JCT LR LR
comp=Z,400nm,22.0s
WHAR Wooly Hollow 116.63 294 PFAKE 06 16 00.0 +16
WHAR LR LR
comp=Z,1μm,19.0s
MEDO Medina 116.67 309 PFAKE 06 16 00.0 +16
MEDO LR LR
comp=Z,1μm,21.0s
MIAR Mount Ida 116.67 293 PFAKE 06 16 00.0 +16
MIAR LR LR
comp=Z,1μm,21.0s
O49A Covington 116.80 303 PFAKE 06 16 00.0 +16
O49A LR LR
comp=Z,1μm,21.0s
J54A Appleton 116.83 309 PFAKE 06 16 00.0 +16
J54A LR LR
comp=Z,2μm,20.0s
HPIG 116.87 278 PFAKE 06 16 00.0 +15
HPIG LR LR
comp=Z,2μm,21.0s
PBMO Poplar Bluff 116.91 297 PFAKE 06 16 00.0 +15
PBMO LR LR
comp=Z,2μm,22.0s
BLO Bloomington 116.98 301 PFAKE 06 16 00.0 +15
BLO LR LR
comp=Z,2μm,19.0s
SIUC Southern Illin 117.08 298 PFAKE 06 16 00.0 +15
SIUC LR LR
comp=Z,1μm,20.0s
MANU Manus Island 117.10 151 PFAKE 06 16 00.0 +14
MANU LR LR
comp=Z,1μm,20.0s
M50A Fremont 117.21 305 PFAKE 06 16 00.0 +15
M50A LR LR
comp=Z,2μm,22.0s
W39A Magazine 117.29 293 PFAKE 06 16 00.0 +15
W39A LR LR
comp=Z,2μm,21.0s
N49A Columbus Grove 117.33 304 PFAKE 06 16 00.0 +15
N49A LR LR
comp=Z,1μm,21.0s
OLIL Olney 117.37 300 PFAKE 06 16 00.0 +14
OLIL LR LR
comp=Z,900nm,18.0s
DAV Davao City (W) 117.70 124 PFAKE 06 16 00.0 +13
DAV LR LR
comp=Z,600nm,22.0s
LTX Lajitas 117.72 282 ePKPdf **PKPdf 06 15 46.4 -0.2**
TX31 Lajitas Ar. Si 117.72 282 ePKPdf **PKPdf 06 15 46.5 -0.1**
TXAR Lajitas Array 117.72 282 ePKPdf **PKPdf 06 15 46.5 -0.1**
TXAR Lajitas Array 117.72 282 PKP **PKPdf 06 15 46.4 -0.2**
comp=Z,1.7nm,1.0s,baz=177,slow=2.5,SNR=11
TXAR PKKPbc **PKKPbc 06 26 05.2 -0.9**
comp=Z,0.3nm,0.9s,baz=220,slow=2.4,SNR=3.6
OBN Obninsk 117.74 27 PFAKE 06 16 00.0 +14
OBN LR LR
comp=Z,600nm,19.0s
OBN Obninsk 117.74 27 ePKIKP **PKPdf 06 15 44.9 -0.7**
OBN e 06 16 57.7
OBN ePPP PPP 06 19 27.2
OBN pmax pmax
comp=Z,6.0nm,0.8s
P45A Graceland, Par 117.84 300 PFAKE 06 16 00.0 +14
P45A LR LR
comp=Z,1μm,20.0s
FVM French Village 117.87 297 PFAKE 06 16 00.0 +13
FVM LR LR
comp=Z,1μm,19.0s
M48A Edgerton 118.02 304 PFAKE 06 16 00.0 +13
M48A LR LR
comp=Z,1μm,21.0s
K50A Casco 118.13 306 PFAKE 06 16 00.0 +13

K50A LR LR
comp=Z,1µm,22.0s
AAM Ann Arbor 118.20 305 PFAKE 06 16 00.0 +13
AAM LR LR
comp=Z,1µm,22.0s
SFIN Lafayette 118.22 301 PFAKE 06 16 00.0 +13
SFIN LR LR
comp=Z,1µm,20.0s
ABTX Abilene, Hawle 118.22 287 PFAKE 06 16 00.0 +13
ABTX LR LR
comp=Z,800nm,22.0s
HHAR Hobbs 118.23 294 PFAKE 06 16 00.0 +13
HHAR LR LR
comp=Z,1µm,20.0s
SADO Sadowa 118.27 310 PFAKE 06 16 00.0 +13
SADO LR LR
comp=Z,1µm,20.0s
CCM Cathedral Cave 118.32 297 *e*PKPdf **PKPdf 06 15 46.1 -1.3**
CCM LR LR
comp=Z,2µm,21.0s
CCM Cathedral Cave 118.32 297 *e*PKIKP **PKPdf 06 15 46.1 -1.3**
CCM MLR MLR
comp=Z,2µm,21.0s
MOS Moscow 118.56 27 *i* PKIKP **PKiKP 06 15 47.3 +0.1**
MOS *e* 06 17 03.7
MOS *e* 06 22 39.4
M46A Old House Fiel 118.69 303 PFAKE 06 16 00.0 +12
M46A LR LR
comp=Z,1µm,20.0s
LSA Lhasa 118.81 79 PFAKE 06 16 00.0 +11
LSA LR LR
comp=Z,2µm,20.0s
TUL1 Leonard 118.86 292 PFAKE 06 16 00.0 +11
TUL1 LR LR
comp=Z,1µm,21.0s
KSH Kashi 118.89 61 PKP **PKiKP 06 15 52.5 +3.9**
KSH PP **PP 06 17 14.0 +5.7**
KSH SKS **SKSdf 06 23 01.3 +0.9**
KSH AMB AMB
comp=Z,330nm,3.5s
KSH LR LR
comp=Z,500nm,13.6s
KSH LR LR
comp=Z,640nm,14.6s
KSH LR LR
comp=Z,1µm,16.5s
SLVN Son La 118.95 96 PFAKE 06 16 00.0 +11
SLVN LR LR
comp=Z,2µm,20.0s
J48A Bridge Port 119.06 306 PFAKE 06 16 00.0 +11
J48A LR LR
comp=Z,1µm,19.0s
NB200 NORSAR Array S 119.14 10 *e*PKPdf **PKPdf 06 15 48.2 -0.1**
NOA NORSAR Array B 119.14 10 PKP **PKPdf 06 15 48.2 -0.1**
comp=Z,2.8nm,1.1s,baz=208,slow=2.0,SNR=2.3
L46A Eue Claire 119.15 303 PFAKE 06 16 00.0 +11
L46A LR LR
comp=Z,1µm,21.0s
I49A Point Hope 119.16 307 PFAKE 06 16 00.0 +11
I49A LR LR
comp=Z,2µm,22.0s
KKAR Karatay Array 119.24 55 *e*PKPdf **PKPdf 06 15 46.8 -2.2**
KKAR Karatay Array 119.24 55 *e*PKIKP **PKPdf 06 15 46.8 -2.2**
OK024 West corner E0 119.34 291 PFAKE 06 16 00.0 +11
OK024 LR LR
comp=Z,1µm,20.0s
HDIL Hopedale 119.37 300 PFAKE 06 16 00.0 +11
HDIL LR LR
comp=Z,1µm,20.0s
OK023 East Waterloo 119.40 291 PFAKE 06 16 00.0 +10
OK023 LR LR
comp=Z,1µm,20.0s
WMOK Wichita Mounta 119.44 289 PFAKE 06 16 00.0 +10
WMOK LR LR
comp=Z,500nm,19.0s
M44A Midewin, Midew 119.45 301 PFAKE 06 16 00.0 +11
M44A LR LR
comp=Z,2µm,20.0s
J47A Sunmer 119.47 305 PFAKE 06 16 00.0 +11
J47A LR LR
comp=Z,1µm,20.0s
ABKAR Akbulak array 119.89 44 *e*PKPdf **PKPdf 06 15 48.3 -1.7**
ABKAR *e*PKPdf **PKiKP 06 15 49.1 -0.9**
I47A Gladwin 119.95 306 PFAKE 06 16 00.0 +10
I47A LR LR
comp=Z,1µm,21.0s
H48A Harrisville 119.98 307 PFAKE 06 16 00.0 +10
H48A LR LR
comp=Z,2µm,22.0s
AKTO Aktyubinsk 120.15 42 PKP **PKPdf 06 15 49.7 -0.8**
comp=Z,1.2nm,0.6s,baz=185,slow=1.3,SNR=5.1
QIZ Qiongzhong 120.22 102 PKP **PKiKP 06 15 54.0 +2.3**
QIZ PP **PP 06 17 21.1 +3.9**
QIZ SS SS 06 33 49.6 +5.1
QIZ LR LR
comp=Z,1µm,19.6s
QIZ LR LR
comp=Z,690nm,18.1s
QIZ LR LR
comp=Z,2µm,19.1s
QIZ Qiongzhong 120.22 102 PFAKE 06 16 00.0 +8.3
QIZ LR LR
comp=Z,2µm,20.0s
N41A Harden Midland 120.23 299 PFAKE 06 16 00.0 +9.0
N41A LR LR
comp=Z,1µm,19.0s
VLDQ Val d'Or 120.30 313 PFAKE 06 16 00.0 +9.1
VLDQ LR LR
comp=Z,900nm,18.0s
J45A Montague 120.32 304 PFAKE 06 16 00.0 +8.9
J45A LR LR
comp=Z,1µm,21.0s
MNTX Cornudas Mount 120.49 282 *e*PKPdf **PKPdf 06 15 50.9 -0.9**
MNTX LR LR
comp=Z,900nm,20.0s
MNTX Cornudas Mount 120.49 282 P **PKPdf 06 15 50.6 -1.1**
baz=142
CHGQ Chibougamau 120.58 316 P **PKPdf 06 15 50.6 -0.7**
baz=145
K43A Burlington 120.62 302 PFAKE 06 16 00.0 +8.3
K43A LR LR
comp=Z,2µm,20.0s
GLMI Grayling 120.64 306 PFAKE 06 16 00.0 +8.3
GLMI LR LR
comp=Z,2µm,22.0s
AAK Ala-Archa 120.66 58 *e*PKPdf **PKPdf 06 15 51.5 -0.4**
AAK LR LR
comp=Z,1µm,19.0s
AAK Ala-Archa 120.66 58 *e*PKIKP **PKPdf 06 15 51.5 -0.4**
L42A Oliver, Polo 120.69 301 PFAKE 06 16 00.0 +8.1
L42A LR LR
comp=Z,1µm,20.0s
SRIG Santa Rosalia 120.69 273 PFAKE 06 16 00.0 +7.6
SRIG LR LR
comp=Z,700nm,21.0s
I45A Fountain 120.72 304 PFAKE 06 16 00.0 +8.1
I45A LR LR
comp=Z,1µm,22.0s
U32A Winter Ranch, 120.84 290 PFAKE 06 16 00.0 +7.6
U32A LR LR
comp=Z,1µm,22.0s
FRU1 Bishkek 120.86 58 PFAKE 06 16 00.0 +7.7
FRU1 LR LR
comp=Z,1µm,21.0s
MSTX Muleshoe 120.89 286 *e*PKPdf **PKPdf 06 15 51.4 -1.3**
MSTX LR LR
comp=Z,700nm,22.0s
MSTX Muleshoe 120.89 286 P **PKPdf 06 15 52.0 -0.6**
baz=141
AMTX Amarillo 121.04 287 PFAKE 06 16 00.0 +7.0
AMTX LR LR
comp=Z,800nm,20.0s
EPT El Paso 121.14 281 PFAKE 06 16 00.0 +6.7
EPT LR LR
comp=Z,1µm,19.0s
BOOM Boomskoye usch 121.21 59 *e*PKPdf **PKPdf 06 15 52.0 -1.0**
BOOM LR LR
comp=Z,1µm,20.0s
BOOM Boomskoye usch 121.21 59 *e*PKIKP **PKPdf 06 15 52.0 -1.0**
G45A Suttons Bay 121.26 306 PFAKE 06 16 00.0 +7.1
G45A LR LR
comp=Z,2µm,22.0s
HSIG 121.34 276 PFAKE 06 16 10.0 +16
HSIG LR LR
comp=Z,700nm,20.0s
KMI Kunming 121.39 92 PKP **PKiKP 06 15 55.8 +1.7**
KMI PP PP 06 17 34.3 +8.8
KMI AMB AMB
comp=Z,110nm,3.7s
KMI LR LR
comp=Z,560nm,20.9s
KMI LR LR
comp=Z,640nm,22.3s
KMI LR LR
comp=Z,1µm,28.3s
KMI Kunming 121.39 92 PFAKE 06 16 10.0 +16
KMI LR LR
comp=Z,1µm,18.0s
L40A Anamosa 121.46 300 PFAKE 06 16 10.0 +17
L40A LR LR
comp=Z,1µm,22.0s
FIA0 FINESS Array S 121.47 18 *e*PKPdf **PKPdf 06 15 51.2 -1.4**
FIA0 FINESS Array S 121.47 18 *e*PKIKP **PKPdf 06 15 51.2 -1.4**
FINES FINESS Array B 121.47 18 *e*PKPdf **PKPdf 06 15 51.0 -1.6**
FINES FINESS Array B 121.47 18 *e*PKIKP **PKPdf 06 15 51.0 -1.6**
FINES FINESS Array B 121.47 18 PKP **PKPdf 06 15 51.2 -1.4**
comp=Z,4.5nm,1.0s,baz=321,slow=1.8,SNR=8.7
TARG Taragay, Kyrgy 121.49 61 PFAKE 06 16 10.0 +16
TARG LR LR
comp=Z,1µm,20.0s
KDJ Kajisay 121.51 60 *e*PKPdf **PKPdf 06 15 52.7 -0.9**
KDJ LR LR
comp=Z,1µm,22.0s
KDJ Kajisay 121.51 60 *e*PKIKP **PKPdf 06 15 52.7 -0.9**
JFWS Jewell Farm 121.67 301 PFAKE 06 16 10.0 +16
JFWS LR LR
comp=Z,1µm,21.0s
E46A Sault Ste Mari 121.72 307 PFAKE 06 16 10.0 +16
E46A LR LR
comp=Z,1µm,19.0s
H43A Windswept, Lux 121.75 304 PFAKE 06 16 10.0 +16
H43A LR LR
comp=Z,1µm,22.0s
KSU1 Kansas State U 121.75 294 PFAKE 06 16 10.0 +16
KSU1 LR LR
comp=Z,900nm,18.0s
I42A Draeger Farm, 121.81 303 PFAKE 06 16 10.0 +16
I42A LR LR
comp=Z,2µm,20.0s
SCHQ Schefferville 122.04 324 PKP **PKPdf 06 15 52.9 -1.1**
comp=Z,11nm,0.9s,baz=80,slow=6.1,SNR=4.6
H42A Shiocton 122.12 303 PFAKE 06 16 10.0 +15
H42A LR LR
comp=Z,1µm,22.0s
SCIA State Center 122.27 298 PFAKE 06 16 10.0 +15
SCIA LR LR
comp=Z,2µm,21.0s
319A Douglas 122.30 279 *e*PKPdf **PKPdf 06 15 55.3 -0.1**
319A LR LR
comp=Z,900nm,19.0s
G43A Wallace 122.33 304 PFAKE 06 16 10.0 +15
G43A LR LR
comp=Z,2µm,22.0s
I41A Arkdale 122.38 302 PFAKE 06 16 10.0 +15
I41A LR LR
comp=Z,2µm,20.0s
121A Cookes Peak, D 122.41 281 P **PKiKP 06 15 55.9 +0.1**
baz=141
F43A Flat Rock, Esc 122.54 305 P **PKPdf 06 15 54.6 -0.6**
baz=141
E44A Grand Marais A 122.61 307 PFAKE 06 16 10.0 +14
E44A LR LR
comp=Z,2µm,22.0s
G42A Mountain 122.64 304 PFAKE 06 16 10.0 +14
G42A LR LR
comp=Z,1µm,21.0s
G42A Mountain 122.64 304 P **PKPdf 06 15 55.0 -0.5**
baz=141
J39A Decorah 122.67 300 P **PKPdf 06 15 54.7 -0.8**
baz=140
H41A Junction City 122.71 303 PFAKE 06 16 10.0 +14
H41A LR LR
comp=Z,2µm,20.0s
E43A Lone Tree Farm 122.89 306 PFAKE 06 16 10.0 +14
E43A LR LR
comp=Z,2µm,22.0s
I39A Houston 122.98 301 *e*PKPdf **PKPdf 06 15 55.2 -1.0**
I39A LR LR
comp=Z,800nm,20.0s
I39A Houston 122.98 301 P **PKPdf 06 15 54.8 -1.4**
baz=140
BNM Barren Site 123.05 283 *e*PKPdf **PKiKP 06 15 57.1 0.0**
H40A Chili 123.05 302 P **PKPdf 06 15 55.6 -0.7**
baz=140
CBKS Cedar Bluff 123.09 291 PFAKE 06 16 10.0 +13
CBKS LR LR
comp=Z,900nm,20.0s
CBKS Cedar Bluff 123.09 291 P **PKPdf 06 15 56.4 -0.2**
baz=140
Y22D IRIS PASSCAL I 123.14 282 PFAKE 06 16 10.0 +13
Y22D LR LR
comp=Z,1µm,21.0s
F41A Three Lakes 123.33 304 PFAKE 06 16 10.0 +13
F41A LR LR
comp=Z,1µm,22.0s
E42A Champion 123.33 305 P **PKPdf 06 15 56.1 -0.6**
baz=140
G40A Rib Lake 123.46 303 PFAKE 06 16 10.0 +13
G40A LR LR
comp=Z,2µm,20.0s
G40A Rib Lake 123.46 303 P **PKPdf 06 15 56.6 -0.4**
baz=140
H39A Augusta 123.50 302 P **PKPdf 06 15 56.9 -0.2**
baz=140
LAZ Ladron 123.51 283 *e*PKPdf **PKPdf 06 15 57.8 +0.1**
ANMO Albuquerque 123.57 283 *e*PKPdf **PKPdf 06 15 57.6 -0.3**
ANMO LR LR
comp=Z,1µm,21.0s
ANMO Albuquerque 123.57 283 *i* PKIKP **PKPdf 06 15 55.2 -2.6**
ANMO Albuquerque 123.57 283 P **PKPdf 06 15 57.5 -0.3**
baz=140
TASM ASL Pad, Albuq 123.57 283 P **PKPdf 06 15 57.1 -0.7**
baz=140
TASM ASL Pad, Albuq 123.57 283 P **PKPdf 06 15 57.2 -0.6**
baz=140
KLMR Klimovskoe 123.59 25 *e*PKIKP **PKPdf 06 15 54.6 -2.1**
KLMR pmax pmax
comp=Z,44nm,1.6s
COWI Conover 123.62 304 *e*PKPdf **PKPdf 06 15 56.5 -0.8**
COWI LR LR
comp=Z,1µm,21.0s
E41A Kenton 123.83 305 P **PKPdf 06 15 56.9 -0.7**
baz=140
TUC Tucson 123.83 278 *e*PKPdf **PKiKP 06 15 58.5 0.0**
TUC LR LR
comp=Z,900nm,22.0s
TUC Tucson 123.83 278 *e*PKIKP **PKiKP 06 15 58.5 0.0**
TUC MLR MLR
comp=Z,900nm,22.0s
TUC Tucson 123.83 278 P **PKPdf 06 15 58.2 0.0**
baz=141
G39A Holcombe 123.92 302 P **PKPdf 06 15 56.9 -1.0**
baz=140
F40A Park Falls 123.92 303 P **PKPdf 06 15 57.2 -0.7**
baz=140
D41A Chassel 124.11 305 PFAKE 06 16 10.0 +12
D41A LR LR
comp=Z,1µm,22.0s
G38A Ridgeland 124.14 302 P **PKPdf 06 15 57.2 -1.2**
baz=140
KIRV Kirov 124.17 32 PKP **PKPdf 06 15 57.9 0.0**
comp=Z,3.9nm,0.5s,baz=236,slow=4.4,SNR=6.8
T25A Trinidad 124.19 287 *e*PKPdf **PKPdf 06 15 59.0 0.0**
T25A LR LR
comp=Z,900nm,19.0s
T25A Trinidad 124.19 287 P **PKPdf 06 15 59.0 0.0**
baz=140
BGNE Belgrade 124.27 294 PFAKE 06 16 10.0 +11
BGNE LR LR
comp=Z,2µm,22.0s
BGNE Belgrade 124.27 294 P **PKPdf 06 15 58.5 -0.2**
baz=139
F39A Loretta 124.28 303 P **PKPdf 06 15 57.5 -1.1**
baz=140
E39A Mellen 124.47 303 P **PKPdf 06 15 58.0 -1.0**
baz=140
SPMN Marine on St. 124.62 301 PFAKE 06 16 10.0 +10
SPMN LR LR
comp=Z,1µm,20.0s
SPMN Marine on St. 124.62 301 P **PKPdf 06 15 57.8 -1.4**
baz=139
KSCO Kaye Shedlock' 124.69 289 PFAKE 06 16 10.0 +10
KSCO LR LR
comp=Z,1µm,22.0s
F38A Pierce - Schro 124.75 302 P **PKPdf 06 15 58.6 -0.9**
baz=139
F37A Hinrichs Farm, 124.92 302 P **PKPdf 06 15 59.1 -0.6**
baz=139
C40A Isle Royale Na 125.02 306 PFAKE 06 16 10.0 +10
C40A LR LR
comp=Z,2µm,22.0s
E38A The Farm, Brul 125.09 303 *e*PKPdf **PKPdf 06 15 59.3 -0.8**
E38A LR LR
comp=Z,2µm,20.0s
E38A The Farm, Brul 125.09 303 P **PKPdf 06 15 58.8 -1.3**
baz=139
X18A Snowflake 125.09 280 *e*PKPdf **PKiKP 06 16 01.2 +0.1**
X18A LR LR
comp=Z,1µm,22.0s
HKPS Hong Kong Po S 125.15 104 PFAKE 06 16 10.0 +8.7
HKPS LR LR
comp=Z,2µm,20.0s
SDCO Great Sand Dun 125.21 286 *e*PKPdf **PKPdf 06 16 01.0 0.0**
SDCO LR LR
comp=Z,900nm,20.0s
SDCO Great Sand Dun 125.21 286 P **PKPdf 06 16 00.7 -0.3**
baz=139
ARU Arti 125.23 38 *e*PKPdf **PKPdf 06 15 60.0 0.0**
ARU LR LR
comp=Z,800nm,19.0s
ARU Arti 125.23 38 *i* PKIKP **PKPdf 06 16 00.1 +0.1**
ARU 06 17 52.5
ARU 06 23 08.6
ARU SS SS 06 34 53.3 +5.4
ARU Arti 125.23 38 PKP **PKPdf 06 15 59.6 -0.4**
comp=Z,1.0nm,0.4s,baz=272,slow=0.9,SNR=14
ECSD EROS Data Cent 125.28 297 *e*PKPdf **PKPdf 06 16 00.1 -0.5**
ECSD LR LR
comp=Z,1µm,20.0s
ECSD EROS Data Cent 125.28 297 P **PKPdf 06 16 00.2 -0.4**
baz=139
W18A Petrified Fore 125.43 281 PFAKE 06 16 10.0 +8.2
W18A LR LR
comp=Z,1µm,21.0s
PRGR Permogore 125.74 28 *e*PKIKP **PKPdf 06 15 59.8 -1.0**
PRGR pmax pmax
comp=Z,47nm,1.3s
113A Mohawk Valley, 125.78 276 *e*PKPdf **PKPdf 06 16 02.0 +0.2**
X16A Lo Mia Camp, P 125.80 279 *e*PKPdf **PKiKP 06 16 02.7 +0.2**
X16A LR LR
comp=Z,1µm,20.0s
OGNE Ogallala 125.85 291 PFAKE 06 16 10.0 +7.7
OGNE LR LR
comp=Z,700nm,21.0s
S22A 4UR Ranch, Cre 125.90 285 *e*PKPdf **PKPdf 06 16 00.9 -1.4**
S22A LR LR
comp=Z,800nm,20.0s
S22A 4UR Ranch, Cre 125.90 285 P **PKPdf 06 16 02.2 -0.1**
baz=139
Q24A Divide 125.95 288 PFAKE 06 16 10.0 +7.2
Q24A LR LR
comp=Z,1µm,22.0s
EYMN Ely 126.08 304 *e*PKPdf **PKPdf 06 16 01.2 -0.7**
EYMN LR LR
comp=Z,2µm,22.0s
EYMN Ely 126.08 304 P **PKPdf 06 16 01.0 -0.9**
baz=138
SVE Sverdlovsk 126.24 39 *i* PKIKP **PKiKP 06 16 02.3 -0.1**
SVE pmax pmax
comp=Z,64nm,1.7s
SVE MLR MLR
comp=Z,1µm,23.0s
Y14A Wickenburg 126.27 278 *e*PKPdf **PKPdf 06 16 02.9 +0.1**
Y14A LR LR
comp=Z,500nm,19.0s
MVCO Mesa Verde 126.36 284 *e*PKPdf **PKPdf 06 16 03.2 0.0**
MVCO LR LR
comp=Z,1µm,21.0s
MVCO Mesa Verde 126.36 284 P **PKPdf 06 16 02.3 -0.8**
baz=139
CD2 Chengdu 126.50 89 PKP **PKiKP 06 16 05.8 +2.0**
CD2 PP **PP 06 18 03.3 +3.6**
CD2 AMB AMB
comp=Z,170nm,9.3s
CD2 LR LR
comp=Z,1µm,24.0s
CD2 LR LR
comp=Z,1µm,28.4s
CD2 LR LR
comp=Z,1µm,23.0s
GLA Glamis 126.56 275 PFAKE 06 16 20.0 +16
GLA LR LR
comp=Z,700nm,19.0s
WUAZ Wupatki 126.60 280 *e*PKPdf **PKPdf 06 16 03.8 +0.2**
WUAZ LR LR
comp=Z,600nm,21.0s
ISCO Idaho Springs 126.81 288 *e*PKPdf **PKPdf 06 16 04.1 0.0**
ISCO LR LR
comp=Z,900nm,21.0s
ISCO Idaho Springs 126.81 288 *e*PKIKP **PKPdf 06 16 04.1 0.0**
ISCO Idaho Springs 126.81 288 P **PKPdf 06 16 04.0 0.0**
baz=138
BRVK Borovoye 126.89 47 *e*PKPdf **PKPdf 06 16 03.1 -0.2**
BRVK LR LR
comp=Z,1µm,22.0s
BRVK Borovoye 126.89 47 *d i*PKIKP **PKPdf 06 16 01.6 -1.7**
Y12C Blythe 126.94 276 *e*PKPdf **PKiKP 06 16 04.5 0.0**
Y12C LR LR
comp=Z,700nm,20.0s
Y12C Blythe 126.94 276 P **PKiKP 06 16 04.5 0.0**
baz=140
SUSD Miller 126.94 296 P **PKPdf 06 16 03.4 -0.3**
baz=138
SMCO Snowmass 127.05 286 *e*PKPdf **PKiKP 06 16 05.0 -0.2**
SMCO LR LR
comp=Z,1µm,21.0s
PV01 Paradox Valley 127.10 284 *e*PKPdf **PKPdf 06 16 04.6 +0.1**
MAKZ Makanchi 127.29 60 *e*PKPdf **PKPdf 06 16 04.1 -0.2**
MAKZ LR LR
comp=Z,700nm,22.0s
MAKZ Makanchi 127.29 60 *e*PKIKP **PKPdf 06 16 04.1 -0.2**
MONP2 Monument Peak 127.30 274 P **PKiKP 06 16 05.9 +0.3**
baz=140
PV05 Paradox Valley 127.33 284 PFAKE 06 16 20.0 +14
PV05 LR LR
comp=Z,2µm,21.0s
PV03 Paradox Valley 127.33 284 *e*PKPdf **PKPdf 06 16 05.0 0.0**
PV12 Saucer Basin, 127.36 284 *e*PKPdf **PKPdf 06 16 05.2 +0.2**
PV18 Skein Mesa, Pa 127.36 284 PFAKE 06 16 20.0 +14
PV18 LR LR
comp=Z,2µm,21.0s
BC3 Big Chuckawall 127.36 275 P **PKiKP 06 16 05.8 +0.3**
baz=140
PV07 Paradox Valley 127.36 285 *e*PKPdf **PKPdf 06 16 05.3 +0.3**
PV11 David Mesa, Pa 127.38 284 *e*PKPdf **PKPdf 06 16 04.7 -0.3**
PV11 LR LR
comp=Z,1µm,21.0s
PV16 Nyswonger Mesa 127.41 284 *e*PKPdf **PKPdf 06 16 04.2 -0.9**
PV16 LR LR
comp=Z,1µm,21.0s
PV17 East Wray Mesa 127.41 284 *e*PKPdf **PKPdf 06 16 04.7 -0.4**
MK31 Makanchi Array 127.42 60 *e*PKPdf **PKPdf 06 16 03.8 -0.8**
MK31 Makanchi Array 127.42 60 *e*PKIKP **PKPdf 06 16 03.8 -0.8**
MK32 Makanchi Array 127.42 60 *e*PKPdf **PKPdf 06 16 02.4 -2.2**
MKAR Makanchi Array 127.42 60 PKP **PKPdf 06 16 02.4 -2.2**
comp=Z,3.7nm,1.1s,baz=225,slow=1.5,SNR=13
PV20 West Nyswonger 127.46 284 *e*PKPdf **PKPdf 06 16 04.7 -0.5**
PV20 LR LR
comp=Z,900nm,19.0s
PV04 Paradox Valley 127.47 284 *e*PKPdf **PKPdf 06 16 04.6 -0.6**
PV22 Blue Mesa, Par 127.51 285 *e*PKPdf **PKPdf 06 16 04.8 -0.5**
PV22 LR LR
comp=Z,600nm,19.0s
PV10 Paradox Valley 127.52 284 PFAKE 06 16 20.0 +14
PV10 LR LR
comp=Z,1µm,21.0s
PV23 Carpenter Ridg 127.56 284 *e*PKPdf **PKPdf 06 16 05.4 0.0**
IRM Iron Mountain 127.58 276 P **PKiKP 06 16 06.1 +0.2**
baz=140
W13A Hualapai Mount 127.62 278 *e*PKPdf **PKiKP 06 16 06.0 -0.2**
W13A LR LR
comp=Z,600nm,20.0s
PV21 Cone Mtn., Par 127.63 284 *e*PKPdf **PKPdf 06 16 05.6 0.0**
PV21 LR LR
comp=Z,1µm,19.0s
CPE Camp Elliot 127.66 273 PFAKE 06 16 20.0 +14

CPE LR LR
comp=Z,800nm,20.0s
PV09 Paradox Valley 127.66 284 *e*PKPdf **PKPdf 06 16 05.9 +0.2**
U15A North Rim 127.78 280 *e*PKPdf **PKPdf 06 16 06.1 +0.2**
U15A LR LR
comp=Z,800nm,20.0s
N23A Red Feather La 127.79 289 *e*PKPdf **PKPdf 06 16 05.2 -0.7**
N23A LR LR
comp=Z,800nm,22.0s
N23A Red Feather La 127.79 289 P **PKPdf 06 16 05.3 -0.5**
baz=138
WMQ Urumqi 127.83 66 *e*PKP **PKiKP 06 16 08.8 +2.7**
WMQ LR LR
comp=Z,2μm,22.5s
WMQ LR LR
comp=Z,2μm,18.1s
WMQ LR LR
comp=Z,3μm,18.7s
WMQ Urumqi 127.83 66 PFAKE 06 16 20.0 +14
WMQ LR LR
comp=Z,800nm,21.0s
PHWY Pilot Hill 127.85 289 *e*PKPdf **PKPdf 06 16 05.4 -0.5**
PHWY LR LR
comp=Z,700nm,20.0s
PFO Pinyon Flats O 127.87 275 *e*PKPdf **PKPdf 06 16 06.0 0.0**
PFO Pinyon Flats O 127.87 275 *e*PKIKP **PKPdf 06 16 06.0 0.0**
BELC Belle Mtn. Jos 127.92 275 P **PKiKP 06 16 06.7 0.0**
baz=140
LDFC Landfair 128.26 277 PFAKE 06 16 20.0 +13
LDFC LR LR
comp=Z,700nm,21.0s
AGMN Agassiz Nation 128.31 302 *e*PKPdf **PKPdf 06 16 05.3 -0.9**
AGMN LR LR
comp=Z,1μm,20.0s
AGMN Agassiz Nation 128.31 302 P **PKPdf 06 16 05.5 -0.7**
baz=137
GMRC Granite Mounta 128.33 276 P **PKiKP 06 16 07.3 -0.2**
baz=139
APA Apatity 128.36 19 ǁ *i*PKIKP **PKPdf 06 16 04.2 -1.5**
APA pmax pmax
comp=Z,8.0nm,0.8s
O20A White River Ci 128.41 286 *e*PKPdf **PKPdf 06 16 06.8 -0.2**
O20A LR LR
comp=Z,1μm,20.0s
O20A White River Ci 128.41 286 P **PKPdf 06 16 06.4 -0.5**
baz=138
KNB Kanab 128.50 280 *e*PKPdf **PKPdf 06 16 06.7 -0.5**
KNB Kanab 128.50 280 *e*PKIKP **PKPdf 06 16 06.7 -0.5**
PKCU Pink Cliffs 128.55 281 *e*PKPdf **PKPdf 06 16 07.5 0.0**
KURK Kurchatov 128.63 54 *e*PKPdf **PKPdf 06 16 06.3 -0.4**
KURK LR LR
comp=Z,2μm,21.0s
KURK Kurchatov 128.63 54 *i* PKIKP **PKPdf 06 16 05.4 -1.3**
LCMT Little Creek M 128.72 280 *e*PKPdf **PKiKP 06 16 08.1 -0.1**
SRU San Rafael Swe 128.84 284 *e*PKPdf **PKPdf 06 16 07.0 -0.8**
SRU San Rafael Swe 128.84 284 *e*PKIKP **PKPdf 06 16 07.0 -0.8**
MTPU Mount Pierson 128.92 282 *e*PKPdf **PKiKP 06 16 08.6 -0.3**
ARA0 ARCESS Array S 128.97 14 *e*PKPdf **PKPdf 06 16 07.0 +0.2**
ARCES ARCESS Array B 128.97 14 PKP **PKPdf 06 16 07.0 +0.2**
comp=Z,2.2nm,0.7s,baz=247,slow=2.5,SNR=5.1
RWWY Rawlins 129.02 288 PFAKE 06 16 20.0 +11
RWWY LR LR
comp=Z,900nm,20.0s
Q16A Castle Valley 129.04 283 *e*PKPdf **PKPdf 06 16 08.4 +0.2**
SZCU Shurtz Canyon 129.07 281 *e*PKPdf **PKPdf 06 16 08.6 +0.3**
ENH Enshi 129.09 94 PFAKE 06 16 20.0 +11
ENH LR LR
comp=Z,1μm,20.0s
KNMB Chin-men Tao 129.15 107 PFAKE 06 16 20.0 +11
KNMB LR LR
comp=Z,2μm,20.0s
TWG Pinlang 129.16 111 PFAKE 06 16 20.0 +11
TWG LR LR
comp=Z,3μm,21.0s
CCUT Cedar City 129.18 280 *e*PKPdf **PKiKP 06 16 09.5 +0.3**
RSSD Black Hills 129.19 293 *e*PKPdf **PKPdf 06 16 07.5 -0.8**
RSSD LR LR
comp=Z,1μm,22.0s
RSSD Black Hills 129.19 293 *e*PKIKP **PKPdf 06 16 07.5 -0.8**
RSSD Black Hills 129.19 293 P **PKPdf 06 16 06.9 -1.4**
baz=136
MWC Mount Wilson 129.19 274 PFAKE 06 16 20.0 +11
MWC LR LR
comp=Z,600nm,22.0s
P17A Butcher Ranch, 129.22 284 *e*PKPdf **PKPdf 06 16 08.6 +0.1**
MSU Marysvale 129.27 282 *e*PKPdf **PKPdf 06 16 08.7 0.0**
MSU Marysvale 129.27 282 *e*PKIKP **PKPdf 06 16 08.7 0.0**
GSC Goldstone, Bar 129.34 276 *e*PKPdf **PKiKP 06 16 09.4 0.0**
GSC LR LR
comp=Z,700nm,21.0s
GSC Goldstone, Bar 129.34 276 P **PKiKP 06 16 09.3 -0.1**
baz=139
TPUB Ta-pu 129.34 110 PFAKE 06 16 20.0 +10
TPUB LR LR
comp=Z,600nm,20.0s
TMUT Trail Mountain 129.34 283 *e*PKPdf **PKPdf 06 16 09.1 +0.2**
SHPR Sheep Range 129.36 278 *e*PKPdf **PKiKP 06 16 09.6 0.0**
SHPR LR LR
comp=Z,700nm,18.0s
K22A Casper 129.37 290 *e*PKPdf **PKPdf 06 16 07.5 -1.1**
K22A LR LR
comp=Z,600nm,18.0s
K22A Casper 129.37 290 P **PKPdf 06 16 07.9 -0.7**
baz=137
SHOC Shoshone, Teco 129.50 277 P **PKiKP 06 16 09.7 0.0**
baz=139
ULM Lac du Bonnet 129.72 303 *e*PKPdf **PKPdf 06 16 07.7 -1.1**
ULM LR LR
comp=Z,2μm,21.0s
ULM Lac du Bonnet 129.72 303 PKP **PKPdf 06 16 07.3 -1.5**
comp=Z,8.0nm,1.0s,baz=118,slow=1.5,SNR=10
ULM PP **PP 06 18 17.8 -2.9**
comp=Z,2.8nm,1.0s,baz=140,slow=6.8,SNR=2.9
MDND Maddock 129.72 299 *e*PKPdf **PKPdf 06 16 08.1 -0.8**
MDND LR LR
comp=Z,1μm,21.0s
YULB Yu-li 129.75 110 PFAKE 06 16 20.0 +9.5
YULB LR LR
comp=Z,900nm,21.0s
FRB Frobisher Bay 129.82 329 PKP **PKPdf 06 16 06.2 -2.4**
comp=Z,14nm,1.0s,baz=154,slow=2.5,SNR=12
SSLB Suanglung 129.91 110 PFAKE 06 16 20.0 +9.2
SSLB LR LR
comp=Z,700nm,20.0s
LRMC Laurel Mtn Rad 129.94 275 P **PKiKP 06 16 11.0 +0.3**
baz=139
MPU Maple Canyon 130.09 284 *e*PKPdf **PKPdf 06 16 10.2 +0.1**
PSUT Pine Spring 130.17 281 *e*PKPdf **PKPdf 06 16 10.4 +0.1**
FURC Furnace Creek, 130.24 277 P **PKiKP 06 16 11.4 +0.4**
baz=138
MPMC Manual Prospec 130.27 276 P **PKiKP 06 16 11.4 0.0**
baz=139
TPNV Topopah Spring 130.27 278 *e*PKPdf **PKPdf 06 16 10.3 -0.2**
TPNV LR LR
comp=Z,800nm,20.0s
TPNV Topopah Spring 130.27 278 *e*PKIKP **PKPdf 06 16 10.3 -0.2**
TPNV MLR MLR
comp=Z,800nm,20.0s
TPNV Topopah Spring 130.27 278 P **PKiKP 06 16 11.6 +0.2**
baz=138
NLU North Lily Min 130.28 283 *e*PKPdf **PKPdf 06 16 10.9 +0.4**
JLU Jordanelle 130.42 284 *e*PKPdf **PKPdf 06 16 11.0 +0.2**
ILULI Ilulissat 130.46 341 PFAKE 06 16 20.0 +10
ILULI LR LR
comp=Z,900nm,19.0s
DAC Darwin (Calif) 130.49 276 PFAKE 06 16 20.0 +8.1
DAC LR LR
comp=Z,600nm,19.0s
LZH Lanzhou 130.50 85 *e*PKP **PKPdf 06 16 10.0 -1.0**
LZH sPKP 06 16 21.4
LZH PP **PP 06 18 32.8 +6.7**
LZH SKKS 06 25 18.6
LZH AMB AMB
comp=Z,200nm,9.7s
LZH LR LR
comp=Z,450nm,18.4s
LZH LR LR
comp=Z,510nm,17.9s
LZH LR LR
comp=Z,690nm,19.5s
ISA Isabella, Lake 130.50 275 *e*PKPdf **PKPdf 06 16 11.0 +0.1**
ISA LR LR
comp=Z,700nm,20.0s
ISA Isabella, Lake 130.50 275 *e*PKIKP **PKPdf 06 16 11.0 +0.1**
ISA MLR MLR
comp=Z,700nm,20.0s
ISA Isabella, Lake 130.50 275 P **PKPdf 06 16 10.7 -0.2**
baz=139
NACB Ninganchiao 130.55 110 PFAKE 06 16 20.0 +7.9
NACB LR LR
comp=Z,900nm,22.0s
CTU Camp Tracy 130.64 284 *e*PKPdf **PKPdf 06 16 11.4 +0.3**
GTA Gaotai 130.81 78 PKP **PKiKP 06 16 13.8 +1.5**
GTA sPKP 06 16 22.4
GTA LR LR
comp=Z,860nm,24.7s
GTA LR LR
comp=Z,700nm,24.0s
GTA LR LR
comp=Z,2μm,24.4s
DUG Dugway, Tooele 130.84 283 *e*PKPdf **PKPdf 06 16 11.8 +0.3**
DUG LR LR
comp=Z,1μm,19.0s
DUG Dugway, Tooele 130.84 283 *e*PKIKP **PKPdf 06 16 11.8 +0.3**
DUG Dugway, Tooele 130.84 283 P **PKPdf 06 16 11.8 +0.3**
baz=137
CWC Cottonwood Cre 130.87 276 P **PKiKP 06 16 12.9 +0.3**
baz=138
R11A Troy Canyon, C 130.95 279 *e*PKPdf **PKiKP 06 16 12.7 -0.1**
R11A LR LR
comp=Z,800nm,20.0s
R11A Troy Canyon, C 130.95 279 P **PKiKP 06 16 12.6 -0.1**
baz=138
BW06 Boulder Array 131.01 288 *e*PKPdf **PKPdf 06 16 10.7 -1.1**
BW06 LR LR
comp=Z,700nm,20.0s
BW06 Boulder Array 131.01 288 P **PKPdf 06 16 11.2 -0.6**
baz=136
PD31 Pinedale Array 131.01 288 *e*PKPdf **PKPdf 06 16 10.7 -1.1**
PDAR Pinedale Array 131.01 288 *e*PKPdf **PKPdf 06 16 10.3 -1.5**
PDAR Pinedale Array 131.01 288 PKP **PKPdf 06 16 10.9 -0.9**
comp=Z,2.8nm,1.0s,baz=132,slow=2.2,SNR=14
TATO Taipei 131.16 109 PFAKE 06 16 20.0 +6.7
TATO LR LR
comp=Z,900nm,22.0s
HWUT Hardware Ranch 131.21 285 *e*PKPdf **PKPdf 06 16 12.3 +0.1**
HWUT LR LR
comp=Z,600nm,20.0s
BGU Big Grassy Mou 131.48 284 *e*PKPdf **PKiKP 06 16 13.3 -0.4**
YOJ Yonaguni jima 131.50 111 PFAKE 06 16 20.0 +6.0
YOJ LR LR
comp=Z,1μm,21.0s
SUMG Summit 131.68 348 *e*PKPdf **PKPdf 06 16 11.6 -0.8**
SUMG Summit 131.68 348 *i* PKIKP **PKPdf 06 16 11.9 -0.5**
SUMG pmax pmax
comp=Z,100nm,1.3s
SUMG Summit 131.68 348 *i* P **PKPdf 06 16 11.9 -0.5**
comp=Z,103nm,1.3s
XAN Xi'an 131.69 90 PKP **PKPdf 06 16 12.6 -0.6**
XAN PKS 06 19 47.0
XAN SKS **SKSdf 06 23 22.0 -2.3**
XAN AMB AMB
comp=Z,300nm,7.5s
XAN LR LR
comp=Z,430nm,21.7s
XAN LR LR
comp=Z,820nm,21.0s
XAN LR LR
comp=Z,740nm,22.8s
XAN Xi'an 131.69 90 PFAKE 06 16 20.0 +5.9
XAN LR LR
comp=Z,700nm,20.0s
AHID Auburn Hatcher 131.80 287 *e*PKPdf **PKPdf 06 16 13.5 +0.2**
AHID LR LR
comp=Z,800nm,20.0s
WHN Wuhan 131.91 98 PKP **PKPdf 06 16 11.8 -1.8**
WHN PP **PP 06 18 35.5 +0.6**
WHN LR LR
comp=Z,2μm,17.2s
WHN LR LR
comp=Z,1μm,15.6s
WHN LR LR
comp=Z,3μm,23.0s
REDW Red Top Meadow 132.09 287 *e*PKPdf **PKPdf 06 16 13.6 -0.2**
REDW LR LR
comp=Z,800nm,20.0s
LAO LASA Array 132.10 294 *e*PKPdf **PKPdf 06 16 13.7 +0.2**
LAO LR LR
comp=Z,700nm,20.0s
LAO LASA Array 132.10 294 P **PKPdf 06 16 13.7 +0.2**
baz=134
SNOW Snow King Moun 132.12 288 *e*PKPdf **PKPdf 06 16 13.8 -0.1**
SNOW LR LR
comp=Z,700nm,20.0s
LOHW Long Hollow 132.15 288 *e*PKPdf **PKPdf 06 16 13.8 -0.1**
LOHW LR LR
comp=Z,900nm,21.0s
OMMB Old Mammoth Mi 132.23 276 PFAKE 06 16 30.0 +15
OMMB LR LR
comp=Z,800nm,20.0s
TPAW Teton Pass 132.24 287 *e*PKPdf **PKPdf 06 16 14.6 +0.4**
TPAW LR LR
comp=Z,700nm,20.0s
MDPB Devils Postpil 132.29 276 PFAKE 06 16 30.0 +14
MDPB LR LR
comp=Z,800nm,21.0s
MOOW Moose Ponds 132.31 288 *e*PKPdf **PKPdf 06 16 14.4 +0.2**
MOOW LR LR
comp=Z,900nm,22.0s
DGMT Dagmar 132.35 297 *e*PKPdf **PKPdf 06 16 13.9 0.0**
DGMT LR LR
comp=Z,1μm,21.0s
DGMT Dagmar 132.35 297 P **PKPdf 06 16 13.8 -0.1**
baz=134
FXWY Fox Creek 132.38 288 *e*PKPdf **PKPdf 06 16 13.2 -1.2**
NV11 Mina Array Sit 132.38 277 *e*PKPdf **PKPdf 06 16 14.6 +0.1**
NV01 Mina Array Sit 132.46 277 *e*PKPdf **PKPdf 06 16 15.1 +0.4**
NVAR Mina Array Bea 132.46 277 *e*PKPdf **PKiKP 06 16 15.3 -0.5**
NVAR Mina Array Bea 132.46 277 PKP **PKPdf 06 16 15.1 +0.4**
comp=Z,4.7nm,1.1s,baz=162,slow=2.6,SNR=9.3
ELK Elko 132.51 282 *e*PKPdf **PKPdf 06 16 15.0 +0.2**
ELK LR LR
comp=Z,1μm,21.0s
IMW Indian Meadow 132.52 288 *e*PKPdf **PKPdf 06 16 15.0 +0.3**
IMW LR LR
comp=Z,1μm,21.0s
FLWY Flagg Ranch 132.53 288 *e*PKPdf **PKPdf 06 16 14.8 +0.2**
FLWY LR LR
comp=Z,800nm,19.0s
RLMT Red Lodge 132.53 290 *e*PKPdf **PKPdf 06 16 14.6 0.0**
RLMT LR LR
comp=Z,1μm,21.0s
RLMT Red Lodge 132.53 290 P **PKPdf 06 16 14.8 +0.2**
baz=134
H17A Grant Village 132.68 289 PFAKE 06 16 30.0 +14
H17A LR LR
comp=Z,2μm,20.0s
LKWY Lake 132.71 289 PFAKE 06 16 30.0 +14
LKWY LR LR
comp=Z,1μm,22.0s
YPP Pitchstone Pla 132.71 288 *e*PKPdf **PKPdf 06 16 15.6 +0.5**
RYN Ryan 132.72 277 PFAKE 06 16 30.0 +14
RYN LR LR
comp=Z,600nm,19.0s
KVN Kaiserville 132.81 278 *e*PKPdf **PKiKP 06 16 16.3 -0.1**
KVN LR LR
comp=Z,600nm,20.0s
KVN Kaiserville 132.81 278 *e*PKIKP **PKiKP 06 16 16.3 -0.1**
YFT Old Faithful 132.85 288 *e*PKPdf **PKiKP 06 16 15.9 -0.6**
SAO San Andreas Ge 132.92 273 PFAKE 06 16 30.0 +14
SAO LR LR
comp=Z,800nm,21.0s
YHH Holmes Hill 133.10 289 *e*PKPdf **PKPdf 06 16 16.1 +0.3**
WAKR Walker 133.12 276 PFAKE 06 16 30.0 +13
WAKR LR LR
comp=Z,800nm,20.0s
GCMT Greycliff 133.19 291 *e*PKPdf **PKPdf 06 16 15.4 -0.3**
CMB Columbia Colle 133.29 275 *e*PKPdf **PKPdf 06 16 15.8 -0.3**
CMB LR LR
comp=Z,700nm,20.0s
CMB Columbia Colle 133.29 275 *e*PKIKP **PKPdf 06 16 15.8 -0.3**
BMN Battle Mountai 133.34 280 PFAKE 06 16 30.0 +13
BMN LR LR
comp=Z,900nm,19.0s
YERR Yerington 133.37 277 PFAKE 06 16 30.0 +12
YERR LR LR
comp=Z,700nm,20.0s
QLMT Earthquake Lak 133.42 288 *e*PKPdf **PKiKP 06 16 16.9 -0.6**
ZAA0 Zalesovo Array 133.61 55 PFAKE 06 16 30.0 +13
ZAA0 LR LR
comp=Z,600nm,19.0s
ZALV Zalesovo Beam 133.61 55 *e*PKPdf **PKPdf 06 16 14.9 -1.1**
ZALV Zalesovo Beam 133.61 55 *e*PKIKP **PKPdf 06 16 14.9 -1.1**
ZALV Zalesovo Beam 133.61 55 PKP **PKPdf 06 16 15.3 -0.8**
comp=Z,0.8nm,0.4s,baz=248,slow=4.0,SNR=6.0
ZAA1 Zalesovo Array 133.62 55 *e*PKPdf **PKPdf 06 16 15.3 -0.8**
PNTR Pine Nut 133.63 277 PFAKE 06 16 30.0 +12
PNTR LR LR
comp=Z,700nm,20.0s
VCNR Virginia City 133.81 277 PFAKE 06 16 30.0 +12
VCNR LR LR
comp=Z,500nm,21.0s
RUBR Rubicon Trail 133.90 276 PFAKE 06 16 30.0 +11
RUBR LR LR
comp=Z,700nm,21.0s
PAHR Pah Rah Range 133.97 278 PFAKE 06 16 30.0 +11
PAHR LR LR
comp=Z,700nm,21.0s
BOZ Bozeman (W) 134.06 289 *e*PKPdf **PKPdf 06 16 17.8 +0.4**
BOZ LR LR
comp=Z,1μm,21.0s
BOZ Bozeman (W) 134.06 289 *e*PKIKP **PKPdf 06 16 17.8 +0.4**
HLID Hailey 134.08 285 *e*PKPdf **PKPdf 06 16 17.8 +0.2**
HLID LR LR
comp=Z,700nm,20.0s
MCMT McKenzie Canyo 134.15 287 *e*PKPdf **PKPdf 06 16 18.0 +0.3**
AFDM Forest Hills D 134.27 276 PFAKE 06 16 30.0 +11
AFDM LR LR
comp=Z,600nm,19.0s
DAG Danmarks Havn 134.30 356 *i* PKIKP **PKPdf 06 16 14.0 -2.7**
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG Danmarks Havn 134.30 356 *i* P **PKPdf 06 16 14.0 -2.7**
comp=Z,6.8nm,1.0s
DLMT Dillon 134.39 288 PFAKE 06 16 30.0 +11
DLMT LR LR
comp=Z,1μm,19.0s
LRM Limekiln Ridge 134.63 289 *e*PKPdf **PKPdf 06 16 19.2 +0.6**
EGMT Eagleton 134.76 293 *e*PKPdf **PKPdf 06 16 19.2 +0.7**
EGMT LR LR
comp=Z,1μm,21.0s
EGMT Eagleton 134.76 293 P **PKPdf 06 16 18.6 +0.1**
baz=132
FCC Fort Churchill 134.81 313 *e*PKPdf **PKPdf 06 16 17.5 -0.6**
FCC LR LR
comp=Z,1μm,18.0s
FCC Fort Churchill 134.81 313 *e*PKIKP **PKPdf 06 16 17.5 -0.6**
FCC MLR MLR
comp=Z,1μm,18.0s
HRY Holter Researc 134.92 290 *e*PKPdf **PKPdf 06 16 18.1 -0.8**
ORV Oroville 134.99 276 PFAKE 06 16 30.0 +9.4
ORV LR LR
comp=Z,700nm,19.0s
GDXM Geysers 135.14 274 PFAKE 06 16 30.0 +9.0
GDXM LR LR
comp=Z,900nm,21.0s
NPOC North of Pu'u 135.21 225 PFAKE 06 16 30.0 +8.3
NPOC LR LR
comp=Z,2μm,20.0s
BYL Byron's Ledge 135.29 225 PFAKE 06 16 30.0 +8.1
BYL LR LR
comp=Z,1μm,20.0s
OBL Observatory Le 135.30 225 PFAKE 06 16 30.0 +8.0
OBL LR LR
comp=Z,600nm,21.0s
HOPS Hopland Field 135.43 274 PFAKE 06 16 30.0 +8.5
HOPS LR LR
comp=Z,800nm,19.0s
NJ2 Nanjing 135.48 101 *e*PKP **PKiKP 06 16 23.3 +1.5**
FFC Flin Flon 135.50 304 *e*PKPdf **PKPdf 06 16 19.4 -0.1**
FFC LR LR
comp=Z,1μm,20.0s
FFC Flin Flon 135.50 304 *e*PKIKP **PKPdf 06 16 19.4 -0.1**
FFC MLR MLR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 135.51 281 *e*PKPdf **PKiKP 06 16 21.0 -0.7**
WVOR LR LR
comp=Z,800nm,20.0s
WVOR Wild Horse Val 135.51 281 *e*PKIKP **PKiKP 06 16 21.0 -0.7**
WVOR MLR MLR
comp=Z,800nm,20.0s
O03E Paynes Creek 135.68 276 P **PKPdf 06 16 20.8 +0.3**
baz=136
PLID Pearl Lake 135.95 286 *e*PKPdf **PKPdf 06 16 21.6 +0.5**
SSE Sheshan 135.95 104 PFAKE 06 16 30.0 +7.2
SSE LR LR
comp=Z,3μm,20.0s
MOD Modoc Plateau 136.02 279 *e*PKPdf **PKiKP 06 16 22.1 -0.7**
MOD LR LR
comp=Z,1μm,22.0s
J08A Circle Bar Ran 136.06 282 *e*PKPdf **PKPdf 06 16 21.9 +0.8**
J08A LR LR
comp=Z,1μm,19.0s
MSO Missoula 136.07 289 *e*PKPdf **PKPdf 06 16 21.2 +0.2**
MSO LR LR
comp=Z,1μm,21.0s
MSO Missoula 136.07 289 P **PKPdf 06 16 20.9 -0.1**
baz=132
JOW Kunigami 136.08 115 PFAKE 06 16 30.0 +6.8
JOW LR LR
comp=Z,700nm,18.0s
KCPM Cahto Peak 136.20 274 PFAKE 06 16 30.0 +6.8
KCPM LR LR
comp=Z,800nm,19.0s
WDC Whiskeytown Da 136.28 276 *e*PKPdf **PKPdf 06 16 21.6 +0.1**
WDC LR LR
comp=Z,600nm,21.0s
WDC Whiskeytown Da 136.28 276 *e*PKIKP **PKPdf 06 16 21.6 +0.1**
WDC MLR MLR
comp=Z,600nm,21.0s
BMO Blue Mountains 136.47 284 *e*PKPdf **PKPdf 06 16 21.7 -0.2**
BMO LR LR
comp=Z,1μm,21.0s
BMO Blue Mountains 136.47 284 *e*PKIKP **PKPdf 06 16 21.7 -0.2**
BMO MLR MLR
comp=Z,1μm,21.0s
N02D Trinity Center 136.65 276 P **PKiKP 06 16 23.2 -0.8**
baz=135
KBS Kingsbay 136.73 5 PFAKE 06 16 30.0 +7.0
KBS LR LR
comp=Z,500nm,20.0s
K05A Summer Lake 136.91 280 *e*PKPdf **PKPdf 06 16 23.5 +0.6**
K05A LR LR
comp=Z,900nm,21.0s
I07A Izee 137.10 282 *e*PKPdf **PKPdf 06 16 23.8 +0.8**
BTO Baotou 137.11 85 *e*PKP **PKPdf 06 16 21.8 -1.4**
F10A Beach Ranch, E 137.19 286 PFAKE 06 16 40.0 +15
F10A LR LR
comp=Z,700nm,19.0s
L04D Klamath Falls 137.30 278 P **PKPdf 06 16 24.2 +0.6**
baz=134
J05D Fort Rock, OR 137.47 280 P **PKiKP 06 16 25.2 -0.5**
baz=133
WALA Waterton Lakes 137.52 291 *e*PKPdf **PKPdf 06 16 22.8 -0.9**
G08A Pilot Rock 137.63 284 *e*PKPdf **PKPdf 06 16 24.9 +0.9**
G08A LR LR
comp=Z,900nm,22.0s
PINE Pine Mountain 137.66 281 *e*PKPdf **PKPdf 06 16 24.0 -0.2**
PINE LR LR
comp=Z,800nm,20.0s
J04D Umpqua Nationa 137.91 279 P **PKPdf 06 16 25.3 +0.6**
baz=133
HUMO Hull Mountain 137.92 278 *e*PKPdf **PKPdf 06 16 24.9 +0.4**
HUMO LR LR
comp=Z,700nm,22.0s
E09A Wood Farm, Sta 138.02 286 *e*PKPdf **PKPdf 06 16 24.4 -0.1**
E09A LR LR
comp=Z,1μm,22.0s
HHC Hu-ho-hao-te 138.11 86 *e*PKP **PKPdf 06 16 25.6 +0.6**
HHC PP **PP 06 19 19.3 +5.0**
HHC PKS 06 20 00.8
HHC SKKS 06 26 04.0
HHC SS **SS 06 37 29.3 +3.6**
HHC AMB AMB
comp=Z,270nm,9.8s
HHC LR LR
comp=Z,720nm,18.6s
HHC LR LR
comp=Z,840nm,19.3s
HHC LR LR
comp=Z,990nm,21.4s
K02D Willamette Mer 138.36 277 P **PKPdf 06 16 26.4 +1.0**
baz=134
I04A Tendick Farm, 138.44 280 P **PKPdf 06 16 25.5 0.0**
baz=133

G06A	Carlson Farm,	138.48	282	ePKPdf	PKPdf	06 16 26.2 +0.8
G06A				LR	LR	
comp=Z,800nm,18.0s						
E08A	Dider Farm, El	138.48	285	PFAKE		06 16 40.0 +13
E08A				LR	LR	
comp=Z,1μm,22.0s						
F07A	Phinny Hill Vi	138.54	284	PFAKE		06 16 40.0 +12
F07A				LR	LR	
comp=Z,1μm,22.0s						
NEW	Newport	138.64	288	PFAKE		06 16 40.0 +12
NEW				LR	LR	
comp=Z,900nm,18.0s						
HAWA	Hanford	138.66	285	ePKPdf	PKPdf	06 16 25.6 -0.1
HAWA				LR	LR	
comp=Z,700nm,19.0s						
D08A	Wollman Farm,	138.78	286	ePKPdf	PKPdf	06 16 26.1 +0.2
D08A				LR	LR	
comp=Z,900nm,21.0s						
H04A	Detroit Lake	138.93	281	ePKPdf	PKPdf	06 16 25.8 -0.5
H04A				LR	LR	
comp=Z,900nm,21.0s						
C09A	Chrisman Ranch	138.93	287	PFAKE		06 16 40.0 +12
C09A				LR	LR	
comp=Z,800nm,20.0s						
E07A	Sunnyside	138.94	284	PFAKE		06 16 40.0 +12
E07A				LR	LR	
comp=Z,1μm,20.0s						
H04D	Lebanon	139.11	280	P	PKPdf	06 16 27.2 +0.6
baz=132						
COR	Corvallis	139.45	280	PFAKE		06 16 40.0 +11
COR				LR	LR	
comp=Z,900nm,20.0s						
LTY	Liberty	139.82	285	ePKPdf	PKPdf	06 16 27.4 -0.5
LTY				LR	LR	
comp=Z,1μm,22.0s						
B08A	Colville Reser	139.83	287	ePKPdf	PKPdf	06 16 27.7 -0.1
B08A				LR	LR	
comp=Z,800nm,21.0s						
BJT	Baijiatuau	140.00	91	PFAKE		06 16 40.0 +9.2
BJT				LR	LR	
comp=Z,600nm,20.0s						
SONA0	Songino Array	140.07	74	ePKPdf	PKPdf	06 16 26.4 -2.0
SONA0				ePP	PP	06 19 23.1 -3.3
SONM	Songino Array	140.07	74	PKP	PKPdf	06 16 26.4 -2.0
comp=Z,1.1nm,0.9s,baz=225,slow=0.8,SNR=3.1						
SONM				PP	PP	06 19 23.1 -3.3
comp=Z,0.2nm,0.4s,baz=219,slow=11,SNR=3.0						
ZAK	Zakamensk	140.07	69	ePKHKP	PKPpre	06 16 21.2
ZAK				pmax	pmax	
comp=Z,7.0nm,1.9s						
LON	Longmire	140.09	283	ePKPdf	PKPdf	06 16 27.9 -0.5
LON				LR	LR	
comp=Z,700nm,20.0s						
LON	Longmire	140.09	283	ePKIKP	PKPdf	06 16 27.9 -0.5
LON				MLR	MLR	
comp=Z,700nm,20.0s						
E04D	Cinebar	140.36	283	P	PKPdf	06 16 29.6 +0.8
baz=130						
ULN	Ulaanbaatar	140.43	75	PFAKE		06 16 40.0 +8.4
ULN				LR	LR	
comp=Z,800nm,22.0s						
D05A	Enumclaw	140.47	284	ePKPdf	PKPdf	06 16 28.7 -0.2
D05A				LR	LR	
comp=Z,1μm,22.0s						
TLY	Talaya	141.04	68	PFAKE		06 16 40.0 +7.4
TLY				LR	LR	
comp=Z,1μm,22.0s						
B06A	Marblemount	141.05	286	PFAKE		06 16 40.0 +7.4
B06A				LR	LR	
comp=Z,600nm,20.0s						
B05A	Bryant	141.20	285	P	PKPdf	06 16 30.1 -0.1
baz=129						
D03D	Eldon	141.26	283	P	PKPdf	06 16 31.1 +0.8
baz=129						
NLWA	Neilton Lookou	141.58	283	ePKPdf	PKPdf	06 16 31.6 +0.6
NLWA				LR	LR	
comp=Z,800nm,18.0s						
DL2	Dalian	142.13	97	PKP	PKPdf	06 16 28.0 -4.2
DL2				AMB	AMB	
comp=Z,190nm,10.6s						
DL2				LR	LR	
comp=Z,860nm,23.3s						
DL2				LR	LR	
comp=Z,440nm,19.1s						
DL2				LR	LR	
comp=Z,1μm,23.8s						
NRIK	Noril'sk	143.41	36	PKIKP	PKPbc	06 16 31.0 +0.2
NRIK	Noril'sk	143.41	36	PKP	PKPbc	06 16 30.9 +0.2
comp=Z,19nm,1.0s,baz=230,slow=2.1,SNR=25						
RES	Resolute Bay	143.80	333	ePKPpre	PKPab	06 16 31.0 0.0
RES				LR	LR	
comp=Z,700nm,21.0s						
RES	Resolute Bay	143.80	333	ePKIKP	PKPab	06 16 31.0 -0.1
RES				MLR	MLR	
comp=Z,700nm,21.0s						
RES	Resolute Bay	143.80	333	PKP	PKPbc	06 16 31.7 -0.1
comp=Z,11nm,1.0s,baz=103,slow=4.1,SNR=23						
KS15	Wonju Array Si	144.36	105	ePKPdf	PKPab	06 16 34.3 0.0
KSAR	Wonju Array Be	144.36	105	ePKPdf	PKPab	06 16 33.6 -0.6
KSAR	Wonju Array Be	144.36	105	ePKIKP	PKPab	06 16 33.7 -0.6
KSRS	Korea Array	144.39	105	PKP	PKPab	06 16 34.3 -0.1
comp=Z,6.9nm,0.9s,baz=222,slow=3.1,SNR=16						
SNY	Shenyang	145.26	95	⇓PKPbc	PKPbc	06 16 35.8 -1.5
SNY				PP	PP	06 19 55.8 -1.8
SNY				SS	SS	06 38 46.9 -1.6
SNY				AMB	AMB	
comp=Z,350nm,11.0s						
SNY				LR	LR	
comp=Z,900nm,21.6s						
SNY				LR	LR	
comp=Z,580nm,22.6s						
SNY				LR	LR	
comp=Z,2μm,23.5s						
YKA	Yellowknife Ar	145.26	309	PKPbc	PKPbc	06 16 34.5 -2.2
comp=Z,36nm,1.0s,baz=105,slow=3.5,SNR=91						
YKA				PP	PP	06 19 56.8 -0.5
comp=Z,1.5nm,1.1s,baz=118,slow=6.1,SNR=5.0						
YKB5	Yellowknife Ar	145.26	309	ePKPbc	PKPbc	06 16 34.5 -2.2
YKB5				ePP	PP	06 19 56.9 -0.5
YKW3	Yellowknife Ar	145.30	309	PFAKE		06 16 50.0 +9.1
YKW3				LR	LR	
comp=Z,1μm,22.0s						
CIT	Chita	146.27	73	ePKP2	PKPbc	06 16 39.9 -0.4
CIT				pmax	pmax	
comp=Z,387nm,2.0s						
BBB	Bella Bella	146.63	287	ePKPdf	PKPbc	06 16 41.5 +0.3
INU	Inuyama	147.32	117	PFAKE		06 16 50.0 +4.0
INU				LR	LR	
comp=Z,800nm,21.0s						
CN2	Changchun	147.61	94	ePKPbc	PKPdf	06 16 41.4 -0.1
CN2				epPKP	sPKPab	06 16 49.9 +0.5
CN2				ePP	PP	06 20 16.4 +4.9
CN2				LR	LR	
comp=Z,650nm,20.0s						
CN2				LR	LR	
comp=Z,540nm,20.0s						
CN2				LR	LR	
comp=Z,1μm,22.0s						
HIA	Hailar	147.97	82	ePKPdf	PKPdf	06 16 41.5 -0.5
HIA				LR	LR	
comp=Z,1μm,21.0s						
HIA	Hailar	147.97	82	ePKIKP	PKPdf	06 16 41.5 -0.5
HIA				MLR	MLR	
comp=Z,1μm,21.0s						
MAJO	Matsushiro	148.85	117	ePKPdf	PKPdf	06 16 44.4 +0.6
MAJO				LR	LR	
comp=Z,900nm,22.0s						
MAJO	Matsushiro	148.85	117	ePKIKP	PKPdf	06 16 44.4 +0.6
MAJO				MLR	MLR	
comp=Z,900nm,22.0s						
MAT	Matsushiro	148.85	117	PKP	PKPbc	06 16 46.9 -0.8
MJAR	Matsushiro Arr	148.85	117	ePKPdf	PKPdf	06 16 45.2 +1.4
MJAR	Matsushiro Arr	148.85	117	PKPbc	PKPbc	06 16 47.1 -0.6
comp=Z,7.5nm,0.9s,baz=212,slow=3.6,SNR=16						
MJB9	Matsu-Tunnel	148.85	117	ePKPdf	PKPdf	06 16 44.8 +1.0
MJB9				LR	LR	
comp=Z,1μm,22.0s						
BOD	Bodaibo	149.35	64	ePKIKP	PKPdf	06 16 43.0 -0.9
BOD				pmax	pmax	
comp=Z,135nm,1.9s						
DIB	Dawson Inlet,	149.43	286	ePKPdf	PKPdf	06 16 43.7 -0.4
DIB				LR	LR	
comp=Z,1μm,19.0s						
MDJ	Mudanjiang	150.38	97	PKPbc	PKPbc	06 16 50.0 -1.2
MDJ	Mudanjiang	150.38	97	PFAKE		06 17 00.0 +2.3
MDJ				LR	LR	
comp=Z,1μm,18.0s						
DLBC	Dease Lake	150.56	296	ePKPdf	PKPdf	06 16 44.4 -1.5
DLBC				LR	LR	
comp=Z,1μm,21.0s						
CRAG	Craig	150.85	289	ePKPdf	PKPdf	06 16 47.2 +0.9
WRAK	Wrangell Islan	150.87	291	ePKPdf	PKPdf	06 16 47.5 +1.2
WRAK				LR	LR	
comp=Z,800nm,21.0s						
USA0B	Ussuriysk Arra	151.38	100	ePKPdf	PKPdf	06 16 48.7 +1.2
USA0B				LR	LR	
comp=Z,1μm,19.0s						
USA0B	Ussuriysk Arra	151.38	100	ePKIKP	PKPdf	06 16 48.7 +1.2
USA0B				MLR	MLR	
comp=Z,1μm,19.0s						
USRK	Ussuriysk Ar.	151.38	100	ePKPdf	PKPdf	06 16 48.9 +1.4
USRK	Ussuriysk Ar.	151.38	100	ePKIKP	PKPdf	06 16 48.9 +1.4
USRK	Ussuriysk Ar.	151.38	100	PKPbc	PKPdf	06 16 49.3 +1.8
comp=Z,7.6nm,0.9s,baz=245,slow=4.4,SNR=11						
JIS	Juneau Island	152.63	294	ePKPbc	PKiKP	06 16 56.1 0.0
JIS				LR	LR	
comp=Z,1μm,20.0s						
BESE	Bessie Mountai	152.97	294	ePKPdf	PKPdf	06 16 49.8 +0.3
BESE				ePKPbc	sPKPbc	06 16 59.8 +0.2
BESE				ePKPab	pPKPab	06 17 09.7 -0.6
SKAG	Skagway	153.50	296	ePKPdf	PKPdf	06 16 47.6 -2.4
SKAG				ePKPbc	PKiKP	06 16 58.1 +0.2
SKAG				ePKPab	pPKPab	06 17 11.6 -0.9
WHY	Whitehorse	153.65	299	PFAKE		06 17 00.0 +1.6
WHY				LR	LR	
comp=Z,700nm,21.0s						
ZEA	Zeya	154.30	79	*i* PKIKP	PKPdf	06 16 50.0 -1.4
ZEA				pmax	pmax	
comp=Z,48nm,1.8s						
ZEA				pmax	pmax	
comp=Z,200nm,9.0s						
INK	Inuvik	154.32	316	PFAKE		06 17 00.0 +0.7
INK				LR	LR	
comp=Z,1μm,22.0s						
HYT	Haines Junctio	154.93	298	ePKPdf	PKPdf	06 16 50.1 -2.2
EPYK	Eagle Plains	155.47	312	PFAKE		06 17 00.0 +7.3
EPYK				LR	LR	
comp=Z,900nm,20.0s						
EPYK	Eagle Plains	155.47	312	P	PKPdf	06 16 49.0 -3.8
baz=93						
ERM	Erimo	155.51	117	PFAKE		06 17 00.0 +6.5
ERM				LR	LR	
comp=Z,1μm,22.0s						
BCPM	Bancas Point	155.73	296	PFAKE		06 17 00.0 +6.8
BCPM				LR	LR	
comp=Z,800nm,19.0s						
DAWY	Dawson	156.40	306	ePKPdf	PKPdf	06 16 50.6 -3.4
DAWY				ePKPab	PKPab	06 17 22.8 +0.1
DAWY				LR	LR	
comp=Z,2μm,22.0s						
CTGM	Chitina Glacie	156.79	298	ePKPdf	PKPdf	06 16 54.7 0.0
CTGM				ePKPab	pPKPab	06 17 25.7 -1.0
CTGM				LR	LR	
comp=Z,1μm,21.0s						
TIXI	Tiksi	157.17	35	ePKPdf	PKPdf	06 16 51.7 -3.0
TIXI				ePKPab	PKPab	06 17 25.9 +0.2
TIXI				LR	LR	
comp=Z,1μm,20.0s						
TIXI	Tiksi	157.17	35	ePKIKP	PKPdf	06 16 51.7 -3.0
TIXI				MLR	MLR	
comp=Z,1μm,20.0s						
EGAK	Eagle	157.22	307	ePKPdf	PKPdf	06 16 52.0 -3.0
EGAK				ePKPab	PKPab	06 17 25.9 -0.2
EGAK				LR	LR	
comp=Z,1μm,22.0s						
BALM	Baldy	157.28	298	PFAKE		06 17 10.0 +15
BALM				LR	LR	
comp=Z,1μm,21.0s						
HMT	Hamilton	158.07	295	PFAKE		06 17 10.0 +14
HMT				LR	LR	
comp=Z,1μm,19.0s						
YUK	Yuzh-Kuril'sk	158.34	117*c*	*i* PKIKP	PKPdf	06 16 52.6 -4.4
YUK				*e*PPP	PPP	06 24 51.9
YUK				pmax	pmax	
comp=Z,432nm,1.2s						
YUK				pmax	pmax	
comp=N,209nm,0.2s						
SCRK	Sand Creek	158.41	305	ePKPdf	PKPdf	06 16 54.0 -2.7
SCRK				ePKPab	PKPab	06 17 31.7 +0.3
SCRK				LR	LR	
comp=Z,1μm,21.0s						
DOT	Dot Lake	158.42	304	ePKPdf	PKPdf	06 16 54.0 -2.5
DOT				ePKPab	PKPab	06 17 32.2 +0.7
RIDG	Independent Ri	158.77	304	ePKPdf	PKPdf	06 16 55.1 -2.0
RIDG				ePKPab	PKPab	06 17 33.2 +0.2
RIDG				LR	LR	
comp=Z,2μm,21.0s						
HARP	HAARP	158.81	301	PFAKE		06 17 10.0 +13
HARP				LR	LR	
comp=Z,800nm,21.0s						
YSS	Yuzh-Sakhalins	158.85	107	PFAKE		06 17 10.0 +12
YSS				LR	LR	
comp=Z,400nm,19.0s						
YSS	Yuzh-Sakhalins	158.85	107	ePKIKP	PKPdf	06 17 01.4 +3.9
YSS				*e*		06 21 10.8
YSS				*e*		06 42 15.0
FYU	Fort Yukon	158.88	312	PFAKE		06 17 10.0 +13
FYU				LR	LR	
comp=Z,900nm,20.0s						
DIV	Divide	158.94	297	ePKPdf	PKPdf	06 16 55.9 -1.4
DIV				ePKPab	PKPab	06 17 33.7 -0.1
PAX	Paxson	159.01	302	ePKPdf	PKPdf	06 16 56.5 -0.9
PAX				ePKPab	PKPab	06 17 34.0 -0.1
PAX	Paxson	159.01	302	ePKIKP	PKPdf	06 16 56.5 -0.9
KLU	Klutina	159.06	298	ePKPab	PKPab	06 17 34.9 +0.6
KLU				LR	LR	
comp=Z,900nm,22.0s						
PRP	Porcupine Dome	159.07	309	ePKPab	PKPab	06 17 34.9 +0.6
PRP				LR	LR	
comp=Z,900nm,20.0s						
GLI	Glacier Island	159.54	296	PFAKE		06 17 10.0 +12
GLI				LR	LR	
comp=Z,1μm,22.0s						
ILAR	Eielson Array	159.67	307	ePKPdf	PKPdf	06 16 53.8 -4.2
ILAR				ePKPab	PKPab	06 17 36.7 -0.1
ILAR	Eielson Array	159.67	307	ePKIKP	PKPdf	06 16 53.8 -4.2
ILAR				*e*		06 17 36.7
ILAR	Eielson Array	159.67	307	PKP	PKPdf	06 16 55.6 -2.4
comp=Z,1.0nm,0.9s,baz=340,slow=0.9,SNR=8.0						
ILAR				PKPab	PKPab	06 17 36.3 -0.6
comp=Z,5.7nm,1.1s,baz=111,slow=2.5,SNR=18						
ILAR				PP	PP	06 21 19.3 0.0
comp=Z,0.9nm,0.9s,baz=92,slow=4.5,SNR=4.5						
ILB	Eielson Array	159.67	307	ePKPdf	PKPdf	06 16 54.5 -3.5
ILB				ePP	PP	06 21 19.3 0.0
HDA	Harding Lake	159.71	306	ePKPdf	PKPdf	06 16 57.3 -0.7
HDA				ePKPab	PKPab	06 17 36.9 -0.1
HDA				LR	LR	
comp=Z,1μm,21.0s						
HDA	Harding Lake	159.71	306	P	PKPab	06 17 36.9 -0.1
baz=89						
DHY	Denali Highway	159.88	302	ePKPdf	PKPdf	06 16 57.5 -1.0
DHY				ePKPab	PKPab	06 17 38.4 +0.4
DHY				LR	LR	
comp=Z,1μm,22.0s						
POKR	Poker Plat Res	159.89	308	P	PKPab	06 17 38.4 +0.6
baz=86						
CCB	Clear Creek Bu	160.07	307	ePKPab	PKPab	06 17 38.5 0.0
COLA	College	160.08	308	ePKPab	PKPab	06 17 38.7 +0.2
COLA	College	160.08	308	ePKP2	PKPab	06 17 38.7 +0.2
TCOL	CIGO, UAF Yank	160.09	308	P	PKPab	06 17 38.7 +0.1
baz=87						
TOLK	Toolik Lake Re	160.16	319	P	PKPab	06 17 39.7 +0.8
baz=74						
WRH	Wood River Hil	160.20	306	ePKPdf	PKPdf	06 16 55.9 -2.6
WRH				ePKPab	PKPab	06 17 39.0 -0.2
MDM	Murphy Dome	160.24	308	ePKPab	PKPab	06 17 39.3 0.0
SML	Sawmill	160.24	299	ePKPab	PKPab	06 17 40.4 +0.9
SML	Sawmill	160.24	299	ePKP2	PKPab	06 17 40.4 +0.9
GHO	Glory Hole Cre	160.52	298	ePKPdf	PKPdf	06 16 58.1 -1.0
GHO				ePKPab	PKPab	06 17 41.2 +0.6
RND	Reindeer	160.56	303	ePKPab	PKPab	06 17 41.0 +0.2
RND	Reindeer	160.56	303	ePKP2	PKPab	06 17 41.0 +0.2
PMR	Palmer	160.60	298	ePKPab	PKPab	06 17 41.1 +0.2
NKL	Nikolayevsk	161.22	90	ePKP2	PKPab	06 17 43.0 -0.9
NKL				*e*		06 21 23.0
NKL				pmax	pmax	
comp=Z,130nm,2.0s						
NKL				pmax	pmax	
comp=Z,500nm,8.0s						
MLY	Manley	161.29	308	ePKPab	PKPab	06 17 43.4 -0.5
BPAW	Bear Paw Mtn.	161.48	306	ePKPab	PKPab	06 17 44.8 +0.1
PPLA	Purkeypile	162.08	302	ePKPab	PKPab	06 17 47.7 +0.1
RSO	Redoubt South	162.25	294	ePKPab	PKPab	06 17 48.2 -0.3
IMAR	Indian Mountai	162.37	312	ePKPab	PKPab	06 17 47.4 -1.2
SVW2	Sparrevohn	163.68	296	ePKPab	PKPab	06 17 53.5 -0.9
RDOG	Red Dog Mine	164.92	324	ePKPab	PKPab	06 18 00.3 +0.6
BILL	Bilibino	169.07	13	ePKIKP	PKPdf	06 17 05.0 -1.2
BILL				*e*		06 22 06.7
BILL				*e*PPP	PPP	06 26 05.8
BILL				pmax	pmax	
comp=Z,3.0nm,1.3s						
PETK	Petropavlovsk-	170.22	111	ePKPdf	PKPdf	06 17 02.8 -4.6
PETK	Petropavlovsk-	170.22	111	ePKIKP	PKPdf	06 17 02.8 -4.6

IGQ 16 05:58:53.9±0.3, 4°S±2°×8°0W±°, h12km, MLv3.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONZ	Gonzanam	0.64	150	P	Pg	05 59 06.4	0.0
GONZ				S	Sg	05 59 15.2	+0.3
MCRA	Macar, Loja	0.72	199	P	Pg	05 59 07.8	-0.2
MCRA				S	Sb	05 59 18.8	+0.4
MORR	Playas El Morr	1.21	329	P	Pn	05 59 14.6	-2.1
COHC	Cochancay	1.29	21	P	Pn	05 59 13.5	-4.3
COHC				S	Sb	05 59 27.7	-7.2
MILO	Milagro-Astudi	1.41	7	P	Pn	05 59 18.2	-1.2
BMAS	Trigal station	2.50	30	P	Pn	05 59 34.8	0.0
BMAS				S	Sn	06 00 03.7	-1.6
ARRY	Arrayan	2.50	30	P	Pn	05 59 34.8	-0.1
ARRY				S	Sn	06 00 04.2	-1.4
PAT1	Patacocha	2.51	31	P	Pn	05 59 35.3	+0.3
BPAT	Tungurahua Vol	2.52	31	P	Pn	05 59 35.3	+0.1
RETU	Refugio	2.56	30	P	Pn	05 59 35.9	+0.2
RETU				S	Sn	06 00 06.0	-1.0
POND	Pondoa	2.58	29	P	Pn	05 59 36.1	+0.3
POND				S	Sn	06 00 06.8	-0.5
BULB	Ulba Tungurahu	2.59	30	P	Pn	05 59 36.2	+0.2
RUN5	Runtun	2.60	30	P	Pn	05 59 36.4	+0.2
BRUN	Tungurahua Vol	2.60	30	P	Pn	05 59 35.9	-0.2
BRUN				S	Sn	06 00 07.6	-0.3
PIS1	Pisayambo	2.93	27	P	Pn	05 59 42.3	+1.5
PISA	Pisayambo	2.93	27	P	Pn	05 59 42.1	+1.3
ILLI	Illinizas Sur	3.11	19	P	Pn	05 59 44.0	+0.7
BMOR	Cotopaxi Volca	3.19	23	P	Pn	05 59 44.9	+0.4
BREF	Cotopaxi Volca	3.25	23	P	Pn	05 59 47.5	+2.0
BTAM	Cotopaxi Volca	3.27	24	P	Pn	05 59 47.3	+1.8
BTAM				S	Sb	06 00 29.3	-2.9
BVC2	Cotopaxi Volca	3.28	23	P	Pn	05 59 47.3	+1.6
BVC2				S	Sb	06 00 29.3	-3.2
ARDO	Archidona, Ten	3.29	36	P	Pn	05 59 45.1	-0.3
ARDO				S	Sb	06 00 28.8	-3.6
VC1	Cotopaxi 1	3.29	24	P	Pn	05 59 49.2	+3.3
PITA	Cotopaxi Volc	3.36	22	P	Pn	05 59 50.0	+3.3
ANTM	Antisana-La Mi	3.47	26	P	Pn	05 59 51.2	+3.0
ANTS	Antisana-Sarah	3.52	26	P	Pb	05 59 53.6	-3.0

ISCJB 16 05:59:25.0±0.6, 37°.26N±0°.03×37°.09E±0°.03, h5km±5km, Error ellipse: s-maj=5.1km s-min=3.9km az=175.7
DDA 16 05:59:24.1, 37°.29N×37°.10E, h3km±3km, ML3.3
ISK 16 05:59:24.0, 37°.31N×37°.12E, h6km, ML2.6/7

ISC 16 05:59:24.9±1.0, 37°.28N±0°.03×37°.11E±0°.03, h8km±8km, n18, σ0°78/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.13	144	PG	Pg	05 59 27.7	-0.2
GAZ				SG	Sg	05 59 30.2	+0.2
HCB	Kahramanmara	0.17	291	IAML_P			
comp=Z,36μm,0.1s							
HCB				*i* P	Pg	05 59 28.4	-0.1
KMRS	Kahramanmaras	0.28	323	PG	Pg	05 59 29.9	-0.6
KAMA	Osmaniye	0.37	255	*i* P	Pg	05 59 31.8	-0.3
KAMA				*i* S	Sg	05 59 37.0	+0.1
KUZU	Kuzuini	0.51	183	*i* P	Pb	05 59 35.9	-0.1
KUZU				*i* S	Sn	05 59 47.9	+0.6
ANDN	Andirin	0.68	296	IAML_P			
comp=Z,7μm,0.2s							
ANDN				*i* P	Pg	05 59 37.6	-0.4
ATAB	Bozova	0.96	78	*i* P	Pb	05 59 43.6	-0.2
ATAB				*i* S	Sn	05 59 57.5	-1.0
ELBS	KAHRAMANMARAS	1.04	1	*i* P	Pn	05 59 46.5	+0.7
ELBS				*i* S	Sn	06 00 01.7	+1.1
KOZT	Kozan	1.04	281	PG	Pg	05 59 44.0	-0.9
SAIM	ADANA	1.07	311	IAML_P			
comp=Z,2μm,0.2s							
SAIM				*i* P	Pb	05 59 45.3	-0.4
SAIM				*i* S	Sn	06 00 01.3	-0.1
CEYT	Ceyhan	1.12	256	PN	Pb	05 59 46.2	-0.3
CEYT				SN	Sn	06 00 02.4	0.0
TAHT	Tahtakopru-Hat	1.17	220	PN	Pb	05 59 47.1	-0.2
TAHT				SN	Sn	06 00 04.3	+0.7
AKCD	Akcadag	1.20	32	*i* P	Pn	05 59 47.9	-0.2
AKCD				*i* S	Sn	06 00 04.8	+0.3
SURC	SANLIURFA_SURC	1.27	108	*i* P	Pn	05 59 49.0	+0.2
SURC				*i* S	Sn	06 00 07.0	+0.9
YURE	YUREGIR	1.27	249	PN	Pn	05 59 48.9	+0.1
DARE	Darende-Malaty	1.32	13	PN	Pb	05 59 49.2	-0.7
DARE				SN	Sn	06 00 07.7	+0.2
URFA	Urfa	1.37	83	PN	Pn	05 59 49.2	-1.1
URFA				SN	Sn	06 00 09.2	+0.5
HEKM	Malatya_Hekimh	1.73	22	*i* P	Pg	05 59 57.1	-1.0
HEKM				*i* S	Sg	06 00 23.1	+2.6

TAP 16 05:59:59.6, 23°.20N×120°.96E, h6km, ML3.7, B
JMA 16 05:59:59.3±0.1, 23°.23N×120°.98E, h0km, M3.4
ISCJB 16 06:00:00.2±0.2, 23°.21N±0°.01×120°.98E±0°.01, h7km±2km, Error ellipse: s-maj=2.4km s-min=1.8km az=140.4

ISC 16 05:59:59.9±0.8, 23°.22N±0°.02×120°.96E±0°.01, h8km±6km, n102, σ0°71/138, 21C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	Lidau	0.06	125	⇓*i* P	Pg	06 00 01.7	-0.2
baz=104							
ELDTW				*i* S	Sg	06 00 03.0	-0.3
baz=104							
STYT	Tauyuan	0.20	252	⇑*i* P	Pg	06 00 03.8	-0.2
baz=257							
STYT				S	Sg	06 00 06.3	-0.5
baz=257							
WTP	Ta-pu	0.32	274	⇑*i* P	Pg	06 00 06.8	+0.5
baz=273							
WTP				S	Sg	06 00 11.5	+1.0
baz=273							
TWF1	Yuli	0.33	67	P	Pb	06 00 07.0	-1.1
baz=65							
TWF1				*i* S	Sg	06 00 11.5	+0.6
baz=65							
YULB	Yu-li	0.35	61	⇑P	Pg	06 00 07.2	+0.4
baz=59							
YULB				S	Sg	06 00 11.5	0.0
baz=59							
SLGT	Liugui	0.37	232	⇑*i* P	Pg	06 00 07.4	+0.2
baz=229							
SLGT				S	Sg	06 00 12.4	+0.3
baz=229							
SGST	Jiashian	0.38	248	⇑*i* P	Pb	06 00 07.9	-0.9
baz=250							
SGST				S	Sg	06 00 13.2	+0.9
baz=250							
CHKT	Chengkung	0.39	109	P	Pb	06

	baz=272						
SNST				S	Sb	06 00 16.0	-0.3
	baz=272						
EHY	**Hungye**	0.43	50	*e*P	Pg	06 00 08.5	+0.2
	baz=58						
EHY				*e*S	Sg	06 00 14.2	+0.1
	baz=58						
CHN5	**Tsauling**	0.45	325	*i* P	Pb	06 00 09.6	-0.6
	baz=327						
CHN5				S	Sb	06 00 16.4	-0.8
	baz=327						
WHYT	**Xinyi Township**	0.48	348	⇑P	Pg	06 00 09.7	+0.5
	baz=355						
WHYT				*e*S	Sg	06 00 16.4	+0.8
	baz=355						
TTN	**Taitung**	0.50	160	P	Pb	06 00 11.1	+0.2
	baz=159						
HGSD	**Ruisui**	0.50	58	⇑P	Pb	06 00 10.5	-0.4
	baz=50						
HGSD				*e*S	Sb	06 00 18.2	-0.2
	baz=50						
VWDT	**VWDT**	0.55	17	⇑P	Pg	06 00 10.4	-0.2
	baz=14						
VWDT				*e*S	Sb	06 00 20.1	+0.3
	baz=14						
SSLB	**Suanglung**	0.56	359	⇑P	Pg	06 00 10.6	-0.2
	baz=355						
SSLB				*e*S	Sg	06 00 17.5	-0.6
	baz=355						
CHY	**Chiayi**	0.56	299	*e*P	Pb	06 00 11.9	-0.1
	baz=301						
SSD	**Sandimen**	0.56	213	⇑*i*P	Pg	06 00 10.4	-0.5
	baz=213						
SSD				*e*S	Sg	06 00 16.6	-1.6
	baz=213						
CHN3	**Shinhua**	0.57	255	⇑*e*P	Pb	06 00 12.9	+0.8
	baz=257						
CHN3				*e*S	Sn	06 00 23.1	-0.7
	baz=257						
WGK	**Gukeng**	0.59	321	*e*P	Pb	06 00 12.7	+0.3
	baz=324						
WGK				*e*S	Sb	06 00 22.5	+1.6
	baz=324						
WDLH	**Douliu**	0.60	320	*e*P	Pb	06 00 12.6	-0.1
	baz=321						
EGFH	**Guangfu**	0.61	44	*e*P	Pg	06 00 11.1	-0.7
	baz=50						
EGFH				*e*S	Sg	06 00 19.8	0.0
	baz=50						
ECL	**Taimali**	0.62	181	P	Pg	06 00 11.6	-0.4
	baz=180						
WJS	**Zhushan**	0.63	340	*e*P	Pb	06 00 13.4	+0.3
	baz=349						
WJS				*e*S	Sn	06 00 24.5	-0.9
	baz=349						
TWM1	**Shoushan**	0.64	231	*e*P	Pb	06 00 13.9	+0.6
	baz=222						
SMLT	**Sun Moon Lake**	0.66	355	⇑*i*P	Pg	06 00 13.0	+0.4
	baz=1.0						
SGLT	**Jiouru**	0.66	221	*e*P	Pb	06 00 13.3	-0.3
	baz=217						
MASBT	**Mashibuluo**	0.68	207	⇑P	Pg	06 00 12.4	-0.6
	baz=212						
WNT	**Mingjian**	0.70	339	*e*P	Pb	06 00 14.9	+0.6
	baz=339						
TAI1	**Yung-k'ang**	0.70	255	*e*P	Pb	06 00 14.7	+0.4
	baz=271						
CHN8	**Yiju**	0.70	280	*e*P	Pb	06 00 14.6	+0.2
	baz=282						
SCLT	**Jiali**	0.71	266	*e*P	Pg	06 00 13.5	-0.1
	baz=268						
SCLT				*e*S	Sn	06 00 26.9	-0.3
	baz=268						
ESL	**Shilin**	0.73	36	*e*P	Pb	06 00 14.6	-0.2
	baz=45						
ESL				*e*S	Sg	06 00 22.9	-0.5
	baz=45						
SNJT	**Kaohsiung City**	0.74	231	*e*P	Pn	06 00 16.9	+0.3
	baz=248						
OWD	**Renai**	0.75	15	⇑*e*P	Pg	06 00 13.7	-0.8
	baz=15						
DPDB	**Guoxing**	0.81	358	⇑P	Pg	06 00 15.5	0.0
	baz=8.0						
DPDB				*e*S	Sb	06 00 27.3	0.0
	baz=8.0						
SSPT	**Xinbi**	0.82	206	⇑P	Pg	06 00 15.6	-0.1
	baz=201						
CHGB	**Renai**	0.85	13	⇑*e*P	Pg	06 00 15.6	-0.7
	baz=22						
RLNB	**Erlin**	0.86	320	*e*P	Pg	06 00 16.2	-0.3
	baz=321						
TAW	**Tawu**	0.86	184	*e*P	Pg	06 00 15.9	-0.6
	baz=184						
SCZT	**Fangliau**	0.91	201	⇑P	Pg	06 00 16.6	-0.7
	baz=193						
WCHH	**Zhanghua**	0.93	337	*e*P	Pn	06 00 19.6	+0.4
	baz=337						
HWA	**Hwalien**	0.95	38	*e*P	Pn	06 00 19.8	+0.3
	baz=46						
TCU	**Taichung**	0.96	344	*e*P	Pn	06 00 19.7	+0.2
	baz=330						
WHF	**Hehuan Shan**	0.96	17	*e*P	Pg	06 00 17.4	-1.0
	baz=17						
WLCH	**Liuqiu**	1.02	212	*e*P	Pn	06 00 22.9	+2.4
	baz=213						
TWD	**Chiawan**	1.03	34	*e*P	Pb	06 00 19.8	-0.1
	baz=40						
TWP	**Hsiaoliuchiu**	1.03	212	*e*P	Pn	06 00 22.6	+1.9
	baz=214						
TDCB	**Techi**	1.04	10	*e*P	Pg	06 00 18.6	-1.3
	baz=2.0						
TWT	**Tachien**	1.04	11	*e*P	Pn	06 00 21.3	+0.4
	baz=2.0						
WHP	**Taichung City**	1.05	359	*e*P	Pn	06 00 21.1	+0.1
	baz=6.0						
ETLH	**Xiulin Townshi**	1.09	26	*e*P	Pg	06 00 20.4	-0.4
	baz=10.0						
NACB	**Ninganchiao**	1.11	31	*e*P	Pg	06 00 20.1	-1.1
	baz=32						
NACB				*e*S	Sg	06 00 35.1	-0.5
	baz=32						
WDJ	**Dajia District**	1.16	345	*e*P	Pn	06 00 22.7	+0.4
	baz=333						
WDGT	**Dungji**	1.20	272	⇑P	Pg	06 00 22.3	-0.6
	baz=272						
WDGT				S	Sg	06 00 38.4	-0.1
	baz=272						
NSY	**Sanyi**	1.20	351	*e*P	Pn	06 00 24.2	+1.2
	baz=351						
HEN	**Hengchun**	1.23	190	*e*P	Pn	06 00 23.8	+0.5
	baz=177						
NNSB	**Datong**	1.26	18	*e*P	Pg	06 00 23.1	-1.0
	baz=5.0						
NNS	**Nan Shan**	1.27	17	*e*P	Pg	06 00 23.3	-1.0
	baz=5.0						
TWK1	**Hengchun**	1.28	187	*e*P	Pn	06 00 25.1	+1.0
	baz=178						
TWKBT	**Hengchun**	1.28	186	*e*P	Pn	06 00 24.8	+0.8
	baz=178						
PHUB	**P'eng-hu**	1.31	283	*e*P	Pn	06 00 23.9	-0.6
	baz=283						
PHUB				*e*S	Sg	06 00 41.0	-1.1
	baz=283						
NMLH	**Miaoli**	1.32	353	*e*P	Pb	06 00 25.8	+0.9
	baz=352						
TSEB	**Hengchuen, Pin**	1.32	183	*e*P	Pb	06 00 25.1	+0.2
	baz=175						
PNG	**Penghu**	1.34	285	*e*P	Pn	06 00 24.5	-0.3
	baz=285						
ENA	**Nanau**	1.39	31	*e*P	Pg	06 00 26.5	-0.1
	baz=43						
VCHM	**Qimei**	1.41	270	*e*P	Pn	06 00 25.1	-0.7
	baz=269						
LIOB	**Emei**	1.42	2	*e*P	Pg	06 00 27.2	+0.2
NDT	**Datong Townshi**	1.46	20	*e*P	Pg	06 00 28.5	+0.5
	baz=19						
NSK	**Sanguang**	1.49	14	*e*P	Pb	06 00 27.7	-0.2
	baz=13						
ENTT	**Nioudou**	1.51	21	*e*P	Pg	06 00 28.5	-0.4
	baz=21						
SBCB	**Hsinchu**	1.56	1	*e*P	Pg	06 00 29.9	+0.1
	baz=358						
TWC	**Suao**	1.60	30	*e*P	Pg	06 00 30.1	-0.5
	baz=41						
NWLT	**Wulai**	1.62	18	*e*P	Pg	06 00 30.6	-0.5
	baz=17						
TWE	**Neicheng**	1.62	23	*e*P	Pb	06 00 30.1	+0.1
	baz=38						
WLTB	**Daxi**	1.64	9	*e*P	Pg	06 00 33.1	+1.7
	baz=15						
EOS1	**EOS1**	1.70	39	*e*P	Pg	06 00 31.9	-0.5
	baz=55						
NHDH	**Xindian Distri**	1.81	16	*e*P	Pg	06 00 35.7	+1.2
	baz=15						
TATO	**Taipei**	1.81	15	*e*P	Pg	06 00 35.1	+0.6
	baz=14						
EGS		1.84	29	*e*P	Pg	06 00 34.9	-0.4
	baz=43						
TIPB	**Shuangxi**	1.91	24	*e*P	Pg	06 00 36.0	-0.5
	baz=38						
NWF	**Wu-fen Shan**	1.98	22	*e*P	Pg	06 00 37.4	-0.6
	baz=38						
WFSB	**Wu-fen Shan**	1.98	22	*e*P	Pb	06 00 36.7	+0.5
	baz=37						
YM01	**YM01**	1.99	16	*e*P	Pg	06 00 37.9	-0.3
	baz=355						
YM10	**YM10**	2.00	16	*e*P	Pb	06 00 37.2	+0.7
	baz=355						
TWB1	**Santiao Chiao**	2.01	28	*e*P	Pb	06 00 36.6	0.0
	baz=40						
YM11	**YM11**	2.01	16	*e*P	Pg	06 00 37.8	-0.7
	baz=11						
YM07	**YM07**	2.03	17	*e*P	Pg	06 00 38.6	-0.3
	baz=356						
JYNG	**Yonagunijimaku**	2.19	56	P	Pn	06 00 37.7	+1.2
JYNG				S	Sb	06 01 06.5	-0.4
YOJ	**Yonaguni jima**	2.24	56	*e*P	Pn	06 00 37.3	0.0
	baz=57						
YOJ	**Yonaguni jima**	2.24	56	P	Pn	06 00 37.9	+0.6
YOJ				*e*S	Sn	06 01 06.2	+1.1
PTMZ	**Houxiangcun**	2.47	317	*e*P	Pn	06 00 41.2	+0.9
	baz=317						
PCYT	**Pengchaiyu**	2.60	23	*e*P	Pb	06 00 45.4	-1.3
	baz=36						
KNMB	**Chin-men Tao**	2.66	298	*e*P	Pn	06 00 42.5	-0.5
	baz=297						
HATJ	**Hateruma jima**	2.73	72	P	Pn	06 00 44.2	+0.2
HATJ				*e*S	Sn	06 01 16.9	-0.4
IRIF	**Iriomote-Funau**	2.77	66	P	Pn	06 00 45.1	+0.7
IRIF				S	Sn	06 01 19.0	+1.0
JKRS	**Kuro-shima**	2.97	70	P	Pn	06 00 49.2	+2.0
JKRS				*e*S	Sn	06 01 23.3	+0.3
JIJ	**Ishigaki jima**	3.13	68	P	Pn	06 00 49.4	0.0
JIJ				*e*S	Sn	06 01 25.8	-1.1
JISG	**Ishigakijimahi**	3.35	65	P	Pn	06 00 52.6	+0.1
JISG				*e*S	Sn	06 01 31.9	-0.6

IDC 16 06:00:42.4±2.1, 2°.85N×125°.84E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/46, mbtmp3.4/4, Error ellipse: s-maj=127.1km s-min=27.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.82**	**181**	P	P	06 05 26.1	+0.5
	2.2nm,0.9s,baz=5.7,slow=10,SNR=2.1						
WRA	**Warramunga Arr**	**24.14**	**160**	P	P	06 06 00.3	0.0
	0.5nm,0.4s,baz=338,slow=11,SNR=10						
ASAR	**Alice Springs**	**27.50**	**164**	P	P	06 06 31.0	+0.2
	0.2nm,0.5s,baz=349,slow=12,SNR=4.7						
MKAR	**Makanchi Array**	**57.77**	**326**	P	P	06 10 34.9	-0.5
	0.2nm,0.4s,baz=124,slow=7.1,SNR=2.2						

*SOME **16** 06:05:08.8, 44°.63N×82°.27E, h0km*
*NNC **16** 06:05:12.3±1.1, 44°.73N×82°.06E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=10.7km s-min=4.7km az=123.0*

ISC 16 06:05:10.3±1.7, 44°.68N±0°.05×82°.31E±0°.09, h10km, n27, σ1°13/38, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.84**	**260**	Pg	**Pb**	**06 05 44.0**	**-0.1**
	16nm,0.3s						
DJR				Lg	Lg	06 06 09.1	
	25nm,0.5s						
DJR	**Jarkent**	**1.84**	**260**	*e*P	**Pb**	**06 05 44.0**	**-0.1**
	16nm,0.3s						
DJR				⇑*i*S	**Sg**	**06 06 09.1**	**-0.2**
	25nm,0.5s						
KTMS	**Ketmen**	**1.88**	**230**	Pg	**Pg**	**06 05 45.3**	**-1.0**
	3.0nm,0.3s						
KTMS				Lg	Lg	06 06 11.2	
	52nm,0.4s						
KTMS	**Ketmen**	**1.88**	**230**	*e*P	**Pg**	**06 05 45.3**	**-1.0**
	3.0nm,0.3s						
KTMS				*e*S	**Sg**	**06 06 11.2**	**+0.6**
	52nm,0.4s						
MK31	**Makanchi Array**	**2.12**	**360**	⇓Pg	**Pg**	**06 05 50.2**	**-0.7**
	14nm,0.3s,baz=188,slow=16,SNR=347						
MK31				⇓Lg	Lg	06 06 18.1	
	10nm,0.3s,baz=188,slow=26,SNR=29						
MAKZ	**Makanchi**	**2.14**	**354**	⇑Pg	**Pg**	**06 05 50.0**	**-1.3**
	8.2nm,0.5s						
MAKZ				⇓Lg	Lg	06 06 18.4	
	40nm,0.4s						
KAPS	**Kapalarasan**	**2.18**	**287**	Pg	**Pb**	**06 05 49.1**	**-0.8**
	3.3nm,0.4s						
KAPS				Lg	Lg	06 06 17.8	
	20nm,0.4s						
KAPS	**Kapalarasan**	**2.18**	**287**	*e*P	**Pb**	**06 05 49.1**	**-0.8**
	3.3nm,0.4s						
KAPS				*e*S	**Sb**	**06 06 17.8**	**+0.8**
	20nm,0.4s						
PDGK	**Podgornoye**	**2.44**	**237**	Pg	**Pb**	**06 05 53.7**	**-0.6**
	2.9nm,0.4s						
PDGK				Lg	Lg	06 06 25.4	
	31nm,0.7s						
PDGK	**Podgornoye**	**2.44**	**237**	⇑Lg	Lg	06 06 25.4	
	53nm,0.6s						
SHLS	**Shalkode**	**2.56**	**235**	Pg	**Pn**	**06 05 53.0**	**+1.1**
	12nm,0.4s						
SHLS				Lg	Lg	06 06 24.0	
	70nm,0.5s						
SHLS	**Shalkode**	**2.56**	**235**	*e*P	**Pn**	**06 05 53.0**	**+1.1**
	12nm,0.4s						
SHLS				*e*S	**Sn**	**06 06 24.0**	**+0.8**
	70nm,0.5s						
TDK	**Taldyqorghan**	**2.80**	**278**	Pg	**Pb**	**06 05 59.9**	**-0.5**
	58nm,0.3s						
TDK				Lg	Lg	06 06 36.4	
	80nm,0.6s						
TDK	**Taldyqorghan**	**2.80**	**278**	*e*P	**Pb**	**06 05 59.9**	**-0.5**
	58nm,0.3s						
TDK				*e*S	**Sb**	**06 06 36.4**	**+1.7**
	80nm,0.6s						
UZB	**Uzynbulak**	**2.83**	**238**	Pg	**Pb**	**06 06 00.3**	**-0.7**
	3.6nm,0.3s						
UZB				Lg	Lg	06 06 36.7	
	11nm,0.5s						
UZB	**Uzynbulak**	**2.83**	**238**	*e*P	**Pb**	**06 06 00.2**	**-0.7**
	3.6nm,0.3s						
UZB				*e*S	**Sb**	**06 06 36.7**	**+1.0**
	11nm,0.5s						
MNBS	**Baschi**	**2.87**	**259**	Pg	**Pb**	**06 06 00.4**	**-1.2**
	4.0nm,0.4s						
MNBS				Lg	Lg	06 06 37.3	
	33nm,0.5s						
MNBS	**Baschi**	**2.87**	**259**	*e*P	**Pb**	**06 06 00.4**	**-1.2**
	4.0nm,0.4s						
MNBS				*e*S	**Sb**	**06 06 37.3**	**+0.5**
	33nm,0.5s						
KPKS	**Kokpek**	**2.88**	**246**	*e*P	**Pb**	**06 06 01.3**	**-0.6**
	8.9nm,0.3s						
KPKS				*e*S	**Sb**	**06 06 38.3**	**+1.1**
	66nm,0.5s						
SATY	**Saty**	**3.26**	**242**	Pg	**Pb**	**06 06 07.4**	**-0.8**
	4.9nm,0.2s						
SATY				Lg	Lg	06 06 49.0	
	30nm,0.5s						
SATY	**Saty**	**3.26**	**242**	*e*P	**Pb**	**06 06 07.4**	**-0.8**
	4.9nm,0.2s						
SATY				*e*S	**Sb**	**06 06 49.0**	**+1.0**
	30nm,0.5s						
CHKK	**Chushkaly**	**3.91**	**260**	Pg	**Pb**	**06 06 18.7**	**-0.7**
	1.5nm,0.4s						
CHKK				Lg	Lg	06 07 08.5	
	11nm,0.4s						
CHKK	**Chushkaly**	**3.91**	**260**	*e*P	**Pb**	**06 06 18.7**	**-0.7**
	1.5nm,0.4s						
CHKK				*e*S	**Sb**	**06 07 08.4**	**+1.7**
	11nm,0.4s						
TNSS	**Tian-Shan**	**4.21**	**249**	Pg	**Pg**	**06 06 28.5**	**-2.5**
	4.2nm,0.4s						
TNSS				Lg	Lg	06 07 25.1	
	8.8nm,0.5s						
TNSS	**Tian-Shan**	**4.21**	**249**	*e*P	**Pg**	**06 06 28.5**	**-2.5**
	4.2nm,0.4s						
TNSS				*e*S	**Sg**	**06 07 25.1**	**-0.5**
	8.8nm,0.5s						
KUU	**Kurty**	**4.36**	**262**	Pg	**Pb**	**06 06 26.8**	**-0.2**
	0.7nm,0.3s						
KUU				Lg	Lg	06 07 22.2	
	9.2nm,0.5s						
KUU	**Kurty**	**4.36**	**262**	*e*P	**Pb**	**06 06 26.8**	**-0.2**
	0.7nm,0.3s						
KUU				*e*S	**Sb**	**06 07 22.2**	**+2.5**
	9.2nm,0.5s						

*SJA **16** 06:05:21.3±1.0, 22°.20S×67°.52W, h185km±11km, ML3.1, MW3.6*
*GUC **16** 06:05:23.2±0.5, 22°.17S×67°.77W, h197km±4km, ML4.3*

ISC 16 06:05:21.0±1.9, 22°.19S±0°.04×67°.62W±0°.08, h195km±16km, n27, σ1°06/47, 11C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.27**	**250**	*e*P	**Pn**	**06 05 53.5**	**+0.7**
LVC				*e*S	**Sn**	**06 06 16.8**	**-0.6**
LVC	**Limon Verde**	**1.27**	**250**	⇓*i*P	**Pn**	**06 05 53.4**	**+0.7**
LVC				*i* S	**Sn**	**06 06 16.3**	**-1.1**
PB09	**IPOC Station P**	**1.56**	**284**	*e*P	**Pn**	**06 05 56.2**	**+1.1**
PB09				*e*S	**Sn**	**06 06 20.8**	**-0.6**
PB09	**IPOC Station P**	**1.56**	**284**	⇑*e*P	**Pn**	**06 05 56.2**	**+1.1**
PB09				*e*S	**Sn**	**06 06 20.9**	**-0.5**
PB06	**IPOC Station P**	**1.88**	**254**	*e*P	**Pn**	**06 05 58.9**	**+0.7**
PB06				*e*S	**Sn**	**06 06 27.5**	**+0.4**
PB06	**IPOC Station P**	**1.88**	**254**	⇑*e*P	**Pn**	**06 05 58.9**	**+0.7**
PB06				*i* S	**Sn**	**06 06 26.0**	**-1.0**
PB03	**IPOC Station P**	**1.99**	**274**	⇑*e*P	**Pn**	**06 05 59.8**	**+0.6**
PB03				*e*S	**Sn**	**06 06 27.6**	**-1.3**
PB03				IAML		06 06 29.1	
	comp=E,1μm,0.3s						
PB15	**IPOC Station P**	**1.99**	**239**	*e*P	**Pn**	**06 06 00.6**	**+1.2**
PB15				*e*S	**Sn**	**06 06 29.4**	**+0.2**
PB15	**IPOC Station P**	**1.99**	**239**	*e*P	**Pn**	**06 06 00.5**	**+1.2**
PB15				*e*S	**Sn**	**06 06 29.0**	**-0.1**
PB01	**IPOC Station P**	**2.08**	**303**	⇑*e*P	**Pn**	**06 06 00.8**	**+0.6**
PB01				*e*S	**Sn**	**06 06 29.5**	**-1.1**
PB01				IAML		06 06 31.2	
	comp=E,714nm,0.3s						
PB07	**IPOC Station P**	**2.16**	**282**	*e*P	**Pn**	**06 06 02.2**	**+1.1**
PB07	**IPOC Station P**	**2.16**	**282**	⇑*e*P	**Pn**	**06 06 01.8**	**+0.7**
PB07				*i* S	**Sn**	**06 06 30.5**	**-1.7**
PB07				IAML		06 06 31.4	
	comp=N,921nm,0.6s						
PB02	**IPOC Station P**	**2.29**	**292**	*e*P	**Pn**	**06 06 03.2**	**+0.8**
PB02	**IPOC Station P**	**2.29**	**292**	⇑*e*P	**Pn**	**06 06 03.0**	**+0.5**
PB02				*e*S	**Sn**	**06 06 32.9**	**-1.7**
PB02				IAML		06 06 36.6	
	comp=E,588nm,0.2s						
PB04	**IPOC Station P**	**2.35**	**266**	*e*P	**Pn**	**06 06 04.1**	**+0.9**
PB04	**IPOC Station P**	**2.35**	**266**	*e*P	**Pn**	**06 06 03.9**	**+0.7**
PB04				*e*S	**Sn**	**06 06 34.6**	**-1.4**
PB04				IAML		06 06 35.9	
	comp=N,984nm,0.6s						
PB05	**IPOC Station P**	**2.48**	**254**	⇑*e*P	**Pn**	**06 06 05.3**	**+0.7**
PB05				*e*S	**Sn**	**06 06 36.9**	**-1.5**
PB05				IAML		06 06 38.2	
	comp=N,828nm,0.7s						
PB08	**IPOC Station P**	**2.49**	**325**	*e*P	**Pn**	**06 06 06.7**	**+1.7**
PB08	**IPOC Station P**	**2.49**	**325**	⇑*i*P	**Pn**	**06 06 06.6**	**+1.7**
PB08				*e*S	**Sn**	**06 06 39.3**	**+0.1**
GO01	**Chusmiza**	**2.91**	**329**	⇑*i*P	**Pn**	**06 06 11.2**	**+1.3**
GO01				*i* S	**Sn**	**06 06 48.0**	**0.0**
GO01				IAML		06 06 52.2	
	comp=E,460nm,0.1s						
PB10	**IPOC Station P**	**3.02**	**243**	*e*P	**Pn**	**06 06 11.6**	**+0.9**
PB10	**IPOC Station P**	**3.02**	**243**	*e*P	**Pn**	**06 06 11.6**	**+0.9**
PB10				*e*S	**Sn**	**06 06 47.4**	**-2.0**
PB10				IAML		06 06 48.6	
	comp=E,459nm,0.3s						
PB11	**IPOC Station P**	**3.08**	**321**	⇑*e*P	**Pn**	**06 06 11.8**	**+0.2**
PB11				*e*S	**Sn**	**06 06 49.4**	**-1.6**
PB11				IAML		06 06 50.6	
	comp=N,578nm,0.5s						
AZAP	**Zapla**	**3.10**	**131**	*e*P	**Pn**	**06 06 11.5**	**-0.4**
AZAP				IAML		06 06 13.7	
	comp=Z,38nm,0.6s						
GO02	**Mina Guanaco**	**3.47**	**211**	⇓*i*P	**Pn**	**06 06 18.0**	**+1.6**
GO02				*i* S	**Sn**	**06 06 59.3**	**-0.5**
GO02				IAML		06 07 05.5	
	comp=N,559nm,0.4s						
PSGC	**Pisagua**	**3.48**	**317**	*e*P	**Pn**	**06 06 16.0**	**-0.5**
MNMC	**Minye Minye**	**3.56**	**328**	⇑*i*P	**Pn**	**06 06 18.5**	**+0.9**
MNMC				*i* S	**Sn**	**06 07 01.1**	**-0.6**
MNMC				IAML		06 07 02.9	
	comp=E,876nm,0.5s						

*ISCJB **16** 06:07:07.8±0.3, 51°.56N±0°.02×16°.03E±0°.02, h0km, Error ellipse: s-maj=2.4km s-min=2.0km az=21.5*
*PRU **16** 06:07:10.9±0.0, 51°.54N×16°.02E, h0km*
*IPEC **16** 06:07:10.0±0.3, 51°.59N×16°.12E, h0km, ML2.7/3, Error ellipse: s-maj=3.3km s-min=1.6km az=67.0*
*IDC **16** 06:07:11.3±0.7, 51°.55N×15°.85E, h0km, mb1 3.4/7, mb1mx3.2/53, mbtmp3.3/7, ML3.0/6, Error ellipse: s-maj=12.7km s-min=6.9km az=106.0*
*BGR **16** 06:07:11.4±0.6, 51°.52N×15°.99E, h1km, ML3.2/11, Error ellipse: s-maj=5.6km s-min=2.2km az=23.0*
*UPP **16** 06:07:15.1±2.7, 51°.81N×15°.67E, h9km, ML2.2, Suspected explosion*

ISC 16 06:07:08.7±0.7, 51°.65N±0°.03×16°.04E±0°.02, h0km, n62, σ1°19/119, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.82**	**169**	*i* Pg	**Pg**	**06 07 24.8**	**+0.4**
KSP				*e*Sg	**Sg**	**06 07 34.5**	**-0.5**
KSP	**Ksiaz**	**0.82**	**169**	*e*Pg	**Pg**	**06 07 24.8**	**+0.4**
KSP				*e*Sg	**Sg**	**06 07 34.6**	**-0.4**
UPC	**Upice**	**1.14**	**181**	*e*PG	**Pg**	**06 07 30.5**	**0.0**
UPC				*e*SG	**Sg**	**06 07 44.5**	**-0.8**
	comp=Z,140nm,0.5s						
DPC	**Dobruska-Polom**	**1.31**	**172**	*e*Pg	**Pg**	**06 07 33.7**	**-0.1**
DPC				*e*Sg	**Sg**	**06 07 49.5**	**-1.2**
DPC	**Dobruska-Polom**	**1.31**	**172**	*e*PG	**Pg**	**06 07 33.2**	**-0.6**
DPC				*e*SG	**Sg**	**06 07 49.2**	**-1.6**
	comp=Z,128nm,0.5s						
PVCC	**Panska Ves**	**1.46**	**220**	*e*PG	**Pn**	**06 07 36.2**	**0.0**
PVCC				*e*SG	**Sb**	**06 07 55.4**	**-0.3**
	comp=Z,270nm,0.2s						
BRG	**Berggiesshubel**	**1.53**	**240**	PN	**Pn**	**06 07 37.1**	**-0.1**
BRG				PG	**Pg**	**06 07 38.7**	**+0.7**
BRG				SG	**Sn**	**06 07 58.7**	**+0.8**
	133nm,0.6s						
BRG	**Berggiesshubel**	**1.53**	**240**	*e*Pn	**Pn**	**06 07 37.2**	**-0.1**
BRG				*e*Pg	**Pg**	**06 07 38.2**	**+0.2**
BRG				*e*Sg	**Sn**	**06 07 58.2**	**+0.

MORC Moravsky Berou 2.10 152 *e*Pn **Pn 06 07 45.4 +0.3**
MORC *e*Sg **Sb 06 08 14.9 +0.5**
OKC Ostrava-Krasne 2.25 143 *e*PG **Pb 06 07 51.1 +0.9**
OKC *e*SG **Sb 06 08 19.1 +0.5**
comp=Z,75nm,0.6s
CHZP Chorzow 2.31 125 *e*Pg **Pg 06 07 55.0 +2.1**
CHZP *e*Sg **Sg 06 08 24.0 +1.3**
VRAC Vranov 2.37 171 *e*PN **Pn 06 07 49.5 +0.7**
VRAC *e*SG **Sb 06 08 22.3 +0.3**
VRAC Vranov 2.37 171 *e*Pn **Pn 06 07 49.4 +0.7**
baz=353
VRAC *e*Sg **Sb 06 08 22.2 +0.3**
comp=Z,38nm,0.4s,baz=353
VRAC Vranov 2.37 171 Pn **Pn 06 07 50.1 +1.3**
comp=Z,1.5nm,0.3s,baz=348,slow=17,SNR=12
VRAC Pg **Pg 06 07 54.2 +0.2**
comp=Z,3.4nm,0.3s,baz=351,slow=16,SNR=11
VRAC Lg Lg 06 08 23.9
comp=Z,12nm,0.3s,baz=70,slow=20,SNR=13
TANN Tannenbergstha 2.58 243 *e*Pn **Pn 06 07 52.4 +0.7**
TANN *e*Sg **Sg 06 08 30.5 -0.9**
KRUC Moravsky 2.60 175 *e*PN **Pn 06 07 52.6 +0.7**
KRUC *e*SG **Sb 06 08 29.6 +1.0**
KRUC Moravsky 2.60 175 *e*Pn **Pn 06 07 52.6 +0.7**
baz=356
KRUC *e*Sg **Sb 06 08 29.6 +1.0**
comp=Z,32nm,0.5s,baz=356
NKC Novy Kostel 2.68 239 *e*PN **Pn 06 07 54.0 +0.9**
NKC *e*PG **Pg 06 07 59.7 -0.3**
NKC *e*SG **Sg 06 08 35.1 +0.4**
comp=Z,106nm,0.4s
OJC Ojcow 2.77 120 *e*Pn **Pn 06 07 52.9 -1.4**
OJC *e*Pg **Pg 06 08 02.3 +0.5**
OJC *e*Sn **Sn 06 08 26.7 -1.8**
OJC *e*Sg **Sg 06 08 38.4 +0.7**
MOX Moxa 2.96 252 *e*Pn **Pn 06 07 57.4 +0.5**
MOX *e*Sg **Sg 06 08 43.1 -0.8**
KHC Kasperske Hory 2.97 213 *e*PN **Pn 06 07 57.2 +0.1**
KHC *e*PG **Pb 06 08 03.0 +0.5**
KHC *e*SG **Sb 06 08 40.8 +1.4**
comp=Z,27nm,0.4s
JAVC Velka Javorina 2.98 159 *e*PN **Pn 06 07 58.5 +1.2**
MANZ Manzenberg 3.00 238 *e*Sg **Sg 06 08 44.0 -1.0**
ROTZ Rotzenmuhle 3.08 234 *e*Pn **Pn 06 07 59.1 +0.5**
ROTZ *e*Sg **Sg 06 08 46.0 -1.6**
GEC2 GERESS Array S 3.18 209 *e*Pn **Pn 06 08 01.1 +1.1**
GEC2 *e*Sg **Sb 06 08 46.7 +1.2**
GERES GERESS Array B 3.18 209 Pn **Pn 06 08 00.7 +0.6**
comp=Z,2.3nm,0.3s,baz=33,slow=13,SNR=29
GERES Pg **Pb 06 08 06.4 +0.2**
comp=Z,4.5nm,0.3s,baz=31,slow=17,SNR=32
GERES Lg Lg 06 08 46.3
comp=Z,5.2nm,0.3s,baz=26,slow=30,SNR=4.4
LANS Liptovska Anna 3.32 137 *e*SG **Sg 06 08 55.4 0.0**
MODS Modra-Piesok 3.37 166 *e*PN **Pn 06 08 02.1 -0.5**
MODS *e*PG **Pg 06 08 12.6 -0.7**
MODS *e*SG **Sg 06 08 55.1 -1.9**
ZST Bratislava 3.52 168 *e*SG **Sg 06 09 00.3 -1.5**
BSD Bornholm Skovb 3.54 349 *i* P **Pn 06 08 06.6 +1.8**
BSD *i* S **Sn 06 08 46.2 -1.1**
VYHS Vyhne 3.63 149 *e*PN **Pn 06 08 06.7 +0.5**
VYHS *e*PG **Pg 06 08 18.5 +0.2**
VYHS *e*SG **Sg 06 09 07.1 +1.8**
CONA Conrad Observa 3.73 182 *e*Pn **Pn 06 08 08.7 +1.2**
comp=Z,0.1nm,0.1s
CONA Pg **Pg 06 08 18.7 -1.3**
comp=Z,6.7nm,0.4s
CONA *i* Sg **Sg 06 09 07.9 -0.4**
comp=Z,25nm,0.4s
MOA Molln 3.97 198 *i* Pn **Pn 06 08 11.5 +0.6**
comp=Z,4.6nm,0.3s
MOA Sg **Sg 06 09 14.7 -1.5**
comp=Z,21nm,0.5s
STHS Stebnicka Huta 4.00 122 *e*PN **Pn 06 08 12.1 +0.9**
STHS *e*PG **Pg 06 08 26.4 +1.1**
STHS *e*SG **Sg 06 09 16.3 -0.8**
LUNU Lund 4.28 340 S **Sn 06 09 04.2 -1.4**
ARSA Arzberg 4.42 185 Sg **Sg 06 09 29.3 -1.1**
comp=Z,15nm,0.5s
BLEU Blekinge 4.67 358 P **Pn 06 08 22.5 +2.2**
BLEU S **Sn 06 09 13.6 -1.6**
BJUU Bjuv 4.78 339 S **Sn 06 09 15.7 -2.2**
KOLS Kolonicke sedl 4.83 122 *e*SG **Sg 06 09 43.2 -0.5**
KBA Koelnbreinsper 4.90 202 *e*Pn **Pn 06 08 24.9 +1.1**
comp=Z,6.3nm,0.5s
KBA *i* Sg **Sg 06 09 44.7 -1.4**
comp=Z,5.1nm,0.4s
DEL Delary 5.00 346 P **Pn 06 08 25.9 +1.1**
DEL S **Sn 06 09 21.1 -2.2**
OBKA Obir 5.24 191 *i* Sg **Sg 06 09 55.4 -1.4**
comp=Z,6.2nm,0.4s
WTTA Wattenberg 5.25 215 *e*Pn **Pn 06 08 30.9 +2.4**
comp=Z,1.7nm,0.3s
WTTA Sg **Sg 06 09 59.3 +2.2**
comp=Z,11nm,0.5s
VXJU Vaexsjoe 5.32 353 P **Pn 06 08 31.7 +2.3**
OSKU Oskarshamn 5.56 0 P **Pn 06 08 34.9 +2.3**
BYXU Byxelkrok 5.68 5 P **Pn 06 08 36.7 +2.4**
BYXU S **Sn 06 09 39.5 -0.6**
GNOU Gnosjoe 5.81 348 P **Pn 06 08 38.2 +2.1**
DAVA Damuels 5.93 225 *e*Pn **Pn 06 08 39.0 +1.2**
comp=Z,2.6nm,0.3s
DAVA Sg **Sg 06 10 22.0 +2.9**
comp=Z,13nm,0.6s
DAVOX Davos/Dischmat 6.33 222 Lg Lg 06 10 27.2
comp=Z,0.4nm,0.3s,baz=329,slow=19,SNR=2.8
AKASG Malin Array Be 8.34 91 Pn **Pn 06 09 11.3 +0.5**
comp=Z,2.6nm,0.3s,baz=282,slow=12,SNR=9.2
HFS Hagfors 8.61 352 Pn **Pn 06 09 15.6 +1.2**
comp=Z,0.1nm,0.3s,baz=167,slow=13,SNR=3.8
FINES FINESS Array B 11.26 25 Pn **Pn 06 09 51.0 +0.4**
comp=Z,0.2nm,0.3s,baz=215,slow=11,SNR=7.2
FINES Sn **Sn 06 11 52.9 -4.1**
comp=Z,0.2nm,0.3s,baz=217,slow=22,SNR=4.4
EKA Eskdalemuir Ar 12.01 295 Pn **Pn 06 10 00.8 -0.1**
baz=100,slow=14,SNR=2.9
ARCES ARCESS Array B 18.50 11 Pn **P 06 11 23.7 -2.3**
comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=2.6

*NEIC **16** 06:13:50.7±1.1,8°.74S×117°.51E,h143km±7km,mb4.3/19,*
Error ellipse: s-maj=16.2km s-min=13.1km az=219.0
*DJA **16** 06:13:52.1±0.2,9°S±3°×11°7E±°,h136km±3km,M4.6/15,*
mB5.1/6,mb4.6/14,MLv4.7/15,Mw(mB)4.5/6
*IDC **16** 06:13:53.9±2.2,8°.76S×117°.52E,h168km±21km,mb3.9/13,*
mb1 3.9/15,mb1mx3.7/35,mbtmp4.3/15,Error ellipse:
s-maj=18.8km s-min=8.7km az=57.0
ISC 16 06:13:51.6±0.4,**9.01S**±0°.05×**117°.48E**±0°.04,**h150**km,**n86,**
σ1§**65**/94,**mb4.3**/24,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.35**	**58**	P	**Pn**	**06 14 12.6**	**+0.2**
PLAI				S	**Sn**	**06 14 27.7**	**-0.4**
SRBI	**Singaraja**	**2.42**	**292**	P	**Pn**	**06 14 31.9**	**+0.1**
WSI	**Waingapu**	**2.86**	**103**	P	Pn	06 14 42.7	+5.5
WSI				S	**Sn**	**06 15 11.7**	**-0.7**
BASI	**Baing, Sumba**	**3.28**	**112**	P	**Pn**	**06 14 42.9**	**+0.3**
JAGI	**Jajag, Banyuwa**	**3.33**	**279**	*e*Pn	**Pn**	**06 14 42.6**	**-0.6**
JAGI				*e*Sn	**Sn**	**06 15 21.7**	**-1.5**
JAGI	**Jajag, Banyuwa**	**3.33**	**279**	P	**Pn**	**06 14 43.0**	**-0.3**
JAGI				S	**Sn**	**06 15 21.2**	**-2.0**
KMMI	**Kalianget**	**3.99**	**299**	P	**Pn**	**06 14 54.0**	**+2.3**
GMJI	**Gumukmas**	**4.05**	**280**	P	**Pn**	**06 14 52.0**	**-0.6**
BSSI	**Bau Bau, Buton**	**4.13**	**47**	P	**Pn**	**06 14 54.4**	**+0.8**
BSSI				S	**Sn**	**06 15 42.2**	**+0.4**
BKSI	**Bulukumba**	**4.51**	**36**	P	**Pn**	**06 14 59.7**	**+1.1**
KAPI	**Kappang**	**4.57**	**30**	*e*Pn	**Pn**	**06 15 00.4**	**+1.0**
KAPI	**Kappang**	**4.57**	**30**	P	**Pn**	**06 15 00.6**	**+1.2**
	14nm,0.3s,baz=210,slow=7.5,SNR=94						
MMRI	**Maumere**	**4.72**	**86**	*e*Pn	**Pn**	**06 14 59.8**	**-1.6**
MMRI	**Maumere**	**4.72**	**86**	P	**Pn**	**06 15 01.5**	**+0.1**
BNSI	**Bone**	**5.28**	**30**	P	**Pn**	**06 15 11.4**	**+2.7**
	130nm,0.7s,1μm0.4nm						
SPSI	**Sidrap Palu**	**5.51**	**25**	P	**Pn**	**06 15 14.5**	**+2.6**
	45nm,0.9s,503nm0.2nm						
PWJI	**Pagerwojo**	**5.70**	**280**	P	**Pn**	**06 15 15.8**	**+1.5**
	54nm,0.7s,0.9nm						
NGJI	**Ngawi**	**6.18**	**285**	P	Pn	06 15 26.1	+5.4
PCJI	**Pacitan**	**6.28**	**277**	P	**Pn**	**06 15 23.3**	**+1.1**
	56nm,0.5s						
TTSI	**Tana Toraja**	**6.37**	**22**	P	**Pn**	**06 15 27.1**	**+3.8**
	95nm,1.0s,1μm						
WOJI	**Wonogiri, Jawa**	**6.59**	**280**	P	**Pn**	**06 15 27.5**	**+1.3**
	32nm,1.1s						
SOEI	**Soe**	**6.74**	**97**	*e*Pn	**Pn**	**06 15 28.5**	**+0.1**
SOEI				*e*Sn	**Sn**	**06 16 44.3**	**+0.1**
SOEI	**Soe**	**6.74**	**97**	P	Pn	06 15 38.3	+10
UGM	**Wanagama**	**6.97**	**279**	*e*Pn	**Pn**	**06 15 33.6**	**+2.2**
SMRI	**Semarang**	**7.24**	**285**	*e*Pn	**Pn**	**06 15 37.0**	**+2.1**
CGJI	**Cibinong**	**11.92**	**281**	P	**Pn**	**06 16 37.2**	**+0.3**
	55nm,0.4s						
FITZ	**Fitzroy Crossi**	**12.02**	**140**	P	**Pn**	**06 16 38.3**	**+0.1**
	0.7nm,0.3s,baz=333,slow=9.7,SNR=15						
FITZ				S	**Sn**	**06 18 46.4**	**-4.7**
	0.9nm,0.3s,baz=170,slow=15,SNR=6.7						
PSA00	**Pilbara Seismi**	**12.69**	**170**	*e*Pn	**P**	**06 16 51.4**	**-0.9**
GIRL	**Giralia**	**13.90**	**193**	*e*Pn	**P**	**06 17 04.7**	**-1.0**
MTN	**Manton Dam**	**13.94**	**107**	*e*Pn	**Pn**	**06 17 02.7**	**-0.1**
FAKI	**Fak Fak**	**15.88**	**68**	*e*Pn	**Pn**	**06 17 24.8**	**-2.3**
	22nm,1.1s						
WRA	**Warramunga Arr**	**19.59**	**126**	P	**Pn**	**06 18 10.0**	**-1.2**
	1.1nm,0.3s,baz=343,slow=29,SNR=46						
WRA				S	**S**	**06 21 44.7**	**+3.3**
	0.4nm,0.3s,baz=297,slow=22,SNR=5.8						
WR1	**Warramunga Arr**	**19.59**	**126**	*e*P	**Pn**	**06 18 10.0**	**-1.2**
WR1				*e*S	**S**	**06 21 44.7**	**+3.2**
WRAB	**Tennant Creek**	**19.59**	**125**	*e*P	**P**	**06 18 09.5**	**+1.2**
	9.3nm,0.6s						
WB2	**Warramunga Arr**	**19.60**	**126**	*e*P	**P**	**06 18 09.4**	**+1.0**
	10nm,0.6s						
MORW	**Morawa**	**20.00**	**184**	*e*P	**Pn**	**06 18 15.0**	**-0.9**
	19nm,1.2s						
AS31	**Alice Springs**	**21.43**	**135**	*e*P	**P**	**06 18 29.6**	**+1.5**
	2.1nm,0.6s						
ASAR	**Alice Springs**	**21.43**	**135**	*e*P	**P**	**06 18 29.2**	**+1.2**
ASAR	**Alice Springs**	**21.43**	**135**	P	**P**	**06 18 29.6**	**+1.6**
	4.4nm,0.6s,baz=313,slow=9.0,SNR=39						
ASAR				S	**S**	**06 22 15.1**	**-1.7**
	0.8nm,0.8s,baz=321,slow=21,SNR=4.5						
PSI	**Prapat**	**21.90**	**302**	*e*P	**P**	**06 18 32.9**	**-0.3**
	56nm,1.2s						
PSI	**Prapat**	**21.90**	**302**	P	**P**	**06 18 32.5**	**-0.6**
	22nm,0.9s,baz=153,slow=10,SNR=10						
NWAO	**Narrogin (SRO)**	**23.80**	**181**	P	**P**	**06 18 52.0**	**+1.3**
	11nm,0.7s,baz=354,slow=8.9,SNR=4.6						
FORT	**Forrest**	**23.80**	**157**	*e*P	**P**	**06 18 52.4**	**+1.7**
	22nm,0.6s						
STKA	**Stephens Creek**	**31.91**	**139**	*e*P	**P**	**06 20 05.1**	**+2.0**
	3.0nm,1.4s						
STKA	**Stephens Creek**	**31.91**	**139**	P	**P**	**06 20 04.9**	**+1.8**
	3.5nm,0.5s,baz=317,slow=10.0,SNR=8.4						
CMAR	**Chiang Mai Arr**	**32.86**	**326**	P	**P**	**06 20 10.8**	**-0.7**
	1.3nm,0.3s,baz=156,slow=6.2,SNR=4.2						
KMI	**Kunming**	**36.84**	**337**	P	**P**	**06 20 46.4**	**+0.6**
CD2	**Chengdu**	**41.82**	**342**	*e*P	**P**	**06 21 25.4**	**-1.4**
KS15	**Wonju Array Si**	**47.23**	**11**	*e*P	**P**	**06 22 07.5**	**-2.0**
	8.8nm,1.1s						
KSRS	**Korea Array**	**47.25**	**11**	P	**P**	**06 22 08.4**	**-1.3**
	1.3nm,0.5s,baz=179,slow=8.3,SNR=5.1						
MAJO	**Matsushiro**	**49.33**	**22**	*e*P	**P**	**06 22 23.6**	**-2.1**
MJAR	**Matsushiro Arr**	**49.33**	**22**	P	**P**	**06 22 23.6**	**-2.1**
	0.7nm,0.4s,baz=201,slow=8.6,SNR=4.2						
HHC	**Hu-ho-hao-te**	**49.91**	**354**	*e*P	**P**	**06 22 30.3**	**+0.2**
SONA0	**Songino Array**	**57.45**	**351**	*e*P	**P**	**06 23 23.5**	**-1.3**
SONM	**Songino Array**	**57.45**	**351**	P	**P**	**06 23 23.5**	**-1.3**
	2.6nm,0.6s,baz=171,slow=9.2,SNR=13						
WMQ	**Urumqi**	**59.12**	**335**	*e*P	**P**	**06 23 36.9**	**+0.4**
KSH	**Kashi**	**61.73**	**324**	P	**P**	**06 23 56.1**	**+1.7**
MK31	**Makanchi Array**	**63.80**	**334**	*e*P	**P**	**06 24 06.4**	**-1.4**
	3.3nm,0.7s						
MK32	**Makanchi Array**	**63.80**	**334**	*e*P	**P**	**06 24 06.4**	**-1.3**
MKAR	**Makanchi Array**	**63.80**	**334**	P	**P**	**06 24 06.4**	**-1.3**
	2.7nm,0.4s,baz=148,slow=7.4,SNR=60						
MAKZ	**Makanchi**	**63.94**	**334**	*e*P	**P**	**06 24 06.8**	**-1.9**
	2.3nm,0.6s						
ARSB	**Arslanbob**	**64.64**	**324**	*e*P	**P**	**06 24 11.8**	**-1.8**
	11nm,0.7s						
AAK	**Ala-Archa**	**64.65**	**326**	*e*P	**P**	**06 24 12.1**	**-1.5**
	4.8nm,0.8s						
GAR	**Garm**	**64.80**	**321**	*e*P	**P**	**06 24 12.5**	**-2.0**
	15nm,0.9s						
KK31	**Karatay Array**	**67.19**	**324**	*e*P	**P**	**06 24 27.6**	**-2.0**
	2.1nm,0.8s						
KKAR	**Karatay Array**	**67.19**	**324**	*e*P	**P**	**06 24 27.6**	**-2.0**
KKAR				*e*P	**P**	**06 24 27.7**	**-1.9**
KURK	**Kurchatov**	**68.36**	**335**	*e*P	**P**	**06 24 34.9**	**-1.8**
	3.2nm,0.9s						
ZALV	**Zalesovo Beam**	**68.53**	**340**	P	**P**	**06 24 35.6**	**-2.1**
	2.3nm,0.4s,baz=154,slow=4.2,SNR=10						
ZAA1	**Zalesovo Array**	**68.53**	**340**	*e*P	**P**	**06 24 35.6**	**-2.1**
MAW	**Mawson**	**68.72**	**200**	*e*P	**P**	**06 24 40.9**	**+2.2**
	1.9nm,1.4s						
MAW	**Mawson**	**68.72**	**200**	P	**P**	**06 24 41.3**	**+2.7**
	2.4nm,0.6s,baz=55,slow=7.3,SNR=6.7						
VNDA	**Vanda**	**72.21**	**17**	*e*P	**P**	**06 25 01.5**	**+1.7**
VNDA	**Vanda**	**72.21**	**171**	P	**P**	**06 25 02.1**	**+2.3**
	0.5nm,0.4s,baz=298,slow=8.4,SNR=6.9						
ABKAR	**Akbulak array**	**76.71**	**325**	*e*P	**P**	**06 25 24.8**	**-1.4**
	4.3nm,0.6s						
AKTO	**Aktyubinsk**	**78.39**	**326**	P	**P**	**06 25 34.8**	**-0.7**
	3.5nm,0.7s,baz=98,slow=4.0,SNR=8.7						
SNAA	**Sanae**	**90.58**	**196**	P	**P**	**06 26 38.6**	**+2.0**
VNA2	**Neumayer--Watz**	**92.22**	**196**	P	**P**	**06 26 46.0**	**+2.0**
	baz=116,slow=3.2						
VNA3	**Neumayer Olymp**	**92.62**	**195**	P	**P**	**06 26 47.9**	**+2.0**
YKA	**Yellowknife Ar**	**114.82**	**24**	PKP	**PKiKP**	**06 32 13.6**	**-0.5**
	0.1nm,0.4s,baz=297,slow=1.9,SNR=7.1						
YKB5	**Yellowknife Ar**	**114.82**	**24**	*e*PKiKP	**PKiKP**	**06 32 13.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**116.98**	**280**	PKP	**PKPdf**	**06 32 19.5**	**-0.1**
	0.4nm,0.6s,baz=48,slow=2.2,SNR=3.4						
TOA1	**Torodi Ar. Sit**	**116.98**	**280**	*e*PKPdf	**PKPdf**	**06 32 19.5**	**-0.1**
CPUP	**Villa Florida**	**144.51**	**188**	*e*PKPbc	**PKPab**	**06 33 09.6**	**-0.1**
CPUP	**Villa Florida**	**144.51**	**188**	PKP	**PKPdf**	**06 33 11.9**	**+0.9**
	0.9nm,0.7s,baz=117,slow=1.5,SNR=6.1						
LPAZ	**La Paz**	**154.25**	**168**	*e*PKPab	**PKPab**	**06 33 51.7**	**+1.7**
LPAZ	**La Paz**	**154.25**	**168**	PKPab	**PKPab**	**06 33 51.9**	**+1.9**
	0.8nm,0.8s,baz=214,slow=3.6,SNR=4.3						

*ISK **16** 06:39:21.9,38°.98N×26°.08E,h13km,ML3.2/25*
*ISCJB **16** 06:39:22.5±0.4,38°.98N±0°.02×26°.07E±0°.03,h7km±3km,*
Error ellipse: s-maj=3.8km s-min=2.9km az=168.7
*ATH **16** 06:39:22.5,39°.00N×26°.06E,h26km±1km,ML3.0/6,Error*
ellipse: s-maj=2.2km s-min=1.2km az=267.0
*DDA **16** 06:39:23.3,39°.04N×26°.11E,h29km±1km,ML3.2*
*THE **16** 06:39:23.0,38°.98N×26°.07E,h1km±1km,ML2.8/7,Error*
ellipse: s-maj=1.8km s-min=0.7km az=166.0
ISC 16 06:39:22.9±0.9,**38°.97N**±0°.02×**26°.08E**±0°.02,**h14**km±7km,
n59,σ0§**53/85,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.29**	**325**	PG	**Pg**	**06 39 28.6**	**-0.5**
SIGR				SG	**Sg**	**06 39 33.1**	**-0.1**
SIGR	**SIGRI**	**0.29**	**325**	P	**Pg**	**06 39 28.6**	**-0.5**
SIGR				S	**Sg**	**06 39 33.1**	**-0.1**
SIGR	**SIGRI**	**0.29**	**325**	P	**Pg**	**06 39 28.6**	**-0.5**
SIGR				S	**Sg**	**06 39 33.2**	**-0.1**
SIGR				AML	AML	06 39 33.6	
	comp=E,12118μm,0.3s						
SIGR				AML	AML	06 39 33.9	
	comp=N,8551μm,0.3s						
PRK	**Paraskevi**	**0.32**	**29**	P	**Pg**	**06 39 29.9**	**+0.5**
PRK				S	**Sg**	**06 39 34.1**	**+0.3**
PRK	**Paraskevi**	**0.32**	**29**	P	**Pg**	**06 39 30.0**	**+0.5**
PRK				S	**Sb**	**06 39 35.2**	**-0.2**
PRK				AML	AML	06 39 35.3	
	comp=N,14142μm,0.4s						
PRK				AML	AML	06 39 35.5	
	comp=E,10064μm,0.4s						
GPNR	**Gulpinar-Canak**	**0.49**	**5**	PG	**Pg**	**06 39 31.8**	**-0.8**
GPNR				SG	**Sg**	**06 39 39.3**	**+0.2**
KRBN	**Karaburun**	**0.53**	**135**	PG	**Pg**	**06 39 33.0**	**-0.4**
CAND	**Candarli**	**0.57**	**91**	PG	**Pg**	**06 39 33.7**	**-0.4**
FOCM	**Foa**	**0.57**	**116**	PG	**Pg**	**06 39 33.5**	**-0.7**
CHOS	**Chios island**	**0.58**	**182**	PG	**Pg**	**06 39 34.1**	**-0.3**
CHOS	**Chios island**	**0.58**	**182**	P	**Pg**	**06 39 34.0**	**-0.3**
CHOS	**Chios island**	**0.58**	**182**	P	**Pg**	**06 39 34.1**	**-0.3**
AYVA	**Ayvalik**	**0.58**	**55**	IAML_P			
	comp=Z,4μm,0.1s						
AYVA				*i* P	**Pg**	**06 39 34.2**	**-0.2**
AYVA				*i* S	**Sb**	**06 39 42.9**	**-0.2**
PSRA	**Psara**	**0.59**	**223**	P	**Pb**	**06 39 35.2**	**+0.3**
PSRA				S	**Sb**	**06 39 43.4**	**+0.3**
PSRA				AML	AML	06 39 44.7	
	comp=N,4514μm,0.3s						
PSRA				AML	AML	06 39 48.2	
	comp=E,5033μm,0.3s						
CESE	**eme**	**0.66**	**165**	PG	**Pg**	**06 39 35.4**	**-0.5**
URLA	**Izmir**	**0.73**	**146**	PG	**Pg**	**06 39 36.5**	**-0.7**
URLA	**Izmir**	**0.73**	**146**	IAML_P			
	comp=Z,10μm,0.2s						
URLA				*i* P	**Pg**	**06 39 36.9**	**-0.3**
URLA				*i* S	**Sn**	**06 39 50.6**	**+0.7**
ZEDA	**zmir-Bergama**	**0.78**	**90**	IAML_P			
	comp=Z,11μm,0.2s						
ZEDA				*i* P	**Pb**	**06 39 38.7**	**+0.4**
ZEDA				*i* S	**Sn**	**06 39 50.5**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**0.85**	**25**	IAML_P			
	comp=Z,6μm,0.2s						
BAYC				*i* P	**Pn**	**06 39 40.8**	**+0.2**
BAYC				*i* S	**Sn**	**06 39 53.2**	**+0.3**
BOZC	**Bozcaada**	**0.87**	**359**	PG	**Pg**	**06 39 38.9**	**-0.9**
BOZC	**Bozcaada**	**0.87**	**359**	IAML_P			
	comp=Z,4μm,0.2s						
BOZC				*i* P	**Pg**	**06 39 39.3**	**-0.5**
BOZC				*i* S	**Sb**	**06 39 52.2**	**+0.8**
BOZC				*i* S	**Sg**	**06 39 52.6**	**+1.4**
EZN	**Ezine**	**0.88**	**13**	PG	**Pg**	**06 39 39.0**	**-0.9**
EZN	**Ezine**	**0.88**	**13**	P	**Pg**	**06 39 39.3**	**-0.6**
EZN				S	**Sg**	**06 39 51.7**	**+0.3**
LIA	**Limnos Island**	**1.16**	**324**	P	**Pn**	**06 39 44.4**	**-0.3**
LIA				S	**Sg**	**06 40 01.0**	**+0.7**
LIA	**Limnos Island**	**1.16**	**324**	P	**Pn**	**06 39 44.4**	**-0.3**
LIA				S	**Sb**	**06 39 59.8**	**+0.2**
LIA				AML	AML	06 40 01.8	
	comp=E,976μm,0.3s						
LIA				AML	AML	06 40 02.6	
	comp=N,891μm,0.3s						
SKY	**Skiros Island**	**1.19**	**266**	P	**Pn**	**06 39 45.5**	**+0.3**
SKY				S	**Sg**	**06 40 02.8**	**+1.3**
SKY	**Skiros Island**	**1.19**	**266**	P	**Pn**	**06 39 45.5**	**+0.3**
GOKC	**Gokceada-Canak**	**1.23**	**354**	PN	**Pn**	**06 39 45.2**	**-0.6**
AKHS	**Akhisar**	**1.36**	**93**	IAML_P			
	comp=Z,2μm,0.2s						
AKHS				*i* P	**Pg**	**06 39 49.0**	**-0.1**
AKHS				*i* S	**Sg**	**06 40 07.3**	**+0.6**
SMG	**Samos**	**1.40**	**154**	P	**Pg**	**06 39 49.0**	**-0.7**
SMG				S	**Sg**	**06 40 08.8**	**+0.9**
SMG	**Samos**	**1.40**	**154**	P	**Pg**	**06 39 49.1**	**-0.7**
SMG				S	**Sg**	**06 40 07.8**	**-0.1**
SMG				AML	AML	06 40 12.1	
	comp=N,571μm,0.6s						
SMG				AML	AML	06 40 12.2	
	comp=E,878μm,0.4s						
GELI	**Tayfur-Gelibol**	**1.46**	**12**	PN	**Pn**	**06 39 48.5**	**-0.4**
LPK	**Lapseki**	**1.50**	**20**	PN	**Pn**	**06 39 48.8**	**-0.6**
BALB	**Balikesir**	**1.55**	**64**	PN	**Pn**	**06 39 49.6**	**-0.5**
SMTH	**Samothraki Isl**	**1.56**	**345**	P	**Pn**	**06 39 49.9**	**-0.3**
SMTH				S	**Sb**	**06 40 11.9**	**+0.8**
SMTH	**Samothraki Isl**	**1.56**	**345**	P	**Pn**	**06 39 50.0**	**-0.3**
SMTH				S	**Sn**	**06 40 09.9**	**-0.3**
SMTH				AML	AML	06 40 14.7	
	comp=E,330μm,0.5s						
SMTH				AML	AML	06 40 14.9	
	comp=N,374μm,0.3s						
GCAM	**G?zelcaml?**	**1.56**	**144**	PN	**Pn**	**06 39 49.6**	**-0.7**
GCAM	**G?zelcaml?**	**1.56**	**144**	*i* S	**Sg**	**06 40 13.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.65**	**49**	PN	**Pn**	**06 39 51.2**	**-0.2**
KRBG	**Karabiga-Canak**	**1.71**	**33**	PN	**Pn**	**06 39 51.7**	**-0.5**
KNL	**Balikesir**	**1.71**	**40**	IAML_P			
	comp=Z,1μm,0.3s						
KNL				*i* P	**Pn**	**06 39 53.4**	**+1.0**
ERIK	**Erikli-Kesan**	**1.73**	**11**	PN	**Pn**	**06 39 52.3**	**-0.3**
ENEZ	**Enez**	**1.76**	**2**	PN	**Pn**	**06 39 52.8**	**-0.3**
KESN	**Edirne-Kesan**	**1.91**	**14**	IAML_P			
	comp=Z,293nm,0.2s						
KESN				*i* P	**Pb**	**06 39 57.0**	**-0.7**
KESN				*i* S	**Sb**	**06 40 22.5**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.91**	**26**	PN	**Pn**	**06 39 54.9**	**-0.3**
ALN	**Alexandroupoli**	**1.92**	**359**	PN	**Pn**	**06 39 54.8**	**-0.5**
ALN	**Alexandroupoli**	**1.92**	**359**	P	**Pn**	**06 39 55.2**	**0.0**
ALN				S	**Sb**	**06 40 21.6**	**-0.1**
ALN	**Alexandroupoli**	**1.92**	**359**	P	**Pn**	**06 39 55.3**	**0.0**
APE	**Apeiranthos**	**1.95**	**193**	P	**Pn**	**06 39 55.0**	**-0.6**
EDC	**Edincik**	**1.95**	**45**	PN	**Pn**	**06 39 55.4**	**-0.2**
DURS	**Dursunbey**	**1.97**	**71**	IAML_P			
	comp=Z,956nm,0.3s						
DURS				*i* P	**Pn**	**06 39 56.2**	**+0.3**
DURS				*i* S	**Sg**	**06 40 26.3**	**+0.1**
MANT	**Manisa**	**2.00**	**103**	IAML_P			
	comp=Z,380nm,0.2s						
MANT				*i* P	**Pg**	**06 40 00.9**	**-0.4**
MANT				*i* S	**Sg**	**06 40 28.3**	**+1.0**
KULA	**Kula-Manisa**	**2.07**	**102**	PN	**Pn**	**06 39 57.2**	**-0.2**
OUR	**Ouranopolis**	**2.11**	**311**	PN	**Pn**	**06 39 57.4**	**-0.4**
KCTX

*THE **16** 07:11:42.4, 38.°98N×26.°07E, h4km±1km, ML2.3/6, Error ellipse: s-maj=2.0km s-min=0.7km az=325.0*

ISC 16 07:11:42.2±0.9, 38.°98N±0.°02×26.°06E±0.°03, h12km±8km, n43, σ0§53/65, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.28**	**325**	PG	**Pg**	**07 11 47.8**	**-0.2**
SIGR				SG	**Sg**	**07 11 52.4**	**+0.5**
SIGR	**SIGRI**	**0.28**	**325**	P	**Pg**	**07 11 47.9**	**-0.2**
SIGR				S	**Sg**	**07 11 52.3**	**+0.4**
SIGR	**SIGRI**	**0.28**	**325**	P	**Pg**	**07 11 47.8**	**-0.2**
SIGR				S	**Sg**	**07 11 52.4**	**+0.5**
SIGR				AML	AML	07 11 52.9	
	comp=E,3714μm,0.6s						
SIGR				AML	AML	07 11 53.1	
	comp=N,2898μm,0.2s						
PRK	**Paraskevi**	**0.31**	**31**	P	**Pb**	**07 11 49.1**	**-0.6**
PRK				S	**Sg**	**07 11 53.4**	**+0.6**
PRK	**Paraskevi**	**0.31**	**31**	P	**Pb**	**07 11 49.2**	**-0.6**
PRK				S	**Sb**	**07 11 53.8**	**-1.0**
PRK				AML	AML	07 11 54.5	
	comp=N,3927μm,0.4s						
PRK				AML	AML	07 11 54.8	
	comp=E,2966μm,0.4s						
GPNR	**Gulpinar-Canak**	**0.48**	**7**	PG	**Pg**	**07 11 51.1**	**-0.5**
GPNR				SG	**Sg**	**07 11 58.3**	**+0.3**
KRBN	**Karaburun**	**0.54**	**135**	PG	**Pg**	**07 11 52.2**	**-0.6**
CAND	**Candarli**	**0.58**	**92**	**Pg**	**Pg**	**07 11 52.6**	**-0.9**
PSRA	**Psara**	**0.58**	**222**	P	**Pb**	**07 11 54.2**	**-0.2**
PSRA				S	**Sb**	**07 12 02.1**	**-0.5**
AYVA	**Ayvalik**	**0.59**	**56**	IAML_P			
	comp=Z,997nm,0.1s						
AYVA				*i* P	**Pb**	**07 11 54.4**	**-0.1**
AYVA				*i* S	**Sb**	**07 12 02.4**	**-0.3**
CHOS	**Chios island**	**0.59**	**181**	PG	**Pg**	**07 11 53.5**	**-0.3**
CHOS	**Chios island**	**0.59**	**181**	P	**Pg**	**07 11 53.2**	**-0.5**
CHOS				S	**Sb**	**07 12 03.3**	**+0.4**
CHOS	**Chios island**	**0.59**	**181**	P	**Pg**	**07 11 53.3**	**-0.5**
URLA	**Izmir**	**0.74**	**146**	PG	**Pg**	**07 11 55.8**	**-0.8**
URLA	**Izmir**	**0.74**	**146**	IAML_P			
	comp=Z,3μm,0.2s						
URLA				*i* P	**Pb**	**07 11 57.8**	**+0.6**
URLA				*i* S	**Sn**	**07 12 09.6**	**-0.3**
ZEDA	**zmir-Bergama**	**0.79**	**91**	IAML_P			
	comp=Z,532nm,0.1s						
ZEDA				*i* P	**Pb**	**07 11 57.8**	**-0.1**
ZEDA				*i* S	**Sn**	**07 12 10.9**	**0.0**
ZEY	**zmir**	**0.82**	**155**	IAML_P			
	comp=Z,2μm,0.3s						
ZEY				*i* P	**Pg**	**07 11 57.8**	**-0.2**
ZEY				*i* S	**Sn**	**07 12 10.9**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**0.85**	**26**	IAML_P			
	comp=Z,965nm,0.3s						
BAYC				*i* P	**Pb**	**07 11 59.4**	**+0.4**
BAYC				*i* S	**Sb**	**07 12 11.5**	**+1.2**
BOZC	**Bozcaada**	**0.86**	**359**	PG	**Pg**	**07 11 58.0**	**-0.9**
BOZC				SG	**Sb**	**07 12 10.6**	**0.0**
BOZC	**Bozcaada**	**0.86**	**359**	IAML_P			
	comp=Z,2μm,0.2s						
BOZC				*i* P	**Pg**	**07 11 58.4**	**-0.5**
BOZC				*i* S	**Sb**	**07 12 10.9**	**+0.2**
EZN	**Ezine**	**0.87**	**13**	PG	**Pg**	**07 11 58.4**	**-0.6**
EZN	**Ezine**	**0.87**	**13**	P	**Pg**	**07 11 58.4**	**-0.6**
EZN				S	**Sb**	**07 12 10.9**	**0.0**
DGB	**zmir**	**1.13**	**145**	*i* S	**Sn**	**07 12 19.8**	**+0.6**
LIA	**Limnos Island**	**1.14**	**324**	P	**Pg**	**07 12 03.8**	**-0.4**
LIA				S	**Sn**	**07 12 20.2**	**+0.6**
LIA	**Limnos Island**	**1.14**	**324**	P	**Pg**	**07 12 03.8**	**-0.4**
LIA				S	**Sb**	**07 12 19.2**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.35**	**72**	*i* P	**Pg**	**07 12 09.0**	**+0.9**
STEP				*i* S	**Sb**	**07 12 23.9**	**-0.7**
SMG	**Samos**	**1.41**	**154**	P	**Pn**	**07 12 08.2**	**+0.5**
SMG				S	**Sn**	**07 12 26.9**	**+0.7**
SMG	**Samos**	**1.41**	**154**	P	**Pn**	**07 12 08.1**	**+0.5**
GELI	**Taylur-Gelibol**	**1.45**	**12**	PN	**Pn**	**07 12 08.2**	**-0.1**
LPK	**Lapseki**	**1.49**	**21**	PN	**Pn**	**07 12 08.8**	**-0.1**
SMTH	**Samothraki Isl**	**1.55**	**345**	P	**Pn**	**07 12 10.1**	**+0.5**
SMTH				S	**Sg**	**07 12 31.2**	**-0.8**
SMTH	**Samothraki Isl**	**1.55**	**345**	P	**Pn**	**07 12 09.6**	**0.0**
BALB	**Balikesir**	**1.56**	**64**	PN	**Pn**	**07 12 09.4**	**-0.3**
KRBG	**Karabiga-Canak**	**1.70**	**34**	PN	**Pn**	**07 12 11.6**	**-0.1**
ERIK	**Erikli-Kesan**	**1.73**	**11**	PN	**Pn**	**07 12 12.0**	**0.0**
ENEZ	**Enez**	**1.76**	**2**	PN	**Pn**	**07 12 12.6**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.91**	**26**	PN	**Pn**	**07 12 14.7**	**0.0**
ALN	**Alexandroupoli**	**1.92**	**360**	PN	**Pn**	**07 12 14.9**	**+0.2**
EDC	**Edincik**	**1.95**	**45**	PN	**Pn**	**07 12 15.0**	**-0.1**
APE	**Apeiranthos**	**1.95**	**193**	P	**Pn**	**07 12 14.5**	**-0.7**
DURS	**Dursunbey**	**1.97**	**71**	*i* P	**Pn**	**07 12 15.0**	**-0.5**
DURS				*i* S	**Sg**	**07 12 46.6**	**+1.0**
RDO	**Rodhopi**	**2.20**	**350**	PN	**Pn**	**07 12 18.8**	**+0.2**
ARMT	**Armutlu**	**2.68**	**53**	PN	**Pn**	**07 12 25.7**	**+0.6**

*ISCJB **16** 07:12:26.6±0.7, 36.°82N±0.°03×141.°27E±0.°04, h25km±4km, mb4.3/46, Error ellipse: s-maj=5.8km s-min=3.8km az=29.1*

*JMA **16** 07:12:27.4±0.1, 36.°83N×141.°20E, h31km±1km, M4.3*

JMA Felt III J1.

*MOS **16** 07:12:27.9±1.0, 36.°77N×141.°25E, h39km, mb4.4/13, Error ellipse: s-maj=11.1km s-min=7.1km az=111.6*

*NEIC **16** 07:12:29.9±1.4, 36.°84N×141.°17E, h35km±2km, mb4.8/22, Error ellipse: s-maj=14.1km s-min=12.4km az=92.0*

NEIC Recorded [3 JMA] in Ibaraki.

*IDC **16** 07:12:31.6±1.8, 36.°76N×141.°14E, h52km±17km, mb3.7/22, mb1 3.8/27, mb1mx3.7/67, mbtmp3.9/27, ML3.3/5, Error ellipse: s-maj=13.3km s-min=10.1km az=75.0*

ISC 16 07:12:26.6±1.3, 36.°84N±0.°04×141.°26E±0.°05, h12km±7km, n113, σ1§37/120, mb4.3/46, 10C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.45**	**305**	⇑P	**Pb**	**07 12 36.5**	**0.0**
ONAJ				S	**Sb**	**07 12 42.8**	**-0.4**
JHO	**Hitachi**	**0.60**	**248**	⇑P	**Pg**	**07 12 38.2**	**-0.1**
JHO				S	**Sg**	**07 12 46.2**	**0.0**
JFK	**Kawauchi**	**0.61**	**330**	⇑P	**Pb**	**07 12 39.0**	**-0.1**
JFK				S	**Sg**	**07 12 47.0**	**+0.5**
JFFD	**Fukushimafurud**	**0.61**	**294**	⇑P	**Pg**	**07 12 38.6**	**+0.1**
JFFD				S	**Sg**	**07 12 46.4**	**-0.2**
JHYU	**Hitachinakayam**	**0.74**	**227**	P	**Pg**	**07 12 40.6**	**-0.3**
JHYU				*e*S	**Sg**	**07 12 49.5**	**-1.0**
JFT	**Otama**	**1.00**	**313**	⇑P	**Pb**	**07 12 45.6**	**-0.2**
JFT				S	**Sb**	**07 12 58.2**	**-0.7**
JMM	**Marumori**	**1.09**	**340**	P	**Pb**	**07 12 46.6**	**-0.7**
JMM				S	**Sb**	**07 13 00.1**	**-1.3**
JFY	**Yanaizu**	**1.36**	**295**	⇑P	**Pn**	**07 12 50.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.47**	**264**	*e*Pn	**Pn**	**07 13 06.3**	**-0.3**
MJAR				*e*Sn	**Sn**	**07 13 33.2**	**-3.5**
MJAR	**Matsushiro Arr**	**2.47**	**264**	*e*P	**Pn**	**07 13 06.3**	**-0.3**
MJAR				*e*		07 13 33.2	
MJAR	**Matsushiro Arr**	**2.47**	**264**	P	**Pn**	**07 13 07.0**	**+0.3**
	1.9nm,0.3s,baz=93,slow=14,SNR=51						
MJAR				S	**Sn**	**07 13 36.4**	**-0.3**
	5.1nm,0.3s,baz=87,slow=20,SNR=4.6						
MAJO	**Matsushiro**	**2.47**	**264**	*e*Pn	**Pn**	**07 13 06.7**	**0.0**
MAJO				*e*Sn	**Sn**	**07 13 37.7**	**+1.0**
MAJO	**Matsushiro**	**2.47**	**264**	*c i*P	**Pn**	**07 13 06.8**	**+0.2**
MAT	**Matsushiro**	**2.47**	**264**	P	**Pn**	**07 13 06.7**	**+0.1**
MAT				S	**Sn**	**07 13 37.0**	**+0.3**
MJB9	**Matsu-Tunnel**	**2.47**	**264**	*e*Pn	**Pn**	**07 13 06.7**	**0.0**
MJB9				*e*Sn	**Sn**	**07 13 37.7**	**+0.9**
INU	**Inuyama**	**3.74**	**248**	*e*Pn	**Pn**	**07 13 25.6**	**+1.5**
INU				*e*Sn	**Sn**	**07 14 06.3**	**-1.8**
JHJ2	**Mitsune**	**3.91**	**198**	*e*Pn	**Pn**	**07 13 27.6**	**+1.3**
JHJ2				*e*Sn	**Sn**	**07 14 12.6**	**+0.5**
JHJ	**Hachijo jima 2**	**3.91**	**198**	P	**Pn**	**07 13 29.4**	**+3.1**
	36nm,0.3s,baz=329,slow=21,SNR=14						
JHJ				S	**Sn**	**07 14 10.7**	**-1.5**
	28nm,0.3s,baz=90,slow=20,SNR=3.1						
ERM	**Erimo**	**5.37**	**15**	*e*Pn	**Pn**	**07 13 46.5**	**0.0**
ERM	**Erimo**	**5.37**	**15**	*i* P	**Pn**	**07 13 46.6**	**+0.1**
ASAJ	**Asahikawa**	**7.34**	**8**	P	**Pn**	**07 14 15.6**	**+2.2**
	1.8nm,0.3s,baz=219,slow=12,SNR=3.9						
YSS	**Yuzh-Sakhalins**	**10.16**	**6**	*e*P	Pn	07 14 46.0	-6.2
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
USA0B	**Ussuriysk Arra**	**10.18**	**319**	*e*Pn	Pn	07 15 02.6	+10
USRK	**Ussuriysk Ar.**	**10.18**	**319**	*e*Pn	Pn	07 14 57.5	+5.0
USRK	**Ussuriysk Ar.**	**10.18**	**319**	P	**Pn**	**07 14 55.4**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=104,slow=12,SNR=3.8						
KSRS	**Korea Array**	**10.66**	**277**	P	**Pn**	**07 15 03.2**	**+4.1**
	comp=Z,0.1nm,0.3s,baz=91,slow=14,SNR=4.2						
CN2	**Changchun**	**13.91**	**305**	*e*P	**Pn**	**07 15 46.9**	**+3.5**
CN2				*es*P	P	07 15 57.0	+5.4
KLR	**Kul'dur**	**14.18**	**334**	*i* P	**Pn**	**07 15 49.5**	**+2.4**
KLR	**Kul'dur**	**14.18**	**334**	P	**P**	**07 15 51.3**	**-3.4**
	comp=Z,0.0nm,0.3s,baz=132,slow=16,SNR=2.2						
ZEA	**Zeya**	**19.50**	**334**	*e*P	**Pn**	**07 16 56.8**	**+2.2**
WHN	**Wuhan**	**23.21**	**262**	P	P	07 17 41.5	+8.1
HHC	**Hu-ho-hao-te**	**23.41**	**289**	*e*P	**P**	**07 17 32.8**	**-2.7**
SEY	**Seymchan**	**27.00**	**11**	⇑*i*P	**P**	**07 18 10.3**	**+2.3**
SEY	**Seymchan**	**27.00**	**11**	P	**P**	**07 18 09.0**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=194,slow=9.8,SNR=5.5						
ULN	**Ulaanbaatar**	**27.36**	**305**	*i* P	**P**	**07 18 10.4**	**-1.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**27.79**	**304**	*e*P	**P**	**07 18 14.9**	**-0.5**
SONM	**Songino Array**	**27.79**	**304**	P	**P**	**07 18 15.4**	**0.0**
	comp=Z,1.1nm,0.6s,baz=112,slow=9.9,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**28.16**	**120**	T	T	07 47 46.7	
	baz=313,slow=75,SNR=2006						
H11N1	**WAKE ISLAND Hy**	**28.17**	**120**	T	T	07 47 43.6	
	baz=313,slow=75,SNR=2721						
H11N3	**WAKE ISLAND Hy**	**28.18**	**120**	T	T	07 47 49.5	
	baz=313,slow=75,SNR=2337						
H11S1	**WAKE ISLAND Hy**	**28.86**	**122**	T	T	07 48 41.3	
	baz=315,slow=76,SNR=1545						
H11S3	**WAKE ISLAND Hy**	**28.86**	**122**	T	T	07 48 41.2	
	baz=315,slow=76,SNR=1428						
H11S2	**WAKE ISLAND Hy**	**28.88**	**122**	T	T	07 48 42.5	
	baz=315,slow=76,SNR=760						
TLY	**Talaya**	**30.36**	**311**	⇑*i*P	**P**	**07 18 39.3**	**+1.2**
KMI	**Kunming**	**34.81**	**261**	P	P	07 19 25.3	+7.8
TIXI	**Tiksi**	**35.47**	**353**	*i* P	**P**	**07 19 21.9**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.4s						
DGZ	**Jazzator, Alta**	**40.40**	**306**	*i* P	**P**	**07 20 05.0**	**+0.5**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WMQ	**Urumqi**	**40.81**	**297**	*e*P	**P**	**07 20 07.3**	**-0.6**
ZAA0	**Zalesovo Array**	**41.95**	**313**	*e*P	**P**	**07 20 16.6**	**-0.4**
	comp=Z,6.2nm,0.9s						
ZALV	**Zalesovo Beam**	**41.95**	**313**	*i* P	**P**	**07 20 16.5**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**41.95**	**313**	P	**P**	**07 20 16.7**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=105,slow=5.6,SNR=4.8						
MK31	**Makanchi Array**	**44.12**	**302**	*e*P	**P**	**07 20 34.1**	**-0.5**
	comp=Z,3.2nm,0.8s						
MKAR	**Makanchi Array**	**44.12**	**302**	*e*P	**P**	**07 20 34.5**	**-0.1**
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**07 20 34.2**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=87,slow=10.0,SNR=19						
MAKZ	**Makanchi**	**44.33**	**302**	*e*P	**P**	**07 20 36.1**	**-0.2**
	comp=Z,3.3nm,0.8s						
KURK	**Kurchatov**	**45.95**	**308**	*e*P	**P**	**07 20 48.6**	**-0.6**
	comp=Z,15nm,0.9s						
KURK	**Kurchatov**	**45.95**	**308**	*i* P	**P**	**07 20 48.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURBB	**Kurchatov Arra**	**46.02**	**308**	P	**P**	**07 20 49.2**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=81,slow=7.6,SNR=17						
IMAR	**Indian Mountai**	**46.88**	**31**	*e*P	**P**	**07 20 57.5**	**+1.3**
BWN	**Browne**	**48.62**	**33**	*e*P	**P**	**07 21 11.5**	**+1.8**
	comp=Z,16nm,0.8s						
TOLK	**Toolik Lake Re**	**48.70**	**27**	*e*P	**P**	**07 21 10.4**	**0.0**
	comp=Z,6.3nm,1.3s						
GHO	**Glory Hole Cre**	**48.94**	**36**	*e*P	**P**	**07 21 12.2**	**-0.1**
	comp=Z,24nm,1.4s						
SML	**Sawmill**	**49.22**	**36**	P	**P**	**07 21 15.8**	**+1.4**
SML				pmax	pmax		
	comp=Z,8.0nm,1.2s						
DHY	**Denali Highway**	**49.59**	**35**	*e*P	**P**	**07 21 17.8**	**+0.4**
	comp=Z,15nm,1.6s						
ILAR	**Eielson Array**	**49.72**	**32**	*e*P	**P**	**07 21 18.6**	**+0.4**
ILAR	**Eielson Array**	**49.72**	**32**	P	**P**	**07 21 18.8**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=275,slow=5.8,SNR=10.0						
ILB	**Eielson Array**	**49.72**	**32**	*e*P	**P**	**07 21 18.7**	**+0.5**
	comp=Z,12nm,1.5s						
KSH	**Kashi**	**50.37**	**294**	P	**P**	**07 21 26.3**	**+2.7**
AAK	**Ala-Archa**	**50.47**	**298**	*i* P	**P**	**07 21 24.0**	**-0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,2.1s						
AAK	**Ala-Archa**	**50.47**	**298**	P	**P**	**07 21 23.9**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=166,slow=4.2,SNR=2.7						
BVAR	**Borovoye Array**	**50.61**	**312**	P	**P**	**07 21 24.8**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=80,slow=7.9,SNR=3.4						
BRVK	**Borovoye**	**50.66**	**312**	*i* P	**P**	**07 21 24.3**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BCAR	**Beaver Creek A**	**52.12**	**34**	*e*P	**P**	**07 21 37.2**	**+0.9**
EPYK	**Eagle Plains**	**53.75**	**30**	*e*P	**P**	**07 21 50.3**	**+2.0**
	comp=Z,17nm,1.4s						
INK	**Inuvik**	**54.61**	**27**	*e*P	**P**	**07 21 54.7**	**+0.3**
	comp=Z,11nm,1.9s						
INK	**Inuvik**	**54.61**	**27**	P	**P**	**07 21 55.4**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=303,slow=9.8,SNR=5.2						
ARU	**Arti**	**56.42**	**319**	*c i*P	**P**	**07 22 07.1**	**-0.5**
ARU						07 22 58.9	
ARU						07 24 08.8	
ARU				S	**S**	**07 30 01.7**	**+3.7**
ARU				SS	**SS**	**07 33 41.6**	**-2.9**
ARU	**Arti**	**56.42**	**319**	P	**P**	**07 22 07.2**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=265,slow=23,SNR=4.4						
FITZ	**Fitzroy Crossi**	**56.60**	**198**	*e*P	**P**	**07 22 06.2**	**-3.1**
	comp=Z,47nm,1.8s						
WB2	**Warramunga Arr**	**56.85**	**188**	*e*P	**P**	**07 22 10.6**	**-0.5**
	comp=Z,24nm,1.7s						
WRA	**Warramunga Arr**	**56.85**	**188**	P	**P**	**07 22 10.1**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=4.7,slow=6.6,SNR=20						
WC3	**Warramunga Arr**	**56.87**	**188**	*e*P	**P**	**07 22 10.5**	**-0.7**
	comp=Z,27nm,1.8s						
AS31	**Alice Springs**	**60.58**	**188**	*e*P	**P**	**07 22 37.6**	**+0.6**
	comp=Z,3.7nm,1.8s						
ASAR	**Alice Springs**	**60.58**	**188**	*e*P	**P**	**07 22 36.6**	**-0.4**
ASAR	**Alice Springs**	**60.58**	**188**	P	**P**	**07 22 36.2**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=12,slow=7.2,SNR=12						
RES	**Resolute Bay**	**62.82**	**14**	*e*P	**P**	**07 22 51.3**	**-0.2**
	comp=Z,16nm,1.9s						
RES	**Resolute Bay**	**62.82**	**14**	P	**P**	**07 22 52.3**	**+0.9**
	comp=Z,1.0nm,1.0s,baz=325,slow=7.7,SNR=3.3						
DZM	**Mont Dzumac**	**63.23**	**154**	*e*P	**P**	**07 22 58.0**	**+3.1**
	comp=Z,26nm,2.0s						
ARCES	**ARCESS Array B**	**64.13**	**339**	P	**P**	**07 22 59.7**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=44,slow=7.1,SNR=4.7						
FINES	**FINESS Array B**	**68.92**	**332**	*e*P	**P**	**07 23 30.3**	**-0.6**
FINES	**FINESS Array B**	**68.92**	**332**	P	**P**	**07 23 30.6**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=35,slow=7.0,SNR=6.3						
KIV	**Kislovodsk**	**70.94**	**311**	*e*P	**P**	**07 23 41.7**	**-2.1**
KIV				pmax	pmax		
	comp=Z,14nm,0.9s						
KCPM	**Cahto Peak**	**71.09**	**54**	*e*P	**P**	**07 23 43.7**	**-1.1**
	comp=Z,44nm,1.5s						
I07A	**Izee**	**71.27**	**49**	*e*P	**P**	**07 23 46.3**	**+0.4**
	comp=Z,9.6nm,1.6s						
NB2	**NORSAR Subarra**	**74.31**	**337**	P	**P**	**07 24 03.0**	**-0.5**
	comp=Z,7.8nm,1.2s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**74.31**	**337**	P	**P**	**07 24 03.3**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=39,slow=6.0,SNR=3.8						
LRM	**Limekiln Ridge**	**74.37**	**44**	*e*P	**P**	**07 24 02.2**	**-2.2**
AKASG	**Malin Array Be**	**74.37**	**322**	*i* P	**P**	**07 24 03.0**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**74.37**	**322**	P	**P**	**07 24 03.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=44,slow=5.9,SNR=4.8						
KIEV	**Kiev**	**74.38**	**322**	*i* P	**P**	**07 24 03.1**	**-0.9**
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.2s						
NVAR	**Mina Array Bea**	**75.20**	**53**	*e*P	**P**	**07 24 08.7**	**-0.6**
NVAR	**Mina Array Bea**	**75.20**	**53**	P	**P**	**07 24 09.5**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=265,slow=5.9,SNR=5.9						
YHB	**Horse Butte**	**75.72**	**45**	*e*P	**P**	**07 24 13.4**	**+1.2**
	comp=Z,6.5nm,1.3s						
FRB	**Frobisher Bay**	**76.99**	**13**	P	**P**	**07 24 18.5**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=307,slow=5.8,SNR=3.3						
PDAR	**Pinedale Array**	**77.89**	**45**	*e*P	**P**	**07 24 24.6**	**+0.2**
PDAR	**Pinedale Array**	**77.89**	**45**	P	**P**	**07 24 24.8**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=322,slow=8.1,SNR=2.2						
BRTR	**Keskin Array B**	**78.89**	**311**	*e*P	**P**	**07 24 29.2**	**-0.6**
BRTR	**Keskin Array B**	**78.89**	**311**	*e*P	**P**	**07 24 29.3**	**-0.6**
GERES	**GERESS Array B**	**82.81**	**328**	P	**P**	**07 24 50.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=39,slow=3.8,SNR=2.7						
ANMO	**Albuquerque**	**84.81**	**50**	*i* P	**P**	**07 24 58.1**	**-3.2**
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TXAR	**Lajitas Array**	**90.34**	**52**	P	**P**	**07 25 28.5**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=264,slow=2.5,SNR=4.4						
LPAZ	**La Paz**	**146.90**	**60**	PKPbc	**PKPbc**	**07 32 09.8**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=342,slow=1.9,SNR=11						
SIV	**San Ignacio**	**151.30**	**50**	PKPbc	**PKPbc**	**07 32 20.2**	**-0.4**
	comp=Z,3.2nm,1.1s,baz=312,slow=6.0,SNR=6.6						
SIV				PKPab	**PKPab**	**07 32 28.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=259,slow=3.1,SNR=7.4						

*IDC **16** 07:16:45.5±0.8, 28.°31N×51.°71E, h0km, mb4.0/17, mb1 4.1/23, mb1mx3.9/55, mbtmp4.0/23, ML4.1/7, MS3.7/1, Ms1 3.7/1, ms1mx2.8/54, Error ellipse: s-maj=17.5km s-min=15.5km az=162.0*

*MOS **16** 07:16:46.8±1.4, 28.°28N×51.°69E, h21km, mb4.3/6, Error ellipse: s-maj=10.5km s-min=7.6km az=76.2*

*ISCJB **16** 07:16:47.3±0.3, 28.°32N±0.°02×51.°65E±0.°03, h24km, mb4.1/30, MS3.6/1, Error ellipse: s-maj=4.3km s-min=2.9km az=137.1*

*TEH **16** 07:16:47.1, 28.°38N×51.°67E, h17km, ML4.0*

*NEIC **16** 07:16:48.3±0.0, 28.°51N×51.°69E, h14km, mb4.2/21, ML4.0(THR), MN3.8(TEH), After THR.*

*OMAN **16** 07:16:51.8±1.4, 28.°28N×51.°94E, h14km, ml4.2/7, Error ellipse: s-maj=30.6km s-min=10.7km az=32.0*

*DSN **16** 07:16:53.8±0.7, 28.°31N×52.°25E, h10km, ML4.2/7, Error ellipse: s-maj=17.5km s-min=5.9km az=50.0*

ISC 16 07:16:49.3±0.5, 28.°39N±0.°04×51.°72E±0.°04, h24km, n126, σ1§21/133, mb4.1/30, Southern Iran

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.12**	**95**	*e*Pn	**Pn**	**07 17 09.0**	**-0.6**
GHIR				*e*Sn	**Sb**	**07 17 25.0**	**+0.7**
GHIR	**Ghir-Karzin**	**1.12**	**95**	*e*Pn	**Pb**	**07 17 10.0**	**-0.1**
IKAZ	**Kazeroun**	**1.39**	**4**	*e*Pg	**Pn**	**07 17 13.8**	**+0.3**
IKAZ				IAMB	IAmb	07 17 48.2	
	comp=Z,0.0nm,0.7s						
SHI	**Shiraz**	**1.43**	**29**	P	**Pb**	**07 17 14.9**	**-0.4**
SHI				S	**Sb**	**07 17 34.8**	**+1.7**
SHI	**Shiraz**	**1.43**	**29**	*e*Pg	**Pb**	**07 17 14.9**	**-0.4**
JHRM	**Jahrom**	**1.64**	**86**	*e*Pg	**Pb**	**07 17 18.3**	**-0.6**
IPAR	**Pars**	**1.85**	**38**	*e*Pn	**Pb**	**07 17 21.6**	**-1.1**
IPAR				IAMB	IAmb	07 17 50.8	
	comp=Z,0.0nm,0.8s						
IRAM	**Ramesheh**	**3.45**	**9**	*e*Pn	**Pn**	**07 17 42.1**	**+0.3**
ISAD	**Sadrabad**	**3.90**	**25**	*e*Pn	**Pn**	**07 17 49.3**	**+1.3**
IMEH	**Mehriz**	**3.90**	**39**	*e*Pn	**Pn**	**07 17 49.9**	**+1.9**
IGAR	**Gharneh**	**4.01**	**4**	*e*Pn	**Pn**	**07 17 49.4**	**0.0**
GENO	**Geno**	**4.06**	**103**	*e*Pn	**Pn**	**07 17 49.6**	**-0.5**
ICHK	**Chekchek**	**4.49**	**31**	*e*Pn	**Pn**	**07 17 57.3**	**+1.3**
IZEF	**Zefreh**	**4.52**	**7**	*e*Pn	**Pn**	**07 17 57.0**	**+0.5**
NGRK	**Negar Kerman**	**4.56**	**73**	*e*Pn	**Pn**	**07 17 57.8**	**+0.7**
NGRK				IAMB	IAmb	07 18 00.2	
	comp=Z,0.0nm,0.3s						
SHME	**Shamm**	**4.58**	**120**	P	**Pn**	**07 17 57.0**	**-0.1**
SHME	**Shamm**	**4.58**	**120**	*e*Pn	**Pn**	**07 17 57.6**	**+0.6**
KHGB	**Koh Gabri**	**4.60**	**63**	*e*Pn	**Pn**	**07 17 58.2**	**+0.7**
KHGB				IAMB	IAmb	07 19 22.2

comp=Z,18nm,1.2s
MANT Manisa 21.74 304 *e*P **P 07 21 38.3 -0.9**
comp=Z,24nm,1.0s
ABKAR Akbulak array 21.77 15 *e*P **P 07 21 38.9 -0.2**
comp=Z,3.2nm,0.6s
AKTO Aktyubinsk 22.53 11 P **P 07 21 47.5 +0.3**
comp=Z,1.7nm,0.5s,baz=189,slow=12,SNR=6.6
AKTO LR LR 07 32 53.3
comp=Z,200nm,19.1s,baz=335,slow=43
AAK Ala-Archa 23.26 46 *e*P **P 07 21 58.4 +3.3**
comp=Z,6.7nm,1.3s
AAK Ala-Archa 23.26 46 P **P 07 21 56.9 +1.7**
comp=Z,2.6nm,0.7s,baz=181,slow=7.1,SNR=5.6
NRN Naryn 23.69 50 *e*P **P 07 22 01.4 +1.9**
comp=Z,3.9nm,0.9s
NRN Naryn 23.69 50 *e*P **P 07 22 01.4 +1.9**
NRN pmax pmax
comp=Z,4.0nm,0.9s
IDI Anoyia 23.76 294 P **P 07 22 00.7 +0.7**
comp=Z,3.7nm,0.6s,baz=116,slow=12,SNR=3.6
BOOM Boomskoye usch 24.12 48 *e*P **P 07 22 04.9 +1.4**
comp=Z,5.4nm,0.8s
BOOM Boomskoye usch 24.12 48 *e*P **P 07 22 04.9 +1.4**
BOOM pmax pmax
comp=Z,5.0nm,0.8s
KDJ Kajisay 24.79 50 *e*P **P 07 22 11.0 +1.5**
comp=Z,6.7nm,1.0s
KDJ Kajisay 24.79 50 *e*P **P 07 22 11.0 +1.5**
KDJ pmax pmax
comp=Z,7.0nm,1.0s
FNA Florina 27.73 304 *e*P **P 07 22 38.7 +2.8**
comp=Z,8.9nm,1.2s
FNA Florina 27.73 304 *e*P **P 07 22 38.7 +2.8**
FNA pmax pmax
comp=Z,9.0nm,1.2s
AKASG Malin Array Be 28.03 329 P **P 07 22 39.6 +1.2**
comp=Z,0.3nm,0.3s,baz=134,slow=9.4,SNR=2.1
AKBB Malin Array Si 28.03 329 *e*P **P 07 22 38.0 -0.4**
comp=Z,14nm,1.8s
BVAR Borovoye Array 28.22 24 P **P 07 22 40.4 +0.3**
comp=Z,1.5nm,0.6s,baz=218,slow=7.0,SNR=6.8
KURBB Kurchatov Arra 30.06 35 P **P 07 22 56.7 +0.3**
comp=Z,0.8nm,0.6s,baz=237,slow=8.6,SNR=6.0
MK31 Makanchi Array 30.13 44 *e*P **P 07 22 56.0 -1.1**
comp=Z,4.4nm,1.8s
MK31 Makanchi Array 30.13 44 *e*P **P 07 22 56.0 -1.1**
MK31 pmax pmax
comp=Z,4.0nm,1.8s
MK32 Makanchi Array 30.13 44 *e*P **P 07 22 57.4 +0.2**
MKAR Makanchi Array 30.13 44 P **P 07 22 57.4 +0.2**
comp=Z,0.6nm,0.5s,baz=230,slow=8.4,SNR=5.8
KURK Kurchatov 30.16 35 *e*P **P 07 22 58.2 +0.9**
comp=Z,14nm,1.9s
KURK Kurchatov 30.16 35 P **P 07 22 56.7 -0.6**
VYHS Vyhne 32.29 317 *e*P **P 07 23 17.6 +1.5**
VYHS Vyhne 32.29 317 *e*P **P 07 23 17.6 +1.5**
FIA0 FINESS Array S 37.20 340 *e*P **P 07 23 57.9 -0.5**
FINES FINESS Array B 37.20 340 *e*P **P 07 23 58.0 -0.3**
FINES FINESS Array B 37.20 340 P **P 07 23 57.9 -0.5**
comp=Z,3.2nm,0.7s,baz=142,slow=7.9,SNR=7.7
NC405 NORSAR Array S 42.16 332 *e*P **P 07 24 38.6 -1.1**
comp=Z,45nm,1.4s
NB200 NORSAR Array S 42.33 332 *e*P **P 07 24 41.5 +0.4**
NOA NORSAR Array B 42.33 332 P **P 07 24 41.5 +0.4**
comp=Z,1.1nm,0.9s,baz=122,slow=8.3,SNR=3.0
ARA0 ARCESS Array S 43.88 347 *e*P **P 07 24 53.8 +0.4**
ARCES ARCESS Array B 43.88 347 P **P 07 24 53.8 +0.4**
comp=Z,0.7nm,0.6s,baz=153,slow=10,SNR=3.3
TOA0 Torodi Ar. Sit 48.83 263 *e*P **P 07 25 32.5 -0.5**
comp=Z,24nm,1.8s
TOA1 Torodi Ar. Sit 48.83 263 *e*P **P 07 25 32.1 -0.9**
TORD Torodi Ar. Bea 48.83 263 P **P 07 25 32.1 -0.9**
comp=Z,1.4nm,0.6s,baz=63,slow=8.0,SNR=8.1
SPA0 Spitsbergen Ar 52.34 351 *e*P **P 07 25 58.4 -0.2**
comp=Z,45nm,1.3s
SPITS Spitsbergen Ar 52.34 351 P **P 07 25 59.1 +0.5**
comp=Z,1.7nm,0.6s,baz=145,slow=11,SNR=7.2
DBIC Dimbokro 57.55 259 *e*P **P 07 26 36.6 -0.6**
comp=Z,72nm,1.8s
DBIC Dimbokro 57.55 259 *e*P **P 07 26 36.6 -0.6**
DBIC pmax pmax
comp=Z,72nm,1.8s
DBIC Dimbokro 57.55 259 P **P 07 26 36.9 -0.4**
comp=Z,3.8nm,0.6s,baz=49,slow=7.1,SNR=5.3
FRB Frobisher Bay 76.93 337 P **P 07 28 39.7 +0.4**
comp=Z,2.0nm,0.8s,baz=47,slow=6.0,SNR=5.5
IMAR Indian Mountai 83.91 10 *e*P **P 07 29 17.1 +0.2**
YKA Yellowknife Ar 88.77 354 P **P 07 29 40.9 +0.2**
comp=Z,0.8nm,0.9s,baz=7.7,slow=4.8,SNR=8.5
YKB5 Yellowknife Ar 88.77 354 *e*P **P 07 29 40.9 +0.2**
WRA Warramunga Arr 93.09 111 P **P 07 30 01.3 -0.2**
comp=Z,0.2nm,0.4s,baz=325,slow=4.7,SNR=5.5
WR1 Warramunga Arr 93.09 111 *e*P **P 07 30 01.3 -0.2**
ASAR Alice Springs 94.53 114 P **P 07 30 07.3 -0.8**
comp=Z,0.6nm,0.5s,baz=302,slow=4.6,SNR=13

IDC ***16*** *07:22:01.1±1.1, 13°.27N×91°.52W, h0km, mb3.7/6, mb1 3.9/10, mb1mx3.7/43, mbtmp3.7/10, ML3.6/4, Error ellipse: s-maj=30.2km s-min=17.2km az=44.0*
ISCJB ***16*** *07:22:01.2±1.5, 13°.13N±0°.05×91°.60W±0°.03, h25km±13km, mb3.8/9, Error ellipse: s-maj=8.5km s-min=4.9km az=23.5*
UCR ***16*** *07:22:03.2±1.6, 13°.13N×91°.55W, h34km±31km, MD3.8, mb3.9(NEIC)*
SNET ***16*** *07:22:03.6±1.3, 13°.46N×91°.55W, h35km±999km, MD4.3*
NEIC ***16*** *07:22:03.3±0.0, 13°.08N×91°.79W, h66km, mb3.9/8, MD4.0(MEX), After MEX.*
MEX ***16*** *07:22:03.3±0.5, 13°.08N×91°.79W, h66km±87km, MD4.0*
ISC 16 07:22:00.7±2.2,**13°.25N**±0°.07×**91°.55W**±0°.05,**h8**km±12km,
n57,σ1°**53**/76,**mb3.9**/8,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.37**	**30**	*e*P	**Pg**	**07 22 27.5**	**+0.5**
FUG				*e*S	**Sg**	**07 22 46.9**	**+2.0**
IXG	**Ixpaco**	**1.42**	**50**	*e*P	**Pb**	**07 22 27.4**	**0.0**
PCG	**Pacaya**	**1.46**	**39**	*e*P	**Pg**	**07 22 28.7**	**+0.1**
NBG	**Las Nubes**	**1.77**	**41**	*e*P	**Pb**	**07 22 33.6**	**+0.1**
NBG				*e*S	**Sg**	**07 22 57.2**	**-0.5**
RTR	**El Retiro**	**1.96**	**71**	*e*P	**Pn**	**07 22 34.2**	**-0.2**
RTR	**El Retiro**	**1.96**	**71**	*e*P	**Pn**	**07 22 34.2**	**-0.2**
SBLS	**San Blas**	**1.97**	**73**	*e*P	**Pn**	**07 22 34.2**	**-0.3**
SBLS	**San Blas**	**1.97**	**73**	*e*P	**Pn**	**07 22 34.2**	**-0.3**
SNJE	**San Jose**	**1.99**	**72**	*e*P	**Pn**	**07 22 34.6**	**-0.2**
SNJE	**San Jose**	**1.99**	**72**	*e*P	**Pn**	**07 22 34.6**	**-0.2**
APG	**El Apazote**	**2.04**	**31**	Pn	**Pb**	**07 22 37.4**	**-0.6**
	28nm,0.3s,baz=213,slow=16,SNR=120						
APG				Sn	**Sb**	**07 23 03.9**	**+0.2**
	10nm,0.3s,baz=244,slow=12,SNR=8.3						
BOQS	**Boqueron**	**2.26**	**78**	*e*P	**Pn**	**07 22 38.6**	**0.0**
SNET	**Serv Nac Est T**	**2.30**	**79**	*e*P	**Pn**	**07 22 39.2**	**+0.3**
SNET				*e*S	**Sn**	**07 23 06.1**	**-1.4**
SNET	**Serv Nac Est T**	**2.30**	**79**	*e*P	**Pn**	**07 22 39.2**	**+0.3**
SNET				*e*S	**Sn**	**07 23 06.1**	**-1.4**
LFU	**La Fuente**	**2.42**	**78**	*e*P	**Pn**	**07 22 41.3**	**+0.6**
LFU	**La Fuente**	**2.42**	**78**	*e*P	**Pn**	**07 22 41.3**	**+0.6**
LFRS	**El Faro**	**2.45**	**81**	*e*P	**Pn**	**07 22 41.7**	**+0.6**
LFRS				*e*S	**Sn**	**07 23 11.7**	**+0.3**
LBRS	**Las Brisas**	**2.49**	**79**	*e*P	**Pn**	**07 22 42.6**	**+1.0**
MRL	**Marmol**	**2.57**	**45**	*e*P	**Pb**	**07 22 45.0**	**-2.1**
PCIG		**2.92**	**327**	*e*Pn	**Pn**	**07 22 47.6**	**+0.2**
PCIG				*e*Sn	**Sn**	**07 23 19.9**	**-2.8**
PCIG		**2.92**	**327**	*e*P	**Pn**	**07 22 47.6**	**+0.2**
PCIG				*i* S	**Sn**	**07 23 19.9**	**-2.8**
TECA	**Tecapa**	**2.98**	**85**	*e*P	**Pn**	**07 22 48.9**	**+0.5**
TECA	**Tecapa**	**2.98**	**85**	*e*P	**Pn**	**07 22 48.9**	**+0.5**
CCIG	**Comitan**	**3.06**	**349**	*e*Pn	**Pb**	**07 22 53.0**	**-2.5**
CCIG				*e*Sn	**Sn**	**07 23 27.2**	**+0.8**
CCIG	**Comitan**	**3.06**	**349**	*e*P	**Pn**	**07 22 50.4**	**+0.9**
CCIG				*i* S	**Sn**	**07 23 27.2**	**+0.8**
PACA	**Pacayal**	**3.15**	**86**	*e*P	**Pn**	**07 22 51.4**	**+0.7**
PACA				*e*S	**Sn**	**07 23 27.8**	**-0.8**
PACA	**Pacayal**	**3.15**	**86**	*e*P	**Pn**	**07 22 51.4**	**+0.7**
PACA				*e*S	**Sn**	**07 23 27.8**	**-0.8**
LCY	**Lacayo**	**3.18**	**87**	*e*P	**Pn**	**07 22 52.3**	**+1.2**
LCY	**Lacayo**	**3.18**	**87**	*e*P	**Pn**	**07 22 52.3**	**+1.2**
CNCH	**Conchagua**	**3.62**	**89**	*e*P	**Pn**	**07 22 57.3**	**+0.1**
CNCH				*e*S	**Sn**	**07 23 40.3**	**+0.1**
CNCH	**Conchagua**	**3.62**	**89**	*e*P	**Pn**	**07 22 57.3**	**+0.1**
CNCH				*e*S	**Sn**	**07 23 40.3**	**+0.1**
TGIG		**3.82**	**337**	*e*Pn	**Pn**	**07 23 00.5**	**+0.7**
TGIG				*e*Sn	**Sn**	**07 23 43.4**	**-1.5**
TGIG		**3.82**	**337**	*i* P	**Pn**	**07 23 00.5**	**+0.7**
TGIG				*i* S	**Sn**	**07 23 43.4**	**-1.5**
TGUH	**Tegucigalpa,Un**	**4.24**	**79**	*e*Pn	**Pn**	**07 23 02.9**	**-2.6**
CMIG	**Matias Romero**	**4.99**	**320**	*e*Pn	**Pn**	**07 23 15.9**	**+0.1**
CMIG				*e*Sn	**Sn**	**07 24 11.3**	**-2.5**
CMIG	**Matias Romero**	**4.99**	**320**	*i* P	**Pn**	**07 23 15.9**	**+0.1**
CMIG				*i* S	**Sn**	**07 24 11.3**	**-2.5**
CMIG	**Matias Romero**	**4.99**	**320**	Pn	**Pn**	**07 23 17.4**	**+1.5**
	0.8nm,0.3s,baz=151,slow=10,SNR=13						
CMIG				Sn	**Sn**	**07 24 17.3**	**+3.5**
	1.7nm,0.3s,baz=246,slow=20,SNR=2.9						
ESTN	**Estel**	**5.05**	**91**	*e*Pn	**Pn**	**07 23 16.7**	**-0.1**
JTS	**Las Juntas de**	**7.10**	**114**	*e*Pn	**Pn**	**07 23 46.8**	**+1.8**
JTS	**Las Juntas de**	**7.10**	**114**	Pn	**Pn**	**07 23 46.6**	**+1.6**
	0.9nm,0.3s,baz=299,slow=18,SNR=6.5						
JTS				Sn	**Sn**	**07 25 02.2**	**-3.7**
	0.9nm,0.3s,baz=9.0,slow=19,SNR=2.7						
TEIG	**Tepich**	**7.61**	**24**	*e*Pn	**Pn**	**07 23 53.5**	**+1.6**
TXAR	**Lajitas Array**	**19.55**	**327**	P	**Pn**	**07 26 32.5**	**+2.2**
	0.1nm,0.3s,baz=148,slow=15,SNR=8.0						
TX31	**Lajitas Ar. Si**	**19.55**	**327**	*e*P	**P**	**07 26 25.6**	**-3.4**
	4.2nm,1.3s						
Z50A	**Ashland**	**20.56**	**14**	*e*P	**P**	**07 26 39.0**	**-0.9**
	6.6nm,1.2s						
ABTX	**Abilene, Hawle**	**20.65**	**340**	*e*P	**P**	**07 26 37.8**	**-3.1**
	11nm,1.4s						
SDV	**Santo Domingo**	**20.98**	**100**	*e*P	**P**	**07 26 40.3**	**-4.5**
	5.4nm,1.1s						
SDV	**Santo Domingo**	**20.98**	**100**	P	Pn	07 26 46.4	-0.9
	1.6nm,0.5s,baz=297,slow=9.0,SNR=3.0						
MNTX	**Cornudas Mount**	**22.32**	**328**	*e*P	**P**	**07 26 59.9**	**+1.0**
	3.1nm,0.6s						
AMTX	**Amarillo**	**23.41**	**339**	*e*P	**P**	**07 27 09.9**	**-0.2**
	4.7nm,0.6s						
CCM	**Cathedral Cave**	**24.70**	**1**	*e*P	**P**	**07 27 21.6**	**-0.7**
	5.5nm,0.6s						
NVAR	**Mina Array Bea**	**34.52**	**321**	P	**P**	**07 28 52.0**	**+2.2**
	0.7nm,0.6s,baz=135,slow=8.3,SNR=7.7						
SIV	**San Ignacio**	**41.87**	**133**	P	**P**	**07 29 52.5**	**+0.8**
	1.1nm,0.8s,baz=313,slow=9.1,SNR=4.6						
YKA	**Yellowknife Ar**	**51.85**	**347**	P	**P**	**07 31 09.2**	**+0.1**
	0.6nm,0.6s,baz=148,slow=7.8,SNR=9.3						
INK	**Inuvik**	**61.27**	**344**	P	**P**	**07 32 16.9**	**+0.8**
	0.5nm,0.6s,baz=101,slow=2.3,SNR=5.0						
ILAR	**Eielson Array**	**63.69**	**337**	P	**P**	**07 32 34.0**	**+1.6**
	0.6nm,0.6s,baz=172,slow=4.6,SNR=5.5						
WRA	**Warramunga Arr**	**135.63**	**255**	PKP	**PKiKP**	**07 41 26.0**	**+1.9**
	0.5nm,1.0s,baz=84,slow=2.2,SNR=1.1						
CMAR	**Chiang Mai Arr**	**146.83**	**342**	PKPbc	**PKPab**	**07 41 46.1**	**+0.5**
	0.6nm,0.4s,baz=0.0,slow=5.2,SNR=5.3						

ISK ***16*** *07:38:36.8, 37°.04N×28°.47E, h10km, ML2.5/12*
ISCJB ***16*** *07:38:37.8±0.5, 37°.04N±0°.03×28°.43E±0°.03, h8km±6km, Error ellipse: s-maj=5.7km s-min=4.6km az=13.0*
DDA ***16*** *07:38:37.0, 37°.04N×28°.43E, h7km±5km, ML2.3*
ISC 16 07:38:37.4±1.2,**37°.09N**±0°.04×**28°.42E**±0°.03,**h11**km±9km,
n19,σ1°**34**/29,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.26**	**146**	PG	**Pg**	**07 38 43.1**	**+0.3**
TURN				SG	**Sb**	**07 38 48.4**	**-0.3**
TURN	**Turunc**	**0.26**	**146**	IAML_P			
	comp=Z,3μm,0.1s						
TURN				*i* P	**Pb**	**07 38 43.8**	**-0.3**
TURN				*i* S	**Sb**	**07 38 49.6**	**+0.9**
DALY	**Dalyan (Mula)**	**0.33**	**145**	PG	**Pg**	**07 38 42.5**	**-1.6**
DALY				SG	**Sg**	**07 38 47.0**	**-1.5**
DALY	**Dalyan (Mula)**	**0.33**	**145**	IAML_P			
	comp=Z,1μm,0.2s						
DALY				*i* P	**Pg**	**07 38 43.7**	**-0.4**
DALY				*i* S	**Sg**	**07 38 47.8**	**-0.7**
MRSB	**Marmaris-Mugla**	**0.41**	**206**	PG	**Pg**	**07 38 44.9**	**-0.7**
MRSB				SG	**Sg**	**07 38 51.7**	**+0.6**
BBRN	**Bozburun-Marma**	**0.50**	**215**	PG	**Pg**	**07 38 47.2**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.54**	**46**	IAML_P			
	comp=Z,381nm,0.1s						
TAVA				*i* P	**Pb**	**07 38 49.5**	**+0.5**
TAVA				*i* S	**Sn**	**07 38 58.9**	**-1.5**
DATC	**Datca-Mugla**	**0.69**	**242**	PG	**Pg**	**07 38 51.0**	**+0.2**
FETY	**Fethiye**	**0.70**	**130**	PG	**Pg**	**07 38 50.2**	**-0.8**
FETY	**Fethiye**	**0.70**	**130**	*i* P	**Pg**	**07 38 50.6**	**-0.4**
FETY				*i* S	**Sb**	**07 39 01.2**	**-0.1**
AYDN	**Tasoluk**	**0.71**	**323**	IAML_P			
	comp=Z,908nm,0.2s						
AYDN				*i* P	**Pn**	**07 38 52.7**	**-0.9**
AYDN				*i* S	**Sn**	**07 39 03.7**	**-0.9**
DAT	**Datca**	**0.77**	**242**	PG	**Pg**	**07 38 52.5**	**+0.3**
DAT				SG	**Sb**	**07 39 03.8**	**+0.5**
DAT	**Datca**	**0.77**	**242**	*i* S	**Sn**	**07 39 05.7**	**-0.1**
BODT	**Bodrum**	**0.89**	**268**	PG	**Pb**	**07 38 55.3**	**+0.4**
ARG	**Arkhangelos**	**0.90**	**195**	PG	**Pg**	**07 38 54.3**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**334**	PG	**Pn**	**07 38 56.7**	**-0.2**
AKAS	**Kas**	**1.28**	**132**	PN	**Pn**	**07 39 00.6**	**-0.8**
AKAS	**Kas**	**1.28**	**132**	IAML_P			
	comp=Z,609nm,0.2s						
AKAS				*i* P	**Pg**	**07 39 04.0**	**+2.0**
AKAS				*i* S	**Sg**	**07 39 23.9**	**+5.2**
KARP	**Karpathos**	**1.84**	**214**	PN	**Pn**	**07 39 08.9**	**-0.2**

ISCJB ***16*** *07:39:51.3±0.5, 37°.03N±0°.03×141°.30E±0°.05, h53km±3km, mb4.2/41, Error ellipse: s-maj=7.0km s-min=3.8km az=22.9*
MOS ***16*** *07:39:51.9±1.0, 37°.13N×141°.16E, h53km, mb4.4/15, Error ellipse: s-maj=12.2km s-min=7.5km az=103.8*
NEIC ***16*** *07:39:51.3±1.5, 37°.16N×141°.40E, h35km±1km, mb4.5/14, Error ellipse: s-maj=17.8km s-min=12.7km az=103.0*
NEIC Felt at Iwaki. Recorded [2 JMA] in Fukushima.
JMA ***16*** *07:39:53.3±0.1, 37°.06N×141°.14E, h50km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs29.00000°, δ73.00000°, λ90.00000°. NP2:φs209.00000°, δ17.00000°, λ90.00000°. Principal axes: T Plg62.0000°, Azm299.0000°; N Plg0.0000°, Azm29.0000°; P Plg28.0000°, Azm119.0000°;*
JMA Felt II J1.
IDC ***16*** *07:39:53.6±0.5, 37°.04N×141°.14E, h53km±4km, mb3.7/18, mb1 3.9/22, mb1mx3.8/44, mbtmp4.0/22 Error ellipse: s-maj=10.8km s-min=7.6km az=133.0*
ISC 16 07:39:53.0±0.5,**37°.04N**±0°.04×**141°.34E**±0°.05,**h50**km±4km,
n110,σ1°**85**/137,**mb4.2**/41,**6C-12D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.43**	**278**	||P	**Pn**	**07 40 02.2**	**-1.4**
ONAJ				S	**Sn**	**07 40 08.5**	**-2.6**
JFK	**Kawauchi**	**0.49**	**311**	||P	**Pn**	**07 40 03.0**	**-1.2**
JFK				S	**Sn**	**07 40 09.8**	**-2.4**
JFFD	**Fukushimafurud**	**0.62**	**275**	P	**Pn**	**07 40 04.2**	**-1.6**
JFFD				S	**Sn**	**07 40 11.6**	**-3.3**
JHO	**Hitachi**	**0.75**	**235**	||P	**Pn**	**07 40 05.9**	**-1.5**
JHO				S	**Sn**	**07 40 14.7**	**-3.2**
JFT	**Otama**	**0.93**	**301**	||P	**Pn**	**07 40 09.1**	**-0.7**
JFT				S	**Sn**	**07 40 20.1**	**-2.0**
JMM	**Marumori**	**0.93**	**332**	||P	**Pn**	**07 40 08.9**	**-0.9**
JMM				S	**Sn**	**07 40 20.2**	**-1.9**
JFY	**Yanaizu**	**1.35**	**286**	||P	**Pn**	**07 40 14.1**	**-1.4**
JIO	**Ouri**	**1.41**	**0**	||P	**Pn**	**07 40 16.1**	**-0.2**
JIO				S	**Sn**	**07 40 32.3**	**-1.4**
JOU	**Okura**	**1.42**	**338**	||P	**Pn**	**07 40 16.0**	**-0.5**
JOU				*e*S	**Sn**	**07 40 32.9**	**-1.2**
JYS	**Shirataka**	**1.55**	**320**	||P	**Pn**	**07 40 17.7**	**-0.5**
JYS				*e*S	**Sn**	**07 40 36.1**	**-1.1**
JAG	**Ashikaga**	**1.63**	**248**	||P	**Pn**	**07 40 17.9**	**-1.4**
JAG				S	**Sn**	**07 40 36.1**	**-3.1**
JKT	**Katashina**	**1.69**	**261**	P	**Pn**	**07 40 19.3**	**-1.0**
MJAR	**Matsushiro Arr**	**2.56**	**260**	*e*Pn	**Pn**	**07 40 30.3**	**-1.7**
MJAR				*e*Sn	**Sn**	**07 41 03.1**	**+1.1**
MJAR	**Matsushiro Arr**	**2.56**	**260**	P	**Pn**	**07 40 31.3**	**-0.8**
	3.6nm,0.3s,baz=84,slow=16,SNR=79						
MJAR				S	**Sn**	**07 40 59.3**	**-2.7**
	2.5nm,0.3s,baz=94,slow=15,SNR=5.6						
MAJO	**Matsushiro**	**2.56**	**260**	*e*Pn	**Pn**	**07 40 31.8**	**-0.3**
MAJO				*e*Sn	**Sn**	**07 41 02.1**	**+0.1**
MAJO	**Matsushiro**	**2.56**	**260**	*d* iP	**Pn**	**07 40 31.4**	**-0.7**
MAT	**Matsushiro**	**2.56**	**260**	P	**Pn**	**07 40 31.7**	**-0.4**
MAT				S	**Sn**	**07 41 02.2**	**+0.2**
MJB9	**Matsu-Tunnel**	**2.56**	**260**	*e*Pn	**Pn**	**07 40 31.7**	**-0.4**
MJB9				*e*Sn	**Sn**	**07 41 02.0**	**0.0**
INU	**Inuyama**	**3.88**	**245**	*e*Pn	**Pn**	**07 40 50.7**	**+0.5**
INU				*e*Sn	**Sn**	**07 41 32.7**	**-1.7**
JHJ2	**Mitsune**	**4.12**	**198**	*e*Pn	**Pn**	**07 40 53.6**	**+0.2**
JHJ2				*e*Sn	**Sn**	**07 41 38.3**	**-1.9**
JHJ	**Hachijo jima 2**	**4.12**	**198**	P	**Pn**	**07 40 53.9**	**+0.5**
	38nm,0.3s,baz=331,slow=23,SNR=12						
JHJ				S	**Sn**	**07 41 39.1**	**-1.2**
	50nm,0.3s,baz=236,slow=23,SNR=11						
ERM	**Erimo**	**5.16**	**15**	*e*Pn	**Pn**	**07 41 05.6**	**-2.1**
ERM				*e*Sn	**Sn**	**07 42 00.6**	**-5.3**
ERM	**Erimo**	**5.16**	**15**	*i* P	**Pn**	**07 41 06.5**	**-1.2**
ASAJ	**Asahikawa**	**7.13**	**7**	P	**Pn**	**07 41 34.8**	**+0.1**
	2.8nm,0.3s,baz=216,slow=10,SNR=11						
ASAJ				S	**Sn**	**07 42 54.5**	**+0.2**
	2.1nm,0.3s,baz=66,slow=20,SNR=4.1						
YUK	**Yuzh-Kuril'sk**	**7.79**	**25**	P	Pn	07 41 52.8	+9.1
YUK				*e*S	**Sn**	**07 43 07.3**	**-3.1**
YUK				pmax	pmax		
	comp=N,31nm,0.4s						
YUK				pmax	pmax		
	comp=Z,91nm,0.4s						
KUR	**Kuril'sk**	**9.55**	**29**	P	**Pn**	**07 42 04.4**	**-3.4**
KUR				*e*S	**Sn**	**07 43 48.5**	**-5.1**
KUR				pmax	pmax		
	comp=Z,23nm,0.4s						
KUR				smax	smax		
	comp=N,37nm,0.2s						
KUR				smax	smax		
	comp=E,29nm,0.2s						
USA0B	**Ussuriysk Arra**	**10.07**	**318**	*e*Pn	**Pn**	**07 42 18.2**	**+3.2**
USRK	**Ussuriysk Ar.**	**10.07**	**318**	*e*Pn	**Pn**	**07 42 17.4**	**+2.4**
USRK	**Ussuriysk Ar.**	**10.07**	**318**	P	**Pn**	**07 42 17.6**	**+2.6**
	comp=E,0.9nm,0.3s,baz=130,slow=13,SNR=18						
KSRS	**Korea Array**	**10.70**	**276**	P	**Pn**	**07 42 26.8**	**+3.2**
	comp=E,0.3nm,0.3s,baz=91,slow=14,SNR=12						
KS15	**Wonju Array Si**	**10.73**	**276**	*e*Pn	**Pn**	**07 42 20.5**	**-3.5**
KLR	**Kul'dur**	**14.03**	**333**	*i* P	**Pn**	**07 43 06.9**	**-2.1**
KLR	**Kul'dur**	**14.03**	**333**	P	**Pn**	**07 43 09.7**	**+0.7**
	comp=E,0.1nm,0.3s,baz=140,slow=16,SNR=2.5						
NJ2	**Nanjing**	**19.16**	**262**	*e*P	**P**	**07 44 11.8**	**-0.5**
WHN	**Wuhan**	**23.30**	**262**	P	**P**	**07 45 00.1**	**+3.6**
MA2	**Magadan**	**23.36**	**12**	P	**P**	**07 44 57.6**	**+0.8**
	comp=E,5.8nm,0.3s,baz=17,slow=17,SNR=7.7						
HHC	**Hu-ho-hao-te**	**23.41**	**289**	*e*P	**P**	**07 44 53.4**	**-4.3**
ULN	**Ulaanbaatar**	**27.30**	**304**	*c e*P	**P**	**07 45 31.6**	**-1.4**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BOD	**Bodaibo**	**27.49**	**328**	*e*P	**P**	**07 45 33.1**	**-1.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**27.73**	**304**	*e*P	**P**	**07 45 36.6**	**-0.2**
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**07 45 36.0**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=107,slow=9.5,SNR=5.4						
H11N2	**WAKE ISLAND Hy 28.21**	**121**		T	T	08 15 44.9	
	baz=314,slow=75,SNR=333						
H11N1	**WAKE ISLAND Hy 28.21**	**121**		T	T	08 15 55.8	
	baz=314,slow=75,SNR=309						
H11N3	**WAKE ISLAND Hy 28.23**	**121**		T	T	08 15 56.6	
	baz=314,slow=75,SNR=389						
H11S1	**WAKE ISLAND Hy 28.92**	**123**		T	T	08 16 41.2	
	baz=316,slow=75,SNR=164						
H11S3	**WAKE ISLAND Hy 28.92**	**123**		T	T	08 16 44.9	
	baz=316,slow=75,SNR=176						
H11S2	**WAKE ISLAND Hy 28.93**	**123**		T	T	08 16 38.0	
	baz=316,slow=75,SNR=115						
CD2	**Chengdu**	**31.61**	**270**	*e*P	**P**	**07 46 09.3**	**-2.0**
BILL	**Bilibino**	**34.04**	**16**	*i* P	**P**	**07 46 33.2**	**+1.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KMI	**Kunming**	**34.90**	**261**	P	**P**	**07 46 40.9**	**+0.7**
DGZ	**Jazzator, Alta**	**40.34**	**306**	*i* P	**P**	**07 47 25.5**	**-0.3**
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ	**Urumqi**	**40.78**	**297**	*e*P	**P**	**07 47 30.8**	**+1.4**
ZAA0	**Zalesovo Array**	**41.86**	**312**	*e*P	**P**	**07 47 37.4**	**-0.6**
	comp=Z,5.3nm,0.6s						
ZALV	**Zalesovo Beam**	**41.86**	**312**	*e*P	**P**	**07 47 37.4**	**-0.7**
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**07 47 37.2**	**-0.8**
	comp=Z,5.1nm,0.5s,baz=98,slow=6.9,SNR=14						
ZALV				PcP	**PcP**	**07 49 32.6**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=89,slow=4.2,SNR=4.5						
MK31	**Makanchi Array**	**44.06**	**302**	*e*P	**P**	**07 47 53.6**	**-2.4**
	comp=Z,1.8nm,0.6s						
MK31	**Makanchi Array**	**44.06**	**302**	Pg	**P**	**07 47 53.5**	**-2.5**
	comp=Z,1.9nm,0.6s,baz=74,slow=18,SNR=

comp=Z,3.0nm,0.7s
FINES FINESS Array B 68.78 332 P **P 07 50 51.1 -0.4**
comp=Z,2.9nm,0.7s,baz=53,slow=7.4,SNR=11
KBZ Khabaz 70.85 311 P **P 07 51 04.1 -0.4**
comp=Z,2.1nm,0.8s,baz=34,slow=3.6,SNR=4.4
NC405 NORSAR Array S 73.94 337 *e*P **P 07 51 22.2 -0.5**
comp=Z,24nm,1.3s
NB2 NORSAR Subarra 74.15 337 P **P 07 51 23.7 -0.2**
comp=Z,3.3nm,0.8s,baz=38,slow=6.2
NOA NORSAR Array B 74.15 337 P **P 07 51 23.8 -0.2**
comp=Z,1.2nm,0.6s,baz=38,slow=5.8,SNR=6.5
AKASG Malin Array Be 74.25 322*ce*P **P 07 51 23.6 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 74.25 322 P **P 07 51 23.8 -0.8**
comp=Z,1.8nm,0.4s,baz=46,slow=6.3,SNR=11
AKBB Malin Array Si 74.25 322 *e*P **P 07 51 24.2 -0.5**
comp=Z,6.3nm,1.1s
KIEV Kiev 74.26 322 *i*P **P 07 51 23.7 -1.0**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
NVAR Mina Array Bea 75.03 53 P **P 07 51 30.7 +1.0**
comp=Z,0.2nm,0.4s,baz=287,slow=6.5,SNR=3.1
NVAR pP **pP 07 51 45.8 +2.0**
comp=Z,0.4nm,0.6s,baz=301,slow=6.3,SNR=3.2
BURAR Bucovina Array 78.27 322 *e*P **P 07 51 47.9 +0.3**
BRTR Keskin Array B 78.80 311 *e*P **P 07 51 50.0 -0.8**
BRTR Keskin Array B 78.80 311*ce*P **P 07 51 52.0 +1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 78.80 311 P **P 07 51 50.3 -0.5**
comp=Z,0.9nm,0.7s,baz=101,slow=4.4,SNR=5.5
CLL Collm 81.06 330 *e*P **P 07 52 02.0 -0.5**
CLL Collm 81.06 330 *e*P **P 07 52 02.0 -0.5**
KHC Kasperske Hory 82.50 328 P **P 07 52 10.4 +0.1**
GERES GERESS Array B 82.67 328 *e*P **P 07 52 11.2 0.0**
GERES GERESS Array B 82.67 328 P **P 07 52 10.8 -0.4**
comp=Z,0.8nm,0.4s,baz=23,slow=7.2,SNR=4.7
LIT Litokhoron 84.91 318 P **P 07 52 22.0 -0.7**
LIT pmax pmax
comp=Z,11nm,1.0s
TXAR Lajitas Array 90.17 52 P **P 07 52 49.7 +1.3**
comp=Z,0.2nm,0.5s,baz=295,slow=2.3,SNR=7.3
TXAR pP **pP 07 53 04.2 +1.4**
comp=Z,0.2nm,0.5s,baz=295,slow=3.3,SNR=4.1
TORD Torodi Ar. Bea 117.28 315 PKP **PKPdf 07 58 32.8 -0.6**
comp=Z,0.2nm,0.5s,baz=36,slow=1.0,SNR=4.8
LPAZ La Paz 146.74 59 PKPbc **PKPbc 07 59 31.1 +0.4**
comp=Z,0.7nm,0.6s,baz=322,slow=2.1,SNR=6.4

ISCJB ***16*** *07:39:55.7±0.5, 37°.02N±0°.04×28°.44E±0°.04, h9km±8km, Error ellipse: s-maj=5.9km s-min=4.8km az=170.9*
DDA ***16*** *07:39:55.1, 37°.04N×28°.42E, h7km±4km, ML2.3*
ISK ***16*** *07:39:55.2, 36°.99N×28°.47E, h12km, ML2.6/9*
ISC 16 07:39:55.5±1.0, 37°.03N±0°.03×28°.47E±0°.03, h13km±8km, n17, σ0§82/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.19**	**144**	PG	**Pb**	**07 40 00.9**	**+0.1**
TURN				SG	**Sb**	**07 40 06.1**	**+1.7**
TURN	**Turunc**	**0.19**	**144**	IAML_P			
comp=Z,4μm,0.1s							
TURN				*i* P	**Pb**	**07 40 01.7**	**+0.9**
TURN				*i* S	**Sb**	**07 40 06.8**	**+2.4**
DALY	**Dalyan (Mula)**	**0.26**	**144**	PG	**Pg**	**07 40 00.4**	**-0.5**
DALY				SG	**Sg**	**07 40 04.3**	**-0.3**
DALY	**Dalyan (Mula)**	**0.26**	**144**	IAML_P			
comp=Z,2μm,0.1s							
DALY				*i* P	**Pg**	**07 40 01.4**	**+0.5**
DALY				*i* S	**Sb**	**07 40 05.8**	**-0.6**
MRSB	**Marmaris-Mugla**	**0.38**	**215**	PG	**Pg**	**07 40 02.8**	**-0.3**
MRSB				SG	**Sg**	**07 40 08.4**	**+0.2**
BBRN	**Bozburun-Marma**	**0.48**	**223**	PG	**Pg**	**07 40 04.6**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.56**	**39**	IAML_P			
comp=Z,343nm,0.1s							
TAVA				*i* P	**Pb**	**07 40 07.1**	**-0.2**
TAVA				*i* S	**Sb**	**07 40 16.1**	**+0.7**
FETY	**Fethiye**	**0.63**	**128**	PG	**Pg**	**07 40 07.4**	**-0.4**
FETY	**Fethiye**	**0.63**	**128**	IAML_P			
comp=Z,493nm,0.2s							
FETY				*i* P	**Pn**	**07 40 09.9**	**-0.2**
FETY				*i* S	**Sn**	**07 40 18.8**	**-1.3**
DATC	**Datca-Mugla**	**0.70**	**248**	PG	**Pg**	**07 40 09.0**	**-0.1**
DAT	**Datca**	**0.77**	**248**	PG	**Pg**	**07 40 10.4**	**-0.1**
DAT				SG	**Sb**	**07 40 21.6**	**+0.3**
DAT	**Datca**	**0.77**	**248**	IAML_P			
comp=Z,72nm,0.1s							
DAT				*i* P	**Pn**	**07 40 12.0**	**-0.2**
DAT				*i* S	**Sn**	**07 40 23.1**	**-0.5**
AYDN	**Tasoluk**	**0.79**	**324**	IAML_P			
comp=Z,1μm,0.2s							
AYDN				*i* P	**Pn**	**07 40 12.0**	**-0.4**
AYDN				*i* S	**Sg**	**07 40 20.9**	**-0.2**
ARG	**Arkhangelos**	**0.85**	**199**	PG	**Pg**	**07 40 11.1**	**-0.9**
BODT	**Bodrum**	**0.93**	**273**	PG	**Pg**	**07 40 13.5**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**334**	PG	**Pn**	**07 40 16.4**	**+0.7**
AKAS	**Kas**	**1.21**	**130**	PN	**Pb**	**07 40 18.3**	**-0.1**

ISK ***16*** *08:03:23.3, 39°.69N×29°.48E, h5km, ML1.7/7*
ISCJB ***16*** *08:03:24.5±0.6, 39°.70N±0°.03×29°.47E±0°.05, h3km±7km, Error ellipse: s-maj=6.5km s-min=5.6km az=157.4*
DDA ***16*** *08:03:24.6, 39°.67N×29°.44E, h7km±4km, ML2.6*
ISC 16 08:03:24.3±1.1, 39°.70N±0°.04×29°.48E±0°.03, h11km±11km, n12, σ0§45/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.25**	**183**	PG	**Pg**	**08 03 29.1**	**-0.3**
TVSB				SG	**Sg**	**08 03 33.5**	**+0.6**
ULDT	**Uludag**	**0.52**	**330**	IAML_P			
comp=Z,410nm,0.2s							
ULDT				*i* P	**Pb**	**08 03 35.3**	**-0.2**
ULDT				*i* S	**Sb**	**08 03 44.1**	**+0.9**
GDZ	**Gediz**	**0.61**	**180**	*i* P	**Pg**	**08 03 35.5**	**-0.7**
GDZ				*i* S	**Sb**	**08 03 46.0**	**+0.3**
BORA	**Eskisehir**	**0.78**	**76**	PG	**Pg**	**08 03 38.8**	**-0.5**
BORA	**Eskisehir**	**0.78**	**76**	IAML_P			
comp=Z,718nm,0.1s							
BORA				*i* P	**Pg**	**08 03 38.9**	**-0.4**
BORA				*i* S	**Sn**	**08 03 52.8**	**-0.3**
DURS	**Dursunbey**	**0.78**	**263**	IAML_P			
comp=Z,507nm,0.1s							
DURS				*i* P	**Pg**	**08 03 39.1**	**-0.3**
DURS				*i* S	**Sb**	**08 03 50.6**	**0.0**
SRCK	**Saricakaya, Es**	**0.95**	**68**	PG	**Pb**	**08 03 43.1**	**+0.3**
ARMT	**Armutlu**	**0.99**	**332**	PG	**Pb**	**08 03 43.6**	**+0.1**
KCTX	**Karacabey (Bur**	**1.03**	**304**	PG	**Pb**	**08 03 44.4**	**+0.2**
GULT	**Gulveren**	**1.08**	**47**	PN	**Pn**	**08 03 45.5**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.60**	**98**	PN	**Pb**	**08 03 54.2**	**+0.2**
AUSIV	**SIVRIHISAR**	**1.61**	**98**	PN	**Pb**	**08 03 54.5**	**+0.3**

NIED ***16*** *08:03:00, 38°.80N×144°.30E, h20km, Mw4.2 Best double couple: M0=2.27000×10^15 NP1:φs=149.00000°, δ47.00000°, λ-176.00000°. NP2:φs=56.00000°, δ87.00000°, λ-43.00000°.*
MOS ***16*** *08:03:48.8±1.0, 38°.82N×144°.56E, h35km, mb4.4/18, Error ellipse: s-maj=9.8km s-min=5.3km az=99.6*
ISCJB ***16*** *08:03:48.8±1.1, 38°.83N±0°.03×144°.40E±0°.03, h28km±7km, mb4.4/59, MS3.4/6, Error ellipse: s-maj=5.2km s-min=3.4km az=152.3*
JMA ***16*** *08:03:50.7±0.2, 38°.77N×144°.32E, h49km, M4.6*
IDC ***16*** *08:03:51.0±2.4, 38°.67N×144°.48E, h39km±21km, mb3.9/19, mb1 4.2/26, mb1mx4.0/48, mbtmp4.2/26, ML3.7/6, MS3.3/12, Ms1 3.3/12, ms1mx3.1/39, Error ellipse: s-maj=17.1km s-min=13.5km az=116.0*
NEIC ***16*** *08:03:51.0±1.4, 38°.70N×144°.46E, h35km±1km, mb4.5/34, Error ellipse: s-maj=14.6km s-min=9.4km az=143.0*
ISC 16 08:03:49.7±2.4, 38°.81N±0°.05×144°.48E±0°.05, h25km±16km, n163, σ1§70/190, mb4.5/59, MS3.5/6, 8C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.21**	**291**	P	**Pn**	**08 04 24.5**	**-0.2**
MIYJ				*e*S	**Sn**	**08 04 49.7**	**-1.5**
OFUJ	**Ofunato**	**2.21**	**278**	P	**Pn**	**08 04 24.5**	**-0.3**
OFUJ				S	**Sn**	**08 04 49.4**	**-1.9**
JKMT	**Kesennumamotoy**	**2.35**	**271**	P	**Pn**	**08 04 26.3**	**-0.4**
JKMT				S	**Sn**	**08 04 52.1**	**-2.6**
JMK	**Ichinoseki**	**2.55**	**274**	P	**Pn**	**08 04 29.5**	**+0.1**
JMK				S	**Sn**	**08 04 57.8**	**-1.8**
JOM	**Ohasama**	**2.57**	**286**	P	**Pn**	**08 04 29.9**	**+0.2**
JOM				S	**Sn**	**08 04 59.3**	**-0.8**
JANG	**Nango**	**2.77**	**305**	P	**Pn**	**08 04 32.0**	**-0.6**
JANG				*e*S	**Sn**	**08 05 03.0**	**-2.2**
JYK	**Kaneyama**	**3.22**	**273**	P	**Pn**	**08 04 38.9**	**+0.2**
JYK				*e*S	**Sn**	**08 05 14.2**	**-2.0**
ERM	**Erimo**	**3.36**	**343**	*e*Pn	**Pn**	**08 04 41.1**	**+0.5**
ERM				*e*Sn	**Sn**	**08 05 18.6**	**-1.0**
ERM	**Erimo**	**3.36**	**343**	*i* P	**Pn**	**08 04 40.8**	**+0.2**
JFT	**Otama**	**3.51**	**250**	P	**Pn**	**08 04 42.5**	**-0.2**
JFT				S	**Sn**	**08 05 21.2**	**-2.2**
JOT	**Ohata**	**3.68**	**315**	P	**Pn**	**08 04 45.4**	**+0.4**
JOT				S	**Sn**	**08 05 24.9**	**-2.7**
JNBK	**Urakawa-nobuka**	**3.71**	**340**	P	**Pn**	**08 04 45.8**	**+0.4**
JNBK				S	**Sn**	**08 05 27.4**	**-0.9**
JCH	**Churui**	**3.90**	**348**	P	**Pn**	**08 04 47.9**	**-0.1**
JCH				S	**Sn**	**08 05 29.8**	**-3.1**
JKB	**Kayabe**	**4.05**	**321**	P	**Pn**	**08 04 51.1**	**+1.0**
JKB				S	**Sn**	**08 05 34.1**	**-2.6**
NEM2	**Nemuro 2**	**4.65**	**11**	P	**Pn**	**08 04 56.6**	**-1.8**
NEM2				*e*S	**Sn**	**08 05 46.6**	**-4.9**
GLVR	**Golovnino**	**4.99**	**9**	*e*P	**Pn**	**08 05 01.8**	**-1.2**
GLVR				*e*S	**Sn**	**08 05 53.4**	**-6.4**
GLVR				smax	smax		
comp=N,1μm,0.2s							
GLVR				smax	smax		
comp=E,977nm,0.2s							
BSO1	**Boso 1**	**5.01**	**215**	P	**Pn**	**08 05 00.8**	**-2.0**
BSO1				*e*S	**Sn**	**08 05 55.7**	**-3.9**
JOSM	**Okushiri--Mats**	**5.03**	**312**	P	**Pn**	**08 05 04.3**	**+0.8**
GRPR	**Tuman**	**5.27**	**10**	*e*P	**Pn**	**08 05 05.1**	**-1.8**
GRPR				*e*S	**Sn**	**08 06 00.5**	**-6.3**
GRPR				pmax	pmax		
comp=Z,251nm,0.6s							
GRPR				pmax	pmax		
comp=E,45nm,0.1s							
GRPR				smax	smax		
comp=N,1μm,0.4s							
GRPR				smax	smax		
comp=E,760nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**5.33**	**11**	⇑*i*P	**Pn**	**08 05 06.1**	**-1.5**
YUK				*i* S	**Sn**	**08 06 02.7**	**-5.4**
YUK				pmax	pmax		
comp=Z,302nm,0.5s							
YUK				pmax	pmax		
comp=E,150nm,0.4s							
YUK				pmax	pmax		
comp=N,115nm,0.2s							
YUK				smax	smax		
comp=E,851nm,0.5s							
YUK				smax	smax		
comp=N,267nm,0.2s							
LAGR	**Lagunnoye**	**5.34**	**10**	*e*P	**Pn**	**08 05 07.1**	**-0.6**
LAGR				*e*S	**Sn**	**08 06 02.7**	**-5.6**
LAGR				smax	smax		
comp=N,1μm,0.5s							
LAGR				smax	smax		
comp=E,2μm,0.4s							
MJAR	**Matsushiro Arr**	**5.46**	**247**	*e*Pn	**Pn**	**08 05 09.6**	**0.0**
MJAR				*e*Sn	**Sn**	**08 06 11.1**	**-0.5**
MJAR	**Matsushiro Arr**	**5.46**	**247**	Pn	**Pn**	**08 05 09.9**	**+0.3**
comp=E,4.6nm,0.3s,baz=57,slow=13,SNR=139							
MJAR				Sn	**Sn**	**08 06 07.1**	**-4.5**
baz=44,slow=25,SNR=2.5							
MJAR				LR	LR	08 07 43.5	
comp=E,199nm,19.2s,baz=85,slow=43							
MAJO	**Matsushiro**	**5.46**	**248**	*e*Pn	**Pn**	**08 05 09.9**	**+0.4**
MAJO				*e*Sn	**Sn**	**08 06 12.2**	**+0.6**
MAJO	**Matsushiro**	**5.46**	**248**	*c i* P	**Pn**	**08 05 09.9**	**+0.4**
MAT	**Matsushiro**	**5.46**	**248**	P	**Pn**	**08 05 10.1**	**+0.5**
MAT				S	**Sn**	**08 06 11.2**	**-0.4**
MJB9	**Matsu-Tunnel**	**5.46**	**248**	*e*Pn	**Pn**	**08 05 09.9**	**+0.4**
MJB9				*e*Sn	**Sn**	**08 06 09.9**	**-1.8**
ASAJ	**Asahikawa**	**5.49**	**346**	Pn	**Pn**	**08 05 11.1**	**+1.2**
comp=E,5.3nm,0.3s,baz=194,slow=8.9,SNR=22							
ASAJ				Sn	**Sn**	**08 06 08.3**	**-3.9**
comp=E,5.1nm,0.3s,baz=196,slow=14,SNR=5.1							
ASAJ				LR	LR	08 07 42.9	
comp=E,166nm,21.7s,baz=153,slow=41							
JHJ2	**Mitsune**	**6.82**	**215**	*e*Pn	**Pn**	**08 05 26.3**	**-1.9**
JHJ2				*e*Sn	**Sn**	**08 06 38.1**	**-7.0**
JHJ	**Hachijo jima 2**	**6.83**	**215**	Pn	**Pn**	**08 05 25.5**	**-2.8**
comp=E,11nm,0.3s,baz=330,slow=23,SNR=11							
JHJ				Sn	Sn	08 06 34.9	-10
comp=E,87nm,0.3s,baz=255,slow=22,SNR=10							
JHJ				LR	LR	08 08 16.0	
comp=E,159nm,19.0s,baz=18,slow=40							
INU	**Inuyama**	**6.89**	**242**	*e*Pn	**Pn**	**08 05 28.9**	**-0.2**
INU				*e*Sn	**Sn**	**08 06 42.9**	**-3.8**
KUR	**Kuril'sk**	**6.90**	**20**	*e*P	**Pn**	**08 05 27.8**	**-1.4**
KUR				*e*S	**Sn**	**08 06 41.1**	**-5.7**
KUR				pmax	pmax		
comp=Z,44nm,0.4s							
KUR				pmax	pmax		
comp=E,25nm,0.5s							
KUR				smax	smax		
comp=E,164nm,0.5s							
KUR				smax	smax		
comp=N,133nm,0.4s							
KUR				smax	smax		
comp=E,311nm,4.5s							
KUR				smax	smax		
comp=N,494nm,4.1s							
KUR				MLR	MLR		
comp=Z,430nm,13.0s							
YSS	**Yuzh-Sakhalins**	**8.24**	**352**	*e*Pn	**Pn**	**08 05 49.4**	**+1.8**
YSS				*e*Sn	Sn	08 07 10.3	-9.5
YSS	**Yuzh-Sakhalins**	**8.24**	**352**	*e*P	**Pn**	**08 05 47.5**	**-0.1**
YSS				*e*S	**Sn**	**08 07 15.9**	**-3.9**
YSS				pmax	pmax		
comp=Z,10.0nm,0.5s							
YSS				MLR	MLR		
comp=Z,400nm,16.0s							
TEY	**Ternei**	**8.55**	**319**	⇓*e*P	**Pn**	**08 05 54.1**	**+2.2**
TEY				pmax	pmax		
comp=E,30nm,0.7s							
TEY				pmax	pmax		
comp=Z,40nm,0.6s							
USA0B	**Ussuriysk Arra**	**10.80**	**304**	*e*Pn	**Pn**	**08 06 23.6**	**+0.9**
USRK	**Ussuriysk Ar.**	**10.80**	**304**	*e*Pn	**Pn**	**08 06 22.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**10.80**	**304**	Pn	**Pn**	**08 06 24.7**	**+2.0**
comp=Z,1.3nm,0.3s,baz=99,slow=13,SNR=23							
USRK				LR	LR	08 10 37.0	
comp=Z,168nm,19.4s,baz=95,slow=37							
MDJ	**Mudanjiang**	**12.54**	**302**	P	**Pn**	**08 06 48.4**	**+1.9**
MDJ	**Mudanjiang**	**12.54**	**302**	*e*Pn	**Pn**	**08 06 48.1**	**+1.6**
KSRS	**Korea Array**	**13.11**	**269**	Pn	**Pn**	**08 06 56.1**	**+1.9**
comp=Z,0.5nm,0.3s,baz=82,slow=14,SNR=9.4							
KS15	**Wonju Array Si**	**13.14**	**269**	*e*Pn	**Pn**	**08 06 54.4**	**-0.3**
KLR	**Kul'dur**	**13.85**	**323**	*i* P	**Pn**	**08 07 04.2**	**-0.1**
KLR	**Kul'dur**	**13.85**	**323**	Pn	**Pn**	**08 07 04.3**	**0.0**
baz=134,slow=9.6,SNR=6.0							
KLR				LR	LR	08 11 54.6	
comp=Z,114nm,21.6s,baz=250,slow=35							
PETK	**Petropavlovsk-**	**16.96**	**28**	*e*P	**P**	**08 07 48.0**	**+1.1**
PETK	**Petropavlovsk-**	**16.96**	**28**	P	**P**	**08 07 47.3**	**+0.4**
comp=Z,0.2nm,0.3s,baz=201,slow=7.9,SNR=9.8							
PETK				LR	LR	08 16 29.3	
comp=Z,78nm,18.4s,baz=206,slow=44							
PEA1	**Petropavlovsk-**	**16.96**	**28**	*e*Pn	**P**	**08 07 47.3**	**+0.4**
ZEA	**Zeya**	**19.02**	**327**	*e*P	**P**	**08 08 09.5**	**-0.1**
MA2	**Magadan**	**21.17**	**9**	*e*P	**P**	**08 08 33.1**	**+0.2**
comp=Z,13nm,0.7s							
MA2	**Magadan**	**21.17**	**9**	*ce*P	**P**	**08 08 33.8**	**+0.9**
MA2				pmax	pmax		
comp=Z,9.0nm,0.8s							
MA2	**Magadan**	**21.17**	**9**	P	**P**	**08 08 34.2**	**+1.4**
comp=Z,13nm,0.7s,baz=203,slow=8.7,SNR=8.5							
MA2				LR	LR	08 19 15.0	
comp=Z,39nm,18.4s,baz=109,slow=43							
NJ2	**Nanjing**	**21.90**	**260**	*e*P	**P**	**08 08 40.8**	**-0.1**
SEY	**Seymchan**	**24.63**	**9**	*ce*P	**P**	**08 09 08.7**	**+0.8**
SEY	**Seymchan**	**24.63**	**9**	P	**P**	**08 09 09.7**	**+1.8**
comp=Z,11nm,0.7s,baz=184,slow=6.3,SNR=16							
GUMO	**Guam**	**25.12**	**179**	LR	LR	08 17 12.0	
comp=Z,74nm,20.9s,baz=48,slow=32							
HHC	**Hu-ho-hao-te**	**25.28**	**285**	*e*P	**P**	**08 09 14.8**	**+0.7**
WHN	**Wuhan**	**26.02**	**261**	P	P	08 09 32.5	+12
BOD	**Bodaibo**	**27.43**	**324**	*e*P	**P**	**08 09 32.8**	**-0.4**
BOD				pmax	pmax		
comp=Z,7.0nm,1.4s							
ULN	**Ulaanbaatar**	**28.45**	**301**	*i* P	**P**	**08 09 43.4**	**+0.8**
ULN				pmax	pmax		
comp=Z,3.0nm,1.1s							
XAN	**Xi'an**	**28.89**	**272**	P	P	08 09 53.6	+7.1
XAN				pP	pwP	08 10 00.0	-1.1
XAN	**Xi'an**	**28.89**	**272**	*e*P	**P**	**08 09 45.9**	**-0.6**
comp=Z,6.0nm,0.5s							
SONA0	**Songino Array**	**28.89**	**301**	*e*P	**P**	**08 09 46.9**	**+0.3**
SONM	**Songino Array**	**28.89**	**301**	P	**P**	**08 09 46.9**	**+0.3**
comp=Z,0.3nm,0.5s,baz=96,slow=4.3,SNR=2.4							
SONM				LR	LR	08 21 29.3	
comp=Z,107nm,18.8s,baz=70,slow=36							
ZAK	**Zakamensk**	**31.15**	**305**	*e*P	P	08 10 13.7	+7.3
ZAK				pmax	pmax		
comp=Z,4.0nm,1.5s							
BILL	**Bilibino**	**31.66**	**15**	*e*P	**P**	**08 10 11.3**	**+0.7**
comp=Z,12nm,0.9s							
BILL	**Bilibino**	**31.66**	**15**	*ce*P	**P**	**08 10 10.5**	**-0.1**
BILL				pmax	pmax		
comp=Z,15nm,1.0s							
LZH	**Lanzhou**	**32.19**	**278**	*e*P	P	08 10 20.8	+5.0
LZH				pP	sP	08 10 26.3	+3.0
LZH				sP	pwP	08 10 29.8	-0.6
TIXI	**Tiksi**	**33.87**	**351**	*e*P	**P**	**08 10 30.6**	**+0.8**
TIXI	**Tiksi**	**33.87**	**351**	*ce*P	**P**	**08 10 29.2**	**-0.6**
TIXI				pmax	pmax		
comp=Z,3.0nm,0.8s							
TIXI	**Tiksi**	**33.87**	**351**	P	**P**	**08 10 29.6**	**-0.2**
comp=Z,3.5nm,0.7s,baz=85,slow=3.1,SNR=7.4							
CD2	**Chengdu**	**34.11**	**269**	*e*P	**P**	**08 10 31.3**	**-1.2**
GTA	**Gaotai**	**34.40**	**285**	*e*P	**P**	**08 10 36.4**	**+1.4**
GTA				pP	pwP	08 10 47.1	-2.1
GTA				sP	sP	08 10 51.0	+8.4
KMI	**Kunming**	**37.62**	**261**	P	**P**	**08 11 03.8**	**+0.9**
DGZ	**Jazzator, Alta**	**41.36**	**304**	*i* P	**P**	**08 11 34.2**	**+0.6**
DGZ				pmax	pmax		
comp=Z,2.0nm,0.9s							
WMQ	**Urumqi**	**42.23**	**296**	*e*P	**P**	**08 11 42.1**	**+1.3**
ZAA0	**Zalesovo Array**	**42.55**	**311**	*e*P	**P**	**08 11 42.5**	**-0.6**
comp=Z,6.2nm,0.6s							
ZAA1	**Zalesovo Array**	**42.55**	**311**	*e*P	**P**	**08 11 43.9**	**+0.8**
ZAA1				*e*PcP	**PcP**	**08 13 34.0**	**-1.2**
ZALV	**Zalesovo Beam**	**42.55**	**311**	*e*P	**P**	**08 11 43.7**	**+0.6**
ZALV	**Zalesovo Beam**	**42.55**	**311**	P	**P**	**08 11 43.9**	**+0.8**
comp=Z,2.6nm,0.5s,baz=81,slow=7.0,SNR=7.7							
ZALV				PcP	**PcP**	**08 13 34.0**	**-1.2**
comp=Z,2.7nm,0.7s,baz=86,slow=2.5,SNR=5.8							
NRIK	**Noril'sk**	**42.71**	**334**	P	**P**	**08 11 44.4**	**+0.2**
comp=Z,1.4nm,0.3s,baz=111,slow=8.1,SNR=5.1							
NRIK				LR	LR	08 30 40.5	
comp=Z,97nm,21.8s,baz=279,slow=38							
SII	**Sitkinak Islan**	**43.34**	**45**	*e*P	**P**	**08 11 50.0**	**+0.5**
comp=Z,79nm,1.3s							
IMAR	**Indian Mountai**	**43.89**	**31**	*e*P	**P**	**08 11 54.5**	**+0.8**
RSO	**Redoubt South**	**44.01**	**39**	*e*P	**P**	**08 11 55.6**	**+0.6**
MK31	**Makanchi Array**	**45.26**	**301**	*e*P	**P**	**08 12 05.2**	**+0.2**
comp=Z,2.7nm,0.9s							
MK32	**Makanchi Array**	**45.26**	**301**	*e*P	**P**	**08 12 04.6**	**-0.4**
MKAR	**Makanchi Array**	**45.26**	**301**	*e*P	**P**	**08 12 05.4**	**+0.5**
MKAR	**Makanchi Array**	**45.26**	**301**	*i* P	**P**	**08 12 05.5**	**+0.5**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**45.26**	**301**	P	**P**	**08 12 04.6**	**-0.4**
comp=Z,2.1nm,0.8s,baz=84,slow=9.8,SNR=20							
MAKZ	**Makanchi**	**45.46**	**301**	*e*P	**P**	**08 12 07.4**	**+0.8**
comp=Z,2.2nm,0.6s							
BWN	**Browne**	**45.58**	**34**	*e*P	**P**	**08 12 09.1**	**+1.8**
comp=Z,15nm,0.9s							
TOLK	**Toolik Lake Re**	**45.78**	**28**	*e*P	**P**	**08 12 09.9**	**+1.1**
comp=Z,3.4nm,0.8s							
ILAR	**Eielson Array**	**46.69**	**33**	*e*P	**P**	**08 12 16.7**	**+0.6**
ILAR	**Eielson Array**	**46.69**	**33**	P	**P**	**08 12 16.0**	**0.0**
comp=Z,1.2nm,0.8s,baz=262,slow=6.2,SNR=12							
KURK	**Kurchatov**	**46.77**	**307**	*e*P	**P**	**08 12 17.3**	**+0.5**
comp=Z,9.0nm,0.8s							
KURK	**Kurchatov**	**46.77**	**307**	*ce*P	**P**	**08 12 16.7**	**-0.1**
KURK				pmax	pmax		
comp=Z,5.0nm,0.7s							
BOOM	**Boomskoye usch**	**50.84**	**297**	*e*P	**P**	**08 12 49.8**	**+1.4**
comp=Z,5.8nm,1.1s							
BOOM	**Boomskoye usch**	**50.84**	**297**	P	**P**	**08 12 49.8**	**+1.4**
BOOM				pmax	pmax		
comp=Z,6.0nm,1.1s							
BRVK	**Borovoye**	**51.24**	**312**	*e*P	**P**	**08 12 52.0**	**+1.0**
comp=Z,5.0nm,0.9s							
BRVK	**Borovoye**	**51.24**	**312**	*i* P	**P**	**08 12 51.3**	**+0.3**
BRVK				pmax	pmax		
comp=Z,4.0nm,0.9s							
OTUK	**Ortayu**	**51.36**	**305**	P	**P**	**08 12 52.4**	**+0.3**
OTUK				pmax	pmax		
comp=Z,3.0nm,1.1s							
INK	**Inuvik**	**51.70**	**28**	*e*P	**P**	**08 12 55.0**	**+0.8**
comp=Z,4.1nm,0.7s							
INK	**Inuvik**	**51.70**	**28**	P	**P**	**08 12 54.6**	**+0.4**
INK				pmax	pmax		
comp=Z,7.0nm,1.0s							
KSH	**Kashi**	**51.90**	**294**	P	**P**	**08 12 58.8**	**+2.4**
ARSB	**Arslanbob**	**53.32**	**297**	*e*P	**P**	**08 13 08.1**	**+1.3**
comp=Z,13nm,1.5s							
KKAR	**Karatay Array**	**54.34**	**300**	*e*P	**P**	**08 13 14.1**	**0.0**
NIL	**Nilore**	**56.36**	**288**	P	**P**	**08 13 29.6**	**+0.8**
ARU	**Arti**	**56.64**	**318**	*e*P	**P**	**08 13 30.9**	**+0.5**
comp=Z,10nm,0.9s							
ARU	**Ar

comp=Z,1.3nm,0.7s,baz=275,slow=5.6,SNR=7.8
NB200 NORSAR Array S 73.47 338 *e*P **P 08 15 19.1 -0.6**
NOA NORSAR Array B 73.47 338 P **P 08 15 19.1 -0.6**
comp=Z,2.1nm,1.0s,baz=38,slow=5.7,SNR=2.9
NOA LR LR 08 51 29.9
comp=Z,31nm,20.9s,baz=0.0,slow=39
TPNV Topopah Spring 74.17 55 *e*P **P 08 15 25.4 +1.0**
comp=Z,6.5nm,1.3s
AKASG Malin Array Be 74.35 323 *c*e**P P 08 15 25.2 +0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 74.35 323 P P 08 15 24.3 -0.7
comp=Z,1.5nm,0.5s,baz=43,slow=6.2,SNR=8.3
AKBB Malin Array Si 74.35 323 *e*P **P 08 15 25.6 +0.6**
comp=Z,7.1nm,1.2s
KIEV Kiev 74.37 323 *e*P **P 08 15 25.6 +0.6**
KIEV Kiev 74.37 323 *i*P **P 08 15 24.6 -0.4**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
BW06 Boulder Array 74.69 47 *e*P **P 08 15 27.4 -0.1**
comp=Z,4.0nm,1.5s
PD31 Pinedale Array 74.69 47 *e*P **P 08 15 27.4 0.0**
comp=Z,3.3nm,1.4s
PDAR Pinedale Array 74.69 47 *e*P **P 08 15 27.7 +0.3**
PDAR Pinedale Array 74.69 47 P **P 08 15 27.4 0.0**
comp=Z,0.9nm,0.6s,baz=279,slow=2.1,SNR=6.8
SRU San Rafael Swe 76.42 51 *e*P **P 08 15 38.3 +1.0**
comp=Z,3.1nm,0.7s
PV21 Cone Mtn., Par 77.70 50 *e*P **P 08 15 45.5 +0.9**
comp=Z,3.8nm,0.7s
PV14 Lion Creek, Pa 77.79 50 *e*P **P 08 15 46.1 +1.0**
comp=Z,7.7nm,0.7s
PV17 East Wray Mesa 77.89 50 *e*P **P 08 15 46.7 +1.1**
comp=Z,5.5nm,0.8s
KWP Kalwaria Pacla 78.07 326 *e*P **P 08 15 45.8 -0.4**
comp=Z,210nm,1.5s
BURAR Bucovina Array 78.39 323 *e*P **P 08 15 48.8 +0.7**
E38A The Farm, Brul 81.31 35 *e*P **P 08 16 03.7 -0.1**
comp=Z,3.9nm,0.7s
ANMO Albuquerque 81.59 52 *i*P **P 08 16 05.1 -0.7**
ANMO pmax pmax
comp=Z,1.0nm,1.1s
MNTX Cornudas Mount 84.43 54 *e*P **P 08 16 20.9 +0.7**
comp=Z,1.3nm,0.8s
LTX Lajitas 87.12 54 *e*P **P 08 16 33.4 -0.4**
TXAR Lajitas Array 87.12 54 P **P 08 16 33.4 -0.4**
comp=Z,0.5nm,0.5s,baz=298,slow=3.0,SNR=12
LPAZ La Paz 143.71 61 PKhKP PKPpre 08 23 19.4
comp=Z,1.7nm,0.9s,baz=298,slow=3.9,SNR=5.8

*DDA **16** 08:10:45.5, 37.°01N×28.°40E, h7km±5km, ML2.6*
*ISK **16** 08:10:45.5, 37.°00N×28.°43E, h10km, ML2.2/9*
*ISCJB **16** 08:10:46.3±0.4, 37.°02N±0.°03×28.°40E±0.°03, h10km±5km, Error ellipse: s-maj=4.8km s-min=3.9km az=21.9*
ISC 16 08:10:46.7±0.9,**37.°02N**±0.°03×**28.°40E**±0.°03,**h14**km±7km, **n17**,σ1§**61**/**29**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.22**	**130**	PG	**Pg**	**08 10 51.2**	**-0.3**
TURN				SG	**Sg**	**08 10 55.7**	**+1.0**
TURN	**Turunc**	**0.22**	**130**	IAML_P			
	comp=Z,6μm,0.1s						
TURN				*i* P	**Pg**	**08 10 51.1**	**-0.4**
TURN				*i* S	**Sg**	**08 10 56.6**	**+1.8**
DALY	**Dalyan (Mula)**	**0.29**	**134**	PG	**Pg**	**08 10 51.1**	**-1.6**
DALY	**Dalyan (Mula)**	**0.29**	**134**	*i* P	**Pg**	**08 10 51.0**	**-1.6**
DALY				*i* S	**Sb**	**08 10 57.1**	**-1.0**
MRSB	**Marmaris-Mugla**	**0.34**	**208**	PG	**Pg**	**08 10 52.6**	**-1.0**
MRSB				SG	**Sb**	**08 10 58.1**	**-1.6**
BBRN	**Bozburun-Marma**	**0.43**	**219**	PG	**Pg**	**08 10 54.6**	**-0.6**
TAVA	**DENIZLI_Tavas**	**0.61**	**42**	*i* P	**Pg**	**08 10 57.8**	**-0.8**
TAVA				*i* S	**Sb**	**08 11 07.5**	**-0.2**
FETY	**Fethiye**	**0.67**	**124**	PG	**Pg**	**08 10 58.4**	**-1.3**
FETY	**Fethiye**	**0.67**	**124**	*e*P	**Pg**	**08 10 57.9**	**-1.8**
FETY				*i* S	**Sn**	**08 11 10.4**	**-1.6**
DAT	**Datca**	**0.71**	**247**	PG	**Pg**	**08 10 59.9**	**-0.7**
DAT				SG	**Sb**	**08 11 11.7**	**+1.0**
DAT	**Datca**	**0.71**	**247**	*i* P	**Pb**	**08 11 00.5**	**-0.5**
DAT				*i* S	**Sn**	**08 11 13.0**	**-0.3**
AYDN	**Tasoluk**	**0.77**	**328**	IAML_P			
	comp=Z,1μm,0.2s						
AYDN				*i* P	**Pg**	**08 11 00.9**	**-0.6**
AYDN				*i* S	**Sb**	**08 11 11.6**	**-0.5**
BODT	**Bodrum**	**0.87**	**273**	PG	**Pb**	**08 11 03.1**	**-0.4**
BODT				SG	**Sb**	**08 11 16.2**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**337**	PG	**Pb**	**08 11 05.7**	**-0.4**
AYDB				SG	**Sn**	**08 11 20.9**	**+0.2**
GCAM	**G?zelcaml?**	**1.15**	**307**	PN	**Pn**	**08 11 08.3**	**0.0**
AKAS	**Kas**	**1.25**	**128**	PN	**Pg**	**08 11 09.3**	**-1.4**
AKAS	**Kas**	**1.25**	**128**	IAML_P			
	comp=Z,810nm,0.2s						
AKAS				*e*P	**Pg**	**08 11 10.8**	**+0.1**
AKAS				*i* S	**Sn**	**08 11 32.4**	**+6.0**

KRSC 16 08:37:29.4±10.0,**53.°06N**×**160.°41E**,**h48**km±10km,**ML3.5,**
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.23**	**280**	*e*P	Pn	08 37 39.0	+1.2
SPN				*e*S	Sn	08 37 44.1	+0.3
NLC	**Nalytchevo**	**0.65**	**281**	*e*P	Pn	08 37 43.5	+1.1
NLC				*e*S	Sn	08 37 52.4	+0.6
SDLR	**Sedlovina**	**0.94**	**284**	*e*P	Pn	08 37 47.9	+1.5
SDLR				*e*S	Sn	08 37 59.2	+0.3
UGLR	**Uglovaya**	**0.97**	**280**	*e*P	Pn	08 37 48.5	+1.8
UGLR				*e*S	Sn	08 38 00.5	+1.1
SMAR	**Somma**	**0.99**	**283**	*e*P	Pn	08 37 48.5	+1.4
SMAR				*e*S	Sn	08 38 00.3	+0.2
DALK	**Dalny**	**1.00**	**269**	*e*P	Pn	08 37 48.1	+1.1
DALK				*e*S	Sn	08 38 01.3	+1.3
AVH	**Avacha**	**1.03**	**282**	*e*P	Pn	08 37 49.3	+1.8
AVH				*e*S	Sn	08 38 02.4	+1.6
KRER	**Koryakskii**	**1.03**	**285**	*e*P	Pn	08 37 49.4	+1.7
KRER				*e*S	Sn	08 38 02.3	+1.2
PET	**Petropavlovsk**	**1.06**	**269**	*e*P	Pn	08 37 49.2	+1.3
PET				*e*S	Sn	08 38 02.3	+0.8
KOK	**Koryaka**	**1.09**	**283**	*e*P	Pn	08 37 50.2	+1.8
KOK				*e*S	Sn	08 38 03.1	+0.6
KRX	**Arik**	**1.10**	**287**	*e*P	Pn	08 37 50.0	+1.4
KRX				*e*S	Sn	08 38 03.1	+0.4
RUS	**Russkaya**	**1.31**	**242**	*e*P	Pn	08 37 52.8	+1.5
RUS				*e*S	Sn	08 38 08.7	+1.1
KRMR	**Karymshinskiy**	**1.40**	**262**	*e*P	Pn	08 37 54.0	+1.5
KRMR				*e*S	Sn	08 38 11.0	+1.3
MTVR	**Mutnovka**	**1.47**	**248**	*e*P	Pn	08 37 55.6	+2.0
MTVR				*e*S	Sn	08 38 13.2	+1.5
GNL	**Ganaly**	**1.61**	**294**	*e*P	Pn	08 37 58.5	+3.0
ASAK	**Asacha**	**1.67**	**247**	*e*P	Pn	08 37 59.4	+3.1
ASAK				*e*S	Sn	08 38 20.0	+3.5
MKZ	**Mys Kozlova**	**1.69**	**27**	*e*P	Pn	08 37 58.6	+2.1
MKZ				*e*S	Sn	08 38 18.8	+1.8
KDTR	**Khodutka, Kamc**	**1.90**	**230**	*e*P	Pn	08 38 01.8	+2.5
KDTR				*e*S	Sn	08 38 24.5	+2.6
APC	**Apacha**	**1.97**	**267**	*e*P	Pn	08 38 03.5	+3.2
APC				*e*S	Sn	08 38 27.5	+3.8
KZV	**Kizimen**	**2.06**	**358**	*e*P	Pn	08 38 05.1	+3.4
KZV				*e*S	Sn	08 38 29.9	+3.6
TUMD	**Tumrok D**	**2.15**	**360**	*e*P	Pn	08 38 05.9	+3.1
TUMD				*e*S	Sn	08 38 31.0	+2.7
KBTR	**Krutoberegovo**	**3.46**	**23**	*e*P	Pn	08 38 25.3	+4.6
BKI	**Bering**	**3.92**	**54**	*e*P	Pn	08 38 30.5	+3.5
BKI				*e*S	Sn	08 39 11.7	+0.1

*ISCJB **16** 08:41:32.3±0.4, 1.°80S±0.°04×77.°51W±0.°05, h166km, mb3.5/4, Error ellipse: s-maj=6.8km s-min=4.9km az=17.4*
*IGQ **16** 08:41:32.4±0.7, 2.°S±4.°×7.°8W±.°, h166km, MLv3.6*
*IDC **16** 08:41:33.5±2.5, 1.°71S×77.°59W, h188km±30km, mb2.7/3, mb1 3.2/6, mb1mx3.1/23, mbtmp3.7/6, Error ellipse: s-maj=27.1km s-min=20.3km az=31.0*
ISC 16 08:41:31.9±0.8,**1.°77S**±0.°06×**77.°58W**±0.°06,**h166**km,**n84,**
σ1§**30**/**87**,**mb3.1**/**4**,**Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APUY	**Puyo**	**0.52**	**307**	P	**Pn**	**08 41 56.8**	**+1.5**
PUYO	**Puyo, Santa Ro**	**0.52**	**302**	P	**Pn**	**08 41 56.7**	**+1.3**
PUYO				S	**Sn**	**08 42 15.2**	**+2.0**
ATEN	**Tena**	**0.79**	**343**	P	**Pn**	**08 41 57.8**	**+1.0**
ARDO	**Archidona, Ten**	**0.80**	**344**	P	**Pn**	**08 41 57.9**	**+1.0**
ARDO				S	**Sn**	**08 42 17.0**	**+0.9**
BPAT	**Tungurahua Vol**	**0.89**	**287**	P	**Pn**	**08 41 58.9**	**+1.0**
BULB	**Ulba Tungurahu**	**0.89**	**292**	P	**Pn**	**08 41 58.9**	**+1.0**
PAT1	**Patacocha**	**0.89**	**287**	P	**Pn**	**08 41 59.0**	**+1.0**
BRUN	**Tungurahua Vol**	**0.90**	**293**	P	**Pn**	**08 41 59.0**	**+1.1**
ARRY	**Arrayan**	**0.91**	**287**	P	**Pn**	**08 41 58.9**	**+0.9**
RUN5	**Runtun**	**0.91**	**293**	P	**Pn**	**08 41 59.1**	**+1.1**
RETU	**Refugio**	**0.92**	**290**	P	**Pn**	**08 41 59.2**	**+1.0**
BMAS	**Trigal station**	**0.93**	**287**	P	**Pn**	**08 41 59.1**	**+1.0**
POND	**Pondoa**	**0.94**	**292**	P	**Pn**	**08 41 59.1**	**+0.9**
BBIL	**Ulba Tungurahu**	**0.96**	**289**	P	**Pn**	**08 41 59.4**	**+1.1**
PIS1	**Pisayambo**	**1.07**	**311**	P	**Pn**	**08 42 00.5**	**+1.1**
PIS1				S	**Sn**	**08 42 22.0**	**+1.5**
PISA	**Pisayambo**	**1.07**	**311**	P	**Pn**	**08 42 00.7**	**+1.3**
COV1	**Cotopaxi Volc**	**1.34**	**325**	P	**Pn**	**08 42 03.6**	**+1.7**
BMOR	**Cotopaxi Volca**	**1.35**	**320**	P	**Pn**	**08 42 02.9**	**+0.9**
BTAM	**Cotopaxi Volca**	**1.36**	**323**	P	**Pn**	**08 42 02.8**	**+0.8**
BVC2	**Cotopaxi Volca**	**1.38**	**323**	P	**Pn**	**08 42 03.0**	**+0.8**
ANTM	**Antisana-La Mi**	**1.38**	**332**	P	**Pn**	**08 42 03.1**	**+0.9**
VC1	**Cotopaxi 1**	**1.39**	**324**	P	**Pn**	**08 42 03.0**	**+0.8**
BREF	**Cotopaxi Volca**	**1.39**	**322**	P	**Pn**	**08 42 04.5**	**+2.1**
ANTS	**Antisana-Sarah**	**1.40**	**335**	P	**Pn**	**08 42 03.4**	**+1.0**
NAS2	**Nasa**	**1.43**	**322**	P	Pn	08 42 08.8	+6.2
ANTG	**Antisana-Guama**	**1.43**	**332**	P	**Pn**	**08 42 03.6**	**+1.0**
ANTI	**Antisana**	**1.44**	**336**	P	**Pn**	**08 42 03.8**	**+1.0**
PITA	**Cotopaxi Volc**	**1.47**	**325**	P	**Pn**	**08 42 04.1**	**+1.1**
ILLI	**Illinizas Sur**	**1.55**	**313**	P	**Pn**	**08 42 04.4**	**+0.6**
REVS	**Reventador Sur**	**1.66**	**359**	P	**Pn**	**08 42 05.4**	**+0.8**
LAV4	**Lava4-Reventad**	**1.67**	**358**	P	**Pn**	**08 42 05.8**	**+1.0**
NINA	**Atacazo Ninahu**	**1.72**	**323**	P	**Pn**	**08 42 06.1**	**+0.6**
COHC	**Cochancay**	**1.81**	**248**	P	**Pn**	**08 42 05.4**	**-0.5**
CAYA	**Cayambe**	**1.88**	**347**	P	**Pn**	**08 42 08.6**	**+1.3**
GGPC	**Guagua Pichinc**	**1.88**	**327**	P	**Pn**	**08 42 07.7**	**+0.4**
TERV	**Terraza Guagua**	**1.89**	**327**	P	**Pn**	**08 42 08.2**	**+0.8**
CASC	**Dorado de Casc**	**1.91**	**7**	P	**Pn**	**08 42 08.2**	**+1.0**
YANA	**Yana**	**1.92**	**329**	P	**Pn**	**08 42 07.9**	**+0.3**
PULU	**Pululahua**	**2.00**	**333**	P	**Pn**	**08 42 09.2**	**+0.7**
MILO	**Milagro-Astudi**	**2.03**	**256**	P	**Pn**	**08 42 06.6**	**-1.8**
IMBA	**Imbabura, San**	**2.12**	**343**	P	**Pn**	**08 42 11.6**	**+1.6**
OTAV	**Otavalo**	**2.18**	**337**	*e*P	**Pn**	**08 42 10.7**	**+0.2**
OTAV	**Otavalo**	**2.18**	**337**	*e*P	**Pn**	**08 42 10.7**	**+0.2**
YAHU	**Yahuarcocha**	**2.18**	**347**	P	**Pn**	**08 42 11.6**	**+1.1**
CUSW	**Cuicocha Oeste**	**2.18**	**339**	P	**Pn**	**08 42 11.4**	**+0.8**
CUIC	**Cuicocha-Domo**	**2.20**	**339**	P	**Pn**	**08 42 11.2**	**+0.4**
CUSE	**Cuicocha Este**	**2.22**	**338**	P	**Pn**	**08 42 11.3**	**+0.3**
URCU	**Urcuqui**	**2.30**	**343**	P	**Pn**	**08 42 12.9**	**+1.0**
PAC1	**Pacto, Paraso**	**2.36**	**329**	P	**Pn**	**08 42 12.0**	**-0.3**
MORR	**Playas El Morr**	**2.88**	**253**	P	**Pn**	**08 42 16.7**	**-1.8**
GCUF	**Volcan Galeras**	**2.99**	**5**	*e*P	**Pn**	**08 42 21.9**	**+1.6**
GCUF	**Volcan Galeras**	**2.99**	**5**	*e*P	**Pn**	**08 42 21.9**	**+1.6**
GONZ	**Gonzanam**	**3.04**	**216**	P	**Pn**	**08 42 20.8**	**-0.1**
PTLC	**Puerto Leguiza**	**3.39**	**55**	*e*P	**Pn**	**08 42 24.8**	**-0.1**
PTLC	**Puerto Leguiza**	**3.39**	**55**	*e*P	**Pn**	**08 42 24.8**	**-0.1**
SALI	**Salinas**	**3.43**	**263**	P	**Pn**	**08 42 23.1**	**-2.2**
MCRA	**Macar, Loja**	**3.50**	**222**	P	**Pn**	**08 42 22.4**	**-3.9**
SOTA	**Rioblanco**	**4.00**	**14**	*e*P	**Pn**	**08 42 35.0**	**+1.8**
SOTA	**Rioblanco**	**4.00**	**14**	*e*P	**Pn**	**08 42 35.0**	**+1.8**
PCON	**Cinco Dias**	**4.24**	**16**	*e*P	**Pn**	**08 42 38.4**	**+2.1**
PCON	**Cinco Dias**	**4.24**	**16**	*e*P	**Pn**	**08 42 38.4**	**+2.1**
POPC	**Popayan, Colom**	**4.38**	**12**	*e*P	**Pn**	**08 42 38.3**	**+0.5**
POPC	**Popayan, Colom**	**4.38**	**12**	*e*P	**Pn**	**08 42 38.3**	**+0.5**
MARP	**Paez Belalcaza**	**4.86**	**20**	*e*P	**Pn**	**08 42 46.2**	**+2.0**
MARP	**Paez Belalcaza**	**4.86**	**20**	*e*P	**Pn**	**08 42 46.2**	**+2.0**
ATAH	**Atahualpa**	**5.39**	**189**	P	**Pn**	**08 42 53.2**	**+2.0**
	6.6nm,0.3s,baz=12,slow=10,SNR=41						
ATAH				S	**Sn**	**08 43 53.2**	**0.0**
	4.7nm,0.3s,baz=132,slow=21,SNR=11						
YOTC	**Yotoco, Valle**	**5.85**	**12**	*e*P	**Pn**	**08 42 55.1**	**-1.9**
YOTC	**Yotoco, Valle**	**5.85**	**12**	*e*P	**Pn**	**08 42 55.1**	**-1.9**
PRAC	**Prado**	**6.08**	**26**	*e*P	**Pn**	**08 43 00.2**	**+0.3**
PRAC	**Prado**	**6.08**	**26**	*e*P	**Pn**	**08 43 00.2**	**+0.3**
VILC	**Villavicencio,**	**7.02**	**34**	*e*P	**Pn**	**08 43 13.7**	**+1.3**
VILC	**Villavicencio,**	**7.02**	**34**	*e*P	**Pn**	**08 43 13.7**	**+1.3**
PTBC	**PUERTO BERRIO,**	**8.83**	**21**	*e*P	**Pn**	**08 43 34.5**	**-1.8**
PTBC	**PUERTO BERRIO,**	**8.83**	**21**	*e*P	**Pn**	**08 43 34.5**	**-1.8**
RUSC	**La Rusia**	**8.84**	**31**	*e*P	**Pn**	**08 43 38.2**	**+1.3**
RUSC	**La Rusia**	**8.84**	**31**	*e*P	**Pn**	**08 43 38.2**	**+1.3**
SDV	**Santo Domingo**	**12.65**	**33**	*e*P	**Pn**	**08 44 26.9**	**+0.5**
SDV	**Santo Domingo**	**12.65**	**33**	*e*P	**Pn**	**08 44 26.9**	**+0.5**
SDV	**Santo Domingo**	**12.65**	**33**	P	**Pn**	**08 44 27.3**	**+0.8**
	1.0nm,0.3s,baz=210,slow=20,SNR=8.6						
LPAZ	**La Paz**	**17.17**	**148**	P	**Pn**	**08 45 24.1**	**+1.4**
	0.3nm,0.3s,baz=328,slow=11,SNR=10						
MDP	**Montagnes des**	**25.84**	**75**	P	**P**	**08 46 47.5**	**-0.8**
	34nm,1.0s,baz=254,slow=9.1,SNR=11						
TXAR	**Lajitas Array**	**39.74**	**323**	P	**P**	**08 48 47.7**	**-1.0**
	0.2nm,0.7s,baz=132,slow=8.9,SNR=2.7						
YKA	**Yellowknife Ar**	**69.92**	**343**	P	**P**	**08 52 23.4**	**-1.3**
	0.1nm,0.4s,baz=126,slow=5.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**79.97**	**76**	P	**P**	**08 53 22.2**	**-1.2**
	0.2nm,0.4s,baz=274,slow=5.5,SNR=5.4						

*KRSC **16** 09:23:32.5±10.0, 52.°05N×160.°56E, h62km±10km, ML5.0*
*NEIC **16** 09:23:35.9±2.7, 52.°11N×160.°48E, h35km, mb4.8/52, Error ellipse: s-maj=14.7km s-min=12.4km az=232.0*
*ISCJB **16** 09:23:35.8±0.6, 52.°12N±0.°03×160.°36E±0.°05, h45km±3km, mb4.8/128, MS4.1/28, Error ellipse: s-maj=6.5km s-min=3.5km az=44.3*
*MOS **16** 09:23:36.1±1.2, 52.°13N×160.°22E, h47km, mb5.1/58, MS4.2/7, Error ellipse: s-maj=6.6km s-min=3.4km az=103.3*
*IDC **16** 09:23:37.1±2.3, 52.°22N×160.°24E, h41km±20km, mb4.0/31, mb1 4.2/35, mb1mx4.1/57, mbtmp4.3/35, ML4.0/4, MS3.9/23, Ms1 3.9/23, ms1mx3.6/56, Error ellipse: s-maj=14.8km s-min=9.6km az=148.0*
*BJI **16** 09:23:39.1±0.0, 52.°72N×159.°77E, h60km, mb4.8/41, mB4.9/30, Ms4.7/22, Ms7 4.4/22*
ISC 16 09:23:37.1±0.6,**52.°16N**±0.°04×**160.°40E**±0.°04,**h44**km±4km,
h44km:**pP-P**,**n331**,σ1§**49**/**354**,**mb4.8**/**128**,**MS4.2**/**28**,
30C-14D,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97**	**347**	*e*P	**Pn**	**09 23 52.6**	**-1.7**
SPN				*e*S	**Sn**	**09 24 06.2**	**-0.7**
SPN	**Mys Shipunski**	**0.97**	**347**	PN	**Pn**	**09 23 52.6**	**-1.7**
SPN				S	**Sn**	**09 24 06.2**	**-0.7**
RUS	**Russkaya**	**1.19**	**284**	*e*P	**Pn**	**09 23 56.1**	**-1.2**
RUS	**Russkaya**	**1.19**	**284**	PN	**Pn**	**09 23 56.1**	**-1.2**
NLC	**Nalytchevo**	**1.20**	**328**	*e*P	**Pn**	**09 23 57.0**	**-0.4**
NLC				*e*S	**Sn**	**09 24 14.5**	**+1.9**
NLC	**Nalytchevo**	**1.20**	**328**	PN	**Pn**	**09 23 57.0**	**-0.4**
NLC				S	**Sn**	**09 24 14.5**	**+1.9**
DALK	**Dalny**	**1.33**	**312**	*e*P	**Pn**	**09 23 58.6**	**-0.6**
DALK				*e*S	**Sn**	**09 24 17.3**	**+1.6**
DALK	**Dalny**	**1.33**	**312**	PN	**Pn**	**09 23 58.6**	**-0.6**
DALK				S	**Sn**	**09 24 17.3**	**+1.6**
PET	**Petropavlovsk**	**1.37**	**310**	*e*Pn	**Pn**	**09 23 59.2**	**-0.6**
PET	**Petropavlovsk**	**1.37**	**310**	*e*P	**Pn**	**09 23 59.4**	**-0.4**
PET				*e*S	**Sn**	**09 24 18.4**	**+1.6**
PET	**Petropavlovsk**	**1.37**	**310**	*α i*PN	**Pn**	**09 23 59.2**	**-0.6**
PET				pmax	pmax		
	comp=Z,2μm,0.7s						
MTVR	**Mutnovka**	**1.40**	**284**	*e*P	**Pn**	**09 23 59.6**	**-0.7**
MTVR	**Mutnovka**	**1.40**	**284**	PN	**Pn**	**09 23 59.6**	**-0.7**
UGLR	**Uglovaya**	**1.43**	**318**	*e*P	**Pn**	**09 24 00.6**	**0.0**
UGLR	**Uglovaya**	**1.43**	**318**	PN	**Pn**	**09 24 00.6**	**0.0**
SDLR	**Sedlovina**	**1.45**	**321**	*e*P	**Pn**	**09 24 00.5**	**-0.5**
SDLR	**Sedlovina**	**1.45**	**321**	PN	**Pn**	**09 24 00.5**	**-0.5**
SMAR	**Somma**	**1.47**	**319**	*e*P	**Pn**	**09 24 00.9**	**-0.5**
SMAR				*e*S	**Sn**	**09 24 21.2**	**+1.6**
SMAR	**Somma**	**1.47**	**319**	PN	**Pn**	**09 24 00.9**	**-0.5**
SMAR				S	**Sn**	**09 24 21.2**	**+1.6**
KDTR	**Khodutka, Kamc**	**1.48**	**257**	*e*P	**Pn**	**09 23 59.6**	**-1.6**
KDTR				*e*S	**Sn**	**09 24 18.5**	**-0.8**
KDTR	**Khodutka, Kamc**	**1.48**	**257**	PN	**Pn**	**09 23 59.6**	**-1.6**
KDTR				S	**Sn**	**09 24 18.5**	**-0.8**
GRL	**Gorelyy**	**1.48**	**286**	*e*P	**Pn**	**09 24 02.2**	**+0.8**
GRL	**Gorelyy**	**1.48**	**286**	PN	**Pn**	**09 24 02.2**	**+0.8**
AVH	**Avacha**	**1.50**	**318**	*e*P	**Pn**	**09 24 01.6**	**0.0**
AVH	**Avacha**	**1.50**	**318**	PN	**Pn**	**09 24 01.6**	**0.0**
KRER	**Koryakskii**	**1.53**	**320**	*e*P	**Pn**	**09 24 01.9**	**-0.2**
KRER	**Koryakskii**	**1.53**	**320**	PN	**Pn**	**09 24 01.9**	**-0.2**
KRMR	**Karymshinskiy**	**1.54**	**297**	*e*P	**Pn**	**09 24 01.5**	**-0.6**
KRMR				*e*S	**Sn**	**09 24 21.5**	**+0.6**
KRMR	**Karymshinskiy**	**1.54**	**297**	PN	**Pn**	**09 24 01.5**	**-0.6**
KRMR				S	**Sn**	**09 24 21.5**	**+0.6**
ASAK	**Asacha**	**1.55**	**279**	*e*P	**Pn**	**09 24 02.1**	**-0.2**
ASAK	**Asacha**	**1.55**	**279**	PN	**Pn**	**09 24 02.1**	**-0.2**
KOK	**Koryaka**	**1.56**	**317**	*e*P	**Pn**	**09 24 02.5**	**0.0**
KOK	**Koryaka**	**1.56**	**317**	PN	**Pn**	**09 24 02.5**	**0.0**
KRX	**Arik**	**1.61**	**319**	*e*P	**Pn**	**09 24 03.0**	**-0.1**
KRX	**Arik**	**1.61**	**319**	PN	**Pn**	**09 24 03.0**	**-0.1**
PEA0B	**Petropavlovsk-**	**1.90**	**301**	*e*Pn	**Pn**	**09 24 07.2**	**+0.2**
PEA0B	**Petropavlovsk-**	**1.90**	**301**	*e*PN	**Pn**	**09 24 07.3**	**+0.2**
PETK	**Petropavlovsk-**	**1.90**	**301**	*e*Pn	**Pn**	**09 24 06.8**	**-0.3**
PETK	**Petropavlovsk-**	**1.90**	**301**	P	**Pn**	**09 24 07.2**	**+0.1**
	comp=Z,61nm,0.3s,baz=98,slow=19,SNR=344						
PETK				S	**Sn**	**09 24 33.2**	**+3.5**
	comp=Z,118nm,0.3s,baz=144,slow=18,SNR=6.7						
PETK				LR	LR	09 24 39.5	
	comp=Z,789nm,19.4s,baz=44,slow=35						
PEA1	**Petropavlovsk-**	**1.90**	**301**	*e*Pn	**Pn**	**09 24 07.2**	**+0.1**
PEA1				*e*Sn	**Sn**	**09 24 33.2**	**+3.4**
APC	**Apacha**	**2.12**	**293**	*e*P	**Pn**	**09 24 10.8**	**+0.7**
APC				*e*S	**Sn**	**09 24 37.8**	**+2.6**
APC	**Apacha**	**2.12**	**293**	PN	**Pn**	**09 24 10.8**	**+0.7**
APC				S	**Sn**	**09 24 37.8**	**+2.6**
PAU	**Pauzhetka**	**2.33**	**254**	*e*P	**Pn**	**09 24 12.8**	**-0.1**
PAU	**Pauzhetka**	**2.33**	**254**	PN	**Pn**	**09 24 12.8**	**-0.1**
MKZ	**Mys Kozlova**	**2.53**	**18**	*e*P	**Pn**	**09 24 14.0**	**-1.7**
MKZ				*e*S	**Sn**	**09 24 43.5**	**-1.8**
MKZ	**Mys Kozlova**	**2.53**	**18**	PN	**Pn**	**09 24 14.0**	**-1.7**
MKZ				S	**Sn**	**09 24 43.5**	**-1.8**
KZV	**Kizimen**	**2.96**	**359**	*e*P	**Pn**	**09 24 21.8**	**0.0**
KZV	**Kizimen**	**2.96**	**359**	PN	**Pn**	**09 24 21.8**	**0.0**
TUMD	**Tumrok D**	**3.05**	**0**	*e*P	**Pn**	**09 24 22.4**	**-0.5**
TUMD				*e*S	**Sn**	**09 24 58.2**	**+0.1**
SKR	**Severo-Kuril's**	**3.06**	**243**	*e*P	**Pn**	**09 24 21.6**	**-1.3**
SKR				*e*S	**Sn**	**09 24 56.1**	**-2.1**
SKR	**Severo-Kuril's**	**3.06**	**243**	*e*PN	**Pn**	**09 24 21.5**	**-1.3**
SKR				*e*S	**Sn**	**09 24 56.1**	**-2.1**
SKR				pmax	pmax		
	comp=Z,557nm,0.6s						
SKR				smax	smax		
	comp=E,969nm,0.5s						
SKR				smax	smax		
	comp=N,2μm,0.6s						
TUMR	**Tumrok**	**3.14**	**357**	PN	**Pn**	**09 24 22.4**	**-1.7**
TUMR				S	**Sn**	**09 24 58.2**	**-2.1**
ESO	**Esso**	**3.91**	**346**	*e*P	**Pn**	**09 24 35.1**	**+0.5**
ESO	**Esso**	**3.91**	**346**	PN	**Pn**	**09 24 35.1**	**+0.5**
LGNR	**Loginova**	**3.94**	**2**	*e*P	**Pn**	**09 24 36.4**	**+1.2**
LGNR	**Loginova**	**3.94**	**2**	PN	**Pn**	**09 24 36.4**	**+1.2**
KLY	**Klyuchi**	**4.17**	**2**	*e*P	**Pn**	**09 24 40.1**	**+2.0**
KLY	**Klyuchi**	**4.17**	**2**	PN	**Pn**	**09 24 40.1**	**+2.0**
SRDR	**Sredinnyy**	**4.19**	**355**	*e*P	**Pn**	**09 24 38.5**	**0.0**
SRDR	**Sredinnyy**	**4.19**	**355**	PN	**Pn**	**09 24 38.5**	**0.0**
**KB

comp=Z,23nm,0.8s
TIXI Tiksi 24.01 336 *e*P **P 09 28 45.9 -1.3**
comp=Z,25nm,0.8s
TIXI *e*P pP 09 28 46.5 -12
TIXI Tiksi 24.01 336*d i*P **P 09 28 45.8 -1.4**
TIXI pmax pmax
comp=Z,26nm,0.8s
TIXI Tiksi 24.01 336 P **P 09 28 46.5 -0.7**
comp=Z,26nm,0.8s,baz=90,slow=7.6,SNR=78
JHJ Hachijo jima 2 24.18 226 LR LR 09 40 52.0
comp=Z,55nm,18.3s,baz=79,slow=43
CN2 Changchun 24.64 264 *e*P **P 09 28 51.1 -2.2**
CN2 *ep*P pP 09 29 01.3 -2.9
CN2 *e*S **S 09 33 04.0 -7.5**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=Z,440nm,16.0s
CN2 LR LR
comp=Z,340nm,16.0s
CN2 LR LR
comp=Z,500nm,14.0s
BOD Bodaibo 26.77 301 *e*P **P 09 29 10.5 -1.9**
BOD pmax pmax
comp=Z,10.0nm,1.1s
KSRS Korea Array 27.05 250 P **P 09 29 14.2 -0.9**
comp=Z,4.4nm,0.8s,baz=43,slow=9.6,SNR=13
KSRS LR LR 09 41 00.7
comp=Z,161nm,19.1s,baz=54,slow=39
JNU Nakatsue 28.57 240 *e*P **P 09 29 28.1 -0.6**
comp=Z,17nm,0.8s
JNU Nakatsue 28.57 240 P **P 09 29 28.4 -0.3**
comp=Z,6.3nm,0.7s,baz=113,slow=8.2,SNR=1.9
TOLK Toolik Lake Re 28.61 36 *e*P **P 09 29 29.2 +0.4**
comp=Z,1.8nm,0.7s
COLA College 28.94 44 *i* P **P 09 29 35.5 +3.8**
COLA pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 29.35 44 P **P 09 29 34.5 -0.9**
comp=Z,0.8nm,0.9s,baz=274,slow=8.2,SNR=5.9
ILB Eielson Array 29.35 44 *e*P **P 09 29 34.5 -0.9**
comp=Z,2.6nm,1.0s
H11N2 WAKE ISLAND Hy 32.76 169 T T 10 05 31.7
baz=352,slow=76
H11N3 WAKE ISLAND Hy 32.77 169 T T 10 05 34.0
baz=352,slow=76
H11N1 WAKE ISLAND Hy 32.77 169 T T 10 05 32.8
baz=352,slow=76
ULN Ulaanbaatar 33.90 284*ce*P **P 09 30 14.6 -1.0**
ULN pmax pmax
comp=Z,4.0nm,0.8s
H11S1 WAKE ISLAND Hy 33.94 169 T T 10 06 59.2
baz=351,slow=74
H11S3 WAKE ISLAND Hy 33.95 169 T T 10 07 00.3
baz=351,slow=74
H11S2 WAKE ISLAND Hy 33.96 169 T T 10 06 59.4
baz=351
TLY Talaya 34.24 292 *e*P **P 09 30 17.9 -0.5**
comp=Z,12nm,1.0s
TLY Talaya 34.24 292*ce*P **P 09 30 18.5 +0.1**
TLY pmax pmax
comp=Z,30nm,1.0s
TIA Tai'an 34.30 260 P **P 09 30 19.8 +0.7**
TIA pmax pmax
comp=Z,17nm,0.9s
SONA0 Songino Array 34.31 285 *e*P **P 09 30 17.0 -2.2**
SONM Songino Array 34.31 285 P **P 09 30 17.0 -2.2**
SONM Songino Array 34.31 285 P **P 09 30 17.0 -2.2**
comp=Z,2.4nm,0.8s,baz=12,slow=35,SNR=4.2
SONM LR LR 09 46 05.8
comp=Z,648nm,18.0s,baz=74,slow=39
INK Inuvik 34.51 37 *e*P **P 09 30 21.3 +0.9**
comp=Z,1.4nm,0.7s
INK Inuvik 34.51 37 P **P 09 30 20.1 -0.3**
comp=Z,1.6nm,0.7s,baz=291,slow=6.4,SNR=11
HHC Hu-ho-hao-te 34.83 271 *e*P **P 09 30 24.0 +0.3**
HHC pmax pmax
comp=Z,85nm,0.8s
HHC pmax pmax
comp=Z,330nm,4.5s
HHC LR LR
comp=Z,740nm,12.8s
HHC LR LR
comp=Z,830nm,13.3s
HHC LR LR
comp=Z,900nm,12.8s
ZAK Zakamensk 34.99 290 *e*P **P 09 30 23.9 -1.1**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
NJ2 Nanjing 36.14 253 *e*P **P 09 30 34.4 -0.5**
NJ2 pmax pmax
comp=Z,11nm,0.6s
NRIK Noril'sk 36.78 326 P **P 09 30 38.1 -1.8**
comp=Z,5.4nm,0.8s,baz=98,slow=8.6,SNR=8.0
NRIK LR LR 09 47 15.9
comp=Z,531nm,18.5s,baz=80,slow=39
DLBC Dease Lake 38.46 52 P **P 09 30 55.0 +0.6**
comp=Z,0.9nm,0.6s,baz=321,slow=6.5,SNR=2.2
DLBC LR LR 09 47 02.3
comp=Z,52nm,19.0s,baz=314,slow=36
WHN Wuhan 39.90 256 P **P 09 31 08.1 +1.6**
XAN Xi'an 40.75 264 P P 09 31 19.8 +6.1
XAN pP sP 09 31 35.0 +5.2
BBB Bella Bella 42.17 60 LR LR 09 46 06.6
comp=Z,48nm,21.8s,baz=35,slow=32
LZH Lanzhou 42.53 271 *e*P **P 09 31 28.1 -0.2**
LZH pP pwP 09 31 42.8 -0.6
LZH sP sP 09 31 49.0 +4.6
LZH pmax pmax
comp=Z,19nm,1.0s
GTA Gaotai 42.90 278 *e*P **P 09 31 30.8 -0.5**
GTA pP pP 09 31 40.8 -2.0
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,27nm,4.9s
GTA LR LR
comp=Z,360nm,16.2s
GTA LR LR
comp=Z,300nm,15.5s
GTA LR LR
comp=Z,460nm,17.9s
ZALV Zalesovo Beam 43.45 304 P **P 09 31 32.9 -2.4**
comp=Z,4.2nm,0.7s,baz=56,slow=7.9,SNR=10
ZALV LR LR 09 51 08.7
comp=Z,268nm,18.4s,baz=80,slow=38
YKA Yellowknife Ar 43.73 42 *i* P **P 09 31 39.5 +2.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 43.73 42 P **P 09 31 38.0 +0.5**
comp=Z,0.4nm,0.7s,baz=300,slow=8.8,SNR=5.4
NVS Novosibirsk 43.80 305 *i* P **P 09 31 36.3 -1.8**
RES Resolute Bay 44.13 22 *e*P **P 09 31 41.9 +1.4**
comp=Z,3.4nm,0.9s
RES Resolute Bay 44.13 22 *e*P **P 09 31 41.9 +1.4**
RES pmax pmax
comp=Z,3.0nm,0.9s
RES Resolute Bay 44.13 22 P **P 09 31 40.5 0.0**
comp=Z,2.1nm,0.7s,baz=319,slow=7.7,SNR=12
RES PcP **PcP 09 33 25.6 +0.9**
comp=Z,1.7nm,0.7s,baz=349,slow=2.7,SNR=3.6
DGZ Jazzator, Alta 44.26 297*c i*P **P 09 31 41.2 -0.8**
DGZ pmax pmax
comp=Z,8.0nm,0.9s
CD2 Chengdu 46.07 265 *e*P **P 09 31 55.3 -1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
WMQ Urumqi 47.46 290 *e*P **P 09 32 08.0 +0.7**
WMQ pmax pmax
comp=Z,80nm,0.8s
WMQ pmax pmax
comp=Z,200nm,5.1s
WMQ LR LR
comp=Z,1μm,19.3s
WMQ LR LR
comp=Z,1μm,16.7s
WMQ LR LR
comp=Z,1μm,17.3s
SPA0 Spitsbergen Ar 48.09 351 *e*P **P 09 32 12.7 +1.1**
comp=Z,42nm,1.0s
SPITS Spitsbergen Ar 48.09 351 P **P 09 32 12.3 +0.7**
SPITS pmax pmax
comp=Z,8.0nm,0.4s
KURK Kurchatov 48.39 303 *e*P **P 09 32 12.5 -1.7**
comp=Z,28nm,1.0s
KURK Kurchatov 48.39 303*ce*P **P 09 32 12.3 -2.0**
KURK pmax pmax
comp=Z,22nm,0.8s
MKAR Makanchi Array 48.73 297 P **P 09 32 15.5 -1.5**
comp=Z,4.4nm,0.5s,baz=57,slow=7.2,SNR=60
MKAR LR LR 09 54 09.2
comp=Z,151nm,21.0s,baz=46,slow=38
MAKZ Makanchi 48.90 297 *e*P **P 09 32 16.7 -1.6**
comp=Z,7.2nm,0.9s
MAKZ Makanchi 48.90 297 *e*P **P 09 32 16.7 -1.6**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
KMI Kunming 50.85 261 P P 09 32 38.3 +4.7
KMI pmax pmax
comp=Z,18nm,0.5s
BRVK Borovoye 51.15 309 *e*P **P 09 32 34.4 -0.8**
comp=Z,19nm,0.7s
BRVK Borovoye 51.15 309*d i*P **P 09 32 34.0 -1.2**
BRVK pmax pmax
comp=Z,15nm,0.8s
DAG Danmarks Havn 51.34 360⇑*i*P **P 09 32 36.5 +0.2**
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 51.34 360⇑*i*P **P 09 32 36.5 +0.2**
comp=Z,6.2nm,0.7s
PDGK Podgornoye 52.44 295 P **P 09 32 44.1 -1.0**
PDGK pmax pmax
comp=Z,8.0nm,1.0s
MOD Modoc Plateau 52.45 68 *e*P **P 09 32 45.9 +0.7**
comp=Z,2.6nm,1.0s
ARU Arti 54.22 318 *e*P **P 09 32 57.1 -0.7**
comp=Z,12nm,0.6s
ARU Arti 54.22 318*d i*P **P 09 32 57.4 -0.4**
ARU *PP **pwP 09 33 11.3 -0.8**
ARU 09 34 06.1
ARU S **S 09 40 30.0 -1.4**
ARU pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 54.22 318 LR LR 09 59 13.5
comp=Z,200nm,18.6s,baz=37,slow=40
ARA0 ARCESS Array S 54.24 342 *e*P **P 09 32 58.0 +0.2**
ARCES ARCESS Array B 54.24 342 P **P 09 32 58.0 +0.2**
ARCES ARCESS Array B 54.24 342 P **P 09 32 58.0 +0.2**
comp=Z,10nm,1.0s,baz=41,slow=9.2,SNR=19
PNTR Pine Nut 54.70 70 *e*P **P 09 33 04.4 +2.6**
comp=Z,5.7nm,0.8s
SUMG Summit 54.87 7 *e*P **P 09 33 02.8 0.0**
comp=Z,18nm,1.0s
SUMG Summit 54.87 7⇑*i*P **P 09 33 03.7 +0.9**
SUMG pmax pmax
comp=Z,46nm,1.0s
SUMG Summit 54.87 7⇑*i*P **P 09 33 03.7 +0.9**
comp=Z,46nm,1.0s
BOOM Boomskoye usch 54.96 296 *e*P **P 09 33 02.0 -1.6**
comp=Z,7.7nm,1.0s
BOOM Boomskoye usch 54.96 296 *e*P **P 09 33 02.0 -1.6**
BOOM pmax pmax
comp=Z,8.0nm,1.0s
PRGR Permogore 55.33 328 *e*P **P 09 33 04.9 -0.9**
PRGR *PP **pP 09 33 15.7 -2.0**
PRGR pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 55.66 297 *e*P **P 09 33 08.1 -0.6**
comp=Z,6.9nm,0.9s
AAK Ala-Archa 55.66 297*ce*P **P 09 33 07.1 -1.6**
AAK pmax pmax
comp=Z,8.0nm,1.0s
TMCR Tamitsa 55.70 333 *e*P **P 09 33 08.2 -0.1**
TMCR pmax pmax
comp=Z,39nm,1.0s
PANO Nakornpanom 55.80 253 P **P 09 33 14.4 +4.7**
comp=Z,0.5nm,0.9s
NVAR Mina Array Bea 55.89 70 *e*P **P 09 33 10.5 +0.1**
NVAR Mina Array Bea 55.89 70 P **P 09 33 10.8 +0.4**
comp=Z,0.8nm,0.7s,baz=297,slow=6.2,SNR=7.1
NONG Nongkai 55.96 255 P **P 09 33 13.2 +2.4**
comp=Z,0.3nm,1.0s
ELK Elko 56.08 66 P **P 09 33 12.1 +0.4**
comp=Z,0.3nm,0.3s,baz=307,slow=5.1,SNR=3.1
KIRV Kirov 56.26 324 LR LR 10 00 31.7
comp=Z,242nm,18.1s,baz=135,slow=39
SKNT Sakolnakorn 56.31 253 P **P 09 33 15.3 +1.9**
comp=Z,22nm,1.1s
MSF Maaselka 56.55 338 P **P 09 33 15.3 +0.9**
MSF pmax pmax
comp=Z,36nm,1.1s
PAYA Payao 56.92 259 P **P 09 33 19.7 +2.0**
comp=Z,34μm,0.8s
KSH Kashi 56.94 293 P **P 09 33 21.3 +3.5**
KSH pP sP 09 33 36.8 +2.3
KSH PP **PP 09 35 30.3 +6.0**
KSH S **S 09 41 08.6 +0.1**
KSH SS **SS 09 44 58.4 +1.7**
KSH pmax pmax
comp=Z,160nm,8.2s
KSH LR LR
comp=Z,560nm,12.8s
KSH LR LR
comp=Z,770nm,16.3s
KSH LR LR
comp=Z,530nm,11.9s
PHRA Phrae 57.37 258 P **P 09 33 22.7 +1.9**
comp=Z,2.9nm,1.3s
LAMP Lampang 57.71 258 P **P 09 33 25.7 +2.5**
comp=Z,17μm,0.5s
UTTA Uttaradit 57.75 257 P **P 09 33 25.6 +2.1**
comp=Z,20μm,0.9s
BW06 Boulder Array 57.82 60 *e*P **P 09 33 25.9 +1.9**
PDAR Pinedale Array 57.82 60 P **P 09 33 24.1 0.0**
comp=Z,0.5nm,0.6s,baz=303,slow=4.3,SNR=3.7
PDAR LR LR 09 59 10.1
comp=Z,39nm,18.3s,baz=316,slow=37
KLMR Klimovskoe 57.85 330 *e*P **P 09 33 22.0 -1.7**
KLMR pmax pmax
comp=Z,18nm,0.9s
CMMT Chiang Mai 57.90 259 P **P 09 33 25.9 +1.3**
comp=Z,10nm,0.9s
CHTO Chiang Mai 57.90 259 *e*P **P 09 33 24.0 -0.6**
comp=Z,12nm,0.8s
CHTO Chiang Mai 57.90 259 *e*P **P 09 33 24.0 -0.6**
CHTO pmax pmax
comp=Z,12nm,0.8s
OUL Oulu 57.95 339 P **P 09 33 24.8 +0.5**
OUL pmax pmax
comp=Z,44nm,0.8s
CMAR Chiang Mai Arr 58.17 259 *e*P **P 09 33 27.6 +1.1**
CMAR Chiang Mai Arr 58.17 259 P **P 09 33 26.1 -0.4**
comp=Z,5.0nm,0.7s,baz=25,slow=7.0,SNR=25
CMAR LR LR 10 00 47.7
comp=Z,74nm,18.5s,baz=32,slow=38
CM31 Chiang Mai Arr 58.18 259 *e*P **P 09 33 25.9 -0.6**
comp=Z,8.9nm,0.6s
FRB Frobisher Bay 58.30 23 P **P 09 33 26.3 -0.4**
comp=Z,3.1nm,0.8s,baz=325,slow=6.1,SNR=8.0
JOF Joensuu 58.50 335 P **P 09 33 28.6 +0.5**
JOF pmax pmax
comp=Z,31nm,1.0s
JIRN Jiri 59.17 276 *e*P **P 09 33 33.5 -0.3**
ULM Lac du Bonnet 59.33 46 P **P 09 33 35.4 +1.3**
comp=Z,0.9nm,0.5s,baz=312,slow=3.7,SNR=2.9
RAMN Ramite 59.43 275 *e*P **P 09 33 35.2 -0.3**
comp=Z,41nm,0.5s
KKN Kakani 59.63 277 *e*P **P 09 33 36.6 -0.2**
comp=Z,28nm,0.6s
PKI Pulchoki 59.71 277 *e*P **P 09 33 37.3 -0.2**
comp=Z,18nm,0.7s
PKIN Phulchoki 59.72 277 *e*P **P 09 33 37.1 -0.4**
comp=Z,16nm,0.6s
RSSD Black Hills 59.77 56 *e*P **P 09 33 40.1 +2.5**
comp=Z,7.5nm,0.8s
RSSD Black Hills 59.77 56 *e*P **P 09 33 40.1 +2.5**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
DMN Daman 59.87 277 *e*P **P 09 33 38.6 +0.1**
comp=Z,29nm,0.6s
GKN Gorkha 59.88 278 *e*P **P 09 33 38.1 -0.3**
SUF Sumiainen 59.93 338 P **P 09 33 38.9 +0.8**
SUF pmax pmax
comp=Z,60nm,0.7s
DANN Dangsing 60.16 279 *e*P **P 09 33 40.3 -0.2**
comp=Z,38nm,0.7s
VAF Ylistaro 60.44 339 P **P 09 33 42.9 +1.4**
VAF pmax pmax
comp=Z,24nm,1.3s
GAR Garm 60.46 296 *e*P **P 09 33 41.6 -0.6**
comp=Z,16nm,0.7s
GAR Garm 60.46 296 *e*P **P 09 33 41.6 -0.6**
GAR pmax pmax
comp=Z,16nm,0.7s
PYUN Piuthan 60.81 279 *e*P **P 09 33 44.4 -0.4**
comp=Z,32nm,0.8s
FINES FINESS Array B 61.05 337 P **P 09 33 46.4 +0.7**
comp=Z,15nm,0.6s,baz=33,slow=8.2,SNR=55
FINES LR LR 10 04 06.3
comp=Z,106nm,18.6s,baz=20,slow=40
NIL Nilore 62.61 290 *e*P **P 09 33 56.9 +0.2**
comp=Z,20nm,0.8s
NIL Nilore 62.61 290 *e*P **P 09 33 56.9 +0.2**
NIL pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 63.41 328⇑*e*P **P 09 34 00.2 -1.3**
OBN *e* 09 34 38.9
OBN *e* 09 36 19.8
OBN pmax pmax
comp=Z,14nm,0.4s
OBN Obninsk 63.41 328 LR LR 10 04 08.1
comp=Z,19nm,19.4s,baz=201,slow=38
VSU Vasula 63.48 335*ce*P **P 09 34 03.1 +1.1**
VSU pmax pmax
comp=Z,20nm,0.6s
NB2 NORSAR Subarra 64.50 344 P **P 09 34 08.8 +0.1**
comp=Z,14nm,0.9s,baz=23,slow=6.9
NB2 NORSAR Subarra 64.50 344 P **P 09 34 08.5 -0.2**
NB2 pmax pmax
comp=Z,8.0nm,0.9s
NOA NORSAR Array B 64.50 344 P **P 09 34 07.7 -1.0**
comp=Z,7.8nm,0.8s,baz=21,slow=6.6,SNR=26
NOA LR LR 10 05 03.1
comp=Z,46nm,19.2s,baz=5.0,slow=39
LPSR Galich'ya Gora 64.66 325 *e*P **P 09 34 09.4 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
NORES NORESS Array B 64.72 344 P **P 09 34 11.3 +1.2**
NORES pmax pmax
comp=Z,3.0nm,0.5s
VRH Novokhopyorsk 64.77 322 *e*P **P 09 34 08.7 -1.8**
VRH pmax pmax
comp=Z,7.0nm,0.8s
ANMO Albuquerque 65.08 65 *i* P **P 09 34 15.7 +2.6**
VSR Storozhevoye 65.70 324 *i* P **P 09 34 15.4 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 65.86 324 *e*P **P 09 34 15.7 -1.9**
VORD pmax pmax
comp=Z,10.0nm,1.3s
GEYT Alibeck 67.76 303 P **P 09 34 30.6 +0.6**
comp=Z,74nm,0.4s,baz=35,slow=5.3,SNR=6.9
WMOK Wichita Mounta 69.42 60 *e*P **P 09 34 37.8 -2.6**
comp=Z,2.9nm,0.9s
WMOK Wichita Mounta 69.42 60 *e*P **P 09 34 37.8 -2.6**
WMOK pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 69.51 329 *i* P **P 09 34 40.5 -0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 69.51 329 P **P 09 34 40.3 -0.3**
comp=Z,4.4nm,0.4s,baz=30,slow=6.3,SNR=29
AKASG LR LR 10 10 35.6
comp=Z,103nm,18.1s,baz=25,slow=41
KIEV Kiev 69.53 329 *i* P **P 09 34 40.2 -0.5**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 70.25 317 *e*P **P 09 34 46.7 +1.3**
KIV pmax pmax
comp=Z,19nm,0.9s
KIV MLR MLR
comp=Z,267nm,18.0s
KBZ Khabaz 70.35 317 P **P 09 34 45.6 -0.2**
comp=Z,6.3nm,0.8s,baz=62,slow=3.6,SNR=20
TX31 Lajitas Ar. Si 70.83 67 *e*P **P 09 34 50.8 +1.6**
comp=Z,2.2nm,0.8s
TXAR Lajitas Array 70.83 67 P **P 09 34 50.5 +1.2**
comp=Z,0.9nm,0.7s,baz=297,slow=4.3,SNR=16
HYB Hyderabad 71.47 275 *i* P **P 09 34 52.0 -1.1**
HYB *e* 09 35 04.0
AKH Akhalkalaki 71.98 315 P **P 09 34 56.3 +0.3**
AKH pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 72.46 314*ce*P **P 09 34 59.9 +1.0**
GNI pmax pmax
comp=Z,46nm,1.0s
CLL Collm 73.30 339⇓*i*P **P 09 35 04.5 +1.1**
CLL *i* *PP **pP 09 35 16.6 +0.8**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 73.30 339⇓*i*P **P 09 35 04.5 +1.1**
comp=Z,11nm,1.0s
CLL *i* pP **pP 09 35 16.6 +0.8**
CLL *i* PcP **pwP 09 35 18.7 +0.4**
DPC Dobruska-Polom 73.43 337 *e*P **P 09 35 05.9 +1.6**
DPC *e* 09 35 17.8
DPC Dobruska-Polom 73.43 337 *e*P **P 09 35 05.9 +1.6**
DPC *ep*P **pP 09 35 17.8 +1.1**
BURAR Bucovina Array 73.48 330⇓*i*P **P 09 35 05.6 +0.9**
BURAR Bucovina Array 73.48 330 P **P 09 35 05.6 +0.9**
MORC Moravsky Berou 73.66 336 *e*P **P 09 35 06.7 +1.0**
LANS Liptovska Anna 73.74 334 *e*P **P 09 35 08.4 +2.3**
LANS *e* 09 35 19.6
LANS Liptovska Anna 73.74 334 *e*P **P 09 35 08.4 +2.3**
LANS *es*P **pP 09 35 19.6 +1.1**
BIZ Bicaz 73.81 329⇑*i*P **P 09 35 07.2 +0.7**
TRPA Tarpa 73.81 332⇑*i*P **P 09 35 08.0 +1.5**
TESR Tescani 74.01 329⇑*i*P **P 09 35 08.1 +0.4**
PRU Pruhonice 74.19 338 *e*P **P 09 35 10.0 +1.3**
PRU *e* 09 35 20.8
PRU MLR MLR
comp=Z,100nm,17.3s
PRU Pruhonice 74.19 338 *e*P **P 09 35 10.0 +1.3**
PRU *ep*P **pP 09 35 20.8 -0.3**
PRU AMS AMS 10 14 20.0
comp=Z,100nm,17.3s
GOPC GO Pecny, Ondr 74.20 338 *e*P **P 09 35 09.9 +1.1**
GOPC GO Pecny, Ondr 74.20 338 *e*P **P 09 35 09.9 +1.1**
VRAC Vranov 74.33 336⇓*i*P **P 09 35 11.2 +1.6**
VRAC Vranov 74.33 336 P **P 09 35 11.1 +1.6**
VRAC Vranov 74.33 336 *e*P **P 09 35 10.5 +0.9**
JAVC Velka Javorina 74.47 335 *e*P **P 09 35 12.3 +1.8**
JAVC *e* 09 35 24.2
VYHS Vyhne 74.51 335 *e*P **P 09 35 11.8 +1.2**
VYHS *e* 09 35 23.7
VYHS Vyhne 74.51 335 *e*P **P 09 35 11.8 +1.2**
VYHS *e*PCP **pP 09 35 23.7 +0.7**
VRI Vrincioaia 74.56 328⇑*i*P **P 09 35 11.1 +0.1**
VRI Vrincioaia 74.56 328 P **P 09 35 11.0 +0.1**
PLOR Plostina 74.60 328⇓*i*P **P 09 35 12.4 +1.2**
PLOR Plostina 74.60 328 P **P 09 35 12.3 +1.1**
KRUC Moravsky 74.61 336 *e*P **P 09 35 12.2 +1.1**
KRUC *e* 09 35 23.8
CFR Carcaliu 74.70 327⇓*i*P **P 09 35 12.4 +0.7**
CFR Carcaliu 74.70 327 P **P 09 35 12.3 +0.6**
MLR Muntele Rosu 75.14 329 *e*P **P 09 35 14.0 -0.5**
comp=Z,12nm,0.6s
MLR Muntele Rosu 75.14 329⇓*i*P **P 09 35 16.1 +1.6**
MLR Muntele Rosu 75.14 329 *e*P **P 09 35 14.0 -0.5**
MLR pmax pmax
comp=Z,12nm,0.6s
MLR Muntele Rosu 75.14 329 LR LR 10 14 04.8
comp=Z,102nm,18.8s,baz=9.5,slow=40
DIKM Dikmen 75.18 321⇑*i*P **P 09 35 15.7 +1.1**
KHC Kasperske Hory 75.21 338 *e*P **P 09 35 16.0 +1.3**
KHC *e* 09 35 27.2
KHC MLR MLR
comp=Z,200nm,15.1s
KHC Kasperske Hory 75.21 338 *e*P **P 09 35 16.0 +1.3**
KHC *ep*P **pP 09 35 27.2 +0.1**
KHC AMS AMS 10 13 40.0
comp=Z,200nm,15.1s
WR1 Warramunga Arr 75.31 205 *e*P **P 09 35 15.8 +0.3**
WRA Warramunga Arr 75.31 205 *i* P **P 09 35 17.2 +1.8**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 75.31 205 P **P 09 35 15.8 +0.3**
comp=Z,0.9nm,0.8s,baz=24,slow=5.3,SNR=8.5
MEM Membach 75.34 343⇑P **P 09 35 16.3 +1.0**
MEM ⇑*p*P **pwP 09 35 31.1 +0.9**
comp=Z,22nm,0.9s
GERES GERESS Array B 75.45 338 P **P 09 35 17.0 +0.8**
GERES GERESS Array B 75.45 338 P **P 09 35 17.0 +0.8**
comp=Z,1.7nm,0.5s,baz=34,slow=5.0,SNR=7.2
GERES LR LR 10 12 53.6
comp=Z,58nm,18.3s,baz=8.5,slow=39
VOIR 75.48 329⇓*i*P **P 09 35 17.8 +1.4**

VOIR		75.48 329	P	P	09 35 17.7 +1.4
ICOR	Ion Corvin	75.75 327	⇑iP	P	09 35 19.0 +1.2
CONA	Conrad Observa	75.79 336	iP	P	09 35 19.8 +1.7
	comp=Z,5.2nm,0.8s				
GIVF	Givet	76.03 344	eP	P	09 35 19.9 +0.6
GIVF			pmax	pmax	
	comp=Z,27nm,1.3s				
BAIF	Baives	76.17 344	eP	P	09 35 20.8 +0.7
BAIF			pmax	pmax	
	comp=Z,6.0nm,0.8s				
GZR	Gura Zlata	76.22 331	⇓iP	P	09 35 21.4 +0.9
ILGA	Ilgaz	76.29 321	eP	P	09 35 22.2 +1.0
	comp=Z,17nm,0.9s				
BZS	Buzias	76.36 332	⇑iP	P	09 35 21.6 +0.3
BZS	Buzias	76.36 332	P	P	09 35 21.5 +0.3
MDVR	Moldovita	77.09 331	⇓iP	P	09 35 26.0 +0.5
SOKA	Soboth	77.16 336	iP	P	09 35 27.4 +1.5
	comp=Z,2.9nm,0.5s				
KBA	Koelnbreinsper	77.19 338	iP	P	09 35 28.1 +2.0
	comp=Z,22nm,0.8s				
CDF	Champ du Feu	77.22 342	eP	P	09 35 26.8 +0.6
CDF			pmax	pmax	
	comp=Z,9.0nm,0.9s				
RETA	Reutte	77.39 339	iP	P	09 35 28.8 +1.7
	comp=Z,6.4nm,1.0s				
WTTA	Wattenberg	77.41 339	iP	P	09 35 29.4 +2.0
	comp=Z,11nm,1.1s				
OBKA	Obir	77.44 337	iP	P	09 35 29.2 +1.8
	comp=Z,16nm,1.5s				
MOTA	Moosalm	77.45 339	iP	P	09 35 29.0 +1.4
	comp=Z,5.5nm,0.8s				
BRTR	Keskin Array B	77.46 321	P	P	09 35 28.2 +0.5
	comp=Z,3.7nm,0.9s,baz=35,slow=4.5,SNR=19				
SQTA	Sankt Quirin	77.55 339	iP	P	09 35 30.1 +2.0
	comp=Z,6.4nm,0.7s				
ABTA	Abfaltersbach	77.70 338	iP	P	09 35 30.1 +1.2
	comp=Z,9.6nm,0.9s				
FETA	Feichten	77.84 339	iP	P	09 35 31.6 +1.8
	comp=Z,5.3nm,0.9s				
HINF	Hinteralfeld	77.87 342	eP	P	09 35 30.0 +0.3
HINF			pmax	pmax	
	comp=Z,4.0nm,0.8s				
FLN	La Foliniere	78.14 347	eP	P	09 35 31.6 +0.4
FLN			pmax	pmax	
	comp=Z,26nm,1.3s				
GRR	Gorron	78.56 347	eP	P	09 35 34.1 +0.6
GRR			pmax	pmax	
	comp=Z,16nm,1.0s				
VTS	Vitosha	78.58 329	⇑iP	P	09 35 34.7 +0.8
VTS	Vitosha	78.58 329	P	P	09 35 34.6 +0.7
TUE	Stuetta	78.66 340	eP	P	09 35 34.9 +0.6
	comp=Z,9.8nm,0.7s				
SGMF	Saint Gilles	78.91 348	eP	P	09 35 36.1 +0.7
SGMF			pmax	pmax	
	comp=Z,14nm,0.9s				
LOR	Lormes	78.94 344	eP	P	09 35 36.2 +0.6
LOR			pmax	pmax	
	comp=Z,3.0nm,0.6s				
ASAR	Alice Springs	78.98 205	P	P	09 35 37.1 +1.2
	comp=Z,0.8nm,0.6s,baz=14,slow=5.5,SNR=19				
CABF	La Chapelle	79.17 342	eP	P	09 35 38.0 +1.0
CABF			pmax	pmax	
	comp=Z,17nm,1.3s				
SSF	Saint Saulge	79.20 344	eP	P	09 35 38.5 +1.5
SSF			pmax	pmax	
	comp=Z,8.0nm,1.0s				
AVF	Avril sur Loir	79.48 344	eP	P	09 35 39.4 +0.8
AVF			pmax	pmax	
	comp=Z,12nm,1.0s				
SMF	Signal de Mont	79.54 344	eP	P	09 35 39.7 +0.8
SMF			pmax	pmax	
	comp=Z,8.0nm,1.0s				
LPL	La Plagne	80.10 342	eP	P	09 35 43.8 +1.6
LPL			pmax	pmax	
	comp=Z,5.0nm,0.6s				
LPG	La Plagne	80.12 342	eP	P	09 35 44.0 +1.6
LPG			pmax	pmax	
	comp=Z,5.0nm,0.7s				
TCF	Toulx Ste Croi	80.16 345	eP	P	09 35 43.2 +0.9
TCF			pmax	pmax	
	comp=Z,19nm,1.4s				
VIVF	Saint-Julien-l	81.13 343	eP	P	09 35 48.1 +0.6
VIVF			pmax	pmax	
	comp=Z,64nm,2.1s				
MTLF	Montolieu	83.03 344	eP	P	09 35 59.1 +1.7
MTLF			pmax	pmax	
	comp=Z,54nm,2.2s				
EPF	Esparros	83.63 345	eP	P	09 36 01.6 +1.0
EPF			pmax	pmax	
	comp=Z,10.0nm,1.2s				
ETSF	Etsaut	83.90 346	eP	P	09 36 03.8 +1.8
ETSF			pmax	pmax	
	comp=Z,31nm,1.5s				
ESDC	Sonseca Array	87.54 348	eP	P	09 36 20.8 +0.7
	comp=Z,2.6nm,1.1s				
ESDC	Sonseca Array	87.54 348	P	P	09 36 19.8 -0.2
	comp=Z,1.0nm,0.6s,baz=358,slow=4.9,SNR=4.5				
ATD	Arta Tunnel	97.06 299	LR	LR	10 26 41.2
	comp=Z,94nm,18.2s,baz=350,slow=39				

IDC 16 09:25:46.6±2.3, 49°.14S×124°.79E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/26, mbtmp3.8/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/25, Error ellipse: s-maj=112.2km s-min=22.4km az=101.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	16.26	327	T	T	09 46 25.2	
	baz=152,slow=74,SNR=9.3						
H01W2	Cape Leeuwin H	16.26	327	T	T	09 46 25.1	
	baz=152,slow=74,SNR=6.7						
H01W3	Cape Leeuwin H	16.27	327	T	T	09 46 25.8	
	baz=152,slow=74,SNR=8.4						
STKA	Stephens Creek	21.38	42	P	P	09 30 35.5	-0.1
	2.1nm,0.9s,baz=204,slow=16,SNR=3.7						
ASAR	Alice Springs	26.42	19	P	P	09 31 24.4	-0.6
	1.0nm,0.8s,baz=192,slow=8.8,SNR=7.4						
ASAR				LR	LR	09 41 08.9	
	comp=Z,67nm,20.1s,baz=194,slow=35						
VNDA	Vanda	31.78	166	P	P	09 32 11.9	-0.2
	1.9nm,0.8s,baz=304,slow=8.0,SNR=8.7						
QSPA	South Pole Qui	40.98	180	P	P	09 33 30.7	-0.3
	2.1nm,0.9s,baz=352,slow=7.1,SNR=4.4						
YKA	Yellowknife Ar	145.40	45	PKPbc	PKPab	09 45 25.2	-0.1
	0.5nm,0.8s,baz=270,slow=3.6,SNR=11						

*GRAL **16** 09:36:45.3±0.3, 33°.78N×35°.77E, h0km±36km, MD2.6*
*NSSC **16** 09:36:47.1±1.0, 33°.61N×35°.82E, h24km±13km, ML1.1*
ISC 16 09:36:43.7±1.0, 33°.80N±0°.07×35°.77E±0°.08, h15km±10km, n7, σ0°.49/12, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.14	317	eP	Pb	09 36 48.0	-0.1
BHL				eS	Sg	09 36 50.0	-0.3
DQRL	Deir Qamar	0.19	241	eP	Pg	09 36 48.6	+0.2
RCY	Rachaya	0.31	170	eP	Pg	09 36 50.5	+0.3
RCY				eS	Sg	09 36 54.4	-0.3
BRBR	Barbar	0.41	159	eP	Pg	09 36 52.5	+0.4
BRBR				eS	Sg	09 36 57.8	0.0
BRBR				AML	AML	09 37 01.8	
	comp=N,37nm,0.3s						
BRBR				AML	AML	09 37 02.3	
	comp=E,18nm,0.5s						
QASN	Qassioun	0.50	122	eP	Pn	09 36 55.6	-0.6
QASN				eS	Sb	09 37 01.5	+0.2
QASN				AML	AML	09 37 05.7	
	comp=N,50nm,0.7s						
QASN				AML	AML	09 37 08.7	
	comp=E,18nm,0.4s						
HWQ	Hawqa	0.50	17	eP	Pb	09 36 54.5	+0.3
TOTH	TOTAH	0.70	128	eP	Pn	09 36 59.3	+0.2
TOTH				eS	Sg	09 37 05.8	-0.9
TOTH				AML	AML	09 37 12.8	
	comp=N,7.9nm,0.6s						
TOTH				AML	AML	09 37 20.9	
	comp=E,5.6nm,0.5s						

ISC 16 09:36:54.6±1.4, 49°.73N±0°.05×17°.82E±0°.06, h4km±15km, n7, σ0°.71/12, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	Moravsky Berou	0.18	286	ePG	Pg	09 36 58.3	+0.1
MORC				eSG	Sg	09 37 00.7	0.0
JAVC	Velka Javorina	0.87	186	ePG	Pb	09 37 12.7	+0.4
VRAC	Vranov	0.90	243	ePG	Pg	09 37 11.9	+0.1
VRAC				eSG	Sg	09 37 23.7	+0.2
KOLL	Kolacno	1.21	161	ePG	Pg	09 37 18.2	+0.4
KOLL				eSG	Sn	09 37 34.2	-0.9
LANS	Liptovska Anna	1.22	118	eSG	Sn	09 37 36.8	+1.3
VYHS	Vyhne	1.40	151	ePG	Pb	09 37 20.4	-0.9
VYHS				eSG	Sg	09 37 39.4	-0.2
KSP	Ksiaz	1.48	319	ePg	Pg	09 37 22.9	-0.2
KSP				eSg	Sg	09 37 42.6	+0.3

NNC 16 09:42:30.4±0.7, 51°.61N×75°.39E, h0km, mb4.0, mpv3.8, 3C-1D, Error ellipse: s-maj=6.5km s-min=3.0km az=176.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.21	115	⇓Pg	Pb	09 43 10.8	-0.5
	13nm,0.8s						
KURBB				⇑Lg	Lg	09 43 40.1	
	53nm,0.6s						
SEM	Semipalatinsk	3.30	110	Pg	Pb	09 43 30.8	+0.9
SEM				Pg	Pg	09 43 31.2	-2.4
	4.5nm,0.1s						
SEM				Lg	Lg	09 44 14.9	
	15nm,0.2s						
SEM				Lg	Lg	09 44 15.3	
	25nm,0.4s						
BVA0	Borovoye Array	3.38	297	Lg	Lg	09 44 16.7	
	1.0nm,0.8s,baz=114,slow=28,SNR=5.7						
BRVK	Borovoye	3.45	297	⇑Lg	Lg	09 44 18.5	
	8.7nm,0.6s						
MK31	Makanchi Array	6.61	134	⇑Lg	Lg	09 46 00.4	
	4.3nm,0.6s,baz=325,slow=26,SNR=7.9						
BTLS	Baital	6.64	188	Pg	Pb	09 44 31.5	+4.8
	2.1nm,0.3s						
BTLS				Lg	Lg	09 45 59.5	
	0.6nm,1.0s						
KAPS	Kapalarasan	6.86	156	Pg	Pb	09 44 34.8	+4.3
	2.3nm,0.6s						
KAPS				Pg	Pg	09 44 38.1	-3.7
KAPS				Lg	Lg	09 46 05.0	
	5.7nm,0.6s						
KAPS				Lg	Lg	09 46 09.6	
ARXS	Arharly	7.58	167	Pg	Pb	09 44 48.1	+5.3
	7.3nm,0.6s						
ARXS				Lg	Lg	09 46 27.7	
	5.5nm,0.6s						
KUU	Kurty	7.75	175	Pg	Pb	09 44 50.7	+5.1
	2.4nm,0.1s						
KUU				Lg	Lg	09 46 32.4	
	6.5nm,0.5s						
CHKK	Chushkaly	7.84	171	Pg	Pb	09 44 53.6	+6.4
	2.2nm,0.2s						
CHKK				Pg	Pg	09 44 54.5	-6.0
	1.6nm,0.5s						
CHKK				Lg	Lg	09 46 37.4	
	6.8nm,0.5s						
CHKK				Lg	Lg	09 46 38.1	
	6.8nm,0.6s						
DJR	Jarkent	7.86	156	Pg	Pb	09 44 54.2	+6.6
	4.9nm,1.4s						
DJR				Lg	Lg	09 46 38.2	
	2.6nm,0.7s						
KTBS	Karatobe	7.96	173	Pg	Pg	09 44 59.3	-3.5
KTBS				Lg	Lg	09 46 46.3	
TNSS	Tian-Shan	8.65	172	Lg	Lg	09 47 04.7	
	3.2nm,0.6s						
TNSS				Lg	Lg	09 47 10.8	
	3.2nm,0.7s						

*ASRS **16** 09:46:16.4, 53°.63N×87°.93E, M2.7, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NNC **16** 09:46:17.8±2.8, 53°.55N×87°.82E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=22.0km s-min=10.0km az=65.0, Suspected Mining explosion.*
IDC 16 09:46:17.4±2.4, 53°.53N×87°.89E, h0km, mb1 3.7/3, mb1mx3.2/49, mbtmp3.7/3, ML3.4/3, 6C-4D, Error ellipse: s-maj=22.0km s-min=13.6km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.87	284	i		09 58 22.8	
	baz=97,slow=340,SNR=6.4						
ZAA0	Zalesovo Array	1.87	284	⇑Pg	Pn	09 46 50.5	-0.2
	3.5nm,0.8s						
ZAA0				⇑Lg	Lg	09 47 17.3	
	7.2nm,0.5s						
ZALV	Zalesovo Beam	1.87	284	Pg	Pn	09 46 50.7	0.0
	7.4nm,0.3s,baz=99,slow=15,SNR=65						
ZALV				Lg	Lg	09 47 17.1	
	15nm,0.3s,baz=104,slow=24,SNR=22						
KURBB	Kurchatov Arra	6.46	247	⇑Pn	Pn	09 47 55.2	+1.4
	8.9nm,0.5s						
KURBB				⇓Sn	Sn	09 49 07.8	-0.3
	3.0nm,0.5s						
KURBB				⇓Lg	Lg	09 49 43.0	
	32nm,0.7s						
KURBB	Kurchatov Arra	6.46	247	Pn	Pn	09 47 53.3	-0.4
	0.6nm,0.3s,baz=61,slow=14,SNR=36						
KURBB				Sn	Sn	09 49 07.5	-0.7
	0.1nm,0.3s,baz=64,slow=24,SNR=3.8						
KURBB				Lg	Lg	09 49 42.2	
	0.1nm,0.3s,baz=64,slow=33,SNR=10						
MK31	Makanchi Array	7.64	210	⇑Pn	Pn	09 48 12.0	+2.0
	1.2nm,0.6s,baz=28,slow=13,SNR=14						
MK31				⇓Sn	Sn	09 49 38.5	+1.4
	1.5nm,0.7s,baz=28,slow=20,SNR=3.6						
MK31				⇑Lg	Lg	09 50 20.3	
	6.7nm,0.8s,baz=32,slow=31,SNR=4.8						
MKAR	Makanchi Array	7.64	210	Pn	Pn	09 48 11.8	+1.9
	0.5nm,0.3s,baz=29,slow=13,SNR=11						
MKAR				Sn	Sn	09 49 36.6	-0.6
	0.3nm,0.3s,baz=31,slow=24,SNR=5.2						
MKAR				Lg	Lg	09 50 19.1	
	0.3nm,0.3s,baz=32,slow=32,SNR=7.6						
MAKZ	Makanchi	7.72	212	⇑Sn	Sn	09 49 40.5	+1.3
	2.1nm,0.6s						
MAKZ				⇓Lg	Lg	09 50 20.3	
	12nm,1.1s						
BVAR	Borovoye Array	10.50	274	Pn	Pn	09 48 48.4	-0.6
	0.6nm,0.3s,baz=73,slow=14,SNR=8.9						
AAK	Ala-Archa	14.08	225	Lg	Lg	09 53 43.9	
	0.3nm,0.3s,baz=232,slow=19,SNR=2.3						

*IDC **16** 09:51:06.6±0.7, 0°.23S×27°.34E, h0km, mb4.1/12, mb1 4.1/13, mb1mx3.9/56, mbtmp4.1/13, ML3.3/1, MS3.2/4, Ms1 3.3/4, ms1mx2.8/47, Error ellipse: s-maj=27.5km s-min=14.6km az=103.0*
*NEIC **16** 09:51:07.8±2.6, 0°.40S×27°.30E, h10km±3km, mb4.2/2, Error ellipse: s-maj=22.8km s-min=11.2km az=95.0*
ISC 16 09:51:06.0±0.7, 0°.66S±0°.06×27°.2E±0°.1, h10km, n37, σ1°.83/28, mb4.0/12, MS3.1/3, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	Mbarara	3.54	89	ePn	Pn	09 52 02.0	+0.8
NAI	Nairobi	9.62	94	ePn	Pn	09 53 25.6	+0.7
KMBO	Kilima Mbogo	10.06	93	iP	Pn	09 53 36.7	+5.7
KMBO	Kilima Mbogo	10.06	93	ePn	Pn	09 53 31.1	+0.1
KMBO				e		09 53 32.2	
KMBO				eSn	Sn	09 55 13.2	-11
KMBO	Kilima Mbogo	10.06	93	iP	Pn	09 53 36.7	+5.7
KMBO	Kilima Mbogo	10.06	93	Pn	Pn	09 53 30.1	-0.8
	0.3nm,0.3s,baz=290,slow=12,SNR=2.6						
KMBO				Sn	Sn	09 55 13.2	-11
	0.8nm,0.3s,baz=246,slow=19,SNR=1.9						
KMBO				Lg	Lg	09 56 11.9	
	2.2nm,0.3s,baz=286,slow=11,SNR=4.0						
LSZ	Lusaka	14.56	176	ePn	P	09 54 37.5	-1.5
LSZ				eP	Pn	09 54 40.9	+8.5
LSZ				eSn	Sn	09 57 12.4	-1.7
LSZ	Lusaka	14.56	176	Pn	P	09 54 36.6	-2.4
	0.6nm,0.3s,baz=355,slow=12,SNR=3.9						
LSZ				Sn	Sn	09 57 12.4	-1.7
	0.7nm,0.3s,baz=356,slow=16,SNR=5.7						
LSZ				Lg	Lg	09 58 47.6	
	0.6nm,0.3s,baz=315,slow=14,SNR=4.3						
BLWY	Bulawayo	19.41	176	iP	Pn	09 55 43.0	+9.2
BLWY	Bulawayo	19.41	176	iP	Pn	09 55 43.0	+9.2
MATP	Matopo	19.69	176	iP	Pn	09 55 46.1	+9.0
MATP	Matopo	19.69	176	iP	Pn	09 55 46.1	+9.0
MATP	Matopo	19.69	176	P	Pn	09 55 41.5	+4.4
	6.3nm,0.7s,baz=358,slow=12,SNR=16						
MATP				S	S	09 59 18.0	0.0
	1.5nm,0.6s,baz=234,slow=19,SNR=2.0						
MATP				Lg	Lg	10 01 34.1	
	5.9nm,0.9s,baz=270,slow=20,SNR=2.1						
ATD	Arta Tunnel	19.70	52	LR	LR	10 02 58.8	
	comp=Z,75nm,18.5s,baz=330,slow=37						
TSUM	Tsumeb	20.70	207	iP	Pn	09 55 58.6	+10
TSUM	Tsumeb	20.70	207	iP	Pn	09 55 58.6	+10
TSUM	Tsumeb	20.70	207	P	Pn	09 55 55.3	+6.2
	5.4nm,0.9s,baz=20,slow=12,SNR=6.4						
TSUM				S	S	09 59 35.6	-2.6
	3.2nm,0.7s,baz=294,slow=20,SNR=2.6						
TSUM				Lg	Lg	10 02 03.4	
	13nm,1.1s,baz=298,slow=17,SNR=2.5						
TSUM				LR	LR	10 03 05.2	
	comp=Z,45nm,18.4s,baz=325,slow=34						
BOSA	Boshof	27.86	184	P	P	09 57 00.9	+4.7
	1.5nm,0.5s,baz=357,slow=11,SNR=3.2						
TOA0	Torodi Ar. Sit	28.77	299	eP	P	09 57 05.9	+1.6
	5.0nm,0.7s						
TORD	Torodi Ar. Bea	28.77	299	P	P	09 57 03.8	-0.5
	3.8nm,0.7s,baz=101,slow=7.1,SNR=22						
TORD				Lg	Lg	10 06 03.3	
	0.6nm,0.9s,baz=124,slow=27,SNR=2.9						
TOA1	Torodi Ar. Sit	28.77	299	eP	P	09 57 03.8	-0.6
SUR	Sutherland	32.12	190	P	P	09 57 41.2	+7.3
	15nm,0.8s,baz=9.7,slow=10,SNR=11						
MMAI	Mount Meron Ar	34.37	12	LR	LR	10 11 18.6	
	comp=Z,37nm,20.0s,baz=295,slow=36						
BRTR	Keskin Array B	40.62	8	eP	P	09 58 46.0	-0.4
BRTR	Keskin Array B	40.62	8	P	P	09 58 46.1	-0.2
	1.8nm,0.8s,baz=181,slow=11,SNR=12						
BR101	Keskin Array S	40.62	8	eP	P	09 58 46.1	-0.2
AKTO	Aktyubinsk	57.29	23	P	P	10 00 52.9	-1.0
	0.4nm,0.3s,baz=214,slow=7.3,SNR=4.1						
ARU	Arti	62.30	19	P	P	10 01 25.8	-2.5
	0.9nm,0.3s,baz=212,slow=7.6,SNR=3.7						
BVAR	Borovoye Array	64.45	27	P	P	10 01 41.9	-0.7
	0.6nm,0.6s,baz=210,slow=8.3,SNR=4.2						
KURBB	Kurchatov Arra	67.10	33	P	P	10 01 58.5	-1.2
	0.6nm,0.8s,baz=244,slow=6.9,SNR=3.8						
MK31	Makanchi Array	67.36	38	eP	P	10 02 00.3	-1.2
	0.9nm,0.9s						
MK32	Makanchi Array	67.36	38	eP	P	10 02 01.0	-0.6
MKAR	Makanchi Array	67.36	38	eP	P	10 02 00.5	-1.0
MKAR	Makanchi Array	67.36	38	P	P	10 02 01.0	-0.6
	0.5nm,0.6s,baz=237,slow=5.6,SNR=5.1						
ARA0	ARCESS Array S	70.07	359	eP	P	10 02 19.3	+1.4
ARCES	ARCESS Array B	70.07	359	P	P	10 02 19.3	+1.4
	2.4nm,0.9s,baz=188,slow=5.1,SNR=2.8						
LPAZ	La Paz	94.94	254	LR	LR	10 47 07.5	
	comp=Z,17nm,18.7s,baz=52,slow=35						

NORS 16 09:58:51.4±0.0, 44°.01N×41°.97E, h2km, MPVA3.5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIV0	Kislovodsk Arr	0.53	95	iPg	Pg	09 59 00.8	-0.7
KIV0				eSg	Sg	09 59 07.5	-0.8
SHA1	Shidzhatmaz	0.57	118	iPg	Pg	09 59 02.1	-0.2
SHA1				iSg	Sg	09 59 10.0	+0.4
BEYR	Belyy Ugol+	0.61	89	ePg	Pg	09 59 02.2	-0.9
BEYR				eSg	Sg	09 59 09.9	-1.2
ARXR	Arkhyz	0.67	229	ePg	Pg	09 59 05.0	+0.7
ARXR				eSg	Sb	09 59 15.5	-0.3
DOMR	Dombai	0.76	199	ePg	Pg	09 59 05.3	-0.6
DOMR				eSg	Sg	09 59 16.5	+0.7
PYA1	Pyatigorsk	0.81	86	ePg	Pg	09 59 06.0	-1.0
PYA1				eSg	Sg	09 59 15.5	-2.1
NEY	Neytrino	0.94	144	ePg	Pg	09 59 09.2	-0.1
NEY				eSg	Sg	09 59 21.8	+0.4
KBTC	Kuba-Taba	1.06	100	ePg	Pg	09 59 11.7	+0.1
KBTC				eSg	Sb	09 59 26.3	-0.5
GUZR	Guzeripl'	1.34	270	ePg	Pg	09 59 15.8	-1.2
GUZR				eSg	Sg	09 59 33.8	-0.5
DIGR	Digorskoe uzhe	1.61	133	ePg	Pn	09 59 18.8	-2.3
DIGR				eSg	Sn	09 59 39.5	-3.1
ZEI	Tsey	1.86	130	ePg	Pb	09 59 26.0	-0.3
ZEI				eSg	Sg	09 59 51.3	+0.1
ARNR	Ardon	1.87	115	ePg	Pg	09 59 29.7	+2.4
ARNR				eSg	Sg	09 59 53.2	+1.6
LACR	Lac	2.07	124	ePg	Pb	09 59 28.6	-1.1
LACR				eSg	Sb	09 59 55.9	0.0

*ISCJB **16** 09:59:03.7±0.7, 52°.94S±0°.10×22°.4E±0°.4, h10km, mb4.3/6, MS3.6/13, Error ellipse: s-maj=33.5km s-min=12.6km az=12.9*
*IDC **16** 09:59:03.7±0.9, 53°.02S×22°.37E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/42, mbtmp4.0/5, MS3.7/13, Ms1 3.6/13, ms1mx3.4/34, Error ellipse: s-maj=46.0km s-min=22.8km az=85.0*
*NEIC **16** 09:59:06.2±1.6, 53°.00S×22°.55E, h15km±5km, mb4.3/3, Error ellipse: s-maj=50.5km s-min=20.4km az=90.0*
ISC 16 09:59:05.2±0.8, 53°.0S±0°.1×22°.5E±0°.3, h10km, n39, σ0°.71/29, mb4.1/6, MS3.6/13, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	21.81	201	P	P	10 03 56.9	-0.3
SNAA	Sanae	21.81	201	eP	P	10 03 56.9	-0.3
	12nm,0.9s						
SNAA	Sanae	21.81	201	P	P	10 03 56.3	-0.8
	10nm,0.9s,baz=51,slow=7.7,SNR=21						
SNAA				LR	LR	10 10 36.9	
	comp=Z,245nm,18.6s,baz=304,slow=32						
VNA2	Neumayer--Watz	22.40	205	P	P	10 04 03.0	-0.5
	baz=31,slow=11						
VNA1	Neumayer--Stat	22.47	206	P	P	10 04 04.9	+0.8
VNA3	Neumayer Olymp	23.19	206	P	P	10 04 11.4	-0.3
MAW	Mawson	24.20	143	LR	LR	10 11 43.5	
	comp=Z,90nm,21.4s,baz=280,slow=31						
BOSA	Boshof	24.42	6	LR	LR	10 12 38.1	
	comp=Z,173nm,18.9s,baz=208,slow=33						
LBTB	Lobatse	28.02	6	LR	LR	10 14 08.0	
	comp=Z,169nm,21.9s,baz=190,slow=32						
MATP	Matopo	32.82	10	LR	LR	10 17 23.7	
	comp=Z,258nm,19.1s,baz=194,slow=34						
QSPA	South Pole Qui	37.25	180	eP	P	10 06 16.5	-0.3
	15nm,1.1s						
QSPA	South Pole Qui	37.25	180	P	P	10 06 15.9	-0.9
	4.9nm,0.8s,baz=229,slow=2.1,SNR=12						
PMSA	Palmer Station	42.67	219	eP	P	10 07 02.1	+0.6
	142nm,0.8s						
VNDA	Vanda	47.35	169	LR	LR	10 27 04.8	
	comp=Z,112nm,19.7s,baz=232,slow=36						
CPUP	Villa Florida	63.43	261	LR	LR	10 32 06.6	
	comp=Z,25nm,21.3s,baz=182,slow=31						
DBIC	Dimbokro	63.78	329	LR	LR	10 30 54.0	
	comp=Z,43nm,21.5s,baz=120,slow=30						
TORD	Torodi Ar. Bea	68.23	338	P	P	10 10 06.5	+0.6
	1.0nm,0.9s,baz=186,slow=5.5,SNR=3.3						
TORD				LR	LR	10 36 03.3	
	comp=Z,46nm,19.5s,baz=0.0,slow=32						
TOA1	Torodi Ar. Sit	68.24	338	eP	P	10 10 06.5

JLU	Jordanelle	146.70 267	*e*PKPdf	PKPbc	10 18 47.1	+0.2
PDAR	Pinedale Array	146.83 272	PKPbc	PKPdf	10 18 45.4	+0.1
0.7nm,0.7s,baz=106,slow=3.8,SNR=7.0						
TPNV	Topopah Spring	147.23 257	*e*PKPdf	PKPdf	10 18 47.3	+1.2
R11A	Troy Canyon, C	147.76 260	*e*PKPdf	PKPbc	10 18 48.6	-1.2
IMW	Indian Meadow	148.30 272	*e*PKPbc	PKiKP	10 18 53.3	+0.4
NV01	Mina Array Sit	149.43 257	*e*PKPbc	PKPbc	10 18 54.4	+0.2
NVAR	Mina Array Bea	149.43 257	PKPbc	PKPbc	10 18 54.4	+0.2
2.6nm,0.9s,baz=141,slow=3.3,SNR=11						
LRM	Limekiln Ridge	150.23 275	*e*PKPbc	PKiKP	10 18 56.7	0.0
HRY	Holter Researc	150.29 276	*e*PKPbc	PKPbc	10 18 56.2	+0.3
YKA	Yellowknife Ar	155.64 310	PKPab	PKPab	10 19 24.0	-0.2
0.3nm,0.8s,baz=92,slow=5.2,SNR=5.2						
YKB5	Yellowknife Ar	155.64 310	*e*PKPab	PKPab	10 19 24.0	-0.2

ISCJB ***16*** *10:01:01.7±0.3, 1°.45N±0°.03×127°.14E±0°.04, h150km, mb4.1/25, Error ellipse: s-maj=5.7km s-min=4.8km az=6.6*
IDC ***16*** *10:01:01.7±1.9, 1°.40N×127°.20E, h130km±16km, mb3.9/15, mb1 4.0/16, mb1mx3.7/51, mbtmp4.3/16, Error ellipse: s-maj=24.3km s-min=10.1km az=66.0*
NEIC ***16*** *10:01:02.1±1.6, 1°.41N×127°.23E, h132km±7km, mb4.2/13, Error ellipse: s-maj=21.1km s-min=17.4km az=63.0*
DJA ***16*** *10:01:02.1±0.6, 1°N±5°×12°7E±°, h113km±5km, M4.5/11, mB4.9/7, mb4.6/11, MLv4.8/11, Mw(mB)4.2/7*
MAN ***16*** *10:01:05.2, 2°.31N×127°.55E, h254km, MS3.5*

ISC 16 10:01:03.3±0.5, 1°.45N±0°.05×127°.16E±0°.06, h150km, n61, σ2°03/68, mb4.1/25, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.70	163	*e*Pn	Pn	10 01 22.4	-3.4
TNTI	Ternate	0.70	163	P	Pn	10 01 23.1	-2.7
SGSI	Sangihe	2.76	324	P	Pn	10 01 44.6	-3.0
KMSI	Cibinong	3.29	255	P	Pn	10 01 53.3	-1.1
KMSI				S	Sn	10 02 31.3	-2.6
SANI	Sanana	3.66	199	P	Pn	10 01 56.4	-2.8
DDMP	Don Marcelino,	4.85	343	*e*P	Pn	10 02 11.4	-3.3
DDMP				*e*S	Sn	10 03 04.2	-6.2
LUWI	Luwuk	5.03	241	*e*Pn	Pn	10 02 16.7	-0.5
LUWI				*e*Sn	Sn	10 03 14.6	-0.2
LUWI	Luwuk	5.03	241	P	Pn	10 02 16.0	-1.2
100nm,0.7s,3μm1.8nm							
MRSI	Marisa	5.30	260	P	Pn	10 02 18.9	-1.8
53nm,0.7s,0.2nm							
SKMP	Bagumbayan, Su	5.67	333	*e*P	Pn	10 02 23.3	-2.4
SKMP				*e*S	Sn	10 03 24.6	-5.5
APSI	Ampana	5.99	247	P	Pn	10 02 27.8	-2.0
61nm,0.5s,1μm0.4nm							
CTBH	Cotabato--PC H	6.43	333	*i*P	Pn	10 02 33.4	-2.4
FAKI	Fak Fak	6.69	130	*e*Pn	Pn	10 02 37.8	-1.3
BUKP	Musuan	6.72	342	*e*P	Pn	10 02 38.4	-1.3
MPSI	Mapaga	7.34	261	P	Pn	10 02 47.5	-0.4
9.0nm,0.8s,913nm0.1nm							
PCI	Palu	7.68	252	P	Pn	10 02 42.5	-10
TTSI	Tana Toraja	8.59	239	P	Pn	10 03 03.1	-1.4
75nm,0.7s,697nm0.3nm							
BNSI	Bone	9.13	230	P	Pn	10 03 11.5	-0.3
SPSI	Sidrap Palu	9.13	234	P	Pn	10 03 12.0	+0.2
44nm,0.6s,620nm							
KAPI	Kappang	9.79	229	*e*Pn	Pn	10 03 20.4	-0.2
KAPI				*e*Sn	Sn	10 05 07.8	-1.4
KAPI	Kappang	9.79	229	P	Pn	10 03 20.4	-0.2
4.3nm,0.3s,baz=359,slow=5.1,SNR=12							
KAPI				S	Sn	10 05 04.0	-5.2
1.2nm,0.3s,baz=227,slow=19,SNR=6.8							
MTN	Manton Dam	14.73	165	*e*Pn	Pn	10 04 22.2	-2.3
SBUM	Sibu	14.96	274	*e*Pn	Pn	10 04 25.8	-1.6
4.6nm,0.8s							
PWJI	Pagerwojo	17.97	238	P	Pn	10 05 05.2	+1.4
WOJI	Wonogiri, Jawa	18.63	240	P	Pn	10 05 12.6	+0.9
WRAB	Tennant Creek	22.39	162	*e*P	P	10 05 49.1	-0.4
53nm,1.0s							
WR1	Warramunga Arr	22.39	162	*e*P	P	10 05 49.1	-0.4
WRA	Warramunga Arr	22.39	162	P	P	10 05 49.1	-0.4
14nm,0.4s,baz=342,slow=12,SNR=259							
WRA				ScP	ScP	10 13 05.3	+2.6
0.8nm,0.7s,baz=322,slow=1.8,SNR=5.6							
WB2	Warramunga Arr	22.40	162	*e*P	P	10 05 49.2	-0.3
46nm,0.9s							
AS31	Alice Springs	25.81	166	*e*P	P	10 06 21.0	+0.3
2.6nm,0.4s							
ASAR	Alice Springs	25.81	166	P	P	10 06 20.4	-0.3
2.7nm,0.5s,baz=350,slow=7.3,SNR=97							
ASAR				ScP	ScP	10 13 14.9	+2.8
0.8nm,0.7s,baz=344,slow=3.0,SNR=12							
PSI	Prapat	28.25	273	*e*P	P	10 06 42.6	0.0
8.2nm,0.7s							
PSI	Prapat	28.25	273	P	P	10 06 42.6	0.0
7.0nm,0.6s,baz=135,slow=8.6,SNR=4.8							
CTA	Charters Tower	28.44	140	P	P	10 06 43.3	-0.9
1.7nm,0.7s,baz=294,slow=10.0,SNR=2.2							
WHN	Wuhan	31.39	338	P	P	10 07 18.4	+8.4
NJ2	Nanjing	31.43	346	*e*P	P	10 07 10.3	-0.1
CMAR	Chiang Mai Arr	32.43	303	P	P	10 07 20.2	+0.9
0.5nm,0.3s,baz=115,slow=8.1,SNR=4.3							
KMI	Kunming	33.31	317	P	P	10 07 31.8	+4.6
KSRS	Korea Array	35.84	1	P	P	10 07 49.4	+0.9
0.8nm,0.6s,baz=171,slow=9.9,SNR=4.1							
STKA	Stephens Creek	35.86	159	*e*P	P	10 07 49.5	+0.8
1.0nm,0.6s							
STKA	Stephens Creek	35.86	159	P	P	10 07 48.8	+0.1
3.8nm,0.4s,baz=335,slow=8.6,SNR=19							
XAN	Xi'an	36.64	334	P	P	10 07 56.5	+1.1
XAN				pP	pP	10 08 09.3	-18
KLR	Kul'dur	47.77	4	P	P	10 09 25.8	+0.7
0.8nm,0.6s,baz=210,slow=8.1,SNR=5.3							
SONM	Songino Array	49.59	342	P	P	10 09 40.4	+1.2
1.2nm,0.6s,baz=162,slow=9.5,SNR=3.7							
MK31	Makanchi Array	59.67	326	*e*P	P	10 10 53.7	+1.9
2.1nm,0.8s							
MKAR	Makanchi Array	59.67	326	*e*P	P	10 10 53.8	+2.0
MKAR	Makanchi Array	59.67	326	P	P	10 10 53.3	+1.5
3.4nm,0.4s,baz=118,slow=7.8,SNR=56							
MKAR				PcP	PcP	10 11 36.6	-0.7
0.9nm,0.7s,baz=117,slow=6.0,SNR=3.8							
MKAR				ScP	ScP	10 15 26.7	+2.5
0.2nm,0.6s,baz=123,slow=5.3,SNR=2.7							
MAKZ	Makanchi	59.85	326	*e*P	P	10 10 55.0	+2.0
3.4nm,0.4s							
KSH	Kashi	59.96	316	P	P	10 10 58.5	+4.4
KSH				pP	pP	10 11 27.9	-0.9
KSH				PP	PP	10 13 12.1	+3.9
KSH				S	S	10 18 57.3	+2.5
KSH	Kashi	59.96	316	SS	SS	10 22 58.3	+4.3
KDJ	Kajisay	60.33	319	*e*P	P	10 10 58.5	+1.8
2.7nm,0.6s							
ZALV	Zalesovo Beam	62.81	333	P	P	10 11 13.0	+0.3
0.7nm,0.3s,baz=134,slow=6.3,SNR=2.8							
ZAA1	Zalesovo Array	62.81	333	*e*P	P	10 11 13.0	+0.3
GAR	Garm	63.78	313	*e*P	P	10 11 21.4	+1.7
18nm,1.2s							
KURBB	Kurchatov Arra	63.88	328	P	P	10 11 21.1	+1.3
2.3nm,0.5s,baz=130,slow=6.1,SNR=26							
KURK	Kurchatov	63.89	328	*e*P	P	10 11 21.2	+1.4
5.8nm,1.0s							
BVAR	Borovoye Array	69.46	327	P	P	10 11 56.6	+1.4
1.1nm,0.6s,baz=114,slow=7.3,SNR=6.4							
ABKAR	Akbulak array	74.18	321	*e*P	P	10 12 24.7	+1.2
1.2nm,0.8s							
AKTO	Aktyubinsk	75.71	322	P	P	10 12 32.5	+0.3
0.9nm,0.3s,baz=112,slow=8.9,SNR=6.2							
VNDA	Vanda	81.12	173	P	P	10 13 01.6	+0.3
0.5nm,0.5s,baz=324,slow=8.6,SNR=3.6							
ARCES	ARCESS Array B	92.72	340	P	P	10 13 56.5	-1.5
2.6nm,1.0s,baz=81,slow=5.8,SNR=4.3							

ISCJB ***16*** *10:13:12.3±0.9, 30°.8N±0°.1×83°.9E±0°.2, h33km, mb3.4/4, MS3.2/3, Error ellipse: s-maj=28.9km s-min=16.2km az=151.6*
IDC ***16*** *10:13:14.7±4.8, 31°.42N×86°.02E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.3/53, mbtmp3.4/6, ML2.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.6/39, Error ellipse: s-maj=253.3km s-min=21.8km az=68.0*

ISC 16 10:13:14.5±1.3, 30°.9N±0°.2×83°.9E±0°.3, h35km, n12, σ1°54/8, mb3.5/4, MS3.2/3, 1C-2D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	15.97	356	Pn	Pn	10 16 56.8	+0.4
0.0nm,0.3s,baz=169,slow=13,SNR=3.2							
KURBB	Kurchatov Arra	20.16	350	P	Pn	10 17 47.9	+0.3
baz=161,slow=10,SNR=2.7							
ZALV	Zalesovo Beam	23.10	1	P	P	10 18 15.0	-2.0
0.6nm,0.3s,baz=186,slow=13,SNR=2.2							
NRIK	Noril'sk	38.59	2	LR	LR	10 38 29.5	
comp=Z,32nm,18.2s,baz=208,slow=40							
VRI	Vrincioaia	46.30	306	*i*P	P	10 21 36.6	-0.1
PLOR	Plostina	46.35	306	*i*P	P	10 21 38.1	+0.9
MLR	Muntele Rosu	46.86	305	*i*P	P	10 21 39.9	-1.4
MLR	Muntele Rosu	46.86	305	LR	LR	10 44 06.8	
comp=Z,27nm,19.8s,baz=287,slow=39							
IDI	Anoyia	49.02	292	LR	LR	10 47 41.0	
comp=Z,23nm,21.9s,baz=40,slow=41							
WRA	Warramunga Arr	69.99	129	P	P	10 24 21.9	-0.8
0.3nm,0.5s,baz=324,slow=6.0,SNR=5.9							
ASAR	Alice Springs	72.36	133	P	P	10 24 37.0	-0.1
0.2nm,0.5s,baz=318,slow=5.7,SNR=7.2							
YKA	Yellowknife Ar	85.80	8	P	P	10 25 52.0	+2.1
0.2nm,0.7s,baz=332,slow=4.4,SNR=3.4							

NIED ***16*** *10:29:00, 42°.60N×141°.70E, h110km, Mw3.7 Best double couple: M0:3.43000×10^14 NP1:φ0:340.00000°, δ51.00000°, λ:-171.00000°. NP2:φ0:244.00000°, δ83.00000°, λ:-40.00000°.*
ISCJB ***16*** *10:29:50.8±0.4, 42°.56N±0°.04×141°.75E±0°.05, h141km±3km, mb3.7/7, Error ellipse: s-maj=7.7km s-min=5.2km az=142.9*
IDC ***16*** *10:29:52.1±1.4, 42°.56N×141°.74E, h139km±13km, mb3.5/7, mb1 3.5/10, mb1mx3.2/59, mbtmp3.8/10, Error ellipse: s-maj=22.2km s-min=15.2km az=84.0*
JMA ***16*** *10:29:52.3±0.1, 42°.60N×141°.69E, h134km±1km, M3.5*

ISC 16 10:29:51.9±0.8, 42°.59N±0°.05×141°.74E±0°.05, h137km±6km, n35, σ0°84/45, mb3.7/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	Iburiatsuma	0.14	75	P	Pn	10 30 10.9	+0.4
JIAM				*e*S	Sn	10 30 25.3	+0.7
JEW	Eniwo	0.33	320	P	Pn	10 30 11.1	+0.1
JEW				*e*S	Sn	10 30 25.1	-0.5
JBT2	Biratori 2	0.50	67	P	Pn	10 30 12.1	+0.3
JBT2				*e*S	Sn	10 30 27.3	+0.4
JNB	Noboribetsu	0.53	257	P	Pn	10 30 11.8	-0.2
JNB				*e*S	Sn	10 30 26.5	-0.7
JISS	Ishikarishitsu	0.73	341	P	Pn	10 30 13.6	+0.4
JNBK	Urakawa-nobuka	0.81	112	P	Pn	10 30 14.3	+0.4
JNBK				*e*S	Sn	10 30 30.8	+0.3
JFR	Furan	0.85	47	P	Pn	10 30 14.1	-0.1
JFR				*e*S	Sn	10 30 30.3	-0.9
JKB	Kayabe	0.88	217	P	Pn	10 30 14.1	-0.3
JKB				*e*S	Sn	10 30 30.6	-0.8
JAB	Ashibetsu	0.98	21	P	Pn	10 30 15.9	+0.6
JAB				*e*S	Sn	10 30 33.5	+0.3
JHR	Hokuryu	1.16	359	P	Pn	10 30 17.8	+0.9
JCH	Churui	1.20	88	P	Pn	10 30 17.3	0.0
JCH				*e*S	Sn	10 30 35.9	-0.8
JSK	Shakotan	1.20	310	P	Pn	10 30 17.7	+0.3
JSK				*e*S	Sn	10 30 36.9	+0.1
JOT	Ohata	1.31	203	P	Pn	10 30 18.5	0.0
JOT				*e*S	Sn	10 30 38.1	-0.6
JKK2	Kamakawa 2	1.48	29	P	Pn	10 30 20.5	+0.2
JKK2				*e*S	Sn	10 30 41.8	-0.2
JAR	Ashorobuto	1.65	64	P	Pn	10 30 22.1	-0.1
JAR				*e*S	Sn	10 30 44.1	-1.2
ASAJ	Asahikawa	1.65	22	P	Pn	10 30 22.4	+0.2
39nm,0.3s,baz=214,slow=11,SNR=386							
ASAJ				S	Sn	10 30 41.4	-4.0
9.3nm,0.3s,baz=55,slow=27,SNR=6.2							
JOSM	Okushiri--Mats	1.75	254	P	Pn	10 30 23.6	+0.2
JOSM				*e*S	Sn	10 30 47.4	0.0
JYG	Yagishiri	1.85	353	P	Pn	10 30 25.1	+0.6
JTKR	Abashiri--Toko	2.10	48	P	Pn	10 30 28.2	+0.8
JTKR				*e*S	Sn	10 30 54.9	+0.1
MJAR	Matsushiro Arr	6.62	205	P	Pn	10 31 27.7	+0.8
0.3nm,0.3s,baz=26,slow=12,SNR=14							
USRK	Ussuriysk Ar.	7.28	286	P	Pn	10 31 35.3	-0.4
0.2nm,0.3s,baz=86,slow=15,SNR=3.7							
KLR	Kul'dur	9.62	317	P	Pn	10 32 07.3	+0.5
0.1nm,0.3s,baz=135,slow=20,SNR=3.7							
SONM	Songino Array	25.30	294	P	P	10 35 06.4	+0.8
1.3nm,0.5s,baz=85,slow=8.4,SNR=10							
H11N2	WAKE ISLAND Hy	31.13	129	T	T	11 07 56.9	
baz=328,slow=75,SNR=16							
H11N1	WAKE ISLAND Hy	31.14	129	T	T	11 07 56.9	
baz=328,slow=75,SNR=14							
H11N3	WAKE ISLAND Hy	31.15	129	T	T	11 07 55.8	
baz=328,slow=75,SNR=11							
H11S1	WAKE ISLAND Hy	32.00	131	T	T	11 09 07.8	
baz=328,slow=76,SNR=16							
H11S3	WAKE ISLAND Hy	32.00	131	T	T	11 09 09.2	
baz=328,slow=76,SNR=15							
H11S2	WAKE ISLAND Hy	32.01	131	T	T	11 09 06.5	
baz=328,slow=76,SNR=13							
ZALV	Zalesovo Beam	38.55	307	P	P	10 37 00.9	+0.1
2.2nm,0.3s,baz=100,slow=7.8,SNR=7.3							
MKAR	Makanchi Array	41.60	297	P	P	10 37 25.0	-1.1
0.8nm,0.8s,baz=94,slow=9.2,SNR=5.0							
RES	Resolute Bay	57.17	15	P	P	10 39 24.0	+0.3
0.6nm,0.3s,baz=312,slow=6.9,SNR=4.9							
WRA	Warramunga Arr	62.59	188	P	P	10 40 00.5	-0.9
0.3nm,0.4s,baz=8.1,slow=6.2,SNR=7.2							
FINES	FINESS Array B	64.05	331	P	P	10 40 10.8	+0.3
1.6nm,0.4s,baz=54,slow=6.9,SNR=14							
ASAR	Alice Springs	66.32	188	P	P	10 40 25.9	+0.3
0.3nm,0.6s,baz=9.1,slow=6.1,SNR=6.9							

DDA ***16*** *10:42:36.7, 39°.34N×30°.06E, h7km±6km, ML2.5*
ISK ***16*** *10:42:36.0, 39°.36N×30°.04E, h3km, ML2.2/14*

ISC 16 10:42:36.6±1.2, 39°.34N±0°.03×30°.05E±0°.03, h4km±11km, n21, σ0°83/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.47	283	PG	Pg	10 42 45.4	-0.2
TVSB				SG	Sg	10 42 52.9	+1.2
GDZ	Gediz	0.51	240	IAML_P			
comp=Z,809nm,0.1s							
GDZ				*i* P	Pg	10 42 46.4	+0.1
GDZ				*i* S	Sb	10 42 54.7	-1.3
AUBOZ	BOZOYUK	0.57	359	PG	Pg	10 42 47.7	+0.2
BORA	Eskisehir	0.62	30	PG	Pg	10 42 48.3	-0.2
BORA				SG	Sb	10 42 57.7	-1.5
BORA	Eskisehir	0.62	30	IAML_P			
comp=Z,3μm,0.1s							
BORA				*i* P	Pg	10 42 48.6	+0.1
BORA				*i* S	Sg	10 42 57.1	+0.5
SRCK	Saricakaya, Es	0.83	32	PG	Pb	10 42 52.8	-0.8
CAVI	Cavuskoy	0.87	350	PG	Pg	10 42 53.1	-0.2
SHUT	Suhut-Afyon	0.88	153	PG	Pg	10 42 53.7	+0.2
BOLV	Bolvadin	0.94	131	IAML_P			
comp=Z,454nm,0.1s							
BOLV				*i* P	Pb	10 42 54.9	-0.6
BOLV				*i* S	Sn	10 43 10.5	-0.1
ULDT	Uludag	1.06	319	*i* P	Pn	10 42 59.0	+0.6
ULDT				*i* S	Sn	10 43 13.8	0.0
GULT	Gulveren	1.15	18	PN	Pb	10 42 58.7	-0.3
SVRH	Sivrihisar-ESK	1.15	84	PN	Pn	10 42 59.3	-0.2
AUSIV	SIVRIHISAR	1.16	85	PN	Pn	10 42 59.3	-0.4
AUSIV	SIVRIHISAR	1.16	85	*i* P	Pn	10 42 59.5	-0.2
AUSIV				*i* S	Sn	10 43 17.3	+1.3
AUMIH	MIHALICIK	1.23	64	PN	Pb	10 43 00.1	-0.3
AUMIH	MIHALICIK	1.23	64	*i* P	Pn	10 43 00.8	+0.1
AUMIH				*i* S	Sn	10 43 20.5	+2.8
MDNY	Mudanya-Bursa	1.36	319	PN	Pb	10 43 02.2	-0.4
KULA	Kula-Manisa	1.36	233	PN	Pg	10 43 02.9	+0.2
ARMT	Armutlu	1.52	324	PN	Pb	10 43 05.1	-0.3
KCTX	Karacabey (Bur	1.60	306	PN	Pg	10 43 06.8	-0.4
BALB	Balikesir	1.70	281	PN	Pn	10 43 07.3	+0.3

IDC ***16*** *10:50:02.8±0.6, 52°.28N×160°.28E, h0km, mb4.0/27, mb1 4.2/29, mb1mx4.1/44, mbtmp4.0/29, ML4.0/2, MS3.5/12, Ms1 3.5/12, ms1mx3.2/39, Error ellipse: s-maj=17.3km s-min=11.4km az=150.0*
KRSC ***16*** *10:50:03.3±10.0, 52°.04N×160°.63E, h61km±10km, ML4.6*
MOS ***16*** *10:50:06.2±1.1, 52°.09N×160°.46E, h43km, mb4.9/26, Error ellipse: s-maj=7.2km s-min=3.6km az=103.9*
ISCJB ***16*** *10:50:07.4±0.6, 52°.17N±0°.03×160°.41E±0°.05, h50km±3km, mb4.4/65, MS3.5/10, Error ellipse: s-maj=6.4km s-min=3.8km az=138.7*

NEIC ***16*** *10:50:07.8±2.3, 52°.25N×160°.30E, h35km, mb4.6/25, Error ellipse: s-maj=17.8km s-min=16.1km az=157.0*

ISC 16 10:50:07.3±0.8, 52°.17N±0°.04×160°.41E±0°.04, h34km±2km, n224, σ1°48/248, mb4.5/65, MS3.4/10, 22C-7D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.96	346	*e*P	Pn	10 50 23.9	-0.5
SPN				*e*S	Sb	10 50 37.6	-0.4
SPN	Mys Shipunski	0.96	346	PN	Pn	10 50 23.9	-0.5
SPN				S	Sb	10 50 37.6	-0.4
NLC	Nalytchevo	1.20	328	*e*P	Pn	10 50 28.3	+0.7
NLC				*e*S	Sb	10 50 45.6	+0.9
NLC	Nalytchevo	1.20	328	PN	Pn	10 50 28.3	+0.7
NLC				S	Sb	10 50 45.6	+0.9
RUS	Russkaya	1.20	284	*e*P	Pn	10 50 27.5	-0.1
RUS				*e*S	Sb	10 50 44.3	-0.4
RUS	Russkaya	1.20	284	PN	Pn	10 50 27.5	-0.1
RUS				S	Sb	10 50 44.3	-0.4
DALK	Dalny	1.33	311	*e*P	Pn	10 50 29.9	+0.4
DALK				*e*S	Sb	10 50 48.4	-0.1
DALK	Dalny	1.33	311	PN	Pn	10 50 29.9	+0.4
DALK				S	Sb	10 50 48.4	-0.1
PET	Petropavlovsk	1.37	309	*e*Pn	Pn	10 50 30.8	+0.7
PET	Petropavlovsk	1.37	309	*e*P	Pn	10 50 30.8	+0.7
PET				*e*S	Sb	10 50 49.6	-0.2
PET	Petropavlovsk	1.37	309	*α i*PN	Pn	10 50 30.7	+0.7
PET				*e*S	Sb	10 50 49.5	-0.2
PET				pmax	pmax		
comp=Z,1μm,3.2s							
PET				smax	smax		
comp=N,4μm,0.7s							
PET				smax	smax		
comp=E,3μm,0.7s							
MTVR	Mutnovka	1.41	284	*e*P	Pn	10 50 31.1	+0.5
MTVR				*e*S	Sb	10 50 50.1	-0.6
MTVR	Mutnovka	1.41	284	PN	Pn	10 50 31.1	+0.5
MTVR				S	Sb	10 50 50.1	-0.6
UGLR	Uglovaya	1.42	318	*e*P	Pn	10 50 31.9	+1.1
UGLR	Uglovaya	1.42	318	PN	Pn	10 50 31.9	+1.1
SDLR	Sedlovina	1.45	321	*e*P	Pn	10 50 31.9	+0.7
SDLR	Sedlovina	1.45	321	PN	Pn	10 50 31.9	+0.7
SMAR	Somma	1.47	319	*e*P	Pn	10 50 32.2	+0.6
SMAR	Somma	1.47	319	PN	Pn	10 50 32.2	+0.6
GRL	Gorelyy	1.49	286	*e*P	Pb	10 50 33.7	-0.7
GRL	Gorelyy	1.49	286	PN	Pb	10 50 33.7	-0.7
KDTR	Khodutka, Kamc	1.49	257	*e*P	Pn	10 50 31.0	-0.6
KDTR	Khodutka, Kamc	1.49	257	PN	Pn	10 50 31.0	-0.6
AVH	Avacha	1.50	318	*e*P	Pn	10 50 33.1	+1.2
AVH	Avacha	1.50	318	PN	Pn	10 50 33.1	+1.2
KRER	Koryakskii	1.52	319	*e*P	Pn	10 50 33.4	+1.1
KRER	Koryakskii	1.52	319	PN	Pn	10 50 33.4	+1.1
KRMR	Karymshinskiy	1.54	296	*e*P	Pn	10 50 33.1	+0.7
KRMR				*e*S	Sb	10 50 53.8	-0.8
KRMR	Karymshinskiy	1.54	296	PN	Pn	10 50 33.1	+0.7
KRMR				S	Sb	10 50 53.8	-0.8
ASAK	Asacha	1.56	279	*e*P	Pn	10 50 33.6	+0.9
ASAK	Asacha	1.56	279	PN	Pn	10 50 33.6	+0.9
KOK	Koryaka	1.56	317	*e*P	Pn	10 50 33.8	+1.1
KOK	Koryaka	1.56	317	PN	Pn	10 50 33.8	+1.1
KRX	Arik	1.60	319	*e*P	Pn	10 50 34.6	+1.2
KRX	Arik	1.60	319	PN	Pn	10 50 34.6	+1.2
PEA0B	Petropavlovsk-	1.90	301	*e*Pn	Pn	10 50 38.6	+1.2
PEA0B	Petropavlovsk-	1.90	301	*e*PN	Pn	10 50 38.6	+1.2
PETK	Petropavlovsk-	1.90	301	Pn	Pn	10 50 38.0	+0.6
comp=E,26nm,0.3s,baz=106,slow=20,SNR=203							
PETK				Sn	Sn	10 50 59.6	-0.6
comp=E,49nm,0.3s,baz=94,slow=22,SNR=9.9							
PETK				LR	LR	10 51 10.9	
comp=E,344nm,20.0s,baz=37,slow=38							
PEA1	Petropavlovsk-	1.91	301	*e*Pn	Pn	10 50 38.0	+0.6
PEA1				*e*Sn	Sn	10 50 59.6	-0.6
APC	Apacha	2.13	292	*e*Pn	Pn	10 50 42.2	+1.8
APC				*e*S	Sb	10 51 10.0	-1.2
APC	Apacha	2.13	292	PN	Pn	10 50 42.2	+1.8
APC				S	Sb	10 51 10.0	-1.2
GNL	Ganaly	2.14	317	*e*P	Pn	10 50 42.7	+2.0
GNL	Ganaly	2.14	317	PN	Pn	10 50 42.7	+2.0
PAU	Pauzhetka	2.34	254	*e*P	Pn	10 50 44.8	+1.4
PAU	Pauzhetka	2.34	254	PN	Pn	10 50 44.8	+1.4
MKZ	Mys Kozlova	2.52	18	*e*P	Pn	10 50 45.1	-0.7
MKZ				*e*S	Sn	10 51 14.2	-1.1
MKZ	Mys Kozlova	2.52	18	PN	Pn	10 50 45.1	-0.7
MKZ				S	Sn	10 51 14.2	-1.1
KZV	Kizimen	2.95	359	*e*P	Pn	10 50

YAK smax smax
comp=N,318nm,23.9s
YAK MLR MLR
comp=Z,419nm,16.0s
YAK MLR MLR
comp=N,378nm,16.0s
YAK MLR MLR
comp=E,464nm,18.0s
ZEA Zeya 19.94 288 *e*P **Pn 10 54 40.8 +2.9**
ZEA pmax pmax
comp=Z,8.0nm,0.8s
ZEA MLR MLR
comp=Z,500nm,15.0s
ZEA MLR MLR
comp=E,400nm,14.0s
USRK Ussuriysk Ar. 20.46 258 P **P 10 54 40.3 -1.4**
comp=E,7.9nm,0.9s,baz=58,slow=10,SNR=8.5
USRK LR LR 11 02 30.3
comp=E,121nm,21.8s,baz=73,slow=37
MJB9 Matsu-Tunnel 22.14 234 *e*P **P 10 55 01.2 +1.3**
comp=E,15nm,1.0s
MAJO Matsushiro 22.14 234 *e*P **P 10 55 01.2 +1.3**
comp=E,14nm,0.9s
MAJO Matsushiro 22.14 234 *i*P **P 10 54 58.2 -1.7**
MAJO pmax pmax
comp=Z,7.0nm,0.8s
MAT Matsushiro 22.14 234 P **P 10 55 00.3 +0.4**
MAT S Sn 10 59 09.2 -4.7
MJAR Matsushiro Arr 22.14 234 *e*P **P 10 55 00.5 +0.6**
MJAR Matsushiro Arr 22.14 234 *e*P **P 10 55 00.5 +0.6**
MJAR Matsushiro Arr 22.14 234 P **P 10 55 00.8 +0.9**
comp=Z,3.3nm,0.7s,baz=19,slow=9.9,SNR=8.8
MJAR LR LR 11 04 27.0
comp=Z,142nm,19.5s,baz=30,slow=39
TIXI Tiksi 24.01 336 *e*P **P 10 55 16.9 -1.5**
comp=Z,11nm,0.8s
TIXI *e*P **P 10 55 17.1 -1.3**
TIXI Tiksi 24.01 336 *ce*P **P 10 55 17.8 -0.6**
TIXI pmax pmax
comp=Z,12nm,0.8s
TIXI Tiksi 24.01 336 P **P 10 55 17.1 -1.3**
comp=Z,11nm,0.7s,baz=89,slow=7.7,SNR=29
JHJ Hachijo jima 2 24.19 226 LR LR 11 08 08.9
comp=Z,34nm,18.6s,baz=57,slow=45
HIA Hailar 25.68 280 *i*P **P 10 55 32.0 -1.8**
HIA pmax pmax
comp=Z,77nm,0.9s
IMAR Indian Mountai 26.57 41 *e*P **P 10 55 42.3 +0.6**
KSRS Korea Array 27.06 250 P **P 10 55 47.4 +1.0**
comp=Z,1.3nm,0.5s,baz=42,slow=9.2,SNR=5.3
KSRS LR LR 11 07 40.8
comp=Z,86nm,18.1s,baz=41,slow=39
ILAR Eielson Array 29.34 44 P **P 10 56 06.0 -0.4**
comp=Z,0.4nm,0.9s,baz=277,slow=11,SNR=4.2
H11N2 WAKE ISLAND Hy 32.77 169 T T 11 32 33.9
baz=352,slow=76,SNR=43
H11N3 WAKE ISLAND Hy 32.78 169 T T 11 32 33.3
baz=352,slow=76,SNR=35
H11N1 WAKE ISLAND Hy 32.78 169 T T 11 32 35.0
baz=352,slow=76,SNR=44
ULN Ulaanbaatar 33.91 284 *ce*P **P 10 56 45.2 -1.7**
ULN pmax pmax
comp=Z,6.0nm,2.5s
H11S1 WAKE ISLAND Hy 33.95 169 T T 11 34 11.9
baz=351
H11S3 WAKE ISLAND Hy 33.96 169 T T 11 34 06.9
baz=351
H11S2 WAKE ISLAND Hy 33.97 169 T T 11 34 10.8
baz=351
TLY Talaya 34.24 292 *i*P **P 10 56 48.9 -0.8**
SONA0 Songino Array 34.31 285 *e*P **P 10 56 48.6 -1.8**
SONM Songino Array 34.31 285 P **P 10 56 48.6 -1.8**
comp=Z,0.5nm,0.3s,baz=67,slow=8.4,SNR=5.1
SONM LR LR 11 12 28.1
comp=Z,275nm,18.1s,baz=68,slow=39
INK Inuvik 34.49 37 *e*P **P 10 56 50.3 -1.2**
comp=Z,2.1nm,1.1s
INK Inuvik 34.49 37 P **P 10 56 50.3 -1.2**
comp=Z,1.3nm,0.9s,baz=267,slow=4.9,SNR=5.9
HHC Hu-ho-hao-te 34.84 271 *e*P **P 10 56 54.9 -0.1**
HHC S **S 11 02 17.6 -5.9**
HHC sS sS 11 02 49.8 +11
ZAK Zakamensk 35.00 290 *e*P **P 10 56 55.8 -0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
NJ2 Nanjing 36.16 253 *e*P **P 10 57 06.9 +0.7**
NRIK Noril'sk 36.78 325 P **P 10 57 10.1 -1.0**
comp=Z,1.5nm,0.5s,baz=98,slow=7.3,SNR=4.7
NRIK LR LR 11 12 40.0
comp=Z,60nm,18.8s,baz=50,slow=37
DLBC Dease Lake 38.45 52 *e*P **P 10 57 25.4 -0.1**
comp=Z,1.7nm,0.8s
DLBC Dease Lake 38.45 52 P **P 10 57 25.4 -0.1**
comp=Z,0.7nm,0.5s,baz=282,slow=6.8,SNR=2.9
DLBC LR LR 11 14 09.1
comp=Z,62nm,18.1s,baz=270,slow=38
WHN Wuhan 39.91 256 P **P 10 57 38.5 +0.6**
ZALV Zalesovo Beam 43.45 304 P **P 10 58 04.7 -1.9**
comp=Z,1.4nm,0.6s,baz=58,slow=5.9,SNR=5.5
YKA Yellowknife Ar 43.72 42 P **P 10 58 08.7 +0.1**
comp=Z,0.3nm,0.7s,baz=301,slow=8.4,SNR=4.4
YKB5 Yellowknife Ar 43.72 42 *e*P **P 10 58 08.7 +0.1**
RES Resolute Bay 44.11 22 *e*P **P 10 58 11.6 0.0**
comp=Z,1.6nm,0.8s
RES Resolute Bay 44.11 22 P **P 10 58 12.3 +0.7**
comp=Z,1.8nm,0.9s,baz=297,slow=20,SNR=8.4
DGZ Jazzator, Alta 44.26 297 *d i*P **P 10 58 12.9 -0.5**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
CD2 Chengdu 46.08 265 *e*P **P 10 58 26.3 -1.6**
WMQ Urumqi 47.47 290 *e*P **P 10 58 40.0 +1.4**
WMQ sP sP 10 59 01.8 +11
SPA0 Spitsbergen Ar 48.08 351 *e*P **P 10 58 42.5 -0.4**
comp=Z,31nm,1.1s
SPITS Spitsbergen Ar 48.08 351 P **P 10 58 43.2 +0.3**
SPITS pmax pmax
comp=Z,5.0nm,0.4s
KURK Kurchatov 48.39 303 *e*P **P 10 58 44.2 -1.3**
comp=Z,11nm,1.0s
KURK Kurchatov 48.39 303 *ce*P **P 10 58 43.6 -2.0**
KURK pmax pmax
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 48.74 297 *e*P **P 10 58 46.9 -1.5**
comp=Z,2.1nm,0.6s
MKAR Makanchi Array 48.74 297 *ce*P **P 10 58 51.0 +2.7**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 48.74 297 P **P 10 58 46.9 -1.4**
comp=Z,2.1nm,0.5s,baz=56,slow=6.8,SNR=33
MAKZ Makanchi 48.90 297 *e*P **P 10 58 48.1 -1.5**
comp=Z,2.6nm,0.6s
KMI Kunming 50.86 261 P **P 10 59 06.8 +1.8**
BRVK Borovoye 51.15 309 *e*P **P 10 59 06.0 -0.5**
comp=Z,7.1nm,0.6s
BRVK Borovoye 51.15 309 *i*P **P 10 59 05.5 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 51.33 360 P **P 10 59 07.6 +0.1**
DAG pmax pmax
comp=Z,5.0nm,0.8s
PDGK Podgornoye 52.44 295 P **P 10 59 16.0 -0.5**
PDGK pmax pmax
comp=Z,2.0nm,0.9s
ARU Arti 54.21 318 *e*P **P 10 59 27.9 -1.2**
comp=Z,7.5nm,0.5s
ARU Arti 54.21 318 *c i*P **P 10 59 28.5 -0.6**
ARU 11 01 29.3
ARU S **S 11 07 00.9 -2.7**
ARU pmax pmax
comp=Z,5.0nm,0.5s
ARA0 ARCESS Array S 54.23 342 *e*P **P 10 59 27.9 -1.1**
ARCES ARCESS Array B 54.23 342 P **P 10 59 27.9 -1.1**
comp=Z,2.3nm,0.7s,baz=35,slow=8.0,SNR=12
SUMG Summit 54.86 7 *e*P **P 10 59 34.2 +0.2**
comp=Z,12nm,1.1s
AAK Ala-Archa 55.66 297 *ce*P **P 10 59 38.6 -1.4**
AAK pmax pmax
comp=Z,3.0nm,0.8s
NV01 Mina Array Sit 55.88 70 *e*P **P 10 59 42.1 +0.4**
NVAR Mina Array Bea 55.88 70 P **P 10 59 42.1 +0.4**
comp=Z,0.5nm,0.6s,baz=294,slow=7.8,SNR=4.8
MSF Maaselka 56.54 338 P **P 10 59 45.9 +0.2**
MSF pmax pmax
comp=Z,16nm,1.1s
KSH Kashi 56.95 293 P **P 10 59 52.1 +3.0**
KSH pP sP 11 00 08.4 +6.7
KSH PP **PP 11 02 00.6 +5.1**
KSH S **S 11 07 41.0 +0.3**
PHRA Phrae 57.38 258 P P 11 00 05.5 +13
PDAR Pinedale Array 57.81 60 P **P 10 59 57.0 +1.7**
comp=Z,0.5nm,0.6s,baz=337,slow=3.4,SNR=3.1
KLMR Klimovskoe 57.85 330 *e*P P 10 59 50.1 -4.9
KLMR pmax pmax
comp=Z,10.0nm,1.0s
CMMT Chiang Mai 57.91 259 P **P 10 59 57.7 +1.7**
comp=Z,4.5nm,1.0s
CHTO Chiang Mai 57.91 259 *e*P **P 10 59 56.8 +0.7**
comp=Z,5.5nm,0.8s
CHTO Chiang Mai 57.91 259 P **P 10 59 57.8 +1.8**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
OUL Oulu 57.95 339 P **P 10 59 56.5 +0.9**
OUL pmax pmax
comp=Z,18nm,0.7s
CMAR Chiang Mai Arr 58.19 259 *ce*P **P 10 59 59.7 +1.8**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 58.19 259 P **P 10 59 59.3 +1.4**
comp=Z,2.8nm,0.8s,baz=20,slow=7.3,SNR=13
JOF Joensuu 58.49 335 P **P 10 59 59.3 -0.1**
JOF pmax pmax
comp=Z,12nm,1.4s
JIRN Jiri 59.18 276 *e*P **P 11 00 05.6 +0.4**
RAMN Ramite 59.44 275 *e*P **P 11 00 06.6 -0.3**
comp=Z,19nm,0.5s
KKN Kakani 59.64 277 *e*P **P 11 00 08.1 -0.1**
comp=Z,14nm,0.5s
PKI Pulchoki 59.72 277 *e*P **P 11 00 08.3 -0.6**
DMN Daman 59.88 277 *e*P **P 11 00 09.8 -0.1**
comp=Z,18nm,0.6s
GKN Gorkha 59.88 278 *e*P **P 11 00 09.5 -0.3**
SUF Sumiainen 59.93 338 P **P 11 00 10.4 +1.0**
SUF pmax pmax
comp=Z,33nm,0.7s
DANN Dangsing 60.17 279 *e*P **P 11 00 11.8 -0.1**
comp=Z,21nm,0.7s
VAF Ylistaro 60.43 339 P **P 11 00 13.8 +1.0**
VAF pmax pmax
comp=Z,16nm,1.7s
GAR Garm 60.46 296 *e*P **P 11 00 13.4 -0.2**
comp=Z,11nm,1.0s
KOLN Koldanda 60.68 278 *e*P **P 11 00 14.8 -0.5**
comp=Z,11nm,0.6s
PYUN Piuthan 60.82 279 *e*P **P 11 00 15.7 -0.5**
comp=Z,12nm,0.7s
FIA1 FINESS Array S 61.05 337 *e*P **P 11 00 17.5 +0.5**
comp=Z,12nm,0.6s
FINES FINESS Array B 61.05 337 P **P 11 00 17.8 +0.8**
comp=Z,9.1nm,0.6s,baz=32,slow=8.5,SNR=59
NIL Nilore 62.62 290 P **P 11 00 28.2 +0.1**
NIL pmax pmax
comp=Z,15nm,0.8s
OBN Obninsk 63.40 328 *e*P **P 11 00 34.1 +1.2**
OBN *e* 11 01 09.6
OBN pmax pmax
comp=Z,3.0nm,0.8s
VSU Vasula 63.47 335 *i*P **P 11 00 32.9 -0.4**
VSU pmax pmax
comp=Z,18nm,0.8s
NB2 NORSAR Subarra 64.49 344 P **P 11 00 40.1 +0.1**
comp=Z,3.5nm,0.8s,baz=23,slow=6.9
NB2 NORSAR Subarra 64.49 344 P **P 11 00 40.0 +0.1**
NB2 pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 64.49 344 P **P 11 00 40.3 +0.3**
comp=Z,3.4nm,0.8s,baz=22,slow=6.6,SNR=13
NOA LR LR 11 31 14.4
comp=Z,21nm,20.0s,baz=5.0,slow=38
VSR Storozhevoye 65.70 324 *i*P **P 11 00 46.7 -1.2**
VSR pmax pmax
comp=Z,7.0nm,0.8s
GEYT Alibeck 67.76 303 P **P 11 01 01.0 -0.4**
comp=Z,3.2nm,0.7s,baz=4.9,slow=6.8,SNR=4.7
AKASG Malin Array Be 69.51 329 P **P 11 01 11.2 -0.7**
comp=Z,4.8nm,0.7s,baz=30,slow=6.5,SNR=13
KIV Kislovodsk 70.25 317 *e*P **P 11 01 17.1 +0.3**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,113nm,17.0s
KBZ Khabaz 70.34 317 P **P 11 01 17.6 +0.4**
comp=Z,3.2nm,0.8s,baz=80,slow=4.0,SNR=7.6
KBZ LR LR 11 37 07.3
comp=Z,52nm,18.9s,baz=345,slow=40
LTX Lajitas 70.82 67 *e*P **P 11 01 21.7 +1.2**
TXAR Lajitas Array 70.82 67 P **P 11 01 21.7 +1.2**
comp=Z,0.3nm,0.6s,baz=298,slow=4.5,SNR=6.9
KWP Kalwaria Pacla 72.41 333 P **P 11 01 30.8 +1.2**
KWP pmax pmax
comp=Z,18nm,1.0s
KOLS Kolonicke sedl 73.16 333 *e*P **P 11 01 35.0 +0.9**
KOLS Kolonicke sedl 73.16 333 *e*P **P 11 01 35.0 +0.9**
CLL Collm 73.29 339 *e*P **P 11 01 35.0 +0.2**
CLL *e**PP **pwP 11 01 48.0 +0.4**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 73.29 339 *e*P **P 11 01 35.0 +0.2**
comp=Z,4.0nm,0.7s
CLL *e*pP **pwP 11 01 48.0 +0.4**
CLZ Clausthal 73.33 341 P **P 11 01 36.7 +1.6**
DPC Dobruska-Polom 73.42 337 P **P 11 01 37.0 +1.3**
DPC pmax pmax
comp=Z,36nm,2.2s
BUR08 Bucovina Ar. S 73.45 330 *e*P **P 11 01 36.9 +0.9**
comp=Z,4.3nm,0.6s
BURAR Bucovina Array 73.47 330 ⇑*i*P **P 11 01 36.1 0.0**
BURAR Bucovina Array 73.47 330 ⇑P **P 11 01 36.1 0.0**
MORC Moravsky Berou 73.65 336 ⇑*i*P **P 11 01 38.4 +1.4**
MORC Moravsky Berou 73.65 336 ⇑P **P 11 01 38.4 +1.4**
TRPA Tarpa 73.81 332 ⇓*i*P **P 11 01 39.3 +1.4**
VRAC Vranov 74.32 336 P **P 11 01 41.7 +0.8**
VRAC pmax pmax
comp=Z,4.0nm,0.7s
VYHS Vyhne 74.50 335 *e*P **P 11 01 43.6 +1.6**
VYHS Vyhne 74.50 335 *e*P **P 11 01 43.5 +1.6**
VRI Vrincioaia 74.55 328 ⇑*i*P **P 11 01 45.7 +3.4**
VRI Vrincioaia 74.55 328 ⇑P **P 11 01 45.7 +3.4**
PLOR Plostina 74.59 328 ⇓*i*P **P 11 01 43.6 +1.0**
PLOR Plostina 74.59 328 ⇓P **P 11 01 43.6 +1.0**
MLR Muntele Rosu 75.14 329 *e*P **P 11 01 47.0 +1.2**
comp=Z,6.0nm,0.6s
MLR Muntele Rosu 75.14 329 ⇑*i*P **P 11 01 47.3 +1.4**
MLR Muntele Rosu 75.14 329 ⇑P **P 11 01 47.3 +1.4**
TLB Topalu 75.25 327 ⇑*i*P **P 11 01 47.3 +1.0**
TLB Topalu 75.25 327 ⇑P **P 11 01 47.3 +1.0**
WR1 Warramunga Arr 75.32 205 *e*P **P 11 01 47.1 +0.2**
WRA Warramunga Arr 75.32 205 P **P 11 01 47.1 +0.2**
comp=Z,0.7nm,0.7s,baz=34,slow=4.0,SNR=7.1
GERES GERESS Array B 75.44 338 P **P 11 01 48.5 +0.9**
comp=Z,0.7nm,0.5s,baz=30,slow=8.0,SNR=3.3
VOIR 75.47 329 ⇓*i*P **P 11 01 49.1 +1.4**
VOIR 75.47 329 ⇓P **P 11 01 49.1 +1.4**
GZR Gura Zlata 76.21 331 ⇑*i*P **P 11 01 52.9 +1.0**
GZR Gura Zlata 76.21 331 ⇑P **P 11 01 52.9 +1.0**
BRTR Keskin Array B 77.46 321 P **P 11 01 59.8 +0.6**
comp=Z,1.3nm,0.7s,baz=46,slow=3.6,SNR=7.9
ASAR Alice Springs 79.00 205 P **P 11 02 08.4 +1.0**
comp=Z,0.5nm,0.6s,baz=14,slow=5.7,SNR=16
KNT Kendrikon 80.00 329 P **P 11 02 13.9 +1.0**
KNT pmax pmax
comp=Z,5.0nm,1.1s
GRG Griva 80.35 329 P **P 11 02 16.0 +1.2**
GRG pmax pmax
comp=Z,6.0nm,1.1s
ESDC Sonseca Array 87.53 348 P **P 11 02 51.9 +0.5**
comp=Z,0.2nm,0.4s,baz=351,slow=4.9,SNR=3.2
ESTN Estel 93.39 64 *e*P **P 11 03 19.9 +0.7**
comp=Z,32nm,0.7s

JMA 16 10:55:34.4±0.3, 27°.69N×140°.67E, h459km±4km, M3.5,
Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.47**	**113**	P	P	10 56 33.6	+0.4
CBIJ				*e*S	S	10 57 20.1	-0.8
BSO3	**Boso 3**	**7.09**	**359**	P	P	10 57 22.4	+2.6
JKN2	**Miekihoku**	**7.54**	**331**	P	P	10 57 25.5	+0.6
JAG	**Ashikaga**	**8.77**	**354**	P	P	10 57 38.7	+0.6
JHO	**Hitachi**	**8.89**	**359**	P	P	10 57 41.2	+1.8

IDC ***16*** *10:58:51.0±3.3, 52°.78N×169°.08W, h19km±20km, mb3.9/22, mb1 4.1/23, mb1mx3.8/66, mbtmp4.0/23, ML3.6/1, MS3.2/8, Ms1 3.2/8, ms1mx2.9/38, Error ellipse: s-maj=18.6km s-min=10.6km az=166.0*
ISCJB ***16*** *10:58:52.2±0.2, 52°.78N±0°.04×168°.73W±0°.03, h35km, mb4.2/35, MS3.1/8, Error ellipse: s-maj=5.8km s-min=2.4km az=168.7*
AEIC ***16*** *10:58:54.1, 52°.62N×168°.71W, h26km, ML4.2, MB4.1(NEIC)*
NEIC ***16*** *10:58:54.1±0.0, 52°.62N×168°.71W, h26km, mb4.1/25, ML4.2(AEIC), After AEIC.*
NEIC Felt at Nikolski.

ISC 16 10:58:53.5±0.4, 52°.75N±0°.08×168°.77W±0°.04, h35km, n270, σ1$90/270, mb4.2/35, MS3.2/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.23**	**346**	*e*Pn	**Pn**	**10 59 04.5**	**+3.9**
NIKH				*e*Sn	**Sn**	**10 59 08.4**	**+3.0**
OKWE	**Okmok W'ng Wal**	**0.79**	**23**	*e*Pn	**Pn**	**10 59 10.3**	**+2.2**
OKAK	**Okmok**	**0.86**	**16**	*e*Pn	**Pn**	**10 59 09.1**	**0.0**
MREP	**Makushin Rep't**	**1.61**	**48**	*e*Pn	**Pn**	**10 59 21.2**	**+1.7**
MREP				*e*Sn	**Sn**	**10 59 44.1**	**+5.1**
MCIR	**Makushin Cirqu**	**1.64**	**42**	*e*Pn	**Pn**	**10 59 22.4**	**+2.5**
MSW	**Makushin Switc**	**1.66**	**45**	*e*Pn	**Pn**	**10 59 22.6**	**+2.4**
UNV	**Unalaska Valle**	**1.75**	**50**	*e*Pn	**Pn**	**10 59 23.1**	**+1.9**
UNV				*e*Sn	**Sn**	**10 59 46.0**	**+3.8**
AKRB	**Akutan Reef Bi**	**2.12**	**48**	*e*Pn	**Pn**	**10 59 29.6**	**+3.2**
AKMO	**Akutan Morgan**	**2.12**	**50**	*e*Pn	**Pn**	**10 59 29.3**	**+2.9**
AKMO				*e*Sn	**Sn**	**10 59 55.3**	**+3.7**
ZRO	**Akutan Zero**	**2.14**	**50**	*e*Pn	**Pn**	**10 59 29.5**	**+2.8**
AHB	**Akutan Harbor**	**2.23**	**51**	*e*Pn	**Pn**	**10 59 31.4**	**+3.5**
AKUT	**Akutan**	**2.26**	**51**	*e*Pn	**Pn**	**10 59 31.4**	**+3.1**
AKSA	**Akutan Strait**	**2.30**	**52**	*e*Pn	**Pn**	**10 59 31.8**	**+3.0**
WESP	**Westdahl Peak**	**2.97**	**52**	*e*Pn	**Pn**	**10 59 41.8**	**+3.7**
WEBT	**Westdahl Beart**	**3.02**	**51**	*e*Pn	**Pn**	**10 59 42.5**	**+3.8**
KOSE	**Korovin Southe**	**3.25**	**265**	*e*Pn	**Pn**	**10 59 44.5**	**+2.6**
KOFP	**Korovin Flat P**	**3.29**	**264**	*e*Pn	**Pn**	**10 59 45.0**	**+2.4**
KOKL	**Mount Kliuchef**	**3.35**	**265**	*e*Pn	**Pn**	**10 59 46.2**	**+2.9**
FALS	**False Pass**	**3.81**	**54**	*e*Pn	**Pn**	**10 59 52.6**	**+3.1**
GSTR	**Great Sitkin T**	**4.51**	**265**	*e*Pn	**Pn**	**11 00 01.6**	**+2.3**
GSTR				*e*Sn	**Sn**	**11 00 56.1**	**+5.5**
SPIA	**Saint Paul Isl**	**4.52**	**350**	*e*Pn	**Pn**	**11 00 02.7**	**+3.5**
GSMY	**Great Sitkin M**	**4.52**	**264**	*e*Pn	**Pn**	**11 00 01.5**	**+2.1**
GSTD	**Great Sitkin T**	**4.57**	**264**	*e*Pn	**Pn**	**11 00 02.5**	**+2.4**
GSTD				*e*Sn	**Sn**	**11 00 55.5**	**+3.5**
ETKA	**Kagalaska Isla**	**4.77**	**262**	*e*Pn	**Pn**	**11 00 04.7**	**+1.9**
ADAG	**Mount Adagdak**	**4.87**	**264**	*e*Pn	**Pn**	**11 00 07.5**	**+3.4**
ADK	**Adak**	**4.94**	**263**	*e*Pn	**Pn**	**11 00 07.3**	**+2.2**
ADK				*e*Sn	**Sn**	**11 01 05.0**	**+4.2**
KIRH	**Kanaga Island**	**5.18**	**264**	*e*Pn	**Pn**	**11 00 11.5**	**+3.1**
KIWB	**Kanaga Island**	**5.22**	**263**	*e*Pn	**Pn**	**11 00 12.1**	**+3.1**
KIKV	**Kanaga Island**	**5.23**	**264**	*e*Pn	**Pn**	**11 00 11.5**	**+2.4**
KIMD	**Kanaga Island**	**5.30**	**263**	*e*Pn	**Pn**	**11 00 12.5**	**+2.5**
TAFP	**Tanaga Falls P**	**5.72**	**265**	*e*Pn	**Pn**	**11 00 18.9**	**+3.1**
TASE	**Tanaga Southea**	**5.76**	**265**	*e*Pn	**Pn**	**11 00 19.4**	**+2.9**
GAEA	**Gareloi East**	**6.21**	**265**	*e*Pn	**Pn**	**11 00 26.1**	**+3.6**
GALAA	**Gareloi Lava P**	**6.22**	**265**	*e*Pn	**Pn**	**11 00 26.1**	**+3.3**
CHGN	**Chignik**	**6.99**	**55**	*e*Pn	**Pn**	**11 00 35.4**	**+2.2**
SII	**Sitkinak Islan**	**9.27**	**60**	*e*Pn	**Pn**	**11 01 05.5**	**+1.1**
KDAK	**Kodiak Island**	**10.51**	**55**	*e*Pn	**Pn**	**11 01 21.3**	**0.0**
KDAK				*e*		11 01 22.0	
KDAK				*e*Sn	**Sn**	**11 03 11.3**	**-6.3**
KDAK	**Kodiak Island**	**10.51**	**55**	Pn	**Pn**	**11 01 21.4**	**+0.1**
	3.1nm,0.3s,baz=216,slow=2.7,SNR=40						
KDAK				Sn	**Sn**	**11 03 11.3**	**-6.3**
	baz=270,slow=10,SNR=2.5						
RSO	**Redoubt South**	**11.70**	**42**	*e*Pn	**Pn**	**11 01 41.9**	**+4.0**
BRLK	**Bradley Lake**	**12.14**	**48**	*e*Pn	**Pn**	**11 01 46.4**	**+2.6**
RC01	**Rabbit Creek A**	**13.29**	**44**	*e*Pn	**Pn**	**11 02 00.7**	**+1.4**
CAST	**Castle Rocks**	**13.80**	**33**	*e*Pn	Pn	11 02 11.3	+4.9
GHO	**Glory Hole Cre**	**13.97**	**42**	*e*Pn	**Pn**	**11 02 09.3**	**+0.5**
KNK	**Knik Glacier**	**13.98**	**44**	*e*Pn	**Pn**	**11 02 10.1**	**+1.2**
SML	**Sawmill**	**14.23**	**42**	*e*Pn	**Pn**	**11 02 14.0**	**+1.7**
SCM	**Sheep Creek Mo**	**14.66**	**43**	*e*Pn	**Pn**	**11 02 18.2**	**+0.1**
RND	**Reindeer**	**14.91**	**37**	*e*Pn	**Pn**	**11 02 22.9**	**+1.4**
MCK	**McKinley**	**15.08**	**35**	*e*Pn	**Pn**	**11 02 26.2**	**+2.5**
	7.0nm,1.2s						
BWN	**Browne**	**15.18**	**34**	*e*Pn	**P**	**11 02 29.0**	**-0.6**
	20nm,1.0s						
IMAR	**Indian Mountai**	**15.25**	**24**	*e*Pn	**P**	**11 02 31.3**	**+0.9**
DHY	**Denali Highway**	**15.28**	**39**	*e*Pn	**Pn**	**11 02 27.3**	**+0.9**
	2.7nm,0.8s						
MLY	**Manley**	**15.35**	**30**	*e*Pn	**P**	**11 02 32.1**	**+0.5**
	8.4nm,0.6s						
MDM	**Murphy Dome**	**16.09**	**33**	*e*Pn	**Pn**	**11 02 37.9**	**+1.1**
	4.8nm,0.9s						
TCOL	**CIGO, UAF Yank**	**16.16**	**33**	P	**Pn**	**11 02 38.3**	**+0.8**
	baz=232						
HDA	**Harding Lake**	**16.19**	**35**	P	**Pn**	**11 02 38.8**	**+0.8**
	baz=235						
ILAR	**Eielson Array**	**16.43**	**34**	Pn	**Pn**	**11 02 40.1**	**-0.9**
	0.2nm,0.3s,baz=224,slow=11,SNR=12						
ILB	**Eielson Array**	**16.43**	**34**	*e*Pn	**Pn**	**11 02 41.9**	**+1.0**
	2.5nm,1.0s						
POKR	**Poker Plat Res**	**16.45**	**33**	P	**Pn**	**11 02 41.7**	**+0.4**
	baz=232						
RIDG	**Independent Ri**	**16.60**	**39**	*e*Pn	**Pn**	**11 02 42.8**	**-0.4**
	4.9nm,0.7s						
CTGM	**Chitina Glacie**	**16.99**	**50**	*e*Pn	**Pn**	**11 02 48.4**	**+0.1**
	13nm,0.8s						
FYU	**Fort Yukon**	**18.07**	**31**	*e*Pn	**Pn**	**11 03 02.0**	**+0.6**
	3.8nm,0.8s						
DAWY	**Dawson**	**18.90**	**42**	*e*P	**P**	**11 03 11.3**	**+0.6**
	3.5nm,0.9s						
WHY	**Whitehorse**	**20.02**	**53**	*e*P	Pn	11 03 26.3	+1.4
	17nm,0.8s						
PEA1	**Petropavlovsk-**	**20.12**	**284**	*e*P	**P**	**11 03 24.0**	**0.0**
PEA0B	**Petropavlovsk-**	**20.12**	**284**	*e*P	**P**	**11 03 25.2**	**+1.1**
	15nm,0.5s						
PETK	**Petropavlovsk-**	**20.12**	**284**	P	**P**	**11 03 24.0**	**0.0**
	3.7nm,0.3s,baz=82,slow=14,SNR=112						
PETK				LR	LR	11 11 35.1	
	comp=Z,61nm,19.1s,baz=107,slow=38						
EPYK	**Eagle Plains**	**20.87**	**37**	*e*P	**P**	**11 03 31.1**	**-1.0**
	14nm,0.6s						
EPYK	**Eagle Plains**	**20.87**	**37**	P	**P**	**11 03 31.5**	**-0.7**
	baz=245,SNR=16						
DLBC	**Dease Lake**	**22.37**	**60**	P	**P**	**11 03 49.5**	**+1.2**
	1.1nm,0.7s,baz=271,slow=9.8,SNR=2.1						
DLBC				ScP	**ScP**	**11 11 20.3**	**+3.6**
	3.1nm,1.0s,baz=333,slow=2.3,SNR=3.9						
SEY	**Seymchan**	**22.68**	**312**	P	**P**	**11 03 49.5**	**-2.1**
	1.9nm,0.6s,baz=108,slow=13,SNR=1.9						
INK	**Inuvik**	**22.82**	**34**	*e*P	**P**	**11 03 51.5**	**-1.4**
	2.4nm,0.9s						
INK	**Inuvik**	**22.82**	**34**	P	**P**	**11 03 51.5**	**-1.4**
	1.3nm,0.5s,baz=238,slow=11,SNR=16						
BBB	**Bella Bella**	**24.54**	**75**	P	**P**	**11 04 11.2**	**+1.7**
	4.2nm,0.8s,baz=280,slow=6.4,SNR=3.9						
D03D	**Eldon**	**29.34**	**82**	P	**P**	**11 04 55.2**	**+2.6**
	baz=298						
B05A	**Bryant**	**29.60**	**80**	P	**P**	**11 04 57.2**	**+2.3**
	baz=297						
YKA	**Yellowknife Ar**	**29.71**	**49**	P	**P**	**11 04 56.1**	**+0.3**
	0.3nm,0.4s,baz=271,slow=7.6,SNR=18						
YKA				ScP	**ScP**	**11 11 37.5**	**-0.3**
	0.2nm,0.7s,baz=287,slow=3.0,SNR=4.1						
YKA				LR	LR	11 17 53.6	
	comp=Z,9.2nm,18.2s,baz=267,slow=38						
E04D	**Cinebar**	**30.11**	**83**	P	**P**	**11 05 02.4**	**+2.9**
	baz=300						
G03D	**McMinnville, O**	**30.36**	**86**	P	**P**	**11 05 04.7**	**+3.0**
	baz=301						
I02D	**Swisshome**	**30.59**	**88**	P	**P**	**11 05 06.9**	**+3.2**
	baz=303						
H04D	**Lebanon**	**31.04**	**87**	P	**P**	**11 05 10.7**	**+3.0**
	baz=302						
B08A	**Colville Reser**	**31.21**	**78**	*e*P	**P**	**11 05 11.2**	**+2.0**
	4.4nm,0.6s						
H04A	**Detroit Lake**	**31.29**	**86**	*e*P	**P**	**11 05 13.1**	**+3.1**
	7.0nm,0.7s						
K02D	**Willamette Mer**	**31.48**	**90**	P	**P**	**11 05 14.7**	**+3.0**
	baz=305						
G05D	**Wamic, OR**	**31.53**	**84**	P	**P**	**11 05 14.5**	**+2.4**
	baz=302						
I04A	**Tendick Farm,**	**31.63**	**88**	P	**P**	**11 05 16.1**	**+3.1**
	baz=303						
I05D	**Terrebonne, OR**	**31.99**	**86**	P	**P**	**11 05 18.9**	**+2.7**
	baz=303		

NEW	Newport	32.56	77	P	P	11 05 22.4	+1.4
	baz=298,SNR=5.6						
NEW	Newport	32.56	77	LR	LR	11 17 25.1	
	comp=Z,52nm,18.1s,baz=297,slow=34						
TIXI	Tiksi	32.60	329	LR	LR	11 17 55.5	
	comp=Z,45nm,20.3s,baz=267,slow=35						
J05D	Fort Rock, OR	32.63	87	P	P	11 05 24.5	+2.7
	baz=304,SNR=5.6						
M04C	Macdoel	33.12	90	P	P	11 05 28.8	+2.7
	baz=306						
O03E	Paynes Creek	34.02	92	P	P	11 05 36.3	+2.3
	baz=308						
MSO	Missoula	35.14	77	P	P	11 05 44.2	+0.7
	baz=301						
HLID	Hailey	36.60	82	P	P	11 05 57.7	+1.5
	baz=304,SNR=5.1						
KLR	Kul'dur	36.68	289	P	P	11 05 54.1	-2.5
	0.5nm,0.3s,baz=56,slow=7.8,SNR=4.1						
EGMT	Eagleton	37.00	73	P	P	11 06 00.3	+0.8
	baz=300,SNR=9.2						
BOZ	Bozeman (W)	37.15	78	P	P	11 06 01.8	+0.9
	baz=303,SNR=13						
NVAR	Mina Array Bea	37.30	92	P	P	11 06 04.3	+2.0
	0.9nm,0.7s,baz=297,slow=8.4,SNR=9.3						
ELK	Elko	37.74	87	eP	P	11 06 07.8	+1.9
	2.9nm,0.8s						
H11N2	WAKE ISLAND Hy	37.98	219	T	T	11 46 34.4	
	baz=24,slow=76,SNR=295						
H11N3	WAKE ISLAND Hy	37.99	219	T	T	11 46 33.6	
	baz=24,slow=76,SNR=404						
H11N1	WAKE ISLAND Hy	38.00	219	T	T	11 46 37.0	
	baz=24,slow=76,SNR=254						
GCMT	Greycliff	38.21	76	eP	P	11 06 11.4	+1.7
H17A	Grant Village	38.44	79	P	P	11 06 14.3	+2.5
	baz=304						
VES	Vestal, Richgr	38.51	96	P	P	11 06 14.0	+1.8
	baz=312						
CWC	Cottonwood Cre	38.73	94	P	P	11 06 16.1	+1.9
	baz=312						
RLMT	Red Lodge	38.81	77	P	P	11 06 15.6	+0.7
	baz=304,SNR=7.0						
R11A	Troy Canyon, C	39.01	90	eP	P	11 06 18.4	+1.8
	1.5nm,0.9s						
R11A	Troy Canyon, C	39.01	90	P	P	11 06 18.4	+1.8
	baz=310						
H11S1	WAKE ISLAND Hy	39.17	219	T	T	11 48 03.5	
	baz=23,slow=76,SNR=1070						
USRK	Ussuriysk Ar.	39.17	282	P	P	11 06 15.7	-2.0
	0.7nm,0.5s,baz=46,slow=7.8,SNR=2.9						
H11S2	WAKE ISLAND Hy	39.19	219	T	T	11 48 04.5	
	baz=23,slow=76,SNR=1620						
H11S3	WAKE ISLAND Hy	39.19	219	T	T	11 48 05.4	
	baz=23,slow=76,SNR=1045						
MPMC	Manual Prospec	39.34	94	P	P	11 06 21.6	+2.2
	baz=312						
FURC	Furnace Creek,	39.45	93	P	P	11 06 22.7	+2.7
	baz=312						
TPNV	Topopah Spring	39.50	92	P	P	11 06 22.8	+2.1
	baz=311						
DUG	Dugway, Tooele	39.54	85	P	P	11 06 22.5	+1.6
	baz=308,SNR=6.6						
LAO	LASA Array	39.74	73	P	P	11 06 23.2	+0.7
	baz=303						
BW06	Boulder Array	39.97	80	P	P	11 06 25.6	+1.0
	baz=306,SNR=6.7						
PDAR	Pinedale Array	39.97	80	P	P	11 06 25.7	+1.1
	2.8nm,0.6s,baz=301,slow=5.6,SNR=25						
MJAR	Matsushiro Ar	40.08	268	P	P	11 06 23.6	-1.7
	2.9nm,0.7s,baz=33,slow=6.0,SNR=9.9						
MJAR				LR	LR	11 21 00.6	
	comp=Z,35nm,21.7s,baz=40,slow=33						
MAJO	Matsushiro	40.08	268	eP	P	11 06 23.6	-1.7
MAT	Matsushiro	40.08	268	P	P	11 06 25.0	-0.3
GSC	Goldstone, Bar	40.25	94	P	P	11 06 29.6	+2.8
	baz=313						
GMRC	Granite Mounta	41.30	94	P	P	11 06 37.6	+2.1
	baz=313						
BELC	Belle Mtn. Jos	41.62	95	P	P	11 06 38.5	+0.3
	baz=314						
K22A	Casper	41.85	78	P	P	11 06 40.4	+0.4
	baz=307						
IRM	Iron Mountain	42.03	94	P	P	11 06 43.3	+1.9
	baz=313						
U15A	North Rim	42.25	90	eP	P	11 06 45.3	+1.8
	5.8nm,1.1s						
O20A	White River Ci	42.34	82	P	P	11 06 45.0	+0.9
	baz=309,SNR=11						
RSSD	Black Hills	42.46	75	eP	P	11 06 45.7	+0.7
	2.6nm,0.6s						
RSSD	Black Hills	42.46	75	P	P	11 06 45.1	+0.1
	baz=306						
IKP	In-Ko-Pah, Jac	42.49	97	P	P	11 06 46.5	+1.3
	baz=315						
PDMCI	Parker Dam,Lak	42.54	93	P	P	11 06 46.9	+1.4
	baz=313						
Y12C	Blythe	42.69	94	P	P	11 06 48.6	+1.9
	baz=314						
PV18	Skein Mesa, Pa	43.12	85	eP	P	11 06 51.7	+1.3
	4.3nm,0.7s						
N23A	Red Feather La	43.25	80	P	P	11 06 52.2	+0.7
	baz=308						
WUAZ	Wupatki	43.41	90	P	P	11 06 54.6	+1.9
	baz=312						
MVCO	Mesa Verde	44.04	86	P	P	11 06 58.7	+0.8
	baz=311						
ISCO	Idaho Springs	44.13	81	P	P	11 06 59.5	+0.9
	baz=309						
S22A	4UR Ranch, Cre	44.70	84	P	P	11 07 04.3	+1.0
	baz=311						
AGMN	Agassiz Nation	44.73	65	P	P	11 07 02.6	-0.3
	baz=305						
214A	Organ Pipe Nat	44.97	95	P	P	11 07 07.0	+1.9
	baz=315						
SDCO	Great Sand Dun	45.51	83	P	P	11 07 10.4	+0.8
	baz=311						
KSRS	Korea Array	45.73	277	P	P	11 07 09.8	-1.1
	1.0nm,0.5s,baz=56,slow=7.0,SNR=6.2						
KSRS				LR	LR	11 26 16.9	
	comp=Z,25nm,18.3s,baz=60,slow=36						
TUC	Tucson	45.95	93	P	P	11 07 14.4	+1.5
	baz=315						
KSCO	Kaye Shedlock'	46.42	80	eP	P	11 07 18.2	+1.6
	7.1nm,0.8s						
KSCO	Kaye Shedlock'	46.42	80	P	P	11 07 17.7	+1.1
	baz=310						
T25A	Trinidad	46.56	83	P	P	11 07 18.9	+1.1
	baz=311,SNR=6.8						
TASM	ASL Pad, Albuq	46.77	87	P	P	11 07 20.8	+1.2
	baz=313						
TASM	ASL Pad, Albuq	46.77	87	P	P	11 07 21.0	+1.5
	baz=313						
ANMO	Albuquerque	46.78	87	P	P	11 07 21.0	+1.5
	baz=313						
ECSD	EROS Data Cent	46.99	71	P	P	11 07 20.3	-0.6
	baz=308						
BGNE	Belgrade	47.55	74	P	P	11 07 25.8	+0.6
	baz=309						
121A	Cookes Peak, D	47.62	90	P	P	11 07 28.0	+1.9
	baz=314						
E38A	The Farm, Brul	48.09	65	P	P	11 07 29.1	-0.3
	baz=308						
CBKS	Cedar Bluff	48.27	78	P	P	11 07 31.8	+0.9
	baz=311						
F38A	Pierce - Schro	48.31	65	P	P	11 07 30.4	-0.6
	baz=308,SNR=5.3						
E39A	Mellen	48.78	64	P	P	11 07 34.1	-0.5
	baz=308						
G38A	Ridgeland	48.80	66	P	P	11 07 34.8	-0.1
	baz=308						
F39A	Loretta	48.86	65	P	P	11 07 34.6	-0.7
	baz=308						
E40A	Wakefield	49.10	64	P	P	11 07 36.9	-0.2
	baz=308						
G39A	Holcombe	49.11	66	P	P	11 07 36.5	-0.7
	baz=309						
SPITS	Spitsbergen Ar	49.30	359	P	P	11 07 37.6	-0.6
	3.1nm,0.9s,baz=342,slow=7.6,SNR=2.9						
F40A	Park Falls	49.30	65	P	P	11 07 38.3	-0.3
	baz=308						
H39A	Augusta	49.43	66	P	P	11 07 39.2	-0.4
	baz=309						
MNTX	Cornudas Mount	49.66	89	eP	P	11 07 43.3	+1.7
	3.4nm,0.7s						
MNTX	Cornudas Mount	49.66	89	P	P	11 07 43.0	+1.4
	baz=315,SNR=7.1						
G40A	Rib Lake	49.66	65	P	P	11 07 41.0	-0.4
	baz=309						
MSTX	Muleshoe	49.67	85	P	P	11 07 42.8	+1.1
	baz=314						
AMTX	Amarillo	49.71	83	P	P	11 07 42.4	+0.4
	baz=313						
I39A	Houston	49.81	67	P	P	11 07 42.2	-0.4
	baz=310						
H40A	Chili	49.96	66	P	P	11 07 43.0	-0.6
	baz=309						
F41A	Three Lakes	49.97	64	P	P	11 07 43.2	-0.5
	baz=309						
J39A	Decorah	50.03	68	P	P	11 07 43.3	-1.0
	baz=310						
K39A	Oelwein	50.33	69	P	P	11 07 45.6	-0.9
	baz=310						
J40A	Soldiers Grove	50.54	67	P	P	11 07 47.0	-1.1
	baz=310						
I41A	Arkdale	50.60	66	P	P	11 07 47.3	-1.2
	baz=310						
G42A	Mountain	50.65	64	P	P	11 07 47.9	-1.0
	baz=310						
E43A	Lone Tree Farm	50.71	62	P	P	11 07 48.4	-0.9
	baz=309						
E44A	Grand Marais A	51.13	61	P	P	11 07 51.5	-0.9
	baz=310						
I42A	Draeger Farm,	51.24	66	P	P	11 07 52.9	-0.5
	baz=310						
SONA0	Songino Array	51.42	301	eP	P	11 07 53.4	-1.4
SONM	Songino Array	51.42	301	P	P	11 07 53.4	-1.4
	0.5nm,0.3s,baz=55,slow=6.4,SNR=3.6						
SONM				LR	LR	11 31 37.5	
	comp=Z,33nm,18.6s,baz=85,slow=38						
WMOK	Wichita Mounta	51.55	81	P	P	11 07 56.5	+0.7
	baz=314						
N40A	Mertquake, Sal	51.68	70	P	P	11 07 56.3	-0.4
	baz=311						
D47A	Chapleau	52.35	59	P	P	11 08 00.6	-0.9
	baz=310						
TXAR	Lajitas Array	52.37	90	P	P	11 08 03.0	+1.0
	4.8nm,0.8s,baz=300,slow=5.4,SNR=68						
ABTX	Abilene, Hawle	52.49	84	P	P	11 08 03.9	+1.1
	baz=315						
M43A	Waltham Townsh	52.81	68	P	P	11 08 03.8	-1.2
	baz=312						
HHC	Hu-ho-hao-te	53.13	291	eP	P	11 08 09.8	+2.3
HDIL	Hopedale	53.21	69	P	P	11 08 06.7	-1.3
	baz=312						
R41A	Rosebud	53.52	73	P	P	11 08 09.6	-0.7
	baz=313						
Q42A	Golden Eagle	53.60	72	P	P	11 08 10.2	-0.6
	baz=313						
GUMO	Guam	53.61	241	P	P	11 08 08.7	-2.5
	25nm,0.3s,baz=33,slow=7.0,SNR=5.8						
P43A	Skaggs, Pawnee	53.69	70	P	P	11 08 11.0	-0.5
	baz=312						
CCM	Cathedral Cave	53.76	73	P	P	11 08 11.2	-0.9
	baz=313						
S41A	Jillco Farms,	53.79	74	P	P	11 08 10.7	-1.6
	baz=313,SNR=6.3						
JCT	Junction City	53.90	86	P	P	11 08 13.8	+0.5
	baz=316						
U40A	Yellville	53.98	75	P	P	11 08 12.5	-1.2
	baz=314						
O45A	Potomac	54.30	69	P	P	11 08 15.6	-0.4
	baz=313						
E51A	G1948 Merrick	54.56	58	P	P	11 08 16.3	-1.5
	baz=312						
MIAR	Mount Ida	54.80	78	P	P	11 08 19.6	-0.1
	baz=314						
Q45A	Warren Harvey,	54.97	70	P	P	11 08 20.2	-0.6
	baz=313						
BWLO	Walkerton	55.32	61	P	P	11 08 21.4	-1.9
	baz=313						
833A	Chaparral WMA,	55.70	87	P	P	11 08 26.6	+0.4
	baz=317						
O48A	Farmland	55.74	67	P	P	11 08 24.9	-1.5
	baz=313						
R47A	Wooly Knot Far	56.31	70	P	P	11 08 30.0	-0.5
	baz=314						
P49A	Miami Univ. Ec	56.48	67	P	P	11 08 30.4	-1.3
	baz=314						
S48A	Wiedeman Farm,	57.02	70	P	P	11 08 34.8	-0.8
	baz=314						
WVT	Waverly	57.07	72	P	P	11 08 35.9	0.0
	baz=315						
I55A	Frankford	57.07	59	P	P	11 08 33.6	-2.2
	baz=314						
V46A	Holladay	57.13	73	P	P	11 08 35.6	-0.7
	baz=315						
L53A	Girard	57.27	62	P	P	11 08 35.1	-2.1
	baz=314						
OXF	Oxford	57.28	75	P	P	11 08 37.3	0.0
	baz=315						
LATQ	La Tuque	57.35	53	P	P	11 08 34.7	-3.0
	baz=314						
S49A	Springfield	57.37	69	P	P	11 08 37.2	-0.9
	baz=315						
ZALV	Zalesovo Beam	57.39	318	LR	LR	11 34 02.8	
	comp=Z,35nm,20.2s,baz=70,slow=37						
V47A	Nunnelly	57.46	72	P	P	11 08 39.0	+0.3
	baz=315						
U48A	Cassie Pea, Po	57.54	71	P	P	11 08 38.6	-0.7
	baz=315						
T49A	Edmonton	57.71	70	P	P	11 08 39.6	-0.8
	baz=315						
W47A	Westpoint	57.82	73	P	P	11 08 40.5	-0.6
	baz=315						
R51A	Hillsboro	57.98	68	P	P	11 08 41.9	-0.4
	baz=315						
U49A	Red Boiling Sp	57.98	71	P	P	11 08 41.4	-0.9
	baz=315						
N54A	Moraine State	58.10	63	P	P	11 08 41.1	-2.0
	baz=315						
T50A	Nancy	58.16	70	P	P	11 08 42.7	-0.9
	baz=315						
X47A	Russelville	58.18	74	P	P	11 08 43.2	-0.6
	baz=315						
O54A	Avella	58.44	64	P	P	11 08 44.7	-0.8
	baz=315						
X48A	Hartselle	58.70	73	P	P	11 08 46.3	-1.1
	baz=316						
Y48A	Jasper	59.01	74	P	P	11 08 48.5	-1.1
	baz=316						
X49A	Woodville	59.08	73	P	P	11 08 49.2	-0.7
	baz=316						
V51A	Loudon	59.30	70	P	P	11 08 50.9	-0.6
	baz=316						
Q55A	Buckhannon	59.44	65	P	P	11 08 50.7	-1.7
	baz=316						
SSPA	Standing Stone	59.47	62	P	P	11 08 51.5	-1.1
	baz=316						
Y49A	Blount Mountai	59.49	73	P	P	11 08 51.8	-1.0
	baz=316						
T53A	Wise	59.49	68	P	P	11 08 52.2	-0.7
	baz=316						
W51A	Cleveland	59.52	71	P	P	11 08 52.2	-0.8
	baz=316						
SSLB	Suanglung	59.58	270	eP	P	11 08 53.1	-0.5
	21nm,0.6s						
Z49A	Columbiana	59.90	74	P	P	11 08 54.7	-0.9
	baz=316						
149A	Jones	60.17	74	P	P	11 08 56.8	-0.7
	baz=316						
Z50A	Ashland	60.21	73	P	P	11 08 56.7	-1.1
	baz=316						
X52A	Dahlonega	60.41	71	P	P	11 08 58.5	-0.7
	baz=316						
Z51A	Franklin	60.60	73	P	P	11 08 59.7	-0.8
	baz=316						
R57A	Stanardsville	60.79	64	P	P	11 09 00.9	-0.8
	baz=316						
152A	Waverly Hall	61.33	73	P	P	11 09 04.1	-1.4
	baz=317						
V56A	Mocksville	61.48	68	P	P	11 09 05.3	-1.1
	baz=317						
Z53A	Monticello	61.55	72	P	P	11 09 06.0	-0.9
	baz=317						
Y54A	Tignall	61.64	71	P	P	11 09 06.9	-0.6
	baz=317						
U57A	Blanch	61.68	66	P	P	11 09 07.3	-0.4
	baz=317						
T59A	Double "B" Far	62.27	65	P	P	11 09 11.1	-0.6
	baz=317						
WMQ	Urumqi	63.58	308	eP	P	11 09 23.8	+3.4
V61A	Roper	63.67	65	P	P	11 09 19.3	-1.7
	baz=318						
MK32	Makanchi Array	63.81	314	eP	P	11 09 20.2	-1.6
MKAR	Makanchi Array	63.81	314	P	P	11 09 20.2	-1.6
	0.2nm,0.3s,baz=43,slow=5.9,SNR=4.8						
CD2	Chengdu	64.60	288	eP	P	11 09 27.3	+0.1
457A	Yulee	64.66	72	P	P	11 09 27.7	+0.1
	baz=318						
FIA0	FINESS Array S	65.54	352	eP	P	11 09 31.7	-1.0
FINES	FINESS Array B	65.54	352	P	P	11 09 31.7	-1.0
	0.3nm,0.3s,baz=2.2,slow=7.2,SNR=3.8						
758A	Lake Helen	66.10	73	P	P	11 09 36.2	-0.6
	baz=319						
KMI	Kunming	69.53	285	P	P	11 10 01.5	+2.7
AKTO	Aktyubinsk	69.86	330	P	P	11 09 59.2	-1.0
	0.7nm,0.3s,baz=11,slow=5.2,SNR=3.5						
ABKAR	Abkulak array	70.30	328	eP	P	11 10 02.5	-0.4
	1.0nm,0.9s						
KSH	Kashi	72.39	313	P	P	11 10 19.6	+3.8
CMAR	Chiang Mai Arr	76.89	283	P	P	11 10 42.1	0.0
	5.2nm,0.7s,baz=25,slow=6.6,SNR=19						
CTA	Charters Tower	82.36	222	P	P	11 11 10.4	-1.1
	2.5nm,0.9s,baz=31,slow=5.9,SNR=3.2						
WR1	Warramunga Arr	87.53	232	eP	P	11 11 35.8	-1.7
WRA	Warramunga Arr	87.53	232	P	P	11 11 35.8	-1.7
	0.8nm,0.4s,baz=39,slow=4.8,SNR=10						
FITZ	Fitzroy Crossi	90.36	240	P	P	11 11 50.3	-0.6
	0.5nm,0.3s,baz=27,slow=2.3,SNR=4.3						
ASAR	Alice Springs	90.92	231	P	P	11 11 52.7	-0.7
	1.6nm,0.7s,baz=23,slow=3.9,SNR=22						

*IDC **16** 11:04:30.6±1.5, 12°.84N×125°.54E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/57, mbtmp3.7/6, MS3.3/1, Ms1 3.3/1, ms1mx2.5/38, Error ellipse: s-maj=70.4km s-min=20.1km az=64.0*

*ISCJB **16** 11:04:32.1±1.0, 13°.14N±0°.05×125°.73E±0°.08, h28km, mb3.6/6, MS3.3/1, Error ellipse: s-maj=10.9km s-min=7.2km az=163.6*

*MAN **16** 11:04:33.0, 13°.15N×125°.62E, h65km, MS3.1*

ISC 16 11:04:34.9±1.1, 13°.07N±0°.06×125°.61E±0°.09, h28km, n10, σ1°.35/14, mb3.6/6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Catarman	1.07	239	eP	Pn	11 04 54.0	-0.1
CNP				eS	Sb	11 05 09.5	+0.9
BESP	Borongan	1.47	187	eP	Pn	11 04 59.2	-0.3
BESP				eS	Sn	11 05 17.4	-0.3
PVCP	Virac	1.51	291	eP	Pn	11 04 58.9	-1.2
PVCP				eS	Sn	11 05 17.6	-1.3
PLP	Palo	1.99	198	eP	Pn	11 05 06.5	-0.2
PLP				i S	Sn	11 05 31.4	+0.8
CMAR	Chiang Mai Arr	26.20	285	P	P	11 10 07.6	+0.1
	0.9nm,0.4s,baz=101,slow=7.6,SNR=4.1						
WRA	Warramunga Arr	33.91	165	P	P	11 11 13.3	-2.4
	0.6nm,0.8s,baz=351,slow=10,SNR=3.8						
ASAR	Alice Springs	37.40	167	P	P	11 11 44.2	-1.5
	0.3nm,0.5s,baz=351,slow=6.9,SNR=8.4						
SONM	Songino Array	38.19	339	P	P	11 11 54.9	+2.7
	0.2nm,0.4s,baz=151,slow=6.6,SNR=2.2						
MKAR	Makanchi Array	49.43	322	P	P	11 13 23.1	+0.6
	0.9nm,0.7s,baz=128,slow=7.2,SNR=8.3						
MKAR				LR	LR	11 37 49.3	
	comp=Z,26nm,18.5s,baz=55,slow=40						
KURBB	Kurchatov Arra	53.43	324	P	P	11 13 52.1	-0.1
	0.6nm,0.2s,baz=118,slow=8.0,SNR=4.0						

MEX 16 11:19:02.7±0.9, 15°.56N×95°.10W, h16km±9km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.99	282	eP	Pb	11 19 18.5	-3.1
HUIG				eS	Sb	11 19 29.9	-4.5
CMIG	Matias Romero	1.53	8	eP	Pn	11 19 25.6	-3.8
CMIG				i S	Sn	11 19 43.6	-5.5
PCIG		1.82	85	eP	Pn	11 19 28.9	-4.4
PCIG				i S	Sn	11 19 51.5	-4.5
TGIG		2.25	57	eP	Pn	11 19 36.9	-2.5
TGIG				eS	Sn	11 20 02.7	-4.2
CCIG	Comitan	2.94	76	eP	Pn	11 19 46.0	-3.0
CCIG				eS	Sn	11 20 19.9	-4.2
PNIG	Pinotepa	3.03	286	eP	Pn	11 19 47.5	-2.5
PNIG				i S	Sn	11 20 22.1	-3.9
TPIG	Tehuac#an	3.57	323	i P	Pn	11 19 54.6	-3.0
TPIG				i S	Sn	11 20 36.4	-3.3

MEX 16 11:24:21.5±0.4, 16°.02N×94°.58W, h75km±7km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.10	345	eP	Pn	11 24 40.3	-1.3
CMIG				i S	Sn	11 24 54.7	-1.8
PCIG		1.35	103	eP	Pn	11 24 43.4	-1.3
PCIG				eS	Sn	11 25 00.3	-1.8
HUIG	Huatulco	1.49	261	eP	Pn	11 24 45.1	-1.4
HUIG				i S	Sn	11 25 03.7	-1.7
TGIG		1.59	61	i P	Pn	11 24 46.2	-1.7
TGIG				i S	Sn	11 25 06.1	-1.7
CCIG	Comitan	2.36	83	i P	Pn	11 24 56.6	-1.7
CCIG				eS	Sn	11 25 25.1	-1.4
PNIG	Pinotepa	3.43	277	i P	Pn	11 25 12.1	-0.5
PNIG				i S	Sn	11 25 51.4	-0.8
TPIG	Tehuac#an	3.57	312	i P	Pn	11 25 14.0	-0.7
TPIG				i S	Sn	11 25 54.1	-1.7

*JSO **16** 11:30:21.5±0.5, 30°.N±8°×3°.6E±1°.0, h19km±8km, M2.6/6, Mjma2.7/6, ML2.3/3, MLv2.7/6*

*NSSC **16** 11:30:51.1±1.3, 32°.88N×35°.44E, h7km±351km, ML1.4*

ISC 16 11:30:20.3±1.2, 30°.37N±0°.05×35°.28E±0°.09, h10km, n8, σ1°.71/10, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSNJ	Maan	0.37	108	P	Pg	11 30 26.8	-0.8
JDRJ	Daraweish	0.48	43	P	Pb	11 30 32.9	+1.9
AQBJ	Aqaba	0.67	197	P	Pb	11 30 35.2	+1.1
ASF	Jabal al Asfar	2.26	37	P	Pn	11 30 57.8	0.0
SHMJ	Saham	2.38	10	P	Pn	11 30 58.0	-1.4
BRBR	Barbar	3.08	10	eP	Pn	11 31 04.8	-4.4
BRBR				eS	Pb	11 31 13.3	-2.0
BRBR				AML	AML	11 31 16.8	
	comp=N,6.3nm,0.3s						
BRBR				AML	AML	11 31 17.2	
	comp=E,4.4nm,0.3s						
TOTH	TOTAH	3.13	18	eP	Pn	11 31 09.3	-0.5
TOTH				AML	AML	11 31 17.5	
	comp=E,6.6nm,0.3s						
TOTH				eS	Pg	11 31 22.8	+2.4
TOTH				AML	AML	11 31 29.1	
	comp=N,10.0nm,0.2s						
QASN	Qassioun	3.26	15	eP	Pn	11 31 10.0	-1.6
QASN				eS	Pg	11 31 23.3	+0.5
QASN				AML	AML	11 31 28.7	
	comp=N,132nm,0.1s						
QASN				AML	AML	11 31 28.7	
	comp=E,50nm,0.1s						

*DDA **16** 12:02:29.9, 38°.28N×34°.06E, h7km±1km, ML2.7*

*ISCJB **16** 12:02:30.8±0.5, 38°.31N±0°.03×34°.10E±0°.05, h10km, Error ellipse: s-maj=5.7km s-min=4.7km az=150.9*

*ISK **16** 12:02:30.4, 38°.31N×34°.11E, h10km, ML2.5/10*

ISC 16 12:02:31.0±0.9, 38°.29N±0°.03×34°.10E±0°.04, h10km, n24, σ0°.76/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSY	AKSARAY - Alti	0.45	324	i P	Pg	12 02 39.7	-0.2
SULT	Sultanhani-AKS	0.47	260	PG	Pg	12 02 40.3	+0.1
SULT				SG	Sg	12 02 47.4	+1.1
YAYX	Yaylak	0.69	341	PG	Pg	12 02 43.7	-0.7
YAYX				SG	Sg	12 02 53.4	-0.1
KIRS	Kırehir-Merke	0.86	351	IAML_P			
	comp=Z,1μm,0.2s						
KIRS				i P	Pg	12 02 47.3	-0.3
CHBY	Cihanbeyli	0.99	288	PG	Pg	12 02 49.8	-0.4
GULE	Gulek	1.14	151	IAML_P			
	comp=Z,480nm,0.2s						
GULE				i P	Pb	12 02 52.3	-0.5

SIRC *i* P **Pn** **12 02 56.4 +0.6**
AKO Adana 1.35 127 IAML_P
comp=Z,288nm,0.2s
AKO *i* P **Pn** **12 02 54.9 -1.0**
CDAG Cicekdag 1.35 9 IAML_P
comp=Z,686nm,0.2s
CDAG *i* P **Pn** **12 02 56.4 +0.3**
LADK Ladik-KONYA 1.37 267 PN **Pn** **12 02 55.4 -0.9**
AFSR Afar-Bala (An 1.41 326 PN **Pn** **12 02 56.6 -0.3**
KONT Konya--Tatoy 1.41 257 PN **Pn** **12 02 56.6 -0.2**
KDHN Kadinhani 1.57 279 IAML_P
comp=Z,312nm,0.2s
KDHN *i* P **Pn** **12 02 59.6 +0.5**
KOZT Kozan 1.59 120 PN **Pn** **12 02 58.9 -0.3**
KOZT SN **Sn** **12 03 20.5 +0.7**
YOZ Yozgat 1.66 35 PN **Pn** **12 02 59.9 -0.4**
DELI KIRIKKALE 1.72 355 IAML_P
comp=Z,247nm,0.2s
DELI *i* P **Pn** **12 03 02.5 +1.4**
KEBE Keben-Mersin 1.86 190 PN **Pn** **12 03 03.7 +0.7**
TEVE Tevekalti-Mers 1.92 196 PN **Pn** **12 03 04.3 +0.5**
CORM Corum 1.94 12 PN **Pn** **12 03 03.8 -0.3**
BERE Bereket-Mersin 2.06 200 PN **Pn** **12 03 06.1 +0.3**
IKL Isikli 2.07 189 PN **Pn** **12 03 06.4 +0.6**
COAL Corum-Alaca 2.08 19 IAML_P
comp=Z,159nm,0.4s
COAL *i* P **Pn** **12 03 08.2 +2.0**
COAL *i* S **Sg** **12 03 38.8 +0.7**

IDC 16 12:17:59.8±1.6, 2°53S×138°73E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.5/35, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=31.6km s-min=16.2km az=161.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.97**	**90**	Pn	Pn	12 18 35.5	+1.0
	3.4nm,0.3s,baz=256,slow=17,SNR=16						
JAY				Lg	Lg	12 19 01.4	
	3.8nm,0.3s,baz=138,slow=12,SNR=6.6						
WRA	**Warramunga Arr**	**17.83**	**194**	P	Pn	12 22 09.1	-0.5
	0.2nm,0.3s,baz=17,slow=10,SNR=13						
FITZ	**Fitzroy Crossi**	**20.11**	**219**	P	P	12 22 33.8	-1.5
	1.8nm,1.0s,baz=45,slow=9.8,SNR=2.5						
ASAR	**Alice Springs**	**21.53**	**192**	P	P	12 22 50.4	-0.2
	2.7nm,1.0s,baz=22,slow=10,SNR=18						
ILAR	**Eielson Array**	**85.66**	**24**	P	P	12 30 40.8	+0.6
	0.7nm,0.7s,baz=266,slow=4.4,SNR=8.9						

*ISCJB **16** 12:18:07.0±0.6, 37°.04N±0°.04×28°.43E±0°.04, h10km±6km, Error ellipse: s-maj=7.3km s-min=4.6km az=42.1*
*DDA **16** 12:18:06.5, 37°.05N×28°.42E, h7km±4km, ML2.4*
*ISK **16** 12:18:06.6, 37°.02N×28°.44E, h10km, ML2.5/9*
ISC 16 12:18:07.5±1.0, 37°.05N±0°.03×28°.43E±0°.03, h13km±8km, n18, σ1§20/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.23**	**141**	PG	**Pb**	**12 18 12.8**	**-0.7**
TURN				SG	**Sg**	**12 18 17.4**	**+1.8**
TURN	**Turunc**	**0.23**	**141**	IAML_P			
	comp=Z,4μm,0.1s						
TURN				*i* P	**Pb**	**12 18 12.8**	**-0.7**
TURN				*i* S	**Sg**	**12 18 18.1**	**+2.5**
DALY	**Dalyan (Mula)**	**0.29**	**142**	PG	**Pg**	**12 18 12.5**	**-1.1**
DALY				SG	**Sg**	**12 18 16.6**	**-1.0**
DALY	**Dalyan (Mula)**	**0.29**	**142**	IAML_P			
	comp=Z,2μm,0.2s						
DALY				*i* P	**Pg**	**12 18 13.2**	**-0.4**
MRSB	**Marmaris-Mugla**	**0.38**	**209**	PG	**Pg**	**12 18 14.3**	**-0.9**
BBRN	**Bozburun-Marma**	**0.47**	**219**	PG	**Pg**	**12 18 16.4**	**-0.4**
TAVA	**DENIZLI_Tavas**	**0.57**	**43**	IAML_P			
	comp=Z,440nm,0.1s						
TAVA				*i* P	**Pg**	**12 18 18.1**	**-0.6**
FETY	**Fethiye**	**0.67**	**128**	PG	**Pg**	**12 18 19.6**	**-1.0**
FETY	**Fethiye**	**0.67**	**128**	*i* P	**Pg**	**12 18 19.1**	**-1.4**
FETY				*i* S	**Sb**	**12 18 29.9**	**-0.4**
DATC	**Datca-Mugla**	**0.68**	**245**	PG	**Pg**	**12 18 20.3**	**-0.4**
AYDN	**Tasoluk**	**0.75**	**325**	IAML_P			
	comp=Z,1μm,0.2s						
AYDN				*i* P	**Pg**	**12 18 22.3**	**+0.2**
AYDN				*i* S	**Sg**	**12 18 31.8**	**-0.1**
DAT	**Datca**	**0.75**	**245**	PG	**Pb**	**12 18 21.9**	**-0.7**
DAT	**Datca**	**0.75**	**245**	*i* P	**Pb**	**12 18 22.4**	**-0.1**
DAT				*i* S	**Sb**	**12 18 32.8**	**0.0**
ARG	**Arkhangelos**	**0.87**	**196**	PG	**Pg**	**12 18 23.7**	**-0.6**
BODT	**Bodrum**	**0.89**	**271**	PG	**Pg**	**12 18 24.2**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.99**	**335**	PG	**Pg**	**12 18 26.4**	**-0.3**
AYDB				SG	**Sn**	**12 18 41.4**	**+0.1**
AKAS	**Kas**	**1.25**	**130**	PN	**Pn**	**12 18 30.4**	**-0.5**
AKAS	**Kas**	**1.25**	**130**	IAML_P			
	comp=Z,485nm,0.1s						
AKAS				*i* P	**Pb**	**12 18 31.1**	**0.0**
AKAS				*i* S	**Sn**	**12 18 51.2**	**+3.6**

IDC 16 12:22:51.3±1.7, 3°75S×142°10E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/35, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=34.5km s-min=17.3km az=55.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.86**	**311**	Pn	Pn	12 23 25.1	+0.6
	baz=135,slow=19						
JAY				Lg	Lg	12 23 50.2	
	3.1nm,0.3s,baz=128,slow=19,SNR=6.0						
WRA	**Warramunga Arr**	**17.78**	**205**	P	Pn	12 26 59.8	-0.7
	0.1nm,0.3s,baz=14,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**21.32**	**201**	P	P	12 27 40.4	+0.3
	1.0nm,0.8s,baz=19,slow=11,SNR=7.8						
ILAR	**Eielson Array**	**85.39**	**24**	P	P	12 35 30.1	-0.2
	0.3nm,0.6s,baz=268,slow=4.5,SNR=5.6						

*ISCJB **16** 12:23:45.1±1.4, 24°.8N±0°.1×94°.85E±0°.09, h112km, mb3.5/2, Error ellipse: s-maj=17.9km s-min=10.2km az=21.5*
*IDC **16** 12:23:48.9±3.5, 24°.53N×94°.84E, h119km±41km, mb3.2/2, mb1 3.3/4, mb1mx2.9/50, mbtmp3.6/4, Error ellipse: s-maj=36.2km s-min=21.4km az=41.0*
ISC 16 12:23:47.2±1.2, 24°.7N±0°.1×94°.82E±0°.09, h112km, n5, σ1§86/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.79**	**288**	*e*PN	**Pn**	**12 24 30.0**	**-0.6**
SHL				*e*SN	**Sn**	**12 25 02.0**	**-2.0**
BRDH	**Bariadhala**	**3.56**	**236**	P	**Pn**	**12 24 41.2**	**+0.5**
	7.4nm,0.3s,baz=97,slow=20,SNR=1.1						
BRDH				S	**Sn**	**12 25 22.2**	**+0.1**
	32nm,0.3s,baz=50,slow=21,SNR=8.3						
CMAR	**Chiang Mai Arr**	**7.33**	**148**	P	**Pn**	**12 25 31.2**	**-0.4**
	0.3nm,0.3s,baz=324,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**24.19**	**339**	P	**P**	**12 28 56.1**	**+3.0**
	0.9nm,0.4s,baz=147,slow=10,SNR=14						
WRA	**Warramunga Arr**	**58.75**	**136**	P	**P**	**12 33 33.4**	**-0.3**
	0.5nm,1.0s,baz=325,slow=7.0,SNR=4.6						

NNC 16 12:33:49.4±1.4, 50°.96N×73°.65E, h0km, mb3.8, mpv3.6, 3C-2D, Error ellipse: s-maj=12.5km s-min=6.5km az=154.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.89**	**317**	⇓Lg	Lg	12 35 19.2	
	4.9nm,1.4s,baz=135,slow=34,SNR=5.1						
KURBB	**Kurchatov Arra**	**3.11**	**94**	⇑Pg	Pb	12 34 47.3	+1.7
	4.2nm,0.7s						
KURBB				⇑Lg	Lg	12 35 30.4	
	43nm,0.8s						
SEM	**Semipalatinsk**	**4.23**	**95**	Pg	Pb	12 35 05.0	+0.2
	7.8nm,0.1s						
SEM				Lg	Lg	12 35 57.5	
	34nm,0.2s						
KAPS	**Kapalarasan**	**6.84**	**144**	Pg	Pb	12 35 54.6	+5.4
	0.5nm,0.4s						
KAPS				Lg	Lg	12 37 23.2	
	6.8nm,0.6s						
MAKZ	**Makanchi**	**6.88**	**124**	⇑Lg	Lg	12 37 25.8	
	5.0nm,0.8s						
MK31	**Makanchi Array**	**7.06**	**123**	⇓Lg	Lg	12 37 30.3	
	5.0nm,0.9s,baz=314,slow=24,SNR=6.0						
ARXS	**Arharly**	**7.32**	**156**	Pg	Pg	12 36 04.0	-5.5
	6.3nm,0.7s						
ARXS				Lg	Lg	12 37 39.5	
	6.6nm,0.8s						
DJR	**Jarkent**	**7.82**	**146**	Pg	Pg	12 36 14.8	-4.3
	0.9nm,0.4s						
DJR				Lg	Lg	12 37 57.3	
	3.1nm,0.7s						
ZSN	**Zaisan**	**8.14**	**111**	Pg	Pb	12 36 13.8	+2.6
	2.5nm,0.3s						
ZSN				Lg	Lg	12 37 56.0	
	3.2nm,0.6s						

*IDC **16** 12:42:32.5±0.7, 3°.22N×127°.19E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/40, mbtmp3.9/11, MS3.0/5, Ms1 3.1/5, ms1mx2.7/41, Error ellipse: s-maj=35.4km s-min=14.4km az=75.0*
*DJA **16** 12:42:33.0±2.4, 4°N±16°×12°7E±1°6, h10km, M4.3/5, mb4.6/3, mB5.1/2, MLv4.2/5, Mw(mB)4.4/2*
*ISCJB **16** 12:42:37.0±0.4, 3°.26N±0°.05×127°.23E±0°.07, h48km, mb4.0/15, MS2.9/4, Error ellipse: s-maj=10.5km s-min=6.9km az=178.5*
*NEIC **16** 12:42:40.2±1.5, 3°.18N×127°.25E, h60km±5km, mb4.2/6, Error ellipse: s-maj=30.0km s-min=13.8km az=84.0*
ISC 16 12:42:39.1±0.6, 3°.26N±0°.07×127°.21E±0°.10, h48km, n41, σ1§32/37, mb4.0/15, MS2.8/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.73**	**284**	P	**Pn**	**12 43 04.3**	**-2.4**
TNTI	**Ternate**	**2.47**	**176**	*e*Pn	**Pn**	**12 43 17.1**	**+0.1**
TNTI	**Ternate**	**2.47**	**176**	P	**Pn**	**12 43 16.8**	**-0.2**
KMSI	**Cibinong**	**4.18**	**230**	P	**Pn**	**12 43 40.7**	**+0.3**
MRSI	**Marisa**	**5.94**	**242**	P	**Pn**	**12 44 04.9**	**+0.3**
	22nm,0.5s,414nm						
LUWI	**Luwuk**	**6.15**	**226**	*e*Pn	**Pn**	**12 44 08.5**	**+1.0**
LUWI	**Luwuk**	**6.15**	**226**	P	**Pn**	**12 44 09.4**	**+1.9**
	55nm,1.0s,4μm						
APSI	**Ampana**	**6.93**	**233**	P	**Pn**	**12 44 18.1**	**0.0**
JAY	**Jayapura**	**14.66**	**113**	LR	LR	12 51 02.2	
	comp=Z,69nm,20.0s,baz=160,slow=35						
GUMO	**Guam**	**20.25**	**58**	LR	LR	12 54 02.5	
	comp=Z,35nm,21.9s,baz=238,slow=34						
FITZ	**Fitzroy Crossi**	**21.28**	**184**	*e*P	**P**	**12 47 20.5**	**-1.1**
	14nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.28**	**184**	P	**P**	**12 47 20.5**	**-1.1**
	3.1nm,0.5s,baz=8.3,slow=6.8,SNR=7.6						
CISI	**Cisompet, Garu**	**22.13**	**241**	*e*Sn	Sn	12 51 47.3	+1.8
WR1	**Warramunga Arr**	**24.10**	**163**	*e*P	**P**	**12 47 49.6**	**-0.9**
WRA	**Warramunga Arr**	**24.10**	**163**	P	**P**	**12 47 49.6**	**-0.9**
	2.7nm,0.5s,baz=343,slow=12,SNR=37						
WRA				PcP	**PcP**	**12 51 32.7**	**+1.7**
	0.2nm,0.6s,baz=327,slow=1.6,SNR=3.3						
WB2	**Warramunga Arr**	**24.10**	**163**	*e*P	**P**	**12 47 50.0**	**-0.4**
	6.3nm,0.8s						
ASAR	**Alice Springs**	**27.55**	**167**	P	**P**	**12 48 21.0**	**-0.6**
	0.3nm,0.5s,baz=355,slow=8.1,SNR=11						
ASAR				PcP	**PcP**	**12 51 40.5**	**+1.6**
	0.5nm,0.7s,baz=356,slow=2.9,SNR=6.1						
WHN	**Wuhan**	**29.74**	**337**	P	**P**	**12 48 43.8**	**+2.8**
CMAR	**Chiang Mai Arr**	**31.52**	**301**	P	**P**	**12 48 56.2**	**-0.7**
	1.0nm,0.8s,baz=106,slow=6.6,SNR=5.3						
CMAR				LR	LR	13 02 03.3	
	comp=Z,20nm,20.1s,baz=185,slow=37						
MJAR	**Matsushiro Arr**	**34.64**	**16**	LR	LR	13 04 04.0	
	comp=Z,19nm,20.1s,baz=195,slow=37						
STKA	**Stephens Creek**	**37.52**	**160**	*e*P	**P**	**12 49 46.3**	**-2.3**
	8.0nm,1.8s						
STKA	**Stephens Creek**	**37.52**	**160**	P	**P**	**12 49 46.3**	**-2.3**
	1.4nm,0.4s,baz=330,slow=8.6,SNR=4.7						
ASAJ	**Asahikawa**	**42.91**	**16**	P	**P**	**12 50 34.1**	**+1.1**
	2.2nm,0.7s,baz=186,slow=10,SNR=3.4						
PALK	**Pallekele**	**46.46**	**277**	LR	LR	13 09 57.4	
	comp=Z,48nm,21.9s,baz=116,slow=35						
SONA0	**Songino Array**	**47.90**	**341**	*e*P	**P**	**12 51 12.3**	**-0.4**
SONM	**Songino Array**	**47.90**	**341**	P	**P**	**12 51 12.3**	**-0.4**
	0.4nm,0.4s,baz=166,slow=7.4,SNR=2.8						
PETK	**Petropavlovsk-**	**55.69**	**22**	P	**P**	**12 52 09.5**	**-1.0**
	1.2nm,0.7s,baz=205,slow=3.0,SNR=3.0						
PEA1	**Petropavlovsk-**	**55.69**	**22**	*e*P	**P**	**12 52 09.5**	**-1.0**
MK31	**Makanchi Array**	**58.21**	**325**	*e*P	**P**	**12 52 28.0**	**-0.5**
	1.2nm,0.9s						
MK32	**Makanchi Array**	**58.21**	**325**	*e*P	**P**	**12 52 28.4**	**-0.1**
MKAR	**Makanchi Array**	**58.21**	**325**	P	**P**	**12 52 28.5**	**-0.1**
	0.7nm,0.5s,baz=123,slow=8.8,SNR=6.7						
KSH	**Kashi**	**58.71**	**315**	P	**P**	**12 52 36.1**	**+3.8**
ZALV	**Zalesovo Beam**	**61.22**	**333**	P	**P**	**12 52 49.9**	**+0.8**
	0.8nm,0.6s,baz=111,slow=8.1,SNR=4.4						
ZAA1	**Zalesovo Array**	**61.23**	**333**	*e*P	**P**	**12 52 49.9**	**+0.8**
KURK	**Kurchatov**	**62.39**	**327**	*e*P	**P**	**12 52 57.0**	**+0.1**
	3.4nm,0.9s						
ABKAR	**Akbulak array**	**72.81**	**321**	*e*P	**P**	**12 54 02.7**	**-0.1**
	4.1nm,1.5s						
BR101	**Keskin Array S**	**90.69**	**310**	*e*P	**P**	**12 55 37.4**	**+0.2**
BRTR	**Keskin Array B**	**90.69**	**310**	P	**P**	**12 55 37.4**	**+0.2**
	0.5nm,0.6s,baz=108,slow=4.7,SNR=3.6						
H02S1	**DAWSON INLET T**	**93.58**	**36**	T	T	14 38 02.7	
	SNR=125						
TORD	**Torodi Ar. Bea**	**123.52**	**288**	PKP	**PKiKP**	**13 01 32.5**	**0.0**
	0.8nm,0.8s,baz=64,slow=3.4,SNR=4.1						
TOA1	**Torodi Ar. Sit**	**123.52**	**288**	*e*PKPdf	**PKiKP**	**13 01 32.5**	**0.0**

*ISCJB **16** 12:49:09.6±0.4, 19°.00S±0°.06×169°.63E±0°.07, h246km, mb4.2/20, Error ellipse: s-maj=10.2km s-min=8.2km az=27.7*
*IDC **16** 12:49:13.7±1.7, 19°.10S×169°.54E, h273km±14km, mb3.9/15, mb1 4.1/16, mb1mx3.8/37, mbtmp4.5/16, Error ellipse: s-maj=14.5km s-min=10.9km az=65.0*
*NEIC **16** 12:49:15.3±2.0, 19°.20S×169°.56E, h293km±7km, mb4.3/23, Error ellipse: s-maj=21.9km s-min=18.0km az=109.0*
ISC 16 12:49:10.4±0.5, 19°.00S±0°.07×169°.70E±0°.09, h246km, n48, σ1§66/49, mb4.3/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.92**	**212**	*e*Pn	**Pn**	**12 50 04.9**	**+3.1**
PINNC	**Pines Island,**	**4.17**	**210**	*e*Pn	**Pn**	**12 50 18.9**	**+3.0**
DZM	**Mont Dzumac**	**4.32**	**224**	P	**Pn**	**12 50 21.4**	**+3.4**
	15nm,0.3s,baz=59,slow=16,SNR=348						
DZM				S	**S**	**12 51 12.8**	**+1.3**
	5.0nm,0.3s,baz=319,slow=18,SNR=3.4						
OUENC	**Ouen Island, N**	**4.33**	**218**	*e*Pn	**Pn**	**12 50 21.2**	**+3.3**
ONTNC	**Ouen Toro**	**4.48**	**222**	*e*Pn	**Pn**	**12 50 23.1**	**+3.3**
OUZ	**Omahuta**	**16.52**	**169**	*e*P	**Pn**	**12 52 49.0**	**+0.3**
	54nm,1.1s						
EIDS	**Eidsvold**	**18.36**	**246**	*e*P	**Pn**	**12 53 08.7**	**-1.8**
	9.5nm,0.6s						
ARMA	**Armidale**	**19.94**	**232**	*e*P	**P**	**12 53 25.2**	**+1.0**
	18nm,0.7s						
URZ	**Urewera**	**20.24**	**163**	P	**P**	**12 53 28.5**	**+1.3**
	5.7nm,0.5s,baz=277,slow=2.7,SNR=13						
URZ				S	**S**	**12 57 01.0**	**+0.9**
	4.8nm,0.9s,baz=192,slow=21,SNR=5.0						
BKZ	**Black Stump Fm**	**20.94**	**165**	*e*P	**P**	**12 53 35.1**	**+0.5**
	15nm,1.2s						
CTA	**Charters Tower**	**22.12**	**263**	P	**P**	**12 53 46.8**	**+0.7**
	7.2nm,0.6s,baz=102,slow=13,SNR=3.2						
RPZ	**Rata Peaks**	**24.66**	**178**	P	**P**	**12 54 08.6**	**-0.2**
	12nm,0.7s,baz=205,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**28.34**	**238**	*e*P	**P**	**12 54 41.8**	**-0.1**
	3.4nm,0.7s						
STKA	**Stephens Creek**	**28.34**	**238**	P	**P**	**12 54 41.4**	**-0.4**
	16nm,0.7s,baz=66,slow=8.5,SNR=32						
WB2	**Warramunga Arr**	**33.31**	**262**	*e*P	**P**	**12 55 24.5**	**-0.9**
	8.0nm,1.1s						
WR1	**Warramunga Arr**	**33.32**	**262**	*e*P	**P**	**12 55 24.3**	**-1.2**
WRA	**Warramunga Arr**	**33.32**	**262**	P	**P**	**12 55 24.3**	**-1.2**
	3.5nm,0.5s,baz=91,slow=8.3,SNR=40						
AS31	**Alice Springs**	**33.61**	**256**	*e*P	**P**	**12 55 27.3**	**-0.7**
	20nm,0.4s						
ASAR	**Alice Springs**	**33.61**	**256**	P	**P**	**12 55 27.2**	**-0.8**
	32nm,0.6s,baz=82,slow=9.2,SNR=868						
FITZ	**Fitzroy Crossi**	**41.70**	**264**	*e*P	**P**	**12 56 36.0**	**+0.4**
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.70**	**264**	P	**P**	**12 56 35.9**	**+0.2**
	11nm,0.7s,baz=92,slow=6.8,SNR=38						
NWAO	**Narrogin (SRO)**	**48.71**	**243**	P	**P**	**12 57 29.3**	**-1.1**
	8.1nm,0.6s,baz=83,slow=4.2,SNR=5.9						
VNDA	**Vanda**	**58.68**	**182**	P	**P**	**12 58 40.6**	**-1.1**
	1.2nm,0.7s,baz=352,slow=8.0,SNR=6.5						
MJAR	**Matsushiro Arr**	**62.75**	**332**	P	**P**	**12 59 10.8**	**+1.1**
	1.5nm,0.8s,baz=177,slow=8.4,SNR=6.0						
MAJO	**Matsushiro**	**62.75**	**332**	*e*P	**P**	**12 59 10.8**	**+1.1**
NJ2	**Nanjing**	**70.35**	**316**	*e*P	**P**	**12 59 57.0**	**-0.7**
QSPA	**South Pole Qui**	**71.05**	**180**	*e*P	**P**	**12 59 59.6**	**-2.0**
	6.5nm,1.0s						
PETK	**Petropavlovsk-**	**72.56**	**352**	P	**P**	**13 00 12.3**	**+1.9**
	4.3nm,0.8s,baz=138,slow=6.4,SNR=6.1						
PEA1	**Petropavlovsk-**	**72.56**	**352**	*e*P	**P**	**13 00 12.3**	**+1.8**
KHMM	**Horse Mountain**	**85.74**	**44**	*e*P	**P**	**13 01 24.7**	**+2.6**
	15nm,1.0s						
SONA0	**Songino Array**	**87.30**	**323**	*e*P	**P**	**13 01 29.7**	**+0.2**
SONM	**Songino Array**	**87.30**	**323**	P	**P**	**13 01 29.7**	**+0.2**
	0.8nm,0.7s,baz=145,slow=5.0,SNR=5.0						
NVAR	**Mina Array Bea**	**88.32**	**48**	P	**P**	**13 01 36.3**	**+1.7**
	2.1nm,0.7s,baz=227,slow=8.4,SNR=18						
MOD	**Modoc Plateau**	**88.49**	**45**	*e*P	**P**	**13 01 36.4**	**+1.2**
	7.4nm,1.1s						
SNAA	**Sanae**	**89.42**	**182**	Pdiff	**P**	**13 01 36.6**	**-2.5**
ILAR	**Eielson Array**	**89.88**	**17**	P	**P**	**13 01 40.3**	**-0.7**
	1.1nm,0.8s,baz=236,slow=5.1,SNR=18						
BMN	**Battle Mountai**	**89.93**	**47**	*e*P	**P**	**13 01 42.4**	**+0.4**
	5.4nm,1.1s						
VNA3	**Neumayer Olymp**	**89.99**	**180**	Pdiff	**P**	**13 01 39.1**	**-2.6**
VNA2	**Neumayer--Watz**	**90.29**	**181**	Pdiff	**P**	**13 01 40.7**	**-2.3**
	baz=171,slow=4.5						
TXAR	**Lajitas Array**	**96.27**	**61**	P	**P**	**13 02 12.3**	**+1.0**
	0.5nm,0.7s,baz=234,slow=6.0,SNR=8.7						
YKA	**Yellowknife Ar**	**100.26**	**27**	P	**Pdif**	**13 02 29.8**	**+1.6**
	0.4nm,0.6s,baz=257,slow=4.8,SNR=14						
ARA0	**ARCESS Array S**	**124.95**	**345**	*e*PKPdf	**PKPdf**	**13 07 39.6**	**-0.9**
ARCES	**ARCESS Array B**	**124.95**	**345**	PKP	**PKPdf**	**13 07 39.6**	**-0.9**
	1.3nm,0.6s,baz=70,slow=3.0,SNR=12						
CLL	**Collm**	**142.89**	**336**	*i* PKPdf	**PKPdf**	**13 08 13.2**	**-1.3**
GERES	**GERESS Array B**	**144.49**	**332**	PKP	**PKPab**	**13 08 16.5**	**-0.1**
	1.2nm,0.5s,baz=46,slow=3.9,SNR=3.8						
IDI	**Anoyia**	**144.96**	**305**	PKP	PKPbc	13 08 17.6	-0.9
	2.7nm,0.4s,baz=113,slow=7.7,SNR=4.9						
TORD	**Torodi Ar. Bea**	**167.09**	**245**	PKPab	**PKPab**	**13 09 51.3**	**-1.9**
	0.7nm,0.9s,baz=126,slow=4.3,SNR=3.5						
TOA1	**Torodi Ar. Sit**	**167.10**	**245**	*e*PKPab	**PKPab**	**13 09 51.3**	**-1.9**

IDC 16 12:56:54.0±2.2, 7°42S×126°91E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/49, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=106.7km s-min=29.2km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.69**	**187**	Pn	Pn	12 59 29.7	+1.1
	0.3nm,0.3s,baz=10,slow=11,SNR=11						
FITZ				Sn	Sn	13 01 21.1	-8.0
	0.3nm,0.3s,baz=353,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**14.39**	**151**	Pn	Pn	13 00 18.0	-1.2
	0.3nm,0.3s,baz=323,slow=14,SNR=14						
WRA				Sn	Sn	13 02 51.5	-8.1
	0.2nm,0.3s,baz=336,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**17.50**	**158**	P	Pn	13 00 59.3	-0.4
	0.1nm,0.3s,baz=331,slow=11,SNR=10						
ASAR				S	Sn	13 04 05.8	-10
	0.1nm,0.3s,baz=317,slow=19,SNR=3.9						
MKAR	**Makanchi Array**	**66.93**	**328**	P	P	13 07 48.4	0.0
	0.2nm,0.5s,baz=118,slow=8.3,SNR=2.8						

*DDA **16** 12:58:09.8, 38°.98N×26°.05E, h28km, ML3.6*
*ISCJB **16** 12:58:10.3±0.3, 38°.97N±0°.01×26°.02E±0°.02, h11km±2km, Error ellipse: s-maj=2.6km s-min=2.2km az=179.5*
*ISK **16** 12:58:10.2, 38°.96N×26°.05E, h10km, ML3.7/22*
*ATH **16** 12:58:10.2, 38°.97N×26°.06E, h26km±1km, ML3.3/17, Error ellipse: s-maj=1.6km s-min=0.9km az=91.0*
*THE **16** 12:58:11.2, 38°.97N×26°.05E, h8km±1km, ML3.6/4, Error ellipse: s-maj=1.6km s-min=0.6km az=75.0*
ISC 16 12:58:10.6±0.9, 38°.96N±0°.02×26°.09E±0°.02, h12km±8km, n113, σ0§65/142, 10C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.31**	**325**	PG	**Pg**	**12 58 16.9**	**0.0**
SIGR				SG	**Sg**	**12 58 21.2**	**+0.1**
SIGR	**SIGRI**	**0.31**	**325**	P	**Pg**	**12 58 16.9**	**0.0**
SIGR				S	**Sg**	**12 58 21.3**	**+0.1**
SIGR	**SIGRI**	**0.31**	**325**	P	**Pg**	**12 58 16.9**	**0.0**
SIGR				S	**Sg**	**12 58 21.8**	**+0.6**
SIGR				AML	AML	12 58 22.0	
	comp=E,40489μm,0.6s						
SIGR				AML	AML	12 58 24.4	
	comp=N,26076μm,0.5s						
PRK	**Paraskevi**	**0.32**	**27**	P	**Pb**	**12 58 18.1**	**-0.1**
PRK				S	**Sb**	**12 58 22.5**	**-0.8**
PRK	**Paraskevi**	**0.32**	**27**	P	**Pb**	**12 58 18.3**	**+0.1**
PRK				S	**Sb**	**12 58 22.7**	**-0.6**
PRK				AML	AML	12 58 23.5	
	comp=N,72334μm,0.4s						
PRK				AML	AML	12 58 23.8	
	comp=E,55509μm,0.4s						
GPNR	**Gulpinar-Canak**	**0.50**	**4**	PG	**Pg**	**12 58 20.2**	**-0.1**
KRBN	**Karaburun**	**0.52**	**135**	PG	**Pb**	**12 58 21.4**	**-0.1**
KRBN				SG

	comp=Z,6μm,0.3s						
AKHS				*i* P	**Pg**	**12 58 36.1**	**-0.4**
AKHS				*i* S	**Sg**	**12 58 54.9**	**+0.8**
AKS	**Akhisar**	**1.35**	**93**	PN	**Pb**	**12 58 35.6**	**-0.2**
SMG	**Samos**	**1.38**	**154**	P	**Pn**	**12 58 35.6**	**0.0**
SMG	**Samos**	**1.38**	**154**	P	**Pn**	**12 58 35.7**	**+0.1**
SMG				S	**Sg**	**12 58 56.1**	**+1.1**
SMG				AML	AML	12 59 00.5	
	comp=E,4197μm,0.5s						
SMG				AML	AML	12 59 04.7	
	comp=N,2778μm,0.5s						
GELI	**Tayfur-Gelibol**	**1.47**	**12**	PN	**Pn**	**12 58 36.9**	**+0.1**
GELI				SN	**Sg**	**12 58 57.4**	**-0.4**
LPK	**Lapseki**	**1.50**	**20**	PN	**Pb**	**12 58 37.8**	**-0.6**
LPK				SN	**Sg**	**12 58 58.2**	**-0.8**
GCAM	**G?zelcaml?**	**1.55**	**144**	PN	**Pb**	**12 58 38.5**	**-0.6**
GCAM	**G?zelcaml?**	**1.55**	**144**	IAML_P			
	comp=Z,5μm,0.3s						
GCAM				*i* P	**Pg**	**12 58 39.6**	**-0.6**
BALB	**Balikesir**	**1.55**	**63**	PN	**Pb**	**12 58 38.7**	**-0.4**
SMTH	**Samothraki Isl**	**1.57**	**344**	P	**Pn**	**12 58 38.0**	**-0.2**
SMTH	**Samothraki Isl**	**1.57**	**344**	P	**Pn**	**12 58 38.6**	**+0.4**
SMTH				S	**Sn**	**12 58 58.4**	**-0.1**
SMTH				AML	AML	12 59 03.3	
	comp=N,1165μm,0.4s						
SMTH				AML	AML	12 59 03.5	
	comp=E,1275μm,0.6s						
TNSA	**Tinos**	**1.59**	**207**	P	**Pn**	**12 58 37.5**	**-1.0**
GONE	**Gonen-Balikesi**	**1.65**	**48**	PN	**Pb**	**12 58 39.9**	**-0.9**
KRBG	**Karabiga-Canak**	**1.71**	**33**	PN	**Pn**	**12 58 40.7**	**+0.6**
KNL	**Balıkesir**	**1.72**	**40**	IAML_P			
	comp=Z,6μm,0.3s						
KNL				*i* P	**Pn**	**12 58 40.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.74**	**125**	PN	**Pb**	**12 58 41.5**	**-1.0**
EREA	**Eretria**	**1.77**	**253**	P	**Pn**	**12 58 40.3**	**-0.7**
EREA				AML	AML	12 59 16.6	
	comp=E,501μm,0.6s						
EREA				AML	AML	12 59 16.8	
	comp=N,760μm,0.6s						
DION	**Dionisos Attik**	**1.90**	**243**	P	**Pn**	**12 58 42.6**	**-0.2**
DION	**Dionisos Attik**	**1.90**	**243**	P	**Pn**	**12 58 42.4**	**-0.4**
DION				S	**Sn**	**12 59 05.7**	**-1.0**
DION				AML	AML	12 59 21.6	
	comp=E,676μm,1.1s						
DION				AML	AML	12 59 30.7	
	comp=N,432μm,1.0s						
AYDN	**Tasoluk**	**1.92**	**132**	IAML_P			
	comp=Z,1μm,0.2s						
AYDN				*i* P	**Pb**	**12 58 44.2**	**-1.2**
KESN	**Edirne-Kesan**	**1.92**	**14**	IAML_P			
	comp=Z,1μm,0.4s						
KESN				*i* P	**Pn**	**12 58 43.6**	**+0.2**
SART	**Tekirdag**	**1.92**	**26**	IAML_P			
	comp=Z,2μm,0.1s						
SART				*i* P	**Pn**	**12 58 40.7**	**-2.4**
ALN	**Alexandroupoli**	**1.94**	**359**	P	**Pn**	**12 58 43.7**	**+0.5**
ALN	**Alexandroupoli**	**1.94**	**359**	P	**Pn**	**12 58 43.8**	**+0.6**
ALN				S	**Sn**	**12 59 07.8**	**+0.4**
ALN				AML	AML	12 59 13.0	
	comp=E,1020μm,0.4s						
ALN				AML	AML	12 59 13.9	
	comp=N,997μm,0.4s						
APE	**Apeiranthos**	**1.94**	**193**	PN	**Pn**	**12 58 43.4**	**+0.1**
APE	**Apeiranthos**	**1.94**	**193**	P	**Pn**	**12 58 43.0**	**-0.3**
APE	**Apeiranthos**	**1.94**	**193**	⇑*i* P	**Pn**	**12 58 42.5**	**-0.8**
APE	**Apeiranthos**	**1.94**	**193**	S	**Sn**	**12 59 07.6**	**0.0**
APE	**Apeiranthos**	**1.94**	**193**	P	**Pn**	**12 58 42.9**	**-0.3**
APE				AML	AML	12 59 20.6	
	comp=E,488μm,0.5s						
APE				AML	AML	12 59 21.9	
	comp=N,532μm,0.5s						
EDC	**Edincik**	**1.95**	**44**	PN	**Pn**	**12 58 44.2**	**+0.8**
THAS	**Thassos island**	**1.95**	**328**	P	**Pn**	**12 58 43.4**	**0.0**
THAS				AML	AML	12 59 15.2	
	comp=E,528μm,0.7s						
THAS				AML	AML	12 59 16.0	
	comp=N,638μm,0.5s						
DURS	**Dursunbey**	**1.96**	**70**	IAML_P			
	comp=Z,5μm,0.4s						
DURS				*i* P	**Pn**	**12 58 44.7**	**+1.1**
DURS				*i* S	**Sb**	**12 59 10.8**	**+0.2**
MRKA	**Markates**	**1.97**	**263**	P	**Pn**	**12 58 43.8**	**+0.1**
MRKA				S	**Sn**	**12 59 08.3**	**0.0**
MRKA				AML	AML	12 59 18.9	
	comp=E,435μm,0.6s						
MRKA				AML	AML	12 59 30.3	
	comp=N,518μm,0.9s						
MANT	**Manisa**	**1.99**	**103**	*i* P	**Pb**	**12 58 45.6**	**-1.2**
SKIA	**Skiathos**	**2.05**	**277**	P	**Pn**	**12 58 45.1**	**+0.3**
SKIA				AML	AML	12 59 24.8	
	comp=N,533μm,0.6s						
SKIA				AML	AML	12 59 27.7	
	comp=E,443μm,0.7s						
KULA	**Kula-Manisa**	**2.06**	**102**	PN	**Pn**	**12 58 46.2**	**+1.2**
KULA	**Kula-Manisa**	**2.06**	**102**	P	**Pn**	**12 58 45.8**	**+0.8**
PAIG	**Paliouri**	**2.10**	**298**	P	**Pn**	**12 58 45.6**	**+0.2**
VLY	**Voula,Athens**	**2.11**	**239**	P	**Pn**	**12 58 45.7**	**0.0**
BODT	**Bodrum**	**2.13**	**153**	PN	**Pn**	**12 58 46.2**	**+0.3**
OUR	**Ouranopolis**	**2.13**	**311**	P	**Pn**	**12 58 46.3**	**+0.5**
OUR	**Ouranopolis**	**2.13**	**311**	P	**Pn**	**12 58 46.4**	**+0.6**
AMGA	**Amorgos Island**	**2.13**	**184**	P	**Pn**	**12 58 45.2**	**-0.7**
AMGA	**Amorgos Island**	**2.13**	**184**	P	**Pn**	**12 58 45.1**	**-0.8**
SERI	**Serifos**	**2.19**	**216**	P	**Pn**	**12 58 47.6**	**+0.8**
SERI				AML	AML	12 59 28.8	
	comp=E,614μm,0.6s						
SERI				AML	AML	12 59 32.5	
	comp=N,495μm,0.6s						
RDO	**Rodhopi**	**2.23**	**349**	P	**Pn**	**12 58 47.7**	**+0.5**
XOR	**Xorichti**	**2.29**	**281**	P	**Pn**	**12 58 48.2**	**+0.1**
USAK	**Uak-Merkez**	**2.30**	**95**	*i* P	**Pn**	**12 58 49.7**	**+1.4**
VIL2	**Platees**	**2.33**	**252**	P	**Pn**	**12 58 48.8**	**+0.1**
VIL2				AML	AML	12 59 43.2	
	comp=E,592μm,0.8s						
VIL2				AML	AML	12 59 44.1	
	comp=N,409μm,1.1s						
ATAL	**Atalanti**	**2.41**	**265**	P	**Pn**	**12 58 49.9**	**+0.1**
SHAP	**Saphane-Kutahy**	**2.44**	**88**	PN	**Pn**	**12 58 51.5**	**+1.2**
DAT	**Datca**	**2.52**	**152**	PN	**Pn**	**12 58 51.8**	**+0.4**
ANAF	**Anafi Island**	**2.61**	**186**	P	**Pn**	**12 58 52.4**	**-0.1**
ANAF	**Anafi Island**	**2.61**	**186**	P	**Pn**	**12 58 52.1**	**-0.4**
ULDT	**Uludag**	**2.64**	**62**	IAML_P			
	comp=Z,491nm,0.3s						
ULDT				*i* P	**Pn**	**12 58 53.7**	**+0.6**
GDZ	**Gediz**	**2.65**	**86**	*i* P	**Pb**	**12 58 58.3**	**+0.4**
DID	**Didima**	**2.67**	**238**	P	**Pn**	**12 58 54.1**	**+0.7**
EPID	**Epidavros**	**2.69**	**241**	P	**Pn**	**12 58 53.5**	**-0.2**
KHAL	**Karahalli**	**2.73**	**101**	*i* P	**Pn**	**12 58 55.3**	**+1.0**
PHSR	**Pinarhisar**	**2.89**	**22**	⇓*i* P	**Pn**	**12 58 57.2**	**+0.9**
PHSR	**Pinarhisar**	**2.89**	**22**	S	**Sn**	**12 59 32.5**	**+1.6**
AGG	**Agios Georgios**	**2.93**	**272**	P	**Pn**	**12 58 57.9**	**+1.0**
BUY	**Buyukada**	**3.00**	**50**	IAML_P			
	comp=Z,1μm,0.4s						
BUY				*i* P	**Pg**	**12 59 06.8**	**-1.3**
CTYL	**Yalikoy Yolu**	**3.03**	**33**	⇓*i* P	**Pn**	**12 58 58.9**	**+0.7**
CTYL	**Yalikoy Yolu**	**3.03**	**33**	S	**Sn**	**12 59 36.2**	**+1.9**
GUR	**Goura**	**3.11**	**252**	P	**Pn**	**12 59 01.0**	**+1.5**
KLYT	**Kilyos**	**3.22**	**44**	⇓*i* P	**Pn**	**12 59 01.4**	**+0.5**
VLI	**Velíai**	**3.35**	**229**	P	**Pn**	**12 59 02.8**	**+0.1**
VAY	**Valandovo**	**3.58**	**312**	*i* Pn	**Pn**	**12 59 06.9**	**+1.1**
STIP	**Stip**	**4.04**	**314**	*i* Pn	**Pn**	**12 59 12.5**	**+0.3**
VTS	**Vitosha**	**4.25**	**330**	⇑*i* P	**Pn**	**12 59 15.8**	**+0.6**
TLB	**Topalu**	**5.81**	**14**	⇑*i* P	**Pn**	**12 59 37.3**	**+0.9**
HERR	**Herculane**	**6.52**	**336**	⇑*i* P	**Pn**	**12 59 46.1**	**-0.1**
VOIR		**6.52**	**354**	⇑*i* P	**Pn**	**12 59 46.0**	**-0.3**
MLR	**Muntele Rosu**	**6.53**	**359**	⇓*i* P	**Pn**	**12 59 46.2**	**-0.3**
MDVR	**Moldovita**	**6.67**	**332**	⇓*i* P	**Pn**	**12 59 47.8**	**-0.5**
LOT	**Lotru**	**6.71**	**346**	⇓*i* P	**Pn**	**12 59 49.7**	**+0.8**
GZR	**Gura Zlata**	**6.88**	**340**	⇑*i* P	**Pn**	**12 59 51.6**	**+0.3**
PLOR	**Plostina**	**6.90**	**3**	⇑*i* P	**Pn**	**12 59 52.5**	**+1.0**
VRI	**Vrincioaia**	**6.92**	**4**	⇑*i* P	**Pn**	**12 59 52.4**	**+0.7**
BZS	**Buzias**	**7.43**	**335**	⇑*i* P	**Pn**	**12 59 59.0**	**+0.3**
BIZ	**Bicaz**	**7.98**	**0**	⇑*i* P	**Pn**	**13 00 06.9**	**+0.7**

*NNC **16** 12:59:08.8±2.4, 39°.47N×74°.17E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=21.3km s-min=12.5km az=149.0*

ISC 16 12:59:07.4±3.3, 39°.2N±0°.3×74°.08E±0°.08, h28km, n14, σ1§65/16, 10C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.45**	**5**	⇑Pn	**Pn**	**13 00 01.1**	**+1.8**
	15nm,0.6s						
AAK				⇑Lg	Lg	13 00 50.6	
	36nm,0.8s						
MRKS	**Merke**	**3.60**	**350**	Pg	**Pb**	**13 00 08.2**	**-2.2**
	11nm,0.5s						
MRKS				Lg	Lg	13 00 57.2	
	8.7nm,0.7s						
TKM2	**Tokmak 2**	**3.89**	**17**	⇓Pn	**Pn**	**13 00 07.8**	**+2.3**
	4.7nm,0.7s						
TKM2				⇑Pg	**Pb**	**13 00 16.1**	**+0.7**
	9.4nm,0.7s						
TKM2				⇑Lg	Lg	13 01 05.2	
	42nm,1.3s						
KST	**Kastek**	**4.09**	**20**	Pg	**Pb**	**13 00 16.8**	**-2.0**
	14nm,0.5s						
KST				Lg	Lg	13 01 12.1	
	27nm,0.6s						
MDOK	**Medeo**	**4.55**	**29**	⇑Pg	**Pb**	**13 00 25.7**	**-0.9**
MDOK				⇑Lg	Lg	13 01 24.0	
KNDC	**Almaty**	**4.57**	**28**	⇑Pg	**Pb**	**13 00 29.2**	**+2.4**
KNDC				⇑Lg	Lg	13 01 24.9	
KOTS	**Kotyrbulak**	**4.63**	**29**	Pg	**Pb**	**13 00 26.9**	**-1.1**
	9.5nm,0.5s						
KOTS				Lg	Lg	13 01 29.0	
	26nm,0.8s						
KK31	**Karatay Array**	**4.74**	**327**	Pn	**Pn**	**13 00 18.5**	**+1.5**
	3.2nm,0.8s,baz=136,slow=13,SNR=18						
KK31				⇑Pg	**Pb**	**13 00 30.2**	**+0.4**
	3.6nm,0.8s,baz=138,slow=16,SNR=3.8						
KK31				⇑Lg	Lg	13 01 33.5	
	5.8nm,0.7s,baz=137,slow=28,SNR=3.5						
KTBS	**Karatobe**	**4.91**	**23**	Pg	**Pb**	**13 00 31.9**	**-0.8**
	5.5nm,0.4s						
KTBS				Lg	Lg	13 01 37.6	
	15nm,1.1s						
KUU	**Kurty**	**4.99**	**19**	Pg	**Pb**	**13 00 32.0**	**-1.9**
	1.1nm,0.2s						
KUU				Lg	Lg	13 01 38.0	
	1.5nm,0.3s						
CHKK	**Chushkaly**	**5.14**	**24**	Pg	**Pb**	**13 00 37.3**	**+0.8**
	4.7nm,0.7s						
CHKK				Lg	Lg	13 01 47.0	
	11nm,0.9s						
ARXS	**Arharly**	**5.74**	**28**	Pg	**Pb**	**13 00 47.1**	**+0.3**
	5.7nm,0.4s						
ARXS				Lg	Lg	13 02 03.8	
	11nm,0.7s						
WMQ	**Urumqi**	**11.20**	**61**	*e*P	**Pn**	**13 01 44.0**	**-1.6**
AB31	**Akbulak array**	**14.25**	**319**	Pn	**Pn**	**13 02 26.8**	**-0.4**
	0.9nm,0.7s,baz=127,slow=14,SNR=9.5						

*ISCJB **16** 13:09:31.5±0.7, 37°.98N±0°.04×34°.75E±0°.08, h7km, Error ellipse: s-maj=9.6km s-min=4.5km az=155.7*
*ISK **16** 13:09:31.1, 37°.99N×34°.75E, h5km, ML1.9/6*
*DDA **16** 13:09:31.7, 37°.97N×34°.75E, h7km±1km, ML2.6*

ISC 16 13:09:31.4±1.0, 37°.98N±0°.04×34°.76E±0°.05, h7km, n12, σ0§40/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAHY	**KAYSERI_Yahyal**	**0.49**	**76**	IAML_P			
	comp=Z,1μm,0.1s						
YAHY				*i* P	**Pb**	**13 09 42.2**	**-0.2**
GULE	**Gulek**	**0.69**	**179**	*i* P	**Pg**	**13 09 45.1**	**+0.3**
GULE				*i* S	**Sb**	**13 09 55.2**	**-0.6**
AKO	**Adana**	**0.75**	**133**	IAML_P			
	comp=Z,539nm,0.1s						
AKO				*i* P	**Pb**	**13 09 46.5**	**-0.3**
AKO				*i* S	**Sb**	**13 09 57.1**	**-0.2**
KARA	**Karaisali**	**0.75**	**162**	PG	**Pg**	**13 09 46.3**	**+0.4**
KARA				SG	**Sb**	**13 09 56.8**	**-0.6**
AVNS	**Nevsehir-Avano**	**0.83**	**5**	*i* P	**Pb**	**13 09 48.5**	**+0.2**
KOZT	**Kozan**	**0.98**	**120**	PG	**Pg**	**13 09 50.5**	**+0.2**
AKSY	**AKSARAY - Alti**	**1.03**	**311**	IAML_P			
	comp=Z,185nm,0.2s						
AKSY				*i* P	**Pb**	**13 09 52.0**	**+0.3**
MERS	**Mersin**	**1.12**	**190**	PN	**Pb**	**13 09 53.2**	**-0.1**
YAYX	**Yaylak**	**1.21**	**322**	PN	**Pg**	**13 09 54.4**	**-0.4**
YAYX				SN	**Sn**	**13 10 11.4**	**-0.3**
CEYT	**Ceyhan**	**1.25**	**141**	PN	**Pg**	**13 09 55.7**	**+0.4**
KIZK	**Mersin**	**1.57**	**198**	PN	**Pb**	**13 10 00.5**	**-0.4**
KEBE	**Keben-Mersin**	**1.74**	**209**	PN	**Pn**	**13 10 02.7**	**+0.5**

*DDA **16** 13:11:58.7, 38°.95N×26°.05E, h7km±2km, ML2.6*
*ISK **16** 13:11:58.5, 39°.03N×26°.18E, h5km, ML2.6/5*
*ISCJB **16** 13:11:59.7±0.5, 38°.98N±0°.02×26°.09E±0°.05, h8km±5km, Error ellipse: s-maj=6.3km s-min=3.5km az=159.1*
*ATH **16** 13:11:59.7, 38°.97N×26°.04E, h13km±7km, ML2.3/4, Error ellipse: s-maj=7.3km s-min=1.0km az=48.0*
*THE **16** 13:12:00.1, 38°.98N×26°.03E, h2km±3km, ML2.2/5, Error ellipse: s-maj=3.9km s-min=0.7km az=316.0*

ISC 16 13:11:59.7±0.9, 38°.97N±0°.02×26°.07E±0°.03, h15km±7km, n25, σ0§88/41, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.29**	**324**	PG	**Pg**	**13 12 05.3**	**-0.6**
SIGR				SG	**Sg**	**13 12 10.0**	**0.0**
SIGR	**SIGRI**	**0.29**	**324**	P	**Pg**	**13 12 05.2**	**-0.6**
SIGR				S	**Sg**	**13 12 09.7**	**-0.3**
SIGR	**SIGRI**	**0.29**	**324**	P	**Pg**	**13 12 05.3**	**-0.6**
SIGR				S	**Sg**	**13 12 10.1**	**+0.1**
SIGR				AML	AML	13 12 10.3	
	comp=E,2712μm,0.6s						
SIGR				AML	AML	13 12 12.2	
	comp=N,1470μm,0.4s						
PRK	**Paraskevi**	**0.31**	**29**	P	**Pg**	**13 12 06.7**	**+0.5**
PRK				S	**Sg**	**13 12 10.9**	**+0.3**
PRK	**Paraskevi**	**0.31**	**29**	P	**Pg**	**13 12 06.7**	**+0.5**
PRK				S	**Sg**	**13 12 11.1**	**+0.5**
PRK				AML	AML	13 12 12.1	
	comp=N,2272μm,0.5s						
PRK				AML	AML	13 12 12.3	
	comp=E,1603μm,0.4s						
KRBN	**Karaburun**	**0.53**	**135**	PG	**Pg**	**13 12 09.4**	**-0.8**
CHOS	**Chios island**	**0.59**	**181**	PG	**Pg**	**13 12 11.2**	**-0.1**
CHOS				SG	**Sb**	**13 12 21.2**	**+1.3**
CHOS	**Chios island**	**0.59**	**181**	P	**Pg**	**13 12 10.7**	**-0.6**
CHOS				S	**Sb**	**13 12 20.5**	**+0.6**
CHOS	**Chios island**	**0.59**	**181**	P	**Pg**	**13 12 10.9**	**-0.4**
CHOS				S	**Sg**	**13 12 19.2**	**+0.1**
CHOS				AML	AML	13 12 23.3	
	comp=N,537μm,0.5s						
CHOS				AML	AML	13 12 24.0	
	comp=E,649μm,0.2s						
URLA	**Izmir**	**0.74**	**146**	PG	**Pg**	**13 12 13.2**	**-0.9**
URLA	**Izmir**	**0.74**	**146**	*i* P	**Pg**	**13 12 13.0**	**-1.0**
URLA				*i* S	**Sb**	**13 12 26.5**	**+2.3**
ZEDA	**zmir-Bergama**	**0.78**	**90**	*i* P	**Pg**	**13 12 14.2**	**-0.7**
ZEDA				*i* S	**Sb**	**13 12 26.4**	**+0.9**
ZEY	**zmir**	**0.81**	**155**	IAML_P			
	comp=Z,1μm,0.2s						
ZEY				*i* P	**Pg**	**13 12 14.4**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**0.85**	**25**	IAML_P			
	comp=Z,655nm,0.1s						
BAYC				*i* P	**Pb**	**13 12 16.9**	**+0.7**
BAYC				*i* S	**Sg**	**13 12 27.2**	**-0.2**
BOZC	**Bozcaada**	**0.87**	**359**	PG	**Pg**	**13 12 14.6**	**-1.9**
BOZC	**Bozcaada**	**0.87**	**359**	IAML_P			
	comp=Z,598nm,0.1s						
BOZC				*i* P	**Pg**	**13 12 16.0**	**-0.5**
BOZC				*i* S	**Sb**	**13 12 28.9**	**+1.0**
DGB	**zmir**	**1.12**	**145**	IAML_P			
	comp=Z,362nm,0.1s						
DGB				*i* P	**Pg**	**13 12 20.8**	**-0.5**
DGB				*i* S	**Sg**	**13 12 36.0**	**+0.2**
LIA	**Limnos Island**	**1.15**	**323**	P	**Pg**	**13 12 21.7**	**-0.2**
LIA				S	**Sb**	**13 12 37.2**	**+1.1**
LIA	**Limnos Island**	**1.15**	**323**	P	**Pg**	**13 12 21.7**	**-0.2**
LIA				S	**Sn**	**13 12 37.5**	**+0.6**
LIA				AML	AML	13 12 38.3	
	comp=E,238μm,0.4s						
LIA				AML	AML	13 12 38.5	
	comp=N,206μm,0.6s						
STEP	**BALIKESIR_Sava**	**1.34**	**72**	*i* P	**Pn**	**13 12 21.7**	**-2.2**
SMG	**Samos**	**1.40**	**154**	P	**Pb**	**13 12 26.3**	**+0.7**
SMG	**Samos**	**1.40**	**154**	P	**Pb**	**13 12 26.2**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.46**	**12**	PN	**Pn**	**13 12 24.9**	**-0.6**
SMTH	**Samothraki Isl**	**1.55**	**344**	P	**Pb**	**13 12 28.3**	**+0.1**
SMTH				S	**Sb**	**13 12 48.6**	**+0.9**
SMTH	**Samothraki Isl**	**1.55**	**344**	P	**Pb**	**13 12 28.5**	**+0.3**

*ISCJB **16** 13:22:56.0±0.5, 37°.03N±0°.03×28°.41E±0°.04, h11km±5km, Error ellipse: s-maj=5.6km s-min=4.2km az=44.5*
*DDA **16** 13:22:55.5, 37°.03N×28°.42E, h7km±4km, ML2.7*
*ISK **16** 13:22:55.5, 37°.03N×28°.44E, h7km, ML2.6/10*

ISC 16 13:22:56.4±1.0, 37°.05N±0°.03×28°.43E±0°.03, h20km±4km, n20, σ1§17/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.23**	**141**	PG	**Pb**	**13 23 01.6**	**-0.1**
TURN				SG	**Sg**	**13 23 06.7**	**+1.1**
TURN	**Turunc**	**0.23**	**141**	IAML_P			
	comp=Z,6μm,0.1s						
TURN				*i* P	**Pb**	**13 23 02.0**	**+0.3**
TURN				*i* S	**Sg**	**13 23 07.4**	**+1.7**
DALY	**Dalyan (Mula)**	**0.29**	**142**	PG	**Pg**	**13 23 01.5**	**-1.5**
DALY				SG	**Sb**	**13 23 05.7**	**-1.7**
DALY	**Dalyan (Mula)**	**0.29**	**142**	*i* P	**Pg**	**13 23 01.1**	**-1.9**
DALY				*i* S	**Sb**	**13 23 06.2**	**-1.2**
MRSB	**Marmaris-Mugla**	**0.38**	**209**	PG	**Pg**	**13 23 02.9**	**-1.6**
TAVA	**DENIZLI_Tavas**	**0.57**	**43**	IAML_P			
	comp=Z,1μm,0.1s						
TAVA				*i* P	**Pb**	**13 23 07.1**	**-0.7**
TAVA				*i* S	**Sg**	**13 23 16.9**	**+1.2**
FETY	**Fethiye**	**0.67**	**128**	PG	**Pb**	**13 23 08.6**	**-0.8**
FETY				SG	**Sb**	**13 23 18.7**	**+0.4**
FETY	**Fethiye**	**0.67**	**128**	*i* P	**Pb**	**13 23 08.6**	**-0.8**
FETY				*i* S	**Sb**	**13 23 18.0**	**-0.3**
AYDN	**Tasoluk**	**0.75**	**325**	*i* P	**Pb**	**13 23 10.5**	**-0.4**
DAT	**Datca**	**0.75**	**245**	PG	**Pb**	**13 23 10.2**	**-0.7**
DAT	**Datca**	**0.75**	**245**	*i* P	**Pb**	**13 23 10.2**	**-0.7**
DAT				*i* S	**Sn**	**13 23 23.1**	**+0.1**
BDRM	**Kayabasi**	**0.79**	**272**	*i* P	**Pb**	**13 23 10.9**	**-0.6**
ARG	**Arkhangelos**	**0.86**	**196**	PG	**Pb**	**13 23 12.6**	**-0.2**
BODT	**Bodrum**	**0.89**	**271**	PG	**Pb**	**13 23 13.6**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.99**	**335**	PG	**Pb**	**13 23 15.2**	**+0.1**
AYDB				SG	**Sg**	**13 23 30.1**	**+1.2**
AKAS	**Kas**	**1.25**	**130**	PN	**Pn**	**13 23 19.2**	**+0.3**
AKAS	**Kas**	**1.25**	**130**	IAML_P			
	comp=Z,2μm,0.3s						
AKAS				*i* P	**Pb**	**13 23 20.1**	**+0.7**
AKAS				*i* S	**Sg**	**13 23 39.7**	**+2.7**
KULA	**Kula-Manisa**	**1.48**	**7**	PN	**Pn**	**13 23 23.3**	**+1.3**
KHAL	**Karahalli**	**1.57**	**32**	*i* P	**Pn**	**13 23 23.6**	**+0.3**
KARP	**Karpathos**	**1.81**	**215**	PN	**Pn**	**13 23 28.2**	**+1.6**

*IDC **16** 13:28:55.8±0.5, 5°.75N×77°.18W, h0km, mb4.2/17, mb1 4.4/22, mb1mx4.3/35, mbtmp4.2/22, ML3.8/5, MS3.8/24, Ms1 3.8/24, ms1mx3.7/32, Error ellipse: s-maj=20.4km s-min=11.7km az=57.0*
*RSNC **16** 13:28:55.9±0.4, 5°.81N±0°.02×77°.28W±0°.03, h37km±4km, mb4.4/29, MS3.7/18, Error ellipse: s-maj=4.4km s-min=3.5km az=171.4*
*NEIC **16** 13:29:00.0±2.1, 5°.77N×77°.26W, h29km±15km, mb4.6/13, Error ellipse: s-maj=10.3km s-min=6.9km az=70.0*

ISC 16 13:28:59.5±0.6, 5°.81N±0°.03×77°.25W±0°.04, h22km±5km, n101, σ2§06/127, mb4.4/29, MS3.6/18, 7C-5D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.45**	**340**	⇓*i* P	**Pb**	**13 29 07.5**	**-1.2**
SOLC				*e*S	**Sn**	**13 29 16.8**	**-1.2**
SOLC				*i*		13 29 23.5	
	comp=Z,5μm,0.4s						
PLMC	**San Jos del P**	**1.32**	**133**	*e*P	**Pn**	**13 29 18.5**	**-4.1**
PLMC				*e*S	**Sn**	**13 29 34.1**	**-5.5**
PLMC				*i*		13 29 36.7	
	comp=Z,4μm,0.3s						
PTAC	**Punta Ardita,**	**1.44**	**337**	*e*P	**Pn**	**13 29 22.9**	**-1.4**
PTAC				*e*S	**Sn**	**13 29 41.7**	**-0.9**
PTAC				*i*		13 29 52.0	
	comp=Z,1μm,0.2s						
HELC	**Santa Helena**	**1.76**	**77**	⇑*i* P	**Pn**	**13 29 26.8**	**-2.2**
HELC				*e*S	**Sn**	**13 29 48.1**	**-2.8**
HELC				*i*		13 29 54.8	
	comp=Z,895nm,0.6s						
YOTC	**Yotoco, Valle**	**2.02**	**153**	⇓*i* P	**Pn**	**13 29 29.2**	**-3.3**
YOTC				*e*S	**Sn**	**13 29 52.7**	**-4.5**
YOTC				*i*		13 30 07.8	
	comp=Z,532nm,0.6s						
RREF	**El Recreo**	**2.10**	**115**	⇑*i* P	**Pn**	**13 29 32.4**	**-1.5**
RREF				*e*S	**Sn**	**13 30 01.2**	**+1.5**
RREF				*i*		13 30 18.3	
	comp=Z,999nm,0.6s						
NORC	**Norcasia**	**2.38**	**96**	⇑*i* P	**Pn**	**13 29 36.7**	**-0.7**
NORC				*e*S	**Sn**	**13 30 03.6**	**-2.4**
NORC				*i*		13 30 07.3	
	comp=Z,655nm,0.6s						
UREC	**San Jos de Ur**	**2.58**	**41**	*e*P	**Pn**	**13 29 40.2**	**+0.2**
UREC				*e*S	**Sn**	**13 30 13.2**	**+2.5**
UREC				*i*		13 30 20.1	
	comp=Z,372nm,0.5s						
PTBC	**PUERTO BERRIO,**	**2.87**	**75**	⇑*i* P	**Pn**	**13 29 44.0**	**0.0**
PTBC

GIRC					*i*			13 31 06.7
	comp=Z,116nm,0.6s							
SMLC	**San Martn de**	**4.34**	**46**		*e*P		**Pn**	**13 30 04.5 +0.4**
SMLC					*e*S		**Sn**	**13 30 54.8 +0.7**
SMLC					*i*			13 31 24.6
	comp=Z,84nm,0.5s							
FLOC	**Florencia**	**4.49**	**159**	⇓	*i*P		**Pn**	**13 30 06.9 +0.6**
FLOC					*e*S		**Sn**	**13 31 00.6 +2.7**
FLOC					*i*			13 31 30.4
	comp=Z,92nm,0.7s							
OCAC	**Ocana**	**4.59**	**58**		*e*P		**Pn**	**13 30 10.4 +2.6**
OCAC					*e*S		**Sn**	**13 31 04.8 +4.2**
OCAC					*i*			13 31 24.9
	comp=Z,127nm,0.6s							
PAMC	**Pamplona, Colo**	**4.77**	**71**		*e*P		**Pn**	**13 30 11.9 +1.3**
PAMC					*e*S		**Sn**	**13 31 08.3 +2.8**
PAMC					*i*			13 31 18.8
	comp=Z,147nm,0.6s							
OTAV	**Otavalo**	**5.66**	**192**		*e*Pn		**Pn**	**13 30 23.6 +0.8**
OTAV					*e*Sn		**Sn**	**13 31 26.8 -0.6**
SDV	**Santo Domingo**	**7.24**	**65**		Pn		**Pn**	**13 30 44.6 +0.3**
	comp=Z,6.4nm,0.3s,baz=233,slow=15,SNR=27							
SDV					Sn		**Sn**	**13 32 03.6 -2.4**
	comp=Z,4.4nm,0.3s,baz=254,slow=23,SNR=3.1							
SDV					Lg		Lg	13 32 41.7
	comp=Z,2.0nm,0.3s,baz=281,slow=8.8,SNR=3.6							
SDV					LR		LR	13 33 48.0
	comp=Z,3μm,18.6s,baz=248,slow=41							
JTS	**Las Juntas de**	**8.83**	**301**		Pn		**Pn**	**13 31 07.6 +1.6**
	comp=Z,2.8nm,0.3s,baz=24,slow=21,SNR=4.8							
JTS					LR		LR	13 34 25.4
	comp=Z,2μm,20.8s,baz=180,slow=37							
ATAH	**Atahualpa**	**12.91**	**185**		Pn		**Pn**	**13 32 01.3 -0.9**
	comp=Z,0.2nm,0.3s,baz=342,slow=19,SNR=2.3							
ATAH					LR		LR	13 38 13.7
	comp=Z,184nm,18.2s,baz=9.1,slow=43							
SDDR	**Presa de Saban**	**14.33**	**23**		*e*Pn		**Pn**	**13 32 22.6 +1.3**
APG	**El Apazote**	**15.88**	**306**		LR		LR	13 39 11.8
	comp=Z,198nm,21.7s,baz=122,slow=39							
SJG	**San Juan**	**16.34**	**41**		Pn		**P**	**13 32 53.1 +2.6**
	baz=140,slow=9.7,SNR=2.4							
SJG					LR		LR	13 39 06.8
	comp=Z,253nm,21.0s,baz=251,slow=37							
NNA	**Nana**	**17.68**	**179**		P		**Pn**	**13 33 04.0 -0.6**
	comp=Z,0.9nm,0.3s,baz=355,slow=11,SNR=5.6							
NNA					LR		LR	13 41 50.9
	comp=Z,611nm,18.3s,baz=5.0,slow=44							
PTGA	**Pitinga**	**18.44**	**110**		P		**P**	**13 33 13.0 -0.7**
	comp=Z,0.3nm,0.3s,baz=293,slow=13,SNR=6.4							
PTGA					LR		LR	13 40 09.3
	comp=Z,284nm,20.4s,baz=284,slow=37							
CMIG	**Matias Romero**	**20.58**	**304**		LR		LR	13 42 29.7
	comp=Z,100nm,21.7s,baz=126,slow=39							
LPAZ	**La Paz**	**23.74**	**158**		*e*P		**P**	**13 34 08.6 -2.4**
	comp=Z,10nm,0.9s							
LPAZ	**La Paz**	**23.74**	**158**		P		**P**	**13 34 08.5 -2.4**
	comp=Z,23nm,1.3s,baz=330,slow=9.2,SNR=24							
MDP	**Montagnes des**	**24.51**	**90**		LR		LR	13 44 17.9
	comp=Z,830nm,18.1s,baz=224,slow=38							
SIV	**San Ignacio**	**26.94**	**144**		P		**P**	**13 34 37.6 -2.0**
	comp=Z,14nm,1.0s,baz=334,slow=9.6,SNR=19							
SIV					LR		LR	13 45 49.0
	comp=Z,662nm,18.1s,baz=310,slow=38							
LVC	**Limon Verde**	**29.40**	**164**		LR		LR	13 47 58.0
	comp=Z,275nm,20.7s,baz=320,slow=39							
LTX	**Lajitas**	**34.20**	**316**		*e*P		**P**	**13 35 44.8 +1.1**
LTX					*e*PcP		**PcP**	**13 38 21.3 +0.8**
TXAR	**Lajitas Array**	**34.20**	**316**		*e*P		**P**	**13 35 42.1 -1.6**
TXAR	**Lajitas Array**	**34.20**	**316**		P		**P**	**13 35 44.8 +1.1**
	comp=Z,0.6nm,1.0s,baz=126,slow=7.9,SNR=5.2							
TXAR					PcP		**PcP**	**13 38 21.3 +0.8**
	comp=Z,1.9nm,0.9s,baz=140,slow=5.9,SNR=11							
TXAR					LR		LR	13 50 54.8
	comp=Z,52nm,21.9s,baz=0.0,slow=38							
CCM	**Cathedral Cave**	**34.53**	**340**		*e*P		**P**	**13 35 44.7 -1.6**
	comp=Z,11nm,0.9s							
BDFB	**Brasilia**	**35.95**	**127**		P		**P**	**13 35 57.5 -1.4**
	comp=Z,1.8nm,0.3s,baz=289,slow=1.6,SNR=3.9							
BDFB					LR		LR	13 51 53.1
	comp=Z,481nm,18.7s,baz=319,slow=38							
MNTX	**Cornudas Mount**	**36.83**	**318**		*e*P		**P**	**13 36 06.2 0.0**
	comp=Z,4.9nm,1.3s							
CPUP	**Villa Florida**	**37.33**	**150**		P		**P**	**13 36 11.0 +0.5**
	comp=Z,2.0nm,0.7s,baz=336,slow=2.9,SNR=3.1							
CPUP					LR		LR	13 52 54.4
	comp=Z,174nm,19.9s,baz=330,slow=39							
SDCO	**Great Sand Dun**	**40.88**	**325**		*e*P		**P**	**13 36 39.6 -0.8**
	comp=Z,3.3nm,0.9s							
PDAR	**Pinedale Array**	**46.59**	**327**		P		**P**	**13 37 27.4 +1.2**
	comp=Z,0.6nm,0.8s,baz=127,slow=9.5,SNR=5.5							
PDAR					PcP		**PcP**	**13 39 00.2 +0.1**
	comp=Z,0.5nm,0.7s,baz=113,slow=6.9,SNR=2.9							
PDAR					LR		LR	14 02 10.4
	comp=Z,34nm,18.4s,baz=138,slow=43							
PLCA	**Paso Flores**	**46.72**	**173**		P		**P**	**13 37 26.8 -0.2**
	comp=Z,1.4nm,0.7s,baz=26,slow=12,SNR=3.3							
ULM	**Lac du Bonnet**	**46.97**	**344**		P		**P**	**13 37 27.6 -1.2**
	comp=Z,3.4nm,0.8s,baz=149,slow=7.9,SNR=7.8							
ULM					LR		LR	13 58 41.4
	comp=Z,73nm,18.7s,baz=154,slow=38							
NV01	**Mina Array Sit**	**49.35**	**317**		*e*P		**P**	**13 37 48.3 +0.7**
NV01					*e*PcP		**PcP**	**13 39 10.0 -0.1**
NVAR	**Mina Array Bea**	**49.35**	**317**		P		**P**	**13 37 48.3 +0.7**
	comp=Z,1.8nm,0.7s,baz=125,slow=7.1,SNR=12							
NVAR					PcP		**PcP**	**13 39 10.0 -0.1**
	comp=Z,1.3nm,0.9s,baz=142,slow=4.1,SNR=4.0							
NVAR					LR		LR	14 01 59.1
	comp=Z,55nm,18.3s,baz=172,slow=40							
SCHQ	**Schefferville**	**49.60**	**8**		LR		LR	13 59 13.6
	comp=Z,65nm,19.8s,baz=59,slow=37							
FCC	**Fort Churchill**	**54.40**	**349**		*e*P		**P**	**13 38 24.2 -0.4**
	comp=Z,6.4nm,1.0s							
YKA	**Yellowknife Ar**	**62.86**	**342**		P		**P**	**13 39 23.0 -0.5**
	comp=Z,4.6nm,0.9s,baz=131,slow=7.1,SNR=67							
YKA					LR		LR	14 09 42.7
	comp=Z,5.0nm,18.5s,baz=176,slow=39							
YKW3	**Yellowknife Ar**	**62.91**	**342**		*e*P		**P**	**13 39 23.0 -0.8**
	comp=Z,4.7nm,0.9s							
TIC	**Toumodi**	**71.75**	**85**		*e*P		**P**	**13 40 20.9 +0.1**
LIC	**Lamto**	**71.77**	**85**		*e*P		**P**	**13 40 18.6 -2.3**
	comp=Z,115nm,1.9s							
DBIC	**Dimbokro**	**71.91**	**85**		P		**P**	**13 40 21.8 +0.1**
	comp=Z,5.9nm,0.8s,baz=250,slow=7.6,SNR=3.9							
DBIC					LR		LR	14 09 34.7
	comp=Z,85nm,20.6s,baz=248,slow=34							
KIC	**Kosan Boka**	**72.05**	**85**		*e*P		**P**	**13 40 22.5 -0.1**
	comp=Z,67nm,1.2s							
INK	**Inuvik**	**72.62**	**341**		P		**P**	**13 40 25.2 +0.2**
	comp=Z,2.4nm,0.8s,baz=122,slow=5.6,SNR=9.5							
ESDC	**Sonseca Array**	**73.46**	**50**		P		**P**	**13 40 30.0 -0.6**
	comp=Z,0.8nm,0.6s,baz=275,slow=6.2,SNR=5.8							
DOT	**Dot Lake**	**74.65**	**335**		*e*P		**P**	**13 40 38.5 +1.5**
RIDG	**Independent Ri**	**75.00**	**335**		*e*P		**P**	**13 40 39.9 +0.8**
	comp=Z,19nm,1.4s							
PPT	**Papeete**	**75.05**	**250**		LR		LR	14 05 39.6
	comp=Z,169nm,18.4s,baz=83,slow=29							
ILAR	**Eielson Array**	**76.16**	**336**		P		**P**	**13 40 45.6 0.0**
	comp=Z,1.5nm,0.7s,baz=115,slow=4.0,SNR=9.8							
ILB	**Eielson Array**	**76.16**	**336**		*e*P		**P**	**13 40 44.1 -1.6**
	comp=Z,4.2nm,1.1s							
RND	**Reindeer**	**76.64**	**334**		*e*P		**P**	**13 40 48.5 0.0**
	comp=Z,11nm,1.0s							
MDM	**Murphy Dome**	**76.76**	**336**		*e*P		**P**	**13 40 49.1 +0.1**
	comp=Z,3.5nm,0.9s							
BPAW	**Bear Paw Mtn.**	**77.72**	**334**		*e*P		**P**	**13 40 55.0 +0.5**
	comp=Z,15nm,1.4s							
TOA1	**Torodi Ar. Sit**	**77.96**	**78**		*e*P		**P**	**13 40 55.6 -1.2**
TORD	**Torodi Ar. Bea**	**77.96**	**78**		P		**P**	**13 40 55.6 -1.2**
	comp=Z,3.1nm,1.0s,baz=293,slow=3.6,SNR=7.7							
TORD					LR		LR	14 14 15.1
	comp=Z,58nm,20.3s,baz=310,slow=35							
NB200	**NORSAR Array S**	**84.22**	**29**		*e*P		**P**	**13 41 30.5 +1.3**
NOA	**NORSAR Array B**	**84.22**	**29**		P		**P**	**13 41 30.5 +1.3**
	comp=Z,0.4nm,0.5s,baz=277,slow=4.8,SNR=2.4							
NOA					LR		LR	14 18 38.4
	comp=Z,11nm,18.1s,baz=300,slow=35							
GERES	**GERESS Array B**	**86.30**	**41**		P		**P**	**13 41 40.4 +0.4**
	comp=Z,2.3nm,0.8s,baz=298,slow=2.9,SNR=5.5							
GERES					LR		LR	14 17 56.4
	comp=Z,21nm,19.0s,baz=95,slow=34							
VNA3	**Neumayer Olymp**	**88.42**	**163**		P		**P**	**13 41 49.1 -0.5**
VNA1	**Neumayer--Stat**	**88.62**	**162**		P		**P**	**13 41 50.1 -0.3**
VNA2	**Neumayer--Watz**	**88.98**	**162**		P		**P**	**13 41 51.8 -0.4**
	baz=295,slow=4.4							
SNAA	**Sanae**	**90.62**	**162**		P		**P**	**13 41 59.3 -0.5**
FINES	**FINESS Array B**	**91.27**	**28**		LR		LR	14 19 53.5
	comp=Z,23nm,19.9s,baz=234,slow=34							
QSPA	**South Pole Qui**	**95.82**	**180**		*e*P		**P**	**13 42 24.4 +0.4**
	comp=Z,8.8nm,1.1s							
MK32	**Makanchi Array**	**124.57**	**17**		*e*PKPdf		**PKPdf**	**13 47 56.6 -0.9**
MKAR	**Makanchi Array**	**124.57**	**17**		PKP		**PKPdf**	**13 47 56.6 -0.9**
	comp=Z,0.6nm,0.9s,baz=310,slow=1.1,SNR=4.0							
SONA0	**Songino Array**	**126.49**	**357**		*e*PKPdf		**PKPdf**	**13 48 01.0 -0.3**
SONM	**Songino Array**	**126.49**	**357**		PKP		**PKPdf**	**13 48 01.0 -0.3**
	comp=Z,0.4nm,0.5s,baz=0.0,slow=0.6,SNR=2.4							
KSH	**Kashi**	**128.56**	**26**		PKP		**PKiKP**	**13 48 07.0 +0.9**
KSH					PP		**PP**	**13 50 17.5 +7.6**
KSH					SKS		**SKSdf**	**13 55 18.3 +2.0**
KSH	**Kashi**	**128.56**	**26**		SS		SS	14 07 32.1 +7.0
CD2	**Chengdu**	**143.48**	**359**		PKP		**PKPdf**	**13 48 31.8 -1.4**
ASAR	**Alice Springs**	**145.16**	**236**		*e*PKPbc		**PKPbc**	**13 48 35.0 -0.8**
ASAR	**Alice Springs**	**145.16**	**236**		PKPbc		**PKPbc**	**13 48 34.9 -1.0**
	comp=Z,5.7nm,0.9s,baz=121,slow=4.0,SNR=36							
WR1	**Warramunga Arr**	**146.24**	**242**		*e*PKPdf		**PKPdf**	**13 48 38.3 0.0**
WRA	**Warramunga Arr**	**146.24**	**242**		PKPbc		**PKPdf**	**13 48 38.3 0.0**
	comp=Z,8.0nm,1.0s,baz=91,slow=3.2,SNR=30							
CMAR	**Chiang Mai Arr**	**155.60**	**9**		PKP		**PKPdf**	**13 48 52.3 -0.3**
	comp=Z,0.4nm,0.3s,baz=290,slow=2.0,SNR=4.3							
CMAR					PKPab		**PKPab**	**13 49 18.8 +0.5**
	comp=Z,0.5nm,0.5s,baz=337,slow=4.1,SNR=3.4							

NNC 16 13:31:15.9±4.4, 39°.48N×74°.15E, h0km, mb3.7, mpv3.3, 4C-6D, Error ellipse: s-maj=34.1km s-min=22.2km az=163.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.17**	**5**	⇓Pg	Pb	13 32 13.8	+0.7
	4.5nm,0.5s						
AAK				⇑Lg	Lg	13 32 57.6	
	14nm,0.8s						
MRKS	**Merke**	**3.34**	**348**	Pg	Pn	13 32 11.4	+2.0
	4.5nm,0.3s						
MRKS				Lg	Lg	13 32 58.9	
	8.5nm,0.5s						
TKM2	**Tokmak 2**	**3.61**	**17**	⇓Pg	Pb	13 32 21.7	+1.1
	3.9nm,0.5s						
TKM2				⇑Lg	Lg	13 33 10.2	
	7.6nm,0.8s						
DGS	**Degeres**	**3.95**	**17**	Pg	Pg	13 32 32.2	+0.5
	11nm,0.7s						
DGS				Lg	Lg	13 33 34.3	
	10.0nm,1.3s						
MDOK	**Medeo**	**4.28**	**30**	⇓Pg	Pb	13 32 32.2	+0.2
MDOK				Lg	Lg	13 33 30.2	
	0.4nm,0.2s						
KK31	**Karatay Array**	**4.54**	**324**	⇑Pn	Pn	13 32 27.6	+1.7
	0.8nm,0.3s,baz=0.0,slow=0.1,SNR=5.7						
KK31				⇓Pg	Pb	13 32 39.4	+3.0
	0.7nm,0.3s,baz=157,slow=17,SNR=5.0						
KK31				⇑Lg	Lg	13 33 43.5	
	0.6nm,0.3s,baz=150,slow=16,SNR=4.1						
KTBS	**Karatobe**	**4.64**	**23**	Pg	Pb	13 32 40.4	+2.4
	4.4nm,0.5s						
KTBS				Lg	Lg	13 33 48.1	
	8.3nm,0.8s						
KUU	**Kurty**	**4.71**	**20**	Pg	Pb	13 32 41.9	+2.7
	4.4nm,0.5s						
KUU				Lg	Lg	13 33 50.8	
	7.0nm,0.2s						
CHKK	**Chushkaly**	**4.86**	**25**	Pg	Pb	13 32 45.1	+3.2
	3.0nm,0.4s						
CHKK				Lg	Lg	13 33 56.3	
	4.7nm,0.4s						
PDGK	**Podgornoye**	**5.56**	**44**	⇓Pg	Pb	13 32 55.4	+1.5
	3.0nm,0.7s						
PDGK				⇓Lg	Lg	13 34 10.6	

ISCJB ***16*** *13:37:24.8±1.1, 39°.38N±0°.07×52°.27E±0°.07, h33km, Error ellipse: s-maj=10.5km s-min=7.8km az=173.1*
AZER ***16*** *13:37:29.0±0.3, 39°.28N×51°.91E, h42km±33km, ml3.0/12, Error ellipse: s-maj=39.3km s-min=2.7km az=284.0*

ISC 16 13:37:24.0±1.8, 39°.28N±0°.10×52°.39E±0°.09, h35km, n14, σ2°58/26, 1C-1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATGJ	**Altiaghaj**	**3.08**	**302**	Pn	**Pn**	**13 38 13.4**	**+3.2**
ATGJ				Sn	**Sn**	**13 38 45.0**	**-0.8**
GLBA	**Clilabad**	**3.10**	**271**	Pn	**Pn**	**13 38 12.8**	**+2.4**
GLBA				Sn	**Sn**	**13 38 45.1**	**-1.1**
SIZA	**Siyzn**	**3.22**	**305**	Pn	**Pn**	**13 38 15.2**	**+3.1**
SIZA				Sn	**Sn**	**13 38 50.4**	**+1.2**
LRK	**Lerik**	**3.22**	**260**	Pn	**Pn**	**13 38 13.9**	**+1.8**
LRK				Sn	**Sn**	**13 38 47.8**	**-1.5**
PQL	**Pirkuli**	**3.28**	**299**	Pn	**Pn**	**13 38 16.2**	**+3.2**
PQL				Sn	**Sn**	**13 38 51.3**	**+0.5**
QUBA	**Quba, Azerbaij**	**3.62**	**306**	Sn	**Sn**	**13 38 58.5**	**-0.7**
XNQ	**Khinaliq**	**3.76**	**302**	Pn	**Pn**	**13 38 21.7**	**+2.1**
XNQ				Sn	**Sn**	**13 39 01.1**	**-1.6**
QSAR	**Qusar**	**3.86**	**307**	Pn	**Pn**	**13 38 23.4**	**+2.5**
QSAR				Sn	**Sn**	**13 39 04.7**	**-0.3**
SEKA	**Sheki**	**4.41**	**298**	Pn	**Pn**	**13 38 31.6**	**+3.1**
SEKA				Sn	**Sn**	**13 39 17.6**	**-1.0**
GANJ	**Ganja**	**4.85**	**288**	Sn	**Sn**	**13 39 26.2**	**-3.3**
ORD	**Ordubad**	**4.98**	**268**	Pn	**Pn**	**13 38 37.2**	**+0.9**
ORD				Sn	**Sn**	**13 39 30.5**	**-2.3**
GDB	**GEDABAY**	**5.29**	**288**	Pn	**Pn**	**13 38 41.8**	**+1.1**
GDB				Sn	**Sn**	**13 39 35.9**	**-4.6**
AB31	**Akbulak array**	**11.34**	**26**	Pn	**Pn**	**13 40 05.1**	**+1.7**
	1.2nm,0.8s,baz=207,slow=13,SNR=8.0						
AB31				Sn	**Sn**	**13 42 05.3**	**-3.5**
	0.2nm,0.3s,baz=188,slow=25,SNR=8.8						
AKTO	**Aktyubinsk**	**11.84**	**18**	⇑Pn	**Pn**	**13 40 11.4**	**+1.2**
	2.7nm,1.0s						
AKTO				⇓Sn	**Sn**	**13 42 15.8**	**-5.2**
	2.8nm,0.7s						

SOME ***16*** *13:38:43.6, 42°.63N×75°.72E*
ISCJB ***16*** *13:38:44.6±0.4, 42°.69N±0°.02×75°.66E±0°.03, h0km, Error ellipse: s-maj=3.4km s-min=2.6km az=147.2*
NNC ***16*** *13:38:44.7±0.5, 42°.69N×75°.66E, h0km, mb2.8, mpv2.7, Error ellipse: s-maj=3.1km s-min=2.2km az=138.0, Suspected Mining explosion.*
KRNET ***16*** *13:38:44.7±0.1, 42°.68N×75°.65E, h9km, mb1.9*

ISC 16 13:38:45.0±0.8, 42°.70N±0°.02×75°.66E±0°.02, h0km, n19, σ0°87/44, 15C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.23**	**347**	⇑P	**Pg**	**13 38 49.4**	**0.0**
	1.9nm,0.2s						
TKM2				⇓S	**Sg**	**13 38 52.9**	**+0.6**
	13nm,0.3s						
TKM2	**Tokmak 2**	**0.23**	**347**	⇑*i*P	**Pg**	**13 38 49.5**	**+0.1**
	baz=51						
TKM2				⇑*i*S	**Sg**	**13 38 53.3**	**+1.0**
	baz=51						
BOOM	**Boomskoye usch**	**0.29**	**136**	⇑*i*P	**Pg**	**13 38 50.4**	**-0.2**
	baz=30						
BOOM				⇑*i*S	**Sg**	**13 38 54.7**	**+0.3**
	baz=30						
KST	**Kastek**	**0.41**	**33**	P	**Pg**	**13 38 52.7**	**-0.1**
	8.1nm,0.2s						
KST				P	**Pg**	**13 38 52.7**	**-0.1**
	9.1nm,0.1s						
KST				S	**Sg**	**13 38 59.1**	**+1.0**
	9.7nm,0.2s						
KST				S	**Sg**	**13 38 59.2**	**+1.0**
	9.7nm,0.2s						
KBK	**Karagaybulak**	**0.53**	**266**	⇑*i*P	**Pg**	**13 38 55.0**	**-0.2**
	baz=68						
KBK				⇑*i*S	**Sg**	**13 39 02.3**	**+0.3**
	baz=68						
DGS	**Degeres**	**0.55**	**8**	P	**Pg**	**13 38 55.0**	**-0.5**
	2.4nm,0.3s						
DGS				P	**Pb**	**13 38 55.4**	**-2.2**
	2.4nm,0.2s						
DGS				S	**Sg**	**13 39 03.2**	**+0.5**
	5.1nm,0.4s						
DGS				S	**Sb**	**13 39 04.0**	**-2.0**
	7.8nm,0.4s						
ULHL	**Ulahol**	**0.62**	**137**	⇑*i*P	**Pg**	**13 38 56.7**	**-0.2**
	baz=34						
ULHL				⇑*i*S	**Sg**	**13 39 05.6**	**+0.6**
	baz=34						
KZA	**Kyzart**	**0.69**	**206**	⇓*i*P	**Pg**	**13 38 57.7**	**-0.6**
	baz=6.0						
KZA				⇓*i*S	**Sg**	**13 39 07.3**	**0.0**
	baz=6.0						
AAK	**Ala-Archa**	**0.86**	**266**	⇓P	**Pg**	**13 39 00.5**	**-1.1**
	1.0nm,0.5s						
AAK				⇓S	**Sg**	**13 39 13.2**	**+0.4**
	2.8nm,0.6s						
AAK	**Ala-Archa**	**0.86**	**266**	⇑*i*P	**Pg**	**13 39 00.9**	**-0.7**
	baz=68						
AAK				⇑*i*S	**Sg**	**13 39 13.0**	**+0.2**
	baz=68						
UCH	**Uchtor**	**0.97**	**241**	⇑*i*P	**Pg**	**13 39 02.9**	**-0.8**
	baz=42						
UCH				⇑*i*S	**Sg**	**13 39 16.5**	**+0.2**
	baz=42						
TNSS	**Tian-Shan**	**1.00**	**70**	P	**Pg**	**13 39 04.1**	**-0.1**
	4.3nm,0.3s						
TNSS				S	**Sb**	**13 39 18.6**	**-0.8**
	2.7nm,0.3s						
KTBS	**Karatobe**	**1.26**	**36**	P	**Pg**	**13 39 08.2**	**-0.8**
	1.8nm,0.3s						
KTBS				S	**Sg**	**13 39 25.6**	**+0.3**
	1.9nm,0.2s						
EKS2	**Erkin-Say**	**1.39**	**269**	⇑*i*P	**Pg**	**13 39 10.9**	**-0.8**
	baz=70						
EKS2				⇑*i*S	**Sb**	**13 39 29.9**	**-0.4**
	baz=70						
CHKK	**Chushkaly**	**1.50**	**40**	P	**Pn**	**13 39 12.6**	**-0.7**
	1.5nm,0.2s						
CHKK				P	**Pb**	**13 39 13.0**	**-0.9**
	1.5nm,0.2s						
CHKK				S	**Sg**	**13 39 33.6**	**+0.2**
	3.9nm,0.2s						
CHKK				S	**Sn**	**13 39 34.0**	**+0.3**
	5.6nm,0.2s						
MRKS	**Merke**	**1.80**	**272**	P	**Pb**	**13 39 18.4**	**-0.4**
	5.0nm,0.2s						
MRKS				P	**Pb**	**13 39 18.4**	**-0.4**
	4.9nm,0.3s						
MRKS				S	**Sg**	**13 39 43.6**	**+0.8**
	5.1nm,0.3s						
MRKS				S	**Sb**	**13 39 43.8**	**+1.8**
	5.0nm,0.3s						
ARXS	**Arharly**	**2.18**	**45**	Pg	**Pb**	**13 39 24.5**	**-1.0**
	1.1nm,0.4s						
ARXS				Pg	**Pn**	**13 39 24.7**	**+2.0**
	1.2nm,0.7s						
ARXS				Lg	Lg	13 39 53.9	
	3.7nm,0.5s						
ARXS				Lg	Lg	13 39 54.0	
	3.6nm,0.3s						
TDK	**Taldyqorghan**	**3.04**	**40**	Pg	**Pb**	**13 39 41.1**	**+1.1**
	45nm,0.2s						
TDK				Lg	Lg	13 40 22.2	
	59nm,0.2s						
KK31	**Karatay Array**	**3.81**	**278**	Pg	**Pb**	**13 39 53.6**	**+0.5**
	0.3nm,0.3s,baz=100,slow=14,SNR=4.6						

SOME ***16*** *13:40:37.8, 40°.97N×71°.65E, h15km*
NNC ***16*** *13:40:40.8±1.2, 41°.05N×71°.87E, h13km±9km, mb3.5, mpv3.2, Error ellipse: s-maj=9.9km s-min=7.7km az=123.0*
KRNET ***16*** *13:40:40.8±0.1, 41°.22N×71°.73E, h9km, mb2.3*

ISC 16 13:40:37.4±2.5, 41°.06N±0°.09×71°.71E±0°.06, h1km±16km, n26, σ1°28/46, 19C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.76**	**14**	⇓*i*P	**Pg**	**13 40 52.0**	**0.0**
	baz=18						
ARK				⇓*i*S	**Sg**	**13 41 01.1**	**-0.8**
	baz=18						
ARSB	**Arslanbob**	**0.99**	**74**	⇑*i*P	**Pn**	**13 40 59.3**	**+0.7**
	baz=83						
ARSB				⇑*i*S	**Sb**	**13 41 12.2**	**+1.1**
	baz=83						
AML	**Almayashu**	**1.83**	**54**	⇑*i*P	**Pg**	**13 41 13.7**	**+1.2**
	baz=58						
AML				⇑*i*S	**Sg**	**13 41 37.5**	**+1.3**
	baz=58						
MRKS	**Merke**	**2.03**	**33**	Pg	**Pg**	**13 41 16.7**	**+0.4**
	11nm,0.2s						
MRKS				Pg	**Pb**	**13 41 16.8**	**+1.7**
	4.9nm,0.2s						
MRKS				Lg	Lg	13 41 43.9	
	27nm,0.4s						
MRKS				Lg	Lg	13 41 44.4	
	26nm,0.4s						
MRKS	**Merke**	**2.03**	**33**	*e*P	**Pg**	**13 41 16.5**	**+0.3**
	4.9nm,0.2s						
MRKS				*e*S	**Sg**	**13 41 43.7**	**+1.2**
	26nm,0.4s						
ARLS	**Aral**	**2.12**	**67**	⇓*i*P	**Pg**	**13 41 19.1**	**+1.1**
	baz=71						
ARLS				⇓*i*S	**Sg**	**13 41 46.3**	**+0.9**
	baz=71						
EKS2	**Erkin-Say**	**2.22**	**43**	⇑*i*P	**Pg**	**13 41 20.0**	**0.0**
	baz=46						
EKS2				⇑*i*S	**Sg**	**13 41 48.1**	**-0.7**
	baz=46						
KK31	**Karatay Array**

BTLS	**Baital**	4.33	22	*e*P		Pg	13 41 58.9	-1.4
	2.7nm,0.3s							
BTLS					*e*S	Sg	13 42 57.5	+1.1
	6.9nm,0.4s							
TNSS	**Tian-Shan**	4.37	61	Pg		Pg	13 41 59.7	-1.4
	2.3nm,0.3s							
TNSS					Lg	Lg	13 42 57.6	
	2.8nm,0.5s							
KTBS	**Karatobe**	4.53	53	Pg		Pg	13 42 01.4	-2.9
	1.4nm,0.1s							
KTBS					Lg	Lg	13 43 00.8	
	6.9nm,0.4s							
ARXS	**Arharly**	5.50	53	Pg		Pg	13 42 20.2	-2.6
	0.7nm,0.2s							
ARXS					Lg	Lg	13 43 32.9	
	3.2nm,0.3s							

*IDC **16** 13:45:10.8±1.6,3°.18N×127°.11E,h0km,mb3.8/5,*
mb1 4.0/5,mb1mx3.7/33,mbtmp3.8/5,MS3.2/4,Ms1 3.2/4,
ms1mx2.7/38,Error ellipse: s-maj=101.8km s-min=21.8km
az=68.0
*ISCJB **16** 13:45:14.3±0.6,3°.39N±0°.06×127°.26E±0°.09,h44km,*
mb4.1/12,Error ellipse: s-maj=14.1km s-min=7.4km
az=156.0
*NEIC **16** 13:45:16.0±0.5,2°.91N×126°.45E,h35km,mb4.2/8,Error*
ellipse: s-maj=31.7km s-min=8.3km az=65.0
*DJA **16** 13:45:35.0±0.5,3°.N±5°×12°.5E±°,h10km,M4.0/5,mb4.9/4,*
mB5.0/1,MLv3.6/5,Mw(mB)4.4/1

ISC 16 13:45:17.1±0.8,3°.24N±0°.08×127°.2E±0°.1,h44km,n35,
σ2§33/28,mb4.2/12,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	1.69	285	P	Pn	13 45 42.6	-1.6
TNTI	**Ternate**	2.46	175	*e*Pn	Pn	13 45 50.1	-4.6
TNTI				*e*Sn	Sn	13 46 27.4	+3.9
TNTI	**Ternate**	2.46	175	P	Sn	13 46 28.1	+4.6
MRSI	**Marisa**	5.89	242	P	Pn	13 46 42.4	+0.5
LUWI	**Luwuk**	6.11	226	P	Pn	13 46 52.0	+7.1
	23nm,0.6s,2μm0.1nm						
APSI	**Ampana**	6.88	233	P	Pn	13 47 00.3	+4.8
	19nm,0.5s						
FAKI	**Fak Fak**	7.95	140	*e*Pn	Pn	13 47 13.4	+3.2
KDI	**Kendari**	8.46	212	P	Pn	13 47 30.0	+13
	5μm,2.4s						
PLAI	**Plampang**	15.20	218	P	P	13 48 55.5	+2.2
GUMO	**Guam**	20.29	59	LR	LR	13 56 40.5	
	comp=Z,28nm,21.7s,baz=207,slow=34						
TPI	**Tanjungpandan**	20.39	253	P	P	13 49 48.0	-2.4
FITZ	**Fitzroy Crossi**	21.25	184	*e*P	P	13 49 56.8	-2.9
	8.8nm,1.3s						
FITZ	**Fitzroy Crossi**	21.25	184	P	P	13 49 58.5	-1.1
	2.1nm,0.6s,baz=359,slow=5.4,SNR=7.5						
WRAB	**Tennant Creek**	24.08	163	*e*P	P	13 50 27.3	-1.4
	5.8nm,0.7s						
WR1	**Warramunga Arr**	24.09	163	*e*P	P	13 50 27.9	-0.8
WRA	**Warramunga Arr**	24.09	163	P	P	13 50 27.9	-0.8
	0.8nm,0.3s,baz=342,slow=11,SNR=36						
WB2	**Warramunga Arr**	24.09	163	*e*P	P	13 50 27.4	-1.3
	3.9nm,0.8s						
ASAR	**Alice Springs**	27.54	167	P	P	13 50 59.1	-0.8
	0.3nm,0.4s,baz=353,slow=8.3,SNR=7.9						
WHN	**Wuhan**	29.74	337	P	P	13 51 25.0	+5.6
CMAR	**Chiang Mai Arr**	31.49	301	LR	LR	14 06 29.8	
	comp=Z,8.3nm,18.1s,baz=315,slow=41						
FORT	**Forrest**	33.84	179	*e*P	P	13 51 50.8	-4.5
	5.5nm,0.8s						
BBOO	**Buckleboo**	36.83	167	*e*P	P	13 52 20.1	-1.0
	14nm,1.4s						
STKA	**Stephens Creek**	37.52	160	P	P	13 52 26.2	-0.8
	1.3nm,0.4s,baz=335,slow=10,SNR=8.0						
MK32	**Makanchi Array**	58.20	325	*e*P	P	13 55 06.1	-0.7
MKAR	**Makanchi Array**	58.20	325	*e*P	P	13 55 06.4	-0.5
MKAR	**Makanchi Array**	58.20	325	P	P	13 55 06.1	-0.8
	0.5nm,0.5s,baz=122,slow=8.1,SNR=6.3						
KSH	**Kashi**	58.70	315	P	P	13 55 11.8	+1.2
BOOM	**Boomskoye usch**	59.98	318	*e*P	P	13 55 16.4	-3.1
	30nm,1.1s						
KURK	**Kurchatov**	62.39	327	*e*P	P	13 55 34.3	-1.0
	1.7nm,0.7s						
TIXI	**Tiksi**	68.33	1	*e*P	P	13 56 14.4	+1.0
	4.5nm,1.4s						
NRIK	**Noril'sk**	71.01	346	LR	LR	14 32 02.1	
	comp=Z,40nm,19.3s,baz=44,slow=40						
ABKAR	**Akbulak array**	72.80	321	*e*P	P	13 56 40.0	-1.1
MAW	**Mawson**	83.44	200	LR	LR	14 30 45.0	
	comp=Z,61nm,21.0s,baz=228,slow=33						
TORD	**Torodi Ar. Bea**	123.48	288	PKP	PKiKP	14 04 11.4	+0.4
	1.3nm,1.1s,baz=72,slow=1.8,SNR=3.6						
TOA1	**Torodi Ar. Sit**	123.48	288	*e*PKPdf	PKiKP	14 04 11.4	+0.4

*BUL **16** 14:04:44.0±2.2,21°.94S×31°.09E,h16km±332km,MD3.5*
*EAF **16** 14:04:44.1±1.9,21°.82S×31°.02E,h11km±16km,MD3.7*

ISC 16 14:04:43.9±3.0,21°.78S±0°.05×30°.8E±0°.2,h10km,n9,
σ2§48/17,Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	0.89	230	*i* P	Pn	14 05 04.2	+1.6
MSNA				*i* S	Sb	14 05 15.8	+2.2
MSNA	**Messina**	0.89	230	*i* P	Pn	14 05 04.2	+1.6
MSNA				*i* S	Sb	14 05 15.8	+2.2
MATP	**Matopo**	2.50	302	*i* P	Pn	14 05 26.8	+1.9
MATP				*i* S	Sb	14 05 59.9	-0.2
MATP	**Matopo**	2.50	302	*i* P	Pn	14 05 26.8	+1.9
MATP				*i* S	Sb	14 05 59.9	-0.2
BLWY	**Bulawayo**	2.59	309	*i* P	Pn	14 05 27.6	+1.5
BLWY				*i* S	Sb	14 06 01.9	-0.6
BLWY	**Bulawayo**	2.59	309	*i* P	Pn	14 05 27.6	+1.5
BLWY				*i* S	Sb	14 06 01.9	-0.6
LBTB	**Lobatse**	5.74	235	*i* P	Pn	14 06 10.6	+1.2
LBTB				*i* S	Sn	14 07 14.6	-0.7
LSZ	**Lusaka**	6.91	339	*i* P	Pn	14 06 26.1	+0.7
BOSA	**Boshof**	8.44	215	*i* P	Pn	14 06 47.4	+0.9
BOSA				*i* S	Sn	14 08 14.5	-7.4

*IDC **16** 14:11:04.8±7.1,27°.43S×174°.80W,h0km,mb4.0/4,*
mb1 4.1/7,mb1mx3.9/33,mbtmp4.1/7,ML3.2/2,MS3.5/1,
Ms1 3.5/1,ms1mx2.6/33,Error ellipse: s-maj=119.6km
s-min=49.1km az=87.0
*NEIC **16** 14:11:15.1±1.1,27°.52S×175°.44W,h45km±17km,mb4.2/7,*
Error ellipse: s-maj=37.0km s-min=10.8km az=125.0

ISC 16 14:11:13.2±2.1,27°.7S±0°.1×175°.2W±0°.2,h35km,n19,
σ1§35/19,mb4.1/8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	2.82	237	Pn	Pn	14 11 57.2	+1.4
	126nm,0.3s,baz=52,slow=19,SNR=5.1						
RAO				Sn	Sn	14 12 29.9	+1.3
	364nm,0.3s,baz=87,slow=21,SNR=10						
NIUE	**Niue**	9.88	31	*e*Pn	Pn	14 13 33.7	+0.9
URZ	**Urewera**	12.32	209	Pn	Pn	14 14 06.7	+0.6
	0.1nm,0.3s,baz=117,slow=9.0,SNR=3.0						
URZ				Sn	Sn	14 16 18.5	-3.6
	2.4nm,0.3s,baz=355,slow=18,SNR=17						
KHZ	**Kahutara**	17.29	209	*e*Pn	P	14 15 14.1	+1.2
	24nm,1.0s						
DZM	**Mont Dzumac**	17.55	285	P	P	14 15 14.5	-1.6
	0.1nm,0.3s,baz=117,slow=2.3,SNR=2.3						
CTA	**Charters Tower**	35.91	274	P	P	14 18 10.4	+0.1
	2.5nm,0.6s,baz=105,slow=11,SNR=2.8						
CTAO	**Charters Tower**	35.91	274	*e*P	P	14 18 10.5	+0.1
	3.3nm,0.8s						
STKA	**Stephens Creek**	37.52	253	*e*P	P	14 18 24.2	+0.3
	0.1nm,0.3s						
STKA	**Stephens Creek**	37.52	253	P	P	14 18 24.2	+0.3
	1.4nm,0.5s,baz=104,slow=14,SNR=5.5						
AS31	**Alice Springs**	45.76	263	*e*P	P	14 19 31.7	+0.1
	0.5nm,0.4s						
ASAR	**Alice Springs**	45.76	263	*e*P	P	14 19 30.7	-0.9
ASAR	**Alice Springs**	45.76	263	P	P	14 19 31.6	+0.1
	0.5nm,0.4s,baz=97,slow=6.9,SNR=43						
WB2	**Warramunga Arr**	46.51	268	*e*P	P	14 19 37.6	+0.1
	3.4nm,1.0s						
WRAB	**Tennant Creek**	46.52	268	*e*P	P	14 19 35.2	-2.3
	4.4nm,1.0s						
WR1	**Warramunga Arr**	46.52	268	*e*P	P	14 19 36.8	-0.8
WRA	**Warramunga Arr**	46.52	268	P	P	14 19 36.8	-0.8
	0.7nm,0.5s,baz=108,slow=7.5,SNR=15						
JAY	**Jayapura**	48.97	293	LR	LR	14 39 47.8	
	comp=Z,44nm,18.8s,baz=74,slow=35						
FORT	**Forrest**	49.13	252	*e*P	P	14 19 58.0	+0.4
	8.4nm,0.6s						
MTN	**Manton Dam**	52.06	275	*e*P	P	14 20 19.2	-0.8

*DSN **16** 14:11:32.5±2.2,26°.56N×58°.41E,h10km,ML3.9/8,Error*
ellipse: s-maj=30.4km s-min=8.5km az=11.0
*OMAN **16** 14:11:33.3±3.1,26°.65N×58°.40E,h12km,ml3.7/11,Error*
ellipse: s-maj=34.4km s-min=17.8km az=13.0
*IDC **16** 14:11:35.0±1.4,26°.20N×57°.81E,h0km,mb3.5/6,*
mb1 3.6/6,mb1mx3.4/39,mbtmp3.5/6,MS2.4/1,Ms1 2.4/1,
ms1mx2.2/24,Error ellipse: s-maj=35.7km s-min=29.2km
az=11.0
*ISCJB **16** 14:11:36.5±0.5,26°.65N±0°.03×57°.86E±0°.07,h10km,*
mb3.4/6,Error ellipse: s-maj=8.7km s-min=4.4km az=10.3
*TEH **16** 14:11:37.4,26°.75N×57°.88E,h15km,ML3.8*

ISC 16 14:11:38.1±0.8,26°.65N±0°.04×57°.70E±0°.05,h10km,n50,
σ1§83/50,mb3.5/6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	1.01	176	*e*Pg	Pn	14 11 58.3	-0.1
NIAN	**Nian**	1.19	320	*e*Pg	Pg	14 12 01.7	+0.7
NIAN				IAMB	IAmb	14 12 31.5	
	comp=Z,0.0nm,0.4s						
KHNJ	**Kahnooj**	1.29	0	*e*Pg	Pn	14 11 59.0	-3.3
SHME	**Shamm**	1.52	247	*e*P	Pg	14 12 07.5	+0.2
	SNR=133						
SHME				S	Sg	14 12 34.8	+7.7
SHME	**Shamm**	1.52	247	*e*Pn	Pg	14 12 07.9	+0.5
BNDS	**Bandar-Abbas**	1.56	299	*e*Pg	Pn	14 12 01.7	-4.3
GENO	**Geno**	1.56	299	IAMB	IAmb	14 12 42.4	
	comp=Z,0.0nm,0.6s						
GENO				*e*Pn	Pg	14 12 07.9	-0.1
MSFE	**Esma-Masafi**	1.89	228	*e*P	Pn	14 12 10.3	-0.2
	SNR=15						
MSFE	**Esma-Masafi**	1.89	228	*e*Pn	Pn	14 12 10.0	-0.5
HATD	**Hatta, Dubai**	2.30	218	*e*P	Pn	14 12 15.4	-0.8
	SNR=12						
HATD	**Hatta, Dubai**	2.30	218	*e*Pn	Pn	14 12 15.4	-0.8
ASHO	**Ashiyiah**	2.46	217	*e*P	Pn	14 12 18.2	-0.1
	SNR=7.1						
ASHO	**Ashiyiah**	2.46	217	P	Pn	14 12 18.4	+0.1
	SNR=8.6						
ASHO	**Ashiyiah**	2.46	217	*e*Pn	Pn	14 12 18.1	-0.2
NAZ	**Nazwa, Dubai**	2.47	228	P	Pb	14 12 20.1	-2.6
NAZ	**Nazwa, Dubai**	2.47	228	P	Pb	14 12 23.2	+0.5
	SNR=7.3						
NAZ				S	Sg	14 13 03.7	+6.1
NAZ	**Nazwa, Dubai**	2.47	228	*e*Pn	Pb	14 12 21.3	-1.4
FAQ	**Al Faqa, Dubai**	2.69	226	P	Pn	14 12 21.8	+0.4
FAQ	**Al Faqa, Dubai**	2.69	226	P	Pb	14 12 24.1	-2.2
	SNR=5.2						
FAQ				S	Sg	14 13 02.0	-2.5
FAQ	**Al Faqa, Dubai**	2.69	226	*e*Pn	Pb	14 12 24.0	-2.3
CHBR	**Chabahar**	2.71	112	*e*Pn	Pn	14 12 22.9	+1.1
SOHO	**SOHO**	2.72	203	P	Pn	14 12 20.1	-1.8
ASUD	**Al Ashush, Dub**	2.94	227	*i* P	Pn	14 12 25.2	+0.3
	SNR=10						
ASUD	**Al Ashush, Dub**	2.94	227	P	Pb	14 12 28.2	-2.4
	SNR=10						
ASUD	**Al Ashush, Dub**	2.94	227	*e*Pn	Pb	14 12 28.1	-2.5
HOQ	**Hoqain**	3.07	187	P	Pn	14 12 25.1	-1.7
	SNR=5.4						
NGRK	**Negar Kerman**	3.10	344	*e*Pn	Pn	14 12 28.0	+0.4
NGRK				IAMB	IAmb	14 13 16.8	
	comp=Z,0.0nm,0.4s						
ALNE	**Al Ain**	3.13	215	*i* P	Pn	14 12 26.0	-1.5
	SNR=5.5						
ALNE	**Al Ain**	3.13	215	*e*Pn	Pn	14 12 28.8	+1.3
CHMN	**Cheshme madani**	3.20	358	*e*Pn	Pn	14 12 29.9	+1.0
CHMN				IAMB	IAmb	14 13 28.2	
	comp=Z,0.0nm,1.0s						
KRBR	**Kerman**	3.42	346	*e*Pn	Pn	14 12 30.3	-1.6
TVBK	**TV Kerman**	3.43	346	IAMB	IAmb	14 13 34.5	
	comp=Z,0.0nm,0.4s						
ARQ	**Araqi**	3.47	198	P	Pn	14 12 32.6	+0.4
	SNR=5.5						
SMDO	**Samad**	3.59	175	P	Pn	14 12 33.1	-0.8
	SNR=6.6						
KHGB	**Koh Gabri**	3.87	344	*e*Pn	Pn	14 12 39.4	+1.5
KHGB				IAMB	IAmb	14 13 39.0	
	comp=Z,0.0nm,0.9s						
SZD1	**Zahaedan-tmp**	3.98	44	*e*Pn	Pn	14 12 38.2	-1.1
ZHSF	**Zahedan**	4.01	42	*e*Pn	Pn	14 12 39.7	-0.1
IMEH	**Mehriz**	5.44	331	*e*Pn	Pn	14 13 00.2	+0.6
IKOO	**Kooshah**	5.87	11	*e*Pn	Pn	14 13 03.8	-1.6
IKOO				IAMB	IAmb	14 15 01.2	
	comp=Z,0.0nm,1.2s						
IKAZ	**Kazeroun**	6.04	302	*e*Pn	Pn	14 13 08.1	+0.3
ITEG	**Tejag**	6.29	8	*e*Pn	Pn	14 13 11.1	-0.1
IRAM	**Ramesheh**	6.93	319	*e*Pn	Pn	14 13 20.8	+0.8
ANAR	**Anarak**	7.37	333	*e*Pn	Pn	14 13 27.7	+1.7
GEYT	**Alibeck**	11.25	2	LR	LR	14 19 44.1	
	comp=Z,19nm,20.4s,baz=180,slow=42						
BRTR	**Keskin Array B**	23.90	309	P	P	14 16 54.0	+1.8
	comp=Z,0.9nm,0.7s,baz=134,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	27.96	38	P	P	14 17 30.9	+2.1
	comp=Z,0.2nm,0.6s,baz=222,slow=7.8,SNR=2.9						
FINES	**FINESS Array B**	40.76	337	P	P	14 19 20.8	+1.7
	comp=Z,0.8nm,0.7s,baz=152,slow=8.4,SNR=4.1						
ARCES	**ARCESS Array B**	46.84	345	P	P	14 20 08.9	+1.0
	comp=Z,0.6nm,0.7s,baz=130,slow=9.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	53.97	267	P	P	14 21 02.3	-0.3
	comp=Z,0.7nm,0.6s,baz=68,slow=7.8,SNR=5.1						
ASAR	**Alice Springs**	88.99	117	P	P	14 24 30.1	-3.4
	comp=Z,0.2nm,0.8s,baz=302,slow=5.4,SNR=3.0						

*DDA **16** 14:14:24.8,41°.14N×43°.88E,h7km±2km,ML2.7*
*TIF **16** 14:14:25.0,41°.17N×43°.90E,h17km*
*ISK **16** 14:14:25.7,41°.14N×43°.82E,h11km,ML2.8/3*
*NORS **16** 14:14:26.6±0.0,41°.33N×44°.05E,h4km,MPVA3.6*

ISC 16 14:14:25.2±0.9,41°.14N±0°.03×43°.92E±0°.02,h15km±9km,
n37,σ1§11/64,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	0.27	298	P	Pg	14 14 31.3	+0.1
BGD				S	Sg	14 14 35.5	+0.3
AKH	**Akhalkalaki**	0.42	311	PG	Pg	14 14 33.5	-0.2
AKH				SG	Sg	14 14 39.2	-0.3
AKH	**Akhalkalaki**	0.42	311	P	Pg	14 14 33.5	-0.2
AKH				S	Sg	14 14 39.3	-0.3
AKH	**Akhalkalaki**	0.42	311	*e*Pg	Pg	14 14 33.5	-0.2
AKH				*e*Sg	Sg	14 14 39.3	-0.3
KZRT	**Kazreti**	0.44	55	P	Pg	14 14 34.5	+0.4
KZRT				S	Sg	14 14 39.2	-0.8
DIGO	**Kars**	0.83	210	*i* P	Pg	14 14 41.0	-0.4
DIGO				*i* S	Sg	14 14 53.3	+1.0
TBLG	**Delisi**	0.86	46	P	Pg	14 14 41.5	-0.3
TBLG				S	Sb	14 14 53.9	+0.7
TBLG	**Delisi**	0.86	46	*i* P	Pb	14 14 42.4	+0.5
TBLG				*i* S	Sb	14 14 53.5	+0.4
TBLG	**Delisi**	0.86	46	*e*Pg	Pg	14 14 41.5	-0.3
TBLG				*e*Sg	Sb	14 14 53.9	+0.7
BTNK	**Botanikuri**	0.86	50	*i* P	Pb	14 14 42.3	+0.5
BTNK				*i* S	Sb	14 14 53.8	+0.6
EPOS	**Posof**	0.97	293	*i* P	Pg	14 14 43.1	-0.9
EPOS				*i* S	Sg	14 14 54.8	-1.9
IGDI	**IGDIR**	1.27	174	*i* P	Pn	14 14 47.3	-1.3
SENK	**Senkaya-Erzuru**	1.32	245	PN	Pn	14 14 49.8	+0.5
SENK				SN	Sb	14 15 07.2	+0.5
GUDG	**Gudauri**	1.39	17	P	Pg	14 14 51.9	-0.2
TKB	**Tkibuli**	1.40	331	P	Pb	14 14 51.1	+0.1
TKB				S	Sg	14 15 09.8	-0.5
ONI	**Oni**	1.49	347	PN	Pb	14 14 52.9	+0.2
ONI	**Oni**	1.49	347	P	Pb	14 14 52.8	0.0
ONI				S	Sg	14 15 12.7	-0.7
ONI	**Oni**	1.49	347	*e*Pg	Pb	14 14 52.8	0.0
ONI				*e*Sg	Sg	14 15 12.7	-0.7
DAGI	**Agillar**	1.52	268	*i* P	Pb	14 14 53.6	+0.5
ZEI	**Tsey**	1.65	360	*e*Pg	Pb	14 14 55.6	+0.1
ZEI				*e*Sg	Sg	14 15 19.0	+0.6
DDEM	**Demirkent**	1.66	262	*i* P	Pn	14 14 55.4	+1.5
EATA	**Eleskirt**	1.67	221	IAML_P			
	comp=Z,584nm,0.3s						
EATA				*i* P	Pb	14 14 56.6	+0.7
DBAD	**Bademkaya**	1.68	267	*i* P	Pb	14 14 55.9	-0.1
DDFL	**Dedoflistskaro**	1.69	79	P	Pn	14 14 54.8	+0.5
DDFL				S	Sg	14 15 21.0	+1.5
DBOC	**Borcka**	1.71	278	*i* P	Pb	14 14 56.7	+0.3
LACR	**Lac**	1.71	9	*e*Pg	Pb	14 14 56.3	-0.2
LACR				*e*Sg	Sg	14 15 19.6	-0.8
BATM	**Batumi**	1.74	286	PN	Pn	14 14 55.8	+0.9
BATM	**Batumi**	1.74	286	P	Pb	14 14 56.6	-0.3
BATM				S	Sb	14 15 18.7	+0.2
BCA	**Borcka**	1.76	281	PN	Pn	14 14 55.9	+0.7
DIGR	**Digorskoe uzhe**	1.78	352	*e*Pg	Pg	14 14 58.7	-0.8
DIGR				*e*Sg	Sg	14 15 22.8	+0.2
LGD	**Lagodekhi**	1.88	67	P	Pb	14 14 59.6	+0.3
LGD				S	Sg	14 15 24.9	-0.9
LGD	**Lagodekhi**	1.88	67	*e*Pg	Pb	14 14 59.6	+0.3
LGD				*e*Sg	Sg	14 15 24.9	-0.9
ARNR	**Ardon**	2.06	7	*i* Pg	Pg	14 15 03.8	-1.0
ARNR				*e*Sg	Sb	14 15 28.9	+1.1
NEY	**Neytrino**	2.29	338	*e*Pg	Pb	14 15 07.7	+1.3
NEY				*e*Sg	Sg	14 15 36.9	-1.9
BTLR	**Botlikh**	2.30	48	*e*Pg	Pg	14 15 08.4	-0.9
BTLR				*e*Sg	Sg	14 15 37.6	-1.6
AKT	**Akhty**	2.89	82	*e*Pn	Pb	14 15 15.2	-1.4
AKT				*e*Sn	Sb	14 15 51.7	-0.1
GUZR	**Guzeripl'**	4.00	317	*e*Pn	Pn	14 15 29.8	+3.7
GUZR				*e*Sn	Sb	14 16 18.8	-5.0

*MEX **16** 14:15:45.3±0.3,14°.84N×92°.70W,h91km±5km,MD4.5*
*NEIC **16** 14:15:45.4±0.0,14°.93N×92°.64W,h96km,mb4.6/86,*
MD4.5(MEX),After MEX.
*SNET **16** 14:15:45.9±1.3,14°.00N×92°.80W,h15km±999km,ML4.1*
*UCR **16** 14:15:46.4±1.8,14°.97N×92°.66W,h80km±43km,MD4.2,*
ML3.9,mb4.6(NEIC)
*ISCJB **16** 14:15:47.1±0.5,15°.12N±0°.03×92°.41W±0°.03,h134km±4km,*
mb4.5/79,Error ellipse: s-maj=5.9km s-min=5.0km
az=41.5
*IDC **16** 14:15:50.0±1.3,15°.33N×91°.98W,h142km±10km,mb3.8/16,*
mb1 4.0/18,mb1mx3.8/38,mbtmp4.2/18,MS3.1/4,
Ms1 3.0/4,ms1mx2.6/35,Error ellipse: s-maj=23.8km
s-min=10.7km az=56.0

ISC 16 14:15:45.4±0.8,15°.08N±0°.06×92°.57W±0°.05,h109km±6km,
n387,σ1§24/400,mb4.6/79,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.88	315	*e*Pn	Pn	14 16 03.8	-1.5
PCIG				*e*Sn	Sn	14 16 18.2	-2.1
PCIG		0.88	315	*e*P	Pn	14 16 03.8	-1.5
PCIG				*e*S	Sn	14 16 18.2	-2.1
CCIG	**Comitan**	1.27	19	*e*Pn	Pn	14 16 09.9	+0.3
CCIG				*e*Sn	Sn	14 16 26.5	-1.5
CCIG	**Comitan**	1.27	19	*e*P	Pn	14 16 09.9	+0.3
CCIG				*i* S	Sn	14 16 30.1	+2.1
FUG	**Fuego 3**	1.78	110	*e*P	Pn	14 16 16.7	+0.9
PCG	**Pacaya**	2.02	109	*e*P	Pn	14 16 20.1	+1.3
APG	**El Apazote**	2.04	92	P	Pn	14 16 19.5	+0.5
	55nm,0.3s,baz=306,slow=12,SNR=333						
APG				S	Sn	14 16 41.0	-3.6
	41nm,0.3s,baz=302,slow=18,SNR=4.7						
APG				LR	LR	14 17 04.1	
	comp=Z,820nm,20.6s,baz=33,slow=50						
NBG	**Las Nubes**	2.20	102	*e*P	Pn	14 16 22.5	+1.3
IXG	**Ixpaco**	2.25	113	*e*P	Pn	14 16 23.2	+1.5
MRL	**Marmol**	2.79	90	*e*P	Pn	14 16 30.1	+1.3
CMIG	**Matias Romero**	2.99	312	*e*Pn	Pn	14 16 30.5	-0.8
CMIG	**Matias Romero**	2.99	312	*e*P	Pn	14 16 30.5	-0.8
CMIG				*i* S	Sn	14 17 06.2	-0.5
CMIG	**Matias Romero**	2.99	312	P	Pn	14 16 30.7	-0.6
	23nm,0.3s,baz=138,slow=11,SNR=108						
CMIG				S	Sn	14 17 05.4	-1.2
	87nm,0.3s,baz=93,slow=15,SNR=8.2						
SBLS	**San Blas**	3.11	113	*e*P	Pn	14 16 34.9	+1.8
SBLS				*e*S	Sn	14 17 13.4	+3.6
SBLS	**San Blas**	3.11	113	*e*P	Pn	14 16 34.9	+1.8
SBLS				*e*S	Sn	14 17 13.4	+3.6
CEVE	**Cerro Verde**	3.11	113	*e*P	Pn	14 16 34.9	+1.7
CEVE				*e*S	Sn	14 17 13.1	+3.2
CEVE				IAML		14 17 15.9	
	comp=Z,1μm,0.4s						
CEVE	**Cerro Verde**	3.11	113	*e*P	Pn	14 16 34.9	+1.7
CEVE				*e*S	Sn	14 17 13.1	+3.2
CEVE				IAML		14 17 15.9	
	comp=Z,1μm,0.4s						
SNJE	**San Jose**	3.11	112	*e*P	Pn	14 16 35.4	+2.3
SNJE	**San Jose**	3.11	112	*e*P	Pn	14 16 35.4	+2.3
BOQS	**Boqueron**	3.46	112	*e*P	Pn	14 16 40.0	+2.3
LFRS	**El Faro**	3.69	113	*e*P	Pn	14 16 41.2	+0.5
TECA	**Tecapa**	4.25	111	*e*P	Pn	14 16 51.1	+2.8
TECA	**Tecapa**	4.25	111	*e*P	Pn	14 16 51.1	+2.8
MYIG	**Mrida**	6.44	24	*e*Pn	Pn	14 17

baz=203,SNR=9.6
149A Jones 18.22 16 P Pn 14 19 52.1 +0.9
baz=198
TIGA Tifton 18.24 25 P Pn 14 19 51.3 -0.2
baz=209
252A Lumpkin 18.30 22 P Pn 14 19 52.1 0.0
baz=205
150A Eclectic 18.44 18 P Pn 14 19 54.2 +0.4
baz=200,SNR=12
151A Opelika 18.58 20 P Pn 14 19 55.7 +0.1
baz=202,SNR=6.5
LRAL Lakeview Retre 18.58 15 eP Pn 14 19 56.7 +1.2
comp=Z,19nm,0.4s
LRAL Lakeview Retre 18.58 15 P Pn 14 19 55.4 -0.1
baz=197
254A Abbeville 18.81 25 P P 14 19 56.9 +0.4
baz=209
Z49A Columbiana 18.85 16 P Pn 14 19 58.7 0.0
baz=198,SNR=10.0
152A Waverly Hall 18.91 21 eP Pn 14 19 59.7 +0.3
comp=Z,24nm,0.8s
152A Waverly Hall 18.91 21 P Pn 14 19 59.0 -0.4
baz=204,SNR=9.7
Z50A Ashland 19.08 17 eP Pn 14 20 01.4 0.0
comp=Z,12nm,0.6s
Z50A Ashland 19.08 17 P P 14 20 00.3 +0.9
baz=200
255A Hazlehurst 19.14 27 P P 14 20 00.2 +0.1
baz=211
153A Fort Valley 19.22 23 P Pn 14 20 02.3 -0.7
baz=206
Y48A Jasper 19.38 14 P Pn 14 20 04.1 -0.9
baz=196
MIAR Mount Ida 19.41 357 eP P 14 20 04.1 +1.1
comp=Z,11nm,0.8s
MIAR Mount Ida 19.41 357 P Pn 14 20 04.4 -0.9
baz=177,SNR=5.2
154A Montrose 19.47 25 P Pn 14 20 04.9 -1.0
baz=208
Z52A Williamson 19.49 21 P Pn 14 20 05.3 -0.9
baz=204,SNR=10
Y49A Blount Mountai 19.51 16 eP P 14 20 05.1 +1.0
comp=Z,11nm,0.6s
Y49A Blount Mountai 19.51 16 P Pn 14 20 05.4 -1.1
baz=198
OXF Oxford 19.56 8 P P 14 20 05.8 +1.2
baz=189
Y50A Piedmont 19.73 17 P P 14 20 07.6 +1.1
baz=200
155A Kite 19.74 26 P P 14 20 06.5 -0.1
baz=210
X47A Russelville 19.82 12 P P 14 20 08.5 +1.0
baz=194
Z53A Monticello 19.88 23 P P 14 20 08.8 +0.7
baz=206,SNR=18
X48A Hartselle 19.93 14 P P 14 20 09.6 +1.0
baz=196
Y51A Rockmart 19.93 19 P P 14 20 09.8 +1.1
baz=202,SNR=7.8
W41B Gary Mavity, V 20.02 1 P P 14 20 10.3 +0.7
baz=181
GOGA Godfrey 20.03 23 eP P 14 20 10.8 +1.0
comp=Z,30nm,0.8s
GOGA Godfrey 20.03 23 P P 14 20 10.7 +1.0
baz=206,SNR=16
W39A Magazine 20.06 357 P P 14 20 10.8 +0.7
baz=177
Z54A Sparta 20.12 24 P P 14 20 11.2 +0.5
baz=208,SNR=7.2
GDL2 Guadalupe Moun 20.15 330 eP Pn 14 20 13.8 -0.3
X49A Woodville 20.16 15 P P 14 20 11.9 +0.8
baz=198,SNR=12
Y52A Lilburn 20.23 21 eP P 14 20 13.2 +1.3
comp=Z,25nm,0.8s
Y52A Lilburn 20.23 21 P P 14 20 12.9 +1.0
baz=204,SNR=8.3
PLAL Pickwick Lake 20.23 11 eP Pn 14 20 14.7 -0.1
comp=Z,9.0nm,0.7s
MNTX Cornudas Mount 20.27 327 eP Pn 14 20 14.7 -0.6
comp=Z,7.7nm,0.8s
MNTX Cornudas Mount 20.27 327 P Pn 14 20 14.1 -1.2
baz=142,SNR=17
X50B Fort Payne 20.29 17 P P 14 20 13.0 +0.4
baz=200,SNR=8.0
WMOK Wichita Mounta 20.36 345 eP P 14 20 13.8 +0.5
comp=Z,4.7nm,0.8s
WMOK Wichita Mounta 20.36 345 P P 14 20 14.5 +1.1
baz=163
Y53A Monroe 20.39 22 P P 14 20 14.3 +0.7
baz=206,SNR=8.8
Z55A Blythe 20.39 26 P P 14 20 14.6 +1.0
baz=210
W47A Westpoint 20.58 12 P P 14 20 16.0 +0.3
baz=194
W48A Pulaski 20.61 13 P P 14 20 16.9 +1.0
baz=196
X51A Calhoun 20.61 18 eP P 14 20 16.2 +0.2
comp=Z,11nm,0.9s
X51A Calhoun 20.61 18 P P 14 20 16.4 +0.4
baz=202
SDDR Presa de Saban 20.71 76 eP P 14 20 18.8 +1.5
comp=Z,24nm,0.6s
Y54A Tignall 20.73 24 P P 14 20 18.1 +0.8
baz=208
W49A Belvidere 20.75 15 P P 14 20 18.2 +0.7
baz=197
Z56A Williston 20.81 27 P P 14 20 18.6 +0.4
baz=212
SWET Sewanee 20.92 15 eP P 14 20 20.3 +0.9
comp=Z,12nm,0.7s
MSTX Muleshoe 20.95 336 P P 14 20 20.8 +1.0
baz=152
X52A Dahlonega 20.96 20 P P 14 20 20.0 +0.3
baz=204,SNR=7.5
V46A Holladay 21.02 10 P P 14 20 20.8 +0.4
baz=192
X53A Estanollee 21.07 22 P P 14 20 21.5 +0.5
baz=206,SNR=5.8
Z57A Bowman 21.09 29 P P 14 20 21.2 +0.1
baz=213
Y55A Saluda 21.13 25 P P 14 20 22.1 +0.5
baz=210
HHAR Hobbs 21.15 357 eP P 14 20 22.3 +0.5
comp=Z,6.5nm,0.9s
V47A Nunnelly 21.15 11 P P 14 20 22.1 +0.3
baz=194
NHSC New Hope 21.18 30 P P 14 20 22.1 0.0
baz=215
W51A Cleveland 21.20 18 P P 14 20 22.6 +0.4
baz=201
V48A Smith Brothers 21.21 13 P P 14 20 22.7 +0.3
baz=196
HODGE Hodges 21.22 24 eP P 14 20 23.7 +1.1
comp=Z,25nm,1.1s
AMTX Amarillo 21.36 339 eP P 14 20 23.2 -0.9
comp=Z,7.7nm,0.7s
AMTX Amarillo 21.36 339 P P 14 20 24.8 +0.7
baz=156
WVT Waverly 21.39 11 P P 14 20 24.7 +0.4
baz=193
V49A McMinnville 21.45 15 P P 14 20 24.9 -0.1
baz=198
X54A Belton 21.45 24 P P 14 20 25.8 +0.7
baz=208
CPCT Cooper Cave 21.54 18 eP P 14 20 26.0 +0.1
comp=Z,8.2nm,0.7s
U46A Springville 21.55 10 P P 14 20 27.0 +1.0
baz=192
V50A Pikevile 21.57 17 P P 14 20 26.4 +0.1
baz=200
BG3 Lake Jocassee 21.64 22 eP P 14 20 28.2 +1.2
comp=Z,11nm,0.6s
JSC Jenkinsville 21.68 26 eP P 14 20 27.4 0.0
comp=Z,18nm,0.7s
X55A Gracelyn & Ava 21.68 25 P P 14 20 28.2 +0.7
baz=210
W53A Cullowhee 21.72 21 P P 14 20 28.9 +0.9
baz=205
Y57A Sumter 21.83 28 P P 14 20 29.3 +0.2
baz=213
V51A Loudon 21.91 18 P P 14 20 30.8 +0.9
baz=202
X56A White Oak 21.95 26 P P 14 20 30.5 +0.2
baz=211
W54A Cherokee Point 22.00 23 P P 14 20 31.5 +0.6
baz=208,SNR=6.9
Y58A Scranton 22.08 30 P P 14 20 32.3 +0.7
baz=215

T45A Paducah 22.13 8 P P 14 20 33.0 +0.8
baz=190
V52A Sevierville 22.19 20 P P 14 20 33.5 +0.8
baz=204
U49A Red Boiling Sp 22.19 15 P P 14 20 32.4 -0.3
baz=198,SNR=6.0
121A Cookes Peak, D 22.22 324 P P 14 20 35.9 +2.5
baz=138,SNR=7.6
V53A Saluda 22.29 21 eP P 14 20 35.0 +1.1
comp=Z,11nm,0.8s
V53A Saluda 22.29 21 P P 14 20 34.4 +0.5
baz=206,SNR=6.3
SDV Santo Domingo 22.31 104 eP P 14 20 31.6 -2.8
comp=Z,9.9nm,0.9s
SDV Santo Domingo 22.31 104 P P 14 20 31.6 -2.8
comp=Z,4.9nm,0.5s,baz=294,slow=9.0,SNR=5.5
U50A Jamestown 22.34 17 P P 14 20 34.5 +0.1
baz=200,SNR=7.9
T47A Sharon Grove 22.36 12 eP P 14 20 35.7 +1.2
comp=Z,20nm,0.7s
T47A Sharon Grove 22.36 12 P P 14 20 35.0 +0.5
baz=194
KMSC Kings Mountain 22.39 25 P P 14 20 35.4 +0.6
baz=210,SNR=6.3
S41A Jillco Farms, 22.43 2 P P 14 20 36.1 +0.8
baz=182
U51A La Follette 22.55 18 P P 14 20 36.5 0.0
baz=202
W56A Indian Trail 22.69 26 P P 14 20 38.0 +0.1
baz=211
V54A Nebo 22.70 23 P P 14 20 38.7 +0.6
baz=207,SNR=14
S44A Carbondale 22.72 7 P P 14 20 38.4 +0.3
baz=188
U52A Thorn Hill 22.76 19 P P 14 20 38.7 +0.1
baz=204
T49A Edmonton 22.82 15 eP P 14 20 39.2 +0.1
comp=Z,8.6nm,0.7s
T49A Edmonton 22.82 15 P P 14 20 38.6 -0.5
baz=198
BNM Barren Site 22.84 329 eP P 14 20 39.6 -0.1
TZTN Tazewell 22.84 19 eP P 14 20 40.0 +0.6
comp=Z,19nm,0.6s
TZTN Tazewell 22.84 19 P P 14 20 39.1 -0.3
baz=203,SNR=5.2
T50A Nancy 22.91 16 P P 14 20 39.3 -0.8
baz=200
CCM Cathedral Cave 22.92 3 eP P 14 20 38.3 -1.8
comp=Z,6.0nm,0.6s
CCM Cathedral Cave 22.92 3 P P 14 20 38.9 -1.2
baz=183
W57A Gilead 22.96 27 eP P 14 20 40.5 0.0
comp=Z,13nm,0.6s
W57A Gilead 22.96 27 P P 14 20 40.3 -0.2
baz=212
U53A Fall Branch 23.00 21 P P 14 20 41.2 +0.2
baz=205,SNR=8.5
V55A Taylorsville 23.05 24 P P 14 20 41.6 +0.2
baz=209,SNR=7.2
T51A Gray 23.11 18 P P 14 20 42.0 +0.1
baz=202
R41A Rosebud 23.15 2 P P 14 20 43.2 +0.8
baz=183,SNR=6.2
W58A Raeford 23.20 29 P P 14 20 42.6 -0.2
baz=214
LAZ Ladron 23.30 328 eP P 14 20 42.8 -1.2
V56A Mocksville 23.31 25 eP P 14 20 43.9 +0.1
comp=Z,15nm,0.9s
V56A Mocksville 23.31 25 P P 14 20 44.0 +0.2
baz=211
ANMO Albuquerque 23.40 330 eP P 14 20 46.2 +1.4
comp=Z,3.3nm,0.7s
ANMO Albuquerque 23.40 330 P P 14 20 46.4 +1.6
baz=145
ANMO Albuquerque 23.40 330 P P 14 20 46.6 +1.8
comp=Z,2.6nm,0.7s,baz=146,slow=13,SNR=7.7
TASM ASL Pad, Albuq 23.40 330 P P 14 20 46.6 +1.7
baz=145
TASM ASL Pad, Albuq 23.40 330 P P 14 20 46.6 +1.7
baz=145
U54A Nelsons Funny 23.41 22 eP P 14 20 45.1 +0.3
comp=Z,40nm,0.6s
U54A Nelsons Funny 23.41 22 P P 14 20 44.8 -0.1
baz=207,SNR=9.6
X60A Albert Glenn T 23.45 31 P P 14 20 44.0 -1.0
baz=218
S49A Springfield 23.52 15 P P 14 20 46.1 +0.4
baz=198
T52A Hallie 23.54 19 P P 14 20 46.4 +0.5
baz=204
S50A Richmond 23.65 16 P P 14 20 47.2 +0.4
baz=200
V57A Coltrane Farms 23.68 27 P P 14 20 46.9 -0.3
baz=212,SNR=12
U55A TA2, Sparta 23.69 24 P P 14 20 47.3 0.0
baz=209,SNR=11
R47A Wooly Knot Far 23.74 12 P P 14 20 48.4 +0.8
baz=195
U56A King 23.82 25 P P 14 20 48.5 +0.1
baz=210
S51A Beattyville 23.84 18 P P 14 20 48.8 +0.2
baz=202
TUC Tucson 23.86 319 P P 14 20 49.6 +0.7
baz=132
V58A Windy Hill, Pi 23.89 28 P P 14 20 49.0 -0.1
baz=214,SNR=10
W60A Pink Hill 23.96 31 P P 14 20 49.7 0.0
baz=217
T54A Tazewell 23.98 22 P P 14 20 50.4 +0.4
baz=207
CNNC Cliffs of the 24.02 31 P P 14 20 50.2 0.0
baz=217
R49A Shelbyville 24.03 14 P P 14 20 49.7 -0.5
baz=198
KSU1 Kansas State U 24.20 352 P P 14 20 52.3 +0.5
baz=171
R50A Paris 24.23 16 P P 14 20 52.5 +0.3
baz=200
V59A Middlesex 24.27 29 P P 14 20 52.2 -0.2
baz=215,SNR=10.0
T55A Pulaski 24.32 23 P P 14 20 53.5 +0.5
baz=208
U57A Blanch 24.33 27 P P 14 20 53.0 +0.1
baz=212,SNR=9.8
T25A Trinidad 24.37 337 eP P 14 20 55.9 +2.3
comp=Z,5.5nm,0.9s
T25A Trinidad 24.37 337 P P 14 20 54.9 +1.3
baz=152,SNR=5.2
R51A Hillsboro 24.46 17 P P 14 20 54.6 +0.5
baz=201
CBKS Cedar Bluff 24.48 346 P P 14 20 54.9 +0.6
baz=163
Q48A North Vernon 24.51 13 P P 14 20 54.9 +0.3
baz=196
T56A Rocky Mt 24.55 25 P P 14 20 54.7 -0.3
baz=210
BLA Blacksburg 24.55 24 eP P 14 20 55.4 +0.4
comp=Z,18nm,1.0s
U58A Oxford 24.64 28 P P 14 20 55.1 -0.8
baz=214
P45A Graceland, Par 24.72 9 P P 14 20 57.4 +0.9
baz=191
R52A Catlettsburg 24.77 19 P P 14 20 56.9 -0.1
baz=203
T57A Hurt 24.84 26 eP P 14 20 58.0 +0.3
comp=Z,62nm,0.1s
T57A Hurt 24.84 26 P P 14 20 57.1 -0.5
baz=212
P46A Rosedale 24.90 10 P P 14 20 58.2 +0.1
baz=192
U59A Littleton 24.96 29 P P 14 20 58.5 -0.2
baz=216
R53A Hurricane 24.99 20 eP P 14 20 59.1 +0.1
comp=Z,56nm,1.8s
R53A Hurricane 24.99 20 P P 14 20 58.9 -0.1
baz=205
S55A Lewisburg 25.01 23 P P 14 20 59.0 -0.3
baz=208
T58A Grand View Acr 25.11 27 P P 14 20 59.8 -0.3
baz=213,SNR=6.3
Q51A Peebles 25.20 17 eP P 14 20 59.4 -1.5
comp=Z,15nm,0.9s
Q51A Peebles 25.20 17 P P 14 21 01.3 +0.3
baz=201
SDCO Great Sand Dun 25.32 335 P P 14 21 04.1 +1.8
baz=150
U60A Pendleton 25.36 30 P P 14 21 02.2 -0.1
baz=217

Q52A Bidwell 25.46 19 P P 14 21 03.2 -0.1
baz=204
T59A Double "B" Far 25.57 29 P P 14 21 04.1 -0.2
baz=215,SNR=9.2
Q53A Leroy 25.61 20 P P 14 21 04.4 -0.2
baz=205
S57A Dark Hollow, R 25.61 26 P P 14 21 04.6 -0.1
baz=212
P51A Williamsport 25.70 17 P P 14 21 05.8 +0.4
baz=202
S22A 4UR Ranch, Cre 25.88 333 P P 14 21 08.7 +1.3
baz=147
S58A Poland Farm, P 25.88 27 P P 14 21 06.9 -0.1
baz=214
Q54A Coxs Mills 25.96 21 P P 14 21 08.4 +0.6
baz=207
N45A Kentland 26.05 9 P P 14 21 09.2 +0.7
baz=191
T60A Surry 26.10 30 P P 14 21 09.7 +0.7
baz=217
P52A Corning 26.12 19 P P 14 21 08.7 -0.5
baz=203
MVCO Mesa Verde 26.20 330 eP P 14 21 12.3 +2.0
comp=Z,16nm,0.8s
MVCO Mesa Verde 26.20 330 P P 14 21 12.2 +2.0
baz=144,SNR=11
R58B Mineral 26.24 27 P P 14 21 10.0 -0.4
baz=214
R57A Stanardsville 26.25 26 P P 14 21 09.7 -0.6
baz=212
WUAZ Wupatki 26.43 324 P P 14 21 14.7 +2.4
baz=136
M43A Waltham Townsh 26.45 6 P P 14 21 13.5 +1.3
baz=188
R58A Rapidan 26.47 26 P P 14 21 12.2 -0.2
baz=213
N48A Decatur 26.51 13 P P 14 21 11.5 -1.2
baz=196
S60A Water View 26.59 29 P P 14 21 12.4 -1.0
baz=216
O52A Adamsville 26.65 19 P P 14 21 14.8 +0.8
baz=204
R59A King George, V 26.78 28 P P 14 21 15.3 +0.2
baz=215
Q57A Strasburg 26.92 25 P P 14 21 16.9 +0.5
baz=211
PV02 Paradox Valley 27.11 331 eP P 14 21 21.1 +2.7
comp=Z,7.6nm,1.0s
O54A Avella 27.19 21 P P 14 21 18.8 0.0
baz=206
M53A WI Miller and 28.22 19 P P 14 21 27.5 -0.4
baz=205
P59A Jarrettsville 28.24 27 P P 14 21 27.9 -0.3
baz=214
SSPA Standing Stone 28.50 24 P P 14 21 29.9 -0.6
baz=211
P60A Greenville 28.76 28 P P 14 21 31.8 -1.0
baz=216
ECSD EROS Data Cent 28.77 354 P P 14 21 33.2 +0.4
baz=172
O59A Robesonia 28.92 26 P P 14 21 33.8 -0.4
baz=214
J48A Bridge Port 29.12 13 P P 14 21 38.0 +2.1
baz=198
J49A Marlette 29.32 14 P P 14 21 37.8 +0.1
baz=199
H40A Chili 29.51 3 P P 14 21 39.4 +0.1
baz=184
H43A Windswept, Lux 29.58 7 P P 14 21 40.2 +0.2
baz=190
N59A State Game Lan 29.60 26 P P 14 21 38.5 -1.8
baz=214
K22A Casper 29.99 339 P P 14 21 45.0 +1.2
baz=152
PAL Palisades 30.50 28 P P 14 21 47.2 -0.9
baz=217
BINY Binghamton 30.58 25 eP P 14 21 48.0 -0.9
comp=Z,15nm,0.6s
BINY Binghamton 30.58 25 P P 14 21 49.1 +0.2
baz=213
BBSR BB Station 30.64 51 eP P 14 21 49.8 +0.2
comp=Z,135nm,1.9s
WLVO Wesleyville 31.19 20 P P 14 21 54.4 +0.3
baz=207
PDAR Pinedale Array 31.22 335 P P 14 21 55.9 +1.2
comp=Z,0.5nm,0.8s,baz=134,slow=7.8,SNR=3.0
PDAR PcP PcP 14 24 47.7 +0.7
comp=Z,0.9nm,0.4s,baz=142,slow=4.8,SNR=5.9
E38A The Farm, Brul 31.45 1 P P 14 21 57.2 +0.8
baz=182
PECO Prince Edward 31.68 22 P P 14 21 57.9 -0.6
baz=210
SADO Sadowa 31.71 18 P P 14 21 58.1 -0.7
comp=Z,2.5nm,0.4s,baz=262,slow=8.6,SNR=3.0
F48A Evansville 31.78 13 P P 14 21 59.5 +0.2
baz=198
DELO Deloro Mine 31.97 20 P P 14 22 00.5 -0.6
baz=208
G53A Haliburton 32.19 19 P P 14 22 02.3 -0.6
baz=206
REDW Red Top Meadow 32.24 335 eP P 14 22 05.2 +1.5
comp=Z,5.2nm,1.0s
ELK Elko 32.29 327 eP P 14 22 06.7 +2.5
comp=Z,3.9nm,0.9s
NVAR Mina Array Bea 32.49 321 eP P 14 22 08.6 +2.6
NVAR Mina Array Bea 32.49 321 P P 14 22 09.7 +3.7
comp=Z,3.5nm,0.8s,baz=135,slow=9.0,SNR=24
NVAR PcP PcP 14 24 52.7 +2.2
comp=Z,1.4nm,0.6s,baz=137,slow=3.0,SNR=8.4
F52A Sundridge 32.59 17 P P 14 22 05.7 -0.7
baz=204
G55A Calabogie 32.93 21 P P 14 22 08.3 -1.1
baz=209
ALGO Algonquin Park 33.11 19 P P 14 22 10.2 -0.8
baz=206
PEMO Pembroke 33.12 20 P P 14 22 10.3 -0.8
baz=208
LONY Lake Ozonia 33.16 24 P P 14 22 10.6 -0.9
baz=213
E51A G1948 Merrick 33.22 17 P P 14 22 11.6 -0.3
baz=204
D48A Paudash Townsh 33.23 13 P P 14 22 11.9 -0.1
baz=199
E54A Lac Daplat, Po 33.81 19 P P 14 22 16.4 -0.7
baz=207
ALFO Alfred 33.90 22 P P 14 22 17.1 -0.7
baz=212
D52A ZEK Kipawa Sen 33.93 17 P P 14 22 17.8 -0.3
baz=205
LBNH Lisbon 33.96 27 eP P 14 22 18.0 -0.3
comp=Z,38nm,1.6s
HLID Hailey 33.97 331 eP P 14 22 21.4 +2.6
comp=Z,3.6nm,0.8s
HLID Hailey 33.97 331 P P 14 22 20.6 +1.9
baz=140,SNR=8.7
MCMT McKenzie Canyo 34.27 334 eP P 14 22 22.9 +1.6
D54A Lac Fusel, La 34.62 19 P P 14 22 23.9 -0.1
baz=208
MOQ Mont Orford 34.67 26 eP P 14 22 24.6 0.0
ULM Lac du Bonnet 35.18 356 PcP PcP 14 24 56.9 -0.7
comp=Z,1.8nm,0.4s,baz=119,slow=2.9,SNR=5.3
ULM LR LR 14 37 41.8
comp=Z,32nm,20.3s,baz=0.5,slow=38
WVOR Wild Horse Val 35.30 326 eP P 14 22 31.7 +1.6
comp=Z,5.3nm,1.0s
EGMT Eagleton 35.80 340 P P 14 22 35.4 +1.2
baz=151
PTGA Pitinga 35.86 113 eP P 14 22 33.5 -1.6
comp=Z,42nm,2.0s
PLID Pearl Lake 35.87 331 eP P 14 22 34.3 -0.8
comp=Z,6.7nm,0.8s
PKME Peaks-Kenny Pk 35.93 28 eP P 14 22 34.8 -0.5
comp=Z,92nm,1.8s
PKME Peaks-Kenny Pk 35.93 28 P P 14 22 34.9 -0.4
baz=220
LSQQ Lebel-sur-Quev 36.22 17 P P 14 22 37.5 -0.2
baz=206
MATQ Matagami 36.67 16 P P 14 22 41.1 -0.4
baz=205
I07A Izee 36.88 327 eP P 14 22 45.0 +1.5
comp=Z,5.2nm,1.0s
F10A Beach Ranch, E 37.11 331 eP P 14 22 46.4 +1.0
comp=Z,16nm,0.6s
G05D Wamic, OR 38.62 327 P P 14 22 59.5 +1.5
baz=132
H04D Lebanon 38.92 325 P P 14 23 01.9 +1.4
baz=130
LPAZ La Paz 39.42 141 eP P 14 23 06.3 +0.7

LPAZ La Paz 39.42 141 P **P 14 23 04.9 -0.7**
comp=Z,1.0nm,0.5s,baz=328,slow=3.5,SNR=4.8
G03D McMinnville, O 39.64 326 P **P 14 23 07.3 +0.8**
baz=130
LTY Liberty 39.67 330 *eP* **P 14 23 07.9 +1.1**
comp=Z,3.6nm,0.6s
LON Longmire 39.89 328 *eP* **P 14 23 10.2 +1.6**
comp=Z,4.9nm,0.8s
D03D Eldon 41.06 328 P **P 14 23 18.7 +0.5**
baz=132
B05A Bryant 41.06 330 P **P 14 23 19.4 +1.2**
baz=134
NLWA Neilton Lookou 41.37 328 *eP* **P 14 23 22.2 +1.5**
comp=Z,15nm,1.2s
A04D Lummi Island 41.67 330 P **P 14 23 24.1 +1.0**
baz=133
SIV San Ignacio 43.83 133 P **P 14 23 40.6 -0.4**
comp=Z,3.3nm,0.6s,baz=314,slow=8.2,SNR=14
SIV PcP **PcP 14 25 25.5 -0.2**
comp=Z,0.8nm,0.5s,baz=7.8,slow=2.0,SNR=4.0
SCHQ Schefferville 44.41 21 *eP* **P 14 23 43.3 -1.9**
comp=Z,75nm,2.0s
SCHQ Schefferville 44.41 21 P **P 14 23 43.3 -1.9**
comp=Z,5.3nm,0.6s,baz=242,slow=14,SNR=2.6
SCHQ LR LR 14 42 33.0
comp=Z,39nm,18.7s,baz=312,slow=36
YKA Yellowknife Ar 49.86 347 P **P 14 24 27.0 -0.2**
comp=Z,2.2nm,0.6s,baz=149,slow=7.5,SNR=45
YKA PcP **PcP 14 25 46.6 +0.4**
comp=Z,1.3nm,0.8s,baz=152,slow=3.4,SNR=12
YKB5 Yellowknife Ar 49.86 347 *eP* **P 14 24 27.1 -0.2**
YKB5 *e*PcP **PcP 14 25 46.6 +0.4**
YKW3 Yellowknife Ar 49.92 347 *eP* **P 14 24 27.7 0.0**
comp=Z,5.3nm,1.2s
DLBC Dease Lake 51.45 336 *eP* **P 14 24 42.4 +3.0**
comp=Z,8.2nm,0.8s
BALM Baldy 58.03 334 *eP* **P 14 25 29.1 +2.2**
comp=Z,28nm,1.5s
DAWY Dawson 58.48 338 *eP* **P 14 25 31.2 +1.3**
comp=Z,5.4nm,1.4s
BCAR Beaver Creek A 58.84 336 *eP* **P 14 25 34.0 +1.6**
EPYK Eagle Plains 58.94 341 P **P 14 25 33.5 +0.5**
baz=128
INK Inuvik 59.26 344 *eP* **P 14 25 35.9 +0.8**
comp=Z,3.9nm,0.6s
INK Inuvik 59.26 344 P **P 14 25 35.6 +0.6**
comp=Z,4.1nm,0.5s,baz=127,slow=6.8,SNR=31
EGAK Eagle 59.51 338 *eP* **P 14 25 36.7 -0.3**
comp=Z,7.6nm,1.3s
RES Resolute Bay 59.62 359 P **P 14 25 34.9 -2.6**
comp=Z,1.4nm,0.7s,baz=248,slow=2.8,SNR=7.3
SCRK Sand Creek 60.15 337 *eP* **P 14 25 42.5 +1.1**
comp=Z,7.7nm,1.5s
PAX Paxson 60.25 335 *eP* **P 14 25 42.5 +0.4**
comp=Z,8.6nm,0.8s
RIDG Independent Ri 60.37 336 *eP* **P 14 25 44.4 +1.5**
comp=Z,11nm,1.1s
SCM Sheep Creek Mo 60.53 334 *eP* **P 14 25 45.8 +1.8**
comp=Z,72nm,1.8s
GHO Glory Hole Cre 61.19 333 *eP* **P 14 25 50.3 +1.8**
comp=Z,22nm,0.8s
PMR Palmer 61.21 333 *eP* **P 14 25 49.6 +1.1**
comp=Z,55nm,1.9s
RC01 Rabbit Creek A 61.29 332 *eP* **P 14 25 50.5 +1.4**
comp=Z,11nm,0.6s
BRLK Bradley Lake 61.33 331 *eP* **P 14 25 49.8 +0.3**
comp=Z,117nm,2.0s
HDA Harding Lake 61.50 336 *eP* **P 14 25 51.3 +0.9**
comp=Z,5.9nm,0.6s
HDA Harding Lake 61.50 336 P **P 14 25 51.6 +1.2**
baz=117
ILAR Eielson Array 61.64 337 *eP* **P 14 25 52.0 +0.6**
ILAR Eielson Array 61.64 337 P **P 14 25 52.2 +0.8**
comp=Z,4.0nm,0.7s,baz=132,slow=5.6,SNR=7.5
ILB Eielson Array 61.64 337 *eP* **P 14 25 52.0 +0.6**
comp=Z,4.6nm,0.6s
RND Reindeer 61.83 335 *eP* **P 14 25 54.7 +2.0**
comp=Z,15nm,0.7s
FYU Fort Yukon 61.88 339 *eP* **P 14 25 55.1 +2.1**
comp=Z,26nm,1.8s
CCB Clear Creek Bu 61.94 336 *eP* **P 14 25 54.4 +1.0**
comp=Z,16nm,2.0s
WRH Wood River Hil 61.97 336 *eP* **P 14 25 53.8 +0.2**
comp=Z,11nm,1.5s
MDM Murphy Dome 62.24 337 *eP* **P 14 25 56.4 +1.0**
comp=Z,11nm,1.6s
RSO Redoubt South 62.45 331 *eP* **P 14 25 57.7 +0.6**
BPAW Bear Paw Mtn. 62.97 335 *eP* **P 14 26 01.3 +0.9**
comp=Z,6.6nm,0.8s
PPLA Purkeypile 63.03 334 *eP* **P 14 26 02.2 +1.4**
comp=Z,37nm,1.8s
CAST Castle Rocks 63.17 334 *eP* **P 14 26 02.7 +1.1**
comp=Z,6.3nm,0.6s
MLY Manley 63.24 336 *eP* **P 14 26 03.5 +1.4**
comp=Z,11nm,0.7s
SVW2 Sparrevohn 63.97 331 *eP* **P 14 26 07.9 +1.0**
comp=Z,29nm,1.6s
TOLK Toolik Lake Re 64.33 340 P **P 14 26 10.3 +1.1**
baz=116,SNR=9.9
IMAR Indian Mountai 64.76 337 *eP* **P 14 26 12.6 +0.6**
ESDC Sonseca Array 79.48 52 P **P 14 27 38.3 -2.0**
comp=Z,1.0nm,0.6s,baz=280,slow=6.3,SNR=6.4
BILL Billbino 80.26 338 *eP* **P 14 27 45.5 +1.7**
comp=Z,11nm,0.8s
NB2 NORSAR Subarra 83.47 28 P **P 14 28 00.2 -0.6**
comp=Z,0.8nm,0.6s,baz=289,slow=5.1
NB200 NORSAR Array S 83.47 28 *eP* **P 14 27 59.3 -1.6**
NOA NORSAR Array B 83.47 28 P **P 14 27 59.3 -1.6**
comp=Z,0.7nm,0.6s,baz=290,slow=5.2,SNR=5.0
NOA LR LR 15 05 44.8
comp=Z,6.9nm,18.4s,baz=90,slow=36
ARA0 ARCESS Array S 85.29 18 *eP* **P 14 28 08.3 -1.5**
ARCES ARCESS Array B 85.29 18 *eP* **P 14 28 08.9 -0.9**
ARCES ARCESS Array B 85.29 18 P **P 14 28 08.3 -1.5**
comp=Z,1.3nm,0.5s,baz=283,slow=4.6,SNR=10
ARE0 ARCESS Array S 85.29 18 *eP* **P 14 28 08.9 -0.9**
comp=Z,3.4nm,1.8s
TIXI Tiksi 89.10 348 *eP* **P 14 28 28.2 +0.1**
comp=Z,5.4nm,0.5s
FIA0 FINESS Array S 89.76 25 *eP* **P 14 28 28.7 -2.7**
FINES FINESS Array B 89.76 25 *eP* **P 14 28 30.1 -1.3**
FINES FINESS Array B 89.76 25 P **P 14 28 28.7 -2.7**
comp=Z,0.7nm,0.4s,baz=343,slow=2.0,SNR=9.7
KSRS Korea Array 115.35 325 PKP **PKiKP 14 34 14.5 -0.1**
comp=Z,0.7nm,0.6s,baz=3.0,slow=1.1,SNR=4.0
MK32 Makanchi Array 118.25 4 *e*PKPdf **PKPdf 14 34 19.8 -0.3**
MKAR Makanchi Array 118.25 4 PKP **PKPdf 14 34 19.8 -0.3**
comp=Z,0.1nm,0.4s,baz=22,slow=1.6,SNR=2.9
BOSA Boshof 121.31 114 PKP **PKPdf 14 34 24.7 -1.9**
comp=Z,1.3nm,0.6s,baz=324,slow=19,SNR=2.3
MAW Mawson 125.13 169 PKP **PKiKP 14 34 33.0 +0.2**
comp=Z,1.6nm,0.5s,baz=290,slow=10,SNR=5.0
STKA Stephens Creek 128.10 241 PKP **PKiKP 14 34 39.9 0.0**
comp=Z,13nm,0.7s,baz=58,slow=4.4,SNR=3.0
CD2 Chengdu 131.66 341 PKP **PKPdf 14 34 45.3 -0.9**
WR1 Warramunga Arr 135.11 257 *e*PKPdf **PKiKP 14 34 53.6 -0.7**
WRA Warramunga Arr 135.11 257 PKP **PKiKP 14 34 53.6 -0.8**
comp=Z,0.6nm,0.8s,baz=78,slow=2.5,SNR=3.5
ASAR Alice Springs 135.49 252 PKP **PKiKP 14 34 55.3 +0.2**
comp=Z,0.7nm,0.8s,baz=119,slow=2.0,SNR=5.7
CM31 Chiang Mai Arr 144.80 341 *e*PKPbc **PKPdf 14 35 11.2 +0.7**
CMAR Chiang Mai Arr 144.80 341 PKP **PKPdf 14 35 10.7 +0.2**
comp=Z,4.9nm,0.7s,baz=338,slow=3.4,SNR=34

*IDC **16** 14:16:32.7±1.4, 10°.98S×164°.62E, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.8/40, mbtmp4.0/9, ML4.0/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/26, Error ellipse: s-maj=32.2km s-min=24.9km az=118.0*
*ISCJB **16** 14:16:34.2±0.5, 11°.06S±0°.06×164°.65E±0°.07, h29km, mb4.4/19, MS3.2/1, Error ellipse: s-maj=10.4km s-min=6.9km az=146.2*
*NEIC **16** 14:16:38.9±1.5, 11°.04S×164°.62E, h60km±15km, mb4.8/14, Error ellipse: s-maj=14.3km s-min=11.3km az=71.0*
ISC 16 14:16:35.4±0.6, 10°.98S±0°.07×164°.71E±0°.09, h29km, n37, σ1§70/37, mb4.5/19, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.94**	**288**	*e*Pn	**Pn**	**14 17 49.8**	**+2.1**
HNR	**Honiara**	**4.94**	**288**	Pn	**Pn**	**14 17 49.2**	**+1.5**
20nm,0.3s,baz=153,slow=5.4,SNR=14							
HNR				Sn	**Sn**	**14 18 44.7**	**+0.9**
9.8nm,0.3s,baz=166,slow=19,SNR=3.7							
HNR				LR	LR	14 19 51.1	
comp=Z,194nm,21.4s,baz=100,slow=41							
DZM	**Mont Dzumac**	**11.15**	**172**	Pn	**Pn**	**14 19 14.9**	**+1.8**
0.7nm,0.3s,baz=310,slow=12,SNR=13							
DZM				Sn	**Sn**	**14 21 15.2**	**-1.7**
0.0nm,0.3s,baz=288,slow=20,SNR=2.0							
OUENC	**Ouen Island, N**	**11.56**	**170**	*e*Pn	**Pn**	**14 19 21.3**	**+2.8**
PINNC	**Pines Island,**	**11.86**	**168**	*e*Pn	**Pn**	**14 19 25.3**	**+2.6**
PMG	**Port Moresby**	**17.35**	**274**	LR	LR	14 26 34.7	
comp=Z,104nm,18.6s,baz=98,slow=35							
CTA	**Charters Tower**	**19.94**	**241**	Pn	**Pn**	**14 21 07.2**	**+0.2**
0.2nm,0.3s,baz=56,slow=11,SNR=3.7							
CTAO	**Charters Tower**	**19.94**	**241**	*e*P	**P**	**14 21 04.0**	**-1.2**
22nm,1.4s							
ARMA	**Armidale**	**22.85**	**210**	*e*P	**P**	**14 21 35.2**	**-1.3**
13nm,1.1s							
MXZ	**Matakaoa Point**	**29.15**	**157**	*e*P	**P**	**14 22 33.7**	**-0.4**
60nm,1.2s							
STKA	**Stephens Creek**	**29.80**	**222**	*e*P	**P**	**14 22 37.8**	**-2.0**
0.5nm,0.9s							
STKA	**Stephens Creek**	**29.80**	**222**	P	**P**	**14 22 41.5**	**+1.6**
1.4nm,0.7s,baz=27,slow=2.3,SNR=3.5							
WC3	**Warramunga Arr**	**30.53**	**249**	*e*P	**P**	**14 22 45.2**	**-1.3**
6.6nm,1.4s							
WB2	**Warramunga Arr**	**30.54**	**249**	*e*P	**P**	**14 22 47.4**	**+0.8**
11nm,1.4s							
WR1	**Warramunga Arr**	**30.55**	**249**	*e*P	**P**	**14 22 46.7**	**0.0**
WRA	**Warramunga Arr**	**30.55**	**249**	P	**P**	**14 22 46.7**	**0.0**
0.8nm,0.8s,baz=79,slow=8.8,SNR=5.2							
AS31	**Alice Springs**	**31.91**	**243**	*e*P	**P**	**14 22 58.2**	**-0.6**
1.0nm,1.3s							
ASAR	**Alice Springs**	**31.92**	**243**	*e*P	**P**	**14 22 57.2**	**-1.5**
ASAR	**Alice Springs**	**31.92**	**243**	P	**P**	**14 22 59.1**	**+0.4**
0.9nm,0.5s,baz=63,slow=10,SNR=27							
SAUI	**Saumlaki**	**33.08**	**272**	*e*P	**P**	**14 23 05.1**	**-3.9**
79nm,0.8s							
BBOO	**Buckleboo**	**34.14**	**226**	*e*P	**P**	**14 23 19.4**	**+1.5**
11nm,1.2s							
ODZ	**Otahua Downs**	**34.32**	**173**	*e*P	**P**	**14 23 19.6**	**+0.2**
28nm,1.5s							
WHZ	**Wether Hill Ro**	**34.90**	**176**	*e*P	**P**	**14 23 23.1**	**-1.3**
29nm,1.3s							
FITZ	**Fitzroy Crossi**	**38.41**	**255**	LR	LR	14 39 03.3	
comp=Z,36nm,18.6s,baz=82,slow=35							
FORT	**Forrest**	**39.25**	**234**	*e*P	**P**	**14 24 01.1**	**-0.4**
11nm,1.0s							
MJAR	**Matsushiro Arr**	**53.45**	**333**	*e*P	**P**	**14 25 51.9**	**-1.1**
JNU	**Nakatsue**	**54.44**	**325**	*e*P	**P**	**14 25 59.8**	**-0.5**
34nm,1.3s							
PET	**Petropavlovsk**	**63.96**	**356**	*e*P	**P**	**14 27 03.4**	**-2.3**
13nm,0.8s							
SMY	**Shemya**	**63.96**	**6**	*e*P	**P**	**14 27 04.0**	**-1.7**
SONA0	**Songino Array**	**78.02**	**324**	*e*P	**P**	**14 28 33.6**	**+2.3**
SONM	**Songino Array**	**78.02**	**324**	P	**P**	**14 28 33.6**	**+2.3**
0.7nm,0.6s,baz=127,slow=4.4,SNR=5.0							
BRLK	**Bradley Lake**	**78.94**	**21**	*e*P	**P**	**14 28 35.6**	**-0.4**
18nm,1.2s							
IMAR	**Indian Mountai**	**82.64**	**16**	*e*P	**P**	**14 28 58.0**	**+2.4**
ILAR	**Eielson Array**	**83.78**	**19**	P	**P**	**14 29 03.5**	**+2.0**
0.4nm,0.7s,baz=220,slow=4.6,SNR=4.4							
ILB	**Eielson Array**	**83.78**	**19**	*e*P	**P**	**14 29 03.5**	**+2.0**
6.3nm,1.4s							
MK32	**Makanchi Array**	**92.78**	**317**	*e*P	**P**	**14 29 46.1**	**+0.9**
MKAR	**Makanchi Array**	**92.78**	**317**	P	**P**	**14 29 46.1**	**+0.9**
0.8nm,0.7s,baz=92,slow=6.6,SNR=7.6							

*IDC **16** 14:29:47.2±6.9, 7°.29S×147°.95E, h90km±41km, mb3.2/3, mb1 3.4/6, mb1mx3.1/31, mbtmp3.6/6, MS3.3/1, Ms1 3.3/1, ms1mx2.5/13, Error ellipse: s-maj=57.8km s-min=44.5km az=38.0*
ISC 16 14:29:48.3±2.8, 7°.2S±0°.2×146°.8E±0°.2, h35km, n7, σ2§83/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.20**	**170**	P	**Pn**	**14 30 23.7**	**+1.4**
8.3nm,0.3s,baz=325,slow=6.8,SNR=31							
PMG				S	**Sn**	**14 30 50.3**	**+2.0**
17nm,0.3s,baz=30,slow=22,SNR=5.9							
CTA	**Charters Tower**	**12.79**	**182**	P	**Pn**	**14 32 46.0**	**-1.8**
0.1nm,0.3s,baz=351,slow=16,SNR=1.6							
WRA	**Warramunga Arr**	**17.47**	**222**	P	**P**	**14 33 52.2**	**+2.0**
0.1nm,0.3s,baz=50,slow=11,SNR=3.8							
WRA				S	**Sn**	**14 37 02.9**	**0.0**
0.0nm,0.3s,baz=43,slow=27,SNR=2.3							
ASAR	**Alice Springs**	**20.49**	**216**	P	**P**	**14 34 25.1**	**+1.8**
0.3nm,0.6s,baz=58,slow=9.0,SNR=10							
ASAR				S	**S**	**14 38 08.3**	**-2.6**
0.3nm,1.1s,baz=33,slow=23,SNR=2.9							
FITZ	**Fitzroy Crossi**	**23.25**	**240**	P	**P**	**14 34 55.4**	**+2.7**
2.9nm,1.0s,baz=41,slow=13,SNR=3.1							
DZM	**Mont Dzumac**	**24.04**	**130**	LR	LR	14 41 55.8	
comp=Z,65nm,19.4s,baz=105,slow=32							
STKA	**Stephens Creek**	**25.00**	**190**	P	**P**	**14 35 04.7**	**-4.2**
1.3nm,0.6s,baz=355,slow=12,SNR=2.7							

JMA 16 14:39:18.8±0.1, 38°.95N×142°.39E, h32km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.58**	**283**	P	Pb	14 39 30.5	-0.1
OFUJ				S	Sb	14 39 38.5	-0.1
JKMT	**Kesennumamotoy**	**0.73**	**259**	P	Pn	14 39 32.5	-0.3
JKMT				S	Sb	14 39 41.8	-1.0
MIYJ	**Miyakonagasawa**	**0.77**	**325**	P	Pn	14 39 32.9	-0.5
MIYJ				S	Sn	14 39 42.7	-1.2
JMK	**Ichinoseki**	**0.91**	**270**	P	Pn	14 39 35.6	+0.2
JMK				S	Sn	14 39 47.1	-0.3
JIO	**Ouri**	**0.95**	**239**	P	Pn	14 39 35.5	-0.4
JIO				S	Sn	14 39 47.0	-1.4
JOM	**Ohasama**	**1.00**	**302**	P	Pn	14 39 37.0	+0.4
JOM				S	Sn	14 39 50.0	+0.4
JTH	**Tanohata**	**1.07**	**338**	P	Pn	14 39 37.9	+0.3
JTH				*e*S	Sn	14 39 51.8	+0.5
JKZ	**Kuzumaki**	**1.32**	**322**	P	Pn	14 39 41.9	+0.8
JKZ				S	Sn	14 39 58.5	+0.9
JRG	**Rokugo**	**1.44**	**289**	P	Pb	14 39 44.0	-0.9
JRG				S	Sb	14 40 02.6	-0.3
JOU	**Okura**	**1.47**	**247**	P	Pn	14 39 44.0	+0.9
JOU				*e*S	Sn	14 40 02.5	+1.2
JANG	**Nango**	**1.57**	**335**	P	Pn	14 39 45.5	+1.0
JANG				S	Sb	14 40 06.2	-0.6
JYK	**Kaneyama**	**1.58**	**269**	P	Pn	14 39 45.7	+1.1
JYK				*e*S	Sb	14 40 06.2	-0.9

*ISCJB **16** 14:45:15.1±0.6, 8°.79S±0°.06×76°.6W±0°.1, h33km, mb3.5/5, Error ellipse: s-maj=14.3km s-min=8.5km az=172.9*
*IDC **16** 14:45:19.3±1.6, 8°.92S×76°.70W, h63km±17km, mb3.2/5, mb1 3.6/9, mb1mx3.5/33, mbtmp3.6/9, MS2.4/1, Ms1 2.4/1, ms1mx2.2/11, Error ellipse: s-maj=26.5km s-min=7.9km az=67.0*
ISC 16 14:45:16.9±0.8, 8°.87S±0°.07×76°.6W±0°.1, h35km, n11, σ1§66/13, mb3.6/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.47**	**314**	P	**Pn**	**14 45 55.4**	**+0.3**
13nm,0.3s,baz=154,slow=5.0,SNR=36							
ATAH				S	**Sn**	**14 46 27.6**	**+3.2**
6.6nm,0.3s,baz=112,slow=16,SNR=6.4							
ATAH				LR	LR	14 47 15.6	
comp=Z,87nm,21.0s,baz=53,slow=48							
NNA	**Nana**	**3.11**	**184**	P	**Pn**	**14 46 03.8**	**+0.1**
7.1nm,0.3s,baz=338,slow=13,SNR=14							
NNA				S	**Sn**	**14 46 41.5**	**+1.8**
45nm,0.3s,baz=269,slow=18,SNR=12							
SIV	**San Ignacio**	**16.73**	**117**	P	**Pn**	**14 49 09.5**	**+0.7**
0.1nm,0.3s,baz=278,slow=19,SNR=1.9							
PTGA	**Pitinga**	**18.43**	**65**	P	**P**	**14 49 30.4**	**+0.9**
0.3nm,0.3s,baz=309,slow=20,SNR=1.9							
TXAR	**Lajitas Array**	**46.07**	**327**	P	**P**	**14 53 37.1**	**-0.7**
0.2nm,0.5s,baz=149,slow=11,SNR=3.2							
PDAR	**Pinedale Array**	**59.53**	**332**	P	**P**	**14 55 15.9**	**-1.3**
0.3nm,0.6s,baz=117,slow=7.2,SNR=2.7							
NVAR	**Mina Array Bea**	**61.01**	**323**	P	**P**	**14 55 26.1**	**-1.3**
0.4nm,0.7s,baz=122,slow=3.3,SNR=2.6							
YKA	**Yellowknife Ar**	**76.94**	**343**	P	**P**	**14 57 04.5**	**-1.0**
0.4nm,0.5s,baz=138,slow=5.8,SNR=10							
TORD	**Torodi Ar. Bea**	**80.75**	**75**	P	**P**	**14 57 28.9**	**+1.4**
0.6nm,0.6s,baz=264,slow=5.8,SNR=3.5							
ASAR	**Alice Springs**	**136.02**	**222**	PKP	**PKPdf**	**15 04 33.1**	**-2.2**
0.2nm,0.6s,baz=76,slow=3.9,SNR=2.6							
WRA	**Warramunga Arr**	**138.20**	**227**	PKP	**PKPdf**	**15 04 38.3**	**-1.1**
0.3nm,0.5s,baz=123,slow=2.3,SNR=3.8							

*SJA **16** 14:53:46.0±0.9, 33°.56S×72°.75W, h63km±24km, ML3.2, MW3.7*
*GUC **16** 14:53:49.1±0.5, 33°.66S×72°.07W, h41km±5km, ML3.3*
ISC 16 14:53:49.4±1.7, 33°.74S±0°.06×72°.1W±0°.1, h29km±19km, n20, σ1§70/27, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTU	**Antumapu**	**1.26**	**83**	*e*P	**Pn**	**14 54 10.6**	**-0.6**
ANTU				*e*S	**Sn**	**14 54 25.9**	**-1.3**
ANTU				IAML		14 54 28.6	
comp=N,2μm,0.4s							
GO05	**Huala**	**1.28**	**172**	*e*P	**Pb**	**14 54 11.8**	**-1.1**
GO05				*e*S	**Sb**	**14 54 30.9**	**+1.8**
GO05				IAML		14 54 33.8	
comp=E,546nm,0.2s							
PEL	**Peldehue**	**1.35**	**64**	*e*P	**Pn**	**14 54 11.7**	**-0.7**
PEL				*e*S	**Sn**	**14 54 28.2**	**-1.1**
PEL				IAML		14 54 33.3	
comp=N,847nm,0.6s							
CLCH	**Cerro Calan**	**1.38**	**76**	*e*P	**Pn**	**14 54 11.8**	**-1.0**
CLCH				*e*S	**Sn**	**14 54 29.4**	**-0.6**
CLCH				IAML		14 54 41.1	
comp=E,760nm,0.8s							
FCH	**Farellones**	**1.59**	**76**	*e*P	**Pn**	**14 54 15.6**	**-0.4**
FCH				*e*S	**Sn**	**14 54 35.1**	**-0.7**
FCH				IAML		14 54 40.1	
comp=E,749nm,0.2s							
LMEL	**Las Melosas**	**1.61**	**94**	*e*P	**Pn**	**14 54 15.6**	**-0.5**
LMEL				*e*S	**Sn**	**14 54 36.1**	**+0.1**
LMEL				IAML		14 54 41.0	
comp=N,2μm,0.2s							
AUSP	**Uspallata**	**2.76**	**58**	*e*P	**Pn**	**14 54 36.3**	**+4.3**
AUSP				*e*S	**Sb**	**14 55 12.3**	**+0.6**
RTLS	**Leoncito**	**3.07**	**52**	*e*P	**Pn**	**14 54 39.5**	**+3.1**
RTLS				*e*S	**Sb**	**14 55 20.1**	**-0.8**
GO04	**Tololo Observa**	**3.73**	**18**	*e*P	**Pn**	**14 54 43.7**	**-1.6**
CFA	**Coronel Fontan**	**3.91**	**58**	*e*P	**Pn**	**14 54 49.8**	**+2.2**
RTLL	**Cerro Villicun**	**3.91**	**53**	*e*P	**Pn**	**14 54 49.2**	**+1.5**
ACCO	**Cerro Coronel**	**4.08**	**40**	*e*P	**Pn**	**14 54 52.1**	**+1.9**
AMOG	**MOGNA**	**4.16**	**49**	*e*P	**Pn**	**14 54 52.3**	**+1.2**
AROD	**Rodeo**	**4.22**	**33**	*e*P	**Pn**	**14 54 53.4**	**+1.3**
ACDV	**Cuesta del Vie**	**4.38**	**37**	*e*P	**Pn**	**14 54 55.8**	**+1.6**
ACDV				IAML		14 56 11.1	
comp=Z,16nm,0.7s							
ACAN	**Cantantal**	**4.40**	**72**	*e*P	Pn	14 54 58.6	+4.2
AGUA	**GUANDACOL**	**5.25**	**37**	*e*P	**Pn**	**14 55 06.9**	**+0.7**
APLL	**PUNTA DE LOS L**	**5.81**	**57**	*e*P	**Pn**	**14 55 13.1**	**-0.6**
APLL				IAML		14 56 31.9	
comp=Z,8.6nm,0.6s							
VCA	**Vinchina**	**6.01**	**35**	*e*P	**Pn**	**14 55 17.4**	**+0.8**
TCA	**Tanti**	**6.80**	**71**	*e*P	**Pn**	**14 55 29.9**	**+2.5**

DJA 16 14:58:02.2±0.7, 7°.S±4°.×11°.5E±°, h14km±7km, M3.7/6, MLv3.7/6, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMMI	**Kalianget**	**0.74**	**282**	P	Pn	14 58 18.0	-0.3
SRBI	**Singaraja**	**1.01**	**150**	P	Pb	14 58 20.9	-0.5
SRBI				S	Sn	14 58 35.4	-0.5
JAGI	**Jajag, Banyuwa**	**1.36**	**203**	P	Pn	14 58 26.1	-0.8
JAGI				S	Sb	14 58 45.1	+0.2
GMJI	**Gumukmas**	**1.63**	**230**	P	Pn	14 58 30.3	-0.2
GMJI				S	Sn	14 58 51.7	+0.3
IGBI	**Denpasar**	**1.66**	**165**	P	Pn	14 58 31.3	+0.4
GRJI	**Gresik**	**2.22**	**277**	P	Pn	14 58 39.0	+0.3
PWJI	**Pagerwojo**	**2.98**	**254**	P	Pg	14 59 04.1	+4.7
PLAI	**Plampang**	**3.44**	**118**	P	Pn	14 58 55.6	+0.1

*IDC **16** 15:03:46.8±1.0, 13°.08N×50°.49E, h0km, mb4.0/17, mb1 4.2/18, mb1mx3.9/52, mbtmp4.1/18, ML4.6/1, MS3.4/15, Ms1 3.4/15, ms1mx3.1/45, Error ellipse: s-maj=23.6km s-min=17.3km az=12.0*
*ISCJB **16** 15:03:47.8±0.5, 13°.29N±0°.07×50°.38E±0°.04, h10km, mb4.4/69, MS3.3/14, Error ellipse: s-maj=9.8km s-min=6.3km az=178.5*
*MOS **16** 15:03:47.7±1.1, 13°.30N×50°.38E, h10km, mb4.6/35, Error ellipse: s-maj=9.9km s-min=5.2km az=92.9*
*NEIC **16** 15:03:50.6±0.6, 13°.46N×50°.37E, h10km, mb4.5/33, Error ellipse: s-maj=12.1km s-min=7.2km az=178.0*
ISC 16 15:03:50.0±0.6, 13°.40N±0°.10×50°.35E±0°.07, h10km, n152, σ1§37/139, mb4.4/69, MS3.3/14, 5C, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAMY	**Dhamar**	**5.90**	**282**	*e*Pn	**Pn**	**15 05 18.6**	**+0.8**
ATD	**Arta Tunnel**	**7.56**	**257**	*e*Pn	**Pn**	**15 05 40.9**	**+0.5**
ATD	**Arta Tunnel**	**7.56**	**257**	Pn	**Pn**	**15 05 40.0**	**-0.5**
8.7nm,0.3s,baz=80,slow=9.5,SNR=11							
ATD				LR	LR	15 07 56.2	
comp=Z,486nm,18.6s,baz=74,slow=33							
WSAR	**Wadi Sarin**	**12.55**	**38**	LR	LR	15 11 29.6	
comp=Z,303nm,18.9s,baz=234,slow=36							
KMBO	**Kilima Mbogo**	**19.41**	**223**	P	**P**	**15 08 14.3**	**-2.5**
KMBO				pmax	pmax		
comp=Z,11nm,2.0s							
EIL	**Elat**	**21.58**	**321**	P	**P**	**15 08 42.6**	**+2.6**
comp=Z,10nm,0.9s,baz=58,slow=2.6,SNR=7.6							
MMAI	**Mount Meron Ar**	**23.82**	**328**	LR	LR	15 19 10.4	
comp=Z,52nm,20.1s,baz=105,slow=38							
GEYT	**Alibeck**	**25.39**	**14**	LR	LR	15 21 14.3	
comp=Z,136nm,20.3s,baz=190,slow=41							
GYA0B	**ALIBECK ARRAY**	**25.39**	**14**	*e*P	**P**	**15 09 16.0**	**-1.7**
comp=Z,12nm,1.2s							
KBL	**Kabul**	**27.02**	**36**	*e*P	**P**	**15 09 31.2**	**-1.5**
comp=Z,11nm,1.3s							
KBL	**Kabul**	**27.02**	**36**	*e*P	**P**	**15 09 31.2**	**-1.5**
KBL				pmax	pmax		
comp=Z,11nm,1.3s							
GNI	**Garni**	**27.10**	**351**	*e*P	**P**	**15 09 31.7**	**-1.6**
comp=Z,22nm,1.3s							
GNI	**Garni**	**27.10**	**351**	*c*eP	**P**	**15 09 31.1**	**-2.2**
GNI				pmax	pmax		
comp

KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,63nm,15.0s
ABPO Ambohimpanom 32.36 186 *e*P P 15 10 27.1 +7.1
comp=Z,40nm,1.5s
ABPO Ambohimpanom 32.36 186 *e*P P 15 10 27.1 +7.1
ABPO pmax pmax
comp=Z,40nm,1.5s
KK31 Karatay Array 34.33 27 *e*P **P 15 10 37.7 +0.8**
comp=Z,5.3nm,1.3s
KK31 Karatay Array 34.33 27 *e*P **P 15 10 37.7 +0.8**
KK31 pmax pmax
comp=Z,5.0nm,1.3s
KKAR Karatay Array 34.33 27 *e*P **P 15 10 37.5 +0.6**
KKAR Karatay Array 34.33 27 *e*P **P 15 10 37.5 +0.6**
KSH Kashi 34.45 36 P P 15 10 34.3 -3.8
KSH pP pP 15 10 38.0 -2.6
KSH PP **PnPn 15 11 47.5 -5.5**
KSH S S 15 15 55.8 -11
KSH SS SnSn 15 18 01.4 -16
NRN Naryn 35.77 34 *e*P **P 15 10 50.1 +0.4**
NRN Naryn 35.77 34 *e*P **P 15 10 50.1 +0.4**
AAK Ala-Archa 35.84 31 *e*P **P 15 10 50.8 +0.7**
comp=Z,7.6nm,1.5s
AAK Ala-Archa 35.84 31 *ce*P **P 15 10 49.5 -0.6**
AAK pmax pmax
comp=Z,6.0nm,1.7s
LIT Litokhoron 36.13 323 P **P 15 10 54.2 +1.7**
LIT pmax pmax
comp=Z,5.0nm,1.4s
SRS Serrai 36.16 325 P **P 15 10 54.4 +1.7**
SRS pmax pmax
comp=Z,6.0nm,1.0s
ABKAR Akbulak array 36.62 11 *e*P **P 15 10 57.1 +0.6**
comp=Z,5.9nm,1.3s
KDJ Kajisay 36.89 34 *e*P **P 15 11 00.1 +1.0**
comp=Z,5.7nm,1.4s
KDJ Kajisay 36.89 34 *e*P **P 15 11 00.1 +1.0**
KDJ pmax pmax
comp=Z,6.0nm,1.4s
VTS Vitosha 37.37 326 *e*P **P 15 11 03.5 +0.3**
comp=Z,19nm,2.0s
VTS Vitosha 37.37 326 *e*P **P 15 11 03.5 +0.3**
VTS pmax pmax
comp=Z,19nm,2.0s
AKTO Aktyubinsk 37.46 8 P **P 15 11 04.7 +1.1**
comp=Z,1.7nm,0.8s,baz=202,slow=8.5,SNR=3.6
VRH Novokhopyorsk 38.35 351 *e*P **P 15 11 11.7 +0.6**
VRH pmax pmax
comp=Z,20nm,1.2s
VOIR 38.47 331 P **P 15 11 13.6 +1.3**
VOIR pmax pmax
comp=Z,5.0nm,1.1s
VSR Storozhevoye 38.79 349 *e*P **P 15 11 14.9 +0.1**
VSR pmax pmax
comp=Z,20nm,1.0s
PDGK Podgornoye 38.96 34 P **P 15 11 15.8 -0.7**
OTUK Ortayu 39.25 23 P **P 15 11 19.3 +0.5**
OTUK pmax pmax
comp=Z,5.0nm,1.1s
BURAR Bucovina Array 40.04 333 *e*P **P 15 11 25.9 +0.5**
BUR08 Bucovina Ar. S 40.07 333 *e*P **P 15 11 26.8 +1.2**
comp=Z,7.8nm,1.3s
LPSR Galich'ya Gora 40.16 349 *e*P **P 15 11 25.9 -0.3**
LPSR pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 40.98 340 *e*P **P 15 11 33.0 0.0**
comp=Z,13nm,1.0s
KIEV Kiev 40.98 340 *i*P **P 15 11 33.2 +0.2**
KIEV pmax pmax
comp=Z,11nm,1.0s
AKASG Malin Array Be 40.98 340 *e*P **P 15 11 32.9 -0.1**
AKASG Malin Array Be 40.98 340 P **P 15 11 34.1 +1.1**
comp=Z,8.5nm,0.9s,baz=146,slow=7.2,SNR=30
AKBB Malin Array Si 40.98 340 *e*P **P 15 11 32.9 -0.1**
comp=Z,12nm,0.9s
AKBB Malin Array Si 40.98 340 *e*P **P 15 11 32.9 -0.1**
AKBB pmax pmax
comp=Z,12nm,0.9s
KOLS Kolonicke sedl 42.33 333 *e*P **P 15 11 47.2 +3.1**
KOLS Kolonicke sedl 42.33 333 *e*P **P 15 11 47.2 +3.1**
MAKZ Makanchi 42.57 32 *e*P **P 15 11 46.2 0.0**
comp=Z,5.5nm,1.3s
MAKZ Makanchi 42.57 32 *e*P **P 15 11 46.2 0.0**
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 42.63 18 *e*P **P 15 11 46.8 +0.2**
comp=Z,10nm,1.7s
BRVK Borovoye 42.63 18 *i*P **P 15 11 47.6 +1.1**
BRVK pmax pmax
comp=Z,2.0nm,1.1s
BVAR Borovoye Array 42.63 18 P **P 15 11 46.9 +0.4**
comp=Z,0.6nm,0.6s,baz=199,slow=4.1,SNR=4.4
BVAR PcP **PcP 15 13 37.2 -1.4**
comp=Z,1.4nm,0.9s,baz=213,slow=4.9,SNR=4.6
KWP Kalwaria Pacla 42.65 334 *e*P **P 15 11 47.1 +0.3**
comp=Z,82nm,1.1s
KWP Kalwaria Pacla 42.65 334 *e*P **P 15 11 47.1 +0.3**
KWP pmax pmax
comp=Z,83nm,1.1s
PSZ Piszkesteto 42.72 330 *e*P **P 15 11 48.8 +1.4**
comp=Z,3.2nm,0.8s
PSZ Piszkesteto 42.72 330 *e*P **P 15 11 48.8 +1.4**
PSZ pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 42.72 32 *e*P **P 15 11 47.3 -0.1**
comp=Z,2.2nm,0.9s
MK31 Makanchi Array 42.72 32 *e*P **P 15 11 47.3 -0.1**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 42.72 32 *e*P **P 15 11 47.2 -0.2**
MKAR Makanchi Array 42.72 32 P **P 15 11 47.7 +0.3**
comp=Z,1.9nm,1.0s,baz=220,slow=9.3,SNR=9.5
MKAR LR LR 15 29 57.5
comp=Z,39nm,21.5s,baz=254,slow=37
OBN Obninsk 42.99 348 *e*P **P 15 11 49.0 -0.4**
OBN *e*PPP PPP 15 14 00.1
OBN pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 43.41 7 *e*P **P 15 11 52.9 +0.2**
comp=Z,14nm,1.7s
ARU Arti 43.41 7 *e*P **P 15 11 52.9 +0.2**
ARU pmax pmax
comp=Z,14nm,1.7s
KURBB Kurchatov Arra 43.63 26 P **P 15 11 54.9 +0.3**
comp=Z,2.5nm,1.0s,baz=227,slow=8.2,SNR=16
VYHS Vyhne 43.63 330 *e*P **P 15 11 55.9 +1.2**
VYHS Vyhne 43.63 330 *e*P **P 15 11 55.9 +1.2**
KURK Kurchatov 43.73 26 *e*P **P 15 11 55.9 +0.5**
comp=Z,4.2nm,0.9s
KURK Kurchatov 43.73 26 *ce*P **P 15 11 55.6 +0.1**
KURK pmax pmax
comp=Z,7.0nm,2.5s
WMQ Urumqi 44.04 39 *e*P **P 15 12 00.6 +2.4**
MORC Moravsky Berou 45.12 330 *e*P **P 15 12 06.9 +0.2**
comp=Z,5.1nm,1.2s
MORC Moravsky Berou 45.12 330 *e*P **P 15 12 06.9 +0.2**
MORC pmax pmax
comp=Z,5.0nm,1.2s
KRUC Moravsky 45.22 329 P **P 15 12 10.0 +2.6**
KRUC pmax pmax
comp=Z,8.0nm,1.9s
TSUM Tsumeb 45.73 226 LR LR 15 31 04.6
comp=Z,88nm,19.1s,baz=346,slow=36
DPC Dobruska-Polom 46.09 330 *e*P **P 15 12 15.7 +1.3**
DPC Dobruska-Polom 46.09 330 *e*P **P 15 12 15.7 +1.3**
PRU Pruhonice 46.74 329 *e*P **P 15 12 19.6 +0.2**
PRU Pruhonice 46.74 329 *e*P **P 15 12 19.6 +0.2**
CMAR Chiang Mai Arr 46.90 77 *e*P **P 15 12 19.0 -2.1**
CMAR Chiang Mai Arr 46.90 77 *e*P **P 15 12 19.0 -2.1**
CMAR Chiang Mai Arr 46.90 77 P **P 15 12 18.7 -2.4**
comp=Z,0.4nm,0.3s,baz=276,slow=8.9,SNR=6.9
CMAR LR LR 15 32 23.0
comp=Z,11nm,18.0s,baz=180,slow=37
DGZ Jazzator, Alta 47.22 32 *i*P **P 15 12 24.4 +1.1**
DGZ pmax pmax
comp=Z,1.0nm,1.2s
TORD Torodi Ar. Bea 47.29 276 P **P 15 12 23.0 -1.1**
comp=Z,0.5nm,0.6s,baz=100,slow=7.9,SNR=4.3
TOA1 Torodi Ar. Sit 47.29 276 *e*P **P 15 12 23.0 -1.2**
BRG Berggiesshubel 47.59 329 P **P 15 12 26.8 +0.8**
BRG pmax pmax
comp=Z,5.0nm,1.3s
KLMR Klimovskoe 48.04 353 *e*P **P 15 12 27.3 -1.9**
KLMR pmax pmax
comp=Z,15nm,1.2s
BOSA Boshof 48.30 210 LR LR 15 31 21.8
comp=Z,24nm,20.4s,baz=24,slow=34
CLL Collm 48.33 329 *e*P **P 15 12 33.0 +1.3**
CLL Collm 48.33 329 *e*P **P 15 12 33.0 +1.3**
VSU Vasula 48.35 344 *i*P **P 15 12 31.3 -0.4**
VSU pmax pmax
comp=Z,14nm,1.0s
MOX Moxa 48.63 328 P **P 15 12 35.0 +0.9**
MOX pmax pmax
comp=Z,6.0nm,1.1s
ZAA0 Zalesovo Array 48.71 26 *e*P **P 15 12 33.3 -1.2**
comp=Z,3.7nm,0.9s
ZALV Zalesovo Beam 48.71 26 *e*P **P 15 12 33.5 -1.0**
ZALV Zalesovo Beam 48.71 26 *e*P **P 15 12 33.5 -1.0**
ZALV Zalesovo Beam 48.71 26 P **P 15 12 33.3 -1.2**
comp=Z,2.6nm,0.7s,baz=233,slow=8.4,SNR=12
BFO Black Forest 49.16 324 *e*P **P 15 12 38.8 +0.6**
comp=Z,15nm,1.4s
BFO Black Forest 49.16 324 *e*P **P 15 12 38.8 +0.6**
BFO pmax pmax
comp=Z,15nm,1.4s
KMI Kunming 50.54 68 P **P 15 12 51.3 +2.0**
FIA1 FINESS Array S 51.08 345 *e*P **P 15 12 52.9 +0.4**
comp=Z,18nm,1.3s
FINES FINESS Array B 51.08 345 *e*P **P 15 12 52.7 +0.2**
FINES FINESS Array B 51.08 345 P **P 15 12 53.0 +0.6**
comp=Z,7.3nm,0.8s,baz=132,slow=8.0,SNR=20
CD2 Chengdu 51.96 61 *e*P **P 15 13 00.3 +0.6**
DOU Dourbes 52.16 324 P **P 15 13 02.2 +1.4**
SUF Sumiainen 52.17 346 P **P 15 13 00.9 +0.3**
SUF pmax pmax
comp=Z,14nm,2.0s
VAF Ylistaro 53.30 345 P **P 15 13 09.3 +0.4**
VAF pmax pmax
comp=Z,14nm,1.1s
ESDC Sonseca Array 54.23 309 P **P 15 13 17.1 +0.8**
comp=Z,1.0nm,0.7s,baz=86,slow=7.9,SNR=4.8
OUL Oulu 54.28 348 P **P 15 13 16.7 +0.6**
OUL pmax pmax
comp=Z,9.0nm,2.4s
DBIC Dimbokro 54.68 269 LR LR 15 36 22.8
comp=Z,26nm,20.0s,baz=99,slow=36
NB2 NORSAR Subarra 55.35 338 P **P 15 13 23.5 -0.5**
comp=Z,3.2nm,0.8s,baz=132,slow=7.4
NOA NORSAR Array B 55.35 338 P **P 15 13 23.6 -0.5**
comp=Z,2.5nm,0.9s,baz=125,slow=7.8,SNR=5.4
NOA LR LR 15 40 31.9
comp=Z,9.9nm,18.0s,baz=330,slow=40
MTE Manteigas 57.07 310 *e*P **P 15 13 36.7 0.0**
comp=Z,86nm,2.0s
SONM Songino Array 57.57 41 *e*P **P 15 13 40.4 +0.2**
SONM Songino Array 57.57 41 *e*P **P 15 13 40.4 +0.2**
SONM Songino Array 57.57 41 P **P 15 13 39.1 -1.0**
comp=Z,1.5nm,0.9s,baz=246,slow=7.7,SNR=11
SONM LR LR 15 41 36.9
comp=Z,32nm,21.3s,baz=245,slow=39
ULN Ulaanbaatar 58.00 42 *e*P **P 15 13 43.2 -0.1**
comp=Z,12nm,1.8s
ULN Ulaanbaatar 58.00 42 *ce*P **P 15 13 43.8 +0.6**
ULN pmax pmax
comp=Z,2.0nm,0.8s
HHC Hu-ho-hao-te 59.64 50 *e*P **P 15 13 58.3 +3.6**
NRIK Noril'sk 60.64 14 LR LR 15 45 08.5
comp=Z,42nm,19.9s,baz=66,slow=41
SMRI Semarang 63.03 105 *e*P **P 15 14 20.5 +2.6**
comp=Z,2μm,1.8s
NJ2 Nanjing 64.89 61 *e*P **P 15 14 31.3 +1.4**
DAG Danmarks Havn 72.28 347 P **P 15 15 15.2 -0.1**
TIXI Tiksi 73.76 19 *e*P **P 15 15 23.1 -1.0**
comp=Z,2.6nm,1.1s
TIXI Tiksi 73.76 19 *ce*P **P 15 15 22.4 -1.7**
TIXI pmax pmax
comp=Z,5.0nm,2.5s
KLR Kul'dur 74.38 42 *i*P **P 15 15 26.3 -1.9**
KLR pmax pmax
comp=Z,2.0nm,1.0s
BILL Bilibino 86.94 20 *i*P **P 15 16 34.7 -0.4**
WR1 Warramunga Arr 88.98 111 *e*P **P 15 16 43.9 -1.8**
WRA Warramunga Arr 88.98 111 P **P 15 16 43.9 -1.8**
comp=Z,2.0nm,1.0s,baz=324,slow=4.6,SNR=5.7
PETK Petropavlovsk- 89.50 35 LR LR 16 01 08.3
comp=Z,30nm,20.2s,baz=132,slow=38
ASAR Alice Springs 89.53 114 *e*P **P 15 16 49.4 +1.1**
ASAR Alice Springs 89.53 114 *e*P **P 15 16 49.4 +1.1**
ASAR Alice Springs 89.53 114 P **P 15 16 45.2 -3.0**
comp=Z,0.6nm,0.8s,baz=290,slow=4.6,SNR=5.3

*IDC **16** 15:07:22.9±3.5, 10.°99N×126.°63E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/49, mbtmp3.4/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/20, Error ellipse: s-maj=286.1km s-min=22.1km az=66.0*
*MAN **16** 15:07:31.0, 10.°72N×125.°68E, h13km, MS2.7*
ISC 16 15:07:29.8±1.8, 10.°77N±0.°04×125.°77E±0.°10, h15km±11km, n14, σ2§30/18, mb3.5/4, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.87**	**297**	‖*e*P	**Pg**	**15 07 46.5**	**-0.2**
PLP				*i*S	**Sn**	**15 08 01.3**	**+1.5**
BESP	**Borongan**	**0.88**	**339**	*e*P	**Pg**	**15 07 48.0**	**+1.1**
BESP				*e*S	**Sn**	**15 08 01.8**	**+1.6**
SCPH	**Surigao**	**1.02**	**196**	‖*e*P	**Pn**	**15 07 54.2**	**+4.6**
SCPH				*e*S	**Sn**	**15 08 07.6**	**+3.9**
MSLP	**Maasin**	**1.10**	**235**	*e*P	**Pb**	**15 07 48.6**	**-1.8**
MSLP				*e*S	**Sn**	**15 08 05.2**	**-0.3**
OCLP	**Ormoc**	**1.17**	**284**	*e*P	**Pg**	**15 07 53.1**	**+0.7**
BUTP	**Butuan**	**1.80**	**185**	*e*P	**Pn**	**15 07 58.2**	**-2.1**
BUTP				*e*S	**Sb**	**15 08 24.3**	**-0.6**
CNP	**Catarman**	**2.04**	**328**	*e*P	**Pn**	**15 08 05.9**	**+2.4**
CNP				*e*S	**Sg**	**15 08 35.4**	**0.0**
BUKP	**Musuan**	**2.96**	**194**	*e*P	**Pn**	**15 08 17.8**	**+1.4**
BUKP				*e*S	**Sn**	**15 08 53.2**	**+1.6**
PVCP	**Virac**	**3.22**	**331**	*e*P	**Pb**	**15 08 25.2**	**-1.4**
DAV	**Davao City (W)**	**3.69**	**183**	LR	LR	15 10 01.1	
	comp=Z,62nm,18.5s,baz=326,slow=39						
WRA	**Warramunga Arr**	**31.67**	**165**	P	P	15 13 47.8	-5.0
	0.7nm,1.1s,baz=346,slow=9.9,SNR=2.1						
ASAR	**Alice Springs**	**35.14**	**167**	P	P	15 14 19.1	-4.0
	0.2nm,0.7s,baz=349,slow=7.0,SNR=11						
MKAR	**Makanchi Array**	**51.33**	**323**	P	**P**	**15 16 32.0**	**-1.5**
	0.6nm,0.7s,baz=120,slow=8.5,SNR=6.2						
KURBB	**Kurchatov Arra**	**55.38**	**325**	P	**P**	**15 17 00.5**	**-2.8**
	0.4nm,0.6s,baz=126,slow=6.5,SNR=4.7						

*NSSC **16** 15:16:36.5±6.4, 33.°97N×36.°38E, h3km±816km, ML1.2*
*ISCJB **16** 15:16:38.5±1.3, 34.°01N±0.°06×36.°17E±0.°08, h12km, Error ellipse: s-maj=10.6km s-min=7.5km az=152.6*
*GRAL **16** 15:16:39.9±0.3, 34.°03N×36.°14E, h7km±15km, MD2.7*
ISC 16 15:16:33.4±2.0, 34.°08N±0.°08×36.°3E±0.°1, h12km, n7, σ1§84/11, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.32**	**307**	*e*P	**Pn**	**15 16 45.4**	**+1.3**
BHL	**Bhannes**	**0.53**	**250**	*e*P	**Pn**	**15 16 47.5**	**+0.5**
BHL				*e*S	**Sb**	**15 16 53.1**	**+0.7**
QASN	**Qassioun**	**0.55**	**178**	*e*P	**Pg**	**15 16 41.0**	**-3.2**
RCY	**Rachaya**	**0.68**	**211**	*e*P	**Pn**	**15 16 50.5**	**+1.4**
RCY				*e*S	**Sb**	**15 16 58.2**	**+1.4**
DQRL	**Deir Qamar**	**0.69**	**237**	*e*P	**Pn**	**15 16 50.2**	**+1.1**
BRBR	**Barbar**	**0.72**	**201**	*e*P	**Pn**	**15 16 51.1**	**+1.5**
BRBR				*e*S	**Sb**	**15 16 59.3**	**+1.4**
BRBR				AML	AML	15 17 03.9	
	comp=E,9.3nm,0.7s						
BRBR				AML	AML	15 17 04.2	
	comp=N,22nm,0.3s						
TOTH	**TOTAH**	**0.73**	**169**	*e*P	**Pn**	**15 16 52.0**	**+2.3**
TOTH				*e*S	**Sg**	**15 16 57.2**	**-0.2**
TOTH				AML	AML	15 17 06.8	
	comp=N,15nm,0.3s						
TOTH				AML	AML	15 17 07.6	
	comp=E,11nm,0.4s						

*ISCJB **16** 15:23:31.9±1.2, 10.°95N±0.°09×86.°85W±0.°09, h30km, Error ellipse: s-maj=16.6km s-min=5.0km az=44.6*
*UCR **16** 15:23:31.5±1.4, 10.°99N×86.°78W, h9km, MD4.3, ML3.4*
*SNET **16** 15:23:38.0±0.5, 11.°48N×87.°15W, h150km±47km, ML4.2*
ISC 16 15:23:29.4±1.8, 10.°7N±0.°1×86.°83W±0.°08, h30km, n23, σ2§04/30, 2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**1.28**	**94**	*i*P	**Pb**	**15 23 54.3**	**+1.4**
GB1A	**Borinquen Arri**	**1.41**	**87**	*i*P	**Pb**	**15 23 55.9**	**+0.7**
CONN	**Concepcion**	**1.44**	**55**	*e*P	**Pn**	**15 23 53.8**	**+0.3**
MGAN	**Managua**	**1.51**	**22**	*e*P	**Pn**	**15 23 55.4**	**+0.9**
COLC	**Colonia**	**1.60**	**92**	*i*P	**Pb**	**15 23 58.7**	**+0.3**
MESS	**Mesas**	**1.61**	**90**	*i*P	**Pb**	**15 23 59.1**	**+0.5**
CUI	**Cuipilapa**	**1.64**	**93**	*i*P	**Pb**	**15 23 59.9**	**+0.8**
MOMN	**Momotombo**	**1.68**	**10**	*e*P	**Pn**	**15 23 57.4**	**+0.6**
CNGN	**Cerro Negro**	**1.75**	**4**	*e*P	**Pn**	**15 23 57.6**	**-0.2**
CNGN	**Cerro Negro**	**1.75**	**4**	*e*P	**Pb**	**15 24 03.9**	**+2.9**
JTS	**Las Juntas de**	**1.90**	**103**	*e*P	**Pb**	**15 24 04.8**	**+1.3**
CRIN	**San Cristobal**	**1.96**	**354**	*e*P	**Pn**	**15 24 01.1**	**+0.4**
CRIN				*e*S	**Sn**	**15 24 23.3**	**-1.0**
ACON	**Acoyapa**	**2.04**	**53**	*e*P	**Pn**	**15 24 02.6**	**+0.9**
ACON				IAML		15 24 48.3	
	comp=E,80nm,0.6s						
MATN	**Matagalpa**	**2.35**	**22**	*e*P	**Pn**	**15 24 06.7**	**+0.6**
SOMN	**Somoto**	**2.67**	**5**	*e*P	**Pn**	**15 24 13.1**	**+2.6**
CNCH	**Conchagua**	**2.71**	**339**	*e*P	**Pn**	**15 24 12.4**	**+1.4**
CNCH				*e*S	**Sn**	**15 24 40.2**	**-2.6**
CNCH	**Conchagua**	**2.71**	**339**	*e*P	**Pn**	**15 24 12.8**	**+1.8**
CNCH				*e*S	**Sn**	**15 24 40.2**	**-2.6**
LCND	**La Caada**	**2.76**	**338**	‖*e*P	**Pn**	**15 24 12.9**	**+1.3**
LCND				*e*S	**Sn**	**15 24 40.4**	**-3.5**
LCND	**La Caada**	**2.76**	**338**	‖*e*P	**Pn**	**15 24 12.9**	**+1.3**
LCND				*e*S	**Sn**	**15 24 40.4**	**-3.5**
RCON	**San Juan de Ri**	**2.81**	**14**	*e*P	**Pn**	**15 24 13.7**	**+1.3**
PACA	**Pacayal**	**3.08**	**332**	*e*P	**Pn**	**15 24 17.5**	**+1.3**
PACA				*e*S	**Sn**	**15 24 47.8**	**-4.3**
PACA				IAML		15 24 56.9	
	comp=Z,1μm,0.2s						
PACA	**Pacayal**	**3.08**	**332**	*e*P	**Pn**	**15 24 17.5**	**+1.3**
PACA				*e*S	**Sn**	**15 24 47.8**	**-4.3**
PACA				IAML		15 24 56.9	
	comp=Z,1μm,0.2s						
LFRS	**El Faro**	**3.60**	**323**	*e*P	**Pn**	**15 24 24.4**	**+1.2**

*ISK **16** 15:30:43.9, 39.°87N×33.°53E, h5km, ML1.9/7*
*DDA **16** 15:30:44.6, 39.°89N×33.°54E, h7km±2km, ML2.9*
*ISCJB **16** 15:30:45.2±0.6, 39.°84N±0.°04×33.°55E±0.°04, h3km±17km, Error ellipse: s-maj=7.4km s-min=4.6km az=144.8*
ISC 16 15:30:44.7±1.3, 39.°87N±0.°04×33.°54E±0.°03, h12km±12km, n12, σ0§49/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DELI	**KIRIKKALE**	**0.32**	**66**	IAML_P			
	comp=Z,8μm,0.1s						
DELI				*i*P	**Pg**	**15 30 51.4**	**+0.2**
DELI				*i*S	**Sb**	**15 30 56.4**	**-1.2**
AFSR	**Afar-Bala (An**	**0.56**	**221**	PG	**Pb**	**15 30 55.9**	**-0.5**
AFSR				SG	**Sb**	**15 31 04.5**	**+0.1**
ANTO	**Ankara**	**0.57**	**270**	PG	**Pg**	**15 30 55.8**	**-0.1**
ANTO				SG	**Sb**	**15 31 05.0**	**+0.1**
ELDT	**Eldivan**	**0.62**	**352**	IAML_P			
	comp=Z,1μm,0.1s						
ELDT				*i*P	**Pg**	**15 30 56.6**	**-0.3**
ELDT				*i*S	**Sb**	**15 31 07.4**	**+1.0**
CDAG	**Cicekdag**	**0.69**	**111**	IAML_P			
	comp=Z,2μm,0.1s						
CDAG				*i*P	**Pg**	**15 30 58.0**	**0.0**
KIRS	**Kırehir-Merke**	**0.79**	**158**	IAML_P			
	comp=Z,656nm,0.1s						
KIRS				*i*P	**Pb**	**15 31 00.6**	**+0.2**
KKUL	**Konya-Kulu**	**0.85**	**215**	IAML_P			
	comp=Z,408nm,0.1s						
KKUL				*i*P	**Pn**	**15 31 02.6**	**0.0**
CORM	**Corum**	**0.89**	**69**	PG	**Pb**	**15 31 02.1**	**-0.1**
CORM				SG	**Sn**	**15 31 16.1**	**+0.1**
SERE	**Sereflikochisa**	**0.92**	**179**	PG	**Pg**	**15 31 02.4**	**-0.1**
KULU	**Kulu**	**0.93**	**207**	PG	**Pb**	**15 31 03.1**	**+0.4**
YAYX	**Yaylak**	**0.95**	**167**	PG	**Pb**	**15 31 03.2**	**0.0**
YOZ	**Yozgat**	**1.39**	**99**	PN	**Pg**	**15 31 11.6**	**+0.2**

*IDC **16** 15:41:09.8±1.1, 25.°64N×123.°55E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.2/50, mbtmp3.3/6, ML3.0/2, Error ellipse: s-maj=35.7km s-min=21.5km az=65.0*
*ISCJB **16** 15:41:27.6±0.5, 26.°26N±0.°07×124.°97E±0.°07, h204km±6km, mb2.8/4, Error ellipse: s-maj=15.0km s-min=6.0km az=140.4*
*JMA **16** 15:41:28.5±0.3, 26.°47N×124.°86E, h181km, M3.6*
ISC 16 15:41:28.2±1.0, 26.°3N±0.°1×125.°00E±0.°09, h203km±16km, n28, σ1§05/36, mb3.0/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.38**	**170**	P	**Pn**	**15 42 02.0**	**+0.8**
JIKM				*e*S	**S**	**15 42 26.6**	**+0.1**
JIRB	**Irabujima**	**1.47**	**174**	P	**Pn**	**15 42 02.5**	**+0.6**
JIRB				S	**S**	**15 42 27.0**	**-0.8**
JOGS	**Gusukube**	**1.57**	**166**	P	**Pn**	**15 42 04.0**	**+1.1**
JOGS				S	**S**	**15 42 29.6**	**+0.2**
JMJ2	**Miyako jima3**	**1.58**	**169**	P	**Pn**	**15 42 04.0**	**+1.1**
JMJ2				S	**S**	**15 42 29.5**	**0.0**
JKE	**Kume jima 2**	**1.61**	**88**	P	**Pn**	**15 42 03.5**	**+0.4**
JTJ	**Tarama**	**1.67**	**189**	P	**Pn**	**15 42 04.4**	**+0.7**
JTJ				S	**S**	**15 42 29.9**	**-1.0**
JISG	**Ishigakijimahi**	**1.81**	**200**	P	**Pn**	**15 42 05.2**	**+0.1**
JISG				S	**S**	**15 42 32.1**	**-1.2**
JAGN	**Aguni-jima**	**2.04**	**81**	P	**Pn**	**15 42 07.3**	**+0.1**
JIJ	**Ishigaki jima**	**2.07**	**202**	P	**Pn**	**15 42 07.4**	**-0.3**
JIJ				S	**S**	**15 42 35.6**	**-2.4**
JKRS	**Kuro-shima**	**2.23**	**204**	P	**Pn**	**15 42 09.3**	**-0.1**
JKRS				S	**S**	**15 42 39.6**	**-1.4**
IRIF	**Iriomote-Funau**	**2.26**	**211**	P	**Pn**	**15 42 09.3**	**-0.4**
HATJ	**Hateruma jima**	**2.48**	**206**	S	**S**	**15 42 44.2**	**-1.4**
JJT3	**Tamagusuku3**	**2.51**	**93**	P	**Pn**	**15 42 13.3**	**+0.9**
YOJ	**Yonaguni jima**	**2.56**	**225**	P	**Pn**	**15 42 13.2**	**+0.2**
JYNG	**Yonagunijimaku**	**2.61**	**226**	P	**Pn**	**15 42 13.6**	**+0.1**
JNTH	**Nagotoyohara**	**2.72**	**85**	P	**Pn**	**15 42 15.0**	**+0.2**
JIH	**Iheya**	**2.76**	**74**	P	**Pn**	**15 42 15.2**	**+0.1**
JIH				S	**S**	**15 42 49.1**	**-2.1**
JOW	**Kunigami**	**2.98**	**79**	P	**Pn**	**15 42 17.7**	**0.0**
JOW				S	**S**	**15 42 53.4**	**-2.6**
JOW	**Kunigami**	**2.98**	**79**	Pn	**Pn**	**15 42 17.8**	**0.0**
	1.5nm,0.3s,baz=330,slow=16,SNR=53						
JYRO	**Yoronjima**	**3.18**	**76**	P	**Pn**	**15 42 19.8**	**-0.2**
JOKE	**Okinoerabujima**	**3.37**	**71**	P	**Pn**	**15 42 21.9**	**-0.4**
JAMN	**Amaminishikomi**	**4.20**	**62**	P	**Pn**	**15 42 32.9**	**+0.4**
JMZ	**Minamidaito 2**	**5.62**	**93**	P	**Pn**	**15 42 50.8**	**+0.2**
KSRS	**Korea Array**	**11.40**	**12**	Pn	**Pn**	**15 44 07.3**	**+2.1**
	0.1nm,0.3s,baz=196,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**39.34**	**313**	P	**P**	**15 48 37.6**	**-0.1**
	0.2nm,0.5s,baz=97,slow=10,SNR=3.7						
KURBB	**Kurchatov Arra**	**42.82**	**317**	P	**P**	**15 49 04.9**	**-0.9**
	0.1nm,0.4s,baz=108,slow=8.9,SNR=3.7						
WRA	**Warramunga Arr**	**46.85**	**168**	P	P	15 49 38.9	+0.9
	0.3nm,0.4s,baz=348,slow=7.3,SNR=4.6						
ASAR	**Alice Springs**	**50.41**	**169**	P	P	15 50 06.3	+1.3
	0.3nm,0.6s,baz=354,slow=13,SNR=7.3						

*MAN **16** 15:42:58.5, 15.°22N×119.°72E, h64km, MS3.6*
*ISCJB **16** 15:42:59.3±0.5, 15.°18N±0.°03×119.°85E±0.°08, h80km±6km, mb3.5/8, Error ellipse: s-maj=12.6km s-min=4.4km az=178.3*
*IDC **16** 15:43:03.0±1.0, 15.°05N×120.°17E, h112km±10km, mb3.3/9, mb1 3.5/9, mb1mx3.2/49, mbtmp3.7/9, Error ellipse: s-maj=41.1km s-min=15.2km az=58.0*
ISC 16 15:42:59.4±1.0, 15.°17N±0.°03×119.°74E±0.°08, h73km±9km, n25, σ1§78/35, mb3.7/8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.63**	**15**	*e*P	**Pn**	**15 43 14.1**	**+0.3**
SCZP				*e*S	**Sn**	**15 43 24.4**	**0.0**
SMPP	**San Manuel, Pa**	**1.33**	**43**	*e*P	**Pn**	**15 43 21.3**	**-1.1**
SMPP				*e*S	**Sn**	**15 43 36.9**	**-2.7**
LUBP	**Lubang**	**1.51**	**161**	*e*P	**Pn**	**15 43 24.7**	**+0.1**
LUBP				*e*S	**Sn**	**15 43 45.0**	**+1.4**
TGY	**Tagaytay City**	**1.57**	**132**	P	**Pn**	**15 43 26.2**	**+0.7**
	208nm,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP				*i* S	**Sn**	**15 43 57.5**	**+1.4**
POLP	**Polilio Island**	**2.17**	**101**	*e*P	**Pn**	**15 43 34.5**	**+1.1**
ABRA	**Dolores**	**2.64**	**21**	*e*P	**Pn**	**15 43 39.4**	**-0.4**
ABRA				*e*S	**Sn**	**15 44 11.9**	**+1.2**
BOAC	**Boac**	**2.65**	**130**	*e*P	**Pn**	**15 43 41.7**	**+1.8**
CAUP	**Cauayan**	**2.67**	**48**	*e*P	**Pn**	**15 43 39.7**	**-0.5**
SJMP	**San Jose**	**3.00**	**153**	*e*P	**Pn**	**15 43 45.5**	**+0.7**
SJMP				*e*S	**Sn**	**15 44 18.2**	**-1.4**
APYP	**Conner**	**3.04**	**28**	*e*P	**Pn**	**15 43 45.6**	**+0.4**
APYP				*e*S	**Sn**	**15 44 20.1**	**-0.5**
BUSP	**Coron**	**3.18**	**172**	*e*P	**Pn**	**15 43 48.6**	**+1.5**
BUSP				*e*S	**Sn**	**15 44 22.4**	**-1.5**
PALP	**Palanan**	**3.20**	**53**	*e*P	**Pn**	**15 43 46.6**	**-0.7**
PALP				*e*S	**Sn**	**15 44 30.6**	**+6.3**
ENPP	**El Nido**	**3.95**	**185**	*e*P	**Pn**	**15 43 59.0**	**+1.3**
CUYO	**Cuyo Island**	**4.47**	**164**	*e*P	**Pn**	**15 44 04.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**20.18**	**282**	P	Pn	15 47 33.8	+3.1
	0.7nm,0.8s,baz=87,slow=7.0,SNR=5.7						
WRA	**Warramunga Arr**	**37.73**	**157**	P	**P**	**15 50 05.5**	**-2.8**
	0.6nm,0.8s,baz=341,slow=7.3,SNR=8.6						
ASAR	**Alice Springs**	**41.00**	**160**	P	**P**	**15 50 33.3**	**-2.2**
	0.3nm,0.5s,baz=336,slow=6.9,SNR=9.4						
ASAR				PcP	**PcP**	**15 52 32.6**	**-1.9**
	0.1nm,0.5s,baz=343,slow=3.5,SNR=4.7						
MKAR	**Makanchi Array**	**44.31**	**323**	P	**P**	**15 51 04.8**	**+2.7**
	0.2nm,0.7s,baz=116,slow=9.8,SNR=2.9						
KURBB	**Kurchatov Arra**	**48.46**	**326**	P	**P**	**15 51 36.6**	**+2.1**
	0.2nm,0.3s,baz=121,slow=8.6,SNR=4.2						
ARCES	**ARCESS Array B**	**77.39**	**339**	P	**P**	**15 54 46.8**	**+0.7**
	1.4nm,0.8s,baz=78,slow=7.8,SNR=4.6						
FINES	**FINESS Array B**	**78.56**	**331**	P	**P**	**15 54 53.4**	**+0.6**
	0.7nm,0.5s,baz=59,slow=5.1,SNR=7.8						
NB2	**NORSAR Subarra**	**85.54**	**332**	P	**P**	**15 55 29.6**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=70,slow=4.8						
NOA	**NORSAR Array B**	**85.54**	**332**	P	**P**	**15 55 28.9**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=67,slow=4.9,SNR=5.0						
YKA	**Yellowknife Ar**	**91.78**	**22**	P	**P**	**15 55 58.5**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=307,slow=4.4,SNR=4.9						

IDC ***16*** *15:55:32.7±1.6, 6°.92S×155°.67E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/32, mbtmp3.8/8, ML2.1/1, Error ellipse: s-maj=53.9km s-min=21.2km az=130.0*
ISCJB ***16*** *15:55:38.8±0.7, 6°.9S±0°.1×155°.4E±0°.1, h50km, mb4.0/12, Error ellipse: s-maj=21.5km s-min=8.4km az=140.2*
NEIC ***16*** *15:55:42.8±3.4, 7°.03S×155°.40E, h75km±25km, mb4.6/4, Error ellipse: s-maj=37.1km s-min=15.6km az=111.0*
ISC 16 15:55:39.9±1.0, 7°.0S±0°.2×155°.5E±0°.1, h50km, n24, σ1§11/22, mb4.1/12, Bougainvile-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.58**	**253**	Pn	**Pn**	**15 57 42.8**	**+1.3**
	1.2nm,0.3s,baz=43,slow=19,SNR=6.0						
PMG				Sn	**Sn**	**15 59 16.7**	**-0.2**
	0.3nm,0.3s,baz=114,slow=19,SNR=2.7						
COEN	**Coen**	**13.94**	**239**	*e*Pn	**Pn**	**15 58 56.6**	**+1.7**
WB2	**Warramunga Arr**	**24.22**	**236**	*e*P	**P**	**16 00 52.1**	**0.0**
	12nm,1.4s						
WR1	**Warramunga Arr**	**24.23**	**236**	*e*P	**P**	**16 00 52.9**	**+0.7**
WRA	**Warramunga Arr**	**24.23**	**236**	P	**P**	**16 00 52.9**	**+0.7**
	1.0nm,0.5s,baz=62,slow=9.2,SNR=14						
AS31	**Alice Springs**	**26.55**	**229**	*e*P	**P**	**16 01 14.1**	**+0.7**
	2.0nm,1.5s						
ASAR	**Alice Springs**	**26.55**	**229**	*e*P	**P**	**16 01 11.1**	**-2.2**
ASAR	**Alice Springs**	**26.55**	**229**	P	**P**	**16 01 13.8**	**+0.5**
	0.3nm,0.5s,baz=59,slow=9.5,SNR=14						
H11S3	**WAKE ISLAND Hy**	**27.60**	**23**	T	T	16 29 51.9	
	baz=205,slow=74,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**27.61**	**24**	T	T	16 29 48.3	
	baz=205,slow=74,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**27.62**	**24**	T	T	16 29 51.2	
	baz=205						
FITZ	**Fitzroy Crossi**	**31.10**	**246**	*e*P	**P**	**16 01 52.7**	**-1.1**
	27nm,1.6s						
BBOO	**Buckleboo**	**31.42**	**212**	*e*P	**P**	**16 01 56.0**	**-0.5**
	42nm,1.8s						
CISI	**Cisompet, Garu**	**47.25**	**266**	*e*S	**S**	**16 10 56.9**	**-1.9**
PETK	**Petropavlovsk-**	**59.86**	**2**	P	**P**	**16 05 40.5**	**+0.3**
	1.9nm,0.7s,baz=166,slow=7.6,SNR=3.8						
PEA1	**Petropavlovsk-**	**59.86**	**2**	*e*P	**P**	**16 05 40.5**	**+0.3**
CM31	**Chiang Mai Arr**	**61.19**	**295**	*e*P	**P**	**16 05 50.5**	**+0.6**
	2.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**61.19**	**295**	*e*P	**P**	**16 05 50.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**61.19**	**295**	P	**P**	**16 05 50.9**	**+0.9**
	1.5nm,0.7s,baz=125,slow=5.3,SNR=15						
SONA0	**Songino Array**	**69.55**	**327**	*e*P	**P**	**16 06 43.4**	**-0.3**
SONM	**Songino Array**	**69.55**	**327**	P	**P**	**16 06 43.4**	**-0.3**
	0.2nm,0.4s,baz=148,slow=6.3,SNR=3.0						
ILAR	**Eielson Array**	**83.16**	**21**	P	**P**	**16 07 58.9**	**-1.4**
	0.4nm,0.8s,baz=238,slow=5.1,SNR=3.5						
YKA	**Yellowknife Ar**	**96.08**	**28**	P	**P**	**16 09 02.9**	**+1.1**
	0.2nm,0.4s,baz=265,slow=4.4,SNR=4.3						
YKB5	**Yellowknife Ar**	**96.08**	**28**	*e*P	**P**	**16 09 02.9**	**+1.1**

NEIC ***16*** *16:05:37.4±0.0, 19°.35N×66°.01W, h24km, MD2.9(RSPR), After RSPR.*
RSPR 16 16:05:37.4, 19°.35N×66°.01W, h24km±30km, MD2.9/15, 12C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.00**	**210**	‖*e*P	Pn	16 05 53.1	-2.8
EMPR	**Esperanza - Ma**	**1.00**	**210**	*e*S	Sb	16 06 06.0	-2.7
EMPR	**Esperanza - Ma**	**1.00**	**210**	*e*Pg	Pn	16 05 53.1	-2.8
EMPR				*e*Sn	Sb	16 06 06.0	-2.7
CBYP	**Canovanas**	**1.08**	**172**	⇑*e*P	Pn	16 05 54.5	-2.7
CBYP	**Canovanas**	**1.08**	**172**	‖*e*P	Pn	16 05 54.8	-2.4
CBYP				*e*S	Sb	16 06 08.0	-3.3
CBYP	**Canovanas**	**1.08**	**172**	*e*Pn	Pn	16 05 54.8	-2.4
CBYP				*e*Sn	Sb	16 06 09.0	-2.2
HUMP	**Col San Antoni**	**1.21**	**173**	⇑*e*P	Pn	16 05 56.4	-2.5
HUMP	**Col San Antoni**	**1.21**	**173**	*e*S	Sn	16 06 11.5	-3.0
HUMP	**Col San Antoni**	**1.21**	**173**	*e*Pn	Pn	16 05 56.2	-2.7
HUMP				*e*Sn	Sn	16 06 11.3	-3.2
AOPR	**Arecibo Observ**	**1.22**	**215**	‖*e*P	Pn	16 05 56.3	-2.8
AOPR	**Arecibo Observ**	**1.22**	**215**	‖*e*P	Pn	16 05 56.4	-2.7
AOPR	**Arecibo Observ**	**1.22**	**215**	*e*S	Sn	16 06 12.2	-2.7
AOPR	**Arecibo Observ**	**1.22**	**215**	*e*Pn	Pn	16 05 56.2	-2.9
AOPR				*e*Sn	Sn	16 06 10.1	-4.7
SJG	**San Juan**	**1.24**	**186**	⇑*e*P	Pn	16 05 57.1	-2.2
SJG	**San Juan**	**1.24**	**186**	*e*S	Sn	16 06 12.1	-3.1
SJG	**San Juan**	**1.24**	**186**	*e*Pn	Pn	16 05 57.2	-2.1
SJG				*e*Sn	Sn	16 06 12.2	-3.1
CUPR	**Culebra, Puert**	**1.25**	**146**	⇑*e*P	Pn	16 05 56.2	-3.1
CUPR	**Culebra, Puert**	**1.25**	**146**	*e*S	Sn	16 06 12.6	-2.8
CUPR	**Culebra, Puert**	**1.25**	**146**	*e*Pn	Pn	16 05 56.1	-3.2
CUPR				*e*Sn	Sn	16 06 13.0	-2.4
MTP	**Monte Pirata**	**1.32**	**161**	⇑*e*P	Pn	16 05 57.1	-3.2
MTP	**Monte Pirata**	**1.32**	**161**	*e*S	Sn	16 06 13.8	-3.4
MTP	**Monte Pirata**	**1.32**	**161**	*e*Pn	Pn	16 05 57.5	-2.9
CELP	**Cerrillos**	**1.38**	**203**	⇑*e*P	Pn	16 05 59.1	-2.1
CELP	**Cerrillos**	**1.38**	**203**	*e*Pn	Pn	16 05 59.1	-2.1
STVI	**Saint Thomas**	**1.41**	**135**	⇑*e*P	Pn	16 05 59.2	-2.4
STVI	**Saint Thomas**	**1.41**	**135**	*e*S	Sn	16 06 16.7	-2.7
STVI	**Saint Thomas**	**1.41**	**135**	*e*Pn	Pn	16 05 59.5	-2.1
STVI				*e*Sn	Sn	16 06 18.1	-1.4
OBIP	**Obispado Ponce**	**1.42**	**204**	⇑*e*P	Pn	16 06 00.3	-1.5
OBIP	**Obispado Ponce**	**1.42**	**204**	*e*S	Sn	16 06 16.9	-2.7
OBIP	**Obispado Ponce**	**1.42**	**204**	*e*Pn	Pn	16 05 59.9	-1.8
ICMP	**Isla Caja de M**	**1.54**	**199**	*e*Pn	Pn	16 06 02.3	-1.0
LSP	**Las Mesas**	**1.55**	**221**	⇑*e*P	Pn	16 06 01.8	-1.8
LSP	**Las Mesas**	**1.55**	**221**	*e*S	Sn	16 06 19.9	-3.1
LSP	**Las Mesas**	**1.55**	**221**	*e*Pn	Pn	16 06 01.8	-1.8
LSP				*e*Sn	Sn	16 06 19.9	-3.1
MPR	**Mayaguez**	**1.56**	**224**	*e*Pn	Pn	16 06 01.7	-2.0
IDE	**Isla Desecheo**	**1.69**	**236**	*e*S	Sn	16 06 24.0	-2.3
IDE	**Isla Desecheo**	**1.69**	**236**	‖*e*P	Pn	16 06 03.0	-2.4
IDE	**Isla Desecheo**	**1.69**	**236**	*e*Pn	Pn	16 06 03.0	-2.4
IDE				*e*Sn	Sn	16 06 24.0	-2.3
CRPR	**Cabo Rojo, PR**	**1.69**	**218**	*e*S	Sn	16 06 24.2	-2.3
CRPR	**Cabo Rojo, PR**	**1.69**	**218**	⇑*e*P	Pn	16 06 03.1	-2.5
CRPR	**Cabo Rojo, PR**	**1.69**	**218**	*e*Pn	Pn	16 06 03.5	-2.0
ABV	**Anegada**	**1.70**	**111**	⇑*e*P	Pn	16 06 04.1	-1.6
ABVI	**Anegada Island**	**1.70**	**111**	*e*Pn	Pn	16 06 06.5	+0.9
SDDR	**Presa de Saban**	**5.00**	**267**	*e*Pn	Pn	16 06 50.7	-0.4
SDDR				*e*Sn	Sn	16 07 47.4	-0.8

NEIC ***16*** *16:06:34.1±0.0, 19°.26N×66°.16W, h66km, MD3.2(RSPR), After RSPR.*
RSPR 16 16:06:34.1, 19°.26N×66°.16W, h66km±5km, MD3.2/10, 1C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.85**	**204**	⇑*e*P	Pn	16 06 49.5	-1.2
EMPR	**Esperanza - Ma**	**0.85**	**204**	*e*S	Sn	16 07 02.4	-0.4
EMPR	**Esperanza - Ma**	**0.85**	**204**	*e*Pn	Pn	16 06 49.3	-1.3
EMPR				*e*Pn	Pn	16 06 49.5	-1.2
EMPR				*e*Sn	Sn	16 07 01.5	-1.3
EMPR				*e*Sn	Sn	16 07 02.4	-0.4
CBYP	**Canovanas**	**1.02**	**164**	*e*Pn	Pn	16 06 52.3	-0.5
CBYP				*e*Sn	Sn	16 07 05.4	-1.2
AOPR	**Arecibo Observ**	**1.07**	**212**	‖*e*P	Pn	16 06 52.8	-0.6
AOPR	**Arecibo Observ**	**1.07**	**212**	*e*S	Sn	16 07 07.0	-0.7
AOPR	**Arecibo Observ**	**1.07**	**212**	*e*Pn	Pn	16 06 52.8	-0.6
SJG	**San Juan**	**1.14**	**180**	*e*Pn	Pn	16 06 53.4	-0.9
HUMP	**Col San Antoni**	**1.15**	**165**	*e*Pn	Pn	16 06 53.2	-1.1
CELP	**Cerrillos**	**1.24**	**199**	‖*e*P	Pn	16 06 55.1	-0.5
CELP	**Cerrillos**	**1.24**	**199**	*e*Pn	Pn	16 06 55.1	-0.5
CUPR	**Culebra, Puert**	**1.26**	**139**	*e*Pn	Pn	16 06 52.8	-3.0
OBIP	**Obispado Ponce**	**1.28**	**199**	‖*e*P	Pn	16 06 55.6	-0.6
OBIP	**Obispado Ponce**	**1.28**	**199**	*e*S	Sn	16 07 11.6	-0.9
OBIP	**Obispado Ponce**	**1.28**	**199**	*e*Pn	Pn	16 06 54.0	-2.2
MTP	**Monte Pirata**	**1.29**	**153**	‖*e*P	Pn	16 06 55.2	-1.0
MTP	**Monte Pirata**	**1.29**	**153**	*e*S	Sn	16 07 12.0	-0.8
MTP	**Monte Pirata**	**1.29**	**153**	*e*Pn	Pn	16 06 54.5	-1.8
MPR	**Mayaguez**	**1.40**	**222**	*e*Pn	Pn	16 06 55.9	-1.7
ICMP	**Isla Caja de M**	**1.41**	**194**	*e*Pn	Pn	16 06 56.0	-1.8
STVI	**Saint Thomas**	**1.46**	**128**	*e*S	Sn	16 07 15.8	-0.8
STVI	**Saint Thomas**	**1.46**	**128**	*e*Pn	Pn	16 06 55.8	-2.6
CRPR	**Cabo Rojo, PR**	**1.54**	**216**	‖*e*P	Pn	16 06 58.5	-1.0
CRPR	**Cabo Rojo, PR**	**1.54**	**216**	*e*S	Sn	16 07 18.5	-0.2
CRPR	**Cabo Rojo, PR**	**1.54**	**216**	*e*Pn	Pn	16 06 55.8	-3.8

NIED ***16*** *16:10:00, 38°.10N×144°.00E, h8km, Mw3.9 Best double couple: M0=7.19000×10^14 NP1:φ=180.00000°, δ=44.00000°, λ=-126.00000°. NP2:φ=46.00000°, δ=56.00000°, λ=-60.00000°.*
IDC ***16*** *16:10:30.0±0.7, 38°.18N×144°.12E, h0km, mb3.9/14, mb1 4.0/20, mb1mx3.9/41, mbtmp3.9/20, ML3.6/5, MS2.9/6, Ms1 2.9/6, ms1mx2.6/42, Error ellipse: s-maj=18.2km s-min=14.5km az=117.0*
ISCJB ***16*** *16:10:30.7±1.2, 38°.25N±0°.03×144°.10E±0°.03, h18km±9km, mb4.1/26, MS3.2/2, Error ellipse: s-maj=5.1km s-min=3.7km az=157.5*
MOS ***16*** *16:10:32.0±1.0, 38°.27N×144°.13E, h29km, mb4.6/2, Error ellipse: s-maj=11.4km s-min=6.8km az=89.9*
JMA ***16*** *16:10:32.8±0.1, 38°.12N×144°.01E, h39km, M4.4*
NEIC ***16*** *16:10:33.4±2.4, 38°.24N×144°.14E, h22km±6km, mb4.4/15, Error ellipse: s-maj=18.2km s-min=2.8km az=103.0*
ISC 16 16:10:31.6±4.0, 38°.25N±0°.06×144°.11E±0°.06, h13km±25km, n94, σ1§87/110, mb4.1/26, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.08**	**273**	P	**Pn**	**16 11 05.2**	**-1.0**
JIKH				S	**Sn**	**16 11 28.9**	**-3.1**
OFUJ	**Ofunato**	**2.08**	**294**	P	**Pn**	**16 11 06.3**	**0.0**
OFUJ				S	**Sn**	**16 11 31.3**	**-0.8**
JKMT	**Kesennumamotoy**	**2.14**	**286**	P	**Pn**	**16 11 06.8**	**-0.3**
JKMT				S	**Sn**	**16 11 32.2**	**-1.3**
JIO	**Ouri**	**2.18**	**276**	P	**Pn**	**16 11 07.0**	**-0.6**
JIO				S	**Sn**	**16 11 31.9**	**-2.6**
JMK	**Ichinoseki**	**2.37**	**288**	P	**Pn**	**16 11 10.4**	**+0.2**
JOM	**Ohasama**	**2.52**	**300**	P	**Pn**	**16 11 12.9**	**+0.7**
JOM				S	**Sn**	**16 11 43.0**	**+0.2**
JOU	**Okura**	**2.71**	**274**	P	**Pn**	**16 11 15.0**	**0.0**
JOU				S	**Sn**	**16 11 45.7**	**-2.0**
JANG	**Nango**	**2.93**	**317**	P	**Pn**	**16 11 18.3**	**+0.5**
JANG				S	**Sn**	**16 11 52.6**	**-0.3**
JRG	**Rokugo**	**2.95**	**294**	P	**Pn**	**16 11 19.1**	**+1.0**
JRG				S	**Sn**	**16 11 53.3**	**-0.1**
JYK	**Kaneyama**	**3.02**	**284**	P	**Pn**	**16 11 19.5**	**+0.4**
JYK				S	**Sn**	**16 11 54.9**	**-0.2**
JFT	**Otama**	**3.08**	**257**	P	**Pn**	**16 11 19.3**	**-0.6**
JFT				S	**Sn**	**16 11 53.4**	**-3.1**
JAH	**Hinai**	**3.32**	**307**	P	**Pn**	**16 11 24.9**	**+1.6**
JAH				S	**Sn**	**16 12 03.6**	**+1.0**
JTM	**Tenmabayashi**	**3.46**	**318**	S	**Sn**	**16 12 05.0**	**-1.0**
ERM	**Erimo**	**3.83**	**349**	*e*Pn	**Pn**	**16 11 31.1**	**+0.8**
ERM				*e*Sn	**Sn**	**16 12 11.9**	**-3.3**
ERM	**Erimo**	**3.83**	**349**	*e*P	**Pn**	**16 11 31.1**	**+0.8**
ERM				*e*		16 12 11.9	
JKB	**Kayabe**	**4.33**	**328**	S	**Sn**	**16 12 26.3**	**-1.2**
JCH	**Churui**	**4.40**	**353**	P	**Pn**	**16 11 38.8**	**+0.7**
JCH				S	**Sn**	**16 12 28.3**	**-0.8**
JRY	**Ryogami san**	**4.72**	**243**	S	**Sn**	**16 12 30.3**	**-6.9**
MJAR	**Matsushiro Arr**	**5.00**	**252**	*e*Pn	**Pn**	**16 11 45.5**	**-0.9**
MJAR	**Matsushiro Arr**	**5.00**	**252**	*e*P	**Pn**	**16 11 45.5**	**-0.9**
MJAR	**Matsushiro Arr**	**5.00**	**252**	P	**Pn**	**16 11 46.2**	**-0.2**
	0.8nm,0.3s,baz=179,slow=1.3,SNR=34						
MJAR				Sn	**Sn**	**16 12 43.4**	**-0.7**
	0.5nm,0.3s,baz=64,slow=26,SNR=5.3						
MJAR				LR	LR	16 13 45.8	
	comp=Z,56nm,20.2s,baz=100,slow=40						
MAJO	**Matsushiro**	**5.00**	**252**	*e*Pn	**Pn**	**16 11 46.7**	**+0.3**
MAJO				*e*Sn	**Sn**	**16 12 43.4**	**-0.7**
MAJO	**Matsushiro**	**5.00**	**252**	*e*P	**Pn**	**16 11 46.7**	**+0.3**
MAJO				*e*S	**Sn**	**16 12 43.4**	**-0.7**
MAT	**Matsushiro**	**5.00**	**252**	P	**Pn**	**16 11 46.4**	**0.0**
MAT				S	**Sn**	**16 12 42.7**	**-1.4**
MJB9	**Matsu-Tunnel**	**5.00**	**252**	*e*Pn	**Pn**	**16 11 46.7**	**+0.3**
JOD2	**Odawara 2**	**5.01**	**235**	S	**Sn**	**16 12 37.0**	**-7.4**
NEM2	**Nemuro 2**	**5.26**	**13**	P	**Pn**	**16 11 48.8**	**-1.1**
NEM2				S	**Sn**	**16 12 46.1**	**-4.2**
GRPR	**Tuman**	**5.87**	**12**	*e*P	**Pn**	**16 11 57.8**	**-0.5**
GRPR				*e*S	**Sn**	**16 13 00.9**	**-4.6**
GRPR				smax	smax		
	comp=N,344nm,0.4s						
GRPR				smax	smax		
	comp=E,310nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.93**	**12**	⇑*i*P	**Pn**	**16 11 58.5**	**-0.6**
YUK				*i* S	**Sn**	**16 13 02.6**	**-4.2**
YUK				pmax	pmax		
	comp=Z,136nm,0.2s						
YUK				pmax	pmax		
	comp=N,17nm,0.1s						
YUK				smax	smax		
	comp=E,98nm,0.2s						
YUK				smax	smax		
	comp=N,231nm,0.3s						
LAGR	**Lagunnoye**	**5.94**	**12**	*e*P	**Pn**	**16 11 58.7**	**-0.5**
LAGR				*i* S	**Sn**	**16 13 04.0**	**-3.0**
LAGR				pmax	pmax		
	comp=Z,174nm,0.3s						
LAGR				smax	smax		
	comp=E,218nm,0.2s						
LAGR				smax	smax		
	comp=N,490nm,0.4s						
ASAJ	**Asahikawa**	**5.97**	**349**	Pn	**Pn**	**16 12 01.3**	**+1.6**
	comp=N,3.8nm,0.3s,baz=180,slow=11,SNR=48						
ASAJ				Sn	**Sn**	**16 13 07.5**	**-0.4**
	comp=N,2.4nm,0.3s,baz=28,slow=11,SNR=6.5						
JHJ2	**Mitsune**	**6.20**	**216**	*e*Pn	**Pn**	**16 11 60.0**	**-2.9**
JHJ2				*e*Sn	Sn	16 13 01.5	-12
JHJ	**Hachijo jima 2**	**6.21**	**216**	Pn	**Pn**	**16 12 00.3**	**-2.7**
	comp=N,6.2nm,0.3s,baz=112,slow=22,SNR=11						
JHJ				Sn	Sn	16 13 01.9	-12
	comp=N,20nm,0.3s,baz=321,slow=24,SNR=9.1						
INU	**Inuyama**	**6.38**	**245**	*e*Pn	**Pn**	**16 12 02.9**	**-2.5**
KUR	**Kuril'sk**	**7.52**	**21**	*e*P	**Pn**	**16 12 20.6**	**-0.3**
KUR				*i* S	**Sn**	**16 13 41.2**	**-4.8**
KUR				pmax	pmax		
	comp=Z,25nm,0.4s						
KUR				pmax	pmax		
	comp=N,11nm,0.2s						
KUR				pmax	pmax		
	comp=E,12nm,0.5s						
KUR				smax	smax		
	comp=N,63nm,0.2s						
KUR				smax	smax		
	comp=E,10.0nm,0.2s						
YSS	**Yuzh-Sakhalins**	**8.76**	**354**	*e*Pn	**Pn**	**16 12 35.0**	**-2.9**
YSS	**Yuzh-Sakhalins**	**8.76**	**354**	*e*P	**Pn**	**16 12 35.0**	**-2.9**
USA0B	**Ussuriysk Arra**	**10.89**	**307**	*e*Pn	**Pn**	**16 13 05.1**	**-2.0**
USRK	**Ussuriysk Ar.**	**10.89**	**307**	*e*Pn	**Pn**	**16 13 03.3**	**-3.8**
USRK	**Ussuriysk Ar.**	**10.89**	**307**	Pn	**Pn**	**16 13 07.9**	**+0.8**
	comp=E,0.1nm,0.3s,baz=106,slow=15,SNR=2.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**12.82**	**271**	Pn	**Pn**	**16 13 35.6**	**+2.0**
	comp=E,0.1nm,0.3s,baz=72,slow=13,SNR=4.3						
KSRS				LR	LR	16 18 21.3	
	comp=E,47nm,18.1s,baz=40,slow=37						
KLR	**Kul'dur**	**14.13**	**325**	Pn	**Pn**	**16 13 52.3**	**+0.9**
	comp=E,0.2nm,0.3s,baz=138,slow=12,SNR=2.5						
KLR				LR	LR	16 20 06.8	
	comp=E,39nm,18.6s,baz=168,slow=41						
PEA0B	**Petropavlovsk-**	**17.59**	**28**	*e*Pn	**Pn**	**16 14 33.4**	**-2.9**
	comp=E,44nm,1.8s						
PETK	**Petropavlovsk-**	**17.59**	**28**	*e*Pn	**Pn**	**16 14 35.1**	**-1.1**
PETK	**Petropavlovsk-**	**17.59**	**28**	*e*P	**Pn**	**16 14 35.2**	**-1.1**
PETK	**Petropavlovsk-**	**17.59**	**28**	LR	LR	16 19 56.7	
	comp=E,21nm,21.4s,baz=273,slow=32						
ZEA	**Zeya**	**19.34**	**329**	*e*P	**Pn**	**16 14 58.0**	**+0.3**
SEY	**Seymchan**	**25.22**	**9**	P	**P**	**16 15 58.8**	**+2.0**
	comp=E,3.0nm,0.7s,baz=182,slow=6.3,SNR=6.5						
SMY	**Shemya**	**25.29**	**45**	*e*P	**P**	**16 15 57.3**	**-0.3**
	comp=E,155nm,1.5s						
SMY	**Shemya**	**25.29**	**45**	*e*P	**P**	**16 15 57.3**	**-0.3**
SMY				pmax	pmax		
	comp=Z,154nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**27.04**	**127**	T	T	16 44 33.4	
	baz=317						
H11N1	**WAKE ISLAND Hy**	**27.05**	**127**	T	T	16 44 41.0	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**27.06**	**127**	T	T	16 44 43.2	
	baz=317						
H11S1	**WAKE ISLAND Hy**	**27.83**	**129**	T	T	16 45 33.8	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**27.83**	**129**	T	T	16 45 41.4	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**27.85**	**129**	T	T	16 45 35.2	
	baz=318						
SONA0	**Songino Array**	**28.93**	**302**	*e*P	**P**	**16 16 32.1**	**+1.6**
SONM	**Songino Array**	**28.93**	**302**	P	**P**	**16 16 32.1**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=98,slow=11,SNR=3.5						
SONM				LR	LR	16 28 45.4	
	comp=Z,40nm,18.0s,baz=118,slow=38						
GAMB	**Gambell**	**36.57**	**31**	*e*P	**P**	**16 17 35.3**	**-1.5**
	comp=Z,12nm,1.1s						
FALS	**False Pass**	**38.71**	**47**	*e*P	**P**	**16 17 52.6**	**-2.4**
	comp=Z,70nm,1.1s						
ZAA1	**Zalesovo Array**	**42.70**	**311**	*e*P	**P**	**16 18 28.8**	**+0.8**
ZALV	**Zalesovo Beam**	**42.70**	**311**	P	**P**	**16 18 28.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=85,slow=5.2,SNR=2.4						
MK31	**Makanchi Array**	**45.30**	**302**	*e*P	**P**	**16 18 49.7**	**+0.7**
	comp=Z,1.5nm,1.1s						
MK31	**Makanchi Array**	**45.30**	**302**	*e*P	**P**	**16 18 49.7**	**+0.7**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**45.30**	**302**	P	**P**	**16 18 49.5**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=84,slow=9.7,SNR=11						
KURK	**Kurchatov**	**46.88**	**308**	*e*P	**P**	**16 19 02.0**	**+0.7**
	comp=Z,2.9nm,0

comp=Z,0.0nm,0.4s
TVBK *e*Pn **Pn** **16 20 08.6 +2.2**
SMDO Samad 3.60 179 P Pn 16 20 01.0 -6.9
KHGB Koh Gabri 3.92 340 *e*Pn **Pn** **16 20 15.5 +3.0**
KHGB IAMB IAmb 16 21 29.3
comp=Z,0.0nm,1.1s
JLN Jalan Bani Buh 4.68 164 P **Pn** **16 20 23.2 +0.4**
MHTO MHTO 5.67 180 P **Pn** **16 20 37.3 +1.1**
MHTO S **Sn** **16 21 39.0 -2.3**
IKOO Kooshah 5.79 8 *e*Pn **Pn** **16 20 40.1 +1.9**
IKAZ Kazeroun 6.26 301 *e*Pn **Pn** **16 20 42.1 -2.5**
IRAM Ramesheh 7.09 317 *e*Pn **Pn** **16 20 56.2 +0.2**

NEIC ***16*** *16:26:56.2±3.0, 11°.58S×113°.65E, h6km±5km, mb4.4/14, Error ellipse: s-maj=16.7km s-min=11.5km az=57.0*
ISCJB ***16*** *16:26:57.5±0.4, 11°.62S±0°.04×113°.60E±0°.04, h33km, mb4.2/14, Error ellipse: s-maj=7.0km s-min=4.6km az=137.6*
IDC ***16*** *16:26:58.5±1.6, 11°.64S×113°.78E, h0km, mb4.0/7, mb1 4.2/9, mb1mx3.8/47, mbtmp4.0/9, ML3.9/2, MS3.0/7, Ms1 3.0/7, ms1mx2.8/43, Error ellipse: s-maj=54.9km s-min=13.0km az=47.0*
DJA ***16*** *16:26:58.5±1.1, 12°S±9°×11°4E±°, h44km±79km, M4.8/11, mB5.3/4, mb4.7/5, MLv4.8/11, Mw(mB)4.7/4*
ISC 16 16:27:00.4±0.5,**11°.51S**±0°.06×**113°.61E**±0°.05,**h35**km,**n69,**
σ2§**66**/69,**mb4.2**/14,**1C-1D,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**3.06**	**10**	*e*Pn	**Pn**	**16 27 46.1**	**-0.2**
JAGI				*e*Sn	**Sn**	**16 28 17.3**	**-4.5**
JAGI	**Jajag, Banyuwa**	**3.06**	**10**	P	**Pn**	**16 27 46.4**	**+0.1**
IGBI	**Denpasar**	**3.07**	**30**	P	**Pn**	**16 27 46.3**	**-0.1**
GMJI	**Gumukmas**	**3.22**	**357**	P	**Pn**	**16 27 47.2**	**-1.2**
SRBI	**Singaraja**	**3.75**	**25**	P	**Pn**	**16 27 56.2**	**+0.4**
PCJI	**Pacitan**	**4.07**	**324**	P	**Pn**	**16 28 00.0**	**-0.2**
KMMI	**Kalianget**	**4.44**	**5**	P	**Pn**	**16 28 07.8**	**+2.5**
WOJI	**Wonogiri, Jawa**	**4.51**	**324**	P	**Pn**	**16 28 04.0**	**-2.2**
UGM	**Wanagama**	**4.69**	**319**	*e*Pn	**Pn**	**16 28 08.9**	**+0.1**
UGM				*e*Sn	**Sn**	**16 28 56.0**	**-6.0**
UGM	**Wanagama**	**4.69**	**319**	P	**Pn**	**16 28 08.7**	**0.0**
UGM				S	**Sn**	**16 28 58.0**	**-4.0**
PLAI	**Plampang**	**4.89**	**57**	P	**Pn**	**16 28 11.0**	**-0.5**
CISI	**Cisompet, Garu**	**6.93**	**304**	*e*Pn	**Pn**	**16 28 37.3**	**-2.3**
CISI				*e*Sn	**Sn**	**16 29 51.8**	**-5.5**
CISI	**Cisompet, Garu**	**6.93**	**304**	P	**Pn**	**16 28 37.2**	**-2.4**
XMIS	**Christmas Isla**	**7.88**	**277**	*e*Pn	**Pn**	**16 28 48.5**	**-4.1**
BSSI	**Bau Bau, Buton**	**8.64**	**52**	P	**Pn**	**16 29 03.3**	**+0.3**
21nm,0.6s							
KAPI	**Kappang**	**8.86**	**44**	*e*Pn	**Pn**	**16 29 03.7**	**-2.3**
KAPI				*e*Sn	**Sn**	**16 30 39.5**	**-5.2**
KAPI	**Kappang**	**8.86**	**44**	Pn	**Pn**	**16 29 07.5**	**+1.5**
1.3nm,0.3s,baz=211,slow=5.6,SNR=3.6							
KAPI				Sn	**Sn**	**16 30 39.9**	**-4.8**
3.5nm,0.3s,baz=224,slow=19,SNR=6.9							
KAPI				LR	LR	16 33 15.9	
comp=Z,143nm,18.3s,baz=208,slow=43							
BKSI	**Bulukumba**	**8.90**	**47**	P	**Pn**	**16 29 06.6**	**0.0**
7.2nm,0.5s							
MMRI	**Maumere**	**8.96**	**72**	*e*Pn	**Pn**	**16 29 08.1**	**+0.7**
MMRI	**Maumere**	**8.96**	**72**	P	**Pn**	**16 29 07.7**	**+0.3**
CGJI	**Cibinong**	**9.21**	**301**	P	**Pn**	**16 29 08.9**	**-1.8**
BATI	**Baumata**	**9.96**	**84**	P	**Pn**	**16 29 21.3**	**+0.2**
SOEI	**Soe**	**10.62**	**82**	*e*Pn	**Pn**	**16 29 29.8**	**-0.5**
SOEI	**Soe**	**10.62**	**82**	P	**Pn**	**16 29 30.8**	**+0.6**
GIRL	**Giralia**	**11.09**	**177**	*e*Pn	**Pn**	**16 29 33.4**	**-3.1**
GIRL				*e*Sn	Sn	16 31 26.0	-13
MBWA	**Marble Bar**	**11.25**	**149**	*e*Pn	**Pn**	**16 29 36.0**	**-2.7**
PSA00	**Pilbara Seismi**	**11.66**	**150**	*e*Pn	Pn	16 29 39.0	-5.3
PSA00				*e*Sn	Sn	16 31 35.1	-18
KSM	**Kuching**	**13.31**	**346**	*e*Pn	**Pn**	**16 30 05.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**13.35**	**121**	*e*Pn	**Pn**	**16 30 04.3**	**-3.1**
FITZ				*e*Sn	Sn	16 32 21.8	-13
FITZ	**Fitzroy Crossi**	**13.35**	**121**	Pn	**Pn**	**16 30 04.8**	**-2.6**
0.6nm,0.3s,baz=304,slow=7.2,SNR=33							
FITZ				Sn	Sn	16 32 22.4	-12
0.8nm,0.3s,baz=158,slow=13,SNR=3.6							
FITZ				LR	LR	16 35 49.0	
comp=Z,48nm,18.4s,baz=299,slow=40							
SBUM	**Sibu**	**13.93**	**354**	*e*Pn	**Pn**	**16 30 15.7**	**+0.2**
MTN	**Manton Dam**	**17.18**	**96**	*e*Pn	**Pn**	**16 30 54.9**	**-3.0**
41nm,1.6s							
MORW	**Morawa**	**17.62**	**173**	*e*Pn	**Pn**	**16 30 59.8**	**-3.4**
69nm,1.8s							
IPM	**Ipoh**	**20.22**	**321**	*e*P	Pn	16 31 35.6	+0.9
51nm,1.9s							
FAKI	**Fak Fak**	**20.35**	**67**	*e*P	**P**	**16 31 33.7**	**-0.2**
76nm,1.3s							
KULM	**Kulim**	**21.09**	**322**	*e*P	**P**	**16 31 42.9**	**+1.0**
23nm,1.4s							
WRA	**Warramunga Arr**	**21.63**	**115**	P	**P**	**16 31 48.8**	**+1.1**
6.1nm,0.6s,baz=297,slow=11,SNR=31							
WRA				S	**S**	**16 35 36.5**	**-9.1**
0.7nm,0.6s,baz=287,slow=26,SNR=3.4							
WR1	**Warramunga Arr**	**21.63**	**115**	*e*P	**P**	**16 31 48.8**	**+1.1**
WB2	**Warramunga Arr**	**21.64**	**115**	*e*P	**P**	**16 31 47.2**	**-0.6**
6.7nm,0.6s							
DAV	**Davao City (W)**	**21.96**	**33**	LR	LR	16 40 52.3	
comp=Z,38nm,21.4s,baz=192,slow=38							
ASAR	**Alice Springs**	**22.78**	**125**	*e*P	**P**	**16 31 59.4**	**-0.7**
ASAR	**Alice Springs**	**22.78**	**125**	P	**P**	**16 32 01.1**	**+1.1**
3.6nm,0.7s,baz=302,slow=9.8,SNR=100							
ASAR				S	**S**	**16 36 10.8**	**+3.9**
4.2nm,0.9s,baz=295,slow=22,SNR=11							
ASAR				LR	LR	16 40 13.7	
comp=Z,38nm,21.3s,baz=290,slow=35							
AS31	**Alice Springs**	**22.78**	**125**	*e*P	**P**	**16 31 58.8**	**-1.2**
1.6nm,0.6s							
AS31				*e*S	**S**	**16 36 07.8**	**+0.9**
TGY	**Tagaytay City**	**26.46**	**16**	LR	LR	16 46 38.3	
comp=Z,12nm,18.6s,baz=300,slow=44							
CTA	**Charters Tower**	**32.50**	**109**	P	**P**	**16 33 28.6**	**+0.5**
2.4nm,0.8s,baz=277,slow=8.1,SNR=2.7							
CTAO	**Charters Tower**	**32.50**	**109**	*e*P	**P**	**16 33 27.9**	**-0.1**
45nm,1.8s							
STKA	**Stephens Creek**	**32.80**	**133**	*e*P	**P**	**16 33 32.7**	**+2.2**
2.3nm,1.4s							
STKA	**Stephens Creek**	**32.80**	**133**	P	**P**	**16 33 32.1**	**+1.6**
2.6nm,0.7s,baz=309,slow=11,SNR=9.8							
CM31	**Chiang Mai Arr**	**33.10**	**334**	*e*P	**P**	**16 33 32.9**	**-0.4**
12nm,1.6s							
CMAR	**Chiang Mai Arr**	**33.10**	**334**	*e*P	**P**	**16 33 36.7**	**+3.4**
CMAR	**Chiang Mai Arr**	**33.10**	**334**	P	P	16 33 38.6	+5.4
0.9nm,0.7s,baz=166,slow=8.9,SNR=6.8							
CMAR				LR	LR	16 47 24.0	
comp=Z,32nm,19.0s,baz=175,slow=37							
ENH	**Enshi**	**41.73**	**355**	*e*P	**P**	**16 34 47.5**	**+1.4**
7.4nm,0.6s							
WHN	**Wuhan**	**41.81**	**1**	P	**P**	**16 34 49.3**	**+2.5**
CD2	**Chengdu**	**43.22**	**348**	*e*P	**P**	**16 34 59.5**	**+1.2**
XAN	**Xi'an**	**45.51**	**355**	P	**P**	**16 35 20.3**	**+3.7**
XAN				pP	sP	16 35 29.6	+0.5
KSRS	**Korea Array**	**50.52**	**15**	LR	LR	17 02 04.3	
comp=Z,11nm,18.1s,baz=125,slow=42							
HHC	**Hu-ho-hao-te**	**52.13**	**358**	*e*P	**P**	**16 36 09.8**	**+2.5**
GTA	**Gaotai**	**52.26**	**346**	*e*P	**P**	**16 36 12.8**	**+4.4**
GTA				pP	sP	16 36 20.9	-0.1
GTA				sP	pwP	16 36 25.6	+2.1
CASY	**Casey**	**54.74**	**182**	*e*P	**P**	**16 36 27.2**	**+1.1**
18nm,1.0s							
SONA0	**Songino Array**	**59.42**	**354**	*e*P	P	16 37 05.3	+5.7
SONM	**Songino Array**	**59.42**	**354**	P	P	16 37 05.3	+5.7
1.0nm,0.6s,baz=173,slow=7.7,SNR=6.0							
WMQ	**Urumqi**	**59.91**	**339**	*e*P	**P**	**16 37 05.9**	**+3.0**
KSH	**Kashi**	**61.65**	**328**	P	**P**	**16 37 17.6**	**+2.7**
MKAR	**Makanchi Array**	**64.45**	**337**	*e*P	**P**	**16 37 33.2**	**-0.1**
MKAR	**Makanchi Array**	**64.45**	**337**	P	**P**	**16 37 34.7**	**+1.4**
0.3nm,0.5s,baz=157,slow=7.5,SNR=5.3							
ZALV	**Zalesovo Beam**	**69.64**	**342**	P	**P**	**16 38 09.4**	**+3.4**
0.5nm,0.6s,baz=144,slow=5.4,SNR=3.1							
SYO	**Syowa Base**	**73.61**	**201**↓	*e*sP	P	16 38 35.2	+5.5
SYO	**Syowa Base**	**73.61**	**201**↑	*e*P	P	16 38 41.2	+11
ABKAR	**Akbulak array**	**76.66**	**327**	*e*P	**P**	**16 38 48.0**	**+0.4**
ABKAR				*e*P	**P**	**16 38 48.6**	**+1.0**

IDC ***16*** *16:29:13.3±0.4, 12°.08N×73°.48W, h0km, mb4.7/20, mb1 4.8/25, mb1mx4.7/43, mbtmp4.7/25, ML4.1/5, MS4.0/19, Ms1 4.0/19, ms1mx3.8/33, Error ellipse: s-maj=13.7km s-min=11.4km az=62.0*
MOS ***16*** *16:29:14.9±1.0, 12°.09N×73°.49W, h20km, mb5.1/57, Error ellipse: s-maj=10.3km s-min=4.9km az=116.6*
BJI ***16*** *16:29:14.5±0.0, 11°.35N×73°.55W, h31km, Ms5.1/4, Ms7 4.8/5*
VAO ***16*** *16:29:15.5±0.3, 12°.12N×73°.17W, h11km, mb4.9*
ISCJB ***16*** *16:29:15.8±0.7, 12°.08N±0°.01×73°.42W±0°.02, h27km±5km, mb5.0/371, MS4.2/19, Error ellipse: s-maj=3.8km s-min=1.7km az=171.9*
NEIC ***16*** *16:29:17.6±1.6, 12°.09N×73°.43W, h27km±3km, mb5.0/381, Error ellipse: s-maj=13.1km s-min=10.5km az=67.0*
NEIC Felt at Riohacha, Colombia and at Maracaibo, Venezuela.
RSNC ***16*** *16:29:19.1±0.7, 11°.99N×73°.57W, h13km±5km, ML4.5, Mw4.7*
GCMT ***16*** *16:29:21.6±0.4, 12°.11N±0°.03×73°.56W±0°.04, h33km±1km, MW4.8/62, Moment Tensor Solution. s22,c24; s62,c81; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-1.22±.18; $M_{\theta\theta}$1.59±.11; $M_{\phi\phi}$-0.36±.11; $M_{r\theta}$-1.13±.10; $M_{\theta\phi}$0.41±.09; $M_{\phi r}$-0.24±.12; Best double couple: $M_0$1.85200×10^16 NP1:φs78.00000°, δ64.00000°, λ-91.00000°. NP2: φs259.00000°, δ26.00000°, λ-89.00000°. Principal axes: T 2.0790, Plg19.0000°, Azm168.0000°; N -0.4500, Plg1.0000°, Azm78.0000°; P -1.6250, Plg71.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 16:29:15.6±0.7,**12°.14N**±0°.03×**73°.52W**±0°.03,**h17**km±4km,
n1152,σ1§**73**/1202,**mb5.0**/371,**MS4.1**/20,**14C-4D,**
Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRC	**Santa Marta, M**	**1.20**	**216**↑	*i*P	**Pb**	**16 29 37.4**	**-0.4**
SMRC				*e*S	**Sb**	**16 29 51.1**	**-1.9**
URIC	**Uribia, Colomb**	**1.56**	**106**↑	*i*P	**Pg**	**16 29 45.0**	**-0.5**
URIC				*e*S	**Sg**	**16 30 05.4**	**-0.4**
URIC				*i*		16 30 11.2	
comp=Z,5μm,0.5s							
VIRV	**Villa del Rosa**	**1.96**	**146**↑	*i*P	**Pb**	**16 29 50.5**	**-0.4**
CODC	**Agustn Codazz**	**2.20**	**178**↑	*i*P	**Pn**	**16 29 51.9**	**+0.5**
CODC				*e*S	**Sn**	**16 30 16.9**	**-1.3**
CODC				*i*		16 30 28.8	
comp=Z,2μm,0.3s							
ARGC	**Ariguani, Magd**	**2.38**	**198**↑	*i*P	**Pn**	**16 29 55.1**	**+1.2**
ARGC				*i*		16 30 37.8	
comp=Z,1μm,0.4s							
SJCC	**San Jacinto, C**	**2.77**	**216**↑	*i*P	**Pn**	**16 29 59.4**	**+0.1**
SJCC				*e*S	**Sn**	**16 30 31.6**	**-0.7**
DABV	**Dabajuro**	**3.07**	**113**↑	*i*P	**Pn**	**16 30 05.8**	**+2.3**
SMLC	**San Martn de**	**3.37**	**189**	*e*P	**Pn**	**16 30 08.2**	**+0.7**
SMLC				*e*S	**Sn**	**16 30 47.4**	**+0.3**
OCAC	**Ocana**	**3.88**	**177**	*e*P	**Pn**	**16 30 15.6**	**+0.8**
OCAC				*e*S	**Sn**	**16 30 59.4**	**-0.8**
OCAC				*i*		16 31 11.8	
comp=Z,804nm,0.5s							
SDV	**Santo Domingo**	**4.30**	**139**	*e*Pn	**Pn**	**16 30 21.6**	**+1.0**
SDV				*e*Sn	**Sn**	**16 31 12.4**	**+1.9**
SDV	**Santo Domingo**	**4.30**	**139**↑	*i*P	**Pn**	**16 30 22.4**	**+1.8**
SDV				*e*S	**Sn**	**16 31 11.5**	**+1.0**
SDV				*i*		16 31 22.5	
comp=Z,705nm,0.4s							
SDV	**Santo Domingo**	**4.30**	**139**	Pn	**Pn**	**16 30 22.5**	**+2.0**
comp=Z,60nm,0.3s,baz=319,slow=5.7,SNR=123							
SDV				Sn	**Sn**	**16 31 12.4**	**+1.9**
comp=Z,26nm,0.3s,baz=354,slow=18,SNR=3.4							
SDV				LR	LR	16 32 42.8	
comp=Z,5μm,19.2s,baz=328,slow=50							
CAPV	**Capacho**	**4.41**	**164**↑	*i*P	**Pn**	**16 30 23.4**	**+1.3**
SOCV	**Socops**	**4.64**	**145**↑	*i*P	**Pn**	**16 30 27.2**	**+2.2**
UREC	**San Jos de Ur**	**4.79**	**205**	*e*P	**Pn**	**16 30 28.4**	**+1.3**
UREC				*e*S	**Sn**	**16 31 20.5**	**-1.9**
UREC				*i*		16 31 27.1	
comp=Z,369nm,0.3s							
ZARC	**Zaragoza, Cauc**	**4.81**	**196**	*e*P	**Pn**	**16 30 28.9**	**+1.6**
ZARC				*e*S	**Sn**	**16 31 24.7**	**+2.0**
ZARC				*i*		16 31 29.3	
comp=Z,405nm,0.4s							
PAMC	**Pamplona, Colo**	**4.84**	**170**	*e*P	**Pn**	**16 30 29.2**	**+1.0**
PAMC				*e*S	**Sn**	**16 31 23.7**	**-0.5**
PAMC				*i*		16 31 44.8	
comp=Z,538nm,0.4s							
BRRC	**Barranca, Sant**	**5.01**	**182**↑	*i*P	**Pn**	**16 30 30.2**	**+0.1**
BRRC				*e*S	**Sn**	**16 31 26.4**	**-1.2**
BRRC				*i*		16 31 55.5	
comp=Z,205nm,0.4s							
GIRC	**Giron, Santand**	**5.04**	**176**↓	*i*P	**Pn**	**16 30 32.3**	**+1.6**
GIRC				*i*		16 32 15.4	
comp=Z,350nm,0.5s							
BARC	**Barichara**	**5.53**	**177**	*e*P	**Pn**	**16 30 38.7**	**+1.3**
BARC				*e*S	**Sn**	**16 31 39.7**	**-1.0**
BARC				*i*		16 32 13.2	
comp=Z,394nm,0.5s							
PTBC	**PUERTO BERRIO,**	**5.64**	**190**	*e*P	**Pn**	**16 30 40.0**	**+1.1**
PTBC				*e*S	**Sn**	**16 31 41.9**	**-1.5**
PTBC				*i*		16 32 07.7	
comp=Z,293nm,0.6s							
TAMC	**Tame, Arauca**	**5.92**	**163**	*e*P	**Pn**	**16 30 44.6**	**+2.0**
TAMC				*e*S	**Sn**	**16 31 49.0**	**-1.3**
TAMC				*i*		16 32 15.2	
comp=Z,314nm,0.5s							
RUSC	**La Rusia**	**6.23**	**176**↑	*i*P	**Pn**	**16 30 48.2**	**+1.0**
RUSC				*e*S	**Sn**	**16 31 58.1**	**-0.2**
RUSC				*i*		16 32 40.0	
comp=Z,179nm,0.6s							
HELC	**Santa Helena**	**6.24**	**199**	*e*P	**Pn**	**16 30 48.5**	**+1.2**
HELC				*e*S	**Sn**	**16 31 57.9**	**-0.6**
HELC				*i*		16 32 32.9	
comp=Z,127nm,0.5s							
LGNH	**Logne**	**6.39**	**8**	*e*Pn	**Pn**	**16 30 49.8**	**+0.7**
LGNH				*e*Sn	**Sn**	**16 31 57.0**	**-4.7**
ELOV	**Elorza**	**6.47**	**142**↑	*i*P	**Pn**	**16 30 51.3**	**+1.1**
PTAC	**Punta Ardita,**	**6.52**	**221**	*e*P	**Pn**	**16 30 51.3**	**+0.4**
PTAC				*i*		16 32 06.7	
comp=Z,280nm,0.3s							
PCJ	**Portland Cotta**	**6.58**	**328**	*i* P	**Pn**	**16 30 52.5**	**+0.8**
PCJ				*i* S	**Sn**	**16 32 00.1**	**-6.4**
HOJ	**Hope**	**6.61**	**332**	*i* P	**Pn**	**16 30 54.9**	**+2.8**
GWJ	**Greenwich**	**6.66**	**333**	*i* P	**Pn**	**16 30 53.8**	**+0.9**
NORC	**Norcasia**	**6.67**	**192**	*e*P	**Pn**	**16 30 53.4**	**+0.4**
NORC				*e*S	**Sn**	**16 32 07.3**	**-1.4**
NORC				*i*		16 32 30.0	
comp=Z,165nm,0.4s							
STH	**Stony Hill**	**6.70**	**332**	*i* P	**Pn**	**16 30 54.6**	**+1.3**
STH				*i* S	**Sn**	**16 32 04.3**	**-5.1**
YOPC	**Yopal, Colombi**	**6.83**	**171**↓	*i*P	**Pn**	**16 30 56.8**	**+1.6**
YOPC				*e*S	**Sn**	**16 32 11.5**	**-1.3**
YOPC				*i*		16 32 43.1	
comp=Z,246nm,0.5s							
BCIP	**Isla Barro Col**	**6.88**	**245**	*e*Pn	**Pn**	**16 30 54.1**	**-1.7**
BCIP				*e*Sn	**Sn**	**16 32 07.2**	**-6.6**
BCIP	**Isla Barro Col**	**6.88**	**245**	*e*P	**Pn**	**16 30 54.1**	**-1.7**
BCIP				*e*		16 32 07.2	
BCIP	**Isla Barro Col**	**6.88**	**245**	*e*P	**Pn**	**16 30 54.4**	**-1.4**
BCIP				*e*S	Sn	16 32 03.2	-11
BCIP				*i*		16 32 10.9	
comp=Z,172nm,0.8s							
BANI	**BANI**	**6.92**	**26**	*e*Pn	**Pn**	**16 30 54.4**	**-2.0**
BANI				*e*Sn	**Sn**	**16 32 07.0**	**-7.9**
MCJ	**Malvern**	**7.02**	**325**	*i* P	**Pn**	**16 30 57.9**	**+0.1**
SOLC	**Bahia Solano**	**7.02**	**213**	*e*P	**Pn**	**16 30 59.0**	**+1.3**
SOLC				*e*S	**Sn**	**16 32 15.4**	**-1.9**
SOLC				*i*		16 32 21.8	
comp=Z,77nm,0.4s							
SDDR	**Presa de Saban**	**7.13**	**17**	*e*Pn	**Pn**	**16 30 59.9**	**+0.7**
SDDR				*e*Sn	**Sn**	**16 32 15.4**	**-4.6**
SDD	**Santo Domingo**	**7.17**	**29**	*e*Pn	**Pn**	**16 30 56.8**	**-3.0**
MTDJ	**Mount Denham**	**7.18**	**328**	*e*Pn	**Pn**	**16 31 00.2**	**+0.2**
MTDJ				*e*Sn	**Sn**	**16 32 15.5**	**-5.9**
CVJ	**Coleyville**	**7.18**	**328**	*i* P	**Pn**	**16 30 58.9**	**-1.1**
ROSC	**El Rosal**	**7.30**	**186**	*e*Pn	**Pn**	**16 31 04.8**	**+2.9**
ROSC	**El Rosal**	**7.30**	**186**	*e*P	**Pn**	**16 31 05.5**	**+3.6**
ROSC				*e*S	**Sn**	**16 32 23.2**	**-1.5**
ROSC				*i*		16 33 00.1	
comp=Z,102nm,0.5s							
ROSC	**El Rosal**	**7.30**	**186**	Pn	**Pn**	**16 31 04.7**	**+2.7**
comp=Z,12nm,0.3s,baz=160,slow=11,SNR=16							
ROSC				Sn	Sn	16 32 35.7	+11
comp=Z,14nm,0.3s,baz=0.0,slow=20,SNR=1.8							
ROSC				LR	LR	16 33 25.9	
comp=Z,234nm,20.1s,baz=45,slow=35							
RREF	**El Recreo**	**7.42**	**194**	*e*P	**Pn**	**16 31 07.1**	**+3.3**
RREF				*e*S	**Sn**	**16 32 30.5**	**+2.5**
RREF				*i*		16 33 01.1	
comp=Z,124nm,0.5s							
CHIC	**Chingaza**	**7.47**	**182**	*e*P	**Pn**	**16 31 07.4**	**+3.1**
CHIC				*e*S	**Sn**	**16 32 27.7**	**-1.2**
PLMC	**San Jos del P**	**7.69**	**201**	*e*P	**Pn**	**16 31 08.8**	**+1.8**
GTBY	**Guantanamo Bay**	**7.89**	**349**	*e*Pn	**Pn**	**16 31 09.8**	**+0.2**
GTBY				*e*Sn	**Sn**	**16 32 30.7**	**-7.9**
VILC	**Villavicencio,**	**7.98**	**181**	*e*P	**Pn**	**16 31 13.8**	**+2.7**
PCDR	**Punta Cana, DR**	**8.04**	**37**	*e*Pn	**Pn**	**16 31 10.0**	**-1.7**
PCDR				*e*Sn	Sn	16 32 31.1	-11
PRAC	**Prado**	**8.48**	**189**	*e*P	**Pn**	**16 31 19.4**	**+1.6**
PRAC				*e*S	**Sn**	**16 32 51.0**	**-2.3**
PRAC				*i*		16 33 37.6	
comp=Z,91nm,0.5s							
CRPR	**Cabo Rojo, PR**	**8.50**	**46**	*e*Pn	**Pn**	**16 31 14.0**	**-4.0**
CRPR				*e*Sn	Sn	16 32 44.2	-9.4
YOTC	**Yotoco, Valle**	**8.58**	**199**	*e*P	**Pn**	**16 31 19.8**	**+0.6**
MPR	**Mayaguez**	**8.62**	**45**	*e*Pn	**Pn**	**16 31 17.1**	**-2.6**
MPR				*e*Sn	Sn	16 32 42.5	-14
ICMP	**Isla Caja de M**	**8.84**	**49**	*e*Pn	**Pn**	**16 31 18.7**	**-4.0**
ICMP				*e*Sn	Sn	16 32 52.9	-9.1
OBIP	**Obispado Ponce**	**8.88**	**48**	*e*Pn	**Pn**	**16 31 20.1**	**-3.2**
OBIP				*e*Sn	Sn	16 32 48.5	-15
AOPR	**Arecibo Observ**	**8.98**	**46**	*e*Pn	**Pn**	**16 31 21.1**	**-3.6**
AOPR				*e*Sn	Sn	16 32 49.8	-16
EMPR	**Esperanza - Ma**	**9.22**	**46**	*e*Pn	**Pn**	**16 31 25.8**	**-2.2**
EMPR				*e*Sn	Sn	16 32 59.2	-12
SJG	**San Juan**	**9.26**	**49**	*e*Pn	**Pn**	**16 31 23.8**	**-4.6**
SJG				*e*Sn	Sn	16 32 54.0	-18
SJG	**San Juan**	**9.26**	**49**	*e*P	**Pn**	**16 31 23.8**	**-4.6**
SJG	**San Juan**	**9.26**	**49**	Pn	**Pn**	**16 31 27.0**	**-1.5**
comp=Z,5.4nm,0.3s,baz=245,slow=15,SNR=4.4							
SJG				Sn	**Sn**	**16 33 04.7**	**-7.7**
comp=Z,11nm,0.3s,baz=264,slow=17,SNR=3.8							
HUMP	**Col San Antoni**	**9.50**	**50**	*e*Pn	**Pn**	**16 31 28.8**	**-3.0**
HUMP				*e*Sn	Sn	16 33 04.8	-14
CBYP	**Canovanas**	**9.58**	**50**	*e*Pn	**Pn**	**16 31 28.6**	**-4.3**
CBYP				*e*Sn	Sn	16 33 01.8	-18
MTP	**Monte Pirata**	**9.70**	**51**	*e*Pn	Pn	16 31 29.3	-5.2
CUPR	**Culebra, Puert**	**10.03**	**51**	*e*Pn	**Pn**	**16 31 34.8**	**-4.3**
CUPR				*e*Sn	Sn	16 33 14.8	-17
POPC	**Popayan, Colom**	**10.04**	**198**	*e*P	**Pn**	**16 31 39.8**	**+0.3**
CDVI	**St. Croix**	**10.13**	**56**	*e*Pn	**Pn**	**16 31 37.7**	**-2.6**
CDVI				*e*Sn	Sn	16 33 22.9	-11
PCON	**Cinco Dias**	**10.16**	**197**	*e*P	**Pn**	**16 31 43.4**	**+2.0**
FSCY	**Frank Sound, G**	**10.26**	**315**	*e*Pn	**Pn**	**16 31 40.6**	**-1.5**
STVI	**Saint Thomas**	**10.31**	**52**	*e*Pn	**Pn**	**16 31 38.5**	**-4.4**
STVI				*e*Sn	Sn	16 33 19.4	-19
WBCY	**West Bay, Gran**	**10.45**	**314**	*e*Pn	**Pn**	**16 31 43.5**	**-1.2**
ABVI	**Anegada Island**	**11.01**	**52**	*e*Pn	**Pn**	**16 31 48.5**	**-3.9**
ABVI				*e*Sn	**Sn**	**16 33 47.6**	**-7.7**
JTS	**Las Juntas de**	**11.37**	**262**	*e*Pn	**Pn**	**16 31 55.6**	**-1.8**
JTS	**Las Juntas de**	**11.37**	**262**	*i* P	**Pn**	**16 31 59.2**	**+1.8**
JTS	**Las Juntas de**	**11.37**	**262**	Pn	**Pn**	**16 31 58.3**	**+0.9**
comp=Z,0.4nm,0.3s,baz=69,slow=17,SNR=2.6							
JTS				Sn	**Sn**	**16 33 55.8**	**-8.4**
comp=Z,1.6nm,0.3s,baz=0.0,slow=20,SNR=4.3							
JTS				LR	LR	16 36 36.0	
comp=Z,385nm,18.4s,baz=94,slow=39							
ACON	**Acoyapa**	**11.40**	**270**	*e*Pn	**Pn**	**16 31 55.6**	**-2.3**
GRGR	**Grenville**	**11.60**	**89**	*e*Pn	Pn	16 31 55.6	-5.0
SKI	**Saint Kitts**	**11.63**	**62**	*e*Pn	**Pn**	**16 31 58.5**	**-2.4**
SKI	**Saint Kitts**	**11.63**	**62**	*e*P	**Pn**	**16 31 58.5**	**-2.4**
SVB	**Belmont**	**12.02**	**83**	*e*Pn	Pn

comp=Z,117nm,0.8s
TIGA Tifton 21.33 336 P P 16 34 04.4 +2.5
baz=152,SNR=13
255A Hazlehurst 21.35 339 eP P 16 34 02.9 +0.8
comp=Z,244nm,1.7s
255A Hazlehurst 21.35 339 P P 16 34 04.1 +2.0
baz=155
158A Hollywood 21.39 344 P P 16 34 04.5 +2.0
baz=162
353A Camilla 21.51 334 P P 16 34 05.8 +2.0
baz=150,SNR=14
452A Marianna 21.52 332 P P 16 34 06.0 +2.2
baz=147,SNR=11
157A Early Branch 21.56 343 P P 16 34 06.4 +2.1
baz=160
451A Vernon 21.59 330 eP P 16 34 06.7 +2.1
comp=Z,114nm,1.0s
451A Vernon 21.59 330 P P 16 34 07.4 +2.8
baz=146
Z59A Georgetown, SC 21.65 347 P P 16 34 07.0 +1.7
baz=164
254A Abbeville 21.67 337 P P 16 34 07.8 +2.3
baz=153,SNR=15
156A Sylvania 21.69 342 P P 16 34 07.7 +2.0
baz=158,SNR=7.6
BBSR BB Station 21.70 21 eP P 16 34 06.7 +0.9
comp=Z,151nm,2.0s
NHSC New Hope 21.74 345 eP P 16 34 08.4 +2.1
comp=Z,166nm,1.1s
NHSC New Hope 21.74 345 P P 16 34 08.1 +1.8
baz=162,SNR=6.0
MDP Montagnes des 21.78 107 P P 16 34 06.8 -0.1
comp=Z,76nm,0.7s,baz=290,slow=9.4,SNR=37
MDP LR LR 16 43 25.2
comp=Z,430nm,18.6s,baz=288,slow=39
Z58A St. Stephen 21.87 346 P P 16 34 09.1 +1.5
baz=163,SNR=26
352A Blakely 21.93 333 eP P 16 34 10.9 +2.6
comp=Z,112nm,0.9s
352A Blakely 21.93 333 P P 16 34 10.4 +2.1
baz=149,SNR=6.7
155A Kite 21.98 339 P P 16 34 10.6 +1.8
baz=156,SNR=17
Z57A Bowman 22.06 344 P P 16 34 11.7 +2.0
baz=161,SNR=6.3
351A Pinckard 22.07 331 P P 16 34 12.1 +2.3
baz=147
253A Americus 22.10 335 eP P 16 34 11.7 +1.7
comp=Z,68nm,0.8s
253A Americus 22.10 335 P P 16 34 11.8 +1.7
baz=151
450A Crestview 22.16 329 P P 16 34 12.0 +1.2
baz=144
Y60A Bolivia 22.18 350 P P 16 34 12.4 +1.5
baz=168
154A Montrose 22.19 338 eP P 16 34 12.5 +1.3
comp=Z,124nm,1.0s
154A Montrose 22.19 338 P P 16 34 12.6 +1.5
baz=154,SNR=6.4
Z56A Williston 22.27 342 eP P 16 34 14.0 +2.0
comp=Z,218nm,1.6s
Z56A Williston 22.27 342 P P 16 34 14.0 +2.0
baz=159
252A Lumpkin 22.30 334 P P 16 34 13.8 +1.6
baz=150
Y58A Scranton 22.38 346 eP P 16 34 14.6 +1.5
comp=Z,66nm,0.8s
Y58A Scranton 22.38 346 P P 16 34 14.5 +1.5
baz=164
Z55A Blythe 22.41 341 P P 16 34 14.9 +1.4
baz=157
449A Pace 22.45 328 P P 16 34 15.6 +1.7
baz=143
153A Fort Valley 22.50 337 P P 16 34 16.3 +1.8
baz=153
350A Dozier 22.54 330 P P 16 34 16.5 +1.6
baz=146
Y57A Sumter 22.66 345 P P 16 34 17.9 +1.8
baz=162
Z54A Sparta 22.66 339 P P 16 34 17.4 +1.2
baz=156
251A Midway 22.67 333 P P 16 34 18.2 +1.9
baz=148,SNR=9.2
BRAL Brewton 22.69 329 eP P 16 34 18.4 +2.0
comp=Z,193nm,1.3s
BRAL Brewton 22.69 329 P P 16 34 18.5 +2.0
baz=144
Y56A Pelion 22.69 343 P P 16 34 18.2 +1.8
baz=160
X60A Albert Glenn T 22.70 350 P P 16 34 17.9 +1.4
baz=168
X59A McDuffie Farm, 22.80 349 P P 16 34 18.5 +0.9
baz=167
152A Waverly Hall 22.87 335 eP P 16 34 20.2 +1.8
comp=Z,44nm,0.9s
152A Waverly Hall 22.87 335 P P 16 34 20.3 +2.0
baz=151,SNR=19
349A Repton 22.91 329 P P 16 34 20.4 +1.6
baz=144,SNR=6.4
X58A Rowland 22.93 348 eP P 16 34 20.3 +1.4
comp=Z,40nm,1.1s
X58A Rowland 22.93 348 P P 16 34 20.3 +1.4
baz=165
Z53A Monticello 22.96 338 P P 16 34 21.2 +1.9
baz=154,SNR=8.5
250A Grady 22.97 331 eP P 16 34 21.1 +1.7
comp=Z,149nm,1.3s
250A Grady 22.97 331 P P 16 34 20.6 +1.2
baz=146,SNR=5.0
Y55A Saluda 22.99 342 P P 16 34 20.6 +1.0
baz=159,SNR=9.6
151A Opelika 23.00 334 P P 16 34 21.8 +2.0
baz=149,SNR=5.5
X57A Johnson Farm, 23.01 346 P P 16 34 21.2 +1.4
baz=163
GOGA Godfrey 23.04 338 eP P 16 34 20.8 +0.7
comp=Z,59nm,1.5s
GOGA Godfrey 23.04 338 eP P 16 34 20.8 +0.7
GOGA pmax pmax
comp=Z,59nm,1.5s
GOGA Godfrey 23.04 338 P P 16 34 21.2 +1.0
baz=154,SNR=10
W60A Pink Hill 23.12 351 P P 16 34 21.9 +1.0
baz=169
W61A Ground Anchor 23.15 353 P P 16 34 22.9 +1.8
baz=171
Y54A Tignall 23.18 340 P P 16 34 23.5 +1.9
baz=157,SNR=6.2
Z52A Williamson 23.20 336 P P 16 34 24.3 +2.5
baz=152,SNR=15
LVIG Laguna Verde 23.26 292 eP P 16 34 23.6 +1.1
comp=Z,36nm,0.9s
X56A White Oak 23.28 344 P P 16 34 24.4 +2.0
baz=161,SNR=7.1
W59A Clinton 23.35 350 P P 16 34 25.0 +1.7
baz=168
W58A Raeford 23.36 348 P P 16 34 25.0 +1.7
baz=166,SNR=6.9
249A Camden 23.38 330 P P 16 34 25.4 +1.9
baz=145
150A Eclectic 23.38 333 P P 16 34 25.2 +1.6
baz=148,SNR=7.4
V62A Hyde County Ai 23.42 355 P P 16 34 24.7 +0.8
baz=174
X55A Gracelyn & Ava 23.42 343 P P 16 34 25.2 +1.2
baz=160
Y53A Monroe 23.48 339 P P 16 34 26.9 +2.3
baz=155
Z51A Franklin 23.62 335 P P 16 34 28.0 +2.1
baz=150,SNR=8.1
W57A Gilead 23.65 347 eP P 16 34 26.3 +0.2
comp=Z,23nm,1.0s
W57A Gilead 23.65 347 P P 16 34 27.8 +1.7
baz=164
Y52A Lilburn 23.67 338 eP P 16 34 27.9 +1.5
comp=Z,27nm,0.9s
Y52A Lilburn 23.67 338 P P 16 34 28.4 +2.0
baz=154,SNR=7.3
V61A Roper 23.71 354 eP P 16 34 26.9 +0.2
comp=Z,279nm,1.4s
V61A Roper 23.71 354 P P 16 34 28.1 +1.4
baz=172
X54A Belton 23.71 342 P P 16 34 28.6 +1.8
baz=158,SNR=13
149A Jones 23.73 331 P P 16 34 28.7 +1.8
baz=146,SNR=6.3
V60A Jim Taylor Roa 23.76 352 eP P 16 34 28.2 +1.0
comp=Z,259nm,1.9s
V60A Jim Taylor Roa 23.76 352 P P 16 34 28.8 +1.6
baz=171
W56A Indian Trail 23.77 346 P P 16 34 29.0 +1.7
baz=162
Z50A Ashland 23.88 334 eP P 16 34 29.9 +1.4
comp=Z,46nm,0.9s
Z50A Ashland 23.88 334 P P 16 34 30.4 +2.0
baz=149,SNR=19
V59A Middlesex 23.90 350 P P 16 34 30.0 +1.5
baz=168,SNR=5.0
KMSC Kings Mountain 23.97 344 eP P 16 34 29.6 +0.4
comp=Z,34nm,0.9s
KMSC Kings Mountain 23.97 344 P P 16 34 30.8 +1.6
baz=161,SNR=7.3
X53A Estanollee 23.97 340 P P 16 34 31.0 +1.8
baz=156
Y51A Rockmart 24.08 336 P P 16 34 32.6 +2.2
baz=151,SNR=14
V58A Windy Hill, Pi 24.09 349 P P 16 34 31.3 +1.0
baz=166,SNR=7.6
Z49A Columbiana 24.10 332 P P 16 34 32.9 +2.4
baz=147,SNR=34
148A Greensboro 24.14 330 P P 16 34 32.8 +2.0
baz=144,SNR=6.2
W54A Cherokee Point 24.16 342 P P 16 34 33.2 +2.2
baz=159
LRAL Lakeview Retre 24.18 331 eP P 16 34 33.5 +2.3
comp=Z,57nm,0.9s
LRAL Lakeview Retre 24.18 331 P P 16 34 33.5 +2.3
baz=146,SNR=31
NNA Nana 24.20 188 eP P 16 34 31.9 +0.3
comp=Z,79nm,0.9s
NNA Nana 24.20 188 i P P 16 34 33.1 +1.5
NNA Nana 24.20 188 P P 16 34 31.9 +0.3
comp=Z,60nm,0.7s,baz=1.0,slow=9.3,SNR=24
U61A Possum Corner 24.23 354 P P 16 34 33.5 +2.0
baz=173
X52A Dahlonega 24.27 339 P P 16 34 34.0 +1.9
baz=155,SNR=14
V57A Coltrane Farms 24.31 348 P P 16 34 33.7 +1.4
baz=165,SNR=22
Y50A Piedmont 24.35 335 P P 16 34 34.9 +2.1
baz=150,SNR=13
V56A Mocksville 24.39 346 eP P 16 34 33.8 +0.7
comp=Z,43nm,0.9s
V56A Mocksville 24.39 346 P P 16 34 34.8 +1.7
baz=163,SNR=12
U59A Littleton 24.41 352 eP P 16 34 34.8 +1.5
comp=Z,55nm,1.5s
U59A Littleton 24.41 352 P P 16 34 35.1 +1.8
baz=170
U60A Pendleton 24.45 353 P P 16 34 35.1 +1.5
baz=171
W53A Cullowhee 24.54 341 P P 16 34 36.7 +2.1
baz=157,SNR=9.8
U58A Oxford 24.57 350 P P 16 34 36.1 +1.4
baz=168,SNR=12
X51A Calhoun 24.59 337 eP P 16 34 36.9 +1.9
comp=Z,26nm,0.9s
X51A Calhoun 24.59 337 P P 16 34 36.7 +1.8
baz=152
V55A Taylorsville 24.61 345 P P 16 34 37.3 +2.2
baz=162,SNR=7.1
Y49A Blount Mountai 24.61 334 eP P 16 34 36.7 +1.5
comp=Z,33nm,0.8s
Y49A Blount Mountai 24.61 334 P P 16 34 36.9 +1.7
baz=148,SNR=15
W52A Murphy 24.72 339 eP P 16 34 38.5 +2.3
comp=Z,39nm,0.8s
W52A Murphy 24.72 339 P P 16 34 38.4 +2.2
baz=155
V54A Nebo 24.73 343 P P 16 34 38.5 +2.3
baz=160
U57A Blanch 24.75 349 P P 16 34 37.7 +1.4
baz=166
TLIG Tlapa 24.79 286 eP P 16 34 38.6 +1.5
comp=Z,21nm,0.9s
X50B Fort Payne 24.81 336 P P 16 34 39.3 +2.3
baz=151,SNR=13
U56A King 24.88 347 P P 16 34 39.4 +1.8
baz=164,SNR=6.8
V53A Saluda 24.89 342 eP P 16 34 40.1 +2.5
comp=Z,95nm,1.5s
V53A Saluda 24.89 342 P P 16 34 39.9 +2.3
baz=158,SNR=11
T59A Double "B" Far 24.99 352 eP P 16 34 39.5 +1.0
comp=Z,41nm,0.8s
T59A Double "B" Far 24.99 352 P P 16 34 39.9 +1.4
baz=170,SNR=12
Y48A Jasper 25.00 332 P P 16 34 40.4 +1.8
baz=147,SNR=20
T60A Surry 25.06 354 eP P 16 34 37.9 -1.2
comp=Z,89nm,1.0s
T60A Surry 25.06 354 P P 16 34 40.8 +1.7
baz=172
W51A Cleveland 25.08 338 P P 16 34 41.5 +2.1
baz=153,SNR=17
T58A Grand View Acr 25.10 350 P P 16 34 40.8 +1.2
baz=168,SNR=16
X49A Woodville 25.13 334 P P 16 34 41.7 +1.9
baz=149,SNR=16
U55A TA2, Sparta 25.18 346 P P 16 34 42.6 +2.2
baz=162,SNR=14
T57A Hurt 25.28 349 eP P 16 34 42.3 +1.1
comp=Z,38nm,0.9s
T57A Hurt 25.28 349 P P 16 34 42.5 +1.4
baz=167,SNR=14
V52A Sevierville 25.29 341 eP P 16 34 43.6 +2.3
comp=Z,19nm,1.0s
V52A Sevierville 25.29 341 P P 16 34 43.1 +1.8
baz=156,SNR=6.3
W50A Signal Mountai 25.32 337 eP P 16 34 43.4 +1.8
comp=Z,47nm,0.8s
W50A Signal Mountai 25.32 337 P P 16 34 43.4 +1.8
baz=152,SNR=16
VBMS Vicksburg 25.37 325 eP P 16 34 43.2 +1.2
comp=Z,183nm,0.2s
X48A Hartselle 25.39 333 eP P 16 34 44.0 +1.8
comp=Z,44nm,0.9s
X48A Hartselle 25.39 333 P P 16 34 43.9 +1.8
baz=148,SNR=15
U54A Nelsons Funny 25.40 344 eP P 16 34 43.6 +1.3
comp=Z,58nm,0.9s
U54A Nelsons Funny 25.40 344 P P 16 34 44.1 +1.8
baz=161,SNR=12
T56A Rocky Mt 25.46 348 P P 16 34 44.6 +1.8
baz=165,SNR=7.8
U53A Fall Branch 25.46 343 P P 16 34 44.5 +1.7
baz=159,SNR=11
V51A Loudon 25.51 339 eP P 16 34 45.4 +2.1
comp=Z,54nm,1.0s
V51A Loudon 25.51 339 P P 16 34 45.4 +2.1
baz=155,SNR=13
S60A Water View 25.61 354 P P 16 34 43.2 -0.9
baz=173
W49A Belvidere 25.63 335 P P 16 34 46.7 +2.3
baz=150,SNR=8.9
V50A Pikevile 25.66 338 P P 16 34 47.1 +2.5
baz=153,SNR=13
S58A Poland Farm, P 25.68 352 eP P 16 34 46.0 +1.2
comp=Z,52nm,1.1s
S58A Poland Farm, P 25.68 352 P P 16 34 46.9 +2.1
baz=170,SNR=8.3
T55A Pulaski 25.71 347 P P 16 34 46.9 +1.8
baz=163
BLA Blacksburg 25.72 347 eP P 16 34 47.0 +1.8
comp=Z,59nm,0.9s
BLA Blacksburg 25.72 347 eP P 16 34 47.0 +1.8
BLA pmax pmax
comp=Z,59nm,0.9s
BLA Blacksburg 25.72 347 P P 16 34 47.4 +2.2
baz=164
S59A Mechanicsville 25.73 353 P P 16 34 44.0 -1.2
baz=171
X47A Russelville 25.81 332 P P 16 34 47.9 +1.9
baz=146,SNR=7.2
T54A Tazewell 25.85 345 P P 16 34 48.5 +2.1
baz=162,SNR=7.9
U51A La Follette 25.92 340 P P 16 34 49.2 +2.2
baz=156,SNR=9.5
TZTN Tazewell 25.92 341 eP P 16 34 48.1 +1.1
comp=Z,42nm,1.0s
TZTN Tazewell 25.92 341 P P 16 34 48.4 +1.4
baz=157,SNR=9.7
W48A Pulaski 25.93 334 P P 16 34 49.1 +2.1
baz=149,SNR=21
S57A Dark Hollow, R 25.97 350 eP P 16 34 48.8 +1.4
comp=Z,61nm,1.0s
S57A Dark Hollow, R 25.97 350 P P 16 34 49.0 +1.6
baz=168,SNR=18
S56A Natural Bridge 26.00 349 P P 16 34 48.7 +1.1
baz=166
R58B Mineral 26.01 352 eP P 16 34 50.1 +2.4
comp=Z,52nm,1.5s
R58B Mineral 26.01 352 P P 16 34 49.1 +1.3
baz=170
T53A Wise 26.03 343 P P 16 34 50.1 +2.0
baz=160,SNR=8.4
V49A McMinnville 26.05 337 P P 16 34 50.4 +2.2
baz=151,SNR=12
R59A King George, V 26.15 354 P P 16 34 50.9 +1.9
baz=172
X46A Booneville 26.18 331 P P 16 34 51.0 +1.7
baz=145
U50A Jamestown 26.23 339 P P 16 34 52.0 +2.2
baz=154,SNR=14
T52A Hallie 26.27 343 eP P 16 34 51.4 +1.2
comp=Z,51nm,1.1s
T52A Hallie 26.27 343 P P 16 34 52.1 +1.9
baz=159,SNR=6.4
S55A Lewisburg 26.28 347 P P 16 34 52.3 +2.1
baz=164,SNR=6.9
PLAL Pickwick Lake 26.30 332 eP P 16 34 52.2 +1.8
comp=Z,48nm,0.9s
W47A Westpoint 26.31 333 P P 16 34 52.2 +1.7
baz=148,SNR=26
R58A Rapidan 26.35 352 P P 16 34 52.9 +2.0
baz=170,SNR=5.6
V48A Smith Brothers 26.39 335 eP P 16 34 52.6 +1.4
comp=Z,46nm,0.9s
V48A Smith Brothers 26.39 335 P P 16 34 53.6 +2.3
baz=150,SNR=18
R57A Stanardsville 26.43 351 P P 16 34 53.7 +2.1
baz=169
T51A Gray 26.43 341 P P 16 34 53.9 +2.3
baz=156,SNR=18
OXF Oxford 26.55 330 eP P 16 34 54.5 +1.8
comp=Z,108nm,1.1s
OXF Oxford 26.55 330 eP P 16 34 54.5 +1.8
OXF pmax pmax
comp=Z,108nm,1.1s
OXF Oxford 26.55 330 P P 16 34 54.4 +1.7
baz=143
W46A Michie 26.56 332 P P 16 34 54.6 +1.8
baz=146
S53A Williamson 26.57 345 P P 16 34 54.8 +1.9
baz=161
U49A Red Boiling Sp 26.66 338 P P 16 34 55.6 +1.9
baz=152,SNR=6.7
V47A Nunnelly 26.76 334 P P 16 34 56.3 +1.7
baz=148,SNR=12
R54A Victor 26.77 347 P P 16 34 56.6 +1.9
baz=164
T50A Nancy 26.78 340 P P 16 34 56.9 +2.2
baz=155,SNR=10
S52A Salyersville 26.83 343 P P 16 34 57.0 +1.8
baz=159
S51A Beattyville 26.95 342 eP P 16 34 56.2 0.0
comp=Z,25nm,1.1s
U48A Cassie Pea, Po 26.95 336 P P 16 34 58.4 +2.1
baz=151,SNR=9.3
V46A Holladay 27.00 333 P P 16 34 57.8 +1.1
baz=147
T49A Edmonton 27.10 339 eP P 16 34 59.2 +1.6
comp=Z,22nm,0.8s
T49A Edmonton 27.10 339 P P 16 34 59.3 +1.6
baz=153
Q57A Strasburg 27.13 352 P P 16 35 00.3 +2.4
baz=169
R53A Hurricane 27.14 345 eP P 16 34 59.4 +1.4
comp=Z,30nm,0.9s
R53A Hurricane 27.14 345 P P 16 34 59.9 +1.9
baz=162
WVT Waverly 27.15 334 eP P 16 34 59.6 +1.5
comp=Z,37nm,0.9s
WVT Waverly 27.15 334 eP P 16 34 59.6 +1.5
WVT pmax pmax
comp=Z,37nm,0.9s
WVT Waverly 27.15 334 P P 16 34 59.9 +1.8
baz=148
U47A Clarksville 27.19 335 P P 16 35 00.3 +1.8
baz=149
S50A Richmond 27.23 341 P P 16 35 01.0 +2.2
baz=156,SNR=8.0
HKT Hockley 27.25 314 eP P 16 35 00.9 +1.9
comp=Z,11nm,1.0s
HKT Hockley 27.25 314 eP P 16 35 00.9 +1.9
HKT pmax pmax
comp=Z,11nm,1.0s
SDMD Soldier's Deli 27.32 354 eP P 16 35 00.5 +1.0
comp=Z,28nm,1.6s
Q55A Buckhannon 27.37 349 P P 16 35 01.8 +1.7
baz=166,SNR=7.3
T48A Bowling Green 27.42 337 P P 16 35 02.3 +1.8
baz=152,SNR=5.4
Z41A Richland Creek 27.44 323 eP P 16 35 01.8 +1.1
comp=Z,24nm,0.8s
Z41A Richland Creek 27.44 323 P P 16 35 02.4 +1.7
baz=136
P59A Jarrettsville 27.48 355 P P 16 35 02.6 +1.6
baz=174
U46A Springville 27.49 334 P P 16 35 02.7 +1.5
baz=148
ETX06 Route 59 and C 27.51 319 eP P 16 35 02.0 +0.7
comp=Z,18nm,0.7s
Q54A Coxs Mills 27.51 348 eP P 16 35 02.5 +1.2
comp=Z,18nm,1.0s
Q54A Coxs Mills 27.51 348 P P 16 35 03.6 +2.3
baz=164
Q53A Leroy 27.54 346 P P 16 35 03.9 +2.4
baz=163,SNR=5.4
R51A Hillsboro 27.55 343 P P 16 35 03.6 +1.9
baz=158
NATX Nacogdoches 27.57 318 eP P 16 35 03.8 +1.9
comp=Z,30nm,0.9s
NATX Nacogdoches 27.57 318 P P 16 35 03.6 +1.7
baz=130
T47A Sharon Grove 27.59 336 eP P 16 35 02.0 0.0
comp=Z,24nm,1.0s
T47A Sharon Grove 27.59 336 P P 16 35 03.3 +1.3
baz=150
LNIG Linares 27.62 301 eP P 16 35 02.2 -0.2
comp=Z,29nm,1.3s
P60A Greenville 27.62 356 P P 16 35 03.9 +1.6
baz=175
S49A Springfield 27.62 340 P P 16 35 03.9 +1.6
baz=154,SNR=5.3
R50A Paris 27.76 342 P P 16 35 05.9 +2.4
baz=157,SNR=7.5
S48A Wiedeman Farm, 27.78 338 P P 16 35 05.2 +1.5
baz=153
Q52A Bidwell 27.82 345 P P 16 35 06.2 +2.2
baz=161,SNR=5.8
P55A Reedsville 27.82 350 P P 16 35 06.4 +2.3
baz=167
MVL Millersville 27.86 355 eP P 16 35 05.7 +1.4
comp=Z,14nm,0.8s
T46A Princeton 27.95 335 P P 16 35 07.2 +1.9
baz=149,SNR=11
MCWV Mont Chateau 27.97 350 P P 16 35 07.3 +1.9
baz=167
S47A Hartford 28.03 337 P P 16 35 07.6 +1.7
baz=151
P54A Burton 28.04 349 P P 16 35 07.9 +1.9
baz=165
R49A Shelbyville 28.04 340 P P 16 35 08.1 +2.0
baz=155
O60A Telford 28.11 357 P P 16 35 08.5 +1.8
baz=176
P53A Whipple 28.11 347 P P 16 35 08.5 +1.8
baz=163
PAGS Pennsylvania G 28.12 355 eP P 16 35 07.9 +1.3
comp=Z,18nm,0.8s
O59A Robesonia 28.16 356 P P 16 35 08.2 +1.1
baz=174
Q51A Peebles 28.16 344 eP P 16 35 08.0 +0.9
comp=Z,23nm,1.1s
Q51A Peebles 28.16 344 P P 16 35 08.5 +1.4
baz=159
Q50A Georgetown 28.17 343 P P 16 35 09.3 +2.1
baz=158
UALR University of 28.28 326 eP P 16 35 09.0 +0.8
comp=Z,8.4nm,0.8s
X40A Basin Creek Fa 28.34 325 eP P 16 35 09.4 +0.6
comp=Z,13nm,1.4s
X40A Basin Creek Fa 28.34 325 P P 16 35 10.4 +1.6

baz=137
O56A **Blue Knob Stat** 28.37 352 *e*P P 16 35 10.6 +1.6
comp=Z,35nm,0.8s
O56A **Blue Knob Stat** 28.37 352 P P 16 35 11.2 +2.2
baz=169,SNR=10
WCI **Wyandotte Cave** 28.37 338 *e*P P 16 35 10.4 +1.4
comp=Z,18nm,1.0s
WCI **Wyandotte Cave** 28.37 338 P P 16 35 10.9 +1.9
WCI pmax pmax
comp=Z,17nm,1.9s
WCI **Wyandotte Cave** 28.37 338 P P 16 35 10.9 +1.9
baz=153
R48A **Northridge Ran** 28.37 339 P P 16 35 11.3 +2.3
baz=154
LUPA **Lehigh Univers** 28.39 357 *e*P P 16 35 11.0 +1.9
comp=Z,3.6nm,0.9s
O55A **Ligonier** 28.42 351 P P 16 35 11.7 +2.3
baz=168
P52A **Corning** 28.42 346 P P 16 35 11.7 +2.2
baz=162
S46A **Don Dixon Farm** 28.43 336 P P 16 35 10.9 +1.4
baz=150
BRNJ **Basking Ridge** 28.44 358 *e*P P 16 35 11.8 +2.2
comp=Z,28nm,0.9s
P51A **Williamsport** 28.51 344 *e*P P 16 35 12.0 +1.8
comp=Z,19nm,1.1s
P51A **Williamsport** 28.51 344 P P 16 35 12.2 +2.0
baz=160
R47A **Wooly Knot Far** 28.51 338 P P 16 35 12.2 +1.9
baz=152
W41B **Gary Mavity, V** 28.53 327 *e*P P 16 35 10.8 +0.3
comp=Z,17nm,1.0s
W41B **Gary Mavity, V** 28.53 327 P P 16 35 12.0 +1.6
baz=139,SNR=8.2
O54A **Avella** 28.58 349 P P 16 35 12.8 +2.0
baz=166
Q49A **Aurora** 28.60 341 P P 16 35 13.2 +2.1
baz=156
SSPA **Standing Stone** 28.64 353 *e*P P 16 35 11.0 -0.4
comp=Z,26nm,0.9s
SSPA **Standing Stone** 28.64 353 P P 16 35 13.9 +2.5
baz=171
USIN **University of** 28.66 336 *e*P P 16 35 12.7 +1.2
comp=Z,70nm,1.4s
N59A **State Game Lan** 28.73 356 *e*P P 16 35 14.0 +1.9
comp=Z,29nm,0.9s
N59A **State Game Lan** 28.73 356 P P 16 35 14.1 +1.9
baz=175,SNR=6.3
LPAZ **La Paz** 28.75 169 *e*P P 16 35 10.1 -3.1
LPAZ *e*pP P 16 35 11.8 -1.4
LPAZ **La Paz** 28.75 169 *e*P P 16 35 10.1 -3.1
LPAZ *e**PP P 16 35 11.8 -1.4
LPAZ **La Paz** 28.75 169 P P 16 35 13.3 +0.1
comp=Z,8.9nm,0.8s,baz=336,slow=9.0,SNR=22
LPAZ LR LR 16 47 40.4
comp=Z,714nm,20.1s,baz=348,slow=39
LPAZ **La Paz** 28.75 169 *e*P P 16 35 12.1 -1.1
PAL **Palisades** 28.75 359 P P 16 35 13.9 +1.6
baz=179
S45A **Carrier Mills** 28.78 335 P P 16 35 14.4 +1.8
baz=148
Q48A **North Vernon** 28.80 340 P P 16 35 14.8 +2.0
baz=154,SNR=6.7
O53A **New Philadelph** 28.81 348 P P 16 35 14.6 +1.8
baz=164
MIAR **Mount Ida** 28.81 324 *e*P P 16 35 13.7 +0.8
comp=Z,10nm,0.9s
MIAR **Mount Ida** 28.81 324 *e*P P 16 35 13.7 +0.8
MIAR pmax pmax
comp=Z,10.0nm,0.9s
MIAR **Mount Ida** 28.81 324 P P 16 35 13.9 +1.0
baz=136,SNR=8.6
R46A **Gibon Southern** 28.81 337 P P 16 35 14.9 +2.1
baz=151
O52A **Adamsville** 28.81 347 *e*P P 16 35 14.3 +1.3
comp=Z,28nm,1.0s
O52A **Adamsville** 28.81 347 P P 16 35 15.2 +2.2
baz=163
P50A **Jamestown** 28.83 343 P P 16 35 15.2 +2.1
baz=159
ODNJ **Ogdensburg** 28.84 358 *e*P P 16 35 14.1 +1.0
comp=Z,23nm,1.2s
CLDB **Colider** 28.86 142 *e*P P 16 35 11.5 -2.1
PBMO **Poplar Bluff** 28.86 331 *e*P P 16 35 14.7 +1.3
comp=Z,14nm,0.8s
N55A **Marion Center** 28.93 351 *e*P P 16 35 15.3 +1.4
comp=Z,34nm,0.9s
N55A **Marion Center** 28.93 351 P P 16 35 16.3 +2.4
baz=169,SNR=6.9
435B **Jarrell** 28.97 314 *e*P P 16 35 15.8 +1.4
comp=Z,30nm,0.8s
435B **Jarrell** 28.97 314 P P 16 35 16.3 +1.8
baz=125
O51A **Pataskala** 29.02 346 P P 16 35 16.6 +1.8
baz=161,SNR=5.8
P49A **Miami Univ. Ec** 29.03 342 P P 16 35 16.9 +2.0
baz=157
833A **Chaparral WMA,** 29.03 308 *e*P P 16 35 15.2 +0.2
comp=Z,16nm,0.8s
833A **Chaparral WMA,** 29.03 308 P P 16 35 16.5 +1.4
baz=118
Q47A **Bedord North L** 29.05 339 P P 16 35 17.0 +2.0
baz=153
S44A **Carbondale** 29.08 334 P P 16 35 17.0 +1.7
baz=147,SNR=6.8
SIUC **Southern Illin** 29.08 334 *e*P P 16 35 16.8 +1.4
comp=Z,40nm,0.8s
R45A **Skylar, Fairfi** 29.18 336 P P 16 35 17.9 +1.7
baz=149,SNR=6.6
P48A **Milroy** 29.18 341 P P 16 35 17.4 +1.2
baz=156
ACSO **Alum Creek Sta** 29.20 345 *e*P P 16 35 18.2 +1.9
comp=Z,18nm,0.9s
ACSO **Alum Creek Sta** 29.20 345 P P 16 35 18.3 +1.9
baz=161
U41A **Viola** 29.25 329 P P 16 35 18.2 +1.3
baz=141
N54A **Moraine State** 29.27 350 *e*P P 16 35 17.8 +0.9
comp=Z,23nm,1.0s
N54A **Moraine State** 29.27 350 P P 16 35 19.5 +2.6
baz=167,SNR=5.6
N53A **Lisbon** 29.27 349 *e*P P 16 35 17.9 +0.9
comp=Z,11nm,1.0s
N53A **Lisbon** 29.27 349 P P 16 35 18.7 +1.8
baz=165
O50A **Cable** 29.28 344 P P 16 35 19.1 +2.0
baz=159
BLO **Bloomington** 29.29 339 *e*P P 16 35 19.4 +2.2
comp=Z,51nm,1.5s
BLO **Bloomington** 29.29 339 *e*P P 16 35 19.4 +2.2
BLO pmax pmax
comp=Z,51nm,1.5s
KSPA **Keystone Colle** 29.37 357 *e*P P 16 35 20.2 +2.4
comp=Z,30nm,0.8s
W39A **Magazine** 29.39 325 *e*P P 16 35 19.6 +1.5
comp=Z,30nm,1.0s
W39A **Magazine** 29.39 325 P P 16 35 19.6 +1.5
baz=136,SNR=7.9
N52A **McGinn's Farm,** 29.45 347 P P 16 35 20.7 +2.1
baz=164
Q46A **CEJHS Indians,** 29.46 338 P P 16 35 20.8 +2.2
baz=152
P47A **Martinsville** 29.48 340 P P 16 35 21.1 +2.3
baz=154
OLIL **Olney** 29.49 336 *e*P P 16 35 20.0 +1.1
comp=Z,31nm,0.9s
O49A **Covington** 29.52 343 *e*P P 16 35 20.0 +0.9
comp=Z,19nm,0.8s
O49A **Covington** 29.52 343 P P 16 35 21.0 +1.8
baz=158
M55A **Ridgway** 29.57 352 P P 16 35 21.6 +1.9
baz=169,SNR=6.6
WHTX **Lake Whitney,** 29.58 316 *e*P P 16 35 21.3 +1.5
comp=Z,12nm,0.9s
WHTX **Lake Whitney,** 29.58 316 P P 16 35 21.4 +1.6
baz=127
ZAIG **Zacatecas** 29.60 295 *e*P P 16 35 22.2 +1.8
comp=Z,24nm,1.1s
Q45A **Warren Harvey,** 29.65 337 P P 16 35 22.1 +1.8
baz=150,SNR=5.4
N51A **Ashland** 29.70 346 *e*P P 16 35 21.8 +1.0
comp=Z,26nm,1.0s
N51A **Ashland** 29.70 346 P P 16 35 22.5 +1.7
baz=162
M54A **Oil Creek Stat** 29.74 351 *e*P P 16 35 21.9 +0.7
comp=Z,34nm,1.0s
M54A **Oil Creek Stat** 29.74 351 P P 16 35 23.4 +2.2
baz=168,SNR=6.6

U40A **Yellville** 29.75 327 P P 16 35 22.8 +1.6
baz=139,SNR=15
N50A **Nevada** 29.75 345 P P 16 35 23.4 +2.2
baz=161
O48A **Farmland** 29.83 342 P P 16 35 23.7 +1.8
baz=157
FVM **French Village** 29.84 332 *e*P P 16 35 23.6 +1.5
comp=Z,48nm,0.9s
FVM **French Village** 29.84 332 *e*P P 16 35 23.6 +1.5
FVM pmax pmax
comp=Z,48nm,0.9s
M53A **WI Miller and** 29.85 349 P P 16 35 23.9 +1.8
baz=166
X37A **Clayton** 29.90 322 *e*P P 16 35 24.1 +1.5
comp=Z,16nm,0.9s
P46A **Rosedale** 29.93 339 P P 16 35 24.8 +2.0
baz=152,SNR=7.2
ALLY **Alegheny Colle** 29.96 350 *e*P P 16 35 25.4 +2.3
comp=Z,31nm,0.9s
BINY **Binghamton** 30.02 356 *e*P P 16 35 24.9 +1.3
comp=Z,24nm,1.0s
BINY **Binghamton** 30.02 356 P P 16 35 25.4 +1.8
baz=175,SNR=5.5
P45A **Graceland, Par** 30.05 338 *e*P P 16 35 25.1 +1.2
comp=Z,55nm,1.1s
P45A **Graceland, Par** 30.05 338 P P 16 35 25.6 +1.8
baz=151,SNR=7.4
M51A **Elyria** 30.05 347 P P 16 35 25.6 +1.7
baz=163
M52A **Chesterland** 30.08 348 *e*P P 16 35 25.9 +1.7
comp=Z,33nm,1.3s
M52A **Chesterland** 30.08 348 P P 16 35 26.3 +2.1
baz=164
O47A **Sheridan** 30.13 340 P P 16 35 26.4 +1.8
baz=155
S41A **Jillco Farms,** 30.14 330 P P 16 35 26.1 +1.4
baz=142,SNR=16
BCX **Boston College** 30.15 3 *e*P P 16 35 26.9 +2.2
comp=Z,77nm,1.7s
N49A **Columbus Grove** 30.16 344 *e*P P 16 35 26.8 +1.9
comp=Z,22nm,0.9s
N49A **Columbus Grove** 30.16 344 P P 16 35 26.8 +1.9
baz=159,SNR=5.3
WES **Weston** 30.19 3 *e*P P 16 35 26.1 +1.1
comp=Z,31nm,0.9s
WES **Weston** 30.19 3 *e*P P 16 35 26.1 +1.1
WES pmax pmax
comp=Z,31nm,0.9s
L55A **Hinsdale** 30.23 353 P P 16 35 27.8 +2.3
baz=170,SNR=6.5
CCM **Cathedral Cave** 30.27 332 *e*P P 16 35 27.3 +1.4
comp=Z,39nm,1.0s
CCM **Cathedral Cave** 30.27 332 *e*P P 16 35 27.3 +1.4
CCM pmax pmax
comp=Z,39nm,1.0s
CCM **Cathedral Cave** 30.27 332 P P 16 35 27.3 +1.4
baz=144
L53A **Girard** 30.28 350 P P 16 35 27.9 +2.0
baz=167
SLM **Saint Louis** 30.29 333 *e*P P 16 35 27.8 +1.7
comp=Z,38nm,0.9s
SLM **Saint Louis** 30.29 333 *e*P P 16 35 27.8 +1.7
SLM pmax pmax
comp=Z,38nm,0.9s
HRV **Adam Dziewonsk** 30.30 3 *e*P P 16 35 27.8 +1.8
comp=Z,30nm,0.9s
HRV **Adam Dziewonsk** 30.30 3 P P 16 35 27.8 +1.8
HRV pmax pmax
comp=Z,30nm,0.9s
HRV **Adam Dziewonsk** 30.30 3 P P 16 35 28.5 +2.5
baz=184
M50A **Fremont** 30.32 346 *e*P P 16 35 27.9 +1.7
comp=Z,14nm,0.9s
N48A **Decatur** 30.34 343 P P 16 35 28.3 +1.8
baz=157
L54A **Sinclairville** 30.40 351 P P 16 35 29.1 +2.1
baz=169
JCT **Junction City** 30.41 311 *e*P P 16 35 28.4 +1.1
comp=Z,15nm,0.9s
JCT **Junction City** 30.41 311 *e*P P 16 35 28.4 +1.1
JCT pmax pmax
comp=Z,15nm,0.9s
JCT **Junction City** 30.41 311 P P 16 35 28.5 +1.3
baz=121
R41A **Rosebud** 30.53 332 P P 16 35 29.7 +1.6
baz=144,SNR=19
PLIO **Pelee Island,** 30.55 347 P P 16 35 30.1 +1.8
baz=162
N47A **Urbana** 30.56 342 P P 16 35 30.1 +1.7
baz=156
SFIN **Lafayette** 30.57 339 *e*P P 16 35 29.6 +1.2
comp=Z,21nm,0.9s
SFIN **Lafayette** 30.57 339 P P 16 35 30.3 +1.9
baz=153
M49A **Liberty Center** 30.62 344 P P 16 35 30.9 +2.0
baz=160
Q42A **Golden Eagle** 30.65 333 P P 16 35 30.6 +1.5
baz=146,SNR=9.2
O45A **Potomac** 30.67 338 P P 16 35 31.2 +1.8
baz=152
MMNY **Mt. Morris Dam** 30.71 354 *e*P P 16 35 30.6 +0.9
comp=Z,29nm,1.1s
K55A **Perry** 30.73 353 P P 16 35 31.5 +1.6
baz=171
P43A **Skaggs, Pawnee** 30.84 335 P P 16 35 32.2 +1.4
baz=148
O44A **Mansfield** 30.86 337 P P 16 35 32.2 +1.1
baz=150
L50A **Kingsville** 30.87 346 P P 16 35 32.8 +1.7
baz=162
N46A **Monticello** 30.91 340 P P 16 35 33.4 +1.9
baz=154
M47A **Crnwell** 30.98 342 P P 16 35 33.7 +1.7
baz=156
TUL1 **Leonard** 31.05 323 *e*P P 16 35 33.7 +0.8
comp=Z,43nm,1.3s
TUL1 **Leonard** 31.05 323 P P 16 35 33.8 +1.0
baz=134
N45A **Kentland** 31.13 339 P P 16 35 34.9 +1.5
baz=153
K52A **Tillsonburg** 31.16 350 P P 16 35 35.6 +1.9
baz=166
L49A **Milan** 31.16 345 P P 16 35 35.6 +1.9
baz=160
L48A **N Adams** 31.18 344 P P 16 35 35.5 +1.7
baz=159
MEDO **Medina** 31.20 353 *e*P P 16 35 35.5 +1.6
comp=Z,42nm,0.8s
MEDO **Medina** 31.20 353 P P 16 35 36.1 +2.1
baz=170,SNR=5.3
J55A **Hilton** 31.23 354 *e*P P 16 35 36.1 +1.8
comp=Z,27nm,0.8s
J55A **Hilton** 31.23 354 P P 16 35 36.4 +2.2
baz=172
M46A **Old House Fiel** 31.25 341 *e*P P 16 35 35.7 +1.3
comp=Z,28nm,1.1s
M46A **Old House Fiel** 31.25 341 P P 16 35 36.1 +1.7
baz=155
K51A **Iona Station** 31.25 349 P P 16 35 36.2 +1.8
baz=165
N44A **Piper City** 31.30 338 P P 16 35 36.6 +1.7
baz=152
MNMC **Minye Minye** 31.32 173 *e*P P 16 35 32.3 -3.2
comp=Z,11nm,0.8s
TYNO **Tyneside** 31.33 351 P P 16 35 37.5 +2.4
baz=168
J54A **Appleton** 31.33 353 *e*P P 16 35 36.9 +1.8
comp=Z,59nm,1.4s
J54A **Appleton** 31.33 353 P P 16 35 37.2 +2.1
baz=170
ABTX **Abilene, Hawle** 31.45 315 *e*P P 16 35 37.6 +1.1
comp=Z,27nm,0.8s
ABTX **Abilene, Hawle** 31.45 315 P P 16 35 38.0 +1.5
baz=124,SNR=9.3
K50A **Casco** 31.53 347 *e*P P 16 35 37.8 +1.0
comp=Z,38nm,0.3s
J52A **Paris** 31.57 350 P P 16 35 39.2 +2.0
baz=167
OK024 **West corner E0** 31.68 322 *e*P P 16 35 39.4 +1.1
comp=Z,56nm,0.9s
NCB **Newcomb** 31.72 359 *e*P P 16 35 40.6 +2.0
comp=Z,23nm,0.9s
OK023 **East Waterloo** 31.74 322 *e*P P 16 35 39.5 +0.6
comp=Z,69nm,0.9s
L46A **Eue Claire** 31.78 342 *e*P P 16 35 40.8 +1.7
comp=Z,49nm,0.4s
M44A **Midewin, Midew** 31.79 339 *e*P P 16 35 40.4 +1.2
comp=Z,54nm,1.1s

M44A **Midewin, Midew** 31.79 339 P P 16 35 40.3 +1.1
baz=152
N43A **Stutzman Famil** 31.81 337 P P 16 35 40.3 +0.9
baz=150
PECO **Prince Edward** 31.82 355 P P 16 35 41.1 +1.7
baz=173
ACTO **Acton** 31.86 351 P P 16 35 41.8 +2.0
baz=168
GO01 **Chusmiza** 31.90 172 *e*P P 16 35 38.1 -2.8
comp=Z,25nm,0.8s
K48A **Perry** 31.91 345 P P 16 35 41.9 +1.7
baz=160
PB11 **IPOC Station P** 31.93 173 *e*P P 16 35 37.8 -3.0
comp=Z,30nm,1.2s
DRWO **Darlington Wes** 31.93 353 P P 16 35 42.1 +1.7
baz=170
DRCO **St. Marys Ceme** 31.93 353 P P 16 35 42.4 +2.0
baz=170
WLVO **Wesleyville** 31.95 353 P P 16 35 42.3 +1.8
baz=171,SNR=6.1
LBNH **Lisbon** 32.01 2 *e*P P 16 35 41.9 +0.8
comp=Z,32nm,1.0s
LBNH **Lisbon** 32.01 2 *e*P P 16 35 41.9 +0.8
LBNH pmax pmax
comp=Z,32nm,1.0s
LBNH **Lisbon** 32.01 2 P P 16 35 42.9 +1.8
baz=183
VT1 **Waterbury** 32.08 1 *e*P P 16 35 44.0 +2.2
comp=Z,21nm,1.1s
WMOK **Wichita Mounta** 32.12 319 *e*P P 16 35 42.2 0.0
comp=Z,16nm,0.9s
WMOK **Wichita Mounta** 32.12 319 *e*P P 16 35 42.3 0.0
WMOK pmax pmax
comp=Z,16nm,0.9s
WMOK **Wichita Mounta** 32.12 319 P P 16 35 42.4 +0.1
baz=128,SNR=14
I55A **Frankford** 32.16 354 P P 16 35 44.2 +1.9
baz=172
J49A **Marlette** 32.20 347 P P 16 35 44.3 +1.5
baz=162
I51A **Listowel** 32.20 350 P P 16 35 44.5 +1.6
baz=166,SNR=7.1
K46A **Dorr** 32.24 343 P P 16 35 44.4 +1.3
baz=157
N41A **Harden Midland** 32.28 335 *e*P P 16 35 44.0 +0.5
comp=Z,50nm,0.8s
N41A **Harden Midland** 32.28 335 P P 16 35 44.2 +0.7
baz=147,SNR=12
J48A **Bridge Port** 32.29 346 *e*P P 16 35 42.7 -0.8
comp=Z,32nm,0.9s
J48A **Bridge Port** 32.29 346 P P 16 35 45.0 +1.4
baz=161
LONY **Lake Ozonia** 32.38 359 *e*P P 16 35 46.0 +1.7
comp=Z,39nm,1.4s
LONY **Lake Ozonia** 32.38 359 P P 16 35 46.5 +2.2
baz=178
H56A **Elgin** 32.42 356 P P 16 35 46.9 +2.2
baz=175
H55A **Tweed** 32.45 355 P P 16 35 46.9 +2.0
baz=173,SNR=7.8
L44A **Lake County Fo** 32.45 340 P P 16 35 46.2 +1.2
baz=153
DELO **Deloro Mine** 32.45 355 P P 16 35 46.5 +1.6
baz=172,SNR=5.4
J47A **Sunmer** 32.49 345 *e*P P 16 35 46.7 +1.4
comp=Z,25nm,0.6s
J47A **Sunmer** 32.49 345 P P 16 35 46.5 +1.2
baz=159
BASO **Ashfield** 32.52 349 P P 16 35 47.1 +1.5
baz=165
BWLO **Walkerton** 32.53 350 P P 16 35 47.4 +1.7
baz=166
FRNY **Flat Rock** 32.58 360 *e*P P 16 35 48.1 +2.1
comp=Z,40nm,1.4s
I49A **Point Hope** 32.68 348 *e*P P 16 35 48.0 +1.0
comp=Z,40nm,0.9s
I49A **Point Hope** 32.68 348 P P 16 35 48.7 +1.7
baz=163
BRCO **Bruce Peninsul** 32.71 349 P P 16 35 48.4 +1.2
baz=165
M41A **Milan** 32.72 336 P P 16 35 47.8 +0.5
baz=148
N40A **Mertquake, Sal** 32.73 334 P P 16 35 48.3 +0.8
baz=146,SNR=7.2
L43A **Garden Prairie** 32.74 339 P P 16 35 48.4 +0.9
baz=152
J46A **Howard City** 32.81 344 P P 16 35 49.7 +1.5
baz=158
LTX **Lajitas** 32.83 306 *e*PcP PcP 16 38 34.0 +0.5
TXAR **Lajitas Array** 32.83 306 *e*P P 16 35 49.8 +1.1
TXAR **Lajitas Array** 32.83 306 *e*P P 16 35 49.8 +1.1
TXAR **Lajitas Array** 32.83 306 P P 16 35 50.1 +1.5
comp=Z,3.7nm,0.7s,baz=130,slow=8.2,SNR=35
TXAR PcP PcP 16 38 34.0 +0.5
comp=Z,0.5nm,0.7s,baz=141,slow=8.1,SNR=3.7
TX31 **Lajitas Ar. Si** 32.84 306 *e*P P 16 35 49.9 +1.2
comp=Z,5.6nm,0.9s
EMMW **East Machias** 32.87 8 *e*P P 16 35 49.0 +0.4
comp=Z,41nm,1.1s
SADO **Sadowa** 32.87 353 *e*P P 16 35 50.4 +1.8
comp=Z,22nm,1.1s
L42A **Oliver, Polo** 32.92 338 *e*P P 16 35 48.5 -0.6
comp=Z,12nm,0.9s
L42A **Oliver, Polo** 32.92 338 P P 16 35 50.2 +1.1
baz=150
PLVO **Plevna** 32.92 355 *e*P P 16 35 50.9 +1.8
comp=Z,30nm,1.0s
PLVO **Plevna** 32.92 355 P P 16 35 50.7 +1.6
baz=174,SNR=8.0
BANO **Bancroft** 32.98 354 P P 16 35 51.1 +1.5
baz=172,SNR=6.7
K43A **Burlington** 33.06 340 *e*P P 16 35 51.6 +1.3
comp=Z,49nm,0.8s
K43A **Burlington** 33.06 340 P P 16 35 51.4 +1.1
baz=153,SNR=10.0
MOQ **Mont Orford** 33.07 2 *e*P P 16 35 52.3 +1.9
G55A **Calabogie** 33.11 356 P P 16 35 52.0 +1.3
baz=174,SNR=6.7
I48A **Sherman Twp** 33.11 347 P P 16 35 51.6 +0.9
baz=162
G53A **Haliburton** 33.15 353 P P 16 35 52.7 +1.6
baz=171
PKME **Peaks-Kenny Pk** 33.20 5 *e*P P 16 35 54.0 +2.4
comp=Z,38nm,1.0s
PB01 **IPOC Station P** 33.22 173 *e*P P 16 35 49.5 -2.5
comp=Z,32nm,0.9s
I46A **Reed City** 33.31 344 P P 16 35 53.9 +1.4
baz=158
ALFO **Alfred** 33.39 358 P P 16 35 55.3 +2.1
baz=177
HPIG **Hopewell** 33.56 301 *e*P P 16 35 55.5 +0.3
comp=Z,8.1nm,0.8s
BUKO **Buck Lake** 33.56 353 P P 16 35 55.9 +1.2
baz=169
L40A **Anamosa** 33.57 336 *e*P P 16 35 54.7 -0.1
comp=Z,57nm,1.3s
L40A **Anamosa** 33.57 336 P P 16 35 55.4 +0.6
baz=147,SNR=7.2
PEMO **Pembroke** 33.57 355 P P 16 35 55.8 +1.0
baz=173
H47A **Mio** 33.62 346 P P 16 35 56.9 +1.7
baz=161
TOBO **Tobermory, Bru** 33.67 350 P P 16 35 56.5 +0.9
baz=166
J43A **Natural Harves** 33.69 340 P P 16 35 57.0 +1.2
baz=153
KSU1 **Kansas State U** 33.77 327 P P 16 35 57.3 +0.7
baz=136
J42A **Columbus** 33.87 339 P P 16 35 58.5 +1.1
baz=152
F52A **Sundridge** 33.90 353 P P 16 35 59.1 +1.4
baz=170
ALGO **Algonquin Park** 33.92 354 P P 16 35 59.2 +1.5
baz=172
JFWS **Jewell Farm** 33.92 338 *e*P P 16 35 58.5 +0.7
comp=Z,25nm,0.7s
JFWS **Jewell Farm** 33.92 338 *e*P P 16 35 58.5 +0.7
JFWS pmax pmax
comp=Z,25nm,0.7s
JFWS **Jewell Farm** 33.92 338 P P 16 35 58.6 +0.7
baz=150,SNR=5.2
L39A **Vinton** 33.94 335 P P 16 35 58.4 +0.4
baz=146,SNR=9.5
TRQ **Mont Tremblant** 33.98 359 *e*P P 16 35 58.8 +0.4
I43A **Langenfeld Bro** 34.05 341 P P 16 36 00.1 +1.1
baz=154,SNR=7.1
K40A **Colesburg** 34.08 337 P P 16 35 59.8 +0.6
baz=148,SNR=9.4

G47A	Hillman baz=162	34.08 347	P	P	16 36 01.2 +2.0
F51A	Arnstein baz=169	34.11 352	P	P	16 36 01.1 +1.7
AMTX	Amarillo comp=Z,70nm,1.4s	34.13 316	eP	P	16 36 00.6 +0.7
AMTX	Amarillo baz=125	34.13 316	P	P	16 36 01.2 +1.3
J41A	Loganville baz=150	34.23 338	P	P	16 36 01.7 +1.2
SCIA	State Center comp=Z,59nm,0.8s	34.28 333	eP	P	16 36 01.8 +0.9
SCIA	State Center baz=144	34.28 333	P	P	16 36 02.3 +1.3
F49A	Sandfield baz=165	34.28 349	P	P	16 36 02.5 +1.6
E53A	Dumoine, Ponti baz=173	34.30 355	P	P	16 36 02.7 +1.6
E52A	Mattawa baz=171,SNR=6.0	34.31 354	P	P	16 36 02.5 +1.3
I42A	Draeger Farm, comp=Z,28nm,1.0s	34.31 340	eP	P	16 36 02.5 +1.3
I42A	Draeger Farm, baz=152,SNR=5.6	34.31 340	P	P	16 36 02.3 +1.2
E54A	Lac Daplat, Po baz=174	34.32 355	P	P	16 36 02.9 +1.7
CLNB	Carlsbad	34.32 311	eP	P	16 36 03.4 +1.8
K39A	Oelwein baz=147	34.38 336	P	P	16 36 03.1 +1.3
MSTX	Muleshoe comp=Z,46nm,0.8s	34.38 314	eP	P	16 36 03.1 +1.0
MSTX	Muleshoe baz=122,SNR=12	34.38 314	P	P	16 36 03.1 +1.0
G45A	Suttons Bay comp=Z,63nm,1.5s	34.39 345	eP	P	16 36 03.1 +1.3
F48A	Evansville baz=164	34.45 349	P	P	16 36 03.8 +1.4
H43A	Windswept, Lux comp=Z,26nm,0.8s	34.46 342	eP	P	16 36 03.7 +1.2
H43A	Windswept, Lux baz=155	34.46 342	P	P	16 36 04.0 +1.5
J40A	Soldiers Grove baz=149,SNR=6.8	34.52 338	P	P	16 36 03.8 +0.7
E51A	G1948 Merrick baz=170,SNR=9.4	34.65 353	P	P	16 36 06.1 +2.0
GDL2	Guadalupe Moun	34.65 310	eP	P	16 36 03.7 -0.8
E50A	Wahnapitae baz=167	34.71 351	P	P	16 36 06.3 +1.7
I41A	Arkdale comp=Z,29nm,1.1s	34.78 339	eP	P	16 36 05.9 +0.6
I41A	Arkdale baz=151	34.78 339	P	P	16 36 06.1 +0.8
LVC	Limon Verde comp=Z,18nm,1.0s	34.83 173	eP	P	16 36 04.2 -2.1
LVC	Limon Verde	34.83 173	eP	P	16 36 04.2 -2.1
LVC	comp=Z,18nm,1.0s		pmax	pmax	
J39A	Decorah baz=148	34.84 336	P	P	16 36 06.5 +0.7
F46A	Macinaw City C baz=160	34.86 346	P	P	16 36 07.4 +1.5
I40A	Norwalk baz=150,SNR=6.6	34.90 338	P	P	16 36 07.4 +1.1
F45A	CMU Biological baz=159	34.95 345	P	P	16 36 07.9 +1.2
D52A	ZEK Kipawa Sen baz=172,SNR=6.6	34.97 354	P	P	16 36 08.7 +1.9
D54A	Lac Fusel, La baz=174,SNR=7.0	35.00 356	P	P	16 36 08.7 +1.6
E48A	Lockeyer baz=165	35.00 350	P	P	16 36 08.8 +1.6
G43A	Wallace comp=Z,18nm,0.8s	35.15 343	eP	P	16 36 09.3 +0.9
G43A	Wallace baz=155,SNR=6.3	35.15 343	P	P	16 36 09.5 +1.1
D51A	Lot 18 Range I baz=170	35.18 353	P	P	16 36 10.5 +1.8
E47A	Iron Bridge baz=163	35.18 348	P	P	16 36 10.7 +2.0
MNTX	Cornudas Mount comp=Z,9.1nm,0.8s	35.19 309	eP	P	16 36 10.1 +1.1
MNTX	Cornudas Mount baz=116,SNR=14	35.19 309	P	P	16 36 10.5 +1.4
H41A	Junction City comp=Z,12nm,1.1s	35.20 340	eP	P	16 36 10.0 +1.2
H41A	Junction City baz=152	35.20 340	P	P	16 36 10.0 +1.2
I39A	Houston comp=Z,25nm,0.7s	35.20 337	eP	P	16 36 09.8 +0.9
I39A	Houston baz=148,SNR=6.2	35.20 337	P	P	16 36 09.8 +0.9
E46A	Sault Ste Mari comp=Z,21nm,1.0s	35.31 347	eP	P	16 36 11.4 +1.6
E46A	Sault Ste Mari baz=162	35.31 347	P	P	16 36 11.6 +1.8
CBKS	Cedar Bluff comp=Z,63nm,0.8s	35.33 323	eP	P	16 36 10.9 +0.8
CBKS	Cedar Bluff	35.33 323	eP	P	16 36 10.9 +0.8
CBKS	comp=Z,63nm,0.8s		pmax	pmax	
CBKS	Cedar Bluff baz=132,SNR=9.5	35.33 323	P	P	16 36 11.3 +1.1
G42A	Mountain comp=Z,23nm,1.1s	35.36 342	eP	P	16 36 10.9 +0.6
G42A	Mountain baz=154,SNR=5.3	35.36 342	P	P	16 36 11.3 +1.0
H40A	Chili baz=151,SNR=7.9	35.45 339	P	P	16 36 12.3 +1.2
F44A	Big Bay de Noc baz=158	35.46 344	P	P	16 36 12.6 +1.5
F43A	Flat Rock, Esc baz=156	35.53 344	P	P	16 36 13.2 +1.5
BATG	Bathurst New B comp=Z,48nm,1.3s	35.58 9	eP	P	16 36 14.1 +2.0
D48A	Paudash Townsh baz=166,SNR=9.7	35.61 350	P	P	16 36 14.2 +1.8
D49A	Beulah Townshi baz=167	35.63 351	P	P	16 36 14.5 +2.0
D47A	Chapleau baz=164	35.73 349	P	P	16 36 15.2 +1.8
D46A	Sault St. Mari baz=162	35.76 348	P	P	16 36 15.2 +1.6
H39A	Augusta baz=149,SNR=5.1	35.82 338	P	P	16 36 15.2 +1.0
E44A	Grand Marais A baz=159	35.93 345	P	P	16 36 16.1 +0.9
G40A	Rib Lake comp=Z,21nm,1.0s	35.95 340	eP	P	16 36 16.4 +1.0
G40A	Rib Lake baz=151,SNR=9.4	35.95 340	P	P	16 36 16.6 +1.3
E43A	Lone Tree Farm comp=Z,12nm,0.8s	35.98 344	eP	P	16 36 16.3 +0.7
E43A	Lone Tree Farm baz=157	35.98 344	P	P	16 36 16.9 +1.4
VLDQ	Val d'Or comp=Z,20nm,1.0s	36.01 356	eP	P	16 36 17.1 +1.4
F41A	Three Lakes comp=Z,18nm,0.9s	36.01 341	eP	P	16 36 16.4 +0.5
F41A	Three Lakes baz=153,SNR=8.1	36.01 341	P	P	16 36 16.9 +1.0
H38A	Maiden Rock baz=148	36.19 337	P	P	16 36 18.7 +1.3
BGNE	Belgrade comp=Z,61nm,0.9s	36.26 328	eP	P	16 36 19.0 +1.0
BGNE	Belgrade baz=136	36.26 328	P	P	16 36 18.5 +0.5
E42A	Champion baz=156	36.28 343	P	P	16 36 19.3 +1.2
G39A	Holcombe baz=150,SNR=10	36.30 339	P	P	16 36 19.8 +1.4
COWI	Conover comp=Z,21nm,0.8s	36.35 342	eP	P	16 36 20.0 +1.3
SLBS	Sierra La Lagu comp=Z,29nm,0.9s	36.41 293	eP	P	16 36 21.0 +1.3
G38A	Ridgeland baz=149	36.45 338	P	P	16 36 20.7 +1.1
F40A	Park Falls baz=152	36.50 340	P	P	16 36 21.5 +1.5
E41A	Kenton baz=154	36.62 342	P	P	16 36 22.0 +0.9
F39A	Loretta baz=151,SNR=14	36.76 340	P	P	16 36 23.4 +1.1
AQDB	Aquidauana	36.85 151	eP	P	16 36 21.8 -1.4
SPMN	Marine on St. comp=Z,98nm,0.1s	36.85 337	eP	P	16 36 23.5 +0.5
E40A	Wakefield baz=153,SNR=21	36.89 341	P	P	16 36 24.9 +1.5
LSQQ	Lebel-sur-Quev	36.91 356	P	P	16 36 24.5 +1.0

	baz=174				
D41A	Chassel comp=Z,28nm,0.9s	37.04 343	eP	P	16 36 25.7 +1.0
D41A	Chassel baz=155	37.04 343	P	P	16 36 26.3 +1.7
E39A	Mellen baz=152,SNR=28	37.05 340	P	P	16 36 26.4 +1.7
F38A	Pierce - Schro baz=149	37.14 339	P	P	16 36 26.8 +1.4
KSCO	Kaye Shedlock' comp=Z,52nm,0.3s	37.19 321	eP	P	16 36 26.6 +0.4
F37A	Hinrichs Farm, baz=148	37.21 338	P	P	16 36 27.4 +1.4
T25A	Trinidad comp=Z,24nm,0.8s	37.23 317	eP	P	16 36 28.2 +1.6
T25A	Trinidad baz=124,SNR=16	37.23 317	P	P	16 36 29.0 +2.4
BNM	Barren Site	37.24 312	eP	P	16 36 28.4 +1.6
ECSD	EROS Data Cent comp=Z,11nm,1.0s	37.25 332	eP	P	16 36 25.9 -0.5
ECSD	EROS Data Cent baz=141	37.25 332	P	P	16 36 27.7 +1.3
GO02	Mina Guanaco comp=Z,28nm,1.2s	37.28 174	eP	P	16 36 25.8 -1.3
LPM	Los Pinos Moun	37.32 312	eP	P	16 36 28.1 +0.7
121A	Cookes Peak, D baz=115,SNR=15	37.39 308	P	P	16 36 30.7 +2.7
BDFB	Brasilia comp=Z,17nm,0.8s	37.41 137	eP	P	16 36 27.2 -0.9
BDFB	Brasilia	37.41 137	eP	P	16 36 27.3 -0.9
BDFB	comp=Z,17nm,0.8s		pmax	pmax	
BDFB	Brasilia comp=Z,15nm,0.7s,baz=301,slow=9.7,SNR=20	37.41 137	P	P	16 36 27.1 -1.0
BDFB			LR	LR	16 53 38.2
	comp=Z,546nm,18.9s,baz=300,slow=39				
ANMO	Albuquerque comp=Z,16nm,1.0s	37.50 313	eP	P	16 36 30.3 +1.4
ANMO	Albuquerque	37.50 313	dP	P	16 36 30.3 +1.4
ANMO	comp=Z,14nm,0.9s		pmax	pmax	
ANMO	Albuquerque baz=119	37.50 313	P	P	16 36 30.7 +1.8
TASM	ASL Pad, Albuq baz=119,SNR=18	37.50 313	P	P	16 36 31.0 +2.1
TASM	ASL Pad, Albuq baz=119,SNR=18	37.50 313	P	P	16 36 31.0 +2.1
LENM	Lemitar	37.50 311	eP	P	16 36 30.5 +1.6
E38A	The Farm, Brul comp=Z,26nm,0.9s	37.58 340	eP	P	16 36 30.6 +1.4
E38A	The Farm, Brul baz=150,SNR=5.7	37.58 340	P	P	16 36 30.6 +1.4
MATQ	Matagami baz=173,SNR=7.9	37.66 356	P	P	16 36 31.4 +1.6
CHGQ	Chibougamau baz=178	37.66 359	P	P	16 36 31.6 +1.8
LAZ	Ladron	37.73 312	eP	P	16 36 32.0 +1.1
C40A	Isle Royale Na comp=Z,20nm,0.8s	37.99 343	eP	P	16 36 33.8 +1.2
C40A	Isle Royale Na baz=155,SNR=6.1	37.99 343	P	P	16 36 33.9 +1.3
319A	Douglas comp=Z,46nm,0.9s	38.09 306	eP	P	16 36 36.6 +2.7
SDCO	Great Sand Dun comp=Z,24nm,0.9s	38.28 317	eP	P	16 36 37.4 +1.8
SDCO	Great Sand Dun baz=123,SNR=23	38.28 317	P	P	16 36 37.7 +2.1
HSIG		38.65 302	eP	P	16 36 39.6 +1.2
	comp=Z,27nm,1.4s				
EYMN	Ely comp=Z,26nm,0.8s	38.73 341	eP	P	16 36 39.8 +0.9
EYMN	Ely baz=151,SNR=22	38.73 341	P	P	16 36 40.1 +1.2
Q24A	Divide comp=Z,13nm,1.0s	38.74 319	eP	P	16 36 40.5 +1.1
Q24A	Divide baz=125	38.74 319	P	P	16 36 41.4 +1.9
ITRB	Iturama	39.01 144	eP	P	16 36 40.6 -0.9
S22A	4UR Ranch, Cre comp=Z,25nm,1.0s	39.17 316	eP	P	16 36 45.2 +2.1
S22A	4UR Ranch, Cre baz=122,SNR=23	39.17 316	P	P	16 36 45.6 +2.5
SRIG	Santa Rosalia comp=Z,38nm,1.0s	39.27 298	eP	P	16 36 45.4 +1.8
ISCO	Idaho Springs comp=Z,12nm,1.0s	39.51 320	eP	P	16 36 47.3 +1.4
ISCO	Idaho Springs	39.51 320	eP	P	16 36 47.3 +1.4
ISCO	comp=Z,12nm,1.0s		pmax	pmax	
ISCO	Idaho Springs baz=125,SNR=7.6	39.51 320	P	P	16 36 47.6 +1.7
GO03	Copiap comp=Z,18nm,0.8s	39.63 175	eP	P	16 36 45.7 -0.9
TUC	Tucson comp=Z,16nm,1.1s	39.63 306	eP	P	16 36 48.3 +1.6
TUC	Tucson	39.63 306	eP	P	16 36 48.3 +1.6
TUC	comp=Z,16nm,1.1s		pmax	pmax	
TUC	Tucson baz=112	39.63 306	P	P	16 36 48.9 +2.2
X18A	Snowflake comp=Z,58nm,1.1s	39.87 310	eP	P	16 36 51.4 +2.6
W18A	Petrified Fore comp=Z,42nm,0.9s	39.96 311	eP	P	16 36 52.2 +2.6
W18A	Petrified Fore baz=116,SNR=6.0	39.96 311	P	P	16 36 52.0 +2.4
SMCO	Snowmass comp=Z,24nm,1.0s	40.03 318	eP	P	16 36 51.9 +1.5
MVCO	Mesa Verde comp=Z,91nm,2.0s	40.04 315	eP	P	16 36 52.2 +1.9
MVCO	Mesa Verde baz=119,SNR=8.7	40.04 315	P	P	16 36 52.4 +2.1
PHWY	Pilot Hill comp=Z,15nm,1.4s	40.30 322	eP	P	16 36 53.0 +0.5
N23A	Red Feather La comp=Z,7.9nm,0.9s	40.35 321	eP	P	16 36 54.3 +1.4
N23A	Red Feather La baz=126,SNR=5.5	40.35 321	P	P	16 36 53.9 +1.0
PMNB	Patos De Minas	40.53 138	eP	P	16 36 52.3 -2.0
PV01	Paradox Valley comp=Z,39nm,1.1s	40.55 316	eP	P	16 36 56.7 +2.2
AGMN	Agassiz Nation comp=Z,26nm,0.8s	40.58 337	eP	P	16 36 54.6 +0.3
AGMN	Agassiz Nation baz=145,SNR=6.6	40.58 337	P	P	16 36 55.3 +1.1
PV02	Paradox Valley comp=Z,65nm,1.0s	40.70 316	eP	P	16 36 58.3 +2.6
PV13	Radium Mtn., P comp=Z,72nm,1.0s	40.73 316	eP	P	16 36 58.5 +2.5
PV07	Paradox Valley comp=Z,32nm,1.0s	40.76 316	eP	P	16 36 58.4 +2.2
PV03	Paradox Valley comp=Z,53nm,1.0s	40.80 316	eP	P	16 36 58.6 +2.1
PV12	Saucer Basin, comp=Z,99nm,0.9s	40.80 316	eP	P	16 36 59.0 +2.5
PV18	Skein Mesa, Pa comp=Z,55nm,1.0s	40.84 316	eP	P	16 36 59.3 +2.5
PV11	David Mesa, Pa comp=Z,53nm,0.8s	40.84 316	eP	P	16 36 59.4 +2.5
PV16	Nyswonger Mesa comp=Z,52nm,1.0s	40.88 316	eP	P	16 36 59.4 +2.2
PV05	Paradox Valley comp=Z,47nm,0.9s	40.89 315	eP	P	16 36 57.5 +0.2
PV17	East Wray Mesa comp=Z,42nm,1.0s	40.89 316	eP	P	16 36 59.2 +2.0
PV22	Blue Mesa, Par comp=Z,36nm,1.0s	40.90 316	eP	P	16 36 59.3 +2.0
PV04	Paradox Valley comp=Z,52nm,1.2s	40.91 316	eP	P	16 36 59.5 +2.1
PV20	West Nyswonger	40.93 316	eP	P	16 36 59.4 +1.8
MCI8	Montes Claros	40.93 134	eP	P	16 36 56.7 -0.9
X16A	Lo Mia Camp, P comp=Z,15nm,1.0s	40.95 309	eP	P	16 36 59.9 +2.2
MCI9	Montes Claros	40.97 134	eP	P	16 36 56.8 -1.2
PV14	Lion Creek, Pa comp=Z,27nm,1.0s	40.98 316	eP	P	16 37 00.2 +2.2
PV10	Paradox Valley comp=Z,68nm,1.7s	40.99 316	eP	P	16 37 00.2 +2.1
LCO	Las Campanas	41.00 176	eP	P	16 36 57.9 -0.3
PV23	Carpenter Ridg	41.01 316	eP	P	16 37 00.1 +1.7
PV21	Cone Mtn., Par comp=Z,30nm,0.9s	41.04 316	eP	P	16 37 01.0 +2.5
MCI6	Montes Claros	41.05 134	eP	P	16 36 57.3 -1.2
214A	Organ Pipe Nat baz=110,SNR=7.6	41.11 305	P	P	16 37 00.9 +1.9
PV09	Paradox Valley	41.12 316	eP	P	16 37 01.4 +2.1
BB19B	Bebedouro	41.14 143	eP	P	16 36 57.9 -1.3

RSSD	Black Hills comp=Z,21nm,1.4s	41.26 326	eP	P	16 37 01.0 +0.8
RSSD	Black Hills	41.26 326	eP	P	16 37 01.0 +0.8
RSSD	comp=Z,21nm,1.4s		pmax	pmax	
RSSD	Black Hills baz=131	41.26 326	P	P	16 37 00.8 +0.5
WUAZ	Wupatki comp=Z,28nm,0.9s	41.34 311	eP	P	16 37 03.5 +2.5
WUAZ	Wupatki baz=115,SNR=13	41.34 311	P	P	16 37 03.7 +2.7
CPUP	Villa Florida	41.36 158	LR	LR	16 55 54.2
	comp=Z,1μm,18.2s,baz=352,slow=39				
O20A	White River Ci comp=Z,25nm,1.4s	41.38 319	eP	P	16 37 03.1 +1.9
O20A	White River Ci baz=123	41.38 319	P	P	16 37 03.1 +1.9
RCBR	Riachuelo comp=Z,51nm,0.8s	41.44 113	eP	P	16 37 02.8 +0.9
RWWY	Rawlins comp=Z,24nm,1.0s	41.59 321	eP	P	16 37 04.2 +1.1
K22A	Casper comp=Z,9.5nm,0.9s	41.74 323	eP	P	16 37 05.2 +1.0
K22A	Casper baz=127	41.74 323	P	P	16 37 05.2 +1.0
MDND	Maddock baz=140	41.75 334	P	P	16 37 04.5 +0.6
Y14A	Wickenburg	41.96 308	eP	P	16 37 06.9 +0.9
113A	Mohawk Valley, comp=Z,14nm,1.1s	42.15 306	eP	P	16 37 08.9 +1.6
ULM	Lac du Bonnet comp=Z,32nm,0.8s	42.20 339	eP	P	16 37 07.6 +0.1
ULM	Lac du Bonnet	42.20 339	eP	P	16 37 07.6 +0.1
ULM	comp=Z,33nm,0.8s		pmax	pmax	
ULM	Lac du Bonnet comp=Z,27nm,0.8s,baz=144,slow=8.7,SNR=52	42.20 339	P	P	16 37 08.1 +0.6
PTGB	Pitanga	42.20 150	eP	P	16 37 06.3 -1.6
FRTB	Fartura	42.35 146	eP	P	16 37 08.6 -0.6
SRU	San Rafael Swe comp=Z,18nm,0.9s	42.37 316	eP	P	16 37 10.9 +1.6
SRU	San Rafael Swe	42.37 316	eP	P	16 37 10.9 +1.6
SRU	comp=Z,19nm,0.9s		pmax	pmax	
U15A	North Rim comp=Z,34nm,0.9s	42.40 311	eP	P	16 37 11.7 +1.9
P17A	Butcher Ranch,	42.69 316	eP	P	16 37 13.9 +2.0
Q16A	Castle Valley comp=Z,12nm,1.0s	42.72 315	eP	P	16 37 14.1 +1.9
RCLB	Rio Claro- Sao	42.77 143	eP	P	16 37 11.1 -1.4
PKCU	Pink Cliffs comp=Z,87nm,1.8s	42.85 313	eP	P	16 37 15.6 +2.2
SCHQ	Schefferville comp=Z,12nm,0.7s	42.91 6	eP	P	16 37 14.6 +1.3
SCHQ	Schefferville comp=Z,9.6nm,0.6s,baz=206,slow=6.6,SNR=5.6	42.91 6	P	P	16 37 14.3 +1.1
SCHQ			LR	LR	16 55 40.0
	comp=Z,210nm,19.3s,baz=268,slow=37				
PDMCI	Parker Dam,Lak baz=111	42.97 308	P	P	16 37 16.1 +2.1
MTPU	Mount Pierson comp=Z,22nm,0.8s	43.02 314	eP	P	16 37 17.1 +2.3
KNB	Kanab	43.03 312	eP	P	16 37 17.5 +2.7
W13A	Hualapai Mount comp=Z,16nm,1.0s	43.07 309	eP	P	16 37 17.6 +2.5
Y12C	Blythe comp=Z,15nm,0.9s	43.08 307	eP	P	16 37 17.0 +2.1
Y12C	Blythe baz=110	43.08 307	P	P	16 37 16.9 +2.0
GLA	Glamis	43.08 306	eP	P	16 37 16.9 +1.9
GLA	Glamis	43.08 306	eP	P	16 37 16.9 +1.9
GLA	Glamis baz=109,SNR=6.2	43.08 306	P	P	16 37 17.1 +2.1
MSU	Marysvale	43.23 314	eP	P	16 37 18.8 +2.4
MSU	Marysvale	43.23 314	eP	P	16 37 18.8 +2.4
LCMT	Little Creek M	43.34 312	eP	P	16 37 19.7 +2.5
BSCB	Bom Sucesso	43.39 139	eP	P	16 37 15.9 -1.7
SZCU	Shurtz Canyon comp=Z,14nm,1.1s	43.47 313	eP	P	16 37 19.8 +1.5
MPU	Maple Canyon comp=Z,45nm,1.2s	43.55 317	eP	P	16 37 20.9 +1.9
BW06	Boulder Array comp=Z,12nm,1.1s	43.64 321	eP	P	16 37 20.1 +0.5
BW06			ePcP	PcP	16 39 06.8 0.0
BW06	Boulder Array baz=124,SNR=8.9	43.64 321	P	P	16 37 20.6 +1.0
PD31	Pinedale Array comp=Z,12nm,1.1s	43.64 321	eP	P	16 37 19.0 -0.6
PD31			ePcP	PcP	16 39 06.6 -0.3
PDAR	Pinedale Array	43.64 321	eP	P	16 37 20.4 +0.7
PDAR			ePcP	PcP	16 39 06.6 -0.3
PDAR	Pinedale Array comp=Z,6.7nm,0.8s,baz=116,slow=10,SNR=37	43.64 321	P	P	16 37 20.6 +1.0
PDAR			PcP	PcP	16 39 07.0 +0.2
	comp=Z,3.3nm,0.7s,baz=127,slow=5.3,SNR=10.0				
PDAR			LR	LR	16 57 43.1
	comp=Z,156nm,18.7s,baz=133,slow=39				
CCUT	Cedar City comp=Z,7.3nm,0.9s	43.65 312	eP	P	16 37 21.9 +2.1
CCUT			ePcP	PcP	16 39 08.0 +1.0
IRM	Iron Mountain baz=110,SNR=6.6	43.70 307	P	P	16 37 22.4 +2.4
JLU	Jordanelle comp=Z,14nm,0.9s	43.72 317	eP	P	16 37 22.1 +1.8
SPB	Sao Paulo	43.73 144	eP	P	16 37 19.2 -1.0
BC3	Big Chuckawall baz=109	43.77 306	P	P	16 37 22.7 +2.0
NLU	North Lily Min	43.82 316	eP	P	16 37 23.5 +2.3
SWSC	Sam W. Stewart baz=108	43.82 305	P	P	16 37 22.9 +2.0
TCUT	Toone Canyon comp=Z,72nm,1.1s	43.95 318	eP	P	16 37 24.0 +1.9
CTU	Camp Tracy comp=Z,28nm,1.0s	43.96 317	eP	P	16 37 24.3 +2.1
IKP	In-Ko-Pah, Jac baz=108	43.98 305	P	P	16 37 24.2 +1.9
LAO	LASA Array baz=131	44.10 328	P	P	16 37 24.2 +1.1
SJMB	Sao Joao De Ma	44.23 133	eP	P	16 37 23.5 -0.8
HWUT	Hardware Ranch comp=Z,22nm,0.8s	44.29 319	eP	P	16 37 25.9 +1.0
DGMT	Dagmar comp=Z,33nm,0.9s	44.30 331	eP	P	16 37 25.6 +1.1
DGMT	Dagmar baz=134	44.30 331	P	P	16 37 25.7 +1.1
MONP2	Monument Peak baz=108	44.30 305	P	P	16 37 26.7 +1.6
GMRC	Granite Mounta baz=110,SNR=5.6	44.31 308	P	P	16 37 27.1 +2.0
BELC	Belle Mtn. Jos baz=109	44.32 307	P	P	16 37 26.6 +1.6
PSUT	Pine Spring comp=Z,31nm,0.9s	44.42 314	eP	P	16 37 27.9 +2.0
PSUT			ePcP	PcP	16 39 11.2 +1.6
DUG	Dugway, Tooele comp=Z,26nm,1.0s	44.43 316	eP	P	16 37 27.9 +2.0
DUG	Dugway, Tooele	44.43 316	eP	P	16 37 28.0 +2.0
DUG	comp=Z,26nm,1.0s		pmax	pmax	
DUG	Dugway, Tooele baz=118,SNR=9.6	44.43 316	P	P	16 37 28.3 +2.3
BSFB	Barra de Sao F	44.55 133	eP	P	16 37 25.7 -1.2
SHPR	Sheep Range comp=Z,18nm,1.1s	44.55 310	eP	P	16 37 29.3 +2.3
SHPR			ePcP	PcP	16 39 08.4 -1.7
AHID	Auburn Hatcher comp=Z,37nm,1.4s	44.59 320	eP	P	16 37 28.7 +1.5
AHID			ePcP	PcP	16 39 09.6 -0.5
TUQ	Turquoise Moun baz=110	44.74 309	P	P	16 37 30.4 +2.0
LOHW	Long Hollow comp=Z,28nm,1.4s	44.74 322	eP	P	16 37 29.2 +0.8
SNOW	Snow King Moun comp=Z,28nm,0.9s	44.75 321	eP	P	16 37 29.9 +1.3
REDW	Red Top Meadow comp=Z,52nm,1.0s	44.76 321	eP	P	16 37 29.6 +1.0
RLMT	Red Lodge comp=Z,8.6nm,0.8s	44.81 324	eP	P	16 37 29.7 +0.8
RLMT	Red Lodge baz=126,SNR=9.2	44.81 324	P	P	16 37 30.0 +1.1
HEC	Hector,Ludlow baz=110,SNR=5.4	44.85 308	P	P	16 37 31.6 +2.3
109C	Camp Elliot, M baz=107	44.85 305	P	P	16 37 30.6 +1.3
TPAW	Teton Pass comp=Z,16nm,0.9s	44.89 321	eP	P	16 37 30.7 +1.0
MOOW	Moose Ponds	44.90 322	eP	P	16 37 30.6 +0.9

comp=Z,15nm,1.0s
BGU Big Grassy Mou 44.92 317 eP P 16 37 31.6 +1.8
comp=Z,16nm,0.9s
FXWY Fox Creek 45.01 321 eP P 16 37 31.7 +1.0
comp=Z,16nm,0.8s
FLWY Flagg Ranch 45.06 322 eP P 16 37 32.3 +1.3
comp=Z,11nm,1.1s
IMW Indian Meadow 45.10 322 eP P 16 37 32.4 +1.0
comp=Z,13nm,1.0s
PEL Peldehue 45.11 177 eP P 16 37 31.9 +0.7
comp=Z,24nm,0.9s
PEL Peldehue 45.11 177 eP P 16 37 31.9 +0.7
PEL pmax pmax
comp=Z,24nm,0.9s
MURC Murrieta 45.14 306 P P 16 37 33.5 +2.0
baz=108
H17A Grant Village 45.16 322 eP P 16 37 32.5 +0.7
comp=Z,6.9nm,1.0s
H17A Grant Village 45.16 322 P P 16 37 33.2 +1.4
baz=124
HVU Hansel Valley 45.16 318 eP P 16 37 32.8 +1.0
comp=Z,20nm,0.9s
HVU Hansel Valley 45.16 318 eP P 16 37 32.8 +1.0
HVU pmax pmax
comp=Z,20nm,0.9s
VAS01 Vassouras-RJ 45.17 139 eP P 16 37 30.6 -1.2
SHOC Shoshone, Teco 45.17 309 P P 16 37 34.2 +2.4
baz=111
RIB01 Linhares ES 45.19 133 eP P 16 37 30.6 -1.4
YPP Pitchstone Pla 45.23 322 eP P 16 37 34.0 +1.6
comp=Z,12nm,1.6s
YFT Old Faithful 45.34 322 eP P 16 37 35.0 +1.7
comp=Z,7.4nm,0.9s
GSC Goldstone, Bar 45.37 308 eP P 16 37 35.3 +1.8
comp=Z,23nm,0.9s
GSC Goldstone, Bar 45.37 308 eP P 16 37 35.3 +1.8
GSC pmax pmax
comp=Z,23nm,0.9s
GSC Goldstone, Bar 45.37 308 P P 16 37 35.5 +2.0
baz=110,SNR=15
GCMT Greycliff 45.43 325 eP P 16 37 34.6 +0.9
TPNV Topopah Spring 45.53 310 eP P 16 37 37.1 +2.3
comp=Z,20nm,1.1s
TPNV Topopah Spring 45.53 310 eP P 16 37 37.1 +2.3
TPNV pmax pmax
comp=Z,20nm,1.1s
TPNV Topopah Spring 45.53 310 P P 16 37 37.4 +2.6
baz=112,SNR=18
YHH Holmes Hill 45.54 323 eP P 16 37 36.8 +1.9
comp=Z,6.1nm,0.8s
R11A Troy Canyon, C 45.58 312 eP P 16 37 36.9 +1.7
comp=Z,14nm,1.0s
R11A Troy Canyon, C 45.58 312 P P 16 37 37.5 +2.4
baz=114,SNR=28
BFSC Mount Baldy Ra 45.70 306 P P 16 37 36.1 +0.1
baz=108
DUB01 Friburgo-RJ 45.72 138 eP P 16 37 34.9 -1.3
YHB Horse Butte 45.72 323 eP P 16 37 38.0 +1.7
comp=Z,19nm,1.1s
FURC Furnace Creek, 45.82 310 P P 16 37 39.4 +2.6
baz=111,SNR=7.1
ALF01 Guarapari-ES 45.82 135 eP P 16 37 35.9 -1.0
QLMT Earthquake Lak 45.91 322 eP P 16 37 40.1 +2.4
CAM01 Campos-RJ 46.01 137 eP P 16 37 36.5 -1.9
LRMC Laurel Mtn Rad 46.11 308 P P 16 37 41.4 +2.0
baz=109
MPMC Manual Prospec 46.15 309 P P 16 37 41.4 +1.6
baz=110,SNR=9.2
EDW2 Edwards Air Fo 46.16 307 P P 16 37 41.4 +1.7
baz=108,SNR=5.2
ELK Elko 46.33 316 eP P 16 37 42.4 +1.3
comp=Z,20nm,1.4s
ELK ePcP PcP 16 39 17.3 +1.1
ELK Elko 46.33 316 eP P 16 37 42.4 +1.3
ELK e 16 39 17.3
ELK pmax pmax
comp=Z,20nm,1.4s
GRAC Grapevine Rang 46.38 310 P P 16 37 43.4 +2.1
baz=111
BOZ Bozeman (W) 46.45 323 eP P 16 37 42.9 +1.1
comp=Z,27nm,1.3s
BOZ Bozeman (W) 46.45 323 eP P 16 37 42.9 +1.1
BOZ pmax pmax
comp=Z,27nm,1.3s
BOZ Bozeman (W) 46.45 323 P P 16 37 43.5 +1.7
baz=124,SNR=26
CNLB Canela 46.66 152 eP P 16 37 42.3 -1.3
CWC Cottonwood Cre 46.73 309 P P 16 37 45.8 +1.6
baz=110
MCMT McKenzie Canyo 46.76 322 eP P 16 37 46.5 +2.1
ISA Isabella, Lake 46.78 308 eP P 16 37 45.9 +1.4
comp=Z,10nm,1.0s
ISA Isabella, Lake 46.78 308 eP P 16 37 45.9 +1.4
ISA pmax pmax
comp=Z,10.0nm,1.0s
ISA Isabella, Lake 46.78 308 P P 16 37 46.3 +1.8
baz=109
EGMT Eagleton 46.81 327 eP P 16 37 45.2 +0.7
comp=Z,52nm,1.3s
EGMT Eagleton 46.81 327 P P 16 37 45.9 +1.4
baz=128,SNR=16
ARVC Arvin 46.89 307 P P 16 37 47.0 +1.7
baz=108
DLMT Dillon 46.89 322 eP P 16 37 46.7 +1.4
comp=Z,40nm,1.4s
GO05 Huala 46.92 178 eP P 16 37 45.0 -0.4
comp=Z,39nm,1.0s
TIN Tinemaha, Big 47.05 310 P P 16 37 48.4 +1.8
baz=110
LRM Limekiln Ridge 47.05 323 eP P 16 37 48.3 +1.7
HLID Hailey 47.09 319 eP P 16 37 48.8 +1.9
comp=Z,16nm,0.9s
HLID Hailey 47.09 319 P P 16 37 48.8 +1.9
baz=119,SNR=27
HRY Holter Researc 47.18 324 eP P 16 37 48.9 +1.3
SCZ2 Santa Cruz Isl 47.20 305 P P 16 37 49.7 +2.0
baz=106
VES Vestal, Richgr 47.31 308 P P 16 37 50.6 +2.1
baz=108,SNR=5.0
NV11 Mina Array Sit 47.48 312 eP P 16 37 51.8 +1.8
comp=Z,1.2nm,1.2s
BMN Battle Mountai 47.57 314 eP P 16 37 52.0 +1.2
comp=Z,6.2nm,0.9s
BMN Battle Mountai 47.57 314 eP P 16 37 52.0 +1.2
BMN pmax pmax
comp=Z,6.0nm,0.9s
NV01 Mina Array Sit 47.59 311 ePcP PcP 16 39 22.1 +1.4
NVAR Mina Array Bea 47.59 311 eP P 16 37 51.8 +0.9
NVAR ePcP PcP 16 39 21.9 +1.2
NVAR Mina Array Bea 47.59 311 P P 16 37 52.9 +1.9
comp=Z,8.7nm,0.9s,baz=117,slow=6.8,SNR=34
NVAR PcP PcP 16 39 22.1 +1.4
comp=Z,3.0nm,0.7s,baz=137,slow=4.2,SNR=7.0
NVAR LR LR 17 02 08.0
comp=Z,135nm,18.8s,baz=178,slow=42
KVN Kaiserville 47.66 312 eP P 16 37 52.5 +1.0
comp=Z,16nm,1.0s
KVN ePcP PcP 16 39 22.0 +1.1
KVN Kaiserville 47.66 312 eP P 16 37 52.5 +1.0
KVN e 16 39 22.0
KVN pmax pmax
comp=Z,16nm,1.0s
MLAC Mammoth, Mammo 47.70 310 P P 16 37 53.3 +1.5
baz=110
OMMB Old Mammoth Mi 47.82 310 eP P 16 37 54.5 +1.7
comp=Z,13nm,1.3s
RYN Ryan 47.82 312 eP P 16 37 54.0 +1.3
comp=Z,13nm,1.1s
FFC Flin Flon 48.01 338 eP P 16 37 53.8 +0.1
comp=Z,10nm,0.7s
FFC Flin Flon 48.01 338 i P P 16 37 54.5 +0.8
PAGB Antelope Grade 48.17 307 eP P 16 37 56.9 +1.6
comp=Z,36nm,1.5s
WAKR Walker 48.45 311 eP P 16 37 59.0 +1.4
comp=Z,17nm,1.4s
MSO Missoula 48.46 324 eP P 16 37 58.6 +1.2
comp=Z,11nm,1.0s
MSO Missoula 48.46 324 P P 16 37 58.7 +1.2
baz=122,SNR=6.3
YERR Yerington 48.47 312 eP P 16 37 59.7 +2.0
comp=Z,52nm,1.3s
YERR ePP PP 16 39 53.3 +2.8
PNTR Pine Nut 48.77 312 eP P 16 38 02.3 +2.2
comp=Z,34nm,1.2s
PLID Pearl Lake 48.82 321 eP P 16 38 01.1 +0.8
comp=Z,31nm,1.3s
PAHR Pah Rah Range 48.83 313 eP P 16 38 01.6 +1.1
comp=Z,12nm,1.5s
FCC Fort Churchill 49.04 346 eP P 16 38 01.1 -0.4
comp=Z,6.4nm,1.0s
FCC ePP PP 16 39 56.5 +1.4
FCC Fort Churchill 49.04 346 eP P 16 38 01.1 -0.4
FCC e 16 39 56.5
FCC pmax pmax
comp=Z,6.0nm,1.0s
WVOR Wild Horse Val 49.36 316 eP P 16 38 05.7 +1.3
comp=Z,30nm,1.5s
WVOR Wild Horse Val 49.36 316 eP P 16 38 05.7 +1.3
WVOR pmax pmax
comp=Z,30nm,1.5s
BMO Blue Mountains 49.53 320 eP P 16 38 05.9 +0.3
comp=Z,11nm,1.2s
BMO Blue Mountains 49.53 320 eP P 16 38 05.9 +0.3
BMO pmax pmax
comp=Z,11nm,1.2s
J08A Circle Bar Ran 49.63 317 eP P 16 38 07.4 +0.9
comp=Z,15nm,1.3s
WALA Waterton Lakes 49.66 326 eP P 16 38 07.5 +0.9
comp=Z,16nm,1.0s
AFDM Forest Hills D 49.72 311 eP P 16 38 08.4 +1.2
comp=Z,14nm,1.5s
F10A Beach Ranch, E 50.00 321 eP P 16 38 10.2 +1.0
comp=Z,19nm,0.8s
MOD Modoc Plateau 50.29 315 eP P 16 38 12.0 +0.4
comp=Z,16nm,1.1s
I07A Izee 50.61 318 eP P 16 38 15.1 +1.2
comp=Z,5.2nm,1.0s
G08A Pilot Rock 50.77 320 eP P 16 38 16.0 +0.9
comp=Z,30nm,1.1s
O03E Paynes Creek 50.77 313 P P 16 38 15.4 +0.3
baz=110
E09A Wood Farm, Sta 50.82 321 eP P 16 38 16.3 +1.1
comp=Z,43nm,1.4s
K05A Summer Lake 51.00 316 eP P 16 38 18.3 +1.3
NEW Newport 51.05 324 eP P 16 38 17.8 +0.8
comp=Z,17nm,0.9s
NEW Newport 51.05 324 eP P 16 38 17.8 +0.8
NEW pmax pmax
comp=Z,17nm,0.9s
NEW Newport 51.05 324 P P 16 38 18.0 +0.9
baz=120,SNR=7.6
M04C Macdoel 51.31 314 P P 16 38 20.7 +1.5
baz=111
PINE Pine Mountain 51.45 317 eP P 16 38 21.3 +1.1
comp=Z,21nm,1.2s
J05D Fort Rock, OR 51.45 316 P P 16 38 21.6 +1.3
baz=112,SNR=11
O02D Mt. Diablo Mer 51.45 312 P P 16 38 20.3 +0.1
baz=109
GO06 Curarrehue 51.49 178 eP P 16 38 20.0 -0.5
comp=Z,50nm,1.6s
C09A Chrisman Ranch 51.50 323 eP P 16 38 22.0 +1.6
comp=Z,39nm,0.9s
D08A Wollman Farm, 51.54 322 eP P 16 38 22.2 +1.5
comp=Z,7.5nm,0.8s
K04D Chiloquin, OR 51.55 315 P P 16 38 22.2 +1.2
baz=111
FRB Frobisher Bay 51.65 3 P P 16 38 21.7 +0.6
FRB pmax pmax
comp=Z,14nm,1.2s
N02D Trinity Center 51.65 313 P P 16 38 23.1 +1.4
baz=109
L04D Klamath Falls 51.79 315 P P 16 38 24.0 +1.1
baz=111,SNR=8.8
G06A Carlson Farm, 51.82 319 eP P 16 38 25.4 +2.5
comp=Z,59nm,1.4s
M02C Callahan 51.89 314 P P 16 38 24.8 +1.3
baz=110
YBH Yreka Blue Hor 51.91 314 eP P 16 38 23.4 -0.2
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 51.91 314 eP P 16 38 23.5 -0.2
YBH pmax pmax
comp=Z,11nm,1.0s
J04D Umpqua Nationa 52.02 316 P P 16 38 25.9 +1.3
baz=112,SNR=7.3
KMRM Mail Ridge 52.13 312 eP P 16 38 26.5 +1.1
comp=Z,22nm,1.0s
G05D Wamic, OR 52.27 319 P P 16 38 26.8 +0.6
baz=114
B08A Colville Reser 52.39 323 eP P 16 38 27.8 +0.8
comp=Z,42nm,0.9s
I04A Tendick Farm, 52.43 316 P P 16 38 28.8 +1.4
baz=112
JCC Jacoby Creek, 52.55 312 eP P 16 38 29.6 +1.3
comp=Z,52nm,1.3s
H04A Detroit Lake 52.62 318 eP P 16 38 29.9 +1.1
comp=Z,28nm,0.8s
PLCA Paso Flores 52.68 177 eP P 16 38 28.8 -0.4
comp=Z,35nm,0.9s
PLCA Paso Flores 52.68 177 eP P 16 38 28.8 -0.4
PLCA pmax pmax
comp=Z,35nm,0.9s
PLCA Paso Flores 52.68 177 P P 16 38 29.3 +0.1
comp=Z,29nm,0.7s,baz=18,slow=8.8,SNR=72
PLCA Paso Flores 52.68 177 eP P 16 38 29.5 +0.3
LTY Liberty 52.70 321 eP P 16 38 30.5 +1.1
comp=Z,45nm,1.4s
K02D Willamette Mer 52.90 315 P P 16 38 32.0 +1.1
baz=110
I03D Drain, OR 53.03 316 P P 16 38 32.8 +1.0
baz=111
LON Longmire 53.19 320 eP P 16 38 34.4 +1.4
comp=Z,15nm,1.2s
LON Longmire 53.19 320 eP P 16 38 34.4 +1.4
LON pmax pmax
comp=Z,15nm,1.2s
J01E Myrtle Point 53.24 315 P P 16 38 35.2 +1.9
baz=110
COR Corvallis 53.32 317 P P 16 38 36.2 +2.3
D05A Enumclaw 53.48 321 eP P 16 38 36.7 +1.6
comp=Z,34nm,1.0s
I02D Swisshome 53.51 316 P P 16 38 37.2 +1.9
baz=111
G03D McMinnville, O 53.52 318 P P 16 38 37.2 +1.8
baz=112
E04D Cinebar 53.59 320 P P 16 38 37.6 +1.8
baz=113
B05A Bryant 54.00 322 P P 16 38 39.9 +1.1
baz=115
D03D Eldon 54.31 321 P P 16 38 42.0 +0.9
baz=114,SNR=5.8
A04D Lummi Island 54.56 322 P P 16 38 43.7 +0.9
baz=115
NLWA Neilton Lookou 54.74 320 eP P 16 38 46.1 +1.8
comp=Z,39nm,1.2s
LLLB Lillooet 54.90 324 eP P 16 38 46.5 +1.2
comp=Z,15nm,0.8s
YKA Yellowknife Ar 58.17 339 P P 16 39 08.8 +0.4
comp=Z,13nm,0.8s,baz=128,slow=7.5,SNR=176
YKA PcP PcP 16 40 00.7 +0.9
comp=Z,1.7nm,0.7s,baz=122,slow=4.2,SNR=4.5
YKA LR LR 17 05 34.2
comp=Z,29nm,18.4s,baz=136,slow=37
YKB5 Yellowknife Ar 58.17 339 ePcP PcP 16 40 00.7 +0.9
DLBC Dease Lake 62.51 330 eP P 16 39 39.7 +1.4
comp=Z,14nm,0.8s
RES Resolute Bay 63.67 354 eP P 16 39 45.8 +0.2
comp=Z,7.6nm,1.0s
RES Resolute Bay 63.67 354 eP P 16 39 45.8 +0.2
RES pmax pmax
comp=Z,8.0nm,1.0s
SUMG Summit 63.87 11 eP P 16 39 48.1 +0.7
comp=Z,23nm,0.9s
SUMG Summit 63.87 11 i P P 16 39 48.6 +1.2
SUMG pmax pmax
comp=Z,58nm,0.9s
SUMG Summit 63.87 11 i P P 16 39 48.6 +1.2
comp=Z,58nm,0.9s
ESDC Sonseca Array 66.64 52 eP P 16 40 05.7 +0.1
ESDC Sonseca Array 66.64 52 P P 16 40 06.0 +0.4
comp=Z,0.7nm,0.5s,baz=266,slow=6.9,SNR=5.2
HYT Haines Junctio 66.90 331 eP P 16 40 08.1 +1.1
comp=Z,41nm,1.9s
DBIC Dimbokro 67.81 88 LR LR 17 09 16.9
comp=Z,26nm,18.5s,baz=247,slow=36
INK Inuvik 67.93 340 eP P 16 40 13.4 +0.3
comp=Z,9.1nm,0.8s
INK Inuvik 67.93 340 eP P 16 40 13.4 +0.3
INK pmax pmax
comp=Z,9.0nm,0.8s
EPYK Eagle Plains 68.35 337 eP P 16 40 16.6 +0.7
comp=Z,19nm,1.0s
EPYK Eagle Plains 68.35 337 P P 16 40 17.0 +1.1
baz=110,SNR=11
DAWY Dawson 68.69 334 eP P 16 40 18.7 +0.7
comp=Z,6.6nm,0.8s
CTGM Chitina Glacie 68.74 331 eP P 16 40 21.0 +2.5
comp=Z,31nm,1.0s
BCAR Beaver Creek A 69.45 333 eP P 16 40 24.1 +1.2
EGAK Eagle 69.62 335 eP P 16 40 24.8 +1.0
comp=Z,16nm,1.2s
MENT Mentasta 70.28 333 eP P 16 40 29.4 +1.5
comp=Z,14nm,0.9s
DAG Danmarks Havn 70.55 12 i P P 16 40 29.3 +0.1
DAG pmax pmax
comp=Z,10.0nm,0.9s
DAG Danmarks Havn 70.55 12 i P P 16 40 29.3 +0.1
comp=Z,12nm,0.9s
DOT Dot Lake 70.58 334 eP P 16 40 31.3 +1.5
comp=Z,18nm,0.9s
SCRK Sand Creek 70.62 334 eP P 16 40 31.4 +1.3
comp=Z,20nm,0.9s
DIV Divide 70.89 331 eP P 16 40 33.1 +1.5
comp=Z,20nm,1.0s
RIDG Independent Ri 70.94 334 eP P 16 40 33.2 +1.2
comp=Z,22nm,1.0s
PAX Paxson 71.07 333 eP P 16 40 34.1 +1.3
comp=Z,14nm,1.0s
PAX Paxson 71.07 333 eP P 16 40 34.1 +1.3
PAX pmax pmax
comp=Z,14nm,1.0s
CLF Chambon-Foret 71.57 43 eP P 16 40 37.3 +1.4
comp=Z,27nm,1.1s
PRP Porcupine Dome 71.58 335 eP P 16 40 36.8 +0.9
comp=Z,15nm,0.8s
FYU Fort Yukon 71.68 336 eP P 16 40 37.2 +1.0
comp=Z,28nm,1.2s
DHY Denali Highway 71.95 333 eP P 16 40 39.0 +0.8
comp=Z,13nm,1.0s
HDA Harding Lake 71.98 334 P P 16 40 39.6 +1.5
baz=100
ILAR Eielson Array 72.01 334 eP P 16 40 38.3 -0.1
ILAR Eielson Array 72.01 334 eP P 16 40 38.3 -0.1
ILAR Eielson Array 72.01 334 P P 16 40 38.7 +0.4
comp=Z,2.9nm,0.8s,baz=110,slow=4.1,SNR=24
ILAR PP PP 16 43 19.6 +1.4
comp=Z,1.4nm,1.1s,baz=90,slow=7.2,SNR=4.2
ILAR LR LR 17 14 03.9
comp=Z,333nm,19.2s,baz=116,slow=37
ILB Eielson Array 72.01 334 eP P 16 40 38.8 +0.5
comp=Z,7.9nm,1.2s
ILB ePP PP 16 43 13.3 -4.8
CCB Clear Creek Bu 72.38 334 eP P 16 40 40.6 +0.1
comp=Z,4.7nm,1.0s
COLA College 72.44 334 i P P 16 40 40.2 -0.6
COLA pmax pmax
comp=Z,5.0nm,0.9s
WRH Wood River Hil 72.48 334 eP P 16 40 42.3 +1.2
comp=Z,7.5nm,1.0s
GHO Glory Hole Cre 72.48 331 eP P 16 40 41.2 -0.1
comp=Z,36nm,0.9s
MDM Murphy Dome 72.61 335 eP P 16 40 42.2 +0.3
comp=Z,33nm,1.8s
RND Reindeer 72.66 333 eP P 16 40 43.5 +1.2
comp=Z,43nm,0.8s
RND Reindeer 72.66 333 eP P 16 40 43.5 +1.2
RND pmax pmax
comp=Z,43nm,0.8s
TORD Torodi Ar. Bea 73.12 80 P P 16 40 46.2 +0.4
comp=Z,0.9nm,1.0s,baz=305,slow=5.1,SNR=2.9
TORD LR LR 17 10 39.9
comp=Z,52nm,21.9s,baz=330,slow=34
MLY Manley 73.68 334 eP P 16 40 48.5 +0.3
comp=Z,39nm,1.9s
BPAW Bear Paw Mtn. 73.68 333 eP P 16 40 49.0 +0.7
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 73.69 338 eP P 16 40 48.7 +0.5
comp=Z,5.4nm,0.9s
TOLK Toolik Lake Re 73.69 338 P P 16 40 48.8 +0.5
baz=98,SNR=7.0
COLD Coldfoot 73.73 337 eP P 16 40 49.9 +1.5
comp=Z,6.7nm,1.0s
PPLA Purkeypile 74.11 332 eP P 16 40 51.6 +0.7
comp=Z,20nm,0.8s
ECH Echery 74.85 43 eP P 16 40 56.6 +1.2
comp=Z,31nm,1.8s
ECH Echery 74.85 43 eP P 16 40 56.6 +1.2
ECH pmax pmax
comp=Z,31nm,1.8s
IMAR Indian Mountai 75.01 335 eP P 16 40 56.2 +0.2
SVW2 Sparrevohn 75.62 330 eP P 16 40 60.0 +0.4
comp=Z,15nm,0.8s
NB2 NORSAR Subarra 76.92 30 P P 16 41 08.4 +1.4
comp=Z,2.5nm,0.8s,baz=272,slow=5.9
NOA NORSAR Array B 76.92 30 P P 16 41 08.8 +1.8
comp=Z,4.5nm,0.8s,baz=274,slow=5.8,SNR=10
NC602 NORSAR Array S 77.09 30 eP P 16 41 10.1 +2.2
comp=Z,104nm,1.8s
KEST Kesra 77.27 56 P P 16 41 11.2 +1.7
comp=Z,5.4nm,0.7s,baz=269,slow=2.1,SNR=5.8
CLL Collm 78.46 40 eP P 16 41 18.0 +2.3
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 78.46 40 eP P 16 41 18.0 +2.3
comp=Z,5.0nm,1.0s
KHC Kasperske Hory 79.04 42 eP P 16 41 20.9 +1.9
comp=Z,14nm,2.0s
KHC Kasperske Hory 79.04 42 P P 16 41 20.6 +1.6
KHC pmax pmax
comp=Z,3.0nm,1.4s
GEC2 GERESS Array S 79.15 42 eP P 16 41 19.5 -0.2
comp=Z,28nm,2.0s
GEC2 GERESS Array S 79.15 42 eP P 16 41 19.5 -0.2
GEC2 pmax pmax
comp=Z,29nm,2.0s
GERES GERESS Array B 79.15 42 P P 16 41 20.2 +0.5
comp=Z,1.4nm,0.7s,baz=267,slow=5.3,SNR=4.7
GERES LR LR 17 14 19.4
comp=Z,24nm,18.6s,baz=261,slow=34
ARCES ARCESS Array B 81.85 21 P P 16 41 34.0 +0.4
comp=Z,7.4nm,0.8s,baz=291,slow=3.8,SNR=13
VYHS Vyhne 82.57 42 eP P 16 41 39.9 +2.0
VYHS Vyhne 82.57 42 eP P 16 41 39.9 +2.0
SGF Sodankyl 82.70 23 P P 16 41 40.0 +1.9
SGF pmax pmax
comp=Z,17nm,1.0s
FINES FINESS Array B 83.97 28 P P 16 41 45.0 +0.3
comp=Z,1.8nm,0.8s,baz=331,slow=7.4,SNR=5.5
FINES LR LR 17 17 04.2
comp=Z,20nm,19.2s,baz=260,slow=34
JOF Joensuu 85.91 26 P P 16 41 55.3 +0.8
JOF pmax pmax
comp=Z,11nm,1.9s
GRG Griva 86.55 49 P P 16 41 59.9 +1.7
GRG pmax pmax
comp=Z,11nm,0.9s
AKASG Malin Array Be 88.61 38 P P 16 42 08.1 +0.3
comp=Z,0.6nm,0.7s,baz=283,slow=4.2,SNR=4.1
BILL Bilibino 89.51 341 eP P 16 42 12.7 +1.0
comp=Z,17nm,1.1s
BILL Bilibino 89.51 341 d iP P 16 42 12.9 +1.2
BILL e 16 45 47.7
BILL pmax pmax
comp=Z,14nm,1.1s
BILL MLR MLR
comp=Z,137nm,19.0s
KLMR Klimovskoe 90.29 27 eP P 16 42 14.9 -0.6
KLMR pmax pmax
comp=Z,13nm,1.3s
OBN Obninsk 91.25 33 eP P 16 42 19.2 -0.8
OBN e 16 45 56.6
OBN pmax pmax
comp=Z,3.0nm,0.7s
VNA3 Neumayer Olymp 93.34 163 P P 16 42 30.5 +1.2
VNA2 Neumayer--Watz 93.86 162 P P 16 42 32.8 +1.1
baz=316,slow=6.7
TSUM Tsumeb 94.94 108 LR LR 17 20 18.2
comp=Z,59nm,19.3s,baz=309,slow=32
TIXI Tiksi 95.06 353 eP P 16 42 37.1 -0.2
comp=Z,1.9nm,0.8s
TIXI Tiksi 95.06 353 i P P 16 42 35.7 -1.6
TIXI pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 95.13 48 eP P 16 42 38.7 +0.2
BRTR Keskin Array B 95.13 48 P P 16 42 39.6 +1.1
comp=Z,1.4nm,0.8s,baz=258,slow=3.4,SNR=8.2
SNAA Sanae 95.50 163 P P 16 42 39.6 +0.4
SNAA Sanae 95.50 163 i P P 16 42 38.6 -0.7
NRIK Noril'sk 97.64 7 LR LR 17 29 21.4
comp=Z,79nm,19.7s,baz=335,slow=37
MK32 Makanchi Array 117.45 18 ePKPdf PKPdf 16 47 59.9 -0.9

MKAR	Makanchi Array	117.45	18	PKP	PKPdf	16 47 59.9	-0.9
	comp=Z,0.5nm,0.8s,baz=13,slow=1.1,SNR=3.6						
KSH	Kashi	121.28	27	PKP	PKPdf	16 48 07.6	-0.8
KSH				PP	PP	16 49 41.0	+3.0
KSH				SKS	SKSdf	16 55 15.3	-4.9
CN2	Changchun	121.70	344	*e*PKP	PKPdf	16 48 08.3	-0.6
WMQ	Urumqi	121.73	16	*e*PKP	PKPdf	16 48 08.9	-0.2
WMQ				LR	LR		
	comp=Z,350nm,37.9s						
WMQ				LR	LR		
	comp=Z,230nm,23.7s						
KSRS	Korea Array	126.71	339	PKP	PKiKP	16 48 19.2	0.0
	comp=Z,1.1nm,0.7s,baz=20,slow=4.0,SNR=4.7						
KS15	Wonju Array Si	126.74	339	*e*PKPdf	PKPdf	16 48 18.6	-0.1
HHC	Hu-ho-hao-te	127.07	355	*e*PKP	PKPdf	16 48 19.5	0.0
HHC				LR	LR		
	comp=Z,220nm,18.6s						
HHC				LR	LR		
	comp=Z,280nm,19.7s						
GTA	Gaotai	128.34	7	⇑PKP	PKiKP	16 48 22.4	-0.2
GTA				sPKP		16 48 37.1	
GTA				LR	LR		
	comp=Z,64nm,19.2s						
GTA				LR	LR		
	comp=Z,86nm,19.9s						
GTA				LR	LR		
	comp=Z,140nm,19.6s						
LZH	Lanzhou	131.97	3	*e*PKP	PKPdf	16 48 27.0	-2.0
LZH				sPKP		16 48 41.1	
LZH				LR	LR		
	comp=Z,180nm,15.1s						
LZH				LR	LR		
	comp=Z,260nm,17.5s						
NJ2	Nanjing	134.49	345	*e*PKP	PKPdf	16 48 33.0	-0.6
WHN	Wuhan	136.89	350	PKP	PKPdf	16 48 36.8	-1.3
CD2	Chengdu	137.11	3	PKP	PKPdf	16 48 36.6	-2.0
STKA	Stephens Creek	142.23	233	*e*PKPdf	PKPdf	16 48 48.5	+0.7
STKA	Stephens Creek	142.23	233	*e*PKIKP	PKPdf	16 48 48.5	+0.7
STKA	Stephens Creek	142.23	233	PKP	PKPdf	16 48 48.2	+0.5
	comp=Z,1.6nm,0.9s,baz=315,slow=1.8,SNR=3.8						
SLVN	Son La	146.63	4	*e*PKPdf	PKPdf	16 48 55.6	-0.2
PAYA	Payao	148.02	12	P	PKPbc	16 49 01.9	+0.7
CHTO	Chiang Mai	148.35	14	*e*PKPdf	PKPdf	16 49 00.3	+1.7
CMMT	Chiang Mai	148.35	14	P	PKPbc	16 49 02.4	+0.3
	comp=Z,4.7nm,1.5s						
CM31	Chiang Mai Arr	148.70	14	*e*PKPbc	PKPbc	16 49 03.5	+0.5
CMAR	Chiang Mai Arr	148.70	14	*e*PKPdf	PKPdf	16 48 58.8	-0.4
CMAR				*e*PKPbc	sPKPdf	16 49 03.5	-2.3
CMAR	Chiang Mai Arr	148.70	14	*e*PKIKP	PKPdf	16 48 58.8	-0.4
CMAR				*e*		16 49 03.5	
CMAR	Chiang Mai Arr	148.70	14	PKPbc	PKPbc	16 49 03.1	+0.1
	comp=Z,5.9nm,0.8s,baz=327,slow=3.5,SNR=36						
LAMP	Lampang	148.79	13	P	PKiKP	16 49 05.2	+0.6
	comp=Z,12μm,1.0s						
PHRA	Phrae	148.93	12	P	PKiKP	16 49 04.5	-0.4
	comp=Z,1.1nm,1.3s,comp=Z,131nm						
UTTA	Uttaradit	149.73	11	P	PKiKP	16 49 06.3	-0.3
	comp=Z,15μm,1.0s						
SKNT	Sakolnakorn	150.96	5	P	PKiKP	16 49 09.6	+0.5
	comp=Z,30nm,1.0s						
KHON	Khomkaen	151.47	7	P	PKiKP	16 49 11.8	+1.6
AS31	Alice Springs	151.56	242	*e*PKPdf	PKPdf	16 49 02.6	-1.0
AS31				*e*PKPbc	PKPbc	16 49 09.6	-0.3
AS31				*e*PKPab	sPKPbc	16 49 16.2	-0.1
ASAR	Alice Springs	151.56	242	*e*PKPdf	PKPdf	16 49 03.4	-0.2
ASAR				*e*PKPbc	PKPbc	16 49 10.0	+0.1
ASAR				*e*PKPab	PKPab	16 49 17.1	-1.3
ASAR	Alice Springs	151.56	242	*e*PKIKP	PKPdf	16 49 03.4	-0.2
ASAR				*e*		16 49 10.0	
ASAR				*e*		16 49 17.1	
ASAR	Alice Springs	151.56	242	PKP	PKPdf	16 49 04.0	+0.4
	comp=Z,0.8nm,0.9s,baz=147,slow=2.0,SNR=5.3						
ASAR				PKPbc	PKPbc	16 49 09.8	0.0
	comp=Z,2.4nm,0.7s,baz=120,slow=2.5,SNR=25						
ASAR				PKPab	PKPab	16 49 16.6	-1.7
	comp=Z,2.8nm,0.7s,baz=109,slow=2.6,SNR=12						
WB2	Warramunga Arr	152.15	250	*e*PKPbc	PKPbc	16 49 10.7	-0.5
WRA	Warramunga Arr	152.16	250	PKPbc	PKPbc	16 49 11.3	0.0
	comp=Z,4.5nm,1.0s,baz=120,slow=3.0,SNR=14						
WRA				PKPab	PKPab	16 49 20.1	-0.8
	comp=Z,2.7nm,0.7s,baz=92,slow=3.0,SNR=9.2						

MEX 16 16:57:04.0±0.6, 15°.49N×94°.20W, h70km±19km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.97	77	*e*P		Pn 16 57 20.5	-1.6
PCIG				*i* S		Sn 16 57 34.1	-1.5
TGIG		1.65	39	*e*P		Pn 16 57 29.6	-1.4
TGIG				*e*S		Sn 16 57 49.4	-1.9
CMIG	Matias Romero	1.72	338	*e*P		Pn 16 57 30.5	-1.4
CMIG				*i* S		Sn 16 57 51.0	-2.0
CCIG	Comitan	2.13	68	*i* P		Pn 16 57 36.8	-0.8
CCIG				*i* S		Sn 16 58 01.7	-1.6

*ISCJB **16** 17:00:13.8±0.5, 39°.09N±0°.02×25°.98E±0°.04, h10km±4km, Error ellipse: s-maj=5.8km s-min=3.7km az=12.0*
*DDA **16** 17:00:13.4, 39°.09N×25°.96E, h7km±3km, ML2.9*
*THE **16** 17:00:13.9, 39°.09N×25°.95E, h11km±1km, ML2.1/4, Error ellipse: s-maj=1.7km s-min=0.8km az=25.0*
*ISK **16** 17:00:13.4, 39°.10N×25°.98E, h9km, ML2.3/11*
*ATH **16** 17:00:14.1, 39°.11N×25°.94E, h14km±4km, ML2.1/4, Error ellipse: s-maj=4.0km s-min=1.1km az=26.0*
ISC 16 17:00:13.9±0.8, 39°.09N±0°.02×25°.94E±0°.03, h14km±6km, n30, σ0°.43/44, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.14	333	PG	Pg	17 00 17.4	-0.1
SIGR				SG	Sg	17 00 19.9	-0.1
SIGR	SIGRI	0.14	333	P	Pg	17 00 17.4	-0.1
SIGR				S	Sg	17 00 19.8	-0.1
SIGR	SIGRI	0.14	333	P	Pg	17 00 17.4	-0.1
SIGR				S	Sg	17 00 19.9	-0.1
SIGR				AML	AML	17 00 20.0	
	comp=E,1539μm,0.2s						
SIGR				AML	AML	17 00 20.1	
	comp=N,1480μm,0.3s						
PRK	Paraskevi	0.30	59	P	Pg	17 00 20.4	+0.2
PRK				S	Sg	17 00 24.6	+0.1
PRK	Paraskevi	0.30	59	P	Pg	17 00 20.4	+0.2
PRK				S	Sg	17 00 24.6	+0.1
PRK				AML	AML	17 00 25.1	
	comp=N,840μm,0.5s						
PRK				AML	AML	17 00 26.8	
	comp=E,840μm,0.5s						
GPNR	Gulpinar-Canak	0.40	23	PG	Pg	17 00 21.3	-0.6
GPNR				SG	Sg	17 00 27.3	0.0
PSRA	Psara	0.62	208	P	Pb	17 00 26.9	+0.4
PSRA				S	Sb	17 00 35.8	+0.8
AYVA	Ayvalik	0.62	69	IAML_P			
	comp=Z,755nm,0.1s						
AYVA				*i* P	Pb	17 00 26.3	-0.3
AYVA				*i* S	Sg	17 00 34.2	-0.3
CHOS	Chios island	0.71	172	PG	Pg	17 00 27.5	-0.2
CHOS	Chios island	0.71	172	P	Pg	17 00 27.3	-0.4
CHOS				S	Sg	17 00 37.0	-0.1
CHOS	Chios island	0.71	172	P	Pg	17 00 27.4	-0.4
CHOS				S	Sb	17 00 37.7	0.0
CHOS				AML	AML	17 00 40.4	
	comp=E,413μm,0.3s						
CHOS				AML	AML	17 00 40.4	
	comp=N,216μm,0.3s						
BOZC	Bozcaada	0.76	7	PG	Pg	17 00 28.2	-0.5
BOZC	Bozcaada	0.76	7	IAML_P			
	comp=Z,3μm,0.2s						
BOZC				*i* P	Pg	17 00 28.5	-0.2
BOZC				*i* S	Sb	17 00 39.9	+0.8
EZN	Ezine	0.80	22	PG	Pg	17 00 28.5	-0.9
EZN	Ezine	0.80	22	P	Pg	17 00 28.4	-0.9
EZN				S	Sg	17 00 39.7	-0.1
BAYC	CANAKKALE_Bayr	0.81	36	IAML_P			
	comp=Z,1μm,0.1s						
BAYC				*i* P	Pg	17 00 28.6	-0.9
URLA	Izmir	0.89	145	PG	Pg	17 00 30.9	-0.3
URLA	Izmir	0.89	145	IAML_P			
	comp=Z,2μm,0.1s						
URLA				*i* P	Pb	17 00 31.2	0.0
ZEDA	zmir-Bergama	0.90	98	IAML_P			
	comp=Z,702nm,0.1s						
ZEDA				*i* P	Pb	17 00 31.3	+0.1
ZEY	zmir	0.96	152	IAML_P			
	comp=Z,927nm,0.1s						
ZEY				*i* P	Pg	17 00 31.8	-0.6
LIA	Limnos Island	1.00	324	P	Pg	17 00 32.8	-0.3
LIA				S	Sn	17 00 47.2	-0.1
LIA	Limnos Island	1.00	324	P	Pg	17 00 32.9	-0.3
LIA				S	Sb	17 00 46.3	+0.4
LIA				AML	AML	17 00 47.5	
	comp=E,368μm,0.3s						
LIA				AML	AML	17 00 47.8	
	comp=N,329μm,0.3s						
DGB	zmir	1.27	144	IAML_P			
	comp=Z,525nm,0.2s						
DGB				*i* P	Pn	17 00 36.8	-0.5
GELI	Tayfur-Gelibol	1.37	17	PN	Pn	17 00 38.8	+0.2
SMTH	Samothraki Isl	1.42	347	P	Pb	17 00 40.0	-0.2
LPK	Lapseki	1.43	26	PN	Pn	17 00 39.5	0.0
BALY	Balya	1.46	63	IAML_P			
	comp=Z,391nm,0.2s						
BALY				*i* P	Pg	17 00 42.6	+0.6
ERIK	Erikli-Kesan	1.64	16	PN	Pn	17 00 42.7	+0.4
KRBG	Karabiga-Canak	1.67	38	PN	Pn	17 00 43.1	+0.3
RKY	Sarkoy-Tekirda	1.86	30	PN	Pn	17 00 45.7	+0.3

MEX 16 17:05:26.5±0.4, 16°.54N×98°.50W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.39	113	*e*P	Pg	17 05 33.6	-0.4
PNIG				*i* S	Sg	17 05 39.3	+0.2
TLIG	Tlapa	1.01	356	*e*P	Pg	17 05 43.4	-2.6
TLIG				*i* S	Sg	17 05 56.8	-2.4

*NEIC **16** 17:07:27.7±0.0, 31°.58N×116°.10W, h8km, MD2.7(ECX), ML2.8(PAS), After ECX.*
*PAS **16** 17:07:27.0±0.0, 31°.58N×116°.11W, h15km*
ECX 16 17:07:27.7±0.5, 31°.58N×116°.10W, h8km, MD2.5, ML2.7, 4C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAX	El Zacaton	0.16	246	⇑*i* P		Pg 17 07 31.3	+0.2
ZAX				*e* S		Sg 17 07 33.7	+0.3
ZAX				⇑*e*		17 07 35.2	
ZAX				IAML		17 07 35.2	
	comp=N,2μm,0.8s						
ECNX	Esteban Cantu	0.43	281	⇑*e* P		Pg 17 07 35.5	-0.6
ECNX				⇓*e* P		Pb 17 07 38.0	+0.4
ECNX				*e* S		Sg 17 07 41.4	-0.3
PBX	Punta Banda	0.56	287	⇑*e* P		Pg 17 07 37.5	-0.9
PBX				*e* S		Sg 17 07 44.9	-0.8
CBX	Cerro Bola	0.87	327	⇓*e* P		Pg 17 07 43.0	-1.6
CBX				IAML		17 07 59.4	
	comp=N,354nm,0.2s						
RMX	La Rumorosa	1.02	1	IAML		17 07 58.3	
	comp=E,230nm,0.1s						
RMX				*e*		17 07 58.3	
BAR	Barrett	1.20	336	*e*Pn		Pb 17 07 48.1	-2.6
BAR	Barrett	1.20	336	⇓*e* P		Pb 17 07 48.2	-2.5
CPE	Camp Elliot	1.56	327	*e*Pn		Pn 17 07 53.4	-2.3
GLA	Glamis	1.82	36	*e*Pn		Pn 17 07 57.7	-1.8
PFO	Pinyon Flats O	2.05	352	*e*Pn		Pn 17 08 01.0	-1.6
113A	Mohawk Valley,	2.31	58	*e*Pn		Pn 17 08 04.6	-1.5

IDC 16 17:09:02.7±33.0, 26°.06S×178°.71E, h650km±289km, mb2.8/4, mb1 2.9/4, mb1mx2.6/44, mbtmp3.9/4, Error ellipse: s-maj=320.3km s-min=112.3km az=114.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	30.39	274	P	P	17 14 25.4	-0.1
	3.4nm,0.8s,baz=111,slow=8.2,SNR=3.5						
ASAR	Alice Springs	40.58	263	P	P	17 15 48.5	-0.4
	0.2nm,0.4s,baz=94,slow=8.4,SNR=15						
ASAR				PcP	PcP	17 17 32.2	-2.4
	0.2nm,0.7s,baz=105,slow=4.0,SNR=3.6						
WRA	Warramunga Arr	41.15	269	P	P	17 15 53.1	-0.4
	0.5nm,0.4s,baz=101,slow=7.5,SNR=15						
FITZ	Fitzroy Crossi	49.54	268	P	P	17 16 59.0	+2.0
	4.0nm,1.1s,baz=82,slow=7.1,SNR=6.3						
BRTR	Keskin Array B	147.87	304	PKPbc	PKiKP	17 27 37.8	-0.3
	0.6nm,0.6s,baz=92,slow=4.0,SNR=5.0						

*ISCJB **16** 17:24:20.8±1.3, 7°.42N±0°.04×126°.21E±0°.06, h6km±9km, mb3.1/3, Error ellipse: s-maj=11.0km s-min=6.9km az=159.5*
*IDC **16** 17:24:20.6±1.4, 7°.10N×124°.86E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/39, mbtmp3.3/3, Error ellipse: s-maj=28.4km s-min=12.0km az=2.0*
*MAN **16** 17:24:21.9, 7°.35N×126°.26E, h21km, MS3.4*
ISC 16 17:24:21.4±1.8, 7°.43N±0°.04×126°.18E±0°.06, h8km±12km, n11, σ1°.49/18, mb3.2/3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.48	171	*e*P	Pg	17 24 31.2	+0.5
MATI				*e*S	Sb	17 24 40.2	+0.9
DAV	Davao City (W)	0.69	239	Pg	Pg	17 24 33.8	-1.0
	59nm,0.3s,baz=165,slow=0.8,SNR=8.2						
DAV				Lg	Lg	17 24 44.9	
	50nm,0.3s,baz=211,slow=9.2,SNR=4.3						
DMPH	Davao City--Mi	0.75	243	⇓*e* P	Pg	17 24 36.6	+0.9
DMPH				*e*S	Sn	17 24 52.2	+2.4
BUKP	Musuan	1.20	292	*e*P	Pn	17 24 42.6	-1.9
BUKP				*e*S	Sb	17 25 00.7	+0.7
DDMP	Don Marcelino,	1.39	200	*e*P	Pn	17 24 46.0	-1.1
DDMP				*e*S	Sb	17 25 05.4	-0.2
BUTP	Butuan	1.63	340	*e*P	Pn	17 24 51.2	+0.8
BUTP				*e*S	Sb	17 25 13.0	+0.5
CGP	Cagayan de Oro	1.79	305	⇓*e* P	Pn	17 24 52.9	+0.3
CGP				*e*S	Sn	17 25 16.8	+1.2
CTBH	Cotabato--PC H	1.93	264	⇑*i* P	Pn	17 24 54.7	+0.2
CTBH				*i* S	Sn	17 25 20.2	+1.2
WRA	Warramunga Arr	28.36	164	P	P	17 30 18.1	+1.9
	0.3nm,0.7s,baz=342,slow=11,SNR=2.5						
ASAR	Alice Springs	31.81	166	P	P	17 30 46.7	0.0
	0.2nm,0.6s,baz=343,slow=8.2,SNR=5.8						
MKAR	Makanchi Array	54.24	324	P	P	17 33 44.8	-3.1
	0.2nm,0.6s,baz=104,slow=6.1,SNR=2.4						

DJA 16 17:29:47.7±1.5, 8°S±8°×10°8E±°, h22km±9km, M3.9/10, MLv3.9/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.69	7	P	Pb	17 30 01.2	0.0
CISI				S	Sb	17 30 10.8	+0.4
LEM	Lembang	1.42	355	P	Pb	17 30 13.8	+0.2
SKJI	Sukabumi	1.70	317	P	Pn	17 30 16.5	+0.5
SKJI				S	Sb	17 30 38.2	-1.0
CGJI	Cibinong	2.59	309	P	Pn	17 30 28.4	0.0
CGJI				S	Sn	17 30 57.4	-1.8
UGM	Wanagama	2.79	83	P	Pn	17 30 30.9	-0.1
WOJI	Wonogiri, Jawa	3.19	83	P	Pn	17 30 38.6	+2.0
PCJI	Pacitan	3.41	89	P	Pn	17 30 38.4	-1.2
PWJI	Pagerwojo	4.04	87	P	Pn	17 30 46.6	-1.7

*DSN **16** 17:38:13.3±2.4, 26°.76N×58°.34E, h10km, ML3.5/7, Error ellipse: s-maj=34.0km s-min=9.6km az=5.0*
*ISCJB **16** 17:38:17.4±0.5, 26°.66N±0°.03×57°.98E±0°.06, h10km, Error ellipse: s-maj=7.3km s-min=4.0km az=167.0*
*OMAN **16** 17:38:17.8±1.1, 26°.82N×58°.33E, h39km, ml3.5/14, Error ellipse: s-maj=16.6km s-min=9.3km az=225.0*
*TEH **16** 17:38:18.2, 26°.82N×58°.07E, h30km, ML3.5*
ISC 16 17:38:17.0±0.9, 26°.69N±0°.04×58°.12E±0°.05, h10km, n44, σ1°.95/51, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	Jask	1.09	197	*e*Pg	Pn	17 38 40.9	+2.5
KHNJ	Kahnooj	1.30	344	*e*Pg	Pb	17 38 39.6	-2.1
NIAN	Nian	1.44	307	*e*Pg	Pb	17 38 43.3	-0.6
NIAN				IAMB	IAmb	17 39 09.0	
	comp=Z,0.0nm,0.5s						
BNDS	Bandar-Abbas	1.88	293	*e*Pg	Pn	17 38 44.1	-5.2
GENO	Geno	1.88	293	*e*Pn	Pn	17 38 49.3	0.0
GENO				*e*Sg	Sg	17 39 15.3	-2.0
GENO				IAMB	IAmb	17 39 18.9	
	comp=Z,0.0nm,0.4s						
SHME	Shamm	1.89	251	*e*P	Pn	17 38 48.9	-0.5
	SNR=37						
SHME				S	Sn	17 39 15.6	+2.4
MSFE	Esma-Masafi	2.21	234	*e*P	Pn	17 38 51.7	-2.0
	SNR=7.0						
MSFE	Esma-Masafi	2.21	234	*e*Pn	Pn	17 38 51.4	-2.3
CHBR	Chabahar	2.39	117	*e*Pn	Pg	17 39 04.9	+2.1
HATD	Hatta, Dubai	2.58	224	*e*P	Pn	17 38 56.7	-2.2
	SNR=7.5						
HATD	Hatta, Dubai	2.58	224	P	Pn	17 38 59.0	+0.1
HATD	Hatta, Dubai	2.58	224	*e*Pn	Pn	17 38 56.3	-2.6
ASHO	Ashiyiah	2.73	223	*e*P	Pn	17 38 59.8	-1.2
	SNR=9.2						
ASHO	Ashiyiah	2.73	223	P	Pn	17 38 59.8	-1.2
	SNR=18						
ASHO				S	Sn	17 39 38.1	+4.0
ASHO	Ashiyiah	2.73	223	*e*Pn	Pn	17 38 59.4	-1.6
NAZ	Nazwa, Dubai	2.79	233	P	Pn	17 39 03.7	+2.0
NAZ	Nazwa, Dubai	2.79	233	*e*Pn	Pn	17 39 03.9	+2.2
SOHO	SOHO	2.92	210	P	Pn	17 39 01.7	-1.9
FAQ	Al Faqa, Dubai	2.99	230	P	Pn	17 39 04.1	-0.4
FAQ	Al Faqa, Dubai	2.99	230	P	Pn	17 39 05.6	+1.1
FAQ	Al Faqa, Dubai	2.99	230	*e*Pn	Pn	17 39 05.2	+0.7
BIDO	Bidbid	3.16	180	P	Pn	17 39 08.3	+1.6
BIDO				S	Sn	17 39 44.9	+0.4
HOQ	Hoqain	3.18	193	P	Pn	17 39 06.5	-0.7
HOQ	Hoqain	3.18	193	*e*Pn	Pn	17 39 06.7	-0.4
NGRK	Negar Kerman	3.19	338	IAMB	IAmb	17 39 17.9	
	comp=Z,0.0nm,0.2s						
NGRK				*e*Pn	Pn	17 39 09.1	+1.5
CHMN	Cheshme madani	3.20	351	*e*Pn	Pb	17 39 13.4	-0.8
ASUD	Al Ashush, Dub	3.25	231	*i* P	Pn	17 39 07.0	-1.1
	SNR=14						
ASUD	Al Ashush, Dub	3.25	231	P	Pn	17 39 09.4	+1.4
	SNR=14						
ASUD	Al Ashush, Dub	3.25	231	*e*Pn	Pn	17 39 09.2	+1.1
ALNE	Al Ain	3.39	220	P	Pn	17 39 09.4	-0.6
ALNE	Al Ain	3.39	220	*e*Pn	Pn	17 39 11.2	+1.2
WSAR	Wadi Sarin	3.47	172	P	Pn	17 39 12.2	+1.1
	SNR=68						
WSAR				S	Sn	17 39 51.1	-1.1
TVBK	TV Kerman	3.50	340	IAMB	IAmb	17 39 28.8	
	comp=Z,0.0nm,0.3s						
SMDO	Samad	3.62	181	P	Pn	17 39 15.3	+2.1
ARQ	Araqi	3.64	204	P	Pn	17 39 15.5	+2.0
ZHSF	Zahedan	3.74	38	*e*Pn	Pb	17 39 21.0	-2.2
KHGB	Koh Gabri	3.95	339	*e*Pn	Pb	17 39 22.1	-4.7
KHGB				IAMB	IAmb	17 40 28.6	
	comp=Z,0.0nm,0.6s						
BSY	Bisya	4.02	192	P	Pn	17 39 21.0	+2.3
BSY				S	Sn	17 40 08.0	+2.1
WBK	Wadi Bani Khal	4.14	169	P	Pn	17 39 21.7	+1.4
WBK				S	Sn	17 40 06.7	-2.1
JLN	Jalan Bani Buh	4.67	165	P	Pn	17 39 28.7	+1.0
	SNR=10						
JLN				P	Pn	17 39 29.0	+1.4
JLN				S	Sn	17 40 19.4	-2.5
BSRN	Basiran	5.33	9	*e*Pn	Pn	17 39 39.9	+3.1
IKOO	Kooshah	5.77	7	*e*Pn	Pn	17 39 45.8	+2.9
ITEG	Tejag	6.21	5	*e*Pn	Pn	17 39 50.8	+1.9
IRAM	Ramesheh	7.15	317	*e*Pn	Pn	17 40 03.6	+1.7

*SKHL **16** 17:45:35.9±0.2, 43°.15N×146°.35E, h43km±1km, mb3.8/3*
*ISCJB **16** 17:45:36.1±1.0, 43°.22N±0°.05×146°.43E±0°.07, h36km±26km, Error ellipse: s-maj=10.5km s-min=5.6km az=44.8*
*JMA **16** 17:45:36.3±0.1, 43°.21N×146°.41E, h48km±1km, M3.1*
ISC 16 17:45:37.1±2.1, 43°.25N±0°.07×146°.40E±0°.08, h33km±6km, n13, σ0°.65/26, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.49	283	P	Pb	17 45 47.5	0.0
NEM2				*e*S	Sn	17 45 55.6	+0.5
GRPR	Tuman	0.87	329	*i* P	Pn	17 45 52.0	-0.9
GRPR				AMB	AMB	17 45 52.0	
	20nm,0.3s						
GRPR				AMB	AMB	17 45 52.0	
	40nm,0.3s						
GRPR				*i* S	Sn	17 46 04.0	-0.4
GRPR				A	A	17 46 05.0	
	430nm,0.3s						
GRPR				A	A	17 46 05.0	
	290nm,0.3s						
YUK	Yuzh-Kuril'sk	0.87	334	*i* P	Pn	17 45 52.0	-1.0
YUK				AMB	AMB	17 45 53.0	
	80nm,0.3s						
YUK				AMB	AMB	17 45 53.0	
	90nm,0.3s						
YUK				AMB	AMB	17 45 53.0	
	30nm,0.3s						
YUK				*i* S	Sn	17 46 04.0	-0.5
YUK				A	A	17 46 06.0	
	290nm,0.3s						
YUK				A	A	17 46 06.0	
	500nm,0.3s						
LAGR	Lagunnoye	0.92	331	*i* P	Pn	17 45 53.0	-0.6
LAGR				AMB	AMB	17 45 54.0	
	20nm,0.3s						
LAGR				AMB	AMB	17 45 54.0	
	60nm,0.3s						
LAGR				*i* S	Sn	17 46 06.0	+0.4
LAGR				A	A	17 46 08.0	
	410nm,0.4s						
LAGR				A	A	17 46 08.0	
	500nm,0.4s						
JKHN	Kushirohamanak	0.92	260	P	Pn	17 45 53.3	-0.3
JKHN				*e*S	Sn	17 46 05.8	+0.1
JRA	Rausu	1.15	307	P	Pn	17 45 56.8	0.0
JRA				*e*S	Sn	17 46 12.5	+1.1
JNK	Nakash	1.27	286	P	Pn	17 45 57.9	-0.5
JNK				*e*S	Sn	17 46 14.1	-0.2
JAK	Akkeshi	1.27	259	P	Pn	17 45 57.7	-0.8
JAK				*e*S	Sn	17 46 13.7	-0.7
JOB	Onbets	1.91	260	P	Pn	17 46 06.9	-0.3
JOB				*e*S	Sn	17 46 30.0	-0.1
JAR	Ashorobuto	1.92	272	P	Pn	17 46 07.4	0.0
JAR				*e*S	Sn	17 46 30.5	+0.1
JTKR	Abashiri--Toko	1.94	292	P	Pn	17 46 08.5	+0.8
JTKR				*e*S	Sn	17 46 32.5	+1.5
KUR	Kuril'sk	2.24	28	*i* P	Pn	17 46 12.0	+0.1
KUR				*i* S	Sn	17 46 39.0	+0.6
KUR		

16nm,0.5s,baz=39,slow=14,SNR=8.9
PTGA LR LR 17 57 44.7
comp=Z,150nm,20.3s,baz=18,slow=35
SDV Santo Domingo 24.08 257 *eP* **P 17 50 52.6 -2.7**
10nm,0.8s
SDV Santo Domingo 24.08 257 P **P 17 50 59.9 +4.5**
9.4nm,0.7s,baz=46,slow=5.7,SNR=9.5
SDV LR LR 18 00 56.0
comp=Z,44nm,20.7s,baz=75,slow=38
ROSC El Rosal 28.94 251 LR LR 18 05 00.8
comp=Z,44nm,18.8s,baz=58,slow=40
SIV San Ignacio 34.33 205 LR LR 18 05 40.9
comp=Z,93nm,21.4s,baz=352,slow=35
LPAZ La Paz 37.94 214 *eP* **P 17 52 56.3 -1.6**
LPAZ La Paz 37.94 214 P **P 17 52 59.5 +1.5**
1.3nm,0.7s,baz=357,slow=8.4,SNR=5.3
LPAZ LR LR 18 08 08.8
comp=Z,56nm,20.1s,baz=50,slow=36
ATAH Atahualpa 38.47 236 LR LR 18 09 03.0
comp=Z,92nm,20.1s,baz=53,slow=36
H10N3 ASCENSION HYDR39.67 124 T T 18 34 41.2
baz=306,slow=75,SNR=45
H10N2 ASCENSION HYDR39.67 124 T T 18 34 41.9
baz=306,slow=75,SNR=87
H10N1 ASCENSION HYDR39.69 124 T T 18 34 42.7
baz=306,slow=75,SNR=42
LRAL Lakeview Retre 40.15 303 *eP* **P 17 53 12.9 -2.7**
12nm,1.0s
H10S3 ASCENSION HYDR40.20 125 T T 18 35 27.3
baz=307,slow=75,SNR=24
H10S1 ASCENSION HYDR40.20 125 T T 18 35 26.1
baz=307,slow=75,SNR=25
H10S2 ASCENSION HYDR40.21 125 T T 18 35 28.8
baz=307,slow=75,SNR=30
NNA Nana 40.32 229 LR LR 18 10 40.2
comp=Z,58nm,18.1s,baz=18,slow=37
PLAL Pickwick Lake 41.56 305 *eP* **P 17 53 25.7 -1.5**
55nm,1.7s
CPUP Villa Florida 42.86 194 LR LR 18 10 48.9
comp=Z,28nm,20.1s,baz=30,slow=35
LVC Limon Verde 43.62 210 LR LR 18 11 55.7
comp=Z,49nm,19.1s,baz=4.5,slow=36
ESDC Sonseca Array 44.45 49 LR LR 18 10 20.4
comp=Z,50nm,18.2s,baz=210,slow=34
TOA1 Torodi Ar. Sit 47.09 86 *eP* **P 17 54 09.7 -2.1**
TORD Torodi Ar. Bea 47.09 86 P **P 17 54 09.7 -2.2**
0.5nm,0.8s,baz=275,slow=7.4,SNR=3.8
ULM Lac du Bonnet 52.34 322 P **P 17 54 53.6 +2.3**
2.6nm,0.6s,baz=101,slow=5.8,SNR=6.5
TXAR Lajitas Array 53.73 295 LR LR 18 19 21.1
comp=Z,26nm,18.5s,baz=0.0,slow=37
PV09 Paradox Valley 58.80 306 *eP* **P 17 55 35.0 -3.3**
PLCA Paso Flores 60.15 201 P **P 17 55 47.1 0.0**
2.5nm,1.0s,baz=342,slow=7.4,SNR=2.8
PLCA LR LR 18 22 33.2
comp=Z,31nm,18.5s,baz=22,slow=37
MTPU Mount Pierson 61.17 305 *eP* **P 17 55 51.0 -3.7**
2.6nm,0.8s
NOA NORSAR Array B 61.28 28 LR LR 18 18 07.0
comp=Z,17nm,18.6s,baz=250,slow=32
YKA Yellowknife Ar 66.03 332 P **P 17 56 28.9 +3.0**
0.3nm,0.7s,baz=100,slow=7.1,SNR=3.3
YKA LR LR 18 22 40.2
comp=Z,5.5nm,19.5s,baz=116,slow=34
YKB5 Yellowknife Ar 66.03 332 *eP* **P 17 56 28.9 +3.0**
BR101 Keskin Array S 73.05 53 *eP* **P 17 57 08.8 -1.1**
BRTR Keskin Array B 73.05 53 P **P 17 57 08.8 -1.1**
0.2nm,0.5s,baz=270,slow=7.2,SNR=3.8
ILAR Eielson Array 80.23 335 P **P 17 57 53.2 +3.4**
0.8nm,0.7s,baz=65,slow=4.3,SNR=7.2
BOSA Boshof 82.41 122 P **P 17 58 03.8 +1.6**

MAN ***16*** *17:51:17.5,5.˚56N×125.˚86E,h96km,MS3.3*
ISCJB ***16*** *17:51:19.2±0.6,5.˚68N±0.˚06×125.˚83E±0.˚08,h104km±7km, mb3.6/6,Error ellipse: s-maj=13.9km s-min=10.0km az=165.6*
IDC ***16*** *17:51:20.6±1.5,5.˚76N×125.˚46E,h111km±22km,mb3.4/6, mb1 3.5/6,mb1mx3.1/37,mbtmp3.8/6,Error ellipse: s-maj=62.1km s-min=17.4km az=72.0*
ISC 16 17:51:19.9±0.9,5.˚70N±0.˚07×125.˚84E±0.˚08,h101km±8km, n17,σ1§17/26,mb3.6/6,3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.43**	**343**	*eP*	**Pn**	**17 51 35.5**	**+0.1**
DDMP				*eS*	**Sn**	**17 51 47.8**	**+0.9**
MATI	**Mati**	**1.31**	**18**	*eP*	**Pn**	**17 51 43.3**	**-0.7**
MATI				*eS*	**Sn**	**17 51 59.7**	**-2.5**
DAV	**Davao City (W)**	**1.39**	**349**	P	**Pn**	**17 51 45.2**	**+0.2**
	89nm,0.3s,baz=225,slow=7.1,SNR=6.4						
DAV				S	**Sn**	**17 52 03.9**	**+0.1**
	210nm,0.3s,baz=322,slow=23,SNR=15						
DMPH	**Davao City--Mi**	**1.42**	**347**	*eP*	**Pn**	**17 51 45.3**	**+0.1**
DMPH				*eS*	**Sn**	**17 52 04.8**	**+0.4**
SKMP	**Bagumbayan, Su**	**1.53**	**302**	*eP*	**Pn**	**17 51 45.7**	**-0.9**
SKMP				*eS*	**Sn**	**17 52 07.2**	**+0.4**
CTBH	**Cotabato--PC H**	**2.19**	**314**	*eP*	**Pn**	**17 51 54.0**	**-1.0**
BUKP	**Musuan**	**2.30**	**340**	*eP*	**Pn**	**17 51 56.7**	**+0.2**
BUKP				*eS*	**Sn**	**17 52 25.0**	**+0.4**
CGP	**Cagayan de Oro**	**2.97**	**338**	*eP*	**Pn**	**17 52 05.8**	**+0.5**
CGP				*eS*	**Sn**	**17 52 42.6**	**+2.4**
PAGZ	**Pagadian**	**3.24**	**311**	*eP*	**Pn**	**17 52 08.3**	**-0.7**
BUTP	**Butuan**	**3.26**	**356**	*eP*	**Pn**	**17 52 09.9**	**+0.7**
BUTP				*eS*	**Sn**	**17 52 49.0**	**+1.8**
IPIL	**Ipil**	**3.85**	**303**	*eP*	**Pn**	**17 52 17.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**23.64**	**180**	P	**P**	**17 56 23.0**	**+0.8**
2.8nm,0.5s,baz=347,slow=9.7,SNR=38							
WRA	**Warramunga Ar**	**26.81**	**162**	P	**P**	**17 56 52.3**	**+1.5**
0.3nm,0.6s,baz=335,slow=10,SNR=8.1							
ASAR	**Alice Springs**	**30.23**	**165**	P	**P**	**17 57 22.1**	**+0.9**
0.2nm,0.3s,baz=340,slow=7.0,SNR=17							
ASAR				PcP	**PcP**	**18 00 18.7**	**-1.2**
0.4nm,0.9s,baz=346,slow=2.1,SNR=3.6							
NWAO	**Narrogin (SRO)**	**39.27**	**191**	P	**P**	**17 58 38.5**	**-0.2**
5.8nm,0.7s,baz=42,slow=7.7,SNR=6.7							
STKA	**Stephens Creek**	**40.27**	**159**	P	**P**	**17 58 48.0**	**+0.8**
1.6nm,0.9s,baz=354,slow=10,SNR=3.6							
MKAR	**Makanchi Array**	**55.45**	**325**	P	**P**	**18 00 42.0**	**-2.0**
0.1nm,0.3s,baz=111,slow=7.1,SNR=3.9							

IDC 16 17:59:42.8±43.0,3.˚51S×103.˚98E,h0km,mb3.5/3, mb1 3.6/3,mb1mx3.2/34,mbtmp3.5/3,Error ellipse: s-maj=785.9km s-min=236.2km az=144.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.81**	**121**	P	P	18 06 27.3	+0.2
0.3nm,0.5s,baz=306,slow=10.0,SNR=5.8							
ASAR	**Alice Springs**	**35.17**	**127**	P	P	18 06 38.3	-0.5
0.1nm,0.4s,baz=301,slow=8.0,SNR=13							
STKA	**Stephens Creek**	**45.20**	**133**	P	P	18 08 01.9	0.0
0.5nm,0.4s,baz=312,slow=9.7,SNR=5.2							

IDC ***16*** *18:00:52.2±1.1,13.˚29N×91.˚49W,h0km,mb4.0/6, mb1 4.2/8,mb1mx3.9/37,mbtmp3.9/8,ML3.2/2,MS3.1/6, Ms1 3.2/6,ms1mx2.8/38,Error ellipse: s-maj=30.4km s-min=18.0km az=44.0*
SNET ***16*** *18:00:52.9±0.8,13.˚81N×91.˚80W,h15km±999km,ML3.8*
ISCJB ***16*** *18:00:53.8±0.6,13.˚25N±0.˚06×91.˚72W±0.˚03,h28km, mb4.3/29,MS3.2/5,Error ellipse: s-maj=9.4km s-min=4.5km az=10.4*
UCR ***16*** *18:00:54.4±1.7,13.˚22N×91.˚64W,h14km±18km,MD3.7, ML3.6,mb4.4(NEIC)*
NEIC ***16*** *18:00:57.6±1.2,13.˚38N×91.˚54W,h40km±8km,mb4.4/30, Error ellipse: s-maj=13.3km s-min=6.6km az=207.0*
ISC 16 18:00:56.4±0.8,13.˚39N±0.˚08×91.˚56W±0.˚05,h28km,n71, σ1§01/71,mb4.4/29,MS3.2/5,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.26**	**33**	*eP*	**Pb**	**18 01 19.5**	**-0.1**
IXG	**Ixpaco**	**1.33**	**54**	*eP*	**Pb**	**18 01 21.0**	**+0.3**
PCG	**Pacaya**	**1.36**	**43**	*eP*	**Pb**	**18 01 21.3**	**-0.1**
NBG	**Las Nubes**	**1.67**	**45**	*eP*	**Pb**	**18 01 26.8**	**0.0**
APG	**El Apazote**	**1.92**	**33**	Pn	**Pn**	**18 01 28.5**	**+1.0**
12nm,0.3s,baz=206,slow=14,SNR=87							
APG				LR	LR	18 01 49.8	
comp=Z,146nm,19.0s,baz=164,slow=29							
APG				Sn	**Sb**	**18 01 52.8**	**-1.9**
13nm,0.3s,baz=132,slow=5.6,SNR=6.6							
CEVE Cerro Verde		**1.93**	**77**	*eS*	**Sb**	**18 01 56.2**	**+1.3**
CEVE				IAML		18 02 02.6	
comp=Z,597nm,0.4s							
CEVE Cerro Verde		**1.93**	**77**	*eS*	**Sb**	**18 01 56.2**	**+1.3**
CEVE				IAML		18 02 02.6	
comp=Z,597nm,0.4s							
SBLS San Blas		**1.94**	**76**	*eP*	**Pn**	**18 01 28.2**	**+0.6**
SBLS San Blas		**1.94**	**76**	*eP*	**Pn**	**18 01 28.2**	**+0.6**
SNJE San Jose		**1.96**	**76**	*eP*	**Pn**	**18 01 28.6**	**+0.7**
SNJE				*eS*	**Sb**	**18 01 56.6**	**+1.0**
SNJE San Jose		**1.96**	**76**	*eP*	**Pn**	**18 01 28.6**	**+0.7**
SNJE				*eS*	**Sb**	**18 01 56.6**	**+1.0**
LFRS El Faro		**2.44**	**84**	*eP*	**Pn**	**18 01 35.5**	**+1.0**
PAVA Las Pavas		**2.57**	**83**	*eP*	**Pn**	**18 01 37.4**	**+1.1**
PAVA Las Pavas		**2.57**	**83**	*eP*	**Pn**	**18 01 37.4**	**+1.1**
CCIG Comitan		**2.93**	**349**	*ePn*	**Pn**	**18 01 43.1**	**+1.8**
CMIG Matias Romero		**4.88**	**319**	Pn	**Pn**	**18 02 09.9**	**+1.9**
comp=Z,0.8nm,0.3s,baz=158,slow=12,SNR=8.2							
CMIG				Sn	**Sn**	**18 03 03.4**	**-0.2**
comp=Z,2.9nm,0.3s,baz=88,slow=10,SNR=5.4							
CMIG				Lg	Lg	18 03 23.1	
comp=Z,4.2nm,0.3s,baz=71,slow=21,SNR=5.8							
CMIG				LR	LR	18 03 46.4	
comp=Z,74nm,21.3s,baz=149,slow=35							
ESTN Estel		**5.06**	**93**	*ePn*	**Pn**	**18 02 10.4**	**-0.2**
TEIG Tepich		**7.49**	**24**	*ePn*	**Pn**	**18 02 45.9**	**+2.1**
TLIG Tlapa		**7.93**	**302**	*ePn*	**Pn**	**18 02 48.6**	**-1.4**
LNIG Linares		**13.66**	**328**	*ePn*	**Pn**	**18 04 10.3**	**+1.9**
LTX Lajitas		**19.44**	**327**	*eP*	**Pn**	**18 05 22.7**	**+0.5**
TXAR Lajitas Array		**19.44**	**327**	*eP*	**Pn**	**18 05 22.1**	**0.0**
TXAR Lajitas Array		**19.44**	**327**	P	**Pn**	**18 05 22.7**	**+0.5**
comp=Z,0.0nm,0.3s,baz=149,slow=11,SNR=16							
TX31 Lajitas Ar, Si		**19.44**	**327**	*eP*	**Pn**	**18 05 22.2**	**0.0**
comp=Z,4.7nm,0.8s							
LRAL Lakeview Retre		**19.99**	**11**	*eP*	**Pn**	**18 05 27.3**	**-1.3**
comp=Z,36nm,1.8s							
152A Waverly Hall		**20.18**	**17**	*eP*	Pn	18 05 29.4	-1.4
comp=Z,8.1nm,0.9s							
Z50A Ashland		**20.43**	**14**	*eP*	**P**	**18 05 31.7**	**+0.2**
comp=Z,12nm,1.3s							
ABTX Abilene, Hawle		**20.52**	**340**	*eP*	**P**	**18 05 32.8**	**+0.2**
comp=Z,18nm,0.8s							
LPIG La Paz		**20.68**	**304**	LR	LR	18 13 48.2	
comp=Z,53nm,18.4s,baz=185,slow=37							
SDV Santo Domingo		**21.01**	**100**	P	**P**	**18 05 37.8**	**-0.4**
comp=Z,2.5nm,0.4s,baz=281,slow=5.2,SNR=3.3							
MIAR Mount Ida		**21.14**	**355**	*eP*	**P**	**18 05 38.6**	**-0.6**
comp=Z,17nm,1.4s							
X48A Hartselle		**21.36**	**10**	*eP*	**P**	**18 05 42.1**	**+0.5**
comp=Z,8.9nm,0.8s							
X37A Clayton		**21.39**	**351**	*eP*	**P**	**18 05 43.1**	**+1.3**
comp=Z,17nm,1.3s							
MNTX Cornudas Mount		**22.21**	**327**	*eP*	**P**	**18 05 51.8**	**+1.1**
comp=Z,7.7nm,0.9s							
MSTX Muleshoe		**22.88**	**335**	*eP*	**P**	**18 05 56.7**	**-1.3**
comp=Z,11nm,0.8s							
AMTX Amarillo		**23.28**	**339**	*eP*	**P**	**18 06 00.9**	**-1.0**
comp=Z,16nm,0.7s							
PBMO Poplar Bluff		**23.31**	**2**	*eP*	**P**	**18 06 00.9**	**-1.2**
comp=Z,15nm,1.0s							
TZTN Tazewell		**24.15**	**16**	*eP*	**P**	**18 06 09.4**	**-0.8**
comp=Z,10.0nm,0.8s							
T49A Edmonton		**24.22**	**12**	*eP*	**P**	**18 06 09.2**	**-1.7**
comp=Z,27nm,1.6s							
SIUC Southern Illin		**24.32**	**5**	*eP*	**P**	**18 06 10.9**	**-0.8**
comp=Z,20nm,0.7s							
CCM Cathedral Cave		**24.57**	**1**	*eP*	**P**	**18 06 12.2**	**-1.8**
comp=Z,20nm,0.9s							
BNM Barren Site		**24.79**	**329**	*eP*	**P**	**18 06 17.5**	**+1.2**
SJG San Juan		**24.89**	**76**	LR	LR	18 16 33.8	
comp=Z,39nm,18.2s,baz=212,slow=38							
S51A Beattyville		**25.17**	**15**	*eP*	**P**	**18 06 18.4**	**-1.1**
comp=Z,9.7nm,0.8s							
ANMO Albuquerque		**25.34**	**330**	*eP*	**P**	**18 06 21.5**	**+0.2**
comp=Z,8.0nm,1.8s							
ANMO Albuquerque		**25.34**	**330**	P	**P**	**18 06 22.4**	**+1.2**
comp=Z,0.9nm,0.5s,baz=153,slow=11,SNR=3.8							
T25A Trinidad		**26.29**	**336**	*eP*	**P**	**18 06 29.1**	**-0.8**
comp=Z,5.5nm,1.0s							
PHWY Pilot Hill		**30.34**	**339**	*eP*	**P**	**18 07 03.8**	**-2.2**
comp=Z,14nm,0.8s							
MTPU Mount Pierson		**30.64**	**327**	*eP*	**P**	**18 07 08.9**	**+0.1**
comp=Z,3.0nm,0.7s							
NVAR Mina Array Bea		**34.41**	**321**	*eP*	**P**	**18 07 42.0**	**+0.3**
NVAR Mina Array Bea		**34.41**	**321**	P	**P**	**18 07 43.6**	**+1.9**
comp=Z,1.3nm,0.7s,baz=130,slow=8.4,SNR=7.7							
HLID Hailey		**35.91**	**331**	*eP*	**P**	**18 07 55.6**	**+1.1**
comp=Z,4.4nm,1.2s							
MCMT McKenzie Canyo		**36.20**	**334**	*eP*	**P**	**18 07 57.3**	**+0.3**
WVOR Wild Horse Val		**37.23**	**326**	*eP*	**P**	**18 08 05.8**	**0.0**
comp=Z,9.9nm,1.4s							
J08A Circle Bar Ran		**37.78**	**327**	*eP*	**P**	**18 08 09.8**	**-0.5**
comp=Z,8.4nm,0.8s							
F10A Beach Ranch, E		**39.05**	**331**	*eP*	**P**	**18 08 20.0**	**-0.9**
comp=Z,6.6nm,0.9s							
LON Longmire		**41.83**	**329**	*eP*	**P**	**18 08 44.5**	**+0.6**
comp=Z,4.4nm,0.9s							
SIV San Ignacio		**41.96**	**133**	P	**P**	**18 08 44.3**	**-1.0**
comp=Z,2.8nm,1.0s,baz=315,slow=11,SNR=7.8							
SCHQ Scheiferville		**45.65**	**20**	LR	LR	18 28 58.2	
comp=Z,65nm,20.5s,baz=282,slow=37							
YKA Yellowknife Ar		**51.71**	**347**	P	**P**	**18 10 00.3**	**-0.5**
comp=Z,2.5nm,0.9s,baz=148,slow=7.8,SNR=28							
YKA				PcP	**PcP**	**18 11 14.1**	**+0.1**
comp=Z,0.4nm,0.7s,baz=148,slow=3.6,SNR=4.1							
YKB5 Yellowknife Ar		**51.71**	**347**	*eP*	**P**	**18 10 00.3**	**-0.5**
YKB5				*ePcP*	**PcP**	**18 11 14.1**	**+0.1**
DLBC Dease Lake		**53.38**	**336**	*eP*	**P**	**18 10 14.7**	**+1.3**
comp=Z,6.0nm,1.0s							
INK Inuvik		**61.14**	**344**	*eP*	**P**	**18 11 07.7**	**-0.2**
comp=Z,2.5nm,0.8s							
ILAR Eielson Array		**63.56**	**337**	*eP*	**P**	**18 11 24.0**	**-0.2**
ILAR Eielson Array		**63.56**	**337**	P	**P**	**18 11 24.5**	**+0.3**
comp=Z,2.6nm,1.0s,baz=123,slow=4.4,SNR=14							
ILB Eielson Array		**63.56**	**337**	*eP*	**P**	**18 11 24.3**	**+0.1**
comp=Z,16nm,1.6s							
MLY Manley		**65.17**	**336**	*eP*	**P**	**18 11 34.8**	**0.0**
comp=Z,17nm,1.6s							
NOA NORSAR Array B		**84.47**	**28**	LR	LR	18 53 02.4	
comp=Z,8.5nm,18.0s,baz=305,slow=37							
FINES FINESS Array B		**90.86**	**25**	LR	LR	18 56 21.0	
comp=Z,14nm,18.2s,baz=290,slow=37							
CM31 Chiang Mai Arr		**146.70**	**342**	*ePKPdf*	**PKPbc**	**18 20 36.4**	**-0.2**
CMAR Chiang Mai Arr		**146.70**	**342**	PKPbc	**PKPab**	**18 20 36.5**	**-1.1**
comp=Z,2.8nm,0.7s,baz=340,slow=3.2,SNR=19							

MEX 16 18:04:40.9±0.6,16.˚23N×98.˚07W,h5km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG Pinotepa		**0.17**	**341**	*eP*	Pg	18 04 44.2	-0.2
PNIG				*eS*	Sg	18 04 46.8	0.0

IDC 16 18:15:05.3±3.9,11.˚95S×117.˚62E,h0km,mb3.3/1, mb1 3.4/4,mb1mx3.3/25,mbtmp3.2/4,ML3.1/3,Error ellipse: s-maj=250.2km s-min=26.2km az=46.0,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ Fitzroy Crossi		**9.87**	**129**	Pn	Pn	18 17 27.1	-1.5
0.3nm,0.3s,baz=342,slow=16,SNR=20							
WRA Warramunga Arr		**17.92**	**118**	P	Pn	18 19 14.9	-1.3
0.0nm,0.3s,baz=286,slow=14,SNR=3.2							
ASAR Alice Springs		**19.37**	**129**	P	Pn	18 19 34.9	+1.0
0.1nm,0.3s,baz=308,slow=13,SNR=8.5							
ASAR				S	Sn	18 23 00.5	-11
0.0nm,0.3s,baz=307,slow=23,SNR=2.3							
MKAR Makanchi Array		**66.48**	**334**	P	P	18 25 56.6	-0.1
0.2nm,0.4s,baz=140,slow=5.9,SNR=5.3							

MEX 16 18:26:23.2±0.4,16.˚28N×98.˚27W,h14km±2km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG Pinotepa		**0.17**	**51**	*eP*	Pg	18 26 26.9	-0.6
PNIG				*i* S	Sg	18 26 29.8	-0.5
TLIG Tlapa		**1.30**	**347**	*i* P	Pn	18 26 42.5	-4.6
TLIG				*i* S	Sb	18 26 59.7	-4.5

ISCJB ***16*** *18:27:07.8±0.4,22.˚16S±0.˚03×179.˚62W±0.˚02, h590km±5km,mb5.0/268,Error ellipse: s-maj=4.9km s-min=3.0km az=169.3*
BJI ***16*** *18:27:07.0±0.0,21.˚95S×179.˚03W,h595km,mb5.2/54, mB5.2/32*
NEIC ***16*** *18:27:08.9±0.3,22.˚19S×179.˚59W,h594km±3km, mb4.8/190,Error ellipse: s-maj=4.1km s-min=2.5km az=161.0*
MOS ***16*** *18:27:08.3±1.0,22.˚18S×179.˚58W,h598km,mb5.0/42, Error ellipse: s-maj=8.0km s-min=7.8km az=111.3*
IDC ***16*** *18:27:08.1±0.8,22.˚14S×179.˚55W,h580km±8km,mb4.4/38, mb1 4.5/42,mb1mx4.4/48,mbtmp5.3/42,Error ellipse: s-maj=8.5km s-min=7.3km az=165.0*
GCMT ***16*** *18:27:09.9±0.5,22.˚24S±0.˚05×179.˚62W±0.˚05, h591km±3km,MW5.3/54,Moment Tensor Solution. s54,c61; Duration: 1§1 Moment tensor: Scale 10^17^Nm; Mrr-0.33±.03; Mθθ0.19±.07; Mφφ0.14±.06; Mrθ-0.29±.06; Mθφ-0.35±.05; Mφr-0.89±.05; Best double couple: M0 1.00600×10^17^ NP1:φs6.00000°,δ83.00000°, λ-69.00000°. NP2:φs114.00000°,δ22.00000°, λ-161.00000°. Principal axes: T 0.8480, Plg34.0000°, Azm77.0000°; N 0.3180, Plg21.0000°, Azm183.0000°; P -1.1650, Plg48.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s, Triangular moment-rate function*
ISC 16 18:27:08.7±0.3,22.˚23S±0.˚04×179.˚51W±0.˚04, h596km±3km,h597km:pP-P,n1124,σ1§09/1237,mb5.0/266, 44C-95D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF Nonsavu		**5.03**	**332**	*c iP*	**P**	**18 28 43.1**	**+1.3**
RAO Raoul Island		**7.13**	**169**	P	**P**	**18 28 58.1**	**-1.6**
134nm,0.3s,baz=14,slow=17,SNR=7.0							
RAO				S	**S**	**18 30 28.7**	**-1.9**
69nm,0.3s,baz=164,slow=18,SNR=2.8							
GLKZ Green Lake		**7.14**	**169**	P	**P**	**18 28 58.6**	**-1.1**
NIUE Niue		**9.51**	**72**	*eP*	**P**	**18 29 21.2**	**-1.3**
MARNC Mare, Loyalty		**11.59**	**271**	*eP*	**P**	**18 29 42.8**	**-0.6**
MARNC				*eS*	**S**	**18 31 49.1**	**-1.3**
PINNC Pines Island,		**12.07**	**266**	*eP*	**P**	**18 29 47.3**	**-0.8**
OUENC Ouen Island, N		**12.63**	**267**	*eP*	**P**	**18 29 53.0**	**-0.9**
ONTNC Ouen Toro		**12.99**	**267**	*eP*	**P**	**18 29 56.4**	**-1.1**
DZM Mont Dzumac		**13.02**	**268**	*eP*	**P**	**18 29 57.0**	**-0.8**
98nm,0.7s							
DZM Mont Dzumac		**13.02**	**268**	*eP*	**P**	**18 29 56.4**	**-1.4**
DZM				S	**S**	**18 32 18.7**	**+1.8**
DZM Mont Dzumac		**13.02**	**268**	P	**P**	**18 29 57.4**	**-0.4**
10nm,0.3s,baz=86,slow=17,SNR=28							
DZM				S	**S**	**18 32 18.7**	**+1.8**
baz=348,slow=22,SNR=8.0							
NFK Norfolk Island		**13.19**	**236**	P	**P**	**18 30 01.4**	**+2.1**
baz=14,SNR=5.2							
OUZ Omahuta		**14.28**	**203**	*eP*	**P**	**18 30 11.8**	**+1.8**
OUZ Omahuta		**14.28**	**203**	P	**P**	**18 30 11.5**	**+1.4**
WCZ Waipu Caves		**14.67**	**200**	P	**P**	**18 30 15.9**	**+2.2**
KUZ Kuaotunu		**15.04**	**195**	P	**P**	**18 30 18.4**	**+1.2**
WIAZ Waiheke Island		**15.23**	**197**	P	**P**	**18 30 21.0**	**+2.0**
WTAZ Waiatarua		**15.52**	**198**	P	**P**	**18 30 24.0**	**+2.4**
MKAZ Moumakai		**15.52**	**196**	P	**P**	**18 30 23.4**	**+1.9**
HAZ Te Kaha		**15.65**	**188**	P	**P**	**18 30 22.6**	**-0.1**
HAZ				S	**S**	**18 32 55.6**	**-5.4**
PKGZ Pakihiroa		**15.74**	**187**	P	**P**	**18 30 26.2**	**+2.5**
RUGZ Raukumara Rang		**15.87**	**188**	P	**P**	**18 30 25.6**	**+0.7**
RUGZ				S	**S**	**18 33 02.8**	**-2.0**
PUZ Puketiti		**15.90**	**186**	P	**P**	**18 30 25.5**	**+0.4**
TOZ Tahuroa Road		**16.03**	**194**	P	**P**	**18 30 28.7**	**+2.4**
URZ Urewera		**16.23**	**190**	*eP*	**P**	**18 30 26.9**	**-1.3**
29nm,0.7s							
URZ				S	**S**	**18 33 04.8**	**-5.9**
URZ Urewera		**16.23**	**190**	P	**P**	**18 30 27.2**	**-0.9**
2.3nm,0.3s,baz=41,slow=1.8,SNR=16							
URZ				S	**S**	**18 33 04.8**	**-5.9**
3.3nm,0.3s,baz=162,slow=20,SNR=10							
URZ Urewera		**16.23**	**190**	P	**P**	**18 30 27.1**	**-1.0**
URZ				S	**S**	**18 33 06.4**	**-4.2**
MWZ Matawai		**16.25**	**188**	P	**P**	**18 30 28.9**	**+0.6**
MUGZ Murupara		**16.50**	**190**	P	**P**	**18 30 30.3**	**-0.3**
TLZ Tolley Road		**16.60**	**194**	P	**P**	**18 30 33.8**	**+2.3**
SNGZ Shannon Statio		**16.71**	**189**	P	**P**	**18 30 32.0**	**-0.5**
MTHZ Maungataniwha		**16.86**	**190**	P	**P**	**18 30 33.8**	**-0.1**
RAHZ Arahi		**16.88**	**189**	P	**P**	**18 30 33.9**	**-0.2**
HIZ Hauiti		**16.93**	**195**	P	**P**	**18 30 40.1**	**+5.6**
RATZ Rangitukua		**17.07**	**193**	P	**P**	**18 30 36.0**	**+0.2**
BKZ Black Stump Fm		**17.22**	**191**	*eP*	**P**	**18 30 36.5**	**-0.8**
16nm,0.7s							
BKZ Black Stump Fm		**17.22**	**191**	P	**P**	**18 30 35.8**	**-1.4**
MCHZ McNeill Hill		**17.46**	**190**	P	**P**	**18 30 38.1**	**-1.2**
KWHZ Kaweka Forest		**17.48**	**191**	P	**P**	**18 30 40.5**	**+0.9**
VRZ Vera Road		**17.54**	**195**	P	**P**	**18 30 43.6**	**+3.6**
PXZ Pawanui		**18.01**	**189**	P	**P**	**18 30 44.0**	**-0.3**
RAR Rarotonga		**18.37**	**91**	*eP*	**P**	**18 30 48.0**	**+0.1**
96nm,1.0s							
RAR Rarotonga		**18.37**	**91**	*eP*	**P**	**18 30 48.0**	**+0.1**
RAR				pmax	pmax		
comp=Z,96nm,1.0s							
RAR Rarotonga		**18.37**	**91**	P	**P**	**18 30 47.2**	**-0.7**
comp=Z,8.4nm,0.3s,baz=220,slow=8.0,SNR=6.8							
BFZ Birch Farm		**18.74**	**190**	*eP*	**P**	**18 30 51.1**	**+0.1**
comp=Z,39nm,1.1s							
TCW Tory Channel		**19.63**	**194**	P	**P**	**18 31 01.3**	**+2.3**
QRZ Quartz Range		**19.72**	**198**	P	**P**	**18 31 01.5**

VAH	Vaihoa	30.94	83	eP	P	18 32 38.8	0.0
	comp=Z,295nm,0.9s						
CTA	Charters Tower	31.96	267	P	P	18 32 48.2	+0.8
	comp=Z,148nm,0.5s,baz=94,slow=11,SNR=370						
CTA				PcP	PcP	18 35 19.1	0.0
	comp=Z,17nm,0.5s,baz=98,slow=4.5,SNR=6.0						
CTA				ScP	ScP	18 38 09.7	+2.9
	comp=Z,7.0nm,0.9s,baz=72,slow=2.6,SNR=6.5						
CTAO	Charters Tower	31.96	267	eP	P	18 32 47.9	+0.4
	comp=Z,151nm,0.6s						
CTAO	Charters Tower	31.96	267	eP	P	18 32 47.9	+0.4
CTAO				pmax	pmax		
	comp=Z,151nm,0.6s						
CMSA	Cobar Meteorol	32.28	246	P	P	18 32 51.2	+1.2
	baz=32,SNR=300						
XMAS	Kiritimati	32.35	45	eP	P	18 32 51.0	+0.2
	comp=Z,275nm,0.8s						
TOO	Toolangi	33.75	235	eP	P	18 33 03.5	+1.2
	comp=Z,110nm,0.7s						
TOO	Toolangi	33.75	235	P	P	18 33 03.6	+1.3
	baz=34,SNR=91						
TOO	Toolangi	33.75	235	eP	P	18 33 03.5	+1.2
TOO				pmax	pmax		
	comp=Z,110nm,0.7s						
TAU	Tasmania Unive	34.41	225	P	P	18 33 08.6	+0.9
TAU				pmax	pmax		
	comp=Z,62nm,2.0s						
PMG	Port Moresby	34.41	286	eP	P	18 33 08.1	0.0
	comp=Z,300nm,0.8s						
PMG	Port Moresby	34.41	286	P	P	18 33 08.3	+0.2
	comp=Z,286nm,0.8s,baz=89,slow=5.8,SNR=81						
STKA	Stephens Creek	35.78	246	eP	P	18 33 20.4	+1.2
	comp=Z,20nm,0.7s						
STKA				ScP	ScP	18 38 22.3	+2.1
STKA	Stephens Creek	35.78	246	P	P	18 33 20.5	+1.2
	baz=36,SNR=152						
STKA	Stephens Creek	35.78	246	eP	P	18 33 20.4	+1.2
STKA						18 38 22.3	
STKA				pmax	pmax		
	comp=Z,20nm,0.7s						
STKA	Stephens Creek	35.78	246	P	P	18 33 20.5	+1.2
	comp=Z,86nm,0.5s,baz=93,slow=10,SNR=188						
STKA				ScP	ScP	18 38 22.3	+2.1
	comp=Z,10nm,0.9s,baz=91,slow=4.2,SNR=6.5						
COEN	Coen	36.33	277	eP	P	18 33 24.6	+0.6
	comp=Z,78nm,0.8s						
COEN	Coen	36.33	277	P	P	18 33 24.7	+0.8
	baz=37,SNR=55						
ARPS	Mount Arapiles	36.36	238	P	P	18 33 24.7	+0.8
	baz=37,SNR=20						
MANU	Manus Island	37.92	297	eP	P	18 33 36.7	-0.2
	comp=Z,219nm,1.4s						
QIS	Mount Isa	38.02	265	P	P	18 33 37.6	-0.1
	baz=38,SNR=29						
HTT	Hallett	38.19	244	P	P	18 33 39.7	+0.8
	baz=38,SNR=66						
TAOE	Nuku Hiva Isla	40.05	77	eP	P	18 33 53.7	-0.5
	comp=Z,443nm,1.0s						
TAOE	Nuku Hiva Isla	40.05	77	eP	P	18 33 54.6	+0.5
	comp=Z,195nm,0.8s						
BBOO	Buckleboo	40.53	245	eP	P	18 33 57.7	+0.1
	comp=Z,118nm,0.8s						
BBOO	Buckleboo	40.53	245	P	P	18 33 58.0	+0.4
	baz=41,SNR=118						
MMPI	Meraukе	40.88	283	P	P	18 34 00.7	+0.1
RKT	Rikitea	40.98	100	eP	P	18 34 01.9	+0.6
	comp=Z,77nm,1.0s						
AS31	Alice Springs	42.77	259	eP	P	18 34 15.6	+0.2
	comp=Z,58nm,0.7s						
ASAR	Alice Springs	42.77	259	eP	P	18 34 15.1	-0.3
ASAR				PcP	PcP	18 35 52.1	-0.8
ASAR				ScP	ScP	18 38 51.2	+3.4
ASAR				S	S	18 39 56.0	-1.6
ASAR				PKiKP	PKiKP	18 42 53.8	-1.0
ASAR				e		19 12 04.0	
ASAR	Alice Springs	42.77	259	eP	P	18 34 15.1	-0.3
ASAR						18 35 52.1	
ASAR				S	S	18 39 56.0	-1.6
ASAR	Alice Springs	42.77	259	P	P	18 34 15.8	+0.4
	comp=Z,244nm,0.8s,baz=102,slow=7.8,SNR=1795						
ASAR				PcP	PcP	18 35 52.1	-0.8
	comp=Z,24nm,0.7s,baz=101,slow=3.7,SNR=8.7						
ASAR				ScP	ScP	18 38 51.2	+3.4
	comp=Z,5.6nm,0.9s,baz=103,slow=4.1,SNR=6.9						
ASAR				S	S	18 39 56.0	-1.6
	comp=Z,28nm,1.0s,baz=95,slow=16,SNR=27						
ASAR				PKiKP	PKiKP	18 42 53.8	-1.0
	comp=Z,0.6nm,0.6s,baz=120,slow=1.3,SNR=4.2						
ASAR				P4KPbc		19 12 04.0	
	comp=Z,0.4nm,0.8s,baz=104,slow=4.2,SNR=4.8						
WB2	Warramunga Arr	42.98	264	eP	P	18 34 16.6	-0.4
	comp=Z,222nm,0.8s						
WRAB	Tennant Creek	42.98	264	eP	P	18 34 16.5	-0.6
	comp=Z,204nm,0.9s						
WRAB	Tennant Creek	42.98	264	ceP	P	18 34 16.1	-1.0
WRAB				pmax	pmax		
	comp=Z,179nm,0.9s						
WR1	Warramunga Arr	42.99	264	eP	P	18 34 16.8	-0.3
WR1				ePcP	PcP	18 35 53.0	-0.7
WR1				eS	S	18 39 58.5	-2.1
WRA	Warramunga Arr	42.99	264	P	P	18 34 16.8	-0.3
	comp=Z,118nm,0.6s,baz=95,slow=8.0,SNR=246						
WRA				PcP	PcP	18 35 53.0	-0.7
	comp=Z,12nm,0.7s,baz=94,slow=3.9,SNR=6.0						
WRA				ScP	ScP	18 38 51.9	+3.2
	comp=Z,20nm,1.0s,baz=105,slow=4.3,SNR=13						
WRA				S	S	18 39 58.5	-2.1
	comp=Z,7.0nm,0.9s,baz=106,slow=14,SNR=8.5						
WRA				PKiKP	PKiKP	18 42 54.0	-1.0
	comp=Z,0.6nm,0.5s,baz=5.4,slow=21,SNR=1.5						
WAKE	Wake Island	43.42	341	eP	P	18 34 19.7	-0.6
	comp=Z,220nm,0.8s						
GENI	Genyem	43.73	291	P	P	18 34 22.5	-0.3
KDU	Kakadu	46.61	273	P	P	18 34 44.5	-0.2
	baz=47,SNR=122						
FORT	Forrest	47.33	248	eP	P	18 34 50.0	+0.1
	comp=Z,339nm,0.7s						
FORT	Forrest	47.33	248	P	P	18 34 50.1	+0.1
	baz=48,SNR=255						
WRKA	Warakurna	47.66	256	P	P	18 34 52.9	+0.3
	baz=48,SNR=461						
HMH	Humu'ula Sheep	47.75	31	eP	P	18 34 54.0	+0.4
	comp=Z,231nm,1.3s						
MTN	Manton Dam	47.80	273	eP	P	18 34 52.9	-0.8
	comp=Z,160nm,0.6s						
MTN	Manton Dam	47.80	273	P	P	18 34 53.0	-0.7
	baz=48,SNR=66						
KNRA	Kununurra	49.17	268	P	P	18 35 04.0	+0.2
	baz=49,SNR=161						
SAUI	Saumlaki	49.33	279	eP	P	18 35 05.5	+0.5
	comp=Z,370nm,0.8s						
SAUI	Saumlaki	49.33	279	P	P	18 35 05.1	+0.1
	comp=Z,496nm,0.9s,comp=Z,5μm						
GUMO	Guam	49.87	312	eP	P	18 35 08.8	-0.1
	comp=Z,194nm,0.9s						
GUMO	Guam	49.87	312	eP	P	18 35 08.8	-0.1
GUMO				pmax	pmax		
	comp=Z,194nm,0.9s						
GUMO	Guam	49.87	312	P	P	18 35 08.4	-0.5
	comp=Z,209nm,0.9s,baz=168,slow=8.1,SNR=9.6						
FAKI	Fak Fak	50.55	285	eP	P	18 35 13.4	-0.6
	comp=Z,170nm,1.0s						
FAKI	Fak Fak	50.55	285	P	P	18 35 13.8	-0.2
ANA2	Anatahan	51.28	315	eP	P	18 35 19.0	-0.1
	comp=Z,266nm,0.6s						
FITZ	Fitzroy Crossi	51.42	264	P	P	18 35 20.6	+0.5
	comp=Z,44nm,0.4s,baz=90,slow=5.3,SNR=445						
FITZ				S	S	18 41 56.5	-0.2
	comp=Z,7.1nm,0.9s,baz=272,slow=21,SNR=9.9						
BNDI	Bandanaira	51.98	282	P	P	18 35 24.3	+0.1
SWI	Sorong	52.36	287	P	P	18 35 27.0	+0.1
SWI				pmax	pmax		
	comp=Z,903nm,0.8s						
SWI	Sorong	52.36	287	P	P	18 35 27.4	+0.5
KMBL	Kambalda	52.58	247	P	P	18 35 28.1	-0.1
	baz=53,SNR=16						
PALU	Palau	53.81	298	P	P	18 35 37.4	+0.3
	baz=54,SNR=9.4						
SOEI	Soe	55.17	274	eP	P	18 35 48.5	+1.6
	comp=Z,533nm,0.7s						
SOEI	Soe	55.17	274	P	P	18 35 48.2	+1.4
BATI	Baumata	55.58	273	P	P	18 35 51.3	+1.8
PSA00	Pilbara Seismi	55.92	258	eP	P	18 35 51.7	-0.1
	comp=Z,220nm,1.0s						
MEEK	Meekatharra	56.03	252	P	P	18 35 52.2	-0.3
	baz=56,SNR=74						
KLBR	Kellerberrin	56.06	246	P	P	18 35 52.9	+0.3
	baz=56,SNR=13						
VNDA	Vanda	56.07	185	eP	P	18 35 53.2	+1.4
	comp=Z,7.0nm,0.8s						
VNDA	Vanda	56.07	185	eP	P	18 35 53.3	+1.4
VNDA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VNDA	Vanda	56.07	185	P	P	18 35 54.6	+2.7
	comp=Z,5.4nm,0.7s,baz=356,slow=7.4,SNR=34						
MBWA	Marble Bar	56.12	259	P	P	18 35 53.2	+0.1
	SNR=8.7						
NWAO	Narrogin (SRO)	56.34	244	eP	P	18 35 54.8	+0.3
	comp=Z,91nm,1.0s						
NWAO	Narrogin (SRO)	56.34	244	P	P	18 35 55.0	+0.4
	baz=57,SNR=27						
NWAO	Narrogin (SRO)	56.34	244	eP	P	18 35 54.8	+0.3
NWAO				pmax	pmax		
	comp=Z,91nm,1.0s						
NWAO	Narrogin (SRO)	56.34	244	P	P	18 35 54.9	+0.4
	comp=Z,52nm,0.8s,baz=110,slow=7.1,SNR=41						
RKGY	Rocky Gully	56.39	242	P	P	18 35 55.7	+0.9
	baz=57,SNR=18						
SANI	Sanana	56.56	283	P	P	18 35 55.5	-0.8
TNTI	Ternate	56.57	287	eP	P	18 35 56.1	-0.2
	comp=Z,216nm,1.0s						
TNTI	Ternate	56.57	287	P	P	18 35 56.4	+0.1
BLDU	Ballidu	57.07	247	P	P	18 35 59.7	+0.2
	baz=57,SNR=51						
MUN	Mundaring	57.32	245	P	P	18 36 01.7	+0.6
	baz=58,SNR=13						
MMRI	Maumere	57.44	274	eP	P	18 36 01.1	-1.1
	comp=Z,222nm,0.5s						
MMRI	Maumere	57.44	274	P	P	18 36 01.9	-0.3
MORW	Morawa	57.88	249	eP	P	18 36 05.1	+0.1
	comp=Z,136nm,1.1s						
MORW	Morawa	57.88	249	P	P	18 36 05.2	+0.2
	baz=58,SNR=29						
WSI	Waingapu	58.87	272	P	P	18 36 12.3	+0.4
MNI	Manado	59.12	286	P	P	18 36 13.0	-0.6
MNI				pmax	pmax		
	comp=Z,137nm,0.8s						
KMSI	Cibinong	59.50	285	P	P	18 36 15.8	-0.3
	comp=Z,133nm,0.6s,comp=Z,3μm						
SGSI	Sangihe	59.54	289	P	P	18 36 16.0	-0.4
	comp=Z,258nm,0.6s,comp=Z,3μm						
LUWI	Luwuk	59.90	282	eP	P	18 36 18.3	-0.4
	comp=Z,241nm,1.0s						
LUWI	Luwuk	59.90	282	P	P	18 36 18.9	+0.2
	comp=Z,258nm,0.9s,comp=Z,2μm						
BSSI	Bau Bau, Buton	59.96	276	P	P	18 36 18.3	-0.8
	comp=Z,112nm,1.0s,comp=Z,2μm						
MATI	Mati	60.50	292	eP	P	18 36 20.2	-2.4
DDMP	Don Marcelino,	60.55	291	eP	P	18 36 22.1	-0.9
BKSI	Bulukumba	60.60	277	P	P	18 36 22.6	-0.8
	comp=Z,99nm,0.7s,comp=Z,690nm						
GIRL	Giralia	60.74	256	eP	P	18 36 25.8	+1.7
	comp=Z,302nm,0.8s						
GIRL	Giralia	60.74	256	P	P	18 36 25.6	+1.5
	baz=61,SNR=24						
APSI	Ampana	60.97	282	P	P	18 36 26.3	+0.6
	comp=Z,154nm,0.9s,comp=Z,1μm						
BNSI	Bone	60.97	278	P	P	18 36 25.5	-0.3
	comp=Z,175nm,0.8s,comp=Z,2μm						
KAPI	Kappang	61.06	277	eP	P	18 36 26.1	-0.3
	comp=Z,29nm,0.7s						
KAPI	Kappang	61.06	277	eP	P	18 36 26.1	-0.3
KAPI				pmax	pmax		
	comp=Z,29nm,0.7s						
KAPI	Kappang	61.06	277	P	P	18 36 26.4	0.0
	SNR=14						
DAV	Davao City (W)	61.14	292	eP	P	18 36 26.1	-0.7
	comp=Z,296nm,0.8s						
DAV	Davao City (W)	61.14	292	P	P	18 36 26.6	-0.2
	comp=Z,274nm,0.6s,baz=150,slow=5.2,SNR=7.2						
MRSI	Marisa	61.29	283	P	P	18 36 27.2	-0.7
SPSI	Sidrap Palu	61.45	278	P	P	18 36 27.6	-1.3
PLAI	Plampang	61.50	272	P	P	18 36 28.7	-0.5
SKMP	Bagumbayan, Su	61.76	291	eP	P	18 36 30.6	-0.4
TTSI	Tana Toraja	61.77	279	P	P	18 36 30.8	-0.1
CASY	Casey	61.80	206	eP	P	18 36 31.2	+1.0
	comp=Z,49nm,0.9s						
BUKP	Musuan	61.99	292	eP	P	18 36 32.7	+0.3
BUTP	Butuan	62.06	294	eP	P	18 36 32.9	+0.1
CTBH	Cotabato--PC H	62.36	291	∥eP	P	18 36 35.0	+0.2
CGP	Cagayan de Oro	62.59	293	eP	P	18 36 37.2	+1.0
MPSI	Mapaga	63.08	282	P	P	18 36 38.9	-0.5
MSLP	Maasin	63.30	295	eP	P	18 36 40.9	+0.1
PAGZ	Pagadian	63.42	292	eP	P	18 36 41.8	+0.3
BESP	Borongan	63.58	296	eP	P	18 36 42.9	+0.3
OCLP	Ormoc	63.99	295	eP	P	18 36 45.1	0.0
IPIL	Ipil	64.09	291	eP	P	18 36 44.9	-0.9
SRBI	Singaraja	64.13	272	P	P	18 36 45.8	-0.3
CNP	Catarman	64.70	297	eP	P	18 36 49.3	-0.3
JAGI	Jajag, Banyuwa	64.98	271	eP	P	18 36 50.3	-1.2
	comp=Z,272nm,1.1s						
JAGI	Jajag, Banyuwa	64.98	271	P	P	18 36 50.6	-0.9
KMMI	Kalianget	65.65	272	P	P	18 36 56.1	+0.5
CUYO	Cuyo Island	66.92	293	eP	P	18 37 02.8	-0.6
GRJI	Gresik	67.08	272	P	P	18 37 04.9	+0.5
MTKI	Muara Teweh, K	67.11	279	P	P	18 37 04.6	0.0
PWJI	Pagerwojo	67.31	270	P	P	18 37 05.7	-0.2
BOAC	Boac	67.54	296	eP	P	18 37 07.3	+0.2
SJMP	San Jose	67.64	295	eP	P	18 37 07.8	0.0
PCJI	Pacitan	67.83	270	P	P	18 37 09.7	+0.7
QSPA	South Pole Qui	67.84	180	eP	P	18 37 09.9	+1.5
	comp=Z,29nm,0.9s						
QSPA				epP	pwP	18 39 10.0	-0.2
QSPA	South Pole Qui	67.84	180	P	P	18 37 09.8	+1.5
	comp=Z,22nm,0.8s,baz=7.8,slow=7.5,SNR=12						
BUSP	Cebu	68.19	294	eP	P	18 37 11.2	+0.1
WOJI	Wonogiri, Jawa	68.19	270	P	P	18 37 11.3	+0.1
UGM	Wanagama	68.54	270	eP	P	18 37 13.2	-0.1
	comp=Z,257nm,0.7s						
UGM	Wanagama	68.54	270	P	P	18 37 13.3	-0.1
BATP	Bataraza	68.71	290	eP	P	18 37 14.7	+0.4
KKM	Kota Kinabalu	68.86	286	eP	P	18 37 15.6	+0.2
	comp=Z,96nm,0.7s						
KKM	Kota Kinabalu	68.86	286	P	P	18 37 16.0	+0.7
SMRI	Semarang	68.92	271	eP	P	18 37 16.1	+0.5
	comp=Z,151nm,0.7s						
SMRI	Semarang	68.92	271	P	P	18 37 16.3	+0.7
BALP	Baler	68.94	298	eP	P	18 37 15.2	-0.4
LUBP	Lubang	69.01	295	eP	P	18 37 14.4	-1.7
CAUP	Cauayan	69.38	299	eP	P	18 37 18.4	+0.2
PBKI	Pangkalan Bun	69.39	276	P	P	18 37 18.1	-0.3
SMPP	San Manuel, Pa	69.89	298	eP	P	18 37 21.2	-0.1
JOW	Kunigami	70.22	311	eP	P	18 37 23.0	-0.1
	comp=Z,57nm,0.8s						
APYP	Conner	70.33	300	eP	P	18 37 23.4	-0.4
INU	Inuyama	70.55	323	eP	P	18 37 24.5	-0.3
	comp=Z,34nm,1.0s						
ABRA	Dolores	70.65	299	eP	P	18 37 24.5	-1.2
MJAR	Matsushiro Arr	70.79	325	P	P	18 37 26.0	-0.2
	comp=Z,38nm,0.8s,baz=165,slow=6.1,SNR=85						
MAJO	Matsushiro	70.79	325	eP	P	18 37 25.9	-0.2
	comp=Z,41nm,0.8s						
MAJO	Matsushiro	70.79	325	d∥P	P	18 37 25.8	-0.4
MAJO				pmax	pmax		
	comp=Z,39nm,0.9s						
MAT	Matsushiro	70.79	325	P	P	18 37 26.1	-0.1
MAT				eS	S	18 45 54.6	+0.1
MJB9	Matsu-Tunnel	70.79	325	eP	P	18 37 26.0	-0.2
	comp=Z,42nm,0.8s						
SBUM	Sibu	70.93	281	eP	P	18 37 28.0	+0.5
	comp=Z,15nm,0.8s						
SBUM	Sibu	70.93	281	P	P	18 37 28.0	+0.5
BBP	Basco	71.15	302	eP	P	18 37 26.3	-2.3
CISI	Cisompet, Garu	71.17	269	eP	P	18 37 28.1	-0.9
	comp=Z,131nm,0.8s						
CISI	Cisompet, Garu	71.17	269	P	P	18 37 28.4	-0.6
LEM	Lembang	71.61	270	P	P	18 37 32.1	+0.4
LEM				pmax	pmax		
	comp=Z,246nm,0.9s						
LEM	Lembang	71.61	270	P	P	18 37 32.1	+0.4
KSM	Kuching	72.27	279	eP	P	18 37 35.3	0.0
	comp=Z,155nm,0.8s						
KSM	Kuching	72.27	279	P	P	18 37 36.0	+0.7
JNU	Nakatsue	72.59	318	eP	P	18 37 36.4	-0.3
	comp=Z,84nm,1.1s						
YOJ	Yonaguni jima	72.60	306	P	P	18 37 37.3	+0.4
YOJ				pmax	pmax		
	comp=Z,88nm,0.8s						
TWG	Pinlang	73.15	304	eP	P	18 37 38.6	-1.5
	comp=Z,413nm,0.5s						
YULB	Yu-li	73.29	305	eP	P	18 37 39.6	-1.3
	comp=Z,54nm,1.1s						
NACB	Ninganchiao	73.50	305	eP	P	18 37 41.4	-0.6
	comp=Z,148nm,0.7s						
TPUB	Ta-pu	73.75	304	eP	P	18 37 42.5	-1.0
	comp=Z,180nm,0.7s						
SSLB	Suanglung	73.77	305	eP	P	18 37 42.5	-1.2
	comp=Z,112nm,0.6s						
KIWB	Kanaga Island	73.79	2	eP	P	18 37 42.7	-0.3
ADK	Adak	73.84	2	eP	P	18 37 42.8	-0.5
	comp=Z,50nm,0.8s						
ADK	Adak	73.84	2	eP	P	18 37 42.8	-0.5
ADK				pmax	pmax		
	comp=Z,50nm,0.8s						
TATO	Taipei	74.03	306	eP	P	18 37 44.9	-0.1
	comp=Z,208nm,0.9s						
ASAJ	Asahikawa	74.59	333	P	P	18 37 49.1	+1.4
	comp=Z,35nm,0.6s,baz=213,slow=7.1,SNR=46						
SKR	Severo-Kuril's	75.72	344	ceP	P	18 37 52.2	-1.6
QZH	Quanzhou	76.20	304	∥iP	P	18 37 57.8	+0.7
QZH				pmax	pmax		
	comp=Z,87nm,0.9s						
YSS	Yuzh-Sakhalins	76.83	334	eP	P	18 37 59.9	-0.1
	comp=Z,44nm,0.8s						
YSS	Yuzh-Sakhalins	76.83	334	∥iP	P	18 38 01.3	+1.3
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
KSRS	Korea Array	77.27	320	P	P	18 38 03.6	+1.1
	comp=Z,12nm,0.9s,baz=134,slow=5.6,SNR=44						
KS15	Wonju Array Si	77.28	320	eP	P	18 38 02.7	0.0
	comp=Z,20nm,0.9s						
KSAR	Wonju Array Be	77.28	320	eP	P	18 38 02.7	0.0
PET	Petropavlovsk	77.31	347	eP	P	18 38 02.1	-0.3
	comp=Z,26nm,0.6s						
PET	Petropavlovsk	77.31	347	∥iP	P	18 38 02.3	-0.1
PET				pmax	pmax		
	comp=Z,42nm,0.6s						
PEA0B	Petropavlovsk-	77.59	346	eP	P	18 38 04.3	+0.3
	comp=Z,54nm,0.8s						
PEA0B	Petropavlovsk-	77.59	346	eP	P	18 38 04.3	+0.3
PEA0B				pmax	pmax		
	comp=Z,54nm,0.8s						
PETK	Petropavlovsk-	77.59	346	eP	P	18 38 04.0	0.0
PETK	Petropavlovsk-	77.59	346	eP	P	18 38 04.0	0.0
PETK	Petropavlovsk-	77.59	346	P	P	18 38 04.2	+0.2
	comp=Z,48nm,0.7s,baz=124,slow=5.4,SNR=131						
PEA1	Petropavlovsk-	77.60	346	eP	P	18 38 04.2	+0.2
TEY	Ternei	77.98	330	eP	P	18 38 07.4	+1.1
DLV	T Lat	78.30	288	eP	P	18 38 09.6	+0.7
	comp=Z,47nm,0.7s						
HKPS	Hong Kong Po S	78.32	300	eP	P	18 38 09.0	+0.4
	comp=Z,128nm,1.0s						
MYKOM	Kota Tinggi	78.33	277	eP	P	18 38 08.5	-0.4
	comp=Z,36nm,0.7s						
MYKOM	Kota Tinggi	78.33	277	P	P	18 38 09.0	+0.1
VLA	Vladivostok	78.91	326	iP	P	18 38 11.9	+0.7
VLA				pmax	pmax		
	comp=Z,28nm,0.9s						
MSHR	Mys Shultsa	78.91	325	diP	P	18 38 12.4	+1.1
SNCC	San Nicolas Is	79.45	48	P	P	18 38 14.6	+0.2
	baz=235						
MAW	Mawson	79.46	200	eP	P	18 38 15.1	+1.3
	comp=Z,4.4nm,0.8s						
MAW				PKKP	PKKPdf	18 56 45.3	-0.1
MAW	Mawson	79.46	200	P	P	18 38 13.3	-0.5
	baz=80,SNR=36						
MAW	Mawson	79.46	200	eP	P	18 38 15.1	+1.3
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAW	Mawson	79.46	200	P	P	18 38 15.3	+1.5
	comp=Z,18nm,0.6s,baz=131,slow=6.1,SNR=47						
MAW				PKKP	PKKPdf	18 56 45.3	-0.1
	comp=Z,0.6nm,0.2s,baz=63,slow=2.3,SNR=6.7						
USA0B	Ussuriysk Arra	79.62	327	eP	P	18 38 15.4	+0.5
	comp=Z,65nm,1.1s						
USA0B	Ussuriysk Arra	79.62	327	eP	P	18 38 15.4	+0.5
USA0B				pmax	pmax		
	comp=Z,65nm,1.1s						
USRK	Ussuriysk Ar.	79.62	327	P	P	18 38 16.0	+1.1
	comp=Z,34nm,0.9s,baz=122,slow=3.5,SNR=49						
COCO	West Island	79.68	261	iP	P	18 38 21.5	+5.5
NJ2	Nanjing	79.91	311	∥iP	P	18 38 18.0	+1.2
NJ2				pmax	pmax		
	comp=Z,44nm,0.8s						
TYV	Tymovskoe	80.05	337	eP	P	18 38 18.0	+1.0
TYV				pmax	pmax		
	comp=Z,200nm,3.2s						
TYV				pmax	pmax		
	comp=Z,47nm,0.8s						
HOPS	Hopland Field	80.60	41	eP	P	18 38 21.7	+1.5
	comp=Z,39nm,1.1s						
GDXM	Geysers	80.65	41	eP	P	18 38 20.7	+0.1
	comp=Z,11nm,1.2s						
KCPM	Cahto Peak	80.72	40	eP	P	18 38 22.4	+1.4
	comp=Z,33nm,1.1s						
DECC	Green Verdugo	80.84	47	P	P	18 38 22.9	+1.2
	baz=235						
KMRM	Mail Ridge	80.98	40	eP	P	18 38 22.7	+0.4
	comp=Z,62nm,0.9s						
ARVC	Arvin	81.00	46	P	P	18 38 23.4	+1.0
	baz=235						
MWC	Mount Wilson	81.01	47	eP	P	18 38 22.8	+0.1
	comp=Z,24nm,1.2s						
MWC	Mount Wilson	81.01	47	eP	P	18 38 22.8	+0.1
MWC				pmax	pmax		
	comp=Z,25nm,1.2s						
MDJ	Mudanjiang	81.14	326	P	P	18 38 23.9	+1.1
MDJ				pmax	pmax		
	comp=Z,60nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,190nm,4.7s						
MDJ	Mudanjiang	81.14	326	eP	P	18 38 22.8	0.0
	comp=Z,44nm,0.8s						
MURC	Murrieta	81.25	48	P	P	18 38 24.8	+1.1
	baz=236						
BFSC	Mount Baldy Ra	81.29	48	P	P	18 38 25.0

M02C	Callahan	82.22	39	P	P	18 38 30.7	+2.2
	baz=231,SNR=20						
CWC	Cottonwood Cre	82.25	46	P	P	18 38 30.0	+1.1
	baz=235						
L02E	Cave Junction	82.27	38	P	P	18 38 30.4	+1.7
	baz=231						
BELC	Belle Mtn. Jos	82.31	49	P	P	18 38 30.6	+1.4
	baz=237,SNR=10						
WHN	Wuhan	82.35	307	P	P	18 38 30.3	+1.0
WHN				pmax	pmax		
	comp=Z,98nm,1.1s						
GRNR	Gornyy	82.41	334	⇓iP	P	18 38 31.9	+2.8
GRNR				pmax	pmax		
	comp=N,21nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,72nm,1.0s						
MPMC	Manual Prospec	82.43	46	P	P	18 38 30.9	+1.0
	baz=236,SNR=14						
MLAC	Mammoth, Mammo	82.44	44	P	P	18 38 31.1	+1.2
	baz=235						
GSC	Goldstone, Bar	82.47	47	eP	P	18 38 31.0	+1.1
	comp=Z,17nm,1.0s						
GSC				epP	pP	18 40 36.8	+1.5
GSC	Goldstone, Bar	82.47	47	P	P	18 38 31.0	+1.1
	baz=236,SNR=8.4						
DAC	Darwin (Calif)	82.48	46	eP	P	18 38 30.7	+0.6
	comp=Z,6.6nm,0.9s						
DAC	Darwin (Calif)	82.48	46	eP	P	18 38 30.7	+0.6
DAC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BC3	Big Chuckawall	82.50	49	P	P	18 38 31.7	+1.6
	baz=237,SNR=8.1						
TIN	Tinemaha, Big	82.50	45	P	P	18 38 31.4	+1.3
	baz=235						
YBH	Yreka Blue Hor	82.52	39	eP	P	18 38 31.6	+1.5
	comp=Z,14nm,0.9s						
YBH	Yreka Blue Hor	82.52	39	eP	P	18 38 31.6	+1.5
YBH				pmax	pmax		
	comp=Z,14nm,0.9s						
YBH	Yreka Blue Hor	82.52	39	P	P	18 38 31.8	+1.8
	comp=Z,9.2nm,0.8s,baz=180,slow=0.9,SNR=28						
HEC	Hector,Ludlow	82.53	48	P	P	18 38 31.4	+1.1
	baz=236						
WAKR	Walker	82.56	43	eP	P	18 38 31.8	+1.3
	comp=Z,19nm,0.9s						
K02D	Willamette Mer	82.57	38	P	P	18 38 32.0	+1.7
	baz=231						
GLA	Glamis	82.62	50	P	P	18 38 32.4	+1.8
	baz=238						
NKL	Nikolayevsk	82.62	337	eP	P	18 38 35.0	+4.9
NKL				pmax	pmax		
	comp=N,17nm,0.9s						
NKL				pmax	pmax		
	comp=Z,72nm,0.9s						
KULM	Kulim	82.63	279	eP	P	18 38 31.4	+0.3
	comp=Z,41nm,0.8s						
KULM	Kulim	82.63	279	P	P	18 38 32.0	+0.9
SNY	Shenyang	82.64	321	⇓P	P	18 38 31.0	+0.5
SNY				pmax	pmax		
	comp=Z,47nm,0.8s						
J01E	Myrtle Point	82.72	37	P	P	18 38 32.6	+1.7
	baz=230						
BEKR	Beckworth	82.79	42	eP	P	18 38 32.6	+1.0
	comp=Z,10nm,0.9s						
PNTR	Pine Nut	82.81	43	eP	P	18 38 32.7	+1.0
	comp=Z,40nm,0.8s						
CN2	Changchun	82.82	323	⇓P	P	18 38 32.0	+0.6
CN2				epP	pwP	18 40 42.5	+1.6
CN2				eS	S	18 48 02.3	+1.2
CN2				pmax	pmax		
	comp=Z,70nm,1.0s						
CN2				pmax	pmax		
	comp=Z,220nm,3.0s						
HUMO	Hull Mountain	82.92	38	eP	P	18 38 33.9	+2.0
	comp=Z,26nm,1.3s						
GMRC	Granite Mounta	82.97	48	P	P	18 38 33.7	+1.2
	baz=237,SNR=6.5						
YERR	Yerington	82.97	43	eP	P	18 38 33.5	+1.0
	comp=Z,19nm,0.8s						
IRM	Iron Mountain	82.98	49	P	P	18 38 34.1	+1.6
	baz=237,SNR=14						
GRAC	Grapevine Rang	83.04	45	P	P	18 38 33.8	+1.1
	baz=236						
L04D	Klamath Falls	83.06	39	P	P	18 38 34.1	+1.4
	baz=232,SNR=6.3						
M04C	Macdoel	83.06	40	P	P	18 38 34.2	+1.4
	baz=232,SNR=6.2						
FURC	Furnace Creek,	83.08	46	P	P	18 38 33.8	+1.0
	baz=236,SNR=5.5						
TUQ	Turquoise Moun	83.14	47	P	P	18 38 34.2	+0.9
	baz=237						
SHOC	Shoshone, Teco	83.16	47	P	P	18 38 34.1	+0.9
	baz=236						
Y12C	Blythe	83.20	49	eP	P	18 38 35.0	+1.5
	comp=Z,20nm,1.0s						
Y12C	Blythe	83.20	49	P	P	18 38 35.0	+1.5
	baz=238						
RYN	Ryan	83.22	44	eP	P	18 38 34.7	+1.0
	comp=Z,9.2nm,1.1s						
113A	Mohawk Valley,	83.22	51	eP	P	18 38 34.6	+1.0
	comp=Z,18nm,1.0s						
NV01	Mina Array Sit	83.25	44	eP	P	18 38 34.9	+1.0
NVAR	Mina Array Bea	83.25	44	P	P	18 38 34.9	+1.0
	comp=Z,13nm,0.9s,baz=224,slow=8.8,SNR=58						
NVAR				PKKPbc	PKKPbc	18 56 50.7	+0.1
	comp=Z,0.5nm,0.5s,baz=106,slow=3.7,SNR=4.8						
PSI	Prapat	83.25	276	eP	P	18 38 33.5	-0.9
	comp=Z,53nm,0.8s						
PSI	Prapat	83.25	276	eP	P	18 38 33.5	-0.9
PSI				pmax	pmax		
	comp=Z,53nm,0.8s						
PAHR	Pah Rah Range	83.30	42	eP	P	18 38 34.4	+0.3
	comp=Z,16nm,1.0s						
KLR	Kul'dur	83.31	330	d iP	P	18 38 34.5	+0.8
KLR				pmax	pmax		
	comp=Z,17nm,0.9s						
KLR	Kul'dur	83.31	330	P	P	18 38 34.8	+1.2
	comp=Z,13nm,0.8s,baz=108,slow=3.9,SNR=49						
NV11	Mina Array Sit	83.34	44	eP	P	18 38 34.6	+0.3
	comp=Z,1.2nm,1.0s						
SKLT	Songkhla	83.39	280	P	P	18 38 36.7	+1.8
	comp=Z,33nm,1.2s,comp=Z,476nm						
SKLT	Songkhla	83.39	280	P	P	18 38 36.7	+1.8
	comp=Z,33nm,1.2s,comp=Z,476nm						
HSIG		83.40	55	eP	S	18 38 34.9	+0.3
	comp=Z,21nm,0.7s						
TIA	Tai'an	83.42	313	P	P	18 38 35.6	+1.1
TIA				pmax	pmax		
	comp=Z,61nm,0.8s						
214A	Organ Pipe Nat	83.49	52	P	P	18 38 36.7	+1.7
	baz=239						
NEE2	Needles Airpor	83.68	49	P	P	18 38 37.3	+1.4
	baz=238						
KVN	Kaiserville	83.73	43	eP	P	18 38 37.0	+0.7
	comp=Z,13nm,1.0s						
KVN	Kaiserville	83.73	43	eP	P	18 38 37.0	+0.7
KVN				pmax	pmax		
	comp=Z,13nm,1.0s						
TPNV	Topopah Spring	83.75	46	eP	P	18 38 37.2	+0.8
	comp=Z,13nm,1.1s						
TPNV	Topopah Spring	83.75	46	eP	P	18 38 37.2	+0.8
TPNV				pmax	pmax		
	comp=Z,13nm,1.1s						
TPNV	Topopah Spring	83.75	46	P	P	18 38 37.4	+1.0
	baz=236,SNR=12						
PDMCI	Parker Dam,Lak	83.77	49	P	P	18 38 37.7	+1.4
	baz=238						
J04D	Umpqua Nationa	83.80	38	P	P	18 38 38.1	+1.6
	baz=232,SNR=8.0						
PANO	Nakornpanom	83.92	291	P	P	18 38 38.6	+1.2
	comp=Z,3.9nm,0.9s,comp=Z,33nm						
GSI	Gunungsitoli	83.93	274	eP	P	18 38 37.7	+0.1
	comp=Z,101nm,0.6s						
I04A	Tendick Farm,	83.97	38	P	P	18 38 38.2	+1.0
	baz=232						
MOD	Modoc Plateau	84.05	40	eP	P	18 38 38.5	+0.8
	comp=Z,18nm,1.4s						
K05A	Summer Lake	84.19	39	eP	P	18 38 40.0	+1.5
	comp=Z,23nm,1.0s						
SHPR	Sheep Range	84.24	47	eP	P	18 38 39.6	+0.7
	comp=Z,20nm,1.6s						
J05D	Fort Rock, OR	84.33	39	P	P	18 38 40.7	+1.6
	baz=232,SNR=16						
W13A	Hualapai Mount	84.37	49	eP	P	18 38 39.9	+0.4
	comp=Z,9.4nm,0.9s						
Y14A	Wickenburg	84.38	50	eP	P	18 38 39.8	+0.4
	comp=Z,18nm,1.3s						
G03D	McMinnville, O	84.39	36	P	P	18 38 39.8	+0.7
	baz=231						
SKNT	Sakolnakorn	84.39	291	P	P	18 38 40.8	+1.1
	comp=Z,470nm,0.8s,comp=Z,4μm						
SKNT	Sakolnakorn	84.39	291	P	P	18 38 40.8	+1.1
	comp=Z,470nm,0.8s,comp=Z,4μm						
TRTT	Trang	84.50	281	P	P	18 38 42.0	+1.7
	comp=Z,83nm,1.2s						
TRTT	Trang	84.50	281	P	P	18 38 42.0	+1.7
	comp=Z,83nm,1.2s						
H04A	Detroit Lake	84.65	37	eP	P	18 38 41.1	+0.6
	comp=Z,10nm,0.8s						
SYO	Syowa Base	84.73	193	⇑iP	P	18 38 39.2	-1.2
SYO	Syowa Base	84.73	193	⇓iPcP	P	18 38 41.2	+0.8
PINE	Pine Mountain	84.81	38	eP	P	18 38 43.2	+1.7
	comp=Z,43nm,1.4s						
PINE				epP	pP	18 40 49.0	+1.3
I05D	Terrebonne, OR	84.92	38	P	P	18 38 43.1	+1.3
	baz=232						
R11A	Troy Canyon, C	84.97	45	eP	P	18 38 42.5	+0.1
	comp=Z,7.1nm,1.8s						
R11A	Troy Canyon, C	84.97	45	P	P	18 38 42.8	+0.5
	baz=237						
BMN	Battle Mountai	85.08	43	eP	P	18 38 42.6	-0.1
	comp=Z,7.4nm,0.8s						
BMN	Battle Mountai	85.08	43	eP	P	18 38 42.7	-0.1
BMN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MA2	Magadan	85.08	345	eP	P	18 38 41.8	-0.3
	comp=Z,43nm,0.9s						
MA2	Magadan	85.08	345	ceP	P	18 38 41.6	-0.5
MA2				pmax	pmax		
	comp=Z,40nm,0.9s						
MA2	Magadan	85.08	345	P	P	18 38 41.8	-0.3
	comp=Z,36nm,0.9s,baz=143,slow=5.4,SNR=36						
KRAB	Krabi	85.10	281	P	P	18 38 45.0	+1.7
KHON	Khomkaen	85.13	290	P	P	18 38 44.9	+1.6
	comp=Z,285μm,0.8s						
KHON	Khomkaen	85.13	290	P	P	18 38 44.9	+1.6
	comp=Z,285μm,0.8s						
TUC	Tucson	85.15	52	eP	P	18 38 44.6	+1.4
	comp=Z,21nm,0.9s						
TUC				epP	pP	18 40 49.9	-0.1
TUC	Tucson	85.15	52	eP	P	18 38 44.6	+1.4
TUC				e*PP	pP	18 40 49.9	-0.1
TUC				pmax	pmax		
	comp=Z,21nm,0.9s						
TUC	Tucson	85.15	52	P	P	18 38 45.2	+2.0
	baz=240						
WVOR	Wild Horse Val	85.36	40	eP	P	18 38 45.0	+1.0
	comp=Z,12nm,1.1s						
WVOR				epP	pwP	18 40 52.6	-1.6
WVOR	Wild Horse Val	85.36	40	eP	P	18 38 45.0	+1.0
WVOR				e*PP	pwP	18 40 52.6	-1.6
WVOR				pmax	pmax		
	comp=Z,12nm,1.1s						
NONG	Nongkai	85.57	291	P	P	18 38 46.8	+1.4
	comp=Z,2.9nm,1.0s,comp=Z,110nm						
NONG	Nongkai	85.57	291	P	P	18 38 46.8	+1.4
E04D	Cinebar	85.61	35	P	P	18 38 46.5	+1.5
	baz=231						
319A	Douglas	85.81	54	eP	P	18 38 45.4	-1.0
	comp=Z,43nm,1.0s						
I07A	Izee	85.81	39	eP	P	18 38 46.7	+0.5
	comp=Z,12nm,1.0s						
I07A				epP	pP	18 40 53.6	+0.7
LCMT	Little Creek M	85.81	47	eP	P	18 38 46.7	+0.4
	comp=Z,8.2nm,0.9s						
ENH	Enshi	85.86	305	eP	P	18 38 47.3	+0.8
	comp=Z,107nm,0.9s						
J08A	Circle Bar Ran	85.99	40	eP	P	18 38 48.1	+1.1
	comp=Z,20nm,1.3s						
J08A				epP	pP	18 40 54.4	+0.6
CCUT	Cedar City	86.02	47	eP	P	18 38 48.0	+0.5
	comp=Z,8.5nm,1.1s						
KNB	Kanab	86.11	47	eP	P	18 38 49.2	+1.4
	comp=Z,16nm,1.2s						
BJT	Baijiatuau	86.14	316	eP	P	18 38 48.4	+0.8
	comp=Z,24nm,0.8s						
BJT	Baijiatuau	86.14	316	P	P	18 38 48.6	+1.0
BJT				pmax	pmax		
	comp=Z,45nm,0.9s						
U15A	North Rim	86.16	48	eP	P	18 38 49.6	+1.4
	comp=Z,20nm,0.8s						
U15A				epP	pP	18 40 56.6	+1.5
PSUT	Pine Spring	86.21	46	eP	P	18 38 48.9	+0.6
	comp=Z,6.0nm,0.9s						
GYA	Guiyang	86.29	300	⇓iP	P	18 38 49.5	+0.7
GYA				pP	pwP	18 40 58.3	-1.7
GYA				sP	sP	18 41 58.0	+3.1
GYA				PP	PP	18 42 24.4	+2.9
GYA				SKS	SKSac	18 48 17.5	-1.7
GYA				S	S	18 48 33.9	-1.7
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
SLVN	Son La	86.31	295	eP	P	18 38 50.1	+1.2
	comp=Z,16nm,1.0s						
SNAA	Sanae	86.32	179	P	P	18 38 47.9	-0.1
SNAA	Sanae	86.32	179	eP	P	18 38 48.0	-0.1
	comp=Z,4.1nm,0.5s						
SNAA	Sanae	86.32	179	iP	P	18 38 47.2	-0.9
WUAZ	Wupatki	86.34	49	eP	P	18 38 48.0	-0.9
	comp=Z,12nm,1.1s						
WUAZ	Wupatki	86.34	49	P	P	18 38 50.3	+1.4
	baz=240						
ELK	Elko	86.50	43	eP	P	18 38 50.2	+0.6
	comp=Z,6.1nm,1.0s						
ELK				epP	pP	18 40 56.9	+0.3
ELK	Elko	86.50	43	eP	P	18 38 50.2	+0.6
ELK				e*PP	pP	18 40 56.9	+0.3
ELK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ELK	Elko	86.50	43	P	P	18 38 50.5	+0.9
	comp=Z,4.7nm,0.9s,baz=271,slow=4.5,SNR=19						
VNA3	Neumayer Olymp	86.51	177	P	P	18 38 48.8	-0.1
HPIG		86.53	59	eP	P	18 38 48.0	-2.0
	comp=Z,16nm,0.5s						
PHET	Kaeng Krachan	86.56	285	P	P	18 38 52.5	+2.4
	comp=Z,325μm,0.8s						
G08A	Pilot Rock	86.84	38	eP	P	18 38 52.1	+1.2
	comp=Z,23nm,1.3s						
G08A				epP	pP	18 40 57.6	-0.5
A04D	Lummi Island	86.90	34	P	P	18 38 52.5	+1.6
	baz=231						
VNA2	Neumayer--Watz	86.93	177	P	P	18 38 51.3	+0.4
	baz=196,slow=3.8						
B05A	Bryant	86.93	34	P	P	18 38 53.0	+1.8
	baz=231						
MTPU	Mount Pierson	87.07	47	eP	P	18 38 54.2	+1.6
	comp=Z,12nm,1.1s						
MTPU				epP	pP	18 40 59.8	0.0
LTY	Liberty	87.07	36	eP	P	18 38 52.4	+0.5
	comp=Z,8.0nm,0.9s						
VNA1	Neumayer--Stat	87.17	177	P	P	18 38 52.1	+0.2
HAWA	Hanford	87.17	37	eP	P	18 38 52.8	+0.5
	comp=Z,14nm,1.0s						
HAWA				epP	pwP	18 41 06.9	+3.7
ZAIG	Zacatecas	87.23	64	eP	P	18 38 53.5	0.0
	comp=Z,12nm,0.9s						
GHO	Glory Hole Cre	87.23	14	eP	P	18 38 52.1	-0.2
	comp=Z,41nm,0.7s						
W18A	Petrified Fore	87.30	50	eP	P	18 38 54.9	+1.5
	comp=Z,12nm,1.1s						
W18A	Petrified Fore	87.30	50	P	P	18 38 54.6	+1.2
	baz=240						
MSU	Marysvale	87.32	46	eP	P	18 38 55.0	+1.5
TIY	Taiyuan	87.39	313	eP	P	18 38 55.4	+1.7
TIY				pmax	pmax		
	comp=Z,74nm,0.9s						
121A	Cookes Peak, D	87.47	53	P	P	18 38 55.9	+1.6
	baz=242						
BMO	Blue Mountains	87.54	39	eP	P	18 38 54.4	+0.2
BMO				epP	pwP	18 41 03.7	-1.6
BMO	Blue Mountains	87.54	39	eP	P	18 38 54.4	+0.2
BMO				e*PP	pwP	18 41 03.7	-1.6
SRDT	SRDT	87.58	286	P	P	18 38 57.5	+2.6
	comp=Z,38nm,1.2s,comp=Z,623nm						
SCM	Sheep Creek Mo	87.65	15	eP	P	18 38 54.7	+0.4
	comp=Z,32nm,0.6s						
SCM	Sheep Creek Mo	87.65	15	eP	P	18 38 54.7	+0.4
SCM				pmax	pmax		
	comp=Z,32nm,0.6s						
UTTA	Uttaradit	87.69	290	P	P	18 38 57.1	+1.8
	comp=Z,54μm,0.9s,comp=Z,495μm						
SEY	Seymchan	87.75	348	ceP	P	18 38 53.2	-1.4
SEY	Seymchan	87.75	348	P	P	18 38 54.8	+0.2
	comp=Z,18nm,0.7s,baz=157,slow=4.4,SNR=38						
D08A	Wollman Farm,	87.91	37	eP	P	18 38 57.2	+1.5
	comp=Z,12nm,0.9s						
E09A	Wood Farm, Sta	88.02	37	eP	P	18 38 56.2	0.0
	comp=Z,12nm,1.0s						
XAN	Xi'an	88.07	308	P	P	18 38 58.1	+1.2
XAN				pmax	pmax		
	comp=Z,61nm,0.9s						
XAN				pmax	pmax		
	comp=Z,150nm,3.8s						
XAN	Xi'an	88.07	308	eP	P	18 38 57.8	+0.9
	comp=Z,49nm,0.8s						
NLU	North Lily Min	88.13	45	eP	P	18 38 58.3	+1.0
	comp=Z,7.4nm,1.1s						
Q16A	Castle Valley	88.20	47	eP	P	18 38 58.2	+0.6
	comp=Z,35nm,1.6s						
F10A	Beach Ranch, E	88.23	38	eP	P	18 38 57.9	+0.5
	comp=Z,15nm,0.9s						
F10A				epP	pwP	18 41 07.9	-0.8
BALM	Baldy	88.24	17	eP	P	18 38 57.7	+0.6
	comp=Z,20nm,1.2s						
BALM	Baldy	88.24	17	eP	P	18 38 57.7	+0.6
BALM				pmax	pmax		
	comp=Z,20nm,1.2s						
PHRA	Phrae	88.27	291	P	P	18 38 59.9	+1.8
	comp=Z,7.6nm,1.1s,comp=Z,112nm						
TMUT	Trail Mountain	88.37	46	eP	P	18 38 60.0	+1.5
TMUT				epP	pP	18 41 07.3	+1.2
PLID	Pearl Lake	88.44	39	eP	P	18 38 59.5	+0.9
	comp=Z,14nm,1.4s						
MPU	Maple Canyon	88.45	45	eP	P	18 38 59.7	+1.0
	comp=Z,9.4nm,1.0s						
B08A	Colville Reser	88.45	35	eP	P	18 38 57.5	-0.8
	comp=Z,8.4nm,1.0s						
ZEA	Zeya	88.46	332	eP	P	18 38 59.0	+0.8
ZEA				pmax	pmax		
	comp=Z,29nm,0.6s						
UMPA	Umpang Tak	88.55	288	P	P	18 39 02.3	+2.8
	comp=Z,52μm,0.9s,comp=Z,427μm						
HLID	Hailey	88.55	41	eP	P	18 39 00.4	+1.4
	comp=Z,7.7nm,0.9s						
HLID				epP	pP	18 41 08.6	+1.8
HLID	Hailey	88.55	41	P	P	18 39 00.6	+1.5
	baz=237						
HVU	Hansel Valley	88.63	43	eP	P	18 39 00.6	+1.1
	comp=Z,16nm,1.1s						
RND	Reindeer	88.69	13	eP	P	18 38 59.2	+0.1
	comp=Z,28nm,0.9s						
RND	Reindeer	88.69	13	eP	P	18 38 59.2	+0.1
RND				pmax	pmax		
	comp=Z,28nm,0.9s						
CTU	Camp Tracy	88.72	45	eP	P	18 39 00.5	+0.6
	comp=Z,13nm,1.0s						
SRU	San Rafael Swe	88.73	47	eP	P	18 39 00.6	+0.6
	comp=Z,22nm,1.0s						
SRU				epP	pP	18 41 08.1	+0.3
SRU	San Rafael Swe	88.73	47	eP	P	18 39 00.6	+0.6
SRU				e*PP	pP	18 41 08.1	+0.3
SRU				pmax	pmax		
	comp=Z,22nm,1.0s						
P17A	Butcher Ranch,	88.77	46	eP	P	18 39 00.9	+0.7
	comp=Z,14nm,1.1s						
P17A				epP	pwP	18 41 10.2	-1.3
LAMP	Lampang	88.80	290	P	P	18 39 02.6	+2.0
	comp=Z,260μm,0.8s						
LAZ	Ladron	88.83	52	eP	P	18 39 02.0	+1.4
LENM	Lemitar	88.84	52	eP	P	18 39 02.2	+1.6
KMI	Kunming	88.89	298	P	P	18 39 03.3	+2.2
KMI				pmax	pmax		
	comp=Z,35nm,1.2s						
MNTX	Cornudas Mount	88.90	55	eP	P	18 39 02.1	+1.3
	comp=Z,18nm,0.8s						
MNTX	Cornudas Mount	88.90	55	P	P	18 39 02.2	+1.4
	baz=243						
PAYA	Payao	88.93	291	P	P	18 39 02.7	+1.5
	comp=Z,128μm,0.7s						
GO06	Curarrehue	89.03	133	eP	P	18 39 03.4	+2.0
	comp=Z,8.8nm,0.8s						
BNM	Barren Site	89.09	52	eP	P	18 39 02.4	+0.6
PLCA	Paso Flores	89.10	134	eP	P	18 39 03.5	+1.8
	comp=Z,9.7nm,0.9s						
PLCA	Paso Flores	89.10	134	eP	P	18 39 03.5	+1.8
PLCA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PLCA	Paso Flores	89.10	134	P	P	18 39 03.6	+1.9
	comp=Z,6.9nm,0.8s,baz=261,slow=5.3,SNR=15						
LTX	Lajitas	89.17	58	eP	P	18 39 03.9	+1.7
TX31	Lajitas Ar. Si	89.17	58	eP	P	18 39 03.8	+1.6
	comp=Z,20nm,1.1s						
TX31				epP	pP	18 41 10.9	+0.8
TXAR	Lajitas Array	89.17	58	P	P	18 39 03.9	+1.7
	comp=Z,11nm,0.9s,baz=216,slow=5.5,SNR=78						
TXAR				PKKPbc	PKKPbc	18 56 37.1	+1.3
	comp=Z,0.9nm,0.7s,baz=94,slow=3.8,SNR=8.4						
HWUT	Hardware Ranch	89.31	44	eP	P	18 39 01.9	-0.8
	comp=Z,4.7nm,0.7s						
CM31	Chiang Mai Arr	89.37	290	eP	P	18 39 04.2	+0.9
	comp=Z,83nm,0.9s						
CM31	Chiang Mai Arr	89.37	290	P	P	18 39 05.3	+2.1
	SNR=24						
CMAR	Chiang Mai Arr	89.37	290	P	P	18 39 05.3	+2.1
	comp=Z,56nm,0.8s,baz=135,slow=3.3,SNR=297						
CMAR				PP	PP	18 42 41.2	-4.5
	comp=Z,2.4nm,1.0s,baz=120,slow=5.7,SNR=4.8						
PV09	Paradox Valley	89.38	48	eP	P	18 39 03.1	-0.1
PV13	Radium Mtn., P	89.42	48	eP	P	18 39 04.0	+0.6
	comp=Z,4.7nm,0.9s						
PV23	Carpenter Ridg	89.44	48	eP	P	18 39 03.2	-0.2
	comp=Z,9.1nm,0.9s						
PV11	David Mesa, Pa	89.46	48	eP	P	18 39 04.2	+0.7
	comp=Z,12nm,1.2s						
CMMT	Chiang Mai	89.51	290	P	P	18 39 05.3	+1.4
	comp=Z,61nm,0.9s,comp=Z,469nm						
PV12	Saucer Basin,	89.51	48	eP	P	18 39 04.1	+0.4
	comp=Z,9.3nm,0.6s						
PV21	Cone Mtn., Par	89.51	48	eP	P	18 39 03.6	-0.1
	comp=Z,14nm,1.3s						
CHTO	Chiang Mai	89.52	290	eP	P	18 39 03.7	-0.2
	comp=Z,84nm,0.8s						
CHTO	Chiang Mai	89.52	290	eP	P	18 39 03.7	-0.2
CHTO				pmax	pmax		
	comp=Z,84nm,0.8s						
CHTO	Chiang Mai	89.52	290	P	P	18 39 05.7	+1.9
	SNR=20						
HHC	Hu-ho-hao-te	89.56	315	eP	P	18 39 05.0	+1.3
HHC				SKS	SKSac	18 48 34.6	-3.1
HHC				S	ScS	18 49 09.8	+2.3
HHC				pmax	pmax		
	comp=Z,62nm,1.1s						
HHC				pmax	pmax		
	comp=Z,230nm,6.6s						
TASM	ASL Pad, Albuq	89.58	52	P	P	18 39 05.1	+1.0
	baz=242						
TASM	ASL Pad, Albuq	89.58	52	P	P	18 39 05.1	+1.0
	baz=242						
ANMO	Albuquerque	89.58	52	eP	P	18 39 04.7	+0.6
	comp=Z,11nm,1.0s						
ANMO				epP	pP	18 41 12.9	+0.8
ANMO	Albuquerque	89.58	52	iP	P	18 39 04.2	+0.1
ANMO				pmax	pmax		
	comp=Z,10.0nm,1.0s

baz=209
AHID Auburn Hatcher 90.20 43 *eP* **P 18 39 06.5 -0.2**
comp=Z,9.7nm,0.8s
COLA College 90.20 13 *i P* **P 18 39 05.2 -0.7**
COLA pmax pmax
comp=Z,9.0nm,1.1s
SCRK Sand Creek 90.29 15 *eP* **P 18 39 07.1 +0.6**
comp=Z,3.9nm,0.8s
ILAR Eielson Array 90.31 13 P **P 18 39 05.8 -0.7**
comp=Z,2.3nm,0.7s,baz=220,slow=5.1,SNR=14
ILB Eielson Array 90.31 13 *eP* **P 18 39 04.6 -1.9**
comp=Z,13nm,1.4s
POKR Poker Plat Res 90.50 13 P **P 18 39 06.9 -0.4**
baz=210
CD2 Chengdu 90.54 303 *eP* **P 18 39 08.6 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
S22A 4UR Ranch, Cre 90.61 49 *eP* **P 18 39 09.7 +0.8**
comp=Z,8.5nm,1.0s
S22A 4UR Ranch, Cre 90.61 49 P **P 18 39 09.6 +0.6**
baz=242
BILL Bilibino 90.61 355 *eP* **P 18 39 08.0 +0.2**
comp=Z,17nm,0.8s
BILL Bilibino 90.61 355 *ceP* **P 18 39 07.5 -0.3**
BILL pmax pmax
comp=Z,17nm,0.9s
REDW Red Top Meadow 90.66 43 *eP* **P 18 39 09.4 +0.5**
comp=Z,11nm,1.0s
TPAW Teton Pass 90.66 43 *eP* **P 18 39 09.0 +0.1**
comp=Z,5.2nm,0.8s
FXWY Fox Creek 90.69 42 *eP* **P 18 39 09.6 +0.6**
comp=Z,20nm,1.9s
LNIG Linares 90.69 63 *eP* **P 18 39 09.7 +0.5**
comp=Z,22nm,0.9s
O20A White River Ci 90.77 47 *eP* **P 18 39 10.2 +0.7**
comp=Z,6.9nm,0.8s
O20A White River Ci 90.77 47 P **P 18 39 10.4 +0.9**
baz=241
IMW Indian Meadow 90.87 42 *eP* **P 18 39 10.5 +0.6**
comp=Z,7.7nm,1.0s
SMCO Snowmass 91.18 48 *eP* **P 18 39 12.3 +0.7**
comp=Z,5.2nm,0.8s
PD31 Pinedale Array 91.18 44 *eP* **P 18 39 11.7 +0.4**
comp=Z,6.5nm,1.0s
PDAR Pinedale Array 91.18 44 P **P 18 39 12.0 +0.7**
comp=Z,3.8nm,0.8s,baz=204,slow=3.3,SNR=24
PDAR PKKPbc **PKKPbc 18 56 30.4 -1.2**
comp=Z,0.5nm,0.6s,baz=72,slow=4.8,SNR=4.7
BOZ Bozeman (W) 91.32 41 *eP* **P 18 39 13.0 +1.2**
comp=Z,22nm,1.4s
BOZ Bozeman (W) 91.32 41 *eP* **P 18 39 13.0 +1.2**
BOZ pmax pmax
comp=Z,22nm,1.4s
BOZ Bozeman (W) 91.32 41 P **P 18 39 12.7 +1.0**
baz=239
DAWY Dawson 91.51 16 *eP* **P 18 39 12.6 +0.6**
comp=Z,5.0nm,0.9s
CMIG Matias Romero 91.54 72 P **P 18 39 14.0 +0.7**
comp=Z,3.8nm,0.9s,baz=275,slow=6.4,SNR=6.4
SDCO Great Sand Dun 91.55 50 *eP* **P 18 39 14.1 +0.9**
comp=Z,4.8nm,0.8s
SDCO Great Sand Dun 91.55 50 P **P 18 39 13.7 +0.5**
baz=243
WALA Waterton Lakes 91.81 37 *epP* pP 18 41 24.0 +1.4
MSTX Muleshoe 91.87 54 P **P 18 39 15.1 +0.5**
baz=244
T25A Trinidad 92.05 51 *eP* **P 18 39 15.8 +0.4**
comp=Z,5.4nm,0.8s
T25A Trinidad 92.05 51 P **P 18 39 15.9 +0.4**
baz=244
833A Chaparral WMA, 92.14 60 P **P 18 39 16.5 +0.8**
baz=246
Q24A Divide 92.34 49 P **P 18 39 17.4 +0.6**
baz=243
ISCO Idaho Springs 92.40 48 *eP* **P 18 39 17.3 +0.2**
comp=Z,2.1nm,0.7s
ISCO Idaho Springs 92.40 48 *eP* **P 18 39 17.3 +0.2**
ISCO pmax pmax
comp=Z,2.0nm,0.7s
ISCO Idaho Springs 92.40 48 P **P 18 39 17.8 +0.7**
baz=243
RLMT Red Lodge 92.52 42 *eP* **P 18 39 18.2 +0.8**
comp=Z,6.9nm,1.3s
RLMT Red Lodge 92.52 42 P **P 18 39 18.3 +0.8**
baz=241
JCT Junction City 92.69 58 P **P 18 39 18.9 +0.6**
baz=246
LZH Lanzhou 92.71 308 *eP* **P 18 39 19.8 +1.4**
LZH pP pwP 18 41 29.8 -1.7
LZH sP sP 18 42 30.5 +5.3
LZH PP **PP 18 43 15.8 +4.3**
LZH pmax pmax
comp=Z,39nm,1.2s
LZH pmax pmax
comp=Z,190nm,4.3s
AMTX Amarillo 93.07 54 P **P 18 39 20.5 +0.5**
baz=245
YAK Yakutsk 93.19 339 *eP* **P 18 39 18.1 -1.6**
YAK *e**PP **pwP 18 41 31.2 -1.1**
YAK *e*S **SKSac 18 48 54.4 -2.2**
YAK *e*SS **SS 18 56 11.2 +0.5**
YAK pmax pmax
comp=E,17nm,0.8s
YAK pmax pmax
comp=N,39nm,1.0s
YAK pmax pmax
comp=Z,12nm,0.4s
YAK smax smax
comp=N,141nm,1.8s
TOLK Toolik Lake Re 93.21 11 P **P 18 39 20.8 +1.0**
baz=208
ABTX Abilene, Hawle 93.69 56 P **P 18 39 23.1 +0.3**
baz=246
KSCO Kaye Shedlock' 94.13 50 P **P 18 39 25.5 +0.7**
baz=245
APG El Apazote 94.70 76 P **P 18 39 28.8 +0.8**
comp=N,4.8nm,1.1s,baz=267,slow=6.2,SNR=3.8
RSSD Black Hills 95.37 44 *eP* **P 18 39 29.8 -0.6**
comp=N,17nm,1.2s
RSSD Black Hills 95.37 44 *eP* **P 18 39 29.8 -0.6**
RSSD pmax pmax
comp=Z,17nm,1.2s
RSSD Black Hills 95.37 44 P **P 18 39 30.3 -0.2**
baz=244
ULN Ulaanbaatar 95.75 320 *eP* **P 18 39 31.5 -0.4**
comp=Z,7.2nm,1.0s
ULN Ulaanbaatar 95.75 320 *d i P* **P 18 39 30.7 -1.2**
ULN pmax pmax
comp=Z,4.0nm,1.0s
SONA0 Songino Array 96.14 319 *eP* **P 18 39 33.2 -0.4**
SONA0 *e*PP **PP 18 43 34.0 -3.4**
SONM Songino Array 96.14 319 P **P 18 39 33.4 -0.2**
SONM Songino Array 96.14 319 P **P 18 39 33.2 -0.4**
comp=Z,1.1nm,0.5s,baz=133,slow=6.5,SNR=5.9
SONM PP **PP 18 43 34.0 -3.4**
comp=Z,1.5nm,1.0s,baz=126,slow=7.5,SNR=5.4
INK Inuvik 96.31 16 P **P 18 39 33.0 -0.7**
INK Inuvik 96.31 16 P **P 18 39 33.0 -0.7**
comp=Z,1.1nm,0.7s,baz=224,slow=2.7,SNR=8.8
GTA Gaotai 96.98 310 *eP* **P 18 39 34.3 -3.3**
GTA pP P 18 39 38.8 +1.2
GTA sP P 18 39 41.3 +3.7
GTA Gaotai 96.98 310 ⇑*P* **P 18 39 38.8 +1.2**
GTA sP sP 18 42 47.0 +2.3
GTA pmax pmax
comp=Z,8.0nm,1.6s
YKA Yellowknife Ar 98.67 25 P Pdif 18 39 44.2 -0.2
comp=Z,0.1nm,0.4s,baz=255,slow=4.9,SNR=3.1
YKA PKKPbc **PKKPbc 18 56 10.0 -2.2**
comp=Z,0.3nm,0.4s,baz=40,slow=2.4,SNR=8.1
YKB5 Yellowknife Ar 98.67 25 *e*Pdif Pdif 18 39 44.2 -0.2
TIXI Tiksi 100.06 345 *i P* **Pdif 18 39 48.6 -1.7**
TIXI Tiksi 100.06 345 P **Pdif 18 39 49.0 -1.3**
comp=Z,1.0nm,0.3s,baz=182,slow=1.4,SNR=4.2
TIXI PP **PP 18 44 02.8 -3.2**
comp=Z,2.2nm,0.8s,baz=79,slow=5.5,SNR=7.9
LSA Lhasa 100.14 298 P **Pdif 18 39 53.2 +0.8**
LSA pmax pmax
comp=Z,39nm,1.0s
ODAN Odare 102.34 294 *eP* **PKiKP 18 44 19.8 0.0**
comp=Z,15nm,0.7s
LPAZ La Paz 102.68 114 PKKPbc PKKPbc 18 55 59.4 -1.0
comp=Z,1.4nm,0.5s,baz=333,slow=0.6,SNR=6.7
RAMN Ramite 103.04 294 *eP* **PKiKP 18 44 20.9 -0.2**
comp=Z,14nm,0.7s
JIRN Jiri 103.61 294 *eP* **PKiKP 18 44 21.7 -0.6**
comp=Z,25nm,0.5s

PKI Pulchoki 104.24 294 *eP* **PKiKP 18 44 22.5 -0.9**
PKIN Phulchoki 104.25 294 *eP* **PKiKP 18 44 22.5 -0.9**
comp=Z,8.2nm,0.6s
KKN Kakani 104.42 294 *eP* **PKiKP 18 44 22.8 -0.8**
comp=Z,7.9nm,0.7s
DMN Daman 104.51 294 *eP* **PKiKP 18 44 23.2 -0.6**
KOLN Koldanda 105.83 294 *eP* **PKiKP 18 44 25.2 -1.0**
DANN Dangsing 105.87 294 *eP* **PKiKP 18 44 25.6 -0.8**
PYUN Piuthan 106.44 294 *eP* **PKiKP 18 44 26.5 -0.8**
ZALV Zalesovo Beam 110.95 321 PKiKP **PKiKP 18 44 33.6 -1.1**
comp=Z,3.1nm,0.3s,baz=191,slow=0.9,SNR=20
ZAA1 Zalesovo Array 110.95 321 *e*PKiKP **PKiKP 18 44 33.6 -1.1**
MK31 Makanchi Array 111.35 313 *i* PKIKP **PKiKP 18 44 34.8 -1.0**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK32 Makanchi Array 111.35 313 *e*Pdif **Pdif 18 40 41.9 +0.7**
MK32 *e*PKiKP **PKiKP 18 44 35.0 -0.8**
MKAR Makanchi Array 111.35 313 Pdiff **Pdif 18 40 41.9 +0.7**
comp=Z,1.0nm,0.8s,baz=93,slow=4.7,SNR=8.6
MKAR PKiKP **PKiKP 18 44 35.0 -0.8**
comp=Z,3.4nm,0.5s,baz=189,slow=1.0,SNR=48
MKAR PKKPbc **PKKPbc 18 55 34.2 +0.5**
comp=Z,0.6nm,0.8s,baz=264,slow=5.1,SNR=3.9
MKAR PKKPab **PKKPab 18 55 45.3 +1.6**
comp=Z,0.8nm,0.8s,baz=270,slow=4.9,SNR=6.1
MAKZ Makanchi 111.57 313 PKIKP **PKiKP 18 44 34.9 -1.3**
MAKZ pmax pmax
comp=Z,4.0nm,0.6s
NRIK Noril'sk 111.62 338 PKKPab PKKPab 18 55 41.6 -0.3
comp=Z,4.6nm,0.6s,baz=131,slow=12,SNR=3.9
NVS Novosibirsk 112.00 322 ⇓*i* PKIKP **PKiKP 18 44 36.4 -0.2**
NVS pmax pmax
comp=E,3.0nm,0.5s
NVS pmax pmax
comp=Z,8.0nm,0.9s
KURK Kurchatov 114.30 317 *c i* PKIKP PKPdf 18 44 39.7 -1.5
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURBB Kurchatov Arra 114.35 317 PKKPab PKKPab 18 55 32.0 +1.7
comp=Z,1.0nm,0.7s,baz=273,slow=4.7,SNR=7.3
KSH Kashi 114.71 304 PKP PKPdf 18 44 40.3 -2.3
KSH PP **PP 18 45 57.3 +5.1**
KSH SKS **SKSdf 18 50 56.4 -2.5**
KSH SS **SS 19 01 04.8 +2.0**
KSH AMB AMB
comp=Z,100nm,3.2s
NRN Naryn 114.98 307 *e*PKPdf **PKiKP 18 44 43.3 0.0**
NRN Naryn 114.98 307 *e*PKIKP **PKiKP 18 44 43.3 0.0**
BOOM Boomskoye usch 115.17 308 *e*PKPdf **PKiKP 18 44 43.6 +0.2**
BOOM Boomskoye usch 115.17 308 *e*PKIKP **PKiKP 18 44 43.6 +0.2**
TKM2 Tokmak 2 115.48 308 P **PKPdf 18 44 43.3 -0.7**
SNR=8.9
TKM2 Tokmak 2 115.48 308 PKIKP **PKPdf 18 44 42.9 -1.1**
TKM2 pmax pmax
comp=Z,7.0nm,1.0s
KZA Kyzart 115.62 307 P **PKiKP 18 44 44.9 +0.2**
SNR=6.5
KBK Karagaybulak 115.92 308 P **PKPdf 18 44 44.7 -0.2**
SNR=7.1
CHMS Chumysh 116.10 308 P **PKPdf 18 44 44.7 -0.3**
SNR=6.2
UCH Uchtor 116.19 307 P **PKiKP 18 44 46.0 +0.3**
SNR=11
AAK Ala-Archa 116.25 308 *e*PKPdf **PKPdf 18 44 44.8 -0.7**
AAK Ala-Archa 116.25 308 PKIKP **PKPdf 18 44 44.4 -1.1**
AAK pmax pmax
comp=Z,4.0nm,0.8s
USP Ospenovka 116.32 308 P **PKPdf 18 44 45.0 -0.4**
SNR=5.3
EKS2 Erkin-Say 116.78 308 P **PKPdf 18 44 46.4 0.0**
SNR=9.5
AML Almayashu 116.78 307 P **PKPdf 18 44 46.8 0.0**
SNR=18
ARSB Arslanbob 117.22 306 *e*PKPdf **PKiKP 18 44 47.4 0.0**
OTUK Ortayu 118.21 314 PKIKP **PKPdf 18 44 48.3 -0.6**
OTUK pmax pmax
comp=Z,12nm,0.4s
GAR Garm 119.00 303 *e*PKPdf **PKPdf 18 44 50.6 -0.3**
KK31 Karatay Array 119.21 308 *e*PKPdf **PKPdf 18 44 50.5 -0.5**
KK31 Karatay Array 119.21 308 *i* PKIKP **PKPdf 18 44 50.5 -0.5**
KK31 pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 119.21 308 *e*PKPdf **PKPdf 18 44 50.4 -0.5**
KKAR Karatay Array 119.21 308 *e*PKIKP **PKPdf 18 44 50.4 -0.5**
KBL Kabul 119.47 298 *e*PKPdf **PKPdf 18 44 51.9 0.0**
BRVK Borovoye 119.54 319 *e*PKPdf **PKPdf 18 44 50.6 -0.7**
BRVK Borovoye 119.54 319 *d i* PKIKP **PKPdf 18 44 50.5 -0.7**
KBS Kingsbay 123.00 357 *e*PKPdf **PKiKP 18 44 57.8 +0.3**
SPA0 Spitsbergen Ar 123.50 356 *e*PKPdf **PKPdf 18 44 58.2 0.0**
SPA0 Spitsbergen Ar 123.50 356 *e*PKPdf **PKPdf 18 44 58.1 0.0**
SPITS Spitsbergen Ar 123.50 356 PKP **PKPdf 18 44 58.2 0.0**
comp=Z,13nm,0.6s,baz=107,slow=4.5,SNR=56
BOSA Boshof 124.09 206 PKP **PKiKP 18 45 01.5 +0.2**
comp=Z,3.3nm,0.7s,baz=136,slow=0.4,SNR=5.6
DAG Danmarks Havn 124.59 5 *i* PKIKP **PKPdf 18 44 59.1 -1.2**
DAG pmax pmax
comp=Z,4.0nm,0.5s
DAG Danmarks Havn 124.59 5 *i P* **PKPdf 18 44 59.1 -1.2**
comp=Z,5.6nm,0.5s
SVE Sverdlovsk 124.60 325 *e*PKIKP **PKiKP 18 45 01.0 -0.2**
SVE pmax pmax
comp=Z,27nm,0.9s
SFJD Kangerlussuaq 125.07 22 PKP **PKPdf 18 45 01.2 -0.2**
comp=Z,3.2nm,0.5s,baz=264,slow=6.6,SNR=5.0
SUMG Summit 125.16 13 *e*PKPdf **PKPdf 18 45 02.1 +0.1**
SUMG Summit 125.16 13 *i* PKIKP **PKPdf 18 45 01.5 -0.5**
SUMG pmax pmax
comp=Z,29nm,1.1s
SUMG Summit 125.16 13 *i P* **PKPdf 18 45 01.5 -0.5**
comp=Z,29nm,1.1s
ARU Arti 125.80 324 *e*PKPdf **PKPdf 18 45 02.9 -0.2**
ARU Arti 125.80 324 *i* PKIKP **PKPdf 18 45 03.2 +0.1**
ARU 18 47 02.8
ARU 18 51 17.8
AB31 Akbulak array 126.35 316 *i* PKIKP **PKPdf 18 45 04.0 -0.4**
AB31 pmax pmax
comp=Z,10.0nm,1.1s
ABKAR Akbulak array 126.35 316 *e*PKPdf **PKPdf 18 45 04.0 -0.4**
GEYT Alibeck 128.50 301 PKP **PKPdf 18 45 07.8 -1.1**
comp=Z,7.9nm,0.7s,baz=132,slow=2.2,SNR=12
GEYT PP **PP 18 47 22.5 -1.7**
comp=Z,7.1nm,0.7s,baz=151,slow=3.4,SNR=7.0
GYA0B ALIBECK ARRAY 128.50 301 *e*PKPdf **PKPdf 18 45 08.7 -0.3**
SOHO SOHO 128.74 284 P **PKPdf 18 45 09.5 -0.3**
SNR=5.9
HATD Hatta, Dubai 129.21 284 P **PKPdf 18 45 11.0 +0.3**
ASHO Ashiyiah 129.25 284 P **PKPdf 18 45 10.8 +0.1**
PRGR Permogore 129.99 334 PKIKP **PKPdf 18 45 09.2 -1.7**
PRGR *e* 18 47 37.1
PRGR pmax pmax
comp=Z,11nm,1.0s
ARA0 ARCESS Array S 130.35 349 *e*PKPpre PKPpre 18 45 03.2
ARA0 *e*PKPdf **PKPdf 18 45 11.1 -0.4**
ARCES ARCESS Array B 130.35 349 PKiKP PKPpre 18 45 03.2
comp=Z,1.9nm,0.7s,baz=337,slow=1.8,SNR=5.7
ARCES PKP **PKPdf 18 45 11.1 -0.4**
comp=Z,13nm,0.7s,baz=52,slow=1.7,SNR=14
ARCES SKPbc **SKPab 18 47 41.6 +1.2**
comp=Z,16nm,1.0s,baz=28,slow=5.8,SNR=11
ARE0 ARCESS Array S 130.35 349 *e*PKPdf **PKPdf 18 45 11.6 +0.2**
KTK1 Kautokeino 131.21 349 *e*PKPdf **PKPdf 18 45 13.4 +0.3**
TMCR Tamitsa 131.30 339 *e*PKIKP **PKPdf 18 45 11.8 -1.5**
TMCR *e* 18 47 41.9
TMCR pmax pmax
comp=Z,11nm,0.9s
TRO Tromso 131.31 352 *e*PKPdf **PKPdf 18 45 13.4 +0.2**
KLMR Klimovskoe 132.87 335 *e*PKHKP PKPpre 18 45 08.4
KLMR *e* 18 47 47.2
KLMR pmax pmax
comp=Z,11nm,1.1s
STEI Steigen 133.39 352 *e*PKPdf **PKPdf 18 45 17.1 0.0**
LSZ Lusaka 133.89 218 *e*PKPdf **PKPdf 18 45 19.4 -0.5**
VRH Novokhopyorsk 136.95 323 *e*PKIKP **PKPdf 18 45 24.7 +0.4**
VRH pmax pmax
comp=Z,20nm,0.6s
FIA1 FINESS Array S 137.01 342 *e*PKPdf **PKPdf 18 45 24.0 0.0**
FIA0 FINESS Array S 137.01 342 *e*PKPdf **PKPdf 18 45 23.3 -0.8**
FINES FINESS Array B 137.01 342 PKHKP PKPpre 18 45 11.8
comp=Z,1.5nm,0.4s,baz=49,slow=2.7,SNR=21
FINES PKP **PKPdf 18 45 23.3 -0.8**
comp=Z,5.3nm,0.4s,baz=95,slow=3.6,SNR=12
FINES SKPbc **SKPbc 18 48 03.1 +1.3**
comp=Z,4.0nm,0.6s,baz=85,slow=4.0,SNR=8.5
GROC Groznyy 137.15 310 *e*PKIKP **PKPdf 18 45 24.5 -0.4**
GROC *e* 18 48 40.0

GROC pmax pmax
comp=Z,13nm,0.5s
KMBO Kilima Mbogo 137.29 242 PKPpre PKPpre 18 45 19.9
KMBO *e*PKPdf **PKPdf 18 45 26.9 +0.5**
KMBO SKPbc **SKiKP 18 48 07.6 -1.1**
KMBO Kilima Mbogo 137.29 242 PKHKP PKPpre 18 45 20.0
KMBO *e* 18 45 26.9
KMBO Kilima Mbogo 137.29 242 PKhKP PKPpre 18 45 19.9
comp=Z,0.9nm,0.4s,baz=58,slow=6.5,SNR=4.0
KMBO PKP **PKiKP 18 45 27.9 -0.6**
comp=Z,4.8nm,0.7s,baz=60,slow=6.3,SNR=8.9
KMBO SKPbc **SKiKP 18 48 07.6 -1.1**
comp=Z,6.4nm,1.0s,baz=28,slow=3.3,SNR=7.1
OBN Obninsk 137.57 330 *i* PKIKP **PKiKP 18 45 26.4 -1.0**
OBN *e* 18 48 20.7
OBN pmax pmax
comp=Z,27nm,1.7s
TBLG Delisi 138.26 308 *e*PKPdf **PKPdf 18 45 28.0 +0.9**
VSR Storozhevoye 138.37 324 *i* PKIKP **PKPdf 18 45 27.0 +0.1**
VORD Divnogorie 138.42 323 *e*PKIKP **PKPdf 18 45 27.5 +0.5**
VORD pmax pmax
comp=Z,10.0nm,0.8s
ZEI Tsey 138.60 310 *i* PKIKP **PKPdf 18 45 28.2 +0.3**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
GNI Garni 138.62 306 *eP* **PKiKP 18 45 29.5 -0.8**
GNI Garni 138.62 306 *e*PKPdf **PKPdf 18 45 28.4 +0.5**
GNI Garni 138.62 306 *i* PKIKP **PKPdf 18 45 26.9 -1.1**
GNI Garni 138.62 306 P **PKPdf 18 45 28.8 +0.8**
SNR=7.4
KBZ Khabaz 139.03 312 PKhKP PKPpre 18 45 20.1
comp=Z,2.3nm,0.9s,baz=128,slow=3.7,SNR=6.3
KBZ PKP **PKiKP 18 45 29.9 -0.8**
comp=Z,2.5nm,0.7s,baz=150,slow=4.2,SNR=6.7
KBZ PP **PP 18 48 27.4 -2.1**
comp=Z,4.6nm,0.9s,baz=182,slow=3.3,SNR=6.5
KIV Kislovodsk 139.11 312 *e*PKIKP **PKPdf 18 45 27.5 -1.1**
KIV pmax pmax
comp=Z,16nm,1.0s
VSU Vasula 139.19 339 *i* PKIKP **PKPdf 18 45 27.5 -0.6**
BGD Bogdanovka 139.21 308 *eP* **PKiKP 18 45 36.5 +5.0**
AKH Akhalkalaki 139.25 308 *e*PKPpre PKPpre 18 45 21.9
AKH *e*PKPdf **PKPdf 18 45 29.5 +0.4**
AKH Akhalkalaki 139.25 308 ⇓*i P* PKPpre 18 45 21.4
AKH Akhalkalaki 139.25 308 *e*PKHKP PKPpre 18 45 22.0
AKH *e* 18 45 29.5
NEY Neytrino 139.30 311 *i* PKIKP **PKPdf 18 45 26.3 -2.8**
CLDR Caldiran 139.44 305 *eP* PKPpre 18 45 22.1
DOMB Dombas 139.78 354 *e* PKPpre 18 45 22.3
CUKT Cukurca 140.03 302 *eP* PKPpre 18 45 23.1
NC303 NORSAR Array S 140.31 352 *e*PKPpre PKPpre 18 45 23.6
NC405 NORSAR Array S 140.37 351 *e*PKPpre PKPpre 18 45 24.4
MLAZ Malazgirt-MUS 140.49 305 *eP* **PKiKP 18 45 33.8 -0.3**
NB201 NORSAR Array S 140.49 352 *e*PKPpre PKPpre 18 45 24.7
BATM Batumi 140.50 309 *eP* **PKPdf 18 45 31.4 +0.3**
BATM Batumi 140.50 309 ⇓*i P* PKPpre 18 45 25.9
NB2 NORSAR Subarra 140.51 352 PKP PKPpre 18 45 24.0
comp=Z,2.8nm,0.6s,baz=10,slow=3.2
NB2 NORSAR Subarra 140.51 352 *e* PKPpre 18 45 24.0
baz=10,slow=3.2
NB200 NORSAR Array S 140.51 352 *e*PKPpre PKPpre 18 45 24.1
NB200 *e*PKPdf **PKiKP 18 45 32.7 -0.7**
NOA NORSAR Array B 140.51 352 PKhKP PKPpre 18 45 24.1
comp=Z,3.0nm,0.6s,baz=2.2,slow=2.2,SNR=17
NOA PKP **PKiKP 18 45 32.7 -0.7**
comp=Z,0.9nm,0.7s,baz=14,slow=4.0,SNR=3.5
NOA SKPbc **SKiKP 18 48 12.8 -0.7**
comp=Z,4.1nm,0.9s,baz=14,slow=4.2,SNR=6.8
BCA Borcka 140.60 309 ⇑*i P* PKPpre 18 45 26.2
NAO01 NORSAR Array S 140.74 352 *e*PKPpre PKPpre 18 45 25.6
NC602 NORSAR Array S 140.76 351 *e*PKPpre PKPpre 18 45 24.7
NC602 NORSAR Array S 140.76 351 *e* PKPpre 18 45 25.0
SUE Sulen 141.09 357 *e*PKPdf **PKPdf 18 45 27.5 -4.0**
SKAR Skarslia 141.19 354 *e*PKPdf **PKPdf 18 45 28.3 -3.5**
VRTB Varto-Mus 141.31 305 *eP* **PKPdf 18 45 31.3 -1.5**
IZAR Zarasai 141.45 337 *eP* **PKPdf 18 45 28.0 -4.3**
IZAR IAmb IAmb 18 45 29.5
comp=Z,9.5nm,0.8s
ISAL Salakas 141.63 337 *eP* **PKPdf 18 45 29.1 -3.5**
ISAL IAmb IAmb 18 45 30.1
comp=Z,9.4nm,0.8s
ASK Askoy 141.64 356 *e*PKPdf **PKPdf 18 45 29.2 -3.3**
IIGN Ignalina 141.77 336 *eP* **PKPdf 18 45 29.1 -3.8**
IIGN IAmb IAmb 18 45 30.4
comp=Z,9.6nm,0.7s
YEDI Yedisu-Bingol 141.93 306 *eP* PKPpre 18 45 27.3
BNGB Bingl 141.94 305 *eP* **PKPdf 18 45 31.3 -2.6**
KONO Kongsberg 142.06 352 *e*PKPdf **PKPdf 18 45 30.0 -3.3**
KTUT Trabzon 142.07 309 ⇓*i P* **PKPdf 18 45 30.9 -3.0**
ANN Anapa 142.31 316 *i* PKHKP PKPpre 18 45 31.2
ANN pmax pmax
comp=Z,105nm,1.5s
PABE Paberze 142.45 338 *eP* **PKPdf 18 45 31.3 -2.8**
PABE IAmb IAmb 18 45 34.2
comp=Z,32nm,0.8s
BLS5 Blasjo 142.60 355 *e*PKPdf **PKPdf 18 45 31.9 -2.5**
PBUR Paburg 142.70 340 *eP* **PKPdf 18 45 32.1 -2.5**
PBUR IAmb IAmb 18 45 33.6
comp=Z,66nm,0.7s
MBAR Mbarara 142.79 236 *e*PKPdf **PKPdf 18 45 35.0 -1.2**
MBAR Mbarara 142.79 236 *e*PKIKP **PKPdf 18 45 35.0 -1.2**
KMY Karmoy 142.90 356 *e*PKPdf **PKPdf 18 45 32.7 -2.1**
SVRC Sivrice-ELAZID 143.13 305 *eP* **PKPdf 18 45 35.6 -0.5**
HOMB Homborsund 143.54 353 *e*PKPab PKPbc 18 45 34.9 +0.1
SNART Snartemo 143.61 354 *e*PKPab PKPab 18 45 35.0 0.0
BIGH Upper Bighouse 143.64 4 *eP* PKPbc 18 45 34.9 -0.2
RSC Scourie 143.69 5 *eP* PKPbc 18 45 34.9 -0.4
URFA Urfa 143.73 303 *eP* **PKPdf 18 45 36.9 -0.2**
AKASG Malin Array Be 143.80 329 PKP PKPbc 18 45 35.4 -0.6
comp=Z,21nm,0.3s,baz=44,slow=4.2,SNR=246
AKASG SKPbc **SKiKP 18 48 20.8 +0.2**
comp=Z,9.0nm,0.9s,baz=47,slow=2.9,SNR=12
AKBB Malin Array Si 143.80 329 *e*PKPbc PKPbc 18 45 35.3 -0.6
KIEV Kiev 143.81 329 ⇓*i P* PKPbc 18 45 35.4 -0.5
KIEV Kiev 143.81 329 *d i* PKIKP PKPbc 18 45 34.5 -1.4
MLA1 Latheron 143.86 3 *eP* PKPbc 18 45 35.6 -0.2
RRH Rhenigidale 143.97 7 *eP* PKPbc 18 45 36.1 -0.1
RSDY Resadiye-TOKAT 144.01 309 *eP* **PKPdf 18 45 38.2 +0.8**
RRR Rubha Reidh 144.12 6 *eP* PKPbc 18 45 36.3 -0.3
SIM Simferopol' 144.36 318 *d i* PKIKP **PKPab 18 45 38.7 +0.3**
SIM pmax pmax
comp=Z,62nm,0.7s
SVSK Karacayir 144.41 308 *eP* **PKPab 18 45 39.4 +0.7**
KLNR Kaliningrad 144.43 340 *d i* PKIKP **PKPdf 18 45 36.7 -0.8**
DARE Darende-Malaty 144.46 306 *eP* **PKPab 18 45 40.2 +1.1**
KAC Achnashellach 144.52 5 *eP* PKPbc 18 45 38.0 0.0
MCD Coleburn Disti 144.59 3 *eP* **PKPdf 18 45 37.5 -0.3**
TOKT Tokat 144.60 309 *eP* **PKPab 18 45 39.5 -0.1**
KPL Plockton 144.65 6 *eP* **PKPdf 18 45 37.9 +0.1**
KVT Kavak 144.69 310 *eP* **PKPab 18 45 40.3 +0.4**
SNOP Sinop 144.92 312 *eP* **PKPab 18 45 40.4 -0.3**
DIKM Dikmen 145.03 312 *eP* **PKPab 18 45 40.8 -0.3**
DIKM Dikmen 145.03 312 ⇓*i P* **PKPab 18 45 40.6 -0.5**
GAZ Gaziantep 145.04 304 *eP* **PKPab 18 45 41.2 -0.2**
KMRS Kahramanmaras 145.19 304 *eP* **PKPbc 18 45 40.2 -0.5**
MUD Monsted U'grnd 145.22 352 *i* PKIKP **PKPbc 18 45 39.8 -0.2**
MUD pmax pmax
comp=Z,34nm,0.7s
MUD Monsted U'grnd 145.22 352 *i P* **PKPbc 18 45 39.8 -0.2**
comp=Z,34nm,0.7s
DRUM Mains of Drumt 145.29 3 *eP* **PKPbc 18 45 39.7 -0.5**
COP Copenhagen 145.43 348 *i* PKP2 **PKPbc 18 45 40.7 +0.1**
COP Copenhagen 145.43 348 *i P* **PKPbc 18 45 40.7 +0.1**
BSD Bornholm Skovb 145.43 345 *i* PKP2 **PKPbc 18 45 40.7 0.0**
BSD pmax pmax
comp=Z,100nm,1.1s
BSD Bornholm Skovb 145.43 345 *i P* **PKPbc 18 45 40.7 0.0**
comp=Z,101nm,1.1s
BNN Bunyan 145.59 307 *eP* **PKPab 18 45 42.8 -0.8**
EDU Dundee 145.63 3 *eP* **PKPbc 18 45 41.1 -0.1**
INVG Invergeldie, C 145.69 4 *eP* **PKPbc 18 45 41.1 -0.3**
YOZ Yozgat 145.72 308 *eP* **PKPbc 18 45 42.6 +0.4**
LAWE Loch Awe, Argy 145.74 6 *eP* **PKPbc 18 45 41.3 -0.2**
BZK Bozkurt 145.77 313 *eP* **PKPab 18 45 42.9 +0.8**
BZK Bozkurt 145.77 313 ⇓*i P* **PKPbc 18 45 42.7 +0.6**
EAB Aberfoyle 145.90 5 *eP* **PKPbc 18 45 42.0 0.0**
KOZT Kozan 146.02 305 *eP* **PKPbc 18 45 43.5 +0.5**
CORM Corum 146.03 310 *eP* **PKPab 18 45 44.3 -1.0**
TAHT Tahtakopru-Hat 146.04 303 *eP* **PKPbc 18 45 44.1 +1.1**
CEYT Ceyhan 146.21 304 *eP* **PKiKP 18 45 44.6 -1.1**
PGBU Glenifferbraes 146.26 5 *eP* **PKPbc 18 45 42.8 -0.2**
ESY Stoneypath 146.28 3 *eP* **PKPbc 18 45 42.7 -0.3**

EAU Auchinoon 146.31 4 eP PKPbc 18 45 43.3 +0.2
ILGA Ilgaz 146.33 312 ePKPbc PKPbc 18 45 43.5 -0.5
YURE YUREGIR 146.35 304 eP PKiK 18 45 45.1 -1.0
KIS Kishinev 146.36 324⇓i PKPdf 18 45 42.0 +0.9
KIS XM 18 45 43.5
comp=Z,110nm,1.4s
KIS Kishinev 146.36 324⇓iPKIKP PKPdf 18 45 42.0 +0.9
KIS i 18 45 45.0
KIS pmax pmax
comp=Z,110nm,1.4s
EBL Broad Law 146.40 4 eP PKPbc 18 45 43.4 0.0
GKP Gorka Klasztor 146.48 342 ePKP PKPbc 18 45 44.1 +0.5
GKP Gorka Klasztor 146.48 342 ePKP2 PKPbc 18 45 44.1 +0.5
BEL Belsk 146.53 337 ePKP PKPbc 18 45 44.7 +0.9
BEL Belsk 146.53 337 ePKP2 PKPbc 18 45 44.7 +0.9
CANT Cankiri 146.58 311 eP PKPbc 18 45 45.4 +0.9
IDGL Inch Island, C 146.66 8 ePKPpB 18 45 43.2
LVV L'vov 146.81 332 ePKP2 PKPbc 18 45 44.6 -0.1
EKA Eskdalemuir Ar 146.83 4 PKPbc PKPbc 18 45 44.4 -0.2
baz=3.5,slow=2.7
ESK Eskdalemuir 146.85 4 ePKPdf PKPbc 18 45 43.4 -1.2
ESK Eskdalemuir 146.85 4 eP PKPbc 18 45 43.9 -0.7
ESK Eskdalemuir 146.85 4 i PKP2 PKPbc 18 45 45.5 +0.9
BR101 Keskin Array S 146.90 309 ePKPbc PKPbc 18 45 45.4 -0.1
BR131 Keskin Array S 146.90 309 ePKPdf PKPdf 18 45 41.9 -0.6
BR131 Keskin Array S 146.90 309 ePKIKP PKPdf 18 45 41.9 -0.6
BR131 Keskin Array S 146.90 309 P PKPbc 18 45 45.0 -0.4
SNR=33
BRTR Keskin Array B 146.90 309 PKPbc PKPbc 18 45 45.4 -0.1
comp=Z,24nm,0.7s,baz=136,slow=4.5,SNR=137
LEOM Leova 146.99 324⇓iP PKPbc 18 45 45.5 +0.3
LEOM Leova 146.99 324⇓PKP2 PKPbc 18 45 45.5 +0.3
BHL Bhannes 147.02 298 eP PKPbc 18 45 46.1 +0.2
SHBL Chebaa 147.05 297 eP PKPbc 18 45 46.6 +0.6
QRWL Qaraoun 147.06 298 eP PKPbc 18 45 46.8 +0.8
YAYX Yaylak 147.06 308 eP PKPbc 18 45 45.9 0.0
BHH Howats Hill 147.07 4 eP PKPbc 18 45 45.3 +0.1
DQRL Deir Qamar 147.12 298 eP PKiK 18 45 47.2 -0.6
GAL1 Galloway 147.18 6 eP PKPbc 18 45 45.4 0.0
MERS Mersin 147.19 304 eP PKPbc 18 45 46.6 +0.4
SERE Serefilkochisa 147.24 308 eP PKPbc 18 45 46.5 +0.3
EDMD Edmundbyers 147.40 3 eP PKPbc 18 45 46.0 -0.1
AFSR Afar-Bala (An 147.41 309 eP PKPbc 18 45 46.8 +0.1
TLCR 147.43 321⇓iP PKPbc 18 45 46.6 +0.2
TLCR 147.43 321⇓PKP2 PKPbc 18 45 46.6 +0.2
ANTO Ankara 147.45 310 eP PKPbc 18 45 47.0 +0.2
ANTO Ankara 147.45 310 ePKPdf PKPdf 18 45 43.5 +0.2
ANTO Ankara 147.45 310⇓iP PKPbc 18 45 47.2 +0.4
ANTO Ankara 147.45 310 ePKIKP PKPdf 18 45 43.5 +0.2
ANTO Ankara 147.45 310 P PKPbc 18 45 47.4 +0.6
SNR=21
LOD Lodumlu 147.46 310 eP PKPbc 18 45 47.5 +0.7
BR231 Keskin MP Arra 147.47 310 ePKPdf PKPdf 18 45 43.1 -0.2
BR231 ePKPbc PKPbc 18 45 47.3 +0.4
MMLI Mount Malkishu 147.47 296 eP PKiK 18 45 48.4 -0.2
PRAR RASCA 147.49 327⇑iP PKPbc 18 45 47.2 +0.6
KWP Kalwaria Pacla 147.52 333 ePKPdf PKPbc 18 45 47.1 +0.6
KWP Kalwaria Pacla 147.52 333 ePKPbc PKPbc 18 45 46.9 +0.4
KWP Kalwaria Pacla 147.52 333⇓ePKP2 PKPbc 18 45 47.1 +0.6
SULT Sultanhani-AKS 147.53 307 eP PKPbc 18 45 46.9 -0.2
KESW Keswick, Cumbr 147.58 4 eP PKPbc 18 45 46.7 +0.1
KIZK Mersin 147.59 304 eP PKPbc 18 45 47.5 +0.3
KULU Kulu 147.61 309 eP PKPbc 18 45 48.0 +0.7
GMM Mts of Mourne 147.67 7 eP PKPbc 18 45 46.6 -0.2
IOMK Kirk Michael 147.79 6 eP PKPbc 18 45 47.0 0.0
SILI Silifke-Mersin 147.80 303 eP PKPbc 18 45 48.2 +0.5
BUR08 Bucovina Ar. S 147.81 328 ePKPbc PKPbc 18 45 47.9 +0.4
BURAR Bucovina Array 147.82 328⇓iP PKPbc 18 45 48.1 +0.6
BURAR Bucovina Array 147.82 328⇓PKP2 PKPbc 18 45 48.1 +0.6
TESR Tescani 147.82 325⇓iP PKPbc 18 45 47.7 +0.3
CFR Carcaliu 147.83 322⇓iP PKPbc 18 45 47.6 +0.2
CFR Carcaliu 147.83 322⇓PKP2 PKPbc 18 45 47.6 +0.2
BIZ Bicaz 147.83 326⇑iP PKiK 18 45 48.3 -0.5
EREN Erenkoy 147.83 302 eP PKiK 18 45 48.5 -0.6
GDLE Glaisdale, N Y 147.84 1 eP PKPbc 18 45 47.3 +0.1
WIM Isle of Man 147.90 6 eP PKPbc 18 45 47.4 +0.1
KEBE Keben-Mersin 147.94 304 eP PKPbc 18 45 48.7 +0.6
IGLA Glengowla, Co 147.97 11 ePKPpB 18 45 47.3
IKL Isikli 148.02 303 eP PKPbc 18 45 48.5 +0.3
ODBI Odobesti 148.08 324⇑iP PKiK 18 45 49.1 -0.2
HRFI Mount Harif 148.12 291 eP PKiK 18 45 49.7 -0.2
RUE Ruedersdorf 148.12 345 eP PKPbc 18 45 47.8 -0.1
RUE IAmb IAmb 18 45 49.1
comp=Z,58nm,0.6s
AKKU Akkuyu-Mersin 148.15 303 eP PKPbc 18 45 48.7 +0.1
TEVE Tevekalti-Mers 148.15 304 eP PKPbc 18 45 49.2 +0.5
VRI Vrincioaia 148.19 324⇓iP PKPbc 18 45 47.9 -0.5
OJC Ojcow 148.21 336 ePKPdf PKPbc 18 45 48.7 +0.4
OJC Ojcow 148.21 336 ePKPbc PKPbc 18 45 48.5 +0.3
OJC Ojcow 148.21 336⇓ePKP2 PKPbc 18 45 48.7 +0.4
TLB Topalu 148.23 321⇓iP PKPbc 18 45 48.7 +0.4
TLB Topalu 148.23 321⇓PKP2 PKPbc 18 45 48.9 +0.4
KOLS Kolonicke sedl 148.23 332 ePKP2 PKiK 18 45 49.4 -0.2
KOLS Kolonicke sedl 148.23 332 ePKP PKiK 18 45 49.4 -0.2
HARR Harsova 148.23 321⇓iP PKiK 18 45 49.1 -0.6
HARR Harsova 148.23 321⇓PKP2 PKiK 18 45 49.1 -0.6
MFTR Murfatlar 148.24 320⇓iP PKiK 18 45 49.2 -0.5
PLOR Plostina 148.24 324⇑iP PKPbc 18 45 48.2 -0.4
MDUB Mudurnu 148.31 312 eP PKPbc 18 45 49.3 +0.3
MDUB Mudurnu 148.31 312 ePKPdf PKPdf 18 45 45.0 +0.3
MDUB ePKPbc PKPbc 18 45 49.1 +0.1
BERE Bereket-Mersin 148.34 304 eP PKPbc 18 45 49.5 +0.3
AUMIH MIHALICIK 148.37 311 eP PKPbc 18 45 49.3 +0.1
CVDA Cernavoda 148.38 321⇑iP PKiK 18 45 49.9 0.0
LADK Ladik-KONYA 148.38 307 eP PKPbc 18 45 49.0 -0.2
BISRR Bisoca 148.40 324⇑iP PKiK 18 45 49.8 -0.3
UZH Uzhgorod 148.45 332⇑iPKHKP PKPbc 18 45 48.0 -0.9
UZH i 18 45 52.7
KONT Konya--Tatoy 148.48 307 eP PKPbc 18 45 49.2 -0.2
TEKE Tekeli-Mersin 148.49 303 eP PKPbc 18 45 49.4 0.0
OZUR 148.55 325⇓iP PKPbc 18 45 49.7 +0.4
DSB Dublin 148.60 8 ePKPpB PKPbc 18 45 48.1 -1.0
ARCR ARCALIA 148.61 328⇓iP PKiK 18 45 50.2 -0.2
ICOR Ion Corvin 148.64 321⇓iP PKiK 18 45 50.3 -0.2
CSS Mathiatis 148.65 301 eP PKPbc 18 45 50.3 +0.4
CSS Mathiatis 148.65 301 ePKPbc PKPbc 18 45 49.9 +0.1
PSN Preselentsi 148.66 320 eP PKiK 18 45 50.5 -0.1
NIE Niedzica 148.67 335 ePKPdf PKiK 18 45 50.6 +0.1
NIE Niedzica 148.67 335⇓ePKP2 PKiK 18 45 50.6 +0.1
WME Myndd Eilian 148.67 6 eP PKPbc 18 45 49.1 -0.2
MAMC Mammari 148.68 302 P PKPbc 18 45 50.3 +0.4
TRPA Tarpa 148.72 331⇑iP PKPbc 18 45 49.8 +0.3
TRPA Tarpa 148.72 331⇓iP PKPbc 18 45 49.1 -0.5
ISR Istrita 148.76 323⇓iP PKPbc 18 45 50.3 +0.4
ISR Istrita 148.76 323⇓PKP2 PKPbc 18 45 50.3 +0.4
WLF1 Llynfaes 148.77 6 eP PKPbc 18 45 49.4 -0.1
SAUV Serdivan-Sakar 148.79 313 eP PKPbc 18 45 50.2 +0.2
YRC Rhoscolyn 148.79 6 eP PKPbc 18 45 49.0 -0.5
GULT Gulveren 148.80 312 eP PKPbc 18 45 50.5 +0.4
SPNC Sapanca-Adapaz 148.83 313 eP PKiK 18 45 51.2 +0.2
LBWR Ladybower, Pea 148.84 3 eP PKPbc 18 45 49.8 +0.1
DOPR Dopca 148.84 325⇓iP PKiK 18 45 50.5 -0.4
MLR Muntele Rosu 148.85 324 ePKPdf PKPdf 18 45 45.3 -0.1
MLR Muntele Rosu 148.85 324⇑iP PKPdf 18 45 45.2 -0.2
CIFT Cifteler, Eski 148.88 310 eP PKPbc 18 45 50.6 +0.2
KSP Ksiaz 148.89 340 ePKPdf PKiK 18 45 50.9 0.0
KSP Ksiaz 148.89 340⇓ePKP2 PKiK 18 45 50.9 0.0
YLL Llanberis 148.94 5 eP PKPbc 18 45 49.7 -0.2
SZAC Souni 149.06 301 P PKPbc 18 45 50.9 0.0
SECR 149.08 323⇓iP PKiK 18 45 51.0 -0.4
BORA Eskisehir 149.08 312 eP PKiK 18 45 51.3 -0.4
OKC Ostrava-Krasne 149.13 337⇑ePKP PKiK 18 45 51.0 -0.4
ALFC Alefka 149.17 302 P PKPbc 18 45 50.7 -0.5
HRT Hereke 149.19 314 eP PKPbc 18 45 51.2 +0.2
SULR 149.19 323⇓iP PKPbc 18 45 51.0 +0.2
VAL Valentia 149.20 13 ePKPpB PKPbc 18 45 49.7 -0.9
LANS Liptovska Anna 149.21 335 ePKP2 PKiK 18 45 52.4 +0.8
LANS Liptovska Anna 149.21 335 ePKP PKiK 18 45 52.4 +0.8
CJR Cluj-Napoca 149.25 328⇑iP PKiK 18 45 51.5 -0.3
MDB Medias 149.25 327⇑iP PKiK 18 45 52.0 +0.3
MDB Medias 149.25 327⇑PKP2 PKiK 18 45 52.0 +0.3
FOEL Foel Wylfa 149.26 4 eP PKPbc 18 45 50.8 0.0
UPC Upice 149.27 340 ePKP2 PKiK 18 45 51.7 +0.1
UPC Upice 149.27 340⇑ePKP PKiK 18 45 51.7 +0.1
LLW Llanuwychllyn 149.27 5 eP PKPbc 18 45 50.0 -0.7
DPC Dobruska-Polom 149.31 340 ePKP2 PKiK 18 45 52.0 +0.2
DPC Dobruska-Polom 149.31 340⇑ePKP PKiK 18 45 52.0 +0.2
ADVT Abdulvahap 149.33 313 eP PKPbc 18 45 51.5 +0.2
KECS Kecovo 149.33 334 ePKP2 PKPab 18 45 59.1 +0.8
KECS Kecovo 149.33 334 ePKP PKPab 18 45 59.1 +0.8
AUBOZ BOZOYUK 149.36 312 eP PKPbc 18 45 51.8 +0.3
AUBOZ BOZOYUK 149.36 312 i P PKiK 18 45 52.6 +0.3
CAVI Cavuskoy 149.36 313 eP PKPbc 18 45 51.8 +0.4
VOIR 149.37 325⇑iP PKPbc 18 45 51.1 -0.3
CLL Collm 149.39 345 ePKPbc PKPbc 18 45 51.3 +0.2
CLL Collm 149.39 345 ePKPdf PKPdf 18 45 47.0 +1.1
CLL ⇓iPKPbc PKiK 18 45 51.6 -0.2
CLL comp=Z,104nm,0.9s
CLL ⇑iPKPab PKPab 18 45 58.7 +0.3
CLL comp=Z,47nm,0.8s
CLL e 18 46 06.0
CLL epPKPab pPKPab 18 48 10.0 +0.9
IWEX Carrickbyrne, 149.39 9 ePKPpB PKPbc 18 45 50.1 -0.9
MORC Moravsky Berou 149.39 338 ePKPbc PKPbc 18 45 51.4 +0.2
MORC Moravsky Berou 149.39 338⇓iP PKiK 18 45 51.8 -0.2
MORC Moravsky Berou 149.39 338 ePKP PKiK 18 45 51.8 -0.2
MORC e 18 48 10.3
KRLC Kraliky 149.40 339⇑ePKP PKiK 18 45 52.0 0.0
KRLC ePKPAB PKPab 18 45 59.7 +1.1
KLYT Kilyos 149.40 315 eP PKPbc 18 45 51.5 +0.1
KLYT Kilyos 149.40 315⇓iP PKPbc 18 45 51.3 -0.1
ISK Istanbul-Kandi 149.48 315 eP PKPbc 18 45 51.6 0.0
BRG Berggiesshubel 149.54 343 ePKP PKPdf 18 45 46.4 +0.2
comp=Z,3.5nm,0.9s
BRG i 18 45 52.1
comp=Z,80nm,0.6s
BRG i 18 45 59.7
comp=Z,22nm,0.7s
BRG pPKP pPKPab 18 48 10.7 +1.1
comp=Z,17nm,1.8s
BUY Buyukada 149.55 314 eP PKPbc 18 45 51.8 0.0
LTVH Ltavrtes, Hu 149.56 331⇓iP PKiK 18 45 52.1 -0.2
WACR West Acre 149.56 360 eP PKPbc 18 45 50.3 -1.1
SHUT Suhut-Afyon 149.57 309 eP PKiK 18 45 52.7 -0.1
BGKT Bogazkoy 149.61 315 eP PKPbc 18 45 52.2 +0.3
DRGR 149.62 329⇓iP PKPbc 18 45 52.1 +0.2
ARR Arges 149.64 325⇑iP PKiK 18 45 53.2 +0.5
HLM1 Long Mynd 149.66 4 eP PKPbc 18 45 50.7 -1.0
PVCC Panska Ves 149.68 342⇑ePKP PKiK 18 45 52.8 +0.3
CTKS Kestanelik-??a 149.76 315 eP PKPbc 18 45 52.4 +0.1
CTYL Yalikoy Yolu 149.78 316⇓iP PKPbc 18 45 52.1 -0.2
ARMT Armutlu 149.85 314 eP PKPbc 18 45 52.6 0.0
ISP Isparta 149.88 308 eP PKPbc 18 45 52.5 -0.4
ISP Isparta 149.88 308 ePKPbc PKPbc 18 45 52.4 -0.4
ISP Isparta 149.88 308⇓iP PKPbc 18 45 52.2 -0.6
WTSB Winterswijk 149.92 352 ePKPbc PKPbc 18 45 52.5 +0.3
comp=Z,120nm,0.6s
WTSB ePKPab PKiK 18 45 54.0 +1.2
VYHS Vyhne 149.99 335 ePKIKP PKPdf 18 45 47.1 +0.1
VYHS e 18 46 02.0
VYHS Vyhne 149.99 335 ePKP PKPdf 18 45 47.1 +0.1
VYHS e 18 45 53.2
VYHS e 18 46 02.0
HUMR Humele 150.00 324⇓iP PKPbc 18 45 52.4 -0.3
PSZ Piszkesteto 150.02 333 ePKPbc PKPbc 18 45 52.4 -0.4
PSZ Piszkesteto 150.02 333⇓iP PKPbc 18 45 53.0 +0.2
PSZ Piszkesteto 150.02 333 eP PKPbc 18 45 52.1 -0.7
LOT Lotru 150.03 326⇓iP PKPbc 18 45 52.5 -0.5
RSBS Rosebush, Pemb 150.06 6 eP PKPbc 18 45 52.0 -0.6
VRAC Vranov 150.12 339⇓iP PKiK 18 45 53.4 0.0
VRAC Vranov 150.12 339 ⇓PKIKP PKiK 18 45 53.4 0.0
VRAC Vranov 150.12 339 ePKP PKiK 18 45 53.3 -0.1
VRAC e 18 46 02.3
JAVC Velka Javorina 150.12 337 ePKP PKiK 18 45 54.6 +1.1
JAVC e 18 48 14.7
GOPC GO Pecny, Ondr 150.16 341 ePKIKP PKiK 18 45 53.5 0.0
GOPC e 18 46 01.8
GOPC GO Pecny, Ondr 150.16 341⇑ePKP PKiK 18 45 53.5 0.0
GOPC ePKPAB PKPab 18 46 01.8 +0.1
MCH1 Michaelchurch 150.17 4 eP PKPbc 18 45 52.6 -0.3
PRU Pruhonice 150.17 342 ePKIKP PKiK 18 45 53.5 0.0
PRU e 18 46 02.4
PRU Pruhonice 150.17 342⇑ePKP PKiK 18 45 53.5 0.0
PRU ePKPAB PKPab 18 46 02.4 +0.7
DEV Deva 150.17 328⇓iP PKiK 18 45 53.4 -0.2
DEV Deva 150.17 328 ⇓PKIKP PKiK 18 45 53.4 -0.2
PHSR Pinarhisar 150.19 317⇓iP PKPbc 18 45 53.3 0.0
KORT Korkueli 150.31 306 eP PKPdf 18 45 48.1 +0.1
ZIMR 150.33 322⇓iP PKiK 18 45 53.9 -0.1
ZIMR 150.33 322 ⇓PKIKP PKiK 18 45 53.9 -0.1
MONM Monmouth 150.34 4 eP PKPbc 18 45 53.2 -0.1
KCTX Karacabey (Bur 150.34 314 eP PKPbc 18 45 53.8 +0.1
KRUC Moravsky 150.40 339 ePKP PKiK 18 45 53.8 -0.2
KRUC e 18 46 03.3
KRUC e 18 48 14.1
STRD Stroud 150.44 3 eP PKPbc 18 45 53.0 -0.5
TREC Trest 150.49 340 ePKIKP PKiK 18 45 54.3 +0.1
TREC Trest 150.49 340⇑ePKP PKiK 18 45 54.3 +0.1
SIRR Siria 150.50 329⇑iP PKiK 18 45 54.3 0.0
SMOL Smolenice 150.50 337 ePKIKP PKiK 18 45 54.9 +0.7
SMOL Smolenice 150.50 337 ePKP PKiK 18 45 54.9 +0.7
NKC Novy Kostel 150.51 344 ePKIKP PKiK 18 45 54.4 +0.2
NKC e 18 46 03.8
NKC Novy Kostel 150.51 344⇑ePKP PKiK 18 45 54.4 +0.2
NKC ePKPAB PKPab 18 46 03.8 +0.6
GZR Gura Zlata 150.58 327⇑iP PKPbc 18 45 54.1 -0.1
GZR Gura Zlata 150.58 327 ⇑PKIKP PKPbc 18 45 54.1 -0.1
VLAD Vladila 150.65 323⇑iP PKiK 18 45 54.5 -0.2
MODS Modra-Piesok 150.67 337 ePKIKP PKPbc 18 45 54.3 +0.1
MODS e 18 46 04.4
MODS Modra-Piesok 150.67 337 ePKP PKPbc 18 45 54.3 +0.1
MODS e 18 46 04.4
SRO Srobarova 150.74 335 ePKIKP PKiK 18 45 54.9 +0.2
SRO e 18 46 05.2
SRO Srobarova 150.74 335 ePKP PKiK 18 45 54.9 +0.2
SRO e 18 46 05.2
CRAR CRAIOVA 150.77 324⇓iP PKiK 18 45 55.8 +0.9
CRAR CRAIOVA 150.77 324 ⇓PKIKP PKiK 18 45 55.8 +0.9
SRE Strehaia 150.86 326⇓iP PKiK 18 45 55.2 +0.1
SRE Strehaia 150.86 326 ⇓PKIKP PKiK 18 45 55.2 +0.1
ZST Bratislava 150.88 337 ePKIKP PKPbc 18 45 54.5 -0.2
ZST Bratislava 150.88 337 ePKP PKPbc 18 45 54.5 -0.2
KULA Kula-Manisa 150.93 310 eP PKiK 18 45 55.5 -0.1
WOL Wolverton 150.94 2 eP PKPbc 18 45 54.6 -0.1
BALB Balikesir 150.96 313 ePKPbc PKPbc 18 45 54.6 -0.5
KRBG Karabiga-Canak 150.98 315 eP PKPbc 18 45 54.6 -0.5
BZS Buzias 150.99 329⇓iP PKPbc 18 45 54.9 -0.1
BZS Buzias 150.99 329 ⇓PKIKP PKPbc 18 45 54.9 -0.1
MANT Manisa 151.01 310 ePKPbc PKPbc 18 45 55.2 -0.4
HTL Hartland 151.03 6 eP PKPbc 18 45 54.8 -0.1
HERR Herculane 151.12 327⇑iP PKPbc 18 45 55.4 +0.1
CSKK Cskako 151.13 335 i P PKPbc 18 45 55.0 -0.2
AKAS Kas 151.14 305 eP PKPbc 18 45 55.7 -0.1
HGN Heimansgroeve 151.21 353 ePKPbc PKiK 18 45 55.5 -0.1
comp=Z,30nm,1.0s
HGN ePKPab PKPab 18 46 06.1 +0.1
KHC Kasperske Hory 151.22 342 ePKPdf PKPdf 18 45 49.3 +0.5
KHC ePKPbc PKiK 18 45 55.7 -0.1
KHC ePKPab PKPab 18 46 06.4 +0.2
KHC Kasperske Hory 151.22 342 ePKIKP PKPdf 18 45 49.7 +0.8
KHC e 18 46 07.1
KHC Kasperske Hory 151.22 342 ePKPDF PKPdf 18 45 49.7 +0.8
KHC ⇑ePKP PKiK 18 45 55.9 +0.1
KHC ePKPAB PKPab 18 46 07.1 +0.9
KHC epPKP pPKPab 18 48 14.5 -2.0
PUNG Punghina 151.26 325⇓iP PKPbc 18 45 55.5 -0.1
GRA1 Grafenberg Arr 151.31 345 ePKPbc PKiK 18 45 56.4 +0.5
GRA1 ePKPab PKPab 18 46 07.1 +0.5
GRFO Grafenberg 151.31 345 ePKPbc PKiK 18 45 56.5 +0.6
GRFO ePKPab PKPab 18 46 07.3 +0.8
UCC Uccle 151.33 355 ⇓PKPbc PKiK 18 45 55.8 -0.1
LPK Lapseki 151.34 315 eP PKiK 18 45 56.1 -0.1
ERIK Erikli-Kesan 151.34 316 eP PKPbc 18 45 55.9 0.0
MEM Membach 151.35 353 ⇓PKPbc PKiK 18 45 55.8 -0.1
FETY Fethiye 151.39 306 eP PKiK 18 45 56.4 -0.1
BANR Banloc 151.39 329⇓iP PKiK 18 45 56.8 +0.7
GEC2 GERESS Array S 151.44 342 ePKPdf PKPdf 18 45 49.0 -0.3
GEC2 ePKPbc PKPbc 18 45 56.0 0.0
GEC2 ePKPab PKPab 18 46 06.8 -0.4
GEC2 ePKIKP PKPdf 18 45 49.0 -0.3
GEC2 e 18 46 06.8
GERES GERESS Array B 151.44 342 PKP PKPdf 18 45 48.6 -0.7
comp=Z,0.9nm,0.6s,baz=321,slow=1.4,SNR=3.6
GERES PKPbc PKPbc 18 45 55.8 -0.3
comp=Z,8.4nm,0.4s,baz=28,slow=1.9,SNR=51
GERES PKPab PKPab 18 46 07.6 +0.4
comp=Z,5.6nm,0.6s,baz=34,slow=5.0,SNR=9.5
SOP Sopron 151.51 337⇓iP PKPbc 18 45 56.0 -0.1
ALN Alexandroupoli 151.52 317 eP PKPbc 18 45 55.3 -1.0
MDVR Moldovita 151.54 327⇓iP PKPbc 18 45 56.3 0.0
CONA Conrad Observa 151.55 338 i PKiKP PKiKP 18 45 56.8 +0.2
comp=Z,25nm,0.8s
CONA i PKPab PKPab 18 46 08.9 +1.2
comp=Z,32nm,1.3s
BCLA Clavier 151.62 354 ⇑PKPbc PKPbc 18 45 55.9 -0.4
BCLA ⇓PKPab PKPab 18 46 07.4 -0.4
SNF Seneffe 151.62 355 ⇓PKPbc PKiK 18 45 56.4 0.0
SNF ⇑PKPab PKPab 18 46 07.6 -0.1
DALY Dalyan (Mula) 151.64 307 eP PKiK 18 45 57.0 +0.1
TIH Tihany 151.65 334 eP PKPbc 18 45 55.0 -1.4
TURN Turunc 151.65 307 eP PKiK 18 45 57.9 +0.9
RDO Rodhopi 151.70 318 eP PKPbc 18 45 56.3 -0.4
CCA1 Carnmenellis 151.74 8 eP PKPbc 18 45 56.2 -0.3
MORH Mrgy, Hungar 151.89 333⇓iP PKPbc 18 45 56.1 -0.9
EZN Ezine 151.91 315⇓iP PKPbc 18 45 57.0 -0.2
EZN Ezine 151.91 315 ⇓PKIKP PKPbc 18 45 57.0 -0.2
DOU Dourbes 152.00 354 ⇓PKPbc PKiK 18 45 57.4 +0.1
DOU ⇑PKPab PKPab 18 46 09.2 -0.2
MOA Molln 152.15 340 i PKPbc PKPbc 18 45 57.2 -0.3
comp=Z,8.4nm,0.8s
MOA i PKPab PKPab 18 46 11.2 +1.0
comp=Z,18nm,1.1s
VTS Vitosha 152.19 322 ePKPbc PKiK 18 45 58.2 +0.1
VTS ePKPab PKPab 18 46 12.2 +1.5
VTS Vitosha 152.19 322⇓iP PKPbc 18 45 57.9 -0.1
VTS Vitosha 152.19 322 ePKIKP PKiK 18 45 58.2 +0.1
ARSA Arzberg 152.25 338 i PKPbc PKPbc 18 45 57.4 -0.4
comp=Z,5.5nm,0.8s
ARSA i PKPab PKPab 18 46 11.7 +1.1
comp=Z,20nm,1.3s
WLF Walferdange 152.26 352 ePKPbc PKiK 18 45 58.3 +0.5
WLF ePKPab PKPab 18 46 10.5 -0.1
WLF Walferdange 152.26 352 ePKIKP PKiK 18 45 58.3 +0.5
WLF e 18 46 10.5
WLF Walferdange 152.26 352 ⇑PKPbc PKiK 18 45 58.4 +0.5
WLF ⇓PKPab PKPab 18 46 10.9 +0.4
GCAM G?zelcaml? 152.30 310 eP PKiK 18 45 58.4 +0.1
URLA Izmir 152.45 312 eP PKPbc 18 45 58.4 -0.1
DAT Datca 152.46 308 eP PKPbc 18 45 58.1 -0.6
BODT Bodrum 152.52 309 eP PKPbc 18 45 58.5 -0.2
CHOS Chios island 152.81 312 eP PKPdf 18 45 54.4 +2.8
SOKA Soboth 152.91 338 i PKPdf PKPdf 18 45 52.0 +0.5
comp=Z,9.5nm,1.4s
SOKA i PKPbc PKPbc 18 45 59.1 -0.2
comp=Z,12nm,1.0s
SOKA i PKPab PKPab 18 46 13.8 +0.2
comp=Z,12nm,1.0s
PERS Pernice 152.92 338 i PKPdf PKPbc 18 45 59.0 -0.4
PERS i PKPbc PKPab 18 46 13.5 0.0
KBA Koelnbreinsper 153.12 340 i PKPbc PKPbc 18 45 59.5 -0.4
comp=Z,15nm,1.0s
KBA i PKPab PKPab 18 46 15.5 +0.9
comp=Z,19nm,0.7s
BFO Black Forest 153.22 348 ePKPbc PKPbc 18 45 59.7 -0.1
BFO ePKPab PKPab 18 46 14.2 -0.5
BFO Black Forest 153.22 348 ePKIKP PKPbc 18 45 59.7 -0.1
BFO e 18 46 14.3
OBKA Obir 153.23 338 i PKiKP PKiKP 18 46 01.2 +1.1
comp=Z,5.2nm,0.6s
OBKA i PKPab PKPab 18 46 14.1 -0.8
comp=Z,11nm,0.7s
KARP Karpathos 153.24 306 ePKPbc PKiKP 18 46 00.5 +0.1
KARP ePKPab PKPab 18 46 15.8 +0.5
STIP Stip 153.38 322 i PKP PKPab 18 46 15.6 -0.1
VAY Valandovo 153.40 321 i PKP PKPab 18 46 16.4 +0.7
WATA Walderalm 153.41 343 i PKiKP PKiKP 18 46 00.6 +0.1
comp=Z,6.4nm,0.4s,SNR=5.6
WATA i PKPab PKPab 18 46 16.1 +0.4
comp=Z,9.0nm,0.5s
MYKA Terra Mystica 153.43 339 i PKPbc PKPbc 18 45 59.9 -0.5
comp=Z,6.6nm,0.5s,SNR=4.5
MYKA i PKPab PKPab 18 46 15.6 -0.1
comp=Z,14nm,0.6s
WTTA Wattenberg 153.46 343 i PKPdf PKPdf 18 45 52.1 -0.3
comp=Z,9.2nm,1.0s
WTTA i PKiKP PKiKP 18 46 00.6 0.0
comp=Z,14nm,0.4s,SNR=9.3
WTTA i PKPab PKPab 18 46 16.6 +0.6
comp=Z,27nm,0.5s
RETA Reutte 153.48 344 i PKPdf PKPdf 18 45 51.8 -0.4
comp=Z,3.1nm,0.5s
RETA i PKiKP PKiKP 18 46 00.7 +0.1
comp=Z,2.5nm,0.5s
RETA i PKPab PKPab 18 46 15.9 0.0
comp=Z,21nm,1.0s
MOTA Moosalm 153.52 344 i PKPdf PKPdf 18 45 52.6 +0.2
comp=Z,5.9nm,0.9s
MOTA i PKPbc PKPbc 18 46 00.6 -0.1
comp=Z,4.4nm,0.5s
MOTA i PKPab PKPab 18 46 16.8 +0.5
comp=Z,24nm,0.9s
ECH Echery 153.53 350 ePKPab PKPab 18 46 15.6 -0.4
SQTA Sankt Quirin 153.61 343 i PKPdf PKPdf 18 45 50.9 -1.6
comp=Z,3.8nm,0.7s
SQTA i PKPbc PKPbc 18 46 00.8 0.0
comp=Z,5.3nm,0.5s
SQTA i PKPab PKPab 18 46 17.2 +0.6
comp=Z,31nm,1.1s
SKO Skopje 153.62 323 i PKP PKPab 18 46 17.9 +1.3
ABTA Abfaltersbach 153.68 341 i PKPdf PKPdf 18 45 51.6 -0.9
comp=Z,10nm,1.1s
ABTA i PKPbc PKPbc 18 46 00.6 -0.4
comp=Z,11nm,0.6s,SNR=4.2
ABTA i PKPab PKPab 18 46 16.8 0.0
comp=Z,22nm,0.6s
VISS Visnje 153.73 337 i PKPdf PKiKP 18 46 01.1 +0.1
VISS i PKPbc PKPab 18 46 16.8 -0.2
BOJS Bojanci 153.84 336 i PKPdf PKiKP 18 46 01.5 +0.3
BOJS i PKPbc PKPab 18 46 17.6 +0.2
DAVA Damuels 153.88 345 i PKPdf PKPdf 18 45 48.2 -4.7
comp=Z,11nm,1.5s
DAVA i PKiKP PKiKP 18 46 01.7 +0.2
comp=Z,10nm,1.1s
DAVA i PKPab PKPab 18 46 17.9 +0.1
comp=Z,22nm,0.8s
FETA Feichten 153.92 344 i PKPdf PKPdf 18 45 53.0 0.0
comp=Z,14nm,1.0s
FETA i PKiKP PKiKP 18 46 01.9 +0.4
comp=Z,14nm,1.1s
FETA i PKPab PKPab 18 46 18.6 +0.7
comp=Z,16nm,1.1s
JAVS Javornik 153.93 338 i PKPdf PKPbc 18 46 01.2 -0.3
JAVS i PKPbc PKPab 18 46 17.5 -0.4
LIT Litokhoron 154.20 319 ePKPbc PKiKP 18 46 01.3 -0.9
LIT ePKPab PKPab 18 46 18.9 -0.3
LIT Litokhoron 154.20 319 ePKIKP PKiKP 18 46 01.3 -0.9
LIT e 18 46 19.0
CLF Chambon-Foret 154.22 357 ePKPab PKPab 18 46 19.2 +0.2
BIA Bitola 154.31 322 i PKP PKPab 18 46 20.3 +0.5
FUORN Ofenpass-Fuorn 154.41 344 ePKPbc PKPbc 18 46 02.8 0.0
FUORN ePKPab PKPab 18 46 21.0 +0.8
FNA Florina 154.44 321 ePKPbc PKiKP 18 46 02.1 -0.6
FNA ePKPab PKPab 18 46 19.6 -0.7
FNA Florina 154.44 321 ePKIKP PKiKP 18 46 02.1 -0.6
FNA e 18 46 19.6
PDG Podgorica 154.47 326⇓iP PKPab 18 46 20.1 -0.2
OHR Ohrid 154.55 322 i PKP PKPab 18 46 21.1 +0.3
SENIN Lac Senin/Sane 155.30 349 ePKPab PKPab 18 46 24.2 +0.3
ITM Ithomi 156.23 314 ePKPab PKPab 18 46 27.9 -0.2
BNI Bardonecchia 156.68 349 ePKPab PKPab 18 46 30.4 +0.5
MATE Matera 157.08 327⇓iP PKPab 18 46 31.6 0.0
CEL Celeste 159.26 324 ePKPab PKPab 18 46 41.2 0.0
ESDC Sonseca Array 162.21 11 PKPab PKPab 18 46 53.6 -0.4
comp=Z,1.3nm,0.6s,baz=353,slow=4.6,SNR=8.0
DBIC Dimbokro 163.69 161 PKIKP PKPdf 18 46 04.0 -1.1
DBIC Dimbokro 163.69 161 PKP PKPdf 18 46 04.0 -1.1
comp=Z,8.9nm,0.9s,baz=158,slow=1.7,SNR=7.0
KEST Kesra 164.49 332 PKPab PKPab 18 47 04.1 -0.2
comp=Z,14nm,1.0s,baz=283,slow=4.7,SNR=8.6
TOA0 Torodi Ar. Sit 170.89 187 ePKPdf PKPdf 18 46 09.9 -0.2
TORD Torodi Ar. Bea 170.89 187 PKP PKPdf 18 46 09.4 -0.7
comp=Z,3.7nm,0.9s,baz=344,slow=1.7,SNR=17
TORD PKPab PKPab 18 47 33.4 +0.6
comp=Z,2.9nm,0.7s,baz=172,slow=3.0,SNR=13
TORD PP PP 18 51 24.1 +1.1
comp=Z,1.6nm,1.0s,baz=163,slow=5.2,SNR=4.1
TOA1 Torodi Ar. Sit 170.90 187 ePKPdf PKPdf 18 46 09

MEX 16 18:28:17.3±0.4, 14°.70N×93°.32W, h15km±36km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.00**	**6**	*eP*	Pb	18 28 33.1	-3.2
PCIG				*i* S	Sb	18 28 44.9	-4.5
CCIG	**Comitan**	**1.94**	**36**	*i* P	Pn	18 28 46.5	-3.4
CCIG				*i* S	Sn	18 29 09.4	-4.6
TGIG		**2.07**	**5**	*i* P	Pn	18 28 47.5	-4.1
TGIG				*i* S	Sn	18 29 12.8	-4.4

*IDC **16** 18:46:50.6±0.6, 22°.10S×68°.37W, h107km±7km, mb3.7/5, mb1 3.8/7, mb1mx3.6/21, mbtmp4.1/7, Error ellipse: s-maj=27.7km s-min=13.3km az=107.0*
*ISCJB **16** 18:46:51.4±0.5, 22°.14S±0°.04×68°.60W±0°.06, h128km±5km, mb3.7/5, Error ellipse: s-maj=9.8km s-min=6.6km az=172.3*
*SJA **16** 18:46:51.7±0.8, 22°.14S×68°.56W, h116km±4km, ML3.1, MW3.5*
*GUC **16** 18:46:52.2±0.5, 22°.12S×68°.56W, h121km±3km, ML3.8*

ISC 16 18:46:51.0±0.8, 22°.09S±0°.04×68°.44W±0°.06, h114km±6km, n40, σ1§47/53, mb3.9/5, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.68**	**220**	*eP*	**Pn**	**18 47 10.6**	**+0.6**
LVC				*eS*	**Sn**	**18 47 24.5**	**+0.2**
LVC				IAML		18 47 25.4	
	comp=Z,607nm,0.4s						
LVC	**Limon Verde**	**0.68**	**220**	*eP*	**Pn**	**18 47 10.7**	**+0.7**
LVC				*eS*	**Sn**	**18 47 24.4**	**+0.2**
LVC	**Limon Verde**	**0.68**	**220**	P	**Pn**	**18 47 10.5**	**+0.6**
	comp=Z,103nm,0.3s,baz=46,slow=6.7,SNR=722						
LVC				S	**Sn**	**18 47 24.2**	**-0.1**
	comp=Z,281nm,0.3s,baz=197,slow=19,SNR=142						
PB09	**IPOC Station P**	**0.80**	**291**	*eP*	**Pn**	**18 47 11.9**	**+1.2**
PB09				*eS*	**Sn**	**18 47 26.5**	**+0.9**
PB09	**IPOC Station P**	**0.80**	**291**	⇓*iP*	**Pn**	**18 47 12.0**	**+1.2**
PB09				*eS*	**Sn**	**18 47 26.6**	**+0.9**
PB06	**IPOC Station P**	**1.22**	**239**	*eP*	**Pn**	**18 47 15.4**	**+0.5**
PB06	**IPOC Station P**	**1.22**	**239**	⇑*iP*	**Pn**	**18 47 15.4**	**+0.5**
PB06				*eS*	**Sn**	**18 47 33.3**	**+0.2**
PB06				IAML		18 47 34.3	
	comp=N,3μm,0.3s						
PB03	**IPOC Station P**	**1.22**	**272**	*eP*	**Pn**	**18 47 15.3**	**+0.3**
PB03	**IPOC Station P**	**1.22**	**272**	⇑*iP*	**Pn**	**18 47 15.3**	**+0.3**
PB03				*eS*	**Sn**	**18 47 32.7**	**-0.4**
PB03				IAML		18 47 35.2	
	comp=E,2μm,0.4s						
PB07	**IPOC Station P**	**1.39**	**285**	*eP*	**Pn**	**18 47 17.6**	**+0.6**
PB07	**IPOC Station P**	**1.39**	**285**	⇑*iP*	**Pn**	**18 47 17.4**	**+0.5**
PB07				*eS*	**Sn**	**18 47 36.4**	**-0.3**
PB07				IAML		18 47 38.0	
	comp=E,3μm,0.5s						
PB01	**IPOC Station P**	**1.43**	**317**	⇓*iP*	**Pn**	**18 47 18.1**	**+0.8**
PB01				*eS*	**Sn**	**18 47 37.9**	**+0.7**
PB01				IAML		18 47 39.4	
	comp=E,1μm,0.3s						
PB15	**IPOC Station P**	**1.47**	**220**	*eP*	**Pn**	**18 47 18.6**	**+0.7**
PB15	**IPOC Station P**	**1.47**	**220**	⇑*iP*	**Pn**	**18 47 18.4**	**+0.5**
PB15				*i* S	**Sn**	**18 47 38.6**	**+0.3**
PB02	**IPOC Station P**	**1.56**	**299**	*eP*	**Pn**	**18 47 19.6**	**+0.7**
PB02	**IPOC Station P**	**1.56**	**299**	⇑*iP*	**Pn**	**18 47 19.5**	**+0.7**
PB02				*i* S	**Sn**	**18 47 39.9**	**-0.1**
PB02				IAML		18 47 41.2	
	comp=N,2μm,0.4s						
PB04	**IPOC Station P**	**1.60**	**261**	*eP*	**Pn**	**18 47 19.4**	**0.0**
PB04	**IPOC Station P**	**1.60**	**261**	⇑*iP*	**Pn**	**18 47 19.4**	**0.0**
PB04				*eS*	**Sn**	**18 47 40.5**	**-0.6**
PB04				IAML		18 47 48.9	
	comp=N,2μm,0.5s						
PB05	**IPOC Station P**	**1.80**	**245**	*eP*	**Pn**	**18 47 21.6**	**-0.2**
PB05	**IPOC Station P**	**1.80**	**245**	*eP*	**Pn**	**18 47 21.7**	**-0.1**
PB05				*eS*	**Sn**	**18 47 44.4**	**-0.8**
PB05				IAML		18 47 56.7	
	comp=E,785nm,0.3s						
PB08	**IPOC Station P**	**2.05**	**341**	*eP*	**Pn**	**18 47 27.7**	**+2.5**
PB10	**IPOC Station P**	**2.41**	**234**	*eP*	**Pn**	**18 47 30.0**	**+0.6**
PB11	**IPOC Station P**	**2.58**	**334**	*eP*	**Pn**	**18 47 33.5**	**+1.8**
PSGCX	**Pisagua**	**2.94**	**327**	*eP*	**Pn**	**18 47 37.6**	**+1.2**
HJA	**Humahuaca**	**3.01**	**112**	*eP*	Pn	18 47 41.7	+4.1
HJA				IAML		18 47 42.5	
	comp=Z,31nm,0.5s						
PB14	**IPOC Station P**	**3.10**	**215**	*eP*	**Pn**	**18 47 38.2**	**-0.6**
AZAP	**Zapla**	**3.76**	**125**	*eP*	**Pn**	**18 47 50.1**	**+2.6**
AZAP				IAML		18 47 50.7	
	comp=Z,22nm,0.5s						
PB16	**IPOC Station P**	**3.87**	**345**	*eP*	Pn	18 47 54.0	+4.8
PB12	**IPOC Station P**	**3.88**	**333**	*eP*	**Pn**	**18 47 50.9**	**+1.8**
LPAZ	**La Paz**	**5.78**	**3**	P	**Pn**	**18 48 16.6**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=139,slow=7.8,SNR=12						
LPAZ				S	**Sn**	**18 49 17.6**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=156,slow=11,SNR=3.6						
SIV	**San Ignacio**	**9.23**	**50**	P	**Pn**	**18 48 59.3**	**-2.0**
	comp=Z,3.0nm,0.3s,baz=256,slow=9.3,SNR=38						
SIV				S	**Sn**	**18 50 36.2**	**-7.2**
	comp=Z,0.4nm,0.3s,baz=288,slow=20,SNR=2.4						
DBIC	**Dimbokro**	**68.48**	**73**	P	**P**	**18 57 42.1**	**+0.7**
	comp=Z,5.4nm,1.0s,baz=204,slow=10.0,SNR=3.4						
ULM	**Lac du Bonnet**	**76.01**	**342**	P	**P**	**18 58 26.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=129,slow=6.5,SNR=3.1						
VNDA	**Vanda**	**76.35**	**190**	P	**P**	**18 58 26.1**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=146,slow=3.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	**P**	**18 58 32.0**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=224,slow=5.8,SNR=11						
YKA	**Yellowknife Ar**	**91.89**	**340**	P	**P**	**18 59 46.8**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=134,slow=4.3,SNR=11						
ASAR	**Alice Springs**	**129.59**	**207**	PKP	**PKPdf**	**19 05 46.7**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=132,slow=2.1,SNR=4.0						
WRA	**Warramunga Arr**	**132.67**	**210**	PKP	**PKPdf**	**19 05 53.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=154,slow=2.1,SNR=5.7						
ZALV	**Zalesovo Beam**	**142.29**	**26**	PKP	**PKPdf**	**19 06 11.3**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=300,slow=2.8,SNR=4.3						
MKAR	**Makanchi Array**	**145.85**	**37**	PKPbc	**PKPab**	**19 06 18.0**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=319,slow=2.2,SNR=12						

*IDC **16** 18:50:23.8±5.1, 36°.33N×70°.64E, h194km±47km, mb3.0/7, mb1 3.1/12, mb1mx2.9/45, mbtmp3.7/12, Error ellipse: s-maj=38.8km s-min=25.9km az=33.0*
*ISCJB **16** 18:50:25.0±0.5, 36°.53N±0°.03×70°.43E±0°.07, h204km, mb3.2/6, Error ellipse: s-maj=8.4km s-min=4.1km az=169.0*
*NNC **16** 18:50:29.1±3.4, 36°.82N×70°.43E, h193km±47km, mb3.1, mpv4.0, Error ellipse: s-maj=32.6km s-min=17.7km az=17.0*

ISC 16 18:50:25.7±0.7, 36°.53N±0°.06×70°.49E±0°.09, h204km, n41, σ1§02/46, mb3.4/6, 7C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.94**	**156**	⇑P	**Pn**	**18 51 15.6**	**+0.6**
CEP				S	**S**	**18 51 53.0**	**0.0**
CHCP	**Chirah Chowk**	**3.66**	**141**	P	**Pn**	**18 51 24.3**	**+0.8**
THW	**Thamme Wali**	**3.87**	**164**	⇑P	**Pn**	**18 51 26.1**	**0.0**
SARP	**Sargodha**	**4.94**	**158**	P	**Pn**	**18 51 38.9**	**-0.6**
AML	**Almayashu**	**6.12**	**23**	P	**Pn**	**18 51 55.2**	**+0.3**
	SNR=190						
UCH	**Uchtor**	**6.49**	**27**	P	**Pn**	**18 52 00.2**	**+0.5**
	SNR=73						
KK31	**Karatay Array**	**6.56**	**0**	⇓P	**Pn**	**18 52 00.3**	**+0.1**
	1.2nm,0.3s,baz=160,slow=6.2,SNR=49						
KK31				S	**S**	**18 53 12.0**	**-3.1**
	4.4nm,0.3s,baz=183,slow=17,SNR=12						
EKS2	**Erkin-Say**	**6.63**	**21**	P	**Pn**	**18 52 02.3**	**+1.2**
	SNR=15						
KZA	**Kyzart**	**6.66**	**32**	P	**Pn**	**18 52 01.8**	**0.0**
	SNR=13						
AAK	**Ala-Archa**	**6.84**	**26**	P	**Pn**	**18 52 04.7**	**+0.8**
	SNR=21						
AAK	**Ala-Archa**	**6.84**	**26**	⇑P	**Pn**	**18 52 04.7**	**+0.8**
	8.7nm,0.6s						
AAK				⇑S	**S**	**18 53 20.1**	**-1.6**
	30nm,0.5s						
AAK	**Ala-Archa**	**6.84**	**26**	P	**Pn**	**18 52 04.5**	**+0.7**
	4.0nm,0.3s,baz=186,slow=6.4,SNR=59						
AAK				S	**S**	**18 53 20.7**	**-1.0**
	3.9nm,0.3s,baz=117,slow=24,SNR=26						
KBK	**Karagaybulak**	**7.02**	**28**	P	**Pn**	**18 52 07.1**	**+0.9**
	SNR=9.6						
ULHL	**Ulahol**	**7.24**	**36**	P	**Pn**	**18 52 11.1**	**+1.9**
	SNR=9.3						
CHMS	**Chumysh**	**7.24**	**26**	P	**Pn**	**18 52 10.0**	**+1.0**
	SNR=6.8						
TKM2	**Tokmak 2**	**7.50**	**30**	P	**Pn**	**18 52 13.2**	**+0.7**
	SNR=7.0						
TKM2	**Tokmak 2**	**7.50**	**30**	⇑P	**Pn**	**18 52 13.0**	**+0.5**
	18nm,0.5s						
TKM2				⇓S	**S**	**18 53 35.7**	**-1.7**
	8.2nm,0.6s						
MDOK	**Medeo**	**8.32**	**35**	⇑P	**Pn**	**18 52 23.7**	**+0.5**
PDGK	**Podgornoye**	**9.68**	**43**	⇓P	**Pn**	**18 52 40.3**	**-0.5**
	2.2nm,0.6s						
PYUN	**Piuthan**	**13.49**	**125**	*eP*	**Pn**	**18 53 28.7**	**-0.8**
MK31	**Makanchi Array**	**13.51**	**37**	⇑P	**P**	**18 53 32.8**	**+1.1**
	1.0nm,0.8s,baz=0,slow=0.1,SNR=5.4						
MKAR	**Makanchi Array**	**13.51**	**37**	P	**Pn**	**18 53 30.4**	**+1.1**
	0.1nm,0.3s,baz=213,slow=11,SNR=5.4						
DANN	**Dangsing**	**13.85**	**122**	*eP*	**Pn**	**18 53 34.2**	**+0.3**
GKN	**Gorkha**	**14.67**	**121**	*eP*	**P**	**18 53 44.7**	**-0.1**
AB31	**Akbulak array**	**14.86**	**332**	P	**Pn**	**18 53 45.2**	**-0.7**
	2.0nm,0.5s,baz=142,slow=12,SNR=32						
KURBB	**Kurchatov Arra**	**15.23**	**20**	P	**P**	**18 53 51.2**	**+0.6**
	0.1nm,0.3s,baz=211,slow=10,SNR=5.9						
DMN	**Daman**	**15.24**	**122**	*eP*	**P**	**18 53 51.1**	**-0.1**
KKN	**Kakani**	**15.24**	**121**	*eP*	**Pn**	**18 53 50.9**	**-0.1**
PKIN	**Phulchoki**	**15.46**	**121**	*eP*	**P**	**18 53 54.4**	**+0.7**
	4.2nm,0.4s						
PKI	**Pulchoki**	**15.47**	**121**	*eP*	**P**	**18 53 54.8**	**+0.9**
JIRN	**Jiri**	**15.96**	**119**	*eP*	**Pn**	**18 54 01.0**	**+1.2**
	13nm,0.4s						
BVAR	**Borovoye Array**	**16.49**	**360**	P	**Pn**	**18 54 06.8**	**+1.3**
	0.6nm,0.3s,baz=172,slow=12,SNR=10						
AKTO	**Aktyubinsk**	**16.55**	**331**	⇓P	**Pn**	**18 54 06.5**	**+0.3**
	8.9nm,0.8s						
AKTO	**Aktyubinsk**	**16.55**	**331**	P	**Pn**	**18 54 07.1**	**+0.8**
	0.7nm,0.3s,baz=143,slow=10,SNR=23						
ZALV	**Zalesovo Beam**	**20.06**	**25**	P	**P**	**18 54 43.1**	**-0.1**
	1.2nm,0.3s,baz=219,slow=11,SNR=7.1						
ARU	**Arti**	**21.47**	**342**	P	**P**	**18 54 58.8**	**+0.8**
	0.7nm,0.5s,baz=135,slow=7.1,SNR=3.9						
FINES	**FINESS Array B**	**37.23**	**326**	P	**P**	**18 57 18.4**	**+1.3**
	0.5nm,0.5s,baz=128,slow=12,SNR=2.4						
ARCES	**ARCESS Array B**	**40.96**	**338**	P	**P**	**18 57 48.7**	**+0.7**
	2.5nm,1.0s,baz=105,slow=7.6,SNR=7.6						
NOA	**NORSAR Array B**	**44.11**	**323**	P	**P**	**18 58 14.3**	**+0.8**
	0.3nm,0.5s,baz=97,slow=7.2,SNR=1.4						
TORD	**Torodi Ar. Bea**	**65.31**	**268**	P	**P**	**19 00 45.4**	**-0.7**
	0.8nm,0.9s,baz=41,slow=5.8,SNR=3.8						
ASAR	**Alice Springs**	**84.61**	**125**	P	**P**	**19 02 34.3**	**-2.0**
	0.2nm,0.9s,baz=331,slow=5.7,SNR=1.8						

*ISCJB **16** 19:04:09.8±1.9, 10°.48N±0°.07×39°.9E±0°.2, h10km, Error ellipse: s-maj=31.5km s-min=9.2km az=3.8*
*AAE **16** 19:04:09.7±0.9, 10°.47N×40°.03E, h2km±7km, MD3.2, ML4.0*

ISC 16 19:04:08.9±2.3, 10°.41N±0°.06×40°.0E±0°.2, h10km, n6, σ1§72/9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DESE	**Dese**	**0.77**	**335**	*eP*	**Pg**	**19 04 23.2**	**-0.6**
DESE	**Dese**	**0.77**	**335**	*eP*	**Pg**	**19 04 23.2**	**-0.6**
ANKE	**Ethiopia-Afar**	**0.85**	**196**	*i* P	**Pn**	**19 04 28.0**	**+0.7**
ANKE				*i* S	**Sg**	**19 04 32.9**	**-3.6**
ANKE	**Ethiopia-Afar**	**0.85**	**196**	*eP*	**Pb**	**19 04 26.6**	**+0.6**
ANKE				*eS*	**Sb**	**19 04 38.3**	**+0.8**
AAE	**Adis Abeba**	**1.82**	**221**	*eP*	**Pn**	**19 04 40.7**	**+0.2**
AAE				AMP		19 04 41.1	
	comp=Z,2μm,0.1s						
FURI	**Furi**	**1.97**	**220**	*i* P	**Pn**	**19 04 43.8**	**+1.1**
FURI				*eS*	**Sn**	**19 05 08.8**	**+1.2**

*NIED **16** 19:10:00, 43°.20N×146°.60E, h41km, Mw3.9 Best double couple: M0=8.64000×10^14 NP1:φ=138.00000°, δ=34.00000°, λ=0.00000°. NP2:φ=228.00000°, δ=90.00000°, λ=-124.00000°.*
*SKHL **16** 19:10:34.9±0.2, 43°.24N×146°.47E, h66km±3km, mb4.3/4*
*MOS **16** 19:10:34.5±1.1, 43°.30N×146°.50E, h64km, mb4.5/5, Error ellipse: s-maj=12.3km s-min=8.0km az=94.9*
*ISCJB **16** 19:10:34.4±0.7, 43°.27N±0°.04×146°.49E±0°.06, h61km±5km, mb3.9/20, Error ellipse: s-maj=8.9km s-min=5.0km az=42.9*
*JMA **16** 19:10:34.3±0.1, 43°.20N×146°.50E, h50km±2km, M4.0*
JMA Felt I J1.
*IDC **16** 19:10:38.7±2.2, 43°.25N×146°.49E, h87km±17km, mb3.5/16, mb1 3.6/19, mb1mx3.5/48, mbtmp3.8/19, MS2.9/5, Ms1 2.9/5, ms1mx2.6/39, Error ellipse: s-maj=17.8km s-min=15.3km az=163.0*

ISC 16 19:10:34.9±1.1, 43°.25N±0°.06×146°.51E±0°.05, h52km±9km, n65, σ1§22/77, mb3.9/20, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.57**	**282**	P	**Pn**	**19 10 46.5**	**-0.6**
NEM2				*eS*	**Sn**	**19 10 55.4**	**-0.5**
GRPR	**Tuman**	**0.91**	**324c**	*i*PN	**Pn**	**19 10 51.1**	**-0.4**
GRPR				*i* S	**Sn**	**19 11 02.9**	**-0.9**
GRPR				pmax	pmax		
	comp=N,238nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,937nm,0.3s						
GRPR				pmax	pmax		
	comp=E,143nm,0.2s						
GRPR				smax	smax		
	comp=N,6μm,0.4s						
GRPR				smax	smax		
	comp=E,5μm,0.4s						
GRPR	**Tuman**	**0.91**	**324**	*i* P	**Pn**	**19 10 51.1**	**-0.4**
GRPR				AMB	AMB	19 10 53.9	
	comp=E,20nm,0.2s						
GRPR				AMB	AMB	19 10 53.9	
	comp=E,10.0nm,0.2s						
GRPR				AMB	AMB	19 10 53.9	
	comp=E,90nm,0.2s						
GRPR				*i* S	**Sn**	**19 11 02.0**	**-1.8**
GRPR				A	A	19 11 03.0	
	comp=E,640nm,0.3s						
GRPR				A	A	19 11 03.0	
	comp=E,490nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.91**	**329c**	*i*PN	**Pn**	**19 10 51.0**	**-0.5**
YUK				*i* S	**Sn**	**19 11 03.6**	**-0.1**
YUK				pmax	pmax		
	comp=Z,972nm,0.1s						
YUK				smax	smax		
	comp=N,4μm,0.2s						
YUK				smax	smax		
	comp=E,4μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.91**	**329**	*i* P	**Pn**	**19 10 51.1**	**-0.5**
YUK				AMB	AMB	19 10 53.0	
	comp=E,100nm,0.2s						
YUK				*i* S	**Sn**	**19 11 03.4**	**-0.3**
YUK				A	A	19 11 07.4	
	comp=E,800nm,0.4s						
YUK				A	A	19 11 07.4	
	comp=E,1μm,0.4s						
LAGR	**Lagunnoye**	**0.96**	**327d**	*i*PN	**Pn**	**19 10 52.0**	**-0.1**
LAGR				*i* S	**Sn**	**19 11 04.3**	**-0.5**
LAGR				pmax	pmax		
	comp=N,173nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,642nm,0.1s						
LAGR				smax	smax		
	comp=N,6μm,0.5s						
LAGR				smax	smax		
	comp=E,448nm,0.6s						
LAGR	**Lagunnoye**	**0.96**	**327**	*i* P	**Pn**	**19 10 52.0**	**-0.1**
LAGR				AMB	AMB	19 10 53.0	
	comp=E,20nm,0.2s						
LAGR				AMB	AMB	19 10 53.0	
	comp=E,120nm,0.2s						
LAGR				*i* S	**Sn**	**19 11 04.0**	**-0.8**
LAGR				A	A	19 11 08.0	
	comp=E,590nm,0.2s						
LAGR				A	A	19 11 08.0	
	comp=E,450nm,0.2s						
JKHN	**Kushirohamanak**	**1.00**	**261**	P	**Pn**	**19 10 52.5**	**-0.2**
JKHN				*eS*	**Sn**	**19 11 05.8**	**0.0**
JRA	**Rausu**	**1.22**	**305**	P	**Pn**	**19 10 55.7**	**+0.1**
JRA				*eS*	**Sn**	**19 11 11.7**	**+0.7**
JNK	**Nakash**	**1.35**	**285**	P	**Pn**	**19 10 56.9**	**-0.5**
JNK				*eS*	**Sn**	**19 11 13.5**	**-0.6**
JAK	**Akkeshi**	**1.35**	**260**	P	**Pn**	**19 10 56.8**	**-0.6**
JAK				*eS*	**Sn**	**19 11 13.9**	**-0.3**
JOB	**Onbets**	**1.99**	**261**	P	**Pn**	**19 11 06.0**	**-0.1**
JOB				*eS*	**Sn**	**19 11 30.1**	**+0.3**
JAR	**Ashorobuto**	**2.00**	**272**	P	**Pn**	**19 11 06.3**	**0.0**
JAR				*eS*	**Sn**	**19 11 30.6**	**+0.5**
JTKR	**Abashiri--Toko**	**2.02**	**292**	P	**Pn**	**19 11 07.5**	**+1.0**
JTKR				*eS*	**Sn**	**19 11 32.0**	**+1.4**
KUR	**Kuril'sk**	**2.21**	**26**	*e*PN	**Pn**	**19 11 09.8**	**+0.7**
KUR				*i* S	**Sn**	**19 11 35.6**	**+0.4**
KUR				pmax	pmax		
	comp=Z,67nm,0.6s						
KUR				smax	smax		
	comp=N,213nm,0.2s						
KUR				smax	smax		
	comp=E,131nm,0.4s						
KUR	**Kuril'sk**	**2.21**	**26**	*i* P	**Pn**	**19 11 09.8**	**+0.7**
KUR				AMB	AMB	19 11 12.2	
	comp=E,70nm,0.4s						
KUR				*i* S	**Sn**	**19 11 35.8**	**+0.6**
KUR				A	A	19 11 40.6	
	comp=E,260nm,0.3s						
KUR				A	A	19 11 40.6	
	comp=E,130nm,0.3s						
JCH	**Churui**	**2.40**	**256**	P	**Pn**	**19 11 11.5**	**-0.2**
JCH				*eS*	**Sn**	**19 11 39.8**	**0.0**
JMP	**Maruseppu**	**2.41**	**289**	P	**Pn**	**19 11 13.1**	**+1.2**
ERM	**Erimo**	**2.77**	**245**	*i*PN	**Pn**	**19 11 18.1**	**+1.4**
JKA	**Kamikawa-asahi**	**2.96**	**288**	*eP*	**Pn**	**19 11 21.7**	**+2.2**
ASAJ	**Asahikawa**	**2.97**	**288**	P	**Pn**	**19 11 21.7**	**+2.2**
	comp=E,12nm,0.3s,baz=151,slow=5.0,SNR=57						
ASAJ				S	**Sn**	**19 11 59.2**	**+5.4**
	comp=E,11nm,0.3s,baz=22,slow=29,SNR=13						
ASAJ				LR	LR	19 12 47.3	
	comp=E,157nm,19.9s,baz=10.0,slow=44						
YSS	**Yuzh-Sakhalins**	**4.56**	**326**	⇓*e*PN	**Pn**	**19 11 42.9**	**+1.6**
YSS				*eS*	**Sn**	**19 12 33.6**	**+0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				smax	smax		
	comp=E,20nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.56**	**326**	*eP*	**Pn**	**19 11 42.3**	**+1.0**
YSS				AMB	AMB	19 11 43.6	
	comp=E,10.0nm,0.7s						
YSS				*eS*	**Sn**	**19 12 32.5**	**-0.4**
MJAR	**Matsushiro Arr**	**9.25**	**226**	P	**Pn**	**19 12 49.0**	**+3.4**
	comp=E,0.1nm,0.3s,baz=27,slow=13,SNR=3.8						
MJAR				LR	LR	19 16 57.8	
	comp=E,42nm,20.0s,baz=80,slow=41						
KLR	**Kul'dur**	**11.83**	**305**	LR	LR	19 17 43.8	
	comp=E,53nm,19.7s,baz=118,slow=36						
PETK	**Petropavlovsk-**	**12.35**	**33**	P	**Pn**	**19 13 30.4**	**+2.4**
	comp=E,0.1nm,0.3s,baz=193,slow=5.2,SNR=3.3						
MA2	**Magadan**	**16.55**	**8**	*i* P	**Pn**	**19 14 22.6**	**-0.6**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MA2	**Magadan**	**16.55**	**8**	LR	LR	19 20 43.0	
	comp=Z,32nm,18.1s,baz=146,slow=36						
MA2	**Magadan**	**16.55**	**8**	*e*P	**Pn**	**19 14 22.6**	**-0.6**
HIA	**Hailar**	**19.40**	**297**	*i* P	**Pn**	**19 14 58.7**	**+0.6**
HIA				pmax	pmax		
	comp=Z,32nm,1.1s						
BILL	**Bilibino**	**26.97**	**16**	*e*P	**P**	**19 16 10.0**	**-1.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BILL	**Bilibino**	**26.97**	**16**	*e*P	**P**	**19 16 10.0**	**-1.2**
SONM	**Songino Array**	**28.24**	**293**	P	**P**	**19 16 23.3**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=95,slow=9.5,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**29.04**	**137**	T	T	19 47 18.1	
	baz=329,slow=75,SNR=678						
H11N1	**WAKE ISLAND Hy**	**29.05**	**137**	T	T	19 47 17.1	
	baz=329,slow=75,SNR=726						
H11N3	**WAKE ISLAND Hy**	**29.06**	**137**	T	T	19 47 19.4	
	baz=329,slow=75,SNR=782						
H11S1	**WAKE ISLAND Hy**	**29.99**	**139**	T	T	19 48 31.6	
	baz=331,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.99**	**139**	T	T	19 48 32.1	
	baz=331,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.00**	**139**	T	T	19 48 33.6	
	baz=331,slow=76						
ILAR	**Eielson Array**	**42.16**	**36**	P	**P**	**19 18 22.3**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=278,slow=8.5,SNR=7.0						
MKAR	**Makanchi Array**	**44.40**	**298**	P	**P**	**19 18 40.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=82,slow=9.0,SNR=12						
KURK	**Kurchatov**	**45.42**	**304**	P	**P**	**19 18 49.4**	**+1.2**
KURK	**Kurchatov**	**45.42**	**304**	*eP*	**P**	**19 18 49.4**	**+1.2**
KURBB	**Kurchatov Arra**	**45.51**	**304**	P	**P**	**19 18 49.4**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=69,slow=8.7,SNR=8.3						
INK	**Inuvik**	**47.07**	**30**	P	**P**	**19 19 01.6**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=293,slow=9.2,SNR=6.9						
AAK	**Ala-Archa**	**51.15**	**296**	P	**P**	**19 19 32.5**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=141,slow=6.5,SNR=3.3						
ARU	**Arti**	**54.39**	**317**	P	**P**	**19 19 55.5**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=100,slow=16,SNR=3.9						
YKA	**Yellowknife Ar**	**56.48**	**33**	P	**P**	**19 20 11.4**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=299,slow=6.5,SNR=5.2						
WRA	**Warramunga Arr**	**63.87**	**193**	P	**P**	**19 21 01.4**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=8.5,slow=8.5,SNR=3.9						
FINES	**FINESS Array B**	**65.11**	**333**	P	**P**	**19 21 09.3**

TNSS	**Tian-Shan**	**0.71**	**283**	P	**Pg**	**19 11 43.4**	**+0.1**
	0.6nm,0.2s						
TNSS				S	**Sg**	**19 11 53.4**	**+0.6**
	1.7nm,0.3s						
TNSS	**Tian-Shan**	**0.71**	**283**	*e*P	**Pg**	**19 11 43.4**	**+0.1**
	baz=82						
TNSS				*e*S	**Sg**	**19 11 53.3**	**+0.6**
	baz=82						
TNSS	**Tian-Shan**	**0.71**	**283**	*e*P	**Pg**	**19 11 43.4**	**+0.1**
	0.6nm,0.2s						
TNSS				*e*S	**Sg**	**19 11 53.4**	**+0.6**
	1.7nm,0.3s						
UZB	**Uzynbulak**	**0.86**	**72**	P	**Pg**	**19 11 45.5**	**-0.6**
	1.2nm,0.2s						
UZB				S	**Sg**	**19 11 57.0**	**-0.5**
	2.8nm,0.3s						
UZB	**Uzynbulak**	**0.86**	**72**	*e*P	**Pg**	**19 11 45.5**	**-0.6**
	1.2nm,0.2s						
UZB				*e*S	**Sg**	**19 11 57.0**	**-0.5**
	2.8nm,0.3s						
KDJ	**Kajisay**	**0.92**	**215**	⇑*i*P	**Pg**	**19 11 47.0**	**-0.3**
	baz=15						
KDJ				⇑*i*S	**Sb**	**19 11 59.9**	**-0.2**
	baz=15						
TARG	**Taragay, Kyrgy**	**1.16**	**183**	⇑*i*P	**Pg**	**19 11 51.6**	**-0.2**
	baz=84						
TARG				⇑*i*S	**Sg**	**19 12 06.8**	**0.0**
	baz=84						
CHKK	**Chushkaly**	**1.17**	**326**	P	**Pg**	**19 11 51.4**	**-0.6**
	0.8nm,0.1s						
CHKK				S	**Sg**	**19 12 06.8**	**-0.4**
	4.7nm,0.3s						
CHKK	**Chushkaly**	**1.17**	**326**	*e*P	**Pg**	**19 11 51.4**	**-0.6**
	baz=26						
CHKK				*e*S	**Sg**	**19 12 06.9**	**-0.4**
	baz=26						
CHKK	**Chushkaly**	**1.17**	**326**	*e*P	**Pg**	**19 11 51.4**	**-0.6**
	0.8nm,0.1s						
CHKK				*e*S	**Sg**	**19 12 06.8**	**-0.4**
	4.7nm,0.3s						
MNBS	**Baschi**	**1.25**	**17**	P	**Pg**	**19 11 53.0**	**-0.4**
	0.8nm,0.1s						
MNBS				S	**Sb**	**19 12 09.9**	**+0.5**
	8.7nm,0.4s						
MNBS	**Baschi**	**1.25**	**17**	*e*P	**Pg**	**19 11 53.0**	**-0.4**
	0.8nm,0.1s						
MNBS				*e*S	**Sb**	**19 12 09.9**	**+0.5**
	8.7nm,0.4s						
ULHL	**Ulahol**	**1.38**	**243**	⇓*i*P	**Pn**	**19 11 54.6**	**-0.4**
	baz=43						
ULHL				⇓*i*S	**Sg**	**19 12 12.8**	**-1.1**
	baz=43						
BOOM	**Boomskoye usch**	**1.50**	**255**	⇑*i*P	**Pn**	**19 11 57.0**	**+0.4**
	baz=55						
BOOM				⇑*i*S	**Sn**	**19 12 16.7**	**+0.5**
	baz=55						

MEX 16 19:12:05.1±0.4, 16°.29N×98°.22W, h13km±1km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**42**	*e*P	Pg	19 12 07.9	-0.7
PNIG				*e*S	Sg	19 12 10.7	-0.4
TLIG	**Tlapa**	**1.31**	**345**	*e*P	Pn	19 12 25.3	-3.8
TLIG				*i* S	Sb	19 12 41.6	-4.7
CAIG	**El Cayaco**	**2.10**	**291**	*i* P	Pn	19 12 37.3	-2.6
CAIG				*i* S	Sn	19 13 01.4	-4.6

NIED ***16*** *19:20:00, 42°.70N×143°.40E, h74km, Mw4.4 Best double couple: M₀4.87000×10¹⁵ NP1:φs64.00000°, δ36.00000°, λ145.00000°. NP2:φs183.00000°, δ71.00000°, λ59.00000°.*
MOS ***16*** *19:20:25.5±0.9, 42°.65N×143°.42E, h89km, mb4.6/39, Error ellipse: s-maj=6.4km s-min=5.2km az=90.8*
ISCJB ***16*** *19:20:25.2±0.2, 42°.66N±0°.02×143°.45E±0°.03, h83km±1km, mb4.5/126, Error ellipse: s-maj=4.4km s-min=2.5km az=147.3*
NEIC ***16*** *19:20:26.1±0.4, 42°.72N×143°.43E, h76km±3km, mb4.6/86, Error ellipse: s-maj=4.9km s-min=3.0km az=157.0*
NEIC Recorded [3 JMA] in southeastern Hokkaido.
JMA ***16*** *19:20:26.5±0.1, 42°.67N×143°.42E, h74km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φs166.00000°, δ74.00000°, λ69.00000°. NP2:φs41.00000°, δ26.00000°, λ142.00000°. Principal axes: T Plg56.0000°, Azm49.0000°; N Plg20.0000°, Azm173.0000°; P Plg26.0000°, Azm273.0000°;*
JMA Felt III J1.
IDC ***16*** *19:20:27.8±1.3, 42°.73N×143°.40E, h89km±9km, mb4.0/26, mb1 4.1/31, mb1mx4.0/46, mbtmp4.3/31, MS3.1/14, Ms1 3.2/14, ms1mx3.0/35 Error ellipse: s-maj=12.8km s-min=9.2km az=132.0*

ISC 16 19:20:25.9±0.6, 42°.68N±0°.03×143°.50E±0°.03, h74km±5km, n302, σ1§24/319, mb4.6/126, 24C-16D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.12**	**236**	⇑P	**Pn**	**19 20 37.2**	**+0.5**
JCH				*e*S	**Sn**	**19 20 44.8**	**+0.1**
JOB	**Onbets**	**0.34**	**48**	⇓P	**Pn**	**19 20 38.9**	**+1.1**
JOB				*e*S	**Sn**	**19 20 48.1**	**+1.6**
JTHR	**Tokachihiroo**	**0.41**	**201**	⇑P	**Pn**	**19 20 38.9**	**+0.5**
JTHR				*e*S	**Sn**	**19 20 47.9**	**+0.4**
JAR	**Ashorobuto**	**0.65**	**18**	⇓P	**Pn**	**19 20 41.4**	**+0.8**
JAR				*e*S	**Sn**	**19 20 51.8**	**+0.4**
JNBK	**Urakawa-nobuka**	**0.68**	**234**	⇑P	**Pn**	**19 20 41.3**	**+0.4**
JEM	**Erimo**	**0.71**	**201**	⇑P	**Pn**	**19 20 41.6**	**+0.4**
ERM	**Erimo**	**0.71**	**201**	*e*Pn	**Pn**	**19 20 41.6**	**+0.4**
ERM	**Erimo**	**0.71**	**201**	*c* iPN	**Pn**	**19 20 41.6**	**+0.4**
JFR	**Furan**	**0.82**	**306**	⇑P	**Pn**	**19 20 42.2**	**-0.3**
JBT2	**Biratori 2**	**0.84**	**277**	⇑P	**Pn**	**19 20 42.9**	**+0.2**
JBT2				*e*S	**Sn**	**19 20 55.6**	**+0.4**
JAK	**Akkeshi**	**0.94**	**70**	⇓P	**Pn**	**19 20 44.5**	**+0.7**
JAK				*e*S	**Sn**	**19 20 58.1**	**+0.9**
JAB	**Ashibetsu**	**1.24**	**312**	⇓P	**Pn**	**19 20 48.5**	**+0.8**
JNK	**Nakash**	**1.27**	**44**	⇓P	**Pn**	**19 20 48.5**	**+0.4**
JNK				*e*S	**Sn**	**19 21 05.1**	**+0.4**
JKHN	**Kushirohamanak**	**1.29**	**71**	P	**Pn**	**19 20 49.0**	**+0.8**
JKHN				*e*S	**Sn**	**19 21 05.7**	**+0.7**
JKK2	**Kamakawa 2**	**1.31**	**336**	⇓P	**Pn**	**19 20 49.2**	**+0.6**
JTKR	**Abashiri--Toko**	**1.32**	**13**	⇑P	**Pn**	**19 20 49.5**	**+0.8**
JTKR				*e*S	**Sn**	**19 21 06.3**	**+0.5**
JMP	**Maruseppu**	**1.33**	**356**	⇑P	**Pn**	**19 20 49.4**	**+0.6**
JMP				*e*S	**Sn**	**19 21 06.2**	**+0.2**
JEW	**Eniwo**	**1.52**	**277**	⇓P	**Pn**	**19 20 52.3**	**+1.1**
ASAJ	**Asahikawa**	**1.58**	**336**	P	**Pn**	**19 20 53.1**	**+1.0**
	40nm,0.3s,baz=189,slow=15,SNR=423						
ASAJ				LR	LR	19 21 09.1	
	comp=Z,68nm,18.1s,baz=224,slow=27						
ASAJ				S	**Sn**	**19 21 13.2**	**+1.4**
	93nm,0.3s,baz=217,slow=20,SNR=27						
JHR	**Hokuryu**	**1.67**	**310**	⇓P	**Pn**	**19 20 54.4**	**+1.1**
JHR				*e*S	**Sn**	**19 21 15.9**	**+1.9**
GRPR	**Tuman**	**2.12**	**51**	⇓*i*PN	**Pn**	**19 21 00.4**	**+1.2**
GRPR				*i* S	**Sn**	**19 21 26.1**	**+1.5**
GRPR				pmax	pmax		
	comp=N,520nm,0.3s						
GRPR				pmax	pmax		
	comp=E,250nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,1μm,0.3s						
GRPR				smax	smax		
	comp=N,12μm,0.4s						
GRPR				smax	smax		
	comp=E,1μm,0.3s						
LAGR	**Lagunnoye**	**2.16**	**50**	⇓*i*PN	**Pn**	**19 21 01.9**	**+2.1**
LAGR				*i* S	**Sn**	**19 21 27.8**	**+2.1**
LAGR				pmax	pmax		
	comp=N,138nm,0.1s						
LAGR				pmax	pmax		
	comp=E,75nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,1μm,0.1s						
LAGR				smax	smax		
	comp=E,15μm,0.5s						
LAGR				smax	smax		
	comp=N,7μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.19**	**51**	*d* iPN	**Pn**	**19 21 01.7**	**+1.5**
YUK				*i* S	**Sn**	**19 21 28.2**	**+1.8**
YUK				pmax	pmax		
	comp=Z,988nm,0.2s						
YUK				pmax	pmax		
	comp=N,328nm,0.3s						
YUK				pmax	pmax		
	comp=E,429nm,0.1s						
YUK				smax	smax		
	comp=N,5μm,0.5s						
YUK				smax	smax		
	comp=E,12μm,0.5s						
KUR	**Kuril'sk**	**4.06**	**50**	*c* iPN	**Pn**	**19 21 27.9**	**+2.4**
KUR				*i* S	**Sn**	**19 22 15.0**	**+3.2**
KUR				pmax	pmax		
	comp=Z,261nm,0.6s						
KUR				pmax	pmax		
	comp=N,37nm,0.2s						
KUR				pmax	pmax		
	comp=E,56nm,0.3s						
KUR				smax	smax		
	comp=N,217nm,0.2s						
KUR				smax	smax		
	comp=E,841nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.31**	**353**	*e*Pn	**Pn**	**19 21 29.0**	**+1.1**
YSS	**Yuzh-Sakhalins**	**4.31**	**353**	*e*PN	**Pn**	**19 21 31.5**	**+2.6**
YSS				*e*S	**Sn**	**19 22 17.4**	**-0.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				smax	smax		
	comp=N,70nm,0.8s						
TEY	**Ternei**	**5.51**	**298**	⇑*e*PN	**Pn**	**19 21 46.5**	**+1.2**
TEY				pmax	pmax		
	comp=N,30nm,0.7s						
TEY				pmax	pmax		
	comp=E,70nm,0.7s						
TEY				pmax	pmax		
	comp=Z,70nm,0.7s						
MJB9	**Matsu-Tunnel**	**7.36**	**215**	*e*Pn	**Pn**	**19 22 10.9**	**+0.2**
MAJO	**Matsushiro**	**7.36**	**215**	*e*Pn	**Pn**	**19 22 10.8**	**0.0**
MAJO				*e*Sn	**Sn**	**19 23 32.3**	**-0.4**
MAJO	**Matsushiro**	**7.36**	**215**	*i* PN	**Pn**	**19 22 11.1**	**+0.4**
MAT	**Matsushiro**	**7.36**	**215**	P	**Pn**	**19 22 10.8**	**+0.1**
MAT				S	**Sn**	**19 23 32.2**	**-0.6**
MJAR	**Matsushiro Arr**	**7.36**	**215**	*e*Pn	**Pn**	**19 22 09.8**	**-0.9**
MJAR				S	**Sn**	**19 23 32.3**	**-0.4**
MJAR	**Matsushiro Arr**	**7.36**	**215**	*e*PN	**Pn**	**19 22 09.8**	**-0.9**
MJAR				S	**Sn**	**19 23 32.3**	**-0.4**
MJAR	**Matsushiro Arr**	**7.36**	**215**	P	**Pn**	**19 22 11.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=26,slow=13,SNR=16						
MJAR				S	**Sn**	**19 23 32.3**	**-0.4**
	baz=84,slow=21,SNR=0.7						
MJAR				LR	LR	19 25 34.6	
	comp=Z,100nm,21.1s,baz=35,slow=42						
TYV	**Tymovskoe**	**8.21**	**356**	*e*PN	**Pn**	**19 22 24.4**	**+2.3**
TYV				pmax	pmax		
	comp=Z,15nm,0.8s						
USA0B	**Ussuriysk Arra**	**8.51**	**284**	*e*Pn	**Pn**	**19 22 26.4**	**+0.1**
USA0B	**Ussuriysk Arra**	**8.51**	**284**	*e*PN	**Pn**	**19 22 26.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**8.51**	**284**	*e*Pn	**Pn**	**19 22 27.3**	**+1.0**
USRK	**Ussuriysk Ar.**	**8.51**	**284**	P	**Pn**	**19 22 28.2**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=89,slow=15,SNR=26						
VLA	**Vladivostok**	**8.54**	**277**	*c* iPN	**Pn**	**19 22 29.3**	**+2.6**
GRNR	**Gornyy**	**9.43**	**332**	*e*PN	Pn	19 22 43.8	+4.9
GRNR				pmax	pmax		
	comp=Z,16nm,1.0s						
MDJ	**Mudanjiang**	**10.26**	**286**	P	**Pn**	**19 22 53.3**	**+3.1**
MDJ	**Mudanjiang**	**10.26**	**286**	*e*Pn	**Pn**	**19 22 49.2**	**-1.0**
KLR	**Kul'dur**	**10.47**	**313**	*c* iPN	**Pn**	**19 22 55.1**	**+2.1**
KLR				pmax	pmax		
	comp=Z,22nm,1.3s						
KLR	**Kul'dur**	**10.47**	**313**	P	**Pn**	**19 22 54.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=123,slow=14,SNR=21						
SKR	**Severo-Kuril's**	**11.79**	**43**	*e*PN	**Pn**	**19 23 10.9**	**0.0**
SKR				pmax	pmax		
	comp=Z,48nm,0.5s						
SKR				MLR	MLR		
	comp=Z,100nm,20.0s						
KSRS	**Korea Array**	**13.02**	**252**	P	**Pn**	**19 23 28.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=62,slow=13,SNR=26						
KSRS				LR	LR	19 27 59.6	
	comp=Z,102nm,19.8s,baz=64,slow=35						
KS15	**Wonju Array Si**	**13.05**	**252**	*e*Pn	**Pn**	**19 23 28.0**	**-0.1**
KSAR	**Wonju Array Be**	**13.05**	**252**	*e*Pn	**Pn**	**19 23 27.4**	**-0.7**
KSAR	**Wonju Array Be**	**13.05**	**252**	*e*PN	**Pn**	**19 23 27.4**	**-0.7**
JNU	**Nakatsue**	**13.78**	**230**	LR	LR	19 28 54.4	
	comp=Z,51nm,20.6s,baz=313,slow=37						
PETK	**Petropavlovsk-**	**14.10**	**37**	*e*Pn	**Pn**	**19 23 39.2**	**-2.7**
PETK	**Petropavlovsk-**	**14.10**	**37**	P	**Pn**	**19 23 39.6**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=214,slow=7.6,SNR=19						
PETK				LR	LR	19 28 60.0	
	comp=Z,69nm,21.7s,baz=225,slow=36						
PEA1	**Petropavlovsk-**	**14.10**	**37**	*e*Pn	**Pn**	**19 23 39.6**	**-2.4**
ZEA	**Zeya**	**15.44**	**321**	*e*P	**Pn**	**19 24 00.5**	**+1.4**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MA2	**Magadan**	**17.50**	**12**	*c e*P	**Pn**	**19 24 24.1**	**-0.7**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MA2	**Magadan**	**17.50**	**12**	P	**Pn**	**19 24 23.6**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=182,slow=9.9,SNR=6.8						
MA2				LR	LR	19 32 20.8	
	comp=Z,32nm,18.1s,baz=168,slow=41						
BJT	**Baijiatuau**	**20.66**	**272**	*e*P	**P**	**19 24 57.6**	**-1.9**
	comp=Z,16nm,0.7s						
BJT	**Baijiatuau**	**20.66**	**272**	*e*P	**P**	**19 24 57.6**	**-1.9**
BJT				pmax	pmax		
	comp=Z,16nm,0.7s						
SEY	**Seymchan**	**20.95**	**11**	*c e*P	**P**	**19 25 00.0**	**-2.4**
SEY	**Seymchan**	**20.95**	**11**	P	**P**	**19 25 00.6**	**-1.8**
	comp=Z,19nm,0.8s,baz=191,slow=7.8,SNR=29						
YAK	**Yakutsk**	**21.05**	**342**	*e*P	**P**	**19 25 04.8**	**+1.3**
YAK				*e*S	**S**	**19 28 51.3**	**-2.1**
YAK				*e**SS	Sn	19 29 01.8	-2.2
YAK				*e*SSS	SSS	19 29 23.2	
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,12nm,1.4s						
YAK				smax	smax		
	comp=E,76nm,0.9s						
YAK				smax	smax		
	comp=N,67nm,1.1s						
TIA	**Tai'an**	**21.32**	**261**	P	**P**	**19 25 05.9**	**-0.7**
NJ2	**Nanjing**	**22.20**	**250**	*e*P	**P**	**19 25 16.8**	**+0.8**
BTO	**Baotou**	**25.01**	**277**	*e*P	**P**	**19 25 43.5**	**+0.6**
ULN	**Ulaanbaatar**	**26.00**	**294**	*e*P	**P**	**19 25 51.1**	**-0.7**
	comp=N,18nm,1.6s						
ULN	**Ulaanbaatar**	**26.00**	**294**	*c e*P	**P**	**19 25 49.6**	**-2.2**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
WHN	**Wuhan**	**26.21**	**252**	⇑*i*P	**P**	**19 25 54.3**	**+0.6**
SONA0	**Songino Array**	**26.44**	**294**	*e*P	**P**	**19 25 55.4**	**-0.4**
SONM	**Songino Array**	**26.44**	**294**	*e*P	**P**	**19 25 55.1**	**-0.7**
SONM	**Songino Array**	**26.44**	**294**	P	**P**	**19 25 55.4**	**-0.4**
	comp=Z,4.9nm,0.9s,baz=89,slow=9.3,SNR=20						
SONM				LR	LR	19 36 58.4	
	comp=Z,62nm,18.6s,baz=80,slow=38						
BILL	**Bilibino**	**28.17**	**18**	*i* P	**P**	**19 26 11.4**	**+0.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
XAN	**Xi'an**	**28.29**	**264**	P	**P**	**19 26 12.3**	**-0.1**
XAN				pP	pP	19 26 20.5	-10
XAN	**Xi'an**	**28.29**	**264**	*e*P	**P**	**19 26 11.2**	**-1.2**
	comp=Z,13nm,0.6s						
XAN	**Xi'an**	**28.29**	**264**	*e*P	**P**	**19 26 11.2**	**-1.2**
XAN				pmax	pmax		
	comp=Z,13nm,0.6s						
GUMO	**Guam**	**29.01**	**177**	LR	LR	19 38 46.1	
	comp=Z,23nm,18.2s,baz=72,slow=38						
ENH	**Enshi**	**29.82**	**257**	*e*P	**P**	**19 26 25.7**	**-0.2**
	comp=Z,14nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**30.21**	**132**	T	T	19 58 02.1	
	baz=327,slow=75,SNR=495						
H11N1	**WAKE ISLAND Hy**	**30.22**	**132**	T	T	19 58 05.5	
	baz=327,slow=75,SNR=295						
H11N3	**WAKE ISLAND Hy**	**30.23**	**132**	T	T	19 58 06.0	
	baz=327,slow=75,SNR=461						
H11S1	**WAKE ISLAND Hy**	**31.10**	**134**	T	T	19 59 11.2	
	baz=327,slow=76,SNR=865						
H11S3	**WAKE ISLAND Hy**	**31.11**	**134**	T	T	19 59 07.9	
	baz=327,slow=76,SNR=471						
H11S2	**WAKE ISLAND Hy**	**31.12**	**134**	T	T	19 59 14.2	
	baz=327,slow=76,SNR=590						
LZH	**Lanzhou**	**31.13**	**271**	*e*P	**P**	**19 26 39.0**	**+1.4**
LZH				pP	pP	19 26 42.3	-13
LZH				sP	sP	19 26 44.3	-20
GTA	**Gaotai**	**32.83**	**279**	⇓P	**P**	**19 26 52.9**	**+0.4**
GTA				pP	pP	19 27 01.8	-8.4
GTA				sP	sP	19 27 05.1	-14
KMI	**Kunming**	**37.67**	**256**	P	**P**	**19 27 35.0**	**+0.8**
DGZ	**Jazzator, Alta**	**38.65**	**300**	*i* P	**P**	**19 27 42.2**	**+0.1**
DGZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NRIK	**Noril'sk**	**38.92**	**332**	LR	LR	19 45 14.3	
	comp=Z,54nm,18.1s,baz=42,slow=38						
ZAA1	**Zalesovo Array**	**39.52**	**307**	*e*P	**P**	**19 27 48.3**	**-0.8**
ZAA0	**Zalesovo Array**	**39.52**	**307**	*e*P	**P**	**19 27 48.7**	**-0.4**
	comp=Z,5.7nm,0.9s						
ZALV	**Zalesovo Beam**	**39.52**	**307**	P	**P**	**19 27 48.3**	**-0.8**
	comp=Z,4.6nm,0.7s,baz=94,slow=7.6,SNR=17						
ZALV				LR	LR	19 45 26.8	
	comp=Z,28nm,21.2s,baz=68,slow=38						
IMAR	**Indian Mountai**	**41.02**	**34**	*e*P	**P**	**19 28 01.0**	**-0.3**
RSO	**Redoubt South**	**41.56**	**42**	*e*P	**P**	**19 28 06.5**	**+0.5**
CAST	**Castle Rocks**	**41.71**	**38**	*e*P	**P**	**19 28 08.1**	**+1.0**
	comp=Z,9.3nm,0.8s						
KDAK	**Kodiak Island**	**41.93**	**46**	*i* P	**P**	**19 28 08.8**	**0.0**
KDAK	**Kodiak Island**	**41.93**	**46**	P	**P**	**19 28 08.6**	**-0.3**
	comp=Z,17nm,0.8s,baz=315,slow=4.4,SNR=5.6						
BPAW	**Bear Paw Mtn.**	**42.18**	**37**	*e*P	**P**	**19 28 11.7**	**+0.8**
	comp=Z,7.5nm,0.8s						
SKNT	**Sakolnakorn**	**42.23**	**245**	P	P	19 28 21.2	+9.4
MLY	**Manley**	**42.26**	**35**	*e*P	**P**	**19 28 12.3**	**+0.7**
	comp=Z,5.8nm,1.0s						
MK31	**Makanchi Array**	**42.71**	**297**	*e*P	**P**	**19 28 15.0**	**-0.4**
	comp=Z,11nm,0.8s						
MK31	**Makanchi Array**	**42.71**	**297**	*e*P	**P**	**19 28 15.0**	**-0.4**
MK31				pmax	pmax		
	comp=Z,11nm,0.8s						
MK32	**Makanchi Array**	**42.71**	**297**	*e*P	**P**	**19 28 15.2**	**-0.2**
MKAR	**Makanchi Array**	**42.71**	**297**	*e*P	**P**	**19 28 14.9**	**-0.5**
MKAR	**Makanchi Array**	**42.71**	**297**	P	**P**	**19 28 15.2**	**-0.2**
	comp=Z,10nm,0.8s,baz=84,slow=9.4,SNR=85						
TOLK	**Toolik Lake Re**	**42.75**	**30**	*e*P	**P**	**19 28 15.4**	**0.0**
	comp=Z,4.3nm,0.7s						
MAKZ	**Makanchi**	**42.91**	**298**	*e*P	**P**	**19 28 16.7**	**-0.3**
	comp=Z,12nm,0.8s						
MAKZ	**Makanchi**	**42.91**	**298**	*e*P	**P**	**19 28 16.7**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,12nm,0.8s						
MCK	**McKinley**	**43.11**	**37**	*e*P	**P**	**19 28 18.8**	**+0.4**
	comp=Z,6.6nm,0.8s						
RND	**Reindeer**	**43.17**	**37**	*e*P	**P**	**19 28 18.8**	**-0.1**
	comp=Z,7.6nm,0.8s						
RND	**Reindeer**	**43.17**	**37**	*e*P	**P**	**19 28 18.8**	**-0.1**
RND				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDM	**Murphy Dome**	**43.33**	**35**	*e*P	**P**	**19 28 20.7**	**+0.5**
	comp=Z,8.3nm,0.8s						
WRH	**Wood River Hil**	**43.42**	**36**	*e*P	**P**	**19 28 21.2**	**+0.3**
	comp=Z,7.4nm,1.1s						
KHON	**Khomkaen**	**43.46**	**245**	P	**P**	**19 28 23.4**	**+1.7**
	comp=Z,42μm,0.8s						
COLA	**College**	**43.50**	**35**	*e*P	**P**	**19 28 22.1**	**+0.7**
	comp=Z,21nm,0.8s						
COLA	**College**	**43.50**	**35**	*i* P	**P**	**19 28 21.3**	**-0.1**
COLA				pmax	pmax		
	comp=Z,19nm,1.0s						
CCB	**Clear Creek Bu**	**43.53**	**36**	*e*P	**P**	**19 28 21.5**	**-0.2**
	comp=Z,5.8nm,1.2s						
LSA	**Lhasa**	**43.54**	**270**	*e*P	**P**	**19 28 21.6**	**-1.1**
	comp=Z,4.5nm,0.8s						
LSA	**Lhasa**	**43.54**	**270**	*e*P	**P**	**19 28 21.7**	**-1.1**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SML	**Sawmill**	**43.56**	**40**	*e*P	**P**	**19 28 22.3**	**+0.2**
	comp=Z,65nm,1.8s						
SML	**Sawmill**	**43.56**	**40**	*e*P	**P**	**19 28 22.3**	**+0.2**
SML				pmax	pmax		
	comp=Z,65nm,1.8s						
PHRA	**Phrae**	**43.73**	**250**	P	**P**	**19 28 27.0**	**+3.1**
	comp=Z,0.9nm,1.0s						
DHY	**Denali Highway**	**43.87**	**38**	*e*P	**P**	**19 28 25.0**	**+0.3**
	comp=Z,9.8nm,0.8s						
KURK	**Kurchatov**	**43.91**	**304**	*e*P	**P**	**19 28 24.4**	**-0.6**
	comp=Z,10nm,0.7s						
KURK	**Kurchatov**	**43.91**	**304**	*c e*P	**P**	**19 28 24.1**	**-0.9**
KURK				pmax	pmax		
	comp=Z,18nm,1.3s						
ILAR	**Eielson Array**	**43.92**	**35**	*e*P	**P**	**19 28 24.7**	**-0.2**
ILAR	**Eielson Array**	**43.92**	**35**	P	**P**	**19 28 25.0**	**+0.1**
ILAR	**Eielson Array**	**43.92**	**35**	P	**P**	**19 28 24.9**	**+0.1**
	comp=Z,9.3nm,0.9s,baz=271,slow=7.0,SNR=59						
ILAR				LR	LR	19 48 01.0	
	comp=Z,39nm,18.2s,baz=175,slow=38						
ILB	**Eielson Array**	**43.92**	**35**	*e*P	**P**	**19 28 25.1**	**+0.3**
	comp=Z,15nm,1.1s						
HDA	**Harding Lake**	**43.92**	**36**	*e*P	**P**	**19 28 24.6**	**-0.3**
	comp=Z,8.1nm,0.6s						
KURBB	**Kurchatov Arra**	**43.99**	**304**	P	**P**	**19 28 25.2**	**-0.4**
	comp=Z,11nm,0.7s,baz=74,slow=8.6,SNR=59						
UTTA	**Uttaradit**	**44.02**	**249**	P	**P**	**19 28 28.2**	**+2.0**
	comp=Z,11μm,0.8s						
LAMP	**Lampang**	**44.13**	**251**	P	P	19 28 34.4	+7.3
CHAI	**Chaiyaphum**	**44.34**	**246**	P	**P**	**19 28 30.1**	**+1.4**
	comp=Z,21μm,0.9s						
CMMT	**Chiang Mai**	**44.41**	**252**	P	**P**	**19 28 30.6**	**+1.2**
	comp=Z,4.4nm,1.1s						
CHTO	**Chiang Mai**	**44.42**	**252**	*e*P	**P**	**19 28 30.5**	**+1.1**
	comp=Z,4.7nm,0.6s						
CHTO	**Chiang Mai**	**44.42**	**252**	*e*P	**P**	**19 28 30.5**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PRP	**Porcupine Dome**	**44.43**	**34**	*e*P	**P**	**19 28 29.8**	**+0.8**
	comp=Z,15nm,0.8s						

DMN	Daman	49.13	272	eP	P	19 29 06.6	+0.2
	comp=Z,14nm,0.7s						
GKN	Gorkha	49.26	273	eP	P	19 29 07.2	-0.1
AAK	Ala-Archa	49.40	295	ceP	P	19 29 07.5	-0.6
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	Ala-Archa	49.40	295	P	P	19 29 07.9	-0.3
	comp=Z,1.8nm,0.5s,baz=113,slow=5.3,SNR=6.1						
KSH	Kashi	49.75	291	P	P	19 29 15.3	+4.5
KSH				sP	pP	19 29 32.9	+3.5
KSH				PcP	PcP	19 30 36.8	+6.0
KSH				PP	PP	19 31 12.8	+7.0
KSH				S	S	19 36 18.8	+4.3
KOLN	Koldanda	50.15	273	eP	P	19 29 14.3	+0.2
	comp=Z,19nm,0.8s						
WHY	Whitehorse	50.15	39	eP	P	19 29 15.1	+1.6
	comp=Z,7.1nm,1.0s						
PYUN	Piuthan	50.41	274	eP	P	19 29 16.2	+0.1
	comp=Z,32nm,0.9s						
ARSB	Arslanbob	50.98	294	eP	P	19 29 20.0	-0.1
	comp=Z,17nm,1.0s						
KRAB	Krabi	51.80	242	P	P	19 29 29.0	+2.7
	comp=Z,106μm,0.8s						
KK31	Karatay Array	51.83	297	eP	P	19 29 25.6	-0.7
	comp=Z,4.4nm,0.7s						
KK31	Karatay Array	51.83	297	eP	P	19 29 25.6	-0.7
KK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KKAR	Karatay Array	51.83	297	eP	P	19 29 25.5	-0.8
KKAR	Karatay Array	51.83	297	eP	P	19 29 25.5	-0.8
SVE	Sverdlovsk	52.08	316	eP	P	19 29 27.9	0.0
DLBC	Dease Lake	53.25	41	eP	P	19 29 38.0	+1.4
	comp=Z,8.9nm,1.3s						
DLBC	Dease Lake	53.25	41	P	P	19 29 38.1	+1.5
	comp=Z,1.7nm,0.6s,baz=312,slow=8.8,SNR=5.6						
ARU	Arti	53.29	316	eP	P	19 29 36.1	-0.8
	comp=Z,4.7nm,0.7s						
ARU	Arti	53.29	316	d iP	P	19 29 36.0	-0.8
ARU				*PP	pP	19 29 54.0	-1.6
ARU						19 30 40.7	
ARU						19 31 33.0	
ARU				S	S	19 37 03.1	+0.7
ARU				SS	SS	19 40 37.9	-4.5
ARU				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GAR	Garm	53.87	293	eP	P	19 29 40.8	-0.7
	comp=Z,32nm,1.6s						
GAR	Garm	53.87	293	eP	P	19 29 40.8	-0.7
GAR				pmax	pmax		
	comp=Z,33nm,1.6s						
NIL	Nilore	54.52	285	eP	P	19 29 46.2	+0.1
	comp=Z,12nm,0.9s						
NIL	Nilore	54.52	285	eP	P	19 29 46.2	+0.1
NIL				pmax	pmax		
	comp=Z,12nm,0.9s						
AB31	Akbulak array	55.63	308	i P	P	19 29 53.4	-0.5
AB31				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ABKAR	Akbulak array	55.63	308	eP	P	19 29 53.4	-0.5
RES	Resolute Bay	56.74	16	eP	P	19 30 00.5	-0.9
	comp=Z,6.3nm,0.9s						
RES	Resolute Bay	56.74	16	eP	P	19 30 00.5	-0.9
RES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RES	Resolute Bay	56.74	16	P	P	19 30 00.8	-0.6
	comp=Z,3.7nm,0.6s,baz=301,slow=7.2,SNR=17						
KBL	Kabul	57.02	289	eP	P	19 30 03.2	-1.0
	comp=Z,8.6nm,0.7s						
KBL	Kabul	57.02	289	eP	P	19 30 03.2	-1.0
KBL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YKW3	Yellowknife Ar	58.11	32	eP	P	19 30 11.2	0.0
	comp=Z,3.1nm,0.7s						
YKA	Yellowknife Ar	58.15	32	eP	P	19 30 10.7	-0.8
YKA	Yellowknife Ar	58.15	32	i P	P	19 30 11.5	0.0
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	Yellowknife Ar	58.15	32	P	P	19 30 11.5	0.0
	comp=Z,1.3nm,0.5s,baz=306,slow=6.8,SNR=36						
YKB5	Yellowknife Ar	58.15	32	eP	P	19 30 11.5	0.0
GEYT	Alibeck	62.59	297	P	P	19 30 42.2	0.0
	comp=Z,2.4nm,0.5s,baz=17,slow=1.5,SNR=5.9						
WR1	Warramunga Arr	62.88	190	eP	P	19 30 44.3	+0.2
WRA	Warramunga Arr	62.88	190	P	P	19 30 44.3	+0.2
	comp=Z,0.5nm,0.6s,baz=7.3,slow=6.0,SNR=5.1						
GLK	Glacier Lake	63.55	50	eP	P	19 30 48.8	+0.3
B08A	Colville Reser	63.78	48	eP	P	19 30 50.4	+0.5
	comp=Z,9.1nm,1.3s						
H04A	Detroit Lake	64.30	52	eP	P	19 30 54.0	+0.7
	comp=Z,10nm,1.0s						
FIA0	FINESS Array S	64.58	332	eP	P	19 30 54.0	-0.9
FIA0	FINESS Array S	64.58	332	eP	P	19 30 54.0	-0.9
FINES	FINESS Array B	64.58	332	i P	P	19 30 54.0	-0.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	64.58	332	P	P	19 30 54.0	-0.9
	comp=Z,2.2nm,0.5s,baz=49,slow=7.1,SNR=22						
FINES				LR	LR	20 01 11.4	
	comp=Z,23nm,18.8s,baz=52,slow=38						
BKCOR	Black Crater	64.80	52	eP	P	19 30 54.4	-2.4
E09A	Wood Farm, Sta	65.51	49	eP	P	19 31 01.7	+0.5
	comp=Z,15nm,1.1s						
PINE	Pine Mountain	65.54	52	eP	P	19 31 02.5	+0.8
	comp=Z,13nm,0.9s						
VSR	Storozhevoye	65.77	318	eP	P	19 31 01.0	-1.7
VSR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
K05A	Summer Lake	66.20	53	eP	P	19 31 06.6	+0.7
	comp=Z,61nm,2.0s						
VSU	Vasula	66.42	329	eP	P	19 31 05.4	-1.3
VSU				pmax	pmax		
	comp=Z,17nm,0.9s						
ASAR	Alice Springs	66.61	190	P	P	19 31 09.5	+1.2
	comp=Z,0.5nm,0.8s,baz=11,slow=6.6,SNR=8.5						
BMO	Blue Mountains	66.99	50	eP	P	19 31 11.7	+0.9
	comp=Z,3.4nm,0.9s						
BMO	Blue Mountains	66.99	50	eP	P	19 31 11.7	+0.9
BMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
J08A	Circle Bar Ran	67.23	52	eP	P	19 31 13.5	+1.1
	comp=Z,6.6nm,1.0s						
MSO	Missoula	67.61	46	eP	P	19 31 15.2	+0.5
	comp=Z,7.4nm,1.2s						
WVOR	Wild Horse Val	67.71	52	eP	P	19 31 15.2	-0.2
	comp=Z,6.0nm,1.0s						
WVOR	Wild Horse Val	67.71	52	eP	P	19 31 15.2	-0.2
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FFC	Flin Flon	68.12	35	eP	P	19 31 17.8	+0.2
	comp=Z,3.2nm,0.7s						
FFC	Flin Flon	68.12	35	i P	P	19 31 18.1	+0.5
BEKR	Beckworth	68.25	55	eP	P	19 31 19.5	+0.6
	comp=Z,5.5nm,0.7s						
FCC	Fort Churchill	68.26	28	eP	P	19 31 18.0	-0.3
	comp=Z,22nm,1.7s						
FCC	Fort Churchill	68.26	28	eP	P	19 31 18.0	-0.3
FCC				pmax	pmax		
	comp=Z,22nm,1.7s						
KIV	Kislovodsk	68.45	310	eP	P	19 31 19.8	-0.2
	comp=Z,6.6nm,0.7s						
KIV	Kislovodsk	68.45	310	⇑iP	P	19 31 20.8	+0.8
KIV	Kislovodsk	68.45	310	eP	P	19 31 20.1	+0.1
KIV				pmax	pmax		
	comp=Z,30nm,1.1s						
KBZ	Khabaz	68.47	310	P	P	19 31 20.4	+0.5
	comp=Z,0.8nm,0.4s,baz=64,slow=6.7,SNR=9.4						
HRY	Holter Researc	68.80	46	eP	P	19 31 21.1	-1.1
NEY	Neytrino	68.87	310	i P	P	19 31 22.0	-0.7
NEY				pmax	pmax		
	comp=Z,1.0nm,1.0s						
PAHR	Pah Rah Range	68.94	55	eP	P	19 31 23.4	+0.3
	comp=Z,5.8nm,1.0s						
EGMT	Eagleton	69.03	44	eP	P	19 31 24.0	+0.5
	comp=Z,22nm,1.3s						
DLMT	Dillon	69.26	47	eP	P	19 31 25.9	+0.9
	comp=Z,7.1nm,0.9s						
HLID	Hailey	69.42	49	eP	P	19 31 27.0	+0.9
	comp=Z,3.8nm,1.1s						
YERR	Yerington	69.48	56	eP	P	19 31 27.3	+0.7
	comp=Z,5.4nm,0.8s						
NB2	NORSAR Subarra	69.60	337	P	P	19 31 26.2	-0.5
	comp=Z,0.8nm,0.5s,baz=33,slow=6.5						
NB200	NORSAR Array S	69.60	337	eP	P	19 31 26.3	-0.4
NOA	NORSAR Array B	69.60	337	P	P	19 31 26.3	-0.4
	comp=Z,0.5nm,0.5s,baz=34,slow=6.3,SNR=4.7						
NOA				LR	LR	20 07 12.3	
	comp=Z,9.9nm,18.0s,baz=290,slow=40						
BOZ	Bozeman (W)	69.63	46	eP	P	19 31 28.1	+0.8
	comp=Z,4.9nm,0.6s						
BOZ	Bozeman (W)	69.63	46	eP	P	19 31 28.1	+0.8
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GNI	Garni	69.65	306	i P	P	19 31 28.7	+1.2
GNI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BMN	Battle Mountai	69.78	53	eP	P	19 31 28.6	+0.2
	comp=Z,3.6nm,1.0s						
BMN	Battle Mountai	69.78	53	eP	P	19 31 28.6	+0.2
BMN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KVN	Kaiserville	70.13	55	eP	P	19 31 31.2	+0.7
	comp=Z,8.4nm,1.1s						
KVN	Kaiserville	70.13	55	eP	P	19 31 31.2	+0.7
KVN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
RYN	Ryan	70.14	56	eP	P	19 31 31.1	+0.6
	comp=Z,4.2nm,0.9s						
NV01	Mina Array Sit	70.40	56	eP	P	19 31 33.2	+1.0
NVAR	Mina Array Bea	70.40	56	eP	P	19 31 31.5	-0.7
NVAR	Mina Array Bea	70.40	56	P	P	19 31 33.2	+1.0
	comp=Z,3.1nm,0.8s,baz=288,slow=6.0,SNR=19						
ELK	Elko	70.75	52	eP	P	19 31 34.9	+0.6
	comp=Z,1.4nm,0.9s						
ELK	Elko	70.75	52	eP	P	19 31 34.9	+0.6
ELK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ANN	Anapa	70.79	314	eP	P	19 31 32.7	-1.5
ANN				pmax	pmax		
	comp=Z,21nm,0.9s						
AKASG	Malin Array Be	70.82	322	P	P	19 31 33.4	-0.8
	comp=Z,1.1nm,0.4s,baz=44,slow=6.5,SNR=10.0						
AKBB	Malin Array Si	70.82	322	eP	P	19 31 32.6	-1.7
	comp=Z,3.3nm,0.6s						
AKBB	Malin Array Si	70.82	322	eP	P	19 31 32.6	-1.7
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIEV	Kiev	70.83	322	i P	P	19 31 32.3	-2.0
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FRB	Frobisher Bay	70.91	14	P	P	19 31 33.8	-0.8
FRB				pmax	pmax		
	comp=Z,10.0nm,2.8s						
FXWY	Fox Creek	71.24	48	eP	P	19 31 38.5	+1.3
	comp=Z,6.2nm,1.3s						
TPAW	Teton Pass	71.38	48	eP	P	19 31 39.0	+0.9
	comp=Z,4.4nm,0.9s						
R11A	Troy Canyon, C	72.09	54	eP	P	19 31 43.1	+0.7
	comp=Z,3.4nm,1.2s						
DUG	Dugway, Tooele	72.51	51	eP	P	19 31 44.2	-0.6
	comp=Z,7.4nm,0.3s						
DUG	Dugway, Tooele	72.51	51	eP	P	19 31 44.3	-0.6
DUG				pmax	pmax		
	comp=Z,7.0nm,0.3s						
TPNV	Topopah Spring	72.60	56	eP	P	19 31 45.6	+0.2
	comp=Z,7.1nm,1.0s						
TPNV	Topopah Spring	72.60	56	eP	P	19 31 45.6	+0.2
TPNV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PD31	Pinedale Array	72.62	48	eP	P	19 31 46.0	+0.5
	comp=Z,1.9nm,0.7s						
PDAR	Pinedale Array	72.62	48	P	P	19 31 46.1	+0.5
	comp=Z,1.5nm,0.5s,baz=236,slow=0.9,SNR=12						
DSCC	Desert Studies	73.86	57	eP	P	19 31 54.5	+1.8
ULM	Lac du Bonnet	73.94	35	P	P	19 31 52.3	-0.5
	comp=Z,2.7nm,0.8s,baz=273,slow=6.5,SNR=5.0						
RSSD	Black Hills	74.60	44	P	P	19 31 57.1	0.0
RSSD				pmax	pmax		
	comp=Z,5.0nm,1.5s						
DPP	Dos Picos Cty	74.74	59	eP	P	19 31 57.2	-0.6
BUR08	Bucovina Ar. S	74.86	322	eP	P	19 31 58.5	+0.1
	comp=Z,2.1nm,0.6s						
BURAR	Bucovina Array	74.87	322	⇑iP	P	19 31 58.6	+0.2
BIZ	Bicaz	74.96	321	⇑iP	P	19 31 57.8	-1.1
TESR	Tescani	75.02	320	⇑iP	P	19 31 59.3	+0.1
PV22	Blue Mesa, Par	75.93	50	eP	P	19 32 05.5	+0.7
	comp=Z,7.6nm,1.2s						
PV20	West Nyswonger	75.96	51	eP	P	19 32 04.4	-0.6
	comp=Z,7.1nm,1.0s						
PV18	Skein Mesa, Pa	76.06	51	eP	P	19 32 04.6	-1.0
	comp=Z,4.3nm,0.7s						
MLR	Muntele Rosu	76.10	320	⇑iP	P	19 32 01.0	-4.6
BR101	Keskin Array S	76.30	312	eP	P	19 32 05.2	-1.6
BRTR	Keskin Array B	76.30	312	P	P	19 32 05.2	-1.6
	comp=Z,0.7nm,0.8s,baz=58,slow=4.8,SNR=4.4						
BRTR				LR	LR	20 13 06.5	
	comp=Z,11nm,19.6s,baz=72,slow=41						
VOIR		76.56	320	⇓iP	P	19 32 08.4	+0.3
VYHS	Vyhne	76.97	326	eP	P	19 32 09.3	-1.0
VYHS	Vyhne	76.97	326	eP	P	19 32 09.2	-1.0
EYMN	Ely	77.55	34	eP	P	19 32 13.1	-0.4
	comp=Z,6.8nm,0.8s						
MODS	Modra-Piesok	77.71	327	eP	P	19 32 15.1	+0.7
MODS	Modra-Piesok	77.71	327	eP	P	19 32 15.1	+0.7
SDCO	Great Sand Dun	78.33	49	eP	P	19 32 18.2	-0.2
	comp=Z,2.4nm,1.0s						
T25A	Trinidad	79.37	49	eP	P	19 32 23.8	-0.2
	comp=Z,5.4nm,0.9s						
SCHQ	Schefferville	79.47	17	P	P	19 32 23.9	-0.1
	comp=Z,4.5nm,0.6s,baz=238,slow=18,SNR=2.6						
VTS	Vitosha	79.55	320	⇓iP	P	19 32 24.7	-0.1
VTS	Vitosha	79.55	320	P	P	19 32 24.7	-0.1
LTX	Lajitas	85.45	54	eP	P	19 32 56.2	+0.6
LTX	Lajitas	85.45	54	eP	P	19 32 56.3	+0.6
TX31	Lajitas Ar. Si	85.45	54	eP	P	19 32 54.8	-0.8
	comp=Z,2.2nm,0.8s						
TXAR	Lajitas Array	85.45	54	P	P	19 32 56.2	+0.6
	comp=Z,2.9nm,0.8s,baz=293,slow=2.9,SNR=24						
HNH	Hanover	88.21	25	eP	P	19 33 07.9	-0.7
	comp=Z,26nm,0.5s						
WVT	Waverly	88.66	39	eP	P	19 33 08.1	-2.8
	comp=Z,12nm,0.6s						
PLAL	Pickwick Lake	89.48	40	eP	P	19 33 11.2	-3.5
	comp=Z,15nm,0.8s						

DDA ***16*** *19:45:50.3, 36°.78N×26°.53E, h6km±4km, ML3.0*
ISK ***16*** *19:45:52.9, 36°.86N×26°.66E, h14km, ML2.7/15*
ATH ***16*** *19:45:53.4, 36°.88N×26°.64E, h27km±1km, ML2.2/6, Error ellipse: s-maj=2.6km s-min=1.1km az=302.0*
THE ***16*** *19:45:53.4, 36°.85N×26°.67E, h12km±3km, ML2.3/2, Error ellipse: s-maj=3.9km s-min=0.7km az=138.0*
ISCJB ***16*** *19:45:54.3±0.4, 36°.83N±0°.03×26°.67E±0°.03, h22km±7km, Error ellipse: s-maj=5.3km s-min=3.2km az=153.9*
ISC 16 19:45:53.3±1.0, 36°.84N±0°.03×26°.69E±0°.02, h17km±8km, n44, σ0°.83/62, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	Bodrum	0.55	65	PG	Pg	19 46 04.2	-0.1
BODT				SG	Sb	19 46 12.6	+0.5
BODT	Bodrum	0.55	65	P	Pg	19 46 04.0	-0.3
BODT				S	Sb	19 46 12.7	+0.6
AMGA	Amorgos Island	0.64	270	P	Pg	19 46 05.0	-0.9
AMGA				S	Sg	19 46 14.1	-0.3
AMGA	Amorgos Island	0.64	270	P	Pg	19 46 05.5	-0.4
AMGA				S	Sg	19 46 14.2	-0.3
BDRM	Kayabasi	0.65	69	IAML_P			
	comp=Z,2μm,0.2s						
BDRM				i P	Pg	19 46 05.8	-0.3
BDRM				i S	Sg	19 46 15.0	+0.2
DIDI	Didim-Aydin	0.70	39	PG	Pg	19 46 07.2	+0.1
DAT	Datca	0.72	98	PG	Pg	19 46 08.2	+0.6
DAT	Datca	0.72	98	IAML_P			
	comp=Z,2μm,0.2s						
DAT				i P	Pg	19 46 08.4	+0.8
DAT				i S	Sn	19 46 20.1	+0.5
DATC	Datca-Mugla	0.79	95	PG	Pg	19 46 09.1	+0.4
ANAF	Anafi Island	0.88	237	P	Pb	19 46 09.9	-0.2
ANAF				S	Sn	19 46 22.7	-0.5
ANAF	Anafi Island	0.88	237	P	Pg	19 46 10.4	0.0
ANAF				S	Sn	19 46 22.9	-0.3
ANAF				AML	AML	19 46 25.7	
	comp=E,1063μm,0.2s						
ANAF				AML	AML	19 46 26.3	
	comp=N,1254μm,0.3s						
SMG	Samos	0.88	8	P	Pb	19 46 09.7	-0.4
SMG				S	Sg	19 46 22.1	0.0
SMG	Samos	0.88	8	P	Pb	19 46 09.8	-0.4
SMG				S	Sg	19 46 22.1	0.0
SMG				AML	AML	19 46 25.8	
	comp=N,609μm,0.2s						
SMG				AML	AML	19 46 26.9	
	comp=E,702μm,0.3s						
APE	Apeiranthos	0.95	284	PG	Pb	19 46 11.5	0.0
APE				SG	Sg	19 46 24.5	0.0
APE	Apeiranthos	0.95	284	P	Pb	19 46 11.4	0.0
APE				S	Sn	19 46 24.9	-0.3
APE	Apeiranthos	0.95	284	P	Pb	19 46 11.3	-0.1
APE				S	Sg	19 46 24.0	-0.5
APE				AML	AML	19 46 27.6	
	comp=E,148μm,0.2s						
APE				AML	AML	19 46 28.5	
	comp=N,239μm,0.2s						
GCAM	G?zelcaml?	0.97	27	PG	Pn	19 46 12.1	0.0
GCAM				SG	Sn	19 46 25.8	+0.4
GCAM	G?zelcaml?	0.97	27	IAML_P			
	comp=Z,779nm,0.1s						
GCAM				i P	Pb	19 46 11.4	-0.2
GCAM				i S	Sn	19 46 26.1	+0.7
THR2	Thira island,	1.08	249	P	Pg	19 46 14.1	-0.2
CMBO	Columbo, Santo	1.09	251	P	Pn	19 46 14.2	+0.4
CMBO				AML	AML	19 46 33.6	
	comp=N,445μm,0.5s						
CMBO				AML	AML	19 46 34.3	
	comp=E,370μm,0.5s						
THR7	Fira-Santorini	1.09	248	P	Pn	19 46 14.1	+0.2
THT1	Athinios (Pele	1.11	246	P	Pg	19 46 14.6	-0.1
BBRN	Bozburun-Marma	1.11	98	PN	Pg	19 46 15.2	+0.3
THR3	Thira Island,	1.12	248	P	Pb	19 46 14.5	+0.3
THR6	Thira Island,	1.14	246	P	Pg	19 46 15.2	-0.2
THR5	Thira Island,	1.16	249	P	Pb	19 46 15.2	+0.4
THR9	Santorini-Faro	1.17	246	P	Pg	19 46 15.8	-0.2
DGB	zmir	1.23	7	IAML_P			
	comp=Z,1μm,0.2s						
DGB				i P	Pn	19 46 15.7	+0.1
DGB				i S	Sg	19 46 34.6	+1.6
AYDN	Tasoluk	1.26	49	IAML_P			
	comp=Z,1μm,0.2s						
AYDN				i P	Pn	19 46 16.4	+0.3
ARG	Arkhangelos	1.31	118	PN	Pb	19 46 18.0	+0.5
KARP	Karpathos	1.34	163	PN	Pn	19 46 17.7	+0.4
KARP	Karpathos	1.34	163	P	Pb	19 46 18.5	+0.5
ZEY	zmir	1.41	354	IAML_P			
	comp=Z,1μm,0.1s						
ZEY				i P	Pn	19 46 18.0	-0.2
ZEY				i S	Sg	19 46 39.4	+0.5
AYDB	Zeytinkoy-Aydi	1.47	40	PN	Pb	19 46 19.9	-0.3
URLA	Izmir	1.52	357	PN	Pn	19 46 20.2	+0.4
URLA	Izmir	1.52	357	i P	Pn	19 46 20.3	+0.4
TURN	Turunc	1.54	88	PN	Pn	19 46 16.5	-3.4
TURN	Turunc	1.54	88	IAML_P			
	comp=Z,1μm,0.2s						
TURN				i P	Pn	19 46 16.9	-3.0
TURN				i S	Sn	19 46 36.9	-2.6
DALY	Dalyan (Mula)	1.58	90	PN	Pb	19 46 21.6	-0.4
CHOS	Chios island	1.63	342	PN	Pn	19 46 21.1	-0.2
CHOS	Chios island	1.63	342	P	Pn	19 46 21.6	+0.3
CHOS				AML	AML	19 46 55.3	
	comp=E,70μm,0.7s						
CHOS				AML	AML	19 46 57.4	
	comp=N,57μm,1.0s						
ZKR	Zakros	1.76	193	P	Pb	19 46 25.0	-0.1
SERI	Serifos	1.79	281	P	Pn	19 46 24.2	+0.8
SERI				AML	AML	19 46 53.9	
	comp=E,42μm,0.4s						
SERI				AML	AML	19 46 55.8	
	comp=N,46μm,0.4s						
FETY	Fethiye	1.94	95	PN	Pn	19 46 26.9	+1.4

IDC ***16*** *19:57:36.4±1.5, 1°.43S×138°.43E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/35, mbtmp3.8/8, ML4.6/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/31, Error ellipse: s-maj=53.1km s-min=18.1km az=77.0*
ISCJB ***16*** *19:57:39.7±0.7, 1°.55S±0°.07×137°.82E±0°.09, h24km, mb3.9/9, MS3.2/2, Error ellipse: s-maj=13.0km s-min=9.6km az=171.5*
NEIC ***16*** *19:57:45.6±2.0, 1°.59S×137°.85E, h65km±20km, mb4.4/8, Error ellipse: s-maj=13.1km s-min=12.1km az=212.0*
ISC 16 19:57:42.2±0.8, 1°.75S±0°.07×137°.79E±0°.10, h24km, n23, σ2°.70/26, mb3.9/9, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	12.84	211	ePn	Pn	20 00 48.2	+4.8
RABL	Rabaul	14.56	100	ePn	Pn	20 01 07.1	+0.1
SOEI	Soe	15.62	239	ePn	Pn	20 01 25.5	+4.4
	20nm,0.9s						
KAPI	Kappang	18.29	259	LR	LR	20 11 19.1	
	comp=Z,52nm,18.2s,baz=296,slow=43						
WRAB	Tennant Creek	18.38	190	eP	P	20 01 57.1	+1.5
	6.6nm,0.8s						
WB2	Warramunga Arr	18.39	190	eP	P	20 01 57.4	+1.7
	8.2nm,0.6s						
WR1	Warramunga Arr	18.39	190	eP	P	20 01 56.5	+0.9
WR1				eSn	Sn	20 05 14.5	-6.2
WRA	Warramunga Arr	18.39	190	P	P	20 01 56.5	+0.9
	2.0nm,0.3s,baz=19,slow=12,SNR=64						
WRA				S	Sn	20 05 14.5	-6.2
	0.2nm,0.3s,baz=11,slow=23,SNR=4.0						
CTA	Charters Tower	20.01	156	P	P	20 02 11.5	-2.0
	4.6nm,0.8s,baz=335,slow=10.0,SNR=4.1						
FITZ	Fitzroy Crossi	20.15	216	eP	P	20 02 14.8	-0.2
	38nm,1.9s						
FITZ				S	S	20 05 58.8	-1.4
FITZ	Fitzroy Crossi	20.15	216	P	Pn	20 02 19.6	+2.7
	3.4nm,1.0s,baz=49,slow=9.3,SNR=5.7						
FITZ				S	S	20 05 58.8	-1.4
	4.3nm,0.8s,baz=200,slow=12,SNR=5.5						
AS31	Alice Springs	22.10	189	eP	P	20 02 37.9	+1.9
	1.8nm,0.8s						
ASAR	Alice Springs	22.11	189	eP	P	20 02 37.6	+1.6
ASAR				S	S	20 06 39.6	+0.9
ASAR	Alice Springs	22.11	189	P	P	20 02 38.1	+2.1
	3.0nm,0.8s,baz=6.7,slow=10,SNR=51						
ASAR				S	S	20 06 39.6	+0.9
	0.7nm,0.8s,baz=8.7,slow=26,SNR=6.3						
EIDS	Eidsvold	26.75	152	eP	P	20 03 21.6	+1.4
	16nm,0.7s						
STKA	Stephens Creek	30.18	174	P	P	20 03 51.9	+1.2
	1.1nm,0.5s,baz=351,slow=13,SNR=3.2

*NEIC **16** 20:21:30.3±0.7, 18°.88N×39°.29E, h10km, mb4.4/15, Error ellipse: s-maj=13.6km s-min=8.8km az=175.0*

ISC 16 20:21:31.1±1.0, **19°.0N**±0°.1×**39°.27E**±0°.09, **h10**km, **n103, σ1♀37/94, mb4.4/55, MS3.5/22, 5C-1D, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.18**	**155**	LR	LR	20 26 02.6	
	comp=Z,116nm,20.9s,baz=21,slow=34						
ASF	**Jabal al Asfar**	**13.31**	**351**	Pn	**Pn**	**20 24 42.9**	**+2.7**
	baz=154,slow=4.3,SNR=6.7						
MMAI	**Mount Meron Ar**	**14.40**	**347**	Pn	**Pn**	**20 24 57.5**	**+2.4**
	0.2nm,0.3s,baz=151,slow=18,SNR=2.3						
MMAI				LR	LR	20 29 50.9	
	comp=Z,150nm,20.7s,baz=145,slow=34						
WSAR	**Wadi Sarin**	**18.55**	**73**	P	**P**	**20 25 46.7**	**-1.5**
	0.1nm,0.3s,baz=260,slow=18,SNR=2.9						
WSAR				LR	LR	20 34 09.5	
	comp=Z,286nm,18.2s,baz=284,slow=41						
KMBO	**Kilima Mbogo**	**20.08**	**186**	LR	LR	20 33 46.7	
	comp=Z,171nm,20.2s,baz=303,slow=37						
IDI	**Anoyia**	**20.64**	**325**	P	**P**	**20 26 10.7**	**-0.2**
	11nm,1.1s,baz=174,slow=18,SNR=3.3						
IDI				LR	LR	20 34 08.1	
	comp=Z,20nm,21.1s,baz=78,slow=37						
BR101	**Keskin Array S**	**21.23**	**348**	*e*P	**P**	**20 26 18.6**	**+1.2**
BR131	**Keskin Array S**	**21.23**	**348**	*e*P	**P**	**20 26 18.2**	**+0.8**
	25nm,1.3s						
BR131	**Keskin Array S**	**21.23**	**348**	*e*P	**P**	**20 26 18.2**	**+0.8**
BR131				pmax	pmax		
	comp=Z,25nm,1.3s						
BRTR	**Keskin Array B**	**21.23**	**348**	P	**P**	**20 26 18.6**	**+1.2**
	comp=Z,8.2nm,1.0s,baz=163,slow=13,SNR=29						
BRTR				LR	LR	20 34 15.3	
	comp=Z,64nm,19.3s,baz=116,slow=36						
MANT	**Manisa**	**21.55**	**337**	*e*P	**P**	**20 26 22.3**	**+1.4**
	comp=Z,41nm,1.0s						
GNI	**Garni**	**21.62**	**11**	*e*P	**P**	**20 26 20.8**	**-0.7**
	comp=Z,28nm,1.5s						
GNI	**Garni**	**21.62**	**11**	*i*P	**P**	**20 26 19.6**	**-1.9**
GNI				pmax	pmax		
	comp=Z,30nm,1.3s						
GNI	**Garni**	**21.62**	**11**	P	**P**	**20 26 23.9**	**+2.4**
	comp=Z,6.2nm,1.1s,baz=170,slow=3.4,SNR=6.6						
GNI				LR	LR	20 35 22.7	
	comp=Z,156nm,18.8s,baz=196,slow=38						
AKH	**Akhalkalaki**	**22.64**	**8**	*e*P	**P**	**20 26 32.7**	**+0.1**
	comp=Z,21nm,1.4s						
AKH	**Akhalkalaki**	**22.64**	**8**	*e*P	**P**	**20 26 32.7**	**+0.1**
AKH				pmax	pmax		
	comp=Z,21nm,1.4s						
AKT	**Akhty**	**23.56**	**16**	*i*P	**P**	**20 26 44.3**	**+2.4**
AKT				pmax	pmax		
	comp=Z,11nm,1.0s						
ZEI	**Tsey**	**24.05**	**8**	*e*P	**P**	**20 26 45.0**	**-1.7**
ZEI				pmax	pmax		
	comp=Z,13nm,1.0s						
NEY	**Neytrino**	**24.37**	**6**	*i*P	**P**	**20 26 48.7**	**-0.9**
DVE	**Vedeno**	**24.59**	**12**	*i*P	**P**	**20 26 51.4**	**-0.1**
DVE				pmax	pmax		
	comp=Z,11nm,1.0s						
NCK	**Nalchik**	**24.71**	**8**	*i*P	**P**	**20 26 51.6**	**-0.9**
NCK				pmax	pmax		
	comp=Z,11nm,1.1s						
GROC	**Groznyy**	**24.77**	**11**	*e*P	**P**	**20 26 53.1**	**+0.1**
GROC				*e*		20 27 28.7	
GROC				*e*		20 30 28.7	
GROC				pmax	pmax		
	comp=Z,27nm,1.0s						
SHA1	**Shidzhatmaz**	**24.84**	**6**	*i*P	**P**	**20 26 55.8**	**+1.9**
KBZ	**Khabaz**	**24.86**	**6**	P	**P**	**20 26 55.1**	**+1.3**
	comp=Z,3.3nm,0.9s,baz=194,slow=7.9,SNR=5.3						
KBZ				LR	LR	20 37 25.1	
	comp=Z,107nm,18.3s,baz=202,slow=38						
MAK	**Makhachkala**	**24.90**	**14**	*e*P	**P**	**20 26 49.6**	**-4.5**
MAK				*e*S	S	20 31 06.6	-11
MAK				pmax	pmax		
	comp=Z,12nm,0.4s						
MAK				MLR	MLR		
	comp=Z,67nm,15.0s						
GEYT	**Alibeck**	**25.03**	**37**	P	**P**	**20 26 57.6**	**+2.1**
	comp=Z,5.5nm,0.6s,baz=248,slow=7.3,SNR=4.6						
KIV	**Kislovodsk**	**25.06**	**6**	*e*P	**P**	**20 26 52.9**	**-2.9**
	comp=Z,8.8nm,1.0s						
KIV	**Kislovodsk**	**25.06**	**6**	*e*P	**P**	**20 26 54.9**	**-0.8**
KIV				pmax	pmax		
	comp=Z,28nm,1.0s						
KIV				MLR	MLR		
	comp=Z,136nm,15.0s						
PYA1	**Pyatigorsk**	**25.21**	**6**	*i*P	**P**	**20 26 57.2**	**+0.2**
PYA1				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ANN	**Anapa**	**25.79**	**357**	*e*P	**P**	**20 27 00.3**	**-1.9**
ANN				pmax	pmax		
	comp=Z,19nm,1.2s						
VOIR		**28.90**	**339**	P	**P**	**20 27 30.6**	**+0.4**
VOIR				pmax	pmax		
	comp=Z,4.0nm,1.7s						
DRGR		**30.89**	**338**	P	**P**	**20 27 48.2**	**+0.4**
DRGR				pmax	pmax		
	comp=Z,13nm,0.7s						
KEST	**Kesra**	**31.21**	**308**	LR	LR	20 40 60.0	
	comp=Z,46nm,22.0s,baz=360,slow=37						
VSR	**Storozhevoye**	**32.16**	**360**	*i*P	**P**	**20 27 58.3**	**-0.6**
VSR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIEV	**Kiev**	**32.64**	**348**	*i*P	**P**	**20 28 01.2**	**-1.8**
KIEV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AKASG	**Malin Array Be**	**32.64**	**348**	*ce*P	**P**	**20 28 02.5**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**32.64**	**348**	P	**P**	**20 28 02.0**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=169,slow=7.7,SNR=9.0						
AKBB	**Malin Array Si**	**32.64**	**348**	*e*P	**P**	**20 28 02.5**	**-0.5**
	comp=Z,3.6nm,0.9s						
PSZ	**Piszkesteto**	**32.89**	**336**	P	**P**	**20 28 05.8**	**+0.4**
PSZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
VYHS	**Vyhne**	**33.77**	**335**	*e*P	P	20 28 18.5	+5.5
VYHS	**Vyhne**	**33.77**	**335**	*es*P	sP	20 28 18.5	+1.7
ABKAR	**Akbulak array**	**34.48**	**24**	*e*P	**P**	**20 28 18.2**	**-0.9**
	comp=Z,1.9nm,0.8s						
KRUC	**Moravsky**	**35.21**	**334**	P	**P**	**20 28 26.8**	**+1.3**
KRUC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
OBN	**Obninsk**	**36.13**	**357**	*e*P	**P**	**20 28 32.4**	**-0.8**
OBN				*e*		20 29 49.1	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GEC2	**GERESS Array S**	**36.23**	**331**	*e*P	**P**	**20 28 33.9**	**-0.4**
	comp=Z,9.5nm,1.4s						
GEC2	**GERESS Array S**	**36.23**	**331**	*e*P	**P**	**20 28 33.9**	**-0.4**
GEC2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
GERES	**GERESS Array B**	**36.23**	**331**	P	**P**	**20 28 34.0**	**-0.4**
GERES	**GERESS Array B**	**36.23**	**331**	P	**P**	**20 28 34.0**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=132,slow=7.4,SNR=5.2						
GERES				LR	LR	20 45 20.9	
	comp=Z,24nm,20.0s,baz=124,slow=39						
TOA0	**Torodi Ar. Sit**	**36.52**	**267**	*e*P	**P**	**20 28 37.7**	**+0.6**
	comp=Z,40nm,1.9s						
TORD	**Torodi Ar. Bea**	**36.52**	**267**	P	**P**	**20 28 36.6**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=73,slow=9.8,SNR=10						
TORD				LR	LR	20 44 24.1	
	comp=Z,134nm,20.1s,baz=40,slow=38						
TOA1	**Torodi Ar. Sit**	**36.52**	**267**	*e*P	**P**	**20 28 36.6**	**-0.5**
KSH	**Kashi**	**37.65**	**49**	P	**P**	**20 28 44.6**	**-2.0**
AAK	**Ala-Archa**	**37.94**	**44**	*i*P	**P**	**20 28 49.8**	**+0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
CLL	**Collm**	**38.34**	**333**	*e*P	**P**	**20 28 52.0**	**-0.1**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**38.34**	**333**	*e*P	**P**	**20 28 52.0**	**-0.1**
	comp=Z,3.0nm,0.8s						
NRN	**Naryn**	**38.43**	**46**	*e*P	**P**	**20 28 51.7**	**-1.6**
	comp=Z,5.2nm,1.2s						
NRN	**Naryn**	**38.43**	**46**	*e*P	**P**	**20 28 51.7**	**-1.6**
NRN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
OTUK	**Ortayu**	**39.60**	**35**	P	**P**	**20 29 04.5**	**+1.8**
OTUK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ARU	**Arti**	**40.09**	**17**	*c*i P	**P**	**20 29 06.0**	**-0.6**
ARU				S	**S**	**20 35 08.3**	**-4.4**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARU				MLR	MLR		
	comp=Z,98nm,18.0s						
VSU	**Vasula**	**40.48**	**350**	*i*P	**P**	**20 29 09.5**	**-0.3**
VSU				pmax	pmax		
	comp=Z,18nm,1.1s						
BRVK	**Borovoye**	**41.64**	**28**	*i*P	**P**	**20 29 19.0**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KLMR	**Klimovskoe**	**41.83**	**0**	*e*P	**P**	**20 29 18.9**	**-1.9**
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.4s						
ESDC	**Sonseca Array**	**42.46**	**308**	P	**P**	**20 29 26.5**	**0.0**
	comp=Z,0.5nm,0.6s,baz=96,slow=7.5,SNR=4.9						
FIA0	**FINESS Array S**	**43.43**	**351**	*e*P	**P**	**20 29 33.0**	**-0.9**
FIA0	**FINESS Array S**	**43.43**	**351**	*e*P	**P**	**20 29 33.0**	**-0.9**
FINES	**FINESS Array B**	**43.43**	**351**	P	**P**	**20 29 33.0**	**-0.9**
FINES	**FINESS Array B**	**43.43**	**351**	P	**P**	**20 29 33.0**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=182,slow=7.2,SNR=4.8						
FINES				LR	LR	20 47 57.0	
	comp=Z,18nm,18.4s,baz=158,slow=36						
KURK	**Kurchatov**	**44.38**	**35**	*e*P	**P**	**20 29 42.5**	**+0.8**
	comp=Z,7.6nm,1.2s						
KURK	**Kurchatov**	**44.38**	**35**	*i*P	**P**	**20 29 41.7**	**0.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MAKZ	**Makanchi**	**44.55**	**42**	*e*P	**P**	**20 29 43.1**	**-0.1**
	comp=Z,6.3nm,1.1s						
MAKZ	**Makanchi**	**44.55**	**42**	*e*P	**P**	**20 29 43.1**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
DBIC	**Dimbokro**	**44.60**	**260**	LR	LR	20 48 45.6	
	comp=Z,88nm,19.4s,baz=53,slow=37						
MK31	**Makanchi Array**	**44.74**	**42**	*e*P	**P**	**20 29 45.1**	**+0.4**
	comp=Z,6.4nm,1.2s						
MK31	**Makanchi Array**	**44.74**	**42**	*e*P	**P**	**20 29 45.1**	**+0.4**
MK31				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MK32	**Makanchi Array**	**44.74**	**42**	*e*P	**P**	**20 29 45.1**	**+0.4**
MKAR	**Makanchi Array**	**44.74**	**42**	P	**P**	**20 29 45.1**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=242,slow=6.8,SNR=14						
MKAR				LR	LR	20 52 14.0	
	comp=Z,20nm,21.1s,baz=236,slow=41						
TMCR	**Tamitsa**	**45.16**	**359**	*e*P	**P**	**20 29 47.5**	**-0.1**
NB200	**NORSAR Array S**	**46.46**	**342**	*e*P	**P**	**20 29 56.8**	**-1.3**
NOA	**NORSAR Array B**	**46.46**	**342**	P	**P**	**20 29 56.8**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=139,slow=8.1,SNR=3.3						
NOA				LR	LR	20 50 24.0	
	comp=Z,16nm,21.6s,baz=105,slow=37						
NVS	**Novosibirsk**	**48.87**	**32**	||*i*P	**20 30 18.5**	**+1.6**
NVS				pmax	pmax		
	comp=Z,11nm,1.4s						
NVS				pmax	pmax		
	comp=N,6.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.2s						
SHL	**Shillong**	**48.88**	**72**	P	**P**	**20 30 17.0**	**-0.6**
DGZ	**Jazzator, Alta**	**49.02**	**40**	*i*P	**P**	**20 30 18.7**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BOSA	**Boshof**	**49.22**	**196**	LR	LR	20 51 33.8	
	comp=Z,127nm,19.3s,baz=28,slow=37						
ZAA0	**Zalesovo Array**	**49.27**	**34**	*e*P	**P**	**20 30 19.6**	**-0.3**
	comp=Z,15nm,1.5s						
ZALV	**Zalesovo Beam**	**49.27**	**34**	P	**P**	**20 30 19.9**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=243,slow=9.8,SNR=9.9						
ZALV				LR	LR	20 53 45.5	
	comp=Z,79nm,18.1s,baz=248,slow=39						
ZAA1	**Zalesovo Array**	**49.27**	**34**	*e*P	**P**	**20 30 19.9**	**-0.1**
GTA	**Gaotai**	**55.60**	**55**	P	**P**	**20 31 08.9**	**+1.5**
GTA				pP	pwP	20 31 16.3	+4.2
GTA				sP	sP	20 31 20.0	+8.9
NRIK	**Noril'sk**	**58.28**	**18**	P	**P**	**20 31 26.2**	**+0.6**
	comp=Z,2.2nm,0.4s,baz=231,slow=7.1,SNR=4.9						
NRIK				LR	LR	21 01 35.8	
	comp=Z,86nm,18.4s,baz=204,slow=41						
KMI	**Kunming**	**58.69**	**72**	P	**P**	**20 31 33.8**	**+4.2**
TLY	**Talaya**	**59.48**	**41**	*e*P	**P**	**20 31 36.0**	**+1.7**
TLY				pmax	pmax		
	comp=Z,13nm,0.9s						
SONA0	**Songino Array**	**60.87**	**45**	*e*P	**P**	**20 31 43.6**	**-0.5**
SONM	**Songino Array**	**60.87**	**45**	P	**P**	**20 31 43.6**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=240,slow=7.1,SNR=7.7						
SONM				LR	LR	21 00 39.0	
	comp=Z,56nm,18.6s,baz=254,slow=38						
XAN	**Xi'an**	**63.04**	**61**	P	**P**	**20 31 58.4**	**-0.4**
XAN				pP	sP	20 32 08.1	+5.4
BOD	**Bodaibo**	**66.02**	**34**	*e*P	**P**	**20 32 16.9**	**-0.9**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.5s						
TIXI	**Tiksi**	**72.01**	**19**	*ce*P	**P**	**20 32 53.7**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
KSRS	**Korea Array**	**77.67**	**55**	LR	LR	21 12 32.2	
	comp=Z,46nm,18.6s,baz=165,slow=39						
MA2	**Magadan**	**84.16**	**28**	*ce*P	**P**	**20 34 02.1**	**-0.3**
MA2				pmax	pmax		
	comp=Z,16nm,2.5s						
BILL	**Bilibino**	**85.10**	**18**	*e*P	**P**	**20 34 06.9**	**-0.1**
	comp=Z,6.0nm,0.4s						
BILL	**Bilibino**	**85.10**	**18**	*ce*P	**P**	**20 34 06.7**	**-0.3**
BILL				pmax	pmax		
	comp=Z,13nm,2.5s						
PETK	**Petropavlovsk-**	**90.78**	**32**	LR	LR	21 18 13.1	
	comp=Z,42nm,18.7s,baz=227,slow=37						
YKA	**Yellowknife Ar**	**96.20**	**348**	P	**P**	**20 34 58.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=23,slow=4.3,SNR=4.1						
YKB5	**Yellowknife Ar**	**96.20**	**348**	*e*P	**P**	**20 34 58.3**	**-0.9**
ILAR	**Eielson Array**	**96.38**	**3**	LR	LR	21 25 29.7	
	comp=Z,18nm,18.2s,baz=228,slow=40						

*ISCJB **16** 20:32:37.9±0.3, 3°.09S±0°.03×128°.72E±0°.04, h33km, mb4.3/21, MS3.3/3, Error ellipse: s-maj=5.6km s-min=3.8km az=157.5*

*DJA **16** 20:32:39.9±0.3, 3°S±3°×12°9E±°, h10km, M4.4/9, mB4.8/3, mb4.4/8, MLv4.5/9, Mw(mB)4.1/3*

*IDC **16** 20:32:41.3±2.3, 3°.14S×128°.85E, h54km±21km, mb3.9/10, mb1 4.1/13, mb1mx3.8/34, mbtmp4.2/13, ML4.0/3, MS3.3/8, Ms1 3.3/8, ms1mx3.0/37, Error ellipse: s-maj=20.2km s-min=9.5km az=65.0*

*NEIC **16** 20:32:41.3±0.6, 3°.10S×128°.71E, h50km±6km, mb4.4/26, Error ellipse: s-maj=6.4km s-min=3.8km az=78.0*

ISC 16 20:32:39.6±0.4, **3°.13S**±0°.05×**128°.78E**±0°.06, **h33**km, **n84, σ1♀75/86, mb4.3/21, MS3.2/3, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.78**	**141**	P	**Pb**	**20 33 13.3**	**+1.6**
SANI	**Sanana**	**2.99**	**291**	P	**Pn**	**20 33 22.7**	**-2.1**
SWI	**Sorong**	**3.34**	**48**	P	**Pn**	**20 33 32.0**	**+2.3**
FAKI	**Fak Fak**	**3.47**	**87**	*e*Pn	**Pn**	**20 33 35.0**	**+3.7**
FAKI	**Fak Fak**	**3.47**	**87**	P	**Pn**	**20 33 35.0**	**+3.7**
TNTI	**Ternate**	**4.13**	**340**	*e*Pn	**Pn**	**20 33 39.7**	**-0.8**
TNTI	**Ternate**	**4.13**	**340**	P	**Pn**	**20 33 39.3**	**-1.1**
KMSI	**Cibinong**	**6.05**	**307**	P	Pn	20 34 15.5	+8.6
LUWI	**Luwuk**	**6.36**	**289**	*e*Pn	**Pn**	**20 34 09.6**	**-1.5**
LUWI	**Luwuk**	**6.36**	**289**	P	**Pn**	**20 34 12.1**	**+1.0**
APSI	**Ampana**	**7.46**	**287**	P	**Pn**	**20 34 26.9**	**+0.6**
MRSI	**Marisa**	**7.72**	**298**	P	**Pn**	**20 34 28.9**	**-0.9**
SOEI	**Soe**	**7.97**	**214**	*e*Pn	**Pn**	**20 34 30.8**	**-2.5**
MMRI	**Maumere**	**8.50**	**230**	*e*Pn	**Pn**	**20 34 35.9**	**-4.6**
BATI	**Baumata**	**8.68**	**216**	P	Pn	20 34 49.5	+6.5
BNSI	**Bone**	**8.75**	**261**	P	**Pn**	**20 34 44.3**	**+0.3**
BKSI	**Bulukumba**	**8.91**	**256**	P	**Pn**	**20 34 49.7**	**+3.6**
KAPI	**Kappang**	**9.20**	**258**	*e*Pn	**Pn**	**20 34 52.8**	**+2.7**
KAPI				*e*Sn	**Sn**	**20 36 34.9**	**+2.2**
KAPI	**Kappang**	**9.20**	**258**	P	**Pn**	**20 34 53.8**	**+3.7**
	2.5nm,0.3s,baz=92,slow=5.8,SNR=24						
KAPI				S	**Sn**	**20 36 34.9**	**+2.2**
	2.0nm,0.3s,baz=171,slow=17,SNR=6.0						
KAPI				LR	LR	20 38 49.5	
	comp=Z,255nm,20.5s,baz=73,slow=40						
MTN	**Manton Dam**	**9.93**	**167**	*e*Pn	**Pn**	**20 35 02.8**	**+2.7**
DAV	**Davao City (W)**	**10.62**	**342**	LR	LR	20 39 22.2	
	comp=Z,104nm,20.3s,baz=129,slow=38						
FITZ	**Fitzroy Crossi**	**15.19**	**191**	P	**Pn**	**20 36 13.0**	**+1.1**
	0.1nm,0.3s,baz=5.7,slow=10,SNR=4.1						
FITZ				LR	LR	20 42 30.7	
	comp=Z,163nm,18.4s,baz=18,slow=39						
JAGI	**Jajag, Banyuwa**	**15.49**	**249**	*e*Pn	Pn	20 36 06.8	-9.0
	27nm,0.9s						
WRAB	**Tennant Creek**	**17.56**	**162**	*e*Pn	**Pn**	**20 36 38.3**	**-3.8**
	12nm,0.8s						
WR1	**Warramunga Arr**	**17.57**	**162**	*e*Pn	**P**	**20 36 43.1**	**+0.2**
WR1				*e*Sn	**Sn**	**20 39 56.6**	**-0.3**
WRA	**Warramunga Arr**	**17.57**	**162**	P	**P**	**20 36 43.1**	**+0.2**
	1.3nm,0.3s,baz=335,slow=13,SNR=90						
WRA				S	**Sn**	**20 39 56.6**	**-0.3**
	baz=341,slow=20,SNR=2.8						
WB2	**Warramunga Arr**	**17.57**	**162**	*e*P	**P**	**20 36 43.4**	**+0.4**
	12nm,0.8s						
WC3	**Warramunga Arr**	**17.59**	**162**	*e*Pn	**P**	**20 36 43.5**	**+0.2**
	12nm,0.7s						
TGY	**Tagaytay City**	**18.81**	**336**	LR	LR	20 45 41.1	
	comp=Z,41nm,21.5s,baz=198,slow=41						
PMG	**Port Moresby**	**19.29**	**110**	LR	LR	20 47 13.4	
	comp=Z,103nm,19.0s,baz=346,slow=45						
PSAC2	**Pilbara Seismi**	**20.26**	**205**	*e*P	**P**	**20 37 12.4**	**0.0**
	68nm,1.6s						
PSAB2	**Pilbara Seismi**	**20.27**	**205**	*e*P	**P**	**20 37 12.1**	**-0.4**
	49nm,1.5s						
PSAC1	**Pilbara Seismi**	**20.27**	**205**	*e*P	**P**	**20 37 12.8**	**+0.2**
	32nm,1.3s						
PSAA2	**Pilbara Seismi**	**20.28**	**205**	*e*P	**P**	**20 37 13.2**	**+0.5**
	83nm,1.8s						
PSAD2	**Pilbara Seismi**	**20.28**	**204**	*e*P	**P**	**20 37 12.8**	**+0.1**
	11nm,0.8s						
PSA00	**Pilbara Seismi**	**20.29**	**205**	*e*P	**P**	**20 37 13.4**	**+0.6**
	22nm,1.1s						
PSAA3	**Pilbara Seismi**	**20.29**	**205**	*e*P	**P**	**20 37 13.4**	**+0.6**
	17nm,0.9s						
PSAB1	**Pilbara Seismi**	**20.30**	**205**	*e*P	**P**	**20 37 12.6**	**-0.2**
	75nm,1.9s						
PSAA1	**Pilbara Seismi**	**20.30**	**205**	*e*P	**P**	**20 37 12.7**	**-0.2**
	12nm,0.6s						
PSAB3	**Pilbara Seismi**	**20.30**	**205**	*e*P	**P**	**20 37 13.4**	**+0.5**
	15nm,0.7s						
PSAC3	**Pilbara Seismi**	**20.34**	**205**	*e*P	**P**	**20 37 12.9**	**-0.4**
	23nm,1.2s						
PSAD3	**Pilbara Seismi**	**20.38**	**205**	*e*P	**P**	**20 37 13.8**	**+0.1**
	11nm,0.8s						
AS31	**Alice Springs**	**21.01**	**167**	*e*P	**P**	**20 37 21.7**	**+1.2**
	6.6nm,0.8s						
ASAR	**Alice Springs**	**21.01**	**167**	*e*P	**P**	**20 37 21.5**	**+0.9**
ASAR				S	**S**	**20 41 10.2**	**-2.7**
ASAR				ScP	**ScP**	**20 44 59.9**	**-1.8**
ASAR	**Alice Springs**	**21.01**	**167**	P	**P**	**20 37 22.2**	**+1.6**
	21nm,0.9s,baz=348,slow=11,SNR=155						
ASAR				S	**S**	**20 41 10.2**	**-2.7**
	2.2nm,0.9s,baz=351,slow=23,SNR=9.7						
ASAR				ScP	**ScP**	**20 44 59.9**	**-1.8**
	0.4nm,0.7s,baz=337,slow=3.2,SNR=4.5						
ASAR				LR	LR	20 45 43.9	
	comp=Z,84nm,20.9s,baz=346,slow=37						
CTA	**Charters Tower**	**23.97**	**136**	P	**P**	**20 37 50.8**	**-0.5**
	1.6nm,0.5s,baz=310,slow=15,SNR=3.3						
PSI	**Prapat**	**30.42**	**281**	*e*P	**P**	**20 38 48.8**	**-0.7**
	6.6nm,0.8s						
PSI	**Prapat**	**30.42**	**281**	P	**P**	**20 38 49.1**	**-0.4**
	6.5nm,0.8s,baz=104,slow=8.0,SNR=5.2						
STKA	**Stephens Creek**	**31.03**	**159**	P	**P**	**20 38 54.6**	**+0.1**
	0.7nm,0.4s,baz=302,slow=18,SNR=3.0						
STKA				LR	LR	20 52 49.6	
	comp=Z,116nm,19.1s,baz=16,slow=39						
HNR	**Honiara**	**31.58**	**103**	P	**P**	**20 38 57.3**	**-2.3**
	68nm,0.5s,baz=146,slow=3.4,SNR=5.1						
NJ2	**Nanjing**	**36.24**	**346**	*e*P	**P**	**20 39 40.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**36.38**	**307**	P	**P**	**20 39 41.1**	**-0.2**
	0.7nm,0.8s,baz=126,slow=9.1,SNR=6.1						
CMMT	**Chiang Mai**	**36.57**	**308**	P	**P**	**20 39 44.8**	**+2.0**
	2.9nm,1.4s						
CHTO	**Chiang Mai**	**36.58**	**308**	*e*P	**P**	**20 39 44.0**	**+1.1**
	4.8nm,0.9s						
KSRS	**Korea Array**	**40.38**	**359**	LR	LR	20 55 38.8	
	comp=Z,39nm,21.9s,baz=160,slow=34						
XAN	**Xi'an**	**41.44**	**335**	P	**P**	**20 40 25.4**	**+2.0**
XAN				pP	sP	20 40 38.0	+0.8
LSA	**Lhasa**	**48.60**	**315**	*e*P	**P**	**20 41 21.9**	**+0.9**
	3.2nm,0.8s						
GTA	**Gaotai**	**50.02**	**331**	*e*P	**P**	**20 41 31.3**	**+0.1**
GTA				pP	pP	20 41 34.8	-6.6
GTA				sP	sP	20 41 37.3	-8.1
ULN	**Ulaanbaatar**	**54.23**	**342**	*e*P	**P**	**20 42 01.5**	**-0.9**
	5.1nm,1.0s						
SONA0	**Songino Array**	**54.41**	**342**	*e*P	**P**	**20 42 01.9**	**-1.8**
SONM	**Songino Array**	**54.41**	**342**	*e*P	**P**	**20 42 02.3**	**-1.4**
SONM	**Songino Array**	**54.41**	**342**	P	**P**	**20 42 01.9**	**-1.8**
	3.0nm,1.0s,baz=162,slow=7.7,SNR=10.0						
PETK	**Petropavlovsk-**	**61.07**	**19**	P	**P**	**20 42 50.4**	**+0.2**
	3.5nm,0.9s,baz=178,slow=5.6,SNR=5.0						
PEA1	**Petropavlovsk-**	**61.08**	**19**	*e*P	**P**	**20 42 50.4**	**+0.1**
MK31	**Makanchi Array**	**64.35**

ellipse: s-maj=51.8km s-min=14.4km az=5.0
TEH ***16*** *21:08:43.7,26.73N×57.87E,h17km,ML3.7*
OMAN ***16*** *21:08:45.4±0.7,26.52N×58.11E,h10km,ml3.8/10,Error ellipse: s-maj=10.8km s-min=5.6km az=35.0*
IDC ***16*** *21:08:46.7±1.9,25.95N×56.88E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.3/32,mbtmp3.7/4,ML3.5/1,Error ellipse: s-maj=68.6km s-min=23.7km az=56.0*
ISC 16 21:08:43.5±0.8,26.74N±0.03×57.83E±0.04,h10km,n48, σ2$**05/53,mb3.7/3,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.09**	**183**	*e*Pg	**Pg**	**21 09 04.6**	**+0.1**
NIAN	**Nian**	**1.21**	**313**	IAMB	IAmb	21 09 34.2	
	comp=Z,0.0nm,0.6s						
NIAN				*e*Pg	**Pg**	**21 09 08.1**	**+1.4**
KHNJ	**Kahnooj**	**1.21**	**355**	*e*Pg	**Pn**	**21 09 05.9**	**-0.7**
GENO	**Geno**	**1.62**	**295**	*e*Pg	**Pb**	**21 09 14.3**	**+0.7**
GENO				IAMB	IAmb	21 09 44.6	
	comp=Z,0.0nm,0.5s						
BNDS	**Bandar-Abbas**	**1.62**	**294**	*e*Pg	**Pn**	**21 09 09.1**	**-3.2**
SHME	**Shamm**	**1.66**	**246**	*e*P	**Pn**	**21 09 13.7**	**+0.9**
	SNR=5.6						
SHME				S	**Sg**	**21 09 39.1**	**+2.2**
SHME	**Shamm**	**1.66**	**246**	*e*Pn	**Pn**	**21 09 13.8**	**+1.1**
MSFE	**Esma-Masafi**	**2.03**	**228**	*e*P	**Pn**	**21 09 19.0**	**+1.1**
	SNR=6.9						
MSFE	**Esma-Masafi**	**2.03**	**228**	*e*Pn	**Pn**	**21 09 18.6**	**+0.8**
UMQ	**Umm Al-Quwin**	**2.29**	**239**	*e*Pn	**Pb**	**21 09 25.2**	**+0.3**
HATD	**Hatta, Dubai**	**2.44**	**219**	P	**Pn**	**21 09 25.1**	**+1.6**
ASHO	**Ashiyiah**	**2.59**	**218**	*e*P	**Pn**	**21 09 25.3**	**-0.2**
	SNR=8.8						
ASHO	**Ashiyiah**	**2.59**	**218**	P	**Pn**	**21 09 27.4**	**+1.9**
	SNR=5.6						
ASHO	**Ashiyiah**	**2.59**	**218**	*e*Pn	**Pn**	**21 09 24.8**	**-0.8**
NAZ	**Nazwa, Dubai**	**2.62**	**229**	P	**Pn**	**21 09 28.6**	**+2.8**
NAZ	**Nazwa, Dubai**	**2.62**	**229**	P	**Pb**	**21 09 29.4**	**-1.1**
	SNR=8.4						
NAZ	**Nazwa, Dubai**	**2.62**	**229**	*e*Pn	**Pb**	**21 09 29.0**	**-1.5**
CHBR	**Chabahar**	**2.64**	**115**	*e*Pn	**Pb**	**21 09 31.8**	**+0.9**
FAQ	**Al Faqa, Dubai**	**2.83**	**226**	P	**Pn**	**21 09 29.4**	**+0.6**
FAQ	**Al Faqa, Dubai**	**2.83**	**226**	P	**Pn**	**21 09 31.7**	**+2.9**
	SNR=6.3						
FAQ				S	**Sb**	**21 10 09.2**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.83**	**226**	*e*Pn	**Pn**	**21 09 30.4**	**+1.7**
SOHO	**SOHO**	**2.84**	**205**	P	**Pn**	**21 09 26.2**	**-2.7**
NGRK	**Negar Kerman**	**3.06**	**342**	*e*Pn	**Pn**	**21 09 34.5**	**+2.3**
NGRK				IAMB	IAmb	21 10 33.0	
	comp=Z,0.0nm,0.6s						
ASUD	**Al Ashush, Dub**	**3.08**	**228**	P	**Pn**	**21 09 34.1**	**+1.9**
ASUD	**Al Ashush, Dub**	**3.08**	**228**	P	**Pb**	**21 09 37.2**	**-1.2**
ASUD	**Al Ashush, Dub**	**3.08**	**228**	*e*Pn	**Pn**	**21 09 34.5**	**+2.3**
CHMN	**Cheshme madani**	**3.12**	**355**	*e*Pn	**Pb**	**21 09 37.5**	**-1.9**
CHMN				IAMB	IAmb	21 09 44.6	
	comp=Z,0.0nm,0.9s						
BIDO	**Bidbid**	**3.21**	**175**	*e*Pn	**Pn**	**21 09 32.3**	**-1.7**
ALNE	**Al Ain**	**3.26**	**216**	*i* P	**Pn**	**21 09 33.8**	**-0.9**
	SNR=10						
AJN	**Ajban**	**3.36**	**230**	*e*Pn	**Pn**	**21 09 38.2**	**+2.2**
TVBK	**TV Kerman**	**3.37**	**344**	IAMB	IAmb	21 09 58.8	
	comp=Z,0.0nm,0.6s						
WSAR	**Wadi Sarin**	**3.56**	**168**	Pn	**Pn**	**21 09 37.4**	**-1.4**
	comp=Z,5.3nm,0.3s,baz=356,slow=13,SNR=6.7						
WSAR				Sn	**Sn**	**21 10 14.9**	**-6.0**
	comp=Z,12nm,0.3s,baz=244,slow=23,SNR=12						
ARQ	**Araqi**	**3.58**	**200**	P	**Pn**	**21 09 40.4**	**+1.2**
	SNR=6.7						
ARQ				S	**Sn**	**21 10 23.9**	**+2.2**
SMDO	**Samad**	**3.67**	**177**	P	**Pn**	**21 09 39.0**	**-1.4**
	SNR=10						
SMDO				S	**Sn**	**21 10 20.7**	**-3.0**
KHGB	**Koh Gabri**	**3.82**	**342**	*e*Pn	**Pb**	**21 09 47.7**	**-3.4**
KHGB				IAMB	IAmb	21 09 58.1	
	comp=Z,0.0nm,0.7s						
ZHSF	**Zahedan**	**3.87**	**42**	*e*Pn	**Pn**	**21 09 47.2**	**+4.0**
BSY	**Bisya**	**4.01**	**188**	P	**Pn**	**21 09 46.1**	**+1.0**
BSY				S	**Sn**	**21 10 31.8**	**-0.5**
GHIR	**Ghir-Karzin**	**4.57**	**291**	*e*Pn	**Pn**	**21 09 51.3**	**-1.5**
BSRN	**Basiran**	**5.33**	**12**	*e*Pn	**Pn**	**21 10 06.1**	**+2.8**
MHTO	**MHTO**	**5.72**	**179**	P	**Pn**	**21 10 08.1**	**-0.5**
MHTO				S	**Sn**	**21 11 11.2**	**-3.2**
IKOO	**Kooshah**	**5.76**	**10**	*e*Pn	**Pn**	**21 10 10.9**	**+1.6**
IKAZ	**Kazeroun**	**6.09**	**301**	*e*Pn	**Pn**	**21 10 13.4**	**-0.5**
ITEG	**Tejag**	**6.19**	**7**	*e*Pn	**Pn**	**21 10 15.8**	**+0.6**
IRAM	**Ramesheh**	**6.94**	**318**	*e*Pn	**Pn**	**21 10 27.2**	**+1.7**
ZNGN	**Zangian**	**8.11**	**313**	*e*Pn	**Pn**	**21 10 44.5**	**+2.9**
BRTR	**Keskin Array B**	**23.94**	**309**	P	**P**	**21 13 59.5**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=122,slow=8.6,SNR=7.5						
FINES	**FINESS Array B**	**40.73**	**337**	P	P	21 16 33.1	+8.9
	comp=Z,1.5nm,0.9s,baz=147,slow=11,SNR=2.1						
TORD	**Torodi Ar. Bea**	**54.09**	**267**	P	**P**	**21 18 08.0**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=62,slow=7.5,SNR=2.4						

NIED ***16*** *21:15:00,23.20N×120.90E,h8km,Mw3.8 Best double couple: M0=5.62000×10^14 NP1:φs=144.00000°,δ45.00000°, λ-67.00000°. NP2:φs=293.00000°,δ50.00000°, λ-112.00000°.*
JMA ***16*** *21:15:26.1±0.1,23.23N×120.94E,h0km,M3.5*
ISCJB ***16*** *21:15:27.7±0.2,23.20N±0.01×120.98E±0.01,h5km±2km, Error ellipse: s-maj=2.1km s-min=1.8km az=144.7*
TAP ***16*** *21:15:27.1,23.21N×120.95E,h6km,ML4.0,B*
ISC 16 21:15:27.5±0.8,23.22N±0.01×120.95E±0.01,h7km±6km, n128,σ0$**76/171,25C-6D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.07**	**120**	⇓*i*P	**Pg**	**21 15 29.3**	**-0.2**
	baz=108						
ELDTW				*i* S	**Sg**	**21 15 30.7**	**-0.2**
	baz=108						
STYT	**Tauyuan**	**0.19**	**252**	⇑*i*P	**Pg**	**21 15 31.3**	**-0.1**
	baz=254						
STYT				*i* S	**Sg**	**21 15 33.9**	**-0.2**
	baz=254						
TPUB	**Ta-pu**	**0.31**	**285**	⇑P	**Pb**	**21 15 34.2**	**-1.1**
	baz=296						
TPUB				S	**Sg**	**21 15 38.8**	**+1.1**
	baz=296						
WTP	**Ta-pu**	**0.31**	**274**	⇑*i*P	**Pg**	**21 15 34.3**	**+0.6**
	baz=276						
WTP				S	**Sg**	**21 15 39.0**	**+1.1**
	baz=276						
ALS	**Alishan**	**0.32**	**335**	P	**Pg**	**21 15 34.1**	**+0.2**
	baz=337						
ALS				S	**Sg**	**21 15 38.6**	**+0.5**
	baz=337						
TWF1	**Yuli**	**0.34**	**68**	⇑*i*P	**Pg**	**21 15 34.6**	**+0.4**
	baz=66						
TWF1				S	**Sg**	**21 15 38.9**	**+0.1**
	baz=66						
CHN4	**Tsaushan**	**0.35**	**291**	P	**Pb**	**21 15 35.3**	**-0.8**
	baz=301						
CHN4				S	**Sb**	**21 15 40.4**	**-1.6**
	baz=301						
YULB	**Yu-li**	**0.36**	**62**	⇑P	**Pg**	**21 15 34.7**	**+0.1**
	baz=60						
YULB				S	**Sg**	**21 15 39.0**	**-0.4**
	baz=60						
SLGT	**Liugui**	**0.36**	**231**	⇑*i*P	**Pg**	**21 15 34.9**	**+0.3**
	baz=228						
SLGT				S	**Sg**	**21 15 39.4**	**0.0**
	baz=228						
SGST	**Jiashian**	**0.37**	**248**	⇑*i*P	**Pb**	**21 15 35.4**	**-1.0**
	baz=241						
SGST				S	**Sg**	**21 15 40.6**	**+1.1**
	baz=241						
CHN1	**Nanshi**	**0.39**	**265**	⇑*i*P	**Pb**	**21 15 36.2**	**-0.6**
	baz=259						
CHN1				S	**Sb**	**21 15 42.1**	**-0.9**
	baz=259						
CHKT	**Chengkung**	**0.40**	**108**	⇓P	**Pb**	**21 15 36.6**	**-0.3**
	baz=105						
CHKT				*e*S	**Sb**	**21 15 43.9**	**+0.7**
	baz=105						
TWG	**Pinlang**	**0.41**	**165**	⇓*i*P	**Pg**	**21 15 35.9**	**+0.3**
	baz=156						
TWG				S	**Sg**	**21 15 41.2**	**+0.1**
	baz=156						
SNST	**Tainan City**	**0.42**	**270**	⇑*i*P	**Pb**	**21 15 36.8**	**-0.4**
	baz=271						
SNST				*e*S	**Sb**	**21 15 43.9**	**+0.1**
	baz=271						
TWGBT	**Beinan**	**0.42**	**164**	⇓P	**Pg**	**21 15 35.9**	**+0.2**
	baz=156						
TWGBT				S	**Sg**	**21 15 41.3**	**+0.1**
	baz=156						
TWK	**Hsinying**	**0.43**	**276**	⇑*i*P	**Pb**	**21 15 37.0**	**-0.5**
	baz=288						
TWK				*i* S	**Sb**	**21 15 43.6**	**-0.5**
	baz=288						
EHY	**Hungye**	**0.44**	**50**	⇑P	**Pg**	**21 15 36.2**	**+0.1**
	baz=59						
EHY				S	**Sg**	**21 15 41.7**	**-0.2**
	baz=59						
CHN5	**Tsauling**	**0.45**	**326**	P	**Pb**	**21 15 36.8**	**-1.0**
	baz=327						
CHN5				*e*S	**Sb**	**21 15 43.6**	**-1.2**
	baz=327						
WHYT	**Xinyi Township**	**0.48**	**349**	⇑P	**Pg**	**21 15 37.3**	**+0.5**
	baz=356						
WHYT				*e*S	**Sg**	**21 15 43.9**	**+0.7**
	baz=356						
TTN	**Taitung**	**0.50**	**159**	P	**Pb**	**21 15 38.5**	**-0.1**
	baz=158						
HGSD	**Ruisui**	**0.51**	**58**	P	**Pg**	**21 15 37.9**	**+0.5**
	baz=51						
HGSD				*e*S	**Sb**	**21 15 46.0**	**-0.4**
	baz=51						
VWDT	**VWDT**	**0.56**	**18**	⇑P	**Pg**	**21 15 38.0**	**-0.3**
	baz=10.0						
CHY	**Chiayi**	**0.56**	**299**	*e*P	**Pb**	**21 15 39.8**	**+0.2**
	baz=301						
SSD	**Sandimen**	**0.56**	**212**	⇑*i*P	**Pg**	**21 15 38.0**	**-0.3**
	baz=212						
SSD				*e*S	**Sg**	**21 15 44.2**	**-1.4**
	baz=212						
CHN3	**Shinhua**	**0.56**	**255**	⇑*i*P	**Pn**	**21 15 40.6**	**-1.3**
	baz=256						
CHN3				*e*S	**Sn**	**21 15 50.8**	**-0.6**
	baz=256						
SSLB	**Suanglung**	**0.56**	**0**	⇑P	**Pg**	**21 15 37.9**	**-0.5**
SSLB				S	**Sg**	**21 15 45.1**	**-0.7**
WGK	**Gukeng**	**0.58**	**322**	P	**Pb**	**21 15 40.1**	**0.0**
	baz=324						
WGK				S	**Sb**	**21 15 49.8**	**+1.2**
	baz=324						
WDLH	**Douliu**	**0.60**	**321**	*e*P	**Pb**	**21 15 40.6**	**+0.3**
	baz=321						
EGFH	**Guangfu**	**0.62**	**44**	⇑P	**Pg**	**21 15 39.2**	**-0.3**
	baz=51						
ECL	**Taimali**	**0.62**	**180**	⇑*i*P	**Pg**	**21 15 39.3**	**-0.3**
	baz=169						
ECL				*e*S	**Sg**	**21 15 47.0**	**-0.6**
	baz=169						
TWM1	**Shoushan**	**0.63**	**231**	P	**Pb**	**21 15 40.4**	**-0.4**
	baz=221						
WJS	**Zhushan**	**0.63**	**341**	*e*P	**Pb**	**21 15 40.9**	**0.0**
	baz=341						
WLGB	**Puzi**	**0.65**	**293**	P	**Pb**	**21 15 41.1**	**-0.1**
	baz=294						
WLGB				*e*S	**Sn**	**21 15 52.4**	**-1.3**
	baz=294						
SGLT	**Jiouru**	**0.65**	**221**	P	**Pb**	**21 15 41.1**	**-0.1**
	baz=216						
SMLT	**Sun Moon Lake**	**0.66**	**356**	⇑*i*P	**Pg**	**21 15 40.4**	**+0.1**
	baz=1.0						
MASBT	**Mashibuluo**	**0.68**	**206**	⇑P	**Pg**	**21 15 40.1**	**-0.5**
	baz=211						
TYC	**Yuchr**	**0.68**	**353**	⇑*i*P	**Pb**	**21 15 41.1**	**-0.7**
	baz=1.0						
TYC				*e*S	**Sn**	**21 15 53.1**	**-1.4**
	baz=1.0						
TAI1	**Yung-k'ang**	**0.69**	**255**	*e*P	**Pn**	**21 15 42.8**	**-0.9**
	baz=271						
CHN8	**Yiju**	**0.69**	**280**	*e*P	**Pb**	**21 15 42.0**	**+0.1**
	baz=282						
WNT	**Mingjian**	**0.70**	**339**	⇑*i*P	**Pb**	**21 15 42.6**	**+0.6**
	baz=340						
SCLT	**Jiali**	**0.70**	**266**	*e*P	**Pb**	**21 15 42.2**	**+0.2**
	baz=267						
SCLT				*e*S	**Sn**	**21 15 54.6**	**-0.2**
	baz=267						
ESL	**Shilin**	**0.73**	**37**	*e*P	**Pg**	**21 15 41.3**	**-0.4**
	baz=45						
SNJT	**Kaohsiung City**	**0.74**	**231**	*e*P	**Pn**	**21 15 44.3**	**0.0**
	baz=248						
OWD	**Renai**	**0.76**	**16**	*e*P	**Pg**	**21 15 41.0**	**-1.1**
	baz=15						
WSF	**Szhu**	**0.79**	**302**	*e*P	**Pb**	**21 15 43.7**	**+0.1**
	baz=302						
DPDB	**Guoxing**	**0.81**	**358**	⇑*e*P	**Pg**	**21 15 42.8**	**-0.3**
	baz=8.0						
SSPT	**Xinbi**	**0.82**	**206**	*e*P	**Pg**	**21 15 43.1**	**-0.2**
	baz=198						
CHGB	**Renai**	**0.86**	**14**	⇑*e*P	**Pg**	**21 15 43.1**	**-0.9**
	baz=22						
RLNB	**Erlin**	**0.86**	**321**	*e*P	**Pb**	**21 15 45.1**	**+0.4**
	baz=321						
TAW	**Tawu**	**0.86**	**184**	*e*P	**Pg**	**21 15 43.8**	**-0.4**
	baz=183						
KAU	**Kaohsiung**	**0.88**	**222**	*e*P	**Pn**	**21 15 46.7**	**+0.4**
	baz=240						
WTCT	**Ta-ch'eng**	**0.89**	**316**	*e*P	**Pn**	**21 15 46.3**	**-0.1**
	baz=317						
SCZT	**Fangliau**	**0.90**	**200**	⇑*i*P	**Pg**	**21 15 44.3**	**-0.6**
	baz=193						
ENLB	**Shoufeng**	**0.90**	**41**	*e*P	**Pb**	**21 15 45.3**	**-0.2**
	baz=35						
WCHH	**Zhanghua**	**0.93**	**337**	*e*P	**Pb**	**21 15 46.0**	**+0.1**
	baz=337						
TCU	**Taichung**	**0.95**	**345**	*e*P	**Pn**	**21 15 47.5**	**+0.2**
	baz=331						
HWA	**Hwalien**	**0.96**	**38**	*e*P	**Pb**	**21 15 46.1**	**-0.3**
	baz=46						
WHF	**Hehuan Shan**	**0.96**	**17**	*e*P	**Pg**	**21 15 45.1**	**-1.0**
	baz=17						
WLCH	**Liuqiu**	**1.02**	**212**	*e*P	**Pn**	**21 15 50.1**	**+1.9**
	baz=213						
TWP	**Hsiaoliuchiu**	**1.03**	**212**	*e*P	**Pn**	**21 15 50.2**	**+1.9**
	baz=213						
TWD	**Chiawan**	**1.04**	**35**	*e*P	**Pb**	**21 15 47.5**	**-0.3**
	baz=40						
TWT	**Tachien**	**1.05**	**11**	*e*P	**Pg**	**21 15 46.6**	**-1.0**
	baz=3.0						
WHP	**Taichung City**	**1.05**	**360**	*e*P	**Pn**	**21 15 48.5**	**-0.2**
	baz=7.0						
ETLH	**Xiulin Townshi**	**1.09**	**26**	*e*P	**Pg**	**21 15 47.6**	**-1.0**
	baz=10.0						
NACB	**Ninganchiao**	**1.11**	**32**	*e*P	**Pg**	**21 15 48.1**	**-0.8**
	baz=32						
NACB				*e*S	**Sg**	**21 16 02.8**	**-0.6**
	baz=32						
TWQ1	**Liyutan**	**1.13**	**352**	*e*P	**Pn**	**21 15 50.0**	**+0.2**
	baz=352						
WDJ	**Dajia District**	**1.16**	**346**	*e*P	**Pn**	**21 15 50.8**	**+0.7**
	baz=333						
WDGT	**Dungji**	**1.19**	**272**	*e*P	**Pg**	**21 15 49.3**	**-1.0**
	baz=271						
WDGT				*e*S	**Sb**	**21 16 05.7**	**-0.3**
	baz=271						
NSY	**Sanyi**	**1.20**	**352**	*e*P	**Pn**	**21 15 51.4**	**+0.7**
	baz=353						
NSY				*e*S	**Sn**	**21 16 08.5**	**+1.2**
	baz=353						
HEN	**Hengchun**	**1.23**	**189**	*e*P	**Pg**	**21 15 51.2**	**+0.1**
	baz=189						
NNSB	**Datong**	**1.26**	**18**	*e*P	**Pn**	**21 15 50.3**	**-1.4**
	baz=18						
NNS	**Nan Shan**	**1.27**	**18**	⇓*e*P	**Pn**	**21 15 50.6**	**-1.2**
	baz=18						
TWK1	**Hengchun**	**1.28**	**186**	*e*P	**Pg**	**21 15 52.2**	**+0.1**
	baz=175						
TWK1				*e*S	**Sn**	**21 16 11.7**	**+2.5**
	baz=175						
TWKBT	**Hengchun**	**1.28**	**186**	*e*P	**Pg**	**21 15 51.9**	**-0.2**
	baz=192						
PHUB	**P'eng-hu**	**1.30**	**283**	*e*P	**Pn**	**21 15 51.2**	**-0.8**
	baz=283						
PHUB				S	**Sb**	**21 16 08.8**	**-0.4**
	baz=283						
NMLH	**Miaoli**	**1.32**	**354**	*e*P	**Pn**	**21 15 52.1**	**-0.2**
	baz=353						
TSEB	**Hengchuen, Pin**	**1.32**	**182**	*e*P	**Pb**	**21 15 52.5**	**-0.1**
	baz=175						
PNG	**Penghu**	**1.33**	**285**	*e*P	**Pn**	**21 15 51.8**	**-0.6**
	baz=285						
ENA	**Nanau**	**1.40**	**31**	*e*P	**Pn**	**21 15 53.4**	**0.0**
	baz=44						
NSTT	**Nanjuang**	**1.40**	**2**	*e*P	**Pg**	**21 15 54.3**	**-0.1**
	baz=1.0						
LIOB	**Emei**	**1.42**	**2**	*e*P	**Pg**	**21 15 55.2**	**+0.4**
	baz=347						
NDT	**Datong Townshi**	**1.47**	**20**	*e*P	**Pg**	**21 15 55.9**	**+0.2**
	baz=20						
NSK	**Sanguang**	**1.49**	**14**	*e*P	**Pb**	**21 15 55.5**	**-0.1**
	baz=29						
NSK				*e*S	**Sg**	**21 16 17.4**	**+1.8**
	baz=29						
ENTT	**Nioudou**	**1.52**	**22**	*e*P	**Pn**	**21 15 55.4**	**+0.3**
	baz=21						
SBCB	**Hsinchu**	**1.56**	**1**	*e*P	**Pg**	**21 15 58.6**	**+1.0**
	baz=359						
HSN	**Hsinchu**	**1.57**	**1**	*e*P	**Pg**	**21 15 59.4**	**+1.7**
	baz=360						
TWC	**Suao**	**1.60**	**31**	⇓P	**Pb**	**21 15 57.6**	**+0.1**
	baz=32						
TWC				S	**Sg**	**21 16 18.7**	**-0.5**
	baz=32						
NWLT	**Wulai**	**1.63**	**18**	*e*P	**Pg**	**21 15 58.3**	**-0.4**
	baz=17						
TWE	**Neicheng**	**1.63**	**24**	*e*P	**Pb**	**21 15 58.0**	**+0.1**
	baz=39						
WLTB	**Daxi**	**1.65**	**10**	*e*P	**Pg**	**21 15 59.8**	**+0.7**
	baz=15						
ILA	**Ilan**	**1.70**	**25**	*e*P	**Pg**	**21 16 00.3**	**+0.2**
	baz=38						
EOS1	**EOS1**	**1.70**	**39**	*e*P	**Pg**	**21 15 59.9**	**-0.4**
	baz=55						
NCUH	**Zhongli**	**1.75**	**7**	*e*P	**Pg**	**21 16 01.3**	**+0.2**
	baz=4.0						
NCU	**National Centr**	**1.75**	**7**	*e*P	**Pg**	**21 16 00.7**	**-0.4**
	baz=4.0						
NHDH	**Xindian Distri**	**1.81**	**17**	*e*P	**Pg**	**21 16 02.7**	**+0.4**
	baz=15						
NTC	**Toucheng**	**1.81**	**26**	*e*P	**Pb**	**21 16 00.6**	**-0.4**
	baz=41						
TATO	**Taipei**	**1.81**	**16**	*e*P	**Pg**	**21 16 02.1**	**-0.2**
	baz=14						
TWA	**Mucha**	**1.84**	**18**	*e*P	**Pg**	**21 16 02.3**	**-0.6**
	baz=17						
EGS		**1.85**	**29**	*e*P	**Pb**	**21 16 01.8**	**+0.2**
	baz=43						
TIPB	**Shuangxi**	**1.92**	**24**	*e*P	**Pb**	**21 16 02.9**	**+0.1**
	baz=38						
TWS1	**Kuangyinshan**	**1.92**	**13**	*e*P	**Pg**	**21 16 03.8**	**-0.5**
	baz=9.0						
NWF	**Wu-fen Shan**	**1.99**	**22**	*e*P	**Pg**	**21 16 04.9**	**-0.8**
	baz=38						
WFSB	**Wu-fen Shan**	**1.99**	**22**	*e*P	**Pg**	**21 16 05.3**	**-0.4**
	baz=38						
YM01	**YM01**	**2.00**	**16**	*e*P	**Pg**	**21 16 05.3**	**-0.5**
	baz=12						
YM10	**YM10**	**2.00**	**16**	*e*P	**Pb**	**21 16 04.4**	**+0.1**
	baz=11						
TWB1	**Santiao Chiao**	**2.01**	**28**	*e*P	**Pb**	**21 16 04.9**	**+0.5**
	baz=40						
YM11	**YM11**	**2.02**	**16**	*e*P	**Pg**	**21 16 05.2**	**-1.0**
	baz=12						
YM07	**YM07**	**2.04**	**17**	*e*P	**Pg**	**21 16 05.8**	**-0.8**
	baz=13						
YM08	**YM08**	**2.04**	**16**	*e*P	**Pg**	**21 16 06.0**	**-0.7**
	baz=12						
JYNG	**Yonagunijimaku**	**2.20**	**56**	P	**Pn**	**21 16 05.3**	**+0.9**
JYNG				S	**Sn**	**21 16 32.7**	**+0.9**
VWUC	**VWUC**	**2.23**	**322**	*e*P	**Pn**	**21 16 04.7**	**-0.2**
	baz=322						
YOJ	**Yonaguni jima**	**2.25**	**56**	*e*P	**Pn**	**21 16 05.4**	**+0.3**
	baz=58						
YOJ	**Yonaguni jima**	**2.25**	**56**	P	**Pn**	**21 16 05.8**	**+0.6**
YOJ				*e*S	**Sn**	**21 16 33.9**	**+0.7**
PTMZ	**Houxiangcun**	**2.46**	**318**	*e*P	**Pn**	**21 16 08.7**	**+0.7**
	baz=317						
PTTC	**Pingtan**	**2.51**	**335**	*e*P	**Pn**	**21 16 09.5**	**+0.7**
	baz=335						
KNMB	**Chin-men Tao**	**2.65**	**298**	*e*P	**Pn**	**21 16 10.7**	**+0.1**
	baz=297						
HATJ	**Hateruma jima**	**2.74**	**72**	P	**Pn**	**21 16 12.1**	**+0.2**
HATJ				*e*S	**Sn**	**21 16 44.9**	**-0.4**
QZH	**Quanzhou**	**2.75**	**309**	Pn	**Pn**	**21 16 12.4**	**+0.3**
QZH				Sn	**Sg**	**21 16 58.8**	**+2.7**
IRIF	**Iriomote-Funau**	**2.77**	**66**	P	**Pn**	**21 16 12.8**	**+0.5**
IRIF				*e*S	**Sn**	**21 16 46.3**	**+0.2**
JKRS	**Kuro-shima**	**2.98**	**70**	P	**Pn**	**21 16 16.3**	**+1.2**
JKRS				*e*S	**Sn**	**21 16 51.4**	**+0.3**
ZPLA	**Ao Xicun**	**3.02**	**284**	*e*P	**Pn**	**21 16 15.8**	**0.0**
	baz=282						
MATB	**Ma-tsu**	**3.06**	**343**	*e*P	**Pn**	**21 16 16.4**	**+0.2**
	baz=342						
JIJ	**Ishigaki jima**	**3.13**	**68**	P	**Pn**	**21 16 17.0**	**-0.3**
JIJ				*e*S	**Sn**	**21 16 52.8**	**-2.2**
MHZQ	**Yeshan**	**3.36**	**329**	*e*P	**Pn**	**21 16 22.0**	**+1.6**
	baz=328						
JISG	**Ishigakijimahi**	**3.36**	**65**	P	**Pn**	**21 16 19.9**	**-0.5**
JISG				S	**Sn**	**21 16 59.2**	**-1.3**
LYJJ	**Jianjiangzhen**	**3.48**	**342**	*e*P	**Pn**	**21 16 22.8**	**+0.7**
	baz=342						
XPSS	**Dashiqiu**	**3.75**	**350**	*e*P	**Pn**	**21 16 26.9**	**+1.1**
	baz=350						
JMJ	**Miyako jima 2**	**4.27**	**67**	*e*P	**Pn**	**21 16 33.1**	**+0.1**
	baz=71						

DDA ***16*** *21:21:17.5,37.01N×28.41E,h21km±1km,ML4.4*
IDC ***16*** *21:21:17.2±0.5,36.96N×28.46E,h0km,mb4.3/29, mb1 4.3/36,mb1mx4.2/58,mbtmp4.3/36,ML4.1/7,MS3.5/30, Ms1 3.5/30,ms1mx3.4/58,Error ellipse: s-maj=12.4km s-min=10.2km az=149.0*
ISK ***16*** *21:21:17.3,37.01N×28.38E,h4km,ML4.4/47*
ISCJB ***16*** *21:21:19.0±0.3,36.94N±0.01×28.46E±0.01,h22km±2km, mb4.3/57,MS3.6/20,Error ellipse: s-maj=2.0km s-min=1.6km az=25.4*
MOS ***16*** *21:21:18.2±0.9,37.02N×28.50E,h13km,mb4.4/22,Error ellipse: s-maj=4.7km s-min=3.0km az=109.2*
ATH ***16*** *21:21:18.4,37.02N×28.38E,h18km±1km,ML4.1/14,Error ellipse: s-maj=1.2km s-min=0.6km az=118.0*
NIC ***16*** *21:21:18.4±0.2,36.90N×28.17E,h12km,mb4.7

comp=Z,169µm,0.3s
AYDN ⇑iP Pg 21 21 33.4 -1.6
AYDN iS Sg 21 21 44.5 -1.0
BODT Bodrum 0.87 276 PG Pg 21 21 34.8 -1.6
BODT Bodrum 0.87 276 Pg Pg 21 21 34.8 -1.6
BODT Bodrum 0.87 276 P Pg 21 21 34.9 -1.5
BODT S Sb 21 21 48.7 +0.7
DENT Denizli 0.93 33 PG Pg 21 21 35.1 -2.4
DIDI Didim-Aydin 1.00 294 PG Pg 21 21 37.7 -1.2
AYDB Zeytinkoy-Aydi 1.05 338 PG Pg 21 21 37.9 -1.9
GCAM G?zelcaml? 1.17 308 PN Pb 21 21 40.5 -1.1
GCAM G?zelcaml? 1.17 308 IAML_P
comp=Z,91µm,0.4s
GCAM ⇑iP Pb 21 21 40.6 -1.1
GCAM iS Sn 21 21 58.4 +1.0
AKAS Kas 1.23 127 PN Pn 21 21 42.2 -0.3
AKAS Kas 1.23 127⇑iP Pn 21 21 42.2 -0.3
AKAS iS Sn 21 22 06.0 +7.0
ELL Elmali 1.24 100 PN Pn 21 21 42.5 -0.2
ELL Elmali 1.24 100 P Pn 21 21 41.3 -1.4
KSL Kastellorizon 1.27 130 P Pn 21 21 42.9 0.0
KSL S Sg 21 22 01.2 +0.9
KSL AML AML 21 22 08.2
comp=E,9428µm,0.9s
KSL AML AML 21 22 09.5
comp=N,10652µm,0.8s
SMG Samos 1.44 301 P Pn 21 21 44.5 -0.8
SMG S Sn 21 22 04.0 -0.1
SMG Samos 1.44 301 P Pn 21 21 44.6 -0.8
SMG S Sb 21 22 04.5 +0.1
SMG AML AML 21 22 13.6
comp=N,29576µm,0.5s
SMG AML AML 21 22 14.0
comp=E,22071µm,0.5s
BRDR BURDUR-Merkez 1.51 61⇑iP Pn 21 21 46.2 -0.2
BRDR iS Sg 21 22 10.6 +2.4
MANT Manisa 1.52 5 ePn Pn 21 21 45.6 -0.9
MANT Manisa 1.52 5⇑iP Pn 21 21 45.7 -0.9
MANT iS Sn 21 22 05.1 -1.2
KULA Kula-Manisa 1.55 8 PN Pn 21 21 46.4 -0.5
KULA Kula-Manisa 1.55 8 P Pn 21 21 46.1 -0.8
KULA S Sb 21 22 06.8 -0.9
KORT Korkueli 1.57 89 PN Pb 21 21 47.8 -0.7
KORT Korkueli 1.57 89⇑iP Pn 21 21 47.6 +0.4
KORT iS Sg 21 22 14.2 +4.1
DGB zmir 1.61 312 IAML_P
comp=Z,17µm,0.2s
DGB ⇓iP Pn 21 21 47.3 -0.3
DGB iS Sb 21 22 09.8 +0.4
KHAL Karahalli 1.64 32⇑iP Pn 21 21 47.9 -0.3
KHAL iS Sg 21 22 11.6 -0.8
AKUM Antalya-Kumluc 1.70 112 iP Pn 21 21 49.6 +0.7
AKUM iS Sg 21 22 17.7 +3.4
KARP Karpathos 1.74 215 PN Pn 21 21 49.7 +0.2
KARP Karpathos 1.74 215 ePn Pn 21 21 49.4 0.0
KARP Karpathos 1.74 215 P Pn 21 21 49.3 -0.2
KARP S Sn 21 22 10.1 -1.4
KARP Karpathos 1.74 215 P Pn 21 21 49.7 +0.2
KARP S Sb 21 22 13.7 +0.5
KARP AML AML 21 22 22.0
comp=N,16892µm,0.9s
KARP AML AML 21 22 23.6
comp=E,18642µm,0.7s
USAK Uak-Merkez 1.80 16⇑iP Pn 21 21 49.7 -0.7
USAK iS Sn 21 22 13.2 +0.1
BCK Bucak 1.82 74 PN Pb 21 21 51.6 -1.1
KZIL AFYON_Kizioren 1.89 47⇑iP Pn 21 21 51.3 -0.3
KZIL iS Sg 21 22 23.3 +3.0
ISP Isparta 1.90 63 PN Pn 21 21 51.3 -0.4
ISP Isparta 1.90 63 ePn Pn 21 21 52.0 +0.3
ISP Isparta 1.90 63⇑iP Pn 21 21 52.2 +0.5
ISP Isparta 1.90 63 S Sb 21 22 18.0 +0.3
ISP Isparta 1.90 63 eP Pn 21 21 52.0 +0.3
ISP Isparta 1.90 63 Pn Pn 21 21 51.5 -0.2
ISP Isparta 1.90 63 P Pn 21 21 52.0 +0.3
ISP AML AML 21 22 26.4
comp=N,4206µm,1.2s
ISP AML AML 21 22 26.9
comp=E,3155µm,1.8s
AKHS Akhisar 1.95 347⇓iP Pn 21 21 51.8 -0.6
AKHS iS Sg 21 22 21.4 -0.9
ZEY zmir 1.96 311⇓iP Pn 21 21 51.8 -0.6
ZEY iS Sg 21 22 24.2 +1.7
URLA Izmir 1.98 315 PN Pn 21 21 51.6 -1.2
URLA Izmir 1.98 315⇓iP Pn 21 21 52.4 -0.5
URLA iS Sg 21 22 29.4 +6.0
AMGA Amorgos Island 2.01 267 P Pn 21 21 52.6 -0.5
AMGA S Sn 21 22 18.4 +0.3
AMGA Amorgos Island 2.01 267 P Pn 21 21 53.0 -0.1
AMGA AML AML 21 22 34.0
comp=E,8667µm,1.1s
AMGA AML AML 21 22 36.1
comp=N,10105µm,1.0s
BAGO Egridir - ISPA 2.16 61⇑iP Pn 21 21 55.2 0.0
BAGO iS Sg 21 22 28.6 -0.4
ANAF Anafi Island 2.19 254 P Pn 21 21 54.8 -0.9
ANAF Anafi Island 2.19 254 P Pn 21 21 57.1 +1.3
GEDZ Gediz 2.21 21 PN Pn 21 21 56.5 +0.4
ZEDA zmir-Bergama 2.24 333⇓iP Pn 21 21 55.3 -1.0
ZEDA iS Sg 21 22 32.1 +0.5
GDZ Gediz 2.28 22⇑iP Pn 21 21 55.7 -1.2
GDZ iS Sg 21 22 33.5 +0.7
APE Apeiranthos 2.29 273 PN Pn 21 21 57.4 +0.3
APE Apeiranthos 2.29 273 P Pn 21 21 56.9 -0.2
APE S Sn 21 22 25.9 +0.7
APE Apeiranthos 2.29 273⇑iP Pn 21 21 57.2 +0.1
APE Apeiranthos 2.29 273 S Sn 21 22 25.5 +0.3
APE Apeiranthos 2.29 273 P Pn 21 21 57.1 0.0
APE S Sn 21 22 25.4 +0.3
APE Apeiranthos 2.29 273 P Pn 21 21 57.3 +0.3
APE AML AML 21 22 40.3
comp=N,4191µm,0.6s
APE AML AML 21 22 41.1
comp=E,2342µm,0.6s
SHUT Suhut-Afyon 2.32 47 PN Pn 21 21 57.6 0.0
CHOS Chios island 2.33 308 PN Pn 21 21 57.3 -0.3
CHOS Chios island 2.33 308 P Pn 21 21 57.2 -0.3
CHOS Chios island 2.33 308 P Pn 21 21 57.2 -0.4
CHOS AML AML 21 22 41.4
comp=E,5524µm,0.9s
CHOS AML AML 21 22 42.2
comp=N,4337µm,0.9s
AFYO Afyonkarahisar 2.35 39⇑iP Pn 21 21 59.0 +1.0
AFYO iS Sg 21 22 40.2 +4.9
CMBO Columbo, Santo 2.45 259 P Pn 21 22 00.3 +1.1
STEP BALIKESIR_Sava 2.45 348 iP Pn 21 21 58.3 -1.0
STEP iS Sg 21 22 37.9 -0.5
ZKR Zakros 2.56 224 PN Pn 21 22 01.7 +1.0
ZKR Zakros 2.56 224 P Pn 21 22 00.3 -0.4
ZKR S Sn 21 22 31.1 -0.7
ZKR Zakros 2.56 224 P Pn 21 22 01.8 +1.0
KEPZ Antalya-Kepez 2.58 91⇑iP Pb 21 22 04.1 -1.5
KEPZ iS Sb 21 22 37.3 +0.1
TVSB Tavsanli 2.61 19 PN Pn 21 22 01.3 -0.2
DURS Dursunbey 2.62 1 iP Pn 21 22 01.0 -0.6
DURS iS Sb 21 22 36.8 -1.7
TNSA Tinos 2.64 283 P Pn 21 22 02.7 +0.9
TNSA AML AML 21 22 49.0
comp=E,5153µm,0.8s
TNSA AML AML 21 22 51.6
comp=N,2193µm,0.7s
BOLV Bolvadin 2.67 49 iP Pn 21 22 02.9 +0.6
BOLV iS Sg 21 22 47.3 +2.0
AYVA Ayvalik 2.69 331 iP Pn 21 22 01.5 -0.9
AYVA iS Sg 21 22 46.8 +0.9
BALB Balikesir 2.69 352 PN Pn 21 22 02.1 -0.4
PSRA Psara 2.73 306 P Pn 21 22 04.0 +0.9
PRK Paraskevi 2.81 324 P Pn 21 22 04.8 +0.6
PRK Paraskevi 2.81 324 P Pn 21 22 05.0 +0.8
PRK Paraskevi 2.81 324 P Pn 21 22 04.9 +0.6
BALY Balya 2.83 348 iP Pn 21 22 03.3 -1.1
BALY iS Sg 21 22 49.9 -0.4
NPS Neapolis 2.83 234 P Pn 21 22 04.3 -0.1
NPS S Sn 21 22 39.0 +0.7
NPS Neapolis 2.83 234 P Pn 21 22 05.1 +0.7
NPS Neapolis 2.83 234 P Pn 21 22 05.0 +0.7
NPS AML AML 21 22 51.3
comp=E,3393µm,0.7s
NPS AML AML 21 22 52.3
comp=N,4076µm,1.0s
DOGA KONYA_Doganhis 2.84 66 iP Pn 21 22 05.7 +1.1
DOGA iS Sg 21 22 54.9 +4.1
AUKIR Kırka- Seyitga 2.85 36 iP Pb 21 22 10.9 +0.6
AUKIR iS Sg 21 22 56.5 +5.4
LAST Lasithi 2.98 233 P Pn 21 22 05.7 -0.8
LAST S Sn 21 22 42.1 0.0
LAST Lasithi 2.98 233 P Pn 21 22 07.0 +0.4
LAST AML AML 21 22 49.0
comp=E,1788µm,1.0s
LAST AML AML 21 22 50.5
comp=N,1692µm,0.7s
SIGR SIGRI 3.00 319 PN Pn 21 22 06.8 +0.1
SIGR SIGRI 3.00 319 P Pn 21 22 06.6 -0.1
SIGR SIGRI 3.00 319 P Pn 21 22 06.7 -0.1
SERI Serifos 3.13 275 P Pn 21 22 08.1 -0.5
SERI Serifos 3.13 275 P Pn 21 22 09.0 +0.4
SERI AML AML 21 23 05.2
comp=N,3213µm,0.7s
SERI AML AML 21 23 06.9
comp=E,1519µm,1.1s
CIFT Cifteler, Eski 3.18 41 PN Pn 21 22 09.9 +0.6
CIFT Cifteler, Eski 3.18 41 iP Pn 21 22 10.3 +1.0
CIFT iS Sg 21 23 03.4 +1.8
MHLA Plaka, Milos I 3.19 267 P Pn 21 22 10.9 +1.5
AUBOZ BOZOYUK 3.20 23 PN Pn 21 22 10.5 +0.9
MHLO Agia Marina, M 3.21 266 P Pn 21 22 10.9 +1.2
GAZI Gazipasa 3.24 102 PN Pn 21 22 11.8 +1.7
GAZI Gazipasa 3.24 102 iP Pn 21 22 10.3 +0.1
GAZI iS Sb 21 22 55.5 -0.9
EZN Ezine 3.27 331 PN Pn 21 22 11.9 +1.4
EZN Ezine 3.27 331⇑iP Pn 21 22 10.7 +0.2
EZN Ezine 3.27 331 P Pn 21 22 10.7 +0.2
KCTX Karacabey (Bur 3.28 360 PN Pn 21 22 10.2 -0.5
IDI Anoyia 3.30 240 Pn Pn 21 22 11.8 +0.9
comp=E,18nm,0.3s,baz=59,slow=17,SNR=129
IDI Sn Sn 21 22 51.7 +1.7
comp=E,24nm,0.3s,baz=307,slow=7.8,SNR=14
KONT Konya--Tatoy 3.30 72 PN Pn 21 22 11.8 +0.8
KONT Konya--Tatoy 3.30 72 iP Pn 21 22 12.8 +1.8
KONT iS Sg 21 23 10.3 +4.7
BORA Eskisehir 3.32 29 PN Pn 21 22 12.5 +1.3
LADK Ladik-KONYA 3.38 68 PN Pn 21 22 13.8 +1.6
EDC Edincik 3.39 353 PN Pn 21 22 12.3 +0.1
EDC Edincik 3.39 353 P Pn 21 22 12.2 +0.1
BOZC Bozcaada 3.40 328 PN Pn 21 22 12.8 +0.5
MDNY Mudanya-Bursa 3.41 6 PN Pn 21 22 13.8 +1.4
CAVI Cavuskoy 3.42 19 PN Pn 21 22 13.9 +1.4
SVRH Sivrihisar-ESK 3.49 44 PN Pn 21 22 14.4 +0.8
AUSIV SIVRIHISAR 3.49 44 PN Pn 21 22 15.3 +1.7
SIVA Sivas 3.50 237 P Pn 21 22 15.8 +2.1
GEMT Gemlik 3.51 10 PN Pn 21 22 14.4 +0.6
KRBG Karabiga-Canak 3.52 346 PN Pn 21 22 12.8 -1.0
ARMT Armutlu 3.60 6 PN Pn 21 22 15.5 +0.4
ADVT Abdulvahap 3.61 17 PN Pn 21 22 15.7 +0.6
LPK Lapseki 3.62 340 PN Pn 21 22 15.1 -0.2
DION Dionisos Attik 3.71 289 P Pn 21 22 17.1 +0.5
DION Dionisos Attik 3.71 289 P Pn 21 22 17.4 +0.8
GELI Tayfur-Gelibol 3.73 337 PN Pn 21 22 16.0 -0.8
VAM Vamos 3.73 246 P Pn 21 22 19.4 +2.5
VAM Vamos 3.73 246 P Pn 21 22 18.5 +1.6
VAM AML AML 21 23 07.8
comp=E,1090µm,0.8s
VAM AML AML 21 23 08.3
comp=N,1431µm,0.9s
PTL Penteli 3.75 288 P Pn 21 22 17.8 +0.7
PTL Penteli 3.75 288 P Pn 21 22 17.9 +0.7
VLY Voula,Athens 3.76 285 P Pn 21 22 18.0 +0.7
VLY Voula,Athens 3.76 285 P Pn 21 22 18.2 +0.9
ATHU Athens Univers 3.80 286 P Pn 21 22 18.4 +0.7
ATHU Athens Univers 3.80 286 P Pn 21 22 18.4 +0.7
EREA Eretria 3.82 293 P Pn 21 22 18.7 +0.6
EREA Eretria 3.82 293 P Pn 21 22 19.0 +0.9
PPCY Paphos 3.83 122 P Pn 21 22 18.8 +0.7
baz=301
ATH Athens Observa 3.85 286 P Pn 21 22 19.6 +1.2
ATH Athens Observa 3.85 286 P Pn 21 22 20.3 +1.9
ATH Athens Observa 3.85 286 P Pn 21 22 18.6 +0.1
LIA Limnos Island 3.85 320 P Pn 21 22 18.4 -0.1
LIA Limnos Island 3.85 320 P Pn 21 22 18.6 +0.2
ALFC Alefka 3.86 117 P Pn 21 22 19.2 +0.5
baz=297
ALFC S Sn 21 23 07.1 +3.2
IMMV Iera Moni Meta 3.87 248 P Pn 21 22 20.8 +2.0
IMMV AML AML 21 23 17.7
comp=E,1978µm,0.8s
IMMV AML AML 21 23 21.0
comp=N,1426µm,1.1s
GVD Gavdhos 4.09 240 P Pn 21 22 23.6 +1.8
SMTH Samothraki Isl 4.14 328 P Pn 21 22 22.1 -0.4
SMTH Samothraki Isl 4.14 328 P Pn 21 22 22.6 +0.1
DID Didima 4.15 279 P Pn 21 22 23.4 +0.9
DID Didima 4.15 279 P Pn 21 22 23.5 +0.9
MRKA Markates 4.18 296 P Pn 21 22 23.6 +0.6
KRND KRANIDI 4.21 277 P Pn 21 22 24.4 +1.1
VILL Villia 4.21 288 P Pn 21 22 24.2 +0.8
ANKY Antikythira Is 4.25 256 P Pn 21 22 24.5 +0.5
EPID Epidavros 4.25 280 P Pn 21 22 25.4 +1.4
VIL2 Platees 4.25 288 P Pn 21 22 24.2 +0.2
SZAC Souni 4.27 120 P Pn 21 22 25.1 +0.9
baz=300
SZAC S Sn 21 23 17.1 +3.2
KLYT Kilyos 4.30 7⇓iP Pn 21 22 24.4 -0.2
MAMC Mammari 4.30 113 P Pn 21 22 26.1 +1.4
baz=294
ALN Alexandroupoli 4.32 336 ePn Pn 21 22 26.2 +1.3
ALN Alexandroupoli 4.32 336 P Pn 21 22 24.6 -0.3
ALN Alexandroupoli 4.32 336 eP Pn 21 22 26.2 +1.3
ALN Alexandroupoli 4.32 336 P Pn 21 22 25.5 +0.6
KYTH Kithira 4.36 262 P Pn 21 22 27.3 +1.8
VLI Veliai 4.38 268 P Pn 21 22 27.1 +1.3
VLI Veliai 4.38 268 P Pn 21 22 27.1 +1.3
LOUT Loutraki 4.42 285 P Pn 21 22 27.7 +1.3
LOUT Loutraki 4.42 285 P Pn 21 22 27.4 +1.1
SKIA Skiathos 4.46 301 P Pn 21 22 27.6 +0.8
SKIA Skiathos 4.46 301 P Pn 21 22 27.4 +0.6
BR231 Keskin MP Arra 4.48 49 ePn Pn 21 22 28.9 +1.7
CSS Mathiatis 4.48 115 ePn Pn 21 22 29.2 +2.0
CSS Mathiatis 4.48 115 P Pn 21 22 26.9 -0.3
CSS Mathiatis 4.48 115 P Pn 21 22 29.4 +2.2
CSS Mathiatis 4.48 115 Pn Pn 21 22 26.4 -0.8
CSS Sn Sn 21 23 17.1 -2.1
CSS Mathiatis 4.48 115 P Pn 21 22 29.4 +2.2
CTYL Yalikoy Yolu 4.49 359⇓iP Pn 21 22 26.8 -0.5
CTYL Yalikoy Yolu 4.49 359 S Sn 21 23 18.4 -0.9
ANTO Ankara 4.50 49 ePn Pn 21 22 29.1 +1.6
ANTO Ankara 4.50 49⇑iP Pn 21 22 28.8 +1.3
ANTO Ankara 4.50 49 eP Pn 21 22 29.1 +1.6
SMIA Simia 4.52 296 P Pn 21 22 28.8 +1.2
PROD Prodromos 4.54 288 P Pn 21 22 29.1 +1.1
PROD Prodromos 4.54 288 P Pn 21 22 29.2 +1.2
ATAL Atalanti 4.58 294 P Pn 21 22 29.6 +1.1
ATAL Atalanti 4.58 294 P Pn 21 22 29.7 +1.1
THAS Thassos island 4.62 323 P Pn 21 22 28.8 -0.2
NEO Neokhori 4.69 301 P Pn 21 22 30.7 +0.7
NEO Neokhori 4.69 301 P Pn 21 22 30.7 +0.7
RDO Rodhopi 4.72 333 P Pn 21 22 30.5 +0.2
RDO Rodhopi 4.72 333 P Pn 21 22 30.6 +0.2
PAIG Paliouri 4.73 310 P Pn 21 22 32.0 +1.5
XOR Xorichti 4.74 302 P Pn 21 22 31.1 +0.4
OUR Ouranopolis 4.81 316 P Pn 21 22 32.2 +0.6
OUR Ouranopolis 4.81 316 P Pn 21 22 32.4 +0.8
AXAR Agios Charalam 4.88 293 P Pn 21 22 33.8 +1.3
GUR Goura 4.91 283 P Pn 21 22 34.5 +1.4
FYTO Fytoko, Volos 4.93 301 P Pn 21 22 34.0 +0.6
BR131 Keskin Array S 4.95 55 ePn Pn 21 22 34.8 +0.9
BR131 Keskin Array S 4.95 55 eP Pn 21 22 34.8 +1.0
BRTR Keskin Array B 4.95 55 ePn Pn 21 22 34.0 +0.2
BRTR Keskin Array B 4.95 55 eP Pn 21 22 34.0 +0.2
BRTR Keskin Array B 4.95 55 Pn Pn 21 22 34.6 +0.9
comp=N,5.3nm,0.3s,baz=234,slow=15,SNR=198
BRTR Sn Sn 21 23 32.7 +1.8
comp=N,1.0nm,0.3s,baz=229,slow=21,SNR=5.9
BRTR Lg Lg 21 24 01.1
baz=266,slow=33,SNR=1.3
PHNC Paralimni 4.98 112 P Pn 21 22 35.3 +1.3
baz=293
PHNC S Sn 21 23 35.1 +3.7
KAVA Kavala 5.02 324 P Pn 21 22 34.4 -0.2
KAVA Kavala 5.02 324 P Pn 21 22 34.6 0.0
PLG Polygyros 5.14 313 P Pn 21 22 37.7 +1.4
ITM Ithomi 5.17 274 ePn Pn 21 22 41.0 +4.3
ITM Ithomi 5.17 274 P Pn 21 22 38.5 +1.8
KDZ Kurdzhali 5.21 335 eP Pn 21 22 42.0 +4.9
SOH Sokhos 5.49 316 P Pn 21 22 42.8 +1.7
SOH pmax pmax
comp=Z,14nm,0.5s
RZN Rozhen 5.50 330 eP Pn 21 22 42.8 +1.5
SRS Serrai 5.57 319 P Pn 21 22 42.6 +0.5
SRS Serrai 5.57 319 P Pn 21 22 43.2 +1.1
SRS pmax pmax
comp=Z,33nm,0.8s
LIT Litokhoron 5.58 306 ePn Pn 21 22 43.8 +1.5
LIT Litokhoron 5.58 306 P Pn 21 22 44.2 +2.0
LIT pmax pmax
comp=Z,34nm,0.7s
MATC Matruh 5.70 190 P Pn 21 22 44.9 +1.1
baz=192
MATC S Sn 21 23 47.1 -2.0
baz=192
ILGA Ilgaz 5.81 44 ePn Pn 21 22 46.7 +1.1
MMB Musomiste 5.86 323 eP Pn 21 22 46.2 +0.2
PLD Plovdiv 5.86 332 P Pn 21 22 47.6 +1.5
PLD pmax pmax
comp=Z,3.0nm,0.8s
PLD Plovdiv 5.86 332 eP Pn 21 22 47.8 +1.7
KNT Kendrikon 5.98 316 P Pn 21 22 48.6 +0.9
KNT Kendrikon 5.98 316 P Pn 21 22 49.8 +2.1
KNT pmax pmax
comp=Z,20nm,0.7s
SLUM Salum 6.07 207 P Pn 21 22 50.4 +1.4
baz=208
GRG Griva 6.13 312 P Pn 21 22 51.6 +1.8
GRG pmax pmax
comp=Z,45nm,0.8s
VAY Valandovo 6.27 316 iPn Pn 21 22 53.6 +2.0
KKB Krupnik 6.38 322 eP Pn 21 22 54.9 +1.7
BZK Bozkurt 6.60 39⇓iP Pn 21 22 58.8 +2.6
FNA Florina 6.66 307 ePn Pn 21 22 59.6 +2.5
FNA Florina 6.66 307 eP Pn 21 22 59.6 +2.5
DQRL Deir Qamar 6.71 117 eP Pn 21 22 57.7 -0.2
HWQ Hawqa 6.71 111 eP Pn 21 22 57.3 -0.6
STIP Stip 6.73 316 iPn Pn 21 22 58.0 0.0
HNTI Hanita 6.79 123 Pn Pn 21 22 56.2 -2.6
HNTI Sn Sn 21 24 13.6 -2.3
QRWL Qaraoun 6.88 118 eP Pn 21 23 00.1 0.0
VTS Vitosha 6.89 326⇓iP Pn 21 23 01.9 +1.6
VTS Vitosha 6.89 326 P Pn 21 23 03.0 +2.6
VTS pmax pmax
comp=Z,15nm,0.6s
VTS Vitosha 6.89 326 eP Pn 21 23 02.0 +1.6
OFRI `Ofer 6.95 127 Pn Pn 21 22 59.0 -2.1
MMA0B Mount Meron ar 6.98 122 Pn Pn 21 22 59.6 -1.9
MMA0B Sn Sn 21 24 18.2 -2.6
MMAI Mount Meron Ar 6.98 122 Pn Pn 21 23 00.2 -1.3
comp=Z,17nm,0.3s,baz=298,slow=12,SNR=79
MMAI Sn Sn 21 24 16.6 -4.2
comp=Z,5.9nm,0.3s,baz=302,slow=17,SNR=3.6
MMAI LR LR 21 27 01.4
comp=Z,126nm,20.6s,baz=330,slow=50
RCY Rachaya 7.01 118 eP Pn 21 23 00.9 -1.1
SHBL Chebaa 7.03 119 eP Pn 21 23 01.6 -0.6
GEM Giv'at Ha'Em 7.04 120 Pn Pn 21 23 00.4 -2.0
GEM Sn Sn 21 24 20.6 -1.7
KSDI Kefar Szold 7.05 120 Pn Pn 21 23 00.9 -1.6
KSDI Sn Sn 21 24 19.3 -3.2
NATI Neve Ativ 7.07 119 Pn Pn 21 23 01.0 -1.6
NATI Sn Sn 21 24 20.6 -2.2
ICOR Ion Corvin 7.15 357⇑iP Pn 21 23 03.9 +0.2
SLTI Sal'it 7.24 129 Pn Pn 21 23 04.3 -0.7
SLTI Sn Sn 21 24 25.0 -2.0
KSHT Keshet 7.28 121 Pn Pn 21 23 04.3 -1.3
SNOP Sinop 7.29 44 ePn Pn 21 23 05.7 0.0
SKO Skopje 7.33 315 iPn Pn 21 23 07.8 +1.6
SKO Skopje 7.33 315 P Pn 21 23 09.3 +3.0
MMLI Mount Malkishu 7.35 126 Pn Pn 21 23 04.3 -2.3
MMLI Sn Sn 21 24 28.3 -1.5
SHMJ Saham 7.39 123 P Pn 21 23 07.2 0.0
comp=Z,130nm,0.8s,comp=Z,0.5nm
HMDT Nahal Hemdat 7.54 127 Pn Pn 21 23 08.2 -0.9
HMDT Sn Sn 21 24 32.3 -2.0
HNAT Natroun 7.56 165 P Pn 21 23 09.5 0.0
baz=166
HNAT AMP 21 24 00.0
baz=166
HNAT S Sn 21 24 30.4 -4.6
baz=166
KOT Kottamia 7.59 157 P Pn 21 23 10.4 +0.4
baz=157
KOT S Sn 21 24 30.3 -5.6
baz=157
TLB Topalu 7.61 358⇑iP Pn 21 23 10.3 +0.3
TLB Topalu 7.61 358 P Pn 21 23 10.2 +0.3
AMAZ Amatzia 7.66 133 Pn Pn 21 23 09.0 -1.8
HHAG Hagoal 7.66 155 P Pn 21 23 11.9 +1.1
baz=156
KZIT Kziot 7.84 139 Pn Pn 21 23 12.2 -1.1
GLL Jalalah 7.88 158 P Pn 21 23 13.9 -0.1
baz=159
YTIR Yattir 7.90 133 Pn Pn 21 23 12.2 -2.0
YTIR Sn Sn 21 24 40.7 -2.7
DSI Dead Sea 7.91 131 Pn Pn 21 23 13.0 -1.2
DSI Sn Sn 21 24 42.1 -1.4
TIR Tirane 7.93 306 ePn Pn 21 23 17.0 +2.5
TIR Tirane 7.93 306 eP Pn 21 23 17.0 +2.5
HSUJ Al Zarqa 8.06 125 P Pn 21 23 20.0 +3.6
comp=Z,88nm,0.7s,comp=Z,0.4nm
MZDA Masada 8.08 132 Pn Pn 21 23 14.8 -1.7
MZDA Sn Sn 21 24 45.6 -2.1
SWA2 8.10 199 P Pn 21 23 17.6 +0.8
baz=200
WALJ Wala 8.18 129 P Pn 21 23 17.7 -0.2
comp=Z,109nm,0.8s,comp=Z,0.3nm
CFR Carcaliu 8.20 359⇑iP Pn 21 23 17.7 -0.4
CFR Carcaliu 8.20 359 P Pn 21 23 17.6 -0.5
CFR pmax pmax
comp=Z,10.0nm,1.0s
TLCR 8.21 2⇓iP Pn 21 23 19.3 +1.0
TLCR 8.21 2 P Pn 21 23 19.2 +1.0
ASF Jabal al Asfar 8.49 122 P Pn 21 23 23.6 +1.3
comp=Z,28nm,1.0s,comp=Z,0.1nm
ASF Jabal al Asfar 8.49 122 Pn Pn 21 23 23.3 +1.0
comp=Z,1.3nm,0.3s,baz=285,slow=2.7,SNR=12
ASF Sn Sn 21 24 55.0 -3.1
comp=Z,0.0nm,0.3s,baz=231,slow=16,SNR=1.5
ZFRI Zfri 8.54 137 Pn Pn 21 23 20.9 -1.9
SEV Sevastopol' 8.55 26 eP Pn 21 23 22.4 -0.6
SEV iS Sn 21 24 53.8 -5.5
PRNI Paran 8.60 138 Pn Pn 21 23 22.3 -1.5
KRMI Paran Flat 8.64 141 Pn Pn 21 23 23.3 -1.0
YAL Yalta 8.68 28⇑eP Pn 21 23 26.1 +1.4
YAL iS Sn 21 25 02.6 +0.2
JDRJ Daraweish 8.68 134 P Pn 21 23 26.6 +1.6
MLR Muntele Rosu 8.70 349⇓iP Pn 21 23 26.0 +0.8
MLR Muntele Rosu 8.70 349 Pn Pn 21 23 25.7 +0.5
comp=Z,0.7nm,0.3s,baz=197,slow=4.2,SNR=42
MLR Lg Lg 21 25 58.6
comp=Z,0.1nm,0.3s,baz=144,slow=17,SNR=2.6
MLR LR LR 21 27 24.8
comp=Z,463nm,21.9s,baz=165,slow=42
VOIR 8.82 344⇓iP Pn 21 23 27.0 +0.3
VOIR 8.82 344 P Pn 21 23 27.1 +0.3
VOIR pmax pmax
comp=Z,7.0nm,0.8s
HRFI Mount Harif 8.87 139 Pn Pn 21 23 25.7 -1.7
HRFI Sn Sn 21 25 05.1 -2.1
TTG Podgorica 8.90 311 ePn Pn 21 23 29.4 +1.7
TTG Podgorica 8.90 311 eP Pn 21 23 29.4 +1.7
ALU Alushta 8.94 29 eP Pn 21 23 28.7 +0.4
ALU iS Sn 21 25 11.4 +2.6
PLOR Plostina 8.96 352⇓iP Pn 21 23 29.7 +1.0
PLOR Plostina 8.96 352 P Pn 21 23 29.7 +1.0
VRI Vrincioaia 8.97 353⇓iP Pn 21 23 29.1 +0.4
VRI Vrincioaia 8.97 353 P Pn 21 23 29.3 +0.6
VRI pmax pmax
comp=Z,16nm,0.7s
MBRI Mt Berech 9.00 141 Pn Pn 21 23 27.2 -2.1
MBRI Sn Sn 21 25 08.8 -1.7
SIM Simferopol' 9.06 27c iP Pn 21 23 31.4 +1.4
SIM eS Sn 21 25 09.8 -2.0
SIM pmax pmax
comp=Z,13nm,0.8s
EIL Elat 9.12 141 Pn Pn 21 23 29.5 -1.3
comp=Z,2.3nm,0.3s,baz=29,slow=5.5,SNR=23
EIL Sn Sn 21 25 05.7 -7.6
comp=Z,0.9nm,0.3s,baz=36,slow=19,SNR=3.1

DOPR Dopca 9.26 347 ⇓*i*P **Pn 21 23 33.4 +0.7**
SUDU Sudak 9.35 30 *e*P **Pn 21 23 35.4 +1.5**
SUDU *i* S **Sn 21 25 19.3 +0.4**
TIP Timpagrande 9.43 287 *e*Pn **Pn 21 23 37.6 +2.5**
TIP Timpagrande 9.43 287 ⇓*i*P **Pn 21 23 36.0 +0.8**
TESR Tescani 9.62 353 ⇓*i*P **Pn 21 23 37.4 -0.2**
MILM Milestii Mici 9.94 2 ⇓*i*P **Pn 21 23 42.3 +0.3**
BIZ Bicaz 10.10 351 ⇑*i*P **Pn 21 23 44.6 +0.4**
BURAR Bucovina Array 10.89 349 *e*Pn **Pn 21 23 55.4 +0.3**
BURAR Bucovina Array 10.89 349 ⇑*i*P **Pn 21 23 56.0 +0.9**
BURAR Bucovina Array 10.89 349 P **Pn 21 23 56.0 +0.9**
BUR08 Bucovina Ar. S 10.92 349 *e*Pn **Pn 21 23 56.3 +0.8**
VAE Valguarnera 11.16 277 Pn **Pn 21 24 02.4 +3.5**
comp=Z,0.3nm,0.3s,baz=100,slow=17,SNR=2.8
VAE Sn **Sn 21 26 05.8 +2.4**
comp=Z,0.4nm,0.3s,baz=23,slow=4.0,SNR=3.0
VAE LR LR 21 28 17.7
comp=Z,143nm,21.1s,baz=266,slow=37
BLY Banja Luka 11.49 316 *e*Pn **Pn 21 24 05.0 +1.8**
BLY Banja Luka 11.49 316 ⇑*i*P **Pn 21 24 04.0 +0.7**
KIV Kislovodsk 12.91 53 *e*Pn **Pn 21 24 23.4 +0.6**
KIV Kislovodsk 12.91 53 *e*P **Pn 21 24 27.0 +4.2**
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,296nm,11.0s
KBZ Khabaz 12.95 54 Pn **Pn 21 24 27.4 +4.2**
comp=Z,0.1nm,0.3s,baz=83,slow=20,SNR=4.4
KBZ Sn Sn 21 27 05.0 +18
comp=Z,0.2nm,0.3s,baz=314,slow=18,SNR=3.4
KBZ LR LR 21 30 30.2
comp=Z,74nm,18.1s,baz=244,slow=43
GNI Garni 13.18 71 LR LR 21 30 33.4
comp=Z,620nm,18.2s,baz=268,slow=42
ZEI Tsey 13.24 59 *e*P **P 21 24 33.6 -3.7**
ZEI pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 13.47 332 *e*P **P 21 24 40.9 +1.3**
VYHS Vyhne 13.47 332 *e*PN **P 21 24 40.9 +1.3**
AKASG Malin Array Be 13.73 2 Pn **Pn 21 24 33.5 -0.4**
comp=Z,0.5nm,0.3s,baz=179,slow=13,SNR=3.6
AKASG Sn **Sn 21 27 12.8 +6.7**
comp=Z,0.2nm,0.3s,baz=183,slow=25,SNR=4.8
TRI Trieste 14.01 313 P **Pn 21 24 37.3 -0.4**
TRI pmax pmax
comp=Z,46nm,1.4s
OKC Ostrava-Krasne 14.84 333 *e*P **P 21 24 55.2 +0.5**
OKC MLR MLR
comp=Z,200nm,13.6s
OKC Ostrava-Krasne 14.84 333 *e*P **P 21 24 55.2 +0.5**
OKC AMS AMS 21 31 40.0
comp=Z,200nm,13.6s
VRAC Vranov 15.01 329 P **P 21 24 56.0 -0.7**
VRAC Vranov 15.01 329 Pn **P 21 24 56.0 -0.7**
comp=Z,0.1nm,0.3s,baz=149,slow=6.3,SNR=3.5
VRAC LR LR 21 30 49.6
comp=Z,136nm,20.8s,baz=139,slow=38
KEST Kesra 15.40 271 *e*Pn **Pn 21 24 58.4 +1.8**
comp=Z,27nm,0.9s
KEST Kesra 15.40 271 Pn **Pn 21 24 57.6 +1.0**
comp=Z,0.1nm,0.3s,baz=20,slow=15,SNR=3.4
KEST LR LR 21 31 41.6
comp=Z,78nm,21.0s,baz=14,slow=40
MAK Makhachkala 15.81 62 *e*P **Pn 21 25 00.0 -1.8**
MAK *e*S **Sn 21 27 58.3 +1.5**
MAK pmax pmax
comp=Z,48nm,1.2s
MAK MLR MLR
comp=Z,91nm,14.0s
DPC Dobruska-Polom 15.94 331 *e*P **P 21 25 07.9 +0.9**
DPC MLR MLR
comp=Z,200nm,12.4s
DPC Dobruska-Polom 15.94 331 *e*P **P 21 25 07.9 +0.9**
DPC AMS AMS 21 34 00.0
comp=Z,200nm,12.4s
GEC2 GERESS Array S 15.98 323 *e*Pn **P 21 25 06.8 -0.8**
comp=Z,11nm,0.9s
GEC2 GERESS Array S 15.98 323 *e*P **P 21 25 06.8 -0.8**
GEC2 pmax pmax
comp=Z,11nm,0.9s
GERES GERESS Array B 15.98 323 *e*Pn **P 21 25 05.8 -1.8**
GERES GERESS Array B 15.98 323 *e*P **P 21 25 05.8 -1.8**
GERES GERESS Array B 15.98 323 Pn **P 21 25 08.3 +0.8**
comp=Z,0.3nm,0.3s,baz=125,slow=12,SNR=15
GERES LR LR 21 31 52.2
comp=Z,168nm,19.8s,baz=116,slow=40
WTTA Wattenberg 16.10 315 *i* P **P 21 25 13.0 +4.0**
comp=Z,12nm,0.8s
WATA Walderalm 16.17 315 *i* P **P 21 25 10.0 +0.3**
comp=Z,8.1nm,0.9s
VSR Storozhevoye 16.18 25 *e*P **Pn 21 25 07.4 +1.0**
VSR pmax pmax
comp=Z,5.0nm,0.5s
UPC Upice 16.18 331 *e*P **P 21 25 09.7 0.0**
UPC Upice 16.18 331 *e*P **P 21 25 09.7 0.0**
KHC Kasperske Hory 16.23 323 *e*Pn **Pn 21 25 08.2 +1.0**
comp=Z,3.7nm,1.0s
KHC Kasperske Hory 16.23 323 *e*P **Pn 21 25 08.2 +1.0**
KHC pmax pmax
comp=Z,4.0nm,1.0s
KHC Kasperske Hory 16.23 323 *e*P **P 21 25 11.7 +1.4**
KHC AMS AMS 21 32 00.0
comp=Z,300nm,12.2s
GOPC GO Pecny, Ondr 16.24 327 *e*P **P 21 25 16.4 +6.1**
GOPC MLR MLR
comp=Z,200nm,11.2s
GOPC GO Pecny, Ondr 16.24 327 *e*P **P 21 25 16.4 +6.1**
GOPC AMS AMS 21 32 20.0
comp=Z,200nm,11.2s
SQTA Sankt Quirin 16.32 314 *i* P **P 21 25 11.9 +0.6**
comp=Z,4.5nm,0.7s
PRU Pruhonice 16.40 327 *e*P **P 21 25 18.6 +6.5**
PRU MLR MLR
comp=Z,200nm,14.0s
PRU Pruhonice 16.40 327 *e*P **P 21 25 18.6 +6.5**
PRU AMS AMS 21 31 40.0
comp=Z,200nm,14.0s
MOTA Moosalm 16.45 314 *i* P **P 21 25 14.3 +1.5**
comp=Z,6.5nm,0.7s
FUORN Ofenpass-Fuorn 16.57 311 *e*Pn **P 21 25 13.7 -0.5**
comp=Z,9.8nm,1.0s
WET Wettzell 16.58 322 P **P 21 25 15.8 +1.6**
WET pmax pmax
comp=Z,16nm,1.0s
RETA Reutte 16.72 314 *i* P **P 21 25 16.8 +1.1**
comp=Z,9.4nm,1.2s
PVCC Panska Ves 16.79 328 AMS AMS 21 32 40.0
comp=Z,200nm,14.1s
DAVOX Davos/Dischmat 16.87 311 Pn **P 21 25 18.7 +1.2**
comp=Z,0.1nm,0.3s,baz=146,slow=18,SNR=3.8
DAVOX LR LR 21 32 48.2
comp=Z,243nm,19.5s,baz=86,slow=41
DAVA Damuels 17.12 313 *i* P **P 21 25 23.6 +3.3**
comp=Z,16nm,1.0s
LPSR Galich'ya Gora 17.29 22 *e*P **Pn 21 25 19.6 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,1.4s
BRG Berggiesshubel 17.31 328 *e*P **P 21 25 24.2 +2.0**
comp=Z,8.4nm,1.2s
BRG Berggiesshubel 17.31 328 *e*P **P 21 25 24.2 +2.0**
BRG pmax pmax
comp=Z,8.0nm,1.2s
NKC Novy Kostel 17.52 324 AMS AMS 21 33 00.0
comp=Z,300nm,12.9s
GRA1 Grafenberg Arr 17.76 321 *e*Pn **P 21 25 27.7 +0.5**
GRF Grafenberg Arr 17.76 321 *e*P **P 21 25 27.7 +0.5**
CLL Collm 18.03 327 *e*P **P 21 25 34.0 +3.9**
CLL Collm 18.03 327 *e*(P) **P 21 25 34.0 +3.9**
CLL *e*(PP) 21 25 38.0
CLL *e*SSS SSS 21 29 06.0
MBDF Montbardon 18.06 302 *e*P **P 21 25 32.9 +2.2**
MBDF pmax pmax
comp=Z,7.0nm,0.8s
BNI Bardonecchia 18.23 303 *e*Pn **P 21 25 32.9 +0.5**
comp=Z,12nm,1.0s
BNI Bardonecchia 18.23 303 *e*P **P 21 25 32.9 +0.5**
BNI pmax pmax
comp=Z,13nm,1.0s
SENIN Lac Senin/Sane 18.29 307 *e*Pn **P 21 25 34.7 +1.5**
comp=Z,16nm,0.9s
LPG La Plagne 18.33 304 *e*P **P 21 25 35.5 +1.8**
LPG pmax pmax
comp=Z,16nm,0.8s
LPL La Plagne 18.34 304 *e*P **P 21 25 35.5 +1.6**
LPL pmax pmax
comp=Z,20nm,1.2s
BFO Black Forest 18.55 314 *e*P **Pn 21 25 37.9 +1.8**
comp=Z,11nm,1.2s
BFO Black Forest 18.55 314 *e*P **Pn 21 25 37.9 +1.8**
BFO pmax pmax
comp=Z,11nm,1.2s
ORIF Oris-en-Rattie 18.72 302 *e*P **Pn 21 25 39.0 +0.7**
ORIF pmax pmax
comp=Z,9.0nm,0.8s
OBN Obninsk 18.98 15 LR LR 21 33 49.4
comp=Z,39nm,20.4s,baz=172,slow=40
CABF La Chapelle 19.16 307 *e*P **Pn 21 25 44.7 +1.2**
CABF pmax pmax
comp=Z,16nm,0.9s
TNS Taunus Mts 19.51 319 P **Pn 21 25 47.6 -0.1**
TNS pmax pmax
comp=Z,11nm,1.1s
VIVF Saint-Julien-l 19.53 301 *e*P **Pn 21 25 47.6 -0.3**
VIVF pmax pmax
comp=Z,7.0nm,0.8s
WLF Walferdange 20.46 315 ⇓P **P 21 25 57.5 +0.7**
comp=Z,9.4nm,1.9s
SMF Signal de Mont 20.62 306 *e*P **P 21 25 59.4 +0.9**
SMF pmax pmax
comp=Z,20nm,0.9s
LOR Lormes 20.82 307 *e*P **P 21 26 01.2 +0.5**
LOR pmax pmax
comp=Z,6.0nm,0.7s
BUG Bochum--Univer 20.83 321 P **P 21 26 01.5 +0.9**
BUG pmax pmax
comp=Z,18nm,1.4s
MTLF Montolieu 20.94 296 *e*P Pn 21 26 03.5 -1.1
MTLF pmax pmax
comp=Z,26nm,1.8s
SSF Saint Saulge 20.98 307 *e*P **P 21 26 02.9 +0.6**
SSF pmax pmax
comp=Z,9.0nm,0.8s
AVF Avril sur Loir 20.98 306 *e*P **P 21 26 02.5 +0.1**
AVF pmax pmax
comp=Z,9.0nm,0.8s
MEM Membach 21.03 317 ⇑P **P 21 26 03.3 +0.5**
BGF Bois d'Agland 21.24 305 *e*P **P 21 26 05.5 +0.3**
BGF pmax pmax
comp=Z,17nm,1.1s
BCLA Clavier 21.32 316 ⇑P **P 21 26 07.0 +1.0**
BCLA ⇑pP **pP 21 26 09.1 -0.8**
comp=Z,14nm,1.2s
RJF Les Rejaudoux 21.81 301 *e*P **P 21 26 14.4 +3.1**
RJF pmax pmax
comp=Z,12nm,1.1s
SNF Seneffe 21.93 316 ⇑P **P 21 26 13.2 +0.8**
LFF La Frestale 22.27 300 *e*P **P 21 26 19.0 +2.8**
LFF pmax pmax
comp=Z,10.0nm,1.2s
MFF Saint Martin d 23.24 303 *e*P **P 21 26 27.6 +1.2**
MFF pmax pmax
comp=Z,38nm,1.8s
GEYT Alibeck 23.57 79 P **P 21 26 28.7 -1.1**
comp=Z,2.8nm,0.5s,baz=265,slow=9.8,SNR=2.7
GEYT LR LR 21 38 31.5
comp=Z,98nm,18.1s,baz=90,slow=44
FLN La Foliniere 24.07 308 *e*P **P 21 26 36.8 +2.4**
FLN pmax pmax
comp=Z,28nm,1.4s
GRR Gorron 24.19 307 *e*P **P 21 26 34.6 -0.9**
GRR pmax pmax
comp=Z,9.0nm,0.9s
TAM Tamanrasset 24.27 241 *e*P **P 21 26 38.4 +1.8**
comp=Z,6.4nm,0.8s
TAM Tamanrasset 24.27 241 *e*P **P 21 26 38.4 +1.8**
TAM pmax pmax
comp=Z,6.0nm,0.8s
FIA1 FINESS Array S 24.53 357 *e*P **P 21 26 38.8 +0.2**
comp=Z,15nm,0.9s
FINES FINESS Array B 24.53 357 P **P 21 26 38.6 +0.1**
comp=Z,12nm,0.8s,baz=148,slow=11,SNR=51
FINES PcP **PcP 21 30 15.6 -0.7**
comp=Z,1.3nm,0.8s,baz=224,slow=13,SNR=3.2
KLMR Klimovskoe 24.92 13 *e*P **P 21 26 41.1 -0.9**
KLMR pmax pmax
comp=Z,8.0nm,0.9s
HFS Hagfors 25.02 343 P **P 21 26 42.3 -0.6**
comp=Z,5.1nm,0.8s,baz=148,slow=8.7,SNR=8.6
AKTO Aktyubinsk 25.09 48 P **P 21 26 42.9 -0.8**
comp=Z,4.7nm,0.8s,baz=249,slow=9.4,SNR=15
AKTO LR LR 21 40 16.7
comp=Z,101nm,18.0s,baz=247,slow=46
ESDC Sonseca Array 25.45 286 *e*P **P 21 26 49.0 +1.8**
ESDC Sonseca Array 25.45 286 P **P 21 26 48.0 +0.8**
comp=Z,2.3nm,0.8s,baz=77,slow=10.0,SNR=11
KIRV Kirov 25.61 26 LR LR 21 38 52.3
comp=Z,67nm,19.1s,baz=344,slow=41
SUF Sumiainen 25.81 358 P **P 21 26 50.4 +0.4**
SUF pmax pmax
comp=Z,11nm,2.3s
ABKAR Akbulak array 25.90 52 *e*P **P 21 26 50.3 -0.7**
NB2 NORSAR Subarra 26.42 341 P **P 21 26 54.0 -1.7**
comp=Z,3.1nm,1.1s,baz=148,slow=9.3
NOA NORSAR Array B 26.42 341 P **P 21 26 54.6 -1.1**
comp=Z,0.8nm,0.8s,baz=146,slow=8.9,SNR=4.7
PRGR Permogore 26.94 18 P **P 21 26 59.0 -1.3**
PRGR pmax pmax
comp=Z,6.0nm,0.9s
MDT Midelt 27.30 271 LR LR 21 41 02.0
comp=Z,36nm,19.4s,baz=163,slow=43
ARU Arti 28.04 36 P **P 21 27 09.8 -0.4**
comp=Z,0.8nm,0.6s,baz=267,slow=18,SNR=2.2
ARU LR LR 21 40 51.9
comp=Z,242nm,18.0s,baz=226,slow=42
EKA Eskdalemuir Ar 28.18 321 P **P 21 27 11.6 +0.1**
comp=Z,1.1nm,0.8s,baz=114,slow=10,SNR=3.9
OUL Oulu 28.18 358 P **P 21 27 11.1 -0.3**
OUL pmax pmax
comp=Z,13nm,2.3s
MSF Maaselka 28.98 1 *e*P **P 21 27 18.6 +0.1**
MSF pmax pmax
comp=Z,13nm,0.9s
WSAR Wadi Sarin 29.38 109 P **P 21 27 22.5 0.0**
comp=Z,4.2nm,0.7s,baz=358,slow=12,SNR=3.2
WSAR LR LR 21 41 39.4
comp=Z,48nm,18.3s,baz=292,slow=42
ARCES ARCESS Array B 32.65 358 *e*P **P 21 27 51.4 +0.5**
ARCES ARCESS Array B 32.65 358 *e*P **P 21 27 51.4 +0.5**
ARCES ARCESS Array B 32.65 358 P **P 21 27 51.2 +0.4**
comp=Z,5.9nm,0.8s,baz=182,slow=8.1,SNR=14
TOA0 Torodi Ar. Sit 33.66 232 *e*P **P 21 28 00.6 +0.4**
comp=Z,14nm,0.8s
TORD Torodi Ar. Bea 33.66 232 P **P 21 27 59.0 -1.2**
comp=Z,11nm,0.9s,baz=316,slow=4.1,SNR=45
TORD PcP **PcP 21 30 39.5 -0.6**
comp=Z,1.0nm,0.9s,baz=24,slow=2.5,SNR=3.6
OTUK Ortayu 33.81 56 P **P 21 28 01.0 -0.2**
OTUK pmax pmax
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 37.94 53 PcP **PcP 21 30 52.3 +0.1**
comp=Z,1.3nm,0.9s,baz=278,slow=3.7,SNR=5.9
KURK Kurchatov 38.00 53 *e*P **P 21 28 36.7 -0.4**
comp=Z,5.0nm,1.3s
KURK Kurchatov 38.00 53 *e*P **P 21 28 36.7 -0.4**
KURK pmax pmax
comp=Z,5.0nm,1.3s
JMIC Jan Mayen 39.13 342 P **P 21 28 46.8 +0.5**
comp=Z,42nm,0.7s,baz=169,slow=5.2,SNR=1.5
MAKZ Makanchi 40.38 59 *e*P **P 21 28 56.4 -0.6**
comp=Z,3.9nm,1.4s
MAKZ Makanchi 40.38 59 *e*P **P 21 28 56.4 -0.6**
MAKZ pmax pmax
comp=Z,4.0nm,1.4s
MK31 Makanchi Array 40.59 59 *e*P **P 21 28 58.1 -0.7**
comp=Z,2.1nm,0.9s
MK31 Makanchi Array 40.59 59 *e*P **P 21 28 58.1 -0.7**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 40.59 59 *e*P **P 21 28 57.8 -1.0**
MKAR Makanchi Array 40.59 59 *e*P **P 21 28 57.8 -1.0**
MKAR Makanchi Array 40.59 59 P **P 21 28 58.1 -0.7**
comp=Z,2.1nm,0.8s,baz=282,slow=6.1,SNR=22
MKAR LR LR 21 49 04.9
comp=Z,58nm,19.6s,baz=273,slow=41
NVS Novosibirsk 40.95 46 *e*P **P 21 29 01.8 +0.2**
SPITS Spitsbergen Ar 41.62 356 P **P 21 29 07.7 +0.9**
comp=Z,7.4nm,1.0s,baz=194,slow=12,SNR=2.8
ZALV Zalesovo Beam 41.85 48 *e*P **P 21 29 08.2 -0.7**
ZALV Zalesovo Beam 41.85 48 *e*P **P 21 29 08.3 -0.7**
ZALV Zalesovo Beam 41.85 48 P **P 21 29 07.1 -1.9**
comp=Z,1.1nm,0.7s,baz=269,slow=8.7,SNR=5.7
ZALV LR LR 21 50 08.1
comp=Z,86nm,18.6s,baz=250,slow=41
DBIC Dimbokro 42.75 233 P **P 21 29 17.0 +0.3**
comp=Z,6.4nm,0.7s,baz=25,slow=7.9,SNR=9.7
DBIC LR LR 21 49 55.6
comp=Z,67nm,18.1s,baz=28,slow=40
NRIK Noril'sk 45.12 25 P **P 21 29 35.1 -0.1**
comp=Z,3.1nm,0.5s,baz=137,slow=2.8,SNR=3.1
NRIK LR LR 21 50 34.7
comp=Z,48nm,21.9s,baz=230,slow=39
PYUN Piuthan 46.33 85 *e*P **P 21 29 45.6 0.0**
comp=Z,10nm,0.8s
DANN Dangsing 46.84 84 *e*P **P 21 29 49.6 0.0**
comp=Z,28nm,0.7s
KOLN Koldanda 46.96 85 *e*P **P 21 29 50.3 -0.2**
comp=Z,7.6nm,0.7s
DMN Daman 48.23 84 *e*P **P 21 30 00.2 -0.2**
comp=Z,14nm,0.9s
PKIN Phulchoki 48.48 84 *e*P **P 21 30 01.8 -0.5**
RAMN Ramite 49.72 84 *e*P **P 21 30 10.6 -1.2**
comp=Z,7.2nm,0.8s
SONM Songino Array 56.31 52 *e*P **P 21 30 59.9 -0.1**
SONM Songino Array 56.31 52 *e*P **P 21 30 59.9 -0.1**
SONM Songino Array 56.31 52 P **P 21 30 59.8 -0.2**
comp=Z,1.2nm,0.8s,baz=293,slow=8.8,SNR=5.2
SONM LR LR 21 57 20.5
comp=Z,40nm,20.9s,baz=260,slow=38
BOD Bodaibo 57.40 39 *e*P **P 21 31 06.6 -0.8**
BOD pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 58.54 21 LR LR 21 59 49.9
comp=Z,80nm,20.5s,baz=271,slow=40
LBTB Lobatse 61.72 183 *e*P **P 21 31 39.6 +2.1**
comp=Z,9.3nm,1.0s
LBTB Lobatse 61.72 183 *e*P **P 21 31 39.6 +2.1**
LBTB pmax pmax
comp=Z,9.0nm,1.0s
RES Resolute Bay 62.58 346 LR LR 21 59 28.9
comp=Z,69nm,18.7s,baz=226,slow=37
KMI Kunming 63.34 78 P P 21 31 55.8 +7.0
SCHQ Schefferville 63.49 320 LR LR 21 58 27.3
comp=Z,43nm,20.6s,baz=30,slow=35
CMAR Chiang Mai Arr 63.80 86 *e*P **P 21 31 48.8 -2.8**
CMAR Chiang Mai Arr 63.80 86 P **P 21 31 49.9 -1.8**
comp=Z,1.5nm,0.8s,baz=300,slow=7.9,SNR=13
CMAR LR LR 22 05 20.5
comp=Z,52nm,18.1s,baz=208,slow=42
BOSA Boshof 65.31 183 P **P 21 32 01.2 -0.1**
comp=Z,2.5nm,0.9s,baz=84,slow=11,SNR=3.6
KLR Kul'dur 70.67 43 P **P 21 32 34.4 -0.4**
comp=Z,2.5nm,0.8s,baz=309,slow=7.5,SNR=10.0
SEY Seymchan 70.87 24 P **P 21 32 36.6 +0.9**
comp=Z,0.8nm,0.2s,baz=242,slow=8.7,SNR=3.7
USRK Ussuriysk Ar. 73.70 47 *e*P **P 21 32 52.4 -0.5**
USRK Ussuriysk Ar. 73.70 47 P **P 21 32 52.8 -0.2**
comp=Z,12nm,0.8s,baz=296,slow=5.4,SNR=46
INK Inuvik 74.16 353 P **P 21 32 55.0 -0.2**
INK Inuvik 74.16 353 P **P 21 32 55.0 -0.2**
comp=Z,1.1nm,0.8s,baz=30,slow=5.4
KS15 Wonju Array Si 75.08 54 *e*P **P 21 33 01.3 +0.2**
comp=Z,68nm,1.9s
KSAR Wonju Array Be 75.08 54 *e*P **P 21 33 00.8 -0.3**
KSAR Wonju Array Be 75.08 54 *e*P **P 21 33 00.8 -0.3**
KSRS Korea Array 75.10 54 P **P 21 33 01.3 +0.1**
comp=Z,6.3nm,0.8s,baz=302,slow=5.1,SNR=28
KSRS LR LR 22 10 45.0
comp=Z,47nm,18.1s,baz=320,slow=40
YKA Yellowknife Ar 76.50 343 P **P 21 33 07.8 -0.9**
comp=Z,0.5nm,0.7s,baz=33,slow=5.4,SNR=8.4
IMAR Indian Mountai 77.35 1 *e*P **P 21 33 13.8 +0.3**
MLY Manley 78.32 360 *e*P **P 21 33 20.4 +1.3**
comp=Z,20nm,1.9s
ILAR Eielson Array 78.52 358 P **P 21 33 20.4 +0.4**
comp=Z,0.9nm,0.8s,baz=2.5,slow=4.5,SNR=7.4
WRH Wood River Hil 78.85 358 *e*P **P 21 33 22.1 +0.2**
comp=Z,5.8nm,0.9s
ASAJ Asahikawa 79.69 42 P **P 21 33 26.7 -0.2**
comp=Z,3.4nm,0.7s,baz=25,slow=13,SNR=4.5
CAST Castle Rocks 79.94 0 *e*P **P 21 33 28.4 +0.5**
comp=Z,6.0nm,1.0s
BCAR Beaver Creek A 79.99 355 *e*P **P 21 33 27.7 -0.4**
PETK Petropavlovsk- 80.10 28 LR LR 22 13 20.4
comp=Z,28nm,18.7s,baz=275,slow=39
ULM Lac du Bonnet 80.23 327 LR LR 22 10 15.5
comp=Z,80nm,18.1s,baz=296,slow=37
MAT Matsushiro 82.16 50 P **P 21 33 39.3 -0.9**
MJAR Matsushiro Arr 82.16 50 *e*P **P 21 33 41.0 +0.8**
MJAR Matsushiro Arr 82.16 50 P **P 21 33 40.4 +0.1**
comp=Z,8.0nm,0.8s,baz=305,slow=4.5,SNR=20
MJAR LR LR 22 14 11.1
comp=Z,36nm,18.9s,baz=265,slow=39
BDFB Brasilia 88.80 249 *e*P **P 21 34 15.2 +1.6**
comp=Z,6.7nm,0.8s
BDFB Brasilia 88.80 249 *e*P **P 21 34 15.2 +1.6**
BDFB pmax pmax
comp=Z,7.0nm,0.8s
BDFB Brasilia 88.80 249 P **P 21 34 14.8 +1.2**
comp=Z,6.6nm,0.8s,baz=86,slow=3.2,SNR=10
PDAR Pinedale Array 91.87 330 LR LR 22 20 07.9
comp=Z,21nm,18.5s,baz=31,slow=38
ASAR Alice Springs 115.81 101 PKP **PKPdf 21 40 01.5 -0.6**
comp=Z,0.6nm,0.8s,baz=288,slow=1.2,SNR=5.0

LJU ***16*** *21:22:02.0, 46°.95N×13°.64E, h0km, ML1.3*
PRU ***16*** *21:22:03.0±0.0, 46°.96N×13°.61E, h0km*
VIE 16 21:22:02.0±0.2, 46°.96N×13°.63E, h6km±5km, mb1.6/6, ml2.2/11, 4C-1D, Error ellipse: s-maj=1.4km s-min=1.0km az=34.0, felt 3 ems98 at Rennweg / Carinthia, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBA	**Koelnbreinsper**	**0.23**	**302**	*i* Pg	Pg	21 22 06.9	+0.5
KBA	7.9nm,0.1s,SNR=108			*i* Sg	Sg	21 22 10.0	+0.4
	171nm,0.1s						
MYKA	**Terra Mystica**	**0.33**	**178**	*i* Pg	Pg	21 22 08.7	+0.4
MYKA	3.7nm,0.0s,SNR=6.6			*i* Sg	Sg	21 22 12.9	+0.2
	22nm,0.1s,SNR=24						
ACOM	**Acomizza, Ital**	**0.42**	**191**	*e*Pg	Pg	21 22 10.6	+0.5
ACOM				*e*Sg	Sg	21 22 15.8	+0.3
PRED	**Cave del Predi**	**0.52**	**185**	*e*Pg	Pg	21 22 12.5	+0.6
PLRO	**Paularo**	**0.52**	**219**	*e*Pg	Pg	21 22 12.5	+0.4
PLRO				*e*Sg	Sg	21 22 19.4	+0.5
ZOU	**Zoufplan**	**0.60**	**228**	*e*Pg	Pg	21 22 13.8	+0.3
ZOU				*e*Sg	Sg	21 22 22.1	+0.6
GORS	**Gorjuse**	**0.69**	**158**	*i* Pg	Pg	21 22 15.7	+0.5
GORS				*i* Sg	Sg	21 22 25.1	+0.9
	comp=Z,3.0nm,0.1s						
FUSE	**Fusea**	**0.69**	**219**	*e*Pg	Pb	21 22 16.0	-0.5
CLUD	**Cludinico**	**0.72**	**226**	*e*Pg	Pg	21 22 16.2	+0.4
ROBS	**Robic**	**0.72**	**186**	*i* Pg	Pg	21 22 16.1	+0.3
ROBS				*i* Sg	Sg	21 22 25.9	+0.8
	comp=Z,3.0nm,0.1s						
VINO	**Villanova**	**0.74**	**199**	*e*Pg	Pg	21 22 16.7	+0.5
OBKA	**Obir**	**0.78**	**125**	*e*Pg	Pg	21 22 17.4	+0.5
	comp=Z,1.7nm,0.1s						
OBKA				*e*Sg	Sg	21 22 27.5	+0.5
	comp=Z,6.4nm,0.1s,SNR=5.2						
ABTA	**Abfaltersbach**	**0.79**	**255**	*i* Pg	Pg	21 22 17.5	+0.3
ABTA	comp=Z,1.1nm,0.1s,SNR=4.4			*e*Sg	Sg	21 22 27.9	+0.4
	comp=Z,0.3nm,0.0s,SNR=5.5						
MOZS	**Mozjanca**	**0.87**	**139**	*i* Pg	Pg	21 22 19.1	+0.4
MOZS				*i* Sg	Sb	21 22 30.8	-0.7
	comp=Z,5.0nm,0.1s						
MOA	**Molln**	**0.99**	**26**	Pg	Pn	21 22 22.3	-0.2
MOA				Sg	Sn	21 22 35.9	-0.9
	comp=Z,32nm,0.4s						
SOKA	**Soboth**	**1.01**	**106**	Pg	Pg	21 22 21.3	0.0
	comp=Z,0.9nm,0.1s						
SOKA				*i* Sg	Sb	21 22 35.3	0.0
	comp=Z,3.3nm,0.2s						
ARSA	**Arzberg**	**1.33**	**77**	Pg	Pn	21 22 26.6	-0.5
ARSA	comp=Z,1.2nm,0.2s			Sg	Sb	21 22 44.3	-0.3
	comp=Z,1.1nm,0.1s						
WTTA	**Wattenberg**	**1.39**	**283**	*e*Pn	Pn	21 22 28.3	+0.1
WTTA	comp=Z,3.3nm,0.2s,SNR=5.9			Sg	Sb	21 22 45.9	-0.7
	comp=Z,2.8nm,0.2s						
CONA	**Conrad Observa**	**1.80**	**57**	*e*Pn	Pb	21 22 35.7	+0.3
	comp=Z,0.8nm,0.2s						
CONA				Sg	Sg	21 23 01.3	+1.4

comp=Z,4.1nm,0.5s
KHC Kasperske Hory 2.17 359 *e*PG Pb 21 22 42.4 +0.6
KHC *e*SN Sb 21 23 08.0 -1.0
KHC *e*SG Sg 21 23 12.4 +0.6
comp=Z,2.5nm,0.4s
PRU Pruhonice 3.09 11 *e*SG Sg 21 23 41.5 +0.2
DPC Dobruska-Polom 3.84 27 *e*SG Sg 21 24 04.7 -0.4

IDC ***16*** *21:26:38.5±0.6, 36°.95N×28°.41E, h0km, mb4.0/24, mb1 4.1/31, mb1mx4.0/60, mbtmp4.0/31, ML4.0/7, MS3.3/1, Ms1 3.3/1, ms1mx2.5/56, Error ellipse: s-maj=12.8km s-min=11.4km az=162.0*
ISK ***16*** *21:26:38.9, 37°.02N×28°.41E, h4km, ML4.1/31*
DDA ***16*** *21:26:39.0, 37°.02N×28°.37E, h17km±2km, ML4.2*
ATH ***16*** *21:26:39.8, 37°.04N×28°.37E, h19km±1km, ML3.8/12, Error ellipse: s-maj=1.4km s-min=0.7km az=189.0*
MOS ***16*** *21:26:39.2±0.9, 37°.03N×28°.44E, h11km, mb4.1/15, Error ellipse: s-maj=5.3km s-min=3.7km az=94.5*
ISCJB ***16*** *21:26:39.4±0.3, 36°.95N±0°.01×28°.44E±0°.01, h15km±2km, mb3.9/39, Error ellipse: s-maj=2.2km s-min=1.8km az=22.8*
THE ***16*** *21:26:39.7, 36°.99N×28°.40E, h1km±1km, ML3.9/4, Error ellipse: s-maj=1.6km s-min=0.9km az=129.0*
NEIC ***16*** *21:26:39.0±0.0, 37°.00N×28°.37E, h5km, mb4.0/8, ML3.9(THE), ML4.1(ISK), After ISK.*
NIC ***16*** *21:26:40.9±0.1, 37°.04N×28°.32E, h17km, mb4.4, ML4.1*
GII ***16*** *21:26:40.6±0.0, 36°.80N×28°.38E, h16km, mb4.6/1, MD4.5/1*
HLW ***16*** *21:26:42.0, 36°.94N×28°.68E, h10km±23km, Md4.1, Ml4.6*
ISC 16 21:26:40.7±0.8, 37°.00N±0°.02×28°.40E±0°.01, h13km±5km, n329, σ1§53/409, mb4.1/37, 22C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.21**	**128**	PG	**Pg**	**21 26 44.8**	**-0.4**
TURN				SG	**Sg**	**21 26 49.6**	**+1.3**
TURN	**Turunc**	**0.21**	**128**	IAML_P			
	comp=Z,379μm,0.3s						
TURN				⇑*i* P	**Pb**	**21 26 45.7**	**-0.6**
TURN				*i* S	**Sg**	**21 26 50.5**	**+2.2**
DALY	**Dalyan (Mula)**	**0.27**	**132**	PG	**Pg**	**21 26 44.8**	**-1.6**
DALY				SG	**Sg**	**21 26 50.0**	**-0.2**
DALY	**Dalyan (Mula)**	**0.27**	**132**	IAML_P			
	comp=Z,170μm,0.2s						
DALY				⇑*i* P	**Pg**	**21 26 45.4**	**-0.9**
DALY				*i* S	**Sg**	**21 26 50.3**	**+0.2**
MRSB	**Marmaris-Mugla**	**0.33**	**210**	PG	**Pg**	**21 26 45.9**	**-1.4**
BBRN	**Bozburun-Marma**	**0.42**	**221**	PG	**Pg**	**21 26 48.3**	**-0.7**
TAVA	**DENIZLI_Tavas**	**0.62**	**41**	⇑*i* P	**Pg**	**21 26 51.8**	**-1.0**
TAVA				*i* S	**Sb**	**21 27 01.6**	**-0.5**
DATC	**Datca-Mugla**	**0.64**	**248**	PG	**Pg**	**21 26 52.3**	**-0.8**
FETY	**Fethiye**	**0.66**	**123**	PG	**Pg**	**21 26 52.2**	**-1.3**
FETY	**Fethiye**	**0.66**	**123**	Pg	**Pg**	**21 26 52.9**	**-0.6**
FETY	**Fethiye**	**0.66**	**123**	P	**Pg**	**21 26 51.9**	**-1.6**
FETY				S	**Sb**	**21 27 03.3**	**+0.2**
FETY	**Fethiye**	**0.66**	**123**	⇑*i* P	**Pg**	**21 26 52.2**	**-1.3**
FETY				*i* S	**Sb**	**21 27 03.1**	**0.0**
DAT	**Datca**	**0.71**	**248**	PG	**Pg**	**21 26 53.8**	**-0.7**
DAT				SG	**Sb**	**21 27 04.4**	**-0.4**
DAT	**Datca**	**0.71**	**248**	⇑*i* P	**Pg**	**21 26 53.4**	**-1.1**
DAT				*i* S	**Sn**	**21 27 07.6**	**+0.2**
BDRM	**Kayabasi**	**0.77**	**275**	⇑*i* P	**Pg**	**21 26 55.0**	**-0.6**
BDRM				*i* S	**Sb**	**21 27 07.0**	**+0.7**
AYDN	**Tasoluk**	**0.78**	**328**	IAML_P			
	comp=Z,81μm,0.3s						
AYDN				⇑*i* P	**Pg**	**21 26 54.6**	**-1.2**
AYDN				*i* S	**Sg**	**21 27 05.8**	**-0.3**
ARG	**Arkhangelos**	**0.81**	**196**	PG	**Pg**	**21 26 55.8**	**-0.6**
ARG	**Arkhangelos**	**0.81**	**196**	P	**Pg**	**21 26 55.1**	**-1.3**
ARG				S	**Sb**	**21 27 08.3**	**+0.8**
ARG	**Arkhangelos**	**0.81**	**196**	P	**Pg**	**21 26 54.5**	**-1.9**
ARG	**Arkhangelos**	**0.81**	**196**	P	**Pg**	**21 26 55.5**	**-0.9**
ARG				S	**Sb**	**21 27 08.6**	**+1.1**
ARG				AML	AML	21 27 12.2	
	comp=N,13868μm,0.5s						
ARG				AML	AML	21 27 14.5	
	comp=E,12676μm,0.6s						
BODT	**Bodrum**	**0.87**	**274**	PG	**Pg**	**21 26 56.9**	**-0.7**
BODT	**Bodrum**	**0.87**	**274**	Pg	**Pg**	**21 26 56.9**	**-0.7**
BODT	**Bodrum**	**0.87**	**274**	P	**Pg**	**21 26 56.4**	**-1.2**
BODT				S	**Sb**	**21 27 09.6**	**+0.3**
DENT	**Denizli**	**0.91**	**34**	PG	**Pg**	**21 26 55.8**	**-2.4**
DENT				SG	**Sg**	**21 27 08.9**	**-1.1**
DIDI	**Didim-Aydin**	**1.00**	**292**	PG	**Pb**	**21 26 59.1**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**337**	PG	**Pb**	**21 26 58.9**	**-1.5**
AYDB				SG	**Sb**	**21 27 14.2**	**+0.3**
GCAM	**G?zelcaml?**	**1.16**	**307**	PN	**Pb**	**21 27 02.1**	**-0.5**
GCAM	**G?zelcaml?**	**1.16**	**307**	IAML_P			
	comp=Z,29μm,0.3s						
GCAM				⇑*i* P	**Pb**	**21 27 02.0**	**-0.5**
GCAM				*i* S	**Sn**	**21 27 18.3**	**0.0**
ELL	**Elmali**	**1.23**	**101**	PN	**Pb**	**21 27 03.9**	**0.0**
ELL	**Elmali**	**1.23**	**101**	P	**Pg**	**21 27 04.6**	**+0.2**
AKAS	**Kas**	**1.24**	**128**	PN	**Pn**	**21 27 03.7**	**-0.1**
AKAS	**Kas**	**1.24**	**128**	IAML_P			
	comp=Z,46μm,0.3s						
AKAS				⇓*i* P	**Pg**	**21 27 04.2**	**-0.2**
AKAS				*i* S	**Sg**	**21 27 26.1**	**+5.6**
KSL	**Kastellorizon**	**1.28**	**131**	P	**Pg**	**21 27 04.9**	**-0.3**
KSL				S	**Sg**	**21 27 23.1**	**+1.3**
KSL				AML	AML	21 27 27.3	
	comp=E,5810μm,0.4s						
KSL				AML	AML	21 27 30.8	
	comp=N,6868μm,0.7s						
SMG	**Samos**	**1.43**	**300**	P	**Pn**	**21 27 05.7**	**-0.7**
SMG				S	**Sn**	**21 27 24.7**	**-0.4**
SMG	**Samos**	**1.43**	**300**	P	**Pn**	**21 27 05.6**	**-0.7**
SMG				S	**Sn**	**21 27 24.9**	**-0.2**
SMG				AML	AML	21 27 34.8	
	comp=N,9866μm,0.5s						
SMG				AML	AML	21 27 35.7	
	comp=E,9376μm,0.5s						
MANT	**Manisa**	**1.49**	**5**	*e*Pn	**Pn**	**21 27 07.0**	**-0.5**
MANT	**Manisa**	**1.49**	**5**	⇑*i* P	**Pn**	**21 27 07.6**	**+0.2**
MANT				*i* S	**Sn**	**21 27 26.8**	**-0.1**
BRDR	**BURDUR-Merkez**	**1.50**	**62**	IAML_P			
	comp=Z,25μm,0.6s						
BRDR				⇑*i* P	**Pg**	**21 27 08.8**	**-0.6**
BRDR				*i* S	**Sg**	**21 27 30.7**	**+1.9**
KULA	**Kula-Manisa**	**1.53**	**8**	PN	**Pn**	**21 27 07.4**	**-0.3**
KULA	**Kula-Manisa**	**1.53**	**8**	P	**Pn**	**21 27 07.2**	**-0.5**
KULA				S	**Sb**	**21 27 27.8**	**-0.4**
KORT	**Korkueli**	**1.56**	**89**	PN	**Pn**	**21 27 08.5**	**+0.2**
KORT	**Korkueli**	**1.56**	**89**	⇓*i* P	**Pg**	**21 27 10.3**	**-0.3**
KORT				*i* S	**Sg**	**21 27 34.3**	**+3.3**
KHL	**Karahalli**	**1.59**	**34**	PN	**Pn**	**21 27 08.9**	**+0.2**
DGB	**zmir**	**1.60**	**311**	*i* P	**Pn**	**21 27 08.5**	**-0.1**
DGB				*i* S	**Sg**	**21 27 35.6**	**+3.4**
KHAL	**Karahalli**	**1.62**	**32**	⇑*i* P	**Pn**	**21 27 08.3**	**-0.7**
KHAL				*i* S	**Sb**	**21 27 31.0**	**+0.1**
AKUM	**Antalya-Kumluc**	**1.70**	**113**	⇑*i* P	**Pg**	**21 27 12.8**	**-0.6**
AKUM				*i* S	**Sg**	**21 27 39.0**	**+3.6**
GOMA	**Golmarmara-Man**	**1.75**	**348**	PN	**Pn**	**21 27 10.7**	**0.0**
KARP	**Karpathos**	**1.76**	**215**	PN	**Pn**	**21 27 11.2**	**+0.3**
KARP	**Karpathos**	**1.76**	**215**	*e*Pn	**Pn**	**21 27 11.9**	**+0.9**
KARP	**Karpathos**	**1.76**	**215**	P	**Pn**	**21 27 10.8**	**-0.1**
KARP				S	**Sn**	**21 27 33.6**	**+0.4**
KARP	**Karpathos**	**1.76**	**215**	P	**Pn**	**21 27 11.5**	**+0.5**
KARP				S	**Sb**	**21 27 34.9**	**0.0**
KARP				AML	AML	21 27 40.1	
	comp=E,4652μm,0.5s						
KARP				AML	AML	21 27 40.3	
	comp=N,5710μm,0.6s						
KEMT	**Kemer-ANTALYA**	**1.77**	**102**	PN	**Pn**	**21 27 11.8**	**+0.8**
USAK	**Uak-Merkez**	**1.78**	**16**	⇑*i* P	**Pn**	**21 27 11.2**	**0.0**
USAK				*i* S	**Sb**	**21 27 35.0**	**-0.4**
BCK	**Bucak**	**1.81**	**75**	PN	**Pn**	**21 27 12.1**	**+0.5**
KZIL	**AFYON_Kizioren**	**1.87**	**47**	*i* P	**Pn**	**21 27 13.4**	**+0.9**
KZIL				*i* S	**Sg**	**21 27 43.3**	**+2.5**
ISP	**Isparta**	**1.88**	**63**	PN	**Pn**	**21 27 12.7**	**+0.1**
ISP	**Isparta**	**1.88**	**63**	*e*Pn	**Pn**	**21 27 13.3**	**+0.7**
ISP	**Isparta**	**1.88**	**63**	⇑*i* P	**Pn**	**21 27 13.1**	**+0.5**
ISP	**Isparta**	**1.88**	**63**	S	**Sb**	**21 27 38.4**	**+0.1**
ISP	**Isparta**	**1.88**	**63**	*e*P	**Pn**	**21 27 13.3**	**+0.7**
ISP	**Isparta**	**1.88**	**63**	Pn	**Pn**	**21 27 13.2**	**+0.7**
ISP	**Isparta**	**1.88**	**63**	P	**Pb**	**21 27 13.8**	**-1.1**
ISP				S	**Sb**	**21 27 37.2**	**-1.1**
ISP				AML	AML	21 27 46.5	
	comp=E,1790μm,0.7s						
ISP				AML	AML	21 27 47.5	
	comp=N,2028μm,1.2s						
AKHS	**Akhisar**	**1.93**	**346**	⇓*i* P	**Pn**	**21 27 12.4**	**-0.8**
AKHS				*i* S	**Sg**	**21 27 42.5**	**-0.3**
AKS	**Akhisar**	**1.93**	**346**	PN	**Pn**	**21 27 13.0**	**-0.2**
ZEY	**zmir**	**1.95**	**310**	*i* P	**Pn**	**21 27 13.5**	**+0.1**
ZEY				*i* S	**Sg**	**21 27 44.7**	**+1.4**
URLA	**Izmir**	**1.97**	**314**	PN	**Pn**	**21 27 14.2**	**+0.4**
URLA	**Izmir**	**1.97**	**314**	*i* P	**Pn**	**21 27 13.1**	**-0.7**
URLA				*i* S	**Sg**	**21 27 46.2**	**+2.1**
AMGA	**Amorgos Island**	**2.02**	**266**	P	**Pn**	**21 27 13.7**	**-0.7**
AMGA	**Amorgos Island**	**2.02**	**266**	P	**Pn**	**21 27 15.1**	**+0.7**
AMGA				AML	AML	21 27 57.3	
	comp=N,3630μm,1.1s						
AMGA				AML	AML	21 27 58.0	
	comp=E,4748μm,1.4s						
BAGO	**Egridir - ISPA**	**2.14**	**62**	*i* P	**Pb**	**21 27 17.6**	**-1.7**
BAGO				*i* S	**Sg**	**21 27 55.4**	**+5.9**
SMAA	**Simav-Kutahya**	**2.15**	**12**	PN	**Pn**	**21 27 16.4**	**+0.2**
FOCM	**Foa**	**2.16**	**323**	PN	**Pn**	**21 27 17.3**	**+0.9**
KRBN	**Karaburun**	**2.16**	**318**	PN	**Pn**	**21 27 16.8**	**+0.4**
GEDZ	**Gediz**	**2.19**	**21**	PN	**Pn**	**21 27 17.2**	**+0.3**
ANAF	**Anafi Island**	**2.21**	**254**	P	**Pn**	**21 27 16.8**	**-0.3**
ANAF				AML	AML	21 27 59.7	
	comp=N,4760μm,0.6s						
ANAF				AML	AML	21 28 00.0	
	comp=E,6411μm,0.6s						
ZEDA	**zmir-Bergama**	**2.22**	**332**	IAML_P			
	comp=Z,30μm,0.8s						
ZEDA				*i* P	**Pn**	**21 27 16.9**	**-0.3**
ZEDA				*i* S	**Sg**	**21 27 52.7**	**+0.6**
GDZ	**Gediz**	**2.25**	**22**	*i* P	**Pn**	**21 27 18.6**	**+0.8**
GDZ				*i* S	**Sg**	**21 27 55.6**	**+2.5**
APE	**Apeiranthos**	**2.30**	**273**	PN	**Pn**	**21 27 18.9**	**+0.6**
APE	**Apeiranthos**	**2.30**	**273**	P	**Pn**	**21 27 18.1**	**-0.2**
APE				S	**Sn**	**21 27 45.7**	**-0.8**
APE	**Apeiranthos**	**2.30**	**273**	⇑*i* P	**Pn**	**21 27 18.2**	**-0.1**
APE	**Apeiranthos**	**2.30**	**273**	*i* P	**Pn**	**21 27 18.1**	**-0.2**
APE	**Apeiranthos**	**2.30**	**273**	P	**Pn**	**21 27 18.4**	**+0.1**
APE				AML	AML	21 28 02.3	
	comp=E,914μm,0.5s						
APE				AML	AML	21 28 04.4	
	comp=N,1366μm,0.6s						
SHUT	**Suhut-Afyon**	**2.30**	**47**	PN	**Pn**	**21 27 18.6**	**+0.1**
CHOS	**Chios island**	**2.32**	**307**	PN	**Pn**	**21 27 19.1**	**+0.5**
CHOS	**Chios island**	**2.32**	**307**	P	**Pn**	**21 27 18.6**	**0.0**
CHOS	**Chios island**	**2.32**	**307**	P	**Pn**	**21 27 18.6**	**0.0**
CHOS				AML	AML	21 28 02.4	
	comp=E,2574μm,0.8s						
CHOS				AML	AML	21 28 03.3	
	comp=N,1827μm,0.9s						
AFYO	**Afyonkarahisar**	**2.33**	**40**	*i* P	**Pn**	**21 27 20.2**	**+1.4**
AFYO				*i* S	**Sg**	**21 27 59.6**	**+3.9**
STEP	**BALIKESIR_Sava**	**2.43**	**347**	*i* P	**Pn**	**21 27 19.6**	**-0.6**
STEP				*i* S	**Sg**	**21 27 58.0**	**-0.9**
CMBO	**Columbo, Santo**	**2.46**	**259**	P	**Pn**	**21 27 20.3**	**-0.2**
KEPZ	**Antalya-Kepez**	**2.57**	**91**	*i* P	**Pb**	**21 27 25.2**	**-1.4**
KEPZ				*i* S	**Sg**	**21 28 01.2**	**-2.0**
ZKR	**Zakros**	**2.58**	**224**	PN	**Pn**	**21 27 22.4**	**+0.2**
ZKR	**Zakros**	**2.58**	**224**	P	**Pn**	**21 27 22.7**	**+0.5**
ZKR	**Zakros**	**2.58**	**224**	P	**Pn**	**21 27 23.1**	**+0.9**
ZKR				AML	AML	21 28 06.5	
	comp=E,2631μm,0.7s						
ZKR				AML	AML	21 28 08.3	
	comp=N,1222μm,0.7s						
TVSB	**Tavsanli**	**2.58**	**19**	PN	**Pn**	**21 27 22.9**	**+0.6**
DURS	**Dursunbey**	**2.60**	**1**	*i* P	**Pn**	**21 27 22.0**	**-0.4**
DURS				*i* S	**Sg**	**21 28 04.3**	**+0.1**
BOLV	**Bolvadin**	**2.65**	**49**	IAML_P			
	comp=Z,37μm,1.0s						
BOLV				*i* P	**Pn**	**21 27 25.0**	**+1.8**
BOLV				*i* S	Sg	21 28 15.3	+10
BALB	**Balikesir**	**2.67**	**351**	PN	**Pn**	**21 27 23.6**	**+0.3**
BALB	**Balikesir**	**2.67**	**351**	*e*Pn	**Pn**	**21 27 23.3**	**-0.1**
PSRA	**Psara**	**2.72**	**305**	P	**Pn**	**21 27 24.7**	**+0.6**
PRK	**Paraskevi**	**2.80**	**324**	P	**Pn**	**21 27 25.9**	**+0.7**
PRK	**Paraskevi**	**2.80**	**324**	P	**Pn**	**21 27 25.9**	**+0.7**
PRK				AML	AML	21 28 19.6	
	comp=N,2124μm,1.0s						
PRK				AML	AML	21 28 20.5	
	comp=E,3441μm,0.8s						
DOGA	**KONYA_Doganhis**	**2.82**	**66**	*i* P	**Pn**	**21 27 27.6**	**+2.0**
DOGA				*i* S	**Sb**	**21 28 03.6**	**-1.9**
NPS	**Neapolis**	**2.85**	**233**	P	**Pn**	**21 27 25.9**	**+0.1**
NPS	**Neapolis**	**2.85**	**233**	P	**Pn**	**21 27 26.1**	**+0.3**
NPS	**Neapolis**	**2.85**	**233**	P	**Pn**	**21 27 26.1**	**+0.3**
SIGR	**SIGRI**	**2.98**	**318**	P	**Pn**	**21 27 27.7**	**0.0**
SIGR	**SIGRI**	**2.98**	**318**	P	**Pn**	**21 27 27.9**	**+0.2**
LAST	**Lasithi**	**3.00**	**233**	P	**Pn**	**21 27 28.2**	**+0.3**
LAST	**Lasithi**	**3.00**	**233**	P	**Pn**	**21 27 28.8**	**+0.9**
LAST				AML	AML	21 28 09.2	
	comp=E,910μm,1.1s						
LAST				AML	AML	21 28 11.7	
	comp=N,751μm,0.7s						
SERI	**Serifos**	**3.13**	**274**	P	**Pn**	**21 27 29.5**	**-0.3**
SERI	**Serifos**	**3.13**	**274**	P	**Pn**	**21 27 31.0**	**+1.2**
MHLA	**Plaka, Milos I**	**3.20**	**267**	P	**Pn**	**21 27 32.1**	**+1.4**
EZN	**Ezine**	**3.26**	**331**	⇑*i* P	**Pn**	**21 27 31.4**	**0.0**
EZN	**Ezine**	**3.26**	**331**	P	**Pn**	**21 27 31.4**	**0.0**
IDI	**Anoyia**	**3.31**	**240**	Pn	**Pn**	**21 27 33.3**	**+1.0**
	comp=N,9.1nm,0.3s,baz=59,slow=18,SNR=17						
IDI				Sn	**Sn**	**21 28 11.8**	**+0.2**
	comp=N,21nm,0.3s,baz=308,slow=7.7,SNR=9.5						
IDI				LR	LR	21 29 10.3	
	comp=N,421nm,18.5s,baz=62,slow=46						
SIVA	**Sivas**	**3.52**	**237**	P	**Pn**	**21 27 36.7**	**+1.7**
DION	**Dionisos Attik**	**3.71**	**288**	P	**Pn**	**21 27 38.4**	**+0.7**
DION	**Dionisos Attik**	**3.71**	**288**	P	**Pn**	**21 27 38.5**	**+0.8**
VAM	**Vamos**	**3.75**	**246**	P	**Pn**	**21 27 41.2**	**+3.0**
PTL	**Penteli**	**3.75**	**288**	P	**Pn**	**21 27 39.1**	**+0.8**
PTL	**Penteli**	**3.75**	**288**	P	**Pn**	**21 27 39.3**	**+1.0**
VLY	**Voula,Athens**	**3.76**	**284**	P	**Pn**	**21 27 39.2**	**+0.8**
VLY	**Voula,Athens**	**3.76**	**284**	P	**Pn**	**21 27 39.6**	**+1.2**
ATHU	**Athens Univers**	**3.80**	**286**	P	**Pn**	**21 27 39.6**	**+0.7**
ATHU	**Athens Univers**	**3.80**	**286**	P	**Pn**	**21 27 39.4**	**+0.5**
EREA	**Eretria**	**3.82**	**293**	P	**Pn**	**21 27 40.0**	**+0.8**
PPCY	**Paphos**	**3.83**	**122**	P	**Pn**	**21 27 39.8**	**+0.4**
	baz=304						
LIA	**Limnos Island**	**3.84**	**320**	P	**Pn**	**21 27 39.6**	**+0.2**
LIA	**Limnos Island**	**3.84**	**320**	P	**Pn**	**21 27 39.9**	**+0.5**
ATH	**Athens Observa**	**3.85**	**286**	P	**Pn**	**21 27 40.8**	**+1.2**
ATH	**Athens Observa**	**3.85**	**286**	P	**Pn**	**21 27 41.0**	**+1.4**
ATH	**Athens Observa**	**3.85**	**286**	P	**Pn**	**21 27 40.6**	**+1.1**
ALFC	**Alefka**	**3.87**	**117**	P	**Pn**	**21 27 40.2**	**+0.3**
	baz=299						
ALFC				S	**Sn**	**21 28 26.6**	**+1.4**
IMMV	**Iera Moni Meta**	**3.89**	**248**	P	**Pn**	**21 27 41.8**	**+1.7**
MDUB	**Mudurnu**	**4.10**	**31**	*e*Pn	**Pn**	**21 27 44.3**	**+1.2**
SMTH	**Samothraki Isl**	**4.13**	**328**	P	**Pn**	**21 27 43.3**	**-0.1**
SMTH	**Samothraki Isl**	**4.13**	**328**	P	**Pn**	**21 27 43.6**	**+0.1**
DID	**Didima**	**4.15**	**279**	P	**Pn**	**21 27 44.7**	**+0.9**
MRKA	**Markates**	**4.17**	**296**	P	**Pn**	**21 27 45.1**	**+1.1**
VIL2	**Platees**	**4.25**	**288**	P	**Pn**	**21 27 45.3**	**+0.1**
EPID	**Epidavros**	**4.25**	**280**	P	**Pn**	**21 27 46.0**	**+0.8**
SZAC	**Souni**	**4.27**	**120**	P	**Pn**	**21 27 45.9**	**+0.4**
	baz=302						
SZAC				S	**Sn**	**21 28 37.1**	**+1.9**
KLYT	**Kilyos**	**4.28**	**7**	⇓*i* P	**Pn**	**21 27 45.4**	**0.0**
ALN	**Alexandroupoli**	**4.30**	**335**	*e*Pn	**Pn**	**21 27 47.1**	**+1.3**
ALN	**Alexandroupoli**	**4.30**	**335**	P	**Pn**	**21 27 44.8**	**-1.0**
ALN	**Alexandroupoli**	**4.30**	**335**	*e*P	**Pn**	**21 27 47.1**	**+1.3**
MAMC	**Mammari**	**4.31**	**114**	P	**Pn**	**21 27 46.5**	**+0.6**
	baz=296						
VLI	**Veliai**	**4.39**	**268**	P	**Pn**	**21 27 48.0**	**+1.0**
LOUT	**Loutraki**	**4.43**	**285**	P	**Pn**	**21 27 48.8**	**+1.2**
SKIA	**Skiathos**	**4.45**	**301**	P	**Pn**	**21 27 49.1**	**+1.2**
BR231	**Keskin MP Arra**	**4.46**	**49**	*e*Pn	**Pn**	**21 27 49.3**	**+1.2**
CTYL	**Yalikoy Yolu**	**4.47**	**359**	⇑*i* P	**Pn**	**21 27 47.6**	**-0.5**
ANTO	**Ankara**	**4.48**	**49**	*e*Pn	**Pn**	**21 27 49.3**	**+0.9**
ANTO	**Ankara**	**4.48**	**49**	⇓*i* P	**Pn**	**21 27 49.9**	**+1.5**
ANTO	**Ankara**	**4.48**	**49**	*e*P	**Pn**	**21 27 49.3**	**+0.9**
CSS	**Mathiatis**	**4.49**	**115**	*e*Pn	**Pn**	**21 27 48.8**	**+0.5**
CSS	**Mathiatis**	**4.49**	**115**	P	**Pn**	**21 27 48.1**	**-0.3**
CSS	**Mathiatis**	**4.49**	**115**	Pn	**Pn**	**21 27 46.4**	**-2.0**
CSS				Sn	**Sn**	**21 28 40.0**	**-0.4**
CSS	**Mathiatis**	**4.49**	**115**	P	**Pn**	**21 27 50.6**	**+2.2**
PROD	**Prodromos**	**4.54**	**288**	P	**Pn**	**21 27 50.0**	**+0.9**
PROD	**Prodromos**	**4.54**	**288**	P	**Pn**	**21 27 50.6**	**+1.4**
ATAL	**Atalanti**	**4.58**	**293**	P	**Pn**	**21 27 50.4**	**+0.8**
THAS	**Thassos island**	**4.61**	**323**	P	**Pn**	**21 27 49.9**	**-0.1**
RDO	**Rodhopi**	**4.70**	**333**	P	**Pn**	**21 27 51.7**	**+0.4**
BRTR	**Keskin Array B**	**4.93**	**55**	*e*Pn	**Pn**	**21 27 55.5**	**+0.9**
BRTR	**Keskin Array B**	**4.93**	**55**	*i* P	**Pn**	**21 27 56.0**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,32nm,0.6s						
BRTR	**Keskin Array B**	**4.93**	**55**	Pn	**Pn**	**21 27 56.2**	**+1.6**
	comp=Z,5.5nm,0.3s,baz=235,slow=15,SNR=75						
BRTR				Sn	**Sn**	**21 28 53.5**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=226,slow=23,SNR=8.1						
BR101	**Keskin Array S**	**4.94**	**55**	*e*Pn	**Pn**	**21 27 56.2**	**+1.6**
BR101				*e*Sn	**Sn**	**21 28 53.5**	**+1.9**
BR131	**Keskin Array S**	**4.94**	**55**	*e*Pn	**Pn**	**21 27 56.1**	**+1.5**
BR131	**Keskin Array S**	**4.94**	**55**	*e*P	**Pn**	**21 27 56.1**	**+1.5**
PHNC	**Paralimni**	**4.98**	**112**	P	**Pn**	**21 27 56.0**	**+0.9**
	baz=295						
PHNC				S	**Sn**	**21 28 54.4**	**+1.8**
ITM	**Ithomi**	**5.18**	**274**	*e*Pn	**Pn**	**21 28 01.9**	**+4.0**
SOH	**Sokhos**	**5.48**	**316**	P	**Pn**	**21 28 03.0**	**+0.9**
SOH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SRS	**Serrai**	**5.56**	**319**	P	**Pn**	**21 28 03.7**	**+0.6**
SRS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LIT	**Litokhoron**	**5.57**	**306**	*e*Pn	**Pn**	**21 28 04.5**	**+1.2**
LIT	**Litokhoron**	**5.57**	**306**	*e*P	**Pn**	**21 28 04.5**	**+1.2**
MATC	**Matruh**	**5.72**	**190**	P	**Pn**	**21 28 06.9**	**+1.6**
	baz=193						
ILGA	**Ilgaz**	**5.79**	**44**	*e*Pn	**Pn**	**21 28 07.8**	**+1.4**
PLD	**Plovdiv**	**5.84**	**332**	P	**Pn**	**21 28 07.6**	**+0.6**
PLD				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KNT	**Kendrikon**	**5.96**	**316**	P	**Pn**	**21 28 09.2**	**+0.5**
KNT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GRG	**Griva**	**6.12**	**312**	P	**Pn**	**21 28 11.4**	**+0.6**
GRG				pmax	pmax		
	comp=Z,18nm,0.8s						
VAY	**Valandovo**	**6.25**	**315**	*e*Pn	**Pn**	**21 28 10.0**	**-2.6**
BZK	**Bozkurt**	**6.58**	**39**	⇓*i* P	**Pn**	**21 28 18.7**	**+1.6**
FNA	**Florina**	**6.65**	**307**	*e*Pn	**Pn**	**21 28 19.4**	**+1.2**
FNA	**Florina**	**6.65**	**307**	*e*P	**Pn**	**21 28 19.4**	**+1.2**
STIP	**Stip**	**6.72**	**316**	*i* Pn	**Pn**	**21 28 19.7**	**+0.7**
HNTI	**Hanita**	**6.79**	**123**	Pn	**Pn**	**21 28 18.1**	**-1.9**
HNTI				Sn	**Sn**	**21 29 34.3**	**-2.9**
VTS	**Vitosha**	**6.88**	**326**	*e*Pn	**Pn**	**21 28 21.0**	**-0.3**
VTS	**Vitosha**	**6.88**	**326**	⇓*i* P	**Pn**	**21 28 21.0**	**-0.3**
VTS	**Vitosha**	**6.88**	**326**	*e*P	**Pn**	**21 28 21.0**	**-0.3**
OFRI	**`Ofer**	**6.96**	**127**	Pn	**Pn**	**21 28 20.2**	**-2.1**
OFRI				Sn	**Sn**	**21 29 37.5**	**-3.9**
MMA0B	**Mount Meron ar**	**6.99**	**123**	Pn	**Pn**	**21 28 21.2**	**-1.6**
MMA0B				Sn	**Sn**	**21 29 39.6**	**-2.5**
MMAI	**Mount Meron Ar**	**6.99**	**123**	Pn	**Pn**	**21 28 21.5**	**-1.2**
	comp=Z,15nm,0.3s,baz=300,slow=12,SNR=96						
MMAI				Sn	**Sn**	**21 29 37.7**	**-4.4**
	comp=Z,6.5nm,0.3s,baz=303,slow=24,SNR=5.3						
GEM	**Giv'at Ha'Em**	**7.05**	**120**	Pn	**Pn**	**21 28 22.0**	**-1.6**
GE

KEST	**Kesra**	**15.41 271**	Pn	**P**	**21 30 20.4 -2.0**
	comp=Z,0.0nm,0.3s,baz=12,slow=19,SNR=2.2				
GEC2	**GERESS Array S**	**15.97 322**	*e*Pn	**Pn**	**21 30 26.1 +1.2**
	comp=Z,11nm,1.5s				
GEC2	**GERESS Array S**	**15.97 322**	*e*P	**Pn**	**21 30 26.2 +1.2**
GEC2			pmax	pmax	
	comp=Z,11nm,1.5s				
GERES	**GERESS Array B**	**15.97 322**	*e*Pn	**P**	**21 30 27.3 -1.2**
GERES	**GERESS Array B**	**15.97 322**	*e*P	**P**	**21 30 27.3 -1.2**
GERES	**GERESS Array B**	**15.97 322**	Pn	**P**	**21 30 30.4 +1.9**
	comp=Z,0.1nm,0.3s,baz=116,slow=9.1,SNR=8.8				
VSR	**Storozhevoye**	**16.15 25**	*i* P	**Pn**	**21 30 28.1 +0.9**
VSR			pmax	pmax	
	comp=Z,5.0nm,1.0s				
KHC	**Kasperske Hory**	**16.22 323**	*e*P	**P**	**21 30 32.5 +1.2**
KHC	**Kasperske Hory**	**16.22 323**	*e*P	**P**	**21 30 32.5 +1.2**
DAVOX	**Davos/Dischmat**	**16.86 311**	Pn	**P**	**21 30 43.7 +5.1**
	comp=Z,0.1nm,0.3s,baz=155,slow=14,SNR=3.1				
SENIN	**Lac Senin/Sane**	**18.28 307**	*e*P	**P**	**21 30 55.3 +1.0**
	comp=Z,4.7nm,0.8s				
LPG	**La Plagne**	**18.32 304**	*e*P	**P**	**21 30 56.7 +1.9**
LPG			pmax	pmax	
	comp=Z,5.0nm,0.8s				
ORIF	**Oris-en-Rattie**	**18.72 302**	*e*P	**Pn**	**21 31 01.5 +2.1**
ORIF			pmax	pmax	
	comp=Z,6.0nm,0.8s				
OBN	**Obninsk**	**18.96 15**	*e*P	**Pn**	**21 31 03.0 +1.0**
OBN			pmax	pmax	
	comp=Z,3.0nm,1.1s				
OBN	**Obninsk**	**18.96 15**	P	Pn	21 31 11.2 +9.1
	comp=Z,0.3nm,0.3s,baz=359,slow=23,SNR=4.2				
VIVF	**Saint-Julien-l**	**19.52 301**	*e*P	**Pn**	**21 31 09.4 +0.4**
VIVF			pmax	pmax	
	comp=Z,5.0nm,1.0s				
SMF	**Signal de Mont**	**20.61 306**	*e*P	**P**	**21 31 20.5 +1.0**
SMF			pmax	pmax	
	comp=Z,12nm,1.1s				
LOR	**Lormes**	**20.81 307**	*e*P	**P**	**21 31 22.4 +0.7**
LOR			pmax	pmax	
	comp=Z,7.0nm,1.2s				
SSF	**Saint Saulge**	**20.97 306**	*e*P	**P**	**21 31 24.1 +0.7**
SSF			pmax	pmax	
	comp=Z,5.0nm,0.9s				
AVF	**Avril sur Loir**	**20.98 306**	*e*P	**P**	**21 31 24.0 +0.5**
AVF			pmax	pmax	
	comp=Z,6.0nm,0.9s				
BGF	**Bois d'Agland**	**21.23 305**	*e*P	**P**	**21 31 27.5 +1.2**
BGF			pmax	pmax	
	comp=Z,22nm,1.5s				
GIVF	**Givet**	**21.42 315**	*e*P	**P**	**21 31 30.9 +2.7**
GIVF			pmax	pmax	
	comp=Z,6.0nm,1.0s				
VSU	**Vasula**	**21.50 358**	*i* P	**P**	**21 31 32.1 +3.1**
TCF	**Toulx Ste Croi**	**21.58 304**	*e*P	**P**	**21 31 31.6 +1.6**
TCF			pmax	pmax	
	comp=Z,20nm,1.8s				
FIA0	**FINESS Array S**	**24.51 357**	*e*P	**P**	**21 31 59.9 +0.4**
FIA0	**FINESS Array S**	**24.51 357**	*e*P	**P**	**21 31 59.9 +0.4**
FINES	**FINESS Array B**	**24.51 357**	*i* P	**P**	**21 32 00.1 +0.6**
FINES			pmax	pmax	
	comp=Z,6.0nm,0.8s				
FINES	**FINESS Array B**	**24.51 357**	P	**P**	**21 31 59.9 +0.4**
	comp=Z,5.9nm,0.8s,baz=148,slow=11,SNR=24				
FIA1	**FINESS Array S**	**24.51 357**	*e*P	**P**	**21 31 58.8 -0.7**
	comp=Z,8.3nm,0.8s				
KLMR	**Klimovskoe**	**24.89 13**	*e*P	**P**	**21 32 01.9 -1.0**
KLMR			pmax	pmax	
	comp=Z,4.0nm,0.8s				
HFS	**Hagfors**	**25.00 343**	P	**P**	**21 32 02.7 -1.1**
	comp=Z,2.6nm,0.7s,baz=143,slow=11,SNR=4.3				
AKTO	**Aktyubinsk**	**25.07 48**	P	**P**	**21 32 04.2 -0.5**
	comp=Z,2.8nm,0.7s,baz=255,slow=11,SNR=10				
ESDC	**Sonseca Array**	**25.45 286**	P	**P**	**21 32 07.5 -0.8**
	comp=Z,0.7nm,0.6s,baz=80,slow=9.5,SNR=5.1				
ABKAR	**Akbulak array**	**25.88 52**	*e*P	**P**	**21 32 12.1 +0.2**
	comp=Z,1.8nm,0.8s				
NOA	**NORSAR Array B**	**26.40 341**	P	**P**	**21 32 17.1 +0.4**
	comp=Z,0.4nm,0.7s,baz=155,slow=8.0,SNR=2.6				
ARU	**Arti**	**28.02 36**	*e*P	**P**	**21 32 30.9 -0.2**
	comp=Z,2.2nm,0.8s				
ARU	**Arti**	**28.02 36**	P	**P**	**21 32 31.7 +0.5**
ARU					21 33 16.8
ARU			S	**S**	**21 37 19.7 +4.7**
ARU			SS	**SnSn**	**21 38 30.2 +0.6**
ARU	**Arti**	**28.02 36**	P	**P**	**21 32 30.9 -0.2**
	comp=Z,0.2nm,0.3s,baz=277,slow=19,SNR=1.9				
EKA	**Eskdalemuir Ar**	**28.17 321**	P	**P**	**21 32 33.5 +0.9**
	comp=Z,0.7nm,0.7s,baz=111,slow=10.0,SNR=3.3				
WSAR	**Wadi Sarin**	**29.39 109**	P	**P**	**21 32 43.4 -0.3**
	comp=Z,3.8nm,0.8s,baz=333,slow=11,SNR=3.8				
ARA0	**ARCESS Array S**	**32.63 358**	*e*P	**P**	**21 33 12.3 +0.5**
ARCES	**ARCESS Array B**	**32.63 358**	P	**P**	**21 33 12.3 +0.5**
	comp=Z,3.1nm,0.9s,baz=185,slow=6.3,SNR=6.7				
BVAR	**Borovoye Array**	**33.17 48**	P	**P**	**21 33 17.4 +0.6**
	comp=Z,0.4nm,0.8s,baz=243,slow=6.5,SNR=3.8				
TOA1	**Torodi Ar. Sit**	**33.68 232**	*e*P	**P**	**21 33 19.9 -1.7**
TOA0	**Torodi Ar. Sit**	**33.69 232**	*e*P	**P**	**21 33 21.0 -0.5**
	comp=Z,9.1nm,1.0s				
TORD	**Torodi Ar. Bea**	**33.69 232**	P	**P**	**21 33 19.9 -1.7**
	comp=Z,4.1nm,0.6s,baz=40,slow=8.9,SNR=25				
KSH	**Kashi**	**37.10 71**	P	**P**	**21 33 49.9 -1.0**
KURBB	**Kurchatov Arra**	**37.92 53**	P	**P**	**21 33 57.2 -0.3**
	comp=Z,1.2nm,0.8s,baz=277,slow=8.7,SNR=6.6				
KURBB			PcP	**PcP**	**21 36 13.2 -0.1**
	comp=Z,0.8nm,0.8s,baz=263,slow=4.3,SNR=5.6				
KURK	**Kurchatov**	**37.98 53**	*i* P	**P**	**21 33 57.0 -1.0**
KURK			pmax	pmax	
	comp=Z,2.0nm,1.3s				
MK31	**Makanchi Array**	**40.57 59**	*e*P	**P**	**21 34 19.4 -0.4**
	comp=Z,1.1nm,0.9s				
MK31	**Makanchi Array**	**40.57 59**	*e*P	**P**	**21 34 19.4 -0.4**
MK31			pmax	pmax	
	comp=Z,1.0nm,0.9s				
MKAR	**Makanchi Array**	**40.57 59**	P	**P**	**21 34 19.2 -0.6**
	comp=Z,1.3nm,0.8s,baz=277,slow=6.7,SNR=11				
ZAA1	**Zalesovo Array**	**41.83 48**	*e*P	**P**	**21 34 30.9 +0.9**
ZALV	**Zalesovo Beam**	**41.83 48**	P	**P**	**21 34 30.9 +0.9**
	comp=Z,1.2nm,0.6s,baz=251,slow=8.8,SNR=5.8				
DBIC	**Dimbokro**	**42.77 233**	P	**P**	**21 34 37.5 -0.5**
	comp=Z,6.2nm,0.9s,baz=43,slow=11,SNR=4.5				
DGZ	**Jazzator, Alta**	**43.68 54**	*i* P	**P**	**21 34 46.8 +1.6**
DGZ			pmax	pmax	
	comp=Z,1.0nm,0.9s				
SONA0	**Songino Array**	**56.29 52**	*e*P	**P**	**21 36 21.2 +0.2**
SONM	**Songino Array**	**56.29 52**	P	**P**	**21 36 21.2 +0.2**
	comp=Z,0.5nm,0.6s,baz=300,slow=9.7,SNR=3.3				
ULN	**Ulaanbaatar**	**56.70 52**	*i* P	**P**	**21 36 25.8 +1.9**
ULN			pmax	pmax	
	comp=Z,2.0nm,1.0s				
CMAR	**Chiang Mai Arr**	**63.79 86**	P	**P**	**21 37 12.0 -0.8**
CMAR	**Chiang Mai Arr**	**63.79 86**	P	**P**	**21 37 11.9 -0.8**
	comp=Z,1.0nm,0.8s,baz=297,slow=8.3,SNR=7.4				
BILL	**Bilibino**	**70.62 16**	*e*P	**P**	**21 37 55.9 +0.6**
BILL			*e*		21 38 15.3
BILL			*e*		21 40 34.0
BILL			*e*PPP	PPP	21 42 16.9
BILL			pmax	pmax	
	comp=Z,2.0nm,1.2s				
KLR	**Kul'dur**	**70.65 43**	P	**P**	**21 37 55.4 -0.4**
	comp=Z,1.7nm,0.8s,baz=312,slow=9.6,SNR=5.6				
USA0B	**Ussuriysk Arra**	**73.68 47**	*e*P	**P**	**21 38 13.0 -1.0**
	comp=Z,6.3nm,0.8s				
USA0B	**Ussuriysk Arra**	**73.68 47**	*e*P	**P**	**21 38 13.0 -1.0**
USA0B			pmax	pmax	
	comp=Z,6.0nm,0.8s				
USRK	**Ussuriysk Ar.**	**73.68 47**	P	**P**	**21 38 14.0 0.0**
	comp=Z,6.2nm,0.8s,baz=289,slow=5.7,SNR=17				
KSRS	**Korea Array**	**75.08 54**	P	**P**	**21 38 22.6 +0.3**
	comp=Z,3.4nm,0.8s,baz=303,slow=4.8,SNR=13				
YKA	**Yellowknife Ar**	**76.48 343**	P	**P**	**21 38 30.7 +0.9**
	comp=Z,0.3nm,0.6s,baz=35,slow=5.4,SNR=4.1				
YKB5	**Yellowknife Ar**	**76.48 343**	*e*P	**P**	**21 38 30.7 +0.9**
IMAR	**Indian Mountai**	**77.33 1**	*e*P	**P**	**21 38 34.2 -0.4**
ILAR	**Eielson Array**	**78.49 358**	P	**P**	**21 38 42.2 +1.2**
	comp=Z,0.6nm,0.9s,baz=314,slow=3.2,SNR=4.1				
MAJO	**Matsushiro**	**82.14 50**	*e*P	**P**	**21 39 02.1 +0.8**
MAJO	**Matsushiro**	**82.14 50**	*e*P	**P**	**21 39 02.1 +0.8**
MJAR	**Matsushiro Arr**	**82.14 50**	P	**P**	**21 39 02.1 +0.8**
	comp=Z,4.2nm,0.8s,baz=307,slow=4.6,SNR=11				
BDFB	**Brasilia**	**88.82 250**	P	**P**	**21 39 35.4 +0.6**
	comp=Z,1.4nm,0.5s,baz=100,slow=6.1,SNR=3.1				

*ISCJB **16** 21:36:51.4±0.4, 41°.29N±0°.02×23°.48E±0°.03, h6km±4km, Error ellipse: s-maj=3.6km s-min=3.0km az=24.5*

*ATH **16** 21:36:51.1, 41°.28N×23°.52E, h20km±1km, ML1.7/11, Error ellipse: s-maj=1.5km s-min=0.8km az=240.0*
*SOF **16** 21:36:51.8, 41°.31N×23°.47E, h6km*
*SKO **16** 21:36:52.2, 41°.30N×23°.51E, h1km*
*THE **16** 21:36:52.0, 41°.27N×23°.51E, h9km±1km, ML1.7/9, Error ellipse: s-maj=1.6km s-min=0.5km az=137.0*
ISC 16 21:36:51.4±0.9, **41°.30N**±0°.02×**23°.48E**±0°.02, **h12**km±7km, **n46**, σ0°**63**/**77**, **3C**, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.20**	**156**	P	**Pg**	**21 36 55.8**	**+0.1**
SRS				S	**Sg**	**21 36 58.8**	**+0.1**
SRS	**Serrai**	**0.20**	**156**	⇑*i*Pg	**Pg**	**21 36 55.8**	**+0.1**
SRS				*i* Sg	**Sg**	**21 36 58.9**	**+0.1**
SRS	**Serrai**	**0.20**	**156**	P	**Pg**	**21 36 55.8**	**+0.1**
SRS				S	**Sg**	**21 36 59.0**	**+0.2**
SRS				AML	AML	21 36 59.6	
	comp=N,646μm,0.1s						
SRS				AML	AML	21 37 00.2	
	comp=E,571μm,0.1s						
NVR	**Nevrokopi**	**0.29**	**80**	P	**Pg**	**21 36 57.4**	**+0.1**
NVR				S	**Sg**	**21 37 01.4**	**+0.1**
NVR	**Nevrokopi**	**0.29**	**80**	P	**Pg**	**21 36 57.5**	**+0.1**
NVR				S	**Sg**	**21 37 01.5**	**+0.1**
NVR				AML	AML	21 37 01.6	
	comp=E,764μm,0.2s						
NVR				AML	AML	21 37 01.7	
	comp=N,551μm,0.1s						
MMB	**Musomiste**	**0.34**	**32**	⇑*i*Pg	**Pg**	**21 36 58.2**	**-0.2**
MMB				*i* Sg	**Sg**	**21 37 02.9**	**-0.1**
MMB	**Musomiste**	**0.34**	**32**	P	**Pg**	**21 36 58.1**	**-0.2**
MMB	**Musomiste**	**0.34**	**32**	*i* P	**Pg**	**21 36 58.1**	**-0.2**
KNT	**Kendrikon**	**0.46**	**253**	P	**Pg**	**21 37 00.8**	**+0.3**
KNT				S	**Sg**	**21 37 07.6**	**+0.9**
KNT	**Kendrikon**	**0.46**	**253**	*i* Pg	**Pg**	**21 37 00.9**	**+0.4**
KNT				*i* Sg	**Sg**	**21 37 07.6**	**+0.9**
KNT	**Kendrikon**	**0.46**	**253**	P	**Pg**	**21 37 00.9**	**+0.3**
KNT				S	**Sg**	**21 37 07.5**	**+0.9**
KNT				AML	AML	21 37 08.1	
	comp=E,383μm,0.2s						
KNT				AML	AML	21 37 08.2	
	comp=N,353μm,0.1s						
SOH	**Sokhos**	**0.49**	**192**	P	**Pg**	**21 37 00.9**	**-0.1**
SOH				S	**Sg**	**21 37 07.5**	**0.0**
SOH	**Sokhos**	**0.49**	**192**	*i* Pg	**Pg**	**21 37 00.9**	**-0.1**
SOH				*i* Sg	**Sg**	**21 37 08.0**	**+0.5**
SOH	**Sokhos**	**0.49**	**192**	P	**Pg**	**21 37 01.0**	**-0.1**
SOH				S	**Sg**	**21 37 07.4**	**0.0**
SOH				AML	AML	21 37 08.4	
	comp=E,141μm,0.1s						
SOH				AML	AML	21 37 08.4	
	comp=N,141μm,0.2s						
KKB	**Krupnik**	**0.64**	**332**	*i* Pg	**Pg**	**21 37 03.6**	**-0.2**
KKB				*i* Sg	**Sg**	**21 37 12.1**	**-0.2**
KKB	**Krupnik**	**0.64**	**332**	P	**Pg**	**21 37 03.6**	**-0.2**
KKB	**Krupnik**	**0.64**	**332**	*i* P	**Pg**	**21 37 03.6**	**-0.2**
VAY	**Valandovo**	**0.69**	**272**	P	**Pg**	**21 37 05.2**	**+0.5**
VAY				S	**Sb**	**21 37 15.0**	**+0.2**
VAY	**Valandovo**	**0.69**	**272**	*i* Pg	**Pg**	**21 37 05.2**	**+0.5**
VAY				*i* Sg	**Sb**	**21 37 14.8**	**0.0**
HORT	**Hortiatis**	**0.76**	**203**	P	**Pg**	**21 37 06.0**	**-0.1**
HORT				S	**Sg**	**21 37 16.6**	**+0.5**
HORT	**Hortiatis**	**0.76**	**203**	P	**Pg**	**21 37 06.0**	**-0.1**
HORT				S	**Sg**	**21 37 16.5**	**+0.5**
HORT				AML	AML	21 37 17.1	
	comp=E,154μm,0.3s						
HORT				AML	AML	21 37 17.6	
	comp=N,85μm,0.2s						
THE	**Thessaloniki**	**0.78**	**211**	P	**Pg**	**21 37 06.4**	**0.0**
THE				S	**Sg**	**21 37 16.8**	**+0.3**
THE	**Thessaloniki**	**0.78**	**211**	⇑*i*Pg	**Pg**	**21 37 06.3**	**0.0**
THE				*i* Sg	**Sg**	**21 37 16.8**	**+0.3**
THE	**Thessaloniki**	**0.78**	**211**	P	**Pg**	**21 37 06.3**	**0.0**
THE				S	**Sg**	**21 37 16.8**	**+0.3**
THE				AML	AML	21 37 17.3	
	comp=N,106μm,0.2s						
THE				AML	AML	21 37 17.6	
	comp=E,90μm,0.1s						
KAVA	**Kavala**	**0.83**	**111**	P	**Pg**	**21 37 07.0**	**-0.5**
KAVA				S	**Sg**	**21 37 18.5**	**0.0**
KAVA				AML	AML	21 37 21.3	
	comp=E,66μm,0.2s						
KAVA				AML	AML	21 37 22.0	
	comp=N,68μm,0.1s						
GRG	**Griva**	**0.89**	**248**	P	**Pb**	**21 37 09.3**	**+0.6**
GRG	**Griva**	**0.89**	**248**	P	**Pg**	**21 37 08.5**	**0.0**
PLG	**Polygyros**	**0.93**	**182**	P	**Pg**	**21 37 08.7**	**-0.6**
PLG				S	**Sg**	**21 37 21.9**	**+0.5**
PLG	**Polygyros**	**0.93**	**182**	P	**Pg**	**21 37 08.7**	**-0.6**
PLG				S	**Sg**	**21 37 21.8**	**+0.5**
PLG				AML	AML	21 37 25.1	
	comp=E,62μm,0.3s						
PLG				AML	AML	21 37 25.6	
	comp=N,59μm,0.4s						
RZN	**Rozhen**	**1.00**	**67**	P	**Pn**	**21 37 11.5**	**+0.1**
RZN	**Rozhen**	**1.00**	**67**	*i* P	**Pn**	**21 37 11.6**	**+0.1**
OUR	**Ouranopolis**	**1.04**	**158**	P	**Pb**	**21 37 11.3**	**0.0**
OUR				S	**Sg**	**21 37 24.7**	**-0.2**
OUR	**Ouranopolis**	**1.04**	**158**	P	**Pb**	**21 37 10.7**	**-0.6**
OUR				S	**Sg**	**21 37 24.6**	**-0.2**
OUR				AML	AML	21 37 26.8	
	comp=E,150μm,0.3s						
OUR				AML	AML	21 37 27.3	
	comp=N,297μm,0.3s						
STIP	**Stip**	**1.05**	**292**	*i* Pg	**Pb**	**21 37 09.2**	**-2.3**
STIP				*i* Sg	**Sb**	**21 37 21.9**	**-3.3**
THAS	**Thassos island**	**1.17**	**126**	P	**Pb**	**21 37 13.1**	**-0.4**
THAS				S	**Sb**	**21 37 28.4**	**-0.1**
THAS	**Thassos island**	**1.17**	**126**	P	**Pb**	**21 37 13.0**	**-0.5**
THAS				S	**Sb**	**21 37 28.1**	**-0.5**
THAS				AML	AML	21 37 30.9	
	comp=N,90μm,0.2s						
THAS				AML	AML	21 37 31.2	
	comp=E,103μm,0.3s						
PLD	**Plovdiv**	**1.22**	**48**	P	**Pg**	**21 37 15.4**	**+0.6**
VTS	**Vitosha**	**1.33**	**352**	P	**Pn**	**21 37 16.4**	**+0.5**
VTS				S	**Sg**	**21 37 35.0**	**+0.8**
VTS	**Vitosha**	**1.33**	**352**	P	**Pn**	**21 37 16.5**	**+0.5**
VTS	**Vitosha**	**1.33**	**352**	*i* P	**Pb**	**21 37 17.0**	**+0.6**
PAIG	**Paliouri**	**1.38**	**174**	P	**Pn**	**21 37 16.0**	**-0.4**
PAIG				S	**Sn**	**21 37 35.0**	**+0.4**
KDZ	**Kurdzhali**	**1.49**	**76**	P	**Pg**	**21 37 20.8**	**+0.7**
RDO	**Rodhopi**	**1.56**	**95**	P	**Pn**	**21 37 19.3**	**+0.4**
RDO				S	**Sn**	**21 37 39.6**	**+0.6**
RDO				AML	AML	21 37 43.4	
	comp=E,42μm,0.2s						
RDO				AML	AML	21 37 45.3	
	comp=N,40μm,0.2s						
SMTH	**Samothraki Isl**	**1.76**	**117**	P	**Pn**	**21 37 22.6**	**+0.9**
XOR	**Xorichti**	**1.95**	**187**	P	**Pn**	**21 37 24.6**	**+0.3**
ALN	**Alexandroupoli**	**1.98**	**101**	P	**Pn**	**21 37 25.4**	**+0.7**

*ISCJB **16** 21:58:21.8±0.7, 37°.12N±0°.03×36°.81E±0°.05, h9km±8km, Error ellipse: s-maj=6.5km s-min=5.0km az=1.6*
*DDA **16** 21:58:21.0, 37°.13N×36°.81E, h7km±1km, ML2.7*
*ISK **16** 21:58:21.3, 37°.13N×36°.82E, h7km, ML1.9/5*
ISC 16 21:58:21.6±1.0, **37°.13N**±0°.03×**36°.81E**±0°.04, **h9**km±9km, **n9**, σ0°**65**/**16**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMA	**Osmaniye**	**0.13**	**298**	IAML_P			
	comp=Z,15μm,0.1s						
KAMA				*i* P	**Pg**	**21 58 24.2**	**-0.4**
KAMA				*i* S	**Sg**	**21 58 26.8**	**0.0**
HCB	**Kahramanmara**	**0.23**	**20**	IAML_P			
	comp=Z,4μm,0.1s						
HCB				*i* P	**Pg**	**21 58 26.4**	**0.0**
HCB				*i* S	**Sg**	**21 58 30.4**	**+0.8**
KMRS	**Kahramanmaras**	**0.39**	**11**	PG	**Pg**	**21 58 29.3**	**0.0**
KMRS				SG	**Sg**	**21 58 35.0**	**+0.6**
KUZU	**Kuzuini**	**0.41**	**149**	IAML_P			
	comp=Z,3μm,0.1s						
KUZU				*i* P	**Pg**	**21 58 29.9**	**+0.1**
KUZU				*i* S	**Sb**	**21 58 36.0**	**-1.5**
ANDN	**Andirin**	**0.58**	**321**	*i* P	**Pb**	**21 58 33.7**	**-0.4**
ANDN				*i* S	**Sb**	**21 58 41.9**	**-0.6**
KOZT	**Kozan**	**0.86**	**295**	PG	**Pg**	**21 58 38.0**	**-0.2**
KOZT				SG	**Sb**	**21 58 50.9**	**+0.6**
TAHT	**Tahtakopru-Hat**	**0.90**	**214**	PG	**Pb**	**21 58 39.5**	**+0.1**
TAHT				SG	**Sb**	**21 58 52.1**	**+0.6**
DARE	**Darende-Malaty**	**1.54**	**20**	PN	**Pb**	**21 58 49.9**	**-0.5**
URFA	**Urfa**	**1.64**	**78**	PN	**Pn**	**21 58 50.9**	**+0.3**

*ISK **16** 21:59:49.7, 36°.99N×28°.41E, h2km, ML2.6/14*
*ISCJB **16** 21:59:50.6±0.5, 36°.98N±0°.04×28°.36E±0°.04, h10km±6km, Error ellipse: s-maj=7.1km s-min=4.2km az=31.3*
*DDA **16** 21:59:50.2, 37°.00N×28°.41E, h7km±4km, ML2.6*
ISC 16 21:59:50.9±1.1, **37°.02N**±0°.03×**28°.38E**±0°.03, **h6**km±10km, **n23**, σ1°**49**/**32**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.23**	**130**	PG	**Pg**	**21 59 55.6**	**+0.2**
TURN				SG	**Sg**	**21 59 59.8**	**+1.4**
TURN	**Turunc**	**0.23**	**130**	*i* P	**Pg**	**21 59 56.4**	**+1.1**
TURN				*i* S	**Sg**	**22 00 01.0**	**+2.6**
DALY	**Dalyan (Mula)**	**0.30**	**133**	PG	**Pg**	**21 59 55.9**	**-0.8**
DALY				SG	**Sg**	**22 00 00.2**	**-0.4**
DALY	**Dalyan (Mula)**	**0.30**	**133**	*i* P	**Pg**	**21 59 55.9**	**-0.8**
DALY				*i* S	**Sb**	**22 00 00.6**	**-3.2**
MRSB	**Marmaris-Mugla**	**0.34**	**206**	PG	**Pg**	**21 59 57.1**	**-0.4**
BBRN	**Bozburun-Marma**	**0.43**	**217**	PG	**Pg**	**21 59 58.7**	**-0.5**
TAVA	**DENIZLI_Tavas**	**0.61**	**43**	IAML_P			
	comp=Z,1μm,0.2s						
TAVA				*i* P	**Pg**	**22 00 02.2**	**-0.4**
DATC	**Datca-Mugla**	**0.64**	**246**	PG	**Pg**	**22 00 02.9**	**-0.2**
FETY	**Fethiye**	**0.68**	**124**	PG	**Pg**	**22 00 02.6**	**-1.4**
FETY	**Fethiye**	**0.68**	**124**	*i* P	**Pg**	**22 00 02.9**	**-1.0**
FETY				*i* S	**Sb**	**22 00 14.2**	**-0.7**
DAT	**Datca**	**0.71**	**246**	PG	**Pg**	**22 00 04.2**	**-0.3**
DAT	**Datca**	**0.71**	**246**	*i* P	**Pb**	**22 00 04.9**	**-0.8**
BDRM	**Kayabasi**	**0.75**	**274**	IAML_P			
	comp=Z,960nm,0.2s						
BDRM				*i* P	**Pb**	**22 00 05.8**	**-0.6**
AYDN	**Tasoluk**	**0.75**	**328**	*i* P	**Pb**	**22 00 05.7**	**-0.7**
AYDN				*i* S	**Sb**	**22 00 17.0**	**0.0**
ARG	**Arkhangelos**	**0.83**	**195**	PG	**Pg**	**22 00 05.7**	**-1.1**
BODT	**Bodrum**	**0.86**	**273**	PG	**Pg**	**22 00 06.9**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**337**	PG	**Pg**	**22 00 10.1**	**0.0**
AYDB				SG	**Sn**	**22 00 25.7**	**-0.4**
GCAM	**G?zelcaml?**	**1.14**	**307**	PN	**Pb**	**22 00 12.6**	**-0.4**
GCAM	**G?zelcaml?**	**1.14**	**307**	IAML_P			
	comp=Z,757nm,0.3s						
GCAM				*i* P	**Pn**	**22 00 13.6**	**+0.3**
GCAM				*i* S	**Sn**	**22 00 30.9**	**+1.6**
ELL	**Elmali**	**1.25**	**102**	PN	**Pn**	**22 00 14.1**	**-0.9**
AKAS	**Kas**	**1.26**	**128**	PN	**Pn**	**22 00 14.1**	**-1.0**
AKAS	**Kas**	**1.26**	**128**	IAML_P			
	comp=Z,3μm,0.3s						
AKAS				*i* P	**Pn**	**22 00 16.8**	**+1.7**
AKAS				*i* S	**Sn**	**22 00 37.5**	**+5.1**
KORT	**Korkueli**	**1.57**	**90**	PN	**Pb**	**22 00 19.4**	**-1.1**

*IDC **16** 22:03:37.1±0.6, 7°.29N×78°.13W, h0km, mb3.9/12, mb1 4.2/17, mb1mx4.0/32, mbtmp4.0/17, ML3.7/5, MS3.5/10, Ms1 3.5/10, ms1mx3.2/31, Error ellipse: s-maj=21.2km s-min=13.7km az=53.0*
*RSNC **16** 22:03:38.5±0.6, 7°.26N×78°.18W, h0km±6km, ML3.6, Mw4.2*
*ISCJB **16** 22:03:39.8±1.0, 7°.32N±0°.03×78°.17W±0°.02, h29km±8km, mb4.0/16, MS3.6/2, Error ellipse: s-maj=5.1km s-min=3.4km az=28.6*
*UCR **16** 22:03:40.8±2.1, 7°.24N×78°.18W, h25km±19km, mb4.5(NEIC)*
*NEIC **16** 22:03:41.9±2.1, 7°.23N×78°.26W, h36km±8km, mb4.5/4, Error ellipse: s-maj=20.1km s-min=6.0km az=218.0*
ISC 16 22:03:39.4±1.5, **7°.31N**±0°.04×**78°.13W**±0°.04, **h16**km±9km, **n82**, σ1°**72**/**94**, **mb4.1**/16, **1D**, **Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.36**	**118**	‖*e*P	**Pg**	**22 03 45.8**	**-1.0**
SOLC	**Bahia Solano**	**1.30**	**146**	*e*P	**Pn**	**22 04 01.0**	**-1.9**
SOLC				*e*S	**Sb**	**22 04 19.6**	**-0.3**
SOLC				*i*		22 04 24.6	
	comp=Z,3μm,0.4s						
AZU	**Azuero**	**2.18**	**283**	*i* P	**Pn**	**22 04 15.2**	**+0.1**
AZU				*i* S	**Sn**	**22 04 41.2**	**-0.6**
FRIJ	**El Hiral**	**2.47**	**320**	*i* P	**Pn**	**22 04 19.0**	**-0.1**
FRIJ				*i* S	**Sn**	**22 04 50.5**	**+1.5**
BCIP	**Isla Barro Col**	**2.50**	**318**	*e*Pn	**Pn**	**22 04 19.3**	**-0.2**
BCIP				*e*		22 04 19.5	
BCIP				*e*Sn	**Sn**	**22 04 49.4**	**-0.4**
BCIP	**Isla Barro Col**	**2.50**	**318**	*e*P	**Pn**	**22 04 19.3**	**-0.2**
BCIP				*e*S	**Sn**	**22 04 51.2**	**+1.5**
BCIP				*i*		22 05 01.6	
	comp=Z,554nm,0.5s						
BCIP	**Isla Barro Col**	**2.50**	**318**	*i* P	**Pn**	**22 04 19.0**	**-0.5**
BCIP				*i* S	**Sn**	**22 04 51.3**	**+1.5**
UREC	**San Jos de Ur**	**2.61**

comp=Z,0.3nm,0.3s,baz=30,slow=14,SNR=2.2
ATAH LR LR 22 12 23.4
comp=Z,127nm,18.3s,baz=11,slow=37
SJG San Juan 15.85 46 Pn **Pn 22 07 20.5 -1.6**
comp=Z,2.6nm,0.3s,baz=232,slow=14,SNR=8.2
SJG Sn **Sn 22 10 10.2 -7.4**
comp=Z,1.4nm,0.3s,baz=324,slow=19,SNR=3.4
SJG LR LR 22 14 19.6
comp=Z,238nm,19.7s,baz=244,slow=40
CMIG Matias Romero 19.03 302 LR LR 22 16 41.0
comp=Z,160nm,19.7s,baz=120,slow=41
NNA Nana 19.22 176 LR LR 22 16 56.2
comp=Z,109nm,20.4s,baz=359,slow=42
PTGA Pitinga 19.80 113 P **P 22 08 09.8 +0.4**
comp=Z,0.1nm,0.3s,baz=311,slow=19,SNR=3.5
PTGA LR LR 22 16 18.5
comp=Z,164nm,20.8s,baz=292,slow=38
MDP Montagnes des 25.43 93 LR LR 22 19 28.5
comp=Z,258nm,18.1s,baz=260,slow=37
LPAZ La Paz 25.45 157 P **P 22 09 08.5 +0.9**
comp=Z,1.0nm,0.7s,baz=314,slow=14,SNR=5.1
SIV San Ignacio 28.66 144 P **P 22 09 34.2 -1.6**
comp=Z,1.2nm,0.6s,baz=305,slow=10,SNR=6.6
FVM French Village 32.50 342 *eP* **P 22 10 09.1 -0.5**
comp=Z,6.5nm,0.7s
TXAR Lajitas Array 32.52 316 *eP* **P 22 10 08.7 -1.3**
TXAR Lajitas Array 32.52 316 P **P 22 10 10.7 +0.8**
comp=Z,0.7nm,0.8s,baz=134,slow=10,SNR=6.1
TXAR PcP **PcP 22 12 57.7 +1.0**
comp=Z,0.3nm,0.7s,baz=150,slow=5.2,SNR=3.4
LTX Lajitas 32.52 316 *eP* **P 22 10 10.7 +0.8**
LTX *e*PcP **PcP 22 12 57.7 +1.0**
CCM Cathedral Cave 32.83 341 *eP* **P 22 10 11.4 -1.0**
comp=Z,9.0nm,0.8s
MSU Marysvale 43.68 321 *eP* P 22 11 39.3 -4.7
PDAR Pinedale Array 44.86 327 *eP* **P 22 11 51.8 -1.6**
PDAR Pinedale Array 44.86 327 P **P 22 11 54.0 +0.6**
comp=Z,0.6nm,0.7s,baz=144,slow=8.6,SNR=4.6
ULM Lac du Bonnet 45.29 344 P **P 22 11 55.7 -0.7**
comp=Z,2.2nm,0.6s,baz=143,slow=8.3,SNR=5.2
NV01 Mina Array Sit 47.66 317 *eP* **P 22 12 16.1 +0.7**
NV01 *e*PcP **PcP 22 13 45.5 +0.5**
NVAR Mina Array Bea 47.66 317 *eP* **P 22 12 15.7 +0.2**
NVAR Mina Array Bea 47.66 317 P **P 22 12 16.1 +0.7**
comp=Z,2.2nm,0.9s,baz=129,slow=6.9,SNR=11
NVAR PcP **PcP 22 13 45.5 +0.5**
comp=Z,0.8nm,0.7s,baz=133,slow=5.0,SNR=2.8
BOZ Bozeman (W) 47.87 328 *eP* **P 22 12 17.4 +0.4**
comp=Z,1.5nm,0.6s
BMN Battle Mountai 47.98 320 *eP* **P 22 12 16.5 -1.4**
comp=Z,2.8nm,0.8s
SCHQ Schefferville 48.24 9 P **P 22 12 19.6 +0.1**
comp=Z,2.2nm,0.6s,baz=210,slow=8.1,SNR=6.1
PLCA Paso Flores 48.32 172 P **P 22 12 20.6 +0.3**
comp=Z,2.2nm,0.7s,baz=351,slow=6.8,SNR=5.7
YKA Yellowknife Ar 61.16 342 *eP* **P 22 13 53.1 +0.1**
YKA Yellowknife Ar 61.16 342 P **P 22 13 52.8 -0.2**
comp=Z,0.5nm,0.5s,baz=131,slow=7.2,SNR=12
YKB5 Yellowknife Ar 61.16 342 *eP* **P 22 13 52.8 -0.2**
ESDC Sonseca Array 73.18 51 P **P 22 15 11.6 +1.7**
comp=Z,0.6nm,0.7s,baz=238,slow=5.3,SNR=2.7
ILAR Eielson Array 74.44 336 P **P 22 15 16.1 -0.6**
comp=Z,0.3nm,0.7s,baz=88,slow=5.7,SNR=3.1
IMAR Indian Mountai 77.51 336 *eP* **P 22 15 33.7 -0.5**
TOA1 Torodi Ar. Sit 78.50 78 *eP* **P 22 15 40.3 -0.3**
TORD Torodi Ar. Bea 78.50 78 P **P 22 15 40.3 -0.4**
comp=Z,0.4nm,0.7s,baz=286,slow=5.6,SNR=3.3
NOA NORSAR Array B 83.34 29 LR LR 22 51 44.4
comp=Z,14nm,18.9s,baz=330,slow=35
KSRS Korea Array 129.24 333 PKP **PKPdf 22 22 46.7 -0.9**
comp=Z,0.4nm,0.3s,baz=4.3,slow=4.9,SNR=3.0
ASAR Alice Springs 145.24 239 PKPbc **PKPbc 22 23 16.2 -0.8**
comp=Z,3.0nm,0.9s,baz=120,slow=3.8,SNR=20
WR1 Warramunga Arr 146.12 245 *e*PKPdf **PKPdf 22 23 18.6 -0.3**
WRA Warramunga Arr 146.12 245 PKPbc **PKPdf 22 23 18.6 -0.3**
comp=Z,3.0nm,0.9s,baz=92,slow=3.5,SNR=14
H01W1 Cape Leeuwin H 150.32 201 T T 01 12 48.6
baz=151,slow=76,SNR=13
H01W2 Cape Leeuwin H 150.32 201 T T 01 12 48.4
baz=151,slow=76,SNR=12
H01W3 Cape Leeuwin H 150.33 201 T T 01 12 45.6
baz=151,slow=76,SNR=10

IDC 16 22:05:49.0±2.2, 18°.82N×39°.31E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/31, mbtmp3.6/6, MS3.1/4, Ms1 3.1/4, ms1mx2.7/25, Error ellipse: s-maj=57.5km s-min=28.2km az=155.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**21.40 348**		P		P	22 10 39.1 +0.6
	1.0nm,0.9s,baz=166,slow=15,SNR=7.5						
KBZ	**Khabaz**	**25.02**	**6**	P		P	22 11 13.7 -1.0
	0.5nm,0.4s,baz=198,slow=6.4,SNR=2.3						
GEYT	**Alibeck**	**25.14**	**37**	LR		LR	22 21 08.0
	comp=Z,22nm,21.1s,baz=205,slow=37						
TORD	**Torodi Ar. Bea**	**36.55 267**		P		P	22 12 56.7 -0.1
	1.0nm,0.9s,baz=70,slow=7.4,SNR=5.1						
TORD				LR		LR	22 26 52.3
	comp=Z,32nm,19.6s,baz=20,slow=35						
MKAR	**Makanchi Array**	**44.84**	**42**	P		P	22 14 05.3 +0.3
	1.1nm,0.9s,baz=241,slow=6.8,SNR=9.3						
MKAR				LR		LR	22 34 13.6
	comp=Z,16nm,21.0s,baz=244,slow=38						
ZALV	**Zalesovo Beam**	**49.39**	**34**	P		P	22 14 40.9 +0.6
	0.3nm,0.3s,baz=242,slow=11,SNR=2.1						
SONM	**Songino Array**	**60.96**	**45**	P		P	22 16 03.5 -0.7
	0.6nm,0.7s,baz=270,slow=3.0,SNR=4.2						
SONM				LR		LR	22 47 32.9
	comp=Z,33nm,18.4s,baz=80,slow=41						

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*ISK **16** 22:09:30.8, 37°.00N×28°.40E, h5km, ML2.5/14*
*DDA **16** 22:09:31.5, 37°.04N×28°.37E, h7km±5km, ML2.4*
*ISCJB **16** 22:09:32.1±0.5, 37°.01N±0°.04×28°.39E±0°.03, h12km±6km, Error ellipse: s-maj=6.7km s-min=3.7km az=25.5*
ISC 16 22:09:32.2±1.0, 37°.04N±0°.03×28°.38E±0°.03, h12km±8km, n22, σ1°.41/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.24 132**		PG	**Pg**	**22 09 36.9**	**-0.3**
TURN				SG	**Sg**	**22 09 41.4**	**+0.8**
TURN	**Turunc**	**0.24 132**		*i* P	**Pg**	**22 09 38.0**	**+0.7**
TURN				*i* S	**Sg**	**22 09 42.6**	**+2.0**
DALY	**Dalyan (Mula)**	**0.31 135**		PG	**Pg**	**22 09 37.1**	**-1.3**
DALY				SG	**Sg**	**22 09 42.1**	**-0.5**
DALY	**Dalyan (Mula)**	**0.31 135**		IAML_P			
	comp=Z,3μm,0.2s						
DALY				*i* P	**Pg**	**22 09 37.5**	**-0.9**
MRSB	**Marmaris-Mugla**	**0.35 205**		PG	**Pg**	**22 09 38.2**	**-1.0**
BBRN	**Bozburun-Marma**	**0.44 216**		PG	**Pb**	**22 09 40.8**	**-1.0**
TAVA	**DENIZLI_Tavas**	**0.60**	**44**	IAML_P			
	comp=Z,785nm,0.2s						
TAVA				*i* P	**Pb**	**22 09 43.8**	**-1.0**
DATC	**Datca-Mugla**	**0.64 245**		PG	**Pb**	**22 09 44.5**	**-0.8**
DATC				SG	**Sb**	**22 09 54.9**	**+0.8**
FETY	**Fethiye**	**0.69 125**		PG	**Pg**	**22 09 44.5**	**-1.1**
FETY				SG	**Sb**	**22 09 55.3**	**-0.3**
FETY	**Fethiye**	**0.69 125**		*i* P	**Pb**	**22 09 45.0**	**-1.1**
FETY				*i* S	**Sn**	**22 09 56.6**	**-1.8**
DAT	**Datca**	**0.71 245**		PG	**Pb**	**22 09 46.1**	**-0.5**
DAT	**Datca**	**0.71 245**		*i* P	**Pb**	**22 09 45.5**	**-1.0**
AYDN	**Tasoluk**	**0.74 328**		*i* P	**Pb**	**22 09 46.6**	**-0.5**
AYDN				*i* S	**Sb**	**22 09 56.9**	**-0.3**
BDRM	**Kayabasi**	**0.75 273**		*i* P	**Pb**	**22 09 47.5**	**+0.4**
ARG	**Arkhangelos**	**0.84 194**		PG	**Pg**	**22 09 47.3**	**-1.2**
BODT	**Bodrum**	**0.86 272**		PG	**Pb**	**22 09 48.8**	**-0.2**
BODT				SG	**Sn**	**22 10 02.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.99 337**		PG	**Pb**	**22 09 51.0**	**-0.3**
AYDB				SG	**Sn**	**22 10 07.0**	**+1.0**
GCAM	**G?zelcaml?**	**1.13 306**		PN	**Pn**	**22 09 54.1**	**+0.3**
ELL	**Elmali**	**1.26 103**		PN	**Pn**	**22 09 55.6**	**-0.1**
AKAS	**Kas**	**1.27 129**		PN	**Pn**	**22 09 55.6**	**-0.2**
AKAS	**Kas**	**1.27 129**		IAML_P			
	comp=Z,954nm,0.2s						
AKAS				*i* P	**Pn**	**22 09 57.2**	**+1.3**
AKAS				*i* S	**Sn**	**22 10 18.3**	**+5.4**
KORT	**Korkueli**	**1.58**	**91**	PN	**Pg**	**22 10 01.2**	**-1.3**

MEX 16 22:16:22.1±0.7, 16°.10N×97°.61W, h5km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.57 301**		*e*P		Pg	22 16 32.7 -0.4
PNIG				*i* S		Sg	22 16 40.8 +0.2
HUIG	**Huatulco**	**1.48 103**		*i* P		Pn	22 16 46.3 -3.2
HUIG				*i* S		Sn	22 17 05.0 -4.3
TLIG	**Tlapa**	**1.72 328**		*e*P		Pn	22 16 49.8 -3.1
TLIG				*i* S		Sn	22 17 10.6 -4.6
CMIG	**Matias Romero**	**2.80 69**		*i* P		Pn	22 17 05.1 -2.5
CMIG				*i* S		Sn	22 17 38.4 -3.2

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*ISCJB **16** 22:20:03.8±0.5, 18°.65N±0°.07×145°.5E±0°.1, h600km, mb3.5/17, Error ellipse: s-maj=18.4km s-min=8.7km az=177.6*
*IDC **16** 22:20:04.9±1.0, 18°.57N×145°.52E, h603km±15km, mb3.0/17, mb1 3.2/20, mb1mx3.1/34, mbtmp4.0/20, Error ellipse: s-maj=18.0km s-min=11.2km az=81.0*
ISC 16 22:20:04.9±0.7, 18°.60N±0°.08×145°.5E±0°.2, h600km, n20, σ0°.96/21, mb3.5/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.01 187**		P	**P**	**22 21 39.4**	**+1.4**
	14nm,0.3s,baz=142,slow=7.8,SNR=5.5						
GUMO				S	**S**	**22 22 52.7**	**-1.1**
	6.4nm,0.3s,baz=17,slow=19,SNR=3.6						
MJAR	**Matsushiro Arr**	**19.00 342**		P	**P**	**22 23 49.0**	**-0.4**
	0.1nm,0.3s,baz=164,slow=10,SNR=5.8						
JNU	**Nakatsue**	**19.52 321**		P	**P**	**22 23 54.5**	**+0.3**
	0.6nm,0.3s,baz=146,slow=7.3,SNR=3.3						
KSRS	**Korea Array**	**24.29 324**		P	**P**	**22 24 37.1**	**+0.5**
	1.6nm,0.5s,baz=147,slow=8.9,SNR=7.6						
PMG	**Port Moresby**	**27.87 176**		P	**P**	**22 25 07.2**	**-1.2**
	12nm,0.8s,baz=272,slow=17,SNR=2.5						
PETK	**Petropavlovsk-**	**35.73 13**		P	**P**	**22 26 15.7**	**+1.2**
	0.4nm,0.4s,baz=209,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**39.83 197**		P	**P**	**22 26 49.0**	**+0.8**
	0.6nm,0.7s,baz=19,slow=8.3,SNR=6.0						
SONM	**Songino Array**	**43.10 327**		P	**P**	**22 27 14.4**	**+0.7**
	1.5nm,0.5s,baz=126,slow=5.7,SNR=11						
ASAR	**Alice Springs**	**43.50 196**		P	**P**	**22 27 17.3**	**+0.4**
	0.2nm,0.4s,baz=12,slow=7.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**44.04 278**		P	**P**	**22 27 20.8**	**-0.4**
	1.0nm,0.6s,baz=66,slow=6.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**57.98 323**		P	**P**	**22 29 00.7**	**-0.5**
	1.0nm,0.3s,baz=112,slow=8.4,SNR=7.5						
MKAR	**Makanchi Array**	**58.39 314**		P	**P**	**22 29 04.6**	**+0.5**
	1.8nm,0.4s,baz=90,slow=8.0,SNR=27						
NRIK	**Noril'sk**	**61.64 340**		P	**P**	**22 29 25.0**	**-0.1**
	1.5nm,0.5s,baz=104,slow=5.2,SNR=4.3						
ILAR	**Eielson Array**	**63.83 26**		P	**P**	**22 29 37.5**	**-1.8**
	0.5nm,0.5s,baz=250,slow=5.8,SNR=5.1						
INK	**Inuvik**	**69.55 23**		P	**P**	**22 30 14.6**	**+0.3**
	0.9nm,0.8s,baz=235,slow=5.3,SNR=3.5						
YKA	**Yellowknife Ar**	**78.17 28**		P	**P**	**22 31 03.3**	**+0.3**
	0.7nm,0.5s,baz=286,slow=5.0,SNR=7.4						
ARCES	**ARCESS Array B**	**82.53 342**		P	**P**	**22 31 24.8**	**-0.8**
	2.1nm,0.8s,baz=64,slow=8.2,SNR=5.6						
NVAR	**Mina Array Bea**	**83.36 52**		P	**P**	**22 31 30.9**	**+0.3**
	0.4nm,0.6s,baz=290,slow=4.3,SNR=3.9						
KBZ	**Khabaz**	**86.08 315**		P	**P**	**22 31 43.3**	**0.0**
	4.8nm,1.3s,baz=117,slow=2.3,SNR=3.6						
FINES	**FINESS Array B**	**86.90 335**		P	**P**	**22 31 44.8**	**-2.0**
	1.2nm,0.5s,baz=59,slow=4.8,SNR=16						

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*ISCJB **16** 22:32:51.7±0.8, 17°.9S±0°.2×178°.1W±0°.2, h590km, mb3.7/11, Error ellipse: s-maj=27.0km s-min=14.8km az=141.7*
*IDC **16** 22:32:56.5±2.9, 18°.01S×178°.08W, h637km±35km, mb3.2/11, mb1 3.4/12, mb1mx3.2/38, mbtmp4.2/12, Error ellipse: s-maj=20.4km s-min=14.6km az=141.0*
ISC 16 22:32:52.8±0.8, 17°.9S±0°.2×178°.1W±0°.2, h590km, n14, σ1°.07/16, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.13 252**		P	**P**	**22 36 04.3**	**+1.6**
	0.3nm,0.3s,baz=65,slow=19,SNR=4.0						
STKA	**Stephens Creek**	**38.91 241**		P	**P**	**22 39 30.3**	**+1.1**
	4.7nm,0.7s,baz=89,slow=6.6,SNR=10						
WRA	**Warramunga Arr**	**44.95 259**		P	**P**	**22 40 16.9**	**+0.2**
	3.4nm,0.6s,baz=94,slow=8.8,SNR=53						
ASAR	**Alice Springs**	**45.10 254**		P	**P**	**22 40 18.4**	**+0.5**
	7.0nm,0.6s,baz=84,slow=8.7,SNR=70						
ASAR				PcP	**PcP**	**22 41 45.4**	**-0.3**
	0.6nm,0.5s,baz=96,slow=4.2,SNR=4.3						
ASAR				S	**S**	**22 46 12.9**	**-2.3**
	0.2nm,0.7s,baz=42,slow=38,SNR=4.6						
MJAR	**Matsushiro Arr**	**68.10 323**		P	**P**	**22 42 55.3**	**+0.5**
	2.4nm,0.6s,baz=163,slow=6.5,SNR=7.1						
QSPA	**South Pole Qui**	**72.14 180**		P	**P**	**22 43 17.4**	**-1.0**
	1.8nm,0.6s,baz=290,slow=0.4,SNR=19						
PETK	**Petropavlovsk-**	**73.76 345**		P	**P**	**22 43 28.0**	**+0.5**
	2.1nm,0.6s,baz=108,slow=8.9,SNR=4.2						
NVAR	**Mina Array Bea**	**79.20 44**		P	**P**	**22 43 58.0**	**+0.1**
	0.3nm,0.6s,baz=246,slow=6.8,SNR=2.4						
SEY	**Seymchan**	**83.85 347**		P	**P**	**22 44 20.8**	**+0.1**
	1.5nm,0.4s,baz=0.0,slow=20,SNR=3.7						
TXAR	**Lajitas Array**	**85.72 57**		P	**P**	**22 44 31.6**	**+0.9**
	0.6nm,0.7s,baz=215,slow=6.1,SNR=5.5						
ILAR	**Eielson Array**	**85.82 13**		P	**P**	**22 44 29.1**	**-1.1**
	0.3nm,0.4s,baz=224,slow=4.5,SNR=4.3						
SONM	**Songino Array**	**93.76 319**		P	**P**	**22 45 06.3**	**-1.3**
	0.2nm,0.4s,baz=92,slow=4.3,SNR=2.0						
BRTR	**Keskin Array B**	**145.01 315**		PKPbc	**PKPdf**	**22 51 24.4**	**+0.4**
	1.4nm,0.9s,baz=131,slow=4.0,SNR=7.7						
GERES	**GERESS Array B**	**147.70 345**		PKPbc	**PKPbc**	**22 51 31.7**	**-0.2**
	0.5nm,0.5s,baz=20,slow=4.3,SNR=4.2						

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*IDC **16** 22:38:15.5±0.5, 55°.94S×26°.59W, h0km, mb4.6/15, mb1 4.6/16, mb1mx4.5/25, mbtmp4.6/16, ML4.2/1, MS4.0/15, Ms1 4.0/15, ms1mx3.8/23, Error ellipse: s-maj=16.7km s-min=14.2km az=58.0*
*ISCJB **16** 22:38:22.7±0.4, 56°.03S±0°.06×26°.8W±0°.1, h63km, mb5.0/37, Error ellipse: s-maj=11.5km s-min=6.1km az=137.5*
*NEIC **16** 22:38:24.1±1.2, 56°.09S×26°.92W, h58km±5km, mb5.1/33, Error ellipse: s-maj=20.0km s-min=14.4km az=218.0*
ISC 16 22:38:24.1±0.3, 56°.03S±0°.07×26°.81W±0°.07, h63km, n111, σ1°.33/110, mb5.0/37, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.82 283**		*e*Pn	**Pn**	**22 39 47.0**	**-0.7**
VNA1	**Neumayer--Stat**	**16.74 158**		P	**Pn**	**22 42 14.2**	**+0.2**
VNA3	**Neumayer Olymp**	**16.94 161**		P	**Pn**	**22 42 16.5**	**-0.1**
VNA2	**Neumayer--Watz**	**17.13 158**		P	**Pn**	**22 42 19.1**	**+0.2**
	baz=318,slow=14						
SNAA	**Sanae**	**18.68 156**		P	**P**	**22 42 36.3**	**-0.4**
SNAA	**Sanae**	**18.68 156**		*e*P	**P**	**22 42 36.0**	**-0.8**
	14nm,0.6s						
SNAA	**Sanae**	**18.68 156**		P	**P**	**22 42 34.4**	**-2.4**
	0.8nm,0.3s,baz=289,slow=13,SNR=55						
SNAA				PcP	**PcP**	**22 47 03.0**	**+0.8**
	0.3nm,0.3s,baz=166,slow=4.2,SNR=6.3						
SNAA				LR	LR	22 48 16.8	
	comp=Z,349nm,20.9s,baz=290,slow=32						
PMSA	**Palmer Station**	**20.08 229**		P	**P**	**22 42 52.0**	**0.0**
	46nm,1.0s,baz=75,slow=7.4,SNR=3.6						
PMSA				LR	LR	22 49 51.3	
	comp=Z,621nm,18.4s,baz=80,slow=34						
USHA	**Ushuaia**	**23.40 255**		P	**P**	**22 43 26.8**	**-0.3**
	10nm,0.7s,baz=72,slow=6.6,SNR=5.1						
USHA				LR	LR	22 50 33.5	
	comp=Z,591nm,20.2s,baz=65,slow=31						
GO09	**Cerro Castillo**	**27.01 261**		*e*P	**P**	**22 43 58.5**	**-1.3**
	134nm,1.8s						
TRQA	**Tornquist**	**29.51 293**		*e*P	**P**	**22 44 22.3**	**+0.1**
	31nm,1.4s						
SYO	**Syowa Base**	**31.46 141**		*e*P	**P**	**22 44 42.8**	**+3.7**
PLCA	**Paso Flores**	**32.21 280**		*e*P	**P**	**22 44 46.1**	**0.0**
	23nm,1.8s						
PLCA	**Paso Flores**	**32.21 280**		P	**P**	**22 44 44.3**	**-1.8**
	2.0nm,0.8s,baz=171,slow=9.2,SNR=4.2						
PLCA				PcP	**PcP**	**22 47 33.2**	**0.0**
	0.8nm,0.4s,baz=24,slow=23,SNR=3.2						
PLCA				LR	LR	22 58 19.5	
	comp=Z,245nm,18.2s,baz=160,slow=37						
QSPA	**South Pole Qui**	**34.22 180**		*e*P	**P**	**22 45 03.5**	**0.0**
	20nm,0.6s						
QSPA	**South Pole Qui**	**34.22 180**		P	**P**	**22 45 03.3**	**-0.1**
	17nm,0.5s,baz=210,slow=1.8,SNR=194						
QSPA				PcP	**PcP**	**22 47 38.6**	**+0.1**
	2.8nm,0.4s,baz=153,slow=4.8,SNR=7.8						
CPUP	**Villa Florida**	**36.96 311**		*e*P	**P**	**22 45 26.9**	**-0.2**
	24nm,1.1s						
CPUP	**Villa Florida**	**36.96 311**		P	**P**	**22 45 26.9**	**-0.2**
	6.2nm,0.6s,baz=149,slow=7.2,SNR=20						
CPUP				PcP	**PcP**	**22 47 47.5**	**+0.5**
	1.8nm,0.5s,baz=165,slow=4.3,SNR=3.4						
CPUP				LR	LR	22 58 42.0	
	comp=Z,137nm,21.1s,baz=170,slow=33						
GO05	**Hualа**	**37.08 285**		*e*P	**P**	**22 45 26.2**	**-1.8**
	23nm,1.3s						
PEL	**Peldehue**	**37.83 289**		*e*P	**P**	**22 45 34.1**	**-0.3**
	53nm,0.5s						
MAW	**Mawson**	**40.04 143**		*e*P	**P**	**22 45 52.6**	**+0.3**
	1.9nm,1.1s						
MAW	**Mawson**	**40.04 143**		P	**P**	**22 45 51.8**	**-0.6**
	2.6nm,0.5s,baz=219,slow=8.6,SNR=11						
MAW				LR	LR	23 00 16.0	
	comp=Z,169nm,21.9s,baz=246,slow=33						
GO04	**Tololo Observa**	**40.22 291**		*e*P	**P**	**22 45 54.3**	**-0.4**
	70nm,1.4s						
SUR	**Sutherland**	**40.42 75**		*e*P	**P**	**22 45 57.2**	**+1.0**
	61nm,1.5s						
SUR	**Sutherland**	**40.42 75**		P	**P**	**22 45 54.6**	**-1.7**
	9.6nm,1.1s,baz=178,slow=7.9,SNR=1.7						
LCO	**Las Campanas**	**41.09 292**		*e*P	**P**	**22 46 01.2**	**-0.7**
	20nm,0.7s						
GO03	**Copiap**	**42.00 294**		*e*P	**P**	**22 46 08.9**	**-0.1**
	40nm,0.6s						
BDFB	**Brasilia**	**43.45 330**		*e*P	**P**	**22 46 21.9**	**+0.9**
	28nm,1.7s						
BDFB	**Brasilia**	**43.45 330**		P	**P**	**22 46 20.0**	**-1.0**
	4.6nm,0.7s,baz=144,slow=5.3,SNR=6.4						
BDFB				LR	LR	23 03 53.5	
	comp=Z,263nm,18.4s,baz=145,slow=35						
GO02	**Mina Guanaco**	**43.67 297**		*e*P	**P**	**22 46 23.3**	**+0.4**
	103nm,0.6s						
LVC	**Limon Verde**	**45.48 300**		*e*P	**P**	**22 46 38.3**	**+1.0**
	30nm,0.6s						
PB10	**IPOC Station P**	**45.53 297**		*e*P	**P**	**22 46 37.7**	**+0.4**
	42nm,0.9s						
BOSA	**Boshof**	**45.76 75**		P	**P**	**22 46 37.3**	**-1.9**
	2.1nm,0.8s,baz=174,slow=12,SNR=3.7						
BOSA				LR	LR	23 01 57.2	
	comp=Z,358nm,20.4s,baz=211,slow=31						
PB04	**IPOC Station P**	**46.32 299**		*e*P	**P**	**22 46 44.2**	**+0.5**
	96nm,1.3s						
VNDA	**Vanda**	**46.61 183**		*e*P	**P**	**22 46 45.9**	**+0.8**
	13nm,0.8s						
VNDA	**Vanda**	**46.61 183**		P	**P**	**22 46 45.5**	**+0.4**
	10nm,0.7s,baz=189,slow=6.8,SNR=42						
VNDA				LR	LR	23 04 58.0	
	comp=Z,86nm,20.9s,baz=146,slow=34						
PB01	**IPOC Station P**	**47.09 300**		*e*P	**P**	**22 46 50.3**	**+0.7**
	57nm,0.6s						
H10S2	**ASCENSION HYDR**	**47.92**	**16**	T	T	23 39 47.0	
	baz=188,slow=74						
H10S3	**ASCENSION HYDR**	**47.92**	**16**	T	T	23 38 25.9	
	baz=188						
H10S1	**ASCENSION HYDR**	**47.93**	**16**	T	T	23 39 51.7	
	baz=188,slow=74						
GO01	**Chusmiza**	**48.12 301**		*e*P	**P**	**22 46 59.0**	**+0.9**
	43nm,0.8s						
PB11	**IPOC Station P**	**48.26 301**		*e*P	**P**	**22 46 59.4**	**+0.6**
	55nm,1.0s						
MNMC	**Minye Minye**	**48.77 301**		*e*P	**P**	**22 47 03.5**	**+0.6**
	56nm,0.9s						
H10N1	**ASCENSION HYDR**	**49.03**	**16**	T	T	23 40 42.6	
	baz=189,slow=75,SNR=52						
H10N3	**ASCENSION HYDR**	**49.04**	**16**	T	T	23 41 09.9	
	baz=189,slow=75,SNR=90						
H10N2	**ASCENSION HYDR**	**49.05**	**16**	T	T	23 41 10.1	
	baz=189,slow=75,SNR=91						
LPAZ	**La Paz**	**50.54 305**		P	**P**	**22 47 17.6**	**+0.8**
	12nm,0.4s,baz=142,slow=5.6,SNR=74						
LPAZ				LR	LR	23 08 14.6	
	comp=Z,74nm,21.1s,baz=158,slow=36						
CASY	**Casey**	**53.86 160**		*e*P	**P**	**22 47 41.4**	**+1.3**
	16nm,0.7s						
PTGA	**Pitinga**	**61.29 321**		*e*P	**P**	**22 48 32.1**	**-0.7**
	9.1nm,1.0s						
DBIC	**Dimbokro**	**65.06**	**24**	LR	LR	23 10 40.7	
	comp=Z,142nm,20.9s,baz=166,slow=30						
OTAV	**Otavalo**	**69.82 303**		*e*P	**P**	**22 49 28.7**	**+0.3**
	27nm,1.4s						
TOA0	**Torodi Ar. Sit**	**72.93**	**29**	*e*P	**P**	**22 49 47.5**	**+1.0**
	12nm,1.4s						
TORD	**Torodi Ar. Bea**	**72.93**	**29**	P	**P**	**22 49 44.7**	**-1.8**
	1.4nm,0.5s,baz=200,slow=6.9,SNR=24						
TORD				LR	LR	23 16 25.7	
	comp=Z,58nm,20.1s,baz=225,slow=32						
SDV	**Santo Domingo**	**74.14 315**		*e*P	**P**	**22 49 54.2**	**+0.3**
	13nm,0.7s						
SDV	**Santo Domingo**	**74.14 315**		LR	LR	23 21 46.7	
	comp=Z,144nm,21.7s,baz=100,slow=35						
KMBO	**Kilima Mbogo**	**74.83**	**69**	LR	LR	23 21 27.2	
	comp=Z,90nm,19.5s,baz=128,slow=35						
RPZ	**Rata Peaks**	**79.49 193**		P	**P**	**22 50 24.1**	**+0.6**
	11nm,0.8s,baz=177,slow=5.9,SNR=3.8						
JTS	**Las

0.6nm,0.4s,baz=277,slow=1.6,SNR=2.7
XAN Xi'an 142.64 107 PKP PKiKP 22 57 52.0 -0.6
WHY Whitehorse 143.71 308 *e*PKPdf PKPdf 22 57 51.9 +1.3
HYT Haines Junctio 144.95 307 *e*PKPbc PKPdf 22 57 53.4 +0.7
INK Inuvik 145.92 321 *e*PKPdf PKPbc 22 57 55.0 +0.2
NJ2 Nanjing 146.17 121 *e*PKPbc PKPab 22 57 57.3 -0.1
EPYK Eagle Plains 146.56 317 *e*PKPdf PKPbc 22 57 57.3 +0.4
BCAR Beaver Creek A 147.64 310 *e*PKPbc PKiKP 22 58 01.0 -1.0
BTO Baotou 148.02 100 *e*PKPbc PKPbc 22 58 01.1 -0.7
TIA Tai'an 148.62 114 PKPbc PKPbc 22 58 03.1 -0.2
SCRK Sand Creek 148.85 311 *e*PKPbc PKPbc 22 58 03.8 +0.6
NRIK Noril'sk 148.86 39 PKPbc PKPbc 22 58 03.3 +0.4
4.4nm,0.7s,baz=44,slow=1.3,SNR=13
HHC Hu-ho-hao-te 149.04 102 *e*PKPbc PKPdf 22 58 00.4 +0.2
ILAR Eielson Array 150.26 312 *e*PKPbc PKPbc 22 58 05.9 -0.5
ILAR Eielson Array 150.26 312 PKPbc PKPbc 22 58 06.5 0.0
8.2nm,0.8s,baz=137,slow=2.2,SNR=58
SONM Songino Array 150.51 86 PKPbc PKPbc 22 58 07.8 0.0
3.7nm,0.7s,baz=216,slow=3.1,SNR=27
CCB Clear Creek Bu 150.62 311 *e*PKPbc PKPbc 22 58 07.5 +0.2
RND Reindeer 150.82 309 *e*PKPbc PKiKP 22 58 08.3 -0.2
IMAR Indian Mountai 153.27 313 *e*PKPbc PKPbc 22 58 13.3 +0.1

IDC ***16*** *23:08:42.7±0.9, 55°.95S×26°.58W, h0km, mb4.1/7, mb1 4.2/7, mb1mx3.9/28, mbtmp4.1/7, MS3.5/1, Ms1 3.4/1, ms1mx2.8/21, Error ellipse: s-maj=31.6km s-min=22.7km az=30.0*
ISCJB ***16*** *23:08:46.0±0.9, 55°.9S±0°.2×26°.6W±0°.3, h35km, mb4.1/7, MS3.5/1, Error ellipse: s-maj=26.7km s-min=19.1km az=28.5*
ISC 16 23:08:47.7±0.9, 55°.9S±0°.2×26°.7W±0°.2, h35km, n17, σ0999/11, mb4.0/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	36.95	310	P	P	23 15 52.2	-1.1
2.1nm,0.6s,baz=145,slow=4.8,SNR=4.5							
LVC	Limon Verde	45.49	299	P	P	23 17 04.6	+0.7
4.7nm,0.6s,baz=97,slow=1.1,SNR=7.0							
BOSA	Boshof	45.65	75	P	P	23 17 04.0	-0.9
1.6nm,0.8s,baz=148,slow=10,SNR=3.1							
BOSA				LR	LR	23 32 35.3	
comp=Z,58nm,20.7s,baz=206,slow=31							
VNDA	Vanda	46.72	183	P	P	23 17 12.3	-0.1
1.4nm,0.7s,baz=185,slow=7.4,SNR=7.4							
SIV	San Ignacio	47.70	313	P	P	23 17 20.2	-0.6
0.8nm,0.6s,baz=164,slow=10,SNR=3.9							
H10S2	ASCENSION HYDR	47.79	16	T	T	00 08 58.3	
baz=189,slow=75,SNR=18							
H10S3	ASCENSION HYDR	47.79	16	T	T	00 08 57.9	
baz=189,slow=75,SNR=14							
H10S1	ASCENSION HYDR	47.81	16	T	T	00 08 59.6	
baz=189,slow=75,SNR=16							
H10N1	ASCENSION HYDR	48.91	16	T	T	00 10 23.1	
baz=189,slow=75,SNR=11							
H10N3	ASCENSION HYDR	48.91	16	T	T	00 10 21.6	
baz=189,slow=75,SNR=16							
H10N2	ASCENSION HYDR	48.92	16	T	T	00 10 24.1	
baz=189,slow=75,SNR=18							
LPAZ	La Paz	50.54	305	P	P	23 17 45.0	+1.8
2.1nm,0.4s,baz=139,slow=5.6,SNR=11							
TORD	Torodi Ar. Bea	72.80	29	P	P	23 20 13.6	+1.2
0.5nm,0.5s,baz=202,slow=6.4,SNR=8.9							
FINES	FINESS Array B	124.13	28	PKP	PKPdf	23 27 40.9	0.0
2.5nm,1.1s,baz=156,slow=3.8,SNR=5.0							
YKA	Yellowknife Ar	136.27	318	PKP	PKPdf	23 28 04.2	+0.3
0.1nm,0.4s,baz=130,slow=2.1,SNR=3.9							
ILAR	Eielson Array	150.25	312	PKPbc	PKPbc	23 28 34.0	+0.5
1.0nm,0.8s,baz=130,slow=2.4,SNR=12							
SONM	Songino Array	150.43	86	PKPbc	PKPbc	23 28 34.6	+0.1
0.4nm,0.5s,baz=230,slow=3.0,SNR=4.9							

IDC ***16*** *23:13:25.9±0.6, 41°.39S×87°.56W, h0km, mb4.5/14, mb1 4.6/14, mb1mx4.5/26, mbtmp4.5/14, MS4.0/14, Ms1 4.0/14, ms1mx3.9/20, Error ellipse: s-maj=25.2km s-min=16.6km az=103.0*
ISCJB ***16*** *23:13:26.6±0.3, 41°.28S±0°.06×87°.45W±0°.07, h12km, mb4.8/61, MS4.1/15, Error ellipse: s-maj=8.8km s-min=7.2km az=136.8*
NEIC ***16*** *23:13:27.5±0.3, 41°.46S×87°.70W, h10km, mb5.0/49, Error ellipse: s-maj=9.5km s-min=7.4km az=192.0*
GCMT ***16*** *23:13:28.5±0.3, 41°.16S±0°.03×87°.66W±0°.02, h13km±1km, MW4.9/81, Moment Tensor Solution. s23,c25; s81,c98; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.30±.16; Mθθ=0.09±.09; Mφφ=2.22±.11; Mrθ=1.49±.32; Mrφ=-0.19±.07; Mθφ=-0.06±.22; Best double couple: M=2.63200×10^16 NP1:φs=331.00000°, δ=53.00000°, λ=-122.00000°. NP2: φs=197.00000°, δ=48.00000°, λ=-54.00000°. Principal axes: T 2.2470, Plg=3.0000°, Azm=83.0000°; N 0.7740, Plg=25.0000°, Azm=351.0000°; P -3.0160, Plg=64.0000°, Azm=179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***16*** *23:13:28.5±0.0, 41°.40S×87°.70W, h10km, Ms5.0/1*
ISC 16 23:13:28.0±0.4, 41°.37S±0°.08×87°.75W±0°.09, h12km, n455, σ0983/446, mb4.9/61, MS4.2/15, 1C-1D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO06	Curarrehue	12.52	87	*e*Pn	Pn	23 16 26.2	+0.2
PLCA	Paso Flores	13.00	93	*e*Pn	Pn	23 16 33.8	+1.2
PLCA	Paso Flores	13.00	93	Pn	Pn	23 16 34.5	+1.9
0.1nm,0.3s,baz=271,slow=13,SNR=5.9							
PLCA				LR	LR	23 20 27.9	
comp=Z,2μm,19.5s,baz=330,slow=33							
ROC1	El Roble	15.73	63	*e*Pn	Pn	23 17 09.9	+0.2
USHA	Ushuaia	18.56	143	LR	LR	23 23 23.0	
comp=Z,749nm,21.6s,baz=176,slow=32							
LCO	Las Campanas	18.56	54	*e*P	P	23 17 45.2	+0.2
71nm,1.5s							
TRQA	Tornquist	20.07	89	*e*P	P	23 18 01.5	+0.3
77nm,1.4s							
GO02	Mina Guanaco	22.10	49	*e*P	P	23 18 23.8	+0.3
26nm,1.0s							
RPN	Rapa Nui	22.73	302	LR	LR	23 24 58.0	
comp=Z,821nm,20.8s,baz=146,slow=30							
LVC	Limon Verde	24.50	46	*e*P	P	23 18 48.0	+0.4
19nm,1.0s							
LVC	Limon Verde	24.50	46	P	P	23 18 47.4	-0.2
17nm,0.9s,baz=238,slow=7.3,SNR=9.3							
PB01	IPOC Station P	25.48	43	*e*P	P	23 18 56.9	+0.8
13nm,0.8s							
PB11	IPOC Station P	26.48	41	*e*P	P	23 19 04.7	-0.5
16nm,0.6s							
GO01	Chusmiza	26.79	42	*e*P	P	23 19 05.6	-2.8
7.9nm,0.6s							
CPUP	Villa Florida	29.20	69	LR	LR	23 30 22.4	
comp=Z,581nm,19.1s,baz=242,slow=35							
LPAZ	La Paz	30.19	40	LR	LR	23 29 08.4	
comp=Z,179nm,18.0s,baz=197,slow=31							
SIV	San Ignacio	34.20	50	P	P	23 20 12.3	-1.1
4.8nm,1.1s,baz=235,slow=10.0,SNR=11							
ATAH	Atahualpa	35.09	16	P	P	23 20 23.7	+2.2
27nm,0.9s,baz=168,slow=5.5,SNR=13							
BDFB	Brasilia	42.77	65	*e*P	P	23 21 25.4	-0.2
14nm,1.1s							
BDFB	Brasilia	42.77	65	P	P	23 21 24.7	-0.9
8.0nm,1.0s,baz=272,slow=1.7,SNR=7.3							
BDFB				LR	LR	23 38 38.3	
comp=Z,430nm,19.7s,baz=227,slow=36							
ROSC	El Rosal	47.60	18	P	P	23 22 06.5	+2.3
3.1nm,0.3s,baz=141,slow=10,SNR=4.7							
ROSC				LR	LR	23 39 34.5	
comp=Z,148nm,21.6s,baz=198,slow=33							
PTGA	Pitinga	47.61	39	P	P	23 22 02.6	-1.2
3.4nm,0.7s,baz=195,slow=11,SNR=4.9							
VNA3	Neumayer Olymp	47.68	155	P	P	23 22 04.0	+0.2
VNA1	Neumayer--Stat	48.20	154	P	P	23 22 08.3	+0.5
VNA2	Neumayer--Watz	48.45	154	P	P	23 22 09.8	+0.1
baz=278,slow=8.4							
QSPA	South Pole Qui	48.87	180	P	P	23 22 14.1	+0.9
5.4nm,1.0s,baz=139,slow=4.0,SNR=11							
QSPA				PcP	PcP	23 23 37.6	+0.1
5.5nm,0.9s,baz=127,slow=2.4,SNR=5.2							
SNAA	Sanae	49.78	156	P	P	23 22 19.8	-0.2
SNAA	Sanae	49.78	156	*e*P	P	23 22 19.9	-0.1
17nm,1.0s							
SDV	Santo Domingo	52.43	22	*e*P	P	23 22 39.6	-1.0
17nm,1.2s							
SDV	Santo Domingo	52.43	22	P	P	23 22 38.5	-2.1
10.0nm,1.0s,baz=212,slow=11,SNR=4.5							
TBI	Tubuai	54.03	269	*e*LR	LR	23 38 17.9	
comp=Z,638nm,30.8s							
VNDA	Vanda	54.16	195	LR	LR	23 41 12.4	
comp=Z,57nm,21.7s,baz=118,slow=31							
APG	El Apazote	56.14	357	P	P	23 23 08.2	+0.5
6.5nm,0.9s,baz=63,slow=4.5,SNR=3.8							
PPT2	Papeete2	57.54	275	*e*S	S	23 31 15.5	+0.3
190nm,24.5s							
PPT2				*e*LR	LR	23 40 07.5	
comp=Z,666nm,26.8s							
CMIG	Matias Romero	58.54	352	P	P	23 23 24.3	0.0
2.4nm,0.7s,baz=135,slow=5.7,SNR=3.7							
SYO	Syowa Base	63.28	161	*e*P	P	23 23 54.4	-1.5
SYO	Syowa Base	63.28	161	*e*pP	P	23 23 57.6	+1.7
MAW	Mawson	69.09	168	*e*P	P	23 24 33.2	0.0
1.8nm,1.0s							
MAW	Mawson	69.09	168	P	P	23 24 32.6	-0.7
6.2nm,0.9s,baz=244,slow=9.0,SNR=5.7							
MAW				LR	LR	23 54 35.0	
comp=Z,62nm,18.3s,baz=208,slow=36							
833A	Chaparral WMA,	70.18	349	P	P	23 24 40.8	+0.4
baz=171							
556A	Lake Butler	71.19	5	P	P	23 24 46.6	+0.2
baz=184							
TXAR	Lajitas Array	71.88	345	*e*P	P	23 24 51.5	+0.8
TXAR	Lajitas Array	71.88	345	P	P	23 24 51.7	+0.9
5.0nm,1.0s,baz=160,slow=8.0,SNR=27							
TXAR				LR	LR	23 50 26.9	
comp=Z,69nm,18.3s,baz=0.0,slow=31							
452A	Marianna	71.90	2	P	P	23 24 50.9	+0.2
baz=182							
351A	Pinckard	72.31	2	P	P	23 24 53.5	+0.3
baz=182							
JCT	Junction City	72.35	349	P	P	23 24 53.6	+0.1
baz=170							
349A	Repton	72.36	0	P	P	23 24 54.2	+0.7
baz=180							
353A	Camilla	72.43	3	P	P	23 24 53.5	-0.4
baz=183							
356A	Blackshear	72.52	5	P	P	23 24 54.1	-0.4
baz=184							
357A	Townsend	72.66	6	P	P	23 24 55.4	+0.2
baz=185							
249A	Camden	72.98	1	P	P	23 24 57.7	+0.5
baz=180							
250A	Grady	73.00	1	P	P	23 24 57.2	0.0
baz=181							
252A	Lumpkin	73.06	3	P	P	23 24 57.5	-0.1
baz=182							
251A	Midway	73.13	2	P	P	23 24 58.2	+0.2
baz=182,SNR=13							
WHTX	Lake Whitney,	73.55	351	P	P	23 25 00.7	+0.2
baz=172							
151A	Opelika	73.56	2	P	P	23 25 00.6	0.0
baz=182							
149A	Jones	73.61	1	P	P	23 25 00.9	0.0
baz=181							
150A	Eclectic	73.63	2	P	P	23 25 01.1	+0.1
baz=181							
148A	Greensboro	73.65	0	P	P	23 25 01.4	+0.3
baz=180							
152A	Waverly Hall	73.73	3	P	P	23 25 01.9	+0.4
baz=182							
LRAL	Lakeview Retre	74.04	1	P	P	23 25 03.5	+0.1
baz=181							
Z49A	Columbiana	74.20	1	P	P	23 25 04.5	+0.2
baz=181							
Z52A	Williamson	74.25	3	P	P	23 25 04.8	+0.2
baz=183,SNR=8.0							
Z50A	Ashland	74.28	2	P	P	23 25 04.7	-0.1
baz=181							
Z54A	Sparta	74.38	4	P	P	23 25 05.1	-0.3
baz=184							
Z53A	Monticello	74.38	4	P	P	23 25 04.8	-0.5
baz=183,SNR=5.3							
NHSC	New Hope	74.44	7	P	P	23 25 05.1	-0.6
baz=186							
ABTX	Abilene, Hawle	74.44	350	P	P	23 25 06.4	+0.6
baz=171							
MNTX	Cornudas Mount	74.51	344	P	P	23 25 06.5	+0.3
baz=166							
GOGA	Godfrey	74.52	4	P	P	23 25 05.9	-0.2
baz=183							
Z57A	Bowman	74.58	6	P	P	23 25 06.0	-0.5
baz=185							
Z59A	Georgetown, SC	74.65	7	P	P	23 25 06.8	-0.1
baz=187							
Y49A	Blount Mountai	74.87	1	P	P	23 25 08.0	-0.2
baz=181							
Y50A	Piedmont	74.92	2	P	P	23 25 08.4	0.0
baz=182							
Y48A	Jasper	74.92	0	P	P	23 25 08.4	0.0
baz=180							
Y51A	Rockmart	74.94	2	P	P	23 25 08.2	-0.4
baz=182							
Y52A	Lilburn	74.94	3	*e*P	P	23 25 09.2	+0.6
24nm,1.3s							
Y52A	Lilburn	74.94	3	P	P	23 25 08.6	0.0
baz=183							
Y53A	Monroe	74.95	4	P	P	23 25 08.7	+0.1
baz=183,SNR=6.0							
Y54A	Tignall	75.01	4	P	P	23 25 08.7	-0.3
baz=184,SNR=5.8							
319A	Douglas	75.07	341	*e*P	P	23 25 10.1	+0.5
16nm,1.5s							
Y55A	Saluda	75.13	5	P	P	23 25 09.6	-0.1
baz=185							
Y58A	Scranton	75.28	7	P	P	23 25 09.7	-0.8
baz=186							
X48A	Hartselle	75.45	1	*e*P	P	23 25 11.7	+0.1
25nm,0.9s							
X48A	Hartselle	75.45	1	P	P	23 25 11.4	-0.1
baz=180,SNR=10							
X50B	Fort Payne	75.48	2	P	P	23 25 11.5	-0.3
baz=182							
X47A	Russelville	75.52	360	P	P	23 25 11.5	-0.4
baz=180,SNR=7.1							
X49A	Woodville	75.52	1	P	P	23 25 11.9	-0.1
baz=181,SNR=9.2							
OXF	Oxford	75.53	359	P	P	23 25 11.1	-0.8
baz=179							
X46A	Booneville	75.56	359	P	P	23 25 11.8	-0.3
baz=179							
X51A	Calhoun	75.61	2	P	P	23 25 12.4	-0.1
baz=182							
X53A	Estanollee	75.61	4	P	P	23 25 12.7	+0.2
baz=183,SNR=6.4							
X40A	Basin Creek Fa	75.63	356	P	P	23 25 12.8	+0.2
baz=176							
X55A	Gracelyn & Ava	75.68	5	P	P	23 25 12.3	-0.5
baz=185							
X52A	Dahlonega	75.69	3	P	P	23 25 13.0	+0.1
baz=183,SNR=6.6							
X54A	Belton	75.71	5	P	P	23 25 13.2	+0.2
baz=184,SNR=6.7							
MIAR	Mount Ida	75.73	355	P	P	23 25 13.2	+0.1
baz=176							
X56A	White Oak	75.74	6	P	P	23 25 12.8	-0.4
baz=185							
121A	Cookes Peak, D	75.82	343	P	P	23 25 14.4	+0.5
baz=165							
W49A	Belvidere	76.13	1	P	P	23 25 15.4	0.0
baz=181							
W48A	Pulaski	76.14	1	P	P	23 25 15.2	-0.2
baz=181							
W52A	Murphy	76.17	3	P	P	23 25 15.7	0.0
baz=183							
W51A	Cleveland	76.21	3	P	P	23 25 15.6	-0.3
baz=182							
W50A	Signal Mountai	76.23	2	P	P	23 25 16.1	0.0
baz=182							
MSTX	Muleshoe	76.23	347	P	P	23 25 16.3	+0.1
baz=168,SNR=9.8							
W47A	Westpoint	76.25	0	P	P	23 25 15.7	-0.3
baz=180,SNR=5.4							
W54A	Cherokee Point	76.25	5	P	P	23 25 16.0	-0.1
baz=184							
W41B	Gary Mavity, V	76.28	356	P	P	23 25 16.3	+0.1
baz=176							
W53A	Cullowhee	76.28	4	P	P	23 25 16.3	-0.1
baz=184,SNR=5.4							
TUC	Tucson	76.33	340	P	P	23 25 18.0	+1.3
baz=162							
KMSC	Kings Mountain	76.37	5	P	P	23 25 16.2	-0.5
baz=185							
W39A	Magazine	76.39	355	P	P	23 25 17.4	+0.5
baz=175							
WMOK	Wichita Mounta	76.41	351	P	P	23 25 17.3	+0.2
baz=172							
W56A	Indian Trail	76.42	6	P	P	23 25 15.9	-1.2
baz=186							
W58A	Raeford	76.42	7	P	P	23 25 16.4	-0.6
baz=186							
W57A	Gilead	76.48	7	P	P	23 25 16.4	-1.0
baz=186							
214A	Organ Pipe Nat	76.54	338	P	P	23 25 19.6	+1.8
baz=161							
W60A	Pink Hill	76.61	8	P	P	23 25 18.3	+0.2
baz=188							
V50A	Pikevile	76.71	2	P	P	23 25 18.8	+0.1
baz=182,SNR=9.6							
V48A	Smith Brothers	76.74	1	P	P	23 25 18.5	-0.4
baz=181,SNR=9.4							
V49A	McMinnville	76.78	2	P	P	23 25 18.7	-0.4
baz=181,SNR=7.8							
V46A	Holladay	76.80	360	P	P	23 25 18.2	-0.9
baz=180,SNR=8.2							
V53A	Saluda	76.80	4	*e*P	P	23 25 18.3	-1.0
18nm,1.2s							
V53A	Saluda	76.80	4	P	P	23 25 18.9	-0.4
baz=184							
W61A	Ground Anchor	76.81	9	P	P	23 25 18.7	-0.5
baz=188							
V47A	Nunnelly	76.82	0	P	P	23 25 18.7	-0.6
baz=180,SNR=8.3							
V51A	Loudon	76.86	3	*e*P	P	23 25 19.3	-0.2
9.7nm,1.0s							
V51A	Loudon	76.86	3	P	P	23 25 19.2	-0.3
baz=183							
V52A	Sevierville	76.93	3	P	P	23 25 19.5	-0.5
baz=183							
AMTX	Amarillo	76.95	348	P	P	23 25 20.9	+0.7
baz=169							
V54A	Nebo	76.96	5	P	P	23 25 19.3	-0.8
baz=184							
V55A	Taylorsville	77.08	5	P	P	23 25 20.2	-0.6
baz=185							
V56A	Mocksville	77.09	6	P	P	23 25 20.2	-0.7
baz=186							
WVT	Waverly	77.12	360	*e*P	P	23 25 20.3	-0.7
25nm,1.4s							
WVT	Waverly	77.12	360	P	P	23 25 20.4	-0.6
baz=180							
V58A	Windy Hill, Pi	77.20	7	P	P	23 25 20.4	-1.0
baz=187							
V57A	Coltrane Farms	77.23	7	P	P	23 25 20.7	-0.9
baz=186							
V59A	Middlesex	77.26	8	P	P	23 25 20.9	-0.8
baz=187							
TUL1	Leonard	77.26	353	P	P	23 25 21.7	-0.1
baz=174,SNR=5.8							
U41A	Viola	77.43	357	P	P	23 25 22.4	-0.3
baz=177							
U47A	Clarksville	77.44	0	P	P	23 25 22.3	-0.4
baz=180,SNR=9.5							
U51A	La Follette	77.45	3	P	P	23 25 22.2	-0.6
baz=183							
U50A	Jamestown	77.46	2	P	P	23 25 22.4	-0.5
baz=182,SNR=7.1							
U52A	Thorn Hill	77.49	4	P	P	23 25 22.2	-0.9
baz=183,SNR=5.5							
U40A	Yellville	77.49	356	P	P	23 25 23.0	-0.1
baz=176,SNR=5.9							
U53A	Fall Branch	77.50	4	P	P	23 25 22.4	-0.8
baz=184							
U48A	Cassie Pea, Po	77.51	1	P	P	23 25 22.7	-0.5
baz=181							
U49A	Red Boiling Sp	77.53	2	P	P	23 25 23.1	-0.2
baz=182,SNR=18							
113A	Mohawk Valley,	77.57	338	*e*P	P	23 25 24.2	+0.7
9.3nm,1.4s							
TZTN	Tazewell	77.63	3	P	P	23 25 23.5	-0.4
baz=183							
U55A	TA2, Sparta	77.74	6	P	P	23 25 23.8	-0.7
baz=185							
U57A	Blanch	77.81	7	P	P	23 25 24.1	-0.7
baz=186							
U58A	Oxford	77.85	8	P	P	23 25 24.1	-1.0
baz=187							
ANMO	Albuquerque	77.87	344	*e*P	P	23 25 27.0	+1.6
13nm,1.1s							
ANMO	Albuquerque	77.87	344	P	P	23 25 26.3	+0.9
baz=166							
TASM	ASL Pad, Albuq	77.87	344	P	P	23 25 26.5	+1.0
baz=166,SNR=14							
TASM	ASL Pad, Albuq	77.87	344	P	P	23 25 26.5	+1.0
baz=166,SNR=14							
U59A	Littleton	77.88	8	P	P	23 25 24.4	-0.8
baz=188							
T47A	Sharon Grove	77.98	1	P	P	23 25 25.2	-0.5
baz=180,SNR=7.6							
T46A	Princeton	78.04	360	P	P	23 25 25.6	-0.5
baz=180,SNR=10							
T51A	Gray	78.04	3	P	P	23 25 25.8	-0.3
baz=183							
T50A	Nancy	78.06	2	P	P	23 25 25.7	-0.5
baz=182							
T48A	Bowling Green	78.11	1	P	P	23 25 25.8	-0.7
baz=181,SNR=8.6							
T53A	Wise	78.12	4	P	P	23 25 25.7	-0.9
baz=184							
T49A	Edmonton	78.12	2	P	P	23 25 25.5	-1.0
baz=182							
T52A	Hallie	78.22	4	P	P	23 25 26.2	-1.0
baz=184							
T54A	Tazewell	78.26	5	P	P	23 25 26.3	-1.1
baz=185							
T56A	Rocky Mt	78.34	6	P	P	23 25 26.9	-0.9
baz=186							
T55A	Pulaski	78.37	6	P	P	23 25 27.1	-0.9
baz=185							
T57A	Hurt	78.38	7	P	P	23 25 26.9	-1.0
baz=186							
T58A	Grand View Acr	78.39	8	P	P	23 25 27.2	-0.8
baz=187							
T59A	Double "B" Far	78.52	8	P	P	23 25 27.6	-1.1
baz=188							
S47A	Hartford	78.59	1	P	P	23 25 28.3	-0.8
baz=181							
S48A	Wiedeman Farm,	78.67	1	P	P	23 25 28.5	-1.1
baz=181,SNR=5.9							
S41A	Jillco Farms,	78.67	357	P	P	23 25 29.2	-0.3
baz=177,SNR=11							
S44A	Carbondale	78.70	359	P	P	23 25 29.2	-0.5
baz=179							
Y12C	Blythe	78.71	337	P	P	23 25 31.5	+1.6
baz=160							
S51A	Beattyville	78.72	3	P	P	23 25 29.3	-0.5
baz=183,SNR=5.9							
S50A	Richmond	78.73	3	P	P	23 25 29.6	-0.3
baz=182							
S49A	Springfield	78.81	2	P	P	23 25 29.4	-1.0
baz=182							
S53A	Williamson	78.84	5	P	P	23 25 29.9	-0.7
baz=184							
S55A	Lewisburg	79.04	6	P	P	23 25 31.0	-0.7
baz=186							
S58A	Poland Farm, P	79.10	8	P	P	23 25 31.3	-0.6
baz=187							
CCM	Cathedral Cave	79.11	357	*e*P	P	23 25 31.9	-0.1
34nm,1.0s							
CCM	Cathedral Cave	79.11	357	P	P	23 25 32.1	+0.1
baz=177							
S57A	Dark Hollow, R	79.16	7	P	P	23 25 31.6	-0.7
baz=187							
R46A	Gibon Southern	79.20	0	P	P	23 25 31.8	-0.6
baz=180							
WCI	Wyandotte Cave	79.23	1	*e*P	P	23 25 32.1	-0.5
22nm,1.2s							
WCI	Wyandotte Cave	79.23	1	P	P	23 25 32.0	-0.6
baz=181							
R45A	Skylar, Fairfi	79.29	360	P	P	23 25 32.5	-0.4
baz=180							
R47A	Wooly Knot Far	79.30	1	P	P	23 25 32.0	-0.9
baz=181,SNR=10							
R49A	Shelbyville	79.32	2	P	P	23 25 32.4

R58B	Mineral baz=188	79.47	8	P	P	23 25 33.0	-0.9
R53A	Hurricane baz=184	79.50	5	P	P	23 25 33.8	-0.3
T25A	Trinidad baz=167,SNR=10	79.61	347	P	P	23 25 36.1	+1.1
R57A	Stanardsville baz=187	79.73	7	P	P	23 25 34.4	-1.0
R58A	Rapidan baz=187	79.79	8	P	P	23 25 34.9	-0.8
Q45A	Warren Harvey, baz=180,SNR=9.6	79.89	360	P	P	23 25 35.7	-0.4
Q47A	Bedord North L baz=181	79.94	1	P	P	23 25 35.7	-0.8
Q48A	North Vernon baz=182	79.94	2	P	P	23 25 35.9	-0.6
Q42A	Golden Eagle baz=178	79.94	358	P	P	23 25 36.3	-0.2
GMRC	Granite Mounta baz=159	80.01	337	P	P	23 25 36.6	-0.5
Q49A	Aurora baz=182	80.04	2	P	P	23 25 36.5	-0.5
Q53A	Leroy baz=185,SNR=6.0	80.05	5	P	P	23 25 36.4	-0.7
Q52A	Bidwell baz=184	80.11	4	P	P	23 25 36.8	-0.6
Q51A	Peebles baz=183	80.12	3	P	P	23 25 36.7	-0.7
Q54A	Coxs Mills baz=185	80.22	5	P	P	23 25 37.4	-0.6
Q55A	Buckhannon baz=186	80.29	6	P	P	23 25 38.1	-0.3
SDCO	Great Sand Dun baz=167,SNR=10.0	80.39	346	P	P	23 25 40.4	+1.1
Q57A	Strasburg baz=187	80.48	7	P	P	23 25 38.9	-0.4
P48A	Milroy baz=182	80.48	2	P	P	23 25 38.4	-1.0
P47A	Martinsville baz=181	80.49	1	P	P	23 25 38.7	-0.7
KSU1	Kansas State U baz=173	80.50	353	P	P	23 25 39.8	+0.3
P45A	Graceland, Par baz=180,SNR=7.3	80.52	0	P	P	23 25 39.1	-0.4
CBKS	Cedar Bluff baz=171	80.55	351	P	P	23 25 40.4	+0.6
P49A	Miami Univ. Ec baz=182,SNR=6.7	80.57	2	P	P	23 25 38.9	-0.9
P51A	Williamsport baz=184	80.58	4	P	P	23 25 39.2	-0.7
P46A	Rosedale baz=180	80.61	0	P	P	23 25 39.1	-1.0
P43A	Skaggs, Pawnee baz=179	80.65	359	P	P	23 25 39.4	-0.8
S22A	4UR Ranch, Cre baz=166	80.65	345	P	P	23 25 42.0	+1.3
P50A	Jamestown baz=183	80.68	3	P	P	23 25 39.7	-0.7
P53A	Whipple baz=185,SNR=6.4	80.69	5	P	P	23 25 39.5	-1.0
P52A	Corning baz=184,SNR=7.7	80.78	4	P	P	23 25 40.4	-0.6
P55A	Reedsville baz=186	80.82	6	P	P	23 25 40.3	-1.0
KSCO	Kaye Shedlock' 57nm,1.5s	81.14	348	eP	P	23 25 44.0	+0.9
O49A	Covington 14nm,1.0s	81.24	3	eP	P	23 25 42.4	-1.0
O49A	Covington baz=183	81.24	3	P	P	23 25 42.4	-1.0
O45A	Potomac baz=180	81.24	0	P	P	23 25 42.7	-0.6
O47A	Sheridan baz=181	81.24	1	P	P	23 25 42.5	-0.9
P59A	Jarrettsville baz=188	81.26	9	P	P	23 25 42.8	-0.7
O51A	Pataskala baz=184	81.27	4	P	P	23 25 42.8	-0.8
O48A	Farmland baz=182	81.28	2	P	P	23 25 42.8	-0.9
O52A	Adamsville baz=184	81.28	5	P	P	23 25 42.8	-0.8
ACSO	Alum Creek Sta baz=184	81.34	4	P	P	23 25 43.1	-0.8
SFIN	Lafayette baz=180	81.37	1	P	P	23 25 43.5	-0.6
PKM	Mcpherson Peak baz=156	81.41	334	P	P	23 25 44.6	-0.1
O53A	New Philadelph baz=185	81.45	5	P	P	23 25 43.9	-0.7
PV13	Radium Mtn., P 18nm,1.4s	81.46	343	eP	P	23 25 45.5	+0.5
Q24A	Divide 19nm,1.1s	81.51	346	eP	P	23 25 46.1	+0.8
Q24A	Divide baz=167	81.51	346	P	P	23 25 45.9	+0.6
O55A	Ligonier baz=186	81.56	7	P	P	23 25 44.1	-1.0
PV18	Skein Mesa, Pa 8.8nm,1.2s	81.56	343	eP	P	23 25 46.0	+0.5
PV20	West Nyswonger 10nm,1.3s	81.66	343	eP	P	23 25 46.7	+0.7
O56A	Blue Knob Stat baz=187	81.69	7	P	P	23 25 44.9	-0.9
PSUB	Penn St. - Bra 12nm,0.9s	81.69	10	eP	P	23 25 45.8	0.0
PV07	Paradox Valley 12nm,1.6s	81.69	344	eP	P	23 25 46.0	-0.1
PV04	Paradox Valley 16nm,1.0s	81.70	343	eP	P	23 25 47.4	+1.2
N44A	Piper City baz=180	81.78	360	P	P	23 25 46.0	-0.3
PV22	Blue Mesa, Par 14nm,1.4s	81.81	343	eP	P	23 25 47.6	+0.9
N45A	Kentland baz=180,SNR=6.4	81.84	0	P	P	23 25 46.1	-0.5
N50A	Nevada baz=184	81.87	4	P	P	23 25 46.0	-0.7
N48A	Decatur baz=182	81.89	2	P	P	23 25 46.1	-0.7
N46A	Monticello baz=181,SNR=5.7	81.89	1	P	P	23 25 46.3	-0.5
N47A	Urbana baz=182	81.89	2	P	P	23 25 45.8	-1.1
N43A	Stutzman Famil baz=179	81.94	359	P	P	23 25 47.1	0.0
N40A	Mertquake, Sal baz=177	81.95	357	P	P	23 25 47.0	-0.2
N49A	Columbus Grove baz=183	81.97	3	P	P	23 25 46.4	-0.8
O59A	Robesonia baz=189	81.98	9	P	P	23 25 46.6	-0.7
N53A	Lisbon baz=185,SNR=5.5	82.03	5	P	P	23 25 47.0	-0.6
N51A	Ashland baz=184	82.05	4	P	P	23 25 47.3	-0.4
SMCO	Snowmass 18nm,1.3s	82.06	345	eP	P	23 25 49.1	+0.8
O60A	Telford baz=189	82.08	9	P	P	23 25 47.2	-0.6
SSPA	Standing Stone baz=187	82.11	8	P	P	23 25 47.4	-0.7
N55A	Marion Center baz=187	82.16	7	P	P	23 25 47.4	-0.8
N54A	Moraine State baz=186	82.25	6	P	P	23 25 48.0	-0.8
CWC	Cottonwood Cre baz=158	82.27	336	P	P	23 25 50.4	+1.3
M44A	Midewin, Midew baz=180,SNR=5.1	82.38	360	P	P	23 25 49.3	-0.1
ISCO	Idaho Springs 5.6nm,1.1s	82.41	346	eP	P	23 25 51.0	+1.0
ISCO	Idaho Springs baz=167	82.41	346	P	P	23 25 51.3	+1.3
M43A	Waltham Townsh baz=179	82.43	359	P	P	23 25 49.2	-0.4
M51A	Elyria baz=184	82.47	4	P	P	23 25 48.9	-0.9
M50A	Fremont baz=184	82.50	4	P	P	23 25 49.0	-1.0
M49A	Liberty Center baz=183	82.53	3	P	P	23 25 49.5	-0.7
MSU	Marysvale	82.57	341	eP	P	23 25 52.1	+1.3
N59A	State Game Lan baz=189	82.62	9	P	P	23 25 50.3	-0.4
M53A	WI Miller and baz=185	82.68	5	P	P	23 25 49.9	-1.0
Q16A	Castle Valley	82.71	342	eP	P	23 25 52.5	+1.1
TCRU	Three Creeks R 23nm,1.4s	82.73	341	eP	P	23 25 52.3	+0.7
M52A	Chesterland baz=185	82.73	5	P	P	23 25 50.4	-0.9
SRU	San Rafael Swe 11nm,1.3s	82.75	342	eP	P	23 25 51.9	+0.3
M54A	Oil Creek Stat baz=186	82.82	6	P	P	23 25 51.0	-0.7
M55A	Ridgway baz=187	82.86	7	P	P	23 25 50.5	-1.4
PLIO	Pelee Island, baz=184	82.87	4	P	P	23 25 50.7	-1.2
BGNE	Belgrade 46nm,0.9s	82.93	352	eP	P	23 25 52.7	+0.4
BGNE	Belgrade baz=172	82.93	352	P	P	23 25 52.7	+0.4
PAL	Palisades baz=190	82.95	11	P	P	23 25 51.0	-1.3
L42A	Oliver, Polo baz=178	83.01	359	P	P	23 25 52.3	-0.4
PSUT	Pine Spring 7.2nm,1.1s	83.02	340	eP	P	23 25 54.1	+1.0
SCIA	State Center 39nm,1.1s	83.04	356	eP	P	23 25 53.4	+0.6
L40A	Anamosa baz=177	83.11	357	P	P	23 25 52.5	-0.7
L50A	Kingsville baz=184	83.15	4	P	P	23 25 51.8	-1.6
L44A	Lake County Fo baz=180	83.17	360	P	P	23 25 53.1	-0.3
L43A	Garden Prairie baz=179,SNR=6.4	83.17	359	P	P	23 25 53.1	-0.4
L39A	Vinton baz=177	83.20	357	P	P	23 25 53.2	-0.4
L53A	Girard baz=186	83.22	6	P	P	23 25 52.4	-1.4
O20A	White River Ci baz=165	83.24	344	P	P	23 25 55.5	+1.4
R11A	Troy Canyon, C 8.2nm,1.3s	83.31	338	eP	P	23 25 55.0	+0.4
R11A	Troy Canyon, C baz=159	83.31	338	P	P	23 25 56.3	+1.8
ERPA	Erie baz=186	83.40	6	P	P	23 25 53.6	-1.1
N23A	Red Feather La 30nm,1.4s	83.53	346	eP	P	23 25 56.9	+1.2
N23A	Red Feather La baz=166	83.53	346	P	P	23 25 57.3	+1.6
L55A	Hinsdale baz=187	83.60	7	P	P	23 25 55.1	-0.6
K46A	Dorr baz=182	83.69	1	P	P	23 25 55.6	-0.5
K43A	Burlington baz=180	83.69	360	P	P	23 25 56.2	+0.1
K40A	Colesburg baz=177	83.74	357	P	P	23 25 55.7	-0.7
K39A	Oelwein baz=177	83.78	357	P	P	23 25 56.1	-0.5
K42A	Prairie Point, baz=179	83.78	359	P	P	23 25 56.4	-0.2
K48A	Perry baz=183	83.85	3	P	P	23 25 56.6	-0.3
BINY	Binghamton baz=189	83.86	9	P	P	23 25 56.6	-0.5
MPU	Maple Canyon 12nm,1.2s	83.87	342	eP	P	23 25 57.9	+0.5
NLU	North Lily Min 20nm,1.3s	83.91	341	eP	P	23 25 58.9	+1.2
JFWS	Jewell Farm baz=178	83.93	358	P	P	23 25 57.2	-0.2
NV11	Mina Array Sit 0.4nm,1.1s	84.13	336	eP	P	23 25 58.8	+0.1
K55A	Perry baz=187	84.17	7	P	P	23 25 57.8	-0.8
NVAR	Mina Array Bea	84.17	336	eP	P	23 26 00.3	+1.3
NVAR	Mina Array Bea 3.1nm,0.9s,baz=163,slow=5.9,SNR=15	84.17	336	P	P	23 26 00.9	+1.9
J42A	Columbus baz=179	84.31	359	P	P	23 25 59.1	-0.2
DUG	Dugway, Tooele baz=161	84.32	341	P	P	23 26 01.3	+1.7
J48A	Bridge Port baz=184	84.36	3	P	P	23 25 58.8	-0.7
J43A	Natural Harves baz=180	84.37	360	P	P	23 25 59.5	-0.1
J41A	Loganville baz=178,SNR=6.3	84.38	358	P	P	23 25 59.3	-0.3
J39A	Decorah baz=177	84.40	357	P	P	23 25 58.9	-0.8
RYN	Ryan 8.7nm,1.2s	84.42	336	eP	P	23 26 00.9	+0.7
J40A	Soldiers Grove baz=178	84.43	358	P	P	23 25 59.4	-0.5
CMB	Columbia Colle 8.0nm,1.2s	84.46	335	eP	P	23 26 01.3	+1.0
RWWY	Rawlins 17nm,1.0s	84.53	345	eP	P	23 26 01.4	+0.6
J55A	Hilton baz=187	84.73	7	P	P	23 26 00.5	-0.9
I43A	Langenfeld Bro baz=180	84.87	360	P	P	23 26 01.9	-0.2
I42A	Draeger Farm, baz=179,SNR=5.2	84.88	359	P	P	23 26 01.8	-0.3
I39A	Houston baz=177,SNR=6.6	84.91	357	P	P	23 26 02.0	-0.3
I40A	Norwalk baz=178	84.92	358	P	P	23 26 02.0	-0.4
I51A	Listowel baz=185	85.01	5	P	P	23 26 01.8	-1.0
I41A	Arkdale baz=178	85.07	358	P	P	23 26 02.6	-0.5
ECSD	EROS Data Cent baz=173,SNR=29	85.09	354	P	P	23 26 03.5	+0.2
BASO	Ashfield baz=185	85.18	4	P	P	23 26 02.9	-0.7
DRWO	Darlington Wes baz=187	85.25	7	P	P	23 26 03.3	-0.6
WLVO	Westleyville baz=187	85.33	7	P	P	23 26 03.5	-0.9
K22A	Casper 40nm,1.1s	85.34	346	eP	P	23 26 05.5	+0.8
K22A	Casper baz=166	85.34	346	P	P	23 26 06.0	+1.3
H43A	Windswept, Lux baz=180	85.46	360	P	P	23 26 04.8	-0.2
PECO	Prince Edward baz=188	85.47	8	P	P	23 26 04.5	-0.6
AFDM	Forest Hills D 25nm,1.9s	85.48	335	eP	P	23 26 06.0	+0.7
H46A	Fife Lake baz=182	85.56	2	P	P	23 26 04.7	-0.8
H41A	Junction City baz=179	85.62	359	P	P	23 26 05.4	-0.5
H40A	Chili baz=178,SNR=5.3	85.64	358	P	P	23 26 05.7	-0.3
I55A	Frankford baz=188	85.68	7	P	P	23 26 05.4	-0.7
H39A	Augusta baz=177	85.72	357	P	P	23 26 05.8	-0.5
H38A	Maiden Rock baz=177	85.76	357	P	P	23 26 05.4	-1.1
DELO	Deloro Mine baz=188	85.99	7	P	P	23 26 06.9	-0.8
BW06	Boulder Array baz=164	86.04	344	P	P	23 26 08.8	+0.5
PD31	Pinedale Array 31nm,1.9s	86.04	344	eP	P	23 26 09.0	+0.7
PDAR	Pinedale Array	86.04	344	eP	P	23 26 08.7	+0.5
PDAR	Pinedale Array 1.9nm,0.8s,baz=150,slow=6.7,SNR=12	86.04	344	P	P	23 26 08.9	+0.7
PDAR	comp=Z,40nm,18.8s,baz=166,slow=32			LR	LR	23 58 59.7	
G45A	Suttons Bay baz=182	86.05	1	P	P	23 26 07.7	-0.3
H55A	Tweed baz=188	86.06	8	P	P	23 26 07.3	-0.7
H56A	Elgin baz=189	86.20	8	P	P	23 26 07.8	-0.8
G42A	Mountain baz=180	86.23	360	P	P	23 26 08.6	-0.2
G47A	Hillman baz=183	86.23	3	P	P	23 26 08.2	-0.7
G43A	Wallace baz=180,SNR=6.6	86.24	0	P	P	23 26 08.7	-0.1
G40A	Rib Lake baz=178,SNR=8.4	86.28	358	P	P	23 26 08.8	-0.3
G39A	Holcombe	86.33	358	P	P	23 26 08.6	-0.8
SPMN	Marine on St. baz=176	86.33	356	P	P	23 26 08.6	-0.8
RSSD	Black Hills baz=168	86.36	348	P	P	23 26 10.7	+0.9
TOBO	Tobermory, Bru baz=185	86.39	4	P	P	23 26 08.5	-1.1
LONY	Lake Ozonia baz=190	86.42	9	P	P	23 26 09.1	-0.7
BANO	Bancroft baz=187	86.45	7	P	P	23 26 09.2	-0.8
G53A	Haliburton baz=187	86.50	6	P	P	23 26 09.6	-0.6
PLVO	Plevna baz=188	86.56	8	P	P	23 26 09.7	-0.7
KLBO	Killbear Provi baz=186	86.61	5	P	P	23 26 09.8	-0.9
F45A	CMU Biological baz=182	86.69	2	P	P	23 26 10.8	-0.3
F41A	Three Lakes baz=179,SNR=9.2	86.73	359	P	P	23 26 10.9	-0.4
BUKO	Buck Lake baz=186	86.75	6	P	P	23 26 10.6	-0.8
DZM	Mont Dzumac comp=Z,290nm,24.1s	86.80	243	eLR	LR	23 53 39.7	
G55A	Calabogie baz=186	86.80	8	P	P	23 26 10.8	-0.9
F43A	Flat Rock, Esc baz=180	86.82	0	P	P	23 26 11.6	-0.1
BOSA	Boshof comp=Z,68nm,21.0s,baz=212,slow=31	86.84	126	LR	LR	23 57 41.6	
REDW	Red Top Meadow 20nm,1.4s	86.88	343	eP	P	23 26 13.4	+1.0
F49A	Sandfield baz=184	86.90	4	P	P	23 26 11.0	-1.0
F40A	Park Falls baz=178,SNR=7.2	86.93	358	P	P	23 26 12.0	-0.3
F48A	Evansville baz=184	86.94	4	P	P	23 26 11.2	-1.0
F39A	Loretta baz=178,SNR=8.9	86.95	358	P	P	23 26 11.9	-0.5
F44A	Big Bay de Noc baz=181	86.97	1	P	P	23 26 12.1	-0.3
O03E	Paynes Creek baz=155	86.97	335	P	P	23 26 14.0	+1.3
F38A	Pierce - Schro baz=177	87.02	357	P	P	23 26 12.2	-0.5
F52A	Sundridge baz=186	87.11	6	P	P	23 26 12.1	-1.0
PEMO	Pembroke baz=188	87.17	7	P	P	23 26 12.4	-1.0
O02D	Mt. Diablo Mer baz=154	87.19	334	P	P	23 26 14.8	+1.0
F51A	Arnstein baz=186	87.20	5	P	P	23 26 12.6	-1.0
E43A	Lone Tree Farm baz=181,SNR=7.7	87.36	1	P	P	23 26 14.3	-0.1
ALGO	Algonquin Park baz=187	87.37	7	P	P	23 26 14.0	-0.4
E45A	Wooded Hills, baz=182	87.37	2	P	P	23 26 14.3	-0.1
ALFO	Alfred baz=190	87.38	9	P	P	23 26 14.0	-0.3
E39A	Mellen baz=178	87.40	358	P	P	23 26 14.1	-0.4
E46A	Sault Ste Mari baz=183,SNR=11	87.41	2	P	P	23 26 14.0	-0.6
E42A	Champion baz=180	87.42	360	P	P	23 26 14.4	-0.2
E40A	Wakefield baz=178,SNR=6.3	87.45	359	P	P	23 26 14.5	-0.3
E41A	Kenton baz=179	87.46	359	P	P	23 26 14.4	-0.4
E47A	Iron Bridge baz=183,SNR=6.7	87.53	3	P	P	23 26 14.6	-0.5
E48A	Lockeyer baz=184	87.61	4	P	P	23 26 14.9	-0.6
E50A	Wahnapitae baz=185	87.63	5	P	P	23 26 14.6	-1.0
E53A	Dumoine, Ponti baz=188	87.83	7	P	P	23 26 15.9	-0.7
E51A	G1948 Merrick baz=186	87.83	6	P	P	23 26 15.7	-0.9
HLID	Hailey baz=160	87.89	341	P	P	23 26 18.7	+1.5
E54A	Lac Daplat, Po baz=188	87.93	7	P	P	23 26 16.1	-0.9
D46A	Sault St. Mari baz=183	87.94	3	P	P	23 26 16.6	-0.5
D41A	Chassel baz=179	88.05	359	P	P	23 26 17.5	-0.1
D47A	Chapleau baz=184,SNR=5.1	88.14	3	P	P	23 26 17.4	-0.7
RLMT	Red Lodge baz=164	88.24	345	P	P	23 26 20.0	+1.2
D48A	Paudash Townsh baz=184,SNR=5.3	88.32	4	P	P	23 26 17.9	-1.1
M04C	Macdoel baz=155	88.33	335	P	P	23 26 20.4	+1.1
D52A	ZEK Kipawa Sen baz=187,SNR=6.1	88.35	6	P	P	23 26 18.5	-0.6
D51A	Lot 18 Range I baz=186	88.39	6	P	P	23 26 18.5	-0.8
D49A	Beulah Townshi baz=185,SNR=5.9	88.44	4	P	P	23 26 18.6	-0.8
D54A	Lac Fusel, La baz=188	88.69	8	P	P	23 26 19.5	-1.1
MCMT	McKenzie Canyo	88.72	342	eP	P	23 26 22.5	+1.3
C40A	Isle Royale Na baz=179	88.91	359	P	P	23 26 22.5	+0.9
EYMN	Ely baz=177	89.00	357	P	P	23 26 21.3	-0.8
DBIC	Dimbokro comp=Z,81nm,18.9s,baz=206,slow=33	89.05	80	LR	LR	00 02 02.3	
BOZ	Bozeman (W) baz=162	89.18	343	P	P	23 26 24.5	+1.3
L02E	Cave Junction baz=154	89.24	334	P	P	23 26 24.0	+0.6
LATQ	La Tuque baz=191	89.36	10	P	P	23 26 23.4	-0.4
MDND	Maddock 52nm,1.1s	89.45	352	eP	P	23 26 25.3	+1.0
MDND	Maddock baz=171	89.45	352	P	P	23 26 24.4	+0.2
J05D	Fort Rock, OR baz=156	89.51	336	P	P	23 26 26.4	+1.6
I04A	Tendick Farm, baz=155	90.33	336	P	P	23 26 29.9	+1.4
LSQQ	Lebel-sur-Quev baz=188	90.55	7	P	P	23 26 28.7	-0.6
EGMT	Eagleton baz=164	91.12	345	P	P	23 26 33.0	+0.9
ULM	Lac du Bonnet 7.4nm,0.8s,baz=188,slow=4.2,SNR=16	91.52	355	P	P	23 26 33.1	-0.7
CHGQ	Chibougamau baz=190	91.66	9	P	P	23 26 33.8	-0.6
TORD	Torodi Ar. Bea 1.3nm,1.0s,baz=274,slow=6.4,SNR=3.9	98.14	80	P	P	23 27 03.3	-1.7
TORD	comp=Z,82nm,19.2s,baz=280,slow=33			LR	LR	00 07 37.0	
POKR	Poker Plat Res baz=134	115.84	336	P	PKPdf	23 32 08.1	-1.2
VYHS	Vyhne	129.38	56	ePKP	PKiKP	23 32 42.9	+6.4
BRTR	Keskin Array B 0.4nm,0.7s,baz=235,slow=5.1,SNR=3.4	136.17	72	PKhKP	PKPpre	23 32 42.6	
BRTR	1.1nm,0.9s,baz=191,slow=3.8,SNR=6.0			PKP	PKPdf	23 32 49.2	+0.2
KIV	Kislovodsk	143.90	69	ePKPpre	PKPpre	23 32 59.7	
KBZ	Khabaz 6.1nm,0.9s,baz=306,slow=1.6,SNR=14	143.99	69	PKP	PKPab	23 33 00.0	-0.2
MJAR	Matsushiro Arr	144.26	278	ePKPdf	PKPab	23 33 01.3	-0.3
MJAR	Matsushiro Arr 2.9nm,0.8s,baz=140,slow=3.0,SNR=6.6	144.26	278	PKP	PKPab	23 33 00.8	-0.8
TIXI	Tiksi	144.67	341	ePKPdf	PKPab	23 33 01.0	-0.9
USRK	Ussuriysk Ar. 2.5nm,0.7s,baz=184,slow=3.4,SNR=5.7	150.89	289	PKPbc	PKPbc	23 33 18.9	-1.0
NRIK	Noril'sk 1.2nm,0.6s,baz=30,slow=5.2,SNR=5.2	151.86	4	PKPbc	PKPbc	23 33 20.7	-0.8
KSRS	Korea Array 1.4nm,0.6s,baz=120,slow=3.4,SNR=5.3	152.29	274	PKPbc	PKPbc	23 33 22.5	-0.8
ABKAR	Akbulak array	156.09	60	ePKPdf	PKPdf	23 33 20.1	-1.4
CMAR	Chiang Mai Arr 1.5nm,0.7s,baz=192,slow=5.9,SNR=7.0	156.46	196	PKPab	PKPab	23 33 51.5	+0.1
CHTO	Chiang Mai	156.80	196	ePKPab	PKPab	23 33 51.9	-1.0
NJ2	Nanjing	156.81	255	ePKP	PKPdf	23 33 22.5	-0.6
HHC	Hu-ho-hao-te	165.43	274	ePKP	PKPdf	23 33 31.3	-0.8
CD2	Chengdu	166.04	225	PKP	PKPdf	23 33 32.6	-0.3
ZALV	Zalesovo Beam	166.47	19	PKPab	PKPab	23 34 33.7	-0.5

0.3nm,0.3s,baz=300,slow=5.8,SNR=2.6
MKAR Makanchi Array 171.01 50 PKPab **PKPab 23 34 53.9 -0.9**
0.3nm,0.6s,baz=276,slow=3.5,SNR=4.4
WMQ Urumqi 175.84 52 *e*PKP **PKPdf 23 33 38.0 +0.4**
WMQ LR LR
comp=N,300nm,30.7s
WMQ LR LR
comp=E,220nm,26.9s

*IDC **16** 23:15:42.3±1.6, 15°.34N×87°.04W, h0km, mb3.4/3, mb1 3.9/5, mb1mx3.6/30, mbtmp3.6/5, ML3.5/2, MS3.5/4, Ms1 3.5/4, ms1mx3.0/20, Error ellipse: s-maj=27.3km s-min=19.5km az=49.0*
*SNET **16** 23:15:47.0±1.1, 15°.50N×86°.98W, h15km±26km, ML3.7*
*UCR **16** 23:15:48.9±2.3, 15°.42N×87°.27W, h0km±18km, ML3.5*
ISC 16 23:15:43.1±2.0, 15°.56N±0°.06×87°.22W±0°.05, h2km±13km, n33, σ1s71/40, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**1.49**	**182**	*e*P	**Pg**	**23 16 11.7**	**0.0**
TGUH				*e*S	**Sb**	**23 16 31.2**	**+0.2**
TGUH	**Tegucigalpa,Un**	**1.49**	**182**	*e*P	**Pg**	**23 16 11.7**	**0.0**
TGUH				*e*S	**Sb**	**23 16 31.2**	**+0.2**
CAHU	**Cacacuatique**	**2.02**	**209**	*e*P	**Pg**	**23 16 22.3**	**+0.5**
CAHU				*e*S	**Sg**	**23 16 48.8**	**+0.7**
CAHU	**Cacacuatique**	**2.02**	**209**	*e*P	**Pg**	**23 16 21.3**	**-0.5**
CAHU				*e*S	**Sg**	**23 16 49.1**	**+1.1**
VICT	**Victoria**	**2.10**	**221**	*e*P	**Pg**	**23 16 23.1**	**-0.3**
VICT				IAML		23 16 54.4	
comp=Z,478nm,0.3s							
VICT	**Victoria**	**2.10**	**221**	*e*P	**Pg**	**23 16 23.1**	**-0.3**
VICT				IAML		23 16 54.4	
comp=Z,478nm,0.3s							
RCON	**San Juan de Ri**	**2.30**	**153**	*e*P	**Pg**	**23 16 27.0**	**-0.3**
PACA	**Pacayal**	**2.33**	**207**	*e*P	**Pb**	**23 16 26.1**	**0.0**
PACA	**Pacayal**	**2.33**	**207**	*e*P	**Pb**	**23 16 26.1**	**0.0**
CNCH	**Conchagua**	**2.34**	**195**	*e*P	**Pg**	**23 16 27.9**	**-0.5**
VSM	**San Miguel**	**2.35**	**206**	*e*P	**Pg**	**23 16 27.1**	**-1.1**
VSM	**San Miguel**	**2.35**	**206**	*e*P	**Pg**	**23 16 25.9**	**-0.5**
TECA	**Tecapa**	**2.40**	**211**	*e*P	**Pg**	**23 16 27.8**	**-1.3**
TECA	**Tecapa**	**2.40**	**211**	*e*P	**Pg**	**23 16 27.8**	**-1.3**
ESTN	**Estel**	**2.58**	**161**	*e*P	**Pb**	**23 16 30.5**	**+0.4**
ESTN				*e*S	**Sb**	**23 17 00.3**	**-2.0**
ESTN				IAML		23 17 05.2	
comp=N,610nm,0.7s							
ESTN	**Estel**	**2.58**	**161**	*e*P	**Pb**	**23 16 29.4**	**-0.7**
ESTN				*e*S	**Sb**	**23 17 00.3**	**-2.0**
CRIN	**San Cristobal**	**2.84**	**177**	*e*P	**Pb**	**23 16 34.4**	**-0.3**
SNJE	**San Jose**	**2.85**	**234**	*e*P	**Pb**	**23 16 34.8**	**-0.2**
SNJE	**San Jose**	**2.85**	**234**	*e*P	**Pb**	**23 16 34.8**	**-0.2**
CEVE	**Cerro Verde**	**2.89**	**234**	*e*P	**Pb**	**23 16 35.6**	**0.0**
CEVE	**Cerro Verde**	**2.89**	**234**	*e*P	**Pb**	**23 16 35.6**	**0.0**
MATN	**Matagalpa**	**2.90**	**154**	*e*P	**Pb**	**23 16 35.4**	**-0.2**
MATN				*e*S	**Sb**	**23 17 13.3**	**+1.8**
CNGN	**Cerro Negro**	**3.08**	**170**	*e*P	**Pb**	**23 16 37.5**	**-1.2**
CNGN	**Cerro Negro**	**3.08**	**170**	*e*P	**Pb**	**23 16 37.5**	**-1.2**
APG	**El Apazote**	**3.18**	**260**	Pn	**Pn**	**23 16 35.0**	**+0.6**
comp=N,10.0nm,0.3s,baz=60,slow=10,SNR=5.6							
APG				Pg	**Pg**	**23 16 42.9**	**-1.2**
comp=N,12nm,0.3s,baz=28,slow=10,SNR=7.7							
APG				Sn	**Sn**	**23 17 14.6**	**+1.6**
comp=N,9.7nm,0.3s,baz=243,slow=21,SNR=5.0							
APG				Lg	Lg	23 17 21.9	
comp=N,17nm,0.3s,baz=196,slow=23,SNR=7.2							
JTS	**Las Juntas de**	**5.68**	**157**	Pg	**Pb**	**23 17 19.8**	**-3.3**
comp=N,1.2nm,0.3s,baz=342,slow=19,SNR=4.2							
JTS				Lg	Lg	23 18 36.1	
comp=N,1.0nm,0.3s,baz=11,slow=19,SNR=1.5							
JTS				LR	LR	23 19 27.6	
comp=N,235nm,18.6s,baz=138,slow=42							
CMIG	**Matias Romero**	**7.52**	**283**	Pn	**Pn**	**23 17 36.6**	**+2.8**
comp=N,0.4nm,0.3s,baz=102,slow=11,SNR=5.4							
CMIG				Pg	**Pg**	**23 18 06.0**	**-1.2**
comp=N,0.2nm,0.3s,baz=126,slow=14,SNR=3.7							
CMIG				Sn	**Sn**	**23 18 52.1**	**-7.5**
comp=N,0.1nm,0.3s,baz=294,slow=20,SNR=1.6							
CMIG				Lg	Lg	23 19 47.8	
comp=N,0.2nm,0.3s,baz=44,slow=14,SNR=4.0							
ROSC	**El Rosal**	**16.56**	**129**	LR	LR	23 25 32.6	
comp=N,57nm,21.9s,baz=358,slow=36							
TXAR	**Lajitas Array**	**20.44**	**315**	P	Pn	23 20 25.6	+1.6
comp=N,1.5nm,0.7s,baz=129,slow=11,SNR=13							
NVAR	**Mina Array Bea**	**35.58**	**316**	LR	LR	23 40 43.8	
comp=N,51nm,18.5s,baz=221,slow=42							
YKA	**Yellowknife Ar**	**50.70**	**344**	P	**P**	**23 24 44.9**	**+1.1**
comp=N,0.3nm,0.6s,baz=143,slow=8.0,SNR=7.7							
PLCA	**Paso Flores**	**58.10**	**165**	LR	LR	23 45 07.1	
comp=N,273nm,20.9s,baz=293,slow=30							
ILAR	**Eielson Array**	**63.29**	**336**	P	**P**	**23 26 14.3**	**+1.2**
comp=N,0.5nm,0.8s,baz=154,slow=6.5,SNR=3.3							

IDC 16 23:18:26.1±11.0, 41°.70S×85°.65W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/22, mbtmp3.9/5, Error ellipse: s-maj=311.4km s-min=57.1km az=164.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**23.65**	**42**	P	P	23 23 39.5	0.0
3.4nm,0.8s,baz=304,slow=3.6,SNR=2.6							
TXAR	**Lajitas Array**	**72.61**	**344**	P	P	23 29 55.1	-0.1
0.8nm,0.8s,baz=171,slow=9.3,SNR=6.0							
NVAR	**Mina Array Bea**	**85.13**	**335**	P	P	23 31 04.4	+0.5
0.2nm,0.3s,baz=181,slow=5.9,SNR=4.1							
PDAR	**Pinedale Array**	**86.81**	**343**	P	P	23 31 12.6	+0.4
0.3nm,0.6s,baz=167,slow=8.3,SNR=2.3							
ULM	**Lac du Bonnet**	**92.01**	**353**	P	P	23 31 35.3	-0.9
1.9nm,0.7s,baz=147,slow=4.7,SNR=5.5							

*ATH **16** 23:20:13.4, 37°.08N×28°.48E, h12km±3km, ML2.1/3, Error ellipse: s-maj=7.5km s-min=1.6km az=248.0*
*ISK **16** 23:20:13.8, 37°.00N×28°.41E, h2km, ML2.6/14*
*ISCJB **16** 23:20:14.9±0.5, 37°.02N±0°.03×28°.39E±0°.03, h1km±6km, Error ellipse: s-maj=5.2km s-min=3.2km az=40.9*
*DDA **16** 23:20:14.2, 37°.02N×28°.43E, h7km±3km, ML2.6*
*THE **16** 23:20:14.9, 36°.97N×28°.38E, h1km±2km, ML2.1/2, Error ellipse: s-maj=2.5km s-min=0.9km az=32.0*
ISC 16 23:20:15.5±0.9, 37°.04N±0°.03×28°.41E±0°.02, h12km±7km, n32, σ1s47/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.23**	**135**	PG	**Pg**	**23 20 19.9**	**-0.4**
TURN				SG	**Sg**	**23 20 24.6**	**+1.1**
TURN	**Turunc**	**0.23**	**135**	*i* P	**Pg**	**23 20 20.9**	**+0.6**
TURN				*i* S	**Sg**	**23 20 25.9**	**+2.4**
DALY	**Dalyan (Mula)**	**0.29**	**137**	PG	**Pg**	**23 20 19.8**	**-1.7**
DALY				SG	**Sg**	**23 20 24.6**	**-0.9**
DALY	**Dalyan (Mula)**	**0.29**	**137**	*i* P	**Pb**	**23 20 20.6**	**-2.1**
DALY				IAML_P			
comp=Z,4μm,0.2s							
MRSB	**Marmaris-Mugla**	**0.36**	**208**	PG	**Pg**	**23 20 21.4**	**-1.3**
BBRN	**Bozburun-Marma**	**0.45**	**218**	PG	**Pg**	**23 20 23.4**	**-0.9**
TAVA	**DENIZLI_Tavas**	**0.59**	**43**	*i* P	**Pg**	**23 20 26.3**	**-0.8**
TAVA				IAML_P			
comp=Z,1μm,0.1s							
DATC	**Datca-Mugla**	**0.66**	**245**	PG	**Pg**	**23 20 27.2**	**-1.0**
FETY	**Fethiye**	**0.68**	**126**	PG	**Pg**	**23 20 27.2**	**-1.4**
FETY	**Fethiye**	**0.68**	**126**	P	**Pg**	**23 20 27.2**	**-1.4**
FETY				S	**Sb**	**23 20 38.5**	**0.0**
FETY	**Fethiye**	**0.68**	**126**	*i* P	**Pg**	**23 20 27.2**	**-1.4**
FETY				*i* S	**Sn**	**23 20 39.4**	**-1.9**
DAT	**Datca**	**0.73**	**246**	PG	**Pg**	**23 20 28.2**	**-1.4**
DAT	**Datca**	**0.73**	**246**	*i* P	**Pg**	**23 20 28.2**	**-1.4**
DAT				IAML_P			
comp=Z,385nm,0.2s							
AYDN	**Tasoluk**	**0.75**	**326**	*i* P	**Pb**	**23 20 30.0**	**-0.5**
AYDN				*i* S	**Sb**	**23 20 40.9**	**+0.1**
BDRM	**Kayabasi**	**0.77**	**273**	*i* P	**Pg**	**23 20 29.4**	**-1.0**
BDRM				IAML_P			
comp=Z,658nm,0.2s							
ARG	**Arkhangelos**	**0.85**	**195**	PG	**Pg**	**23 20 30.3**	**-1.5**
ARG	**Arkhangelos**	**0.85**	**195**	P	**Pg**	**23 20 30.5**	**-1.4**
ARG				S	**Sb**	**23 20 43.4**	**0.0**
ARG	**Arkhangelos**	**0.85**	**195**	P	**Pg**	**23 20 30.4**	**-1.4**
ARG				S	**Sb**	**23 20 43.7**	**+0.3**
ARG				AML	AML	23 20 46.2	
comp=E,214μm,0.4s							
ARG				AML	AML	23 20 51.9	
comp=N,184μm,0.5s							
BODT	**Bodrum**	**0.88**	**272**	PG	**Pg**	**23 20 31.3**	**-1.1**
BODT				SG	**Sb**	**23 20 44.6**	**+0.3**
BODT	**Bodrum**	**0.88**	**272**	P	**Pb**	**23 20 32.2**	**-0.4**
BODT				S	**Sb**	**23 20 44.5**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**336**	PG	**Pb**	**23 20 34.4**	**-0.4**
AYDB				SG	**Sn**	**23 20 49.6**	**+0.1**
GCAM	**G?zelcaml?**	**1.15**	**306**	PN	**Pn**	**23 20 37.2**	**-0.1**
GCAM	**G?zelcaml?**	**1.15**	**306**	*i* P	**Pn**	**23 20 37.5**	**+0.2**
GCAM				*i* S	**Sn**	**23 20 54.5**	**+1.7**
ELL	**Elmali**	**1.24**	**103**	PN	**Pn**	**23 20 38.4**	**-0.3**
AKAS	**Kas**	**1.25**	**129**	PN	**Pn**	**23 20 38.7**	**-0.2**
AKAS	**Kas**	**1.25**	**129**	*i* P	**Pn**	**23 20 40.6**	**+1.7**
AKAS				*i* S	**Sn**	**23 21 01.9**	**+6.1**
AKAS				IAML_P			
comp=Z,3μm,0.3s							
SMG	**Samos**	**1.42**	**299**	P	**Pn**	**23 20 40.9**	**-0.2**
SMG				S	**Sn**	**23 20 59.8**	**+0.1**
SMG	**Samos**	**1.42**	**299**	P	**Pn**	**23 20 41.1**	**0.0**
SMG				S	**Sb**	**23 21 00.2**	**+0.3**
SMG				AML	AML	23 21 07.8	
comp=E,129μm,0.4s							
SMG				AML	AML	23 21 07.9	
comp=N,188μm,0.4s							
KULA	**Kula-Manisa**	**1.49**	**8**	P	**Pb**	**23 20 42.5**	**-0.6**
KORT	**Korkueli**	**1.56**	**91**	PN	**Pg**	**23 20 43.7**	**-1.7**
KARP	**Karpathos**	**1.79**	**214**	P	**Pb**	**23 20 47.2**	**-1.0**
KARP				AML	AML	23 21 17.8	
comp=N,104μm,0.5s							
KARP				AML	AML	23 21 19.2	
comp=E,73μm,0.6s							
NPS	**Neapolis**	**2.87**	**233**	P	**Pn**	**23 21 02.8**	**+1.8**

*IDC **16** 23:38:03.2±1.3, 42°.35S×84°.39W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/23, mbtmp3.8/6, MS3.5/6, Ms1 3.5/6, ms1mx3.3/20, Error ellipse: s-maj=60.0km s-min=28.1km az=104.0*
*ISCJB **16** 23:38:10.0±0.9, 41°.4S±0°.2×85°.5W±0°.6, h10km, mb3.8/6, MS3.5/6, Error ellipse: s-maj=72.2km s-min=14.7km az=163.0*
ISC 16 23:38:11.5±1.2, 41°.4S±0°.2×85°.7W±0°.6, h10km, n14, σ0s41/8, mb3.9/6, MS3.4/6, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**23.41**	**42**	LR	LR	23 50 00.7	
comp=Z,123nm,19.7s,baz=228,slow=30							
CPUP	**Villa Florida**	**27.74**	**66**	LR	LR	23 54 51.7	
comp=Z,125nm,19.0s,baz=232,slow=37							
LPAZ	**La Paz**	**29.22**	**36**	LR	LR	23 53 37.7	
comp=Z,71nm,21.3s,baz=173,slow=32							
SIV	**San Ignacio**	**33.01**	**47**	P	P	23 44 40.1	-6.8
0.6nm,0.8s,baz=275,slow=10,SNR=3.2							
SIV				LR	LR	23 57 20.3	
comp=Z,87nm,20.9s,baz=309,slow=35							
ATAH	**Atahualpa**	**34.70**	**13**	P	**P**	**23 45 02.0**	**0.0**
2.1nm,0.5s,baz=176,slow=13,SNR=2.0							
ATAH				LR	LR	23 55 35.5	
comp=Z,62nm,19.3s,baz=237,slow=30							
VNA3	**Neumayer Olymp**	**46.99**	**155**	P	**P**	**23 46 42.8**	**+0.5**
VNA1	**Neumayer--Stat**	**47.50**	**154**	P	**P**	**23 46 45.8**	**-0.4**
VNA2	**Neumayer--Watz**	**47.76**	**154**	P	**P**	**23 46 48.7**	**+0.4**
baz=281,slow=11							
SNAA	**Sanae**	**49.12**	**155**	P	**P**	**23 46 58.3**	**-0.5**
VNDA	**Vanda**	**54.54**	**194**	P	P	23 47 27.1	-12
0.4nm,0.5s,baz=83,slow=8.1,SNR=5.6							
TXAR	**Lajitas Array**	**72.31**	**344**	P	**P**	**23 49 37.2**	**+0.1**
1.5nm,1.0s,baz=166,slow=8.4,SNR=8.8							
NVAR	**Mina Array Bea**	**84.83**	**335**	P	**P**	**23 50 46.2**	**0.0**
1.0nm,0.9s,baz=168,slow=5.5,SNR=3.5							
BOSA	**Boshof**	**85.55**	**125**	LR	LR	00 21 03.8	
comp=Z,38nm,18.9s,baz=197,slow=31							
PDAR	**Pinedale Array**	**86.50**	**343**	P	**P**	**23 50 54.3**	**-0.1**
0.2nm,0.5s,baz=130,slow=2.8,SNR=1.8							

MEX 16 23:39:30.3±0.5, 16°.37N×98°.41W, h3km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**85**	*e*P	Pg	23 39 35.2	-0.4
PNIG				*i* S	Sg	23 39 39.4	+0.3
TLIG	**Tlapa**	**1.20**	**353**	*e*P	Pg	23 39 49.9	-3.4
TLIG				*i* S	Sg	23 40 06.1	-2.8

*ISCJB **16** 23:59:44.5±0.4, 43°.17N±0°.02×18°.72E±0°.04, h7km±6km, Error ellipse: s-maj=5.2km s-min=2.8km az=35.4*
*BEO **16** 23:59:45.8±0.6, 43°.12N×18°.73E, h18km±2km, ML1.8/7*
*SAR **16** 23:59:45.4±0.2, 43°.17N×18°.69E, h4km±2km, ML2.0/9*
ISC 16 23:59:45.3±0.9, 43°.15N±0°.02×18°.71E±0°.03, h10km±7km, n25, σ0s69/45, 4C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPM	**Unac-Piva**	**0.15**	**70**	⇑*i*Pg	**Pg**	**23 59 48.6**	**-0.3**
UPM				*e*Sg	**Sg**	**23 59 51.4**	**0.0**
BRY	**Bratogost**	**0.28**	**206**	⇑*i*Pg	**Pg**	**23 59 50.8**	**-0.2**
BRY				*e*Sg	**Sg**	**23 59 55.2**	**+0.4**
TREB	**Trebinje**	**0.51**	**211**	*e*Sg	**Sb**	**00 00 03.9**	**+0.3**
TREB	**Trebinje**	**0.51**	**211**	*e*Pg	**Pg**	**23 59 55.3**	**+0.1**
TREB	**Trebinje**	**0.51**	**211**	*e*Pg	**Pg**	**23 59 55.2**	**+0.1**
TREB				*e*Sg	**Sg**	**00 00 02.8**	**+1.0**
HCY	**Herceg Novi**	**0.72**	**193**	*e*Pg	**Pg**	**23 59 59.0**	**-0.2**
HCY				*e*Sg	**Sg**	**00 00 08.9**	**+0.3**
STON	**Ston**	**0.79**	**250**	*e*Sg	**Sn**	**00 00 13.4**	**-0.8**
STON	**Ston**	**0.79**	**250**	*e*Pg	**Pg**	**23 59 59.8**	**-0.7**
STON	**Ston**	**0.79**	**250**	*i* Pg	**Pg**	**23 59 59.6**	**-1.0**
STON				Sg	**Sg**	**00 00 10.5**	**-0.3**
STON	**Ston**	**0.79**	**250**	*e*Pg	**Pg**	**23 59 58.9**	**-1.6**
STON				*e*Sg	**Sg**	**00 00 10.5**	**-0.3**
PDG	**Podgorica**	**0.82**	**151**	*e*Pg	**Pg**	**00 00 00.1**	**-1.1**
PDG				*e*Sg	**Sg**	**00 00 12.1**	**+0.2**
PDG	**Podgorica**	**0.82**	**151**	⇑*i*Pg	**Pg**	**23 59 59.8**	**-1.4**
PDG				*e*Sg	**Sg**	**00 00 12.2**	**+0.3**
BBLS	**Lazići**	**0.88**	**35**	*e*Pg	**Pg**	**00 00 02.3**	**+0.1**
BBLS	**Lazići**	**0.88**	**35**	*e*Pg	**Pg**	**00 00 01.3**	**-0.9**
BBLS				*e*Sg	**Sg**	**00 00 14.0**	**+0.3**
SJES	**Sjenica**	**0.93**	**83**	*e*Pg	**Pg**	**00 00 02.8**	**-0.5**
SJES				*e*Sg	**Sg**	**00 00 15.4**	**0.0**
HAPS	**Han Pijesak,Bl**	**0.95**	**11**	*e*Pg	**Pg**	**00 00 03.2**	**-0.5**
HAPS				*e*Sg	**Sg**	**00 00 16.3**	**+0.2**
HAPS	**Han Pijesak,Bl**	**0.95**	**11**	*e*Pg	**Pg**	**00 00 02.0**	**-1.7**
HAPS				*e*Sg	**Sg**	**00 00 15.3**	**-0.8**
DRME	**Dracevica, Mon**	**1.02**	**160**	⇑*i*Pg	**Pg**	**00 00 04.0**	**-1.0**
DRME				*e*Sg	**Sn**	**00 00 19.6**	**-0.5**
IVAS	**Ivanjica**	**1.14**	**68**	*e*Pg	**Pb**	**00 00 07.4**	**+0.4**
IVAS				*e*Sg	**Sb**	**00 00 21.4**	**-0.5**
DIVS	**Divibare**	**1.33**	**44**	*e*Pg	**Pn**	**00 00 10.0**	**0.0**
DIVS				*e*Sg	**Sg**	**00 00 29.0**	**+0.9**
DIVS	**Divibare**	**1.33**	**44**	*e*Pg	**Pn**	**00 00 10.0**	**0.0**
DIVS				*e*Sg	**Sb**	**00 00 27.2**	**-0.3**
TEKS	**Tekeris**	**1.52**	**23**	*e*Pg	**Pn**	**00 00 13.0**	**+0.5**
TEKS				*e*Sg	**Sb**	**00 00 33.4**	**+0.5**
GRUS	**Gruza**	**1.64**	**63**	*e*Pg	**Pn**	**00 00 14.1**	**0.0**
GRUS				*e*Sg	**Sg**	**00 00 38.4**	**+0.5**
BLY	**Banja Luka**	**1.94**	**326**	*e*Pn	**Pn**	**00 00 19.2**	**+0.9**
BLY				*e*Sn	**Sn**	**00 00 42.8**	**+0.1**
FRGS	**Fruska Gora**	**2.16**	**21**	*e*Pn	**Pn**	**00 00 22.3**	**+1.0**
FRGS				*e*Sn	**Sn**	**00 00 48.4**	**+0.3**

MEX 17 00:03:47.6±0.6, 14°.45N×92°.61W, h22km±22km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.38**	**335**	*i* P	Pn	00 04 09.0	-2.6
PCIG				*i* S	Sn	00 04 24.7	-4.5
CCIG	**Comitan**	**1.88**	**14**	*i* P	Pn	00 04 15.4	-3.3
CCIG				*i* S	Sn	00 04 37.2	-4.6
TGIG		**2.37**	**348**	*i* P	Pn	00 04 23.7	-1.6
TGIG				*e*S	Sn	00 04 50.7	-3.0

IDC 17 00:14:54.9±2.8, 31°.26N×86°.34E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.1/40, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=78.4km s-min=32.0km az=70.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**15.82**	**350**	Pn	Pn	00 18 39.2	+0.3
0.1nm,0.3s,baz=166,slow=12,SNR=4.6							
KURBB	**Kurchatov Arra**	**20.20**	**345**	P	P	00 19 30.4	-0.7
0.6nm,0.5s,baz=173,slow=9.1,SNR=6.7							
SONM	**Songino Array**	**22.55**	**37**	P	P	00 19 56.6	+0.1
0.2nm,0.4s,baz=244,slow=9.5,SNR=1.3							
WRA	**Warramunga Arr**	**68.66**	**131**	P	P	00 26 00.2	0.0
0.6nm,0.9s,baz=325,slow=6.2,SNR=2.1							

*MEX **17** 00:25:08.9±0.5, 13°.89N×91°.92W, h15km±83km, MD3.8*
*SNET **17** 00:25:10.0±1.0, 14°.03N×91°.57W, h15km±999km, ML3.7*
ISC 17 00:25:07.1±3.5, 14°.0N±0°.1×91°.86W±0°.09, h23km±25km, n9, σ0s57/16, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.02**	**337**	*i* P	**Pn**	**00 25 25.8**	**-0.2**
THIG				*i* S	**Sb**	**00 25 38.8**	**-0.2**
RTR	**El Retiro**	**2.15**	**91**	*e*P	**Pn**	**00 25 42.4**	**+0.7**
CEVE	**Cerro Verde**	**2.17**	**93**	*e*P	**Pn**	**00 25 42.1**	**0.0**
CEVE				*e*S	**Sn**	**00 26 07.7**	**-0.7**
CEVE				IAML		00 26 14.3	
comp=Z,612nm,0.3s							
SBLS	**San Blas**	**2.17**	**93**	*e*P	**Pn**	**00 25 42.2**	**+0.2**
SBLS				*e*S	**Sn**	**00 26 08.2**	**-0.3**
PCIG		**2.18**	**323**	*e*P	**Pn**	**00 25 42.2**	**+0.3**
PCIG				*e*S	**Sn**	**00 26 06.8**	**-1.3**
SNJE	**San Jose**	**2.19**	**92**	*e*P	**Pn**	**00 25 42.6**	**+0.4**
CCIG	**Comitan**	**2.32**	**353**	*i* P	**Pn**	**00 25 44.5**	**+0.4**
CCIG				*i* S	**Sn**	**00 26 12.0**	**-0.1**
TGIG		**3.06**	**337**	*i* P	**Pn**	**00 25 54.3**	**+0.3**
TGIG				*i* S	**Sn**	**00 26 30.5**	**+0.6**
CMIG	**Matias Romero**	**4.26**	**317**	*i* P	**Pn**	**00 26 10.9**	**+0.2**
CMIG				*i* S	**Sn**	**00 27 00.1**	**+0.3**

*DRS **17** 00:38:05.2±0.0, 41°.75N×46°.05E, h12km, ML2.0/3*
*ISCJB **17** 00:38:07.2±0.6, 41°.82N±0°.03×46°.28E±0°.03, h10km±6km, Error ellipse: s-maj=5.1km s-min=4.0km az=7.5*
*NORS **17** 00:38:08.3±0.0, 41°.88N×46°.47E, h45km, MPVA3.0*
ISC 17 00:38:07.8±0.9, 41°.79N±0°.04×46°.27E±0°.03, h16km±4km, n17, σ1s45/33, 3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.05**	**333**	P	**Pg**	**00 38 10.0**	**-0.8**
LGD				S	**Sg**	**00 38 11.9**	**-0.9**
LGD	**Lagodekhi**	**0.05**	**333**	P	Pg	00 38 16.1	+5.3
LGD				S	**Sg**	**00 38 17.9**	**+5.0**
LGD	**Lagodekhi**	**0.05**	**333**	*e*Pg	**Pg**	**00 38 10.0**	**-0.8**
LGD				*e*Sg	**Sg**	**00 38 11.9**	**-0.9**
DDFL	**Dedoflistskaro**	**0.36**	**199**	P	**Pg**	**00 38 13.0**	**-2.3**
DDFL	**Dedoflistskaro**	**0.36**	**199**	P	**Pg**	**00 38 13.0**	**-2.3**
GNBR	**Gunib**	**0.79**	**40**	*i* Pg	**Pb**	**00 38 22.4**	**-0.8**
11nm,0.4s							
GNBR				⇓*e*Sg	**Sb**	**00 38 33.0**	**-0.7**
97nm,0.7s							
XNZR	**Khunzakh**	**0.82**	**23**	*e*Pg	**Pb**	**00 38 23.1**	**-0.7**
XNZR				*e*Sg	**Sb**	**00 38 34.2**	**-0.4**
BTLR	**Botlikh**	**0.88**	**358**	*e*Pg	**Pb**	**00 38 24.1**	**-0.6**
6.0nm,0.5s							
BTLR				⇓*e*Sg	**Sb**	**00 38 35.5**	**-0.8**
62nm,0.3s							
URKR	**Urkarakh**	**1.08**	**69**	*e*Pg	**Pn**	**00 38 29.4**	**+0.9**
URKR				*e*Sg	**Sn**	**00 38 44.4**	**+1.2**
AKT	**Akhty**	**1.13**	**105**	*e*Pg	**Pn**	**00 38 29.9**	**+0.8**
13nm,0.2s							
AKT				⇓*e*Sg	**Sn**	**00 38 45.6**	**+1.2**
35nm,0.6s							
TBLG	**Delisi**	**1.15**	**268**	P	**Pg**	**00 38 29.6**	**-0.4**
TBLG				S	**Sn**	**00 38 46.8**	**+2.1**
TBLG	**Delisi**	**1.15**	**268**	*e*Pg	**Pg**	**00 38 29.6**	**-0.4**
TBLG				*e*Sg	**Sn**	**00 38 46.8**	**+2.1**
DVE	**Vedeno**	**1.17**	**355**	*e*Pg	**Pn**	**00 38 29.4**	**-0.2**
DVE				*e*Sg	**Sn**	**00 38 45.7**	**+0.4**
DBC	**Dubki**	**1.30**	**18**	*e*Pg	**Pg**	**00 38 31.5**	**-1.4**
DBC				*e*Pg	**Pb**	**00 38 32.5**	**+0.6**
DBC				*e*Sg	**Sn**	**00 38 48.1**	**-0.3**
DBC				*e*Sg	**Sg**	**00 38 49.8**	**0.0**
KSMR	**Kasumkent**	**1.40**	**97**	*e*Pg	**Pg**	**00 38 35.0**	**+0.2**
KSMR				*e*Sg	**Sg**	**00 38 53.0**	**0.0**
GUDG	**Gudauri**	**1.50**	**297**	P	**Pg**	**00 38 36.0**	**-0.7**
GUDG				S	**Sg**	**00 38 57.4**	**+1.2**
LACR	**Lac

baz=20,slow=75,SNR=11
H11S1 **WAKE ISLAND Hy 34.14 201** T T 01 40 40.9
baz=20,slow=76,SNR=8.4
H11S2 **WAKE ISLAND Hy 34.16 201** T T 01 40 38.9
baz=20,slow=76,SNR=8.3
H11S3 **WAKE ISLAND Hy 34.16 201** T T 01 40 47.4
baz=20,slow=76,SNR=5.8
YKA **Yellowknife Ar 36.34 46** P **P 01 04 29.4 0.0**
0.6nm,0.5s,baz=282,slow=8.1,SNR=11
YKA pP **pP 01 04 41.2 -1.3**
0.6nm,0.7s,baz=282,slow=8.3,SNR=7.2
NVAR **Mina Array Bea 45.04 81** P **P 01 05 42.9 +1.2**
0.6nm,0.6s,baz=296,slow=9.0,SNR=4.7
NVAR pP **pP 01 05 54.9 -0.3**
0.7nm,0.6s,baz=304,slow=7.6,SNR=3.6
SONM **Songino Array 45.32 295** P **P 01 05 43.5 -0.2**
0.4nm,0.5s,baz=49,slow=6.6,SNR=2.7
PDAR **Pinedale Array 47.74 71** P **P 01 06 02.3 -0.5**
0.4nm,0.4s,baz=316,slow=4.4,SNR=4.9
PDAR pP **pP 01 06 14.8 -1.6**
1.0nm,0.7s,baz=299,slow=5.1,SNR=5.0
ULM **Lac du Bonnet 50.95 55** P **P 01 06 27.5 +0.6**
0.5nm,0.3s,baz=307,slow=10,SNR=1.8
ARCES **ARCESS Array B 57.86 349** P **P 01 07 15.7 -1.1**
1.9nm,0.8s,baz=32,slow=7.5,SNR=2.5
MKAR **Makanchi Array 58.87 307** P **P 01 07 23.7 -0.5**
0.4nm,0.4s,baz=47,slow=6.6,SNR=5.5
TXAR **Lajitas Array 60.13 79** P **P 01 07 34.1 +0.9**
0.5nm,0.5s,baz=310,slow=5.2,SNR=12
TXAR pP **pP 01 07 46.8 -0.4**
0.5nm,0.6s,baz=314,slow=5.3,SNR=6.3
FINES **FINESS Array B 65.47 346** P **P 01 08 07.3 -0.7**
1.3nm,0.9s,baz=15,slow=5.8,SNR=2.7
AKTO **Aktyubinsk 66.83 323** P **P 01 08 17.5 +0.5**
1.7nm,0.5s,baz=40,slow=7.9,SNR=3.4

IDC 17 01:04:26.3±7.0, 20°.49S×174°.58W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.6/28, mbtmp4.1/2, Error ellipse: s-maj=400.3km s-min=48.2km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.68**	**264**	P	P	01 11 35.5	+0.3
	2.0nm,0.6s,baz=112,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**47.64**	**256**	P	P	01 13 04.4	-0.3
	1.0nm,0.5s,baz=88,slow=7.8,SNR=9.7						
BRTR	**Keskin Array B**	**149.16**	**315**	PKPbc	PKPbc	01 24 15.9	-1.2
	0.4nm,0.6s,baz=37,slow=3.6,SNR=3.9						
GERES	**GERESS Array B**	**150.94**	**349**	PKPbc	PKiKP	01 24 21.5	-0.3
	0.2nm,0.5s,baz=15,slow=1.1,SNR=2.5						

MEX 17 01:05:05.7±0.7, 16°.31N×98°.04W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.12**	**313**	*e*P	Pg	01 05 07.7	-0.5
PNIG				*e*S	Sg	01 05 10.2	+0.4
TLIG	**Tlapa**	**1.34**	**338**	*i* P	Pn	01 05 27.1	-4.2
TLIG				*i* S	Sg	01 05 45.0	-4.0
HUIG	**Huatulco**	**1.93**	**106**	*i* P	Pn	01 05 35.5	-3.7
HUIG				*i* S	Sn	01 05 59.3	-4.6

IDC 17 01:05:39.3±1.8, 6°.84S×128°.88E, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.6/31, mbtmp3.7/5, ML3.4/3, Error ellipse: s-maj=89.3km s-min=25.9km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.63**	**195**	Pn	Pn	01 08 26.9	+0.2
	0.1nm,0.3s,baz=22,slow=12,SNR=3.9						
FITZ				Sn	Sn	01 10 22.9	-15
	0.4nm,0.3s,baz=82,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**14.06**	**158**	Pn	Pn	01 08 59.4	-0.6
	0.2nm,0.3s,baz=340,slow=12,SNR=11						
WRA				Sn	Sn	01 11 21.9	-15
	0.5nm,0.3s,baz=332,slow=21,SNR=9.2						
ASAR	**Alice Springs**	**17.41**	**164**	P	Pn	01 09 44.1	+0.2
	0.2nm,0.3s,baz=340,slow=11,SNR=17						
ASAR				S	Sn	01 12 42.5	-16
	0.2nm,0.3s,baz=356,slow=27,SNR=4.2						
MKAR	**Makanchi Array**	**67.49**	**327**	P	P	01 16 37.7	+0.5
	0.4nm,0.5s,baz=120,slow=7.8,SNR=4.6						
KURBB	**Kurchatov Arra**	**71.80**	**329**	P	P	01 17 03.3	-0.4
	0.4nm,0.5s,baz=133,slow=5.1,SNR=5.4						

*IDC **17** 01:08:19.7±0.8, 29°.89N×68°.35E, h0km, mb3.7/15, mb1 3.9/17, mb1mx3.7/48, mbtmp3.8/17, ML4.0/2, Error ellipse: s-maj=18.8km s-min=17.3km az=39.0*
*ISCJB **17** 01:08:20.3±0.5, 29°.82N±0°.05×68°.47E±0°.06, h20km, mb3.6/16, Error ellipse: s-maj=8.0km s-min=6.8km az=135.9*
*NEIC **17** 01:08:22.9±2.0, 29°.87N×68°.29E, h20km±14km, mb4.0/1, Error ellipse: s-maj=7.9km s-min=6.7km az=145.0*
*NNC **17** 01:08:29.0±2.4, 30°.64N×68°.35E, h0km, mb4.1, Error ellipse: s-maj=42.9km s-min=19.1km az=107.0*
ISC 17 01:08:22.7±0.7, 29°.97N±0°.07×68°.43E±0°.08, h20km, n50, σ19°87/55, mb3.7/16, 2C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.59**	**6**	*e*Pn	**Pn**	01 09 34.5	+3.4
NIL	**Nilore**	**5.51**	**47**	*e*Pn	**Pn**	01 09 47.0	+3.4
CHGR	**Chuyangaron**	**8.69**	**4**	*e*Pn	**Pn**	01 10 29.8	+2.5
GAR	**Garm**	**9.14**	**9**	*e*Pn	**Pn**	01 10 35.9	+2.3
WSAR	**Wadi Sarin**	**11.03**	**235**	Pn	**Pn**	01 10 57.5	-1.9
	0.9nm,0.3s,baz=127,slow=6.7,SNR=17						
WSAR				Sn	Sn	01 12 51.1	-11
	0.3nm,0.3s,baz=175,slow=21,SNR=1.5						
PYUN	**Piuthan**	**12.88**	**95**	*e*P	**Pn**	01 11 22.8	-2.0
	11nm,0.4s						
NRN	**Naryn**	**12.98**	**26**	*e*Pn	**Pn**	01 11 28.6	+2.3
KK31	**Karatay Array**	**13.21**	**7**	*e*Pn	**Pn**	01 11 29.6	+0.4
KK31	**Karatay Array**	**13.21**	**7**	⇓Pn	**Pn**	01 11 29.5	+0.4
	0.6nm,0.3s,baz=187,slow=13,SNR=21						
KK31				⇑Sn	**Sn**	01 13 50.5	-5.0
	1.3nm,0.6s,baz=192,slow=23,SNR=5.0						
KKAR	**Karatay Array**	**13.21**	**7**	*e*Pn	**Pn**	01 11 29.5	+0.3
KOLN	**Koldanda**	**13.47**	**96**	*e*P	**Pn**	01 11 31.2	-1.8
	5.7nm,0.4s						
DANN	**Dangsing**	**13.50**	**93**	*e*P	**Pn**	01 11 31.3	-2.0
	43nm,0.5s						
AAK	**Ala-Archa**	**13.55**	**19**	*e*Pn	**Pn**	01 11 35.1	+1.2
AAK				Sn	**Sn**	01 14 00.0	-3.9
AAK	**Ala-Archa**	**13.55**	**19**	Pn	**Pn**	01 11 34.7	+0.8
	5.9nm,1.1s						
AAK				Sn	**Sn**	01 14 00.5	-3.4
	3.8nm,0.8s						
AAK	**Ala-Archa**	**13.55**	**19**	Pn	**Pn**	01 11 34.6	+0.8
	0.9nm,0.3s,baz=209,slow=9.4,SNR=7.6						
AAK				Sn	**Sn**	01 14 00.0	-3.9
	0.2nm,0.3s,baz=325,slow=18,SNR=1.8						
BOOM	**Boomskoye usch**	**13.88**	**24**	*e*Pn	**Pn**	01 11 39.7	+1.3
TKM2	**Tokmak 2**	**14.15**	**22**	⇓Pn	**Pn**	01 11 41.9	-0.1
	3.1nm,0.8s						
TKM2				⇑Sn	**Sn**	01 14 16.2	-2.3
	1.6nm,0.8s						
GKN	**Gorkha**	**14.32**	**94**	*e*P	**Pn**	01 11 41.4	-3.1
	15nm,0.2s						
JIRN	**Jiri**	**15.74**	**94**	*e*P	**Pn**	01 12 00.9	-2.7
	21nm,0.4s						
RAMN	**Ramite**	**16.26**	**96**	*e*P	**Pn**	01 12 07.2	-3.0
	9.8nm,0.5s						
MAKZ	**Makanchi**	**19.84**	**28**	*e*P	**Pn**	01 12 55.1	+1.3
	3.0nm,0.8s						
MK31	**Makanchi Array**	**19.95**	**29**	*e*P	**Pn**	01 12 56.0	+0.8
	1.9nm,0.6s						
MK32	**Makanchi Array**	**19.95**	**29**	*e*P	**P**	01 12 54.1	+0.7
MKAR	**Makanchi Array**	**19.95**	**29**	*e*P	**Pn**	01 12 56.5	+1.3
MKAR	**Makanchi Array**	**19.95**	**29**	P	**P**	01 12 54.1	+0.7
	1.5nm,0.5s,baz=208,slow=11,SNR=8.2						
ABKAR	**Akbulak array**	**20.32**	**344**	*e*P	**P**	01 12 58.3	+1.0
AKTO	**Aktyubinsk**	**21.89**	**342**	P	**P**	01 13 14.9	+0.6
	0.5nm,0.3s,baz=165,slow=12,SNR=1.9						
KURBB	**Kurchatov Arra**	**21.98**	**17**	P	**P**	01 13 15.5	+0.3
	1.1nm,0.4s,baz=211,slow=9.3,SNR=17						
KURK	**Kurchatov**	**22.09**	**17**	*e*P	**P**	01 13 17.8	+1.4
	3.7nm,1.0s						
BVAR	**Borovoye Array**	**23.08**	**3**	P	**P**	01 13 28.6	+1.7
	0.7nm,0.5s,baz=189,slow=12,SNR=3.6						
ZALV	**Zalesovo Beam**	**26.75**	**22**	P	**P**	01 14 01.6	+0.8
	1.4nm,0.3s,baz=218,slow=10,SNR=5.5						
ZAA1	**Zalesovo Array**	**26.75**	**22**	*e*P	**P**	01 14 01.6	+0.7
CMAR	**Chiang Mai Arr**	**30.00**	**105**	P	**P**	01 14 30.1	-0.1
	1.4nm,0.3s,baz=306,slow=9.3,SNR=3.2						
SONA0	**Songino Array**	**34.09**	**48**	*e*P	**P**	01 15 07.5	+1.6
SONM	**Songino Array**	**34.09**	**48**	P	**P**	01 15 07.5	+1.6
	0.2nm,0.4s,baz=243,slow=9.5,SNR=2.6						
FIA0	**FINESS Array S**	**41.93**	**331**	*e*P	**P**	01 16 12.6	+1.0
FINES	**FINESS Array B**	**41.93**	**331**	P	**P**	01 16 12.6	+1.0
	0.5nm,0.5s,baz=104,slow=6.1,SNR=5.0						
ARA0	**ARCESS Array S**	**46.47**	**341**	*e*P	**P**	01 16 48.5	+0.6
ARCES	**ARCESS Array B**	**46.47**	**341**	P	**P**	01 16 48.5	+0.6
	1.9nm,0.8s,baz=125,slow=7.8,SNR=2.9						
NB200	**NORSAR Array S**	**48.48**	**327**	*e*P	**P**	01 17 03.2	-0.5
NOA	**NORSAR Array B**	**48.48**	**327**	P	**P**	01 17 03.2	-0.5
	0.3nm,0.6s,baz=86,slow=9.8,SNR=2.9						
ESDC	**Sonseca Array**	**58.76**	**301**	P	**P**	01 18 19.0	-0.4
	0.2nm,0.4s,baz=79,slow=6.3,SNR=2.9						
TOA1	**Torodi Ar. Sit**	**63.50**	**270**	*e*P	**P**	01 18 51.7	-0.1
TORD	**Torodi Ar. Bea**	**63.50**	**270**	P	**P**	01 18 51.7	-0.1
	0.6nm,0.8s,baz=69,slow=4.8,SNR=3.8						
WRA	**Warramunga Arr**	**80.52**	**119**	P	**P**	01 20 34.1	+0.4
	0.6nm,0.7s,baz=297,slow=3.5,SNR=3.7						
WR1	**Warramunga Arr**	**80.52**	**119**	*e*P	**P**	01 20 34.1	+0.4
AS31	**Alice Springs**	**82.42**	**123**	*e*P	**P**	01 20 44.4	+0.7
	1.8nm,1.4s						
ASAR	**Alice Springs**	**82.42**	**123**	P	**P**	01 20 44.4	+0.7
	0.5nm,0.7s,baz=306,slow=5.3,SNR=5.4						
YKA	**Yellowknife Ar**	**87.83**	**1**	P	**P**	01 21 11.4	+1.2
	0.2nm,0.6s,baz=351,slow=4.9,SNR=4.0						
YKB5	**Yellowknife Ar**	**87.83**	**1**	*e*P	**P**	01 21 11.4	+1.2

MEX 17 01:17:57.3±0.8, 14°.09N×91°.87W, h15km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.90**	**335**	*e*P	Pb	01 18 10.6	-4.0
THIG				*i* S	Sb	01 18 23.1	-3.4
PCIG		**2.07**	**321**	*i* P	Pn	01 18 28.3	-3.2
PCIG				*e*S	Sn	01 18 52.5	-4.6
CCIG	**Comitan**	**2.20**	**353**	*i* P	Pn	01 18 30.1	-3.4
CCIG				*i* S	Sn	01 18 56.2	-4.4
CMIG	**Matias Romero**	**4.17**	**316**	*i* P	Pn	01 18 58.2	-2.2
CMIG				*i* S	Sn	01 19 46.2	-2.7

*DSN **17** 01:38:25.8±3.2, 26°.74N×57°.94E, h10km, ML3.9/8, Error ellipse: s-maj=45.2km s-min=12.7km az=2.0*
*IDC **17** 01:38:26.1±1.3, 26°.58N×57°.33E, h0km, mb3.7/10, mb1 3.7/12, mb1mx3.6/39, mbtmp3.7/12, ML3.7/2, MS2.9/5, Ms1 2.9/5, ms1mx2.6/32, Error ellipse: s-maj=26.3km s-min=20.4km az=159.0*
*ISCJB **17** 01:38:27.1±0.4, 26°.64N±0°.02×57°.82E±0°.05, h10km, mb3.5/9, MS3.0/4, Error ellipse: s-maj=6.8km s-min=3.2km az=2.2*
*TEH **17** 01:38:28.3, 26°.68N×57°.79E, h15km, ML3.9*
*OMAN **17** 01:38:30.3±2.9, 26°.63N×57°.97E, h24km±89km, ml3.7/12, Error ellipse: s-maj=68.9km s-min=15.5km az=26.0*
ISC 17 01:38:27.4±0.7, 26°.64N±0°.04×57°.81E±0°.06, h10km, n52, σ19°85/55, mb3.7/9, MS3.0/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.00**	**182**	*e*Pg	**Pg**	01 38 47.9	+1.3
NIAN	**Nian**	**1.26**	**317**	*e*Pg	**Pn**	01 38 51.4	+0.3
NIAN				IAMB	IAmb	01 39 21.5	
	comp=Z,0.0nm,0.5s						
SHME	**Shamm**	**1.61**	**249**	*e*P	**Pn**	01 38 55.9	+0.1
	SNR=111						
SHME				S	**Sg**	01 39 19.7	+0.6
GENO	**Geno**	**1.65**	**298**	*e*Pn	**Pb**	01 38 57.7	-0.2
MSFE	**Esma-Masafi**	**1.96**	**230**	*e*P	**Pn**	01 39 00.3	-0.4
	SNR=22						
HATD	**Hatta, Dubai**	**2.35**	**220**	P	**Pn**	01 39 05.7	-0.4
HATD	**Hatta, Dubai**	**2.35**	**220**	P	**Pn**	01 39 06.1	-0.1
	SNR=8.3						
HATD				S	**Sn**	01 39 35.3	+0.2
ASHO	**Ashiyiah**	**2.51**	**219**	*e*P	**Pn**	01 39 09.3	+1.0
	SNR=19						
ASHO	**Ashiyiah**	**2.51**	**219**	P	**Pn**	01 39 10.2	+2.0
	SNR=6.5						
NAZ	**Nazwa, Dubai**	**2.54**	**230**	P	**Pn**	01 39 10.8	+2.1
NAZ	**Nazwa, Dubai**	**2.54**	**230**	P	**Pn**	01 39 11.4	+2.8
	SNR=11						
NAZ				S	**Sb**	01 39 47.2	+2.9
FAQ	**Al Faqa, Dubai**	**2.75**	**227**	*e*P	**Pn**	01 39 12.0	+0.4
	SNR=28						
FAQ	**Al Faqa, Dubai**	**2.75**	**227**	P	**Pn**	01 39 13.3	+1.8
	SNR=6.7						
ASUD	**Al Ashush, Dub**	**3.00**	**229**	*i* P	**Pn**	01 39 15.9	+0.9
	SNR=16						
ASUD	**Al Ashush, Dub**	**3.00**	**229**	P	**Pn**	01 39 17.1	+2.0
	SNR=16						
HOQ	**Hoqain**	**3.08**	**189**	P	**Pn**	01 39 15.5	-0.5
	SNR=13						
HOQ				S	**Sn**	01 39 51.0	-1.9
BIDO	**Bidbid**	**3.12**	**175**	P	**Pn**	01 39 16.2	-0.4
	SNR=7.1						
BIDO				S	**Sn**	01 39 55.2	+1.3
NGRK	**Negar Kerman**	**3.14**	**343**	*e*Pn	**Pn**	01 39 18.7	+1.4
NGRK				IAMB	IAmb	01 40 16.7	
	comp=Z,0.0nm,0.6s						
ALNE	**Al Ain**	**3.17**	**216**	*i* P	**Pn**	01 39 18.8	+1.4
	SNR=12						
CHMN	**Cheshme madani**	**3.22**	**356**	*e*Pn	**Pn**	01 39 21.0	+2.7
CHMN				IAMB	IAmb	01 40 24.2	
	comp=Z,0.0nm,0.9s						
TVBK	**TV Kerman**	**3.46**	**345**	*e*Pn	**Pn**	01 39 24.0	+2.4
TVBK				IAMB	IAmb	01 40 27.2	
	comp=Z,0.0nm,0.5s						
WSAR	**Wadi Sarin**	**3.47**	**167**	P	**Pn**	01 39 21.1	-0.3
	SNR=59						
WSAR	**Wadi Sarin**	**3.47**	**167**	Pn	**Pn**	01 39 21.1	-0.3
	comp=Z,13nm,0.3s,baz=11,slow=12,SNR=93						
WSAR				Sn	**Sn**	01 39 59.7	-2.8
	comp=Z,20nm,0.3s,baz=232,slow=14,SNR=14						
ARQ	**Araqi**	**3.49**	**200**	P	**Pn**	01 39 23.6	+1.9
	SNR=25						
ARQ				S	**Sn**	01 40 05.6	+2.5
SMDO	**Samad**	**3.57**	**176**	P	**Pn**	01 39 23.1	+0.2
	SNR=18						
SMDO				S	**Sn**	01 40 06.2	+0.9
KHGB	**Koh Gabri**	**3.90**	**343**	*e*Pn	**Pn**	01 39 30.2	+2.6
KHGB				IAMB	IAmb	01 40 40.8	
	comp=Z,0.0nm,0.8s						
BSY	**Bisya**	**3.92**	**188**	P	**Pn**	01 39 30.0	+2.3
	SNR=12						
IMEH	**Mehriz**	**5.50**	**330**	*e*Pn	**Pn**	01 39 51.1	+1.5
IKOO	**Kooshah**	**5.86**	**10**	*e*Pn	**Pn**	01 39 55.3	+0.8
ITEG	**Tejag**	**6.29**	**7**	*e*Pn	**Pn**	01 40 01.5	+1.1
TKDS	**Koohdasht(Taba**	**6.98**	**355**	*e*Pn	**Pn**	01 40 11.0	+1.2
IRAM	**Ramesheh**	**7.00**	**319**	*e*Pn	**Pn**	01 40 11.0	+0.8
IZEF	**Zefreh**	**7.84**	**324**	*e*Pn	**Pn**	01 40 22.8	+1.0
ZNGN	**Zangian**	**8.16**	**314**	*e*Pn	**Pn**	01 40 28.1	+1.9
ROKH	**ROKH**	**8.19**	**316**	*e*Pn	**Pn**	01 40 28.8	+2.2
IPIR	**Pirpir**	**8.51**	**317**	*e*Pn	**Pn**	01 40 32.9	+1.9
GEYT	**Alibeck**	**11.26**	**1**	LR	LR	01 46 38.4	
	comp=Z,24nm,18.8s,baz=40,slow=43						
ASF	**Jabal al Asfar**	**19.02**	**292**	P	**P**	01 42 45.9	-3.7
	comp=Z,0.1nm,0.3s,baz=101,slow=16,SNR=2.7						
MMAI	**Mount Meron Ar**	**20.43**	**293**	P	**P**	01 43 05.4	+0.5
	comp=Z,0.6nm,0.5s,baz=107,slow=14,SNR=2.9						
AAK	**Ala-Archa**	**20.99**	**36**	P	Pn	01 43 14.3	+0.7
	comp=Z,1.5nm,0.5s,baz=208,slow=13,SNR=3.8						
AKTO	**Aktyubinsk**	**23.76**	**0**	P	**P**	01 43 38.8	-1.0
	comp=Z,1.9nm,0.7s,baz=177,slow=9.4,SNR=6.7						
BRTR	**Keskin Array B**	**23.98**	**309**	P	**P**	01 43 39.9	-2.4
	comp=Z,0.8nm,0.7s,baz=126,slow=11,SNR=8.9						
BRTR				LR	LR	01 54 11.4	
	comp=Z,31nm,18.3s,baz=94,slow=40						
MKAR	**Makanchi Array**	**27.91**	**37**	P	**P**	01 44 21.5	+3.9
	comp=Z,0.2nm,0.4s,baz=232,slow=7.0,SNR=3.9						
KURBB	**Kurchatov Arra**	**28.71**	**28**	P	**P**	01 44 27.4	+2.7
	comp=Z,1.4nm,0.3s,baz=228,slow=8.4,SNR=3.4						
AKASG	**Malin Array Be**	**32.44**	**325**	P	**P**	01 44 55.9	-1.6
	comp=Z,0.3nm,0.3s,baz=129,slow=8.5,SNR=2.3						
ZALV	**Zalesovo Beam**	**33.79**	**29**	P	**P**	01 45 12.7	+3.4
	comp=Z,1.0nm,0.5s,baz=238,slow=11,SNR=4.9						
CMAR	**Chiang Mai Arr**	**38.72**	**93**	LR	LR	02 06 20.3	
	comp=Z,17nm,18.6s,baz=220,slow=43						
GERES	**GERESS Array B**	**40.59**	**315**	P	**P**	01 46 05.6	-1.7
	comp=Z,0.1nm,0.3s,baz=119,slow=8.0,SNR=3.3						
FINES	**FINESS Array B**	**40.81**	**337**	P	**P**	01 46 07.2	-1.5
	comp=Z,0.8nm,0.6s,baz=147,slow=6.4,SNR=3.9						
NRIK	**Noril'sk**	**46.15**	**14**	LR	LR	02 09 24.5	
	comp=Z,21nm,19.5s,baz=48,slow=40						
TORD	**Torodi Ar. Bea**	**54.06**	**267**	P	**P**	01 47 50.0	-2.5
	comp=Z,0.4nm,0.5s,baz=70,slow=7.9,SNR=7.5						
YKA	**Yellowknife Ar**	**90.97**	**356**	LR	LR	02 38 53.4	
	comp=Z,5.2nm,18.1s,baz=157,slow=40						

SJA 17 01:51:39.1±0.8, 21°.50S×68°.48W, h130km±9km, ML2.1, MW3.5, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.77**	**248**	*i* P	Pn	01 52 00.9	+0.7
PB09				⇑*i* S	Sn	01 52 16.8	+0.6
PB07	**IPOC Station P**	**1.33**	**260**	*i* P	Pn	01 52 05.7	+0.2
PB07				*i* S	Sn	01 52 26.2	+0.6
PB02	**IPOC Station P**	**1.34**	**278**	*i* P	Pn	01 52 06.2	+0.7
PB02				*i* S	Sn	01 52 26.8	+1.2
PB15	**IPOC Station P**	**1.93**	**208**	*i* P	Pn	01 52 13.6	+1.2
HJA	**Humahuaca**	**3.31**	**121**	*i* P	Pn	01 52 31.7	+1.7
HJA				IAML		01 52 32.7	
	comp=Z,3.4nm,0.4s						

IDC 17 01:56:28.2±6.8, 17°.18S×177°.41W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/19, mbtmp3.8/2, Error ellipse: s-maj=340.0km s-min=49.5km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.70**	**259**	P	P	02 04 50.4	-1.0
	0.8nm,0.8s,baz=93,slow=8.3,SNR=5.3						
ASAR	**Alice Springs**	**45.91**	**254**	P	P	02 04 53.5	+0.5
	0.9nm,0.4s,baz=90,slow=8.4,SNR=15						
GERES	**GERESS Array B**	**147.14**	**346**	PKPbc	PKPbc	02 16 12.6	-0.8
	0.3nm,0.5s,baz=42,slow=3.2,SNR=2.7						

WEL 17 02:47:37.1, 36°S±14°×17°9E±°, h162km±17km, ML4.2/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.44**	**194**	P	Pn	02 48 05.6	-1.3
WMGZ	**Waiomatatini S**	**1.67**	**189**	P	Pn	02 48 10.2	+1.0
HAZ	**Te Kaha**	**1.77**	**205**	P	Pn	02 48 09.5	-0.7
HAZ				S	Sn	02 48 36.7	+0.7
PKGZ	**Pakihiroa**	**1.80**	**197**	P	Pn	02 48 11.6	+0.9
PUZ	**Puketiti**	**1.94**	**191**	P	Pn	02 48 12.8	+0.5
PUZ				S	Sn	02 48 38.3	-1.2
RUGZ	**Raukumara Rang**	**1.99**	**205**	P	Pn	02 48 13.2	+0.3
TWGZ	**Tauwhareparae**	**2.10**	**197**	P	Pn	02 48 15.4	+1.4
CNGZ	**Carnagh Statio**	**2.36**	**190**	P	Pn	02 48 17.9	+0.9
MWZ	**Matawai**	**2.37**	**204**	P	Pn	02 48 18.6	+1.4
MWZ				S	Sn	02 48 49.0	+0.6
TKGZ	**Te Karaka**	**2.38**	**197**	P	Pn	02 48 18.3	+1.0
OPRZ	**Ohinepanea**	**2.42**	**226**	P	Pn	02 48 18.8	+1.0
MARZ	**Manawahe**	**2.46**	**222**	P	Pn	02 48 20.0	+1.8
URZ	**Urewera**	**2.46**	**211**	P	Pn	02 48 19.1	+0.9
KUZ	**Kuaotunu**	**2.50**	**256**	P	Pn	02 48 18.4	-0.3
RAGZ	**Rawiri**	**2.56**	**204**	P	Pn	02 48 21.1	+1.6
RIGZ	**Rimuhau**	**2.66**	**197**	P	Pn	02 48 21.7	+1.1
TARZ	**Mount Tarawera**	**2.73**	**220**	P	Pn	02 48 25.4	+3.8
MUGZ	**Murupara**	**2.79**	**214**	P	Pn	02 48 23.7	+1.4
PRGZ	**Paritu Road**	**2.84**	**194**	P	Pn	02 48 23.7	+0.9
SNGZ	**Shannon Statio**	**2.84**	**203**	P	Pn	02 48 24.0	+1.1
MKAZ	**Moumakai**	**3.03**	**251**	P	Pn	02 48 25.9	+0.8
TOZ	**Tahuroa Road**	**3.03**	**238**	P	Pn	02 48 26.7	+1.5
RAHZ	**Arahi**	**3.05**	**205**	P	Pn	02 48 26.8	+1.4
MHGZ	**Mahia Peninsul**	**3.06**	**192**	P	Pn	02 48 26.2	+0.6
MTHZ	**Maungataniwha**	**3.08**	**209**	P	Pn	02 48 27.5	+1.6
MRHZ	**Matea Rd**	**3.24**	**214**	P	Pn	02 48 29.1	+1.2
ARHZ	**Aropaoanui**	**3.39**	**204**	P	Pn	02 48 30.7	+0.9
BKZ	**Black Stump Fm**	**3.49**	**210**	P	Pn	02 48 31.9	+0.8
WCZ	**Waipu Caves**	**3.57**	**272**	P	Pn	02 48 32.6	+0.6
MCHZ	**McNeill Hill**	**3.65**	**206**	P	Pn	02 48 33.9	+0.8
KWHZ	**Kaweka Forest**	**3.74**	**209**	P	Pn	02 48 34.7	+0.5
WTVZ	**West Tongariro**	**3.87**	**219**	P	Pn	02 48 37.6	+1.7
KAHZ	**Kahuranaki**	**3.91**	**202**	P	Pn	02 48 36.7	+0.2
BHHZ	**Black Hill Sta**	**3.94**	**212**	P	Pn	02 48 38.2	+1.3
KRHZ	**Kereru**	**3.95**	**208**	P	Pn	02 48 36.8	-0.1
MOVZ	**Moawhango**	**4.01**	**215**	P	Pn	02

PDMCI	Parker Dam,Lak	1.61	46	Sb	Sn	03 08 42.2	0.0
	baz=230						
NEE2	Needles Airpor	1.75	26	P	Pn	03 08 21.6	-1.6
	baz=208,SNR=61						
HEC	Hector,Ludlow	1.75	338	Pg	Pb	03 08 25.4	+0.4
	baz=156						
LDFC	Landfair	1.91	11	*e*Pn	Pb	03 08 27.2	-0.6
Y14A	Wickenburg	2.25	70	*e*Pn	Pn	03 08 30.6	+0.4
TUQ	Turquoise Moun	2.25	352	Pg	Pg	03 08 34.8	-1.1
	baz=171						
MWC	Mount Wilson	2.33	297	*e*Pn	Pn	03 08 32.1	+0.8
GSC	Goldstone, Bar	2.34	334	*e*Pn	Pn	03 08 32.0	+0.5
GSC	Goldstone, Bar	2.34	334	Pg	Pb	03 08 36.3	+1.2
	baz=151						
W13A	Hualapai Mount	2.35	36	*e*Pn	Pn	03 08 31.9	+0.2
FMP	Fort Macarthur	2.35	283	Pg	Pb	03 08 36.1	+1.0
	baz=98						
PASC	Pasadena Art C	2.40	295	*e*Pn	Pn	03 08 33.9	+1.7
CIS	Catalina Islan	2.41	276	Pg	Pb	03 08 37.2	+1.0
	baz=91						
CIS				Sb	Sb	03 09 05.1	-0.8
	baz=91						
DECC	Green Verdugo	2.54	295	Sb	Sb	03 09 10.6	+0.6
	baz=111						
214A	Organ Pipe Nat	2.62	117	Pg	Pg	03 08 41.5	-1.4
	baz=302						
EDW2	Edwards Air Fo	2.63	310	Sb	Sb	03 09 13.3	+0.8
	baz=126						
SHOC	Shoshone, Teco	2.76	348	Pg	Pg	03 08 43.9	-1.6
	baz=166						
SHPR	Sheep Range	3.31	5	*e*Pn	Pn	03 08 45.2	+0.3
FURC	Furnace Creek,	3.43	342	Pg	Pg	03 08 58.0	-0.4
	baz=160						
ISA	Isabella, Lake	3.44	316	*e*Pn	Pn	03 08 47.0	+0.4
DAC	Darwin (Calif)	3.50	332	*e*Pn	Pn	03 08 47.6	+0.1
X16A	Lo Mia Camp, P	3.63	69	*e*Pn	Pn	03 08 49.1	-0.2
TUC	Tucson	4.11	101	*e*Pn	Pn	03 08 55.4	-0.4
WUAZ	Wupatki	4.16	55	*e*Pn	Pn	03 08 56.6	+0.1
U15A	North Rim	4.19	39	*e*Pn	Pn	03 08 57.1	0.0
LCMT	Little Creek M	4.25	26	*e*Pn	Pn	03 08 57.2	-0.5
KNB	Kanab	4.42	30	*e*Pn	Pn	03 09 00.2	+0.1
SZCU	Shurtz Canyon	4.83	24	*e*Pn	Pn	03 09 05.8	+0.1
PKCU	Pink Cliffs	5.00	31	*e*Pn	Pn	03 09 09.9	+1.7
R11A	Troy Canyon, C	5.14	360	*e*Pn	Pn	03 09 09.3	-0.7
W18A	Petrified Fore	5.19	67	*e*Pn	Pn	03 09 10.9	+0.3
PSUT	Pine Spring	5.50	14	*e*Pn	Pn	03 09 15.5	+0.5
NV11	Mina Array Sit	5.63	339	*e*Pg	Pb	03 09 32.6	+1.4
MSU	Marysvale	5.97	26	*e*Pn	Pn	03 09 22.4	+1.0
PNTR	Pine Nut	6.73	332	*e*Pg	Pb	03 09 50.3	+0.3
MVCO	Mesa Verde	7.02	53	*e*Pn	Pn	03 09 36.1	+0.2
SRU	San Rafael Swe	7.17	33	*e*Pn	Pn	03 09 38.7	+0.9
DUG	Dugway, Tooele	7.32	17	*e*Pn	Pn	03 09 41.0	+1.1
PV17	East Wray Mesa	7.38	45	*e*Pn	Pn	03 09 41.0	+0.2
PV13	Radium Mtn., P	7.38	46	*e*Pn	Pn	03 09 40.9	+0.1
PV19	Morning Glory	7.38	44	*e*Pn	Pn	03 09 40.9	+0.1
PV18	Skein Mesa, Pa	7.38	45	*e*Pn	Pn	03 09 41.1	+0.2
PV10	Paradox Valley	7.39	44	*e*Pn	Pn	03 09 41.2	+0.2
PV14	Lion Creek, Pa	7.40	44	*e*Pn	Pn	03 09 42.3	+1.1
PV20	West Nyswonger	7.41	44	*e*Pn	Pn	03 09 41.5	+0.3
PV16	Nyswonger Mesa	7.42	45	*e*Pn	Pn	03 09 42.0	+0.6
PV09	Paradox Valley	7.42	43	*e*Pn	Pn	03 09 41.3	-0.2
PV03	Paradox Valley	7.43	45	*e*Pn	Pn	03 09 42.0	+0.6
PV11	David Mesa, Pa	7.44	45	*e*Pn	Pn	03 09 41.9	+0.3
PV02	Paradox Valley	7.46	46	*e*Pn	Pn	03 09 42.0	+0.1
PV23	Carpenter Ridg	7.46	44	*e*Pn	Pn	03 09 42.3	+0.3
PV04	Paradox Valley	7.48	44	*e*Pn	Pn	03 09 42.5	+0.3
PV12	Saucer Basin,	7.50	45	*e*Pn	Pn	03 09 42.5	+0.1
PV01	Paradox Valley	7.52	47	*e*Pn	Pn	03 09 43.2	+0.5
ELK	Elko	7.54	2	*e*Pn	Pn	03 09 43.0	+0.1
PV21	Cone Mtn., Par	7.56	43	*e*Pn	Pn	03 09 43.1	-0.1
PV22	Blue Mesa, Par	7.65	44	*e*Pn	Pn	03 09 44.4	-0.1
PV07	Paradox Valley	7.67	45	*e*Pn	Pn	03 09 44.4	-0.3
ANMO	Albuquerque	7.75	74	*e*Pn	Pn	03 09 45.5	-0.3
SMCO	Snowmass	9.14	47	*e*Pn	Pn	03 10 05.1	-0.1
VALT	Mount Saint He	13.96	341	*e*Pn	Pn	03 11 10.8	+0.1
WMOK	Wichita Mounta	14.01	79	*e*Pn	Pn	03 11 11.7	+0.4
WPW	White Pass	14.24	343	*e*P	P	03 11 23.9	+1.9
TIGA	Tifton	27.02	85	*e*P	P	03 13 35.6	+0.5

SJA ***17*** *03:08:10.3±0.7, 33°.88S×71°.61W, h32km±64km, ML3.0, MW3.8*

GUC ***17*** *03:08:15.7±0.6, 33°.60S×71°.04W, h79km±6km, ML3.3*

ISC 17 03:08:14.1±2.8, 33°.78S±0°.09×71°.3W±0°.1, h8km±12km, n14, σ0°62/23, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTU	Antumapu	0.63	71	*e*P	Pn	03 08 28.9	-0.4
ANTU				*e*S	Sn	03 08 38.5	-1.0
FSR	Penalolen	0.74	66	*e*P	Pb	03 08 30.3	+1.0
FSR				*e*S	Sb	03 08 40.2	+0.6
CLCH	Cerro Calan	0.77	61⇑	*i*P	Pb	03 08 30.0	+0.2
CLCH				*i*S	Sb	03 08 40.7	+0.2
CLCH				IAML		03 08 41.5	
	comp=E,4μm,0.2s						
PEL	Peldehue	0.84	41	*i*P	Pb	03 08 31.0	0.0
PEL				*i*S	Sn	03 08 46.3	+1.6
PEL	Peldehue	0.84	41	*e*P	Pg	03 08 30.6	+0.4
PEL				*e*S	Sb	03 08 41.8	-0.6
PEL				IAML		03 08 44.2	
	comp=N,1μm,0.2s						
ROC1	El Roble	0.85	19	*i*P	Pb	03 08 31.1	-0.1
ROC1				*i*S	Sn	03 08 45.3	+0.1
ROCH	El Roble	0.85	19	*e*P	Pb	03 08 31.4	+0.2
ROCH				*e*S	Sb	03 08 43.5	+0.6
ROCH				IAML		03 08 44.4	
	comp=N,3μm,0.2s						
LMEL	Las Melosas	0.95	94⇑	*i*P	Pg	03 08 32.4	0.0
LMEL				*e*S	Sg	03 08 45.2	+0.4
LMEL				IAML		03 08 46.4	
	comp=N,2μm,0.2s						
FCH	Farellones	0.99	63⇓	*i*P	Pg	03 08 32.6	-0.5
FCH				*e*S	Sg	03 08 45.4	-0.5
FCH				IAML		03 08 46.8	
	comp=N,3μm,0.2s						
GO05	Huala	1.32	201	IAML		03 09 01.9	
	comp=E,258nm,0.4s						
AAGR	Agrelo	2.21	72	*i*P	Pn	03 08 50.9	-0.3
ARCO	CERRO ARCO	2.22	66	*i*P	Pn	03 08 51.0	-0.4
ARCO				IAML		03 08 54.5	
	comp=Z,75nm,0.4s						
AUSP	Uspallata	2.26	47	*i*P	Pn	03 08 51.8	-0.3
AUSP				*i*S	Sb	03 09 22.9	-0.6
RTLS	Leoncito	2.62	42	*i*P	Pn	03 08 56.6	-0.3
RTLS				IAML		03 09 00.8	
	comp=Z,40nm,0.2s						

MAN ***17*** *03:08:16.9, 13°.55N×119°.99E, h12km, MS3.7*

IDC ***17*** *03:08:21.8±1.3, 13°.65N×120°.39E, h66km±11km, mb3.8/17, mb1 3.9/17, mb1mx3.8/38, mbtmp4.1/17, MS3.9/21, Ms1 3.9/21, ms1mx3.8/31, Error ellipse: s-maj=19.7km s-min=13.2km az=75.0*

NEIC ***17*** *03:08:21.9±0.6, 13°.64N×120°.35E, h68km±6km, mb4.7/15, Error ellipse: s-maj=6.4km s-min=4.4km az=75.0*

NEIC Felt [IV PIVS] at Lubang and [II PIVS] at Abra de Ilog.

ISC 17 03:08:17.8±1.0, 13°.52N±0°.03×120°.03E±0°.04, h30km±7km, n88, σ1°90/84, mb4.4/26, MS3.9/20, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.30	44	*e*P	Pb	03 08 24.1	-1.1
LUBP				*e*S	Sb	03 08 28.0	-2.2
TGY	Tagaytay City	1.05	56	P	Pn	03 08 37.0	+0.4
	6μm,0.3s,baz=244,slow=5.0,SNR=122						
TGY				S	Sb	03 08 52.7	+1.7
	4μm,0.3s,baz=346,slow=19,SNR=17						
TGY				LR	LR	03 08 53.2	
	comp=Z,3μm,19.3s,baz=175,slow=45						
SJMP	San Jose	1.49	135	*e*P	Pb	03 08 44.2	-0.6
BUSP	Coron	1.52	174	*e*P	Pb	03 08 44.7	-0.6
BUSP				*e*S	Sb	03 09 04.0	-0.1
BOAC	Boac	1.76	92	*e*P	Pn	03 08 47.3	+1.0
BOAC				*e*S	Sb	03 09 14.3	+3.1
POLP	Polilio Island	2.21	57	*e*P	Pn	03 08 53.6	+1.2
SCZP	Santa Cruz	2.25	357	*e*P	Pn	03 08 53.8	+0.8
OTRP	Odiongan	2.25	120	*e*P	Pn	03 08 54.5	+1.4
OTRP				*e*S	Sb	03 09 30.4	+5.1
ENPP	El Nido	2.37	195	*e*P	Pn	03 08 56.2	+1.5
ENPP				*e*S	Sn	03 09 24.3	+1.5
GQP	Guinayangan	2.38	80⇓	*e*P	Pn	03 08 57.1	+2.3
GQP				*e*S	Sn	03 09 22.5	-0.5
AUQP	San Andres	2.58	94	*e*P	Pb	03 09 01.0	-2.4
BALP	Baler	2.67	34	*e*P	Pn	03 08 58.5	-0.3
BALP				*e*S	Sn	03 09 34.5	+4.3
SMPP	San Manuel, Pa	2.69	13	*e*P	Pn	03 08 59.7	+0.6
SMPP				*e*S	Sn	03 09 31.4	+0.7
CUYO	Cuyo Island	2.82	160	*e*P	Pn	03 09 02.7	+1.8
BOLP	Bolinao	2.85	358	*e*P	Pn	03 09 03.9	+2.6
GUIM	Jordan	3.81	139	*e*P	Pn	03 09 17.3	+2.8
CAUP	Cauayan	3.82	27	*e*P	Pn	03 09 17.9	+3.3
CAUP				*e*S	Sb	03 10 23.7	+13
PVCP	Virac	4.01	88	*e*P	Pn	03 09 20.4	+3.1
ABRA	Dolores	4.16	9	*e*P	Pn	03 09 23.7	+4.4
PALP	Palanan	4.21	33	*e*P	Pn	03 09 21.8	+1.7
PALP				*e*S	Sb	03 10 24.3	+2.7
APYP	Conner	4.47	15	*e*P	Pn	03 09 26.3	+2.7
BATP	Bataraza	5.18	205	*e*P	Sn	03 10 30.6	-1.5
DAV	Davao City (W)	8.42	139	LR	LR	03 14 24.4	
	comp=Z,2μm,18.0s,baz=219,slow=44						
SBUM	Sibu	13.44	216	*e*Pn	P	03 11 32.8	-2.8
PHRA	Phrae	19.66	287	P	Pn	03 12 51.0	+4.9
	1.2nm,1.2s						
FAKI	Fak Fak	20.34	143	*e*P	Pn	03 12 53.5	-0.6
	32nm,1.1s						
TRTT	Trang	20.76	256	P	Pn	03 13 01.8	+2.8
	38nm,1.3s						
CM31	Chiang Mai Arr	20.85	286	*e*P	Pn	03 13 01.7	+1.6
	36nm,1.4s						
CMAR	Chiang Mai Arr	20.85	286	*e*P	Pn	03 13 01.0	+1.0
CMAR	Chiang Mai Arr	20.85	286	P	Pn	03 13 01.7	+1.6
	8.0nm,0.8s,baz=96,slow=8.9,SNR=32						
CMAR				LR	LR	03 21 52.2	
	comp=Z,185nm,18.2s,baz=114,slow=38						
PSI	Prapat	23.42	245	*e*P	P	03 13 27.8	+3.0
	66nm,1.5s						
PSI	Prapat	23.42	245	P	P	03 13 27.8	+3.0
	5.9nm,0.4s,baz=16,slow=9.5,SNR=4.9						
KS15	Wonju Array Si	24.83	15	*e*P	P	03 13 36.0	-1.5
	60nm,1.9s						
KSAR	Wonju Array Be	24.83	15	P	P	03 13 36.0	-1.5
KSRS	Korea Array	24.86	15	P	P	03 13 36.0	-1.7
	0.9nm,0.4s,baz=196,slow=9.8,SNR=6.5						
KSRS				LR	LR	03 23 45.0	
	comp=Z,272nm,20.4s,baz=196,slow=38						
USRK	Ussuriysk Ar.	32.24	16	P	P	03 14 41.6	-1.9
	0.9nm,0.4s,baz=196,slow=7.7,SNR=4.7						
USRK				LR	LR	03 27 25.2	
	comp=Z,184nm,21.8s,baz=189,slow=36						
SONA0	Songino Array	36.05	344	*e*P	P	03 15 16.8	+0.1
SONM	Songino Array	36.05	344	*e*P	P	03 15 17.0	+0.3
SONM	Songino Array	36.05	344	P	P	03 15 16.8	+0.1
	1.7nm,0.5s,baz=166,slow=12,SNR=9.1						
SONM				LR	LR	03 30 40.0	
	comp=Z,255nm,21.4s,baz=162,slow=37						
WRAB	Tennant Creek	36.10	157	*e*P	P	03 15 16.8	-0.5
	17nm,0.6s						
WR1	Warramunga Arr	36.11	157	*e*P	P	03 15 17.5	+0.2
WRA	Warramunga Arr	36.11	157	P	P	03 15 17.5	+0.2
	14nm,0.6s,baz=338,slow=10,SNR=61						
WB2	Warramunga Arr	36.11	157	*e*P	P	03 15 17.7	+0.3
	19nm,0.6s						
KLR	Kul'dur	36.90	13	LR	LR	03 30 52.5	
	comp=Z,226nm,21.5s,baz=210,slow=37						
AS31	Alice Springs	39.37	160	*e*P	P	03 15 45.0	+0.1
	2.9nm,0.5s						
ASAR	Alice Springs	39.37	160	*e*P	P	03 15 45.3	+0.4
ASAR	Alice Springs	39.37	160	P	P	03 15 45.8	+0.9
	6.1nm,0.5s,baz=339,slow=7.4,SNR=81						
FORT	Forrest	44.71	170	*e*P	P	03 16 29.3	+0.9
	16nm,0.8s						
MK31	Makanchi Array	45.80	324	*e*P	P	03 16 38.0	+1.1
	2.8nm,0.9s						
MK32	Makanchi Array	45.80	324	*e*P	P	03 16 38.3	+1.5
MK32				*e*PcP	PcP	03 18 14.6	+0.5
MKAR	Makanchi Array	45.80	324	P	P	03 16 38.3	+1.5
	1.4nm,0.8s,baz=126,slow=9.7,SNR=10						
MKAR				PcP	PcP	03 18 14.6	+0.5
	1.1nm,0.5s,baz=117,slow=3.0,SNR=6.9						
MKAR				LR	LR	03 36 53.4	
	comp=Z,265nm,19.6s,baz=114,slow=37						
ZALV	Zalesovo Beam	48.92	333	*e*P	P	03 17 01.0	0.0
ZALV	Zalesovo Beam	48.92	333	P	P	03 17 01.5	+0.5
	1.3nm,0.4s,baz=82,slow=2.1,SNR=5.9						
ZALV				LR	LR	03 38 47.8	
	comp=Z,124nm,18.3s,baz=40,slow=37						
ZAA1	Zalesovo Array	48.92	333	*e*P	P	03 17 01.6	+0.5
PETK	Petropavlovsk-	49.50	29	P	P	03 17 03.2	-2.3
	0.9nm,0.5s,baz=283,slow=2.0,SNR=4.5						
PETK				LR	LR	03 39 55.4	
	comp=Z,63nm,19.1s,baz=224,slow=38						
PEA1	Petropavlovsk-	49.50	29	*e*P	P	03 17 03.2	-2.3
STKA	Stephens Creek	49.65	156	P	P	03 17 06.4	-0.5
	1.5nm,0.4s,baz=344,slow=8.7,SNR=5.8						
KURK	Kurchatov	49.98	327	*e*P	P	03 17 09.9	+0.7
	11nm,1.0s						
KKAR	Karatay Array	51.64	315	*e*P	P	03 17 22.9	+1.1
BRVK	Borovoye	55.63	326	*e*P	P	03 17 51.5	+0.6
	7.6nm,1.0s						
NRIK	Noril'sk	59.44	347	LR	LR	03 45 40.4	
	comp=Z,235nm,19.6s,baz=83,slow=38						
GEYT	Alibeck	59.72	306	LR	LR	03 48 03.0	
	comp=Z,73nm,19.9s,baz=55,slow=40						
ABKAR	Akbulak array	60.45	319	*e*P	P	03 18 24.9	+0.2
KBZ	Khabaz	71.52	312	LR	LR	03 55 20.6	
	comp=Z,68nm,18.4s,baz=53,slow=39						
BPAW	Bear Paw Mtn.	77.51	27	*e*P	P	03 20 09.5	-0.9
	29nm,1.7s						
BR101	Keskin Array S	78.75	308	*e*P	P	03 20 18.3	+0.3
BRTR	Keskin Array B	78.75	308	P	P	03 20 18.3	+0.3
	0.2nm,0.4s,baz=136,slow=6.0,SNR=2.7						
BRTR				LR	LR	03 59 29.2	
	comp=Z,33nm,20.6s,baz=82,slow=39						
ARA0	ARCESS Array S	79.02	339	*e*P	P	03 20 18.9	+0.1
ARCES	ARCESS Array B	79.02	339	P	P	03 20 18.9	+0.1
	2.6nm,0.5s,baz=78,slow=7.1,SNR=29						
ILAR	Eielson Array	79.19	26	P	P	03 20 16.0	-3.7
	0.4nm,0.8s,baz=250,slow=4.1,SNR=6.8						
ILB	Eielson Array	79.19	26	*e*P	P	03 20 16.0	-3.7
	19nm,1.8s						
FIA0	FINESS Array S	80.13	331	*e*P	P	03 20 25.0	+0.2
FINES	FINESS Array B	80.13	331	P	P	03 20 25.0	+0.2
	0.9nm,0.4s,baz=44,slow=5.7,SNR=11						
FINES				LR	LR	03 58 58.0	
	comp=Z,117nm,20.9s,baz=44,slow=38						
AKASG	Malin Array Be	80.18	320	LR	LR	04 00 04.1	
	comp=Z,40nm,19.4s,baz=250,slow=39						
KMBO	Kilima Mbogo	83.24	267	LR	LR	03 54 28.7	
	comp=Z,71nm,19.7s,baz=92,slow=33						
INK	Inuvik	83.50	21	*e*P	P	03 20 41.1	-1.4
	11nm,1.7s						
INK	Inuvik	83.50	21	P	P	03 20 41.1	-1.4
	0.7nm,0.6s,baz=305,slow=5.7,SNR=5.1						
NB2	NORSAR Subarra	87.12	333	P	P	03 20 59.6	-1.2
	comp=Z,1.6nm,0.7s,baz=64,slow=4.6						
NB200	NORSAR Array S	87.12	333	*e*P	P	03 20 59.8	-1.0
NOA	NORSAR Array B	87.12	333	P	P	03 20 59.8	-1.0
	comp=Z,2.2nm,0.8s,baz=66,slow=4.6,SNR=8.2						
NOA				LR	LR	04 03 54.8	
	comp=Z,96nm,19.2s,baz=70,slow=38						
GERES	GERESS Array B	90.36	321	LR	LR	04 04 49.5	
	comp=Z,50nm,19.3s,baz=76,slow=37						
YKA	Yellowknife Ar	93.19	22	P	P	03 21 27.8	-1.3
	comp=Z,0.3nm,0.5s,baz=308,slow=4.4,SNR=8.6						
YKB5	Yellowknife Ar	93.19	22	*e*P	P	03 21 27.8	-1.3
VNDA	Vanda	93.96	172	LR	LR	04 04 07.9	
	comp=Z,25nm,19.5s,baz=344,slow=36						
PPT	Papeete	94.36	107	LR	LR	04 02 48.6	
	comp=Z,64nm,19.4s,baz=74,slow=35						
KEST	Kesra	98.31	310	LR	LR	04 15 04.9	
	comp=Z,38nm,18.3s,baz=300,slow=41						
LTX	Lajitas	120.05	44	*e*PKPdf	PKPdf	03 27 05.0	-1.4
TXAR	Lajitas Array	120.05	44	PKP	PKPdf	03 27 05.0	-1.4
	comp=Z,0.1nm,0.3s,baz=259,slow=0.5,SNR=4.1						

IDC ***17*** *03:18:18.0±6.2, 51°.96N×177°.41E, h47km±72km, mb3.1/4, mb1 3.7/6, mb1mx3.2/37, mbtmp3.7/6, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/18, Error ellipse: s-maj=81.4km s-min=43.9km az=154.0*

ISCJB ***17*** *03:18:20.7±0.5, 53°.0N±0°.1×177°.12E±0°.06, h33km, mb3.3/4, MS3.1/1, Error ellipse: s-maj=14.8km s-min=5.3km az=6.6*

NEIC ***17*** *03:18:22.8±0.0, 52°.36N×177°.00E, h21km, ML2.7(AEIC), After AEIC.*

ISC 17 03:18:20.8±0.9, 52°.8N±0°.2×177°.04E±0°.04, h35km, n25, σ2°49/21, mb3.2/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	1.79	268	*e*Pn	Pn	03 18 51.1	+2.0
SMY				*e*Sn	Sn	03 19 13.7	+3.0
GALAA	Gareloi Lava P	2.78	111	*e*Pn	Pn	03 19 03.6	+0.8
GAEA	Gareloi East	2.79	110	*e*Pn	Pn	03 19 03.5	+0.6
TANO	Tanaga North	3.10	105	*e*Pn	Pn	03 19 08.7	+1.4
TASE	Tanaga Southea	3.18	106	*e*Pn	Pn	03 19 09.4	+1.1
TAFP	Tanaga Falls P	3.19	105	*e*Pn	Pn	03 19 09.6	+1.1
TAFP				*e*Sn	Sn	03 19 46.6	+1.4
KIMD	Kanaga Island	3.67	105	*e*Pn	Pn	03 19 16.3	+1.2
ADAG	Mount Adagdak	3.98	100	*e*Pn	Pn	03 19 20.8	+1.4
GSTD	Great Sitkin T	4.24	98	*e*Pn	Pn	03 19 24.6	+1.7
GSMY	Great Sitkin M	4.29	98	*e*Pn	Pn	03 19 25.3	+1.7
KOWE	Korovin West	5.33	91	*e*Pn	Pn	03 19 40.9	+3.1
KOKL	Mount Kliuchef	5.37	92	*e*Pn	Pn	03 19 41.5	+3.2
PETK	Petropavlovsk-	11.67	279	P	Pn	03 21 07.0	+2.3
	0.4nm,0.3s,baz=88,slow=17,SNR=12						
PETK				S	Sn	03 23 07.8	-5.8
	0.1nm,0.3s,baz=323,slow=27,SNR=2.6						
KDAK	Kodiak Island	17.90	62	P	Pn	03 22 26.2	-0.4
	0.7nm,0.3s,baz=309,slow=1.8,SNR=9.8						
ILAR	Eielson Array	21.82	43	P	P	03 23 10.8	+1.1
	1.0nm,0.8s,baz=255,slow=10,SNR=13						
INK	Inuvik	27.80	37	P	P	03 24 07.0	+0.9
	0.1nm,0.3s,baz=252,slow=9.1,SNR=3.6						
DLBC	Dease Lake	29.73	58	LR	LR	03 35 54.4	
	comp=Z,47nm,18.5s,baz=95,slow=35						
H11N2	WAKE ISLAND Hy	33.95	197	T	T	04 00 07.8	
	baz=11,slow=76,SNR=16						
H11N3	WAKE ISLAND Hy	33.97	197	T	T	04 00 09.3	
	baz=11,slow=76,SNR=20						
H11N1	WAKE ISLAND Hy	33.97	197	T	T	04 00 11.4	
	baz=11,slow=76,SNR=20						
H11S1	WAKE ISLAND Hy	35.18	197	T	T	04 01 40.3	
	baz=11,slow=74						
H11S3	WAKE ISLAND Hy	35.20	197	T	T	04 01 41.5	
	baz=11,slow=74						
H11S2	WAKE ISLAND Hy	35.20	197	T	T	04 01 43.4	
	baz=11						
YKA	Yellowknife Ar	36.11	47	P	P	03 25 18.4	-0.5
	0.7nm,0.4s,baz=285,slow=7.7,SNR=11						
TXAR	Lajitas Array	60.93	79	P	P	03 28 25.7	-4.6
	0.1nm,0.7s,baz=322,slow=6.9,SNR=3.1						

ISCJB ***17*** *03:32:03.7±0.5, 24°.86N±0°.05×122°.24E±0°.03, h15km, Error ellipse: s-maj=7.0km s-min=3.6km az=18.2*

TAP ***17*** *03:32:04.3, 24°.87N×122°.16E, h16km, ML3.4, C*

JMA ***17*** *03:32:04.4±0.1, 24°.81N×122°.24E, h49km±4km, M2.5*

ISC 17 03:32:02.2±1.0, 24°.86N±0°.05×122°.24E±0°.03, h15km, n20, σ0°82/24, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.28	303	P	Pb	03 32 09.6	+0.6
TWB1				*e*S	Sb	03 32 13.1	-0.3
	baz=314						
EGS		0.28	268	*e*P	Pb	03 32 09.6	+0.6
	baz=262						
EOS1	EOS1	0.32	199	P	Pn	03 32 11.1	-1.3
	baz=185						
TIPB	Shuangxi	0.40	287	*e*P	Pn	03 32 11.9	-1.6
	baz=289						
TWC	Suao	0.43	236⇑	*e*P	Pb	03 32 11.9	+0.3
	baz=219						
NWF	Wu-fen Shan	0.47	297	*e*P	Pn	03 32 13.5	-1.0
	baz=301						
WFSB	Wu-fen Shan	0.47	297	*e*P	Pn	03 32 13.5	-1.0
	baz=301						
TWE	Neicheng	0.54	256	*e*P	Pn	03 32 14.1	-1.3
	baz=245						
NANB	Nanao	0.62	226	*e*P	Pn	03 32 15.5	-1.0
	baz=212						
NANB				*e*S	Sb	03 32 22.9	-0.4
	baz=212						
YM07	YM07	0.65	300	*e*P	Pn	03 32 17.0	+0.1
	baz=302						
ENTT	Nioudou	0.65	251	*e*P	Pn	03 32 16.4	-0.5
	baz=239						
JYNG	Yonaguni jima	0.76	122	P	Pn	03 32 18.6	+0.2
JYNG				*e*S	Sn	03 32 29.6	+0.1
YOJ	Yonaguni jima	0.80	119	P	Pn	03 32 19.1	+0.1
YOJ				*e*S	Sn	03 32 30.2	-0.5
NACB

NDT	**Datong Townshi**	**0.43**	**291**	*e*S	Pg	03 35 20.8	-0.6
	baz=300						
ETLH	**Xiulin Townshi**	**0.49**	**240**	*e*P	Pg	03 35 22.3	-0.4
	baz=240						
ETLH				*e*S	Sg	03 35 29.3	+0.2
	baz=240						
NNSB	**Datong**	**0.52**	**268**	*e*P	Pg	03 35 22.7	-0.5
	baz=267						
NNSB				*e*S	Sg	03 35 30.6	+0.6
	baz=267						
NNSB	**Datong**	**0.52**	**268**	*e*S	Pg	03 35 22.7	-0.5
	baz=271						
NNS	**Nan Shan**	**0.53**	**269**	*e*P	Pg	03 35 23.1	-0.2
	baz=268						
NNS				*e*S	Sg	03 35 30.4	+0.2
	baz=268						
NNS	**Nan Shan**	**0.53**	**269**	*e*S	Pg	03 35 22.8	-0.5
	baz=272						
TIPB	**Shuangxi**	**0.53**	**348**	*e*P	Pg	03 35 23.6	+0.3
	baz=347						
TIPB				*e*S	Sg	03 35 30.8	+0.5
	baz=347						
NSK	**Sanguang**	**0.58**	**293**	*e*P	Pg	03 35 24.4	-0.1
	baz=292						
WFSB	**Wu-fen Shan**	**0.64**	**346**	*e*P	Pg	03 35 25.6	+0.2
	baz=345						
WHF	**Hehuan Shan**	**0.70**	**244**	*e*P	Pg	03 35 26.2	-0.4
	baz=243						
WHF				*e*S	Sg	03 35 36.0	+0.3
	baz=243						
YM01	**YM01**	**0.77**	**334**	*e*P	Pg	03 35 27.0	-1.0
	baz=333						
CHGB	**Renai**	**0.81**	**241**	*e*P	Pg	03 35 28.7	0.0
	baz=241						
CHGB				*e*S	Sg	03 35 39.7	+0.5
	baz=241						
VWDT	**VWDT**	**1.01**	**227**	*e*P	Pg	03 35 32.3	-0.3
	baz=226						
VWDT				*e*S	Sb	03 35 46.6	+0.1
	baz=226						

*IDC **17** 03:48:07.9±3.0, 37.°77N×141.°71E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.4/38, mbtmp3.7/5, ML2.8/2, Error ellipse: s-maj=55.8km s-min=29.9km az=112.0*
*ISCJB **17** 03:48:13.7±0.9, 37.°50N±0.°04×141.°43E±0.°09, h53km±7km, mb3.5/3, Error ellipse: s-maj=12.2km s-min=5.7km az=19.2*
*JMA **17** 03:48:14.7, 37.°51N×141.°36E, h52km±1km, M3.5*
JMA Felt I J1.

ISC 17 03:48:13.8±1.5, 37.°51N±0.°04×141.°51E±0.°08, h41km±14km, n23, σ1º44/28, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**255**	P	**Pn**	**03 48 25.1**	**+0.3**
JFK				S	**Sn**	**03 48 32.2**	**-0.5**
JMM	**Marumori**	**0.67**	**303**	P	**Pn**	**03 48 27.0**	**+0.2**
JMM				S	**Sn**	**03 48 35.8**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.69**	**235**	P	**Pn**	**03 48 27.3**	**+0.1**
ONAJ				S	**Sn**	**03 48 35.9**	**-0.9**
JFFD	**Fukushimafurud**	**0.86**	**241**	P	**Pn**	**03 48 29.4**	**0.0**
JFFD				S	**Sn**	**03 48 39.5**	**-1.3**
JFT	**Otama**	**0.93**	**271**	P	**Pn**	**03 48 30.7**	**+0.3**
JFT				S	**Sn**	**03 48 41.8**	**-0.7**
JIO	**Ouri**	**0.95**	**353**	P	**Pn**	**03 48 31.6**	**+0.9**
JIO				S	**Sn**	**03 48 43.5**	**+0.4**
JOU	**Okura**	**1.08**	**322**	P	**Pn**	**03 48 32.6**	**+0.1**
JYS	**Shirataka**	**1.34**	**302**	P	**Pn**	**03 48 36.2**	**+0.2**
JYS				S	**Sn**	**03 48 51.9**	**-0.8**
JFY	**Yanaizu**	**1.44**	**267**	P	**Pn**	**03 48 37.1**	**-0.2**
JMK	**Ichinoseki**	**1.46**	**351**	P	**Pn**	**03 48 38.5**	**+0.9**
JMK				S	**Sn**	**03 48 55.8**	**+0.3**
JYK	**Kaneyama**	**1.67**	**328**	P	**Pn**	**03 48 41.2**	**+0.6**
MJAR	**Matsushiro Arr**	**2.81**	**251**	Pn	**Pn**	**03 48 58.6**	**+2.5**
	0.2nm,0.3s,baz=77,slow=17,SNR=5.0						
MJAR				Sn	**Sn**	**03 49 34.3**	**+5.5**
	0.4nm,0.3s,baz=92,slow=25,SNR=4.9						
MAT	**Matsushiro**	**2.81**	**251**	P	**Pn**	**03 48 57.2**	**+1.0**
MAT				*e*S	**Sn**	**03 49 29.6**	**+0.8**
JHJ	**Hachijo jima 2**	**4.60**	**198**	Pn	**Pn**	**03 49 22.1**	**+1.3**
	5.1nm,0.3s,baz=305,slow=22,SNR=3.2						
JHJ				Sn	**Sn**	**03 50 11.4**	**-1.5**
	10nm,0.3s,baz=47,slow=22,SNR=2.4						
SONM	**Songino Array**	**27.59**	**303**	P	**P**	**03 53 56.3**	**-0.8**
	0.3nm,0.5s,baz=90,slow=8.6,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**28.33**	**122**	T	T	04 23 45.1	
	baz=312,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	04 23 54.5	
	baz=312,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.35**	**122**	T	T	04 23 48.4	
	baz=312,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.06**	**124**	T	T	04 24 39.3	
	baz=317,slow=75,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**29.06**	**124**	T	T	04 24 39.3	
	baz=317,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**29.07**	**124**	T	T	04 24 39.3	
	baz=317,slow=75,SNR=14						
MKAR	**Makanchi Array**	**43.93**	**302**	P	**P**	**03 56 16.0**	**-0.5**
	0.7nm,0.7s,baz=81,slow=8.7,SNR=4.9						
FINES	**FINESS Array B**	**68.43**	**332**	P	**P**	**03 59 10.7**	**-0.4**
	1.2nm,0.9s,baz=38,slow=9.6,SNR=4.2						

DJA 17 03:59:02.1±0.4, 10.°S±3.°×12.°4E±.°, h13km±3km, M4.2/5, mb4.2/4, MLv4.2/5, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.20**	**262**	P	Pb	03 59 08.0	+0.4
BATI				S	Sb	03 59 17.7	+6.5
SOEI	**Soe**	**0.58**	**44**	P	Pg	03 59 12.9	-0.7
SOEI				S	Sb	03 59 23.3	+0.8
MMRI	**Maumere**	**2.22**	**314**	P	Pn	03 59 38.4	-0.2
MMRI				S	Sn	04 00 06.1	+0.2
BKSI	**Bulukumba**	**6.08**	**322**	P	Pg	04 01 02.0	+3.3
PLAI	**Plampang**	**6.15**	**282**	P	Pn	04 00 32.7	0.0
	24nm,0.7s,0.2nm						
SANI	**Sanana**	**8.35**	**15**	P	Pn	04 01 04.2	+1.3

*NEIC **17** 03:59:07.8±0.0, 43.°64S×172.°36E, h6km, ML4.2(WEL), After WEL.*
NEIC Felt throughout the Christchurch area.

WEL 17 03:59:08.0, 43.°7S±0.°6×172.°4E±0.°6, h8km, ML4.3/12, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.22**	**66**	P	Pg	03 59 13.8	+1.4
CRLZ				S	Sg	03 59 17.1	+1.8
MQZ	**McQueen's Vall**	**0.22**	**101**	*e*P	Pg	03 59 13.3	+0.8
MQZ	**McQueen's Vall**	**0.22**	**101**	P	Pg	03 59 13.9	+1.4
EYCZ	**Eyrewell**	**0.24**	**1**	P	Pg	03 59 14.2	+1.4
OXZ	**Oxford**	**0.41**	**326**	P	Pb	03 59 17.1	-0.4
OXZ				S	Sb	03 59 22.6	-1.2
AKCZ	**Akaroa Harbour**	**0.46**	**117**	P	Pb	03 59 18.6	+0.3
OKCZ	**Okains Bay**	**0.52**	**97**	P	Pb	03 59 19.6	+0.3
AMCZ	**Amberley**	**0.54**	**24**	P	Pb	03 59 20.1	+0.5
AMCZ				S	Sb	03 59 28.0	+0.6
LTZ	**Lake Taylor**	**0.89**	**356**	*e*P	Pb	03 59 25.6	0.0
LTZ	**Lake Taylor**	**0.89**	**356**	P	Pb	03 59 26.1	+0.5
RPZ	**Rata Peaks**	**0.94**	**267**	*e*P	Pn	03 59 27.1	-0.4
RPZ	**Rata Peaks**	**0.94**	**267**	P	Pn	03 59 27.6	0.0
RPZ				S	Sn	03 59 40.7	-0.5
INZ	**Inchbonnie**	**1.15**	**325**	P	Pb	03 59 30.1	+0.1
WVZ	**Waitaha Valley**	**1.32**	**296**	P	Pg	03 59 33.4	+0.2
KHZ	**Kahutara**	**1.52**	**35**	*e*P	Pn	03 59 34.6	-0.9
KHZ	**Kahutara**	**1.52**	**35**	P	Pn	03 59 34.9	-0.5
LBZ	**Lake Benmore**	**1.72**	**245**	*e*P	Pb	03 59 39.3	-0.5
LBZ	**Lake Benmore**	**1.72**	**245**	P	Pb	03 59 39.4	-0.4
ODZ	**Otahua Downs**	**1.84**	**221**	P	Pn	03 59 40.4	+0.5
FOZ	**Fox Glacier**	**1.85**	**273**	*e*P	Pb	03 59 41.4	-0.6
FOZ	**Fox Glacier**	**1.85**	**273**	P	Pb	03 59 41.8	-0.1
THZ	**Tophouse**	**1.94**	**12**	*e*P	Pn	03 59 40.7	-0.7
THZ	**Tophouse**	**1.94**	**12**	P	Pn	03 59 41.0	-0.3
DSZ	**Denniston Nort**	**1.96**	**348**	P	Pn	03 59 42.5	+0.9
BSWZ	**Blackbirch Sta**	**2.25**	**31**	P	Pn	03 59 45.6	+0.1
TUWZ	**Tuamarina**	**2.53**	**28**	P	Pn	03 59 49.2	0.0
HHSZ	**Highcliff Hill**	**2.54**	**209**	P	Pn	03 59 50.4	+0.8
NNZ	**Nelson**	**2.56**	**18**	P	Pn	03 59 50.3	+0.6
JCZ	**Jackson Bay**	**2.61**	**260**	P	Pn	03 59 51.6	+1.1
WKZ	**Wanaka**	**2.66**	**243**	P	Pn	03 59 52.4	+1.3
EAZ	**Earnscleugh**	**2.68**	**233**	P	Pn	03 59 51.8	+0.4
TCW	**Tory Channel**	**2.84**	**31**	P	Pn	03 59 54.1	+0.6
QRZ	**Quartz Range**	**2.84**	**3**	P	Pn	03 59 54.1	+0.5
BHW	**Baring Head**	**2.93**	**40**	P	Pn	03 59 53.2	-1.5
SNZO	**South Karori**	**2.93**	**37**	*e*P	Pn	03 59 53.9	-0.9
TUZ	**Tuapeka**	**3.00**	**219**	P	Pn	03 59 56.5	+0.7
PLWZ	**Palliser**	**3.00**	**47**	P	Pn	03 59 54.6	-1.2
DUWZ	**D'Urville Isla**	**3.09**	**23**	P	Pn	03 59 58.1	+1.1
MSWZ	**Moikau Station**	**3.11**	**45**	P	Pn	03 59 55.9	-1.4
PAWZ	**Paruwai Farm**	**3.22**	**46**	P	Pn	03 59 57.3	-1.6
MSZ	**Milford Sound**	**3.34**	**251**	P	Pn	04 00 01.0	+0.6
TRWZ	**Traveller**	**3.35**	**49**	P	Pn	03 59 59.5	-1.1
KIW	**Kapiti Island**	**3.39**	**35**	P	Pn	04 00 00.7	-0.4
MTW	**Mount Morrison**	**3.42**	**44**	P	Pn	04 00 00.1	-1.5
MLZ	**Mavora Lakes**	**3.47**	**239**	*e*P	Pn	04 00 02.9	+0.6
MLZ	**Mavora Lakes**	**3.47**	**239**	P	Pn	04 00 02.4	+0.1
OGWZ	**Otaki Gorge**	**3.53**	**37**	P	Pn	04 00 01.7	-1.4
SYZ	**Scrubby Hill**	**3.66**	**217**	P	Pn	04 00 05.9	+1.1
TMWZ	**Te Maipa**	**3.66**	**47**	P	Pn	04 00 04.0	-0.9
MRZ	**Mangatainoka R**	**3.84**	**40**	P	Pn	04 00 06.2	-1.1
WHZ	**Wether Hill Ro**	**3.84**	**233**	*e*P	Pn	04 00 08.1	+0.6
WHZ	**Wether Hill Ro**	**3.84**	**233**	P	Pn	04 00 06.8	-0.6
TIWZ	**Tintock**	**3.90**	**43**	P	Pn	04 00 07.7	-0.5
DCZ	**Deep Cove**	**4.13**	**242**	*e*P	Pn	04 00 11.9	+0.7
DCZ	**Deep Cove**	**4.13**	**242**	P	Pn	04 00 11.8	+0.6
BFZ	**Birch Farm**	**4.16**	**45**	*e*P	Pn	04 00 10.4	-1.3
BFZ	**Birch Farm**	**4.16**	**45**	P	Pn	04 00 10.2	-1.5
NMEZ	**Namu Road**	**4.40**	**16**	P	Pn	04 00 16.3	+1.3
DVHZ	**Dannevirke**	**4.41**	**42**	P	Pn	04 00 13.8	-1.3
APZ	**The Paps**	**4.42**	**223**	P	Pn	04 00 15.6	+0.3
ANWZ	**Angora Road**	**4.44**	**45**	P	Pn	04 00 14.4	-1.1
TSZ	**Takapari Road**	**4.50**	**38**	P	Pn	04 00 15.0	-1.4
PREZ	**Palmer Road**	**4.53**	**18**	P	Pn	04 00 18.3	+1.4
KHEZ	**Kahui Hut**	**4.54**	**17**	P	Pn	04 00 18.7	+1.6
PKE	**Pukeiti**	**4.63**	**16**	P	Pn	04 00 19.8	+1.5
DREZ	**Durham Road**	**4.68**	**18**	P	Pn	04 00 20.0	+1.1
PNHZ	**Pukenui**	**4.73**	**39**	P	Pn	04 00 18.7	-0.9

*IDC **17** 04:00:17.4±1.8, 9.°98S×123.°97E, h0km, mb3.8/1, mb1 4.0/4, mb1mx3.7/34, mbtmp3.9/4, ML3.8/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/28, Error ellipse: s-maj=119.4km s-min=28.1km az=62.0*
*ISCJB **17** 04:00:18.3±0.8, 10.°08S±0.°10×124.°3E±0.°1, h19km, mb3.8/1, Error ellipse: s-maj=23.2km s-min=6.1km az=145.3*
*DJA **17** 04:00:22.2±0.5, 10.°S±5.°×12.°4E±.°, h10km, M4.1/5, mb4.4/3, MLv3.9/5*

ISC 17 04:00:20.8±1.0, 10.°1S±0.°2×124.°3E±0.°2, h19km, n9, σ1º92/11, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.30**	**355**	P	**Pn**	**04 00 33.4**	**+3.1**
MMRI	**Maumere**	**2.47**	**305**	P	**Pn**	**04 00 58.7**	**-1.4**
BSSI	**Bau Bau, Buton**	**5.41**	**316**	P	**Pn**	**04 01 42.0**	**+1.4**
	40nm,0.8s,0.1nm						
BKSI	**Bulukumba**	**6.26**	**318**	P	**Pn**	**04 01 52.1**	**-0.1**
	7.3nm,0.6s,0.0nm						
KAPI	**Kappang**	**6.74**	**318**	LR	LR	04 04 31.4	
	comp=Z,156nm,20.4s,baz=134,slow=39						
FITZ	**Fitzroy Crossi**	**8.10**	**171**	Pn	**Pn**	**04 02 18.2**	**+0.8**
	1.7nm,0.3s,baz=355,slow=12,SNR=9.4						
FITZ				Sn	**Sn**	**04 03 48.9**	**+0.3**
	2.5nm,0.3s,baz=229,slow=20,SNR=3.9						
FITZ				LR	LR	04 06 08.1	
	comp=Z,80nm,20.8s,baz=4.0,slow=43						
WRA	**Warramunga Arr**	**13.80**	**137**	Pn	**Pn**	**04 03 37.4**	**+1.9**
	0.3nm,0.3s,baz=313,slow=14,SNR=5.9						
WRA				Sn	**Sn**	**04 06 07.8**	**-0.6**
	0.6nm,0.3s,baz=318,slow=24,SNR=3.4						
ASAR	**Alice Springs**	**16.35**	**147**	Pn	**P**	**04 04 12.3**	**+0.1**
	0.3nm,0.3s,baz=319,slow=13,SNR=5.6						
ASAR				Sn	**Sn**	**04 07 07.7**	**-2.9**
	0.2nm,0.3s,baz=323,slow=23,SNR=2.5						
MKAR	**Makanchi Array**	**67.87**	**330**	P	**P**	**04 11 16.2**	**-1.7**
	0.9nm,0.8s,baz=148,slow=6.8,SNR=4.4						

*IDC **17** 04:01:35.3±1.3, 3.°72S×133.°79E, h0km, mb4.1/3, mb1 4.3/5, mb1mx3.9/30, mbtmp4.1/5, ML4.1/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=67.9km s-min=27.1km az=81.0*
*ISCJB **17** 04:01:39.5±0.8, 4.°04S±0.°05×133.°27E±0.°10, h33km, mb4.1/3, Error ellipse: s-maj=14.4km s-min=5.9km az=161.1*
*DJA **17** 04:01:44.1±1.1, 4.°S±7.°×13.°3E±.°, h10km, M4.5/3, mb4.6/1, mB4.6/1, MLv4.5/3, Mw(mB)3.8/1*

ISC 17 04:01:39.7±1.0, 4.°03S±0.°06×133.°35E±0.°09, h35km, n12, σ2º57/15, mb4.1/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.55**	**315**	P	**Pn**	**04 02 04.5**	**-0.4**
FAKI				S	**Sn**	**04 02 23.4**	**-0.5**
BNDI	**Bandanaira**	**3.47**	**262**	P	**Pn**	**04 02 33.3**	**+2.0**
BNDI				S	**Sn**	**04 03 16.0**	**+4.8**
SWI	**Sorong**	**3.77**	**326**	P	**Pn**	**04 02 38.2**	**+2.8**
SANI	**Sanana**	**7.61**	**285**	P	**Pn**	**04 03 26.9**	**-1.3**
SANI				S	**Sn**	**04 04 48.4**	**-4.8**
PMG	**Port Moresby**	**14.71**	**112**	LR	LR	04 11 47.0	
	comp=Z,66nm,21.8s,baz=349,slow=42						
WRA	**Warramunga Arr**	**15.85**	**177**	Pn	**P**	**04 05 22.5**	**-1.3**
	0.7nm,0.3s,baz=358,slow=12,SNR=5.8						
WRA				Sn	**Sn**	**04 08 13.9**	**-1.2**
	0.3nm,0.3s,baz=359,slow=23,SNR=4.4						
FITZ	**Fitzroy Crossi**	**15.89**	**208**	Sn	**Sn**	**04 08 14.6**	**-1.5**
	0.4nm,0.3s,baz=174,slow=15,SNR=3.9						
ASAR	**Alice Springs**	**19.53**	**178**	P	**Pn**	**04 06 08.2**	**+2.3**
	1.0nm,0.3s,baz=3.7,slow=11,SNR=26						
ASAR				S	**Sn**	**04 09 41.7**	**-2.5**
	baz=4.0,slow=28,SNR=3.2						
CTA	**Charters Tower**	**20.32**	**143**	P	Pn	04 06 18.2	+3.1
	5.3nm,0.9s,baz=307,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**67.66**	**325**	P	**P**	**04 12 34.6**	**+1.2**
	2.3nm,0.7s,baz=120,slow=7.6,SNR=11						
ZALV	**Zalesovo Beam**	**70.47**	**332**	P	**P**	**04 12 50.7**	**+0.1**
	0.5nm,0.3s,baz=134,slow=4.2,SNR=3.0						
ILAR	**Eielson Array**	**89.26**	**25**	P	**P**	**04 14 31.0**	**-0.9**
	0.9nm,0.8s,baz=264,slow=4.5,SNR=9.7						

*SJA **17** 04:05:22.1±0.7, 29.°93S×71.°78W, h21km±8km, ML2.9, MW3.5*
*GUC **17** 04:05:22.3±0.3, 29.°72S×71.°51W, h43km±3km, ML2.9*

ISC 17 04:05:16.5±2.4, 29.°95S±0.°07×72.°0W±0.°1, h25km, n12, σ1º65/15, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.69**	**87**	⇓*i*P	**Pn**	**04 05 31.3**	**+0.7**
LSCH				*i*S	**Sb**	**04 05 37.9**	**-1.1**
LSCH				IAML		04 05 38.4	
	comp=E,766nm,0.3s						
GO04	**Tololo Observa**	**1.09**	**102**	*i*S	**Sn**	**04 05 52.4**	**+1.4**
GO04	**Tololo Observa**	**1.09**	**102**	⇓*i*P	**Pb**	**04 05 38.2**	**+1.3**
GO04				*i*S	**Sn**	**04 05 50.5**	**-0.4**
GO04				IAML		04 05 54.3	
	comp=N,2μm,0.3s						
ACDV	**Cuesta del Vie**	**2.54**	**96**	*i*P	**Pb**	**04 06 01.8**	**+0.3**
ACCO	**Cerro Coronel**	**2.65**	**105**	*i*P	**Pb**	**04 06 03.7**	**+0.3**
GO03	**Copiap**	**2.83**	**34**	*e*P	**Pn**	**04 06 01.7**	**+1.5**
GO03				IAML		04 06 45.1	
	comp=E,48nm,0.3s						
RTLS	**Leoncito**	**2.99**	**129**	*i*P	**Pb**	**04 06 09.9**	**+0.6**
RTLS				*i*S	**Sb**	**04 06 44.9**	**-0.7**
RTLS				IAML		04 06 58.1	
	comp=Z,34nm,0.5s						
ROCH	**El Roble**	**3.14**	**164**	*e*P	Pb	04 06 20.2	+8.4
ROCH				*i*S	**Sb**	**04 06 47.1**	**-2.6**
ROCH				IAML		04 07 10.9	
	comp=N,38nm,0.4s						
AMOG	**MOGNA**	**3.21**	**109**	*i*P	**Pb**	**04 06 11.3**	**-1.7**
RTLL	**Cerro Villicun**	**3.36**	**115**	IAML		04 07 07.9	
	comp=E,84nm,0.4s						
VCA	**Vinchina**	**3.55**	**71**	*i*P	**Pb**	**04 06 16.7**	**-2.0**
VCA				IAML		04 06 34.3	
	comp=Z,34nm,0.3s						
VCA	**Vinchina**	**3.55**	**71**	*e*P	**Pb**	**04 06 16.1**	**-2.7**
VCA				*i*S	**Sn**	**04 06 53.2**	**+1.6**

SJA 17 04:09:53.2±0.6, 31.°85S×67.°82W, h29km±2km, ML1.9, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.61**	**268**	*i*P	Pb	04 10 05.5	0.0
RTCV				*i*S	Sn	04 10 15.6	+0.6
ACAN	**Cantantal**	**0.68**	**129**	*i*P	Pn	04 10 07.2	+0.2
AMOG	**MOGNA**	**1.07**	**327**	*i*P	Pb	04 10 13.7	+0.5
AMOG				*i*S	Sb	04 10 29.6	+2.7
ASAL	**Salagasta**	**1.14**	**229**	*i*P	Pb	04 10 15.3	+1.0
RTLS	**Leoncito**	**1.26**	**272**	*i*P	Pb	04 10 17.6	+1.1
RTLS				*i*S	Sb	04 10 35.4	+3.0
RTLS				IAML		04 10 35.9	
	comp=Z,22nm,0.2s						
AUSP	**Uspallata**	**1.38**	**254**	*i*P	Pb	04 10 19.1	+0.5

*ISK **17** 04:40:24.8, 38.°97N×43.°70E, h6km, ML2.1/5*
*ISCJB **17** 04:40:25.9±0.7, 39.°00N±0.°04×43.°69E±0.°05, h11km±6km, Error ellipse: s-maj=8.1km s-min=4.7km az=34.9*
*DDA **17** 04:40:25.1, 38.°99N×43.°70E, h7km±3km, ML2.9*

ISC 17 04:40:25.0±1.0, 38.°98N±0.°04×43.°69E±0.°04, h12km±7km, n11, σ0º85/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.09**	**275**	IAML_P			
	comp=Z,14μm,0.1s						
VMUR				*i*P	**Pg**	**04 40 27.2**	**-0.9**
VMUR				*i*S	**Sg**	**04 40 30.8**	**+0.6**
CLDR	**Caldiran**	**0.24**	**47**	PG	**Pg**	**04 40 29.9**	**-0.3**
CLDR				SG	**Sg**	**04 40 34.4**	**+0.6**
CLDR	**Caldiran**	**0.24**	**47**	*i*P	**Pb**	**04 40 30.8**	**-0.7**
CLDR				*i*S	**Sg**	**04 40 35.1**	**+1.3**
VANB	**Van**	**0.45**	**212**	PG	**Pb**	**04 40 34.6**	**-0.4**
VANB				SG	**Sb**	**04 40 43.1**	**+1.4**
TVAN	**Van**	**0.50**	**206**	IAML_P			
	comp=Z,2μm,0.1s						
TVAN				*i*P	**Pb**	**04 40 35.3**	**-0.6**
TVAN				*i*S	**Sb**	**04 40 44.7**	**+1.3**
DYDN	**Diyadin**	**0.56**	**360**	IAML_P			
	comp=Z,2μm,0.1s						
DYDN				*i*P	**Pb**	**04 40 36.6**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.77**	**257**	IAML_P			
	comp=Z,380nm,0.2s						
ADCV				*i*P	**Pb**	**04 40 40.5**	**-0.1**
ADCV				*i*S	**Sn**	**04 40 52.3**	**-1.2**
TUTA	**Tutak**	**0.80**	**302**	IAML_P			
	comp=Z,2μm,0.2s						
TUTA				*i*P	**Pb**	**04 40 40.9**	**-0.1**
AGRB	**Hanur-Agry**	**0.80**	**318**	PG	**Pg**	**04 40 40.5**	**-0.2**
AGRB				SG	**Sb**	**04 40 52.8**	**+0.8**
AKDM	**Akdamar-Van**	**0.86**	**221**	PG	**Pg**	**04 40 41.4**	**-0.3**
AKDM				SG	**Sb**	**04 40 53.9**	**+0.4**
GNI	**Garni**	**1.42**	**34**	PN	**Pg**	**04 40 51.9**	**-0.5**

*IDC **17** 04:41:48.3±4.6, 2.°92S×28.°75E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.5/28, mbtmp3.7/4, ML3.5/1, MS3.1/3, Ms1 3.0/3, ms1mx2.7/37, Error ellipse: s-maj=111.8km s-min=32.5km az=2.0*

ISC 17 04:41:47.1±1.8, 3.°4S±0.°2×28.°87E±0.°10, h10km, n11, σ2º60/9, mb3.6/3, MS3.1/3, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAT	**Babati**	**6.92**	**97**	*i*S	**Sg**	**04 45 30.3**	**+0.9**
KOND	**Kondoa**	**7.05**	**102**	*i*S	**Sg**	**04 45 35.2**	**+1.5**
KIBA	**Kibaya**	**7.90**	**104**	*i*P	**Sn**	**04 45 12.3**	**+0.3**
KIBA	**Kibaya**	**7.90**	**104**	*i*S	**Sg**	**04 45 56.3**	**-4.7**
KMBO	**Kilima Mbogo**	**8.68**	**75**	Pn	**Pn**	**04 43 56.0**	**+2.9**
	0.5nm,0.3s,baz=236,slow=17,SNR=4.2						
KMBO				Sn	**Sn**	**04 45 28.9**	**-2.3**
	0.9nm,0.3s,baz=141,slow=18,SNR=5.0						
KMBO				Lg	Lg	04 46 19.7	
	2.6nm,0.3s,baz=167,slow=24,SNR=15						
BOSA	**Boshof**	**25.29**	**187**	LR	LR	04 56 22.9	
	comp=Z,35nm,19.4s,baz=6.5,slow=34						
TORD	**Torodi Ar. Bea**	**31.61**	**302**	P	**P**	**04 48 10.0**	**-0.5**
	0.3nm,0.4s,baz=112,slow=9.7,SNR=4.6						
BRTR	**Keskin Array B**	**43.16**	**5**	P	**P**	**04 49 47.0**	**-1.3**
	0.9nm,0.7s,baz=181,slow=9.6,SNR=7.2						
GERES	**GERESS Array B**	**53.71**	**348**	LR	LR	05 16 06.6	
	comp=Z,18nm,18.3s,baz=284,slow=39						
AKTO	**Aktyubinsk**	**59.21**	**21**	LR	LR	05 19 48.3	
	comp=Z,15nm,19.0s,baz=355,slow=39						
MKAR	**Makanchi Array**	**68.55**	**36**	P	**P**	**04 52 50.6**	**+0.5**
	0.6nm,0.7s,baz=235,slow=5.1,SNR=3.9						

*NNC **17** 04:45:34.0±3.5, 39.°53N×74.°24E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=28.9km s-min=16.6km az=168.0*

ISC 17 04:45:26.6±4.4, 39.°0N±0.°3×74.°46E±0.°08, h10km, n19, σ1º92/21, 4C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**3.12**	**11**	P

IDC ***17*** *05:08:54.0±40.0, 5°.96S×105°.82E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/39, mbtmp3.6/3, Error ellipse: s-maj=698.5km s-min=181.4km az=131.0*

ISCJB ***17*** *05:09:11.7±0.5, 7°.33S±0°.08×107°.57E±0°.04, h10km, mb3.5/3, Error ellipse: s-maj=12.2km s-min=4.0km az=24.1*

DJA ***17*** *05:09:11.7±0.3, 7°S±5°×10°8E±°, h10km, M4.0/11, MLv4.0/11*

ISC 17 05:09:12.7±0.8, **7°.35S**±0°.07×**107°.54E**±0°.04, **h10**km, **n14**, σ**1**§**34**/16, **mb3.3**/3, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.34**	**127**	P	**Pg**	**05 09 17.9**	**-1.6**
CISI				S	**Sg**	**05 09 22.6**	**-1.5**
LEM	**Lembang**	**0.52**	**8**	P	**Pg**	**05 09 21.7**	**-1.2**
SKJI	**Sukabumi**	**1.03**	**289**	P	**Pg**	**05 09 31.3**	**-1.3**
SKJI				S	**Sb**	**05 09 45.6**	**-0.7**
CGJI	**Cibinong**	**1.97**	**292**	P	**Pn**	**05 09 45.9**	**-0.3**
CGJI				S	**Sn**	**05 10 11.0**	**0.0**
UGM	**Wanagama**	**3.01**	**101**	P	**Pn**	**05 09 59.7**	**-0.8**
UGM				S	**Sn**	**05 10 37.0**	**+0.4**
WOJI	**Wonogiri, Jawa**	**3.39**	**98**	P	**Pn**	**05 10 05.2**	**-0.5**
PCJI	**Pacitan**	**3.70**	**103**	P	**Pn**	**05 10 09.7**	**-0.2**
PCJI				S	**Sn**	**05 10 53.1**	**-0.6**
PWJI	**Pagerwojo**	**4.28**	**99**	P	**Pn**	**05 10 18.2**	**+0.3**
WRA	**Warramunga Arr**	**28.84**	**118**	P	**P**	**05 15 13.2**	**+1.7**
	0.5nm,0.9s,baz=291,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**30.05**	**126**	P	**P**	**05 15 25.5**	**+3.2**
	0.3nm,0.6s,baz=309,slow=7.9,SNR=4.2						
H08S2	**Diego Garcia H**	**34.74**	**267**	T	T	05 51 37.1	
	baz=91,slow=75,SNR=9.6						
H08S3	**Diego Garcia H**	**34.75**	**267**	T	T	05 51 44.0	
	baz=91,slow=75,SNR=9.1						
H08S1	**Diego Carcia H**	**34.76**	**267**	T	T	05 51 38.6	
	baz=91,slow=75,SNR=10						
STKA	**Stephens Creek**	**40.01**	**132**	P	**P**	**05 16 48.3**	**+0.4**
	1.6nm,0.5s,baz=311,slow=8.2,SNR=4.5						

MOS ***17*** *05:24:53.3±0.9, 59°.40N×152°.25W, h58km, mb5.0/68, Error ellipse: s-maj=9.5km s-min=4.2km az=87.6*

ISCJB ***17*** *05:24:54.0±0.2, 59°.43N±0°.02×152°.13W±0°.03, h65km±2km, mb4.8/180, Error ellipse: s-maj=3.0km s-min=2.1km az=22.0*

GCMT ***17*** *05:24:55.8±0.4, 59°.34N±0°.04×152°.25W±0°.07, h50km±3km, MW4.8/69, Moment Tensor Solution. s21,c28; s69,c87; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.90±.18; Mθθ=0.47±.15; Mφφ=1.38±.12; Mrθ=0.79±.09; Mrφ=0.10±.09; Mθφ=1.05±.08; Best double couple: M0=1.79200×10¹⁶ NP1:φs=207.00000°, δ72.00000°, λ=-62.00000°. NP2: φs=326.00000°, δ33.00000°, λ=-146.00000°. Principal axes: T 1.8080, Plg23.0000°, Azm276.0000°; N -0.0290, Plg26.0000°, Azm18.0000°; P -1.7760, Plg54.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

AEIC ***17*** *05:24:55.8, 59°.31N×152°.00W, h56km, ML4.4, MB4.9(NEIC)*

NEIC ***17*** *05:24:55.8±0.0, 59°.31N×152°.00W, h56km, mb4.9/105, ML4.4(AEIC), After AEIC.*

NEIC Felt [IV] at Anchor Point and Homer.

IDC ***17*** *05:24:55.2±0.4, 59°.42N×152°.38W, h60km±3km, mb4.4/34, mb1 4.6/38, mb1mx4.5/55, mbtmp4.7/38, MS3.4/18, Ms1 3.4/18, ms1mx3.2/51, Error ellipse: s-maj=11.0km s-min=7.7km az=26.0*

ISC 17 05:24:54.8±0.3, **59°.33N**±0°.04×**152°.09W**±0°.03, **h60**km±3km, **h59**km:**pP-P**, **n933**, σ1§**20**/959, **mb4.8**/179, **MS3.5**/18, **24C-16D**, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.40**	**34**	*e*Pn	**Pn**	**05 25 06.2**	**+0.4**
HOM				*e*Sn	**Sn**	**05 25 13.3**	**-0.3**
BRLK	**Bradley Lake**	**0.75**	**54**	*e*Pn	**Pn**	**05 25 09.2**	**-0.4**
BRLK				*e*Pn	Pn	05 25 09.5	-0.2
BRLK				*e*Sn	**Sn**	**05 25 20.4**	**-0.2**
BRLK				*e*Sn	Sn	05 25 20.6	0.0
RSO	**Redoubt South**	**1.18**	**344**	*e*Pn	**Pn**	**05 25 15.8**	**+0.4**
SEW	**Seward**	**1.54**	**59**	*e*Pn	**Pn**	**05 25 19.6**	**-0.4**
KDAK	**Kodiak Island**	**1.57**	**190**	*e*P	**Pn**	**05 25 20.3**	**-0.2**
KDAK	**Kodiak Island**	**1.57**	**190**	P	**Pn**	**05 25 20.2**	**-0.3**
	443nm,0.3s,baz=40,slow=8.1,SNR=7954						
KDAK				S	**Sn**	**05 25 35.2**	**-4.6**
	1μm,0.3s,baz=22,slow=17,SNR=16						
KDAK				LR	LR	05 25 43.5	
	comp=Z,171nm,19.3s,baz=52,slow=29						
RC01	**Rabbit Creek A**	**2.12**	**33**	*e*Pn	**Pn**	**05 25 28.6**	**+0.7**
PTE	**Portage**	**2.17**	**44**	*e*Pn	**Pn**	**05 25 28.7**	**+0.2**
OHAK	**Old Harbor**	**2.21**	**197**	*e*Pn	**Pn**	**05 25 28.6**	**-0.5**
OHAK				*e*Sn	**Sn**	**05 25 52.5**	**-2.7**
SVW2	**Sparrevohn**	**2.49**	**317**	*e*Pn	**Pn**	**05 25 33.1**	**+0.2**
SVW2				*e*Pn	Pn	05 25 33.2	+0.4
PMR	**Palmer**	**2.70**	**32**	*e*Pn	**Pn**	**05 25 35.9**	**+0.1**
PMR	**Palmer**	**2.70**	**32**	*e*P	**Pn**	**05 25 35.9**	**+0.1**
KNK	**Knik Glacier**	**2.76**	**39**	*e*Pn	**Pn**	**05 25 36.6**	**0.0**
KNK				*e*Pn	Pn	05 25 36.6	+0.1
GHO	**Glory Hole Cre**	**2.90**	**31**	*e*Pn	**Pn**	**05 25 38.9**	**+0.3**
GHO				*e*Pn	**Pn**	**05 25 38.9**	**+0.3**
GLI	**Glacier Island**	**2.94**	**56**	*e*Pn	**Pn**	**05 25 37.7**	**-1.3**
GLI				*e*Sn	**Sn**	**05 26 11.3**	**-1.8**
MID	**Middleton Isla**	**2.94**	**86**	*e*Pn	**Pn**	**05 25 38.7**	**-0.3**
MID	**Middleton Isla**	**2.94**	**86**	*e*P	**Pn**	**05 25 38.7**	**-0.3**
SII	**Sitkinak Islan**	**3.00**	**203**	*e*Pn	**Pn**	**05 25 39.3**	**-0.6**
SML	**Sawmill**	**3.10**	**35**	*e*Pn	**Pn**	**05 25 41.4**	**+0.2**
SML	**Sawmill**	**3.10**	**35**	*e*P	**Pn**	**05 25 41.4**	**+0.2**
JPK	**Jack Peak**	**3.24**	**55**	*e*Pn	**Pn**	**05 25 42.4**	**-0.8**
VMT	**TAPS Tl Valdez**	**3.35**	**56**	*e*Pn	**Pn**	**05 25 44.0**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.41**	**66**	*e*Pn	**Pn**	**05 25 44.7**	**-0.8**
EYAK				*e*Sn	**Sn**	**05 26 22.5**	**-2.1**
SCM	**Sheep Creek Mo**	**3.44**	**41**	*e*Pn	**Pn**	**05 25 46.4**	**+0.5**
SCM	**Sheep Creek Mo**	**3.44**	**41**	*e*P	**Pn**	**05 25 46.4**	**+0.5**
DIV	**Divide**	**3.63**	**57**	*e*Pn	**Pn**	**05 25 48.2**	**-0.3**
DIV				*e*Sn	**Sn**	**05 26 28.4**	**-1.7**
KLU	**Klutina**	**3.75**	**52**	*e*Pn	**Pn**	**05 25 50.0**	**-0.1**
TT01	**Tatalina**	**4.06**	**334**	*e*Pn	**Pn**	**05 25 55.3**	**+0.9**
HMT	**Hamilton**	**4.08**	**72**	*e*Pn	**Pn**	**05 25 54.4**	**-0.2**
HMT				*e*Pn	Pn	05 25 54.6	0.0
CHGN	**Chignik**	**4.55**	**231**	*e*Pn	**Pn**	**05 26 01.5**	**+0.5**
HARP	**HAARP**	**4.58**	**45**	*e*Pn	**Pn**	**05 26 02.2**	**+0.7**
MCK	**McKinley**	**4.67**	**17**	*e*Pn	**Pn**	**05 26 03.8**	**+1.1**
MCK	**McKinley**	**4.67**	**17**	*e*P	**Pn**	**05 26 03.8**	**+1.1**
BPAW	**Bear Paw Mtn.**	**4.81**	**6**	*e*Pn	**Pn**	**05 26 05.4**	**+0.7**
PAX	**Paxson**	**4.86**	**38**	*e*Pn	**Pn**	**05 26 05.5**	**+0.2**
PAX	**Paxson**	**4.86**	**38**	*e*P	**Pn**	**05 26 05.5**	**+0.2**
VNHG	**Veniaminof 1**	**4.91**	**234**	*e*Pn	**Pn**	**05 26 07.2**	**+1.1**
MCARA	**McCarthy VSAT**	**4.95**	**62**	*e*Pn	**Pn**	**05 26 06.1**	**-0.4**
BWN	**Browne**	**5.01**	**13**	*e*Pn	**Pn**	**05 26 08.3**	**+0.9**
BWN				*e*Pn	Pn	05 26 08.3	+0.9
PS10	**TAPS Pump St10**	**5.11**	**34**	*e*Pn	**Pn**	**05 26 09.3**	**+0.6**
BALM	**Baldy**	**5.15**	**66**	*e*Pn	**Pn**	**05 26 08.4**	**-1.0**
BALM				*e*Pn	Pn	05 26 08.5	-0.9
BALM	**Baldy**	**5.15**	**66**	*e*P	**Pn**	**05 26 08.4**	**-1.0**
MENT	**Mentasta**	**5.43**	**45**	*e*Pn	**Pn**	**05 26 13.3**	**+0.2**
CTGM	**Chitina Glacie**	**5.62**	**68**	*e*Pn	**Pn**	**05 26 15.3**	**-0.5**
CTGM				*e*Pn	Pn	05 26 16.4	+0.6
RIDG	**Independent Ri**	**5.62**	**35**	*e*Pn	**Pn**	**05 26 16.3**	**+0.6**
HDA	**Harding Lake**	**5.64**	**23**	*e*Pn	**Pn**	**05 26 16.9**	**+0.8**
HDA	**Harding Lake**	**5.64**	**23**	P	**Pn**	**05 26 17.0**	**+1.0**
	baz=207,SNR=47						
CCB	**Clear Creek Bu**	**5.70**	**19**	*e*Pn	**Pn**	**05 26 17.1**	**+0.3**
MLY	**Manley**	**5.75**	**6**	*e*Pn	**Pn**	**05 26 18.7**	**+1.1**
PS08	**TAPS Pump Stn8**	**5.79**	**23**	*e*Pn	**Pn**	**05 26 18.7**	**+0.8**
TCOL	**CIGO, UAF Yank**	**5.90**	**18**	P	**Pn**	**05 26 20.1**	**+0.6**
	baz=201,SNR=46						
COLA	**College**	**5.91**	**18**	*e*Pn	**Pn**	**05 26 20.4**	**+0.8**
COLA	**College**	**5.91**	**18**	*c i*P	**Pn**	**05 26 20.4**	**+0.8**
MDM	**Murphy Dome**	**5.93**	**16**	*e*Pn	**Pn**	**05 26 20.6**	**+0.7**
ILAR	**Eielson Array**	**5.98**	**22**	*e*Pn	**Pn**	**05 26 20.9**	**+0.3**
ILAR	**Eielson Array**	**5.98**	**22**	*e*P	**Pn**	**05 26 20.9**	**+0.3**
ILAR	**Eielson Array**	**5.98**	**22**	P	**Pn**	**05 26 20.7**	**+0.1**
	5.4nm,0.3s,baz=208,slow=14,SNR=116						
ILAR				S	**Sn**	**05 27 24.1**	**-3.5**
	11nm,0.3s,baz=231,slow=20,SNR=6.3						
ILAR				LR	LR	05 28 57.1	
	comp=Z,260nm,20.1s,baz=227,slow=41						
PCA	**Pinnacle**	**6.04**	**78**	*e*Pn	**Pn**	**05 26 21.7**	**+0.3**
SDPT	**Sand Point**	**6.05**	**232**	*e*Pn	**Pn**	**05 26 21.5**	**0.0**
SCRK	**Sand Creek**	**6.05**	**36**	*e*Pn	**Pn**	**05 26 21.6**	**0.0**
POKR	**Poker Plat Res**	**6.20**	**19**	P	**Pn**	**05 26 24.4**	**+0.8**
	baz=202,SNR=12						
BCA3	**Beaver Creek A**	**6.23**	**49**	*e*Pn	**Pn**	**05 26 23.8**	**-0.2**
BCAR	**Beaver Creek A**	**6.23**	**49**	*e*Pn	**Pn**	**05 26 24.1**	**0.0**
BCPM	**Bancas Point**	**6.34**	**79**	*e*Pn	**Pn**	**05 26 25.4**	**-0.2**
BCPM				*e*Pn	Pn	05 26 25.9	+0.2
PNL	**Peninsula**	**6.47**	**82**	*e*Pn	**Pn**	**05 26 27.1**	**-0.3**
PS06	**TAPS Pump Stn6**	**6.64**	**8**	*e*Pn	**Pn**	**05 26 30.4**	**+0.9**
IM3	**Indian Mountai**	**6.72**	**354**	*e*Pn	**Pn**	**05 26 30.7**	**0.0**
IMAR	**Indian Mountai**	**6.72**	**354**	*e*Pn	**Pn**	**05 26 32.2**	**+1.5**
PRP	**Porcupine Dome**	**6.91**	**23**	*e*Pn	**Pn**	**05 26 34.0**	**+0.5**
DT1	**Dutton Round H**	**6.97**	**237**	*e*Pn	**Pn**	**05 26 35.2**	**+1.0**
DRIA	**Deer Island**	**7.05**	**236**	*e*Pn	**Pn**	**05 26 36.1**	**+0.8**
PS05	**TAPS Pump Stn5**	**7.54**	**4**	*e*Pn	**Pn**	**05 26 42.8**	**+0.9**
FYU	**Fort Yukon**	**7.90**	**20**	*e*Pn	**Pn**	**05 26 47.5**	**+0.7**
COLD	**Coldfoot**	**7.97**	**5**	*e*Pn	**Pn**	**05 26 48.9**	**+1.1**
PLBC	**Pleasant Camp**	**8.03**	**82**	*e*Pn	**Pn**	**05 26 48.4**	**-0.2**
ANM	**Nome**	**8.16**	**316**	*e*Pn	**Pn**	**05 26 52.0**	**+1.6**
ANM	**Nome**	**8.16**	**316**	*e*P	**Pn**	**05 26 52.0**	**+1.6**
WESP	**Westdahl Peak**	**8.44**	**240**	*e*Pn	**Pn**	**05 26 55.5**	**+1.1**
SKAG	**Skagway**	**8.55**	**82**	*e*Pn	**Pn**	**05 26 55.6**	**-0.2**
WHY	**Whitehorse**	**8.72**	**74**	*e*Pn	**Pn**	**05 26 58.3**	**+0.1**
WHY				*e*Pn	Pn	05 26 58.4	+0.2
BESE	**Bessie Mountai**	**8.94**	**87**	*e*Pn	**Pn**	**05 27 00.5**	**-0.6**
AKSA	**Akutan Strait**	**9.11**	**241**	*e*Pn	**Pn**	**05 27 04.0**	**+0.7**
SIT	**Sitka**	**9.14**	**97**	*e*Pn	**Pn**	**05 27 01.1**	**-2.7**
SIT	**Sitka**	**9.14**	**97**	*e*P	**Pn**	**05 27 01.1**	**-2.7**
JIS	**Juneau Island**	**9.25**	**89**	*e*Pn	**Pn**	**05 27 04.8**	**-0.4**
AKRB	**Akutan Reef Bi**	**9.28**	**242**	*e*Pn	**Pn**	**05 27 06.3**	**+0.6**
TOLK	**Toolik Lake Re**	**9.41**	**6**	*e*Pn	**Pn**	**05 27 09.5**	**+2.0**
TOLK	**Toolik Lake Re**	**9.41**	**6**	P	**Pn**	**05 27 09.1**	**+1.6**
	baz=188,SNR=15						
UNV	**Unalaska Valle**	**9.66**	**242**	*e*Pn	**Pn**	**05 27 10.2**	**-0.6**
EPYK	**Eagle Plains**	**9.93**	**38**	P	**Pn**	**05 27 15.3**	**+0.6**
	baz=232						
RDOG	**Red Dog Mine**	**9.96**	**336**	*e*Pn	**Pn**	**05 27 17.3**	**+2.2**
GAMB	**Gambell**	**10.34**	**304**	*e*Pn	**Pn**	**05 27 21.5**	**+1.3**
WRAK	**Wrangell Islan**	**10.90**	**97**	*e*Pn	**Pn**	**05 27 27.3**	**-0.5**
CRAG	**Craig**	**10.93**	**102**	*e*Pn	**Pn**	**05 27 26.2**	**-1.9**
DLBC	**Dease Lake**	**11.44**	**85**	*e*Pn	**Pn**	**05 27 35.2**	**0.0**
DLBC	**Dease Lake**	**11.44**	**85**	P	**Pn**	**05 27 35.7**	**+0.4**
	7.4nm,0.3s,baz=255,slow=8.1,SNR=43						
DLBC				S	**Sn**	**05 29 37.7**	**-3.6**
	0.9nm,0.3s,baz=180,slow=20,SNR=4.3						
DLBC				LR	LR	05 31 56.1	
	comp=Z,259nm,21.1s,baz=268,slow=36						
INK	**Inuvik**	**12.11**	**34**	*e*Pn	**Pn**	**05 27 44.7**	**+0.4**
INK	**Inuvik**	**12.11**	**34**	*e*P	**Pn**	**05 27 44.7**	**+0.4**
INK	**Inuvik**	**12.11**	**34**	P	**Pn**	**05 27 44.9**	**+0.6**
	0.1nm,0.3s,baz=217,slow=14,SNR=15						
INK				S	S	05 30 10.8	-12
	0.0nm,0.3s,baz=270,slow=20,SNR=2.3						
DIB	**Dawson Inlet,**	**12.48**	**111**	*e*Pn	**Pn**	**05 27 47.8**	**-1.6**
BBB	**Bella Bella**	**15.21**	**108**	P	**Pn**	**05 28 24.8**	**-0.9**
	0.1nm,0.3s,baz=321,slow=13,SNR=3.1						
BBB				S	**Sn**	**05 31 06.4**	**-6.5**
	1.3nm,0.3s,baz=300,slow=23,SNR=11						
GSTR	**Great Sitkin T**	**15.27**	**252**	*e*Pn	**Pn**	**05 28 28.5**	**+2.0**
ADK	**Adak**	**15.70**	**252**	*e*Pn	**Pn**	**05 28 32.1**	**+0.1**
	49nm,0.8s						
ADK	**Adak**	**15.70**	**252**	*e*P	**Pn**	**05 28 32.1**	**+0.1**
ADK				pmax	pmax		
	comp=Z,49nm,0.8s						
KIWB	**Kanaga Island**	**15.95**	**253**	*e*Pn	**Pn**	**05 28 35.2**	**+0.1**
YKW3	**Yellowknife Ar**	**18.30**	**64**	*e*P	**Pn**	**05 29 03.9**	**-0.2**
	comp=Z,25nm,0.9s						
YKA	**Yellowknife Ar**	**18.32**	**64**	*e*P	**P**	**05 29 03.4**	**-0.3**
YKA	**Yellowknife Ar**	**18.32**	**64**	*e*P	**P**	**05 29 03.4**	**-0.3**
YKA	**Yellowknife Ar**	**18.32**	**64**	P	**Pn**	**05 29 04.3**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=276,slow=11,SNR=136						
YKA				LR	LR	05 36 35.9	
	comp=Z,28nm,21.1s,baz=275,slow=38						
YKB5	**Yellowknife Ar**	**18.32**	**64**	*e*P	**Pn**	**05 29 04.3**	**+0.1**
PGC	**Sidney**	**19.77**	**110**	*e*P	**Pn**	**05 29 22.0**	**+0.3**
	comp=Z,16nm,1.0s						
SMY	**Shemya**	**19.85**	**265**	*e*P	**P**	**05 29 20.1**	**-0.4**
	comp=Z,160nm,1.0s						
SMY	**Shemya**	**19.85**	**265**	*e*P	**P**	**05 29 20.1**	**-0.4**
SMY				pmax	pmax		
	comp=Z,160nm,1.0s						
BILL	**Bilibino**	**20.01**	**313**	*e*P	**P**	**05 29 22.2**	**+0.1**
	comp=Z,29nm,0.8s						
BILL	**Bilibino**	**20.01**	**313**	*e*P	**P**	**05 29 21.7**	**-0.4**
BILL				pmax	pmax		
	comp=Z,39nm,0.9s						
BILL				MLR	MLR		
	comp=Z,417nm,16.0s						
A04D	**Lummi Island**	**20.09**	**109**	P	Pn	05 29 24.8	-0.6
	baz=313						
B05A	**Bryant**	**20.70**	**109**	P	Pn	05 29 32.0	-0.6
	baz=314,SNR=26						
D03D	**Eldon**	**20.73**	**112**	P	Pn	05 29 32.7	-0.4
	baz=316,SNR=7.3						
E04D	**Cinebar**	**21.68**	**113**	P	**P**	**05 29 43.1**	**+2.8**
	baz=317,SNR=7.8						
F04D	**Rainier, OR**	**21.82**	**115**	P	**P**	**05 29 43.9**	**+2.1**
	baz=318						
WPW	**White Pass**	**22.06**	**111**	*e*P	**P**	**05 29 41.0**	**-3.6**
WPW				*e*S	**S**	**05 33 37.8**	**-6.5**
LTY	**Liberty**	**22.09**	**109**	*e*P	**P**	**05 29 45.0**	**+0.2**
	comp=Z,16nm,1.1s						
GLK	**Glacier Lake**	**22.13**	**112**	*e*P	**P**	**05 29 49.5**	**+4.2**
GLK				*e*Sn	Sn	05 33 55.5	-4.2
G03D	**McMinnville, O**	**22.36**	**116**	P	**P**	**05 29 50.0**	**+2.4**
	baz=320,SNR=6.7						
I02D	**Swisshome**	**22.95**	**119**	P	**P**	**05 29 56.6**	**+2.8**
	baz=322						
D08A	**Wollman Farm,**	**23.08**	**107**	*e*P	**P**	**05 29 55.4**	**+0.3**
	comp=Z,19nm,0.9s						
H04D	**Lebanon**	**23.13**	**117**	P	**P**	**05 29 57.9**	**+2.3**
	baz=320,SNR=5.1						
NEW	**Newport**	**23.14**	**103**	*e*P	**P**	**05 29 57.0**	**+1.2**
	comp=Z,18nm,0.8s						
NEW	**Newport**	**23.14**	**103**	*e*P	**P**	**05 29 57.0**	**+1.2**
NEW				pmax	pmax		
	comp=Z,18nm,0.8s						
NEW	**Newport**	**23.14**	**103**	P	**P**	**05 29 57.4**	**+1.6**
	baz=312,SNR=12						
NEW	**Newport**	**23.14**	**103**	P	**P**	**05 29 57.4**	**+1.6**
	comp=Z,16nm,0.8s,baz=307,slow=7.8,SNR=23						
NEW				pP	**pP**	**05 30 13.0**	**+3.9**
	comp=Z,10nm,0.9s,baz=154,slow=0.8,SNR=4.9						
G05D	**Wamic, OR**	**23.24**	**114**	P	**P**	**05 29 58.6**	**+1.9**
	baz=318						
HAWA	**Hanford**	**23.25**	**109**	*e*P	**P**	**05 29 59.1**	**+2.3**
	comp=Z,9.6nm,0.9s						
I03D	**Drain, OR**	**23.49**	**119**	P	**P**	**05 30 01.1**	**+2.1**
	baz=322						
J01E	**Myrtle Point**	**23.66**	**121**	P	**P**	**05 30 02.8**	**+2.3**
	baz=323						
I04A	**Tendick Farm,**	**23.84**	**118**	P	**P**	**05 30 04.6**	**+2.3**
	baz=321,SNR=9.3						
I05D	**Terrebonne, OR**	**23.91**	**115**	P	**P**	**05 30 05.0**	**+2.1**
	baz=320						
K02D	**Willamette Mer**	**24.15**	**121**	P	**P**	**05 30 08.3**	**+3.1**
	baz=324,SNR=21						
WALA	**Waterton Lakes**	**24.25**	**98**	*e*P	**P**	**05 30 07.0**	**+1.0**
	comp=Z,20nm,1.1s						
J04D	**Umpqua Nationa**	**24.41**	**118**	P	**P**	**05 30 10.4**	**+2.8**
	baz=322,SNR=22						
L02E	**Cave Junction**	**24.61**	**122**	P	**P**	**05 30 12.2**	**+3.0**
	baz=324,SNR=5.7						
J05D	**Fort Rock, OR**	**24.77**	**117**	P	**P**	**05 30 13.7**	**+2.8**
	baz=321,SNR=24						
K04D	**Chiloquin, OR**	**25.06**	**118**	P	**P**	**05 30 16.1**	**+2.7**
	baz=322						
L04D	**Klamath Falls**	**25.13**	**120**	P	**P**	**05 30 16.8**	**+2.6**
	baz=323,SNR=16						
YBH	**Yreka Blue Hor**	**25.34**	**121**	P	**P**	**05 30 19.2**	**+3.2**
	comp=Z,21nm,0.9s,baz=331,slow=5.5,SNR=67						
BMO	**Blue Mountains**	**25.44**	**109**	*e*P	**P**	**05 30 18.6**	**+1.7**
	comp=Z,17nm,1.0s						
BMO	**Blue Mountains**	**25.44**	**109**	*e*P	**P**	**05 30 18.6**	**+1.7**
BMO				pmax	pmax		
	comp=Z,17nm,1.0s						
M02C	**Callahan**	**25.56**	**122**	P	**P**	**05 30 21.2**	**+3.3**
	baz=325,SNR=15						
RES	**Resolute Bay**	**25.63**	**31**	*e*P	**P**	**05 30 19.4**	**+1.2**
	comp=Z,2.9nm,0.8s						
RES	**Resolute Bay**	**25.63**	**31**	*e*P	**P**	**05 30 19.4**	**+1.2**
RES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RES	**Resolute Bay**	**25.63**	**31**	P	**P**	**05 30 19.1**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=273,slow=8.3,SNR=7.1						
M04C	**Macdoel**	**25.69**	**120**	P	**P**	**05 30 22.0**	**+2.8**
	baz=324,SNR=22						
MSO	**Missoula**	**25.70**	**102**	*e*P	**P**	**05 30 20.0**	**+0.8**
	comp=Z,15nm,1.1s						
MSO	**Missoula**	**25.70**	**102**	P	**P**	**05 30 20.2**	**+0.9**
	baz=313,SNR=6.4						
N02D	**Trinity Center**	**25.96**	**122**	P	**P**	**05 30 24.9**	**+3.3**
	baz=325,SNR=12						
SEY	**Seymchan**	**26.33**	**302**	*i*P	**P**	**05 30 23.8**	**-0.8**
SEY	**Seymchan**	**26.33**	**302**	P	**P**	**05 30 23.7**	**-1.0**
	comp=Z,17nm,0.9s,baz=85,slow=6.6,SNR=26						
O02D	**Mt. Diablo Mer**	**26.58**	**123**	P	**P**	**05 30 30.1**	**+2.9**
	baz=326,SNR=7.4						
HRY	**Holter Researc**	**26.85**	**100**	*e*P	**P**	**05 30 29.4**	**-0.2**
O03E	**Paynes Creek**	**26.91**	**122**	P	**P**	**05 30 32.2**	**+2.0**
	baz=325,SNR=11						
EGMT	**Eagleton**	**27.03**	**96**	*e*P	**P**	**05 30 31.8**	**+0.7**
	comp=Z,23nm,0.9s						
EGMT	**Eagleton**	**27.03**	**96**	P	**P**	**05 30 31.9**	**+0.7**
	baz=311,SNR=12						
DLMT	**Dillon**	**27.40**	**103**	*e*P	**P**	**05 30 36.2**	**+1.6**
	comp=Z,7.4nm,0.9s						
PET	**Petropavlovsk**	**27.58**	**279**	*e*P	**P**	**05 30 36.5**	**+0.6**
	comp=Z,27nm,1.1s						
PET	**Petropavlovsk**	**27.58**	**279**	*e*P	**P**	**05 30 36.5**	**+0.6**
PET				pmax	pmax		
	comp=Z,27nm,1.1s						
BOZ	**Bozeman (W)**	**27.72**	**102**	P	**P**	**05 30 38.7**	**+1.3**
	baz=314,SNR=10						
HLID	**Hailey**	**27.80**	**108**	P	**P**	**05 30 39.8**	**+1.6**
	baz=318,SNR=5.8						
BEKR	**Beckworth**	**27.90**	**120**	*e*P	**P**	**05 30 41.2**	**+2.1**
	comp=Z,12nm,1.1s						
PEA1	**Petropavlovsk-**	**28.02**	**280**	*e*P	**P**	**05 30 39.4**	**-0.4**
PETK	**Petropavlovsk-**	**28.02**	**280**	*e*P	**P**	**05 30 39.2**	**-0.7**
PETK	**Petropavlovsk-**	**28.02**	**280**	*e*P	**P**	**05 30 39.2**	**-0.7**
PETK	**Petropavlovsk-**	**28.02**	**280**	P	**P**	**05 30 39.4**	**-0.4**
	comp=Z,9.2nm,0.7s,baz=71,slow=12,SNR=21						
PETK				LR	LR	05 41 08.0	
	comp=Z,104nm,21.1s,baz=72,slow=35						
MA2	**Magadan**	**28.28**	**296**	*e*P	**P**	**05 30 42.0**	**-0.2**
	comp=Z,74nm,0.9s						
MA2	**Magadan**	**28.28**	**296**	*c i*P	**P**	**05 30 41.9**	**-0.2**
MA2				pmax	pmax		
	comp=Z,82nm,0.9s						
MA2	**Magadan**	**28.28**	**296**	P	**P**	**05 30 41.8**	**-0.3**
	comp=Z,60nm,0.8s,baz=64,slow=10,SNR=55						
QLMT	**Earthquake Lak**	**28.36**	**103**	*e*P	**P**	**05 30 44.8**	**+1.6**
VCNR	**Virginia City**	**28.68**	**120**	*e*P	**P**	**05 30 48.0**	**+2.0**
	comp=Z,28nm,1.0s						
H17A	**Grant Village**	**29.09**	**102**	P	**P**	**05 30 52.8**	**+3.0**
	baz=316,SNR=7.1						
RLMT	**Red Lodge**	**29.24**	**100**	*e*P	**P**	**05 30 53.0**	**+1.9**
	comp=Z,12nm,1.0s						
RLMT	**Red Lodge**	**29.24**	**100**	P	**P**	**05 30 53.2**	**+2.2**
	baz=315,SNR=9

baz=320,SNR=8.9
DECC Green Verdugo 33.48 123 P P 05 31 30.4 +2.3
baz=329
RRX Edison Barstow 33.53 121 P P 05 31 30.9 +2.4
baz=328
TUQ Turquoise Moun 33.53 119 P P 05 31 31.1 +2.4
baz=327
BFSC Mount Baldy Ra 33.78 123 P P 05 31 33.5 +2.6
baz=329,SNR=12
SNCC San Nicolas Is 33.84 126 P P 05 31 33.3 +2.0
baz=330
AGMN Agassiz Nation 33.96 84 P P 05 31 32.4 +0.3
baz=310
FMP Fort Macarthur 33.96 124 P P 05 31 34.0 +1.8
baz=329
N23A Red Feather La 33.98 102 P P 05 31 34.0 +1.3
baz=319,SNR=8.5
BBRC Big Bear Solar 34.08 122 P P 05 31 35.2 +1.6
baz=328
CIS Catalina Islan 34.17 124 P P 05 31 36.1 +2.0
baz=330
GMRC Granite Mounta 34.20 120 P P 05 31 36.9 +2.4
baz=327,SNR=10
PV04 Paradox Valley 34.43 108 eP P 05 31 38.3 +1.7
comp=Z,28nm,1.0s
MURC Murrieta 34.52 123 P P 05 31 39.0 +1.8
baz=329
PV13 Radium Mtn., P 34.66 108 eP P 05 31 40.3 +1.8
comp=Z,38nm,1.0s
NEE2 Needles Airpor 34.68 118 P P 05 31 40.4 +2.0
baz=327
BELC Belle Mtn. Jos 34.71 121 P P 05 31 40.9 +2.0
baz=328,SNR=12
PFO Pinyon Flats O 34.84 122 eP P 05 31 41.8 +1.8
comp=Z,20nm,1.1s
PFO Pinyon Flats O 34.84 122 eP P 05 31 41.8 +1.8
PFO pmax pmax
comp=Z,20nm,1.1s
PFO Pinyon Flats O 34.84 122 P P 05 31 41.6 +1.7
baz=329,SNR=5.3
IRM Iron Mountain 34.95 120 P P 05 31 43.4 +2.6
baz=328,SNR=21
SUSD Miller 34.97 91 P P 05 31 41.8 +0.9
baz=314
ISCO Idaho Springs 34.97 103 P P 05 31 42.5 +1.1
baz=320
109C Camp Elliot, M 35.17 123 P P 05 31 45.2 +2.5
baz=330,SNR=5.9
CPE Camp Elliot 35.17 123 eP P 05 31 45.0 +2.3
comp=Z,39nm,1.0s
BC3 Big Chuckawall 35.24 120 P P 05 31 45.1 +1.7
baz=328,SNR=6.6
PDMCI Parker Dam,Lak 35.28 118 P P 05 31 45.9 +2.2
baz=327,SNR=6.7
MONP2 Monument Peak 35.46 122 P P 05 31 48.0 +2.5
baz=329,SNR=11
WUAZ Wupatki 35.55 114 P P 05 31 48.6 +2.4
baz=325,SNR=15
MVCO Mesa Verde 35.56 109 P P 05 31 47.8 +1.4
baz=323,SNR=5.1
Y12C Blythe 35.57 119 eP P 05 31 48.7 +2.5
comp=Z,38nm,0.9s
Y12C Blythe 35.57 119 P P 05 31 48.7 +2.5
baz=328,SNR=14
SWSC Sam W. Stewart 35.69 121 P P 05 31 48.3 +1.1
baz=329
IKP In-Ko-Pah, Jac 35.81 122 P P 05 31 50.7 +2.4
baz=329,SNR=9.7
Q24A Divide 35.84 103 P P 05 31 50.4 +1.5
baz=320
OGNE Ogallala 35.92 98 eP P 05 31 50.7 +1.5
comp=Z,15nm,1.0s
OGNE Ogallala 35.92 98 P P 05 31 50.4 +1.2
baz=318
S22A 4UR Ranch, Cre 35.96 106 P P 05 31 51.9 +2.1
baz=322,SNR=9.1
GLA Glamis 36.03 120 P P 05 31 52.3 +2.2
baz=328,SNR=12
YAK Yakutsk 36.24 309 eP P 05 31 50.5 -1.1
YAK pmax pmax
comp=Z,382nm,0.9s
YAK pmax pmax
comp=E,153nm,1.3s
YAK pmax pmax
comp=N,88nm,1.2s
EYMN Ely 36.40 81 P P 05 31 53.7 +0.5
baz=311,SNR=6.9
SDCO Great Sand Dun 36.61 105 P P 05 31 57.5 +2.1
baz=322,SNR=26
W18A Petrified Fore 36.65 112 P P 05 31 56.4 +0.8
baz=325
ECSD EROS Data Cent 36.67 90 P P 05 31 55.5 0.0
baz=315,SNR=6.5
X18A Snowflake 37.03 113 eP P 05 32 01.3 +2.4
comp=N,21nm,1.0s
KSCO Kaye Shedlock' 37.07 101 P P 05 32 00.2 +1.2
baz=320
F37A Hinrichs Farm, 37.32 84 P P 05 32 01.7 +0.8
baz=313
F38A Pierce - Schro 37.55 83 P P 05 32 03.9 +1.1
baz=313,SNR=11
BGNE Belgrade 37.56 94 P P 05 32 04.1 +1.1
baz=317,SNR=15
SPMN Marine on St. 37.58 85 P P 05 32 04.2 +1.1
baz=314
C40A Isle Royale Na 37.61 79 P P 05 32 03.8 +0.5
baz=312
T25A Trinidad 37.63 105 P P 05 32 05.8 +1.9
baz=322,SNR=6.5
214A Organ Pipe Nat 37.85 119 P P 05 32 08.0 +2.3
baz=328,SNR=19
KUR Kuril'sk 37.96 276 eP P 05 32 05.8 -0.5
F39A Loretta 38.06 83 P P 05 32 07.8 +0.6
baz=313,SNR=5.1
G38A Ridgeland 38.10 84 P P 05 32 08.0 +0.5
baz=314
E40A Wakefield 38.22 81 P P 05 32 09.1 +0.5
baz=313
H38A Maiden Rock 38.23 85 P P 05 32 09.6 +1.0
baz=314
TASM ASL Pad, Albuq 38.36 109 P P 05 32 11.9 +1.8
baz=324,SNR=6.0
TASM ASL Pad, Albuq 38.36 109 P P 05 32 11.9 +1.8
baz=324,SNR=6.3
ANMO Albuquerque 38.36 109 eP P 05 32 11.2 +1.2
comp=N,3.0nm,0.7s
ANMO Albuquerque 38.36 109d iP P 05 32 11.9 +1.8
ANMO pmax pmax
comp=Z,11nm,1.9s
ANMO Albuquerque 38.36 109 P P 05 32 11.8 +1.8
baz=324
G39A Holcombe 38.37 84 P P 05 32 10.2 +0.4
baz=314,SNR=7.2
F40A Park Falls 38.47 82 P P 05 32 11.2 +0.6
baz=313,SNR=7.5
LAZ Ladron 38.47 110 eP P 05 32 13.2 +2.2
D41A Chassel 38.48 80 P P 05 32 11.2 +0.6
baz=312
TUC Tucson 38.48 116 eP P 05 32 13.0 +2.0
comp=Z,14nm,1.0s
TUC Tucson 38.48 116 eP P 05 32 13.0 +2.0
TUC pmax pmax
comp=Z,14nm,1.0s
TUC Tucson 38.48 116 P P 05 32 13.2 +2.2
baz=327
CBKS Cedar Bluff 38.68 98 P P 05 32 13.4 +0.9
baz=320
H39A Augusta 38.73 84 P P 05 32 13.4 +0.5
baz=314,SNR=5.4
G40A Rib Lake 38.87 83 P P 05 32 14.5 +0.4
baz=314,SNR=5.6
F41A Three Lakes 39.10 82 P P 05 32 15.8 -0.1
baz=314
I39A Houston 39.19 86 eP P 05 32 17.4 +0.7
comp=Z,19nm,1.0s
I39A Houston 39.19 86 P P 05 32 17.1 +0.4
baz=315
H40A Chili 39.23 84 P P 05 32 17.9 +0.9
baz=314,SNR=6.9
E42A Champion 39.23 80 P P 05 32 17.3 +0.3
baz=313
YSS Yuzh-Sakhalins 39.37 281 eP P 05 32 19.6 +1.5
YSS MLR MLR
comp=Z,500nm,13.0s
J39A Decorah 39.47 86 P P 05 32 19.4 +0.4
baz=316,SNR=8.7
I40A Norwalk 39.63 85 P P 05 32 21.0 +0.7
baz=315

121A Cookes Peak, D 39.70 113 P P 05 32 22.8 +1.6
baz=326
SCIA State Center 39.72 89 P P 05 32 21.7 +0.6
baz=317
E43A Lone Tree Farm 39.73 79 eP P 05 32 21.9 +0.8
comp=Z,21nm,0.7s
E43A Lone Tree Farm 39.73 79 P P 05 32 22.0 +0.8
baz=313
G42A Mountain 39.79 82 eP P 05 32 22.8 +1.1
comp=Z,11nm,1.1s
G42A Mountain 39.79 82 P P 05 32 22.3 +0.7
baz=314
K39A Oelwein 39.82 87 P P 05 32 22.0 0.0
baz=316,SNR=14
YUK Yuzh-Kuril'sk 39.82 276 eP P 05 32 21.5 -0.4
I41A Arkdale 39.89 84 P P 05 32 22.6 +0.1
baz=315
J40A Grove 39.91 85 P P 05 32 23.0 +0.3
baz=316,SNR=7.0
F43A Flat Rock, Esc 40.02 80 P P 05 32 23.8 +0.3
baz=314
KSU1 Kansas State U 40.06 95 P P 05 32 24.6 +0.7
baz=319,SNR=8.1
G43A Wallace 40.16 81 P P 05 32 24.7 0.0
baz=314
L39A Vinton 40.19 88 P P 05 32 25.1 +0.1
baz=317,SNR=6.5
K40A Colesburg 40.21 87 P P 05 32 25.2 +0.1
baz=316
F44A Big Bay de Noc 40.30 79 P P 05 32 26.6 +0.8
baz=314
J41A Loganville 40.31 85 P P 05 32 26.3 +0.4
baz=316,SNR=7.2
I42A Draeger Farm, 40.50 83 P P 05 32 28.1 +0.6
baz=315
JFWS Jewell Farm 40.51 86 P P 05 32 27.6 0.0
baz=316,SNR=5.7
L40A Anamosa 40.63 87 P P 05 32 28.6 0.0
baz=317,SNR=9.4
E45A Wooded Hills, 40.66 78 P P 05 32 29.4 +0.6
baz=314
H43A Windswept, Lux 40.67 82 P P 05 32 29.2 +0.3
baz=315
AMTX Amarillo 40.76 104 P P 05 32 31.4 +1.5
baz=323
J42A Columbus 40.80 84 P P 05 32 30.2 +0.3
baz=316,SNR=5.0
SUMG Summit 40.81 25 iP P 05 32 31.5 +1.3
SUMG pmax pmax
comp=Z,21nm,0.7s
SUMG Summit 40.81 25 iP P 05 32 31.5 +1.3
comp=Z,21nm,0.7s
D46A Sault St. Mari 40.86 76 P P 05 32 30.7 +0.2
baz=313
I43A Langenfeld Bro 40.89 83 P P 05 32 31.3 +0.6
baz=315
MSTX Muleshoe 40.95 106 P P 05 32 32.7 +1.3
baz=324,SNR=6.8
DAG Danmarks Havn 41.03 15⇑iP P 05 32 31.2 -0.3
DAG pmax pmax
comp=Z,34nm,0.9s
DAG Danmarks Havn 41.03 15⇑iP P 05 32 31.2 -0.3
comp=Z,40nm,0.9s
K42A Prairie Point, 41.07 85 P P 05 32 32.3 +0.1
baz=316,SNR=5.7
E46A Sault Ste Mari 41.09 77 P P 05 32 32.8 +0.5
baz=314
J43A Natural Harves 41.11 84 P P 05 32 32.7 +0.2
baz=316
D47A Chapleau 41.21 76 P P 05 32 33.6 +0.2
baz=314
ASAJ Asahikawa 41.43 278 LR LR 05 51 45.0
comp=Z,40nm,18.2s,baz=72,slow=39
L42A Oliver, Polo 41.47 86 P P 05 32 35.2 -0.2
baz=317
M41A Milan 41.48 87 P P 05 32 35.2 -0.3
baz=317
MNTX Cornudas Mount 41.53 111 P P 05 32 38.2 +2.1
baz=326,SNR=14
E47A Iron Bridge 41.54 76 P P 05 32 36.2 +0.2
baz=314
G46A Petoskey 41.54 79 P P 05 32 36.4 +0.4
baz=315
I45A Fountain 41.75 81 P P 05 32 38.2 +0.4
baz=315
D48A Paudash Townsh 41.77 75 P P 05 32 38.1 +0.2
baz=314
N41A Harden Midland 41.81 88 P P 05 32 38.6 +0.4
baz=318
L43A Garden Prairie 41.81 85 P P 05 32 38.6 +0.3
baz=317
E48A Lockeyer 42.08 76 P P 05 32 41.0 +0.6
baz=314
M43A Waltham Townsh 42.24 86 P P 05 32 42.0 +0.2
baz=317
WMOK Wichita Mounta 42.33 101 eP P 05 32 43.5 +0.9
WMOK Wichita Mounta 42.33 101 eP P 05 32 43.5 +0.9
WMOK Wichita Mounta 42.33 101 P P 05 32 43.7 +1.1
baz=322,SNR=21
H47A Mio 42.38 79 P P 05 32 43.2 +0.3
baz=315
SPA0 Spitsbergen Ar 42.56 3 eP P 05 32 43.3 -0.7
SPITS Spitsbergen Ar 42.56 3 P P 05 32 43.2 -0.7
SPITS pmax pmax
comp=Z,3.0nm,0.2s
F49A Sandfield 42.64 76 P P 05 32 44.4 -0.6
baz=315
HDIL Hopedale 42.72 87 eP P 05 32 45.5 -0.1
comp=Z,29nm,0.9s
HDIL Hopedale 42.72 87 P P 05 32 45.7 0.0
baz=318,SNR=6.3
M44A Midewin, Midew 42.75 85 P P 05 32 45.9 0.0
baz=317
E50A Wahnapitae 42.82 75 P P 05 32 46.8 +0.4
baz=314
LSQQ Lebel-sur-Quev 42.83 69 P P 05 32 46.7 +0.2
baz=313
TUL1 Leonard 42.92 97 P P 05 32 47.7 +0.3
baz=321,SNR=6.2
I48A Sherman Twp 42.92 79 P P 05 32 47.9 +0.6
baz=316
K46A Dorr 42.95 82 P P 05 32 47.4 -0.1
baz=316
D51A Lot 18 Range I 43.03 73 P P 05 32 48.2 +0.1
baz=314
J47A Sunmer 43.04 81 P P 05 32 48.5 +0.3
baz=316
N44A Piper City 43.14 86 P P 05 32 49.2 +0.2
baz=318
L46A Eue Claire 43.18 83 P P 05 32 49.6 +0.2
baz=317
KLR Kul'dur 43.22 292c iP P 05 32 48.6 -1.0
KLR pmax pmax
comp=Z,18nm,0.9s
KLR Kul'dur 43.22 292 LR LR 05 51 37.8
comp=Z,54nm,20.2s,baz=45,slow=37
TOBO Tobermory, Bru 43.28 76 P P 05 32 50.4 +0.2
baz=315
P43A Skaggs, Pawnee 43.28 88 P P 05 32 50.2 -0.1
baz=318,SNR=5.1
Q42A Golden Eagle 43.31 90 P P 05 32 50.4 -0.1
baz=319
R41A Rosebud 43.34 91 P P 05 32 50.4 -0.3
baz=319,SNR=6.2
K47A Vermontville 43.36 82 P P 05 32 50.1 -0.8
baz=317
N45A Kentland 43.41 85 P P 05 32 51.4 +0.1
baz=318
O44A Mansfield 43.44 87 P P 05 32 51.3 -0.3
baz=318
SCHQ Schefferville 43.54 57 LR LR 05 51 56.0
comp=Z,57nm,20.7s,baz=56,slow=37
F51A Arnstein 43.58 75 P P 05 32 52.6 +0.1
baz=315
D52A ZEK Kipawa Sen 43.58 72 P P 05 32 52.7 +0.2
baz=314
ABTX Abilene, Hawle 43.58 104 P P 05 32 53.5 +0.7
baz=324
CCM Cathedral Cave 43.59 91 eP P 05 32 52.2 -0.6
comp=Z,7.6nm,0.9s
CCM Cathedral Cave 43.59 91 eP P 05 32 52.2 -0.6
CCM pmax pmax
comp=Z,8.0nm,0.9s
CCM Cathedral Cave 43.59 91 P P 05 32 52.5 -0.3
baz=320
M46A Old House Fiel 43.59 84 P P 05 32 52.8 +0.1
baz=317
S41A Jillco Farms, 43.69 92 P P 05 32 53.4 -0.2

baz=320,SNR=32
K48A Perry 43.71 81 P P 05 32 54.1 +0.4
baz=317
O45A Potomac 43.75 86 P P 05 32 54.3 +0.3
baz=318
L47A Sherwood 43.76 83 P P 05 32 54.2 +0.1
baz=317,SNR=5.8
N46A Monticello 43.78 85 P P 05 32 54.3 +0.1
baz=318
J49A Marlette 43.80 80 P P 05 32 54.6 +0.2
baz=316
KLBO Killbear Provi 43.84 75 P P 05 32 55.0 +0.3
baz=315
BMRO Meriville Lake 43.88 77 P P 05 32 55.1 +0.1
baz=316
E52A Mattawa 43.95 73 P P 05 32 55.5 0.0
baz=315
F52A Sundridge 43.97 74 P P 05 32 56.0 +0.3
baz=315
SFIN Lafayette 43.98 86 P P 05 32 55.8 0.0
baz=318,SNR=5.5
M47A Cromwell 44.00 83 P P 05 32 56.0 0.0
baz=318
K49A Clarkson 44.06 80 P P 05 32 56.9 +0.5
baz=317
U40A Yellville 44.07 94 P P 05 32 55.9 -0.8
baz=321,SNR=6.5
X37A Clayton 44.17 98 eP P 05 32 58.2 +0.8
comp=Z,11nm,0.8s
BUKO Buck Lake 44.18 75 P P 05 32 56.8 -0.6
baz=315
L48A N Adams 44.18 82 P P 05 32 57.7 +0.3
baz=317
D54A Lac Fusel, La 44.31 71 P P 05 32 58.8 +0.3
baz=315
TX31 Lajitas Ar. Si 44.31 111 eP P 05 33 00.2 +1.5
comp=Z,12nm,1.0s
TXAR Lajitas Array 44.31 111 eP P 05 33 00.3 +1.6
TXAR Lajitas Array 44.31 111 eP P 05 33 00.3 +1.6
TXAR Lajitas Array 44.31 111 P P 05 33 00.5 +1.8
comp=Z,5.4nm,0.9s,baz=330,slow=6.4,SNR=59
TXAR pP pP 05 33 16.4 +2.3
LR LR
comp=Z,2.8nm,0.9s,baz=316,slow=6.3,SNR=6.4
TXAR LR LR 05 50 46.9
comp=Z,103nm,18.8s,baz=0.0,slow=35
N47A Urbana 44.32 84 P P 05 32 58.4 -0.2
baz=318,SNR=5.6
E53A Dumoine, Ponti 44.37 73 P P 05 32 58.1 -0.8
baz=315
L49A Milan 44.40 81 P P 05 32 58.6 -0.5
baz=317
ALGO Algonquin Park 44.48 73 P P 05 32 59.5 -0.3
baz=315
W39A Magazine 44.50 96 P P 05 32 59.9 -0.1
baz=322,SNR=5.2
Q45A Warren Harvey, 44.54 88 P P 05 33 00.0 -0.3
baz=319
I51A Listowel 44.55 78 P P 05 32 59.4 -0.9
baz=316
O47A Sheridan 44.55 85 P P 05 32 59.9 -0.5
baz=318,SNR=5.5
U41A Viola 44.56 93 P P 05 33 00.3 -0.2
baz=321
E54A Lac Daplat, Po 44.56 72 P P 05 32 59.9 -0.5
baz=315
N48A Decatur 44.67 83 P P 05 33 01.2 -0.2
baz=318,SNR=6.5
OLIL Olney 44.69 88 eP P 05 33 01.9 +0.4
comp=Z,38nm,1.0s
NRIK Noril'sk 44.70 334 P P 05 33 00.5 -0.7
comp=Z,8.6nm,1.0s,baz=41,slow=7.4,SNR=6.3
NRIK LR LR 05 54 35.9
comp=Z,157nm,20.2s,baz=73,slow=40
M49A Liberty Center 44.76 82 P P 05 33 02.1 +0.1
baz=318
G53A Haliburton 44.79 74 P P 05 33 02.3 0.0
baz=316
S44A Carbondale 44.89 90 P P 05 33 03.0 -0.1
baz=320,SNR=5.4
R45A Skylar, Fairfi 44.93 89 P P 05 33 03.4 0.0
baz=319,SNR=6.3
BOD Bodaibo 45.04 311 eP P 05 33 02.7 -1.4
BOD pmax pmax
comp=Z,15nm,1.1s
O48A Farmland 45.06 84 P P 05 33 03.9 -0.6
baz=318,SNR=6.5
N49A Columbus Grove 45.06 83 P P 05 33 04.4 -0.1
baz=318,SNR=5.6
P47A Martinsville 45.06 86 P P 05 33 04.3 -0.2
baz=319,SNR=7.6
PEMO Pembroke 45.07 73 P P 05 33 04.4 0.0
baz=316
MIAR Mount Ida 45.11 97 eP P 05 33 05.5 +0.5
comp=Z,15nm,1.0s
MIAR Mount Ida 45.11 97 eP P 05 33 05.5 +0.5
MIAR pmax pmax
comp=Z,15nm,1.0s
MIAR Mount Ida 45.11 97 P P 05 33 05.4 +0.4
baz=322,SNR=9.6
ACTO Acton 45.17 77 P P 05 33 05.8 +0.5
baz=317
WHTX Lake Whitney, 45.18 102 P P 05 33 06.1 +0.6
baz=324
BANO Bancroft 45.21 74 P P 05 33 05.9 +0.4
baz=316
J52A Paris 45.23 78 P P 05 33 06.4 +0.6
baz=317
PLIO Pelee Island, 45.23 81 P P 05 33 05.8 0.0
baz=318
JCT Junction City 45.24 106 P P 05 33 07.4 +1.4
baz=325,SNR=26
S45A Carrier Mills 45.25 89 P P 05 33 06.0 0.0
baz=320
M50A Fremont 45.28 81 P P 05 33 06.6 +0.4
baz=318
W41B Gary Mavity, V 45.30 95 P P 05 33 07.0 +0.6
baz=322
R46A Gibon Southern 45.39 88 P P 05 33 07.5 +0.4
baz=320
Q47A Bedord North L 45.40 86 P P 05 33 07.1 0.0
baz=319,SNR=12
PKRO Pickering 45.40 76 P P 05 33 07.9 +0.8
baz=317
USIN University of 45.50 88 eP P 05 33 08.4 +0.5
comp=Z,20nm,0.8s
P48A Milroy 45.51 85 P P 05 33 07.6 -0.5
baz=319,SNR=5.1
O49A Covington 45.53 84 eP P 05 33 08.3 +0.1
comp=Z,13nm,1.1s
O49A Covington 45.53 84 P P 05 33 07.8 -0.4
baz=318
X40A Basin Creek Fa 45.54 96 P P 05 33 08.1 -0.2
baz=322
PLVO Plevna 45.61 73 P P 05 33 09.1 +0.3
baz=316
G55A Calabogie 45.63 73 P P 05 33 09.4 +0.5
baz=316
TYNO Tyneside 45.64 77 P P 05 33 09.3 +0.3
baz=317
DRWO Darlington Wes 45.64 76 P P 05 33 09.5 +0.6
baz=317
DRCO St. Marys Ceme 45.65 76 P P 05 33 09.8 +0.8
baz=317
S46A Don Dixon Farm 45.69 89 P P 05 33 09.4 0.0
baz=320
N50A Nevada 45.70 82 P P 05 33 09.6 +0.1
baz=318
DELO Deloro Mine 45.72 74 P P 05 33 09.4 -0.2
baz=316
P49A Miami Univ. Ec 45.82 84 P P 05 33 09.7 -0.8
baz=319
R47A Wooly Knot Far 45.83 87 P P 05 33 10.4 -0.2
baz=320,SNR=8.5
O50A Cable 45.92 83 P P 05 33 11.2 -0.1
baz=318,SNR=6.7
N51A Ashland 45.98 81 P P 05 33 10.9 -0.8
baz=318
TRQ Mont Tremblant 45.99 70 eP P 05 33 12.1 +0.3
WCI Wyandotte Cave 46.00 87 eP P 05 33 12.0 +0.1
comp=Z,32nm,1.1s
WCI Wyandotte Cave 46.00 87 eP P 05 33 12.0 +0.1
WCI pmax pmax
comp=Z,33nm,1.1s
WCI Wyandotte Cave 46.00 87 P P 05 33 11.8 -0.1
baz=320
M52A Chesterland 46.03 80 P P 05 33 11.7 -0.4
baz=318
T46A Princeton 46.09 89 P P 05 33 12.9 +0.4

baz=320,SNR=7.1
R48A Northridge Ran 46.09 86 P P 05 33 12.2 -0.4
baz=320
435B Jarrell 46.10 103 eP P 05 33 14.4 +1.7
comp=Z,24nm,0.9s
435B Jarrell 46.10 103 P P 05 33 13.6 +0.8
baz=325
J54A Appleton 46.12 76 eP P 05 33 13.7 +0.9
comp=Z,33nm,0.8s
J54A Appleton 46.12 76 P P 05 33 12.9 +0.1
baz=317
Q49A Aurora 46.13 85 P P 05 33 12.5 -0.4
baz=319
ACSO Alum Creek Sta 46.18 82 P P 05 33 12.4 -0.9
baz=318
S47A Hartford 46.18 88 P P 05 33 12.9 -0.4
baz=320
P50A Jamestown 46.23 84 P P 05 33 13.5 -0.2
baz=319,SNR=5.8
MEDO Medina 46.29 76 eP P 05 33 14.9 +0.8
comp=Z,30nm,0.8s
H56A Elgin 46.34 73 P P 05 33 14.4 0.0
baz=317
O51A Pataskala 46.44 82 P P 05 33 15.3 -0.1
baz=319
M53A Wt Miller and 46.45 79 P P 05 33 16.0 +0.6
baz=319,SNR=7.8
U46A Springville 46.47 90 P P 05 33 15.9 +0.4
baz=321
Z41A Richland Creek 46.52 97 P P 05 33 15.8 -0.2
baz=323
R49A Shelbyville 46.53 86 P P 05 33 15.9 -0.1
baz=320,SNR=5.4
T47A Sharon Grove 46.53 89 P P 05 33 16.3 +0.2
baz=320,SNR=5.7
L54A Sinclairville 46.55 78 P P 05 33 16.4 +0.3
baz=318
S48A Wiedeman Farm, 46.56 87 P P 05 33 16.5 +0.3
baz=320,SNR=21
USRK Ussuriysk Ar. 46.67 286 P P 05 33 14.9 -2.2
comp=Z,3.1nm,0.9s,baz=64,slow=9.8,SNR=3.9
USRK LR LR 05 53 13.0
comp=Z,86nm,21.6s,baz=30,slow=36
P51A Williamsport 46.70 83 P P 05 33 17.1 -0.3
baz=319
Q50A Georgetown 46.72 84 P P 05 33 17.5 0.0
baz=319
NATX Nacogdoches 46.78 100 P P 05 33 19.2 +1.2
baz=324
T48A Bowling Green 46.80 88 P P 05 33 18.3 +0.1
baz=320
K55A Perry 46.80 76 P P 05 33 18.4 +0.2
baz=318
WVT Waverly 46.82 90 eP P 05 33 18.9 +0.6
comp=Z,18nm,1.1s
WVT Waverly 46.82 90 eP P 05 33 18.9 +0.6
WVT pmax pmax
comp=Z,18nm,1.1s
WVT Waverly 46.82 90 P P 05 33 18.8 +0.4
baz=321
N53A Lisbon 46.84 80 eP P 05 33 18.9 +0.4
comp=Z,19nm,1.0s
N53A Lisbon 46.84 80 P P 05 33 18.7 +0.3
baz=319,SNR=5.2
O52A Adamsville 46.85 82 P P 05 33 18.3 -0.2
baz=319,SNR=5.1
S49A Springfield 46.85 86 P P 05 33 18.5 -0.1
baz=320,SNR=6.1
U47A Clarksville 46.86 89 P P 05 33 19.1 +0.4
baz=321,SNR=6.8
Q51A Peebles 46.90 84 P P 05 33 19.1 +0.2
baz=319,SNR=5.6
M54A Oil Creek Stat 46.91 79 P P 05 33 19.0 0.0
baz=318
V46A Holladay 46.93 91 P P 05 33 19.4 +0.2
baz=321,SNR=16
R50A Paris 46.97 85 P P 05 33 19.5 +0.1
baz=320,SNR=13
L55A Hinsdale 47.02 77 P P 05 33 20.6 +0.6
baz=318,SNR=5.2
P52A Corning 47.06 82 P P 05 33 19.8 -0.4
baz=319
O53A New Philadelph 47.07 81 P P 05 33 20.2 0.0
baz=319
LONY Lake Ozonia 47.14 72 P P 05 33 20.5 -0.2
baz=317
N54A Moraine State 47.15 79 eP P 05 33 21.0 +0.1
comp=Z,22nm,1.0s
N54A Moraine State 47.15 79 P P 05 33 21.3 +0.4
baz=318,SNR=7.3
U48A Cassie Pea, Po 47.19 89 P P 05 33 21.8 +0.6
baz=321,SNR=9.0
V47A Nunnelly 47.21 90 P P 05 33 21.7 +0.3
baz=321,SNR=11
T49A Edmonton 47.25 87 P P 05 33 21.7 0.0
baz=320,SNR=9.1
OXF Oxford 47.27 93 P P 05 33 22.4 +0.6
baz=322,SNR=7.7
W46A Michie 47.31 91 P P 05 33 22.5 +0.4
baz=321,SNR=9.8
R51A Hillsboro 47.33 85 P P 05 33 22.8 +0.5
baz=320,SNR=13
S50A Richmond 47.39 86 P P 05 33 22.7 0.0
baz=320,SNR=13
M55A Ridgway 47.39 78 P P 05 33 23.3 +0.6
baz=318,SNR=5.8
Q52A Bidwell 47.50 83 P P 05 33 23.1 -0.5
baz=319,SNR=5.6
VLA Vladivostok 47.52 286 eP P 05 33 23.7 +0.1
VLA pmax pmax
comp=Z,14nm,0.7s
O54A Avella 47.54 80 P P 05 33 24.1 +0.2
baz=319,SNR=5.5
P53A Whipple 47.55 82 P P 05 33 23.9 -0.1
baz=319,SNR=6.4
U49A Red Boiling Sp 47.58 88 P P 05 33 24.6 +0.4
baz=321,SNR=9.6
PLAL Pickwick Lake 47.58 91 eP P 05 33 25.0 +0.7
comp=Z,61nm,0.9s
W47A Westpoint 47.62 91 P P 05 33 25.0 +0.4
baz=321,SNR=15
V48A Smith Brothers 47.64 90 P P 05 33 25.1 +0.4
baz=321
HKT Hockley 47.65 102 eP P 05 33 26.9 +2.1
comp=Z,7.6nm,1.0s
HKT Hockley 47.65 102 eP P 05 33 26.9 +2.1
HKT pmax pmax
comp=Z,8.0nm,1.0s
X46A Booneville 47.66 92 P P 05 33 25.5 +0.7
baz=322,SNR=39
T50A Nancy 47.67 87 P P 05 33 25.3 +0.3
baz=320,SNR=16
R52A Catlettsburg 47.78 84 P P 05 33 25.5 -0.3
baz=320
N55A Marion Center 47.79 79 P P 05 33 26.2 +0.4
baz=319,SNR=5.2
S51A Beattyville 47.83 85 eP P 05 33 26.4 +0.3
comp=Z,39nm,0.8s
S51A Beattyville 47.83 85 P P 05 33 26.4 +0.3
baz=320,SNR=17
P54A Burton 47.92 81 P P 05 33 26.9 0.0
baz=319,SNR=6.3
Q53A Leroy 47.96 82 P P 05 33 27.0 -0.1
baz=320
W48A Pulaski 48.05 90 P P 05 33 28.1 +0.2
baz=321,SNR=15
X47A Russelville 48.06 91 P P 05 33 28.3 +0.4
baz=322,SNR=21
O55A Ligonier 48.06 80 P P 05 33 27.9 -0.1
baz=319
S52A Salyersville 48.06 85 P P 05 33 28.0 +0.1
baz=320
V49A McMinnville 48.09 89 P P 05 33 28.5 +0.3
baz=321,SNR=11
U50A Jamestown 48.13 87 P P 05 33 28.8 +0.3
baz=321,SNR=14
R53A Hurricane 48.14 83 P P 05 33 28.8 +0.2
baz=320
T51A Gray 48.17 86 P P 05 33 29.1 +0.3
baz=320,SNR=20
MCWV Mont Chateau 48.20 80 P P 05 33 28.7 -0.3
baz=319
Q54A Coxs Mills 48.21 82 P P 05 33 29.1 0.0
baz=320,SNR=7.1
BINY Binghamton 48.23 75 P P 05 33 29.3 0.0
baz=318
MSHR Mys Shultsa 48.27 286 ⇑iP P 05 33 30.3 +0.8
P55A Reedsville 48.33 81 P P 05 33 30.2 +0.2
baz=319,SNR=7.3
O56A Blue Knob Stat 48.39 79 P P 05 33 30.4 -0.1
baz=319
W49A Belvidere 48.41 90 P P 05 33 31.0 +0.4
baz=321,SNR=14
SSPA Standing Stone 48.45 78 eP P 05 33 31.1 +0.2
comp=Z,21nm,1.0s
SSPA Standing Stone 48.45 78 P P 05 33 30.4 -0.6
baz=319
VBMS Vicksburg 48.51 96 P P 05 33 32.0 +0.5
baz=323
X48A Hartselle 48.53 91 P P 05 33 31.9 +0.3
baz=322,SNR=18
S53A Williamson 48.55 84 P P 05 33 31.3 -0.4
baz=320
T52A Hallie 48.55 85 P P 05 33 32.4 +0.7
baz=320,SNR=6.6
V50A Pikevile 48.57 88 P P 05 33 32.1 +0.2
baz=321,SNR=6.2
U51A La Follette 48.58 87 P P 05 33 32.3 +0.3
baz=321,SNR=5.7
Q55A Buckhannon 48.59 81 P P 05 33 31.8 -0.2
baz=320
TZTN Tazewell 48.69 86 P P 05 33 33.4 +0.5
baz=321,SNR=8.1
R54A Victor 48.74 83 P P 05 33 33.2 0.0
baz=320,SNR=6.1
W50A Signal Mountai 48.83 89 P P 05 33 34.0 +0.1
baz=321,SNR=8.2
X49A Woodville 48.85 90 P P 05 33 34.4 +0.4
baz=322,SNR=13
V51A Loudon 48.85 87 P P 05 33 33.7 -0.4
baz=321
T53A Wise 48.87 85 P P 05 33 34.9 +0.6
baz=320,SNR=6.1
Y48A Jasper 48.88 91 P P 05 33 34.4 +0.1
baz=322,SNR=9.4
U52A Thorn Hill 48.90 86 P P 05 33 34.8 +0.4
baz=321,SNR=7.5
R55A Marlinton 49.11 82 P P 05 33 36.0 0.0
baz=320
W51A Cleveland 49.15 88 P P 05 33 36.6 +0.3
baz=321,SNR=7.8
V52A Sevierville 49.21 87 P P 05 33 37.3 +0.5
baz=321,SNR=9.0
X50B Fort Payne 49.23 90 P P 05 33 37.4 +0.3
baz=322,SNR=21
MJB9 Matsu-Tunnel 49.29 275 eP P 05 33 37.0 -0.5
comp=Z,12nm,0.8s
MAJO Matsushiro 49.29 275 eP P 05 33 37.4 0.0
comp=Z,12nm,0.8s
MAJO Matsushiro 49.29 275 eP P 05 33 37.4 0.0
MAJO pmax pmax
comp=Z,12nm,0.8s
MAT Matsushiro 49.29 275 P P 05 33 37.2 -0.2
MJAR Matsushiro Arr 49.29 275 P P 05 33 37.0 -0.5
comp=Z,3.7nm,0.6s,baz=24,slow=6.3,SNR=8.3
MJAR LR LR 05 56 22.4
comp=Z,21nm,19.5s,baz=230,slow=38
N59A State Game Lan 49.30 76 P P 05 33 37.7 +0.3
baz=319
T54A Tazewell 49.30 84 P P 05 33 37.1 -0.5
baz=320
S55A Lewisburg 49.30 83 P P 05 33 37.9 +0.3
baz=320,SNR=10.0
Y49A Blount Mountai 49.32 91 P P 05 33 37.7 +0.1
baz=322,SNR=17
U53A Fall Branch 49.33 85 P P 05 33 37.6 -0.1
baz=321
Q57A Strasburg 49.40 80 P P 05 33 38.5 +0.3
baz=320,SNR=5.8
O59A Robesonia 49.55 77 P P 05 33 39.8 +0.5
baz=319,SNR=6.7
X51A Calhoun 49.56 89 eP P 05 33 40.2 +0.8
comp=Z,37nm,0.9s
X51A Calhoun 49.56 89 P P 05 33 39.8 +0.3
baz=322,SNR=7.9
U54A Nelsons Funny 49.59 85 P P 05 33 40.2 +0.4
baz=321,SNR=5.6
W52A Murphy 49.62 88 P P 05 33 40.3 +0.3
baz=321,SNR=5.4
Y50A Piedmont 49.64 90 P P 05 33 40.6 +0.5
baz=322,SNR=6.6
T55A Pulaski 49.66 83 P P 05 33 39.6 -0.7
baz=320
LRAL Lakeview Retre 49.66 92 P P 05 33 39.9 -0.4
baz=322,SNR=5.3
148A Greensboro 49.68 93 P P 05 33 40.3 -0.1
baz=323
MVL Millersville 49.70 77 eP P 05 33 41.1 +0.6
comp=Z,13nm,0.8s
LUPA Leigh Univers 49.74 76 eP P 05 33 41.3 +0.5
comp=Z,2.8nm,1.0s
V53A Saluda 49.75 86 eP P 05 33 41.7 +0.7
comp=Z,30nm,0.9s
V53A Saluda 49.75 86 P P 05 33 41.6 +0.7
baz=321,SNR=15
BLA Blacksburg 49.77 83 P P 05 33 41.2 +0.1
baz=320
Z49A Columbiana 49.78 91 P P 05 33 41.3 +0.1
baz=322,SNR=9.6
S56A Natural Bridge 49.85 82 P P 05 33 41.8 +0.1
baz=320
SDMD Soldier's Deli 49.90 78 eP P 05 33 42.4 +0.3
comp=Z,9.3nm,0.8s
R57A Stanardsville 49.91 81 P P 05 33 42.2 +0.1
baz=320,SNR=5.9
O60A Telford 49.93 76 P P 05 33 42.6 +0.4
baz=319
W53A Cullowhee 49.96 87 P P 05 33 43.0 +0.4
baz=321,SNR=9.9
Y51A Rockmart 49.98 90 P P 05 33 42.6 0.0
baz=322,SNR=7.5
U55A TA2, Sparta 50.00 84 P P 05 33 43.5 +0.6
baz=321,SNR=12
X52A Dahlonega 50.02 88 P P 05 33 43.5 +0.4
baz=322,SNR=20
Z50A Ashland 50.04 91 P P 05 33 43.4 +0.3
baz=322,SNR=13
LNIG Linares 50.05 110 eP P 05 33 43.8 +0.5
comp=Z,17nm,1.0s
S57A Dark Hollow, R 50.10 81 P P 05 33 43.4 -0.1
baz=320
V54A Nebo 50.10 85 P P 05 33 44.1 +0.5
baz=321,SNR=5.6
T56A Rocky Mt 50.11 83 P P 05 33 43.6 -0.1
baz=321
149A Jones 50.12 92 P P 05 33 43.9 +0.2
baz=323,SNR=27
CN2 Changchun 50.14 291 eP P 05 33 41.1 -2.7
PAL Palisades 50.16 75 P P 05 33 43.9 +0.1
baz=319
R58A Rapidan 50.17 80 P P 05 33 44.0 0.0
baz=320
P60A Greenville 50.20 77 P P 05 33 44.5 +0.2
baz=320
HAMF Hammerfest 50.28 2 eP P 05 33 43.5 -0.9
Z51A Franklin 50.38 90 P P 05 33 45.7 0.0
baz=322,SNR=9.1
ZAIG Zacatecas 50.39 114 eP P 05 33 47.8 +1.6
comp=Z,7.2nm,1.0s
X53A Estanollee 50.41 88 P P 05 33 46.4 +0.6
baz=322,SNR=6.7
V55A Taylorsville 50.42 85 P P 05 33 46.5 +0.5
baz=321,SNR=6.2
249A Camden 50.44 93 P P 05 33 46.7 +0.6
baz=323,SNR=14
U56A King 50.46 84 P P 05 33 46.7 +0.4
baz=321,SNR=6.2
R58B Mineral 50.49 80 P P 05 33 47.2 +0.8
baz=320,SNR=5.8
150A Eclectic 50.50 91 P P 05 33 46.6 -0.1
baz=323,SNR=5.1
Y52A Lilburn 50.52 89 P P 05 33 47.4 +0.6
baz=322,SNR=18
W54A Cherokee Point 50.52 86 P P 05 33 47.0 +0.3
baz=322,SNR=5.5
T57A Hurt 50.53 82 P P 05 33 46.7 -0.1
baz=321
S58A Poland Farm, P 50.67 81 P P 05 33 48.1 +0.3
baz=320
R59A King George, V 50.69 80 P P 05 33 48.3 +0.4
baz=320
Y53A Monroe 50.77 88 P P 05 33 49.1 +0.5
baz=322,SNR=9.6
V56A Mocksville 50.82 84 eP P 05 33 49.6 +0.6
comp=Z,14nm,0.8s
V56A Mocksville 50.82 84 P P 05 33 49.3 +0.4
baz=321,SNR=7.0
X54A Belton 50.84 87 P P 05 33 49.8 +0.6
baz=322,SNR=8.8
Z52A Williamson 50.87 90 P P 05 33 49.4 0.0
baz=322,SNR=17
250A Grady 50.88 92 P P 05 33 49.1 -0.4
baz=323
349A Repton 50.90 93 P P 05 33 50.2 +0.5
baz=323
KMSC Kings Mountain 50.91 85 P P 05 33 49.6 -0.1
baz=322
151A Opelika 50.92 91 P P 05 33 49.3 -0.5
baz=323
U57A Blanch 50.93 83 P P 05 33 49.6 -0.2
baz=321,SNR=5.5
S59A Mechanicsville 50.94 80 P P 05 33 50.3 +0.5
baz=320
T58A Grand View Acr 50.94 82 P P 05 33 49.6 -0.3
baz=321
152A Waverly Hall 51.12 90 P P 05 33 50.9 -0.4
baz=323,SNR=6.8
TRO Tromso 51.17 4 eP P 05 33 51.1 0.0
GOGA Godfrey 51.18 89 P P 05 33 51.5 -0.1
baz=322,SNR=5.8
Y54A Tignall 51.22 88 P P 05 33 52.2 +0.2
baz=322,SNR=16
251A Midway 51.23 91 P P 05 33 51.5 -0.5
baz=323,SNR=5.4
Z53A Monticello 51.23 89 P P 05 33 51.9 -0.2
baz=322,SNR=20
X55A Gracelyn & Ava 51.28 86 P P 05 33 52.7 +0.2
baz=322,SNR=9.5
350A Dozier 51.29 93 P P 05 33 52.8 +0.3
baz=323
W56A Indian Trail 51.30 85 P P 05 33 52.7 +0.1
baz=322
U58A Oxford 51.36 82 P P 05 33 52.9 -0.1
baz=321
T59A Double "B" Far 51.41 81 P P 05 33 53.7 +0.3
baz=321
ARA0 ARCESS Array S 51.42 1 eP P 05 33 51.9 -1.2
ARCES ARCESS Array B 51.42 1 eP P 05 33 52.0 -1.0
ARCES ARCESS Array B 51.42 1 eP P 05 33 52.0 -1.0
ARCES ARCESS Array B 51.42 1 P P 05 33 51.9 -1.2
comp=Z,9.7nm,0.5s,baz=2.4,slow=7.2,SNR=74
ARE0 ARCESS Array S 51.42 1 eP P 05 33 52.0 -1.0
V58A Windy Hill, Pi 51.54 83 P P 05 33 54.5 +0.1
baz=321
X56A White Oak 51.58 86 P P 05 33 54.8 +0.2
baz=322,SNR=5.8
Y55A Saluda 51.59 87 P P 05 33 54.7 -0.1
baz=322,SNR=8.1
W57A Gilead 51.59 84 P P 05 33 54.3 -0.5
baz=322
153A Fort Valley 51.59 89 P P 05 33 54.5 -0.3
baz=323
Z54A Sparta 51.64 88 P P 05 33 54.8 -0.3
baz=322,SNR=16
252A Lumpkin 51.65 91 P P 05 33 54.5 -0.7
baz=323,SNR=6.1
450A Crestview 51.65 93 P P 05 33 55.6 +0.4
baz=324
T60A Surry 51.70 80 P P 05 33 55.2 -0.3
baz=321
U59A Littleton 51.77 82 P P 05 33 55.3 -0.8
baz=321
351A Pinckard 51.78 92 P P 05 33 55.6 -0.6
baz=323
253A Americus 51.91 90 P P 05 33 56.2 -0.9
baz=323,SNR=6.3
KTK1 Kautokeino 51.91 2 eP P 05 33 55.3 -1.4
352A Blakely 51.96 91 P P 05 33 57.1 -0.4
baz=323,SNR=5.1
154A Montrose 51.99 89 P P 05 33 57.2 -0.5
baz=323,SNR=5.6
U60A Pendleton 52.00 81 P P 05 33 57.9 +0.1
baz=321
V59A Middlesex 52.00 82 P P 05 33 58.0 +0.2
baz=321
Z55A Blythe 52.01 88 P P 05 33 57.9 0.0
baz=322,SNR=5.7
X57A Johnson Farm, 52.08 85 P P 05 33 58.9 +0.5
baz=322
W58A Raeford 52.08 84 P P 05 33 58.6 +0.2
baz=322,SNR=5.9
451A Vernon 52.23 93 P P 05 33 59.5 -0.1
baz=324
Y57A Sumter 52.27 86 P P 05 33 59.8 0.0
baz=322
155A Kite 52.31 88 P P 05 33 59.7 -0.5
baz=323
W59A Clinton 52.37 83 P P 05 34 00.8 +0.3
baz=322
X58A Rowland 52.39 84 P P 05 34 01.1 +0.4
baz=322
LOF Lofoten 52.41 7 eP P 05 33 59.5 -0.9
254A Abbeville 52.43 90 P P 05 34 00.1 -0.9
baz=323,SNR=9.4
353A Camilla 52.43 91 P P 05 34 00.4 -0.6
baz=323
CNNC Cliffs of the 52.59 83 P P 05 34 02.2 0.0
baz=322
TIGA Tifton 52.68 90 P P 05 34 02.3 -0.6
baz=323
Z57A Bowman 52.68 86 P P 05 34 02.3 -0.6
baz=322
STEI Steigen 52.70 6 eP P 05 34 01.8 -0.7
Y58A Scranton 52.73 85 P P 05 34 03.4 +0.2
baz=322
X59A McDuffie Farm, 52.75 84 P P 05 34 03.8 +0.4
baz=322
156A Sylvania 52.79 88 P P 05 34 04.0 +0.3
baz=323
W60A Pink Hill 52.83 83 P P 05 34 04.0 0.0
baz=322
255A Hazlehurst 52.86 89 P P 05 34 04.1 -0.1
baz=323
LVZ Lovozero 52.98 357 eP P 05 34 04.5 -0.1
comp=Z,23nm,0.8s
LVZ Lovozero 52.98 357 ceP P 05 34 04.3 -0.3
LVZ pmax pmax
comp=Z,41nm,1.3s
157A Early Branch 53.02 87 P P 05 34 05.8 +0.5
baz=323
NHSC New Hope 53.10 86 eP P 05 34 06.5 +0.5
comp=Z,46nm,0.9s
NHSC New Hope 53.10 86 P P 05 34 06.3 +0.4
baz=323
356A Blackshear 53.52 89 P P 05 34 08.6 -0.5
baz=323
455A Stateville 53.52 90 P P 05 34 08.5 -0.6
baz=324
TLY Talaya 53.61 311 diP P 05 34 09.8 +0.3
554A Perry 53.72 91 P P 05 34 10.3 -0.2
baz=324
KSRS Korea Array 53.78 284 P P 05 34 10.4 -0.5
comp=Z,4.3nm,0.8s,baz=42,slow=6.8,SNR=12
KSRS sP sP 05 34 31.4 -1.9
comp=Z,1.7nm,0.6s,baz=41,slow=6.9,SNR=3.0
KSRS LR LR 05 57 57.6
comp=Z,34nm,18.5s,baz=50,slow=37
KSAR Wonju Array Be 53.81 284 eP P 05 34 10.1 -1.0
KSAR Wonju Array Be 53.81 284 P P 05 34 10.1 -1.0
556A Lake Butler 54.44 90 P P 05 34 15.6 -0.1
baz=324
657A Interlachen 55.05 90 P P 05 34 20.1 -0.1
baz=324
ULN Ulaanbaatar 55.27 306 eP P 05 34 21.3 -0.4
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 55.27 306 ciP P 05 34 21.1 -0.6
ULN pmax pmax
comp=Z,8.0nm,1.0s
SONA0 Songino Array 55.56 307 eP P 05 34 23.9 +0.1
SONM Songino Array 55.56 307 eP P 05 34 23.2 -0.7
SONM Songino Array 55.56 307 P P 05 34 23.9 +0.1
comp=Z,13nm,1.0s,baz=42,slow=7.1,SNR=22
SONM pP pP 05 34 37.9 -1.6
comp=Z,4.6nm,0.7s,baz=32,slow=6.1,SNR=6.3
SONM PcP PcP 05 35 23.1 +0.2
comp=Z,8.5nm,0.8s,baz=54,slow=2.6,SNR=8.2
NSS Namsos 55.87 8 eP P 05 34 25.0 -0.6
857A Zephyrhills 55.93 91 P P 05 34 26.3 -0.2
baz=325
TMCR Tamitsa 56.59 355 eP P 05 34 30.2 -0.5
AKN Aaknes 57.75 11 eP P 05 34 39.1 +0.1
DOMB Dombas 58.08 10 eP P 05 34 40.7 -0.6
ZAA1 Zalesovo Array 58.19 324 eP P 05 34 41.8 -0.3

ZAA0	Zalesovo Array	58.19	324	eP		P	05 34 41.6	-0.5
	comp=Z,12nm,0.8s							
ZALV	Zalesovo Beam	58.19	324	eP		P	05 34 42.0	-0.2
ZALV	Zalesovo Beam	58.19	324	P		P	05 34 41.8	-0.3
	comp=Z,5.4nm,0.5s,baz=27,slow=7.0,SNR=18							
ZALV				pP		pP	05 34 58.1	+0.2
	comp=Z,13nm,0.6s,baz=32,slow=6.9,SNR=10							
PRGR	Permogore	58.59	350	eP		P	05 34 43.3	-1.4
PRGR				*PP		pP	05 35 00.4	-0.2
PRGR				*SP		sP	05 35 05.9	-1.4
PRGR				pmax	pmax			
	comp=Z,21nm,0.6s							
HHC	Hu-ho-hao-te	58.91	298	eP		P	05 34 48.4	+0.9
NC204	NORSAR Array S	58.99	10	eP		P	05 34 47.3	-0.4
	comp=Z,32nm,1.0s							
NB201	NORSAR Array S	59.26	9	eP		P	05 34 49.3	-0.2
	comp=Z,30nm,0.9s							
NB2	NORSAR Subarra	59.26	9	P		P	05 34 48.5	-1.0
	comp=Z,18nm,1.0s,baz=350,slow=6.9							
NB2	NORSAR Subarra	59.26	9	P		P	05 34 45.5	-4.0
NB2				pmax	pmax			
	comp=Z,17nm,1.0s							
NB2	NORSAR Subarra	59.26	9	P		P	05 34 48.5	-1.0
	baz=350,slow=6.9							
NB200	NORSAR Array S	59.26	9	eP		P	05 34 48.8	-0.7
NOA	NORSAR Array B	59.26	9	P		P	05 34 48.8	-0.7
	comp=Z,9.3nm,0.8s,baz=351,slow=6.9,SNR=31							
NOA				pP		pP	05 35 03.9	-1.5
	comp=Z,3.3nm,1.0s,baz=351,slow=6.9,SNR=3.3							
NOA				LR		LR	06 02 32.6	
	comp=Z,12nm,18.6s,baz=330,slow=38							
FIA1	FINESS Array S	59.55	1	eP		P	05 34 50.7	-0.7
	comp=Z,41nm,0.8s							
FIA0	FINESS Array S	59.55	1	eP		P	05 34 50.9	-0.5
FINES	FINESS Array B	59.55	1	eP		P	05 34 50.6	-0.8
FINES	FINESS Array B	59.55	1	P		P	05 34 50.9	-0.5
	comp=Z,27nm,0.6s,baz=3.8,slow=8.6,SNR=96							
FINES				LR		LR	06 02 29.7	
	comp=Z,16nm,18.0s,baz=244,slow=38							
NC602	NORSAR Array S	59.59	9	eP		P	05 34 51.7	0.0
NORES	NORESS Array B	59.59	9	P		P	05 34 53.3	+1.6
KLMR	Klimovskoe	59.81	353	eP		P	05 34 50.8	-2.4
KLMR				pmax	pmax			
	comp=Z,23nm,0.9s							
KONO	Kongsberg	60.49	11	ceP		P	05 34 57.7	-0.2
DGZ	Jazzator, Ålta	61.04	320	i P		P	05 35 02.7	+0.7
DGZ				pmax	pmax			
	comp=Z,3.0nm,1.3s							
SVE	Sverdlovsk	61.30	340	eP		P	05 35 02.6	-0.9
SVE				pmax	pmax			
	comp=Z,24nm,1.2s							
ARU	Arti	62.03	341	d iP		P	05 35 07.3	-1.1
ARU				*PP		pP	05 35 21.8	-2.6
ARU							05 37 21.1	
ARU				S		S	05 43 28.6	+0.6
ARU				SS		SS	05 47 28.7	-1.6
ARU				pmax	pmax			
	comp=Z,18nm,0.9s							
VSU	Vasula	62.54	1	c iP		P	05 35 11.6	-0.1
VSU				pmax	pmax			
	comp=Z,299nm,1.3s							
KURK	Kurchatov	62.84	326	eP		P	05 35 13.1	-0.8
	comp=Z,6.8nm,0.8s							
KURK	Kurchatov	62.84	326	d iP		P	05 35 13.1	-0.8
KURK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BRVK	Borovoye	62.87	333	eP		P	05 35 12.8	-1.2
	comp=Z,11nm,1.0s							
BRVK	Borovoye	62.87	333	ceP		P	05 35 12.3	-1.7
BRVK				pmax	pmax			
	comp=Z,14nm,1.3s							
GTA	Gaotai	65.19	306	P		P	05 35 29.1	-0.5
GTA				pP	pP		05 35 44.6	-1.1
GTA				sP	sP		05 35 51.8	-0.6
MK32	Makanchi Array	65.25	322	eP		P	05 35 28.7	-1.0
MKAR	Makanchi Array	65.25	322	eP		P	05 35 28.4	-1.4
MKAR	Makanchi Array	65.25	322	P		P	05 35 28.7	-1.0
	comp=Z,1.8nm,0.6s,baz=40,slow=5.9,SNR=15							
MKAR				pP		pP	05 35 45.3	-0.6
	comp=Z,2.1nm,0.8s,baz=46,slow=5.0,SNR=6.1							
MKAR				PP		PP	05 37 50.7	-2.6
	comp=Z,1.9nm,0.9s,baz=45,slow=8.7,SNR=4.4							
XAN	Xi'an	65.68	296	P		P	05 35 27.8	-4.9
XAN				pP		pP	05 35 37.0	-12
OBN	Obninsk	65.69	355	⇓eP		P	05 35 31.9	-0.5
OBN				e			05 36 03.4	
OBN				e			05 37 56.9	
OBN				pmax	pmax			
	comp=Z,10.0nm,0.4s							
OBN				MLR	MLR			
	comp=Z,41nm,22.0s							
WHN	Wuhan	66.00	290	⇓P		P	05 35 38.8	+4.0
WMQ	Urumqi	66.07	317	eP		P	05 35 38.6	+3.5
NACGM	Naroch	66.11	1	e		P	05 35 34.0	-1.1
LZH	Lanzhou	66.26	301	eP		P	05 35 35.8	-0.8
LZH				pP	pP		05 35 51.8	-0.9
LZH				sP	sP		05 35 57.4	-2.0
LPSR	Galich'ya Gora	68.07	353	eP		P	05 35 45.9	-1.6
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ABKAR	Akbulak array	68.66	338	eP		P	05 35 49.9	-1.4
CLL	Collm	69.06	10	eP		P	05 35 53.0	-0.7
CLL				pmax	pmax			
	comp=Z,6.0nm,1.0s							
CLL	Collm	69.06	10	eP		P	05 35 54.0	+0.3
	comp=Z,6.0nm,1.0s							
CLL				epP		pP	05 36 11.0	+1.1
VRH	Novokhopyorsk	69.25	351	eP		P	05 35 51.9	-3.0
VRH				pmax	pmax			
	comp=Z,8.0nm,0.6s							
BAIF	Baives	69.27	16	eP		P	05 35 56.0	+0.9
BAIF				pmax	pmax			
	comp=Z,8.0nm,1.0s							
GIVF	Givet	69.31	16	eP		P	05 35 56.0	+0.7
GIVF				pmax	pmax			
	comp=Z,8.0nm,0.9s							
VSR	Storozhevoye	69.43	352	eP		P	05 35 53.8	-2.2
VSR				pmax	pmax			
	comp=Z,30nm,1.1s							
BRG	Berggiesshubel	69.57	9	eP		P	05 35 57.6	+0.7
	comp=Z,8.0nm,1.0s							
BRG	Berggiesshubel	69.57	9	eP		P	05 35 57.6	+0.7
BRG				pmax	pmax			
	comp=Z,8.0nm,1.0s							
VORD	Divnogorie	69.67	352	eP		P	05 35 56.1	-1.4
VORD				pmax	pmax			
	comp=Z,20nm,1.0s							
KSP	Ksiaz	69.78	8	eP		P	05 35 59.6	+1.4
KSP	Ksiaz	69.78	8	eP		P	05 35 59.6	+1.4
LDF	La Druitiere	70.02	19	eP		P	05 35 59.0	-0.7
LDF				pmax	pmax			
	comp=Z,25nm,1.7s							
NKC	Novy Kostel	70.07	10	eP		P	05 36 00.9	+0.9
NKC	Novy Kostel	70.07	10	eP		P	05 36 00.9	+0.9
UPC	Upice	70.09	8	eP		P	05 36 01.0	+0.9
UPC	Upice	70.09	8	eP		P	05 36 01.0	+0.9
DPC	Dobruska-Polom	70.27	8	eP		P	05 36 01.9	+0.6
DPC	Dobruska-Polom	70.27	8	eP		P	05 36 01.9	+0.6
AKASG	Malin Array Be	70.32	359	eP		P	05 35 59.7	-1.8
AKASG	Malin Array Be	70.32	359	eP		P	05 35 59.7	-1.8
AKASG	Malin Array Be	70.32	359	P		P	05 36 00.5	-1.0
	comp=Z,15nm,0.6s,baz=5.3,slow=6.2,SNR=40							
AKBB	Malin Array Si	70.32	359	eP		P	05 36 00.4	-1.1
	comp=Z,20nm,0.7s							
KIEV	Kiev	70.33	359	eP		P	05 36 00.3	-1.2
	comp=Z,20nm,0.7s							
KIEV	Kiev	70.33	359	⇓iP		P	05 36 00.6	-1.0
KIEV	Kiev	70.33	359	c iP		P	05 36 00.5	-1.0
KIEV				pmax	pmax			
	comp=Z,20nm,0.7s							
PRU	Pruhonice	70.50	9	eP		P	05 36 03.5	+0.9
PRU	Pruhonice	70.50	9	eP		P	05 36 03.5	+0.9
GOPC	GO Pecny, Ondr	70.59	9	eP		P	05 36 04.1	+0.9
GOPC	GO Pecny, Ondr	70.59	9	eP		P	05 36 04.1	+0.9
OJC	Ojcow	70.61	6	eP		P	05 36 03.6	+0.3
OJC	Ojcow	70.61	6	eP		P	05 36 03.6	+0.3
CD2	Chengdu	70.66	298	eP		P	05 36 03.9	-0.1
MORC	Moravsky Berou	70.92	7	eP		P	05 36 05.8	+0.5
	comp=Z,5.8nm,0.9s							
MORC	Moravsky Berou	70.92	7	⇑iP		P	05 36 05.5	+0.2
MORC	Moravsky Berou	70.92	7	P		P	05 36 05.4	+0.2
MORC	Moravsky Berou	70.92	7	eP		P	05 36 05.9	+0.6
KHC	Kasperske Hory	71.26	10	eP		P	05 36 08.2	+0.9
	comp=Z,2.2nm,0.8s							
KHC	Kasperske Hory	71.26	10	eP		P	05 36 08.2	+0.9
KHC	Kasperske Hory	71.26	10	eP		P	05 36 08.2	+0.9
CDF	Champ du Feu	71.30	14	eP		P	05 36 08.3	+0.7
CDF				pmax	pmax			
	comp=Z,14nm,1.3s							
KWP	Kalwaria Pacla	71.31	4	eP		P	05 36 08.1	+0.5
KWP	Kalwaria Pacla	71.31	4	eP		P	05 36 08.6	+1.0
	comp=Z,220nm,1.1s							
KWP	Kalwaria Pacla	71.31	4	eP		P	05 36 08.1	+0.5
VRAC	Vranov	71.33	8	eP		P	05 36 08.3	+0.6
VRAC	Vranov	71.33	8	P		P	05 36 07.0	-0.6
	comp=Z,5.5nm,0.6s,baz=8.5,slow=5.5,SNR=8.0							
AAK	Ala-Archa	71.37	326	eP		P	05 36 08.0	-0.2
	comp=Z,5.5nm,0.9s							
AAK	Ala-Archa	71.37	326	ceP		P	05 36 08.0	-0.2
AAK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
NIE	Niedzica	71.43	5	eP		P	05 36 09.2	+0.8
NIE	Niedzica	71.43	5	eP		P	05 36 09.1	+0.8
KRUC	Moravsky	71.56	8	eP		P	05 36 09.8	+0.8
GERES	GERESS Array B	71.56	10	eP		P	05 36 09.7	+0.5
GERES	GERESS Array B	71.56	10	P		P	05 36 09.5	+0.3
	comp=Z,2.3nm,0.7s,baz=350,slow=4.5,SNR=15							
HAU	Haudompre	71.57	15	eP		P	05 36 09.9	+0.7
HAU				pmax	pmax			
	comp=Z,13nm,1.1s							
LANS	Liptovska Anna	71.66	6	eP		P	05 36 11.1	+1.4
LANS	Liptovska Anna	71.66	6	eP		P	05 36 11.1	+1.4
HINF	Hinteralfeld	71.83	15	eP		P	05 36 10.1	-0.6
HINF				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MFF	Saint Martin d	71.94	20	eP		P	05 36 11.0	-0.4
MFF				pmax	pmax			
	comp=Z,18nm,1.3s							
LOR	Lormes	71.94	17	eP		P	05 36 11.0	-0.4
LOR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KOLS	Kolonicke sedl	72.00	4	eP		P	05 36 12.7	+1.0
KOLS				pmax	pmax			
	comp=Z,11nm,1.1s							
KOLS	Kolonicke sedl	72.00	4	eP		P	05 36 12.7	+1.0
KKAR	Karatay Array	72.05	329	eP		P	05 36 11.2	-0.9
SSF	Saint Saulge	72.09	17	eP		P	05 36 11.9	-0.4
SSF				pmax	pmax			
	comp=Z,21nm,1.2s							
VYHS	Vyhne	72.28	6	eP		P	05 36 13.6	+0.2
VYHS				pmax	pmax			
	comp=Z,6.0nm,1.0s							
VYHS	Vyhne	72.28	6	eP		P	05 36 13.6	+0.2
UZH	Uzhgorod	72.30	4	eP		P	05 36 13.6	+0.1
UZH				i			05 36 26.3	
UZH				e			05 36 37.3	
MODS	Modra-Piesok	72.30	7	eP		P	05 36 13.8	+0.3
MODS				pmax	pmax			
	comp=Z,15nm,1.2s							
MODS	Modra-Piesok	72.30	7	eP		P	05 36 13.8	+0.3
AVF	Avril sur Loir	72.33	17	eP		P	05 36 13.1	-0.6
AVF				pmax	pmax			
	comp=Z,9.0nm,0.8s							
KECS	Kecovo	72.37	5	eP		P	05 36 14.4	+0.5
KECS	Kecovo	72.37	5	eP		P	05 36 14.4	+0.5
ZST	Bratislava	72.47	8	eP		P	05 36 13.7	-0.8
ZST	Bratislava	72.47	8	eP		P	05 36 13.7	-0.8
BGF	Bois d'Agland	72.48	18	eP		P	05 36 14.2	-0.4
BGF				pmax	pmax			
	comp=Z,5.0nm,0.6s							
SMF	Signal de Mont	72.55	17	eP		P	05 36 14.3	-0.7
SMF				pmax	pmax			
	comp=Z,19nm,1.3s							
MOA	Molln	72.59	10	i P		P	05 36 17.2	+1.9
	comp=Z,3.9nm,0.8s							
RETA	Reutte	72.62	12	i P		P	05 36 18.4	+2.9
	comp=Z,6.5nm,1.1s							
TCF	Toulx Ste Croi	72.64	18	eP		P	05 36 14.9	-0.7
TCF				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CONA	Conrad Observa	72.64	8	i P		P	05 36 17.4	+1.7
	comp=Z,9.8nm,1.0s							
TRPA	Tarpa	72.81	4	⇓iP		P	05 36 16.8	+0.3
PSZ	Piszkesteto	72.91	6	eP		P	05 36 18.3	+1.1
	comp=Z,13nm,1.0s							
SQTA	Sankt Quirin	72.93	12	i P		P	05 36 18.2	+0.8
	comp=Z,16nm,1.2s							
WTTA	Wattenberg	72.93	12	i P		P	05 36 18.3	+0.8
	comp=Z,10nm,1.0s							
FETA	Feichten	73.07	12	i P		P	05 36 18.8	+0.5
	comp=Z,7.5nm,1.0s							
DAVOX	Davos/Dischmat	73.22	13	P		P	05 36 19.9	+0.7
	comp=Z,2.8nm,0.5s,baz=351,slow=7.4,SNR=6.3							
KBA	Koelnbreinsper	73.28	10	i P		P	05 36 20.3	+0.8
	comp=Z,8.6nm,0.7s							
ARSA	Arzberg	73.29	9	i P		P	05 36 20.8	+1.3
	comp=Z,6.1nm,0.9s							
BURAR	Bucovina Array	73.39	2	eP		P	05 36 19.6	-0.4
BURAR	Bucovina Array	73.39	2	⇑iP		P	05 36 19.7	-0.4
BURAR	Bucovina Array	73.39	2	P		P	05 36 19.7	-0.4
ABTA	Abfaltersbach	73.53	11	i P		P	05 36 23.7	+2.8
	comp=Z,8.4nm,1.3s							
LFF	La Frestale	73.71	20	eP		P	05 36 21.5	-0.3
LFF				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KSH	Kashi	73.79	323	P		P	05 36 25.5	+2.9
KSH				pP	pP		05 36 41.4	+2.4
KSH				PP	PP		05 39 11.8	+4.7
KSH				S	S		05 45 50.5	+1.4
KSH	Kashi	73.79	323	SS	SS		05 50 40.0	+7.4
SOKA	Soboth	73.82	9	i P		P	05 36 23.6	+1.0
	comp=Z,10nm,1.3s							
CAF	Calviac	73.94	19	eP		P	05 36 23.0	-0.3
CAF				pmax	pmax			
	comp=Z,12nm,1.4s							
OBKA	Obir	73.95	10	i P		P	05 36 23.7	+0.3
	comp=Z,18nm,0.6s							
LPL	La Plagne	74.07	15	eP		P	05 36 25.2	+0.9
LPL				pmax	pmax			
	comp=Z,8.0nm,1.0s							
BIZ	Bicaz	74.08	1	⇓iP		P	05 36 23.8	-0.2
LPG	La Plagne	74.09	15	eP		P	05 36 26.0	+1.5
LPG				pmax	pmax			
	comp=Z,8.0nm,1.0s							
DRGR		74.15	4	⇑iP		P	05 36 24.5	0.0
DRGR		74.15	4	P		P	05 36 24.5	0.0
VIVF	Saint-Julien-l	74.42	17	eP		P	05 36 25.8	-0.3
VIVF				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ORIF	Oris-en-Rattie	74.54	16	eP		P	05 36 26.3	-0.5
ORIF				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MBDF	Montbardon	74.85	15	eP		P	05 36 31.1	+2.4
MBDF				pmax	pmax			
	comp=Z,9.0nm,0.9s							
VRI	Vrincioaia	75.16	1	⇓iP		P	05 36 29.5	-0.8
VRI	Vrincioaia	75.16	1	P		P	05 36 29.5	-0.8
PLOR	Plostina	75.17	1	⇑iP		P	05 36 30.5	0.0
PLOR	Plostina	75.17	1	P		P	05 36 30.4	0.0
BZS	Buzias	75.28	5	⇑iP		P	05 36 31.4	+0.4
BZS	Buzias	75.28	5	P		P	05 36 31.4	+0.4
ETSF	Etsaut	75.45	21	eP		P	05 36 33.0	+0.9
ETSF				pmax	pmax			
	comp=Z,7.0nm,1.0s							
MTLF	Montolieu	75.51	19	eP		P	05 36 32.0	-0.3
MTLF				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MLR	Muntele Rosu	75.53	1	⇓iP		P	05 36 33.2	+0.6
MLR	Muntele Rosu	75.53	1	P		P	05 36 32.8	+0.3
	comp=Z,3.4nm,0.9s,baz=300,slow=11,SNR=4.7							
GZR	Gura Zlata	75.55	4	⇑iP		P	05 36 32.3	-0.3
VOIR		75.57	2	⇓iP		P	05 36 32.9	+0.2
VOIR		75.57	2	P		P	05 36 32.9	+0.2
ARR	Arges	75.63	2	⇓iP		P	05 36 33.5	+0.4
CFR	Carcaliu	75.85	360	⇑iP		P	05 36 33.8	-0.5
CFR	Carcaliu	75.85	360	eP		P	05 36 33.7	-0.5
ANN	Anapa	75.93	353	eP		P	05 36 31.5	-3.2
ANN				eS		S	05 46 08.2	-4.2
ANN				pmax	pmax			
	comp=Z,26nm,0.9s							
KIV	Kislovodsk	76.35	349	eP		P	05 36 36.8	-0.5
	comp=Z,21nm,1.1s							
KIV	Kislovodsk	76.35	349	⇑iP		P	05 36 36.4	-0.8
KIV	Kislovodsk	76.35	349	eP		P	05 36 36.8	-0.5
KIV				pmax	pmax			
	comp=Z,60nm,1.1s							
KBZ	Khabaz	76.56	349	P		P	05 36 37.9	-0.3
	comp=Z,9.7nm,0.9s,baz=336,slow=4.3,SNR=18							
ZEI	Tsey	77.39	348	eP		P	05 36 38.9	-4.3
ZEI				pmax	pmax			
	comp=Z,12nm,1.3s							
ESDC	Sonseca Array	77.88	25	P		P	05 36 46.1	+0.3
	comp=Z,4.3nm,0.9s,baz=342,slow=4.5,SNR=9.2							
ESDC				pP		pP	05 37 03.0	+0.7
	comp=Z,1.2nm,0.6s,baz=337,slow=5.5,SNR=3.7							
SDV	Santo Domingo	78.05	93	eP		P	05 36 47.8	+0.5
	comp=Z,7.6nm,1.0s							
SLVN	Son La	78.76	293	eP		P	05 36 50.0	-1.0
	comp=Z,9.4nm,0.7s							
DIKM	Dikmen	79.19	354	⇓iP		P	05 36 53.5	+0.6
ILGA	Ilgaz	79.86	356	eP		P	05 36 56.9	0.0
	comp=Z,15nm,1.2s							
GNI	Garni	79.90	347	d iP		P	05 36 57.9	+0.9
GNI				pmax	pmax			
	comp=Z,60nm,1.5s							
NIL	Nilore	80.04	323	eP		P	05 36 56.7	-1.0
	comp=Z,26nm,1.1s							
NIL	Nilore	80.04	323	P		P	05 36 56.7	-1.0
BR101	Keskin Array S	81.19	356	eP		P	05 37 03.6	-0.3
BRTR	Keskin Array B	81.19	356	eP		P	05 37 03.4	-0.5
BRTR	Keskin Array B	81.19	356	eP		P	05 37 03.4	-0.5
BRTR	Keskin Array B	81.19	356	P		P	05 37 03.6	-0.3
	comp=Z,5.3nm,0.9s,baz=14,slow=2.5,SNR=27							
NONG	Nongkai	81.94	292	P		P	05 37 07.9	0.0
PAYA	Payao	82.36	295	P		P	05 37 11.4	+1.2
UTTA	Uttaradit	83.44	294	P		P	05 37 16.4	+0.7
CMAR	Chiang Mai Arr	83.57	295	P		P	05 37 15.1	-1.3
	comp=Z,5.1nm,0.9s,baz=8.9,slow=5.4,SNR=19							
KEST	Kesra	84.04	15	P		P	05 37 19.3	+0.6
	comp=Z,7.5nm,0.9s,baz=315,slow=1.4,SNR=5.4							
MDT	Midelt	84.31	27	P		P	05 37 20.6	+0.4
	comp=Z,6.3nm,0.9s,baz=351,slow=5.8							
ASF	Jabal al Asfar	88.53	352	P		P	05 37 41.1	+0.3
	comp=Z,6.2nm,0.9s,baz=170,slow=6.1,SNR=6.8							
COEN	Coen	89.62	241	eP		P	05 37 45.0	-0.9
	comp=Z,17nm,0.9s							
KRAB	Krabi	92.34	290	P		P	05 37 56.8	-1.8
CTA	Charters Tower	93.70	236	P		P	05 38 04.7	+0.1
	comp=Z,5.7nm,0.8s,baz=37,slow=6.9,SNR=7.2							
CTA				pP		pP	05 38 21.2	-0.2
	comp=Z,3.5nm,0.6s,baz=34,slow=8.8,SNR=2.6							
CTAO	Charters Tower	93.70	236	eP		P	05 38 05.0	+0.4
	comp=Z,10nm,0.9s							
WB2	Warramunga Arr	98.90	246	eP		P	05 38 32.4	+4.1
	comp=Z,4.2nm,1.1s							
WR1	Warramunga Arr	98.90	246	eP		Pdif	05 38 26.6	-1.7
WRA	Warramunga Arr	98.90	246	P		Pdif	05 38 26.6	-1.7
	comp=Z,0.9nm,0.8s,baz=32,slow=6.5,SNR=4.9							
ASAR	Alice Springs	102.31	244	P		Pdif	05 38 42.7	-0.6
	comp=Z,0.4nm,0.7s,baz=29,slow=5.9,SNR=5.0							
LBTB	Lobatse	145.67	4	ePKPdf		PKPab	05 44 26.7	-0.2
LBTB	Lobatse	145.67	4	ePKP2		PKPab	05 44 26.7	-0.2
QSPA	South Pole Qui	149.13	180	ePKPdf		PKPdf	05 44 30.8	+0.3
QSPA				ePKPbc		PKPbc	05 44 34.8	0.0
QSPA	South Pole Qui	149.13	180	PKPbc		PKPbc	05 44 34.4	-0.3
	comp=Z,4.1nm,0.6s,baz=15,slow=1.0,SNR=16							
BOSA	Boshof	149.24	5	PKPbc		PKPbc	05 44 35.4	-0.8
	comp=Z,3.1nm,0.8s,baz=18,slow=3.1,SNR=2.7							
BOSA				pPKPbc		pPKPbc	05 44 53.8	+0.2
	comp=Z,3.2nm,0.7s,baz=351,slow=3.8,SNR=2.1							
SNAA	Sanae	162.53	147	ePKPab		PKPab	05 45 36.4	-0.2
SNAA	Sanae	162.53	147	ePKP2		PKPab	05 45 36.4	-0.2
SNAA	Sanae	162.53	147	PKPab		PKPab	05 45 36.3	-0.3
	comp=Z,0.8nm,0.7s,baz=279,slow=9.0,SNR=4.1							
MAW	Mawson	162.57	227	ePKPab		PKPab	05 45 37.3	+0.6
MAW	Mawson	162.57	227	ePKP2		PKPab	05 45 37.3	+0.6
MAW	Mawson	162.57	227	PKPab		PKPab	05 45 35.5	-1.2
	comp=Z,4.5nm,0.7s,baz=101,slow=6.7,SNR=10							
MAW				pPKPab		pPKPab	05 45 54.3	+0.6
	comp=Z,4.1nm,0.8s,baz=135,slow=3.8,SNR=4.5							

DDA ***17*** *05:36:39.1, 37°.85N×29°.15E, h7km±2km, ML2.5*
ISK ***17*** *05:36:39.2, 37°.87N×29°.11E, h3km, ML2.1/8*
ISCJB ***17*** *05:36:40.0±0.6, 37°.86N±0°.03×29°.11E±0°.05, h7km±5km,*
Error ellipse: s-maj=6.5km s-min=4.3km az=17.0
ISC 17 05:36:39.7±1.1, 37°.87N±0°.03×29°.12E±0°.04, h5km±10km, n15, σ0°.79/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.13	210	PG		Pg	05 36 42.3	-0.1
DENT				SG		Sg	05 36 44.9	+0.7
TAVA	DENIZLI_Tavas	0.43	202	IAML_P				
	comp=Z,955nm,0.2s							
TAVA				i P		Pg	05 36 48.0	0.0
TAVA				i S		Sg	05 36 54.4	+0.7
KHAL	Karahalli	0.58	31	IAML_P				
	comp=Z,689nm,0.2s							
KHAL				i P		Pg	05 36 50.3	-0.6
KHAL				i S		Sb	05 36 60.0	-1.1
KULA	Kula-Manisa	0.74	331	PG		Pb	05 36 54.2	-0.9
KULA				SG		Sb	05 37 05.1	-0.4
MANT	Manisa	0.76	325	IAML_P				
	comp=Z,728nm,0.1s							
MANT				i P		Pb	05 36 55.0	-0.6
USAK	Uak-

4.1nm,0.3s,baz=18,slow=13,SNR=12
PLAI Plampang 12.18 259 P Pn 05 40 34.8 -2.6
MPSI Mapaga 12.20 305 P P 05 40 40.8 -3.0
11nm,1.2s
WRAB Tennant Creek 13.82 162 *e*Pn **Pn 05 40 58.3 0.0**
WR1 Warramunga Arr 13.82 162 *e*Pn **Pn 05 40 55.9 -2.5**
WR1 *e*Sn Sn 05 43 22.8 -8.9
WRA Warramunga Arr 13.82 162 P Pn 05 40 55.9 -2.5
1.1nm,0.3s,baz=349,slow=21,SNR=52
WRA S Sn 05 43 22.8 -8.9
8.0nm,0.3s,baz=333,slow=22,SNR=13
WB2 Warramunga Arr 13.82 162 *e*Pn **Pn 05 40 56.5 -1.9**
COEN Coen 14.90 120 *e*Pn **Pn 05 41 10.6 -1.4**
AS31 Alice Springs 17.27 168 *e*P **P 05 41 40.7 +0.7**
15nm,0.6s
AS31 *e*S **S 05 44 48.8 -3.7**
ASAR Alice Springs 17.27 168 *e*P **P 05 41 40.6 +0.5**
ASAR Alice Springs 17.27 168 P P 05 41 41.0 +0.9
4.7nm,0.3s,baz=350,slow=10,SNR=141
ASAR S **S 05 44 46.0 -6.5**
1.0nm,0.3s,baz=355,slow=26,SNR=8.0
ASAR LR LR 05 48 22.2
comp=Z,58nm,20.6s,baz=0.0,slow=37
PSA00 Pilbara Seismi 17.66 212 *e*P **P 05 41 45.1 +0.8**
52nm,0.5s
CTA Charters Tower 20.70 131 P P 05 42 17.9 +0.7
6.5nm,0.5s,baz=296,slow=10,SNR=9.4
CTAO Charters Tower 20.70 131 *e*P **P 05 42 18.7 +1.4**
11nm,0.9s
GIRL Giralia 21.86 222 *e*P **P 05 42 30.2 +0.7**
179nm,1.4s
CISI Cisompet, Garu 21.92 267 *e*P **P 05 42 30.1 -0.2**
29nm,0.5s
FORT Forrest 23.98 184 *e*P **P 05 42 49.5 +0.1**
24nm,0.6s
MORW Morawa 25.77 209 *e*P **P 05 43 05.8 +0.1**
8.9nm,1.0s
BBOO Buckleboo 26.57 168 *e*P **P 05 43 12.7 -0.1**
10nm,0.6s
STKA Stephens Creek 27.30 158 *e*P **P 05 43 19.5 +0.1**
2.9nm,1.1s
STKA Stephens Creek 27.30 158 P P 05 43 19.4 +0.1
6.6nm,0.4s,baz=334,slow=9.0,SNR=32
NWAO Narrogin (SRO) 28.59 203 *e*P **P 05 43 31.0 +0.2**
45nm,1.4s
NWAO Narrogin (SRO) 28.59 203 P P 05 43 30.9 +0.1
3.5nm,0.3s,baz=40,slow=8.8,SNR=11
ARMA Armidale 31.17 142 *e*P **P 05 43 55.8 +2.1**
37nm,1.4s
CAN Canberra 33.44 151 *e*P **P 05 44 14.8 +1.4**
18nm,0.7s
TOO Toolangi 33.82 157 *e*P **P 05 44 18.8 +2.2**
14nm,1.1s
CMAR Chiang Mai Arr 39.48 310 P P 05 45 03.9 -0.8
1.2nm,0.4s,baz=142,slow=9.0,SNR=5.4
NJ2 Nanjing 39.98 345 *e*P **P 05 45 10.1 +1.5**
CD2 Chengdu 45.02 328 *e*P **P 05 45 49.4 -0.1**
LZH Lanzhou 49.12 332 *e*P **P 05 46 24.8 +3.5**
LZH pP pwP 05 47 01.8 +1.9
LZH sP sP 05 47 17.8 +7.6
HHC Hu-ho-hao-te 50.26 342 *e*P **P 05 46 31.8 +2.0**
FOZ Fox Glacier 50.66 143 *e*P **P 05 46 33.4 +0.7**
57nm,1.3s
WHZ Wether Hill Ro 50.98 146 *e*P **P 05 46 35.3 +0.2**
3.0nm,0.9s
LBZ Lake Benmore 51.37 144 *e*P **P 05 46 38.6 +0.6**
30nm,1.4s
RPZ Rata Peaks 51.51 142 *e*P **P 05 46 39.9 +0.8**
38nm,1.4s
RPZ Rata Peaks 51.51 142 P P 05 46 39.9 +0.8
6.4nm,0.5s,baz=2.7,slow=12,SNR=7.6
KHZ Kahutara 52.38 140 *e*P **P 05 46 46.3 +0.9**
60nm,1.3s
BKZ Black Stump Fm 52.86 135 *e*P **P 05 46 49.8 +0.6**
7.4nm,0.9s
GTA Gaotai 53.69 331 P P 05 46 54.8 -0.4
GTA pP pwP 05 47 38.3 +4.0
GTA sP PcP 05 47 58.3 -1.2
SONA0 Songino Array 58.16 342 *e*P **P 05 47 26.6 -0.2**
SONM Songino Array 58.16 342 *e*P **P 05 47 27.4 +0.6**
SONM Songino Array 58.16 342 P P 05 47 26.6 -0.2
0.6nm,0.4s,baz=147,slow=6.5,SNR=3.6
CASY Casey 60.95 189 *e*P **P 05 47 45.8 +0.3**
11nm,1.3s
TLY Talaya 62.39 342 *e*P **P 05 47 55.9 +0.5**
6.8nm,0.6s
WMQ Urumqi 63.11 327 *e*P **P 05 48 01.3 +0.9**
PETK Petropavlovsk- 64.11 18 *e*P **P 05 48 06.2 -0.5**
PETK Petropavlovsk- 64.11 18 P P 05 48 08.5 +1.9
1.0nm,0.5s,baz=204,slow=10.0,SNR=6.6
PEA1 Petropavlovsk- 64.11 18 *e*P **P 05 48 08.6 +1.9**
KSH Kashi 67.75 318 P P 05 48 33.1 +2.7
KSH sP sP 05 49 29.1 +7.9
KSH PP **PP 05 51 04.0 +2.1**
KSH S **S 05 57 12.9 -3.4**
KSH Kashi 67.75 318 SS SS 06 01 36.8 -4.1
MK31 Makanchi Array 67.94 327 *e*P **P 05 48 31.1 -0.3**
5.0nm,0.8s
MK32 Makanchi Array 67.94 327 *e*P **P 05 48 30.7 -0.6**
MKAR Makanchi Array 67.94 327 *e*P **P 05 48 30.4 -0.9**
MKAR Makanchi Array 67.94 327 P P 05 48 30.7 -0.6
5.7nm,0.4s,baz=114,slow=8.7,SNR=63
BOOM Boomskoye usch 69.27 320 *e*P **P 05 48 40.3 +0.4**
11nm,1.0s
AAK Ala-Archa 70.27 320 *e*P **P 05 48 46.7 +0.7**
3.1nm,0.6s
AAK Ala-Archa 70.27 320 P P 05 48 46.5 +0.5
1.8nm,0.3s,baz=118,slow=5.8,SNR=6.2
ARSB Arslanbob 70.62 318 *e*P **P 05 48 47.9 -0.2**
7.1nm,0.9s
KURBB Kurchatov Arra 72.23 329 P P 05 48 56.4 -0.9
0.9nm,0.5s,baz=127,slow=5.1,SNR=14
KURK Kurchatov 72.23 329 *e*P **P 05 48 56.6 -0.7**
1.9nm,0.9s
VNDA Vanda 72.72 173 *e*P **P 05 48 59.6 -0.2**
1.8nm,0.7s
VNDA Vanda 72.72 173 P P 05 48 59.4 -0.5
1.5nm,0.6s,baz=316,slow=6.9,SNR=14
KKAR Karatay Array 73.07 319 *e*P **P 05 49 02.1 -0.4**
MAW Mawson 75.15 201 *e*P **P 05 49 14.4 +0.4**
1.2nm,0.6s
MAW Mawson 75.15 201 P P 05 49 13.9 -0.2
4.6nm,0.7s,baz=72,slow=5.0,SNR=19
BVAR Borovoye Array 77.78 328 P P 05 49 27.7 -1.4
0.3nm,0.4s,baz=58,slow=3.6,SNR=2.8
ABKAR Akbulak array 82.23 322 *e*P **P 05 49 52.4 -0.8**
QSPA South Pole Qui 83.24 180 *e*P **P 05 49 57.2 -1.0**
11nm,1.5s
PV01 Paradox Valley 118.78 50 *e*PKPdf **PKPdf 05 56 19.8 -0.1**
GO09 Cerro Castillo 119.14 164 *e*PKPdf **PKPdf 05 56 19.6 -0.2**
TXAR Lajitas Array 124.89 59 *e*PKPdf **PKPdf 05 56 31.2 -0.5**
TXAR Lajitas Array 124.89 59 PKP **PKPdf 05 56 31.0 -0.7**
0.1nm,0.5s,baz=318,slow=1.2,SNR=3.4
C40A Isle Royale Na 127.24 32 *e*PKPdf **PKPdf 05 56 34.5 -1.0**
GO02 Mina Guanaco 143.06 150 *e*PKPpre PKPpre 05 57 02.7
JTS Las Juntas de 145.38 82 *e*PKPdf **PKPbc 05 57 10.4 +0.3**
LVC Limon Verde 145.51 148 PKPbc **PKPbc 05 57 11.3 +0.6**
4.5nm,0.6s,baz=278,slow=4.6,SNR=5.6
ESPN Las Esperanzas 145.87 78 *e*PKPdf **PKPbc 05 57 11.6 +0.1**
CPUP Villa Florida 146.39 168 *e*PKPdf **PKPdf 05 57 12.4 +1.1**
CPUP Villa Florida 146.39 168 PKPbc **PKPdf 05 57 12.1 +0.8**
5.1nm,0.8s,baz=229,slow=1.8,SNR=11
PB11 IPOC Station P 147.39 144 *e*PKPbc **PKPbc 05 57 15.4 -0.6**
GO01 Chusmiza 147.73 145 *e*PKPbc **PKPbc 05 57 17.3 +0.1**
MNMC Minye Minye 147.92 144 *e*PKPbc **PKPbc 05 57 17.4 -0.1**
LPAZ La Paz 151.00 142 PKPbc **PKPbc 05 57 25.6 0.0**
3.1nm,0.4s,baz=37,slow=3.1,SNR=18
SIV San Ignacio 154.95 150 PKPab **PKPab 05 57 49.1 -0.2**
0.8nm,0.6s,baz=214,slow=8.4,SNR=6.9

RSNC 17 05:41:20.2±1.1, 7.°16N×75.°76W, h2km±4km, ML3.6, Mw4.0, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UREC	**San Jos de Ur**	**0.63**	**21**	⇓*e*P	Pg	05 41 31.8	-0.5
UREC				*e*S	Sg	05 41 40.9	+0.5
UREC				*i*		05 41 45.1	
comp=Z,7μm,0.2s							
ZARC	**Zaragoza, Cauc**	**0.95**	**70**	⇑*i*P	Pg	05 41 37.6	-0.9
ZARC				*e*S	Sg	05 41 50.1	-0.7
ZARC				*i*		05 41 53.0	
comp=Z,2μm,0.3s							
HELC	**Santa Helena**	**0.99**	**167**	⇓*i*P	Pg	05 41 37.9	-1.3
HELC				*e*S	Sg	05 41 51.7	-0.4
HELC				*i*		05 41 57.7	
comp=Z,624nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.43**	**115**	⇑*e*P	Pn	05 41 45.2	-2.1
PTBC				*e*S	Sg	05 42 04.0	-2.3
PTBC				*i*		05 42 05.4	
comp=Z,978nm,0.3s							
NORC	**Norcasia**	**1.82**	**151**	*e*P	Pn	05 41 51.9	-0.7
NORC				*e*S	Sn	05 42 15.3	-1.0
NORC				*i*		05 42 16.8	
comp=Z,718nm,0.4s							
SOLC	**Bahia Solano**	**1.89**	**241**	*e*P	Pn	05 41 51.6	-1.8
SOLC				*e*S	Sn	05 42 17.1	-0.7
SOLC				*i*		05 42 19.6	
comp=Z,285nm,0.4s							
BRRC	**Barranca, Sant**	**2.03**	**91**	*e*P	Pn	05 41 54.3	-1.2
BRRC				*e*S	Sn	05 42 21.6	0.0
BRRC				*i*		05 42 25.1	
comp=Z,492nm,0.3s							
PTAC	**Punta Ardita,**	**2.04**	**270**	*e*P	Pn	05 41 53.5	-2.0
PTAC				*e*S	Sn	05 42 20.0	-1.6
PTAC				*i*		05 42 22.2	
comp=Z,1μm,0.2s							
PLMC	**San Jos del P**	**2.30**	**193**	*e*P	Pn	05 41 58.6	-0.7
PLMC				*e*S	Sn	05 42 28.5	+0.2
PLMC				*i*		05 42 32.1	
comp=Z,364nm,0.3s							
GIRC	**Giron, Santand**	**2.55**	**92**	*e*P	Pn	05 42 01.5	-1.3
GIRC				*i*		05 42 35.9	
comp=Z,211nm,0.3s							
BARC	**Barichara**	**2.62**	**102**	*e*P	Pn	05 42 02.6	-1.2
BARC				*i*		05 42 42.6	
comp=Z,412nm,0.5s							
OCAC	**Ocana**	**2.64**	**66**	*e*P	Pn	05 42 01.8	-2.3
PAMC	**Pamplona, Colo**	**3.04**	**86**	*e*P	Pn	05 42 09.1	-0.7
PAMC				*e*S	Sn	05 42 45.7	-1.3
PAMC				*i*		05 42 52.5	
comp=Z,250nm,0.3s							
YOTC	**Yotoco, Valle**	**3.21**	**191**	*e*P	Pn	05 42 10.8	-1.1
YOTC				*e*S	Sn	05 42 50.4	-0.5
YOTC				*i*		05 42 55.9	
comp=Z,38nm,0.6s							
CHIC	**Chingaza**	**3.22**	**141**	*e*P	Pn	05 42 12.8	+0.5
CHIC				*i*		05 43 11.3	
comp=Z,127nm,0.6s							
PRAC	**Prado**	**3.53**	**166**	*e*P	Pn	05 42 17.0	+0.7
PRAC				*i*		05 43 23.6	
comp=Z,115nm,0.6s							
CODC	**Agustn Codazz**	**3.58**	**40**	*e*P	Pn	05 42 15.5	-1.3
CODC				*i*		05 43 08.2	
comp=Z,81nm,0.4s							

NIED ***17*** *05:44:00, 24.°20N×121.°70E, h11km, Mw4.1 Best double couple: M0 1.39000×10^15 NP1:*ϕ_s*=275.00000°,* δ*17.00000°,* λ*129.00000°. NP2:*ϕ_s*=56.00000°,* δ*77.00000°,* λ*79.00000°.*
NEIC ***17*** *05:44:12.5±0.2, 24.°26N×121.°75E, h16km±5km, ML4.6(TAP), Error ellipse: s-maj=8.0km s-min=4.6km az=112.0*
NEIC Recorded [4 TAP] in Hualien, [3 TAP] in Yilan and [1 TAP] in Nantou and Taoyuan.
ASIES ***17*** *05:44:12.2, 24.°28N×121.°76E, h18km, MW3.6*
BJI ***17*** *05:44:12.5±0.0, 24.°24N×121.°76E, h17km, mb3.9/3, mB4.1/1, ML4.1/4, Ms4.0/3, Ms7 4.0/2*
ISCJB ***17*** *05:44:12.6±0.2, 24.°267N±0.°010×121.°78E±0.°01, h11km±1km, mb3.7/10, MS2.7/1, Error ellipse: s-maj=2.1km s-min=1.5km az=24.4*
JMA ***17*** *05:44:12.3±0.1, 24.°22N×121.°70E, h21km±1km, M3.9*
TAP ***17*** *05:44:12.5, 24.°28N×121.°76E, h14km, ML4.3, B*
IDC ***17*** *05:44:23.6±5.2, 24.°26N×121.°74E, h115km±49km, mb3.3/10, mb1 3.5/11, mb1mx3.4/48, mbtmp3.7/11, MS2.8/1, Ms1 2.8/1, ms1mx2.4/23, Error ellipse: s-maj=22.3km s-min=16.3km az=80.0*
ISC 17 05:44:12.5±0.7, 24.°26N±0.°01×121.°78E±0.°02, h14km±4km, n151, σ0.085/217, mb3.7/10, 9C-27D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.17**	**352**	⇓P	Pg	05 44 16.5	-0.1
baz=356							
NANB				S	Sg	05 44 19.2	-0.3
baz=356							
ENA	**Nanau**	**0.17**	**349**	⇓*i*P	Pg	05 44 16.5	-0.1
baz=356							
ENA				S	Sg	05 44 19.1	-0.4
baz=356							
NACB	**Ninganchiao**	**0.18**	**244**	*e*Pg	Pg	05 44 16.7	0.0
NACB				*e*Sg	Sg	05 44 20.2	+0.5
NACB	**Ninganchiao**	**0.18**	**244**	⇓P	Pg	05 44 16.8	0.0
baz=230							
NACB				S	Sg	05 44 19.7	-0.1
baz=230							
TWD	**Chiawan**	**0.24**	**223**	⇓*i*P	Pg	05 44 17.9	+0.2
baz=217							
TWD				S	Sg	05 44 21.7	+0.5
baz=217							
ETLH	**Xiulin Townshi**	**0.27**	**260**	⇓P	Pg	05 44 18.4	+0.1
baz=255							
ETLH				S	Sg	05 44 22.4	+0.1
baz=255							
HWA	**Hwalien**	**0.32**	**209**	P	Pb	05 44 20.0	+0.1
baz=213							
HWA				*e*S	Sb	05 44 25.3	+0.4
baz=213							
TWC	**Suao**	**0.36**	**11**	⇓*i*P	Pg	05 44 19.8	0.0
baz=10.0							
TWC				*e*S	Sg	05 44 24.7	0.0
baz=10.0							
ENLB	**Shoufeng**	**0.39**	**204**	P	Pb	05 44 21.6	+0.5
baz=209							
ENLB				*e*S	Sn	05 44 29.2	-1.5
baz=209							
NNSB	**Datong**	**0.40**	**296**	⇓P	Pg	05 44 20.7	+0.1
baz=294							
NNSB				S	Sg	05 44 25.6	-0.4
baz=294							
NNS	**Nan Shan**	**0.41**	**296**	⇓*i*P	Pg	05 44 20.9	+0.1
baz=295							
NNS				S	Sg	05 44 26.2	-0.2
baz=295							
NDT	**Datong Townshi**	**0.42**	**325**	⇓*i*P	Pg	05 44 21.0	+0.1
baz=325							
NDT				S	Sg	05 44 26.6	0.0
baz=325							
ENTT	**Nioudou**	**0.43**	**333**	⇓*i*P	Pg	05 44 21.1	+0.1
baz=334							
ENTT				S	Sg	05 44 26.9	0.0
baz=334							
EOS1	**EOS1**	**0.43**	**48**	P	Pb	05 44 21.9	0.0
baz=43							
EOS1				*e*S	Sb	05 44 28.4	+0.2
baz=43							
TWE	**Neicheng**	**0.47**	**348**	⇓*i*P	Pg	05 44 21.9	0.0
baz=350							
TWE				S	Sg	05 44 27.9	-0.3
baz=350							
WHF	**Hehuan Shan**	**0.48**	**257**	⇓P	Pg	05 44 22.1	0.0
baz=255							
WHF				S	Sg	05 44 28.5	-0.2
baz=255							
ILA	**Ilan**	**0.51**	**357**	P	Pg	05 44 22.7	+0.2
baz=353							
ILA				*e*S	Sg	05 44 29.8	+0.5
baz=353							
ESL	**Shilin**	**0.54**	**216**	⇓*e*P	Pg	05 44 23.1	0.0
baz=219							
ESL				*e*S	Sg	05 44 30.1	-0.3
baz=219							
YHNB	**Yeheng**	**0.55**	**319**	*e*Pg	Pg	05 44 23.1	-0.2
YHNB				*e*Sg	Sg	05 44 30.3	-0.4
YHNB	**Yeheng**	**0.55**	**319**	⇓P	Pg	05 44 23.4	0.0
baz=318							
YHNB				*e*S	Sg	05 44 29.7	-1.0
baz=318							
TDCB	**Techi**	**0.56**	**270**	⇓P	Pb	05 44 24.0	-0.2
baz=269							
TDCB				S	Sg	05 44 30.8	-0.4
baz=269							
NSK	**Sanguang**	**0.56**	**318**	⇓*i*P	Pg	05 44 23.6	-0.1
baz=318							
NSK				S	Sg	05 44 30.9	-0.3
baz=318							
CHGB	**Renai**	**0.58**	**251**	⇓P	Pg	05 44 24.2	+0.2
baz=244							
CHGB				*e*S	Sg	05 44 31.0	-0.8
baz=244							
NTC	**Toucheng**	**0.60**	**5**	⇓*i*P	Pg	05 44 24.1	0.0
baz=5.0							
NTC				*e*S	Sg	05 44 32.0	-0.2
baz=5.0							
EGS		**0.60**	**14**	⇓*i*P	Pg	05 44 24.5	+0.2
baz=24							
OWD	**Renai**	**0.63**	**241**	⇓*e*P	Pg	05 44 24.7	-0.1
baz=240							
OWD				S	Sb	05 44 33.4	-0.5
baz=240							
EGFH	**Guangfu**	**0.67**	**209**	P	Pg	05 44 25.5	+0.1
baz=222							
EGFH				*e*S	Sb	05 44 35.4	+0.5
baz=222							
TIPB	**Shuangxi**	**0.71**	**4**	⇓*i*P	Pg	05 44 26.3	-0.1
baz=4.0							
TIPB				*e*S	Sg	05 44 34.7	-1.2
baz=4.0							
NHDH	**Xindian Distri**	**0.74**	**342**	*e*P	Pg	05 44 26.8	0.0
baz=342							
NHDH				*e*S	Sg	05 44 36.0	-0.6
baz=342							
WHP	**Taichung City**	**0.76**	**272**	*e*P	Pb	05 44 27.4	-0.1
baz=271							
WHP				S	Sb	05 44 37.3	-0.4
baz=271							
TATO	**Taipei**	**0.76**	**340**	*e*Pg	Pg	05 44 27.2	-0.2
TATO	**Taipei**	**0.76**	**340**	*e*P	Pg	05 44 27.1	-0.2
baz=340							
TATO				S	Sg	05 44 36.9	-0.4
baz=340							
VWDT	**VWDT**	**0.77**	**229**	⇓*e*P	Pg	05 44 27.4	0.0
baz=229							
VWDT				S	Sb	05 44 38.0	+0.2
baz=229							
TWB1	**Santiao Chiao**	**0.77**	**14**	⇓P	Pg	05 44 27.3	-0.2
baz=10.0							
LIOB	**Emei**	**0.79**	**299**	⇑*e*P	Pb	05 44 28.4	+0.3
baz=299							
LIOB				S	Sg	05 44 38.3	-0.1
baz=299							
NSTT	**Nanjuang**	**0.80**	**298**	*e*P	Pg	05 44 28.2	+0.3
baz=297							
NSTT				*e*S	Sg	05 44 38.4	-0.2
baz=297							
DPDB	**Guoxing**	**0.81**	**254**	*e*P	Pb	05 44 28.5	+0.2
baz=254							
DPDB				*e*S	Sg	05 44 38.5	-0.2
baz=254							
NWF	**Wu-fen Shan**	**0.81**	**0**	P	Pb	05 44 28.3	-0.1
WFSB	**Wu-fen Shan**	**0.81**	**0**	*e*P	Pb	05 44 28.2	-0.1
baz=353							
WFSB				*e*S	Sb	05 44 39.0	-0.1
baz=353							
TAP	**Taipei**	**0.82**	**343**	*e*P	Pg	05 44 28.6	+0.3
baz=334							
HGSD	**Ruisui**	**0.83**	**203**	P	Pg	05 44 28.9	+0.4
baz=216							
HGSD				*e*S	Sn	05 44 41.2	-0.4
baz=216							
EHY	**Hungye**	**0.85**	**209**	*e*P	Pg	05 44 29.1	+0.1
baz=221							
SMLT	**Sun Moon Lake**	**0.88**	**245**	P	Pg	05 44 29.7	+0.1
baz=238							
SMLT				*e*S	Sg	05 44 41.3	+0.1
baz=238							
SSLB	**Suanglung**	**0.89**	**238**	*e*Pg	Pb	05 44 29.2	-0.3
SSLB	**Suanglung**	**0.89**	**238**	P	Pb	05 44 29.3	-0.3
baz=238							
NCUH	**Zhongli**	**0.89**	**323**	*e*P	Pn	05 44 30.3	-0.3
baz=322							
NCUH				*e*S	Sn	05 44 42.5	-0.7
baz=322							
NCU	**National Centr**	**0.89**	**323**	*e*P	Pn	05 44 30.6	0.0
baz=318							
NCU				*e*S	Sn	05 44 42.8	-0.5
baz=318							
SBCB	**Hsinchu**	**0.90**	**307**	*e*P	Pn	05 44 30.7	+0.1
baz=306							
SBCB				*e*S	Sn	05 44 42.5	-0.8
baz=306							
TWS1	**Kuangyinshan**	**0.90**	**339**	P	Pn	05 44 30.4	-0.3
baz=339							
TWS1				S	Sg	05 44 42.2	+0.4
baz=339							
YM01	**YM01**	**0.91**	**348**	P	Pg	05 44 30.3	+0.3
baz=347							
YM01				*e*S	Sg	05 44 42.0	+0.1
baz=347							
TYC	**Yuchr**	**0.91**	**248**	⇑*i*P	Pg	05 44 30.0	-0.1
baz=246							
HSN	**Hsinchu**	**0.91**	**307**	*e*P	Pn	05 44 30.6	-0.2
baz=300							
HSN				*e*S	Sn	05 44 43.0	-0.8
baz=300							
YM10	**YM10**	**0.92**	**348**	P	Pg	05 44 30.4	+0.1
baz=347							
YM10				S	Sg	05 44 42.4	+0.1
baz=347							
YM11	**YM11**	**0.92**	**349**	P	Pg	05 44 30.4	0.0
baz=348							
YM07	**YM07**	**0.93**	**351**	P	Pg	05 44 30.4	0.0
baz=342							
YM07				*e*S	Sb	05 44 41.9	-0.5
baz=342							
NSY	**Sanyi**	**0.94**	**280**	*e*P	Pn	05 44 31.6	+0.4
baz=279							
NSY				S	Sn	05 44 43.6	-0.9
baz=279							
NMLH	**Miaoli**	**0.94**	**287**	*e*P	Pn	05 44 32.1	+0.9
baz=295							
NMLH				*e*S	Sg	05 44 43.2	+0.2
baz=295							
YM08	**YM08**	**0.94**	**350**	⇑P	Pb	05 44 30.5	-0.1
baz=349							
YM08				*e*S	Sb	05 44 42.3	-0.6
baz=349							
NTST	**Danshui**	**0.95**	**342**	*e*P	Pg	05 44 30.9	0.0
baz=341							
NTST				*e*S	Sn	05 44 44.7	0.0
baz=341							
ANP	**Anpu**	**0.95**	**346**	*e*P	Pb	05 44 30.5	-0.4
baz=346							
YULB	**Yu-li**	**0.97**	**207**	*e*Pg	Pb	05 44 30.7	-0.3
YULB	**Yu-li**	**0.97**	**207**	*e*P	Pb	05 44 30.0	-1.0
baz=217							
YULB				*e*S	Sg	05 44 44.4	+0.6
baz=217							
PTSB	**Yuanli**	**0.99**	**281**	*e*P	Pn	05 44 32.9	+1.0
baz=281							
PTSB				*e*S	Sn	05 44 45.3	-0.6
baz=281							
TWF1	**Yuli**	**1.00**	**206**	*e*P	Pb	05 44 30.1	-1.5
baz=217							
TWF1				*e*S	Sg	05 44 45.3	+0.4
baz=217							
TCU	**Taichung**	**1.01**	**264**	*e*P	Pn	05 44 32.8	+0.7
baz=263							
WHYT	**Xinyi Township**	**1.01**	**237**	*e*P	Pn	05 44 32.2	0.0
baz=236							
WDJ	**Dajia District**	**1.04**	**275**	*e*P	Pg	05 44 33.6	+1.0
baz=275							
WJS	**Zhushan**	**1.05**	**246**	*e*P	Pg	05 44 33.8	+1.1
baz=238							
WNT	**Mingjian**	**1.07**	**250**	*e*P	Pg	05 44 33.5	+0.5
baz=240							
JYNG	**Yonagunijimaku**	**1.08**	**79**	P	Pg	05 44 33.6	+0.2
WCHH	**Zhanghua**	**1.13**	**261**	*e*P	Pg	05 44 34.7	+0.5
baz=261							
YOJ	**Yonaguni jima**	**1.14**	**79**	*e*Pn	Pb	05 44 34.2	+0.2
YOJ	**Yonaguni jima**	**1.14**	**79**	⇓P	Pg	05 44 34.5	-0.1
baz=67							
YOJ				*e*S	Sg	05 44 50.9	+1.4
baz=67							
YOJ	**Yonaguni jima**	**1.14**	**79**	P	Pg	05 44 34.5	-0.1
YOJ				*e*S	Sg	05 44 51.0	+1.5
CHN5	**Tsauling**	**1.20**	**237**	*e*P	Pg	05 44 35.9	+0.2
baz=238							
CHN5				*e*S	Sg	05 44 52.5	+1.2
baz=238							
CHKT	**Chengkung**	**1.21**	**198**	*e*P	Pn	05 44 34.3	-0.6
baz=186							
WGK	**Gukeng**	**1.25**	**243**	*e*P	Pg	05 44 36.4	-0.1
baz=243							
WDLH	**Douliu**	**1.27**	**244**	*e*P	Pg	05 44 36.9	+0.1
baz=232							
WDLH				*e*S	Sg	05 44 54.4	+1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=232						
ELDTW	**Lidau**	**1.27**	**213**	*e*P	**Pn**	**05 44 35.1**	**-0.7**
	baz=201						
RLNB	**Erlin**	**1.34**	**255**	*e*P	**Pb**	**05 44 37.7**	**+0.3**
	baz=255						
RLNB				*e*S	**Sg**	**05 44 56.3**	**+0.4**
	baz=255						
PCYT	**Pengchaiyu**	**1.39**	**11**	*e*P	**Pn**	**05 44 37.5**	**0.0**
	baz=8.0						
PCYT				*e*S	**Sb**	**05 44 56.3**	**+0.4**
	baz=8.0						
CHN4	**Tsaushan**	**1.41**	**230**	*e*P	**Pg**	**05 44 39.2**	**-0.4**
	baz=232						
TPUB	**Ta-pu**	**1.42**	**228**	*e*Pn	**Pg**	**05 44 39.2**	**-0.5**
TPUB	**Ta-pu**	**1.42**	**228⇓**	*e*P	**Pg**	**05 44 39.3**	**-0.5**
	baz=230						
TPUB				*e*S	**Sg**	**05 44 58.7**	**+0.5**
	baz=230						
WTCT	**Ta-ch'eng**	**1.42**	**254**	*e*P	**Pn**	**05 44 37.9**	**+0.1**
	baz=271						
STYT	**Tauyuan**	**1.43**	**221**	*e*P	**Pb**	**05 44 38.7**	**-0.3**
	baz=222						
CHY	**Chiayi**	**1.45**	**239**	*e*P	**Pb**	**05 44 39.6**	**+0.4**
	baz=226						
WTP	**Ta-pu**	**1.47**	**227**	⇓P	**Pb**	**05 44 39.8**	**+0.3**
	baz=228						
TWK	**Hsinying**	**1.54**	**230⇑**	*e*P	**Pb**	**05 44 41.1**	**+0.3**
	baz=232						
WSF	**Szhu**	**1.55**	**247**	*e*P	**Pb**	**05 44 40.2**	**-0.7**
	baz=248						
SNST	**Tainan City**	**1.56**	**229**	*e*P	**Pb**	**05 44 41.2**	**+0.1**
	baz=231						
CHN1	**Nanshi**	**1.56**	**227**	*e*P	**Pb**	**05 44 41.3**	**+0.1**
	baz=230						
TWGBT	**Beinan**	**1.57**	**204**	*e*P	**Pn**	**05 44 39.9**	**0.0**
	baz=192						
TWG	**Pinlang**	**1.57**	**204**	*e*Pn	**Pn**	**05 44 38.7**	**-1.2**
TWG	**Pinlang**	**1.57**	**204**	*e*P	**Pn**	**05 44 39.0**	**-0.9**
	baz=192						
SGST	**Jiashian**	**1.60**	**223**	*e*P	**Pb**	**05 44 41.1**	**-0.7**
	baz=225						
SLGT	**Liugui**	**1.63**	**220**	*e*P	**Pb**	**05 44 41.8**	**-0.5**
	baz=222						
CHN8	**Yiju**	**1.70**	**238**	*e*P	**Pn**	**05 44 42.2**	**+0.6**
	baz=224						
IRIF	**Iriomote-Funau**	**1.79**	**87**	P	**Pn**	**05 44 43.0**	**+0.2**
IRIF				*e*S	**Sb**	**05 45 06.8**	**-0.3**
ECL	**Taimali**	**1.82**	**205**	*e*P	**Pb**	**05 44 44.9**	**-0.5**
	baz=194						
HATJ	**Hateruma jima**	**1.86**	**96**	P	**Pn**	**05 44 44.7**	**+0.8**
TWM1	**Shoushan**	**1.89**	**221**	*e*P	**Pb**	**05 44 46.2**	**-0.6**
	baz=224						
MASBT	**Mashibuluo**	**1.94**	**213**	*e*P	**Pn**	**05 44 46.0**	**+0.9**
	baz=217						
JKRS	**Kuro-shima**	**2.04**	**90**	P	**Pn**	**05 44 47.4**	**+1.1**
JKRS				*e*S	**Sb**	**05 45 13.4**	**-1.1**
SSPT	**Xinbi**	**2.08**	**212**	*e*P	**Pb**	**05 44 49.7**	**-0.3**
	baz=199						
PNG	**Penghu**	**2.15**	**252**	*e*P	**Pn**	**05 44 48.2**	**+0.4**
	baz=252						
PHUB	**P'eng-hu**	**2.15**	**250**	*e*P	**Pn**	**05 44 48.2**	**+0.4**
	baz=252						
PHUB				*e*S	**Sn**	**05 45 14.8**	**+0.6**
	baz=252						
SCZT	**Fangliau**	**2.16**	**210**	*e*P	**Pb**	**05 44 49.7**	**-1.6**
	baz=197						
JIJ	**Ishigaki jima**	**2.16**	**87**	P	**Pn**	**05 44 48.1**	**+0.1**
JIJ				*e*S	**Sn**	**05 45 15.2**	**+0.6**
WDGT	**Dungji**	**2.18**	**243⇑**	*e*P	**Pn**	**05 44 49.1**	**+0.9**
	baz=245						
WDGT				*e*S	**Sn**	**05 45 16.4**	**+1.4**
	baz=245						
PTTC	**Pingtan**	**2.20**	**305⇑**	*e*P	**Pn**	**05 44 47.8**	**-0.8**
	baz=304						
VWUC	**VWUC**	**2.24**	**290⇑**	*e*P	**Pn**	**05 44 49.0**	**-0.1**
	baz=289						
WLCH	**Liuqiu**	**2.29**	**214**	*e*P	**Pb**	**05 44 52.1**	**-1.5**
	baz=220						
JISG	**Ishigakijimahi**	**2.33**	**81**	P	**Pn**	**05 44 50.5**	**+0.1**
JISG				*e*S	**Sn**	**05 45 19.8**	**+1.0**
VCHM	**Qimei**	**2.39**	**245**	*e*P	**Pn**	**05 44 51.5**	**+0.4**
	baz=231						
TWK1	**Hengchun**	**2.47**	**201**	*e*P	**Pn**	**05 44 53.8**	**+1.5**
	baz=192						
TWKBT	**Hengchun**	**2.47**	**201**	*e*P	**Pn**	**05 44 53.7**	**+1.4**
	baz=193						
TSEB	**Hengchuen, Pin**	**2.48**	**199**	*e*P	**Pb**	**05 44 55.0**	**-1.8**
	baz=193						
MATB	**Ma-tsu**	**2.51**	**319**	*e*P	**Pn**	**05 44 52.4**	**-0.4**
	baz=318						
PTMZ	**Houxiangcun**	**2.54**	**288**	*e*P	**Pn**	**05 44 52.9**	**-0.3**
	baz=289						
PTMZ				*e*S	**Sn**	**05 45 23.4**	**-0.6**
	baz=289						
JTJ	**Tarama**	**2.69**	**81**	P	**Pn**	**05 44 56.2**	**+0.9**
LYJJ	**Jianjiangzhen**	**2.92**	**322**	*e*P	**Pn**	**05 44 58.5**	**0.0**
	baz=321						
QZH	**Quanzhou**	**2.98**	**284⇓**	*i*Pn	**Pn**	**05 44 59.3**	**+0.1**
QZH				Sn	**Sn**	**05 45 34.1**	**-0.6**
XPSS	**Dashiqiu**	**3.02**	**332**	*e*P	**Pn**	**05 44 59.6**	**-0.3**
	baz=330						
KNM	**Kinmen**	**3.05**	**274**	*e*P	**Pn**	**05 45 02.5**	**+2.2**
	baz=273						
MHZQ	**Yeshan**	**3.09**	**307**	*e*P	**Pn**	**05 45 00.4**	**-0.4**
	baz=306						
KNMB	**Chin-men Tao**	**3.10**	**275**	*e*Pn	**Pn**	**05 45 00.6**	**-0.3**
KNMB	**Chin-men Tao**	**3.10**	**275⇑**	*e*P	**Pn**	**05 45 00.7**	**-0.1**
	baz=274						
JIKM	**Ikemajima**	**3.23**	**77**	P	**Pn**	**05 45 03.9**	**+1.2**
JMJ	**Miyako jima 2**	**3.25**	**79**	*e*P	**Pn**	**05 45 05.0**	**+2.0**
	baz=76						
AXDP	**Jialang**	**3.52**	**281⇑**	*e*P	**Pn**	**05 45 06.9**	**+0.2**
	baz=281						
ZPLA	**Ao Xicun**	**3.69**	**266**	*e*P	**Pn**	**05 45 09.7**	**+0.6**
	baz=264						
ZZJH	**Jiuhuzhen**	**3.79**	**274**	*e*P	**Pn**	**05 45 10.8**	**+0.4**
	baz=274						
JOW	**Kunigami**	**6.41**	**65**	*e*Pn	**Pn**	**05 45 44.9**	**-1.4**
JOW	**Kunigami**	**6.41**	**65**	*e*P	**Pn**	**05 45 46.7**	**+0.3**
	baz=59						
WHN	**Wuhan**	**9.10**	**315**	*e*P	**Pn**	**05 46 25.3**	**+2.0**
WHN				S	**Sn**	**05 48 12.1**	**+6.6**
WHN				LR	LR		
	comp=N,1μm,9.8s						
WHN				LR	LR		
	comp=E,880nm,11.6s						
WHN				LR	LR		
	comp=Z,1μm,9.6s						
KSRS	**Korea Array**	**14.17**	**20**	P	**P**	**05 47 39.0**	**-1.1**
	0.1nm,0.3s,baz=200,slow=12,SNR=7.8						
XAN	**Xi'an**	**14.86**	**314**	P	P	05 47 53.4	+5.5
LZH	**Lanzhou**	**19.44**	**311**	*e*P	**Pn**	**05 48 43.6**	**+3.7**
LZH				pP	sP	05 48 48.1	+3.3
LZH				sP	pP	05 48 50.8	+8.0
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
CN2	**Changchun**	**19.73**	**8**	*e*P	**Pn**	**05 48 44.5**	**+1.4**
CMAR	**Chiang Mai Arr**	**22.02**	**259**	P	**P**	**05 49 08.4**	**+1.8**
	1.0nm,0.3s,baz=76,slow=7.5,SNR=2.9						
GUMO	**Guam**	**24.25**	**112**	LR	LR	05 56 19.8	
	comp=Z,24nm,21.1s,baz=46,slow=30						
KLR	**Kul'dur**	**26.13**	**15**	P	**P**	**05 49 46.8**	**+0.9**
	0.9nm,0.5s,baz=187,slow=4.3,SNR=4.7						
MKAR	**Makanchi Array**	**38.66**	**316**	P	**P**	**05 51 35.6**	**0.0**
	0.8nm,0.5s,baz=108,slow=9.9,SNR=4.4						
WRA	**Warramunga Arr**	**45.60**	**163**	P	**P**	**05 52 31.0**	**-1.4**
	0.6nm,0.6s,baz=344,slow=8.7,SNR=4.3						
ASAR	**Alice Springs**	**49.07**	**165**	P	**P**	**05 53 00.6**	**+1.3**
	0.2nm,0.4s,baz=334,slow=6.2,SNR=3.3						
ILAR	**Eielson Array**	**68.90**	**27**	P	**P**	**05 55 16.0**	**-0.5**
	0.3nm,0.8s,baz=291,slow=7.6,SNR=3.3						
FINES	**FINESS Array B**	**71.66**	**330**	P	**P**	**05 55 32.3**	**-1.1**
	0.9nm,0.8s,baz=60,slow=8.2,SNR=4.5						
AKASG	**Malin Array Be**	**73.17**	**318**	P	**P**	**05 55 41.1**	**-1.6**
	0.6nm,0.5s,baz=56,slow=6.9,SNR=3.0						
BRTR	**Keskin Array B**	**73.56**	**307**	P	**P**	**05 55 44.9**	**-0.5**
	1.1nm,0.8s,baz=92,slow=6.2,SNR=6.7						
YKA	**Yellowknife Ar**	**82.69**	**23**	P	**P**	**05 56 33.8**	**-1.5**
	0.4nm,0.5s,baz=310,slow=5.1,SNR=16						

IDC 17 05:52:32.3±4.3, 48°.79S×164°.65E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/19, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=98.7km s-min=40.7km az=166.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**6.74**	**44**	Pn	Pn	05 54 12.7	+0.2
	1.0nm,0.3s,baz=299,slow=1.4,SNR=3.6						
RPZ				Sn	Sn	05 55 20.6	-9.5
	1.9nm,0.3s,baz=222,slow=24,SNR=5.7						
ASAR	**Alice Springs**	**34.86**	**305**	P	P	05 59 25.6	+0.4
	0.8nm,0.7s,baz=137,slow=8.3,SNR=8.0						
WRA	**Warramunga Arr**	**37.68**	**309**	P	P	05 59 48.8	-0.6
	0.6nm,0.6s,baz=138,slow=7.9,SNR=6.5						
BRTR	**Keskin Array B**	**144.31**	**274**	PKP	PKPdf	06 12 09.2	-0.7
	1.1nm,0.8s,baz=141,slow=4.8,SNR=4.5						

*IDC **17** 06:01:53.0±0.6, 31°.43N×86°.59E, h0km, mb4.2/24, mb1 4.3/27, mb1mx4.2/54, mbtmp4.2/27, ML3.9/2, MS3.6/19, Ms1 3.6/19, ms1mx3.5/39, Error ellipse: s-maj=14.6km s-min=12.9km az=50.0*

*ISCJB **17** 06:01:53.0±0.2, 31°.44N±0°.03×86°.34E±0°.03, h10km, mb4.4/51, MS3.8/26, Error ellipse: s-maj=4.1km s-min=3.1km az=8.5*

*MOS **17** 06:01:55.9±1.3, 31°.49N×86°.44E, h26km, mb4.7/24, Error ellipse: s-maj=8.3km s-min=4.8km az=108.0*

*BJI **17** 06:01:55.0±0.0, 31°.56N×86°.44E, h7km, mb4.4/36, mB4.7/30, Ms4.4/33, Ms7 4.1/29*

*NEIC **17** 06:01:57.6±1.9, 31°.48N×86°.51E, h28km±4km, mb4.4/27, Error ellipse: s-maj=17.1km s-min=12.8km az=210.0*

*NDI **17** 06:01:58.4±3.0, 31°.26N×86°.34E, h10km, ML4.3, mb4.4(NEIC)*

ISC 17 06:01:55.4±0.3, 31°.41N±0°.04×86°.37E±0°.03, h10km, n174, σ2.9 26/178, mb4.5/51, MS3.7/27, 6C-8D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.46**	**111**	*e*Pn	**Pn**	**06 03 06.8**	**+3.2**
LSA	**Lhasa**	**4.46**	**111**	*e*P	**Pn**	**06 03 06.8**	**+3.2**
JOSI	**Joshimath**	**5.91**	**263**	*e*P	**Pn**	**06 03 25.6**	**+2.5**
JOSI				*e*S	**Sn**	**06 04 28.0**	**-3.1**
JOSI				IAML		06 04 47.3	
	comp=E,377nm,0.3s						
JOSI				IAML		06 04 50.0	
	comp=N,452nm,0.8s						
DDI	**Dehra Dun**	**7.23**	**264**	*e*P	**Pn**	**06 03 44.5**	**+3.3**
DDI				*e*S	**Sn**	**06 04 59.7**	**-3.6**
DDI				IAML		06 05 14.2	
DDI				IAML		06 05 15.5	
	comp=E,144nm,0.6s						
SHL	**Shillong**	**7.58**	**139**	*e*Pn	**Pn**	**06 03 46.0**	**0.0**
SHL	**Shillong**	**7.58**	**139**	*e*P	**Pn**	**06 03 46.1**	**0.0**
SHL	**Shillong**	**7.58**	**139**	*e*P	**Pn**	**06 03 46.5**	**+0.4**
BOK	**Bokaro**	**7.60**	**183**	*e*P	**Pn**	**06 03 47.3**	**+1.1**
BOK				*e*S	**Sn**	**06 05 07.0**	**-5.4**
SMLA	**Simla**	**7.88**	**270**	*e*P	**Pn**	**06 03 52.2**	**+2.2**
SMLA				*e*S	**Sn**	**06 05 17.0**	**-2.3**
SMLA				IAML		06 05 29.8	
	comp=N,226nm,0.9s						
SMLA				IAML		06 05 32.2	
	comp=E,48nm,0.8s						
NDI	**New Delhi**	**8.38**	**253**	*e*P	**Pn**	**06 03 58.0**	**+1.0**
NDI				*e*S	**Sn**	**06 05 27.0**	**-4.7**
DHRM	**DHARAMSHALA**	**8.61**	**278**	*e*P	**Pn**	**06 04 02.2**	**+2.0**
DHRM				*e*S	**Sn**	**06 05 35.0**	**-2.5**
DHRM				IAML		06 06 33.3	
	comp=N,25μm,1.8s						
DHRM				IAML		06 06 35.3	
	comp=E,23nm,0.5s						
SONA	**Sohna**	**8.65**	**251**	*e*P	**Pn**	**06 04 00.7**	**0.0**
SONA				*e*S	Sn	06 05 30.9	-7.4
KUDL	**Kundal**	**9.18**	**252**	*e*x	Pn	06 04 03.2	-4.7
KUDL				*e*S	Sn	06 05 43.3	-8.0
KHET	**Khetri**	**9.76**	**253**	*e*P	**Pn**	**06 04 16.5**	**+0.6**
KHET				*e*S	**Sn**	**06 06 00.1**	**-5.6**
BRDH	**Bariadhala**	**9.89**	**150**	LR	LR	06 07 59.4	
	comp=E,71nm,20.3s,baz=75,slow=37						
CHCP	**Chirah Chowk**	**11.28**	**285**	P	**Pn**	**06 04 37.5**	**+0.8**
NIL	**Nilore**	**11.29**	**285**	*e*Pn	**Pn**	**06 04 37.0**	**+0.2**
NIL				*e*Sn	**Sn**	**06 06 41.5**	**-1.6**
NIL	**Nilore**	**11.29**	**285**	*e*P	**Pn**	**06 04 37.0**	**+0.2**
NIL				*e*		06 06 41.5	
BHPL	**Bhopal**	**11.37**	**226**	*e*P	**Pn**	**06 04 37.2**	**-0.7**
BHPL				*e*S	Sn	06 06 34.2	-11
SARP	**Sargodha**	**11.68**	**276**	P	**Pn**	**06 04 41.8**	**-0.3**
KSH	**Kashi**	**11.71**	**317**	P	**Pn**	**06 04 47.3**	**+4.7**
KSH				pP		06 04 53.1	
KSH				PP	**PnPn**	**06 04 57.5**	**+7.1**
KSH				S	**Sn**	**06 06 58.3**	**+4.9**
KSH				SS	**SnSn**	**06 07 12.8**	**+7.4**
KSH				pmax	pmax		
	comp=E,20nm,0.9s						
KSH				pmax	pmax		
	comp=E,140nm,3.7s						
KSH				LR	LR		
	comp=E,440nm,5.3s						
KSH				LR	LR		
	comp=E,410nm,6.0s						
KSH				LR	LR		
	comp=E,690nm,6.5s						
TARG	**Taragay, Kyrgy**	**12.38**	**329**	*e*Pn	**Pn**	**06 04 53.6**	**+1.6**
CEP	**Cherat**	**12.42**	**285**	P	**Pn**	**06 04 52.1**	**-0.3**
WMQ	**Urumqi**	**12.43**	**4**	*e*P	**Pn**	**06 04 52.5**	**+0.1**
WMQ				pP		06 04 59.1	
WMQ				sP		06 05 05.5	
WMQ				pmax	pmax		
	comp=E,29nm,1.1s						
WMQ				pmax	pmax		
	comp=E,240nm,4.9s						
WMQ				LR	LR		
	comp=E,2μm,13.1s						
WMQ				LR	LR		
	comp=E,1μm,17.1s						
WMQ	**Urumqi**	**12.43**	**4**	*e*Pn	**Pn**	**06 04 52.3**	**-0.2**
WMQ	**Urumqi**	**12.43**	**4**	*e*P	**Pn**	**06 04 52.3**	**-0.2**
THW	**Thamme Wali**	**12.48**	**280**	P	**Pn**	**06 04 52.7**	**-0.4**
NRN	**Naryn**	**13.02**	**323**	*e*Pn	**Pn**	**06 05 04.2**	**+3.5**
NRN	**Naryn**	**13.02**	**323**	*e*P	**Pn**	**06 05 04.2**	**+3.5**
PDGK	**Podgornoye**	**13.09**	**337**	P	**Pn**	**06 05 01.5**	**+0.1**
PDGK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
GTA	**Gaotai**	**13.55**	**50**	*e*P	Pn	06 05 05.3	-2.5
GTA				pP	P	06 05 09.9	-7.1
GTA				sP		06 05 12.4	
GTA				S	**Sn**	**06 07 36.0**	**-2.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,93nm,6.6s						
GTA				LR	LR		
	comp=Z,940nm,15.8s						
GTA				LR	LR		
	comp=Z,900nm,12.0s						
GTA				LR	LR		
	comp=Z,1μm,12.0s						
AAK	**Ala-Archa**	**14.66**	**323⇑**	*e*P	**Pn**	**06 05 25.4**	**+2.4**
AAK	**Ala-Archa**	**14.66**	**323**	Pn	**Pn**	**06 05 24.6**	**+1.6**
	baz=148,slow=15,SNR=2.4						
KBL	**Kabul**	**14.87**	**287**	*e*Pn	Pn	06 05 23.1	-2.9
KBL				*e*Sn	**Sn**	**06 08 07.2**	**-3.7**
KBL	**Kabul**	**14.87**	**287**	*e*P	Pn	06 05 23.1	-2.8
KBL				*e*		06 08 07.2	
GAR	**Garm**	**15.13**	**304**	*e*Pn	**Pn**	**06 05 25.7**	**-3.7**
	comp=Z,23nm,0.9s						
GAR	**Garm**	**15.13**	**304**	*e*P	**Pn**	**06 05 25.7**	**-3.7**
GAR				pmax	pmax		
	comp=Z,23nm,0.9s						
LZH	**Lanzhou**	**15.27**	**68**	*e*P	**Pn**	**06 05 35.4**	**+4.3**
LZH				pP	P	06 05 38.9	+2.8
LZH				sP	pP	06 05 41.3	+0.9
LZH				S	**Sn**	**06 08 28.9**	**+8.5**
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,180nm,4.9s						
LZH				LR	LR		
	comp=Z,690nm,10.8s						
LZH				LR	LR		
	comp=Z,1μm,11.1s						
LZH				LR	LR		
	comp=Z,1μm,11.9s						
HYB	**Hyderabad**	**15.63**	**209**	*i*P	**P**	**06 05 43.5**	**+3.4**
HYB				*e*S	**Sn**	**06 08 37.5**	**+8.2**
HYB	**Hyderabad**	**15.63**	**209**	*e*P	**Pn**	**06 05 38.9**	**+3.0**
MK31	**Makanchi Array**	**15.68**	**350**	*e*Pn	**Pn**	**06 05 34.6**	**-1.8**
	comp=Z,7.7nm,1.0s						
MK31	**Makanchi Array**	**15.68**	**350**	*e*P	**Pn**	**06 05 34.6**	**-1.8**
MK31				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MK32	**Makanchi Array**	**15.68**	**350**	*e*Pn	**Pn**	**06 05 34.9**	**-1.5**
MKAR	**Makanchi Array**	**15.68**	**350**	*e*Pn	**Pn**	**06 05 34.0**	**-2.4**
MKAR	**Makanchi Array**	**15.68**	**350**	Pn	**Pn**	**06 05 34.9**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=167,slow=14,SNR=12						
MAKZ	**Makanchi**	**15.74**	**349**	*e*Pn	**Pn**	**06 05 35.6**	**-1.6**
	comp=Z,11nm,1.0s						
MAKZ	**Makanchi**	**15.74**	**349**	*e*P	**Pn**	**06 05 35.6**	**-1.6**
MAKZ				pmax	pmax		
	comp=Z,11nm,1.0s						
CHTO	**Chiang Mai**	**16.92**	**135**	P	**Pn**	**06 05 54.3**	**+1.9**
CMMT	**Chiang Mai**	**16.93**	**135**	P	P	06 06 02.6	+8.2
	comp=Z,3.4nm,0.9s						
POO	**Poona**	**17.11**	**224**	*e*P	**Pn**	**06 05 55.6**	**+0.9**
KK31	**Karatay Array**	**17.16**	**317**	*e*P	**Pn**	**06 05 57.0**	**+1.8**
	comp=Z,5.5nm,1.0s						
KK31	**Karatay Array**	**17.16**	**317**	*e*P	**Pn**	**06 05 57.0**	**+1.8**
KK31				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KKAR	**Karatay Array**	**17.16**	**317**	*e*P	**Pn**	**06 05 57.4**	**+2.2**
KKAR	**Karatay Array**	**17.16**	**317**	*e*P	**Pn**	**06 05 57.4**	**+2.2**
CM31	**Chiang Mai Arr**	**17.20**	**136**	*e*Pn	**Pn**	**06 05 53.0**	**-2.8**
	comp=Z,13nm,1.1s						
CMAR	**Chiang Mai Arr**	**17.20**	**136**	*e*Pn	**Pn**	**06 05 56.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**17.20**	**136**	*e*P	**Pn**	**06 05 56.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**17.20**	**136**	P	**Pn**	**06 05 53.0**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=312,slow=12,SNR=10						
DGZ	**Jazzator, Alta**	**18.29**	**2**	*c*eP	**Pn**	**06 06 09.8**	**+0.5**
DGZ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GYA	**Guiyang**	**18.43**	**100**	P	**Pn**	**06 06 09.8**	**-1.4**
GYA				pP	P	06 06 13.8	+2.6
GYA				PP	**PnPn**	**06 06 24.9**	**+2.2**
GYA				S	**Sn**	**06 09 33.3**	**-4.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,80nm,4.5s						
GYA				LR	LR		
	comp=Z,610nm,11.2s						
GYA				LR	LR		
	comp=Z,190nm,13.9s						
GYA				LR	LR		
	comp=Z,400nm,11.8s						
SLVN	**Son La**	**18.62**	**118**	*e*P	**P**	**06 06 14.4**	**+1.2**
	comp=Z,13nm,1.3s						
MDRS	**Chennai**	**19.11**	**199**	*e*P	**P**	**06 06 18.2**	**-0.2**
DGPR	**DIGLIPUR**	**19.13**	**160**	*e*P	**P**	**06 06 20.0**	**+1.4**
XAN	**Xi'an**	**19.15**	**76**	P	**P**	**06 06 16.3**	**-2.7**
XAN				pP	pP	06 06 25.6	+2.3
XAN				S	**Sn**	**06 09 54.3**	**-0.2**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
XAN				pmax	pmax		
	comp=Z,81nm,6.4s						
XAN				LR	LR		
	comp=Z,240nm,9.8s						
XAN				LR	LR		
	comp=Z,690nm,9.5s						
XAN				LR	LR		
	comp=Z,530nm,13.7s						
OTUK	**Ortayu**	**19.91**	**332**	P	**P**	**06 06 27.5**	**+0.4**
OTUK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KURBB	**Kurchatov Arra**	**20.06**	**345**	P	**P**	**06 06 28.1**	**-0.5**
	comp=Z,17nm,0.9s,baz=161,slow=10,SNR=78						
KURK	**Kurchatov**	**20.13**	**346**	*e*P	**P**	**06 06 28.3**	**-1.1**
	comp=Z,56nm,1.3s						
KURK	**Kurchatov**	**20.13**	**346**	*d i*P	**P**	**06 06 28.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,56nm,1.4s						
NONG	**Nongkai**	**20.18**	**127**	P	**P**	**06 06 32.3**	**+2.1**
	comp=Z,0.3nm,1.1s						
CHAI	**Chaiyaphum**	**21.01**	**134**	P	**P**	**06 06 40.5**	**+1.3**
	comp=Z,26μm,1.1s,comp=Z,517μm						
BTO	**Baotou**	**21.17**	**58**	*e*P	**P**	**06 06 37.3**	**-3.6**
SKNT	**Sakolnakorn**	**21.51**	**128**	P	**P**	**06 06 50.6**	**+6.0**
	comp=Z,10nm,0.5s						
PANO	**Nakornpanom**	**21.82**	**126**	P	**P**	**06 06 48.5**	**+0.6**
	comp=Z,0.3nm,0.9s,comp=Z,19nm						
HHC	**Hu-ho-hao-te**	**22.36**	**58**	*e*P	**P**	**06 06 53.0**	**-0.7**
HHC				pP	pP	06 07 00.8	+2.7
HHC				sS	S	06 11 05.4	+5.8
HHC				ScP	**ScP**	**06 14 22.8**	**-3.6**
HHC				pmax	pmax		
	comp=Z,58nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,4.2s						
HHC				LR	LR		
	comp=Z,360nm,10.9s						
HHC				LR	LR		
	comp=Z,460nm,11.2s						
HHC				LR	LR		
	comp=Z,420nm,11.7s						
SONA0	**Songino Array**	**22.41**	**37**	*e*P	**P**	**06 06 52.9**	**-1.3**
SONM	**Songino Array**	**22.41**	**37**	*e*P	**P**	**06 06 53.0**	**-1.2**
SONM	**Songino Array**	**22.41**	**37**	*e*P	**P**	**06 06 53.6**	**-0.6**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**22.41**	**37**	P	**P**	**06 06 52.9**	**-1.3**
	comp=Z,5.2nm,0.9s,baz=228,slow=12,SNR=23						
SONM				LR	LR	06 16 24.3	
	comp=Z,259nm,21.0s,baz=206,slow=39						
ZAA0	**Zalesovo Array**	**22.55**	**358**	*e*P	**P**	**06 06 55.1**	**-0.3**
	comp=Z,20nm,1.1s						
ZALV	**Zalesovo Beam**	**22.55**	**358**	*e*P	**P**	**06 06 54.8**	**-0.6**
ZALV	**Zalesovo Beam**	**22.55**	**358**	*e*P	**P**	**06 06 55.3**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZALV	**Zalesovo Beam**	**22.55**	**358**	P	**P**	**06 06 54.2**	**-1.3**
	comp=Z,7.9nm,0.9s,baz=183,slow=10.0,SNR=20						
ZALV				LR	LR	06 16 32.7	
	comp=Z,85nm,21.2s,baz=254,slow=39						
ZAA1	**Zalesovo Array**	**22.56**	**358**	*e*P	**P**	**06 06 54.2**	**-1.3**
ZAK	**Zakamensk**	**22.76**	**29**	*e*P	**P**	**06 06 56.6**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
ULN	**Ulaanbaatar**	**22.78**

SNY LR LR
comp=Z,240nm,9.6s
ARU Arti 31.64 330 *d iP* **P 06 08 19.4 +1.0**
ARU 06 09 18.7
ARU S **S 06 13 27.6 +0.2**
ARU SS **SnSn 06 15 12.1 -1.0**
ARU pmax pmax
comp=Z,8.0nm,1.3s
ARU Arti 31.64 330 LR LR 06 22 11.5
comp=Z,106nm,18.3s,baz=154,slow=38
MAK Makhachkala 32.76 302 *eP* **P 06 08 27.2 -1.3**
MAK *eS* **S 06 13 42.4 -2.8**
MAK MLR MLR
comp=Z,161nm,14.0s
CN2 Changchun 33.04 57 *eP* **P 06 08 29.8 -1.1**
CN2 *eS* **S 06 13 47.3 -2.3**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,400nm,15.1s
KS15 Wonju Array Si 34.56 68 *eP* P 06 08 41.0 -3.2
comp=Z,7.4nm,1.0s
KSRS Korea Array 34.59 68 *eP* P 06 08 42.2 -2.2
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS Korea Array 34.59 68 P P 06 08 41.0 -3.5
comp=Z,1.0nm,0.5s,baz=271,slow=8.6,SNR=4.6
KSRS LR LR 06 23 23.3
comp=Z,90nm,19.0s,baz=268,slow=38
GNI Garni 34.62 296 LR LR 06 25 07.5
comp=Z,78nm,20.1s,baz=69,slow=40
KBZ Khabaz 36.19 302 LR LR 06 26 07.1
comp=Z,177nm,18.6s,baz=84,slow=40
KIV Kislovodsk 36.36 303 *eP* P 06 08 57.7 -2.0
KIV pmax pmax
comp=Z,18nm,0.9s
KIV MLR MLR
comp=Z,233nm,16.0s
USA0B Ussuriysk Arra 37.78 57 *eP* **P 06 09 10.2 -1.4**
comp=Z,10nm,1.0s
USA0B Ussuriysk Arra 37.78 57 *eP* **P 06 09 10.2 -1.4**
USA0B pmax pmax
comp=Z,10.0nm,1.0s
USRK Ussuriysk Ar. 37.78 57 P **P 06 09 10.2 -1.4**
comp=Z,7.9nm,0.9s,baz=252,slow=8.7,SNR=12
USRK LR LR 06 25 13.5
comp=Z,175nm,18.5s,baz=244,slow=37
NRIK Noril'sk 37.98 1 P **P 06 09 12.5 -0.5**
comp=Z,5.5nm,0.6s,baz=170,slow=8.3,SNR=6.0
NRIK LR LR 06 26 58.1
comp=Z,222nm,19.5s,baz=162,slow=40
KLR Kul'dur 38.25 49⇑ *eP* **P 06 09 14.5 -1.1**
KLR pmax pmax
comp=Z,12nm,1.5s
OBN Obninsk 42.13 319⇓ *eP* **P 06 09 49.8 +2.2**
OBN *e* 06 11 26.2
OBN *eS* S 06 16 00.7 -6.5
OBN pmax pmax
comp=Z,12nm,0.7s
OBN MLR MLR
comp=Z,50nm,18.0s
KLMR Klimovskoe 42.40 328 *eP* **P 06 09 49.4 -0.3**
KLMR pmax pmax
comp=Z,8.0nm,1.3s
MJAR Matsushiro Arr 42.87 69 LR LR 06 29 14.9
comp=Z,64nm,19.7s,baz=240,slow=38
BRTR Keskin Array B 43.16 296 LR LR 06 31 15.7
comp=Z,32nm,18.8s,baz=87,slow=41
EIL Elat 43.98 282 LR LR 06 31 08.8
comp=Z,94nm,18.5s,baz=70,slow=40
YSS Yuzh-Sakhalins 45.41 53 *eP* **P 06 10 14.4 +0.3**
YSS MLR MLR
comp=Z,500nm,15.0s
AKASG Malin Array Be 45.95 312 P **P 06 10 17.9 -0.4**
comp=Z,0.2nm,0.3s,baz=80,slow=7.0,SNR=3.5
AKASG LR LR 06 32 36.1
comp=Z,76nm,18.1s,baz=70,slow=40
AKBB Malin Array Si 45.95 312 *eP* **P 06 10 18.3 -0.1**
comp=Z,2.1nm,0.6s
AKBB Malin Array Si 45.95 312 *eP* **P 06 10 18.3 -0.1**
AKBB pmax pmax
comp=Z,2.0nm,0.6s
TIXI Tiksi 46.24 17 *eP* **P 06 10 19.1 -1.3**
comp=Z,8.6nm,1.4s
TIXI Tiksi 46.24 17⇑ *eP* **P 06 10 19.3 -1.1**
TIXI pmax pmax
comp=Z,12nm,1.8s
MLR Muntele Rosu 48.28 305 *eP* **P 06 10 38.4 +1.6**
comp=Z,7.1nm,1.0s
MLR Muntele Rosu 48.28 305 *eP* **P 06 10 38.4 +1.6**
MLR pmax pmax
comp=Z,7.0nm,1.0s
MLR Muntele Rosu 48.28 305 P **P 06 10 37.7 +0.9**
comp=Z,5.9nm,1.1s,baz=147,slow=3.8,SNR=5.2
FIA0 FINESS Array S 48.82 326 *eP* **P 06 10 40.6 +0.1**
FIA0 FINESS Array S 48.82 326 *eP* **P 06 10 40.6 +0.1**
FINES FINESS Array B 48.82 326 P **P 06 10 40.6 +0.1**
comp=Z,1.5nm,0.5s,baz=110,slow=8.9,SNR=9.9
FINES LR LR 06 32 08.1
comp=Z,59nm,18.5s,baz=36,slow=37
MA2 Magadan 50.62 36⇑ *eP* **P 06 10 53.8 -0.5**
MA2 pmax pmax
comp=Z,13nm,1.2s
ARA0 ARCESS Array S 50.81 337 *eP* **P 06 10 55.2 -0.4**
ARCES ARCESS Array B 50.81 337 *eP* **P 06 10 57.1 +1.5**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 50.81 337 P **P 06 10 55.2 -0.4**
comp=Z,2.0nm,0.8s,baz=110,slow=8.2,SNR=5.8
SEY Seymchan 51.67 32⇑ *iP* **P 06 11 01.9 -0.2**
VRAC Vranov 54.16 311 P **P 06 11 22.3 +1.6**
comp=Z,2.9nm,0.4s,baz=293,slow=0.4,SNR=3.5
PEA1 Petropavlovsk- 54.64 44 *eP* **P 06 11 22.5 -1.6**
PETK Petropavlovsk- 54.64 44 P **P 06 11 22.5 -1.6**
comp=Z,1.3nm,0.8s,baz=253,slow=12,SNR=3.4
PETK LR LR 06 36 57.8
comp=Z,108nm,20.9s,baz=269,slow=39
SPA0 Spitsbergen Ar 55.40 346 *eP* **P 06 11 27.9 -1.4**
comp=Z,21nm,1.1s
SPITS Spitsbergen Ar 55.40 346 P **P 06 11 27.8 -1.5**
comp=Z,6.1nm,0.9s,baz=70,slow=12,SNR=2.9
NB200 NORSAR Array S 55.97 325 *eP* **P 06 11 32.8 -0.8**
NOA NORSAR Array B 55.97 325 P **P 06 11 32.8 -0.8**
comp=Z,0.9nm,0.6s,baz=85,slow=7.1,SNR=4.5
NOA LR LR 06 36 18.0
comp=Z,44nm,18.1s,baz=75,slow=37
GEC2 GERESS Array S 56.11 311 *eP* **P 06 11 35.5 +0.6**
comp=Z,2.6nm,0.8s
GEC2 GERESS Array S 56.11 311 *eP* **P 06 11 35.5 +0.6**
GEC2 pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 56.11 311 P **P 06 11 35.8 +0.9**
comp=Z,1.9nm,0.9s,baz=74,slow=7.2,SNR=6.1
GERES LR LR 06 37 04.2
comp=Z,55nm,20.2s,baz=86,slow=38
KMBO Kilima Mbogo 56.67 245 *eP* **P 06 11 41.4 +1.9**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 56.67 245 P **P 06 11 40.3 +0.8**
comp=Z,1.2nm,0.3s,baz=33,slow=9.5,SNR=5.8
KMBO LR LR 06 36 25.0
comp=Z,51nm,18.1s,baz=96,slow=36
BILL Bilibino 57.53 26 *eP* **P 06 11 44.3 -0.3**
comp=Z,5.8nm,1.0s
BILL Bilibino 57.53 26⇓ *iP* **P 06 11 44.2 -0.3**
BILL *e* 06 12 37.3
BILL *e* 06 13 50.5
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,102nm,16.0s
MBAR Mbarara 61.49 250 *eP* **P 06 12 13.9 +1.0**
comp=Z,6.6nm,0.8s
MBAR Mbarara 61.49 250 *eP* **P 06 12 13.9 +1.0**
MBAR pmax pmax
comp=Z,7.0nm,0.8s
WR1 Warramunga Arr 68.74 131 *eP* **P 06 12 58.0 -1.6**
WRA Warramunga Arr 68.74 131 P **P 06 12 58.0 -1.6**
comp=Z,1.7nm,0.5s,baz=324,slow=6.1,SNR=15
SUMG Summit 69.67 345 *eP* **P 06 13 04.7 -0.5**
comp=Z,7.4nm,0.8s
SUMG Summit 69.67 345 *eP* **P 06 13 04.7 -0.5**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
AS31 Alice Springs 71.20 134 *eP* **P 06 13 13.1 -1.7**
comp=Z,1.4nm,1.2s
ASAR Alice Springs 71.20 134 *eP* **P 06 13 13.0 -1.7**
ASAR Alice Springs 71.20 134 P **P 06 13 13.2 -1.5**
comp=Z,3.3nm,1.0s,baz=311,slow=5.4,SNR=16
TOLK Toolik Lake Re 72.11 19 *eP* **P 06 13 18.9 -0.8**
comp=Z,4.4nm,0.8s
ILAR Eielson Array 75.56 21 P **P 06 13 38.3 -1.6**
comp=Z,0.9nm,0.7s,baz=304,slow=5.4,SNR=12
ILB Eielson Array 75.56 21 *eP* **P 06 13 38.5 -1.4**
comp=Z,3.6nm,1.4s
INK Inuvik 76.26 14 *eP* **P 06 13 42.9 -0.8**
comp=Z,4.9nm,1.3s
INK Inuvik 76.26 14 *eP* **P 06 13 42.9 -0.8**
INK pmax pmax
comp=Z,5.0nm,1.3s
TOA1 Torodi Ar. Sit 78.78 279 *eP* **P 06 13 57.2 -1.6**
TORD Torodi Ar. Bea 78.78 279 P **P 06 13 57.2 -1.6**
comp=Z,2.1nm,1.1s,baz=58,slow=5.0,SNR=6.8
YKA Yellowknife Ar 84.91 10 *eP* **P 06 14 28.5 -1.8**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 84.91 10 P P 06 14 28.3 -2.0
comp=Z,1.0nm,0.8s,baz=338,slow=5.1,SNR=11
YKB5 Yellowknife Ar 84.91 10 *eP* P 06 14 28.3 -2.0
GLK Glacier Lake 98.37 19 *eP* P 06 15 30.4 -3.3
OTAV Otavalo 145.39 333 *e*PKPbc **PKPbc 06 21 34.1 -0.6**
OTAV Otavalo 145.39 333 *e*PKIKP **PKPbc 06 21 34.1 -0.6**
CPUP Villa Florida 147.90 270 *e*PKPbc **PKPdf 06 21 40.2 +2.1**
CPUP Villa Florida 147.90 270 PKPbc **PKPdf 06 21 41.5 +3.3**
comp=Z,1.9nm,0.9s,baz=92,slow=6.0,SNR=3.4

IDC ***17*** *06:08:45.2±0.7,21°.01S×174°.01W,h0km,mb4.2/14, mb1 4.4/15,mb1mx4.4/25,mbtmp4.2/15,ML4.2/1,MS3.4/4, Ms1 3.4/4,ms1mx3.1/33,Error ellipse: s-maj=28.0km s-min=17.7km az=134.0*
NEIC ***17*** *06:08:47.3±2.3,20°.89S×173°.97W,h9km±3km,mb4.6/27, Error ellipse: s-maj=20.7km s-min=7.5km az=128.0*
ISCJB ***17*** *06:08:48.4±0.3,20°.91S±0°.06×174°.13W±0°.08,h26km, mb4.4/35,MS3.4/3,Error ellipse: s-maj=12.2km s-min=6.6km az=38.0*
ISC 17 06:08:49.8±0.5,20°.93S±0°.09×174°.0W±0°.1,h26km,n78, σ1§14/71,mb4.5/35,MS3.4/3,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.26**	**65**	*e*Pn	Pn		Pn	06 09 44.0	-9.1
NIUE				*e*Sn	Sn		Sn	06 10 29.9	-12
RAO	**Raoul Island**	**9.01**	**202**	*e*Pn	**Pn**		**Pn**	**06 10 57.8**	**-0.4**
RAO	**Raoul Island**	**9.01**	**202**	LR	LR		LR	06 14 22.9
comp=Z,120nm,19.4s,baz=148,slow=38									
RAR	**Rarotonga**	**13.30**	**94**	Pn	Pn		Pn	06 11 46.0	-11
4.0nm,0.3s,baz=267,slow=7.5,SNR=6.7									
RAR				LR	LR		LR	06 16 42.8
comp=Z,235nm,18.9s,baz=280,slow=36									
MARNC	**Mare, Loyalty**	**16.75**	**265**	*e*Pn	**P**		**Pn**	**06 12 45.1**	**+0.3**
106nm,1.3s									
PINNC	**Pines Island,**	**17.30**	**261**	*e*P	**P**		**P**	**06 12 52.6**	**+1.8**
66nm,1.1s									
DZM	**Mont Dzumac**	**18.22**	**263**	*e*P	**P**		**P**	**06 13 05.4**	**+4.2**
60nm,1.1s									
DZM				*e*LR	LR		LR	06 17 25.9
comp=Z,168nm,22.1s									
DZM	**Mont Dzumac**	**18.22**	**263**	*e*Pn	**P**		**P**	**06 13 02.8**	**+1.6**
8.9nm,0.7s									
DZM	**Mont Dzumac**	**18.22**	**263**	P	**P**		**P**	**06 13 02.8**	**+1.6**
0.5nm,0.3s,baz=94,slow=20,SNR=5.6									
URZ	**Urewera**	**18.90**	**202**	*e*P	**Pn**		**Pn**	**06 13 10.6**	**+1.5**
27nm,1.1s									
URZ	**Urewera**	**18.90**	**202**	P	**Pn**		**Pn**	**06 13 08.4**	**-0.7**
0.8nm,0.3s,baz=353,slow=1.9,SNR=6.2									
BKZ	**Black Stump Fm**	**19.92**	**202**	*e*P	**Pn**		**Pn**	**06 13 20.8**	**-0.7**
25nm,1.5s									
BFZ	**Birch Farm**	**21.36**	**201**	*e*P	**P**		**P**	**06 13 36.0**	**+0.9**
27nm,1.2s									
PPT2	**Papeete2**	**23.30**	**86**	*e*LR	LR		LR	06 19 21.1
comp=Z,137nm,21.5s									
PPT	**Papeete**	**23.31**	**86**	LR	LR		LR	06 20 38.5
comp=Z,96nm,21.3s,baz=302,slow=31									
KHZ	**Kahutara**	**23.85**	**203**	*e*P	**P**		**P**	**06 14 02.3**	**+1.4**
42nm,1.3s									
OXZ	**Oxford**	**25.19**	**204**	*e*P	**P**		**P**	**06 14 14.1**	**+0.8**
14nm,0.8s									
FOZ	**Fox Glacier**	**26.27**	**207**	*e*P	**P**		**P**	**06 14 24.4**	**+1.4**
58nm,1.0s									
WHZ	**Wether Hill Ro**	**28.96**	**207**	*e*P	P			06 14 51.4	+4.4
15nm,1.2s									
STKA	**Stephens Creek**	**40.98**	**245**	*e*P	**P**		**P**	**06 16 29.9**	**-0.8**
1.1nm,1.0s									
STKA	**Stephens Creek**	**40.98**	**245**	P	**P**		**P**	**06 16 29.2**	**-1.5**
3.9nm,0.8s,baz=90,slow=6.6,SNR=5.9									
BBOO	**Buckleboo**	**45.71**	**244**	*e*P	**P**		**P**	**06 17 07.5**	**-1.4**
27nm,1.5s									
AS31	**Alice Springs**	**48.05**	**257**	*e*P	**P**		**P**	**06 17 26.1**	**-1.3**
2.2nm,1.0s									
ASAR	**Alice Springs**	**48.05**	**257**	P	**P**		**P**	**06 17 26.1**	**-1.2**
7.6nm,1.0s,baz=86,slow=8.5,SNR=37									
WB2	**Warramunga Arr**	**48.22**	**262**	*e*P	**P**		**P**	**06 17 27.7**	**-1.0**
7.4nm,0.9s									
WR1	**Warramunga Arr**	**48.23**	**262**	*e*P	**P**		**P**	**06 17 27.1**	**-1.6**
WRA	**Warramunga Arr**	**48.23**	**262**	P	**P**		**P**	**06 17 27.1**	**-1.6**
2.0nm,0.7s,baz=97,slow=8.3,SNR=11									
FORT	**Forrest**	**52.55**	**247**	*e*P	**P**		**P**	**06 18 00.5**	**-0.8**
17nm,0.8s									
FITZ	**Fitzroy Crossi**	**56.66**	**262**	*e*P	**P**		**P**	**06 18 31.0**	**-0.3**
9.1nm,1.4s									
VNDA	**Vanda**	**57.85**	**186**	*e*P	**P**		**P**	**06 18 37.8**	**-1.0**
VNDA	**Vanda**	**57.85**	**186**	P	**P**		**P**	**06 18 37.4**	**-1.4**
0.7nm,0.8s,baz=90,slow=2.0,SNR=2.0									
SOEI	**Soe**	**60.24**	**271**	*e*P	**P**		**P**	**06 18 57.1**	**+0.7**
29nm,0.9s									
TNTI	**Ternate**	**61.18**	**283**	*e*P	**P**		**P**	**06 19 02.4**	**-0.4**
44nm,1.1s									
MORW	**Morawa**	**63.11**	**247**	*e*P	**P**		**P**	**06 19 15.7**	**+0.1**
12nm,1.1s									
QSPA	**South Pole Qui**	**69.14**	**180**	*e*P	**P**		**P**	**06 19 55.4**	**+1.7**
12nm,1.1s									
MJAR	**Matsushiro Arr**	**72.82**	**321**	P	**P**		**P**	**06 20 15.2**	**-1.0**
0.9nm,0.4s,baz=172,slow=6.2,SNR=5.8									
MAJO	**Matsushiro**	**72.82**	**321**	*e*P	**P**		**P**	**06 20 15.2**	**-1.0**
PETK	**Petropavlovsk-**	**77.70**	**343**	*e*P	**P**		**P**	**06 20 44.9**	**+0.9**
PETK	**Petropavlovsk-**	**77.70**	**343**	P	**P**		**P**	**06 20 44.1**	**+0.1**
4.1nm,0.8s,baz=126,slow=11,SNR=5.7									
PEA1	**Petropavlovsk-**	**77.71**	**343**	*e*P	**P**		**P**	**06 20 44.1**	**+0.1**
YERR	**Yerington**	**78.60**	**41**	*e*P	**P**		**P**	**06 20 49.8**	**+0.3**
5.1nm,1.2s									
NV01	**Mina Array Sit**	**78.83**	**41**	*e*P	**P**		**P**	**06 20 50.4**	**-0.5**
NVAR	**Mina Array Bea**	**78.83**	**41**	*e*P	**P**		**P**	**06 20 51.1**	**+0.3**
NVAR	**Mina Array Bea**	**78.83**	**41**	P	**P**		**P**	**06 20 50.4**	**-0.5**
2.7nm,0.8s,baz=229,slow=8.8,SNR=15									
NV11	**Mina Array Sit**	**78.92**	**41**	*e*P	**P**		**P**	**06 20 51.6**	**+0.4**
0.4nm,1.1s									
KSRS	**Korea Array**	**79.72**	**317**	P	**P**		**P**	**06 20 56.5**	**+1.1**
0.8nm,0.8s,baz=151,slow=5.6,SNR=4.7									
MOD	**Moc Plateau**	**79.82**	**38**	*e*P	**P**		**P**	**06 20 56.6**	**+0.5**
4.4nm,1.4s									
WVOR	**Wild Horse Val**	**81.11**	**38**	*e*P	**P**		**P**	**06 21 04.2**	**+1.2**
4.2nm,1.1s									
USRK	**Ussuriysk Ar.**	**81.46**	**324**	*e*P	**P**		**P**	**06 21 07.5**	**+2.9**
USRK	**Ussuriysk Ar.**	**81.46**	**324**	P	**P**		**P**	**06 21 06.3**	**+1.8**
2.1nm,0.8s,baz=149,slow=4.4,SNR=5.4									
GLK	**Glacier Lake**	**82.16**	**33**	*e*P	**P**		**P**	**06 21 08.5**	**+0.1**
WPW	**White Pass**	**82.28**	**33**	*e*P	**P**		**P**	**06 21 08.5**	**-0.5**
BMO	**Blue Mountains**	**83.38**	**37**	*e*P	**P**		**P**	**06 21 15.0**	**+0.2**
2.2nm,1.0s									
F10A	**Beach Ranch, E**	**84.11**	**36**	*e*P	**P**		**P**	**06 21 18.3**	**-0.2**
7.1nm,1.1s									
SRU	**San Rafael Swe**	**84.17**	**44**	*e*P	**P**		**P**	**06 21 20.7**	**+1.6**
4.6nm,1.1s									
TXAR	**Lajitas Array**	**84.18**	**56**	P	**P**		**P**	**06 21 20.1**	**+0.9**
0.5nm,0.8s,baz=190,slow=6.4,SNR=4.9									
HLID	**Hailey**	**84.26**	**39**	*e*P	**P**		**P**	**06 21 19.5**	**+0.1**
PDAR	**Pinedale Array**	**86.76**	**42**	P	**P**		**P**	**06 21 31.1**	**-0.8**
0.5nm,0.7s,baz=228,slow=3.8,SNR=4.4									
ILAR	**Eielson Array**	**87.95**	**11**	P	**P**		**P**	**06 21 36.8**	**-0.1**
1.0nm,1.0s,baz=241,slow=4.4,SNR=4.7									
NNA	**Nana**	**92.35**	**104**	LR	LR		LR	06 51 06.6
comp=Z,18nm,21.6s,baz=104,slow=28									
CMAR	**Chiang Mai Arr**	**93.78**	**288**	P	**P**		**P**	**06 22 05.2**	**0.0**
2.5nm,0.3s,baz=95,slow=2.5,SNR=6.4									
YKA	**Yellowknife Ar**	**95.37**	**24**	P	**P**		**P**	**06 22 11.1**	**-0.2**
0.4nm,0.8s,baz=238,slow=4.5,SNR=9.3									
YKB5	**Yellowknife Ar**	**95.37**	**24**	*e*P	**P**		**P**	**06 22 11.2**	**-0.2**
BVAR	**Borovoye Array**	**121.80**	**320**	PKP	**PKPdf**		**PKPdf**	**06 27 40.6**	**-0.7**
0.7nm,0.6s,baz=174,slow=3.0,SNR=3.8									
AKASG	**Malin Array Be**	**145.11**	**334**	*e*PKPbc	**PKPbc**		**PKPbc**	**06 28 23.7**	**-0.6**
AKASG	**Malin Array Be**	**145.11**	**334**	PKPbc	**PKPbc**		**PKPbc**	**06 28 23.6**	**-0.7**
4.9nm,0.7s,baz=40,slow=4.5,SNR=19									
AKBB	**Malin Array Si**	**145.11**	**334**	*e*PKPbc	**PKPbc**		**PKPbc**	**06 28 23.7**	**-0.6**
KIEV	**Kiev**	**145.12**	**334**	*e*PKPbc	**PKPbc**		**PKPbc**	**06 28 23.7**	**-0.6**
ILGA	**Ilgaz**	**149.10**	**317**	*e*PKPbc	**PKiKP**		**PKiKP**	**06 28 37.5**	**0.0**
CLL	**Collm**	**149.19**	**351**	*i* PKPbc	**PKiKP**		**PKiKP**	**06 28 36.5**	**-0.5**
comp=Z,10.0nm,1.2s									
CLL				*e*				06 28 48.0
CLL				LmV				06 36 00.0
comp=Z,100nm,20.5s									
BR101	**Keskin Array S**	**149.84**	**315**	*e*PKPbc	**PKiKP**		**PKiKP**	**06 28 38.5**	**-0.4**
BR131	**Keskin Array S**	**149.84**	**315**	*e*PKPbc	**PKPbc**		**PKPbc**	**06 28 37.7**	**-0.3**
BRTR	**Keskin Array B**	**149.84**	**315**	*e*PKPbc	**PKPbc**		**PKPbc**	**06 28 37.7**	**-0.3**
BRTR	**Keskin Array B**	**149.84**	**315**	PKPbc	**PKiKP**		**PKiKP**	**06 28 38.5**	**-0.4**
comp=Z,2.7nm,0.9s,baz=132,slow=3.5,SNR=12									
ASF	**Jabal al Asfar**	**150.27**	**299**	PKPbc	**PKiKP**		**PKiKP**	**06 28 39.5**	**-0.5**
comp=Z,1.5nm,0.7s,baz=290,slow=1.0,SNR=5.7									
KHC	**Kasperske Hory**	**151.21**	**350**	*e*PKPbc	**PKiKP**		**PKiKP**	**06 28 41.2**	**-0.2**
GEC2	**GERESS Array S**	**151.47**	**349**	*e*PKPbc	**PKPbc**		**PKPbc**	**06 28 41.4**	**-0.1**
GERES	**GERESS Array B**	**151.47**	**349**	PKPbc	**PKPbc**		**PKPbc**	**06 28 39.0**	**-2.5**
comp=Z,1.2nm,0.7s,baz=24,slow=1.6,SNR=8.1									

DJA 17 06:09:45.7±0.8,0°S±5°×12°3E±°,h137km±10km,M3.6/6, MLv3.6/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.92**	**204**		P		Pn	06 10 09.0	+0.5
LUWI					S		Sn	06 10 29.7	+3.8
KMSI	**Cibinong**	**1.13**	**47**		P		Pn	06 10 11.3	+0.8
MRSI	**Marisa**	**1.38**	**299**		P		Pn	06 10 12.7	-0.3
MRSI					S		Sn	06 10 34.9	+1.0
APSI	**Ampana**	**1.66**	**245**		P		Pn	06 10 17.1	+1.0
APSI					S		Sn	06 10 39.7	+0.4
SANI	**Sanana**	**3.38**	**123**		P		Pn	06 10 36.8	-0.7
SANI					S		Sn	06 11 15.6	-2.0
TTSI	**Tana Toraja**	**4.37**	**230**		P		Pn	06 10 50.5	0.0

ISCJB ***17*** *06:09:49.6±0.5,58°.10N±0°.03×17°.47E±0°.06,h0km,Error ellipse: s-maj=4.8km s-min=3.9km az=31.2*
BER ***17*** *06:09:50.3±3.6,57°.84N×17°.56E,h0km±58km, ML2.1(NAO)*
UPP ***17*** *06:09:50.3±0.1,58°.11N×17°.44E,h0km,ML1.7,Explosion*
HEL ***17*** *06:09:51.1±0.1,58°.11N×17°.45E,h0km,ML2.3, ML1.7(UPP),Explosion*
NAO ***17*** *06:09:54.2±2.2,58°.37N×17°.40E,ML2.1*
IDC ***17*** *06:09:55.2±2.1,58°.45N×17°.43E,h0km,mb1 3.0/4, mb1mx2.9/43,mbtmp2.9/4,ML2.3/4,Error ellipse: s-maj=24.1km s-min=7.8km az=8.0*
ISC 17 06:09:49.9±0.9,58°.12N±0°.03×17°.47E±0°.03,h0km,n45, σ1§29/57,Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VIKU	**Vikbolandet**	**0.56**	**314**		P		**Pg**	**06 10 00.9**	**+0.3**
VIKU					S		**Sg**	**06 10 08.5**	**+0.6**
VIKU	**Vikbolandet**	**0.56**	**314**	*i* P			**Pg**	**06 10 00.9**	**+0.3**
VIKU				*i* S			**Sg**	**06 10 08.5**	**+0.6**
VSTU	**Vaestervik**	**0.68**	**228**		P		**Pg**	**06 10 03.0**	**+0.1**
VSTU					S		**Sg**	**06 10 11.8**	**+0.1**
VSTU	**Vaestervik**	**0.68**	**228**	*i* P			**Pg**	**06 10 03.0**	**+0.1**
VSTU				*i* S			**Sg**	**06 10 11.8**	**+0.1**
GOTU	**Gotland**	**0.73**	**126**		P		**Pg**	**06 10 04.2**	**+0.4**
GOTU	**Gotland**	**0.73**	**126**	*i* P			**Pg**	**06 10 04.2**	**+0.4**
ASPU	**Aespoe**	**0.84**	**214**		P		**Pg**	**06 10 06.1**	**+0.1**
ASPU	**Aespoe**	**0.84**	**214**	*i* P			**Pg**	**06 10 06.1**	**+0.1**
BYXU	**Byxelkrok**	**0.87**	**197**		P		**Pg**	**06 10 06.4**	**-0.1**
BYXU	**Byxelkrok**	**0.87**	**197**	*i* P			**Pg**	**06 10 06.4**	**-0.1**
NYNU	**Nynaeshamn**	**0.93**	**17**		P		**Pg**	**06 10 08.0**	**+0.3**
NYNU	**Nynaeshamn**	**0.93**	**17**	*e*P			**Pg**	**06 10 08.0**	**+0.3**
LNKU	**Linkoeping**	**1.05**	**277**		P		**Pg**	**06 10 09.5**	**-0.5**
LNKU	**Linkoeping**	**1.05**	**277**	*e*P			**Pg**	**06 10 09.5**	**-0.5**
OSKU	**Oskarshamn**	**1.19**	**219**		P		**Pg**	**06 10 12.3**	**-0.3**
OSKU	**Oskarshamn**	**1.19**	**219**	*e*P			**Pg**	**06 10 12.3**	**-0.3**
ESKU	**Eskilstuna**	**1.25**	**334**		P		**Pg**	**06 10 13.8**	**0.0**
ESKU	**Eskilstuna**	**1.25**	**334**	*e*P			**Pg**	**06 10 13.8**	**0.0**
EKSU	**Eksjoe**	**1.28**	**246**		P		**Pg**	**06 10 13.8**	**-0.6**
EKSU	**Eksjoe**	**1.28**	**246**	*e*P			**Pg**	**06 10 13.8**	**-0.6**
AAL	**Aland**	**2.44**	**31**	*e*P			**Pn**	**06 10 32.5**	**+1.5**
AAL				*e*SB			**Sb**	**06 11 05.5**	**+0.3**
HFS	**Hagfors**	**2.81**	**318**		Pn		**Pn**	**06 10 38.1**	**+2.1**
baz=136,slow=14									
HFS					Lg		Lg	06 11 14.1
baz=145,slow=37									
HFS	**Hagfors**	**2.81**	**318**		Pn		**Pn**	**06 10 37.9**	**+2.0**
1.4nm,0.3s,baz=134,slow=15,SNR=83									
HFS					Lg		Lg	06 11 13.1
3.6nm,0.3s,baz=144,slow=32,SNR=21									
HFS	**Hagfors**	**2.81**	**318**		Pn		**Pn**	**06 10 38.1**	**+2.1**
baz=136,slow=14									
HFS					Sn		**Sb**	**06 11 14.1**	**-1.7**
baz=145,slow=37									
STRU	**Stroemstad**	**3.42**	**288**	*e*P			**Pn**	**06 10 46.2**	**+1.8**
RAF	**Rauma**	**3.64**	**35**	*e*P			**Pn**	**06 10 48.6**	**+1.2**
NC602	**NORSAR Array S**	**4.01**	**313**	*e*P			**Pn**	**06 10 53.6**	**+1.2**
NRA0	**NORESS Array S**	**4.01**	**313**	Pn			**Pn**	**06 10 54.0**	**+1.5**
baz=122,slow=12									
NRA0					Sn		**Sn**	**06 11 41.1**	**+1.1**
baz=135,slow=22									
NRA0					Lg		Lg	06 11 54.6
baz=130,slow=22									
NRA0	**NORESS Array S**	**4.01**	**313**	Pn			**Pn**	**06 10 54.0**	**+1.5**
baz=122,slow=12									
NRA0					Sn		**Sn**	**06 11 41.1**	**+1.1**
baz=135,slow=22									
MEF	**Metsahovi**	**4.14**	**57**	MSG				06 12 02.3

ML2.4(UPP), Explosion
IDC 17 06:11:32.2±2.1, 58°.58N×17°.42E, h0km, mb1 3.5/4, mb1mx3.1/43, mbtmp3.4/4, ML3.0/4, Error ellipse: s-maj=24.4km s-min=8.3km az=5.0
NAO 17 06:11:32.0±2.2, 58°.56N×17°.41E, ML2.6
ISC 17 06:11:26.7±0.9, 58°.14N±0°.03×17°.43E±0°.03, h0km, n27, σ1§40/35, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIKU	**Vikbolandet**	**0.53**	**313**	P	**Pg**	**06 11 36.5**	**-0.3**
VIKU				S	**Sg**	**06 11 43.5**	**-0.2**
VIKU	**Vikbolandet**	**0.53**	**313**	*i* P	**Pg**	**06 11 36.5**	**-0.3**
VIKU				*i* S	**Sg**	**06 11 43.5**	**-0.2**
VSTU	**Vaestervik**	**0.68**	**225**	P	**Pg**	**06 11 39.6**	**-0.1**
VSTU	**Vaestervik**	**0.68**	**225**	*i* P	**Pg**	**06 11 39.6**	**-0.1**
GOTU	**Gotland**	**0.76**	**127**	P	**Pg**	**06 11 40.6**	**-0.7**
GOTU	**Gotland**	**0.76**	**127**	*i* P	**Pg**	**06 11 40.6**	**-0.7**
ASPU	**Aespoe**	**0.85**	**212**	P	**Pg**	**06 11 42.6**	**-0.4**
ASPU	**Aespoe**	**0.85**	**212**	*i* P	**Pg**	**06 11 42.6**	**-0.4**
BYXU	**Byxelkrok**	**0.89**	**195**	P	**Pg**	**06 11 43.1**	**-0.5**
BYXU	**Byxelkrok**	**0.89**	**195**	*i* P	**Pg**	**06 11 43.1**	**-0.5**
NYNU	**Nynaeshamn**	**0.91**	**19**	P	**Pg**	**06 11 43.6**	**-0.6**
NYNU	**Nynaeshamn**	**0.91**	**19**	*e*P	**Pg**	**06 11 43.6**	**-0.6**
AAL	**Aland**	**2.43**	**32**	*e*P	**Pn**	**06 12 08.0**	**+0.4**
AAL				*e*S	**Sn**	**06 12 37.7**	**-0.2**
HFS	**Hagfors**	**2.77**	**318**	Pn	**Pn**	**06 12 13.7**	**+1.4**
	baz=140,slow=14						
HFS				Lg	Lg	06 12 48.8	
	baz=138,slow=28						
HFS	**Hagfors**	**2.77**	**318**	Pn	**Pn**	**06 12 13.6**	**+1.2**
	7.9nm,0.3s,baz=132,slow=16,SNR=29						
HFS				Lg	Lg	06 12 48.4	
	18nm,0.3s,baz=126,slow=30,SNR=17						
RAF	**Rauma**	**3.63**	**35**	*e*P	**Pn**	**06 12 24.9**	**+0.9**
RAF				*e*S	**Sn**	**06 13 07.4**	**-0.2**
NRA0	**NORESS Array S**	**3.98**	**313**	Pn	**Pn**	**06 12 29.1**	**+0.3**
	baz=132,slow=12						
NRA0				Lg	Lg	06 13 30.1	
	baz=118,slow=28						
NB2	**NORSAR Subarra**	**4.29**	**315**	Pn	**Pn**	**06 12 34.8**	**+1.6**
	baz=134,slow=14						
NB2				Lg	Lg	06 13 39.1	
	baz=126,slow=37						
NOA	**NORSAR Array B**	**4.29**	**315**	Pn	**Pn**	**06 12 32.7**	**-0.5**
	0.1nm,0.3s,baz=132,slow=11,SNR=4.0						
NOA				Sn	**Sn**	**06 13 23.9**	**-0.1**
	0.2nm,0.3s,baz=292,slow=21,SNR=4.4						
NUR	**Nurmijrvi**	**4.39**	**54**	*e*P	**Pn**	**06 12 35.9**	**+1.4**
NUR				*e*SG	**Sb**	**06 13 41.9**	**+3.9**
NUR				MSG		06 13 46.3	
	comp=Z,3.9nm,0.2s						
FIA0	**FINESS Array S**	**5.47**	**49**	Pn	**Pn**	**06 12 50.8**	**+1.4**
	baz=227,slow=12						
FIA0				Sn	**Sn**	**06 13 51.1**	**-1.9**
	baz=242,slow=28						
FIA0				Lg	Lg	06 14 12.0	
	baz=238,slow=28						
FINES	**FINESS Array B**	**5.47**	**49**	Pn	**Pn**	**06 12 49.9**	**+0.5**
	comp=Z,2.9nm,0.3s,baz=237,slow=13,SNR=23						
FINES				Sn	**Sn**	**06 13 51.4**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=235,slow=22,SNR=4.5						
FINES				Lg	Lg	06 14 12.8	
	comp=Z,3.1nm,0.3s,baz=234,slow=27,SNR=8.1						
FIA1	**FINESS Array S**	**5.48**	**49**	*e*P	**Pn**	**06 12 51.0**	**+1.6**
FIA1				*e*S	**Sn**	**06 13 52.9**	**-0.1**
KAF	**Kangasniemi**	**5.96**	**44**	MSG		06 13 01.0	
	comp=Z,3.9nm,0.2s						
APA0	**Apatity Array**	**11.81**	**30**	Pn	**Pn**	**06 14 14.5**	**-1.6**
	baz=233,slow=11						
ARA0	**ARCESS Array S**	**11.96**	**14**	Pn	**Pn**	**06 14 14.7**	**-3.4**
	baz=196,slow=16						
ARCES	**ARCESS Array B**	**11.96**	**14**	Pn	**Pn**	**06 14 14.9**	**-3.2**
	comp=Z,0.5nm,0.3s,baz=197,slow=14,SNR=20						

BER 17 06:14:10.6±2.6, 57°.77N×17°.57E, h9km±54km, ML2.4(NAO)
ISCJB 17 06:14:10.1±0.5, 58°.09N±0°.03×17°.37E±0°.06, h0km, Error ellipse: s-maj=4.7km s-min=4.3km az=152.8
UPP 17 06:14:10.4±0.1, 58°.11N×17°.44E, h0km, ML2.3, Explosion
HEL 17 06:14:11.1±0.0, 58°.54N×16°.58E, h0km, ML2.5, Explosion
NAO 17 06:14:16.0±2.3, 58°.54N×17°.44E, ML2.4
IDC 17 06:14:16.9±2.2, 58°.56N×17°.43E, h0km, mb1 3.4/4, mb1mx3.1/43, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=23.2km s-min=8.2km az=5.0
ISC 17 06:14:10.1±0.8, 58°.05N±0°.04×17°.42E±0°.03, h0km, n32, σ1§90/44, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIKU	**Vikbolandet**	**0.59**	**320**	P	**Pg**	**06 14 20.9**	**-0.5**
VIKU				S	**Sg**	**06 14 28.4**	**-0.7**
VSTU	**Vaestervik**	**0.61**	**231**	P	**Pb**	**06 14 23.0**	**-0.7**
GOTU	**Gotland**	**0.72**	**120**	P	**Pg**	**06 14 24.2**	**+0.5**
ASPU	**Aespoe**	**0.77**	**215**	P	**Pb**	**06 14 26.1**	**-0.2**
BYXU	**Byxelkrok**	**0.80**	**196**	P	**Pb**	**06 14 26.5**	**-0.2**
NYNU	**Nynaeshamn**	**1.00**	**18**	P	**Pg**	**06 14 28.2**	**-1.1**
LNKU	**Linkoeping**	**1.03**	**280**	P	**Pg**	**06 14 29.6**	**-0.2**
OSKU	**Oskarshamn**	**1.11**	**220**	P	**Pb**	**06 14 32.2**	**0.0**
EKSU	**Eksjoe**	**1.23**	**248**	P	**Pg**	**06 14 33.7**	**0.0**
ESKU	**Eskilstuna**	**1.30**	**336**	P	**Pg**	**06 14 33.8**	**-1.2**
ASKU	**Askersund**	**1.60**	**303**	P	**Pn**	**06 14 39.3**	**-0.4**
NRTU	**Norrtaelje**	**1.75**	**21**	P	**Pn**	**06 14 41.6**	**0.0**
UPP	**Uppsala**	**1.81**	**3**	P	**Pn**	**06 14 42.9**	**+0.3**
AAL	**Aland**	**2.51**	**31**	*e*P	**Pn**	**06 14 51.4**	**-0.7**
AAL				*e*SG	**Sn**	**06 15 24.6**	**+1.3**
HFS	**Hagfors**	**2.84**	**319**	Pn	**Pn**	**06 14 58.0**	**+1.4**
	baz=135,slow=16						
HFS				Lg	Lg	06 15 33.8	
	baz=129,slow=28						
HFS	**Hagfors**	**2.84**	**319**	Pn	**Pn**	**06 14 57.9**	**+1.2**
	4.7nm,0.3s,baz=131,slow=15,SNR=7.4						
HFS				Lg	Lg	06 15 33.0	
	6.4nm,0.3s,baz=127,slow=24,SNR=6.6						
HFS	**Hagfors**	**2.84**	**319**	Pn	**Pn**	**06 14 58.0**	**+1.4**
	baz=135,slow=16						
HFS				Sn	**Sn**	**06 15 33.8**	**+2.3**
	baz=129,slow=28						
BSD	**Bornholm Skovb**	**3.25**	**206**	*i* P	**Pg**	**06 15 11.4**	**-1.0**
NRA0	**NORESS Array S**	**4.03**	**314**	Pn	**Pn**	**06 15 13.2**	**+0.1**
	baz=135,slow=12						
NRA0				Sn	**Sn**	**06 16 01.3**	**+0.3**
	baz=129,slow=18						
NRA0				Lg	Lg	06 16 14.7	
	baz=131,slow=28						
NRA0	**NORESS Array S**	**4.03**	**314**	Pn	**Pn**	**06 15 13.2**	**+0.1**
	baz=135,slow=12						
NRA0				Sn	**Sn**	**06 16 01.3**	**+0.3**
	baz=129,slow=18						
MEF	**Metsahovi**	**4.20**	**56**	*e*PB	**Pb**	**06 15 24.9**	**+0.1**
MEF				*e*SB	**Sb**	**06 16 19.4**	**+3.5**
MEF				MSG		06 16 22.2	
	comp=Z,7.4nm,0.2s						
NB2	**NORSAR Subarra**	**4.35**	**316**	Pn	**Pn**	**06 15 19.0**	**+1.5**
	baz=133,slow=16						
NB2				Lg	Lg	06 16 23.9	
	baz=131,slow=37						
NB2	**NORSAR Subarra**	**4.35**	**316**	Pn	**Pn**	**06 15 19.0**	**+1.5**
	baz=133,slow=16						
NOA	**NORSAR Array B**	**4.35**	**316**	Pn	**Pn**	**06 15 18.3**	**+0.8**
	baz=130,slow=14,SNR=2.2						
NOA				Sn	**Sn**	**06 16 06.7**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=318,slow=23,SNR=2.8						
NOA				Lg	Lg	06 16 22.7	
	comp=Z,0.3nm,0.3s,baz=123,slow=20,SNR=5.7						
NUR	**Nurmijrvi**	**4.45**	**53**	*e*PB	**Pb**	**06 15 29.3**	**+0.3**
NUR				*e*SB	**Sb**	**06 16 25.7**	**+2.5**
NUR				MSG		06 16 29.4	
	comp=Z,6.1nm,0.2s						
PVF	**Pernaja**	**5.00**	**56**	*e*SB	**Sb**	**06 16 42.3**	**+3.4**
FIA0	**FINESS Array S**	**5.54**	**48**	Pn	**Pn**	**06 15 34.0**	**+0.2**
	baz=228,slow=12						
FIA0				Sn	**Sn**	**06 16 34.5**	**-3.5**
	baz=245,slow=22						
FIA0				Lg	Lg	06 16 59.2	
	baz=241,slow=28						
FIA0	**FINESS Array S**	**5.54**	**48**	Pn	**Pn**	**06 15 34.0**	**+0.2**
	baz=228,slow=12						
FIA0				Sn	**Sn**	**06 16 34.5**	**-3.5**
	baz=245,slow=22						
FIA0				Sg	**Sb**	**06 16 59.2**	**+4.6**
	baz=241,slow=28						
FINES	**FINESS Array B**	**5.54**	**48**	Pn	**Pn**	**06 15 33.9**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=242,slow=11,SNR=4.2						
FINES				Sn	**Sn**	**06 16 36.2**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=237,slow=18,SNR=4.9						
FINES				Lg	Lg	06 17 00.3	
	comp=Z,1.9nm,0.3s,baz=242,slow=27,SNR=6.0						
ARA0	**ARCESS Array S**	**12.05**	**14**	Pn	**Pn**	**06 16 59.1**	**-3.7**
	baz=196,slow=22						
ARA0	**ARCESS Array S**	**12.05**	**14**	Pn	**Pn**	**06 16 59.1**	**-3.7**
	baz=196,slow=22						
ARCES	**ARCESS Array B**	**12.05**	**14**	Pn	**Pn**	**06 16 59.4**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=198,slow=14,SNR=3.1						

MEX 17 06:15:19.8±0.8, 13°.88N×92°.10W, h16km±35km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.03**	**351**	*i* P	Pb	06 15 36.5	-2.7
THIG				*i* S	Sb	06 15 48.2	-4.4
PCIG		**2.11**	**329**	*i* P	Pn	06 15 51.4	-3.1
PCIG				*i* S	Sn	06 16 15.8	-4.5
CCIG	**Comitan**	**2.38**	**359**	*e*P	Pn	06 15 55.8	-2.6
CCIG				*e*S	Sn	06 16 23.9	-3.5
TGIG		**3.04**	**341**	*e*P	Pn	06 16 05.2	-2.2
TGIG				*e*S	Sn	06 16 39.4	-4.1
CMIG	**Matias Romero**	**4.17**	**320**	*i* P	Pn	06 16 19.9	-3.0
CMIG				*i* S	Sn	06 17 07.2	-4.1

IDC 17 06:16:36.8±2.9, 28°.68S×62°.50E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.4/34, mbtmp3.8/2, Error ellipse: s-maj=88.2km s-min=55.4km az=48.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**58.62**	**41**	P	P	06 26 35.9	-0.1
	0.9nm,0.4s,baz=224,slow=7.6,SNR=3.7						
ASAR	**Alice Springs**	**63.42**	**104**	P	P	06 27 08.8	0.0
	0.3nm,0.6s,baz=246,slow=6.2,SNR=5.0						
YKA	**Yellowknife Ar**	**146.12**	**358**	PKPbc	PKPdf	06 36 17.3	0.0
	1.3nm,0.8s,baz=349,slow=3.5,SNR=26						

IDC 17 06:30:23.9±52.0, 15°.77S×172°.24W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.7/44, mbtmp4.3/3, Error ellipse: s-maj=1009.0km s-min=198.5km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.83**	**241**	P	P	06 38 40.1	+0.2
	1.1nm,0.5s,baz=90,slow=7.1,SNR=3.7						
WRA	**Warramunga Arr**	**50.85**	**257**	P	P	06 39 26.5	-0.4
	0.8nm,0.3s,baz=96,slow=7.3,SNR=34						
ASAR	**Alice Springs**	**51.06**	**252**	P	P	06 39 28.4	-0.1
	5.1nm,0.4s,baz=89,slow=8.1,SNR=103						

IDC 17 06:35:21.6±1.1, 31°.29N×86°.40E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/46, mbtmp3.7/13, ML4.1/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/59, Error ellipse: s-maj=42.2km s-min=16.5km az=59.0
ISCJB 17 06:35:24.8±0.5, 31°.30N±0°.08×86°.3E±0°.1, h33km, mb3.7/11, MS3.1/2, Error ellipse: s-maj=16.4km s-min=7.5km az=146.7
NEIC 17 06:35:26.2±2.0, 31°.36N×86°.32E, h27km±5km, mb4.1/3, Error ellipse: s-maj=24.8km s-min=11.2km az=64.0
ISC 17 06:35:27.2±0.7, 31°.4N±0°.1×86°.3E±0°.1, h35km, n33, σ0§92/30, mb3.7/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.51**	**110**	*e*Pn	**Pn**	**06 36 36.3**	**+2.8**
SHL	**Shillong**	**7.59**	**138**	*e*Pn	**Pn**	**06 37 16.1**	**+0.7**
NIL	**Nilore**	**11.24**	**285**	*e*Pn	**Pn**	**06 38 06.5**	**+1.1**
ARSB	**Arslanbob**	**14.61**	**317**	*e*Pn	**P**	**06 38 57.0**	**-0.4**
AAK	**Ala-Archa**	**14.66**	**323**	LR	LR	06 45 05.0	
	comp=Z,35nm,18.1s,baz=307,slow=40						
MK32	**Makanchi Array**	**15.72**	**350**	*e*Pn	**Pn**	**06 39 05.7**	**-0.2**
MKAR	**Makanchi Array**	**15.72**	**350**	Pn	**Pn**	**06 39 05.7**	**-0.2**
	0.2nm,0.3s,baz=164,slow=13,SNR=5.3						
CMAR	**Chiang Mai Arr**	**17.21**	**135**	P	**Pn**	**06 39 23.4**	**-1.5**
	0.7nm,0.3s,baz=319,slow=11,SNR=7.2						
KURBB	**Kurchatov Arra**	**20.09**	**346**	P	**P**	**06 39 57.5**	**-0.1**
	3.1nm,0.7s,baz=163,slow=10,SNR=16						
KURK	**Kurchatov**	**20.16**	**346**	*e*P	**P**	**06 39 57.9**	**-0.4**
	12nm,1.4s						
SONA0	**Songino Array**	**22.50**	**37**	*e*P	**P**	**06 40 23.2**	**-0.5**
SONM	**Songino Array**	**22.50**	**37**	P	**P**	**06 40 23.2**	**-0.5**
	2.0nm,0.9s,baz=212,slow=13,SNR=4.1						
ZALV	**Zalesovo Beam**	**22.60**	**358**	*e*P	**P**	**06 40 24.5**	**-0.1**
ZALV	**Zalesovo Beam**	**22.60**	**358**	P	**P**	**06 40 25.2**	**+0.7**
	1.2nm,0.4s,baz=191,slow=10,SNR=5.0						
ZAA1	**Zalesovo Array**	**22.61**	**358**	*e*P	**P**	**06 40 25.2**	**+0.6**
GEYT	**Alibeck**	**24.03**	**294**	LR	LR	06 51 59.6	
	comp=Z,15nm,21.5s,baz=30,slow=41						
BVAR	**Borovoye Array**	**24.54**	**337**	P	**P**	**06 40 44.0**	**+0.6**
	0.6nm,0.5s,baz=132,slow=8.0,SNR=4.5						
FIA0	**FINESS Array S**	**48.82**	**326**	*e*P	**P**	**06 44 09.5**	**+0.8**
FINES	**FINESS Array B**	**48.82**	**326**	*e*P	**P**	**06 44 09.9**	**+1.2**
FINES	**FINESS Array B**	**48.82**	**326**	P	**P**	**06 44 09.5**	**+0.8**
	0.6nm,0.5s,baz=120,slow=8.2,SNR=4.3						
ARA0	**ARCESS Array S**	**50.83**	**337**	*e*P	**P**	**06 44 24.7**	**+0.8**
ARCES	**ARCESS Array B**	**50.83**	**337**	P	**P**	**06 44 24.7**	**+0.8**
	3.1nm,1.1s,baz=88,slow=5.5,SNR=2.9						
NB200	**NORSAR Array S**	**55.97**	**325**	*e*P	**P**	**06 45 01.9**	**+0.1**
NOA	**NORSAR Array B**	**55.97**	**325**	P	**P**	**06 45 01.9**	**+0.1**
	0.6nm,0.7s,baz=85,slow=6.9,SNR=3.1						
JMIC	**Jan Mayen**	**62.24**	**338**	LR	LR	07 13 51.5	
	comp=Z,61nm,19.4s,baz=218,slow=37						
WR1	**Warramunga Arr**	**68.75**	**131**	*e*P	**P**	**06 46 26.9**	**-0.9**
WRA	**Warramunga Arr**	**68.75**	**131**	P	**P**	**06 46 26.9**	**-0.9**
	0.9nm,0.6s,baz=318,slow=6.1,SNR=8.4						
WB2	**Warramunga Arr**	**68.76**	**131**	*e*P	**P**	**06 46 27.6**	**-0.2**
	8.1nm,1.4s						
ASAR	**Alice Springs**	**71.22**	**134**	*e*P	**P**	**06 46 42.8**	**0.0**
ASAR	**Alice Springs**	**71.22**	**134**	P	**P**	**06 46 42.4**	**-0.5**
	0.5nm,0.5s,baz=312,slow=5.4,SNR=7.3						
ILAR	**Eielson Array**	**75.64**	**21**	P	**P**	**06 47 07.7**	**-0.6**
	0.3nm,0.6s,baz=309,slow=5.7,SNR=3.5						
YKA	**Yellowknife Ar**	**84.98**	**10**	P	**P**	**06 47 57.4**	**-1.1**
	0.1nm,0.6s,baz=330,slow=4.3,SNR=3.7						
YKB5	**Yellowknife Ar**	**84.98**	**10**	*e*P	**P**	**06 47 57.4**	**-1.1**

IDC 17 06:36:35.4±1.3, 4°.01N×71°.05W, h0km, mb3.1/3, mb1 3.5/5, mb1mx3.3/30, mbtmp3.3/5, ML2.2/2, Error ellipse: s-maj=24.9km s-min=16.3km az=80.0
RSNC 17 06:36:39.9±0.9, 3°.78N×71°.34W, h9km±6km, ML3.5, Mw4.1
ISC 17 06:36:37.6±2.1, 3°.81N±0°.03×71°.26W±0°.07, h3km±14km, n27, σ1§71/43, 1C, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUVC	**San Jose del G**	**1.86**	**228**	*e*P	**Pn**	**06 37 09.2**	**-1.2**
GUVC				*e*Pg	**Pb**	**06 37 11.0**	**-1.2**
GUVC				*e*Sg	**Sn**	**06 37 33.7**	**-0.6**
GUVC				*i*		06 37 35.2	
	comp=Z,591nm,0.2s						
YOPC	**Yopal, Colombi**	**1.93**	**323**	*e*P	**Pn**	**06 37 12.1**	**+0.7**
YOPC				*e*S	**Sn**	**06 37 36.7**	**+0.5**
YOPC				*i*		06 37 39.6	
	comp=Z,464nm,0.3s						
VILC	**Villavicencio,**	**2.45**	**277**	*e*P	**Pn**	**06 37 18.0**	**-0.7**
VILC				*e*S	**Sn**	**06 37 48.0**	**-1.2**
VILC				*i*		06 37 53.0	
	comp=Z,803nm,0.2s						
CHIC	**Chingaza**	**2.60**	**288**	*e*P	**Pn**	**06 37 20.1**	**-0.9**
CHIC				*e*S	**Sn**	**06 37 51.4**	**-1.9**
CHIC				*i*		06 37 54.2	
	comp=Z,250nm,0.2s						
TAMC	**Tame, Arauca**	**2.67**	**348**	*e*P	**Pn**	**06 37 21.2**	**-0.3**
TAMC				*e*S	**Sn**	**06 37 54.8**	**+0.4**
TAMC				*i*		06 38 03.9	
	comp=Z,203nm,0.3s						
RUSC	**La Rusia**	**2.76**	**319**	*e*P	**Pn**	**06 37 22.8**	**-0.4**
RUSC				*e*S	**Sn**	**06 37 56.5**	**-0.8**
ROSC	**El Rosal**	**3.22**	**289**	*e*P	**Pn**	**06 37 29.6**	**+0.1**
ROSC	**El Rosal**	**3.22**	**289**	Pn	**Pn**	**06 37 30.2**	**+0.7**
	comp=Z,2.8nm,0.3s,baz=109,slow=20,SNR=11						
ROSC				Pg	**Pg**	**06 37 38.8**	**-0.7**
	comp=Z,13nm,0.3s,baz=102,slow=19,SNR=20						
ROSC				Sn	**Sn**	**06 38 09.8**	**+1.1**
	comp=Z,13nm,0.3s,baz=99,slow=22,SNR=6.9						
BARC	**Barichara**	**3.37**	**325**	*e*P	**Pn**	**06 37 29.9**	**-1.4**
BARC				*e*Pg	**Pb**	**06 37 38.2**	**0.0**
BARC				*i*		06 38 26.0	
	comp=Z,67nm,0.3s						
PRAC	**Prado**	**3.62**	**269**	⇑*e*P	**Pn**	**06 37 34.9**	**+0.2**
PRAC				*e*S	**Sn**	**06 38 16.6**	**-1.4**
PRAC				*i*		06 38 40.5	
	comp=Z,135nm,0.3s						
GIRC	**Giron, Santand**	**3.78**	**329**	*e*P	**Pn**	**06 37 35.7**	**-1.2**
PAMC	**Pamplona, Colo**	**3.79**	**338**	*e*P	**Pn**	**06 37 36.8**	**-0.6**
PAMC				*e*Pg	**Pb**	**06 37 45.7**	**+0.1**
PAMC				*e*Sg	**Sb**	**06 38 35.1**	**+3.0**
NORC	**Norcasia**	**4.00**	**296**	*e*P	**Pn**	**06 37 39.1**	**-0.8**
BRRC	**Barranca, Sant**	**4.09**	**323**	*e*P	**Pn**	**06 37 40.0**	**-1.1**
BRRC				*e*Pg	**Pb**	**06 37 49.2**	**-1.2**
BRRC				*i*		06 38 49.7	
	comp=Z,16nm,0.3s						
PTBC	**PUERTO BERRIO,**	**4.19**	**311**	*e*P	**Pn**	**06 37 39.1**	**-3.3**
PTBC				*i*		06 38 53.1	
	comp=Z,20nm,0.5s						
OCAC	**Ocana**	**4.86**	**335**	*e*P	**Pn**	**06 37 50.7**	**-1.1**
OCAC				*e*Pg	**Pb**	**06 38 05.8**	**+2.2**
OCAC				*e*S	**Sn**	**06 38 47.6**	**-1.1**
OCAC				*e*Sg	**Sb**	**06 39 06.4**	**+3.9**
FLOC	**Florencia**	**4.92**	**243**	*e*P	**Pn**	**06 37 51.7**	**-0.8**
FLOC				*e*Pg	**Pb**	**06 38 02.1**	**-2.3**
FLOC				*i*		06 39 08.8	
	comp=Z,98nm,0.4s						
PTLC	**Puerto Leguiza**	**5.06**	**224**	*e*P	**Pn**	**06 37 56.3**	**+1.9**
PTLC				*e*Pg	**Pb**	**06 38 09.3**	**+2.5**
PTLC				*i*		06 39 29.6	
	comp=Z,60nm,0.4s						
YOTC	**Yotoco, Valle**	**5.08**	**272**	*e*P	**Pn**	**06 37 53.1**	**-1.7**
SDV	**Santo Domingo**	**5.08**	**7**	Pn	Pn	06 37 52.0	-3.0
	comp=Z,24nm,0.3s,baz=112,slow=8.6,SNR=21						
SDV				Pg	Pb	06 38 03.4	-4.0
	comp=Z,4.0nm,0.3s,baz=163,slow=5.1,SNR=12						
SDV				Sn	**Sn**	**06 38 48.9**	**-5.4**
	comp=Z,9.4nm,0.3s,baz=247,slow=22,SNR=4.3						
SDV				Lg	Lg	06 39 12.7	
	comp=Z,15nm,0.3s,baz=246,slow=16,SNR=7.7						
ZARC	**Zaragoza, Cauc**	**5.12**	**316**	*e*P	**Pn**	**06 37 55.2**	**-0.1**
SOTA	**Rioblanco**	**5.60**	**253**	*e*P	**Pn**	**06 38 03.0**	**+0.7**
PTGA	**Pitinga**	**12.15**	**112**	Lg	Lg	06 43 01.1	
	comp=Z,1.4nm,0.3s,baz=19,slow=20,SNR=7.9						
MDP	**Montagnes des**	**18.60**	**85**	Lg	Lg	06 46 15.2	
	comp=Z,0.2nm,0.3s,baz=10,slow=16,SNR=3.7						
LPAZ	**La Paz**	**20.20**	**171**	P	**P**	**06 41 15.2**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=12,slow=10,SNR=4.6						
SIV	**San Ignacio**	**22.10**	**153**	P	**P**	**06 41 34.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=349,slow=16,SNR=2.5						
YKA	**Yellowknife Ar**	**66.72**	**340**	P	P	06 47 25.7	-4.1
	comp=Z,0.1nm,0.4s,baz=128,slow=6.3,SNR=3.0						

NNC 17 06:37:55.7±3.9, 37°.54N×71°.23E, h220km±60km, mb2.4, mpv3.6, Error ellipse: s-maj=39.6km s-min=23.2km az=21.0
ISC 17 06:37:56.0±3.3, 37°.5N±0°.2×71°.2E±0°.1, h200km, n11, σ1§23/15, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.97**	**22**	P	**Pn**	**06 39 09.8**	**-0.5**
	SNR=17						
UCH	**Uchtor**	**5.33**	**28**	P	**Pn**	**06 39 14.4**	**-0.5**
	SNR=5.8						
EKS2	**Erkin-Say**	**5.48**	**20**	P	**Pn**	**06 39 17.3**	**+0.7**
	SNR=9.2						
KK31	**Karatay Array**	**5.58**	**355**	*e*Pn	**Pn**	**06 39 18.5**	**+0.8**
	3.3nm,0.5s						
KK31	**Karatay Array**	**5.58**	**355**	⇓P	**Pn**	**06 39 18.1**	**+0.4**
	1.4nm,0.3s,baz=182,slow=13,SNR=34						
KK31				⇑S	**Sn**	**06 40 23.4**	**+0.9**
	2.7nm,0.5s,baz=177,slow=22,SNR=7.8						
KKAR	**Karatay Array**	**5.58**	**355**	*e*Pn	**Pn**	**06 39 18.7**	**+1.0**
AAK	**Ala-Archa**	**5.68**	**25**	P	**Pn**	**06 39 19.3**	**+0.1**
	SNR=6.2						
AAK	**Ala-Archa**	**5.68**	**25**	⇓P	**Pn**	**06 39 18.7**	**-0.5**
	3.1nm,0.3s						
AAK				⇓S	**Sn**	**06 40 26.6**	**+1.6**
	5.0nm,0.8s						
CHMS	**Chumysh**	**6.09**	**25**	P	**Pn**	**06 39 24.3**	**0.0**
	SNR=5.7						
TKM2	**Tokmak 2**	**6.34**	**31**	⇑P	**Pn**	**06 39 26.4**	**-1.3**
	6.0nm,1.0s						
TKM2				⇑S	**Sn**	**06 40 40.8**	**+0.3**
	2.6nm,0.8s						
AB31	**Akbulak array**	**14.27**	**329**	⇓P	**P**	**06 41 11.2**	**+0.7**
	0.3nm,0.4s,baz=144,slow=12,SNR=14	

ISCJB **17** *06:43:14.7±0.1, 11°.09S±0°.02×165°.01E±0°.02, h10km, mb5.7/186, MS5.5/672, Error ellipse: s-maj=2.9km s-min=2.7km az=8.1*

NEIC **17** *06:43:15.7±2.0, 11°.07S×165°.08E, h7km, mb5.8/123, ME5.5, MS5.5/685, MW5.7, MW5.7, Error ellipse: s-maj=14.8km s-min=14.2km az=56.0, Moment Tensor Solution. s31 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.66; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$3.69; $M_{r\theta}$-0.44; $M_{\theta\phi}$-1.49; $M_{\phi r}$2.12; Best double couple: $M_0$4.50000×10^{17} NP1:ϕ_s336.00000°, δ31.00000°, λ-98.00000°. NP2:ϕ_s165.00000°, δ59.00000°, λ-85.00000°. Principal axes: T 4.7600, Plg14.0000°, Azm252.0000°; N -0.5300, Plg4.0000°, Azm343.0000°; P -4.2200, Plg75.0000°, Azm88.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s160.00000°, δ10.00000°, λ-90.00000°. NP2:ϕ_s340.00000°, δ80.00000°, λ-90.00000°. Principal axes: T Plg35.0000°, Azm70.0000°; N Plg0.0000°, Azm0.0000°; P Plg55.0000°, Azm250.0000°; Apparent Stress 0.30 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

BJI **17** *06:43:15.5±0.0, 10°.55S×165°.32E, h10km, mb5.4/63, mB5.9/61, Ms5.5/80, Ms7 5.2/75*

NEIC **17** *06:43:17.0±0.0, 11°.08S×165°.37E, h13km, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.97; $M_{\theta\theta}$0.65; $M_{\phi\phi}$3.32; $M_{r\theta}$0.05; $M_{\theta\phi}$-1.32; $M_{\phi r}$0.35; Best double couple: $M_0$3.90000×10^{17} NP1:ϕ_s160.00000°, δ47.00000°, λ-86.00000°. NP2:ϕ_s335.00000°, δ43.00000°, λ-93.00000°. Principal axes: T 3.8700, Plg2.0000°, Azm247.0000°; N 0.1200, Plg2.0000°, Azm337.0000°; P -3.9900, Plg86.0000°, Azm115.0000°;*

GCMT **17** *06:43:18.7±0.1, 11°.21S±0°.01×165°.07E, h12km, MW5.7/122, Moment Tensor Solution. s114,c196; s122,c342; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}-3.86±.03; $M_{\theta\theta}$0.54±.03; $M_{\phi\phi}$3.32±.03; $M_{r\theta}$-1.18±.09; $M_{\theta\phi}$-1.06±.03; $M_{\phi r}$-0.35±.08; Best double couple: $M_0$3.94100×10^{17} NP1:ϕ_s146.00000°, δ47.00000°, λ-111.00000°. NP2:ϕ_s356.00000°, δ47.00000°, λ-68.00000°. Principal axes: T 3.6780, Plg0.0000°, Azm251.0000°; N 0.5230, Plg16.0000°, Azm161.0000°; P -4.2050, Plg74.0000°, Azm343.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

MOS **17** *06:43:21.9±1.7, 11°.00S×164°.75E, h54km, mb5.7/45, MS5.1/20 Error ellipse: s-maj=7.6km s-min=6.2km az=117.6*

ISC 17 06:43:17.7±0.5**, 11°.09S**±0°.04×**165°.08E**±0°.04**, h18**km±2km**, h18**km**:pP-P, n1319,** σ1**9**42/874**, mb5.7**/196**, MS5.5**/675**, 24C-34D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.31**	**288**	*eP*		**Pn**		**06 44 38.0**	**+1.8**
HNR				*eS*		**Sn**		**06 45 30.0**	**-6.9**
HNR	**Honiara**	**5.31**	**288**	*ePn*		**Pn**		**06 44 37.6**	**+1.5**
HNR				*eSn*		**Sn**		**06 45 42.6**	**+5.7**
HNR	**Honiara**	**5.31**	**288**	Pn		**Pn**		**06 44 36.1**	**0.0**
	104nm,0.3s,baz=239,slow=8.0,SNR=24								
HNR				LR		LR		06 46 57.6	
	comp=Z,56μm,20.0s,baz=130,slow=42								
MARNC	**Mare, Loyalty**	**10.72**	**165**	*ePn*		**Pn**		**06 45 48.7**	**-1.7**
DZM	**Mont Dzumac**	**11.00**	**173**	*ePn*		**Pn**		**06 45 53.4**	**-1.0**
	1μm,1.4s								
DZM				*e*LR		LR		06 48 23.0	
	comp=Z,15μm,26.4s								
DZM	**Mont Dzumac**	**11.00**	**173**	*ePn*		**Pn**		**06 45 53.1**	**-1.3**
DZM	**Mont Dzumac**	**11.00**	**173**	Pn		**Pn**		**06 45 53.4**	**-1.0**
	13nm,0.3s,baz=313,slow=11,SNR=227								
DZM				LR		LR		06 49 07.2	
	comp=Z,10μm,21.1s,baz=347,slow=32								
ONTNC	**Ouen Toro**	**11.23**	**173**	*ePn*		**Pn**		**06 45 57.1**	**-0.3**
PINNC	**Pines Island,**	**11.68**	**169**	*ePn*		**Pn**		**06 46 02.9**	**-0.8**
FUNA	**Funafuti**	**14.15**	**81**	*ePn*		**Pn**		**06 46 40.2**	**+2.8**
TARA	**Tarawa**	**14.62**	**33**	*ePn*		**Pn**		**06 46 44.0**	**+0.1**
PMG	**Port Moresby**	**17.71**	**274**	*ePn*		**P**		**06 47 25.9**	**+1.5**
	239nm,1.4s								
PMG	**Port Moresby**	**17.71**	**274**	P		**P**		**06 47 24.2**	**-0.2**
	2.6nm,0.3s,baz=93,slow=8.7,SNR=8.8								
PMG				LR		LR		06 53 40.1	
	comp=Z,26μm,21.0s,baz=107,slow=35								
PATS	**Pohnpei**	**19.04**	**339**	P		**Pn**		**06 47 41.7**	**+1.9**
	baz=19,SNR=3.0								
EIDS	**Eidsvold**	**19.43**	**221**	*eP*		**Pn**		**06 47 43.9**	**-0.6**
	200nm,1.1s								
EIDS	**Eidsvold**	**19.43**	**221**	P		**Pn**		**06 47 45.0**	**+0.5**
	baz=20,SNR=34								
MANU	**Manus Island**	**19.74**	**296**	*eP*		**Pn**		**06 47 47.5**	**-0.7**
	4μm,1.4s								
CTA	**Charters Tower**	**20.20**	**241**	P		Pn		06 47 53.0	-0.7
	130nm,1.0s,baz=65,slow=12,SNR=48								
CTA				LR		LR		06 54 40.2	
	comp=Z,12μm,18.5s,baz=68,slow=34								
CTAO	**Charters Tower**	**20.20**	**241**	*eP*		**P**		**06 47 52.7**	**+1.0**
	1μm,1.5s								
CTAO				LR		LR			
	comp=Z,13μm,21.0s								
CTAO	**Charters Tower**	**20.20**	**241**	*eP*		**P**		**06 47 52.7**	**+1.0**
CTAO				pmax		pmax			
	comp=Z,1μm,1.5s								
CTAO				MLR		MLR			
	comp=Z,13μm,21.0s								
LHI	**Lord Howe Isla**	**21.08**	**194**	*eP*		**P**		**06 48 02.2**	**+1.0**
	comp=Z,453nm,1.2s								
LHI	**Lord Howe Isla**	**21.08**	**194**	P		**P**		**06 48 02.3**	**+1.2**
	baz=21,SNR=5.5								
COEN	**Coen**	**21.57**	**260**	*eP*		**P**		**06 48 07.2**	**+0.6**
	comp=Z,1μm,1.4s								
COEN	**Coen**	**21.57**	**260**	P		**P**		**06 48 07.2**	**+0.6**
	baz=22,SNR=71								
RMQ	**Roma**	**21.71**	**223**	P		**P**		**06 48 09.4**	**+1.4**
	baz=22,SNR=135								
ARMA	**Armidale**	**22.94**	**211**	*eP*		**P**		**06 48 22.0**	**+0.9**
	comp=Z,541nm,1.3s								
ARMA				LR		LR			
	comp=Z,9μm,18.0s								
ARMA	**Armidale**	**22.94**	**211**	P		**P**		**06 48 21.7**	**+0.6**
	baz=23,SNR=24								
RAO	**Raoul Island**	**24.05**	**141**	PFAKE				06 48 40.0	+8.0
RAO				LR		LR			
	comp=Z,2μm,20.0s								
RAO	**Raoul Island**	**24.05**	**141**	LR		LR		06 55 08.2	
	comp=Z,949nm,19.4s,baz=298,slow=30								
KNTN	**Kanton**	**24.45**	**72**	PFAKE				06 48 50.0	+14
KNTN				LR		LR			
	comp=Z,14μm,19.0s								
OUZ	**Omahuta**	**25.24**	**163**	*eP*		**P**		**06 48 44.5**	**+1.7**
	comp=Z,435nm,1.4s								
OUZ	**Omahuta**	**25.24**	**163**	P		**P**		**06 48 42.8**	**+0.1**
MGCD	**Mangrove Creek**	**25.48**	**208**	P		**P**		**06 48 46.4**	**+1.4**
	baz=26,SNR=7.9								
RIV	**Riverview**	**25.98**	**207**	P		**P**		**06 48 50.5**	**+1.1**
	baz=26,SNR=9.4								
GENI	**Genyem**	**26.11**	**287**	P		**P**		**06 48 52.5**	**+1.6**
WCZ	**Waipu Caves**	**26.13**	**163**	P		**P**		**06 48 52.3**	**+1.5**
QIS	**Mount Isa**	**26.22**	**246**	P		**P**		**06 48 52.0**	**+0.2**
	baz=26,SNR=40								
CMSA	**Cobar Meteorol**	**27.12**	**218**	P		**P**		**06 48 59.9**	**+0.1**
	baz=27,SNR=57								
MKAZ	**Moumakai**	**27.45**	**162**	P		**P**		**06 49 03.7**	**+1.0**
YNG	**Young**	**27.67**	**211**	P		**P**		**06 49 05.9**	**+1.1**
	baz=28,SNR=10								
CNB	**Canberra Magne**	**28.03**	**208**	P		**P**		**06 49 09.0**	**+1.0**
	baz=28,SNR=7.9								
TOZ	**Tahuroa Road**	**28.13**	**162**	P		**P**		**06 49 09.5**	**+0.7**
CAN	**Canberra**	**28.20**	**209**	*eP*		**P**		**06 49 08.9**	**-0.7**
	comp=Z,108nm,1.5s								
CAN				LR		LR			
	comp=Z,3μm,22.0s								
CAN	**Canberra**	**28.20**	**209**	*eP*		**P**		**06 49 08.9**	**-0.7**
CAN				pmax		pmax			
	comp=Z,108nm,1.5s								
CAN				MLR		MLR			
	comp=Z,3μm,22.0s								
OPRZ	**Ohinepanea**	**28.57**	**161**	P		**P**		**06 49 14.0**	**+1.4**
HIZ	**Hauiti**	**28.68**	**164**	*eP*		**P**		**06 49 15.5**	**+1.8**
	comp=Z,394nm,1.6s								
HIZ				LR		LR			
	comp=Z,3μm,20.0s								
HIZ	**Hauiti**	**28.68**	**164**	P		**P**		**06 49 15.7**	**+2.0**
HAZ	**Te Kaha**	**28.90**	**159**	P		**P**		**06 49 15.2**	**-0.4**
MXZ	**Matakaoa Point**	**28.92**	**158**	*eP*		**P**		**06 49 15.5**	**-0.3**
	comp=Z,679nm,1.6s								
MXZ				LR		LR			
	comp=Z,3μm,19.0s								
MXZ	**Matakaoa Point**	**28.92**	**158**	P		**P**		**06 49 14.6**	**-1.2**
RUGZ	**Raukumara Rang**	**29.05**	**159**	P		**P**		**06 49 16.8**	**-0.3**
URZ	**Urewera**	**29.12**	**160**	*eP*		**P**		**06 49 18.6**	**+1.0**
	comp=Z,149nm,1.1s								
URZ				LR		LR			
	comp=Z,5μm,18.0s								
URZ	**Urewera**	**29.12**	**160**	P		**P**		**06 49 15.2**	**-2.4**
	comp=Z,2.7nm,0.5s,baz=62,slow=22,SNR=5.6								
URZ				LR		LR		06 59 46.1	
	comp=Z,5μm,18.1s,baz=348,slow=34								
URZ	**Urewera**	**29.12**	**160**	P		**P**		**06 49 19.2**	**+1.6**
WMGZ	**Waiomatatini S**	**29.19**	**158**	P		**P**		**06 49 17.8**	**-0.3**
VRZ	**Vera Road**	**29.22**	**164**	P		**P**		**06 49 21.7**	**+3.2**
MWZ	**Matawai**	**29.33**	**160**	P		**P**		**06 49 19.8**	**+0.3**
TWGZ	**Tauwhareparae**	**29.35**	**159**	P		**P**		**06 49 19.8**	**+0.1**
PUZ	**Puketiti**	**29.35**	**158**	P		**P**		**06 49 18.9**	**-0.8**
H11S2	**WAKE ISLAND Hy**	**29.43**	**3**	T		T		07 20 05.4	
	baz=184,slow=76,SNR=70								
H11S3	**WAKE ISLAND Hy**	**29.44**	**3**	T		T		07 20 12.3	
	baz=184,slow=76,SNR=66								
RAGZ	**Rawiri**	**29.44**	**160**	P		**P**		**06 49 21.5**	**+1.0**
H11S1	**WAKE ISLAND Hy**	**29.45**	**3**	T		T		07 20 16.3	
	baz=184,slow=76,SNR=55								
TKGZ	**Te Karaka**	**29.54**	**159**	P		**P**		**06 49 20.5**	**-0.8**
FWVZ	**Far West T-bar**	**29.56**	**163**	P		**P**		**06 49 23.3**	**+1.6**
MILA	**Mila**	**29.57**	**206**	P		**P**		**06 49 22.5**	**+0.9**
	baz=30,SNR=3.3								
SNGZ	**Shannon Statio**	**29.67**	**160**	P		**P**		**06 49 22.8**	**+0.3**
RIGZ	**Rimuhau**	**29.75**	**160**	P		**P**		**06 49 23.3**	**+0.1**
BKZ	**Black Stump Fm**	**29.75**	**162**	*eP*		**P**		**06 49 22.8**	**-0.5**
	comp=Z,76nm,0.8s								
BKZ				LR		LR			
	comp=Z,3μm,19.0s								
BKZ	**Black Stump Fm**	**29.75**	**162**	P		**P**		**06 49 24.3**	**+1.1**
MOVZ	**Moawhango**	**29.76**	**163**	P		**P**		**06 49 25.1**	**+1.7**
NMHZ	**Naumai**	**29.79**	**161**	P		**P**		**06 49 24.9**	**+1.3**
WAZ	**Wanganui**	**29.88**	**165**	P		**P**		**06 49 27.8**	**+3.5**
WHHZ	**Waihua**	**29.91**	**161**	P		**P**		**06 49 23.5**	**-1.0**
BHHZ	**Black Hill Sta**	**29.93**	**163**	P		**P**		**06 49 26.6**	**+1.8**
STKA	**Stephens Creek**	**29.96**	**223**	*eP*		**P**		**06 49 24.4**	**-0.7**
	comp=Z,56nm,1.4s								
STKA				LR		LR			
	comp=Z,3μm,20.0s								
STKA	**Stephens Creek**	**29.96**	**223**	P		**P**		**06 49 25.4**	**+0.3**
	baz=30,SNR=69								
STKA	**Stephens Creek**	**29.96**	**223**	P		**P**		**06 49 23.0**	**-2.2**
STKA	**Stephens Creek**	**29.96**	**223**	P		**P**		**06 49 23.0**	**-2.2**
	comp=Z,84nm,0.9s,baz=40,slow=9.4,SNR=111								
STKA				LR		LR		07 00 37.8	
	comp=Z,15μm,18.6s,baz=42,slow=35								
KWHZ	**Kaweka Forest**	**29.97**	**162**	P		**P**		**06 49 25.1**	**-0.1**
ARHZ	**Aropaoanui**	**30.00**	**161**	P		**P**		**06 49 25.2**	**-0.2**
MCHZ	**McNeill Hill**	**30.07**	**162**	P		**P**		**06 49 27.0**	**+0.9**
KRHZ	**Kereru**	**30.16**	**162**	P		**P**		**06 49 27.3**	**+0.5**
MHGZ	**Mahia Peninsul**	**30.20**	**160**	P		**P**		**06 49 26.7**	**-0.4**
WAKE	**Wake Island**	**30.22**	**3**	PFAKE				06 49 40.0	+13
WAKE				LR		LR			
	comp=Z,2μm,19.0s								
PNHZ	**Pukenui**	**30.36**	**163**	P		**P**		**06 49 28.5**	**-0.1**
KAHZ	**Kahuranaki**	**30.45**	**162**	P		**P**		**06 49 29.0**	**-0.4**
WC2	**Warramunga Arr**	**30.82**	**250**	PFAKE				06 49 40.0	+7.1
WC2				LR		LR			
	comp=Z,14μm,18.0s								
WC3	**Warramunga Arr**	**30.82**	**250**	PFAKE				06 49 40.0	+7.1
WC3				LR		LR			
	comp=Z,13μm,18.0s								
WRAB	**Tennant Creek**	**30.84**	**250**	*eP*		**P**		**06 49 31.8**	**-1.3**
	comp=Z,869nm,1.8s								
WRAB				LR		LR			
	comp=Z,13μm,19.0s								
WRAB	**Tennant Creek**	**30.84**	**250**	*eP*		**P**		**06 49 31.8**	**-1.3**
WRAB				pmax		pmax			
	comp=Z,869nm,1.8s								
WRAB				MLR		MLR			
	comp=Z,13μm,19.0s								
WB2	**Warramunga Arr**	**30.84**	**250**	*eP*		**P**		**06 49 31.5**	**-1.6**
	comp=Z,770nm,1.6s								
WB2				LR		LR			
	comp=Z,13μm,18.0s								
WC1	**Warramunga Arr**	**30.85**	**250**	PFAKE				06 49 50.0	+17
WC1				LR		LR			
	comp=Z,10μm,18.0s								
WR1	**Warramunga Arr**	**30.85**	**250**	*eP*		**P**		**06 49 31.0**	**-2.2**
WR1				*e*PcP		**PcP**		**06 52 30.9**	**+0.7**
WRA	**Warramunga Arr**	**30.85**	**250**	P		**P**		**06 49 31.0**	**-2.2**
	comp=Z,72nm,0.8s,baz=76,slow=9.2,SNR=37								
WRA				PcP		**PcP**		**06 52 30.9**	**+0.7**
	comp=Z,12nm,0.9s,baz=89,slow=3.0,SNR=5.7								
WC4	**Warramunga Arr**	**30.85**	**250**	PFAKE				06 49 50.0	+17
WC4				LR		LR			
	comp=Z,13μm,18.0s								
BFZ	**Birch Farm**	**31.08**	**163**	PFAKE				06 49 50.0	+15
BFZ				LR		LR			
	comp=Z,4μm,20.0s								
SNZO	**South Karori**	**31.27**	**166**	*eP*		**P**		**06 49 38.0**	**+1.4**
	comp=Z,182nm,1.3s								
SNZO				LR		LR			
	comp=Z,4μm,18.0s								
THZ	**Tophouse**	**31.32**	**169**	PFAKE				06 49 50.0	+13
THZ				LR		LR			
	comp=Z,3μm,18.0s								
GUMO	**Guam**	**31.67**	**320**	PFAKE				06 49 50.0	+10
GUMO				LR		LR			
	comp=Z,3μm,21.0s								
GUMO	**Guam**	**31.67**	**320**	LR		LR		07 02 14.1	
	comp=Z,2μm,20.1s,baz=157,slow=36								
TOO	**Toolangi**	**31.70**	**210**	*eP*		**P**		**06 49 40.3**	**-0.1**
	comp=Z,325nm,1.8s								
TOO				LR		LR			
	comp=Z,5μm,19.0s								
TOO	**Toolangi**	**31.70**	**210**	P		**P**		**06 49 40.7**	**+0.3**
	baz=32,SNR=22								
TOO	**Toolangi**	**31.70**	**210**	*eP*		**P**		**06 49 40.3**	**-0.1**
TOO				pmax		pmax			
	comp=Z,325nm,1.8s								
TOO				MLR		MLR			
	comp=Z,5μm,19.0s								
KDU	**Kakadu**	**31.93**	**264**	P		**P**		**06 49 41.6**	**-1.1**
	baz=32,SNR=22								
KHZ	**Kahutara**	**32.07**	**168**	*eP*		**P**		**06 49 46.2**	**+2.6**
	comp=Z,53nm,0.8s								
KHZ				LR		LR			
	comp=Z,3μm,20.0s								
AS31	**Alice Springs**	**32.18**	**243**	*eP*		**P**		**06 49 43.8**	**-1.1**
	comp=Z,49nm,1.0s								
AS31				LR		LR			
	comp=Z,200nm,21.0s								
ASAR	**Alice Springs**	**32.19**	**243**	*eP*		**P**		**06 49 42.9**	**-2.0**
ASAR	**Alice Springs**	**32.19**	**243**	*eP*		**P**		**06 49 42.9**	**-2.0**
ASAR	**Alice Springs**	**32.19**	**243**	P		**P**		**06 49 43.6**	**-1.3**
	comp=Z,176nm,1.1s,baz=72,slow=9.2,SNR=351								
ASAR				PcP		**PcP**		**06 52 33.9**	**+0.2**
	comp=Z,8.8nm,0.7s,baz=65,slow=2.0,SNR=9.0								
ASAR				LR		LR		07 01 15.9	
	comp=Z,10μm,21.5s,baz=74,slow=34								
LTZ	**Lake Taylor**	**32.19**	**170**	*eP*		**P**		**06 49 44.9**	**+0.2**
	comp=Z,165nm,0.7s								
LTZ				LR		LR			
	comp=Z,3μm,20.0s								
FOZ	**Fox Glacier**	**32.59**	**174**	*eP*		**P**		**06 49 48.2**	**+0.1**
	comp=Z,106nm,1.1s								
FOZ				LR		LR			
	comp=Z,4μm,18.0s								
OXZ	**Oxford**	**32.68**	**171**	*eP*		**P**		**06 49 49.1**	**+0.1**
	comp=Z,76nm,0.7s								
OXZ				LR		LR			
	comp=Z,5μm,19.0s								
HTT	**Hallett**	**32.69**	**223**	P		**P**		**06 49 48.9**	**-0.3**
	baz=33,SNR=36								
RPZ	**Rata Peaks**	**32.92**	**172**	*eP*		**P**		**06 49 50.8**	**-0.2**
	comp=Z,103nm,1.0s								
RPZ				LR		LR			
	comp=Z,6μm,18.0s								
RPZ	**Rata Peaks**	**32.92**	**172**	P		**P**		**06 49 50.3**	**-0.7**
	comp=Z,63nm,0.8s,baz=290,slow=3.6,SNR=17								
RPZ				LR		LR		07 01 19.4	
	comp=Z,4μm,20.4s,baz=346,slow=33								
CRLZ	**Canterbury Las**	**33.02**	**170**	*eP*		**P**		**06 49 53.4**	**+1.5**
	comp=Z,438nm,1.7s								
ARPS	**Mount Arapiles**	**33.06**	**216**	P		**P**		**06 49 52.7**	**+0.3**
	baz=33,SNR=7.0								
MQZ	**McQueen's Vall**	**33.16**	**170**	*eP*		**P**		**06 49 52.5**	**-0.6**
	comp=Z,83nm,0.8s								
MQZ				LR		LR			
	comp=Z,2μm,18.0s								
MTN	**Manton Dam**	**33.24**	**263**	*eP*		**P**		**06 49 54.1**	**-0.1**
	comp=Z,104nm,1.1s								
MTN				LR		LR			
	comp=Z,6μm,20.0s								
MTN	**Manton Dam**	**33.24**	**263**	P		**P**		**06 49 53.8**	**-0.4**
	baz=33,SNR=7.1								
ANA2	**Anatahan**	**33.31**	**325**	*eP*		**P**		**06 49 54.8**	**0.0**
	comp=Z,790nm,2.0s								
ANA2				LR		LR			
	comp=Z,2μm,19.0s								
SAUI	**Saumlaki**	**33.44**	**272**	PFAKE				06 50 10.0	+14
SAUI				LR		LR			
	comp=Z,8μm,19.0s								
LBZ	**Lake Benmore**	**33.47**	**173**	PFAKE				06 50 10.0	+14
LBZ				LR		LR			
	comp=Z,4μm,21.0s								
FAKI	**Fak Fak**	**33.55**	**282**	PFAKE				06 50 10.0	+13
FAKI				LR		LR			
	comp=Z,7μm,19.0s								
SARN	**Sarigan**	**33.56**	**325**	*eP*		**P**		**06 49 58.4**	**+1.4**
	comp=Z,277nm,1.6s								
SARN				LR		LR			
	comp=Z,2μm,20.0s								
WKZ	**Wanaka**	**33.79**	**175**	*eP*		**P**		**06 49 58.5**	**-0.2**
	comp=Z,255nm,1.6s								
WKZ				LR		LR			
	comp=Z,5μm,18.0s								
ODZ	**Otahua Downs**	**34.17**	**173**	PFAKE				06 50 10.0	+8.1
ODZ				LR		LR			
	comp=Z,4μm,20.0s								
MLZ	**Mavora Lakes**	**34.26**	**176**	PFAKE				06 50 10.0	+7.3
MLZ				LR		LR			
	comp=Z,3μm,18.0s								
DCZ	**Deep Cove**	**34.30**	**177**	*eP*		**P**		**06 50 02.6**	**-0.4**
	comp=Z,264nm,1.8s								
DCZ				LR		LR			
	comp=Z,2μm,19.0s								
BBOO	**Buckleboo**	**34.32**	**226**	*eP*		**P**		**06 50 03.0**	**-0.5**
	comp=Z,303nm,1.3s								
BBOO				LR		LR			
	comp=Z,8μm,18.0s								
BBOO	**Buckleboo**	**34.32**	**226**	P		**P**		**06 50 03.1**	**-0.3**
	baz=34,SNR=64								
WHZ	**Wether Hill Ro**	**34.77**	**176**	PFAKE				06 50 20.0	+13
WHZ				LR		LR			
	comp=Z,4μm,18.0s								
MOO	**Moorlands**	**34.92**	**203**	P		**P**		**06 50 09.5**	**+1.0**
	baz=35,SNR=3.9								
RAR	**Rarotonga**	**35.16**	**111**	LR		LR		07 01 33.0	
	comp=Z,5μm,20.9s,baz=263,slow=31								
TAU	**Tasmania Unive**	**35.27**	**203**	*eP*		**P**		**06 50 11.4**	**0.0**
	comp=Z,261nm,1.8s								
TAU				LR		LR			
	comp=Z,3μm,18.0s								
TAU	**Tasmania Unive**	**35.27**	**203**	*eP*		**P**		**06 50 11.4**	**0.0**
TAU				pmax		pmax			
	comp=Z,261nm,1.8s								
TAU				MLR		MLR			
	comp=Z,3μm,18.0s								
BNDI	**Bandanaira**	**35.42**	**278**	P		**P**		**06 50 11.1**	**-2.0**
	comp=Z,470nm,1.6s								
KNRA	**Kununurra**	**35.59**	**259**	P		**P**		**06 50 14.0**	**-0.5**
	baz=36,SNR=61								
JOHN	**Johnston Islan**	**37.35**	**43**	PFAKE				06 50 40.0	+11
JOHN				LR		LR			
	comp=Z,7μm,22.0s								
WRKA	**Warakurna**	**37.48**	**243**	P		**P**		**06 50 29.6**	**-1.0**
	baz=38,SNR=173								
FITZ	**Fitzroy Crossi**	**38.73**	**255**	*eP*		**P**		**06 50 40.2**	**-1.0**
	comp=Z,336nm,1.5s								
FITZ	**Fitzroy Crossi**	**38.73**	**255**	P		**P**		**06 50 40.9**	**-0.3**
	baz=39,SNR=54								
TNTI	**Ternate**	**39.29**	**285**	*eP*		**P**		**06 50 45.4**	**-0.6**
	comp=Z,189nm,1.8s								
TNTI				LR		LR			
	comp=Z,2μm,19.0s								
TNTI	**Ternate**	**39.29**	**285**	P		**P**		**06 50 43.8**	**-2.2**
FORT	**Forrest**	**39.48**	**235**	*eP*		**P**		**06 50 47.2**	**-0.2**
	comp=Z,600nm,1.5s								
FORT				LR		LR			
	comp=Z,9μm,19.0s								
FORT	**Forrest**	**39.48**	**235**	P		**P**		**06 50 47.6**	**+0.2**
	baz=40,SNR=20								
XMAS	**Kiritimati**	**39.49**	**73**	PFAKE				06 51 00.0	+12
XMAS				LR		LR			
	comp=Z,8μm,20.0s								
SANI	**Sanana**	**39.81**	**280**	P		**P**		**06 50 49.1**	**-1.2**
SOEI	**Soe**	**40.13**	**268**	*eP*		**P**		**06 50 51.7**	**-1.4**
	comp=Z,290nm,1.7s								
SOEI				LR		LR			
	comp=Z,4μm,20.0s								
SOEI	**Soe**	**40.13**	**268**	P		**P**		**06 50 52.0**	**-1.1**
	comp=Z,57nm,1.0s,comp=Z,2μm								
SGSI	**Sangihe**	**42.00**	**288**	P		**P**		**06 51 05.3**	**-3.0**
MMRI	**Maumere**	**42.25**	**269**	*eP*		**P**		**06 51 09.8**	**-0.6**
	comp=Z,562nm,1.7s								
MMRI				LR		LR			
	comp=Z,2μm,21.0s								
MIDW	**Midway**	**42.61**	**23**	PFAKE				06 51 20.0	+7.0
MIDW				LR		LR			
	comp=Z,3μm,20.0s								
LUWI	**Luwuk**	**43.17**	**280**	*e

comp=Z,177nm,1.7s
KAPI Kappang 45.24 274 *e*P **P 06 51 33.4 -1.1**
KAPI pmax pmax
comp=Z,177nm,1.7s
KAPI Kappang 45.24 274 P **P 06 51 33.5 -1.1**
SNR=26
SPSI Sidrap Palu 45.42 275 P **P 06 51 37.1 +1.2**
MPSI Mapaga 46.31 281 P **P 06 51 40.6 -2.3**
comp=Z,32nm,1.5s,comp=Z,916nm
MEEK Meekatharra 46.34 244 P **P 06 51 43.2 +0.1**
baz=46,SNR=110
PLAI Plampang 46.60 268 P **P 06 51 43.3 -2.0**
comp=Z,117nm,1.6s,comp=Z,2μm
KEKH Kekaha 47.68 46 PFAKE 06 52 00.0 +6.5
KEKH LR LR
comp=Z,5μm,21.0s
HON Honolulu 48.51 48 PFAKE 06 52 10.0 +10
HON LR LR
comp=Z,5μm,20.0s
OPA Opana 48.72 48 *e*P **P 06 52 01.7 +0.1**
comp=Z,262nm,1.0s
OPA LR LR
comp=Z,5μm,18.0s
OPA Opana 48.72 48 *e*P **P 06 52 01.7 +0.1**
OPA pmax pmax
comp=Z,262nm,1.0s
OPA MLR MLR
comp=Z,5μm,18.0s
BLDU Ballidu 48.77 239 P **P 06 52 01.8 -0.1**
baz=49,SNR=14
NWAO Narrogin (SRO) 48.89 236 *e*P **P 06 52 02.1 -0.6**
comp=Z,822nm,1.8s
NWAO LR LR
comp=Z,17μm,19.0s
NWAO Narrogin (SRO) 48.89 236 P **P 06 52 03.1 +0.3**
baz=49,SNR=14
NWAO Narrogin (SRO) 48.89 236 *e*P **P 06 52 02.2 -0.6**
NWAO pmax pmax
comp=Z,822nm,1.8s
NWAO MLR MLR
comp=Z,17μm,19.0s
MORW Morawa 49.03 241 *e*P **P 06 52 03.4 -0.5**
comp=Z,549nm,1.3s
MORW LR LR
comp=Z,12μm,18.0s
MORW Morawa 49.03 241 P **P 06 52 03.8 -0.1**
baz=49,SNR=68
KHLU Kahalu`u 49.07 52 PFAKE 06 52 20.0 +16
KHLU LR LR
comp=Z,4μm,21.0s
KHU Kahuku 49.09 52 PFAKE 06 52 20.0 +15
KHU LR LR
comp=Z,4μm,21.0s
HUH Hualalai 49.16 52 PFAKE 06 52 20.0 +15
HUH LR LR
comp=Z,4μm,21.0s
IGBI Denpasar 49.19 268 P **P 06 52 09.3 +4.0**
MWH Moku'aweowe 49.23 52 PFAKE 06 52 20.0 +14
MWH LR LR
comp=Z,4μm,20.0s
MLOA Mauna Loa Obse 49.28 52 PFAKE 06 52 20.0 +14
MLOA LR LR
comp=Z,5μm,22.0s
HLP Hilina Pali 49.35 53 PFAKE 06 52 20.0 +14
HLP LR LR
comp=Z,5μm,20.0s
HMH Humu'ula Sheep 49.39 52 *e*P **P 06 52 08.3 +1.2**
comp=Z,384nm,1.4s
MLH Mauna Loa 49.40 52 PFAKE 06 52 20.0 +13
MLH LR LR
comp=Z,4μm,20.0s
SDHHI Sand Hill 49.42 52 PFAKE 06 52 20.0 +13
SDHHI LR LR
comp=Z,4μm,21.0s
WRMHI West Rim 49.42 52 PFAKE 06 52 20.0 +13
WRMHI LR LR
comp=Z,4μm,20.0s
UWE Uwekahuna 49.43 52 PFAKE 06 52 20.0 +13
UWE LR LR
comp=Z,6μm,22.0s
NPH North Pit 49.44 52 PFAKE 06 52 20.0 +13
NPH LR LR
comp=Z,4μm,20.0s
POHA Pohakuloa 49.44 52 *e*P **P 06 52 06.6 -0.8**
comp=Z,156nm,1.0s
POHA LR LR
comp=Z,4μm,20.0s
KKO Keanakako`i 49.44 52 PFAKE 06 52 20.0 +13
KKO LR LR
comp=Z,4μm,21.0s
BYL Byron's Ledge 49.45 52 PFAKE 06 52 20.0 +13
BYL LR LR
comp=Z,4μm,20.0s
SBLHI Steaming Bluff 49.46 52 PFAKE 06 52 20.0 +13
SBLHI LR LR
comp=Z,4μm,21.0s
HPAH Hawaii Prepara 49.47 51 PFAKE 06 52 20.0 +13
HPAH LR LR
comp=Z,4μm,21.0s
PUH Pauahi 49.47 53 PFAKE 06 52 20.0 +13
PUH LR LR
comp=Z,4μm,22.0s
HLK Haleakala 49.47 50 PFAKE 06 52 20.0 +12
HLK LR LR
comp=Z,3μm,20.0s
MUN Mundaring 49.50 237 P **P 06 52 07.9 +0.5**
baz=50,SNR=14
STCH Steam Cracks 49.55 53 PFAKE 06 52 20.0 +12
STCH LR LR
comp=Z,4μm,20.0s
RKGY Rocky Gully 49.55 234 P **P 06 52 08.6 +0.8**
baz=50,SNR=5.3
NPOC North of Pu'u 49.56 53 PFAKE 06 52 20.0 +12
NPOC LR LR
comp=Z,5μm,20.0s
JCUZ Jacuzzi 49.56 53 PFAKE 06 52 20.0 +12
JCUZ LR LR
comp=Z,2μm,18.0s
GIRL Giralia 49.78 250 *e*P **P 06 52 09.3 -0.3**
comp=Z,923nm,1.4s
GIRL LR LR
comp=Z,4μm,22.0s
GIRL Giralia 49.78 250 P **P 06 52 11.0 +1.3**
baz=50,SNR=10.0
JAGI Jajag, Banyuwa 50.20 268 *e*P **P 06 52 11.9 -1.2**
comp=Z,118nm,1.2s
JAGI LR LR
comp=Z,1μm,21.0s
JAGI Jajag, Banyuwa 50.20 268 P **P 06 52 11.6 -1.5**
TGY Tagaytay City 50.41 299 P **P 06 52 13.3 -1.3**
comp=Z,170nm,0.3s,baz=171,slow=8.7,SNR=3.2
JOW Kunigami 51.94 317 *e*P **P 06 52 25.6 -0.2**
comp=Z,68nm,1.3s
JOW LR LR
comp=Z,1μm,20.0s
JOW Kunigami 51.94 317 P **P 06 52 24.9 -1.0**
comp=Z,4.3nm,1.0s,baz=126,slow=12,SNR=2.7
PWJI Pagerwojo 52.57 268 P **P 06 52 29.9 -0.8**
comp=Z,69nm,1.6s,comp=Z,3μm
INU Inuyama 53.27 331 *e*P **P 06 52 35.7 +0.2**
comp=Z,170nm,1.5s
INU LR LR
comp=Z,2μm,20.0s
WOJI Wonogiri, Jawa 53.46 268 P **P 06 52 36.3 -1.0**
comp=Z,85nm,1.7s
MJAR Matsushiro Arr 53.71 333 P **P 06 52 37.2 -1.6**
comp=Z,13nm,0.7s,baz=170,slow=7.8,SNR=28
MAJO Matsushiro 53.71 333 *e*P **P 06 52 37.9 -0.8**
comp=Z,127nm,1.4s
MAJO LR LR
comp=Z,1μm,20.0s
MAJO Matsushiro 53.71 333*d i*P **P 06 52 37.4 -1.4**
MAJO pmax pmax
comp=Z,97nm,1.3s
MAJO MLR MLR
comp=Z,817nm,16.0s
MAT Matsushiro 53.71 333 P **P 06 52 37.6 -1.2**
MAT S **S 07 00 13.0 +0.8**
MJB9 Matsu-Tunnel 53.71 333 *e*P **P 06 52 37.6 -1.2**
comp=Z,130nm,1.4s
MJB9 LR LR
comp=Z,2μm,20.0s
UGM Wanagama 53.84 268 P **P 06 52 39.2 -1.0**
TAOE Nuku Hiva Isla 53.94 93 *e*LR LR 07 08 10.5
comp=Z,6μm,27.2s
SMRI Semarang 54.04 269 P **P 06 52 45.3 +3.7**
YOJ Yonaguni jima 54.17 311 PFAKE 06 52 50.0 +7.7
YOJ LR LR
comp=Z,2μm,20.0s
YOJ Yonaguni jima 54.17 311 P **P 06 52 41.9 -0.4**
YOJ pmax pmax
comp=Z,166nm,1.4s
SBUM Sibu 54.26 281 *e*P **P 06 52 42.9 -0.3**
comp=Z,51nm,1.5s
SBUM Sibu 54.26 281 P **P 06 52 45.0 +1.8**
TWG Pinlang 54.71 308 PFAKE 06 53 00.0 +14
TWG LR LR
comp=Z,5μm,22.0s
JNU Nakatsue 54.73 325 *e*P **P 06 52 46.5 +0.1**
comp=Z,154nm,1.2s
JNU LR LR
comp=Z,1μm,18.0s
YULB Yu-li 54.85 309 *e*P **P 06 52 47.8 +0.5**
comp=Z,53nm,1.0s
YULB LR LR
comp=Z,2μm,22.0s
NACB Ninganchiao 55.06 310 *e*P **P 06 52 48.3 -0.5**
comp=Z,384nm,1.7s
NACB LR LR
comp=Z,2μm,21.0s
TPUB Ta-pu 55.31 308 *e*P **P 06 52 51.3 +0.6**
comp=Z,219nm,1.3s
TPUB LR LR
comp=Z,2μm,22.0s
SSLB Suanglung 55.33 309 *e*P **P 06 52 50.0 -0.9**
comp=Z,137nm,1.6s
SSLB LR LR
comp=Z,2μm,22.0s
YHNB Yeheng 55.51 310 *e*P **P 06 52 53.1 +1.0**
comp=Z,224nm,1.3s
YHNB LR LR
comp=Z,3μm,21.0s
TATO Taipei 55.59 311 *e*P **P 06 52 53.9 +1.2**
comp=Z,452nm,1.6s
TATO LR LR
comp=Z,2μm,20.0s
KSM Kuching 55.86 279 *e*P **P 06 52 54.2 -0.5**
comp=Z,121nm,1.3s
KSM LR LR
comp=Z,400nm,20.0s
KSM Kuching 55.86 279 P **P 06 52 56.0 +1.2**
JCJI Jatiwangi 56.26 270 P **P 06 53 00.0 +2.4**
CISI Cisompet, Garu 56.55 268 *e*P **P 06 52 58.0 -1.7**
comp=Z,549nm,1.5s
CISI LR LR
comp=Z,1μm,20.0s
CISI Cisompet, Garu 56.55 268 P **P 06 52 58.6 -1.2**
comp=Z,148nm,1.6s,comp=Z,4μm
ERM Erimo 56.55 341 *e*P **P 06 52 59.1 0.0**
comp=Z,133nm,1.7s
ERM LR LR
comp=Z,1μm,21.0s
ERM Erimo 56.55 341⇓*e*P **P 06 53 00.5 +1.4**
ERM pmax pmax
comp=Z,83nm,1.6s
LEM Lembang 56.85 269 P **P 06 53 01.3 -0.7**
LEM pmax pmax
comp=Z,136nm,1.5s
YUK Yuzh-Kuril'sk 57.58 344 *e*P **P 06 53 09.2 +2.9**
CBJI Citeko 57.66 269 P **P 06 53 05.6 -2.0**
KNMB Chin-men Tao 57.66 308 PFAKE 06 53 20.0 +13
KNMB LR LR
comp=Z,1μm,21.0s
QZH Quanzhou 57.76 309⇓*i*P **P 06 53 08.3 +0.3**
QZH S **S 07 01 08.8 +2.2**
QZH pmax pmax
comp=Z,100nm,1.6s
QZH pmax pmax
comp=Z,750nm,6.2s
QZH LR LR
comp=Z,1μm,16.6s
QZH LR LR
comp=Z,610nm,18.0s
QZH LR LR
comp=Z,2μm,26.1s
KUR Kuril'sk 58.17 346*d i*P **P 06 53 09.0 -1.5**
KUR *e*PPP PPP 06 56 49.4
KUR *e*S **S 07 01 10.0 -1.2**
KUR pmax pmax
comp=Z,192nm,1.4s
KUR pmax pmax
comp=Z,868nm,4.8s
RKT Rikitea 58.19 110 *e*LQ LQ 07 07 51.1
RKT *e*LR LR 07 10 18.8
comp=Z,3μm,29.8s
comp=Z,15μm,26.5s
XMIS Christmas Isla 58.29 264 *e*P **P 06 53 13.2 +1.1**
comp=Z,133nm,1.2s
CGJI Cibinong 58.77 269 P **P 06 53 13.1 -2.2**
comp=Z,229nm,1.6s,comp=Z,5μm
SSE Sheshan 59.43 316 P **P 06 53 19.9 +0.4**
SSE S **S 07 01 29.6 +1.5**
SSE pmax pmax
comp=Z,38nm,1.4s
SSE pmax pmax
comp=Z,350nm,7.1s
SSE LR LR
comp=Z,450nm,14.5s
SSE LR LR
comp=Z,620nm,16.1s
KSRS Korea Array 59.54 326 P **P 06 53 20.0 -0.2**
comp=Z,11nm,1.1s,baz=139,slow=7.0,SNR=26
KSRS PP **PP 06 55 31.8 -0.1**
comp=Z,4.0nm,0.9s,baz=141,slow=9.0,SNR=5.4
KS15 Wonju Array Si 59.55 326 *e*P **P 06 53 20.0 -0.3**
comp=Z,143nm,1.5s
KSAR Wonju Array Be 59.55 326 *e*P **P 06 53 20.4 +0.1**
HKPS Hong Kong Po S 59.94 304 PFAKE 06 53 40.0 +17
HKPS LR LR
comp=Z,3μm,22.0s
DLV T Lat 60.68 290 *e*P **P 06 53 29.9 +1.2**
comp=Z,191nm,1.8s
GZH Guangzhou 60.97 304 P **P 06 53 33.0 +2.8**
GZH S **S 07 01 55.0 +6.9**
GZH pmax pmax
comp=Z,1μm,6.5s
YSS Yuzh-Sakhalins 61.13 343 *e*P **P 06 53 30.6 -0.2**
comp=Z,131nm,1.3s
YSS LR LR
comp=Z,900nm,19.0s
YSS Yuzh-Sakhalins 61.13 343 *e*P **P 06 53 30.3 -0.6**
YSS *e**SP **pwP 06 53 41.0 -1.2**
YSS *e*S **S 07 01 50.2 +0.9**
YSS *e*SS **SS 07 05 51.8 +2.1**
YSS smax smax
comp=E,1μm,7.5s
YSS MLR MLR
comp=N,800nm,15.0s
YSS MLR MLR
comp=E,900nm,15.0s
TEY Ternei 61.51 337⇑*e*P **P 06 53 33.6 +0.2**
TEY pmax pmax
comp=Z,30nm,1.6s
TEY pmax pmax
comp=N,20nm,1.4s
TEY pmax pmax
comp=E,20nm,1.2s
NJ2 Nanjing 61.59 316 *e*P **P 06 53 34.8 +0.5**
NJ2 pP **pP 06 53 37.3 -0.9**
NJ2 S **S 07 01 59.5 +3.8**
NJ2 sS **sS 07 02 03.0 +0.9**
NJ2 pmax pmax
comp=E,55nm,1.3s
NJ2 pmax pmax
comp=E,750nm,5.4s
NJ2 LR LR
comp=E,1μm,23.4s
NJ2 LR LR
comp=E,1μm,23.4s
NJ2 LR LR
comp=E,1μm,15.6s
MSHR Mys Shultsa 61.78 332*de*P **P 06 53 35.7 +0.3**
VLA Vladivostok 61.88 333⇓*e*P **P 06 53 37.9 +1.9**
VLA pmax pmax
comp=Z,147nm,1.6s
SKR Severo-Kuril's 62.01 354 *e*P **P 06 53 35.6 -1.1**
SKR *e* 06 53 59.9
SKR *e*PPP PPP 06 55 57.5
SKR *e*S **S 07 02 01.0 +0.7**
SKR *e* 07 03 20.1
SKR pmax pmax
comp=Z,80nm,1.4s
SKR pmax pmax
comp=Z,600nm,5.3s
QIZ Qiongzhong 62.12 298 P **P 06 53 39.1 +1.0**
QIZ PP **PP 06 55 52.1 -3.0**
QIZ S **S 07 02 09.9 +7.0**
QIZ pmax pmax
comp=Z,68nm,1.5s
QIZ pmax pmax
comp=Z,910nm,4.4s
QIZ LR LR
comp=Z,1μm,20.1s
QIZ LR LR
comp=Z,1μm,25.5s
QIZ LR LR
comp=Z,3μm,25.0s
QIZ Qiongzhong 62.12 298 PFAKE 06 53 50.0 +12
QIZ LR LR
comp=Z,3μm,22.0s
MYKOM Kota Tinggi 62.20 278 *e*P **P 06 53 38.9 +0.1**
comp=Z,174nm,1.8s
MYKOM LR LR
comp=Z,2μm,22.0s
MYKOM Kota Tinggi 62.20 278 P **P 06 53 41.0 +2.2**
USA0B Ussuriysk Arra 62.69 334 *e*P **P 06 53 41.5 +0.1**
comp=Z,247nm,1.6s
USRK Ussuriysk Ar. 62.69 334 *e*P **P 06 53 40.8 -0.7**
USRK Ussuriysk Ar. 62.69 334 P **P 06 53 41.5 0.0**
comp=Z,63nm,1.3s,baz=133,slow=8.4,SNR=45
USRK PKPPKP 07 22 42.5
comp=Z,0.7nm,0.6s,baz=243,slow=1.7,SNR=4.5
WHN Wuhan 63.93 312⇓*i*P **P 06 53 49.0 -0.9**
WHN S **S 07 02 25.0 -0.2**
WHN pmax pmax
comp=Z,380nm,2.0s
WHN pmax pmax
comp=Z,1μm,5.0s
WHN LR LR
comp=Z,1μm,13.6s
WHN LR LR
comp=Z,1μm,9.7s
WHN LR LR
comp=Z,4μm,19.1s
SMY Shemya 64.03 6 PFAKE 06 54 00.0 +10
SMY LR LR
comp=Z,1μm,21.0s
MDJ Mudanjiang 64.08 333 P **P 06 53 50.6 -0.1**
MDJ PP **PP 06 56 13.3 +1.4**
MDJ SS SS 07 06 30.5 -5.5
MDJ pmax pmax
comp=Z,60nm,1.4s
MDJ pmax pmax
comp=Z,1μm,5.3s
MDJ LR LR
comp=Z,1μm,21.5s
MDJ LR LR
comp=Z,990nm,19.1s
MDJ LR LR
comp=Z,2μm,20.7s
MDJ Mudanjiang 64.08 333 PFAKE 06 54 00.0 +9.3
MDJ LR LR
comp=Z,1μm,20.0s
PET Petropavlovsk 64.09 356 *e*P **P 06 53 50.8 +0.3**
comp=Z,50nm,1.1s
PET LR LR
comp=Z,700nm,19.0s
PET Petropavlovsk 64.09 356 *e*P **P 06 53 50.2 -0.3**
PET *e*S **S 07 02 23.7 -2.6**
PET pmax pmax
comp=Z,20nm,0.7s
PET pmax pmax
comp=Z,300nm,7.1s
PET pmax pmax
comp=Z,600nm,5.0s
PET MLR MLR
comp=Z,700nm,17.0s
DL2 Dalian 64.12 323⇓*i*P **P 06 53 49.9 -1.1**
DL2 S **S 07 02 29.9 +2.7**
DL2 SS **SS 07 06 35.9 -0.9**
DL2 pmax pmax
comp=Z,63nm,1.4s
DL2 pmax pmax
comp=Z,890nm,6.7s
DL2 LR LR
comp=Z,900nm,15.1s
DL2 LR LR
comp=Z,470nm,13.3s
DL2 LR LR
comp=Z,990nm,18.8s
PEA0B Petropavlovsk- 64.25 355 *e*P **P 06 53 52.4 +0.8**
comp=Z,174nm,1.5s
PEA0B LR LR
comp=Z,900nm,19.0s
PETK Petropavlovsk- 64.25 355 *e*P **P 06 53 50.9 -0.7**
PETK Petropavlovsk- 64.25 355 P **P 06 53 51.7 +0.1**
comp=Z,9.4nm,0.8s,baz=139,slow=7.8,SNR=17
PEA1 Petropavlovsk- 64.26 355 *e*P **P 06 53 51.7 +0.1**
BKNI Bangkinang 64.62 276 *e*P **P 06 53 54.7 -0.1**
comp=Z,522nm,1.4s
BKNI LR LR
comp=Z,1μm,19.0s
BKNI Bangkinang 64.62 276 P **P 06 53 57.9 +3.1**
ADK Adak 64.67 12 PFAKE 06 54 10.0 +16
ADK LR LR
comp=Z,800nm,22.0s
TYV Tymovskoe 64.71 344 *e*P **P 06 53 50.4 -4.2**
TYV *e* 07 02 27.3
TYV pmax pmax
comp=Z,61nm,1.8s
TYV pmax pmax
comp=Z,900nm,4.1s
SNY Shenyang 65.01 327⇓P **P 06 53 53.8 -2.9**
SNY S **S 07 02 40.4 +2.3**
SNY pmax pmax
comp=Z,970nm,5.7s
SNY LR LR
comp=Z,990nm,14.1s
SNY LR LR
comp=Z,1μm,16.3s
SNY LR LR
comp=Z,2μm,18.0s
TIA Tai'an 65.21 319 P **P 06 53 57.9 -0.3**
TIA PP **PP 06 56 26.3 +4.3**
TIA S **S 07 02 44.3 +3.4**
TIA LR LR
comp=Z,670nm,14.9s
TIA LR LR
comp=Z,710nm,17.1s
CN2 Changchun 65.44 329 *e*P **P 06 53 59.8 +0.3**
CN2 *e*S **S 07 02 45.8 +2.4**
CN2 pmax pmax
comp=Z,800nm,4.0s
CN2 LR LR
comp=Z,900nm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,1μm,15.0s
IPM Ipoh 65.58 280 *e*P **P 06 54 01.1 0.0**
comp=Z,383nm,1.8s
IPM LR LR
comp=Z,900nm,20.0s
IPM Ipoh 65.58 280 P **P 06 54 03.0 +1.9**
PANO Nakornpanom 66.00 294 P **P 06 54 04.7 +1.0**
comp=Z,1.3nm,1.6s,comp=Z,32nm
CASY Casey 66.10 201 PFAKE 06 54 20.0 +17
CASY LR LR
comp=Z,2μm,18.0s
KULM Kulim 66.14 281 *e*P **P 06 54 04.2 -0.4**
comp=Z,169nm,1.7s
KULM LR LR
comp=Z,1μm,22.0s
KULM Kulim 66.14 281 P **P 06 54 07.0 +2.3**
VNDA Vanda 66.44 181 *e*P **P 06 54 05.0 -0.5**
comp=Z,184nm,1.5s
VNDA Vanda 66.44 181 P **P 06 54 05.2 -0.3**
comp=Z,44nm,1.2s,baz=348,slow=6.8,SNR=53
VNDA LR LR 07 18 23.7
comp=Z,863nm,21.0s,baz=350,slow=32
VNDA PKPPKP 07 22 39.1
comp=Z,2.9nm,1.4s,baz=258,slow=4.1,SNR=3.4
GRNR Gornyy 66.46 341 *e*P **P 06 54 09.9 +3.9**
GRNR pmax pmax
comp=Z,180nm,1.5s
SKNT Sakolnakorn 66.51 294 P **P 06 54 07.3 +0.3**
comp=Z,132nm,1.5s
SKLT Songkhla 66.65 283 P **P 06 54 10.7 +2.8**
comp=Z,24nm,1.6s,comp=Z,963nm

SBA	**Scott Base**	**66.76 180**	*e*P	**P**	**06 54 08.5 +1.0**	
	comp=Z,183nm,1.4s					
SBA			LR	LR		
	comp=Z,1μm,18.0s					
SBA	**Scott Base**	**66.76 180**	P	**P**	**06 54 08.2 +0.7**	
SBA			pmax	pmax		
	comp=Z,100nm,1.7s					
KLR	**Kul'dur**	**66.84 337**	*d i*P	**P**	**06 54 08.0 -0.4**	
KLR			pmax	pmax		
	comp=Z,95nm,1.5s					
KLR	**Kul'dur**	**66.84 337**	PKPPKP	**P'P'df**	**07 22 36.1 +1.1**	
	comp=Z,4.0nm,1.1s,baz=102,slow=2.5,SNR=6.3					
PSI	**Prapat**	**67.22 278**	*e*P	**P**	**06 54 10.4 -1.4**	
	comp=Z,81nm,1.3s					
PSI			LR	LR		
	comp=Z,2μm,22.0s					
PSI	**Prapat**	**67.22 278**	P	**P**	**06 54 10.4 -1.4**	
	comp=Z,56nm,1.3s,baz=103,slow=5.2,SNR=20					
PSI			LR	LR	07 26 33.7	
	comp=Z,118nm,21.8s,baz=126,slow=39					
NKL	**Nikolayevsk**	**67.30 344**	*e*P	**P**	**06 54 08.0 -3.2**	
NKL			*e*		07 03 04.0	
NKL			pmax	pmax		
	comp=Z,83nm,1.2s					
NKL			MLR	MLR		
	comp=N,500nm,16.0s					
NKL			MLR	MLR		
	comp=E,700nm,16.0s					
NKL			MLR	MLR		
	comp=Z,1μm,16.0s					
KHON	**Khomkaen**	**67.33 293**	P	**P**	**06 54 15.4 +3.2**	
ENH	**Enshi**	**67.41 309**	PFAKE		06 54 20.0 +7.5	
ENH			LR	LR		
	comp=Z,1μm,18.0s					
NIKH	**Nikolski High**	**67.60 17**	PFAKE		06 54 20.0 +6.9	
NIKH			LR	LR		
	comp=Z,900nm,19.0s					
TRTT	**Trang**	**67.72 283**	P	**P**	**06 54 17.4 +2.7**	
	comp=Z,46nm,1.6s,comp=Z,3μm					
GYA	**Guiyang**	**67.90 304** ⇑	*i*P	**P**	**06 54 16.3 +0.5**	
GYA			PP	**PP**	**06 56 48.3 +2.5**	
GYA			ScP		06 58 45.0	
GYA			S	**S**	**07 03 15.4 +1.3**	
GYA			pmax	pmax		
	comp=Z,60nm,1.2s					
GYA			pmax	pmax		
	comp=Z,570nm,7.5s					
GYA			LR	LR		
	comp=Z,1μm,18.3s					
GYA			LR	LR		
	comp=Z,940nm,21.1s					
GYA			LR	LR		
	comp=Z,1μm,21.7s					
CHAI	**Chaiyaphum**	**67.95 292**	P	**P**	**06 54 17.9 +1.8**	
	comp=Z,50μm,1.4s					
BJT	**Baijiatuau**	**68.09 321**	PFAKE		06 54 30.0 +13	
BJT			LR	LR		
	comp=Z,1μm,20.0s					
SLVN	**Son La**	**68.15 298**	PFAKE		06 54 30.0 +13	
SLVN			LR	LR		
	comp=Z,2μm,22.0s					
GSI	**Gunungsitoli**	**68.21 276**	*e*P	**P**	**06 54 17.7 -0.2**	
	comp=Z,114nm,1.2s					
GSI	**Gunungsitoli**	**68.21 276**	P	**P**	**06 54 16.3 -1.5**	
KRAB	**Krabi**	**68.29 283**	P	**P**	**06 54 21.6 +3.3**	
	comp=Z,168μm,1.2s					
UNV	**Unalaska Valle**	**69.05 18**	PFAKE		06 54 30.0 +7.8	
UNV			LR	LR		
	comp=Z,900nm,22.0s					
TIY	**Taiyuan**	**69.15 318**	*e*P	**P**	**06 54 26.0 +2.7**	
TIY			S	**S**	**07 03 30.6 +2.2**	
TIY			pmax	pmax		
	comp=Z,810nm,5.9s					
TIY			LR	LR		
	comp=Z,570nm,12.2s					
TIY			LR	LR		
	comp=Z,290nm,12.2s					
TIY			LR	LR		
	comp=Z,2μm,33.0s					
AKUT	**Akutan**	**69.52 18**	PFAKE		06 54 40.0 +15	
AKUT			LR	LR		
	comp=Z,700nm,20.0s					
XAN	**Xi'an**	**69.67 313**	P	**P**	**06 54 26.0 -0.5**	
XAN			PcP	**PcP**	**06 54 48.6 -0.8**	
XAN			PP	**PP**	**06 57 01.1 +0.2**	
XAN			S	**S**	**07 03 33.6 -1.0**	
XAN			ScS	**ScS**	**07 04 28.8 +1.0**	
XAN			pmax	pmax		
	comp=Z,49nm,1.7s					
XAN			pmax	pmax		
	comp=Z,1μm,6.0s					
XAN			LR	LR		
	comp=Z,470nm,21.7s					
XAN			LR	LR		
	comp=Z,1μm,19.5s					
XAN			LR	LR		
	comp=Z,2μm,20.5s					
XAN	**Xi'an**	**69.67 313**	*e*P	**P**	**06 54 26.2 -0.3**	
	comp=Z,144nm,1.6s					
XAN			LR	LR		
	comp=Z,2μm,21.0s					
UTTA	**Uttaradit**	**69.85 294**	P	**P**	**06 54 30.2 +2.3**	
	comp=Z,48μm,1.4s,comp=Z,607μm					
NANT	**Nan**	**70.07 295**	P	**P**	**06 54 30.4 +1.2**	
	comp=Z,79μm,1.5s,comp=Z,809μm					
SRDT	**SRDT**	**70.09 290**	P	**P**	**06 54 32.5 +3.1**	
	comp=Z,35nm,1.4s,comp=Z,2μm					
PHRA	**Phrae**	**70.39 294**	P	**P**	**06 54 32.4 +1.2**	
	comp=Z,9.9nm,1.6s,comp=Z,199nm					
KMI	**Kunming**	**70.58 302**	P	**P**	**06 54 34.1 +1.5**	
KMI			pP	pP	06 54 36.8 +0.3	
KMI			sP	sP	06 54 38.8 +0.9	
KMI			S	**S**	**07 03 45.9 -0.1**	
KMI			sS	sS	07 03 53.1 +0.6	
KMI			pmax	pmax		
	comp=Z,130nm,1.5s					
KMI			pmax	pmax		
	comp=Z,1μm,4.5s					
KMI			LR	LR		
	comp=Z,790nm,18.8s					
KMI			LR	LR		
	comp=Z,1μm,22.6s					
KMI			LR	LR		
	comp=Z,2μm,23.4s					
KMI	**Kunming**	**70.58 302**	PFAKE		06 54 40.0 +7.4	
KMI			LR	LR		
	comp=Z,2μm,22.0s					
UMPA	**Umpang Tak**	**70.89 291**	P	**P**	**06 54 37.6 +3.2**	
	comp=Z,26μm,1.2s					
LAMP	**Lampang**	**70.93 294**	P	**P**	**06 54 37.3 +2.8**	
	comp=Z,96μm,1.2s					
PAYA	**Payao**	**70.99 295**	P	**P**	**06 54 37.6 +2.7**	
	comp=Z,77μm,1.3s					
SPIA	**Saint Paul Isl**	**71.00 14**	PFAKE		06 54 50.0 +16	
SPIA			LR	LR		
	comp=Z,2μm,21.0s					
MA2	**Magadan**	**71.36 352**	*e*P	**P**	**06 54 35.8 -0.5**	
	comp=Z,77nm,1.7s					
MA2			LR	LR		
	comp=Z,800nm,20.0s					
MA2	**Magadan**	**71.36 352**	*d i*P	**P**	**06 54 34.7 -1.6**	
MA2			pmax	pmax		
	comp=Z,40nm,1.5s					
HHC	**Hu-ho-hao-te**	**71.44 320**	*e*P	**P**	**06 54 37.9 +0.6**	
HHC			sP	pwP	06 54 48.0 -0.7	
HHC			SS	SS	07 08 32.4 +2.0	
HHC			LR	LR		
	comp=Z,6μm,17.8s					
CM31	**Chiang Mai Arr**	**71.53 294**	P	**P**	**06 54 38.5 +0.3**	
	SNR=18					
CMAR	**Chiang Mai Arr**	**71.53 294**	*e*P	**P**	**06 54 38.0 -0.1**	
CMAR	**Chiang Mai Arr**	**71.53 294**	*i* P	**P**	**06 54 38.5 +0.4**	
CMAR			pmax	pmax		
	comp=Z,25nm,1.1s					
CMAR	**Chiang Mai Arr**	**71.53 294**	P	**P**	**06 54 38.5 +0.4**	
	comp=Z,18nm,1.0s,baz=116,slow=4.0,SNR=50					
CMAR			PKPPKP		07 22 31.4	
	comp=Z,0.9nm,0.3s,baz=270,slow=3.7,SNR=6.5					
CMAR			LR	LR	07 25 11.1	
	comp=Z,352nm,19.8s,baz=114,slow=35					
CMMT	**Chiang Mai**	**71.64 294**	P	**P**	**06 54 39.6 +0.8**	
	comp=Z,33nm,1.5s,comp=Z,823nm					
CHTO	**Chiang Mai**	**71.64 294**	*e*P	**P**	**06 54 38.7 -0.2**	
	comp=Z,148nm,1.5s					
CHTO			LR	LR		
	comp=Z,1μm,22.0s					
CHTO	**Chiang Mai**	**71.64 294**	P	**P**	**06 54 38.9 +0.1**	
CHTO			pmax	pmax		
	comp=Z,70nm,1.6s					
CHTO	**Chiang Mai**	**71.64 294**	P	**P**	**06 54 38.9 +0.1**	
	SNR=30					
CHTO			P	**P**	**06 54 38.9 +0.1**	
	SNR=30					
HIA	**Hailar**	**72.08 331**	PFAKE		06 54 50.0 +9.1	
HIA			LR	LR		
	comp=Z,1μm,20.0s					
CD2	**Chengdu**	**72.11 308** ⇓	*i*P	**P**	**06 54 41.6 +0.1**	
CD2			PP	**PP**	**06 57 23.6 +1.7**	
CD2			S	**S**	**07 04 04.3 +1.2**	
CD2			SS	**SS**	**07 08 40.8 0.0**	
CD2			pmax	pmax		
	comp=Z,130nm,1.5s					
CD2			pmax	pmax		
	comp=Z,1μm,5.0s					
CD2			LR	LR		
	comp=Z,2μm,28.9s					
CD2			LR	LR		
	comp=Z,3μm,22.6s					
CD2			LR	LR		
	comp=Z,3μm,25.5s					
ZEA	**Zeya**	**72.13 337**	*e*P	**P**	**06 54 40.9 -0.1**	
ZEA			*e*		06 54 53.0	
ZEA			*e*S	**S**	**07 04 05.0 +2.7**	
ZEA			*e*PS		07 04 26.0	
ZEA			*e*SSS	SSS	07 11 48.0	
ZEA			pmax	pmax		
	comp=N,190nm,1.8s					
ZEA			pmax	pmax		
	comp=Z,230nm,1.6s					
ZEA			pmax	pmax		
	comp=N,500nm,6.0s					
ZEA			pmax	pmax		
	comp=Z,900nm,6.0s					
ZEA			smax	smax		
	comp=N,800nm,8.0s					
ZEA			smax	smax		
	comp=E,900nm,8.0s					
BTO	**Baotou**	**72.29 319**	*e*P	P	06 54 35.6 -6.8	
BTO			S	**S**	**07 04 02.4 -2.6**	
LZH	**Lanzhou**	**74.30 312**	*e*P	**P**	**06 54 56.0 +1.5**	
LZH			pP	sP	06 55 00.0 +0.2	
LZH			sP	pwP	06 55 02.3 -3.6	
LZH			S	**S**	**07 04 29.9 +1.8**	
LZH			sS	sS	07 04 37.8 +3.2	
LZH			SS	**SS**	**07 09 12.3 -2.1**	
LZH			pmax	pmax		
	comp=E,87nm,1.4s					
LZH			pmax	pmax		
	comp=E,1μm,4.3s					
LZH			LR	LR		
	comp=E,1μm,15.2s					
LZH			LR	LR		
	comp=E,930nm,15.2s					
LZH			LR	LR		
	comp=E,1μm,17.4s					
SEY	**Seymchan**	**74.45 354** ⇑	*i*P	**P**	**06 54 54.2 -0.3**	
PBA	**Port Blair**	**75.32 285**	*e*P	P	06 55 01.0 +0.5	
PBA			IAmb	IAmb	06 55 03.4	
	comp=Z,71nm,1.1s					
DGPR	**DIGLIPUR**	**75.53 287**	*e*P	**P**	**06 55 00.9 -0.8**	
DGPR			IAmb	IAmb	06 55 04.6	
	comp=Z,64nm,0.5s					
GAMB	**Gambell**	**76.73 10**	PFAKE		06 55 20.0 +12	
GAMB			LR	LR		
	comp=Z,800nm,22.0s					
KDAK	**Kodiak Island**	**76.86 22**	PFAKE		06 55 20.0 +12	
KDAK			LR	LR		
	comp=Z,1μm,18.0s					
CIT	**Chita**	**76.87 330**	*e*P	**P**	**06 55 09.0 +0.3**	
CIT			*e*		06 55 32.8	
CIT			pmax	pmax		
	comp=Z,142nm,1.7s					
ULN	**Ulaanbaatar**	**77.95 324**	*e*P	**P**	**06 55 14.7 -0.3**	
	comp=Z,90nm,1.7s					
ULN			LR	LR		
	comp=Z,1μm,20.0s					
ULN	**Ulaanbaatar**	**77.95 324**	*d i*P	**P**	**06 55 15.0 0.0**	
ULN			pmax	pmax		
	comp=Z,81nm,2.5s					
ULN	**Ulaanbaatar**	**77.95 324**	P	**P**	**06 55 15.0 0.0**	
	SNR=25					
ULN			P	**P**	**06 55 15.0 0.0**	
	SNR=25					
YAK	**Yakutsk**	**77.95 344**	*e*P	**P**	**06 55 14.3 -0.1**	
YAK			*e**PP	**pwP**	**06 55 27.0 +1.1**	
YAK			*e*		06 55 34.8	
YAK			*e*PPP	PPP	06 59 56.4	
YAK			*e*S	**S**	**07 05 07.4 +0.6**	
YAK			*e**SS	**SKSac**	**07 05 27.2 -0.1**	
YAK			*e*		07 05 53.7	
YAK			*e*SSS	SSS	07 13 25.9	
YAK			pmax	pmax		
	comp=E,70nm,1.2s					
YAK			pmax	pmax		
	comp=N,654nm,4.0s					
YAK			smax	smax		
	comp=N,2μm,7.1s					
YAK			smax	smax		
	comp=E,2μm,9.3s					
SONA0	**Songino Array**	**78.31 324**	*e*P	**P**	**06 55 16.4 -0.6**	
SONM	**Songino Array**	**78.31 324**	*e*P	**P**	**06 55 16.7 -0.3**	
SONM	**Songino Array**	**78.31 324**	P	**P**	**06 55 16.4 -0.6**	
	comp=E,4.5nm,1.0s,baz=138,slow=4.0,SNR=22					
SONM			PKPPKP	**P'P'df**	**07 22 18.1 +1.8**	
	comp=E,0.4nm,0.4s,baz=188,slow=1.0,SNR=5.1					
SONM			LR	LR	07 28 58.9	
	comp=E,815nm,19.8s,baz=121,slow=35					
SVW2	**Sparrevohn**	**78.36 18**	PFAKE		06 55 30.0 +13	
SVW2			LR	LR		
	comp=Z,900nm,21.0s					
GTA	**Gaotai**	**78.61 314** ⇓	*i*P	**P**	**06 55 19.4 +0.6**	
GTA			pP	sP	06 55 24.3 +0.1	
GTA			sP	PcP	06 55 26.8 -1.0	
GTA			S	**S**	**07 05 17.4 +2.2**	
GTA			SKS	**SKSac**	**07 05 28.8 -4.6**	
GTA			pmax	pmax		
	comp=Z,900nm,6.4s					
GTA			LR	LR		
	comp=Z,640nm,15.5s					
GTA			LR	LR		
	comp=Z,750nm,15.8s					
GTA			LR	LR		
	comp=Z,970nm,20.3s					
ANM	**Nome**	**78.67 13**	PFAKE		06 55 30.0 +12	
ANM			LR	LR		
	comp=Z,800nm,22.0s					
BRLK	**Bradley Lake**	**78.91 21**	PFAKE		06 55 30.0 +10	
BRLK			LR	LR		
	comp=Z,1μm,20.0s					
QSPA	**South Pole Qui**	**78.92 180**	*e*P	**P**	**06 55 19.3 -0.7**	
	comp=Z,297nm,1.4s					
QSPA			LR	LR		
	comp=Z,2μm,18.0s					
BILL	**Bilibino**	**78.93 0**	PFAKE		06 55 30.0 +10	
BILL			LR	LR		
	comp=Z,900nm,22.0s					
BILL	**Bilibino**	**78.93 0** ⇓	*i*P	**P**	**06 55 18.8 -0.9**	
BILL			*e*		06 55 32.2	
BILL			*e*		06 58 16.7	
BILL			*i* S	**S**	**07 05 11.0 -6.1**	
BILL			pmax	pmax		
	comp=Z,54nm,1.2s					
BRDH	**Bariadhala**	**79.32 296**	LR	LR	07 28 40.3	
	comp=Z,760nm,21.9s,baz=136,slow=34					
SEW	**Seward**	**79.66 21**	PFAKE		06 55 40.0 +16	
SEW			LR	LR		
	comp=Z,1μm,21.0s					
SHL	**Shillong**	**79.96 299**	PFAKE		06 55 40.0 +13	
SHL			LR	LR		
	comp=Z,1μm,22.0s					
SHL	**Shillong**	**79.96 299**	P	**P**	**06 55 26.0 -0.5**	
SHL			pmax	pmax		
	comp=Z,86nm,1.7s					
SHL	**Shillong**	**79.96 299**	*e*P	**P**	**06 55 26.2 -0.3**	
SHL			IAmb	IAmb	06 55 29.7	
	comp=Z,733nm,2.6s					
RC01	**Rabbit Creek A**	**80.26 20**	PFAKE		06 55 40.0 +13	
RC01			LR	LR		
	comp=Z,1μm,21.0s					
BOD	**Bodaibo**	**80.29 335**	*e*P	**P**	**06 55 27.2 -0.1**	
BOD			pmax	pmax		
	comp=Z,33nm,1.7s					
PMR	**Palmer**	**80.82 20**	PFAKE		06 55 40.0 +10	
PMR			LR	LR		
	comp=Z,2μm,22.0s					
KNK	**Knik Glacier**	**80.93 21**	PFAKE		06 55 40.0 +9.3	
KNK			LR	LR		
	comp=Z,1μm,21.0s					
GHO	**Glory Hole Cre**	**81.02 20**	PFAKE		06 55 40.0 +8.7	
GHO			LR	LR		
	comp=Z,1μm,21.0s					
GLI	**Glacier Island**	**81.04 22**	PFAKE		06 55 40.0 +8.7	
GLI			LR	LR		
	comp=Z,1μm,20.0s					
SML	**Sawmill**	**81.25 20**	PFAKE		06 55 40.0 +7.6	
SML			LR	LR		
	comp=Z,1μm,22.0s					
EYAK	**Cordova Ski Ar**	**81.31 22**	PFAKE		06 55 40.0 +7.3	
EYAK			LR	LR		
	comp=Z,2μm,21.0s					
ZAK	**Zakamensk**	**81.36 325**	*e*P	**P**	**06 55 31.4 -2.0**	
ZAK			pmax	pmax		
	comp=Z,14nm,1.6s					
SCM	**Sheep Creek Mo**	**81.61 21**	PFAKE		06 55 50.0 +16	
SCM			LR	LR		
	comp=Z,800nm,21.0s					
DIV	**Divide**	**81.69 22**	PFAKE		06 55 50.0 +15	
DIV			LR	LR		
	comp=Z,2μm,21.0s					
IRK	**Irkutsk**	**81.74 327**	*e*P	**P**	**06 55 34.6 -0.6**	
IRK			pmax	pmax		
	comp=Z,94nm,3.1s					
TLY	**Talaya**	**81.79 326**	*e*P	**P**	**06 55 35.0 -0.5**	
	comp=Z,17nm,1.2s					
TLY			LR	LR		
	comp=Z,800nm,20.0s					
TLY	**Talaya**	**81.79 326**	*d i*P	**P**	**06 55 35.0 -0.5**	
TLY	**Talaya**	**81.79 326**	P	**P**	**06 55 34.8 -0.7**	
	SNR=12					
TLY			P	**P**	**06 55 34.8 -0.7**	
	SNR=12					
LSA	**Lhasa**	**81.82 302**	PFAKE		06 55 50.0 +13	
LSA			LR	LR		
	comp=Z,1μm,22.0s					
KLU	**Klutina**	**81.88 21**	PFAKE		06 55 50.0 +14	
KLU			LR	LR		
	comp=Z,1μm,22.0s					
BPAW	**Bear Paw Mtn.**	**82.02 18**	PFAKE		06 55 50.0 +14	
BPAW			LR	LR		
	comp=Z,900nm,20.0s					
RND	**Reindeer**	**82.19 19**	*e*P	**P**	**06 55 38.0 +0.5**	
	comp=Z,42nm,1.4s					
RND			LR	LR		
	comp=Z,800nm,20.0s					
RDOG	**Red Dog Mine**	**82.20 12**	*e*P	**P**	**06 55 37.7 +0.4**	
	comp=Z,35nm,1.1s					
RDOG			LR	LR		
	comp=Z,600nm,19.0s					
MCK	**McKinley**	**82.40 19**	*e*P	**P**	**06 55 38.3 -0.1**	
	comp=Z,38nm,1.3s					
MCK			LR	LR		
	comp=Z,1μm,22.0s					
CRQM	**Cirque**	**82.43 23**	*e*P	**P**	**06 55 39.5 +0.6**	
DHY	**Denali Highway**	**82.45 20**	*e*P	**P**	**06 55 39.9 +1.0**	
	comp=Z,79nm,1.8s					
DHY			LR	LR		
	comp=Z,1μm,22.0s					
BWN	**Browne**	**82.54 18**	PFAKE		06 55 50.0 +11	
BWN			LR	LR		
	comp=Z,900nm,20.0s					
TGL	**Tana Glacier**	**82.55 23**	*e*P	**P**	**06 55 39.7 +0.3**	
	comp=Z,52nm,1.2s					
TGL			LR	LR		
	comp=Z,1μm,21.0s					
IMAR	**Indian Mountai**	**82.64 16**	*e*P	**P**	**06 55 38.5 -1.1**	
MLY	**Manley**	**82.78 17**	PFAKE		06 55 50.0 +10	
MLY			LR	LR		
	comp=Z,1μm,20.0s					
BALM	**Baldy**	**82.91 23**	PFAKE		06 55 50.0 +8.7	
BALM			LR	LR		
	comp=Z,900nm,20.0s					
PAX	**Paxson**	**83.02 20**	PFAKE		06 55 50.0 +8.2	
PAX			LR	LR		
	comp=Z,1μm,22.0s					
MCCM	**Marconi Confer**	**83.05 49**	PFAKE		06 55 50.0 +7.7	
MCCM			LR	LR		
	comp=Z,2μm,21.0s					
KCPM	**Cahto Peak**	**83.06 47**	PFAKE		06 55 50.0 +7.4	
KCPM			LR	LR		
	comp=Z,2μm,19.0s					
JCC	**Jacoby Creek,**	**83.14 46**	PFAKE		06 55 50.0 +7.2	
JCC			LR	LR		
	comp=Z,2μm,20.0s					
PCA	**Pinnacle**	**83.16 24**	PFAKE		06 55 50.0 +7.4	
PCA			LR	LR		
	comp=Z,2μm,21.0s					
WRH	**Wood River Hil**	**83.18 19**	PFAKE		06 55 50.0 +7.6	
WRH			LR	LR		
	comp=Z,1μm,20.0s					
HOPS	**Hopland Field**	**83.19 48**	PFAKE		06 55 50.0 +6.9	
HOPS			LR	LR		
	comp=Z,2μm,19.0s					
MOY	**Mondy**	**83.24 326**	*e*P	**P**	**06 55 43.4 +0.2**	
MOY			pmax	pmax		
	comp=Z,94nm,4.0s					
CTGM	**Chitina Glacie**	**83.26 23**	PFAKE		06 55 50.0 +6.9	
CTGM			LR	LR		
	comp=Z,1μm,19.0s					
BCPM	**Bancas Point**	**83.33 25**	PFAKE		06 55 50.0 +6.7	
BCPM			LR	LR		
	comp=Z,3μm,22.0s					
GDXM	**Geysers**	**83.33 48**	PFAKE		06 55 50.0 +6.0	
GDXM			LR	LR		
	comp=Z,3μm,20.0s					
KHMM	**Horse Mountain**	**83.37 46**	PFAKE		06 56 00.0 +16	
KHMM			LR	LR		
	comp=Z,2μm,20.0s					
CCB	**Clear Creek Bu**	**83.39 19**	PFAKE		06 55 50.0 +6.5	
CCB			LR	LR		
	comp=Z,1μm,20.0s					
MDM	**Murphy Dome**	**83.48 18**	PFAKE		06 56 00.0 +16	
MDM			LR	LR		
	comp=Z,600nm,20.0s					
KRMB	**Red Mountain**	**83.48 46**	PFAKE		06 56 00.0 +15	
KRMB			LR	LR		
	comp=Z,1μm,21.0s					
HDA	**Harding Lake**	**83.50 19**	PFAKE		06 56 00.0 +16	
HDA			LR	LR		
	comp=Z,700nm,18.0s					
HDA	**Harding Lake**	**83.50 19**	P	**P**	**06 55 43.6 -0.5**	
	baz=227					
TCOL	**CIGO, UAF Yank**	**83.53 18**	P	**P**	**06 55 43.2 -1.0**	
	baz=226					
COLA	**College**	**83.53 18**	*e*P	**P**	**06 55 43.1 -1.1**	
	comp=Z,24nm,0.9s					
COLA			LR	LR		
	comp=Z,1μm,20.0s					
COLA	**College**	**83.53 18** ⇓	*i*P	**P**	**06 55 44.2 0.0**	
COLA			pmax	pmax		
	comp=Z,15nm,0.9s					
MENT	**Mentasta**	**83.61 21**	*e*P	**P**	**06 55 45.6 +0.9**	
	comp=Z,125nm,1.9s					
MENT			LR	LR		
	comp=Z,1μm,21.0s					
SIT	**Sitka**	**83.61 28**	PFAKE		06 56 00.0 +15	
SIT			LR	LR		
	comp=Z,2μm,20.0s					
SAO	**San Andreas Ge**	**83.67 51**	PFAKE		06 56 00.0 +14	
SAO			LR	LR		
	comp=Z,4μm,20.0s					
KEBM	**Edson Butte**	**83.67 44**	PFAKE		06 56 00.0 +14	
KEBM			LR	LR		
	comp=Z,2μm,21.0s					
GATR	**Gnd/Air Tx Cnt**	**83.70 53**	*e*P	**P**	**06 55 43.8 -2.1**	
RIDG	**Independent Ri**	**83.74 20**	PFAKE		06 56 00.0 +15	
RIDG			LR	LR		
	comp=Z,1μm,21.0s					
ILAR	**Eielson Array**	**83.76 19**	*e*P	**P**	**06 55 44.8 -0.7**	
ILAR	**Eielson Array**	**83.76 19**	P	**P**	**06 55 43.5 -2.0**	
	comp=Z,7.4nm,0.7s,baz=233,slow=5.1,SNR=68					
ILAR			LR	LR	07 27 28.9	
	comp=Z,742nm,21.5s,baz=230,slow=32					
O02D	**Mt. Diablo Mer**	**83.81 47**	P	**P**	**06 55 46.5 +0.1**	
	baz=250,SNR=12					
POKR	**Poker Plat Res**	**83.83 18**	P	**P**	**06 55 45.0 -0.9**	
	baz=227					
L02E	**Cave Junction**	**83.92 45**	P	**P**	**06 55 46.6 -0.2**	

baz=249
BWNR Bhubaneshwar 83.93 292 *e*P **P 06 55 44.4 -2.9**
BWNR IAmb IAmb 06 55 47.1
comp=Z,150nm,1.2s
DOT Dot Lake 83.94 20 *e*P **P 06 55 47.2 +0.7**
comp=Z,143nm,1.9s
DOT LR LR
comp=Z,2μm,22.0s
J01E Myrtle Point 84.05 44 P **P 06 55 45.8 -1.6**
baz=249
K02D Willamette Mer 84.06 45 P **P 06 55 45.7 -2.0**
baz=249
SNCC San Nicolas Is 84.08 55 PFAKE 06 56 00.0 +12
SNCC LR LR
comp=Z,4μm,19.0s
SNCC San Nicolas Is 84.08 55 P **P 06 55 46.4 -1.4**
baz=253
WDC Whiskeytown Da 84.12 47 *e*P **P 06 55 47.1 -0.7**
comp=Z,40nm,1.4s
WDC LR LR
comp=Z,2μm,21.0s
N02D Trinity Center 84.14 46 P **P 06 55 48.4 +0.4**
baz=250,SNR=15
M02C Callahan 84.18 46 P **P 06 55 48.4 +0.2**
baz=250,SNR=13
SCRK Sand Creek 84.18 20 PFAKE 06 56 00.0 +12
SCRK LR LR
comp=Z,1μm,22.0s
SCZ2 Santa Cruz Isl 84.22 54 P **P 06 55 47.9 -0.6**
baz=252
PAGB Antelope Grade 84.26 52 PFAKE 06 56 00.0 +11
PAGB LR LR
comp=Z,4μm,22.0s
SBC Santa Barbara 84.29 53 P **P 06 55 48.5 -0.3**
baz=252
SMMC Simmler 84.33 53 P **P 06 55 49.3 +0.2**
baz=252
PKM Mcpherson Peak 84.35 53 P **P 06 55 49.4 0.0**
baz=252
BCAR Beaver Creek A 84.38 21 *e*P **P 06 55 47.6 -1.1**
YBH Yreka Blue Hor 84.39 46 PFAKE 06 56 00.0 +11
YBH LR LR
comp=Z,2μm,21.0s
MAW Mawson 84.44 202 *e*P **P 06 55 49.2 +0.2**
comp=Z,32nm,1.3s
MAW LR LR
comp=Z,200nm,19.0s
MAW Mawson 84.44 202 P **P 06 55 49.1 +0.2**
baz=84,SNR=8.8
MAW Mawson 84.44 202 P **P 06 55 48.6 -0.3**
comp=Z,40nm,1.0s,baz=93,slow=8.2,SNR=29
MAW LR LR 07 30 25.0
comp=Z,984nm,18.1s,baz=93,slow=34
I02D Swisshome 84.45 43 P **P 06 55 49.9 +0.5**
baz=249
COLD Coldfoot 84.52 16 PFAKE 06 56 00.0 +11
COLD LR LR
comp=Z,700nm,20.0s
HUMO Hull Mountain 84.52 45 PFAKE 06 56 00.0 +10
HUMO LR LR
comp=Z,2μm,21.0s
ORV Oroville 84.53 48 PFAKE 06 56 00.0 +10
ORV LR LR
comp=Z,1μm,19.0s
O03E Paynes Creek 84.56 47 P **P 06 55 49.8 -0.4**
baz=251,SNR=18
BESE Bessie Mountai 84.62 27 *e*P **P 06 55 50.5 +0.5**
comp=Z,120nm,1.7s
BESE LR LR
comp=Z,2μm,21.0s
I03D Drain, OR 84.64 44 P **P 06 55 50.7 +0.4**
baz=249
JIS Juneau Island 84.67 28 PFAKE 06 56 00.0 +10
JIS LR LR
comp=Z,2μm,20.0s
PRP Porcupine Dome 84.69 19 PFAKE 06 56 00.0 +10
PRP LR LR
comp=Z,1μm,21.0s
HYT Haines Junctio 84.70 24 *e*P **P 06 55 50.6 +0.1**
comp=Z,15nm,0.9s
HYT LR LR
comp=Z,3μm,22.0s
WRAK Wrangell Islan 84.70 30 *e*P **P 06 55 50.6 +0.2**
comp=Z,134nm,1.9s
WRAK LR LR
comp=Z,1μm,19.0s
BLG Laguna Peak, P 84.70 54 P **P 06 55 50.2 -0.7**
baz=253
BOK Bokaro 84.72 295 *e*P **P 06 55 48.9 -2.3**
BOK IAmb IAmb 06 55 55.1
comp=Z,923nm,3.3s
AFDM Forest Hills D 84.72 49 *e*P **P 06 55 50.0 -0.9**
comp=Z,31nm,1.2s
AFDM LR LR
comp=Z,1μm,18.0s
SCI2 San Clemente I 84.79 55 P **P 06 55 51.2 -0.2**
baz=253
L04D Klamath Falls 84.84 45 P **P 06 55 52.0 +0.3**
baz=250,SNR=7.8
SKAG Skagway 84.87 26 *e*P **P 06 55 52.0 +0.9**
comp=Z,29nm,1.1s
SKAG LR LR
comp=Z,3μm,20.0s
CMB Columbia Colle 84.87 50 PFAKE 06 56 00.0 +8.2
CMB LR LR
comp=Z,3μm,20.0s
COR Corvallis 84.98 43 PFAKE 06 56 00.0 +7.9
COR LR LR
comp=Z,2μm,21.0s
BBB Bella Bella 84.99 35 PFAKE 06 56 00.0 +8.1
BBB LR LR
comp=Z,2μm,22.0s
CIS Catalina Islan 85.02 55 P **P 06 55 52.1 -0.4**
baz=253
M04C Macdoel 85.02 46 P **P 06 55 52.4 -0.2**
baz=250,SNR=14
VOG Valley Oaks Go 85.11 52 P **P 06 55 52.3 -0.6**
baz=252
OSI Osito Audit: C 85.12 54 PFAKE 06 56 00.0 +6.9
OSI LR LR
comp=Z,2μm,20.0s
OSI Osito Audit: C 85.12 54 P **P 06 55 53.0 -0.1**
baz=253
ARVC Arvin 85.19 53 P **P 06 55 53.2 -0.1**
baz=253
VES Vestal, Richgr 85.20 52 P **P 06 55 52.7 -0.6**
baz=253
FMP Fort Macarthur 85.20 54 P **P 06 55 52.5 -0.9**
baz=253
G03D McMinnville, O 85.23 42 P **P 06 55 53.8 +0.5**
baz=249
I04A Tendick Farm, 85.31 44 P **P 06 55 53.4 -0.4**
baz=250
DECC Green Verdugo 85.33 54 P **P 06 55 53.6 -0.5**
baz=253
J04D Umpqua Nationa 85.33 44 P **P 06 55 54.1 0.0**
baz=250,SNR=6.4
H04D Lebanon 85.34 43 P **P 06 55 53.8 -0.1**
baz=250
RUBR Rubicon Trail 85.36 49 PFAKE 06 56 10.0 +16
RUBR LR LR
comp=Z,2μm,22.0s
K04D Chiloquin, OR 85.36 45 P **P 06 55 54.0 -0.2**
baz=250
PASC Pasadena Art C 85.42 54 PFAKE 06 56 10.0 +15
PASC LR LR
comp=Z,2μm,20.0s
JIRN Jiri 85.43 299 *e*P **P 06 55 55.0 -0.2**
comp=Z,664nm,1.7s
BEKR Beckworth 85.47 48 *e*P **P 06 55 54.9 +0.1**
comp=Z,70nm,1.7s
FYU Fort Yukon 85.48 18 PFAKE 06 56 00.0 +6.0
FYU LR LR
comp=Z,1μm,20.0s
MWC Mount Wilson 85.54 54 *e*P **P 06 55 55.1 -0.2**
comp=Z,117nm,1.6s
MWC LR LR
comp=Z,2μm,20.0s
ISA Isabella, Lake 85.62 53 PFAKE 06 56 10.0 +14
ISA LR LR
comp=Z,4μm,21.0s
ISA Isabella, Lake 85.62 53 P **P 06 55 55.5 -0.1**
baz=253,SNR=8.5
NLWA Neilton Lookou 85.62 40 PFAKE 06 56 10.0 +15
NLWA LR LR
comp=Z,3μm,22.0s
EGAK Eagle 85.64 20 PFAKE 06 56 10.0 +15
EGAK LR LR
comp=Z,1μm,22.0s
WHY Whitehorse 85.69 25 PFAKE 06 56 10.0 +15
WHY LR LR
comp=Z,3μm,22.0s
TOLK Toolik Lake Re 85.70 15 PFAKE 06 56 10.0 +15
TOLK LR LR
comp=Z,1μm,18.0s
TOLK Toolik Lake Re 85.70 15 P **P 06 55 55.7 +0.5**
baz=224
F04D Rainier, OR 85.70 42 P **P 06 55 55.4 -0.3**
baz=249
WAKR Walker 85.73 50 *e*P **P 06 55 56.8 +0.6**
comp=Z,110nm,1.8s
MDPB Devils Postpil 85.73 51 PFAKE 06 56 10.0 +14
MDPB LR LR
comp=Z,4μm,22.0s
H04A Detroit Lake 85.76 43 PFAKE 06 56 10.0 +14
H04A LR LR
comp=Z,2μm,22.0s
EDW2 Edwards Air Fo 85.77 53 P **P 06 55 56.1 -0.2**
baz=253,SNR=7.5
OMMB Old Mammoth Mi 85.79 51 PFAKE 06 56 10.0 +13
OMMB LR LR
comp=Z,5μm,21.0s
VCNR Virginia City 85.81 49 PFAKE 06 56 10.0 +13
VCNR LR LR
comp=Z,1μm,19.0s
DAWY Dawson 85.83 21 *e*P **P 06 55 57.0 +1.0**
comp=Z,23nm,1.3s
DAWY LR LR
comp=Z,2μm,22.0s
WBSM Bird Springs 85.85 53 *e*P **P 06 55 53.8 -3.1**
BFSC Mount Baldy Ra 85.86 54 P **P 06 55 56.7 -0.2**
baz=254,SNR=9.8
PALK Pallekele 85.90 278 *e*P **P 06 55 59.5 +2.1**
comp=Z,87nm,1.1s
PALK LR LR
comp=Z,900nm,22.0s
PALK Pallekele 85.90 278 LR LR 07 36 58.4
comp=Z,666nm,19.7s,baz=116,slow=38
MLAC Mammoth, Mammo 85.92 51 P **P 06 55 57.5 +0.2**
baz=253
109C Camp Elliot, M 85.93 56 P **P 06 55 57.3 +0.2**
baz=254
CPE Camp Elliot 85.93 56 PFAKE 06 56 10.0 +13
CPE LR LR
comp=Z,2μm,20.0s
J05D Fort Rock, OR 85.94 45 P **P 06 55 57.5 +0.4**
baz=251
K05A Summer Lake 86.00 45 *e*P **P 06 55 57.0 -0.5**
comp=Z,70nm,1.4s
K05A LR LR
comp=Z,2μm,21.0s
TIXI Tiksi 86.01 349 *e*P **P 06 55 55.1 -1.4**
comp=Z,35nm,1.4s
TIXI LR LR
comp=Z,500nm,21.0s
TIXI Tiksi 86.01 349⇑ *i*P **P 06 55 55.8 -0.8**
TIXI pmax pmax
comp=Z,30nm,1.4s
YERR Yerington 86.02 49 *e*P **P 06 55 56.4 -1.3**
comp=Z,54nm,1.6s
YERR LR LR
comp=Z,2μm,22.0s
MURC Murrieta 86.05 55 P **P 06 55 57.3 -0.5**
baz=254
PKI Pulchoki 86.08 299 *e*P **P 06 55 57.9 -0.5**
comp=Z,326nm,1.6s
HWB Hans Werner Br 86.08 55 *e*P **P 06 55 56.8 -1.2**
PKIN Phulchoki 86.09 299 *e*P **P 06 55 57.7 -0.7**
comp=Z,316nm,1.7s
PAHR Pah Rah Range 86.13 48 *e*P **P 06 55 57.0 -1.1**
comp=Z,37nm,1.3s
PAHR LR LR
comp=Z,1μm,19.0s
MOD Modoc Plateau 86.15 46 PFAKE 06 56 10.0 +12
MOD LR LR
comp=Z,1μm,19.0s
CWC Cottonwood Cre 86.15 52 P **P 06 55 58.1 -0.2**
baz=253
E04D Cinebar 86.16 41 P **P 06 55 57.9 +0.1**
baz=250
D03D Eldon 86.17 40 P **P 06 55 58.2 +0.3**
baz=249
LRMC Laurel Mtn Rad 86.19 53 P **P 06 55 58.4 -0.1**
baz=254
TIN Tinemaha, Big 86.21 51 P **P 06 55 57.9 -0.7**
baz=253
I05D Terrebonne, OR 86.22 44 P **P 06 55 57.8 -0.6**
baz=251
BAR Barrett 86.22 56 PFAKE 06 56 10.0 +11
BAR LR LR
comp=Z,2μm,22.0s
D04E Lakebay 86.25 41 P **P 06 55 58.9 +0.7**
baz=249
KKN Kakani 86.25 299 *e*P **P 06 55 58.6 -0.5**
comp=Z,402nm,1.8s
PINE Pine Mountain 86.31 44 PFAKE 06 56 10.0 +11
PINE LR LR
comp=Z,3μm,21.0s
DMN Daman 86.35 299 *e*P **P 06 55 59.4 -0.2**
comp=Z,350nm,1.6s
RYN Ryan 86.45 50 PFAKE 06 56 10.0 +10
RYN LR LR
comp=Z,3μm,21.0s
BBRC Big Bear Solar 86.45 54 P **P 06 55 58.9 -1.1**
baz=254
DAC Darwin (Calif) 86.48 52 PFAKE 06 56 10.0 +10
DAC LR LR
comp=Z,5μm,22.0s
MONP2 Monument Peak 86.48 56 P **P 06 55 59.9 -0.2**
baz=254,SNR=7.0
MPMC Manual Prospec 86.50 52 P **P 06 56 00.3 +0.2**
baz=254,SNR=8.6
G05D Wamic, OR 86.53 43 P **P 06 55 59.9 0.0**
baz=251
NV01 Mina Array Sit 86.55 50 *e*P **P 06 55 59.0 -1.3**
NVAR Mina Array Bea 86.55 50 *e*P **P 06 55 59.1 -1.2**
NVAR Mina Array Bea 86.55 50 P **P 06 55 59.0 -1.3**
comp=Z,4.6nm,0.9s,baz=234,slow=7.2,SNR=30
NVAR PKPPKP **P'P'df 07 22 05.1 +2.3**
comp=Z,0.8nm,0.9s,baz=184,slow=2.4,SNR=5.5
NVAR LR LR 07 27 33.5
comp=Z,3μm,20.1s,baz=259,slow=31
PFO Pinyon Flats O 86.65 55 *e*P **P 06 56 00.2 -0.6**
comp=Z,71nm,1.9s
PFO LR LR
comp=Z,4μm,20.0s
PFO Pinyon Flats O 86.65 55 *i*P **P 06 56 02.0 +1.2**
PFO Pinyon Flats O 86.65 55 P **P 06 56 00.4 -0.4**
baz=254
F05D White Salmon 86.65 42 P **P 06 56 00.5 +0.1**
baz=250
NV11 Mina Array Sit 86.67 50 PFAKE 06 56 10.0 +9.2
NV11 LR LR
comp=Z,200nm,20.0s
IKP In-Ko-Pah, Jac 86.67 56 P **P 06 56 00.4 -0.5**
baz=255
LON Longmire 86.72 41 PFAKE 06 56 10.0 +9.3
LON LR LR
comp=Z,2μm,21.0s
D05A Enumclaw 86.75 41 PFAKE 06 56 10.0 +9.2
D05A LR LR
comp=Z,1μm,20.0s
DLBC Dease Lake 86.76 28 PFAKE 06 56 10.0 +9.3
DLBC LR LR
comp=Z,2μm,20.0s
GSC Goldstone, Bar 86.83 53 PFAKE 06 56 10.0 +8.4
GSC LR LR
comp=Z,2μm,20.0s
GSC Goldstone, Bar 86.83 53 P **P 06 56 01.1 -0.5**
baz=254
A04D Lummi Island 86.83 39 P **P 06 56 01.2 +0.1**
baz=249
GKN Gorkha 86.85 299 *e*P **P 06 56 01.2 -0.8**
comp=Z,260nm,1.6s
GRAC Grapevine Rang 86.86 52 P **P 06 56 01.7 +0.1**
baz=254,SNR=6.3
KVN Kaiserville 86.89 49 PFAKE 06 56 10.0 +8.1
KVN LR LR
comp=Z,2μm,20.0s
G06A Carlson Farm, 86.99 43 PFAKE 06 56 10.0 +7.9
G06A LR LR
comp=Z,2μm,21.0s
SWSC Sam W. Stewart 87.00 56 P **P 06 56 02.5 +0.1**
baz=255
B05A Bryant 87.05 40 P **P 06 56 02.0 -0.3**
baz=250
HEC Hector,Ludlow 87.07 54 P **P 06 56 02.5 -0.3**
baz=254
FURC Furnace Creek, 87.10 52 P **P 06 56 02.7 0.0**
baz=254,SNR=6.6
BELC Belle Mtn. Jos 87.12 55 P **P 06 56 03.0 -0.1**
baz=255,SNR=19
SHOC Shoshone, Teco 87.40 53 P **P 06 56 03.2 -1.1**
baz=254
BC3 Big Chuckawall 87.47 55 P **P 06 56 04.9 +0.2**
baz=255,SNR=11
WVOR Wild Horse Val 87.49 46 PFAKE 06 56 20.0 +15
WVOR LR LR
comp=Z,2μm,19.0s
MDRS Chennai 87.52 284 *e*P **P 06 56 04.7 -0.5**
MDRS IAmb IAmb 06 56 09.3
B06A Marblemount 87.52 40 PFAKE 06 56 20.0 +16
B06A LR LR
comp=Z,3μm,20.0s
TUQ Turquoise Moun 87.56 53 P **P 06 56 05.0 -0.1**
baz=255
GMRC Granite Mounta 87.59 54 P **P 06 56 05.1 -0.3**
baz=255,SNR=9.4
DANN Dangsing 87.69 299 *e*P **P 06 56 04.5 -1.7**
comp=Z,157nm,1.5s
KOLN Koldanda 87.69 299 *e*P **P 06 56 05.0 -1.1**
comp=Z,102nm,1.7s
C06D Leavenworth 87.69 40 P **P 06 56 05.9 +0.5**
baz=251
TPNV Topopah Spring 87.70 52 PFAKE 06 56 20.0 +14
TPNV LR LR
comp=Z,4μm,22.0s
TPNV Topopah Spring 87.70 52 P **P 06 56 05.6 -0.3**
baz=254,SNR=11
GLA Glamis 87.82 56 PFAKE 06 56 20.0 +14
GLA LR LR
comp=Z,2μm,20.0s
GLA Glamis 87.82 56 P **P 06 56 06.8 +0.5**
baz=255,SNR=12
IRM Iron Mountain 87.84 55 P **P 06 56 06.3 -0.2**
baz=255,SNR=16
J08A Circle Bar Ran 87.88 45 PFAKE 06 56 20.0 +13
J08A LR LR
comp=Z,2μm,21.0s
E07A Sunnyside 87.92 42 PFAKE 06 56 20.0 +13
E07A LR LR
comp=Z,2μm,22.0s
BMN Battle Mountai 87.93 48 PFAKE 06 56 20.0 +13
BMN LR LR
comp=Z,1μm,22.0s
LLLB Lillooet 87.99 38 PFAKE 06 56 20.0 +13
LLLB LR LR
comp=Z,3μm,22.0s
EPYK Eagle Plains 88.08 20 PFAKE 06 56 20.0 +13
EPYK LR LR
comp=Z,1μm,22.0s
EPYK Eagle Plains 88.08 20 P **P 06 56 06.9 0.0**
baz=237
HAWA Hanford 88.08 42 PFAKE 06 56 20.0 +13
HAWA LR LR
comp=Z,2μm,21.0s
LDFC Landfair 88.11 54 PFAKE 06 56 20.0 +12
LDFC LR LR
comp=Z,3μm,19.0s
G08A Pilot Rock 88.13 43 PFAKE 06 56 20.0 +12
G08A LR LR
comp=Z,2μm,20.0s
Y12C Blythe 88.24 55 PFAKE 06 56 20.0 +12
Y12C LR LR
comp=Z,2μm,19.0s
Y12C Blythe 88.24 55 P **P 06 56 08.6 +0.3**
baz=256,SNR=9.8
PYUN Piuthan 88.29 299 *e*P **P 06 56 07.6 -1.3**
comp=Z,134nm,1.6s
NEE2 Needles Airpor 88.42 54 P **P 06 56 09.2 +0.1**
baz=255
E08A Dider Farm, El 88.43 42 PFAKE 06 56 20.0 +11
E08A LR LR
comp=Z,2μm,22.0s
R11A Troy Canyon, C 88.58 51 PFAKE 06 56 20.0 +10
R11A LR LR
comp=Z,4μm,20.0s
R11A Troy Canyon, C 88.58 51 P **P 06 56 09.7 -0.4**
baz=255,SNR=21
113A Mohawk Valley, 88.61 56 PFAKE 06 56 20.0 +10
113A LR LR
comp=Z,2μm,21.0s
SRIG Santa Rosalia 88.63 62 PFAKE 06 56 20.0 +10
SRIG LR LR
comp=Z,4μm,20.0s
WMQ Urumqi 88.66 315 *e*P **P 06 56 10.9 +0.8**
WMQ pP sP 06 56 15.4 -0.2
WMQ PP **PP 06 59 38.3 -0.7**
WMQ SKS **SKSac 07 06 39.0 +0.2**
WMQ S **S 07 06 56.8 +0.6**
WMQ pmax pmax
comp=Z,93nm,0.9s
WMQ Urumqi 88.66 315 PFAKE 06 56 20.0 +10
WMQ LR LR
comp=Z,900nm,22.0s
PDMCI Parker Dam,Lak 88.69 55 P **P 06 56 10.7 +0.3**
baz=256,SNR=9.1
D08A Wollman Farm, 88.69 42 PFAKE 06 56 20.0 +10
D08A LR LR
comp=Z,2μm,21.0s
B08A Colville Reser 88.82 40 PFAKE 06 56 20.0 +9.2
B08A LR LR
comp=Z,2μm,22.0s
E09A Wood Farm, Sta 89.03 42 PFAKE 06 56 20.0 +8.3
E09A LR LR
comp=Z,2μm,21.0s
W13A Hualapai Mount 89.08 54 PFAKE 06 56 20.0 +7.5
W13A LR LR
comp=Z,3μm,19.0s
BMO Blue Mountains 89.12 44 PFAKE 06 56 20.0 +7.7
BMO LR LR
comp=Z,2μm,22.0s
214A Organ Pipe Nat 89.21 57 P **P 06 56 13.4 +0.5**
baz=256,SNR=18
ELK Elko 89.47 48 PFAKE 06 56 30.0 +16
ELK LR LR
comp=Z,2μm,22.0s
F10A Beach Ranch, E 89.49 43 PFAKE 06 56 20.0 +6.0
F10A LR LR
comp=Z,1μm,20.0s
Y14A Wickenburg 89.51 55 PFAKE 06 56 30.0 +16
Y14A LR LR
comp=Z,2μm,19.0s
TRD Trivandrum 89.78 279 *e*P **P 06 56 15.6 -0.4**
SLBS Sierra La Lagu 89.86 66 *e*P **P 06 56 17.0 +0.7**
comp=Z,64nm,1.4s
SLBS LR LR
comp=Z,3μm,21.0s
HYB Hyderabad 90.00 288 *i*P **P 06 56 16.5 -0.4**
HYB *e*SKS **SKSac 07 06 48.0 +0.3**
HYB *e*ScS **ScS 07 07 12.0 -1.8**
HYB Hyderabad 90.00 288 *e*P **P 06 56 15.3 -1.6**
HYB IAmb IAmb 06 56 19.4
comp=Z,61nm,1.5s
INK Inuvik 90.16 19 PFAKE 06 56 30.0 +14
INK LR LR
comp=Z,2μm,22.0s
INK Inuvik 90.16 19 P **P 06 56 17.9 +1.5**
INK pmax pmax
comp=Z,8.0nm,2.1s
NEW Newport 90.21 41 *e*P **P 06 56 17.3 +0.1**
comp=Z,43nm,1.7s
NEW LR LR
comp=Z,1μm,20.0s
NEW Newport 90.21 41 P **P 06 56 17.0 -0.2**
baz=254
NGP Nagpur 90.29 291 *e*P **P 06 56 17.1 -1.0**
NGP IAmb IAmb 06 56 18.7
comp=Z,14nm,0.7s
DGZ Jazzator, Alta 90.51 321⇑ *e*P **P 06 56 19.0 +0.2**
DGZ pmax pmax
comp=Z,14nm,1.9s
U15A North Rim 90.66 53 PFAKE 06 56 30.0 +10
U15A LR LR
comp=Z,2μm,19.0s
HLID Hailey 90.78 46 PFAKE 06 56 30.0 +10
HLID LR LR
comp=Z,1μm,20.0s
HLID Hailey 90.78 46 P **P 06 56 20.5 +0.3**
baz=256

X16A Lo Mia Camp, P 90.88 55 PFAKE 06 56 30.0 +9.1
X16A LR LR
comp=Z,2μm,20.0s
TUC Tucson 90.96 57 *e*P **P 06 56 21.9 +0.7**
comp=Z,49nm,1.6s
TUC LR LR
comp=Z,2μm,19.0s
TUC Tucson 90.96 57 P **P 06 56 21.3 +0.1**
TUC pmax pmax
comp=Z,16nm,1.8s
TUC Tucson 90.96 57 P **P 06 56 21.5 +0.3**
baz=258
DUG Dugway, Tooele 91.13 49 PFAKE 06 56 30.0 +8.1
DUG LR LR
comp=Z,2μm,22.0s
DUG Dugway, Tooele 91.13 49 P **P 06 56 21.4 -0.5**
DUG pmax pmax
comp=Z,12nm,1.3s
DUG Dugway, Tooele 91.13 49 P **P 06 56 21.8 -0.1**
baz=256
WUAZ Wupatki 91.18 54 PFAKE 06 56 30.0 +7.8
WUAZ LR LR
comp=Z,2μm,19.0s
WUAZ Wupatki 91.18 54 P **P 06 56 22.2 -0.1**
baz=257
ZSN Zaisan 91.55 318 *e*P **P 06 56 20.4 -3.0**
ZSN *e*S **S 07 07 22.5 -0.2**
ZSN smax smax
comp=N,73nm,7.0s
ZSN Zaisan 91.55 318 *e*P **P 06 56 20.5 -3.0**
comp=N,100nm,6.1s
ZSN *e*S **S 07 07 22.5 -0.2**
comp=N,73nm,7.0s
SYO Syowa Base 91.55 197⇑ *e*P **P 06 56 20.4 -2.7**
SYO Syowa Base 91.55 197⇓ *e*P **P 06 56 24.6 +1.5**
MSO Missoula 91.91 43 PFAKE 06 56 40.0 +15
MSO LR LR
comp=Z,1μm,20.0s
MSO Missoula 91.91 43 P **P 06 56 26.0 +0.7**
baz=256
319A Douglas 92.02 59 PFAKE 06 56 40.0 +14
319A LR LR
comp=Z,3μm,21.0s
LATR Latur 92.06 288 *e*P **P 06 56 25.0 -1.4**
X18A Snowflake 92.11 55 PFAKE 06 56 40.0 +13
X18A LR LR
comp=Z,2μm,20.0s
BHPL Bhopal 92.17 293 *e*P **P 06 56 26.1 -0.9**
BHPL IAmb IAmb 06 56 28.7
comp=Z,44nm,1.5s
HWUT Hardware Ranch 92.37 48 PFAKE 06 56 40.0 +12
HWUT LR LR
comp=Z,1μm,20.0s
W18A Petrified Fore 92.40 55 *e*P **P 06 56 28.2 +0.2**
comp=Z,23nm,1.3s
W18A LR LR
comp=Z,2μm,20.0s
W18A Petrified Fore 92.40 55 P **P 06 56 28.3 +0.3**
baz=258
WALA Waterton Lakes 92.47 41 PFAKE 06 56 40.0 +12
WALA LR LR
comp=Z,1μm,21.0s
DLMT Dillon 92.47 44 PFAKE 06 56 40.0 +12
DLMT LR LR
comp=Z,2μm,21.0s
LRM Limekiln Ridge 92.68 44 *e*P **P 06 56 28.0 -1.0**
AHID Auburn Hatcher 92.95 47 PFAKE 06 56 40.0 +10
AHID LR LR
comp=Z,1μm,20.0s
DDI Dehra Dun 92.97 300 *e*P **P 06 56 30.0 -0.5**
DDI IAmb IAmb 06 56 31.3
comp=Z,264nm,1.9s
MK32 Makanchi Array 93.10 317 *e*P **P 06 56 29.5 -1.2**
MK32 *e*PP **PP 07 00 11.3 -2.8**
MKAR Makanchi Array 93.10 317 *i*P **P 06 56 30.2 -0.5**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 93.10 317 P **P 06 56 29.5 -1.2**
comp=Z,6.8nm,0.8s,baz=99,slow=4.5,SNR=49
MKAR PP **PP 07 00 11.3 -2.8**
comp=Z,1.7nm,1.0s,baz=120,slow=7.2,SNR=3.7
MKAR PKKPbc **PKKPdf 07 13 38.8 -1.2**
comp=Z,3.5nm,0.7s,baz=282,slow=2.1,SNR=23
MKAR LR LR 07 38 06.9
comp=Z,571nm,21.5s,baz=104,slow=35
BOZ Bozeman (W) 93.19 44 *e*P **P 06 56 30.9 -0.3**
comp=Z,68nm,1.8s
BOZ LR LR
comp=Z,2μm,21.0s
BOZ Bozeman (W) 93.19 44 P **P 06 56 31.2 -0.1**
baz=258
FXWY Fox Creek 93.19 46 *e*P **P 06 56 31.9 +0.5**
comp=Z,5.0nm,0.9s
ZAA0 Zalesovo Array 93.21 324 PFAKE 06 56 40.0 +9.1
ZAA0 LR LR
comp=Z,800nm,20.0s
ZALV Zalesovo Beam 93.21 324 *e*P **P 06 56 28.4 -2.6**
ZALV Zalesovo Beam 93.21 324 P **P 06 56 29.3 -1.6**
comp=Z,4.8nm,0.8s,baz=126,slow=5.6,SNR=12
ZALV LR LR 07 36 53.1
comp=Z,290nm,20.2s,baz=72,slow=34
ZAA1 Zalesovo Array 93.21 324 *e*P **P 06 56 29.3 -1.7**
TPAW Teton Pass 93.21 46 PFAKE 06 56 40.0 +8.4
TPAW LR LR
comp=Z,1μm,21.0s
REDW Red Top Meadow 93.26 47 PFAKE 06 56 40.0 +8.2
REDW LR LR
comp=Z,2μm,21.0s
IMW Indian Meadow 93.31 46 PFAKE 06 56 40.0 +8.0
IMW LR LR
comp=Z,1μm,18.0s
MAKZ Makanchi 93.32 317 *e*P **P 06 56 31.2 -0.4**
comp=Z,43nm,1.4s
MAKZ LR LR
comp=Z,800nm,21.0s
SNOW Snow King Moun 93.35 47 PFAKE 06 56 40.0 +7.8
SNOW LR LR
comp=Z,2μm,20.0s
MOOW Moose Ponds 93.41 46 PFAKE 06 56 40.0 +7.5
MOOW LR LR
comp=Z,1μm,18.0s
LOHW Long Hollow 93.48 46 PFAKE 06 56 40.0 +7.2
LOHW LR LR
comp=Z,1μm,21.0s
121A Cookes Peak, D 93.49 58 P **P 06 56 33.0 0.0**
baz=259
PV05 Paradox Valley 93.50 52 PFAKE 06 56 40.0 +7.0
PV05 LR LR
comp=Z,2μm,22.0s
FLWY Flagg Ranch 93.52 46 PFAKE 06 56 40.0 +7.1
FLWY LR LR
comp=Z,1μm,21.0s
MNCY Minicoy 93.55 278 *e*P **P 06 56 32.2 -1.2**
PV10 Paradox Valley 93.60 52 PFAKE 06 56 40.0 +6.5
PV10 LR LR
comp=Z,4μm,22.0s
PV14 Lion Creek, Pa 93.61 52 PFAKE 06 56 40.0 +6.5
PV14 LR LR
comp=Z,4μm,22.0s
PV19 Morning Glory 93.63 52 PFAKE 06 56 40.0 +6.4
PV19 LR LR
comp=Z,3μm,22.0s
H17A Grant Village 93.67 46 PFAKE 06 56 40.0 +6.4
H17A LR LR
comp=Z,3μm,21.0s
H17A Grant Village 93.67 46 P **P 06 56 33.8 +0.1**
baz=258
PV18 Skein Mesa, Pa 93.67 52 PFAKE 06 56 40.0 +6.2
PV18 LR LR
comp=Z,2μm,21.0s
PV16 Nyswonger Mesa 93.68 52 PFAKE 06 56 40.0 +6.2
PV16 LR LR
comp=Z,3μm,22.0s
PV21 Cone Mtn., Par 93.69 52 PFAKE 06 56 40.0 +6.1
PV21 LR LR
comp=Z,5μm,21.0s
PV04 Paradox Valley 93.71 52 PFAKE 06 56 40.0 +6.1
PV04 LR LR
comp=Z,4μm,22.0s
PV13 Radium Mtn., P 93.73 52 PFAKE 06 56 40.0 +5.9
PV13 LR LR
comp=Z,2μm,22.0s
MVCO Mesa Verde 93.80 53 PFAKE 06 56 50.0 +16
MVCO LR LR
comp=Z,2μm,20.0s
MVCO Mesa Verde 93.80 53 P **P 06 56 34.0 -0.4**
baz=259
LKWY Lake 93.82 45 PFAKE 06 56 50.0 +16
LKWY LR LR
comp=Z,3μm,21.0s
PV22 Blue Mesa, Par 93.83 52 *e*P **P 06 56 35.3 +0.8**
comp=Z,15nm,1.4s
PV22 LR LR
comp=Z,4μm,21.0s
SMLA Simla 93.87 301 *e*P **P 06 56 32.4 -2.1**
SMLA IAmb IAmb 06 56 36.2
comp=Z,259nm,2.1s
PV07 Paradox Valley 93.91 52 PFAKE 06 56 50.0 +15
PV07 LR LR
comp=Z,3μm,21.0s
PV01 Paradox Valley 93.92 52 PFAKE 06 56 50.0 +15
PV01 LR LR
comp=Z,2μm,21.0s
BW06 Boulder Array 94.06 47 P **P 06 56 35.3 -0.2**
baz=259
PDAR Pinedale Array 94.06 47 *e*P **P 06 56 34.9 -0.6**
PDAR Pinedale Array 94.06 47 P **P 06 56 34.0 -1.4**
comp=Z,2.0nm,0.9s,baz=258,slow=2.9,SNR=9.8
PDAR LR LR 07 31 59.7
comp=Z,945nm,21.4s,baz=243,slow=31
GOA Goa 94.09 285 *e*P **P 06 56 33.8 -2.0**
GOA IAmb IAmb 06 56 37.1
comp=Z,108nm,1.8s
NVS Novosibirsk 94.32 325⇓ *i*P **P 06 56 36.6 +0.6**
NVS pmax pmax
comp=Z,30nm,1.5s
NVS pmax pmax
comp=N,2.0nm,0.4s
SHLS Shalkode 94.32 313 *e*P **P 06 56 32.3 -4.2**
SHLS pmax pmax
comp=Z,66nm,3.2s
SHLS Shalkode 94.32 313 *e*P **P 06 56 32.4 -4.2**
comp=Z,66nm,3.2s
PDGK Podgornoye 94.33 313 P **P 06 56 35.4 -1.2**
PDGK pmax pmax
comp=Z,7.0nm,1.6s
EPT El Paso 94.42 59 PFAKE 06 56 50.0 +13
EPT LR LR
comp=Z,4μm,20.0s
Y22D IRIS PASSCAL I 94.48 56 PFAKE 06 56 50.0 +12
Y22D LR LR
comp=Z,2μm,21.0s
Y22D IRIS PASSCAL I 94.48 56 P **P 06 56 36.8 -0.7**
baz=260
O20A White River Ci 94.54 50 PFAKE 06 56 50.0 +12
O20A LR LR
comp=Z,3μm,19.0s
O20A White River Ci 94.54 50 P **P 06 56 37.5 -0.2**
baz=259
POO Poona 94.61 288 *e*P **P 06 56 36.6 -1.6**
POO IAmb IAmb 06 56 40.5
comp=Z,180nm,2.1s
UZB Uzynbulak 94.63 313 *e*P **P 06 56 36.3 -1.6**
UZB pmax pmax
comp=Z,64nm,3.4s
UZB Uzynbulak 94.63 313 *e*P **P 06 56 36.4 -1.6**
comp=Z,64nm,3.4s
UZB *e*S **SKSac 07 07 15.1 +2.2**
comp=Z,91nm,6.5s
RLMT Red Lodge 94.72 45 PFAKE 06 56 50.0 +12
RLMT LR LR
comp=Z,2μm,20.0s
DHRM DHARAMSHALA 94.80 302 *e*P **P 06 56 37.9 -1.2**
DHRM IAmb IAmb 06 56 39.5
KPKS Kokpek 94.93 313 *e*P **P 06 56 36.9 -2.3**
KPKS pmax pmax
comp=Z,102nm,3.8s
KPKS Kokpek 94.93 313 *e*P **P 06 56 37.0 -2.3**
comp=Z,102nm,3.8s
KPKS *e*S **SKSac 07 07 16.5 +2.2**
comp=Z,83nm,5.9s
EGMT Eagleton 94.94 42 PFAKE 06 56 50.0 +11
EGMT LR LR
comp=Z,1μm,21.0s
EGMT Eagleton 94.94 42 P **P 06 56 39.4 +0.2**
baz=259
TASM ASL Pad, Albuq 95.01 56 P **P 06 56 39.5 -0.5**
baz=260
TASM ASL Pad, Albuq 95.01 56 P **P 06 56 39.7 -0.2**
baz=260
ANMO Albuquerque 95.01 56 *e*P **P 06 56 40.3 +0.4**
comp=Z,7.4nm,1.3s
ANMO LR LR
comp=Z,1μm,21.0s
ANMO Albuquerque 95.01 56⇓ *e*P **P 06 56 40.4 +0.4**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
ANMO Albuquerque 95.01 56 P **P 06 56 40.0 0.0**
baz=260
ZHN Zhinishke 95.06 313 *e*P **P 06 56 38.0 -1.9**
ZHN Zhinishke 95.06 313 *e*P **P 06 56 37.1 -2.8**
comp=Z,54nm,4.3s
SATY Saty 95.06 313 *e*P **P 06 56 38.2 -1.7**
SATY pmax pmax
comp=Z,75nm,3.8s
SATY Saty 95.06 313 *e*P **P 06 56 38.2 -1.7**
comp=Z,75nm,3.8s
SATY *e*S **SKSac 07 07 17.3 +2.1**
comp=Z,101nm,6.1s
S22A 4UR Ranch, Cre 95.20 53 PFAKE 06 56 50.0 +9.1
S22A LR LR
comp=Z,2μm,20.0s
S22A 4UR Ranch, Cre 95.20 53 P **P 06 56 40.7 -0.2**
baz=260
TARG Taragay, Kyrgy 95.26 311 PFAKE 06 56 50.0 +8.8
TARG LR LR
comp=Z,500nm,21.0s
YKA Yellowknife Ar 95.31 27 P **P 06 56 37.9 -2.5**
comp=Z,1.8nm,0.8s,baz=256,slow=4.7,SNR=22
YKA PP **PP 07 00 32.1 +1.3**
comp=Z,0.4nm,0.8s,baz=258,slow=6.4,SNR=3.7
YKA PKiKP **PKiKP 07 01 21.3 +0.3**
comp=Z,0.2nm,0.6s,baz=247,slow=1.4,SNR=6.3
YKA LR LR 07 32 38.9
comp=Z,147nm,21.8s,baz=253,slow=31
YKB5 Yellowknife Ar 95.31 27 *e*P **P 06 56 37.9 -2.5**
YKB5 *e*PP **PP 07 00 32.1 +1.3**
YKB5 *e*PKiKP **PKiKP 07 01 21.3 +0.3**
SMCO Snowmass 95.33 51 PFAKE 06 56 50.0 +8.4
SMCO LR LR
comp=Z,5μm,20.0s
MNTX Cornudas Mount 95.35 59 PFAKE 06 56 50.0 +8.6
MNTX LR LR
comp=Z,3μm,20.0s
MNTX Cornudas Mount 95.35 59 P **P 06 56 40.6 -0.8**
baz=260
TDK Taldyqorghan 95.41 315 *e*P **P 06 56 37.4 -3.9**
TDK Taldyqorghan 95.41 315 *e*P **P 06 56 37.4 -3.9**
comp=Z,200nm,4.4s
RWWY Rawlins 95.58 49 PFAKE 06 56 50.0 +7.5
RWWY LR LR
comp=Z,2μm,18.0s
NRIK Noril'sk 95.93 340 P **P 06 56 41.0 -2.1**
comp=Z,2.7nm,0.7s,baz=114,slow=4.9,SNR=12
NRIK PP **PP 07 00 33.7 -1.8**
comp=Z,1.4nm,0.6s,baz=123,slow=7.3,SNR=6.9
NRIK LR LR 07 39 55.8
comp=Z,550nm,20.4s,baz=102,slow=36
MDOK Medeo 96.06 313 *e*P **P 06 56 41.8 -2.7**
MDOK pmax pmax
comp=Z,289nm,3.3s
MDOK Medeo 96.06 313 *e*P **P 06 56 41.8 -2.7**
comp=Z,289nm,3.3s
MDOK *e*S **SKSac 07 07 21.9 +1.4**
comp=Z,362nm,6.6s
SDCO Great Sand Dun 96.24 53 PFAKE 06 57 00.0 +14
SDCO LR LR
comp=Z,2μm,20.0s
K22A Casper 96.25 48 PFAKE 06 57 00.0 +15
K22A LR LR
comp=Z,1μm,22.0s
K22A Casper 96.25 48 P **P 06 56 44.8 -0.6**
baz=261
KURK Kurchatov 96.25 320 *e*P **P 06 56 43.5 -1.5**
comp=Z,47nm,1.8s
KURK LR LR
comp=Z,700nm,18.0s
KURK Kurchatov 96.25 320 *d i*P **P 06 56 42.7 -2.3**
KURK pmax pmax
comp=Z,28nm,1.8s
KURK Kurchatov 96.25 320 P **P 06 56 43.1 -1.8**
SNR=13
KURK P **P 06 56 43.1 -1.8**
SNR=13
KSH Kashi 96.27 309 P **P 06 56 47.0 +1.5**
KSH sP sP 06 56 53.9 +3.0
KSH PP **PP 07 00 39.8 +0.7**
KSH S **S 07 08 04.3 -0.5**
KSH SS **SS 07 14 41.4 +3.9**
KSH LR LR
comp=Z,550nm,12.4s
KSH LR LR
comp=Z,370nm,8.8s
KSH LR LR
comp=Z,690nm,12.2s
KURBB Kurchatov Arra 96.29 320 PKKPbc PKKPbc 07 13 31.2 -1.8
comp=Z,1.8nm,0.9s,baz=281,slow=2.9,SNR=13
KURBB PKPPKP 07 21 45.2
comp=Z,0.4nm,0.9s,baz=300,slow=3.1,SNR=4.3
ZAIG Zacatecas 96.36 68 PFAKE 06 57 00.0 +14
ZAIG LR LR
comp=Z,2μm,20.0s
N23A Red Feather La 96.39 50 PFAKE 06 57 00.0 +14
N23A LR LR
comp=Z,2μm,19.0s
N23A Red Feather La 96.39 50 P **P 06 56 45.9 -0.3**
baz=261
TXAR Lajitas Array 96.43 61 *e*P **P 06 56 46.2 -0.2**
TXAR Lajitas Array 96.43 61 P **P 06 56 44.6 -1.8**
comp=Z,0.7nm,0.7s,baz=221,slow=5.6,SNR=10
TXAR PP **PP 07 00 39.7 -0.8**
comp=Z,2.4nm,1.1s,baz=248,slow=6.1,SNR=6.7
TXAR PKKPbc **PKKPbc 07 13 32.2 +0.3**
comp=Z,0.3nm,0.6s,baz=107,slow=3.7,SNR=6.2
TXAR LR LR 07 32 57.6
comp=Z,3μm,20.0s,baz=0.0,slow=31
ISCO Idaho Springs 96.47 51 PFAKE 06 57 00.0 +13
ISCO LR LR
comp=Z,5μm,22.0s
KUU Kurty 96.68 313 *e*P **P 06 56 45.1 -2.0**
KUU pmax pmax
comp=Z,112nm,4.0s
KUU Kurty 96.68 313 *e*P **P 06 56 45.1 -2.0**
comp=Z,112nm,4.0s
KUU *e*S **SKSac 07 07 26.1 +2.7**
comp=Z,293nm,5.7s
Q24A Divide 96.70 52 PFAKE 06 57 00.0 +12
Q24A LR LR
comp=Z,3μm,21.0s
Q24A Divide 96.70 52 P **P 06 56 47.6 -0.1**
baz=261
PHWY Pilot Hill 96.82 49 PFAKE 06 57 00.0 +12
PHWY LR LR
comp=Z,2μm,20.0s
T25A Trinidad 97.00 54 PFAKE 06 57 00.0 +11
T25A LR LR
comp=Z,2μm,19.0s
T25A Trinidad 97.00 54 P **P 06 56 48.9 -0.1**
baz=261
SNAA Sanae 97.03 184 P **P 06 56 47.6 -0.7**
SNAA Sanae 97.03 184 *e*P **P 06 56 47.0 -1.3**
comp=Z,104nm,1.6s
SNAA LR LR
comp=Z,2μm,20.0s
SNAA Sanae 97.03 184 *de*P **P 06 56 47.2 -1.1**
LAO LASA Array 97.08 44 PFAKE 06 57 00.0 +11
LAO LR LR
comp=Z,1μm,20.0s
LAO LASA Array 97.08 44 P **P 06 56 48.6 -0.4**
baz=261
MOIG Morelia 97.14 71 PFAKE 06 57 00.0 +10
MOIG LR LR
comp=Z,3μm,20.0s
NIL Nilore 97.55 303 PFAKE 06 57 00.0 +8.6
NIL LR LR
comp=Z,301nm,22.0s
FRU1 Bishkek 97.76 312 PFAKE 06 57 00.0 +7.8
FRU1 LR LR
comp=Z,600nm,21.0s
VNA3 Neumayer Olymp 97.78 182 P **P 06 56 50.6 -1.0**
AAK Ala-Archa 97.83 312 PFAKE 06 57 00.0 +7.4
AAK LR LR
comp=Z,600nm,19.0s
MSTX Muleshoe 97.87 57 PFAKE 06 57 00.0 +7.1
MSTX LR LR
comp=Z,3μm,22.0s
VNA2 Neumayer--Watz 98.02 182 P **P 06 56 52.0 -0.6**
RSSD Black Hills 98.25 47 PFAKE 06 57 10.0 +15
RSSD LR LR
comp=Z,2μm,21.0s
VNA1 Neumayer--Stat 98.33 182 P Pdif 06 56 54.7 +0.7
KSCO Kaye Shedlock' 98.65 52 PFAKE 06 57 10.0 +14
KSCO LR LR
comp=Z,2μm,22.0s
DGMT Dagmar 98.68 42 PFAKE 06 57 10.0 +14
DGMT LR LR
comp=Z,1μm,21.0s
DGMT Dagmar 98.68 42 P **P 06 56 56.0 0.0**
baz=263
ARSB Arslanbob 98.78 310 PFAKE 06 57 10.0 +13
ARSB LR LR
comp=Z,900nm,20.0s
AMTX Amarillo 98.89 56 PFAKE 06 57 10.0 +13
AMTX LR LR
comp=Z,2μm,21.0s
BHJ Bhuj 99.22 292 *e*P **Pdif 06 56 57.6 -1.4**
BHJ IAmb IAmb 06 57 07.2
comp=Z,881nm,3.2s
TLIG Tlapa 99.27 74 PFAKE 06 57 10.0 +11
TLIG LR LR
comp=Z,2μm,22.0s
OGNE Ogallala 99.34 50 PFAKE 06 57 10.0 +11
OGNE LR LR
comp=Z,3μm,22.0s
LNIG Linares 99.49 66 PFAKE 06 57 10.0 +10
LNIG LR LR
comp=Z,3μm,20.0s
JCT Junction City 99.91 61 PFAKE 06 57 10.0 +8.0
JCT LR LR
comp=Z,4μm,20.0s
JCT Junction City 99.91 61 P **Pdif 06 57 00.8 -1.2**
baz=263
833A Chaparral WMA, 100.00 63 PFAKE 06 57 10.0 +7.7
833A LR LR
comp=Z,2μm,19.0s
ABTX Abilene, Hawle 100.30 59 PFAKE 06 57 10.0 +6.4
ABTX LR LR
comp=Z,3μm,20.0s
GAR Garm 100.56 308 PFAKE 06 57 20.0 +15
GAR LR LR
comp=Z,2μm,21.0s
FFC Flin Flon 100.66 36 *e*Pdif **Pdif 06 57 04.0 -0.6**
FFC LR LR
comp=Z,2μm,20.0s
FFC Flin Flon 100.66 36 *i*P **Pdif 06 57 04.9 +0.3**
KKAR Karatay Array 100.80 312 *e*Pdif **Pdif 06 57 04.6 -1.0**
KBL Kabul 101.13 303 PFAKE 06 57 20.0 +12
KBL LR LR
comp=Z,600nm,20.0s
U32A Winter Ranch, 101.22 55 PFAKE 06 57 20.0 +12
U32A LR LR
comp=Z,2μm,20.0s
KVTX Kingsville 101.22 64 PFAKE 06 57 20.0 +12
KVTX LR LR
comp=Z,2μm,19.0s
WMOK Wichita Mounta 101.24 57 PFAKE 06 57 20.0 +12
WMOK LR LR
comp=Z,3μm,20.0s
CHGR Chuyangaron 101.42 307 PFAKE 06 57 20.0 +11
CHGR LR LR
comp=Z,900nm,20.0s
LVIG Laguna Verde 101.59 72 PFAKE 06 57 20.0 +10
LVIG LR LR
comp=Z,2μm,19.0s
BRVK Borovoye 101.64 322 PFAKE 06 57 20.0 +11
BRVK LR LR
comp=Z,600nm,21.0s
BRVK Borovoye 101.64 322 *ce*P **Pdif 06 57 08.5 -0.6**
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 101.64 322 P **Pdif 06 57 08.6 -0.5**
SNR=5.7
435B Jarrell 101.84 61 PFAKE 06 57 20.0 +9.5
435B LR LR
comp=Z,3μm,20.0s
WHTX Lake Whitney, 102.07 59 PFAKE 06 57 20.0 +8.5
WHTX LR LR
comp=Z,3μm,20.0s

BGNE	**Belgrade**	**102.30**	**50**	PFAKE		06 57 20.0	+7.7
BGNE	comp=Z,2μm,22.0s			LR	LR		
OK023	**East Waterloo**	**102.65**	**56**	PFAKE		06 57 30.0	+16
OK023	comp=Z,2μm,21.0s			LR	LR		
OK024	**West corner E0**	**102.73**	**56**	PFAKE		06 57 30.0	+16
OK024	comp=Z,2μm,21.0s			LR	LR		
HKT	**Hockley**	**103.27**	**62**	PFAKE		06 57 30.0	+13
HKT	comp=Z,3μm,20.0s			LR	LR		
RES	**Resolute Bay**	**103.28**	**16**	PFAKE		06 57 30.0	+14
RES	comp=Z,500nm,22.0s			LR	LR		
KSU1	**Kansas State U**	**103.33**	**52**	PFAKE		06 57 30.0	+13
KSU1	comp=Z,2μm,19.0s			LR	LR		
ECSD	**EROS Data Cent**	**103.56**	**48**	PFAKE		06 57 30.0	+12
ECSD	comp=Z,2μm,21.0s			LR	LR		
TUL1	**Leonard**	**103.77**	**56**	PFAKE		06 57 30.0	+11
TUL1	comp=Z,3μm,22.0s			LR	LR		
X37A	**Clayton**	**104.03**	**57**	PFAKE		06 57 30.0	+10
X37A	comp=Z,3μm,21.0s			LR	LR		
AGMN	**Agassiz Nation**	**104.21**	**43**	PFAKE		06 57 30.0	+9.4
AGMN	comp=Z,900nm,20.0s			LR	LR		
ULM	**Lac du Bonnet**	**104.22**	**41**	PFAKE		06 57 30.0	+9.4
ULM	comp=Z,800nm,18.0s			LR	LR		
NATX	**Nacogdoches**	**104.42**	**60**	PFAKE		06 57 30.0	+8.1
NATX	comp=Z,3μm,20.0s			LR	LR		
ETX06	**Route 59 and C**	**104.61**	**60**	PFAKE		06 57 30.0	+7.2
ETX06	comp=Z,2μm,20.0s			LR	LR		
FCC	**Fort Churchill**	**105.03**	**32**	PFAKE		07 01 50.0	+11
FCC	comp=Z,1μm,19.0s			LR	LR		
CCIG	**Comitan**	**105.18**	**76**	PFAKE		07 01 50.0	+10
CCIG	comp=Z,1μm,19.0s			LR	LR		
HHAR	**Hobbs**	**105.29**	**55**	PFAKE		07 01 50.0	+10
HHAR	comp=Z,2μm,20.0s			LR	LR		
W39A	**Magazine**	**105.37**	**56**	PFAKE		07 01 50.0	+10
W39A	comp=Z,2μm,20.0s			LR	LR		
MIAR	**Mount Ida**	**105.50**	**57**	PFAKE		07 01 50.0	+10
MIAR	comp=Z,4μm,21.0s			LR	LR		
SCIA	**State Center**	**106.01**	**50**	PFAKE		07 01 50.0	+9.0
SCIA	comp=Z,3μm,20.0s			LR	LR		
Z41A	**Richland Creek**	**106.08**	**58**	PFAKE		07 01 50.0	+8.7
Z41A	comp=Z,4μm,19.0s			LR	LR		
X40A	**Basin Creek Fa**	**106.11**	**57**	PFAKE		07 01 50.0	+8.6
X40A	comp=Z,2μm,18.0s			LR	LR		
SPMN	**Marine on St.**	**106.31**	**46**	PFAKE		07 01 50.0	+8.6
SPMN	comp=Z,3μm,21.0s			LR	LR		
UALR	**University of**	**106.53**	**57**	PFAKE		07 01 50.0	+7.9
UALR	comp=Z,3μm,20.0s			LR	LR		
WHAR	**Wooly Hollow**	**106.59**	**56**	PFAKE		07 01 50.0	+7.8
WHAR	comp=Z,4μm,21.0s			LR	LR		
W41B	**Gary Mavity, V**	**106.62**	**57**	PFAKE		07 01 50.0	+7.7
W41B	comp=Z,5μm,21.0s			LR	LR		
CCAR	**Cane Creek**	**106.97**	**58**	PFAKE		07 01 50.0	+7.0
CCAR	comp=Z,2μm,20.0s			LR	LR		
EYMN	**Ely**	**107.14**	**43**	PFAKE		07 01 50.0	+7.1
EYMN	comp=Z,2μm,21.0s			LR	LR		
E38A	**The Farm, Brul**	**107.15**	**45**	PFAKE		07 01 50.0	+7.0
E38A	comp=Z,1μm,19.0s			LR	LR		
I39A	**Houston**	**107.25**	**47**	PFAKE		07 01 50.0	+6.8
I39A	comp=Z,1μm,19.0s			LR	LR		
CCM	**Cathedral Cave**	**107.49**	**54**	PFAKE		07 02 00.0	+16
CCM	comp=Z,1μm,18.0s			LR	LR		
L40A	**Anamosa**	**107.50**	**49**	PFAKE		07 02 00.0	+16
L40A	comp=Z,3μm,22.0s			LR	LR		
X43A	**Marvell**	**107.73**	**57**	PFAKE		07 02 00.0	+16
X43A	comp=Z,2μm,22.0s			LR	LR		
N41A	**Harden Midland**	**107.79**	**51**	PFAKE		07 02 00.0	+16
N41A	comp=Z,3μm,22.0s			LR	LR		
HBAR	**Harrisburg**	**107.93**	**56**	PFAKE		07 02 00.0	+15
HBAR	comp=Z,4μm,21.0s			LR	LR		
MYIG	**Mrida**	**107.95**	**71**	PFAKE		07 02 00.0	+15
MYIG	comp=Z,2μm,20.0s			LR	LR		
VBMS	**Vicksburg**	**107.96**	**60**	PFAKE		07 02 00.0	+15
VBMS	comp=Z,2μm,20.0s			LR	LR		
PBMO	**Poplar Bluff**	**108.13**	**55**	PFAKE		07 02 00.0	+15
PBMO	comp=Z,3μm,20.0s			LR	LR		
G40A	**Rib Lake**	**108.15**	**46**	PFAKE		07 02 00.0	+15
G40A	comp=Z,2μm,20.0s			LR	LR		
JFWS	**Jewell Farm**	**108.20**	**48**	PFAKE		07 02 00.0	+15
JFWS	comp=Z,1μm,18.0s			LR	LR		
MSEY	**Mahe Island**	**108.22**	**261**	PFAKE		07 02 00.0	+14
MSEY	comp=Z,2μm,21.0s			LR	LR		
SLM	**Saint Louis**	**108.28**	**53**	PFAKE		07 02 00.0	+15
SLM	comp=Z,2μm,21.0s			LR	LR		
ARU	**Arti**	**108.29**	**326**	PFAKE		07 02 00.0	+15
ARU	comp=Z,1μm,20.0s			LR	LR		
I41A	**Arkdale**	**108.44**	**47**	PFAKE		07 02 00.0	+15
I41A	comp=Z,1μm,21.0s			LR	LR		
GNAR	**Gosnell**	**108.46**	**56**	PFAKE		07 02 00.0	+14
GNAR	comp=Z,2μm,20.0s			LR	LR		
MET	**Memphis--Engin**	**108.52**	**57**	PFAKE		07 02 00.0	+14
MET	comp=Z,3μm,19.0s			LR	LR		
H41A	**Junction City**	**108.57**	**47**	PFAKE		07 02 00.0	+14
H41A	comp=Z,2μm,19.0s			LR	LR		
L42A	**Oliver, Polo**	**108.66**	**49**	PFAKE		07 02 00.0	+14
L42A	comp=Z,3μm,21.0s			LR	LR		
PARMO	**Parma**	**108.67**	**55**	PFAKE		07 02 00.0	+14
PARMO	comp=Z,2μm,20.0s			LR	LR		
C40A	**Isle Royale Na**	**108.72**	**43**	PFAKE		07 02 00.0	+14
C40A	comp=Z,2μm,20.0s			LR	LR		
PVMO	**Portageville**	**108.72**	**55**	PFAKE		07 02 00.0	+14
PVMO	comp=Z,2μm,18.0s			LR	LR		
COWI	**Conover**	**108.85**	**45**	PFAKE		07 02 00.0	+14
COWI	comp=Z,2μm,22.0s			LR	LR		
F41A	**Three Lakes**	**108.89**	**45**	PFAKE		07 02 00.0	+14
F41A	comp=Z,3μm,21.0s			LR	LR		
OXF	**Oxford**	**108.94**	**57**	PFAKE		07 02 00.0	+13
OXF	comp=Z,2μm,22.0s			LR	LR		
HDIL	**Hopedale**	**108.98**	**51**	PFAKE		07 02 00.0	+13
HDIL	comp=Z,4μm,22.0s			LR	LR		
HALT	**Halls**	**109.01**	**56**	PFAKE		07 02 00.0	+13
HALT	comp=Z,3μm,21.0s			LR	LR		
GLAT	**Glass**	**109.05**	**55**	PFAKE		07 02 00.0	+13
GLAT	comp=Z,2μm,21.0s			LR	LR		
SIUC	**Southern Illin**	**109.09**	**54**	PFAKE		07 02 00.0	+13
SIUC	comp=Z,2μm,21.0s			LR	LR		
I42A	**Draeger Farm,**	**109.13**	**47**	PFAKE		07 02 00.0	+13
I42A	comp=Z,1μm,21.0s			LR	LR		
D41A	**Chassel**	**109.18**	**44**	PFAKE		07 02 00.0	+13
D41A	comp=Z,2μm,22.0s			LR	LR		
TEIG	**Tepich**	**109.25**	**72**	PFAKE		07 02 00.0	+12
TEIG	comp=Z,2μm,21.0s			LR	LR		
H42A	**Shiocton**	**109.37**	**47**	PFAKE		07 02 00.0	+13
H42A	comp=Z,2μm,18.0s			LR	LR		
G42A	**Mountain**	**109.40**	**46**	PFAKE		07 02 00.0	+13
G42A	comp=Z,2μm,20.0s			LR	LR		
T45A	**Paducah**	**109.56**	**55**	PFAKE		07 02 00.0	+12
T45A	comp=Z,2μm,20.0s			LR	LR		
TGUH	**Tegucigalpa,Un**	**109.57**	**79**	PFAKE		07 02 00.0	+12
TGUH	comp=Z,2μm,20.0s			LR	LR		
K43A	**Burlington**	**109.62**	**49**	PFAKE		07 02 00.0	+12
K43A	comp=Z,2μm,19.0s			LR	LR		
M44A	**Midewin, Midew**	**109.90**	**50**	PFAKE		07 02 00.0	+12
M44A	comp=Z,3μm,20.0s			LR	LR		
H43A	**Windswept, Lux**	**109.92**	**47**	PFAKE		07 02 00.0	+12
H43A	comp=Z,2μm,19.0s			LR	LR		
G43A	**Wallace**	**109.92**	**46**	PFAKE		07 02 00.0	+12
G43A	comp=Z,2μm,20.0s			LR	LR		
OLIL	**Olney**	**109.96**	**53**	PFAKE		07 02 00.0	+12
OLIL	comp=Z,3μm,22.0s			LR	LR		
PLAL	**Pickwick Lake**	**110.04**	**57**	PFAKE		07 02 00.0	+11
PLAL	comp=Z,2μm,20.0s			LR	LR		
GYA0B	**ALIBECK ARRAY**	**110.08**	**306**	PFAKE		07 02 00.0	+11
GYA0B	comp=Z,500nm,19.0s			LR	LR		
P45A	**Graceland, Par**	**110.20**	**52**	PFAKE		07 02 00.0	+11
P45A	comp=Z,2μm,20.0s			LR	LR		
WVT	**Waverly**	**110.23**	**56**	PFAKE		07 02 00.0	+11
WVT	comp=Z,2μm,20.0s			LR	LR		
E43A	**Lone Tree Farm**	**110.31**	**45**	PFAKE		07 02 00.0	+11
E43A	comp=Z,1μm,18.0s			LR	LR		
ESTN	**Estel**	**110.33**	**80**	PFAKE		07 02 00.0	+10
ESTN	comp=Z,2μm,22.0s			LR	LR		
T47A	**Sharon Grove**	**110.79**	**55**	PFAKE		07 02 00.0	+10
T47A	comp=Z,2μm,18.0s			LR	LR		
X48A	**Hartselle**	**110.89**	**57**	PFAKE		07 02 00.0	+10
X48A	comp=Z,2μm,22.0s			LR	LR		
BRAL	**Brewton**	**110.89**	**61**	PFAKE		07 02 00.0	+10
BRAL	comp=Z,2μm,21.0s			LR	LR		
LRAL	**Lakeview Retre**	**110.94**	**59**	PFAKE		07 02 00.0	+10
LRAL	comp=Z,4μm,20.0s			LR	LR		
E44A	**Grand Marais A**	**111.02**	**44**	PFAKE		07 02 00.0	+10
E44A	comp=Z,2μm,20.0s			LR	LR		
V48A	**Smith Brothers**	**111.05**	**56**	PFAKE		07 02 00.0	+9.4
V48A	comp=Z,2μm,21.0s			LR	LR		
M46A	**Old House Fiel**	**111.17**	**50**	PFAKE		07 02 00.0	+9.4
M46A	comp=Z,3μm,18.0s			LR	LR		
BLO	**Bloomington**	**111.17**	**52**	PFAKE		07 02 00.0	+9.3
BLO	comp=Z,3μm,20.0s			LR	LR		
SOHO	**SOHO**	**111.28**	**292**	P	**PKiKP**	**07 01 50.6**	**-0.8**
	SNR=5.6						
JTS	**Las Juntas de**	**111.34**	**83**	PFAKE		07 02 00.0	+8.2
JTS	comp=Z,2μm,21.0s			LR	LR		
WCI	**Wyandotte Cave**	**111.39**	**53**	PFAKE		07 02 00.0	+8.8
WCI	comp=Z,4μm,21.0s			LR	LR		
Y49A	**Blount Mountai**	**111.43**	**58**	PFAKE		07 02 00.0	+8.6
Y49A	comp=Z,3μm,19.0s			LR	LR		
250A	**Grady**	**111.57**	**60**	PFAKE		07 02 00.0	+8.3
250A	comp=Z,2μm,22.0s			LR	LR		
SWET	**Sewanee**	**111.79**	**56**	PFAKE		07 02 00.0	+7.9
SWET	comp=Z,3μm,21.0s			LR	LR		
ABPO	**Ambohimpanom**	**111.83**	**244**	PFAKE		07 02 00.0	+7.2
ABPO	comp=Z,1μm,21.0s			LR	LR		
Z50A	**Ashland**	**111.84**	**59**	PFAKE		07 02 00.0	+7.8
Z50A	comp=Z,3μm,20.0s			LR	LR		
U49A	**Red Boiling Sp**	**111.87**	**55**	P	**PKiKP**	**07 01 51.2**	**-0.9**
	baz=272						
451A	**Vernon**	**112.01**	**61**	PFAKE		07 02 00.0	+7.5
451A	comp=Z,2μm,19.0s			LR	LR		
T49A	**Edmonton**	**112.05**	**54**	PFAKE		07 02 00.0	+7.5
T49A	comp=Z,2μm,22.0s			LR	LR		
HDC	**Heredia**	**112.12**	**84**	PFAKE		07 02 00.0	+6.6
HDC	comp=Z,1μm,19.0s			LR	LR		
GLMI	**Grayling**	**112.13**	**46**	PFAKE		07 02 00.0	+7.6
GLMI	comp=Z,3μm,19.0s			LR	LR		
E46A	**Sault Ste Mari**	**112.16**	**44**	P	**PKiKP**	**07 01 51.8**	**-0.6**
	baz=277						
ESPN	**Las Esperanzas**	**112.22**	**81**	PFAKE		07 02 00.0	+6.6
ESPN	comp=Z,1μm,21.0s			LR	LR		
251A	**Midway**	**112.29**	**60**	P	**PKiKP**	**07 01 52.4**	**-0.7**
	baz=271						
W50A	**Signal Mountai**	**112.30**	**56**	PFAKE		07 02 00.0	+6.9
W50A	comp=Z,3μm,21.0s			LR	LR		
M48A	**Edgerton**	**112.39**	**50**	PFAKE		07 02 00.0	+7.0
M48A	comp=Z,3μm,20.0s			LR	LR		
T50A	**Nancy**	**112.61**	**55**	P	**PKiKP**	**07 01 53.0**	**-0.6**
	baz=273						
U50A	**Jamestown**	**112.63**	**55**	P	**PKiKP**	**07 01 53.1**	**-0.5**
	baz=273						
X51A	**Calhoun**	**112.70**	**57**	PFAKE		07 02 10.0	+16
X51A	comp=Z,2μm,22.0s			LR	LR		
352A	**Blakely**	**112.71**	**60**	PFAKE		07 02 10.0	+16
352A	comp=Z,2μm,21.0s			LR	LR		
O49A	**Covington**	**112.78**	**51**	PFAKE		07 02 10.0	+16
O49A	comp=Z,2μm,20.0s			LR	LR		
N49A	**Columbus Grove**	**112.84**	**50**	PFAKE		07 02 10.0	+16
N49A	comp=Z,3μm,21.0s			LR	LR		
152A	**Waverly Hall**	**112.87**	**59**	PFAKE		07 02 10.0	+16
152A	comp=Z,3μm,20.0s			LR	LR		
D47A	**Chapleau**	**112.89**	**44**	P	**PKiKP**	**07 01 53.5**	**-0.3**
	baz=278						
CPCT	**Cooper Cave**	**112.94**	**56**	PFAKE		07 02 10.0	+16
CPCT	comp=Z,2μm,21.0s			LR	LR		
V51A	**Loudon**	**113.06**	**56**	PFAKE		07 02 10.0	+16
V51A	comp=Z,2μm,20.0s			LR	LR		
AAM	**Ann Arbor**	**113.10**	**49**	PFAKE		07 02 10.0	+16
AAM	comp=Z,3μm,20.0s			LR	LR		
453A	**Whigham**	**113.24**	**61**	PFAKE		07 02 10.0	+15
453A	comp=Z,2μm,20.0s			LR	LR		
253A	**Americus**	**113.38**	**60**	PFAKE		07 02 10.0	+15
253A	comp=Z,2μm,21.0s			LR	LR		
Y52A	**Lilburn**	**113.38**	**58**	PFAKE		07 02 10.0	+15
Y52A	comp=Z,3μm,20.0s			LR	LR		
W52A	**Murphy**	**113.44**	**57**	PFAKE		07 02 10.0	+15
W52A	comp=Z,2μm,21.0s			LR	LR		
W52A	**Murphy**	**113.44**	**57**	P	**PKiKP**	**07 01 54.6**	**-0.7**
	baz=273						
I49A	**Point Hope**	**113.51**	**47**	PFAKE		07 02 10.0	+15
I49A	comp=Z,2μm,22.0s			LR	LR		
S51A	**Beattyville**	**113.56**	**54**	PFAKE		07 02 10.0	+15
S51A	comp=Z,2μm,22.0s			LR	LR		
Q51A	**Peebles**	**113.64**	**52**	PFAKE		07 02 10.0	+15
Q51A	comp=Z,2μm,21.0s			LR	LR		
M50A	**Fremont**	**113.65**	**50**	PFAKE		07 02 10.0	+15
M50A	comp=Z,3μm,22.0s			LR	LR		
TZTN	**Tazewell**	**113.67**	**55**	PFAKE		07 02 10.0	+14
TZTN	comp=Z,2μm,21.0s			LR	LR		
V52A	**Sevierville**	**113.67**	**56**	PFAKE		07 02 10.0	+14
V52A	comp=Z,2μm,20.0s			LR	LR		
ACSO	**Alum Creek Sta**	**113.81**	**51**	PFAKE		07 02 10.0	+14
ACSO	comp=Z,1μm,19.0s			LR	LR		
P51A	**Williamsport**	**113.82**	**52**	PFAKE		07 02 10.0	+14
P51A	comp=Z,3μm,21.0s			LR	LR		
TIGA	**Tifton**	**113.86**	**61**	PFAKE		07 02 10.0	+14
TIGA	comp=Z,1μm,18.0s			LR	LR		
GOGA	**Godfrey**	**113.90**	**58**	PFAKE		07 02 10.0	+14
GOGA	comp=Z,3μm,20.0s			LR	LR		
N51A	**Ashland**	**114.20**	**50**	PFAKE		07 02 10.0	+14
N51A	comp=Z,3μm,20.0s			LR	LR		
154A	**Montrose**	**114.23**	**59**	PFAKE		07 02 10.0	+13
154A	comp=Z,3μm,21.0s			LR	LR		
BG3	**Lake Jocassee**	**114.26**	**57**	PFAKE		07 02 10.0	+13
BG3	comp=Z,2μm,22.0s			LR	LR		
V53A	**Saluda**	**114.32**	**56**	PFAKE		07 02 10.0	+13
V53A	comp=Z,2μm,20.0s			LR	LR		
NNA	**Nana**	**114.38**	**109**	PFAKE		07 02 10.0	+12
NNA	comp=Z,2μm,21.0s			LR	LR		
555A	**McAlpin**	**114.42**	**62**	PFAKE		07 02 10.0	+13
555A	comp=Z,2μm,20.0s			LR	LR		
O52A	**Adamsville**	**114.70**	**51**	PFAKE		07 02 10.0	+13
O52A	comp=Z,2μm,21.0s			LR	LR		
255A	**Hazlehurst**	**114.79**	**60**	PFAKE		07 02 10.0	+12
255A	comp=Z,2μm,20.0s			LR	LR		
656A	**Willston**	**114.81**	**63**	PFAKE		07 02 10.0	+12
656A	comp=Z,2μm,20.0s			LR	LR		
M52A	**Chesterland**	**114.89**	**49**	PFAKE		07 02 10.0	+12
M52A	comp=Z,3μm,22.0s			LR	LR		
957A	**Wimauma**	**115.09**	**65**	PFAKE		07 02 10.0	+11
957A	comp=Z,1μm,21.0s			LR	LR		
P53A	**Whipple**	**115.11**	**52**	PFAKE		07 02 10.0	+12
P53A	comp=Z,2μm,18.0s			LR	LR		
PAULI	**Pauline**	**115.19**	**57**	PFAKE		07 02 10.0	+11
PAULI	comp=Z,2μm,21.0s			LR	LR		
456A	**Hilliard**	**115.22**	**61**	PFAKE		07 02 10.0	+11
456A	comp=Z,1μm,21.0s			LR	LR		
APA	**Apatity**	**115.27**	**342**	⇓iPKIKP	**PKPdf**	**07 02 04.1**	**+6.4**
APA	comp=Z,8.0nm,1.0s			pmax	pmax		
N53A	**Lisbon**	**115.37**	**50**	PFAKE		07 02 10.0	+11
N53A	comp=Z,2μm,20.0s			LR	LR		
KMSC	**Kings Mountain**	**115.56**	**56**	PFAKE		07 02 10.0	+11
KMSC	comp=Z,2μm,20.0s			LR	LR		
Q54A	**Coxs Mills**	**115.59**	**52**	PFAKE		07 02 10.0	+11
Q54A	comp=Z,3μm,20.0s			LR	LR		
KEV	**Kevo**	**115.68**	**345**	PFAKE		07 02 10.0	+12
KEV	comp=Z,600nm,20.0s			LR	LR		
JSC	**Jenkinsville**	**115.68**	**57**	PFAKE		07 02 10.0	+11
JSC	comp=Z,3μm,21.0s			LR	LR		
ALLY	**Alegheny Colle**	**115.78**	**49**	PFAKE		07 02 10.0	+11
ALLY	comp=Z,3μm,22.0s			LR	LR		
DWPF	**Disney Wildern**	**115.80**	**64**	PFAKE		07 02 10.0	+10
DWPF	comp=Z,1μm,21.0s			LR	LR		
ERPA	**Erie**	**115.82**	**49**	PFAKE		07 02 10.0	+10
ERPA	comp=Z,3μm,19.0s			LR	LR		
658A	**Bunnell**	**115.92**	**63**	PFAKE		07 02 10.0	+10
658A	comp=Z,2μm,19.0s			LR	LR		
N54A	**Moraine State**	**115.99**	**50**	PFAKE		07 02 10.0	+10
N54A	comp=Z,2μm,20.0s			LR	LR		
OTAV	**Otavalo**	**116.00**	**95**	PFAKE		07 02 10.0	+8.7
OTAV	comp=Z,1μm,20.0s			LR	LR		
257A	**Skidaway Islan**	**116.02**	**60**	PFAKE		07 02 10.0	+10
257A	comp=Z,2μm,20.0s			LR	LR		
059A	**Moore Haven**	**116.07**	**65**	PFAKE		07 02 10.0	+10
059A	comp=Z,1μm,20.0s			LR	LR		
M54A	**Oil Creek Stat**	**116.15**	**49**	PFAKE		07 02 10.0	+10
M54A	comp=Z,3μm,20.0s			LR	LR		
BCIP	**Isla Barro Col**	**116.18**	**85**	PFAKE		07 02 10.0	+9.0
BCIP	comp=Z,1μm,21.0s			LR	LR		
V56A	**Mocksville**	**116.19**	**56**	PFAKE		07 02 10.0	+10
V56A	comp=Z,2μm,19.0s			LR	LR		
V56A	**Mocksville**	**116.19**	**56**	P	**PKPdf**	**07 01 59.9**	**-0.5**
	baz=275						
ARA0	**ARCESS Array S**	**116.21**	**345**	*e*PKPdf	**PKiKP**	**07 01 58.5**	**-0.9**
ARCES	**ARCESS Array B**	**116.21**	**345**	PKP	**PKiKP**	**07 01 58.5**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=73,slow=2.1,SNR=31						
R55A	**Marlinton**	**116.23**	**53**	PFAKE		07 02 10.0	+9.5
R55A	comp=Z,2μm,21.0s			LR	LR		
MCWV	**Mont Chateau**	**116.27**	**51**	PFAKE		07 02 10.0	+10
MCWV	comp=Z,1μm,18.0s			LR	LR		
061Z	**Ochoppi**	**116.29**	**67**	PFAKE		07 02 10.0	+9.1
061Z	comp=Z,1μm,22.0s			LR	LR		
G53A	**Haliburton**	**116.29**	**45**	P	**PKPdf**	**07 02 00.1**	**-0.2**
	baz=281						
959A	**Okeechobee**	**116.30**	**65**	P	**PKPdf**	**07 02 00.2**	**-0.6**
	baz=271						
BIRD	**Birdtown, Kers**	**116.31**	**57**	PFAKE		07 02 10.0	+9.3
BIRD	comp=Z,3μm,21.0s			LR	LR		
VLDQ	**Val d'Or**	**116.44**	**42**	PFAKE		07 02 10.0	+10
VLDQ	comp=Z,2μm,22.0s			LR	LR		
KLMR	**Klimovskoe**	**116.49**	**334**	*e*PKIKP	**PKPdf**	**07 01 57.1**	**-3.1**
KLMR	comp=Z,17nm,1.4s			pmax	pmax		
LSQQ	**Lebel-sur-Quev**	**116.52**	**40**	P	**PKPdf**	**07 02 00.2**	**-0.5**
	baz=284						

J54A Appleton 116.62 47 PFAKE 07 02 10.0 +9.0
J54A LR LR
comp=Z,3μm,21.0s
W57A Gilead 116.65 56 PFAKE 07 02 10.0 +8.7
W57A LR LR
comp=Z,2μm,21.0s
NHSC New Hope 116.66 59 PFAKE 07 02 10.0 +8.6
NHSC LR LR
comp=Z,2μm,19.0s
060A Indiantown 116.77 65 PFAKE 07 02 10.0 +8.2
060A LR LR
comp=Z,2μm,20.0s
N55A Marion Center 116.77 50 PFAKE 07 02 10.0 +8.6
N55A LR LR
comp=Z,2μm,22.0s
MEDO Medina 116.77 47 PFAKE 07 02 10.0 +8.7
MEDO LR LR
comp=Z,3μm,21.0s
BANO Bancroft 116.79 45 P **PKPdf 07 02 01.0 -0.3**
baz=282
O56A Blue Knob Stat 117.16 50 PFAKE 07 02 10.0 +7.8
O56A LR LR
comp=Z,3μm,21.0s
D54A Lac Fusel, La 117.19 43 P **PKPdf 07 02 01.1 -0.9**
baz=284
S57A Dark Hollow, R 117.21 53 PFAKE 07 02 10.0 +7.7
S57A LR LR
comp=Z,4μm,22.0s
S57A Dark Hollow, R 117.21 53 P **PKPdf 07 02 01.3 -1.0**
baz=277
J55A Hilton 117.21 47 PFAKE 07 02 10.0 +7.9
J55A LR LR
comp=Z,3μm,21.0s
MMNY Mt. Morris Dam 117.24 48 PFAKE 07 02 10.0 +7.8
MMNY LR LR
comp=Z,2μm,19.0s
X58A Rowland 117.24 57 PFAKE 07 02 10.0 +7.5
X58A LR LR
comp=Z,3μm,20.0s
PLVO Plevna 117.38 45 PFAKE 07 02 10.0 +7.6
PLVO LR LR
comp=Z,2μm,21.0s
MAK Makhachkala 117.60 313 *e*P **Pdif 06 58 14.8 -5.4**
MAK *e*PS **PKKPdf 07 12 55.0 +0.7**
MAK pmax pmax
comp=Z,128nm,1.1s
SSPA Standing Stone 117.61 50 PFAKE 07 02 10.0 +7.0
SSPA LR LR
comp=Z,3μm,22.0s
U58A Oxford 117.69 55 P **PKiKP 07 02 03.4 0.0**
baz=277
CHGQ Chibougamau 117.93 39 P **PKPdf 07 02 02.2 -1.2**
baz=287
S58A Poland Farm, P 117.94 53 PFAKE 07 02 20.0 +16
S58A LR LR
comp=Z,4μm,22.0s
PB11 IPOC Station P 118.01 119 PFAKE 07 02 20.0 +15
PB11 LR LR
comp=Z,2μm,21.0s
R58B Mineral 118.02 53 PFAKE 07 02 20.0 +16
R58B LR LR
comp=Z,3μm,20.0s
POPC Popayan, Colom 118.20 93 *e*P **PKPdf 07 02 02.8 -2.4**
POPC Popayan, Colom 118.20 93 *e*P **PKPdf 07 02 02.8 -2.4**
Y60A Bolivia 118.22 57 PFAKE 07 02 20.0 +16
Y60A LR LR
comp=Z,2μm,20.0s
U59A Littleton 118.30 55 PFAKE 07 02 20.0 +16
U59A LR LR
comp=Z,2μm,22.0s
CNNC Cliffs of the 118.36 56 PFAKE 07 02 20.0 +15
CNNC LR LR
comp=Z,3μm,22.0s
CBN Corbin Frederi 118.38 53 PFAKE 07 02 20.0 +15
CBN LR LR
comp=Z,3μm,20.0s
T59A Double "B" Far 118.41 54 P **PKPdf 07 02 04.2 -0.5**
baz=278
PAGS Pennsylvania G 118.56 50 PFAKE 07 02 20.0 +15
PAGS LR LR
comp=Z,3μm,20.0s
R59A King George, V 118.58 53 P **PKPdf 07 02 04.5 -0.4**
baz=279
SDMD Soldier's Deli 118.61 51 PFAKE 07 02 20.0 +15
SDMD LR LR
comp=Z,700nm,20.0s
BINY Binghamton 118.74 48 PFAKE 07 02 20.0 +15
BINY LR LR
comp=Z,2μm,21.0s
V60A Jim Taylor Roa 118.80 55 PFAKE 07 02 20.0 +15
V60A LR LR
comp=Z,2μm,20.0s
MVL Millersville 118.88 50 PFAKE 07 02 20.0 +14
MVL LR LR
comp=Z,3μm,19.0s
FLOC Florencia 119.01 94 *e*P **PKPdf 07 02 05.4 -1.1**
FLOC Florencia 119.01 94 *e*P **PKPdf 07 02 05.4 -1.1**
KSPA Keystone Colle 119.03 49 PFAKE 07 02 20.0 +14
KSPA LR LR
comp=Z,3μm,20.0s
N59A State Game Lan 119.15 49 PFAKE 07 02 20.0 +14
N59A LR LR
comp=Z,2μm,22.0s
LONY Lake Ozonia 119.20 45 PFAKE 07 02 20.0 +14
LONY LR LR
comp=Z,1μm,22.0s
MTDJ Mount Denham 119.25 75 PFAKE 07 02 20.0 +13
MTDJ LR LR
comp=Z,1μm,20.0s
LUPA Lehigh Univers 119.51 50 PFAKE 07 02 20.0 +13
LUPA LR LR
comp=Z,200nm,21.0s
PSUB Penn St. - Bra 119.57 50 PFAKE 07 02 20.0 +13
PSUB LR LR
comp=Z,2μm,22.0s
MOS Moscow 119.68 329 *e*PKIKP **PKPdf 07 02 05.6 -0.9**
MOS *e* 07 03 30.0
MOS pmax pmax
comp=Z,33nm,1.0s
FRNY Flat Rock 119.83 44 PFAKE 07 02 20.0 +13
FRNY LR LR
comp=Z,2μm,20.0s
HELC Santa Helena 119.97 89 *e*P **PKPdf 07 02 08.1 -0.6**
HELC Santa Helena 119.97 89 *e*P **PKPdf 07 02 08.1 -0.6**
GUY2C Guyana, Caldas 119.97 90 *e*P **PKPdf 07 02 08.0 -1.0**
GUY2C Guyana, Caldas 119.97 90 *e*P **PKPdf 07 02 08.0 -1.0**
ODNJ Ogdensburg 119.98 49 PFAKE 07 02 20.0 +12
ODNJ LR LR
comp=Z,2μm,19.0s
BRNJ Basking Ridge 120.09 49 PFAKE 07 02 20.0 +12
BRNJ LR LR
comp=Z,3μm,22.0s
ACCN Adirondack Com 120.14 46 PFAKE 07 02 20.0 +12
ACCN LR LR
comp=Z,2μm,21.0s
PRAC Prado 120.17 92 *e*P **PKPdf 07 02 08.0 -0.8**
PRAC Prado 120.17 92 *e*P **PKPdf 07 02 08.0 -0.8**
GNI Garni 120.18 310 *e*PKPdf **PKiKP 07 02 09.3 +1.0**
GNI LR LR
comp=Z,300nm,21.0s
GNI Garni 120.18 310 P **PKiKP 07 02 09.0 +0.7**
SNR=6.5
GNI Garni 120.18 310 PKP **PKPdf 07 02 08.2 0.0**
comp=Z,4.5nm,0.5s,baz=5.4,slow=0.3,SNR=8.1
ZEI Tsey 120.22 313 *i* PKIKP **PKiKP 07 02 08.4 +0.1**
ZEI pmax pmax
comp=Z,10.0nm,1.4s
TRY Troy 120.30 47 PFAKE 07 02 20.0 +12
TRY LR LR
comp=Z,3μm,19.0s
SCHQ Schefferville 120.41 32 PFAKE 07 02 20.0 +12
SCHQ LR LR
comp=Z,2μm,20.0s
OBN Obninsk 120.50 329 PFAKE 07 02 20.0 +12
OBN LR LR
comp=Z,700nm,20.0s
OBN Obninsk 120.50 329 *d i* PKIKP **PKiKP 07 02 08.7 +0.5**
OBN *e* 07 03 36.3
OBN *e*PPP PPP 07 06 04.6
OBN *e* 07 09 02.5
OBN *e*SS SS 07 20 08.1 +5.3
OBN pmax pmax
comp=Z,32nm,1.3s
PAL Palisades 120.51 49 PFAKE 07 02 20.0 +11
PAL LR LR
comp=Z,2μm,18.0s
VT1 Waterbury 120.54 45 PFAKE 07 02 20.0 +11
VT1 LR LR
comp=Z,2μm,21.0s
KSCT Kent School, K 120.66 48 PFAKE 07 02 20.0 +11
KSCT LR LR
comp=Z,2μm,20.0s
KBZ Khabaz 120.70 314 PKP **PKiKP 07 02 09.6 +0.6**
comp=Z,0.6nm,0.3s,baz=100,slow=5.7,SNR=5.6
LPAZ La Paz 120.75 117 *e*PKPdf **PKPdf 07 02 10.2 -0.4**
LPAZ La Paz 120.75 117 PKP **PKiKP 07 02 10.6 -0.1**
comp=Z,7.8nm,0.7s,baz=234,slow=3.8,SNR=5.6
LPAZ La Paz 120.75 117 *e*P **PKiKP 07 02 10.9 +0.3**
KIV Kislovodsk 120.79 315 PFAKE 07 02 20.0 +11
KIV LR LR
comp=Z,300nm,20.0s
KIV Kislovodsk 120.79 315 *i* PKIKP **PKiKP 07 02 10.4 +1.1**
KIV pmax pmax
comp=Z,34nm,1.1s
SJCC San Jacinto, C 120.83 85 *e*P **PKPdf 07 02 09.8 -0.2**
SJCC San Jacinto, C 120.83 85 *e*P **PKPdf 07 02 09.8 -0.2**
AKH Akhalkalaki 120.84 312 PFAKE 07 02 20.0 +10
AKH LR LR
comp=Z,600nm,21.0s
ROSC El Rosal 120.93 91 *e*PKPdf **PKPdf 07 02 09.6 -1.0**
ROSC LR LR
comp=Z,500nm,22.0s
ROSC El Rosal 120.93 91 PKP **PKPdf 07 02 09.7 -1.0**
comp=Z,3.8nm,0.3s,baz=86,slow=13,SNR=5.9
NEY Neytrino 120.95 314 ⇓ *i* PKIKP **PKiKP 07 02 10.3 +0.6**
HNH Hanover 121.03 45 PFAKE 07 02 20.0 +10
HNH LR LR
comp=Z,3μm,20.0s
PTBC PUERTO BERRIO 121.07 89 *e*P **PKPdf 07 02 08.8 -1.7**
PTBC PUERTO BERRIO 121.07 89 *e*P **PKPdf 07 02 08.8 -1.7**
LBNH Lisbon 121.14 45 PFAKE 07 02 20.0 +10
LBNH LR LR
comp=Z,2μm,20.0s
QUA2 Belchertown 121.35 47 PFAKE 07 02 20.0 +10
QUA2 LR LR
comp=Z,3μm,20.0s
CHIC Chingaza 121.47 91 *e*P **PKPdf 07 02 10.8 -1.0**
CHIC Chingaza 121.47 91 *e*P **PKPdf 07 02 10.8 -1.0**
FIA1 FINESS Array S 121.57 338 *e*PKPdf **PKPdf 07 02 09.6 -0.4**
FIA0 FINESS Array S 121.57 338 *e*PKPdf **PKPdf 07 02 08.6 -1.4**
FINES FINESS Array B 121.57 338 *e*PKPdf **PKPdf 07 02 09.4 -0.5**
FINES FINESS Array B 121.57 338 PKP **PKPdf 07 02 08.6 -1.4**
comp=Z,5.1nm,0.8s,baz=198,slow=0.6,SNR=11
HRV Adam Dziewonsk 121.86 47 PFAKE 07 02 20.0 +8.7
HRV LR LR
comp=Z,2μm,21.0s
BRYW Bryant College 122.03 47 PFAKE 07 02 20.0 +8.3
BRYW LR LR
comp=Z,4μm,20.0s
WES Weston 122.06 47 PFAKE 07 02 20.0 +8.3
WES LR LR
comp=Z,2μm,21.0s
BCX Boston College 122.18 47 PFAKE 07 02 20.0 +8.1
BCX LR LR
comp=Z,2μm,20.0s
DAMY Dhamar 122.19 280 PFAKE 07 02 20.0 +6.9
DAMY LR LR
comp=Z,900nm,20.0s
GIRC Giron, Santand 122.40 89 *e*P PKPpre 07 02 07.2
GIRC Giron, Santand 122.40 89 *e*P PKPpre 07 02 07.2
OCAC Ocana 122.44 87 *e*P **PKPdf 07 02 11.1 -2.1**
OCAC Ocana 122.44 87 *e*P **PKPdf 07 02 11.1 -2.1**
WVL Waterville 122.60 44 PFAKE 07 02 20.0 +7.4
WVL LR LR
comp=Z,2μm,20.0s
PKME Peaks-Kenny Pk 122.62 43 PFAKE 07 02 20.0 +7.3
PKME LR LR
comp=Z,2μm,19.0s
SOC Sochi 122.96 315 *i* PKIKP **PKPdf 07 02 12.5 -0.7**
SOC *e* 07 03 51.0
SOC *e*PPP PPP 07 06 25.2
SOC *e* 07 09 16.6
SOC *e*PS **PS 07 13 42.0 -6.5**
SOC pmax pmax
comp=Z,7.0nm,0.4s
SOC MLR MLR
comp=Z,424nm,21.0s
PQI Presque Isle 122.99 41 PFAKE 07 02 20.0 +6.6
PQI LR LR
comp=Z,2μm,19.0s
VSU Vasula 123.23 335 *d i* PKIKP **PKiKP 07 02 14.4 +0.9**
CAPV Capacho 123.37 88 *e*P **PKPdf 07 02 14.6 -0.5**
CAPV Capacho 123.37 88 *e*P **PKPdf 07 02 14.6 -0.5**
ATD Arta Tunnel 123.43 277 PFAKE 07 02 30.0 +15
ATD LR LR
comp=Z,1μm,19.0s
EMMW East Machias 124.04 43 PFAKE 07 02 30.0 +15
EMMW LR LR
comp=Z,2μm,20.0s
ANN Anapa 124.12 317 *i* PKIKP PKPpre 07 02 04.6
ANN *e*SS SS 07 20 46.3 -3.5
ANN pmax pmax
comp=Z,23nm,1.1s
ANN MLR MLR
comp=Z,781nm,22.0s
GGN Saint George 124.31 42 PFAKE 07 02 30.0 +14
GGN LR LR
comp=Z,2μm,22.0s
CPUP Villa Florida 124.48 133 *e*PKPdf **PKPdf 07 02 16.4 -0.2**
CPUP Villa Florida 124.48 133 PKP **PKPdf 07 02 15.7 -1.0**
comp=Z,8.8nm,0.8s,baz=254,slow=2.5,SNR=12
CPUP Villa Florida 124.48 133 *e*P **PKiKP 07 02 18.3 +1.3**
BOSA Boshof 124.63 224 *e*PKPdf **PKiKP 07 02 17.4 0.0**
BOSA Boshof 124.63 224 PKP **PKPdf 07 02 16.4 -0.7**
comp=Z,7.3nm,0.7s,baz=134,slow=1.7,SNR=15
SDV Santo Domingo 125.16 87 *e*PKPdf **PKPdf 07 02 17.1 -1.4**
SDV LR LR
comp=Z,700nm,21.0s
SDV Santo Domingo 125.16 87 *e*P **PKPdf 07 02 17.6 -0.9**
SDV Santo Domingo 125.16 87 *e*P **PKPdf 07 02 17.6 -0.9**
SDV Santo Domingo 125.16 87 PKP **PKPdf 07 02 17.8 -0.7**
comp=Z,30nm,0.8s,baz=171,slow=0.1,SNR=34
SDV Santo Domingo 125.16 87 *e*P **PKiKP 07 02 19.7 +0.8**
SDDR Presa de Saban 125.19 75 PFAKE 07 02 30.0 +11
SDDR LR LR
comp=Z,2μm,19.0s
LMN Caledonia Moun 125.36 41 PFAKE 07 02 30.0 +12
LMN LR LR
comp=Z,2μm,22.0s
SDD Santo Domingo 126.49 75 PFAKE 07 02 30.0 +8.9
SDD LR LR
comp=Z,2μm,20.0s
AKASG Malin Array Be 126.54 327 *e*PKPdf **PKPdf 07 02 18.5 -1.3**
AKASG Malin Array Be 126.54 327 *e*PKIKP **PKPdf 07 02 18.5 -1.3**
AKASG Malin Array Be 126.54 327 PKP **PKPdf 07 02 19.2 -0.6**
comp=Z,2.9nm,0.7s,baz=48,slow=2.7,SNR=23
AKBB Malin Array Si 126.54 327 PFAKE 07 02 30.0 +10
AKBB LR LR
comp=Z,800nm,20.0s
KIEV Kiev 126.55 327 *e*PKPdf **PKPdf 07 02 19.1 -0.7**
KIEV LR LR
comp=Z,800nm,20.0s
KIEV Kiev 126.55 327 ⇓ *i*P **PKPdf 07 02 19.9 +0.1**
KIEV Kiev 126.55 327 *c i* PKIKP **PKPdf 07 02 19.5 -0.3**
NB2 NORSAR Subarra 126.57 345 PKPdf **PKPdf 07 02 19.0 -0.7**
comp=Z,35nm,1.7s,baz=31,slow=1.9
NB2 NORSAR Subarra 126.57 345 PKPdf **PKPdf 07 02 19.0 -0.7**
baz=31,slow=1.9
NB200 NORSAR Array S 126.57 345 *e*PKPdf **PKPdf 07 02 18.6 -1.0**
NOA NORSAR Array B 126.57 345 PKP **PKPdf 07 02 18.6 -1.0**
comp=Z,3.0nm,0.8s,baz=32,slow=2.0,SNR=11
HAL Halifax 126.63 42 PFAKE 07 02 30.0 +9.4
HAL LR LR
comp=Z,2μm,20.0s
LBTB Lobatse 126.63 227 *e*PKPdf **PKiKP 07 02 21.7 +0.2**
HFS Hagfors 126.63 343 PKP **PKPdf 07 02 19.1 -0.6**
comp=Z,4.3nm,0.9s,baz=51,slow=4.7,SNR=5.0
KMBO Kilima Mbogo 126.73 260 *e*PKPdf **PKiKP 07 02 23.6 +1.5**
KMBO LR LR
comp=Z,900nm,21.0s
KMBO Kilima Mbogo 126.73 260 P **PKiKP 07 02 24.6 +2.5**
SNR=9.6
KMBO Kilima Mbogo 126.73 260 PKP **PKiKP 07 02 22.1 0.0**
comp=Z,7.6nm,1.1s,baz=92,slow=1.1,SNR=13
SIV San Ignacio 127.00 120 PKP **PKPdf 07 02 21.6 -0.2**
comp=Z,12nm,0.9s,baz=223,slow=2.0,SNR=11
NAI Nairobi 127.13 260 PFAKE 07 02 30.0 +7.1
NAI LR LR
comp=Z,1μm,20.0s
FURI Furi 127.22 273 PFAKE 07 02 30.0 +6.9
FURI LR LR
comp=Z,900nm,20.0s
BZK Bozkurt 127.46 315 ⇑ *i*P **PKiKP 07 02 22.5 +0.1**
ITAB Concordia 127.53 137 *e*P **PKiKP 07 02 25.4 +2.4**
GBN Guysborough 127.65 40 PFAKE 07 02 30.0 +7.3
GBN LR LR
comp=Z,3μm,20.0s
ILGA Ilgaz 127.99 314 PFAKE 07 02 30.0 +6.2
ILGA LR LR
comp=Z,600nm,21.0s
ASF Jabal al Asfar 128.01 302 PKP **PKiKP 07 02 23.7 -0.2**
comp=Z,5.5nm,1.1s,baz=105,slow=2.3,SNR=15
DRLN Deer Lake 128.16 34 PFAKE 07 02 30.0 +6.4
DRLN LR LR
comp=Z,3μm,20.0s
KONO Kongsberg 128.18 344 PFAKE 07 02 30.0 +6.7
KONO LR LR
comp=Z,600nm,20.0s
KLNR Kaliningrad 128.50 335 ⇓ *i* PKIKP **PKiKP 07 02 25.3 +1.3**
BR101 Keskin Array S 128.51 312 *e*PKPdf **PKPdf 07 02 23.6 -0.6**
BR101 *e*PP **PP 07 04 29.6 +0.3**
BR131 Keskin Array S 128.51 312 P **PKPdf 07 02 23.9 -0.2**
SNR=14
BRTR Keskin Array B 128.51 312 *e*PKPdf **PKPdf 07 02 22.4 -1.7**
BRTR Keskin Array B 128.51 312 PKP **PKPdf 07 02 23.6 -0.6**
comp=Z,13nm,1.3s,baz=158,slow=3.6,SNR=22
BRTR PP **PP 07 04 29.6 +0.3**
comp=Z,4.4nm,1.2s,baz=58,slow=3.2,SNR=5.1
BRTR SKKPbc SKKPbc 07 15 36.9 -0.2
comp=Z,2.9nm,1.2s,baz=188,slow=3.4,SNR=3.6
TER01 Tubaro-SC 128.57 141 *e*P **PKiKP 07 02 27.5 +2.4**
KIS Kishinev 128.66 323 *e*PKP **PKPdf 07 02 24.0 0.0**
comp=Z,110nm,1.5s
KIS Kishinev 128.66 323 *e*PP PP 07 04 28.0 -1.6
comp=Z,600nm,6.0s
KIS Kishinev 128.66 323 *e*PS PS 07 14 10.0 -28
KIS Kishinev 128.66 323 *e*PKIKP **PKPdf 07 02 24.0 0.0**
KIS *e* 07 04 28.0
KIS pmax pmax
comp=Z,110nm,1.5s
KIS pmax pmax
comp=Z,600nm,6.0s
KIS MLR MLR
comp=Z,800nm,18.0s
MMAI Mount Meron Ar 129.06 304 PKP **PKPdf 07 02 25.2 -0.1**
comp=Z,1.3nm,0.3s,baz=216,slow=9.1,SNR=9.5
ANTO Ankara 129.07 313 *e*PKPdf **PKiKP 07 02 26.3 +0.5**
ANTO LR LR
comp=Z,300nm,21.0s
ANTO Ankara 129.07 313 PKIKP **PKiKP 07 02 27.1 +1.3**
ANTO Ankara 129.07 313 P **PKiKP 07 02 27.4 +1.6**
SNR=15
AQDB Aquidauana 129.09 128 *e*P **PKiKP 07 02 26.8 +0.5**
CRPR Cabo Rojo, PR 129.16 76 PFAKE 07 02 40.0 +14
CRPR LR LR
comp=Z,3μm,21.0s
PTGB Pitanga 129.21 135 *e*P **PKiKP 07 02 28.0 +1.4**
BBSR BB Station 129.66 57 PFAKE 07 02 40.0 +13
BBSR LR LR
comp=Z,2μm,21.0s
ICMP Isla Caja de M 129.71 76 PFAKE 07 02 40.0 +12
ICMP LR LR
comp=Z,600nm,21.0s
LSZ Lusaka 129.91 239 *e*PKPdf **PKiKP 07 02 29.2 +1.0**
LSZ LR LR
comp=Z,1μm,20.0s
CFR Carcaliu 129.97 321 ⇑ *i*P **PKiKP 07 02 28.6 +1.3**
CFR Carcaliu 129.97 321 ⇑PKIKP **PKiKP 07 02 28.6 +1.3**
MDUB Mudurnu 129.98 314 PFAKE 07 02 40.0 +12
MDUB LR LR
comp=Z,900nm,19.0s
TRCB Terra Rica 130.02 133 *e*P **PKiKP 07 02 29.8 +1.6**
SJG San Juan 130.07 76 *e*PKPdf **PKPdf 07 02 27.6 +0.2**
SJG LR LR
comp=Z,1μm,20.0s
BEL Belsk 130.12 332 *e*P **PKiKP 07 02 29.1 +1.7**
BEL Belsk 130.12 332 *e*PKIKP **PKiKP 07 02 29.1 +1.7**
TIRR Tirgusor 130.14 320 PFAKE 07 02 40.0 +12
TIRR LR LR
comp=Z,300nm,20.0s
EIL Elat 130.14 299 PKP **PKPdf 07 02 27.3 -0.1**
comp=Z,16nm,1.2s,baz=134,slow=1.0,SNR=11
CSS Mathiatis 130.22 307 PFAKE 07 02 40.0 +12
CSS LR LR
comp=Z,400nm,19.0s
BIZ Bicaz 130.28 324 ⇑ *i*P **PKiKP 07 02 27.9 0.0**
HUMP Col San Antoni 130.35 76 *e*PKPdf **PKPdf 07 02 28.4 +0.3**
HUMP LR LR
comp=Z,1μm,21.0s
BURAR Bucovina Array 130.42 325 *e*PKPdf **PKPdf 07 02 27.5 0.0**
BURAR Bucovina Array 130.42 325 ⇑ *i*P **PKiKP 07 02 29.6 +1.3**
BURAR Bucovina Array 130.42 325 ⇑PKIKP **PKiKP 07 02 29.6 +1.3**
KWP Kalwaria Pacla 130.59 328 *e*P **PKiKP 07 02 29.0 +0.5**
KWP Kalwaria Pacla 130.59 328 PFAKE 07 02 40.0 +12
KWP LR LR
comp=Z,7μm,21.0s
KWP Kalwaria Pacla 130.59 328 *e*PKIKP **PKiKP 07 02 29.0 +0.5**
MTP Monte Pirata 130.64 76 PFAKE 07 02 40.0 +11
MTP LR LR
comp=Z,1μm,22.0s
MLR Muntele Rosu 131.14 322 ⇓ *i*P **PKiKP 07 02 31.5 +1.6**
MLR Muntele Rosu 131.14 322 PKP **PKiKP 07 02 29.7 -0.2**
comp=Z,7.4nm,1.1s,baz=25,slow=5.1,SNR=12
RGN Rugen 131.23 338 PFAKE 07 02 40.0 +10
RGN LR LR
comp=Z,900nm,20.0s
KOLS Kolonicke sedl 131.24 328 *e*PKIKP **PKiKP 07 02 31.0 +1.2**
KOLS Kolonicke sedl 131.24 328 *e*PKP **PKiKP 07 02 31.0 +1.2**
CDVI St. Croix 131.39 76 *e*PKPdf **PKPdf 07 02 30.1 +0.1**
UZH Uzhgorod 131.42 328 *e*PKIKP **PKPdf 07 02 29.4 +0.2**
UZH *e* 07 02 44.5
UZH *e* 07 02 53.0
ISP Isparta 131.45 311 PFAKE 07 02 40.0 +9.3
ISP LR LR
comp=Z,400nm,22.0s
OJC Ojcow 131.66 331 *e*P **PKiKP 07 02 31.0 +0.4**
OJC Ojcow 131.66 331 *e*PKIKP **PKiKP 07 02 31.0 +0.4**
FRTB Fartura 131.84 135 *e*P **PKiKP 07 02 34.3 +2.5**
NIE Niedzica 131.94 330 *e*P **PKiKP 07 02 32.1 +0.8**
NIE Niedzica 131.94 330 *e*PKIKP **PKiKP 07 02 32.1 +0.8**
ARR Arges 131.99 323 ⇑ *i*P **PKiKP 07 02 32.5 +1.0**
OKC Ostrava-Krasne 132.70 331 *e*PP PP 07 04 55.4 -0.1
OKC AMS AMS 07 59 00.0
comp=Z,400nm,18.2s
KSP Ksiaz 132.84 333 *e*P **PKiKP 07 02 33.2 +0.2**
KSP Ksiaz 132.84 333 *e*PKIKP **PKiKP 07 02 33.2 +0.2**
MORC Moravsky Berou 133.03 332 *e*PKPdf **PKiKP 07 02 33.8 +0.3**
MORC LR LR
comp=Z,600nm,19.0s
MORC Moravsky Berou 133.03 332 ⇑ *i*P **PKiKP 07 02 33.7 +0.3**
MORC Moravsky Berou 133.03 332 ⇑PKIKP **PKiKP 07 02 33.7 +0.3**
GZR Gura Zlata 133.06 324 ⇑ *i*P **PKiKP 07 02 33.8 +0.1**
GZR Gura Zlata 133.06 324 ⇑PKIKP **PKiKP 07 02 33.8 +0.1**
SEUS St. Eustatius 133.09 76 PFAKE 07 02 40.0 +5.6
SEUS LR LR
comp=Z,2μm,21.0s
PSZ Piszkesteto 133.11 328 PFAKE 07 02 40.0 +6.3
PSZ LR LR
comp=Z,800nm,20.0s
PSZ Piszkesteto 133.11 328 ⇓ *i*P **PKiKP 07 02 35.5 +1.8**
PSZ Piszkesteto 133.11 328 ⇓PKIKP **PKiKP 07 02 35.5 +1.8**
MBAR Mbarara 133.15 259 PFAKE 07 02 50.0 +15
MBAR LR LR
comp=Z,700nm,21.0s
DPC Dobruska-Polom 133.18 333 *e*PKIKP **PKiKP 07 02 33.9 +0.1**
DPC MLR MLR
comp=Z,500nm,18.4s
DPC Dobruska-Polom 133.18 333 *e*PKP **PKiKP 07 02 33.9 +0.1**
DPC AMS AMS 08 07 40.0
comp=Z,500nm,18.4s
UPC Upice 133.21 333 AMS AMS 08 04 20.0
comp=Z,700nm,21.4s
VYHS Vyhne 133.28 329 *e*PKIKP **PKPdf 07 02 32.8 +0.1**
VYHS Vyhne 133.28 329 *e*PKP **PKPdf 07 02 32.8 +0.1**
ITRB Iturama 133.59 131 *e*P **PKiKP 07 02 36.3 +0.8**
BZS Buzias 133.60 325 ⇑ *i*P **PKiKP 07 02 36.3 +1.6**
BZS Buzias 133.60 325 ⇑PKIKP **PKiKP 07 02 36.3 +1.6**
JAVC Velka Javorina 133.60 331 *e*PKP **PKiKP 07 02 34.6 -0.1**
PTGA Pitinga 133.72 102 *e*PKPdf **PKPdf 07 02 34.0 -0.6**
PTGA LR LR
comp=Z,900nm,20.0s
PTGA Pitinga 133.72 102 PKP **PKPdf 07 02 34.8 +0.2**
comp=Z,13nm,0.8s,baz=270,slow=2.0,SNR=18
VRAC Vranov 133.80 332 *e*PKP **PKPdf 07 02 34.0 +0.3**

VRAC Vranov 133.80 332 PKP **PKPdf 07 02 33.5 -0.2**
comp=Z,2.1nm,0.4s,baz=244,slow=2.8,SNR=6.2
PVCC Panska Ves 133.82 334 AMS AMS 08 05 20.0
comp=Z,800nm,20.4s
BRG Berggiesshubel 133.82 335 *e*PKP **PKPdf 07 02 33.8 +0.1**
comp=Z,54nm,1.8s
BRG *e* 07 02 47.1
comp=Z,36nm,1.6s
BRG PP **PP 07 04 57.0 -5.6**
BRG Berggiesshubel 133.82 335 *e*PKIKP **PKPdf 07 02 33.8 +0.1**
BRG *e* 07 02 47.2
BRG pmax pmax
comp=Z,54nm,1.8s
BRG MLR MLR
comp=N,512nm,17.3s
BRG MLR MLR
comp=E,436nm,19.6s
BRG MLR MLR
comp=Z,1μm,20.9s
CLL Collm 133.88 336 PFAKE 07 02 50.0 +15
CLL LR LR
comp=Z,700nm,20.0s
CLL Collm 133.88 336⇓ *i*PKIKP **PKiKP 07 02 34.7 -0.3**
CLL *i* 07 02 47.0
CLL pmax pmax
comp=Z,44nm,1.8s
CLL MLR MLR
comp=Z,700nm,19.7s
CLL Collm 133.88 336⇓ *i*PKPdf **PKiKP 07 02 34.7 -0.3**
comp=Z,44nm,1.8s
CLL *i* 07 02 47.0
CLL *e*PP **PP 07 05 03.0 +0.1**
CLL *e*SKPdf **SKPab 07 06 07.0 +2.4**
CLL *e* 07 07 30.0
CLL *e*PPS PPS 07 17 06.0
CLL *e*SS **SS 07 22 48.0 -1.0**
CLL *e*SSS SSS 07 27 36.0
CLL *e* 07 28 24.0
CLL *e* 07 29 18.0
CLL Lm MLR 08 08 00.0
comp=N,200nm,20.2s
CLL Lm MLR 08 08 00.0
comp=E,500nm,20.1s
CLL Lm MLR 08 08 00.0
comp=Z,700nm,19.7s
CLDB Colider 133.89 117 *e*P **PKiKP 07 02 36.1 -0.1**
BB19B Bebedouro 134.05 134 *e*P **PKiKP 07 02 35.8 -0.6**
KRUC Moravsky 134.06 332 PKIKP **PKiKP 07 02 35.6 +0.1**
KRUC Moravsky 134.06 332 *e*PKP **PKPdf 07 02 34.5 +0.3**
GOPC GO Pecny, Ondr 134.18 333 AMS AMS 08 05 30.0
comp=Z,700nm,23.9s
PRU Pruhonice 134.23 334 *e*PP PP 07 05 02.9 -2.3
PRU AMS AMS 08 06 00.0
comp=Z,600nm,21.1s
VTS Vitosha 134.32 320 PFAKE 07 02 50.0 +14
VTS LR LR
comp=Z,400nm,19.0s
TREC Trest 134.32 332 AMS AMS 08 06 00.0
comp=Z,700nm,21.4s
FDF Fort de France 134.86 80 PFAKE 07 02 50.0 +12
FDF LR LR
comp=Z,1μm,20.0s
NKC Novy Kostel 134.93 335 AMS AMS 08 04 50.0
comp=Z,600nm,15.9s
CONA Conrad Observa 135.12 331 *i* pPKPdf **PKiKP 07 02 37.5 -0.3**
comp=Z,22nm,1.5s
KHC Kasperske Hory 135.29 334 PFAKE 07 02 50.0 +12
KHC LR LR
comp=Z,300nm,20.0s
KHC Kasperske Hory 135.29 334 *e*PKIKP **PKiKP 07 02 37.3 -0.8**
KHC *e* 07 02 48.0
KHC *e* 07 05 10.4
KHC MLR MLR
comp=Z,700nm,21.6s
KHC Kasperske Hory 135.29 334 *e*PKP **PKiKP 07 02 37.3 -0.8**
KHC *ex* x 07 02 48.0
KHC *e*PP **PP 07 05 10.4 -1.6**
KHC AMS AMS 08 06 40.0
comp=Z,700nm,21.6s
GEC2 GERESS Array S 135.45 333 PFAKE 07 02 50.0 +12
GEC2 LR LR
comp=Z,900nm,22.0s
GERES GERESS Array B 135.45 333 *e*PKPdf **PKPdf 07 02 36.5 -0.4**
GERES GERESS Array B 135.45 333 PKP **PKiKP 07 02 37.8 -0.7**
comp=Z,2.4nm,0.7s,baz=70,slow=1.6,SNR=12
GRA1 Grafenberg Arr 135.85 336 PFAKE 07 02 50.0 +11
GRA1 LR LR
comp=Z,500nm,20.0s
GRFO Grafenberg 135.85 336 PFAKE 07 02 50.0 +11
GRFO LR LR
comp=Z,499nm,20.0s
MOA Molln 135.92 332 *i* pPKPdf **PKiKP 07 02 39.5 +0.1**
comp=Z,4.0nm,0.8s
TSUM Tsumeb 136.04 227 PFAKE 07 02 50.0 +9.4
TSUM LR LR
comp=Z,3μm,22.0s
SOKA Soboth 136.40 330 *i* P **PKiKP 07 02 40.8 +0.3**
comp=Z,14nm,1.2s
BLY Banja Luka 136.59 327 PFAKE 07 02 50.0 +9.2
BLY LR LR
comp=Z,500nm,20.0s
IDI Anoyia 136.61 310 PKP **PKPdf 07 02 40.3 +0.9**
comp=Z,40nm,1.3s,baz=135,slow=4.4,SNR=4.4
BSCB Bom Sucesso 136.67 137 *e*P **PKiKP 07 02 42.8 +1.0**
OBKA Obir 136.75 330 *i* pPKiKP **PKiKP 07 02 42.6 +1.4**
comp=Z,16nm,1.6s
KBA Koelnbreinsper 136.91 332 *i* PKiKP **PKPdf 07 02 40.6 +0.8**
comp=Z,14nm,1.2s
MEM Membach 137.00 341⇑PKP **PKiKP 07 02 44.0 +2.6**
MYKA Terra Mystica 137.10 331 *i* P **PKiKP 07 02 42.1 +0.2**
comp=Z,9.6nm,1.0s
UCC Uccle 137.36 342 PFAKE 07 02 50.0 +7.9
UCC LR LR
comp=Z,800nm,19.0s
STU Stuttgart 137.39 336 PFAKE 07 02 50.0 +7.7
STU LR LR
comp=Z,600nm,19.0s
WATA Walderalm 137.52 333 *i* P **PKiKP 07 02 43.3 +0.5**
comp=Z,5.2nm,0.6s
ABTA Abfaltersbach 137.54 332 *i* PKiKP **PKPdf 07 02 41.6 +0.7**
comp=Z,27nm,1.6s
WTTA Wattenberg 137.55 333 *i* P **PKiKP 07 02 42.6 -0.3**
comp=Z,48nm,1.6s
MOTA Moosalm 137.72 334 *i* P **PKiKP 07 02 43.9 +0.6**
comp=Z,12nm,1.0s
RETA Reutte 137.76 334 *i* pPKiKP **PKiKP 07 02 44.3 +1.1**
comp=Z,17nm,1.6s
WLF Walferdange 137.76 340 PFAKE 07 02 50.0 +7.0
WLF LR LR
comp=Z,3μm,22.0s
WLF Walferdange 137.76 340⇑PKP **PKiKP 07 02 44.5 +1.5**
SQTA Sankt Quirin 137.77 333 *i* pPKiKP **PKiKP 07 02 44.2 +0.9**
comp=Z,25nm,1.4s
BDFB Brasilia 137.83 128 *e*PKPdf **PKPdf 07 02 42.6 +0.4**
BDFB LR LR
comp=Z,800nm,20.0s
BDFB Brasilia 137.83 128 PKP **PKPdf 07 02 42.2 -0.1**
comp=Z,10.0nm,0.9s,baz=201,slow=4.8,SNR=8.5
DOU Dourbes 137.90 341⇑PKP **PKiKP 07 02 44.7 +1.4**
BFO Black Forest 138.08 337 PFAKE 07 02 50.0 +6.2
BFO LR LR
comp=Z,600nm,20.0s
FETA Feichten 138.14 334 *i* pPKiKP **PKiKP 07 02 45.3 +1.2**
comp=Z,21nm,1.3s
DAVA Damuels 138.29 335 *i* pPKPdf **PKPdf 07 02 42.4 +0.1**
comp=Z,20nm,1.4s
DAVOX Davos/Dischmat 138.69 334 PKP **PKiKP 07 02 44.3 -0.9**
comp=Z,8.2nm,0.7s,baz=308,slow=1.1,SNR=10
MCI6 Montes Claros 140.14 134 *e*P **PKiKP 07 02 48.4 -0.6**
MCI8 Montes Claros 140.22 133 *e*P **PKPdf 07 02 47.8 +1.2**
AQU L'Aquila 140.24 327 PFAKE 07 03 00.0 +12
AQU LR LR
comp=Z,700nm,22.0s
TIP Timpagrande 140.31 320 PFAKE 07 03 00.0 +11
TIP LR LR
comp=Z,600nm,20.0s
VLC Villacollemand 140.47 331 PFAKE 07 03 00.0 +11
VLC LR LR
comp=Z,600nm,22.0s
SJMB Sao Joao De Ma 140.66 139 *e*P **PKPdf 07 02 48.0 +0.8**
RIB01 Linhares ES 140.72 140 *e*P **PKiKP 07 02 49.4 -0.6**
BNI Bardonecchia 141.41 335 *e*PKPdf **PKPdf 07 02 46.8 -1.3**
BNI LR LR
comp=Z,800nm,20.0s
BNI Bardonecchia 141.41 335 PKIKP **PKiKP 07 02 50.2 -0.6**

SSB Saint Sauveur 142.07 337 PFAKE 07 03 00.0 +8.0
SSB LR LR
comp=Z,500nm,20.0s
MDP Montagnes des 142.22 96 PKP **PKPdf 07 02 51.1 +0.9**
comp=Z,11nm,0.8s,baz=235,slow=3.9,SNR=6.7
KEST Kesra 147.05 322 *e*PKPbc **PKPbc 07 02 59.7 -0.4**
KEST Kesra 147.05 322 PKPbc **PKPbc 07 03 00.4 +0.3**
comp=Z,34nm,1.0s,baz=288,slow=0.9,SNR=20
CMAH Djebel Manchou 147.55 325 P **PKPbc 07 03 02.3 +0.9**
ABSA Djebel Ababsia 147.77 325 P **PKiKP 07 03 03.9 -0.2**
CKFL Kef-Lekhel 148.10 326 P **PKPbc 07 03 01.7 -1.3**
CASM Ain Smara 148.33 326 P **PKPbc 07 03 03.3 -0.2**
DFRA Djebel Bou Aff 148.45 327 P **PKPbc 07 03 03.6 -0.3**
PBRG Braganca 148.57 348 *e*PKP **PKiKP 07 03 05.3 -0.2**
PGAV Gavieira, Arco 148.69 350 *e*SS SS 07 25 57.8 +17
PGAV Gavieira, Arco 148.69 350 *e*LR LR 08 02 28.1
comp=Z,1μm,20.0s
PCAB Cabril 148.90 350 *e*PKP **PKiKP 07 03 06.7 +0.5**
SET Setif 148.97 327 P **PKPdf 07 02 57.0 -4.2**
MVO Moncorvo 149.25 348 *e*PKP **PKiKP 07 03 07.4 +0.4**
MVO Moncorvo 149.25 348 *e*LR LR 08 03 18.2
comp=Z,739nm,18.0s
PVRL Vila Real 149.27 349 *e*PKP **PKiKP 07 03 06.9 -0.1**
ESDC Sonseca Array 149.91 343 *e*PKPdf **PKPdf 07 03 03.9 +1.3**
ESDC Sonseca Array 149.91 343 PKPbc **PKiKP 07 03 08.2 -0.2**
comp=Z,6.9nm,1.0s,baz=5.7,slow=3.0,SNR=7.4
ESLA Sonseca Array 149.91 343 *e*PKPbc **PKiKP 07 03 07.9 -0.5**
ESLA LR LR
comp=Z,800nm,21.0s
MTE Manteigas 150.08 349 *e*PKP **PKiKP 07 03 09.0 +0.3**
MTE Manteigas 150.08 349 *e*LR LR 07 58 35.2
comp=Z,899nm,22.0s
MTE Manteigas 150.08 349 *e*PKPbc **PKPbc 07 03 07.9 +0.1**
PAB San Pablo 150.14 343 *e*PKPdf **PKPdf 07 03 03.2 +0.2**
PAB LR LR
comp=Z,800nm,20.0s
PCAS Casmilo, Conde 150.59 350 *e*PKP **PKiKP 07 03 09.8 +0.1**
PMRV Marv??o 150.99 348 *e*LR LR 08 02 33.9
comp=Z,645nm,18.0s
PTOM Tomar 151.00 350 *e*PKP **PKiKP 07 03 10.8 +0.3**
PMTG Montargil 151.50 349 *e*PKP **PKiKP 07 03 11.7 +0.1**
SHEL Horse Pasture 151.63 199 *e*PKPbc **PKiKP 07 03 13.5 +1.0**
SHEL Horse Pasture 151.63 199 PKIKP **PKiKP 07 03 14.2 +1.7**
EVO Evora 151.98 348 *e*PKP **PKiKP 07 03 13.3 +0.7**
MESJ Messejana 152.69 348 *e*PKPdf **PKPdf 07 03 05.8 -1.0**
MESJ AMS AMS 08 13 41.9
comp=E,595nm,21.8s
MESJ Messejana 152.69 348 *e*PKIKP **PKPdf 07 03 05.8 -1.0**
RCBR Riachuelo 153.20 128 *e*PKPdf **PKPdf 07 03 08.9 +0.6**
RCBR *e*PKPbc **PKPbc 07 03 15.4 -0.3**
RCBR LR LR
comp=Z,900nm,20.0s
RCBR Riachuelo 153.20 128 *e*P **PKPdf 07 03 11.2 +2.9**
MORF Marmelete 153.29 349 *e*PKPdf **PKPdf 07 03 06.6 -1.1**
MORF AMS AMS 08 03 32.1
comp=E,805nm,23.3s
MORF Marmelete 153.29 349 *e*PKIKP **PKPdf 07 03 06.6 -1.1**
SFS San Fernando 153.53 344 PFAKE 07 03 20.0 +4.2
SFS LR LR
comp=Z,600nm,21.0s
MDT Midelt 156.38 338 PKP **PKPdf 07 03 12.0 -0.2**
comp=Z,13nm,1.3s,baz=348,slow=2.4,SNR=7.1
TAM Tamanrasset 157.27 303 *e*PKPdf **PKPdf 07 03 12.9 -0.8**
TAM *e*PKPdif **sPKPdf 07 03 24.5 +5.1**
TAM LR LR
comp=Z,1μm,20.0s
PMOZ Porto Moniz, M 158.27 5 *e*LR LR 08 02 30.4
TOA0 Torodi Ar. Sit 163.62 279 *e*PKPdf **PKPdf 07 03 20.1 -0.6**
TOA0 *e*PKPab **PKPab 07 04 13.8 +1.3**
TOA0 Torodi Ar. Sit 163.62 279 P **PKPdf 07 03 20.9 +0.2**
SNR=13
TORD Torodi Ar. Bea 163.62 279 PKP **PKPdf 07 03 19.8 -0.8**
comp=Z,11nm,1.0s,baz=272,slow=0.6,SNR=35
TORD PP **PP 07 07 57.3 -0.8**
comp=Z,2.8nm,1.1s,baz=108,slow=4.8,SNR=4.0
TOA1 Torodi Ar. Sit 163.62 279 *e*PKPdf **PKPdf 07 03 19.8 -0.8**
TOA1 *e*PP **PP 07 07 57.3 -0.8**
DBIC Dimbokro 169.13 247 *e*PKPdf **PKPdf 07 03 24.4 -0.7**
DBIC *e*PKPab **PKPab 07 04 37.9 +1.2**
DBIC Dimbokro 169.13 247 PKP **PKPdf 07 03 24.6 -0.4**
comp=Z,12nm,1.0s,baz=94,slow=4.3,SNR=6.6
DBIC PKPab **PKPab 07 04 37.5 +0.8**
comp=Z,25nm,1.3s,baz=102,slow=6.8,SNR=5.0
DBIC PP **PP 07 08 25.0 -1.2**
comp=Z,2.2nm,0.5s,baz=122,slow=4.7,SNR=4.0

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*ISCJB **17** 06:56:57.3±0.3, 19°.18S±0°.02×69°.07W±0°.05, h126km±2km, mb4.3/25, Error ellipse: s-maj=8.0km s-min=4.0km az=174.5*
*NEIC **17** 06:56:57.0±0.0, 19°.19S×69°.20W, h120km, mb4.4/22, ML4.2(GUC), After GUC.*
NEIC Felt at Arica.
*GUC **17** 06:56:58.6±0.4, 19°.17S×69°.15W, h120km±1km, ML4.2*
*IDC **17** 06:56:58.8±0.8, 19°.15S×68°.91W, h125km±6km, mb3.8/10, mb1 3.9/14, mb1mx3.7/39, mbtmp4.2/14, MS2.3/1, Ms1 2.3/1, ms1mx2.2/34, Error ellipse: s-maj=17.3km s-min=14.4km az=65.0*
ISC 17 06:56:58.1±0.5, **19°.20S**±0°.03×**69°.09W**±0°.06, **h117**km±4km, **h117**km:**pP-P, n93,** σ1§**28**/116, **mb4.4**/25, **6C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.48**	**193**	*e*Pn	**Pn**	**06 57 16.7**	**+0.6**
GO01				*e*Sn	**Sn**	**06 57 31.0**	**+1.2**
MNMC	**Minye Minye**	**0.49**	**278**	*e*Pn	**Pn**	**06 57 16.1**	**+0.1**
MNMC	**Minye Minye**	**0.49**	**278**	*e*P	**Pn**	**06 57 16.1**	**+0.1**
MNMC				*e*S	**Sn**	**06 57 29.5**	**+0.1**
MNMC				IAML		06 57 31.9	
comp=E,21μm,0.2s							
MNMCX	**Minye Minye**	**0.49**	**278**	*i* P	**Pn**	**06 57 15.6**	**-0.4**
PB11	**IPOC Station P**	**0.78**	**224**	*e*Pn	**Pn**	**06 57 17.8**	**-0.2**
PB11				*e*Sn	**Sn**	**06 57 33.2**	**+0.2**
PB11	**IPOC Station P**	**0.78**	**224**	*i* P	**Pn**	**06 57 17.4**	**-0.6**
PB11				*i* S	**Sn**	**06 57 31.6**	**-1.3**
PB11	**IPOC Station P**	**0.78**	**224**⇑	*i*P	**Pn**	**06 57 18.3**	**+0.3**
PB11				*i* S	**Sn**	**06 57 33.3**	**+0.4**
PB11				IAML		06 57 34.3	
comp=E,10μm,0.5s							
PB08	**IPOC Station P**	**0.94**	**184**⇑	*i*P	**Pn**	**06 57 20.8**	**+1.1**
PB08				*e*S	**Sn**	**06 57 37.6**	**+1.6**
PB08				IAML		06 57 39.3	
comp=N,4μm,0.2s							
PB16	**IPOC Station P**	**0.95**	**335**	*i* P	**Pn**	**06 57 20.7**	**+0.6**
PB16				*i* S	**Sn**	**06 57 37.7**	**+1.2**
PB16	**IPOC Station P**	**0.95**	**335**⇓	*i*P	**Pn**	**06 57 20.7**	**+0.6**
PB16				*i* S	**Sn**	**06 57 37.5**	**+1.0**
PB16				IAML		06 57 38.7	
comp=E,6μm,0.6s							
PSGC	**Pisagua**	**1.06**	**248**⇑	*i*P	**Pn**	**06 57 20.3**	**-0.2**
PSGC				*i* S	**Sn**	**06 57 36.8**	**-0.7**
PSGC				IAML		06 57 41.0	
comp=E,3μm,0.2s							
PB12	**IPOC Station P**	**1.31**	**296**	*i* P	**Pn**	**06 57 22.6**	**-0.7**
PB12	**IPOC Station P**	**1.31**	**296**⇑	*i*P	**Pn**	**06 57 22.9**	**-0.4**
PB12				*i* S	**Sn**	**06 57 41.4**	**-1.0**
PB12				IAML		06 57 46.5	
comp=N,3μm,0.4s							
PB01	**IPOC Station P**	**1.87**	**192**	*e*Pn	**Pn**	**06 57 30.6**	**+0.6**
PB01				*e*Sn	**Sn**	**06 57 54.3**	**+0.1**
PB01	**IPOC Station P**	**1.87**	**192**⇑	*e*P	**Pn**	**06 57 30.5**	**+0.6**
PB01				*i* S	**Sn**	**06 57 54.7**	**+0.5**
PB01				IAML		06 57 56.1	
comp=E,2μm,0.5s							
PB02	**IPOC Station P**	**2.24**	**200**	*e*P	**Pn**	**06 57 34.9**	**+0.4**
PB02				*i* S	**Sn**	**06 58 03.4**	**+0.9**
PB02				IAML		06 58 10.7	
comp=E,2μm,0.6s							
PB09	**IPOC Station P**	**2.59**	**183**⇓	*e*P	**Pn**	**06 57 40.3**	**+1.3**
PB09				*e*S	**Sn**	**06 58 12.3**	**+1.8**
PB09				IAML		06 58 17.9	
comp=N,503nm,0.5s							
PB07	**IPOC Station P**	**2.62**	**197**	*e*P	**Pn**	**06 57 40.6**	**+1.1**
PB07				IAML		06 58 17.8	
comp=E,990nm,0.8s							
PB03	**IPOC Station P**	**2.90**	**192**	*e*P	**Pn**	**06 57 44.1**	**+0.9**
PB03				*e*S	**Sn**	**06 58 16.2**	**-1.7**
PB03				IAML		06 58 27.4	
comp=N,393nm,0.4s							
LPAZ	**La Paz**	**3.04**	**18**	*e*Pn	**Pn**	**06 57 47.2**	**+1.8**
LPAZ	**La Paz**	**3.04**	**18**	P	**Pn**	**06 57 46.2**	**+0.9**
comp=N,9.3nm,0.3s,baz=200,slow=6.4,SNR=165							
LPAZ				S	**Sn**	**06 58 21.6**	**-0.1**
comp=N,2.8nm,0.3s,baz=287,slow=14,SNR=4.5							
PB04	**IPOC Station P**	**3.27**	**198**	*e*Pn	**Pn**	**06 57 48.4**	**+0.3**
PB04	**IPOC Station P**	**3.27**	**198**	*e*P	**Pn**	**06 57 48.8**	**+0.7**
PB04				IAML		06 58 46.1	
comp=N,504nm,0.5s							
LVC	**Limon Verde**	**3.40**	**177**	*e*Pn	**Pn**	**06 57 51.5**	**+1.6**
LVC				*e*Sn	**Sn**	**06 58 23.0**	**-6.8**
LVC	**Limon Verde**	**3.40**	**177**	P	**Pn**	**06 57 51.1**	**+1.3**
comp=N,6.6nm,0.3s,baz=29,slow=8.3,SNR=46							
LVC				S	**Sn**	**06 58 31.1**	**+1.3**
comp=N,21nm,0.3s,baz=62,slow=20,SNR=12							
PB06	**IPOC Station P**	**3.52**	**187**	*e*P	**Pn**	**06 57 52.7**	**+1.4**
PB06				IAML		06 58 37.6	
comp=E,221nm,0.4s							
PB05	**IPOC Station P**	**3.78**	**196**	*e*P	**Pn**	**06 57 55.0**	**+0.2**
PB10	**IPOC Station P**	**4.50**	**197**	*e*Pn	**Pn**	**06 58 03.6**	**-0.7**
PB10				*e*Sn	**Sn**	**06 58 53.8**	**-2.0**
HJA	**Humahuaca**	**5.26**	**140**	*i* P	**Pn**	**06 58 15.5**	**+0.7**
HJA				IAML		06 58 18.3	
comp=Z,54nm,0.6s							
GO02	**Mina Guanaco**	**5.95**	**184**	*e*Pn	**Pn**	**06 58 23.8**	**-0.3**
AZAP	**Zapla**	**6.24**	**144**	*i* P	**Pn**	**06 58 28.6**	**+0.6**
AZAP				IAML		06 59 41.1	
comp=Z,23nm,0.7s							
SIV	**San Ignacio**	**8.28**	**69**	P	**Pn**	**06 58 53.1**	**-2.4**
comp=Z,12nm,0.3s,baz=271,slow=9.9,SNR=391							
NNA	**Nana**	**10.36**	**313**	LR	LR	07 03 40.0	
comp=Z,16nm,21.0s,baz=178,slow=38							
CPUP	**Villa Florida**	**12.95**	**125**	*e*Pn	**Pn**	**06 59 57.0**	**-0.8**
CPUP	**Villa Florida**	**12.95**	**125**	P	**Pn**	**06 59 56.1**	**-1.7**
comp=Z,0.4nm,0.3s,baz=296,slow=12,SNR=8.0							
GO05	**Huala**	**15.95**	**189**	*e*Pn	**Pn**	**07 00 36.0**	**+0.2**
comp=Z,19nm,1.1s							
TRQA	**Tornquist**	**19.78**	**163**	*e*P	**P**	**07 01 19.8**	**+0.7**
comp=Z,24nm,0.8s							
BDFB	**Brasilia**	**20.41**	**83**	P	**P**	**07 01 25.1**	**-1.1**
comp=Z,2.7nm,0.5s,baz=251,slow=8.9,SNR=5.5							
GO06	**Curarrehue**	**20.42**	**185**	*e*P	**P**	**07 01 27.1**	**+1.1**
comp=Z,12nm,0.8s							
PTGA	**Pitinga**	**20.42**	**27**	*e*P	**P**	**07 01 23.6**	**-2.5**
comp=Z,8.6nm,0.3s							
PTGA	**Pitinga**	**20.42**	**27**	P	**P**	**07 01 23.1**	**-3.0**
comp=Z,7.4nm,0.3s,baz=204,slow=20,SNR=15							
PLCA	**Paso Flores**	**21.50**	**183**	*e*P	**P**	**07 01 38.5**	**+0.9**
comp=Z,18nm,0.9s							
PLCA	**Paso Flores**	**21.50**	**183**	P	**P**	**07 01 37.4**	**-0.2**
comp=Z,15nm,0.9s,baz=30,slow=11,SNR=24							
YOTC	**Yotoco, Valle**	**24.12**	**342**	*e*P	**P**	**07 02 05.2**	**+1.8**
YOTC	**Yotoco, Valle**	**24.12**	**342**	*e*P	**P**	**07 02 05.2**	**+1.8**
RUSC	**La Rusia**	**25.25**	**351**	*e*P	**P**	**07 02 12.1**	**-1.8**
RUSC	**La Rusia**	**25.25**	**351**	*e*P	**P**	**07 02 12.1**	**-1.8**
Z50A	**Ashland**	**54.58**	**343**	*e*P	**P**	**07 06 13.5**	**-0.9**
comp=Z,5.7nm,1.0s							
HALT	**Halls**	**58.07**	**341**	*e*P	**P**	**07 06 39.2**	**+0.1**
comp=Z,26nm,0.4s							
T49A	**Edmonton**	**58.11**	**345**	*e*P	**P**	**07 06 38.7**	**-0.6**
comp=Z,3.7nm,0.9s							
MIAR	**Mount Ida**	**58.31**	**336**	*e*P	**P**	**07 06 40.6**	**-0.1**
comp=Z,1.9nm,1.0s							
TXAR	**Lajitas Array**	**58.66**	**325**	*e*P	**P**	**07 06 43.9**	**+0.5**
TXAR	**Lajitas Array**	**58.66**	**325**	P	**P**	**07 06 42.2**	**-1.2**
comp=Z,0.2nm,0.7s,baz=150,slow=6.2,SNR=3.3							
Q54A	**Coxs Mills**	**58.92**	**349**	*e*P	**P**	**07 06 47.0**	**+2.1**
comp=Z,17nm,1.4s							
PBMO	**Poplar Bluff**	**59.22**	**340**	*e*P	**P**	**07 06 46.4**	**-0.5**
comp=Z,3.4nm,0.6s							
FVM	**French Village**	**60.32**	**341**	*e*P	**P**	**07 06 54.6**	**+0.1**
comp=Z,4.4nm,0.4s							
WMOK	**Wichita Mounta**	**60.62**	**332**	*e*P	**P**	**07 06 56.1**	**-0.5**
comp=Z,2.9nm,0.9s							
VNA3	**Neumayer Olymp**	**62.30**	**162**	P	**P**	**07 07 07.9**	**+0.5**
VNA1	**Neumayer--Stat**	**62.50**	**161**	P	**P**	**07 07 10.5**	**+1.7**
VNA2	**Neumayer--Watz**	**62.87**	**161**	P	**P**	**07 07 10.1**	**-1.2**
K43A	**Burlington**	**64.10**	**344**	*e*P	**P**	**07 07 19.3**	**-0.4**
comp=Z,10nm,1.0s							
SNAA	**Sanae**	**64.50**	**161**	P	**P**	**07 07 23.2**	**+1.2**
SNAA	**Sanae**	**64.50**	**161**	*e*P	**P**	**07 07 23.4**	**+1.4**
comp=Z,4.3nm,0.7s							
SDCO	**Great Sand Dun**	**66.20**	**329**	*e*P	**P**	**07 07 35.2**	**+1.5**
comp=Z,1.6nm,0.8s							
LIC	**Lamto**	**67.92**	**75**	*e*P	**P**	**07 07 43.2**	**-1.6**
comp=Z,85nm,1.8s							
TIC	**Toumodi**	**68.10**	**74**	*e*P	**P**	**07 07 44.5**	**-1.4**
KIC	**Kosan Boka**	**68.24**	**75**	*e*P	**P**	**07 07 45.1**	**-1.6**
comp=Z,9.4nm,0.4s							
DBIC	**Dimbokro**	**68.26**	**74**	*e*P	**P**	**07 07 46.5**	**-0.4**
comp=Z,12nm,1.3s							
DBIC	**Dimbokro**	**68.26**	**74**	P	**P**	**07 07 46.1**	**-0.7**
comp=Z,4.2nm,0.6s,baz=223,slow=6.3,SNR=7.9							
QSPA	**South Pole Qui**	**70.98**	**180**	*e*P	**P**	**07 08 04.6**	**+1.7**
comp=Z,2.8nm,0.6s							
PDAR	**Pinedale Array**	**72.05**	**330**	P	**P**	**07 08 09.9**	**+0.3**
comp=Z,0.3nm,0.4s,baz=134,slow=6.4,SNR=3.1							
ULM	**Lac du Bonnet**	**73.09**	**342**	*e*P	**P**	**07 08 14.9**	**-0.4**
comp=Z,6.3nm,1.4s							
ULM	**Lac du Bonnet**	**73.09**	**342**	P	**P**	**07 08 14.7**	**-0.7**
comp=Z,1.4nm,0.5s,baz=134,slow=5.8,SNR=5.6							
ULM				pP	**pP**	**07 08 46.5**	**+0.4**
comp=Z,1.2nm,0.6s,baz=187,slow=8.5,SNR=2.8							
NV01	**Mina Array Sit**	**73.59**	**322**	*e*P	**P**	**07 08 19.9**	**+1.0**
NVAR	**Mina Array Bea**	**73.59**	**322**	P	**P**	**07 08 19.9**	**+1.0**
comp=Z,0.3nm,0.6s,baz=163,slow=6.7,SNR=5.0							
YHH	**Holmes Hill**	**74.19**	**330**	*e*P	**P**	**07 08 24.8**	**+2.5**
comp=Z,2.3nm,0.9s							
PAHR	**Pah Rah Range**	**75.07**	**322**	*e*P	**P**	**07 08 29.4**	**+2.1**
comp=Z,2.6nm,0.9s							
TOA0	**Torodi Ar. Sit**	**76.75**	**71**	*e*P	**P**	**07 08 36.8**	**-0.4**
comp=Z,4.4nm,0.5s							
TOA1	**Torodi Ar. Sit**	**76.75**	**71**	*e*P	**P**	**07 08 35.8**	**-1.4**
TOA1				*e*pP	**pP**	**07 09 07.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.75**	**71**	P	**P**	**07 08 35.8**	**-1.4**
comp=Z,2.6nm,0.4s,baz=252,slow=5.4,SNR=34							
TORD				pP	**pP**	**07 09 07.4**	**-0.7**
comp=Z,1.8nm,0.9s,baz=250,slow=4.2,SNR=2.8							
SYO	**Syowa Base**	**78.70**	**160**⇑	*e*P	**P**	**07 08 46.6**	**-0.4**
GLK	**Glacier Lake**	**80.79**	**326**	*e*P	**P**	**07 09 00.5**	**+1.8**
YKA	**Yellowknife Ar**	**88.97**	**341**	*e*P	**P**	**07 09 39.9**	**+0.7**
YKA	**Yellowknife Ar**	**88.97**	**341**	P	**P**	**07 09 39.4**	**+0.3**
comp=Z,1.5nm,0.5s,baz=132,slow=4.8,SNR=54							
YKA				pP	**pP**	**07 10 11.2**	**+0.4**
comp=Z,0.8nm,0.7s,baz=134,slow=4.9,SNR=5.1							
YKB5	**Yellowknife Ar**	**88.97**	**341**	*e*P	**P**	**07 09 39.4**	**+0.3**
YKB5				*e*pP	**pP**	**07 10 11.2**	**+0.4**
ASAR	**Alice Springs**	**131.85**	**209**	PKP	**PKPdf**	**07 15 58.6**	**+0.3**
comp=Z,0.4nm,0.6s,baz=147,slow=1.7,SNR=4.2							
WR1	**Warramunga Arr**	**134.83**	**212**	*e*PKPdf	**PKPdf**	**07 16 04.5**	**+0.5**
WRA	**Warramunga Arr**	**134.83**	**212**	PKP	**PKPdf**	**07 16 04.5**	**+0.5**
comp=Z,1.0nm,0.7s,baz=168,slow=2.9,SNR=5.0							
GUMO	**Guam**	**146.99**	**265**	*e*PKPbc	**PKPdf**	**07 16 26.7**	**+0.9**
SOEI	**Soe**	**148.36**	**206**	*e*PKPbc	**PKPdf**	**07 16 28.6**	**+0.3**
SONA0	**Songino Array**	**151.20**	**6**	*e*PKPbc	**PKiKP**	**07 16 38.4**	**+0.1**
SONM	**Songino Array**	**151.20**	**6**	*e*PKPbc	**PKiKP**	**07 16 38.6**	**+0.3**
SONM	**Songino Array**	**151.20**	**6**	PKPbc	**PKiKP**	**07 16 38.4**	**+0.1**
comp=Z,1.2nm,0.4s,baz=326,slow=1.2,SNR=8.0							

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*PRU **17** 06:58:01.1±0.0, 47°.73N×16°.

SMOL	**Smolenice**	**1.19**	**48**	*e*SG	**Sn**	**06 58 41.5**	**+1.5**
MOA	**Molln**	**1.24**	**276**	*e*Pg	**Pg**	**06 58 24.7**	**-0.1**
	11nm,0.1s,SNR=25						
MOA				*e*Sg	**Sn**	**06 58 42.0**	**+0.7**
	15nm,0.1s						
SOKA	**Soboth**	**1.28**	**215**	Pg	**Pn**	**06 58 24.7**	**-0.3**
	SNR=7.9						
SOKA				Sg	**Sb**	**06 58 40.2**	**-1.5**
	4.0nm,0.2s,SNR=5.0						
PERS	**Pernice**	**1.28**	**212**	*i* Pg	**Pg**	**06 58 25.1**	**-0.3**
PERS				*i* Sg	**Sb**	**06 58 39.9**	**-1.9**
KOGS	**Kog**	**1.28**	**175**	*i* Pg	**Pg**	**06 58 27.3**	**+1.9**
KOGS				*i* Sg	**Sn**	**06 58 41.9**	**-0.3**
GROS	**Grobnik**	**1.33**	**198**	*i* Pg	**Pg**	**06 58 26.2**	**-0.2**
KRUC	**Moravsky**	**1.35**	**8**	*e*PG	**Pb**	**06 58 26.1**	**-0.3**
KRUC				*e*SG	**Sg**	**06 58 44.3**	**-0.1**
KRUC	**Moravsky**	**1.35**	**8**	*e*Pg	**Pb**	**06 58 26.1**	**-0.3**
	baz=190						
KRUC				*e*Sg	**Sg**	**06 58 44.2**	**-0.1**
	40nm,0.3s,baz=190						
JAVC	**Velka Javorina**	**1.54**	**42**	*e*PG	**Pn**	**06 58 29.0**	**+0.4**
OBKA	**Obir**	**1.61**	**222**	Pg	**Pb**	**06 58 30.6**	**-0.2**
	2.1nm,0.2s						
OBKA				Sg	**Sb**	**06 58 51.3**	**0.0**
	6.9nm,0.2s						
VRAC	**Vranov**	**1.62**	**11**	*e*SN	**Sb**	**06 58 51.4**	**0.0**
VRAC	**Vranov**	**1.62**	**11**	*e*PN	Pg	06 58 44.2	+12
	40nm,0.3s,baz=193						
VRAC				*e*Sn	**Sb**	**06 58 51.3**	**-0.1**
	20nm,0.3s,baz=193						
TREC	**Trest**	**1.62**	**346**	*e*SG	**Sb**	**06 58 52.0**	**+0.4**
	comp=Z,30nm,0.3s						
MOZS	**Mozjanca**	**1.83**	**219**	*i* Pn	**Pg**	**06 58 36.0**	**+0.1**
KBA	**Koelnbreinsper**	**1.98**	**252**	Pn	**Pb**	**06 58 36.4**	**-0.8**
	1.4nm,0.1s						
KBA				*i* Sg	**Sg**	**06 59 06.8**	**+2.3**
	10.0nm,0.3s						
VYHS	**Vyhne**	**1.99**	**66**	*e*PN	**Pn**	**06 58 35.7**	**+1.0**
VYHS				*e*SN	**Sn**	**06 58 58.4**	**-1.3**
KHC	**Kasperske Hory**	**2.19**	**311**	*e*PG	**Pb**	**06 58 41.1**	**+0.4**
KHC				*e*SN	**Sb**	**06 59 07.8**	**-0.2**
KHC				*e*SG	**Sg**	**06 59 10.6**	**-0.7**
	comp=Z,16nm,0.3s						
MORC	**Moravsky Berou**	**2.26**	**24**	*e*PN	Pn	06 58 30.0	-8.5
MORC				*e*SN	**Sn**	**06 59 06.8**	**+0.2**
MORH	**Mrgy, Hungar**	**2.31**	**130**	*e*Pn	**Pn**	**06 58 39.0**	**0.0**
MORH				*e*Sg	**Sg**	**06 59 15.0**	**+0.1**
PRU	**Pruhonice**	**2.49**	**336**	*e*SG	**Sg**	**06 59 19.6**	**-1.2**
	comp=Z,11nm,0.3s						
DPC	**Dobruska-Polom**	**2.63**	**3**	*e*SG	**Sg**	**06 59 23.2**	**-2.2**
	comp=Z,6.4nm,0.3s						
UPC	**Upice**	**2.79**	**359**	*e*SG	**Sg**	**06 59 30.2**	**-0.1**
WTTA	**Wattenberg**	**3.06**	**263**	*e*Pn	**Pn**	**06 58 52.1**	**+2.5**
	1.2nm,0.2s						
WTTA				Sg	**Sg**	**06 59 37.8**	**-1.4**
	4.1nm,0.3s						
BRG	**Berggiesshubel**	**3.45**	**337**	SG	**Sg**	**06 59 51.1**	**-0.6**
	6.8nm,0.5s						

IDC 17 07:02:58.0±1.8, 10°91S×164°96E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/37, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=52.4km s-min=33.2km az=128.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.19**	**173**	Pn	Pn	07 05 38.2	-1.3
	0.5nm,0.3s,baz=342,slow=19,SNR=6.9						
WRA	**Warramunga Arr**	**30.81**	**249**	P	P	07 09 15.9	+0.1
	1.3nm,0.7s,baz=75,slow=9.2,SNR=6.2						
ASAR	**Alice Springs**	**32.16**	**243**	P	P	07 09 27.9	+0.1
	2.1nm,0.9s,baz=69,slow=10,SNR=12						
ILAR	**Eielson Array**	**83.63**	**19**	P	P	07 15 28.2	+0.1
	0.3nm,0.7s,baz=226,slow=4.0,SNR=4.3						

ISK 17 07:03:19.6, 37°03N×28°43E, h7km, ML2.5/12
ISCJB 17 07:03:20.2±0.6, 37°05N±0°04×28°35E±0.04, h4km±6km, Error ellipse: s-maj=7.6km s-min=5.4km az=8.8
DDA 17 07:03:20.8, 37°00N×28°43E, h7km±6km, ML2.3
ISC 17 07:03:21.0±1.1, 37°03N±0°03×28°38E±0°03, h6km±10km, n19, σ1§47/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.24**	**132**	PG	**Pg**	**07 03 25.7**	**0.0**
TURN				SG	**Sg**	**07 03 30.7**	**+1.9**
TURN	**Turunc**	**0.24**	**132**	IAML_P			
	comp=Z,22μm,0.1s						
TURN				*i* P	**Pg**	**07 03 26.5**	**+0.9**
TURN				*i* S	**Sg**	**07 03 31.4**	**+2.5**
DALY	**Dalyan (Mula)**	**0.31**	**135**	PG	**Pg**	**07 03 25.6**	**-1.3**
DALY				SG	**Sg**	**07 03 30.1**	**-0.9**
DALY	**Dalyan (Mula)**	**0.31**	**135**	IAML_P			
	comp=Z,1μm,0.2s						
DALY				*i* P	**Pg**	**07 03 25.9**	**-1.1**
DALY				*i* S	**Sg**	**07 03 30.2**	**-0.8**
MRSB	**Marmaris-Mugla**	**0.35**	**205**	PG	**Pg**	**07 03 26.9**	**-0.9**
MRSB				SG	**Sg**	**07 03 33.0**	**+0.6**
BBRN	**Bozburun-Marma**	**0.44**	**216**	PG	**Pg**	**07 03 28.8**	**-0.7**
TAVA	**DENIZLI_Tavas**	**0.60**	**44**	IAML_P			
	comp=Z,502nm,0.2s						
TAVA				*i* P	**Pg**	**07 03 32.6**	**0.0**
TAVA				*i* S	**Sb**	**07 03 42.6**	**-0.1**
DATC	**Datca-Mugla**	**0.64**	**245**	PG	**Pg**	**07 03 33.1**	**-0.2**
FETY	**Fethiye**	**0.69**	**125**	PG	**Pg**	**07 03 33.1**	**-1.1**
FETY	**Fethiye**	**0.69**	**125**	IAML_P			
	comp=Z,272nm,0.2s						
FETY				*i* P	**Pb**	**07 03 34.9**	**-0.4**
FETY				*i* S	**Sn**	**07 03 45.9**	**-2.3**
DAT	**Datca**	**0.71**	**245**	PG	**Pg**	**07 03 34.3**	**-0.4**
DAT	**Datca**	**0.71**	**245**	IAML_P			
	comp=Z,134nm,0.2s						
DAT				*i* P	**Pb**	**07 03 35.7**	**-0.1**
DAT				*i* S	**Sb**	**07 03 47.1**	**+1.2**
AYDN	**Tasoluk**	**0.74**	**327**	IAML_P			
	comp=Z,1μm,0.1s						
AYDN				*i* P	**Pb**	**07 03 36.2**	**-0.1**
ARG	**Arkhangelos**	**0.84**	**194**	PG	**Pg**	**07 03 36.4**	**-0.7**
BODT	**Bodrum**	**0.86**	**272**	PG	**Pg**	**07 03 37.1**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.99**	**337**	PG	**Pg**	**07 03 39.4**	**-0.6**
AKAS	**Kas**	**1.27**	**129**	PN	**Pn**	**07 03 43.9**	**-1.4**
AKAS	**Kas**	**1.27**	**129**	IAML_P			
	comp=Z,992nm,0.2s						
AKAS				*i* P	**Pg**	**07 03 45.4**	**+0.1**
AKAS				*i* S	**Sn**	**07 04 07.5**	**+4.8**
KARP	**Karpathos**	**1.78**	**214**	PN	**Pn**	**07 03 51.9**	**-0.4**

IDC 17 07:10:33.8±2.2, 11°38S×118°46E, h0km, mb3.7/1, mb1 3.7/5, mb1mx3.5/46, mbtmp3.6/5, ML3.4/4, Error ellipse: s-maj=76.4km s-min=24.0km az=56.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.45**	**12**	Pn	Pn	07 12 10.4	+0.3
	0.7nm,0.3s,baz=145,slow=12,SNR=2.8						
KAPI				Sn	Sn	07 13 18.9	-5.6
	2.1nm,0.3s,baz=108,slow=21,SNR=7.3						
FITZ	**Fitzroy Crossi**	**9.63**	**135**	Pn	Pn	07 12 53.2	-0.6
	0.3nm,0.3s,baz=334,slow=12,SNR=14						
FITZ				Sn	Sn	07 14 34.2	-8.7
	1.6nm,0.3s,baz=172,slow=19,SNR=8.1						
WRA	**Warramunga Arr**	**17.49**	**121**	P	Pn	07 14 37.8	-1.6
	0.1nm,0.3s,baz=290,slow=14,SNR=5.2						
WRA				S	Sn	07 17 43.5	-11
	0.2nm,0.3s,baz=283,slow=23,SNR=6.2						
ASAR	**Alice Springs**	**19.11**	**132**	P	Pn	07 15 00.1	+0.8
	0.2nm,0.3s,baz=315,slow=13,SNR=14						
ASAR				S	Sn	07 18 23.5	-11
	0.2nm,0.3s,baz=311,slow=25,SNR=4.7						
MKAR	**Makanchi Array**	**66.33**	**334**	P	P	07 21 24.1	-0.2
	0.4nm,0.5s,baz=142,slow=6.1,SNR=4.7						

IDC 17 07:13:03.6±0.8, 31°40N×86°58E, h0km, mb3.7/11, mb1 3.8/12, mb1mx3.6/50, mbtmp3.7/12, ML2.9/1, MS4.3/2, Ms1 4.3/2, ms1mx3.2/61, Error ellipse: s-maj=26.4km s-min=18.0km az=72.0
ISCJB 17 07:13:06.9±0.7, 31°43N±0°10×86°43E±0°08, h33km, mb3.6/10, MS4.3/2, Error ellipse: s-maj=14.1km s-min=9.6km az=168.9
ISC 17 07:13:09.0±0.9, 31°5N±0°1×86°52E±0°10, h35km, n15, σ0§48/14, mb3.6/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**8.01**	**270**	*e*P	**Pn**	**07 15 02.9**	**+0.1**
SMLA				*e*S	**Sn**	**07 16 31.5**	**-0.7**
SMLA				IAML		07 16 37.8	
	comp=E,16nm,0.5s						
SMLA				IAML		07 16 38.2	
MKAR	**Makanchi Array**	**15.65**	**349**	Pn	**Pn**	**07 16 46.1**	**-0.6**
	comp=E,0.1nm,0.3s,baz=164,slow=12,SNR=4.0						
KURBB	**Kurchatov Arra**	**20.04**	**345**	P	**P**	**07 17 39.0**	**+0.1**
	comp=E,5.4nm,1.0s,baz=162,slow=10,SNR=15						
SONM	**Songino Array**	**22.29**	**37**	P	**P**	**07 18 02.9**	**-0.4**
	comp=E,0.5nm,0.5s,baz=224,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**22.50**	**357**	P	**P**	**07 18 05.7**	**+0.5**
	comp=E,0.8nm,0.3s,baz=188,slow=8.7,SNR=3.3						
BVAR	**Borovoye Array**	**24.52**	**336**	P	**P**	**07 18 25.3**	**+0.3**
	comp=E,0.4nm,0.4s,baz=135,slow=16,SNR=3.3						
FINES	**FINESS Array B**	**48.84**	**326**	P	**P**	**07 21 50.9**	**+0.2**
	comp=E,0.9nm,0.7s,baz=114,slow=9.7,SNR=3.0						
MA2	**Magadan**	**50.50**	**36**	LR	LR	07 46 32.4	
	comp=E,290nm,18.1s,baz=194,slow=40						
SEY	**Seymchan**	**51.55**	**32**	LR	LR	07 44 13.1	
	comp=E,294nm,19.7s,baz=196,slow=36						
WRA	**Warramunga Arr**	**68.68**	**132**	P	**P**	**07 24 08.7**	**-0.4**
	comp=E,0.5nm,0.5s,baz=325,slow=6.2,SNR=6.8						
ASAR	**Alice Springs**	**71.15**	**135**	P	**P**	**07 24 23.8**	**-0.4**
	comp=E,0.6nm,0.7s,baz=319,slow=6.2,SNR=9.1						
ILAR	**Eielson Array**	**75.46**	**21**	P	**P**	**07 24 49.6**	**+0.5**
	comp=E,0.3nm,0.6s,baz=303,slow=5.0,SNR=3.3						
MATP	**Matopo**	**75.86**	**235**	P	**P**	**07 24 52.5**	**+0.3**
	comp=E,2.8nm,0.8s,baz=47,slow=7.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**78.90**	**279**	P	**P**	**07 25 09.7**	**+0.5**
	comp=E,0.6nm,0.9s,baz=45,slow=8.4,SNR=2.7						
YKA	**Yellowknife Ar**	**84.83**	**10**	P	**P**	**07 25 39.2**	**-0.4**
	comp=E,0.2nm,0.6s,baz=331,slow=5.2,SNR=4.3						

GUC 17 07:28:25.6±0.6, 31°63S×71°33W, h20km±8km, ML3.0
SJA 17 07:28:26.3±0.6, 31°75S×71°80W, h63km±14km, ML3.2, MW3.8
ISC 17 07:28:22.4±3.0, 31°70S±0°04×72°0W±0°1, h2km±17km, n23, σ1§45/32, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.51**	**148**	⇑*e*P	**Pn**	**07 28 51.1**	**+0.5**
ROCH				*i* S	**Sg**	**07 29 10.2**	**-0.7**
ROCH				IAML		07 29 12.7	
	comp=N,416nm,0.3s						
ROC1	**El Roble**	**1.51**	**148**	*i* P	**Pn**	**07 28 51.2**	**+0.5**
ROC1				*i* S	**Sg**	**07 29 09.9**	**-1.1**
PEL	**Peldehue**	**1.81**	**143**	*e*P	Pn	07 28 54.6	0.0
PEL				*e*S	**Sn**	**07 29 16.4**	**-1.7**
PEL				IAML		07 29 20.5	
	comp=E,279nm,0.3s						
GO04	**Tololo Observa**	**1.83**	**34**	*e*P	Pn	07 28 53.8	-1.3
GO04				*i* S	**Sn**	**07 29 15.3**	**-3.6**
LSCH	**La Serena**	**1.89**	**20**	*e*P	**Pn**	**07 28 56.1**	**+0.4**
CLCH	**Cerro Calan**	**2.08**	**145**	*e*P	**Pn**	**07 28 59.1**	**+0.7**
CLCH				*e*S	**Sn**	**07 29 24.7**	**-0.3**
CLCH				IAML		07 29 30.3	
	comp=E,161nm,0.7s						
FCH	**Farellones**	**2.16**	**139**	*e*P	**Pn**	**07 28 60.0**	**+0.3**
FCH				*e*S	**Sn**	**07 29 26.0**	**-1.2**
FCH				IAML		07 29 28.9	
	comp=E,212nm,0.3s						
ANTU	**Antumapu**	**2.18**	**149**	*e*P	**Pn**	**07 29 01.4**	**+1.6**
ANTU				*e*S	**Sn**	**07 29 28.0**	**+0.6**
ANTU				IAML		07 29 34.8	
	comp=E,210nm,0.2s						
AUSP	**Uspallata**	**2.26**	**104**	*i* P	**Pn**	**07 29 02.0**	**+0.9**
AUSP				*i* S	**Sn**	**07 29 28.2**	**-1.4**
RTLS	**Leoncito**	**2.28**	**93**	*i* P	**Pn**	**07 29 01.8**	**+0.5**
RTLS				*i* S	**Sn**	**07 29 28.3**	**-2.0**
RTLS				IAML		07 29 29.4	
	comp=Z,158nm,0.3s						
LMEL	**Las Melosas**	**2.61**	**146**	*e*P	**Pn**	**07 29 06.8**	**+1.1**
LMEL				*e*S	**Sn**	**07 29 38.2**	**0.0**
AROD	**Rodeo**	**2.64**	**55**	*i* P	**Pn**	**07 29 07.9**	**+1.7**
AROD				*i* S	**Sn**	**07 29 39.0**	**0.0**
ACCO	**Cerro Coronel**	**2.73**	**67**	*i* P	**Pn**	**07 29 09.1**	**+1.6**
ACCO				*i* S	**Sn**	**07 29 42.2**	**+0.9**
ZON	**Zonda**	**2.82**	**88**	*i* P	**Pn**	**07 29 09.8**	**+1.3**
ACDV	**Cuesta del Vie**	**2.89**	**59**	*i* P	**Pn**	**07 29 11.2**	**+1.6**
RTCV	**Cerro Valdivia**	**2.93**	**94**	*i* P	**Pn**	**07 29 11.7**	**+1.7**
AAGR	**Agrelo**	**3.00**	**118**	*i* P	**Pn**	**07 29 13.7**	**+2.6**
RTLL	**Cerro Villicun**	**3.01**	**84**	*i* P	**Pn**	**07 29 11.9**	**+0.8**
AMOG	**MOGNA**	**3.08**	**77**	*i* P	**Pn**	**07 29 12.9**	**+0.8**
AGUA	**GUANDACOL**	**3.73**	**55**	*i* P	**Pn**	**07 29 22.6**	**+1.5**
VCA	**Vinchina**	**4.40**	**49**	*i* P	**Pn**	**07 29 32.4**	**+2.0**
ACLC	**CERRO LA CRUZ**	**4.89**	**64**	*i* P	**Pn**	**07 29 37.3**	**+0.2**
MRA	**San Martin**	**5.36**	**99**	*i* P	Pn	07 29 42.9	-0.7

IDC 17 07:33:47.8±1.3, 3°04S×142°69E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/46, mbtmp3.8/7, ML3.8/1, MS4.0/1, Ms1 4.0/1, ms1mx3.1/32, Error ellipse: s-maj=50.5km s-min=20.4km az=100.0
ISCJB 17 07:33:49.2±0.8, 3°18S±0°08×142°9E±0°1, h23km, mb4.1/9, MS4.0/1, Error ellipse: s-maj=20.6km s-min=11.5km az=14.1
NEIC 17 07:33:51.9±0.6, 3°15S×142°83E, h29km±8km, mb4.3/9, Error ellipse: s-maj=30.0km s-min=22.1km az=93.0
ISC 17 07:33:51.5±0.9, 3°1S±0°1×142°8E±0°2, h23km, n26, σ1§31/19, mb4.0/9, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**15.09**	**229**	*e*Pn	**Pn**	**07 37 24.3**	**+0.9**
	24nm,1.4s						
WRAB	**Tennant Creek**	**18.69**	**206**	*e*P	**P**	**07 38 07.2**	**-1.1**
	5.2nm,0.8s						
WB2	**Warramunga Arr**	**18.70**	**206**	*e*P	**P**	**07 38 07.3**	**-1.0**
	5.4nm,0.7s						
WR1	**Warramunga Arr**	**18.70**	**206**	*e*P	**P**	**07 38 07.5**	**-1.0**
WRA	**Warramunga Arr**	**18.70**	**206**	P	**P**	**07 38 07.5**	**-1.0**
	0.3nm,0.3s,baz=28,slow=12,SNR=17						
SOEI	**Soe**	**19.57**	**249**	*e*P	**Pn**	**07 38 21.4**	**+1.9**
	35nm,1.1s						
ASAR	**Alice Springs**	**22.22**	**202**	*e*P	**P**	**07 38 44.7**	**-1.9**
ASAR	**Alice Springs**	**22.22**	**202**	P	**P**	**07 38 45.1**	**-1.5**
	0.8nm,0.6s,baz=31,slow=9.5,SNR=10						
FITZ	**Fitzroy Crossi**	**22.50**	**227**	*e*P	**P**	**07 38 48.4**	**-1.2**
	16nm,1.4s						
FITZ	**Fitzroy Crossi**	**22.50**	**227**	P	**P**	**07 38 48.1**	**-1.5**
	2.4nm,0.9s,baz=28,slow=14,SNR=3.7						
EIDS	**Eidsvold**	**23.57**	**161**	*e*P	**P**	**07 39 03.1**	**+2.7**
	9.4nm,0.9s						
STKA	**Stephens Creek**	**28.68**	**182**	P	**P**	**07 39 47.6**	**+0.7**
	0.7nm,0.4s,baz=8.1,slow=14,SNR=2.3						
FORT	**Forrest**	**30.89**	**205**	*e*P	**P**	**07 40 05.6**	**-0.7**
	11nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**31.82**	**47**	T	T	08 13 54.8	
	baz=229,slow=75,SNR=51						
H11S2	**WAKE ISLAND Hy**	**31.83**	**47**	T	T	08 13 56.5	
	baz=229,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**31.83**	**47**	T	T	08 13 57.0	
	baz=229,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**32.75**	**45**	T	T	08 15 09.5	
	baz=230,slow=76,SNR=30						
H11N2	**WAKE ISLAND Hy**	**32.77**	**45**	T	T	08 15 12.2	
	baz=230,slow=76,SNR=50						
H11N3	**WAKE ISLAND Hy**	**32.77**	**45**	T	T	08 15 12.3	
	baz=230,slow=76,SNR=17						
KHZ	**Kahutara**	**47.84**	**149**	*e*P	**P**	**07 42 26.5**	**-1.0**
	52nm,1.2s						
KLR	**Kul'dur**	**52.96**	**351**	LR	LR	08 04 09.5	
	comp=Z,138nm,18.2s,baz=268,slow=34						
MK32	**Makanchi Array**	**72.59**	**321**	*e*P	**P**	**07 45 17.1**	**0.0**
MKAR	**Makanchi Array**	**72.59**	**321**	*e*P	**P**	**07 45 17.7**	**+0.6**
MKAR	**Makanchi Array**	**72.59**	**321**	P	**P**	**07 45 17.1**	**0.0**
	0.7nm,0.7s,baz=106,slow=6.4,SNR=4.5						
BVAR	**Borovoye Array**	**81.95**	**324**	P	**P**	**07 46 09.2**	**-0.2**
	1.2nm,0.7s,baz=101,slow=3.7,SNR=5.9						
ILAR	**Eielson Array**	**84.48**	**24**	P	**P**	**07 46 21.9**	**-0.3**
	0.5nm,0.9s,baz=264,slow=3.3,SNR=4.0						

ISCJB 17 07:37:20.8±0.5, 0°07S±0°05×122°86E±0°06, h150km, mb3.7/8, Error ellipse: s-maj=8.6km s-min=7.1km az=33.7
IDC 17 07:37:20.4±2.1, 0°01S×122°91E, h128km±18km, mb3.6/8, mb1 3.8/10, mb1mx3.4/52, mbtmp4.0/10, Error ellipse: s-maj=26.7km s-min=14.1km az=82.0
DJA 17 07:37:23.2±0.4, 0°S±3°×12°3E±°, h117km±6km, M3.9/10, mb3.7/1, MLv4.0/10
ISC 17 07:37:22.1±0.7, 0°10S±0°06×122°95E±0°05, h150km, n21, σ2§22/29, mb3.9/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.95**	**191**	P	**Pn**	**07 37 44.5**	**-2.0**
LUWI				S	**Sn**	**07 38 00.9**	**-4.2**
MRSI	**Marisa**	**1.16**	**300**	P	**Pn**	**07 37 46.1**	**-2.2**
MRSI				S	**Sn**	**07 38 03.8**	**-4.5**
KMSI	**Cibinong**	**1.23**	**57**	P	**Pn**	**07 37 49.6**	**+0.6**
APSI	**Ampana**	**1.53**	**238**	P	**Pn**	**07 37 50.3**	**-1.7**
APSI				S	**Sn**	**07 38 11.3**	**-3.6**
MPSI	**Mapaga**	**3.08**	**278**	P	**Pn**	**07 38 10.7**	**+0.1**
SANI	**Sanana**	**3.60**	**123**	P	**Pn**	**07 38 15.8**	**-1.4**
SANI				S	**Sn**	**07 38 54.8**	**-5.2**
KDI	**Kendari**	**3.84**	**185**	P	**Pn**	**07 38 19.5**	**-0.9**
TTSI	**Tana Toraja**	**4.28**	**227**	P	**Pn**	**07 38 26.1**	**0.0**
SPSI	**Sidrap Palu**	**4.98**	**220**	P	**Pn**	**07 38 35.1**	**-0.2**
BNSI	**Bone**	**5.13**	**214**	P	**Pn**	**07 38 39.2**	**+1.9**
KAPI	**Kappang**	**5.83**	**213**	P	**Pn**	**07 38 44.4**	**-2.2**
	2.5nm,0.3s,baz=18,slow=4.5,SNR=8.0						
KAPI				S	**Sn**	**07 39 52.0**	**-0.8**
	1.1nm,0.3s,baz=221,slow=17,SNR=4.9						
FITZ	**Fitzroy Crossi**	**18.08**	**172**	P	**Pn**	**07 41 23.9**	**0.0**
	0.8nm,0.3s,baz=6.9,slow=7.9,SNR=13						
WRA	**Warramunga Arr**	**22.66**	**151**	P	**P**	**07 42 11.9**	**+1.1**
	4.5nm,0.7s,baz=335,slow=11,SNR=18						
WRA				ScP	**ScP**	**07 49 24.3**	**+1.9**
	0.6nm,0.5s,baz=326,slow=2.4,SNR=14						
ASAR	**Alice Springs**	**25.73**	**156**	P	**P**	**07 42 41.0**	**+2.1**
	1.2nm,0.9s,baz=346,slow=13,SNR=11						
ASAR				PcP	**PcP**	**07 46 06.8**	**+1.6**
	0.4nm,0.5s,baz=344,slow=2.1,SNR=5.2						
ASAR				ScP	**ScP**	**07 49 33.6**	**+2.9**
	1.1nm,0.5s,baz=341,slow=2.9,SNR=20						
STKA	**Stephens Creek**	**36.19**	**153**	P	**P**	**07 44 12.1**	**+1.7**
	0.7nm,0.3s,baz=333,slow=11,SNR=5.6						
MJAR	**Matsushiro Arr**	**39.12**	**20**	P	**P**	**07 44 33.7**	**-1.3**
	2.0nm,0.7s,baz=199,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**58.67**	**328**	P	**P**	**07 47 04.7**	**+0.8**
	0.8nm,0.3s,baz=130,slow=8.6,SNR=12						
VNDA	**Vanda**	**80.15**	**172**	P	**P**	**07 49 15.5**	**+0.4**
	1.0nm,0.7s,baz=326,slow=6.2,SNR=10						
ILAR	**Eielson Array**	**90.16**	**25**	P	**P**	**07 50 05.4**	**+0.3**
	0.2nm,0.5s,baz=250,slow=5.3,SNR=4.1						
INK	**Inuvik**	**95.08**	**21**	P	**P**	**07 50 27.5**	**-0.2**
	0.3nm,0.5s,baz=295,slow=3.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**120.39**	**285**	PKP	**PKPdf**	**07 55 57.0**	**+0.3**
	0.5nm,0.6s,baz=111,slow=2.5,SNR=3.5						

KRNET 17 07:37:40.2±0.1, 40°61N×80°35E, mb3.1
NNC 17 07:37:44.1±2.0, 40°81N×79°79E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=13.1km s-min=11.6km az=155.0
SOME 17 07:37:44.3, 40°78N×79°83E, h10km
ISC 17 07:37:44.7±3.9, 40°7N±0°1×80°09E±0°09, h9km±24km, n34, σ1§77/54, 8C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.98**	**301**	⇑*i*P	**Pb**	**07 38 20.3**	**-0.9**
	baz=1.0						
TARG				⇑*i*S	**Sg**	**07 38 50.2**	**+1.7**
	baz=1.0						
SHLS	**Shalkode**	**2.46**	**349**	Pg	**Pb**	**07 38 27.4**	**-1.8**
	34nm,0.2s						
SHLS				Lg	Lg	07 38 58.6	
	58nm,0.6s						
SHLS	**Shalkode**	**2.46**	**349**	*e*P	**Pb**	**07 38 27.4**	**-1.8**
	34nm,0.2s						
SHLS				*e*S	**Sb**	**07 38 58.6**	**-1.1**
	58nm,0.6s						
UZB	**Uzynbulak**	**2.53**	**342**	Pg	**Pb**	**07 38 28.8**	**-1.6**
	9.1nm,0.4s						
UZB				Lg	Lg	07 39 00.8	
	10nm,0.3s						
UZB	**Uzynbulak**	**2.53**	**342**	*e*P	**Pb**	**07 38 28.8**	**-1.6**
	9.1nm,0.4s						
UZB				*e*S	**Sb**	**07 39 00.8**	**-1.0**
	10nm,0.3s						
KDJ	**Kajisay**	**2.59**	**303**	⇑*i*P	**Pn**	**07 38 28.8**	**+1.8**
	baz=4.0						
KDJ				⇑*i*S	**Sb**	**07 39 03.9**	**+0.5**
	baz=4.0						
PDGK	**Podgornoye**	**2.62**	**350**	⇓Pg	**Pb**	**07 38 29.3**	**-2.7**
	4.4nm,0.5s						
PDGK				⇓Lg	Lg	07 39 02.9	
	24nm,0.7s						
PDGK	**Podgornoye**	**2.62**	**350**	⇓*i*P	**Pn**	**07 38 28.7**	**+1.

CHKK				*e*S		**Sb**	**07 39 39.9**	**-0.1**
	14nm,0.4s							
KZA	**Kyzart**	**3.87**	**292**⇓	*e*P		**Pn**	**07 38 47.5**	**+2.7**
	baz=93							
KZA				⇓*i*S		**Sb**	**07 39 36.3**	**-4.3**
	baz=93							
KTBS	**Karatobe**	**3.90**	**321**	Pg		**Pb**	**07 38 52.1**	**-1.6**
	1.8nm,0.6s							
KTBS				Lg		Lg	07 39 41.7	
	12nm,0.7s							
KTBS	**Karatobe**	**3.90**	**321**	*e*P		**Pb**	**07 38 52.1**	**-1.6**
	1.8nm,0.6s							
KTBS				*e*S		**Sb**	**07 39 40.8**	**-0.1**
	12nm,0.7s							
TKM2	**Tokmak 2**	**4.00**	**304**	⇑Pg		**Pn**	**07 38 49.0**	**+2.7**
	1.0nm,0.3s							
TKM2				⇑Lg		Lg	07 39 44.6	
	2.8nm,0.7s							
DGS	**Degeres**	**4.07**	**309**	Pg		**Pb**	**07 38 54.5**	**-2.2**
	3.0nm,0.5s							
DGS				Lg		Lg	07 39 45.1	
	6.0nm,0.7s							
DGS	**Degeres**	**4.07**	**309**	*e*P		**Pb**	**07 38 54.5**	**-2.2**
	3.0nm,0.5s							
DGS				*e*S		**Sb**	**07 39 45.1**	**-0.9**
	6.0nm,0.7s							
KUU	**Kurty**	**4.20**	**320**	Pg		**Pb**	**07 38 57.8**	**-1.0**
	1.0nm,0.4s							
KUU				Lg		Lg	07 39 51.0	
	3.4nm,0.5s							
KUU	**Kurty**	**4.20**	**320**	*e*P		**Pb**	**07 38 57.8**	**-1.0**
	1.0nm,0.4s							
KUU				*e*S		**Sb**	**07 39 51.0**	**+1.4**
	3.4nm,0.5s							

IGQ ***17*** *07:38:13.2±1.0, 1°N±5°×7°9W±°, h8km, MLv3.7*
ISCJB ***17*** *07:38:16.0±0.9, 0°.66N±0°.05×79°.28W±0°.07, h43km±27km, Error ellipse: s-maj=12.6km s-min=6.1km az=28.3*
ISC 17 07:38:12.5±1.7, 0°.57N±0°.04×79°.43W±0°.07, h28km±14km, n39, σ1§08/52, 2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**0.71**	**115**	P	**Pn**	**07 38 28.0**	**+1.2**
PAC1				S	**Sn**	**07 38 37.8**	**+0.9**
OTAV	**Otavalo**	**1.03**	**108**⇓	*i*P	**Pn**	**07 38 32.4**	**+0.7**
OTAV				*e*S	**Sb**	**07 38 44.9**	**-0.6**
OTAV				*i*		07 38 46.0	
	comp=Z,191nm,0.2s						
OTAV	**Otavalo**	**1.03**	**108**⇓	*i*P	**Pn**	**07 38 32.4**	**+0.7**
OTAV				*e*S	**Sb**	**07 38 44.9**	**-0.6**
OTAV				*i*		07 38 46.0	
	comp=Z,191nm,0.2s						
PULU	**Pululahua**	**1.08**	**120**	P	**Pn**	**07 38 33.1**	**+1.0**
PULU				S	**Sn**	**07 38 47.6**	**+1.2**
YANA	**Yana**	**1.10**	**128**	P	**Pn**	**07 38 33.7**	**+1.1**
CUIC	**Cuicocha-Domo**	**1.10**	**104**	P	**Pb**	**07 38 33.3**	**0.0**
CUIC				S	**Sb**	**07 38 47.0**	**-0.4**
GGPC	**Guagua Pichinc**	**1.12**	**132**	P	**Pb**	**07 38 34.2**	**+0.6**
COTA	**Cotacachi**	**1.12**	**102**	P	**Pb**	**07 38 33.7**	**+0.1**
URCU	**Urcuqui**	**1.18**	**96**	P	**Pb**	**07 38 34.1**	**-0.5**
NINA	**Atacazo Ninahu**	**1.25**	**139**	P	**Pb**	**07 38 36.0**	**+0.1**
IMBA	**Imbabura, San**	**1.27**	**103**	P	**Pb**	**07 38 36.6**	**+0.6**
YAHU	**Yahuarcocha**	**1.38**	**98**	P	**Pb**	**07 38 37.7**	**-0.1**
TUMC	**Tumaco**	**1.43**	**30**	*e*P	**Pb**	**07 38 39.1**	**+0.5**
TUMC	**Tumaco**	**1.43**	**30**	*e*P	**Pb**	**07 38 39.1**	**+0.5**
VC1	**Cotopaxi 1**	**1.58**	**139**	P	**Pb**	**07 38 41.6**	**+0.1**
ANTI	**Antisana**	**1.62**	**128**	P	**Pb**	**07 38 42.0**	**-0.2**
PIS1	**Pisayambo**	**1.93**	**147**	P	**Pb**	**07 38 46.8**	**-0.5**
PISA	**Pisayambo**	**1.93**	**147**	P	**Pb**	**07 38 46.7**	**-0.6**
REVS	**Reventador Sur**	**1.93**	**110**	P	**Pb**	**07 38 46.0**	**-1.3**
GCUF	**Volcan Galeras**	**2.19**	**73**	*e*P	**Pn**	**07 38 49.3**	**+1.7**
GCUF				*e*S	**Sn**	**07 39 13.6**	**-0.4**
GCUF				*i*		07 39 19.4	
	comp=Z,37nm,0.3s						
GCUF	**Volcan Galeras**	**2.19**	**73**	*e*P	**Pn**	**07 38 49.3**	**+1.7**
GCUF				*e*S	**Sn**	**07 39 13.6**	**-0.4**
GCUF				*i*		07 39 19.4	
	comp=Z,37nm,0.3s						
BRUN	**Tungurahua Vol**	**2.22**	**153**	P	**Pb**	**07 38 51.7**	**-0.6**
BULB	**Ulba Tungurahu**	**2.24**	**153**	P	**Pb**	**07 38 52.2**	**-0.4**
ARDO	**Archidona, Ten**	**2.25**	**134**	P	**Pb**	**07 38 52.5**	**-0.2**
BMAS	**Trigal station**	**2.27**	**155**	P	**Pb**	**07 38 52.3**	**-0.7**
ARRY	**Arrayan**	**2.28**	**155**	P	**Pb**	**07 38 52.5**	**-0.7**
BPAT	**Tungurahua Vol**	**2.29**	**154**	P	**Pb**	**07 38 52.9**	**-0.5**
BBAC	**Balboa, Cauca**	**2.62**	**57**	*e*P	**Pn**	**07 38 53.7**	**+0.5**
BBAC				*e*S	**Sn**	**07 39 22.6**	**-1.7**
BBAC				*i*		07 39 27.4	
	comp=Z,69nm,0.4s						
BBAC	**Balboa, Cauca**	**2.62**	**57**	*e*P	**Pn**	**07 38 53.7**	**+0.5**
BBAC				*e*S	**Sn**	**07 39 22.6**	**-1.7**
BBAC				*i*		07 39 27.4	
	comp=Z,69nm,0.4s						
CRUC	**La Cruz**	**2.67**	**68**	*e*P	**Pn**	**07 38 55.6**	**+1.5**
CRUC				*i*		07 39 37.3	
	comp=Z,42nm,0.6s						
CRUC	**La Cruz**	**2.67**	**68**	*e*P	**Pn**	**07 38 55.6**	**+1.5**
CRUC				*i*		07 39 37.3	
	comp=Z,42nm,0.6s						
MILO	**Milagro-Astudi**	**2.83**	**182**	P	**Pn**	**07 38 56.2**	**+0.2**
COHC	**Cochancay**	**3.02**	**177**	P	**Pn**	**07 38 59.8**	**+1.3**
SOTA	**Rioblanco**	**3.22**	**61**	*e*P	**Pn**	**07 39 03.3**	**+1.5**
SOTA				*e*S	**Sn**	**07 39 38.2**	**-1.4**
SOTA	**Rioblanco**	**3.22**	**61**	*e*P	**Pn**	**07 39 03.3**	**+1.5**
SOTA				*e*S	**Sn**	**07 39 38.2**	**-1.4**
POPC	**Popayan, Colom**	**3.38**	**55**	*e*P	**Pn**	**07 39 04.4**	**+0.7**
POPC				*e*S	**Sn**	**07 39 41.2**	**-1.9**
POPC	**Popayan, Colom**	**3.38**	**55**	*e*P	**Pn**	**07 39 04.4**	**+0.7**
POPC				*e*S	**Sn**	**07 39 41.2**	**-1.9**
PCON	**Cinco Dias**	**3.50**	**60**	*e*P	**Pn**	**07 39 07.6**	**+1.9**
PCON	**Cinco Dias**	**3.50**	**60**	*e*P	**Pn**	**07 39 07.6**	**+1.9**

ISCJB ***17*** *07:39:06.7±0.4, 58°.16N±0°.03×17°.43E±0°.04, h0km, Error ellipse: s-maj=4.1km s-min=3.4km az=177.4*
UPP ***17*** *07:39:07.6±0.1, 58°.15N×17°.43E, h0km, ML2.7, Explosion*
HEL ***17*** *07:39:08.4±0.1, 58°.14N×17°.43E, h0km, ML2.4, ML2.7(UPP), Explosion*
BER ***17*** *07:39:09.0±3.1, 58°.07N×17°.56E, h0km±34km, ML2.4, ML2.5(NAO)*
NAO ***17*** *07:39:12.9±2.1, 58°.58N×17°.46E, ML2.5*
IDC ***17*** *07:39:13.3±1.9, 58°.55N×17°.46E, h0km, mb1 3.4/4, mb1mx3.1/52, mbtmp3.3/4, ML2.9/4, Error ellipse: s-maj=21.7km s-min=7.5km az=6.0*
ISC 17 07:39:07.1±0.8, 58°.16N±0°.03×17°.39E±0°.02, h0km, n59, σ1§72/79, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIKU	**Vikbolandet**	**0.50**	**314**	P	**Pg**	**07 39 17.7**	**+1.0**
VIKU				S	**Sg**	**07 39 24.6**	**+1.4**
VIKU	**Vikbolandet**	**0.50**	**314**	*i* P	**Pg**	**07 39 17.7**	**+1.0**
VIKU				*i* S	**Sg**	**07 39 24.6**	**+1.4**
VSTU	**Vaestervik**	**0.68**	**223**	P	**Pg**	**07 39 20.6**	**+0.6**
VSTU	**Vaestervik**	**0.68**	**223**	*i* P	**Pg**	**07 39 20.6**	**+0.6**
GOTU	**Gotland**	**0.79**	**126**	P	**Pg**	**07 39 21.8**	**-0.4**
GOTU	**Gotland**	**0.79**	**126**	*i* P	**Pg**	**07 39 21.8**	**-0.4**
ASPU	**Aespoe**	**0.85**	**210**	P	**Pg**	**07 39 23.8**	**+0.4**
ASPU	**Aespoe**	**0.85**	**210**	*i* P	**Pg**	**07 39 23.8**	**+0.4**
BYXU	**Byxelkrok**	**0.90**	**193**	P	**Pg**	**07 39 24.2**	**+0.1**
BYXU	**Byxelkrok**	**0.90**	**193**	*i* P	**Pg**	**07 39 24.2**	**+0.1**
NYNU	**Nynaeshamn**	**0.91**	**20**	P	**Pg**	**07 39 24.8**	**+0.3**
NYNU	**Nynaeshamn**	**0.91**	**20**	*e*P	**Pg**	**07 39 24.8**	**+0.3**
LNKU	**Linkoeping**	**1.00**	**275**	P	**Pg**	**07 39 26.6**	**+0.3**
LNKU	**Linkoeping**	**1.00**	**275**	*e*P	**Pg**	**07 39 26.6**	**+0.3**
OSKU	**Oskarshamn**	**1.19**	**216**	P	**Pg**	**07 39 29.9**	**0.0**
OSKU	**Oskarshamn**	**1.19**	**216**	*e*P	**Pg**	**07 39 29.9**	**0.0**
ESKU	**Eskilstuna**	**1.20**	**335**	P	**Pg**	**07 39 30.4**	**+0.4**
ESKU	**Eskilstuna**	**1.20**	**335**	*e*P	**Pg**	**07 39 30.4**	**+0.4**
EKSU	**Eksjoe**	**1.26**	**243**	P	**Pg**	**07 39 31.2**	**0.0**
EKSU	**Eksjoe**	**1.26**	**243**	*e*P	**Pg**	**07 39 31.2**	**0.0**
ASKU	**Askersund**	**1.53**	**300**	P	**Pn**	**07 39 36.0**	**+0.3**
ASKU	**Askersund**	**1.53**	**300**	*e*P	**Pn**	**07 39 36.0**	**+0.3**
NRTU	**Norrtaelje**	**1.65**	**22**	P	**Pb**	**07 39 38.3**	**-0.1**
NRTU	**Norrtaelje**	**1.65**	**22**	*e*P	**Pb**	**07 39 38.3**	**-0.1**
BACU	**Backbrunna**	**1.71**	**355**	P	**Pb**	**07 39 39.4**	**+0.1**
BACU	**Backbrunna**	**1.71**	**355**	*e*P	**Pb**	**07 39 39.4**	**+0.1**
UPP	**Uppsala**	**1.71**	**4**	P	**Pb**	**07 39 39.5**	**+0.2**
UPP	**Uppsala**	**1.71**	**4**	*e*P	**Pb**	**07 39 39.5**	**+0.2**
AAL	**Aland**	**2.43**	**32**	*e*P	**Pn**	**07 39 49.0**	**+1.1**
AAL				*e*S	**Sn**	**07 40 20.2**	**+1.9**
SLIT	**Slitere, Latvi**	**2.67**	**99**	*e*P	**Pn**	**07 39 52.2**	**+1.0**
SLIT				*e*S	**Sn**	**07 40 25.6**	**+1.4**
HFS	**Hagfors**	**2.75**	**318**	Pn	**Pn**	**07 39 54.9**	**+2.5**
	baz=139,slow=14						
HFS				Lg	Lg	07 40 30.0	
	baz=127,slow=37						
HFS	**Hagfors**	**2.75**	**318**	Pn	**Pn**	**07 39 54.7**	**+2.3**
	6.5nm,0.3s,baz=130,slow=18,SNR=163						
HFS				Lg	Lg	07 40 29.9	
	15nm,0.3s,baz=126,slow=26,SNR=22						
HFS	**Hagfors**	**2.75**	**318**	Pn	**Pn**	**07 39 54.9**	**+2.5**
	baz=139,slow=14						
HFS				Sn	**Sb**	**07 40 30.0**	**-1.3**
	baz=127,slow=37						
STRU	**Stroemstad**	**3.37**	**288**	*e*P	**Pn**	**07 40 02.8**	**+1.9**
RAF	**Rauma**	**3.63**	**36**	*e*P	**Pn**	**07 40 05.2**	**+0.8**
RAF				*e*S	**Sn**	**07 40 48.7**	**+0.7**
RAF				MSG		07 40 52.3	
	comp=Z,9.3nm,0.2s						
NC602	**NORSAR Array S**	**3.95**	**313**	*e*P	**Pn**	**07 40 11.1**	**+2.2**
NC602				IAML		07 41 12.7	
	comp=Z,123nm,0.3s						
NRA0	**NORESS Array S**	**3.95**	**313**	Pn	**Pn**	**07 40 09.1**	**+0.2**
	baz=112,slow=11						
NRA0				Lg	Lg	07 41 11.4	
	baz=129,slow=37						
NRA0	**NORESS Array S**	**3.95**	**313**	Pn	**Pn**	**07 40 09.1**	**+0.2**
	baz=112,slow=11						
NRA0				Sg	**Sg**	**07 41 11.4**	**-2.4**
	baz=129,slow=37						
NB201	**NORSAR Array S**	**4.24**	**316**	*e*P	**Pn**	**07 40 14.3**	**+1.3**
NB2	**NORSAR Subarra**	**4.27**	**315**	Pn	**Pn**	**07 40 14.1**	**+0.9**
	baz=132,slow=14						
NB2				Lg	Lg	07 41 21.2	
	baz=131,slow=37						
NB2	**NORSAR Subarra**	**4.27**	**315**	Pn	**Pn**	**07 40 14.1**	**+0.9**
	baz=132,slow=14						
NB2				Sg	**Sg**	**07 41 21.2**	**-2.8**
	baz=131,slow=37						
NOA	**NORSAR Array B**	**4.27**	**315**	Pn	**Pn**	**07 40 14.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=252,slow=20,SNR=16						
NOA				Sn	**Sn**	**07 41 03.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=252,slow=18,SNR=4.7						
NOA				Lg	Lg	07 41 20.8	
	comp=Z,0.3nm,0.3s,baz=128,slow=24,SNR=7.0						
NAO01	**NORSAR Array S**	**4.27**	**312**	*e*P	**Pn**	**07 40 15.5**	**+2.2**
NAO01				*e*S	**Sn**	**07 41 03.9**	**+0.1**
NAO01				IAML		07 41 22.1	
	comp=Z,5.8nm,0.6s						
NC303	**NORSAR Array S**	**4.33**	**318**	*e*P	**Pn**	**07 40 16.4**	**+2.3**
NBO00	**NORSAR Array S**	**4.43**	**313**	*e*P	**Pn**	**07 40 17.2**	**+1.8**
NBO00				IAML		07 41 27.9	
	comp=Z,6.9nm,0.3s						
NC204	**NORSAR Array S**	**4.59**	**316**	*e*P	**Pn**	**07 40 19.8**	**+2.1**
NC204				*e*S	**Sn**	**07 41 13.8**	**+2.1**
PVF	**Pernaja**	**4.95**	**58**	*e*P	**Pn**	**07 40 23.5**	**+0.9**
PVF				*e*S	**Sn**	**07 41 20.5**	**+0.1**
PVF				MSG		07 41 24.5	
	comp=Z,4.2nm,0.2s						
SKAR	**Skarslia**	**5.28**	**302**	*e*P	**Pn**	**07 40 27.9**	**+0.6**
SKAR				*e*S	**Sn**	**07 41 26.9**	**-1.9**
SNART	**Snartemo**	**5.38**	**276**	*e*P	**Pn**	**07 40 29.1**	**+0.6**
FIA0	**FINESS Array S**	**5.48**	**49**	Pn	**Pn**	**07 40 30.9**	**+1.0**
	baz=232,slow=12						
FIA0				Sn	**Sn**	**07 41 31.1**	**-2.5**
	baz=239,slow=22						
FIA0				Lg	Lg	07 41 54.3	
	baz=240,slow=28						
FIA0	**FINESS Array S**	**5.48**	**49**	Pn	**Pn**	**07 40 30.9**	**+1.0**
	baz=232,slow=12						
FIA0				Sn	**Sn**	**07 41 31.1**	**-2.5**
	baz=239,slow=22						
FIA0				Sg	**Sb**	**07 41 54.3**	**+4.4**
	baz=240,slow=28						
FINES	**FINESS Array B**	**5.48**	**49**	Pn	**Pn**	**07 40 31.2**	**+1.3**
	comp=Z,2.3nm,0.3s,baz=234,slow=12,SNR=46						
FINES				Sn	**Sn**	**07 41 32.0**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=245,slow=22,SNR=6.9						
FINES				Lg	Lg	07 41 54.5	
	comp=Z,2.4nm,0.3s,baz=238,slow=25,SNR=9.6						
VAF	**Ylistaro**	**5.55**	**26**	*e*P	**Pn**	**07 40 31.8**	**+1.1**
VAF				*e*S	**Sn**	**07 41 34.6**	**-0.5**
KIF	**Kilpisjarvi**	**10.99**	**6**	Pn	**Pn**	**07 41 45.0**	**-0.3**
KIF				Sn	**Sn**	**07 43 42.5**	**-6.3**
KIF	**Kilpisjarvi**	**10.99**	**6**	Pn	**Pn**	**07 41 45.0**	**-0.3**
KIF				Sn	**Sn**	**07 43 42.5**	**-6.3**
APA0	**Apatity Array**	**11.81**	**30**	Pn	**Pn**	**07 41 55.6**	**-0.9**
	baz=217,slow=11						
APA0	**Apatity Array**	**11.81**	**30**	Pn	**Pn**	**07 41 55.6**	**-0.9**
	baz=217,slow=11						
ARA0	**ARCESS Array S**	**11.95**	**14**	Pn	**Pn**	**07 41 55.5**	**-2.9**
	baz=196,slow=14						
ARCES	**ARCESS Array B**	**11.95**	**14**	Pn	**Pn**	**07 41 56.1**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=195,slow=14,SNR=37						

ISCJB ***17*** *07:46:57.0±0.5, 1°.74S±0°.04×78°.76W±0°.04, h2km±5km, Error ellipse: s-maj=8.4km s-min=3.2km az=42.1*
IGQ ***17*** *07:46:57.6±0.2, 2°S±2°×7°9W±°, h5km, MLv4.0*
ISC 17 07:46:57.4±0.9, 1°.73S±0°.03×78°.75W±0°.03, h9km±7km, n70, σ1§31/79, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIO	**Riobamba**	**0.09**	**33**	P	**Pg**	**07 46 59.9**	**-0.1**
ARIO				S	**Sg**	**07 47 01.9**	**0.0**
BMAS	**Trigal station**	**0.35**	**50**	P	**Pg**	**07 47 04.2**	**-0.2**
BMAS				S	**Sg**	**07 47 09.3**	**+0.3**
ARRY	**Arrayan**	**0.36**	**53**	P	**Pg**	**07 47 04.3**	**-0.4**
BIL2	**Estacion Bilba**	**0.36**	**42**	P	**Pb**	**07 47 05.9**	**-0.4**
BBIL	**Ulba Tungurahu**	**0.38**	**43**	P	**Pg**	**07 47 04.8**	**-0.2**
BBIL				S	**Sg**	**07 47 10.4**	**+0.4**
PAT1	**Patacocha**	**0.38**	**54**	P	**Pg**	**07 47 04.9**	**-0.1**
BPAT	**Tungurahua Vol**	**0.38**	**54**	P	**Pg**	**07 47 04.9**	**-0.2**
BPAT				S	**Sg**	**07 47 10.6**	**+0.4**
RETU	**Refugio**	**0.41**	**47**	P	**Pg**	**07 47 05.5**	**-0.1**
BULB	**Ulba Tungurahu**	**0.44**	**49**	P	**Pg**	**07 47 05.9**	**-0.2**
BULB				S	**Sg**	**07 47 12.4**	**+0.3**
RUN5	**Runtun**	**0.45**	**46**	P	**Pg**	**07 47 05.9**	**-0.4**
BRUN	**Tungurahua Vol**	**0.45**	**47**	P	**Pg**	**07 47 05.8**	**-0.5**
BRUN				S	**Sg**	**07 47 12.4**	**0.0**
AAM2	**Ambato 2 (Merc**	**0.48**	**16**	P	**Pg**	**07 47 06.8**	**0.0**
PIS1	**Pisayambo**	**0.76**	**28**	P	**Pg**	**07 47 12.0**	**-0.1**
PISA	**Pisayambo**	**0.76**	**28**	P	**Pg**	**07 47 11.9**	**-0.2**
PUYO	**Puyo, Santa Ro**	**0.76**	**72**	P	**Pg**	**07 47 12.5**	**+0.5**
APUY	**Puyo**	**0.80**	**70**	P	**Pg**	**07 47 13.1**	**+0.4**
APUY				S	**Sb**	**07 47 25.1**	**+0.7**
ALAT	**Latacunga**	**0.81**	**9**	P	**Pg**	**07 47 13.2**	**+0.2**
COHC	**Cochancay**	**0.89**	**215**	P	**Pg**	**07 47 14.3**	**-0.3**
COHC				S	**Sg**	**07 47 26.8**	**+0.6**
MILO	**Milagro-Astudi**	**0.98**	**236**	P	**Pg**	**07 47 15.1**	**-1.1**
MILO				S	**Sg**	**07 47 29.1**	**+0.2**
ILLI	**Illinizas Sur**	**1.01**	**1**	P	**Pg**	**07 47 16.0**	**-0.9**
BMOR	**Cotopaxi Volca**	**1.03**	**16**	P	**Pg**	**07 47 16.7**	**-0.6**
BREF	**Cotopaxi Volca**	**1.10**	**16**	P	**Pg**	**07 47 18.2**	**-0.4**
BTAM	**Cotopaxi Volca**	**1.10**	**18**	P	**Pg**	**07 47 18.0**	**-0.7**
BVC2	**Cotopaxi Volca**	**1.12**	**17**	P	**Pg**	**07 47 18.3**	**-0.6**
BVC2				S	**Sg**	**07 47 33.7**	**+0.2**
VC1	**Cotopaxi 1**	**1.13**	**18**	P	**Pg**	**07 47 18.6**	**-0.6**
COV1	**Cotopaxi Volc**	**1.13**	**21**	P	**Pg**	**07 47 18.2**	**-1.1**
ARDO	**Archidona, Ten**	**1.19**	**52**	P	**Pg**	**07 47 19.3**	**-1.0**
ARDO				S	**Sg**	**07 47 35.5**	**-0.3**
PITA	**Cotopaxi Volc**	**1.20**	**15**	P	**Pg**	**07 47 19.9**	**-0.7**
ANTM	**Antisana-La Mi**	**1.29**	**24**	P	**Pg**	**07 47 21.1**	**-1.3**
ANTG	**Antisana-Guama**	**1.31**	**22**	P	**Pg**	**07 47 21.5**	**-1.1**
NINA	**Atacazo Ninahu**	**1.34**	**5**	P	**Pg**	**07 47 21.9**	**-1.2**
ANTS	**Antisana-Sarah**	**1.35**	**25**	P	**Pg**	**07 47 22.0**	**-1.4**
ANTI	**Antisana**	**1.40**	**25**	P	**Pn**	**07 47 22.8**	**-0.8**
EPNL	**EPN Laboratori**	**1.53**	**10**	P	**Pn**	**07 47 25.6**	**+0.4**
GGPC	**Guagua Pichinc**	**1.55**	**6**	P	**Pn**	**07 47 25.6**	**-0.1**
TERV	**Terraza Guagua**	**1.55**	**5**	P	**Pn**	**07 47 25.7**	**0.0**
YANA	**Yana**	**1.61**	**6**	P	**Pn**	**07 47 26.4**	**-0.1**
PULU	**Pululahua**	**1.76**	**8**	P	**Pn**	**07 47 29.2**	**+0.8**
MORR	**Playas El Morr**	**1.83**	**240**	P	**Pn**	**07 47 30.0**	**+1.0**
MAG1	**Magdalena**	**1.94**	**328**	P	**Pn**	**07 47 31.8**	**+1.2**
CAYA	**Cayambe**	**1.94**	**23**	P	**Pn**	**07 47 34.4**	**+1.1**
REVS	**Reventador Sur**	**1.97**	**35**	P	**Pb**	**07 47 33.9**	**+0.3**
LAV4	**Lava4-Reventad**	**1.97**	**34**	P	**Pb**	**07 47 33.2**	**-0.5**
OTAV	**Otavalo**	**1.98**	**9**	*e*P	**Pn**	**07 47 32.3**	**+0.8**
OTAV	**Otavalo**	**1.98**	**9**	*e*P	**Pn**	**07 47 32.3**	**+0.8**
PAC1	**Pacto, Paraso**	**1.98**	**359**	P	**Pn**	**07 47 33.0**	**+1.7**
CUSW	**Cuicocha Oeste**	**2.04**	**11**	P	**Pn**	**07 47 33.9**	**+1.6**
CUSE	**Cuicocha Este**	**2.05**	**10**	P	**Pn**	**07 47 34.0**	**+1.5**
CUIC	**Cuicocha-Domo**	**2.06**	**11**	P	**Pn**	**07 47 34.0**	**+1.5**
IMBA	**Imbabura, San**	**2.07**	**15**	P	**Pb**	**07 47 35.6**	**+0.3**
YAHU	**Yahuarcocha**	**2.19**	**18**	P	**Pb**	**07 47 37.7**	**+0.2**
URCU	**Urcuqui**	**2.21**	**13**	P	**Pb**	**07 47 37.1**	**-0.6**
SALI	**Salinas**	**2.29**	**259**	P	**Pn**	**07 47 35.3**	**0.0**
MCRA	**Macar, Loja**	**2.89**	**205**	P	**Pn**	**07 47 44.4**	**+0.8**
GCUF	**Volcan Galeras**	**3.25**	**26**	*e*P	**Pb**	**07 47 57.2**	**+1.6**
GCUF	**Volcan Galeras**	**3.25**	**26**	*e*P	**Pb**	**07 47 57.2**	**+1.6**
CRUC	**La Cruz**	**3.73**	**29**	*e*P	**Pg**	**07 48 07.1**	**-1.9**
CRUC	**La Cruz**	**3.73**	**29**	*e*P	**Pg**	**07 48 07.1**	**-1.9**
PTLC	**Puerto Leguiza**	**4.38**	**64**	*e*P	**Pn**	**07 48 03.9**	**-0.2**
PTLC	**Puerto Leguiza**	**4.38**	**64**	*e*P	**Pn**	**07 48 03.9**	**-0.2**
SOTA	**Rioblanco**	**4.39**	**29**	*e*P	**Pb**	**07 48 12.0**	**-3.1**
SOTA	**Rioblanco**	**4.39**	**29**	*e*P	**Pb**	**07 48 12.0**	**-3.1**
FLOC	**Florencia**	**4.51**	**43**	*e*P	**Pn**	**07 48 07.3**	**+1.3**
FLOC	**Florencia**	**4.51**	**43**	*e*P	**Pn**	**07 48 07.3**	**+1.3**
PCON	**Cinco Dias**	**4.66**	**30**	*e*P	**Pb**	**07 48 16.9**	**-2.8**
PCON	**Cinco Dias**	**4.66**	**30**	*e*P	**Pb**	**07 48 16.9**	**-2.8**
POPC	**Popayan, Colom**	**4.72**	**26**	*e*P	Pn	07 48 14.6	+5.6
POPC	**Popayan, Colom**	**4.72**	**26**	*e*P	Pn	07 48 14.6	+5.6
YOTC	**Yotoco, Valle**	**6.16**	**23**	*e*P	**Pn**	**07 48 33.4**	**+4.7**
YOTC	**Yotoco, Valle**	**6.16**	**23**	*e*P	**Pn**	**07 48 33.4**	**+4.7**

IDC 17 07:56:19.0±3.2, 54°.43N×86°.80E, h0km, mb1 2.9/2, mb1mx2.8/53, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=28.3km s-min=18.4km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**248**	*i*		08 04 20.0	
	baz=71,slow=332,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.26**	**248**	Pg	Pg	07 56 41.6	-1.5
	1.2nm,0.3s,baz=66,slow=20,SNR=6.1						
ZALV				Lg	Lg	07 56 59.7	
	1.1nm,0.3s,baz=66,slow=29,SNR=4.8						
KURBB	**Kurchatov Arra**	**6.32**	**236**	Pn	Pn	07 57 53.8	+0.4
	0.1nm,0.3s,baz=53,slow=14,SNR=5.9						
KURBB				Lg	Lg	07 59 41.6	
	0.0nm,0.3s,baz=45,slow=30,SNR=4.0						
MKAR	**Makanchi Array**	**8.16**	**202**	Pn	Pn	07 58 20.1	+1.5
	0.2nm,0.3s,baz=22,slow=12,SNR=6.1						

IDC ***17*** *08:03:58.4±1.0, 6°.05S×149°.87E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/30, mbtmp3.8/9, ML1.9/1, Error ellipse: s-maj=39.8km s-min=16.7km az=112.0*
ISCJB ***17*** *08:04:04.4±0.5, 5°.95S±0°.08×149°.5E±0°.1, h52km, mb3.9/10, Error ellipse: s-maj=17.8km s-min=7.2km az=35.2*
NEIC ***17*** *08:04:07.1±1.8, 6°.07S×149°.64E, h61km±8km, mb4.2/7, Error ellipse: s-maj=21.3km s-min=11.2km az=106.0*
ISC 17 08:04:06.2±0.7, 6°.0S±0°.1×149°.6E±0°.1, h52km, n24, σ1§09/26, mb3.7/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.15**	**55**	*e*Pn	**Pn**	**08 04 54.2**	**+0.9**
PMG	**Port Moresby**	**4.14**	**215**	*e*Pn	**Pn**	**08 05 08.1**	**+1.1**
PMG				*e*Sn	**Sn**	**

comp=Z,0.1nm,0.3s,baz=42,slow=20,SNR=5.9
NAO01 NORSAR Array S 4.30 313 *e*P **Pn 08 05 42.6 +1.6**
NAO01 IAML 08 06 59.4
comp=Z,5.8nm,0.6s
NC303 NORSAR Array S 4.36 318 *e*P **Pn 08 05 43.8 +1.8**
NC303 IAML 08 07 01.7
comp=Z,2.7nm,0.6s
FIA0 FINESS Array S 5.54 49 Pn **Pn 08 05 59.0 +1.0**
baz=231,slow=14
FIA0 FINESS Array S 5.54 49 Pn **Pn 08 05 59.0 +1.0**
baz=231,slow=14
FINES FINESS Array B 5.54 49 Pn **Pn 08 05 59.4 +1.3**
comp=Z,0.1nm,0.3s,baz=239,slow=14,SNR=9.5
FINES Sn **Sn 08 07 02.9 +0.6**
comp=Z,0.2nm,0.3s,baz=240,slow=19,SNR=2.7
FINES Lg Lg 08 07 30.8
comp=Z,0.5nm,0.3s,baz=236,slow=25,SNR=5.8
ARA0 ARCESS Array S 12.01 14 Pn **Pn 08 07 23.9 -2.8**
baz=192,slow=14
ARA0 ARCESS Array S 12.01 14 Pn **Pn 08 07 23.9 -2.8**
baz=192,slow=14
ARCES ARCESS Array B 12.01 14 Pn **Pn 08 07 24.1 -2.6**
comp=Z,0.1nm,0.3s,baz=198,slow=14,SNR=5.2

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*ISCJB **17** 08:04:42.1±0.6, 58.°08N±0.°04×17.°32E±0.°08, h0km, Error ellipse: s-maj=7.3km s-min=5.0km az=141.9*
*UPP **17** 08:04:42.7±0.1, 58.°08N×17.°21E, h0km, ML1.9, Explosion*
*IDC **17** 08:04:46.3±2.2, 58.°28N×17.°20E, h0km, mb1 3.2/4, mb1mx3.0/53, mbtmp3.1/4, ML2.3/4, Error ellipse: s-maj=27.1km s-min=9.8km az=18.0*
ISC 17 08:04:41.9±1.0, 58.°08N±0.°04×17.°21E±0.°05, h0km, n11, σ1§48/13, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIKU	**Vikbolandet**	**0.50**	**327**	P	**Pg**	**08 04 52.3**	**+0.7**
VIKU				S	**Sb**	**08 05 00.8**	**-0.7**
VSTU	**Vaestervik**	**0.56**	**221**	P	**Pg**	**08 04 53.3**	**+0.7**
BYXU	**Byxelkrok**	**0.80**	**188**	P	**Pg**	**08 04 58.0**	**+0.7**
GOTU	**Gotland**	**0.83**	**118**	P	**Pg**	**08 04 58.3**	**+0.5**
GOTU				S	**Sg**	**08 05 07.9**	**-0.5**
NYNU	**Nynaeshamn**	**1.01**	**24**	P	**Pg**	**08 05 01.9**	**+0.5**
OSKU	**Oskarshamn**	**1.07**	**214**	P	**Pn**	**08 05 04.5**	**+0.3**
HFS	**Hagfors**	**2.75**	**320**	Pn	**Pn**	**08 05 30.1**	**+2.9**
0.7nm,0.3s,baz=137,slow=17,SNR=29
HFS Lg Lg 08 06 05.8
3.0nm,0.3s,baz=134,slow=28,SNR=12
BSD Bornholm Skovb 3.23 204 *i*P **Pn 08 05 35.7 +1.8**
NOA NORSAR Array B 4.26 317 Pn **Pn 08 05 48.8 +0.8**
0.0nm,0.3s,baz=135,slow=18,SNR=7.6
NOA Lg Lg 08 06 56.7
0.1nm,0.3s,baz=155,slow=20,SNR=6.2
FINES FINESS Array B 5.61 49 Pn **Pn 08 06 07.7 +1.2**
0.4nm,0.3s,baz=240,slow=13,SNR=20
ARCES ARCESS Array B 12.05 14 Pn **Pn 08 07 32.4 -2.2**
0.1nm,0.3s,baz=198,slow=14,SNR=11

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*ISCJB **17** 08:05:32.6±0.5, 6.°84N±0.°03×73.°14W±0.°04, h158km±4km, mb3.3/3, Error ellipse: s-maj=6.0km s-min=4.5km az=14.6*
*IDC **17** 08:05:33.5±0.8, 6.°71N×72.°85W, h174km±9km, mb3.0/3, mb1 3.3/5, mb1mx3.0/38, mbtmp3.6/5, Error ellipse: s-maj=35.6km s-min=7.6km az=131.0*
*RSNC **17** 08:05:34.6±1.1, 6.°81N×73.°15W, h148km±4km, ML3.4, Mw3.7*
ISC 17 08:05:33.0±0.8, 6.°85N±0.°03×73.°13W±0.°04, h156km±6km, n29, σ1§08/49, mb3.5/3, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.24**	**345**	*e*P	**Pn**	**08 05 54.6**	**+0.2**
GIRC				*e*S	**Sn**	**08 06 10.4**	**-0.3**
GIRC				*i*		08 06 12.8	
comp=Z,250nm,0.2s
BARC Barichara 0.26 192 *e*P **Pn 08 05 54.6 0.0**
BARC *e*S **Sn 08 06 09.6 -1.4**
BARC *i* 08 06 12.1
comp=Z,636nm,0.3s
BRRC Barranca, Sant 0.63 294 ⇑*i*P **Pn 08 05 56.4 +0.6**
BRRC *e*S **Sn 08 06 13.8 +0.6**
BRRC *i* 08 06 16.9
comp=Z,318nm,0.1s
PAMC Pamplona, Colo 0.65 41 ⇑*e*P **Pn 08 05 57.3 +0.8**
PAMC *e*S **Sn 08 06 14.6 +0.1**
PAMC *i* 08 06 16.8
comp=Z,383nm,0.6s
RUSC La Rusia 0.95 177 ⇓*i*P **Pn 08 05 58.4 -0.3**
RUSC *e*S **Sn 08 06 16.5 -1.6**
RUSC *i* 08 06 18.4
comp=Z,226nm,0.3s
PTBC PUERTO BERRIO, 1.35 257 *e*P **Pn 08 06 01.1 -0.5**
PTBC *e*S **Sn 08 06 22.3 -1.2**
PTBC *i* 08 06 29.9
comp=Z,456nm,0.4s
TAMC Tame, Arauca 1.39 107 *e*P **Pn 08 06 02.7 +0.6**
TAMC *e*S **Sn 08 06 24.3 0.0**
TAMC *i* 08 06 25.6
comp=Z,103nm,0.4s
OCAC Ocana 1.40 352 *e*P **Pn 08 06 02.6 +0.4**
OCAC *e*S **Sn 08 06 24.7 0.0**
OCAC *i* 08 06 31.1
comp=Z,445nm,0.3s
YOPC Yopal, Colombi 1.64 155 *e*P **Pn 08 06 05.0 +0.2**
YOPC *e*S **Sn 08 06 28.6 -0.5**
YOPC *i* 08 06 32.1
comp=Z,120nm,0.3s
ZARC Zaragoza, Cauc 1.83 291 *e*P **Pn 08 06 07.0 +0.4**
ZARC *e*S **Sn 08 06 32.6 +0.1**
ZARC *i* 08 06 39.7
comp=Z,294nm,0.2s
NORC Norcasia 2.15 234 *e*P **Pn 08 06 10.3 0.0**
NORC *e*S **Sn 08 06 38.4 -0.7**
NORC *i* 08 06 43.8
comp=Z,231nm,0.2s
SMLC San Martn de 2.15 334 *e*P **Pn 08 06 10.5 +0.1**
SMLC *e*S **Sn 08 06 41.0 +1.8**
SMLC *i* 08 06 41.6
comp=Z,475nm,0.1s
CHIC Chingaza 2.28 195 *e*P **Pn 08 06 12.8 +0.5**
CHIC *e*S **Sn 08 06 42.6 0.0**
CHIC *i* 08 06 47.0
comp=Z,61nm,0.5s
ROSC El Rosal 2.32 211 ⇓*e*P **Pn 08 06 14.1 +1.4**
ROSC *e*S **Sn 08 06 43.7 +0.4**
ROSC *i* 08 06 52.6
comp=Z,215nm,0.4s
ROSC El Rosal 2.32 211 P **Pn 08 06 14.1 +1.4**
comp=Z,36nm,0.3s,baz=337,slow=1.1,SNR=117
ROSC S **Sn 08 06 47.0 +3.7**
comp=Z,42nm,0.3s,baz=34,slow=22,SNR=14
HELC Santa Helena 2.47 255 *e*P **Pn 08 06 15.3 +0.9**
HELC *e*S **Sn 08 06 46.0 -0.5**
HELC *i* 08 06 52.9
comp=Z,186nm,0.3s
GUY2C Guyana, Caldas 2.75 234 *e*P **Pn 08 06 18.9 +0.9**
GUY2C *i* 08 07 01.9
comp=Z,168nm,0.3s
VILC Villavicencio, 2.77 192 *e*P **Pn 08 06 17.5 -0.5**
VILC *e*S **Sn 08 06 53.0 +0.2**
VILC *i* 08 07 08.0
comp=Z,97nm,0.4s
CODC Agustn Codazz 3.08 354 *e*P **Pn 08 06 21.8 +0.1**
CODC *i* 08 07 09.9
comp=Z,48nm,0.3s
ARGC Ariguani, Magd 3.19 340 *e*P **Pn 08 06 24.6 +1.5**
ARGC *i* 08 07 08.6
comp=Z,90nm,0.3s
SDV Santo Domingo 3.20 51 *e*P **Pn 08 06 23.9 +0.6**
SDV Santo Domingo 3.20 51 P **Pn 08 06 23.9 +0.6**
comp=Z,2.6nm,0.3s,baz=232,slow=3.3,SNR=26
SDV S **Sn 08 07 01.7 -0.6**
comp=Z,8.6nm,0.3s,baz=243,slow=22,SNR=21
PRAC Prado 3.57 209 *e*P **Pn 08 06 27.8 -0.2**
PRAC *e*S **Sn 08 07 09.7 -1.0**
PRAC *i* 08 07 15.2
comp=Z,64nm,0.4s
SJCC San Jacinto, C 3.65 326 *e*P **Pn 08 06 28.3 -0.6**
SJCC *e*S **Sn 08 07 09.6 -2.8**
TXAR Lajitas Array 36.44 312 P **P 08 12 24.1 +1.1**
comp=Z,0.2nm,0.6s,baz=120,slow=7.5,SNR=4.6
ULM Lac du Bonnet 47.26 340 P **P 08 13 50.4 +0.1**
comp=Z,0.8nm,0.6s,baz=149,slow=17,SNR=2.4
YKA Yellowknife Ar 63.24 340 P **P 08 15 44.6 +0.2**
comp=Z,0.3nm,0.4s,baz=132,slow=6.7,SNR=10
ASAR Alice Springs 149.12 234 PKPbc **PKPbc 08 25 01.9 -1.8**
comp=Z,0.2nm,0.4s,baz=117,slow=3.6,SNR=5.8
WRA Warramunga Arr 150.34 241 PKPbc **PKPbc 08 25 05.2 -1.6**
comp=Z,0.8nm,1.1s,baz=115,slow=3.2,SNR=5.9

MEX 17 08:12:24.5±0.7, 17.°00N×102.°25W, h16km±199km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.96**	**51**	*e*P	Pb	08 12 39.0	-3.8
ZIIG				*e*S	Sb	08 12 50.9	-4.4
CAIG	**El Cayaco**	**1.89**	**88**	*e*P	Pn	08 12 52.3	-3.8
CAIG				*e*S	Sn	08 13 14.7	-5.0
ARIG	**Puente Sto Nin**	**2.21**	**54**	*e*P	Pn	08 12 58.0	-2.7
ARIG				*i* S	Sn	08 13 23.2	-4.5
MEIG	**Mezcala**	**2.67**	**69**	*i* P	Pn	08 13 04.4	-2.6
MEIG				*i* S	Sn	08 13 34.6	-4.5
TLIG	**Tlapa**	**3.56**	**80**	*i* P	Pn	08 13 17.1	-2.1
TLIG				*e*S	Sn	08 13 57.7	-3.4

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*ISCJB **17** 08:26:03.6±1.7, 36.°39N±0.°07×71.°4E±0.°2, h200km, Error ellipse: s-maj=27.8km s-min=6.5km az=164.9*
*NNC **17** 08:26:08.8±4.7, 36.°80N×71.°03E, h100km, mb3.3, mpv3.8, Error ellipse: s-maj=37.6km s-min=34.6km az=138.0*
ISC 17 08:26:01.5±1.9, 36.°36N±0.°09×71.°2E±0.°2, h200km, n15, σ2§63/19, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.39**	**135**	*e*P	**Sn**	**08 28 18.5**	**-4.9**
THN				*e*S	**Sn**	**08 28 21.5**	**-1.9**
AML	**Almayashu**	**6.07**	**18**	P	**Pn**	**08 27 31.3**	**+1.4**
SNR=47
UCH Uchtor 6.38 22 P **Pn 08 27 35.9 +1.8**
SNR=12
EKS2 Erkin-Say 6.59 17 P **Pn 08 27 38.7 +2.3**
SNR=10
AAK Ala-Archa 6.75 21 P **Pn 08 27 40.7 +2.1**
SNR=5.9
AAK Ala-Archa 6.75 21 ⇓P **Pn 08 27 40.5 +2.0**
6.8nm,0.7s
AAK ⇑S **Sn 08 28 52.1 -3.5**
6.6nm,0.7s
KK31 Karatay Array 6.76 355 ⇑P **Pn 08 27 40.2 +1.7**
2.5nm,0.3s,baz=180,slow=13,SNR=86
KK31 ⇑S **Sn 08 28 50.5 -5.0**
4.4nm,0.5s,baz=190,slow=25,SNR=7.7
TKM2 Tokmak 2 7.36 26 P **Pn 08 27 49.3 +2.8**
SNR=6.8
TKM2 Tokmak 2 7.36 26 ⇓P **Pn 08 27 48.8 +2.3**
4.5nm,0.7s
TKM2 ⇑S **Sn 08 29 09.7 -0.2**
1.9nm,0.6s
PYUN Piuthan 12.90 126 *e*P **Pn 08 28 59.0 +1.0**
5.9nm,0.2s
DANN Dangsing 13.25 124 *e*P **Pn 08 29 03.8 +1.4**
6.0nm,0.2s
KOLN Koldanda 13.52 126 *e*P **P 08 29 07.5 -0.7**
4.5nm,0.3s
GKN Gorkha 14.06 123 *e*P **P 08 29 14.7 +0.5**
13nm,0.3s
DMN Daman 14.63 123 *e*P **P 08 29 21.5 +0.9**
4.6nm,0.2s
JIRN Jiri 15.35 120 *e*P **P 08 29 30.9 +2.3**
14nm,0.3s

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*MOS **17** 08:32:35.2±1.1, 6.°03S×154.°35E, h41km, mb5.3/37, Error ellipse: s-maj=8.7km s-min=6.8km az=104.9*
*BJI **17** 08:32:36.6±0.0, 5.°87S×155.°00E, h67km, mb5.2/58, mB5.2/40, Ms4.8/39, Ms7 4.5/37*
*ISCJB **17** 08:32:36.7±0.7, 6.°25S±0.°02×154.°43E±0.°02, h57km±6km, mb5.5/188, MS4.5/30, Error ellipse: s-maj=3.9km s-min=3.2km az=25.8*
*IDC **17** 08:32:36.2±1.2, 6.°17S×154.°47E, h42km±10km, mb4.8/25, mb1 5.0/29, mb1mx5.0/32, mbtmp5.1/29, ML2.2/1, MS4.2/17, Ms1 4.2/17, ms1mx4.2/21, Error ellipse: s-maj=13.8km s-min=9.9km az=88.0*
*GCMT **17** 08:32:37.8±0.1, 6.°39S±0.°01×154.°44E±0.°01, h54km±2km, MW5.2/98, Moment Tensor Solution. s71,c92; s98,c157; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr3.37±.23; Mθθ0.04±.17; Mφφ-3.41±.17; Mrθ2.96±.14; Mrφ0.38±.15; Mθφ-7.38±.22; Best double couple: M=8.65100×10^16 NP1:φs160.00000°, δ79.00000°, λ84.00000°. NP2:φs7.00000°, δ13.00000°, λ117.00000°. Principal axes: T 8.7200, Plg56.0000°, Azm62.0000°; N -0.1360, Plg6.0000°, Azm161.0000°; P -8.5830, Plg33.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **17** 08:32:38.8±0.6, 6.°S±4.°×15.°4E±.°, h62km±6km, M5.8/47, mb5.9/47, mB6.0/32, MLv6.5/1, Mw(mB)5.6/32*
*NEIC **17** 08:32:39.8±2.1, 6.°24S×154.°44E, h77km±4km, mb5.4/105, Error ellipse: s-maj=11.9km s-min=11.7km az=216.0*
ISC 17 08:32:37.8±0.4, 6.°24S±0.°04×154.°50E±0.°04, h57km±3km, h57km: pP-P, n790, σ1§25/832, mb5.4/179, MS4.5/31, 19C-8D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.09**	**311**	*e*Pn	**Pn**	**08 33 25.0**	**+0.9**
HNR	**Honiara**	**6.26**	**121**	*e*P	**Pn**	**08 34 10.0**	**+2.4**
HNR				*e*S	Sn	08 35 04.0	-14
HNR	**Honiara**	**6.26**	**121**	*e*Pn	**Pn**	**08 34 10.7**	**+3.0**
HNR	**Honiara**	**6.26**	**121**	*e*P	**Pn**	**08 34 10.7**	**+3.0**
HNR	**Honiara**	**6.26**	**121**	P	**Pn**	**08 34 08.7**	**+1.1**
7.9nm,0.3s,baz=263,slow=4.7,SNR=3.2
HNR S **Sn 08 35 23.6 +5.7**
36nm,0.3s,baz=150,slow=17,SNR=4.6
HNR LR LR 08 36 36.6
comp=Z,7μm,19.1s,baz=276,slow=38
PMG Port Moresby 7.92 246 *e*Pn **Pn 08 34 31.5 +1.1**
PMG *e*Sn **Sn 08 36 00.4 +1.8**
PMG Port Moresby 7.92 246 ⇑*e*P **Pn 08 34 31.3 +1.0**
PMG pmax pmax
comp=Z,4μm,1.0s
PMG Port Moresby 7.92 246 P **Pn 08 34 30.0 -0.3**
comp=Z,2.0nm,0.3s,baz=240,slow=7.6,SNR=5.0
PMG S **Sn 08 35 59.5 +1.0**
comp=Z,78nm,0.3s,baz=214,slow=23,SNR=10
PMG LR LR 08 37 59.8
comp=Z,3μm,18.7s,baz=356,slow=41
MANU Manus Island 8.24 300 *e*Pn **Pn 08 34 36.8 +2.0**
COEN Coen 13.52 235 *e*Pn **Pn 08 35 47.1 +0.2**
COEN Coen 13.52 235 P **Pn 08 35 46.2 -0.7**
baz=13,SNR=17
PATS Pohnpei 13.54 16 *e*Pn **Pn 08 35 47.9 +0.8**
PATS Pohnpei 13.54 16 P **Pn 08 35 47.5 +0.4**
baz=14,SNR=8.0
GENI Genyem 14.73 284 P **Pn 08 36 03.1 0.0**
comp=Z,486nm,1.1s,comp=Z,6μm
CTA Charters Tower 15.92 209 P **Pn 08 36 19.2 +0.9**
CTA pmax pmax
comp=Z,326nm,1.2s
CTA Charters Tower 15.92 209 P **Pn 08 36 18.4 0.0**
comp=Z,5.6nm,0.3s,baz=31,slow=12,SNR=56
CTA LR LR 08 41 36.5
comp=Z,1μm,20.3s,baz=31,slow=34
CTAO Charters Tower 15.92 209 *e*Pn **Pn 08 36 18.6 +0.3**
comp=Z,268nm,0.9s
CTAO Charters Tower 15.92 209 *e*P **Pn 08 36 18.6 +0.3**
CTAO pmax pmax
comp=Z,268nm,0.9s
EIDS Eidsvold 19.30 189 *e*P **Pn 08 36 59.2 -0.5**
comp=Z,142nm,0.8s
EIDS Eidsvold 19.30 189 P **Pn 08 36 59.3 -0.4**
baz=19,SNR=78
DZM Mont Dzumac 19.52 145 *e*P **P 08 37 01.1 +0.4**
comp=Z,640nm,1.2s
DZM *e*LQ LQ 08 40 46.9
comp=Z,3μm,35.4s
DZM *e*LR LR 08 41 37.8
comp=Z,2μm,25.7s
DZM Mont Dzumac 19.52 145 *e*P **Pn 08 37 01.9 -0.5**
comp=Z,425nm,1.3s
DZM Mont Dzumac 19.52 145 P **Pn 08 37 02.0 -0.5**
comp=Z,10nm,0.3s,baz=333,slow=8.7,SNR=68
DZM ScP **ScP 08 44 52.8 +1.7**
comp=Z,0.1nm,0.3s,baz=55,slow=8.9,SNR=6.9
ONTNC Ouen Toro 19.71 145 *e*P **P 08 37 02.8 +0.1**
comp=Z,237nm,0.8s
KWAJ Kwajalein Atol 19.86 41 *e*P **Pn 08 37 08.0 +1.7**
comp=Z,363nm,0.8s
KWAJ Kwajalein Atol 19.86 41 *e*P **Pn 08 37 08.0 +1.7**
KWAJ pmax pmax
comp=Z,363nm,0.8s
TARA Tarawa 19.89 68 *e*P **Pn 08 37 06.5 -0.3**
comp=Z,1μm,1.0s
MARNC Mare, Loyalty 20.03 140 *e*P **P 08 37 06.8 +0.6**
comp=Z,686nm,0.9s
QIS Mount Isa 20.28 224 P **P 08 37 09.4 +0.4**
baz=20,SNR=151
PINNC Pines Island, 20.52 144 *e*P **P 08 37 11.9 +0.4**
comp=Z,155nm,0.9s
RMQ Roma 20.86 195 P **P 08 37 16.1 +0.9**
baz=21,SNR=45
GUMO Guam 21.90 334 LR LR 08 46 00.6
comp=Z,244nm,18.1s,baz=152,slow=37
FAKI Fak Fak 22.42 277 *e*P **P 08 37 31.4 -0.6**
comp=Z,248nm,1.0s
FAKI Fak Fak 22.42 277 P **P 08 37 31.2 -0.8**
comp=Z,293nm,1.1s,comp=Z,4μm
KDU Kakadu 22.64 252 P **P 08 37 33.2 -1.1**
baz=23,SNR=37
SAUI Saumlaki 23.08 264 *e*P **P 08 37 39.6 +0.8**
comp=Z,923nm,0.9s
SAUI Saumlaki 23.08 264 P **P 08 37 40.0 +1.1**
comp=Z,1μm,1.1s,comp=Z,13μm
SWI Sorong 23.79 282 P **P 08 37 46.7 +1.2**
SWI pmax pmax
comp=Z,119nm,0.6s
SWI Sorong 23.79 282 P **P 08 37 46.6 +1.1**
WRAB Tennant Creek 23.84 233 *e*P **P 08 37 45.3 -0.7**
comp=Z,598nm,1.1s
WRAB Tennant Creek 23.84 233 *d i*P **P 08 37 45.7 -0.3**
WRAB pmax pmax
comp=Z,599nm,1.1s
WB2 Warramunga Arr 23.84 233 *e*P **P 08 37 45.8 -0.2**
comp=Z,785nm,1.3s
WR1 Warramunga Arr 23.85 233 *e*P **P 08 37 45.6 -0.5**
WR1 *e*PcP **PcP 08 41 28.3 +0.2**
WR1 *e*ScP **ScP 08 45 03.1 +1.2**
WRA Warramunga Arr 23.85 233 P **P 08 37 45.6 -0.5**
comp=Z,301nm,0.7s,baz=56,slow=9.7,SNR=294
WRA PcP **PcP 08 41 28.3 +0.2**
comp=Z,23nm,0.9s,baz=89,slow=1.7,SNR=6.0
WRA ScP **ScP 08 45 03.1 +1.2**
comp=Z,12nm,0.9s,baz=67,slow=2.5,SNR=8.2
MTN Manton Dam 23.94 252 *e*P **P 08 37 46.0 -1.0**
comp=Z,169nm,0.9s
MTN Manton Dam 23.94 252 P **P 08 37 46.5 -0.4**
baz=24,SNR=32
PALU Palau 24.10 304 P **P 08 37 49.7 +1.3**
baz=24,SNR=18
ARMA Armidale 24.20 186 *e*P **P 08 37 50.1 +0.8**
comp=Z,80nm,0.9s
ARMA Armidale 24.20 186 P **P 08 37 49.9 +0.7**
baz=24,SNR=26
BNDI Bandanaira 24.54 273 P **P 08 37 54.1 +1.7**
comp=Z,431nm,0.7s
MSVF Nonsavu 25.68 118 ⇑*e*P **P 08 38 06.0 +3.2**
AS31 Alice Springs 26.31 227 *e*P **P 08 38 07.5 -0.9**
comp=Z,18nm,0.7s
ASAR Alice Springs 26.31 227 P **P 08 38 08.1 -0.3**
comp=Z,49nm,0.7s,baz=59,slow=8.7,SNR=730
ASAR PcP **PcP 08 41 34.2 +0.7**
comp=Z,12nm,0.9s,baz=56,slow=3.1,SNR=5.1
ASAR ScP **ScP 08 45 10.4 +1.6**
comp=Z,7.9nm,0.7s,baz=48,slow=3.0,SNR=16
ASAR LR LR 08 48 04.1
comp=Z,2μm,21.7s,baz=52,slow=35
CMSA Cobar Meteorol 26.48 197 P **P 08 38 09.7 -0.1**
baz=26,SNR=72
KNRA Kununurra 26.92 247 P **P 08 38 13.8 -0.1**
baz=27,SNR=58
MGCD Mangrove Creek 27.02 186 P **P 08 38 15.7 +1.1**
baz=27,SNR=9.4
TNTI Ternate 27.96 283 *e*P **P 08 38 23.7 +0.4**
comp=Z,56nm,1.2s
STKA Stephens Creek 28.21 204 *e*P **P 08 38 24.4 -0.9**
comp=Z,6.1nm,0.8s
STKA Stephens Creek 28.21 204 P **P 08 38 24.6 -0.7**
baz=28,SNR=29
STKA Stephens Creek 28.21 204 *e*P **P 08 38 24.4 -0.9**
STKA pmax pmax
comp=Z,6.0nm,0.8s
STKA Stephens Creek 28.21 204 P **P 08 38 24.5 -0.8**
comp=Z,22nm,0.7s,baz=9.5,slow=8.6,SNR=87
STKA ScP **ScP 08 45 16.1 +1.8**
comp=Z,36nm,1.1s,baz=342,slow=3.1,SNR=14
STKA LR LR 08 49 14.0
comp=Z,1μm,22.0s,baz=22,slow=35
SANI Sanana 28.73 277 P **P 08 38 30.1 0.0**
comp=Z,187nm,0.9s,comp=Z,2μm
CAN Canberra 29.38 189 *e*P **P 08 38 36.3 +0.6**
comp=Z,35nm,1.0s
CAN Canberra 29.38 189 *e*P **P 08 38 36.3 +0.6**
CAN pmax pmax
comp=Z,35nm,1.0s
SOEI Soe 30.13 261 *e*P **P 08 38 42.3 -0.4**
comp=Z,144nm,0.9s
SOEI Soe 30.13 261 P **P 08 38 43.7 +1.0**
comp=Z,167nm,0.8s,comp=Z,2μm
FITZ Fitzroy Crossi 30.51 245 *e*P **P 08 38 44.7 -1.2**
comp=Z,77nm,0.8s
FITZ Fitzroy Crossi 30.51 245 P **P 08 38 45.2 -0.6**
baz=30,SNR=106
HTT Hallett 30.68 206 P **P 08 38 46.7 -0.5**
baz=31,SNR=16
MILA Mila 31.06 188 P **P 08 38 51.3 +0.8**
baz=31,SNR=4.9
KMSI Cibinong 31.20 281 P **P 08 38 53.6 +1.6**
comp=Z,418nm,0.7s
WRKA Warakurna 31.28 230 P **P 08 38 51.8 -0.8**
baz=31,SNR=156
BBOO Buckleboo 31.52 211 *e*P **P 08 38 53.4 -1.2**
comp=Z,33nm,0.8s
BBOO Buckleboo 31.52 211 P **P 08 38 53.6 -1.0**
baz=32,SNR=4.9
LUWI Luwuk 32.07 278 P **P 08 39 00.1 +0.5**
comp=Z,599nm,0.9s,comp=Z,7μm
MMRI Maumere 32.07 264 P **P 08 39 00.0 +0.4**
comp=Z,389nm,0.7s,comp=Z,8μm
TOO Toolangi 32.25 193 P **P 08 39 01.4 +0.5**
baz=32,SNR=9.0
ARPS Mount Arapiles 32.52 199 P **P 08 39 03.5 +0.3**
baz=32,SNR=6.8
MRSI Marisa 33.17 280 P **P 08 39 08.8 -0.5**
APSI Ampana 33.19 278 P **P 08 39 10.3 +0.8**
comp=Z,329nm,1.1s,comp=Z,3μm
OUZ Omahuta 33.78 151 P **P 08 39 16.0 +1.7**
BSSI Bau Bau, Buton 33.80 268 P **P 08 39 15.1 +0.3**
comp=Z,271nm,1.0s,comp=Z,9μm
BKSI Bulukumba 34.21 270 P **P 08 39 18.4 +0.1**
comp=Z,48nm,1.2s,comp=Z,624nm
BNSI Bone 34.28 271 P **P 08 39 19.5 +0.5**
comp=Z,124nm,1.0s,comp=Z,1μm
KAPI Kappang 34.59 270 *e*P **P 08 39 21.4 -0.2**
comp=Z,147nm,0.9s
KAPI Kappang 34.59 270 *e*P **P 08 39 21.4 -0.2**
KAPI pmax pmax
comp=Z,147nm,0.9s
SPSI Sidrap Palu 34.66 272 P **P 08 39 21.9 -0.3**
comp=Z,37nm,1.0s,comp=Z,453nm
TTSI Tana Toraja 34.70 274 P **P 08 39 23.6 +1.0**
comp=Z,58nm,1.5s,comp=Z,806nm
WCZ Waipu Caves 34.72 151 P **P 08 39 23.9 +1.5**
FORT Forrest 34.80 222 *e*P **P 08 39 22.1 -1.1**
comp=Z,134nm,0.7s
FORT Forrest 34.80 222 P **P 08 39 22.8 -0.5**
baz=35,SNR=16
MPSI Mapaga 35.14 279 P **P 08 39 26.0 -0.4**
comp=Z,234nm,0.8s,comp=Z,2μm
WTAZ Waiatarua 35.63 152 P **P 08 39 32.2 +1.9**
MKAZ Moumakai 36.05 151 P **P 08 39 38.2 +4.4**
PLAI Plampang 36.48 264 P **P 08 39 35.9 -2.0**
comp=Z,388nm,0.8s,comp=Z,3μm
MOO Moorlands 36.63 189 P **P 08 39 40.5 +1.8**
baz=37,SNR=4.3
TOZ Tahuroa Road 36.71 152 P **P 08 39 40.8 +1.4**
HIZ Hauiti 37.05 153 P **P 08 39 43.9 +1.6**
TAU Tasmania Unive 37.07 189 *e*P **P 08 39 43.1 +0.7**
comp=Z,96nm,1.1s
TAU Tasmania Unive 37.07 189 *e*P **P 08 39 43.1 +0.7**
TAU pmax pmax

comp=Z,96nm,1.1s
SMKI Samarinda 37.65 277 P **P 08 39 49.1 +1.3**
comp=Z,109nm,1.0s,comp=Z,4μm
HAZ Te Kaha 37.85 149 P **P 08 39 50.1 +1.0**
URZ Urewera 37.91 150 P **P 08 39 50.5 +0.9**
comp=Z,31nm,0.5s,baz=45,slow=2.9,SNR=15
URZ Urewera 37.91 150 P **P 08 39 47.6 -2.0**
OTVZ Oturere 37.94 153 P **P 08 39 51.4 +1.3**
MXZ Matakaoa Point 37.97 149 P **P 08 39 51.6 +1.4**
QRZ Quartz Range 38.03 158 P **P 08 39 51.8 +1.2**
WAZ Wanganui 38.12 154 P **P 08 39 55.9 +4.4**
WMGZ Waiomatatini S 38.22 149 P **P 08 39 53.2 +0.9**
BKZ Black Stump Fm 38.33 152 *e*P **P 08 39 53.2 0.0**
comp=Z,45nm,0.8s
DUWZ D'Urville Isla 38.55 156 P **P 08 39 57.1 +2.1**
DSZ Denniston Nort 38.57 159 P **P 08 39 59.9 +4.7**
PNHZ Pukenui 38.79 153 P **P 08 39 57.3 +0.2**
CKHZ Cape Kidnapper 38.99 152 P **P 08 40 00.4 +1.7**
SRBI Singaraja 39.01 265 P **P 08 39 59.3 +0.1**
comp=Z,69nm,1.3s,comp=Z,699nm
KIW Kapiti Island 39.01 155 P **P 08 39 59.2 +0.3**
WPHZ Waipukurau 39.02 153 P **P 08 39 59.8 +0.9**
TCW Tory Channel 39.04 156 P **P 08 40 00.2 +1.1**
OGWZ Otaki Gorge 39.08 155 P **P 08 39 59.6 +0.2**
DVHZ Dannevirke 39.09 153 P **P 08 40 00.5 +1.0**
TUWZ Tuamarina 39.09 157 P **P 08 40 00.1 +0.6**
PRWZ Pori Road 39.21 154 P **P 08 40 01.3 +0.8**
CAW Cannon Point 39.28 155 P **P 08 40 01.4 +0.3**
HOWZ Holdsworth Sta 39.30 155 P **P 08 40 01.3 +0.1**
BSWZ Blackbirch Sta 39.31 157 P **P 08 40 01.5 +0.2**
BFZ Birch Farm 39.44 154 P **P 08 40 02.9 +0.5**
KMBL Kambalda 39.44 227 P **P 08 40 02.3 -0.3**
baz=39,SNR=27
BHW Baring Head 39.45 156 P **P 08 40 04.0 +1.5**
MTW Mount Morrison 39.51 155 P **P 08 40 02.7 -0.3**
LTZ Lake Taylor 39.64 159 *e*P **P 08 40 04.6 +0.5**
comp=Z,52nm,0.8s
PAWZ Paruwai Farm 39.66 155 P **P 08 40 04.0 -0.3**
MEEK Meekatharra 39.73 235 P **P 08 40 04.8 -0.2**
baz=40,SNR=51
KHZ Kahutara 39.78 158 *e*P **P 08 40 04.3 -0.9**
comp=Z,52nm,0.8s
OXZ Oxford 40.04 160 *e*P **P 08 40 06.8 -0.6**
comp=Z,40nm,0.7s
JAGI Jajag, Banyuwa 40.06 264 *e*P **P 08 40 05.5 -2.5**
comp=Z,215nm,0.9s
JAGI Jajag, Banyuwa 40.06 264 P **P 08 40 06.9 -1.1**
comp=Z,283nm,1.2s,comp=Z,3μm
RPZ Rata Peaks 40.06 161 *e*P **P 08 40 07.6 0.0**
comp=Z,52nm,0.8s
RPZ Rata Peaks 40.06 161 P **P 08 40 08.0 +0.4**
comp=Z,41nm,0.8s,baz=349,slow=2.9,SNR=22
LBZ Lake Benmore 40.40 163 *e*P **P 08 40 10.7 +0.3**
comp=Z,118nm,1.8s
CRLZ Canterbury Las 40.46 160 *e*P **P 08 40 11.0 +0.2**
comp=Z,74nm,0.9s
MQZ McQueen's Vall 40.59 160 *e*P **P 08 40 11.3 -0.5**
comp=Z,81nm,1.4s
MLZ Mavora Lakes 40.74 165 *e*P **P 08 40 13.7 +0.5**
comp=Z,63nm,1.1s
GIRL Giralia 42.08 243 *e*P **P 08 40 24.9 +0.4**
comp=Z,197nm,1.1s
GIRL Giralia 42.08 243 P **P 08 40 25.1 +0.6**
baz=42,SNR=6.6
JOHN Johnston Islan 42.27 57 *e*P **P 08 40 27.2 +1.2**
comp=Z,138nm,0.8s
PWJI Pagerwojo 42.38 265 P **P 08 40 26.4 -0.6**
comp=Z,239nm,1.0s,comp=Z,2μm
KLBR Kellerberrin 42.60 229 P **P 08 40 27.7 -0.9**
baz=42,SNR=7.6
MORW Morawa 42.80 233 *e*P **P 08 40 29.8 -0.4**
comp=Z,63nm,0.8s
MORW Morawa 42.80 233 P **P 08 40 29.8 -0.4**
baz=43,SNR=24
BLDU Ballidu 42.94 231 P **P 08 40 30.8 -0.6**
baz=43,SNR=18
PCJI Pacitan 43.00 265 P **P 08 40 32.4 +0.3**
comp=Z,498nm,1.2s,comp=Z,5μm
SBUM Sibu 43.08 280 *e*P **P 08 40 33.6 +0.9**
comp=Z,38nm,1.0s
SBUM Sibu 43.08 280 P **P 08 40 34.0 +1.3**
WOJI Wonogiri, Jawa 43.26 265 P **P 08 40 34.4 +0.3**
comp=Z,120nm,0.9s
YOJ Yonaguni jima 43.27 316 P **P 08 40 36.1 +2.1**
YOJ pmax pmax
comp=Z,191nm,1.4s
NWAO Narrogin (SRO) 43.62 228 *e*P **P 08 40 36.3 -0.5**
comp=Z,74nm,1.2s
NWAO Narrogin (SRO) 43.62 228 P **P 08 40 36.3 -0.5**
baz=44,SNR=3.9
NWAO Narrogin (SRO) 43.62 228 *e*P **P 08 40 36.3 -0.5**
NWAO pmax pmax
comp=Z,74nm,1.2s
UGM Wanagama 43.65 265 *e*P **P 08 40 37.3 -0.1**
comp=Z,326nm,1.0s
UGM Wanagama 43.65 265 P **P 08 40 37.6 +0.2**
comp=Z,342nm,1.0s
SMRI Semarang 43.75 266 *e*P **P 08 40 38.7 +0.6**
comp=Z,200nm,0.9s
YULB Yu-li 43.80 313 *e*P **P 08 40 38.7 +0.3**
comp=Z,48nm,0.7s
YOGI Yogyakarta 43.88 265 P **P 08 40 40.0 +0.8**
comp=Z,805nm,0.9s,comp=Z,10μm
MUN Mundaring 43.94 229 P **P 08 40 39.3 -0.1**
baz=44,SNR=12
NACB Ninganchiao 44.08 315 *e*P **P 08 40 41.9 +1.3**
comp=Z,125nm,1.1s
TPUB Ta-pu 44.23 313 *e*P **P 08 40 42.0 +0.1**
comp=Z,58nm,0.6s
YHNB Yeheng 44.54 315 *e*P **P 08 40 44.6 +0.3**
comp=Z,115nm,1.0s
RKGY Rocky Gully 44.65 226 P **P 08 40 45.6 +0.6**
baz=45,SNR=25
KSM Kuching 44.77 278 P **P 08 40 47.0 +0.7**
JNU Nakatsue 45.12 332 *e*P **P 08 40 48.6 -0.2**
comp=Z,56nm,0.9s
MJAR Matsushiro Arr 45.21 341 *e*P **P 08 40 47.7 -1.7**
MJAR Matsushiro Arr 45.21 341 P **P 08 40 47.8 -1.6**
comp=Z,2.2nm,0.6s,baz=214,slow=0.4,SNR=9.0
MJAR PcP **PcP 08 42 28.3 -0.5**
comp=Z,12nm,0.9s,baz=169,slow=4.0,SNR=7.8
MAJO Matsushiro 45.21 341 *e*P **P 08 40 47.8 -1.6**
MAJO *e*PcP **PcP 08 42 28.3 -0.5**
MAJO Matsushiro 45.21 341⇓ *e*P **P 08 40 47.9 -1.5**
MAJO pmax pmax
comp=Z,20nm,1.8s
MAT Matsushiro 45.21 341 P **P 08 40 47.7 -1.7**
MAT *e*S **S 08 47 27.0 +1.6**
JCJI Jatiwangi 45.93 267 P **P 08 40 55.7 +0.3**
comp=Z,634nm,0.7s,comp=Z,11μm
CISI Cisompet, Garu 46.34 266 P **P 08 40 58.2 -0.6**
comp=Z,744nm,0.7s
LEM Lembang 46.56 267 P **P 08 41 01.2 +0.6**
LEM pmax pmax
comp=Z,150nm,0.8s
LEM Lembang 46.56 267 P **P 08 41 01.0 +0.4**
comp=Z,2μm,0.8s,comp=Z,26μm
QZH Quanzhou 46.70 313⇑ *i*P **P 08 41 02.5 +1.2**
QZH S **S 08 47 47.0 -0.1**
QZH pmax pmax
comp=Z,83nm,0.8s
QZH LR LR
comp=Z,390nm,20.4s
CBJI Citeko 47.34 267 P **P 08 41 05.2 -1.3**
CGJI Cibinong 48.48 267 P **P 08 41 14.6 -0.7**
comp=Z,379nm,0.8s
XMAS Kiritimati 48.69 82 *e*P **P 08 41 18.2 +1.3**
comp=Z,129nm,0.9s
KSRS Korea Array 50.04 332 P **P 08 41 26.6 -0.2**
comp=Z,18nm,0.9s,baz=149,slow=8.7,SNR=44
KSRS LR LR 08 59 47.5
comp=Z,95nm,21.2s,baz=140,slow=33
KSAR Wonju Array Be 50.05 332 *e*P **P 08 41 26.2 -0.7**
KSAR Wonju Array Be 50.05 332 *e*P **P 08 41 26.2 -0.7**
QIZ Qiongzhong 50.65 301 P **P 08 41 32.8 +1.1**
QIZ S **S 08 48 45.1 +2.2**
QIZ LR LR
comp=Z,450nm,9.6s
QIZ LR LR
comp=Z,420nm,20.6s
QIZ LR LR
comp=Z,520nm,27.5s
NJ2 Nanjing 51.02 320 *e*P **P 08 41 36.4 +2.1**
NJ2 pmax pmax
comp=Z,15nm,0.5s
MYKOM Kota Tinggi 51.19 277 *e*P **P 08 41 36.0 +0.1**
comp=Z,66nm,1.6s
WHN Wuhan 53.06 316⇓ *i*P **P 08 41 50.9 +1.5**
WHN pP **sP 08 42 10.5 +0.5**
WHN ScP **ScP 08 46 50.6 +0.3**
WHN S **S 08 49 19.5 +4.0**
WHN pmax pmax
comp=Z,100nm,1.0s
WHN pmax pmax
comp=Z,450nm,4.0s
WHN LR LR
comp=Z,1μm,20.7s
YSS Yuzh-Sakhalins 53.98 350 *e*P P 08 42 09.5 +14
YSS MLR MLR
comp=Z,300nm,15.0s
USA0B Ussuriysk Arra 54.16 340 *e*P **P 08 41 57.2 -0.1**
comp=Z,34nm,1.4s
USA0B Ussuriysk Arra 54.16 340 *e*P **P 08 41 57.2 -0.1**
USA0B pmax pmax
comp=Z,34nm,1.4s
USRK Ussuriysk Ar. 54.16 340 *e*P **P 08 41 56.3 -1.0**
USRK Ussuriysk Ar. 54.16 340 *e*P **P 08 41 56.3 -1.0**
USRK Ussuriysk Ar. 54.16 340 P **P 08 41 56.9 -0.4**
comp=Z,7.8nm,0.8s,baz=165,slow=8.6,SNR=14
DL2 Dalian 54.27 329 P **P 08 41 58.1 -0.1**
DL2 S **S 08 49 29.6 -2.1**
DL2 sS **sS 08 49 56.0 +1.0**
DL2 pmax pmax
comp=Z,32nm,0.9s
DL2 LR LR
comp=Z,220nm,14.8s
DL2 LR LR
comp=Z,160nm,12.4s
DL2 LR LR
comp=Z,270nm,18.8s
IPM Ipoh 54.44 280 *e*P **P 08 41 59.1 -0.8**
comp=Z,34nm,0.8s
IPM Ipoh 54.44 280 P **P 08 42 01.0 +1.1**
PANO Nakornpanom 54.49 296 P P 08 42 04.9 +4.7
comp=Z,0.9nm,1.3s
TIA Tai'an 54.87 323 P **P 08 42 02.4 -0.2**
TIA pmax pmax
comp=Z,15nm,0.8s
SKNT Sakolnakorn 54.99 296 P **P 08 42 05.9 +2.1**
comp=Z,56nm,1.3s
MDJ Mudanjiang 55.36 339 P **P 08 42 05.6 -0.4**
MDJ pP sP 08 42 23.5 -3.6
MDJ sP pP 08 42 31.8 +11
MDJ pmax pmax
comp=Z,23nm,0.8s
SKLT Songkhla 55.38 283 P P 08 42 20.0 +13
PPT Papeete 55.69 107 LR LR 09 01 14.5
comp=Z,225nm,21.0s,baz=290,slow=31
PPT2 Papeete2 55.69 107 *e*S **S 08 49 45.7 -6.0**
comp=Z,228nm,28.5s
PPT2 *e*LR LR 08 58 26.3
comp=Z,494nm,23.5s
KHON Khomkaen 55.82 294 P **P 08 42 12.6 +2.8**
comp=Z,73μm,0.8s
NONG Nongkai 56.12 297 P **P 08 42 13.8 +1.9**
comp=Z,1.5nm,1.0s
PSI Prapat 56.21 278 P **P 08 42 13.1 +0.3**
PSI pmax pmax
comp=Z,7.0nm,1.6s
CN2 Changchun 56.30 335 *e*P **P 08 42 12.3 -0.4**
CN2 pmax pmax
comp=Z,20nm,0.7s
TRTT Trang 56.42 284 P **P 08 42 15.8 +1.7**
comp=Z,34nm,1.8s
TBI Tubuai 56.43 114 *e*S **S 08 49 55.4 -5.8**
comp=Z,221nm,34.8s
TBI *e*LQ LQ 08 56 27.7
comp=Z,959nm,30.8s
TBI *e*LR LR 08 58 48.0
comp=Z,2μm,28.5s,baz=284
CHAI Chaiyaphum 56.44 294 P **P 08 42 16.4 +2.2**
comp=Z,35μm,0.7s
GYA Guiyang 56.60 307⇑ *i*P **P 08 42 16.5 +1.1**
GYA pP sP 08 42 35.4 +0.2
GYA sP pwP 08 42 43.5 +8.8
GYA PP **PP 08 44 25.8 +3.9**
GYA S **S 08 50 04.5 +0.9**
GYA sS sS 08 50 37.6 +10
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,160nm,5.2s
GYA LR LR
comp=Z,180nm,20.7s
GYA LR LR
comp=Z,280nm,20.0s
GYA LR LR
comp=Z,420nm,19.5s
SKR Severo-Kuril's 56.71 1 *e*P **P 08 42 14.0 -1.4**
SKR *e*S **S 08 50 08.7 +4.9**
SKR pmax pmax
comp=Z,100nm,5.7s
GSI Gunungsitoli 57.31 276 P **P 08 42 19.3 -1.2**
UTTA Uttaradit 58.33 295 P **P 08 42 29.7 +2.2**
comp=Z,93μm,0.9s,comp=Z,742μm
NANT Nan 58.55 296 P **P 08 42 30.8 +1.7**
comp=Z,89μm,1.0s,comp=Z,652μm
SRDT SRDT 58.61 291 P **P 08 42 32.6 +3.1**
comp=Z,58nm,1.1s,comp=Z,1μm
KLR Kul'dur 58.70 343*c* *i*P **P 08 42 29.2 -0.3**
KLR pmax pmax
comp=Z,33nm,0.9s
XAN Xi'an 58.82 316⇑ P **P 08 42 30.6 -0.1**
XAN PcP **PcP 08 43 20.0 +0.2**
XAN S **S 08 50 31.9 -0.3**
XAN pmax pmax
comp=Z,32nm,0.9s
XAN pmax pmax
comp=Z,130nm,3.6s
XAN LR LR
comp=Z,220nm,22.8s
XAN LR LR
comp=Z,260nm,23.8s
XAN LR LR
comp=Z,340nm,21.7s
PHRA Phrae 58.87 296 P **P 08 42 34.1 +2.8**
comp=Z,7.5nm,1.1s
KMI Kunming 59.19 304 P **P 08 42 35.6 +2.0**
KMI pP sP 08 42 54.3 +0.6
KMI sP pwP 08 43 00.6 +7.8
KMI S **S 08 50 41.1 +3.5**
KMI sS sS 08 51 04.0 +3.0
KMI pmax pmax
comp=Z,44nm,0.9s
KMI pmax pmax
comp=Z,160nm,3.9s
KMI LR LR
comp=Z,260nm,19.9s
KMI LR LR
comp=Z,290nm,22.3s
KMI LR LR
comp=Z,440nm,22.6s
PETK Petropavlovsk- 59.19 2 *e*P **P 08 42 32.6 -0.2**
PETK Petropavlovsk- 59.19 2 *e*P **P 08 42 32.6 -0.2**
PETK Petropavlovsk- 59.19 2 P **P 08 42 33.1 +0.3**
comp=Z,11nm,0.8s,baz=166,slow=6.9,SNR=17
PETK LR LR 09 04 42.3
comp=Z,218nm,21.7s,baz=185,slow=33
PETK PKP2bc 09 12 13.5
comp=Z,2.0nm,0.9s,baz=81,slow=11,SNR=3.5
PEA1 Petropavlovsk- 59.19 2 *e*P **P 08 42 33.1 +0.3**
UMPA Umpang Tak 59.39 293 P **P 08 42 38.3 +3.4**
comp=Z,67μm,1.0s
LAMP Lampang 59.42 296 P **P 08 42 38.1 +3.1**
comp=Z,90μm,0.9s,comp=Z,922μm
PAYA Payao 59.48 297 P **P 08 42 37.8 +2.3**
comp=Z,84μm,1.0s,comp=Z,764μm
CMAR Chiang Mai Arr 60.01 295 *e*P **P 08 42 40.4 +1.2**
CMAR Chiang Mai Arr 60.01 295 P **P 08 42 40.5 +1.3**
CMAR Chiang Mai Arr 60.01 295 P **P 08 42 40.2 +1.1**
comp=Z,13nm,0.8s,baz=112,slow=5.1,SNR=42
CMAR LR LR 09 07 34.9
comp=Z,44nm,20.2s,baz=104,slow=35
CMMT Chiang Mai 60.12 296 P **P 08 42 42.4 +2.5**
comp=Z,20nm,1.2s,comp=Z,286nm
CHTO Chiang Mai 60.13 296 *e*P **P 08 42 41.4 +1.5**
comp=Z,50nm,1.2s
CHTO Chiang Mai 60.13 296 P **P 08 42 41.4 +1.5**
CHTO pmax pmax
comp=Z,50nm,1.2s
NKL Nikolayevsk 60.31 350 *e*P **P 08 42 40.0 -0.5**
NKL pmax pmax
comp=Z,17nm,0.9s
CD2 Chengdu 60.95 310⇑ *i*P **P 08 42 46.3 +0.9**
CD2 PP **PP 08 44 58.0 -2.3**
CD2 S **S 08 50 58.6 -1.1**
CD2 pmax pmax
comp=Z,100nm,5.0s
CD2 LR LR
comp=Z,540nm,24.5s
CD2 LR LR
comp=Z,630nm,27.0s
CD2 LR LR
comp=Z,670nm,28.6s
HHC Hu-ho-hao-te 61.20 324 *e*P **P 08 42 49.3 +2.4**
HHC S **S 08 51 05.0 +2.4**
HHC SS **SS 08 55 02.6 -1.2**
HHC pmax pmax
comp=Z,130nm,1.0s
HHC pmax pmax
comp=Z,340nm,6.6s
HHC LR LR
comp=Z,2μm,16.4s
HHC LR LR
comp=Z,2μm,16.8s
HHC LR LR
comp=Z,3μm,16.4s
LZH Lanzhou 63.43 316 *e*P **P 08 43 03.6 +1.5**
LZH S **S 08 51 30.8 -0.3**
LZH sS sS 08 51 59.5 +3.0
LZH pmax pmax
comp=Z,61nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.3s
LZH LR LR
comp=Z,430nm,13.6s
LZH LR LR
comp=Z,470nm,13.6s
LZH LR LR
comp=Z,500nm,14.6s
ZEA Zeya 64.01 342 *e*P **P 08 43 05.0 -0.3**
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,44nm,1.0s
MA2 Magadan 65.67 358 *e*P **P 08 43 14.6 -1.3**
comp=Z,16nm,0.9s
MA2 Magadan 65.67 358*c* *i*P **P 08 43 15.2 -0.8**
MA2 pmax pmax
comp=Z,10.0nm,0.7s
CASY Casey 67.15 198 *e*P **P 08 43 25.2 -0.1**
comp=Z,10nm,0.8s
GTA Gaotai 67.85 317⇑ P **P 08 43 31.4 +0.9**
GTA pP pP 08 43 44.4 -1.3
GTA S **S 08 52 26.3 +1.5**
GTA SS **SS 08 56 44.4 -3.2**
GTA pmax pmax
comp=Z,28nm,1.3s
GTA pmax pmax
comp=Z,87nm,4.4s
GTA LR LR
comp=Z,120nm,21.6s
GTA LR LR
comp=Z,160nm,22.7s
GTA LR LR
comp=Z,330nm,22.3s
ULN Ulaanbaatar 68.10 328 *e*P **P 08 43 32.2 +0.3**
comp=Z,42nm,1.4s
ULN Ulaanbaatar 68.10 328*c* *i*P **P 08 43 32.4 +0.5**
ULN pmax pmax
comp=Z,17nm,1.3s
SONA0 Songino Array 68.44 327 *e*P **P 08 43 34.5 +0.5**
SONM Songino Array 68.44 327 *e*P **P 08 43 33.6 -0.4**
SONM Songino Array 68.44 327 P **P 08 43 34.5 +0.5**
comp=Z,7.2nm,0.8s,baz=130,slow=6.0,SNR=35
SONM PKPPKP 09 11 52.0
comp=Z,0.6nm,0.4s,baz=279,slow=3.5,SNR=5.7
SONM LR LR 09 15 57.3
comp=Z,151nm,18.1s,baz=101,slow=38
SHL Shillong 68.49 300 P **P 08 43 35.3 +0.5**
SHL pmax pmax
comp=Z,154nm,0.9s
SEY Seymchan 68.99 359⇑ *e*P **P 08 43 36.0 -0.9**
YAK Yakutsk 70.72 348 *e*P **P 08 43 47.7 +0.2**
YAK *e**PP **pP 08 43 55.8 -7.0**
YAK *e* 08 44 11.1
YAK *e*PPP PPP 08 48 03.0
YAK *e*S **S 08 53 01.9 +4.5**
YAK *e**SS **pS 08 53 18.5 +2.6**
YAK *e* 08 53 36.8
YAK *e*SS **SS 08 57 34.8 +4.2**
YAK *e*SSS SSS 09 00 35.9
YAK pmax pmax
comp=N,63nm,0.9s
YAK pmax pmax
comp=E,34nm,1.2s
YAK smax smax
comp=N,254nm,4.5s
YAK smax smax
comp=E,212nm,4.1s
YAK MLR MLR
comp=N,804nm,27.0s
YAK MLR MLR
comp=E,777nm,27.0s
VNDA Vanda 71.34 178 P **P 08 43 51.6 +0.5**
comp=E,8.9nm,0.9s,baz=337,slow=5.7,SNR=21
ZAK Zakamensk 71.59 328 *e*P **P 08 43 52.8 -0.4**
ZAK pmax pmax
comp=Z,23nm,1.3s
BOD Bodaibo 71.74 339 *e*P **P 08 43 52.4 -1.3**
BOD pmax pmax
comp=Z,14nm,1.3s
SBA Scott Base 71.86 177 P **P 08 43 57.8 +3.6**
SBA pmax pmax
comp=Z,17nm,2.0s
TLY Talaya 72.17 330 *e*P **P 08 43 56.5 0.0**
comp=Z,11nm,1.0s
TLY Talaya 72.17 330*c* *e*P **P 08 43 56.2 -0.3**
ODAN Odare 72.72 300 *e*P **P 08 44 01.7 +1.1**
comp=Z,292nm,0.8s
RAMN Ramite 73.42 300 *e*P **P 08 44 05.5 +0.7**
comp=Z,71nm,0.7s
MOY Mondy 73.51 329 *e*P **P 08 44 04.7 +0.1**
MOY pmax pmax
comp=Z,15nm,1.6s
JIRN Jiri 73.97 301 *e*P **P 08 44 09.1 +1.0**
comp=Z,195nm,0.9s
BILL Bilibino 74.57 5 *e*P **P 08 44 09.8 -0.5**
comp=Z,18nm,0.9s
BILL Bilibino 74.57 5*c* *i*P **P 08 44 09.9 -0.4**
BILL *e* 08 47 03.1
BILL *e*S **S 08 53 42.2 +1.0**
BILL pmax pmax
comp=Z,27nm,1.3s
BILL MLR MLR
comp=Z,224nm,21.0s
PKI Pulchoki 74.61 301 *e*P **P 08 44 12.4 +0.6**
comp=Z,163nm,1.0s
PKIN Phulchoki 74.63 301 *e*P **P 08 44 12.4 +0.6**
comp=Z,124nm,1.0s
KKN Kakani 74.78 301 *e*P **P 08 44 13.4 +0.7**
comp=Z,146nm,0.7s
PALK Pallekele 74.83 279 *e*P **P 08 44 13.7 +0.7**
comp=Z,30nm,0.8s
PALK Pallekele 74.83 279 P **P 08 44 13.7 +0.7**
PALK pmax pmax
comp=Z,30nm,0.8s
DMN Daman 74.88 301 *e*P **P 08 44 14.3 +1.0**
comp=Z,358nm,0.9s
GKN Gorkha 75.39 301 *e*P **P 08 44 16.7 +0.6**
comp=Z,297nm,0.8s
KOLN Koldanda 76.21 300 *e*P **P 08 44 21.3 +0.4**
comp=Z,204nm,0.7s
DANN Dangsing 76.22 301 *e*P **P 08 44 21.2 +0.2**
comp=Z,238nm,0.7s
KDAK Kodiak Island 76.71 26 *e*P **P 08 44 21.8 -0.9**
comp=Z,107nm,1.5s
KDAK Kodiak Island 76.71 26 *i* P **P 08 44 22.9 +0.2**
KDAK Kodiak Island 76.71 26 P **P 08 44 22.4 -0.2**
comp=Z,26nm,0.8s,baz=263,slow=5.2,SNR=12
PYUN Piuthan 76.82 301 *e*P **P 08 44 24.4 +0.1**
comp=Z,347nm,0.9s
SVW2 Sparrevohn 77.49 22 *e*P **P 08 44 27.6 +0.5**
comp=Z,21nm,0.8s
WMQ Urumqi 77.94 317 *e*P **P 08 44 30.0 0.0**
WMQ pP sP 08 44 49.8 -1.0
WMQ pmax pmax
comp=Z,93nm,0.7s

WMQ pmax pmax
comp=Z,380nm,5.9s
WMQ LR LR
comp=Z,1µm,25.1s
WMQ LR LR
comp=Z,1µm,25.1s
WMQ LR LR
comp=Z,970nm,25.7s
RSO Redoubt South 78.21 24 *e*P **P 08 44 30.0 -1.3**
HYB Hyderabad 78.56 289 *i* P **P 08 44 34.5 +0.6**
comp=Z,50nm,0.8s
HYB *e*PcP **pP 08 44 46.0 -2.1**
HYB *e* 08 45 17.5
TIXI Tiksi 79.54 352 *e*P **P 08 44 36.5 -1.7**
comp=Z,14nm,1.4s
TIXI Tiksi 79.54 352⇑ *i*P **P 08 44 36.4 -1.7**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
DGZ Jazzator, Alta 80.24 323*c i*P **P 08 44 42.2 -0.4**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
PMR Palmer 80.30 24 *e*P **P 08 44 41.7 -0.7**
comp=Z,30nm,0.9s
MK31 Makanchi Array 82.51 319 *i* P **P 08 44 53.7 -0.8**
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MK32 Makanchi Array 82.51 319 *e*P **P 08 44 54.3 -0.2**
MKAR Makanchi Array 82.51 319 *e*P **P 08 44 54.0 -0.5**
MKAR Makanchi Array 82.51 319 *i* P **P 08 44 54.2 -0.3**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 82.51 319 P **P 08 44 54.3 -0.2**
comp=Z,7.1nm,0.8s,baz=106,slow=4.6,SNR=45
MKAR PKKPbc **PKKPbc 09 03 20.1 -2.2**
comp=Z,1.0nm,0.9s,baz=321,slow=3.1,SNR=4.1
TCOL CIGO, UAF Yank 82.56 21 P **P 08 44 52.9 -1.4**
baz=238
COLA College 82.56 21 *e*P **P 08 44 52.7 -1.5**
comp=Z,39nm,0.8s
COLA College 82.56 21*c i*P **P 08 44 53.0 -1.3**
COLA pmax pmax
comp=Z,37nm,0.8s
HDA Harding Lake 82.65 22 *e*P **P 08 44 53.5 -1.3**
comp=Z,11nm,0.8s
HDA Harding Lake 82.65 22 P **P 08 44 53.4 -1.3**
baz=239
MAKZ Makanchi 82.72 319 *e*P **P 08 44 55.4 -0.2**
comp=Z,33nm,1.1s
MAKZ Makanchi 82.72 319 *e*P **P 08 44 55.4 -0.2**
MAKZ pmax pmax
comp=Z,33nm,1.1s
POKR Poker Plat Res 82.84 21 P **P 08 44 55.3 -0.5**
baz=238
ILAR Eielson Array 82.86 22 P **P 08 44 54.2 -1.6**
comp=Z,14nm,0.8s,baz=252,slow=5.3,SNR=131
ILAR LR LR 09 18 12.6
comp=Z,439nm,21.1s,baz=230,slow=33
ILB Eielson Array 82.86 22 *e*P **P 08 44 54.2 -1.6**
ZALV Zalesovo Beam 83.28 326 *e*P **P 08 44 56.5 -1.8**
ZALV Zalesovo Beam 83.28 326 P **P 08 44 57.2 -1.0**
comp=Z,5.2nm,0.6s,baz=112,slow=5.2,SNR=16
ZALV pP **pP 08 45 11.1 -2.0**
comp=Z,13nm,0.7s,baz=114,slow=5.2,SNR=18
ZAA1 Zalesovo Array 83.28 326 *e*P **P 08 44 57.2 -1.0**
ZAA1 *e*pP **pP 08 45 11.1 -2.1**
PDGK Podgornoye 83.46 315 P **P 08 44 59.4 -0.2**
PDGK pmax pmax
comp=Z,20nm,0.9s
QSPA South Pole Qui 83.73 180 *e*P **P 08 45 00.7 +0.1**
comp=Z,84nm,1.3s
BCAR Beaver Creek A 84.01 24 *e*P **P 08 45 01.3 -0.6**
TOLK Toolik Lake Re 84.06 18 P **P 08 45 02.1 +0.1**
baz=236
NVS Novosibirsk 84.45 327 *i* P **P 08 45 03.1 -1.1**
MAW Mawson 84.90 203 *e*P **P 08 45 06.6 +0.4**
comp=Z,17nm,1.3s
MAW Mawson 84.90 203 P **P 08 45 06.7 +0.5**
baz=85,SNR=20
MAW Mawson 84.90 203 P **P 08 45 08.4 +2.2**
MAW pmax pmax
comp=Z,14nm,1.2s
MAW Mawson 84.90 203 P **P 08 45 07.0 +0.7**
comp=Z,13nm,0.7s,baz=98,slow=7.3,SNR=19
MAW LR LR 09 21 53.8
comp=Z,85nm,18.1s,baz=64,slow=35
KSH Kashi 85.15 310 P **P 08 45 10.3 +2.0**
KSH pP sP 08 45 31.3 +1.9
KSH S **S 08 55 33.4 -0.6**
KSH pmax pmax
comp=Z,440nm,3.5s
KSH LR LR
comp=Z,350nm,8.5s
KSH LR LR
comp=Z,310nm,5.6s
KURK Kurchatov 85.94 322 *e*P **P 08 45 10.2 -1.6**
comp=Z,21nm,0.9s
KURK Kurchatov 85.94 322*c i*P **P 08 45 10.5 -1.2**
KURK pmax pmax
comp=Z,18nm,1.3s
KURBB Kurchatov Arra 85.97 322 PKKPbc PKKPbc 09 03 12.4 -1.8
comp=Z,1.6nm,0.9s,baz=291,slow=3.2,SNR=11
WHY Whitehorse 86.08 28 *e*P **P 08 45 12.9 +0.6**
comp=Z,8.2nm,0.8s
TKM2 Tokmak 2 86.14 314 P **P 08 45 11.9 -1.3**
TKM2 pmax pmax
comp=Z,18nm,1.2s
NIL Nilore 86.18 304 *e*P **P 08 45 12.7 -0.7**
comp=Z,41nm,0.9s
NIL Nilore 86.18 304 *e*P **P 08 45 12.7 -0.7**
NIL pmax pmax
comp=Z,40nm,0.9s
AAK Ala-Archa 86.88 313 *e*P **P 08 45 15.9 -0.9**
comp=Z,22nm,1.3s
AAK Ala-Archa 86.88 313*c e*P **P 08 45 16.4 -0.4**
AAK pmax pmax
comp=Z,17nm,2.5s
BBB Bella Bella 87.22 37 P **P 08 45 17.9 -0.1**
comp=Z,6.6nm,0.9s,baz=233,slow=5.1,SNR=3.6
EPYK Eagle Plains 87.35 22 *e*P **P 08 45 18.2 -0.1**
comp=Z,61nm,0.8s
EPYK Eagle Plains 87.35 22 P **P 08 45 18.3 -0.1**
baz=248
DLBC Dease Lake 87.75 31 P **P 08 45 20.4 -0.1**
comp=Z,11nm,1.0s,baz=262,slow=4.4,SNR=15
NRIK Noril'sk 87.86 341 P **P 08 45 19.2 -1.5**
comp=Z,17nm,0.6s,baz=108,slow=4.4,SNR=28
NRIK LR LR 09 25 23.8
comp=Z,94nm,19.9s,baz=101,slow=36
J01E Myrtle Point 88.11 46 P **P 08 45 22.5 +0.1**
baz=260
L02E Cave Junction 88.17 47 P **P 08 45 22.7 -0.1**
baz=260,SNR=8.0
GDXM Geysers 88.22 51 *e*P **P 08 45 24.5 +1.3**
comp=Z,21nm,0.8s
K02D Willamette Mer 88.22 47 P **P 08 45 23.3 +0.2**
baz=260,SNR=11
I02D Swisshome 88.34 45 P **P 08 45 23.7 +0.2**
baz=260
O02D Mt. Diablo Mer 88.44 49 P **P 08 45 25.0 +0.8**
baz=261,SNR=16
M02C Callahan 88.59 48 P **P 08 45 25.2 +0.3**
baz=260,SNR=18
I03D Drain, OR 88.62 46 P **P 08 45 25.2 +0.4**
baz=260
N02D Trinity Center 88.64 49 P **P 08 45 25.6 +0.5**
baz=261,SNR=8.5
YBH Yreka Blue Hor 88.76 48 *e*P **P 08 45 26.2 +0.5**
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 88.76 48 *e*P **P 08 45 26.2 +0.5**
YBH pmax pmax
comp=Z,19nm,1.0s
YBH Yreka Blue Hor 88.76 48 P **P 08 45 25.8 +0.1**
comp=Z,16nm,1.0s,baz=220,slow=5.0,SNR=18
G03D McMinnville, O 88.94 44 P **P 08 45 26.6 +0.2**
baz=260
L04D Klamath Falls 89.13 48 P **P 08 45 27.4 -0.2**
baz=261,SNR=6.7
H04D Lebanon 89.19 45 P **P 08 45 27.2 -0.4**
baz=260,SNR=6.0
INK Inuvik 89.19 21 P **P 08 45 26.3 -0.7**
INK pmax pmax
comp=Z,14nm,1.1s
INK Inuvik 89.19 21 P **P 08 45 26.3 -0.7**
comp=Z,9.8nm,0.9s,baz=248,slow=3.1,SNR=38
O03E Paynes Creek 89.21 49 P **P 08 45 27.7 -0.1**
baz=261,SNR=20
I04A Tendick Farm, 89.31 46 P **P 08 45 27.9 -0.2**
baz=261
OTUK Ortayu 89.41 319 P **P 08 45 27.0 -1.5**
OTUK pmax pmax
comp=Z,7.0nm,1.4s
M04C Macdoel 89.41 48 P **P 08 45 28.6 -0.2**
baz=261,SNR=16
J04D Umpqua Nationa 89.44 47 P **P 08 45 28.7 -0.3**
baz=261,SNR=10
D03D Eldon 89.46 42 P **P 08 45 29.0 +0.3**
baz=260
K04D Chiloquin, OR 89.60 47 P **P 08 45 30.0 +0.3**
baz=261
D04E Lakebay 89.61 43 P **P 08 45 29.6 +0.2**
baz=260
AFDM Forest Hills D 89.64 51 *e*P **P 08 45 29.8 -0.1**
comp=Z,18nm,0.8s
E04D Cinebar 89.64 43 P **P 08 45 29.8 +0.2**
baz=261
KBL Kabul 89.76 305 *e*P **P 08 45 29.3 -1.4**
comp=Z,16nm,1.1s
KBL Kabul 89.76 305 P **P 08 45 30.6 -0.1**
KBL pmax pmax
comp=Z,16nm,1.1s
PAGB Antelope Grade 89.76 54 *e*P **P 08 45 31.9 +1.5**
comp=Z,29nm,0.7s
KK31 Karatay Array 89.84 313 *i* P **P 08 45 29.2 -1.4**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 89.84 313 *e*P **P 08 45 28.8 -1.8**
A04D Lummi Island 89.91 41 P **P 08 45 31.0 +0.3**
baz=260
SMMC Simmler 89.91 55 P **P 08 45 31.2 0.0**
baz=262
PKM Mcpherson Peak 90.00 55 P **P 08 45 31.7 -0.1**
baz=262,SNR=8.7
SBC Santa Barbara 90.03 56 P **P 08 45 31.5 -0.1**
baz=262
SNCC San Nicolas Is 90.03 57 P **P 08 45 32.0 +0.3**
baz=263
SCZ2 Santa Cruz Isl 90.03 56 P **P 08 45 31.6 -0.1**
baz=263
J05D Fort Rock, OR 90.07 47 P **P 08 45 32.2 +0.3**
baz=262,SNR=28
I05D Terrebonne, OR 90.15 46 P **P 08 45 32.1 0.0**
baz=262,SNR=7.1
B05A Bryant 90.23 42 P **P 08 45 32.2 0.0**
baz=261
F05D White Salmon 90.30 44 P **P 08 45 32.9 +0.2**
baz=261
G05D Wamic, OR 90.30 45 P **P 08 45 32.8 +0.1**
baz=262
PINE Pine Mountain 90.36 46 *e*P **P 08 45 33.2 -0.1**
comp=Z,21nm,0.8s
BLG Laguna Peak, P 90.52 56 P **P 08 45 34.3 +0.3**
baz=263
VES Vestal, Richgr 90.72 54 P **P 08 45 35.2 +0.3**
baz=263,SNR=6.4
SCI2 San Clemente I 90.81 57 P **P 08 45 36.4 +1.0**
baz=263,SNR=5.5
ARVC Arvin 90.84 55 P **P 08 45 36.6 +1.2**
baz=263,SNR=6.4
OSI Osito Audit: C 90.86 55 P **P 08 45 36.6 +1.0**
baz=263
CIS Catalina Islan 90.97 57 P **P 08 45 37.0 +0.9**
baz=263,SNR=12
FMP Fort Macarthur 91.11 56 P **P 08 45 38.0 +1.3**
baz=263
MLAC Mammoth, Mammo 91.13 52 P **P 08 45 38.1 +1.0**
baz=263
DECC Green Verdugo 91.14 56 P **P 08 45 37.9 +1.0**
baz=263,SNR=5.9
ISA Isabella, Lake 91.19 54 *e*P **P 08 45 37.5 +0.4**
comp=Z,20nm,1.3s
ISA Isabella, Lake 91.19 54 P **P 08 45 37.3 +0.2**
baz=263,SNR=5.5
BRVK Borovoye 91.47 323 *e*P **P 08 45 35.8 -2.1**
comp=Z,16nm,1.1s
BRVK Borovoye 91.47 323*c i*P **P 08 45 35.5 -2.4**
BRVK pmax pmax
comp=Z,12nm,1.3s
EDW2 Edwards Air Fo 91.49 55 P **P 08 45 39.3 +0.7**
baz=264,SNR=18
TIN Tinemaha, Big 91.55 53 P **P 08 45 40.1 +1.3**
baz=263
CWC Cottonwood Cre 91.60 54 P **P 08 45 40.1 +0.9**
baz=264
NV01 Mina Array Sit 91.65 52 *e*P **P 08 45 40.3 +0.9**
NVAR Mina Array Bea 91.65 52 P **P 08 45 40.3 +0.9**
comp=Z,58nm,0.9s,baz=255,slow=6.4,SNR=239
NVAR PKKPbc **PKKPbc 09 03 01.1 +1.2**
comp=Z,0.5nm,0.7s,baz=84,slow=4.6,SNR=4.3
NVAR PKPPKP **P'P'df 09 11 06.6 -2.5**
comp=Z,0.8nm,1.0s,baz=102,slow=6.2,SNR=3.7
NVAR LR LR 09 21 44.4
comp=Z,370nm,18.9s,baz=20,slow=32
BFSC Mount Baldy Ra 91.69 56 P **P 08 45 40.7 +1.1**
baz=264,SNR=24
LRMC Laurel Mtn Rad 91.81 55 P **P 08 45 41.1 +1.0**
baz=264
WVOR Wild Horse Val 91.86 48 P **P 08 45 40.4 +0.2**
WVOR pmax pmax
comp=Z,31nm,1.0s
KVN Kaiserville 91.88 51 *e*P **P 08 45 40.7 +0.3**
comp=Z,40nm,1.0s
109C Camp Elliot, M 92.01 57 P **P 08 45 42.2 +1.3**
baz=264,SNR=15
MURC Murrieta 92.01 57 P **P 08 45 41.9 +0.9**
baz=264,SNR=9.3
MPMC Manual Prospec 92.03 54 P **P 08 45 42.2 +1.0**
baz=264,SNR=30
GRAC Grapevine Rang 92.23 53 P **P 08 45 42.9 +0.9**
baz=264
BBRC Big Bear Solar 92.30 56 P **P 08 45 43.4 +0.8**
baz=264
RRX Edison Barstow 92.30 55 P **P 08 45 42.8 +0.5**
baz=264
GSC Goldstone, Bar 92.50 55 P **P 08 45 44.2 +0.9**
baz=264,SNR=12
FURC Furnace Creek, 92.57 54 P **P 08 45 44.5 +1.1**
baz=264,SNR=30
MONP2 Monument Peak 92.58 57 P **P 08 45 45.3 +1.5**
baz=264,SNR=31
PFO Pinyon Flats O 92.62 57 *e*P **P 08 45 44.9 +1.0**
comp=Z,53nm,0.8s
PFO Pinyon Flats O 92.62 57 P **P 08 45 45.2 +1.3**
PFO pmax pmax
comp=Z,73nm,1.0s
PFO Pinyon Flats O 92.62 57 P **P 08 45 45.4 +1.5**
baz=264,SNR=35
IKP In-Ko-Pah, Jac 92.82 58 P **P 08 45 46.1 +1.3**
baz=264,SNR=13
HEC Hector,Ludlow 92.84 55 P **P 08 45 45.7 +0.9**
baz=264
SYO Syowa Base 92.87 199‖ *e*P **P 08 45 42.0 -2.1**
SYO Syowa Base 92.87 199‖ *i*PcP **P 08 45 44.0 -0.1**
SYO Syowa Base 92.87 199‖ *e*pP pP 08 46 03.0 +4.3
SHOC Shoshone, Teco 92.99 54 P **P 08 45 46.3 +0.9**
baz=264,SNR=8.2
BELC Belle Mtn. Jos 93.04 56 P **P 08 45 46.9 +1.0**
baz=265,SNR=87
SWSC Sam W. Stewart 93.10 57 P **P 08 45 47.2 +1.2**
baz=265,SNR=10
TPNV Topopah Spring 93.11 53 P **P 08 45 46.7 +0.6**
baz=265,SNR=45
TUQ Turquoise Moun 93.23 55 P **P 08 45 47.6 +0.9**
baz=265
GMRC Granite Mounta 93.39 56 P **P 08 45 48.7 +1.3**
baz=265
BC3 Big Chuckawall 93.46 57 P **P 08 45 49.0 +1.3**
baz=265,SNR=45
NEW Newport 93.53 42 P **P 08 45 47.5 -0.2**
NEW pmax pmax
comp=Z,24nm,1.0s
NEW Newport 93.53 42 P **P 08 45 46.9 -0.7**
baz=265,SNR=9.4
NEW Newport 93.53 42 P **P 08 45 47.3 -0.3**
comp=Z,16nm,0.9s,baz=237,slow=4.3,SNR=17
IRM Iron Mountain 93.76 56 P **P 08 45 50.5 +1.5**
baz=265,SNR=25
R11A Troy Canyon, C 93.76 52 P **P 08 45 49.8 +0.6**
baz=265
GLA Glamis 93.93 57 P **P 08 45 51.3 +1.4**
baz=265,SNR=13
ELK Elko 94.23 50 P **P 08 45 51.4 +0.1**
comp=Z,9.9nm,0.9s,baz=256,slow=4.5,SNR=12
Y12C Blythe 94.24 57 P **P 08 45 52.5 +1.3**
baz=265,SNR=15
NEE2 Needles Airpor 94.24 56 P **P 08 45 52.4 +1.2**
baz=265,SNR=10
PDMCI Parker Dam,Lak 94.60 56 P **P 08 45 53.6 +0.8**
baz=266
113A Mohawk Valley, 94.79 58 *e*P **P 08 45 55.3 +1.6**
comp=Z,25nm,1.4s
HLID Hailey 95.04 47 P **P 08 45 54.8 -0.1**
baz=266
214A Organ Pipe Nat 95.54 59 P **P 08 45 58.5 +1.2**
baz=266
MSO Missoula 95.58 44 P **P 08 45 58.0 +0.8**
baz=267
YKW3 Yellowknife Ar 95.90 28 *e*P **P 08 45 57.1 -1.0**
YKA Yellowknife Ar 95.91 28 *e*P **P 08 45 57.2 -0.9**
YKA Yellowknife Ar 95.91 28 P **P 08 45 57.6 -0.5**
comp=Z,4.7nm,0.8s,baz=268,slow=4.6,SNR=63
YKA PKiKP **PKiKP 08 50 36.7 -0.2**
comp=Z,0.2nm,0.6s,baz=286,slow=1.8,SNR=3.9
YKA PKKPbc **PKKPbc 09 02 46.0 -3.3**
comp=Z,0.7nm,0.7s,baz=83,slow=3.1,SNR=11
YKA LR LR 09 26 23.4
comp=Z,13nm,19.6s,baz=296,slow=34
YKB5 Yellowknife Ar 95.91 28 *e*P **P 08 45 57.6 -0.5**
DUG Dugway, Tooele 96.04 50 P **P 08 46 01.1 +1.6**
DUG pmax pmax
comp=Z,10.0nm,1.0s
DUG Dugway, Tooele 96.04 50 P **P 08 45 59.7 +0.2**
baz=267
MCMT McKenzie Canyo 96.24 46 *e*P **P 08 45 59.8 -0.6**
PKCU Pink Cliffs 96.28 53 *e*P **P 08 46 02.6 +1.7**
comp=Z,31nm,1.1s
DLMT Dillon 96.44 45 *e*P **P 08 45 60.0 -1.2**
comp=Z,9.2nm,0.9s
MSU Marysvale 96.44 52 *e*P **P 08 46 02.2 +0.8**
LRM Limekiln Ridge 96.56 45 *e*P **P 08 46 00.8 -1.0**
NLU North Lily Min 96.59 51 *e*P **P 08 46 00.6 -1.5**
comp=Z,8.8nm,0.9s
X16A Lo Mia Camp, P 96.83 56 *e*P **P 08 46 04.3 +1.1**
comp=Z,4.9nm,0.9s
CTU Camp Tracy 96.87 50 *e*P **P 08 46 02.9 -0.4**
comp=Z,4.9nm,0.7s
WUAZ Wupatki 96.94 55 P **P 08 46 03.5 -0.2**
baz=267
HRY Holter Researc 97.02 44 *e*P **P 08 46 03.4 -0.4**
HWUT Hardware Ranch 97.05 49 *e*P **P 08 46 03.6 -0.4**
comp=Z,5.8nm,0.8s
JLU Jordanelle 97.10 50 *e*P **P 08 46 04.2 -0.2**
comp=Z,6.3nm,0.9s
BOZ Bozeman (W) 97.13 45 *e*P **P 08 46 03.1 -1.2**
comp=Z,7.2nm,0.8s
BOZ Bozeman (W) 97.13 45 P **P 08 46 04.0 -0.3**
baz=268,SNR=22
TCUT Toone Canyon 97.15 49 *e*P Pdif 08 46 04.7 0.0
comp=Z,9.3nm,0.8s
Q16A Castle Valley 97.25 52 *e*P Pdif 08 46 05.7 +0.6
comp=Z,6.9nm,0.8s
TUC Tucson 97.28 58 *e*P Pdif 08 46 05.6 +0.3
comp=Z,3.7nm,0.8s
TUC Tucson 97.28 58 P Pdif 08 46 08.5 +3.2
TUC pmax pmax
comp=Z,5.0nm,1.0s
TUC Tucson 97.28 58 P Pdif 08 46 05.9 +0.6
baz=267
YHB Horse Butte 97.41 46 *e*P **P 08 46 05.4 -0.3**
comp=Z,8.7nm,0.8s
P17A Butcher Ranch, 97.60 51 *e*P Pdif 08 46 06.8 +0.1
comp=Z,11nm,0.9s
AB31 Akbulak array 97.66 319 *i* P **P 08 46 03.8 -2.6**
AB31 pmax pmax
comp=Z,2.0nm,0.8s
H17A Grant Village 97.85 46 P Pdif 08 46 07.7 0.0
baz=269,SNR=8.5
W18A Petrified Fore 98.27 56 P Pdif 08 46 10.8 +1.1
baz=268
ARU Arti 98.45 326 P **P 08 46 07.6 -2.1**
ARU 08 50 08.8
ARU S **SKSac 08 56 39.0 -3.7**
ARU SS **SS 09 04 14.9 -4.1**
EGMT Eagleton 98.45 42 P **P 08 46 09.6 -0.5**
baz=270
BW06 Boulder Array 98.56 48 P **P 08 46 10.3 -0.6**
baz=270,SNR=8.0
PDAR Pinedale Array 98.56 48 P **P 08 46 10.2 -0.7**
comp=Z,6.7nm,0.6s,baz=243,slow=2.3,SNR=52
PDAR LR LR 09 24 19.5
comp=Z,201nm,21.7s,baz=322,slow=32
RLMT Red Lodge 98.79 45 P Pdif 08 46 11.9 0.0
baz=270,SNR=8.6
PV10 Paradox Valley 98.90 52 *e*P Pdif 08 46 12.9 +0.3
comp=Z,16nm,0.8s
PV18 Skein Mesa, Pa 99.00 52 *e*P Pdif 08 46 13.3 +0.4
comp=Z,7.3nm,0.8s
PV11 David Mesa, Pa 99.03 52 *e*P **Pdif 08 46 12.9 -0.2**
comp=Z,10nm,0.8s
PV12 Saucer Basin, 99.09 52 *e*P **Pdif 08 46 13.7 +0.4**
comp=Z,15nm,0.8s
MVCO Mesa Verde 99.31 53 *e*P **Pdif 08 46 16.1 +1.7**
comp=Z,7.6nm,0.7s
MVCO Mesa Verde 99.31 53 P **Pdif 08 46 15.1 +0.7**
baz=269,SNR=8.1
O20A White River Ci 99.54 50 *e*Pdif **Pdif 08 46 15.3 0.0**
comp=Z,9.9nm,0.9s
O20A White River Ci 99.54 50 P **Pdif 08 46 15.2 0.0**
baz=270,SNR=5.8
121A Cookes Peak, D 99.82 58 P **Pdif 08 46 17.4 +0.7**
baz=269
RWWY Rawlins 100.31 49 *e*Pdif **Pdif 08 46 18.6 -0.2**
SMCO Snowmass 100.52 51 *e*Pdif **Pdif 08 46 20.8 +0.9**
S22A 4UR Ranch, Cre 100.64 53 *e*Pdif **Pdif 08 46 20.9 +0.6**
S22A 4UR Ranch, Cre 100.64 53 P **Pdif 08 46 20.3 -0.1**
baz=270,SNR=8.2
K22A Casper 100.80 48 *e*Pdif **Pdif 08 46 19.7 -1.1**
K22A Casper 100.80 48 P **Pdif 08 46 20.3 -0.5**
baz=272,SNR=7.8
SNAA Sanae 100.83 187 P **Pdif 08 46 18.6 -1.6**
LAO LASA Array 100.88 44 *e*Pdif **Pdif 08 46 20.8 -0.2**
LAO LASA Array 100.88 44 P **Pdif 08 46 20.9 0.0**
baz=272
TASM ASL Pad, Albuq 100.95 56 P **Pdif 08 46 22.3 +0.6**
baz=270,SNR=6.9
TASM ASL Pad, Albuq 100.95 56 P **Pdif 08 46 22.2 +0.6**
baz=270,SNR=6.6
ANMO Albuquerque 100.95 56 *e*Pdif **Pdif 08 46 23.4 +1.7**
ANMO Albuquerque 100.95 56‖ *i*P **Pdif 08 46 23.4 +1.7**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 100.95 56 P **Pdif 08 46 22.3 +0.6**
baz=270
N23A Red Feather La 101.28 50 P **Pdif 08 46 23.4 +0.3**
baz=272,SNR=8.5
RES Resolute Bay 101.37 15 P **Pdif 08 46 21.8 -0.6**
comp=Z,1.6nm,0.8s,baz=324,slow=4.3,SNR=6.3
ISCO Idaho Springs 101.56 51 P **Pdif 08 46 26.1 +1.7**
ISCO pmax pmax
comp=Z,5.0nm,2.4s
ISCO Idaho Springs 101.56 51 P **Pdif 08 46 24.9 +0.5**
baz=272
SDCO Great Sand Dun 101.70 53 *e*Pdif **Pdif 08 46 26.1 +1.0**
SDCO Great Sand Dun 101.70 53 P **Pdif 08 46 25.9 +0.9**
baz=271
MNTX Cornudas Mount 101.85 59 P **Pdif 08 46 26.7 +1.1**
baz=270
VNA3 Neumayer Olymp 101.96 185 P **Pdif 08 46 24.1 -1.0**
VNA2 Neumayer--Watz 102.05 186 P **Pdif 08 46 25.7 +0.1**
DGMT Dagmar 102.14 42 P **Pdif 08 46 26.4 -0.1**
baz=274
VNA1 Neumayer--Stat 102.40 186 P **Pdif 08 46 27.3 +0.2**
RSSD Black Hills 102.55 46 *e*Pdif **Pdif 08 46 28.2 -0.4**
RSSD Black Hills 102.55 46 P **Pdif 08 46 28.4 -0.2**
RSSD pmax pmax
comp=Z,11nm,0.6s
RSSD Black Hills 102.55 46 P **Pdif 08 46 28.4 -0.2**
baz=274
T25A Trinidad 102.58 53 P **Pdif 08 46 29.8 +0.9**
baz=272
TXAR Lajitas Array 103.34 61 Pdiff **Pdif 08 46 32.5 +0.3**
comp=Z,0.6nm,0.7s,baz=254,slow=5.1,SNR=7.2
TXAR PP **PP 08 50 47.7 -0.8**
comp=Z,1.2nm,1.0s,baz=258,slow=6.3,SNR=4.7
TXAR PKKPbc **PKKPbc 09 02 28.4 +1.2**
comp=Z,0.5nm,0.7s,baz=102,slow=3.7,SNR=8.1
KSCO Kaye Shedlock' 103.91 51 P **Pdif 08 46 35.0 +0.4**
baz=273
MSTX Muleshoe 104.01 57 P **Pdif 08 46 36.2 +1.0**
baz=272
U40A Yellville 111.89 53 P **PKiKP 08 51 05.9 -1.0**
baz=279
E40A Wakefield 112.03 42 P **PKiKP 08 51 05.6 -1.3**

	baz=285							
W41B	Gary Mavity, V	112.55	55	P	PKiKP	08 51 07.3	-1.0	
	baz=279							
U41A	Viola	112.64	53	P	PKiKP	08 51 07.2	-1.2	
	baz=279							
R41A	Rosebud	112.73	51	P	PKiKP	08 51 07.5	-1.0	
	baz=280							
FRB	Frobisher Bay	114.83	20	PKP	PKiKP	08 51 09.8	-1.9	
	comp=Z,5.0nm,1.1s,baz=275,slow=5.5,SNR=5.2							
Q45A	Warren Harvey,	115.08	50	P	PKiKP	08 51 11.9	-1.1	
	baz=283							
R45A	Skylar, Fairfi	115.12	51	P	PKiKP	08 51 12.1	-1.0	
	baz=283							
T46A	Princeton	115.69	52	P	PKPdf	08 51 12.6	-1.6	
	baz=282							
E46A	Sault Ste Mari	115.75	41	P	PKiKP	08 51 12.9	-1.1	
	baz=289							
V46A	Holladay	115.76	53	P	PKPdf	08 51 13.0	-1.4	
	baz=282							
WVT	Waverly	115.92	53	P	PKPdf	08 51 13.1	-1.6	
	baz=282							
X47A	Russelville	116.22	55	P	PKPdf	08 51 13.8	-1.5	
	baz=281							
V47A	Nunnelly	116.23	53	P	PKPdf	08 51 13.8	-1.5	
	baz=282							
O47A	Sheridan	116.25	48	P	PKPdf	08 51 14.4	-0.8	
	baz=285							
U47A	Clarksville	116.29	52	P	PKPdf	08 51 14.1	-1.2	
	baz=282							
W47A	Westpoint	116.29	54	P	PKPdf	08 51 13.9	-1.6	
	baz=282							
D47A	Chapleau	116.30	40	P	PKPdf	08 51 14.0	-1.2	
	baz=291							
T47A	Sharon Grove	116.31	52	P	PKPdf	08 51 14.3	-1.1	
	baz=283							
N47A	Urbana	116.43	47	P	PKPdf	08 51 14.5	-1.0	
	baz=286							
G47A	Hillman	116.44	42	P	PKPdf	08 51 14.6	-0.8	
	baz=289							
R47A	Wooly Knot Far	116.46	50	P	PKPdf	08 51 14.5	-1.2	
	baz=284							
L47A	Sherwood	116.49	46	P	PKPdf	08 51 14.3	-1.3	
	baz=287							
AKASG	Malin Array Be	116.64	324	ePKPdf	PKPdf	08 51 13.6	-2.0	
AKASG	Malin Array Be	116.64	324	i PKIKP	PKiKP	08 51 16.1	+0.5	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	Malin Array Be	116.64	324	PKP	PKPdf	08 51 14.3	-1.3	
	comp=Z,0.5nm,0.4s,baz=59,slow=3.3,SNR=4.9							
AKASG				PKKPbc	PKKPbc	09 01 42.2	-2.5	
	comp=Z,1.2nm,0.5s,baz=267,slow=3.6,SNR=9.5							
KIEV	Kiev	116.65	324	∥ i PKIKP	PKPdf	08 51 15.5	-0.1	
WCI	Wyandotte Cave	116.66	50	ePKPdf	PKPdf	08 51 14.9	-1.1	
WCI	Wyandotte Cave	116.66	50	P	PKPdf	08 51 15.0	-1.1	
	baz=284							
V48A	Smith Brothers	116.81	53	P	PKPdf	08 51 15.2	-1.2	
	baz=282							
T48A	Bowling Green	116.84	52	P	PKPdf	08 51 15.5	-0.9	
	baz=283							
W48A	Pulaski	116.84	54	P	PKPdf	08 51 15.1	-1.4	
	baz=282							
U48A	Cassie Pea, Po	116.86	52	P	PKPdf	08 51 15.2	-1.3	
	baz=283							
KMBO	Kilima Mbogo	116.93	266	PKP	PKiKP	08 51 17.6	+0.1	
	comp=Z,1.7nm,0.5s,baz=61,slow=5.6,SNR=5.1							
S48A	Wiedeman Farm,	116.97	51	P	PKPdf	08 51 15.4	-1.3	
	baz=284							
O48A	Farmland	117.00	48	P	PKPdf	08 51 15.4	-1.3	
	baz=286							
L48A	N Adams	117.05	46	P	PKPdf	08 51 15.6	-1.1	
	baz=287							
D48A	Paudash Townsh	117.08	40	P	PKPdf	08 51 15.6	-1.0	
	baz=292							
E48A	Lockeyer	117.11	40	P	PKPdf	08 51 15.8	-0.8	
	baz=291							
LRAL	Lakeview Retre	117.20	56	P	PKPdf	08 51 15.8	-1.4	
	baz=281							
249A	Camden	117.29	57	P	PKPdf	08 51 16.1	-1.4	
	baz=280							
D49A	Beulah Townshi	117.33	39	P	PKPdf	08 51 15.9	-1.2	
	baz=292							
W49A	Belvidere	117.38	54	P	PKPdf	08 51 16.0	-1.6	
	baz=282							
149A	Jones	117.46	57	P	PKPdf	08 51 16.7	-1.0	
	baz=281							
U49A	Red Boiling Sp	117.46	52	P	PKPdf	08 51 16.6	-1.0	
	baz=283							
X49A	Woodville	117.46	54	P	PKPdf	08 51 16.3	-1.4	
	baz=282							
T49A	Edmonton	117.51	51	P	PKPdf	08 51 16.3	-1.4	
	baz=284							
BR101	Keskin Array S	117.51	312	ePKPdf	PKPdf	08 51 15.8	-2.0	
BR101				ePP	PP	08 52 30.0	-0.3	
BRTR	Keskin Array B	117.51	312	PKP	PKPdf	08 51 15.8	-2.0	
	comp=Z,0.9nm,0.6s,baz=123,slow=4.6,SNR=4.7							
BRTR				PP	PP	08 52 30.0	-0.3	
	comp=Z,1.3nm,0.9s,baz=100,slow=5.1,SNR=4.8							
BRTR				PKKPbc	PKKPbc	09 01 41.5	0.0	
	comp=Z,0.8nm,0.6s,baz=247,slow=3.8,SNR=5.0							
N49A	Columbus Grove	117.52	47	P	PKPdf	08 51 16.7	-1.0	
	baz=287							
V49A	McMinnville	117.53	53	P	PKPdf	08 51 16.6	-1.2	
	baz=283							
Z49A	Columbiana	117.56	56	P	PKPdf	08 51 16.9	-1.0	
	baz=281							
PLCA	Paso Flores	117.62	143	PKP	PKPdf	08 51 16.1	-1.9	
	comp=Z,2.9nm,0.6s,baz=281,slow=2.0,SNR=16							
PLCA				PP	PP	08 52 29.8	-0.6	
	comp=Z,3.0nm,1.0s,baz=5.5,slow=10,SNR=3.4							
450A	Crestview	117.95	58	P	PKPdf	08 51 17.7	-1.0	
	baz=280							
TOBO	Tobermory, Bru	117.97	42	P	PKPdf	08 51 17.2	-1.1	
	baz=291							
X50B	Fort Payne	118.02	54	P	PKPdf	08 51 17.7	-1.2	
	baz=282							
E50A	Wahnapitae	118.04	40	P	PKPdf	08 51 17.8	-0.6	
	baz=292							
Z50A	Ashland	118.05	56	P	PKPdf	08 51 17.8	-1.1	
	baz=282							
350A	Dozier	118.05	58	P	PKPdf	08 51 17.8	-1.1	
	baz=280							
K50A	Casco	118.06	44	P	PKPdf	08 51 17.8	-0.8	
	baz=289							
T50A	Nancy	118.07	51	P	PKPdf	08 51 17.8	-1.0	
	baz=284							
150A	Eclectic	118.09	56	P	PKPdf	08 51 18.1	-0.9	
	baz=281							
W50A	Signal Mountai	118.13	53	ePKPdf	PKPdf	08 51 17.3	-1.7	
W50A	Signal Mountai	118.13	53	P	PKPdf	08 51 18.1	-0.9	
	baz=283							
R50A	Paris	118.14	50	P	PKPdf	08 51 17.9	-1.0	
	baz=285							
P50A	Jamestown	118.18	48	P	PKPdf	08 51 17.9	-1.1	
	baz=286							
V50A	Pikevile	118.19	53	P	PKPdf	08 51 17.9	-1.2	
	baz=284							
M50A	Fremont	118.20	46	P	PKPdf	08 51 17.8	-1.2	
	baz=288							
U50A	Jamestown	118.22	52	P	PKPdf	08 51 18.1	-1.1	
	baz=284							
S50A	Richmond	118.24	50	P	PKPdf	08 51 18.1	-1.1	
	baz=285							
BMRO	Meriville Lake	118.40	42	P	PKPdf	08 51 18.4	-0.8	
	baz=291							
MATQ	Matagami	118.55	36	P	PKPdf	08 51 18.6	-0.7	
	baz=297							
W51A	Cleveland	118.58	53	P	PKPdf	08 51 18.7	-1.1	
	baz=283							
Y51A	Rockmart	118.61	55	P	PKPdf	08 51 18.7	-1.3	
	baz=283							
X51A	Calhoun	118.63	54	P	PKPdf	08 51 19.0	-0.9	
	baz=283							
Z51A	Franklin	118.65	55	P	PKPdf	08 51 19.1	-1.0	
	baz=282							
Q51A	Peebles	118.68	49	P	PKPdf	08 51 19.0	-1.0	
	baz=286							
151A	Opelika	118.68	56	P	PKPdf	08 51 19.3	-0.8	
	baz=282							
351A	Pinckard	118.69	58	P	PKPdf	08 51 19.5	-0.6	
	baz=281							
251A	Midway	118.70	57	P	PKPdf	08 51 19.2	-0.9	
	baz=281							
F51A	Arnstein	118.76	40	P	PKPdf	08 51 18.7	-1.1	
	baz=293							
P51A	Williamsport	118.76	48	P	PKPdf	08 51 18.9	-1.2	
	baz=287							
T51A	Gray	118.78	51	P	PKPdf	08 51 19.3	-0.9	
	baz=285							
KLBO	Killbear Provi	118.79	41	P	PKPdf	08 51 19.0	-0.9	
	baz=292							
E51A	G1948 Merrick	118.79	40	P	PKPdf	08 51 19.2	-0.7	
	baz=294							
NB2	NORSAR Subarra	118.83	341	PKPdf	PKPdf	08 51 18.4	-1.2	
	comp=Z,3.4nm,1.1s,baz=44,slow=1.9							
NB200	NORSAR Array S	118.83	341	ePKPdf	PKPpre	08 51 16.4		
NB200				ePKKPbc	PKKPab	09 01 38.0	+0.4	
NOA	NORSAR Array B	118.83	341	PKhKP	PKPpre	08 51 16.4		
	comp=Z,1.1nm,0.8s,baz=46,slow=1.9,SNR=3.6							
NOA				PKKPbc	PKKPab	09 01 38.0	+0.4	
	comp=Z,0.7nm,0.8s,baz=308,slow=0.8,SNR=3.8							
S51A	Beattyville	118.87	50	ePKPdf	PKPdf	08 51 19.1	-1.3	
S51A	Beattyville	118.87	50	P	PKPdf	08 51 19.5	-0.9	
	baz=286							
452A	Marianna	119.13	58	P	PKPdf	08 51 20.4	-0.6	
	baz=281							
152A	Waverly Hall	119.16	56	P	PKPdf	08 51 20.1	-0.9	
	baz=282							
552A	Lynn Haven	119.16	59	P	PKPdf	08 51 19.8	-1.3	
	baz=280							
TZTN	Tazewell	119.19	52	P	PKPdf	08 51 19.9	-1.1	
	baz=285							
LSQQ	Lebel-sur-Quev	119.25	36	P	PKPdf	08 51 19.8	-0.9	
	baz=297							
W52A	Murphy	119.25	53	P	PKPdf	08 51 20.3	-0.8	
	baz=284							
252A	Lumpkin	119.28	57	P	PKPdf	08 51 20.6	-0.7	
	baz=282							
D52A	ZEK Kipawa Sen	119.29	39	P	PKPdf	08 51 20.3	-0.6	
	baz=295							
Z52A	Williamson	119.29	55	P	PKPdf	08 51 20.2	-1.1	
	baz=283							
V52A	Sevierville	119.33	52	P	PKPdf	08 51 20.6	-0.7	
	baz=285							
X52A	Dahlonega	119.40	54	P	PKPdf	08 51 20.7	-0.8	
	baz=284							
P52A	Corning	119.40	48	P	PKPdf	08 51 20.3	-1.0	
	baz=288							
Y52A	Lilburn	119.43	55	P	PKPdf	08 51 20.6	-0.9	
	baz=283							
Q52A	Bidwell	119.50	49	P	PKPdf	08 51 20.7	-0.8	
	baz=287							
253A	Americus	119.77	57	P	PKPdf	08 51 21.6	-0.7	
	baz=282							
Y53A	Monroe	119.82	55	P	PKPdf	08 51 21.4	-0.9	
	baz=284							
W53A	Cullowhee	119.84	53	P	PKPdf	08 51 21.6	-0.8	
	baz=285							
O53A	New Philadelph	119.88	47	P	PKPdf	08 51 21.2	-1.0	
	baz=289							
X53A	Estanollee	119.90	54	P	PKPdf	08 51 21.2	-1.2	
	baz=284							
G53A	Haliburton	119.91	41	P	PKPdf	08 51 21.3	-0.8	
	baz=294							
R53A	Hurricane	119.92	49	P	PKPdf	08 51 21.5	-0.9	
	baz=287							
ALGO	Algonquin Park	119.94	40	P	PKPdf	08 51 21.2	-0.9	
	baz=294							
Z53A	Monticello	119.97	55	P	PKPdf	08 51 21.7	-0.8	
	baz=283							
N53A	Lisbon	119.97	46	P	PKPdf	08 51 21.5	-0.8	
	baz=289							
S53A	Williamson	119.98	50	P	PKPdf	08 51 21.8	-0.7	
	baz=287							
P53A	Whipple	119.99	48	P	PKPdf	08 51 21.6	-0.8	
	baz=288							
V53A	Saluda	120.00	52	P	PKPdf	08 51 22.0	-0.6	
	baz=285							
U53A	Fall Branch	120.00	51	P	PKPdf	08 51 22.0	-0.6	
	baz=286							
BOSA	Boshof	120.10	232	ePKPdf	PKPdf	08 51 22.9	-0.2	
BOSA	Boshof	120.10	232	PKP	PKiKP	08 51 23.4	+0.1	
	comp=Z,14nm,0.7s,baz=131,slow=2.1,SNR=25							
D54A	Lac Fusel, La	120.30	38	P	PKPdf	08 51 21.8	-1.0	
	baz=296							
CHGQ	Chibougamau	120.34	34	P	PKPdf	08 51 21.6	-1.2	
	baz=300							
BURAR	Bucovina Array	120.35	323	ePKPdf	PKiKP	08 51 23.7	+0.6	
BANO	Bancroft	120.41	41	P	PKPdf	08 51 22.2	-0.9	
	baz=294							
454A	Quitman	120.47	58	P	PKPdf	08 51 22.6	-1.0	
	baz=282							
254A	Abbeville	120.49	57	P	PKPdf	08 51 22.5	-1.1	
	baz=283							
O54A	Avella	120.51	47	P	PKPdf	08 51 22.6	-0.8	
	baz=289							
N54A	Moraine State	120.52	46	P	PKPdf	08 51 22.6	-0.8	
	baz=290							
WLVO	Wesleyville	120.53	42	P	PKPdf	08 51 22.3	-1.0	
	baz=293							
Y54A	Tignall	120.55	54	P	PKPdf	08 51 23.1	-0.6	
	baz=284							
Q54A	Coxs Mills	120.56	48	P	PKPdf	08 51 23.0	-0.5	
	baz=288							
M54A	Oil Creek Stat	120.56	45	P	PKPdf	08 51 22.6	-0.9	
	baz=291							
X54A	Belton	120.63	53	P	PKPdf	08 51 23.0	-0.8	
	baz=285							
W54A	Cherokee Point	120.64	53	P	PKPdf	08 51 23.0	-0.8	
	baz=285							
V54A	Nebo	120.64	52	P	PKPdf	08 51 23.0	-0.8	
	baz=286							
R54A	Victor	120.69	49	P	PKPdf	08 51 22.9	-0.9	
	baz=288							
PLVO	Plevna	120.95	40	P	PKPdf	08 51 23.1	-1.0	
	baz=295							
155A	Kite	121.02	56	P	PKPdf	08 51 24.1	-0.5	
	baz=284							
Q55A	Buckhannon	121.11	48	P	PKPdf	08 51 23.8	-0.9	
	baz=289							
P55A	Reedesville	121.13	47	P	PKPdf	08 51 23.8	-0.9	
	baz=290							
U55A	TA2, Sparta	121.14	51	P	PKPdf	08 51 24.0	-0.8	
	baz=287							
T55A	Pulaski	121.17	50	P	PKPdf	08 51 24.0	-0.8	
	baz=287							
L55A	Hinsdale	121.17	44	P	PKPdf	08 51 23.9	-0.8	
	baz=292							
Y55A	Saluda	121.20	54	P	PKPdf	08 51 24.4	-0.5	
	baz=285							
V55A	Taylorsville	121.20	52	P	PKPdf	08 51 24.1	-0.8	
	baz=286							
M55A	Ridgway	121.21	45	P	PKPdf	08 51 23.8	-1.0	
	baz=291							
X55A	Gracelyn & Ava	121.24	53	P	PKPdf	08 51 24.4	-0.6	
	baz=285							
O55A	Ligonier	121.27	46	P	PKPdf	08 51 24.2	-0.8	
	baz=290							
KMSC	Kings Mountain	121.30	53	P	PKPdf	08 51 24.5	-0.6	
	baz=286							
N55A	Marion Center	121.30	46	P	PKPdf	08 51 24.1	-0.9	
	baz=291							
R55A	Marlinton	121.31	49	P	PKPdf	08 51 24.5	-0.6	
	baz=289							
LBTB	Lobatse	121.40	236	ePKPdf	PKPdf	08 51 23.8	-1.9	
BLA	Blacksburg	121.42	50	P	PKPdf	08 51 24.6	-0.7	
	baz=288							
KOLS	Kolonicke sedl	121.45	325	ePKIKP	PKiKP	08 51 26.4	+1.3	
KOLS	Kolonicke sedl	121.45	325	ePKP	PKiKP	08 51 26.4	+1.3	
256A	Glennville	121.65	56	P	PKPdf	08 51 25.1	-0.7	
	baz=284							
656A	Willston	121.66	59	P	PKPdf	08 51 25.0	-0.9	
	baz=282							
X56A	White Oak	121.71	53	P	PKPdf	08 51 25.5	-0.4	
	baz=286							
T56A	Rocky Mt	121.77	50	P	PKPdf	08 51 25.2	-0.8	
	baz=288							
V56A	Mocksville	121.77	52	P	PKPdf	08 51 25.2	-0.8	
	baz=287							
O56A	Blue Knob Stat	121.78	46	P	PKPdf	08 51 25.2	-0.7	
	baz=291							
156A	Sylvania	121.81	55	P	PKPdf	08 51 25.4	-0.7	
	baz=284							
W56A	Indian Trail	121.89	52	P	PKPdf	08 51 25.8	-0.4	
	baz=286							
ALFO	Alfred	122.08	39	P	PKPdf	08 51 25.4	-0.8	
	baz=297							
SSPA	Standing Stone	122.13	45	ePKPdf	PKPdf	08 51 25.8	-0.8	
SSPA	Standing Stone	122.13	45	P	PKPdf	08 51 26.3	-0.2	
	baz=292							
857A	Zephyrhills	122.14	61	P	PKPdf	08 51 26.5	-0.4	
	baz=281							
157A	Early Branch	122.21	55	P	PKPdf	08 51 26.7	-0.2	
	baz=285							
957A	Wimauma	122.25	61	P	PKPdf	08 51 26.0	-1.1	
	baz=281							
Z57A	Bowman	122.29	54	P	PKPdf	08 51 26.1	-0.9	
	baz=285							
V57A	Coltrane Farms	122.31	51	P	PKPdf	08 51 26.3	-0.7	
	baz=287							
Q57A	Strasburg	122.33	47	P	PKPdf	08 51 26.3	-0.6	
	baz=290							
S57A	Dark Hollow, R	122.35	49	P	PKPdf	08 51 26.4	-0.7	
	baz=289							
W57A	Gilead	122.35	52	P	PKPdf	08 51 26.6	-0.5	
	baz=287							
T57A	Hurt	122.37	50	P	PKPdf	08 51 26.4	-0.7	
	baz=288							
LSZ	Lusaka	122.67	248	ePKPdf	PKiKP	08 51 28.7	+0.2	
T58A	Grand View Acr	122.93	50	P	PKPdf	08 51 27.3	-0.8	
	baz=289							
W58A	Raeford	122.98	52	P	PKPdf	08 51 27.4	-0.9	
	baz=287							
Z58A	St. Stephen	123.00	54	P	PKPdf	08 51 27.5	-0.9	
	baz=286							
S58A	Poland Farm, P	123.08	49	P	PKPdf	08 51 27.7	-0.7	
	baz=290							
R58B	Mineral	123.08	48	P	PKPdf	08 51 27.5	-0.9	
	baz=290							
U58A	Oxford	123.09	50	P	PKPdf	08 51 27.7	-0.8	
	baz=289							
059A	Moore Haven	123.33	62	P	PKPdf	08 51 28.0	-1.2	
	baz=281							
O59A	Robesonia	123.45	45	P	PKPdf	08 51 28.4	-0.7	
	baz=293							
V59A	Middlesex	123.53	51	P	PKPdf	08 51 28.6	-0.7	
	baz=288							
P59A	Jarrettsville	123.55	46	P	PKPdf	08 51 28.5	-0.8	
	baz=292							
W59A	Clinton	123.56	52	P	PKPdf	08 51 29.0	-0.4	
	baz=288							
VYHS	Vyhne	123.61	326	ePKIKP	PKiKP	08 51 30.1	+0.7	
VYHS	Vyhne	123.61	326	ePKP	PKiKP	08 51 30.1	+0.7	
X59A	McDuffie Farm,	123.61	52	P	PKPdf	08 51 29.0	-0.5	
	baz=287							
T59A	Double "B" Far	123.66	49	P	PKPdf	08 51 29.2	-0.3	
	baz=290							
U59A	Littleton	123.69	50	P	PKPdf	08 51 28.7	-0.9	
	baz=289							
VTS	Vitosha	123.83	318	ePKPdf	PKPdf	08 51 29.0	-0.9	
060Z	West Palm Beac	123.95	62	P	PKPdf	08 51 29.6	-0.8	
	baz=281							
O60A	Telford	124.00	45	P	PKPdf	08 51 29.5	-0.5	
	baz=294							
P60A	Greenville	124.04	46	P	PKPdf	08 51 29.6	-0.6	
	baz=293							
X60A	Albert Glenn T	124.10	52	P	PKPdf	08 51 29.8	-0.7	
	baz=288							
U60A	Pendleton	124.13	50	P	PKPdf	08 51 30.1	-0.3	
	baz=290							
T60A	Surry	124.22	49	P	PKPdf	08 51 29.9	-0.7	
	baz=290							
BRG	Berggiesshubel	124.75	331	ePKP	PKPdf	08 51 30.9	-0.3	
	comp=Z,4.7nm,1.0s							
BRG	Berggiesshubel	124.75	331	ePKIKP	PKPdf	08 51 30.9	-0.3	
BRG				pmax	pmax			
	comp=Z,5.0nm,1.0s							
FNA	Florina	125.89	317	ePKPdf	PKPdf	08 51 32.5	-1.3	
KHC	Kasperske Hory	126.04	329	ePKIKP	PKPdf	08 51 33.5	-0.3	
KHC	Kasperske Hory	126.04	329	ePKP	PKPdf	08 51 33.5	-0.3	
KHC				ex	x	08 51 59.5		
GERES	GERESS Array B	126.15	329	ePKPdf	PKPdf	08 51 33.3	-0.8	
GERES	GERESS Array B	126.15	329	PKP	PKPdf	08 51 34.1	0.0	
	comp=Z,1.9nm,0.7s,baz=48,slow=2.0,SNR=14							
OTAV	Otavalo	126.83	94	ePKPdf	PKPdf	08 51 37.0	+0.2	
OTAV	Otavalo	126.83	94	eP	PKiKP	08 51 38.4	+1.0	
OTAV	Otavalo	126.83	94	eP	PKiKP	08 51 38.4	+1.0	
GO02	Mina Guanaco	126.97	128	ePKPdf	PKiKP	08 51 37.1	-0.1	
ESK	Eskdalemuir	127.91	344	i PKIKP	PKiKP	08 51 37.7	0.0	
GCUF	Volcan Galeras	128.05	93	eP	PKPdf	08 51 39.4	+0.2	
GCUF	Volcan Galeras	128.05	93	eP	PKPdf	08 51 39.4	+0.2	
SOLC	Bahia Solano	128.42	87	eP	PKPdf	08 51 39.3	+0.1	
SOLC	Bahia Solano	128.42	87	eP	PKPdf	08 51 39.3	+0.1	
POPC	Popayan, Colom	128.87	92	eP	PKPdf	08 51 39.4	-1.1	
POPC	Popayan, Colom	128.87	92	eP	PKPdf	08 51 39.4	-1.1	
SOTA	Rioblanco	128.89	92	eP	PKPdf	08 51 39.3	-1.5	
SOTA	Rioblanco	128.89	92	eP	PKPdf	08 51 39.3	-1.5	
PB01	IPOC Station P	129.03	123	ePKPdf	PKPdf	08 51 40.2	-0.2	
PCON	Cinco Dias	129.12	92	eP	PKPdf	08 51 41.3	0.0	
PCON	Cinco Dias	129.12	92	eP	PKPdf	08 51 41.3	0.0	
YOTC	Yotoco, Valle	129.33	90	eP	PKPdf	08 51 40.6	-0.6	
YOTC	Yotoco, Valle	129.33	90	eP	PKPdf	08 51 40.6	-0.6	
MARP	Paez Belalcaza	129.61	91	eP	PKPdf	08 51 42.1	+0.2	
MARP	Paez Belalcaza	129.61	91	eP	PKPdf	08 51 42.1	+0.2	
FLOC	Florencia	129.78	93	eP	PKPdf	08 51 41.9	-0.1	
FLOC	Florencia	129.78	93	eP	PKPdf	08 51 41.9	-0.1	
MNMC	Minye Minye	129.79	121	ePKPdf	PKPdf	08 51 40.5	-1.6	
HELC	Santa Helena	130.29	87	eP	PKPdf	08 51 42.4	-0.9	
HELC	Santa Helena	130.29	87	eP	PKPdf	08 51 42.4	-0.9	
GUY2C	Guyana, Caldas	130.39	88	eP	PKPdf	08 51 43.2	-0.5	
GUY2C	Guyana, Caldas	130.39	88	eP	PKPdf	08 51 43.2	-0.5	
PTLC	Puerto Leguiza	130.44	95	eP	PKPdf	08 51 42.3	-0.9	
PTLC	Puerto Leguiza	130.44	95	eP	PKPdf	08 51 42.3	-0.9	
TSUM	Tsumeb	130.60	238	ePKPdf	PKPdf	08 51 42.4	-1.1	
PRAC	Prado	130.75	90	eP	PKPdf	08 51 42.9	-0.9	
PRAC	Prado	130.75	90	eP	PKPdf	08 51 42.9	-0.9	
ZARC	Zaragoza, Cauc	131.00	86	eP	PKPdf	08 51 44.3	+0.1	
ZARC	Zaragoza, Cauc	131.00	86	eP	PKPdf	08 51 44.3	+0.1	
ROSC	El Rosal	131.41	89	eP	PKPdf	08 51 45.5	0.0	
ROSC	El Rosal	131.41	89	eP	PKPdf	08 51 45.5	0.0	
ROSC	El Rosal	131.41	89	PKP	PKPdf	08 51 45.9	+0.4	
	comp=Z,8.9nm,0.5s,baz=151,slow=1.9,SNR=8.1							
ROSC				SKPbc	SKPab	08 55 08.2	+1.6	
	comp=Z,5.5nm,0.8s,baz=103,slow=7.0,SNR=6.6							
BRRC	Barranca, Sant	132.13	86	eP	PKiKP	08 51 52.9	+5.5	
BRRC	Barranca, Sant	132.13	86	eP	PKiKP	08 51 52.9	+5.5	
LPAZ	La Paz	132.25	119	PKP	PKPdf	08 51 47.5	+0.2

DBIC	**Dimbokro**	**159.48**	**272**	*e*PKIKP	**PKPdf**	**08 52 27.9**	**-3.3**
DBIC	**Dimbokro**	**159.48**	**272**	PKP	**PKPdf**	**08 52 29.5**	**-1.7**
	comp=Z,7.9nm,1.1s,baz=290,slow=16,SNR=3.7						
DBIC				PKPab	**PKPab**	**08 53 09.8**	**+0.6**
	comp=Z,18nm,1.0s,baz=98,slow=6.3,SNR=6.8						

HLW ***17*** *08:33:47.0, 36.°35N×28.°92E, h24km±9km, Md3.8, Ml3.6*
DDA ***17*** *08:33:48.3, 36.°49N×28.°90E, h33km, ML3.1*
ATH ***17*** *08:33:48.1, 36.°43N×28.°90E, h39km±3km, ML2.7/4, Error ellipse: s-maj=3.5km s-min=1.2km az=157.0*
ISK ***17*** *08:33:48.3, 36.°43N×28.°88E, h22km, ML3.1/14*
THE ***17*** *08:33:49.3, 36.°42N×28.°90E, h15km±1km, ML2.7/4, Error ellipse: s-maj=1.4km s-min=0.5km az=62.0*
ISCJB ***17*** *08:33:49.5±0.4, 36.°45N±0.°03×28.°87E±0.°02, h27km±3km, Error ellipse: s-maj=4.8km s-min=3.1km az=8.8*

ISC 17 08:33:48.2±1.0, 36.°39N±0.°03×28.°89E±0.°02, h25km±8km, n49, σ1948/81, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.29**	**32**	PG	**Pb**	**08 33 54.9**	**-0.3**
FETY				SG	**Sb**	**08 34 00.2**	**+0.3**
FETY	**Fethiye**	**0.29**	**32**	P	**Pb**	**08 33 54.9**	**-0.3**
FETY				S	**Sb**	**08 33 59.9**	**0.0**
FETY	**Fethiye**	**0.29**	**32**	*i* P	**Pn**	**08 33 55.8**	**-1.2**
FETY				*i* S	**Sn**	**08 34 00.8**	**-1.9**
DALY	**Dalyan (Mula)**	**0.47**	**336**	PG	**Pb**	**08 33 57.5**	**-0.5**
DALY				SG	**Sb**	**08 34 04.6**	**+0.1**
DALY	**Dalyan (Mula)**	**0.47**	**336**	*i* P	**Pb**	**08 33 58.2**	**+0.3**
DALY				*i* S	**Sb**	**08 34 04.2**	**-0.4**
TURN	**Turunc**	**0.54**	**335**	PG	**Pn**	**08 34 01.1**	**+0.7**
TURN				SG	**Sn**	**08 34 10.6**	**+1.9**
TURN	**Turunc**	**0.54**	**335**	*i* P	**Pn**	**08 34 01.1**	**+0.7**
TURN				*i* S	**Sn**	**08 34 10.5**	**+1.9**
AKAS	**Kas**	**0.60**	**105**	PG	**Pb**	**08 34 00.7**	**+0.5**
AKAS				SG	**Sn**	**08 34 10.8**	**+0.5**
AKAS	**Kas**	**0.60**	**105**	*i* P	**Pn**	**08 34 01.7**	**+0.4**
AKAS				*i* S	**Sn**	**08 34 11.7**	**+1.4**
KSL	**Kastellorizon**	**0.61**	**113**	P	**Pb**	**08 34 00.9**	**+0.6**
KSL				S	**Sn**	**08 34 11.0**	**+0.6**
KSL	**Kastellorizon**	**0.61**	**113**	P	**Pb**	**08 34 00.8**	**+0.6**
KSL				S	**Sn**	**08 34 10.9**	**+0.6**
KSL				AML	AML	08 34 12.1	
	comp=E,2858μm,0.5s						
KSL				AML	AML	08 34 14.3	
	comp=N,983μm,0.5s						
ARG	**Arkhangelos**	**0.64**	**255**	PG	**Pn**	**08 34 01.7**	**-0.1**
ARG	**Arkhangelos**	**0.64**	**255**	P	**Pn**	**08 34 01.9**	**+0.1**
ARG				S	**Sn**	**08 34 12.2**	**+1.1**
ARG	**Arkhangelos**	**0.64**	**255**	P	**Pn**	**08 34 01.8**	**+0.1**
ARG				S	**Sn**	**08 34 12.1**	**+0.9**
ARG				AML	AML	08 34 13.3	
	comp=E,843μm,0.3s						
ARG				AML	AML	08 34 14.8	
	comp=N,649μm,0.3s						
MRSB	**Marmaris-Mugla**	**0.65**	**301**	PG	**Pb**	**08 34 01.1**	**+0.1**
ELL	**Elmali**	**0.90**	**66**	PG	**Pn**	**08 34 05.4**	**0.0**
DATC	**Datca-Mugla**	**1.06**	**291**	PG	**Pb**	**08 34 08.2**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.08**	**1**	*i* P	**Pb**	**08 34 08.6**	**+0.3**
TAVA				*i* S	**Sn**	**08 34 21.4**	**-0.8**
DAT	**Datca**	**1.11**	**288**	PN	**Pb**	**08 34 09.0**	**+0.2**
DAT	**Datca**	**1.11**	**288**	*i* P	**Pb**	**08 34 09.7**	**+0.9**
DAT				*i* S	**Sn**	**08 34 24.3**	**+1.4**
AKUM	**Antalya-Kumluc**	**1.18**	**93**	*i* P	**Pb**	**08 34 10.3**	**+0.4**
AKUM				*i* S	**Sb**	**08 34 28.1**	**+3.4**
KORT	**Korkueli**	**1.32**	**62**	PN	**Pb**	**08 34 12.0**	**-0.5**
KORT	**Korkueli**	**1.32**	**62**	*i* P	**Pb**	**08 34 12.4**	**-0.2**
KORT				*i* S	**Sb**	**08 34 31.9**	**+2.7**
BDRM	**Kayabasi**	**1.34**	**301**	*i* P	**Pb**	**08 34 12.8**	**+0.1**
BDRM				*i* S	**Sb**	**08 34 31.3**	**+1.7**
DENT	**Denizli**	**1.37**	**5**	PN	**Pn**	**08 34 11.6**	**-0.3**
BODT	**Bodrum**	**1.44**	**298**	PN	**Pn**	**08 34 13.3**	**+0.6**
BODT	**Bodrum**	**1.44**	**298**	P	**Pn**	**08 34 13.0**	**+0.2**
BODT				S	**Sb**	**08 34 31.9**	**-0.3**
AYDN	**Tasoluk**	**1.51**	**328**	*i* P	**Pb**	**08 34 15.6**	**0.0**
AYDN				*i* S	**Sb**	**08 34 34.0**	**-0.3**
BRDR	**BURDUR-Merkez**	**1.61**	**35**	IAML_P			
	comp=Z,892nm,0.2s						
BRDR				*i* P	**Pb**	**08 34 15.9**	**-1.4**
BRDR				*i* S	**Sb**	**08 34 36.9**	**-0.3**
KARP	**Karpathos**	**1.63**	**240**	PN	**Pn**	**08 34 16.9**	**+1.4**
KARP	**Karpathos**	**1.63**	**240**	P	**Pn**	**08 34 16.5**	**+1.1**
KARP				S	**Sn**	**08 34 36.9**	**+1.2**
KARP	**Karpathos**	**1.63**	**240**	P	**Pn**	**08 34 16.6**	**+1.1**
KARP				S	**Sn**	**08 34 36.9**	**+1.2**
KARP				AML	AML	08 34 39.3	
	comp=N,229μm,0.2s						
KARP				AML	AML	08 34 41.3	
	comp=E,255μm,0.2s						
GCAM	**G?zelcaml?**	**1.86**	**315**	PN	**Pn**	**08 34 19.7**	**+1.1**
GCAM	**G?zelcaml?**	**1.86**	**315**	*i* P	**Pn**	**08 34 19.6**	**+1.1**
GCAM				*i* S	**Sn**	**08 34 41.6**	**+0.2**
ISP	**Isparta**	**1.94**	**42**	PN	**Pn**	**08 34 20.7**	**+1.0**
KHAL	**Karahalli**	**2.04**	**13**	*i* P	**Pn**	**08 34 20.3**	**-0.8**
KHAL				*i* S	**Sn**	**08 34 45.0**	**-0.9**
SMG	**Samos**	**2.11**	**309**	P	**Pn**	**08 34 21.8**	**-0.2**
SMG				S	**Sn**	**08 34 47.7**	**+0.4**
SMG	**Samos**	**2.11**	**309**	P	**Pn**	**08 34 22.4**	**+0.4**
SMG				S	**Sn**	**08 34 47.8**	**+0.4**
SMG				AML	AML	08 34 50.2	
	comp=N,530μm,0.3s						
SMG				AML	AML	08 34 50.6	
	comp=E,475μm,0.3s						
KEPZ	**Antalya-Kepez**	**2.24**	**76**	*i* P	**Pn**	**08 34 25.7**	**+1.8**
KEPZ				*i* S	**Sn**	**08 34 52.6**	**+1.8**
DGB	**zmir**	**2.31**	**317**	*i* P	**Pn**	**08 34 25.7**	**+1.0**
DGB				*i* S	**Sn**	**08 34 50.8**	**-1.5**
USAK	**Uak-Merkez**	**2.33**	**2**	*i* P	**Pn**	**08 34 24.4**	**-0.6**
ZKR	**Zakros**	**2.52**	**241**	P	**Pn**	**08 34 29.4**	**+1.8**
CHOS	**Chios island**	**3.01**	**312**	P	**Pn**	**08 34 35.5**	**+1.0**
CHOS				S	**Sn**	**08 35 09.3**	**-0.5**
SLUM	**Salum**	**5.76**	**213**	P	**Pn**	**08 35 10.9**	**-1.3**
	baz=214						
SLUM				AMP		08 36 00.0	
	baz=214						
SLUM				S	**Sn**	**08 36 11.8**	**-5.6**
	baz=214						
RSH		**6.75**	**142**	P	**Pn**	**08 35 24.1**	**-1.6**
	baz=141						
HNAT	**Natroun**	**6.89**	**167**	P	**Pn**	**08 35 26.5**	**-1.2**
	baz=167						
HNAT				S	**Sn**	**08 36 38.5**	**-6.9**
	baz=167						
GLL	**Jalalah**	**7.19**	**160**	P	**Pn**	**08 35 30.3**	**-1.6**
	baz=160						
SUZ	**Suez**	**7.32**	**152**	P	**Pn**	**08 35 31.8**	**-1.7**
	baz=152						
HFRF	**Wahat Farafira**	**9.22**	**183**	P	**Pn**	**08 35 58.3**	**-1.4**
	baz=184						

IDC 17 08:42:44.2±13.0, 2.°55S×125.°57E, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.5/43, mbtmp4.0/3, ML4.3/1, Error ellipse: s-maj=193.2km s-min=168.5km az=127.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.29**	**154**	P	P	08 47 10.7	-0.1
	0.9nm,0.3s,baz=332,slow=11,SNR=32						
ASAR	**Alice Springs**	**22.49**	**160**	P	P	08 47 45.4	-0.1
	1.4nm,0.4s,baz=340,slow=12,SNR=15						
STKA	**Stephens Creek**	**32.84**	**154**	P	P	08 49 19.8	+0.1
	0.8nm,0.3s,baz=331,slow=11,SNR=3.1						

ISCJB ***17*** *08:54:40.6±0.3, 58.°08N±0.°03×17.°37E±0.°05, h0km, Error ellipse: s-maj=3.8km s-min=3.5km az=14.1*
UPP ***17*** *08:54:41.2±0.1, 58.°10N×17.°36E, h0km, ML2.2, Explosion*
HEL ***17*** *08:54:42.1±0.0, 58.°09N×17.°36E, h0km, ML2.2(UPP), Explosion*
BER ***17*** *08:54:42.0±2.2, 57.°89N×17.°43E, h0km, ML1.9, ML2.1(NAO), Suspected explosion*
NAO ***17*** *08:54:46.5±2.3, 58.°49N×17.°33E, ML2.1*
IDC ***17*** *08:54:46.2±2.1, 58.°45N×17.°33E, h0km, mb1 3.1/4, mb1mx3.0/44, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=22.8km s-min=8.0km az=8.0*

ISC 17 08:54:41.5±0.8, 58.°09N±0.°02×17.°35E±0.°02, h0km, n59, σ1937/73, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIKU	**Vikbolandet**	**0.54**	**321**	P	**Pg**	**08 54 51.4**	**-0.4**
VIKU				S	**Sg**	**08 54 59.1**	**+0.2**
VIKU	**Vikbolandet**	**0.54**	**321**	*i* P	**Pg**	**08 54 51.4**	**-0.4**
VIKU				*i* S	**Sg**	**08 54 59.1**	**+0.2**
VSTU	**Vaestervik**	**0.61**	**226**	P	**Pg**	**08 54 53.1**	**0.0**
VSTU				S	**Sg**	**08 55 01.1**	**+0.1**
VSTU	**Vaestervik**	**0.61**	**226**	*i* P	**Pg**	**08 54 53.1**	**0.0**
VSTU				*i* S	**Sg**	**08 55 01.1**	**+0.1**
GOTU	**Gotland**	**0.77**	**121**	P	**Pg**	**08 54 55.5**	**-0.6**
GOTU				S	**Sg**	**08 55 06.0**	**0.0**
GOTU	**Gotland**	**0.77**	**121**	*i* P	**Pg**	**08 54 55.5**	**-0.6**
GOTU				*i* S	**Sg**	**08 55 06.0**	**0.0**
ASPU	**Aespoe**	**0.78**	**211**	P	**Pg**	**08 54 56.2**	**-0.2**
ASPU	**Aespoe**	**0.78**	**211**	*i* P	**Pg**	**08 54 56.2**	**-0.2**
BYXU	**Byxelkrok**	**0.82**	**193**	P	**Pg**	**08 54 56.8**	**-0.3**
BYXU	**Byxelkrok**	**0.82**	**193**	*i* P	**Pg**	**08 54 56.8**	**-0.3**
NYNU	**Nynaeshamn**	**0.98**	**20**	P	**Pg**	**08 54 59.5**	**-0.8**
NYNU	**Nynaeshamn**	**0.98**	**20**	*e*P	**Pg**	**08 54 59.5**	**-0.8**
LNKU	**Linkoeping**	**0.99**	**279**	P	**Pg**	**08 54 59.7**	**-0.7**
LNKU	**Linkoeping**	**0.99**	**279**	*e*P	**Pg**	**08 54 59.7**	**-0.7**
OSKU	**Oskarshamn**	**1.12**	**218**	P	**Pg**	**08 55 02.4**	**-0.5**
OSKU	**Oskarshamn**	**1.12**	**218**	*e*P	**Pg**	**08 55 02.4**	**-0.5**
EKSU	**Eksjoe**	**1.21**	**246**	P	**Pg**	**08 55 03.7**	**-1.0**
EKSU	**Eksjoe**	**1.21**	**246**	*e*P	**Pg**	**08 55 03.7**	**-1.0**
ESKU	**Eskilstuna**	**1.25**	**337**	P	**Pg**	**08 55 04.7**	**-0.8**
ESKU	**Eskilstuna**	**1.25**	**337**	*e*P	**Pg**	**08 55 04.7**	**-0.8**
ASKU	**Askersund**	**1.55**	**303**	P	**Pn**	**08 55 09.7**	**-0.7**
ASKU	**Askersund**	**1.55**	**303**	*e*P	**Pn**	**08 55 09.7**	**-0.7**
NRTU	**Norrtaelje**	**1.73**	**22**	P	**Pn**	**08 55 12.8**	**0.0**
NRTU	**Norrtaelje**	**1.73**	**22**	*e*P	**Pn**	**08 55 12.8**	**0.0**
VXJU	**Vaexsjoe**	**1.75**	**229**	P	**Pn**	**08 55 13.3**	**+0.2**
VXJU	**Vaexsjoe**	**1.75**	**229**	*e*P	**Pn**	**08 55 13.3**	**+0.2**
AAL	**Aland**	**2.50**	**32**	*e*P	**Pn**	**08 55 24.1**	**+0.8**
HFS	**Hagfors**	**2.79**	**319**	Pn	**Pn**	**08 55 28.7**	**+1.4**
	baz=140,slow=12						
HFS				Lg	Lg	08 56 02.8	
	baz=135,slow=22						
HFS	**Hagfors**	**2.79**	**319**	Pn	**Pn**	**08 55 28.7**	**+1.4**
	1.5nm,0.3s,baz=131,slow=15,SNR=66						
HFS				Lg	Lg	08 56 03.9	
	2.6nm,0.3s,baz=134,slow=27,SNR=14						
HFS	**Hagfors**	**2.79**	**319**	Pn	**Pn**	**08 55 28.7**	**+1.4**
	baz=140,slow=12						
HFS				Sn	**Sn**	**08 56 02.8**	**+1.2**
	baz=135,slow=22						
STRU	**Stroemstad**	**3.37**	**289**	*e*P	**Pn**	**08 55 36.4**	**+1.1**
MTSE	**Matsula**	**3.46**	**77**	*e*P	**Pn**	**08 55 37.4**	**+0.9**
RAF	**Rauma**	**3.70**	**35**	*e*P	**Pn**	**08 55 40.2**	**+0.3**
NC602	**NORSAR Array S**	**3.98**	**314**	*e*P	**Pn**	**08 55 44.5**	**+0.7**
NRA0	**NORESS Array S**	**3.98**	**314**	Pn	**Pn**	**08 55 44.2**	**+0.5**
	baz=130,slow=11						
NRA0				Sn	**Sn**	**08 56 31.6**	**+0.5**
	baz=122,slow=22						
NRA0				Lg	Lg	08 56 45.4	
	baz=132,slow=28						
NRA0	**NORESS Array S**	**3.98**	**314**	Pn	**Pn**	**08 55 44.2**	**+0.5**
	baz=130,slow=11						
NRA0				Sn	**Sn**	**08 56 31.6**	**+0.5**
	baz=122,slow=22						
MEF	**Metsahovi**	**4.21**	**57**	*e*P	**Pn**	**08 55 49.5**	**+2.7**
NB201	**NORSAR Array S**	**4.28**	**317**	*e*P	**Pn**	**08 55 48.8**	**+0.9**
NB2	**NORSAR Subarra**	**4.30**	**316**	Pn	**Pn**	**08 55 48.8**	**+0.6**
	baz=134,slow=14						
NB2				Lg	Lg	08 56 54.9	
	baz=135,slow=37						
NB2	**NORSAR Subarra**	**4.30**	**316**	Pn	**Pn**	**08 55 48.8**	**+0.6**
	baz=134,slow=14						
NOA	**NORSAR Array B**	**4.30**	**316**	Pn	**Pn**	**08 55 48.2**	**+0.1**
	0.0nm,0.3s,baz=148,slow=16,SNR=8.7						
NOA				Lg	Lg	08 56 54.0	
	0.1nm,0.3s,baz=329,slow=21,SNR=6.0						
NAO01	**NORSAR Array S**	**4.30**	**313**	*e*P	**Pn**	**08 55 48.6**	**+0.5**
NAO01				IAML		08 56 57.5	
	comp=Z,4.1nm,0.4s						
NC303	**NORSAR Array S**	**4.37**	**319**	*e*P	**Pn**	**08 55 50.2**	**+1.2**
NBO00	**NORSAR Array S**	**4.46**	**314**	*e*P	**Pn**	**08 55 50.4**	**+0.1**
NBO00				IAML		08 57 02.7	
	comp=Z,5.2nm,0.4s						
NC204	**NORSAR Array S**	**4.62**	**317**	*e*P	**Pn**	**08 55 53.5**	**+0.9**
VSU	**Vasula**	**4.97**	**82**	*e*P	**Pn**	**08 55 57.3**	**0.0**
PVF	**Pernaja**	**5.01**	**57**	*e*P	**Pn**	**08 55 58.0**	**+0.2**
FIA0	**FINESS Array S**	**5.55**	**49**	Pn	**Pn**	**08 56 05.4**	**+0.2**
	baz=220,slow=12						
FIA0				Sn	**Sn**	**08 57 07.5**	**-2.1**
	baz=241,slow=22						
FIA0				Lg	Lg	08 57 31.3	
	baz=236,slow=28						
FIA0	**FINESS Array S**	**5.55**	**49**	Pn	**Pn**	**08 56 05.4**	**+0.2**
	baz=220,slow=12						
FIA0				Sn	**Sn**	**08 57 07.5**	**-2.1**
	baz=241,slow=22						
FIA0				Sg	**Sb**	**08 57 31.3**	**+5.3**
	baz=236,slow=28						
FIA0	**FINESS Array S**	**5.55**	**49**	*e*P	**Pn**	**08 56 05.3**	**+0.2**
FIA0				*e*S	**Sn**	**08 57 07.5**	**-2.1**
FINES	**FINESS Array B**	**5.55**	**49**	Pn	**Pn**	**08 56 05.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=234,slow=12,SNR=19						
FINES				Sn	**Sn**	**08 57 06.6**	**-2.9**
	comp=Z,0.7nm,0.3s,baz=242,slow=20,SNR=6.9						
FINES				Lg	Lg	08 57 35.4	
	comp=Z,0.7nm,0.3s,baz=244,slow=25,SNR=5.5						
KEF	**Keuruu**	**5.56**	**39**	*e*P	**Pn**	**08 56 05.8**	**+0.5**
VAF	**Ylistaro**	**5.62**	**26**	*e*P	**Pn**	**08 56 09.1**	**+2.9**
DOMB	**Dombas**	**5.74**	**317**	*e*P	**Pn**	**08 56 09.3**	**+1.4**
VJF	**Virojoki**	**5.78**	**60**	*e*P	**Pn**	**08 56 09.0**	**+0.7**
KAF	**Kangasniemi**	**6.03**	**44**	*e*P	**Pn**	**08 56 12.2**	**+0.5**
ARA0	**ARCESS Array S**	**12.03**	**14**	Pn	**Pn**	**08 57 30.2**	**-3.6**
	baz=199,slow=14						
ARA0	**ARCESS Array S**	**12.03**	**14**	Pn	**Pn**	**08 57 30.2**	**-3.6**
	baz=199,slow=14						
ARCES	**ARCESS Array B**	**12.03**	**14**	Pn	**Pn**	**08 57 30.4**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=199,slow=13,SNR=9.7						

ISCJB ***17*** *08:59:25.4±0.8, 64.°79N±0.°04×30.°7E±0.°1, h0km, Error ellipse: s-maj=9.3km s-min=4.5km az=24.2*
HEL ***17*** *08:59:27.8±0.3, 64.°82N×30.°74E, h0km, ML2.3, Explosion*
KOLA ***17*** *08:59:27.1, 64.°81N×30.°17E, h0km*
BER ***17*** *08:59:28.5±1.9, 64.°74N×30.°73E, h0km, ML2.2(NAO), Suspected explosion*
NAO ***17*** *08:59:28.0±1.5, 64.°82N×30.°75E, ML2.2*
IDC ***17*** *08:59:29.6±2.4, 64.°82N×30.°48E, h0km, mb1 3.1/4, mb1mx2.9/37, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=33.7km s-min=8.5km az=100.0*

ISC 17 08:59:28.0±1.0, 64.°86N±0.°03×30.°50E±0.°06, h0km, n29, σ0987/44, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.20**	**348**	*e*P	**Pg**	**08 59 50.7**	**-0.3**
KU6				*e*S	**Sg**	**09 00 06.9**	**+0.4**
MSF	**Maaselka**	**1.22**	**331**	*e*P	**Pg**	**08 59 51.1**	**-0.3**
MSF				*e*S	**Sg**	**09 00 07.8**	**+0.6**
MSF				MSG		09 00 11.5	
	comp=Z,29nm,0.1s						
OUL	**Oulu**	**1.97**	**279**	*e*P	**Pb**	**09 00 04.0**	**-0.7**
OUL				*e*S	**Sb**	**09 00 30.1**	**+0.4**
RNF	**Rovaniemi**	**2.56**	**316**	MSG		09 00 49.8	
	comp=Z,14nm,0.2s						
VRF	**Varrio**	**2.93**	**353**	*e*P	**Pn**	**09 00 16.0**	**+0.3**
APA0	**Apatity Array**	**2.94**	**19**	Pn	**Pn**	**09 00 15.7**	**-0.2**
	baz=194,slow=16						
APA0				Sn	**Sn**	**09 00 50.8**	**-1.1**
	baz=190,slow=22						
APA0				Lg	Lg	09 00 58.8	
	baz=202,slow=28						
APA0	**Apatity Array**	**2.94**	**19**	P	**Pn**	**09 00 15.6**	**-0.3**
APA0				S	**Sn**	**09 00 52.0**	**+0.1**
APA0	**Apatity Array**	**2.94**	**19**	Pn	**Pn**	**09 00 15.7**	**-0.2**
	baz=194,slow=16						
APA0				Sn	**Sn**	**09 00 50.8**	**-1.1**
	baz=190,slow=22						
APA0				Sg	**Sb**	**09 00 58.8**	**+1.2**
	baz=202,slow=28						
APA	**Apatity**	**2.97**	**22**	P	**Pn**	**09 00 16.2**	**-0.1**
APA				S	**Sn**	**09 00 52.8**	**+0.3**
FIA0	**FINESS Array S**	**3.97**	**212**	Pn	**Pn**	**09 00 29.3**	**-0.7**
	baz=26,slow=16						
FIA0				Pg	**Pb**	**09 00 38.6**	**-0.1**
	baz=26,slow=16						
FIA0				Sn	**Sn**	**09 01 16.6**	**-0.6**
	baz=27,slow=28						
FIA0				Lg	Lg	09 01 30.2	
	baz=27,slow=28						
FIA0	**FINESS Array S**	**3.97**	**212**	Pn	**Pn**	**09 00 29.3**	**-0.7**
	baz=26,slow=16						
FIA0				Pg	**Pb**	**09 00 38.6**	**-0.1**
	baz=26,slow=16						
FIA0				Sn	**Sn**	**09 01 16.6**	**-0.6**
FIA0				Sg	**Sb**	**09 01 30.2**	**+3.0**
	baz=27,slow=28						
FINES	**FINESS Array B**	**3.97**	**212**	Pn	**Pn**	**09 00 29.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=30,slow=16,SNR=4.1						
FINES				Lg	Lg	09 01 30.4	
	comp=Z,2.4nm,0.3s,baz=29,slow=28,SNR=14						
HEF	**Hetta**	**4.49**	**326**	*e*P	**Pn**	**09 00 37.0**	**-0.1**
KTK1	**Kautokeino**	**5.05**	**329**	*e*P	**Pn**	**09 00 45.1**	**+0.2**
ARA0	**ARCESS Array S**	**5.08**	**340**	Pn	**Pn**	**09 00 45.4**	**0.0**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 01 43.6**	**-1.1**
	baz=159,slow=28						
ARA0				Lg	Lg	09 02 04.5	
	baz=148,slow=37						
ARA0	**ARCESS Array S**	**5.08**	**340**	Pn	**Pn**	**09 00 45.4**	**0.0**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 01 43.6**	**-1.1**
	baz=159,slow=28						
ARCES	**ARCESS Array B**	**5.08**	**340**	Pn	**Pn**	**09 00 45.4**	**0.0**
	comp=Z,0.9nm,0.3s,baz=157,slow=13,SNR=36						
ARCES				Sn	**Sn**	**09 01 42.6**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=156,slow=25,SNR=7.0						
ARCES				Lg	Lg	09 02 05.7	
	comp=Z,1.9nm,0.3s,baz=152,slow=27,SNR=14						
ARE0	**ARCESS Array S**	**5.08**	**340**	*e*P	**Pn**	**09 00 45.5**	**+0.2**
KEV	**Kevo**	**5.10**	**346**	*e*P	**Pn**	**09 00 45.8**	**+0.3**
SALU	**Saltoluokta**	**5.49**	**303**	*e*P	**Pn**	**09 00 52.2**	**+1.4**
KIF	**Kilpisjarvi**	**5.64**	**322**	*e*P	**Pn**	**09 00 53.6**	**+0.7**
HFS	**Hagfors**	**9.09**	**246**	Pn	**Pn**	**09 01 39.0**	**-1.2**
	baz=55,slow=14						
HFS	**Hagfors**	**9.09**	**246**	Pn	**Pn**	**09 01 39.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=60,slow=15,SNR=6.4						
HFS	**Hagfors**	**9.09**	**246**	Pn	**Pn**	**09 01 39.0**	**-1.2**
	baz=55,slow=14						
NB2	**NORSAR Subarra**	**9.56**	**255**	Pn	**Pn**	**09 01 46.5**	**-0.3**
	baz=64,slow=14						
NB2	**NORSAR Subarra**	**9.56**	**255**	Pn	**Pn**	**09 01 46.5**	**-0.3**
	baz=64,slow=14						
NOA	**NORSAR Array B**	**9.56**	**255**	Pn	**Pn**	**09 01 46.0**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=57,slow=13,SNR=4.6						
NRA0	**NORESS Array S**	**9.60**	**253**	Pn	**Pn**	**09 01 47.7**	**+0.5**
	baz=47,slow=14						
NRA0	**NORESS Array S**	**9.60**	**253**	Pn	**Pn**	**09 01 47.7**	**+0.5**
	baz=47,slow=14						

SOME ***17*** *09:00:18.8, 39.°07N×74.°08E, h10km*
NNC ***17*** *09:00:31.4±3.1, 39.°56N×74.°10E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=25.0km s-min=15.1km az=0.0*

ISC 17 09:00:33.6±2.4, 39.°6N±0.°1×74.°15E±0.°05, h10km, n23, σ2933/30, 3C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.53**	**352**	P	**Pn**	**09 01 13.7**	**-1.5**
	SNR=25						
KZA	**Kyzart**	**2.60**	**18**	P	**Pb**	**09 01 18.1**	**-2.5**
	SNR=7.2						
UCH	**Uchtor**	**2.62**	**6**	P	**Pn**	**09 01 14.4**	**-2.1**
	SNR=29						
AAK	**Ala-Archa**	**3.03**	**5**	P	**Pn**	**09 01 22.1**	**+0.3**
	SNR=12						
AAK	**Ala-Archa**	**3.03**	**5**	Pn	**Pn**	**09 01 21.2**	**-0.6**
	9.4nm,0.6s						
AAK				Lg	Lg	09 02 10.1	
	21nm,0.8s						
EKS2	**Erkin-Say**	**3.05**	**355**	P	**Pn**	**09 01 23.3**	**+1.2**
	SNR=5.8						
MRKS	**Merke**	**3.20**	**348**	Pg	**Pb**	**09 01 27.6**	**-3.0**
	12nm,0.6s						
MRKS				Lg	Lg	09 02 15.6	
	9.0nm,0.4s						
MRKS	**Merke**	**3.20**	**348**	*e*P	**Pb**	**09 01 27.1**	**-3.5**
	12nm,0.5s						
MRKS				*e*S	**Sg**	**09 02 17.0**	**+0.6**
	9.2nm,0.4s						
TKM2	**Tokmak 2**	**3.48**	**18**	⇓Pn	**Pb**	**09 01 30.7**	**-4.7**
	5.5nm,0.5s						
TKM2				⇓Lg	Lg	09 02 24.0	
	9.3nm,0.7s						
KST	**Kastek**	**3.69**	**21**	Pg	**Pb**	**09 01 35.8**	**-3.2**
	12nm,0.5s						
KST				Lg	Lg	09 02 29.8	
	13nm,0.6s						
KST	**Kastek**	**3.69**	**21**	*e*P	**Pb**	**09 01 36.9**	**-2.1**
	12nm,0.4s						
KST				*e*S	**Sg**	**09 02 32.6**

SDV	**Santo Domingo**	**4.29 136**	*e*P	Pn	09 10 01.4	-3.8
SDV			*e*S	Sn	09 10 53.1	-2.8
UREC	**San Jos de Ur**	**4.65 204**	*e*P	Pn	09 10 09.9	0.0
UREC			*e*S	Sn	09 11 03.2	-1.2
ZARC	**Zaragoza, Cauc**	**4.67 195**	*e*P	Pn	09 10 10.2	0.0
ZARC			*e*S	Sn	09 11 02.6	-2.3
ZARC			*i*		09 11 10.9	
	comp=E,50nm,0.3s					
PTBC	**PUERTO BERRIO,**	**5.52 189**	*e*P	Pn	09 10 20.2	-1.7
PTBC			*e*S	Sn	09 11 19.7	-6.2
HELC	**Santa Helena**	**6.10 198**	*e*P	Pn	09 10 28.7	-1.5
HELC			*i*		09 11 42.6	
	comp=Z,7.6nm,0.3s					

SJA 17 09:17:52.9±0.6,21°.28S×69°.04W,h132km±11km,ML1.9, MW3.7,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.54 200**		*i* P	Pn	09 18 12.8	+0.2
PB02	**IPOC Station P**	**0.80 267**		*i* P	Pn	09 18 15.0	+0.7
PB02				*i* S	Sn	09 18 31.3	+0.8
PB07	**IPOC Station P**	**0.90 241**		*i* P	Pn	09 18 15.8	+0.6
PB07				*i* S	Sn	09 18 33.3	+1.0
PB15	**IPOC Station P**	**1.96 192**		*i* P	Pn	09 18 27.5	+0.9
HJA	**Humahuaca**	**3.87 120**		*i* P	Pn	09 18 53.4	+2.0
HJA				IAML		09 19 10.0	
	comp=Z,1.5nm,0.4s						

IDC 17 09:20:34.1±0.7,58°.97S×25°.52W,h0km,mb4.3/5, mb1 4.4/6,mb1mx4.1/23,mbtmp4.3/6,ML4.8/1,MS3.6/1, Ms1 3.5/1,ms1mx3.0/23,Error ellipse: s-maj=34.9km s-min=23.6km az=91.0
ISCJB 17 09:20:37.3±0.5,59°.16S±0°.07×25°.7W±0°.2,h35km, mb4.3/12,MS3.5/1,Error ellipse: s-maj=14.6km s-min=8.1km az=145.2
NEIC 17 09:20:39.5±1.5,59°.06S×25°.67W,h35km±3km,mb4.4/9, Error ellipse: s-maj=21.2km s-min=17.1km az=47.0
ISC 17 09:20:39.1±0.5,59°.21S±0°.09×25°.6W±0°.1,h35km,n44, σ1§57/39,mb4.4/12,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.77 305**		*e*Pn	Pn	09 22 28.3	-1.2
VNA1	**Neumayer--Stat**	**13.54 155**		P	Pn	09 23 49.8	+1.4
VNA3	**Neumayer Olymp**	**13.72 158**		P	Pn	09 23 50.9	+0.1
VNA3				S	Sn	09 26 09.2	-13
VNA2	**Neumayer--Watz**	**13.94 155**		P	Pn	09 23 52.6	-1.2
	baz=308,slow=13						
SNAA	**Sanae**	**15.51 153**		P	Pn	09 24 15.4	+0.6
SNAA				S	Sn	09 26 54.6	-11
SNAA	**Sanae**	**15.51 153**		*e*Pn	Pn	09 24 15.8	+1.0
	16nm,0.5s						
SNAA				*e*Sn	Sn	09 26 57.9	-7.3
SNAA	**Sanae**	**15.51 153**		Pn	Pn	09 24 15.6	+0.8
	3.5nm,0.3s,baz=314,slow=14,SNR=123						
SNAA				Sn	Sn	09 26 54.8	-10
	0.2nm,0.3s,baz=323,slow=19,SNR=3.0						
GO09	**Cerro Castillo**	**27.31 266**		*e*P	P	09 26 19.8	-0.3
	19nm,1.3s						
QSPA	**South Pole Qui**	**31.03 180**		*e*P	P	09 26 55.4	+2.2
	1.7nm,0.6s						
TRQA	**Tornquist**	**31.43 296**		*e*P	P	09 26 56.0	-0.9
	5.2nm,0.8s						
PLCA	**Paso Flores**	**33.50 283**		*e*P	P	09 27 15.0	0.0
PLCA	**Paso Flores**	**33.50 283**		P	P	09 27 15.2	+0.2
	1.1nm,0.7s,baz=176,slow=10.0,SNR=3.3						
MAW	**Mawson**	**37.11 141**		LR	LR	09 41 35.6	
	comp=Z,80nm,18.7s,baz=210,slow=34						
VNDA	**Vanda**	**43.45 182**		P	P	09 28 41.1	+3.2
	1.3nm,0.6s,baz=180,slow=7.0,SNR=15						
GO01	**Chusmiza**	**50.37 302**		*e*P	P	09 29 32.2	-0.9
	1.0nm,0.4s						
TSUM	**Tsumeb**	**50.58 57**		*e*P	P	09 29 35.5	+1.2
	3.7nm,0.9s						
H10S2	**ASCENSION HYDR**	**50.83 14**		T	T	10 24 10.9	
	baz=188,slow=74,SNR=7.4						
H10S3	**ASCENSION HYDR**	**50.83 14**		T	T	10 24 11.2	
	baz=188,slow=74,SNR=5.9						
H10S1	**ASCENSION HYDR**	**50.84 14**		T	T	10 24 12.2	
	baz=188,slow=74,SNR=5.8						
MNMC	**Minye Minye**	**51.02 302**		*e*P	P	09 29 38.3	+0.5
	3.7nm,0.8s						
H10N1	**ASCENSION HYDR**	**51.94 14**		T	T	10 25 32.7	
	baz=184						
H10N3	**ASCENSION HYDR**	**51.95 14**		T	T	10 25 36.1	
	baz=184,slow=74						
H10N2	**ASCENSION HYDR**	**51.96 14**		T	T	10 25 32.5	
	baz=184,slow=74						
DBIC	**Dimbokro**	**67.73 22**		*e*P	P	09 31 33.2	+0.4
	15nm,1.3s						
DBIC	**Dimbokro**	**67.73 22**		P	P	09 31 32.9	+0.1
	2.9nm,0.7s,baz=187,slow=9.5,SNR=2.7						
TOA0	**Torodi Ar. Sit**	**75.43 27**		*e*P	P	09 32 19.8	+0.7
	6.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**75.43 27**		P	P	09 32 18.1	-1.1
	4.7nm,0.6s,baz=194,slow=7.3,SNR=33						
TOA1	**Torodi Ar. Sit**	**75.43 27**		*e*P	P	09 32 18.1	-1.1
ASAR	**Alice Springs**	**95.71 161**		P	P	09 34 01.6	+0.3
	0.7nm,0.8s,baz=181,slow=3.8,SNR=9.6						
ULM	**Lac du Bonnet**	**123.11 314**		PKP	PKPdf	09 39 29.1	-1.5
	1.4nm,0.6s,baz=180,slow=11,SNR=5.3						
NVAR	**Mina Array Bea**	**123.37 290**		PKP	PKiKP	09 39 32.4	+0.3
	0.3nm,0.7s,baz=163,slow=3.8,SNR=2.7						
FINES	**FINESS Array B**	**126.78 28**		PKP	PKPdf	09 39 36.6	-0.7
	1.0nm,0.6s,baz=114,slow=4.6,SNR=3.7						
ABKAR	**Akbulak array**	**128.42 56**		*e*PKPdf	PKPdf	09 39 41.0	+0.2
YKA	**Yellowknife Ar**	**139.07 315**		PKP	PKPdf	09 40 00.3	0.0
	1.9nm,0.6s,baz=127,slow=2.4,SNR=38						
INK	**Inuvik**	**148.76 317**		*e*PKPbc	PKPbc	09 40 20.9	-0.1
INK	**Inuvik**	**148.76 317**		PKPbc	PKPbc	09 40 20.4	-0.5
	2.4nm,0.7s,baz=69,slow=1.6,SNR=12						
SONA0	**Songino Array**	**149.93 91**		*e*PKPbc	PKPbc	09 40 24.9	+0.2
SONM	**Songino Array**	**149.93 91**		*e*PKPbc	PKPbc	09 40 25.2	+0.5
SONM	**Songino Array**	**149.93 91**		PKPbc	PKPbc	09 40 24.9	+0.2
	1.5nm,0.8s,baz=233,slow=4.7,SNR=7.2						
ILAR	**Eielson Array**	**152.80 307**		*e*PKPbc	PKPbc	09 40 28.9	-1.7
ILAR	**Eielson Array**	**152.80 307**		PKPbc	PKPbc	09 40 30.4	-0.2
	1.5nm,0.9s,baz=156,slow=1.4,SNR=8.6						
ILB	**Eielson Array**	**152.80 307**		*e*PKPbc	PKPbc	09 40 30.4	-0.2
TOLK	**Toolik Lake Re**	**154.60 315**		*e*PKPbc	PKPbc	09 40 34.9	+0.4
RDOG	**Red Dog Mine**	**159.53 313**		*e*PKPdf	PKPdf	09 40 31.6	-0.5
RDOG				*e*PKPab	PKPab	09 41 10.1	-0.6

JMA 17 09:22:38.3±0.2,43°.27N×146°.58E,h43km±2km,M2.5
SKHL 17 09:22:39.4±0.8,43°.26N×146°.55E,h38km±1km,mb3.8/3
ISC 17 09:22:39.7±6.8,43°.3N±0°.1×146°.5E±0°.1,h39km±15km,n12, σ0§66/19,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.58 276**		P	Pn	09 22 50.7	-0.8
NEM2				*e*S	Sn	09 23 00.0	+0.2
GLVR	**Golovnino**	**0.85 300**		*i* P	Pn	09 22 55.0	-0.2
GLVR				AMB	AMB	09 22 56.0	
	60nm,0.3s						
GLVR				*i* S	Sn	09 23 07.0	+0.5
GLVR				A	A	09 23 07.0	
	300nm,0.3s						
GLVR				A	A	09 23 07.0	
	160nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.87 326**		*i* P	Pn	09 22 55.0	-0.5
YUK				AMB	AMB	09 22 56.0	
	90nm,0.3s						
YUK				AMB	AMB	09 22 56.0	
	60nm,0.3s						
YUK				*i* S	Sn	09 23 07.0	0.0
YUK				A	A	09 23 07.0	
	280nm,0.3s						
YUK				A	A	09 23 07.0	
	230nm,0.3s						
GRPR	**Tuman**	**0.88 321**		*e*P	Pn	09 22 55.0	-0.5
GRPR				AMB	AMB	09 22 55.0	
	20nm,0.3s						
GRPR				AMB	AMB	09 22 55.0	
	80nm,0.3s						
GRPR				*e*S	Sn	09 23 06.0	-1.1
GRPR				A	A	09 23 07.0	
	360nm,0.3s						
LAGR	**Lagunnoye**	**0.92 324**		*e*S	Sn	09 23 08.0	-0.2
JKHN	**Kushirohamanak**	**1.03 258**		P	Pn	09 22 57.4	-0.2
JRA	**Rausu**	**1.20 302**		P	Pn	09 23 00.1	+0.1
JRA				*e*S	Sn	09 23 15.8	+0.8
JNK	**Nakash**	**1.35 282**		P	Pn	09 23 01.8	-0.2
JNK				*e*S	Sn	09 23 18.3	-0.4
JAK	**Akkeshi**	**1.38 257**		P	Pn	09 23 01.8	-0.6
JTKR	**Abashiri--Toko**	**2.02 290**		P	Pn	09 23 12.2	+1.0
JAR	**Ashorobuto**	**2.02 271**		P	Pn	09 23 11.3	+0.1
JAR				*e*S	Sn	09 23 36.1	+0.9
KUR	**Kuril'sk**	**2.15 26**		*e*S	Sn	09 23 39.0	+0.7

ISCJB 17 09:23:18.7±0.9,17°.99S±0°.05×69°.5W±0°.1,h150km±7km, mb3.2/1,Error ellipse: s-maj=16.6km s-min=7.0km az=15.7
GUC 17 09:23:19.7±0.5,17°.95S×69°.37W,h140km±3km,ML3.1
IDC 17 09:23:21.5±2.1,18°.14S×68°.74W,h140km±11km,mb3.3/1, mb1 3.2/2,mb1mx2.9/25,mbtmp3.6/2,MS3.8/1,Ms1 3.8/1, ms1mx2.8/12,Error ellipse: s-maj=88.8km s-min=9.7km az=101.0
ISC 17 09:23:19.2±1.1,17°.97S±0°.06×69°.4W±0°.1,h145km±8km, n15,σ0§90/24,5C-4D,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.37 190**		⇓*i* P	Pn	09 23 40.2	+0.1
PB16				*i* S	Sn	09 23 55.8	-0.3
PB12	**IPOC Station P**	**1.06 233**		⇓*i* P	Pn	09 23 44.4	+0.2
PB12				*i* S	Sn	09 24 02.9	-0.3
PB12				IAML		09 24 03.4	
	comp=E,144nm,0.3s						
MNMC	**Minye Minye**	**1.17 187**		⇑*i* P	Pn	09 23 45.8	+0.4
MNMC				*i* S	Sn	09 24 05.1	-0.2
MNMC				IAML		09 24 08.4	
	comp=E,507nm,0.4s						
GO01	**Chusmiza**	**1.71 172**		⇑*i* P	Pn	09 23 51.8	+0.7
GO01				*i* S	Sn	09 24 16.4	+0.8
GO01				IAML		09 24 19.6	
	comp=N,282nm,0.2s						
PSGC	**Pisagua**	**1.74 202**		⇑*i* P	Pn	09 23 51.1	0.0
PSGC				*i* S	Sn	09 24 15.1	-0.6
PSGC				IAML		09 24 15.5	
	comp=N,154nm,0.4s						
PB11	**IPOC Station P**	**1.79 186**		⇑*i* P	Pn	09 23 52.0	+0.2
PB11				*i* S	Sn	09 24 16.6	-0.3
PB11				IAML		09 24 19.7	
	comp=E,180nm,0.3s						
LPAZ	**La Paz**	**2.09 37**		⇓*i* P	Pn	09 23 56.0	+0.4
LPAZ	**La Paz**	**2.09 37**		P	Pn	09 23 56.1	+0.4
	comp=E,14nm,0.3s,baz=203,slow=3.4,SNR=326						
LPAZ				S	Sn	09 24 22.6	-1.1
	comp=E,1.4nm,0.3s,baz=100,slow=18,SNR=6.7						
PB08	**IPOC Station P**	**2.18 173**		⇑*i* P	Pn	09 23 57.1	+0.6
PB08				*i* S	Sn	09 24 25.6	+0.4
PB08				IAML		09 24 26.3	
	comp=E,100nm,0.1s						
PB01	**IPOC Station P**	**3.06 181**		*e*P	Pn	09 24 07.3	+0.2
PB01				*i* S	Sn	09 24 42.5	-1.9
PB09	**IPOC Station P**	**3.81 177**		⇓*e*P	Pn	09 24 17.7	+0.7
LVC	**Limon Verde**	**4.64 174**		P	Pn	09 24 29.0	+0.8
	comp=E,1.7nm,0.3s,baz=61,slow=14,SNR=36						
LVC				S	Sn	09 25 19.2	-2.6
	comp=E,3.6nm,0.3s,baz=146,slow=22,SNR=16						
SJG	**San Juan**	**36.00 5**		LR	LR	09 46 50.8	
	comp=E,168nm,21.5s,baz=284,slow=39						
TORD	**Torodi Ar. Bea**	**76.67 71**		P	P	09 34 54.4	-0.3
	comp=E,0.5nm,0.8s,baz=248,slow=6.1,SNR=3.9						
WRA	**Warramunga Arr**	**135.68 213**		PKP	PKiKP	09 42 25.8	+0.9
	comp=E,0.9nm,1.1s,baz=129,slow=1.2,SNR=2.7						

SJA 17 09:24:24.4±0.8,31°.87S×69°.63W,h119km±5km,ML2.6, MW3.6,1C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.30 76**		*i* P	Pn	09 24 42.4	+0.8
RTLS				IAML		09 24 56.0	
	comp=Z,135nm,0.5s						
RTLS				⇑*i* S	Sn	09 24 56.0	+1.5
AUSP	**Uspallata**	**0.41 149**		*i* P	Pn	09 24 43.4	+1.3
AUSP				*i* S	Sn	09 24 56.8	+1.3
RTCV	**Cerro Valdivia**	**0.93 90**		*i* P	Pn	09 24 46.0	+0.3
ASAL	**Salagasta**	**0.99 137**		*i* P	Pn	09 24 47.1	+0.8
AMOG	**MOGNA**	**1.35 47**		*i* P	Pn	09 24 51.5	+1.4
AMOG				*i* S	Sn	09 25 10.6	+1.0
ACCO	**Cerro Coronel**	**1.37 21**		*i* P	Pn	09 24 52.0	+1.4
ACDV	**Cuesta del Vie**	**1.75 15**		*i* P	Pn	09 24 55.7	+0.8

SJA 17 09:34:36.8±0.9,20°.89S×69°.24W,h130km±14km,ML2.9, MW3.5
ISCJB 17 09:34:38.5±0.4,20°.92S±0°.03×69°.23W±0°.07,h117km±4km, mb3.5/5,Error ellipse: s-maj=11.2km s-min=4.7km az=0.1
IDC 17 09:34:38.8±2.2,20°.83S×69°.01W,h103km±26km,mb3.4/6, mb1 3.7/7,mb1mx3.5/40,mbtmp3.9/7,Error ellipse: s-maj=27.9km s-min=21.8km az=148.0
GUC 17 09:34:39.1±0.6,20°.90S×69°.20W,h112km±3km,ML4.0
ISC 17 09:34:38.6±0.7,20°.90S±0°.03×69°.16W±0°.07,h105km±5km, n29,σ1§29/43,mb3.6/5,6C-5D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.34 245**		⇑*i* P	Pn	09 34 54.6	+0.5
PB01				*i* S	Sn	09 35 06.5	+0.9
PB01				IAML		09 35 07.4	
	comp=N,11μm,0.2s						
PB08	**IPOC Station P**	**0.76 1**		⇓*i* P	Pn	09 34 58.5	+1.1
PB08				*i* S	Sn	09 35 13.2	+1.7
PB08				IAML		09 35 14.3	
	comp=E,3μm,0.5s						
PB02	**IPOC Station P**	**0.80 239**		*i* P	Pn	09 34 58.1	+0.6
PB02	**IPOC Station P**	**0.80 239**		⇑*i* P	Pn	09 34 58.3	+0.8
PB02				*i* S	Sn	09 35 12.9	+1.2
PB02				IAML		09 35 13.7	
	comp=N,7μm,0.3s						
PB02				IAML		09 35 14.3	
	comp=E,6μm,0.4s						
PB09	**IPOC Station P**	**0.89 185**		⇑*i* P	Pn	09 34 59.4	+0.8
PB09				*i* S	Sn	09 35 15.0	+1.6
PB09				IAML		09 35 18.4	
	comp=N,5μm,0.4s						
PB07	**IPOC Station P**	**1.06 219**		*i* P	Pn	09 35 00.4	+0.2
PB07				*i* S	Sn	09 35 19.2	+2.7
PB07	**IPOC Station P**	**1.06 219**		⇑*i* P	Pn	09 35 00.9	+0.7
PB07				*i* S	Sn	09 35 17.2	+0.6
PB07				IAML		09 35 18.6	
	comp=E,6μm,0.3s						
PB11	**IPOC Station P**	**1.23 338**		*i* P	Pn	09 35 02.7	+0.7
PB11				*i* S	Sn	09 35 21.1	+1.3
PB11	**IPOC Station P**	**1.23 338**		⇓*i* P	Pn	09 35 02.9	+0.8
PB11				*i* S	Sn	09 35 21.0	+1.3
PB11				IAML		09 35 21.8	
	comp=E,7μm,0.2s						
GO01	**Chusmiza**	**1.23 359**		⇓*i* P	Pn	09 35 03.7	+1.2
GO01				*i* S	Sn	09 35 22.4	+2.0
GO01				IAML		09 35 23.6	
	comp=E,10μm,0.1s						
PB03	**IPOC Station P**	**1.27 206**		*i* P	Pn	09 35 02.9	+0.3
PB03	**IPOC Station P**	**1.27 206**		⇑*i* P	Pn	09 35 03.1	+0.6
PB03				*i* S	Sn	09 35 20.8	+0.2
PB03				IAML		09 35 22.4	
	comp=N,3μm,0.3s						
PSGC	**Pisagua**	**1.58 325**		⇓*i* P	Pn	09 35 06.4	+0.2
PSGC				*i* S	Sn	09 35 27.5	+0.3
PSGC				IAML		09 35 30.1	
	comp=N,684nm,0.3s						
PSGCX	**Pisagua**	**1.58 325**		*i* P	Pn	09 35 06.4	+0.1
PB04	**IPOC Station P**	**1.70 213**		⇑*i* P	Pn	09 35 08.0	+0.3
PB04				*i* S	Sn	09 35 29.6	-0.2
PB04				IAML		09 35 37.8	
	comp=E,1μm,0.6s						
LVC	**Limon Verde**	**1.72 172**		P	Pn	09 35 09.3	+1.1
	comp=E,48nm,0.3s,baz=6.0,slow=7.9,SNR=223						
LVC				S	Sn	09 35 32.0	+1.4
	comp=E,371nm,0.3s,baz=146,slow=17,SNR=72						
MNMC	**Minye Minye**	**1.81 347**		⇓*i* P	Pn	09 35 10.2	+1.0
MNMC				*i* S	Sn	09 35 33.8	+1.3
MNMC				IAML		09 35 36.1	
	comp=N,3μm,0.2s						
PB06	**IPOC Station P**	**1.84 192**		IAML		09 35 37.5	
	comp=E,2μm,0.3s						
PB05	**IPOC Station P**	**2.17 206**		IAML		09 35 40.8	
	comp=E,702nm,0.2s						
HJA	**Humahuaca**	**4.17 124**		*i* P	Pn	09 35 41.9	+1.3
HJA				IAML		09 36 34.0	
	comp=Z,13nm,0.5s						
LPAZ	**La Paz**	**4.69 12**		P	Pn	09 35 50.1	+2.3
	comp=Z,2.8nm,0.3s,baz=207,slow=6.2,SNR=53						
SIV	**San Ignacio**	**9.10 59**		P	Pn	09 36 44.5	-2.6
	comp=Z,6.5nm,0.3s,baz=260,slow=9.4,SNR=148						
BDFB	**Brasília**	**20.74 79**		P	P	09 39 11.1	-0.1
	comp=Z,3.4nm,0.4s,baz=256,slow=8.6,SNR=4.4						
TXAR	**Lajitas Array**	**60.01 325**		P	P	09 44 34.3	-0.2
	comp=Z,0.3nm,0.8s,baz=146,slow=6.6,SNR=3.2						
ULM	**Lac du Bonnet**	**74.68 343**		P	P	09 46 06.6	+0.1
	comp=Z,0.7nm,0.6s,baz=236,slow=4.2,SNR=2.9						
NVAR	**Mina Array Bea**	**74.88 322**		P	P	09 46 09.5	+1.3
	comp=Z,0.4nm,0.7s,baz=148,slow=8.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**77.38 71**		P	P	09 46 21.3	-1.3
	comp=Z,0.5nm,0.4s,baz=251,slow=4.6,SNR=10						
TORD				pP	pP	09 46 49.5	-1.3
	comp=Z,1.9nm,0.8s,baz=262,slow=5.3,SNR=4.9						
YKA	**Yellowknife Ar**	**90.55 341**		P	P	09 47 28.8	+0.4
	comp=Z,0.5nm,0.7s,baz=133,slow=4.5,SNR=13						
YKA				pP	pP	09 47 53.1	-3.2
	comp=Z,0.2nm,0.4s,baz=127,slow=4.4,SNR=4.1						
MKAR	**Makanchi Array**	**145.28 35**		PKPbc	PKPab	09 54 03.8	-0.5
	comp=Z,0.4nm,0.6s,baz=316,slow=4.0,SNR=1.9						

NSSC 17 09:43:54.1±3.0,33°.94N×35°.78E,h4km±999km,ML1.2
ISCJB 17 09:43:57.2±2.3,33°.78N±0°.06×35°.7E±0°.2,h17km±29km, Error ellipse: s-maj=25.2km s-min=8.0km az=163.9
GRAL 17 09:43:58.3±0.3,33°.78N×35°.76E,h5km±13km,MD2.7
ISC 17 09:43:55.7±1.3,33°.86N±0°.06×35°.88E±0°.07,h13km±13km, n7,σ1§27/11,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.19 284**		*e*P	Pg	09 44 01.2	+1.0
DQRL	**Deir Qamar**	**0.30 240**		*e*P	Pg	09 44 01.6	-0.3
DQRL				*e*S	Sg	09 44 03.9	-2.2
RCY	**Rachaya**	**0.36 186**		*e*P	Pg	09 44 03.5	+0.4
RCY				*e*S	Sg	09 44 07.5	-0.5
HWQ	**Hawqa**	**0.42 7**		*e*P	Pn	09 44 07.8	+0.2
BRBR	**Barbar**	**0.45 172**		*e*P	Pg	09 44 05.4	+0.7
BRBR				*e*S	Sg	09 44 12.2	+1.5
BRBR				AML	AML	09 44 15.1	
	comp=N,33nm,0.3s						
BRBR				AML	AML	09 44 15.3	
	comp=E,24nm,0.5s						
QASN	**Qassioun**	**0.46 134**		*e*P	Pg	09 44 03.9	-1.0
TOTH	**TOTAH**	**0.67 137**		*e*P	Pn	09 44 11.6	+0.6
TOTH				*e*S	Sn	09 44 20.7	-0.6
TOTH				AML	AML	09 44 30.9	
	comp=N,8.4nm,0.7s						
TOTH				AML	AML	09 44 33.9	
	comp=E,4.8nm,0.5s						

IDC 17 09:48:19.1±11.0,10°.51S×165°.70E,h0km,mb4.0/5, mb1 4.2/6,mb1mx3.7/39,mbtmp4.1/6,ML4.0/1,Error ellipse: s-maj=187.2km s-min=46.9km az=52.0
ISCJB 17 09:48:21.9±1.1,10°.9S±0°.1×165°.4E±0°.1,h10km,mb4.2/11, Error ellipse: s-maj=20.8km s-min=10.3km az=135.2
NEIC 17 09:48:23.6±1.4,10°.80S×165°.42E,h10km±2km,mb4.3/11, Error ellipse: s-maj=23.7km s-min=17.5km az=224.0
ISC 17 09:48:23.5±1.3,10°.8S±0°.1×165°.4E±0°.1,h10km,n21, σ0§86/21,mb4.2/11,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.57 284**		*e*Pn	Pn	09 49 46.0	-0.5
MARNC	**Mare, Loyalty**	**10.92 167**		*e*Pn	Pn	09 50 59.4	-0.4
DZM	**Mont Dzumac**	**11.26 175**		Pn	Pn	09 51 04.4	-0.2
	1.0nm,0.3s,baz=302,slow=13,SNR=31						
ONTNC	**Ouen Toro**	**11.49 175**		*e*Pn	Pn	09 51 06.8	-1.0
PINNC	**Pines Island,**	**11.91 171**		*e*Pn	Pn	09 51 13.6	+0.1
CTA	**Charters Tower**	**20.66 241**		P	P	09 53 04.3	+0.7
	4.4nm,0.8s,baz=66,slow=12,SNR=3.7						
CTAO	**Charters Tower**	**20.66 241**		*e*P	P	09 53 01.1	-2.5
	5.8nm,0.9s						
COEN	**Coen**	**21.97 259**		*e*P	P	09 53 17.9	+0.2
	8.3nm,0.8s						
STKA	**Stephens Creek**	**30.42 223**		*e*P	P	09 54 37.3	+1.1
	1.9nm,1.4s						
STKA	**Stephens Creek**	**30.42 223**		P	P	09 54 37.0	+0.8
	1.2nm,0.6s,baz=48,slow=13,SNR=7.1						
WB2	**Warramunga Arr**	**31.28 249**		*e*P	P	09 54 44.4	+0.5
	7.1nm,1.1s						
WR1	**Warramunga Arr**	**31.29 249**		*e*P	P	09 54 44.1	+0.1
WRA	**Warramunga Arr**	**31.29 249**		P	P	09 54 44.1	+0.1
	1.4nm,0.6s,baz=78,slow=9.0,SNR=11						
AS31	**Alice Springs**	**32.64 243**		*e*P	P	09 54 55.0	-0.8
	0.9nm,0.6s						
ASAR	**Alice Springs**	**32.64 243**		P	P	09 54 55.6	-0.3
	1.5nm,0.4s,baz=65,slow=10,SNR=20						
BBOO	**Buckleboo**	**34.78 226**		*e*P	P	09 55 14.3	-0.1
	19nm,1.4s						
FITZ	**Fitzroy Crossi**	**39.16 255**		*e*P	P	09 55 51.8	0.0
	18nm,1.4s						
FITZ	**Fitzroy Crossi**	**39.16 255**		P	P	09 55 52.1	+0.4
	2.3nm,0.6s,baz=66,slow=6.5,SNR=10						
PSA00	**Pilbara Seismi**	**44.93 250**		*e*P	P	09 56 40.3	+1.3
	25nm,1.5s						
QSPA	**South Pole Qui**	**79.21 180**		*e*P	P	10 00 29.2	+0.5
	1.6nm,1.1s						
WDC	**Whiskeytown Da**	**83.66 47**		*e*P	P	10 00 52.2	-0.4
	2.9nm,1.0s						

GRAL 17 10:02:06.1±0.3,33°.79N×35°.74E,h12km±6km,MD2.6
NSSC 17 10:02:06.3±1.4,33°.46N×35°.53E,h19km±46km,ML1.1

MRKS S Sn 10 26 25.3 -1.8
27nm,0.3s
MRKS Merke 1.53 12 *eP* Pn 10 26 07.0 0.0
4.0nm,0.2s
MRKS *eS* Sn 10 26 25.3 -1.8
27nm,0.3s
EKS2 Erkin-Say 1.59 27⇑*iP* Pn 10 26 06.9 -0.9
baz=28
EKS2 ⇑*iS* Sn 10 26 26.5 -2.2
baz=28
UCH Uchtor 1.61 52⇑*iP* Pn 10 26 08.5 +0.1
baz=55
UCH ⇑*iS* Sb 10 26 30.1 -0.1
baz=55
AAK Ala-Archa 1.88 42 ⇓Pn Pb 10 26 14.1 +0.3
2.2nm,0.5s
AAK ⇓Sn Sb 10 26 37.3 -0.3
6.7nm,0.3s
AAK Ala-Archa 1.88 42⇑*iP* Pn 10 26 12.6 +0.8
baz=44
AAK ⇑*iS* Sb 10 26 36.7 -0.9
baz=44
IUG luzhnay 2.26 294 Pg Pg 10 26 22.4 -0.1
8.3nm,0.2s
IUG Lg Lg 10 26 51.6
40nm,0.4s
IUG luzhnay 2.26 294 *eP* Pg 10 26 22.4 -0.1
8.3nm,0.2s
IUG *eS* Sg 10 26 51.6 -0.3
40nm,0.4s
CHMS Chumysh 2.27 39⇓*iP* Pn 10 26 18.2 +1.1
baz=41
CHMS ⇓*iS* Sb 10 26 46.9 -1.9
baz=41
USP Ospenovka 2.38 31⇑*eP* Pn 10 26 19.4 +0.8
baz=33
USP ⇑*iS* Sn 10 26 48.9 +0.9
baz=33
NRN Naryn 2.42 84⇓*iP* Pb 10 26 22.6 -0.5
baz=88
NRN ⇓*iS* Sb 10 26 53.5 +0.4
baz=88
KK31 Karatay Array 2.52 318 ⇓Pn Pb 10 26 25.0 +0.4
0.8nm,0.3s,baz=131,slow=16,SNR=20
KK31 ⇓Lg Lg 10 26 57.2
4.8nm,0.3s,baz=133,slow=26,SNR=16
BOOM Boomskoye usch 2.65 61⇓*iP* Pb 10 26 25.0 -2.0
baz=63
BOOM ⇓*iS* Sb 10 26 58.0 -1.8
baz=63
TKM2 Tokmak 2 2.67 50 ⇓Pn Pb 10 26 27.0 -0.4
3.9nm,0.5s
TKM2 ⇓Lg Lg 10 26 59.9
4.4nm,0.4s
KST Kastek 2.96 52 Pg Pb 10 26 33.5 +1.2
6.3nm,0.4s
KST Lg Lg 10 27 10.6
15nm,0.4s
KST Kastek 2.96 52 *eP* Pb 10 26 33.5 +1.2
6.3nm,0.4s
KST *eS* Sb 10 27 10.6 +2.0
15nm,0.4s
DGS Degeres 2.97 47 Pg Pb 10 26 34.1 +1.6
3.1nm,0.5s
DGS Lg Lg 10 27 11.5
13nm,0.7s
DGS Degeres 2.97 47 *eP* Pb 10 26 34.1 +1.6
3.1nm,0.5s
DGS *eS* Sb 10 27 11.5 +2.5
13nm,0.7s
KTBS Karatobe 3.78 48 Pg Pb 10 26 48.4 +2.2
1.9nm,0.5s
KTBS Lg Lg 10 27 35.8
12nm,0.4s
KTBS Karatobe 3.78 48 *eP* Pb 10 26 48.5 +2.2
1.9nm,0.5s
KTBS *eS* Sb 10 27 35.9 +3.6
12nm,0.4s
BTLS Baital 3.90 13 Pg Pb 10 26 49.1 +0.9
1.3nm,0.3s
BTLS Lg Lg 10 27 37.1
7.6nm,0.4s
BTLS Baital 3.90 13 *eP* Pb 10 26 49.1 +0.9
1.3nm,0.3s
BTLS *eS* Sb 10 27 37.1 +1.5
7.6nm,0.4s
ARXS Arharly 4.74 50 Pg Pb 10 27 05.3 +2.7
3.3nm,0.8s
ARXS Lg Lg 10 28 04.8
6.5nm,0.5s
ARXS Arharly 4.74 50 *eP* Pb 10 27 05.3 +2.7
3.3nm,0.8s
ARXS *eS* Sb 10 28 04.8 +4.9
6.5nm,0.5s

IDC 17 10:37:15.9±16.0,**5°.02N**×**127°.03E**,**h271**km±182km,
mb2.9/6,**mb1 3.1**/6,**mb1mx2.9**/32,**mbtmp3.5**/6,**MS2.2**/1,
Ms1 2.2/1,**ms1mx2.1**/8,**Error ellipse: s-maj=70.9km**
s-min=21.5km az=60.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.50**	**325**	LR	LR	10 38 38.4	
	comp=Z,51nm,19.9s,baz=234,slow=33						
FITZ	**Fitzroy Crossi**	**23.01**	**183**	P	P	10 41 57.2	-0.3
	1.8nm,0.8s,baz=17,slow=9.5,SNR=4.6						
WRA	**Warramunga Arr**	**25.82**	**164**	P	P	10 42 22.7	-0.3
	0.5nm,0.6s,baz=340,slow=10,SNR=18						
ASAR	**Alice Springs**	**29.29**	**167**	P	P	10 42 54.4	+0.7
	0.2nm,0.9s,baz=349,slow=7.1,SNR=3.7						
SONM	**Songino Array**	**46.19**	**341**	P	P	10 45 13.8	-0.3
	0.2nm,0.4s,baz=142,slow=7.3,SNR=2.1						
MKAR	**Makanchi Array**	**56.68**	**325**	P	P	10 46 31.7	+0.2
	1.1nm,0.5s,baz=122,slow=8.7,SNR=12						
ILAR	**Eielson Array**	**83.82**	**25**	P	P	10 49 14.4	-0.5
	0.3nm,0.6s,baz=252,slow=5.9,SNR=3.7						

SJA ***17*** *10:43:09.0*±*0.6,21°.34S*×*68°.84W,h142km*±*10km,ML2.5,*
MW3.1
ISCJB ***17*** *10:43:11.4*±*0.5,21°.31S*±*0°.03*×*68°.81W*±*0°.07,h118km*±*6km,*
mb3.7/2,Error ellipse: s-maj=11.5km s-min=4.5km
az=178.6
GUC ***17*** *10:43:11.7*±*0.5,21°.30S*×*68°.78W,h114km*±*3km,ML3.9*
IDC ***17*** *10:43:12.2*±*1.2,21°.30S*×*68°.56W,h106km*±*15km,mb3.6/2,*
mb1 3.8/4,mb1mx3.3/27,mbtmp4.0/4,Error ellipse:
s-maj=38.3km s-min=18.1km az=109.0
ISC 17 10:43:11.8±**0.9,21°.30S**±**0°.03**×**68°.74W**±**0°.07,h108**km±**8km,**
n30,σ**0**°**86**/47**,10C-4D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.68**	**223**⇑	*iP*	**Pn**	**10 43 30.1**	**0.0**
PB09				*iS*	**Sn**	**10 43 44.1**	**+0.3**
PB09				IAML		10 43 47.9	
	comp=E,2μm,0.5s						
PB01	**IPOC Station P**	**0.74**	**290**⇑	*iP*	**Pn**	**10 43 29.9**	**-0.5**
PB01				*iS*	**Sn**	**10 43 43.8**	**-0.6**
PB01				IAML		10 43 45.6	
	comp=N,7μm,0.4s						
PB02	**IPOC Station P**	**1.07**	**269**	*iP*	**Pn**	**10 43 33.4**	**-0.4**
PB02				*iS*	**Sn**	**10 43 52.2**	**+1.9**
PB02	**IPOC Station P**	**1.07**	**269**⇑	*iP*	**Pn**	**10 43 33.5**	**-0.2**
PB02				*iS*	**Sn**	**10 43 50.1**	**-0.3**
PB02				IAML		10 43 51.8	
	comp=E,12μm,0.2s						
PB07	**IPOC Station P**	**1.15**	**248**	*iP*	**Pn**	**10 43 34.1**	**-0.6**
PB07				*iS*	**Sn**	**10 43 52.8**	**+0.9**
PB07	**IPOC Station P**	**1.15**	**248**⇑	*iP*	**Pn**	**10 43 34.4**	**-0.3**
PB07				*iS*	**Sn**	**10 43 52.2**	**+0.4**
PB07				IAML		10 43 53.8	
	comp=E,3μm,0.4s						
PB03	**IPOC Station P**	**1.20**	**231**	*iP*	**Pn**	**10 43 35.0**	**-0.2**
PB03	**IPOC Station P**	**1.20**	**231**⇑	*iP*	**Pn**	**10 43 35.0**	**-0.2**
PB03				*iS*	**Sn**	**10 43 52.9**	**0.0**
PB03				IAML		10 43 54.2	
	comp=E,1μm,0.4s						
PB08	**IPOC Station P**	**1.21**	**341**	⇓*iP*	**Pn**	**10 43 36.0**	**+0.5**
PB08				*iS*	**Sn**	**10 43 54.5**	**+0.9**
PB08				IAML		10 43 55.4	
	comp=E,3μm,0.2s						
LVC	**Limon Verde**	**1.32**	**187**	P	**Pn**	**10 43 37.1**	**+0.4**
	comp=E,36nm,0.3s,baz=11,slow=8.7,SNR=257						
LVC				S	**Sn**	**10 43 56.0**	**+0.4**
	comp=E,51nm,0.3s,baz=262,slow=22,SNR=51						
LVC				LR	LR	10 44 06.3	
	comp=E,44nm,18.4s,baz=352,slow=40						
PB06	**IPOC Station P**	**1.60**	**209**	*iP*	**Pn**	**10 43 39.3**	**-0.6**
PB06	**IPOC Station P**	**1.60**	**209**⇑	*iP*	**Pn**	**10 43 39.9**	**0.0**
PB06				*iS*	**Sn**	**10 44 01.5**	**+0.2**
PB06				IAML		10 44 02.4	
	comp=E,739nm,0.4s						
PB04	**IPOC Station P**	**1.67**	**231**⇑	*iP*	**Pn**	**10 43 40.3**	**-0.4**
PB04				*eS*	**Sn**	**10 44 02.5**	**-0.2**
PB04				IAML		10 44 08.9	
	comp=N,1μm,0.5s						
GO01	**Chusmiza**	**1.67**	**345**⇓	*iP*	**Pn**	**10 43 41.4**	**+0.3**
GO01				*eS*	**Sn**	**10 44 04.0**	**+0.6**
GO01				IAML		10 44 11.6	
	comp=E,2μm,0.1s						
PB11	**IPOC Station P**	**1.75**	**331**	*iP*	**Pn**	**10 43 41.8**	**+0.1**
PB11				*iS*	**Sn**	**10 44 05.7**	**+1.1**
PB11	**IPOC Station P**	**1.75**	**331**⇓	*iP*	**Pn**	**10 43 41.7**	**-0.1**
PB11				*iS*	**Sn**	**10 44 04.6**	**0.0**
PB11				IAML		10 44 05.9	
	comp=N,2μm,0.3s						
PB15	**IPOC Station P**	**2.02**	**199**	*eP*	**Pn**	**10 43 45.5**	**+0.3**
PB05	**IPOC Station P**	**2.06**	**221**⇑	*iP*	**Pn**	**10 43 44.9**	**-0.7**
PB05				IAML		10 44 19.6	
	comp=N,324nm,0.6s						
PSGCX	**Pisagua**	**2.13**	**322**	*iP*	**Pn**	**10 43 45.7**	**-0.8**
PSGCX				*iS*	**Sn**	**10 44 13.5**	**+0.5**
PSGC	**Pisagua**	**2.13**	**322**⇑	*iP*	**Pn**	**10 43 45.7**	**-0.8**
PSGC				*iS*	**Sn**	**10 44 11.4**	**-1.6**
PSGC				IAML		10 44 18.1	
	comp=E,983nm,0.6s						
MNMC	**Minye Minye**	**2.30**	**339**⇓	*iP*	**Pn**	**10 43 49.1**	**+0.3**
MNMC				IAML		10 44 27.2	
	comp=N,1μm,0.5s						
PB10	**IPOC Station P**	**2.77**	**217**	*eP*	**Pn**	**10 43 54.9**	**+0.2**
PB16	**IPOC Station P**	**3.03**	**346**	*eP*	**Pn**	**10 44 00.5**	**+1.7**
HJA	**Humahuaca**	**3.63**	**122**	*iP*	**Pn**	**10 44 06.8**	**+0.3**
HJA				IAML		10 44 11.1	
	comp=Z,6.7nm,0.4s						
GO02	**Mina Guanaco**	**3.93**	**191**⇑	*iP*	**Pn**	**10 44 10.0**	**-0.5**
LPAZ	**La Paz**	**5.01**	**7**	P	**Pn**	**10 44 27.1**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=218,slow=4.3,SNR=24						
SIV	**San Ignacio**	**8.98**	**55**	P	**Pn**	**10 45 15.4**	**-3.3**
	comp=Z,1.6nm,0.3s,baz=261,slow=13,SNR=65						
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	**P**	**10 54 54.0**	**0.0**
	comp=Z,0.9nm,0.7s,baz=249,slow=6.2,SNR=7.1						
YKA	**Yellowknife Ar**	**91.05**	**341**	P	**P**	**10 56 03.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=133,slow=4.3,SNR=11						
YKA				pP	**pP**	**10 56 32.7**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=133,slow=4.6,SNR=6.0						
MKAR	**Makanchi Array**	**145.38**	**36**	PKPbc	**PKPab**	**11 02 37.6**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=343,slow=4.5,SNR=5.3						

GII ***17*** *10:44:37.7*±*0.0,33°.26N*×*35°.42E,h1km,MD2.1/7*
ISCJB ***17*** *10:44:38.1*±*0.6,33°.31N*±*0°.03*×*35°.40E*±*0°.04,h5km*±*5km,*
Error ellipse: s-maj=6.8km s-min=3.1km az=34.0
GRAL ***17*** *10:44:38.5*±*0.3,33°.29N*×*35°.38E,h0km*±*74km,MD3.0*
NSSC ***17*** *10:44:38.6*±*0.4,33°.15N*×*35°.48E,h5km*±*9km,ML1.9*
ISC 17 10:44:38.2±**1.1,33°.30N**±**0°.03**×**35°.39E**±**0°.04,h10**km±**11km,**
n22,σ**0**°**63/33,Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.25**	**111**	Pg	**Pg**	**10 44 43.0**	**-0.2**
KSDI	**Kefar Szold**	**0.25**	**116**	Pg	**Pg**	**10 44 43.2**	**-0.1**
HNTI	**Hanita**	**0.28**	**220**	Sg	**Sb**	**10 44 49.7**	**-0.5**
MMA0B	**Mount Meron ar**	**0.28**	**178**	Pg	**Pg**	**10 44 44.1**	**+0.1**
MMA0B				Sg	**Sg**	**10 44 48.9**	**+1.1**
NATI	**Neve Ativ**	**0.29**	**97**	Pg	**Pg**	**10 44 43.7**	**-0.4**
SHBL	**Chebaa**	**0.30**	**81**	*eP*	**Pg**	**10 44 44.0**	**-0.3**
SHBL				*eS*	**Sg**	**10 44 48.1**	**-0.3**
QRWL	**Qaraoun**	**0.35**	**45**	*eP*	**Pg**	**10 44 44.9**	**-0.3**
QRWL				*eS*	**Sg**	**10 44 49.8**	**0.0**
RCY	**Rachaya**	**0.42**	**62**	*eP*	**Pg**	**10 44 46.3**	**-0.2**
RCY				*eS*	**Sg**	**10 44 52.0**	**-0.1**
DQRL	**Deir Qamar**	**0.43**	**20**	*eP*	**Pg**	**10 44 46.4**	**-0.3**
DQRL				*eS*	**Sg**	**10 44 52.4**	**-0.1**
KSHT	**Keshet**	**0.47**	**132**	Pg	**Pb**	**10 44 48.1**	**-0.6**
BRBR	**Barbar**	**0.48**	**77**	*eP*	**Pg**	**10 44 47.8**	**+0.1**
BRBR				*eS*	**Sg**	**10 44 54.4**	**+0.4**
BRBR				AML	AML	10 44 57.6	
	comp=E,70nm,0.4s						
BRBR				AML	AML	10 44 58.8	
	comp=N,132nm,0.3s						
BHL	**Bhannes**	**0.64**	**20**	*eP*	**Pg**	**10 44 50.3**	**-0.4**
OFRI	**`Ofer**	**0.76**	**207**	Pg	**Pg**	**10 44 53.1**	**+0.3**
QASN	**Qassioun**	**0.78**	**72**	*eP*	**Pb**	**10 44 54.0**	**+0.1**
QASN				*eS*	**Sg**	**10 45 04.1**	**+0.8**
QASN				AML	AML	10 45 05.8	
	comp=N,195nm,0.6s						
QASN				AML	AML	10 45 06.8	
	comp=E,61nm,0.5s						
MMLI	**Mount Malkishu**	**0.86**	**178**	Pg	**Pg**	**10 44 54.4**	**-0.4**
MMLI				Sg	**Sb**	**10 45 06.3**	**-0.6**
TOTH	**TOTAH**	**0.87**	**86**	*eP*	**Pg**	**10 44 54.8**	**-0.2**
TOTH				*eS*	**Sg**	**10 45 05.7**	**-0.7**
TOTH				AML	AML	10 45 08.8	
	comp=N,16nm,0.3s						
TOTH				AML	AML	10 45 14.3	
	comp=E,18nm,0.7s						
HMDT	**Nahal Hemdat**	**1.05**	**174**	Pg	**Pg**	**10 44 57.8**	**-0.6**
HWQ	**Hawqa**	**1.08**	**25**	*eP*	**Pg**	**10 44 58.2**	**-0.8**
SLTI	**Sal'it**	**1.10**	**196**	Pg	**Pg**	**10 44 59.0**	**-0.3**
DSI	**Dead Sea**	**1.73**	**180**	Pn	**Pn**	**10 45 08.9**	**+0.6**
DSI				Sn	**Sg**	**10 45 32.7**	**-1.0**
YTIR	**Yattir**	**1.95**	**187**	Pn	**Pn**	**10 45 12.4**	**+1.0**
YTIR				Sn	**Sg**	**10 45 39.4**	**-1.4**
PRNI	**Paran**	**2.96**	**186**	Pn	**Pn**	**10 45 26.7**	**+1.4**

IDC ***17*** *10:59:16.8*±*2.2,6°.52N*×*124°.60E,h0km,mb3.9/4,*
mb1 4.1/4,mb1mx3.5/63,mbtmp3.9/4,MS2.9/2,Ms1 2.9/2,
ms1mx2.4/54,Error ellipse: s-maj=256.0km s-min=20.9km
az=65.0
NEIC ***17*** *10:59:18.3*±*1.1,6°.39N*×*124°.15E,h10km*±*2km,mb4.2/6,*
Error ellipse: s-maj=37.6km s-min=9.5km az=74.0
ISCJB ***17*** *10:59:19.7*±*0.6,6°.37N*±*0°.08*×*124°.3E*±*0°.2,h33km,*
mb4.0/10,MS3.0/1,Error ellipse: s-maj=27.2km
s-min=9.6km az=168.8
ISC 17 10:59:21.6±**0.8,6°.4N**±**0°.1**×**124°.2E**±**0°.3,h35**km,**n19,**
σ**1**°**22/17,mb4.0/10,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**7.53**	**191**	*ePn*	**Pn**	**11 01 10.1**	**+1.1**
LUWI				*eSn*	Sn	11 02 23.5	-10
TGY	**Tagaytay City**	**8.32**	**337**	LR	LR	11 04 44.1	
	comp=Z,64nm,18.7s,baz=182,slow=39						
FITZ	**Fitzroy Crossi**	**24.38**	**177**	*eP*	**P**	**11 04 36.1**	**-0.6**
WRAB	**Tennant Creek**	**27.99**	**159**	*eP*	**P**	**11 05 09.8**	**+0.5**
	2.7nm,1.0s						
WRA	**Warramunga Arr**	**28.00**	**159**	P	**P**	**11 05 09.5**	**+0.2**
	1.1nm,0.3s,baz=339,slow=10,SNR=49						
WR1	**Warramunga Arr**	**28.00**	**159**	*eP*	**P**	**11 05 09.5**	**+0.2**
WB2	**Warramunga Arr**	**28.00**	**159**	*eP*	**P**	**11 05 09.9**	**+0.5**
	2.8nm,0.8s						
WC3	**Warramunga Arr**	**28.02**	**159**	*eP*	**P**	**11 05 09.7**	**+0.1**
	9.8nm,1.4s						
AS31	**Alice Springs**	**31.33**	**163**	*eP*	**P**	**11 05 39.5**	**+0.6**
	0.5nm,0.7s						
ASAR	**Alice Springs**	**31.33**	**163**	*eP*	**P**	**11 05 39.6**	**+0.7**
ASAR	**Alice Springs**	**31.33**	**163**	P	**P**	**11 05 39.3**	**+0.4**
	1.0nm,0.5s,baz=342,slow=7.1,SNR=46						
BBOO	**Buckleboo**	**40.58**	**165**	*eP*	**P**	**11 06 56.2**	**-1.6**
	12nm,1.4s						
ASAJ	**Asahikawa**	**40.87**	**20**	LR	LR	11 25 36.5	
	comp=Z,22nm,18.7s,baz=356,slow=39						
MK32	**Makanchi Array**	**53.97**	**325**	*eP*	**P**	**11 08 43.9**	**+1.9**
MKAR	**Makanchi Array**	**53.97**	**325**	P	**P**	**11 08 43.9**	**+1.9**
	0.4nm,0.4s,baz=140,slow=6.4,SNR=5.2						
PEA0B	**Petropavlovsk-**	**53.97**	**24**	*eP*	**P**	**11 08 42.4**	**+0.5**
	15nm,1.4s						
PETK	**Petropavlovsk-**	**53.97**	**24**	*eP*	**P**	**11 08 42.7**	**+0.8**
KURBB	**Kurchatov Arra**	**58.17**	**328**	P	**P**	**11 09 12.5**	**+0.6**
	1.0nm,0.7s,baz=128,slow=6.0,SNR=2.8						
ABKAR	**Akbulak array**	**68.53**	**321**	*eP*	**P**	**11 10 17.9**	**-2.6**

MOS ***17*** *11:14:40.1*±*2.4,20°.62S*×*178°.92W,h562km,mb4.6/22,*
Error ellipse: s-maj=13.0km s-min=10.7km az=85.7
NEIC ***17*** *11:14:40.2*±*1.4,20°.75S*×*178°.78W,h577km*±*6km,mb4.5/69,*
Error ellipse: s-maj=15.8km s-min=13.1km az=123.0
ISCJB ***17*** *11:14:41.4*±*0.6,20°.76S*±*0°.04*×*178°.89W*±*0°.04,*
h597km±*9km,mb4.5/88,Error ellipse: s-maj=6.8km*
s-min=5.3km az=162.6
IDC ***17*** *11:14:44.2*±*1.8,20°.77S*×*178°.83W,h618km*±*22km,*
mb3.8/26,mb1 3.9/27,mb1mx3.8/38,mbtmp4.7/27,Error
ellipse: s-maj=12.7km s-min=12.5km az=44.0
ISC 17 11:14:41.0±**0.8,20°.83S**±**0°.06**×**178°.75W**±**0°.06,**
h588km±**9km,n433,**σ**1**°**24/462,mb4.5/87,44C-18D,Fiji**
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.42**	**175**	*eP*	**P**	**11 16 43.5**	**-0.3**
RAO				*eS*	**S**	**11 18 22.5**	**-2.2**
RAO	**Raoul Island**	**8.42**	**175**	*eP*	**P**	**11 16 43.5**	**-0.3**
RAO				*eS*	**S**	**11 18 22.5**	**-2.2**
RAO	**Raoul Island**	**8.42**	**175**	P	**P**	**11 16 46.9**	**+3.1**
	235nm,0.3s,baz=61,slow=23,SNR=8.5						
RAO				S	**S**	**11 18 22.5**	**-2.2**
	28nm,0.3s,baz=73,slow=20,SNR=3.1						
GLKZ	**Green Lake**	**8.43**	**175**	P	**P**	**11 16 44.7**	**+0.8**
GLKZ				S	**S**	**11 18 25.9**	**+1.1**
NIUE	**Niue**	**8.48**	**80**	*eP*	**P**	**11 16 43.0**	**-1.5**
MARNC	**Mare, Loyalty**	**12.35**	**265**	*eP*	**P**	**11 17 22.7**	**-0.6**
PINNC	**Pines Island,**	**12.95**	**260**	*eP*	**P**	**11 17 28.7**	**-0.7**
DZM	**Mont Dzumac**	**13.84**	**262**	*eP*	**P**	**11 17 37.6**	**-1.1**
DZM	**Mont Dzumac**	**13.84**	**262**	P	**P**	**11 17 39.6**	**+0.9**
	1.2nm,0.3s,baz=322,slow=23,SNR=10						
ONTNC	**Ouen Toro**	**13.85**	**261**	*eP*	**P**	**11 17 37.6**	**-1.0**
OUZ	**Omahuta**	**15.84**	**204**	*eP*	**P**	**11 17 59.6**	**+2.4**
	142nm,0.8s						
OUZ	**Omahuta**	**15.84**	**204**	P	**P**	**11 18 00.8**	**+3.6**
GRZ	**Great Barrier**	**16.18**	**197**	P	**P**	**11 18 02.9**	**+2.6**
WCZ	**Waipu Caves**	**16.23**	**200**	P	**P**	**11 18 04.4**	**+3.6**
KUZ	**Kuaotunu**	**16.58**	**196**	P	**P**	**11 18 07.0**	**+3.0**
WIAZ	**Waiheke Island**	**16.78**	**197**	P	**P**	**11 18 09.0**	**+3.1**
MBAZ	**Motutapu North**	**16.82**	**198**	P	**P**	**11 18 09.3**	**+3.1**
MXZ	**Matakaoa Point**	**16.87**	**188**	*eP*	**P**	**11 18 07.5**	**+0.9**
	394nm,1.6s						
MXZ	**Matakaoa Point**	**16.87**	**188**	P	**P**	**11 18 07.8**	**+1.2**
MXZ	**Matakaoa Point**	**16.87**	**188**	P	**P**	**11 18 09.5**	**+2.9**
HBAZ	**Herne Bay Bore**	**16.95**	**198**	P	**P**	**11 18 09.1**	**+1.7**
EPAZ	**Eden Park BICE**	**16.97**	**198**	P	**P**	**11 18 11.2**	**+3.7**
ETAZ	**East Tamaki Re**	**16.99**	**198**	P	**P**	**11 18 11.2**	**+3.5**
MKAZ	**Moumakai**	**17.07**	**197**	P	**P**	**11 18 11.1**	**+2.8**
WTAZ	**Waiatarua**	**17.07**	**199**	P	**P**	**11 18 11.7**	**+3.2**
WMGZ	**Waiomatatini S**	**17.11**	**188**	P	**P**	**11 18 09.8**	**+1.0**
WMGZ	**Waiomatatini S**	**17.11**	**188**	P	**P**	**11 18 10.6**	**+1.8**
KBAZ	**Karaka Road Bo**	**17.13**	**198**	P	**P**	**11 18 12.3**	**+3.3**
HAZ	**Te Kaha**	**17.14**	**189**	P	**P**	**11 18 09.7**	**+0.7**
AWAZ	**Awhitu Peninsu**	**17.17**	**198**	P	**P**	**11 18 12.7**	**+3.3**
RUGZ	**Raukumara Rang**	**17.36**	**190**	P	**P**	**11 18 11.6**	**+0.4**
RUGZ	**Raukumara Rang**	**17.36**	**190**	P	**P**	**11 18 12.3**	**+1.1**
PUZ	**Puketiti**	**17.38**	**188**	P	**P**	**11 18 12.0**	**+0.7**
PUZ	**Puketiti**	**17.38**	**188**	P	**P**	**11 18 13.5**	**+2.2**
TGRZ	**Tauranga**	**17.39**	**193**	P	**P**	**11 18 14.7**	**+3.3**
TWGZ	**Tauwhareparae**	**17.52**	**189**	P	**P**	**11 18 14.6**	**+2.0**
TOZ	**Tahuroa Road**	**17.57**	**195**	P	**P**	**11 18 15.6**	**+2.7**
KMRZ	**Kaimai**	**17.57**	**194**	P	**P**	**11 18 16.3**	**+3.2**
URZ	**Urewera**	**17.74**	**191**	*eP*	**P**	**11 18 14.0**	**-0.5**
	46nm,0.9s						
URZ	**Urewera**	**17.74**	**191**	P	**P**	**11 18 12.9**	**-1.6**
	10nm,0.3s,baz=266,slow=2.8,SNR=61						
URZ				S	**S**	**11 21 01.4**	**-6.7**
	0.7nm,0.3s,baz=80,slow=17,SNR=4.7						
URZ	**Urewera**	**17.74**	**191**	P	**P**	**11 18 13.9**	**-0.5**
URZ	**Urewera**	**17.74**	**191**	P	**P**	**11 18 13.3**	**-1.2**
MWZ	**Matawai**	**17.74**	**190**	P	**P**	**11 18 13.8**	**-0.8**
TKGZ	**Te Karaka**	**17.80**	**189**	P	**P**	**11 18 17.0**	**+2.0**
RAGZ	**Rawiri**	**17.92**	**190**	P	**P**	**11 18 17.3**	**+1.0**
RAGZ	**Rawiri**	**17.92**	**190**	P	**P**	**11 18 18.6**	**+2.3**
MUGZ	**Murupara**	**18.01**	**191**	P	**P**	**11 18 18.4**	**+1.4**
HRRZ	**Handcock Road**	**18.02**	**193**	P	**P**	**11 18 19.3**	**+2.1**
RIGZ	**Rimuhau**	**18.07**	**189**	P	**P**	**11 18 18.1**	**+0.5**
PRRZ	**Plateau Road**	**18.11**	**192**	P	**P**	**11 18 23.9**	**+6.0**
TLZ	**Tolley Road**	**18.13**	**195**	P	**P**	**11 18 21.0**	**+2.8**
SNGZ	**Shannon Statio**	**18.21**	**190**	P	**P**	**11 18 22.3**	**+3.4**
PRGZ	**Paritu Road**	**18.27**	**188**	P	**P**	**11 18 21.1**	**+1.7**
HIZ	**Hauiti**	**18.47**	**196**	*eP*	**P**	**11 18 21.8**	**+0.6**
	248nm,1.5s						
BKZ	**Black Stump Fm**	**18.73**	**192**	*eP*	**P**	**11 18 23.1**	**-0.5**
	44nm,1.4s						
KNTN	**Kanton**	**19.21**	**22**	*eP*	**P**	**11 18 27.1**	**-1.1**
	75nm,0.8s						
BFZ	**Birch Farm**	**20.25**	**191**	*eP*	**P**	**11 18 37.3**	**0.0**
	31nm,1.0s						
SNZO	**South Karori**	**21.16**	**194**	*eP*	**P**	**11 18 45.3**	**-0.1**
	35nm,0.6s						
THZ	**Tophouse**	**22.03**	**197**	*eP*	**P**	**11 18 53.4**	**0.0**
	38nm,1.0s						
KHZ	**Kahutara**	**22.48**	**195**	*eP*	**P**	**11 18 57.1**	**-0.1**
	41nm,1.1s						
LTZ	**Lake Taylor**	**23.15**	**197**	*eP*	**P**	**11 19 02.6**	**-0.7**
	20nm,0.5s						
TARA	**Tarawa**	**23.50**	**339**	*eP*	**P**	**11 19 06.0**	**-0.7**
	133nm,1.1s						
OXZ	**Oxford**	**23.72**	**197**	*eP*	**P**	**11 19 08.2**	**-0.1**
	22nm,0.8s						
MQZ	**McQueen's Vall**	**23.92**	**196**	*eP*	**P**	**11 19 09.9**	**-0.1**
	46nm,1.3s						
RPZ	**Rata Peaks**	**24.36**	**198**	*eP*	**P**	**11 19 15.0**	**+1.1**
	68nm,1.5s						
RPZ	**Rata Peaks**	**24.36**	**198**	P	**P**	**11 19 15.3**	**+1.4**
	9.9nm,0.5s,baz=41,slow=4.0,SNR=13						
FOZ	**Fox Glacier**	**24.57**	**200**	*eP*	**P**	**11 19 15.9**	**+0.2**
	28nm,0.8s						
LBZ	**Lake Benmore**	**25.23**	**199**	*eP*	**P**	**11 19 21.3**	**-0.3**
	16nm,1.2s						
ODZ	**Otahua Downs**	**25.69**	**198**	*eP*	**P**	**11 19 25.3**	**-0.3**
	42nm,1.5s						
WKZ	**Wanaka**	**25.99**	**200**	*eP*	**P**

ASAR Alice Springs 43.76 257 P **P 11 21 56.7 +0.8**
comp=Z,5.0nm,0.5s,baz=93,slow=7.5,SNR=182
ASAR PcP **PcP 11 23 29.6 +0.3**
comp=Z,4.1nm,0.6s,baz=103,slow=3.8,SNR=20
ASAR S **S 11 27 43.2 -1.5**
comp=Z,4.8nm,0.8s,baz=93,slow=15,SNR=27
WB2 Warramunga Arr 43.85 263 *e*P **P 11 21 56.1 -0.5**
comp=Z,9.9nm,1.3s
WRAB Tennant Creek 43.85 263 *e*P **P 11 21 56.1 -0.5**
comp=Z,7.1nm,1.1s
WRAB Tennant Creek 43.85 263⇓*e*P **P 11 21 56.7 +0.1**
WRAB pmax pmax
comp=Z,7.0nm,1.2s
WR1 Warramunga Arr 43.86 263 *e*P **P 11 21 56.9 +0.2**
WR1 *e*PcP **PcP 11 23 29.9 +0.2**
WRA Warramunga Arr 43.86 263 P **P 11 21 56.9 +0.2**
comp=Z,1.0nm,0.3s,baz=98,slow=7.6,SNR=59
WRA PcP **PcP 11 23 29.9 +0.2**
comp=Z,1.8nm,0.7s,baz=109,slow=4.4,SNR=7.5
WRA S **S 11 27 43.2 -3.0**
comp=Z,1.9nm,0.8s,baz=108,slow=13,SNR=6.5
MTN Manton Dam 48.47 271 *e*P **P 11 22 31.0 -0.5**
comp=Z,10nm,0.8s
FORT Forrest 48.52 247 *e*P **P 11 22 32.1 +0.4**
comp=Z,16nm,0.6s
PSA00 Pilbara Seismi 56.91 257 *e*P **P 11 23 31.1 -0.4**
comp=Z,6.9nm,0.7s
SBA Scott Base 57.50 184 *e*P **P 11 23 36.5 +2.0**
comp=Z,10.0nm,1.0s
SBA Scott Base 57.50 184 *e*P **P 11 23 36.5 +2.0**
SBA pmax pmax
comp=Z,10.0nm,1.0s
VNDA Vanda 57.52 185 *e*P **P 11 23 36.7 +2.0**
VNDA Vanda 57.52 185 *e*P **P 11 23 36.7 +2.0**
VNDA Vanda 57.52 185 P **P 11 23 37.3 +2.6**
comp=Z,1.0nm,0.5s,baz=6.7,slow=6.7,SNR=16
CASY Casey 63.37 205 *e*P **P 11 24 14.2 +0.9**
comp=Z,4.0nm,0.7s
QSPA South Pole Qui 69.24 180 *e*P **P 11 24 51.0 +1.3**
comp=Z,12nm,1.6s
MJAR Matsushiro Arr 70.06 324 P **P 11 24 54.6 -0.3**
comp=Z,5.5nm,0.6s,baz=160,slow=6.1,SNR=19
MAJO Matsushiro 70.06 324 *e*P **P 11 24 54.5 -0.4**
comp=Z,7.8nm,0.7s
MAJO Matsushiro 70.06 324 *de*P **P 11 24 54.5 -0.4**
MAJO pmax pmax
comp=Z,8.0nm,0.7s
MAT Matsushiro 70.06 324 P **P 11 24 54.5 -0.4**
ERM Erimo 71.77 331⇓*e*P **P 11 25 03.2 -1.5**
ERM pmax pmax
comp=Z,50nm,1.6s
JNU Nakatsue 72.03 317 *e*P **P 11 25 06.2 -0.3**
comp=Z,44nm,1.6s
JNU Nakatsue 72.03 317 P **P 11 25 06.5 0.0**
comp=Z,7.0nm,0.8s,baz=93,slow=5.6,SNR=4.0
ADK Adak 72.42 1 *e*P **P 11 25 07.5 -0.7**
comp=Z,82nm,1.4s
ADK Adak 72.42 1 *e*P **P 11 25 07.5 -0.7**
ADK pmax pmax
comp=Z,82nm,1.4s
YULB Yu-li 73.09 304 *e*P **P 11 25 11.9 -0.8**
comp=Z,26nm,1.6s
ASAJ Asahikawa 73.68 332 P **P 11 25 17.2 +1.6**
comp=Z,7.3nm,0.5s,baz=251,slow=3.3,SNR=12
UNV Unalaska Valle 75.11 7 *e*P **P 11 25 22.6 -0.8**
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 75.88 334 P **P 11 25 27.3 -0.5**
PETK Petropavlovsk- 76.41 346 *e*P **P 11 25 30.5 -0.1**
PETK Petropavlovsk- 76.41 346 *e*P **P 11 25 30.5 -0.1**
PETK Petropavlovsk- 76.41 346 P **P 11 25 30.7 +0.1**
comp=Z,5.7nm,0.7s,baz=236,slow=7.6,SNR=28
KSRS Korea Array 76.67 319 P **P 11 25 33.3 +0.9**
comp=Z,2.4nm,0.8s,baz=132,slow=5.8,SNR=8.0
KSAR Wonju Array Be 76.69 319 *e*P **P 11 25 32.5 +0.1**
KSAR Wonju Array Be 76.69 319 *e*P **P 11 25 32.5 +0.1**
SAO San Andreas Ge 78.75 44 *e*P **P 11 25 44.6 +1.0**
comp=Z,8.4nm,0.8s
USRK Ussuriysk Ar. 78.84 326 *e*P **P 11 25 44.4 +0.5**
USRK Ussuriysk Ar. 78.84 326 *e*P **P 11 25 44.4 +0.5**
USRK Ussuriysk Ar. 78.84 326 P **P 11 25 45.3 +1.4**
comp=Z,6.7nm,0.7s,baz=107,slow=3.3,SNR=13
HOPS Hopland Field 79.07 41 *e*P **P 11 25 46.4 +1.2**
comp=Z,16nm,1.0s
KMRM Mail Ridge 79.45 40 *e*P **P 11 25 48.4 +1.1**
comp=Z,37nm,0.9s
ARVC Arvin 79.52 46 P **P 11 25 49.0 +1.3**
baz=235
NJ2 Nanjing 79.55 310 *e*P **P 11 25 49.8 +1.9**
VES Vestal, Richgr 79.76 45 P **P 11 25 50.1 +1.2**
baz=235
BFSC Mount Baldy Ra 79.82 47 P **P 11 25 50.3 +0.8**
baz=236
EDW2 Edwards Air Fo 79.95 47 P **P 11 25 51.2 +1.2**
baz=236
MONP2 Monument Peak 79.95 49 P **P 11 25 51.7 +1.4**
baz=237
O02D Mt. Diablo Mer 79.98 40 P **P 11 25 52.1 +2.0**
baz=232,SNR=13
IKP In-Ko-Pah, Jac 80.04 50 P **P 11 25 52.1 +1.5**
baz=238
ISA Isabella, Lake 80.06 46 *e*P **P 11 25 51.2 +0.6**
comp=Z,12nm,1.1s
ISA Isabella, Lake 80.06 46 *e*P **P 11 25 51.2 +0.6**
ISA pmax pmax
comp=Z,12nm,1.1s
ISA Isabella, Lake 80.06 46 P **P 11 25 51.7 +1.1**
baz=236
CMB Columbia Colle 80.18 43 *e*P **P 11 25 51.8 +0.6**
comp=Z,22nm,1.6s
CMB Columbia Colle 80.18 43 *e*P **P 11 25 51.8 +0.6**
CMB pmax pmax
comp=Z,22nm,1.6s
PFO Pinyon Flats O 80.31 49 P **P 11 25 53.4 +1.4**
baz=237
AFDM Forest Hills D 80.35 42 *e*P **P 11 25 52.7 +0.7**
comp=Z,8.0nm,1.0s
SWSC Sam W. Stewart 80.42 49 P **P 11 25 53.7 +1.3**
baz=238
N02D Trinity Center 80.52 40 P **P 11 25 54.8 +1.9**
baz=232,SNR=7.1
O03E Paynes Creek 80.64 41 P **P 11 25 54.5 +1.0**
baz=233,SNR=8.9
M02C Callahan 80.69 39 P **P 11 25 55.6 +1.9**
baz=232,SNR=16
L02E Cave Junction 80.73 38 P **P 11 25 55.1 +1.3**
baz=231
CWC Cottonwood Cre 80.77 45 P **P 11 25 55.5 +1.1**
baz=236
BELC Belle Mtn. Jos 80.85 48 P **P 11 25 56.1 +1.2**
baz=237
MPMC Manual Prospec 80.95 46 P **P 11 25 56.5 +1.1**
baz=236
YBH Yreka Blue Hor 80.98 39 P **P 11 25 56.9 +1.6**
comp=Z,12nm,0.8s,baz=284,slow=0.3,SNR=54
GSC Goldstone, Bar 80.99 47 P **P 11 25 56.3 +0.9**
baz=237
K02D Willamette Mer 81.03 38 P **P 11 25 56.5 +1.0**
baz=231
BC3 Big Chuckawall 81.04 49 P **P 11 25 57.2 +1.4**
baz=238
HEC Hector,Ludlow 81.06 48 P **P 11 25 56.6 +0.8**
baz=237
GLA Glamis 81.17 50 P **P 11 25 58.0 +1.6**
baz=238
J01E Myrtle Point 81.17 37 P **P 11 25 57.5 +1.5**
baz=231
PNTR Pine Nut 81.29 43 *e*P **P 11 25 57.9 +0.8**
comp=Z,27nm,0.8s
KDAK Kodiak Island 81.30 14 *e*P **P 11 25 56.9 +0.6**
comp=Z,29nm,1.3s
KDAK Kodiak Island 81.30 14 *i*P **P 11 25 58.0 +1.7**
KDAK Kodiak Island 81.30 14 P **P 11 25 57.8 +1.5**
comp=Z,5.4nm,0.6s,baz=189,slow=5.1,SNR=5.3
GMRC Granite Mounta 81.50 48 P **P 11 25 59.0 +0.8**
baz=238
L04D Klamath Falls 81.52 39 P **P 11 25 59.4 +1.3**
baz=232,SNR=7.2
M04C Macdoel 81.53 39 P **P 11 25 59.2 +1.1**
baz=232,SNR=5.9
IRM Iron Mountain 81.53 49 P **P 11 25 59.6 +1.4**
baz=238
GRAC Grapevine Rang 81.55 45 P **P 11 25 59.6 +1.3**
baz=236
FURC Furnace Creek, 81.59 46 P **P 11 25 59.2 +0.9**
baz=236
TUQ Turquoise Moun 81.67 47 P **P 11 26 00.0 +1.0**
baz=237
SHOC Shoshone, Teco 81.68 47 P **P 11 26 00.1 +1.2**
baz=237
NV01 Mina Array Sit 81.74 44 *e*P **P 11 26 00.5 +1.0**
NVAR Mina Array Bea 81.74 44 P **P 11 26 00.5 +1.0**
comp=Z,7.9nm,0.7s,baz=224,slow=8.0,SNR=69
Y12C Blythe 81.75 49 P **P 11 26 00.6 +1.3**
baz=238
I03D Drain, OR 81.84 37 P **P 11 26 00.7 +1.3**
baz=231
LDFC Landfair 82.04 48 *e*P **P 11 26 02.1 +1.3**
comp=Z,33nm,0.9s
214A Organ Pipe Nat 82.06 52 P **P 11 26 02.5 +1.6**
baz=240
WHN Wuhan 82.08 307 *e*P **P 11 26 04.3 +3.3**
NEE2 Needles Airpor 82.22 48 P **P 11 26 03.0 +1.4**
baz=238
J04D Umpqua Nationa 82.26 38 P **P 11 26 03.3 +1.4**
baz=232,SNR=10
TPNV Topopah Spring 82.27 46 P **P 11 26 03.2 +1.1**
baz=237
PDMCI Parker Dam,Lak 82.31 49 P **P 11 26 03.4 +1.4**
baz=238
I04A Tendick Farm, 82.43 37 P **P 11 26 03.3 +0.8**
baz=232
KLR Kul'dur 82.45 330 *de*P **P 11 26 03.1 +0.7**
KLR pmax pmax
comp=Z,6.0nm,1.1s
KLR Kul'dur 82.45 330 P **P 11 26 03.4 +1.0**
comp=Z,3.0nm,0.9s,baz=68,slow=2.9,SNR=11
H04D Lebanon 82.70 37 P **P 11 26 05.2 +1.5**
baz=231
J05D Fort Rock, OR 82.80 38 P **P 11 26 06.0 +1.5**
baz=233,SNR=34
G03D McMinnville, O 82.84 36 P **P 11 26 05.8 +1.3**
baz=231
W13A Hualapai Mount 82.91 48 *e*P **P 11 26 05.8 +0.4**
comp=Z,5.2nm,0.8s
I05D Terrebonne, OR 83.38 37 P **P 11 26 08.5 +1.2**
baz=232,SNR=7.7
R11A Troy Canyon, C 83.47 45 P **P 11 26 08.6 +0.5**
baz=237
BMN Battle Mountai 83.56 42 *e*P **P 11 26 09.2 +0.8**
comp=Z,9.9nm,0.9s
BMN Battle Mountai 83.56 42 *e*P **P 11 26 09.2 +0.8**
BMN pmax pmax
comp=Z,10.0nm,0.9s
TUC Tucson 83.73 52 *e*P **P 11 26 10.2 +0.9**
comp=Z,8.4nm,0.8s
TUC Tucson 83.73 52 *e*P **P 11 26 10.2 +0.9**
TUC pmax pmax
comp=Z,8.0nm,0.8s
TUC Tucson 83.73 52 P **P 11 26 11.0 +1.6**
baz=241
PSI Prapat 83.82 275 P **P 11 26 10.0 -0.3**
comp=Z,8.2nm,0.9s,baz=193,slow=2.4,SNR=7.7
WVOR Wild Horse Val 83.83 40 P **P 11 26 11.0 +1.4**
WVOR pmax pmax
comp=Z,12nm,0.9s
MA2 Magadan 83.91 345 *de*P **P 11 26 08.8 -0.6**
MA2 pmax pmax
comp=Z,6.0nm,0.8s
PANO Nakornpanom 84.08 291 P **P 11 26 13.7 +2.5**
X16A Lo Mia Camp, P 84.29 50 *e*P **P 11 26 12.7 +0.6**
comp=Z,8.1nm,1.1s
D04E Lakebay 84.34 35 P **P 11 26 13.1 +1.3**
baz=231
D03D Eldon 84.40 34 P **P 11 26 13.3 +1.2**
baz=231
SKNT Sakolnakorn 84.56 290 P **P 11 26 15.4 +1.8**
WUAZ Wupatki 84.89 49 P **P 11 26 16.2 +1.1**
baz=240
A04D Lummi Island 85.34 33 P **P 11 26 17.7 +1.1**
baz=231
B05A Bryant 85.38 34 P **P 11 26 17.9 +1.1**
baz=232,SNR=5.7
ENH Enshi 85.64 305 *e*P **P 11 26 19.5 +0.9**
comp=Z,17nm,0.9s
W18A Petrified Fore 85.86 50 P **P 11 26 20.8 +1.1**
baz=241
121A Cookes Peak, D 86.07 53 P **P 11 26 22.0 +1.3**
baz=242
SYO Syowa Base 86.25 193⇓*e*P **P 11 26 19.4 -1.3**
SYO Syowa Base 86.25 193⇓*e*PcP **PcP 11 26 23.0 +0.6**
DUG Dugway, Tooele 86.28 44 P **P 11 26 21.8 +0.3**
baz=239
E09A Wood Farm, Sta 86.47 37 *e*P **P 11 26 22.4 +0.3**
comp=Z,21nm,1.1s
SEY Seymchan 86.53 347⇓*i*P **P 11 26 21.9 -0.1**
TMUT Trail Mountain 86.89 46 *e*P **P 11 26 25.8 +1.1**
comp=Z,9.4nm,1.1s
HLID Hailey 87.03 41 P **P 11 26 26.2 +1.2**
baz=238
MNTX Cornudas Mount 87.51 55 *e*P **P 11 26 28.0 +0.7**
comp=Z,7.1nm,0.9s
MNTX Cornudas Mount 87.51 55 P **P 11 26 28.6 +1.2**
baz=244
XAN Xi'an 87.77 308 P **P 11 26 29.5 +0.9**
XAN Xi'an 87.77 308 *e*P **P 11 26 29.1 +0.5**
comp=Z,9.2nm,0.9s
XAN Xi'an 87.77 308 *e*P **P 11 26 29.1 +0.5**
XAN pmax pmax
comp=Z,9.0nm,0.9s
TX31 Lajitas Ar. Si 87.82 58 *e*P **P 11 26 29.7 +0.8**
comp=Z,9.9nm,0.9s
LTX Lajitas 87.82 58 *e*P **P 11 26 30.4 +1.4**
LTX Lajitas 87.82 58 *e*P **P 11 26 30.4 +1.4**
TXAR Lajitas Array 87.82 58 P **P 11 26 30.4 +1.4**
comp=Z,7.2nm,0.8s,baz=220,slow=5.9,SNR=95
NEW Newport 88.05 36 P **P 11 26 29.9 +0.4**
baz=235
TASM ASL Pad, Albuq 88.15 52 P **P 11 26 31.2 +0.7**
baz=243
TASM ASL Pad, Albuq 88.15 52 P **P 11 26 31.3 +0.7**
baz=243
ANMO Albuquerque 88.16 52⇓*e*P **P 11 26 31.2 +0.7**
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 88.16 52 P **P 11 26 31.2 +0.7**
baz=243
DOT Dot Lake 88.45 15 *e*P **P 11 26 30.8 -0.2**
comp=Z,11nm,0.9s
HDA Harding Lake 88.46 13 P **P 11 26 30.6 -0.4**
baz=210,SNR=11
IMAR Indian Mountai 88.60 10 *e*P **P 11 26 31.4 -0.2**
TCOL CIGO, UAF Yank 88.67 13 P **P 11 26 31.3 -0.6**
baz=209,SNR=6.7
COLA College 88.68 13 *ce*P **P 11 26 31.2 -0.7**
COLA pmax pmax
comp=Z,14nm,0.7s
ILAR Eielson Array 88.79 13 P **P 11 26 31.6 -0.8**
comp=Z,5.3nm,0.8s,baz=220,slow=5.3,SNR=36
ILB Eielson Array 88.79 13 *e*P **P 11 26 31.6 -0.8**
comp=Z,7.6nm,0.9s
POKR Poker Plat Res 88.98 13 P **P 11 26 32.5 -0.8**
baz=209
LAMP Lampang 88.98 290 P **P 11 26 37.1 +2.6**
comp=Z,21μm,1.0s,comp=Z,69nm
MSO Missoula 89.06 38 P **P 11 26 35.5 +1.2**
baz=238
HHC Hu-ho-hao-te 89.08 315 *e*P **P 11 26 34.4 -0.2**
S22A 4UR Ranch, Cre 89.16 49 P **P 11 26 36.1 +0.9**
baz=243
BILL Bilibino 89.29 354⇑*i*P **P 11 26 34.8 +0.1**
BILL *e* 11 30 13.8
BILL *e*S **S 11 36 37.3 +2.5**
BILL pmax pmax
comp=Z,6.0nm,1.2s
O20A White River Ci 89.29 46 P **P 11 26 36.4 +0.7**
baz=242
LNIG Linares 89.43 63 *e*P **P 11 26 36.1 -0.3**
comp=Z,11nm,1.1s
PLCA Paso Flores 89.56 134 *e*P **P 11 26 38.1 +1.2**
comp=Z,3.2nm,0.8s
PLCA Paso Flores 89.56 134 *e*P **P 11 26 38.1 +1.2**
PLCA pmax pmax
comp=Z,3.0nm,0.8s
PLCA Paso Flores 89.56 134 P **P 11 26 38.6 +1.7**
comp=Z,2.0nm,0.7s,baz=268,slow=6.5,SNR=4.7
CMAR Chiang Mai Air 89.56 290 *e*P **P 11 26 38.0 +0.8**
CMAR Chiang Mai Arr 89.56 290 *e*P **P 11 26 38.0 +0.8**
CMAR Chiang Mai Arr 89.56 290 P **P 11 26 37.9 +0.7**
comp=Z,5.8nm,0.9s,baz=128,slow=3.1,SNR=26
BW06 Boulder Array 89.68 44 P **P 11 26 37.8 +0.4**
baz=241
PDAR Pinedale Array 89.68 44 P **P 11 26 37.7 +0.2**
comp=Z,5.5nm,0.7s,baz=210,slow=3.3,SNR=40
CMMT Chiang Mai 89.69 290 P **P 11 26 39.4 +1.6**
comp=Z,5.9nm,0.9s,comp=Z,0.0nm
CHTO Chiang Mai 89.70 290 P **P 11 26 39.5 +1.7**
CHTO pmax pmax
comp=Z,12nm,0.9s
BOZ Bozeman (W) 89.79 40 P **P 11 26 38.9 +1.1**
baz=240
H17A Grant Village 89.83 42 P **P 11 26 40.0 +1.8**
baz=240
SDCO Great Sand Dun 90.10 49 P **P 11 26 41.1 +1.5**
baz=244
CD2 Chengdu 90.38 303 *e*P **P 11 26 40.1 -0.6**
MSTX Muleshoe 90.47 54 P **P 11 26 41.5 +0.3**
baz=245
T25A Trinidad 90.61 50 P **P 11 26 42.3 +0.4**
baz=244
Q24A Divide 90.89 48 P **P 11 26 43.8 +0.6**
baz=244
ISCO Idaho Springs 90.93 48 P **P 11 26 43.9 +0.5**
baz=244
RLMT Red Lodge 91.00 42 P **P 11 26 44.4 +0.9**
baz=241
N23A Red Feather La 91.19 46 P **P 11 26 45.4 +0.8**
baz=243
JCT Junction City 91.35 58 P **P 11 26 46.1 +0.9**
baz=247
K22A Casper 91.60 45 P **P 11 26 46.5 +0.3**
baz=243
TOLK Toolik Lake Re 91.70 10 P **P 11 26 46.2 +0.3**
baz=207
LZH Lanzhou 92.41 308 *e*P **P 11 26 51.3 +1.2**
LZH pP pwP 11 29 00.1 -0.9
LZH sP sP 11 29 58.9 +3.8
EPYK Eagle Plains 92.49 16 P **P 11 26 49.5 -0.1**
baz=219
KSCO Kaye Shedlock' 92.68 49 P **P 11 26 52.1 +0.9**
baz=245
RSSD Black Hills 93.88 44 P **P 11 26 57.4 +0.7**
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 93.88 44 P **P 11 26 56.9 +0.2**
baz=245
INK Inuvik 94.77 15 P **P 11 27 01.1 +1.3**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 94.77 15 P **P 11 26 59.3 -0.5**
comp=Z,2.0nm,0.9s,baz=233,slow=3.7,SNR=8.9
SONA0 Songino Array 95.54 319 *e*P **P 11 27 04.0 -0.1**
SONM Songino Array 95.54 319 P **P 11 27 04.0 -0.1**
comp=Z,0.3nm,0.4s,baz=115,slow=6.5,SNR=3.0
YKA Yellowknife Ar 97.10 25 P Pdif 11 27 10.0 -0.4
comp=Z,0.7nm,0.7s,baz=244,slow=4.5,SNR=19
YKB5 Yellowknife Ar 97.10 25 *e*P Pdif 11 27 10.0 -0.5
MIAR Mount Ida 97.73 56 P Pdif 11 27 13.5 -0.4
baz=250
ECSD EROS Data Cent 98.67 47 P **P 11 27 18.2 +0.2**
baz=250
Z50A Ashland 103.39 59 P **Pdif 11 27 38.6 -0.6**
baz=254
E48A Lockeyer 109.25 47 P **PKiKP 11 32 03.8 -1.1**
baz=260
S57A Dark Hollow, R 109.98 56 P **PKiKP 11 32 05.5 -1.1**
baz=259
M54A Oil Creek Stat 110.14 52 P **PKiKP 11 32 05.7 -1.0**
baz=260
ZALV Zalesovo Beam 110.31 321 PKiKP **PKiKP 11 32 05.3 -1.3**
comp=Z,1.9nm,0.5s,baz=171,slow=1.1,SNR=8.7
S58A Poland Farm, P 110.65 57 P **PKiKP 11 32 07.0 -0.7**
baz=259
MKAR Makanchi Array 110.91 313 PKiKP **PKiKP 11 32 06.8 -1.3**
comp=Z,1.2nm,0.4s,baz=148,slow=0.6,SNR=17
D53A Lac Vacive, Po 112.37 46 P **PKiKP 11 32 09.0 -1.8**
baz=263
D54A Lac Fusel, La 113.08 47 P **PKiKP 11 32 10.5 -1.7**
baz=264
O60A Telford 113.13 54 P **PKiKP 11 32 10.4 -2.0**
baz=262
KURK Kurchatov 113.76 317⇓*i*PKIKP **PKiKP 11 32 12.0 -1.3**
KURK pmax pmax
comp=Z,2.0nm,1.3s
KURBB Kurchatov Arra 113.81 317 PKiKP **PKiKP 11 32 11.9 -1.5**
comp=Z,1.9nm,0.7s,baz=99,slow=1.8,SNR=10
GAR Garm 118.81 304 *e*PKPdf **PKPdf 11 32 23.2 -0.4**
BVAR Borovoye Array 118.88 320 PKP **PKPdf 11 32 22.3 -0.8**
comp=Z,5.9nm,0.4s,baz=84,slow=2.3,SNR=29
KK31 Karatay Array 118.90 309 *e*PKPdf **PKPdf 11 32 22.7 -0.8**
KKAR Karatay Array 118.90 309 *e*PKPdf **PKPdf 11 32 22.7 -0.8**
KKAR *e*PKPdf **PKPdf 11 32 22.7 -0.8**
BRVK Borovoye 118.94 320 *e*PKPdf **PKPdf 11 32 22.1 -1.1**
BRVK Borovoye 118.94 320 *d*PKIKP **PKPdf 11 32 22.1 -1.1**
DAG Danmarks Havn 123.13 5 *i*PKIKP **PKPdf 11 32 29.2 -1.4**
DAG pmax pmax
comp=Z,2.0nm,0.5s
SUMG Summit 123.63 13 *i*PKIKP **PKiKP 11 32 32.6 +0.1**
ARU Arti 125.07 325 *i*PKIKP **PKPdf 11 32 34.4 -0.5**
ARU 11 34 32.7
ARU 11 38 49.0
ABKAR Akbulak array 125.84 316 *e*PKPdf **PKPdf 11 32 35.8 -0.8**
ABKAR *e*PKPdf **PKiKP 11 32 35.9 -1.1**
AKTO Aktyubinsk 126.84 318 PKP **PKPdf 11 32 38.0 -0.5**
comp=Z,4.8nm,0.8s,baz=294,slow=20,SNR=12
ARA0 ARCESS Array S 129.11 349 *e*PKPdf **PKPdf 11 32 41.6 -0.6**
ARCES ARCESS Array B 129.11 349 PKP **PKPdf 11 32 41.6 -0.6**
comp=Z,4.9nm,0.6s,baz=27,slow=1.2,SNR=31
KLMR Klimovskoe 131.89 336 *e*PKIKP **PKPdf 11 32 44.9 -2.8**
KLMR pmax pmax
comp=Z,5.0nm,0.7s
FIA0 FINESS Array S 135.88 343 *e*PKPdf **PKPdf 11 32 53.4 -1.7**
FIA0 FINESS Array S 135.88 343 *e*PKIKP **PKPdf 11 32 53.4 -1.7**
FINES FINESS Array B 135.88 343 PKP **PKPdf 11 32 53.4 -1.7**
comp=Z,2.3nm,0.5s,baz=42,slow=4.3,SNR=10
OBN Obninsk 136.71 331⇓*e*PKIKP **PKPdf 11 32 55.9 -0.9**
OBN *e* 11 35 51.4
OBN pmax pmax
comp=Z,10.0nm,0.4s
KIV Kislovodsk 138.68 314 *e*PKIKP **PKPdf 11 33 00.4 -0.6**
KIV pmax pmax
comp=Z,21nm,1.1s
NEY Neytrino 138.89 313⇓*i*PKIKP **PKPdf 11 33 01.3 -0.2**
NB2 NORSAR Subarra 139.22 353 PKP PKPpre 11 32 52.5
comp=Z,0.8nm,0.5s,baz=7.6,slow=3.0
NB200 NORSAR Array S 139.22 353 *e*PKPpre PKPpre 11 32 52.7
NB200 *e*PKPdf **PKPdf 11 33 00.7 -0.7**
NOA NORSAR Array B 139.22 353 PKhKP PKPpre 11 32 52.7
comp=Z,1.0nm,0.7s,baz=12,slow=4.4,SNR=7.4
NOA PKP **PKPdf 11 33 00.7 -0.7**
comp=Z,0.5nm,0.5s,baz=14,slow=4.1,SNR=6.0
AKASG Malin Array Be 142.95 330 *c*PKIKP **PKiKP 11 33 10.3 -1.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 142.95 330 PKhKP PKPpre 11 33 05.2
comp=Z,14nm,0.4s,baz=43,slow=4.5,SNR=48
AKBB Malin Array Si 142.95 330 *e*PKPpre PKPpre 11 33 05.6
AKBB Malin Array Si 142.95 330 *e*PKHKP PKPpre 11 33 05.6
KIEV Kiev 142.97 330 *d*PKHKP PKPpre 11 33 05.2
KLNR Kaliningrad 143.34 342⇓*i*PKIKP **PKPdf 11 33 09.0 +0.2**
SIM Simferopol' 143.79 319 *e*PKIKP PKPbc 11 33 09.2 0.0
SIM pmax pmax
comp=Z,270nm,0.8s
MBAR Mbarara 144.15 237 *e*PKPbc PKPbc 11 33 10.4 -1.0
BZK Bozkurt 145.31 315⇓*i*P **PKPbc 11 33 14.4 +0.5**
ILGA Ilgaz 145.91 314 *e*PKPdf **PKPdf 11 33 13.6 -0.4**
ILGA *e*PKPbc **PKPbc 11 33 16.6 +0.7**
BR131 Keskin Array S 146.53 311 *e*PKPdf **PKPdf 11 33 15.0 0.0**
BR131 *e*PKPbc **PKPbc 11 33 17.4 -0.2**
BRTR Keskin Array B 146.53 311 PKPbc **PKPbc 11 33 16.9 -0.7**
comp=Z,7.2nm,0.7s,baz=118,slow=2.7,SNR=38
KWP Kalwaria Pacla 146.58 334 *e*PKP **PKPbc 11 33 17.4 +0.1**
KWP Kalwaria Pacla 146.58 334 *e*PKPbc **PKPbc 11 33 17.5 +0.3**
KWP *e*PKPab **PKPab 11 33 20.5 +0.5**
KWP Kalwaria Pacla 146.58 334 *e*PKIKP **PKPbc 11 33 17.3 +0.1**
TLCR 146.76 323⇑*i*P **PKPbc 11 33 18.0 +0.2**
TLCR 146.76 323⇑PKIKP **PKPbc 11 33 18.0 +0.2**
BUR08 Bucovina Ar. S 146.98 330 *e*PKPbc **PKPbc 11 33 19.1 +0.6**
BURAR Bucovina Array 147.00 330 *e*PKPdf **PKPdf 11 33 15.4 0.0**
BURAR *e*PKPbc **PKPbc 11 33 19.2 +0.7**
BIZ Bicaz 147.04 328⇑*i*P **PKiKP 11 33 19.6 -0.7**
TESR Tescani 147.06 327⇓*i*P **PKPbc 11 33 18.7 +0.1**
ANTO Ankara 147.06 312 *e*PKPdf **PKPdf 11 33 15.5 -0.2**
ANTO *e*PKPbc **PKPbc 11 33 19.2 +0.3**
ANTO Ankara 147.06 312⇑*i*P **PKPbc 11 33 19.1 +0.2**
ANTO Ankara 147.06 312⇑PKIKP **PKPbc 11 33 19.1 +0.2**
CFR Carcaliu 147.14 324⇑*i*P **PKPbc 11 33 19.0 +0.2**
CFR Carcaliu 147.14 324⇑PKIKP **PKPbc 11 33 19.0 +0.2**
OJC Ojcow 147.20 338 *e*PKP **PKPbc 11 33 18.9 0.0**
OJC Ojcow 147.20 338 *e*PKPbc **PKPbc 11 33 18.9 0.0**

OJC			*e*PKPab	**PKPab**	**11 33 22.8**	**+0.2**
OJC	**Ojcow**	**147.20 338**	*e*PKIKP	**PKPbc**	**11 33 18.9**	**0.0**
KOLS	**Kolonicke sedl**	**147.30 334**	*e*PKIKP	**PKPbc**	**11 33 19.7**	**+0.5**
KOLS	**Kolonicke sedl**	**147.30 334**	*e*PKP	**PKPbc**	**11 33 19.7**	**+0.5**
VRI	**Vrincioaia**	**147.45 326** ⇑	*i*P	**PKPbc**	**11 33 19.7**	**+0.1**
VRI	**Vrincioaia**	**147.45 326**	⇑PKIKP	**PKPbc**	**11 33 19.7**	**+0.1**
PLOR	**Plostina**	**147.50 326** ⇑	*i*P	**PKPbc**	**11 33 19.0**	**-0.8**
PLOR	**Plostina**	**147.50 326**	⇑PKIKP	**PKPbc**	**11 33 19.0**	**-0.8**
UZH	**Uzhgorod**	**147.53 334**	*e*PKIKP	**PKPbc**	**11 33 20.0**	**+0.3**
UZH			*e*		11 35 23.0	
TLB	**Topalu**	**147.56 323** ⇑	*i*P	**PKPbc**	**11 33 20.4**	**+0.5**
TLB	**Topalu**	**147.56 323**	⇑PKIKP	**PKPbc**	**11 33 20.4**	**+0.5**
NIE	**Niedzica**	**147.69 337**	*e*PKP	**PKPbc**	**11 33 20.7**	**+0.6**
NIE	**Niedzica**	**147.69 337**	*e*PKIKP	**PKPbc**	**11 33 20.7**	**+0.6**
KSP	**Ksiaz**	**147.79 342**	*e*PKP	**PKPbc**	**11 33 20.9**	**+0.6**
KSP	**Ksiaz**	**147.79 342**	*e*PKIKP	**PKPbc**	**11 33 20.9**	**+0.6**
TRPA	**Tarpa**	**147.82 333** ⇑	*i*P	**PKPbc**	**11 33 19.6**	**-0.8**
MDUB	**Mudurnu**	**147.88 314**	*e*PKPbc	**PKPbc**	**11 33 21.1**	**0.0**
DOPR	**Dopca**	**148.07 327** ⇑	*i*P	**PKiKP**	**11 33 22.1**	**-0.4**
MLR	**Muntele Rosu**	**148.11 326**	*e*PKPbc	**PKPbc**	**11 33 21.1**	**-0.4**
MLR	**Muntele Rosu**	**148.11 326** ⇑	*i*P	**PKPbc**	**11 33 21.3**	**-0.2**
CLL	**Collm**	**148.21 346**	*e*PKPbc	**PKPbc**	**11 33 21.5**	**+0.1**
CLL			*e*PKPab	**PKPab**	**11 33 26.6**	**-0.1**
CLL	**Collm**	**148.21 346** ⇓	*i*PKPbc	**PKPbc**	**11 33 21.3**	**0.0**
	comp=Z,27nm,0.9s					
CLL		⇑	*i*PKPab	**PKPab**	**11 33 26.4**	**-0.2**
	comp=Z,13nm,0.8s					
LANS	**Liptovska Anna**	**148.21 337**	*e*PKP	**PKiKP**	**11 33 22.6**	**-0.1**
LANS			*e*		11 33 28.0	
DPC	**Dobruska-Polom**	**148.22 342** ⇑	*e*PKP	**PKPbc**	**11 33 21.9**	**+0.4**
DPC			*e*PKPAB	**PKPab**	**11 33 27.1**	**+0.3**
KRLC	**Kraliky**	**148.32 341** ⇑	*e*PKP	**PKiKP**	**11 33 22.4**	**-0.5**
MORC	**Moravsky Berou**	**148.34 340**	*e*PKPbc	**PKPbc**	**11 33 22.3**	**+0.5**
MORC			*e*PKPab	**PKPab**	**11 33 27.7**	**+0.4**
MORC	**Moravsky Berou**	**148.34 340** ⇑	*i*P	**PKiKP**	**11 33 22.5**	**-0.5**
MORC	**Moravsky Berou**	**148.34 340**	*e*PKP	**PKPbc**	**11 33 21.9**	**+0.1**
MORC			*e*		11 33 27.6	
SECR		**148.35 325** ⇑	*i*P	**PKPbc**	**11 33 22.2**	**+0.3**
BRG	**Berggiesshubel**	**148.39 345**	*i* PKP	**PKPbc**	**11 33 21.9**	**+0.1**
	comp=Z,15nm,1.1s					
BRG			*i*		11 33 27.4	
	comp=Z,6.9nm,0.7s					
CJR	**Cluj-Napoca**	**148.41 330** ⇑	*i*P	**PKPbc**	**11 33 22.6**	**+0.5**
CSS	**Mathiatis**	**148.50 303**	*e*PKPdf	**PKPdf**	**11 33 17.5**	**-0.7**
CSS			*e*PKPbc	**PKPbc**	**11 33 22.6**	**0.0**
VOIR		**148.61 327** ⇑	*i*P	**PKPbc**	**11 33 22.7**	**+0.1**
ARR	**Arges**	**148.87 327** ⇑	*i*P	**PKiKP**	**11 33 24.6**	**+0.4**
VYHS	**Vyhne**	**148.99 337**	*e*PKP	**PKPbc**	**11 33 23.7**	**+0.3**
VYHS			*e*		11 33 30.7	
GOPC	**GO Pecny, Ondr**	**149.05 343** ⇑	*e*PKP	**PKPbc**	**11 33 23.7**	**+0.2**
PRU	**Pruhonice**	**149.05 343** ⇑	*e*PKP	**PKPbc**	**11 33 23.6**	**+0.2**
PRU			*e*PKPAB	**PKPab**	**11 33 30.3**	**+0.2**
VRAC	**Vranov**	**149.06 340**	*e*PKP	**PKPbc**	**11 33 23.5**	**0.0**
VRAC			*e*		11 33 30.9	
PSZ	**Piszkesteto**	**149.07 335**	*e*PKPdf	**PKPdf**	**11 33 18.2**	**-0.6**
PSZ			*e*PKPbc	**PKPbc**	**11 33 23.7**	**0.0**
PSZ			*e*PKPab	**PKPab**	**11 33 30.4**	**+0.1**
PSZ	**Piszkesteto**	**149.07 335** ⇑	*i*P	**PKiKP**	**11 33 24.8**	**+0.3**
PSZ	**Piszkesteto**	**149.07 335**	*e*PKIKP	**PKPdf**	**11 33 18.2**	**-0.6**
PSZ			*e*		11 33 23.7	
PSZ			*e*		11 33 30.5	
JAVC	**Velka Javorina**	**149.09 339**	*e*PKP	**PKiKP**	**11 33 24.8**	**+0.3**
JAVC			*e*		11 33 32.0	
LOT	**Lotru**	**149.24 328** ⇑	*i*P	**PKPbc**	**11 33 23.3**	**-0.9**
KRUC	**Moravsky**	**149.34 340**	*e*PKP	**PKPbc**	**11 33 23.9**	**-0.3**
KRUC			*e*		11 33 31.8	
NKC	**Novy Kostel**	**149.34 346** ⇑	*e*PKP	**PKPbc**	**11 33 24.4**	**+0.2**
PHSR	**Pinarhisar**	**149.63 319** ⇑	*i*P	**PKPbc**	**11 33 25.4**	**+0.3**
MODS	**Modra-Piesok**	**149.64 339**	*e*PKP	**PKPbc**	**11 33 24.8**	**-0.2**
MODS			*e*		11 33 33.0	
GZR	**Gura Zlata**	**149.77 329** ⇑	*i*P	**PKPbc**	**11 33 24.7**	**-0.7**
GZR	**Gura Zlata**	**149.77 329**	⇑PKIKP	**PKPbc**	**11 33 24.7**	**-0.7**
SRE	**Strehaia**	**150.08 328** ⇑	*i*P	**PKiKP**	**11 33 26.6**	**0.0**
KHC	**Kasperske Hory**	**150.09 344**	*e*PKPdf	**PKPdf**	**11 33 20.3**	**0.0**
KHC			*e*PKPbc	**PKiKP**	**11 33 26.4**	**-0.2**
KHC			*e*PKPab	**PKPab**	**11 33 35.2**	**+0.6**
KHC	**Kasperske Hory**	**150.09 344**	*e*PKIKP	**PKPdf**	**11 33 20.3**	**0.0**
KHC			*e*		11 33 26.4	
KHC			*e*		11 33 35.2	
KHC	**Kasperske Hory**	**150.09 344** ⇑	*e*PKP	**PKPbc**	**11 33 26.1**	**+0.1**
KHC			*e*PKPAB	**PKPab**	**11 33 35.1**	**+0.6**
BZS	**Buzias**	**150.15 331** ⇑	*i*P	**PKPbc**	**11 33 26.4**	**+0.2**
HERR	**Herculane**	**150.31 329** ⇑	*i*P	**PKPbc**	**11 33 26.7**	**+0.1**
GEC2	**GERESS Array S**	**150.32 343**	*e*PKPdf	**PKPdf**	**11 33 20.7**	**0.0**
GEC2			*e*PKPbc	**PKPbc**	**11 33 26.2**	**-0.4**
GEC2	**GERESS Array S**	**150.32 343**	*e*PKIKP	**PKPdf**	**11 33 20.7**	**0.0**
GEC2			*e*		11 33 26.2	
GERES	**GERESS Array B**	**150.32 343**	*e*PKPdf	**PKPdf**	**11 33 20.3**	**-0.4**
GERES			*e*PKPbc	**PKPbc**	**11 33 26.4**	**-0.3**
GERES			*e*PKPab	**PKPab**	**11 33 35.5**	**0.0**
GERES	**GERESS Array B**	**150.32 343**	*e*PKIKP	**PKPdf**	**11 33 20.3**	**-0.4**
GERES			*e*		11 33 26.4	
GERES			*e*		11 33 35.5	
GERES	**GERESS Array B**	**150.32 343**	PKPbc	**PKPbc**	**11 33 26.5**	**-0.1**
	comp=Z,5.5nm,0.7s,baz=38,slow=2.4,SNR=28					
CONA	**Conrad Observa**	**150.50 340**	*i* PKPbc	**PKPbc**	**11 33 26.9**	**-0.2**
	comp=Z,11nm,0.6s,SNR=7.3					
MANT	**Manisa**	**150.62 313**	*e*PKPbc	**PKPbc**	**11 33 27.9**	**+0.1**
EZN	**Ezine**	**151.40 317** ⇑	*i*P	**PKPbc**	**11 33 29.1**	**-0.1**
EZN	**Ezine**	**151.40 317**	⇑PKIKP	**PKPbc**	**11 33 29.1**	**-0.1**
VTS	**Vitosha**	**151.49 325**	*e*PKPbc	**PKPbc**	**11 33 29.4**	**-0.2**
VTS	**Vitosha**	**151.49 325** ⇑	*i*P	**PKiKP**	**11 33 29.8**	**0.0**
VTS	**Vitosha**	**151.49 325**	⇑PKIKP	**PKiKP**	**11 33 29.8**	**0.0**
SOKA	**Soboth**	**151.87 340**	*i* PKPbc	**PKPbc**	**11 33 29.1**	**-1.1**
	comp=Z,8.0nm,1.0s					
BFO	**Black Forest**	**151.97 350**	*e*PKPbc	**PKPbc**	**11 33 30.2**	**-0.1**
BFO			*e*PKPab	**PKPab**	**11 33 42.0**	**-0.5**
BFO	**Black Forest**	**151.97 350**	*e*PKIKP	**PKPbc**	**11 33 30.2**	**-0.1**
BFO			*e*		11 33 42.0	
KBA	**Koelnbreinsper**	**152.03 342**	*i* PKPbc	**PKPbc**	**11 33 29.8**	**-0.9**
	comp=Z,4.1nm,0.6s					
WATA	**Walderalm**	**152.26 345**	*i* PKPbc	**PKPbc**	**11 33 31.0**	**-0.1**
	comp=Z,5.7nm,0.4s					
WTTA	**Wattenberg**	**152.31 345**	*i* PKPbc	**PKPbc**	**11 33 30.7**	**-0.5**
	comp=Z,5.7nm,0.4s,SNR=5.7					
MYKA	**Terra Mystica**	**152.35 341**	*i* PKPbc	**PKPbc**	**11 33 30.4**	**-0.8**
	comp=Z,5.7nm,0.5s					
MOTA	**Moosalm**	**152.36 345**	*i* PKPbc	**PKPbc**	**11 33 30.9**	**-0.5**
	comp=Z,2.7nm,0.4s					
SQTA	**Sankt Quirin**	**152.46 345**	*i* PKPbc	**PKPbc**	**11 33 31.4**	**-0.1**
	comp=Z,5.9nm,0.6s					
VNDS	**Vrh nad Dolski**	**152.49 339**	*i* PKPbc	**PKPbc**	**11 33 30.9**	**-0.5**
ABTA	**Abfaltersbach**	**152.56 343**	*i* PKPbc	**PKPbc**	**11 33 31.1**	**-0.6**
	comp=Z,9.6nm,0.6s,SNR=4.8					
CRNS	**Crni Vrh**	**152.65 340**	*i* PKPbc	**PKPbc**	**11 33 31.1**	**-0.8**
FETA	**Feichten**	**152.75 346**	*i* PKiKP	**PKPbc**	**11 33 32.1**	**-0.1**
	comp=Z,7.2nm,0.8s					
FUORN	**Ofenpass-Fuorn**	**153.24 346**	*e*PKPbc	**PKiKP**	**11 33 33.5**	**+0.1**
FUORN			*e*PKPab	**PKPab**	**11 33 48.4**	**+0.1**
FNA	**Florina**	**153.76 324**	PKIKP	**PKiKP**	**11 33 36.2**	**+1.8**
ESDC	**Sonseca Array**	**160.69 12**	*e*PKPdf	**PKPdf**	**11 33 34.5**	**-0.1**
ESDC			*e*PKPab	**PKPab**	**11 34 19.2**	**-1.2**
ESDC			*e*PKPab	PKPab	11 34 20.2	-0.2
ESDC	**Sonseca Array**	**160.69 12**	PKPab	**PKPab**	**11 34 19.2**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=3.5,slow=4.7,SNR=4.9					
TORD	**Torodi Ar. Bea**	**172.35 183**	PKP	**PKPdf**	**11 33 42.0**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=346,slow=4.9,SNR=8.6					

IDC 17 11:46:30.1±4.5, 5°.22S×151°.58E, h127km±35km, mb3.3/5, mb1 3.6/6, mb1mx3.2/34, mbtmp3.8/6, Error ellipse: s-maj=87.8km s-min=21.9km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.04**	**226**	P	Pn	11 47 58.5	+1.4
	4.3nm,0.3s,baz=69,slow=4.2,SNR=13						
PMG				S	Sn	11 49 04.3	-0.8
	12nm,0.3s,baz=344,slow=8.8,SNR=11						
WRA	**Warramunga Arr**	**22.26**	**227**	P	P	11 51 16.2	-0.6
	0.4nm,0.3s,baz=53,slow=9.6,SNR=26						
ASAR	**Alice Springs**	**25.03**	**221**	P	P	11 51 43.4	+0.8
	0.9nm,0.6s,baz=56,slow=8.8,SNR=20						
FITZ	**Fitzroy Crossi**	**28.39**	**241**	P	P	11 52 12.2	-0.5
	1.0nm,0.6s,baz=55,slow=6.7,SNR=7.4						
PETK	**Petropavlovsk-**	**58.34**	**4**	P	P	11 56 11.7	+0.1
	0.7nm,0.6s,baz=140,slow=6.4,SNR=6.1						
ILAR	**Eielson Array**	**83.01**	**22**	P	P	11 58 39.9	-1.0
	0.5nm,0.5s,baz=245,slow=5.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.28**	**287**	PKPbc	PKPbc	12 06 05.2	+0.2
	0.1nm,0.4s,baz=76,slow=4.9,SNR=3.1						

*RSNC **17** 11:47:53.6±1.3, 0°.84N×77°.29W, h1km±5km, ML3.7, Mw4.1*
*IGQ **17** 11:47:54.4±0.8, 1°.N±5°.×7°.7W±°, h20km, MLv4.2*

ISC 17 11:47:53.3±1.1, 0°.81N±0°.02×77°.27W±0°.03, h9km±10km, n38, σ0°.94/56, 7C-1D, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPAS2	**Pasto**	**0.41**	**2** ⇑	*e*P	**Pg**	**11 48 01.7**	**+0.3**
CPAS2				*e*S	**Sg**	**11 48 07.6**	**+0.7**
CPAS2				*i*		11 48 08.3	
	comp=Z,23μm,0.3s						
GCUF	**Volcan Galeras**	**0.42**	**349**	*e*P	**Pg**	**11 48 01.3**	**-0.4**
GCUF				*e*S	**Sg**	**11 48 07.4**	**0.0**
GCUF				*i*		11 48 09.8	
	comp=Z,13μm,0.2s						
ATUL	**Tulcn**	**0.46**	**265**	P	**Pg**	**11 48 02.2**	**-0.2**
ATUL				S	**Sg**	**11 48 09.3**	**+0.9**
CASC	**Dorado de Casc**	**0.67**	**186**	P	**Pg**	**11 48 05.9**	**-0.4**
CRUC	**La Cruz**	**0.82**	**23** ⇑	*e*P	**Pg**	**11 48 08.0**	**-1.1**
YAHU	**Yahuarcocha**	**0.92**	**242**	P	**Pg**	**11 48 10.5**	**-0.5**
YAHU				S	**Sb**	**11 48 23.9**	**-0.1**
CONE	**Cono NE Rev Vo**	**0.95**	**203**	P	**Pg**	**11 48 10.8**	**-0.8**
AIB2	**Ibarra (Univer**	**0.96**	**241**	P	**Pg**	**11 48 11.3**	**-0.5**
REVS	**Reventador Sur**	**0.97**	**201**	P	**Pg**	**11 48 11.3**	**-0.8**
CAYA	**Cayambe**	**1.03**	**225**	P	**Pg**	**11 48 12.7**	**-0.4**
URCU	**Urcuqui**	**1.06**	**250**	P	**Pg**	**11 48 13.4**	**-0.3**
IMBA	**Imbabura, San**	**1.07**	**240**	P	**Pg**	**11 48 13.9**	**-0.1**
COTA	**Cotacachi**	**1.17**	**246**	P	**Pg**	**11 48 15.9**	**0.0**
BBAC	**Balboa, Cauca**	**1.21**	**1** ⇑	*e*P	**Pb**	**11 48 15.3**	**-1.1**
BBAC				*e*S	**Sg**	**11 48 32.1**	**-0.1**
BBAC				*i*		11 48 33.0	
	comp=Z,4μm,0.2s						
CUIC	**Cuicocha-Domo**	**1.21**	**245**	P	**Pg**	**11 48 15.9**	**-0.6**
OTAV	**Otavalo**	**1.31**	**244** ⇑	*e*P	**Pn**	**11 48 17.5**	**-0.8**
OTAV				*e*S	**Sb**	**11 48 35.4**	**-0.2**
OTAV				*i*		11 48 41.1	
	comp=Z,361nm,0.5s						
PULU	**Pululahua**	**1.46**	**238**	P	**Pn**	**11 48 20.4**	**+0.1**
SOTA	**Rioblanco**	**1.47**	**27**	*e*P	**Pn**	**11 48 19.7**	**-0.8**
SOTA				*e*S	**Sn**	**11 48 40.0**	**-0.1**
ANTI	**Antisana**	**1.54**	**216**	P	**Pn**	**11 48 21.7**	**+0.2**
YANA	**Yana**	**1.60**	**235**	P	**Pb**	**11 48 23.0**	**-0.3**
PAC1	**Pacto, Paraso**	**1.62**	**251**	P	**Pn**	**11 48 22.7**	**+0.5**
ANTG	**Antisana-Guama**	**1.64**	**217**	P	**Pn**	**11 48 23.3**	**+0.5**
ANTG				S	**Sb**	**11 48 45.1**	**+0.2**
ANTM	**Antisana-La Mi**	**1.64**	**216**	P	**Pn**	**11 48 23.2**	**+0.3**
GGPC	**Guagua Pichinc**	**1.65**	**234**	P	**Pb**	**11 48 24.1**	**-0.3**
TERV	**Terraza Guagua**	**1.66**	**234**	P	**Pb**	**11 48 24.2**	**-0.2**
PCON	**Cinco Dias**	**1.74**	**30** ⇑	*e*P	**Pn**	**11 48 24.9**	**+0.7**
PCON				*e*Pg	**Pg**	**11 48 28.0**	**+1.2**
PCON				*e*S	**Sg**	**11 48 52.7**	**+3.3**
TUMC	**Tumaco**	**1.77**	**305**	*e*P	**Pn**	**11 48 23.5**	**-0.8**
TUMC				*e*S	**Sb**	**11 48 48.7**	**+0.3**
TUMC				*i*		11 49 34.0	
	comp=Z,397nm,0.6s						
FLOC	**Florencia**	**1.79**	**64**	*e*P	**Pn**	**11 48 23.6**	**-0.8**
FLOC				*e*S	**Sb**	**11 48 49.0**	**+0.2**
FLOC				*i*		11 48 50.9	
	comp=Z,3μm,0.4s						
PITA	**Cotopaxi Volc**	**1.79**	**221**	P	**Pb**	**11 48 26.8**	**+0.2**
NINA	**Atacazo Ninahu**	**1.80**	**229**	P	**Pb**	**11 48 27.1**	**+0.3**
POPC	**Popayan, Colom**	**1.82**	**19** ⇑	*e*P	**Pn**	**11 48 25.4**	**+0.4**
POPC				*e*S	**Sn**	**11 48 48.3**	**0.0**
POPC				*i*		11 48 58.2	
	comp=Z,349nm,0.3s						
VC1	**Cotopaxi 1**	**1.84**	**218**	P	**Pb**	**11 48 27.4**	**0.0**
ARDO	**Archidona, Ten**	**1.87**	**197**	P	**Pn**	**11 48 26.1**	**+0.5**
ARDO				S	**Sb**	**11 48 52.1**	**+0.8**
MARP	**Paez Belalcaza**	**2.41**	**33** ⇑	*e*P	**Pb**	**11 48 37.3**	**+0.3**
MARP				*e*S	**Sg**	**11 49 10.1**	**-0.7**
MARP				*i*		11 49 12.0	
	comp=Z,156nm,0.6s						
PTLC	**Puerto Leguiza**	**2.55**	**104**	*e*P	**Pn**	**11 48 35.8**	**+0.9**
	comp=Z,854nm,0.3s						
PTLC				*e*S	**Sb**	**11 49 10.3**	**-0.4**
PTLC				*i*		11 49 15.3	
	comp=Z,854nm,0.3s						
BETC	**Betania**	**2.60**	**44**	*e*P	**Pb**	**11 48 40.7**	**+0.4**
BETC				*e*S	**Sg**	**11 49 15.0**	**-2.1**
BETC				*i*		11 49 20.6	
	comp=Z,68nm,0.6s						
YOTC	**Yotoco, Valle**	**3.29**	**16** ⇓	*i*P	**Pn**	**11 48 48.3**	**+3.2**
YOTC				*e*S	**Sb**	**11 49 30.6**	**-1.5**
YOTC				*i*		11 49 40.3	
	comp=Z,55nm,0.5s						
PRAC	**Prado**	**3.74**	**39**	*e*P	**Pb**	**11 48 57.9**	**-1.7**

RSNC 17 11:48:49.5±1.0, 0°.83N×77°.35W, h0km±13km, ML3.7, Mw3.8, 1C, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCUF	**Volcan Galeras**	**0.39**	**1**	*e*P	Pg	11 48 57.9	+0.9
GCUF				*e*S	Sg	11 49 03.2	+1.0
GCUF				*i*		11 49 04.7	
	comp=Z,8μm,0.2s						
CPAS2	**Pasto**	**0.40**	**14** ⇑	*e*P	Pg	11 48 57.7	+0.5
CPAS2				*e*S	Sg	11 49 04.2	+1.8
BBAC	**Balboa, Cauca**	**1.19**	**5**	*e*S	Sg	11 49 28.2	+0.5
BBAC				*i*		11 49 30.0	
	comp=Z,1μm,0.3s						
POPC	**Popayan, Colom**	**1.83**	**22**	*e*S	Sn	11 49 45.8	-0.6
FLOC	**Florencia**	**1.85**	**66**	*e*S	Sn	11 49 45.7	-1.0
FLOC				*i*		11 49 48.6	
	comp=Z,682nm,0.3s						
PTLC	**Puerto Leguiza**	**2.63**	**104**	*e*S	Sn	11 50 08.1	+2.1

GUC 17 11:51:23.6±0.5, 34°.56S×73°.49W, h36km±3km, ML3.7, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.36**	**110** ⇑	*i*P	Pn	11 51 46.5	+0.5
GO05				*i* S	Sn	11 52 04.0	+1.2
GO05				IAML		11 52 04.9	
	comp=E,3μm,0.3s						
CCHI	**Chillan**	**2.34**	**151**	*e*P	Pn	11 52 00.5	+1.0
CCHI				*i* S	Sn	11 52 28.2	+1.3
CCHI				IAML		11 52 30.2	
	comp=N,1μm,0.2s						
ROCH	**El Roble**	**2.60**	**53**	IAML		11 52 39.1	
	comp=N,223nm,0.3s						
CLCH	**Cerro Calan**	**2.71**	**65**	*e*P	Pn	11 52 05.8	+1.1
CLCH				IAML		11 52 59.7	
	comp=N,214nm,0.7s						
PEL	**Peldehue**	**2.73**	**60** ⇓	*i*P	Pn	11 52 05.6	+0.7
PEL				*i* S	Sn	11 52 38.3	+1.6
PEL				IAML		11 52 43.7	
	comp=E,229nm,0.4s						
LMEL	**Las Melosas**	**2.81**	**76**	*e*P	Pn	11 52 07.2	+1.0
LMEL				*i* S	Sn	11 52 40.3	+1.3
LMEL				IAML		11 52 48.1	
	comp=N,463nm,0.2s						
FCH	**Farellones**	**2.93**	**66**	*e*P	Pn	11 52 08.7	+0.8
FCH				*i* S	Sn	11 52 43.2	+1.2
FCH				IAML		11 52 52.5	
	comp=E,198nm,0.1s						

*SOME **17** 11:56:15.4, 40°.78N×79°.95E, h15km*
*KRNET **17** 11:56:17.1±0.1, 40°.51N×80°.18E, mb2.6*

ISC 17 11:56:18.3±2.8, 40°.8N±0°.1×80°.02E±0°.09, h10km, n12, σ1°.74/24, 6C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.38**	**350**	*e*P	**Pb**	**11 56 58.8**	**-2.5**
	9.0nm,0.3s						
SHLS				*e*S	**Sb**	**11 57 30.0**	**-0.8**
	16nm,0.5s						
UZB	**Uzynbulak**	**2.45**	**343**	*e*P	**Pb**	**11 57 00.2**	**-2.4**
	2.9nm,0.5s						
UZB				*e*S	**Sb**	**11 57 32.5**	**-0.3**
	7.2nm,0.6s						
KDJ	**Kajisay**	**2.51**	**303** ⇑	*i*P	**Pb**	**11 57 00.8**	**-2.7**
	baz=7.0						
KDJ			⇑	*i*S	**Sb**	**11 57 33.3**	**-1.2**
	baz=7.0						
PDGK	**Podgornoye**	**2.55**	**351** ⇓	*i*P	**Pb**	**11 57 02.7**	**-1.5**
	baz=50						
PDGK			⇓	*i*S	**Sb**	**11 57 35.1**	**-0.5**
	baz=50						
SATY	**Saty**	**2.55**	**332**	*e*P	**Pb**	**11 57 02.1**	**-2.1**
	5.9nm,0.4s						
SATY				*e*S	**Sb**	**11 57 35.9**	**+0.3**
	18nm,0.4s						
KTMS	**Ketmen**	**2.65**	**5**	*e*P	**Pb**	**11 57 04.3**	**-1.5**
	9.0nm,0.4s						
KTMS				*e*S	**Sb**	**11 57 39.5**	**+1.1**
	8.7nm,0.7s						
KPKS	**Kokpek**	**2.83**	**340**	*e*P	**Pb**	**11 57 07.3**	**-1.7**
	7.8nm,0.6s						
KPKS				*e*S	**Sb**	**11 57 44.5**	**+0.7**
	14nm,0.8s						
NRN	**Naryn**	**3.10**	**283** ⇑	*i*P	**Pn**	**11 57 08.6**	**+1.1**
	baz=87						
NRN			⇑	*i*S	**Sn**	**11 57 46.2**	**+1.4**
	baz=87						
TNSS	**Tian-Shan**	**3.19**	**315**	*e*P	**Pb**	**11 57 13.1**	**-2.2**
	3.0nm,0.4s						
TNSS				*e*S	**Sb**	**11 57 54.8**	**+0.3**
	8.0nm,0.5s						
MDOK	**Medeo**	**3.23**	**318**	*e*P	**Pb**	**11 57 13.7**	**-2.1**
	2.2nm,0.5s						
MDOK				*e*S	**Sb**	**11 57 55.4**	**+0.1**
	8.9nm,0.7s						
MNBS	**Baschi**	**3.48**	**340**	*e*P	**Pb**	**11 57 18.0**	**-2.1**
	1.8nm,0.3s						
MNBS				*e*S	**Sb**	**11 58 03.6**	**+1.2**
	11nm,0.3s						
BOOM	**Boomskoye usch**	**3.49**	**300** ⇑	*i*P	**Pn**	**11 57 14.4**	**+1.7**
	baz=3.0						
BOOM			⇑	*i*S	**Sn**	**11 57 56.8**	**+2.6**
	baz=3.0						

*DSN **17** 12:10:35.1±3.4, 26°.54N×57°.99E, h10km, ML3.5/7, Error ellipse: s-maj=44.9km s-min=12.5km az=11.0*
*ISCJB **17** 12:10:36.0±0.5, 26°.51N±0°.03×57°.89E±0°.05, h10km, Error ellipse: s-maj=6.6km s-min=4.0km az=171.2*
*TEH **17** 12:10:38.7, 26°.58N×57°.65E, h26km, ML3.7*
*OMAN **17** 12:10:41.7±0.2, 26°.29N×57°.78E, h16km, ml3.4/11, Error ellipse: s-maj=6.5km s-min=4.4km az=302.0*

ISC 17 12:10:36.0±1.2, 26°.61N±0°.04×57°.84E±0°.05, h10km, n40, σ1°.85/49, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**0.97**	**184**	*e*Pg	**Pn**	**12 10 57.1**	**+1.5**
NIAN	**Nian**	**1.30**	**317**	*e*Pg	**Pn**	**12 11 00.1**	**-0.2**
NIAN				IAMB	IAmb	12 11 23.4	
	comp=Z,0.0nm,0.3s						
SHME	**Shamm**	**1.62**	**250**	*e*P	**Pn**	**12 11 05.3**	**+0.6**
	SNR=19						
SHME				S	**Sg**	**12 11 28.4**	**+0.2**
SHME	**Shamm**	**1.62**	**250**	*e*Pn	**Pn**	**12 11 05.6**	**+0.9**
GENO	**Geno**	**1.68**	**298**	*e*Sg	**Sb**	**12 11 29.2**	**+0.7**
GENO				*e*Pn	**Pn**	**12 11 06.4**	**+0.8**
GENO				IAMB	IAmb	12 11 35.0	
	comp=Z,0.0nm,0.3s						
BNDS	**Bandar-Abbas**	**1.68**	**298**	*e*Pn	Pn	12 10 59.5	-6.1
MSFE	**Esma-Masafi**	**1.96**	**231**	*e*P	**Pn**	**12 11 08.2**	**-1.1**
	SNR=12						
MSFE	**Esma-Masafi**	**1.96**	**231**	*e*Pn	**Pn**	**12 11 08.7**	**-0.6**
HATD	**Hatta, Dubai**	**2.35**	**221**	P	**Pn**	**12 11 13.6**	**-1.0**
HATD	**Hatta, Dubai**	**2.35**	**221**	*e*Pn	**Pn**	**12 11 14.3**	**-0.4**
ASHO	**Ashiyiah**	**2.50**	**220**	*e*P	**Pn**	**12 11 17.5**	**+0.7**

AKAS			*i* P		Pn	12 12 26.0	+1.7
AKAS			*i* S		Sn	12 12 46.0	+4.8
KORT	**Korkueli**	**1.59 90**	PN		Pg	12 12 29.6	-1.6

IDC 17 12:48:53.4±9.3, 2°.02N×128°.40E, h138km±90km, mb3.5/5, mb1 3.6/5, mb1mx3.2/53, mbtmp3.9/5, Error ellipse: s-maj=105.6km s-min=17.7km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.59**	**165**	P	P	12 53 42.5	-0.1
	1.9nm,0.6s,baz=346,slow=11,SNR=49						
ASAR	**Alice Springs**	**26.09**	**168**	P	P	12 54 14.2	-0.2
	0.4nm,0.4s,baz=352,slow=7.9,SNR=26						
ASAR				PcP	PcP	12 57 38.2	-0.5
	0.3nm,0.5s,baz=352,slow=2.2,SNR=6.8						
STKA	**Stephens Creek**	**35.96**	**161**	P	P	12 55 41.3	+0.4
	1.1nm,0.3s,baz=334,slow=11,SNR=6.4						
SONM	**Songino Array**	**49.45**	**341**	P	P	12 57 29.6	0.0
	0.8nm,0.5s,baz=148,slow=8.4,SNR=3.5						
MKAR	**Makanchi Array**	**59.90**	**325**	P	P	12 58 44.8	-0.1
	1.8nm,0.5s,baz=117,slow=8.1,SNR=23						

*IDC **17** 12:58:53.9±0.9, 35°.53N×29°.50E, h0km, mb3.8/13, mb1 3.9/19, mb1mx3.8/46, mbtmp3.8/19, ML3.8/6, MS2.8/4, Ms1 2.8/4, ms1mx2.4/48, Error ellipse: s-maj=19.9km s-min=14.8km az=17.0*
*DDA **17** 12:58:54.2, 35°.29N×29°.41E, h39km±1km, ML3.7*
*HLW **17** 12:58:55.1, 35°.69N×29°.38E, h34km±44km, Md4.3*
*ISCJB **17** 12:58:57.9±0.2, 35°.41N±0°.02×29°.53E±0°.02, h47km±3km, mb3.9/23, Error ellipse: s-maj=3.1km s-min=2.1km az=34.6*
*MOS **17** 12:58:58.0±0.9, 35°.38N×29°.50E, h46km, mb4.3/8, Error ellipse: s-maj=7.7km s-min=5.6km az=91.5*
*ATH **17** 12:58:58.2, 35°.62N×29°.51E, h69km±6km, ML3.6/7, Error ellipse: s-maj=6.9km s-min=1.6km az=39.0*
*ISK **17** 12:58:58.9, 35°.56N×29°.43E, h27km, ML3.6/12*
*NEIC **17** 12:58:59.8±2.1, 35°.43N×29°.55E, h50km±12km, mb4.0/10, ML3.6(ATH), ML3.7(ISK), Error ellipse: s-maj=19.3km s-min=7.9km az=195.0*
*THE **17** 12:59:01.1, 35°.76N×29°.21E, h0km, ML3.4/4, Error ellipse: s-maj=1.8km s-min=0.6km az=146.0*
*NIC **17** 12:59:02.7±0.2, 35°.46N×29°.80E, h22km, mb4.1, ML3.7*
*GII **17** 12:59:02.7±0.0, 35°.12N×29°.99E, h3km, MD3.3/5*

ISC 17 12:58:58.5±1.2, 35°.46N±0°.03×29°.53E±0°.03, h31km±9km, n205, σ1$42/243, mb4.0/23, 4C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.69**	**4**	P	Pb	12 59 11.5	-0.6
KSL				S	Sb	12 59 20.4	-0.9
KSL	**Kastellorizon**	**0.69**	**4**	P	Pb	12 59 11.8	-0.2
KSL				S	Sb	12 59 21.0	-0.4
KSL				AML	AML	12 59 22.6	
	comp=N,8840μm,0.5s						
KSL				AML	AML	12 59 24.4	
	comp=E,7786μm,0.4s						
AKAS	**Kas**	**0.77**	**5**	PG	Pn	12 59 13.2	-0.2
AKAS	**Kas**	**0.77**	**5**	*i* P	Pb	12 59 13.7	+0.1
AKUM	**Antalya-Kumluc**	**1.09**	**37**	*i* P	Pb	12 59 18.5	-0.2
FETY	**Fethiye**	**1.23**	**343**	PN	Pn	12 59 19.2	-0.3
FETY				SN	Sn	12 59 33.6	-1.5
FETY	**Fethiye**	**1.23**	**343**	P	Pn	12 59 18.9	-0.6
FETY				S	Sn	12 59 32.4	-2.7
FETY	**Fethiye**	**1.23**	**343**	*i* P	Pn	12 59 19.3	-0.2
ELL	**Elmali**	**1.32**	**13**	PN	Pn	12 59 21.5	+0.6
ELL	**Elmali**	**1.32**	**13**	P	Pb	12 59 22.1	-0.7
ARG	**Arkhangelos**	**1.36**	**304**	PN	Pn	12 59 21.2	-0.2
ARG	**Arkhangelos**	**1.36**	**304**	P	Pn	12 59 20.8	-0.6
ARG				S	Sn	12 59 35.7	-2.7
ARG	**Arkhangelos**	**1.36**	**304**	P	Pn	12 59 20.8	-0.6
ARG				S	Sn	12 59 35.7	-2.7
ARG	**Arkhangelos**	**1.36**	**304**	P	Pn	12 59 21.2	-0.2
ARG				S	Sn	12 59 38.3	-0.2
ARG				AML	AML	12 59 39.8	
	comp=N,1893μm,0.5s						
ARG				AML	AML	12 59 41.6	
	comp=E,1721μm,0.3s						
KEMT	**Kemer-ANTALYA**	**1.41**	**36**	PN	Pb	12 59 23.2	-1.0
DALY	**Dalyan (Mula)**	**1.53**	**333**	PN	Pn	12 59 23.5	-0.1
DALY	**Dalyan (Mula)**	**1.53**	**333**	*i* P	Pn	12 59 23.7	+0.1
TURN	**Turunc**	**1.59**	**332**	PN	Pn	12 59 24.8	+0.2
MRSB	**Marmaris-Mugla**	**1.65**	**320**	PN	Pn	12 59 25.5	+0.1
KORT	**Korkueli**	**1.68**	**23**	PN	Pn	12 59 26.8	+1.0
BBRN	**Bozburun-Marma**	**1.70**	**316**	PN	Pn	12 59 25.7	-0.3
KARP	**Karpathos**	**1.93**	**273**	PN	Pn	12 59 29.7	+0.5
KARP	**Karpathos**	**1.93**	**273**	*e*Pn	Pn	12 59 29.8	+0.6
KARP				*e*Sn	Sn	12 59 52.9	+0.4
KARP	**Karpathos**	**1.93**	**273**	P	Pn	12 59 30.0	+0.8
KARP				S	Sn	12 59 53.2	+0.7
KARP	**Karpathos**	**1.93**	**273**	P	Pn	12 59 30.3	+1.0
KARP				S	Sn	12 59 53.3	+0.8
KARP				AML	AML	12 59 54.2	
	comp=E,1648μm,0.6s						
KARP				AML	AML	12 59 56.9	
	comp=N,1558μm,0.4s						
DATC	**Datca-Mugla**	**1.99**	**311**	PN	Pn	12 59 29.8	-0.2
DAT	**Datca**	**2.02**	**309**	PN	Pn	12 59 30.5	-0.1
DAT	**Datca**	**2.02**	**309**	*i* P	Pn	12 59 31.4	+0.8
DAT				*i* S	Sn	12 59 54.3	-0.6
TAVA	**DENIZLI_Tavas**	**2.06**	**346**	IAML_P			
	comp=Z,1μm,0.1s						
TAVA				*i* P	Pn	12 59 32.8	+1.7
TAVA				*i* S	Sn	12 59 43.1	-13
BCK	**Bucak**	**2.17**	**23**	PN	Pn	12 59 33.5	+0.9
BCK	**Bucak**	**2.17**	**23**	P	Pb	12 59 35.7	-1.5
KEPZ	**Antalya-Kepez**	**2.21**	**49**	IAML_P			
	comp=Z,1μm,0.2s						
KEPZ				*i* P	Pn	12 59 34.4	+1.3
BRDR	**BURDUR-Merkez**	**2.27**	**11**	IAML_P			
	comp=Z,665nm,0.2s						
BRDR				*i* P	Pn	12 59 35.9	+1.9
BDRM	**Kayabasi**	**2.32**	**314**	IAML_P			
	comp=Z,845nm,0.2s						
BDRM				*i* P	Pn	12 59 34.1	-0.5
DENT	**Denizli**	**2.32**	**350**	PN	Pn	12 59 35.1	+0.5
PPCY	**Paphos**	**2.38**	**103**	P	Pn	12 59 36.4	+1.1
	baz=286						
GAZI	**Gazipasa**	**2.39**	**70**	PN	Pn	12 59 37.3	+1.7
GAZI	**Gazipasa**	**2.39**	**70**	IAML_P			
	comp=Z,1μm,0.1s						
GAZI				*i* P	Pn	12 59 35.9	+0.3
BODT	**Bodrum**	**2.40**	**312**	PN	Pn	12 59 35.8	+0.1
BODT	**Bodrum**	**2.40**	**312**	P	Pn	12 59 35.2	-0.5
BODT				S	Sn	13 00 01.8	-2.2
ISP	**Isparta**	**2.49**	**18**	*e*Pn	Pb	12 59 39.9	-2.7
ISP				*e*Sn	Sn	13 00 09.0	+2.6
ISP	**Isparta**	**2.49**	**18**	*e*P	Pb	12 59 39.9	-2.7
ISP				*e*		13 00 09.0	
ALFC	**Alefka**	**2.53**	**96**	P	Pn	12 59 38.2	+0.7
	baz=278						
ALFC				S	Sn	13 00 06.1	-1.2
AYDN	**Tasoluk**	**2.56**	**329**	IAML_P			
	comp=Z,2μm,0.2s						
AYDN				*i* P	Pn	12 59 39.7	+1.8
BAGO	**Egridir - ISPA**	**2.72**	**22**	IAML_P			
	comp=Z,4μm,0.2s						
BAGO				*i* P	Pn	12 59 43.0	+2.9
ZKR	**Zakros**	**2.73**	**264**	P	Pn	12 59 41.4	+1.2
ZKR				S	Sn	13 00 12.6	+0.5
ZKR	**Zakros**	**2.73**	**264**	P	Pn	12 59 41.4	+1.2
ZKR				S	Sn	13 00 12.3	+0.2
ZKR				AML	AML	13 00 18.0	
	comp=E,664μm,0.6s						
ZKR				AML	AML	13 00 20.9	
	comp=N,282μm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**2.81**	**333**	PN	Pn	12 59 41.5	+0.1
STIA	**Sitia Lasithi**	**2.82**	**266**	P	Pn	12 59 43.4	+2.0
STIA				S	Sn	13 00 14.9	+0.6
SZAC	**Souni**	**2.84**	**103**	P	Pn	12 59 42.5	+0.8
	baz=286						
SZAC				S	Sn	13 00 14.0	-0.9
GCAM	**G?zelcaml?**	**2.90**	**321**	PN	Pn	12 59 43.2	+0.7
KHAL	**Karahalli**	**2.90**	**359**	*i* P	Pn	12 59 42.7	0.0
MAMC	**Mammari**	**3.03**	**94**	P	Pn	12 59 45.5	+1.1
	baz=276						
SMG	**Samos**	**3.12**	**317**	P	Pn	12 59 44.3	-1.3
SMG				S	Sn	13 00 19.7	-2.0
SMG				AML	AML	13 00 21.3	
	comp=E,645μm,0.5s						
SMG				AML	AML	13 00 24.0	
	comp=N,756μm,0.4s						
KULA	**Kula-Manisa**	**3.13**	**347**	PN	Pn	12 59 46.2	+0.5
DOGA	**KONYA_Doganhis**	**3.15**	**32**	*i* P	Pn	12 59 49.6	+3.5
CSS	**Mathiatis**	**3.15**	**98**	*e*Pn	Pn	12 59 45.3	-0.8
CSS				*e*Sn	Sn	13 00 21.8	-0.8
CSS	**Mathiatis**	**3.15**	**98**	P	Pn	12 59 46.8	+0.7
CSS	**Mathiatis**	**3.15**	**98**	P	Pn	12 59 46.7	+0.7
CSS	**Mathiatis**	**3.15**	**98**	Pn	Pn	12 59 46.7	+0.7
ANAF	**Anafi Island**	**3.17**	**287**	P	Pn	12 59 47.0	+0.7
ANAF				S	Sn	13 00 22.1	-1.1
ANAF				AML	AML	13 00 23.5	
	comp=N,4698μm,0.3s						
ANAF				AML	AML	13 00 23.5	
	comp=E,3507μm,0.2s						
SHUT	**Suhut-Afyon**	**3.19**	**15**	PN	Pn	12 59 47.3	+0.6
NPS	**Neapolis**	**3.20**	**268**	P	Pn	12 59 48.2	+1.5
NPS				S	Sn	13 00 23.9	0.0
NPS	**Neapolis**	**3.20**	**268**	P	Pn	12 59 48.2	+1.5
NPS				S	Sn	13 00 23.9	0.0
NPS	**Neapolis**	**3.20**	**268**	P	Pn	12 59 48.2	+1.5
NPS				S	Sn	13 00 23.5	-0.4
NPS				AML	AML	13 00 26.4	
	comp=E,1090μm,0.4s						
NPS				AML	AML	13 00 26.9	
	comp=N,1042μm,0.5s						
LAST	**Lasithi**	**3.32**	**266**	P	Pn	12 59 50.1	+1.6
BOLV	**Bolvadin**	**3.44**	**19**	*i* P	Pn	12 59 53.7	+3.5
APE	**Apeiranthos**	**3.60**	**298**	*de*P	Pn	12 59 52.2	-0.1
APE	**Apeiranthos**	**3.60**	**298**	P	Pn	12 59 52.4	+0.1
IDI	**Anoyia**	**3.79**	**269**	Pn	Pn	12 59 55.5	+0.7
	comp=N,7.5nm,0.3s,baz=126,slow=9.9,SNR=156						
IDI				Sn	Sn	13 00 37.0	-1.4
	comp=N,34nm,0.3s,baz=316,slow=19,SNR=15						
IDI	**Anoyia**	**3.79**	**269**	P	Pn	12 59 55.1	+0.3
SIVA	**Sivas**	**3.88**	**265**	P	Pn	12 59 57.7	+1.6
VAM	**Vamos**	**4.35**	**271**	P	Pn	13 00 04.2	+1.8
VAM	**Vamos**	**4.35**	**271**	P	Pn	13 00 03.3	+0.8
BALB	**Balikesir**	**4.37**	**343**	*e*Pn	Pn	13 00 04.7	+1.9
BALB				*e*Sn	Sn	13 00 53.0	+0.4
GVD	**Gavdhos**	**4.50**	**264**	P	Pn	13 00 05.5	+1.0
IMMV	**Iera Moni Meta**	**4.53**	**272**	P	Pn	13 00 05.9	+1.0
IMMV	**Iera Moni Meta**	**4.53**	**272**	P	Pn	13 00 06.0	+1.2
HBRG	**Burj al `Arab**	**4.88**	**177**	P	Pn	13 00 10.7	+1.0
	baz=175						
HBRG				S	Sn	13 01 04.9	-0.3
	baz=175						
ANTO	**Ankara**	**5.11**	**30**	*e*Pn	Pn	13 00 15.3	+2.4
ANTO	**Ankara**	**5.11**	**30**	*e*P	Pn	13 00 15.3	+2.4
MDUB	**Mudurnu**	**5.17**	**14**	*e*Pn	Pn	13 00 16.6	+2.7
HNTI	**Hanita**	**5.24**	**115**	Pn	Pn	13 00 15.5	+0.8
HNTI				Sn	Sn	13 01 11.7	-2.5
OFRI	**`Ofer**	**5.34**	**120**	Pn	Pn	13 00 17.0	+0.8
SLUM	**Salum**	**5.35**	**224**	P	Pn	13 00 16.2	0.0
	baz=221						
SLUM				S	Sn	13 01 12.4	-4.5
	baz=221						
BR131	**Keskin Array S**	**5.37**	**36**	*e*Pn	Pn	13 00 17.2	+0.7
BR131				*e*Sn	Sn	13 01 16.0	-1.3
BR131	**Keskin Array S**	**5.37**	**36**	*e*P	Pn	13 00 17.3	+0.7
BR131				*e*		13 01 16.0	
BRTR	**Keskin Array B**	**5.37**	**36**	*i* P	Pn	13 00 17.6	+1.0
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BRTR	**Keskin Array B**	**5.37**	**36**	Pn	Pn	13 00 17.6	+1.0
	comp=Z,1.4nm,0.3s,baz=208,slow=12,SNR=35						
BRTR				Sn	Sn	13 01 15.8	-1.5
	comp=Z,3.8nm,0.3s,baz=191,slow=29,SNR=15						
HWQ	**Hawqa**	**5.41**	**101**	*e*P	Pn	13 00 18.0	+0.9
MMA0B	**Mount Meron ar**	**5.44**	**115**	Pn	Pn	13 00 18.4	+0.8
MMAI	**Mount Meron Ar**	**5.44**	**115**	Pn	Pn	13 00 17.7	+0.1
	comp=Z,6.3nm,0.3s,baz=305,slow=13,SNR=24						
MMAI				Sn	Sn	13 01 17.2	-2.0
	comp=Z,18nm,0.3s,baz=301,slow=26,SNR=15						
MMAI				LR	LR	13 03 46.2	
	comp=Z,64nm,18.9s,baz=250,slow=53						
GEM	**Giv'at Ha'Em**	**5.55**	**112**	Pn	Pn	13 00 19.4	+0.4
SHBL	**Chebaa**	**5.55**	**111**	*e*P	Pn	13 00 19.5	+0.4
KSDI	**Kefar Szold**	**5.56**	**112**	Pn	Pn	13 00 19.6	+0.6
KSDI				Sn	Sn	13 01 18.6	-3.2
RCY	**Rachaya**	**5.57**	**109**	*e*P	Pn	13 00 19.9	+0.5
NATI	**Neve Ativ**	**5.58**	**111**	Pn	Pn	13 00 20.4	+1.0
NATI				Sn	Sn	13 01 21.0	-1.5
SLTI	**Sal'it**	**5.60**	**123**	Pn	Pn	13 00 19.7	0.0
BRBR	**Barbar**	**5.69**	**109**	*e*P	Pn	13 00 21.9	+0.8
BRBR				*e*S	Sn	13 01 12.1	-13
BRBR				AML	AML	13 01 26.3	
	comp=N,81nm,0.8s						
BRBR				AML	AML	13 01 26.5	
	comp=E,37nm,0.4s						
MMLI	**Mount Malkishu**	**5.75**	**120**	Pn	Pn	13 00 22.6	+0.8
KSHT	**Keshet**	**5.76**	**114**	Pn	Pn	13 00 23.1	+1.1
KOT	**Kottamia**	**5.85**	**160**	P	Pn	13 00 24.5	+1.4
	baz=159						
HNAT	**Natroun**	**5.88**	**171**	P	Pn	13 00 24.6	+1.0
	baz=169						
QASN	**Qassioun**	**5.90**	**107**	*e*P	Pn	13 00 21.2	-2.6
QASN				AML	AML	13 01 26.1	
	comp=N,124nm,0.8s						
QASN				AML	AML	13 01 27.8	
	comp=E,58nm,0.8s						
HHAG	**Hagoal**	**5.90**	**158**	P	Pn	13 00 24.6	+0.8
	baz=157						
HMDT	**Nahal Hemdat**	**5.93**	**121**	Pn	Pn	13 00 25.0	+0.8
HMDT				Sn	Sn	13 01 28.7	-2.3
AMAZ	**Amatzia**	**5.97**	**130**	Pn	Pn	13 00 25.2	+0.5
AMAZ				Sn	Sn	13 01 28.9	-3.1
HSAF	**As Saff**	**6.07**	**163**	P	Pn	13 00 27.4	+1.2
	baz=162						
TOTH	**TOTAH**	**6.08**	**108**	*e*P	Pn	13 00 23.6	-2.7
TOTH				*e*S	Sn	13 01 17.9	-17
TOTH				AML	AML	13 01 31.3	
	comp=N,38nm,0.6s						
ALN	**Alexandroupoli**	**6.08**	**334**	*e*Pn	Pn	13 00 27.8	+1.6
ALN	**Alexandroupoli**	**6.08**	**334**	*e*P	Pn	13 00 27.8	+1.6
KZIT	**Kziot**	**6.11**	**137**	Pn	Pn	13 00 27.3	+0.7
KZIT				Sn	Sn	13 01 32.3	-3.1
GLL	**Jalalah**	**6.15**	**162**	P	Pn	13 00 27.7	+0.5
	baz=161						
YTIR	**Yattir**	**6.21**	**130**	Pn	Pn	13 00 28.7	+0.6
YTIR				Sn	Sn	13 01 35.2	-2.9
DSI	**Dead Sea**	**6.24**	**127**	Pn	Pn	13 00 30.6	+2.1
SUZ	**Suez**	**6.26**	**153**	P	Pn	13 00 29.7	+1.0
	baz=152						
ITM	**Ithomi**	**6.37**	**288**	*e*Pn	Pn	13 00 32.2	+1.9
ITM	**Ithomi**	**6.37**	**288**	P	Pn	13 00 31.8	+1.6
LISJ	**El Lisan**	**6.52**	**129**	P	Pn	13 00 34.3	+2.1
	comp=N,11nm,0.4s,comp=N,0.1nm						
ZAF	**Zafarana**	**6.67**	**157**	P	Pn	13 00 35.5	+1.2
	baz=156						
ZNM	**Zenema**	**6.70**	**154**	P	Pn	13 00 35.7	+1.0
	baz=153						
ZFRI	**Zfri**	**6.82**	**134**	Pn	Pn	13 00 36.8	+0.5
PRNI	**Paran**	**6.87**	**136**	Pn	Pn	13 00 37.8	+0.7
KRMI	**Paran Flat**	**6.89**	**139**	Pn	Pn	13 00 37.9	+0.4
ASF	**Jabal al Asfar**	**6.96**	**116**	P	Pn	13 00 40.2	+1.8
	comp=N,7.6nm,0.6s,comp=N,0.0nm						
ASF	**Jabal al Asfar**	**6.96**	**116**	Pn	Pn	13 00 38.7	+0.4
	comp=N,0.9nm,0.3s,baz=304,slow=2.5,SNR=5.4						
ASF				Sn	Sn	13 01 55.7	-0.8
	comp=N,0.5nm,0.3s,baz=242,slow=24,SNR=3.2						
JDRJ	**Daraweish**	**6.99**	**131**	P	Pn	13 00 40.5	+1.7
SWA2		**7.09**	**210**	P	Pn	13 00 40.2	+0.1
	baz=209						
HRFI	**Mount Harif**	**7.13**	**138**	Pn	Pn	13 00 40.9	+0.3
HRFI				Sn	Sn	13 01 57.3	-3.3
LIT	**Litokhoron**	**7.24**	**312**	*e*Pn	Pn	13 00 44.8	+2.6
LIT	**Litokhoron**	**7.24**	**312**	*e*P	Pn	13 00 44.8	+2.6
MBRI	**Mt Berech**	**7.25**	**140**	Pn	Pn	13 00 43.5	+1.1
EIL	**Elat**	**7.37**	**140**	Pn	Pn	13 00 45.2	+1.3
EIL				Sn	Sn	13 02 03.1	-3.4
EIL	**Elat**	**7.37**	**140**	Pn	Pn	13 00 44.2	+0.2
	comp=N,4.1nm,0.3s,baz=248,slow=4.2,SNR=32						
EIL				Sn	Sn	13 02 02.0	-4.5
	comp=N,2.5nm,0.3s,baz=67,slow=20,SNR=8.6						
EIL				LR	LR	13 04 38.4	
	comp=N,56nm,21.3s,baz=288,slow=46						
GRB	**Gharib**	**7.69**	**158**	P	Pn	13 00 48.6	+0.2
	baz=157						
NUB		**7.74**	**145**	P	Pn	13 00 50.6	+1.5
	baz=144						
GRG	**Griva**	**7.84**	**317**	P	Pn	13 00 52.8	+2.3
GRG				pmax	pmax		
	comp=Z,12nm,1.4s						
TAMRE	**El Minia**	**7.84**	**171**	P	Pn	13 00 50.7	+0.2
	baz=170						
HKAT	**Jabal Katrina**	**7.89**	**150**	P	Pn	13 00 51.6	+0.3
	baz=150						
HDHB	**Dhahab**	**7.99**	**146**	P	Pn	13 00 53.7	+1.3
	baz=146						
FNA	**Florina**	**8.33**	**312**	*e*Pn	Pn	13 00 59.6	+2.4
FNA	**Florina**	**8.33**	**312**	*e*P	Pn	13 00 59.6	+2.4
HFRF	**Wahat Farafira**	**8.35**	**187**	P	Pn	13 00 57.7	+0.3
	baz=187						
HDK1	**Dakhla**	**9.89**	**181**	P	Pn	13 01 18.5	-0.1
	baz=179						
TIP	**Timpagrande**	**10.82**	**294**	*e*Pn	Pn	13 01 29.1	-2.2
ANN	**Anapa**	**11.11**	**31**	*e*P	Pn	13 01 29.4	-5.8
ANN				pmax	pmax		
	comp=Z,32nm,0.9s						
MNO	**Monte Soro**	**12.16**	**286**	P	Pn	13 01 53.7	+4.0
NEY	**Neytrino**	**12.83**	**49⇓**	*e*P	Pn	13 02 01.0	+2.2
KBZ	**Khabaz**	**13.20**	**47**	Pn	P	13 02 14.8	+1.6
	comp=Z,0.3nm,0.3s,baz=233,slow=8.2,SNR=15						
KIV	**Kislovodsk**	**13.20**	**46**	*e*Pn	Pn	13 02 04.0	+0.1
KIV	**Kislovodsk**	**13.20**	**46**	*e*P	Pn	13 02 07.3	+3.5
KIV				pmax	pmax		
	comp=Z,33nm,1.0s						
ZEI	**Tsey**	**13.34**	**52**	*e*P	P	13 02 14.9	-0.1
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKBB	**Malin Array Si**	**15.23**	**359**	*e*Pn	Pn	13 02 32.4	+1.2
	comp=Z,2.7nm,0.6s						
AKBB	**Malin Array Si**	**15.23**	**359**	*e*P	Pn	13 02 32.4	+1.2
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VYHS	**Vyhne**	**15.24**	**332**	*e*P	P	13 02 44.1	+8.2
VYHS	**Vyhne**	**15.24**	**332**	*e*pP	P	13 02 44.1	+8.2
KEST	**Kesra**	**16.42**	**277**	*e*Pn	P	13 02 48.2	-1.0
	comp=Z,19nm,0.8s						
GEC2	**GERESS Array S**	**17.74**	**324**	*e*Pn	P	13 03 04.2	+0.4
	comp=Z,4.4nm,0.9s						
GEC2	**GERESS Array S**	**17.74**	**324**	*e*P	P	13 03 04.2	+0.4
GEC2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GERES	**GERESS Array B**	**17.74**	**324**	*e*Pn	P	13 03 03.9	+0.1
GERES	**GERESS Array B**	**17.74**	**324**	*e*P	P	13 03 03.9	+0.1
GERES	**GERESS Array B**	**17.74**	**324**	Pn	Pn	13 03 02.4	-0.8
	comp=Z,0.2nm,0.3s,baz=138,slow=10,SNR=7.7						
GERES				LR	LR	13 10 42.1	
	comp=Z,20nm,21.1s,baz=88,slow=40						
KHC	**Kasperske Hory**	**18.00**	**324**	*e*P	P	13 03 06.9	+0.4
	comp=Z,1.2nm,0.9s						
KHC	**Kasperske Hory**	**18.00**	**324**	*e*P	Pn	13 03 06.2	0.0
DAVOX	**Davos/Dischmat**	**18.57**	**313**	LR	LR	13 12 06.1	
	comp=Z,71nm,18.2s,baz=262,slow=43						
CLL	**Collm**	**19.80**	**328**	*e*P	Pn	13 03 27.0	-0.9
CLL	**Collm**	**19.80**	**328**	*e*P	Pn	13 03 27.0	-0.9
SENIN	**Lac Senin/Sane**	**19.95**	**310**	*e*P	P	13 03 28.0	-0.1
	comp=Z,5.5nm,0.7s						
AKTO	**Aktyubinsk**	**25.46**	**45**	P	P	13 04 22.9	-0.7
	comp=Z,2.4nm,0.6s,baz=260,slow=8.8,SNR=8.2						
FINES	**FINESS Array B**	**26.09**	**356**	*e*P	P	13 04 29.6	+0.5
FINES	**FINESS Array B**	**26.09**	**356**	*e*P	P	13 04 29.7	+0.5
FINES	**FINESS Array B**	**26.09**	**356**	P	P	13 04 29.1	0.0
	comp=Z,1.1nm,0.8s,baz=163,slow=14,SNR=4.6						
ABKAR	**Akbulak array**	**26.16**	**49**	*e*P	P	13 04 29.8	-0.1
	comp=Z,3.7nm,1.0s						
KLMR	**Klimovskoe**	**26.21**	**11**	*e*P	P	13 04 28.2	-2.0
KLMR				pmax	pmax		
	comp=Z,11nm,1.2s						
HFS	**Hagfors**	**26.73**	**342**	P	P	13 04 34.3	-0.6
	comp=Z,0.8nm,0.5s,baz=128,slow=12,SNR=4.4						
ESDC	**Sonseca Array**	**26.78**	**289**	P	P	13 04 35.1	-0.6
	comp=Z,0.8nm,0.5s,baz=84,slow=10.0,SNR=6.9						
ESLA	**Sonseca Array**	**26.78**	**289**	*e*P	P	13 04 34.5	-1.2
	comp=Z,18nm,1.4s						
NB200	**NORSAR Array S**	**28.15**	**341**	*e*P	P	13 04 46.3	-1.3
NOA	**NORSAR Array B**	**28.15**	**341**	P	P	13 04 46.3	-1.3
	comp=Z,0.2nm,0.5s,baz=136,slow=12,SNR=2.2						
KKAR	**Karatay Array**	**32.37**	**64**	*e*P	P	13 05 25.0	-0.2
	comp=Z,2.3nm,0.9s						
KKAR	**Karatay Array**	**32.37**	**64**	*e*P	P	13 05 25.0	-0.2
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TOA1	**Torodi Ar. Sit**	**33.51**	**235**	*e*P	P	13 05 34.9	-0.4
TORD	**Torodi Ar. Bea**	**33.51**	**235**	P	P	13 05 34.9	-0.5
	comp=Z,0.7nm,0.9s,baz=37,slow=10,SNR=3.9						
BRVK	**Borovoye**	**33.52**	**46⇑**	*e*P

AML	**Almayashu**	**0.81**	**74**	⇑*i*P	**Pg**	**13 07 36.2**	**+0.4**
	baz=70						
AML				⇑*i*S	**Sg**	**13 07 46.7**	**+0.3**
	baz=70						
MRKS	**Merke**	**0.94**	**27**	P	**Pn**	**13 07 40.0**	**+0.3**
	3.5nm,0.1s						
MRKS				S	**Sn**	**13 07 53.2**	**0.0**
	31nm,0.1s						
MRKS	**Merke**	**0.94**	**27**	*e*P	**Pn**	**13 07 40.0**	**+0.3**
	3.5nm,0.1s						
MRKS				*e*S	**Sn**	**13 07 53.2**	**0.0**
	31nm,0.1s						
EKS2	**Erkin-Say**	**1.12**	**48**	⇓*i*P	**Pn**	**13 07 42.1**	**-0.1**
	baz=45						
EKS2				⇓*i*S	**Sn**	**13 07 57.7**	**-0.2**
	baz=45						
ARLS	**Aral**	**1.25**	**92**	⇑*i*P	**Pn**	**13 07 43.9**	**-0.1**
	baz=89						
ARLS				⇑*i*S	**Sb**	**13 08 00.5**	**+0.2**
	baz=89						
AAK	**Ala-Archa**	**1.55**	**61**	P	**Pg**	**13 07 49.9**	**0.0**
	1.3nm,0.3s						
AAK				S	**Sg**	**13 08 11.8**	**+1.9**
	1.6nm,0.3s						
AAK	**Ala-Archa**	**1.55**	**61**	⇓*i*P	**Pg**	**13 07 49.9**	**0.0**
	baz=59						
AAK				⇓*i*S	**Sg**	**13 08 10.2**	**+0.2**
	baz=59						
KBK	**Karagaybulak**	**1.86**	**66**	⇑*i*P	**Pb**	**13 07 55.1**	**+0.6**
	baz=64						
KBK				⇑*i*S	**Sg**	**13 08 19.5**	**-0.5**
	baz=64						
CHMS	**Chumysh**	**1.90**	**54**	⇓*i*P	**Pb**	**13 07 55.8**	**+0.8**
	baz=53						
CHMS				⇓*i*S	**Sg**	**13 08 20.8**	**-0.3**
	baz=53						
USP	**Ospenovka**	**1.92**	**45**	⇓*i*P	**Pb**	**13 07 56.2**	**+0.7**
	baz=43						
USP				⇓*i*S	**Sg**	**13 08 21.4**	**-0.6**
	baz=43						
KZA	**Kyzart**	**1.94**	**84**	⇑*i*P	**Pb**	**13 07 56.4**	**+0.4**
	baz=83						
KZA				⇑*i*S	**Sb**	**13 08 21.6**	**+1.1**
	baz=83						
IUG	**Iuzhnay**	**1.97**	**278**	Pg	**Pg**	**13 07 57.7**	**-0.2**
	10nm,0.3s						
IUG				Lg	Lg	13 08 23.6	
	43nm,0.3s						
IUG	**Iuzhnay**	**1.97**	**278**	*e*P	**Pg**	**13 07 57.7**	**-0.2**
	10nm,0.3s						
IUG				*e*S	**Sg**	**13 08 23.6**	**+0.2**
	43nm,0.3s						
KK31	**Karatay Array**	**1.98**	**308**	⇓Pn	**Pg**	**13 07 57.6**	**-0.5**
	0.9nm,0.3s,baz=123,slow=16,SNR=16						
KK31				⇓Sn	**Sg**	**13 08 24.3**	**+0.5**
	2.5nm,0.3s,baz=126,slow=28,SNR=9.5						
TKM2	**Tokmak 2**	**2.40**	**64**	⇑Pn	**Pg**	**13 08 05.5**	**-0.7**
	1.7nm,0.4s						
TKM2				⇑Lg	Lg	13 08 38.1	
	11nm,0.8s						
TKM2	**Tokmak 2**	**2.40**	**64**	⇑*i*P	**Pb**	**13 08 02.8**	**-0.9**
	baz=63						
TKM2				⇑*i*S	**Sb**	**13 08 33.2**	**-0.4**
	baz=63						
DGS	**Degeres**	**2.66**	**59**	Pg	**Pg**	**13 08 10.3**	**-0.9**
	4.0nm,0.5s						
DGS				Lg	Lg	13 08 45.1	
	7.0nm,0.3s						
DGS	**Degeres**	**2.66**	**59**	*e*P	**Pg**	**13 08 10.3**	**-0.9**
	4.0nm,0.5s						
DGS				*e*S	**Sg**	**13 08 45.1**	**-0.5**
	7.0nm,0.3s						
KST	**Kastek**	**2.70**	**64**	Pg	**Pg**	**13 08 11.7**	**-0.1**
	3.4nm,0.2s						
KST				Lg	Lg	13 08 47.5	
	15nm,0.5s						
KST	**Kastek**	**2.70**	**64**	*e*P	**Pg**	**13 08 11.8**	**-0.1**
	3.4nm,0.2s						
KST				*e*S	**Sg**	**13 08 47.5**	**+0.6**
	15nm,0.5s						
BTLS	**Baital**	**3.29**	**18**	Pg	**Pg**	**13 08 22.3**	**-0.9**
	1.0nm,0.5s						
BTLS				Lg	Lg	13 09 05.2	
	2.7nm,0.3s						
BTLS	**Baital**	**3.29**	**18**	*e*P	**Pg**	**13 08 22.3**	**-0.9**
	1.0nm,0.5s						
BTLS				*e*S	**Sg**	**13 09 05.2**	**-0.5**
	2.7nm,0.3s						

*ISCJB **17** 13:08:25.2±0.7,39°.75N±0°.06×32°.53E±0°.05,h6km±7km,*
Error ellipse: s-maj=10.6km s-min=5.1km az=156.1
*DDA **17** 13:08:25.1,39°.79N×32°.57E,h7km±5km,ML2.5*
*ISK **17** 13:08:25.1,39°.75N×32°.57E,h9km,ML2.1/10*
ISC 17 13:08:25.6±1.0,**39°.77N**±0°.04×**32°.56E**±0°.03,**h12**km±8km,
n17,σ0°**49**/22,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOD	**Lodumlu**	**0.20**	**51**	PG	**Pg**	**13 08 29.6**	**-0.4**
LOD				SG	**Sg**	**13 08 33.6**	**+0.6**
ANTO	**Ankara**	**0.21**	**60**	PG	**Pg**	**13 08 29.6**	**-0.5**
ANTO				SG	**Sg**	**13 08 33.7**	**+0.5**
AFSR	**Afar-Bala (An**	**0.51**	**129**	PG	**Pg**	**13 08 35.3**	**-0.2**
KKUL	**Konya-Kulu**	**0.65**	**155**	IAML_P			
	comp=Z,461nm,0.2s						
KKUL				*i* P	**Pg**	**13 08 38.1**	**-0.1**
KKUL				*i* S	**Sb**	**13 08 49.2**	**+1.1**
CMDR	**Camlidere-ANKA**	**0.73**	**355**	IAML_P			
	comp=Z,1μm,0.2s						
CMDR				*i* P	**Pb**	**13 08 40.1**	**-0.2**
KULU	**Kulu**	**0.80**	**155**	PG	**Pg**	**13 08 40.8**	**-0.2**
AUMIH	**MIHALICIK**	**0.84**	**277**	PG	**Pb**	**13 08 42.0**	**-0.2**
KIBS	**BOLU**	**0.85**	**320**	IAML_P			
	comp=Z,325nm,0.3s						
KIBS				*i* P	**Pg**	**13 08 41.8**	**-0.2**
AUSIV	**SIVRIHISAR**	**0.85**	**248**	PG	**Pg**	**13 08 41.8**	**-0.3**
SVRH	**Sivrihisar-ESK**	**0.86**	**249**	PG	**Pg**	**13 08 41.9**	**-0.4**
KIZT	**Kizilcal**	**1.03**	**211**	PG	**Pg**	**13 08 45.1**	**-0.3**
DELI	**KIRIKKALE**	**1.07**	**77**	IAML_P			
	comp=Z,1μm,0.1s						
DELI				*i* P	**Pn**	**13 08 46.5**	**0.0**
DELI				*i* S	**Sn**	**13 09 01.1**	**-0.3**
SERE	**Sereflikochisa**	**1.13**	**136**	PN	**Pg**	**13 08 46.7**	**-0.6**
KIRS	**Kırehir-Merke**	**1.22**	**121**	IAML_P			
	comp=Z,437nm,0.3s						
KIRS				*i* P	**Pb**	**13 08 48.5**	**-0.2**
KIRS				*i* S	**Sg**	**13 09 04.3**	**-0.7**
YAYX	**Yaylak**	**1.27**	**130**	PN	**Pn**	**13 08 49.1**	**-0.2**
KDHN	**Kadinhani**	**1.29**	**196**	IAML_P			
	comp=Z,194nm,0.2s						
KDHN				*i* P	**Pg**	**13 08 50.3**	**0.0**
YOZ	**Yozgat**	**2.13**	**92**	PN	**Pn**	**13 09 01.9**	**+0.8**

IDC 17 13:17:56.0±10.0,**24°.83S**×**179°.60E**,**h400**km±99km,
mb3.2/4,**mb1 3.5**/4,**mb1mx3.1**/25,**mbtmp4.0**/4,**Error**
ellipse: s-maj=115.6km s-min=39.8km az=155.0,South
of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.05**	**249**	P	P	13 24 04.5	-0.1
	0.6nm,0.4s,baz=63,slow=6.8,SNR=4.1						
ASAR	**Alice Springs**	**41.53**	**262**	P	P	13 25 06.5	0.0
	1.8nm,0.5s,baz=90,slow=6.7,SNR=73						
ASAR				PcP	PP	13 26 52.4	-0.3
	0.2nm,0.6s,baz=110,slow=3.3,SNR=4.2						
WRA	**Warramunga Arr**	**41.99**	**267**	P	P	13 25 10.1	-0.2
	2.0nm,0.4s,baz=102,slow=7.8,SNR=43						
NVAR	**Mina Array Bea**	**85.67**	**44**	P	P	13 29 50.9	-0.3
	0.4nm,0.7s,baz=210,slow=7.1,SNR=3.0						
BRTR	**Keskin Array B**	**147.84**	**306**	PKPbc	PKiKP	13 36 56.4	-0.1
	0.8nm,0.7s,baz=91,slow=1.8,SNR=4.8						

*ISK **17** 13:29:23.5,39°.92N×33°.12E,h10km,ML1.9/9*
*ISCJB **17** 13:29:24.1±0.8,39°.94N±0°.04×33°.10E±0°.04,h12km±5km,*
Error ellipse: s-maj=7.4km s-min=5.6km az=4.5
*DDA **17** 13:29:24.4,39.91N×33°.10E,h7km±1km,ML2.5*
ISC 17 13:29:24.1±1.1,**39°.92N**±0°.04×**33°.12E**±0°.04,**h12**km±10km,
n16,σ0°**36**/22,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.26**	**258**	PG	**Pg**	**13 29 29.2**	**-0.3**
ANTO				SG	**Sg**	**13 29 33.3**	**+0.2**
LOD	**Lodumlu**	**0.28**	**263**	PG	**Pg**	**13 29 29.4**	**-0.4**
LOD				SG	**Sg**	**13 29 34.2**	**+0.5**
BBAL	**Bala**	**0.38**	**180**	IAML_P			
	comp=Z,2μm,0.1s						
BBAL				*i* P	**Pb**	**13 29 32.5**	**-0.4**
BBAL				*i* S	**Sb**	**13 29 38.7**	**-0.1**
AFSR	**Afar-Bala (An**	**0.48**	**185**	PG	**Pg**	**13 29 33.6**	**+0.1**
AFSR				SG	**Sg**	**13 29 40.2**	**+0.4**
DELI	**KIRIKKALE**	**0.62**	**83**	IAML_P			
	comp=Z,497nm,0.2s						
DELI				*i* P	**Pb**	**13 29 37.2**	**+0.1**
DELI				*i* S	**Sb**	**13 29 46.2**	**+0.5**
CMDR	**Camlidere-ANKA**	**0.76**	**319**	IAML_P			
	comp=Z,862nm,0.2s						
CMDR				*i* P	**Pb**	**13 29 39.3**	**0.0**
KKUL	**Konya-Kulu**	**0.77**	**192**	IAML_P			
	comp=Z,219nm,0.2s						
KKUL				*i* P	**Pb**	**13 29 39.7**	**+0.2**
KKUL				*i* S	**Sb**	**13 29 50.5**	**+0.5**
KULU	**Kulu**	**0.88**	**186**	PG	**Pg**	**13 29 41.0**	**-0.2**
KIRS	**Kırehir-Merke**	**1.00**	**142**	IAML_P			
	comp=Z,418nm,0.2s						
KIRS				*i* P	**Pg**	**13 29 43.0**	**-0.4**
KIBS	**BOLU**	**1.09**	**298**	IAML_P			
	comp=Z,547nm,0.4s						
KIBS				*i* P	**Pn**	**13 29 45.5**	**+0.1**
YAYX	**Yaylak**	**1.12**	**151**	PN	**Pg**	**13 29 45.2**	**-0.5**
CORM	**Corum**	**1.19**	**77**	PN	**Pb**	**13 29 46.6**	**-0.1**
AUMIH	**MIHALICIK**	**1.26**	**268**	PN	**Pn**	**13 29 47.7**	**-0.1**
AUMIH	**MIHALICIK**	**1.26**	**268**	*i* P	**Pn**	**13 29 47.2**	**-0.5**
CHBY	**Cihanbeyli**	**1.35**	**188**	PN	**Pn**	**13 29 48.8**	**-0.1**
KIZT	**Kizilcal**	**1.42**	**223**	PN	**Pn**	**13 29 49.9**	**0.0**

*RSNC **17** 13:36:21.3±1.2,0°.72N×77°.93W,h0km±8km,ML2.6*
*ISCJB **17** 13:36:22.1±0.6,0°.80N±0°.06×78°.01W±0°.06,h11km,*
mb3.3/4,Error ellipse: s-maj=11.2km s-min=4.9km
az=44.6
*IDC **17** 13:36:22.4±1.6,0°.59N×78°.20W,h0km,mb3.3/4,mb1 3.6/5,*
mb1mx3.4/46,mbtmp3.4/5,ML2.4/1,MS2.9/2,Ms1 3.0/2,
ms1mx2.6/18,Error ellipse: s-maj=52.7km s-min=25.4km
az=49.0
ISC 17 13:36:22.3±0.8,**0°.67N**±0°.06×**77°.86W**±0°.05,**h11**km,**n16,**
σ1**87**/17,**mb3.3/4**,**1C,Colombia-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**0.73**	**234**	⇑*i*P	**Pg**	**13 36 34.6**	**-1.9**
OTAV				*e*S	**Sg**	**13 36 45.8**	**-0.4**
OTAV				*i*		13 36 49.7	
	comp=Z,399nm,0.5s						
GCUF	**Volcan Galeras**	**0.76**	**43**	*e*P	**Pg**	**13 36 35.2**	**-1.9**
GCUF				*i*		13 36 56.3	
	comp=Z,278nm,0.5s						
CPAS2	**Pasto**	**0.82**	**48**	*e*P	**Pg**	**13 36 37.4**	**-0.9**
CPAS2				*e*S	**Sg**	**13 36 49.1**	**0.0**
CRUC	**La Cruz**	**1.27**	**46**	*e*P	**Pn**	**13 36 44.7**	**-1.7**
BBAC	**Balboa, Cauca**	**1.48**	**25**	*e*P	**Pn**	**13 36 46.5**	**-2.6**
BBAC				*e*S	**Sn**	**13 37 07.9**	**-0.6**
BBAC				*i*		13 37 11.2	
	comp=Z,91nm,0.4s						
SOTA	**Rioblanco**	**1.92**	**41**	*e*P	**Pn**	**13 36 55.5**	**+0.1**
POPC	**Popayan, Colom**	**2.20**	**33**	*e*P	**Pn**	**13 36 58.6**	**-0.5**
POPC				*i*		13 37 36.2	
	comp=Z,16nm,0.4s						
PCON	**Cinco Dias**	**2.20**	**42**	*e*P	**Pb**	**13 37 01.9**	**-0.7**
PCON				*i*		13 37 52.7	
	comp=Z,37nm,0.7s						
PTLC	**Puerto Leguiza**	**3.10**	**99**	*e*P	**Pb**	**13 37 15.0**	**-2.6**
PTLC				*e*S	**Sb**	**13 37 57.2**	**+1.6**
ROSC	**El Rosal**	**5.45**	**40**	Pn	Pn	13 37 49.9	+6.0
	comp=Z,2.0nm,0.3s,baz=221,slow=20,SNR=7.8						
SDV	**Santo Domingo**	**10.88**	**41**	LR	LR	13 43 25.7	
	comp=Z,61nm,21.9s,baz=252,slow=38						
LPAZ	**La Paz**	**19.40**	**151**	LR	LR	13 50 08.8	
	comp=Z,48nm,19.8s,baz=308,slow=42						
SIV	**San Ignacio**	**23.43**	**136**	P	**P**	**13 41 35.4**	**+3.6**
	comp=Z,1.9nm,0.8s,baz=330,slow=11,SNR=9.3						
TXAR	**Lajitas Array**	**37.65**	**322**	P	**P**	**13 43 40.2**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=148,slow=10,SNR=4.3						
PDAR	**Pinedale Array**	**50.63**	**330**	P	**P**	**13 45 21.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=122,slow=8.6,SNR=2.1						
YKA	**Yellowknife Ar**	**67.52**	**343**	P	**P**	**13 47 19.7**	**+1.4**
	comp=Z,0.2nm,0.8s,baz=131,slow=7.5,SNR=4.8						

IDC 17 13:38:52.0±2.4,**8°.11S**×**111°.48E**,**h0**km,**mb3.6**/4,
mb1 3.8/5,**mb1mx3.5**/36,**mbtmp3.6**/5,**ML3.3**/1,**MS3.3**/2,
Ms1 3.2/2,**ms1mx2.5**/25,**Error ellipse: s-maj=132.3km**
s-min=25.7km az=51.0,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.98**	**127**	Pn	Pn	13 42 49.7	-1.3
	0.1nm,0.3s,baz=296,slow=11,SNR=3.0						
FITZ				Sn	Sn	13 45 47.8	-13
	0.0nm,0.3s,baz=270,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**25.06**	**120**	P	P	13 44 17.5	-0.8
	0.6nm,0.8s,baz=293,slow=12,SNR=5.3						
NWAO	**Narrogin (SRO)**	**25.26**	**169**	LR	LR	13 54 44.7	
	comp=Z,32nm,19.7s,baz=308,slow=38						
ASAR	**Alice Springs**	**26.47**	**128**	P	P	13 44 30.3	-0.8
	0.4nm,0.7s,baz=300,slow=7.4,SNR=3.7						
STKA	**Stephens Creek**	**36.64**	**134**	P	P	13 46 01.8	+1.4
	1.8nm,0.6s,baz=321,slow=10.0,SNR=7.2						
MKAR	**Makanchi Array**	**60.53**	**337**	P	P	13 49 04.0	0.0
	0.4nm,0.5s,baz=148,slow=7.2,SNR=4.6						
KBZ	**Khabaz**	**80.47**	**317**	LR	LR	14 30 58.2	
	comp=Z,31nm,18.6s,baz=338,slow=39						

*SOF **17** 13:40:26.6,42°.22N×26°.25E,h5km,MD3.2*
*ISK **17** 13:40:26.1,42°.21N×26°.31E,h5km,ML3.7/24*
*DDA **17** 13:40:26.5,42°.21N×26°.37E,h21km,ML3.6*
*BEO **17** 13:40:27.3±0.7,42°.30N×26°.25E,h0km,ML3.5/9*
*THE **17** 13:40:28.1,42°.12N×26°.30E,h7km,ML3.5/8,Error ellipse:*
s-maj=1.1km s-min=0.5km az=37.0
*IDC **17** 13:40:30.8±2.8,42°.23N×26°.40E,h30km±25km,mb3.4/2,*
mb1 3.4/4,mb1mx3.2/53,mbtmp3.4/4,ML2.5/2,MS2.7/1,
Ms1 2.7/1,ms1mx2.0/33,Error ellipse: s-maj=24.1km
s-min=13.2km az=41.0
ISC 17 13:40:26.3±1.1,**42°.17N**±0°.01×**26°.25E**±0°.02,**h2**km±9km,
n144,σ1**28**/171,**21C-6D,Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.38**	**40**	PG	**Pg**	**13 40 33.5**	**-0.1**
JMB				SG	**Sg**	**13 40 38.4**	**-0.2**
JMB	**Yambol**	**0.38**	**40**	*i* P	**Pg**	**13 40 33.3**	**-0.3**
EDRB	**Edirne**	**0.49**	**132**	PG	**Pg**	**13 40 36.1**	**+0.4**
EDRB				SG	**Sg**	**13 40 42.9**	**+0.9**
EDRB	**Edirne**	**0.49**	**132**	P	**Pg**	**13 40 36.1**	**+0.4**
EDRB				S	**Sg**	**13 40 42.7**	**+0.7**
DIM	**Dimitrovgrad**	**0.55**	**257**	*i* P	**Pg**	**13 40 37.4**	**+0.6**
KIRK	**Kırklareli**	**0.74**	**122**	IAML_P			
	comp=Z,17μm,0.1s						
KIRK				*i* P	**Pg**	**13 40 41.0**	**+0.5**
KIRK				*i* S	**Sg**	**13 40 50.4**	**+0.3**
PHSR	**Pinarhisar**	**1.09**	**119**	PG	**Pg**	**13 40 46.9**	**-0.3**
PHSR				SG	**Sg**	**13 41 01.5**	**+0.1**
PHSR	**Pinarhisar**	**1.09**	**119**	⇑*i*P	**Pg**	**13 40 46.8**	**-0.4**
PHSR	**Pinarhisar**	**1.09**	**119**	S	**Sb**	**13 41 02.4**	**-0.2**
SZH	**Strazhica**	**1.12**	**348**	*i* P	**Pb**	**13 40 48.3**	**0.0**
PLD	**Plovdiv**	**1.15**	**267**	PN	**Pb**	**13 40 48.7**	**-0.2**
PLD	**Plovdiv**	**1.15**	**267**	*e*Pg	**Pb**	**13 40 48.5**	**-0.4**
PLD				*e*Sg	**Sg**	**13 41 03.1**	**-0.2**
PLD	**Plovdiv**	**1.15**	**267**	*i* P	**Pg**	**13 40 47.5**	**-0.9**
RDO	**Rodhopi**	**1.16**	**208**	PN	**Pn**	**13 40 49.5**	**+0.1**
RDO	**Rodhopi**	**1.16**	**208**	P	**Pn**	**13 40 49.5**	**+0.1**
RDO				S	**Sn**	**13 41 05.3**	**-0.5**
ROIA	**ROIAK**	**1.24**	**42**	*i* P	**Pg**	**13 40 50.1**	**+0.1**
RZN	**Rozhen**	**1.24**	**248**	*i* P	**Pn**	**13 40 50.7**	**-0.1**
ALN	**Alexandroupoli**	**1.28**	**187**	PN	**Pn**	**13 40 51.4**	**+0.2**
ALN	**Alexandroupoli**	**1.28**	**187**	P	**Pn**	**13 40 51.4**	**+0.2**
ALN				S	**Sn**	**13 41 08.7**	**-0.3**
PRD	**Provadia**	**1.33**	**39**	*i* P	**Pg**	**13 40 50.6**	**-1.1**
KESN	**Edirne-Kesan**	**1.39**	**166**	*i* P	**Pb**	**13 40 54.0**	**+0.9**
KESN				*i* S	**Sn**	**13 41 12.4**	**+0.4**
ENEZ	**Enez**	**1.44**	**183**	PN	**Pg**	**13 40 54.3**	**+0.5**
ERIK	**Erikli-Kesan**	**1.52**	**172**	PN	**Pn**	**13 40 54.4**	**+0.1**
TKR	**Tekirdag**	**1.53**	**140**	PN	**Pn**	**13 40 54.5**	**0.0**
PGB	**Panagyurishte**	**1.59**	**284**	*i* P	**Pn**	**13 40 55.7**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.64**	**155**	PN	**Pb**	**13 40 56.8**	**-0.4**
SART	**Tekirdag**	**1.64**	**154**	*i* P	**Pg**	**13 40 57.5**	**-0.2**
SART				*i* S	**Sg**	**13 41 19.7**	**+0.8**
CTYL	**Yalikoy Yolu**	**1.68**	**114**	PN	**Pn**	**13 40 56.9**	**+0.3**
CTYL	**Yalikoy Yolu**	**1.68**	**114**	⇑*i*P	**Pn**	**13 40 56.8**	**+0.2**
CTYL	**Yalikoy Yolu**	**1.68**	**114**	S	**Sn**	**13 41 18.7**	**+0.1**
KIYI	**Yalıkoy-Catalc**	**1.68**	**114**	PN	**Pn**	**13 40 56.6**	**0.0**
SLVT	**Silivri**	**1.74**	**122**	PN	**Pn**	**13 40 58.0**	**+0.5**
KAVA	**Kavala**	**1.76**	**229**	P	**Pb**	**13 40 58.6**	**-0.6**
KAVA				S	**Sb**	**13 41 21.2**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.78**	**175**	PN	**Pb**	**13 40 58.7**	**-0.9**
SMTH	**Samothraki Isl**	**1.79**	**198**	P	**Pn**	**13 40 58.2**	**+0.1**
SMTH				S	**Sn**	**13 41 21.4**	**0.0**
LPK	**Lapseki**	**1.84**	**168**	PN	**Pn**	**13 40 59.5**	**+0.7**
ELBA	**Catalca**	**1.93**	**121**	IAML_P			
	comp=Z,3μm,0.1s						
ELBA				*i* P	**Pn**	**13 41 00.9**	**+0.8**
ELBA				*i* S	**Sb**	**13 41 27.3**	**+0.7**
CTKS	**Kestanelik-??a**	**1.93**	**118**	PN	**Pn**	**13 41 00.3**	**+0.2**
THAS	**Thassos island**	**1.94**	**217**	P	**Pn**	**13 41 00.5**	**+0.2**
THAS				S	**Sn**	**13 41 25.5**	**+0.3**
KRBG	**Karabiga-Canak**	**1.95**	**156**	PN	**Pn**	**13 41 01.0**	**+0.7**
NVR	**Nevrokopi**	**1.97**	**246**	P	**Pn**	**13 41 00.9**	**+0.2**
NVR				S	**Sb**	**13 41 27.5**	**-0.3**
MMB	**Musomiste**	**1.97**	**254**	*i* P	**Pn**	**13 41 01.0**	**+0.3**
SGRR	**Singureni**	**2.06**	**354**	⇑*i*P	**Pb**	**13 41 04.7**	**+0.4**
PSN	**Preselentsi**	**2.07**	**43**	PN	**Pn**	**13 41 00.8**	**-1.2**
KNL	**Balıkesir**	**2.13**	**153**	IAML_P			
	comp=Z,1μm,0.1s						
KNL				*i* P	**Pn**	**13 41 02.7**	**-0.1**
KNL				*i* S	**Sb**	**13 41 32.8**	**+0.4**
BGKT	**Bogazkoy**	**2.13**	**117**	PN	**Pn**	**13 41 03.5**	**+0.6**
EDC	**Edincik**	**2.19**	**146**	PN	**Pn**	**13 41 04.8**	**+1.1**
MPEP	**Malo Peshtene**	**2.19**	**303**	P	**Pn**	**13 41 03.9**	**+0.2**
ICOR	**Ion Corvin**	**2.25**	**30**	⇓*i*P	**Pn**	**13 41 03.9**	**-0.6**
ICOR	**Ion Corvin**	**2.25**	**30**	S	**Sn**	**13 41 34.3**	**+1.5**
SRS	**Serrai**	**2.25**	**243**	P	**Pn**	**13 41 04.7**	**+0.1**
VLAD	**Vladila**	**2.27**	**324**	⇑*i*P	**Pb**	**13 41 06.8**	**-1.2**
VLAD	**Vladila**	**2.27**	**324**	S	**Sb**	**13 41 36.8**	**+0.3**
VTS	**Vitosha**	**2.28**	**282**	*e*Pn	**Pn**	**13 41 05.8**	**+0.7**
VTS				*e*Sn	**Sn**	**13 41 34.4**	**+0.7**
VTS	**Vitosha**	**2.28**	**282**	P	**Pn**	**13 41 05.7**	**+0.7**
VTS	**Vitosha**	**2.28**	**282**	⇑*i*P	**Pn**	**13 41 05.7**	**+0.7**
VTS	**Vitosha**	**2.28**	**282**	S	**Sn**	**13 41 34.3**	**+0.6**
VTS	**Vitosha**	**2.28**	**282**	*i* P	**Pn**	**13 41 05.7**	**+0.7**
KLYT	**Kilyos**	**2.28**	**113**	PN	**Pn**	**13 41 05.6**	**+0.7**
KLYT	**Kilyos**	**2.28**	**113**	⇑*i*P	**Pn**	**13 41 04.1**	**-0.8**
KLYT	**Kilyos**	**2.28**	**113**	S	**Sn**	**13 41 33.3**	**-0.3**
BOZC	**Bozcaada**	**2.33**	**184**	PN	**Pn**	**13 41 06.3**	**+0.7**
BOZC	**Bozcaada**	**2.33**	**184**	*i* P	**Pn**	**13 41 04.7**	**-0.9**
LEHL	**Lehliu**	**2.34**	**10**	S	**Sg**	**13 41 41.3**	**0.0**
EZN	**Ezine**	**2.35**	**179**	PN	**Pb**	**13 41 07.6**	**-1.6**
EZN	**Ezine**	**2.35**	**179**	⇓*i*P	**Pn**	**13 41 02.3**	**-3.5**
EZN	**Ezine**	**2.35**	**179**	S	**Sb**	**13 41 36.8**	**-1.8**
MANR	**Mangalia**	**2.37**	**45**	S	**Sb**	**13 41 40.1**	**+0.7**
KAVV	**Kandilli-Istan**	**2.38**	**117**	PN	**Pn**	**13 41 06.7**	**+0.4**
GONE	**Gonen-Balikesi**	**2.39**	**153**	PN	**Pn**	**13 41 07.4**	**+1.1**
LIA	**Limnos Island**	**2.41**	**200**	P	**Pn**	**13 41 06.9**	**+0.2**
LIA				S	**Sn**	**13 41 36.9**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**2.44**	**175**	IAML_P			
	comp=Z,2μm,0.4s						
BAYC				*i* P	**Pb**	**13 41 08.9**	**-2.0**
KCTX	**Karacabey (Bur**	**2.48**	**140**	PN	**Pb**	**13 41 08.4**	**+0.7**
SULR		**2.50**	**0**	⇑*i*P	**Pb**	**13 41 12.1**	**+0.2**
SULR		**2.50**	**0**	S	**Sg**	**13 41 45.9**	**-0.8**
OUR	**Ouranopolis**	**2.51**	**224**	PN	**Pn**	**13 41 09.2**	**+1.1**
OUR	**Ouranopolis**	**2.51**	**224**	P	**Pn**	**13 41 07.6**	**-0.5**
OUR				S	**Sn**	**13 41 39.0**	**-0.2**
BUY	**Buyukada**	**2.52**	**121**	PN	**Pn**	**13 41 08.6**	**+0.3**
BUY	**Buyukada**	**2.52**	**121**	IAML_P			
	comp=Z,919nm,0.2s						
BUY				*i* P	**Pn**	**13 41 08.7**	**+0.5**
HUMR	**Humele**	**2.53**	**339**	⇑*i*P	**Pb**	**13 41 13.3**	**+0.9**
ARMT	**Armutlu**	**2.54**	**128**	PN	**Pn**	**13 41 08.8**	**+0.3**
MFTR	**Murfatlar**	**2.56**	**38**	⇑*i*P	**Pn**	**13 41 08.5**	**-0.2**
KNT	**Kendrikon**	**2.71**	**249**	PN	**Pn**	**13 41 11.8**	**+1.0**
KNT	**Kendrikon**	**2.71**	**249**	P	**Pn**	**13 41 11.8**	**+1.0**

BRTR Keskin Array B 6.10 111 Pn **Pn 13 41 58.2 +0.6**
comp=Z,0.4nm,0.3s,baz=290,slow=11,SNR=9.7
BRTR Sn **Sn 13 43 04.9 -3.2**
comp=Z,0.1nm,0.3s,baz=302,slow=16,SNR=3.2
HFS Hagfors 19.57 341 LR LR 13 53 19.3
comp=Z,22nm,19.5s,baz=138,slow=39
TORD Torodi Ar. Bea 35.92 224 P **P 13 47 29.3 +1.2**
comp=Z,0.5nm,0.5s,baz=34,slow=9.4,SNR=6.7
MKAR Makanchi Array 39.53 64 P **P 13 47 58.3 0.0**
comp=Z,0.5nm,0.7s,baz=303,slow=8.0,SNR=4.5

ISCJB ***17*** *13:43:20.8±0.2, 45°.647N×0°.009×76°.49W±0°.01, h8km±1km, mb4.7/96, MS3.7/37, Error ellipse: s-maj=1.6km s-min=1.3km az=158.6*
IDC ***17*** *13:43:21.6±0.4, 45°.73N×76°.32W, h0km, mb4.4/36, mb1 4.6/40, mb1mx4.5/60, mbtmp4.5/40, ML4.0/4, MS3.6/29, Ms1 3.6/29, ms1mx3.5/44, Error ellipse: s-maj=10.1km s-min=5.6km az=150.0*
MOS ***17*** *13:43:21.9±1.3, 45°.63N×76°.50W, h17km, mb5.0/52, MS4.0/8, Error ellipse: s-maj=8.9km s-min=5.0km az=64.9*
ANF ***17*** *13:43:22.8±0.3, 45°.73N×76°.38W, h16km±2km, ML6.1/52, Error ellipse: s-maj=2.0km s-min=1.4km az=56.0*
GCMT ***17*** *13:43:23.9±0.3, 45°.80N±0°.03×76°.41W±0°.04, h22km±1km, MW4.7/56, Moment Tensor Solution. s23,c28; s56,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.47±.13; $M_{\theta\theta}$-0.32±.07; $M_{\phi\phi}$-1.15±.08; $M_{r\theta}$0.14±.14; $M_{\theta\phi}$0.70±.05; $M_{\phi r}$0.13±.12; Best double couple: $M_0$1.52400×10^{16} NP1:ϕ_s338.00000°, δ46.00000°, λ101.00000°. NP2: ϕ_s143.00000°, δ45.00000°, λ79.00000°. Principal axes: T 1.4960, Plg82.0000°, Azm324.0000°; N 0.0560, Plg8.0000°, Azm150.0000°; P -1.5520, Plg1.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
OTT ***17*** *13:43:23.9±0.1, 45°.74N×76°.35W, h14km, MN5.2/26*
OTT 18km northeast from Shawville, Qc, Felt Western Quebec Seismic Zone.
NEIC ***17*** *13:43:23.9±0.0, 45°.74N×76°.34W, h14km, mb4.9/14, MW4.4, MN5.2(OTT), Moment Tensor Solution. s41 Moment tensor: Scale 10^{15}Nm; M_{rr}2.66; $M_{\theta\theta}$0.13; $M_{\phi\phi}$-2.79; $M_{r\theta}$2.96; $M_{\theta\phi}$2.91; $M_{\phi r}$0.22; Best double couple: $M_0$5.00000×10^{15} NP1:ϕ_s1.00000°, δ47.00000°, λ147.00000°. NP2:ϕ_s115.00000°, δ67.00000°, λ48.00000°. Principal axes: T 5.0600, Plg50.0000°, Azm338.0000°; N -0.1900, Plg38.0000°, Azm134.0000°; P -4.8800, Plg12.0000°, Azm234.0000°; After OTT.*
NEIC Felt [IV] at Arnprior, Madoc, Petawawa, Renfrew and Rockland; [III] at Barrie, Barry's Bay, Bracebridge, Carleton Place, Deep River, Hamilton, Hawkesbury, Huntsville, Kanata, Lindsay, London, Orilla, Oshawa, Ottawa, Pembroke, Perth, Peterborough and Toronto. Felt [V] at Shawville, [III] at Buckingham and [II] at Laurentides and Montreal, Quebec. Felt [IV] at Watertown and Ransomville; [III] at Alfred, Attica, Binghampton, Buffalo, Canadaigua, Champlain, Cicero, Fairport, Fort Drum, Geneseo, Geneva, Henrietta, Hornell, Lewiston, Liverpool, Malone, Massena, Niagara Falls, Paul Smiths, Pittsford, Rochester, Rome, Rush and Syracuse, New York. Felt [III] at Sayre, Pennsylvania and at Burlington and Morrisville, Vermont. Also felt in parts of Connecticut, Massachusetts, Maryland, Maine, Michigan, New Hampshire, New Jersey and Ohio.
LDO ***17*** *13:43:24.4±0.0, 45°.76N×76°.35W, h13km*
ISC 17 13:43:22.9±0.5, 45°.73N±0°.01×76°.36W±0°.01, h11km±3km**, n843,** σ1§**50**/897**, mb4.8**/96**, MS3.7**/37**, 27C-30D, Southern Ontario**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F55A	**Otter Lake**	**0.11**	**4**	*e*Pg	**Pb**	**13 43 28.7**	**+1.6**
F55A	**Otter Lake**	**0.11**	**4**	P	**Pb**	**13 43 26.9**	**-0.1**
	baz=206,SNR=1000						
F55A				S	**Pb**	**13 43 28.6**	**+1.6**
	baz=206						
F55A	**Otter Lake**	**0.11**	**4**	PG	**Pb**	**13 43 26.9**	**-0.1**
F55A				SG	**Pb**	**13 43 28.7**	**+1.6**
LSQ1	**Lac Sinclair,**	**0.16**	**67**	⇓PG	**Pb**	**13 43 27.4**	**-0.5**
LSQ1				SG	**Sg**	**13 43 29.7**	**+0.8**
G55A	**Calabogie**	**0.54**	**208**	*e*Pg	**Pb**	**13 43 34.1**	**-0.2**
G55A				*e*Sg	**Sb**	**13 43 41.4**	**-0.6**
G55A	**Calabogie**	**0.54**	**208**	P	**Pb**	**13 43 34.1**	**-0.2**
	baz=24,SNR=1000						
G55A				S	**Sb**	**13 43 41.3**	**-0.7**
	baz=24						
G55A	**Calabogie**	**0.54**	**208**	PG	**Pb**	**13 43 34.1**	**-0.2**
G55A				SG	**Sb**	**13 43 41.4**	**-0.6**
VABQ	**Val Des Bois**	**0.56**	**71**	⇓PG	**Pg**	**13 43 33.8**	**0.0**
VABQ				SG	**Sg**	**13 43 41.5**	**+0.4**
OTT	**Ottawa**	**0.56**	**126**	⇑PG	**Pb**	**13 43 34.3**	**-0.4**
OTT				SG	**Sg**	**13 43 41.8**	**+0.5**
GAC	**Glen Almond**	**0.62**	**92**	⇓PG	**Pg**	**13 43 35.0**	**+0.1**
GAC				SG	**Sg**	**13 43 43.0**	**-0.1**
PEMO	**Pembroke**	**0.62**	**266**	P	**Pb**	**13 43 35.6**	**-0.1**
	baz=81,SNR=1000						
PEMO				S	**Sb**	**13 43 43.8**	**-0.7**
	baz=81						
PEMO	**Pembroke**	**0.62**	**266**	⇓PG	**Pb**	**13 43 35.6**	**-0.1**
PEMO				SG	**Sb**	**13 43 43.9**	**-0.6**
PEMO				Trac		13 43 45.0	
	comp=Z,17μm,0.1s						
ORHO	**Orleans, Herit**	**0.64**	**115**	P	**Pg**	**13 43 35.5**	**+0.3**
	baz=298,SNR=12						
ORHO				S	**Sg**	**13 43 44.2**	**+0.6**
	baz=298						
ORHO	**Orleans, Herit**	**0.64**	**115**	PG	**Pg**	**13 43 35.6**	**+0.3**
ORHO				SG	**Sg**	**13 43 44.2**	**+0.6**
ORIO	**Orleans, Innes**	**0.66**	**114**	P	**Pg**	**13 43 35.8**	**+0.1**
	baz=297,SNR=368						
ORIO				S	**Sg**	**13 43 44.3**	**0.0**
	baz=297						
CRLO	**Chalk River**	**0.78**	**294**	*e*Pg	**Pg**	**13 43 38.1**	**+0.3**
CRLO	**Chalk River**	**0.78**	**294**	⇓PG	**Pg**	**13 43 38.1**	**+0.3**
CRLO				Trac		13 43 48.7	
	comp=Z,54μm,0.1s						
PLVO	**Plevna**	**0.85**	**216**	*e*Pg	**Pg**	**13 43 39.4**	**+0.2**
PLVO				*e*Pb	**Pn**	**13 43 39.6**	**-1.2**
PLVO				*e*Sg	**Sg**	**13 43 50.8**	**+0.4**
PLVO				*e*Sg	**Sg**	**13 43 50.9**	**+0.5**
PLVO	**Plevna**	**0.85**	**216**	P	**Pn**	**13 43 39.6**	**-1.2**
	baz=33,SNR=1000						
PLVO				S	**Sg**	**13 43 50.7**	**+0.4**
	baz=33						
PLVO	**Plevna**	**0.85**	**216**	⇓PG	**Pn**	**13 43 39.6**	**-1.2**
PLVO				SG	**Sg**	**13 43 50.9**	**+0.5**
PLVO				Trac		13 43 54.6	
	comp=Z,2μm,0.0s						
E54A	**Lac Daplat, Po**	**0.91**	**321**	P	**Pb**	**13 43 40.1**	**-0.6**
	baz=140						
E54A				S	**Sb**	**13 43 51.6**	**-1.2**
	baz=140						
E54A	**Lac Daplat, Po**	**0.91**	**321**	⇑PG	**Pb**	**13 43 40.1**	**-0.6**
E54A				SG	**Sb**	**13 43 51.6**	**-1.2**
GRQ	**Grand Remous**	**0.95**	**21**	*e*Pb	**Pb**	**13 43 40.5**	**-0.9**
GRQ				*e*Sn	**Sb**	**13 43 52.6**	**-1.3**
GRQ	**Grand Remous**	**0.95**	**21**	⇓PG	**Pb**	**13 43 40.5**	**-0.9**
GRQ				SG	**Sb**	**13 43 52.6**	**-1.3**
GRQ				Trac		13 43 54.3	
	comp=Z,3μm,0.1s						
ALFO	**Alfred**	**1.04**	**95**	*e*Pb	**Pb**	**13 43 42.2**	**-0.7**
ALFO				*e*Sn	**Sb**	**13 43 55.5**	**-1.0**
ALFO	**Alfred**	**1.04**	**95**	P	**Pb**	**13 43 42.2**	**-0.7**
	baz=278,SNR=1000						
ALFO				S	**Sb**	**13 43 55.3**	**-1.3**
	baz=278						
ALFO	**Alfred**	**1.04**	**95**	⇓PG	**Pb**	**13 43 42.2**	**-0.7**
ALFO				SG	**Sb**	**13 43 55.5**	**-1.0**
ALFO				Trac		13 44 00.1	
	comp=Z,4μm,0.2s						
WBO	**Williamsburg**	**1.06**	**133**	⇑PG	**Pb**	**13 43 42.7**	**-0.5**
WBO				SG	**Sg**	**13 43 56.8**	**-0.2**
WBO				Trac		13 44 01.0	
	comp=Z,3μm,0.1s						
E53A	**Dumoine, Ponti**	**1.12**	**306**	P	**Pn**	**13 43 43.8**	**-0.7**
	baz=124						
E53A				S	**Sb**	**13 43 58.0**	**-0.7**
	baz=124						
E53A	**Dumoine, Ponti**	**1.12**	**306**	⇑PG	**Pn**	**13 43 43.8**	**-0.7**
E53A				SG	**Sb**	**13 43 58.0**	**-0.7**
H56A	**Elgin**	**1.14**	**176**	P	**Pg**	**13 43 44.4**	**-0.3**
	baz=355,SNR=1000						
H56A				S	**Sg**	**13 43 59.6**	**+0.2**
	baz=355						
ALGO	**Algonquin Park**	**1.20**	**282**	P	**Pb**	**13 43 45.3**	**-0.3**
	baz=99,SNR=1000						
ALGO				S	**Sg**	**13 44 01.5**	**-0.1**
	baz=99						
ALGO	**Algonquin Park**	**1.20**	**282**	⇓PG	**Pb**	**13 43 45.4**	**-0.3**
ALGO				SG	**Sg**	**13 44 01.5**	**-0.1**
BANO	**Bancroft**	**1.31**	**238**	P	**Pg**	**13 43 47.4**	**-0.6**
	baz=55,SNR=1000						
BANO				S	**Sg**	**13 44 05.0**	**0.0**
	baz=55						
BANO	**Bancroft**	**1.31**	**238**	⇓PG	**Pg**	**13 43 47.5**	**-0.5**
BANO				SG	**Sg**	**13 44 05.4**	**+0.4**
H55A	**Tweed**	**1.31**	**207**	*e*Pn	**Pg**	**13 43 47.4**	**-0.7**
H55A				*e*Sn	**Sg**	**13 44 04.4**	**-0.7**
H55A	**Tweed**	**1.31**	**207**	P	**Pg**	**13 43 47.4**	**-0.7**
	baz=24,SNR=1000						
H55A				S	**Sg**	**13 44 04.5**	**-0.7**
	baz=24						
H55A	**Tweed**	**1.31**	**207**	⇓PG	**Pg**	**13 43 47.4**	**-0.7**
H55A				SG	**Sg**	**13 44 04.4**	**-0.7**
TRQ	**Mont Tremblant**	**1.35**	**68**	*e*Pn	**Pn**	**13 43 47.4**	**-0.5**
TRQ				*e*Sn	**Sg**	**13 44 07.6**	**+1.1**
TRQ	**Mont Tremblant**	**1.35**	**68**	⇓PG	**Pn**	**13 43 47.5**	**-0.3**
TRQ				SG	**Sg**	**13 44 07.5**	**+1.1**
TRQ				Trac		13 44 08.7	
	comp=Z,4μm,0.1s						
D54A	**Lac Fusel, La**	**1.44**	**352**	P	**Pb**	**13 43 49.0**	**-0.7**
	baz=172,SNR=1000						
D54A				S	**Sb**	**13 44 07.6**	**-0.5**
	baz=172						
D54A	**Lac Fusel, La**	**1.44**	**352**	⇑PG	**Pb**	**13 43 49.1**	**-0.7**
D54A				SG	**Sb**	**13 44 07.7**	**-0.5**
DELO	**Deloro Mine**	**1.50**	**217**	P	**Pb**	**13 43 50.6**	**-0.2**
	baz=34,SNR=1000						
DELO	**Deloro Mine**	**1.50**	**217**	⇓PG	**Pb**	**13 43 50.7**	**-0.1**
DELO				SG	**Sg**	**13 44 11.4**	**+0.2**
DELO				Trac		13 44 16.8	
	comp=Z,21μm,0.3s						
KGNO	**Kingston**	**1.50**	**184**	*e*Pn	**Pb**	**13 43 50.7**	**-0.1**
KGNO				*e*Sn	**Sg**	**13 44 10.8**	**-0.4**
KGNO	**Kingston**	**1.50**	**184**	⇓PG	**Pb**	**13 43 50.7**	**-0.1**
KGNO				SG	**Sg**	**13 44 10.8**	**-0.4**
KGNO				Trac		13 44 12.8	
	comp=Z,16μm,0.4s						
D53A	**Lac Vacive, Po**	**1.64**	**326**	*e*Pn	**Pb**	**13 43 52.3**	**-0.9**
D53A				*e*Sn	**Sb**	**13 44 12.7**	**-1.2**
LONY	**Lake Ozonia**	**1.68**	**131**	*e*Pn	**Pn**	**13 43 52.2**	**+0.1**
LONY				*e*Sn	**Sb**	**13 44 14.8**	**0.0**
LONY	**Lake Ozonia**	**1.68**	**131**	P	**Pb**	**13 43 52.4**	**-1.4**
	baz=313,SNR=750						
LONY				S	**Sb**	**13 44 14.0**	**-0.8**
	baz=313						
LONY	**Lake Ozonia**	**1.68**	**131**	PG	**Pb**	**13 43 52.4**	**-1.4**
LONY				SG	**Sb**	**13 44 14.4**	**-0.5**
LONY				Trac		13 44 18.4	
	comp=Z,6μm,0.4s						
E52A	**Mattawa**	**1.69**	**290**	P	**Pb**	**13 43 52.9**	**-1.1**
	baz=108,SNR=1000						
E52A	**Mattawa**	**1.69**	**290**	⇑PG	**Pg**	**13 43 56.1**	**+0.7**
E52A				SG	**Sg**	**13 44 20.9**	**+3.5**
G53A	**Haliburton**	**1.70**	**250**	P	**Pb**	**13 43 53.1**	**-1.1**
	baz=67,SNR=1000						
I55A	**Frankford**	**1.78**	**212**	*e*Pn	**Pb**	**13 43 55.1**	**-0.3**
I55A				*e*Sn	**Sg**	**13 44 18.9**	**-1.1**
I55A	**Frankford**	**1.78**	**212**	P	**Pb**	**13 43 54.2**	**-1.2**
	baz=30,SNR=1000						
I55A	**Frankford**	**1.78**	**212**	⇓PG	**Pb**	**13 43 55.1**	**-0.3**
I55A				PG	**Sg**	**13 44 18.9**	**-1.1**
PECO	**Prince Edward**	**1.85**	**194**	P	**Pb**	**13 43 55.6**	**-1.1**
	baz=13,SNR=1000						
PECO	**Prince Edward**	**1.85**	**194**	⇓PN	**Pb**	**13 43 55.6**	**-1.1**
PECO				SG	**Sg**	**13 44 21.1**	**-1.1**
D52A	**ZEK Kipawa Sen**	**1.89**	**312**	P	**Pb**	**13 43 56.1**	**-1.4**
	baz=130,SNR=1000						
D52A	**ZEK Kipawa Sen**	**1.89**	**312**	⇑PG	**Pb**	**13 43 56.1**	**-1.4**
D52A				SG	**Sb**	**13 44 20.9**	**-0.2**
MNTQ	**Montreal, Queb**	**1.94**	**96**	*e*Pn	**Pb**	**13 43 56.9**	**-1.2**
MNTQ				*e*Sn	**Sb**	**13 44 22.1**	**-0.2**
MNTQ	**Montreal, Queb**	**1.94**	**96**	⇓PN	**Pb**	**13 43 56.9**	**-1.2**
MNTQ				SG	**Sb**	**13 44 22.1**	**-0.2**
MNTQ				Trac		13 44 25.3	
	comp=Z,5μm,0.3s						
F52A	**Sundridge**	**2.07**	**273**	P	**Pb**	**13 43 58.5**	**-2.0**
	baz=90,SNR=1000						
EEO	**Eldee**	**2.09**	**297**	⇑PN	**Pb**	**13 43 58.8**	**-2.1**
EEO				SG	**Sb**	**13 44 27.9**	**+1.0**
EEO				Trac		13 44 29.6	
	comp=Z,13μm,0.2s						
BUKO	**Buck Lake**	**2.15**	**263**	P	**Pn**	**13 43 59.0**	**+0.3**
	baz=80,SNR=1000						
BUKO	**Buck Lake**	**2.15**	**263**	⇓PN	**Pn**	**13 43 59.0**	**+0.3**
BUKO				SG	**Sb**	**13 44 29.0**	**+0.4**
FRNY	**Flat Rock**	**2.15**	**113**	*e*Pn	**Pn**	**13 43 59.0**	**+0.3**
FRNY				*e*Sn	**Sg**	**13 44 30.2**	**-1.8**
FRNY	**Flat Rock**	**2.15**	**113**	⇓PN	**Pn**	**13 43 59.0**	**+0.3**
FRNY				SG	**Sg**	**13 44 30.2**	**-1.8**
FRNY				Trac		13 44 35.1	
	comp=Z,4μm,0.2s						
SADO	**Sadowa**	**2.18**	**245**	*e*Sn	**Sg**	**13 44 30.6**	**-2.5**
SADO	**Sadowa**	**2.18**	**245**	Pn	**Pn**	**13 43 59.5**	**+0.4**
	696nm,0.3s,baz=86,slow=16,SNR=2503						
SADO				Lg	Lg	13 44 30.7	
	8μm,0.3s,baz=315,slow=2.9,SNR=23						
SADO	**Sadowa**	**2.18**	**245**	⇓PN	**Pn**	**13 43 59.6**	**+0.4**
SADO				SG	**Sg**	**13 44 30.6**	**-2.5**
SADO				Trac		13 44 34.3	
	comp=Z,25μm,0.3s						
WLVO	**Wesleyville**	**2.31**	**219**	P	**Pn**	**13 44 01.6**	**+0.7**
	baz=37,SNR=115						
WLVO	**Wesleyville**	**2.31**	**219**	PN	**Pn**	**13 44 01.6**	**+0.7**
E51A	**G1948 Merrick**	**2.32**	**291**	P	**Pn**	**13 44 01.5**	**+0.4**
	baz=108,SNR=1000						
NCB	**Newcomb**	**2.32**	**138**	*e*Pn	**Pn**	**13 44 01.5**	**+0.4**
NCB				*e*Sn	**Sb**	**13 44 32.4**	**-1.1**
NCB	**Newcomb**	**2.32**	**138**	⇑PN	**Pn**	**13 44 01.6**	**+0.6**
NCB				SG	**Sb**	**13 44 32.6**	**-0.9**
STUQ	**Sainte-Ursule**	**2.35**	**75**	PN	**Pn**	**13 44 02.1**	**+0.7**
DRCO	**St. Marys Ceme**	**2.49**	**223**	Sb	**Sb**	**13 44 39.6**	**+1.4**
	baz=40						
D51A	**Lot 18 Range I**	**2.49**	**304**	P	**Pn**	**13 44 03.7**	**+0.3**
	baz=122,SNR=1000						
F51A	**Arnstein**	**2.49**	**276**	P	**Pn**	**13 44 04.2**	**+0.8**
	baz=92,SNR=1000						
VLDQ	**Val d'Or**	**2.50**	**343**	*e*Pn	**Pb**	**13 44 05.5**	**-2.3**
VLDQ				*e*Sn	**Sb**	**13 44 37.4**	**-1.2**
VLDQ	**Val d'Or**	**2.50**	**343**	⇑PN	**Pb**	**13 44 05.7**	**-2.1**
VLDQ				LG	Lg	13 44 42.6	
VLDQ				Trac		13 44 46.4	
	comp=Z,3μm,0.2s						
DRWO	**Darlington Wes**	**2.51**	**223**	Pb	**Pb**	**13 44 07.3**	**-0.6**
	baz=40						
PKRO	**Pickering**	**2.61**	**229**	Pb	**Pb**	**13 44 09.5**	**-0.2**
	baz=46						
DPQ	**Saint Jean**	**2.67**	**68**	PN	**Pn**	**13 44 05.8**	**0.0**
J55A	**Hilton**	**2.67**	**203**	*e*Pn	**Pn**	**13 44 06.6**	**+0.8**
J55A	**Hilton**	**2.67**	**203**	P	**Pn**	**13 44 06.6**	**+0.8**
	baz=22,SNR=225						
H52A	**Wyevale**	**2.72**	**248**	P	**Pn**	**13 44 06.4**	**-0.1**
	baz=64,SNR=213						
KLBO	**Killbear Provi**	**2.73**	**264**	*e*Pn	**Pn**	**13 44 06.7**	**0.0**
KLBO	**Killbear Provi**	**2.73**	**264**	P	**Pn**	**13 44 06.7**	**0.0**
	baz=80,SNR=245						
KLBO	**Killbear Provi**	**2.73**	**264**	⇑PN	**Pn**	**13 44 06.7**	**0.0**
KLBO				Trac		13 44 49.5	
	comp=Z,12μm,0.3s						
VT1	**Waterbury**	**2.91**	**117**	*e*Pn	**Pn**	**13 44 10.0**	**+0.8**
MOQ	**Mont Orford**	**2.92**	**97**	*e*Pn	**Pn**	**13 44 09.8**	**+0.5**
MOQ	**Mont Orford**	**2.92**	**97**	PN	**Pn**	**13 44 09.8**	**+0.5**
J54A	**Appleton**	**2.94**	**214**	*e*Pn	**Pn**	**13 44 10.0**	**+0.4**
J54A	**Appleton**	**2.94**	**214**	P	**Pn**	**13 44 09.9**	**+0.4**
	baz=32,SNR=18						
MEDO	**Medina**	**2.97**	**211**	*e*Pn	**Pn**	**13 44 10.3**	**+0.4**
MEDO	**Medina**	**2.97**	**211**	P	**Pn**	**13 44 10.3**	**+0.4**
	baz=29,SNR=25						
LATQ	**La Tuque**	**2.98**	**55**	P	**Pn**	**13 44 09.9**	**-0.1**
	baz=238,SNR=46						
I53A	**Kortright Cn E**	**2.98**	**232**	P	**Pn**	**13 44 10.4**	**+0.3**
	baz=48						
TORO	**Toronto--Lesli**	**3.00**	**226**	Pb	**Pb**	**13 44 15.2**	**-1.1**
	baz=43						
ACCN	**Adirondack Com**	**3.03**	**140**	*e*Pn	**Pn**	**13 44 11.7**	**+0.8**
E50A	**Wahnapitae**	**3.12**	**284**	P	**Pn**	**13 44 11.7**	**-0.4**
	baz=101,SNR=932						
I52A	**Shelburne**	**3.18**	**240**	Pb	**Pb**	**13 44 18.2**	**-1.2**
	baz=56						
MMNY	**Mt. Morris Dam**	**3.19**	**201**	*e*Pn	**Pn**	**13 44 13.5**	**+0.5**
MMNY				*e*Sn	**Sb**	**13 44 59.2**	**+0.7**
STCO	**Saint Catharin**	**3.22**	**220**	P	**Pn**	**13 44 13.4**	**0.0**
	baz=37						
K55A	**Perry**	**3.24**	**203**	P	**Pn**	**13 44 13.7**	**0.0**
	baz=21,SNR=325						
LSQQ	**Lebel-sur-Quev**	**3.36**	**353**	P	**Pn**	**13 44 15.1**	**-0.2**
	baz=173						
EFO	**Effingham**	**3.38**	**220**	⇓PN	**Pn**	**13 44 15.7**	**+0.2**
EFO				Trac		13 45 09.3	
	comp=Z,8μm,0.4s						
ACTO	**Acton**	**3.38**	**233**	P	**Pn**	**13 44 15.7**	**0.0**
	baz=49						
LBNH	**Lisbon**	**3.48**	**114**	*e*Pn	**Pn**	**13 44 17.6**	**+0.6**
LBNH	**Lisbon**	**3.48**	**114**	*e*P	**Pn**	**13 44 17.6**	**+0.6**
LBNH	**Lisbon**	**3.48**	**114**	P	**Pn**	**13 44 17.3**	**+0.4**
	baz=297,SNR=38						
LBNH	**Lisbon**	**3.48**	**114**	PN	**Pn**	**13 44 17.5**	**+0.6**
LBNH				Trac		13 45 13.3	
	comp=Z,2μm,0.4s						
BINY	**Binghamton**	**3.54**	**175**	*e*Pn	**Pn**	**13 44 19.1**	**+1.3**
BINY	**Binghamton**	**3.54**	**175**	P	**Pn**	**13 44 18.9**	**+1.1**
	baz=355,SNR=62						
BINY	**Binghamton**	**3.54**	**175**	⇓PN	**Pn**	**13 44 19.3**	**+1.5**
HNH	**Hanover**	**3.54**	**123**	*e*Pn	**Pn**	**13 44 18.6**	**+0.8**
TRY	**Troy**	**3.57**	**146**	*e*Pn	**Pn**	**13 44 19.2**	**+1.1**
SUNO	**Sudbury Onapin**	**3.58**	**287**	⇑PN	**Pn**	**13 44 18.8**	**+0.5**
SUNO				Trac		13 45 17.5	
	comp=Z,5μm,0.3s						
BMRO	**Meriville Lake**	**3.62**	**253**	P	**Pn**	**13 44 19.3**	**+0.5**
	baz=69,SNR=42						
TYNO	**Tyneside**	**3.64**	**225**	P	**Pn**	**13 44 19.3**	**+0.1**
	baz=42						
TOBO	**Tobermory, Bru**	**3.67**	**264**	P	**Pn**	**13 44 20.0**	**+0.5**
	baz=80,SNR=241						
BWLO	**Walkerton**	**3.75**	**246**	P	**Pn**	**13 44 21.0**	**+0.3**
	baz=62,SNR=31						
D49A	**Beulah Townshi**	**3.78**	**296**	P	**Pn**	**13 44 20.9**	**-0.1**
	baz=112,SNR=600						
I51A	**Listowel**	**3.84**	**242**	P	**Pn**	**13 44 22.0**	**+0.2**
	baz=58,SNR=83						
L55A	**Hinsdale**	**3.85**	**204**	P	**Pn**	**13 44 22.4**	**+0.4**
	baz=22,SNR=150						
J52A	**Paris**	**3.85**	**231**	P	**Pn**	**13 44 21.9**	**-0.2**
	baz=48,SNR=203						
BRCO	**Bruce Peninsul**	**3.90**	**249**	P	**Pn**	**13 44 23.4**	**+0.7**
	baz=65,SNR=14						
BRCO	**Bruce Peninsul**	**3.90**	**249**	PN	**Pn**	**13 44 23.7**	**+1.0**
F49A	**Sandfield**	**3.98**	**273**	P	**Pn**	**13 44 24.4**	**+0.7**
	baz=88,SNR=131						
D48A	**Paudash Townsh**	**4.03**	**293**	P	**Pn**	**13 44 24.3**	**-0.3**
	baz=109,SNR=892						
L54A	**Sinclairville**	**4.09**	**212**	P	**Pn**	**13 44 25.2**	**-0.2**
	baz=30						
MATQ	**Matagami**	**4.12**	**348**	P	**Pn**	**13 44 25.2**	**-0.6**
	baz=168						
BASO	**Ashfield**	**4.14**	**247**	P	**Pn**	**13 44 26.8**	**+0.8**
	baz=63,SNR=33						
DAQ	**Lac Daran**	**4.17**	**56**	*e*Pn	**Pn**	**13 44 25.3**	**-1.2**
DAQ	**Lac Daran**	**4.17**	**56**	PN	**Pn**	**13 44 25.3**	**-1.2**
KSPA	**Keystone Colle**	**4.19**	**174**	*e*Pn	**Pn**	**13 44 28.0**	**+1.3**
F48A	**Evansville**	**4.38**	**274**	P	**Pn**	**13 44 29.7**	**+0.4**
	baz=89,SNR=1000						
CHGQ	**Chibougamau**	**4.39**	**17**	P	**Pn**	**13 44 29.1**	**-0.4**
	baz=199,SNR=30						
ERPA	**Erie**	**4.46**	**217**	*e*Pn	**Pn**	**13 44 30.3**	**-0.2**
ERPA	**Erie**	**4.46**	**217**	P	**Pn**	**13 44 29.9**	**-0.5**
	baz=34						
ERPA	**Erie**	**4.46**	**217**	PN	**Pn**	**13 44 30.2**	**-0.2**
QUA2	**Belchertown**	**4.50**	**139**	*e*Pn	**Pn**	**13 44 31.8**	**+0.8**
KSCT	**Kent School, K**	**4.51**	**151**	*e*Pn	**Pn**	**13 44 32.0**	**+0.9**
LMQ	**La Malbaie**	**4.54**	**64**	*e*Pn	**Pn**	**13 44 30.3**	**-1.3**
LMQ	**La Malbaie**	**4.54**	**64**	PN	**Pn**	**13 44 30.3**	**-1.3**
LMQ				Trac		13 45 44.6	
	comp=Z,3μm,0.4s						
M55A	**Ridgway**	**4.60**	**203**	P	**Pn**	**13 44 32.8**	**+0.4**
	baz=21,SNR=219						
L53A	**Girard**	**4.71**	**218**	P	**Pn**	**13 44 33.2**	**-0.7**
	baz=35,SNR=71						
HRV	**Adam Dziewonsk**	**4.72**	**131**	*e*Pn	**Pn**	**13 44 34.4**	**+0.3**
HRV	**Adam Dziewonsk**	**4.72**	**131**	*e*P	**Pn**	**13 44 34.4**	**+0.3**
HRV	**Adam Dziewonsk**	**4.72**	**131**	P	**Pn**	**13 44 34.5**	**+0.5**
	baz=315						
K51A	**Iona Station**	**4.76**	**233**	P	**Pn**	**13 44 34.4**	**-0.2**
	baz=48,SNR=50						
ODNJ	**Ogdensburg**	**4.81**	**164**	*e*Pn	**Pn**	**13 44 36.0**	**+0.7**
N59A	**State Game Lan**	**4.83**	**175**	*e*Pn	**Pn**	**13 44 36.2**	**+0.7**
N59A	**State Game Lan**	**4.83**	**175**	P	**Pn**	**13 44 36.0**	**+0.5**
	baz=355						
D47A	**Chapleau**	**4.85**	**288**	P	**

O56A	Blue Knob Stat	5.69 197	P	Pn	13 44 47.7	+0.3
	baz=15,SNR=206					
MVL	Millersville	5.72 180	ePn	Pn	13 44 48.5	+0.7
PSUB	Penn St. - Bra	5.83 173	ePn	Pn	13 44 50.7	+1.4
J48A	Bridge Port	5.84 248	ePn	Pn	13 44 48.4	-1.0
PQI	Presque Isle	5.87 78	ePn	Pn	13 44 49.9	+0.1
F46A	Macinaw City C	5.88 273	P	Pn	13 44 49.4	-0.5
	baz=87,SNR=50					
K49A	Clarkson	5.88 243	P	Pn	13 44 49.8	-0.2
	baz=57,SNR=14					
GLMI	Grayling	5.89 264	ePn	Pn	13 44 50.0	-0.1
N53A	Lisbon	5.90 215	ePn	Pn	13 44 50.6	+0.3
N53A	Lisbon	5.90 215	P	Pn	13 44 50.0	-0.2
	baz=32,SNR=28					
O55A	Ligonier	5.92 202	P	Pn	13 44 50.9	+0.3
	baz=20,SNR=77					
P60A	Greenville	5.94 175	P	Pn	13 44 51.3	+0.5
	baz=355,SNR=45					
L50A	Kingsville	5.94 234	P	Pn	13 44 50.1	-0.6
	baz=49					
G46A	Petoskey	5.99 269	P	Pn	13 44 51.2	-0.2
	baz=83,SNR=28					
PLIO	Pelee Island,	6.03 231	ePn	Pn	13 44 51.0	-1.0
PLIO	Pelee Island,	6.03 231	P	Pn	13 44 51.6	-0.4
	baz=46					
PLIO	Pelee Island,	6.03 231	PN	Pn	13 44 51.0	-1.0
I47A	Gladwin	6.04 256	ePn	Pn	13 44 51.9	-0.2
I47A	Gladwin	6.04 256	P	Pn	13 44 52.0	-0.1
	baz=70,SNR=79					
M51A	Elyria	6.10 226	P	Pn	13 44 52.2	-0.7
	baz=41					
E45A	Wooded Hills,	6.17 279	P	Pn	13 44 53.1	-0.8
	baz=92,SNR=33					
N52A	McGinn's Farm,	6.26 220	P	Pn	13 44 55.4	+0.2
	baz=36					
AAM	Ann Arbor	6.28 240	ePn	Pn	13 44 55.0	-0.3
AAM	Ann Arbor	6.28 240	eP	Pn	13 44 55.0	-0.3
AAM	Ann Arbor	6.28 240	P	Pn	13 44 55.0	-0.3
	baz=54,SNR=7.9					
O54A	Avella	6.28 209	P	Pn	13 44 55.8	+0.4
	baz=26,SNR=16					
K48A	Perry	6.29 245	P	Pn	13 44 55.4	-0.2
	baz=59,SNR=111					
SDMD	Soldier's Deli	6.32 183	ePn	Pn	13 44 56.5	+0.5
EMMW	East Machias	6.37 96	ePn	Pn	13 44 57.0	+0.3
F45A	CMU Biological	6.41 273	P	Pn	13 44 56.7	-0.5
	baz=86,SNR=14					
L49A	Milan	6.45 239	P	Pn	13 44 57.4	-0.4
	baz=53,SNR=13					
M50A	Fremont	6.50 231	ePn	Pn	13 45 00.2	+1.8
N51A	Ashland	6.50 224	ePn	Pn	13 44 58.1	-0.4
N51A	Ashland	6.50 224	P	Pn	13 44 58.1	-0.4
	baz=40					
O53A	New Philadelph	6.53 215	P	Pn	13 44 58.4	-0.4
	baz=31					
J47A	Sunmer	6.54 251	ePn	Pn	13 44 59.0	0.0
J47A	Sunmer	6.54 251	P	Pn	13 44 58.7	-0.3
	baz=64,SNR=34					
G45A	Suttons Bay	6.58 267	ePn	Pn	13 44 59.5	0.0
G45A	Suttons Bay	6.58 267	P	Pn	13 44 59.1	-0.5
	baz=80,SNR=79					
MCWV	Mont Chateau	6.58 204	ePn	Pn	13 44 59.7	+0.1
MCWV	Mont Chateau	6.58 204	P	Pn	13 44 59.6	0.0
	baz=21					
E44A	Grand Marais A	6.70 281	ePn	Pn	13 45 00.8	-0.3
E44A	Grand Marais A	6.70 281	P	Pn	13 45 00.6	-0.6
	baz=94,SNR=270					
I46A	Reed City	6.70 258	P	Pn	13 45 00.4	-0.8
	baz=71,SNR=17					
P55A	Reedsville	6.72 204	P	Pn	13 45 01.5	0.0
	baz=21,SNR=109					
GGN	Saint George	6.73 92	ePn	Pn	13 45 01.6	0.0
GGN	Saint George	6.73 92	PN	Pn	13 45 01.6	0.0
GGN			Trac		13 46 58.6	
	comp=Z,692nm,0.5s					
P54A	Burton	6.83 208	P	Pn	13 45 03.0	0.0
	baz=25,SNR=74					
Q57A	Strasburg	6.86 193	P	Pn	13 45 03.9	+0.5
	baz=12,SNR=24					
O52A	Adamsville	6.90 218	ePn	Pn	13 45 03.7	-0.2
O52A	Adamsville	6.90 218	P	Pn	13 45 02.7	-1.2
	baz=33					
K47A	Vermontville	6.92 247	P	Pn	13 45 03.5	-0.6
	baz=60,SNR=12					
H45A	Beulah	6.93 264	P	Pn	13 45 04.0	-0.3
	baz=77,SNR=10					
L48A	N Adams	6.95 240	P	Pn	13 45 03.8	-0.9
	baz=54,SNR=37					
M49A	Liberty Center	6.97 235	P	Pn	13 45 04.5	-0.4
	baz=49					
N50A	Nevada	7.00 227	P	Pn	13 45 04.7	-0.7
	baz=42					
F44A	Big Bay de Noc	7.03 276	P	Pn	13 45 05.4	-0.3
	baz=88,SNR=74					
GSQ	Grosses Roches	7.05 60	PN	Pn	13 45 05.0	-1.0
GSQ			SN	Sn	13 46 22.5	-3.5
GSQ			LG	Lg	13 46 59.6	
GSQ			Trac		13 47 08.7	
	comp=Z,712nm,0.4s					
I45A	Fountain	7.21 260	ePn	Pn	13 45 08.7	+0.5
O51A	Pataskala	7.21 222	P	Pn	13 45 06.6	-1.7
	baz=37					
ICQ	Pointe Anglais	7.22 55	PN	Pn	13 45 06.0	-2.3
ICQ			Trac		13 47 11.3	
	comp=Z,1µm,0.7s					
P53A	Whipple	7.25 212	ePn	Pn	13 45 09.0	+0.2
P53A	Whipple	7.25 212	P	Pn	13 45 07.9	-0.9
	baz=29,SNR=81					
Q55A	Buckhannon	7.27 204	P	Pn	13 45 08.8	-0.2
	baz=21					
BATG	Bathurst New B	7.28 74	ePn	Pn	13 45 08.3	-0.8
ACSO	Alum Creek Sta	7.33 224	ePn	Pn	13 45 08.3	-1.5
ACSO	Alum Creek Sta	7.33 224	P	Pn	13 45 08.5	-1.3
	baz=39,SNR=8.5					
M48A	Edgerton	7.40 238	ePn	Pn	13 45 10.6	-0.2
L47A	Sherwood	7.41 243	P	Pn	13 45 09.5	-1.4
	baz=56,SNR=16					
K46A	Dorr	7.42 249	P	Pn	13 45 09.0	-2.0
	baz=62,SNR=8.2					
P52A	Corning	7.42 217	P	Pn	13 45 09.1	-2.0
	baz=33					
E43A	Lone Tree Farm	7.43 279	ePn	Pn	13 45 10.2	-1.0
E43A	Lone Tree Farm	7.43 279	P	Pn	13 45 10.0	-1.2
	baz=91					
N49A	Columbus Grove	7.45 233	ePn	Pn	13 45 10.9	-0.6
N49A	Columbus Grove	7.45 233	P	Pn	13 45 10.2	-1.3
	baz=47,SNR=24					
Q54A	Coxs Mills	7.51 208	ePn	Pn	13 45 12.3	+0.1
Q54A	Coxs Mills	7.51 208	P	Pn	13 45 11.8	-0.4
	baz=24,SNR=66					
J45A	Montague	7.52 256	ePn	Pn	13 45 13.3	+0.9
J45A			eLg	Lg	13 47 19.0	
R58A	Rapidan	7.52 190	P	Pn	13 45 12.1	-0.4
	baz=8.6,SNR=22					
R59A	King George, V	7.54 185	P	Pn	13 45 12.5	-0.2
	baz=3.8					
CBN	Corbin Frederi	7.55 186	ePn	Pn	13 45 12.1	-0.8
CBN	Corbin Frederi	7.55 186	P	Pn	13 45 12.4	-0.5
	baz=5.2					
F43A	Flat Rock, Esc	7.56 275	P	Pn	13 45 11.5	-1.5
	baz=87,SNR=54					
R57A	Stanardsville	7.60 193	P	Pn	13 45 13.5	0.0
	baz=11,SNR=41					
O50A	Cable	7.71 226	P	Pn	13 45 14.0	-1.1
	baz=41					
R58B	Mineral	7.84 189	ePn	Pn	13 45 16.5	-0.3
R58B	Mineral	7.84 189	P	Pn	13 45 16.3	-0.5
	baz=7.6					
Q53A	Leroy	7.86 211	P	Pn	13 45 16.4	-0.6
	baz=27,SNR=13					
R55A	Marlinton	7.95 202	ePn	Pn	13 45 18.3	-0.1
R55A	Marlinton	7.95 202	P	Pn	13 45 18.0	-0.4
	baz=19,SNR=73					
P51A	Williamsport	7.96 221	ePn	Pn	13 45 18.8	+0.4
P51A	Williamsport	7.96 221	P	Pn	13 45 17.6	-0.8
	baz=36					
G43A	Wallace	7.97 271	ePn	Pn	13 45 18.0	-0.6
G43A	Wallace	7.97 271	P	Pn	13 45 17.6	-1.0
	baz=82,SNR=38					
N48A	Decatur	7.97 235	P	Pn	13 45 17.5	-1.1
	baz=49					
S59A	Mechanicsville	7.99 185	P	Pn	13 45 21.8	+2.9
	baz=3.8					
M47A	Cromwell	8.02 240	P	Pn	13 45 18.1	-1.2
	baz=54,SNR=11					
Q52A	Bidwell	8.05 215	P	Pn	13 45 18.6	-1.1
	baz=31					
O49A	Covington	8.05 229	ePn	Pn	13 45 19.9	+0.1
O49A	Covington	8.05 229	P	Pn	13 45 18.6	-1.2
	baz=44					
E42A	Champion	8.06 279	P	Pn	13 45 18.0	-1.9
	baz=91					
L46A	Eue Claire	8.08 246	ePn	Pn	13 45 19.3	-0.8
L46A	Eue Claire	8.08 246	P	Pn	13 45 18.8	-1.3
	baz=59					
LMN	Caledonia Moun	8.08 85	ePn	Pn	13 45 19.2	-0.9
H43A	Windswept, Lux	8.17 265	ePn	Pn	13 45 20.6	-0.7
H43A	Windswept, Lux	8.17 265	P	Pn	13 45 20.5	-0.9
	baz=77,SNR=12					
S57A	Dark Hollow, R	8.19 195	ePn	Pn	13 45 21.6	-0.1
S57A	Dark Hollow, R	8.19 195	P	Pn	13 45 21.3	-0.4
	baz=13					
S58A	Poland Farm, P	8.21 189	ePn	Pn	13 45 22.0	+0.1
S58A	Poland Farm, P	8.21 189	P	Pn	13 45 21.5	-0.4
	baz=8.1					
P50A	Jamestown	8.21 224	P	Pn	13 45 20.9	-1.0
	baz=39,SNR=46					
F42A	Maple Grove Fa	8.24 274	P	Pn	13 45 20.6	-1.7
	baz=86					
R54A	Victor	8.29 206	P	Pn	13 45 22.0	-1.0
	baz=23					
N47A	Urbana	8.35 238	P	Pn	13 45 22.3	-1.5
	baz=51					
S56A	Natural Bridge	8.39 198	P	Pn	13 45 23.8	-0.6
	baz=15					
M46A	Old House Fiel	8.44 243	ePn	Pn	13 45 24.8	-0.2
M46A	Old House Fiel	8.44 243	P	Pn	13 45 23.5	-1.6
	baz=56,SNR=7.2					
O48A	Farmland	8.45 233	P	Pn	13 45 24.4	-0.8
	baz=46,SNR=7.6					
Q51A	Peebles	8.46 220	ePn	Pn	13 45 24.3	-1.0
Q51A	Peebles	8.46 220	P	Pn	13 45 23.9	-1.4
	baz=35,SNR=20					
R53A	Hurricane	8.48 211	ePn	Pn	13 45 24.3	-1.3
R53A	Hurricane	8.48 211	P	Pn	13 45 22.5	-3.1
	baz=27					
G42A	Mountain	8.49 271	ePn	Pn	13 45 24.9	-0.9
G42A	Mountain	8.49 271	P	Pn	13 45 24.5	-1.3
	baz=82					
S55A	Lewisburg	8.53 203	P	Pn	13 45 26.5	+0.2
	baz=20					
D41A	Chassel	8.54 283	ePn	Pn	13 45 24.7	-1.8
D41A	Chassel	8.54 283	P	Pn	13 45 24.5	-2.0
	baz=94					
I43A	Langenfeld Bro	8.58 262	P	Pn	13 45 26.0	-0.9
	baz=73,SNR=22					
T60A	Surry	8.58 182	ePn	Pn	13 45 26.5	-0.5
T60A	Surry	8.58 182	P	Pn	13 45 26.5	-0.5
	baz=1.6					
H42A	Shiocton	8.69 266	ePn	Pn	13 45 26.4	-2.2
P49A	Miami Univ. Ec	8.73 228	P	Pn	13 45 27.5	-1.5
	baz=42					
R52A	Catlettsburg	8.74 215	P	Pn	13 45 28.0	-1.2
	baz=30					
E41A	Kenton	8.79 279	P	Pn	13 45 27.5	-2.4
	baz=90					
T59A	Double "B" Far	8.79 186	ePn	Pn	13 45 29.7	-0.2
T59A	Double "B" Far	8.79 186	P	Pn	13 45 29.9	0.0
	baz=5.3					
Q50A	Georgetown	8.89 222	P	Pn	13 45 30.0	-1.3
	baz=36					
F41A	Three Lakes	8.91 275	ePn	Pn	13 45 29.9	-1.7
F41A	Three Lakes	8.91 275	P	Pn	13 45 29.6	-2.0
	baz=85					
COWI	Conover	8.92 277	ePn	Pn	13 45 29.9	-1.8
J43A	Natural Harves	8.92 259	P	Pn	13 45 29.9	-1.8
	baz=70					
T58A	Grand View Acr	8.92 191	P	Pn	13 45 31.3	-0.4
	baz=9.6					
N46A	Monticello	8.97 241	P	Pn	13 45 31.3	-1.0
	baz=54,SNR=18					
T57A	Hurt	8.99 195	ePn	Pn	13 45 32.3	-0.3
T57A	Hurt	8.99 195	P	Pn	13 45 31.6	-0.9
	baz=13					
M45A	Boilermakers S	9.01 245	P	Pn	13 45 31.8	-1.1
	baz=57					
G41A	Antigo	9.03 271	P	Pn	13 45 31.5	-1.7
	baz=82					
C40A	Isle Royale Na	9.04 289	ePn	Pn	13 45 32.1	-1.2
C40A	Isle Royale Na	9.04 289	P	Pn	13 45 31.3	-1.9
	baz=99					
O47A	Sheridan	9.04 236	P	Pn	13 45 31.9	-1.4
	baz=49					
L44A	Lake County Fo	9.05 251	P	Pn	13 45 32.3	-1.2
	baz=63,SNR=10					
HAL	Halifax	9.09 92	ePn	Pn	13 45 33.4	-0.5
HAL	Halifax	9.09 92	eP	Pn	13 45 33.4	-0.5
I42A	Draeger Farm,	9.11 263	ePn	Pn	13 45 33.0	-1.2
I42A	Draeger Farm,	9.11 263	P	Pn	13 45 32.8	-1.4
	baz=74,SNR=71					
K43A	Burlington	9.11 255	ePn	Pn	13 45 33.0	-1.2
K43A	Burlington	9.11 255	P	Pn	13 45 33.0	-1.2
	baz=66					
T56A	Rocky Mt	9.12 199	P	Pn	13 45 33.9	-0.4
	baz=16					
S53A	Williamson	9.12 210	P	Pn	13 45 33.8	-0.6
	baz=26					
P48A	Milroy	9.15 230	P	Pn	13 45 33.0	-1.9
	baz=44					
R51A	Hillsboro	9.16 218	P	Pn	13 45 33.7	-1.2
	baz=33					
Q49A	Aurora	9.21 226	P	Pn	13 45 34.0	-1.7
	baz=40					
T55A	Pulaski	9.22 203	P	Pn	13 45 35.3	-0.5
	baz=19					
U60A	Pendleton	9.27 184	P	Pn	13 45 36.0	-0.3
	baz=3.3					
TBO	Thunder Bay	9.35 293	PN	Pn	13 45 35.5	-2.1
TBO			SN	Sn	13 47 20.9	-1.8
TBO			Trac		13 48 16.7	
	comp=Z,941nm,0.6s					
J42A	Columbus	9.43 260	P	Pn	13 45 36.6	-2.0
	baz=70					
E40A	Wakefield	9.44 279	P	Pn	13 45 36.5	-2.3
	baz=89					
H41A	Junction City	9.46 268	ePn	Pn	13 45 37.2	-1.8
H41A	Junction City	9.46 268	P	Pn	13 45 37.3	-1.7
	baz=78,SNR=13					
U58A	Oxford	9.47 191	P	Pn	13 45 38.6	-0.6
	baz=9.1,SNR=6.3					
N45A	Kentland	9.48 243	P	Pn	13 45 38.4	-0.9
	baz=55,SNR=15					
SFIN	Lafayette	9.50 240	ePn	Pn	13 45 37.8	-1.8
SFIN	Lafayette	9.50 240	P	Pn	13 45 37.9	-1.8
	baz=52					
T54A	Tazewell	9.50 206	P	Pn	13 45 38.8	-0.9
	baz=22					
R50A	Paris	9.51 221	P	Pn	13 45 38.5	-1.2
	baz=36					
M44A	Midewin, Midew	9.52 247	ePn	Pn	13 45 38.4	-1.4
M44A	Midewin, Midew	9.52 247	P	Pn	13 45 38.5	-1.4
	baz=59					
U57A	Blanch	9.55 195	P	Pn	13 45 38.8	-1.5
	baz=12					
P47A	Martinsville	9.60 233	P	Pn	13 45 39.3	-1.7
	baz=46					
L43A	Garden Prairie	9.60 253	P	Pn	13 45 39.5	-1.5
	baz=64,SNR=8.4					
F40A	Park Falls	9.61 276	P	Pn	13 45 39.1	-2.0
	baz=86					
Q48A	North Vernon	9.70 229	P	Pn	13 45 40.3	-2.1
	baz=42,SNR=8.9					
S51A	Beattyville	9.72 216	ePn	Pn	13 45 41.4	-1.2
S51A	Beattyville	9.72 216	P	Pn	13 45 41.5	-1.1
	baz=31,SNR=19					
G40A	Rib Lake	9.73 272	ePn	Pn	13 45 41.1	-1.7
G40A	Rib Lake	9.73 272	P	Pn	13 45 41.1	-1.7
	baz=82					
I41A	Arkdale	9.73 265	ePn	Pn	13 45 40.2	-2.5
I41A	Arkdale	9.73 265	P	Pn	13 45 40.5	-2.2
	baz=75					
K42A	Prairie Point,	9.77 257	P	Pn	13 45 41.6	-1.7
	baz=68					
U55A	TA2, Sparta	9.87 203	P	Pn	13 45 43.5	-1.2
	baz=19					
T53A	Wise	9.89 210	P	Pn	13 45 44.2	-0.8
	baz=26,SNR=21					
E39A	Mellen	9.89 279	P	Pn	13 45 42.9	-2.0
	baz=88,SNR=13					
N44A	Piper City	9.90 244	P	Pn	13 45 43.8	-1.3
	baz=56,SNR=40					
R49A	Shelbyville	9.90 224	P	Pn	13 45 43.3	-1.9
	baz=38					
T52A	Hallie	9.94 212	ePn	Pn	13 45 44.5	-1.1
T52A	Hallie	9.94 212	P	Pn	13 45 44.6	-1.1
	baz=28,SNR=11					
BLO	Bloomington	9.96 232	ePn	Pn	13 45 44.9	-1.0
BLO	Bloomington	9.96 232	eP	Pn	13 45 44.9	-1.0
O45A	Potomac	9.96 241	P	Pn	13 45 44.5	-1.4
	baz=52					
H40A	Chili	9.97 269	P	Pn	13 45 44.1	-1.9
	baz=78					
J41A	Loganville	10.03 261	P	Pn	13 45 45.0	-1.9
	baz=71					
S50A	Richmond	10.03 220	P	Pn	13 45 46.1	-0.8
	baz=34					
P46A	Rosedale	10.05 236	P	Pn	13 45 45.0	-2.0
	baz=49					
V59A	Middlesex	10.05 189	P	Pn	13 45 46.3	-0.8
	baz=7.3,SNR=9.6					
Q47A	Bedord North L	10.07 231	P	Pn	13 45 45.5	-1.9
	baz=44					
U54A	Nelsons Funny	10.07 206	ePn	Pn	13 45 46.8	-0.7
U54A	Nelsons Funny	10.07 206	P	Pn	13 45 46.6	-1.0
	baz=22,SNR=12					
M43A	Waltham Townsh	10.09 249	P	Pn	13 45 45.8	-1.9
	baz=60,SNR=14					
V58A	Windy Hill, Pi	10.14 193	P	Pn	13 45 47.0	-1.4
	baz=11					
F39A	Loretta	10.17 276	P	Pn	13 45 46.3	-2.4
	baz=86					
R48A	Northridge Ran	10.17 227	P	Pn	13 45 47.3	-1.5
	baz=41,SNR=6.2					
I40A	Norwalk	10.30 265	P	Pn	13 45 48.4	-2.1
	baz=74,SNR=29					
L42A	Oliver, Polo	10.30 254	ePn	Pn	13 45 49.2	-1.4
L42A	Oliver, Polo	10.30 254	P	Pn	13 45 48.6	-2.0
	baz=64					
JFWS	Jewell Farm	10.34 259	ePn	Pn	13 45 49.4	-1.7
JFWS	Jewell Farm	10.34 259	eP	Pn	13 45 49.4	-1.7
JFWS	Jewell Farm	10.34 259	P	Pn	13 45 48.8	-2.3
	baz=69,SNR=18					
S49A	Springfield	10.36 223	P	Pn	13 45 49.9	-1.5
	baz=37					
V56A	Mocksville	10.39 199	ePn	Pn	13 45 50.8	-1.0
G39A	Holcombe	10.41 273	P	Pn	13 45 49.7	-2.3
	baz=82,SNR=27					
P45A	Graceland, Par	10.42 238	ePn	Pn	13 45 50.0	-2.2
P45A	Graceland, Par	10.42 238	P	Pn	13 45 50.0	-2.2
	baz=50,SNR=19					
GBN	Guysborough	10.42 86	ePn	Pn	13 45 51.0	-1.2
T51A	Gray	10.44 216	P	Pn	13 45 51.0	-1.4
	baz=30,SNR=14					
U53A	Fall Branch	10.46 209	P	Pn	13 45 51.4	-1.4
	baz=24					
O44A	Mansfield	10.47 242	P	Pn	13 45 50.5	-2.4
	baz=54,SNR=38					
N43A	Stutzman Famil	10.48 247	P	Pn	13 45 50.9	-2.2
	baz=58,SNR=19					
WCI	Wyandotte Cave	10.52 228	ePn	Pn	13 45 51.9	-1.7
WCI	Wyandotte Cave	10.52 228	eP	Pn	13 45 51.9	-1.7
WCI	Wyandotte Cave	10.52 228	P	Pn	13 45 51.0	-2.5
	baz=41					
J40A	Soldiers Grove	10.52 262	P	Pn	13 45 51.5	-2.1
	baz=72,SNR=14					
V55A	Taylorsville	10.53 202	P	Pn	13 45 52.5	-1.2
	baz=19					
Q46A	CEJHS Indians,	10.53 234	P	Pn	13 45 52.7	-1.0
	baz=47,SNR=5.8					
E38A	The Farm, Brul	10.58 280	ePn	Pn	13 45 52.4	-2.0
E38A	The Farm, Brul	10.58 280	P	Pn	13 45 52.7	-1.7
	baz=89					
H39A	Augusta	10.59 270	P	Pn	13 45 51.4	-3.0
	baz=70					
R47A	Wooly Knot Far	10.59 229	P	Pn	13 45 52.2	-2.3
	baz=42,SNR=44					
EYMN	Ely	10.61 288	ePn	Pn	13 45 51.5	-3.2
EYMN	Ely	10.61 288	P	Pn	13 45 51.2	-3.5
	baz=96					
TZTN	Tazewell	10.65 213	ePn	Pn	13 45 53.8	-1.5
TZTN	Tazewell	10.65 213	P	Pn	13 45 53.9	-1.5
	baz=28,SNR=8.9					
U52A	Thorn Hill	10.71 212	P	Pn	13 45 54.8	-1.5
	baz=27					
HDIL	Hopedale	10.77 246	ePn	Pn	13 45 58.1	+1.2
HDIL	Hopedale	10.77 246	P	Pn	13 45 55.8	-1.1
	baz=57,SNR=8.4					
T50A	Nancy	10.77 219	P	Pn	13 45 55.7	-1.4
	baz=33,SNR=16					
V54A	Nebo	10.80 205	P	Pn	13 45 56.1	-1.3
	baz=21					
F38A	Pierce - Schro	10.83 277	P	Pn	13 45 55.1	-2.7
	baz=85					
S48A	Wiedeman Farm,	10.83 225	P	Pn	13 45 55.7	-2.2
	baz=38					
G38A	Ridgeland	10.90 273	P	Pn	13 45 56.3	-2.5
	baz=81,SNR=13					
W58A	Raeford	10.91 193	P	Pn	13 45 57.5	-1.5
	baz=10					
W57A	Gilead	10.92 196	P	Pn	13 45 57.5	-1.5
	baz=13					
I39A	Houston	10.94 266	P	Pn	13 45 57.1	-2.2
	baz=75,SNR=27					
SCHQ	Schefferville	10.96 30	Pn	Pn	13 45 57.0	-2.5
	11nm,0.3s,baz=216,slow=10,SNR=30					
SCHQ			Sn	Sn	13 47 54.3	-7.6
	26nm,0.3s,baz=22,slow=18,SNR=4.4					
SCHQ			Lg	Lg	13 48 54.0	
	55nm,0.3s,baz=322,slow=9.4,SNR=6.1					
SCHQ			LR	LR	13 50 20.7	
	comp=Z,564nm,19.0s,baz=246,slow=38					
SCHQ	Schefferville	10.96 30	PN	Pn	13 45 56.9	-2.5
SCHQ			Trac		13 49 07.4	
	comp=Z,1µm,0.9s					
U51A	La Follette	10.97 214	P	Pn	13 45 58.5	-1.3
	baz=29,SNR=8.4					
T49A	Edmonton	11.02 222	P	Pn	13 45 58.9	-1.5
	baz=35					
K40A	Colesburg	11.03 259	P	Pn	13 45 58.8	-1.7
	baz=69,SNR=12					
Q45A	Warren Harvey,	11.08 236	P	Pn	13 45 59.0	-2.2
	baz=48					
M41A	Milan	11.17 252	P	Pn	13 46 00.7	-1.7
	baz=62,SNR=9.2					
V53A	Saluda	11.17 208	P	Pn	13 46 00.5	-2.0
	baz=24,SNR=10					
R46A	Gibon Southern	11.18 232	P	Pn	13 45 59.4	-3.2
	baz=44,SNR=18					
X60A	Albert Glenn T	11.20 187	P	Pn	13 46 01.8	-1.1
	baz=5.7					
J39A	Decorah	11.21 263	P	Pn	13 46 00.9	-2.2
	baz=72,SNR=32					
U50A	Jamestown	11.28 217	P	Pn	13 46 01.8	-2.2
	baz=32					
H38A	Maiden Rock	11.29 270	P	Pn	13 46 01.7	-2.4
	baz=79					
V52A	Sevierville	11.29 212	P	Pn	13 46 02.0	-2.1
	baz=26,SNR=7.8					
S47A	Hartford	11.30 228	P	Pn	13 46 02.5	-1.7
	baz=40,SNR=8.4					
L40A	Anamosa	11.33 256	P	Pn	13 46 02.7	-1.9
	baz=66,SNR=59					
F37A	Hinrichs Farm,	11.37 276	P	Pn	13 46 02.2	-3.0
	baz=84					
X58A	Rowland	11.39 193	ePn	Pn	13 46 06.8	+1.3
X58A	Rowland	11.39 193	P	Pn	13 46 04.0	-1.5
	baz=10					
P43A	Skaggs, Pawnee	11.43 243	P	Pn	13 46 03.6	-2.4
	baz=53,SNR=19					
T48A	Bowling Green	11.43 225	P	Pn	13 46 04.0	-2.0
	baz=38					
W54A	Cherokee Point	11.51 205	P	Pn	13 46 05.3	-1.9
	baz=21					
K39A	Oelwein	11.54 260	P	Pn	13 46 05.4	-2.2
	baz=69					
R45A	Skylar, Fairfi	11.56 234	P	Pn	13 46 05.9	-1.8
	baz=46					
SPMN	Marine on St.	11.56 273	P	Pn	13 46 05.3	-2.5
	baz=82					
V51A	Loudon	11.61 214	P	Pn	13 46 06.7	-1.8
	baz=29,SNR=12					

baz=16
Y60A Bolivia 11.79 188 P Pn 13 46 10.9 -0.1
baz=6.2
L39A Vinton 11.84 258 P Pn 13 46 09.9 -1.6
baz=67
T47A Sharon Grove 11.88 226 P Pn 13 46 10.4 -1.8
baz=39
X55A Gracelyn & Ava 11.94 202 P Pn 13 46 10.5 -2.5
baz=18
U48A Cassie Pea, Po 11.98 223 P Pn 13 46 11.2 -2.3
baz=36
V50A Pikevile 12.03 216 P Pn 13 46 12.3 -1.9
baz=30,SNR=9.4
X54A Belton 12.07 204 P Pn 13 46 12.4 -2.4
baz=20
Y58A Scranton 12.07 193 P Pn 13 46 13.0 -1.8
baz=11
W52A Murphy 12.08 211 P Pn 13 46 13.2 -1.8
baz=26
N40A Mertquake, Sal 12.10 252 P Pn 13 46 13.0 -2.1
baz=61,SNR=7.5
S45A Carrier Mills 12.16 233 P Pn 13 46 13.2 -2.7
baz=44
T46A Princeton 12.25 229 P Pn 13 46 15.3 -1.9
baz=41
V49A McMinnville 12.29 219 P Pn 13 46 15.6 -2.2
baz=33,SNR=9.5
W51A Cleveland 12.33 214 P Pn 13 46 16.1 -2.2
baz=28
U47A Clarksville 12.40 225 P Pn 13 46 16.9 -2.4
baz=38
X53A Estanollee 12.40 208 P Pn 13 46 18.0 -1.3
baz=23
Q42A Golden Eagle 12.49 242 P Pn 13 46 17.3 -3.3
baz=52,SNR=13
X52A Dahlonega 12.51 210 P Pn 13 46 18.1 -2.7
baz=25
W50A Signal Mountai 12.52 216 P Pn 13 46 18.6 -2.4
baz=30
S44A Carbondale 12.53 235 P Pn 13 46 17.5 -3.6
baz=46,SNR=8.6
T45A Paducah 12.67 231 ePn Pn 13 46 22.7 -0.3
T45A Paducah 12.67 231 P Pn 13 46 20.4 -2.5
baz=42,SNR=9.3
V48A Smith Brothers 12.73 222 P Pn 13 46 21.2 -2.7
baz=35
SCIA State Center 12.76 259 ePn Pn 13 46 23.2 -0.9
Y54A Tignall 12.80 204 P Pn 13 46 22.9 -1.9
baz=20
X51A Calhoun 12.89 213 P Pn 13 46 23.5 -2.6
baz=27
U46A Springville 12.91 228 P Pn 13 46 24.0 -2.3
baz=40,SNR=13
WVT Waverly 12.91 226 ePn Pn 13 46 24.5 -1.8
WVT Waverly 12.91 226 eP Pn 13 46 24.5 -1.8
WVT Waverly 12.91 226 P Pn 13 46 23.3 -3.0
baz=38
W49A Belvidere 12.99 219 P Pn 13 46 23.9 -3.5
baz=32,SNR=12
V47A Nunnelly 13.00 224 P Pn 13 46 24.4 -3.0
baz=37,SNR=12
Y53A Monroe 13.08 208 P Pn 13 46 25.4 -3.3
baz=23
DRLN Deer Lake 13.23 68 ePn Pn 13 46 28.9 -1.7
W48A Pulaski 13.28 221 P Pn 13 46 28.2 -3.0
baz=34,SNR=15
X50B Fort Payne 13.30 215 P Pn 13 46 28.8 -2.8
baz=29
158A Hollywood 13.30 194 P Pn 13 46 27.2 -4.4
baz=12
V46A Holladay 13.31 226 P Pn 13 46 28.9 -2.8
baz=38,SNR=8.9
R41A Rosebud 13.39 242 P Pn 13 46 29.4 -3.4
baz=51,SNR=9.7
Z54A Sparta 13.43 204 P Pn 13 46 30.2 -3.2
baz=20
GOGA Godfrey 13.46 206 ePn Pn 13 46 31.8 -1.9
GOGA Godfrey 13.46 206 eP Pn 13 46 31.8 -1.9
GOGA Godfrey 13.46 206 P Pn 13 46 30.9 -2.9
baz=22
CCM Cathedral Cave 13.46 241 ePn Pn 13 46 31.5 -2.3
CCM Cathedral Cave 13.46 241 eP Pn 13 46 31.5 -2.3
CCM Cathedral Cave 13.46 241 P Pn 13 46 30.8 -3.0
baz=50
W47A Westpoint 13.50 223 P Pn 13 46 30.3 -3.9
baz=36
PARMO Parma 13.54 233 ePn Pn 13 46 33.0 -1.8
X49A Woodville 13.54 218 P Pn 13 46 32.0 -2.8
baz=31
AGMN Agassiz Nation 13.55 288 ePn Pn 13 46 30.7 -4.2
AGMN Agassiz Nation 13.55 288 P Pn 13 46 30.1 -4.8
baz=94
Y51A Rockmart 13.56 212 P Pn 13 46 31.5 -3.7
baz=27
GLAT Glass 13.57 230 ePn Pn 13 46 34.9 -0.3
Z53A Monticello 13.61 207 P Pn 13 46 32.1 -3.7
baz=22
ULM Lac du Bonnet 13.82 296 Pn Pn 13 46 32.2 -6.4
1.9nm,0.3s,baz=109,slow=13,SNR=22
ULM Sn Sn 13 49 02.1 -10
9.2nm,0.3s,baz=68,slow=5.4,SNR=4.9
ULM Lg Lg 13 50 22.4
26nm,0.3s,baz=180,slow=22,SNR=3.5
ULM LR LR 13 52 04.1
comp=Z,151nm,19.7s,baz=126,slow=38
Y50A Piedmont 13.83 215 P Pn 13 46 35.1 -3.7
baz=28
X48A Hartselle 13.90 220 P Pn 13 46 36.5 -3.3
baz=32,SNR=13
155A Kite 13.91 202 P Pn 13 46 37.7 -2.2
baz=18
Z52A Williamson 13.97 209 P Pn 13 46 37.2 -3.5
baz=24
S41A Jillco Farms, 14.07 240 P Pn 13 46 38.3 -3.7
baz=50
Y49A Blount Mountai 14.13 216 P Pn 13 46 39.6 -3.4
baz=30
X47A Russelville 14.22 222 P Pn 13 46 40.7 -3.4
baz=34,SNR=13
Y48A Jasper 14.41 219 P Pn 13 46 43.1 -3.7
baz=32
Z50A Ashland 14.46 214 P Pn 13 46 44.5 -3.0
baz=28
ECSD EROS Data Cent 14.53 269 P Pn 13 46 44.1 -4.4
baz=75,SNR=13
X46A Booneville 14.53 224 P Pn 13 46 45.9 -2.6
baz=36
152A Waverly Hall 14.55 209 P Pn 13 46 46.0 -2.7
baz=24
Z49A Columbiana 14.76 216 P Pn 13 46 47.9 -3.6
baz=29
U41A Viola 15.00 237 P Pn 13 46 51.3 -3.5
baz=46,SNR=17
150A Eclectic 15.07 213 P Pn 13 46 52.6 -3.1
baz=27
LRAL Lakeview Retre 15.09 217 P Pn 13 46 52.7 -3.3
baz=30
251A Midway 15.31 210 P Pn 13 46 56.0 -2.9
baz=24
149A Jones 15.38 215 P Pn 13 46 57.5 -2.3
baz=28
U40A Yellville 15.54 239 P Pn 13 46 59.1 -2.9
baz=48
353A Camilla 15.60 206 P Pn 13 47 00.4 -2.3
baz=21
148A Greensboro 15.66 217 P Pn 13 47 02.1 -1.5
baz=30
X43A Marvell 15.74 230 P Pn 13 47 03.4 -1.1
baz=40
147A Livingston 15.95 219 P Pn 13 47 06.6 -0.6
baz=32
W41B Gary Mavity, V 16.01 234 P Pn 13 47 04.0 -4.0
baz=44
MDND Maddock 16.05 286 P Pn 13 47 05.0 -3.4
baz=89
KSU1 Kansas State U 16.33 253 P Pn 13 47 11.1 -0.9
baz=59
BGNE Belgrade 16.36 262 P Pn 13 47 10.2 -2.2
baz=67,SNR=12
556A Lake Butler 16.40 199 P Pn 13 47 12.5 -0.5
baz=15
554A Perry 16.64 203 P Pn 13 47 16.1 +0.1
baz=18
349A Repton 16.64 214 P Pn 13 47 15.6 -0.5
baz=27
X40A Basin Creek Fa 16.84 234 P Pn 13 47 18.5 -0.1
baz=43
W39A Magazine 16.89 238 P Pn 13 47 19.0 -0.1
baz=46
450A Crestview 16.90 212 P P 13 47 19.9 -1.5
baz=25
MIAR Mount Ida 17.22 236 P Pn 13 47 20.6 -2.7
baz=44
TUL1 Leonard 17.64 243 P Pn 13 47 27.4 -1.1
baz=50
Z41A Richland Creek 17.73 231 P P 13 47 30.1 -0.4
baz=40
FRB Frobisher Bay 18.59 11 P Pn 13 47 39.0 -0.9
FRB pmax pmax
comp=Z,62nm,0.7s
FRB Frobisher Bay 18.59 11 Pn P 13 47 35.8 -3.9
comp=Z,4.5nm,0.3s,baz=194,slow=13,SNR=22
FRB P Pn 13 47 39.1 -0.9
comp=Z,4.6nm,0.3s,baz=200,slow=14,SNR=29
FRB S Sn 13 50 55.4 -12
comp=Z,4.8nm,0.3s,baz=123,slow=17,SNR=3.4
FRB Lg Lg 13 52 47.9
comp=Z,1.9nm,0.3s,baz=258,slow=19,SNR=7.6
FRB LR LR 13 54 49.4
comp=Z,296nm,18.2s,baz=205,slow=37
CBKS Cedar Bluff 18.59 256 P Pn 13 47 40.0 -0.3
baz=60
DGMT Dagmar 19.11 288 P Pn 13 47 45.5 -0.9
baz=88
RSSD Black Hills 19.63 275 eP Pn 13 47 52.2 -0.7
comp=Z,26nm,0.7s
RSSD Black Hills 19.63 275 eP Pn 13 47 52.2 -0.7
RSSD pmax pmax
comp=Z,26nm,0.7s
RSSD Black Hills 19.63 275 P Pn 13 47 52.0 -0.9
baz=75
WMOK Wichita Mounta 20.26 245 P Pn 13 48 00.6 +0.3
WMOK pmax pmax
comp=Z,54nm,0.6s
WMOK Wichita Mounta 20.26 245 P Pn 13 48 00.2 -0.1
baz=50
KSCO Kaye Shedlock' 20.48 260 P Pn 13 48 01.7 -1.2
baz=62
LAO LASA Array 20.64 283 P Pn 13 48 04.0 -0.6
baz=82
WHTX Lake Whitney, 21.31 237 P P 13 48 12.4 +2.8
baz=44
K22A Casper 21.78 273 P P 13 48 16.6 +1.8
baz=71
HKT Hockley 21.92 231⇑ eP P 13 48 19.1 +3.0
HKT pmax pmax
comp=Z,47nm,1.2s
N23A Red Feather La 21.99 268 P P 13 48 18.7 +1.5
baz=67
AMTX Amarillo 22.05 249 P P 13 48 19.6 +1.9
baz=53
ABTX Abilene, Hawle 22.19 242 P P 13 48 21.6 +2.4
baz=47
ISCO Idaho Springs 22.20 265 P P 13 48 22.4 +2.9
ISCO pmax pmax
comp=Z,50nm,0.8s
ISCO Idaho Springs 22.20 265 P P 13 48 21.6 +2.1
baz=65
Q24A Divide 22.25 263 P P 13 48 21.5 +1.5
baz=63
435B Jarrell 22.27 235 P P 13 48 22.2 +2.3
baz=42
T25A Trinidad 22.62 258 P P 13 48 25.7 +1.8
baz=59
EGMT Eagleton 22.84 288 P P 13 48 27.1 +1.1
baz=83
RLMT Red Lodge 23.02 280 P P 13 48 29.3 +1.3
baz=77
SDCO Great Sand Dun 23.07 260 P P 13 48 29.9 +1.2
baz=60
MSTX Muleshoe 23.32 249 P P 13 48 32.5 +1.5
baz=52
JCT Junction City 23.79 238 eP P 13 48 37.5 +1.9
comp=Z,54nm,0.9s
JCT Junction City 23.79 238 eP P 13 48 37.5 +1.9
JCT pmax pmax
comp=Z,53nm,0.9s
JCT Junction City 23.79 238 P P 13 48 37.2 +1.6
baz=43
BW06 Boulder Array 23.87 275 P P 13 48 37.1 +0.6
baz=71
PDAR Pinedale Array 23.87 275 P P 13 48 37.1 +0.7
comp=Z,8.3nm,0.6s,baz=68,slow=12,SNR=56
PDAR Lg Lg 13 55 47.8
comp=Z,26nm,1.0s,baz=79,slow=34,SNR=3.2
PDAR LR LR 13 58 07.7
comp=Z,157nm,18.7s,baz=82,slow=37
O20A White River Ci 23.90 268 P P 13 48 38.1 +1.3
baz=66
S22A 4UR Ranch, Cre 23.98 261 P P 13 48 39.6 +1.9
baz=61
H17A Grant Village 24.10 279 P P 13 48 41.1 +2.4
baz=75
BOZ Bozeman (W) 24.53 282 P P 13 48 43.9 +1.4
baz=77
ANMO Albuquerque 25.20 255 eP P 13 48 50.9 +2.1
comp=Z,37nm,1.0s
ANMO Albuquerque 25.20 255⇑ eP P 13 48 50.8 +2.1
ANMO pmax pmax
comp=Z,12nm,0.8s
ANMO Albuquerque 25.20 255 P P 13 48 50.4 +1.7
baz=55
ANMO Albuquerque 25.20 255 P P 13 48 50.3 +1.6
comp=Z,8.8nm,0.7s,baz=55,slow=8.7,SNR=13
ANMO Lg Lg 13 56 25.2
comp=Z,13nm,0.8s,baz=338,slow=19,SNR=2.5
TASM ASL Pad, Albuq 25.20 255 P P 13 48 50.6 +1.9
baz=55
TASM ASL Pad, Albuq 25.20 255 P P 13 48 50.5 +1.7
baz=55
SFJD Kangerlussuaq 25.28 24 P P 13 48 50.5 +1.7
comp=Z,5.8nm,0.7s,baz=138,slow=14,SNR=2.5
SFJD LR LR 13 58 23.2
comp=Z,253nm,19.7s,baz=222,slow=36
MVCO Mesa Verde 25.40 262 P P 13 48 52.5 +1.9
baz=60
MSO Missoula 25.84 286 eP P 13 48 55.6 +1.3
comp=Z,14nm,0.8s
MSO Missoula 25.84 286 P P 13 48 55.9 +1.6
baz=78
MNTX Cornudas Mount 26.45 248 P P 13 49 02.6 +2.7
baz=50
TXAR Lajitas Array 26.96 242 P P 13 49 05.7 +1.2
comp=Z,3.1nm,0.9s,baz=57,slow=9.1,SNR=23
TXAR LR LR 14 00 27.3
comp=Z,215nm,20.4s,baz=0.0,slow=38
HLID Hailey 26.99 279 P P 13 49 06.6 +1.8
baz=72
DUG Dugway, Tooele 27.08 271 P P 13 49 07.2 +1.6
baz=66
W18A Petrified Fore 27.34 259 P P 13 49 10.7 +2.7
baz=57
YKA Yellowknife Ar 27.44 321⇑ eP P 13 49 08.3 -0.1
YKA pmax pmax
comp=Z,6.0nm,0.9s
YKA Yellowknife Ar 27.44 321 P P 13 49 08.2 -0.2
comp=Z,6.0nm,0.9s,baz=104,slow=9.6,SNR=46
YKA LR LR 14 00 14.7
comp=Z,29nm,20.8s,baz=108,slow=37
121A Cookes Peak, D 27.51 252 P P 13 49 11.7 +2.1
baz=52
NEW Newport 27.69 290 P P 13 49 12.0 +1.1
baz=80
NEW Newport 27.69 290 P P 13 49 11.4 +0.5
comp=Z,5.8nm,0.8s,baz=86,slow=12,SNR=5.3
WUAZ Wupatki 28.26 261 eP P 13 49 17.1 +0.8
comp=Z,19nm,0.8s
WUAZ Wupatki 28.26 261 P P 13 49 18.1 +1.8
baz=58
ELK Elko 28.56 274 P P 13 49 19.6 +0.7
comp=Z,3.7nm,0.8s,baz=41,slow=4.8,SNR=16
ELK LR LR 14 01 24.1
comp=Z,133nm,21.7s,baz=60,slow=38
SJG San Juan 28.82 160 LR LR 14 00 45.1
comp=Z,137nm,19.2s,baz=315,slow=36
R11A Troy Canyon, C 29.81 270 P P 13 49 30.0 0.0
baz=63
RES Resolute Bay 30.17 350 P P 13 49 33.5 +0.9
RES pmax pmax
comp=Z,4.0nm,1.1s
RES Resolute Bay 30.17 350 P P 13 49 32.0 -0.5
comp=Z,1.9nm,0.5s,baz=165,slow=6.8,SNR=5.8
RES LR LR 14 00 20.2
comp=Z,61nm,21.9s,baz=146,slow=34
PDMCI Parker Dam,Lak 30.83 262 P P 13 49 39.3 +0.5
baz=57
TPNV Topopah Spring 30.94 268 P P 13 49 41.0 +1.0
baz=61
GLK Glacier Lake 31.03 288 ePcP PcP 13 52 39.1 +2.9
F05D White Salmon 31.12 287 P P 13 49 42.5 +1.2
baz=74
G05D Wamic, OR 31.21 286 P P 13 49 42.9 +0.9
baz=73
I05D Terrebonne, OR 31.50 284 P P 13 49 45.9 +1.2
baz=71
STD Studebaker Rid 31.53 288 ePcP PcP 13 52 37.0 -0.5
IRM Iron Mountain 31.61 262 P P 13 49 46.5 +0.7
baz=57
GMRC Granite Mounta 31.63 264 P P 13 49 46.6 +0.6
baz=58
NVAR Mina Array Bea 31.68 272 P P 13 49 47.4 +0.8
comp=Z,3.6nm,0.8s,baz=69,slow=7.4,SNR=22
NVAR LR LR 14 03 47.2
comp=Z,73nm,21.1s,baz=132,slow=39
GRAC Grapevine Rang 31.70 269 P P 13 49 47.3 +0.8
baz=61
RYN Ryan 31.75 272 eP P 13 49 47.7 +0.6
comp=Z,17nm,0.8s
J05D Fort Rock, OR 31.78 282 P P 13 49 47.7 +0.4
baz=70
PAHR Pah Rah Range 31.88 275 eP P 13 49 49.2 +1.0
comp=Z,31nm,0.9s
SUMG Summit 32.11 20 i P P 13 49 50.6 +0.5
SUMG Summit 32.11 20 i P P 13 49 50.6 +0.5
GSC Goldstone, Bar 32.15 266 P P 13 49 50.7 +0.1
baz=58
MPMC Manual Prospec 32.24 267 P P 13 49 52.0 +0.5
baz=60
BELC Belle Mtn. Jos 32.28 263 P P 13 49 51.7 -0.1
baz=57
J04D Umpqua Nationa 32.39 282 P P 13 49 53.7 +1.0
baz=69
I04A Tendick Farm, 32.41 283 P P 13 49 53.5 +0.8
baz=70
CMIG Matias Romero 32.47 214 LR LR 14 04 05.9
comp=Z,105nm,21.8s,baz=70,slow=38
CWC Cottonwood Cre 32.47 268 P P 13 49 54.1 +0.6
baz=60
M04C Macdoel 32.74 280 P P 13 49 56.6 +0.9
baz=67
WESC Westside Schoo 32.79 261 ePcP PcP 13 52 40.9 -0.1
L04D Klamath Falls 32.90 281 P P 13 49 55.3 -1.8
baz=68
I03D Drain, OR 33.08 284 P P 13 49 57.8 -0.6
baz=70
IKP In-Ko-Pah, Jac 33.12 261 P P 13 49 59.2 +0.2
baz=55
ISA Isabella, Lake 33.13 267 P P 13 49 59.2 +0.1
baz=59
MONP2 Monument Peak 33.20 261 P P 13 50 01.0 +1.2
baz=55
EDW2 Edwards Air Fo 33.20 266 P P 13 50 00.2 +0.5
baz=58
O03E Paynes Creek 33.31 277 P P 13 50 01.6 +0.9
baz=65
YBH Yreka Blue Hor 33.37 280 P P 13 50 01.5 +0.4
comp=Z,5.9nm,0.7s,baz=81,slow=4.6,SNR=9.3
VES Vestal, Richgr 33.47 268 P P 13 50 01.3 -0.7
baz=59
M02C Callahan 33.60 280 P P 13 50 02.6 -0.5
baz=66
N02D Trinity Center 33.66 279 P P 13 50 03.6 -0.1
baz=66
J01E Myrtle Point 33.67 283 P P 13 50 03.4 -0.2
baz=69
BBB Bella Bella 33.97 300 P P 13 50 07.4 +1.3
comp=Z,8.0nm,0.9s,baz=77,slow=7.5,SNR=6.1
O02D Mt. Diablo Mer 34.05 278 P P 13 50 06.7 -0.3
baz=65
RPV Rancho Palos V 34.10 264 ePcP PcP 13 52 43.7 -1.0
DLBC Dease Lake 34.38 311 P P 13 50 11.6 +1.9
comp=Z,7.0nm,0.9s,baz=106,slow=6.8,SNR=9.6
DLBC LR LR 14 03 32.5
comp=Z,158nm,18.8s,baz=87,slow=35
BGC Bolinger Road 34.59 273 ePcP PcP 13 52 45.8 -0.3
LPIG La Paz 34.83 243 LR LR 14 04 16.0
comp=Z,92nm,20.3s,baz=349,slow=36
SCO Scoresbysund 35.99 28 eP P 13 50 24.1 +0.9
comp=Z,24nm,0.9s
SCO Scoresbysund 35.99 28 i P P 13 50 23.9 +0.6
SCO Scoresbysund 35.99 28 i P P 13 50 23.9 +0.6
INK Inuvik 36.51 328 P P 13 50 28.4 +0.6
INK pmax pmax
comp=Z,35nm,1.1s
INK Inuvik 36.51 328 P P 13 50 28.3 +0.6
comp=Z,18nm,0.8s,baz=84,slow=9.1,SNR=37
SDV Santo Domingo 37.04 171 P P 13 50 34.0 +1.0
comp=Z,7.0nm,0.7s,baz=24,slow=20,SNR=4.2
EPYK Eagle Plains 37.55 325 P P 13 50 37.7 +0.9
baz=93
DAG Danmarks Havn 38.68 18 i P P 13 50 46.3 +0.3
DAG Danmarks Havn 38.68 18 i P P 13 50 46.3 +0.3
DAWY Dawson 38.68 321 eP P 13 50 47.9 +1.6
comp=Z,27nm,1.1s
ROSC El Rosal 40.77 177 P P 13 51 05.8 +1.3
comp=Z,7.8nm,0.4s,baz=0.0,slow=20,SNR=1.9
ILAR Eielson Array 41.85 323 P P 13 51 12.6 +0.1
ILAR Eielson Array 41.85 323 P P 13 51 13.2 +0.8
comp=Z,2.6nm,0.7s,baz=77,slow=7.5,SNR=30
ILAR PcP PcP 13 53 07.6 -0.4
comp=Z,1.2nm,0.8s,baz=54,slow=1.7,SNR=3.1
HDA Harding Lake 41.93 322 P P 13 51 14.3 +1.2
baz=81
POKR Poker Plat Res 42.03 323 P P 13 51 15.0 +1.1
baz=82
COLA College 42.24 323 c i P P 13 51 16.8 +1.2
COLA pmax pmax
comp=Z,39nm,1.1s
TCOL CIGO, UAF Yank 42.25 323 P P 13 51 16.7 +1.0
baz=81
TOLK Toolik Lake Re 42.42 329 P P 13 51 18.4 +1.2
baz=84
RSO Redoubt South 45.45 317 eP P 13 51 42.9 +1.2
EKA Eskdalemuir Ar 45.46 50 P P 13 51 45.9 +4.2
EKA pmax pmax
comp=Z,4.0nm,0.5s
EKA Eskdalemuir Ar 45.46 50 P P 13 51 41.4 -0.3
comp=Z,3.8nm,0.7s,baz=289,slow=7.0,SNR=4.8
GRR Gorron 49.54 58 eP P 13 52 16.5 +3.0
GRR pmax pmax
comp=Z,48nm,1.6s
FLN La Foliniere 49.60 57 eP P 13 52 19.3 +5.4
FLN pmax pmax
comp=Z,21nm,1.1s
KONO Kongsberg 50.22 41⇑ eP P 13 52 17.9 -0.5
KONO pmax pmax
comp=Z,22nm,1.3s
NB2 NORSAR Subarra 50.37 39 P P 13 52 19.9 +0.3
comp=Z,7.9nm,1.0s,baz=296,slow=7.4
NB200 NORSAR Array S 50.37 39 ePcP PcP 13 53 37.8 -0.2
NOA NORSAR Array B 50.37 39 P P 13 52 20.0 +0.3
comp=Z,1.3nm,0.7s,baz=299,slow=7.4,SNR=4.3
NOA PcP PcP 13 53 37.8 -0.2
comp=Z,1.3nm,0.7s,baz=300,slow=3.6,SNR=2.9
NOA LR LR 14 12 09.9
comp=Z,56nm,18.0s,baz=295,slow=34
BAIF Baives 51.71 54 eP P 13 52 29.9 +0.1
BAIF pmax pmax
comp=Z,23nm,1.2s
HFS Hagfors 51.87 40 P P 13 52 31.2 +0.3
comp=Z,3.7nm,0.7s,baz=296,slow=8.1,SNR=4.3
ARCES ARCESS Array B 51.87 26 P P 13 52 30.9 +0.2
comp=Z,7.2nm,0.7s,baz=286,slow=7.4,SNR=27
GIVF Givet 52.04 54 eP P 13 52 32.0 -0.3
GIVF pmax pmax
comp=Z,22nm,1.2s
LFF La Frestale 52.16 61 eP P 13 52 33.7 +0.5
LFF pmax pmax
comp=Z,10.0nm,0.7s
RJF Les Rejaudoux 52.45 60 eP P 13 52 38.8 +3.4
RJF pmax pmax
comp=Z,73nm,2.0s
ATAH Atahualpa 52.65 183 LR LR 14 15 58.9
comp=Z,25nm,18.3s,baz=346,slow=37
SSF Saint Saulge 52.77 58 eP P 13 52 37.8 +0.1
SSF pmax pmax
comp=Z,7.0nm,0.7s
AVF Avril sur Loir 52.81 58 eP P 13 52 37.5 -0.5
AVF pmax pmax
comp=Z,6.0nm,0.9s
SMF Signal de Mont 53.17 58 eP P 13 52 40.9 +0.2
SMF pmax pmax
comp=Z,27nm,1.6s

SGF	Sodankyl	53.26	28	eP	P	13 52 46.5	+5.5
SGF				pmax	pmax		
comp=Z,16nm,0.9s							
HAU	Haudompre	53.95	55	eP	P	13 52 49.0	+2.6
HAU				pmax	pmax		
comp=Z,2.0nm,0.6s							
VAF	Ylistaro	54.19	34	P	P	13 52 49.3	+1.4
VAF				pmax	pmax		
comp=Z,25nm,1.4s							
CLZ	Clausthal	54.23	50	P	P	13 52 51.3	+2.8
CABF	La Chapelle	54.52	57	eP	P	13 52 50.5	-0.2
CABF				pmax	pmax		
comp=Z,119nm,2.4s							
BFO	Black Forest	54.92	54	iP	P	13 52 54.8	+1.3
ORIF	Oris-en-Rattie	55.29	59	eP	P	13 52 58.6	+2.3
ORIF				pmax	pmax		
comp=Z,18nm,1.0s							
MOX	Moxa	55.52	51	eP	P	13 53 00.0	+2.2
MOX				pmax	pmax		
comp=Z,9.0nm,1.2s							
CLL	Collm	55.91	49	eP	P	13 53 01.0	+0.5
CLL	Collm	55.91	49	eP	P	13 53 01.0	+0.5
NKC	Novy Kostel	56.19	51	eP	P	13 53 04.0	+1.4
NKC				e		13 53 08.0	
NKC				MLR	MLR		
comp=Z,100nm,20.5s							
NKC	Novy Kostel	56.19	51	eP	P	13 53 04.0	+1.4
NKC				epP	sP	13 53 08.0	+0.5
NKC				AMS	AMS	14 15 30.0	
comp=Z,100nm,20.5s							
FINES	FINESS Array B	56.40	34	P	P	13 53 03.6	-0.2
comp=Z,5.2nm,0.7s,baz=304,slow=8.3,SNR=22							
FINES				LR	LR	14 15 40.7	
comp=Z,107nm,19.1s,baz=34,slow=34							
BRG	Berggiesshubel	56.65	49	eP	P	13 53 06.8	+1.0
comp=Z,14nm,1.3s							
BRG	Berggiesshubel	56.65	49	eP	P	13 53 06.8	+1.0
BRG				pmax	pmax		
comp=Z,14nm,1.3s							
PVCC	Panska Ves	57.17	49	AMS	AMS	14 16 50.0	
comp=Z,200nm,20.9s							
BILL	Bilibino	57.31	337	eP	P	13 53 10.4	+0.2
comp=Z,6.8nm,0.8s							
BILL	Bilibino	57.31	337⇑	iP	P	13 53 10.2	0.0
BILL				e		13 54 08.1	
BILL				e		13 55 18.4	
BILL				pmax	pmax		
comp=Z,14nm,1.0s							
BILL				MLR	MLR		
comp=Z,66nm,15.0s							
KHC	Kasperske Hory	57.41	51	eP	P	13 53 12.5	+1.2
KHC				e		13 53 16.4	
KHC				MLR	MLR		
comp=Z,100nm,15.1s							
KHC	Kasperske Hory	57.41	51	eP	P	13 53 12.5	+1.2
KHC				epP	pP	13 53 16.4	+1.6
KHC				AMS	AMS	14 16 10.0	
comp=Z,100nm,15.1s							
PRU	Pruhonice	57.46	50	eP	P	13 53 12.5	+1.0
PRU				MLR	MLR		
comp=Z,100nm,19.3s							
PRU	Pruhonice	57.46	50	eP	P	13 53 12.5	+1.0
PRU				AMS	AMS	14 16 20.0	
comp=Z,100nm,19.3s							
JOF	Joensuu	57.51	31	P	P	13 53 12.7	+1.0
JOF				pmax	pmax		
comp=Z,16nm,1.5s							
GOPC	GO Pecny, Ondr	57.63	50	eP	P	13 53 14.3	+1.5
GOPC	GO Pecny, Ondr	57.63	50	eP	P	13 53 14.3	+1.5
GERES	GERESS Array B	57.64	51	P	P	13 53 13.6	+0.6
GERES	GERESS Array B	57.64	51	P	P	13 53 11.5	-1.5
comp=Z,3.3nm,1.1s,baz=316,slow=5.6,SNR=7.6							
GERES				LR	LR	14 16 30.7	
comp=Z,69nm,18.4s,baz=284,slow=34							
UPC	Upice	57.95	49	eP	P	13 53 16.1	+1.1
UPC				MLR	MLR		
comp=Z,100nm,16.6s							
UPC	Upice	57.95	49	eP	P	13 53 16.1	+1.1
UPC				AMS	AMS	14 17 50.0	
comp=Z,100nm,16.6s							
DPC	Dobruska-Polom	58.20	49	eP	P	13 53 18.2	+1.4
DPC				MLR	MLR		
comp=Z,200nm,16.1s							
DPC	Dobruska-Polom	58.20	49	eP	P	13 53 18.2	+1.4
DPC				AMS	AMS	14 17 50.0	
comp=Z,200nm,16.1s							
TREC	Trest	58.35	50	AMS	AMS	14 16 40.0	
comp=Z,200nm,22.5s							
VRAC	Vranov	58.94	50	P	P	13 53 23.7	+1.8
VRAC				pmax	pmax		
comp=Z,15nm,1.4s							
VRAC	Vranov	58.94	50	eP	P	13 53 22.7	+0.8
KRUC	Moravsky	58.98	50	eP	P	13 53 22.7	+0.5
TMCR	Tamitsa	59.02	28	eP	P	13 53 21.1	-1.1
TMCR				pmax	pmax		
comp=Z,20nm,1.4s							
MORC	Moravsky Berou	59.17	49	eP	P	13 53 24.8	+1.2
comp=Z,7.4nm,1.0s							
MORC	Moravsky Berou	59.17	49	eP	P	13 53 24.8	+1.2
MORC				pmax	pmax		
comp=Z,7.0nm,1.0s							
MORC	Moravsky Berou	59.17	49	eP	P	13 53 24.3	+0.7
OKC	Ostrava-Krasne	59.46	49	AMS	AMS	14 19 30.0	
comp=Z,200nm,22.2s							
VYHS	Vyhne	60.62	49	eP	P	13 53 35.1	+1.6
VYHS	Vyhne	60.62	49	eP	P	13 53 35.1	+1.6
NIE	Niedzica	60.83	48	P	P	13 53 37.3	+2.3
NIE				pmax	pmax		
comp=Z,3.0nm,1.5s							
TIXI	Tiksi	61.56	351⇑	iP	P	13 53 38.4	-1.1
TIXI				pmax	pmax		
comp=Z,2.0nm,0.9s							
KLMR	Klimovskoe	61.80	30	eP	P	13 53 39.6	-1.6
KLMR				pmax	pmax		
comp=Z,23nm,0.9s							
KOLS	Kolonicke sedl	62.15	48	eP	P	13 53 45.0	+1.1
KOLS	Kolonicke sedl	62.15	48	eP	P	13 53 45.0	+1.1
LPAZ	La Paz	62.17	171	P	P	13 53 44.6	-0.2
comp=Z,6.3nm,0.5s,baz=15,slow=13,SNR=19							
LPAZ				LR	LR	14 22 53.7	
comp=Z,28nm,19.0s,baz=330,slow=38							
UZH	Uzhgorod	62.35	48	eP	P	13 53 46.9	+1.8
UZH				e		13 53 50.4	
UZH				i		13 53 57.0	
KEST	Kesra	62.77	66	P	P	13 53 48.7	+0.5
comp=Z,3.7nm,0.9s,baz=18,slow=2.5,SNR=3.3							
KIEV	Kiev	64.46	43	eP	P	13 53 59.3	+0.2
comp=Z,18nm,0.7s							
KIEV	Kiev	64.46	43	ceP	P	13 53 59.3	+0.2
KIEV				pmax	pmax		
comp=Z,14nm,1.1s							
AKASG	Malin Array Be	64.46	43	iP	P	13 53 59.2	+0.1
AKASG				pmax	pmax		
comp=Z,3.0nm,0.5s							
AKASG	Malin Array Be	64.46	43	P	P	13 53 59.4	+0.3
comp=Z,5.1nm,0.7s,baz=310,slow=6.3,SNR=11							
AKASG				LR	LR	14 21 01.3	
comp=Z,36nm,18.1s,baz=45,slow=35							
BURAR	Bucovina Array	64.51	47	P	P	13 54 00.8	+1.2
NRIK	Noril'sk	64.64	6	LR	LR	14 22 57.4	
comp=Z,62nm,18.7s,baz=41,slow=37							
OBN	Obninsk	64.70	36⇓	eP	P	13 54 01.5	+1.0
OBN				e		13 54 33.3	
OBN				e		13 56 19.4	
OBN				pmax	pmax		
comp=Z,34nm,1.0s							
OBN				MLR	MLR		
comp=Z,64nm,16.0s							
SEY	Seymchan	64.96	338⇓	iP	P	13 54 01.4	-0.7
VOIR		65.84	49	P	P	13 54 10.1	+1.8
VOIR				pmax	pmax		
comp=Z,6.0nm,1.2s							
BDFB	Brasilia	66.25	150	LR	LR	14 21 53.5	
comp=Z,47nm,21.8s,baz=146,slow=35							
MLR	Muntele Rosu	66.28	49	P	P	13 54 14.9	+3.7
MLR				pmax	pmax		
comp=Z,10.0nm,1.5s							
VRI	Vrincioaia	66.44	48	P	P	13 54 14.6	+2.6
VRI				pmax	pmax		
comp=Z,15nm,1.4s							
MA2	Magadan	68.17	336	ceP	P	13 54 22.0	-0.7
MA2				pmax	pmax		
comp=Z,18nm,1.7s							
VSR	Storozhevoye	68.59	38	eP	P	13 54 24.8	-0.7
VSR				pmax	pmax		
comp=Z,10.0nm,1.1s							
VORD	Divnogorie	68.83	38	eP	P	13 54 24.5	-2.5
VORD				pmax	pmax		
comp=Z,10.0nm,0.6s							
VRH	Novokhopyorsk	69.68	36	eP	P	13 54 30.4	-1.8
VRH				pmax	pmax		
comp=Z,5.0nm,0.3s							
PETK	Petropavlovsk-	71.25	329	P	P	13 54 41.0	-0.8
comp=Z,4.0nm,0.7s,baz=53,slow=9.3,SNR=5.7							
PETK				LR	LR	14 26 25.3	
comp=Z,36nm,20.0s,baz=89,slow=36							
ARU	Arti	71.42	25	diP	P	13 54 44.1	+1.3
ARU						13 57 18.9	
ARU				S	S	14 04 03.4	+2.8
ARU				SS	SS	14 08 37.1	+3.1
ARU				pmax	pmax		
comp=Z,11nm,1.3s							
TIC	Toumodi	72.26	99	eP	P	13 54 53.0	+4.5
DBIC	Dimbokro	72.36	99	P	P	13 54 49.2	+0.2
comp=Z,4.3nm,0.8s,baz=313,slow=5.8,SNR=5.1							
DBIC				LR	LR	14 24 59.7	
comp=Z,27nm,18.9s,baz=346,slow=34							
TOA1	Torodi Ar. Sit	72.39	89	eP	P	13 54 49.2	0.0
TORD	Torodi Ar. Bea	72.39	89	P	P	13 54 49.2	0.0
comp=Z,2.6nm,1.0s,baz=340,slow=1.9,SNR=8.3							
TORD				LR	LR	14 25 11.9	
comp=Z,56nm,18.5s,baz=320,slow=35							
ANN	Anapa	72.55	43	eP	P	13 54 42.7	-7.0
ANN				e*PP	pP	13 54 46.4	-6.9
ANN				pmax	pmax		
comp=Z,35nm,1.2s							
LIC	Lamto	72.56	99	eP	P	13 54 53.5	+3.3
comp=Z,51nm,1.4s							
KIC	Kosan Boka	72.66	99	eP	P	13 54 54.6	+3.8
comp=Z,27nm,0.9s							
CPUP	Villa Florida	73.77	162	P	P	13 54 58.3	+1.3
comp=Z,1.8nm,0.9s,baz=7.7,slow=8.2,SNR=3.6							
CPUP				LR	LR	14 27 29.1	
comp=Z,21nm,21.0s,baz=32,slow=36							
BRTR	Keskin Array B	74.36	49	P	P	13 55 01.8	+1.0
comp=Z,2.0nm,0.9s,baz=316,slow=3.4,SNR=9.7							
BRTR				LR	LR	14 29 07.6	
comp=Z,32nm,18.0s,baz=280,slow=37							
KIV	Kislovodsk	75.64	41	eP	P	13 55 09.8	+1.8
KIV				pmax	pmax		
comp=Z,51nm,1.1s							
KIV				MLR	MLR		
comp=Z,124nm,18.0s							
KBZ	Khabaz	75.91	41	P	P	13 55 11.2	+1.8
comp=Z,6.5nm,0.9s,baz=313,slow=2.8,SNR=14							
NEY	Neytrino	76.21	41⇓	eP	P	13 55 13.7	+2.4
NEY				pmax	pmax		
comp=Z,1.0nm,1.2s							
AKTO	Aktyubinsk	76.39	28	P	P	13 55 13.3	+1.3
comp=Z,2.4nm,0.8s,baz=359,slow=4.4,SNR=8.7							
NCK	Nalchik	76.41	40	iP	P	13 55 13.5	+1.2
BOD	Bodaibo	76.46	354	eP	P	13 55 10.4	-1.8
BOD				pmax	pmax		
comp=Z,5.0nm,1.6s							
ZEI	Tsey	77.11	41	eP	P	13 55 16.4	0.0
ZEI				pmax	pmax		
comp=Z,12nm,1.1s							
BRVK	Borovoye	77.53	20	ceP	P	13 55 19.3	+0.9
BRVK				pmax	pmax		
comp=Z,10.0nm,1.3s							
NVS	Novosibirsk	78.32	12	eP	P	13 55 23.3	+0.6
ZEA	Zeya	78.88	346	eP	P	13 55 24.8	-1.0
ZEA				pmax	pmax		
comp=Z,12nm,1.0s							
GNI	Garni	79.57	42⇓	eP	P	13 55 32.2	+2.1
GNI				pmax	pmax		
comp=Z,155nm,1.7s							
KURK	Kurchatov	81.53	16	eP	P	13 55 40.6	+0.5
comp=Z,7.6nm,1.1s							
KURK	Kurchatov	81.53	16	ceP	P	13 55 40.5	+0.4
KURK				pmax	pmax		
comp=Z,9.0nm,1.7s							
KLR	Kul'dur	82.30	342	ciP	P	13 55 43.6	-0.7
KLR				pmax	pmax		
comp=Z,12nm,1.1s							
OTUK	Ortayu	82.49	21	P	P	13 55 46.3	+1.0
OTUK				pmax	pmax		
comp=Z,5.0nm,0.9s							
TLY	Talaya	82.97	360⇓	eP	P	13 55 49.1	+1.4
DGZ	Jazzator, Alta	83.92	10	ceP	P	13 55 54.2	+1.4
DGZ				pmax	pmax		
comp=Z,5.0nm,1.5s							
ASAJ	Asahikawa	84.10	333	LR	LR	14 39 30.1	
comp=Z,70nm,18.0s,baz=77,slow=40							
MAKZ	Makanchi	85.90	15	eP	P	13 56 03.6	+0.9
comp=Z,4.4nm,1.1s							
MAKZ	Makanchi	85.90	15	eP	P	13 56 03.6	+0.9
MAKZ				pmax	pmax		
comp=Z,4.0nm,1.1s							
MKAR	Makanchi Array	85.97	15	iP	P	13 56 03.2	+0.2
MKAR	Makanchi Array	85.97	15	P	P	13 56 03.1	0.0
comp=Z,0.3nm,0.3s,baz=14,slow=2.9,SNR=5.1							
PLCA	Paso Flores	86.23	176	P	P	13 56 05.0	+0.9
comp=Z,6.7nm,0.9s,baz=19,slow=4.7,SNR=3.2							
ULN	Ulaanbaatar	86.74	358	ciP	P	13 56 08.2	+1.2
ULN				pmax	pmax		
comp=Z,14nm,1.7s							
SONM	Songino Array	86.79	358	P	P	13 56 07.2	+0.1
comp=Z,3.4nm,1.1s,baz=338,slow=3.5,SNR=12							
CHMS	Chumysh	88.00	21	P	P	13 56 14.2	+1.3
SNR=5.4							
EKS2	Erkin-Say	88.06	22	P	P	13 56 15.2	+1.8
SNR=7.2							
AAK	Ala-Archa	88.27	21⇓	iP	P	13 56 15.9	+1.5
AAK				pmax	pmax		
comp=Z,13nm,2.5s							
TKM2	Tokmak 2	88.28	20	P	P	13 56 15.7	+1.1
SNR=5.8							
AML	Almayashu	88.54	22	P	P	13 56 18.0	+2.0
SNR=9.3							
UCH	Uchtor	88.66	21	P	P	13 56 18.7	+2.0
SNR=5.3							
PDGK	Podgornoye	88.77	17	P	P	13 56 18.4	+1.7
PDGK				pmax	pmax		
comp=Z,5.0nm,1.2s							
WMQ	Urumqi	89.72	11	eP	P	13 56 22.8	+1.7
KSH	Kashi	91.58	21	P	P	13 56 27.8	-2.1
MAJO	Matsushiro	92.37	333	eP	P	13 56 33.6	+0.1
MAJO	Matsushiro	92.37	333	eP	P	13 56 33.6	+0.1
MJAR	Matsushiro Arr	92.37	333	P	P	13 56 33.6	+0.1
comp=Z,2.0nm,0.9s,baz=18,slow=5.4,SNR=4.9							
HHC	Hu-ho-hao-te	93.52	354	eP	P	13 56 37.0	-1.8
KSRS	Korea Array	94.36	341	LR	LR	14 40 54.7	
comp=Z,41nm,21.9s,baz=255,slow=37							
VNA3	Neumayer Olymp	125.85	158	P	PKiKP	14 02 26.9	+3.1
VNA1	Neumayer--Stat	125.86	158	P	PKPdf	14 02 17.8	-5.5
VNA2	Neumayer--Watz	126.25	158	P	PKPdf	14 02 20.6	-3.5
SNAA	Sanae	127.89	157	P	PKiKP	14 02 31.2	+3.3
VNDA	Vanda	140.97	197	PKhKP	PKPpre	14 02 47.6	
comp=Z,0.6nm,0.7s,baz=18,slow=3.5,SNR=5.7							
VNDA				PKP	PKiKP	14 02 52.2	-1.9
comp=Z,0.6nm,0.7s,baz=176,slow=14,SNR=5.7							
WR1	Warramunga Arr	143.96	305	ePKPdf	PKiKP	14 02 59.9	-2.2
WRA	Warramunga Arr	143.96	305	PKhKP	PKPpre	14 02 56.2	
comp=Z,7.7nm,0.7s,baz=51,slow=3.2,SNR=42							
WRA				PKP	PKiKP	14 02 59.9	-2.2
comp=Z,6.0nm,0.7s,baz=51,slow=3.1,SNR=38							
ASAR	Alice Springs	147.09	302	PKPbc	PKPdf	14 03 03.8	-0.1
comp=Z,6.8nm,1.0s,baz=52,slow=2.8,SNR=32							
STKA	Stephens Creek	147.67	282	PKPbc	PKPbc	14 03 06.5	-0.8
comp=Z,1.1nm,0.6s,baz=66,slow=2.4,SNR=27							
MAW	Mawson	149.60	150	PKPbc	PKiKP	14 03 11.8	-0.3
comp=Z,20nm,0.7s,baz=268,slow=5.7,SNR=10							
MAW				PKPab	pPKPbc	14 03 15.5	+0.7
comp=Z,20nm,0.7s,baz=216,slow=3.2,SNR=29							

MEX 17 13:50:07.4±0.7, 16°.91N×98°.43W, h52km±11km, MD3.7,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.59	150	eP	Pn	13 50 18.0	-1.9
PNIG				eS	Sn	13 50 27.7	-1.3
TLIG	Tlapa	0.66	349	eP	Pn	13 50 19.2	-1.7
TLIG				iS	Sn	13 50 28.2	-2.5

ISCJB 17 13:53:54.7±0.2, 45°.75N±0°.01×76°.35W±0°.02, h19km±2km,
Error ellipse: s-maj=2.5km s-min=2.0km az=179.7

ANF 17 13:53:54.2±0.2, 45°.74N×76°.34W, h15km±1km, ML3.7/17,
Error ellipse: s-maj=1.9km s-min=1.4km az=39.0
LDO 17 13:53:55.8±0.0, 45°.76N×76°.35W, h11km
OTT 17 13:53:55.1±0.0, 45°.75N×76°.35W, h14km, MN4.1/29
OTT 20km northeast from Shawville, Qc. Aftershock. Felt.
Western Quebec Seismic Zone. Felt in Quebec and
Ontario regions.
NEIC 17 13:53:55.4±0.0, 45°.75N×76°.34W, h18km, MN4.1(OTT),
After OTT.
NEIC Felt in parts of Ontario and Quebec.

ISC 17 13:53:54.4±0.8, 45°.75N±0°.02×76°.35W±0°.01, h17km±4km,
n91, σ0°98/150, 6D, Southern Ontario

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F55A	Otter Lake	0.08	0	P	Pg	13 53 57.9	+0.1
baz=172							
F55A				S	Sg	13 53 59.9	-0.2
baz=172							
F55A	Otter Lake	0.08	0	PG	Pg	13 53 58.0	+0.1
F55A				SG	Sg	13 53 60.0	-0.1
LSQ1	Lac Sinclair,	0.14	75	⇓PG	Pg	13 53 58.5	+0.1
LSQ1				SG	Sg	13 54 01.0	-0.2
VABQ	Val Des Bois	0.54	73	⇓PG	Pg	13 54 05.0	-0.2
VABQ				SG	Sg	13 54 12.4	-0.1
VABQ				Trac		13 54 13.1	
comp=Z,718nm,0.1s							
G55A	Calabogie	0.56	207	P	Pg	13 54 05.3	-0.3
baz=30							
OTT	Ottawa	0.57	129	PG	Pg	13 54 05.7	0.0
OTT				SG	Sg	13 54 13.2	-0.2
OTT				Trac		13 54 18.8	
comp=Z,1μm,0.1s							
GAC	Glen Almond	0.61	94	⇓PG	Pg	13 54 06.2	-0.3
GAC				SG	Sg	13 54 14.6	-0.2
GAC				Trac		13 54 14.6	
comp=Z,2μm,0.2s							
PEMO	Pembroke	0.63	263	P	Pg	13 54 06.7	-0.1
baz=85							
PEMO	Pembroke	0.63	263	⇓PG	Pg	13 54 06.8	-0.1
PEMO				SG	Sg	13 54 15.2	-0.1
PEMO				Trac		13 54 16.9	
comp=Z,386nm,0.0s							
ORHO	Orleans, Herit	0.64	117	P	Pg	13 54 06.7	-0.4
baz=296							
ORHO				S	Sg	13 54 15.6	0.0
baz=296							
ORHO	Orleans, Herit	0.64	117	PG	Pg	13 54 07.0	-0.1
ORHO				SG	Sb	13 54 15.8	0.0
ORIO	Orleans, Innes	0.66	117	P	Pg	13 54 07.0	-0.4
baz=296							
ORIO				S	Sg	13 54 15.7	-0.6
baz=296							
ORIO	Orleans, Innes	0.66	117	⇓PG	Pg	13 54 07.0	-0.4
ORIO				SG	Sg	13 54 15.8	-0.4
ORIO				Trac		13 54 16.1	
comp=Z,1μm,0.1s							
CRLO	Chalk River	0.77	292	ePb	Pb	13 54 09.2	-0.1
CRLO				eSn	Sb	13 54 19.4	-0.2
CRLO	Chalk River	0.77	292	⇓PG	Pb	13 54 09.2	-0.1
CRLO				SG	Sb	13 54 19.4	-0.2
CRLO				Trac		13 54 19.6	
comp=Z,2μm,0.1s							
PLVO	Plevna	0.88	216	ePb	Pb	13 54 10.7	-0.4
PLVO				eSn	Sb	13 54 22.8	+0.2
PLVO	Plevna	0.88	216	P	Pb	13 54 10.7	-0.4
baz=37							
PLVO	Plevna	0.88	216	PG	Pb	13 54 10.9	-0.3
PLVO				SG	Sb	13 54 22.8	+0.2
PLVO				Trac		13 54 27.4	
comp=Z,391nm,0.0s							
E54A	Lac Daplat, Po	0.90	320	P	Pb	13 54 11.2	-0.3
baz=140							
GRQ	Grand Remous	0.92	22	ePb	Pb	13 54 11.7	-0.3
GRQ				eSn	Sb	13 54 23.8	0.0
GRQ	Grand Remous	0.92	22	PG	Pb	13 54 11.7	-0.3
GRQ				SG	Sb	13 54 23.8	0.0
GRQ				Trac		13 54 28.4	
comp=Z,848nm,0.1s							
ALFO	Alfred	1.04	96	ePb	Pb	13 54 13.5	-0.4
ALFO				eSn	Sb	13 54 27.2	0.0
ALFO	Alfred	1.04	96	P	Pb	13 54 13.5	-0.4
baz=276							
ALFO				S	Sb	13 54 26.9	-0.2
baz=276							
ALFO	Alfred	1.04	96	PG	Pb	13 54 13.5	-0.4
ALFO				SG	Sb	13 54 27.2	0.0
ALFO				Trac		13 54 31.1	
comp=Z,1μm,0.1s							
WBO	Williamsburg	1.07	134	PG	Pb	13 54 14.3	-0.2
WBO				SG	Sb	13 54 28.1	0.0
WBO				Trac		13 54 31.6	
comp=Z,506nm,0.1s							
E53A	Dumoine, Ponti	1.11	305	P	Pn	13 54 14.9	-0.3
baz=125							
E53A				S	Sb	13 54 29.0	-0.2
baz=125							
H56A	Elgin	1.16	177	P	Pn	13 54 15.9	+0.1
baz=358							
H56A				S	Sb	13 54 31.1	+0.3
baz=358							
ALGO	Algonquin Park	1.21	280	P	Pn	13 54 16.5	0.0
baz=100							
ALGO	Algonquin Park	1.21	280	PG	Pn	13 54 16.6	+0.1
ALGO				SG	Sn	13 54 33.0	+0.6
ALGO				Trac		13 54 35.5	
comp=Z,2μm,0.1s							
BANO	Bancroft	1.33	237	P	Pn	13 54 18.7	+0.5
baz=57							
BANO	Bancroft	1.33	237	PG	Pn	13 54 18.9	+0.6
BANO				SG	Sb	13 54 36.8	+1.1
BANO				Trac		13 54 40.3	
comp=Z,807nm,0.1s							
TRQ	Mont Tremblant	1.34	69	ePn	Pn	13 54 18.7	+0.3
TRQ				eSn	Sg	13 54 39.0	+1.3
TRQ	Mont Tremblant	1.34	69	PG	Pb	13 54 18.8	-0.3
TRQ				SG	Sg	13 54 37.4	-0.2
TRQ				Trac		13 54 39.9	
comp=Z,883nm,0.1s							
H55A	Tweed	1.34	206	P	Pn	13 54 18.6	+0.3
baz=27							
H55A				S	Sn	13 54 35.8	+0.1
baz=27							
D54A	Lac Fusel, La	1.42	352	Pb	Pb	13 54 20.3	-0.1
baz=171							
D54A				S	Sb	13 54 38.6	+0.5
baz=171							
DELO	Deloro Mine	1.53	216	Pb	Pn	13 54 21.8	+1.0
baz=36							
DELO	Deloro Mine	1.53	216	PN	Pn	13 54 21.9	+1.0
DELO				SN	Sb	13 54 41.5	+0.2
DELO				Trac		13 54 45.5	
comp=Z,317nm,0.1s							
KGNO	Kingston	1.53	184	ePn	Pn	13 54 21.7	+0.8
KGNO				eSn	Sn	13 54 41.1	+0.7
KGNO	Kingston	1.53	184	PN	Pn	13 54 21.7	+0.8
KGNO				SN	Sn	13 54 41.1	+0.7
KGNO				Trac		13 54 43.2	
comp=Z,427nm,0.1s							
D53A	Lac Vacive, Po	1.62	325	Pb	Pb	13 54 23.7	-0.2
baz=145							
D53A				S	Sb	13 54 44.4	+0.4
baz=145							
LONY	Lake Ozonia	1.69	132	ePn	Pb	13 54 24.3	-0.7
LONY				eSn	Sb	13 54 46.1	+0.2
LONY	Lake Ozonia	1.69	132	P	Pn	13 54 23.8	+0.6
baz=313							
LONY				S	Sb	13 54 46.0	0.0
baz=313							
E52A	Mattawa	1.69	289	P	Pn	13 54 24.4	+1.2
baz=108							
E52A				S	Sb	13 54 46

PECO				LG	Lg	13 54 53.1	
D52A	**ZEK Kipawa Sen**	**1.88**	**311**	P	**Pn**	**13 54 27.4**	**+1.6**
	baz=130						
MNTQ	**Montreal, Queb**	**1.93**	**97**	*e*Pn	**Pn**	**13 54 27.3**	**+0.9**
MNTQ				*e*Sn	**Sn**	**13 54 50.0**	**-0.3**
MNTQ	**Montreal, Queb**	**1.93**	**97**	PN	**Pn**	**13 54 27.3**	**+0.9**
MNTQ				SN	**Sn**	**13 54 50.0**	**-0.3**
MNTQ				LG	Lg	13 54 55.3	
MNTQ				Trac		13 54 56.2	
	comp=Z,550nm,0.2s						
EEO	**Eldee**	**2.09**	**296**	PN	**Pn**	**13 54 30.0**	**+1.3**
EEO				SN	**Sn**	**13 54 54.8**	**+0.5**
EEO				Trac		13 55 00.1	
	comp=Z,682nm,0.3s						
FRNY	**Flat Rock**	**2.16**	**114**	*e*Pn	**Pb**	**13 54 32.3**	**-0.6**
FRNY	**Flat Rock**	**2.16**	**114**	PN	**Pn**	**13 54 30.5**	**+1.0**
FRNY				SN	**Sn**	**13 54 56.3**	**+0.4**
FRNY				LG	Lg	13 55 02.5	
FRNY				Trac		13 55 02.9	
	comp=Z,364nm,0.1s						
BUKO	**Buck Lake**	**2.16**	**263**	PN	**Pn**	**13 54 30.3**	**+0.7**
BUKO				SN	**Sn**	**13 54 56.0**	**-0.1**
BUKO				LG	Lg	13 55 02.6	
BUKO				Trac		13 55 03.1	
	comp=Z,157nm,0.1s						
SADO	**Sadowa**	**2.20**	**244**	*e*Pn	**Pb**	**13 54 33.0**	**-0.7**
SADO				*e*Sn	**Sb**	**13 55 01.7**	**+1.0**
SADO	**Sadowa**	**2.20**	**244**	PN	**Pn**	**13 54 30.9**	**+0.7**
SADO				SN	**Sn**	**13 54 57.5**	**+0.5**
SADO				Trac		13 55 03.2	
	comp=Z,204nm,0.1s						
SADO				LG	Lg	13 55 03.7	
STUQ	**Sainte-Ursule**	**2.33**	**75**	PN	**Pn**	**13 54 33.0**	**+1.0**
STUQ				SN	**Sn**	**13 55 00.2**	**0.0**
STUQ				Trac		13 55 06.8	
	comp=Z,802nm,0.2s						
STUQ				LG	Lg	13 55 08.0	
WLVO	**Wesleyville**	**2.34**	**219**	Pb	**Pb**	**13 54 35.7**	**-0.4**
	baz=38						
WLVO				Sb	**Sb**	**13 55 06.4**	**+1.8**
	baz=38						
WLVO	**Wesleyville**	**2.34**	**219**	PN	**Pb**	**13 54 35.7**	**-0.4**
WLVO				Trac		13 55 07.3	
	comp=Z,568nm,0.2s						
NCB	**Newcomb**	**2.34**	**139**	PN	**Pn**	**13 54 32.9**	**+0.8**
NCB				SN	**Sn**	**13 55 00.0**	**-0.4**
NCB				LG	Lg	13 55 07.0	
VLDQ	**Val d'Or**	**2.48**	**343**	*e*Pn	**Pb**	**13 54 37.4**	**-1.0**
VLDQ				*e*Sn	**Sb**	**13 55 07.8**	**-0.9**
VLDQ	**Val d'Or**	**2.48**	**343**	PN	**Pb**	**13 54 36.7**	**-1.7**
VLDQ				SN	**Sb**	**13 55 07.8**	**-0.9**
VLDQ				LG	Lg	13 55 16.9	
VLDQ				Trac		13 55 22.8	
	comp=Z,242nm,0.3s						
D51A	**Lot 18 Range I**	**2.48**	**304**	P	**Pn**	**13 54 35.1**	**+1.1**
	baz=122						
DRWO	**Darlington Wes**	**2.53**	**223**	PN	**Pn**	**13 54 36.1**	**+1.5**
DRWO				SN	**Sn**	**13 55 05.1**	**0.0**
DRWO				LG	Lg	13 55 13.0	
DRWO				Trac		13 55 15.5	
	comp=Z,395nm,0.1s						
PKRO	**Pickering**	**2.63**	**228**	Pb	**Pb**	**13 54 40.7**	**-0.4**
	baz=47						
PKRO	**Pickering**	**2.63**	**228**	PN	**Pn**	**13 54 37.0**	**+0.9**
PKRO				SN	**Sn**	**13 55 08.0**	**+0.4**
PKRO				LG	Lg	13 55 22.9	
PKRO				Trac		13 55 27.1	
	comp=Z,1μm,0.3s						
DPQ	**Saint Jean**	**2.65**	**68**	PN	**Pn**	**13 54 37.2**	**+0.9**
DPQ				SN	**Sn**	**13 55 07.9**	**-0.1**
DPQ				Trac		13 55 17.5	
	comp=Z,202nm,0.1s						
J55A	**Hilton**	**2.70**	**203**	*e*Pn	**Pb**	**13 54 41.5**	**-0.7**
H52A	**Wyevale**	**2.74**	**247**	Pb	**Pb**	**13 54 41.5**	**-1.3**
	baz=65						
KLBO	**Killbear Provi**	**2.74**	**263**	*e*Pn	**Pn**	**13 54 38.1**	**+0.5**
KLBO	**Killbear Provi**	**2.74**	**263**	PN	**Pn**	**13 54 38.1**	**+0.5**
KLBO				SN	**Sn**	**13 55 10.5**	**+0.2**
KLBO				Trac		13 55 18.6	
	comp=Z,266nm,0.2s						
KLBO				LG	Lg	13 55 19.6	
BECQ	**Becancour**	**2.76**	**76**	PN	**Pn**	**13 54 39.1**	**+1.3**
BECQ				SN	**Sn**	**13 55 10.6**	**-0.1**
BECQ				Trac		13 55 20.1	
	comp=Z,54nm,0.1s						
MOQ	**Mont Orford**	**2.91**	**97**	*e*Pn	**Pb**	**13 54 44.2**	**-1.7**
J54A	**Appleton**	**2.97**	**214**	*e*Pn	**Pb**	**13 54 46.2**	**-0.6**
MEDO	**Medina**	**2.99**	**211**	*e*Pn	**Pn**	**13 54 42.0**	**+1.0**
MEDO	**Medina**	**2.99**	**211**	PN	**Pn**	**13 54 42.0**	**+1.0**
MEDO				Trac		13 55 28.3	
	comp=Z,240nm,0.2s						
TORO	**Toronto--Lesli**	**3.02**	**226**	SN	**Sn**	**13 55 17.0**	**-0.2**
TORO				SN	**Sb**	**13 55 17.4**	**-6.8**
TORO				LG	Lg	13 55 28.4	
TORO				Trac		13 55 33.1	
	comp=Z,2μm,0.2s						
ACCN	**Adirondack Com**	**3.05**	**140**	*e*Pn	**Pn**	**13 54 43.8**	**+2.0**
MMNY	**Mt. Morris Dam**	**3.22**	**201**	*e*Pn	**Pn**	**13 54 47.6**	**+3.4**
STCO	**Saint Catharin**	**3.25**	**219**	PN	**Pn**	**13 54 46.2**	**+1.7**
STCO				SN	**Sn**	**13 55 21.8**	**-0.9**
STCO				LG	Lg	13 55 36.5	
STCO				Trac		13 55 39.1	
	comp=Z,525nm,0.3s						
LSQQ	**Lebel-sur-Quev**	**3.33**	**353**	PN	**Pn**	**13 54 46.3**	**+0.6**
LSQQ				SN	**Sn**	**13 55 24.7**	**-0.3**
LSQQ				Trac		13 55 40.3	
	comp=Z,11nm,0.0s						
EFO	**Effingham**	**3.40**	**220**	PN	**Pn**	**13 54 47.2**	**+0.5**
EFO				SN	**Sn**	**13 55 26.2**	**-0.3**
EFO				Trac		13 55 50.4	
	comp=Z,164nm,0.2s						
LBNH	**Lisbon**	**3.48**	**114**	*e*Pn	**Pn**	**13 54 49.9**	**+2.1**
LBNH	**Lisbon**	**3.48**	**114**	SN	**Sn**	**13 55 27.3**	**-1.4**
LBNH				LG	Lg	13 55 45.0	
BINY	**Binghamton**	**3.56**	**176**	*e*Pn	**Pn**	**13 54 50.8**	**+1.9**
TRY	**Troy**	**3.58**	**146**	*e*Pn	**Pn**	**13 54 50.5**	**+1.3**
D49A	**Beulah Townshi**	**3.77**	**296**	P	**Pn**	**13 54 52.2**	**+0.3**
	baz=112						
E48A	**Lockeyer**	**4.11**	**282**	P	**Pn**	**13 54 57.6**	**+1.2**
	baz=98						
KSCT	**Kent School, K**	**4.53**	**152**	*e*Pn	**Pn**	**13 55 03.5**	**+1.3**
ODNJ	**Ogdensburg**	**4.84**	**164**	*e*Pn	**Pn**	**13 55 07.4**	**+1.0**
ALLY	**Alegheny Colle**	**4.94**	**215**	PN	**Pn**	**13 55 09.2**	**+1.3**

NEIC ***17*** *14:11:21.8±0.6,21°.83S×67°.98W,h107km±7km,mb4.2/6, Error ellipse: s-maj=11.5km s-min=7.3km az=90.0*
SJA ***17*** *14:11:22.6±1.0,21°.71S×68°.35W,h136km±7km,ML3.6, MW3.7*
IDC ***17*** *14:11:22.8±0.7,21°.67S×68°.10W,h113km±7km,mb3.8/6, mb1 3.9/10,mb1mx3.7/24,mbtmp4.2/10,Error ellipse: s-maj=19.9km s-min=10.0km az=111.0*
ISCJB ***17*** *14:11:23.0±0.4,21°.74S±0°.03×68°.34W±0°.06,h134km±4km, mb4.0/9,Error ellipse: s-maj=9.3km s-min=4.2km az=0.3*
GUC ***17*** *14:11:24.5±0.5,21°.73S×68°.39W,h130km±4km,ML4.0*
ISC 17 14:11:23.6±0.7,**21°.72S**±0°.03×**68°.28W**±0°.06,**h129**km±6km, **n61**,σ1§**33**/91,**mb4.2**/9,**10C-7D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.90**	**265**	*e*P	**Pn**	**14 11 45.7**	**+0.1**
PB09				*e*S	**Sn**	**14 12 02.3**	**+0.1**
PB09	**IPOC Station P**	**0.90**	**265**	⇑*e*P	**Pn**	**14 11 45.3**	**-0.3**
PB09				*e*S	**Sn**	**14 12 01.6**	**-0.7**
LVC	**Limon Verde**	**1.06**	**213**	⇓*e*P	**Pn**	**14 11 47.8**	**+0.4**
LVC				IAML		14 11 47.9	
	comp=Z,2μm,0.1s						
LVC				*e*S	**Sn**	**14 12 05.3**	**-0.1**
LVC	**Limon Verde**	**1.06**	**213**	P	**Pn**	**14 11 47.1**	**-0.3**
	comp=Z,478nm,0.3s,baz=34,slow=7.6,SNR=316						
LVC				S	**Sn**	**14 12 04.8**	**-0.6**
	comp=Z,141nm,0.3s,baz=250,slow=17,SNR=17						
PB01	**IPOC Station P**	**1.31**	**301**	*e*Pn	**Pn**	**14 11 49.2**	**-0.4**
PB01				*e*Sn	**Sn**	**14 12 09.2**	**-0.2**
PB01	**IPOC Station P**	**1.31**	**301**	⇑*e*P	**Pn**	**14 11 49.4**	**-0.2**
PB01				*e*S	**Sn**	**14 12 08.4**	**-0.9**
PB01				IAML		14 12 11.0	
	comp=E,3μm,0.3s						
PB03	**IPOC Station P**	**1.41**	**256**	*e*P	**Pn**	**14 11 50.2**	**-0.5**
PB03				*e*S	**Sn**	**14 12 10.3**	**-1.1**
PB03	**IPOC Station P**	**1.41**	**256**	⇑*e*P	**Pn**	**14 11 50.1**	**-0.6**
PB03				*e*S	**Sn**	**14 12 09.9**	**-1.4**
PB03				IAML		14 12 12.4	
	comp=E,2μm,0.5s						
PB07	**IPOC Station P**	**1.49**	**269**	*e*P	**Pn**	**14 11 51.7**	**+0.1**
PB07				*e*S	**Sn**	**14 12 12.4**	**-0.6**
PB07	**IPOC Station P**	**1.49**	**269**	*e*P	**Pn**	**14 11 51.1**	**-0.5**
PB07				*e*S	**Sn**	**14 12 11.7**	**-1.4**
PB07				IAML		14 12 13.2	
	comp=N,3μm,0.2s						
PB06	**IPOC Station P**	**1.55**	**230**	*e*P	**Pn**	**14 11 51.9**	**-0.4**
PB06				*e*S	**Sn**	**14 12 14.2**	**0.0**
PB06	**IPOC Station P**	**1.55**	**230**	⇑*e*P	**Pn**	**14 11 51.9**	**-0.4**
PB06				⇑*e*P	**Pn**	**14 11 51.9**	**-0.4**
PB06				*e*S	**Sn**	**14 12 13.8**	**-0.4**
PB06				IAML		14 12 17.2	
	comp=N,1μm,0.3s						
PB02	**IPOC Station P**	**1.55**	**284**	*e*P	**Pn**	**14 11 51.7**	**-0.6**
PB02				*e*S	**Sn**	**14 12 13.7**	**-0.4**
PB08	**IPOC Station P**	**1.77**	**332**	⇓*e*P	**Pn**	**14 11 56.2**	**+1.1**
PB08				*e*S	**Sn**	**14 12 20.7**	**+1.6**
PB08	**IPOC Station P**	**1.77**	**332**	⇑*e*	**Pn**	**14 11 56.0**	**+0.9**
PB08				⇑*e*P	**Pn**	**14 11 56.0**	**+0.9**
PB08				⇑*i*Pg	**Pn**	**14 11 56.0**	**+0.9**
PB08				*e*S	**Sn**	**14 12 20.0**	**+0.9**
PB08				IAML		14 12 23.2	
	comp=N,1μm,0.8s						
PB04	**IPOC Station P**	**1.84**	**250**	⇓*e*P	**Pn**	**14 11 55.2**	**-0.5**
PB04				*e*S	**Sn**	**14 12 19.4**	**-0.8**
PB15	**IPOC Station P**	**1.85**	**216**	*e*P	**Pn**	**14 11 56.0**	**+0.1**
PB15				*e*S	**Sn**	**14 12 20.4**	**-0.1**
PB05	**IPOC Station P**	**2.11**	**237**	*e*P	**Pn**	**14 11 58.0**	**-0.9**
PB05				*e*S	**Sn**	**14 12 25.7**	**-0.3**
PB05	**IPOC Station P**	**2.11**	**237**	⇑*e*P	**Pn**	**14 11 58.6**	**-0.3**
GO01	**Chusmiza**	**2.21**	**337**	*e*Pn	**Pn**	**14 12 01.4**	**+0.8**
GO01				*e*Sn	**Sn**	**14 12 29.4**	**+0.5**
PB11	**IPOC Station P**	**2.33**	**326**	*e*Pn	**Pn**	**14 12 02.2**	**+0.4**
PB11				*e*Sn	**Sn**	**14 12 30.5**	**-0.6**
PB11	**IPOC Station P**	**2.33**	**326**	*e*P	**Pn**	**14 12 01.9**	**+0.1**
PB11				*e*S	**Sn**	**14 12 30.1**	**-1.0**
PB11	**IPOC Station P**	**2.33**	**326**	⇑*e*P	**Pn**	**14 12 01.9**	**+0.1**
PB11				*e*S	**Sn**	**14 12 31.1**	**0.0**
PB11				IAML		14 12 33.0	
	comp=E,2μm,0.1s						
PSGCX	**Pisagua**	**2.72**	**320**	⇓*e*P	**Pn**	**14 12 05.4**	**-1.3**
PB10	**IPOC Station P**	**2.76**	**229**	*e*Pn	**Pn**	**14 12 06.4**	**-0.7**
PB10				*e*Sn	**Sn**	**14 12 37.5**	**-2.9**
PB10	**IPOC Station P**	**2.76**	**229**	*e*P	**Pn**	**14 12 07.0**	**-0.1**
MNMC	**Minye Minye**	**2.85**	**334**	*e*Pn	**Pn**	**14 12 09.9**	**+1.4**
MNMC				*e*Sn	**Sn**	**14 12 42.5**	**-0.6**
MNMCX	**Minye Minye**	**2.85**	**334**	⇓*e*P	**Pn**	**14 12 09.0**	**+0.4**
PB14	**IPOC Station P**	**3.49**	**214**	*e*P	**Pn**	**14 12 16.1**	**-0.8**
GO02	**Mina Guanaco**	**3.63**	**199**	*e*Pn	**Pn**	**14 12 17.8**	**-1.0**
PB12	**IPOC Station P**	**3.64**	**328**	⇓*e*P	**Pn**	**14 12 17.6**	**-1.0**
AZAP	**Zapla**	**3.87**	**131**	⇓*e*P	**Pn**	**14 12 22.8**	**+0.9**
LPAZ	**La Paz**	**5.40**	**2**	*e*Pn	**Pn**	**14 12 43.5**	**+0.8**
LPAZ				*e*Sn	**Sn**	**14 13 45.3**	**+1.1**
LPAZ	**La Paz**	**5.40**	**2**	P	**Pn**	**14 12 43.0**	**+0.3**
	comp=E,1.6nm,0.3s,baz=177,slow=8.8,SNR=15						
LPAZ				S	**Sn**	**14 13 42.7**	**-1.5**
	comp=E,0.7nm,0.3s,baz=184,slow=11,SNR=4.1						
AHML	**Horco Molle**	**5.72**	**153**	*e*P	**Pn**	**14 12 47.0**	**+0.7**
AHML				IAML		14 12 48.3	
	comp=Z,10nm,0.6s						
GO03	**Copiap**	**6.11**	**196**	*e*Pn	**Pn**	**14 12 48.5**	**-3.2**
SIV	**San Ignacio**	**8.89**	**51**	P	**Pn**	**14 13 25.9**	**-3.2**
	comp=Z,19nm,0.3s,baz=243,slow=11,SNR=286						
SIV				S	**Sn**	**14 15 02.3**	**-5.3**
	comp=Z,0.7nm,0.3s,baz=273,slow=15,SNR=3.7						
CPUP	**Villa Florida**	**11.01**	**117**	*e*Pn	Pn	14 13 50.2	-7.3
CPUP	**Villa Florida**	**11.01**	**117**	P	**Pn**	**14 13 56.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=305,slow=15,SNR=3.7						
TRQA	**Tornquist**	**17.17**	**163**	*e*P	**P**	**14 15 13.7**	**-1.5**
	comp=Z,6.8nm,0.6s						
PLCA	**Paso Flores**	**19.05**	**185**	*e*P	**P**	**14 15 33.3**	**-2.6**
	comp=Z,5.0nm,1.0s						
PLCA	**Paso Flores**	**19.05**	**185**	P	**Pn**	**14 15 37.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=14,slow=12,SNR=5.4						
PTGA	**Pitinga**	**22.38**	**22**	*e*P	**P**	**14 16 09.6**	**-1.8**
	comp=Z,5.0nm,0.4s						
PTGA	**Pitinga**	**22.38**	**22**	P	**P**	**14 16 09.6**	**-1.8**
	comp=Z,3.8nm,0.3s,baz=201,slow=16,SNR=13						
LTX	**Lajitas**	**61.14**	**325**	*e*P	**P**	**14 21 25.4**	**+0.7**
TXAR	**Lajitas Array**	**61.14**	**325**	P	**P**	**14 21 25.4**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=133,slow=8.7,SNR=3.8						
SNAA	**Sanae**	**61.88**	**161**	*e*P	**P**	**14 21 30.1**	**+1.1**
	comp=Z,3.8nm,0.8s						
QSPA	**South Pole Qui**	**68.48**	**180**	*e*P	**P**	**14 22 13.1**	**+1.4**
	comp=Z,2.2nm,0.6s						
LHV	**Little Huntoon**	**76.02**	**321**	*e*P	**P**	**14 22 58.9**	**+2.2**
LHV				*e*PcP	**PcP**	**14 23 03.0**	**-5.4**
TOA0	**Torodi Ar. Sit**	**76.88**	**70**	*e*P	**P**	**14 23 02.4**	**+0.3**
	comp=Z,5.5nm,0.9s						
TOA1	**Torodi Ar. Sit**	**76.88**	**70**	*e*P	**P**	**14 23 01.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.88**	**70**	P	**P**	**14 23 01.7**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=259,slow=5.0,SNR=20						
BOSA	**Boshof**	**82.83**	**118**	P	**P**	**14 23 35.2**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=265,slow=5.5,SNR=3.6						
MAW	**Mawson**	**83.95**	**163**	P	**P**	**14 23 39.5**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=191,slow=5.2,SNR=4.2						
YKA	**Yellowknife Ar**	**91.59**	**340**	P	**P**	**14 24 16.3**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=133,slow=4.4,SNR=33						
YKB5	**Yellowknife Ar**	**91.59**	**340**	*e*P	**P**	**14 24 16.3**	**+1.0**
ASAR	**Alice Springs**	**129.99**	**207**	PKP	**PKPdf**	**14 30 19.8**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=130,slow=1.7,SNR=14						
WR1	**Warramunga Arr**	**133.06**	**210**	*e*PKPdf	**PKPdf**	**14 30 25.6**	**+0.8**
WRA	**Warramunga Arr**	**133.06**	**210**	PKP	**PKPdf**	**14 30 25.6**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=143,slow=1.5,SNR=9.8						
MK32	**Makanchi Array**	**145.46**	**37**	*e*PKPdf	**PKPab**	**14 30 47.8**	**+0.7**
MKAR	**Makanchi Array**	**145.46**	**37**	PKPbc	**PKPab**	**14 30 47.8**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=345,slow=2.7,SNR=6.4						
MKAR				pPKPbc	pPKPab	14 31 21.2	-0.9
	comp=Z,2.0nm,0.9s,baz=318,slow=1.9,SNR=4.0						

DDA ***17*** *14:19:46.7,38°.98N×25°.99E,h7km±3km,ML2.6*
ISCJB ***17*** *14:19:47.4±0.6,38°.99N±0°.02×26°.04E±0°.05,h5km±5km, Error ellipse: s-maj=6.1km s-min=3.6km az=164.5*
ATH ***17*** *14:19:47.4,38°.97N×26°.04E,h16km±6km,ML1.9/3,Error ellipse: s-maj=7.0km s-min=1.1km az=41.0*
ISK ***17*** *14:19:47.1,39°.03N×26°.15E,h10km,ML2.3/7*
ISC 17 14:19:47.4±1.0,**38°.99N**±0°.02×**26°.05E**±0°.04,**h15**km±8km, **n18**,σ0§**85**/32,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.27**	**326**	PG	**Pg**	**14 19 53.0**	**-0.2**
SIGR				SG	**Sb**	**14 19 57.9**	**-0.6**
SIGR	**SIGRI**	**0.27**	**326**	P	**Pg**	**14 19 53.2**	**0.0**
SIGR				S	**Sb**	**14 19 58.0**	**-0.6**
SIGR				AML	AML	14 19 58.3	
	comp=N,1134μm,0.3s						
SIGR				AML	AML	14 19 58.5	
	comp=E,559μm,0.3s						
PRK	**Paraskevi**	**0.31**	**33**	P	**Pb**	**14 19 54.4**	**-0.3**
PRK				S	**Sg**	**14 19 59.2**	**+0.9**
PRK				AML	AML	14 19 59.8	
	comp=N,674μm,0.5s						
PRK				AML	AML	14 20 02.1	
	comp=E,453μm,0.3s						
AYVA	**Ayvalik**	**0.59**	**57**	IAML_P			
	comp=Z,430nm,0.2s						
AYVA				*i* P	**Pg**	**14 19 58.0**	**-1.0**
AYVA				*i* S	**Sg**	**14 20 06.6**	**-0.3**
CHOS	**Chios island**	**0.60**	**180**	PG	**Pb**	**14 20 00.1**	**+0.4**
CHOS				SG	**Sn**	**14 20 10.3**	**-0.7**
CHOS	**Chios island**	**0.60**	**180**	P	**Pg**	**14 19 58.7**	**-0.5**
CHOS				S	**Sb**	**14 20 07.4**	**-0.6**
CHOS				AML	AML	14 20 11.6	
	comp=N,192μm,0.4s						
CHOS				AML	AML	14 20 13.5	
	comp=E,270μm,0.3s						
URLA	**Izmir**	**0.76**	**146**	PG	**Pg**	**14 20 01.4**	**-0.7**
URLA				SG	**Sb**	**14 20 13.0**	**+0.5**
URLA	**Izmir**	**0.76**	**146**	*i* P	**Pg**	**14 20 00.2**	**-2.0**
URLA				*i* S	**Sb**	**14 20 13.8**	**+1.3**
ZEDA	**zmir-Bergama**	**0.80**	**91**	IAML_P			
	comp=Z,964nm,0.2s						
ZEDA				*i* P	**Pb**	**14 20 03.9**	**+0.9**
ZEDA				*i* S	**Sb**	**14 20 15.1**	**+1.4**
ZEY	**zmir**	**0.83**	**154**	IAML_P			
	comp=Z,420nm,0.1s						
ZEY				*i* P	**Pb**	**14 20 03.7**	**+0.3**
ZEY				*i* S	**Sb**	**14 20 15.8**	**+1.4**
BAYC	**CANAKKALE_Bayr**	**0.85**	**27**	IAML_P			
	comp=Z,986nm,0.2s						
BAYC				*i* P	**Pb**	**14 20 04.1**	**+0.2**
BAYC				*i* S	**Sn**	**14 20 17.6**	**+0.6**
BOZC	**Bozcaada**	**0.85**	**0**	PG	**Pg**	**14 20 03.2**	**-0.8**
BOZC				SG	**Sb**	**14 20 15.5**	**+0.2**
BOZC	**Bozcaada**	**0.85**	**0**	IAML_P			
	comp=Z,753nm,0.2s						
BOZC				*i* P	**Pg**	**14 20 03.1**	**-0.9**
BOZC				*i* S	**Sb**	**14 20 16.3**	**+1.0**
EZN	**Ezine**	**0.86**	**14**	PG	**Pg**	**14 20 03.2**	**-1.0**
LIA	**Limnos Island**	**1.13**	**324**	P	**Pn**	**14 20 09.3**	**+0.5**
LIA				S	**Sb**	**14 20 24.0**	**+0.8**
SMG	**Samos**	**1.42**	**154**	P	**Pb**	**14 20 13.7**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.45**	**13**	PN	**Pn**	**14 20 13.0**	**-0.1**
LPK	**Lapseki**	**1.49**	**21**	PN	**Pn**	**14 20 13.2**	**-0.5**

DDA ***17*** *14:23:53.2,37°.01N×37°.09E,h7km±1km,ML2.5*
ISK ***17*** *14:23:53.5,37°.19N×37°.13E,h10km,ML2.0/5*
ISCJB ***17*** *14:23:54.3±0.5,37°.18N±0°.03×37°.13E±0°.03,h9km±4km, Error ellipse: s-maj=6.0km s-min=4.2km az=17.9*
ISC 17 14:23:53.6±1.1,**37°.10N**±0°.03×**37°.13E**±0°.03,**h5**km±9km, **n12**,σ1§**21**/23,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.10**	**42**	PG	**Pg**	**14 23 55.6**	**-0.2**
GAZ				SG	**Sg**	**14 23 58.1**	**+0.9**
HCB	**Kahramanmara**	**0.30**	**324**	*e*P	**Pg**	**14 24 00.1**	**+0.5**
HCB				*i* S	**Sg**	**14 24 03.5**	**0.0**
KUZU	**Kuzuini**	**0.33**	**188**	*i* P	**Pg**	**14 23 58.1**	**-1.9**
KUZU				*i* S	**Sb**	**14 24 08.7**	**+1.1**
KAMA	**Osmaniye**	**0.38**	**283**	IAML_P			
	comp=Z,979nm,0.1s						
KAMA				*i* P	**Pg**	**14 24 01.9**	**+0.9**
KAMA				*i* S	**Sg**	**14 24 07.2**	**+1.2**
KMRS	**Kahramanmaras**	**0.45**	**336**	PG	**Pg**	**14 24 01.3**	**-0.9**
KMRS				SG	**Sg**	**14 24 06.8**	**-1.3**
ANDN	**Andirin**	**0.79**	**308**	*i* P	**Pn**	**14 24 11.8**	**+0.3**
ANDN				*i* S	**Sn**	**14 24 22.8**	**-1.0**
TAHT	**Tahtakopru-Hat**	**1.05**	**227**	PN	**Pg**	**14 24 15.2**	**+1.5**
TAHT				SN	**Sn**	**14 24 31.1**	**+1.1**
KOZT	**Kozan**	**1.11**	**291**	PG	**Pb**	**14 24 14.2**	**-1.1**
KOZT				SG	**Sb**	**14 24 29.9**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.21**	**100**	*i* P	**Pn**	**14 24 17.1**	**-0.1**
SURC				*i* S	**Sn**	**14 24 34.3**	**+0.3**
AKCD	**Akcadag**	**1.35**	**28**	IAML_P			
	comp=Z,632nm,0.3s						
AKCD				*i* P	**Pg**	**14 24 21.3**	**+1.7**
AKCD				*i* S	**Sg**	**14 24 39.4**	**+2.3**
URFA	**Urfa**	**1.39**	**75**	PN	**Pn**	**14 24 19.2**	**-0.6**
URFA				SN	**Sb**	**14 24 38.3**	**0.0**
DARE	**Darende-Malaty**	**1.50**	**11**	PN	**Pn**	**14 24 19.7**	**-1.6**

ISCJB ***17*** *14:37:40.9±0.2,29°.15N±0°.03×100°.06E±0°.03,h10km, mb4.6/107,MS3.7/15,Error ellipse: s-maj=4.2km s-min=3.3km az=1.8*
MOS ***17*** *14:37:43.3±0.9,29°.22N×100°.13E,h26km,mb4.9/56,Error ellipse: s-maj=7.8km s-min=4.2km az=126.1*
BJI ***17*** *14:37:43.8±0.0,29°.21N×100°.08E,h16km,mb4.5/17, mB4.5/13,ML4.4/12,Ms4.3/34,Ms7 4.1/28*
NEIC ***17*** *14:37:45.3±1.3,29°.21N×100°.07E,h24km±5km,mb4.7/27, Error ellipse: s-maj=16.3km s-min=13.1km az=219.0*
IDC ***17*** *14:37:46.4±4.3,29°.24N×100°.11E,h33km±34km,mb4.2/25, mb1 4.2/27,mb1mx4.1/55,mbtmp4.3/27,ML3.5/2,MS3.7/13, Ms1 3.7/13,ms1mx3.5/31,Error ellipse: s-maj=14.7km s-min=10.2km az=49.0*
ISC 17 14:37:42.9±0.4,**29°.19N**±0°.05×**100°.03E**±0°.04,**h10**km,**n254**, σ1§**44**/257,**mb4.7**/108,**MS3.7**/15,**31C-11D,Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**3.66**	**61**	Pn	**Pn**	**14 38 43.0**	**+3.4**
CD2				Pg	**Pb**	**14 38 48.6**	**+0.9**
CD2				Sg	**Sg**	**14 39 37.6**	**-2.8**
CD2				smax	smax		
	comp=N,1μm,1.2s						
CD2				smax	smax		
	comp=E,920nm,1.5s						
KMI	**Kunming**	**4.71**

WHN PP **PnPn** **14 40 52.5 +3.8**
WHN S **Sn** **14 43 01.1 +0.9**
WHN LR LR
comp=Z,1μm,5.7s
WHN LR LR
comp=Z,2μm,8.6s
WHN LR LR
comp=Z,3μm,10.8s
PKI Pulchoki 12.98 266 *e*P **Pn** **14 40 47.4 -0.4**
comp=Z,75nm,0.5s
PKIN Phulchoki 12.99 266 *e*P **Pn** **14 40 47.3 -0.5**
comp=Z,59nm,0.5s
KKN Kakani 13.05 267 *e*P **Pn** **14 40 48.4 -0.3**
comp=Z,46nm,0.7s
DMN Daman 13.24 267 *e*P **Pn** **14 40 50.9 -0.3**
comp=Z,93nm,1.1s
QIZ Qiongzhong 13.50 136 P **Pn** **14 40 54.0 -0.6**
QIZ S **Sn** **14 43 24.8 0.0**
QIZ LR LR
comp=Z,1μm,12.8s
QIZ LR LR
comp=Z,2μm,9.0s
BOK Bokaro 13.76 250 *e*P **Pn** **14 40 59.2 +1.1**
DANN Dangsing 14.30 271 *e*P **Pn** **14 41 03.8 -2.0**
comp=Z,56nm,0.7s
KOLN Koldanda 14.52 268 *e*P **Pn** **14 41 06.4 -2.4**
comp=Z,32nm,0.7s
PYUN Piuthan 15.01 270 *e*P **Pn** **14 41 12.3 -3.0**
comp=Z,63nm,1.0s
SRAK Srakaew 15.22 173 P P 14 41 33.9 +11
comp=Z,191μm,0.7s
WMQ Urumqi 17.62 329 *e*P **Pn** **14 41 46.8 -1.8**
WMQ pP P 14 41 51.8 +2.2
WMQ pmax pmax
comp=Z,42nm,0.9s
WMQ LR LR
comp=Z,1μm,14.9s
WMQ LR LR
comp=Z,2μm,12.3s
WMQ LR LR
comp=Z,770nm,17.7s
DDI Dehra Dun 19.12 279 *e*P **P** **14 42 05.3 -0.9**
SONA0 Songino Array 19.26 13 *e*P **P** **14 42 08.3 +0.7**
SONM Songino Array 19.26 13 *e*P **P** **14 42 05.8 -1.9**
SONM Songino Array 19.26 13 P **P** **14 42 08.3 +0.7**
comp=Z,0.2nm,0.3s,baz=188,slow=9.9,SNR=7.1
SONM LR LR 14 51 01.3
comp=Z,170nm,21.2s,baz=236,slow=41
ULN Ulaanbaatar 19.43 14 *e*P **P** **14 42 10.2 +0.7**
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 19.43 14⇑ *e*P **P** **14 42 08.0 -1.5**
ULN pmax pmax
comp=Z,2.0nm,0.9s
SMLA Simla 19.86 281 *e*P **P** **14 42 14.0 -0.2**
NGP Nagpur 20.59 252 *e*P **P** **14 42 22.3 +0.1**
DHRM DHARAMSHALA 20.62 284 *e*P **P** **14 42 22.9 +0.1**
BHPL Bhopal 21.12 259 *e*P **P** **14 42 28.6 +0.6**
PDGK Podgornoye 21.68 316 *i*P **P** **14 42 34.1 +0.1**
PDGK pmax pmax
comp=Z,37nm,1.1s
TARG Taragay, Kyrgy 21.94 311 *e*P **P** **14 42 36.9 -0.1**
comp=Z,26nm,1.0s
MK31 Makanchi Array 22.37 327 *e*P **P** **14 42 41.8 +0.6**
comp=Z,14nm,0.8s
MK31 Makanchi Array 22.37 327 *e*P **P** **14 42 41.8 +0.6**
MK31 pmax pmax
comp=Z,14nm,0.8s
MK32 Makanchi Array 22.37 327 *e*P **P** **14 42 41.7 +0.5**
MKAR Makanchi Array 22.37 327 *e*P **P** **14 42 41.5 +0.3**
MKAR Makanchi Array 22.37 327 P **P** **14 42 41.7 +0.5**
comp=Z,16nm,0.8s,baz=139,slow=13,SNR=78
MKAR LR LR 14 52 16.9
comp=Z,174nm,20.9s,baz=134,slow=39
MAKZ Makanchi 22.53 326 *e*P **P** **14 42 43.4 +0.4**
comp=Z,11nm,0.8s
MAKZ Makanchi 22.53 326 *e*P **P** **14 42 43.4 +0.4**
MAKZ pmax pmax
comp=Z,11nm,0.8s
KDJ Kajisay 22.54 311 *e*P **P** **14 42 44.7 +1.5**
comp=Z,17nm,1.0s
KDJ Kajisay 22.54 311 *e*P **P** **14 42 44.7 +1.5**
KDJ pmax pmax
comp=Z,17nm,1.0s
DGZ Jazzator, Alta 22.62 338 *c i*P **P** **14 42 45.3 +1.3**
DGZ pmax pmax
comp=Z,17nm,1.0s
TLY Talaya 22.63 6⇓ *e*P **P** **14 42 44.0 +0.1**
HYB Hyderabad 22.90 244 *i*P **P** **14 42 47.5 +0.4**
comp=Z,38nm,0.8s
HYB Hyderabad 22.90 244 *e*P **P** **14 42 47.2 +0.2**
NRN Naryn 23.02 308 *e*P **P** **14 42 49.9 +1.4**
comp=Z,27nm,1.0s
NRN Naryn 23.02 308 *e*P **P** **14 42 49.9 +1.4**
NRN pmax pmax
comp=Z,27nm,1.0s
NIL Nilore 23.26 288 *e*P **P** **14 42 49.9 -0.8**
comp=Z,130nm,0.9s
NIL Nilore 23.26 288 *e*P **P** **14 42 49.9 -0.8**
NIL pmax pmax
comp=Z,130nm,0.9s
BOOM Boomskoye usch 23.52 311 *e*P **P** **14 42 55.3 +2.0**
comp=Z,27nm,1.0s
BOOM Boomskoye usch 23.52 311 *e*P **P** **14 42 55.3 +2.0**
BOOM pmax pmax
comp=Z,27nm,1.0s
KZA Kyzart 23.80 309 P **P** **14 42 58.1 +1.8**
SNR=35
TKM2 Tokmak 2 23.94 311 *i*P **P** **14 42 59.2 +1.8**
TKM2 pmax pmax
comp=Z,15nm,1.2s
KBK Karagaybulak 24.25 310 P **P** **14 43 02.9 +2.6**
SNR=15
UCH Uchtor 24.36 309 P **P** **14 43 03.5 +1.9**
SNR=9.1
TGY Tagaytay City 24.49 123 LR LR 14 52 20.3
comp=Z,133nm,19.5s,baz=26,slow=36
CHMS Chumysh 24.53 311 P **P** **14 43 04.6 +1.9**
SNR=6.2
AAK Ala-Archa 24.54 310 P **P** **14 43 05.1 +2.1**
SNR=15
AAK Ala-Archa 24.54 310 *e*P **P** **14 43 03.9 +0.9**
comp=Z,30nm,1.1s
AAK Ala-Archa 24.54 310 *d i*P **P** **14 43 04.8 +1.8**
AAK pmax pmax
comp=Z,47nm,1.7s
AAK Ala-Archa 24.54 310 P **P** **14 43 04.4 +1.4**
comp=Z,8.8nm,0.6s,baz=113,slow=7.2,SNR=29
AAK LR LR 14 54 24.1
comp=Z,248nm,19.3s,baz=111,slow=41
KSRS Korea Array 24.65 63 P **P** **14 43 03.5 -0.3**
comp=Z,5.1nm,0.8s,baz=257,slow=10,SNR=13
KSRS LR LR 14 52 25.9
comp=Z,209nm,20.3s,baz=258,slow=36
USP Ospenovka 24.81 311 P **P** **14 43 06.9 +1.7**
SNR=16
AML Almayashu 24.88 308 P P 14 42 58.3 -8.0
SNR=75
CN2 Changchun 24.97 47 *e*P **P** **14 43 04.8 -1.8**
CN2 *e*S **S** **14 47 25.4 -4.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,200nm,10.0s
EKS2 Erkin-Say 25.04 310 P **P** **14 43 09.6 +2.2**
SNR=31
POO Poona 26.14 252 *e*P **P** **14 43 16.4 -1.0**
POO IAmb IAmb 14 43 19.2
comp=Z,19nm,0.6s
GAR Garm 26.38 300 *e*P **P** **14 43 20.5 +0.9**
comp=Z,34nm,0.9s
GAR Garm 26.38 300 *e*P **P** **14 43 20.5 +0.9**
GAR pmax pmax
comp=Z,34nm,0.9s
JNU Nakatsue 26.64 74 LR LR 14 53 45.4
comp=Z,255nm,18.8s,baz=270,slow=36
KBL Kabul 26.80 289 *e*P **P** **14 43 24.2 +0.7**
comp=Z,93nm,0.9s
KBL Kabul 26.80 289 P **P** **14 43 24.3 +0.8**
KBL pmax pmax
comp=Z,103nm,1.0s

KURBB Kurchatov Arra 26.85 329 P **P** **14 43 24.0 +0.5**
comp=Z,13nm,0.8s,baz=140,slow=9.3,SNR=69
KURK Kurchatov 26.87 329 *e*P **P** **14 43 24.0 +0.4**
comp=Z,26nm,0.9s
KURK Kurchatov 26.87 329 *d i*P **P** **14 43 24.1 +0.4**
KURK pmax pmax
comp=Z,40nm,1.3s
ZALV Zalesovo Beam 27.11 340 *e*P **P** **14 43 25.7 -0.2**
ZALV Zalesovo Beam 27.11 340 P **P** **14 43 25.8 0.0**
comp=Z,5.6nm,0.8s,baz=141,slow=7.6,SNR=12
ZALV LR LR 14 53 08.5
comp=Z,58nm,20.3s,baz=248,slow=34
KK31 Karatay Array 27.43 308 *i*P **P** **14 43 29.8 +1.0**
KK31 pmax pmax
comp=Z,13nm,1.1s
KKAR Karatay Array 27.43 308 *e*P **P** **14 43 30.0 +1.2**
KKAR Karatay Array 27.43 308 *e*P **P** **14 43 30.0 +1.2**
GOA Goa 27.73 246 *e*P **P** **14 43 30.9 -0.8**
PALK Pallekele 28.41 224 LR LR 14 56 04.7
comp=Z,135nm,21.8s,baz=178,slow=38
OTUK Ortayu 28.55 319 *i*P **P** **14 43 39.5 +0.7**
OTUK pmax pmax
comp=Z,12nm,1.2s
USRK Ussuriysk Ar. 29.46 51 LR LR 14 55 59.7
comp=Z,133nm,18.5s,baz=241,slow=37
KLR Kul'dur 31.35 41⇓ *e*P **P** **14 44 02.6 -1.0**
KLR pmax pmax
comp=Z,2.0nm,1.2s
BRVK Borovoye 32.32 326 *e*P **P** **14 44 11.9 -0.2**
comp=Z,8.3nm,0.8s
BRVK Borovoye 32.32 326 *d i*P **P** **14 44 12.7 +0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 32.73 67 *e*P **P** **14 44 15.9 0.0**
MJAR Matsushiro Arr 32.73 67 *e*P **P** **14 44 15.9 0.0**
MJAR Matsushiro Arr 32.73 67 LR LR 14 56 33.5
comp=Z,122nm,22.0s,baz=285,slow=34
JHJ Hachijo jima 2 34.10 73 LR LR 14 58 17.7
comp=Z,123nm,18.4s,baz=277,slow=36
GEYT Alibeck 35.76 295 P **P** **14 44 42.8 +0.7**
comp=Z,122nm,0.4s,baz=101,slow=7.6,SNR=22
ABKAR Akbulak array 36.41 315 *e*P **P** **14 44 48.1 +0.6**
comp=Z,6.2nm,1.1s
ABKAR *e*P **P** **14 44 48.5 +1.0**
ASAJ Asahikawa 36.83 54 P **P** **14 44 51.1 0.0**
comp=Z,5.6nm,0.8s,baz=280,slow=6.1,SNR=4.3
AKTO Aktyubinsk 37.96 316 P **P** **14 45 01.1 +0.4**
baz=97,slow=12
SVE Sverdlovsk 39.03 326 *e*P **P** **14 45 10.9 +1.3**
SVE pmax pmax
comp=Z,21nm,0.9s
ARU Arti 39.88 325 *e*P **P** **14 45 16.9 +0.3**
comp=Z,19nm,0.8s
ARU Arti 39.88 325 *d i*P **P** **14 45 17.3 +0.7**
ARU S **S** **14 51 24.5 +3.3**
ARU SS **SS** **14 54 14.9 -2.5**
ARU pmax pmax
comp=Z,22nm,0.9s
NRIK Noril'sk 40.84 353 P **P** **14 45 23.8 -0.6**
comp=Z,1.4nm,0.5s,baz=162,slow=10.0,SNR=6.3
MAK Makhachkala 43.95 303 *e*P **P** **14 45 49.0 -1.1**
MAK *e*S **S** **14 52 22.4 +0.7**
MAK MLR MLR
comp=Z,150nm,16.0s
TIXI Tiksi 45.35 12⇑ *e*P **P** **14 46 00.2 -0.6**
TIXI pmax pmax
comp=Z,3.0nm,1.3s
GNI Garni 46.11 299⇓ *e*P **P** **14 46 10.4 +2.8**
GNI pmax pmax
comp=Z,61nm,1.3s
ZEI Tsey 46.60 303 *e*P **P** **14 46 09.5 -1.9**
ZEI pmax pmax
comp=Z,3.0nm,0.4s
KBZ Khabaz 47.30 304 P **P** **14 46 17.3 +0.7**
comp=Z,0.6nm,0.3s,baz=63,slow=15,SNR=3.5
KVAR Kislovodsk Arr 47.44 304 P **P** **14 46 18.3 +0.5**
comp=Z,3.2nm,0.6s,baz=48,slow=21,SNR=6.9
KIV Kislovodsk 47.44 304 *e*P **P** **14 46 19.4 +1.5**
KIV pmax pmax
comp=Z,40nm,1.0s
NEY Neytrino 47.45 303⇓ *i*P **P** **14 46 20.2 +2.2**
NEY pmax pmax
comp=Z,2.0nm,0.9s
SEY Seymchan 47.48 29⇑ *e*P **P** **14 46 17.7 -0.1**
PEA1 Petropavlovsk- 48.01 43 *e*P **P** **14 46 21.6 -0.3**
PETK Petropavlovsk- 48.01 43 *e*P **P** **14 46 22.9 +0.9**
PETK Petropavlovsk- 48.01 43 P **P** **14 46 21.6 -0.3**
comp=Z,2.6nm,0.8s,baz=253,slow=4.5,SNR=5.4
PETK LR LR 15 08 01.5
comp=Z,71nm,19.0s,baz=278,slow=38
VRH Novokhopyorsk 48.23 314 *e*P **P** **14 46 23.3 -0.4**
VRH pmax pmax
comp=Z,30nm,1.3s
PET Petropavlovsk 48.57 43⇑ *e*P **P** **14 46 27.1 +0.8**
VORD Divnogorie 49.75 314 *e*P **P** **14 46 33.6 -1.8**
VORD pmax pmax
comp=Z,4.0nm,0.5s
VSR Storozhevoye 49.84 314⇑ *i*P **P** **14 46 34.6 -1.4**
LPSR Galich'ya Gora 50.05 316 *e*P **P** **14 46 37.5 -0.1**
LPSR pmax pmax
comp=Z,20nm,0.7s
KLMR Klimovskoe 50.67 327 *e*P **P** **14 46 41.8 -0.4**
KLMR pmax pmax
comp=Z,38nm,0.9s
MOS Moscow 51.01 320 *e*P **P** **14 46 43.2 -1.6**
MOS pmax pmax
comp=Z,48nm,0.8s
ANN Anapa 51.16 306 *e*P **P** **14 46 42.5 -3.6**
ANN *e**PP **pP** **14 46 48.2 -2.2**
ANN *e*S **S** **14 53 59.0 -5.1**
ANN pmax pmax
comp=Z,33nm,1.0s
OBN Obninsk 51.57 319⇑ *e*P **P** **14 46 49.7 +0.7**
OBN *e* 14 48 01.4
OBN *i* 14 48 46.7
OBN *e*S **S** **14 54 13.4 +3.9**
OBN pmax pmax
comp=Z,21nm,1.7s
OBN MLR MLR
comp=Z,78nm,15.0s
TMCR Tamitsa 51.98 331 *e*P **P** **14 46 52.0 +0.1**
TMCR pmax pmax
comp=Z,22nm,1.0s
FITZ Fitzroy Crossi 53.12 149 P **P** **14 47 01.2 +0.4**
comp=Z,1.7nm,0.9s,baz=313,slow=12,SNR=4.1
ASF Jabal al Asfar 53.69 290 P **P** **14 47 05.8 +0.6**
comp=Z,4.4nm,0.9s,baz=63,slow=4.5,SNR=7.2
BILL Bilibino 54.40 25⇓ *e*P **P** **14 47 09.2 -0.6**
BILL *e* 14 48 15.6
BILL *e* 14 49 07.2
BILL *e*S S 14 55 02.7 +15
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL MLR MLR
comp=Z,73nm,15.0s
BR101 Keskin Array S 54.63 300 *e*P **P** **14 47 11.9 -0.1**
BRTR Keskin Array B 54.63 300 *i*P **P** **14 47 12.0 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 54.63 300 P **P** **14 47 11.9 -0.1**
comp=Z,1.1nm,0.8s,baz=101,slow=6.4,SNR=7.0
JOF Joensuu 54.79 329 P **P** **14 47 13.0 +0.4**
JOF pmax pmax
comp=Z,19nm,1.4s
ANTO Ankara 55.24 300 P **P** **14 47 17.0 +0.6**
ANTO pmax pmax
comp=Z,12nm,1.0s
EIL Elat 55.97 288 P **P** **14 47 21.7 0.0**
comp=Z,7.4nm,0.7s,baz=123,slow=1.9,SNR=7.6
MSF Maaselka 55.99 332 *e*P **P** **14 47 20.7 -0.6**
MSF pmax pmax
comp=Z,11nm,2.5s
AKASG Malin Array Be 56.14 314 *i*P **P** **14 47 22.2 -0.3**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 56.14 314 P **P** **14 47 22.3 -0.3**
comp=Z,5.4nm,0.9s,baz=75,slow=6.6,SNR=13
KIEV Kiev 56.15 314⇑ *i*P **P** **14 47 22.6 0.0**
KIEV Kiev 56.15 314⇑ *e*P **P** **14 47 21.9 -0.7**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
VSU Vasula 56.99 323 *de*P **P** **14 47 28.8 +0.4**
VSU pmax pmax
comp=Z,124nm,1.3s
SGF Sodankyl 57.09 334 *e*P **P** **14 47 28.9 -0.1**

SGF pmax pmax
comp=Z,13nm,1.8s
SUF Sumiainen 57.15 328 P **P** **14 47 29.4 -0.1**
SUF pmax pmax
comp=Z,26nm,1.1s
TLCR 57.17 307⇑ *i*P **P** **14 47 30.4 +0.4**
TLCR 57.17 307 P **P** **14 47 30.3 +0.3**
FIA1 FINESS Array S 57.20 327 *e*P **P** **14 47 29.6 -0.3**
comp=Z,17nm,0.9s
FIA0 FINESS Array S 57.21 327 *e*P **P** **14 47 30.2 +0.3**
FINES FINESS Array B 57.21 327 *e*P **P** **14 47 29.7 -0.2**
FINES FINESS Array B 57.21 327 P **P** **14 47 30.2 +0.3**
comp=Z,9.7nm,0.8s,baz=99,slow=10.0,SNR=27
OUL Oulu 57.27 331 P **P** **14 47 30.1 -0.2**
OUL pmax pmax
comp=Z,21nm,1.0s
ARCES ARCESS Array B 57.57 336 P **P** **14 47 32.2 -0.2**
comp=Z,4.0nm,0.9s,baz=80,slow=8.8,SNR=6.9
CFR Carcaliu 57.65 307⇑ *i*P **P** **14 47 33.8 +0.4**
CFR Carcaliu 57.65 307 P **P** **14 47 33.7 +0.4**
CFR pmax pmax
comp=Z,7.0nm,0.9s
KLYT Kilyos 57.76 303⇑ *i*P **P** **14 47 35.3 +1.1**
TLB Topalu 57.82 307⇓ *i*P **P** **14 47 35.2 +0.7**
TLB Topalu 57.82 307 P **P** **14 47 35.2 +0.7**
HARR Harsova 57.88 307⇑ *i*P **P** **14 47 35.7 +0.7**
HARR Harsova 57.88 307 P **P** **14 47 35.7 +0.7**
TESR Tescani 58.43 309⇑ *i*P **P** **14 47 39.3 +0.5**
VRI Vrincioaia 58.49 308⇑ *i*P **P** **14 47 40.0 +0.6**
VRI Vrincioaia 58.49 308 P **P** **14 47 39.9 +0.6**
VRI pmax pmax
comp=Z,17nm,1.0s
PLOR Plostina 58.55 308⇑ *i*P **P** **14 47 40.5 +0.8**
PLOR Plostina 58.55 308 P **P** **14 47 40.5 +0.8**
BIZ Bicaz 58.72 310⇑ *i*P **P** **14 47 41.7 +0.9**
VAF Ylistaro 58.73 329 P **P** **14 47 40.7 +0.1**
VAF pmax pmax
comp=Z,17nm,1.9s
WRAB Tennant Creek 59.00 142⇑ *i*P **P** **14 47 43.5 +0.5**
WRAB pmax pmax
comp=Z,20nm,1.3s
WR1 Warramunga Arr 59.00 142 *e*P **P** **14 47 43.2 +0.2**
WRA Warramunga Arr 59.00 142 P **P** **14 47 43.2 +0.2**
comp=Z,10.0nm,0.9s,baz=327,slow=6.8,SNR=34
WB2 Warramunga Arr 59.01 142 *e*P **P** **14 47 43.3 +0.3**
comp=Z,14nm,0.9s
MLR Muntele Rosu 59.10 308⇑ *i*P **P** **14 47 44.6 +0.9**
MLR Muntele Rosu 59.10 308 P **P** **14 47 44.3 +0.6**
MLR pmax pmax
comp=Z,21nm,1.0s
BURAR Bucovina Array 59.19 311 *e*P **P** **14 47 44.1 -0.1**
BURAR Bucovina Array 59.19 311⇑ *i*P **P** **14 47 44.8 +0.6**
BURAR Bucovina Array 59.19 311 P **P** **14 47 44.8 +0.6**
DOPR Dopca 59.39 309⇑ *i*P **P** **14 47 46.0 +0.5**
VOIR 59.73 308⇑ *i*P **P** **14 47 48.3 +0.3**
VOIR 59.73 308 P **P** **14 47 48.4 +0.4**
VOIR pmax pmax
comp=Z,5.0nm,0.7s
KWP Kalwaria Pacla 60.44 313 *e*P **P** **14 47 52.8 +0.1**
comp=Z,217nm,0.8s
DRGR 61.03 310⇑ *i*P **P** **14 47 57.8 +1.0**
DRGR 61.03 310 P **P** **14 47 57.6 +0.8**
DRGR pmax pmax
comp=Z,22nm,0.9s
VTS Vitosha 61.66 305⇑ *i*P **P** **14 48 02.2 +1.0**
VTS Vitosha 61.66 305 P **P** **14 48 01.8 +0.6**
VTS pmax pmax
comp=Z,7.0nm,1.0s
HERR Herculane 61.67 308⇑ *i*P **P** **14 48 02.9 +1.8**
AS31 Alice Springs 61.83 145 *e*P **P** **14 48 02.5 +0.2**
comp=Z,0.6nm,1.0s
ASAR Alice Springs 61.83 145 *e*P **P** **14 48 01.7 -0.7**
ASAR Alice Springs 61.83 145 P **P** **14 48 02.5 +0.2**
comp=Z,2.1nm,0.9s,baz=326,slow=6.4,SNR=15
NIE Niedzica 62.02 313 P **P** **14 48 04.1 +0.7**
NIE pmax pmax
comp=Z,3.0nm,1.1s
MDVR Moldovita 62.18 308⇑ *i*P **P** **14 48 05.6 +1.0**
KNT Kendrikon 62.28 304 P **P** **14 48 04.7 -0.6**
KNT pmax pmax
comp=Z,6.0nm,0.9s
GRG Griva 62.70 304 P **P** **14 48 07.5 -0.6**
GRG pmax pmax
comp=Z,17nm,1.0s
VYHS Vyhne 63.17 313 *e*P **P** **14 48 12.0 +0.9**
VYHS Vyhne 63.17 313 *e*P **P** **14 48 12.0 +0.9**
FNA Florina 63.49 304 P **P** **14 48 12.5 -0.9**
FNA pmax pmax
comp=Z,9.0nm,2.2s
MORC Moravsky Berou 63.67 314⇑ *i*P **P** **14 48 15.0 +0.6**
MORC Moravsky Berou 63.67 314 P **P** **14 48 15.2 +0.8**
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 63.67 314 *e*P **P** **14 48 15.4 +1.0**
JAVC Velka Javorina 63.83 313 *e*P **P** **14 48 17.5 +2.0**
KSP Ksiaz 64.17 316 P **P** **14 48 18.3 +0.7**
KSP pmax pmax
comp=Z,6.0nm,0.5s
DPC Dobruska-Polom 64.28 315 P **P** **14 48 19.8 +1.4**
DPC pmax pmax
comp=Z,58nm,1.2s
NORES NORESS Array B 64.29 327 P **P** **14 48 17.9 -0.3**
NB2 NORSAR Subarra 64.37 327 P **P** **14 48 18.1 -0.7**
comp=Z,1.4nm,0.7s,baz=75,slow=6.5
NB2 NORSAR Subarra 64.37 327 P **P** **14 48 18.1 -0.6**
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NB200 NORSAR Array S 64.37 327 *e*P **P** **14 48 18.2 -0.6**
NOA NORSAR Array B 64.37 327 P **P** **14 48 18.2 -0.6**
comp=Z,3.5nm,0.9s,baz=76,slow=6.5,SNR=8.6
VRAC Vranov 64.39 314 P **P** **14 48 19.9 +0.8**
VRAC pmax pmax
comp=Z,5.0nm,0.5s
VRAC Vranov 64.39 314 *e*P **P** **14 48 20.2 +1.1**
KRUC Moravsky 64.58 314 P **P** **14 48 21.2 +0.8**
KRUC pmax pmax
comp=Z,7.0nm,1.2s
KRUC Moravsky 64.58 314 *e*P **P** **14 48 21.5 +1.1**
TREC Trest 65.09 314 P **P** **14 48 24.6 +0.9**
TREC pmax pmax
comp=Z,3.0nm,1.0s
CONA Conrad Observa 65.24 313 *i*P **P** **14 48 25.8 +1.0**
comp=Z,7.3nm,0.9s
BRG Berggiesshubel 65.60 316 *e*P **P** **14 48 27.3 +0.4**
comp=Z,5.5nm,0.9s
BRG Berggiesshubel 65.60 316 *e*P **P** **14 48 27.3 +0.4**
BRG pmax pmax
comp=Z,6.0nm,0.9s
ARSA Arzberg 65.66 312 *i*P **P** **14 48 26.9 -0.5**
comp=Z,3.2nm,0.7s
CLL Collm 66.04 317⇑ *i*P **P** **14 48 30.5 +0.8**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 66.04 317⇑ *i*P **P** **14 48 30.5 +0.8**
comp=Z,8.0nm,0.9s
SOKA Soboth 66.15 311 *e*P **P** **14 48 30.9 +0.3**
comp=Z,8.7nm,1.1s
MOA Moln 66.29 313 *e*P **P** **14 48 32.2 +0.8**
comp=Z,6.5nm,1.1s
GEC2 GERESS Array S 66.35 314 *e*P **P** **14 48 32.2 +0.3**
comp=Z,6.5nm,1.1s
GERES GERESS Array B 66.35 314 P **P** **14 48 32.2 +0.3**
comp=Z,2.3nm,0.8s,baz=76,slow=5.6,SNR=12
NKC Novy Kostel 66.70 316 P **P** **14 48 35.3 +1.3**
NKC pmax pmax
comp=Z,2.0nm,1.0s
WET Wettzell 66.77 314 P **P** **14 48 35.2 +0.7**
WET pmax pmax
comp=Z,5.0nm,1.0s
KMBO Kilima Mbogo 67.02 255 *i*P **P** **14 48 37.4 +0.5**
KMBO pmax pmax
comp=Z,9.0nm,0.8s
KMBO Kilima Mbogo 67.02 255 P **P** **14 48 36.9 0.0**
comp=Z,8.8nm,0.8s,baz=48,slow=10,SNR=19
MOX Moxa 67.08 316 P **P** **14 48 36.9 +0.5**
MOX pmax pmax
comp=Z,5.0nm,1.2s
SQTA Sankt Quirin 68.46 313 *i*P **P** **14 48 45.5 +0.1**
comp=Z,6.2nm,1.0s
MOTA Moosalm 68.48 313 *i*P **P** **14 48 45.0 -0.5**
comp=Z,4.8nm,0.7s
FETA Feichten 68.83 313 *e*P **P** **14 48 48.0 +0.2**
comp=Z,8.9nm,0.9s
WLF Walferdange 70.71 317 P **P** **14 49 03.1 +4.1**
WLF pmax pmax

comp=Z,19nm,1.1s
BPAW Bear Paw Mtn. 71.88 26 *e*P **P 14 49 06.3 +0.4**
comp=Z,9.6nm,1.2s
STKA Stephens Creek 72.44 144 *e*P **P 14 49 08.4 -1.2**
comp=Z,6.0nm,0.9s
STKA Stephens Creek 72.44 144 P **P 14 49 08.4 -1.2**
comp=Z,2.3nm,0.8s,baz=341,slow=8.2,SNR=5.4
COLA College 72.65 24‖*e*P **P 14 49 10.2 -0.2**
COLA pmax pmax
comp=Z,8.0nm,1.0s
ILAR Eielson Array 73.06 24 P **P 14 49 11.4 -1.4**
comp=Z,2.0nm,0.9s,baz=297,slow=5.7,SNR=15
ILB Eielson Array 73.06 24 *e*P **P 14 49 11.4 -1.4**
comp=Z,3.3nm,1.0s
PRP Porcupine Dome 73.13 23 *e*P **P 14 49 13.7 +0.3**
comp=Z,4.9nm,0.9s
INK Inuvik 75.09 18 P **P 14 49 24.5 -0.1**
RES Resolute Bay 75.92 4 P **P 14 49 29.0 -0.3**
RES pmax pmax
comp=Z,5.0nm,2.6s
YKA Yellowknife Ar 84.51 15 P **P 14 50 15.0 -0.8**
YKA Yellowknife Ar 84.51 15 P **P 14 50 15.0 -0.8**
comp=Z,0.6nm,0.9s,baz=334,slow=5.9,SNR=5.4
TOA1 Torodi Ar. Sit 90.80 285 *e*P **P 14 50 44.5 -2.5**
TORD Torodi Ar. Bea 90.80 285 P **P 14 50 44.5 -2.5**
comp=Z,1.2nm,1.0s,baz=22,slow=4.7,SNR=4.3
TXAR Lajitas Array 117.56 23 PP PP 14 57 39.8 -0.7
comp=Z,0.1nm,0.4s,baz=327,slow=9.0,SNR=4.2

*IDC **17** 14:45:17.7±0.7,26°.55N×57°.95E,h0km,mb4.0/23, mb1 4.1/25,mb1mx4.0/52,mbtmp4.0/25,ML3.3/2,MS3.6/14, Ms1 3.6/14,ms1mx3.3/33,Error ellipse: s-maj=15.4km s-min=14.1km az=19.0*
*DSN **17** 14:45:20.0±2.6,26°.64N×57°.91E,h10km,ML4.5/10,Error ellipse: s-maj=36.3km s-min=11.3km az=5.0*
*MOS **17** 14:45:20.2±0.9,26°.59N×57°.88E,h26km,mb4.5/26,Error ellipse: s-maj=9.0km s-min=4.8km az=110.2*
*NEIC **17** 14:45:20.0±0.0,26°.52N×57°.48E,h22km,mb4.4/21, MN4.7(TEH),After TEH.*
*TEH **17** 14:45:22.0,26°.62N×57°.60E,h10km,ML4.6*
*OMAN **17** 14:45:22.4±2.5,26°.67N×57°.94E,h22km,ml4.3/15,Error ellipse: s-maj=24.5km s-min=14.2km az=26.0*
ISC 17 14:45:21.6±0.4,**26°.61N**±0°.03×**57°.80E**±0°.04,**h21**km±3km, **n216**,σ1°**70**/213,**mb4.4**/64,**MS3.6**/16,**7C-6D**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**0.97**	**182**	*e*Pg		**Pn**	**14 45 41.1**	**+1.2**
JSK1				*e*Sg		**Sn**	**14 45 56.0**	**+3.0**
NIAN	**Nian**	**1.28**	**318**	*e*Pg		**Pb**	**14 45 44.3**	**-0.6**
NIAN					IAMB	IAmb	14 46 10.8	
	comp=Z,0.0nm,0.4s							
SHME	**Shamm**	**1.59**	**250**	*e*P		**Pb**	**14 45 49.1**	**-1.2**
	SNR=72							
SHME				S		**Sb**	**14 46 12.2**	**+2.3**
SHME	**Shamm**	**1.59**	**250**	*e*Pn		**Pb**	**14 45 49.5**	**-0.8**
GENO	**Geno**	**1.65**	**299**	*e*Pn		**Pb**	**14 45 50.5**	**-0.9**
GENO				*e*Sg		**Sb**	**14 46 12.7**	**+0.9**
GENO					IAMB	IAmb	14 46 19.6	
	comp=Z,0.0nm,0.6s							
BNDS	**Bandar-Abbas**	**1.65**	**299**	*e*Pg		Pn	14 45 43.7	-5.8
MSFE	**Esma-Masafi**	**1.93**	**230**	*e*P		**Pn**	**14 45 52.5**	**-0.7**
	SNR=113							
MSFE	**Esma-Masafi**	**1.93**	**230**	*e*Pn		**Pn**	**14 45 52.1**	**-1.1**
UMQ	**Umm Al-Quwin**	**2.21**	**241**	*e*P		**Pb**	**14 45 58.7**	**-2.1**
	SNR=9.9							
UMQ	**Umm Al-Quwin**	**2.21**	**241**	P		**Pb**	**14 45 60.0**	**-0.8**
	SNR=7.5							
UMQ				S		Sb	14 46 35.4	+7.8
HATD	**Hatta, Dubai**	**2.33**	**221**	*e*P		**Pn**	**14 45 58.4**	**-0.3**
	SNR=37							
HATD	**Hatta, Dubai**	**2.33**	**221**	P		**Pn**	**14 45 57.4**	**-1.2**
	SNR=27							
HATD	**Hatta, Dubai**	**2.33**	**221**	*e*Pn		**Pn**	**14 45 57.3**	**-1.4**
ASHO	**Ashiyiah**	**2.48**	**220**	*e*P		**Pn**	**14 46 01.3**	**+0.5**
	SNR=76							
ASHO	**Ashiyiah**	**2.48**	**220**	P		**Pn**	**14 46 02.2**	**+1.5**
	SNR=11							
NAZ	**Nazwa, Dubai**	**2.52**	**230**	*e*P		**Pb**	**14 46 03.1**	**-2.9**
	SNR=73							
NAZ	**Nazwa, Dubai**	**2.52**	**230**	P		**Pn**	**14 46 02.1**	**+0.9**
	SNR=43							
CHBR	**Chabahar**	**2.62**	**112**	*e*Pn		**Pn**	**14 46 04.6**	**+2.0**
SOHO	**SOHO**	**2.72**	**205**	P		**Pn**	**14 46 02.4**	**-1.6**
	SNR=56							
SOHO				S		**Sn**	**14 46 34.3**	**-1.9**
FAQ	**Al Faqa, Dubai**	**2.72**	**227**	*e*P		**Pn**	**14 46 06.0**	**+1.9**
	SNR=75							
FAQ	**Al Faqa, Dubai**	**2.72**	**227**	P		**Pn**	**14 46 06.1**	**+2.0**
	SNR=14							
FAQ				S		**Sb**	**14 46 45.0**	**+2.4**
ASUD	**Al Ashush, Dub**	**2.98**	**229**	*i* P		**Pn**	**14 46 09.5**	**+1.9**
	SNR=33							
ASUD	**Al Ashush, Dub**	**2.98**	**229**	P		**Pn**	**14 46 09.9**	**+2.3**
	SNR=33							
HOQ	**Hoqain**	**3.05**	**188**	P		**Pb**	**14 46 12.1**	**-3.1**
	SNR=20							
HOQ	**Hoqain**	**3.05**	**188**	*e*Pn		**Pn**	**14 46 07.7**	**-0.9**
BIDO	**Bidbid**	**3.09**	**174**	P		**Pn**	**14 46 08.9**	**-0.2**
	SNR=14							
BIDO	**Bidbid**	**3.09**	**174**	*e*Pn		**Pn**	**14 46 09.4**	**+0.3**
ALNE	**Al Ain**	**3.15**	**217**	*i* P		**Pn**	**14 46 11.4**	**+1.6**
	SNR=13							
ALNE	**Al Ain**	**3.15**	**217**	*e*Pn		**Pn**	**14 46 11.5**	**+1.6**
NGRK	**Negar Kerman**	**3.17**	**343**	*e*Pn		**Pn**	**14 46 12.4**	**+1.9**
NGRK					IAMB	IAmb	14 47 05.7	
	comp=Z,0.0nm,0.7s							
CHMN	**Cheshme madani**	**3.25**	**356**	*e*Pn		**Pn**	**14 46 14.8**	**+3.2**
CHMN					IAMB	IAmb	14 47 12.5	
	comp=N,0.0nm,0.9s							
AJN	**Ajban**	**3.26**	**232**	*i* P		**Pn**	**14 46 12.6**	**+1.2**
	SNR=6.5							
AJN	**Ajban**	**3.26**	**232**	P		**Pn**	**14 46 13.1**	**+1.7**
	SNR=8.0							
WSAR	**Wadi Sarin**	**3.44**	**167**	P		**Pn**	**14 46 14.5**	**+0.6**
	SNR=11							
WSAR	**Wadi Sarin**	**3.44**	**167**	Pn		**Pn**	**14 46 12.1**	**-1.9**
	comp=N,22nm,0.3s,baz=347,slow=5.8,SNR=146							
WSAR				Sn		**Sn**	**14 46 52.8**	**-1.3**
	comp=N,36nm,0.3s,baz=50,slow=19,SNR=12							
ARQ	**Araqi**	**3.46**	**200**	P		**Pn**	**14 46 16.4**	**+2.2**
	SNR=32							
ARQ				S		**Sn**	**14 46 58.7**	**+4.1**
TVBK	**TV Kerman**	**3.48**	**345**	*e*Pn		**Pn**	**14 46 17.8**	**+3.0**
TVBK					IAMB	IAmb	14 47 11.5	
	comp=Z,0.0nm,0.4s							
SMDO	**Samad**	**3.54**	**176**	P		**Pn**	**14 46 16.2**	**+0.7**
	SNR=21							
SMDO				S		**Sn**	**14 46 57.7**	**+0.9**
BSY	**Bisya**	**3.89**	**188**	P		**Pn**	**14 46 22.2**	**+2.0**
	SNR=17							
BSY				S		**Sn**	**14 47 09.7**	**+4.5**
KHGB	**Koh Gabri**	**3.93**	**343**	*e*Pn		**Pn**	**14 46 23.6**	**+2.8**
KHGB					IAMB	IAmb	14 47 33.5	
	comp=Z,0.0nm,0.8s							
SZD1	**Zahaedan-tmp**	**3.94**	**43**	*e*Pn		**Pb**	**14 46 27.2**	**-3.3**
ZHSF	**Zahedan**	**3.98**	**41**	*e*Pn		**Pn**	**14 46 23.4**	**+1.9**
JHRM	**Jahrom**	**4.20**	**298**	*e*Pn		**Pn**	**14 46 25.9**	**+1.5**
GHIR	**Ghir-Karzin**	**4.59**	**292**	*e*Pn		**Pn**	**14 46 25.9**	**-3.9**
MZR	**Muzera**	**5.32**	**228**	*e*Pn		**Pn**	**14 46 40.7**	**+0.9**
BSRN	**Basiran**	**5.46**	**12**	*e*Pn		**Pn**	**14 46 42.2**	**+0.4**
IMEH	**Mehriz**	**5.52**	**330**	*e*Pn		**Pn**	**14 46 43.6**	**+0.9**
SHI	**Shiraz**	**5.56**	**304**	*e*Pn		**Pn**	**14 46 42.7**	**-0.5**
IKOO	**Kooshah**	**5.89**	**10**	*e*Pn		**Pn**	**14 46 48.2**	**+0.4**
IKAZ	**Kazeroun**	**6.13**	**302**	*e*Pn		**Pn**	**14 46 50.3**	**-0.9**
ICHK	**Chekchek**	**6.34**	**333**	*e*Pn		**Pn**	**14 46 55.8**	**+1.8**
IDAH	**Dahanechah**	**6.37**	**16**	*e*Pn		Pn	14 47 00.2	+5.8
TPRV	**Parvadeh(Tabas**	**6.47**	**352**	*e*Pn		**Pn**	**14 46 57.9**	**+2.3**
TKDS	**Koohdasht(Taba**	**7.00**	**355**	*e*Pn		**Pn**	**14 47 06.5**	**+3.5**
IRAM	**Ramesheh**	**7.02**	**319**	*e*Pn		**Pn**	**14 47 03.4**	**+0.1**
TNSJ	**Nastanj**	**7.40**	**352**	*e*Pn		**Pn**	**14 47 12.0**	**+3.6**
IGAR	**Gharneh**	**7.65**	**320**	*e*Pn		**Pn**	**14 47 11.4**	**-0.5**
IBRJ	**Brojen**	**7.78**	**314**	*e*Pn		**Pn**	**14 47 15.9**	**+2.2**
IZEF	**Zefreh**	**7.86**	**324**	*e*Pn		**Pn**	**14 47 14.7**	**-0.2**
ZNGN	**Zangian**	**8.17**	**314**	*e*Pn		**Pn**	**14 47 19.1**	**-0.1**
ROKH	**ROKH**	**8.21**	**316**	*e*Pn		**Pn**	**14 47 20.4**	**+0.8**
IPIR	**Pirpir**	**8.53**	**317**	*e*Pn		**Pn**	**14 47 24.6**	**+0.5**
IKLH	**Kolahrood**	**8.59**	**323**	*e*Pn		**Pn**	**14 47 25.8**	**+0.9**
IANJ	**Anjilo**	**9.43**	**340**	*e*Pn		**Pn**	**14 47 38.2**	**+1.8**
IMYA	**Miami**	**9.90**	**11**	*e*Pn		Pn	14 47 47.9	+5.2
IKMR	**Kamar-syah**	**10.67**	**312**	*e*Pn		**Pn**	**14 47 52.5**	**-0.6**
IDOB	**Doab**	**10.97**	**313**	*e*Pn		**Pn**	**14 47 56.1**	**-1.4**
IKFM	**Kafar-mosalman**	**11.03**	**311**	*e*Pn		**Pn**	**14 47 57.6**	**-0.5**
GEYT	**Alibeck**	**11.29**	**1**	Pn		**Pn**	**14 48 02.8**	**+1.1**
	baz=182,slow=14,SNR=0.9							
GEYT				Lg		Lg	14 51 18.3	
	comp=Z,11nm,0.3s,baz=196,slow=29,SNR=5.1							
IVIS	**Veis**	**12.29**	**313**	*e*Pn		**Pn**	**14 48 12.7**	**-2.7**
IDHR	**Dehrash**	**12.70**	**312**	*e*Pn		**Pn**	**14 48 18.6**	**-2.5**
THW	**Thamme Wali**	**13.59**	**60**	P		**Pn**	**14 48 32.1**	**-1.0**
CEP	**Cherat**	**14.15**	**56**	P		**P**	**14 48 45.9**	**-2.4**
LKRN	**Lenkeran, Azer**	**14.24**	**330**	P		**Pn**	**14 48 43.9**	**+1.9**
NIL	**Nilore**	**15.09**	**59**	*e*Pn		**Pn**	**14 48 53.9**	**+0.4**
	comp=Z,26nm,0.8s							
NIL	**Nilore**	**15.09**	**59**	*e*P		**Pn**	**14 48 53.9**	**+0.4**
NIL				pmax		pmax		
	comp=Z,26nm,0.8s							
CHCP	**Chirah Chowk**	**15.10**	**59**	P		**Pn**	**14 48 56.2**	**+2.5**
NAX	**Nakhchivan**	**16.22**	**324**	P		**Pn**	**14 49 09.2**	**+1.0**
MNGR	**Mingechevir, A**	**16.68**	**331**	P		**Pn**	**14 49 14.8**	**+0.8**
GANJ	**Ganja**	**16.93**	**329**	P		**Pn**	**14 49 17.1**	**0.0**
SEKA	**Sheki**	**16.99**	**332**	P		**Pn**	**14 49 17.3**	**-0.6**
GNI	**Garni**	**17.33**	**324**‖*e*P			**P**	**14 49 23.4**	**-0.1**
GNI				pmax		pmax		
	comp=Z,26nm,0.7s							
GNI	**Garni**	**17.33**	**324**	P		**P**	**14 49 24.7**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=153,slow=16,SNR=3.6							
GNI				LR		LR	14 57 26.9	
	comp=Z,97nm,18.5s,baz=114,slow=42							
DAMY	**Dhamar**	**17.33**	**229**	*e*Pn		**Pn**	**14 49 18.1**	**-4.4**
	comp=Z,36nm,1.1s							
ZKTA	**Zakatala**	**17.59**	**331**	P		**Pn**	**14 49 25.2**	**-0.1**
ARSB	**Arslanbob**	**19.29**	**37**	*e*P		**P**	**14 49 44.0**	**-1.1**
	comp=Z,8.8nm,0.9s							
KK31	**Karatay Array**	**19.44**	**29**	*e*P		**P**	**14 49 48.0**	**+1.4**
	comp=Z,9.2nm,0.9s							
KK31	**Karatay Array**	**19.44**	**29**	*e*P		**P**	**14 49 48.0**	**+1.4**
KK31				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KKAR	**Karatay Array**	**19.44**	**29**	*e*P		**P**	**14 49 48.0**	**+1.4**
	comp=Z,9.2nm,0.9s							
KKAR	**Karatay Array**	**19.44**	**29**	*e*P		**P**	**14 49 48.0**	**+1.4**
KKAR				pmax		pmax		
	comp=Z,9.0nm,0.9s							
ZEI	**Tsey**	**19.73**	**328**	*e*P		**Pn**	**14 49 50.6**	**-0.9**
ZEI				pmax		pmax		
	comp=Z,5.0nm,0.4s							
EIL	**Elat**	**20.37**	**284**	P		Pn	14 49 58.8	-0.2
	comp=Z,8.8nm,0.8s,baz=54,slow=7.2,SNR=5.9							
EIL				LR		LR	14 59 25.6	
	comp=Z,111nm,21.1s,baz=75,slow=41							
NCK	**Nalchik**	**20.42**	**329**‖*e*P			**P**	**14 49 55.9**	**-1.4**
NCK				pmax		pmax		
	comp=Z,26nm,0.6s							
MMAI	**Mount Meron Ar**	**20.43**	**294**	P		Pn	14 49 59.8	0.0
	comp=Z,6.2nm,0.6s,baz=98,slow=16,SNR=4.6							
MMAI				LR		LR	14 58 13.3	
	comp=Z,80nm,21.1s,baz=80,slow=38							
KELT	**Kelkit**	**20.49**	**316**	*i* P		Pn	14 50 00.8	+0.4
ATD	**Arta Tunnel**	**20.58**	**226**	LR		LR	14 58 34.6	
	comp=Z,98nm,21.2s,baz=33,slow=39							
NEY	**Neytrino**	**20.64**	**327**‖*e*P			Pn	14 50 02.2	0.0
NEY				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KBZ	**Khabaz**	**20.92**	**329**	P		Pn	14 50 06.9	+1.7
	comp=Z,3.6nm,0.8s,baz=154,slow=7.9,SNR=6.0							
AAK	**Ala-Archa**	**21.02**	**36**	*e*P		**P**	**14 50 04.0**	**+0.1**
	comp=Z,9.4nm,0.9s							
AAK	**Ala-Archa**	**21.02**	**36**‖*e*P			**P**	**14 50 03.5**	**-0.4**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
AAK	**Ala-Archa**	**21.02**	**36**	P		**P**	**14 50 03.9**	**0.0**
	comp=Z,1.7nm,0.7s,baz=195,slow=16,SNR=5.2							
NRN	**Naryn**	**21.06**	**41**	*e*P		**P**	**14 50 04.3**	**-0.2**
	comp=Z,9.9nm,0.6s							
NRN	**Naryn**	**21.06**	**41**	*e*P		**P**	**14 50 04.3**	**-0.2**
NRN				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KVAR	**Kislovodsk Arr**	**21.19**	**329**	P		**P**	**14 50 07.1**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=79,slow=23,SNR=7.2							
CUKAN	**kangal_SIVAS**	**21.19**	**312**	*i* P		**P**	**14 50 07.9**	**+2.1**
KIV	**Kislovodsk**	**21.19**	**329**	*e*P		**P**	**14 50 07.6**	**+1.9**
	comp=Z,13nm,0.8s							
KIV	**Kislovodsk**	**21.19**	**329**	*e*P		**P**	**14 50 05.4**	**-0.3**
KIV				pmax		pmax		
	comp=Z,56nm,1.1s							
HYB	**Hyderabad**	**21.28**	**111**	*i* P		**P**	**14 50 08.5**	**+1.7**
DED	**Mersin**	**22.05**	**304**	*i* P		P	14 50 21.9	+6.9
YAHY	**KAYSERI_Yahyal**	**22.09**	**307**	*i* P		**P**	**14 50 17.5**	**+2.1**
TARG	**Taragay, Kyrgy**	**22.31**	**42**	*e*P		**P**	**14 50 18.6**	**+0.5**
	comp=Z,10.0nm,1.2s							
SOC	**Sochi**	**22.41**	**324**	*e*P		**P**	**14 50 17.4**	**-1.2**
SOC				*e*PPP		PPP	14 50 51.5	
SOC				*e*S		**S**	**14 54 21.5**	**-2.1**
SOC				*e*SS		**SnSn**	**14 54 56.5**	**+4.2**
SOC				pmax		pmax		
	comp=Z,7.0nm,0.4s							
SOC				MLR		MLR		
	comp=Z,149nm,15.0s							
CSS	**Mathiatis**	**22.57**	**298**	*e*P		**P**	**14 50 17.3**	**-3.2**
	comp=Z,20nm,1.0s							
ABKAR	**Akbulak array**	**22.67**	**4**	*e*P		**P**	**14 50 20.4**	**-0.9**
	comp=Z,10nm,0.8s							
KERG	**Konya-Eregli**	**22.72**	**304**	*i* P		**P**	**14 50 24.2**	**+1.9**
AKTO	**Aktyubinsk**	**23.79**	**0**	P		**P**	**14 50 32.1**	**-0.5**
	comp=Z,9.6nm,0.7s,baz=166,slow=13,SNR=14							
DELI	**KIRIKKALE**	**23.92**	**310**	*i* P		**P**	**14 50 34.9**	**+0.8**
BR131	**Keskin Array S**	**24.00**	**309**	*e*P		**P**	**14 50 34.2**	**-0.7**
	comp=Z,12nm,0.9s							
BR131	**Keskin Array S**	**24.00**	**309**	*e*P		**P**	**14 50 34.2**	**-0.7**
BR131				pmax		pmax		
	comp=Z,13nm,0.9s							
BRTR	**Keskin Array B**	**24.00**	**309**	P		**P**	**14 50 35.5**	**+0.6**
	comp=Z,8.4nm,0.8s,baz=125,slow=10.0,SNR=41							
BRTR				LR		LR	15 01 46.0	
	comp=Z,182nm,19.3s,baz=96,slow=41							
PDGK	**Podgornoye**	**24.26**	**41**	P		**P**	**14 50 36.7**	**-0.6**
PDGK				pmax		pmax		
	comp=Z,11nm,1.0s							
OTUK	**Ortayu**	**24.41**	**24**	P		**P**	**14 50 38.4**	**0.0**
OTUK				pmax		pmax		
	comp=Z,8.0nm,1.0s							
ANN	**Anapa**	**24.44**	**323**	*e*P		**P**	**14 50 36.4**	**-2.3**
ANN				*e*PP		**sP**	**14 50 48.6**	**+0.4**
ANN				*e*S		**S**	**14 54 53.6**	**-3.8**
ANN				pmax		pmax		
	comp=Z,78nm,1.4s							
ILGA	**Ilgaz**	**24.55**	**312**	*e*P		**P**	**14 50 39.2**	**-0.8**
	comp=Z,10nm,1.0s							
ANTO	**Ankara**	**24.64**	**309**	P		**P**	**14 50 42.1**	**+1.4**
ANTO				pmax		pmax		
	comp=Z,11nm,0.9s							
MDUB	**Mudurnu**	**26.01**	**309**	*e*P		**P**	**14 50 50.6**	**-2.5**
	comp=Z,91nm,0.8s							
MKAR	**Makanchi Array**	**27.93**	**37**	*e*P		**P**	**14 51 08.5**	**-1.8**
MKAR	**Makanchi Array**	**27.93**	**37**	*e*P		**P**	**14 51 08.5**	**-1.8**
MKAR	**Makanchi Array**	**27.93**	**37**	P		**P**	**14 51 09.0**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=229,slow=6.6,SNR=3.0							
BVAR	**Borovoye Array**	**28.01**	**16**	P		**P**	**14 51 10.5**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=198,slow=7.4,SNR=9.1							
BRVK	**Borovoye**	**28.02**	**16**‖*e*P			**P**	**14 51 09.4**	**-1.5**
BRVK				pmax		pmax		
	comp=Z,3.0nm,1.8s							
KURBB	**Kurchatov Arra**	**28.74**	**28**	P		**P**	**14 51 17.3**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=226,slow=8.6,SNR=8.9							
KURK	**Kurchatov**	**28.85**	**28**‖*e*P			**P**	**14 51 18.7**	**+0.4**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
VOIR		**32.16**	**314**	P		**P**	**14 51 48.3**	**+0.5**
VOIR				pmax		pmax		
	comp=Z,7.0nm,1.4s							
OBN	**Obninsk**	**32.42**	**337**‖*e*P			**P**	**14 51 52.0**	**+2.2**
OBN				*e*			14 52 55.1	
OBN				*e*S		**S**	**14 56 58.7**	**-4.3**
OBN				pmax		pmax		
	comp=Z,9.0nm,0.6s							
OBN				MLR		MLR		
	comp=Z,52nm,17.0s							
AKASG	**Malin Array Be**	**32.45**	**325**	*e*P		**P**	**14 51 50.9**	**+0.7**
AKASG	**Malin Array Be**	**32.45**	**325**	*e*P		**P**	**14 51 50.0**	**-0.2**
AKASG				pmax		pmax		
	comp=Z,5.0nm,0.7s							
AKASG	**Malin Array Be**	**32.45**	**325**	P		**P**	**14 51 49.5**	**-0.7**
	comp=Z,4.6nm,0.7s,baz=126,slow=8.2,SNR=9.7							
AKASG				LR		LR	15 07 48.1	
	comp=Z,85nm,21.3s,baz=85,slow=41							
KIEV	**Kiev**	**32.46**	**325**	*e*P		**P**	**14 51 49.1**	**-1.1**
	comp=Z,9.6nm,0.7s							
KIEV	**Kiev**	**32.46**	**325**‖*e*P			**P**	**14 51 49.6**	**-0.6**
KIEV				pmax		pmax		
	comp=Z,9.0nm,0.8s							
FNA	**Florina**	**33.18**	**305**	P		**P**	**14 51 57.1**	**+0.3**
FNA				pmax		pmax		
	comp=Z,12nm,1.1s							
NVS	**Novosibirsk**	**33.79**	**27**	*e*P		**P**	**14 52 04.7**	**+3.0**
ZALV	**Zalesovo Beam**	**33.82**	**29**	P		**P**	**14 52 00.0**	**-2.0**
	comp=Z,1.5nm,0.3s,baz=217,slow=14,SNR=1.5							
KMBO	**Kilima Mbogo**	**33.96**	**219**	LR		LR	15 05 59.1	
	comp=Z,62nm,21.3s,baz=33,slow=36							
BZS	**Buzias**	**34.46**	**313**	P		**P**	**14 52 07.8**	**+0.1**
BZS				pmax		pmax		
	comp=Z,8.0nm,1.5s							
UZH	**Uzhgorod**	**35.23**	**318**	*e*P		**P**	**14 52 13.5**	**-0.8**
UZH				*e*			14 52 17.5	
UZH				*i*			14 52 27.7	
KOLS	**Kolonicke sedl**	**35.37**	**319**	*e*P		**P**	**14 52 16.9**	**+1.3**
KOLS	**Kolonicke sedl**	**35.37**	**319**	*e*P		**P**	**14 52 16.9**	**+1.3**
KLMR	**Klimovskoe**	**36.42**	**345**	*e*P		**P**	**14 52 23.2**	**-1.2**
KLMR				pmax		pmax		
	comp=Z,5.0nm,0.9s							
GTA	**Gaotai**	**37.15**	**59**	*e*P		P	14 52 39.0	+7.9
GTA				pP		sP	14 52 44.8	+4.0
GTA				sP		pP	14 52 47.6	+10
VYHS	**Vyhne**	**37.28**	**316**	*e*P		**P**	**14 52 33.1**	**+1.2**
VYHS	**Vyhne**	**37.28**	**316**	*e*P		**P**	**14 52 33.1**	**+1.2**
OJC	**Ojcow**	**37.38**	**319**	P		**P**	**14 52 33.0**	**+0.3**
OJC				pmax		pmax		
	comp=Z,23nm,0.9s							
JAVC	**Velka Javorina**	**38.13**	**316**	*e*P		**P**	**14 52 40.0**	**+0.9**
SOP	**Sopron**	**38.44**	**314**	P		**P**	**14 52 42.0**	**+0.4**
SOP				pmax		pmax		
	comp=Z,21nm,1.0s							
MORC	**Moravsky Berou**	**38.54**	**318**	P		**P**	**14 52 43.0**	**+0.4**
MORC				pmax		pmax		
	comp=Z,4.0nm,1.9s							
MORC	**Moravsky Berou**	**38.54**	**318**	*e*P		**P**	**14 52 43.3**	**+0.7**
VSU	**Vasula**	**38.55**	**334**‖*e*P			**P**	**14 52 42.8**	**+0.4**
VSU				pmax		pmax		
	comp=Z,30nm,0.9s							
CMAR	**Chiang Mai Arr**	**38.73**	**93**	LR		LR	15 10 47.6	
	comp=Z,110nm,19.2s,baz=261,slow=40							
VRAC	**Vranov**	**38.95**	**317**	P		**P**	**14 52 47.2**	**+1.3**
VRAC	**Vranov**	**38.95**	**317**	*e*P		**P**	**14 52 45.7**	**-0.2**
CONA	**Conrad Observa**	**38.96**	**314**	*e*P		**P**	**14 52 45.2**	**-0.9**
	comp=Z,5.7nm,1.1s							
ARSA	**Arzberg**	**38.97**	**313**	*i* P		**P**	**14 52 45.9**	**-0.3**
	comp=Z,5.1nm,0.8s							
KRUC	**Moravsky**	**38.99**	**316**	P		**P**	**14 52 46.9**	**+0.7**
KRUC				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KRUC	**Moravsky**	**38.99**	**316**	*e*P		**P**	**14 52 45.9**	**-0.3**
DPC	**Dobruska-Polom**	**39.48**	**318**	*e*P		**P**	**14 52 51.3**	**+0.9**
DPC	**Dobruska-Polom**	**39.48**	**318**	*e*P		**P**	**14 52 51.3**	**+0.9**
MOA	**Molln**	**39.96**	**314**	*i* P		**P**	**14 52 54.1**	**-0.3**
	comp=Z,12nm,0.8s							
JOF	**Joensuu**	**40.28**	**342**	P		**P**	**14 52 56.6**	**-0.2**
JOF				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KBA	**Koelnbreinsper**	**40.36**	**312**	*e*pP		**P**	**14 52 57.7**	**-0.2**
	comp=Z,8.1nm,0.8s							
GEC2	**GERESS Array S**	**40.61**	**315**	*e*P		**P**	**14 53 00.0**	**+0.2**
	comp=Z,4.9nm,0.9s							
GERES	**GERESS Array B**	**40.61**	**315**	P		**P**	**14 52 59.6**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=115,slow=9.3,SNR=12							
KHC	**Kasperske Hory**	**40.77**	**315**	*e*P		**P**	**14 53 01.1**	**0.0**
	comp=Z,5.5nm,1.1s							
KHC	**Kasperske Hory**	**40.77**	**315**	*e*P		**P**	**

ellipse: s-maj=16.0km s-min=9.5km az=17.5
GRAL 17 14:48:10.9±0.3,34°.50N×36°.19E,h6km±17km,MD3.0
ISC 17 14:48:08.4±1.4,34°.51N±0°.05×36°.27E±0°.08,h10km,n8,
σ1§41/12,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.35**	**229**	*eP*	**Pg**	**14 48 16.3**	**+1.0**
HWQ				*eS*	**Sg**	**14 48 20.5**	**+0.4**
BHL	**Bhannes**	**0.79**	**220**	*eP*	**Pg**	**14 48 24.4**	**+0.8**
QASN	**Qassioun**	**0.97**	**180**	*eP*	**Pg**	**14 48 29.6**	**+2.5**
QASN				AML	AML	14 48 38.4	
	comp=E,63nm,0.3s						
QASN				AML	AML	14 48 42.9	
	comp=N,155nm,0.5s						
DQRL	**Deir Qamar**	**0.99**	**216**	*eP*	**Pg**	**14 48 27.9**	**+0.5**
DQRL				*eS*	**Sg**	**14 48 40.5**	**+0.3**
RCY	**Rachaya**	**1.07**	**200**	*eP*	**Pg**	**14 48 29.5**	**+0.5**
BRBR	**Barbar**	**1.13**	**194**	*eP*	**Pg**	**14 48 30.4**	**+0.3**
BRBR				*eS*	**Sg**	**14 48 45.4**	**+0.7**
BRBR				AML	AML	14 48 52.4	
	comp=E,30nm,0.8s						
BRBR				AML	AML	14 48 55.6	
	comp=N,38nm,0.4s						
TOTH	**TOTAH**	**1.15**	**173**	*eP*	**Pb**	**14 48 30.1**	**-0.3**
TOTH				*eS*	**Sb**	**14 48 42.5**	**-2.9**
TOTH				AML	AML	14 48 56.6	
	comp=N,42nm,0.5s						
TOTH				AML	AML	14 49 03.3	
	comp=E,34nm,0.8s						
KUZU	**Kuzuini**	**2.35**	**16**	*i* P	**Sg**	**14 49 24.0**	**0.0**

ISCJB 17 15:32:13.7±1.1,14°.0N±0°.1×91°.69W±0°.08,h61km,Error ellipse: s-maj=18.6km s-min=4.6km az=34.8
MEX 17 15:32:15.3±0.5,13°.99N×91°.69W,h69km±12km,MD3.8
SNET 17 15:32:18.7±0.9,13°.94N×91°.28W,h16km±6km,ML3.1
ISC 17 15:32:14.5±1.9,14°.0N±0°.2×91°.66W±0°.10,h61km,n9,
σ0§97/16,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.05**	**326**	*eP*	**Pn**	**15 32 33.2**	**0.0**
THIG				*i* S	**Sn**	**15 32 47.2**	**+0.1**
SNJE	**San Jose**	**2.00**	**94**	*eP*	**Pn**	**15 32 46.9**	**+0.6**
SNJE				*eS*	**Sn**	**15 33 09.3**	**-1.1**
PCIG		**2.24**	**318**	*eP*	**Pn**	**15 32 49.5**	**+0.1**
PCIG				*i* S	**Sn**	**15 33 15.5**	**-0.4**
CCIG	**Comitan**	**2.28**	**349**	*i* P	**Pn**	**15 32 50.0**	**-0.1**
CCIG				*i* S	**Sn**	**15 33 17.8**	**+0.6**
TGIG		**3.07**	**333**	*eP*	**Pn**	**15 33 01.3**	**+0.6**
TGIG				*eS*	**Sn**	**15 33 35.6**	**-0.6**
PACA	**Pacayal**	**3.29**	**99**	*eP*	**Pn**	**15 33 04.7**	**+0.9**
LCND	**La Caada**	**3.74**	**101**	*eP*	**Pn**	**15 33 10.8**	**+1.0**
LCND				*eS*	**Sn**	**15 33 50.2**	**-2.4**
LCND				IAML		15 34 00.0	
	comp=Z,46nm,0.2s						
CNCH	**Conchagua**	**3.80**	**101**	*eP*	**Pn**	**15 33 12.1**	**+1.4**
CMIG	**Matias Romero**	**4.34**	**315**	*i* P	**Pn**	**15 33 17.8**	**-0.3**
CMIG				*i* S	**Sn**	**15 34 07.7**	**+0.3**

NEIC 17 15:43:24.4±0.0,54°.62N×153°.73W,h11km,ML3.5(AEIC), After AEIC.
IDC 17 15:43:15.5±3.8,53°.97N×153°.38W,h0km,mb3.1/2,
mb1 3.6/4,mb1mx3.3/58,mbtmp3.4/4,ML3.6/2,Error ellipse: s-maj=66.5km s-min=42.7km az=153.0,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**3.85**	**6**	Pn	Pn	15 44 10.3	-5.6
	7.1nm,0.3s,baz=219,slow=13,SNR=349						
KDAK				Sn	Sn	15 44 43.8	-18
	18nm,0.3s,baz=322,slow=20,SNR=62						
ILAR	**Eielson Array**	**11.32**	**14**	Pn	Pn	15 45 53.3	-5.1
	0.3nm,0.3s,baz=205,slow=13,SNR=9.6						
ILAR				Sn	Sn	15 47 44.4	-21
	0.2nm,0.3s,baz=16,slow=25,SNR=5.7						
YKA	**Yellowknife Ar**	**21.81**	**52**	P	P	15 48 08.4	-0.4
	0.5nm,0.7s,baz=265,slow=9.4,SNR=6.0						
MKAR	**Makanchi Array**	**69.07**	**323**	P	P	15 54 23.0	+0.2
	0.3nm,0.7s,baz=24,slow=8.1,SNR=3.6						

IDC 17 15:43:20.3±4.5,38°.72S×177°.52E,h33km±23km,mb3.6/3, mb1 3.8/4,mb1mx3.5/29,mbtmp3.8/4,ML3.2/1,Error ellipse: s-maj=48.0km s-min=34.4km az=122.0
ISCJB 17 15:43:21.6±0.4,38°.63S±0°.02×177°.50E±0°.04,h62km±3km, mb3.7/3,Error ellipse: s-maj=4.8km s-min=3.5km az=2.4
WEL 17 15:43:23.1,38°.6S±0°.7×177°.4E±0°.8,h40km±1km,ML4.0/49
ISC 17 15:43:22.2±0.9,38°.65S±0°.03×177°.44E±0°.03,h53km±5km,
n141,σ1§61/148,mb4.0/3,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAGZ	**Rawiri**	**0.15**	**354**	P	**Pn**	**15 43 29.6**	**-1.1**
RAGZ				S	**Sn**	**15 43 34.8**	**-2.0**
SNGZ	**Shannon Statio**	**0.15**	**209**	P	**Pn**	**15 43 30.7**	**+0.1**
SNGZ				S	**Sn**	**15 43 36.8**	**+0.2**
RIGZ	**Rimuhau**	**0.26**	**103**	P	**Pn**	**15 43 31.7**	**+0.4**
RIGZ				S	**Sn**	**15 43 39.3**	**+1.4**
MWZ	**Matawai**	**0.32**	**13**	P	**Pn**	**15 43 30.4**	**-1.4**
MWZ				S	**Sn**	**15 43 36.2**	**-2.5**
RTZ	**Ruatahuna**	**0.36**	**275**	P	**Pn**	**15 43 32.2**	**0.0**
RTZ				S	**Sn**	**15 43 39.5**	**+0.1**
RAHZ	**Arahi**	**0.38**	**225**	P	**Pn**	**15 43 33.6**	**+1.2**
TKGZ	**Te Karaka**	**0.39**	**57**	P	**Pn**	**15 43 32.3**	**-0.1**
TKGZ				S	**Sn**	**15 43 40.1**	**+0.4**
KNZ	**Kokohu**	**0.42**	**154**	P	**Pn**	**15 43 33.8**	**+1.1**
PRGZ	**Paritu Road**	**0.45**	**128**	P	**Pn**	**15 43 34.0**	**+1.0**
WHHZ	**Waihua**	**0.46**	**200**	P	**Pn**	**15 43 35.0**	**+1.9**
URZ	**Urewera**	**0.46**	**327**	Pg	**Pn**	**15 43 32.3**	**-0.8**
	780nm,0.3s,baz=201,slow=4.1,SNR=4009						
URZ				Lg	Lg	15 43 39.7	
	940nm,0.3s,baz=29,slow=19,SNR=170						
URZ				LR	LR	15 44 02.6	
	comp=Z,116nm,20.7s,baz=192,slow=76						
URZ	**Urewera**	**0.46**	**327**	P	**Pn**	**15 43 32.4**	**-0.8**
URZ				S	**Sn**	**15 43 40.0**	**-1.1**
MTHZ	**Maungataniwha**	**0.51**	**246**	P	**Pn**	**15 43 34.9**	**+1.2**
MUGZ	**Murupara**	**0.55**	**288**	P	**Pn**	**15 43 34.5**	**+0.3**
MHGZ	**Mahia Peninsul**	**0.62**	**144**	P	**Pn**	**15 43 36.6**	**+1.5**
CNGZ	**Carnagh Statio**	**0.63**	**75**	P	**Pn**	**15 43 36.1**	**+1.0**
TWGZ	**Tauwhareparae**	**0.64**	**43**	P	**Pn**	**15 43 35.9**	**+0.6**
NMHZ	**Naumai**	**0.67**	**227**	P	**Pn**	**15 43 38.0**	**+2.4**
ARHZ	**Aropaoanui**	**0.70**	**209**	P	**Pn**	**15 43 38.4**	**+2.3**
RUGZ	**Raukumara Rang**	**0.71**	**16**	P	**Pn**	**15 43 35.7**	**-0.6**
EDRZ	**Edgecumbe**	**0.77**	**314**	P	**Pn**	**15 43 36.8**	**-0.2**
RRRZ	**Republican Roa**	**0.79**	**293**	P	**Pn**	**15 43 37.5**	**+0.4**
MRHZ	**Matea Rd**	**0.82**	**257**	P	**Pn**	**15 43 39.0**	**+1.4**
PRRZ	**Plateau Road**	**0.83**	**280**	P	**Pn**	**15 43 38.5**	**+0.8**
TARZ	**Mount Tarawera**	**0.84**	**299**	P	**Pn**	**15 43 38.5**	**+0.6**
ALRZ	**Allen Road**	**0.86**	**275**	P	**Pn**	**15 43 39.1**	**+1.0**
PUZ	**Puketiti**	**0.86**	**49**	P	**Pn**	**15 43 38.5**	**+0.3**
WHRZ	**Whale Island**	**0.87**	**335**	P	**Pn**	**15 43 38.1**	**-0.2**
MARZ	**Manawahe**	**0.89**	**318**	P	**Pn**	**15 43 38.6**	**0.0**
BKZ	**Black Stump Fm**	**0.90**	**235**	P	**Pn**	**15 43 40.7**	**+2.0**
PKGZ	**Pakihiroa**	**0.91**	**34**	P	**Pn**	**15 43 39.4**	**+0.6**
MKRZ	**Makatiti**	**0.92**	**303**	P	**Pn**	**15 43 40.0**	**+1.1**
HAZ	**Te Kaha**	**0.93**	**17**	P	**Pn**	**15 43 39.2**	**+0.2**
HLRZ	**Highlands Stat**	**0.94**	**295**	P	**Pn**	**15 43 39.7**	**+0.6**
HRRZ	**Handcock Road**	**0.94**	**286**	P	**Pn**	**15 43 39.7**	**+0.5**
MCHZ	**McNeill Hill**	**0.98**	**216**	P	**Pn**	**15 43 41.9**	**+2.2**
HSRZ	**Hossack Road**	**0.99**	**289**	P	**Pn**	**15 43 40.6**	**+0.7**
OMRZ	**Omania**	**0.99**	**303**	P	**Pn**	**15 43 40.1**	**+0.2**
WPRZ	**Whakapapatarin**	**1.01**	**277**	P	**Pn**	**15 43 40.9**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.05**	**195**	P	**Pn**	**15 43 42.0**	**+1.4**
LIRZ	**Lichensteins R**	**1.05**	**308**	P	**Pn**	**15 43 40.5**	**-0.1**
OPRZ	**Ohinepanea**	**1.06**	**319**	P	**Pn**	**15 43 40.3**	**-0.4**
HATZ	**Hinemaiaia**	**1.08**	**257**	P	**Pn**	**15 43 42.5**	**+1.4**
GRRZ	**Galatos Road**	**1.08**	**286**	P	**Pn**	**15 43 42.0**	**+0.9**
UTU	**Utuhina**	**1.08**	**295**	P	**Pn**	**15 43 41.8**	**+0.7**
KWHZ	**Kaweka Forest**	**1.11**	**225**	P	**Pn**	**15 43 43.3**	**+1.9**
NGRZ	**Ngongotaha**	**1.12**	**299**	P	**Pn**	**15 43 42.2**	**+0.5**
KARZ	**Kaharoa**	**1.13**	**303**	P	**Pn**	**15 43 41.7**	**0.0**
WMGZ	**Waiomatatini S**	**1.13**	**43**	P	**Pn**	**15 43 42.1**	**+0.4**
WIZ	**White Island**	**1.14**	**350**	P	**Pn**	**15 43 41.1**	**-0.6**
WHTZ	**Whakaora**	**1.16**	**269**	P	**Pn**	**15 43 43.5**	**+1.4**
KAHZ	**Kahuranaki**	**1.22**	**201**	P	**Pn**	**15 43 44.5**	**+1.4**
KUTZ	**Kaahu Road**	**1.27**	**277**	P	**Pn**	**15 43 44.6**	**+1.0**
RITZ	**Rihia Road**	**1.27**	**255**	P	**Pn**	**15 43 45.5**	**+1.9**
MXZ	**Matakaoa Point**	**1.28**	**33**	P	**Pn**	**15 43 44.6**	**+0.8**
KRHZ	**Kereru**	**1.29**	**219**	P	**Pn**	**15 43 45.3**	**+1.4**
TGRZ	**Tauranga**	**1.30**	**314**	P	**Pn**	**15 43 43.5**	**-0.5**
RATZ	**Rangitukua**	**1.32**	**260**	P	**Pn**	**15 43 45.9**	**+1.6**
WATZ	**Wairara**	**1.33**	**267**	P	**Pn**	**15 43 45.6**	**+1.1**
BHHZ	**Black Hill Sta**	**1.36**	**231**	P	**Pn**	**15 43 46.8**	**+1.9**
KATZ	**Kakaramea**	**1.40**	**256**	P	**Pn**	**15 43 47.0**	**+1.6**
KMRZ	**Kaimai**	**1.42**	**304**	P	**Pn**	**15 43 45.4**	**-0.3**
PXZ	**Pawanui**	**1.45**	**198**	P	**Pn**	**15 43 46.6**	**+0.6**
KRVZ	**Karewarewa**	**1.47**	**252**	P	**Pn**	**15 43 48.1**	**+1.7**
MOVZ	**Moawhango**	**1.51**	**239**	P	**Pn**	**15 43 49.1**	**+2.1**
WTVZ	**West Tongariro**	**1.51**	**251**	P	**Pn**	**15 43 48.9**	**+1.9**
TUVZ	**Tukino**	**1.52**	**245**	P	**Pn**	**15 43 49.1**	**+2.0**
TLZ	**Tolley Road**	**1.52**	**281**	P	**Pn**	**15 43 47.4**	**+0.3**
NGZ	**Ngauruhoe**	**1.52**	**249**	P	**Pn**	**15 43 48.9**	**+1.7**
WHVZ	**Whangaehu Hut**	**1.57**	**246**	P	**Pn**	**15 43 49.8**	**+1.9**
PNHZ	**Pukenui**	**1.59**	**217**	P	**Pn**	**15 43 48.9**	**+0.9**
DRZ	**Dome Shelter**	**1.59**	**246**	P	**Pn**	**15 43 50.0**	**+1.8**
FWVZ	**Far West T-bar**	**1.59**	**247**	P	**Pn**	**15 43 50.1**	**+1.9**
TRVZ	**Turoa**	**1.61**	**246**	P	**Pn**	**15 43 50.2**	**+1.8**
WPHZ	**Waipukurau**	**1.61**	**208**	P	**Pn**	**15 43 48.9**	**+0.7**
TWVZ	**Taurewa**	**1.61**	**254**	P	**Pn**	**15 43 50.0**	**+1.7**
MTVZ	**Mangateitei**	**1.70**	**244**	P	**Pn**	**15 43 51.2**	**+1.7**
PRHZ	**Porangahau**	**1.73**	**201**	P	**Pn**	**15 43 50.2**	**+0.3**
PKVZ	**Pokaka**	**1.75**	**248**	P	**Pn**	**15 43 52.2**	**+2.0**
TOZ	**Tahuroa Road**	**1.78**	**300**	P	**Pn**	**15 43 50.4**	**0.0**
TSZ	**Takapari Road**	**1.81**	**219**	P	**Pn**	**15 43 51.6**	**+0.6**
DVHZ	**Dannevirke**	**1.92**	**210**	P	**Pn**	**15 43 52.5**	**+0.1**
ANWZ	**Angora Road**	**1.96**	**202**	P	**Pn**	**15 43 53.0**	**+0.1**
HIZ	**Hauiti**	**2.03**	**273**	P	**Pn**	**15 43 55.7**	**+1.9**
VRZ	**Vera Road**	**2.14**	**256**	P	**Pn**	**15 43 57.7**	**+2.2**
POWZ	**Post Office Ro**	**2.17**	**216**	P	**Pn**	**15 43 56.1**	**+0.3**
WAZ	**Wanganui**	**2.20**	**239**	P	**Pn**	**15 43 59.5**	**+3.2**
PRWZ	**Pori Road**	**2.21**	**210**	P	**Pn**	**15 43 56.6**	**+0.2**
BFZ	**Birch Farm**	**2.23**	**204**	P	**Pn**	**15 43 56.5**	**-0.1**
OHWZ	**Ohakea**	**2.26**	**226**	P	**Pn**	**15 43 58.8**	**+1.7**
KUZ	**Kuaotunu**	**2.34**	**324**	P	**Pn**	**15 43 57.3**	**-0.8**
MKAZ	**Moumakai**	**2.37**	**310**	P	**Pn**	**15 43 58.4**	**-0.2**
TIWZ	**Tintock**	**2.44**	**209**	P	**Pn**	**15 43 59.3**	**-0.2**
CPWZ	**Castlepoint**	**2.45**	**202**	P	**Pn**	**15 43 58.1**	**-1.6**
MHEZ	**Mangahewa**	**2.47**	**259**	P	**Pn**	**15 44 04.0**	**+4.2**
MRZ	**Mangatainoka R**	**2.47**	**215**	P	**Pn**	**15 43 59.5**	**-0.4**
LREZ	**Lake Rotokare**	**2.50**	**250**	P	**Pn**	**15 44 03.6**	**+3.3**
KBAZ	**Karaka Road Bo**	**2.54**	**307**	P	**Pn**	**15 44 01.9**	**+0.9**
DREZ	**Durham Road**	**2.58**	**257**	P	**Pn**	**15 44 05.6**	**+4.1**
WIAZ	**Waiheke Island**	**2.60**	**315**	P	**Pn**	**15 44 01.9**	**+0.2**
ETAZ	**East Tamaki Re**	**2.61**	**310**	P	**Pn**	**15 44 02.1**	**+0.3**
PREZ	**Palmer Road**	**2.65**	**254**	P	**Pn**	**15 44 06.2**	**+3.8**
HOWZ	**Holdsworth Sta**	**2.69**	**213**	P	**Pn**	**15 44 02.1**	**-0.9**
AWAZ	**Awhitu Peninsu**	**2.72**	**305**	P	**Pn**	**15 44 03.9**	**+0.5**
TMWZ	**Te Maipa**	**2.73**	**205**	P	**Pn**	**15 44 02.6**	**-0.9**
KHEZ	**Kahui Hut**	**2.74**	**255**	P	**Pn**	**15 44 07.5**	**+3.7**
PKE	**Pukeiti**	**2.74**	**257**	P	**Pn**	**15 44 07.6**	**+3.9**
MBAZ	**Motutapu North**	**2.75**	**312**	P	**Pn**	**15 44 04.3**	**+0.5**
OGWZ	**Otaki Gorge**	**2.78**	**218**	P	**Pn**	**15 44 03.6**	**-0.6**
WTAZ	**Waiatarua**	**2.84**	**306**	P	**Pn**	**15 44 06.1**	**+1.1**
NBEZ	**Newall Road No**	**2.85**	**256**	P	**Pn**	**15 44 09.3**	**+4.2**
GRZ	**Great Barrier**	**2.86**	**326**	P	**Pn**	**15 44 04.8**	**-0.5**
NMEZ	**Namu Road**	**2.87**	**253**	P	**Pn**	**15 44 09.5**	**+4.0**
ABAZ	**Army Bay**	**2.91**	**314**	P	**Pn**	**15 44 06.9**	**+1.0**
MTW	**Mount Morrison**	**2.92**	**210**	P	**Pn**	**15 44 04.8**	**-1.3**
RVAZ	**Riverhead Bore**	**2.94**	**309**	P	**Pn**	**15 44 07.1**	**+0.7**
KIW	**Kapiti Island**	**2.94**	**221**	P	**Pn**	**15 44 06.0**	**-0.5**
TRWZ	**Traveller**	**3.06**	**205**	P	**Pn**	**15 44 06.4**	**-1.5**
CAW	**Cannon Point**	**3.06**	**216**	P	**Pn**	**15 44 06.7**	**-1.3**
PAWZ	**Paruwai Farm**	**3.14**	**209**	P	**Pn**	**15 44 07.5**	**-1.6**
DUWZ	**D'Urville Isla**	**3.46**	**239**	P	**Pn**	**15 44 13.5**	**0.0**
TCW	**Tory Channel**	**3.53**	**222**	P	**Pn**	**15 44 13.2**	**-1.0**
WCZ	**Waipu Caves**	**3.66**	**317**	P	**Pn**	**15 44 16.8**	**+0.6**
TUWZ	**Tuamarina**	**3.86**	**223**	P	**Pn**	**15 44 17.6**	**-1.3**
NNZ	**Nelson**	**4.04**	**229**	P	**Pn**	**15 44 20.6**	**-0.8**
BSWZ	**Blackbirch Sta**	**4.10**	**221**	P	**Pn**	**15 44 20.3**	**-1.9**
QRZ	**Quartz Range**	**4.36**	**239**	P	**Pn**	**15 44 25.7**	**-0.1**
OUZ	**Omahuta**	**4.60**	**317**	P	**Pn**	**15 44 30.1**	**+1.0**
THZ	**Tophouse**	**4.66**	**227**	P	**Pn**	**15 44 28.9**	**-1.1**
DSZ	**Denniston Nort**	**5.31**	**233**	P	**Pn**	**15 44 38.4**	**-0.4**
OXZ	**Oxford**	**6.21**	**219**	P	Pn	15 44 47.6	-3.5
CTZ	**Chatham Island**	**6.78**	**140**	P	**Pn**	**15 44 59.7**	**+0.7**
RPZ	**Rata Peaks**	**6.98**	**222**	Pn	**Pn**	**15 44 59.6**	**-2.2**
	0.4nm,0.3s,baz=277,slow=3.8,SNR=6.1						
RPZ				Sn	**Sn**	**15 46 13.3**	**-6.5**
	1.9nm,0.3s,baz=352,slow=22,SNR=15						
RPZ	**Rata Peaks**	**6.98**	**222**	P	**Pn**	**15 44 59.8**	**-2.0**
FOZ	**Fox Glacier**	**7.54**	**227**	P	**Pn**	**15 45 08.4**	**-1.0**
TUZ	**Tuapeka**	**9.31**	**216**	P	**Pn**	**15 45 30.5**	**-3.1**
ASAR	**Alice Springs**	**39.76**	**279**	P	**P**	**15 50 50.9**	**+1.0**
	0.8nm,0.3s,baz=124,slow=6.8,SNR=60						
WRA	**Warramunga Arr**	**41.51**	**284**	P	**P**	**15 51 04.8**	**+0.4**
	0.2nm,0.2s,baz=120,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**49.26**	**279**	P	**P**	**15 52 06.5**	**+0.8**
	0.9nm,0.6s,baz=144,slow=8.7,SNR=4.1						
ARCES	**ARCESS Array B**	**145.61**	**343**	PKPbc	**PKPdf**	**16 02 54.0**	**+0.7**
	1.9nm,0.7s,baz=46,slow=3.5,SNR=6.7						
FINES	**FINESS Array B**	**151.12**	**332**	PKPbc	**PKPbc**	**16 03 08.3**	**0.0**
	0.4nm,0.5s,baz=49,slow=6.4,SNR=3.3						

ISCJB 17 15:50:52.5±0.5,21°.94N±0°.02×120°.29E±0°.03,h56km±4km, Error ellipse: s-maj=4.3km s-min=3.5km az=143.5
TAP 17 15:50:52.0,21°.93N×120°.28E,h52km,ML3.8,D
JMA 17 15:50:52.4±0.7,21°.89N×120°.33E,h61km,M3.5
ISC 17 15:50:52.6±1.7,21°.90N±0°.07×120°.26E±0°.04,h49km±10km,
n103,σ0§73/184,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.45**	**12**	*i* P	**Pn**	**15 51 02.9**	**-0.3**
	baz=10.0						
TWP				*i* S	**Sn**	**15 51 11.7**	**+0.9**
	baz=10.0						
HEN	**Hengchun**	**0.46**	**77**	P	**Pn**	**15 51 03.1**	**-0.1**
	baz=79						
HEN				S	**Sn**	**15 51 11.3**	**+0.4**
	baz=79						
WLCH	**Liuqiu**	**0.46**	**14**	P	**Pn**	**15 51 03.1**	**-0.2**
	baz=12						
WLCH				*eS*	**Sn**	**15 51 11.4**	**+0.4**
	baz=12						
TWK1	**Hengchun**	**0.51**	**86**	P	**Pn**	**15 51 03.9**	**0.0**
	baz=88						
TWK1				*eS*	**Sn**	**15 51 12.1**	**+0.1**
	baz=88						
TWKBT	**Hengchun**	**0.52**	**86**	P	**Pn**	**15 51 03.9**	**-0.1**
	baz=88						
TWKBT				S	**Sn**	**15 51 12.0**	**-0.1**
	baz=88						
SCZT	**Fangliau**	**0.57**	**36**	*eP*	**Pn**	**15 51 03.6**	**-1.1**
	baz=36						
SCZT				*eS*	**Sn**	**15 51 11.9**	**-1.5**
	baz=36						
TSEB	**Hengchuen, Pin**	**0.60**	**90**	*i* P	**Pn**	**15 51 04.7**	**-0.2**
	baz=92						
TSEB				S	**Sn**	**15 51 14.0**	**+0.1**
	baz=92						
SSPT	**Xinbi**	**0.64**	**26**	P	**Pn**	**15 51 04.9**	**-0.7**
	baz=25						
SSPT				S	**Sn**	**15 51 14.4**	**-0.5**
	baz=25						
KAU	**Kaohsiung**	**0.66**	**4**	*eP*	**Pn**	**15 51 05.9**	**+0.1**
	baz=2.0						
KAU				*eS*	**Sn**	**15 51 16.5**	**+1.1**
	baz=2.0						
TAW	**Tawu**	**0.74**	**53**	*i* P	**Pn**	**15 51 06.3**	**-0.6**
	baz=53						
TAW				*eS*	**Sn**	**15 51 16.3**	**-0.9**
	baz=53						
MASBT	**Mashibuluo**	**0.79**	**26**	*eP*	**Pn**	**15 51 06.6**	**-0.9**
	baz=25						
SGLT	**Jiouru**	**0.84**	**15**	P	**Pn**	**15 51 08.9**	**+0.7**
	baz=14						
SGLT				*eS*	**Sn**	**15 51 21.1**	**+1.5**
	baz=14						
SNJT	**Kaohsiung City**	**0.85**	**5**	*eP*	**Pn**	**15 51 08.3**	**0.0**
	baz=3.0						
SNJT				*eS*	**Sn**	**15 51 19.6**	**-0.1**
	baz=3.0						
SSD	**Sandimen**	**0.91**	**22**	*eP*	**Pn**	**15 51 08.5**	**-0.6**
	baz=22						
SSD				*eS*	**Sn**	**15 51 20.3**	**-0.8**
	baz=22						
TWM1	**Shoushan**	**0.93**	**9**	*eP*	**Pn**	**15 51 09.6**	**+0.2**
	baz=8.0						
TWM1				*eS*	**Sn**	**15 51 21.5**	**-0.1**
	baz=8.0						
ECL	**Taimali**	**0.94**	**43**	P	**Pn**	**15 51 08.9**	**-0.7**
	baz=43						
ECL				*eS*	**Sn**	**15 51 21.8**	**-0.2**
	baz=43						
SLGT	**Liugui**	**1.14**	**18**	*eP*	**Pn**	**15 51 12.5**	**+0.2**
	baz=17						
SLGT				*eS*	**Sn**	**15 51 26.0**	**-0.9**
	baz=17						
CHN3	**Shinhua**	**1.17**	**5**	P	**Pn**	**15 51 13.3**	**+0.6**
	baz=3.0						
CHN3				S	**Sn**	**15 51 28.4**	**+0.9**
	baz=3.0						
TTN	**Taitung**	**1.18**	**44**	*eP*	**Pn**	**15 51 13.0**	**+0.3**
	baz=44						
TTN				*eS*	**Sn**	**15 51 28.7**	**+1.0**
	baz=44						
TWG	**Pinlang**	**1.18**	**39**	*eP*	**Pn**	**15 51 12.7**	**-0.1**
	baz=39						
TWG				*eS*	**Sn**	**15 51 27.9**	**+0.1**
	baz=39						
TWGBT	**Beinan**	**1.19**	**40**	P	**Pn**	**15 51 13.0**	**+0.1**
	baz=39						
TWGBT				*eS*	**Sn**	**15 51 27.9**	**+0.1**
	baz=39						
LAY	**Lan-yu**	**1.21**	**83**	*eP*	**Pn**	**15 51 12.5**	**-0.7**
	baz=84						
LAY				*eS*	**Sn**	**15 51 26.9**	**-1.5**
	baz=84						
SGST	**Jiashian**	**1.21**	**14**	*eP*	**Pn**	**15 51 13.2**	**0.0**
	baz=13						
SGST				*eS*	**Sn**	**15 51 28.6**	**+0.1**
	baz=13						
SCLT	**Jiali**	**1.27**	**357**	S	**Sn**	**15 51 30.0**	**+0.2**
	baz=356						
CHN1	**Nanshi**	**1.30**	**11**	P	**Pn**	**15 51 14.2**	**-0.2**
	baz=10.0						
CHN1				*eS*	**Sn**	**15 51 30.8**	**+0.1**
	baz=10.0						
SNST	**Tainan City**	**1.33**	**10**	*eP*	**Pn**	**15 51 14.5**	**-0.3**
	baz=8.0						
SNST				*eS*	**Sn**	**15 51 30.6**	**-0.8**
	baz=8.0						
STYT	**Tauyuan**	**1.33**	**20**	P	**Pn**	**15 51 15.0**	**+0.1**
	baz=20						
STYT				*eS*	**Sn**	**15 51 31.7**	**+0.1**
	baz=20						
TWK	**Hsinying**	**1.37**	**9**	*eP*	**Pn**	**15 51 15.3**	**-0.1**
	baz=8.0						
TWK				*eS*	**Sn**	**15 51 31.9**	**-0.6**
	baz=8.0						
WTP	**Ta-pu**	**1.38**	**14**	*eP*	**Pn**	**15 51 14.9**	**-0.6**
	baz=13						
WTP				S	**Sn**	**15 51 32.4**	**-0.1**
	baz=13						
TPUB	**Ta-pu**	**1.43**	**14**	*eP*	**Pn**	**15 51 15.7**	**-0.5**
	baz=13						
TPUB				*eS*	**Sn**	**15 51 32.6**	**-1.3**
	baz=13						
CHN8	**Yiju**	**1.44**	**358**	*eS*	**Sn**	**15 51 32.6**	**-1.3**
	baz=357						
ELDTW	**Lidau**	**1.46**	**29**	*eP*	**Pn**	**15 51 16.7**	**0.0**
	baz=28						
ELDTW				*eS*	**Sn**	**15 51 34.7**	**0.0**
	baz=28						
WDGT	**Dungji**	**1.46**	**338**	*eP*	**Pn**	**15 51 16.5**	**0.0**
	baz=336						
WDGT				*eS*	**Sn**	**15 51 33.1**	**-1.4**
	baz=336						
VCHM	**Qimei**	**1.51**	**330**	*eP*	**Pn**	**15 51 16.5**	**-0.7**
	baz=328						
VCHM				*eS*	**Sn**	**15 51 34.4**	**-1.3**
	baz=328						
WLGB	**Puzi**	**1.57**	**1**	*eS*	**Sn**	**

	baz=6.0							
ESL	**Shilin**	**2.19**	**29**	*e*P		**Pn**	**15 51 27.1**	**+0.6**
	baz=29							
ESL				S		**Sn**	**15 51 52.2**	**-0.2**
	baz=29							
DPDB	**Guoxing**	**2.21**	**16**	*e*P		**Pn**	**15 51 27.1**	**+0.2**
	baz=15							
DPDB				S		**Sn**	**15 51 52.5**	**-0.5**
	baz=15							
OWD	**Renai**	**2.21**	**22**	*e*P		**Pn**	**15 51 27.5**	**+0.5**
	baz=22							
OWD				S		**Sn**	**15 51 52.8**	**-0.3**
	baz=22							
TCU	**Taichung**	**2.27**	**10**	*e*P		**Pn**	**15 51 28.6**	**+1.0**
	baz=9.0							
TCU				*e*S		**Sn**	**15 51 54.5**	**+0.2**
	baz=9.0							
CHGB	**Renai**	**2.31**	**21**	*e*P		**Pn**	**15 51 29.0**	**+0.7**
	baz=21							
CHGB				*e*S		**Sn**	**15 51 55.1**	**-0.6**
	baz=21							
WHF	**Hehuan Shan**	**2.42**	**22**	*e*P		**Pn**	**15 51 30.6**	**+0.5**
	baz=22							
WHF				*e*S		**Sn**	**15 51 57.8**	**-0.8**
	baz=22							
WHP	**Taichung City**	**2.45**	**15**	P		**Pn**	**15 51 30.9**	**+0.8**
	baz=14							
WHP				*e*S		**Sn**	**15 51 58.7**	**-0.2**
	baz=14							
WDJ	**Dajia District**	**2.46**	**8**	*e*S		**Sn**	**15 51 59.1**	**0.0**
	baz=7.0							
TWQ1	**Liyutan**	**2.48**	**11**	*e*P		**Pn**	**15 51 31.4**	**+0.9**
	baz=10.0							
TWQ1				S		**Sn**	**15 51 59.5**	**-0.1**
	baz=10.0							
TDCB	**Techi**	**2.48**	**19**	*e*P		**Pn**	**15 51 31.5**	**+0.8**
	baz=19							
TDCB				*e*S		**Sn**	**15 51 59.5**	**-0.4**
	baz=19							
TWT	**Tachien**	**2.49**	**20**	*e*P		**Pn**	**15 51 30.6**	**-0.2**
	baz=19							
TWT				*e*S		**Sn**	**15 52 00.4**	**+0.4**
	baz=19							
TWD	**Chiawan**	**2.49**	**29**	*e*P		**Pn**	**15 51 29.8**	**-0.8**
	baz=29							
TWD				S		**Sn**	**15 51 58.7**	**-1.1**
	baz=29							
NSY	**Sanyi**	**2.54**	**10**	*e*S		**Sn**	**15 52 01.8**	**+0.7**
	baz=10.0							
ETLH	**Xiulin Townshi**	**2.55**	**26**	P		**Pn**	**15 51 32.4**	**+0.7**
	baz=25							
ETLH				*e*S		**Sn**	**15 52 00.9**	**-0.6**
	baz=25							
NACB	**Ninganchiao**	**2.57**	**28**	*e*P		**Pn**	**15 51 31.1**	**-0.7**
	baz=28							
NACB				*e*S		**Sn**	**15 51 59.8**	**-2.0**
	baz=28							
NNSB	**Datong**	**2.72**	**22**	*e*P		**Pn**	**15 51 34.6**	**+0.7**
	baz=22							
NNSB				*e*S		**Sn**	**15 52 04.9**	**-0.7**
	baz=22							
NNS	**Nan Shan**	**2.72**	**22**	*e*P		**Pn**	**15 51 34.8**	**+0.8**
	baz=22							
NNS				*e*S		**Sn**	**15 52 05.1**	**-0.7**
	baz=22							
NSTT	**Nanjuang**	**2.80**	**14**	*e*P		**Pn**	**15 51 35.1**	**+0.2**
	baz=13							
NSTT				S		**Sn**	**15 52 06.4**	**-1.0**
	baz=13							
LIOB	**Emei**	**2.82**	**14**	*e*P		**Pn**	**15 51 35.1**	**0.0**
	baz=14							
LIOB				*e*S		**Sn**	**15 52 07.1**	**-0.8**
	baz=14							
ENA	**Nanau**	**2.86**	**28**	*e*P		**Pn**	**15 51 35.7**	**0.0**
	baz=28							
ENA				*e*S		**Sn**	**15 52 07.1**	**-1.8**
	baz=28							
NANB	**Nanao**	**2.86**	**28**	*e*P		**Pn**	**15 51 35.7**	**-0.1**
	baz=28							
NANB				*e*S		**Sn**	**15 52 08.2**	**-0.8**
	baz=28							
NDT	**Datong Townshi**	**2.92**	**23**	*e*P		**Pn**	**15 51 37.7**	**+1.1**
	baz=23							
NDT				*e*S		**Sn**	**15 52 10.8**	**+0.3**
	baz=23							
NSK	**Sanguang**	**2.94**	**20**	*e*P		**Pn**	**15 51 38.6**	**+1.7**
	baz=20							
NSK				*e*S		**Sn**	**15 52 11.0**	**0.0**
	baz=20							
YHNB	**Yeheng**	**2.94**	**20**	*e*P		**Pn**	**15 51 37.8**	**+0.9**
	baz=20							
YHNB				*e*S		**Sn**	**15 52 10.4**	**-0.6**
	baz=20							
ENTT	**Nioudou**	**2.98**	**24**	*e*P		**Pn**	**15 51 38.1**	**+0.7**
	baz=23							
KNM	**Kinmen**	**3.01**	**326**	*e*S		**Sn**	**15 52 14.3**	**+1.6**
	baz=323							
TWC	**Suao**	**3.06**	**28**	*e*P		**Pn**	**15 51 39.0**	**+0.5**
	baz=28							
TWC				*e*S		**Sn**	**15 52 12.8**	**-1.2**
	baz=28							
KNMB	**Chin-men Tao**	**3.07**	**326**	*e*P		**Pn**	**15 51 39.5**	**+0.9**
	baz=325							
TWE	**Neicheng**	**3.09**	**25**	*e*P		**Pn**	**15 51 39.9**	**+1.0**
	baz=24							
SLBB	**Yuanshan**	**3.11**	**24**	*e*P		**Pn**	**15 51 40.3**	**+1.1**
	baz=23							
EOS1	**EOS1**	**3.15**	**33**	*e*P		**Pn**	**15 51 41.2**	**+1.6**
	baz=33							
VWUC	**VWUC**	**3.16**	**347**	*e*P		**Pn**	**15 51 40.3**	**+0.4**
	baz=345							
NTC	**Toucheng**	**3.27**	**26**	*e*P		**Pn**	**15 51 42.6**	**+1.3**
	baz=26							
TIPB	**Shuangxi**	**3.38**	**25**	*e*P		**Pn**	**15 51 43.8**	**+0.9**
	baz=25							
TIPB				*e*S		**Sn**	**15 52 21.1**	**-0.6**
	baz=25							
JYNG	**Yonagunijimaku**	**3.54**	**44**	P		**Pn**	**15 51 46.6**	**+1.5**
YOJ	**Yonaguni jima**	**3.59**	**44**	P		**Pn**	**15 51 47.3**	**+1.5**
HATJ	**Hateruma jima**	**3.91**	**56**	P		**Pn**	**15 51 51.5**	**+1.4**
HATJ				*e*S		**Sn**	**15 52 34.0**	**-0.7**
IRIF	**Iriomote-Funau**	**4.01**	**52**	P		**Pn**	**15 51 51.1**	**-0.4**
JKRS	**Kuro-shima**	**4.16**	**55**	P		**Pn**	**15 51 53.8**	**+0.2**
JKRS				*e*S		**Sn**	**15 52 41.3**	**+0.3**
MATB	**Ma-tsu**	**4.24**	**356**	*e*P		**Pn**	**15 51 54.5**	**-0.1**
	baz=355							
JIJ	**Ishigaki jima**	**4.33**	**55**	P		**Pn**	**15 51 56.0**	**0.0**
JIJ				S		**Sn**	**15 52 44.8**	**-0.4**
JISG	**Ishigakijimahi**	**4.58**	**54**	P		**Pn**	**15 51 59.6**	**+0.2**
JTJ	**Tarama**	**4.91**	**55**	P		**Pn**	**15 52 05.4**	**+1.5**

*SOME **17** 16:00:25.5, 41.°85N×79.°60E, h10km*
*KRNET **17** 16:00:25.1±0.1, 41.°85N×79.°63E, h10km, mb3.2*
*NNC **17** 16:00:28.8±1.7, 42.°00N×79.°62E, h0km, mb3.9, mpv3.7,*
Error ellipse: s-maj=11.5km s-min=6.9km az=145.0

ISC 17 16:00:27.2±1.5, 41.°88N±0.°06×79.°60E±0.°05, h10km, n36, σ1$41/64, 21C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.28**	**355**	⇓*i*P		**Pb**	**16 00 50.7**	**-0.7**
	113nm,0.3s							
SHLS				*e*S		**Sn**	**16 01 09.1**	**+0.6**
	123nm,0.4s							
TARG	**Taragay, Kyrgy**	**1.35**	**264**	⇑*i*P		**Pn**	**16 00 50.6**	**-2.0**
	baz=66							
TARG				⇑*i*S		**Sb**	**16 01 09.8**	**-0.7**
	baz=66							
PDGK	**Podgornoye**	**1.45**	**357**	P		**Pn**	**16 00 52.9**	**-0.7**
	21nm,0.4s							
PDGK				S		**Sg**	**16 01 12.6**	**-1.3**
	78nm,0.4s							
PDGK	**Podgornoye**	**1.45**	**357**	⇑*i*P		**Pn**	**16 00 53.0**	**-0.7**
	baz=56							
PDGK				⇑*i*S		**Sg**	**16 01 12.9**	**-1.0**
	baz=56							
SATY	**Saty**	**1.47**	**323**	P		**Pn**	**16 00 53.4**	**-0.6**
	58nm,0.2s							
SATY				S		**Sn**	**16 01 12.6**	**-0.8**
	155nm,0.1s							
SATY	**Saty**	**1.47**	**323**	*e*P		**Pn**	**16 00 53.4**	**-0.6**
	58nm,0.2s							
SATY				*e*S		**Sb**	**16 01 13.2**	**-0.5**
	155nm,0.1s							
ZHN	**Zhinishke**	**1.55**	**326**	*e*P		**Pb**	**16 00 54.9**	**-1.2**
	39nm,0.2s							
ZHN				*e*S		**Sg**	**16 01 16.8**	**-0.2**
	83nm,0.2s							
KTMS	**Ketmen**	**1.66**	**19**	P		**Pb**	**16 00 56.7**	**-1.3**
	57nm,0.3s							
KTMS				S		**Sg**	**16 01 19.0**	**-1.6**
	80nm,0.4s							
KTMS	**Ketmen**	**1.66**	**19**	*e*P		**Pb**	**16 00 56.7**	**-1.3**
	57nm,0.3s							
KTMS				*e*S		**Sg**	**16 01 19.0**	**-1.6**
	80nm,0.4s							
KPKS	**Kokpek**	**1.72**	**337**	*e*P		**Pb**	**16 00 58.0**	**-1.0**
	172nm,0.2s							
KPKS				*e*S		**Sg**	**16 01 21.4**	**-1.2**
	321nm,0.4s							
KDJ	**Kajisay**	**1.82**	**279**	⇑*i*P		**Pb**	**16 00 59.4**	**-1.4**
	baz=80							
KDJ				⇑*i*S		**Sb**	**16 01 23.8**	**0.0**
	baz=80							
MDOK	**Medeo**	**2.28**	**305**	Pn		**Pb**	**16 01 07.4**	**-1.2**
	23nm,0.5s							
MDOK				Sn		**Sb**	**16 01 37.6**	**+0.6**
	58nm,0.4s							
KOTS	**Kotyrbulak**	**2.28**	**307**	Pg		**Pb**	**16 01 07.0**	**-1.6**
	19nm,0.2s							
KOTS				Lg		Lg	16 01 38.3	
	127nm,0.6s							
KOTS	**Kotyrbulak**	**2.28**	**307**	*e*P		**Pb**	**16 01 08.0**	**-0.6**
	19nm,0.2s							
KOTS				*e*S		**Sb**	**16 01 38.3**	**+1.4**
	127nm,0.6s							
MNBS	**Baschi**	**2.37**	**339**	Pg		**Pb**	**16 01 09.7**	**-0.4**
	55nm,0.4s							
MNBS				Lg		Lg	16 01 41.2	
	140nm,0.2s							
MNBS	**Baschi**	**2.37**	**339**	*e*P		**Pb**	**16 01 09.7**	**-0.4**
	55nm,0.4s							
MNBS				*e*S		**Sg**	**16 01 41.2**	**-2.1**
	140nm,0.2s							
AAA	**Alma-Ata**	**2.39**	**305**	Pg		**Pb**	**16 01 10.5**	**+0.1**
	35nm,0.2s							
AAA				Lg		Lg	16 01 42.2	
	89nm,0.3s							
AAA	**Alma-Ata**	**2.39**	**305**	*e*P		**Pb**	**16 01 10.5**	**+0.1**
	35nm,0.2s							
AAA				*e*S		**Sg**	**16 01 42.2**	**-1.7**
	89nm,0.3s							
ULHL	**Ulahol**	**2.53**	**279**	⇑*i*P		**Pn**	**16 01 09.8**	**+1.2**
	baz=80							
ULHL				⇑*i*S		**Sb**	**16 01 42.0**	**-2.1**
	baz=80							
ARXS	**Arharly**	**2.67**	**331**	Pg		**Pb**	**16 01 14.4**	**-0.8**
	18nm,0.4s							
ARXS				Lg		Lg	16 01 49.3	
	120nm,0.3s							
ARXS	**Arharly**	**2.67**	**331**	*e*P		**Pb**	**16 01 14.4**	**-0.8**
	18nm,0.4s							
ARXS				*e*S		**Sb**	**16 01 49.3**	**+1.3**
	120nm,0.3s							
NRN	**Naryn**	**2.74**	**262**	⇑*i*P		**Pn**	**16 01 12.7**	**+1.2**
	baz=62							
NRN				⇑*i*S		**Sn**	**16 01 46.7**	**+1.9**
	baz=62							
BOOM	**Boomskoye usch**	**2.79**	**284**	⇑*e*P		**Pn**	**16 01 13.3**	**+1.2**
	baz=84							
BOOM				⇑*i*S		**Sb**	**16 01 48.7**	**-2.9**
	baz=84							
KTBS	**Karatobe**	**2.82**	**311**	Pg		**Pb**	**16 01 17.0**	**-0.8**
	9.6nm,0.3s							
KTBS				Lg		Lg	16 01 53.8	
	181nm,0.7s							
KTBS	**Karatobe**	**2.82**	**311**	*e*P		**Pb**	**16 01 17.0**	**-0.8**
	9.6nm,0.3s							
KTBS				*e*S		**Sb**	**16 01 53.8**	**+1.4**
	181nm,0.7s							
DGS	**Degeres**	**3.14**	**297**	Pg		**Pb**	**16 01 23.1**	**-0.1**
	14nm,0.5s							
DGS				Lg		Lg	16 02 03.8	
	34nm,0.6s							
DGS	**Degeres**	**3.14**	**297**	*e*P		**Pb**	**16 01 23.1**	**-0.1**
	14nm,0.5s							
DGS				*e*S		**Sb**	**16 02 03.9**	**+2.3**
	34nm,0.6s							
TKM2	**Tokmak 2**	**3.14**	**291**	Pn		**Pb**	**16 01 20.0**	**-3.4**
	4.6nm,0.4s							
TKM2				Lg		Lg	16 02 06.6	
	20nm,0.8s							
TKM2	**Tokmak 2**	**3.14**	**291**	⇓*i*P		**Pn**	**16 01 18.5**	**+1.5**
	baz=91							
TKM2				⇓*i*S		**Sn**	**16 01 57.2**	**+2.5**
	baz=91							
KZA	**Kyzart**	**3.25**	**275**	⇑*i*P		**Pn**	**16 01 20.0**	**+1.3**
	baz=76							
KZA				⇑*i*S		**Sn**	**16 01 59.6**	**+1.9**
	baz=76							
KBK	**Karagaybulak**	**3.54**	**284**	⇑*e*P		**Pn**	**16 01 23.6**	**+1.2**
	baz=85							
KBK				⇑*i*S		**Sn**	**16 02 06.3**	**+1.9**
	baz=85							
UCH	**Uchtor**	**3.81**	**277**	⇑*e*P		**Pn**	**16 01 27.0**	**+0.7**
	baz=77							
UCH				⇑*i*S		**Sn**	**16 02 12.9**	**+1.5**
	baz=77							
AAK	**Ala-Archa**	**3.87**	**283**	Pn		**Pb**	**16 01 35.5**	**-0.1**
	3.1nm,0.6s							
AAK				Lg		Lg	16 02 32.4	
	8.9nm,0.7s							
ARLS	**Aral**	**3.94**	**271**	⇑*i*P		**Pn**	**16 01 28.7**	**+0.7**
	baz=72							
ARLS				⇑*i*S		**Sn**	**16 02 15.7**	**+1.3**
	baz=72							
MAKZ	**Makanchi**	**5.21**	**18**	Pn		**Pn**	**16 01 46.3**	**+1.1**
	2.1nm,1.1s							
MAKZ				Sn		**Sn**	**16 02 48.0**	**+2.6**
	3.0nm,0.6s							
MAKZ				Lg		Lg	16 03 09.1	
	1.2nm,0.5s							
MK31	**Makanchi Array**	**5.27**	**21**	⇑Pn		**Pn**	**16 01 47.3**	**+1.1**
	0.1nm,0.3s,baz=203,slow=13,SNR=29							
MK31				Sn		**Sn**	**16 02 49.3**	**+2.4**
	2.6nm,0.7s,baz=195,slow=24,SNR=4.0							
MK31				Lg		Lg	16 03 12.1	
	3.6nm,0.7s							

JMA 17 16:00:54.0, 38.°41N×141.°77E, h57km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.26**	**248**	P		16 01 03.5	0.0
JIKH				S		16 01 10.1	-0.2
JIO	**Ouri**	**0.33**	**278**	P		16 01 04.1	0.0
JIO				S		16 01 11.2	-0.1
JKMT	**Kesennumamotoy**	**0.46**	**330**	P		16 01 05.4	+0.1
JKMT				S		16 01 13.5	0.0
OFUJ	**Ofunato**	**0.67**	**353**	P		16 01 07.8	0.0
OFUJ				S		16 01 17.6	-0.2
JMK	**Ichinoseki**	**0.69**	**322**	P		16 01 08.3	+0.3
JMK				S		16 01 18.4	+0.3
JOU	**Okura**	**0.87**	**267**	P		16 01 10.3	+0.1
JOU				S		16 01 22.5	+0.3
JMM	**Marumori**	**0.94**	**235**	P		16 01 10.8	-0.4
JMM				S		16 01 23.3	-0.5
JOM	**Ohasama**	**1.12**	**341**	P		16 01 13.9	+0.3
JYK	**Kaneyama**	**1.22**	**295**	P		16 01 15.1	+0.3
JYK				S		16 01 31.1	+0.8
JFK	**Kawauchi**	**1.26**	**214**	P		16 01 15.2	-0.2
JFK				S		16 01 31.1	-0.3
JRG	**Rokugo**	**1.32**	**318**	P		16 01 16.6	+0.3
JYS	**Shiratake**	**1.35**	**263**	P		16 01 17.0	+0.4
JYS				S		16 01 34.4	+0.8
JFT	**Otama**	**1.44**	**232**	P		16 01 18.3	+0.5
JFT				S		16 01 35.9	+0.2

*OMAN **17** 16:19:26.1±0.5, 26.°83N×57.°98E, h13km, ml3.6/9, Error ellipse: s-maj=8.7km s-min=6.8km az=3.0*
*DSN **17** 16:19:26.9±3.7, 26.°67N×57.°95E, h10km, ML3.6/8, Error ellipse: s-maj=51.2km s-min=14.3km az=5.0*
*ISCJB **17** 16:19:28.9±0.5, 26.°56N±0.°03×57.°76E±0.°06, h10km, mb3.2/5, MS2.7/5, Error ellipse: s-maj=7.8km s-min=4.0km az=3.9*
*IDC **17** 16:19:28.3±1.7, 26.°49N×57.°52E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/42, mbtmp3.5/6, ML2.5/1, MS2.7/7, Ms1 2.8/7, ms1mx2.5/33, Error ellipse: s-maj=31.5km s-min=29.1km az=48.0*
*TEH **17** 16:19:30.9, 26.°63N×57.°59E, h16km, ML3.7*

ISC 17 16:19:29.7±0.7, 26.°49N±0.°03×57.°64E±0.°04, h10km, n52, σ1$58/50, mb3.3/5, MS2.7/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**0.86**	**172**	*e*Pg		**Pn**	**16 19 49.3**	**+1.5**
NIAN	**Nian**	**1.28**	**326**	*e*Pg		**Pn**	**16 19 52.5**	**-1.2**
NIAN				IAMB		IAmb	16 20 17.2	
	comp=Z,0.0nm,0.3s							
SHME	**Shamm**	**1.41**	**252**	*e*P		**Pg**	**16 19 57.3**	**+0.5**
	SNR=34							
SHME				S		**Sg**	**16 20 20.2**	**+5.0**
SHME	**Shamm**	**1.41**	**252**	*e*Pn		**Pg**	**16 19 57.8**	**+1.0**
GENO	**Geno**	**1.59**	**305**	*e*Pn		**Pb**	**16 19 58.6**	**-0.7**
MSFE	**Esma-Masafi**	**1.74**	**230**	*e*P		**Pn**	**16 19 59.3**	**-0.7**
	SNR=12							
MSFE	**Esma-Masafi**	**1.74**	**230**	*e*Pn		**Pb**	**16 20 00.4**	**-1.4**
HATD	**Hatta, Dubai**	**2.14**	**220**	*e*P		**Pn**	**16 20 05.5**	**0.0**
	SNR=7.9							
HATD	**Hatta, Dubai**	**2.14**	**220**	P		**Pb**	**16 20 07.8**	**-0.8**
	SNR=7.7							
HATD	**Hatta, Dubai**	**2.14**	**220**	*e*Pn		**Pn**	**16 20 05.8**	**+0.3**
ASHO	**Ashiyiah**	**2.29**	**219**	*e*P		**Pb**	**16 20 09.7**	**-1.5**
	SNR=21							
ASHO	**Ashiyiah**	**2.29**	**219**	P		**Pb**	**16 20 09.9**	**-1.4**
	SNR=24							
ASHO	**Ashiyiah**	**2.29**	**219**	*e*Pn		**Pn**	**16 20 08.2**	**+0.5**
NAZ	**Nazwa, Dubai**	**2.33**	**230**	*e*P		**Pb**	**16 20 10.3**	**-1.4**
	SNR=16							
NAZ	**Nazwa, Dubai**	**2.33**	**230**	*e*Pn		**Pb**	**16 20 11.0**	**-0.7**
FAQ	**Al Faqa, Dubai**	**2.54**	**227**	P		**Pb**	**16 20 13.5**	**-1.8**
FAQ	**Al Faqa, Dubai**	**2.54**	**227**	*e*Pn		**Pb**	**16 20 14.5**	**-0.8**
SOHO	**SOHO**	**2.55**	**203**	P		**Pn**	**16 20 10.4**	**-0.7**
SOHO				S		**Sn**	**16 20 42.4**	**+0.2**
CHBR	**Chabahar**	**2.71**	**109**	*e*Pn		**Pb**	**16 20 17.2**	**-1.1**
ASUD	**Al Ashush, Dub**	**2.79**	**229**	*i* P		**Pb**	**16 20 16.8**	**-2.9**
	SNR=8.7							
ASUD	**Al Ashush, Dub**	**2.79**	**229**	P		**Pb**	**16 20 18.3**	**-1.3**
	SNR=8.3							
ASUD	**Al Ashush, Dub**	**2.79**	**229**	*e*Pn		**Pb**	**16 20 18.7**	**-1.0**
HOQ	**Hoqain**	**2.91**	**186**	S		**Sn**	**16 20 52.5**	**+1.4**
ALNE	**Al Ain**	**2.96**	**216**	*i* P		**Pb**	**16 20 18.9**	**-3.7**
	SNR=12							
ALNE	**Al Ain**	**2.96**	**216**	*e*Pn		**Pb**	**16 20 19.9**	**-2.7**
BIDO	**Bidbid**	**2.99**	**171**	P		**Pn**	**16 20 17.0**	**-0.2**
	SNR=5.4							
NGRK	**Negar Kerman**	**3.24**	**346**	*e*Pn		**Pn**	**16 20 20.5**	**-0.5**
ARQ	**Araqi**	**3.30**	**198**	P		**Pb**	**16 20 24.8**	**-3.6**
	SNR=14							
ARQ				S		**Sb**	**16 21 08.5**	**-0.1**
CHMN	**Cheshme madani**	**3.36**	**359**	*e*Pn		**Pn**	**16 20 23.6**	**+1.0**
CHMN				IAMB		IAmb	16 21 24.0	
	comp=Z,0.0nm,1.0s							
WSAR	**Wadi Sarin**	**3.36**	**164**	P		**Pn**	**16 20 22.4**	**+0.2**
	SNR=25							
WSAR	**Wadi Sarin**	**3.36**	**164**	Pn		**Pn**	**16 20 22.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=10,slow=9.6,SNR=6.2							
WSAR				Sn		**Sn**	**16 21 00.9**	**-1.4**
	comp=Z,10nm,0.3s,baz=257,slow=22,SNR=10							
SMDO	**Samad**	**3.44**	**174**	P		**Pn**	**16 20 24.2**	**+0.8**
	SNR=13							
KRBR	**Kerman**	**3.56**	**348**	*e*Pn		**Pn**	**16 20 25.3**	**-0.1**
TVBK	**TV Kerman**	**3.57**	**348**	*e*Pn		**Pn**	**16 20 26.2**	**+0.8**
KHGB	**Koh Gabri**	**4.00**	**345**	*e*Pn		**Pn**	**16 20 31.4**	**+0.1**
KHGB				IAMB		IAmb	16 21 39.7	
	comp=Z,0.0nm,0.9s							
ZHSF	**Zahedan**	**4.17**	**41**	*e*Pn		**Pn**	**16 20 34.7**	**+1.2**
GHIR	**Ghir-Karzin**	**4.50**	**294**	*e*Pn		**Pn**	**16 20 38.2**	**+0.1**
IKOO	**Kooshah**	**6.03**	**11**	*e*Pn		**Pn**	**16 20 56.7**	**-2.5**
IKAZ	**Kazeroun**	**6.08**	**304**	*e*Pn		**Pn**	**16 20 58.6**	**-1.3**
IRAM	**Ramesheh**	**7.01**	**320**	*e*Pn		**Pn**	**16 21 11.7**	**-1.0**
ZNGN	**Zangian**	**8.15**	**315**	*e*Pn		**Pn**	**16 21 27.1**	**-1.3**
GEYT	**Alibeck**	**11.41**	**2**	LR		LR	16 27 33.1	
	comp=Z,21nm,18.8s,baz=155,slow=42							
GNI	**Garni**	**17.34**	**325**	LR		LR	16 31 25.1	
	comp=Z,25nm,21.0s,baz=121,slow=42							
EIL	**Elat**	**20.26**	**284**	LR		LR	16 33 47.0	
	comp=Z,19nm,20.2s,baz=72,slow=43							
MMAI	**Mount Meron Ar**	**20.35**	**294**	LR		LR	16 33 25.3	
	comp=Z,26nm,18.0s,baz=255,slow=41							
AAK	**Ala-Archa**	**21.20**	**36**	P		**P**	**16 24 15.6**	**0.0**
	comp=Z,0.6nm,0.4s,baz=192,slow=14,SNR=3.6							
AKTO	**Aktyubinsk**	**23.91**	**1**	P		**P**	**16 24 43.7**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=159,slow=9.7,SNR=8.0							
BRTR	**Keskin Array B**	**23.96**	**309**	P		**P**	**16 24 44.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=131,slow=9.8,SNR=9.5							
BRTR				LR		LR	16 36 12.0	
	comp=Z,31nm,18.5s,baz=90,slow=42							
MKAR	**Makanchi Array**	**28.12**	**37**	P		**P**	**16 25 23.3**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=235,slow=5.1,SNR=2.9							
CMAR	**Chiang Mai Arr**	**38.87**	**93**	LR		LR	16 43 55.6	
	comp=Z,19nm,21.9s,baz=198,slow=38							
GERES	**GERESS Array B**	**40.59**	**315**	P		**P**	**16 27 07.6**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=113,slow=10,SNR=3.9							
NOA	**NORSAR Array B**	**46.51**	**331**	LR		LR	16 49 19.9	
	comp=Z,9.2nm,18.6s,baz=75,slow=39							

*JMA **17** 16:25:46.6, 22.°87N×121.°04E, h43km±1km, M2.8*
*ISCJB **17** 16:25:48.4±0.4, 22.°84N±0.°02×121.°35E±0.°03, h17km±7km, Error ellipse: s-maj=4.4km s-min=3.0km az=19.8*
*TAP **17** 16:25:48.5, 22.°88N×121.°29E, h19km, ML2.6, B*

ISC 17 16:25:48.8±0.9, 22.°87N±0.°03×121.°31E±0.°02, h22km±5km, n44, σ1$01/77, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.19**	**234**	P		**Pb**	**16 25 53.9**	**-0.1**
	baz=222							
TTN				S		**Sb**	**16 25 57.8**	**+0.2**
	baz=222							
TWGBT	**Beinan**	**0.22**	**257**	P		**Pb**	**16 25 54.2**	**-0.3**
	baz=267							
TWGBT				S		**Sb**	**16 25 58.1**	**-0.2**
	baz=267							
TWG	**Pinlang**	**0.23**	**259**	*i* P		**Pb**	**16 25 54.3**	**-0.3**
	baz=267							
TWG				*i* S		**Sb**	**16

	baz=241						
WTP	**Ta-pu**	**0.75**	**301**	P	**Pb**	**16 26 03.1**	**0.0**
	baz=301						
WTP				*e*S	**Sn**	**16 26 14.0**	**-0.7**
	baz=301						
TPUB	**Ta-pu**	**0.76**	**305**	*e*P	**Pb**	**16 26 03.3**	**-0.1**
	baz=297						
TPUB				*e*S	**Sn**	**16 26 14.2**	**-0.9**
	baz=297						
SSPT	**Xinbi**	**0.79**	**241**	*e*S	**Sb**	**16 26 14.4**	**+0.5**
	baz=239						
CHN1	**Nanshi**	**0.79**	**294**	P	**Pn**	**16 26 04.5**	**-0.1**
	baz=296						
CHN1				*e*S	**Sn**	**16 26 15.4**	**-0.3**
	baz=296						
ALS	**Alishan**	**0.79**	**324**	P	**Pb**	**16 26 03.9**	**-0.2**
	baz=332						
ALS				S	**Sb**	**16 26 14.6**	**+0.1**
	baz=332						
EGFH	**Guangfu**	**0.81**	**8**	*e*P	**Pb**	**16 26 04.1**	**0.0**
	baz=357						
SCZT	**Fangliau**	**0.81**	**233**	*e*P	**Pb**	**16 26 03.5**	**-0.6**
	baz=226						
SCZT				*e*S	**Sb**	**16 26 14.9**	**+0.3**
	baz=226						
SNST	**Tainan City**	**0.83**	**295**	*e*P	**Pn**	**16 26 05.1**	**0.0**
	baz=296						
SNST				*e*S	**Sn**	**16 26 17.4**	**+0.7**
	baz=296						
LAY	**Lan-yu**	**0.85**	**165**	*e*S	**Sb**	**16 26 16.1**	**+0.2**
	baz=153						
TWK	**Hsinying**	**0.86**	**298**	P	**Pn**	**16 26 05.9**	**+0.4**
	baz=299						
TWK				*e*S	**Sn**	**16 26 18.2**	**+0.8**
	baz=299						
VWDT	**VWDT**	**0.90**	**350**	*e*P	**Pb**	**16 26 05.1**	**-0.6**
	baz=348						
WHYT	**Xinyi Township**	**0.93**	**333**	*e*P	**Pn**	**16 26 06.6**	**+0.1**
	baz=335						
WHYT				*e*S	**Sn**	**16 26 18.2**	**-1.0**
	baz=335						
CHN5	**Tsauling**	**0.93**	**321**	P	**Pn**	**16 26 06.6**	**0.0**
	baz=328						
CHN5				*e*S	**Sn**	**16 26 19.2**	**-0.2**
	baz=328						
ESL	**Shilin**	**0.95**	**7**	*e*P	**Pb**	**16 26 05.1**	**-1.5**
	baz=9.0						
CHY	**Chiayi**	**1.03**	**308**	*e*P	**Pn**	**16 26 07.3**	**-0.6**
	baz=308						
CHY				*e*S	**Sn**	**16 26 23.0**	**+1.3**
	baz=308						
SMLT	**Sun Moon Lake**	**1.08**	**340**	*e*P	**Pb**	**16 26 09.3**	**+0.4**
	baz=348						
SMLT				*e*S	**Sn**	**16 26 23.4**	**+0.3**
	baz=348						
OWD	**Renai**	**1.09**	**353**	*e*P	**Pn**	**16 26 07.3**	**-1.6**
	baz=6.0						
WLGB	**Puzi**	**1.11**	**303**	*e*P	**Pb**	**16 26 09.6**	**+0.2**
	baz=303						
TYC	**Yuchr**	**1.11**	**338**	*e*P	**Pb**	**16 26 10.7**	**+1.3**
	baz=350						
WNT	**Mingjian**	**1.16**	**330**	*e*P	**Pb**	**16 26 11.2**	**+1.1**
	baz=331						
WNT				*e*S	**Sn**	**16 26 27.6**	**+2.7**
	baz=331						
DPDB	**Guoxing**	**1.22**	**343**	*e*P	**Pb**	**16 26 11.4**	**+0.2**
	baz=354						
DPDB				*e*S	**Sb**	**16 26 27.4**	**+1.0**
	baz=354						
WSF	**Szhu**	**1.26**	**308**	*e*S	**Sb**	**16 26 30.0**	**+2.2**
	baz=308						
YOJ	**Yonaguni jima**	**2.23**	**44**	P	**Pb**	**16 26 26.2**	**-2.1**
HATJ	**Hateruma jima**	**2.58**	**62**	P	**Pn**	**16 26 30.1**	**+0.9**
HATJ				*e*S	**Sn**	**16 27 01.1**	**+1.3**
IRIF	**Iriomote-Funau**	**2.66**	**56**	P	**Pn**	**16 26 31.8**	**+1.6**
IRIF				*e*S	**Sb**	**16 27 04.7**	**-3.1**
JKRS	**Kuro-shima**	**2.83**	**61**	P	**Pn**	**16 26 33.9**	**+1.3**
JKRS				*e*S	**Sn**	**16 27 07.6**	**+1.6**
JIJ	**Ishigaki jima**	**2.99**	**60**	P	**Pn**	**16 26 35.2**	**+0.3**
JIJ				S	**Sn**	**16 27 11.3**	**+1.2**
JISG	**Ishigakijimahi**	**3.24**	**57**	P	**Pn**	**16 26 38.1**	**-0.1**
JISG				*e*S	**Sn**	**16 27 17.0**	**+0.9**
JTJ	**Tarama**	**3.57**	**60**	P	**Pn**	**16 26 43.9**	**+1.1**
JTJ				*e*S	**Sn**	**16 27 26.3**	**+1.9**

*ISCJB **17** 16:29:02.6±0.9, 36°.75N±0°.04×37°.09E±0°.04, h14km±6km, Error ellipse: s-maj=6.8km s-min=5.1km az=172.4*
*DDA **17** 16:29:02.0, 36°.81N×37°.14E, h6km±4km, ML2.7*
*ISK **17** 16:29:02.1, 36°.76N×37°.10E, h20km, ML1.9/5*
ISC 17 16:29:02.1±0.9, **36°.81N**±0°.04×**37°.11E**±0°.03, **h11**km±6km, **n13**, σ0**59**/23, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.05**	**216**	IAML_P			
	comp=Z,38μm,0.2s						
KUZU				*i* P	**Pg**	**16 29 04.8**	**+0.5**
KUZU				*i* S	**Sg**	**16 29 05.4**	**-0.5**
KAMA	**Osmaniye**	**0.52**	**317**	IAML_P			
	comp=Z,919nm,0.1s						
KAMA				*i* P	**Pg**	**16 29 12.3**	**+0.1**
HCB	**Kahramanmara**	**0.56**	**343**	IAML_P			
	comp=Z,632nm,0.1s						
HCB				*i* P	**Pg**	**16 29 12.1**	**-0.9**
HCB				*i* S	**Sg**	**16 29 19.9**	**-0.4**
KMRS	**Kahramanmaras**	**0.71**	**347**	PG	**Pn**	**16 29 17.7**	**-0.5**
KMRS				SG	**Sn**	**16 29 28.6**	**-0.6**
TAHT	**Tahtakopru-Hat**	**0.86**	**240**	PG	**Pb**	**16 29 19.1**	**0.0**
TAHT				SG	**Sb**	**16 29 30.5**	**-0.1**
ANDN	**Andirin**	**0.98**	**322**	IAML_P			
	comp=Z,1μm,0.2s						
ANDN				*i* P	**Pn**	**16 29 22.4**	**+0.4**
ANDN				*i* S	**Sn**	**16 29 36.2**	**+0.2**
CEYT	**Ceyhan**	**1.11**	**281**	PN	**Pb**	**16 29 23.4**	**+0.1**
CEYT				SN	**Sn**	**16 29 38.6**	**-0.3**
ATAB	**Bozova**	**1.15**	**55**	IAML_P			
	comp=Z,3μm,0.3s						
ATAB				*i* P	**Pb**	**16 29 23.8**	**-0.3**
ATAB				*i* S	**Sn**	**16 29 40.7**	**+0.6**
SURC	**SANLIURFA_SURC**	**1.21**	**86**	*i* P	**Pb**	**16 29 24.9**	**-0.1**
SURC				*i* S	**Sg**	**16 29 41.0**	**-0.1**
KOZT	**Kozan**	**1.22**	**304**	PN	**Pn**	**16 29 25.3**	**+0.1**
KOZT				SN	**Sg**	**16 29 41.6**	**0.0**
URFA	**Urfa**	**1.51**	**65**	PN	**Pn**	**16 29 28.7**	**-0.5**
ELBS	**KAHRAMANMARAS1**	**1.51**	**1**	*i* P	**Pg**	**16 29 32.9**	**+1.8**
ELBS				*i* S	**Sg**	**16 29 51.1**	**+0.2**
SANL	**SANLIURFA_Merk**	**1.55**	**76**	IAML_P			
	comp=Z,346nm,0.1s						
SANL				*i* P	**Pg**	**16 29 32.2**	**+0.3**

*IDC **17** 16:29:46.5±0.6, 10°.41S×75°.12W, h0km, mb4.3/13, mb1 4.5/18, mb1mx4.4/34, mbtmp4.3/18, ML4.1/5, MS3.7/14, Ms1 3.6/14, ms1mx3.5/25, Error ellipse: s-maj=17.3km s-min=13.7km az=55.0*
*ISCJB **17** 16:29:50.7±0.3, 10°.42S±0°.03×75°.06W±0°.04, h41km, mb4.5/20, MS3.7/12, Error ellipse: s-maj=5.9km s-min=3.5km az=153.8*
*NEIC **17** 16:29:51.0±0.0, 10°.62S×75°.27W, h45km, mb4.6/21, ML4.2(ARE), After ARE.*
NEIC Felt [II] at Pozuzo.
*VAO **17** 16:29:54.7±0.3, 10°.44S×75°.07W, h58km, mb4.8*
ISC 17 16:29:52.4±0.4, **10°.47S**±0°.04×**75°.07W**±0°.06, **h41**km, **n122**, σ**1957**/122, **mb4.5**/20, **MS3.8**/12, **1C, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.30**	**229**	*e*Pn	**Pn**	**16 30 26.9**	**-1.1**
NNA				*e*Sn	**Sn**	**16 30 56.1**	**+1.0**
NNA	**Nana**	**2.30**	**229**	Pn	**Pn**	**16 30 26.9**	**-1.1**
	206nm,0.3s,baz=66,slow=9.9,SNR=252						
NNA				Sn	**Sn**	**16 30 54.6**	**-0.5**
	310nm,0.3s,baz=132,slow=21,SNR=7.6						
NNA				LR	LR	16 31 36.0	
	comp=Z,1μm,20.5s,baz=14,slow=48						
ATAH	**Atahualpa**	**4.67**	**315**	Pn	**Pn**	**16 31 02.6**	**+1.8**
	84nm,0.3s,baz=120,slow=2.7,SNR=148						
ATAH				Sn	**Sn**	**16 31 56.1**	**+2.2**
	32nm,0.3s,baz=72,slow=9.6,SNR=1.8						
LPAZ	**La Paz**	**8.89**	**131**	*e*Pn	**Pn**	**16 32 01.6**	**+2.7**
LPAZ	**La Paz**	**8.89**	**131**	Pn	**Pn**	**16 32 01.1**	**+2.2**
	0.8nm,0.3s,baz=330,slow=9.5,SNR=18						
LPAZ	**La Paz**	**8.89**	**131**	*e*P	**Pn**	**16 32 00.9**	**+2.0**
MNMC	**Minye Minye**	**10.11**	**149**	*e*Pn	**Pn**	**16 32 15.6**	**+0.3**
PTLC	**Puerto Leguiza**	**10.57**	**1**	*e*P	Pn	16 32 15.1	-6.4
PTLC	**Puerto Leguiza**	**10.57**	**1**	*e*P	Pn	16 32 15.1	-6.4
GO01	**Chusmiza**	**10.76**	**149**	*e*Pn	**Pn**	**16 32 25.6**	**+1.2**
GO01				*e*Sn	**Sn**	**16 34 25.0**	**+1.2**
OTAV	**Otavalo**	**11.16**	**342**	*e*Pn	**Pn**	**16 32 30.0**	**+0.2**
OTAV				*e*Sn	**Sn**	**16 34 40.4**	**+6.8**
OTAV	**Otavalo**	**11.16**	**342**	*e*P	**Pn**	**16 32 29.5**	**-0.3**
OTAV	**Otavalo**	**11.16**	**342**	*e*P	**Pn**	**16 32 29.5**	**-0.3**
OTAV	**Otavalo**	**11.16**	**342**	*e*P	**Pn**	**16 32 30.0**	**+0.2**
GCUF	**Volcan Galeras**	**11.84**	**349**	*e*P	**Pn**	**16 32 37.2**	**-2.0**
GCUF	**Volcan Galeras**	**11.84**	**349**	*e*P	**Pn**	**16 32 37.2**	**-2.0**
BBAC	**Balboa, Cauca**	**12.60**	**350**	*e*P	**Pn**	**16 32 47.6**	**-1.7**
BBAC	**Balboa, Cauca**	**12.60**	**350**	*e*P	**Pn**	**16 32 47.6**	**-1.7**
SOTA	**Rioblanco**	**12.62**	**353**	*e*P	**Pn**	**16 32 48.3**	**-1.6**
SOTA	**Rioblanco**	**12.62**	**353**	*e*P	**Pn**	**16 32 48.3**	**-1.6**
PCON	**Cinco Dias**	**12.78**	**354**	*e*P	**Pn**	**16 32 52.1**	**-0.1**
PCON	**Cinco Dias**	**12.78**	**354**	*e*P	**Pn**	**16 32 52.1**	**-0.1**
POPC	**Popayan, Colom**	**13.02**	**353**	*e*P	**Pn**	**16 32 52.8**	**-2.4**
POPC	**Popayan, Colom**	**13.02**	**353**	*e*P	**Pn**	**16 32 52.8**	**-2.4**
LVC	**Limon Verde**	**13.43**	**155**	Pn	**Pn**	**16 32 59.4**	**-1.5**
	0.2nm,0.3s,baz=68,slow=16,SNR=2.2						
LVC				LR	LR	16 37 51.1	
	comp=Z,116nm,19.8s,baz=324,slow=36						
LVC	**Limon Verde**	**13.43**	**155**	*e*P	**Pn**	**16 33 02.1**	**+1.2**
PRAC	**Prado**	**14.09**	**1**	*e*P	**Pn**	**16 33 08.6**	**-1.0**
PRAC	**Prado**	**14.09**	**1**	*e*P	**Pn**	**16 33 08.6**	**-1.0**
SIV	**San Ignacio**	**14.69**	**113**	Pn	**Pn**	**16 33 15.5**	**-2.1**
	1.6nm,0.3s,baz=300,slow=13,SNR=24						
SIV				Lg	Lg	16 37 32.5	
	2.4nm,0.3s,baz=268,slow=13,SNR=6.2						
ROSC	**El Rosal**	**15.23**	**3**	Lg	Lg	16 37 49.0	
	baz=73,slow=19,SNR=2.3						
GO02	**Mina Guanaco**	**15.51**	**161**	*e*Pn	**Pn**	**16 33 22.0**	**-6.7**
	33nm,1.0s						
GUY2C	**Guyana, Caldas**	**15.59**	**359**	*e*P	**Pn**	**16 33 30.7**	**+0.8**
GUY2C	**Guyana, Caldas**	**15.59**	**359**	*e*P	**Pn**	**16 33 30.7**	**+0.8**
NORC	**Norcasia**	**15.93**	**1**	*e*P	**Pn**	**16 33 32.7**	**-1.2**
NORC	**Norcasia**	**15.93**	**1**	*e*P	**Pn**	**16 33 32.7**	**-1.2**
RUSC	**La Rusia**	**16.38**	**7**	*e*P	**Pn**	**16 33 40.3**	**+0.4**
RUSC	**La Rusia**	**16.38**	**7**	*e*P	**Pn**	**16 33 40.3**	**+0.4**
PTBC	**PUERTO BERRIO,**	**16.91**	**2**	*e*P	**Pn**	**16 33 46.9**	**+0.7**
PTBC	**PUERTO BERRIO,**	**16.91**	**2**	*e*P	**Pn**	**16 33 46.9**	**+0.7**
PAMC	**Pamplona, Colo**	**17.85**	**8**	*e*P	**P**	**16 33 59.2**	**+0.6**
PAMC				*e*P	**Pn**	**16 34 00.6**	**+2.3**
PAMC	**Pamplona, Colo**	**17.85**	**8**	*e*P	**P**	**16 33 59.2**	**+0.6**
PAMC				*e*P	**Pn**	**16 34 00.6**	**+2.3**
PTGA	**Pitinga**	**17.86**	**58**	*e*P	**P**	**16 33 58.4**	**+0.1**
	31nm,1.1s						
PTGA	**Pitinga**	**17.86**	**58**	P	**Pn**	**16 33 56.9**	**-1.1**
	1.7nm,0.3s,baz=240,slow=14,SNR=20						
PTGA				S	**Sn**	**16 37 09.2**	**-7.1**
	1.1nm,0.3s,baz=139,slow=20,SNR=2.5						
PTGA	**Pitinga**	**17.86**	**58**	*e*P	**P**	**16 33 58.2**	**-0.1**
LCO	**Las Campanas**	**18.89**	**168**	*e*P	**Pn**	**16 34 11.1**	**+0.4**
CLDB	**Colider**	**18.95**	**93**	*e*P	**Pn**	**16 34 11.7**	**+0.5**
SMLC	**San Martn de**	**19.17**	**3**	*e*P	**P**	**16 34 12.3**	**-0.3**
SMLC	**San Martn de**	**19.17**	**3**	*e*P	**P**	**16 34 12.3**	**-0.3**
SDV	**Santo Domingo**	**19.73**	**13**	*e*P	**P**	**16 34 18.8**	**-0.2**
	16nm,0.8s						
SDV	**Santo Domingo**	**19.73**	**13**	P	**P**	**16 34 19.0**	**+0.1**
	1.8nm,0.3s,baz=248,slow=10,SNR=12						
SDV	**Santo Domingo**	**19.73**	**13**	*e*P	**P**	**16 34 19.4**	**+0.5**
SJCC	**San Jacinto, C**	**20.23**	**360**	*e*P	Pn	16 34 26.3	-0.2
SJCC	**San Jacinto, C**	**20.23**	**360**	*e*P	Pn	16 34 26.3	-0.2
CODC	**Agustn Codazz**	**20.34**	**5**	*e*P	**P**	**16 34 25.0**	**-0.3**
CODC	**Agustn Codazz**	**20.34**	**5**	*e*P	**P**	**16 34 25.0**	**-0.3**
AQDB	**Aquidauana**	**21.13**	**120**	*e*P	**P**	**16 34 35.6**	**+1.7**
C2SB	**Chapadao do Su**	**23.02**	**114**	*e*P	**P**	**16 34 56.1**	**+2.0**
CPUP	**Villa Florida**	**23.02**	**136**	*e*P	**P**	**16 34 54.7**	**+0.7**
	12nm,0.8s						
CPUP	**Villa Florida**	**23.02**	**136**	P	**P**	**16 34 54.5**	**+0.5**
	9.6nm,0.7s,baz=326,slow=10,SNR=23						
CPUP				LR	LR	16 44 03.0	
	comp=Z,65nm,19.3s,baz=318,slow=37						
CPUP	**Villa Florida**	**23.02**	**136**	*e*P	**P**	**16 34 54.9**	**+0.9**
TRCB	**Terra Rica**	**24.70**	**123**	*e*P	**P**	**16 35 11.4**	**+1.5**
ITRB	**Iturama**	**25.53**	**114**	*e*P	**P**	**16 35 18.4**	**+0.9**
PTGB	**Pitanga**	**26.05**	**126**	*e*P	**P**	**16 35 23.0**	**+0.8**
BDFB	**Brasília**	**26.84**	**104**	P	**P**	**16 35 30.6**	**+1.2**
	9.7nm,0.6s,baz=278,slow=12,SNR=8.5						
BDFB				LR	LR	16 46 07.9	
	comp=Z,244nm,20.1s,baz=266,slow=36						
ITAB	**Concordia**	**27.29**	**131**	*e*P	**P**	**16 35 33.9**	**+0.7**
FRTB	**Fartura**	**27.50**	**121**	*e*P	**P**	**16 35 36.3**	**+1.1**
BB19B	**Bebedouro**	**27.59**	**116**	*e*P	**P**	**16 35 36.6**	**+0.6**
TIJ01	**Guaruva-PR**	**28.79**	**124**	*e*P	**P**	**16 35 48.0**	**+1.2**
RCLB	**Rio Claro- Sao**	**28.90**	**118**	*e*P	**P**	**16 35 47.9**	**+0.2**
TER01	**Tubaro-SC**	**30.23**	**130**	*e*P	**P**	**16 35 59.4**	**0.0**
PLCA	**Paso Flores**	**30.41**	**173**	*e*P	**P**	**16 36 00.3**	**-0.6**
	22nm,1.9s						
PLCA	**Paso Flores**	**30.41**	**173**	P	**P**	**16 36 00.3**	**-0.6**
	1.7nm,0.7s,baz=23,slow=10,SNR=6.0						
PLCA				LR	LR	16 46 08.3	
	comp=Z,63nm,21.5s,baz=348,slow=32						
PLCA	**Paso Flores**	**30.41**	**173**	*e*P	**P**	**16 36 00.7**	**-0.2**
MCI8	**Montes Claros**	**30.87**	**105**	*e*P	**P**	**16 36 04.7**	**-0.6**
MCI9	**Montes Claros**	**30.90**	**105**	*e*P	**P**	**16 36 05.7**	**+0.2**
MCI6	**Montes Claros**	**30.92**	**105**	*e*P	**P**	**16 36 06.2**	**+0.5**
BSCB	**Bom Sucesso**	**30.93**	**113**	*e*P	**P**	**16 36 05.9**	**+0.1**
SJMB	**Sao Joao De Ma**	**33.75**	**108**	*e*P	**P**	**16 36 30.5**	**+0.1**
BSFB	**Barra de Sao F**	**34.09**	**108**	*e*P	**P**	**16 36 33.7**	**+0.4**
ALF01	**Guarapari-ES**	**34.52**	**111**	*e*P	**P**	**16 36 37.7**	**+0.7**
RIB01	**Linhares ES**	**34.59**	**109**	*e*P	**P**	**16 36 38.4**	**+0.7**
RCBR	**Riachuelo**	**39.03**	**86**	*e*P	**P**	**16 37 16.8**	**+1.3**
LRAL	**Lakeview Retre**	**44.73**	**346**	*e*P	**P**	**16 38 00.7**	**-1.1**
	6.8nm,1.0s						
T57A	**Hurt**	**47.38**	**355**	*e*P	**P**	**16 38 23.2**	**+0.6**
	8.2nm,0.6s						
MIAR	**Mount Ida**	**48.09**	**339**	*e*P	**P**	**16 38 26.3**	**-1.8**
	4.2nm,0.8s						
TXAR	**Lajitas Array**	**48.24**	**326**	P	**P**	**16 38 29.1**	**-0.3**
	1.4nm,0.6s,baz=152,slow=8.2,SNR=19						
TXAR				LR	LR	16 57 14.7	
	comp=Z,73nm,20.1s,baz=0.0,slow=34						
TX31	**Lajitas Ar. Si**	**48.24**	**326**	*e*P	**P**	**16 38 29.2**	**-0.3**
BTPC	**Burnt Peak**	**60.94**	**320**	*e*P	**P**	**16 40 02.7**	**+1.0**
PD31	**Pinedale Array**	**61.65**	**332**	*e*P	**P**	**16 40 03.7**	**-2.7**
	3.3nm,1.0s						
PDAR	**Pinedale Array**	**61.65**	**332**	*e*P	**P**	**16 40 04.4**	**-2.0**
PDAR	**Pinedale Array**	**61.65**	**332**	P	**P**	**16 40 05.6**	**-0.8**
	1.2nm,0.5s,baz=132,slow=8.7,SNR=10						
PDAR				LR	LR	17 06 56.3	
	comp=Z,45nm,19.9s,baz=229,slow=36						
ULM	**Lac du Bonnet**	**63.14**	**345**	*e*P	**P**	**16 40 14.7**	**-1.2**
	9.7nm,0.8s						
ULM	**Lac du Bonnet**	**63.14**	**345**	P	**P**	**16 40 14.8**	**-1.0**
	4.1nm,0.5s,baz=169,slow=7.0,SNR=11						
NVAR	**Mina Array Bea**	**63.19**	**323**	P	**P**	**16 40 16.1**	**-0.6**
	1.3nm,0.8s,baz=129,slow=7.1,SNR=7.6						
NVAR				LR	LR	17 06 10.4	
	comp=Z,30nm,19.9s,baz=138,slow=35						
DBIC	**Dimbokro**	**71.95**	**79**	*e*P	**P**	**16 41 12.4**	**+0.2**
	27nm,1.4s						
DBIC	**Dimbokro**	**71.95**	**79**	P	**P**	**16 41 12.4**	**+0.2**
	5.5nm,0.8s,baz=223,slow=6.9,SNR=4.7						
DBIC				LR	LR	17 10 42.6	
	comp=Z,133nm,18.9s,baz=218,slow=34						
PPT	**Papeete**	**72.25**	**255**	LR	LR	17 07 24.8	
	comp=Z,49nm,18.5s,baz=137,slow=31						
SNAA	**Sanae**	**74.56**	**162**	*e*P	**P**	**16 41 27.5**	**+0.8**
	12nm,1.5s						
YKA	**Yellowknife Ar**	**78.91**	**342**	P	**P**	**16 41 50.9**	**-0.3**
	0.6nm,0.5s,baz=140,slow=6.3,SNR=12						
QSPA	**South Pole Qui**	**79.65**	**180**	*e*P	**P**	**16 41 56.4**	**+0.9**
	29nm,1.7s						
TOA1	**Torodi Ar. Sit**	**79.71**	**75**	*e*P	**P**	**16 41 55.4**	**-1.2**
TOA0	**Torodi Ar. Sit**	**79.72**	**75**	*e*P	**P**	**16 41 57.1**	**+0.5**
	12nm,0.8s						
TORD	**Torodi Ar. Bea**	**79.72**	**75**	P	**P**	**16 41 55.4**	**-1.2**
	11nm,0.9s,baz=284,slow=6.0,SNR=34						
TORD				LR	LR	17 16 58.9	
	comp=Z,56nm,18.2s,baz=185,slow=36						
ESDC	**Sonseca Array**	**82.47**	**47**	P	**P**	**16 42 12.9**	**+2.0**
	0.6nm,0.3s,baz=260,slow=5.3,SNR=7.1						
VNDA	**Vanda**	**86.59**	**191**	P	**P**	**16 42 32.5**	**+1.6**
	1.2nm,0.9s,baz=176,slow=1.9,SNR=5.3						
INK	**Inuvik**	**88.64**	**342**	*e*P	**P**	**16 42 41.0**	**+0.3**
	4.3nm,0.8s						
SYO	**Syowa Base**	**88.82**	**161⇑**	*e*PcP	**PcP**	**16 42 43.2**	**-0.1**
ILAR	**Eielson Array**	**91.81**	**336**	P	**P**	**16 42 54.0**	**-1.7**
	0.5nm,0.7s,baz=155,slow=1.4,SNR=4.4						
ILAR				LR	LR	17 28 12.9	
	comp=Z,36nm,18.8s,baz=117,slow=38						
BOSA	**Boshof**	**93.96**	**120**	LR	LR	17 23 13.2	
	comp=Z,71nm,18.5s,baz=243,slow=34						
MAW	**Mawson**	**96.49**	**165**	LR	LR	17 27 13.4	
	comp=Z,33nm,20.6s,baz=250,slow=36						
LANS	**Liptovska Anna**	**100.79**	**42**	*e*PDIF	**Pdif**	**16 43 38.1**	**+1.2**
STKA	**Stephens Creek**	**125.19**	**218**	PKP	**PKPdf**	**16 48 48.8**	**-0.4**
	1.4nm,0.7s,baz=15,slow=4.2,SNR=4.9						
ZAA1	**Zalesovo Array**	**133.75**	**16**	*e*PKPdf	**PKiKP**	**16 49 06.0**	**0.0**
ZALV	**Zalesovo Beam**	**133.75**	**16**	PKP	**PKiKP**	**16 49 06.0**	**0.0**
	1.3nm,0.6s,baz=267,slow=2.7,SNR=5.9						
ASAR	**Alice Springs**	**135.80**	**220**	PKP	**PKPdf**	**16 49 09.8**	**+0.3**
	1.3nm,0.8s,baz=117,slow=1.5,SNR=15						
WR1	**Warramunga Arr**	**138.15**	**224**	*e*PKPdf	**PKPdf**	**16 49 14.4**	**+0.4**
WRA	**Warramunga Arr**	**138.15**	**224**	PKP	**PKPdf**	**16 49 14.4**	**+0.4**
	1.8nm,0.6s,baz=147,slow=2.3,SNR=9.2						
MK32	**Makanchi Array**	**139.02**	**24**	*e*PKPdf	**PKiKP**	**16 49 16.4**	**-0.6**
MKAR	**Makanchi Array**	**139.02**	**24**	PKP	**PKiKP**	**16 49 16.4**	**-0.6**
	0.2nm,0.5s,baz=338,slow=2.6,SNR=2.4						
KSRS	**Korea Array**	**146.09**	**326**	PKPbc	**PKPab**	**16 49 29.0**	**0.0**
	2.2nm,0.7s,baz=44,slow=2.4,SNR=8.6						
GTA	**Gaotai**	**150.82**	**8**	PKPbc	**PKiKP**	**16 49 42.0**	**+0.4**
GTA				pPKP	PKPab	16 49 47.1	-1.0
CD2	**Chengdu**	**159.63**	**3**	PKP	**PKPdf**	**16 49 45.8**	**-1.7**

*IDC **17** 16:32:35.5±5.8, 23°.09N×122°.62E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/37, mbtmp3.5/3, MS3.2/2, Ms1 3.2/2, ms1mx2.4/28, Error ellipse: s-maj=404.8km s-min=26.3km az=60.0*
*TAP **17** 16:32:41.7, 21°.94N×120°.27E, h55km, ML3.9, D*
*ISCJB **17** 16:32:42.4±0.4, 21°.97N±0°.02×120°.29E±0°.02, h51km±3km, mb3.4/3, MS3.2/2, Error ellipse: s-maj=4.1km s-min=3.2km az=140.9*
*JMA **17** 16:32:42.3±0.4, 21°.94N×120°.34E, h65km±4km, M3.7*
ISC 17 16:32:43.3±1.2, **21°.96N**±0°.05×**120°.27E**±0°.04, **h43**km±9km, **n98**, σ0**80**/170, **mb3.4**/3, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.40**	**12**	*i* P	**Pn**	**16 32 52.5**	**-0.4**
	baz=12						
TWP				S	**Sn**	**16 33 00.9**	**+1.2**
	baz=12						
WLCH	**Liuqiu**	**0.41**	**14**	P	**Pn**	**16 32 52.4**	**-0.5**
	baz=13						
WLCH				*e*S	**Sn**	**16 33 01.9**	**+2.1**
	baz=13						
HEN	**Hengchun**	**0.44**	**83**	P	**Pn**	**16 32 52.6**	**-0.7**
	baz=81						
HEN				*i* S	**Sn**	**16 33 00.6**	**+0.2**
	baz=81						
TWK1	**Hengchun**	**0.50**	**91**	P	**Pn**	**16 32 53.3**	**-0.8**
	baz=89						
TWK1				*e*S	**Sn**	**16 33 01.6**	**-0.2**
	baz=89						
TWKBT	**Hengchun**	**0.50**	**92**	P	**Pn**	**16 32 53.3**	**-0.9**
	baz=89						
TWKBT				*e*S	**Sn**	**16 33 01.5**	**-0.4**
	baz=89						
SCZT	**Fangliau**	**0.53**	**38**	P	**Pn**	**16 32 53.0**	**-1.4**
	baz=37						
SCZT				*e*S	**Sn**	**16 33 01.3**	**-1.1**
	baz=37						
TSEB	**Hengchuen, Pin**	**0.59**	**95**	P	**Pn**	**16 32 54.0**	**-1.3**
	baz=93						
TSEB				S	**Sn**	**16 33 03.3**	**-0.5**
	baz=93						
SSPT	**Xinbi**	**0.59**	**28**	*e*P	**Pn**	**16 32 54.2**	**-1.2**
	baz=26						
SSPT				*e*S	**Sn**	**16 33 03.3**	**-0.7**
	baz=26						
TAW	**Tawu**	**0.70**	**55**	P	**Pn**	**16 32 55.7**	**-1.1**
	baz=54						
TAW				*e*S	**Sn**	**16 33 07.0**	**

CHKT	Chengkung	1.52	41	eP	Pn	16 33 07.5	-0.5
	baz=41						
CHKT				eS	Sn	16 33 27.9	+1.2
	baz=41						
CHY	Chiayi	1.54	5	eP	Pn	16 33 07.8	-0.5
	baz=5.0						
CHY				S	Sn	16 33 26.1	-1.1
	baz=5.0						
CHN2	Minshiung	1.58	7	eS	Sn	16 33 27.9	-0.2
	baz=6.0						
WSF	Szhu	1.68	358	P	Pn	16 33 09.3	-0.9
	baz=358						
WSF				eS	Sn	16 33 29.8	-0.6
	baz=358						
CHN5	Tsauling	1.68	13	eP	Pn	16 33 09.4	-0.9
	baz=12						
CHN5				S	Sn	16 33 30.2	-0.4
	baz=12						
PHUB	P'eng-hu	1.68	338	eP	Pn	16 33 09.1	-1.1
	baz=337						
PHUB				eS	Sn	16 33 29.4	-1.1
	baz=337						
TWF1	Yuli	1.68	34	P	Pn	16 33 10.3	+0.1
	baz=34						
TWF1				eS	Sn	16 33 30.6	-0.1
	baz=34						
YULB	Yu-li	1.72	33	eP	Pn	16 33 10.6	-0.1
	baz=33						
YULB				eS	Sn	16 33 31.2	-0.3
	baz=33						
PNG	Penghu	1.73	338	P	Pn	16 33 10.1	-0.9
	baz=338						
PNG				S	Sn	16 33 32.5	+0.6
	baz=338						
WDLH	Douliu	1.74	8	eP	Pn	16 33 09.9	-1.2
	baz=8.0						
WDLH				eS	Sn	16 33 31.5	-0.5
	baz=8.0						
WGK	Gukeng	1.74	9	P	Pn	16 33 11.2	+0.1
	baz=9.0						
WGK				eS	Sn	16 33 31.8	-0.3
	baz=9.0						
WHYT	Xinyi Township	1.81	17	eP	Pn	16 33 11.8	-0.3
	baz=17						
WHYT				eS	Sn	16 33 33.6	-0.3
	baz=17						
EHY	Hungye	1.82	32	P	Pn	16 33 12.1	-0.1
	baz=32						
EHY				eS	Sn	16 33 34.0	-0.1
	baz=32						
HGSD	Ruisui	1.86	35	eP	Pn	16 33 12.6	-0.1
	baz=34						
HGSD				eS	Sn	16 33 35.0	-0.1
	baz=34						
WTCT	Ta-ch'eng	1.90	0	eS	Sn	16 33 35.6	-0.3
RLNB	Erlin	1.93	2	eP	Pn	16 33 13.3	-0.3
	baz=2.0						
RLNB				eS	Sn	16 33 35.4	-1.2
	baz=2.0						
SSLB	Suanglung	1.93	19	P	Pn	16 33 13.4	-0.2
	baz=18						
SSLB				eS	Sn	16 33 36.5	-0.3
	baz=18						
WNT	Mingjian	1.95	11	eP	Pn	16 33 12.6	-1.4
	baz=11						
WNT				eS	Sn	16 33 35.8	-1.4
	baz=11						
VWDT	VWDT	1.96	24	eP	Pn	16 33 13.3	-0.7
	baz=23						
VWDT				eS	Sn	16 33 37.9	+0.5
	baz=23						
SMLT	Sun Moon Lake	2.00	17	P	Pn	16 33 13.9	-0.8
	baz=16						
SMLT				eS	Sn	16 33 36.2	-2.5
	baz=16						
EGFH	Guangfu	2.01	32	eP	Pn	16 33 14.5	-0.3
	baz=31						
EGFH				eS	Sn	16 33 38.6	-0.1
	baz=31						
TYC	Yuchr	2.01	15	eP	Pn	16 33 13.9	-0.9
	baz=15						
TYC				eS	Sn	16 33 39.3	+0.6
	baz=15						
WCHH	Zhanghua	2.13	7	P	Pn	16 33 16.2	-0.2
	baz=7.0						
WCHH				S	Sn	16 33 41.2	-0.5
	baz=7.0						
ESL	Shilin	2.14	30	eP	Pn	16 33 15.9	-0.6
	baz=30						
ESL				eS	Sn	16 33 40.6	-1.2
	baz=30						
DPDB	Guoxing	2.15	16	eP	Pn	16 33 16.2	-0.5
	baz=16						
DPDB				eS	Sn	16 33 42.4	0.0
	baz=16						
OWD	Renai	2.16	23	eP	Pn	16 33 16.8	-0.1
	baz=22						
OWD				eS	Sn	16 33 41.8	-0.7
	baz=22						
TCU	Taichung	2.21	10	P	Pn	16 33 17.5	0.0
	baz=9.0						
TCU				eS	Sn	16 33 43.0	-0.7
	baz=9.0						
CHGB	Renai	2.25	21	P	Pn	16 33 18.6	+0.3
	baz=21						
CHGB				eS	Sn	16 33 44.6	-0.4
	baz=21						
WHF	Hehuan Shan	2.36	23	P	Pn	16 33 20.0	0.0
	baz=22						
WHP	Taichung City	2.39	15	P	Pn	16 33 20.5	+0.4
	baz=14						
WHP				eS	Sn	16 33 47.8	-0.5
	baz=14						
WDJ	Dajia District	2.41	8	eP	Pn	16 33 20.2	+0.1
	baz=8.0						
WDJ				eS	Sn	16 33 48.4	0.0
	baz=8.0						
TWQ1	Liyutan	2.43	11	eP	Pn	16 33 20.5	0.0
	baz=10.0						
TWQ1				eS	Sn	16 33 49.0	0.0
	baz=10.0						
TDCB	Techi	2.43	19	P	Pn	16 33 20.7	+0.1
	baz=19						
TWD	Chiawan	2.44	30	P	Pn	16 33 20.5	-0.1
	baz=29						
ETLH	Xiulin Townshi	2.50	26	P	Pn	16 33 22.2	+0.6
	baz=26						
ETLH				eS	Sn	16 33 50.8	-0.2
	baz=26						
NACB	Ninganchiao	2.52	29	eP	Pn	16 33 21.5	-0.3
	baz=28						
NACB				eS	Sn	16 33 51.2	-0.1
	baz=28						
NNSB	Datong	2.67	22	P	Pn	16 33 24.0	+0.1
	baz=22						
NNSB				eS	Sn	16 33 54.6	-0.4
	baz=22						
NNS	Nan Shan	2.67	22	P	Pn	16 33 24.6	+0.6
	baz=22						
NNS				eS	Sn	16 33 54.8	-0.4
	baz=22						
NSTT	Nanjuang	2.75	14	eP	Pn	16 33 24.4	-0.5
	baz=14						
NSTT				eS	Sn	16 33 56.5	-0.3
	baz=14						
LIOB	Emei	2.76	14	eP	Pn	16 33 24.6	-0.5
	baz=14						
LIOB				eS	Sn	16 33 56.3	-1.0
	baz=14						
ENA	Nanau	2.81	29	eP	Pn	16 33 25.1	-0.6
	baz=28						
NDT	Datong Townshi	2.87	23	eP	Pn	16 33 27.7	+1.1
	baz=23						
YHNB	Yeheng	2.89	20	P	Pn	16 33 27.3	+0.5
	baz=20						
YHNB				eS	Sn	16 33 59.9	-0.5
	baz=20						
NSK	Sanguang	2.89	20	eP	Pn	16 33 26.7	-0.1
	baz=20						
ENTT	Nioudou	2.93	24	eP	Pn	16 33 28.3	+0.9
	baz=24						
KNM	Kinmen	2.98	326	eS	Sn	16 34 03.7	+1.2
	baz=323						
TWC	Suao	3.01	28	eS	Sn	16 34 02.7	-0.7
	baz=28						
TWE	Neicheng	3.04	25	eP	Pn	16 33 29.1	+0.3
	baz=25						
KNMB	Chin-men Tao	3.04	326	eP	Pn	16 33 29.4	+0.5
	baz=325						
KNMB				eS	Sn	16 34 03.5	-0.5
	baz=325						
EOS1	EOS1	3.10	33	eP	Pn	16 33 30.4	+0.8
	baz=33						
VWUC	VWUC	3.11	346	eP	Pn	16 33 28.6	-1.3
	baz=346						
VWUC				eS	Sn	16 34 03.5	-2.4
	baz=346						
TIPB	Shuangxi	3.33	25	eP	Pn	16 33 33.0	+0.2
	baz=25						
TIPB				eS	Sn	16 34 10.4	-0.7
	baz=25						
JYNG	Yonagunijimaku	3.50	44	P	Pn	16 33 35.8	+0.6
JYNG				eS	Sn	16 34 14.5	-0.8
YOJ	Yonaguni jima	3.55	45	P	Pn	16 33 36.9	+1.1
YOJ				eS	Sn	16 34 17.7	+1.2
HATJ	Hateruma jima	3.87	57	eS	Sn	16 34 23.6	-0.9
IRIF	Iriomote-Funau	3.97	53	P	Pn	16 33 41.5	-0.1
JKRS	Kuro-shima	4.12	56	P	Pn	16 33 43.6	-0.2
JKRS				eS	Sn	16 34 30.4	-0.4
JIJ	Ishigaki jima	4.29	55	P	Pn	16 33 45.4	-0.7
JIJ				eS	Sn	16 34 34.7	-0.3
JISG	Ishigakijimahi	4.54	54	P	Pn	16 33 48.9	-0.7
JISG				eS	Sn	16 34 41.4	+0.3
JTJ	Tarama	4.87	56	P	Pn	16 33 54.5	+0.4
JTJ				S	Sn	16 34 48.1	-1.1
MKAR	Makanchi Array	39.39	318	P	P	16 40 12.2	+3.3
	0.5nm,0.7s,baz=109,slow=9.6,SNR=7.1						
MKAR				LR	LR	16 57 41.9	
	comp=Z,25nm,18.8s,baz=36,slow=38						
WRA	Warramunga Arr	43.85	161	P	P	16 40 47.0	+1.5
	0.4nm,0.5s,baz=346,slow=10,SNR=5.0						
ASAR	Alice Springs	47.25	163	P	P	16 41 14.4	+2.0
	0.2nm,0.4s,baz=347,slow=7.5,SNR=16						
NOA	NORSAR Array B	79.79	332	LR	LR	17 24 25.5	
	comp=Z,14nm,18.2s,baz=45,slow=39						

IDC 17 16:51:04.8±16.0, 17°.49S×178°.78W, h586km±129km, mb3.6/3, mb1 3.6/4, mb1mx2.9/30, mbtmp4.4/4, Error ellipse: s-maj=160.4km s-min=102.7km az=66.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.63	249	P	P	16 54 10.2	+0.2
	0.2nm,0.3s,baz=137,slow=20,SNR=6.7						
STKA	Stephens Creek	38.52	241	P	P	16 57 37.9	-0.3
	2.8nm,0.5s,baz=82,slow=11,SNR=14						
WRA	Warramunga Arr	44.36	259	P	P	16 58 24.1	-0.3
	1.4nm,0.3s,baz=92,slow=7.6,SNR=64						
ASAR	Alice Springs	44.56	254	P	P	16 58 26.1	+0.1
	10nm,0.5s,baz=88,slow=8.7,SNR=500						
ASAR				PcP	PcP	16 59 55.8	-0.3
	0.5nm,0.5s,baz=104,slow=4.1,SNR=4.6						

IDC 17 17:25:57.7±0.7, 6°.66S×154°.59E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.0/33, mbtmp4.1/12, ML1.7/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/37, Error ellipse: s-maj=23.8km s-min=18.0km az=110.0
NEIC 17 17:26:01.6±1.3, 6°.74S×154°.54E, h26km±6km, mb4.4/19, Error ellipse: s-maj=19.6km s-min=13.4km az=223.0
ISCJB 17 17:26:03.0±0.4, 6°.71S±0°.06×154°.49E±0°.06, h48km, mb4.2/26, MS2.8/1, Error ellipse: s-maj=8.9km s-min=7.8km az=151.4
ISC 17 17:26:04.2±0.5, 6.72S±0°.07×154°.56E±0°.07, h48km, n47, σ1§41/52, mb4.2/26, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	3.47	316	ePn	Pn	17 26 53.9	-1.8
HNR	Honiara	5.97	117	ePn	Pn	17 27 30.8	+0.6
HNR	Honiara	5.97	117	Pn	Pn	17 27 33.8	+3.6
	2.2nm,0.3s,baz=248,slow=11,SNR=1.9						
HNR				LR	LR	17 29 49.3	
	comp=Z,134nm,19.2s,baz=322,slow=39						
PMG	Port Moresby	7.80	250	ePn	Pn	17 27 53.9	-1.3
PMG				e		17 27 54.1	
PMG				eSn	Sn	17 29 23.9	+1.7
PMG	Port Moresby	7.80	250	Pn	Pn	17 27 54.2	-1.0
	0.6nm,0.3s,baz=215,slow=17,SNR=2.6						
PMG				Sn	Sn	17 29 24.2	+2.0
	1.0nm,0.3s,baz=73,slow=19,SNR=4.1						
CTA	Charters Tower	15.54	210	Pn	P	17 29 44.4	+0.5
	0.3nm,0.3s,baz=38,slow=15,SNR=5.2						
DZM	Mont Dzumac	19.09	144	eP	P	17 30 17.2	-6.0
	14nm,1.0s						
DZM	Mont Dzumac	19.09	144	P	Pn	17 30 24.3	-0.1
	0.1nm,0.3s,baz=296,slow=12,SNR=5.4						
FAKI	Fak Fak	22.55	279	eP	P	17 30 58.6	-1.9
	6.2nm,1.0s						
WRAB	Tennant Creek	23.61	234	eP	P	17 31 11.2	+0.1
	10nm,1.1s						
WB2	Warramunga Arr	23.61	234	eP	P	17 31 10.6	-0.5
	11nm,1.2s						
WR1	Warramunga Arr	23.62	234	eP	P	17 31 10.7	-0.5
WR1				ePcP	PcP	17 34 55.5	+0.3
WRA	Warramunga Arr	23.62	234	P	P	17 31 10.7	-0.5
	5.7nm,0.9s,baz=58,slow=9.2,SNR=18						
WRA				PcP	PcP	17 34 55.5	+0.3
	0.5nm,0.5s,baz=63,slow=2.4,SNR=7.1						
ARMA	Armidale	23.73	186	eP	P	17 31 13.2	+1.0
	50nm,1.8s						
MTN	Manton Dam	23.86	253	eP	P	17 31 13.2	-0.2
	9.1nm,0.9s						
AS31	Alice Springs	26.03	227	eP	P	17 31 32.6	-0.6
	0.6nm,0.8s						
ASAR	Alice Springs	26.03	227	eP	P	17 31 32.2	-1.0
ASAR	Alice Springs	26.03	227	P	P	17 31 33.0	-0.3
	2.3nm,1.0s,baz=60,slow=8.1,SNR=18						
ASAR				PcP	PcP	17 35 02.3	+1.8
	0.3nm,0.7s,baz=57,slow=3.0,SNR=3.3						
STKA	Stephens Creek	27.80	204	eP	P	17 31 48.0	-0.9
	1.8nm,1.4s						
STKA	Stephens Creek	27.80	204	P	P	17 31 48.5	-0.4
	1.9nm,0.5s,baz=34,slow=15,SNR=8.8						
FITZ	Fitzroy Crossi	30.37	245	eP	P	17 32 11.3	-0.6
	6.0nm,1.1s						
FITZ	Fitzroy Crossi	30.37	245	LR	LR	17 45 33.4	
	comp=Z,20nm,18.9s,baz=71,slow=39						
BBOO	Buckleboo	31.14	211	eP	P	17 32 17.4	-1.2
	16nm,1.4s						
MMRI	Mamere	32.08	264	eP	P	17 32 26.1	-0.9
	7.3nm,0.8s						
PSI	Prapat	56.34	278	eP	P	17 35 42.2	+1.1
	11nm,1.2s						
ENH	Enshi	56.74	313	eP	P	17 35 43.5	0.0
	10nm,1.0s						
XAN	Xi'an	59.21	316	eP	P	17 36 00.3	-0.5
	3.3nm,0.7s						
CMAR	Chiang Mai Arr	60.28	296	eP	P	17 36 09.1	+0.8
CMAR	Chiang Mai Arr	60.28	296	P	P	17 36 09.7	+1.3
	0.8nm,0.7s,baz=113,slow=5.5,SNR=8.2						
SONA0	Songino Array	68.88	327	eP	P	17 37 05.8	+1.7
SONM	Songino Array	68.88	327	P	P	17 37 05.8	+1.7
	1.3nm,0.5s,baz=120,slow=8.5,SNR=2.7						
LSA	Lhasa	70.76	305	eP	P	17 37 17.4	+0.9
	3.0nm,0.9s						
VNDA	Vanda	70.86	178	eP	P	17 37 16.4	+0.8
VNDA				ePP	P	17 37 17.5	+1.8
VNDA	Vanda	70.86	178	P	P	17 37 17.0	+1.3
	1.1nm,0.9s,baz=333,slow=7.1,SNR=5.2						
MK31	Makanchi Array	82.92	319	eP	P	17 38 24.3	+0.2
	1.2nm,0.8s						
MKAR	Makanchi Array	82.92	319	eP	P	17 38 24.1	0.0
MKAR	Makanchi Array	82.92	319	P	P	17 38 24.2	+0.1
	1.8nm,0.7s,baz=101,slow=5.5,SNR=20						
MAKZ	Makanchi	83.13	319	eP	P	17 38 25.5	+0.4
	3.2nm,0.9s						
QSPA	South Pole Qui	83.25	180	eP	P	17 38 25.3	-0.3
	20nm,1.6s						
ILAR	Eielson Array	83.28	22	P	P	17 38 24.1	-1.4
	0.3nm,0.6s,baz=258,slow=4.3,SNR=2.9						
ZALV	Zalesovo Beam	83.71	326	P	P	17 38 27.1	-0.9
	1.3nm,0.7s,baz=106,slow=6.2,SNR=5.1						
ZAA1	Zalesovo Array	83.72	326	eP	P	17 38 27.1	-0.9
NV01	Mina Array Sit	91.89	52	eP	P	17 39 08.6	+0.6
NVAR	Mina Array Bea	91.89	52	P	P	17 39 08.6	+0.6
	0.6nm,0.6s,baz=253,slow=9.2,SNR=4.0						
TOA0	Torodi Ar. Sit	152.54	286	ePKPbc	PKPbc	17 45 56.4	0.0
TORD	Torodi Ar. Bea	152.54	286	PKPbc	PKPbc	17 45 56.4	-0.1
	3.8nm,0.7s,baz=60,slow=2.6,SNR=22						
TOA1	Torodi Ar. Sit	152.54	286	ePKPbc	PKPbc	17 45 56.4	-0.1

NIED 17 17:42:00, 47°.30N×142°.60E, h5km, Mw4.0 Best double couple: M0:1.06000×10^15 NP1:φ=196.00000°, δ16.00000°, λ115.00000°. NP2:φ=350.00000°, δ75.00000°, λ83.00000°.
JMA 17 17:42:56.0±0.6, 47°.34N×142°.64E, h54km, M4.0
IDC 17 17:42:57.8±0.9, 46°.93N×142°.28E, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.5/32, mbtmp3.5/8, ML3.1/1, MS3.0/3, Ms1 3.0/3, ms1mx2.5/36, Error ellipse: s-maj=29.8km s-min=19.7km az=101.0
SKHL 17 17:42:57.5±0.4, 46°.95N×142°.51E, h10km, mb4.9/1, msh4.4/1
SKHL Felt (II-III) at Troitskoye.
ISCJB 17 17:42:58.5±0.6, 47°.03N±0°.03×142°.60E±0°.09, h14km±4km, mb3.5/7, MS4.0/1, Error ellipse: s-maj=10.2km s-min=3.6km az=165.5
ISC 17 17:42:59.7±0.9, 46°.95N±0°.03×142°.64E±0°.07, h11km±6km, n20, σ1§64/28, mb3.7/7, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	Yuzh-Sakhalins	0.08	90	⇓iPg	Pg	17 43 01.8	-0.3
YSS				AMB	AMB	17 43 02.4	
	4μm,0.7s						
YSS				eSg	Sg	17 43 05.1	+1.2
YSS				A	A	17 43 06.0	
	6μm,0.6s						
JWK2	Keihoku	1.72	198	P	Pb	17 43 29.9	-1.3
JWK2				eS	Sg	17 43 54.6	-0.2
JSE	Soyaes	2.00	181	P	Pn	17 43 32.9	-0.4
JSE				eS	Sb	17 44 00.8	+0.1
UGL	Uglegorsk	2.16	350	ePb	Pn	17 43 36.7	+1.2
UGL				ePg	Pg	17 43 40.7	-0.4
UGL				AMB	AMB	17 43 42.0	
	500nm,3.0s						
UGL				AMB	AMB	17 43 42.0	
	140nm,0.9s						
UGL				eSg	Sb	17 44 06.0	+0.5
UGL				A	A	17 44 07.0	
	280nm,0.9s						
UGL				A	A	17 44 07.0	
	270nm,0.9s						
UGL				A	A	17 44 10.0	
	1μm,2.0s						
ASAJ	Asahikawa	2.84	181	Pn	Pn	17 43 45.3	+0.5
	2.0nm,0.3s,baz=350,slow=14,SNR=28						
ASAJ				Sn	Sn	17 44 20.2	+1.2
	11nm,0.3s,baz=88,slow=31,SNR=6.3						
JTKR	Abashiri--Toko	3.11	163	P	Pn	17 43 47.8	-0.8
JTKR				eS	Sn	17 44 25.9	+0.1
JAR	Ashorobuto	3.74	167	eS	Sn	17 44 42.9	+1.6
TYV	Tymovskoe	3.91	0	ePb	Pb	17 44 06.8	-1.8
TYV				AMB	AMB	17 44 10.5	
	8.0nm,1.1s						
TYV				ePg	Pg	17 44 15.6	+1.0
TYV				AMB	AMB	17 44 21.0	
	20nm,0.9s						
TYV				eSb	Sb	17 44 50.9	-5.0
TYV				eSg	Sg	17 45 06.0	+0.8
GRNR	Gornyy	5.60	315	eP	Pn	17 44 22.8	-0.1
GRNR				AMB	AMB	17 44 23.6	
	8.0nm,0.8s						
GRNR				eSg	Sg	17 46 03.0	+3.6
GRNR				A	A	17 46 07.5	
	23nm,0.7s						
EKMR	Ekimchan	8.74	318	eP	Pn	17 45 05.8	-0.1
EKMR				AMB	AMB	17 45 09.1	
	3.0nm,0.5s						
EKMR				eSg	Sg	17 47 59.8	+20
EKMR				A	A	17 48 02.9	
	21nm,1.0s						
EKMR				A	A	17 48 02.9	
	16nm,1.0s						
EKMR				A	A	17 48 02.9	
	11nm,1.0s						
MA2	Magadan	13.53	18	LR	LR	17 52 20.7	
	comp=Z,26nm,18.3s,baz=256,slow=41						
KSRS	Korea Array	14.44	234	LR	LR	17 50 40.0	
	comp=Z,15nm,19.5s,baz=62,slow=32						
MKAR	Makanchi Array	40.34	293	P	P	17 50 35.4	-1.6
	0.5nm,0.8s,baz=79,slow=9.0,SNR=4.9						
ILAR	Eielson Array	40.86	38	P	P	17 50 43.3	+2.3
	0.3nm,0.6s,baz=289,slow=8.5,SNR=5.4						
YKA	Yellowknife Ar	54.90	34	P	P	17 52 31.0	+1.3
	0.2nm,0.6s,baz=304,slow=6.3,SNR=2.1						
FINES	FINESS Array B	60.55	330	P	P	17 53 08.1	-1.3
	1.1nm,0.7s,baz=36,slow=12,SNR=4.1						
CTA	Charters Tower	66.81	176	LR	LR	18 22 24.5	
	comp=Z,98nm,22.0s,baz=110,slow=35						
PDAR	Pinedale Array	70.20	48	P	P	17 54 13.1	+0.4
	0.4nm,0.6s,baz=15,slow=1.7,SNR=4.9						
ASAR	Alice Springs	70.73	188	P	P	17 54 14.7	-0.9
	0.5nm,0.8s,baz=9.5,slow=6.0,SNR=6.1						
TXAR	Lajitas Array	83.41	54	P	P	17 55 27.7	+0.5
	0.5nm,0.8s,baz=305,slow=4.4,SNR=6.7						

ISCJB 17 17:58:33.0±1.1, 20°.34S±0°.03×69°.54W±0°.09, h105km±9km, Error ellipse: s-maj=13.6km s-min=4.6km az=175.7
SJA 17 17:58:32.3±0.8, 20°.32S×69°.47W, h104km±5km, MD2.9
GUC 17 17:58:33.1±0.5, 20°.33S×69°.42W, h104km±3km, ML3.5
ISC 17 17:58:33.5±1.9, 20°.33S±0°.04×69°.50W±0°.08, h100km±13km, n19, σ0§58/36, 7C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	IPOC Station P	0.37	59	eP	Pn	17 58 48.5	-0.5
PB08				eS	Sn	17 59 00.6	+0.1
PB08	IPOC Station P	0.37	59	⇓iP	Pn	17 58 48.5	-0.5
PB08				i S	Sn	17 59 00.0	-0.4
PB11	IPOC Station P	0.59	345	eP	Pn	17 58 50.0	-0.2
PB11				eS	Sn	17 59 02.9	+0.3
PB11	IPOC Station P	0.59	345	⇓eP	Pn	17 58 50.0	-0.2
PB11				i S	Sn	17 59 02.9	+0.3
PB01	IPOC Station P	0.71	179	⇑eP	Pn	17 58 50.7	-0.4
PB01				eS	Sn	17 59 04.2	-0.1
PB01				IAML		17 59 05.4	
	comp=E,4μm,0.1s						
PSGC	Pisagua	0.94	321	⇓iP	Pn	17 58 53.1	-0.3
PSGC				i S	Sn	17 59 08.4	0.0
PSGC				i S		17 59 08.6	
PSGC				IAML		17 59 09.2	
	comp=N,1μm,0.2s						
PSGCX	Pisagua	0.94	321	eP	Pn	17 58 53.1	-0.3
PSGCX				eS	Sn	17 59 08.8	+0.4
PB02	IPOC Station P	1.05	201	eP	Pn	17 58 55.2	+0.6
PB02				eS	Sn	17 59 11.6	+1.1
PB02	IPOC Station P	1.05	201	⇑eP	Pn	17 58 54.8	+0.1
PB02				i S	Sn	17 59 11.2	+0.7
PB02				IAML		17 59 13.7	
	comp=N,2μm,0.6s						
MNMC	Minye Minye	1.20	356	⇑eP	Pn	17 58 56.2	-0.3
MNMC				i S	Sn	17 59 14.1	+0.3
MNMCX	Minye Minye	1.20	356	eP	Pn	17 58 56.3	-0.2
MNMCX				eS	Sn	17 59 14.7	+1.0
PB07	IPOC Station P	1.43	195	eP	Pn	17 58 59.2	0.0
PB07	IPOC Station P	1.43	195	⇑iP	Pn	17 58 59.2	0.0
PB07				i S	Sn	17 59 18.8	+0.2
PB07				IAML		17 59 21.6	
	comp=E,876nm,0.5s						
PB09	IPOC Station P	1.48	171	eP	Pn	17 58 59.6	-0.1
PB09				eS	Sn	17 59 20.5	+1.0
PB09	IPOC Station P	1.48	171	⇑iP	Pn	17 58 59.5	-0.1
PB09				i S	Sn	17 59 19.7	+0.3
PB09				IAML		17 59 22.0	
	comp=E,524nm,0.2s						
PB03	IPOC Station P	1.72	188	eP	Pn	17 59 02.4	-0.3
PB03	IPOC Station P	1.72	188	⇑iP	Pn	17 59 02.6	-0.2
PB03				eS	Sn	17 59 24.4	-0.5
PB03				IAML		17 59 26.2	
	comp=E,486nm,0.2s						
PB04	IPOC Station P	2.08	197	⇑iP	Pn	17 59 06.6	-0.8
PB04				i S	Sn	17 59 31.3	-1.9
PB04				IAML		17 59 35.6	
	comp=N,551nm,0.4s						
LVC	Limon Verde	2.33	167	eP	Pn	17 59 11.0	+0.2
LVC			

ellipse: s-maj=3.8km s-min=1.2km az=348.0
*TIF **17** 18:00:44.6, 41.°79N×46.°32E, h12km*
*DRS **17** 18:00:45.7±0.0, 41.°80N×46.°19E, h15km, ML3.2/4*
ISC 17 18:00:45.9±0.8, **41.°79N**±0.°01×**46.°27E**±0.°01, **h9**km±5km, **n64**, σ1§**17**/128, **1C-6D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.05**	**334**	P	**Pg**	**18 00 47.5**	**-0.3**
LGD				S	**Sg**	**18 00 49.6**	**+0.4**
LGD	**Lagodekhi**	**0.05**	**334**	*e*Pg	**Pg**	**18 00 47.5**	**-0.3**
LGD				*e*Sg	**Sg**	**18 00 49.6**	**+0.4**
ZKTA	**Zakatala** SNR=179	**0.30**	**120**	P	**Pg**	**18 00 51.2**	**-0.7**
ZKTA				S	**Sg**	**18 00 56.1**	**0.0**
DDFL	**Dedoflistskaro**	**0.36**	**198**	P	**Pg**	**18 00 50.6**	**-2.4**
DDFL				S	**Sg**	**18 00 58.4**	**+0.5**
GNBR	**Gunib** 159nm,0.5s	**0.79**	**41**	*e*Pg	**Pg**	**18 00 59.8**	**-1.4**
GNBR				⇓*e*Sg	**Sg**	**18 01 10.6**	**-0.8**
XNZR	**Khunzakh**	**0.82**	**23**	*e*Pg	**Pg**	**18 01 00.9**	**-0.7**
XNZR				*e*Sg	**Sg**	**18 01 12.1**	**-0.3**
BTLR	**Botlikh** 98nm,0.5s	**0.87**	**358**	*i* Pg	**Pg**	**18 01 01.9**	**-0.9**
BTLR				⇓*i*Sg	**Sg**	**18 01 13.6**	**-0.5**
SEKA	**Sheki** SNR=84	**0.91**	**130**	P	**Pg**	**18 01 02.4**	**-1.0**
SEKA				S	**Sn**	**18 01 17.0**	**-1.1**
ARKR	**Arakani** 149nm,0.2s	**0.97**	**33**	*e*Pg	**Pg**	**18 01 04.0**	**-0.6**
ARKR				*e*Sg	**Sb**	**18 01 17.5**	**-0.5**
QZX	**Qazax, Azerbai** SNR=134	**1.00**	**223**	P	**Pg**	**18 01 04.2**	**-0.9**
QZX				S	**Sb**	**18 01 19.1**	**+0.5**
URKR	**Urkarakh**	**1.08**	**69**	*e*Pg	**Pg**	**18 01 06.1**	**-0.6**
URKR				*e*Sg	**Sb**	**18 01 21.1**	**-0.1**
SEAG	**Tbilisi Sea**	**1.10**	**269**	P	**Pg**	**18 01 04.6**	**-2.4**
SEAG				S	**Sb**	**18 01 22.3**	**+0.8**
BTNK	**Botanikuri**	**1.11**	**265**	P	**Pg**	**18 01 06.6**	**-0.5**
BTNK				S	**Sn**	**18 01 23.4**	**+0.3**
AKT	**Akhty** 69nm,0.6s	**1.14**	**105**	*e*Pg	**Pg**	**18 01 05.8**	**-1.9**
AKT				⇓*e*Sg	**Sg**	**18 01 21.4**	**-1.2**
GDB	**GEDABAY** SNR=168	**1.14**	**200**	P	**Pg**	**18 01 05.8**	**-2.0**
GDB				S	**Sg**	**18 01 22.4**	**-0.2**
KRNR	**Karanay**	**1.14**	**24**	*e*Pg	**Pg**	**18 01 06.5**	**-1.3**
KRNR				*e*Sg	**Sg**	**18 01 22.0**	**-0.6**
GANJ	**Ganja** SNR=56	**1.15**	**178**	P	**Pg**	**18 01 06.1**	**-1.8**
GANJ				S	**Sg**	**18 01 22.5**	**-0.2**
TBLG	**Delisi**	**1.15**	**267**	P	**Pb**	**18 01 07.4**	**-0.5**
TBLG				S	**Sn**	**18 01 24.2**	**+0.2**
TBLG	**Delisi**	**1.15**	**267**	*e*Pg	**Pb**	**18 01 07.4**	**-0.5**
TBLG				*e*Sg	**Sn**	**18 01 24.2**	**+0.2**
MNGR	**Mingechevir, A**	**1.19**	**149**	P	**Pb**	**18 01 08.2**	**-0.4**
MNGR				S	**Sn**	**18 01 26.6**	**+1.7**
BUJR	**Buynaksk**	**1.21**	**31**	*e*Pg	**Pb**	**18 01 08.0**	**-0.9**
BUJR				*e*Sg	**Sg**	**18 01 22.0**	**-2.7**
SGKR	**Sergokala**	**1.23**	**57**	*e*Pg	**Pg**	**18 01 09.0**	**-0.5**
SGKR				*e*Sg	**Sn**	**18 01 26.0**	**-0.1**
DBC	**Dubki**	**1.30**	**18**	*e*Pg	**Pn**	**18 01 09.4**	**-0.8**
DBC				*e*Sg	**Sg**	**18 01 27.1**	**-0.6**
DLMR	**Dylym**	**1.30**	**12**	*i* Pg	**Pn**	**18 01 09.5**	**-0.9**
DLMR				*e*Sg	**Sn**	**18 01 28.0**	**+0.1**
KSMR	**Kasumkent**	**1.40**	**97**	*e*Pg	**Pb**	**18 01 12.0**	**-0.3**
KSMR				*e*Sg	**Sg**	**18 01 31.0**	**-0.1**
QBL	**Gabala** SNR=18	**1.45**	**125**	P	**Pb**	**18 01 12.6**	**-0.5**
QBL				S	**Sg**	**18 01 32.7**	**+0.2**
KZRT	**Kazreti**	**1.46**	**255**	P	**Pn**	**18 01 11.8**	**-0.7**
KZRT				S	**Sn**	**18 01 31.3**	**-0.5**
MAK	**Makhachkala**	**1.48**	**38**	*e*Pg	**Pg**	**18 01 14.9**	**+0.5**
MAK				*i* Sg	**Sg**	**18 01 33.8**	**+0.1**
GUDG	**Gudauri**	**1.49**	**297**	P	**Pn**	**18 01 13.1**	**0.0**
GUDG				S	**Sg**	**18 01 34.0**	**+0.1**
QSAR	**Qusar**	**1.52**	**100**	Pn	**Pb**	**18 01 13.4**	**-0.8**
QSAR				Sn	**Sg**	**18 01 38.8**	**+4.1**
XNQ	**Khinaliq** SNR=16	**1.54**	**113**	Pn	**Pn**	**18 01 13.8**	**+0.1**
XNQ				Sn	**Sg**	**18 01 37.6**	**+2.3**
DRN	**Derbent**	**1.56**	**80**	*e*Pg	**Pg**	**18 01 14.8**	**-0.9**
DRN				*i* Sg	**Sg**	**18 01 35.0**	**-0.9**
STEZ	**Stepenevan**	**1.61**	**241**	⇓*e*P	**Pn**	**18 01 13.0**	**-1.7**
STEZ				⇓S	**Sn**	**18 01 34.5**	**-1.2**
BRDA	**Brd** SNR=4.9	**1.67**	**155**	Pn	**Pb**	**18 01 16.3**	**-0.6**
BRDA				Sn	**Sg**	**18 01 41.3**	**+1.5**
VLKR	**Vladikavkaz**	**1.72**	**317**	*i* Pg	**Pb**	**18 01 18.0**	**+0.3**
VLKR				*e*Sg	**Sg**	**18 01 43.9**	**+2.6**
QUBA	**Quba, Azerbaij** SNR=11	**1.72**	**104**	Pn	**Pg**	**18 01 18.8**	**-0.2**
QUBA				Sn	**Sg**	**18 01 42.6**	**+1.3**
IML	**Ismayilli** SNR=7.9	**1.75**	**124**	Pn	**Pb**	**18 01 18.1**	**-0.2**
IML				Sn	**Sg**	**18 01 42.0**	**-0.2**
LACR	**Lac**	**1.79**	**306**	*e*Pg	**Pn**	**18 01 17.6**	**+0.4**
LACR				*e*Sg	**Sb**	**18 01 41.9**	**+0.2**
ZRD	**Zardab**	**1.85**	**144**	Pn	**Pn**	**18 01 17.6**	**-0.2**
ZRD				Sn	**Sg**	**18 01 45.6**	**+0.2**
GNI	**Garni**	**2.01**	**216**	⇓*i*P	**Pn**	**18 01 20.9**	**+0.7**
GNI				⇑*i*S	**Sb**	**18 01 48.7**	**+0.9**
PQL	**Pirkuli**	**2.02**	**119**	Pn	**Pb**	**18 01 22.3**	**-0.6**
PQL				Sn	**Sg**	**18 01 49.0**	**-1.7**
ZEI	**Tsey**	**2.02**	**300**	*e*Pg	**Pn**	**18 01 20.9**	**+0.5**
ZEI				*e*Sg	**Sb**	**18 01 49.5**	**+1.2**
ARNR	**Ardon**	**2.02**	**314**	*e*Pg	**Pg**	**18 01 25.0**	**+0.3**
ARNR				*i* Sg	**Sg**	**18 01 51.3**	**+0.4**
KDMR	**Kurdemir**	**2.02**	**134**	Pn	**Pn**	**18 01 20.3**	**+0.1**
KDMR				Sn	**Sg**	**18 01 49.4**	**-1.5**
BGD	**Bogdanovka**	**2.07**	**256**	P	**Pn**	**18 01 22.4**	**+1.3**
BGD				S	**Sb**	**18 01 50.1**	**+0.3**
SIZA	**Siyzn** SNR=8.7	**2.10**	**109**	Pn	**Pb**	**18 01 23.9**	**-0.4**
SIZA				Sn	**Sg**	**18 01 55.2**	**+1.8**
AKH	**Akhalkalaki**	**2.12**	**261**	P	**Pn**	**18 01 22.3**	**+0.7**
AKH				S	**Sb**	**18 01 51.0**	**-0.1**
AKH	**Akhalkalaki**	**2.12**	**261**	*e*Pg	**Pn**	**18 01 22.3**	**+0.7**
AKH				*e*Sg	**Sb**	**18 01 51.0**	**-0.1**
ATGJ	**Altiaghaj** SNR=30	**2.21**	**114**	Pn	**Pb**	**18 01 26.1**	**0.0**
ATGJ				Sn	**Sg**	**18 01 59.8**	**+2.8**
SRKG	**Sareki**	**2.24**	**285**	P	**Pn**	**18 01 23.4**	**+0.2**
SRKG				S	**Sn**	**18 01 52.8**	**+1.8**
ONI	**Oni**	**2.24**	**292**	P	**Pn**	**18 01 24.8**	**+1.5**
ONI				S	**Sb**	**18 01 54.8**	**+0.4**
ONI	**Oni**	**2.24**	**292**	*e*Pn	**Pn**	**18 01 24.8**	**+1.5**
ONI				*e*Sn	**Sb**	**18 01 54.8**	**+0.4**
DIGR	**Digorskoe uzhe**	**2.28**	**300**	*e*Pn	**Pn**	**18 01 25.0**	**+1.0**
DIGR				*e*Sn	**Sb**	**18 01 55.2**	**-0.6**
HYR	**Heyderabad** SNR=12	**2.33**	**208**	Pn	**Pb**	**18 01 27.1**	**-1.1**
HYR				Sn	**Sb**	**18 01 56.0**	**-1.1**
GBS	**Qobustan**	**2.38**	**121**	Pn	**Pn**	**18 01 26.2**	**+1.1**
GBS				Sn	**Sb**	**18 01 57.4**	**-0.9**
SBZ	**Shahbuz** SNR=10	**2.45**	**193**	Pn	**Pn**	**18 01 27.8**	**+1.5**
SBZ				Sn	**Sb**	**18 02 01.3**	**+0.7**
TKB	**Tkibuli**	**2.50**	**284**	P	**Pn**	**18 01 28.7**	**+1.9**
TKB				S	**Sb**	**18 02 01.8**	**-0.2**
EPOS	**Posof**	**2.67**	**265**	*i* P	**Pb**	**18 01 32.2**	**-1.7**
EPOS				*i* S	**Sb**	**18 02 08.2**	**+1.3**
NAX	**Nakhchivan** SNR=5.1	**2.68**	**193**	Pn	**Pn**	**18 01 30.2**	**+0.8**
NAX				Sn	**Sb**	**18 02 08.1**	**+1.0**
ORD	**Ordubad** SNR=11	**2.87**	**184**	Pn	**Pn**	**18 01 32.9**	**+1.0**
ORD				Sn	**Sb**	**18 02 11.4**	**-1.2**
GLBA	**Clilabad**	**3.02**	**147**	Pn	**Pn**	**18 01 35.0**	**+1.1**
GLBA				Sg	**Sb**	**18 02 17.1**	**+0.3**
LRK	**Lerik**	**3.52**	**153**	Pn	**Pn**	**18 01 40.9**	**0.0**
LRK				Sn	**Sn**	**18 02 24.9**	**+2.1**
LKRN	**Lenkeran, Azer**	**3.63**	**147**	Pn	**Pn**	**18 01 42.1**	**-0.1**
LKRN				Sn	**Sn**	**18 02 26.8**	**+1.6**
ASTR	**Astara**	**3.76**	**148**	Pn	**Pn**	**18 01 44.5**	**+0.4**
ASTR				Sn	**Sn**	**18 02 32.5**	**+4.0**

BJI 17 18:01:02.5±0.0, **37.°79N×124.°53E, h6**km, **ML3.7/8, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**2.54**	**297**	Pg	Pb	18 01 48.4	-0.1
DL2				Sg	Sb	18 02 21.0	+1.1
DL2				smax	smax		
	comp=N,480nm,0.8s						
DL2				smax	smax		
	comp=E,460nm,0.6s						
SNY	**Shenyang**	**4.10**	**350**	Pg	Pb	18 02 17.5	+2.5
SNY				Sg	Sg	18 03 10.9	-3.2
SNY				smax	smax		
	comp=N,150nm,0.5s						
SNY				smax	smax		
	comp=E,190nm,0.6s						
TIA	**Tai'an**	**6.13**	**257**	Pg	Pb	18 02 52.0	+2.3
TIA				Sg	Sg	18 04 11.8	-7.6
TIA				smax	smax		
	comp=N,46nm,0.9s						
TIA				smax	smax		
	comp=E,28nm,1.0s						
WMQ	**Urumqi**	**28.36**	**294**	*e*P	P	18 06 58.5	+1.2

*IDC **17** 18:05:32.6±1.7, 43.°07N×104.°98W, h0km, mb2.7/1, mb1 3.5/4, mb1mx3.3/38, mbtmp3.3/4, ML3.4/3, Error ellipse: s-maj=32.1km s-min=10.7km az=158.0*
*ISCJB **17** 18:05:35.9±0.4, 43.°79N±0.°03×105.°22W±0.°05, h0km, Error ellipse: s-maj=5.3km s-min=4.6km az=140.1*
*NEIC **17** 18:05:37.2±0.3, 43.°80N×105.°21W, h0km, ML3.1, Error ellipse: s-maj=4.6km s-min=4.3km az=41.0, Suspected Mining explosion.*
NEIC 59 km [37 miles] SSE of Gillette.
ISC 17 18:05:37.5±1.0, **43.°77N**±0.°05×**105.°26W**±0.°05, **h0**km, **n50**, σ1§**29**/49, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**68**	*e*Pg	**Pg**	**18 05 55.1**	**-0.7**
K22A	**Casper**	**1.45**	**220**	*e*Pn	**Pg**	**18 06 03.4**	**-1.8**
PHWY	**Pilot Hill**	**2.47**	**183**	*e*Pn	**Pn**	**18 06 19.4**	**+0.1**
RWWY	**Rawlins**	**2.52**	**215**	*e*Pn	**Pn**	**18 06 21.0**	**+1.1**
N23A	**Red Feather La**	**2.91**	**190**	*e*Pn	**Pn**	**18 06 26.1**	**+0.8**
LAO	**LASA Array**	**3.00**	**347**	*e*Pn	**Pn**	**18 06 25.2**	**-1.1**
RLMT	**Red Lodge**	**3.17**	**297**	*e*Pn	**Pn**	**18 06 28.8**	**-0.1**
PD31	**Pinedale Array**	**3.29**	**254**	*e*Pn	**Pn**	**18 06 30.8**	**+0.3**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**18 06 30.6**	**+0.1**
PDAR	4.6nm,0.3s,baz=72,slow=15,SNR=27			Lg	Lg	18 07 16.6	
	18nm,0.3s,baz=76,slow=31,SNR=7.7						
BW06	**Boulder Array**	**3.29**	**254**	*e*Pn	**Pn**	**18 06 30.4**	**-0.1**
OGNE	**Ogallala**	**3.70**	**139**	*e*Pn	**Pn**	**18 06 35.5**	**-0.4**
GCMT	**Greycliff**	**3.73**	**304**	*e*Pn	**Pn**	**18 06 36.9**	**+0.4**
LOHW	**Long Hollow**	**3.88**	**270**	*e*Pn	**Pn**	**18 06 40.5**	**+2.0**
H17A	**Grant Village**	**3.88**	**281**	*e*Pn	**Pn**	**18 06 38.7**	**+0.1**
FLWY	**Flagg Ranch**	**3.94**	**276**	*e*Pn	**Pn**	**18 06 39.4**	**0.0**
ISCO	**Idaho Springs**	**3.97**	**184**	*e*Pn	**Pn**	**18 06 41.3**	**+1.4**
MOOW	**Moose Ponds**	**3.97**	**272**	*e*Pn	**Pn**	**18 06 40.6**	**+0.7**
SNOW	**Snow King Moun**	**4.00**	**268**	*e*Pn	**Pn**	**18 06 41.7**	**+1.4**
YPP	**Pitchstone Pla**	**4.03**	**279**	*e*Pn	**Pn**	**18 06 40.2**	**-0.5**
REDW	**Red Top Meadow**	**4.08**	**266**	*e*Pn	**Pn**	**18 06 41.8**	**+0.5**
IMW	**Indian Meadow**	**4.11**	**274**	*e*Pn	**Pn**	**18 06 42.3**	**+0.5**
TPAW	**Teton Pass**	**4.14**	**268**	*e*Pn	**Pn**	**18 06 43.0**	**+0.8**
YHH	**Holmes Hill**	**4.14**	**286**	*e*Pn	**Pn**	**18 06 42.1**	**-0.1**
FXWY	**Fox Creek**	**4.18**	**270**	*e*Pn	**Pn**	**18 06 43.2**	**+0.5**
O20A	**White River Ci**	**4.25**	**212**	*e*Pn	**Pn**	**18 06 42.6**	**-1.1**
YHB	**Horse Butte**	**4.37**	**285**	*e*Pn	**Pn**	**18 06 43.2**	**-2.2**
AHID	**Auburn Hatcher**	**4.38**	**259**	*e*Pn	**Pn**	**18 06 46.6**	**+1.2**
SMCO	**Snowmass**	**4.76**	**196**	*e*Pn	**Pn**	**18 06 49.4**	**-1.4**
DGMT	**Dagmar**	**4.76**	**9**	*e*Pn	**Pn**	**18 06 50.7**	**+0.2**
Q24A	**Divide**	**4.80**	**179**	*e*Pn	**Pn**	**18 06 51.9**	**+0.6**
BOZ	**Bozeman (W)**	**4.90**	**294**	*e*Pn	**Pn**	**18 06 50.4**	**-2.1**
HWUT	**Hardware Ranch**	**5.12**	**247**	*e*Pn	**Pn**	**18 06 54.4**	**-1.2**
KSCO	**Kaye Shedlock'**	**5.15**	**156**	*e*Pn	**Pn**	**18 06 56.0**	**+0.1**
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	**Pn**	**18 06 56.9**	**-0.9**
DLMT	**Dillon**	**5.48**	**289**	*e*Pn	**Pn**	**18 06 59.2**	**-1.2**
HRY	**Holter Researc**	**5.49**	**305**	*e*Pn	**Pn**	**18 07 00.5**	**-0.1**
LRM	**Limekiln Ridge**	**5.51**	**294**	*e*Pn	**Pn**	**18 07 00.7**	**-0.3**
MCMT	**McKenzie Canyo**	**5.55**	**284**	*e*Pn	**Pn**	**18 07 03.1**	**+1.6**
MDND	**Maddock**	**5.68**	**42**	*e*Pn	**Pn**	**18 07 02.8**	**-0.3**
BGNE	**Belgrade**	**5.75**	**112**	*e*Pn	**Pn**	**18 07 03.4**	**-0.8**
SPUT	**South Promonto**	**5.85**	**248**	*e*Pn	**Pn**	**18 07 07.7**	**+2.1**
PV22	**Blue Mesa, Par**	**5.86**	**208**	*e*Pn	**Pn**	**18 07 06.0**	**+0.2**
HVU	**Hansel Valley**	**5.88**	**253**	*e*Pn	**Pn**	**18 07 06.0**	**+0.1**
PV07	**Paradox Valley**	**5.90**	**207**	*e*Pn	**Pn**	**18 07 05.1**	**-1.3**
P17A	**Butcher Ranch,**	**5.94**	**226**	*e*Pn	**Pn**	**18 07 07.6**	**+0.8**
PV20	**West Nyswonger**	**6.10**	**209**	*e*Pn	**Pn**	**18 07 09.4**	**+0.4**
ANMO	**Albuquerque**	**8.86**	**186**	Pn	Pn	18 07 32.3	-15
	0.2nm,0.3s,baz=12,slow=9.3,SNR=3.3						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**18 07 47.5**	**-2.7**
	0.9nm,0.3s,baz=230,slow=11,SNR=7.6						
ULM				Lg	Lg	18 10 20.2	
	0.3nm,0.3s,baz=150,slow=20,SNR=2.1						
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**Pn**	**18 10 10.9**	**+3.4**
	0.2nm,0.3s,baz=160,slow=12,SNR=5.0						
YKB5	**Yellowknife Ar**	**19.54**	**347**	*e*P	**Pn**	**18 10 10.9**	**+3.4**

*ISCJB **17** 18:30:05.9±0.6, 11.°01S±0.°06×113.°97E±0.°05, h10km, mb3.7/7, MS2.5/2, Error ellipse: s-maj=8.5km s-min=6.0km az=21.7*
*IDC **17** 18:30:07.3±1.3, 10.°93S×114.°09E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.6/46, mbtmp3.7/9, ML3.2/2, MS2.6/2, Ms1 2.7/2, ms1mx2.4/31, Error ellipse: s-maj=55.2km s-min=16.5km az=48.0*
*DJA **17** 18:30:08.0±1.1, 11.°S±9.°×11.°4E±.°, h11km±12km, M4.4/11, mb4.6/7, mB4.8/1, MLv4.2/11, Mw(mB)4.1/1*
ISC 17 18:30:08.5±0.9, **10.°84S**±0.°07×**114.°10E**±0.°07, **h10**km, **n25**, σ1§**69**/27, **mb3.8/7, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**2.26**	**27**	P	**Pb**	**18 30 48.1**	**-1.3**
IGBI				S	**Sb**	**18 31 18.6**	**+1.1**
JAGI	**Jajag, Banyuwa**	**2.36**	**1**	P	**Pn**	**18 30 48.8**	**+1.5**
SRBI	**Singaraja**	**2.95**	**22**	P	**Pn**	**18 30 57.7**	**+2.3**
PWJI	**Pagerwojo**	**3.60**	**321**	P	**Pn**	**18 31 02.5**	**-1.8**
PWJI				S	**Sn**	**18 31 44.9**	**-2.1**
KMMI	**Kalianget**	**3.77**	**358**	P	**Pn**	**18 31 08.5**	**+1.8**
PCJI	**Pacitan**	**3.90**	**312**	P	**Pn**	**18 31 08.0**	**-0.5**
PLAI	**Plampang**	**4.14**	**61**	P	**Pn**	**18 31 13.2**	**+1.4**
WOJI	**Wonogiri, Jawa**	**4.33**	**313**	P	**Pn**	**18 31 14.0**	**-0.3**
UGM	**Wanagama**	**4.57**	**309**	P	**Pn**	**18 31 17.8**	**0.0**
CISI	**Cisompet, Garu**	**7.01**	**297**	P	**Pn**	**18 31 49.8**	**-1.5**
BSSI	**Bau Bau, Buton**	**7.86**	**54**	P	**Pn**	**18 32 04.9**	**+2.0**
KAPI	**Kappang**	**8.05**	**44**	Pn	**Pn**	**18 32 06.1**	**+0.5**
	0.4nm,0.3s,baz=252,slow=20,SNR=3.4						
KAPI				Sn	**Sn**	**18 33 32.8**	**-4.0**
	0.3nm,0.3s,baz=73,slow=19,SNR=3.7						
BKSI	**Bulukumba**	**8.10**	**48**	P	**Pn**	**18 32 08.3**	**+2.0**
MMRI	**Maumere**	**8.32**	**75**	P	**Pn**	**18 32 10.9**	**+1.6**
BNSI	**Bone**	**8.74**	**43**	P	**Pn**	**18 32 16.7**	**+1.7**
CGJI	**Cibinong**	**9.31**	**296**	P	**Pn**	**18 32 22.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**13.30**	**124**	Pn	**Pn**	**18 33 15.6**	**-1.9**
	0.1nm,0.3s,baz=316,slow=13,SNR=5.5						
FITZ				Sn	Sn	18 35 31.6	-14
	0.1nm,0.3s,baz=136,slow=17,SNR=2.7						
DAV	**Davao City (W)**	**21.15**	**33**	LR	LR	18 45 06.0	
	comp=Z,26nm,18.8s,baz=106,slow=42						
WRA	**Warramunga Arr**	**21.49**	**117**	P	**P**	**18 34 58.4**	**+0.8**
	2.3nm,0.5s,baz=295,slow=12,SNR=28						
ASAR	**Alice Springs**	**22.77**	**127**	P	**P**	**18 35 11.8**	**+0.4**
	1.4nm,0.7s,baz=304,slow=9.3,SNR=33						
CMAR	**Chiang Mai Arr**	**32.73**	**333**	P	**P**	**18 36 43.9**	**+2.3**
	0.5nm,0.7s,baz=162,slow=8.6,SNR=6.1						
CMAR				LR	LR	18 49 37.5	
	comp=Z,5.6nm,19.3s,baz=140,slow=36						
STKA	**Stephens Creek**	**32.91**	**134**	P	**P**	**18 36 42.5**	**-0.6**
	2.3nm,0.8s,baz=312,slow=8.4,SNR=6.0						
MKAR	**Makanchi Array**	**64.03**	**336**	P	**P**	**18 40 43.0**	**+0.6**
	0.6nm,0.5s,baz=155,slow=6.7,SNR=7.9						
KURBB	**Kurchatov Arra**	**68.59**	**337**	P	**P**	**18 41 11.2**	**-0.2**
	0.3nm,0.7s,baz=146,slow=4.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**69.16**	**342**	P	**P**	**18 41 16.4**	**+1.4**
	0.5nm,0.7s,baz=153,slow=9.7,SNR=2.9						

*ISCJB **17** 18:49:24.2±0.9, 5.°1S±0.°1×151.°4E±0.°1, h100km, mb3.9/7, Error ellipse: s-maj=21.1km s-min=10.1km az=147.3*

*NEIC **17** 18:49:24.1±1.4, 5.°09S×151.°30E, h68km±12km, mb4.0/7, Error ellipse: s-maj=32.2km s-min=16.2km az=127.0*
*IDC **17** 18:49:26.5±8.4, 5.°21S×151.°34E, h86km±60km, mb3.9/3, mb1 4.0/4, mb1mx3.4/28, mbtmp4.2/4, ML2.2/1, Error ellipse: s-maj=73.7km s-min=51.2km az=104.0*
ISC 17 18:49:25.3±1.1, **5.°1S**±0.°1×**151.°4E**±0.°1, **h100**km, **n16**, σ1§**45**/17, **mb3.9/7, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.17**	**42**	*e*Pn	**Pn**	**18 49 46.3**	**-1.5**
PMG	**Port Moresby**	**6.00**	**224**	*e*Pn	**Pn**	**18 50 50.7**	**-1.0**
PMG				*e*Sn	**Sn**	**18 51 55.7**	**-3.4**
PMG				*e*		18 51 58.5	
PMG	**Port Moresby**	**6.00**	**224**	P	**Pn**	**18 50 50.9**	**-0.8**
	3.7nm,0.3s,baz=322,slow=7.7,SNR=10						
PMG				S	**Sn**	**18 51 58.5**	**-0.6**
	2.6nm,0.3s,baz=120,slow=20,SNR=4.6						
HNR	**Honiara**	**9.54**	**117**	*e*Pn	**Pn**	**18 51 39.1**	**-0.7**
EIDS	**Eidsvold**	**20.18**	**181**	*e*P	Pn	18 53 54.3	-0.6
	11nm,1.5s						
WRAB	**Tennant Creek**	**22.20**	**227**	*e*P	**P**	**18 54 13.7**	**0.0**
	4.7nm,0.8s						
WB2	**Warramunga Arr**	**22.21**	**227**	*e*P	**P**	**18 54 14.1**	**+0.3**
	4.9nm,0.8s						
WR1	**Warramunga Arr**	**22.21**	**227**	*e*P	**P**	**18 54 14.2**	**+0.4**
WRA	**Warramunga Arr**	**22.21**	**227**	P	**P**	**18 54 14.2**	**+0.4**
	3.5nm,0.6s,baz=52,slow=10.0,SNR=24						
AS31	**Alice Springs**	**25.01**	**221**	*e*P	**P**	**18 54 41.4**	**+1.3**
	3.3nm,1.0s						
ASAR	**Alice Springs**	**25.01**	**221**	*e*P	**P**	**18 54 41.2**	**+1.1**
ASAR	**Alice Springs**	**25.01**	**221**	P	**P**	**18 54 41.1**	**+1.0**
	7.3nm,0.7s,baz=54,slow=8.7,SNR=91						
STKA	**Stephens Creek**	**28.20**	**198**	*e*P	**P**	**18 55 10.8**	**+2.2**
	3.8nm,1.9s						
STKA	**Stephens Creek**	**28.20**	**198**	P	**P**	**18 55 10.2**	**+1.5**
	1.6nm,0.7s,baz=4.1,slow=14,SNR=3.9						
FITZ	**Fitzroy Crossi**	**28.29**	**241**	*e*P	**P**	**18 55 09.7**	**+0.1**
	8.3nm,1.6s						
TORD	**Torodi Ar. Bea**	**149.04**	**287**	PKPbc	**PKiKP**	**19 09 05.5**	**+1.4**
	0.5nm,0.8s,baz=90,slow=2.9,SNR=2.8						

*KRNET **17** 18:52:48.4±0.1, 39.°13N×74.°17E, mb3.0*
*SOME **17** 18:52:51.2, 39.°38N×74.°15E, h0km*
*NNC **17** 18:52:55.6±3.1, 39.°60N×74.°23E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=25.1km s-min=14.7km az=154.0*
ISC 17 18:52:45.9±1.9, **39.°27N**±0.°07×**74.°26E**±0.°04, **h2**km±17km, **n28**, σ1§**32**/45, **16C-11D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.92**	**277**	⇑*i*P	**Pg**	**18 53 23.2**	**+0.6**
	baz=82						
DRK				⇑*i*S	**Sg**	**18 53 48.3**	**+0.9**
	baz=82						
ARSB	**Arslanbob**	**2.27**	**335**	⇓*i*P	**Pg**	**18 53 30.1**	**+0.6**
	baz=38						
ARSB				⇓*e*S	**Sg**	**18 54 01.3**	**+2.4**
	baz=38						
NRN	**Naryn**	**2.54**	**31**	⇑*i*P	**Pg**	**18 53 34.9**	**+0.3**
	baz=30						
NRN				⇑*i*S	**Sg**	**18 54 08.1**	**+0.6**
	baz=30						
ARLS	**Aral**	**2.59**	**1**	⇓*i*P	**Pg**	**18 53 35.0**	**-0.6**
	baz=2.0						
ARLS				⇓*i*S	**Sg**	**18 54 09.9**	**+0.8**
	baz=2.0						
AML	**Almayashu**	**2.89**	**352**	⇑*i*P	**Pb**	**18 53 39.7**	**+1.3**
	baz=53						
AML				⇑*i*S	**Sg**	**18 54 17.3**	**-1.5**
	baz=53						
UCH	**Uchtor**	**2.96**	**4**	⇑*i*P	**Pb**	**18 53 40.9**	**+1.2**
	baz=5.0						
UCH				⇑*i*S	**Sb**	**18 54 19.1**	**+2.6**
	baz=5.0						
ARK	**Arkit**	**3.07**	**326**	⇑*i*P	**

coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.29**	**83**	*eP*	Pg	19 06 06.8	-1.0
PNIG				*eS*	Sg	19 06 11.3	-0.3
TLIG	**Tlapa**	**1.21**	**354**	*eP*	Pg	19 06 21.3	-4.1
TLIG				*eS*	Sg	19 06 36.6	-4.5

KRSC 17 19:15:52.0±10.0, 48°09N×155°33E, h64km±10km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.64**	**11**	*eP*	Pn	19 16 34.5	+2.3
SKR				*eS*	Sn	19 17 06.4	+3.3
PAU	**Pauzhetka**	**3.51**	**15**	*eP*	Pn	19 16 47.6	+3.5
PAU				*eS*	Sn	19 17 28.6	+4.3
KDTR	**Khodutka, Kamc**	**4.12**	**24**	*eP*	Pn	19 16 55.1	+2.7
KDTR				*eS*	Sn	19 17 41.8	+2.5
MTVR	**Mutnovka**	**4.76**	**22**	*eP*	Pn	19 17 04.8	+3.5
RUS	**Russkaya**	**4.80**	**24**	*eP*	Pn	19 17 04.2	+2.5
KRMR	**Karymshinskiy**	**5.07**	**20**	*eP*	Pn	19 17 10.3	+5.0
DALK	**Dalny**	**5.41**	**23**	*eP*	Pn	19 17 13.3	+3.4
DALK				*eS*	Sn	19 18 13.5	+2.8
UGLR	**Uglovaya**	**5.58**	**22**	*eP*	Pn	19 17 16.9	+4.4
AVH	**Avacha**	**5.61**	**21**	*eP*	Pn	19 17 18.4	+5.5
KOK	**Koryaka**	**5.61**	**21**	*eP*	Pn	19 17 17.5	+4.6
SMAR	**Somma**	**5.63**	**22**	*eP*	Pn	19 17 18.1	+4.9
KRER	**Koryakskii**	**5.65**	**21**	*eP*	Pn	19 17 19.0	+5.5
SDLR	**Sedlovina**	**5.66**	**22**	*eP*	Pn	19 17 17.0	+3.4
SPN	**Mys Shipunski**	**5.83**	**29**	*eP*	Pn	19 17 18.9	+3.1
MKZ	**Mys Kozlova**	**7.61**	**29**	*eP*	Pn	19 17 42.7	+2.6

*IDC **17** 19:35:11.2±2.6, 28°.59N×52°.25E, h0km, mb3.7/3, mb1 3.6/4, mb1mx3.3/37, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=61.0km s-min=31.4km az=157.0*
*ISCJB **17** 19:35:14.9±0.8, 29°.37N±0.06×52°.08E±0°.07, h10km, mb3.6/3, Error ellipse: s-maj=10.9km s-min=6.4km az=39.3*
*TEH **17** 19:35:15.8, 29°.46N×52°.09E, h19km, ML3.1*
ISC 17 19:35:15.7±1.0, 29°39N±0°.06×52°.05E±0°.05, h10km, n21, σ1°03/20, mb3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.43**	**335**	*ePg*	**Pg**	**19 35 24.1**	**-0.2**
IKAZ				IAMB	IAmb	19 35 32.8	
	comp=Z,0.0nm,0.3s						
SHI	**Shiraz**	**0.48**	**58**	*ePg*	**Pg**	**19 35 24.6**	**-0.5**
SHI				IAMB	IAmb	19 35 32.9	
	comp=Z,0.0nm,0.2s						
IPAR	**Pars**	**0.98**	**62**	*ePg*	**Pg**	**19 35 33.6**	**-1.1**
IPAR				IAMB	IAmb	19 35 52.3	
	comp=Z,0.0nm,0.5s						
GHIR	**Ghir-Karzin**	**1.37**	**143**	*ePg*	**Pn**	**19 35 41.1**	**+0.1**
JHRM	**Jahrom**	**1.60**	**123**	*ePg*	**Pg**	**19 35 47.0**	**+0.6**
JHRM				IAMB	IAmb	19 36 27.9	
	comp=Z,0.0nm,0.6s						
IRAM	**Ramesheh**	**2.43**	**7**	*ePn*	**Pn**	**19 35 55.8**	**+0.1**
ISAD	**Sadrabad**	**2.89**	**29**	*ePn*	**Pn**	**19 36 03.1**	**+1.0**
ZNGN	**Zangian**	**2.91**	**340**	*ePn*	**Pn**	**19 36 02.2**	**-0.2**
IMEH	**Mehriz**	**2.98**	**47**	*ePn*	**Pn**	**19 36 04.4**	**+1.1**
IMEH				IAMB	IAmb	19 36 57.3	
	comp=Z,0.0nm,0.8s						
ROKH	**ROKH**	**3.08**	**344**	*ePn*	**Pn**	**19 36 05.5**	**+0.9**
IZEF	**Zefreh**	**3.51**	**4**	*ePn*	**Pn**	**19 36 10.8**	**+0.2**
YZKH	**Yazd**	**3.71**	**35**	*ePn*	**Pn**	**19 36 13.5**	**+0.3**
KHGB	**Koh Gabri**	**3.97**	**75**	*ePn*	**Pn**	**19 36 17.1**	**+0.2**
KHGB				IAMB	IAmb	19 37 27.4	
	comp=Z,0.0nm,0.6s						
KRBR	**Kerman**	**4.14**	**81**	*ePn*	**Pn**	**19 36 19.4**	**+0.1**
TPRV	**Parvadeh(Tabas**	**5.38**	**46**	*ePn*	**Pn**	**19 36 36.4**	**+0.2**
TKDS	**Koohdasht(Taba**	**6.04**	**44**	*ePn*	**Pn**	**19 36 45.0**	**-0.3**
IKOM	**Komasi**	**6.14**	**322**	*ePn*	**Pn**	**19 36 47.0**	**+0.3**
BRTR	**Keskin Array B**	**18.31**	**309**	P	**P**	**19 39 32.6**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=120,slow=8.7,SNR=4.1						
MKAR	**Makanchi Array**	**29.22**	**45**	P	**P**	**19 41 18.2**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=260,slow=8.1,SNR=2.8						
FINES	**FINESS Array B**	**36.38**	**339**	P	P	19 42 24.4	+4.5
	comp=Z,0.6nm,0.6s,baz=157,slow=12,SNR=2.9						
TORD	**Torodi Ar. Bea**	**49.25**	**262**	P	**P**	**19 44 02.4**	**-2.5**
	comp=Z,0.9nm,0.6s,baz=68,slow=8.2,SNR=5.1						

IDC 17 19:38:38.2±3.6, 3°71S×102°07E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/30, mbtmp3.5/5, Error ellipse: s-maj=152.6km s-min=20.5km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.24**	**352**	P	P	19 43 37.2	+0.4
	0.5nm,0.5s,baz=182,slow=8.9,SNR=8.7						
FITZ	**Fitzroy Crossi**	**27.15**	**124**	P	P	19 44 24.5	+1.0
	1.2nm,0.9s,baz=328,slow=9.5,SNR=3.0						
WRA	**Warramunga Arr**	**35.35**	**120**	P	P	19 45 34.6	-1.1
	0.2nm,0.3s,baz=289,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**36.58**	**126**	P	P	19 45 46.5	+0.1
	0.5nm,0.3s,baz=301,slow=7.7,SNR=25						
MKAR	**Makanchi Array**	**53.23**	**343**	P	P	19 47 58.1	-0.5
	0.2nm,0.4s,baz=153,slow=9.4,SNR=5.8						

MEX 17 19:53:18.8±0.4, 13°83N×91°84W, h15km±175km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.15**	**339**	*i* P	Pn	19 53 36.8	-3.5
THIG				*i* S	Sb	19 53 50.6	-4.4
PCIG		**2.29**	**324**	*i* P	Pn	19 53 53.4	-2.7
PCIG				*eS*	Sn	19 54 19.3	-4.7
CCIG	**Comitan**	**2.45**	**353**	*i* P	Pn	19 53 55.9	-2.6
CCIG				*i* S	Sn	19 54 24.5	-3.9

*IDC **17** 20:03:35.5±0.8, 13°.29N×145°.77E, h0km, mb3.9/14, mb1 4.1/14, mb1mx3.9/36, mbtmp3.9/14, MS3.2/7, Ms1 3.3/7, ms1mx2.9/35, Error ellipse: s-maj=18.3km s-min=17.3km az=1.0*
*NEIC **17** 20:03:36.0±1.8, 13°.30N×145°.77E, h4km±5km, mb4.4/10, Error ellipse: s-maj=16.6km s-min=12.1km az=80.0*
*ISCJB **17** 20:03:39.5±0.4, 13°.26N±0°.05×145°.78E±0°.06, h43km, mb4.0/20, MS3.3/7, Error ellipse: s-maj=9.2km s-min=7.5km az=162.8*
ISC 17 20:03:41.1±0.6, 13°28N±0°.08×145°79E±0°.07, h43km, n54, σ0°95/47, mb4.2/20, MS3.2/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.94**	**289**	*ePn*	**Pn**	**20 03 57.0**	**-1.0**
GUMO	**Guam**	**0.94**	**289**	Pn	**Pn**	**20 03 57.1**	**-0.9**
	122nm,0.3s,baz=134,slow=2.7,SNR=74						
GUMO				Sn	**Sn**	**20 04 09.6**	**-0.7**
	463nm,0.3s,baz=15,slow=20,SNR=27						
ANA2	**Anatahan**	**3.04**	**359**	*ePn*	**Pn**	**20 04 25.9**	**-0.9**
SARN	**Sarigan**	**3.40**	**360**	*ePn*	**Pn**	**20 04 30.8**	**-0.9**
PATS	**Pohnpei**	**13.89**	**116**	*ePn*	**Pn**	**20 06 53.0**	**-2.5**
H11N1	**WAKE ISLAND Hy**	**21.21**	**70**	T	T	20 30 40.8	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**21.22**	**70**	T	T	20 30 31.4	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**21.23**	**70**	T	T	20 30 35.1	
	baz=255,slow=75						
MJAR	**Matsushiro Arr**	**24.14**	**345**	*eP*	**P**	**20 08 52.1**	**-1.1**
MJAR	**Matsushiro Arr**	**24.14**	**345**	P	**P**	**20 08 51.9**	**-1.2**
	1.5nm,0.7s,baz=181,slow=11,SNR=7.0						
MJAR				LR	LR	20 17 21.9	
	comp=Z,60nm,19.9s,baz=180,slow=34						
MAJO	**Matsushiro**	**24.14**	**345**	*eP*	**P**	**20 08 51.9**	**-1.3**
MAJO				*e*		20 08 52.8	
MJB9	**Matsu-Tunnel**	**24.15**	**345**	*eP*	**P**	**20 08 52.8**	**-0.4**
	5.5nm,0.9s						
KSRS	**Korea Array**	**28.88**	**330**	P	**P**	**20 09 36.4**	**+0.6**
	0.6nm,0.6s,baz=150,slow=8.8,SNR=4.1						
USRK	**Ussuriysk Ar.**	**33.00**	**342**	*eP*	**P**	**20 10 11.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**33.00**	**342**	P	**P**	**20 10 12.5**	**+0.4**
	1.3nm,0.7s,baz=129,slow=8.3,SNR=3.6						
CTAO	**Charters Tower**	**33.16**	**179**	*eP*	**P**	**20 10 14.2**	**+0.5**
	3.8nm,0.9s						
WB2	**Warramunga Arr**	**34.88**	**199**	*eP*	**P**	**20 10 28.5**	**-0.1**
	8.5nm,1.3s						
WR1	**Warramunga Arr**	**34.88**	**199**	*eP*	**P**	**20 10 28.3**	**-0.3**
WRA	**Warramunga Arr**	**34.88**	**199**	P	**P**	**20 10 28.3**	**-0.4**
	0.4nm,0.5s,baz=19,slow=9.6,SNR=5.2						
FITZ	**Fitzroy Crossi**	**36.98**	**213**	*eP*	**P**	**20 10 46.6**	**+0.1**
	15nm,1.8s						
ASAR	**Alice Springs**	**38.52**	**198**	*eP*	**P**	**20 11 00.4**	**+0.9**
ASAR	**Alice Springs**	**38.52**	**198**	P	**P**	**20 10 59.6**	**+0.1**
	0.3nm,0.7s,baz=18,slow=6.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**45.26**	**283**	P	**P**	**20 11 55.2**	**+0.4**
	0.2nm,0.6s,baz=92,slow=5.5,SNR=2.7						
CMAR				LR	LR	20 31 24.0	
	comp=Z,27nm,18.0s,baz=94,slow=37						
MA2	**Magadan**	**46.36**	**4**	LR	LR	20 28 06.8	
	comp=Z,19nm,21.3s,baz=17,slow=32						
TIXI	**Tiksi**	**59.23**	**354**	LR	LR	20 39 22.4	
	comp=Z,8.2nm,20.8s,baz=90,slow=36						
MK31	**Makanchi Array**	**62.33**	**316**	*eP*	**P**	**20 13 59.9**	**+0.6**
	2.0nm,1.1s						
MK32	**Makanchi Array**	**62.33**	**316**	*eP*	**P**	**20 13 59.8**	**+0.5**
MKAR	**Makanchi Array**	**62.33**	**316**	P	**P**	**20 13 59.8**	**+0.5**
	0.9nm,0.5s,baz=90,slow=8.8,SNR=12						
KURK	**Kurchatov**	**65.39**	**320**	*eP*	**P**	**20 14 19.2**	**-0.1**
	4.4nm,0.9s						
NRIK	**Noril'sk**	**66.71**	**341**	P	**P**	**20 14 26.3**	**-1.1**
	3.7nm,0.5s,baz=110,slow=8.1,SNR=3.8						
ILAR	**Eielson Array**	**68.46**	**25**	*eP*	**P**	**20 14 38.5**	**0.0**
ILAR	**Eielson Array**	**68.46**	**25**	P	**P**	**20 14 39.0**	**+0.4**
	1.3nm,0.8s,baz=255,slow=4.9,SNR=12						
ILB	**Eielson Array**	**68.46**	**25**	*eP*	**P**	**20 14 38.4**	**-0.2**
	9.5nm,1.8s						
INK	**Inuvik**	**74.31**	**22**	*eP*	**P**	**20 15 14.9**	**+1.2**
	7.1nm,1.6s						
INK	**Inuvik**	**74.31**	**22**	P	**P**	**20 15 15.1**	**+1.4**
	0.4nm,0.3s,baz=279,slow=8.2,SNR=4.3						
GLK	**Glacier Lake**	**82.26**	**44**	*eP*	**P**	**20 15 59.3**	**+1.0**
YBH	**Yreka Blue Hor**	**82.40**	**49**	LR	LR	20 51 51.4	
	comp=Z,19nm,18.6s,baz=254,slow=35						
YKA	**Yellowknife Ar**	**82.72**	**27**	P	**P**	**20 16 01.3**	**+1.2**
	0.6nm,0.5s,baz=287,slow=5.3,SNR=8.0						
YKB5	**Yellowknife Ar**	**82.72**	**27**	*eP*	**P**	**20 16 01.4**	**+1.2**
NV01	**Mina Array Sit**	**86.41**	**52**	*eP*	**P**	**20 16 22.0**	**+2.4**
NVAR	**Mina Array Bea**	**86.41**	**52**	P	**P**	**20 16 22.0**	**+2.4**
	0.8nm,0.5s,baz=260,slow=5.4,SNR=4.6						
ARA0	**ARCESS Array S**	**87.65**	**342**	*eP*	**P**	**20 16 25.2**	**+0.4**
ARCES	**ARCESS Array B**	**87.65**	**342**	P	**P**	**20 16 25.2**	**+0.4**
	4.0nm,1.1s,baz=58,slow=8.6,SNR=3.9						
ELK	**Elko**	**88.11**	**49**	LR	LR	20 47 19.0	
	comp=Z,18nm,21.2s,baz=259,slow=30						
FIA0	**FINESS Array S**	**91.81**	**335**	*eP*	**P**	**20 16 43.9**	**-0.5**
FINES	**FINESS Array B**	**91.81**	**335**	P	**P**	**20 16 43.9**	**-0.5**
	0.5nm,0.4s,baz=69,slow=4.5,SNR=8.6						
AKASG	**Malin Array Be**	**95.78**	**325**	LR	LR	21 03 50.2	
	comp=Z,25nm,18.4s,baz=75,slow=38						
TOA1	**Torodi Ar. Sit**	**135.77**	**305**	*e*PKPdf	**PKiKP**	**20 22 59.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**135.77**	**305**	PKP	**PKiKP**	**20 22 59.8**	**+0.1**
	0.2nm,0.5s,baz=42,slow=3.3,SNR=3.4						
DBIC	**Dimbokro**	**144.74**	**302**	*e*PKPdf	**PKPdf**	**20 23 14.5**	**+0.2**
DBIC	**Dimbokro**	**144.74**	**302**	PKP	**PKPdf**	**20 23 14.3**	**-0.1**
	3.9nm,0.6s,baz=8.6,slow=3.2,SNR=12						
KIC	**Kosan Boka**	**144.82**	**302**	*eP*	**PKPdf**	**20 23 13.3**	**-1.2**
	102nm,1.8s						
TIC	**Toumodi**	**144.89**	**303**	*eP*	**PKPdf**	**20 23 14.8**	**+0.2**
LIC	**Lamto**	**145.13**	**302**	*eP*	**PKPdf**	**20 23 15.7**	**+0.7**
	36nm,0.8s						

*DJA **17** 20:19:29.5±0.8, 3°N±10°×12°9E±°, h271km±11km, M4.7/6, mb4.4/5, mB5.0/3, MLv4.8/6, Mw(mB)4.3/3*
*ISCJB **17** 20:19:34.5±0.6, 2°91N±0°.06×128°.83E±0°.09, h200km, mb3.5/13, Error ellipse: s-maj=12.9km s-min=8.9km az=8.4*
*IDC **17** 20:19:37.5±3.9, 2°.86N×128°.72E, h212km±39km, mb3.3/13, mb1 3.4/13, mb1mx3.2/45, mbtmp3.8/13, Error ellipse: s-maj=27.2km s-min=9.9km az=76.0*
ISC 17 20:19:36.3±0.7, 2°91N±0°.07×128°9E±0°.1, h200km, n20, σ2°16/24, mb3.5/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.64**	**216**	P	**Pn**	**20 20 21.7**	**-0.1**
TNTI				S	**Sn**	**20 21 03.8**	**+6.5**
SGSI	**Sangihe**	**3.48**	**283**	P	**Pn**	**20 20 31.2**	**-0.5**
KMSI	**Cibinong**	**5.46**	**245**	P	**Pn**	**20 20 55.0**	**-1.7**
SANI	**Sanana**	**5.74**	**211**	P	**Pn**	**20 20 57.0**	**-3.2**
	61nm,0.8s,831nm						
LUWI	**Luwuk**	**7.30**	**238**	P	**Pn**	**20 21 17.5**	**-3.0**
APSI	**Ampana**	**8.21**	**243**	P	**Pn**	**20 21 28.8**	**-3.5**
	20nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.13**	**189**	P	**P**	**20 24 04.6**	**-1.2**
	1.1nm,0.9s,baz=12,slow=9.3,SNR=2.0						
WRA	**Warramunga Arr**	**23.32**	**167**	P	**P**	**20 24 26.4**	**-0.3**
	0.7nm,0.6s,baz=346,slow=11,SNR=13						
ASAR	**Alice Springs**	**26.86**	**170**	P	**P**	**20 24 58.6**	**0.0**
	0.6nm,0.5s,baz=352,slow=7.8,SNR=19						
ASAR				PcP	**PcP**	**20 28 15.6**	**-0.4**
	0.4nm,0.4s,baz=356,slow=2.2,SNR=9.1						
CMAR	**Chiang Mai Arr**	**33.18**	**300**	P	**P**	**20 25 54.0**	**-0.4**
	0.7nm,0.9s,baz=113,slow=7.4,SNR=5.9						
KSRS	**Korea Array**	**34.39**	**359**	P	**P**	**20 26 05.3**	**+0.8**
	0.6nm,0.6s,baz=181,slow=9.6,SNR=2.6						
MJAR	**Matsushiro Arr**	**34.55**	**13**	P	**P**	**20 26 06.3**	**+0.5**
	2.4nm,0.7s,baz=190,slow=10,SNR=7.4						
STKA	**Stephens Creek**	**36.63**	**162**	P	**P**	**20 26 24.3**	**+0.6**
	0.8nm,0.3s,baz=337,slow=9.4,SNR=14						
MKAR	**Makanchi Array**	**59.48**	**325**	P	**P**	**20 29 17.7**	**-0.7**
	0.3nm,0.4s,baz=111,slow=8.7,SNR=6.4						
MKAR				pP	**PcP**	**20 30 06.2**	**+2.4**
	0.3nm,0.6s,baz=122,slow=9.1,SNR=2.4						
KURBB	**Kurchatov Arra**	**63.62**	**327**	P	**P**	**20 29 44.8**	**-1.1**
	0.7nm,0.6s,baz=127,slow=6.0,SNR=10.0						
KURBB				pP	**pP**	**20 30 34.0**	**+2.6**
	0.3nm,0.5s,baz=129,slow=6.4,SNR=3.1						
TIXI	**Tiksi**	**68.64**	**360**	P	**P**	**20 30 17.6**	**+0.1**
	0.8nm,0.4s,baz=190,slow=3.4,SNR=3.7						
BVAR	**Borovoye Array**	**69.20**	**327**	P	**P**	**20 30 20.3**	**-1.0**
	0.7nm,0.6s,baz=108,slow=8.4,SNR=5.2						
VNDA	**Vanda**	**82.35**	**17**	P	**P**	**20 31 34.7**	**-0.5**
	0.4nm,0.6s,baz=313,slow=8.3,SNR=3.7						
ARCES	**ARCESS Array B**	**91.97**	**340**	P	**P**	**20 32 20.4**	**-1.5**
	3.0nm,0.9s,baz=82,slow=7.4,SNR=4.6						
TXAR	**Lajitas Array**	**120.34**	**53**	PKP	**PKPdf**	**20 38 04.9**	**+0.3**
	0.2nm,0.6s,baz=290,slow=2.7,SNR=3.1						

*NIED **17** 20:42:00, 27°.00N×130°.10E, h8km, Mw3.9 Best double couple: M0=7.01000×10^14 NP1:φ0=231.00000°, δ28.00000°, λ=-39.00000°. NP2:φ0=356.00000°, δ73.00000°, λ=-113.00000°.*
*IDC **17** 20:42:22.9±1.2, 27°.04N×130°.08E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/43, mbtmp3.7/7, ML3.6/1, MS2.8/2, Ms1 2.8/2, ms1mx2.3/33, Error ellipse: s-maj=31.4km s-min=20.0km az=71.0*
*JMA **17** 20:42:25.7±0.1, 26°.96N×130°.10E, h52km, M3.7*
ISC 17 20:42:23.5±1.7, 26°98N±0°.03×130°09E±0°.03, h9km±11km, n29, σ1°31/47, mb3.7/6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.30**	**309**	P	**Pg**	**20 42 48.1**	**-0.3**
JTK				S	**Sb**	**20 43 03.9**	**-0.9**
JZK	**Kikaishima**	**1.34**	**355**	P	**Pg**	**20 42 49.4**	**+0.3**
JZK				*eS*	**Sn**	**20 43 06.8**	**+0.5**
JOKE	**Okinoerabujima**	**1.41**	**286**	P	**Pb**	**20 42 49.8**	**-0.2**
JOKE				S	**Sb**	**20 43 07.2**	**-0.9**
JYRO	**Yoronjima**	**1.47**	**272**	P	**Pb**	**20 42 50.5**	**-0.4**
JYRO				S	**Sn**	**20 43 07.8**	**-1.6**
JAM	**Amami Oshima**	**1.49**	**343**	P	**Pb**	**20 42 50.7**	**-0.7**
JAM				S	**Sn**	**20 43 08.7**	**-1.4**
JAMN	**Amaminishikomi**	**1.50**	**327**	P	**Pn**	**20 42 50.6**	**0.0**
JAMN				S	**Sn**	**20 43 08.3**	**-2.0**
JMZ	**Minamidaito 2**	**1.53**	**138**	P	**Pb**	**20 42 50.7**	**-1.4**
JMZ				S	**Sn**	**20 43 09.1**	**-2.0**
JOW	**Kunigami**	**1.63**	**265**	P	**Pn**	**20 42 52.9**	**+0.6**
JOW				S	**Sn**	**20 43 12.5**	**-1.0**
JOW	**Kunigami**	**1.63**	**265**	Pn	**Pn**	**20 42 53.0**	**+0.6**
	18nm,0.3s,baz=99,slow=17,SNR=441						
JOW				Sn	**Sn**	**20 43 11.6**	**-1.9**
	68nm,0.3s,baz=218,slow=21,SNR=34						
JIH	**Iheya**	**1.90**	**272**	P	**Pn**	**20 42 56.7**	**+0.7**
JIH				*eS*	**Sn**	**20 43 19.2**	**-0.9**
JNTH	**Nagotoyohara**	**1.91**	**257**	P	**Pn**	**20 42 56.4**	**+0.2**
JNTH				S	**Sn**	**20 43 18.5**	**-1.8**
JJT3	**Tamagusuku3**	**2.23**	**249**	P	**Pn**	**20 43 01.2**	**+0.6**
JJT3				S	**Sn**	**20 43 27.3**	**-1.0**
JTAJ	**Takarajima**	**2.31**	**340**	P	**Pn**	**20 43 02.1**	**+0.4**
JTAJ				*eS*	**Sn**	**20 43 29.8**	**-0.4**
JAGN	**Aguni-jima**	**2.58**	**262**	P	**Pn**	**20 43 05.8**	**+0.4**
JAGN				S	**Sn**	**20 43 35.1**	**-1.8**
JNN	**Nakanoshima**	**2.86**	**356**	*eS*	**Sn**	**20 43 42.3**	**-1.6**
JKE	**Kume jima 2**	**3.03**	**258**	P	**Pn**	**20 43 11.4**	**-0.2**
JKE				S	**Sn**	**20 43 47.1**	**-0.9**
JYAK	**Yakushimahirau**	**3.27**	**6**	P	**Pn**	**20 43 15.7**	**+0.8**
JYAK				*eS*	**Sn**	**20 43 51.1**	**-2.9**
JKC	**Kuchinoerabu**	**3.47**	**1**	P	**Pn**	**20 43 18.6**	**+0.9**
JKC				*eS*	**Sn**	**20 43 57.9**	**-1.1**
JMTN	**Minamitane**	**3.48**	**12**	P	**Pn**	**20 43 19.2**	**+1.4**
JMTN				*eS*	**Sn**	**20 43 57.9**	**-1.3**
JTN	**Tanegashima 3**	**3.75**	**12**	P	**Pn**	**20 43 22.2**	**+0.7**
JTN				*eS*	**Sn**	**20 44 04.2**	**-1.6**
JNU	**Nakatsue**	**6.16**	**6**	Pn	**Pn**	**20 43 55.7**	**+1.0**
	1.5nm,0.3s,baz=332,slow=5.8,SNR=12						
JNU				Sn	**Sn**	**20 45 01.6**	**-3.8**
	baz=53,slow=20,SNR=1.9						
JHJ	**Hachijo jima 2**	**10.39**	**52**	LR	LR	20 48 18.0	
	comp=Z,65nm,19.5s,baz=333,slow=34						
GUMO	**Guam**	**19.20**	**131**	LR	LR	20 52 43.0	
	comp=Z,25nm,19.2s,baz=141,slow=32						
CMAR	**Chiang Mai Arr**	**29.90**	**260**	P	**P**	**20 48 32.9**	**+1.1**
	0.3nm,0.5s,baz=67,slow=7.0,SNR=4.2						
MKAR	**Makanchi Array**	**42.30**	**311**	P	**P**	**20 50 17.3**	**-0.2**
	0.3nm,0.7s,baz=93,slow=9.5,SNR=3.0						
WRA	**Warramunga Arr**	**46.82**	**175**	P	**P**	**20 50 54.4**	**+0.6**
	1.2nm,0.6s,baz=354,slow=8.4,SNR=11						
ASAR	**Alice Springs**	**50.48**	**175**	P	**P**	**20 51 23.6**	**+1.7**
	0.7nm,0.8s,baz=7.2,slow=14,SNR=17						
FINES	**FINESS Array B**	**73.03**	**331**	P	**P**	**20 53 53.8**	**+0.3**
	1.3nm,0.9s,baz=79,slow=7.2,SNR=3.2						
BRTR	**Keskin Array B**	**77.89**	**308**	P	**P**	**20 54 22.7**	**+0.7**
	0.5nm,0.7s,baz=108,slow=4.7,SNR=4.9						

*ATH **17** 20:43:14.1, 40°.36N×19°.88E, h5km±1km, ML2.4/5, Error ellipse: s-maj=2.3km s-min=1.0km az=123.0*
*THE **17** 20:43:15.4, 40°.29N×20°.01E, h3km±1km, ML2.3/5, Error ellipse: s-maj=1.6km s-min=0.8km az=326.0*
*TIR **17** 20:43:15.6, 40°.25N×20°.00E, h3km, Md3.3/6*
*BEO **17** 20:43:17.1±0.9, 40°.19N×20°.02E, h8km±4km, ML2.4/4*
ISC 17 20:43:15.3±0.9, 40°28N±0°.02×19°97E±0°.02, h3km±6km, n51, σ1°66/74, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.04**	**69**	P	**Pg**	**20 43 15.7**	**-0.4**
TPE				S	**Sg**	**20 43 16.5**	**-0.2**
TPE	**Tepelena**	**0.04**	**69**	*i* PG	**Pg**	**20 43 15.8**	**-0.4**
TPE				*i* SG	**Sg**	**20 43 16.5**	**-0.2**
SRN	**Sarande**	**0.40**	**176**	P	**Pg**	**20 43 22.8**	**-0.2**
SRN				S	**Sg**	**20 43 29.7**	**+1.5**
SRN	**Sarande**	**0.40**	**176**	*i* PG	**Pg**	**20 43 23.2**	**+0.2**
SRN				*i* SG	**Sb**	**20 43 30.9**	**-0.6**
VLO	**Vlora**	**0.41**	**297**	P	**Pg**	**20 43 23.4**	**+0.3**
VLO				S	**Sb**	**20 43 30.3**	**-1.4**
VLO	**Vlora**	**0.41**	**297**	*i* PG	**Pg**	**20 43 23.7**	**+0.6**
VLO				*i* SG	**Sb**	**20 43 32.4**	**+0.8**
KASA	**Kassiopi**	**0.54**	**183**	P	**Pg**	**20 43 25.9**	**+0.4**
KASA				S	**Sg**	**20 43 33.8**	**+1.3**
KEK	**Kerkira**	**0.58**	**193**	P	**Pg**	**20 43 26.5**	**0.0**
KEK				S	**Sb**	**20 43 35.4**	**-1.4**
KEK	**Kerkira**	**0.58**	**193**	P	**Pg**	**20 43 26.6**	**+0.2**
KEK				S	**Sb**	**20 43 35.4**	**-1.4**
KEK				AML	AML	20 43 40.9	
	comp=N,485μm,0.5s						
KEK				AML	AML	20 43 41.9	
	comp=E,545μm,0.5s						
IGT	**Igoumenitsa**	**0.80**	**159**	P	**Pg**	**20 43 30.1**	**-0.5**
IGT				S	**Sg**	**20 43 41.5**	**+0.5**
IGT	**Igoumenitsa**	**0.80**	**159**	P	**Pg**	**20 43

Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.86**	**311**	*e*P	Pn	21 05 53.5	+1.0
SKR				*e*S	Sn	21 06 06.9	+0.9
PAU	**Pauzhetka**	**1.36**	**351**	*e*P	Pn	21 06 00.1	+1.8
PAU				*e*S	Sn	21 06 18.2	+1.8
KDTR	**Khodutka, Kamc**	**1.79**	**19**	*e*P	Pn	21 06 06.3	+2.5
KDTR				*e*S	Sn	21 06 29.3	+3.2
MTVR	**Mutnovka**	**2.45**	**15**	*e*S	Sn	21 06 44.5	+2.5
RUS	**Russkaya**	**2.47**	**20**	*e*P	Pn	21 06 14.6	+1.9
RUS				*e*S	Sn	21 06 43.9	+1.8
KRMR	**Karymshinskiy**	**2.78**	**13**	*e*S	Sn	21 06 52.4	+2.8
UGLR	**Uglovaya**	**3.26**	**18**	*e*P	Pn	21 06 25.9	+2.4
KOK	**Koryaka**	**3.31**	**16**	*e*P	Pn	21 06 26.6	+2.5
SDLR	**Sedlovina**	**3.34**	**18**	*e*P	Pn	21 06 26.5	+1.9
SPN	**Mys Shipunski**	**3.48**	**30**	*e*S	Sn	21 07 07.0	+0.6

BJI ***17*** *21:23:24.4±0.0, 6°.52S×150°.26E, h63km, mb4.7/33, mB4.9/27, Ms4.7/18, Ms7 4.5/17*
ISCJB ***17*** *21:23:26.4±0.3, 6°.16S±0°.03×149°.88E±0°.04, h52km, mb4.7/45, MS4.3/15, Error ellipse: s-maj=6.4km s-min=4.7km az=18.3*
IDC ***17*** *21:23:28.0±2.4, 6°.15S×149°.93E, h53km±21km, mb4.2/20, mb1 4.4/23, mb1mx4.3/34, mbtmp4.5/23, ML3.1/2, MS4.2/14, Ms1 4.2/14, ms1mx3.9/32, Error ellipse: s-maj=16.4km s-min=11.9km az=84.0*
GCMT ***17*** *21:23:28.4±0.2, 6°.47S±0°.02×150°.00E±0°.02, h36km±1km, MW5.0/61, Moment Tensor Solution. s58,c92; s61,c85; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.75±.19; Mθθ-4.43±.11; Mφφ0.67±.13; Mrθ1.80±.16; Mφθ-0.84±.13; Mφr0.09±.23; Best double couple: M0=4.53300×10^16 NP1:φs84.00000°, δ57.00000°, λ94.00000°. NP2: φs257.00000°, δ33.00000°, λ84.00000°. Principal axes: T 4.1310, Plg78.0000°, Azm7.0000°; N 0.8010, Plg3.0000°, Azm262.0000°; P -4.9350, Plg12.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***17*** *21:23:29.4±0.8, 6°.10S×149°.86E, h69km±9km, mb4.8/18 Error ellipse: s-maj=9.5km s-min=6.5km az=103.0*
DJA ***17*** *21:23:33.6±0.8, 6°S±5°×15°E±°, h91km±7km, M5.1/26, mb5.0/26, mB5.4/10, MLv5.5/1, Mw(mB)4.9/10*
ISC 17 21:23:27.8±0.3, 6°.16S±0°.05×149°.96E±0°.06, h52km, n154, σ1°50/155, mb4.6/45, MS4.4/16, 10C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.94**	**48**	*e*Pn	**Pn**	**21 24 13.1**	**+1.0**
PMG	**Port Moresby**	**4.25**	**221**	*e*Pn	**Pn**	**21 24 30.5**	**+0.4**
PMG	**Port Moresby**	**4.25**	**221**	P	**Pn**	**21 24 30.2**	**+0.1**
	47nm,0.3s,baz=52,slow=5.7,SNR=113						
PMG				S	**Sn**	**21 25 17.5**	**-1.0**
	126nm,0.3s,baz=302,slow=19,SNR=18						
PMG				LR	LR	21 26 20.5	
	comp=Z,4μm,21.4s,baz=356,slow=41						
MANU	**Manus Island**	**4.84**	**328**	*e*Pn	**Pn**	**21 24 41.1**	**+3.0**
COEN	**Coen**	**10.23**	**220**	*e*Pn	**Pn**	**21 25 53.2**	**+1.2**
COEN	**Coen**	**10.23**	**220**	P	**Pn**	**21 25 53.2**	**+1.2**
	baz=10,SNR=4.3						
GENI	**Genyem**	**10.38**	**290**	P	**Pn**	**21 25 58.7**	**+4.6**
HNR	**Honiara**	**10.42**	**109**	P	**Pn**	**21 25 55.0**	**+0.4**
	5.8nm,0.3s,baz=315,slow=20,SNR=2.5						
HNR				LR	LR	21 30 00.1	
	comp=Z,466nm,18.9s,baz=284,slow=38						
CTA	**Charters Tower**	**14.31**	**194**	P	**Pn**	**21 26 47.1**	**-0.5**
	0.1nm,0.3s,baz=18,slow=15,SNR=6.0						
CTA				LR	LR	21 31 13.0	
	comp=Z,300nm,21.1s,baz=9.0,slow=32						
CTAO	**Charters Tower**	**14.31**	**194**	*e*Pn	**Pn**	**21 26 48.5**	**+0.9**
QIS	**Mount Isa**	**17.49**	**214**	P	**Pn**	**21 27 27.7**	**-0.5**
	baz=18,SNR=6.9						
FAKI	**Fak Fak**	**17.94**	**280**	P	**P**	**21 27 34.6**	**+0.8**
KDU	**Kakadu**	**18.42**	**248**	P	**P**	**21 27 38.5**	**-0.5**
	baz=18,SNR=9.6						
SAUI	**Saumlaki**	**18.61**	**263**	P	**P**	**21 27 41.0**	**0.0**
EIDS	**Eidsvold**	**19.13**	**177**	*e*P	**Pn**	**21 27 47.3**	**-0.7**
	43nm,0.8s						
EIDS	**Eidsvold**	**19.13**	**177**	P	**P**	**21 27 46.7**	**0.0**
	baz=19,SNR=8.4						
MTN	**Manton Dam**	**19.71**	**249**	*e*P	**P**	**21 27 52.9**	**-0.2**
	82nm,1.0s						
MTN	**Manton Dam**	**19.71**	**249**	P	**P**	**21 27 53.3**	**+0.2**
	baz=20,SNR=20						
BNDI	**Bandanaira**	**20.03**	**274**	P	**P**	**21 27 57.2**	**+0.6**
RMQ	**Roma**	**20.25**	**183**	P	Pn	21 28 00.1	-1.1
	baz=20,SNR=64						
WRAB	**Tennant Creek**	**20.43**	**226**	*e*P	**P**	**21 28 01.1**	**+0.2**
	84nm,1.1s						
WB2	**Warramunga Arr**	**20.44**	**226**	*e*P	**P**	**21 28 01.2**	**+0.2**
	74nm,1.0s						
WRA	**Warramunga Arr**	**20.45**	**226**	P	**P**	**21 28 01.3**	**+0.2**
	23nm,0.8s,baz=56,slow=11,SNR=149						
WRA				S	**S**	**21 31 39.4**	**-8.0**
	5.9nm,0.8s,baz=50,slow=23,SNR=3.7						
DZM	**Mont Dzumac**	**22.45**	**136**	*e*P	**P**	**21 28 24.4**	**+1.7**
	16nm,1.0s						
DZM	**Mont Dzumac**	**22.45**	**136**	P	**P**	**21 28 23.0**	**+0.3**
	5.4nm,0.6s,baz=314,slow=8.0,SNR=8.4						
KNRA	**Kununurra**	**22.84**	**244**	P	**P**	**21 28 26.9**	**+0.2**
	baz=23,SNR=16						
SARN	**Sarigan**	**23.09**	**350**	*e*P	**P**	**21 28 28.3**	**-1.0**
	38nm,1.0s						
MARNC	**Mare, Loyalty**	**23.19**	**133**	*e*P	**P**	**21 28 31.9**	**+1.6**
	60nm,1.1s						
AS31	**Alice Springs**	**23.27**	**220**	*e*P	**P**	**21 28 31.4**	**+0.4**
	7.6nm,0.8s						
ASAR	**Alice Springs**	**23.27**	**220**	*e*P	**P**	**21 28 30.7**	**-0.4**
ASAR	**Alice Springs**	**23.27**	**220**	P	**P**	**21 28 30.9**	**-0.2**
	11nm,0.8s,baz=56,slow=8.8,SNR=78						
ASAR				PcP	**PcP**	**21 32 17.9**	**+0.5**
	2.7nm,0.8s,baz=48,slow=3.7,SNR=4.2						
ASAR				S	**S**	**21 32 39.7**	**0.0**
	3.9nm,0.9s,baz=38,slow=23,SNR=6.9						
ASAR				LR	LR	21 37 58.0	
	comp=Z,600nm,19.5s,baz=42,slow=37						
ARMA	**Armidale**	**24.18**	**176**	*e*P	**P**	**21 28 40.7**	**+1.2**
	130nm,1.8s						
ARMA	**Armidale**	**24.18**	**176**	P	**P**	**21 28 39.7**	**+0.2**
	baz=24,SNR=4.2						
SANI	**Sanana**	**24.25**	**279**	P	**P**	**21 28 40.7**	**+0.5**
SOEI	**Soe**	**25.69**	**260**	*e*P	**P**	**21 28 50.4**	**-3.0**
	130nm,1.0s						
SOEI	**Soe**	**25.69**	**260**	P	**P**	**21 28 53.1**	**-0.3**
BATI	**Baumata**	**26.33**	**259**	P	**P**	**21 28 58.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**26.53**	**241**	*e*P	**P**	**21 29 00.3**	**-0.5**
	43nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.53**	**241**	P	**P**	**21 29 00.7**	**-0.1**
	baz=27,SNR=39						
FITZ	**Fitzroy Crossi**	**26.53**	**241**	P	**P**	**21 29 00.7**	**-0.1**
	32nm,0.7s,baz=91,slow=7.4,SNR=75						
FITZ				LR	LR	21 41 22.7	
	comp=Z,504nm,18.7s,baz=64,slow=40						
STKA	**Stephens Creek**	**26.75**	**196**	*e*P	**P**	**21 29 03.8**	**+1.0**
	4.2nm,0.9s						
STKA	**Stephens Creek**	**26.75**	**196**	P	**P**	**21 29 03.8**	**+1.0**
	baz=27,SNR=18						
STKA	**Stephens Creek**	**26.75**	**196**	P	**P**	**21 29 02.9**	**+0.2**
	16nm,0.9s,baz=359,slow=9.8,SNR=25						
STKA				PcP	**PcP**	**21 32 25.0**	**+0.1**
	2.9nm,0.7s,baz=329,slow=2.3,SNR=3.6						
STKA				LR	LR	21 40 12.8	
	comp=Z,771nm,19.8s,baz=31,slow=38						
KMSI	**Cibinong**	**26.78**	**284**	P	**P**	**21 29 03.5**	**+0.4**
LUWI	**Luwuk**	**27.60**	**280**	P	**P**	**21 29 11.0**	**+0.5**
MMRI	**Maumere**	**27.60**	**263**	P	**P**	**21 29 09.9**	**-0.6**
WRKA	**Warakurna**	**27.98**	**226**	P	**P**	**21 29 13.3**	**-0.5**
	baz=28,SNR=31						
HTT	**Hallett**	**29.01**	**199**	P	**P**	**21 29 24.2**	**+1.3**
	baz=29,SNR=4.0						
BSSI	**Bau Bau, Buton**	**29.30**	**268**	P	**P**	**21 29 25.7**	**+0.1**
BBOO	**Buckleboo**	**29.51**	**204**	*e*P	**P**	**21 29 30.0**	**+2.7**
	13nm,0.8s						
BBOO	**Buckleboo**	**29.51**	**204**	P	**P**	**21 29 28.5**	**+1.2**
	baz=30,SNR=6.3						
WSI	**Waingapu**	**29.58**	**261**	P	**P**	**21 29 28.1**	**0.0**
BKSI	**Bulukumba**	**29.70**	**270**	P	**P**	**21 29 28.9**	**-0.2**
BNSI	**Bone**	**29.77**	**272**	P	**P**	**21 29 29.8**	**0.0**
KAPI	**Kappang**	**30.08**	**271**	*e*P	**P**	**21 29 32.5**	**-0.1**
	12nm,0.9s						
KAPI	**Kappang**	**30.08**	**271**	P	**P**	**21 29 32.1**	**-0.5**
	4.3nm,0.8s,baz=77,slow=5.3,SNR=5.9						
SPSI	**Sidrap Palu**	**30.15**	**273**	P	**P**	**21 29 33.4**	**+0.3**
FORT	**Forrest**	**31.98**	**217**	*e*P	**P**	**21 29 48.6**	**-0.5**
	36nm,0.9s						
FORT	**Forrest**	**31.98**	**217**	P	**P**	**21 29 49.2**	**+0.1**
	baz=32,SNR=8.1						
PLAI	**Plampang**	**32.01**	**263**	P	**P**	**21 29 46.9**	**-2.7**
PSA00	**Pilbara Seismi**	**32.91**	**239**	*e*P	**P**	**21 29 57.3**	**0.0**
	82nm,1.7s						
IGBI	**Denpasar**	**34.61**	**263**	P	**P**	**21 30 10.0**	**-2.2**
JAGI	**Jajag, Banyuwa**	**35.58**	**264**	*e*P	**P**	**21 30 17.6**	**-3.0**
	80nm,0.9s						
JAGI	**Jajag, Banyuwa**	**35.58**	**264**	P	**P**	**21 30 18.4**	**-2.2**
MEEK	**Meekatharra**	**36.14**	**232**	P	**P**	**21 30 25.1**	**-0.1**
	baz=36,SNR=7.5						
KMBL	**Kambalda**	**36.33**	**223**	P	**P**	**21 30 26.8**	**0.0**
	baz=36,SNR=5.9						
PWJI	**Pagerwojo**	**37.90**	**265**	P	**P**	**21 30 39.1**	**-1.2**
	49nm,0.9s						
GIRL	**Giralia**	**38.14**	**241**	P	**P**	**21 30 43.8**	**+1.6**
	baz=38,SNR=5.1						
PBKI	**Pangkalan Bun**	**38.32**	**273**	P	**P**	**21 30 43.6**	**-0.3**
UGM	**Wanagama**	**39.17**	**265**	*e*P	**P**	**21 30 49.3**	**-1.8**
	347nm,1.8s						
KLBR	**Kellerberrin**	**39.33**	**226**	P	**P**	**21 30 51.6**	**-0.5**
	baz=39,SNR=8.3						
NWAO	**Narrogin (SRO)**	**40.43**	**225**	P	**P**	**21 31 01.2**	**-0.1**
	6.0nm,0.7s,baz=50,slow=12,SNR=3.5						
NWAO				LR	LR	21 48 54.8	
	comp=Z,619nm,19.6s,baz=40,slow=38						
RPZ	**Rata Peaks**	**41.75**	**157**	LR	LR	21 46 34.0	
	comp=Z,339nm,21.3s,baz=352,slow=33						
CISI	**Cisompet, Garu**	**41.85**	**266**	*e*P	**P**	**21 31 11.9**	**-1.3**
	139nm,0.8s						
MJAR	**Matsushiro Arr**	**43.88**	**346**	*e*P	**P**	**21 31 27.8**	**-1.4**
MJAR	**Matsushiro Arr**	**43.88**	**346**	P	**P**	**21 31 28.5**	**-0.8**
	4.9nm,0.7s,baz=169,slow=8.8,SNR=17						
MJAR				LR	LR	21 47 08.0	
	comp=Z,226nm,21.9s,baz=175,slow=32						
MAJO	**Matsushiro**	**43.88**	**346**	*e*P	**P**	**21 31 28.3**	**-0.9**
	9.8nm,0.8s						
MAT	**Matsushiro**	**43.88**	**346**	P	**P**	**21 31 28.0**	**-1.3**
MAT				S	**S**	**21 37 49.8**	**-7.1**
MJB9	**Matsu-Tunnel**	**43.89**	**346**	*e*P	**P**	**21 31 28.7**	**-0.6**
	10nm,0.9s						
XMIS	**Christmas Isla**	**44.02**	**261**	*e*P	**P**	**21 31 30.1**	**-0.6**
	92nm,1.0s						
KSRS	**Korea Array**	**48.02**	**336**	P	**P**	**21 32 02.0**	**+0.3**
	4.3nm,0.7s,baz=152,slow=8.7,SNR=15						
KSAR	**Wonju Array Be**	**48.02**	**336**	*e*P	**P**	**21 32 01.9**	**+0.1**
NJ2	**Nanjing**	**48.19**	**324**	*e*P	**P**	**21 32 03.8**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WHN	**Wuhan**	**49.95**	**319**	↓P	P	21 32 28.9	+12
WHN				pP	sP	21 32 37.3	+0.3
SKNT	**Sakolnakorn**	**50.92**	**298**	P	**P**	**21 32 24.8**	**+0.5**
	19nm,0.9s						
NONG	**Nongkai**	**52.08**	**298**	P	**P**	**21 32 34.9**	**+1.9**
	0.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**52.68**	**344**	P	**P**	**21 32 37.0**	**0.0**
	5.1nm,0.9s,baz=172,slow=7.2,SNR=10						
COCO	**West Island**	**52.72**	**259**	*e*P	**P**	**21 32 37.5**	**-0.2**
	133nm,1.0s						
KMI	**Kunming**	**55.45**	**306**	P	**P**	**21 32 59.3**	**+1.6**
KMI				pP	sP	21 33 17.0	-1.0
KMI				sP	pP	21 33 23.1	+11
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,140nm,4.3s						
XAN	**Xi'an**	**55.71**	**319**	P	**P**	**21 33 02.4**	**+3.2**
XAN				pP	pP	21 33 16.0	+2.3
XAN				sP	sP	21 33 23.1	+3.4
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
XAN				LR	LR		
	comp=N,200nm,18.4s						
XAN				LR	LR		
	comp=E,140nm,18.4s						
XAN				LR	LR		
	comp=Z,310nm,16.7s						
CMAR	**Chiang Mai Arr**	**55.93**	**297**	P	**P**	**21 33 01.6**	**+0.6**
	1.2nm,0.8s,baz=117,slow=5.4,SNR=6.4						
CMAR				LR	LR	21 54 36.1	
	comp=Z,44nm,22.0s,baz=80,slow=33						
CD2	**Chengdu**	**57.52**	**313**	P	P	21 33 05.4	-6.8
HHC	**Hu-ho-hao-te**	**58.55**	**326**	*e*P	**P**	**21 33 22.6**	**+3.3**
HHC				pmax	pmax		
	comp=Z,63nm,1.0s						
HHC				pmax	pmax		
	comp=Z,280nm,5.5s						
PETK	**Petropavlovsk-**	**59.41**	**5**	*e*P	**P**	**21 33 24.2**	**-0.6**
PETK	**Petropavlovsk-**	**59.41**	**5**	P	**P**	**21 33 25.3**	**+0.5**
	5.8nm,0.8s,baz=159,slow=6.6,SNR=7.0						
LZH	**Lanzhou**	**60.28**	**318**	*e*P	**P**	**21 33 35.4**	**+4.0**
LZH				pP	sP	21 33 50.8	-1.2
LZH				sP	pP	21 33 58.3	+12
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,4.7s						
LZH				LR	LR		
	comp=N,260nm,12.9s						
LZH				LR	LR		
	comp=E,260nm,13.4s						
LZH				LR	LR		
	comp=Z,340nm,15.8s						
GTA	**Gaotai**	**64.77**	**319**	P	**P**	**21 34 02.3**	**+1.1**
GTA				pP	pP	21 34 17.5	+1.7
GTA				sP	sP	21 34 24.8	+3.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,24nm,4.3s						
GTA				LR	LR		
	comp=N,110nm,20.6s						
GTA				LR	LR		
	comp=E,120nm,19.2s						
GTA				LR	LR		
	comp=Z,200nm,21.2s						
SONM	**Songino Array**	**66.00**	**329**	P	**P**	**21 34 10.3**	**+1.3**
	2.8nm,0.6s,baz=142,slow=5.6,SNR=8.8						
VNDA	**Vanda**	**71.60**	**177**	P	**P**	**21 34 43.9**	**+0.7**
	3.6nm,0.8s,baz=324,slow=6.8,SNR=23						
WMQ	**Urumqi**	**74.85**	**318**	*e*P	**P**	**21 35 03.8**	**+0.8**
WMQ				LR	LR		
	comp=N,260nm,16.9s						
WMQ				LR	LR		
	comp=E,250nm,16.5s						
WMQ				LR	LR		
	comp=Z,540nm,19.3s						
MKAR	**Makanchi Array**	**79.51**	**320**	P	**P**	**21 35 28.8**	**-0.3**
	2.0nm,0.8s,baz=110,slow=5.8,SNR=16						
ZALV	**Zalesovo Beam**	**80.73**	**327**	P	**P**	**21 35 33.5**	**-1.9**
	1.3nm,0.5s,baz=112,slow=6.6,SNR=4.1						
KSH	**Kashi**	**81.68**	**311**	P	**P**	**21 35 42.5**	**+1.5**
KSH				pP	pP	21 35 59.0	+2.9
KSH				PP	**PP**	**21 38 51.8**	**+3.3**
KSH				S	**S**	**21 45 45.5**	**-4.5**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KSH				pmax	pmax		
	comp=Z,180nm,4.6s						
KSH				LR	LR		
	comp=N,200nm,8.2s						
KSH				LR	LR		
	comp=E,190nm,7.3s						
MAW	**Mawson**	**83.23**	**203**	P	**P**	**21 35 48.1**	**-0.3**
	4.2nm,0.8s,baz=96,slow=6.1,SNR=7.9						
ILAR	**Eielson Array**	**84.48**	**23**	P	**P**	**21 35 51.3**	**-3.4**
	1.6nm,0.9s,baz=250,slow=4.9,SNR=8.0						
NRIK	**Noril'sk**	**86.34**	**342**	P	**P**	**21 36 03.1**	**-0.7**
	2.2nm,0.6s,baz=153,slow=9.0,SNR=3.8						
BBB	**Bella Bella**	**89.89**	**38**	LR	LR	22 11 46.8	
	comp=Z,152nm,18.9s,baz=260,slow=32						
DLBC	**Dease Lake**	**90.00**	**31**	LR	LR	22 14 14.1	
	comp=Z,161nm,18.1s,baz=254,slow=34						
INK	**Inuvik**	**90.73**	**21**	LR	LR	22 14 23.3	
	comp=Z,169nm,20.2s,baz=276,slow=34						
SYO	**Syowa Base**	**91.45**	**200**	*e*P	**P**	**21 36 26.6**	**-1.5**
NVAR	**Mina Array Bea**	**95.14**	**52**	P	**P**	**21 36 46.5**	**+0.4**
	0.4nm,0.4s,baz=261,slow=6.6,SNR=4.2						
NVAR				LR	LR	22 12 01.1	
	comp=Z,169nm,21.9s,baz=259,slow=31						
GEYT	**Alibeck**	**95.19**	**307**	P	**P**	**21 36 46.0**	**-0.1**
	1.3nm,0.7s,baz=120,slow=5.6,SNR=5.0						
YKA	**Yellowknife Ar**	**97.94**	**28**	PKiKP	**PKiKP**	**21 41 30.9**	**-0.2**
	0.5nm,0.8s,baz=272,slow=1.8,SNR=3.5						
ULM	**Lac du Bonnet**	**110.06**	**39**	PKiKP	**PKiKP**	**21 41 52.7**	**-1.0**
	1.7nm,0.6s,baz=248,slow=2.6,SNR=3.9						
AKASG	**Malin Array Be**	**113.92**	**323**	PKiKP	**PKiKP**	**21 42 00.2**	**-0.7**
	0.5nm,0.4s,baz=64,slow=2.2,SNR=4.6						
BRTR	**Keskin Array B**	**114.07**	**311**	PKP	PKPdf	21 42 00.3	-1.4
	0.9nm,0.9s,baz=147,slow=2.4,SNR=5.5						
TLB	**Topalu**	**116.76**	**317**	⇑*i*P	**PKiKP**	**21 42 06.8**	**+0.2**
BIZ	**Bicaz**	**117.20**	**320**	⇑*i*P	**PKPdf**	**21 42 07.0**	**-0.4**
BURAR	**Bucovina Array**	**117.51**	**321**	⇑*i*P	**PKiKP**	**21 42 09.3**	**+1.2**
MLR	**Muntele Rosu**	**117.84**	**319**	⇑*i*P	**PKPdf**	**21 42 07.9**	**-1.0**
DOPR	**Dopca**	**118.03**	**319**	⇑*i*P	**PKiKP**	**21 42 09.4**	**+0.3**
KOLS	**Kolonicke sedl**	**118.75**	**323**	*e*PKP	**PKiKP**	**21 42 11.0**	**+0.6**
GZR	**Gura Zlata**	**119.94**	**320**	⇑*i*P	**PKPdf**	**21 42 12.6**	**-0.2**
PLCA	**Paso Flores**	**120.34**	**145**	PKP	**PKiKP**	**21 42 14.4**	**+0.5**
	1.5nm,0.8s,baz=225,slow=2.9,SNR=4.0						
BZS	**Buzias**	**120.59**	**320**	⇑*i*P	**PKPdf**	**21 42 13.6**	**-0.4**
VTS	**Vitosha**	**120.72**	**317**	⇑*i*P	**PKPdf**	**21 42 14.1**	**-0.4**
MDVR	**Moldovita**	**120.88**	**319**	⇑*i*P	**PKPdf**	**21 42 14.0**	**-0.6**
VYHS	**Vyhne**	**120.97**	**324**	*e*PKP	**PKPdf**	**21 42 14.7**	**+0.1**
MODS	**Modra-Piesok**	**121.93**	**325**	*e*PKP	**PKPdf**	**21 42 16.2**	**-0.3**
BRG	**Berggiesshubel**	**122.39**	**329**	*e*PKP	**PKPdf**	**21 42 17.0**	**-0.2**
	4.8nm,0.9s						
CLL	**Collm**	**122.62**	**329**	*i* PKPdf	**PKPdf**	**21 42 17.6**	**-0.1**
	comp=Z,4.0nm,0.8s						
CLL				Lm	MLR	22 36 00.0	
	comp=Z,200nm,20.9s						
CONA	**Conrad Observa**	**122.97**	**325**	*e*PKiKP	**PKPdf**	**21 42 18.0**	**-0.6**
	comp=Z,2.8nm,0.8s						
ARSA	**Arzberg**	**123.52**	**324**	*i* PKiKP	**PKPdf**	**21 42 18.7**	**-0.9**
	comp=Z,4.7nm,1.1s						
KHC	**Kasperske Hory**	**123.58**	**327**	*e*PKP	**PKPdf**	**21 42 19.5**	**-0.2**
GERES	**GERESS Array B**	**123.68**	**327**	PKP	**PKPdf**	**21 42 19.7**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=66,slow=1.6,SNR=16						
MOA	**Molln**	**123.92**	**325**	*e*PKPdf	**PKPdf**	**21 42 19.2**	**-1.2**
	comp=Z,4.6nm,1.4s						
SOKA	**Soboth**	**124.11**	**324**	*i* PKiKP	**PKPdf**	**21 42 20.7**	**-0.1**
	comp=Z,5.5nm,1.1s						
KBA	**Koelnbreinsper**	**124.87**	**325**	*i* PKiKP	**PKPdf**	**21 42 21.7**	**-0.7**
	comp=Z,3.6nm,1.0s						
ABTA	**Abfaltersbach**	**125.53**	**325**	*i* PKiKP	**PKPdf**	**21 42 23.2**	**-0.3**
	comp=Z,7.5nm,0.9s						
WATA	**Walderalm**	**125.71**	**326**	*i* PKiKP	**PKPdf**	**21 42 23.7**	**-0.2**
	comp=Z,5.6nm,1.0s						
WTTA	**Wattenberg**	**125.72**	**326**	*i* PKiKP	**PKPdf**	**21 42 24.2**	**+0.2**
	comp=Z,13nm,0.9s						
MOTA	**Moosalm**	**125.97**	**326**	*i* PKiKP	**PKPdf**	**21 42 24.3**	**-0.1**
	comp=Z,7.5nm,0.9s						
SQTA	**Sankt Quirin**	**125.98**	**326**	*i* PKiKP	**PKPdf**	**21 42 24.5**	**+0.1**
	comp=Z,6.4nm,0.8s						
FETA	**Feichten**	**126.36**	**326**	*i* PKiKP	**PKPdf**	**21 42 25.6**	**+0.3**
	comp=Z,6.6nm,0.9s						
DAVA	**Damuels**	**126.67**	**327**	*e*PKiKP	**PKPdf**	**21 42 26.2**	**+0.4**
	comp=Z,4.8nm,0.7s						
KEST	**Kesra**	**133.41**	**315**	PKP	**PKPdf**	**21 42 38.3**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=120,slow=2.2,SNR=4.6						
LPAZ	**La Paz**	**136.21**	**121**	PKP	**PKPdf**	**21 42 45.2**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=339,slow=2.7,SNR=6.3						
CPUP	**Villa Florida**	**138.25**	**142**	PKP	**PKPdf**	**21 42 48.3**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=297,slow=2.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**147.98**	**285**	PKP	**PKPdf**	**21 43 04.3**	**-1.1**
	comp=Z,19nm,0.8s,baz=65,slow=1.9,SNR=63						
TORD				PKPbc	**PKPbc**	**21 43 08.0**	**-0.5**
	comp=Z,18nm,0.8s,baz=58,slow=2.6,SNR=63						
BDFB	**Brasilia**	**151.96**	**141**	PKPbc	**PKiKP**	**21 43 18.8**	**+0.1**
	comp=Z,4.7nm,0.5s,baz=180,slow=4.9,SNR=8.2						
BDFB				PKPab	**PKPab**	**21 43 26.4**	**-1.2**
	comp=Z,13nm,0.8s,baz=204,slow=2.7,SNR=8.3						
KIC	**Kosan Boka**	**154.85**	**272**	*e*PKiKP	**PKPbc**	**21 43 24.0**	**-0.6**
	comp=Z,25nm,0.8s						
DBIC	**Dimbokro**	**154.97**	**273**	PKPbc	**PKPbc**	**21 43 24.4**	**-0.4**
	comp=Z,12nm,0.9s,baz=122,slow=1.8,SNR=10						
DBIC				PKPab	**PKPab**	**21 43 39.8**	**-0.6**
	comp=Z,8.0nm,0.9s,baz=109,slow=4.7,SNR=5.7						
TIC	**Toumodi**	**155.13**	**273**	*e*PKiKP	PKPdf	21 43 24.6	+8.3
LIC	**Lamto**	**155.13**	**272**	*e*PKiKP	PKPdf	21 43 24.4	+8.1
	comp=Z,31nm,0.8s						

ISCJB ***17*** *21:27:53.2±0.4, 1°.38N±0°.04×98°.80E±0°.06, h90km, mb4.1/15, Error ellipse: s-maj=9.0km s-min=4.7km az=161.7*
IDC ***17*** *21:27:55.5±1.2, 1°

0.7nm,0.5s,baz=143,slow=8.2,SNR=8.3
BR131 Keskin Array S 70.34 312 *e*P **P 21 38 57.0 -1.4**
7.8nm,1.8s
MAW Mawson 73.29 194 P **P 21 39 16.3 +1.0**
1.6nm,0.5s,baz=38,slow=11,SNR=6.3
BURAR Bucovina Array 78.09 318 *e*P **P 21 39 42.6 -0.7**
13nm,0.8s
BUR08 Bucovina Ar. S 78.11 318 *e*P **P 21 39 42.2 -1.2**
9.4nm,1.8s
FINES FINESS Array B 80.69 332 P **P 21 39 55.9 -1.1**
0.7nm,0.5s,baz=122,slow=7.2,SNR=8.7
ARCES ARCESS Array B 82.99 340 P **P 21 40 07.9 -1.0**
1.3nm,0.8s,baz=90,slow=5.6,SNR=6.7
CPUP Villa Florida 146.32 221 PKPbc **PKPbc 21 47 22.8 -2.4**
1.3nm,0.8s,baz=163,slow=4.8,SNR=3.0

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*IDC **17** 21:42:18.4±0.6, 35°.29S×106°.00W, h0km, mb4.5/15, mb1 4.6/16, mb1mx4.6/28, mbtmp4.5/16, ML4.5/1, MS4.5/12, Ms1 4.5/12, ms1mx4.3/19, Error ellipse: s-maj=18.3km s-min=17.3km az=50.0*
*ISCJB **17** 21:42:19.2±0.4, 35°.38S±0°.06×105°.97W±0°.08, h15km, mb4.7/67, MS4.6/13, Error ellipse: s-maj=11.1km s-min=6.5km az=138.2*
*NEIC **17** 21:42:21.0±4.8, 35°.28S×105°.88W, h12km±28km, mb4.8/58, Error ellipse: s-maj=14.4km s-min=6.2km az=223.0*
*GCMT **17** 21:42:24.0±0.1, 35°.30S±0°.01×106°.03W±0°.01, h19km, MW5.3/118, Moment Tensor Solution. s86,c138; s118,c209; Duration: 1ᵗ1 Moment tensor: Scale 10¹⁷ Nm; M_{rr}-0.07±.02; $M_{\theta\theta}$-0.32±.02; $M_{\phi\phi}$0.39±.02; $M_{r\theta}$-0.02±.04; $M_{\theta\phi}$-0.98±.02; $M_{\phi r}$-0.33±.04; Best double couple: $M_0$1.09500×10¹⁷ NP1:ϕs190.00000°, δ90.00000°, λ17.00000°. NP2:ϕs100.00000°, δ73.00000°, λ180.00000°. Principal axes: T 1.1370, Plg12.0000°, Azm56.0000°; N -0.0840, Plg73.0000°, Azm190.0000°; P -1.0530, Plg12.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 21:42:21.3±0.4, 35°.31S±0°.08×105°.81W±0°.08, h15km, n143, σ1ᵗ58/135, mb4.8/67, MS4.6/13, 1C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**8.69**	**339**	*e*Pn	**Pn**	**21 44 26.0**	**-0.5**
RPN	**Rapa Nui**	**8.69**	**339**	Pn	**Pn**	**21 44 25.6**	**-1.0**
	5.2nm,0.3s,baz=165,slow=6.4,SNR=4.1						
RPN				LR	LR	21 46 52.0	
	comp=Z,4μm,20.9s,baz=142,slow=32						
GO06	**Curarrehue**	**27.50**	**109**	*e*P	**P**	**21 48 08.4**	**+1.2**
	30nm,1.8s						
GO05	**Huala**	**27.63**	**99**	*e*P	**P**	**21 48 09.4**	**+1.1**
	71nm,1.3s						
PLCA	**Paso Flores**	**28.18**	**112**	*e*P	**P**	**21 48 13.3**	**0.0**
	11nm,1.0s						
PLCA	**Paso Flores**	**28.18**	**112**	P	**P**	**21 48 15.3**	**+2.1**
	6.5nm,0.9s,baz=294,slow=8.1,SNR=11						
PLCA				LR	LR	21 56 15.6	
	comp=Z,583nm,19.9s,baz=306,slow=30						
PLCA	**Paso Flores**	**28.18**	**112**	*e*P	**P**	**21 48 14.2**	**+1.0**
GO04	**Tololo Observa**	**29.79**	**90**	*e*P	**P**	**21 48 29.1**	**+1.2**
	33nm,0.9s						
GO02	**Mina Guanaco**	**32.73**	**82**	*e*P	**P**	**21 48 54.5**	**+0.7**
	37nm,1.4s						
LVC	**Limon Verde**	**34.48**	**79**	*e*P	**P**	**21 49 11.0**	**+1.8**
	24nm,1.1s						
LVC	**Limon Verde**	**34.48**	**79**	P	**P**	**21 49 09.9**	**+0.7**
	9.7nm,0.9s,baz=231,slow=9.2,SNR=8.9						
LVC	**Limon Verde**	**34.48**	**79**	*e*P	**P**	**21 49 11.4**	**+2.2**
PB01	**IPOC Station P**	**34.82**	**76**	*e*P	**P**	**21 49 13.0**	**+1.1**
	26nm,1.1s						
PB11	**IPOC Station P**	**35.38**	**74**	*e*P	**P**	**21 49 17.3**	**+0.6**
	30nm,1.2s						
GO01	**Chusmiza**	**35.79**	**74**	*e*P	**P**	**21 49 21.6**	**+0.9**
	12nm,1.2s						
ATAH	**Atahualpa**	**37.68**	**48**	P	**P**	**21 49 36.8**	**+0.2**
	5.0nm,0.8s,baz=257,slow=11,SNR=3.9						
LPAZ	**La Paz**	**38.55**	**70**	*e*P	**P**	**21 49 45.3**	**+0.9**
	20nm,1.2s						
LPAZ	**La Paz**	**38.55**	**70**	P	**P**	**21 49 45.2**	**+0.9**
	6.8nm,0.9s,baz=243,slow=7.4,SNR=15						
LPAZ				LR	LR	22 02 35.0	
	comp=Z,394nm,19.1s,baz=242,slow=31						
LPAZ	**La Paz**	**38.55**	**70**	*e*P	**P**	**21 49 45.5**	**+1.2**
TBI	**Tubuai**	**39.59**	**275**	*e*LQ	LQ	21 58 58.9	
	1μm,35.5s						
TBI				*e*LR	LR	22 00 33.9	
	comp=Z,818nm,26.5s,baz=104						
CPUP	**Villa Florida**	**42.24**	**92**	*e*P	**P**	**21 50 14.0**	**0.0**
	28nm,1.8s						
CPUP	**Villa Florida**	**42.24**	**92**	P	**P**	**21 50 13.6**	**-0.4**
	3.6nm,0.9s,baz=259,slow=4.8,SNR=6.5						
CPUP				LR	LR	22 05 01.3	
	comp=Z,365nm,20.0s,baz=252,slow=32						
CPUP	**Villa Florida**	**42.24**	**92**	*e*P	**P**	**21 50 15.6**	**+1.6**
PPT2	**Papeete2**	**42.59**	**283**	*e*S	**S**	**21 56 40.3**	**+0.9**
	101nm,26.2s						
PPT2				*e*LQ	LQ	21 59 59.4	
	4μm,28.0s						
OTAV	**Otavalo**	**43.61**	**42**	*e*P	**P**	**21 50 26.1**	**+0.4**
	19nm,1.4s						
OTAV	**Otavalo**	**43.61**	**42**	*e*P	**P**	**21 50 25.9**	**+0.2**
SIV	**San Ignacio**	**44.25**	**76**	P	**P**	**21 50 30.1**	**-0.3**
	30nm,1.1s,baz=248,slow=7.4,SNR=61						
CNLB	**Canela**	**46.34**	**99**	*e*P	**P**	**21 50 48.6**	**+1.7**
TRCB	**Terra Rica**	**47.62**	**90**	*e*P	**P**	**21 50 57.4**	**+0.4**
JTS	**Las Juntas de**	**49.46**	**27**	LR	LR	22 06 52.9	
	comp=Z,1μm,20.0s,baz=250,slow=30						
TIJ01	**Guaruva-PR**	**49.46**	**95**	*e*P	**P**	**21 51 12.2**	**+1.1**
ROSC	**El Rosal**	**49.70**	**43**	*e*P	**P**	**21 51 14.1**	**+0.7**
	26nm,1.3s						
ROSC	**El Rosal**	**49.70**	**43**	P	**P**	**21 51 14.3**	**+0.9**
	5.3nm,0.4s,baz=234,slow=15,SNR=7.3						
ROSC				LR	LR	22 08 18.3	
	comp=Z,755nm,21.5s,baz=228,slow=31						
FRTB	**Fartura**	**49.88**	**92**	*e*P	**P**	**21 51 15.9**	**+1.5**
ESPN	**Las Esperanzas**	**51.45**	**27**	*e*P	**P**	**21 51 25.8**	**-0.2**
	33nm,1.2s						
SPB	**Sao Paulo**	**51.51**	**94**	*e*P	**P**	**21 51 28.3**	**+1.7**
BB19B	**Bebedouro**	**51.80**	**90**	*e*P	**P**	**21 51 29.5**	**+0.7**
CMIG	**Matias Romero**	**53.13**	**13**	LR	LR	22 08 01.6	
	comp=Z,344nm,20.9s,baz=184,slow=29						
PMNB	**Patos De Minas**	**54.75**	**89**	*e*P	**P**	**21 51 51.6**	**+1.0**
BDFB	**Brasilia**	**54.97**	**85**	*e*P	**P**	**21 51 53.2**	**+1.0**
	63nm,1.8s						
BDFB	**Brasilia**	**54.97**	**85**	P	**P**	**21 51 52.4**	**+0.2**
	5.6nm,0.8s,baz=279,slow=5.1,SNR=6.8						
BDFB				LR	LR	22 13 53.1	
	comp=Z,453nm,18.1s,baz=222,slow=34						
SDV	**Santo Domingo**	**55.09**	**44**	*e*P	**P**	**21 51 51.3**	**-1.8**
	10nm,1.1s						
SDV	**Santo Domingo**	**55.09**	**44**	*e*P	**P**	**21 51 51.0**	**-2.1**
VNDA	**Vanda**	**56.33**	**195**	P	**P**	**21 52 00.6**	**-0.5**
	0.9nm,0.9s,baz=76,slow=3.6,SNR=2.8						
VNDA				LR	LR	22 11 17.4	
	comp=Z,212nm,19.1s,baz=92,slow=31						
VNA3	**Neumayer Olymp**	**58.93**	**158**	P	**P**	**21 52 18.9**	**-0.5**
VNA1	**Neumayer--Stat**	**59.56**	**157**	P	**P**	**21 52 23.3**	**-0.5**
VNA2	**Neumayer--Watz**	**59.73**	**158**	P	**P**	**21 52 23.0**	**-2.0**
	baz=254,slow=5.0						
LNIG	**Linares**	**60.18**	**7**	*e*P	**P**	**21 52 27.2**	**-1.3**
	7.4nm,0.9s						
SNAA	**Sanae**	**60.81**	**159**	P	**P**	**21 52 31.4**	**-1.0**
SNAA	**Sanae**	**60.81**	**159**	*e*P	**P**	**21 52 31.4**	**-1.0**
	26nm,1.5s						
TXAR	**Lajitas Array**	**64.33**	**2**	*e*P	**P**	**21 52 55.4**	**-0.9**
TXAR	**Lajitas Array**	**64.33**	**2**	P	**P**	**21 52 56.0**	**-0.4**
	2.8nm,0.8s,baz=188,slow=8.5,SNR=16						
JCT	**Junction City**	**65.68**	**6**	*e*P	**P**	**21 53 05.0**	**-0.1**
	10nm,0.8s						
MNTX	**Cornudas Mount**	**66.65**	**0**	*e*P	**P**	**21 53 11.4**	**+0.2**
	14nm,1.9s						
WHTX	**Lake Whitney,**	**67.40**	**8**	*e*P	**P**	**21 53 15.0**	**-0.9**
	9.8nm,0.6s						
TUC	**Tucson**	**67.42**	**355**	*e*P	**P**	**21 53 16.4**	**+0.2**
	3.5nm,0.8s						
WHAR	**Wooly Hollow**	**71.36**	**12**	*e*P	**P**	**21 53 40.5**	**+0.1**
	33nm,1.8s						
GOGA	**Godfrey**	**71.49**	**20**	*e*P	**P**	**21 53 40.9**	**-0.3**
	13nm,1.3s						
TPNV	**Topopah Spring**	**72.54**	**351**	*e*P	**P**	**21 53 48.3**	**+0.6**
	10.0nm,1.3s						
SYO	**Syowa Base**	**72.89**	**168**	*e*P	**P**	**21 53 47.2**	**-2.1**
JSC	**Jenkinsville**	**72.94**	**21**	*e*P	**P**	**21 53 50.0**	**+0.2**
	7.4nm,0.7s						
V53A	**Saluda**	**73.80**	**19**	*e*P	**P**	**21 53 54.7**	**-0.3**
	22nm,1.4s						
SMCO	**Snowmass**	**74.12**	**359**	*e*P	**P**	**21 53 58.6**	**+1.4**
	6.9nm,1.1s						
SRU	**San Rafael Swe**	**74.18**	**356**	*e*P	**P**	**21 53 57.6**	**+0.3**
	6.0nm,0.8s						
CCM	**Cathedral Cave**	**74.23**	**12**	*e*P	**P**	**21 53 56.7**	**-0.7**
	12nm,1.1s						
NVAR	**Mina Array Bea**	**74.28**	**350**	*e*P	**P**	**21 53 58.5**	**+0.5**
NVAR	**Mina Array Bea**	**74.28**	**350**	P	**P**	**21 53 58.3**	**+0.4**
	3.8nm,0.9s,baz=180,slow=7.9,SNR=13						
RYN	**Ryan**	**74.50**	**350**	*e*P	**P**	**21 53 59.6**	**+0.5**
	5.8nm,1.1s						
WAKR	**Walker**	**74.52**	**349**	*e*P	**P**	**21 53 59.9**	**+0.5**
	35nm,2.0s						
DZM	**Mont Dzumac**	**75.83**	**253**	*e*S	**S**	**22 03 51.0**	**+1.7**
	256nm,26.4s						
DZM	**Mont Dzumac**	**75.83**	**253**	*e*LR	LR	22 17 26.1	
	comp=Z,659nm,24.1s						
BMN	**Battle Mountai**	**76.10**	**351**	*e*P	**P**	**21 54 07.9**	**-0.3**
	6.6nm,0.9s						
BGU	**Big Grassy Mou**	**76.15**	**354**	*e*P	**P**	**21 54 09.2**	**+0.6**
	10nm,1.6s						
ELK	**Elko**	**76.18**	**353**	*e*P	**P**	**21 54 09.2**	**+0.3**
	3.0nm,1.0s						
MAW	**Mawson**	**77.05**	**176**	P	**P**	**21 54 13.7**	**+0.4**
	2.1nm,0.9s,baz=220,slow=9.1,SNR=4.5						
BW06	**Boulder Array**	**77.78**	**357**	*e*P	**P**	**21 54 17.4**	**-0.4**
	12nm,0.9s						
PDAR	**Pinedale Array**	**77.78**	**357**	P	**P**	**21 54 17.2**	**-0.5**
	6.4nm,0.9s,baz=162,slow=6.1,SNR=18						
MOD	**Modoc Plateau**	**77.98**	**349**	*e*P	**P**	**21 54 19.0**	**+0.1**
	12nm,1.2s						
WVOR	**Wild Horse Val**	**78.25**	**350**	*e*P	**P**	**21 54 20.0**	**-0.3**
	6.8nm,1.0s						
REDW	**Red Top Meadow**	**78.43**	**356**	*e*P	**P**	**21 54 22.3**	**+0.9**
	7.6nm,1.0s						
LOHW	**Long Hollow**	**78.67**	**356**	*e*P	**P**	**21 54 23.6**	**+0.9**
	9.7nm,1.4s						
K05A	**Summer Lake**	**78.87**	**349**	*e*P	**P**	**21 54 24.3**	**+0.5**
	11nm,1.0s						
HLID	**Hailey**	**78.89**	**354**	*e*P	**P**	**21 54 23.3**	**-0.5**
	11nm,0.9s						
RSSD	**Black Hills**	**79.07**	**1**	*e*P	**P**	**21 54 24.9**	**+0.1**
	7.3nm,1.1s						
HUMO	**Hull Mountain**	**79.11**	**347**	*e*P	**P**	**21 54 26.1**	**+1.2**
	7.4nm,1.1s						
ECSD	**EROS Data Cent**	**79.11**	**7**	*e*P	**P**	**21 54 24.1**	**-0.8**
	8.1nm,0.9s						
FLWY	**Flagg Ranch**	**79.14**	**356**	*e*P	**P**	**21 54 24.5**	**-0.8**
	8.4nm,0.8s						
YHH	**Holmes Hill**	**79.85**	**356**	*e*P	**P**	**21 54 29.9**	**+0.6**
	4.7nm,1.2s						
I39A	**Houston**	**79.86**	**10**	*e*P	**P**	**21 54 29.1**	**+0.2**
	14nm,1.0s						
PINE	**Pine Mountain**	**79.92**	**349**	*e*P	**P**	**21 54 29.7**	**+0.2**
	8.3nm,0.8s						
RLMT	**Red Lodge**	**80.12**	**358**	*e*P	**P**	**21 54 30.9**	**+0.4**
	5.9nm,1.0s						
BMO	**Blue Mountains**	**80.46**	**352**	*e*P	**P**	**21 54 32.6**	**+0.4**
	5.3nm,1.3s						
BOZ	**Bozeman (W)**	**80.70**	**356**	*e*P	**P**	**21 54 33.4**	**-0.2**
	2.4nm,0.8s						
G08A	**Pilot Rock**	**81.10**	**351**	*e*P	**P**	**21 54 36.1**	**+0.3**
	4.7nm,1.0s						
LAO	**LASA Array**	**81.62**	**360**	*e*P	**P**	**21 54 39.0**	**+0.6**
	54nm,2.0s						
EGMT	**Eagleton**	**83.03**	**357**	*e*P	**P**	**21 54 46.4**	**+0.6**
	7.6nm,1.1s						
E43A	**Lone Tree Farm**	**83.06**	**13**	*e*P	**P**	**21 54 45.9**	**+0.1**
	7.8nm,0.9s						
SADO	**Sadowa**	**83.29**	**19**	*e*P	**P**	**21 54 47.6**	**+0.5**
	10nm,0.9s						
ULM	**Lac du Bonnet**	**85.64**	**6**	P	**P**	**21 54 56.6**	**-2.1**
	2.6nm,0.6s,baz=232,slow=4.7,SNR=6.5						
STKA	**Stephens Creek**	**87.99**	**232**	LR	LR	22 27 47.3	
	comp=Z,496nm,19.2s,baz=166,slow=31						
FFC	**Flin Flon**	**89.73**	**2**	*e*P	**P**	**21 55 18.2**	**-0.1**
	6.7nm,1.3s						
SCHQ	**Schefferville**	**95.82**	**21**	LR	LR	22 34 36.0	
	comp=Z,214nm,20.0s,baz=254,slow=33						
YKA	**Yellowknife Ar**	**97.72**	**356**	P	**P**	**21 55 54.8**	**0.0**
	0.1nm,0.5s,baz=168,slow=4.2,SNR=3.3						
ASAR	**Alice Springs**	**98.54**	**233**	LR	LR	22 36 03.4	
	comp=Z,488nm,18.2s,baz=128,slow=33						
H01W1	**Cape Leeuwin H**	**100.81**	**213**	T	T	23 49 07.9	
	baz=145,slow=76,SNR=27						
H01W2	**Cape Leeuwin H**	**100.82**	**213**	T	T	23 49 08.2	
	baz=145,slow=76,SNR=22						
H01W3	**Cape Leeuwin H**	**100.83**	**213**	T	T	23 49 10.7	
	baz=145,slow=76,SNR=19						
ESDC	**Sonseca Array**	**119.70**	**60**	PKP	**PKPdf**	**22 01 09.4**	**-1.3**
	0.6nm,0.6s,baz=251,slow=1.3,SNR=3.2						
FUORN	**Ofenpass-Fuorn**	**131.66**	**56**	*e*PKPdf	**PKiKP**	**22 01 34.7**	**+0.2**
CLL	**Collm**	**134.06**	**50**	*e*PKiKP	**PKiKP**	**22 01 42.0**	**+3.1**
	comp=Z,5.0nm,1.1s						
BRG	**Berggiesshubel**	**134.62**	**51**	*e*P	**PKiKP**	**22 01 45.1**	**+5.1**
	comp=Z,5.1nm,1.1s						
VYHS	**Vyhne**	**137.64**	**54**	*e*PKP	**PKPdf**	**22 01 44.8**	**+0.5**
FINES	**FINESS Array B**	**140.09**	**34**	PKP	**PKPdf**	**22 01 45.6**	**-2.7**
	comp=Z,2.2nm,0.9s,baz=228,slow=2.5,SNR=5.4						
BURAR	**Bucovina Array**	**141.90**	**56**	*e*PKPdf	**PKPdf**	**22 01 50.9**	**-1.3**
NJ2	**Nanjing**	**142.92**	**278**	*e*P	**PKPdf**	**22 01 55.3**	**+0.9**
AKASG	**Malin Array Be**	**144.30**	**50**	*e*PKPdf	**PKPab**	**22 01 54.4**	**+0.2**
AKASG	**Malin Array Be**	**144.30**	**50**	PKhKP	PKPpre	22 01 52.8	
	comp=Z,1.8nm,0.6s,baz=278,slow=3.4,SNR=9.3						
AKASG				PKP	**PKPdf**	**22 01 55.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=284,slow=3.2,SNR=10						
KIS	**Kishinev**	**144.37**	**57**	*e*PKP	**PKPab**	**22 01 48.0**	**-6.6**
KIS				*e*LQ	LQ	22 38 21.0	
	comp=Z,600nm,17.0s						
KIS				LRM	MLR	22 44 46.0	
	comp=Z,600nm,19.0s						
NRIK	**Noril'sk**	**145.12**	**352**	PKPbc	**PKPbc**	**22 01 56.3**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=49,slow=2.6,SNR=4.9						
TIA	**Tai'an**	**145.35**	**284**	P	**PKPbc**	**22 01 55.9**	**-2.5**
WHN	**Wuhan**	**146.12**	**274**	PKPbc	**PKiKP**	**22 02 05.3**	**+1.1**
BRTR	**Keskin Array B**	**147.73**	**70**	PKPbc	**PKPbc**	**22 02 04.3**	**-1.2**
	comp=Z,2.9nm,0.8s,baz=193,slow=3.2,SNR=17						
ANDN	**Andirin**	**149.61**	**74**	*i* P	**PKiKP**	**22 02 12.3**	**+1.0**
HHC	**Hu-ho-hao-te**	**150.22**	**292**	*e*P	**PKPdf**	**22 02 03.3**	**-3.3**
UTTA	**Uttaradit**	**150.77**	**240**	P	**PKPab**	**22 02 20.7**	**+0.2**
UMPA	**Umpang Tak**	**150.88**	**236**	P	**PKPab**	**22 02 28.1**	**+7.0**
NANT	**Nan**	**151.36**	**242**	P	**PKPab**	**22 02 21.9**	**-1.1**
XAN	**Xi'an**	**151.49**	**278**	P	**PKiKP**	**22 02 16.3**	**+1.0**
XAN				pP	sPKPab	22 02 29.0	+0.6
XAN				sP	pPKPab	22 02 35.4	+8.4
PHRA	**Phrae**	**151.50**	**241**	P	**PKiKP**	**22 02 16.0**	**+0.4**
LAMP	**Lampang**	**151.94**	**240**	P	**PKPab**	**22 02 24.6**	**-0.8**
	comp=Z,17μm,1.0s						
CMAR	**Chiang Mai Arr**	**152.38**	**239**	*e*PKPbc	**PKPbc**	**22 02 18.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**152.38**	**239**	PKPbc	**PKPbc**	**22 02 16.6**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=207,slow=1.8,SNR=8.5						
CMMT	**Chiang Mai**	**152.62**	**240**	P	**PKPab**	**22 02 24.1**	**-4.2**
	comp=Z,2.9nm,1.3s						
SONM	**Songino Array**	**153.05**	**308**	*e*PKPbc	**PKPbc**	**22 02 17.4**	**-0.6**
SONM	**Songino Array**	**153.05**	**308**	PKPbc	**PKPbc**	**22 02 15.2**	**-2.8**
	comp=Z,2.7nm,0.7s,baz=94,slow=0.1,SNR=7.3						
KBZ	**Khabaz**	**154.56**	**61**	PKP	**PKPdf**	**22 02 12.4**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=278,slow=3.9,SNR=4.3						
CD2	**Chengdu**	**154.89**	**268**	PKPbc	**PKPdf**	**22 02 12.9**	**-0.8**
GTA	**Gaotai**	**159.25**	**289**	*e*P	**PKPab**	**22 02 59.5**	**+3.1**
GTA				pP	sPKPab	22 03 05.3	+3.8
GTA				sP	pPKPab	22 03 08.4	+8.2
ABKAR	**Akbulak array**	**162.57**	**33**	*e*PKPdf	**PKPdf**	**22 02 24.3**	**+2.2**
WMQ	**Urumqi**	**166.56**	**313**	*e*P	**PKPdf**	**22 02 26.4**	**+0.5**
GEYT	**Alibeck**	**166.83**	**74**	PKP	**PKPdf**	**22 02 24.6**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=276,slow=5.7,SNR=2.8						
MKAR	**Makanchi Array**	**167.01**	**334**	PKP	**PKPdf**	**22 02 26.0**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=78,slow=1.9,SNR=2.9						
KSH	**Kashi**	**175.56**	**342**	PKP	**PKPdf**	**22 02 31.1**	**+0.3**
KSH				PP	**PP**	**22 08 06.3**	**+6.1**
KSH				SKS	**SKSdf**	**22 09 32.8**	**-0.5**

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*ISCJB **17** 21:43:47.3±0.3, 6°.54S±0°.03×130°.42E±0°.04, h146km, mb4.4/30, Error ellipse: s-maj=6.6km s-min=3.9km az=154.0*
*NEIC **17** 21:43:48.2±0.7, 6°.53S×130°.17E, h136km±8km, mb4.4/15, Error ellipse: s-maj=9.9km s-min=6.7km az=59.0*
*IDC **17** 21:43:49.0±3.2, 6°.48S×130°.21E, h140km±30km, mb3.9/15, mb1 4.0/18, mb1mx3.9/30, mbtmp4.4/18, Error ellipse: s-maj=17.9km s-min=10.9km az=74.0*
*DJA **17** 21:43:49.6±0.2, 7°S±2°×13°0E±°, h144km±3km, M4.7/37, mb4.7/37, mB5.0/12, MLv5.3/7, Mw(mB)4.3/12*
ISC 17 21:43:49.3±0.4, 6°.54S±0°.05×130°.27E±0°.06, h146km, n101, σ1ᵗ48/102, mb4.3/30, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.76**	**145**	*e*Pn	**Pn**	**21 44 22.2**	**+0.7**
SAUI	**Saumlaki**	**1.76**	**145**	P	**Pn**	**21 44 20.8**	**-0.6**
SAUI				S	**Sn**	**21 44 45.5**	**-0.6**
BNDI	**Bandanaira**	**2.04**	**350**	P	**Pn**	**21 44 25.5**	**+0.8**
BNDI				S	**Sn**	**21 44 53.2**	**+1.4**
FAKI	**Fak Fak**	**4.10**	**29**	*e*Pn	**Pn**	**21 44 48.6**	**-2.2**
FAKI	**Fak Fak**	**4.10**	**29**	P	**Pn**	**21 44 50.2**	**-0.6**
SANI	**Sanana**	**6.18**	**316**	P	**Pn**	**21 45 19.7**	**+1.3**
SANI				S	**Sn**	**21 46 30.7**	**+2.7**
MTN	**Manton Dam**	**6.32**	**172**	*e*Pn	**Pn**	**21 45 19.3**	**-1.0**
SOEI	**Soe**	**6.75**	**241**	*e*Pn	**Pn**	**21 45 25.6**	**-0.5**
SOEI	**Soe**	**6.75**	**241**	P	**Pn**	**21 45 28.2**	**+2.1**
TNTI	**Ternate**	**7.82**	**338**	*e*Pn	**Pn**	**21 45 39.4**	**-1.0**
TNTI	**Ternate**	**7.82**	**338**	P	**Pn**	**21 45 40.3**	**-0.1**
KDI	**Kendari**	**8.04**	**288**	P	**Pn**	**21 45 45.3**	**+2.0**
MMRI	**Maumere**	**8.23**	**255**	*e*Pn	**Pn**	**21 45 45.1**	**-0.8**
MMRI	**Maumere**	**8.23**	**255**	P	**Pn**	**21 45 48.0**	**+2.1**
LUWI	**Luwuk**	**9.26**	**306**	*e*Pn	**Pn**	**21 45 58.9**	**-0.8**
LUWI	**Luwuk**	**9.26**	**306**	P	**Pn**	**21 46 01.8**	**+2.2**
BSSI	**Bau Bau, Buton**	**9.73**	**272**	P	**Pn**	**21 46 08.0**	**+2.1**
BKSI	**Bulukumba**	**10.17**	**276**	P	**Pn**	**21 46 13.6**	**+1.9**
APSI	**Ampana**	**10.26**	**303**	P	**Pn**	**21 46 16.0**	**+3.1**
BNSI	**Bone**	**10.34**	**281**	P	**Pn**	**21 46 15.7**	**+1.7**
KAPI	**Kappang**	**10.58**	**278**	*e*Pn	**Pn**	**21 46 13.9**	**-3.2**
KAPI	**Kappang**	**10.58**	**278**	P	**Pn**	**21 46 17.7**	**+0.6**
	0.7nm,0.3s,baz=90,slow=6.1,SNR=8.0						
SPSI	**Sidrap Palu**	**10.77**	**283**	P	**Pn**	**21 46 21.6**	**+2.0**
MRSI	**Marisa**	**10.85**	**310**	P	**Pn**	**21 46 22.8**	**+2.1**
TTSI	**Tana Toraja**	**10.98**	**288**	P	**Pn**	**21 46 24.5**	**+2.1**
SGSI	**Sangihe**	**11.21**	**335**	P	**Pn**	**21 46 26.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**12.35**	**201**	*e*Pn	**Pn**	**21 46 37.0**	**-3.3**
FITZ	**Fitzroy Crossi**	**12.35**	**201**	P	**Pn**	**21 46 36.1**	**-4.1**
	5.4nm,0.3s,baz=12,slow=7.8,SNR=116						
FITZ				S	Sn	21 48 42.7	-14
	4.5nm,0.3s,baz=69,slow=14,SNR=5.9						
MPSI	**Mapaga**	**12.40**	**303**	P	**Pn**	**21 46 42.8**	**+1.8**
PLAI	**Plampang**	**12.59**	**259**	P	**Pn**	**21 46 43.7**	**+0.2**
WRAB	**Tennant Creek**	**13.89**	**164**	*e*Pn	**Pn**	**21 46 58.5**	**-1.6**
WRA	**Warramunga Arr**	**13.90**	**164**	P	Pn	21 46 55.8	-4.4
	3.1nm,0.3s,baz=349,slow=13,SNR=78						
WRA				S	Sn	21 49 21.4	-13
	5.9nm,0.3s,baz=339,slow=23,SNR=9.6						
WB2	**Warramunga Arr**	**13.90**	**164**	*e*Pn	**Pn**	**21 46 56.4**	**-3.8**
COEN	**Coen**	**14.67**	**121**	*e*Pn	**Pn**	**21 47 11.2**	**+1.3**
JAGI	**Jajag, Banyuwa**	**16.10**	**262**	*e*Pn	**Pn**	**21 47 24.2**	**-3.4**
	32nm,0.7s						
MTKI	**Muara Teweh, K**	**16.32**	**289**	P	**P**	**21 47 32.9**	**+2.4**
	28nm,0.7s						
PMG	**Port Moresby**	**16.96**	**101**	P	**Pn**	**21 47 39.8**	**+1.7**
	0.8nm,0.3s,baz=270,slow=12,SNR=3.4						
AS31	**Alice Springs**	**17.38**	**169**	*e*P	**P**	**21 47 42.5**	**+0.3**
	16nm,0.8s						
ASAR	**Alice Springs**	**17.38**	**169**	*e*P	**P**	**21 47 42.0**	**-0.2**
ASAR	**Alice Springs**	**17.38**	**169**	P	**P**	**21 47 42.5**	**+0.3**
	3.6nm,0.3s,baz=349,slow=10,SNR=215						
ASAR				S	S	21 50 45.0	-11

KKAR	Karatay Array	73.18	319	*eP*	P	21 55 04.1	-0.1
MAW	Mawson	75.47	201	P	P	21 55 17.8	+0.9
	2.5nm,0.8s,baz=92,slow=9.7,SNR=4.0						
GEYT	Alibeck	80.12	310	P	P	21 55 43.4	0.0
	1.7nm,0.7s,baz=141,slow=9.6,SNR=6.3						
ABKAR	Akbulak array	82.32	321	*eP*	P	21 55 54.1	-0.5
SYO	Syowa Base	84.19	201⇑	*eP*	P	21 56 04.0	+0.2
VYHS	Vyhne	109.03	319	*e*PDIF	Pdif	21 57 58.8	+0.7
TORD	Torodi Ar. Bea	128.99	282	PKP	PKPdf	22 02 40.7	-0.1
	0.4nm,0.6s,baz=101,slow=2.2,SNR=3.7						
TORD				SKPbc	SKPbc	22 05 46.8	
	1.1nm,0.9s,baz=93,slow=4.2,SNR=4.6						
CPUP	Villa Florida	146.50	168	PKPbc	PKPbc	22 03 14.7	+0.5
	3.2nm,0.9s,baz=201,slow=2.3,SNR=5.8						

IDC ***17*** *22:02:23.5±0.5,37.°62N×124.°52E,h0km,mb4.3/23, mb1 4.5/30,mb1mx4.4/48,mbtmp4.3/30,ML4.2/5,MS4.2/25, Ms1 4.2/25,ms1mx4.1/34,Error ellipse: s-maj=13.2km s-min=11.8km az=34.0*

ISCJB ***17*** *22:02:23.6±0.2,37.°64N±0.°02×124.°59E±0.°02,h10km, mb4.6/116,MS4.5/40,Error ellipse: s-maj=3.3km s-min=2.4km az=168.2*

BJI ***17*** *22:02:24.0±0.0,37.°70N×124.°65E,h6km,mb4.7/51, mB4.8/39,ML5.3/16,Ms5.0/55,Ms7 4.6/34*

MOS ***17*** *22:02:24.8±1.2,37.°65N×124.°53E,h17km,mb4.9/61, MS4.6/20,Error ellipse: s-maj=5.6km s-min=4.2km az=113.9*

GCMT ***17*** *22:02:25.8±0.2,37.°67N±0.°01×124.°54E±0.°02,h16km±1km, MW4.9/84,Moment Tensor Solution. s24,c26; s84,c128; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-0.44±.10; $M_{\theta\theta}$1.98±.09; $M_{\phi\phi}$-1.54±.08; $M_{r\theta}$-0.15±.24; $M_{\theta\phi}$2.44±.08; $M_{\phi r}$-0.80±.26; Best double couple: M_o3.12700×10¹⁶ NP1:ϕ_s19.00000°,δ85.00000°,λ-164.00000°. NP2: ϕ_s287.00000°,δ74.00000°,λ-5.00000°. Principal axes: T 3.2970, Plg8.0000°, Azm152.0000°; N -0.3400, Plg73.0000°, Azm35.0000°; P -2.9570, Plg15.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***17*** *22:02:25.8±0.2,37.°63N×124.°53E,h10km,mb4.8/54 Error ellipse: s-maj=4.6km s-min=3.9km az=178.0*

NEIC Felt at Yantai, China and at Incheon, Seoul and Uijeongbu, South Korea.

ISC 17 22:02:25.8±0.3,37.°70N±0.°03×124.°69E±0.°03,h10km,n318, σ_s29/346,mb4.7/122,MS4.5/41,37C-12D,South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KS15	Wonju Array Si	2.55	95	*e*Pn	Pn	22 03 07.3	+0.1
KS15				*e*Sn	Sn	22 03 36.8	-1.6
KSAR	Wonju Array Be	2.55	95	*e*Pn	Pn	22 03 08.5	+1.3
KSAR				Sn	Sn	22 03 36.8	-1.6
KSAR	Wonju Array Be	2.55	95	*e*P	Pn	22 03 08.5	+1.3
KSAR						22 03 36.8	
KSRS	Korea Array	2.58	95	Pn	Pn	22 03 06.4	-1.2
	57nm,0.3s,baz=272,slow=13,SNR=443						
KSRS				Pg	Pb	22 03 12.6	+0.5
	375nm,0.3s,baz=274,slow=17,SNR=256						
KSRS				Sn	Sn	22 03 36.8	-2.2
	369nm,0.3s,baz=273,slow=24,SNR=12						
KSRS				Lg	Lg	22 03 45.3	
	573nm,0.3s,baz=278,slow=29,SNR=15						
KSRS				LR	LR	22 04 26.3	
	comp=Z,2μm,18.3s,baz=265,slow=46						
DL2	Dalian	2.69	297	Pn	Pn	22 03 07.3	-1.8
DL2				Pg	Pb	22 03 13.6	-0.4
DL2				Sn	Sb	22 03 46.5	-0.6
DL2				Sg	Sg	22 03 51.3	-0.9
DL2				smax	smax		
	comp=N,24μm,0.9s						
DL2				smax	smax		
	comp=E,17μm,0.7s						
SNY	Shenyang	4.21	349	Pn	Pn	22 03 29.4	-0.6
SNY				Pg	Pb	22 03 41.5	+1.6
SNY				Sg	Sb	22 04 34.6	+3.9
SNY				smax	smax		
	comp=N,4μm,0.8s						
SNY				smax	smax		
	comp=E,12μm,0.7s						
CN2	Changchun	6.12	5	*e*Pg	Pg	22 04 18.6	-4.3
CN2				Sg	Sg	22 05 36.3	-5.8
TIA	Tai'an	6.24	258	Pn	Pn	22 03 56.9	-1.0
TIA				Pg	Pb	22 04 15.8	+1.3
TIA				Sg	Sg	22 05 37.4	-8.7
TIA				smax	smax		
	comp=N,2μm,1.0s						
TIA				smax	smax		
	comp=E,1μm,1.1s						
JNU	Nakatsue	6.81	130	Pn	Pn	22 04 05.2	-0.6
	12nm,0.3s,baz=277,slow=4.8,SNR=81						
JNU				Sn	Sn	22 05 25.3	+1.8
	14nm,0.3s,baz=351,slow=19,SNR=2.5						
JNU				Lg	Lg	22 06 00.2	
	28nm,0.3s,baz=51,slow=20,SNR=12						
JNU				LR	LR	22 06 51.4	
	comp=Z,3μm,18.0s,baz=316,slow=39						
MSHR	Mys Shultsa	6.95	43	*d i*P	Pn	22 04 08.3	+0.7
BJT	Baijiatuau	7.04	292	*e*Pn	Pn	22 04 08.6	-0.3
BJT	Baijiatuau	7.04	292	*e*P	Pn	22 04 08.6	-0.3
BJI	Beijing	7.04	292	Pn	Pn	22 04 08.4	-0.5
BJI				Sn	Sn	22 05 34.3	+5.3
BJI				LR	LR		
	comp=N,8μm,16.5s						
BJI				LR	LR		
	comp=E,3μm,19.2s						
SSE	Sheshan	7.20	205	*e*Pn	Pn	22 04 09.6	-1.5
NJ2	Nanjing	7.40	222	*e*Pn	Pn	22 04 12.5	-1.4
NJ2				Pg	Pb	22 04 36.8	+2.5
NJ2				Sg	Sb	22 06 10.3	+7.7
NJ2				smax	smax		
	comp=N,600nm,1.0s						
NJ2				smax	smax		
	comp=E,720nm,0.9s						
VLA	Vladivostok	7.70	43	*c i*P	Pn	22 04 19.8	+1.8
MDJ	Mudanjiang	7.83	27	Pn	Pn	22 04 21.9	+2.2
MDJ				Sn	Sn	22 05 52.1	+3.7
MDJ				LR	LR		
	comp=Z,3μm,8.0s						
MDJ	Mudanjiang	7.83	27	*e*Pn	Pn	22 04 21.4	+1.7
USA0B	Ussuriysk Arra	8.52	38	*e*Pn	Pn	22 04 31.4	+2.2
USA0B	Ussuriysk Arra	8.52	38	*e*P	Pn	22 04 31.4	+2.2
USRK	Ussuriysk Ar.	8.52	38	*e*Pn	Pn	22 04 30.1	+0.9
USRK	Ussuriysk Ar.	8.52	38	Pn	Pn	22 04 31.2	+2.1
	1.5nm,0.3s,baz=221,slow=12,SNR=18						
USRK				Pg	Pg	22 05 01.3	-7.5
	7.5nm,0.3s,baz=228,slow=15,SNR=37						
USRK				Lg	Lg	22 06 55.1	
	23nm,0.3s,baz=236,slow=33,SNR=9.3						
USRK				LR	LR	22 07 21.3	
	comp=Z,1μm,20.3s,baz=214,slow=34						
INU	Inuyama	10.20	100	*e*Pn	Pn	22 04 52.8	+0.6
HHC	Hu-ho-hao-te	10.65	291	*e*P	Pn	22 05 01.0	+2.5
HHC				pP		22 05 04.8	
HHC				sP		22 05 08.5	
HHC				S	Sn	22 06 55.3	-2.5
HHC				sS		22 07 07.5	
HHC				pmax	pmax		
	comp=Z,91nm,0.8s						
HHC				pmax	pmax		
	comp=Z,340nm,3.8s						
HHC				LR	LR		
	comp=N,3μm,6.9s						
HHC				LR	LR		
	comp=E,2μm,6.4s						
HHC				LR	LR		
	comp=Z,3μm,6.7s						
MJB9	Matsu-Tunnel	10.85	92	*e*Pn	Pn	22 05 01.2	0.0
MAJO	Matsushiro	10.86	92	*e*Pn	Pn	22 05 02.5	+1.3
MAJO	Matsushiro	10.86	92⇓	*e*P	Pn	22 05 05.8	+4.5
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MJAR	Matsushiro Arr	10.86	92	Pn	Pn	22 05 04.5	+3.2
	comp=Z,0.0nm,0.3s,baz=286,slow=14,SNR=16						
MJAR				LR	LR	22 08 48.5	
	comp=Z,801nm,19.0s,baz=280,slow=35						
WHN	Wuhan	11.15	233	P	Pn	22 05 03.1	-2.1
WHN				S	Sn	22 07 08.3	-1.7
WHN				LR	LR		
	comp=Z,11μm,13.7s						
WHN				LR	LR		
	comp=Z,5μm,8.3s						
WHN				LR	LR		
	comp=Z,6μm,7.1s						
BTO	Baotou	11.75	289	*e*P	Pn	22 05 12.1	-1.5
BTO				S	Sn	22 07 31.9	+7.1
HIA	Hailar	12.10	344	*e*Pn	Pn	22 05 17.1	-1.1
HIA	Hailar	12.10	344⇓	*e*P	Pn	22 05 19.8	+1.6
HIA				pmax	pmax		
	comp=Z,76nm,1.0s						
KLR	Kul'dur	12.60	22⇑	*e*P	Pn	22 05 27.7	+2.6
KLR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KLR	Kul'dur	12.60	22	Pn	Pn	22 05 27.7	+2.6
	comp=Z,0.6nm,0.3s,baz=219,slow=14,SNR=28						
KLR				Sn	Sn	22 07 47.6	+2.2
	comp=Z,0.7nm,0.3s,baz=202,slow=19,SNR=2.6						
KLR				Lg	Lg	22 09 01.1	
	comp=Z,2.5nm,0.3s,baz=131,slow=20,SNR=5.7						
KLR				LR	LR	22 10 30.8	
	comp=Z,834nm,20.8s,baz=211,slow=38						
JHJ	Hachijo jima 2	13.13	106	LR	LR	22 09 57.9	
	comp=Z,534nm,20.9s,baz=102,slow=34						
YHNB	Yeheng	13.30	193	*e*Pn	Pn	22 05 32.2	-2.6
XAN	Xi'an	13.30	259	P	Pn	22 05 34.5	-0.1
XAN				pP	P	22 05 44.4	-0.1
XAN				S	Sn	22 08 07.3	+4.6
XAN				pmax	pmax		
	comp=Z,16nm,1.4s						
XAN				pmax	pmax		
	comp=Z,200nm,8.3s						
XAN	Xi'an	13.30	259	*e*Pn	Pn	22 05 34.6	-0.1
XAN	Xi'an	13.30	259	*e*P	Pn	22 05 34.6	-0.1
QZH	Quanzhou	13.74	204	*e*P	Pn	22 05 33.5	-7.2
QZH				*e*S	Sn	22 08 05.5	-7.9
ENH	Enshi	14.62	244	*e*Pn	Pn	22 05 51.6	-1.1
TPUB	Ta-pu	14.77	195	*e*Pn	Pn	22 05 53.9	-1.0
ERM	Erimo	14.82	67⇓	*e*P	P	22 05 59.6	-1.6
ERM				pmax	pmax		
	comp=Z,129nm,2.3s						
ASAJ	Asahikawa	14.96	59	Pn	Pn	22 06 00.0	+2.7
	comp=Z,1.6nm,0.3s,baz=211,slow=9.1,SNR=11						
ASAJ				LR	LR	22 11 07.2	
	comp=Z,669nm,18.5s,baz=246,slow=35						
GRNR	Gornyy	15.51	29	*e*P	P	22 06 12.3	+3.4
ZEA	Zeya	16.13	5	*e*P	P	22 06 14.1	-1.7
ZEA				*e*S	S	22 09 18.0	-6.8
ZEA				pmax	pmax		
	comp=N,53nm,1.0s						
ZEA				pmax	pmax		
	comp=E,58nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,78nm,1.2s						
ZEA				pmax	pmax		
	comp=N,200nm,2.0s						
ZEA				pmax	pmax		
	comp=Z,200nm,2.0s						
ZEA				smax	smax		
	comp=E,500nm,10.0s						
ZEA				MLR	MLR		
	comp=Z,3μm,12.0s						
ZEA				MLR	MLR		
	comp=E,4μm,7.0s						
YSS	Yuzh-Sakhalins	16.21	50	*e*P	P	22 06 15.6	-1.1
YSS				*e*S	Sn	22 09 12.9	-0.5
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,13.0s						
CIT	Chita	16.32	335	*e*P	P	22 06 18.4	+0.5
CIT				pmax	pmax		
	comp=Z,150nm,1.3s						
ULN	Ulaanbaatar	16.42	314	*e*Pn	Pn	22 06 15.1	-1.3
	comp=Z,32nm,1.0s						
ULN	Ulaanbaatar	16.42	314	*c i*P	Pn	22 06 14.8	-1.6
ULN				pmax	pmax		
	comp=Z,60nm,2.5s						
LZH	Lanzhou	16.75	271	*e*P	Pn	22 06 19.5	-1.2
LZH				pP	P	22 06 23.5	+0.5
LZH				sP	sP	22 06 26.4	-0.7
LZH				PP	PnPn	22 06 35.6	+5.6
LZH				S	Sn	22 09 25.0	-1.9
LZH				sS	S	22 09 32.9	-5.1
LZH				SS	SnSn	22 09 45.9	+6.0
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,200nm,4.9s						
LZH				LR	LR		
	comp=Z,2μm,11.9s						
LZH				LR	LR		
	comp=Z,2μm,10.8s						
LZH				LR	LR		
	comp=Z,2μm,12.7s						
SONA0	Songino Array	16.78	313	*e*Pn	Pn	22 06 19.3	-1.7
SONA0				*e*PcP	PcP	22 11 12.8	+3.8
SONM	Songino Array	16.78	313	*e*Pn	Pn	22 06 19.1	-1.8
SONM	Songino Array	16.78	313	Pn	Pn	22 06 19.3	-1.7
	comp=Z,0.3nm,0.3s,baz=122,slow=13,SNR=17						
SONM				Lg	Lg	22 11 12.8	
	comp=Z,0.2nm,0.3s,baz=119,slow=38,SNR=3.9						
SONM				LR	LR	22 13 28.1	
	comp=Z,2μm,19.0s,baz=120,slow=40						
UGL	Uglegorsk	16.95	42⇑	*i*P	P	22 06 26.9	+2.1
UGL				S	Sn	22 09 32.3	+1.2
UGL				pmax	pmax		
	comp=Z,1μm,2.0s						
UGL				pmax	pmax		
	comp=Z,230nm,1.5s						
UGL				MLR	MLR		
	comp=Z,2μm,8.0s						
UGL				MLR	MLR		
	comp=E,4μm,6.0s						
TYV	Tymovskoe	18.33	38	*e*P	P	22 06 42.2	+2.1
TYV				*e*S	Sn	22 10 07.4	+2.7
TYV				pmax	pmax		
	comp=Z,400nm,2.7s						
TYV				pmax	pmax		
	comp=Z,34nm,1.6s						
TYV				smax	smax		
	comp=N,500nm,7.6s						
CD2	Chengdu	18.55	255	P	P	22 06 41.3	-1.5
CD2				pP	Pn	22 06 42.9	0.0
CD2				sP	sP	22 06 46.0	-0.9
CD2				PP	PnPn	22 06 58.8	+4.2
CD2				sS	S	22 10 14.4	0.0
CD2				pmax	pmax		
	comp=N,80nm,0.7s						
CD2				pmax	pmax		
	comp=N,280nm,10.4s						
CD2				LR	LR		
	comp=N,2μm,9.2s						
CD2				LR	LR		
	comp=N,2μm,11.6s						
CD2				LR	LR		
	comp=N,2μm,9.8s						
GYA	Guiyang	18.91	239⇑	*i*P	Pn	22 06 46.8	-0.6
GYA				pP	sP	22 06 51.3	+0.4
GYA				S	S	22 10 20.4	-1.4
GYA				sS	sS	22 10 26.4	+0.1
GYA				pmax	pmax		
	comp=N,40nm,1.0s						
GYA				pmax	pmax		
	comp=N,120nm,4.8s						
GYA				LR	LR		
	comp=N,2μm,12.8s						
GYA				LR	LR		
	comp=N,1μm,12.3s						
NKL	Nikolayevsk	19.02	31	*e*P	Pn	22 06 48.8	+0.4
NKL				*e*		22 10 26.0	
NKL				pmax	pmax		
	comp=Z,155nm,1.6s						
NKL				MLR	MLR		
	comp=Z,4μm,8.0s						
NKL				MLR	MLR		
	comp=E,7μm,8.0s						
GTA	Gaotai	19.52	283	P	Pn	22 06 53.6	-1.0
GTA				pP	sP	22 06 57.0	-0.5
GTA				sP	pP	22 06 59.6	+3.4
GTA				S	S	22 10 35.3	+1.4
GTA				pmax	pmax		
	comp=E,82nm,4.0s						
GTA				LR	LR		
	comp=E,3μm,15.8s						
GTA				LR	LR		
	comp=E,930nm,15.8s						
ZAK	Zakamensk	19.85	317	*e*P	P	22 06 55.4	-1.5
ZAK				pmax	pmax		
	comp=Z,14nm,1.5s						
TLY	Talaya	20.37	320	*e*P	Pn	22 07 02.9	-1.7
	comp=Z,25nm,1.0s						
TLY	Talaya	20.37	320	*c i*P	Pn	22 07 02.8	-1.7
IRK	Irkutsk	20.39	322	*e*P	Pn	22 07 03.2	-1.5
IRK				pmax	pmax		
	comp=Z,173nm,2.4s						
BOD	Bodaibo	21.32	344	*e*P	P	22 07 12.8	+0.2
BOD				pmax	pmax		
	comp=Z,46nm,1.4s						
MOY	Mondy	21.75	318	*e*P	P	22 07 16.5	-0.9
MOY				pmax	pmax		
	comp=Z,40nm,2.2s						
KMI	Kunming	22.48	242	P	P	22 07 24.6	-1.0
KMI				PP	PnPn	22 07 52.3	+3.7
KMI				S	S	22 11 23.4	-9.1
KMI				sS	pS	22 11 34.3	-2.7
KMI				SS	SnSn	22 12 05.9	+5.1
KMI				pmax	pmax		
	comp=Z,93nm,1.2s						
KMI				pmax	pmax		
	comp=Z,310nm,4.1s						
KMI				LR	LR		
	comp=Z,830nm,13.7s						
KMI				LR	LR		
	comp=Z,830nm,14.0s						
KMI	Kunming	22.48	242	*e*P	P	22 07 24.2	-1.3
	comp=Z,120nm,1.1s						
KMI	Kunming	22.48	242	*e*P	P	22 07 24.2	-1.3
KMI				pmax	pmax		
	comp=Z,120nm,1.1s						
QIZ	Qiongzhong	22.68	219	P	P	22 07 27.3	-0.2
QIZ				S	S	22 11 36.8	+1.1
QIZ				LR	LR		
	comp=Z,3μm,15.9s						
QIZ				LR	LR		
	comp=Z,4μm,14.9s						
QIZ				LR	LR		
	comp=Z,900nm,11.8s						
TGY	Tagaytay City	23.74	189	LR	LR	22 17 45.1	
	comp=Z,490nm,18.2s,baz=7.0,slow=39						
SLVN	Son La	24.27	234	*e*P	P	22 07 42.4	-0.9
	comp=Z,58nm,1.5s						
YAK	Yakutsk	24.55	6	*e*P	P	22 07 45.2	-0.2
YAK				*e*		22 08 21.8	
YAK				*e*S	S	22 12 04.3	-1.5
YAK				pmax	pmax		
	comp=Z,185nm,1.0s						
YAK				pmax	pmax		
	comp=N,164nm,1.0s						
YAK				pmax	pmax		
	comp=E,18nm,0.9s						
YAK				pmax	pmax		
	comp=Z,156nm,2.0s						
YAK				pmax	pmax		
	comp=N,302nm,2.5s						
YAK				pmax	pmax		
	comp=E,233nm,2.2s						
YAK				smax	smax		
	comp=N,797nm,3.7s						
YAK				smax	smax		
	comp=E,666nm,2.3s						
YAK				MLR	MLR		
	comp=Z,2μm,15.0s						
YAK				MLR	MLR		
	comp=N,910nm,13.0s						
SKR	Severo-Kuril's	25.78	50	*e*P	P	22 08 04.6	+7.9
SKR				MLR	MLR		
	comp=Z,700nm,16.0s						
NONG	Nongkai	27.19	230	P	P	22 08 14.2	+4.6
	comp=Z,0.3nm,1.9s,comp=Z,65nm						
PETK	Petropavlovsk-	27.52	45	LR	LR	22 19 59.2	
	comp=Z,543nm,19.1s,baz=241,slow=38						
MA2	Magadan	27.52	29	*e*P	P	22 08 14.1	+1.7
	comp=Z,104nm,2.0s						
MA2	Magadan	27.52	29⇓	*e*P	P	22 08 14.0	+1.7
MA2				pmax	pmax		
	comp=Z,41nm,1.9s						
MA2				MLR	MLR		
	comp=Z,670nm,15.0s						
MA2	Magadan	27.52	29	P	P	22 08 14.3	+2.0
	comp=Z,3.4nm,0.3s,baz=244,slow=9.5,SNR=9.9						
MA2				LR	LR	22 19 17.5	
	comp=Z,562nm,21.3s,baz=234,slow=37						
WMQ	Urumqi	28.51	294	*e*P	P	22 08 23.1	+1.7
WMQ				pP	sP	22 08 26.3	+0.6
WMQ				pmax	pmax		
	comp=Z,44nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,270nm,4.1s						
WMQ				LR	LR		
	comp=Z,5μm,16.7s						
WMQ				LR	LR		
	comp=Z,2μm,14.7s						
WMQ				LR	LR		
	comp=Z,3μm,21.3s						
DGZ	Jazzator, Alta	29.18	306⇑	*e*P	P	22 08 28.8	+1.4
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
DGZ				MLR	MLR		
	comp=Z,513nm,15.0s						
CMMT	Chiang Mai	29.31	237	P	P	22 08 30.6	+2.0
	comp=Z,2.5nm,0.9s						
CHTO	Chiang Mai	29.32	237	P	P	22 08 26.2	-2.4
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.3s						
CMAR	Chiang Mai Arr	29.57	237	*ce*P	P	22 08 31.1	+0.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	29.57	237	P	P	22 08 29.4	-1.4
	comp=Z,1.0nm,0.3s,baz=40,slow=7.0,SNR=5.1						
CMAR				LR	LR	22 21 37.2	
	comp=Z,625nm,18.1s,baz=50,slow=39						
GUMO	Guam	29.99	138	LR	LR	22 20 46.2	
	comp=Z,209nm,18.1s,baz=287,slow=37						
SEY	Seymchan	30.36	25⇑	*e*P	P	22 08 39.6	+2.1
ZALV	Zalesovo Beam	31.67	314	P	P	22 08 47.9	-1.2
	comp=Z,1.0nm,0.3s,baz=99,slow=9.2,SNR=3.7						
ZALV				LR	LR	22 22 20.3	
	comp=Z,819nm,18.9s,baz=74,slow=38						
MK31	Makanchi Array	32.34	300	*e*P	P	22 08 54.6	-0.5
	comp=Z,3.0nm,0.8s						
MK31	Makanchi Array	32.34	300	*e*P	P	22 08 54.6	-0.5
MK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	Makanchi Array	32.34	300	P	P	22 08 53.9	-1.2
	comp=Z,1.0nm,0.5s,baz=82,slow=11,SNR=9.0						
MAKZ	Makanchi	32.55	300	*e*P	P	22 08 56.2	-0.8
	comp=Z,5.3nm,0.9s						
MAKZ	Makanchi	32.55	300	*e*P	P	22 08 56.2	-0.8
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NVS	Novosibirsk	32.79	315	*e*P	P	22 08 57.9	-1.0
ODAN	Odare	33.14	262	*e*P	P	22 09 01.4	-1.2
	comp=Z,60nm,1.2s						
JIRN	Jiri	33.71	264	*e*P	P	22 09 07.2	-0.5
	comp=Z,206nm,1.2s						
RAMN	Ramite	33.72	263	*e*P	P	22 09 06.3	-1.3
	comp=Z,19nm,1.0s						
TIXI	Tiksi	34.08	2	*e*P	P	22 09 09.3	-0.7
	comp=Z,11nm,0.8s						
TIXI	Tiksi	34.08	2⇑	*e*P	P	22 09 09.4	-0.6
TIXI				pmax	pmax		
	comp=Z,19nm,1.3s						
TIXI	Tiksi	34.08	2	P	P	22 09 09.1	-0.9
	comp=Z,12nm,0.8s,baz=193,slow=6.3,SNR=24						
PKI	Pulchoki	34.37	265	*e*P	P	22 09 11.9	-1.5
	comp=Z,30nm,1.1s						
KKN	Kakani	34.37	265	*e*P	P	22 09 12.1	-1.2
	comp=Z,24nm,0.7s						
PKIN	Phulchoki	34.38	265	*e*P	P	22 09 12.0	-1.4
PDGK	Podgornoye	34.49	294	*i*P	P	22 09 13.0	-1.0
PDGK				pmax	pmax		
	comp=Z,15nm,1.2s						
DMN	Daman	34.59	265	*e*P	P	22 09 14.1	-1.1
	comp=Z,77nm,1.6s						
KURK	Kurchatov	34.92	307	*e*P	P	22 09 16.4	-1.1
	comp=Z,9.0nm,0.8s						
KURK	Kurchatov	34.92	307⇓	*e*P	P	22 09 16.6	-0.9
KURK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
DANN	Dangsing	35.33	267	*e*P	P	22 09 20.6	-1.0
	comp=Z,41nm,0.7s						
KOLN	Koldanda	35.71	266	*e*P	P	22 09 23.7	-1.1
	comp=Z,24nm,0.8s						

TARG Taragay, Kyrgy 35.94 291 *eP* **P 22 09 26.5 -0.4**
comp=Z,17nm,1.0s
PYUN Piuthan 36.05 267 *eP* **P 22 09 26.7 -1.0**
comp=Z,58nm,1.2s
NRN Naryn 37.33 291 *eP* **P 22 09 39.1 +0.5**
comp=Z,6.0nm,0.9s
NRN Naryn 37.33 291 *eP* **P 22 09 39.1 +0.5**
NRN pmax pmax
comp=Z,6.0nm,0.9s
TKM2 Tokmak 2 37.37 294 *i* P **P 22 09 38.8 0.0**
TKM2 pmax pmax
comp=Z,15nm,1.0s
NRIK Noril'sk 37.46 339 P **P 22 09 38.4 -0.6**
comp=Z,6.6nm,0.7s,baz=118,slow=8.9,SNR=8.5
NRIK LR LR 22 26 39.2
comp=Z,811nm,19.2s,baz=127,slow=39
KSH Kashi 37.74 288 P P 22 09 47.1 +5.2
KSH PP **PnPn 22 11 18.0 +9.0**
KSH S **S 22 15 39.3 +6.9**
KSH SS **SS 22 18 17.5 -0.3**
KSH pmax pmax
comp=Z,9.0nm,0.4s
KSH pmax pmax
comp=Z,130nm,4.3s
KSH LR LR
comp=Z,470nm,10.2s
KSH LR LR
comp=Z,360nm,8.0s
KSH LR LR
comp=Z,500nm,12.2s
BILL Bilibino 38.05 24 *eP* **P 22 09 44.8 +0.8**
comp=Z,4.7nm,0.8s
BILL Bilibino 38.05 24⇑ *eP* **P 22 09 45.5 +1.5**
BILL *e* 22 11 16.5
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,322nm,14.0s
AAK Ala-Archa 38.22 294 *eP* **P 22 09 45.7 -0.2**
comp=Z,11nm,1.3s
AAK Ala-Archa 38.22 294⇑ *eP* **P 22 09 45.9 0.0**
AAK pmax pmax
comp=Z,9.0nm,1.6s
OTUK Ortayu 39.03 303 *i* P **P 22 09 51.3 -1.2**
OTUK pmax pmax
comp=Z,9.0nm,1.2s
ARSB Arslanbob 39.57 292 *eP* **P 22 09 55.4 -1.9**
comp=Z,14nm,1.1s
BRVK Borovoye 40.16 310 *eP* **P 22 10 00.5 -1.4**
comp=Z,10.0nm,0.8s
BRVK Borovoye 40.16 310 *de*P **P 22 10 01.3 -0.6**
BRVK pmax pmax
comp=Z,6.0nm,0.9s
KK31 Karatay Array 41.01 295⇑ *eP* **P 22 10 08.1 -0.9**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 41.01 295 *eP* **P 22 10 07.8 -1.2**
KKAR Karatay Array 41.01 295 *eP* **P 22 10 07.8 -1.2**
FAKI Fak Fak 41.02 168 *eP* **P 22 10 09.3 0.0**
comp=Z,28nm,0.8s
NIL Nilore 41.55 280 *eP* **P 22 10 13.0 -0.6**
comp=Z,21nm,0.7s
NIL Nilore 41.55 280 *eP* **P 22 10 13.0 -0.6**
NIL pmax pmax
comp=Z,21nm,0.7s
GAR Garm 42.12 289 *eP* **P 22 10 18.6 +0.3**
comp=Z,16nm,0.9s
GAR Garm 42.12 289 *eP* **P 22 10 18.6 +0.3**
GAR pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 44.50 284 P **P 22 10 37.8 +0.1**
KBL pmax pmax
comp=Z,9.0nm,0.7s
SVE Sverdlovsk 45.61 316 *eP* **P 22 10 46.1 +0.1**
SVE pmax pmax
comp=Z,27nm,1.5s
ARU Arti 46.79 316 *eP* **P 22 10 54.4 -0.8**
comp=Z,18nm,0.7s
ARU Arti 46.79 316 *d i*P **P 22 10 54.7 -0.5**
ARU 22 12 23.3
ARU 22 12 43.5
ARU PPP PPP 22 13 28.8
ARU S **S 22 17 46.1 +1.0**
ARU SS **SS 22 21 08.9 -2.2**
ARU pmax pmax
comp=Z,28nm,1.7s
ARU MLR MLR
comp=Z,501nm,16.0s
AB31 Akbulak array 47.02 306⇑ *eP* **P 22 10 56.0 -1.1**
AB31 pmax pmax
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 47.02 306 *eP* **P 22 10 56.5 -0.6**
GEYT Alibeck 51.53 292 P **P 22 11 31.9 +0.1**
comp=Z,1.5nm,0.7s,baz=58,slow=3.6,SNR=3.4
PRGR Permogore 52.63 324 *eP* **P 22 11 38.4 -1.2**
PRGR pmax pmax
comp=Z,16nm,1.0s
IMAR Indian Mountai 52.89 31 *eP* **P 22 11 41.0 -0.5**
CAST Castle Rocks 54.13 33 *eP* **P 22 11 51.3 +0.6**
comp=Z,20nm,1.6s
MLY Manley 54.32 31 *eP* **P 22 11 52.8 +0.8**
comp=Z,24nm,1.6s
MDM Murphy Dome 55.37 31 *eP* **P 22 11 59.5 -0.1**
comp=Z,36nm,2.0s
TMCR Tamitsa 55.41 328 *eP* **P 22 11 59.1 -0.7**
TMCR pmax pmax
comp=Z,22nm,0.9s
FITZ Fitzroy Crossi 55.51 179 *eP* **P 22 12 00.8 -0.3**
comp=Z,19nm,1.4s
COLA College 55.55 31⇑ *eP* **P 22 12 01.2 +0.4**
COLA pmax pmax
comp=Z,18nm,1.4s
KLMR Klimovskoe 55.69 324 *eP* **P 22 11 59.8 -2.1**
KLMR pmax pmax
comp=Z,15nm,1.3s
LVZ Lovozero 55.70 333⇑ *eP* **P 22 12 00.9 -1.1**
LVZ pmax pmax
comp=Z,35nm,1.4s
ILAR Eielson Array 55.97 31 *eP* **P 22 12 03.6 -0.3**
ILAR Eielson Array 55.97 31 *eP* **P 22 12 03.6 -0.3**
ILAR Eielson Array 55.97 31 P **P 22 12 03.0 -0.9**
comp=Z,1.8nm,0.8s,baz=286,slow=6.6,SNR=15
ILAR LR LR 22 38 21.5
comp=Z,179nm,19.9s,baz=311,slow=38
FYU Fort Yukon 56.10 29 *eP* **P 22 12 06.6 +1.8**
comp=Z,37nm,1.5s
PRP Porcupine Dome 56.30 30 *eP* **P 22 12 06.6 +0.2**
comp=Z,7.7nm,1.0s
MAK Makhachkala 57.13 302 *eP* P 22 12 04.6 -7.9
MAK *eS* S 22 19 57.2 -10
MAK pmax pmax
comp=Z,123nm,1.6s
MAK MLR MLR
comp=Z,246nm,14.0s
VRH Novokhopyorsk 57.69 312 *eP* **P 22 12 15.7 -0.6**
VRH pmax pmax
comp=Z,20nm,0.9s
VRH MLR MLR
comp=Z,680nm,18.0s
WRAB Tennant Creek 58.05 169 *ce*P **P 22 12 17.7 -1.3**
WRAB pmax pmax
comp=Z,15nm,1.2s
WRA Warramunga Arr 58.05 169 P **P 22 12 17.8 -1.4**
comp=Z,4.6nm,0.7s,baz=351,slow=7.1,SNR=32
WB2 Warramunga Arr 58.05 169 *eP* **P 22 12 18.2 -0.9**
comp=Z,26nm,1.4s
ARA0 ARCESS Array S 58.29 336 *eP* **P 22 12 20.6 +0.4**
ARCES ARCESS Array B 58.29 336 P **P 22 12 20.6 +0.4**
comp=Z,2.0nm,0.9s,baz=82,slow=8.9,SNR=6.4
MOS Moscow 58.32 318 *eP* **P 22 12 18.3 -2.3**
MOS pmax pmax
comp=Z,27nm,1.0s
JOF Joensuu 58.66 328 P **P 22 12 21.4 -1.5**
JOF pmax pmax
comp=Z,13nm,1.2s
SGF Sodankyl 58.77 333 P **P 22 12 22.4 -1.2**
SGF pmax pmax
comp=Z,14nm,1.8s
LPSR Galich'ya Gora 58.78 315 *eP* **P 22 12 23.0 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
LPSR MLR MLR
comp=Z,530nm,14.0s
OBN Obninsk 59.11 318⇑ *eP* **P 22 12 26.5 +0.4**
OBN *e* 22 13 16.5
OBN *e* 22 14 35.6
OBN *eS* S 22 20 52.5 +19
OBN pmax pmax
comp=Z,17nm,1.7s
OBN MLR MLR
comp=Z,243nm,17.0s
VSR Storozhevoye 59.17 313⇑ *eP* **P 22 12 25.1 -1.6**
VSR pmax pmax
comp=Z,13nm,0.8s
VORD Divnogorie 59.20 313 *eP* **P 22 12 26.9 +0.1**
VORD pmax pmax
comp=Z,10.0nm,1.6s
ZEI Tsey 59.62 303 *eP* **P 22 12 29.1 -1.1**
ZEI pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 59.66 25 *eP* **P 22 12 31.0 +1.3**
comp=Z,8.2nm,1.2s
INK Inuvik 59.66 25 *eP* **P 22 12 31.0 +1.3**
INK pmax pmax
comp=Z,8.0nm,1.2s
INK Inuvik 59.66 25 P **P 22 12 29.6 -0.1**
comp=Z,3.7nm,0.8s,baz=293,slow=8.3,SNR=12
KBZ Khabaz 59.90 304 P **P 22 12 31.4 -0.3**
comp=Z,1.2nm,0.8s,baz=82,slow=5.9,SNR=4.3
KIV Kislovodsk 59.94 304 *eP* **P 22 12 32.4 +0.2**
comp=Z,14nm,1.0s
KIV Kislovodsk 59.94 304⇑ *i*P **P 22 12 32.4 +0.2**
KIV Kislovodsk 59.94 304 *eP* **P 22 12 33.0 +0.8**
KIV pmax pmax
comp=Z,26nm,0.9s
KIV MLR MLR
comp=Z,811nm,17.0s
OUL Oulu 59.98 331 P **P 22 12 31.4 -0.6**
OUL pmax pmax
comp=Z,13nm,1.1s
GNI Garni 60.18 300⇓ *eP* **P 22 12 35.2 +1.2**
GNI pmax pmax
comp=Z,24nm,1.7s
NEY Neytrino 60.21 304⇑ *eP* **P 22 12 35.7 +1.5**
NEY pmax pmax
comp=Z,3.0nm,1.6s
SUF Sumiainen 60.91 329 P **P 22 12 37.1 -1.2**
SUF pmax pmax
comp=Z,13nm,1.4s
FIA1 FINESS Array S 61.51 327 *eP* **P 22 12 43.0 +0.5**
comp=Z,8.1nm,0.7s
FINES FINESS Array B 61.51 327 *eP* **P 22 12 42.8 +0.4**
FINES FINESS Array B 61.51 327 P **P 22 12 41.2 -1.2**
comp=Z,3.1nm,0.6s,baz=60,slow=7.0,SNR=14
FINES LR LR 22 42 06.1
comp=Z,560nm,18.0s,baz=49,slow=39
AS31 Alice Springs 61.66 170 *eP* **P 22 12 43.1 -0.7**
comp=Z,1.7nm,0.7s
ASAR Alice Springs 61.66 170 *eP* **P 22 12 42.7 -1.1**
ASAR Alice Springs 61.66 170 *eP* **P 22 12 42.7 -1.1**
ASAR Alice Springs 61.66 170 P **P 22 12 42.6 -1.3**
comp=Z,3.5nm,0.6s,baz=1.3,slow=14,SNR=45
BCA Borcka 61.73 302⇑ *i*P **P 22 12 44.0 -0.4**
VSU Vasula 62.59 324⇓ *eP* **P 22 12 50.0 +0.3**
VSU pmax pmax
comp=Z,16nm,0.9s
VSU Vasula 62.59 324 *eP* **P 22 12 48.2 -1.5**
VSU IAmb IAmb 22 13 04.8
comp=Z,26nm,0.9s
ANN Anapa 62.95 307 *eP* **P 22 12 48.3 -4.1**
ANN *e**PP **pP 22 12 52.2 -3.4**
ANN *eS* **S 22 21 17.6 -4.8**
ANN *eS*S **SS 22 25 23.1 -4.0**
ANN pmax pmax
comp=Z,27nm,1.2s
ANN MLR MLR
comp=N,427nm,19.0s
ANN MLR MLR
comp=Z,415nm,19.0s
ANN MLR MLR
comp=E,348nm,19.0s
DAG Danmarks Havn 63.51 351 *eP* P 22 13 00.8 +5.2
DAG Danmarks Havn 63.51 351 *i* P P 22 13 00.8 +5.2
IDID Didziasalis 64.09 321 *eP* **P 22 12 58.3 -1.4**
IDID IAmb IAmb 22 13 16.2
comp=Z,4.8nm,0.8s
IIGN Ignalina 64.33 321 *eP* **P 22 12 60.0 -1.3**
IIGN IAmb IAmb 22 13 17.8
comp=Z,4.1nm,0.7s
RES Resolute Bay 64.87 11 *eP* **P 22 13 05.3 +0.7**
comp=Z,8.6nm,1.1s
RES Resolute Bay 64.87 11 P **P 22 13 04.2 -0.3**
comp=Z,3.5nm,0.8s,baz=322,slow=6.8,SNR=12
SIM Simferopol' 64.97 308 *eP* **P 22 13 04.5 -1.2**
SIM *eS* **S 22 21 46.0 -1.4**
SIM pmax pmax
comp=Z,7.0nm,1.0s
SIM MLR MLR
comp=N,200nm,14.0s
AKASG Malin Array Be 65.04 316 *ce*P **P 22 13 06.1 +0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 65.04 316 P **P 22 13 04.0 -2.0**
comp=Z,3.6nm,0.7s,baz=55,slow=6.4,SNR=16
AKASG LR LR 22 43 18.5
comp=Z,741nm,18.1s,baz=60,slow=38
KIEV Kiev 65.05 316⇑ *i*P **P 22 13 04.9 -1.2**
KIEV Kiev 65.05 316 *ce*P **P 22 13 06.3 +0.2**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
NB201 NORSAR Array S 67.74 331 *eP* **P 22 13 23.2 +0.1**
comp=Z,54nm,1.4s
NB2 NORSAR Subarra 67.78 331 P **P 22 13 21.2 -2.2**
comp=Z,6.3nm,0.9s,baz=48,slow=6.5
NOA NORSAR Array B 67.78 331 P **P 22 13 21.4 -2.1**
comp=Z,4.0nm,1.0s,baz=50,slow=6.2,SNR=6.4
NOA LR LR 22 45 35.9
comp=Z,265nm,19.0s,baz=70,slow=38
BR131 Keskin Array S 67.89 304 *eP* **P 22 13 23.6 -1.1**
comp=Z,4.1nm,0.9s
BR131 Keskin Array S 67.89 304 *eP* **P 22 13 23.6 -1.1**
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 67.89 304 *eP* **P 22 13 24.4 -0.2**
BRTR Keskin Array B 67.89 304 *eP* **P 22 13 24.4 -0.2**
BRTR Keskin Array B 67.89 304 P **P 22 13 23.3 -1.3**
comp=Z,0.8nm,0.8s,baz=71,slow=9.3,SNR=5.8
CFR Carcaliu 68.50 311⇑ *i*P **P 22 13 26.6 -1.6**
CFR Carcaliu 68.50 311 P **P 22 13 26.6 -1.6**
TESR Tescani 68.67 313⇑ *i*P **P 22 13 28.8 -0.4**
BIZ Bicaz 68.75 313⇑ *i*P **P 22 13 28.1 -1.7**
BUR08 Bucovina Ar. S 68.89 314 *eP* **P 22 13 30.0 -0.7**
comp=Z,4.8nm,1.1s
BURAR Bucovina Array 68.89 314 *eP* **P 22 13 29.1 -1.7**
BURAR Bucovina Array 68.89 314⇑ *i*P **P 22 13 29.3 -1.4**
BURAR Bucovina Array 68.89 314 P **P 22 13 29.3 -1.4**
VRI Vrincioaia 68.97 312⇓ *i*P **P 22 13 29.6 -1.5**
VRI Vrincioaia 68.97 312 P **P 22 13 30.6 -0.5**
VRI pmax pmax
comp=Z,5.0nm,1.1s
PLOR Plostina 69.02 312⇑ *i*P **P 22 13 30.2 -1.3**
PLOR Plostina 69.02 312 P **P 22 13 30.1 -1.4**
KWP Kalwaria Pacla 69.17 317 *eP* **P 22 13 34.0 +1.7**
KWP Kalwaria Pacla 69.17 317 *eP* **P 22 13 32.3 0.0**
comp=Z,202nm,1.2s
KWP Kalwaria Pacla 69.17 317 *eP* **P 22 13 34.0 +1.7**
SUMG Summit 69.39 355 *eP* **P 22 13 33.7 -0.1**
comp=Z,11nm,1.2s
SUMG Summit 69.39 355 *eP* **P 22 13 35.8 +2.0**
SUMG Summit 69.39 355 *i* P **P 22 13 35.8 +2.0**
YKA Yellowknife Ar 69.43 25 *eP* **P 22 13 32.6 -1.0**
YKA Yellowknife Ar 69.43 25 P **P 22 13 33.7 +0.1**
comp=Z,1.6nm,0.6s,baz=311,slow=6.5,SNR=29
MLR Muntele Rosu 69.63 312 *eP* **P 22 13 33.7 -1.7**
comp=Z,7.5nm,1.0s
MLR Muntele Rosu 69.63 312⇑ *i*P **P 22 13 35.0 -0.4**
MLR Muntele Rosu 69.63 312 *eP* **P 22 13 33.7 -1.7**
MLR pmax pmax
comp=Z,8.0nm,1.0s
DOPR Dopca 69.69 313⇑ *i*P **P 22 13 34.9 -0.8**
KOLS Kolonicke sedl 69.80 317 *eP* **P 22 13 36.9 +0.7**
KOLS Kolonicke sedl 69.80 317 *eP* **P 22 13 36.9 +0.7**
TRPA Tarpa 70.10 316⇑ *i*P **P 22 13 36.9 -1.2**
OJC Ojcow 70.38 319 *eP* **P 22 13 41.4 +1.6**
OJC Ojcow 70.38 319 *eP* **P 22 13 38.8 -1.0**
comp=Z,9.4nm,0.8s
OJC Ojcow 70.38 319 *eP* **P 22 13 41.4 +1.6**
ARR Arges 70.47 313⇑ *i*P **P 22 13 39.8 -0.7**
NIE Niedzica 70.58 318 *eP* **P 22 13 43.0 +2.0**
NIE Niedzica 70.58 318 *eP* **P 22 13 43.0 +2.0**
LOT Lotru 70.93 313⇑ *i*P **P 22 13 41.3 -2.0**
STKA Stephens Creek 71.00 165 *eP* **P 22 13 42.5 -1.0**
comp=Z,6.6nm,1.8s
STKA Stephens Creek 71.00 165 *eP* **P 22 13 42.6 -1.0**
STKA pmax pmax
comp=Z,7.0nm,1.8s
STKA Stephens Creek 71.00 165 P **P 22 13 42.5 -1.0**
comp=Z,2.5nm,0.7s,baz=345,slow=6.6,SNR=5.3
GZR Gura Zlata 71.53 313⇑ *i*P **P 22 13 46.3 -0.6**
PSZ Piszkesteto 71.68 317 *eP* **P 22 13 47.1 -0.6**
comp=Z,23nm,1.6s
PSZ Piszkesteto 71.68 317⇑ *i*P **P 22 13 47.2 -0.6**
PSZ Piszkesteto 71.68 317 *eP* **P 22 13 47.1 -0.6**
PSZ pmax pmax
comp=Z,23nm,1.6s
KSP Ksiaz 71.80 321 *eP* **P 22 13 50.2 +1.8**
KSP Ksiaz 71.80 321 *eP* **P 22 13 50.2 +1.8**
MORC Moravsky Berou 71.81 319 P **P 22 13 47.0 -1.5**
MORC pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 71.91 318 *eP* **P 22 13 48.7 -0.3**
VYHS Vyhne 71.91 318 *eP* **P 22 13 48.7 -0.3**
KRLC Kraliky 72.03 320 *eP* P 22 13 55.6 +5.8
KRLC Kraliky 72.03 320 *ep*P P 22 13 55.6 +5.8
DPC Dobruska-Polom 72.09 320 *eP* **P 22 13 49.7 -0.5**
DPC MLR MLR
comp=Z,400nm,15.1s
DPC Dobruska-Polom 72.09 320 *eP* **P 22 13 49.7 -0.5**
DPC AMS AMS 22 48 10.0
comp=Z,400nm,15.1s
UPC Upice 72.15 321 AMS AMS 22 48 00.0
comp=Z,600nm,15.2s
VRAC Vranov 72.59 319 P **P 22 13 52.7 -0.4**
VRAC pmax pmax
comp=Z,4.0nm,0.9s
PVCC Panska Ves 72.86 321 *eP* **P 22 13 56.0 +1.3**
PVCC MLR MLR
comp=Z,300nm,13.5s
PVCC Panska Ves 72.86 321 *eP* **P 22 13 56.0 +1.3**
PVCC AMS AMS 22 49 50.0
comp=Z,300nm,13.5s
VTS Vitosha 72.87 311⇓ *i*P **P 22 13 53.9 -1.2**
VTS Vitosha 72.87 311 P **P 22 13 53.7 -1.4**
VTS pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 72.95 322 *eP* **P 22 13 54.6 -0.6**
comp=Z,5.2nm,1.3s
BRG *e* 22 14 31.2
comp=Z,6.0nm,1.3s
BRG Berggiesshubel 72.95 322 *eP* **P 22 13 54.6 -0.6**
BRG pmax pmax
comp=Z,5.0nm,1.3s
CLL Collm 73.14 322 *eP* **P 22 13 56.0 -0.3**
CLL *e* 22 14 09.0
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 73.14 322 *eP* **P 22 13 56.0 -0.3**
comp=Z,5.0nm,0.9s
CLL *e* 22 14 09.0
CLL *e*PcP **PcP 22 14 12.0 -0.9**
CLL *e* 22 16 33.0
GOPC GO Pecny, Ondr 73.14 321 *eP* **P 22 14 00.0 +3.6**
GOPC MLR MLR
comp=Z,400nm,15.4s
GOPC GO Pecny, Ondr 73.14 321 *eP* **P 22 14 00.0 +3.6**
GOPC AMS AMS 22 51 40.0
comp=Z,400nm,15.4s
TREC Trest 73.17 320 AMS AMS 22 50 00.0
comp=Z,300nm,17.4s
PRU Pruhonice 73.21 321 *eP* **P 22 13 58.0 +1.2**
PRU *e* 22 14 15.0
PRU MLR MLR
comp=Z,400nm,18.1s
PRU Pruhonice 73.21 321 *eP* **P 22 13 58.0 +1.2**
PRU *ex* x 22 14 15.0
PRU AMS AMS 22 48 40.0
comp=Z,400nm,18.1s
SOP Sopron 73.61 318 P **P 22 13 58.9 -0.3**
SOP pmax pmax
comp=Z,9.0nm,1.3s
CONA Conrad Observa 73.83 318 *ep*P **P 22 14 02.1 +1.6**
comp=Z,6.1nm,1.0s
NKC Novy Kostel 74.10 322 AMS AMS 22 50 20.0
comp=Z,500nm,15.3s
KHC Kasperske Hory 74.24 320 *eP* **P 22 14 03.0 +0.1**
KHC *e* 22 14 16.6
KHC MLR MLR
comp=Z,400nm,17.8s
KHC Kasperske Hory 74.24 320 *eP* **P 22 14 03.0 +0.1**
KHC *e*PCP **PcP 22 14 16.6 -1.2**
KHC AMS AMS 22 49 40.0
comp=Z,400nm,17.8s
GERES GERESS Array B 74.36 320 P **P 22 14 02.7 -0.9**
comp=Z,0.8nm,0.7s,baz=53,slow=5.3,SNR=4.7
ARSA Arzberg 74.43 318 *ep*P **P 22 14 04.8 +0.8**
comp=Z,4.5nm,1.2s
SOKA Soboth 75.05 318 *ep*P **P 22 14 08.0 +0.3**
comp=Z,11nm,1.4s
OBKA Obir 75.42 318 *ep*P **P 22 14 10.1 +0.3**
comp=Z,13nm,1.6s
WTTA Wattenberg 76.44 320 *eP* **P 22 14 15.1 -0.6**
comp=Z,6.9nm,1.3s
PINE Pine Mountain 79.46 42 *eP* **P 22 14 34.7 +2.1**
comp=Z,12nm,1.2s
FFC Flin Flon 79.61 25 *eP* **P 22 14 35.2 +2.2**
comp=Z,8.4nm,1.3s
FFC Flin Flon 79.61 25 *i* P **P 22 14 35.4 +2.4**
BMO Blue Mountains 80.61 40 *eP* **P 22 14 41.5 +2.8**
comp=Z,5.8nm,1.3s
BMO Blue Mountains 80.61 40 *eP* **P 22 14 41.5 +2.8**
BMO pmax pmax
comp=Z,6.0nm,1.3s
DLMT Dillon 82.55 37 *eP* **P 22 14 51.8 +2.7**
comp=Z,10nm,1.1s
BOZ Bozeman (W) 82.83 36 *eP* **P 22 14 51.7 +1.2**
comp=Z,3.2nm,1.0s
BOZ Bozeman (W) 82.83 36 *eP* **P 22 14 51.7 +1.2**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
HLID Hailey 82.98 39 *eP* **P 22 14 53.7 +2.3**
comp=Z,4.9nm,1.1s
CMB Columbia Colle 83.70 46 *eP* **P 22 14 55.4 +0.4**
comp=Z,6.6nm,1.1s
CMB Columbia Colle 83.70 46 *eP* **P 22 14 55.4 +0.4**
CMB pmax pmax
comp=Z,7.0nm,1.1s
KVN Kaiserville 84.28 44 *eP* **P 22 14 59.6 +1.5**
comp=Z,6.0nm,1.3s
KVN Kaiserville 84.28 44 *eP* **P 22 14 59.6 +1.5**
KVN pmax pmax
comp=Z,6.0nm,1.3s
RYN Ryan 84.34 45 *eP* **P 22 14 58.7 +0.3**
comp=Z,17nm,1.7s
NVAR Mina Array Bea 84.60 45 *eP* **P 22 15 00.4 +0.6**
NVAR Mina Array Bea 84.60 45 P **P 22 15 01.0 +1.2**
comp=Z,1.8nm,0.8s,baz=301,slow=4.6,SNR=8.2
NVAR LR LR 22 53 31.7
comp=Z,63nm,18.6s,baz=271,slow=36
MOOW Moose Ponds 84.63 37 *eP* **P 22 15 00.5 +0.6**
comp=Z,9.1nm,1.4s
ULM Lac du Bonnet 85.40 25 LR LR 22 58 40.1
comp=Z,129nm,18.5s,baz=2.5,slow=40
PD31 Pinedale Array 85.94 37 *eP* **P 22 15 07.3 +0.8**
comp=Z,3.6nm,1.5s
PDAR Pinedale Array 85.94 37 *eP* **P 22 15 07.5 +1.0**
PDAR Pinedale Array 85.94 37 P **P 22 15 07.2 +0.8**
comp=Z,2.4nm,1.0s,baz=3.8,slow=4.5,SNR=8.5
PDAR LR LR 22 56 16.8
comp=Z,85nm,18.6s,baz=336,slow=38
SCHQ Schefferville 87.30 7 LR LR 22 55 30.8
comp=Z,130nm,20.1s,baz=328,slow=36
RSSD Black Hills 87.38 33 *eP* **P 22 15 15.8 +2.4**
comp=Z,4.9nm,1.0s
RSSD Black Hills 87.38 33 *eP* **P 22 15 15.8 +2.4**
RSSD pmax pmax
comp=Z,5.0nm,1.0s
MSU Marysvale 87.85 41 *eP* **P 22 15 19.1 +3.3**
MSU Marysvale 87.85 41 *eP* **P 22 15 19.1 +3.3**
PV22 Blue Mesa, Par 89.56 39 *eP* **P 22 15 27.0 +3.2**
comp=Z,8.8nm,1.2s
ESDC Sonseca Array 89.72 323 P **P 22 15 24.7 +0.3**
comp=Z,0.5nm,0.7s,baz=22,slow=3.8,SNR=3.3
SMCO Snowmass 89.95 38 *eP* **P 22 15 28.4 +2.5**
comp=Z,5.8nm,1.4s
PV01 Paradox Valley 89.98 39 *eP* **P 22 15 27.5 +1.7**
comp=Z,6.5nm,1.0s
PPT Papeete 97.26 106 LR LR 22 59 51.2

comp=Z,69nm,18.6s,baz=351,slow=35
TXAR Lajitas Array 99.40 41 LR LR 22 59 24.5
comp=Z,42nm,22.0s,baz=0.0,slow=34
TORD Torodi Ar. Bea 106.45 302 PP **PP 22 21 08.7 +4.2**
comp=Z,1.0nm,1.1s,baz=38,slow=5.7,SNR=3.5

ISCJB 17 22:34:29.2±0.7, 42°.18N±0°.04×69°.91E±0°.05, h8km±4km, Error ellipse: s-maj=6.6km s-min=5.5km az=145.0
KRNET 17 22:34:29.0±0.1, 42°.08N×70°.04E, mb3.4
NNC 17 22:34:29.5±1.8, 42°.24N×69°.92E, h6km±9km, mb3.5, mpv3.2, Error ellipse: s-maj=13.3km s-min=9.1km az=89.0
SOME 17 22:34:29.0, 42°.12N×70°.15E, h5km
ISC 17 22:34:29.6±0.9, 42°.15N±0°.04×70°.01E±0°.03, h7km±5km, n33, σ2s37/57, 25C-16D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay** 5μm,0.2s	**0.01**	**101**	⇑*iP*	**Pg**	**22 34 31.2**	**+0.1**
IUG	14μm,0.3s			*eS*	**Sg**	**22 34 32.7**	**+0.6**
CHM	**Chimkent** 227nm,0.1s	**0.35**	**299**	*eP*	**Pb**	**22 34 38.0**	**-0.2**
CHM	4μm,0.5s			*eS*	**Sb**	**22 34 43.2**	**-0.7**
TAS	**Tashkent** baz=16	**0.98**	**214**	⇓*iP*	**Pg**	**22 34 47.0**	**-1.5**
TAS	baz=16			⇓*iS*	**Sg**	**22 34 59.8**	**-1.5**
KK31	**Karatay Array** 6.6nm,0.3s,baz=200,slow=19,SNR=242	**1.02**	**21**	⇑P	**Pg**	**22 34 48.2**	**-1.0**
KK31	45nm,0.3s,baz=200,slow=34,SNR=47			⇓S	**Sg**	**22 35 01.8**	**-0.7**
DZA	**Taraz** 84nm,0.2s	**1.23**	**52**	*eP*	**Pg**	**22 34 50.8**	**-2.3**
DZA	691nm,0.2s			*eS*	**Sg**	**22 35 06.3**	**-2.7**
ARK	**Arkit** baz=1.0	**1.50**	**103**	⇑*iP*	**Pb**	**22 34 56.9**	**-0.9**
ARK	baz=1.0			⇑*iS*	**Sg**	**22 35 16.9**	**-0.8**
ARSB	**Arslanbob** baz=8.0	**2.37**	**109**	⇑*eP*	**Pb**	**22 35 10.6**	**-2.1**
ARSB	baz=8.0			⇑*iS*	**Sb**	**22 35 40.4**	**-1.8**
MRKS	**Merke** 20nm,0.2s	**2.45**	**75**	*eP*	**Pb**	**22 35 12.8**	**-1.3**
MRKS	60nm,0.3s			*eS*	**Sb**	**22 35 44.7**	**+0.2**
AML	**Almayashu** SNR=38	**2.74**	**89**	P	**Pb**	**22 35 18.9**	**-0.2**
AML	**Almayashu** baz=88	**2.74**	**89**	⇑*iP*	**Pb**	**22 35 16.7**	**-2.4**
AML	baz=88			⇑*iS*	**Sb**	**22 35 51.0**	**-2.0**
EKS2	**Erkin-Say** SNR=14	**2.83**	**78**	P	**Pb**	**22 35 21.2**	**+0.6**
EKS2	**Erkin-Say** baz=77	**2.83**	**78**	⇑*iP*	**Pb**	**22 35 17.5**	**-3.1**
EKS2	baz=77			⇑*iS*	**Sb**	**22 35 53.4**	**-2.2**
ARLS	**Aral** baz=92	**3.23**	**94**	⇑*iP*	**Pb**	**22 35 23.5**	**-3.8**
ARLS	baz=92			⇑*eS*	**Sb**	**22 36 02.4**	**-4.4**
UCH	**Uchtor** SNR=25	**3.35**	**87**	P	**Pb**	**22 35 29.9**	**+0.4**
AAK	**Ala-Archa** SNR=8.5	**3.35**	**80**	P	**Pb**	**22 35 30.3**	**+0.8**
AAK	**Ala-Archa** 2.6nm,0.3s	**3.35**	**80**	⇓Pn	**Pn**	**22 35 23.8**	**+1.2**
AAK	4.8nm,0.5s			Lg	Lg	22 36 21.4	
AAK	**Ala-Archa** baz=79	**3.35**	**80**	⇑*eP*	**Pn**	**22 35 24.8**	**+2.2**
AAK	baz=79			⇑*iS*	**Sn**	**22 36 05.7**	**+2.9**
FRU1	**Bishkek** baz=76	**3.48**	**78**	⇑*iP*	**Pn**	**22 35 26.5**	**+2.3**
FRU1	baz=76			⇑*iS*	**Sn**	**22 36 08.7**	**+3.0**
USP	**Ospenovka** baz=69	**3.49**	**70**	⇓*iP*	**Pn**	**22 35 26.3**	**+1.9**
USP	baz=69			⇓*iS*	**Sn**	**22 36 08.3**	**+2.4**
CHMS	**Chumysh** baz=74	**3.60**	**75**	⇓*iP*	**Pn**	**22 35 28.1**	**+2.2**
CHMS	baz=74			⇓*iS*	**Sn**	**22 36 11.5**	**+2.8**
KBK	**Karagaybulak** SNR=11	**3.69**	**80**	P	**Pb**	**22 35 36.3**	**+1.1**
KBK	**Karagaybulak** baz=79	**3.69**	**80**	⇓*eP*	**Pn**	**22 35 29.4**	**+2.2**
KBK	baz=79			⇓*iS*	**Sn**	**22 36 13.8**	**+2.8**
KZA	**Kyzart** SNR=17	**3.90**	**89**	P	**Pb**	**22 35 40.0**	**+1.1**
KZA	**Kyzart** baz=88	**3.90**	**89**	⇓*eP*	**Pn**	**22 35 32.7**	**+2.4**
KZA	baz=88			⇓*iS*	**Sn**	**22 36 18.9**	**+2.4**
TKM2	**Tokmak 2** 1.9nm,0.5s	**4.20**	**78**	⇑Pn	**Pn**	**22 35 33.5**	**-0.7**
TKM2	4.1nm,0.4s			⇑Lg	Lg	22 36 44.5	
TKM2	**Tokmak 2** baz=77	**4.20**	**78**	⇓*iP*	**Pn**	**22 35 36.7**	**+2.5**
TKM2	baz=77			⇓*iS*	**Sn**	**22 36 26.1**	**+2.5**
DGS	**Degeres** 9.3nm,0.5s	**4.38**	**74**	*eP*	**Pb**	**22 35 48.1**	**+1.1**
DGS	35nm,0.6s			*eS*	**Sg**	**22 36 44.5**	**-5.8**
KST	**Kastek** 6.8nm,0.9s	**4.48**	**77**	*eP*	**Pb**	**22 35 49.4**	**+0.7**
KST	15nm,0.9s			*eS*	**Sb**	**22 36 46.8**	**+3.8**
NRN	**Naryn** baz=96	**4.53**	**97**	⇑*iP*	**Pn**	**22 35 41.5**	**+2.6**
NRN	baz=96			⇑*iS*	**Sn**	**22 36 33.6**	**+1.6**
MDOK	**Medeo** 2.7nm,0.6s	**5.29**	**77**	Pg	**Pb**	**22 36 05.2**	**+2.8**
MDOK	7.6nm,0.7s			Lg	Lg	22 37 20.0	
OTUK	**Ortayu** 0.8nm,0.3s	**6.31**	**14**	⇑Pn	**Pn**	**22 36 03.3**	**+0.2**
OTUK	2.8nm,0.4s			⇑Sn	**Sn**	**22 37 12.6**	**-2.8**
OTUK	7.2nm,1.1s			⇑Lg	Lg	22 37 48.5	
MAKZ	**Makanchi** 1.5nm,1.4s	**9.73**	**57**	⇓Pn	**Pn**	**22 36 51.0**	**+0.9**
MAKZ	0.9nm,0.8s			⇑Sn	**Sn**	**22 38 45.5**	**+5.9**
MK31	**Makanchi Array** 0.1nm,0.3s,baz=236,slow=14,SNR=9.3	**9.93**	**58**	⇑Pn	**Pn**	**22 36 52.9**	**+0.3**
MK31	0.6nm,0.7s,baz=244,slow=23,SNR=2.6			⇓Sn	**Sn**	**22 38 46.6**	**+2.3**

MEX 17 22:41:31.5±0.7, 15°.70N×98°.76W, h17km±29km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.91**	**41**	*eP*	Pb	22 41 45.7	-3.2
PNIG				*i* S	Sb	22 41 56.5	-4.3
TLIG	**Tlapa**	**1.86**	**6**	*eP*	Pn	22 41 58.9	-3.8
TLIG				*eS*	Sn	22 42 21.1	-4.8
HUIG	**Huatulco**	**2.55**	**88**	*i* P	Pn	22 42 08.7	-3.5
HUIG				*eS*	Sn	22 42 38.6	-4.2

IDC 17 22:51:43.9±9.5, 15°.74S×173°.52W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/31, mbtmp3.8/2, MS3.4/1, Ms1 3.3/1, ms1mx2.8/21, Error ellipse: s-maj=435.6km s-min=61.8km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy** baz=148	**39.19**	**329**	T	T	23 40 12.3	
H11S3	**WAKE ISLAND Hy** baz=148	**39.20**	**329**	T	T	23 39 58.7	
H11S1	**WAKE ISLAND Hy**	**39.21**	**329**	T	T	23 39 58.6	
H11N3	**WAKE ISLAND Hy** baz=155	**40.14**	**331**	T	T	23 41 41.1	
H11N1	**WAKE ISLAND Hy** baz=155	**40.15**	**331**	T	T	23 41 28.9	
H11N2	**WAKE ISLAND Hy** baz=155	**40.16**	**331**	T	T	23 41 40.5	
STKA	**Stephens Creek** comp=Z,47nm,19.0s,baz=30,slow=34	**43.77**	**240**	LR	LR	23 16 15.0	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=97,slow=7.5,SNR=10	**49.66**	**257**	P	P	23 00 37.3	-0.5
ASAR	**Alice Springs** 1.8nm,0.6s,baz=84,slow=8.2,SNR=18	**49.90**	**252**	P	P	23 00 40.0	+0.3
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=103,slow=1.8,SNR=5.6	**146.34**	**321**	PKPbc	PKPbc	23 11 26.3	-0.9

ASRS 17 22:53:45.8±0.9, 48°.73N×84°.93E, h15km, Ms3.4/3
SOME 17 22:53:46.1, 46°.10N×85°.52E, h15km
MOS 17 22:53:47.7±2.1, 48°.99N×84°.42E, h16km, mb4.6/4, Error ellipse: s-maj=10.6km s-min=6.9km az=71.6
IDC 17 22:53:47.9±0.6, 48°.95N×84°.87E, h24km±3km, mb3.7/14, mb1 3.8/20, mb1mx3.7/47, mbtmp3.8/20, ML2.4/3, Error ellipse: s-maj=12.0km s-min=10.5km az=124.0
NNC 17 22:53:48.9±1.7, 49°.05N×84°.59E, h15km±7km, mb4.4, mpv4.1, Error ellipse: s-maj=13.2km s-min=4.9km az=78.0
BJI 17 22:53:49.4±0.0, 48°.46N×84°.69E, h7km, mb4.4/2, mB4.3/1, ML3.9/6
ISC 17 22:53:47.5±0.6, 48°.90N±0°.03×84°.65E±0°.04, h17km±3km, h17km:pP-P, n72, σ1s81/95, mb4.0/16, 22C-15D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan** 345nm,0.4s	**1.46**	**174**	*eP*	**Pb**	**22 54 14.6**	**+0.4**
ZSN	3μm,0.5s			*eS*	**Sg**	**22 54 35.4**	**+0.7**
DGZ	**Jazzator, Alta**	**1.99**	**65**	*ce*PN	**Pb**	**22 54 23.3**	**0.0**
AKAR	**Aktash**	**2.40**	**53**	*e*Pg	**Pb**	**22 54 29.4**	**-0.8**
AKAR				*e*Sg	**Sb**	**22 54 59.8**	**+0.3**
AKAR	**Aktash**	**2.40**	**53**	*e*PN	**Pb**	**22 54 29.4**	**-0.8**
AKAR				*e*		22 54 59.8	
MK31	**Makanchi Array** 7.8nm,0.2s,baz=32,slow=15,SNR=914	**2.64**	**218**	⇑Pn	**Pb**	**22 54 32.6**	**-1.7**
MK31	98nm,0.4s,baz=44,slow=30,SNR=9.9			⇑Sn	**Sb**	**22 55 06.5**	**+0.1**
MK31	167nm,0.5s,baz=41,slow=31,SNR=5.7			⇓Lg	Lg	22 55 15.4	
MK31	**Makanchi Array**	**2.64**	**218**	*i* PN	**Pb**	**22 54 32.5**	**-1.8**
MK31	comp=Z,8.0nm,0.2s			pmax	pmax		
MKAR	**Makanchi Array**	**2.64**	**218**	*i* PN	**Pb**	**22 54 32.5**	**-1.8**
MKAR	comp=Z,68nm,0.3s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,35nm,0.3s,baz=45,slow=14,SNR=582	**2.64**	**218**	Pn	**Pb**	**22 54 32.6**	**-1.8**
MKAR	comp=Z,171nm,0.3s,baz=45,slow=27,SNR=30			Lg	Lg	22 55 07.2	
MAKZ	**Makanchi** comp=Z,36nm,0.3s	**2.76**	**222**	⇑Pn	**Pb**	**22 54 34.3**	**-2.1**
MAKZ	comp=Z,128nm,0.3s			⇓Sn	**Sb**	**22 55 09.6**	**-0.3**
MAKZ	comp=Z,239nm,0.8s			⇑Lg	Lg	22 55 17.8	
MAKZ	**Makanchi**	**2.76**	**222**	PN	**Pb**	**22 54 34.3**	**-2.1**
MAKZ				S	**Sb**	**22 55 09.6**	**-0.3**
MAKZ	comp=Z,36nm,0.3s			pmax	pmax		
MAKZ	comp=N,128nm,0.3s			smax	smax		
KURK	**Kurchatov** comp=N,9.5nm,0.3s	**4.30**	**297**	⇑Pn	**Pn**	**22 54 53.0**	**+0.9**
KURK	comp=N,23nm,0.4s			⇓Pg	**Pg**	**22 55 08.4**	**-1.4**
KURK	comp=N,140nm,0.8s			⇑Sn	**Sn**	**22 55 41.5**	**-0.3**
KURK	comp=N,319nm,0.6s			⇓Lg	Lg	22 56 04.1	
KURK	**Kurchatov**	**4.30**	**297**	*d i* PN	**Pn**	**22 54 52.6**	**+0.5**
KURK	comp=Z,18nm,1.0s			pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,14nm,0.3s	**4.32**	**296**	⇓Pn	**Pn**	**22 54 52.8**	**+0.5**
KURBB	comp=Z,38nm,0.5s			⇓Pg	**Pb**	**22 55 04.6**	**+1.7**
KURBB	comp=Z,204nm,0.7s			⇑Sn	**Sn**	**22 55 42.4**	**+0.1**
KURBB	comp=Z,850nm,0.6s			⇑Lg	Lg	22 56 04.9	
KURBB	**Kurchatov Arra** comp=Z,0.7nm,0.3s,baz=105,slow=14,SNR=53	**4.32**	**296**	Pn	**Pn**	**22 54 53.0**	**+0.7**
KURBB	comp=Z,4.2nm,0.3s,baz=112,slow=21,SNR=6.7			Sn	**Sn**	**22 55 42.6**	**+0.3**
KURBB	comp=Z,8.7nm,0.3s,baz=111,slow=33,SNR=21			Lg	Lg	22 56 04.7	
TASR	**Tashtagol**	**4.37**	**27**	*e*Pg	**Pb**	**22 55 06.1**	**+2.3**
TASR				*e*Sg	**Sg**	**22 56 03.8**	**-3.9**
TASR	**Tashtagol**	**4.37**	**27**	*e*PN	**Pb**	**22 55 06.1**	**+2.3**
TASR				*e*		22 56 03.8	
ELT	**Eltsovka**	**4.48**	**12**	*e*Pn	**Pn**	**22 54 57.1**	**+2.6**
ELT				*e*Sn	**Sn**	**22 55 49.1**	**+3.0**
ELT				*e*Sg	**Sg**	**22 56 09.9**	**-1.2**
ELT	**Eltsovka**	**4.48**	**12**	*e*PN	**Pn**	**22 54 57.1**	**+2.6**
ELT				*e*		22 55 49.1	
ZALV	**Zalesovo Beam**	**5.05**	**1**	*i* PN	Pb	22 55 08.8	-6.6
ZALV	comp=Z,12nm,0.4s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.3s,baz=188,slow=13,SNR=4.1	**5.05**	**1**	Pn	**Pn**	**22 55 03.2**	**+0.8**
ZALV	comp=Z,4.5nm,0.3s,baz=176,slow=25,SNR=2.8			Sn	**Sn**	**22 55 59.4**	**-0.9**
ZALV	comp=Z,11nm,0.3s,baz=192,slow=27,SNR=11			Lg	Lg	22 56 24.7	
KAPS	**Kapalarasan** comp=Z,34nm,0.5s	**5.11**	**227**	*eP*	**Pn**	**22 55 05.8**	**+2.5**
KAPS	comp=Z,69nm,0.5s			*eS*	**Sn**	**22 56 02.9**	**+0.9**
DJR	**Jarkent** comp=Z,46nm,0.6s	**5.67**	**218**	*eP*	**Pn**	**22 55 13.9**	**+3.0**
DJR	comp=Z,32nm,0.6s			*eS*	**Sn**	**22 56 17.5**	**+1.9**
NVS	**Novosibirsk**	**6.01**	**352**	*e*Pg	**Pg**	**22 55 38.5**	**-3.9**
NVS				*e*Sg	**Sg**	**22 56 59.9**	**-0.3**
PDGK	**Podgornoye** comp=Z,12nm,0.5s	**6.63**	**215**	⇑Pn	**Pn**	**22 55 25.8**	**+1.6**
PDGK	comp=Z,28nm,0.4s			⇑Sn	**Sn**	**22 56 42.1**	**+2.7**
PDGK	comp=Z,105nm,1.1s			⇓Lg	Lg	22 57 20.6	
PDGK	**Podgornoye** comp=Z,12nm,0.4s	**6.63**	**215**	*i* PN	**Pn**	**22 55 25.8**	**+1.6**
PDGK				pmax	pmax		
MDOK	**Medeo**	**7.80**	**225**	⇑Pn	**Pn**	**22 55 41.1**	**+0.7**
MDOK				⇑Lg	Lg	22 57 58.6	
MDOK	**Medeo**	**7.80**	**225**	P	**Pn**	**22 55 41.5**	**+1.2**
OTUK	**Ortayu** comp=Z,4.2nm,0.6s	**8.19**	**270**	⇑Pn	**Pn**	**22 55 45.5**	**0.0**
OTUK	comp=Z,13nm,0.8s			⇑Sn	**Sn**	**22 57 18.2**	**+0.5**
OTUK	comp=Z,112nm,1.1s			⇓Lg	Lg	22 58 08.2	
OTUK	**Ortayu**	**8.19**	**270**	*i* P	**Pn**	**22 55 45.5**	**0.0**
OTUK	comp=Z,4.0nm,0.6s			pmax	pmax		
TKM2	**Tokmak 2** SNR=8.0	**8.69**	**230**	P	**Pn**	**22 55 54.5**	**+2.0**
TKM2	**Tokmak 2** comp=Z,5.3nm,0.5s	**8.69**	**230**	⇓Pn	**Pn**	**22 55 54.7**	**+2.1**
TKM2	comp=Z,17nm,0.7s			⇑Lg	Lg	22 58 24.6	
TKM2	**Tokmak 2** comp=Z,5.0nm,0.5s	**8.69**	**230**	*i* P	**Pn**	**22 55 54.6**	**+2.0**
TKM2				pmax	pmax		
USP	**Ospenovka** SNR=9.0	**9.02**	**235**	P	**Pn**	**22 55 59.1**	**+2.1**
CHMS	**Chumysh** SNR=8.2	**9.07**	**233**	P	**Pn**	**22 55 59.8**	**+2.2**
KBK	**Karagaybulak** SNR=14	**9.21**	**231**	P	**Pn**	**22 56 02.9**	**+3.2**
AAK	**Ala-Archa** comp=Z,3.6nm,0.5s	**9.46**	**232**	⇓Pn	**Pn**	**22 56 04.6**	**+1.5**
AAK	comp=Z,31nm,0.8s			⇓Lg	Lg	22 58 48.9	
AAK	**Ala-Archa**	**9.46**	**232**	⇑*eP*	**Pn**	**22 56 05.4**	**+2.4**
AAK	**Ala-Archa** comp=Z,1.2nm,0.3s,baz=74,slow=8.9,SNR=16	**9.46**	**232**	Pn	**Pn**	**22 56 05.2**	**+2.2**
AAK	comp=Z,0.2nm,0.3s,baz=21,slow=14,SNR=3.5			Sn	**Sn**	**22 57 47.3**	**-1.7**
AAK	comp=Z,0.4nm,0.3s,baz=107,slow=19,SNR=5.9			Lg	Lg	22 58 46.0	
EKS2	**Erkin-Say** SNR=7.8	**9.82**	**235**	P	**Pn**	**22 56 10.0**	**+2.0**
BVAR	**Borovoye Array** comp=Z,0.7nm,0.3s,baz=107,slow=12,SNR=8.1	**9.89**	**300**	Pn	**Pn**	**22 56 08.5**	**-0.2**
BVAR	comp=Z,4.2nm,0.3s,baz=117,slow=22,SNR=12			Sn	**Sn**	**22 57 53.3**	**-6.0**
BRVK	**Borovoye** comp=Z,2.1nm,0.5s	**9.96**	**300**	⇓Pn	**Pn**	**22 56 09.8**	**+0.1**
BRVK	comp=Z,11nm,0.4s			⇓Sn	**Sn**	**22 58 00.1**	**-1.0**
BRVK	**Borovoye**	**9.96**	**300**	*ce*P	Pn	22 56 14.9	+5.2
KK31	**Karatay Array** comp=Z,1.4nm,0.4s,baz=50,slow=14,SNR=16	**11.41**	**245**	⇓Pn	**Pn**	**22 56 28.7**	**-0.9**
KK31				⇑Lg	Lg	22 59 54.6	
KK31	**Karatay Array** comp=Z,8.9nm,0.6s,baz=46,slow=30,SNR=4.4	**11.41**	**245**	P	**Pn**	**22 56 28.7**	**-0.9**
KK31	comp=Z,1.0nm,0.4s			pmax	pmax		
SONM	**Songino Array** comp=Z,0.3nm,0.3s,baz=283,slow=26,SNR=2.8	**14.49**	**86**	Lg	Lg	23 01 21.1	
AKTO	**Aktyubinsk** comp=Z,0.1nm,0.3s,baz=165,slow=20,SNR=2.5	**17.28**	**285**	Sn	Sn	23 00 45.9	-14
AKTO	comp=Z,0.1nm,0.3s,baz=196,slow=17,SNR=3.8			Lg	Lg	23 02 52.9	
ARU	**Arti**	**17.44**	**305**	*c i* P	**P**	**22 57 52.3**	**+1.4**
ARU				S	**Sn**	**23 01 07.1**	**+3.8**
ARU	comp=Z,7.0nm,1.8s			pmax	pmax		
ARU	**Arti** comp=Z,0.0nm,0.3s,baz=80,slow=7.5,SNR=4.9	**17.44**	**305**	P	**P**	**22 57 51.3**	**+0.4**
ARU	comp=Z,0.0nm,0.3s,baz=107,slow=19,SNR=2.2			S	Sn	23 00 50.0	-13
NRIK	**Noril'sk** comp=Z,2.1nm,0.5s,baz=178,slow=6.9,SNR=5.7	**20.55**	**3**	P	**P**	**22 58 25.6**	**+0.8**
GEYT	**Alibeck** comp=Z,0.9nm,0.6s,baz=61,slow=10,SNR=4.2	**22.06**	**250**	P	**P**	**22 58 43.8**	**+2.4**
KIV	**Kislovodsk**	**29.06**	**276**	*eP*	**P**	**22 59 51.1**	**+4.3**
KIV	comp=Z,9.0nm,1.0s			pmax	pmax		
GNI	**Garni**	**29.48**	**268**	⇑*eP*	**P**	**22 59 52.7**	**+2.1**
GNI	comp=Z,47nm,2.5s			pmax	pmax		
GNI	**Garni** comp=Z,2.0nm,0.7s,baz=45,slow=10.0,SNR=2.9	**29.48**	**268**	P	**P**	**22 59 53.1**	**+2.5**
ANN	**Anapa**	**32.14**	**281**	*eP*	**P**	**23 00 14.1**	**+0.3**
ANN				*e*PP	**pP**	**23 00 18.1**	**-1.5**
ANN				*e*		23 03 01.1	
ANN				*e*S	**S**	**23 05 25.9**	**+0.5**
ANN	comp=Z,23nm,1.2s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,1.3nm,0.5s,baz=266,slow=8.0,SNR=3.0	**32.47**	**80**	pP	pP	23 00 24.1	+1.5
FINES	**FINESS Array B** comp=Z,1.6nm,0.7s,baz=115,slow=8.6,SNR=5.3	**34.48**	**314**	P	**P**	**23 00 33.8**	**-0.3**
ARCES	**ARCESS Array B** comp=Z,2.8nm,0.9s,baz=82,slow=8.7,SNR=5.4	**34.67**	**328**	P	**P**	**23 00 35.8**	**+0.2**
BRTR	**Keskin Array B** comp=Z,1.0nm,0.4s	**37.01**	**275**	*ce*P	**P**	**23 00 57.5**	**+1.3**
BRTR				pmax	pmax		
BRTR	**Keskin Array B** comp=Z,0.7nm,0.5s,baz=78,slow=5.1,SNR=13	**37.01**	**275**	P	**P**	**23 00 57.2**	**+1.1**
BRTR	comp=Z,1.0nm,0.6s,baz=84,slow=6.2,SNR=7.9			pP	**sP**	**23 01 04.8**	**+0.8**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.6s,baz=72,slow=8.6	**41.58**	**315**	P	**P**	**23 01 33.5**	**-0.5**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.5s,baz=69,slow=7.7,SNR=4.5	**41.58**	**315**	P	**P**	**23 01 33.4**	**-0.6**
NOA	comp=Z,0.3nm,0.5s,baz=76,slow=5.4,SNR=2.8			sP	**sP**	**23 01 43.9**	**+1.7**
VYHS	**Vyhne**	**42.19**	**295**	*eP*	P	23 01 48.9	+10
VYHS	**Vyhne**	**42.19**	**295**	*eP*	P	23 01 48.9	+10
INK	**Inuvik** comp=Z,1.0nm,0.7s,baz=3.2,slow=11,SNR=4.7	**59.69**	**15**	P	**P**	**23 03 49.7**	**-0.6**
ILAR	**Eielson Array** comp=Z,0.4nm,0.7s,baz=317,slow=4.7,SNR=5.3	**59.80**	**23**	P	**P**	**23 03 49.8**	**-1.4**
COCO	**West Island**	**61.77**	**166**	*i* P	P	23 04 10.6	+5.6
YKA	**Yellowknife Ar** comp=Z,0.9nm,0.7s,baz=342,slow=6.6,SNR=8.7	**67.90**	**10**	P	**P**	**23 04 43.1**	**-1.3**
YKA	comp=Z,0.4nm,0.6s,baz=341,slow=6.7,SNR=5.0			pP	**pP**	**23 04 50.9**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.8s,baz=42,slow=5.1,SNR=9.4	**75.60**	**274**	P	**P**	**23 05 30.4**	**-1.1**
TORD	comp=Z,0.2nm,0.4s,baz=45,slow=5.0,SNR=1.6			sP	**PcP**	**23 05 42.4**	**-1.9**
WRA	**Warramunga Arr**	**81.56**	**134**	*i* P	**pP**	**23 06 10.2**	**0.0**
WRA	comp=Z,1.0nm,0.6s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,1.3nm,1.1s,baz=330,slow=3.6,SNR=3.6	**81.56**	**134**	P	**P**	**23 06 02.6**	**-1.4**
WRA	comp=Z,0.8nm,0.6s,baz=330,slow=3.7,SNR=3.9			pP	**pP**	**23 06 10.6**	**+0.4**
ASAR	**Alice Springs** comp=Z,0.1nm,0.4s,baz=330,slow=4.8,SNR=2.6	**84.55**	**136**	P	**P**	**23 06 18.1**	**-1.5**
ASAR	comp=Z,0.5nm,0.5s,baz=330,slow=4.8,SNR=3.5			pP	**pP**	**23 06 26.4**	**+0.7**
DBIC	**Dimbokro** comp=Z,1.4nm,0.5s,baz=50,slow=3.7,SNR=4.4	**84.70**	**274**	P	**P**	**23 06 20.2**	**-0.3**

JMA 17 23:36:09.2±0.3, 23°.89N×122°.71E, h21km±5km, M3.4
TAP 17 23:36:09.8, 23°.88N×122°.69E, h22km±1km, ML3.5, D
ISC 17 23:36:07.4±1.1, 23°.80N±0°.02×122°.72E±0°.02, h6km±9km, n82, σ0s74/155, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.68**	**18**	P	**Pg**	**23 36 20.8**	**+0.3**
JYNG				S	**Sg**	**23 36 28.4**	**-0.9**
YOJ	**Yonaguni jima** baz=25	**0.71**	**22**	*eP*	**Pg**	**23 36 21.3**	**+0.3**
YOJ	baz=25			*eS*	**Sg**	**23 36 29.4**	**-0.8**
YOJ	**Yonaguni jima**	**0.71**	**22**	P	**Pg**	**23 36 21.4**	**+0.3**
YOJ				S	**Sg**	**23 36 29.2**	**-1.1**
EOS1	**EOS1** baz=323	**0.92**	**324**	*eP*	**Pb**	**23 36 26.1**	**+0.4**
EOS1	baz=323			*eS*	**Sb**	**23 36 38.4**	**+0.2**
HATJ	**Hateruma jima**	**1.02**	**75**	P	**Pg**	**23 36 27.6**	**+0.6**
HATJ				*eS*	**Sg**	**23 36 40.8**	**+0.5**
ENLB	**Shoufeng** baz=260	**1.03**	**276**	*eP*	**Pg**	**23 36 27.8**	**+0.7**
ENLB	baz=260			*eS*	**Sg**	**23 36 41.1**	**+0.6**
HWA	**Hwalien** baz=264	**1.04**	**280**	*eP*	**Pg**	**23 36 27.6**	**+0.3**
HWA	baz=264			*eS*	**Sg**	**23 36 41.1**	**+0.3**
IRIF	**Iriomote-Funau**	**1.06**	**60**	P	**Pg**	**23 36 28.1**	**+0.3**
IRIF				S	**Sg**	**23 36 41.4**	**-0.2**
TWD	**Chiawan** baz=282	**1.07**	**285**	P	**Pg**	**23 36 27.9**	**+0.1**
TWD	baz=282			S	**Sg**	**23 36 41.9**	**+0.2**
NANB	**Nanao** baz=303	**1.08**	**305**	*eP*	**Pb**	**23 36 28.8**	**+0.3**
NANB	baz=303			*eS*	**Sg**	**23 36 42.4**	**+0.1**
ENA	**Nanau** baz=303	**1.09**	**305**	P	**Pg**	**23 36 28.8**	**+0.5**
ENA	baz=303			S	**Sg**	**23 36 42.5**	**-0.1**
NACB	**Ninganchiao** baz=287	**1.09**	**290**	*eP*	**Pg**	**23 36 28.4**	**0.0**
NACB	baz=287			*eS*	**Sg**	**23 36 42.6**	**0.0**
TWC	**Suao** baz=314	**1.13**	**315**	*i* P	**Pg**	**23 36 29.2**	**+0.1**
TWC	baz=314			*i* S	**Sg**	**23 36 43.5**	**-0.3**
ESL	**Shilin** baz=255	**1.18**	**271**	P	**Pg**	**23 36 29.1**	**-1.0**
ESL	baz=255			S	**Sg**	**23 36 44.6**	**-0.8**
EGFH	**Guangfu** baz=246	**1.19**	**264**	*eP*	**Pg**	**23 36 30.7**	**+0.5**
EGFH	baz=246			S	**Sg**	**23 36 45.6**	**-0.2**
ETLH	**Xiulin Townshi** baz=287	**1.20**	**290**	*eP*	**Pg**	**23 36 29.9**	**-0.6**
ETLH				*eS*	**Sg**	**23 36 45.7**	**-0.4**

	baz=287						
HGSD	**Ruisui**	**1.23 256**	*e*P		**Pg**	**23 36 30.2**	**-0.7**
	baz=252						
HGSD			*e*S		**Sg**	**23 36 46.4**	**-0.5**
	baz=252						
JKRS	**Kuro-shima**	**1.26 69**	P		**Pg**	**23 36 31.8**	**+0.3**
JKRS			S		**Sg**	**23 36 47.7**	**-0.1**
EGS		**1.26 325**	P		**Pn**	**23 36 32.1**	**+0.5**
	baz=340						
EGS			S		**Sb**	**23 36 48.1**	**-0.1**
	baz=340						
ILA	**Ilan**	**1.31 317**	*e*P		**Pg**	**23 36 32.8**	**+0.3**
	baz=316						
ILA			S		**Sn**	**23 36 50.3**	**+0.3**
	baz=316						
NTC	**Toucheng**	**1.33 322**	*e*P		**Pb**	**23 36 33.0**	**+0.3**
	baz=321						
NTC			*e*S		**Sb**	**23 36 50.1**	**+0.2**
	baz=321						
TWE	**Neicheng**	**1.33 314**	P		**Pn**	**23 36 32.7**	**+0.3**
	baz=313						
TWE			S		**Sn**	**23 36 50.5**	**0.0**
	baz=313						
ENTT	**Nioudou**	**1.34 309**	P		**Pn**	**23 36 33.3**	**+0.6**
	baz=292						
ENTT			S		**Sg**	**23 36 50.4**	**-0.3**
	baz=292						
NDT	**Datong Townshi**	**1.36 306**	P		**Pg**	**23 36 34.4**	**+0.9**
	baz=305						
NDT			*e*S		**Sb**	**23 36 50.5**	**-0.5**
	baz=305						
YULB	**Yu-li**	**1.37 253**	*e*P		**Pn**	**23 36 32.9**	**-0.1**
	baz=237						
YULB			*e*S		**Sb**	**23 36 50.2**	**-1.0**
	baz=237						
NNSB	**Datong**	**1.37 297**	*e*P		**Pn**	**23 36 32.8**	**-0.4**
	baz=295						
NNSB			*e*S		**Sb**	**23 36 50.2**	**-1.2**
	baz=295						
TWB1	**Santiao Chiao**	**1.38 331**	P		**Pn**	**23 36 32.9**	**-0.2**
	baz=331						
TWB1			S		**Sb**	**23 36 50.3**	**-1.0**
	baz=331						
WHF	**Hehuan Shan**	**1.38 285**	P		**Pn**	**23 36 33.0**	**-0.5**
	baz=283						
TWF1	**Yuli**	**1.38 251**	P		**Pn**	**23 36 33.0**	**-0.1**
	baz=235						
TWF1			S		**Sb**	**23 36 51.2**	**-0.3**
	baz=235						
NNS	**Nan Shan**	**1.39 298**	P		**Pn**	**23 36 33.1**	**-0.3**
	baz=296						
NNS			S		**Sb**	**23 36 51.2**	**-0.6**
	baz=296						
JIJ	**Ishigaki jima**	**1.42 66**	P		**Pn**	**23 36 33.6**	**-0.1**
JIJ			S		**Sb**	**23 36 51.0**	**-1.5**
OWD	**Renai**	**1.42 276**	*e*P		**Pn**	**23 36 33.7**	**-0.2**
	baz=274						
OWD			*e*S		**Sb**	**23 36 51.7**	**-1.1**
	baz=274						
CHKT	**Chengkung**	**1.43 241**	*e*P		**Pn**	**23 36 33.7**	**-0.1**
	baz=238						
CHKT			*e*S		**Sb**	**23 36 50.9**	**-1.9**
	baz=238						
CHGB	**Renai**	**1.44 281**	*e*P		**Pn**	**23 36 34.2**	**0.0**
	baz=267						
CHGB			*e*S		**Sb**	**23 36 52.9**	**-0.5**
	baz=267						
VWDT	**VWDT**	**1.45 268**	*e*P		**Pn**	**23 36 34.0**	**-0.1**
	baz=253						
VWDT			*e*S		**Sb**	**23 36 53.0**	**-0.4**
	baz=253						
TDCB	**Techi**	**1.50 288**	*e*P		**Pn**	**23 36 35.3**	**+0.3**
	baz=286						
TDCB			*e*S		**Sn**	**23 36 53.8**	**-1.1**
	baz=286						
YHNB	**Yeheng**	**1.50 305**	*e*P		**Pn**	**23 36 35.1**	**+0.2**
	baz=304						
YHNB			*e*S		**Sn**	**23 36 54.9**	**0.0**
	baz=304						
NSK	**Sanguang**	**1.52 305**	P		**Pn**	**23 36 35.1**	**-0.1**
	baz=304						
NSK			S		**Sn**	**23 36 55.0**	**-0.3**
	baz=304						
NWF	**Wu-fen Shan**	**1.53 326**	P		**Pn**	**23 36 35.8**	**+0.5**
	baz=326						
NWF			*e*S		**Sn**	**23 36 54.9**	**-0.7**
	baz=326						
WFSB	**Wu-fen Shan**	**1.53 326**	*e*P		**Pb**	**23 36 36.1**	**0.0**
	baz=325						
WFSB			*e*S		**Sg**	**23 36 56.0**	**-0.5**
	baz=325						
NHDH	**Xindian Distri**	**1.59 317**	*e*P		**Pb**	**23 36 37.2**	**0.0**
	baz=334						
NHDH			*e*S		**Sb**	**23 36 57.4**	**-0.1**
	baz=334						
SSLB	**Suanglung**	**1.62 270**	*e*P		**Pn**	**23 36 36.9**	**+0.4**
	baz=255						
SSLB			*e*S		**Sn**	**23 36 57.6**	**-0.1**
	baz=255						
TATO	**Taipei**	**1.62 316**	*e*P		**Pn**	**23 36 37.5**	**+1.0**
	baz=333						
TATO			*e*S		**Sn**	**23 36 57.8**	**+0.1**
	baz=333						
JISG	**Ishigakijimahi**	**1.65 61**	P		**Pn**	**23 36 37.1**	**+0.2**
JISG			S		**Sn**	**23 36 58.2**	**-0.2**
DPDB	**Guoxing**	**1.66 278**	P		**Pn**	**23 36 37.4**	**+0.4**
	baz=267						
DPDB			*e*S		**Sn**	**23 36 58.3**	**-0.4**
	baz=267						
SMLT	**Sun Moon Lake**	**1.67 273**	P		**Pn**	**23 36 37.8**	**+0.5**
	baz=271						
SMLT			S		**Sn**	**23 36 59.0**	**0.0**
	baz=271						
ELDTW	**Lidau**	**1.68 249**	P		**Pn**	**23 36 37.0**	**-0.4**
	baz=247						
ELDTW			*e*S		**Sn**	**23 36 58.3**	**-1.0**
	baz=247						
WHP	**Taichung City**	**1.69 287**	*e*P		**Pb**	**23 36 38.9**	**0.0**
	baz=274						
YM07	**YM07**	**1.70 324**	*e*P		**Pn**	**23 36 37.6**	**+0.1**
	baz=323						
YM07			*e*S		**Sn**	**23 36 59.6**	**-0.1**
	baz=323						
YM01	**YM01**	**1.70 322**	*e*P		**Pb**	**23 36 39.1**	**0.0**
	baz=322						
YM01			*e*S		**Sn**	**23 36 59.2**	**-0.6**
	baz=322						
TYC	**Yuchr**	**1.71 274**	P		**Pn**	**23 36 38.3**	**+0.6**
	baz=260						
YM10	**YM10**	**1.71 322**	*e*P		**Pb**	**23 36 39.2**	**-0.1**
	baz=322						
YM10			*e*S		**Sn**	**23 37 00.5**	**+0.4**
	baz=322						
YM11	**YM11**	**1.71 323**	*e*P		**Pn**	**23 36 38.8**	**+0.9**
	baz=322						
YM11			*e*S		**Sn**	**23 37 00.5**	**+0.4**
	baz=322						
WHYT	**Xinyi Township**	**1.71 267**	*e*P		**Pn**	**23 36 38.6**	**+0.8**
	baz=256						
YM05	**YM05**	**1.72 322**	*e*P		**Pb**	**23 36 39.2**	**-0.2**
	baz=322						
YM05			*e*S		**Sn**	**23 37 00.7**	**+0.5**
	baz=322						
YM08	**YM08**	**1.72 323**	*e*P		**Pb**	**23 36 39.8**	**+0.3**
	baz=323						
YM08			*e*S		**Sn**	**23 37 00.6**	**+0.4**
	baz=323						
YM04	**YM04**	**1.73 322**	*e*P		**Pn**	**23 36 39.1**	**+1.1**
	baz=321						
YM04			*e*S		**Sn**	**23 37 00.0**	**-0.3**
	baz=321						
LIOB	**Emei**	**1.77 299**	P		**Pb**	**23 36 40.1**	**-0.2**
	baz=298						
LIOB			*e*S		**Sn**	**23 37 01.0**	**-0.4**
	baz=298						
NSTT	**Nanjuang**	**1.77 298**	P		**Pn**	**23 36 39.7**	**+1.1**
	baz=284						
NSTT			S		**Sn**	**23 37 01.8**	**+0.3**
	baz=284						
ALS	**Alishan**	**1.78 261**	*e*P		**Pn**	**23 36 39.4**	**+0.4**
	baz=247						
ALS			*e*S		**Sn**	**23 37 01.5**	**-0.5**
	baz=247						
TWY	**Chenhua**	**1.79 325**	*e*P		**Pn**	**23 36 38.6**	**-0.1**
	baz=325						
TWY			*e*S		**Sn**	**23 37 02.2**	**+0.4**
	baz=325						
TWGBT	**Beinan**	**1.80 237**	*e*P		**Pn**	**23 36 39.0**	**+0.1**
	baz=225						
TWGBT			*e*S		**Sn**	**23 37 01.4**	**-0.7**
	baz=225						
TWG	**Pinlang**	**1.80 238**	*e*P		**Pn**	**23 36 39.0**	**+0.1**
	baz=225						
TWG			*e*S		**Sn**	**23 37 00.9**	**-1.3**
	baz=225						
CHN5	**Tsauling**	**1.88 264**	*e*P		**Pn**	**23 36 41.7**	**+1.5**
	baz=262						
CHN5			*e*S		**Sn**	**23 37 03.4**	**-1.0**
	baz=262						
TCU	**Taichung**	**1.90 281**	*e*P		**Pn**	**23 36 41.7**	**+1.3**
	baz=279						
TPUB	**Ta-pu**	**1.98 256**	*e*P		**Pn**	**23 36 42.9**	**+1.4**
	baz=244						
TPUB			*e*S		**Sn**	**23 37 07.0**	**+0.3**
	baz=244						
WCHH	**Zhanghua**	**2.00 278**	*e*P		**Pn**	**23 36 43.5**	**+1.8**
	baz=277						
CHN4	**Tsaushan**	**2.00 258**	*e*P		**Pn**	**23 36 43.4**	**+1.7**
	baz=245						
CHN4			*e*S		**Sn**	**23 37 07.3**	**+0.2**
	baz=245						
WDLH	**Douliu**	**2.00 267**	*e*P		**Pn**	**23 36 43.0**	**+1.3**
	baz=266						
WDLH			*e*S		**Sn**	**23 37 07.4**	**+0.3**
	baz=266						
WTP	**Ta-pu**	**2.01 254**	*e*P		**Pn**	**23 36 43.9**	**+2.0**
	baz=252						
WTP			*e*S		**Sn**	**23 37 07.6**	**+0.2**
	baz=252						
SLGT	**Liugui**	**2.07 248**	*e*P		**Pn**	**23 36 44.1**	**+1.5**
	baz=237						
SLGT			*e*S		**Sn**	**23 37 08.5**	**-0.2**
	baz=237						
SGST	**Jiashian**	**2.09 250**	*e*P		**Pn**	**23 36 44.0**	**+1.1**
	baz=237						
SGST			*e*S		**Sn**	**23 37 09.5**	**+0.2**
	baz=237						
CHN1	**Nanshi**	**2.10 254**	*e*P		**Pn**	**23 36 44.2**	**+1.1**
	baz=252						
TWK	**Hsinying**	**2.12 256**	*e*P		**Pb**	**23 36 45.8**	**-0.4**
	baz=244						
TWK			*e*S		**Sn**	**23 37 11.9**	**+1.9**
	baz=244						
SNST	**Tainan City**	**2.12 255**	*e*P		**Pn**	**23 36 44.6**	**+1.2**
	baz=253						
SNST			*e*S		**Sn**	**23 37 11.1**	**+1.0**
	baz=253						
SSD	**Sandimen**	**2.19 242**	*e*P		**Pn**	**23 36 46.0**	**+1.7**
	baz=233						
SSD			*e*S		**Sn**	**23 37 12.5**	**+0.7**
	baz=233						
TAW	**Tawu**	**2.21 230**	*e*P		**Pn**	**23 36 46.6**	**+2.0**
	baz=240						
MASBT	**Mashibuluo**	**2.26 239**	*e*P		**Pn**	**23 36 46.6**	**+1.3**
	baz=230						
MASBT			*e*S		**Sn**	**23 37 14.1**	**+0.7**
	baz=230						
SCZT	**Fangliau**	**2.40 234**	*e*P		**Pn**	**23 36 49.3**	**+2.1**
	baz=232						
SCZT			*e*S		**Sn**	**23 37 17.6**	**+0.6**
	baz=232						
WDGT	**Dungji**	**2.86 260**	*e*P		**Pn**	**23 36 54.6**	**+1.1**
	baz=258						
WDGT			*e*S		**Sn**	**23 37 27.8**	**-0.5**
	baz=258						
PNG	**Penghu**	**2.91 266**	*e*P		**Pn**	**23 36 55.1**	**+0.9**
	baz=253						
VCHM	**Qimei**	**3.08 260**	*e*P		**Pn**	**23 36 57.1**	**+0.5**
	baz=259						
VCHM			*e*S		**Sn**	**23 37 33.2**	**-0.5**
	baz=259						

IDC 17 23:53:46.9±2.2, 6°.44S×129°.09E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.3/26, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=162.7km s-min=31.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.36**	**160**	Pn	Pn	23 57 11.0	-0.7
	0.1nm,0.3s,baz=342,slow=13,SNR=4.0						
WRA				Sn	Sn	23 59 36.6	-15
	0.2nm,0.3s,baz=332,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**17.75**	**165**	P	Pn	23 57 56.0	+0.3
	0.1nm,0.3s,baz=342,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**67.26**	**327**	P	P	00 04 43.4	0.0
	0.3nm,0.7s,baz=142,slow=7.3,SNR=3.6						

*ISCJB **18** 00:20:20.3±0.5, 8°.65S±0°.05×121°.59E±0°.07, h150km, mb4.2/1, Error ellipse: s-maj=10.7km s-min=4.5km az=146.8*
*IDC **18** 00:20:21.5±1.9, 8°.64S×121°.46E, h169km±42km, mb4.0/1, mb1 3.7/5, mb1mx3.3/29, mbtmp4.1/5, Error ellipse: s-maj=141.4km s-min=22.9km az=67.0*
*DJA **18** 00:20:23.1±0.5, 9°.5±3°.3×12°.1E±°, h165km±6km, M3.7/6, MLv3.7/6*

ISC 18 00:20:21.0±0.9, 8°.67S±0°.06×121°.39E±0°.06, h150km, n13, σ3°70/21, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.84**	**88**	P	**Pn**	**00 20 48.7**	**+4.2**
MMRI				S	**Sn**	**00 21 08.3**	**+6.0**
BSSI	**Bau Bau, Buton**	**2.66**	**340**	P	**Pn**	**00 21 05.0**	**+0.9**
BSSI				S	**Sn**	**00 21 39.4**	**+2.0**
SOEI	**Soe**	**3.04**	**111**	P	**Pn**	**00 21 12.0**	**+3.0**
SOEI				S	**Sn**	**00 21 50.9**	**+4.8**
BKSI	**Bulukumba**	**3.55**	**339**	P	**Pn**	**00 21 16.1**	**+0.6**
BKSI				S	**Sn**	**00 21 59.1**	**+1.4**
PLAI	**Plampang**	**3.58**	**267**	P	**Pn**	**00 21 18.7**	**+2.9**
PLAI				S	**Sn**	**00 22 02.3**	**+4.1**
KAPI	**Kappang**	**3.98**	**336**	P	**Pn**	**00 21 22.0**	**+1.1**
	4.3nm,0.3s,baz=156,slow=9.0,SNR=29						
BNSI	**Bone**	**4.42**	**343**	P	**Pn**	**00 21 28.3**	**+1.4**
SPSI	**Sidrap Palu**	**4.94**	**341**	P	**Pn**	**00 21 34.4**	**+0.7**
TTSI	**Tana Toraja**	**5.80**	**344**	P	**Pn**	**00 21 46.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**10.25**	**157**	P	**Pn**	**00 22 44.1**	**-0.2**
	0.5nm,0.3s,baz=346,slow=10,SNR=28						
FITZ				S	**Sn**	**00 24 38.5**	**+0.7**
	0.6nm,0.3s,baz=99,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**16.81**	**133**	P	**P**	**00 24 05.8**	**-1.5**
	0.5nm,0.3s,baz=305,slow=12,SNR=16						
WRA				S	**S**	**00 27 05.7**	**-9.0**
	0.2nm,0.3s,baz=298,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**19.13**	**143**	P	**P**	**00 24 32.8**	**0.0**
	1.0nm,0.3s,baz=327,slow=14,SNR=22						
ASAR				S	**S**	**00 27 55.9**	**-5.9**
	0.1nm,0.3s,baz=325,slow=23,SNR=5.0						
STKA	**Stephens Creek**	**29.76**	**144**	P	**P**	**00 26 11.5**	**-2.0**
	1.9nm,0.3s,baz=324,slow=8.0,SNR=6.5						

*NNC **18** 01:03:14.9±0.5, 42°.97N×78°.29E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=4.7km s-min=1.8km az=167.0*
*KRNET **18** 01:03:14.9±0.1, 42°.97N×78°.31E, h15km, mb2.7*
*SOME **18** 01:03:15.7, 43°.02N×78°.30E, h10km*

ISC 18 01:03:14.9±0.9, 42°.96N±0°.02×78°.31E±0°.02, h8km±7km, n58, σ0°67/112, 21C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.12**	**36**	P	**Pg**	**01 03 17.8**	**+0.1**
	29nm,0.1s						
SATY				S	**Sg**	**01 03 19.7**	**0.0**
	997nm,0.1s						
SATY	**Saty**	**0.12**	**36**	*e*P	**Pg**	**01 03 17.8**	**+0.1**
	29nm,0.1s						
SATY				*e*S	**Sg**	**01 03 19.5**	**-0.1**
	997nm,0.1s						
ZHN	**Zhinishke**	**0.23**	**24**	P	**Pg**	**01 03 19.6**	**+0.1**
	18nm,0.1s						
ZHN				S	**Sg**	**01 03 22.8**	**+0.1**
	110nm,0.2s						
ZHN	**Zhinishke**	**0.23**	**24**	*e*P	**Pg**	**01 03 19.6**	**+0.1**
	baz=25						
ZHN				*e*S	**Sg**	**01 03 22.6**	**0.0**
	baz=25						
ZHN	**Zhinishke**	**0.23**	**24**	*e*P	**Pg**	**01 03 19.6**	**+0.1**
	18nm,0.1s						
ZHN				*e*S	**Sg**	**01 03 22.7**	**+0.1**
	110nm,0.2s						
KURS	**Kuram**	**0.54**	**349**	P	**Pg**	**01 03 25.2**	**-0.1**
	2.8nm,0.1s						
KURS				S	**Sg**	**01 03 32.3**	**-0.1**
	6.0nm,0.3s						
KURS	**Kuram**	**0.54**	**349**	*e*P	**Pg**	**01 03 25.2**	**-0.1**
	baz=49						
KURS				*e*S	**Sg**	**01 03 32.3**	**-0.1**
	baz=49						
KURS	**Kuram**	**0.54**	**349**	*e*P	**Pg**	**01 03 25.2**	**-0.1**
	2.8nm,0.1s						
KURS				*e*S	**Sg**	**01 03 32.3**	**-0.1**
	16nm,0.8s						
KPKS	**Kokpek**	**0.58**	**28**	*e*P	**Pg**	**01 03 26.1**	**+0.1**
	baz=29						
KPKS				*e*S	**Sg**	**01 03 33.8**	**+0.2**
	baz=29						
KPKS	**Kokpek**	**0.58**	**28**	*e*P	**Pg**	**01 03 26.1**	**+0.1**
	6.0nm,0.1s						
KPKS				*e*S	**Sg**	**01 03 33.8**	**+0.2**
	30nm,0.3s						
KOTS	**Kotyrbulak**	**0.92**	**288**	P	**Pg**	**01 03 32.6**	**+0.1**
	2.1nm,0.1s						
KOTS				S	**Sg**	**01 03 44.6**	**+0.2**
	18nm,0.2s						
KOTS	**Kotyrbulak**	**0.92**	**288**	*e*P	**Pg**	**01 03 32.6**	**+0.1**
	baz=87						
KOTS				*e*S	**Sg**	**01 03 44.6**	**+0.2**
	baz=87						
KOTS	**Kotyrbulak**	**0.92**	**288**	*e*P	**Pg**	**01 03 32.6**	**+0.1**
	2.1nm,0.1s						
KOTS				*e*S	**Sg**	**01 03 44.6**	**+0.2**
	18nm,0.2s						
PDGK	**Podgornoye**	**0.94**	**66**	P	**Pg**	**01 03 32.8**	**-0.1**
	4.1nm,0.1s						
PDGK				S	**Sg**	**01 03 44.8**	**-0.4**
	3.8nm,0.2s						
PDGK	**Podgornoye**	**0.94**	**66**	⇓P	**Pg**	**01 03 32.9**	**-0.1**
	1.8nm,0.2s						
PDGK				⇓S	**Sg**	**01 03 45.1**	**-0.1**
	3.7nm,0.2s						
PDGK	**Podgornoye**	**0.94**	**66**	⇓*i*P	**Pg**	**01 03 32.1**	**-0.9**
	baz=67						
PDGK				⇓*i*S	**Sg**	**01 03 44.8**	**-0.4**
	baz=67						
MDOK	**Medeo**	**0.94**	**283**	P	**Pg**	**01 03 33.0**	**-0.1**
MDOK				⇑S	**Sg**	**01 03 45.0**	**-0.3**
MDOK	**Medeo**	**0.94**	**283**	Pg	**Pg**	**01 03 32.8**	**-0.2**
	3.8nm,0.3s						
MDOK				Lg	Lg	01 03 45.3	
	30nm,0.4s						
MDOK	**Medeo**	**0.94**	**283**	⇑*i*P	**Pg**	**01 03 32.8**	**-0.2**
	baz=82						
MDOK				⇑*i*S	**Sg**	**01 03 45.3**	**0.0**
	baz=82						
MDOK	**Medeo**	**0.94**	**283**	⇑*i*P	**Pg**	**01 03 32.8**	**-0.2**
	4.1nm,0.4s						
MDOK				⇑*i*S	**Sg**	**01 03 45.3**	**0.0**
	30nm,0.4s						
TNSS	**Tian-Shan**	**1.00**	**275**	P	**Pb**	**01 03 34.5**	**-0.2**
	2.2nm,0.5s						
TNSS				S	**Sb**	**01 03 48.2**	**0.0**
	12nm,0.2s						
TNSS	**Tian-Shan**	**1.00**	**275**	*e*P	**Pb**	**01 03 34.5**	**-0.2**
	baz=74						
TNSS				*e*S	**Sb**	**01 03 48.2**	**0.0**
	baz=74						
TNSS	**Tian-Shan**	**1.00**	**275**	*e*P	**Pb**	**01 03 34.5**	**-0.2**
	2.2nm,0.5s						
TNSS				*e*S	**Sb**	**01 03 48.2**	**0.0**
	12nm,0.2s						
MNBS	**Baschi**	**1.12**	**3**	P	**Pb**	**01 03 36.3**	**-0.3**
	2.1nm,0.1s						
MNBS				S	**Sb**	**01 03 51.4**	**0.0**
	18nm,0.1s						
MNBS	**Baschi**	**1.12**	**3**	*e*P	**Pb**	**01 03 36.4**	**-0.3**
	2.1nm,0.1s						
MNBS				*e*S	**Sb**	**01 03 51.4**	**0.0**
	18nm,0.1s						
KDJ	**Kajisay**	**1.18**	**226**	⇓*i*P	**Pb**	**01 03 37.0**	**-0.5**
	baz=25						
KDJ				⇓*i*S	**Sg**	**01 03 53.0**	**+0.3**
	baz=25						
TARG	**Taragay, Kyrgy**	**1.28**	**197**	⇑*i*P	**Pn**	**01 03 39.1**	**-0.4**
	baz=97						
TARG				⇑*i*S	**Sg**	**01 03 56.7**	**+0.5**
	baz=97						
ARXS	**Arharly**	**1.30**	**345**	P	**Pn**	**01 03 39.0**	**-0.5**
	6.9nm,0.2s						
ARXS				S	**Sb**	**01 03 55.8**	**-0.7**
	11nm,0.2s						
ARXS	**Arharly**	**1.30**	**345**	*e*P	**Pn**	**01 03 39.0**	**-0.5**
	6.9nm,0.2s						
ARXS				*e*S	**Sb**	**01 03 55.8**	**-0.7**
	11nm,0.2s						
CHKK	**Chushkaly**	**1.31**	**313**	P	**Pb**	**01 03 39.6**	**-0.2**
	7.2nm,0.1s						
CHKK				S	**Sb**	**01 03 56.3**	**-0.6**
	34nm,0.3s						
CHKK	**Chushkaly**	**1.31**	**313**	*e*P	**Pb**	**01 03 39.6**	**-0.2**
	baz=13						
CHKK				*e*S	**Sn**	**01 03 56.5**	**-0.8**
	baz=13						
CHKK	**Chushkaly**	**1.31**	**313**	*e*P	**Pb**	**01 03 39.6**	**-0.2**
	7.2nm,0.1s						
CHKK				*e*S	**Sn**	**01 03 56.5**	**-0.8**
	34nm,0.3s						
KTBS	**Karatobe**	**1.40**	**303**	P	**Pb**	**01 03 41.2**	**-0.2**
	6.9nm,0.2s						
KTBS				S	**Sn**	**01 03 59.3**	**-0.3**
	40nm,0.3s						
KTBS	**Karatobe**	**1.40**	**303**	*e*P	**Pb**	**01 03 41.2**	**-0.2**
	6.9nm,0.2s						
KTBS				*e*S	**Sn**	**01 03 59.3**	**-0.3**
	40nm,0.3s						
KTMS	**Ketmen**	**1.57**	**71**	P	**Pb**	**01 03 44.4**	**+0.1**
	3.4nm,0.2s						
KTMS				S	**Sg**	**01 04 05.0**	**-0.4**
	4.1nm,0.3s						
KTMS	**Ketmen**	**1.57**	**71**	*e*P	**Pb**	**01 03 44.4**	**+0.1**
	baz=71						
KTMS				*e*S	**Sg**	**01 04 05.0**	**-0.4**
	baz=71						
KTMS	**Ketmen**	**1.57**	**71**	*e*P	**Pb**	**01 03 44.4**	**+0.1**
	3.4nm,0.2s						
KTMS				*e*S	**Sg**	**01 04 05.0**	**-0.4**
	4.1nm,0.3s						
ULHL	**Ulahol**	**1.68**	**246**	⇓*i*P	**Pb**	**01 03 45.8**	**-0.4**
	baz=45						
ULHL				⇓*i*S	**Sg**	**01 04 08.8**	**-0.2**
	baz=45						
KUU	**Kurty**	**1.71**	**304**	P	**Pb**	**01 03 46.4**	**-0.2**
	4.2nm,0.1s						
KUU				S	**Sb**	**01 04 08.6**	**+0.3**
	31nm,0.3s						
KUU	**Kurty**	**1.71**	**304**	*e*P	**Pb**	**01 03 46.4**	**-0.2**
	baz=3.0						
KUU				⇓*i*S	**Sb**	**01 04 08.6**	**+0.3**
	baz=3.0						
KUU	**Kurty**	**1.71**	**304**	*e*P	**Pb**	**01 03 46.4**	**-0.2**
	4.2nm,0.1s						
KUU				⇓*i*S	**Sb**	**01 04 08.6**	**+0.3**
	31nm,0.3s						
KST	**Kastek**	**1.72**	**274**	P	**Pg**	**01 03 47.7**	**-0.2**
	2.0nm,0.1s						
KST				S	**Sg**	**01 04 10.6**	**+0.4**
	2.3nm,0.2s						
KST	**Kastek**	**1.72**	**274**	*e*P	**Pg**	**01 03 47.7**	**-0.2**
	baz=73						
KST				*e*S	**Sg**	**01 04 10.6**	**+0.4**
	baz=73						
KST	**Kastek**	**1.72**	**274**	*e*P	**Pg**	**01 03 47.7**	**-0.2**
	2.0nm,0.1s						
KST				*e*S	**Sg**	**01 04 10.6**	**+0.4**
	2.3nm,0.2s						
DJR	**Jarkent**	**1.74**	**38**	P	**Pb**	**01 03 47.3**	**+0.1**
	4.4nm,0.3s						
DJR				S	**Sg**	**01 04 10.3**	**-0.6**
	13nm,0.3s						
DJR	**Jarkent**	**1.74**	**38**	*e*P	**Pb**	**01 03 47.3**	**+0.1**
	4.4nm,0.3s						
DJR				*e*S	**Sg**	**01 04 10.3**	**-0.6**
	13nm,0.3s						
BOOM	**Boomskoye usch**	**1.81**	**256**	⇑*i*P	**Pb**	**01 03 48.1**	**-0.2**
	baz=56						
BOOM				⇑*i*S	**Sg**	**01 04 12.6**	**-0.3**
	baz=56						
DGS	**Degeres**	**1.88**	**280**	P	**Pb**	**01 03 49.9**	**+0.4**
	2.6nm,0.2s						
D

17nm,0.2s
DGS Degeres 1.88 280 *e*P **Pb 01 03 49.9 +0.4**
baz=79
DGS *e*S **Sg 01 04 14.5 -0.7**
baz=79
DGS Degeres 1.88 280 *e*P **Pb 01 03 49.9 +0.4**
2.6nm,0.2s
DGS *e*S **Sg 01 04 14.5 -0.7**
17nm,0.2s
TKM2 Tokmak 2 1.99 270 ⇑Pg **Pb 01 03 51.4 0.0**
2.3nm,0.2s
TKM2 ⇑Lg Lg 01 04 18.1
4.9nm,0.2s
TKM2 Tokmak 2 1.99 270 ⇓*i*P **Pb 01 03 51.0 -0.5**
baz=70
TKM2 ⇓*i*S **Sg 01 04 17.9 -0.9**
baz=70
NRN Naryn 2.29 229⇑*e*P **Pb 01 03 55.6 -1.1**
baz=29
NRN ⇑*i*S **Sb 01 04 25.8 +0.4**
baz=29
KZA Kyzart 2.43 250⇑*i*P **Pb 01 03 57.3 -1.7**
baz=50
KZA ⇑*i*S **Sb 01 04 28.2 -1.0**
baz=50
AAK Ala-Archa 2.83 265 ⇑Lg Lg 01 04 45.7
2.2nm,0.3s
UCH Uchtor 2.90 257⇓*e*P **Pn 01 04 03.9 +2.2**
baz=56
UCH ⇓*i*S **Sb 01 04 39.7 -3.1**
baz=56
ARLS Aral 3.15 251⇑*e*P **Pn 01 04 07.0 +2.1**
baz=51
ARLS ⇑*i*S **Sn 01 04 45.4 +2.6**
baz=51
MK31 Makanchi Array 4.76 35 ⇑Pn **Pn 01 04 26.7 -0.3**
0.1nm,0.2s,baz=216,slow=16,SNR=2.9
MK31 ⇑Sn **Sn 01 05 24.7 +2.2**
0.2nm,0.3s
MK31 ⇑Lg Lg 01 05 43.4
0.3nm,0.3s,baz=212,slow=29,SNR=4.1

IDC 18 01:18:16.1±5.5, 33°.01N×136°.74E, h422km±26km, mb2.8/2, mb1 2.8/6, mb1mx2.6/42, mbtmp3.7/6, Error ellipse: s-maj=89.4km s-min=44.4km az=168.0, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.72**	**19**	P	P	01 19 27.1	+0.2
	0.3nm,0.3s,baz=199,slow=10,SNR=14						
KSRS	**Korea Array**	**8.46**	**304**	P	P	01 20 16.7	+0.4
	0.5nm,0.3s,baz=121,slow=10,SNR=12						
USRK	**Ussuriysk Ar.**	**11.77**	**343**	P	P	01 20 53.2	+0.6
	0.3nm,0.3s,baz=156,slow=10,SNR=4.6						
KLR	**Kul'dur**	**16.63**	**349**	P	P	01 21 44.3	-0.8
	0.2nm,0.3s,baz=147,slow=8.9,SNR=5.5						
MKAR	**Makanchi Array**	**43.15**	**305**	P	P	01 25 37.3	-0.1
	0.3nm,0.5s,baz=100,slow=8.7,SNR=3.5						
FINES	**FINESS Array B**	**70.55**	**332**	P	P	01 28 46.8	+0.1
	0.4nm,0.4s,baz=71,slow=6.3,SNR=5.7						

JMA 18 01:18:57.4, 33°.70N×135°.21E, h6km±2km, M1.0, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.19**	**39**	P	Pg	01 19 01.5	+0.3
JWM				S	Sg	01 19 04.6	+0.8
JTNC	**Tanabenakahech**	**0.35**	**70**	P	Pg	01 19 04.5	+0.2
JTNC				S	Sg	01 19 09.5	+0.5
JWY	**Kouya**	**0.61**	**32**	P	Pg	01 19 09.3	+0.2
JWY				S	Sg	01 19 17.3	+0.3
JAI	**Aioi**	**0.64**	**278**	P	Pg	01 19 09.3	-0.4
JAI				S	Sg	01 19 17.9	-0.1
JKN2	**Miekihoku**	**1.03**	**58**	P	Pg	01 19 17.0	-0.3
JKN2				S	Sg	01 19 30.2	-0.5

IDC 18 01:19:30.9±1.8, 30°.40S×177°.95W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/30, mbtmp4.1/3, Error ellipse: s-maj=61.8km s-min=40.2km az=2.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.52**	**257**	P	P	01 26 22.5	+1.5
	6.8nm,0.8s,baz=90,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**43.15**	**267**	P	P	01 27 31.7	-1.8
	0.4nm,0.5s,baz=99,slow=7.6,SNR=5.3						
WRA	**Warramunga Arr**	**44.14**	**272**	P	P	01 27 41.3	-0.2
	1.1nm,0.3s,baz=112,slow=8.1,SNR=20						
FINES	**FINESS Array B**	**145.16**	**340**	PKPbc	PKPbc	01 39 08.8	-0.5
	1.1nm,0.4s,baz=69,slow=4.6,SNR=22						
TORD	**Torodi Ar. Bea**	**162.83**	**179**	PKPab	PKPab	01 40 23.7	-0.7
	1.4nm,1.1s,baz=188,slow=5.2,SNR=3.3						

*ISCJB **18** 01:43:50.5±2.8, 16°.21N±0°.08×100°.56W±0°.07, h32km±24km, Error ellipse: s-maj=14.5km s-min=9.7km az=146.6*
*MEX **18** 01:43:51.1±0.5, 16°.21N×100°.67W, h10km, MD4.0 (MEX), After MEX.*
*NEIC **18** 01:43:51.9±0.0, 16°.19N×100°.65W, h20km, mb3.9/2, MD4.0 (MEX), After MEX.*

ISC 18 01:43:52.0±3.8, 16°.3N±0°.1×100°.56W±0°.09, h31km±26km, n16, σ1s21/26, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.89**	**47**	*i*P	**Pn**	01 44 07.5	-0.9
ACP2				*i*S	**Sn**	01 44 20.5	+0.1
MEIG	**Mezcala**	**1.89**	**28**	*e*Pn	**Pn**	01 44 20.3	-1.9
MEIG				*e*Sn	**Sn**	01 44 43.3	-1.7
MEIG	**Mezcala**	**1.89**	**28**	*e*P	**Pn**	01 44 20.8	-1.5
MEIG				*e*S	**Sn**	01 44 45.2	+0.1
ARIG	**Puente Sto Nin**	**2.02**	**6**	*e*P	**Pn**	01 44 23.3	-0.8
ARIG				*e*S	**Sn**	01 44 48.0	-0.3
TLIG	**Tlapa**	**2.31**	**56**	*e*Pn	**Pn**	01 44 28.2	+0.1
TLIG				*e*Sn	**Sn**	01 44 56.0	+0.5
TLIG	**Tlapa**	**2.31**	**56**	*e*P	**Pn**	01 44 28.2	+0.1
TLIG				*e*S	**Sn**	01 44 56.1	+0.5
PLIG	**Platanillo**	**2.35**	**25**	*e*Pn	**Pn**	01 44 28.2	-0.4
PLIG				*e*Sn	**Sn**	01 44 56.7	+0.2
PLIG	**Platanillo**	**2.35**	**25**	*e*P	**Pn**	01 44 28.2	-0.4
PLIG				*e*S	**Sn**	01 44 56.7	+0.2
YAIG	**Yautepec**	**2.96**	**29**	*e*Pn	**Pn**	01 44 37.0	0.0
YAIG				*e*Sn	**Sb**	01 45 19.8	-0.1
YAIG	**Yautepec**	**2.96**	**29**	*e*P	**Pn**	01 44 37.0	0.0
YAIG				*i*S	**Sn**	01 45 12.8	+1.2
WMOK	**Wichita Mounta**	**18.47**	**5**	*e*P	**Pn**	01 48 07.8	+2.1
	9.9nm,1.1s						
WESC	**Westside Schoo**	**21.41**	**323**	*e*P	**P**	01 48 40.0	+2.7
CTCC	**Cactus City**	**22.21**	**324**	*e*P	**P**	01 48 45.9	-0.1
FLSC	**Flash Two Peak**	**23.77**	**325**	*e*P	**P**	01 49 04.0	+2.1
SDV	**Santo Domingo**	**30.09**	**100**	*e*P	**P**	01 49 58.2	-1.0
	9.5nm,0.4s						
BKCOR	**Black Crater**	**33.18**	**332**	*e*P	**P**	01 50 24.5	-1.5

IDC 18 01:53:05.8±3.7, 48°.54S×165°.25E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/28, mbtmp3.7/4, ML3.9/1, MS3.2/3, Ms1 3.3/3, ms1mx2.9/18, Error ellipse: s-maj=78.1km s-min=31.2km az=159.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**6.29**	**42**	Pn	Pn	01 54 40.0	+0.2
	2.6nm,0.3s,baz=189,slow=4.3,SNR=9.9						
RPZ				Sn	Sn	01 55 53.8	+1.4
	6.4nm,0.3s,baz=57,slow=17,SNR=10						
RPZ				LR	LR	01 56 59.8	
	comp=Z,154nm,21.9s,baz=253,slow=37						
URZ	**Urewera**	**13.40**	**44**	LR	LR	02 02 10.2	
	comp=Z,211nm,18.3s,baz=238,slow=41						
STKA	**Stephens Creek**	**24.41**	**304**	P	P	01 58 27.6	+1.7
	1.4nm,0.7s,baz=158,slow=5.6,SNR=2.9						
VNDA	**Vanda**	**29.12**	**182**	LR	LR	02 07 57.4	
	comp=Z,44nm,21.2s,baz=12,slow=31						
ASAR	**Alice Springs**	**35.05**	**304**	P	P	01 59 59.9	-0.5
	0.5nm,0.5s,baz=134,slow=7.8,SNR=9.9						
WRA	**Warramunga Arr**	**37.83**	**308**	P	P	02 00 23.3	-0.8
	0.3nm,0.3s,baz=145,slow=9.9,SNR=9.1						
BRTR	**Keskin Array B**	**144.69**	**274**	PKP	PKPdf	02 12 43.6	-0.6
	0.6nm,1.0s,baz=144,slow=10.0,SNR=2.9						

MEX 18 01:54:41.7±0.8, 16°.58N×100°.41W, h3km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.49**	**17**	*e*P	Pg	01 54 49.9	-1.3
CAIG				*e*S	Sg	01 54 58.0	+0.5
ZIIG	**Zihuatanejo**	**1.44**	**316**	*e*P	Pn	01 55 04.7	-3.9
ZIIG				*i*S	Sb	01 55 23.2	-4.6
ARIG	**Puente Sto Nin**	**1.70**	**2**	*e*P	Pn	01 55 09.2	-3.1
ARIG				*i*S	Sn	01 55 30.2	-4.3
PLIG	**Platanillo**	**2.00**	**26**	*e*P	Pn	01 55 13.9	-2.6
PLIG				*i*S	Sn	01 55 38.2	-4.0
TLIG	**Tlapa**	**2.02**	**61**	*e*P	Pn	01 55 14.2	-2.6
TLIG				*i*S	Sn	01 55 38.3	-4.4
YAIG	**Yautepec**	**2.61**	**29**	*e*P	Pn	01 55 21.7	-3.3
YAIG				*i*S	Sn	01 55 53.9	-3.4

*KRSC **18** 01:55:54.0±10.0, 52°.85N×160°.27E, h47km±10km, ML4.2*
*ISCJB **18** 01:55:56.3±0.6, 52°.88N±0°.04×160°.13E±0°.07, h55km±5km, mb3.7/10, Error ellipse: s-maj=9.1km s-min=3.7km az=42.4*
*IDC **18** 01:56:01.0±2.4, 52°.98N×159°.70E, h88km±16km, mb3.3/10, mb1 3.5/10, mb1mx3.3/48, mbtmp3.6/10, Error ellipse: s-maj=31.4km s-min=27.1km az=170.0*

ISC 18 01:55:56.2±1.0, 52°.88N±0°.05×160°.15E±0°.05, h44km±8km, n49, σ1s87/63, mb3.7/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.23**	**341**	*e*P	**Pn**	01 56 04.2	0.0
SPN				*e*S	**Sn**	01 56 09.7	-0.1
NLC	**Nalytchevo**	**0.57**	**301**	*e*P	**Pn**	01 56 07.6	-0.3
NLC				*e*S	**Sn**	01 56 15.7	-0.6
DALK	**Dalny**	**0.86**	**281**	*e*P	**Pn**	01 56 11.7	-0.1
DALK				*e*S	**Sn**	01 56 23.1	-0.1
SDLR	**Sedlovina**	**0.86**	**298**	*e*P	**Pn**	01 56 11.9	-0.1
SDLR				*e*S	**Sn**	01 56 23.8	+0.3
UGLR	**Uglovaya**	**0.86**	**293**	*e*P	**Pn**	01 56 12.1	+0.1
UGLR				*e*S	**Sn**	01 56 25.2	+1.6
SMAR	**Somma**	**0.90**	**296**	*e*P	**Pn**	01 56 12.3	-0.3
PET	**Petropavlovsk**	**0.92**	**279**	*e*P	**Pn**	01 56 12.6	0.0
PET				*e*S	**Sn**	01 56 24.5	-0.1
AVH	**Avacha**	**0.93**	**295**	*e*P	**Pn**	01 56 13.3	+0.3
KRER	**Koryakskii**	**0.94**	**297**	*e*P	**Pn**	01 56 13.5	+0.3
KRER				*e*S	**Sn**	01 56 26.7	+1.0
KOK	**Koryaka**	**1.00**	**295**	*e*P	**Pn**	01 56 13.9	0.0
KRX	**Arik**	**1.02**	**298**	*e*P	**Pn**	01 56 14.2	0.0
RUS	**Russkaya**	**1.09**	**246**	*e*P	**Pn**	01 56 15.2	+0.2
RUS				*e*S	**Sn**	01 56 29.2	+0.2
KRMR	**Karymshinskiy**	**1.23**	**268**	*e*P	**Pn**	01 56 17.0	+0.2
KRMR				*e*S	**Sn**	01 56 32.3	+0.1
MTVR	**Mutnovka**	**1.26**	**252**	*e*P	**Pn**	01 56 18.1	+0.6
MTVR				*e*S	**Sn**	01 56 34.2	+0.9
GRL	**Gorelyy**	**1.31**	**256**	*e*P	**Pn**	01 56 19.1	+1.0
GRL				*e*S	**Sn**	01 56 35.4	+1.0
ASAK	**Asacha**	**1.46**	**251**	*e*P	**Pn**	01 56 21.4	+1.3
ASAK				*e*S	**Sn**	01 56 40.2	+2.1
PETK	**Petropavlovsk-**	**1.50**	**280**	P	**Pn**	01 56 21.5	+0.9
	73nm,0.3s,baz=97,slow=20,SNR=990						
PETK				S	**Sn**	01 56 39.9	+1.0
	73nm,0.3s,baz=88,slow=39,SNR=18						
KDTR	**Khodutka, Kamc**	**1.67**	**231**	*e*P	**Pn**	01 56 24.5	+1.7
KDTR				*e*S	**Sn**	01 56 45.2	+2.2
APC	**Apacha**	**1.81**	**273**	*e*P	**Pn**	01 56 26.6	+1.7
APC				*e*S	**Sn**	01 56 49.6	+3.0
KZV	**Kizimen**	**2.24**	**2**	*e*P	**Pn**	01 56 31.8	+1.0
KZV				*e*S	**Sn**	01 56 59.5	+2.2
TUMD	**Tumrok D**	**2.33**	**4**	*e*P	**Pn**	01 56 33.0	+1.0
TUMD				*e*S	**Sn**	01 57 01.7	+2.3
PAU	**Pauzhetka**	**2.50**	**237**	*e*P	**Pn**	01 56 37.4	+3.1
ESO	**Esso**	**3.17**	**345**	*e*P	**Pn**	01 56 44.1	+0.7
LGNR	**Loginova**	**3.22**	**5**	*e*P	**Pn**	01 56 47.7	+3.2
SKR	**Severo-Kuril's**	**3.33**	**230**	*e*S	**Sn**	01 57 25.4	+1.3
SRDR	**Sredinnyy**	**3.45**	**356**	*e*P	**Pn**	01 56 49.3	+1.9
KBTR	**Krutoberegovo**	**3.68**	**24**	*e*P	**Pn**	01 56 52.9	+2.5
KBTR				*e*S	**Sn**	01 57 35.3	+2.8
BDR	**Baidarnaya**	**3.74**	**9**	*e*P	**Pn**	01 56 54.8	+3.4
SMKR	**Semkarok**	**3.79**	**11**	*e*P	**Pn**	01 56 55.2	+3.2
SRKR	**Sorokina**	**3.83**	**8**	*e*P	**Pn**	01 56 55.0	+2.4
SRKR				*e*S	**Sn**	01 57 41.5	+5.2
BKI	**Bering**	**4.14**	**54**	*e*P	**Pn**	01 56 56.0	-0.8
BKI				*e*S	**Sn**	01 57 40.0	-4.0
KLR	**Kul'dur**	**18.17**	**270**	P	**Pn**	02 00 06.5	+1.7
	0.1nm,0.3s,baz=73,slow=11,SNR=2.0						
MJAR	**Matsushiro Arr**	**22.44**	**232**	P	**P**	02 00 51.5	+0.4
	1.6nm,0.7s,baz=21,slow=10,SNR=5.3						
MAT	**Matsuhiro**	**22.44**	**232**	P	**P**	02 00 55.4	+4.2
H11N2	**WAKE ISLAND Hy**	**33.50**	**168**	T	T	02 38 21.7	
	baz=352,slow=76,SNR=108						
H11N3	**WAKE ISLAND Hy**	**33.52**	**168**	T	T	02 38 22.6	
	baz=352,slow=76,SNR=74						
H11N1	**WAKE ISLAND Hy**	**33.52**	**168**	T	T	02 38 22.7	
	baz=352,slow=76,SNR=110						
H11S1	**WAKE ISLAND Hy**	**34.68**	**169**	T	T	02 39 46.7	
	baz=352,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**34.70**	**169**	T	T	02 39 48.9	
	baz=352,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**34.70**	**169**	T	T	02 39 50.8	
	baz=352,slow=76,SNR=13						
KURBB	**Kurchatov Arra**	**47.98**	**302**	P	**P**	02 04 27.4	-2.7
	0.5nm,0.7s,baz=59,slow=7.2,SNR=4.2						
MKAR	**Makanchi Array**	**48.28**	**296**	P	**P**	02 04 29.8	-2.8
	0.4nm,0.5s,baz=65,slow=6.6,SNR=4.6						
ARCES	**ARCESS Array B**	**53.50**	**342**	P	**P**	02 05 10.8	-0.7
	2.5nm,0.9s,baz=32,slow=8.6,SNR=3.3						
FINES	**FINESS Array B**	**60.33**	**337**	P	**P**	02 05 58.3	-1.6
	0.6nm,0.6s,baz=44,slow=8.5,SNR=6.5						
NOA	**NORSAR Array B**	**63.75**	**344**	P	**P**	02 06 22.2	-0.7
	0.3nm,0.4s,baz=21,slow=6.7,SNR=3.7						
AKASG	**Malin Array Be**	**68.81**	**329**	P	**P**	02 06 53.5	-1.8
	0.4nm,0.4s,baz=30,slow=7.5,SNR=2.4						
TXAR	**Lajitas Array**	**70.69**	**67**	P	**P**	02 07 08.9	+1.5
	0.2nm,0.5s,baz=289,slow=5.6,SNR=5.7						
GERES	**GERESS Array B**	**74.72**	**338**	P	**P**	02 07 30.6	-0.4
	0.4nm,0.4s,baz=45,slow=5.7,SNR=5.6						
BRTR	**Keskin Array B**	**76.81**	**320**	P	**P**	02 07 41.7	-1.4
	0.4nm,0.8s,baz=19,slow=9.2,SNR=2.5						

*AEIC **18** 01:59:14.9±0.0, 61°.51N×140°.71W, h5km*
*NEIC **18** 01:59:15.7±0.0, 61°.51N×140°.69W, h1km, ML2.5 (AEIC), ML2.6 (OTT), After OTT.*

PGC 18 01:59:15.7±0.0, 61°.51N×140°.69W, h1km, ML2.6/12, 189km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK2	**White River**	**0.29**	**346**	P	Pg	01 59 20.6	-0.7
YUK2				S	Sg	01 59 25.1	0.0
YUK2	**White River**	**0.29**	**346**	P	Pg	01 59 20.6	-0.6
YUK2				S	Sg	01 59 25.2	+0.1
YUK3	**Moose Creek**	**0.29**	**22**	P	Pg	01 59 20.6	-0.7
YUK3				S	Sg	01 59 25.1	0.0
YUK3	**Moose Creek**	**0.29**	**22**	P	Pg	01 59 20.6	-0.7
YUK3				S	Sg	01 59 24.9	-0.2
CTGM	**Chitina Glacie**	**0.62**	**210**	P	Pg	01 59 26.7	-0.9
CTGM	**Chitina Glacie**	**0.62**	**210**	P	Pg	01 59 26.8	-0.8
CTGM				S	Sg	01 59 35.6	-0.1
YUK1	**Sand Pete Hill**	**0.66**	**7**	P	Pg	01 59 26.9	-1.3
YUK1				S	Sg	01 59 36.4	-0.3
YUK1	**Sand Pete Hill**	**0.66**	**7**	P	Pg	01 59 26.9	-1.3
YUK1				S	Sg	01 59 36.3	-0.4
PTPK	**Patty Peak**	**0.91**	**250**	P	Pg	01 59 31.9	-1.2
PTPK				S	Sg	01 59 44.7	-0.2
PTPK	**Patty Peak**	**0.91**	**250**	P	Pg	01 59 31.7	-1.4
PTPK				S	Sg	01 59 44.1	-0.8
BVCY	**Beaver Creek**	**0.92**	**355**	P	Pg	01 59 31.9	-1.3
BVCY	**Beaver Creek**	**0.92**	**355**	P	Pg	01 59 31.8	-1.4
BVCY				S	Sb	01 59 46.6	-0.5
BALM	**Baldy**	**0.93**	**240**	P	Pg	01 59 32.0	-1.4
BALM				S	Sg	01 59 45.0	-0.3
BALM	**Baldy**	**0.93**	**240**	P	Pg	01 59 31.7	-1.6
BALM				S	Sg	01 59 44.8	-0.5
KIAG	**Kiagna River**	**0.99**	**235**	P	Pg	01 59 33.3	-1.4
KIAG				S	Sg	01 59 47.5	-0.1
KIAG	**Kiagna River**	**0.99**	**235**	P	Pg	01 59 33.2	-1.5
KIAG				S	Sg	01 59 46.9	-0.6
YUK4	**Talbot Arm**	**1.00**	**98**	P	Pg	01 59 33.9	-0.9
YUK4	**Talbot Arm**	**1.00**	**98**	P	Pg	01 59 33.9	-0.9
YUK4				S	Sg	01 59 47.9	+0.3
MCARA	**McCarthy VSAT**	**1.12**	**265**	P	Pg	01 59 35.9	-1.3
MCARA				S	Sg	01 59 51.8	0.0
RKAV	**Rock Avalanche**	**1.25**	**195**	P	Pg	01 59 38.2	-1.4
RKAV	**Rock Avalanche**	**1.25**	**195**	P	Pg	01 59 37.6	-2.0
RKAV				S	Sg	01 59 54.4	-1.4
YUK6	**Outpost Mounta**	**1.26**	**116**	P	Pg	01 59 38.1	-1.7
YUK6	**Outpost Mounta**	**1.26**	**116**	P	Pg	01 59 38.0	-1.9
YUK6				S	Sg	01 59 55.7	-0.4
TGL	**Tana Glacier**	**1.28**	**235**	P	Pg	01 59 38.4	-1.8
TGL				S	Sg	01 59 56.0	-0.7
SAMH	**Samovar Hills**	**1.38**	**182**	P	Pg	01 59 40.1	-1.9
SAMH	**Samovar Hills**	**1.38**	**182**	Pn	Pg	01 59 41.0	-1.1
SAMH				Sn	Sb	02 00 00.3	-0.2
SAMH				Sg	Sn	02 00 02.6	+1.5
CRQM	**Cirque**	**1.40**	**239**	P	Pg	01 59 40.2	-2.4
YUK5	**Granite Creek**	**1.42**	**104**	Sg	Sn	02 00 02.1	0.0
PCA	**Pinnacle**	**1.43**	**171**	P	Pn	01 59 41.6	-1.2
PCA	**Pinnacle**	**1.43**	**171**	Pn	Pn	01 59 41.6	-1.2
PCA				Sg	Sg	02 00 01.3	-0.2
MESA	**MESA**	**1.47**	**205**	P	Pn	01 59 42.3	-1.1
MESA	**MESA**	**1.47**	**205**	Pn	Pn	01 59 42.5	-0.9
MESA				Sg	Sb	02 00 03.2	+0.1
YUK7	**Dusty Glacier**	**1.58**	**127**	P	Pn	01 59 44.2	-0.8
YUK7	**Dusty Glacier**	**1.58**	**127**	Pn	Pn	01 59 44.4	-0.6
YUK7				Sg	Sn	02 00 06.1	-0.1
KULT	**Kultieth River**	**1.60**	**219**	P	Pn	01 59 44.0	-1.2
BCA3	**Beaver Creek A**	**1.65**	**342**	P	Pn	01 59 44.3	-1.4
HYT	**Haines Junctio**	**1.69**	**112**	P	Pn	01 59 45.5	-1.0
HYT	**Haines Junctio**	**1.69**	**112**	Pn	Pn	01 59 45.5	-0.9
HYT				Sg	Sn	02 00 08.3	-0.4
PNL	**Peninsula**	**1.95**	**160**	P	Pn	01 59 49.2	-0.7
PNL	**Peninsula**	**1.95**	**160**	Pn	Pn	01 59 50.2	+0.3
PNL				Sg	Sg	02 00 17.7	-0.5
HARP	**HAARP**	**2.29**	**295**	Pn	Pb	01 59 56.7	-1.1
DIV	**Divide**	**2.48**	**263**	Pn	Pn	01 59 57.8	+0.6
DIV				Sg	Sb	02 00 33.1	+1.2
DAWY	**Dawson**	**2.64**	**13**	P	Pn	01 59 58.4	-1.0
DAWY	**Dawson**	**2.64**	**13**	Pn	Pn	01 59 58.3	-1.1
DAWY				Sn	Sn	02 00 31.8	-0.3
DAWY				Sg	Sb	02 00 37.5	+0.9
DOT	**Dot Lake**	**2.66**	**326**	Pn	Pn	01 59 58.1	-1.5
DOT				Sg	Sb	02 00 37.3	+0.2
PAX	**Paxson**	**2.67**	**305**	P	Pn	01 59 59.7	-0.2
PAX	**Paxson**	**2.67**	**305**	Pn	Pb	02 00 02.2	-2.2
PAX				Sg	Sg	02 00 39.8	-1.8
SCRK	**Sand Creek**	**2.91**	**330**	P	Pn	02 00 02.2	-0.9
WHY	**Whitehorse**	**2.95**	**104**	P	Pn	02 00 02.3	-1.4
WHY	**Whitehorse**	**2.95**	**104**	Pn	Pn	02 00 02.4	-1.3
WHY				Sn	Sn	02 00 39.0	-0.7
WHY				Sg	Sg	02 00 48.4	-2.0
RIDG	**Independent Ri**	**2.95**	**321**	P	Pn	02 00 02.6	-1.1
PLBC	**Pleasant Camp**	**2.97**	**132**	Sg	Sg	02 00 49.8	-1.1
EGAK	**Eagle**	**3.29**	**357**	*e*Pn	Pn	02 00 07.3	-0.9
BESE	**Bessie Mountai**	**4.14**	**132**	Pn	Pn	02 00 19.9	-0.2

MEX 18 02:00:34.1±0.4, 17°.11N×101°.29W, h14km±9km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.52**	**341**	*e*P	Pg	02 00 43.0	-1.3
ZIIG				*e*S	Sg	02 00 50.0	-1.3
ARIG	**Puente Sto Nin**	**1.47**	**38**	*e*P	Pn	02 00 56.6	-3.6
ARIG				*e*S	Sn	02 01 14.0	-5.3
PLIG	**Platanillo**	**2.13**	**53**	*e*P	Pn	02 01 06.2	-3.1
PLIG				*i*S	Sn	02 01 31.7	-3.9
MMIG	**Aquila**	**2.28**	**301**	*e*P	Pn	02 01 08.2	-3.2
MMIG				*i*S	Sn	02 01 35.0	-4.3
MOIG	**Morelia**	**2.55**	**2**	*i*P	Pn	02 01 12.9	-2.4
MOIG				*i*S	Sn	02 01 41.5	-4.8
TLIG	**Tlapa**	**2.64**	**80**	*e*P	Pn	02 01 13.0	-3.5
TLIG				*i*S	Sn	02 01 43.8	-4.5

IDC 18 02:01:16.9±1.9, 14°.48S×70°.54W, h0km, mb4.0/3, mb1 4.0/6, mb1mx3.7/36, mbtmp3.7/6, ML3.2/3, MS2.9/4, Ms1 2.9/4, ms1mx2.6/27, Error ellipse: s-maj=62.8km s-min=18.3km az=41.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.94**	**128**	Pn	Pn	02 02 06.7	+1.3
	1.2nm,0.3s,baz=303,slow=13,SNR=18						
LPAZ				Lg	Lg	02 02 49.8	
	0.3nm,0.3s,baz=274,slow=19,SNR=2.2						
SIV	**San Ignacio**	**9.26**	**101**	Pn	Pn	02 03 31.1	-0.7
	0.4nm,0.3s,baz=288,slow=15,SNR=10						
SIV				LR	LR	02 07 43.3	
	comp=Z,53nm,19.9s,baz=276,slow=42						
ATAH	**Atahualpa**	**10.62**	**313**	LR	LR	02 08 31.0	
	comp=Z,45nm,18.1s,baz=342,slow=41						
PTGA	**Pitinga**	**17.20**	**38**	P	Pn	02 05 19.3	+0.6
	0.2nm,0.3s,baz=224,slow=10,SNR=4.0						
PTGA				LR	LR	02 12 52.6	
	comp=Z,56nm,18.2s,baz=196,slow=40						
MDP	**Montagnes des**	**26.33**	**44**	LR	LR	02 17 17.2	
	comp=Z,32nm,19.2s,baz=150,slow=36						
**YK

KRX	Arik	2.37 212	P	Pn	02 11 41.1	+0.5
SDLR	Sedlovina	2.37 208	eP	Pn	02 11 41.0	+0.4
SDLR			S	Sn	02 12 11.8	+1.0
KRER	Koryakskii	2.39 210	P	Pn	02 11 42.6	+1.8
SMAR	Somma	2.41 209	eP	Pn	02 11 41.6	+0.5
AVH	Avacha	2.42 210	eP	Pn	02 11 41.5	+0.3
AVH			S	Sn	02 12 13.8	+2.0
KOK	Koryaka	2.43 211	eP	Pn	02 11 41.8	+0.5
UGLR	Uglovaya	2.45 208	eP	Pn	02 11 42.1	+0.6
DALK	Dalny	2.63 207	eP	Pn	02 11 43.4	-0.2
DALK			eS	Sn	02 12 16.4	+0.2
PET	Petropavlovsk	2.66 208	P	Pn	02 11 45.9	+1.9
PET			S	Sn	02 12 17.5	+0.5
PETK	Petropavlovsk-	2.89 219	P	Pn	02 11 46.6	-0.4
	1.2nm,0.3s,baz=57,slow=17,SNR=17					
PETK			S	Sn	02 12 21.2	-1.0
	0.7nm,0.3s,baz=55,slow=48,SNR=3.5					
KRMR	Karymshinskiy	2.98 212	P	Pn	02 11 48.3	+0.2
KRMR			S	Sn	02 12 25.7	+1.5
BKI	Bering	3.00 91	eP	Pn	02 11 47.9	-0.4
BKI			eS	Sn	02 12 22.7	-2.0
RUS	Russkaya	3.24 205	eP	Pn	02 11 50.7	-0.7
RUS			eS	Sn	02 12 29.1	-0.9
APC	Apacha	3.24 222	P	Pn	02 11 52.2	+0.8
MTVR	Mutnovka	3.27 208	P	Pn	02 11 53.0	+1.0
KDTR	Khodutka, Kamc	3.92 205	S	Sn	02 12 44.8	-1.1
MA2	Magadan	6.81 312	P	Pn	02 12 34.4	-4.2
	0.5nm,0.3s,baz=135,slow=14,SNR=1.9					
KLR	Kul'dur	18.67 263	P	P	02 15 07.2	-0.9
	0.1nm,0.3s,baz=55,slow=12,SNR=4.1					
MJAR	Matsushiro Arr	24.31 229	P	P	02 16 08.2	+2.8
	0.5nm,0.3s,baz=22,slow=8.5,SNR=2.9					
ILAR	Eielson Array	26.97 48	P	P	02 16 27.8	-1.3
	0.3nm,0.4s,baz=256,slow=7.4,SNR=7.6					
YKA	Yellowknife Ar	41.24 45	P	P	02 18 32.0	+0.3
	0.7nm,0.6s,baz=301,slow=7.9,SNR=8.7					
MKAR	Makanchi Array	47.52 294	P	P	02 19 21.3	-0.5
	0.1nm,0.4s,baz=39,slow=9.3,SNR=1.9					
NVAR	Mina Array Bea	54.64 72	P	P	02 20 16.5	+1.2
	0.3nm,0.4s,baz=313,slow=8.3,SNR=3.6					
PDAR	Pinedale Array	56.10 63	P	P	02 20 26.8	+1.1
	0.5nm,0.5s,baz=331,slow=1.8,SNR=5.9					
ULM	Lac du Bonnet	56.99 48	P	P	02 20 31.3	-0.2
	1.1nm,0.3s,baz=330,slow=4.6,SNR=5.0					
FINES	FINESS Array B	58.16 336	P	P	02 20 37.7	-1.8
	1.3nm,1.0s,baz=15,slow=7.9,SNR=4.6					
TXAR	Lajitas Array	69.42 68	P	P	02 21 54.7	+0.9
	0.6nm,0.4s,baz=302,slow=4.8,SNR=21					

TAP ***18*** *02:23:56.8,24°.49N×122°.67E,h105km,ML3.3,C*
ISCJB ***18*** *02:23:57.8±0.5,24°.50N±0°.03×122°.67E±0°.02,h90km±5km, Error ellipse: s-maj=5.3km s-min=2.8km az=168.5*
JMA ***18*** *02:23:57.5±0.1,24°.44N×122°.65E,h96km±1km,M2.3*
ISC 18 02:23:58.3±1.4,24°.49N±0°.05×122°.67E±0°.03,h90km±8km, n70,σ0s87/119,1C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.26	99	P	Pn	02 24 11.7	+0.3
JYNG				S	Sn	02 24 22.0	+0.8
YOJ	Yonaguni jima	0.32	95	eP	Pn	02 24 11.9	+0.1
	baz=97						
YOJ				eS	Sn	02 24 22.9	+1.2
	baz=97						
YOJ	Yonaguni jima	0.32	95	P	Pn	02 24 11.9	+0.1
YOJ				eS	Sn	02 24 22.4	+0.7
EOS1	EOS1	0.49	277	⇓P	Pn	02 24 13.1	+0.3
	baz=277						
EOS1				S	Sn	02 24 25.1	+1.3
	baz=277						
TWC	Suao	0.75	279	⇓P	Pn	02 24 14.7	-0.6
	baz=279						
TWC				S	Sn	02 24 27.3	-0.7
	baz=279						
EGS		0.75	298	eP	Pn	02 24 15.2	0.0
	baz=290						
TWB1	Santiao Chiao	0.80	310	eP	Pn	02 24 15.6	-0.2
	baz=305						
NANB	Nanao	0.84	266	P	Pn	02 24 16.1	-0.1
	baz=262						
NANB				S	Sn	02 24 30.1	+0.6
	baz=262						
NTC	Toucheng	0.84	296	⇓P	Pn	02 24 16.1	-0.1
	baz=291						
NTC				eS	Sn	02 24 29.5	-0.1
	baz=291						
ENA	Nanau	0.84	266	eP	Pn	02 24 16.1	-0.2
	baz=262						
ENA				eS	Sn	02 24 29.7	+0.1
	baz=262						
TIPB	Shuangxi	0.90	302	⇓P	Pn	02 24 16.5	-0.4
	baz=301						
TIPB				eS	Sn	02 24 29.6	-1.2
	baz=301						
TWE	Neicheng	0.94	284	P	Pn	02 24 17.1	-0.1
	baz=283						
TWE				eS	Sn	02 24 30.9	-0.5
	baz=283						
SLBB	Yuanshan	0.97	286	eP	Pn	02 24 17.7	0.0
	baz=285						
IRIF	Iriomote-Funau	0.98	99	P	Pn	02 24 17.9	+0.2
ENTT	Nioudou	1.01	279	⇓P	Pn	02 24 18.4	+0.2
	baz=281						
ENTT				eS	Sn	02 24 33.8	+0.8
	baz=281						
NACB	Ninganchiao	1.03	252	⇑P	Pn	02 24 17.7	-0.6
	baz=248						
NACB				S	Sn	02 24 32.4	-0.8
	baz=248						
NDT	Datong Townshi	1.05	276	⇓P	Pn	02 24 18.8	+0.2
	baz=279						
NDT				S	Sn	02 24 34.2	+0.3
	baz=279						
TWD	Chiawan	1.06	247	P	Pn	02 24 18.1	-0.6
	baz=247						
TWD				S	Sn	02 24 33.2	-0.7
	baz=247						
ETLH	Xiulin Townshi	1.12	255	P	Pn	02 24 18.9	-0.5
	baz=260						
ETLH				S	Sn	02 24 34.9	-0.4
	baz=260						
ENLB	Shoufeng	1.14	239	eP	Pn	02 24 18.8	-0.7
	baz=239						
NHDH	Xindian Distri	1.14	295	eP	Pn	02 24 19.2	-0.3
	baz=294						
YM07	YM07	1.17	306	eP	Pn	02 24 19.5	-0.5
	baz=299						
NNSB	Datong	1.17	267	P	Pn	02 24 19.8	-0.3
	baz=267						
NNSB				eS	Sn	02 24 36.0	-0.5
	baz=267						
TATO	Taipei	1.17	294	eP	Pn	02 24 19.5	-0.5
	baz=294						
NNS	Nan Shan	1.18	268	eP	Pn	02 24 19.6	-0.5
	baz=267						
NNS				S	Sn	02 24 36.1	-0.6
	baz=267						
YHNB	Yeheng	1.19	279	⇓P	Pn	02 24 20.3	+0.1
	baz=279						
YHNB				S	Sn	02 24 36.2	-0.6
	baz=279						
YM01	YM01	1.19	303	P	Pn	02 24 19.8	-0.4
	baz=296						
YM01				eS	Sn	02 24 37.6	+0.8
	baz=296						
YM11	YM11	1.20	304	eP	Pn	02 24 19.8	-0.5
	baz=297						
YM08	YM08	1.20	306	eP	Pn	02 24 19.3	-1.0
	baz=299						
YM10	YM10	1.20	304	eP	Pn	02 24 20.1	-0.3
	baz=296						
NSK	Sanguang	1.20	279	⇓P	Pn	02 24 20.4	0.0
	baz=279						
NSK				S	Sn	02 24 36.6	-0.5
	baz=279						
JKRS	Kuro-shima	1.25	101	P	Pn	02 24 21.3	+0.4
JKRS				S	Sn	02 24 38.2	+0.2
TWS1	Kuangyinshan	1.29	298	P	Pn	02 24 21.2	-0.2
	baz=292						
ESL	Shilin	1.31	239	eP	Pn	02 24 21.0	-0.7
	baz=243						
ESL				eS	Sn	02 24 38.5	-0.9
	baz=243						
WHF	Hehuan Shan	1.32	255	P	Pn	02 24 22.0	-0.2
	baz=255						
WHF				S	Sn	02 24 39.4	-0.8
	baz=255						
JIJ	Ishigaki jima	1.35	95	P	Pn	02 24 21.9	-0.3
JIJ				S	Sn	02 24 39.6	-0.6
TWT	Tachien	1.38	260	eP	Pn	02 24 23.1	+0.4
	baz=261						
TWT				eS	Sn	02 24 41.0	-0.1
	baz=261						
TDCB	Techi	1.40	260	eP	Pn	02 24 23.1	+0.3
	baz=261						
TDCB				eS	Sn	02 24 40.6	-0.8
	baz=261						
EGFH	Guangfu	1.40	234	eP	Pn	02 24 21.7	-1.1
	baz=234						
EGFH				eS	Sn	02 24 40.4	-0.8
	baz=234						
CHGB	Renai	1.43	253	P	Pn	02 24 23.4	+0.1
	baz=246						
CHGB				S	Sn	02 24 41.7	-0.5
	baz=246						
OWD	Renai	1.46	249	eP	Pn	02 24 23.4	-0.2
	baz=244						
OWD				S	Sn	02 24 41.5	-1.4
	baz=244						
JISG	Ishigakijimahi	1.50	86	P	Pn	02 24 23.8	-0.2
JISG				S	Sn	02 24 42.5	-1.0
HGSD	Ruisui	1.51	229	eP	Pn	02 24 23.6	-0.5
	baz=226						
HGSD				eS	Sn	02 24 42.6	-1.1
	baz=226						
NSTT	Nanjuang	1.52	276	eP	Pn	02 24 23.9	-0.4
	baz=275						
NSTT				eS	Sn	02 24 43.6	-0.4
	baz=275						
VWDT	VWDT	1.57	242	eP	Pn	02 24 24.9	-0.1
	baz=237						
VWDT				eS	Sn	02 24 44.9	-0.3
	baz=237						
WHP	Taichung City	1.58	263	eP	Pn	02 24 26.1	+1.0
	baz=263						
WHP				eS	Sn	02 24 46.2	+0.7
	baz=263						
YULB	Yu-li	1.66	229	eP	Pn	02 24 25.3	-0.9
	baz=236						
YULB				eS	Sn	02 24 44.9	-2.4
	baz=236						
TWF1	Yuli	1.69	228	eP	Pn	02 24 25.3	-1.2
	baz=235						
TWF1				eS	Sn	02 24 46.3	-1.6
	baz=235						
SSLB	Suanglung	1.71	246	eP	Pn	02 24 27.0	+0.2
	baz=245						
SSLB				eS	Sn	02 24 47.8	-0.7
	baz=245						
SMLT	Sun Moon Lake	1.72	250	eP	Pn	02 24 27.4	+0.4
	baz=245						
SMLT				eS	Sn	02 24 50.3	+1.5
	baz=245						
TYC	Yuchr	1.75	251	eP	Pn	02 24 27.9	+0.7
	baz=246						
TYC				eS	Sn	02 24 49.1	-0.2
	baz=246						
CHKT	Chengkung	1.83	221	eS	Sn	02 24 49.1	-2.0
	baz=215						
WHYT	Xinyi Township	1.84	245	eP	Pn	02 24 29.6	+1.2
	baz=244						
WHYT				eS	Sn	02 24 52.7	+1.4
	baz=244						
JTJ	Tarama	1.86	85	P	Pn	02 24 28.6	0.0
WJS	Zhushan	1.89	250	eP	Pn	02 24 30.2	+1.1
	baz=249						
WJS				eS	Sn	02 24 54.6	+2.0
	baz=249						
WNT	Mingjian	1.91	252	eS	Sn	02 24 54.1	+1.2
	baz=251						
ALS	Alishan	1.96	241	eP	Pn	02 24 31.4	+1.2
	baz=234						
ALS				eS	Sn	02 24 55.2	+0.6
	baz=234						
ELDTW	Lidau	1.99	230	eP	Pn	02 24 29.8	-0.7
	baz=225						
ELDTW				eS	Sn	02 24 53.0	-2.0
	baz=225						
CHN5	Tsauling	2.02	244	eP	Pn	02 24 32.3	+1.4
	baz=243						
CHN5				eS	Sn	02 24 57.2	+1.4
	baz=243						
WDLH	Douliu	2.10	248	eP	Pn	02 24 32.3	+0.4
	baz=258						
WDLH				eS	Sn	02 24 58.6	+1.2
	baz=258						
CHN4	Tsaushan	2.21	239	eS	Sn	02 25 02.1	+2.0
	baz=239						
TWG	Pinlang	2.21	222	eP	Pn	02 24 31.9	-1.5
	baz=226						
TWK	Hsinying	2.34	239	eP	Pn	02 24 34.8	-0.2
	baz=238						
TWK				eS	Sn	02 25 03.7	+0.6
	baz=238						
CHN1	Nanshi	2.35	237	eP	Pn	02 24 36.1	+0.9
	baz=245						
CHN1				eS	Sn	02 25 04.0	+0.6
	baz=245						
SNST	Tainan City	2.35	238	eS	Sn	02 25 04.6	+1.1
	baz=246						
SLGT	Liugui	2.38	232	eP	Pn	02 24 36.3	+0.8
	baz=237						
SLGT				eS	Sn	02 25 05.4	+1.4
	baz=237						
JIKM	Ikemajima	2.39	79	eS	Sn	02 25 03.9	-0.3
SSD	Sandimen	2.55	227	eP	Pn	02 24 39.1	+1.3
	baz=227						
MASBT	Mashibuluo	2.64	225	eP	Pn	02 24 39.3	+0.2
	baz=234						
MASBT				eS	Sn	02 25 12.5	+2.2
	baz=234						
VWUC	VWUC	2.97	280	eP	Pn	02 24 42.5	-0.8
	baz=271						

IDC ***18*** *02:26:20.5±1.1,0°.68N×125°.82E,h0km,mb3.8/7, mb1 3.9/8,mb1mx3.7/41,mbtmp3.8/8,ML3.3/1,MS2.9/2, Ms1 2.9/2,ms1mx2.4/31,Error ellipse: s-maj=101.8km s-min=17.1km az=69.0*
ISCJB ***18*** *02:26:28.5±0.6,0°.34N±0°.05×125°.57E±0°.05,h73km, mb3.7/7,Error ellipse: s-maj=7.3km s-min=7.2km az=27.1*
DJA ***18*** *02:26:28.5±0.6,0°N±3°×12°5E±°,h10km,M4.1/9,mb4.2/2, MLv4.0/9*
ISC 18 02:26:30.0±0.8,0°.31N±0°.05×125°.55E±0°.05,h73km,n21, σ2s40/23,mb3.8/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.59	280	P	Pn	02 26 53.7	-2.6
KMSI				S	Sn	02 27 11.8	-4.3
TNTI	Ternate	1.88	76	P	Pn	02 27 00.5	+0.4
SANI	Sanana	2.39	169	P	Pn	02 27 06.2	-0.8
SANI				S	Sn	02 27 32.9	-2.4
LUWI	Luwuk	3.08	244	P	Pn	02 27 16.3	-0.1
LUWI				S	Sn	02 27 52.8	+0.6
SGSI	Sangihe	3.35	360	P	Pn	02 27 21.2	+1.1
SGSI				S	Sn	02 28 03.2	+4.4
MRSI	Marisa	3.61	273	P	Pn	02 27 22.4	-1.2
APSI	Ampana	4.08	253	P	Pn	02 27 31.4	+1.4
APSI				S	Sn	02 28 20.8	+4.2
MPSI	Mapaga	5.65	270	P	Pn	02 27 53.1	+1.6
TTSI	Tana Toraja	6.62	240	P	Pn	02 28 07.4	+2.6
SPSI	Sidrap Palu	7.17	234	P	Pn	02 28 16.6	+4.4
KAPI	Kappang	7.84	228	LR	LR	02 31 40.4	
	comp=Z,54nm,18.5s,baz=100,slow=39						
WSI	Waingapu	11.21	208	P	Pn	02 29 18.3	+11
FITZ	Fitzroy Crossi	18.29	180	P	Pn	02 30 38.8	-0.2
	0.1nm,0.3s,baz=5.3,slow=8.6,SNR=3.1						
WRA	Warramunga Arr	21.89	157	P	P	02 31 18.0	+0.7
	1.6nm,0.4s,baz=341,slow=10,SNR=46						
ASAR	Alice Springs	25.18	162	P	P	02 31 50.7	+1.8
	0.8nm,0.5s,baz=341,slow=7.3,SNR=19						
PALK	Pallekele	45.25	280	LR	LR	02 54 52.2	
	comp=Z,22nm,20.0s,baz=109,slow=38						
SONM	Songino Array	50.18	343	P	P	02 35 17.4	-1.0
	0.3nm,0.4s,baz=156,slow=7.4,SNR=2.7						
MKAR	Makanchi Array	59.72	327	P	P	02 36 25.3	-1.9
	0.5nm,0.4s,baz=124,slow=7.2,SNR=9.1						
ZALV	Zalesovo Beam	63.11	334	P	P	02 36 48.3	-1.6
	0.5nm,0.3s,baz=145,slow=5.3,SNR=3.1						
KURBB	Kurchatov Arra	64.00	329	P	P	02 36 54.0	-1.8
	0.6nm,0.7s,baz=135,slow=6.6,SNR=7.2						
AKTO	Aktyubinsk	75.61	322	P	P	02 38 07.5	+0.4
	0.7nm,0.4s,baz=91,slow=9.9,SNR=2.2						

IDC ***18*** *02:45:15.1±1.1,37°.58N×124°.73E,h0km,mb3.5/5, mb1 3.6/10,mb1mx3.4/47,mbtmp3.5/10,ML3.4/4,MS3.1/13, Ms1 3.1/13,ms1mx3.0/33,Error ellipse: s-maj=20.2km s-min=11.1km az=17.0*
BJI ***18*** *02:45:20.0±0.0,37°.84N×124°.48E,h10km,mb3.9/1, ML4.3/9,Ms4.1/2,Ms7 3.8/2*
ISC 18 02:45:16.9±0.7,37°.72N±0°.05×124°.87E±0°.04,h10km,n24, σ1s59/24,mb3.4/5,MS3.2/7,1D,South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	2.44	95	Pn	Pn	02 45 56.8	0.0
	7.1nm,0.3s,baz=273,slow=14,SNR=58						
KSRS				Pg	Pb	02 46 02.2	+1.3
	33nm,0.3s,baz=275,slow=17,SNR=72						
KSRS				Sn	Sn	02 46 27.9	+1.1
	69nm,0.3s,baz=272,slow=24,SNR=20						
KSRS				Lg	Lg	02 46 36.2	
	138nm,0.3s,baz=272,slow=30,SNR=22						
KSRS				LR	LR	02 46 56.8	
	comp=Z,110nm,20.5s,baz=265,slow=40						
DL2	Dalian	2.81	296	Pg	Pn	02 46 04.0	+2.1
DL2				Sn	Sn	02 46 36.5	+0.6
DL2				Sg	Sb	02 46 39.6	-2.1
DL2				smax	smax		
	comp=N,2μm,0.8s						
DL2				smax	smax		
	comp=E,1μm,0.9s						
SNY	Shenyang	4.22	347	⇓Pg	Pb	02 46 32.0	+0.7
SNY				Sg	Sb	02 47 25.3	+2.9
SNY				smax	smax		
	comp=N,600nm,0.6s						
SNY				smax	smax		
	comp=E,860nm,0.6s						
CN2	Changchun	6.09	4	ePg	Pg	02 47 10.5	-3.1
CN2				smax	smax		
	comp=N,390nm,0.9s						
CN2				smax	smax		
	comp=E,450nm,0.9s						
TIA	Tai'an	6.38	259	Pg	Pb	02 47 07.3	-0.8
TIA				Sg	Sb	02 48 27.3	+2.9
TIA				smax	smax		
	comp=N,410nm,0.7s						
TIA				smax	smax		
	comp=E,510nm,0.6s						
JNU	Nakatsue	6.71	131	Pn	Pn	02 46 54.6	-1.0
	1.4nm,0.3s,baz=253,slow=4.8,SNR=5.2						
JNU				Sn	Sn	02 48 12.2	0.0
	0.9nm,0.3s,baz=315,slow=8.6,SNR=1.7						
JNU				Lg	Lg	02 48 50.1	
	1.8nm,0.3s,baz=96,slow=22,SNR=9.0						
JNU				LR	LR	02 49 51.4	
	comp=Z,118nm,18.6s,baz=326,slow=41						
MDJ	Mudanjiang	7.76	26	Pg	Pg	02 47 43.4	-2.0
MDJ				Sg	Sg	02 49 25.5	-0.3
USRK	Ussuriysk Ar.	8.42	38	Pn	Pn	02 47 20.4	+1.4
	0.1nm,0.3s,baz=231,slow=16,SNR=3.1						
USRK				Pg	Pg	02 47 51.4	-6.7
	0.9nm,0.3s,baz=219,slow=16,SNR=18						
USRK				Lg	Lg	02 49 48.7	
	1.5nm,0.3s,baz=220,slow=24,SNR=14						
USRK				LR	LR	02 50 57.1	
	comp=Z,208nm,18.5s,baz=246,slow=40						
MJAR	Matsushiro Arr	10.72	92	LR	LR	02 51 29.0	
	comp=Z,47nm,21.7s,baz=90,slow=34						
KLR	Kul'dur	12.54	21	Pn	Pn	02 48 16.9	+1.5
	0.1nm,0.3s,baz=207,slow=16,SNR=2.8						
KLR				LR	LR	02 53 21.3	
	comp=Z,45nm,21.5s,baz=304,slow=38						
ASAJ	Asahikawa	14.84	59	LR	LR	02 53 38.3	
	comp=Z,46nm,19.5s,baz=158,slow=34						
SONM	Songino Array	16.88	313	Pn	P	02 49 14.8	-0.5
	0.2nm,0.3s,baz=125,slow=9.0,SNR=4.0						
SONM				LR	LR	02 56 18.9	
	comp=Z,127nm,18.6s,baz=134,slow=39						
WMQ	Urumqi	28.63	294	eP	P	02 51 13.4	-0.2
WMQ				sP	sP	02 51 21.5	+3.6
WMQ				LR	LR		
	comp=N,160nm,20.1s						
WMQ				LR	LR		
	comp=E,520nm,18.7s						
WMQ				LR	LR		
	comp=Z,250nm,23.7s						
CMAR	Chiang Mai Arr	29.69	237	LR	LR	03 04 28.3	
	comp=Z,51nm,18.7s,baz=6.5,slow=39						
MKAR	Makanchi Array	32.45	300	P	P	02 51 46.9	-0.4
	0.3nm,0.6s,baz=100,slow=8.9,SNR=3.7						
KURBB	Kurchatov Arra	35.08	307	P	P	02 52 08.9	-1.1
	0.2nm,0.3s,baz=93,slow=10,SNR=4.2						
NRIK	Noril'sk	37.50	339	LR	LR	03 08 37.5	
	comp=Z,33nm,19.3s,baz=58,slow=37						
AAK	Ala-Archa	38.34	294	P	P	02 52 38.5	+0.4
	1.1nm,0.6s,baz=89,slow=4.1,SNR=3.8						
BVAR	Borovoye Array	40.20	310	P	P	02 52 53.4	+0.1
	0.4nm,0.5s,baz=88,slow=9.7,SNR=2.9						
KDAK	Kodiak Island	55.28	40	LR	LR	03 20 34.6	
	comp=Z,26nm,18.6s,baz=310,slow=38						
FINES	FINESS Array B	61.57	327	LR	LR	03 24 57.2	
	comp=Z,41nm,18.8s,baz=300,slow=39						
NOA	NORSAR Array B	67.83	331	LR	LR	03 28 26.0	
	comp=Z,14nm,19.1s,baz=5.0,slow=38						
BRTR	Keskin Array B	68.00	304	LR	LR	03 29 44.9	
	comp=Z,12nm,18.8s,baz=93,slow=39						
YKA	Yellowknife Ar	69.36	25	P	P	02 56 23.2	-1.2
	0.3nm,0.7s,baz=312,slow=5.9,SNR=4.6						

ISCJB ***18*** *02:45:50.6±0.7,31°.4N±0°.1×86°.6E±0°.2,h10km,mb3.7/8, MS2.9/1,Error ellipse: s-maj=28.0km s-min=11.3km az=152.1*
IDC ***18*** *02:45:50.7±0.8,31°.35N×86°.51E,h0km,mb3.7/9, mb1 3.8/11,mb1mx3.5/48,mbtmp3.7/11,ML3.6/2,MS2.9/1, Ms1 2.9/1,ms1mx2.3/35,Error ellipse: s-maj=36.2km s-min=16.8km az=58.0*
ISC 18 02:45:52.0±0.8,31°.4N±0°.2×86°.6E±0°.2,h10km,n12, σ0s69/10,mb3.7/8,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	15.73	349	Pn	Pn	02 49 33.2	-0.4
	0.1nm,0.3s,baz=173,slow=11,SNR=2.7						
CMAR	Chiang Mai Arr	17.04	136	P	P	02 49 51.8	-0.5
	0.2nm,0.3s,baz=308,slow=12,SNR=2.8						
KURBB	Kurchatov Arra	20.13	345	P	Pn	02 50 25.9	-1.9
	1.8nm,0.8s,baz=163,slow=10.0,SNR=10.0						
ZALV	Zalesovo Beam	22.57	357	P	P	02 50 52.1	-0.2
	0.6nm,0.3s,baz=152,slow=9.5,SNR=3.1						
BVAR	Borovoye Array	24.61	336	P	P	02 51 12.8	+0.5
	0.2nm,0.3s,baz=152,slow=9.5,SNR=2.8						
ASAJ	Asahikawa	45.24	57	LR	LR	03 15 11.4	
	comp=Z,13nm,19.7s,baz=140,slow=39						
FINES	FINESS Array B	48.95	326	P	P	02 54 37.8	-0.3
	0.7nm,0.7s,baz=108,slow=8.9,SNR=4.1						
GERES	GERESS Array B	56.27	311	P	P	02 55 33.8	+1.1
	0.4nm,0.6s,baz=83,slow=8.2,SNR=2.9						
WRA	Warramunga Arr	68.57	132	P	P	02 56 55.6	+0.4
	0.5nm,0.5s,baz=327,slow=6.4,SNR=12						
ASAR	Alice Springs	71.04	135	P	P	02 57 11.0	+0.6
	0.5nm,0.4s,baz=322,slow=6.2,SNR=5.7						
TORD	Torodi Ar. Bea	78.99	279	P	P	02 57 55.6	-0.9
	0.6nm,0.8s,baz=33,slow=4.5,SNR=2.9						
BOSA	Boshof	83.49	231	P	P	02 58 20.2	-0.1
	4.3nm,1.1s,baz=28,slow=8.3,SNR=3.8						

IDC 18 03:05:02.2±8.9,13°.46S×166°.90E,h141km±95km,mb3.5/4, mb1 3.6/5,mb1mx3.3/32,mbtmp3.8/5,Error ellipse: s-maj=80.8km s-min=50.3km az=136.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.57	183	P	Pn	03 07 04.2	+0.7
	0.2nm,0.3s,baz=323,slow=20,SNR=12						
DZM				S	Sn	03 08 37.6	-1.1
	0.1nm,0.3s,baz=131,slow=19,SNR=2.1				

MKAR	**Makanchi Array**	**96.05**	**317**	P	P	03 18 13.3	-0.4
	0.3nm,0.8s,baz=93,slow=5.8,SNR=2.7						

KRSC ***18*** *03:43:51.7±10.0, 51°.96N×160°.90E, h45km±10km, ML4.7*
ISCJB ***18*** *03:43:55.2±0.7, 52°.02N±0°.03×160°.69E±0°.05, h36km±4km, mb4.3/51, MS3.9/6, Error ellipse: s-maj=6.8km s-min=3.9km az=135.4*
MOS ***18*** *03:43:57.0±1.0, 52°.15N×160°.47E, h42km, mb4.7/26, Error ellipse: s-maj=7.9km s-min=3.9km az=102.6*
NEIC ***18*** *03:43:58.6±0.5, 52°.19N×160°.23E, h35km, mb4.4/18, Error ellipse: s-maj=11.0km s-min=8.2km az=138.0*
IDC ***18*** *03:43:59.4±2.5, 52°.18N×160°.17E, h44km±22km, mb3.8/23, mb1 4.0/26, mb1mx3.8/59, mbtmp4.1/26, ML3.5/3, MS3.4/4, Ms1 3.4/4, ms1mx3.0/36, Error ellipse: s-maj=19.8km s-min=12.9km az=125.0*

ISC 18 03:43:58.2±0.7, 52°.07N±0°.04×160°.57E±0°.04, h46km±5km, n199, σ1.9 76/238, mb4.3/51, MS3.4/6, 10C-6D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.08**	**342**	*e*P	**Pn**	**03 44 14.0**	**-2.9**
SPN				*e*S	**Sn**	**03 44 29.8**	**-1.0**
SPN	**Mys Shipunski**	**1.08**	**342**	PN	**Pn**	**03 44 14.0**	**-2.9**
SPN				S	**Sn**	**03 44 29.8**	**-1.0**
RUS	**Russkaya**	**1.32**	**287**	*e*P	**Pn**	**03 44 18.0**	**-2.1**
RUS				*e*S	**Sn**	**03 44 34.6**	**-1.9**
RUS	**Russkaya**	**1.32**	**287**	PN	**Pn**	**03 44 18.0**	**-2.1**
RUS				S	**Sn**	**03 44 34.6**	**-1.9**
NLC	**Nalytchevo**	**1.33**	**326**	*e*P	**Pn**	**03 44 18.6**	**-1.7**
NLC				*e*S	**Sn**	**03 44 38.1**	**+1.2**
NLC	**Nalytchevo**	**1.33**	**326**	PN	**Pn**	**03 44 18.6**	**-1.7**
NLC				S	**Sn**	**03 44 38.1**	**+1.2**
DALK	**Dalny**	**1.47**	**312**	*e*P	**Pn**	**03 44 20.2**	**-2.0**
DALK				*e*S	**Sn**	**03 44 40.9**	**+0.7**
DALK	**Dalny**	**1.47**	**312**	PN	**Pn**	**03 44 20.2**	**-2.0**
DALK				S	**Sn**	**03 44 40.9**	**+0.7**
PET	**Petropavlovsk**	**1.51**	**310**	*e*Pn	**Pn**	**03 44 20.3**	**-2.5**
PET	**Petropavlovsk**	**1.51**	**310**	*e*P	**Pn**	**03 44 20.8**	**-2.0**
PET				*e*S	**Sn**	**03 44 41.7**	**+0.4**
PET	**Petropavlovsk**	**1.51**	**310**	*e*PN	**Pn**	**03 44 21.0**	**-1.8**
PET				*e*S	**Sn**	**03 44 40.4**	**-0.9**
PET				pmax	pmax		
	comp=Z,670nm,0.6s						
PET				smax	smax		
	comp=E,2μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.7s						
MTVR	**Mutnovka**	**1.53**	**287**	*e*P	**Pn**	**03 44 21.2**	**-1.9**
MTVR				*e*S	**Sn**	**03 44 41.6**	**-0.2**
MTVR	**Mutnovka**	**1.53**	**287**	PN	**Pn**	**03 44 21.2**	**-1.9**
MTVR				S	**Sn**	**03 44 41.6**	**-0.2**
UGLR	**Uglovaya**	**1.56**	**318**	*e*P	**Pn**	**03 44 22.1**	**-1.5**
UGLR				*e*S	**Sn**	**03 44 44.6**	**+1.9**
UGLR	**Uglovaya**	**1.56**	**318**	PN	**Pn**	**03 44 22.1**	**-1.5**
UGLR				S	**Sn**	**03 44 44.6**	**+1.9**
KDTR	**Khodutka, Kamc**	**1.57**	**261**	*e*P	**Pn**	**03 44 21.8**	**-1.7**
KDTR				*e*S	**Sn**	**03 44 41.6**	**-1.0**
KDTR	**Khodutka, Kamc**	**1.57**	**261**	PN	**Pn**	**03 44 21.8**	**-1.7**
KDTR				S	**Sn**	**03 44 41.6**	**-1.0**
SDLR	**Sedlovina**	**1.59**	**320**	*e*P	**Pn**	**03 44 22.2**	**-1.7**
SDLR				*e*S	**Sn**	**03 44 45.2**	**+1.9**
SDLR	**Sedlovina**	**1.59**	**320**	PN	**Pn**	**03 44 22.2**	**-1.7**
SDLR				S	**Sn**	**03 44 45.2**	**+1.9**
GRL	**Gorelyy**	**1.61**	**288**	*e*P	**Pn**	**03 44 24.6**	**+0.4**
GRL				*e*S	**Sn**	**03 44 47.2**	**+3.4**
GRL	**Gorelyy**	**1.61**	**288**	PN	**Pn**	**03 44 24.6**	**+0.4**
GRL				S	**Sn**	**03 44 47.2**	**+3.4**
SMAR	**Somma**	**1.61**	**319**	*e*P	**Pn**	**03 44 22.8**	**-1.5**
SMAR	**Somma**	**1.61**	**319**	PN	**Pn**	**03 44 22.8**	**-1.5**
AVH	**Avacha**	**1.64**	**318**	*e*P	**Pn**	**03 44 23.7**	**-0.9**
AVH				*e*S	**Sn**	**03 44 47.1**	**+2.6**
AVH	**Avacha**	**1.64**	**318**	PN	**Pn**	**03 44 23.7**	**-0.9**
AVH				S	**Sn**	**03 44 47.1**	**+2.6**
KRER	**Koryakskii**	**1.66**	**319**	*e*P	**Pn**	**03 44 23.5**	**-1.5**
KRER				*e*S	**Sn**	**03 44 47.9**	**+2.6**
KRER	**Koryakskii**	**1.66**	**319**	PN	**Pn**	**03 44 23.5**	**-1.5**
KRER				S	**Sn**	**03 44 47.9**	**+2.6**
ASAK	**Asacha**	**1.67**	**282**	*e*P	**Pn**	**03 44 24.6**	**-0.5**
ASAK				*e*S	**Sn**	**03 44 46.0**	**+0.6**
ASAK	**Asacha**	**1.67**	**282**	PN	**Pn**	**03 44 24.6**	**-0.5**
ASAK				S	**Sn**	**03 44 46.0**	**+0.6**
KRMR	**Karymshinskiy**	**1.68**	**298**	*e*P	**Pn**	**03 44 23.4**	**-1.6**
KRMR				*e*S	**Sn**	**03 44 48.2**	**+2.9**
KRMR	**Karymshinskiy**	**1.68**	**298**	PN	**Pn**	**03 44 23.4**	**-1.6**
KRMR				S	**Sn**	**03 44 48.2**	**+2.9**
KOK	**Koryaka**	**1.70**	**317**	*e*P	**Pn**	**03 44 24.5**	**-0.9**
KOK	**Koryaka**	**1.70**	**317**	PN	**Pn**	**03 44 24.5**	**-0.9**
KRX	**Arik**	**1.74**	**319**	*e*P	**Pn**	**03 44 24.6**	**-1.5**
KRX	**Arik**	**1.74**	**319**	PN	**Pn**	**03 44 24.6**	**-1.5**
PEA0B	**Petropavlovsk-**	**2.04**	**302**	*e*Pn	**Pn**	**03 44 28.5**	**-1.5**
PEA0B	**Petropavlovsk-**	**2.04**	**302**	*e*PN	**Pn**	**03 44 28.5**	**-1.5**
PETK	**Petropavlovsk-**	**2.04**	**302**	*e*Pn	**Pn**	**03 44 28.3**	**-1.7**
PETK	**Petropavlovsk-**	**2.04**	**302**	P	**Pn**	**03 44 28.9**	**-1.1**
	comp=N,20nm,0.3s,baz=112,slow=18,SNR=149						
PETK				S	**Sn**	**03 44 55.9**	**+1.6**
	comp=N,59nm,0.3s,baz=218,slow=19,SNR=18						
PETK				LR	LR	03 45 01.0	
	comp=N,269nm,20.0s,baz=45,slow=35						
PEA1	**Petropavlovsk-**	**2.04**	**302**	*e*Pn	**Pn**	**03 44 28.9**	**-1.1**
APC	**Apacha**	**2.26**	**294**	*e*P	**Pn**	**03 44 32.6**	**-0.4**
APC				*e*S	Sn	03 45 03.5	+4.0
APC	**Apacha**	**2.26**	**294**	PN	**Pn**	**03 44 32.6**	**-0.4**
APC				S	Sn	03 45 03.5	+4.0
MKZ	**Mys Kozlova**	**2.58**	**15**	*e*P	**Pn**	**03 44 35.5**	**-2.0**
MKZ				*e*S	**Sn**	**03 45 05.6**	**-2.0**
MKZ	**Mys Kozlova**	**2.58**	**15**	PN	**Pn**	**03 44 35.5**	**-2.0**
MKZ				S	**Sn**	**03 45 05.6**	**-2.0**
KZV	**Kizimen**	**3.05**	**357**	*e*P	**Pn**	**03 44 42.8**	**-1.2**
KZV				*e*S	**Sn**	**03 45 19.7**	**+0.3**
KZV	**Kizimen**	**3.05**	**357**	PN	**Pn**	**03 44 42.8**	**-1.2**
KZV				S	**Sn**	**03 45 19.7**	**+0.3**
SKR	**Severo-Kuril's**	**3.12**	**245**	*e*P	**Pn**	**03 44 44.0**	**-0.8**
SKR	**Severo-Kuril's**	**3.12**	**245**	*e*PN	**Pn**	**03 44 43.0**	**-1.8**
SKR				*e*S	**Sn**	**03 45 19.2**	**-1.5**
SKR				pmax	pmax		
	comp=Z,113nm,0.8s						
SKR				smax	smax		
	comp=N,621nm,0.6s						
SKR				smax	smax		
	comp=E,484nm,0.6s						
TUMD	**Tumrok D**	**3.14**	**358**	*e*P	**Pn**	**03 44 43.8**	**-1.3**
TUMD				*e*S	**Sn**	**03 45 20.0**	**-1.3**
TUMR	**Tumrok**	**3.23**	**356**	PN	**Pn**	**03 44 43.8**	**-2.6**
TUMR				S	**Sn**	**03 45 20.0**	**-3.7**
ESO	**Esso**	**4.02**	**345**	*e*P	**Pn**	**03 44 56.6**	**-0.5**
ESO	**Esso**	**4.02**	**345**	PN	**Pn**	**03 44 56.6**	**-0.5**
LGNR	**Loginova**	**4.02**	**1**	*e*P	**Pn**	**03 44 56.8**	**-0.6**
SRDR	**Sredinnyy**	**4.29**	**354**	*e*P	**Pn**	**03 45 00.7**	**-0.1**
SRDR	**Sredinnyy**	**4.29**	**354**	PN	**Pn**	**03 45 00.7**	**-0.1**
KBTR	**Krutoberegovo**	**4.35**	**17**	*e*P	**Pn**	**03 45 00.2**	**-1.5**
KBTR	**Krutoberegovo**	**4.35**	**17**	PN	**Pn**	**03 45 00.2**	**-1.5**
BKI	**Bering**	**4.49**	**44**	*e*P	**Pn**	**03 45 01.5**	**-2.1**
BKI				*e*S	Sn	03 45 46.7	-7.8
BKI	**Bering**	**4.49**	**44**	PN	**Pn**	**03 45 01.5**	**-2.1**
BDR	**Baidarnaya**	**4.52**	**4**	*e*P	**Pn**	**03 45 04.7**	**+0.6**
BDR	**Baidarnaya**	**4.52**	**4**	PN	**Pn**	**03 45 04.7**	**+0.6**
SMKR	**Semkarok**	**4.55**	**6**	*e*P	**Pn**	**03 45 04.6**	**+0.1**
SMKR	**Semkarok**	**4.55**	**6**	PN	**Pn**	**03 45 04.6**	**+0.1**
SRKR	**Sorokina**	**4.61**	**4**	*e*P	**Pn**	**03 45 05.1**	**-0.2**
SRKR				*e*S	**Sn**	**03 45 58.0**	**+0.5**
SRKR	**Sorokina**	**4.61**	**4**	PN	**Pn**	**03 45 05.1**	**-0.2**
SRKR				S	**Sn**	**03 45 58.0**	**+0.5**
SEY	**Seymchan**	**11.73**	**341**	P	**Pn**	**03 46 41.6**	**-1.1**
	comp=E,0.1nm,0.3s,baz=180,slow=20,SNR=1.6						
YSS	**Yuzh-Sakhalins**	**12.65**	**253**	*e*PN	**Pn**	**03 46 55.4**	**+0.1**
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
YSS				MLR	MLR		
	comp=N,300nm,16.0s						
YSS				MLR	MLR		
	comp=E,300nm,16.0s						
ASAJ	**Asahikawa**	**14.38**	**244**	P	**Pn**	**03 47 18.3**	**-0.5**
	comp=E,0.5nm,0.3s,baz=81,slow=13,SNR=4.0						
ERM	**Erimo**	**15.52**	**236**	*e*P	**P**	**03 47 36.1**	**-1.2**
ERM				pmax	pmax		
	comp=Z,71nm,1.4s						
BILL	**Bilibino**	**16.26**	**8**	*e*Pn	**Pn**	**03 47 44.2**	**+1.3**
	comp=Z,7.9nm,0.8s						
BILL	**Bilibino**	**16.26**	**8**	*e*P	**Pn**	**03 47 44.3**	**+1.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,160nm,20.0s						
KLR	**Kul'dur**	**18.44**	**273**	*e*P	**Pn**	**03 48 08.7**	**-1.4**
KLR				pmax	pmax		
	comp=Z,19nm,2.6s						
KLR	**Kul'dur**	**18.44**	**273**	P	**Pn**	**03 48 08.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=63,slow=10.0,SNR=12						
USRK	**Ussuriysk Ar.**	**20.54**	**259**	P	**P**	**03 48 28.2**	**-4.2**
	comp=Z,6.8nm,1.0s,baz=72,slow=15,SNR=3.5						
USRK				LR	LR	03 57 29.6	
	comp=Z,105nm,18.1s,baz=83,slow=40						
MJAR	**Matsushiro Arr**	**22.16**	**234**	P	**P**	**03 48 49.4**	**-0.6**
	comp=Z,3.9nm,0.9s,baz=18,slow=8.7,SNR=12						
MJAR				LR	LR	03 58 08.7	
	comp=Z,109nm,19.9s,baz=70,slow=39						
MJB9	**Matsu-Tunnel**	**22.16**	**234**	*e*P	**P**	**03 48 52.1**	**+2.1**
	comp=Z,11nm,0.9s						
MAJO	**Matsushiro**	**22.16**	**234**	*e*P	**P**	**03 48 52.0**	**+2.0**
	comp=Z,11nm,0.9s						
MAJO	**Matsushiro**	**22.16**	**234**	↑*e*P	**P**	**03 48 51.7**	**+1.7**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAT	**Matsushiro**	**22.16**	**234**	P	**P**	**03 48 51.5**	**+1.5**
TIXI	**Tiksi**	**24.14**	**336**	↑*i*P	**P**	**03 49 07.3**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TIXI	**Tiksi**	**24.14**	**336**	P	**P**	**03 49 07.8**	**-1.4**
	comp=Z,7.2nm,0.6s,baz=141,slow=9.1,SNR=28						
KSRS	**Korea Array**	**27.12**	**250**	P	**P**	**03 49 34.6**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=48,slow=9.0,SNR=2.7						
KSRS				LR	LR	04 01 23.3	
	comp=Z,54nm,18.8s,baz=44,slow=39						
KS15	**Wonju Array Si**	**27.16**	**250**	*e*P	**P**	**03 49 34.6**	**-2.3**
	comp=Z,57nm,1.9s						
H11N2	**WAKE ISLAND Hy**	**32.65**	**169**	T	T	04 26 27.6	
	baz=352,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**32.67**	**169**	T	T	04 26 28.4	
	baz=352,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**32.67**	**169**	T	T	04 26 28.8	
	baz=352,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**33.84**	**170**	T	T	04 28 11.6	
	baz=351						
H11S3	**WAKE ISLAND Hy**	**33.85**	**170**	T	T	04 28 09.0	
	baz=351						
H11S2	**WAKE ISLAND Hy**	**33.85**	**170**	T	T	04 28 07.3	
	baz=351						
ULN	**Ulaanbaatar**	**34.03**	**285**	*e*P	**P**	**03 50 35.4**	**-2.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**34.51**	**37**	*e*P	**P**	**03 50 41.9**	**+0.6**
	comp=Z,3.8nm,1.2s						
INK	**Inuvik**	**34.51**	**37**	*e*P	**P**	**03 50 41.9**	**+0.6**
INK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
INK	**Inuvik**	**34.51**	**37**	P	**P**	**03 50 41.9**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=292,slow=5.4,SNR=3.1						
HHC	**Hu-ho-hao-te**	**34.94**	**271**	*e*P	**P**	**03 50 46.4**	**+0.9**
ZAK	**Zakamensk**	**35.12**	**291**	*e*P	**P**	**03 50 42.3**	**-4.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
LZH	**Lanzhou**	**42.64**	**271**	*e*P	**P**	**03 51 50.5**	**+0.5**
LZH				pP	sP	03 52 05.3	-1.2
LZH				sP	pwP	03 52 13.6	+7.4
ZAA1	**Zalesovo Array**	**43.58**	**304**	*e*P	**P**	**03 51 54.6**	**-2.6**
ZALV	**Zalesovo Beam**	**43.58**	**304**	*i* P	**P**	**03 51 55.2**	**-2.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**43.58**	**304**	P	**P**	**03 51 54.6**	**-2.6**
	comp=Z,0.9nm,0.6s,baz=46,slow=6.4,SNR=3.8						
ZALV				LR	LR	04 11 29.9	
	comp=Z,69nm,18.6s,baz=160,slow=38						
YKA	**Yellowknife Ar**	**43.72**	**42**	P	**P**	**03 51 59.4**	**+1.2**
	comp=Z,0.1nm,0.6s,baz=299,slow=8.1,SNR=3.1						
YKB5	**Yellowknife Ar**	**43.72**	**42**	*e*P	**P**	**03 51 59.4**	**+1.2**
NVS	**Novosibirsk**	**43.94**	**306**	*e*P	**P**	**03 51 56.3**	**-3.8**
RES	**Resolute Bay**	**44.17**	**22**	*e*P	**P**	**03 52 03.2**	**+1.6**
	comp=Z,8.9nm,1.8s						
RES	**Resolute Bay**	**44.17**	**22**	*e*P	**P**	**03 52 03.3**	**+1.6**
RES				pmax	pmax		
	comp=Z,9.0nm,1.8s						
RES	**Resolute Bay**	**44.17**	**22**	P	**P**	**03 52 03.2**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=325,slow=5.4,SNR=5.2						
CD2	**Chengdu**	**46.17**	**266**	*e*P	**P**	**03 52 16.3**	**-1.9**
WMQ	**Urumqi**	**47.59**	**290**	*e*P	**P**	**03 52 30.4**	**+1.2**
WMQ				pP	sP	03 52 45.8	-0.3
WMQ				sP	pwP	03 52 54.1	+9.4
SPA0	**Spitsbergen Ar**	**48.19**	**351**	*e*P	**P**	**03 52 33.7**	**+0.5**
	comp=Z,85nm,1.5s						
SPITS	**Spitsbergen Ar**	**48.19**	**351**	P	**P**	**03 52 33.8**	**+0.5**
SPITS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SPITS	**Spitsbergen Ar**	**48.19**	**351**	P	**P**	**03 52 33.7**	**+0.5**
	comp=Z,9.1nm,0.7s,baz=59,slow=9.8,SNR=22						
KURK	**Kurchatov**	**48.53**	**303**	*e*P	**P**	**03 52 34.6**	**-1.6**
	comp=Z,7.6nm,1.0s						
KURK	**Kurchatov**	**48.53**	**303**	↓*e*P	**P**	**03 52 34.6**	**-1.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MK31	**Makanchi Array**	**48.87**	**297**	*e*P	**P**	**03 52 37.4**	**-1.5**
	comp=Z,1.5nm,0.6s						
MK31	**Makanchi Array**	**48.87**	**297**	*e*P	**P**	**03 52 37.4**	**-1.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK32	**Makanchi Array**	**48.87**	**297**	*e*P	**P**	**03 52 37.2**	**-1.7**
MKAR	**Makanchi Array**	**48.87**	**297**	P	**P**	**03 52 37.2**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=57,slow=7.4,SNR=19						
MAKZ	**Makanchi**	**49.03**	**297**	*e*P	**P**	**03 52 38.5**	**-1.6**
	comp=Z,2.7nm,0.9s						
MAKZ	**Makanchi**	**49.03**	**297**	*e*P	**P**	**03 52 38.5**	**-1.6**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**51.29**	**309**	*ce*P	**P**	**03 52 56.6**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OTUK	**Ortayu**	**53.28**	**304**	P	**P**	**03 53 11.8**	**-0.2**
ARA0	**ARCESS Array S**	**54.35**	**342**	*e*P	**P**	**03 53 18.8**	**-0.7**
ARCES	**ARCESS Array B**	**54.35**	**342**	P	**P**	**03 53 18.8**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=36,slow=10,SNR=5.8						
ARU	**Arti**	**54.35**	**318**	*c i* P	**P**	**03 53 19.0**	**-0.6**
ARU				*PP	**sP**	**03 53 35.2**	**-1.5**
ARU				S	**S**	**04 00 50.5**	**-3.5**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SUMG	**Summit**	**54.94**	**7**	*e*P	**P**	**03 53 25.6**	**+1.5**
	comp=Z,6.9nm,1.0s						
SUMG	**Summit**	**54.94**	**7**	*e*P	**P**	**03 53 25.6**	**+1.5**
SUMG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AAK	**Ala-Archa**	**55.80**	**297**	↓*e*P	**P**	**03 53 30.0**	**-0.5**
AAK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
MSF	**Maaselka**	**56.67**	**338**	P	**P**	**03 53 38.0**	**+1.9**
MSF				pmax	pmax		
	comp=Z,15nm,1.1s						
KSH	**Kashi**	**57.08**	**293**	P	**P**	**03 53 42.0**	**+2.4**
KSH				pP	sP	03 53 58.5	+1.9
KSH				PP	**PP**	**03 55 50.9**	**+4.6**
KSH				S	**S**	**04 01 26.3**	**-4.7**
KSH				ScS	**ScS**	**04 03 21.1**	**-3.7**
KSH	**Kashi**	**57.08**	**293**	SS	**SS**	**04 05 18.1**	**-1.5**
KLMR	**Klimovskoe**	**57.98**	**330**	*e*P	**P**	**03 53 41.4**	**-4.0**
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CM31	**Chiang Mai Arr**	**58.27**	**259**	*e*P	**P**	**03 53 47.6**	**-0.4**
	comp=Z,20nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.27**	**259**	*ce*P	**P**	**03 53 50.0**	**+2.0**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**58.27**	**259**	P	**P**	**03 53 47.6**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=24,slow=6.8,SNR=5.7						
ABKAR	**Akbulak array**	**58.68**	**311**	*e*P	**P**	**03 53 49.7**	**-0.8**
	comp=Z,2.4nm,0.8s						
JIRN	**Jiri**	**59.29**	**276**	*e*P	**P**	**03 53 56.4**	**+0.9**
RAMN	**Ramite**	**59.55**	**276**	*e*P	**P**	**03 53 57.2**	**+0.1**
	comp=Z,17nm,0.5s						
KKN	**Kakani**	**59.75**	**277**	*e*P	**P**	**03 53 58.7**	**+0.2**
PKI	**Pulchoki**	**59.83**	**277**	*e*P	**P**	**03 53 59.3**	**+0.1**
	comp=Z,4.7nm,0.5s						
PKIN	**Phulchoki**	**59.84**	**277**	*e*P	**P**	**03 53 59.0**	**-0.1**
DMN	**Daman**	**59.99**	**277**	*e*P	**P**	**03 54 00.5**	**+0.3**
	comp=Z,14nm,0.7s						
SUF	**Sumiainen**	**60.05**	**338**	P	**P**	**03 54 00.7**	**+1.0**
SUF				pmax	pmax		
	comp=Z,19nm,1.1s						
DANN	**Dangsing**	**60.28**	**279**	*e*P	**P**	**03 54 02.2**	**0.0**
	comp=Z,14nm,0.7s						
KOLN	**Koldanda**	**60.80**	**278**	*e*P	**P**	**03 54 05.6**	**0.0**
	comp=Z,9.5nm,0.7s						
PYUN	**Piuthan**	**60.93**	**279**	*e*P	**P**	**03 54 06.5**	**0.0**
	comp=Z,12nm,0.7s						
PV09	**Paradox Valley**	**60.97**	**64**	*e*P	P	03 54 12.0	+5.3
FIA0	**FINESS Array S**	**61.18**	**337**	*e*P	**P**	**03 54 08.1**	**+0.7**
FIA0	**FINESS Array S**	**61.18**	**337**	*e*P	**P**	**03 54 08.1**	**+0.7**
FINES	**FINESS Array B**	**61.18**	**337**	P	**P**	**03 54 08.1**	**+0.7**
	comp=Z,4.3nm,0.5s,baz=30,slow=8.4,SNR=50						
VSU	**Vasula**	**63.60**	**335**	↑*e*P	**P**	**03 54 24.1**	**+0.5**
VSU				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NB2	**NORSAR Subarra**	**64.61**	**344**	P	**P**	**03 54 30.5**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=20,slow=6.9						
NB200	**NORSAR Array S**	**64.61**	**344**	*e*P	**P**	**03 54 30.6**	**+0.4**
NOA	**NORSAR Array B**	**64.61**	**344**	P	**P**	**03 54 30.6**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=21,slow=6.6,SNR=14						
HFS	**Hagfors**	**65.02**	**342**	P	**P**	**03 54 33.3**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=31,slow=3.4,SNR=9.3						
VSR	**Storozhevoye**	**65.83**	**324**	↑*e*P	**P**	**03 54 38.1**	**-0.2**
VSR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GEYT	**Alibeck**	**67.89**	**304**	P	**P**	**03 54 52.5**	**+0.8**
	comp=Z,5.1nm,0.6s,baz=46,slow=4.2,SNR=3.3						
AKASG	**Malin Array Be**	**69.64**	**329**	*i* P	**P**	**03 55 02.4**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**69.64**	**329**	P	**P**	**03 55 01.5**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=31,slow=6.3,SNR=9.8						
AKBB	**Malin Array Si**	**69.64**	**329**	*e*P	**P**	**03 55 02.2**	**0.0**
	comp=Z,2.9nm,0.6s						
KIEV	**Kiev**	**69.65**	**329**	*e*P	**P**	**03 55 01.9**	**-0.4**
	comp=Z,2.8nm,0.6s						
KIEV	**Kiev**	**69.65**	**329**	↑*e*P	**P**	**03 55 02.1**	**-0.2**
NCK	**Nalchik**	**70.38**	**316**	↓*e*P	**P**	**03 55 06.1**	**-0.9**
KIV	**Kislovodsk**	**70.39**	**317**	*e*P	**P**	**03 55 06.4**	**-0.7**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KBZ	**Khabaz**	**70.48**	**317**	P	**P**	**03 55 08.2**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=70,slow=2.8,SNR=5.8						
LTX	**Lajitas**	**70.77**	**67**	*e*P	**P**	**03 55 12.3**	**+2.7**
LTX	**Lajitas**	**70.77**	**67**	*e*P	**P**	**03 55 12.3**	**+2.7**
TXAR	**Lajitas Array**	**70.77**	**67**	P	**P**	**03 55 12.3**	**+2.7**
	comp=Z,0.3nm,0.8s,baz=297,slow=4.7,SNR=3.7						
SOC	**Sochi**	**71.92**	**319**	*e*P	**P**	**03 55 16.5**	**+0.3**
SOC				*e*PP	**pP**	**03 55 28.3**	**-0.6**
SOC				*e*		03 57 51.3	
SOC				*e*PPP	PPP	03 59 35.6	
SOC				*e*S	**SKiKP**	**04 04 41.6**	**-7.6**
SOC				*e*SS	**SS**	**04 09 14.7**	**+5.2**
SOC				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KWP	**Kalwaria Pacla**	**72.54**	**333**	P	**P**	**03 55 21.2**	**+1.4**
KOLS	**Kolonicke sedl**	**73.29**	**333**	*e*P	**P**	**03 55 25.7**	**+1.4**
KOLS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KOLS	**Kolonicke sedl**	**73.29**	**333**	*e*P	**P**	**03 55 25.6**	**+1.3**
CLL	**Collm**	**73.42**	**339**	*e*P	**P**	**03 55 26.0**	**+1.0**
CLL	**Collm**	**73.42**	**339**	*e*P	**P**	**03 55 26.0**	**+1.0**
DPC	**Dobruska-Polom**	**73.55**	**337**	*e*P	**P**	**03 55 26.9**	**+1.0**
DPC				MLR	MLR		
	comp=Z,1μm,19.6s						
DPC	**Dobruska-Polom**	**73.55**	**337**	*e*P	**P**	**03 55 26.9**	**+1.0**
BUR08	**Bucovina Ar. S**	**73.59**	**330**	*e*P	**P**	**03 55 27.1**	**+0.9**
	comp=Z,3.3nm,0.9s		

3.8nm,0.5s,baz=52,slow=9.1,SNR=16
WRA Warramunga Arr 31.86 254 P P 03 56 19.4 0.0
0.2nm,0.5s,baz=85,slow=9.1,SNR=6.0
ASAR Alice Springs 32.83 248 P P 03 56 27.9 +0.1
0.8nm,0.3s,baz=74,slow=9.4,SNR=25
ARCES ARCESS Array B 119.22 345 PKP PKPdf 04 08 40.0 -0.2
1.5nm,0.8s,baz=57,slow=3.3,SNR=7.0

IDC ***18*** *04:05:40.5±0.3, 53.°05S×22.°34E, h0km, mb5.2/28, mb1 5.3/28, mb1mx5.3/29, mbtmp5.2/28, MS5.2/29, Ms1 5.2/29, ms1mx5.1/36, Error ellipse: s-maj=14.0km s-min=11.1km az=90.0*

MOS ***18*** *04:05:41.9±1.4, 53.°10S×22.°05E, h10km, mb5.6/36, MS5.3/30, Error ellipse: s-maj=18.7km s-min=7.9km az=84.4*

ISCJB ***18*** *04:05:41.5±0.1, 53.°06S±0.°03×22.°14E±0.°06, h10km, mb5.4/69, MS5.4/515, Error ellipse: s-maj=5.4km s-min=4.5km az=44.9*

NEIC ***18*** *04:05:42.8±0.2, 53.°07S×22.°07E, h10km, mb5.5/45, MS5.3/299, MW5.6, MW5.6, Error ellipse: s-maj=7.2km s-min=5.6km az=105.0, Moment Tensor Solution. s21 Moment tensor: Scale 1017Nm; Mrr-2.16; Mθθ2.23; Mφφ-0.07; Mrθ-1.00; Mθφ-1.18; Mφr0.86; Best double couple: M0 2.80000×1017 NP1:φs280.00000°, δ33.00000°, λ-110.00000°. NP2:φs123.00000°, δ60.00000°, λ-78.00000°. Principal axes: T 3.0300, Plg14.0000°, Azm204.0000°; N -0.4900, Plg11.0000°, Azm297.0000°; P -2.5400, Plg73.0000°, Azm64.0000°;*

BJI ***18*** *04:05:42.5±0.0, 53.°10S×22.°10E, h10km, mb6.0/1, mB5.9/18, Ms5.6/22, Ms7 5.3/21*

NEIC ***18*** *04:05:43.0±0.0, 53.°07S×22.°10E, h12km, Moment Tensor Solution. s15 Moment tensor: Scale 1017Nm; Mrr-2.58; Mθθ2.06; Mφφ0.52; Mrθ-1.10; Mθφ-0.85; Mφr-0.44; Best double couple: M0 2.80000×1017 NP1:φs299.00000°, δ56.00000°, λ-107.00000°. NP2:φs308.00000°, δ37.00000°, λ-65.00000°. Principal axes: T 2.5800, Plg9.0000°, Azm200.0000°; N 0.3700, Plg14.0000°, Azm107.0000°; P -2.9400, Plg72.0000°, Azm323.0000°;*

GCMT ***18*** *04:05:43.8±0.1, 53.°12S±0.°01×22.°66E±0.°01, h12km, MW5.6/113, Moment Tensor Solution. s91,c150; s113,c292; Duration: 1s5 Moment tensor: Scale 1017 Nm; Mrr-3.20±.03; Mθθ2.72±.03; Mφφ0.47±.03; Mrθ-0.06±.08; Mθφ-0.99±.03; Mφr-0.49±.08; Best double couple: M0 3.18300×1017 NP1:φs299.00000°, δ47.00000°, λ-79.00000°. NP2:φs103.00000°, δ45.00000°, λ-102.00000°. Principal axes: T 3.0960, Plg1.0000°, Azm21.0000°; N 0.1680, Plg8.0000°, Azm111.0000°; P -3.2700, Plg82.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 18 04:05:42.7±0.2, 53.°12S±0.°04×22.°10E±0.°06, h10km, n1257, σ1.59/822, mb5.5/71, MS5.4/521, 14C-8D, South of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.92**	**159⇑**	*eP*		**Pn**		**04 09 47.4**	**-4.2**
SYO	**Syowa Base**	**17.92**	**159⇓**	*iP*		**Pn**		**04 09 49.8**	**-1.9**
GRM	**Grahamstown**	**20.05**	**11**	P		Pn		04 10 16.9	-0.8
GRM	comp=Z,624nm,1.1s				pmax	pmax			
CRZF	**Crozet Islands**	**20.25**	**83**	PFAKE				04 10 30.0	+10
CRZF	comp=Z,5μm,18.0s				LR	LR			
SUR	**Sutherland**	**20.75**	**357**	*eP*		**P**		**04 10 22.7**	**-1.0**
SUR	comp=Z,254nm,0.9s				*e*S	S		04 14 02.1	-13
SUR	comp=Z,13μm,21.0s				LR	LR			
SUR	**Sutherland**	**20.75**	**357**	P		**P**		**04 10 22.5**	**-1.2**
SUR	SNR=11								
SUR	**Sutherland**	**20.75**	**357**	P		**P**		**04 10 23.0**	**-0.7**
SUR	comp=Z,152nm,0.9s,baz=170,slow=9.2,SNR=42				S	S		04 14 02.1	-13
SUR	comp=Z,7.9nm,1.0s,baz=84,slow=15,SNR=1.1				LR	LR		04 16 36.1	
SNAA	**Sanae**	**21.58**	**201**	P		**P**		**04 10 34.4**	**+2.2**
SNAA	**Sanae**	**21.58**	**201**	*eP*		**P**		**04 10 33.3**	**+1.1**
SNAA	comp=Z,443nm,0.9s				*e*S	**S**		**04 14 25.6**	**-5.4**
SNAA	comp=Z,15μm,20.0s				LR	LR			
SNAA	**Sanae**	**21.58**	**201**	*c iP*		**P**		**04 10 33.5**	**+1.3**
SNAA	**Sanae**	**21.58**	**201**	P		**P**		**04 10 33.6**	**+1.4**
SNAA	comp=Z,374nm,0.9s,baz=46,slow=11,SNR=311				S	**S**		**04 14 25.6**	**-5.4**
SNAA	comp=Z,5.8nm,1.0s,baz=87,slow=20,SNR=1.9				LR	LR		04 17 26.7	
VNA2	**Neumayer--Watz**	**22.17**	**205**	P		**P**		**04 10 40.9**	**+2.5**
	baz=33,slow=9.9								
VNA1	**Neumayer--Stat**	**22.23**	**206**	P		**P**		**04 10 41.2**	**+2.1**
VNA3	**Neumayer Olymp**	**22.95**	**206**	P		**P**		**04 10 48.0**	**+1.2**
MAW	**Mawson**	**24.22**	**142**	*eP*		**P**		**04 10 59.1**	**0.0**
MAW	comp=Z,42nm,1.4s				*e*S	**S**		**04 15 12.8**	**-4.4**
MAW	**Mawson**	**24.22**	**142**	P		**P**		**04 10 58.7**	**-0.5**
	baz=24								
MAW	**Mawson**	**24.22**	**142**	*eP*		**P**		**04 10 59.1**	**0.0**
MAW					*e*S	**S**		**04 15 12.8**	**-4.4**
MAW	comp=Z,42nm,1.4s				pmax	pmax			
MAW	**Mawson**	**24.22**	**142**	P		**P**		**04 10 59.1**	**0.0**
MAW	comp=Z,64nm,0.9s,baz=282,slow=10,SNR=61				S	**S**		**04 15 12.8**	**-4.4**
MAW	comp=Z,1.7nm,0.8s,baz=278,slow=11,SNR=1.3				LR	LR		04 18 24.5	
BOSA	**Boshof**	**24.59**	**7**	*eP*		**P**		**04 11 01.6**	**-1.5**
BOSA	comp=Z,78nm,1.0s				pmax	pmax			
BOSA	**Boshof**	**24.59**	**7**	*eP*		**P**		**04 11 01.6**	**-1.5**
BOSA	comp=Z,78nm,1.0s				LR	LR		04 19 05.0	
BOSA	**Boshof**	**24.59**	**7**	P		**P**		**04 11 01.5**	**-1.5**
BOSA	comp=Z,50nm,0.9s,baz=180,slow=9.4,SNR=57				LR	LR		04 19 05.0	
BOSA	comp=Z,11μm,19.0s,baz=174,slow=33								
LBTB	**Lobatse**	**28.19**	**7**	*eP*		**P**		**04 11 33.8**	**-1.7**
LBTB	comp=Z,91nm,0.8s				pmax	pmax			
LBTB	**Lobatse**	**28.19**	**7**	*eP*		**P**		**04 11 33.8**	**-1.7**
LBTB	comp=Z,91nm,0.8s				pmax	pmax			
LBTB	**Lobatse**	**28.19**	**7**	P		**P**		**04 11 33.6**	**-1.8**
LBTB	comp=Z,122nm,1.1s,baz=192,slow=10,SNR=72				LR	LR		04 20 44.7	
H09W1	**TRISTAN DA CUN**	**28.75**	**290**	T		T		04 41 36.0	
	SNR=3.5								
MSNA	**Messina**	**31.32**	**14**	*i P*		**P**		**04 12 00.9**	**-2.2**
MSNA	**Messina**	**31.32**	**14**	*i P*		**P**		**04 12 00.9**	**-2.2**
MATP	**Matopo**	**33.01**	**11**	*i P*		**P**		**04 12 16.4**	**-1.6**
MATP	**Matopo**	**33.01**	**11**	*i P*		**P**		**04 12 16.4**	**-1.6**
MATP	**Matopo**	**33.01**	**11**	P		**P**		**04 12 15.4**	**-2.6**
	comp=Z,100nm,1.0s,baz=186,slow=8.7,SNR=67								
BLWY	**Bulawayo**	**33.30**	**11**	*i P*		**P**		**04 12 18.4**	**-2.2**
BLWY	**Bulawayo**	**33.30**	**11**	*i P*		**P**		**04 12 18.4**	**-2.2**
HOPE	**Hope Point**	**33.84**	**244**	PFAKE				04 12 40.0	+15
HOPE	comp=Z,6μm,22.0s				LR	LR			
TSUM	**Tsumeb**	**34.03**	**352**	*eP*		**P**		**04 12 26.5**	**-0.5**
	comp=Z,90nm,1.1s								
TSUM	comp=Z,5μm,20.0s				LR	LR			
TSUM	**Tsumeb**	**34.03**	**352**	P		**P**		**04 12 26.5**	**-0.5**
	comp=Z,58nm,1.0s,baz=171,slow=9.3,SNR=39								
QSPA	**South Pole Qui**	**37.10**	**180**	*eP*		**P**		**04 12 52.5**	**-0.5**
QSPA	comp=Z,201nm,0.9s				LR	LR			
	comp=Z,6μm,20.0s								
ITZ	**Itezhi-Tezhi**	**37.42**	**6**	*i P*		**P**		**04 12 56.5**	**+0.5**
LSZ	**Lusaka**	**38.06**	**10**	*eP*		**P**		**04 13 00.2**	**-1.3**
LSZ	comp=Z,61nm,1.0s				LR	LR			
	comp=Z,14μm,20.0s								
LSZ	**Lusaka**	**38.06**	**10**	*eP*		**P**		**04 13 00.2**	**-1.3**
LSZ	comp=Z,61nm,1.0s				pmax	pmax			
LSZ	comp=Z,14μm,20.0s				MLR	MLR			
ABPO	**Ambohimpanom**	**39.22**	**39**	*eP*		**P**		**04 13 11.6**	**+0.3**
	comp=Z,53nm,1.1s								
ABPO	comp=Z,4μm,19.0s				LR	LR			
ABPO	**Ambohimpanom**	**39.22**	**39**	*eP*		**P**		**04 13 11.6**	**+0.3**
ABPO	comp=Z,53nm,1.1s				pmax	pmax			
ABPO	comp=Z,4μm,19.0s				MLR	MLR			
PMSA	**Palmer Station**	**42.41**	**219**	PFAKE				04 13 50.0	+13
PMSA	comp=Z,5μm,21.0s				LR	LR			
PMSA	**Palmer Station**	**42.41**	**219**	P		**P**		**04 13 38.4**	**+1.5**
	comp=Z,52nm,1.1s,baz=116,slow=14,SNR=1.8								
PMSA	comp=Z,18nm,0.9s,baz=46,slow=16,SNR=8.8				PP	**PP**		**04 15 18.6**	**+3.8**
PMSA	comp=Z,4μm,20.9s,baz=126,slow=31				LR	LR		04 27 43.3	
PMSA	**Palmer Station**	**42.41**	**219**	*eP*		**P**		**04 13 38.7**	**+1.9**
CASY	**Casey**	**42.58**	**143**	*eP*		**P**		**04 13 38.9**	**+0.7**
	comp=Z,37nm,1.0s								
CASY	comp=Z,2μm,21.0s				LR	LR			
EFI	**East Falkland**	**46.49**	**238**	PFAKE				04 14 20.0	+10
EFI	comp=Z,4μm,22.0s				LR	LR			
EFI	**East Falkland**	**46.49**	**238⇓**	*eP*		**P**		**04 14 11.4**	**+1.8**
VNDA	**Vanda**	**47.25**	**169**	*eP*		**P**		**04 14 15.5**	**+0.2**
	comp=Z,21nm,0.8s								
VNDA				*e*PP		**PP**		**04 16 07.4**	**+1.5**
VNDA	**Vanda**	**47.25**	**169**	*eP*		**P**		**04 14 15.5**	**+0.2**
VNDA				*e*				04 16 07.4	
VNDA	comp=Z,21nm,0.8s				pmax	pmax			
VNDA	**Vanda**	**47.25**	**169**	P		**P**		**04 14 15.8**	**+0.5**
	comp=Z,21nm,1.1s,baz=236,slow=7.9,SNR=52								
VNDA					PP	**PP**		**04 16 07.4**	**+1.5**
	comp=Z,31nm,1.1s,baz=237,slow=9.6,SNR=6.7								
VNDA					LR	LR		04 33 46.4	
	comp=Z,6μm,19.9s,baz=207,slow=36								
SBA	**Scott Base**	**47.49**	**170**	*eP*		**P**		**04 14 17.6**	**+0.5**
	comp=Z,87nm,1.0s								
SBA	comp=Z,5μm,22.0s				LR	LR			
SBA	**Scott Base**	**47.49**	**170**	*eP*		**P**		**04 14 17.6**	**+0.5**
SBA	comp=Z,87nm,1.0s				pmax	pmax			
SBA	comp=Z,5μm,22.0s				MLR	MLR			
USHA	**Ushuaia**	**49.64**	**229**	P		**P**		**04 14 34.8**	**+0.9**
	comp=Z,11nm,0.8s,baz=231,slow=8.4,SNR=3.6								
MBAR	**Mbarara**	**52.83**	**11**	*eP*		**P**		**04 14 58.4**	**-0.1**
	comp=Z,76nm,2.0s								
MBAR	comp=Z,500nm,20.0s				LR	LR			
MBAR	**Mbarara**	**52.83**	**11**	*eP*		**P**		**04 14 58.4**	**-0.1**
MBAR	comp=Z,76nm,2.0s				pmax	pmax			
MBAR	comp=Z,500nm,20.0s				MLR	MLR			
H10S2	**ASCENSION HYDR**	**53.09**	**312**	T		T		05 12 36.8	
	baz=153,slow=75,SNR=338								
NAI	**Nairobi**	**53.10**	**19**	PFAKE				04 15 10.0	+9.5
NAI	comp=Z,3μm,20.0s				LR	LR			
H10S3	**ASCENSION HYDR**	**53.10**	**312**	T		T		05 12 37.8	
	baz=153,slow=75,SNR=324								
H10S1	**ASCENSION HYDR**	**53.10**	**312**	T		T		05 12 38.1	
	baz=153,slow=75,SNR=323								
KMBO	**Kilima Mbogo**	**53.33**	**19**	*eP*		**P**		**04 15 03.2**	**+0.9**
	comp=Z,13nm,1.2s								
KMBO	comp=Z,4μm,19.0s				LR	LR			
KMBO	**Kilima Mbogo**	**53.33**	**19**	*i P*		**P**		**04 15 04.9**	**+2.6**
	SNR=9.1								
KMBO	**Kilima Mbogo**	**53.33**	**19**	*eP*		**P**		**04 15 03.2**	**+0.9**
KMBO	comp=Z,13nm,1.2s				pmax	pmax			
KMBO	comp=Z,4μm,19.0s				MLR	MLR			
KMBO	**Kilima Mbogo**	**53.33**	**19**	P		**P**		**04 15 02.4**	**+0.1**
	comp=Z,7.2nm,1.0s,baz=182,slow=7.0,SNR=8.8								
KMBO	comp=Z,4μm,18.8s,baz=186,slow=35				LR	LR		04 36 42.1	
MSEY	**Mahe Island**	**55.51**	**42**	PFAKE				04 15 30.0	+12
MSEY	comp=Z,3μm,19.0s				LR	LR			
MSEY	**Mahe Island**	**55.51**	**42**	P		**P**		**04 15 17.6**	**-0.4**
TER01	**Tubaro-SC**	**56.64**	**266**	*eP*		**P**		**04 15 28.2**	**+2.3**
CNLB	**Canela**	**57.11**	**264**	*eP*		**P**		**04 15 32.0**	**+2.7**
TRQA	**Tornquist**	**57.39**	**249**	*eP*		**P**		**04 15 31.4**	**+0.3**
	comp=Z,68nm,1.0s								
TRQA	comp=Z,2μm,20.0s				LR	LR			
TRQA	**Tornquist**	**57.39**	**249**	*eP*		**P**		**04 15 31.4**	**+0.3**
TRQA	comp=Z,68nm,1.0s				pmax	pmax			
TRQA	comp=Z,2μm,20.0s				MLR	MLR			
TRQA	**Tornquist**	**57.39**	**249**	*eP*		**P**		**04 15 31.4**	**+0.3**
RIB01	**Linhares ES**	**58.31**	**280**	*eP*		**P**		**04 15 38.3**	**+0.6**
SPB	**Sao Paulo**	**59.27**	**271**	PFAKE				04 16 00.0	+16
SPB	comp=Z,2μm,19.0s				LR	LR			
ITAB	**Concordia**	**59.40**	**265**	*eP*		**P**		**04 15 47.0**	**+1.8**
GO07	**Milladeo Hill,**	**60.06**	**237**	*eP*		**P**		**04 15 48.4**	**-1.2**
	comp=Z,68nm,0.8s								
GO07	comp=Z,10μm,18.0s				LR	LR			
PLCA	**Paso Flores**	**60.16**	**241**	*eP*		**P**		**04 15 49.9**	**-0.5**
	comp=Z,46nm,1.1s								
PLCA	**Paso Flores**	**60.16**	**241**	*eP*		**P**		**04 15 49.9**	**-0.5**
PLCA	comp=Z,46nm,1.1s				pmax	pmax			
PLCA	**Paso Flores**	**60.16**	**241**	P		**P**		**04 15 50.4**	**0.0**
	comp=Z,28nm,1.0s,baz=159,slow=7.2,SNR=21								
PLCA					PKP2bc			04 45 21.9	
	comp=Z,2.4nm,1.0s,baz=45,slow=7.8,SNR=3.1								
PLCA	**Paso Flores**	**60.16**	**241**	*eP*		**P**		**04 15 50.7**	**+0.3**
RCLB	**Rio Claro- Sao**	**60.22**	**272**	*eP*		**P**		**04 15 52.3**	**+1.3**
H08N3	**Diego Garcia H**	**61.22**	**59**	T		T		05 22 43.6	
	baz=217,slow=76,SNR=4.1								
PTGB	**Pitanga**	**61.22**	**267**	*eP*		**P**		**04 15 59.7**	**+1.8**
H08N1	**Diego Carcia H**	**61.23**	**59**	T		T		05 22 40.4	
	baz=217,slow=76,SNR=7.3								
H08N2	**Diego Garcia H**	**61.24**	**59**	T		T		05 22 38.9	
	baz=217,slow=76,SNR=4.0								
GO06	**Curarrehue**	**61.48**	**241**	*eP*		**P**		**04 15 58.9**	**-0.6**
	comp=Z,48nm,0.9s								
MCI6	**Montes Claros**	**62.34**	**279**	*eP*		**P**		**04 16 08.0**	**+2.6**
MCI9	**Montes Claros**	**62.43**	**279**	*eP*		**P**		**04 16 05.7**	**-0.3**
MCI8	**Montes Claros**	**62.47**	**279**	*eP*		**P**		**04 16 06.3**	**0.0**
PMNB	**Patos De Minas**	**62.52**	**276**	*eP*		**P**		**04 16 08.0**	**+1.3**
TRCB	**Terra Rica**	**63.01**	**268**	*eP*		**P**		**04 16 11.3**	**+1.5**
CPUP	**Villa Florida**	**63.17**	**261**	*eP*		**P**		**04 16 10.5**	**-0.3**
	comp=Z,30nm,1.0s								
CPUP	**Villa Florida**	**63.17**	**261**	*eP*		**P**		**04 16 10.5**	**-0.3**
CPUP	comp=Z,30nm,1.0s				pmax	pmax			
CPUP	**Villa Florida**	**63.17**	**261**	P		**P**		**04 16 10.9**	**+0.1**
	comp=Z,21nm,0.9s,baz=137,slow=6.2,SNR=26								
CPUP	**Villa Florida**	**63.17**	**261**	*eP*		**P**		**04 16 11.3**	**+0.5**
FURI	**Furi**	**63.37**	**18**	PFAKE				04 16 20.0	+7.5
FURI	comp=Z,2μm,20.0s				LR	LR			
LIC	**Lamto**	**63.43**	**330**	*eP*		**P**		**04 16 08.7**	**-3.8**
	comp=Z,49nm,1.1s								
KIC	**Kosan Boka**	**63.47**	**330**	*eP*		**P**		**04 16 09.4**	**-3.4**
	comp=Z,88nm,1.6s								
DBIC	**Dimbokro**	**63.80**	**330**	*eP*		**P**		**04 16 14.4**	**-0.5**
	comp=Z,46nm,1.4s								
DBIC	**Dimbokro**	**63.80**	**330**	*eP*		**P**		**04 16 14.4**	**-0.5**
DBIC	comp=Z,46nm,1.4s				pmax	pmax			
DBIC	**Dimbokro**	**63.80**	**330**	P		**P**		**04 16 13.5**	**-1.4**
	comp=Z,27nm,1.2s,baz=148,slow=7.8,SNR=9.6								
DBIC					LR	LR		04 37 30.8	
	comp=Z,2μm,21.7s,baz=132,slow=30								
TIC	**Toumodi**	**63.82**	**330**	*eP*		**P**		**04 16 13.8**	**-1.3**
JANB	**Januaria**	**63.96**	**280**	*eP*		**P**		**04 16 16.3**	**+0.1**
ITRB	**Iturama**	**63.98**	**272**	*eP*		**P**		**04 16 17.4**	**+1.2**
H01W2	**Cape Leeuwin H**	**64.10**	**114**	T		T		05 26 34.7	
	baz=222,slow=75,SNR=42								
H01W3	**Cape Leeuwin H**	**64.11**	**114**	T		T		05 26 37.0	
	baz=222,slow=75,SNR=43								
H01W1	**Cape Leeuwin H**	**64.11**	**114**	T		T		05 26 34.1	
	baz=222,slow=75,SNR=36								
GO05	**Huala**	**65.10**	**245**	*eP*		**P**		**04 16 24.1**	**+0.7**
	comp=Z,38nm,1.0s								
GO05	comp=Z,4μm,20.0s				LR	LR			
BDFB	**Brasilia**	**65.71**	**276**	*eP*		**P**		**04 16 27.8**	**+0.2**
	comp=Z,23nm,0.9s								
BDFB	**Brasilia**	**65.71**	**276**	*eP*		**P**		**04 16 27.8**	**+0.2**
BDFB	comp=Z,23nm,0.9s				pmax	pmax			
BDFB	**Brasilia**	**65.71**	**276**	P		**P**		**04 16 27.8**	**+0.2**
	comp=Z,14nm,0.8s,baz=87,slow=4.6,SNR=14								
BDFB	comp=Z,1μm,21.5s,baz=170,slow=31				LR	LR		04 39 16.1	
PEL	**Peldehue**	**65.82**	**247**	PFAKE				04 16 40.0	+12
PEL	comp=Z,3μm,18.0s				LR	LR			
ROC1	**El Roble**	**66.12**	**247**	*eP*		**P**		**04 16 30.5**	**+0.2**
C2SB	**Chapadao do Su**	**66.19**	**270**	*eP*		**P**		**04 16 32.7**	**+2.1**
RCBR	**Riachuelo**	**66.53**	**293**	PFAKE				04 16 40.0	+7.2
RCBR	comp=Z,900nm,20.0s				LR	LR			
AQDB	**Aquidauana**	**66.61**	**267**	*eP*		**P**		**04 16 33.0**	**-0.2**
ATD	**Arta Tunnel**	**66.80**	**22**	PFAKE				04 16 50.0	+16
ATD	comp=Z,1μm,18.0s				LR	LR			
NWAO	**Narrogin (SRO)**	**67.27**	**115**	*eP*		**P**		**04 16 37.9**	**+0.5**
	comp=Z,42nm,1.0s								
NWAO	comp=Z,1μm,20.0s				LR	LR			
NWAO	**Narrogin (SRO)**	**67.27**	**115**	P		**P**		**04 16 34.6**	**-2.7**
	baz=67,SNR=6.5								
NWAO	**Narrogin (SRO)**	**67.27**	**115**	*eP*		**P**		**04 16 37.9**	**+0.5**
NWAO	comp=Z,42nm,1.0s				pmax	pmax			
NWAO					MLR	MLR			
	comp=Z,1μm,20.0s								
NWAO	**Narrogin (SRO)**	**67.27**	**115**	P		**P**		**04 16 35.2**	**-2.1**
	comp=Z,36nm,1.0s,baz=216,slow=6.9,SNR=8.6								
GO04	**Tololo Observa**	**68.12**	**249**	*eP*		**P**		**04 16 43.8**	**+0.8**
	comp=Z,32nm,0.9s								
TOA0	**Torodi Ar. Sit**	**68.29**	**339**	*eP*		**P**		**04 16 43.0**	**-0.7**
	comp=Z,47nm,0.9s								
TOA0	**Torodi Ar. Sit**	**68.29**	**339**	P		**P**		**04 16 42.5**	**-1.3**
	SNR=11								
TORD	**Torodi Ar. Bea**	**68.29**	**339**	P		**P**		**04 16 41.6**	**-2.2**
	comp=Z,31nm,0.9s,baz=255,slow=3.4,SNR=60								
TORD	comp=Z,2μm,21.8s,baz=255,slow=31				LR	LR		04 40 33.1	
KLBR	**Kellerberrin**	**68.58**	**114**	P		**P**		**04 16 43.8**	**-1.7**
	baz=68,SNR=6.0								
BLDU	**Ballidu**	**68.74**	**113**	P		**P**		**04 16 43.7**	**-3.0**
	baz=68,SNR=8.6								
LCO	**Las Campanas**	**68.95**	**250**	*eP*		**P**		**04 16 49.2**	**+1.0**
	comp=Z,39nm,1.0s								
LCO	**Las Campanas**	**68.95**	**250**	*eP*		**P**		**04 16 49.2**	**+1.0**
LCO	comp=Z,39nm,1.0s				pmax	pmax			
LCO	**Las Campanas**	**68.95**	**250**	*eP*		**P**		**04 16 49.5**	**+1.2**
MORW	**Morawa**	**69.55**	**111**	PFAKE				04 17 00.0	+8.4
MORW	comp=Z,700nm,18.0s				LR	LR			
MORW	**Morawa**	**69.55**	**111**	P		**P**		**04 16 49.7**	**-1.9**
	baz=69,SNR=6.6								
GO03	**Copiap**	**69.76**	**251**	*eP*		**P**		**04 16 53.5**	**+0.5**
	comp=Z,37nm,1.0s								
DAMY	**Dhamar**	**70.10**	**23**	*eP*		**P**		**04 16 56.0**	**+0.7**
	comp=Z,136nm,1.4s								
DAMY	comp=Z,2μm,20.0s				LR	LR			
KMBL	**Kambalda**	**70.99**	**117**	P		**P**		**04 16 59.0**	**-1.4**
	baz=71,SNR=7.0								
LVC	**Limon Verde**	**72.83**	**255**	*eP*		**P**		**04 17 13.3**	**+1.3**
	comp=Z,30nm,1.1s								
LVC	comp=Z,2μm,21.0s				LR	LR			
LVC	**Limon Verde**	**72.83**	**255**	*eP*		**P**		**04 17 13.3**	**+1.3**
LVC	comp=Z,30nm,1.1s				pmax	pmax			
LVC	comp=Z,2μm,21.0s				MLR	MLR			
LVC	**Limon Verde**	**72.83**	**255**	*eP*		**P**		**04 17 12.8**	**+0.8**
MEEK	**Meekatharra**	**72.86**	**111**	P		**P**		**04 17 09.8**	**-1.9**
	baz=73,SNR=5.6								
SIV	**San Ignacio**	**73.30**	**266**	LR		LR		04 45 03.1	
	comp=Z,2μm,20.4s,baz=149,slow=32								
GIRL	**Giralia**	**73.46**	**106**	PFAKE				04 17 30.0	+15
GIRL	comp=Z,2μm,20.0s				LR	LR			
MOO	**Moorlands**	**73.74**	**141**	P		**P**		**04 17 16.9**	**+0.3**
	baz=74,SNR=4.5								
CLDB	**Colider**	**74.11**	**273**	*eP*		**P**		**04 17 19.9**	**+0.7**
FORT	**Forrest**	**74.71**	**121**	PFAKE				04 17 30.0	+7.5
FORT	comp=Z,900nm,20.0s				LR	LR			
DMTO	**DMTO**	**76.04**	**32**	P		**P**		**04 17 29.1**	**-1.0**
ARPS	**Mount Arapiles**	**76.38**	**134**	P		**P**		**04 17 32.0**	**0.0**
	baz=76,SNR=14								
TRD	**Trivandrum**	**76.95**	**56**	*eP*		**P**		**04 17 35.1**	**-0.3**
TAM	**Tamanrasset**	**76.95**	**344**	*eP*		**P**		**04 17 35.8**	**+0.4**
	comp=Z,56nm,1.0s								
TAM	comp=Z,1μm,19.0s				LR	LR			
TAM	**Tamanrasset**	**76.95**	**344**	*eP*		**P**		**04 17 35.8**	**+0.4**
TAM	comp=Z,56nm,1.0s				pmax	pmax			
TAM	comp=Z,1μm,19.0s				MLR	MLR			
BBOO	**Buckleboo**	**77.04**	**128**	*eP*		**P**		**04 17 35.5**	**-0.3**
	comp=Z,72nm,1.3s								
BBOO	**Buckleboo**	**77.04**	**128**	P		**P**		**04 17 34.8**	**-1.0**
	baz=77,SNR=14								
TOO	**Toolangi**	**77.24**	**137**	*eP*		**P**		**04 17 38.2**	**+1.3**
	comp=Z,49nm,1.1s								
TOO	comp=Z,900nm,18.0s				LR	LR			
TOO	**Toolangi**	**77.24**	**137**	*eP*		**P**		**04 17 38.2**	**+1.3**
TOO	comp=Z,49nm,1.1s				pmax	pmax			
TOO	comp=Z,900nm,18.0s				MLR	MLR			
LPAZ	**La Paz**	**77.28**	**260**	*eP*		**P**		**04 17 38.0**	**-0.1**
	comp=Z,21nm,1.1s								
LPAZ	**La Paz**	**77.28**	**260**	*eP*		**P**		**04 17 38.0**	**-0.1**
LPAZ	comp=Z,21nm,1.1s				pmax	pmax			
LPAZ	**La Paz**	**77.28**	**260**	P		**P**		**04 17 38.8**	**+0.7**
	comp=Z,5.7nm,0.9s,baz=113,slow=3.8,SNR=12								
LPAZ	comp=Z,562nm,21.9s,baz=138,slow=32				LR	LR		04 47 40.4	
LPAZ	**La Paz**	**77.28**	**260**	*eP*		**P**		**04 17 38.8**	**+0.7**
PSAD3	**Pilbara Seismi**	**77.43**	**109**	PFAKE				04 17 50.0	+12
PS

comp=Z,2µm,20.0s
HTT Hallett 77.87 130 P **P 04 17 39.6 -0.9**
baz=78,SNR=19
ODZ Otahua Downs 78.56 158 PFAKE 04 18 00.0 +16
ODZ LR LR
comp=Z,3µm,21.0s
DQM DQM 78.95 34 P **P 04 17 45.7 -0.6**
DQM P **P 04 17 45.7 -0.6**
WRKA Warakurna 79.44 118 P **P 04 17 47.7 -1.5**
baz=79,SNR=12
FOZ Fox Glacier 79.80 157 PFAKE 04 18 00.0 +9.2
FOZ LR LR
comp=Z,2µm,20.0s
MHTO MHTO 80.08 34 P **P 04 17 51.7 -0.7**
SNR=7.2
MHTO P **P 04 17 51.7 -0.7**
SNR=7.2
MQZ McQueen's Vall 80.28 159 PFAKE 04 18 10.0 +17
MQZ LR LR
comp=Z,3µm,20.0s
STKA Stephens Creek 80.39 131 *e*P **P 04 17 53.6 -0.7**
comp=Z,11nm,1.0s
STKA Stephens Creek 80.39 131 P **P 04 17 53.4 -0.8**
baz=80,SNR=38
STKA Stephens Creek 80.39 131 *e*P **P 04 17 53.6 -0.7**
STKA pmax pmax
comp=Z,11nm,1.0s
STKA Stephens Creek 80.39 131 P **P 04 17 53.5 -0.7**
comp=Z,27nm,0.8s,baz=206,slow=3.4,SNR=19
OXZ Oxford 80.51 158 PFAKE 04 18 10.0 +15
OXZ LR LR
comp=Z,2µm,18.0s
CGJI Cibinong 80.90 89 P **P 04 17 57.3 +0.1**
SISI Saibi 81.14 80 P **P 04 18 02.5 +4.1**
CISI Cisompet, Garu 81.44 91 PFAKE 04 18 10.0 +10
CISI LR LR
comp=Z,700nm,22.0s
BSY Bisya 81.46 32 P **P 04 18 01.6 +1.8**
SNR=12
GOA Goa 81.48 50 *e*P **P 04 18 00.8 +0.8**
GOA IAMs_20 IAMs_20 04 45 37.1
comp=Z,2µm,37.4s
JLN Jalan Bani Buh 81.65 35 P **P 04 17 59.6 -1.2**
SNR=6.2
KHZ Kahutara 81.71 159 PFAKE 04 18 10.0 +9.0
KHZ LR LR
comp=Z,5µm,20.0s
LEM Lembang 81.90 91 P **P 04 18 03.7 +1.1**
SMDO Samad 82.03 33 P **P 04 18 02.6 -0.3**
SNR=5.9
THZ Tophouse 82.19 158 PFAKE 04 18 20.0 +16
THZ LR LR
comp=Z,2µm,22.0s
ALNE Al Ain 82.23 31 P **P 04 18 04.0 +0.1**
HOQ Hoqain 82.28 32 P **P 04 18 04.2 +0.1**
SNR=10
PDSI Padang 82.29 81 P **P 04 18 04.4 -0.1**
GSI Gunungsitoli 82.35 78 P **P 04 18 08.3 +3.5**
WSAR Wadi Sarin 82.39 34 P **P 04 18 03.4 -1.3**
SNR=9.0
BIDO Bidbid 82.49 33 P **P 04 18 03.8 -1.4**
SNR=8.9
BIDO P **P 04 18 03.8 -1.4**
SNR=8.9
MDRS Chennai 82.49 57 *e*P **P 04 18 04.3 -1.1**
MDRS IAmb IAmb 04 18 06.9
comp=Z,43nm,1.1s
MDRS IAMs_20 IAMs_20 04 46 44.9
comp=Z,2µm,18.6s
CMSA Cobar Meteorol 82.50 134 P **P 04 18 05.5 +0.1**
baz=82,SNR=9.1
SOHO SOHO 82.55 31 P **P 04 18 04.1 -1.4**
SNR=9.5
SOHO P **P 04 18 04.1 -1.4**
SNR=9.5
ASHO Ashiyiah 82.91 31 *i* P **P 04 18 06.5 -1.0**
SNR=5.7
PCJI Pacitan 82.96 94 P **P 04 18 08.6 +0.6**
SNZO South Karori 83.01 160 PFAKE 04 18 20.0 +12
SNZO LR LR
comp=Z,5µm,18.0s
HATD Hatta, Dubai 83.07 31 *i* P **P 04 18 07.1 -1.0**
SNR=6.6
NAZ Nazwa, Dubai 83.08 30 *i* P **P 04 18 07.3 -0.9**
SNR=6.8
WOJI Wonogiri, Jawa 83.09 94 P **P 04 18 11.3 +2.6**
EIL Elat 83.20 11 LR LR 04 55 07.7
comp=Z,3µm,18.3s,baz=190,slow=36
SMRI Semarang 83.42 93 P P 04 18 15.5 +5.1
PWJI Pagerwojo 83.47 95 P **P 04 18 10.0 -0.6**
ASAR Alice Springs 83.50 121 P **P 04 18 09.5 -1.3**
comp=Z,16nm,0.9s,baz=212,slow=5.5,SNR=35
ASAR PKKPbc **PKKPbc 04 36 28.3 +1.9**
comp=Z,1.3nm,1.0s,baz=53,slow=2.5,SNR=6.6
ASAR PKPPKP **P'P'df 04 44 35.0 -3.8**
comp=Z,1.8nm,1.2s,baz=24,slow=2.6,SNR=5.1
ASAR LR LR 04 48 34.2
comp=Z,708nm,22.0s,baz=208,slow=31
BKNI Bangkinang 83.62 81 PFAKE 04 18 20.0 +8.6
BKNI LR LR
comp=Z,2µm,19.0s
BKNI Bangkinang 83.62 81 P **P 04 18 14.4 +3.0**
BFZ Birch Farm 83.94 161 PFAKE 04 18 20.0 +7.3
BFZ LR LR
comp=Z,4µm,21.0s
BOM Bombay 84.00 47 *ex* P 04 18 08.3 -4.8
POO Poona 84.15 49 *e*P **P 04 18 13.1 -0.8**
PSI Prapat 84.35 78 PFAKE 04 18 30.0 +15
PSI LR LR
comp=Z,900nm,20.0s
JAGI Jajag, Banyuwa 84.53 97 PFAKE 04 18 30.0 +14
JAGI LR LR
comp=Z,1µm,20.0s
PTGA Pitinga 84.65 276 *e*P **P 04 18 17.1 +0.4**
comp=Z,59nm,1.6s
PTGA LR LR
comp=Z,1µm,20.0s
PTGA Pitinga 84.65 276 *e*P **P 04 18 17.1 +0.4**
HYB Hyderabad 85.38 53 *i* P **P 04 18 19.5 -0.6**
comp=Z,65nm,0.8s
HYB *e*S **S 04 28 48.0 -3.0**
HYB Hyderabad 85.38 53 *e*P **P 04 18 19.2 -0.9**
BKZ Black Stump Fm 85.45 160 PFAKE 04 18 30.0 +10
BKZ LR LR
comp=Z,3µm,21.0s
SRBI Singaraja 85.47 97 P **P 04 18 21.5 +0.8**
KMMI Kalianget 85.54 96 P **P 04 18 25.3 +4.2**
HIZ Hauiti 85.73 159 PFAKE 04 18 30.0 +8.3
HIZ LR LR
comp=Z,3µm,20.0s
NNA Nana 85.81 256 LR LR 04 53 24.3
comp=Z,511nm,21.7s,baz=138,slow=33
ASF Jabal al Asfar 85.91 13 LR LR 04 57 00.1
comp=Z,1µm,19.1s,baz=135,slow=36
ARMA Armidale 85.95 138 PFAKE 04 18 30.0 +6.9
ARMA LR LR
comp=Z,700nm,19.0s
PLAI Plampang 86.40 100 P **P 04 18 25.1 -0.3**
URZ Urewera 86.44 161 PFAKE 04 18 40.0 +15
URZ LR LR
comp=Z,4µm,22.0s
URZ Urewera 86.44 161 LR LR 04 54 24.2
comp=Z,3µm,21.6s,baz=183,slow=34
MYKOM Kota Tinggi 86.47 82 PFAKE 04 18 40.0 +14
MYKOM LR LR
comp=Z,1µm,20.0s
MYKOM Kota Tinggi 86.47 82 P **P 04 18 27.0 +1.4**
BHJ Bhuj 86.51 43 *e*P **P 04 18 25.1 -0.4**
MMAI Mount Meron Ar 86.56 11 LR LR 04 56 16.2
comp=Z,2µm,20.0s,baz=190,slow=35
WRA Warramunga Arr 86.79 119 P **P 04 18 25.9 -1.4**
comp=Z,42nm,1.0s,baz=214,slow=4.6,SNR=33
WRAB Tennant Creek 86.81 119 *e*P **P 04 18 27.5 +0.2**
comp=Z,58nm,1.1s
WRAB LR LR
comp=Z,600nm,21.0s
WRAB Tennant Creek 86.81 119*c i*P **P 04 18 27.0 -0.4**
WRAB pmax pmax
comp=Z,53nm,1.0s
IPM Ipoh 86.93 78 PFAKE 04 18 40.0 +12
IPM LR LR
comp=Z,500nm,19.0s
KULM Kulim 87.36 78 PFAKE 04 18 40.0 +10
KULM LR LR
comp=Z,500nm,20.0s
KULM Kulim 87.36 78 P **P 04 18 33.0 +3.0**

IDI Anoyia 88.08 2 LR LR 04 59 37.6
comp=Z,2µm,19.3s,baz=198,slow=37
CSS Mathiatis 88.26 9 PFAKE 04 18 40.0 +6.3
CSS LR LR
comp=Z,2µm,18.0s
KARP Karpathos 88.41 4 PFAKE 04 18 50.0 +16
KARP LR LR
comp=Z,4µm,19.0s
OUZ Omahuta 88.60 157 PFAKE 04 18 50.0 +14
OUZ LR LR
comp=Z,2µm,19.0s
MDT Midelt 88.68 338 P **P 04 18 36.9 +1.0**
comp=Z,20nm,1.1s,baz=148,slow=3.9,SNR=10.0
NGP Nagpur 88.82 51 *e*P **P 04 18 37.1 +0.3**
WDD Wied Dalam 88.84 354 PFAKE 04 18 50.0 +14
WDD LR LR
comp=Z,2µm,20.0s
TRTT Trang 88.84 75 P **P 04 18 38.6 +1.6**
SKLT Songkhla 88.85 77 P **P 04 18 38.8 +1.8**
KRAB Krabi 88.86 75 P **P 04 18 39.9 +2.8**
KEST Kesra 89.18 350 *e*P **P 04 18 38.9 +0.8**
comp=Z,101nm,1.4s
KEST Kesra 89.18 350 P **P 04 18 39.1 +1.0**
comp=Z,43nm,1.1s,baz=226,slow=2.3,SNR=16
KEST LR LR 04 58 43.8
comp=Z,2µm,21.4s,baz=118,slow=36
MMRI Maumere 89.19 103 PFAKE 04 18 50.0 +11
MMRI LR LR
comp=Z,700nm,22.0s
MMRI Maumere 89.19 103 P **P 04 18 38.8 0.0**
DGPR DIGLIPUR 89.31 67 *e*P **P 04 18 40.0 +0.9**
DGPR IAMs_20 IAMs_20 04 52 02.9
comp=Z,2µm,11.2s
SOEI Soe 89.48 106 *e*P **P 04 18 41.1 +0.8**
comp=Z,78nm,1.1s
SOEI LR LR
comp=Z,1µm,21.0s
SOEI Soe 89.48 106 P **P 04 18 44.1 +3.8**
AVE Averroes 89.81 336 *i* P **P 04 18 42.4 +1.4**
AVE *i* S S 04 29 19.2 -13
BHPL Bhopal 89.87 49 *e*P **P 04 18 41.5 -0.2**
BHPL IAmb IAmb 04 18 44.2
comp=Z,46nm,1.3s
ITM Ithomi 89.93 360 PFAKE 04 18 50.0 +8.5
ITM LR LR
comp=Z,3µm,18.0s
KSM Kuching 90.09 88 PFAKE 04 18 50.0 +7.1
KSM LR LR
comp=Z,800nm,21.0s
KSM Kuching 90.09 88 P **P 04 18 45.0 +2.1**
BSSI Bau Bau, Buton 90.15 100 P **P 04 18 45.2 +1.9**
EIDS Eidsvold 90.17 135 PFAKE 04 18 50.0 +6.8
EIDS LR LR
comp=Z,700nm,19.0s
RTC Rabat Centre 90.33 336 PFAKE 04 18 50.0 +6.6
RTC LR LR
comp=Z,5µm,21.0s
BKSI Bulukumba 90.59 100 P **P 04 18 45.1 -0.2**
KAPI Kappang 90.61 99 *e*P **P 04 18 45.5 +0.1**
comp=Z,77nm,1.1s
KAPI LR LR
comp=Z,600nm,20.0s
KAPI Kappang 90.61 99 *e*P **P 04 18 45.5 +0.1**
KAPI pmax pmax
comp=Z,77nm,1.1s
KAPI MLR MLR
comp=Z,600nm,20.0s
KAPI Kappang 90.61 99 P **P 04 18 44.4 -1.0**
SNR=22
KAPI P **P 04 18 44.4 -1.0**
SNR=22
CLTB Caltabellotta 90.66 353 PFAKE 04 19 00.0 +15
CLTB LR LR
comp=Z,2µm,20.0s
ISP Isparta 90.87 7 PFAKE 04 19 00.0 +14
ISP LR LR
comp=Z,2µm,18.0s
MTN Manton Dam 90.89 113 PFAKE 04 19 00.0 +13
MTN LR LR
comp=Z,900nm,20.0s
MTKI Muara Teweh, K 90.94 93 P **P 04 18 50.2 +3.3**
CEL Celeste 91.17 355 PFAKE 04 19 00.0 +13
CEL LR LR
comp=Z,2µm,18.0s
BNSI Bone 91.31 99 P **P 04 18 49.4 +0.8**
BWNR Bhubaneshwar 91.41 57 *e*P **P 04 18 46.8 -2.0**
MANT Manisa 91.41 5 PFAKE 04 19 00.0 +11
MANT LR LR
comp=Z,5µm,19.0s
SPSI Sidrap Palu 91.46 98 P **P 04 18 49.2 -0.1**
SBUM Sibu 92.02 89 PFAKE 04 19 00.0 +8.1
SBUM LR LR
comp=Z,500nm,22.0s
SBUM Sibu 92.02 89 P **P 04 18 54.0 +2.1**
TIP Timpagrande 92.04 356 *e*P **P 04 18 52.4 +1.1**
comp=Z,44nm,1.1s
TIP LR LR
comp=Z,2µm,21.0s
PMOZ Porto Moniz, M 92.16 328 *e*LR LR 04 49 12.3
comp=Z,807nm,18.0s
TTSI Tana Toraja 92.22 98 P P 04 19 03.9 +11
IGT Igoumenitsa 92.29 359 P **P 04 18 54.7 +2.3**
BALB Balikesir 92.52 4 PFAKE 04 19 00.0 +6.6
BALB LR LR
comp=Z,5µm,20.0s
CART Cartagena 92.54 342 PFAKE 04 19 00.0 +6.4
CART LR LR
comp=Z,900nm,20.0s
CART Cartagena 92.54 342 *i* P **P 04 18 57.9 +4.4**
CART *i* S S 04 30 18.4 +21
SFS San Fernando 92.55 338 PFAKE 04 19 00.0 +6.4
SFS LR LR
comp=Z,900nm,20.0s
CTAO Charters Tower 92.61 129 PFAKE 04 19 10.0 +15
CTAO LR LR
comp=Z,800nm,19.0s
BR131 Keskin Array S 93.01 9 P **P 04 18 54.8 -1.1**
SNR=22
BRTR Keskin Array B 93.01 9 P **P 04 18 55.5 -0.4**
comp=Z,20nm,0.9s,baz=178,slow=6.6,SNR=42
BRTR PP **PP 04 22 39.9 +0.5**
comp=Z,0.8nm,0.7s,baz=196,slow=9.0,SNR=3.9
BRTR LR LR 05 03 26.5
comp=Z,695nm,18.1s,baz=182,slow=37
ANTO Ankara 93.08 8 *e*P **P 04 18 56.7 +0.5**
comp=Z,59nm,1.0s
ANTO LR LR
comp=Z,1µm,18.0s
ANTO Ankara 93.08 8 *e*P **P 04 18 56.7 +0.5**
ANTO pmax pmax
comp=Z,59nm,1.0s
ANTO MLR MLR
comp=Z,1µm,18.0s
ANTO Ankara 93.08 8 P **P 04 18 55.8 -0.4**
SNR=18
ANTO P **P 04 18 55.8 -0.4**
SNR=18
FNA Florina 93.53 359 PFAKE 04 19 10.0 +12
FNA LR LR
comp=Z,2µm,18.0s
FNA Florina 93.53 359 P **P 04 19 00.0 +1.8**
MDUB Mudurnu 93.55 7 PFAKE 04 19 10.0 +12
MDUB LR LR
comp=Z,3µm,18.0s
ALN Alexandroupoli 93.70 3 PFAKE 04 19 10.0 +11
ALN LR LR
comp=Z,800nm,18.0s
PVAQ Vaqueiros 93.80 337 *e*S S 04 30 28.9 +20
OHR Ohrid 93.86 359 *i* P **P 04 19 03.1 +3.4**
MAHO Mahon 93.92 346 *i* P P 04 19 05.5 +5.6
MAHO *i* S S 04 30 31.0 +22
VAY Valandovo 94.07 0 *i* P **P 04 19 03.4 +2.8**
TIR Tirane 94.11 358 PFAKE 04 19 10.0 +9.2
TIR LR LR
comp=Z,2µm,18.0s
ILGA Ilgaz 94.33 9 PFAKE 04 19 10.0 +7.9
ILGA LR LR
comp=Z,1µm,18.0s
BOK Bokaro 94.38 56 *e*P **P 04 19 00.4 -2.0**
BOK IAmb IAmb 04 19 05.2
comp=Z,32nm,0.1s
BOK IAMs_20 IAMs_20 04 52 16.1
comp=Z,1µm,25.5s
STIP Stip 94.44 0 *i* P **P 04 19 04.0 +1.7**
PLD Plovdiv 94.88 2 P **P 04 19 07.1 +2.9**

GNI Garni 94.94 17 PFAKE 04 19 20.0 +15
GNI LR LR
comp=Z,900nm,21.0s
GNI Garni 94.94 17*c i*P **P 04 19 06.3 +1.5**
GNI pmax pmax
comp=Z,63nm,1.3s
MPSI Mapaga 94.96 96 P **P 04 19 09.2 +3.8**
PAB San Pablo 95.09 340 PFAKE 04 19 20.0 +15
PAB LR LR
comp=Z,1µm,18.0s
ESDC Sonseca Array 95.14 340 P **P 04 19 05.5 0.0**
comp=Z,2.2nm,0.8s,baz=168,slow=5.1,SNR=7.7
ESLA Sonseca Array 95.14 340 PFAKE 04 19 20.0 +14
ESLA LR LR
comp=Z,1µm,19.0s
TTG Podgorica 95.21 358 PFAKE 04 19 20.0 +14
TTG LR LR
comp=Z,2µm,18.0s
VTS Vitosha 95.37 1 PFAKE 04 19 20.0 +13
VTS LR LR
comp=Z,3µm,20.0s
AQU L'Aquila 95.39 354 PFAKE 04 19 20.0 +13
AQU LR LR
comp=Z,2µm,18.0s
AQU L'Aquila 95.39 354 P P 04 19 11.6 +4.9
SNOP Sinop 95.44 10 PFAKE 04 19 20.0 +13
SNOP LR LR
comp=Z,2µm,19.0s
LUWI Luwuk 95.58 99 PFAKE 04 19 20.0 +12
LUWI LR LR
comp=Z,400nm,22.0s
PMRV Marv??o 95.65 337 *e*LR LR 04 50 54.2
comp=Z,916nm,18.0s
GEYT Alibeck 95.91 28 P **P 04 19 09.1 -0.1**
comp=Z,3.7nm,0.5s,baz=338,slow=12,SNR=4.2
GEYT LR LR 05 02 24.3
comp=Z,433nm,18.9s,baz=220,slow=36
GYA0B ALIBECK ARRAY 95.91 28 PFAKE 04 19 20.0 +11
GYA0B LR LR
comp=Z,1µm,20.0s
AKH Akhalkalaki 95.95 16 PFAKE 04 19 20.0 +11
AKH LR LR
comp=Z,1µm,20.0s
DDI Dehra Dun 96.26 46 *e*P **P 04 19 09.6 -1.4**
DDI IAmb IAmb 04 19 13.4
comp=Z,116nm,0.1s
KBL Kabul 96.36 37 *e*P **P 04 19 12.7 +1.2**
comp=Z,10nm,0.8s
KBL Kabul 96.36 37 *e*P **P 04 19 12.7 +1.2**
KBL pmax pmax
comp=Z,10.0nm,0.8s
COEN Coen 96.36 123 PFAKE 04 19 20.0 +8.1
COEN LR LR
comp=Z,1µm,20.0s
BRDH Bariadhala 96.39 61 LR LR 04 56 06.2
comp=Z,1µm,20.4s,baz=316,slow=31
OTAV Otavalo 96.52 262 PFAKE 04 19 20.0 +6.9
OTAV LR LR
comp=Z,600nm,19.0s
OTAV Otavalo 96.52 262 *e*P **P 04 19 14.5 +1.4**
SMLA Simla 96.58 45 *e*P **P 04 19 11.6 -0.6**
PYUN Piuthan 96.60 51 *e*P **P 04 19 11.5 -1.2**
comp=Z,67nm,0.9s
KOLN Koldanda 96.61 52 *e*P **P 04 19 11.9 -0.9**
comp=Z,50nm,1.0s
MTE Manteigas 96.61 338 *e*LR LR 04 51 28.1
comp=Z,995nm,18.0s
SANI Sanana 96.68 102 P **P 04 19 15.0 +1.7**
CMAR Chiang Mai Arr 96.94 69*ce*P **P 04 19 15.8 +1.5**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 96.94 69 P **P 04 19 13.7 -0.6**
comp=Z,1.8nm,0.6s,baz=232,slow=4.8,SNR=12
CMAR PP PP 04 22 54.5 -15
comp=Z,1.2nm,0.3s,baz=228,slow=7.7,SNR=4.3
CMAR LR LR 04 56 03.8
comp=Z,664nm,19.6s,baz=224,slow=31
NIL Nilore 97.17 41 *e*P **P 04 19 14.6 -0.3**
comp=Z,41nm,0.9s
NIL LR LR
comp=Z,300nm,18.0s
NIL Nilore 97.17 41 *e*P **P 04 19 14.6 -0.3**
NIL pmax pmax
comp=Z,41nm,0.9s
NIL MLR MLR
comp=Z,300nm,18.0s
DANN Dangsing 97.17 51 *e*P **P 04 19 14.1 -1.3**
comp=Z,143nm,1.0s
DHRM DHARAMSHALA 97.18 44 *e*P **P 04 19 14.9 -0.4**
DHRM IAMs_20 IAMs_20 04 55 10.4
comp=Z,958nm,19.5s
DMN Daman 97.19 53 *e*P **P 04 19 14.9 -0.6**
comp=Z,90nm,1.1s
MVO Moncorvo 97.22 338 *e*S S 04 30 52.8 +15
MVO Moncorvo 97.22 338 *e*LR LR 04 53 26.3
comp=Z,987nm,18.0s
CHTO Chiang Mai 97.23 68 *e*P Pdif 04 19 17.2 +1.5
comp=Z,13nm,1.1s
CHTO LR LR
comp=Z,700nm,20.0s
CHTO Chiang Mai 97.23 68 *e*P Pdif 04 19 17.2 +1.5
CHTO pmax pmax
comp=Z,13nm,1.1s
CHTO MLR MLR
comp=Z,700nm,20.0s
CMMT Chiang Mai 97.23 68 P Pdif 04 19 17.1 +1.4
UTTA Uttaradit 97.28 70 P Pdif 04 19 18.3 +2.4
DLV T Lat 97.29 80 PFAKE 04 19 30.0 +14
DLV LR LR
comp=Z,500nm,20.0s
GKN Gorkha 97.29 52 *e*P **P 04 19 15.2 -0.6**
comp=Z,137nm,1.0s
PKIN Phulchoki 97.30 53 *e*P **P 04 19 15.1 -0.9**
PKI Pulchoki 97.30 53 *e*P **P 04 19 15.1 -1.0**
comp=Z,38nm,1.1s
RAMN Ramite 97.36 54 *e*P **P 04 19 15.9 -0.4**
comp=Z,84nm,1.1s
ZEI Tsey 97.36 16 *e*P **P 04 19 11.7 -4.1**
ZEI pmax pmax
comp=Z,9.0nm,1.1s
KKN Kakani 97.42 53 *e*P **P 04 19 16.0 -0.5**
comp=Z,64nm,1.2s
VLC Villacollemand 97.42 352 PFAKE 04 19 30.0 +14
VLC LR LR
comp=Z,1µm,18.0s
SOC Sochi 97.51 13 *e*P **P 04 19 15.2 -1.0**
SOC *e**PP **sP 04 19 20.8 +1.5**
SOC *e* 04 23 14.3
SOC *e*PPP PPP 04 25 19.9
SOC *e*S **SKSac 04 29 51.3 -1.6**
SOC pmax pmax
comp=Z,14nm,1.1s
SOC MLR MLR
comp=Z,596nm,18.0s
BLY Banja Luka 97.58 356 PFAKE 04 19 30.0 +13
BLY LR LR
comp=Z,2µm,19.0s
ROSC El Rosal 97.70 268 PFAKE 04 19 30.0 +12
ROSC LR LR
comp=Z,700nm,20.0s
ROSC El Rosal 97.70 268 LR LR 04 58 37.1
comp=Z,647nm,21.7s,baz=175,slow=32
JIRN Jiri 97.75 54 *e*P **P 04 19 17.6 -0.6**
comp=Z,92nm,1.0s
NCK Nalchik 98.00 16[illegible] *e*P Pdif 04 19 19.0 +0.5
NCK pmax pmax
comp=Z,14nm,0.4s
KBZ Khabaz 98.12 15 P **P 04 19 18.6 -0.3**
comp=Z,11nm,1.1s,baz=314,slow=1.3,SNR=7.8
KBZ PP **PP 04 23 21.1 +2.3**
comp=Z,1.9nm,0.8s,baz=128,slow=6.6,SNR=2.6
KBZ LR LR 05 05 37.9
comp=Z,1µm,18.2s,baz=204,slow=37
MAK Makhachkala 98.17 19 *e*P **P 04 19 18.0 -1.2**
MAK *e* 04 23 18.0
MAK *e*PPP PPP 04 25 23.4
MAK *e* 04 29 53.0
MAK *e*SS SS 04 37 27.7 -2.4
MAK pmax pmax
comp=Z,140nm,1.4s
MAK MLR MLR
comp=Z,1µm,17.0s
SIM Simferopol' 98.23 9 *e*P Pdif 04 19 22.4 +3.0
SIM *e* 04 23 23.0
SIM *e* 04 29 57.0
SIM *e*SS SS 04 37 30.0 -0.9

SIM pmax pmax
comp=Z,11nm,1.2s
SIM pmax pmax
comp=Z,110nm,9.1s
PGAV Gavieira, Arco 98.27 338 *e*LR LR 04 52 16.8
comp=Z,1μm,22.0s
MLR Muntele Rosu 98.29 3 PFAKE 04 19 30.0 +10
MLR LR LR
comp=Z,2μm,20.0s
MLR Muntele Rosu 98.29 3 LR LR 05 05 32.6
comp=Z,1μm,19.9s,baz=206,slow=37
KIV Kislovodsk 98.31 15 PFAKE 04 19 30.0 +10
KIV LR LR
comp=Z,900nm,20.0s
KIV Kislovodsk 98.31 15 *e*P Pdif 04 19 22.7 +2.8
KIV *e* 04 23 22.8
KIV pmax pmax
comp=Z,27nm,1.1s
ANN Anapa 98.43 11 *e*P Pdif 04 19 21.0 +0.7
ANN *e* 04 23 22.4
ANN *e* 04 29 58.9
ANN *e*SS SS 04 37 41.0 +7.5
ANN pmax pmax
comp=Z,34nm,1.4s
ANN pmax pmax
comp=Z,101nm,4.8s
ANN MLR MLR
comp=Z,861nm,18.0s
SKNT Sakolnakorn 98.63 73 P Pdif 04 19 30.0 +8.1
SDV Santo Domingo 98.67 273 PFAKE 04 19 30.0 +7.5
SDV LR LR
comp=Z,1μm,21.0s
SDV Santo Domingo 98.67 273 LR LR 04 59 28.3
comp=Z,947nm,21.8s,baz=140,slow=33
SDV Santo Domingo 98.67 273 *e*P Pdif 04 19 24.1 +1.7
BNI Bardonecchia 98.69 349 PFAKE 04 19 30.0 +8.4
BNI LR LR
comp=Z,1μm,20.0s
TRI Trieste 98.71 354 PFAKE 04 19 30.0 +8.5
TRI LR LR
comp=Z,1μm,19.0s
OUENC Ouen Island, N 98.79 147 PFAKE 04 19 30.0 +7.3
OUENC LR LR
comp=Z,900nm,20.0s
SHL Shillong 98.88 59 *e*P **P 04 19 22.2 -0.8**
SHL IAmb IAmb 04 19 24.5
comp=Z,11nm,1.1s
SHL IAMs_20 IAMs_20 04 52 32.8
comp=Z,2μm,24.4s
DZM Mont Dzumac 98.98 147 *e*LR LR 04 51 42.8
comp=Z,2μm,37.2s
DZM Mont Dzumac 98.98 147 PFAKE 04 19 40.0 +16
DZM LR LR
comp=Z,700nm,19.0s
NONG Nongkai 99.02 72 P **Pdif 04 19 26.0 +2.4**
PANO Nakornpanom 99.13 74 P **Pdif 04 19 26.9 +2.8**
SSB Saint Sauveur 99.17 348 PFAKE 04 19 30.0 +6.3
SSB LR LR
comp=Z,1μm,19.0s
OBKA Obir 99.46 355 *e*Pdiff **Pdif 04 19 28.1 +3.1**
comp=Z,12nm,1.3s
SOKA Soboth 99.61 355 *e*Pdiff **Pdif 04 19 28.8 +3.2**
comp=Z,4.6nm,1.1s
SOKA *e*PP **PP 04 23 30.8 +0.5**
comp=Z,3.3nm,0.8s
TUE Stuetta 99.81 351 PFAKE 04 19 40.0 +13
TUE LR LR
comp=Z,1μm,20.0s
ABTA Abfaltersbach 99.83 353 *e*Pdiff **Pdif 04 19 30.0 +3.4**
comp=Z,5.5nm,1.1s
ABTA *e*PP **PP 04 23 31.6 -0.3**
comp=Z,9.4nm,1.5s
FUORN Ofenpass-Fuorn 99.88 352 PFAKE 04 19 40.0 +13
FUORN LR LR
comp=Z,1μm,20.0s
KIS Kishinev 99.91 5 *e*P **Pdif 04 19 28.0 +1.2**
KIS Kishinev 99.91 5 *e*PP PP 04 23 42.0 +10
KIS Kishinev 99.91 5 *e*PKS **SKSac 04 30 03.0 -1.8**
KIS Kishinev 99.91 5 *e*PS PS 04 32 38.0 +7.8
KIS Kishinev 99.91 5 *e*P **PP 04 23 31.0 -1.4**
KIS Kishinev 99.91 5 *e*P **Pdif 04 19 28.0 +1.2**
KIS *e* 04 23 42.0
KIS *e*PPP PPP 04 25 41.0
KIS *i* 04 30 03.0
KIS *e* 04 31 10.0
KIS *e*PS PS 04 32 38.0 +7.8
KIS *e*PPS PPS 04 33 23.0
KIS *e*SS SS 04 38 00.0 +5.8
KIS MLR MLR
comp=Z,900nm,20.0s
SENIN Lac Senin/Sane 99.91 350 PFAKE 04 19 40.0 +13
SENIN LR LR
comp=Z,1μm,21.0s
DAVOX Davos/Dischmat 100.07 352 PP **PP 04 23 31.4 -2.5**
comp=Z,2.8nm,0.9s,baz=174,slow=14,SNR=6.7
CHGR Chuyangaron 100.08 36 PFAKE 04 19 40.0 +12
CHGR LR LR
comp=Z,2μm,21.0s
KBA Koelnbreinsper 100.10 354 PP **PP 04 23 31.6 -2.5**
comp=Z,16nm,1.3s
ARSA Arzberg 100.15 355 *e*Pdiff **Pdif 04 19 31.0 +3.0**
comp=Z,5.5nm,1.6s
ARSA *e*PP **PP 04 23 33.5 -0.8**
comp=Z,5.7nm,1.2s
FETA Feichten 100.24 352 *e*Pdiff **Pdif 04 19 31.2 +2.7**
comp=Z,6.1nm,1.1s
FETA *e*PP **PP 04 23 34.1 -1.0**
comp=Z,13nm,1.2s
SQTA Sankt Quirin 100.39 352 *e*Pdiff **Pdif 04 19 30.4 +1.2**
comp=Z,6.6nm,0.9s
SQTA *e*PP **PP 04 23 34.7 -1.6**
comp=Z,20nm,1.3s
WTTA Wattenberg 100.41 353 *e*Pdiff **Pdif 04 19 31.7 +2.4**
comp=Z,10.0nm,1.2s
WTTA *e*PP **PP 04 23 35.1 -1.3**
comp=Z,12nm,0.9s
WATA Walderalm 100.48 353 *e*PP **PP 04 23 36.2 -0.8**
comp=Z,15nm,1.4s
MOTA Moosalm 100.53 352 *e*PP **PP 04 23 36.5 -0.8**
comp=Z,14nm,1.3s
DAVA Damuels 100.57 352 *e*PP **PP 04 23 35.1 -2.6**
comp=Z,43nm,1.7s
SKI Saint Kitts 100.63 285 PFAKE 04 19 40.0 +9.2
SKI LR LR
comp=Z,400nm,18.0s
PSZ Piszkesteto 100.68 358 PFAKE 04 19 40.0 +10
PSZ LR LR
comp=Z,900nm,20.0s
RETA Reutte 100.70 352 *e*PP **PP 04 23 35.5 -3.0**
comp=Z,27nm,1.4s
GAR Garm 100.79 36 PFAKE 04 19 40.0 +8.9
GAR LR LR
comp=Z,2μm,22.0s
CONA Conrad Observa 100.81 356 *e*Pdiff **Pdif 04 19 34.0 +3.0**
comp=Z,8.3nm,1.8s
CONA *e*PP **PP 04 23 38.4 -1.0**
comp=Z,11nm,1.2s
MOA Molln 100.81 355 PP **PP 04 23 38.3 -1.0**
comp=Z,15nm,1.4s
VYHS Vyhne 101.28 358 *e*P **Pdif 04 19 35.8 +2.9**
VYHS Vyhne 101.28 358 *e*PDIF **Pdif 04 19 35.8 +2.9**
RKT Rikitea 101.51 201 *e*LR LR 04 52 50.6
comp=Z,2μm,31.2s
JAVC Velka Javorina 101.67 357 *e*PP **PP 04 23 43.7 -2.1**
BFO Black Forest 101.75 351 PFAKE 04 19 50.0 +15
BFO LR LR
comp=Z,1μm,18.0s
ECH Echery 101.76 350 PFAKE 04 19 50.0 +15
ECH LR LR
comp=Z,800nm,19.0s
GEC2 GERESS Array S 101.84 354 *e*Pdif **Pdif 04 19 34.6 -0.9**
GEC2 LR LR
comp=Z,1μm,20.0s
GEC2 GERESS Array S 101.84 354 *e*P **Pdif 04 19 34.6 -0.9**
GEC2 MLR MLR
comp=Z,1μm,20.0s
GERES GERESS Array B 101.84 354 P **Pdif 04 19 34.6 -0.9**
comp=Z,0.1nm,0.3s,baz=222,slow=2.4,SNR=3.9
GERES PP **PP 04 23 44.5 -2.6**
comp=Z,1.0nm,0.9s,baz=155,slow=3.8,SNR=3.6
LSA Lhasa 101.88 56 PFAKE 04 19 50.0 +13
LSA LR LR
comp=Z,898nm,22.0s
KRUC Moravsky 101.92 356 *e*PP **PP 04 23 44.8 -2.8**
SLVN Son La 102.04 71 PFAKE 04 19 50.0 +13
SLVN LR LR
comp=Z,1μm,19.0s
STU Stuttgart 102.11 351 PFAKE 04 19 50.0 +13
STU LR LR
comp=Z,900nm,20.0s
KHC Kasperske Hory 102.13 354 PFAKE 04 19 50.0 +13
KHC LR LR
comp=Z,500nm,20.0s
KHC Kasperske Hory 102.13 354 *e*P **Pdif 04 19 41.2 +4.5**
KHC *e* 04 23 46.2
KHC *e* 04 30 16.0
KHC MLR MLR
comp=Z,1μm,20.3s
KHC Kasperske Hory 102.13 354 *e*PDIFF **Pdif 04 19 41.2 +4.5**
KHC *e*PP **PP 04 23 46.2 -3.1**
KHC *e*SKS 04 30 16.0
KHC AMS AMS 05 08 30.0
comp=Z,1μm,20.3s
VRAC Vranov 102.16 356 *e*PP **PP 04 23 46.3 -3.1**
CLF Chambon-Foret 102.17 347 PFAKE 04 19 50.0 +13
CLF LR LR
comp=Z,1μm,19.0s
PMG Port Moresby 102.24 124 PFAKE 04 19 50.0 +12
PMG LR LR
comp=Z,700nm,19.0s
KWP Kalwaria Pacla 102.38 0 PFAKE 04 19 50.0 +12
KWP LR LR
comp=Z,13μm,20.0s
MORC Moravsky Berou 102.59 357 PFAKE 04 19 50.0 +11
MORC LR LR
comp=Z,700nm,21.0s
OKC Ostrava-Krasne 102.64 357 *e*SKS **SKSac 04 30 22.0 +4.2**
OKC AMS AMS 05 07 40.0
comp=Z,700nm,19.9s
GOPC GO Pecny, Ondr 102.85 355 *e*PP **PP 04 23 51.2 -3.4**
GOPC *e*SKS 04 30 20.1
GOPC AMS AMS 05 12 20.0
comp=Z,1μm,16.8s
GRFO Grafenberg 102.85 353 PFAKE 04 19 50.0 +10
GRFO LR LR
comp=Z,1μm,21.0s
GRA1 Grafenberg Arr 102.85 353 PFAKE 04 19 50.0 +10
GRA1 LR LR
comp=Z,1μm,21.0s
MTP Monte Pirata 102.88 283 PFAKE 04 19 50.0 +9.2
MTP LR LR
comp=Z,800nm,22.0s
CUPR Culebra, Puert 102.88 283 PFAKE 04 19 50.0 +9.2
CUPR LR LR
comp=Z,500nm,20.0s
PRU Pruhonice 102.93 355 *e*PP **PP 04 23 51.9 -3.3**
PRU *e*SKS 04 30 22.5
PRU AMS AMS 05 09 40.0
comp=Z,800nm,17.5s
HUMP Col San Antoni 103.09 283 PFAKE 04 19 50.0 +8.3
HUMP LR LR
comp=Z,1μm,22.0s
DPC Dobruska-Polom 103.21 356 *e*PP **PP 04 23 54.8 -2.6**
DPC *e*SKS 04 30 23.7
DPC AMS AMS 05 12 00.0
comp=Z,1μm,19.6s
SJG San Juan 103.24 282 PFAKE 04 19 50.0 +7.6
SJG LR LR
comp=Z,1μm,21.0s
ICMP Isla Caja de M 103.29 282 PFAKE 04 19 50.0 +7.4
ICMP LR LR
comp=Z,800nm,22.0s
WLF Walferdange 103.30 349 PFAKE 04 19 50.0 +8.2
WLF LR LR
comp=Z,5μm,21.0s
NKC Novy Kostel 103.30 354 *e*PP **PKiKP 04 23 56.1 -4.8**
NKC AMS AMS 05 12 00.0
comp=Z,800nm,19.3s
KSH Kashi 103.35 40 P **Pdif 04 19 42.8 +0.3**
KSH pP sPdif 04 19 46.8 +1.2
KSH PP **PKiKP 04 24 01.3 -0.2**
KSH S **Sdif 04 31 25.3 -4.5**
KSH pmax pmax
comp=Z,14nm,0.5s
KSH pmax pmax
comp=Z,190nm,3.8s
KSH LR LR
comp=Z,290nm,11.1s
KSH LR LR
comp=Z,220nm,11.0s
KSH LR LR
comp=Z,490nm,11.5s
UPC Upice 103.38 356 *e*P **Pdif 04 19 49.6 +7.4**
UPC *e* 04 30 22.4
UPC MLR MLR
comp=Z,1μm,17.1s
UPC Upice 103.38 356 *e*PDIFF **Pdif 04 19 49.6 +7.4**
UPC *e*PP **PP 04 23 53.0 -5.6**
UPC *e*SKS 04 30 22.4
UPC AMS AMS 05 12 10.0
comp=Z,1μm,17.1s
PVCC Panska Ves 103.47 355 *e*PP **PKiKP 04 23 55.7 -5.4**
PVCC AMS AMS 05 12 10.0
comp=Z,900nm,18.4s
TBI Tubuai 103.50 188 *e*SP SP 04 33 07.9 +0.8
comp=Z,470nm,28.8s
TBI *e*SS **SS 04 38 47.4 +5.3**
comp=Z,654nm,24.5s
TBI Tubuai 103.50 188 *e*LR LR 04 53 37.2
comp=Z,2μm,37.8s
KIEV Kiev 103.61 5 PFAKE 04 19 50.0 +6.8
KIEV LR LR
comp=Z,1μm,20.0s
AKASG Malin Array Be 103.62 5 Pdiff **Pdif 04 19 46.1 +2.9**
comp=Z,0.3nm,0.4s,baz=182,slow=4.3,SNR=3.4
AKASG PP **PP 04 23 59.3 -1.0**
comp=Z,0.1nm,0.3s,baz=194,slow=6.4,SNR=4.1
AKBB Malin Array Si 103.62 5 PFAKE 04 19 50.0 +6.8
AKBB LR LR
comp=Z,2μm,21.0s
QIZ Qiongzhong 103.66 77 P **Pdif 04 19 44.9 +0.7**
QIZ PP **PKiKP 04 24 02.3 -0.2**
QIZ S **Sdif 04 31 36.8 +3.7**
QIZ LR LR
comp=Z,240nm,19.0s
QIZ LR LR
comp=Z,140nm,15.7s
QIZ LR LR
comp=Z,1μm,13.2s
QIZ Qiongzhong 103.66 77 PFAKE 04 20 00.0 +16
QIZ LR LR
comp=Z,400nm,18.0s
EMPR Esperanza - Ma 103.75 282 PFAKE 04 20 00.0 +15
EMPR LR LR
comp=Z,1μm,22.0s
BRG Berggiesshubel 103.85 355 *e*P **PKiKP 04 24 00.5 -1.3**
comp=Z,26nm,1.8s
BRG S 04 33 22.0
BRG SS SS 04 38 37.0 -12
MPR Mayaguez 103.90 282 PFAKE 04 20 00.0 +15
MPR LR LR
comp=Z,1μm,22.0s
CLL Collm 104.34 354 PFAKE 04 20 00.0 +14
CLL LR LR
comp=Z,1μm,19.0s
CLL Collm 104.34 354 *e*P **Pdif 04 19 52.0 +5.6**
CLL *e* 04 30 33.0
CLL MLR MLR
comp=Z,1μm,19.3s
CLL Collm 104.34 354 *e*(Pdif) **Pdif 04 19 52.0 +5.6**
CLL *e*PP **PKiKP 04 24 03.0 +0.3**
CLL *e*PPPP 04 28 05.0
CLL *e*SKSac **SKSac 04 30 33.0 +7.4**
CLL *e*PS PS 04 33 22.0 +4.9
CLL *e*PPS PPS 04 34 12.0
CLL *e*SS **SS 04 38 53.0 -2.5**
CLL *e*SSS SSS 04 42 58.0
CLL Lm MLR 05 10 00.0
comp=N,700nm,19.5s
CLL Lm MLR 05 10 00.0
comp=E,400nm,19.6s
CLL Lm MLR 05 10 00.0
comp=Z,1μm,19.3s
KMI Kunming 104.36 67 PFAKE 04 20 00.0 +12
KMI LR LR
comp=Z,900nm,21.0s
KKAR Karatay Array 104.50 34 *e*Pdif **Pdif 04 19 47.7 +0.3**
KKAR Karatay Array 104.50 34 *e*P **Pdif 04 19 47.7 +0.3**
UCC Uccle 104.62 348 PFAKE 04 20 00.0 +12
UCC LR LR
comp=Z,1μm,21.0s
AAK Ala-Archa 105.50 37 *e*Pdif **Pdif 04 19 51.9 -0.1**
AAK LR LR
comp=Z,801nm,21.0s
AAK Ala-Archa 105.50 37 *e*P **Pdif 04 19 51.9 -0.1**
AAK MLR MLR
comp=Z,801nm,21.0s
FRU1 Bishkek 105.69 37 PFAKE 04 24 20.0 +14
FRU1 LR LR
comp=Z,900nm,21.0s
BOOM Boomskoye usch 105.90 38 PFAKE 04 24 20.0 +14
BOOM LR LR
comp=Z,500nm,20.0s
TARG Taragay, Kyrgy 105.96 40 PFAKE 04 24 20.0 +13
TARG LR LR
comp=Z,600nm,21.0s
KDJ Kajisay 106.06 39 PFAKE 04 24 20.0 +14
KDJ LR LR
comp=Z,600nm,20.0s
SDDR Presa de Saban 106.96 279 PFAKE 04 24 20.0 +11
SDDR LR LR
comp=Z,500nm,20.0s
RGN Rugen 107.55 355 PFAKE 04 24 20.0 +12
RGN LR LR
comp=Z,800nm,21.0s
GYA Guiyang 107.61 69 PKP PKiKP 04 24 21.9 +12
GYA PP **SKiKP 04 27 43.8 -1.0**
GYA PKS 04 27 56.0
HNR Honiara 108.12 136 PFAKE 04 24 20.0 +9.0
HNR LR LR
comp=Z,400nm,20.0s
IDID Didziasalis 108.14 3 *e*P **PP 04 24 30.0 -3.6**
IIGN Ignalina 108.16 2 *e*P **PP 04 24 26.6 -7.2**
PABE Paberze 108.27 1 *e*P **PP 04 24 30.6 -3.9**
OBN Obninsk 108.53 9 PFAKE 04 24 20.0 +10
OBN LR LR
comp=Z,800nm,20.0s
MANU Manus Island 108.63 121 PFAKE 04 24 20.0 +8.0
MANU LR LR
comp=Z,600nm,20.0s
HKPS Hong Kong Po S 108.70 78 PFAKE 04 24 20.0 +8.3
HKPS LR LR
comp=Z,400nm,18.0s
PBUR Paburg 108.78 360 *e*P **PP 04 24 33.8 -4.5**
PPT2 Papeete2 109.22 188 *e*PP **PP 04 24 35.2 -5.5**
comp=Z,90nm,24.8s
PPT2 *e*SP SP 04 34 06.8 +0.4
comp=Z,439nm,23.8s
PPT2 *e*SS **SS 04 40 02.8 +2.6**
comp=Z,752nm,24.2s
PPT2 Papeete2 109.22 188 *e*LR LR 04 56 28.4
comp=Z,1μm,23.0s
CD2 Chengdu 109.44 64 Pdif **Pdif 04 20 11.4 +1.7**
CD2 S **Sdif 04 32 19.9 -1.0**
CD2 SS **SS 04 40 08.6 +3.2**
CD2 AMB AMB
comp=Z,310nm,6.3s
CD2 LR LR
comp=Z,810nm,19.1s
CD2 LR LR
comp=Z,790nm,20.1s
CD2 LR LR
comp=Z,1μm,20.6s
ESPN Las Esperanzas 109.50 264 PFAKE 04 24 30.0 +17
ESPN LR LR
comp=Z,300nm,19.0s
ESK Eskdalemuir 110.08 345 PFAKE 04 24 20.0 +6.8
ESK LR LR
comp=Z,2μm,18.0s
MTDJ Mount Denham 110.12 274 PFAKE 04 24 30.0 +15
MTDJ LR LR
comp=Z,800nm,22.0s
SLIT Slitere, Latvi 110.39 0 *e*P **PP 04 24 44.1 -5.8**
VSU Vasula 111.29 3 *e*P **PP 04 24 51.5 -4.8**
WMQ Urumqi 111.74 45 *e*PKP **PKiKP 04 24 17.9 +1.0**
WMQ LR LR
comp=Z,2μm,23.1s
WMQ LR LR
comp=Z,2μm,26.5s
WMQ LR LR
comp=Z,2μm,21.5s
WMQ Urumqi 111.74 45 PFAKE 04 24 30.0 +13
WMQ LR LR
comp=Z,500nm,20.0s
MAKZ Makanchi 111.85 40 *e*Pdif **Pdif 04 20 21.8 +1.8**
MAKZ LR LR
comp=Z,400nm,20.0s
MAKZ Makanchi 111.85 40 *e*P **Pdif 04 20 21.8 +1.8**
MAKZ MLR MLR
comp=Z,400nm,20.0s
MK32 Makanchi Array 111.96 40 *e*Pdif **Pdif 04 20 21.4 +0.9**
MKAR Makanchi Array 111.96 40 Pdiff **Pdif 04 20 21.4 +0.9**
comp=Z,1.3nm,1.0s,baz=226,slow=4.7,SNR=6.9
MKAR PP **PKiKP 04 24 16.9 -0.3**
comp=Z,3.1nm,0.9s,baz=222,slow=1.6,SNR=11
MKAR PKKPbc **PKKPab 04 35 14.8 -0.5**
comp=Z,0.6nm,0.9s,baz=29,slow=8.7,SNR=3.7
ENH Enshi 112.12 69 PFAKE 04 24 30.0 +12
ENH LR LR
comp=Z,900nm,19.0s
KONO Kongsberg 112.87 353 PFAKE 04 24 30.0 +12
KONO LR LR
comp=Z,800nm,20.0s
KNMB Chin-men Tao 112.88 79 PFAKE 04 24 30.0 +10
KNMB LR LR
comp=Z,700nm,20.0s
BRVK Borovoye 113.18 29 PFAKE 04 24 30.0 +11
BRVK LR LR
comp=Z,800nm,21.0s
BRVK Borovoye 113.18 29 ||*i*PKIKP **PKiKP 04 24 20.5 +1.3**
ARU Arti 113.22 21 PFAKE 04 24 30.0 +11
ARU LR LR
comp=Z,800nm,18.0s
ARU Arti 113.22 21 *i* PKIKP **PKiKP 04 24 20.4 +1.2**
ARU 04 25 12.8
ARU 04 31 32.6
ARU SP SP 04 34 44.6 +1.2
ARU SS **SS 04 40 59.3 +4.2**
TWG Pinlang 113.23 83 PFAKE 04 24 30.0 +10
TWG LR LR
comp=Z,1μm,20.0s
LZH Lanzhou 113.44 61 *e*PKP **PKiKP 04 24 17.3 -3.2**
LZH PP **PP 04 25 12.4 0.0**
LZH SS SS 04 40 59.6 +0.5
LZH AMB AMB
comp=Z,200nm,8.7s
LZH LR LR
comp=Z,630nm,17.3s
LZH LR LR
comp=Z,640nm,15.2s
LZH LR LR
comp=Z,680nm,16.8s
YULB Yu-li 113.80 82 PFAKE 04 24 30.0 +8.6
YULB LR LR
comp=Z,500nm,22.0s
KURK Kurchatov 113.87 35 PFAKE 04 24 30.0 +9.4
KURK LR LR
comp=Z,600nm,18.0s
KURK Kurchatov 113.87 35 ⇑*i*PKIKP **PKiKP 04 24 21.9 +1.3**
KURK pmax pmax
comp=Z,4.0nm,0.8s
SSLB Suanglung 113.89 82 PFAKE 04 24 30.0 +8.4
SSLB LR LR
comp=Z,500nm,21.0s
GTA Gaotai 113.91 56 *e*PKP **PKiKP 04 24 24.0 +2.7**
GTA PP **PP 04 25 21.8 +6.2**
GTA SS SS 04 41 05.3 +0.3
GTA AMB AMB
comp=Z,120nm,7.6s
GTA LR LR
comp=Z,470nm,18.7s
GTA LR LR
comp=Z,490nm,19.4s
GTA LR LR
comp=Z,700nm,20.0s
NB2 NORSAR Subarra 114.14 354 PKPdf PKPdf 04 24 19.1 -1.8
comp=Z,8.1nm,1.4s,baz=169,slow=1.9
NB2 NORSAR Subarra 114.14 354 PKPdf PKPdf 04 24 19.1 -1.8
baz=169,slow=1.9
NOA NORSAR Array B 114.14 354 PKP **PKiKP 04 24 21.1 +0.3**
comp=Z,2.9nm,1.1s,baz=146,slow=1.9,SNR=4.6
FINES FINESS Array B 114.26 2 PKP PKPdf 04 24 19.7 -1.3
comp=Z,7.1nm,1.0s,baz=29,slow=4.4,SNR=12
FINES PP **PP 04 25 17.7 +0.2**
comp=Z,2.1nm,0.8s,baz=74,slow=6.8,SNR=4.8
FINES PKKPbc **PKKPab 04 35 07.5 +3.3**

comp=Z,2.9nm,0.8s,baz=66,slow=4.6,SNR=5.2
NACB Ninganchiao 114.57 82 PFAKE 04 24 30.0 +7.2
NACB LR LR
comp=Z,600nm,20.0s
XAN Xi'an 114.64 66 PFAKE 04 24 30.0 +7.3
XAN LR LR
comp=Z,500nm,20.0s
WHN Wuhan 115.08 72 PKP **PKiKP 04 24 25.6 +2.0**
PRGR Permogore 115.93 12 PKIKP **PKiKP 04 24 24.9 +0.7**
PRGR pmax pmax
comp=Z,8.0nm,0.9s
DGZ Jazzator, Alta 116.33 41 ||*i*PKIKP **PKiKP 04 24 25.8 +0.2**
TMCR Tamitsa 117.60 8 *e*PKIKP **PKiKP 04 24 28.4 +1.1**
TMCR pmax pmax
comp=Z,13nm,0.9s
061Z Ochoppi 117.93 276 PFAKE 04 24 40.0 +11
061Z LR LR
comp=Z,500nm,21.0s
060A Indiantown 118.47 278 PFAKE 04 24 40.0 +10
060A LR LR
comp=Z,700nm,20.0s
ZALV Zalesovo Beam 118.71 37 PKP **PKPdf 04 24 26.8 -3.0**
comp=Z,5.5nm,0.8s,baz=242,slow=3.2,SNR=9.3
NJ2 Nanjing 118.79 74 *e*PKP **PKiKP 04 24 33.3 +2.6**
059A Moore Haven 118.89 277 PFAKE 04 24 40.0 +8.9
059A LR LR
comp=Z,500nm,20.0s
DWPF Disney Wildern 119.91 278 PFAKE 04 24 40.0 +7.0
DWPF LR LR
comp=Z,700nm,20.0s
JOW Kunigami 120.55 85 PFAKE 04 24 50.0 +16
JOW LR LR
comp=Z,700nm,18.0s
658A Bunnell 120.76 279 PFAKE 04 24 50.0 +15
658A LR LR
comp=Z,500nm,21.0s
HHC Hu-ho-hao-te 121.04 62 *e*PKP **PKiKP 04 24 37.8 +2.8**
HHC PP **PP 04 26 08.3 +3.1**
HHC AMB AMB
comp=Z,290nm,8.8s
HHC LR LR
comp=Z,630nm,18.4s
HHC LR LR
comp=Z,740nm,18.8s
HHC LR LR
comp=Z,820nm,19.0s
LVZ Lovozero 121.06 6 PFAKE 04 24 50.0 +16
LVZ LR LR
comp=Z,899nm,19.0s
656A Willston 121.48 278 PFAKE 04 24 50.0 +14
656A LR LR
comp=Z,800nm,20.0s
656A Willston 121.48 278 P **PKPdf 04 24 35.7 -0.2**
baz=137
556A Lake Butler 121.87 279 P **PKPdf 04 24 36.2 -0.4**
baz=137
456A Hilliard 122.16 279 PFAKE 04 24 50.0 +13
456A LR LR
comp=Z,500nm,19.0s
Y60A Bolivia 122.27 285 PFAKE 04 24 50.0 +13
Y60A LR LR
comp=Z,400nm,20.0s
555A McAlpin 122.29 278 PFAKE 04 24 50.0 +12
555A LR LR
comp=Z,600nm,21.0s
ARCES ARCESS Array B 122.37 1 PKP **PKPdf 04 24 34.6 -1.8**
comp=Z,18nm,0.9s,baz=186,slow=2.3,SNR=18
257A Skidaway Islan 122.47 281 PFAKE 04 24 50.0 +12
257A LR LR
comp=Z,500nm,21.0s
V61A Roper 122.58 287 PFAKE 04 24 50.0 +12
V61A LR LR
comp=Z,500nm,21.0s
LVIG Laguna Verde 122.60 259 PFAKE 04 24 50.0 +11
LVIG LR LR
comp=Z,700nm,19.0s
KEV Kevo 122.62 2 *e*PKPdf **PKiKP 04 24 38.5 +1.5**
KEV LR LR
comp=Z,1μm,22.0s
KEV Kevo 122.62 2 *e*PKIKP **PKiKP 04 24 38.5 +1.5**
KEV MLR MLR
comp=Z,1μm,22.0s
NHSC New Hope 122.78 283 PFAKE 04 24 50.0 +11
NHSC LR LR
comp=Z,500nm,20.0s
NHSC New Hope 122.78 283 P **PKiKP 04 24 38.6 +0.1**
baz=136
U61A Possum Corner 122.89 288 PFAKE 04 24 50.0 +11
U61A LR LR
comp=Z,600nm,21.0s
X59A McDuffie Farm, 122.89 285 P **PKPdf 04 24 38.5 0.0**
baz=135
CNNC Cliffs of the 122.95 286 PFAKE 04 24 50.0 +11
CNNC LR LR
comp=Z,500nm,20.0s
BJT Baijiatuau 122.95 66 PFAKE 04 24 50.0 +11
BJT LR LR
comp=Z,500nm,19.0s
157A Early Branch 122.95 282 P **PKiKP 04 24 39.1 +0.3**
baz=136
V60A Jim Taylor Roa 122.96 287 PFAKE 04 24 50.0 +11
V60A LR LR
comp=Z,400nm,22.0s
454A Quitman 123.11 278 P **PKPdf 04 24 38.8 -0.2**
baz=136
Z57A Bowman 123.22 283 P **PKPdf 04 24 38.7 -0.4**
baz=135
255A Hazlehurst 123.29 280 PFAKE 04 24 50.0 +10
255A LR LR
comp=Z,500nm,22.0s
X58A Rowland 123.31 285 P **PKPdf 04 24 39.4 +0.1**
baz=135
SONA0 Songino Array 123.32 53 *e*PKPdf **PKPdf 04 24 38.4 -0.7**
SONM Songino Array 123.32 53 PKP **PKPdf 04 24 38.4 -0.7**
comp=Z,6.3nm,1.0s,baz=226,slow=2.2,SNR=7.5
SONM PP **PP 04 26 18.6 -2.1**
comp=Z,1.7nm,0.6s,baz=235,slow=5.1,SNR=3.6
V59A Middlesex 123.52 286 P **PKPdf 04 24 38.9 -0.8**
baz=135
Y57A Sumter 123.55 283 PFAKE 04 24 50.0 +10
Y57A LR LR
comp=Z,400nm,20.0s
Y57A Sumter 123.55 283 P **PKPdf 04 24 38.9 -0.9**
baz=135
W58A Raeford 123.58 285 P **PKiKP 04 24 40.0 0.0**
baz=135
TIGA Tifton 123.61 279 PFAKE 04 24 50.0 +10
TIGA LR LR
comp=Z,500nm,21.0s
T60A Surry 123.62 289 PFAKE 04 24 50.0 +10
T60A LR LR
comp=Z,400nm,20.0s
ZAK Zakamensk 123.63 49 *e*PKIKP **PKPdf 04 24 37.5 -2.1**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
Z56A Williston 123.63 282 PFAKE 04 24 50.0 +10
Z56A LR LR
comp=Z,500nm,21.0s
ULN Ulaanbaatar 123.66 54 PFAKE 04 24 50.0 +10
ULN LR LR
comp=Z,500nm,20.0s
ULN Ulaanbaatar 123.66 54 ⇑*i*PKIKP **PKiKP 04 24 40.8 +0.8**
U59A Littleton 123.68 287 PFAKE 04 24 50.0 +10
U59A LR LR
comp=Z,600nm,22.0s
U59A Littleton 123.68 287 P **PKPdf 04 24 39.3 -0.6**
baz=135
155A Kite 123.78 281 P **PKPdf 04 24 38.9 -1.4**
baz=136
254A Abbeville 123.79 280 P **PKPdf 04 24 40.4 +0.1**
baz=136
353A Camilla 123.91 278 P **PKPdf 04 24 40.6 +0.1**
baz=136
BIRD Birdtown, Kers 124.03 284 PFAKE 04 24 50.0 +9.0
BIRD LR LR
comp=Z,400nm,22.0s
V58A Windy Hill, Pi 124.05 286 P **PKPdf 04 24 40.6 -0.1**
baz=135
W57A Gilead 124.11 285 PFAKE 04 24 50.0 +8.9
W57A LR LR
comp=Z,500nm,21.0s
W57A Gilead 124.11 285 P **PKPdf 04 24 40.3 -0.5**
baz=135
BCX Boston College 124.12 297 PFAKE 04 24 50.0 +9.1
BCX LR LR
comp=Z,600nm,20.0s
U58A Oxford 124.14 287 P **PKPdf 04 24 40.4 -0.4**
baz=134
154A Montrose 124.16 280 PFAKE 04 24 50.0 +8.7
154A LR LR
comp=Z,600nm,20.0s
WES Weston 124.23 297 *e*PKPdf **PKPdf 04 24 40.6 -0.2**
WES Weston 124.23 297 *e*PKIKP **PKPdf 04 24 40.6 -0.2**
JSC Jenkinsville 124.24 283 PFAKE 04 24 50.0 +8.6
JSC LR LR
comp=Z,500nm,19.0s
X56A White Oak 124.26 283 P **PKPdf 04 24 40.4 -0.7**
baz=135
451A Vernon 124.30 277 PFAKE 04 24 50.0 +8.4
451A LR LR
comp=Z,700nm,20.0s
Y55A Saluda 124.35 282 P **PKPdf 04 24 40.7 -0.7**
baz=135
253A Americus 124.37 279 PFAKE 04 24 50.0 +8.3
253A LR LR
comp=Z,500nm,20.0s
S59A Mechanicsville 124.37 289 P **PKPdf 04 24 40.7 -0.6**
baz=134
352A Blakely 124.43 278 PFAKE 04 24 50.0 +8.1
352A LR LR
comp=Z,600nm,20.0s
Z54A Sparta 124.44 281 P **PKPdf 04 24 40.6 -0.9**
baz=135
HRV Adam Dziewonsk 124.44 297 P **PKPdf 04 24 41.1 -0.1**
baz=133
W56A Indian Trail 124.44 284 P **PKPdf 04 24 40.7 -0.7**
baz=135
V57A Coltrane Farms 124.50 285 P **PKPdf 04 24 40.7 -0.8**
baz=134
R59A King George, V 124.57 289 P **PKPdf 04 24 41.3 -0.3**
baz=134
X55A Gracelyn & Ava 124.59 283 P **PKPdf 04 24 41.7 -0.1**
baz=135
U57A Blanch 124.62 286 P **PKPdf 04 24 41.2 -0.6**
baz=134
252A Lumpkin 124.69 278 P **PKPdf 04 24 41.2 -0.9**
baz=136
TLY Talaya 124.70 49 PFAKE 04 24 50.0 +8.2
TLY LR LR
comp=Z,500nm,21.0s
TLY Talaya 124.70 49 ⇑*i*PKIKP **PKiKP 04 24 43.5 +1.7**
PAL Palisades 124.70 294 P **PKPdf 04 24 41.5 -0.2**
baz=133
S58A Poland Farm, P 124.70 288 P **PKPdf 04 24 41.5 -0.3**
baz=134
CBN Corbin Frederi 124.72 289 P **PKPdf 04 24 42.0 +0.1**
baz=134
Y54A Tignall 124.79 282 P **PKPdf 04 24 41.4 -0.8**
baz=135
HODGE Hodges 124.80 282 PFAKE 04 24 50.0 +7.5
HODGE LR LR
comp=Z,500nm,18.0s
P60A Greenville 124.84 292 P **PKPdf 04 24 41.4 -0.7**
baz=133
R58B Mineral 124.84 288 PFAKE 04 24 50.0 +7.5
R58B LR LR
comp=Z,500nm,20.0s
R58B Mineral 124.84 288 P **PKPdf 04 24 41.4 -0.8**
baz=134
V56A Mocksville 124.86 285 P **PKPdf 04 24 41.8 -0.5**
baz=134
KMSC Kings Mountain 124.89 284 PFAKE 04 24 50.0 +7.3
KMSC LR LR
comp=Z,400nm,20.0s
KMSC Kings Mountain 124.89 284 P **PKPdf 04 24 41.6 -0.7**
baz=134
Z53A Monticello 124.90 280 P **PKPdf 04 24 41.7 -0.7**
baz=135
GOGA Godfrey 124.93 281 PFAKE 04 24 50.0 +7.2
GOGA LR LR
comp=Z,700nm,22.0s
GOGA Godfrey 124.93 281 P **PKPdf 04 24 42.2 -0.2**
baz=135
PAULI Pauline 124.95 283 PFAKE 04 24 50.0 +7.2
PAULI LR LR
comp=Z,900nm,18.0s
T57A Hurt 124.97 287 PFAKE 04 24 50.0 +7.2
T57A LR LR
comp=Z,500nm,22.0s
T57A Hurt 124.97 287 P **PKPdf 04 24 41.6 -0.8**
baz=134
O60A Telford 125.06 292 P **PKPdf 04 24 42.2 -0.2**
baz=133
X54A Belton 125.08 282 P **PKPdf 04 24 42.6 -0.1**
baz=135
PKME Peaks-Kenny Pk 125.12 300 P **PKiKP 04 24 42.8 0.0**
baz=133
R58A Rapidan 125.15 289 P **PKPdf 04 24 42.6 -0.2**
baz=134
152A Waverly Hall 125.15 279 PFAKE 04 24 50.0 +6.7
152A LR LR
comp=Z,800nm,19.0s
152A Waverly Hall 125.15 279 P **PKPdf 04 24 41.9 -1.0**
baz=135
P59A Jarrettsville 125.16 291 P **PKPdf 04 24 42.8 +0.1**
baz=133
251A Midway 125.16 278 P **PKPdf 04 24 42.5 -0.4**
baz=135
U56A King 125.17 285 P **PKPdf 04 24 42.8 0.0**
baz=134
DL2 Dalian 125.24 70 PKP PKPdf 04 24 33.3 -10
DL2 PP **PP 04 26 29.3 -4.1**
DL2 Dalian 125.24 70 SS SS 04 43 27.6 -3.2
V55A Taylorsville 125.31 284 P **PKPdf 04 24 42.7 -0.5**
baz=134
Y53A Monroe 125.31 281 P **PKPdf 04 24 42.7 -0.5**
baz=135
S57A Dark Hollow, R 125.32 288 PFAKE 04 24 50.0 +6.6
S57A LR LR
comp=Z,500nm,21.0s
S57A Dark Hollow, R 125.32 288 P **PKPdf 04 24 42.4 -0.7**
baz=134
Z52A Williamson 125.34 280 P **PKPdf 04 24 43.0 -0.3**
baz=135
W54A Cherokee Point 125.35 283 P **PKPdf 04 24 42.5 -0.8**
baz=134
151A Opelika 125.41 279 P **PKPdf 04 24 42.8 -0.6**
baz=135
T56A Rocky Mt 125.44 286 P **PKPdf 04 24 43.3 0.0**
baz=134
R57A Stanardsville 125.44 288 P **PKPdf 04 24 43.1 -0.2**
baz=133
O59A Robesonia 125.49 292 P **PKPdf 04 24 43.3 0.0**
baz=133
250A Grady 125.59 277 PFAKE 04 25 00.0 +16
250A LR LR
comp=Z,700nm,18.0s
250A Grady 125.59 277 P **PKPdf 04 24 43.1 -0.6**
baz=135
X53A Estanollee 125.60 282 P **PKPdf 04 24 42.9 -0.8**
baz=134,SNR=14
Y52A Lilburn 125.60 281 PFAKE 04 25 00.0 +16
Y52A LR LR
comp=Z,500nm,21.0s
S56A Natural Bridge 125.62 287 P **PKPdf 04 24 43.7 0.0**
baz=134
U55A TA2, Sparta 125.67 285 P **PKPdf 04 24 42.4 -1.5**
baz=134
V54A Nebo 125.69 284 P **PKPdf 04 24 43.3 -0.5**
baz=134
BG3 Lake Jocassee 125.72 282 PFAKE 04 25 00.0 +16
BG3 LR LR
comp=Z,800nm,18.0s
Q57A Strasburg 125.88 289 P **PKPdf 04 24 44.1 0.0**
baz=133
150A Eclectic 125.89 278 P **PKPdf 04 24 43.9 -0.4**
baz=135
W53A Cullowhee 125.98 282 P **PKPdf 04 24 43.7 -0.9**
baz=134,SNR=8.6
X52A Dahlonega 126.02 281 P **PKPdf 04 24 44.2 -0.4**
baz=134
V53A Saluda 126.12 283 PFAKE 04 25 00.0 +15
V53A LR LR
comp=Z,800nm,22.0s
V53A Saluda 126.12 283 P **PKPdf 04 24 44.4 -0.4**
baz=134
U54A Nelsons Funny 126.13 285 PFAKE 04 25 00.0 +15
U54A LR LR
comp=Z,600nm,20.0s
U54A Nelsons Funny 126.13 285 P **PKPdf 04 24 44.4 -0.4**
baz=134
Y51A Rockmart 126.22 280 P **PKiKP 04 24 45.2 -0.2**
baz=134
Z50A Ashland 126.28 279 PFAKE 04 25 00.0 +14
Z50A LR LR
comp=Z,600nm,20.0s
Z50A Ashland 126.28 279 P **PKPdf 04 24 44.7 -0.4**
baz=135
149A Jones 126.34 277 P **PKPdf 04 24 44.2 -1.0**
baz=135
R55A Marlinton 126.35 287 P **PKPdf 04 24 45.1 -0.1**
baz=133
T54A Tazewell 126.36 285 P **PKPdf 04 24 44.6 -0.6**
baz=133
W52A Murphy 126.38 282 P **PKiKP 04 24 45.5 -0.2**
baz=134
U53A Fall Branch 126.46 284 P **PKPdf 04 24 45.0 -0.3**
baz=134
X51A Calhoun 126.56 281 PFAKE 04 25 00.0 +14
X51A LR LR
comp=Z,500nm,21.0s
X51A Calhoun 126.56 281 P **PKPdf 04 24 45.2 -0.3**
baz=134
Z49A Columbiana 126.60 278 P **PKPdf 04 24 45.5 -0.2**
baz=135
BINY Binghamton 126.66 294 P **PKiKP 04 24 46.1 +0.1**
baz=132
SSPA Standing Stone 126.67 291 *e*PKPdf **PKiKP 04 24 46.0 0.0**
SSPA LR LR
comp=Z,400nm,20.0s
SSPA Standing Stone 126.67 291 P **PKPdf 04 24 45.8 +0.2**
baz=132
V52A Sevierville 126.70 283 PFAKE 04 25 00.0 +14
V52A LR LR
comp=Z,800nm,20.0s
V52A Sevierville 126.70 283 P **PKiKP 04 24 46.1 -0.2**
baz=134
LRAL Lakeview Retre 126.77 278 PFAKE 04 25 00.0 +14
LRAL LR LR
comp=Z,900nm,18.0s
LRAL Lakeview Retre 126.77 278 P **PKPdf 04 24 46.0 0.0**
baz=135
R54A Victor 126.78 287 P **PKPdf 04 24 45.9 0.0**
baz=133
O56A Blue Knob Stat 126.81 290 P **PKPdf 04 24 45.8 -0.1**
baz=132
Q55A Buckhannon 126.81 288 P **PKPdf 04 24 46.2 +0.2**
baz=133
T53A Wise 126.86 284 P **PKPdf 04 24 45.7 -0.5**
baz=133
W51A Cleveland 126.92 281 P **PKiKP 04 24 46.6 -0.1**
baz=134
U52A Thorn Hill 126.95 283 P **PKiKP 04 24 46.7 0.0**
baz=133
X50B Fort Payne 126.96 280 P **PKPdf 04 24 46.2 -0.2**
baz=134
CPCT Cooper Cave 126.98 282 PFAKE 04 25 00.0 +13
CPCT LR LR
comp=Z,500nm,21.0s
Y49A Blount Mountai 126.99 279 P **PKPdf 04 24 46.4 -0.1**
baz=134
P55A Reedsville 127.01 289 P **PKPdf 04 24 46.5 +0.2**
baz=132
V51A Loudon 127.12 282 PFAKE 04 25 00.0 +13
V51A LR LR
comp=Z,900nm,18.0s
V51A Loudon 127.12 282 P **PKPdf 04 24 46.0 -0.5**
baz=134,SNR=9.5
MCWV Mont Chateau 127.12 289 P **PKPdf 04 24 46.4 0.0**
baz=132
TZTN Tazewell 127.16 283 PFAKE 04 25 00.0 +13
TZTN LR LR
comp=Z,800nm,19.0s
TZTN Tazewell 127.16 283 P **PKPdf 04 24 46.9 +0.3**
baz=133
O55A Ligonier 127.18 290 P **PKiKP 04 24 47.2 +0.1**
baz=132
T52A Hallie 127.21 284 P **PKPdf 04 24 46.7 -0.1**
baz=133
Q54A Coxs Mills 127.23 287 P **PKPdf 04 24 46.4 -0.3**
baz=132
W50A Signal Mountai 127.27 281 PFAKE 04 25 00.0 +13
W50A LR LR
comp=Z,600nm,22.0s
W50A Signal Mountai 127.27 281 P **PKPdf 04 24 47.0 +0.1**
baz=134
SCO Scoresbysund 127.30 343 *e*PKPdf **PKiKP 04 24 46.1 -0.2**
SCO Scoresbysund 127.30 343 *e*PKIKP **PKiKP 04 24 46.1 -0.2**
SCO Scoresbysund 127.30 343 *i* P **PKPdf 04 24 45.8 0.0**
comp=Z,20nm,1.0s
U51A La Follette 127.32 283 P **PKPdf 04 24 47.0 0.0**
baz=133
N55A Marion Center 127.39 290 P **PKPdf 04 24 47.0 +0.1**
baz=132
X49A Woodville 127.40 280 P **PKPdf 04 24 47.0 -0.1**
baz=134
R53A Hurricane 127.44 286 P **PKPdf 04 24 46.8 -0.3**
baz=133
P54A Burton 127.45 288 P **PKPdf 04 24 47.2 0.0**
baz=132
V50A Pikevile 127.47 281 P **PKiKP 04 24 47.6 -0.2**
baz=134
Y48A Jasper 127.48 278 P **PKPdf 04 24 47.1 -0.3**
baz=134
LONY Lake Ozonia 127.49 297 P **PKiKP 04 24 47.5 -0.1**
baz=131
Q53A Leroy 127.55 287 P **PKPdf 04 24 47.1 -0.2**
baz=132
SWET Sewanee 127.65 280 PFAKE 04 25 00.0 +12
SWET LR LR
comp=Z,900nm,18.0s
T51A Gray 127.68 283 P **PKPdf 04 24 47.0 -0.6**
baz=133,SNR=10
M55A Ridgway 127.72 291 P **PKPdf 04 24 47.7 +0.1**
baz=132
O54A Avella 127.78 289 P **PKPdf 04 24 47.8 +0.1**
baz=132
W49A Belvidere 127.78 280 P **PKiKP 04 24 48.2 -0.2**
baz=134
X48A Hartselle 127.78 279 PFAKE 04 25 00.0 +12
X48A LR LR
comp=Z,400nm,20.0s
X48A Hartselle 127.78 279 P **PKPdf 04 24 47.7 -0.1**
baz=134
U50A Jamestown 127.83 282 P **PKiKP 04 24 48.3 -0.2**
baz=133
R52A Catlettsburg 127.84 286 P **PKPdf 04 24 47.4 -0.5**
baz=132
KS15 Wonju Array Si 127.85 76 *e*PKPdf **PKPdf 04 24 46.8 -1.1**
KSRS Korea Array 127.88 76 PKP **PKPdf 04 24 46.8 -1.1**
comp=Z,4.2nm,1.0s,baz=231,slow=1.8,SNR=14
P53A Whipple 127.89 288 *e*PKPdf **PKPdf 04 24 48.1 +0.2**
P53A LR LR
comp=Z,600nm,21.0s
P53A Whipple 127.89 288 P **PKPdf 04 24 47.8 -0.2**
baz=132
S51A Beattyville 127.93 284 PFAKE 04 25 00.0 +11
S51A LR LR
comp=Z,600nm,18.0s
S51A Beattyville 127.93 284 P **PKiKP 04 24 48.4 -0.3**
baz=133
L55A Hinsdale 128.01 292 P **PKiKP 04 24 48.9 +0.2**
baz=131
V49A McMinnville 128.01 281 P **PKPdf 04 24 48.2 -0.1**
baz=133
Q52A Bidwell 128.05 286 P **PKPdf 04 24 48.3 0.0**
baz=132
N54A Moraine State 128.07 290 PFAKE 04 25 00.0 +11
N54A LR LR
comp=Z,1μm,21.0s
N54A Moraine State 128.07 290 P **PKPdf 04 24 48.5 +0.2**
baz=132
K55A Perry 128.16 293 P **PKiKP 04 24 48.7 -0.2**
baz=131
W48A Pulaski 128.19 280 P **PKPdf 04 24 48.1 -0.6**
baz=134
T50A Nancy 128.24 283 P **PKPdf 04 24 48.3 -0.4**
baz=133
M54A Oil Creek Stat 128.25 291 P **PKPdf 04 24 48.6 0.0**
baz=131
O53A New Philadelph 128.30 288 P **PKPdf 04 24 48.3 -0.4**
baz=132
VBMS Vicksburg 128.31 274 PFAKE 04 25 00.0 +10
VBMS LR LR
comp=Z,600nm,19.0s
ALFO Alfred 128.31 297 P **PKiKP 04 24 48.8 -0.3**
baz=130
X47A Russelville 128.31 278 P **PKPdf 04 24 48.1 -0.8**
baz=134
LATQ La Tuque 128.34 300 P **PKPdf 04 24 48.4 -0.1**

	baz=130						
PECO	Prince Edward	128.35 295	P	PKiKP	04 24 49.0	-0.3	
	baz=131						
LNIG	Linares	128.36 261	PFAKE		04 25 00.0	+10	
LNIG			LR	LR			
	comp=Z,700nm,18.0s						
R51A	Hillsboro	128.37 285	P	PKPdf	04 24 48.6	-0.2	
	baz=132						
J55A	Hilton	128.37 293	P	PKPdf	04 24 48.9	+0.2	
	baz=131						
H56A	Elgin	128.38 296	P	PKPdf	04 24 48.5	-0.1	
	baz=130						
P52A	Corning	128.42 287	P	PKPdf	04 24 48.4	-0.5	
	baz=132						
S50A	Richmond	128.43 284	P	PKPdf	04 24 49.3	+0.3	
	baz=132,SNR=6.4						
U49A	Red Boiling Sp	128.45 282	P	PKPdf	04 24 49.1	0.0	
	baz=133						
N53A	Lisbon	128.45 289	PFAKE		04 25 00.0	+10	
N53A			LR	LR			
	comp=Z,1μm,18.0s						
N53A	Lisbon	128.45 289	P	PKPdf	04 24 49.0	+0.1	
	baz=132						
CLTN	Cedars of Leba	128.49 281	PFAKE		04 25 00.0	+10	
CLTN			LR	LR			
	comp=Z,400nm,19.0s						
ORIO	Orleans, Innes	128.53 297	P	PKPdf	04 24 49.2	+0.3	
	baz=130						
V48A	Smith Brothers	128.54 280	PFAKE		04 25 00.0	+10	
V48A			LR	LR			
	comp=Z,1μm,18.0s						
ZAIG	Zacatecas	128.57 256	PFAKE		04 25 00.0	+9.2	
ZAIG			LR	LR			
	comp=Z,800nm,21.0s						
MEDO	Medina	128.66 293	PFAKE		04 25 00.0	+10	
MEDO			LR	LR			
	comp=Z,500nm,19.0s						
MEDO	Medina	128.66 293	P	PKPdf	04 24 49.0	-0.2	
	baz=131						
W47A	Westpoint	128.66 279	P	PKPdf	04 24 49.4	-0.2	
	baz=134						
T49A	Edmonton	128.70 282	PFAKE		04 25 00.0	+10	
T49A			LR	LR			
	comp=Z,600nm,22.0s						
T49A	Edmonton	128.70 282	P	PKPdf	04 24 49.5	-0.1	
	baz=133,SNR=6.0						
Q51A	Peebles	128.71 286	PFAKE		04 25 00.0	+10	
Q51A			LR	LR			
	comp=Z,500nm,18.0s						
Q51A	Peebles	128.71 286	P	PKPdf	04 24 49.5	0.0	
	baz=132						
X46A	Booneville	128.77 278	P	PKPdf	04 24 49.6	-0.2	
	baz=134						
M53A	WI Miller and	128.78 290	P	PKPdf	04 24 49.7	+0.1	
	baz=131						
R50A	Paris	128.79 284	P	PKPdf	04 24 49.8	+0.1	
	baz=132						
J54A	Appleton	128.83 293	P	PKPdf	04 24 49.9	+0.3	
	baz=131						
P51A	Williamsport	128.85 286	PFAKE		04 25 00.0	+10	
P51A			LR	LR			
	comp=Z,1μm,18.0s						
P51A	Williamsport	128.85 286	P	PKPdf	04 24 49.4	-0.3	
	baz=132						
H55A	Tweed	128.86 295	P	PKPdf	04 24 49.3	-0.3	
	baz=130						
L53A	Girard	128.88 291	P	PKPdf	04 24 49.3	-0.5	
	baz=131						
I55A	Frankford	128.91 294	P	PKPdf	04 24 49.8	+0.1	
	baz=130,SNR=6.2						
Q50A	Georgetown	128.96 285	P	PKPdf	04 24 49.2	-0.8	
	baz=132						
V47A	Nunnelly	129.01 280	P	PKPdf	04 24 49.7	-0.5	
	baz=133						
O51A	Pataskala	129.03 287	P	PKPdf	04 24 48.8	-1.3	
	baz=131						
DELO	Deloro Mine	129.07 295	P	PKPdf	04 24 49.6	-0.4	
	baz=130,SNR=5.1						
PLVO	Plevna	129.11 296	P	PKPdf	04 24 50.2	+0.1	
	baz=130						
WLVO	Wesleyville	129.12 294	P	PKPdf	04 24 50.2	+0.1	
	baz=130						
T48A	Bowling Green	129.21 282	P	PKPdf	04 24 50.5	-0.1	
	baz=132						
M52A	Chesterland	129.23 290	PFAKE		04 25 00.0	+8.9	
M52A			LR	LR			
	comp=Z,500nm,20.0s						
OXF	Oxford	129.24 277	PFAKE		04 25 00.0	+8.7	
OXF			LR	LR			
	comp=Z,800nm,20.0s						
OXF	Oxford	129.24 277	P	PKPdf	04 24 50.2	-0.4	
	baz=134						
DRWO	Darlington Wes	129.27 293	P	PKPdf	04 24 50.5	+0.1	
	baz=130						
R49A	Shelbyville	129.29 284	P	PKPdf	04 24 50.3	-0.4	
	baz=132						
U47A	Clarksville	129.29 281	P	PKPdf	04 24 50.4	-0.3	
	baz=133						
ACSO	Alum Creek Sta	129.30 287	PFAKE		04 25 00.0	+8.7	
ACSO			LR	LR			
	comp=Z,900nm,19.0s						
ACSO	Alum Creek Sta	129.30 287	P	PKPdf	04 24 50.2	-0.4	
	baz=131						
V46A	Holladay	129.35 279	P	PKPdf	04 24 50.1	-0.7	
	baz=133						
P50A	Jamestown	129.36 286	P	PKPdf	04 24 50.2	-0.6	
	baz=132						
S48A	Wiedeman Farm,	129.38 283	P	PKPdf	04 24 50.4	-0.4	
	baz=132						
KVTX	Kingsville	129.39 264	PFAKE		04 25 00.0	+8.1	
KVTX			LR	LR			
	comp=Z,600nm,18.0s						
WVT	Waverly	129.40 280	*e*PKPdf	PKPdf	04 24 50.5	-0.4	
WVT			LR	LR			
	comp=Z,700nm,18.0s						
WVT	Waverly	129.40 280	*e*PKIKP	PKPdf	04 24 50.5	-0.4	
WVT			MLR	MLR			
	comp=Z,700nm,18.0s						
WVT	Waverly	129.40 280	P	PKPdf	04 24 50.9	0.0	
	baz=133						
N51A	Ashland	129.41 288	PFAKE		04 25 00.0	+8.5	
N51A			LR	LR			
	comp=Z,1μm,18.0s						
T47A	Sharon Grove	129.55 281	PFAKE		04 25 00.0	+8.1	
T47A			LR	LR			
	comp=Z,800nm,18.0s						
T47A	Sharon Grove	129.55 281	P	PKPdf	04 24 51.4	+0.3	
	baz=132						
BANO	Bancroft	129.57 295	P	PKiKP	04 24 51.4	-0.3	
	baz=130						
Q49A	Aurora	129.60 285	P	PKPdf	04 24 50.9	-0.4	
	baz=132						
PEMO	Pembroke	129.61 296	P	PKPdf	04 24 50.8	-0.2	
	baz=130						
K52A	Tillsonburg	129.67 291	P	PKPdf	04 24 51.4	+0.2	
	baz=130						
N50A	Nevada	129.75 288	P	PKPdf	04 24 50.9	-0.5	
	baz=131						
J52A	Paris	129.84 292	P	PKiKP	04 24 52.0	-0.3	
	baz=130						
P49A	Miami Univ. Ec	129.85 285	P	PKPdf	04 24 51.2	-0.4	
	baz=131						
HKT	Hockley	129.90 268	PFAKE		04 25 00.0	+7.3	
HKT			LR	LR			
	comp=Z,2μm,19.0s						
WCI	Wyandotte Cave	129.90 283	*e*PKPdf	PKiKP	04 24 52.4	-0.2	
WCI			LR	LR			
	comp=Z,500nm,22.0s						
WCI	Wyandotte Cave	129.90 283	*e*PKIKP	PKiKP	04 24 52.4	-0.2	
WCI			MLR	MLR			
	comp=Z,500nm,22.0s						
WCI	Wyandotte Cave	129.90 283	P	PKPdf	04 24 51.6	-0.2	
	baz=132						
MET	Memphis--Engin	129.97 277	PFAKE		04 25 00.0	+7.2	
MET			LR	LR			
	comp=Z,900nm,20.0s						
T46A	Princeton	130.05 281	P	PKPdf	04 24 51.6	-0.5	
	baz=132						
O49A	Covington	130.06 286	PFAKE		04 25 00.0	+7.2	
O49A			LR	LR			
	comp=Z,1μm,19.0s						
O49A	Covington	130.06 286	P	PKPdf	04 24 51.7	-0.3	
	baz=131						
R47A	Wooly Knot Far	130.09 283	P	PKPdf	04 24 52.2	+0.1	
	baz=132						
SCHQ	Schefferville	130.12 311	PKP	PKPdf	04 24 50.9	-0.8	
	comp=Z,18nm,0.9s,baz=205,slow=2.1,SNR=8.9						
X43A	Marvell	130.12 276	PFAKE		04 25 00.0	+6.9	
X43A			LR	LR			
	comp=Z,700nm,21.0s						
HALT	Halls	130.15 279	PFAKE		04 25 00.0	+6.9	
HALT			LR	LR			
	comp=Z,1μm,19.0s						
I52A	Shelburne	130.20 293	P	PKPdf	04 24 52.2	0.0	
	baz=130						
P48A	Milroy	130.21 285	P	PKPdf	04 24 51.8	-0.6	
	baz=131						
ALGO	Algonquin Park	130.22 296	P	PKPdf	04 24 52.3	+0.2	
	baz=129						
D54A	Lac Fusel, La	130.23 298	P	PKPdf	04 24 52.0	-0.1	
	baz=129						
CCAR	Cane Creek	130.24 275	PFAKE		04 25 00.0	+6.6	
CCAR			LR	LR			
	comp=Z,800nm,21.0s						
GLAT	Glass	130.36 279	PFAKE		04 25 00.0	+6.4	
GLAT			LR	LR			
	comp=Z,900nm,20.0s						
Z41A	Richland Creek	130.41 274	PFAKE		04 25 00.0	+6.3	
Z41A			LR	LR			
	comp=Z,2μm,18.0s						
N49A	Columbus Grove	130.44 287	PFAKE		04 25 00.0	+6.4	
N49A			LR	LR			
	comp=Z,500nm,20.0s						
N49A	Columbus Grove	130.44 287	P	PKPdf	04 24 52.5	-0.3	
	baz=131						
Q47A	Bedord North L	130.45 284	P	PKPdf	04 24 52.7	-0.1	
	baz=131						
NATX	Nacogdoches	130.48 271	PFAKE		04 25 00.0	+6.1	
NATX			LR	LR			
	comp=Z,1μm,20.0s						
I51A	Listowel	130.50 292	P	PKPdf	04 24 52.5	-0.3	
	baz=130						
USIN	University of	130.54 282	PFAKE		04 25 00.0	+6.1	
USIN			LR	LR			
	comp=Z,600nm,19.0s						
O48A	Farmland	130.57 286	P	PKPdf	04 24 52.6	-0.4	
	baz=131						
GNAR	Gosnell	130.59 278	PFAKE		04 25 00.0	+6.0	
GNAR			LR	LR			
	comp=Z,1μm,22.0s						
HBAR	Harrisburg	130.69 277	PFAKE		04 25 10.0	+16	
HBAR			LR	LR			
	comp=Z,1μm,19.0s						
PVMO	Portageville	130.70 279	PFAKE		04 25 10.0	+16	
PVMO			LR	LR			
	comp=Z,600nm,20.0s						
D53A	Lac Vacive, Po	130.74 297	P	PKPdf	04 24 52.5	-0.6	
	baz=128						
CHGQ	Chibougamau	130.75 302	P	PKPdf	04 24 52.4	-0.6	
	baz=128						
K50A	Casco	130.75 290	PFAKE		04 25 00.0	+5.9	
K50A			LR	LR			
	comp=Z,400nm,20.0s						
833A	Chaparral WMA,	130.86 264	PFAKE		04 25 10.0	+15	
833A			LR	LR			
	comp=Z,2μm,21.0s						
WLAR	White Oak Lake	130.89 274	PFAKE		04 25 10.0	+15	
WLAR			LR	LR			
	comp=Z,800nm,21.0s						
PARMO	Parma	130.90 279	PFAKE		04 25 10.0	+15	
PARMO			LR	LR			
	comp=Z,700nm,19.0s						
HIA	Hailar	130.95 59	‖*e*PKIKP	PKiKP	04 24 54.5	+0.1	
AAM	Ann Arbor	131.03 289	PFAKE		04 25 10.0	+15	
AAM			LR	LR			
	comp=Z,500nm,19.0s						
D52A	ZEK Kipawa Sen	131.06 297	P	PKPdf	04 24 53.3	-0.4	
	baz=128						
NRIK	Noril'sk	131.08 25	PKP	PKPdf	04 24 53.0	0.0	
	comp=Z,4.6nm,0.6s,baz=119,slow=1.7,SNR=6.5						
M48A	Edgerton	131.12 287	PFAKE		04 25 10.0	+15	
M48A			LR	LR			
	comp=Z,800nm,21.0s						
UALR	University of	131.17 275	PFAKE		04 25 10.0	+15	
UALR			LR	LR			
	comp=Z,1μm,18.0s						
F51A	Arnstein	131.22 295	P	PKPdf	04 24 54.2	+0.1	
	baz=128						
L48A	N Adams	131.25 288	P	PKPdf	04 24 54.0	-0.3	
	baz=130						
X40A	Basin Creek Fa	131.27 275	PFAKE		04 25 10.0	+15	
X40A			LR	LR			
	comp=Z,1μm,18.0s						
SIUC	Southern Illin	131.29 281	PFAKE		04 25 10.0	+15	
SIUC			LR	LR			
	comp=Z,2μm,19.0s						
S44A	Carbondale	131.29 280	P	PKPdf	04 24 54.0	-0.4	
	baz=132						
PBMO	Poplar Bluff	131.38 279	PFAKE		04 25 10.0	+14	
PBMO			LR	LR			
	comp=Z,1μm,19.0s						
W41B	Gary Mavity, V	131.39 276	PFAKE		04 25 10.0	+14	
W41B			LR	LR			
	comp=Z,1μm,20.0s						
W41B	Gary Mavity, V	131.39 276	P	PKPdf	04 24 54.9	+0.2	
	baz=133						
WHAR	Wooly Hollow	131.49 276	PFAKE		04 25 10.0	+14	
WHAR			LR	LR			
	comp=Z,1μm,19.0s						
435B	Jarrell	131.55 267	PFAKE		04 25 10.0	+14	
435B			LR	LR			
	comp=Z,2μm,19.0s						
LSQQ	Lebel-sur-Quev	131.57 300	P	PKPdf	04 24 54.1	-0.5	
	baz=127						
P45A	Graceland, Par	131.61 283	PFAKE		04 25 10.0	+14	
P45A			LR	LR			
	comp=Z,1μm,18.0s						
K48A	Perry	131.62 289	P	PKPdf	04 24 54.3	-0.6	
	baz=129						
TOBO	Tobermory, Bru	131.67 293	P	PKPdf	04 24 54.8	-0.1	
	baz=128						
MIAR	Mount Ida	131.76 274	PFAKE		04 25 10.0	+14	
MIAR			LR	LR			
	comp=Z,1μm,18.0s						
MIAR	Mount Ida	131.76 274	P	PKPdf	04 24 54.3	-1.1	
	baz=133						
SFIN	Lafayette	131.78 285	PFAKE		04 25 10.0	+14	
SFIN			LR	LR			
	comp=Z,600nm,22.0s						
SFIN	Lafayette	131.78 285	P	PKPdf	04 24 54.4	-0.9	
	baz=130						
INU	Inuyama	131.85 84	PFAKE		04 25 10.0	+13	
INU			LR	LR			
	comp=Z,500nm,21.0s						
KBS	Kingsbay	131.93 357	PFAKE		04 25 10.0	+15	
KBS			LR	LR			
	comp=Z,700nm,21.0s						
U41A	Viola	131.98 277	P	PKPdf	04 24 54.8	-1.0	
	baz=132						
DAG	Danmarks Havn	132.17 348	*i* PKIKP	PKPdf	04 24 50.8	-4.1	
DAG			*i*		04 27 18.0		
DAG			pmax	pmax			
	comp=Z,7.0nm,0.9s						
DAG	Danmarks Havn	132.17 348	*i* P	PKPdf	04 24 50.8	-4.1	
	comp=Z,8.4nm,0.9s						
DAG			*i*		04 27 18.0		
FVM	French Village	132.18 280	PFAKE		04 25 10.0	+13	
FVM			LR	LR			
	comp=Z,1μm,18.0s						
SUMG	Summit	132.19 339	*e*PKPdf	PKPdf	04 24 54.5	-1.1	
SUMG	Summit	132.19 339	*e*PKIKP	PKPdf	04 24 54.5	-1.1	
SUMG	Summit	132.19 339	*i* P	PKPdf	04 24 54.2	-1.4	
	comp=Z,33nm,0.9s						
F49A	Sandfield	132.29 293	P	PKPdf	04 24 55.1	-0.9	
	baz=128						
WHTX	Lake Whitney,	132.32 269	PFAKE		04 25 10.0	+12	
WHTX			LR	LR			
	comp=Z,1μm,18.0s						
WHTX	Lake Whitney,	132.32 269	P	PKPdf	04 24 56.0	-0.6	
	baz=135						
W39A	Magazine	132.32 275	PFAKE		04 25 10.0	+12	
W39A			LR	LR			
	comp=Z,600nm,18.0s						
W39A	Magazine	132.32 275	P	PKPdf	04 24 55.1	-1.4	
	baz=133						
MATQ	Matagami	132.34 300	P	PKPdf	04 24 55.6	-0.4	
	baz=126						
H48A	Harrisville	132.35 292	P	PKPdf	04 24 56.4	+0.2	
	baz=128						
L46A	Eue Claire	132.36 287	PFAKE		04 25 10.0	+13	
L46A			LR	LR			
	comp=Z,600nm,21.0s						
F48A	Evansville	132.65 293	P	PKiKP	04 24 57.4	-0.5	
	baz=128						
N44A	Piper City	132.66 284	P	PKiKP	04 24 57.6	-0.4	
	baz=130						
JCT	Junction City	132.66 265	PFAKE		04 25 10.0	+12	
JCT			LR	LR			
	comp=Z,2μm,21.0s						
JCT	Junction City	132.66 265	P	PKPdf	04 24 57.3	0.0	
	baz=136						
S41A	Jillco Farms,	132.71 279	P	PKPdf	04 24 57.0	-0.2	
	baz=131						
CCM	Cathedral Cave	132.72 279	*e*PKPdf	PKPdf	04 24 56.7	-0.4	
CCM			LR	LR			
	comp=Z,800nm,19.0s						
CCM	Cathedral Cave	132.72 279	*e*PKIKP	PKPdf	04 24 56.7	-0.4	
CCM			MLR	MLR			
	comp=Z,800nm,19.0s						
CCM	Cathedral Cave	132.72 279	P	PKPdf	04 24 57.2	+0.1	
	baz=131						
E48A	Lockeyer	132.80 294	P	PKiKP	04 24 57.7	-0.5	
	baz=127						
D49A	Beulah Townshi	132.83 295	P	PKPdf	04 24 57.4	+0.3	
	baz=127						
Q42A	Golden Eagle	132.85 281	P	PKPdf	04 24 57.4	0.0	
	baz=131						
X37A	Clayton	132.87 273	PFAKE		04 25 10.0	+11	
X37A			LR	LR			
	comp=Z,1μm,21.0s						
G47A	Hillman	132.94 292	P	PKPdf	04 24 57.7	+0.4	
	baz=128						
R41A	Rosebud	132.95 280	P	PKPdf	04 24 57.6	0.0	
	baz=131						
D48A	Paudash Townsh	133.02 295	P	PKiKP	04 24 58.0	-0.6	
	baz=127						
ILULI	Ilulissat	133.09 332	PFAKE		04 25 10.0	+12	
ILULI			LR	LR			
	comp=Z,1μm,20.0s						
HHAR	Hobbs	133.15 276	PFAKE		04 25 10.0	+11	
HHAR			LR	LR			
	comp=Z,1μm,19.0s						
HDIL	Hopedale	133.18 283	PFAKE		04 25 10.0	+11	
HDIL			LR	LR			
	comp=Z,800nm,19.0s						
HDIL	Hopedale	133.18 283	P	PKPdf	04 24 58.4	+0.4	
	baz=130						
BOD	Bodaibo	133.22 47	*e*PKIKP	PKPdf	04 24 56.9	-0.5	
BOD			pmax	pmax			
	comp=Z,13nm,1.2s						
J45A	Montague	133.31 288	PFAKE		04 25 10.0	+11	
J45A			LR	LR			
	comp=Z,400nm,19.0s						
H46A	Fife Lake	133.31 290	P	PKPdf	04 24 58.3	+0.2	
	baz=128						
MAJO	Matsushiro	133.37 84	*e*PKPdf	PKPdf	04 24 57.7	-0.7	
MAJO			LR	LR			
	comp=Z,500nm,22.0s						
MAJO	Matsushiro	133.37 84	‖*e*PKIKP	PKiKP	04 24 59.4	-0.3	
MJAR	Matsushiro Arr	133.37 84	*e*PKPdf	PKPdf	04 24 58.0	-0.4	
MJAR	Matsushiro Arr	133.37 84	*e*PKIKP	PKPdf	04 24 58.0	-0.4	
MJAR	Matsushiro Arr	133.37 84	PKP	PKPdf	04 24 57.7	-0.7	
	comp=Z,2.8nm,0.8s,baz=226,slow=3.2,SNR=6.9						
MJB9	Matsu-Tunnel	133.37 84	PFAKE		04 25 10.0	+10	
MJB9			LR	LR			
	comp=Z,500nm,22.0s						
E47A	Iron Bridge	133.40 293	P	PKPdf	04 24 57.9	-0.2	
	baz=127						
MDJ	Mudanjiang	133.47 70	PKP	PKiKP	04 25 00.4	+0.8	
MDJ			PP	PP	04 27 27.3	+0.2	
MDJ			LR	LR			
	comp=Z,270nm,13.9s						
MDJ			LR	LR			
	comp=Z,360nm,9.3s						
MDJ			LR	LR			
	comp=Z,760nm,21.4s						
MDJ	Mudanjiang	133.47 70	PFAKE		04 25 10.0	+10	
MDJ			LR	LR			
	comp=Z,600nm,22.0s						
HPIG		133.56 257	PFAKE		04 25 10.0	+9.4	
HPIG			LR	LR			
	comp=Z,3μm,19.0s						
G46A	Petoskey	133.59 291	P	PKPdf	04 24 58.9	+0.4	
	baz=127						
D47A	Chapleau	133.66 294	P	PKPdf	04 24 58.8	+0.2	
	baz=126						
F46A	Macinaw City C	133.81 292	P	PKPdf	04 24 58.9	-0.1	
	baz=127						
H45A	Beulah	133.84 290	P	PKPdf	04 24 59.4	+0.3	
	baz=128						
VLA	Vladivostok	133.86 73	‖*e*PKIKP	PKPdf	04 24 58.4	-0.7	
G45A	Suttons Bay	133.87 291	PFAKE		04 25 10.0	+10	
G45A			LR	LR			
	comp=Z,1μm,18.0s						
G45A	Suttons Bay	133.87 291	P	PKPdf	04 24 59.3	+0.2	
	baz=127						
L43A	Garden Prairie	133.89 285	P	PKPdf	04 24 59.6	+0.4	
	baz=129						
E46A	Sault Ste Mari	133.91 293	P	PKiKP	04 25 00.8	+0.4	
	baz=127						
K43A	Burlington	133.97 286	PFAKE		04 25 10.0	+9.3	
K43A			LR	LR			
	comp=Z,500nm,19.0s						
TUL1	Leonard	134.01 274	PFAKE		04 25 10.0	+9.0	
TUL1			LR	LR			
	comp=Z,1μm,19.0s						
TUL1	Leonard	134.01 274	P	PKPdf	04 24 59.0	-0.7	
	baz=132						
D46A	Sault St. Mari	134.07 294	P	PKPdf	04 24 59.8	+0.4	
	baz=126,SNR=5.9						
ABTX	Abilene, Hawle	134.08 268	PFAKE		04 25 10.0	+8.7	
ABTX			LR	LR			
	comp=Z,1μm,19.0s						
ABTX	Abilene, Hawle	134.08 268	P	PKPdf	04 24 59.5	-0.4	
	baz=134						
TXAR	Lajitas Array	134.15 261	PKhKP	PKPpre	04 24 51.4		
	comp=Z,0.2nm,0.6s,baz=150,slow=5.2,SNR=3.6						
TXAR			PKP	PKPdf	04 24 59.3	-1.0	
	comp=Z,1.1nm,0.8s,baz=107,slow=7.8,SNR=14						
F45A	CMU Biological	134.18 291	P	PKPdf	04 25 00.2	+0.6	
	baz=127						
N41A	Harden Midland	134.19 282	PFAKE		04 25 10.0	+8.8	
N41A			LR	LR			
	comp=Z,500nm,20.0s						
N41A	Harden Midland	134.19 282	P	PKPdf	04 25 00.1	+0.3	
	baz=129						
L42A	Oliver, Polo	134.31 285	PFAKE		04 25 10.0	+8.6	
L42A			LR	LR			
	comp=Z,600nm,21.0s						
E45A	Wooded Hills,	134.39 292	P	PKPdf	04 25 00.6	+0.6	
	baz=126						
USRK	Ussuriysk Ar.	134.58 72	PKP	PKPdf	04 24 59.8	-0.6	
	comp=Z,3.7nm,0.9s,baz=229,slow=3.3,SNR=5.0						
I43A	Langenfeld Bro	134.59 288	P	PKiKP	04 25 01.8	-0.1	
	baz=128						
K42A	Prairie Point,	134.60 286	P	PKiKP	04 25 01.3	-0.6	
	baz=128						
OK024	West corner E0	134.65 273	PFAKE		04 25 10.0	+7.7	
OK024			LR	LR			
	comp=Z,2μm,18.0s						
OK023	East Waterloo	134.71 273	PFAKE		04 25 10.0	+7.6	
OK023			LR	LR			
	comp=Z,2μm,18.0s						
H43A	Windswept, Lux	134.73 289	PFAKE		04 25 10.0	+7.9	
H43A			LR	LR			
	comp=Z,800nm,20.0s						
H43A	Windswept, Lux	134.73 289	P	PKPdf	04 25 01.4	+0.7	
	baz=127						
N40A	Mertquake, Sal	134.74 282	P	PKPdf	04 25 01.0	+0.2	
	baz=129						
F44A	Big Bay de Noc	134.86 291	P	PKiKP	04 25 01.9	-0.5	
	baz=126						
E44A	Grand Marais A	134.96 292	P	PKiKP	04 25 02.1	-0.4	
	baz=126						
WMOK	Wichita Mounta	135.02 270	*e*PKPdf	PKPdf	04 25 01.3	-0.3	
WMOK			LR	LR			
	comp=Z,2μm,18.0s						
WMOK	Wichita Mounta	135.02 270	*e*PKIKP	PKPdf	04 25 01.3	-0.3	
WMOK			MLR	MLR			
	comp=Z,2μm,18.0s						
WMOK	Wichita Mounta	135.02 270	P	PKPdf	04 25 01.9	+0.3	
	baz=133						
I42A	Draeger Farm,	135.03 287	PFAKE		04 25 10.0	+7.2	
I42A			LR	LR			
	comp=Z,1μm,18.0s						
I42A	Draeger Farm,	135.03 287	P	PKiKP	04 25 02.2	-0.6	
	baz=127						
G43A	Wallace	135.15 290	P	PKPdf	04 25 02.0	+0.6	
	baz=126						
H42A	Shiocton	135.19 288	P	PKPdf	04 25 02.0	+0.4	

baz=127
F43A Flat Rock, Esc 135.20 291 P PKPdf 04 25 01.7 +0.1
baz=126
JFWS Jewell Farm 135.21 285 P PKPdf 04 25 01.9 +0.2
baz=128
L40A Anamosa 135.26 284 PFAKE 04 25 10.0 +6.7
L40A LR LR
comp=Z,2μm,19.0s
L40A Anamosa 135.26 284 P PKPdf 04 25 02.2 +0.4
baz=128
J41A Loganville 135.35 286 P PKPdf 04 25 01.9 0.0
baz=127
E43A Lone Tree Farm 135.42 291 P PKPdf 04 25 02.1 +0.1
baz=126
G42A Mountain 135.56 289 PFAKE 04 25 10.0 +6.2
G42A LR LR
comp=Z,600nm,18.0s
G42A Mountain 135.56 289 P PKPdf 04 25 02.6 +0.3
baz=126
I41A Arkdale 135.69 287 P PKPdf 04 25 02.9 +0.4
baz=127
L39A Vinton 135.75 283 P PKPdf 04 25 03.2 +0.5
baz=128
J40A Soldiers Grove 135.79 286 P PKiKP 04 25 03.6 -0.7
baz=127
H41A Junction City 135.89 288 PFAKE 04 25 10.0 +5.5
H41A LR LR
comp=Z,1μm,19.0s
H41A Junction City 135.89 288 P PKPdf 04 25 03.5 +0.6
baz=126
E42A Champion 135.97 291 P PKPdf 04 25 03.3 +0.3
baz=126
I40A Norwalk 136.02 286 P PKPdf 04 25 03.0 -0.1
baz=127
K39A Oelwein 136.04 284 P PKPdf 04 25 02.7 -0.5
baz=128
F41A Three Lakes 136.24 289 P PKPdf 04 25 03.6 +0.1
baz=126
U32A Winter Ranch, 136.26 272 PFAKE 04 25 20.0 +14
U32A LR LR
comp=Z,700nm,21.0s
J39A Decorah 136.32 285 P PKPdf 04 25 03.8 +0.1
baz=127
H40A Chili 136.32 287 P PKPdf 04 25 03.7 0.0
baz=126
SCIA State Center 136.33 282 PFAKE 04 25 20.0 +15
SCIA LR LR
comp=Z,700nm,19.0s
SCIA State Center 136.33 282 P PKPdf 04 25 04.3 +0.5
baz=128
COWI Conover 136.47 290 PFAKE 04 25 20.0 +14
COWI LR LR
comp=Z,500nm,19.0s
I39A Houston 136.52 286 PFAKE 04 25 20.0 +14
I39A LR LR
comp=Z,900nm,18.0s
I39A Houston 136.52 286 P PKPdf 04 25 04.0 -0.1
baz=127
E41A Kenton 136.58 290 P PKPdf 04 25 04.2 +0.1
baz=125
G40A Rib Lake 136.59 288 PFAKE 04 25 20.0 +14
G40A LR LR
comp=Z,500nm,20.0s
G40A Rib Lake 136.59 288 P PKPdf 04 25 04.3 +0.1
baz=126
KSU1 Kansas State U 136.59 277 PFAKE 04 25 20.0 +14
KSU1 LR LR
comp=Z,600nm,18.0s
KSU1 Kansas State U 136.59 277 P PKPdf 04 25 04.4 0.0
baz=130
D41A Chassel 136.70 291 P PKPdf 04 25 04.6 +0.4
baz=125
AMTX Amarillo 136.87 268 PFAKE 04 25 20.0 +13
AMTX LR LR
comp=Z,1μm,21.0s
AMTX Amarillo 136.87 268 P PKPdf 04 25 05.6 +0.4
baz=133
H39A Augusta 136.87 287 P PKPdf 04 25 04.8 +0.1
baz=126
MNTX Cornudas Mount 136.88 262 PFAKE 04 25 20.0 +13
MNTX LR LR
comp=Z,500nm,21.0s
MNTX Cornudas Mount 136.88 262 P PKPdf 04 25 05.3 +0.2
baz=136
MSTX Muleshoe 136.90 266 PFAKE 04 25 20.0 +13
MSTX LR LR
comp=Z,1μm,21.0s
MSTX Muleshoe 136.90 266 P PKPdf 04 25 05.5 +0.2
baz=134
E40A Wakefield 137.10 290 P PKPdf 04 25 05.4 +0.3
baz=125
G39A Holcombe 137.16 287 P PKPdf 04 25 05.1 -0.1
baz=126
KLR Kul'dur 137.35 66 ⇓*i*PKIKP **PKiKP 04 25 08.5 +1.2**
KLR Kul'dur 137.35 66 PKP **PKPdf 04 25 04.2 -1.2**
comp=Z,9.8nm,1.2s,baz=287,slow=2.8,SNR=7.7
ZEA Zeya 137.35 58 *e*PKIKP **PKiKP 04 25 06.7 -0.4**
ZEA pmax pmax
comp=Z,18nm,1.2s
F39A Loretta 137.38 288 P PKPdf 04 25 05.4 -0.2
baz=125
G38A Ridgeland 137.49 287 P PKPdf 04 25 06.0 +0.1
baz=125
SRIG Santa Rosalia 137.65 251 PFAKE 04 25 20.0 +11
SRIG LR LR
comp=Z,2μm,20.0s
F38A Pierce - Schro 137.95 288 P PKPdf 04 25 07.5 +0.8
baz=125
SPMN Marine on St. 138.06 286 PFAKE 04 25 20.0 +11
SPMN LR LR
comp=Z,500nm,21.0s
SPMN Marine on St. 138.06 286 P PKPdf 04 25 06.8 -0.1
baz=125
E38A The Farm, Brul 138.13 289 P PKPdf 04 25 07.0 +0.1
baz=124
HSIG 138.20 254 PFAKE 04 25 20.0 +10
HSIG LR LR
comp=Z,4μm,20.0s
CBKS Cedar Bluff 138.29 274 PFAKE 04 25 20.0 +10
CBKS LR LR
comp=Z,2μm,19.0s
CBKS Cedar Bluff 138.29 274 P PKPdf 04 25 08.3 +0.7
baz=130
EYMN Ely 138.84 291 PFAKE 04 25 20.0 +10
EYMN LR LR
comp=Z,600nm,20.0s
121A Cookes Peak, D 138.90 260 P PKPdf 04 25 07.5 -1.6
baz=135
BGNE Belgrade 138.95 278 PFAKE 04 25 20.0 +9.1
BGNE LR LR
comp=Z,500nm,20.0s
319A Douglas 138.96 258 PFAKE 04 25 20.0 +8.7
319A LR LR
comp=Z,4μm,21.0s
ECSD EROS Data Cent 139.43 282 PFAKE 04 25 20.0 +8.2
ECSD LR LR
comp=Z,500nm,20.0s
ECSD EROS Data Cent 139.43 282 P PKPdf 04 25 08.8 -0.7
baz=126
Y22D IRIS PASSCAL I 139.46 263 PFAKE 04 25 20.0 +7.7
Y22D LR LR
comp=Z,400nm,21.0s
ANMO Albuquerque 139.78 264 *e*PKPdf **PKPdf 04 25 10.2 -0.4**
ANMO LR LR
comp=Z,600nm,20.0s
ANMO Albuquerque 139.78 264 ⇑*i*PKIKP **PKPdf 04 25 11.5 +0.9**
ANMO Albuquerque 139.78 264 P PKPdf 04 25 09.8 -0.8
baz=133
TASM ASL Pad, Albuq 139.78 264 P PKPdf 04 25 09.5 -1.2
baz=133
TASM ASL Pad, Albuq 139.78 264 P PKPdf 04 25 09.6 -1.1
baz=133
T25A Trinidad 140.02 268 PFAKE 04 25 20.0 +6.5
T25A LR LR
comp=Z,900nm,18.0s
T25A Trinidad 140.02 268 P PKPdf 04 25 09.9 -1.1
baz=131
KSCO Kaye Shedlock' 140.15 272 PFAKE 04 25 20.0 +6.4
KSCO LR LR
comp=Z,400nm,20.0s
TUC Tucson 140.51 257 *e*PKPdf **PKPdf 04 25 12.9 +1.0**
TUC LR LR
comp=Z,500nm,20.0s
TUC Tucson 140.51 257 *e*PKIKP **PKPdf 04 25 12.9 +1.0**
TUC MLR MLR
comp=Z,500nm,20.0s
TUC Tucson 140.51 257 P PKPdf 04 25 11.0 -0.9
baz=136
OGNE Ogallala 141.00 275 PFAKE 04 25 20.0 +4.8
OGNE LR LR
comp=Z,700nm,20.0s
OGNE Ogallala 141.00 275 P PKPdf 04 25 12.1 -0.4
baz=128
SDCO Great Sand Dun 141.07 268 PFAKE 04 25 20.0 +4.3
SDCO LR LR
comp=Z,900nm,18.0s
SDCO Great Sand Dun 141.07 268 P PKPdf 04 25 10.6 -2.4
baz=131
214A Organ Pipe Nat 141.44 255 P PKPdf 04 25 13.9 +0.4
baz=137
X18A Snowflake 141.58 261 PFAKE 04 25 30.0 +13
X18A LR LR
comp=Z,400nm,21.0s
Q24A Divide 141.64 270 PFAKE 04 25 30.0 +13
Q24A LR LR
comp=Z,800nm,21.0s
Q24A Divide 141.64 270 P PKPdf 04 25 13.9 -0.1
baz=129
W18A Petrified Fore 141.86 262 PFAKE 04 25 30.0 +13
W18A LR LR
comp=Z,400nm,18.0s
W18A Petrified Fore 141.86 262 P PKPdf 04 25 14.4 +0.1
baz=133
S22A 4UR Ranch, Cre 141.87 267 PFAKE 04 25 30.0 +13
S22A LR LR
comp=Z,900nm,20.0s
S22A 4UR Ranch, Cre 141.87 267 P PKPdf 04 25 13.0 -1.5
baz=131
YSS Yuzh-Sakhalins 142.36 75⇑*e*PKIKP **PKPdf 04 25 15.3 +0.7**
X16A Lo Mia Camp, P 142.39 259 PFAKE 04 25 30.0 +12
X16A LR LR
comp=Z,1μm,19.0s
ISCO Idaho Springs 142.44 271 PFAKE 04 25 30.0 +12
ISCO LR LR
comp=Z,500nm,20.0s
ISCO Idaho Springs 142.44 271 P PKPdf 04 25 14.1 -1.3
baz=129
ULM Lac du Bonnet 142.50 291 PFAKE 04 25 30.0 +12
ULM LR LR
comp=Z,600nm,19.0s
ULM Lac du Bonnet 142.50 291 PKhKP PKPpre 04 25 11.0
comp=Z,7.7nm,0.8s,baz=96,slow=1.9,SNR=15
MVCO Mesa Verde 142.53 265 PFAKE 04 25 30.0 +11
MVCO LR LR
comp=Z,500nm,21.0s
MVCO Mesa Verde 142.53 265 P PKPdf 04 25 11.5 -4.1
baz=131
113A Mohawk Valley, 142.59 255 PFAKE 04 25 30.0 +11
113A LR LR
comp=Z,3μm,19.0s
SMCO Snowmass 142.88 269 PFAKE 04 25 30.0 +11
SMCO LR LR
comp=Z,600nm,20.0s
Y14A Wickenburg 142.98 257 PFAKE 04 25 30.0 +11
Y14A LR LR
comp=Z,3μm,19.0s
WUAZ Wupatki 143.11 260 *e*PKPpre PKPpre 04 25 12.8
WUAZ LR LR
comp=Z,2μm,19.0s
WUAZ Wupatki 143.11 260 P PKPbc 04 25 13.3 -0.2
baz=133
PV01 Paradox Valley 143.17 266 PFAKE 04 25 30.0 +10
PV01 LR LR
comp=Z,2μm,21.0s
PHWY Pilot Hill 143.27 273 PFAKE 04 25 30.0 +10
PHWY LR LR
comp=Z,800nm,21.0s
N23A Red Feather La 143.32 272 PFAKE 04 25 30.0 +10
N23A LR LR
comp=Z,400nm,22.0s
N23A Red Feather La 143.32 272 P PKPbc 04 25 14.5 +0.5
baz=127
PV13 Radium Mtn., P 143.34 266 PFAKE 04 25 30.0 +10
PV13 LR LR
comp=Z,1μm,19.0s
GLA Glamis 143.41 254 PFAKE 04 25 30.0 +10
GLA LR LR
comp=Z,4μm,20.0s
GLA Glamis 143.41 254 P PKPbc 04 25 14.2 0.0
baz=136
PV07 Paradox Valley 143.41 267 PFAKE 04 25 30.0 +10
PV07 LR LR
comp=Z,2μm,22.0s
MDND Maddock 143.43 286 P PKPbc 04 25 13.9 +0.2
baz=121
PV12 Saucer Basin, 143.43 266 PFAKE 04 25 30.0 +10
PV12 LR LR
comp=Z,2μm,20.0s
PV18 Skein Mesa, Pa 143.45 266 PFAKE 04 25 30.0 +10
PV18 LR LR
comp=Z,1μm,19.0s
PV05 Paradox Valley 143.45 266 PFAKE 04 25 30.0 +10
PV05 LR LR
comp=Z,2μm,18.0s
PV16 Nyswonger Mesa 143.49 266 PFAKE 04 25 30.0 +9.4
PV16 LR LR
comp=Z,2μm,20.0s
PV04 Paradox Valley 143.54 266 PFAKE 04 25 30.0 +9.4
PV04 LR LR
comp=Z,2μm,21.0s
PV22 Blue Mesa, Par 143.56 267 PFAKE 04 25 30.0 +9.3
PV22 LR LR
comp=Z,1μm,20.0s
PV10 Paradox Valley 143.61 266 PFAKE 04 25 30.0 +9.2
PV10 LR LR
comp=Z,2μm,21.0s
PV21 Cone Mtn., Par 143.69 266 PFAKE 04 25 30.0 +9.0
PV21 LR LR
comp=Z,2μm,22.0s
Y12C Blythe 143.73 255 PFAKE 04 25 30.0 +9.1
Y12C LR LR
comp=Z,3μm,20.0s
Y12C Blythe 143.73 255 P PKPbc 04 25 16.0 +1.0
baz=136
IKP In-Ko-Pah, Jac 143.86 252 P PKPbc 04 25 15.7 +0.1
baz=137
SWSC Sam W. Stewart 143.89 253 P PKPbc 04 25 15.8 +0.2
baz=137
PDMCI Parker Dam,Lak 143.90 256 P PKPbc 04 25 15.9 +0.4
baz=135
RSSD Black Hills 144.05 278 *e*PKPdf PKPbc 04 25 16.7 +0.7
RSSD LR LR
comp=Z,500nm,19.0s
RSSD Black Hills 144.05 278 *e*PKIKP PKPbc 04 25 16.7 +0.7
RSSD MLR MLR
comp=Z,500nm,19.0s
RSSD Black Hills 144.05 278 P PKPbc 04 25 16.3 +0.3
baz=124
NKL Nikolayevsk 144.16 65 *e*PKIKP PKPbc 04 25 16.0 +0.3
NKL pmax pmax
comp=Z,86nm,1.0s
NKL pmax pmax
comp=Z,1μm,5.0s
BAR Barrett 144.20 252 PFAKE 04 25 30.0 +8.1
BAR LR LR
comp=Z,1μm,19.0s
BC3 Big Chuckawall 144.21 254 P PKPbc 04 25 16.8 +0.1
baz=136
MONP2 Monument Peak 144.21 252 P PKPbc 04 25 17.3 +0.4
baz=137
O20A White River Ci 144.24 269 PFAKE 04 25 30.0 +8.0
O20A LR LR
comp=Z,1μm,18.0s
O20A White River Ci 144.24 269 P PKPbc 04 25 17.0 +0.3
baz=128
TYV Tymovskoe 144.24 69 *e*PKIKP **PKPab 04 25 15.1 -0.6**
TYV pmax pmax
comp=Z,900nm,3.9s
TYV pmax pmax
comp=Z,41nm,1.2s
U15A North Rim 144.27 261 PFAKE 04 25 30.0 +7.7
U15A LR LR
comp=Z,2μm,18.0s
TIXI Tiksi 144.29 31 *de*PKHKP PKPpre 04 25 12.8
TIXI Tiksi 144.29 31 PKP **PKPab 04 25 13.9 -1.3**
comp=Z,114nm,0.9s,baz=326,slow=1.3,SNR=60
W13A Hualapai Mount 144.31 258 PFAKE 04 25 30.0 +7.7
W13A LR LR
comp=Z,2μm,19.0s
IRM Iron Mountain 144.38 255 P PKPbc 04 25 17.6 +0.5
baz=135,SNR=11
NEE2 Needles Airpor 144.51 256 P **PKPab 04 25 16.1 -1.1**
baz=135
RWWY Rawlins 144.56 272 PFAKE 04 25 30.0 +7.3
RWWY LR LR
comp=Z,600nm,20.0s
CPE Camp Elliot 144.60 252 PFAKE 04 25 30.0 +7.3
CPE LR LR
comp=Z,2μm,21.0s
K22A Casper 144.71 274 PFAKE 04 25 30.0 +7.2
K22A LR LR
comp=Z,600nm,20.0s
K22A Casper 144.71 274 P **PKPab 04 25 16.8 -1.1**
baz=125,SNR=37
PFO Pinyon Flats O 144.76 253 *e*PKPdf PKPbc 04 25 18.8 +0.4
PFO LR LR
comp=Z,3μm,20.0s
PFO Pinyon Flats O 144.76 253 *i* PKIKP **PKPdf 04 25 20.0 +0.6**
PFO Pinyon Flats O 144.76 253 P **PKPab 04 25 17.3 -1.0**
baz=136
BELC Belle Mtn. Jos 144.77 254 P **PKPab 04 25 16.5 -1.9**
baz=136,SNR=17
LDFC Landfair 145.01 256 *e*PKPbc **PKPdf 04 25 20.2 +0.4**
LDFC LR LR
comp=Z,2μm,21.0s
FCC Fort Churchill 145.05 305 *e*PKPbc **PKPbc 04 25 17.6 -0.7**
FCC LR LR
comp=Z,800nm,20.0s
FCC Fort Churchill 145.05 305 *e*PKIKP **PKPbc 04 25 17.7 -0.7**
FCC MLR MLR
comp=Z,800nm,20.0s
GMRC Granite Mounta 145.13 255 P **PKPbc 04 25 17.6 -1.9**
baz=135,SNR=27
MURC Murrieta 145.17 252 P **PKPbc 04 25 17.4 -2.2**
baz=137
BBRC Big Bear Solar 145.49 253 P **PKPdf 04 25 19.5 -1.3**
baz=136
HEC Hector,Ludlow 145.55 255 P **PKPdf 04 25 19.9 -0.8**
baz=135,SNR=13
CIS Catalina Islan 145.72 251 P **PKPdf 04 25 20.1 -0.8**
baz=137
TUQ Turquoise Moun 145.74 256 P **PKPdf 04 25 20.9 -0.2**
baz=134
FMP Fort Macarthur 145.88 251 P **PKPdf 04 25 21.2 0.0**
baz=137
BFSC Mount Baldy Ra 145.90 253 P **PKPdf 04 25 20.3 -1.1**
baz=136,SNR=7.7
RRX Edison Barstow 145.97 254 P **PKPab 04 25 22.4 -0.2**
baz=135
SHPR Sheep Range 146.03 258 PFAKE 04 25 30.0 +4.2
SHPR LR LR
comp=Z,2μm,18.0s
MWC Mount Wilson 146.12 252 PFAKE 04 25 30.0 +4.0
MWC LR LR
comp=Z,2μm,19.0s
PASC Pasadena Art C 146.15 252 PFAKE 04 25 30.0 +4.1
PASC LR LR
comp=Z,500nm,20.0s
GSC Goldstone, Bar 146.16 255 PFAKE 04 25 30.0 +4.0
GSC LR LR
comp=Z,2μm,19.0s
GSC Goldstone, Bar 146.16 255 P **PKPdf 04 25 22.2 +0.5**
baz=135,SNR=18
SNCC San Nicolas Is 146.24 249 P **PKPbc 04 25 23.2 +0.2**
baz=138
JCUZ Jacuzzi 146.26 185 PFAKE 04 25 30.0 +3.4
JCUZ LR LR
comp=Z,2μm,22.0s
SHOC Shoshone, Teco 146.26 256 P **PKPbc 04 25 22.4 -0.5**
baz=134
NPOC North of Pu'u 146.27 185 PFAKE 04 25 30.0 +3.4
NPOC LR LR
comp=Z,2μm,20.0s
BYL Byron's Ledge 146.29 184 PFAKE 04 25 30.0 +3.3
BYL LR LR
comp=Z,1μm,21.0s
DECC Green Verdugo 146.30 252 P **PKPbc 04 25 22.8 -0.3**
baz=136
OBL Observatory Le 146.30 184 PFAKE 04 25 30.0 +3.3
OBL LR LR
comp=Z,1μm,22.0s
HATHI Halema'uma'u T 146.30 184 PFAKE 04 25 30.0 +3.3
HATHI LR LR
comp=Z,1μm,18.0s
DGMT Dagmar 146.41 284 PFAKE 04 25 30.0 +4.0
DGMT LR LR
comp=Z,600nm,21.0s
DGMT Dagmar 146.41 284 P **PKPbc 04 25 23.0 -0.1**
baz=119
EDW2 Edwards Air Fo 146.55 253 P **PKPbc 04 25 23.6 -0.3**
baz=136,SNR=11
BW06 Boulder Array 146.60 272 PFAKE 04 25 30.0 +3.2
BW06 LR LR
comp=Z,1μm,22.0s
BW06 Boulder Array 146.60 272 P **PKPdf 04 25 22.8 +0.4**
baz=125,SNR=40
PDAR Pinedale Array 146.60 272 *e*PKPdf **PKPdf 04 25 22.2 -0.2**
PDAR Pinedale Array 146.60 272 PKPbc **PKPbc 04 25 22.6 -1.4**
comp=Z,20nm,0.9s,baz=123,slow=4.9,SNR=44
BLG Laguna Peak, P 146.61 251 P **PKPbc 04 25 24.0 0.0**
baz=137
LAO LASA Array 146.73 280 P **PKPdf 04 25 23.1 +0.8**
baz=120,SNR=25
OSI Osito Audit: C 146.78 252 PFAKE 04 25 30.0 +2.8
OSI LR LR
comp=Z,2μm,20.0s
OSI Osito Audit: C 146.78 252 P **PKPbc 04 25 24.1 -0.5**
baz=136
LRMC Laurel Mtn Rad 146.79 254 P **PKPbc 04 25 24.2 -0.5**
baz=135
TPNV Topopah Spring 146.97 258 PFAKE 04 25 30.0 +2.3
TPNV LR LR
comp=Z,2μm,19.0s
TPNV Topopah Spring 146.97 258 P **PKPbc 04 25 24.4 -0.8**
baz=133,SNR=41
FURC Furnace Creek, 147.00 256 P **PKPbc 04 25 24.7 -0.3**
baz=133,SNR=16
DUG Dugway, Tooele 147.03 265 PFAKE 04 25 30.0 +2.3
DUG LR LR
comp=Z,500nm,19.0s
DUG Dugway, Tooele 147.03 265 P **PKPbc 04 25 24.4 -0.8**
baz=128,SNR=24
MPMC Manual Prospec 147.08 255 P **PKPbc 04 25 25.2 -0.4**
baz=134,SNR=26
HWUT Hardware Ranch 147.13 268 PFAKE 04 25 30.0 +2.1
HWUT LR LR
comp=Z,800nm,19.0s
ARVC Arvin 147.21 253 P **PKPbc 04 25 25.3 -0.3**
baz=136
DAC Darwin (Calif) 147.30 255 PFAKE 04 25 40.0 +12
DAC LR LR
comp=Z,3μm,20.0s
RES Resolute Bay 147.35 334 PFAKE 04 25 30.0 +2.9
RES LR LR
comp=Z,600nm,21.0s
RES Resolute Bay 147.35 334 PKP **PKPdf 04 25 19.6 -2.7**
comp=Z,19nm,1.0s,baz=109,slow=1.4,SNR=12
RES PKPbc **PKPbc 04 25 23.4 -1.4**
comp=Z,47nm,0.9s,baz=348,slow=1.7,SNR=28
ISA Isabella, Lake 147.38 254 PFAKE 04 25 40.0 +12
ISA LR LR
comp=Z,2μm,19.0s
ISA Isabella, Lake 147.38 254 P **PKPbc 04 25 25.5 -0.7**
baz=135,SNR=17
R11A Troy Canyon, C 147.51 260 PFAKE 04 25 40.0 +11
R11A LR LR
comp=Z,1μm,19.0s
R11A Troy Canyon, C 147.51 260 P **PKPbc 04 25 25.5 -1.1**
baz=131,SNR=22
AHID Auburn Hatcher 147.53 271 PFAKE 04 25 40.0 +11
AHID LR LR
comp=Z,2μm,19.0s
PKM Mcpherson Peak 147.60 251 P **PKPdf 04 25 25.6 +1.3**
baz=136
GRAC Grapevine Rang 147.66 257 P **PKPbc 04 25 25.8 -1.2**
baz=133,SNR=26
LOHW Long Hollow 147.71 272 PFAKE 04 25 40.0 +11
LOHW LR LR
comp=Z,2μm,20.0s
SNOW Snow King Moun 147.72 272 PFAKE 04 25 40.0 +10
SNOW LR LR
comp=Z,2μm,20.0s
REDW Red Top Meadow 147.72 272 PFAKE 04 25 40.0 +10
REDW LR LR
comp=Z,2μm,19.0s
RLMT Red Lodge 147.73 276 PFAKE 04 25 40.0 +11
RLMT LR LR
comp=Z,700nm,22.0s
RLMT Red Lodge 147.73 276 P **PKPdf 04 25 25.0 +0.8**
baz=122,SNR=47

FFC	**Flin Flon**	**147.77 296**	*e*PKPdf	**PKPdf**	**04 25 24.0**	**+0.3**
FFC			*e*PKPbc	**PKiKP**	**04 25 28.2**	**-0.3**
FFC			LR	LR		
	comp=Z,500nm,19.0s					
FFC	**Flin Flon**	**147.77 296**	*i* PKP2	**PKPbc**	**04 25 26.1**	**-0.5**
TPAW	**Teton Pass**	**147.85 272**	PFAKE		04 25 40.0	+10
TPAW			LR	LR		
	comp=Z,2μm,19.0s					
MOOW	**Moose Ponds**	**147.87 272**	PFAKE		04 25 40.0	+10
MOOW			LR	LR		
	comp=Z,2μm,18.0s					
SMMC	**Simmler**	**148.01 252**	P	**PKPbc**	**04 25 26.9**	**-1.0**
	baz=136					
FLWY	**Flagg Ranch**	**148.03 273**	PFAKE		04 25 40.0	+9.3
FLWY			LR	LR		
	comp=Z,1μm,19.0s					
IMW	**Indian Meadow**	**148.07 272**	PFAKE		04 25 40.0	+9.0
IMW			LR	LR		
	comp=Z,2μm,20.0s					
LKWY	**Lake**	**148.11 274**	PFAKE		04 25 40.0	+8.9
LKWY			LR	LR		
	comp=Z,1μm,20.0s					
H17A	**Grant Village**	**148.12 274**	PFAKE		04 25 40.0	+8.9
H17A			LR	LR		
	comp=Z,3μm,22.0s					
H17A	**Grant Village**	**148.12 274**	P	**PKPdf**	**04 25 26.4**	**+1.5**
	baz=123					
TIN	**Tinemaha, Big**	**148.20 256**	P	**PKPdf**	**04 25 26.6**	**+1.5**
	baz=133					
VOG	**Valley Oaks Go**	**148.37 254**	P	**PKPdf**	**04 25 26.8**	**+1.6**
	baz=134					
PAGB	**Antelope Grade**	**148.45 252**	PFAKE		04 25 40.0	+7.6
PAGB			LR	LR		
	comp=Z,400nm,21.0s					
ELK	**Elko**	**148.82 264**	PFAKE		04 25 40.0	+6.0
ELK			LR	LR		
	comp=Z,900nm,18.0s					
MLAC	**Mammoth, Mammo**	**148.95 256**	P	**PKPbc**	**04 25 29.0**	**-1.5**
	baz=133					
OMMB	**Old Mammoth Mi**	**149.03 256**	PFAKE		04 25 40.0	+4.9
OMMB			LR	LR		
	comp=Z,2μm,19.0s					
NV11	**Mina Array Sit**	**149.08 258**	PFAKE		04 25 40.0	+5.0
NV11			LR	LR		
	comp=Z,100nm,20.0s					
MDPB	**Devils Postpil**	**149.09 256**	PFAKE		04 25 40.0	+4.8
MDPB			LR	LR		
	comp=Z,2μm,20.0s					
NVAR	**Mina Array Bea**	**149.17 258**	*e*PKPdf	**PKPdf**	**04 25 27.5**	**+0.7**
NVAR			*e*PKPbc	**PKPbc**	**04 25 31.9**	**+0.9**
NVAR	**Mina Array Bea**	**149.17 258**	PKPbc	**PKPbc**	**04 25 29.2**	**-1.8**
	comp=Z,11nm,0.8s,baz=155,slow=3.3,SNR=35					
BOZ	**Bozeman (W)**	**149.40 275**	PFAKE		04 25 40.0	+3.9
BOZ			LR	LR		
	comp=Z,600nm,19.0s					
BOZ	**Bozeman (W)**	**149.40 275**	P	**PKPdf**	**04 25 28.1**	**+1.2**
	baz=121					
RYN	**Ryan**	**149.43 258**	PFAKE		04 25 40.0	+3.5
RYN			LR	LR		
	comp=Z,700nm,20.0s					
KVN	**Kaiserville**	**149.46 259**	PFAKE		04 25 40.0	+3.4
KVN			LR	LR		
	comp=Z,1μm,20.0s					
EGMT	**Eagleton**	**149.47 280**	PFAKE		04 25 40.0	+3.7
EGMT			LR	LR		
	comp=Z,1μm,20.0s					
EGMT	**Eagleton**	**149.47 280**	P	**PKPdf**	**04 25 27.6**	**+0.8**
	baz=118					
BMN	**Battle Mountai**	**149.81 262**	PFAKE		04 25 40.0	+2.0
BMN			LR	LR		
	comp=Z,1μm,18.0s					
SAO	**San Andreas Ge**	**149.86 252**	PFAKE		04 25 40.0	+1.9
SAO			LR	LR		
	comp=Z,800nm,19.0s					
WAKR	**Walker**	**149.88 257**	PFAKE		04 25 40.0	+1.6
WAKR			LR	LR		
	comp=Z,2μm,20.0s					
HLID	**Hailey**	**149.98 269**	PFAKE		04 25 40.0	+1.4
HLID			LR	LR		
	comp=Z,1μm,18.0s					
HLID	**Hailey**	**149.98 269**	P	**PKPdf**	**04 25 29.5**	**+1.6**
	baz=124					
YERR	**Yerington**	**150.09 257**	PFAKE		04 25 40.0	+0.8
YERR			LR	LR		
	comp=Z,2μm,19.0s					
CMB	**Columbia Colle**	**150.12 255**	PFAKE		04 25 40.0	+0.8
CMB			LR	LR		
	comp=Z,500nm,19.0s					
PNTR	**Pine Nut**	**150.36 257**	PFAKE		04 25 40.0	-0.4
PNTR			LR	LR		
	comp=Z,2μm,20.0s					
VCNR	**Virginia City**	**150.53 258**	PFAKE		04 25 40.0	-1.0
VCNR			LR	LR		
	comp=Z,2μm,20.0s					
PAHR	**Pah Rah Range**	**150.64 258**	PFAKE		04 25 40.0	-1.4
PAHR			LR	LR		
	comp=Z,1μm,18.0s					
RUBR	**Rubicon Trail**	**150.67 257**	PFAKE		04 25 40.0	-1.6
RUBR			LR	LR		
	comp=Z,1μm,22.0s					
AFDM	**Forest Hills D**	**151.07 256**	PFAKE		04 25 40.0	-3.1
AFDM			LR	LR		
	comp=Z,400nm,20.0s					
BEKR	**Beckworth**	**151.32 258**	PFAKE		04 25 40.0	+3.4
BEKR			LR	LR		
	comp=Z,1μm,22.0s					
MSO	**Missoula**	**151.40 275**	PFAKE		04 25 40.0	+3.6
MSO			LR	LR		
	comp=Z,500nm,19.0s					
MSO	**Missoula**	**151.40 275**	P	**PKPdf**	**04 25 30.5**	**+0.7**
	baz=119					
MA2	**Magadan**	**151.47 56**	*e*PKPbc	**PKPbc**	**04 25 35.0**	**-0.6**
MA2			LR	LR		
	comp=Z,600nm,21.0s					
MA2	**Magadan**	**151.47 56**	*c i*PKIKP	**PKPbc**	**04 25 34.9**	**-0.6**
MA2	**Magadan**	**151.47 56**	PKPbc	**PKPbc**	**04 25 34.1**	**-1.4**
	comp=Z,49nm,1.0s,baz=245,slow=1.3,SNR=18					
MCCM	**Marconi Confer**	**151.64 252**	PFAKE		04 25 40.0	+3.0
MCCM			LR	LR		
	comp=Z,800nm,18.0s					
ORV	**Oroville**	**151.78 256**	PFAKE		04 25 40.0	+2.7
ORV			LR	LR		
	comp=Z,500nm,21.0s					
WVOR	**Wild Horse Val**	**151.87 264**	PFAKE		04 25 40.0	+2.4
WVOR			LR	LR		
	comp=Z,1μm,21.0s					
GDXM	**Geysers**	**152.04 253**	PFAKE		04 25 40.0	+2.0
GDXM			LR	LR		
	comp=Z,2μm,19.0s					
J08A	**Circle Bar Ran**	**152.31 265**	PFAKE		04 25 40.0	+1.6
J08A			LR	LR		
	comp=Z,1μm,21.0s					
HOPS	**Hopland Field**	**152.33 253**	PFAKE		04 25 40.0	+1.6
HOPS			LR	LR		
	comp=Z,900nm,18.0s					
WALA	**Waterton Lakes**	**152.41 279**	PFAKE		04 25 40.0	+1.6
WALA			LR	LR		
	comp=Z,1μm,19.0s					
BMO	**Blue Mountains**	**152.43 269**	PFAKE		04 25 40.0	+1.4
BMO			LR	LR		
	comp=Z,600nm,20.0s					
O03E	**Paynes Creek**	**152.44 257**	P	**PKPdf**	**04 25 32.2**	**+0.6**
	baz=130					
MOD	**Modoc Plateau**	**152.55 261**	PFAKE		04 25 40.0	+1.0
MOD			LR	LR		
	comp=Z,1μm,19.0s					
SEY	**Seymchan**	**152.60 49⇑**	*e*PKIKP	**PKPdf**	**04 25 33.2**	**+2.2**
SEY	**Seymchan**	**152.60 49**	PKP	**PKPdf**	**04 25 30.0**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=17,slow=3.4,SNR=4.2					
SEY			PKPbc	**PKPbc**	**04 25 36.4**	**-1.6**
	comp=Z,36nm,1.0s,baz=254,slow=2.6,SNR=28					
F10A	**Beach Ranch, E**	**152.96 271**	PFAKE		04 25 40.0	+0.4
F10A			LR	LR		
	comp=Z,500nm,18.0s					
WDC	**Whiskeytown Da**	**153.05 257**	PFAKE		04 25 40.0	+0.1
WDC			LR	LR		
	comp=Z,900nm,21.0s					
KCPM	**Cahto Peak**	**153.08 254**	PFAKE		04 25 40.0	0.0
KCPM			LR	LR		
	comp=Z,700nm,20.0s					
I07A	**Izee**	**153.33 266**	PFAKE		04 25 40.0	-0.4
I07A			LR	LR		
	comp=Z,1μm,20.0s					
M04C	**Macdoel**	**153.39 259**	P	**PKPdf**	**04 25 34.0**	**+1.0**
	baz=128					
K05A	**Summer Lake**	**153.39 262**	PFAKE		04 25 40.0	-0.7
K05A			LR	LR		
	comp=Z,1μm,20.0s					
N02D	**Trinity Center**	**153.40 257**	P	**PKPdf**	**04 25 34.4**	**+1.4**
	baz=129					
KMRM	**Mail Ridge**	**153.51 255**	PFAKE		04 25 40.0	-0.8
KMRM			LR	LR		
	comp=Z,1μm,18.0s					
G08A	**Pilot Rock**	**153.65 269**	PFAKE		04 25 40.0	-1.0
G08A			LR	LR		
	comp=Z,900nm,20.0s					
PETK	**Petropavlovsk-**	**153.67 72**	*e*PKPbc	**PKPbc**	**04 25 41.0**	**+0.3**
PETK	**Petropavlovsk-**	**153.67 72**	PKPbc	**PKPbc**	**04 25 38.6**	**-2.0**
	comp=Z,28nm,1.0s,baz=211,slow=1.7,SNR=12					
M02C	**Callahan**	**153.75 258**	P	**PKPdf**	**04 25 34.9**	**+1.4**
	baz=128					
E09A	**Wood Farm, Sta**	**153.78 272**	PFAKE		04 25 40.0	-1.1
E09A			LR	LR		
	comp=Z,700nm,19.0s					
YBH	**Yreka Blue Hor**	**153.88 258**	PFAKE		04 25 40.0	-1.6
YBH			LR	LR		
	comp=Z,600nm,21.0s					
YBH	**Yreka Blue Hor**	**153.88 258**	PKPbc	**PKiKP**	**04 25 41.8**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=20,slow=5.9,SNR=4.7					
J05D	**Fort Rock, OR**	**153.92 263**	P	**PKPdf**	**04 25 35.0**	**+1.3**
	baz=125					
KHMM	**Horse Mountain**	**153.94 256**	PFAKE		04 25 50.0	-5.2
KHMM			LR	LR		
	comp=Z,1μm,22.0s					
NEW	**Newport**	**153.98 276**	PFAKE		04 25 40.0	-1.5
NEW			LR	LR		
	comp=Z,900nm,18.0s					
NEW	**Newport**	**153.98 276**	P	**PKPdf**	**04 25 32.7**	**-0.8**
	baz=116					
PINE	**Pine Mountain**	**154.03 264**	PFAKE		04 25 50.0	-5.6
PINE			LR	LR		
	comp=Z,1μm,19.0s					
JCC	**Jacoby Creek,**	**154.08 255**	PFAKE		04 25 40.0	-1.9
JCC			LR	LR		
	comp=Z,800nm,18.0s					
PET	**Petropavlovsk**	**154.19 73**	*e*PKPbc	**PKiKP**	**04 25 42.5**	**+0.8**
PET			LR	LR		
	comp=Z,600nm,22.0s					
PET	**Petropavlovsk**	**154.19 73**	*i* PKIKP	**PKPdf**	**04 25 36.7**	**+3.2**
PET			*e*		04 25 43.0	
PET			*e*		04 29 38.2	
PET			*e*SS	SS	04 49 10.5	+0.1
E08A	**Dider Farm, El**	**154.32 271**	PFAKE		04 25 50.0	-6.5
E08A			LR	LR		
	comp=Z,1μm,18.0s					
J04D	**Umpqua Nationa**	**154.42 262**	P	**PKPdf**	**04 25 33.4**	**-1.1**
	baz=125					
C09A	**Chrisman Ranch**	**154.46 274**	PFAKE		04 25 50.0	-7.1
C09A			LR	LR		
	comp=Z,600nm,22.0s					
D08A	**Wollman Farm,**	**154.51 272**	PFAKE		04 25 50.0	-7.3
D08A			LR	LR		
	comp=Z,600nm,20.0s					
F07A	**Phinny Hill Vi**	**154.55 269**	PFAKE		04 25 50.0	+7.2
F07A			LR	LR		
	comp=Z,900nm,19.0s					
HUMO	**Hull Mountain**	**154.55 260**	PFAKE		04 25 50.0	+7.0
HUMO			LR	LR		
	comp=Z,902nm,19.0s					
HAWA	**Hanford**	**154.56 270**	PFAKE		04 25 50.0	+7.2
HAWA			LR	LR		
	comp=Z,800nm,20.0s					
I05D	**Terrebonne, OR**	**154.57 265**	P	**PKPdf**	**04 25 34.8**	**+0.3**
	baz=123					
E07A	**Sunnyside**	**154.83 270**	PFAKE		04 25 50.0	+6.6
E07A			LR	LR		
	comp=Z,900nm,19.0s					
H04A	**Detroit Lake**	**155.27 265**	PFAKE		04 25 50.0	-11
H04A			LR	LR		
	comp=Z,1μm,19.0s					
B08A	**Colville Reser**	**155.35 275**	*e*PKPdf	**PKPdf**	**04 25 35.1**	**-0.3**
B08A			*e*PKPbc	PKPbc	04 25 42.2	
B08A			LR	LR		
	comp=Z,700nm,19.0s					
I03D	**Drain, OR**	**155.42 261**	P	**PKPdf**	**04 25 35.6**	**0.0**
	baz=125					
YKA	**Yellowknife Ar**	**155.56 310**	PKP	**PKPdf**	**04 25 30.4**	**-4.7**
	comp=Z,6.4nm,1.0s,baz=68,slow=1.5,SNR=27					
YKA			PKPbc	pPKPbc	04 25 43.7	-3.0
	comp=Z,7.5nm,0.9s,baz=86,slow=1.9,SNR=13					
YKA			PKPab	**PKPab**	**04 25 59.6**	**-1.7**
	comp=Z,5.6nm,0.8s,baz=72,slow=1.9,SNR=5.9					
YKW3	**Yellowknife Ar**	**155.56 310**	PFAKE		04 25 50.0	-11
YKW3			LR	LR		
	comp=Z,700nm,18.0s					
LTY	**Liberty**	**155.66 271**	PFAKE		04 25 50.0	-12
LTY			LR	LR		
	comp=Z,1μm,20.0s					
COR	**Corvallis**	**155.89 263**	PFAKE		04 25 50.0	-13
COR			LR	LR		
	comp=Z,1μm,20.0s					
LON	**Longmire**	**156.10 269**	PFAKE		04 25 50.0	+14
LON			LR	LR		
	comp=Z,1μm,20.0s					
G03D	**McMinnville, O**	**156.20 265**	P	**PKPdf**	**04 25 36.0**	**-0.6**
	baz=122					
D05A	**Enumclaw**	**156.42 270**	PFAKE		04 25 50.0	+13
D05A			LR	LR		
	comp=Z,600nm,18.0s					
B06A	**Marblemount**	**156.71 273**	PFAKE		04 25 50.0	+13
B06A			LR	LR		
	comp=Z,1μm,21.0s					
B05A	**Bryant**	**156.97 272**	P	**PKPdf**	**04 25 36.8**	**-0.7**
	baz=116					
D03D	**Eldon**	**157.24 270**	P	**PKPdf**	**04 25 37.9**	**+0.1**
	baz=117					
BILL	**Bilibino**	**157.39 35**	*e*PKPdf	**PKPdf**	**04 25 38.1**	**+0.8**
BILL			*e*PKPab	**pPKPab**	**04 26 10.3**	**-1.1**
BILL	**Bilibino**	**157.39 35**	*e*PKIKP	**PKPdf**	**04 25 38.2**	**+0.8**
A04D	**Lummi Island**	**157.53 273**	P	**PKPdf**	**04 25 37.1**	**-1.0**
	baz=115					
NLWA	**Neilton Lookou**	**157.65 269**	PFAKE		04 25 50.0	+12
NLWA			LR	LR		
	comp=Z,1μm,20.0s					
INK	**Inuvik**	**160.88 332**	PKP	**PKPdf**	**04 25 38.1**	**-3.3**
	comp=Z,5.4nm,1.1s,baz=172,slow=2.6,SNR=8.8					
INK			PKPab	**PKPab**	**04 26 23.6**	**-0.6**
	comp=Z,11nm,1.1s,baz=23,slow=7.1,SNR=10					
INK			PP	**PP**	**04 30 07.8**	**+0.3**
	comp=Z,5.8nm,1.1s,baz=35,slow=1.9,SNR=4.9					
DLBC	**Dease Lake**	**163.51 300**	PKPab	**PKPab**	**04 26 36.7**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=107,slow=19,SNR=3.3					
TOLK	**Toolik Lake Re**	**163.94 349**	P	**PKPdf**	**04 25 41.5**	**-3.0**
	baz=18					
HYT	**Haines Junctio**	**166.51 313**	*e*PKPdf	**PKPdf**	**04 25 47.8**	**+0.8**
HYT			*e*PKPab	**pPKPab**	**04 26 50.5**	**-1.2**
BCAR	**Beaver Creek A**	**166.93 326**	*e*PKPdf	**PKPdf**	**04 25 47.9**	**+0.6**
BCAR			*e*PKPab	**PKPab**	**04 26 51.2**	**+0.2**
IMAR	**Indian Mountai**	**166.93 352**	*e*PKPab	**PKPab**	**04 26 52.0**	**+1.2**
ILAR	**Eielson Array**	**167.04 339**	*e*PKPdf	**PKPdf**	**04 25 45.3**	**-1.9**
ILAR			*e*PKPab	**PKPab**	**04 26 50.6**	**-0.7**
ILAR	**Eielson Array**	**167.04 339**	*e*PKIKP	**PKPdf**	**04 25 45.3**	**-1.9**
ILAR			*e*		04 26 50.7	
ILAR	**Eielson Array**	**167.04 339**	PKP	**PKPdf**	**04 25 43.6**	**-3.6**
	comp=Z,2.6nm,1.1s,baz=346,slow=2.3,SNR=9.6					
ILAR			PKPab	**PKPab**	**04 26 51.8**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=7.6,slow=4.0,SNR=7.2					
ILAR			PP	**PP**	**04 30 39.1**	**-0.8**
	comp=Z,1.5nm,1.0s,baz=16,slow=5.3,SNR=5.8					
CCB	**Clear Creek Bu**	**167.34 340**	*e*PKPab	**PKPab**	**04 26 53.5**	**+0.9**
MLY	**Manley**	**167.51 346**	*e*PKPdf	**PKPdf**	**04 25 46.3**	**-1.3**

NORS ***18*** *04:14:23.9±0.0, 43°.29N×45°.87E, h34km, MPVA3.5*
ISCJB ***18*** *04:14:24.5±0.8, 43°.51N±0°.04×45°.93E±0°.04, h15km±6km, Error ellipse: s-maj=8.2km s-min=3.7km az=26.9*
ISC 18 04:14:23.9±1.6, 43°.43N±0°.06×45°.93E±0°.04, h14km±10km, n18,σ0°81/36, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.25**	**203**	*e*Pg	**Pb**	**04 14 29.9**	**-0.3**
GROC				*e*Sg	**Sb**	**04 14 35.9**	**+1.5**
DBC	**Dubki**	**0.78**	**122**	*i* Pg	**Pn**	**04 14 40.0**	**-0.5**
DBC				*e*Sg	**Sn**	**04 14 51.5**	**-0.5**
BTLR	**Botlikh**	**0.80**	**164**	*e*Pg	**Pn**	**04 14 39.8**	**-1.0**
BTLR				*e*Sg	**Sn**	**04 14 51.6**	**-0.9**
KMGR	**Komgaron**	**0.86**	**245**	*e*Pg	**Pn**	**04 14 40.9**	**-0.7**
KMGR				*e*Sg	**Sg**	**04 14 53.1**	**+1.1**
TRKR	**Terskaya**	**0.92**	**289**	*e*Pg	**Pb**	**04 14 41.2**	**-0.4**
TRKR				*e*Sg	**Sg**	**04 14 53.6**	**-0.1**
BTKR	**Batakoyurt**	**1.01**	**267**	*e*Pg	**Pb**	**04 14 43.0**	**-0.3**
BTKR				*e*Sg	**Sg**	**04 14 57.0**	**+0.3**
XNZR	**Khunzakh**	**1.06**	**147**	*e*Pg	**Pn**	**04 14 45.1**	**+0.6**
XNZR				*e*Sg	**Sn**	**04 15 00.5**	**+1.5**
ARNR	**Ardon**	**1.23**	**259**	*e*Pg	**Pb**	**04 14 46.6**	**-0.3**
ARNR				*e*Sg	**Sg**	**04 15 03.4**	**-0.2**
PRTR	**Priterechnaya**	**1.24**	**285**	*e*Pg	**Pb**	**04 14 46.5**	**-0.6**
PRTR				*e*Sg	**Sn**	**04 15 03.1**	**-0.2**
LACR	**Lac**	**1.34**	**244**	*i* Pg	**Pn**	**04 14 46.7**	**-1.6**
LACR				*e*Sg	**Sn**	**04 15 05.0**	**-1.0**
KORR	**Kora**	**1.41**	**256**	*e*Pg	**Pb**	**04 14 49.7**	**-0.3**
KORR				*e*Sg	**Sg**	**04 15 09.0**	**-0.2**
GUDG	**Gudauri**	**1.44**	**228**	P	**Pb**	**04 14 49.9**	**-0.7**
GUDG				S	**Sb**	**04 15 09.7**	**+0.8**
LGD	**Lagodekhi**	**1.61**	**172**	P	**Pg**	**04 14 55.1**	**+0.2**
LGD				S	**Sg**	**04 15 15.8**	**-0.1**
ZEI	**Tsey**	**1.62**	**247**	*e*Pg	**Pn**	**04 14 51.9**	**-0.3**
ZEI				*e*Sg	**Sb**	**04 15 13.7**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.80**	**254**	*e*Pg	**Pn**	**04 14 54.5**	**-0.1**
DIGR				*e*Sg	**Sb**	**04 15 18.4**	**-0.8**
ONI	**Oni**	**2.00**	**246**	P	**Pb**	**04 14 59.5**	**-0.6**
ONI				S	**Sb**	**04 15 25.9**	**+0.9**
NEY	**Neytrino**	**2.35**	**267**	*e*Pn	**Pn**	**04 15 02.5**	**+0.3**
NEY				*e*Sn	**Sn**	**04 15 32.4**	**+1.5**
SHA1	**Shidzhatmaz**	**2.40**	**278**	*e*Pn	**Pn**	**04 15 03.1**	**+0.1**
SHA1				*e*Sn	**Sn**	**04 15 33.5**	**+1.3**

KRSC ***18*** *04:16:08.8±10.0, 51°.98N×160°.74E, h62km±10km, ML4.6*
ISCJB ***18*** *04:16:11.2±0.7, 52°.03N±0°.03×160°.70E±0°.05, h42km±4km, mb4.1/31, MS3.8/3, Error ellipse: s-maj=6.8km s-min=4.0km az=135.4*
MOS ***18*** *04:16:14.0±0.9, 52°.20N×160°.36E, h52km, mb4.6/14, Error ellipse: s-maj=7.9km s-min=4.5km az=103.8*
IDC ***18*** *04:16:16.8±2.9, 52°.25N×160°.11E, h55km±24km, mb3.7/19, mb1 3.9/21, mb1mx3.7/49, mbtmp4.0/21, ML3.7/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/53, Error ellipse: s-maj=22.0km s-min=13.9km az=139.0*
NEIC ***18*** *04:16:18.2±1.3, 52°.26N×159°.72E, h35km, mb4.2/4, Error ellipse: s-maj=22.7km s-min=18.8km az=130.0*
ISC 18 04:16:13.2±1.1, 52°.12N±0°.04×160°.50E±0°.04, h33km±4km, n141,σ1°30/177, mb4.3/32, MS3.3/3, 8C-4D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.03**	**344**	*e*P	**Pn**	**04 16 30.1**	**-1.2**
SPN				*e*S	**Sb**	**04 16 45.0**	**-0.7**
SPN	**Mys Shipunski**	**1.03**	**344**	PN	**Pn**	**04 16 30.1**	**-1.2**
SPN				S	**Sb**	**04 16 45.0**	**-0.7**
RUS	**Russkaya**	**1.26**	**285**	*e*P	**Pn**	**04 16 34.1**	**-0.4**
RUS				*e*S	**Sn**	**04 16 50.8**	**+0.5**
RUS	**Russkaya**	**1.26**	**285**	PN	**Pn**	**04 16 34.1**	**-0.4**
RUS				S	**Sn**	**04 16 50.8**	**+0.5**
NLC	**Nalytchevo**	**1.27**	**327**	*e*P	**Pn**	**04 16 34.6**	**0.0**
NLC				*e*S	**Sb**	**04 16 54.4**	**+1.8**
NLC	**Nalytchevo**	**1.27**	**327**	PN	**Pn**	**04 16 34.6**	**0.0**
NLC				S	**Sb**	**04 16 54.4**	**+1.8**
DALK	**Dalny**	**1.41**	**311**	*e*P	**Pn**	**04 16 36.3**	**-0.2**
DALK				*e*S	**Sb**	**04 16 55.7**	**-0.8**
DALK	**Dalny**	**1.41**	**311**	PN	**Pn**	**04 16 36.3**	**-0.2**
DALK				S	**Sb**	**04 16 55.7**	**-0.8**
PET	**Petropavlovsk**	**1.45**	**310**	*e*Pn	**Pn**	**04 16 36.5**	**-0.6**
PET	**Petropavlovsk**	**1.45**	**310**	*e*P	**Pn**	**04 16 36.9**	**-0.1**
PET				*e*S	**Sb**	**04 16 57.2**	**-0.5**
PET	**Petropavlovsk**	**1.45**	**310**	*e*PN	**Pn**	**04 16 37.0**	**-0.1**
PET				*e*S	**Sb**	**04 16 57.1**	**-0.6**
PET				pmax	pmax		
	comp=Z,467nm,0.7s						
PET				smax	smax		
	comp=N,1μm,0.8s						
PET				smax	smax		
	comp=E,1μm,0.9s						
MTVR	**Mutnovka**	**1.47**	**285**	*e*P	**Pn**	**04 16 37.5**	**0.0**
MTVR				*e*S	**Sn**	**04 16 56.9**	**+1.2**
MTVR	**Mutnovka**	**1.47**	**285**	PN	**Pn**	**04 16 37.5**	**0.0**
MTVR				S	**Sn**	**04 16 56.9**	**+1.2**
UGLR	**Uglovaya**	**1.50**	**318**	*e*P	**Pn**	**04 16 38.2**	**+0.3**
UGLR				*e*S	**Sb**	**04 17 00.1**	**+0.9**
UGLR	**Uglovaya**	**1.50**	**318**	PN	**Pn**	**04 16 38.2**	**+0.3**
SDLR	**Sedlovina**	**1.53**	**320**	*e*P	**Pn**	**04 16 38.3**	**0.0**
SDLR				*e*S	**Sb**	**04 17 00.4**	**+0.4**
SDLR	**Sedlovina**	**1.53**	**320**	PN	**Pn**	**04 16 38.3**	**0.0**
SDLR				S	**Sb**	**04 17 00.4**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.53**	**259**	*e*P	**Pn**	**04 16 37.6**	**-0.6**
KDTR				*e*S	**Sn**	**04 16 56.4**	**-0.5**
KDTR	**Khodutka, Kamc**	**1.53**	**259**	PN	**Pn**	**04 16 37.6**	**-0.6**
KDTR				S	**Sn**	**04 16 56.4**	**-0.5**
SMAR	**Somma**	**1.55**	**319**	*e*P	**Pn**	**04 16 38.9**	**+0.2**
SMAR	**Somma**	**1.55**	**319**	PN	**Pn**	**04 16 38.9**	**+0.2**
GRL	**Gorelyy**	**1.55**	**287**	*e*P	**Pb**	**04 16 40.3**	**-1.2**
GRL				S	**Sb**	**04 17 02.1**	**+1.3**
GRL	**Gorelyy**	**1.55**	**287**	PN	**Pb**	**04 16 40.3**	**-1.2**
AVH	**Avacha**	**1.57**	**318**	*e*P	**Pn**	**04 16 39.4**	**+0.5**
AVH				*e*S	**Sb**	**04 17 01.4**	**0.0**
AVH	**Avacha**	**1.57**	**318**	PN	**Pn**	**04 16 39.4**	**+0.5**
AVH				S	**Sb**	**04 17 01.4**	**0.0**
KRER	**Koryakskii**	**1.60**	**319**	*e*P	**Pn**	**04 16 39.6**	**+0.3**
KRER				*e*S	**Sb**	**04 17 02.9**	**+0.7**
KRER	**Koryakskii**	**1.60**	**319**	PN	**Pn**	**04 16 39.6**	**+0.3**
KRMR	**Karymshinskiy**	**1.62**	**297**	*e*P	**Pn**	**04 16 39.5**	**+0.1**
KRMR				*e*S	**Sb**	**04 17 03.0**	**+0.5**
KRMR	**Karymshinskiy**	**1.62**	**297**	PN	**Pn**	**04 16 39.5**	**+0.1**
KRMR				S	**Sb**	**04 17 03.0**	**+0.5**
ASAK	**Asacha**	**1.62**	**281**	*e*P	**Pn**	**04 16 39.9**	**+0.3**
ASAK				*e*S	**Sn**	**04 17 01.1**	**+1.8**
ASAK	**Asacha**	**1.62**	**281**	PN	**Pn**	**04 16 39.9**	**+0.3**
ASAK				S	**Sn**	**04 17 01.1**	**+1.8**
KOK	**Koryaka**	**1.64**	**317**	*e*P	**Pn**	**04 16 40.5**	**+0.7**
KOK	**Koryaka**	**1.64**	**317**	PN	**Pn**	**04 16 40.5**	**+0.7**
KRX	**Arik**	**1.68**	**319**	*e*P	**Pn**	**04 16 40.7**	**+0.3**
KRX				*e*S	**Sb**	**04 17 07.2**	**+2.7**
KRX	**Arik**	**1.68**	**319**

SRDR	Sredinnyy	4.24	354	P	Pn	04 17 17.4 +2.0
SRDR	Sredinnyy	4.24	354	PN	Pn	04 17 17.4 +2.0
KBTR	Krutoberegovo	4.32	17	eP	Pn	04 17 16.6 +0.1
KBTR				S	Sn	04 18 05.0 -0.7
KBTR	Krutoberegovo	4.32	17	PN	Pn	04 17 16.6 +0.1
KBTR				S	Sn	04 18 05.0 -0.7
BKI	Bering	4.49	44	eP	Pn	04 17 19.3 +0.5
BKI				S	Sn	04 18 05.2 -4.6
BKI	Bering	4.49	44	PN	Pn	04 17 19.3 +0.5
MA2	Magadan	9.26	328	LR	LR	04 22 41.8
	comp=N,243nm,18.1s,baz=135,slow=43					
YSS	Yuzh-Sakhalins	12.62	253	ePN	P	04 19 19.7 -1.6
YSS				MLR	MLR	
	comp=Z,200nm,13.0s					
ASAJ	Asahikawa	14.36	243	P	Pn	04 19 34.8 +0.7
	comp=Z,0.7nm,0.3s,baz=132,slow=18,SNR=3.0					
ASAJ				LR	LR	04 26 02.1
	comp=Z,91nm,18.9s,baz=22,slow=41					
BILL	Bilibino	16.22	8	ePn	P	04 20 02.6 +1.5
	comp=Z,6.2nm,0.6s					
BILL	Bilibino	16.22	8⇑	eP	Pn	04 19 58.4 +0.1
BILL				pmax	pmax	
	comp=Z,6.0nm,0.7s					
BILL				MLR	MLR	
	comp=Z,150nm,17.0s					
KLR	Kul'dur	18.40	272⇑	eP	P	04 20 25.1 -0.1
KLR				pmax	pmax	
	comp=Z,17nm,2.5s					
KLR	Kul'dur	18.40	272	P	P	04 20 24.8 -0.5
	comp=Z,0.1nm,0.3s,baz=57,slow=12,SNR=12					
USRK	Ussuriysk Ar.	20.50	259	P	P	04 20 46.0 -2.2
	comp=Z,3.9nm,0.8s,baz=62,slow=12,SNR=7.3					
MJA0	Matsu Arr-Jizo	22.13	234	eP	P	04 21 08.9 +3.0
MJA0				pmax	pmax	
	comp=Z,2.0nm,0.4s					
MAJO	Matsushiro	22.15	234	eP	P	04 21 08.0 +1.9
	comp=Z,11nm,1.0s					
MAJO	Matsushiro	22.15	234⇓	eP	P	04 21 07.9 +1.8
MAJO				pmax	pmax	
	comp=Z,10.0nm,1.1s					
MJAR	Matsushiro Arr	22.15	234	P	P	04 21 07.3 +1.2
	comp=Z,3.4nm,0.7s,baz=25,slow=8.5,SNR=12					
MJAR				LR	LR	04 30 03.0
	comp=Z,111nm,19.3s,baz=25,slow=38					
MJB9	Matsu-Tunnel	22.15	234	eP	P	04 21 08.1 +2.1
	comp=Z,12nm,1.0s					
TIXI	Tiksi	24.08	336⇓	eP	P	04 21 23.8 -1.3
TIXI				pmax	pmax	
	comp=Z,8.0nm,0.9s					
TIXI	Tiksi	24.08	336	P	P	04 21 23.6 -1.5
	comp=Z,5.0nm,0.5s,baz=130,slow=8.6,SNR=8.9					
CHGN	Chignik	24.12	64	eP	P	04 21 35.8 +10
	comp=Z,79nm,0.8s					
HIA	Hailar	25.74	280⇓	eP	P	04 21 38.6 -1.8
HIA				pmax	pmax	
	comp=Z,48nm,0.7s					
KSRS	Korea Array	27.10	250	P	P	04 21 51.0 -1.8
KSRS	Korea Array	27.10	250	P	P	04 21 51.0 -1.8
	comp=Z,1.0nm,0.6s,baz=117,slow=38,SNR=9.0					
JNU	Nakatsue	28.60	240	LR	LR	04 35 27.1
	comp=Z,70nm,18.1s,baz=22,slow=40					
ILAR	Eielson Array	29.34	44	eP	P	04 22 15.4 +2.9
ILAR	Eielson Array	29.34	44	P	P	04 22 14.5 +2.0
	comp=Z,0.4nm,0.9s,baz=262,slow=9.3,SNR=4.3					
H11N2	WAKE ISLAND Hy	32.70	169	T	T	04 58 50.0
	baz=352,slow=75,SNR=52					
H11N3	WAKE ISLAND Hy	32.72	169	T	T	04 58 47.7
	baz=352,slow=75,SNR=30					
H11N1	WAKE ISLAND Hy	32.72	169	T	T	04 58 50.0
	baz=352,slow=75,SNR=38					
H11S1	WAKE ISLAND Hy	33.89	169	T	T	05 00 13.5
	baz=350					
H11S3	WAKE ISLAND Hy	33.90	169	T	T	05 00 13.1
	baz=350					
H11S2	WAKE ISLAND Hy	33.91	169	T	T	05 00 10.7
	baz=350					
ZALV	Zalesovo Beam	43.52	304	P	P	04 24 10.6 -2.6
	comp=Z,1.0nm,0.3s,baz=40,slow=9.4,SNR=2.9					
YKA	Yellowknife Ar	43.72	42	P	P	04 24 15.6 +1.0
	comp=Z,0.2nm,0.7s,baz=297,slow=8.4,SNR=3.1					
NVS	Novosibirsk	43.88	306	eP	P	04 24 14.3 -1.8
NVS				e		04 24 24.7
NVS				pmax	pmax	
	comp=Z,7.0nm,0.9s					
NVS				pmax	pmax	
	comp=E,6.0nm,0.8s					
RES	Resolute Bay	44.14	22	P	P	04 24 19.0 +1.1
	comp=E,0.9nm,0.7s,baz=283,slow=8.0,SNR=5.2					
DGZ	Jazzator, Alta	44.33	297	⇓iP	P	04 24 19.1 -0.9
DGZ				pmax	pmax	
	comp=Z,3.0nm,0.8s					
CD2	Chengdu	46.13	266	eP	P	04 24 32.4 -1.9
SPITS	Spitsbergen Ar	48.14	351	P	P	04 24 49.7 +0.3
SPITS				pmax	pmax	
	comp=Z,1.0nm,0.3s					
KURK	Kurchatov	48.47	303	⇑iP	P	04 24 50.5 -1.7
KURK				pmax	pmax	
	comp=Z,7.0nm,0.9s					
MKAR	Makanchi Array	48.81	297	P	P	04 24 52.8 -2.2
	comp=Z,1.0nm,0.6s,baz=56,slow=6.4,SNR=6.7					
BRVK	Borovoye	51.23	309	iP	P	04 25 12.3 -0.8
BRVK				pmax	pmax	
	comp=Z,23nm,3.0s					
ARU	Arti	54.29	318c	iP	P	04 25 34.9 -0.8
ARU						04 27 34.3
ARU				S	S	04 33 10.5 -0.2
ARU				SS	SKiKP	04 36 42.2 -1.0
ARU				pmax	pmax	
	comp=Z,5.0nm,0.9s					
ARCES	ARCESS Array B	54.30	342	P	P	04 25 35.3 -0.3
	comp=Z,4.1nm,0.9s,baz=29,slow=8.2,SNR=5.3					
AAK	Ala-Archa	55.74	297	⇑eP	P	04 25 46.2 -0.4
AAK				pmax	pmax	
	comp=Z,3.0nm,1.1s					
CMAR	Chiang Mai Arr	58.23	259	eP	P	04 26 06.3 +2.0
CMAR				pmax	pmax	
	comp=Z,1.0nm,0.4s					
CMAR	Chiang Mai Arr	58.23	259	P	P	04 26 05.8 +1.5
	comp=Z,1.8nm,0.3s,baz=33,slow=6.5,SNR=6.3					
ABKAR	Akbulak array	58.62	311	eP	P	04 26 05.6 -1.0
JIRN	Jiri	59.24	276	eP	P	04 26 11.2 -0.5
RAMN	Ramite	59.50	276	eP	P	04 26 12.6 -0.7
	comp=Z,11nm,0.5s					
PKI	Pulchoki	59.78	277	eP	P	04 26 15.1 -0.3
PKIN	Phulchoki	59.79	277	eP	P	04 26 15.1 -0.2
DMN	Daman	59.94	277	eP	P	04 26 16.5 +0.1
DANN	Dangsing	60.23	279	eP	P	04 26 18.3 -0.1
	comp=Z,14nm,0.7s					
KOLN	Koldanda	60.75	278	eP	P	04 26 21.6 -0.2
	comp=Z,10nm,0.7s					
PYUN	Piuthan	60.88	279	eP	P	04 26 22.6 -0.1
FINES	FINESS Array B	61.12	337	eP	P	04 26 23.9 +0.3
FINES	FINESS Array B	61.12	337	P	P	04 26 24.1 +0.5
	comp=Z,3.7nm,0.7s,baz=33,slow=7.7,SNR=17					
VSU	Vasula	63.54	335	⇑eP	P	04 26 40.1 +0.3
NB2	NORSAR Subarra	64.55	344	P	P	04 26 45.8 -0.7
	comp=Z,1.8nm,0.7s,baz=23,slow=6.9					
NOA	NORSAR Array B	64.55	344	eP	P	04 26 46.9 +0.4
NOA				pmax	pmax	
	comp=Z,3.0nm,0.8s					
NOA	NORSAR Array B	64.55	344	P	P	04 26 46.2 -0.2
	comp=Z,2.7nm,0.8s,baz=21,slow=6.6,SNR=12					
VSR	Storozhevoye	65.77	324	⇑eP	P	04 26 53.0 -1.5
VSR				pmax	pmax	
	comp=Z,5.0nm,0.5s					
GEYT	Alibeck	67.83	303	P	P	04 27 07.5 -0.4
	comp=Z,0.8nm,0.3s,baz=84,slow=4.5,SNR=3.0					
AKASG	Malin Array Be	69.58	329	eP	P	04 27 18.3 -0.2
AKASG	Malin Array Be	69.58	329	P	P	04 27 17.6 -0.8
	comp=Z,0.4nm,0.2s,baz=31,slow=6.5,SNR=6.2					
KIEV	Kiev	69.59	329	⇑iP	P	04 27 17.7 -0.8
KIEV				pmax	pmax	
	comp=Z,5.0nm,0.9s					
KBZ	Khabaz	70.42	317	P	P	04 27 24.4 +0.6
	comp=Z,2.3nm,0.8s,baz=87,slow=3.7,SNR=4.2					
TXAR	Lajitas Array	70.79	67	P	P	04 27 28.2 +1.8
	comp=Z,0.3nm,0.8s,baz=289,slow=2.8,SNR=3.0					
SOC	Sochi	71.85	319	eP	P	04 27 31.8 -0.6
SOC				ePPP	PPP	04 31 59.9
SOC				eS	S	04 36 45.9 -4.6
SOC				pmax	pmax	
	comp=Z,7.0nm,0.5s					
SOC				MLR	MLR	
	comp=Z,662nm,19.0s					
CLL	Collm	73.36	339	iP	P	04 27 41.6 +0.4
CLL				pmax	pmax	
	comp=Z,5.0nm,1.2s					
CLL	Collm	73.36	339	iP	P	04 27 41.6 +0.4
	comp=Z,5.0nm,1.2s					
BUR08	Bucovina Ar. S	73.53	330	eP	P	04 27 42.5 0.0
	comp=Z,3.0nm,0.8s					
VYHS	Vyhne	74.57	335	eP	P	04 27 48.2 -0.2
VYHS	Vyhne	74.57	335	eP	P	04 27 48.2 -0.2
BRTR	Keskin Array B	77.54	321	P	P	04 28 05.7 0.0
	comp=Z,0.9nm,0.8s,baz=24,slow=3.4,SNR=4.4					
ASAR	Alice Springs	78.97	205	P	P	04 28 15.0 +1.6
ASAR	Alice Springs	78.97	205	P	P	04 28 14.9 +1.6
	comp=Z,0.4nm,0.7s,baz=6.2,slow=4.8,SNR=4.7					
CMLA	Cha da Macela	90.34	5	iP	P	04 29 12.0 +1.3

IDC 18 04:16:41.6±4.6, 51°.92N×161°.00E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/47, mbtmp3.9/4, Error ellipse: s-maj=106.1km s-min=37.1km az=173.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	24.38	336	P	P	04 21 59.4	-1.5
	1.9nm,0.3s,baz=133,slow=9.1,SNR=3.6						
YKA	Yellowknife Ar	43.66	42	P	P	04 24 46.7	-0.7
	0.3nm,0.8s,baz=297,slow=7.9,SNR=3.5						
MKAR	Makanchi Array	49.17	297	P	P	04 25 30.1	-0.9
	0.7nm,0.5s,baz=57,slow=7.1,SNR=7.9						
FINES	FINESS Array B	61.42	337	P	P	04 27 00.7	+1.8
	1.6nm,0.4s,baz=29,slow=8.7,SNR=13						

*IDC **18** 04:17:59.7±1.0, 19°.00N×66°.51W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/43, mbtmp3.7/7, Error ellipse: s-maj=34.2km s-min=22.6km az=48.0*
*ISCJB **18** 04:18:03.0±0.4, 19°.48N±0°.03×66°.33W±0°.03, h19km, mb3.7/7, Error ellipse: s-maj=4.7km s-min=4.1km az=161.4*
*NEIC **18** 04:18:06.3±0.0, 19°.49N×66°.32W, h25km, 22km, MD3.5(RSPR), After RSPR.*
*RSPR **18** 04:18:06.3, 19°.49N×66°.32W, h25km±22km, MD3.5/13*
ISC 18 04:18:04.0±0.6, 19°.37N±0°.04×66°.29W±0°.03, h19km, n53, σ0°.90/59, mb3.9/7, 6C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	0.92	195	⇓eP	Pg	04 18 22.6	+0.6
EMPR	Esperanza - Ma	0.92	195	eS	Sn	04 18 35.8	+1.3
EMPR	Esperanza - Ma	0.92	195	ePn	Pg	04 18 22.5	+0.6
EMPR				eSn	Sn	04 18 35.8	+1.3
AOPR	Arecibo Observ	1.11	204	⇑eP	Pg	04 18 25.1	-0.4
AOPR	Arecibo Observ	1.11	204	eS	Sg	04 18 40.4	+0.2
AOPR	Arecibo Observ	1.11	204	ePn	Pg	04 18 25.1	-0.4
AOPR				eSn	Sg	04 18 40.4	+0.2
CBYP	Canovanas	1.17	159	⇑eP	Pg	04 18 26.6	0.0
CBYP	Canovanas	1.17	159	eS	Sg	04 18 42.6	+0.7
CBYP	Canovanas	1.17	159	ePn	Pg	04 18 26.6	0.0
CBYP				eSn	Sg	04 18 42.6	+0.7
AGPR	Aguadilla, PR	1.19	221	⇓eP	Pb	04 18 25.8	-0.1
AGPR	Aguadilla, PR	1.19	221	eS	Sn	04 18 41.4	+0.1
AGP	Aguadilla	1.25	220	ePn	Pn	04 18 25.8	-0.7
AGP				eSn	Sn	04 18 41.4	-1.5
SJG	San Juan	1.26	174	⇑eP	Pg	04 18 28.1	-0.3
SJG	San Juan	1.26	174	ePn	Pg	04 18 27.8	-0.5
HUMP	Col San Antoni	1.29	161	⇓eP	Pb	04 18 28.1	+0.5
HUMP	Col San Antoni	1.29	161	eS	Sg	04 18 45.7	-0.1
HUMP	Col San Antoni	1.29	161	ePn	Pb	04 18 28.1	+0.5
HUMP				eSn	Sg	04 18 45.7	-0.1
CELP	Cerrillos	1.32	192	⇓eP	Pb	04 18 28.2	0.0
CELP	Cerrillos	1.32	192	ePn	Pb	04 18 28.2	0.0
OBIP	Obispado Ponce	1.35	193	⇑eP	Pb	04 18 28.8	+0.1
OBIP	Obispado Ponce	1.35	193	eS	Sb	04 18 46.8	+1.1
OBIP	Obispado Ponce	1.35	193	ePn	Pb	04 18 28.8	+0.1
OBIP				eSn	Sb	04 18 46.8	+1.1
MPR	Mayaguez	1.41	215	ePn	Pb	04 18 28.9	-0.8
LSP	Las Mesas	1.41	213	⇓eP	Pb	04 18 29.4	-0.3
LSP	Las Mesas	1.41	213	eS	Sb	04 18 48.1	+0.8
LSP	Las Mesas	1.41	213	ePn	Pb	04 18 29.4	-0.3
CUPR	Culebra, Puert	1.42	138	⇓eP	Pb	04 18 29.9	-0.1
CUPR	Culebra, Puert	1.42	138	eS	Sb	04 18 48.8	+1.2
CUPR	Culebra, Puert	1.42	138	ePn	Pb	04 18 29.6	-0.3
MTP	Monte Pirata	1.44	151	⇑eP	Pb	04 18 30.9	+0.6
MTP	Monte Pirata	1.44	151	eS	Sb	04 18 49.3	+1.0
MTP	Monte Pirata	1.44	151	ePn	Pb	04 18 30.4	0.0
ICMP	Isla Caja de M	1.49	189	ePn	Pb	04 18 31.5	+0.4
STVI	Saint Thomas	1.62	129	⇓eP	Pb	04 18 33.2	-0.1
STVI	Saint Thomas	1.62	129	eS	Sb	04 18 52.6	-0.7
STVI	Saint Thomas	1.62	129	ePn	Pb	04 18 33.2	-0.1
PCDR	Punta Cana, DR	2.16	247	⇑eP	Pn	04 18 39.6	+0.7
PCDR	Punta Cana, DR	2.16	247	eS	Sn	04 19 04.9	-0.3
PCDR	Punta Cana, DR	2.16	247	ePn	Pn	04 18 39.4	+0.5
CDVI	St. Croix	2.16	138	ePn	Pb	04 18 41.8	-0.7
SDDR	Presa de Saban	4.74	266	ePn	Pn	04 19 15.9	+1.3
ECSD	EROS Data Cent	35.13	321	eP	P	04 24 57.2	+0.8
SIV	San Ignacio	35.51	171	P	P	04 24 55.3	-4.6
	0.6nm,0.7s,baz=348,slow=9.3,SNR=3.0						
NV01	Mina Array Sit	48.67	304	eP	P	04 26 47.5	+0.2
NVAR	Mina Array Bea	48.67	304	P	P	04 26 47.5	+0.2
	2.0nm,0.8s,baz=93,slow=8.1,SNR=1.8						
YKA	Yellowknife Ar	54.30	335	P	P	04 27 28.1	-0.7
	0.9nm,0.7s,baz=104,slow=6.8,SNR=3.2						
YKB5	Yellowknife Ar	54.30	335	eP	P	04 27 28.1	-0.7
ESDC	Sonseca Array	56.77	55	P	P	04 27 48.9	+1.9
	0.2nm,0.5s,baz=258,slow=6.6,SNR=2.8						
INK	Inuvik	63.78	338	P	P	04 28 34.0	-0.3
	0.8nm,0.6s,baz=78,slow=2.9,SNR=3.7						
TOA1	Torodi Ar. Sit	65.20	84	eP	P	04 28 45.2	+0.6
TORD	Torodi Ar. Bea	65.21	84	P	P	04 28 45.2	+0.5
	0.2nm,0.6s,baz=294,slow=7.5,SNR=5.0						
ILAR	Eielson Array	68.66	333	P	P	04 29 06.0	+0.1
	0.7nm,0.7s,baz=105,slow=4.3,SNR=9.6						
ILB	Eielson Array	68.66	333	eP	P	04 29 06.0	+0.1

*ISCJB **18** 04:22:08.6±0.7, 41°.1S±0°.1×91°.3W±0°.1, h10km, mb4.3/24, Error ellipse: s-maj=19.7km s-min=15.6km az=1.7*
*IDC **18** 04:22:08.1±1.0, 40°.87S×91°.65W, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/37, mbtmp4.0/12, ML2.9/1, Error ellipse: s-maj=28.3km s-min=22.4km az=139.0*
*NEIC **18** 04:22:09.8±0.9, 41°.04S×91°.33W, h10km, mb4.7/15, Error ellipse: s-maj=28.3km s-min=13.9km az=194.0*
ISC 18 04:22:09.7±0.9, 41°.0S±0°.2×91°.4W±0°.1, h10km, n38, σ1°.11/38, mb4.5/24, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	15.79	96	ePn	Pn	04 25 51.1	-1.1
	47nm,1.8s						
PLCA	Paso Flores	15.79	96	Pn	P	04 25 56.5	+0.4
	0.0nm,0.3s,baz=260,slow=18,SNR=1.6						
CPUP	Villa Florida	31.70	73	eP	P	04 28 34.6	+1.1
	18nm,1.8s						
CPUP	Villa Florida	31.70	73	P	P	04 28 34.6	+1.1
	1.7nm,1.0s,baz=246,slow=20,SNR=2.4						
LPAZ	La Paz	31.82	46	P	P	04 28 36.7	+1.4
	0.4nm,0.5s,baz=266,slow=19,SNR=2.5						
ATAH	Atahualpa	35.68	23	P	P	04 29 08.7	0.0
	3.8nm,0.7s,baz=342,slow=5.7,SNR=2.2						
SIV	San Ignacio	36.19	55	P	P	04 29 11.3	-1.3
	1.1nm,0.9s,baz=241,slow=13,SNR=2.3						
OTAV	Otavalo	42.72	19	eP	P	04 30 08.5	+1.0
	6.0nm,1.0s						
ROSC	El Rosal	48.24	23	eP	P	04 30 50.8	-0.5
	5.5nm,0.8s						
ROSC	El Rosal	48.24	23	P	P	04 30 50.8	-0.5
	1.9nm,0.5s,baz=180,slow=19,SNR=1.8						
SDV	Santo Domingo	53.22	26	P	P	04 31 27.3	-1.2
	2.3nm,0.7s,baz=225,slow=13						
VNDA	Vanda	53.80	195	P	P	04 31 32.4	+0.5
	1.3nm,0.9s,baz=112,slow=7.3,SNR=4.9						
HPIG		68.88	346	eP	P	04 33 15.3	+0.6
	31nm,1.9s						
LTX	Lajitas	70.91	349	eP	P	04 33 24.6	-2.4
TXAR	Lajitas Array	70.91	349	P	P	04 33 24.6	-2.3
	0.5nm,0.7s,baz=167,slow=8.1,SNR=7.9						
TUC	Tucson	75.12	343	eP	P	04 33 52.0	+0.1
	3.7nm,1.0s						
ANMO	Albuquerque	76.84	347	P	P	04 34 01.7	-0.1
	0.8nm,0.6s,baz=152,slow=6.2,SNR=5.8						
CCM	Cathedral Cave	78.69	0	eP	P	04 34 12.2	+0.4
SYP	Santa Ynez Pea	79.63	336	eP	P	04 34 17.9	+0.7
S22A	4UR Ranch, Cre	79.64	348	eP	P	04 34 18.9	+1.5
	18nm,1.8s						
PV01	Paradox Valley	80.31	346	eP	P	04 34 22.1	+1.2
	17nm,1.7s						
PV13	Radium Mtn., P	80.38	346	eP	P	04 34 23.1	+1.8
	21nm,1.8s						
SMCO	Snowmass	81.06	348	eP	P	04 34 25.4	+0.3
	6.4nm,1.3s						
Q16A	Castle Valley	81.57	345	eP	P	04 34 28.4	+0.8
	16nm,1.7s						
NV01	Mina Array Sit	82.79	339	eP	P	04 34 34.4	+0.4
NVAR	Mina Array Bea	82.79	339	P	P	04 34 34.4	+0.4
	0.8nm,0.7s,baz=148,slow=7.4,SNR=3.6						
DUG	Dugway, Tooele	83.14	344	eP	P	04 34 37.2	+1.6
	13nm,1.5s						
ECSD	EROS Data Cent	84.49	356	eP	P	04 34 42.6	+0.2
	6.0nm,1.1s						
PD31	Pinedale Array	84.99	347	eP	P	04 34 44.4	-0.8
PDAR	Pinedale Array	84.99	347	P	P	04 34 44.4	-0.8
	1.7nm,0.7s,baz=150,slow=5.5,SNR=12						
TPAW	Teton Pass	85.94	346	eP	P	04 34 51.2	+1.3
	8.5nm,1.1s						
LOHW	Long Hollow	86.00	346	eP	P	04 34 50.9	+0.8
	3.3nm,0.9s						
YHH	Holmes Hill	87.18	346	eP	P	04 34 57.0	+1.0
	7.4nm,1.1s						
STD	Studebaker Rid	91.11	339	eP	P	04 35 15.5	+1.2
GLK	Glacier Lake	91.25	340	eP	P	04 35 15.2	+0.3
KSRS	Korea Array	149.50	276	PKPbc	PKPbc	04 41 57.9	-1.1
	0.4nm,0.3s,baz=64,slow=2.8,SNR=2.9						
KS15	Wonju Array Si	149.52	276	ePKPdf	PKPbc	04 41 57.9	-1.2
KSAR	Wonju Array Be	149.52	276	PKPbc	PKPbc	04 41 57.9	-1.2

*IDC **18** 04:27:45.8±0.6, 41°.30S×91°.55W, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.3/33, mbtmp4.3/15, ML3.9/1, MS4.6/8, Ms1 4.6/8, ms1mx4.1/31, Error ellipse: s-maj=24.7km s-min=17.0km az=109.0*
*ISCJB **18** 04:27:47.4±0.4, 41°.15S±0°.07×91°.57W±0°.09, h10km, mb4.6/35, MS4.7/11, Error ellipse: s-maj=10.4km s-min=9.3km az=153.8*
*NEIC **18** 04:27:48.9±0.6, 41°.16S×91°.70W, h10km, mb4.9/28, Error ellipse: s-maj=14.8km s-min=11.1km az=10.0*
*GCMT **18** 04:27:48.8±0.3, 41°.02S±0°.03×91°.75W±0°.02, h14km±1km, MW5.2/74, Moment Tensor Solution. s42,c47; s74,c104; Duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.71±.04; $M_{\theta\theta}$0.04±.03; $M_{\phi\phi}$0.67±.03; $M_{r\theta}$0.06±.07; $M_{\theta\phi}$-0.18±.02; $M_{\phi r}$-0.10±.05; Best double couple: M=0.72500×10^{17} NP1:ϕ_s342.00000°, δ50.00000°, λ-94.00000°. NP2: ϕ_s168.00000°, δ41.00000°, λ-86.00000°. Principal axes: T 0.7280, Plg5.0000°, Azm75.0000°; N -0.0050, Plg3.0000°, Azm345.0000°; P -0.7230, Plg85.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 04:27:48.4±0.5, 41°.13S±0°.10×91°.75W±0°.09, h10km, n82, σ2°.18/73, mb4.8/35, MS4.6/11, 1C-1D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO06	Curarrehue	15.53	91	ePn	Pn	04 31 29.1	+1.5
	76nm,1.5s						
PLCA	Paso Flores	16.02	96	ePn	P	04 31 36.6	-0.7
	79nm,1.7s						
PLCA	Paso Flores	16.02	96	Pn	Pn	04 31 31.7	-2.1
	0.1nm,0.3s,baz=28,slow=15,SNR=1.9						
RPN	Rapa Nui	20.12	308	LR	LR	04 37 45.3	
	comp=Z,2μm,20.7s,baz=130,slow=30						
GO04	Tololo Observa	20.18	64	eP	P	04 32 22.7	-0.6
	97nm,1.7s						
GO03	Copiap	22.23	59	eP	P	04 32 44.4	-0.9
	74nm,1.4s						
TRQA	Tornquist	23.09	92	eP	P	04 32 56.6	+2.4
	208nm,1.8s						
GO02	Mina Guanaco	24.34	56	eP	P	04 33 06.3	-0.4
	32nm,1.2s						
LVC	Limon Verde	26.64	53	eP	P	04 33 27.5	-0.2
	36nm,1.5s						
LVC	Limon Verde	26.64	53	P	P	04 33 27.7	0.0
	4.4nm,0.9s,baz=219,slow=14,SNR=3.4						
LVC				LR	LR	04 41 10.0	
	comp=Z,2μm,21.7s,baz=184,slow=30						
PMSA	Palmer Station	28.52	155	LR	LR	04 41 35.0	
	comp=Z,995nm,18.6s,baz=319,slow=29						
MNMC	Minye Minye	28.96	47	eP	P	04 33 47.5	-0.8
	39nm,1.5s						
LPAZ	La Paz	32.07	46	P	P	04 34 15.0	-1.2
	1.2nm,0.7s,baz=220,slow=7.1,SNR=3.6						
ATAH	Atahualpa	35.88	23	P	P	04 34 49.4	+0.3
	9.0nm,0.9s,baz=231,slow=5.5,SNR=7.1						
SIV	San Ignacio	36.46	56	P	P	04 34 52.6	-1.0
	2.4nm,1.0s,baz=240,slow=9.4,SNR=8.3						
RKT	Rikitea	40.31	283	eLR	LR	04 46 23.3	
	comp=Z,2μm,28.2s						
OTAV	Otavalo	42.91	20	eP	P	04 35 47.5	-0.2
	6.4nm,0.9s						
BDFB	Brasília	45.45	69	LR	LR	04 54 31.8	
	comp=Z,1μm,18.1s,baz=246,slow=35						
ROSC	El Rosal	48.45	24	eP	P	04 36 32.1	+0.7
	36nm,1.5s						
ROSC	El Rosal	48.45	24	P	P	04 36 32.1	+0.7
	7.5nm,0.9s,baz=157,slow=21,SNR=6.1						
VNA3	Neumayer Olymp	49.18	155	P	P	04 36 38.3	+2.2
PTGA	Pitinga	49.43	44	eP	P	04 36 38.4	-0.2
	20nm,1.4s						
VNA1

6.6nm,0.9s
SADO Sadowa 86.26 9 P P 04 40 28.5 -1.2
4.2nm,0.9s,baz=225,slow=0.6,SNR=7.4
HLID Hailey 86.75 344 eP P 04 40 33.8 +1.4
7.7nm,1.0s
LKWY Lake 86.94 347 eP P 04 40 35.3 +1.8
9.6nm,1.1s
ULM Lac du Bonnet 91.07 357 P P 04 40 51.3 -1.1
2.3nm,1.0s,baz=143,slow=3.5,SNR=3.8
ULM LR LR 05 19 11.8
comp=Z,437nm,20.6s,baz=91,slow=34
DBIC Dimbokro 92.00 83 LR LR 05 16 36.0
comp=Z,262nm,21.7s,baz=195,slow=32
GEC2 GERESS Array S 128.67 55 ePKPpre PKPdf 04 46 52.5 -2.8
GERES GERESS Array B 128.67 55 PKP PKPdf 04 46 52.5 -2.8
0.7nm,0.8s,baz=221,slow=1.2,SNR=6.3
VYHS Vyhne 131.75 57 ePKP PKiKP 04 47 04.8 +2.8
AKASG Malin Array Be 138.84 56 PKhKP PKPpre 04 47 10.2
0.4nm,0.5s,baz=280,slow=2.6,SNR=4.3
AKBB Malin Array Si 138.84 56 ePKPpre PKPpre 04 47 10.2
BR101 Keskin Array S 138.98 73 ePKPdf PKPdf 04 47 14.4 -0.5
BRTR Keskin Array B 138.98 73 PKP PKPdf 04 47 14.4 -0.5
0.6nm,0.8s,baz=226,slow=3.4,SNR=3.6
MJAR Matsushiro Arr 141.25 280 PKP PKPdf 04 47 16.7 -2.4
0.9nm,0.3s,baz=170,slow=2.7,SNR=3.3
MAJO Matsushiro 141.25 280 ePKPpre PKPdf 04 47 16.7 -2.4
TIXI Tiksi 143.43 340 PKP PKPbc 04 47 18.7 -0.3
1.5nm,0.2s,baz=25,slow=6.5,SNR=3.6
KBZ Khabaz 146.74 70 PKPbc PKPbc 04 47 28.1 -1.9
3.7nm,0.9s,baz=175,slow=0.6,SNR=7.1
GNI Garni 147.22 77 PKPbc PKPbc 04 47 28.5 -3.3
2.5nm,0.4s,baz=28,slow=3.9,SNR=5.2
USRK Ussuriysk Ar. 147.97 290 PKPbc PKPbc 04 47 32.1 -1.4
2.6nm,0.8s,baz=150,slow=1.9,SNR=4.0
KSRS Korea Array 149.26 276 PKPbc PKPbc 04 47 35.9 -1.1
1.2nm,0.8s,baz=124,slow=2.7,SNR=6.0
ARU Arti 155.42 41 PKP PKPdf 04 47 36.1 -5.1
1.9nm,0.2s,baz=284,slow=19,SNR=2.4
CMAR Chiang Mai Arr 155.62 205 PKP PKPdf 04 47 39.3 -3.4
1.3nm,0.3s,baz=240,slow=1.8,SNR=2.6
GEYT Alibeck 156.59 88 PKPab PKPab 04 48 10.8 -1.7
1.6nm,0.6s,baz=253,slow=4.4,SNR=3.2
ABKAR Akbulak array 158.55 58 ePKPdf PKPdf 04 47 47.2 +1.8
BVAR Borovoye Array 163.04 39 PKPab PKPab 04 48 38.0 -2.0
0.3nm,0.4s,baz=300,slow=2.8,SNR=2.9
CD2 Chengdu 163.86 236 PKP PKPdf 04 47 55.3 +3.5
LZH Lanzhou 166.81 253 ePKP PKPdf 04 47 55.5 +1.3
LZH pPKP sPKPdf 04 48 05.9 +8.6
LZH sPKP 04 48 10.3
ZALV Zalesovo Beam 166.97 9 PKP PKPdf 04 47 50.7 -2.8
0.7nm,0.3s,baz=354,slow=1.4,SNR=2.1
KURK Kurchatov 168.31 32 ePKPab PKPab 04 49 03.8 +0.6
KURBB Kurchatov Arra 168.34 32 PKPab PKPab 04 49 02.6 -0.8
2.0nm,0.8s,baz=314,slow=4.9,SNR=15
KSH Kashi 170.48 96 PKP PKPdf 04 48 02.8 +6.3
KSH PP PP 04 53 10.6 +6.1
KSH SKS SKSdf 04 55 07.5 +7.6

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*NEIC **18** 04:32:26.3±0.0, 13°.72N×92°.13W, h15km, mb4.1/11, MD4.2(MEX), After MEX.*
*MEX **18** 04:32:26.3±0.4, 13°.72N×92°.16W, h15km, MD4.1*
*IDC **18** 04:32:27.9±2.8, 13°.74N×92°.05W, h43km±26km, mb3.3/5, mb1 3.7/8, mb1mx3.4/42, mbtmp3.6/8, ML3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/20, Error ellipse: s-maj=23.6km s-min=18.2km az=27.0*
*UCR **18** 04:32:28.2±0.8, 13°.91N×91°.96W, h0km±209km, MD3.8, mb4.1(NEIC)*
ISC 18 04:32:25.2±2.0, 13°.79N±0°.06×92°.12W±0°.05, h15km±12km, n44, σ1§69/56, mb4.0/14, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.12	353	ePn	Pb	04 32 45.4	-0.9
THIG				eSn	Sn	04 33 03.2	+1.6
THIG		1.12	353	eP	Pb	04 32 45.1	-1.1
THIG				i S	Sb	04 32 58.9	-1.8
FUG	Fuego 3	1.40	62	eP	Pb	04 32 50.9	-0.3
PCG	Pacaya	1.58	68	eP	Pg	04 32 55.1	-0.6
IXG	Ixpaco	1.67	77	eP	Pb	04 32 54.8	-1.0
NBG	Las Nubes	1.89	65	eP	Pb	04 32 59.6	-0.1
APG	El Apazote	2.00	53	P	Pb	04 33 00.1	-1.5
APG	12nm,0.3s,baz=242,slow=6.3,SNR=179			S	Sn	04 33 23.4	-0.4
	25nm,0.3s,baz=33,slow=15,SNR=4.1						
PCIG		2.18	331	ePn	Pn	04 32 59.1	-1.9
PCIG				eSn	Sn	04 33 18.1	-10
PCIG		2.18	331	eP	Pn	04 32 59.1	-1.9
PCIG				i S	Sn	04 33 25.4	-2.4
CCIG	Comitan	2.47	360	ePn	Pb	04 33 07.8	-1.7
CCIG				eSn	Sb	04 33 39.8	-0.2
CCIG	Comitan	2.47	360	i P	Pn	04 33 04.3	-0.9
CCIG				i S	Sn	04 33 34.6	-0.8
TGIG		3.12	342	ePn	Pn	04 33 13.4	-0.6
TGIG				eSn	Sn	04 33 52.2	+1.1
TGIG		3.12	342	eP	Pn	04 33 13.4	-0.6
TGIG				i S	Sn	04 33 50.4	-0.7
CMIG	Matias Romero	4.23	321	ePn	Pn	04 33 31.8	+2.6
CMIG				eSn	Sn	04 34 17.3	-1.1
CMIG	Matias Romero	4.23	321	i P	Pn	04 33 27.4	-1.7
CMIG				eS	Sn	04 34 17.3	-1.1
CMIG	Matias Romero	4.23	321	P	Pn	04 33 29.4	+0.2
CMIG	1.2nm,0.3s,baz=143,slow=13,SNR=4.8			S	Sn	04 34 15.2	-3.1
	3.2nm,0.3s,baz=146,slow=14,SNR=5.0						
TGUH	Tegucigalpa,Un	4.71	86	ePn	Pn	04 33 36.8	+1.0
TLIG	Tlapa	7.25	302	ePn	Pn	04 34 10.7	-0.2
TLIG				eSn	Sn	04 35 32.7	-0.5
TEIG	Tepich	7.38	29	ePn	Pn	04 34 15.0	+2.5
JTS	Las Juntas de	7.83	116	ePn	Pn	04 34 19.8	+1.1
JTS	Las Juntas de	7.83	116	P	Pn	04 34 18.1	-0.6
JTS	0.4nm,0.3s,baz=10,slow=19,SNR=4.5			S	Sn	04 35 42.1	-5.1
	baz=15,slow=20,SNR=1.3						
TXAR	Lajitas Array	18.80	327	P	Pn	04 36 46.6	+1.6
	0.1nm,0.3s,baz=145,slow=12,SNR=12						
TIGA	Tifton	19.23	23	eP	Pn	04 36 50.2	+0.3
	19nm,1.0s						
LRAL	Lakeview Retre	19.72	13	eP	Pn	04 36 56.5	+0.8
	5.3nm,1.0s						
X48A	Hartselle	21.07	12	eP	P	04 37 12.3	+3.3
	5.6nm,0.8s						
MNTX	Cornudas Mount	21.58	328	eP	P	04 37 16.8	+2.3
	3.0nm,0.8s						
SDV	Santo Domingo	21.62	101	eP	P	04 37 17.7	+2.5
	8.7nm,1.0s						
CPCT	Cooper Cave	22.62	16	eP	P	04 37 27.2	+1.6
	5.7nm,1.0s						
ANMO	Albuquerque	24.72	331	P	P	04 37 47.2	+0.9
	0.8nm,0.6s,baz=146,slow=17,SNR=5.8						
WCI	Wyandotte Cave	24.88	11	eP	P	04 37 47.9	+0.5
	6.1nm,0.7s						
SJG	San Juan	25.32	77	LR	LR	04 47 24.4	
	comp=Z,144nm,21.1s,baz=240,slow=36						
MVCO	Mesa Verde	27.52	331	eP	P	04 38 13.9	+2.2
	5.3nm,1.0s						
CTCC	Cactus City	29.34	316	eP	P	04 38 29.2	+1.5
BONR	Boundary Peak	33.46	321	eP	P	04 39 04.8	+0.6
NVAR	Mina Array Bea	33.76	321	P	P	04 39 06.5	-0.2
	0.5nm,0.6s,baz=133,slow=8.7,SNR=2.7						
HLID	Hailey	35.30	331	eP	P	04 39 22.1	+2.2
	1.7nm,0.9s						
MCMT	McKenzie Canyo	35.61	334	eP	P	04 39 23.9	+1.2
J08A	Circle Bar Ran	37.15	328	eP	P	04 39 37.3	+1.6
	4.9nm,1.1s						
F10A	Beach Ranch, E	38.44	332	eP	P	04 39 46.8	+0.3
	4.7nm,0.8s						
GLK	Glacier Lake	40.98	329	eP	P	04 40 10.0	+2.3
SIV	San Ignacio	42.63	133	P	P	04 40 19.4	-2.1
	0.9nm,0.9s,baz=275,slow=19,SNR=3.7						
YKA	Yellowknife Ar	51.20	347	P	P	04 41 26.0	-1.7
	0.9nm,0.7s,baz=147,slow=7.6,SNR=16						
ILAR	Eielson Array	62.98	337	P	P	04 42 50.3	-0.9
	0.3nm,0.7s,baz=119,slow=9.4,SNR=2.8						
CMAR	Chiang Mai Arr	146.15	341	PKPbc	PKPbc	04 52 04.5	-1.4
	1.2nm,0.7s,baz=347,slow=2.6,SNR=6.3						

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*ISCJB **18** 04:48:22.4±0.7, 10°.81S±0°.08×166°.1E±0°.1, h250km, mb3.8/9, Error ellipse: s-maj=18.5km s-min=10.7km az=4.9*
*IDC **18** 04:48:22.9±6.1, 10°.73S×166°.09E, h242km±61km, mb3.6/9, mb1 3.8/10, mb1mx3.5/40, mbtmp4.2/10, Error ellipse: s-maj=29.3km s-min=18.3km az=9.0*
ISC 18 04:48:23.6±0.8, 10°.88S±0°.10×166°.2E±0°.2, h250km, n10, σ1§53/11, mb3.8/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.13	179	P	Pn	04 50 57.8	+1.3
	1.2nm,0.3s,baz=306,slow=16,SNR=21						
DZM				S	S	04 52 58.2	-3.0
	0.4nm,0.3s,baz=311,slow=19,SNR=6.3						
CTA	Charters Tower	21.23	242	P	P	04 52 50.6	+0.1
	2.0nm,0.5s,baz=76,slow=13,SNR=4.0						
URZ	Urewera	28.98	162	P	P	04 54 01.6	+1.4
	4.4nm,0.3s,baz=282,slow=1.4,SNR=11						
WRA	Warramunga Arr	31.91	250	P	P	04 54 26.2	-0.1
	2.4nm,0.6s,baz=77,slow=9.2,SNR=11						
RPZ	Rata Peaks	32.99	173	P	P	04 54 36.4	+1.2
	8.1nm,0.7s,baz=5.3,slow=3.2,SNR=5.5						
ASAR	Alice Springs	33.22	243	P	P	04 54 37.7	+0.1
	1.9nm,0.8s,baz=72,slow=9.5,SNR=16						
ILAR	Eielson Array	83.23	18	P	P	05 00 20.9	-0.8
	0.7nm,0.6s,baz=239,slow=5.0,SNR=15						
NVAR	Mina Array Bea	85.61	50	P	P	05 00 35.9	+1.3
	1.0nm,0.9s,baz=234,slow=7.6,SNR=3.7						
YKA	Yellowknife Ar	94.64	27	P	P	05 01 14.9	-1.0
	0.2nm,0.6s,baz=260,slow=4.6,SNR=5.6						
TXAR	Lajitas Array	95.40	61	P	P	05 01 19.3	-1.1
	0.1nm,0.4s,baz=243,slow=6.0,SNR=4.0						

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*NEIC **18** 04:55:31.4±0.0, 19°.39N×66°.33W, h85km, MD3.4(RSPR), After RSPR.*
RSPR 18 04:55:31.4, 19°.39N×66°.33W, h85km±3km, MD3.4/9, 14C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.11	201⇑	eP	Pn	04 55 51.2	-1.0
AOPR	Arecibo Observ	1.11	201	eS	Sn	04 56 07.2	-0.5
AOPR	Arecibo Observ	1.11	201⇓	eP	Pn	04 55 51.2	-1.0
AOPR				eS	Sn	04 56 07.2	-0.5
CBYP	Canovanas	1.20	158⇑	eP	Pn	04 55 52.7	-0.6
CBYP	Canovanas	1.20	158	eS	Sn	04 56 09.2	-0.5
CBYP	Canovanas	1.20	158⇓	eP	Pn	04 55 52.7	-0.6
CBYP				eS	Sn	04 56 09.2	-0.5
SJG	San Juan	1.28	172⇑	eP	Pn	04 55 53.6	-0.6
SJG	San Juan	1.28	172	eS	Sn	04 56 10.8	-0.6
SJG	San Juan	1.28	172⇓	eP	Pn	04 55 53.6	-0.6
SJG				eS	Sn	04 56 10.8	-0.6
HUMP	Col San Antoni	1.32	160⇑	eP	Pn	04 55 54.0	-0.7
HUMP	Col San Antoni	1.32	160	eS	Sn	04 56 12.2	0.0
HUMP	Col San Antoni	1.32	160⇓	eP	Pn	04 55 54.0	-0.7
HUMP				eS	Sn	04 56 12.2	0.0
CELP	Cerrillos	1.33	190⇑	eP	Pn	04 55 54.0	-0.8
CELP				eS	Sn	04 56 12.2	-0.2
CELP	Cerrillos	1.33	190⇓	eP	Pn	04 55 54.0	-0.8
CELP				eS	Sn	04 56 12.2	-0.2
OBIP	Obispado Ponce	1.36	191⇑	eP	Pn	04 55 54.8	-0.5
OBIP	Obispado Ponce	1.36	191	eS	Sn	04 56 12.9	-0.3
OBIP	Obispado Ponce	1.36	191⇓	eP	Pn	04 55 54.8	-0.5
OBIP				eS	Sn	04 56 12.9	-0.3
CUPR	Culebra, Puert	1.47	137⇑	eP	Pn	04 55 56.0	-0.6
CUPR	Culebra, Puert	1.47	137	eS	Sn	04 56 15.3	-0.2
CUPR	Culebra, Puert	1.47	137⇓	eP	Pn	04 55 56.0	-0.6
CUPR				eS	Sn	04 56 15.3	-0.2
MTP	Monte Pirata	1.48	150⇑	eP	Pn	04 55 56.3	-0.5
MTP	Monte Pirata	1.48	150	eS	Sn	04 56 15.3	-0.6
MTP	Monte Pirata	1.48	150⇓	eP	Pn	04 55 56.3	-0.5
MTP				eS	Sn	04 56 15.3	-0.6
STVI	Saint Thomas	1.67	128⇑	eP	Pn	04 55 58.8	-0.3
STVI	Saint Thomas	1.67	128	eS	Sn	04 56 19.7	-0.4
STVI	Saint Thomas	1.67	128⇓	eP	Pn	04 55 58.8	-0.3
STVI				eS	Sn	04 56 19.7	-0.4
DR12	Loma Pena Alta	2.94	259⇑	eP	Pn	04 56 16.1	-0.1
DR12				eS	Sn	04 56 50.4	-0.2
DR12	Loma Pena Alta	2.94	259⇓	eP	Pn	04 56 16.1	-0.1
DR12				eS	Sn	04 56 50.4	-0.2
SDDR	Presa de Saban	4.70	266	ePn	Pn	04 56 41.2	+1.2

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*BUL **18** 05:00:20.9±0.4, 23°.02S×28°.73E, h10km, MD4.1*
*EAF **18** 05:00:20.1±0.5, 22°.98S×28°.69E, h10km, MD3.9*
ISC 18 05:00:26.7±3.7, 22°.4S±0°.2×29°.1E±0°.2, h10km, n8, σ0§81/12, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	Messina	0.81	88	i P	Pn	05 00 44.3	0.0
MSNA	Messina	0.81	88	i P	Pn	05 00 44.3	0.0
MATP	Matopo	2.04	343	i P	Pn	05 01 01.3	+0.2
MATP				i S	Sg	05 01 31.4	-0.7
MATP	Matopo	2.04	343	i P	Pn	05 01 01.3	+0.2
MATP				i S	Sg	05 01 31.4	-0.7
BLWY	Bulawayo	2.28	347	i P	Pn	05 01 05.1	+0.6
BLWY				i S	Sb	05 01 37.5	+1.0
BLWY	Bulawayo	2.28	347	i P	Pn	05 01 05.1	+0.6
BLWY				i S	Sb	05 01 37.5	+1.0
LSZ	Lusaka	7.12	353	i P	Pn	05 02 10.1	-1.0
LSZ	Lusaka	7.12	353	i P	Pn	05 02 10.1	-1.0

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*KRSC **18** 05:05:33.3±10.0, 51°.94N×160°.77E, h73km±10km, ML4.4*
*ISCJB **18** 05:05:34.8±1.2, 51°.96N±0°.04×160°.80E±0°.05, h30km±10km, mb3.9/12, MS3.5/1, Error ellipse: s-maj=6.1km s-min=5.3km az=156.8*
*MOS **18** 05:05:36.7±0.8, 52°.06N×160°.62E, h45km, mb4.2/6, Error ellipse: s-maj=9.2km s-min=5.1km az=109.2*
*IDC **18** 05:05:42.0±3.7, 52°.21N×160°.23E, h58km±30km, mb3.6/9, mb1 3.8/10, mb1mx3.4/57, mbtmp3.9/10, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/48, Error ellipse: s-maj=29.3km s-min=20.7km az=121.0*
ISC 18 05:05:35.3±2.1, 52°.05N±0°.04×160°.64E±0°.04, h14km±12km, n82, σ1§11/106, mb4.0/12, 4C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.12	341	eP	Pb	05 05 55.4	-1.0
SPN				eS	Sn	05 06 11.3	-0.4
SPN	Mys Shipunski	1.12	341	PN	Pb	05 05 55.4	-1.0
SPN				S	Sn	05 06 11.3	-0.4
RUS	Russkaya	1.36	287	eP	Pn	05 05 59.5	-0.4
RUS				eS	Sb	05 06 17.9	+0.1
RUS	Russkaya	1.36	287	PN	Pn	05 05 59.5	-0.4
RUS				S	Sb	05 06 17.9	+0.1
NLC	Nalytchevo	1.37	326	eP	Pn	05 06 00.0	0.0
NLC				eS	Sg	05 06 19.9	+0.4
NLC	Nalytchevo	1.37	326	PN	Pn	05 06 00.0	0.0
NLC				S	Sg	05 06 19.9	+0.4
DALK	Dalny	1.51	311	eP	Pn	05 06 01.4	-0.6
DALK				eS	Sb	05 06 22.1	-0.1
DALK	Dalny	1.51	311	PN	Pn	05 06 01.4	-0.6
DALK				S	Sb	05 06 22.1	-0.1
PET	Petropavlovsk	1.56	310	eP	Pn	05 06 02.4	-0.2
PET				eS	Sb	05 06 23.5	+0.1
PET	Petropavlovsk	1.56	310	ePN	Pn	05 06 02.2	-0.4
PET				eS	Sb	05 06 23.3	-0.1
PET				pmax	pmax		
	comp=Z,327nm,0.6s						
PET				smax	smax		
	comp=E,973nm,0.6s						
PET				smax	smax		
	comp=N,819nm,0.7s						
MTVR	Mutnovka	1.57	287	eP	Pn	05 06 03.0	+0.1
MTVR				eS	Sn	05 06 23.3	+0.2
MTVR	Mutnovka	1.57	287	PN	Pn	05 06 03.0	+0.1
MTVR				S	Sn	05 06 23.3	+0.2
KDTR	Khodutka, Kamc	1.60	262	eP	Pn	05 06 03.2	0.0
KDTR				eS	Sb	05 06 25.3	+0.6
KDTR	Khodutka, Kamc	1.60	262	PN	Pn	05 06 03.2	0.0
KDTR				S	Sb	05 06 25.3	+0.6
UGLR	Uglovaya	1.60	317	eP	Pn	05 06 03.7	+0.4
UGLR				eS	Sg	05 06 26.2	-0.7
UGLR	Uglovaya	1.60	317	PN	Pn	05 06 03.7	+0.4
UGLR				S	Sg	05 06 26.2	-0.7
SDLR	Sedlovina	1.63	320	eP	Pn	05 06 03.5	-0.2
SDLR				eS	Sb	05 06 26.5	+0.8
SDLR	Sedlovina	1.63	320	PN	Pn	05 06 03.5	-0.2
SDLR				S	Sb	05 06 26.5	+0.8
GRL	Gorelyy	1.65	289	eP	Pn	05 06 04.1	+0.1
GRL	Gorelyy	1.65	289	PN	Pn	05 06 04.1	+0.1
SMAR	Somma	1.65	318	eP	Pn	05 06 04.0	-0.1
SMAR	Somma	1.65	318	PN	Pn	05 06 04.0	-0.1
AVH	Avacha	1.68	317	eP	Pn	05 06 04.9	+0.5
AVH	Avacha	1.68	317	PN	Pn	05 06 04.9	+0.5
KRER	Koryakskii	1.70	318	eP	Pn	05 06 05.1	+0.3
KRER				eS	Sb	05 06 28.4	+0.5
KRER	Koryakskii	1.70	318	PN	Pn	05 06 05.1	+0.3
KRER				S	Sb	05 06 28.4	+0.5
ASAK	Asacha	1.72	282	eP	Pn	05 06 05.5	+0.6
ASAK	Asacha	1.72	282	PN	Pn	05 06 05.5	+0.6
KRMR	Karymshinskiy	1.72	298	eP	Pn	05 06 05.0	+0.2
KRMR				eS	Sb	05 06 27.8	-0.4
KRMR	Karymshinskiy	1.72	298	PN	Pn	05 06 05.0	+0.2
KRMR				S	Sb	05 06 27.8	-0.4
KOK	Koryaka	1.74	316	eP	Pb	05 06 06.3	-0.8
KOK	Koryaka	1.74	316	PN	Pb	05 06 06.3	-0.8
KRX	Arik	1.79	318	eP	Pn	05 06 06.1	+0.2
KRX	Arik	1.79	318	PN	Pn	05 06 06.1	+0.2
PETK	Petropavlovsk-	2.08	302	P	Pn	05 06 10.4	+0.6
	comp=N,10nm,0.3s,baz=110,slow=18,SNR=128						
PETK				S	Sn	05 06 37.0	+1.4
	comp=N,18nm,0.3s,baz=137,slow=17,SNR=13						
PETK				LR	LR	05 07 09.5	
	comp=N,429nm,18.1s,baz=67,slow=49						
APC	Apacha	2.30	294	eP	Pn	05 06 14.1	+1.3
APC	Apacha	2.30	294	PN	Pn	05 06 14.1	+1.3
PAU	Pauzhetka	2.45	258	eP	Pn	05 06 13.4	-1.4
PAU	Pauzhetka	2.45	258	PN	Pn	05 06 13.4	-1.4
MKZ	Mys Kozlova	2.60	14	eP	Pn	05 06 16.7	-0.1
MKZ	Mys Kozlova	2.60	14	PN	Pn	05 06 16.7	-0.1
KZV	Kizimen	3.08	356	eP	Pn	05 06 24.6	+1.0
KZV	Kizimen	3.08	356	PN	Pn	05 06 24.6	+1.0
SKR	Severo-Kuril's	3.15	246	eP	Pn	05 06 22.5	-1.9
SKR				eS	Sn	05 06 59.7	-2.0
SKR	Severo-Kuril's	3.15	246	ePN	Pn	05 06 25.3	+0.9
SKR				eS	Sn	05 06 59.4	-2.3
SKR				smax	smax		
	comp=N,171nm,0.7s						
SKR				smax	smax		
	comp=E,329nm,0.8s						
TUMD	Tumrok D	3.17	358	eP	Pn	05 06 25.2	+0.5
TUMD				eS	Sn	05 07 01.3	-0.9
TUMR	Tumrok	3.25	355	PN	Pn	05 06 25.2	-0.8
TUMR				S	Sn	05 07 01.3	-3.3
ALID	Alaid	3.39	252	eP	Pn	05 06 27.4	-0.6
ALID	Alaid	3.39	252	PN	Pn	05 06 27.4	-0.6
KBTR	Krutoberegovo	4.36	16	eP	Pn	05 06 41.5	+0.4
KBTR	Krutoberegovo	4.36	16	PN	Pn	05 06 41.5	+0.4
BKI	Bering	4.48	43	eP	Pn	05 06 43.9	+1.2
BKI				eS	Sn	05 07 30.4	-4.2
BKI	Bering	4.48	43	PN	Pn	05 06 43.9	+1.2
BDR	Baidarnaya	4.54	4	eP	Pn	05 06 43.8	+0.1
BDR	Baidarnaya	4.54	4	PN	Pn	05 06 43.8	+0.1
SRKR	Sorokina	4.63	4	eP	Pn	05 06 46.3	+1.5
SRKR	Sorokina	4.63	4	PN	Pn	05 06 46.3	+1.5
BILL	Bilibino	16.27	8	ceP	Pn	05 09 24.2	+1.0
BILL				pmax	pmax		
	comp=Z,8.0nm,2.5s						
KLR	Kul'dur	18.48	273	i P	Pn	05 09 50.8	0.0
KLR				pmax	pmax		
	comp=Z,7.0nm,2.3s						
KLR	Kul'dur	18.48	273	P	Pn	05 09 50.8	0.0
	comp=Z,0.1nm,0.3s,baz=55,slow=12,SNR=5.2						
MJA0	Matsu Arr-Jizo	22.16	234	eP	P	05 10 34.5	+3.8
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	22.18	234	eP	P	05 10 34.5	+3.6
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	22.18	234	P	P	05 10 32.0	+1.1
	comp=Z,1.2nm,0.3s,baz=18,slow=11,SNR=4.3						
TIXI	Tiksi	24.17	336	ceP	P	05 10 49.6	-1.1
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI	Tiksi	24.17	336	P	P	05 10 49.3	-1.4
	comp=Z,3.9nm,0.8s,baz=142,slow=8.8,SNR=9.2						
KDAK	Kodiak Island	27.04	59	LR	LR	05 21 00.9	
	comp=Z,153nm,21.4s,baz=140,slow=34						
H11N2	WAKE ISLAND Hy	32.62	169	T	T	05 47 55.7	
	baz=352,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy	32.64	169	T	T	05 47 51.8	
	baz=352,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	32.64	169	T	T	05 47 56.3	
	baz=352,slow=75,SNR=11						
DGZ	Jazzator, Alta	44.44	297	i P	P	05 13 44.3	-1.3
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	Kurchatov	48.57	303	ceP	P	05 14 16.8	-1.1
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	48.91	297	P	P	05 14 18.7	-1.9
	comp=Z,0.7nm,0.5s,baz=56,slow=7.1,SNR=9.1						
BRVK	Borovoye	51.33	309	ceP	P	05 14 38.5	-0.3
BRVK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
PDAR	Pinedale Array	57.75	61	P	P	05 15 28.2	+2.4
	comp=Z,0.3nm,0.4s,baz=287,slow=3.7,SNR=3.2						
CMAR	Chiang Mai Arr	58.30	259	eP	P	05 15 31.5	+1.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	58.30	259	P	P	05 15 30.6	+0.9
	comp=Z,0.9nm,0.3s,baz=25,slow=9.1,SNR=5.5						
PFO	Pinyon Flats O	60.20	73	eP	P	05 15 42.4	-0.4
FINES	FINESS Array B	61.21	337	P	P	05 15 49.4	+0.3
	comp=Z,3.2nm,0.6s,baz=29,slow=8.5,SNR=26						
NB2	NORSAR Subarra	64.64	344	P	P	05 16 11.0	-1.0
	comp=Z,0.6nm,0.6s,baz=20,slow=6.9						
NOA	NORSAR Array B	64.64	344	P	P	05 16 10.9	-1.0
	comp=Z,1.2nm,0.8s,baz=20,slow=6.6,SNR=5.7						
AKASG	Malin Array Be	69.68	329	P	P	05 16 43.3	-0.7
	comp=Z,0

MVM	**Montagne Vaucl**	**3.66**	**210**	*e*P	Pn	05 06 51.4	+1.5
LPMF	**Morne Lapointe**	**3.67**	**211**	*e*P	Pn	05 06 51.4	+1.3
ZAM	**Aeronautique**	**3.71**	**212**	*e*P	Pn	05 06 51.6	+1.1
MPOM	**Morne Pois Mar**	**3.74**	**208**	*e*P	Pn	05 06 52.1	+1.2
TRMF	**Trois Ilets**	**3.75**	**212**	*e*P	Pn	05 06 52.1	+1.0
SEUS	**St. Eustatius**	**3.79**	**267**	*e*P	Pn	05 06 53.1	+1.5
SEUS				*e*S	Sn	05 07 35.5	+0.6
SLW	**Petit Monier**	**4.15**	**207**	*e*P	Pn	05 06 59.4	+2.8
SLW	**Petit Monier**	**4.15**	**207**	*e*S	Sn	05 07 44.6	+0.7
SLBI	**Saint Lucia, B**	**4.16**	**207**	*e*P	Pn	05 06 58.4	+1.6
SLBI	**Saint Lucia, B**	**4.16**	**207**	*e*S	Sn	05 07 44.4	+0.3
SLB	**Belfond**	**4.36**	**207**	*e*P	Pn	05 07 02.1	+2.6
SLB	**Belfond**	**4.36**	**207**	*e*S	Sn	05 07 49.2	0.0
MCLT	**Moule a Chique**	**4.43**	**205**	*e*P	Pn	05 07 02.2	+1.7
MCLT	**Moule a Chique**	**4.43**	**205**	*e*S	Sn	05 07 50.7	0.0
BBGH	**Gun Hill**	**4.62**	**187**	*e*S	Sn	05 07 55.9	+0.6
BBSP	**Saint Philip**	**4.64**	**185**	*e*S	Sn	05 07 57.2	+1.2
SSV	**Crater Summit**	**4.88**	**206**	*e*P	Pn	05 07 09.3	+2.7
SSV	**Crater Summit**	**4.88**	**206**	*e*S	Sn	05 08 02.0	+0.2
SVV	**Soufriere Volc**	**4.89**	**206**	*e*P	Pn	05 07 09.5	+2.7
SVV	**Soufriere Volc**	**4.89**	**206**	*e*S	Sn	05 08 02.1	-0.1
SVCV	**St. Vincent, C**	**4.91**	**205**	*e*P	Pn	05 07 09.1	+2.1
SVCV	**St. Vincent, C**	**4.91**	**205**	*e*S	Sn	05 08 02.1	-0.4
SVB	**Belmont**	**4.95**	**206**	*e*P	Pn	05 07 10.4	+2.8
SVB	**Belmont**	**4.95**	**206**	*e*S	Sn	05 08 03.5	-0.1
FCV	**Fort Charlotte**	**5.05**	**205**	*e*P	Pn	05 07 11.5	+2.5
FCV	**Fort Charlotte**	**5.05**	**205**	*e*S	Sn	05 08 05.4	-0.6

*ISCJB **18** 05:06:12.1±0.7, 1°.36N±0°.09×96°.81E±0°.05, h10km, mb4.1/13, Error ellipse: s-maj=13.2km s-min=6.1km az=24.6*
*IDC **18** 05:06:14.4±1.7, 1°.53N×97°.35E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/45, mbtmp4.0/9, ML4.5/1, Error ellipse: s-maj=43.4km s-min=21.1km az=62.0*
*NEIC **18** 05:06:16.6±0.9, 1°.34N×96°.95E, h25km±6km, mb4.2/5, Error ellipse: s-maj=17.1km s-min=4.5km az=163.0*
*DJA **18** 05:06:16.0±2.6, 1°N±9°×9°7E±1°2, h39km±16km, M3.9/5, MLv3.9/5*

ISC 18 05:06:13.5±0.9, 1°.25N±0°.09×96°.85E±0°.07, h10km, n43, σ1°.16/37, mb4.2/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.73**	**85**	*e*Pg	**Pg**	**05 06 29.0**	**+1.3**
GSI				*e*Sn	**Sb**	**05 06 39.2**	**+0.7**
GSI	**Gunungsitoli**	**0.73**	**85**	P	**Pg**	**05 06 29.1**	**+1.4**
GSI				S	**Sb**	**05 06 38.9**	**+0.4**
TPTI		**2.03**	**9**	P	**Pg**	**05 06 54.5**	**+2.0**
PSI	**Prapat**	**2.59**	**53**	*e*Pn	**Pn**	**05 06 54.4**	**-1.2**
PSI	**Prapat**	**2.59**	**53**	Pn	Pn	05 06 48.5	-7.1
	1.0nm,0.3s,baz=153,slow=6.8,SNR=3.0						
PSI				Sn	Sn	05 07 07.1	-20
	4.9nm,0.3s,baz=214,slow=11,SNR=31						
IPM	**Ipoh**	**5.27**	**52**	*e*Pn	**Pn**	**05 07 31.9**	**-0.5**
KULM	**Kulim**	**5.53**	**43**	*e*Pn	**Pn**	**05 07 35.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.23**	**7**	Pn	**Pn**	**05 10 11.4**	**-3.1**
	0.7nm,0.3s,baz=199,slow=11,SNR=6.4						
SLVN	**Son La**	**21.12**	**19**	*e*P	**P**	**05 10 58.3**	**-0.4**
	10.0nm,0.8s						
H08S2	**Diego Garcia H**	**25.85**	**250**	T	T	05 38 46.2	
	baz=71,slow=75,SNR=22						
H08S3	**Diego Garcia H**	**25.85**	**250**	T	T	05 38 46.2	
	baz=71,slow=75,SNR=144						
H08S1	**Diego Carcia H**	**25.86**	**250**	T	T	05 38 49.0	
	baz=71,slow=75,SNR=24						
ENH	**Enshi**	**31.27**	**21**	*e*P	**P**	**05 12 32.2**	**-1.5**
	7.4nm,0.8s						
GTA	**Gaotai**	**38.08**	**4**	*e*P	**P**	**05 13 34.4**	**+1.7**
GTA				pP	sP	05 13 38.5	+2.1
GTA				sP	pP	05 13 41.4	+6.1
H01W3	**Cape Leeuwin H**	**39.42**	**157**	T	T	05 55 27.6	
	baz=331						
H01W2	**Cape Leeuwin H**	**39.43**	**157**	T	T	05 55 27.6	
	baz=331						
H01W1	**Cape Leeuwin H**	**39.44**	**157**	T	T	05 55 28.5	
	baz=331						
WRA	**Warramunga Arr**	**42.36**	**122**	P	**P**	**05 14 08.3**	**0.0**
	0.6nm,0.6s,baz=308,slow=9.4,SNR=6.9						
WR1	**Warramunga Arr**	**42.36**	**122**	*e*P	**P**	**05 14 08.3**	**0.0**
WB2	**Warramunga Arr**	**42.37**	**122**	*e*P	**P**	**05 14 08.9**	**+0.5**
	7.1nm,1.5s						
ASAR	**Alice Springs**	**43.70**	**127**	*e*P	**P**	**05 14 20.1**	**+0.9**
ASAR	**Alice Springs**	**43.70**	**127**	P	**P**	**05 14 19.5**	**+0.3**
	0.6nm,0.8s,baz=299,slow=5.6,SNR=5.5						
KSAR	**Wonju Array Be**	**45.98**	**35**	*e*P	**P**	**05 14 36.1**	**-1.0**
KSRS	**Korea Array**	**46.01**	**35**	P	**P**	**05 14 35.5**	**-1.8**
	1.8nm,0.8s,baz=222,slow=9.0,SNR=6.9						
MK31	**Makanchi Array**	**47.11**	**346**	*e*P	**P**	**05 14 47.1**	**+1.3**
	1.5nm,0.8s						
MK32	**Makanchi Array**	**47.11**	**346**	*e*P	**P**	**05 14 47.0**	**+1.1**
MKAR	**Makanchi Array**	**47.11**	**346**	*e*P	**P**	**05 14 47.4**	**+1.6**
MKAR	**Makanchi Array**	**47.11**	**346**	P	**P**	**05 14 46.9**	**+1.1**
	1.1nm,0.5s,baz=157,slow=8.0,SNR=11						
SONA0	**Songino Array**	**47.14**	**9**	*e*P	**P**	**05 14 45.9**	**-0.3**
SONM	**Songino Array**	**47.14**	**9**	*e*P	**P**	**05 14 46.1**	**0.0**
SONM	**Songino Array**	**47.14**	**9**	P	**P**	**05 14 45.9**	**-0.3**
	3.2nm,0.9s,baz=220,slow=3.6,SNR=3.2						
USRK	**Ussuriysk Ar.**	**52.91**	**31**	P	**P**	**05 15 29.2**	**-0.7**
	4.3nm,0.8s,baz=240,slow=5.5,SNR=7.3						
ZALV	**Zalesovo Beam**	**53.46**	**351**	*e*P	**P**	**05 15 34.2**	**+0.5**
ZALV	**Zalesovo Beam**	**53.46**	**351**	P	**P**	**05 15 34.4**	**+0.6**
	1.6nm,0.3s,baz=181,slow=5.2,SNR=5.5						
ZAA1	**Zalesovo Array**	**53.46**	**351**	*e*P	**P**	**05 15 34.4**	**+0.6**
KLR	**Kul'dur**	**56.37**	**27**	P	**P**	**05 15 54.0**	**-1.0**
	3.7nm,0.9s,baz=244,slow=6.4,SNR=11						
ABKAR	**Akbulak array**	**57.31**	**332**	*e*P	**P**	**05 16 02.0**	**+0.4**
KBZ	**Khabaz**	**63.81**	**319**	P	**P**	**05 16 46.3**	**+0.3**
	1.4nm,0.8s,baz=90,slow=7.1,SNR=2.1						
WMOK	**Wichita Mounta**	**141.32**	**21**	*e*PKPdf	**PKPdf**	**05 25 46.1**	**+0.7**
UTMT	**University of**	**142.23**	**8**	*e*PKPdf	**PKPdf**	**05 25 47.4**	**+0.5**
TX31	**Lajitas Ar. Si**	**143.81**	**31**	*e*PKPpre	PKPpre	05 25 47.1	
250A	**Grady**	**146.83**	**5**	*e*PKPdf	**PKPdf**	**05 25 56.1**	**+1.1**
LCO	**Las Campanas**	**149.94**	**202**	*e*PKPdf	**PKPdf**	**05 25 58.6**	**-1.8**

NEIC 18 05:12:09.1±0.0, 59°.10N×152°.83W, h69km, ML3.3(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUI	**Augustine Isla**	**0.39**	**308**	*e*Pn	Pn	05 12 21.2	+0.4
AUI				*e*Sn	Sn	05 12 29.3	-0.1
AUH	**Augustine H**	**0.41**	**310**	*e*Pn	Pn	05 12 21.7	+0.5
AUL	**Augustine Lava**	**0.42**	**312**	*e*Pn	Pn	05 12 21.7	+0.6
AUL				*e*Sn	Sn	05 12 30.7	+0.8
AUW	**Augustine West**	**0.43**	**310**	*e*Pn	Pn	05 12 21.6	+0.5
FONW	**Fourpeaked Sta**	**0.62**	**245**	*e*Pn	Pn	05 12 23.4	+0.2
HOM	**Homer**	**0.82**	**47**	*e*Pn	Pn	05 12 26.3	+0.9
HOM				*e*Sn	Sn	05 12 38.8	+1.4
KAHG	**Katmai Hook Gl**	**1.08**	**236**	*e*Pn	Pn	05 12 28.9	+0.3
KARR	**Katmai Rainbow**	**1.15**	**239**	*e*Pn	Pn	05 12 29.8	+0.3
BRLK	**Bradley Lake**	**1.20**	**55**	*e*Pn	Pn	05 12 29.1	-0.9
BRLK				*e*Pn	Pn	05 12 29.9	-0.1
BRLK				*e*Sn	Sn	05 12 45.5	-0.2
BRLK				*e*Sn	Sn	05 12 45.7	0.0
KAHC	**Katmai Hardscr**	**1.22**	**249**	*e*Pn	Pn	05 12 30.4	0.0
KDAK	**Kodiak Island**	**1.33**	**174**	*e*Pn	Pn	05 12 31.8	0.0
RDSO	**Redoubt South**	**1.36**	**2**	*e*Pn	Pn	05 12 32.2	0.0
RDSO				*e*Sn	Sn	05 12 49.8	+0.1
RSO	**Redoubt South**	**1.37**	**2**	*e*Pn	Pn	05 12 32.2	-0.3
RDJH	**Redoubt Jeurge**	**1.50**	**0**	*e*Pn	Pn	05 12 34.2	+0.2
KELA	**Mount Kelaz**	**1.66**	**248**	*e*Pn	Pn	05 12 36.1	-0.1
OHAK	**Old Harbor**	**1.90**	**188**	*e*Pn	Pn	05 12 38.9	-0.4
SEW	**Seward**	**1.99**	**58**	*e*Pn	Pn	05 12 40.0	-0.5
SEW				*e*Sn	Sn	05 13 02.9	-1.6
SPWE	**Spurr West**	**2.19**	**3**	*e*Pn	Pn	05 12 44.0	+0.7
SVW2	**Sparrevohn**	**2.43**	**327**	*e*Pn	Pn	05 12 46.2	-0.3
SVW2				*e*Pn	Pn	05 12 46.3	-0.2
RC01	**Rabbit Creek A**	**2.52**	**36**	*e*Pn	Pn	05 12 48.2	+0.4
RC01				*e*Sn	Sn	05 13 17.8	+0.4
SII	**Sitkinak Islan**	**2.65**	**196**	*e*Pn	Pn	05 12 48.9	-0.6
PMR	**Palmer**	**3.10**	**35**	*e*Pn	Pn	05 12 54.8	-0.8
KNK	**Knik Glacier**	**3.18**	**41**	*e*Pn	Pn	05 12 56.5	-0.2
KNK				*e*Pn	Pn	05 12 56.6	-0.1
KNK				*e*Sn	Sn	05 13 31.8	-1.6
GHO	**Glory Hole Cre**	**3.31**	**34**	*e*Pn	Pn	05 12 57.9	-0.5
GHO				*e*Pn	Pn	05 12 58.3	-0.1
GHO				*e*Sn	Sn	05 13 35.2	-1.3
MID	**Middleton Isla**	**3.35**	**82**	*e*Pn	Pn	05 12 58.5	-0.4
GLI	**Glacier Island**	**3.39**	**56**	*e*Pn	Pn	05 12 57.8	-1.7
GLI				*e*Sn	Sn	05 13 34.5	-4.0
SML	**Sawmill**	**3.51**	**37**	*e*Pn	Pn	05 13 01.0	-0.2
JPK	**Jack Peak**	**3.69**	**55**	*e*Pn	Pn	05 13 02.7	-0.9
PPLA	**Purkeypile**	**3.82**	**4**	*e*Pn	Pn	05 13 06.5	+1.0
EYAK	**Cordova Ski Ar**	**3.86**	**65**	*e*Pn	Pn	05 13 04.7	-1.1
EYAK				*e*Sn	Sn	05 13 46.6	-3.3
SCM	**Sheep Creek Mo**	**3.86**	**42**	*e*Pn	Pn	05 13 06.0	0.0
DIV	**Divide**	**4.08**	**57**	*e*Pn	Pn	05 13 08.0	-0.9
DIV				*e*Sn	Sn	05 13 52.0	-3.3
CHGN	**Chignik**	**4.11**	**229**	*e*Pn	Pn	05 13 08.8	-0.4
TT01	**Tatalina**	**4.12**	**339**	*e*Pn	Pn	05 13 09.5	0.0
TT01				*e*Pn	Pn	05 13 09.5	0.0
PS12	**TAPS Pump St12**	**4.50**	**55**	*e*Pn	Pn	05 13 14.6	-0.1
HARP	**HAARP**	**5.01**	**45**	*e*Pn	Pn	05 13 21.9	+0.2
BPAW	**Bear Paw Mtn.**	**5.09**	**9**	*e*Pn	Pn	05 13 23.3	+0.5
CRQM	**Cirque**	**5.15**	**67**	*e*Pn	Pn	05 13 23.1	-0.6
PAX	**Paxson**	**5.28**	**40**	*e*Pn	Pn	05 13 24.8	-0.6
BWN	**Browne**	**5.33**	**16**	*e*Pn	Pn	05 13 25.9	-0.2
MCARA	**McCarthy VSAT**	**5.39**	**61**	*e*Pn	Pn	05 13 26.5	-0.4
BALM	**Baldy**	**5.60**	**65**	*e*Pn	Pn	05 13 29.0	-0.7
WRH	**Wood River Hil**	**5.84**	**21**	*e*Pn	Pn	05 13 32.2	-0.6
HDA	**Harding Lake**	**6.01**	**25**	*e*Pn	Pn	05 13 34.9	-0.4
RIDG	**Independent Ri**	**6.03**	**36**	*e*Pn	Pn	05 13 35.4	-0.1
MLY	**Manley**	**6.03**	**8**	*e*Pn	Pn	05 13 35.9	+0.3
CCB	**Clear Creek Bu**	**6.05**	**21**	*e*Pn	Pn	05 13 35.3	-0.5
COLA	**College**	**6.25**	**20**	*e*Pn	Pn	05 13 38.2	-0.3
MDM	**Murphy Dome**	**6.26**	**18**	*e*Pn	Pn	05 13 38.4	-0.4
ILAR	**Eielson Array**	**6.34**	**24**	*e*Pn	Pn	05 13 39.1	-0.7
ILB	**Eielson Array**	**6.34**	**24**	*e*Pn	Pn	05 13 39.3	-0.5
SCRK	**Sand Creek**	**6.46**	**37**	*e*Pn	Pn	05 13 40.4	-1.1
BCA3	**Beaver Creek A**	**6.67**	**49**	*e*Pn	Pn	05 13 43.0	-1.3
BCAR	**Beaver Creek A**	**6.67**	**49**	*e*Pn	Pn	05 13 43.6	-0.7
PNL	**Peninsula**	**6.89**	**80**	*e*Pn	Pn	05 13 46.8	-0.5
IMAR	**Indian Mountai**	**6.92**	**357**	*e*Pn	Pn	05 13 47.7	0.0
PRP	**Porcupine Dome**	**7.28**	**25**	*e*Pn	Pn	05 13 52.5	-0.2
ANM	**Nome**	**8.07**	**318**	*e*Pn	Pn	05 14 04.5	+1.1
WHY	**Whitehorse**	**9.15**	**73**	*e*Pn	Pn	05 14 19.7	+1.4
SIT	**Sitka**	**9.49**	**95**	*e*Pn	Pn	05 14 21.3	-1.5
JIS	**Juneau Island**	**9.64**	**87**	*e*Pn	Pn	05 14 25.7	+0.9
TOLK	**Toolik Lake Re**	**9.68**	**7**	*e*Pn	Pn	05 14 21.4	-4.0
GPW	**Glacier Peak**	**21.56**	**107**	*e*P	P	05 16 52.0	-0.8
GLK	**Glacier Lake**	**22.41**	**110**	*e*sP	sP	05 17 21.9	-3.0

*ECX **18** 05:14:12.8±0.6, 30°.03N×113°.88W, h15km, MD3.9, ML4.1, Fault plane solution: NP1:φs=123.23000°, δ75.52000°, λ-26.57000°.*
*MEX **18** 05:14:13.2±0.5, 29°.35N×114°.81W, h5km, MD4.1*
*ISCJB **18** 05:14:15.9±0.6, 29°.96N±0°.05×113°.84W±0°.05, h10km, mb4.0/8, MS3.9/4, Error ellipse: s-maj=8.3km s-min=4.0km az=36.0*
*IDC **18** 05:14:15.3±1.9, 29°.96N×113°.55W, h0km, mb3.5/3, mb1 3.8/10, mb1mx3.7/39, mbtmp3.5/10, ML3.5/7, MS3.9/10, Ms1 3.9/10, ms1mx3.8/31, Error ellipse: s-maj=28.8km s-min=11.8km az=29.0*
*NEIC **18** 05:14:19.0±2.9, 30°.06N×113°.82W, h9km±4km, mb3.9/32, MD4.1(MEX), Error ellipse: s-maj=17.1km s-min=8.2km az=212.0*

ISC 18 05:14:17.1±0.8, 29°.98N±0°.07×113°.91W±0°.06, h10km, n138, σ2°.05/128, mb4.2/8, MS4.0/4, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.71**	**309**	*e*P	Pn	05 14 41.4	-5.8
SPX				*i* S	**Sn**	**05 15 02.4**	**-6.8**
SPX	**San Pedro Mart**	**1.71**	**309**	⇑*e*P	Pn	05 14 41.3	-6.0
SPX				IAML		05 15 18.9	
	comp=E,972nm,1.3s						
SPX				⇑*e*		05 15 18.9	
SPX				⇓*e*		05 15 24.5	
SPX				IAML		05 15 24.5	
	comp=N,1μm,1.3s						
ECBX	**El Chinero**	**1.78**	**327**	*e*P	Pn	05 14 42.2	-5.6
HSIG		**2.76**	**110**	*e*Pn	Pn	05 14 56.7	-4.6
HSIG		**2.76**	**110**	*i* P	**Pb**	**05 15 04.3**	**-2.1**
HSIG				*e*S	**Sg**	**05 15 44.4**	**-1.3**
HSIG		**2.76**	**110**	*e*P	Pn	05 14 56.1	-5.2
113A	**Mohawk Valley,**	**2.78**	**3**	*e*Pn	**Pn**	**05 14 57.2**	**-4.4**
SRIG	**Santa Rosalia**	**3.03**	**151**	*e*Pn	**Pn**	**05 15 07.5**	**+2.3**
SRIG	**Santa Rosalia**	**3.03**	**151**	*e*P	Pn	05 14 59.9	-5.3
SRIG				*i* S	**Sn**	**05 15 35.1**	**-6.4**
SRIG	**Santa Rosalia**	**3.03**	**151**	*e*P	Pn	05 15 00.6	-4.5
GLA	**Glamis**	**3.16**	**346**	*e*Pn	**Pn**	**05 15 04.8**	**-2.1**
WESC	**Westside Schoo**	**3.17**	**331**	*e*Sn	**Sb**	**05 15 52.6**	**+0.3**
CBX	**Cerro Bola**	**3.31**	**315**	*e*Pg	**Pb**	**05 15 17.3**	**+1.4**
CBX				*e*Sg	**Sb**	**05 15 57.5**	**+1.1**
CBX	**Cerro Bola**	**3.31**	**315**	*i* P	Pn	05 15 03.1	-6.0
CBX				*i* S	**Sn**	**05 15 43.2**	**-5.3**
GUYB	**Guaymas**	**3.38**	**127**	*e*P	**Pn**	**05 15 08.4**	**-1.5**
GUYB				*e*S	**Sn**	**05 15 53.6**	**+3.6**
TUC	**Tucson**	**3.55**	**48**	*e*Pn	**Pn**	**05 15 13.9**	**+1.6**
BAR	**Barrett**	**3.58**	**319**	*e*Pn	**Pn**	**05 15 10.8**	**-1.9**
Y12C	**Blythe**	**3.79**	**352**	*e*Pn	**Pn**	**05 15 12.2**	**-3.4**
DPP	**Dos Picos Cty**	**3.96**	**320**	*e*Sn	**Sn**	**05 16 04.7**	**+0.1**
CPE	**Camp Elliot**	**3.98**	**318**	*e*Pn	**Pn**	**05 15 17.5**	**-0.7**
Y14A	**Wickenburg**	**4.02**	**11**	*e*Pn	**Pn**	**05 15 16.2**	**-2.5**
CTCC	**Cactus City**	**4.07**	**335**	*e*Sg	**Sb**	**05 16 16.9**	**-1.1**
PFO	**Pinyon Flats O**	**4.22**	**330**	*e*Pn	**Pn**	**05 15 22.9**	**+1.4**
PFO	**Pinyon Flats O**	**4.22**	**330**	Pn	**Pn**	**05 15 23.3**	**+1.7**
	comp=N,0.4nm,0.3s,baz=157,slow=14,SNR=2.5						
PFO				Lg	Lg	05 16 28.2	
	comp=N,1.5nm,0.3s,baz=126,slow=17,SNR=2.4						
319A	**Douglas**	**4.23**	**70**	*e*Pn	**Pn**	**05 15 18.5**	**-3.2**
CRY	**Cary Ranch**	**4.30**	**327**	*e*Sg	**Sg**	**05 16 33.2**	**-2.1**
X16A	**Lo Mia Camp, P**	**4.89**	**25**	*e*Pn	**Pn**	**05 15 28.6**	**-2.3**
W13A	**Hualapai Mount**	**5.10**	**0**	*e*Pn	**Pn**	**05 15 31.9**	**-1.9**
CHNC	**Chino**	**5.12**	**322**	*e*Pg	**Pb**	**05 15 44.1**	**-2.7**
MWC	**Mount Wilson**	**5.50**	**321**	*e*Pn	**Pn**	**05 15 39.4**	**+0.2**
SBI	**Santa Barbara**	**5.58**	**310**	*e*Pn	**Pn**	**05 15 43.2**	**+3.1**
X18A	**Snowflake**	**5.64**	**36**	*e*Pn	**Pn**	**05 15 40.2**	**-1.0**
WUAZ	**Wupatki**	**5.92**	**21**	*e*Pn	**Pn**	**05 15 45.1**	**+0.1**
W18A	**Petrified Fore**	**6.22**	**33**	*e*Pn	**Pn**	**05 15 48.4**	**-0.7**
U15A	**North Rim**	**6.57**	**12**	*e*Pn	**Pn**	**05 15 52.9**	**-1.2**
SHPR	**Sheep Range**	**6.59**	**351**	*e*Pn	**Pn**	**05 15 55.0**	**+0.8**
LPIG	**La Paz**	**6.68**	**150**	LR	LR	05 18 18.7	
	comp=N,635nm,20.6s,baz=352,slow=37						
LCMT	**Little Creek M**	**7.03**	**4**	*e*Pn	**Pn**	**05 15 58.9**	**-1.4**
KNB	**Kanab**	**7.07**	**7**	*e*Pn	**Pn**	**05 16 00.2**	**-0.6**
SLBS	**Sierra La Lagu**	**7.20**	**150**	*e*Pn	**Pn**	**05 16 01.7**	**-0.9**
LENM	**Lemitar**	**7.21**	**53**	*e*Pn	**Pn**	**05 15 58.8**	**-4.0**
LAZ	**Ladron**	**7.24**	**51**	*e*Pn	**Pn**	**05 16 02.2**	**-0.9**
BNM	**Barren Site**	**7.45**	**54**	*e*Pn	**Pn**	**05 16 02.8**	**-3.2**
MNTX	**Cornudas Mount**	**7.53**	**75**	*e*Pn	**Pn**	**05 16 03.9**	**-3.1**
PKCU	**Pink Cliffs**	**7.56**	**10**	*e*Pn	**Pn**	**05 16 07.3**	**-0.4**
SZCU	**Shurtz Canyon**	**7.62**	**5**	*e*Pn	**Pn**	**05 16 07.9**	**-0.6**
ANMO	**Albuquerque**	**8.01**	**50**	*e*Pn	**Pn**	**05 16 13.7**	**0.0**
ANMO	**Albuquerque**	**8.01**	**50**	Pn	**Pn**	**05 16 10.6**	**-3.1**
	comp=N,0.1nm,0.3s,baz=218,slow=17,SNR=2.4						
ANMO				Lg	Lg	05 18 22.7	
	comp=N,0.1nm,0.3s,baz=333,slow=14,SNR=2.5						
R11A	**Troy Canyon, C**	**8.46**	**351**	*e*Pn	**Pn**	**05 16 18.7**	**-1.1**
MSU	**Marysvale**	**8.63**	**9**	*e*Pn	**Pn**	**05 16 25.7**	**+3.5**
TX31	**Lajitas Ar. Si**	**8.94**	**92**	*e*Pn	**Pn**	**05 16 26.1**	**-0.2**
TXAR	**Lajitas Array**	**8.94**	**92**	*e*Pn	**Pn**	**05 16 25.6**	**-0.8**
TXAR	**Lajitas Array**	**8.94**	**92**	Pn	**Pn**	**05 16 22.5**	**-3.9**
	comp=N,0.1nm,0.3s,baz=270,slow=12,SNR=5.0						
TXAR				Lg	Lg	05 18 48.3	
	comp=N,0.2nm,0.3s,baz=276,slow=26,SNR=3.3						
TXAR				LR	LR	05 19 50.1	
	comp=N,1μm,21.7s,baz=0.0,slow=39						
NV01	**Mina Array Sit**	**9.17**	**338**	*e*Pn	**Pn**	**05 16 32.8**	**+3.1**
NVAR	**Mina Array Bea**	**9.17**	**338**	Pn	**Pn**	**05 16 32.8**	**+3.1**
	comp=N,0.2nm,0.3s,baz=161,slow=14,SNR=7.6						
NVAR				LR	LR	05 20 05.3	
	comp=N,779nm,21.0s,baz=154,slow=38						
PV01	**Paradox Valley**	**9.26**	**27**	*e*Pn	**Pn**	**05 16 30.9**	**0.0**
PV21	**Cone Mtn., Par**	**9.48**	**24**	*e*Pn	**Pn**	**05 16 34.8**	**+0.8**
SRU	**San Rafael Swe**	**9.52**	**16**	*e*Pn	**Pn**	**05 16 36.9**	**+2.5**
KVN	**Kaiserville**	**9.68**	**340**	*e*Pn	**Pn**	**05 16 38.8**	**+2.2**
PNTR	**Pine Nut**	**10.22**	**334**	*e*Pn	**Pn**	**05 16 45.6**	**+1.6**
RUBR	**Rubicon Trail**	**10.40**	**332**	*e*Pn	Pn	05 16 51.5	+4.9
SDCO	**Great Sand Dun**	**10.43**	**40**	*e*Pn	Pn	05 16 53.2	+6.2
PAHR	**Pah Rah Range**	**10.69**	**337**	*e*Pn	**Pn**	**05 16 51.4**	**+1.0**
ELK	**Elko**	**10.79**	**355**	*e*Pn	**Pn**	**05 16 53.1**	**+1.3**
ELK	**Elko**	**10.79**	**355**	Pn	**Pn**	**05 16 52.9**	**+1.0**
	comp=N,0.1nm,0.3s,baz=195,slow=11,SNR=6.1						
ELK				Lg	Lg	05 19 58.2	
	comp=N,0.1nm,0.3s,baz=137,slow=18,SNR=2.5						
ELK				LR	LR	05 21 09.1	
	comp=N,658nm,20.2s,baz=156,slow=38						
CTU	**Camp Tracy**	**10.83**	**9**	*e*Pn	**Pn**	**05 16 54.2**	**+1.9**
BGU	**Big Grassy Mou**	**10.94**	**4**	*e*Pn	**Pn**	**05 16 56.1**	**+2.3**
BEKR	**Beckworth**	**11.19**	**334**	*e*Pn	Pn	05 17 02.0	+4.8
TCUT	**Toone Canyon**	**11.29**	**10**	*e*Pn	**Pn**	**05 17 00.6**	**+1.8**
HWUT	**Hardware Ranch**	**11.75**	**9**	*e*Pn	**Pn**	**05 17 05.5**	**+0.5**
HVU	**Hansel Valley**	**11.81**	**4**	*e*Pn	**Pn**	**05 17 07.6**	**+1.9**
JCT	**Junction City**	**12.22**	**84**	*e*Pn	**Pn**	**05 17 12.1**	**+0.9**
AHID	**Auburn Hatcher**	**12.96**	**9**	*e*Pn	**Pn**	**05 17 23.2**	**+1.8**
WVOR	**Wild Horse Val**	**12.99**	**344**	*e*Pn	**Pn**	**05 17 23.8**	**+1.9**
PD31	**Pinedale Array**	**13.23**	**14**	*e*Pn	**Pn**	**05 17 26.2**	**+1.1**
PDAR	**Pinedale Array**	**13.23**	**14**	*e*Pn	**Pn**	**05 17 24.1**	**-1.1**
PDAR	**Pinedale Array**	**13.23**	**14**	Pn	**Pn**	**05 17 28.8**	**+3.7**
	comp=N,0.1nm,0.3s,baz=184,slow=12,SNR=6.1						
PDAR				LR	LR	05 22 21.7	
	comp=N,1μm,19.6s,baz=146,slow=37						
HLID	**Hailey**	**13.56**	**358**	*e*Pn	**Pn**	**05 17 31.7**	**+2.1**
REDW	**Red Top Meadow**	**13.58**	**10**	*e*Pn	**Pn**	**05 17 32.2**	**+2.3**
WMOK	**Wichita Mounta**	**13.64**	**66**	*e*Pn	**Pn**	**05 17 29.7**	**-0.9**
TPAW	**Teton Pass**	**13.69**	**9**	*e*Pn	**Pn**	**05 17 31.3**	**-0.2**
YBH	**Yreka Blue Hor**	**13.71**	**331**	LR	LR	05 21 49.0	
	comp=N,167nm,20.6s,baz=169,slow=33						
FXWY	**Fox Creek**	**13.82**	**9**	*e*Pn	**Pn**	**05 17 35.0**	**+1.7**
J08A	**Circle Bar

ARMA	Armidale	29.80	240	eP		P	05 22 32.0 +0.8
	6.9nm,0.9s						
WHZ	Wether Hill Ro	30.04	199	eP		P	05 22 32.6 -0.3
	9.4nm,1.0s						
CTA	Charters Tower	33.30	261	P		P	05 23 00.5 -0.4
	1.7nm,0.4s,baz=90,slow=11,SNR=6.8						
CTAO	Charters Tower	33.30	261	eP		P	05 23 00.9 0.0
	4.7nm,0.7s						
CTAO	Charters Tower	33.30	261	eP		P	05 23 00.9 0.0
CTAO					pmax	pmax	
	comp=Z,5.0nm,0.7s						
CAN	Canberra	33.57	232	eP		P	05 23 03.6 +0.6
	comp=Z,9.3nm,0.7s						
CAN	Canberra	33.57	232	eP		P	05 23 03.6 +0.6
CAN					pmax	pmax	
	comp=Z,9.0nm,0.7s						
PMG	Port Moresby	34.32	280	deP		P	05 23 10.6 +1.2
PMG					pmax	pmax	
	comp=Z,222nm,0.9s						
PMG	Port Moresby	34.32	280	P		P	05 23 10.3 +0.9
	comp=Z,45nm,0.8s,baz=71,slow=5.8,SNR=11						
COEN	Coen	36.96	270	eP		P	05 23 32.0 +0.9
	comp=Z,19nm,0.8s						
TOO	Toolangi	37.03	231	eP		P	05 23 32.2 +0.7
	comp=Z,13nm,0.8s						
TOO	Toolangi	37.03	231	eP		P	05 23 32.2 +0.7
TOO					pmax	pmax	
	comp=Z,13nm,0.8s						
STKA	Stephens Creek	38.48	241	eP		P	05 23 44.2 +1.0
	comp=Z,2.9nm,0.8s						
STKA	Stephens Creek	38.48	241	P		P	05 23 44.0 +0.8
	comp=Z,13nm,0.8s,baz=91,slow=10.0,SNR=24						
STKA					PcP	PcP	05 25 40.1 +0.7
	comp=Z,2.5nm,0.5s,baz=111,slow=4.7,SNR=4.2						
WAKE	Wake Island	39.74	338	eP		P	05 23 53.1 -0.2
	comp=Z,88nm,1.1s						
BBOO	Buckleboo	43.26	241	eP		P	05 24 21.1 +0.2
	comp=Z,16nm,0.7s						
BBOO					ePcP	PcP	05 25 55.8 +0.5
MLH	Mauna Loa	43.61	33	eP		P	05 24 24.4 +0.5
	comp=Z,66nm,1.1s						
MLH	Mauna Loa	43.61	33	eP		P	05 24 24.4 +0.5
MLH					pmax	pmax	
	comp=Z,66nm,1.1s						
WB2	Warramunga Arr	44.47	260	eP		P	05 24 30.1 -0.2
	comp=Z,5.8nm,0.5s						
WB2					ePcP	PcP	05 26 00.7 +0.9
WRAB	Tennant Creek	44.47	260	d iP		P	05 24 30.3 -0.1
WRAB					pmax	pmax	
	comp=Z,4.0nm,0.6s						
WR1	Warramunga Arr	44.48	260	eP		P	05 24 30.1 -0.3
WR1					ePcP	PcP	05 26 00.2 +0.4
WR1					eS	S	05 30 21.6 -0.3
WRA	Warramunga Arr	44.48	260	P		P	05 24 30.1 -0.3
	comp=Z,3.7nm,0.4s,baz=95,slow=7.6,SNR=132						
WRA					PcP	PcP	05 26 00.2 +0.4
	comp=Z,3.0nm,0.5s,baz=110,slow=3.9,SNR=14						
WRA					S	S	05 30 21.6 -0.3
	comp=Z,1.6nm,0.8s,baz=94,slow=14,SNR=4.3						
AS31	Alice Springs	44.64	254	eP		P	05 24 31.9 +0.3
	comp=Z,9.3nm,0.6s						
AS31					ePcP	PcP	05 26 00.8 +0.5
ASAR	Alice Springs	44.64	254	eP		P	05 24 31.6 -0.1
ASAR					ePcP	PcP	05 26 00.4 +0.1
ASAR	Alice Springs	44.64	254	eP		P	05 24 31.6 -0.1
ASAR				e			05 26 00.4
ASAR	Alice Springs	44.64	254	P		P	05 24 31.8 +0.1
	comp=Z,30nm,0.6s,baz=88,slow=8.4,SNR=412						
ASAR					PcP	PcP	05 26 00.6 +0.3
	comp=Z,7.4nm,0.7s,baz=97,slow=4.1,SNR=18						
ASAR					ScP	ScP	05 28 54.8 +1.0
	comp=Z,0.9nm,0.8s,baz=76,slow=4.9,SNR=3.1						
ASAR					S	S	05 30 24.1 0.0
	comp=Z,5.6nm,0.9s,baz=91,slow=15,SNR=31						
MTN	Manton Dam	48.65	269	eP		P	05 25 01.7 0.0
	comp=Z,4.7nm,0.6s						
FORT	Forrest	49.86	245	eP		P	05 25 10.1 -0.2
	comp=Z,39nm,0.6s						
FORT					ePcP	PcP	05 26 20.1 +1.0
FITZ	Fitzroy Crossi	52.88	261	eP		P	05 25 32.7 +0.5
	comp=Z,5.0nm,1.0s						
FITZ					ePcP	PcP	05 26 31.8 +1.1
PSA00	Pilbara Seismi	57.76	255	eP		P	05 26 05.9 0.0
	comp=Z,12nm,0.7s						
NWAO	Narrogin (SRO)	59.06	242	eP		P	05 26 15.1 +0.6
	comp=Z,8.6nm,0.9s						
NWAO	Narrogin (SRO)	59.06	242	eP		P	05 26 15.1 +0.6
NWAO					pmax	pmax	
	comp=Z,9.0nm,0.9s						
MORW	Morawa	60.33	246	eP		P	05 26 22.8 -0.1
	comp=Z,7.8nm,0.8s						
SBA	Scott Base	60.38	184	eP		P	05 26 24.0 +1.7
	comp=Z,15nm,1.1s						
VNDA	Vanda	60.40	185	eP		P	05 26 23.1 +0.6
	comp=Z,2.5nm,0.8s						
VNDA	Vanda	60.40	185	eP		P	05 26 23.1 +0.6
VNDA					pmax	pmax	
	comp=Z,3.0nm,0.8s						
VNDA	Vanda	60.40	185	P		P	05 26 22.9 +0.5
	comp=Z,1.4nm,0.7s,baz=350,slow=8.5,SNR=14						
VNDA					PcP	PcP	05 26 58.3 -1.1
	comp=Z,2.4nm,1.1s,baz=53,slow=5.1,SNR=4.0						
GIRL	Giralia	62.74	253	eP		P	05 26 40.1 +1.5
	comp=Z,107nm,1.1s						
CASY	Casey	66.05	205	eP		P	05 26 58.5 0.0
	comp=Z,15nm,1.0s						
MJAR	Matsushiro Arr	67.85	323	P		P	05 27 08.5 -1.5
	comp=Z,1.0nm,0.3s,baz=158,slow=7.5,SNR=3.5						
MJAR					PcP	PcP	05 27 31.6 +0.7
	comp=Z,0.8nm,0.4s,baz=164,slow=5.0,SNR=4.0						
MAJO	Matsushiro	67.85	323	eP		P	05 27 08.5 -1.5
MAJO					ePcP	PcP	05 27 31.6 +0.6
MAJO	Matsushiro	67.85	323	eP		P	05 27 08.5 -1.5
MAJO				e			05 27 31.6
UGM	Wanagama	69.50	268	eP		P	05 27 20.5 0.0
	comp=Z,39nm,0.6s						
ADK	Adak	69.55	1	eP		P	05 27 19.6 -0.1
	comp=Z,15nm,0.6s						
ADK	Adak	69.55	1	eP		P	05 27 19.7 -0.1
ADK					pmax	pmax	
	comp=Z,15nm,0.6s						
GSTR	Great Sitkin T	69.77	2	eP		P	05 27 21.2 0.0
SMY	Shemya	70.66	355	eP		P	05 27 26.1 -0.2
	comp=Z,33nm,1.0s						
SMY	Shemya	70.66	355	eP		P	05 27 26.2 -0.2
SMY					pmax	pmax	
	comp=Z,33nm,1.0s						
NIKH	Nikolski High	71.12	6	eP		P	05 27 28.9 -0.1
	comp=Z,89nm,1.1s						
QSPA	South Pole Qui	72.11	180	eP		P	05 27 35.2 +0.3
	comp=Z,15nm,0.8s						
UNV	Unalaska Valle	72.24	7	eP		P	05 27 34.8 -0.8
	comp=Z,10nm,1.1s						
PEA0B	Petropavlovsk-	73.67	345	eP		P	05 27 44.2 +0.5
	comp=Z,16nm,1.1s						
PEA0B	Petropavlovsk-	73.67	345	eP		P	05 27 44.2 +0.5
PEA0B					pmax	pmax	
	comp=Z,16nm,1.1s						
PETK	Petropavlovsk-	73.67	345	eP		P	05 27 44.1 +0.4
PETK	Petropavlovsk-	73.67	345	P		P	05 27 44.2 +0.5
	comp=Z,6.6nm,0.6s,baz=107,slow=7.6,SNR=15						
PEA1	Petropavlovsk-	73.68	345	eP		P	05 27 44.2 +0.5
SDPT	Sand Point	74.60	11	eP		P	05 27 48.1 -0.7
	comp=Z,69nm,1.0s						
KSRS	Korea Array	74.63	318	P		P	05 27 50.8 +1.3
	comp=Z,1.0nm,0.7s,baz=137,slow=7.5,SNR=4.6						
CHGN	Chignik	75.88	11	eP		P	05 27 55.5 -0.4
	comp=Z,95nm,0.9s						
SBI	Santa Barbara	76.39	48	eP		P	05 27 59.1 -0.2
SCI2	San Clemente I	76.47	48	P		P	05 28 00.3 +0.6
	baz=238						
JECB	Eureka Canyon	76.48	43	eP		P	05 28 03.7 +4.1
SAO	San Andreas Ge	76.55	44	eP		P	05 28 01.2 +1.1
	comp=Z,18nm,0.8s						
SAO	San Andreas Ge	76.55	44	eP		P	05 28 01.2 +1.1
SAO					pmax	pmax	
	comp=Z,18nm,0.8s						
PKM	Mcpherson Peak	76.61	46	P		P	05 28 01.4 +0.8
	baz=237						
SMMC	Simmler	76.71	46	P		P	05 28 02.0 +1.0
	baz=236						
PAGB	Antelope Grade	76.77	45	eP		P	05 28 02.0 +0.6
	comp=Z,9.2nm,1.0s						
SII	Sitkinak Islan	76.99	14	eP		P	05 28 02.3 +0.3
	comp=Z,51nm,1.0s						
KMRM	Mail Ridge	77.14	40	eP		P	05 28 04.8 +1.5
	comp=Z,37nm,0.9s						
ARVC	Arvin	77.41	47	P		P	05 28 05.2 +0.4
	baz=237						
KHMM	Horse Mountain	77.51	39	eP		P	05 28 06.6 +1.2
	comp=Z,18nm,1.2s						
VES	Vestal, Richgr	77.62	46	P		P	05 28 06.5 +0.7
	baz=237						
DPP	Dos Picos Cty	77.63	49	eP		P	05 28 10.2 +4.2
O02D	Mt. Diablo Mer	77.67	40	P		P	05 28 07.4 +1.2
	baz=234,SNR=6.1						
BFSC	Mount Baldy Ra	77.76	48	P		P	05 28 07.2 +0.4
	baz=238						
NJ2	Nanjing	77.85	310	eP		P	05 28 07.3 +0.2
EDW2	Edwards Air Fo	77.86	47	eP		P	05 28 06.9 -0.3
EDW2	Edwards Air Fo	77.86	47	P		P	05 28 07.9 +0.7
	baz=238						
ISA	Isabella, Lake	77.95	46	eP		P	05 28 08.4 +0.7
	comp=Z,21nm,0.9s						
ISA	Isabella, Lake	77.95	46	eP		P	05 28 08.4 +0.7
ISA					pmax	pmax	
	comp=Z,21nm,0.9s						
ISA	Isabella, Lake	77.95	46	P		P	05 28 08.4 +0.7
	baz=238						
MONP2	Monument Peak	77.95	50	P		P	05 28 08.8 +0.8
	baz=239,SNR=5.3						
CMB	Columbia Colle	77.96	43	eP		P	05 28 08.5 +0.8
	comp=Z,16nm,1.0s						
IKP	In-Ko-Pah, Jac	78.05	50	P		P	05 28 09.0 +0.6
	baz=240						
WDC	Whiskeytown Da	78.06	40	eP		P	05 28 09.0 +0.9
	comp=Z,7.7nm,1.0s						
AFDM	Forest Hills D	78.10	42	eP		P	05 28 08.5 +0.1
	comp=Z,12nm,1.0s						
ORV	Oroville	78.11	42	eP		P	05 28 09.0 +0.5
	comp=Z,12nm,1.0s						
MDJ	Mudanjiang	78.13	325	P		P	05 28 08.8 +0.4
N02D	Trinity Center	78.20	40	P		P	05 28 10.0 +1.1
	baz=234,SNR=6.7						
PFO	Pinyon Flats O	78.29	49	eP		P	05 28 08.5 -1.2
	comp=Z,159nm,0.4s						
PFO	Pinyon Flats O	78.29	49	eP		P	05 28 08.5 -1.2
BBRC	Big Bear Solar	78.29	48	eP		P	05 28 10.6 +0.8
O03E	Paynes Creek	78.35	41	P		P	05 28 10.0 +0.3
	baz=234						
M02C	Callahan	78.36	39	P		P	05 28 10.8 +1.1
	baz=233,SNR=11						
L02E	Cave Junction	78.37	38	P		P	05 28 10.6 +0.9
	baz=233						
LRMC	Laurel Mtn Rad	78.39	47	P		P	05 28 10.7 +0.5
	baz=238						
KDAK	Kodiak Island	78.47	14	ceP		P	05 28 10.7 +0.9
MDPB	Devils Postpil	78.60	44	eP		P	05 28 12.0 +0.6
	comp=Z,17nm,0.9s						
CWC	Cottonwood Cre	78.63	46	P		P	05 28 11.8 +0.3
	baz=238						
CCCA	Chr Cany lake	78.64	47	eP		P	05 28 13.0 +1.6
YBH	Yreka Blue Hor	78.64	39	eP		P	05 28 11.9 +0.6
	comp=Z,13nm,0.8s						
YBH	Yreka Blue Hor	78.64	39	eP		P	05 28 11.9 +0.6
YBH					pmax	pmax	
	comp=Z,13nm,0.8s						
YBH	Yreka Blue Hor	78.64	39	P		P	05 28 12.3 +1.0
	comp=Z,11nm,0.6s,baz=208,slow=2.1,SNR=51						
OMMB	Old Mammoth Mi	78.64	44	eP		P	05 28 12.1 +0.4
	comp=Z,6.2nm,0.7s						
K02D	Willamette Mer	78.66	38	P		P	05 28 12.2 +0.8
	baz=232						
SLBS	Sierra La Lagu	78.70	61	eP		P	05 28 12.6 +0.6
J01E	Myrtle Point	78.78	37	P		P	05 28 12.7 +0.9
	baz=232						
MPMC	Manual Prospec	78.83	46	P		P	05 28 13.3 +0.7
	baz=238						
WAKR	Walker	78.85	43	eP		P	05 28 13.3 +0.7
	comp=Z,19nm,0.9s						
TIN	Tinemaha, Big	78.86	45	P		P	05 28 13.3 +0.7
	baz=237						
HEC	Hector,Ludlow	79.00	48	P		P	05 28 13.8 +0.5
	baz=239						
BEKR	Beckworth	79.01	42	eP		P	05 28 13.3 -0.1
	comp=Z,12nm,0.6s						
HUMO	Hull Mountain	79.02	38	eP		P	05 28 13.6 +0.4
	comp=Z,8.3nm,0.8s						
PNTR	Pine Nut	79.06	43	eP		P	05 28 14.4 +0.7
	comp=Z,28nm,0.9s						
VCNR	Virginia City	79.15	43	eP		P	05 28 14.6 +0.4
	comp=Z,7.7nm,0.9s						
L04D	Klamath Falls	79.17	39	P		P	05 28 14.8 +0.7
	baz=234,SNR=13						
M04C	Macdoel	79.20	40	P		P	05 28 15.0 +0.7
	baz=234						
YERR	Yerington	79.24	43	eP		P	05 28 14.9 +0.3
	comp=Z,33nm,1.2s						
I02D	Swisshome	79.41	37	P		P	05 28 15.4 +0.3
	baz=232						
GRAC	Grapevine Rang	79.41	46	P		P	05 28 16.2 +0.8
	baz=238						
I03D	Drain, OR	79.45	37	P		P	05 28 16.2 +0.9
	baz=233						
FURC	Furnace Creek,	79.48	46	P		P	05 28 16.1 +0.4
	baz=238						
PAHR	Pah Rah Range	79.55	42	eP		P	05 28 16.7 +0.5
	comp=Z,7.7nm,0.7s						
NV01	Mina Array Sit	79.55	44	eP		P	05 28 16.9 +0.6
NVAR	Mina Array Bea	79.55	44	eP		P	05 28 16.4 +0.1
NVAR	Mina Array Bea	79.55	44	P		P	05 28 16.9 +0.6
	comp=Z,11nm,0.8s,baz=224,slow=8.9,SNR=43						
SHOC	Shoshone, Teco	79.59	47	P		P	05 28 16.9 +0.6
	baz=235						
TUQ	Turquoise Moun	79.60	48	P		P	05 28 17.1 +0.5
	baz=239						
J04D	Umpqua Nationa	79.90	38	P		P	05 28 18.8 +0.8
	baz=234,SNR=18						
KVN	Kaiserville	80.02	43	eP		P	05 28 19.0 +0.3
	comp=Z,16nm,1.0s						
KVN	Kaiserville	80.02	43	eP		P	05 28 19.0 +0.3
KVN					pmax	pmax	
	comp=Z,16nm,1.0s						
I04A	Tendick Farm,	80.05	38	P		P	05 28 18.9 +0.3
	baz=233						
KLR	Kul'dur	80.06	330	i P		P	05 28 18.9 +0.5
KLR					pmax	pmax	
	comp=Z,5.0nm,1.7s						
MOD	Modoc Plateau	80.20	40	eP		P	05 28 19.8 +0.2
	comp=Z,18nm,0.7s						
H04D	Lebanon	80.30	37	P		P	05 28 20.8 +1.0
	baz=233						
PDMCI	Parker Dam,Lak	80.30	49	P		P	05 28 20.5 +0.5
	baz=240						
K05A	Summer Lake	80.32	39	eP		P	05 28 20.8 +0.7
	comp=Z,33nm,1.0s						
G03D	McMinnville, O	80.42	36	P		P	05 28 21.3 +0.9
	baz=232						
J05D	Fort Rock, OR	80.44	39	P		P	05 28 21.7 +1.0
	baz=234,SNR=33						
H04A	Detroit Lake	80.71	37	eP		P	05 28 21.7 -0.3
	comp=Z,17nm,0.6s						
PINE	Pine Mountain	80.91	38	eP		P	05 28 24.0 +0.8
	comp=Z,30nm,0.9s						
I05D	Terrebonne, OR	80.99	38	P		P	05 28 24.0 +0.6
	baz=234,SNR=7.1						
F04D	Rainier, OR	81.08	36	P		P	05 28 24.8 +1.0
	baz=233						
R11A	Troy Canyon, C	81.32	45	P		P	05 28 25.8 +0.4
	baz=239						
BMN	Battle Mountai	81.33	43	eP		P	05 28 25.8 +0.4
	comp=Z,18nm,0.9s						
BMN	Battle Mountai	81.33	43	eP		P	05 28 25.8 +0.4
BMN					pmax	pmax	
	comp=Z,18nm,0.9s						
WVOR	Wild Horse Val	81.53	40	eP		P	05 28 26.9 +0.6
	comp=Z,26nm,1.0s						
WVOR	Wild Horse Val	81.53	40	eP		P	05 28 26.9 +0.6
WVOR					pmax	pmax	
	comp=Z,25nm,1.0s						
G05D	Wamic, OR	81.54	37	P		P	05 28 26.8 +0.6
	baz=234						
E04D	Cinebar	81.62	35	P		P	05 28 27.4 +0.9
	baz=233						
G06A	Carlson Farm,	81.92	37	eP		P	05 28 28.0 -0.1
	comp=Z,12nm,0.9s						
I07A	Izee	81.92	39	eP		P	05 28 28.9 +0.6
	comp=Z,19nm,0.8s						
D03D	Eldon	81.93	34	P		P	05 28 28.9 +0.9
	baz=232						
J08A	Circle Bar Ran	82.14	40	eP		P	05 28 29.8 +0.5
	comp=Z,29nm,1.1s						
LCMT	Little Creek M	82.26	47	eP		P	05 28 31.4 +1.3
	comp=Z,16nm,0.9s						
D05A	Enumclaw	82.31	35	eP		P	05 28 32.0 +2.0
	comp=Z,23nm,1.0s						
BBB	Bella Bella	82.42	29	P		P	05 28 30.9 +0.6
	comp=Z,14nm,0.9s,baz=314,slow=6.4,SNR=6.3						
PGC	Sidney	82.42	33	eP		P	05 28 30.7 +0.2
	comp=Z,9.4nm,0.6s						
GLI	Glacier Island	82.52	15	eP		P	05 28 30.4 -0.3
	comp=Z,23nm,0.8s						
KNB	Kanab	82.56	47	eP		P	05 28 33.0 +1.3
	comp=Z,12nm,0.8s						
PSUT	Pine Spring	82.59	46	eP		P	05 28 32.6 +0.8
	comp=Z,11nm,0.7s						
PMR	Palmer	82.67	14	eP		P	05 28 31.2 -0.2
	comp=Z,6.3nm,0.5s						
PMR	Palmer	82.67	14	eP		P	05 28 31.2 -0.2
PMR					pmax	pmax	
	comp=Z,6.0nm,0.5s						
ELK	Elko	82.78	43	eP		P	05 28 33.7 +0.9
	comp=Z,9.2nm,0.9s						
ELK	Elko	82.78	43	eP		P	05 28 33.7 +0.9
ELK					pmax	pmax	
	comp=Z,9.0nm,0.9s						
A04D	Lummi Island	82.85	34	P		P	05 28 33.5 +0.9
	baz=232						
B05A	Bryant	82.90	34	P		P	05 28 33.6 +0.7
	baz=233						
G08A	Pilot Rock	82.93	38	eP		P	05 28 34.1 +0.8
	comp=Z,8.8nm,0.7s						
DIV	Divide	83.07	15	eP		P	05 28 32.6 -0.9
	comp=Z,18nm,0.7s						
LTY	Liberty	83.08	36	eP		P	05 28 33.8 -0.1
	comp=Z,10nm,0.9s						
HAWA	Hanford	83.22	37	eP		P	05 28 35.6 +1.1
	comp=Z,19nm,0.9s						
SCM	Sheep Creek Mo	83.30	14	eP		P	05 28 34.7 +0.1
SCM	Sheep Creek Mo	83.30	14	eP		P	05 28 34.7 +0.1
E08A	Dider Farm, El	83.55	37	eP		P	05 28 37.4 +1.3
	comp=Z,12nm,0.8s						
BMO	Blue Mountains	83.66	39	eP		P	05 28 36.4 -0.5
	comp=Z,5.3nm,0.9s						
CAST	Castle Rocks	83.69	12	eP		P	05 28 34.4 -2.1
	comp=Z,23nm,0.8s						
SEY	Seymchan	83.78	347	ceP		P	05 28 36.9 +0.1
MAW	Mawson	83.78	200	eP		P	05 28 36.0 -1.0
	comp=Z,2.3nm,0.9s						
MAW	Mawson	83.78	200	eP		P	05 28 36.0 -1.0
MAW					pmax	pmax	
	comp=Z,2.0nm,0.9s						
MAW	Mawson	83.78	200	P		P	05 28 37.2 +0.3
	comp=Z,7.8nm,0.7s,baz=130,slow=5.8,SNR=19						
D08A	Wollman Farm,	83.94	36	eP		P	05 28 38.5 +0.4
	comp=Z,18nm,0.9s						
E09A	Wood Farm, Sta	84.08	37	eP		P	05 28 39.0 +0.3
	comp=Z,8.8nm,1.0s						
DUG	Dugway, Tooele	84.11	45	P		P	05 28 39.6 +0.4
	baz=241						
ENH	Enshi	84.17	304	eP		P	05 28 40.6 +0.9
	comp=Z,13nm,0.8s						
HARP	HAARP	84.31	15	eP		P	05 28 39.8 +0.2
F10A	Beach Ranch, E	84.32	38	eP		P	05 28 39.9 -0.2
	comp=Z,23nm,0.9s						
LLLB	Lillooet	84.42	32	eP		P	05 28 40.1 -0.3
	comp=Z,4.7nm,0.6s						
B08A	Colville Reser	84.45	35	eP		P	05 28 39.8 -0.8
	comp=Z,14nm,0.9s						
ZAIG	Zacatecas	84.56	64	eP		P	05 28 42.9 +0.9
	comp=Z,7.3nm,0.9s						
PLID	Pearl Lake	84.57	39	eP		P	05 28 41.4 -0.1
	comp=Z,5.2nm,0.8s						
MCK	McKinley	84.61	13	eP		P	05 28 40.6 -0.3
	comp=Z,20nm,1.0s						
MCK	McKinley	84.61	13	eP		P	05 28 40.6 -0.3
MCK					pmax	pmax	
	comp=Z,20nm,1.0s						
HLID	Hailey	84.75	41	P		P	05 28 43.1 +0.8
	baz=239						
HVU	Hansel Valley	84.91	43	eP		P	05 28 43.0 0.0
	comp=Z,5.3nm,0.7s						
HVU	Hansel Valley	84.91	43	eP		P	05 28 43.1 0.0
HVU					pmax	pmax	
	comp=Z,5.0nm,0.7s						
CTU	Camp Tracy	85.06	45	eP		P	05 28 43.3 -0.6
	comp=Z,4.9nm,0.8s						
NEW	Newport	85.62	36	eP		P	05 28 45.7 -0.5
	comp=Z,6.5nm,0.8s						
NEW	Newport	85.62	36	P		P	05 28 46.4 +0.2
NEW					pmax	pmax	
	comp=Z,12nm,0.9s						
NEW	Newport	85.62	36	P		P	05 28 46.2 0.0
	baz=237						
NEW	Newport	85.62	36	P		P	05 28 45.7 -0.5
	comp=Z,5.6nm,0.7s,baz=245,slow=1.2,SNR=11						
HDA	Harding Lake	85.62	13	P		P	05 28 45.2 -0.6
	baz=210						
MNTX	Cornudas Mount	85.72	55	P		P	05 28 47.9 +0.8
	baz=246						
BCAR	Beaver Creek A	85.72	16	eP		P	05 28 46.6 +0.2
IMAR	Indian Mountai	85.74	10	eP		P	05 28 45.8 -0.5
TCOL	CIGO, UAF Yank	85.84	13	P		P	05 28 46.0 -0.8
	baz=209						
COLA	College	85.84	13	eP		P	05 28 45.3 -1.4
	comp=Z,14nm,0.6s						
COLA	College	85.84	13	eP		P	05 28 45.3 -1.4
COLA					pmax	pmax	
	comp=Z,14nm,0.6s						
ILAR	Eielson Array	85.95	13	eP		P	05 28 46.0 -1.3
ILAR	Eielson Array	85.95	13	P		P	05 28 46.5 -0.8
	comp=Z,4.7nm,0.4s,baz=220,slow=5.0,SNR=78						
TXAR	Lajitas Array	86.14	58	eP		P	05 28 50.2 +1.1
TXAR	Lajitas Array	86.14	58	eP		P	05 28 50.3 +1.1
TXAR	Lajitas Array	86.14	58	P		P	05 28 50.7 +1.5
	comp=Z,17nm,0.8s,baz=219,slow=6.3,SNR=24						
XAN	Xi'an	86.16	307	P		P	05 28 51.0 +1.9
XAN					pP	PcP	05 28 59.4 +8.7
XAN	Xi'an	86.16	307	eP		P	05 28 50.9 +1.8
TASM	ASL Pad, Albuq	86.23	52	P		P	05 28 50.1 +0.4
	baz=245						
TASM	ASL Pad, Albuq	86.23	52	P		P	05 28 50.1 +0.4
	baz=245						
ANMO	Albuquerque	86.23	52	ceP		P	05 28 50.8 +1.2
ANMO					pmax	pmax	
	comp=Z,10.0nm,1.3s						
MCMT	McKenzie Canyo	86.36	41	eP		P	05 28 50.9 +0.9
BILL	Bilibino	86.45	354	ceP		P	05 28 50.7 +1.1
BILL					pmax	pmax	
	comp=Z,12nm,2.5s						
MSO	Missoula	86.70	38	P		P	05 28 50.9 -0.5
	baz=239,SNR=11						
DLMT	Dillon	86.78	40	eP		P	05 28 52.4 +0.5
	comp=Z,8.8nm,0.8s						
TPAW	Teton Pass	86.91	42

TOLK **Toolik Lake Re** 88.84 10 P P 05 29 01.0 +0.1
baz=208
ISCO **Idaho Springs** 88.86 47 P P 05 29 02.4 +0.5
baz=246
N23A **Red Feather La** 89.09 46 P P 05 29 03.5 +0.6
baz=245,SNR=8.8
SYO **Syowa Base** 89.09 193⇑*eP* P 05 29 00.4 -1.7
833A **Chaparral WMA,** 89.24 60 P P 05 29 04.1 +0.5
baz=249
CMIG **Matias Romero** 89.38 72 P P 05 29 04.9 +0.5
comp=Z,5.3nm,0.8s,baz=258,slow=4.7,SNR=6.3
K22A **Casper** 89.43 45 *eP* P 05 29 04.5 +0.2
comp=Z,6.6nm,0.9s
K22A **Casper** 89.43 45 P P 05 29 04.7 +0.3
baz=245
PHWY **Pilot Hill** 89.59 46 *eP* P 05 29 05.4 +0.2
comp=Z,6.9nm,0.8s
EPYK **Eagle Plains** 89.68 16 P P 05 29 04.7 0.0
baz=219
JCT **Junction City** 89.68 58 P P 05 29 05.5 -0.1
baz=249
EGMT **Eagleton** 89.77 39 P P 05 29 06.1 +0.5
baz=243
ABTX **Abilene, Hawle** 90.57 56 *eP* P 05 29 09.8 +0.2
comp=Z,16nm,0.8s
ABTX **Abilene, Hawle** 90.57 56 P P 05 29 09.9 +0.3
baz=249
SNAA **Sanae** 90.57 179 P P 05 29 08.2 -0.8
SNAA **Sanae** 90.57 179 *eP* P 05 29 07.7 -1.3
comp=Z,5.3nm,0.7s
SNAA **Sanae** 90.57 179 *eP* P 05 29 07.7 -1.3
SNAA pmax pmax
comp=Z,5.0nm,0.7s
KSCO **Kaye Shedlock'** 90.67 49 P P 05 29 10.7 +0.6
baz=247
VNA3 **Neumayer Olymp** 90.72 176 P P 05 29 09.2 -0.4
LZH **Lanzhou** 90.80 308 *eP* P 05 29 13.3 +2.5
LZH pP pP 05 31 23.1 -2.3
LZH sP sP 05 32 24.3 -3.1
VNA2 **Neumayer--Watz** 91.15 177 P P 05 29 12.0 +0.4
baz=197,slow=4.1
LAO **LASA Array** 91.33 41 P P 05 29 14.0 +1.1
baz=245
VNA1 **Neumayer--Stat** 91.38 177 P P 05 29 12.8 +0.1
PLCA **Paso Flores** 91.41 134 *eP* P 05 29 14.0 +0.4
comp=Z,6.3nm,1.1s
PLCA **Paso Flores** 91.41 134 *eP* P 05 29 14.0 +0.4
PLCA pmax pmax
comp=Z,6.0nm,1.1s
PLCA **Paso Flores** 91.41 134 P P 05 29 13.7 +0.2
comp=Z,1.8nm,0.7s,baz=205,slow=18,SNR=4.3
RSSD **Black Hills** 91.69 44 *eP* P 05 29 14.7 -0.1
comp=Z,8.9nm,0.9s
RSSD **Black Hills** 91.69 44 *eP* P 05 29 14.7 -0.1
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD **Black Hills** 91.69 44 P P 05 29 14.9 +0.1
baz=247
INK **Inuvik** 91.96 15 P P 05 29 14.6 -0.5
comp=Z,6.1nm,0.7s,baz=232,slow=4.0,SNR=30
WMOK **Wichita Mounta** 91.98 54 P P 05 29 16.3 +0.2
baz=250
WHTX **Lake Whitney,** 92.08 57 P P 05 29 16.8 +0.2
baz=250
APG **El Apazote** 92.77 75 P P 05 29 20.5 +0.2
comp=Z,1.7nm,0.4s,baz=130,slow=9.0,SNR=4.4
ULN **Ulaanbaatar** 93.08 320*ceP* P 05 29 20.8 -0.2
ULN pmax pmax
comp=Z,2.0nm,0.9s
DGMT **Dagmar** 93.31 40 *eP* P 05 29 22.2 +0.4
comp=Z,19nm,0.6s
DGMT **Dagmar** 93.31 40 P P 05 29 22.6 +0.8
baz=247
YKA **Yellowknife Ar** 94.42 25 *eP* P 05 29 26.0 -0.5
YKA **Yellowknife Ar** 94.42 25 *eP* P 05 29 26.0 -0.5
YKA **Yellowknife Ar** 94.42 25 P P 05 29 26.1 -0.3
comp=Z,1.6nm,0.5s,baz=241,slow=4.5,SNR=32
YKA PKKP **PKKPdf** 05 46 20.7 -3.1
comp=Z,0.2nm,0.4s,baz=43,slow=1.9,SNR=6.3
YKB5 **Yellowknife Ar** 94.42 25 *eP* P 05 29 26.1 -0.3
BGNE **Belgrade** 94.73 48 P P 05 29 29.0 +0.5
baz=250
KSU1 **Kansas State U** 95.09 51 P P 05 29 30.6 +0.5
baz=251
TIXI **Tiksi** 96.15 345*ceP* P 05 29 32.6 -1.5
TIXI pmax pmax
comp=Z,2.0nm,0.9s
ECSD **EROS Data Cent** 96.56 46 P P 05 29 36.7 +0.1
baz=252
U40A **Yellville** 97.08 54 P Pdif 05 29 39.4 +0.2
baz=253
W41B **Gary Mavity, V** 97.21 55 P P 05 29 39.8 +0.1
baz=253
S41A **Jillco Farms,** 98.28 53 P P 05 29 44.6 +0.2
baz=254
H39A **Augusta** 100.50 46 P Pdif 05 29 54.4 +0.3
baz=255
J40A **Soldiers Grove** 100.56 48 P Pdif 05 29 55.0 +0.6
baz=255
JFWS **Jewell Farm** 100.79 48 P Pdif 05 29 55.8 +0.4
baz=256
L42A **Oliver, Polo** 100.98 49 P Pdif 05 29 56.4 +0.1
baz=256
F39A **Loretta** 101.06 45 P Pdif 05 29 56.8 +0.2
baz=256
J41A **Loganville** 101.06 48 P Pdif 05 29 56.9 +0.2
baz=256
H40A **Chili** 101.11 47 P Pdif 05 29 57.0 +0.2
baz=256
ZAA1 **Zalesovo Array** 108.17 322 *e*PKiKP **PKiKP** 05 34 29.7 -0.6
ZALV **Zalesovo Beam** 108.17 322 PKiKP **PKiKP** 05 34 29.7 -0.6
comp=Z,1.4nm,0.3s,baz=143,slow=1.0,SNR=3.6
MK32 **Makanchi Array** 109.05 314 *e*PKiKP **PKiKP** 05 34 31.6 -0.7
MK32 *e*PKKPbc **PKKPbc** 05 45 41.1 -1.0
MKAR **Makanchi Array** 109.05 314 PKiKP **PKiKP** 05 34 31.6 -0.7
comp=Z,1.6nm,0.5s,baz=208,slow=0.6,SNR=18
MKAR PKKPbc **PKKPbc** 05 45 41.1 -1.0
comp=Z,0.4nm,0.2s,baz=259,slow=2.9,SNR=4.2
KURK **Kurchatov** 111.75 318*c i*PKIKP **PKiKP** 05 34 36.9 -0.3
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURBB **Kurchatov Arra** 111.81 318 PKKPbc PKKPbc 05 45 31.9 -1.5
comp=Z,0.4nm,0.4s,baz=280,slow=5.1,SNR=6.5
KSH **Kashi** 112.98 306 SS SS 05 50 47.1 +7.0
AAK **Ala-Archa** 114.29 309*c i*PKIKP **PKiKP** 05 34 43.2 +0.6
AAK pmax pmax
comp=Z,4.0nm,0.4s
KK31 **Karatay Array** 117.22 310 *e*PKPdf **PKPdf** 05 34 46.5 -1.5
KK31 **Karatay Array** 117.22 310 *e*PKIKP **PKPdf** 05 34 46.5 -1.5
KKAR **Karatay Array** 117.22 310 *e*PKPdf **PKPdf** 05 34 46.8 -1.2
KKAR **Karatay Array** 117.22 310 *e*PKIKP **PKPdf** 05 34 46.8 -1.2
CHGR **Chuyangaron** 118.23 305 *e*PKPdf **PKiKP** 05 34 52.1 +1.8
MSEY **Mahe Island** 122.17 252*c i*PKIKP **PKiKP** 05 35 00.8 +2.1
ARU **Arti** 122.80 326 *e*PKPdf **PKPdf** 05 34 57.8 -0.5
ARU **Arti** 122.80 326 *i* PKIKP **PKiKP** 05 34 58.5 0.0
ARU 05 36 46.7
ARU 05 41 11.1
ARU SP SP 05 45 37.6 -4.1
ARU SS **SS** 05 52 41.9 -1.7
ABKAR **Akbulak array** 123.86 318 *e*PKPdf **PKPdf** 05 35 00.4 -0.1
ARA0 **ARCESS Array S** 126.32 350 *e*PKPdf **PKPdf** 05 35 04.5 -0.1
ARCES **ARCESS Array B** 126.32 350 *e*PKIKP **PKPdf** 05 35 04.9 +0.2
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES **ARCESS Array B** 126.32 350 PKP **PKPdf** 05 35 04.5 -0.1
comp=Z,5.1nm,0.6s,baz=37,slow=1.0,SNR=29
FIA0 **FINESS Array S** 133.18 344 *e*PKPpre PKPpre 05 35 02.6
FIA0 *e*PKPdf **PKPdf** 05 35 17.4 -0.4
FIA0 **FINESS Array S** 133.18 344 *e*PKHKP PKPpre 05 35 02.7
FIA0 *e* 05 35 17.4
FINES **FINESS Array B** 133.18 344 *e*PKPdf **PKPdf** 05 35 15.6 -2.2
FINES **FINESS Array B** 133.18 344 *e*PKIKP **PKPdf** 05 35 15.6 -2.2
FINES **FINESS Array B** 133.18 344 PKhKP PKPpre 05 35 02.6
comp=Z,0.4nm,0.6s,baz=36,slow=2.6,SNR=5.0
FINES PKP **PKPdf** 05 35 17.4 -0.4
comp=Z,4.2nm,0.6s,baz=61,slow=3.0,SNR=18
FINES SKP 05 37 51.9
comp=Z,2.3nm,0.8s,baz=72,slow=6.0,SNR=4.8
OBN **Obninsk** 134.26 333 *e*PKIKP **PKPdf** 05 35 20.1 +0.1
OBN pmax pmax
comp=Z,6.0nm,1.0s
NB2 **NORSAR Subarra** 136.39 353 PKP **PKPdf** 05 35 16.3 -7.6
comp=Z,1.5nm,0.7s,baz=17,slow=2.6
NB200 **NORSAR Array S** 136.39 353 *e*PKPpre PKPpre 05 35 14.2
NB200 *e*PKPdf **PKPdf** 05 35 22.8 -1.2
NOA **NORSAR Array B** 136.39 353 *e*PKHKP PKPpre 05 35 17.5
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA **NORSAR Array B** 136.39 353 PKhKP PKPpre 05 35 14.2
comp=Z,1.1nm,0.7s,baz=4.7,slow=1.4,SNR=6.4
NOA PKP **PKPdf** 05 35 22.8 -1.2
comp=Z,1.8nm,0.6s,baz=14,slow=4.1,SNR=8.7
KIV **Kislovodsk** 136.78 316 *e*PKIKP **PKPdf** 05 35 24.3 -1.0
KIV pmax pmax
comp=Z,15nm,1.0s
KMBO **Kilima Mbogo** 139.98 245 *e*PKIKP **PKiKP** 05 35 34.2 -0.7
KMBO pmax pmax
comp=Z,1.0nm,0.3s
AKASG **Malin Array Be** 140.52 332 *e*PKPdf **PKPdf** 05 35 31.5 -0.2
AKASG **Malin Array Be** 140.52 332 *e*PKIKP **PKPdf** 05 35 31.5 -0.2
AKASG **Malin Array Be** 140.52 332 PKhKP PKPpre 05 35 25.4
comp=Z,2.3nm,0.5s,baz=43,slow=4.2,SNR=22
AKASG PKP **PKPdf** 05 35 33.0 +1.3
comp=Z,2.9nm,0.4s,baz=44,slow=2.6,SNR=11
AKASG SKPbc **SKPbc** 05 38 11.0 +0.8
comp=Z,0.7nm,0.4s,baz=100,slow=0.3,SNR=5.1
AKASG SKPab **SKPab** 05 38 23.4 -0.7
comp=Z,0.3nm,0.4s,baz=31,slow=3.6,SNR=6.0
AKBB **Malin Array Si** 140.52 332 *e*PKPpre PKPpre 05 35 24.7
AKBB **Malin Array Si** 140.52 332 *e*PKHKP PKPpre 05 35 24.7
KIEV **Kiev** 140.53 332 *e*PKPpre PKPpre 05 35 25.0
KIEV **Kiev** 140.53 332 ⇓PKHKP PKPpre 05 35 25.6
SNOP **Sinop** 142.55 317 *e*PKPpre PKPpre 05 35 33.0
DIKM **Dikmen** 142.70 317⇑*i*P **PKPdf** 05 35 35.2 -0.7
BZK **Bozkurt** 143.35 318⇑*i*P **PKPdf** 05 35 36.7 -0.3
LVV **L'vov** 143.38 335 *e*PKIKP **PKiKP** 05 35 47.5 +7.1
LEOM **Leova** 143.95 328⇑*i*P **PKPdf** 05 35 38.4 +0.5
LEOM **Leova** 143.95 328 ⇑PKIKP **PKPdf** 05 35 38.4 +0.5
KWP **Kalwaria Pacla** 144.04 336 *e*PKP **PKPab** 05 35 38.5 +0.4
KWP **Kalwaria Pacla** 144.04 336 *e*PKIKP **PKPab** 05 35 38.5 +0.4
TLCR 144.52 326⇓*i*P **PKPab** 05 35 40.2 +0.2
TLCR 144.52 326 ⇓PKIKP **PKPab** 05 35 40.2 +0.2
BUR08 **Bucovina Ar. S** 144.56 332 *e*PKPdf **PKPab** 05 35 40.5 +0.2
BURAR **Bucovina Array** 144.57 332 *e*PKPdf PKPbc 05 35 39.6 +0.1
BURAR **Bucovina Array** 144.57 332⇓*i*P **PKPab** 05 35 40.7 +0.4
BURAR **Bucovina Array** 144.57 332 ⇓PKIKP **PKPab** 05 35 40.7 +0.4
OJC **Ojcow** 144.59 340 *e*PKP **PKPab** 05 35 40.0 -0.2
OJC **Ojcow** 144.59 340 *e*PKPdf PKPbc 05 35 39.8 +0.5
OJC **Ojcow** 144.59 340 *e*PKIKP **PKPab** 05 35 40.0 -0.2
BR101 **Keskin Array S** 144.70 315 *e*PKPdf PKPbc 05 35 40.5 +0.3
BR131 **Keskin Array S** 144.70 315 *e*PKPdf PKPbc 05 35 40.3 +0.1
BRTR **Keskin Array B** 144.70 315 *e*PKPdf PKPbc 05 35 40.0 -0.2
BRTR **Keskin Array B** 144.70 315 *e*PKIKP PKPbc 05 35 40.0 -0.2
BRTR **Keskin Array B** 144.70 315 PKP PKPbc 05 35 40.5 +0.3
comp=Z,11nm,0.9s,baz=132,slow=3.7,SNR=45
TESR **Tescani** 144.71 329⇑*i*P **PKPab** 05 35 40.6 -0.2
KOLS **Kolonicke sedl** 144.77 336 *e*PKIKP **PKPab** 05 35 40.7 -0.2
KOLS **Kolonicke sedl** 144.77 336 *e*PKP **PKPab** 05 35 40.7 -0.2
CFR **Carcaliu** 144.88 326⇑*i*P **PKPab** 05 35 41.1 -0.3
CFR **Carcaliu** 144.88 326 ⇑PKIKP **PKPab** 05 35 41.1 -0.3
UZH **Uzhgorod** 145.01 336⇓*i*PKIKP **PKPab** 05 35 41.6 -0.2
UZH *e* 05 37 55.5
ODBI **Odobesti** 145.04 328⇓*i*P **PKPab** 05 35 42.6 +0.6
KSP **Ksiaz** 145.10 343 *e*PKP **PKPab** 05 35 42.1 0.0
KSP **Ksiaz** 145.10 343 *e*PKIKP **PKPab** 05 35 42.1 0.0
NIE **Niedzica** 145.10 338 *e*PKP **PKPab** 05 35 42.2 0.0
NIE **Niedzica** 145.10 338 *e*PKIKP **PKPab** 05 35 42.2 0.0
VRI **Vrincioaia** 145.13 329⇑*i*P **PKPab** 05 35 41.9 -0.5
VRI **Vrincioaia** 145.13 329 ⇑PKIKP **PKPab** 05 35 41.9 -0.5
PLOR **Plostina** 145.18 329⇑*i*P **PKPbc** 05 35 42.0 +0.7
PLOR **Plostina** 145.18 329 ⇑PKIKP **PKPbc** 05 35 42.0 +0.7
ANTO **Ankara** 145.20 315 *e*PKPdf **PKPdf** 05 35 40.5 +0.2
ANTO **Ankara** 145.20 315⇑*i*P **PKPab** 05 35 42.5 -0.5
ANTO **Ankara** 145.20 315 ⇑PKIKP **PKPab** 05 35 42.5 -0.5
BMR **Baia Mare** 145.28 334⇑*i*P **PKPab** 05 35 42.4 -0.5
BMR **Baia Mare** 145.28 334 ⇑PKIKP **PKPab** 05 35 42.4 -0.5
TRPA **Tarpa** 145.31 335⇑*i*P **PKPab** 05 35 42.4 -0.6
TLB **Topalu** 145.33 326⇑*i*P **PKPab** 05 35 42.5 -0.7
TLB **Topalu** 145.33 326 ⇑PKIKP **PKPab** 05 35 42.5 -0.7
ARCR **ARCALIA** 145.36 332⇑*i*P **PKPbc** 05 35 41.8 +0.1
OZUR 145.43 330⇓*i*P **PKPab** 05 35 43.3 -0.3
OKC **Ostrava-Krasne** 145.46 341 *e*PKIKP **PKPbc** 05 35 42.6 +0.7
OKC **Ostrava-Krasne** 145.46 341 *e*PKP **PKPbc** 05 35 42.6 +0.7
CLL **Collm** 145.46 347 *e*PKPdf **PKPbc** 05 35 41.6 -0.2
CLL **Collm** 145.46 347⇑*i*PKIKP **PKPbc** 05 35 42.3 +0.4
CLL pmax pmax
comp=Z,54nm,0.8s
CLL **Collm** 145.46 347 *e*PKPdf **PKPdf** 05 35 41.0 +0.7
CLL ⇑*i*PKPbc **PKPbc** 05 35 42.3 +0.4
comp=Z,54nm,0.8s
UPC **Upice** 145.48 344 *e*PKIKP **PKPab** 05 35 42.9 -0.7
UPC **Upice** 145.48 344 *e*PKP **PKPab** 05 35 42.9 -0.7
DPC **Dobruska-Polom** 145.54 343 *e*PKP2 **PKPab** 05 35 43.3 -0.6
DPC **Dobruska-Polom** 145.54 343 *e*PKP **PKPab** 05 35 43.3 -0.6
LANS **Liptovska Anna** 145.62 339 *e*PKP2 **PKPab** 05 35 43.9 -0.4
LANS **Liptovska Anna** 145.62 339 *e*PKP **PKPab** 05 35 43.9 -0.4
BRG **Berggiesshubel** 145.66 346 *e*PKP **PKPab** 05 35 44.0 -0.3
comp=Z,24nm,0.7s
BRG **Berggiesshubel** 145.66 346 *e*PKP2 **PKPab** 05 35 44.0 -0.3
BRG pmax pmax
comp=Z,24nm,0.7s
MORC **Moravsky Berou** 145.70 341 *e*PKPbc **PKPbc** 05 35 43.0 +0.4
MORC **Moravsky Berou** 145.70 341⇓*i*P **PKPbc** 05 35 43.6 +0.9
MORC **Moravsky Berou** 145.70 341 ⇓PKIKP **PKPbc** 05 35 43.6 +0.9
DOPR **Dopca** 145.71 330⇑*i*P **PKPab** 05 35 44.0 -0.7
ISR **Istrita** 145.75 328⇑*i*P **PKPab** 05 35 44.3 -0.6
ISR **Istrita** 145.75 328 ⇑PKP2 **PKPab** 05 35 44.3 -0.6
MLR **Muntele Rosu** 145.78 329 *e*PKPbc **PKPbc** 05 35 43.6 +0.5
MLR **Muntele Rosu** 145.78 329⇑*i*P **PKPbc** 05 35 43.9 +0.7
MLR **Muntele Rosu** 145.78 329 ⇑PKIKP **PKPbc** 05 35 43.9 +0.7
MBAR **Mbarara** 145.78 240 *e*PKPbc **PKPbc** 05 35 44.6 +0.5
KECS **Kecovo** 145.82 337 *e*PKP2 **PKPbc** 05 35 44.0 +1.0
KECS **Kecovo** 145.82 337 *e*PKP **PKPbc** 05 35 44.0 +1.0
PVCC **Panska Ves** 145.83 345 *e*PKIKP **PKPbc** 05 35 43.8 +0.9
PVCC **Panska Ves** 145.83 345 *e*PKP **PKPbc** 05 35 43.8 +0.9
MDUB **Mudurnu** 145.94 317 *e*PKPbc **PKPbc** 05 35 43.4 -0.3
CJR **Cluj-Napoca** 145.98 332⇑*i*P **PKPbc** 05 35 44.6 +1.0
CJR **Cluj-Napoca** 145.98 332 ⇑PKP2 **PKPbc** 05 35 44.6 +1.0
SECR 146.04 328⇑*i*P **PKPbc** 05 35 44.5 +0.8
VOIR 146.26 329⇑*i*P **PKPbc** 05 35 45.0 +0.6
VOIR 146.26 329 ⇑PKIKP **PKPbc** 05 35 45.0 +0.6
DRGR 146.30 333⇑*i*P **PKPbc** 05 35 45.6 +1.1
DRGR 146.30 333 ⇑PKP2 **PKPbc** 05 35 45.6 +1.1
PRU **Pruhonice** 146.34 345 *e*PKIKP **PKPbc** 05 35 45.0 +0.6
PRU **Pruhonice** 146.34 345 *e*PKP **PKPbc** 05 35 45.0 +0.6
GOPC **GO Pecny, Ondr** 146.34 344 *e*PKIKP **PKPbc** 05 35 45.0 +0.6
GOPC **GO Pecny, Ondr** 146.34 344 *e*PKP **PKPbc** 05 35 45.0 +0.6
VRAC **Vranov** 146.40 342⇑*i*P **PKPbc** 05 35 45.5 +0.9
VRAC **Vranov** 146.40 342 ⇑PKP2 **PKPbc** 05 35 45.5 +0.9
VYHS **Vyhne** 146.40 339 *e*PKP2 **PKPbc** 05 35 45.4 +0.8
VYHS **Vyhne** 146.40 339 *e*PKP **PKPbc** 05 35 45.4 +0.8
VYHS *e* 05 43 14.8
PSZ **Piszkesteto** 146.51 337 *e*PKPbc **PKPbc** 05 35 45.1 +0.2
PSZ **Piszkesteto** 146.51 337⇑*i*P **PKPbc** 05 35 45.7 +0.7
PSZ **Piszkesteto** 146.51 337 ⇑PKIKP **PKPbc** 05 35 45.7 +0.7
ARR **Arges** 146.51 330⇓*i*P **PKiKP** 05 35 46.6 -0.5
NKC **Novy Kostel** 146.59 347 *e*PKIKP **PKPbc** 05 35 45.8 +0.7
NKC **Novy Kostel** 146.59 347 *e*PKP **PKPbc** 05 35 45.8 +0.7
TREC **Trest** 146.72 343 *e*PKIKP **PKPbc** 05 35 46.0 +0.5
TREC **Trest** 146.72 343 *e*PKP **PKPbc** 05 35 46.0 +0.5
CSS **Mathiatis** 146.98 307 *e*PKPbc **PKPbc** 05 35 46.4 -0.2
MODS **Modra-Piesok** 147.02 340 *e*PKIKP **PKPbc** 05 35 46.6 +0.3
MODS **Modra-Piesok** 147.02 340 *e*PKP **PKPbc** 05 35 46.6 +0.3
SIRR **Siria** 147.16 334⇑*i*P **PKPbc** 05 35 47.4 +0.7
MEM **Membach** 147.20 355 ⇑PKP **PKPbc** 05 35 46.9 +0.3
ZST **Bratislava** 147.23 341 *e*PKIKP **PKPbc** 05 35 47.1 +0.3
ZST **Bratislava** 147.23 341 *e*PKP **PKPbc** 05 35 47.1 +0.3
GZR **Gura Zlata** 147.36 332⇑*i*P **PKPbc** 05 35 47.6 +0.3
GRA1 **Grafenberg Arr** 147.36 348 *e*PKPbc **PKPbc** 05 35 47.6 +0.5
GRFO **Grafenberg** 147.36 348 *e*PKPbc **PKPbc** 05 35 47.8 +0.7
KHC **Kasperske Hory** 147.37 345 *e*PKPdf **PKPdf** 05 35 43.9 +0.2
KHC *e*PKPbc **PKiKP** 05 35 48.1 -0.7
KHC **Kasperske Hory** 147.37 345 *e*PKIKP **PKPdf** 05 35 44.0 +0.9
KHC *e* 05 35 52.3
KHC **Kasperske Hory** 147.37 345 *e*PKP **PKPdf** 05 35 44.6 +0.9
KHC *ex* x 05 35 47.8
KHC *ex* x 05 35 52.3
SNF **Seneffe** 147.43 357 ⇑PKPbc **PKPbc** 05 35 47.6 +0.4
BCLA **Clavier** 147.45 355 ⇓PKPab **PKPab** 05 35 51.5 0.0
GEC2 **GERESS Array S** 147.61 345 *e*PKPbc **PKPbc** 05 35 48.2 +0.3
GERES **GERESS Array B** 147.61 345 *e*PKPdf **PKPdf** 05 35 44.2 0.0
GERES *e*PKPbc **PKPbc** 05 35 47.6 -0.3
GERES **GERESS Array B** 147.61 345 *e*PKIKP **PKPdf** 05 35 45.9 +1.8
GERES pmax pmax
comp=Z,15nm,0.7s
GERES **GERESS Array B** 147.61 345 PKPbc **PKPbc** 05 35 48.2 +0.3
comp=Z,15nm,0.7s,baz=29,slow=3.0,SNR=88
BZS **Buzias** 147.70 333⇑*i*P **PKPbc** 05 35 48.3 +0.3
BZS **Buzias** 147.70 333 ⇑PKIKP **PKPbc** 05 35 48.3 +0.3
SRE **Strehaia** 147.71 330⇓*i*P **PKiKP** 05 35 49.2 -0.3
SRE **Strehaia** 147.71 330 ⇓PKP2 **PKiKP** 05 35 49.2 -0.3
DOU **Dourbes** 147.82 356 ⇓*i*PKPbc **PKPbc** 05 35 48.5 +0.3
DOU ⇑PKPab **PKPab** 05 35 52.7 -0.3
CONA **Conrad Observa** 147.85 342 *i* PKiKP **PKiKP** 05 35 49.3 -0.5
comp=Z,17nm,0.8s,SNR=16
HERR **Herculane** 147.91 331⇑*i*P **PKPbc** 05 35 49.1 +0.5
WLF **Walferdange** 148.13 354 *e*PKPbc **PKiKP** 05 35 49.8 -0.4
WLF **Walferdange** 148.13 354 ⇓PKP **PKiKP** 05 35 50.2 0.0
MDVR **Moldovita** 148.31 332⇑*i*P **PKPbc** 05 35 50.1 +0.4
MOA **Molln** 148.38 343 *i* PKiKP **PKPbc** 05 35 50.1 +0.4
comp=Z,13nm,1.3s,SNR=5.3
ARSA **Arzberg** 148.56 341 *i* PKPbc **PKPbc** 05 35 50.3 +0.1
comp=Z,9.2nm,1.1s
MANT **Manisa** 148.72 316 *e*PKPbc **PKPbc** 05 35 51.6 +0.4
BFO **Black Forest** 149.17 351 *e*PKPbc **PKPbc** 05 35 51.7 +0.1
VTS **Vitosha** 149.21 328 *e*PKPbc **PKPbc** 05 35 52.5 +0.4
VTS **Vitosha** 149.21 328⇑*i*P **PKiKP** 05 35 52.8 -0.1
SOKA **Soboth** 149.22 342 *i* PKPbc **PKPbc** 05 35 51.7 -0.2
comp=Z,16nm,1.0s,SNR=6.4
PERS **Pernice** 149.23 341 *i* PKPbc **PKPbc** 05 35 51.7 -0.2
KBA **Koelnbreinsper** 149.33 344 *i* PKPbc **PKPbc** 05 35 51.8 -0.4
comp=Z,14nm,0.7s,SNR=7.5
EZN **Ezine** 149.36 321⇑*i*P **PKPbc** 05 35 52.6 +0.3
OBKA **Obir** 149.52 342 *e*PKPbc **PKPbc** 05 35 52.1 -0.5
comp=Z,6.7nm,0.7s
WATA **Walderalm** 149.52 346 *i* PKPbc **PKPbc** 05 35 52.4 -0.2
comp=Z,11nm,0.6s,SNR=5.3
RETA **Reutte** 149.56 347 *i* PKiKP **PKPbc** 05 35 52.8 +0.2
comp=Z,9.8nm,0.6s
WTTA **Wattenberg** 149.58 346 *i* PKiKP **PKPbc** 05 35 53.1 +0.3
comp=Z,32nm,0.6s,SNR=13
MOTA **Moosalm** 149.62 347 *i* PKPbc **PKPbc** 05 35 52.9 0.0
comp=Z,20nm,0.8s,SNR=9.4
MYKA **Terra Mystica** 149.66 343 *i* PKPbc **PKPbc** 05 35 52.5 -0.4
comp=Z,16nm,0.6s,SNR=7.7
SQTA **Sankt Quirin** 149.71 347 *i* PKiKP **PKPbc** 05 35 53.3 +0.2
comp=Z,23nm,0.6s,SNR=9.2
ABTA **Abfaltersbach** 149.85 345 *i* PKPbc **PKPbc** 05 35 53.1 -0.3
comp=Z,32nm,0.7s,SNR=11
DAVA **Damuels** 149.92 348 *i* PKiKP **PKPbc** 05 35 53.8 +0.2
comp=Z,25nm,0.9s,SNR=6.7
CLF **Chambon-Foret** 149.99 359 *e*PKPbc **PKiKP** 05 35 54.3 +0.3
FETA **Feichten** 150.00 347 *i* PKiKP **PKiKP** 05 35 54.2 -0.2
comp=Z,20nm,0.7s,SNR=8.0
VISS **Visnje** 150.06 341 *i* PKPbc **PKiKP** 05 35 54.2 -0.1
BLY **Banja Luka** 150.19 337 *e*PKPbc **PKPbc** 05 35 54.9 +0.9
BLY **Banja Luka** 150.19 337⇓*i*P **PKPbc** 05 35 55.0 +0.9
BOJS **Bojanci** 150.20 340 *i* PKPbc **PKPbc** 05 35 54.7 +0.6
JAVS **Javornik** 150.22 342 *i* PKPbc **PKPbc** 05 35 54.2 0.0
FUORN **Ofenpass-Fuorn** 150.48 348 *e*PKPbc **PKPbc** 05 35 55.5 +0.5
TUE **Stuetta** 150.81 349 *e*PKPbc **PKiKP** 05 35 56.0 -0.1
SENIN **Lac Senin/Sane** 151.25 352 *e*PKPbc **PKPbc** 05 35 57.1 +0.4
PDG **Podgorica** 151.26 332⇑*i*P **PKPbc** 05 35 56.7 +0.1
FNA **Florina** 151.49 327 *e*PKPbc **PKPbc** 05 35 56.6 -0.7
ESDC **Sonseca Array** 157.84 11 *e*PKPdf **PKPdf** 05 36 00.2 +1.1
ESDC *e*PKPab **PKPab** 05 36 35.7 -0.3
ESDC **Sonseca Array** 157.84 11 PKPab **PKPab** 05 36 35.7 -0.3
comp=Z,2.3nm,0.8s,baz=332,slow=6.1,SNR=5.3
DBIC **Dimbokro** 167.22 151 *e*PKPdf **PKPdf** 05 36 08.0 -0.7
DBIC **Dimbokro** 167.22 151 *e*PKIKP **PKPdf** 05 36 08.0 -0.7
DBIC **Dimbokro** 167.22 151 PKP **PKPdf** 05 36 07.1 -1.6
comp=Z,5.1nm,0.8s,baz=212,slow=2.5,SNR=6.0
TORD **Torodi Ar. Bea** 175.23 183 PKP **PKPdf** 05 36 11.0 -1.7
comp=Z,2.7nm,1.0s,baz=291,slow=2.0,SNR=11
TORD PKPab **PKPab** 05 37 51.9 -1.3
comp=Z,0.2nm,0.4s,baz=188,slow=5.4,SNR=5.4
TOA1 **Torodi Ar. Sit** 175.23 183 *e*PKPdf **PKPdf** 05 36 11.0 -1.7
TOA1 *e*PKPab **PKPab** 05 37 51.9 -1.3

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*IDC **18** 05:35:33.3±11.0, 19°.39S×177°.06W, h344km±102km, mb3.3/5, mb1 3.4/6, mb1mx3.2/38, mbtmp4.1/6, Error ellipse: s-maj=64.6km s-min=22.9km az=37.0*

ISC 18 05:35:34.0±1.8, 19°.55±0°.2×177°.1W±0°.3, h351km, n8, σ1°26/9, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.41 194**		P	**P**	**05 39 35.5**	**-0.1**
	1.4nm,0.3s,baz=291,slow=2.7,SNR=8.5						
URZ				S	**S**	**05 42 53.9**	**-1.0**
	0.2nm,0.3s,baz=0.0,slow=16,SNR=2.1						
CTA	**Charters Tower**	**34.50 263**		P	**P**	**05 41 51.5**	**+1.1**
	1.4nm,0.4s,baz=90,slow=13,SNR=2.7						
STKA	**Stephens Creek**	**39.05 243**		P	**P**	**05 42 28.3**	**0.0**
	1.5nm,0.6s,baz=80,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**45.63 256**		P	**P**	**05 43 20.6**	**-0.4**
	3.1nm,0.8s,baz=96,slow=7.8,SNR=33						
WRA	**Warramunga Arr**	**45.64 261**		P	**P**	**05 43 20.4**	**-0.7**
	1.7nm,0.8s,baz=96,slow=7.6,SNR=23						
VNDA	**Vanda**	**59.02 185**		P	**P**	**05 44 58.4**	**+1.0**
	0.4nm,0.6s,baz=39,slow=6.5,SNR=4.0						
BRTR	**Keskin Array B**	**146.79 314**		PKPbc	**PKPbc**	**05 54 33.4**	**-2.2**
	0.5nm,0.6s,baz=63,slow=3.5,SNR=3.4						
GERES	**GERESS Array B**	**149.43 346**		PKPbc	**PKPbc**	**05 54 42.9**	**+0.9**
	0.6nm,0.7s,baz=114,slow=1.2,SNR=4.8						

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*IDC **18** 05:42:52.8±1.1, 29°.93N×88°.08E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.5/54, mbtmp3.7/9, MS4.3/2, Ms1 4.3/2, ms1mx3.4/44, Error ellipse: s-maj=47.5km s-min=23.1km az=54.0*

*ISCJB **18** 05:42:56.6±1.0, 30°.0N±0°.2×88°.0E±0°.3, h37km, mb3.7/8, MS4.2/2, Error ellipse: s-maj=38.3km s-min=20.0km az=153.6*

ISC 18 05:42:58.4±1.2, 30°.0N±0°.2×88°.1E±0°.3, h37km, n11, σ0°36/9, mb3.8/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.38 347**		P	**Pn**	**05 46 58.1**	**+0.1**
	baz=153,slow=13,SNR=5.5						
KURBB	**Kurchatov Arra**	**21.83 343**		P	**P**	**05 47 47.4**	**0.0**
	2.6nm,0.7s,baz=158,slow=11,SNR=12						
GEYT	**Alibeck**	**26.01 296**		LR	LR	05 59 09.5	
	comp=Z,1μm,21.7s,baz=35,slow=38						
WSAR	**Wadi Sarin**	**27.13 263**		LR	LR	05 59 29.1	
	comp=Z,491nm,21.2s,baz=184,slow=37						
AKASG	**Malin Array Be**	**48.01 313**		P	**P**	**05 51 33.3**	**-0.3**
	1.1nm,0.5s,baz=82,slow=6.6,SNR=8.9						
FINES	**FINESS Array B**	**50.82 327**

MTP	**Monte Pirata**	**1.41 147**	*e*S	Sn	05 45 09.5	-0.6
MTP	**Monte Pirata**	**1.41 147**	*e*Pn	Pn	05 44 52.4	+0.2
STVI	**Saint Thomas**	**1.62 125**	⇓*e*P	Pn	05 44 54.4	-0.6
STVI	**Saint Thomas**	**1.62 125**	*e*S	Sn	05 45 14.5	-0.6
STVI	**Saint Thomas**	**1.62 125**	*e*Pn	Pn	05 44 54.2	-0.8
SDDR	**Presa de Saban**	**4.67 267**	*e*Pn	Pn	05 45 37.8	+1.3

NIED ***18*** *05:47:00, 37.°70N×141.°60E, h50km, Mw6.0 Best double couple: M0 1.10000×10^18 NP1:φs192.00000°, δ24.00000°, λ80.00000°. NP2:φs23.00000°, δ66.00000°, λ94.00000°.*
BJI ***18*** *05:47:55.2±0.0, 37.°67N×141.°68E, h35km, mb6.0/77, mB5.9/53, Ms5.8/91, Ms7 5.7/83*
MOS ***18*** *05:47:58.3±0.8, 37.°88N×141.°50E, h36km, mb6.3/162, MS5.8/61, Error ellipse: s-maj=5.4km s-min=2.9km az=107.4*
NEIC ***18*** *05:47:59.5±1.6, 37.°74N×141.°47E, h39km, mb6.1/347, ME6.0, MS5.5/665, MW5.9, MW6.0, MW6.0, Error ellipse: s-maj=11.3km s-min=10.3km az=181.0, Moment Tensor Solution. s101 Moment tensor: Scale 10^17Nm; Mrr5.95; Mθθ-1.68; Mφφ-4.27; Mrθ3.04; Mrφ-1.52; Mθφ5.08; Best double couple: M0 8.10000×10^17 NP1:φs202.00000°, δ21.00000°, λ84.00000°. NP2:φs29.00000°, δ69.00000°, λ92.00000°. Principal axes: T 8.5600, Plg66.0000°, Azm303.0000°; N -1.0100, Plg2.0000°, Azm208.0000°; P -7.5500, Plg24.0000°, Azm117.0000°; Broadband fault plane solution: P waves. NP1:φs205.00000°, δ20.00000°, λ90.00000°. NP2:φs25.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm295.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm115.0000°; Apparent Stress 1.27 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC *Felt [IV] at Hitachi and Koriyama and in Sendai; [III] at Narita, Tokyo and Yokosuka and in Chiba, Utsunomiya and Yokohama. Felt in many parts of northern and east-central Honshu. Recorded [5U JMA] in Miyagi.*
JMA ***18*** *05:47:59.7, 37.°71N×141.°63E, h46km±1km, M6.0 Broadband fault plane solution: P waves. NP1: φs14.00000°, δ58.00000°, λ86.00000°. NP2:φs202.00000°, δ32.00000°, λ97.00000°. Principal axes: T Plg76.0000°, Azm271.0000°; N Plg4.0000°, Azm16.0000°; P Plg13.0000°, Azm107.0000°;*
NEIC ***18*** *05:48:00.0±0.0, 37.°76N×141.°71E, h60km Best double couple: NP1:φs27.00000°, δ73.00000°, λ94.00000°. NP2:φs195.00000°, δ18.00000°, λ78.00000°. Principal axes: T 1.3400, Plg62.0000°, Azm302.0000°; N 0.0300, Plg3.0000°, Azm206.0000°; P -1.3800, Plg27.0000°, Azm114.0000°;*
ISCJB ***18*** *05:48:00.2±0.2, 37.°71N±0.°01×141.°49E±0.°01, h57km±1km, mb6.1/532, MS5.6/697 Error ellipse: s-maj=2.3km s-min=1.6km az=137.3*
IDC ***18*** *05:48:01.1±1.6, 37.°74N×141.°51E, h52km±14km, mb5.6/44, mb1 5.7/51, mb1mx5.7/53, mbtmp5.9/51, ML4.7/7, MS5.6/44, Ms1 5.6/44, ms1mx5.6/46, Error ellipse: s-maj=10.0km s-min=8.0km az=90.0*
GCMT ***18*** *05:48:02.5±0.1, 37.°71N×141.°72E, h50km, MW6.0/135, Moment Tensor Solution. s129, c289; s135, c429; Duration: 2±5 Moment tensor: Scale 10^18Nm; Mrr1.00±.01; Mθθ-0.14±.01; Mφφ-0.85±.01; Mrθ0.35±.01; Mrφ-0.36±.01; Mθφ0.82±.01; Best double couple: M0 1.34100×10^18 NP1:φs23.00000°, δ66.00000°, λ90.00000°. NP2:φs202.00000°, δ24.00000°, λ90.00000°. Principal axes: T 1.3400, Plg69.0000°, Azm293.0000°; N 0.0030, Plg0.0000°, Azm203.0000°; P -1.3430, Plg21.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***18*** *05:48:18.2±0.0, 37.°80N×142.°07E, h66km, Moment Tensor Solution. s17 Moment tensor: Scale 10^18Nm; Mrr1.08; Mθθ-0.22; Mφφ-0.86; Mrθ0.26; Mrφ-0.53; Mθφ0.73; Best double couple: M0 1.40000×10^18 NP1:φs215.00000°, δ28.00000°, λ100.00000°. NP2:φs24.00000°, δ62.00000°, λ85.00000°. Principal axes: T 1.3200, Plg72.0000°, Azm281.0000°; N 0.0700, Plg5.0000°, Azm26.0000°; P -1.3900, Plg17.0000°, Azm118.0000°;*

ISC 18 05:48:00.0±0.2, 37.76N±0.°02×141.57E±0.°03, h46km±1km, h45km; pP-P, n2532, σ1§40/2442, mb6.1/578, MS5.6/728, 314C-76D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
JIKH	**Ishinomakikobu**	**0.56**	**352**	P	**Pn**	**05 48 12.2**		**+0.5**
JIKH				S	**Sn**	**05 48 20.9**		**+0.9**
JMM	**Marumori**	**0.62**	**280**	⇓P	**Pn**	**05 48 13.1**		**+0.6**
JMM				S	**Sn**	**05 48 22.6**		**+1.1**
JFK	**Kawauchi**	**0.68**	**235**	⇓P	**Pn**	**05 48 13.1**		**-0.2**
JFK				S	**Sn**	**05 48 22.4**		**-0.5**
JIO	**Ouri**	**0.71**	**346**	⇓P	**Pn**	**05 48 14.4**		**+0.6**
JIO				S	**Sn**	**05 48 24.6**		**+0.9**
ONAJ	**Iwakimizuishiy**	**0.90**	**223**	P	**Pn**	**05 48 15.8**		**-0.5**
ONAJ				*e*S	**Sn**	**05 48 27.3**		**-0.9**
JOU	**Okura**	**0.93**	**311**	⇓P	**Pn**	**05 48 17.4**		**+0.6**
JOU				S	**Sn**	**05 48 30.7**		**+1.7**
JOFO	**Osakifurukawao**	**0.99**	**329**	P	**Pn**	**05 48 18.6**		**+1.2**
JOFO				S	**Sn**	**05 48 32.3**		**+2.1**
JFT	**Otama**	**1.01**	**256**	⇓P	**Pn**	**05 48 18.7**		**+1.0**
JFT				S	**Sn**	**05 48 32.2**		**+1.4**
JFFD	**Fukushimafurud**	**1.04**	**230**	⇓P	**Pn**	**05 48 18.1**		**-0.1**
JKMT	**Kesennumamotoy**	**1.05**	**356**	P	**Pn**	**05 48 18.9**		**+0.6**
JKMT				S	**Sn**	**05 48 32.3**		**+0.5**
JYAR	**Yonezawaarcadi**	**1.14**	**278**	P	**Pn**	**05 48 20.1**		**+0.6**
JMK	**Ichinoseki**	**1.22**	**347**	⇓P	**Pn**	**05 48 21.6**		**+1.0**
JMK				S	**Sn**	**05 48 37.3**		**+1.3**
JYS	**Shirataka**	**1.27**	**292**	⇓P	**Pn**	**05 48 22.4**		**+1.1**
JYS				*e*S	**Sn**	**05 48 39.1**		**+1.8**
JYK	**Kaneyama**	**1.50**	**321**	⇓P	**Pn**	**05 48 25.6**		**+1.2**
JFY	**Yanaizu**	**1.52**	**257**	⇓P	**Pn**	**05 48 25.6**		**+0.8**
JSB	**Shiboa**	**1.53**	**239**	⇓P	**Pn**	**05 48 25.8**		**+0.9**
JYA	**Atsumi**	**1.68**	**300**	⇓P	**Pn**	**05 48 28.2**		**+1.3**
JOM	**Ohasama**	**1.72**	**353**	⇓P	**Pn**	**05 48 28.6**		**+1.1**
JNS	**Sasagawa**	**1.78**	**273**	⇓P	**Pn**	**05 48 29.6**		**+1.3**
JRG	**Rokugo**	**1.79**	**336**	⇓P	**Pn**	**05 48 30.1**		**+1.7**
JYYZ	**Yamagatayuza**	**1.80**	**315**	P	**Pn**	**05 48 30.5**		**+2.0**
MIYJ	**Miyakonagasawa**	**1.82**	**6**	⇓P	**Pn**	**05 48 29.3**		**+0.4**
JAW	**Awa shima**	**1.96**	**292**	⇓P	**Pn**	**05 48 31.8**		**+1.1**
JSZI	**Iwateshizukuis**	**2.04**	**347**	⇓P	**Pn**	**05 48 33.3**		**+1.5**
JYW	**Yuwa**	**2.07**	**330**	⇓P	**Pn**	**05 48 34.2**		**+1.9**
JHK	**Hiroka**	**2.09**	**257**	⇓P	**Pn**	**05 48 33.5**		**+1.0**
JKT	**Katashina**	**2.10**	**242**	⇓P	**Pn**	**05 48 34.3**		**+1.6**
JTB	**Tobi-shima**	**2.13**	**313**	⇓P	**Pn**	**05 48 34.1**		**+1.0**
JAG	**Ashikaga**	**2.15**	**232**	⇓P	**Pn**	**05 48 33.9**		**+0.5**
JTH	**Tanohata**	**2.19**	**6**	⇓P	**Pn**	**05 48 34.4**		**+0.5**
JKZ	**Kuzumaki**	**2.23**	**355**	⇓P	**Pn**	**05 48 35.6**		**+1.1**
JIZZ	**Izumozaki**	**2.28**	**265**	⇓P	**Pn**	**05 48 37.1**		**+2.0**
JKEN	**Kujiedanarisaw**	**2.44**	**3**	P	**Pn**	**05 48 38.3**		**+0.9**
JAH	**Hinai**	**2.53**	**344**	⇓P	**Pn**	**05 48 40.8**		**+2.2**
JANG	**Nango**	**2.61**	**359**	⇓P	**Pn**	**05 48 40.4**		**+0.7**
JGK	**Kuni**	**2.63**	**244**	⇓P	**Pn**	**05 48 41.7**		**+1.8**
JSD	**Sado**	**2.63**	**277**	⇓P	**Pn**	**05 48 40.4**		**+0.5**
JNTW	**Noshirotokiwa**	**2.74**	**337**	P	**Pn**	**05 48 43.7**		**+2.3**
JRY	**Ryogami san**	**2.75**	**232**	⇓P	**Pn**	**05 48 42.1**		**+0.4**
JJN	**Nakama**	**2.79**	**257**	⇓P	**Pn**	**05 48 43.7**		**+1.6**
JOG3	**Oga3**	**2.90**	**319**	P	**Pn**	**05 48 40.4**		**-3.2**
MJAR	**Matsushiro Arr**	**2.94**	**247**	*e*Pn	**Pn**	**05 48 45.4**		**+1.1**
MJAR	**Matsushiro Arr**	**2.94**	**247**	*e*P	**Pn**	**05 48 45.4**		**+1.1**
MJAR	**Matsushiro Arr**	**2.94**	**247**	P	**Pn**	**05 48 45.9**		**+1.6**
	33nm,0.3s,baz=75,slow=14,SNR=1412							
MJAR				LR	LR	05 50 12.7		
	comp=Z,170μm,21.2s,baz=70,slow=46							
MAJO	**Matsushiro**	**2.95**	**247**	*e*Pn	**Pn**	**05 48 46.3**		**+2.0**
MAJO	**Matsushiro**	**2.95**	**247**	*d i*P	**Pn**	**05 48 46.1**		**+1.8**
MAT	**Matsushiro**	**2.95**	**247**	P	**Pn**	**05 48 46.4**		**+2.1**
MAT				S	**Sn**	**05 49 19.9**		**+1.4**
MAT	**Matsushiro**	**2.95**	**247**	P	**Pn**	**05 48 46.0**		**+1.7**
MJB9	**Matsu-Tunnel**	**2.95**	**247**	*e*Pn	**Pn**	**05 48 46.3**		**+2.0**
JHHS	**Hirosakihyakuz**	**3.04**	**342**	P	**Pn**	**05 48 48.2**		**+2.7**
JTM	**Tenmabayashi**	**3.05**	**353**	⇓P	**Pn**	**05 48 47.4**		**+1.7**
JIW	**Iwasaki**	**3.08**	**337**	⇓P	**Pn**	**05 48 48.0**		**+1.9**
JNG	**Nsakai**	**3.08**	**245**	⇓P	**Pn**	**05 48 48.0**		**+1.7**
BSO1	**Boso 1**	**3.14**	**189**	P	**Pn**	**05 48 46.6**		**+0.2**
JOD2	**Odawara 2**	**3.19**	**219**	⇑P	**Pn**	**05 48 48.3**		**+0.6**
JYN	**Shimob**	**3.32**	**228**	P	**Pn**	**05 48 50.6**		**+1.1**
JNT	**Takato**	**3.33**	**237**	⇓P	**Pn**	**05 48 51.6**		**+1.9**
JSZ	**Suzu**	**3.35**	**266**	P	**Pn**	**05 48 50.7**		**+0.9**
JSI2	**Shiura 2**	**3.41**	**345**	⇓P	**Pn**	**05 48 52.9**		**+2.2**
JHG	**Hegura jima**	**3.68**	**273**	⇓P	**Pn**	**05 48 55.4**		**+1.1**
JGN	**Niukaw**	**3.73**	**247**	⇓P	**Pn**	**05 48 57.2**		**+2.0**
JNY	**Yasuok**	**3.83**	**232**	P	**Pn**	**05 48 58.9**		**+2.5**
JSR	**Shiriuchi**	**3.87**	**347**	⇑P	**Pn**	**05 48 59.4**		**+2.5**
JJH	**Hakui**	**3.90**	**259**	⇓P	**Pn**	**05 48 58.7**		**+1.3**
JGF	**Kuroka**	**4.01**	**239**	⇓P	**Pn**	**05 49 01.1**		**+2.1**
JKB	**Kayabe**	**4.14**	**354**	P	**Pn**	**05 49 02.0**		**+1.3**
JYZW	**Yoshizawa**	**4.14**	**229**	P	**Pn**	**05 49 02.2**		**+1.5**
HMMJ	**Hamamatsu 2**	**4.25**	**228**	⇓P	**Pn**	**05 49 03.8**		**+1.6**
JAO	**Obara**	**4.27**	**236**	⇓P	**Pn**	**05 49 04.8**		**+2.3**
INU	**Inuyama**	**4.38**	**238**	*e*Pn	**Pn**	**05 49 06.2**		**+2.2**
ERM	**Erimo**	**4.42**	**16**	*e*Pn	**Pn**	**05 49 04.8**		**+0.3**
ERM	**Erimo**	**4.42**	**16**	*ce*P	**Pn**	**05 49 04.4**		**-0.1**
ERM				pmax	pmax			
	comp=Z,621nm,0.7s							
JKG	**Kaga**	**4.44**	**252**	P	**Pn**	**05 49 07.9**		**+3.1**
JYTA	**Yamagatataniai**	**4.44**	**242**	P	**Pn**	**05 49 07.4**		**+2.6**
JYM2	**Yakumo 2**	**4.45**	**348**	⇑P	**Pn**	**05 49 06.9**		**+2.0**
JTHR	**Tokachihiroo**	**4.72**	**16**	⇑P	**Pn**	**05 49 08.6**		**0.0**
JAA	**Atsumi**	**4.75**	**230**	P	**Pn**	**05 49 10.8**		**+1.8**
JHJ2	**Mitsune**	**4.85**	**198**	*e*Pn	**Pn**	**05 49 10.3**		**-0.2**
JHJ2	**Mitsune**	**4.85**	**198**	P	**Pn**	**05 49 09.8**		**-0.7**
JHJ	**Hachijo jima 2**	**4.85**	**198**	P	**Pn**	**05 49 10.3**		**-0.2**
	comp=Z,344nm,0.3s,baz=12,slow=2.9,SNR=46							
JHJ				S	**Sn**	**05 50 03.3**		**-2.1**
	comp=Z,1μm,0.3s,baz=236,slow=22,SNR=15							
JHJ				LR	LR	05 51 26.9		
	comp=Z,52μm,20.6s,baz=22,slow=43							
JFM	**Mihama**	**5.01**	**245**	⇓P	**Pn**	**05 49 15.6**		**+3.0**
JCH	**Churui**	**5.04**	**15**	⇑P	**Pn**	**05 49 12.8**		**-0.2**
JOB	**Onbets**	**5.42**	**18**	⇑P	**Pn**	**05 49 17.7**		**-0.5**
JKN2	**Miekihoku**	**5.54**	**232**	P	**Pn**	**05 49 21.2**		**+1.2**
JWT	**Wachi**	**5.55**	**245**	⇓P	**Pn**	**05 49 22.7**		**+2.7**
JKY	**Yasaka**	**5.61**	**250**	⇓P	**Pn**	**05 49 23.8**		**+2.9**
JAR	**Ashorobuto**	**5.78**	**16**	⇑P	**Pn**	**05 49 22.2**		**-0.9**
JKS	**Kasai**	**6.09**	**245**	⇓P	**Pn**	**05 49 29.9**		**+2.5**
JKK2	**Kamakawa 2**	**6.17**	**8**	⇑P	**Pn**	**05 49 28.7**		**+0.2**
ASAJ	**Asahikawa**	**6.40**	**7**	P	**Pn**	**05 49 31.7**		**+0.1**
	comp=Z,62nm,0.3s,baz=220,slow=11,SNR=66							
ASAJ				S	**Sn**	**05 50 44.8**		**+1.5**
	comp=Z,54nm,0.3s,baz=146,slow=30,SNR=6.8							
NEM2	**Nemuro 2**	**6.44**	**28**	⇓P	**Pn**	**05 49 30.4**		**-1.8**
JAD	**Aida**	**6.60**	**247**	P	**Pn**	**05 49 36.9**		**+2.5**
JKR	**Kurayoshi**	**6.67**	**251**	P	**Pn**	**05 49 39.2**		**+3.8**
GRPR	**Tuman**	**6.99**	**26**	⇓*i*P	**Pn**	**05 49 39.0**		**-0.8**
GRPR				*i* S	**Sn**	**05 50 53.5**		**-4.4**
GRPR				pmax	pmax			
	comp=Z,1μm,0.4s							
GRPR				pmax	pmax			
	comp=E,777nm,0.3s							
GRPR				pmax	pmax			
	comp=N,1μm,0.5s							
GRPR				MLR	MLR			
	comp=N,48μm,13.0s							
GRPR				MLR	MLR			
	comp=E,15μm,10.0s							
LAGR	**Lagunnoye**	**7.05**	**26**	⇓*i*P	**Pn**	**05 49 40.1**		**-0.5**
LAGR				*i* S	**Sn**	**05 50 54.3**		**-5.1**
LAGR				pmax	pmax			
	comp=E,1μm,0.4s							
LAGR				pmax	pmax			
	comp=Z,3μm,0.4s							
LAGR				pmax	pmax			
	comp=N,596nm,0.2s							
LAGR				MLR	MLR			
	comp=Z,15μm,15.0s							
YUK	**Yuzh-Kuril'sk**	**7.06**	**26**	⇑*i*P	**Pn**	**05 49 39.7**		**-1.0**
YUK				*i* S	**Sn**	**05 50 54.2**		**-5.4**
YUK				pmax	pmax			
	comp=Z,2μm,0.6s							
YUK				pmax	pmax			
	comp=E,737nm,0.2s							
YUK				MLR	MLR			
	comp=E,11μm,13.0s							
JNM	**Ikuma**	**7.23**	**254**	P	**Pn**	**05 49 46.7**		**+3.7**
JHS	**Saijyo**	**7.35**	**251**	⇑P	**Pn**	**05 49 48.0**		**+3.2**
TEY	**Ternei**	**8.17**	**334**	⇑*e*P	**Pn**	**05 49 59.9**		**+4.0**
TEY				*e*S	**Sn**	**05 51 34.1**		**+7.3**
TEY				pmax	pmax			
	comp=E,90nm,1.1s							
TEY				pmax	pmax			
	comp=N,140nm,1.2s							
TEY				pmax	pmax			
	comp=Z,190nm,2.6s							
TEY				smax	smax			
	comp=E,270nm,0.8s							
TEY				smax	smax			
	comp=N,320nm,0.8s							
TEY				MLR	MLR			
	comp=N,34μm,17.0s							
TEY				MLR	MLR			
	comp=E,28μm,17.0s							
UWA2	**Uwa jima 2**	**8.59**	**241**	P	**Pn**	**05 50 03.8**		**+2.1**
JTO	**Tosashimizu**	**8.67**	**238**	P	**Pn**	**05 50 04.3**		**+1.5**
JKD	**Kudamatsu**	**8.69**	**248**	P	**Pn**	**05 50 07.7**		**+4.6**
KUR	**Kuril'sk**	**8.83**	**30**	⇓*e*P	**Pn**	**05 50 04.3**		**-0.7**
KUR				*i* S	**Sn**	**05 51 38.4**		**-4.7**
KUR				pmax	pmax			
	comp=Z,2μm,1.2s							
KUR				pmax	pmax			
	comp=E,468nm,0.6s							
KUR				pmax	pmax			
	comp=Z,705nm,0.6s							
KUR				pmax	pmax			
	comp=E,76nm,0.4s							
KUR				smax	smax			
	comp=N,3μm,0.6s							
KUR				smax	smax			
	comp=E,2μm,0.6s							
KUR				smax	smax			
	comp=N,12μm,1.2s							
KUR				smax	smax			
	comp=E,7μm,0.9s							
KUR				MLR	MLR			
	comp=Z,20μm,18.0s							
KUR				MLR	MLR			
	comp=E,15μm,21.0s							
KUR				MLR	MLR			
	comp=N,16μm,15.0s							
VLA	**Vladivostok**	**9.12**	**309**	*c i*P	**Pn**	**05 50 10.6**		**+1.8**
YSS	**Yuzh-Sakhalins**	**9.23**	**5**	*e*Pn	**Pn**	**05 50 09.8**		**-0.6**
YSS	**Yuzh-Sakhalins**	**9.23**	**5**	⇑*i*P	**Pn**	**05 50 10.3**		**-0.1**
YSS				*e*S	**Sn**	**05 51 51.5**		**-1.3**
YSS				pmax	pmax			
	comp=N,400nm,0.8s							
YSS				pmax	pmax			
	comp=Z,530nm,0.8s							
YSS				pmax	pmax			
	comp=E,130nm,0.6s							
YSS				MLR	MLR			
	comp=Z,9μm,16.0s							
YSS				MLR	MLR			
	comp=N,13μm,15.0s							
MSHR	**Mys Shultsa**	**9.31**	**304**	*ce*P	**Pn**	**05 50 12.6**		**+1.1**
USRK	**Ussuriysk Ar.**	**9.68**	**315**	P	**Pn**	**05 50 18.8**		**+2.2**
	comp=N,29nm,0.3s,baz=108,slow=6.2,SNR=124							
USRK				LR	LR	05 53 53.3		
	comp=N,67μm,18.8s,baz=119,slow=36							
JNU	**Nakatsue**	**9.87**	**245**	*e*Pn	**Pn**	**05 50 20.9**		**+1.6**
JNU	**Nakatsue**	**9.87**	**245**	P	**Pn**	**05 50 21.2**		**+1.9**
	comp=N,9.5nm,0.3s,baz=70,slow=5.6,SNR=81							
JNU				LR	LR	05 54 34.5		
	comp=N,77μm,20.1s,baz=58,slow=40							
KSRS	**Korea Array**	**10.83**	**273**	P	**Pn**	**05 50 36.2**		**+3.9**
	comp=N,10nm,0.3s,baz=84,slow=15,SNR=175							
KSRS				LR	LR	05 54 39.4		
	comp=N,45μm,19.0s,baz=77,slow=37							
KS15	**Wonju Array Si**	**10.86**	**273**	*e*Pn	**Pn**	**05 50 36.3**		**+3.5**
KSAR	**Wonju Array Be**	**10.86**	**273**	*e*Pn	**Pn**	**05 50 35.3**		**+2.5**
UGL	**Uglegorsk**	**11.32**	**2**	*e*P	**Pn**	**05 50 39.8**		**+0.9**
UGL				S	**Sn**	**05 52 41.8**		**-2.1**
UGL				pmax	pmax			
	comp=Z,168nm,1.0s							
UGL				pmax	pmax			
	comp=Z,2μm,3.6s							
UGL				MLR	MLR			
	comp=N,13μm,16.0s							
MDJ	**Mudanjiang**	**11.32**	**311**	P	**Pn**	**05 50 41.3**		**+2.3**
MDJ				S	**Sn**	**05 52 49.9**		**+5.9**
MDJ				pmax	pmax			
	comp=N,40nm,0.8s							
MDJ				pmax	pmax			
	comp=N,4μm,3.1s							
MDJ				LR	LR			
	comp=N,26μm,17.1s							
MDJ				LR	LR			
	comp=N,40μm,17.5s							
MDJ				LR	LR			
	comp=N,70μm,19.9s							
MDJ	**Mudanjiang**	**11.32**	**311**	*e*Pn	**Pn**	**05 50 43.3**		**+4.3**
TYV	**Tymovskoe**	**13.12**	**3**	*e*P	**Pn**	**05 51 02.8**		**-0.8**
TYV				*e*S	**Sn**	**05 53 28.0**		**0.0**
TYV				pmax	pmax			
	comp=Z,92nm,1.1s							
TYV				pmax	pmax			
	comp=Z,900nm,4.2s							
TYV				smax	smax			
	comp=E,51nm,1.6s							
TYV				smax	smax			
	comp=E,2μm,5.5s							
KLR	**Kul'dur**	**13.48**	**331**	⇑*e*P	**Pn**	**05 51 07.3**		**-1.2**
KLR				pmax	pmax			
	comp=Z,36nm,1.3s							
KLR				MLR	MLR			
	comp=Z,39μm,19.0s							
KLR	**Kul'dur**	**13.48**	**331**	P	**Pn**	**05 51 08.6**		**0.0**
	comp=Z,2.0nm,0.3s,baz=147,slow=9.0,SNR=45							
KLR				LR	LR	05 56 26.0		
	comp=Z,38μm,18.6s,baz=144,slow=37							
GRNR	**Gornyy**	**13.51**	**346**	*e*P	**Pn**	**05 51 09.1**		**+0.2**
GRNR				pmax	pmax			
	comp=Z,25nm,1.0s							
CN2	**Changchun**	**13.62**	**301**	*e*P	**Pn**	**05 51 10.8**		**+0.4**
CN2				*e*pP	P	05 51 19.3		+1.1
CN2				*e*S	**Sn**	**05 53 47.6**		**+7.5**
CN2				pmax	pmax			
	comp=Z,100nm,1.2s							
CN2				pmax	pmax			
	comp=Z,960nm,3.0s							
CN2				LR	LR			
	comp=Z,13μm,17.0s							
CN2				LR	LR			
	comp=Z,25μm,17.0s							
CN2				LR	LR			
	comp=Z,26μm,18.0s							
SNY	**Shenyang**	**14.41**	**292**	⇑P	**Pn**	**05 51 21.8**		**+0.7**
SNY				S	**Sn**	**05 54 02.0**		**+2.5**
SNY				pmax	pmax			
	comp=Z,120nm,1.1s							
SNY				pmax	pmax			
	comp=Z,2μm,4.3s							
SNY				LR	LR			
	comp=Z,20μm,16.1s							
SNY				LR	LR			
	comp=Z,49μm,19.8s							
SNY				LR	LR			
	comp=Z,72μm,18.6s							
NKL	**Nikolayevsk**	**15.40**	**358**	*e*P	**Pn**	**05 51 31.0**		**-3.0**
NKL				*e*S	**Sn**	**05 54 15.0**		**-8.4**
NKL				pmax	pmax			
	comp=N,49nm,1.0s							
NKL				pmax	pmax			
	comp=Z,94nm,1.0s							
NKL				pmax	pmax			
	comp=N,1μm,8.0s							
NKL				pmax	pmax			
	comp=Z,2μm,8.0s							
NKL				smax	smax			
	comp=N,1μm,10.0s							
NKL				smax	smax			
	comp=E,2μm,10.0s							
NKL				MLR	MLR			
	comp=N,12μm,16.0s							
NKL				MLR	MLR			
	comp=Z,12μm,16.0s							
JOW	**Kunigami**	**15.63**	**230**	*e*Pn	**Pn**	**05 51 35.7**		**-1.5**
	comp=Z,198nm,0.9s							
JOW	**Kunigami**	**15.63**	**230**	P	**Pn**	**05 51 36.2**		**-1.1**
	comp=Z,0.3nm,0.3s,baz=100,slow=17,SNR=16							
DL2	**Dalian**	**15.69**	**280**	⇑*i*P	**Pn**	**05 51 38.4**		**+0.5**
DL2				pP	**P**	**05 51 44.8**		**+3.6**
DL2				S	**Sn**	**05 54 33.6**		**+3.0**
DL2				pmax	pmax			
	comp=Z,2μm,0.9s							
DL2				pmax	pmax			
	comp=Z,9μm,10.8s							
DL2				LR	LR			
	comp=Z,4μm,15.9s							
DL2				LR	LR			
	comp=Z,22μm,19.9s							
DL2				LR	LR			
	comp=Z,29μm,20.5s							
OKH	**Okha**	**15.82**	**3**	*c i*P	**Pn**	**05 51 37.0**		**-2.4**
OKH				*i* S	**Sn**	**05 54 32.6**		**-0.9**
SKR	**Severo-Kuril's**	**16.56**	**34**	*e*P	**Pn**	**05 51 48.1**		**-0.7**
SKR				*e*S	**Sn**	**05 54 43.1**		**-8.4**
SKR				pmax	pmax			
	comp=Z,514nm,0.9s							
SKR				pmax	pmax			
	comp=Z,700nm,4.9s							
SKR				pmax	pmax			
	comp=Z,2μm,5.8s							
SKR				MLR	MLR			
	comp=Z,18μm,19.0s							
SSE	**Sheshan**	**18.06**	**254**	P	**P**	**05 52 07.3**		**-0.2**
SSE				S	**Sn**	**05 55 27.3**		**-0.8**
SSE				pmax	pmax			
	comp=Z,140nm,1.3s							
SSE				pmax	pmax			
	comp=Z,2μm,9.0s							
SSE				LR	LR			
	comp=Z,6μm,16.0s							
SSE				LR	LR			
	comp=Z,7μm,15.7s							
SSE	**Sheshan**	**18.06**	**254**	*e*Pn	**P**	**05 52 05.6**		**-1.9**
	comp=Z,868nm,1.2s							
ZEA	**Zeya**	**18.79**	**333**	*e*P	**P**	**05 52 13.3**		**-2.0**
ZEA				*e*		05 55 38.0		
ZEA				pmax	pmax			
	comp=E,210nm,0.9s							
ZEA				pmax	pmax			
	comp=N,350nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,610nm,1.

TIA	**Tai'an**	**19.58 273**	P	**P**	**05 52 22.4**	**-1.7**
TIA			pmax	pmax		
	comp=Z,310nm,1.1s					
TIA			pmax	pmax		
	comp=Z,7μm,13.7s					
TIA			LR	LR		
	comp=Z,8μm,18.1s					
TIA			LR	LR		
	comp=Z,14μm,19.1s					
TIA			LR	LR		
	comp=Z,18μm,17.2s					
BJI	**Beijing**	**19.88 284**	P	**P**	**05 52 24.8**	**-2.5**
BJI			pmax	pmax		
	comp=Z,260nm,1.6s					
BJI			LR	LR		
	comp=Z,8μm,16.7s					
BJI			LR	LR		
	comp=Z,8μm,22.4s					
BJT	**Baijiatuau**	**19.88 284**	*e*P	**P**	**05 52 25.7**	**-1.7**
	comp=Z,445nm,0.6s					
YOJ	**Yonaguni jima**	**20.64 235**	*e*P	**P**	**05 52 33.1**	**-2.6**
	comp=Z,142nm,0.8s					
YOJ			LR	LR		
	comp=Z,9μm,21.0s					
YOJ	**Yonaguni jima**	**20.64 235**	P	**P**	**05 52 36.2**	**+0.5**
YOJ			pmax	pmax		
	comp=Z,246nm,1.2s					
SARN	**Sarigan**	**21.31 169**	*e*P	**P**	**05 52 45.1**	**+2.2**
	comp=Z,1μm,1.9s					
TATO	**Taipei**	**21.31 239**	*e*P	**P**	**05 52 42.5**	**-0.4**
	comp=Z,235nm,0.9s					
TATO			LR	LR		
	comp=Z,9μm,20.0s					
YHNB	**Yeheng**	**21.59 239**	*e*P	**P**	**05 52 44.0**	**-1.9**
	comp=Z,156nm,0.8s					
YHNB			LR	LR		
	comp=Z,6μm,21.0s					
NACB	**Ninganchiao**	**21.77 237**	*e*P	**P**	**05 52 45.1**	**-2.7**
	comp=Z,142nm,0.8s					
NACB			LR	LR		
	comp=Z,7μm,21.0s					
SSLB	**Suanglung**	**22.46 238**	*e*P	**P**	**05 52 51.7**	**-3.6**
	comp=Z,228nm,0.8s					
SSLB			LR	LR		
	comp=Z,8μm,21.0s					
YULB	**Yu-li**	**22.51 236**	*e*P	**P**	**05 52 51.9**	**-3.9**
	comp=Z,139nm,0.7s					
YULB			LR	LR		
	comp=Z,6μm,20.0s					
MA2	**Magadan**	**22.62 12**	*e*P	**P**	**05 52 56.5**	**-0.1**
	comp=Z,424nm,0.8s					
MA2	**Magadan**	**22.62 12***c i*P		**P**	**05 52 56.6**	**-0.1**
MA2			pmax	pmax		
	comp=Z,483nm,0.8s					
MA2			MLR	MLR		
	comp=Z,11μm,24.0s					
MA2	**Magadan**	**22.62 12**	P	**P**	**05 52 56.8**	**+0.1**
	comp=Z,373nm,0.8s,baz=198,slow=9.0,SNR=122					
MA2			LR	LR	06 02 02.8	
	comp=Z,5μm,18.6s,baz=199,slow=37					
TIY	**Taiyuan**	**23.00 279**	*e*P	**P**	**05 52 57.3**	**-3.6**
TIY			S	**S**	**05 57 00.4**	**-7.8**
TIY			SS	Sn	05 57 52.6	+26
TIY			pmax	pmax		
	comp=Z,220nm,0.6s					
TIY			pmax	pmax		
	comp=Z,1μm,7.1s					
TIY			LR	LR		
	comp=Z,4μm,12.0s					
TIY			LR	LR		
	comp=Z,13μm,15.7s					
TIY			LR	LR		
	comp=Z,21μm,22.2s					
TPUB	**Ta-pu**	**23.01 237**	*e*P	**P**	**05 52 56.4**	**-4.7**
	comp=Z,601nm,1.2s					
TPUB			LR	LR		
	comp=Z,12μm,22.0s					
TWG	**Pinlang**	**23.05 236**	*e*P	**P**	**05 52 58.6**	**-2.9**
	comp=Z,2μm,1.0s					
TWG			LR	LR		
	comp=Z,21μm,21.0s					
QZH	**Quanzhou**	**23.34 243**⇑ *i*P		**P**	**05 53 01.5**	**-2.8**
QZH			S	**S**	**05 57 11.8**	**-1.9**
QZH			pmax	pmax		
	comp=Z,66nm,0.7s					
QZH			pmax	pmax		
	comp=Z,2μm,8.4s					
QZH			LR	LR		
	comp=Z,5μm,15.0s					
QZH			LR	LR		
	comp=Z,12μm,22.3s					
QZH			LR	LR		
	comp=Z,15μm,25.5s					
WHN	**Wuhan**	**23.59 260**⇑P		**P**	**05 53 05.3**	**-1.3**
WHN			pP	**pP**	**05 53 19.6**	**+1.4**
WHN			S	**S**	**05 57 09.8**	**-7.9**
WHN			pmax	pmax		
	comp=Z,390nm,0.7s					
WHN			pmax	pmax		
	comp=Z,4μm,3.9s					
WHN			LR	LR		
	comp=Z,14μm,13.5s					
WHN			LR	LR		
	comp=Z,35μm,15.1s					
WHN			LR	LR		
	comp=Z,46μm,15.8s					
KNMB	**Chin-men Tao**	**23.79 243**	*e*P	**P**	**05 53 06.1**	**-2.4**
	comp=Z,220nm,0.9s					
KNMB			LR	LR		
	comp=Z,16μm,21.0s					
CIT	**Chita**	**24.24 315**	*e*P	**P**	**05 53 09.4**	**-3.1**
CIT			*e*		05 53 21.8	
CIT			*e*		05 53 45.6	
CIT			*e*		05 53 57.4	
CIT			pmax	pmax		
	comp=Z,2μm,1.4s					
GUMO	**Guam**	**24.25 172**	*e*P	**P**	**05 53 13.7**	**+0.9**
	comp=Z,2μm,1.4s					
GUMO	**Guam**	**24.25 172**	P	**P**	**05 53 13.2**	**+0.4**
	comp=Z,206nm,1.1s,baz=159,slow=7.7,SNR=4.8					
GUMO			LR	LR	06 02 55.1	
	comp=Z,5μm,20.2s,baz=22,slow=37					
YAK	**Yakutsk**	**25.39 347***c i*P		**P**	**05 53 22.3**	**-0.4**
YAK			*e**PP	**sP**	**05 53 39.3**	**-0.8**
YAK			*e*		05 54 02.4	
YAK			*e*		05 56 52.7	
YAK			*e*SS	**S**	**05 57 43.5**	**-2.4**
YAK			*e*SS	**SnSn**	**05 58 44.3**	**+3.3**
YAK			pmax	pmax		
	comp=N,1μm,0.8s					
YAK			pmax	pmax		
	comp=E,1μm,0.8s					
YAK			pmax	pmax		
	comp=Z,1μm,1.1s					
YAK			pmax	pmax		
	comp=N,2μm,1.6s					
YAK			pmax	pmax		
	comp=E,891nm,1.2s					
YAK			smax	smax		
	comp=N,7μm,2.5s					
YAK			smax	smax		
	comp=E,3μm,2.0s					
SEY	**Seymchan**	**26.05 11***c i*P		**P**	**05 53 30.1**	**+1.3**
SEY	**Seymchan**	**26.05 11** P		**P**	**05 53 29.9**	**+1.2**
	comp=E,515nm,1.1s,baz=201,slow=7.4,SNR=209					
SEY			LR	LR	06 03 43.1	
	comp=E,7μm,21.9s,baz=191,slow=36					
CVP	**Callao Caves**	**26.44 226**	*e*P	**P**	**05 53 31.1**	**-1.5**
PALP	**Palanan**	**26.62 224**	*e*P	**P**	**05 53 34.5**	**+0.3**
XAN	**Xi'an**	**26.63 272**	P	**P**	**05 53 33.0**	**-1.3**
XAN			PP	PP	05 54 19.8	-15
XAN			S	**S**	**05 57 57.8**	**-8.4**
XAN			SS	**SnSn**	**05 59 12.3**	**+0.5**
XAN			pmax	pmax		
	comp=E,46nm,0.7s					
XAN			pmax	pmax		
	comp=E,3μm,8.6s					
XAN			LR	LR		
	comp=E,8μm,23.5s					
XAN			LR	LR		
	comp=E,6μm,23.5s					
XAN			LR	LR		
	comp=E,10μm,19.7s					
XAN	**Xi'an**	**26.63 272**	*e*P	**P**	**05 53 33.4**	**-0.9**
	comp=E,1μm,1.4s					
XAN			LR	LR		
	comp=Z,10μm,20.0s					
APYP	**Conner**	**26.65 228**	*e*P	**P**	**05 53 32.6**	**-1.9**
BOD	**Bodaibo**	**26.98 327**⇓ *i*P		**P**	**05 53 36.6**	**-0.6**
BOD			*e*		05 53 53.9	
BOD			pmax	pmax		
	comp=Z,530nm,1.1s					
ULN	**Ulaanbaatar**	**27.05 303** *e*P		**P**	**05 53 37.0**	**-1.2**
	comp=Z,142nm,0.8s					
ULN			LR	LR		
	comp=Z,12μm,19.0s					
ULN	**Ulaanbaatar**	**27.05 303***ce*P		**P**	**05 53 37.3**	**-0.8**
ULN			pmax	pmax		
	comp=Z,184nm,1.3s					
ULN			MLR	MLR		
	comp=Z,13μm,17.0s					
ULN	**Ulaanbaatar**	**27.05 303** P		**P**	**05 53 37.8**	**-0.4**
	SNR=107					
ULN			P	**P**	**05 53 37.8**	**-0.4**
	SNR=107					
ULN			P	**P**	**05 53 37.8**	**-0.4**
	SNR=107					
SMY	**Shemya**	**27.07 46** *e*P		**P**	**05 53 41.1**	**+3.1**
	comp=Z,417nm,1.2s					
SMY			LR	LR		
	comp=Z,7μm,19.0s					
SONA0	**Songino Array**	**27.49 303** *e*P		**P**	**05 53 41.4**	**-0.6**
SONM	**Songino Array**	**27.49 303** *e*P		**P**	**05 53 41.1**	**-0.9**
SONM	**Songino Array**	**27.49 303** P		**P**	**05 53 41.4**	**-0.6**
	comp=Z,141nm,0.8s,baz=97,slow=8.8,SNR=77					
SONM			LR	LR	06 04 56.7	
	comp=Z,11μm,19.5s,baz=115,slow=37					
ENH	**Enshi**	**27.52 264** *e*P		**P**	**05 53 41.1**	**-1.3**
	comp=Z,2μm,0.8s					
ENH			LR	LR		
	comp=Z,13μm,22.0s					
BALP	**Baler**	**28.16 224** *e*P		**P**	**05 53 46.2**	**-1.8**
HKPS	**Hong Kong Po S**	**28.18 245** *e*P		**P**	**05 53 49.0**	**+0.8**
	comp=Z,192nm,0.9s					
HKPS			LR	LR		
	comp=Z,13μm,19.0s					
GZH	**Guangzhou**	**28.26 247** P		**P**	**05 53 44.3**	**-4.6**
GZH			S	S	05 58 22.8	-9.0
GZH			LR	LR		
	comp=Z,14μm,16.1s					
GZH			LR	LR		
	comp=Z,18μm,16.7s					
SMPP	**San Manuel, Pa**	**28.33 226** *e*P		**P**	**05 53 46.7**	**-3.0**
H11N2	**WAKE ISLAND Hy**	**28.42 122** T		T	06 24 10.7	
	baz=315,slow=75,SNR=720					
H11N1	**WAKE ISLAND Hy**	**28.43 122** T		T	06 24 08.1	
	baz=315,slow=75,SNR=1120					
H11N3	**WAKE ISLAND Hy**	**28.44 122** T		T	06 24 09.5	
	baz=315,slow=75,SNR=820					
WAKE	**Wake Island**	**28.57 123** *e*P		**P**	**05 53 50.2**	**-1.5**
	comp=Z,360nm,1.1s					
WAKE			LR	LR		
	comp=Z,13μm,20.0s					
PVCP	**Virac**	**28.63 217** *e*P		**P**	**05 53 52.2**	**0.0**
MCO	**Taipa Grande**	**28.70 245** P		**P**	**05 53 53.0**	**+0.2**
POLP	**Polillo Island**	**28.80 222** *e*P		**P**	**05 53 53.7**	**0.0**
H11S1	**WAKE ISLAND Hy**	**29.16 124** T		T	06 24 20.2	
	baz=316,slow=76,SNR=919					
H11S3	**WAKE ISLAND Hy**	**29.16 124** T		T	06 24 25.7	
	baz=316,slow=76,SNR=887					
H11S2	**WAKE ISLAND Hy**	**29.18 124** T		T	06 24 20.1	
	baz=316,slow=76,SNR=954					
CNP	**Catarman**	**29.33 215** *e*P		**P**	**05 53 58.6**	**+0.2**
IRK	**Irkutsk**	**29.71 311** *e*P		**P**	**05 54 00.4**	**-1.1**
IRK			pmax	pmax		
	comp=Z,207nm,2.8s					
BESP	**Borongan**	**29.79 213** *e*P		**P**	**05 54 03.4**	**+0.9**
TGY	**Tagaytay City**	**29.85 223** P		**P**	**05 54 03.3**	**+0.2**
	comp=Z,1μm,0.9s,baz=350,slow=1.0,SNR=42					
TGY			LR	LR	06 05 18.4	
	comp=Z,3μm,21.8s,baz=48,slow=35					
ZAK	**Zakamensk**	**29.92 307** *e*P		**P**	**05 54 02.9**	**-0.7**
ZAK			pmax	pmax		
	comp=Z,129nm,1.0s					
TLY	**Talaya**	**29.95 310** *e*P		**P**	**05 54 03.1**	**-0.7**
	comp=Z,87nm,0.8s					
TLY			LR	LR		
	comp=Z,22μm,18.0s					
TLY	**Talaya**	**29.95 310***ce*P		**P**	**05 54 03.8**	**+0.1**
TLY			pmax	pmax		
	comp=Z,610nm,1.7s					
TLY	**Talaya**	**29.95 310** P		**P**	**05 54 04.1**	**+0.3**
	SNR=62					
TLY			P	**P**	**05 54 04.1**	**+0.3**
	SNR=62					
TLY			P	**P**	**05 54 04.1**	**+0.3**
	SNR=62					
LZH	**Lanzhou**	**30.07 279** *e*P		**P**	**05 54 04.3**	**-0.8**
LZH			pP	pP	05 54 14.0	-3.2
LZH			sP	sP	05 54 20.3	-2.3
LZH			S	**S**	**05 58 55.8**	**-4.8**
LZH			sS	sS	05 59 15.3	-5.4
LZH			SS	**SnSn**	**06 00 39.0**	**+3.1**
LZH			pmax	pmax		
	comp=Z,530nm,1.2s					
LZH			pmax	pmax		
	comp=Z,2μm,4.9s					
LZH			LR	LR		
	comp=Z,10μm,13.6s					
LZH			LR	LR		
	comp=Z,15μm,14.6s					
LZH			LR	LR		
	comp=Z,20μm,16.8s					
PLP	**Palo**	**30.38 214**⇑ *e*P		**P**	**05 54 06.9**	**-0.9**
LUBP	**Lubang**	**30.53 224** *e*P		**P**	**05 54 06.5**	**-2.6**
SJMP	**San Jose**	**31.12 221** *e*P		**P**	**05 54 13.5**	**-0.7**
GYA	**Guiyang**	**31.47 259**⇑ *i*P		**P**	**05 54 16.8**	**-0.7**
GYA			pP	pP	05 54 23.6	-5.9
GYA			sP	sP	05 54 27.0	-7.9
GYA			PP	**PnPn**	**05 55 23.4**	**+1.8**
GYA			S	S	05 59 11.8	-11
GYA			LR	LR		
	comp=Z,6μm,21.1s					
GYA			LR	LR		
	comp=Z,10μm,25.2s					
GYA			LR	LR		
	comp=Z,16μm,26.1s					
MOY	**Mondy**	**31.57 309** *e*P		**P**	**05 54 17.8**	**-0.3**
MOY			pmax	pmax		
	comp=Z,157nm,2.1s					
CD2	**Chengdu**	**31.80 269**⇑ *i*P		**P**	**05 54 19.0**	**-1.3**
CD2			pP	pP	05 54 28.8	-3.5
CD2			sP	sP	05 54 37.0	-0.8
CD2			S	**S**	**05 59 22.3**	**-5.2**
CD2			pmax	pmax		
	comp=Z,330nm,1.0s					
CD2			pmax	pmax		
	comp=Z,2μm,11.2s					
CD2			LR	LR		
	comp=Z,18μm,18.1s					
CD2			LR	LR		
	comp=Z,17μm,19.6s					
CD2			LR	LR		
	comp=Z,18μm,19.1s					
GUIM	**Jordan**	**31.95 217** *e*P		P	05 54 29.4	+7.8
BUSP	**Coron**	**31.99 222** *e*P		**P**	**05 54 21.6**	**-0.3**
KIWB	**Kanaga Island**	**32.03 50** *e*P		**P**	**05 54 22.3**	**+0.3**
ADK	**Adak**	**32.33 51** *e*P		**P**	**05 54 25.3**	**+0.7**
	comp=Z,700nm,1.4s					
ADK			LR	LR		
	comp=Z,10μm,22.0s					
ADK	**Adak**	**32.33 51** P		**P**	**05 54 25.3**	**+0.7**
GTA	**Gaotai**	**32.47 286**⇑P		**P**	**05 54 25.5**	**-0.7**
GTA			pP	pP	05 54 36.8	-1.5
GTA			sP	sP	05 54 42.6	-1.1
GTA			PP	**PP**	**05 55 37.1**	**-2.9**
GTA			PcP	**PcP**	**05 57 12.8**	**+0.4**
GTA			S	**S**	**05 59 38.3**	**+0.4**
GTA			sS	sS	05 59 59.3	+1.1
GTA			ScS	**ScS**	**06 04 49.8**	**-2.1**
GTA			pmax	pmax		
	comp=Z,270nm,1.0s					
GTA			pmax	pmax		
	comp=Z,910nm,5.4s					
GTA			LR	LR		
	comp=Z,6μm,22.5s					
GTA			LR	LR		
	comp=Z,13μm,20.3s					
GTA			LR	LR		
	comp=Z,21μm,23.2s					
GSTR	**Great Sitkin T**	**32.74 50** *e*P		**P**	**05 54 28.8**	**+0.6**
CGP	**Cagayan de Oro**	**32.92 212** *e*P		**P**	**05 54 30.6**	**+0.5**
ENPP	**El Nido**	**33.07 223** *e*P		**P**	**05 54 30.2**	**-1.2**
BUKP	**Musuan**	**33.29 211** *e*P		**P**	**05 54 32.6**	**-0.8**
BILL	**Bilibino**	**33.30 17** *e*P		**P**	**05 54 32.4**	**-0.4**
	comp=Z,117nm,1.1s					
BILL			LR	LR		
	comp=Z,4μm,21.0s					
BILL	**Bilibino**	**33.30 17***ce*P		**P**	**05 54 32.8**	**-0.1**
BILL			*e*		05 54 45.4	
BILL			*e*		05 55 46.6	
BILL			*i* S	**S**	**05 59 47.0**	**-2.8**
BILL			pmax	pmax		
	comp=Z,115nm,1.0s					
BILL			MLR	MLR		
	comp=Z,8μm,22.0s					
QIZ	**Qiongzhong**	**33.34 245** P		**P**	**05 54 34.8**	**+1.0**
QIZ			sP	**pP**	**05 54 47.8**	**+1.9**
QIZ			S	**S**	**05 59 53.0**	**+1.5**
QIZ			pmax	pmax		
	comp=Z,120nm,1.2s					
QIZ			pmax	pmax		
	comp=Z,1μm,7.9s					
QIZ			LR	LR		
	comp=Z,9μm,18.6s					
QIZ			LR	LR		
	comp=Z,6μm,19.0s					
QIZ			LR	LR		
	comp=Z,9μm,17.7s					
QIZ	**Qiongzhong**	**33.34 245** *e*P		**P**	**05 54 34.1**	**+0.3**
	comp=Z,179nm,1.1s					
QIZ			LR	LR		
	comp=Z,10μm,19.0s					
MATI	**Mati**	**33.68 208** *e*P		**P**	**05 54 35.5**	**-1.2**
DAV	**Davao City (W)**	**33.82 209** PFAKE			05 54 50.0	+12
DAV			LR	LR		
	comp=Z,8μm,22.0s					
DAV	**Davao City (W)**	**33.82 209**⇑ *i*P		**P**	**05 54 35.9**	**-2.0**
CTBH	**Cotabato--PC H**	**34.22 212**⇓ *i*P		**P**	**05 54 40.2**	**-1.2**
PATS	**Pohnpei**	**34.34 150** *e*P		**P**	**05 54 43.4**	**+1.0**
	comp=Z,307nm,1.1s					
PATS			LR	LR		
	comp=Z,9μm,20.0s					
IPIL	**Ipil**	**34.45 215** *e*P		**P**	**05 54 42.8**	**-0.5**
TIXI	**Tiksi**	**34.58 353** *e*P		**P**	**05 54 43.8**	**-0.2**
	comp=Z,122nm,0.7s					
TIXI			LR	LR		
	comp=Z,10μm,20.0s					
TIXI	**Tiksi**	**34.58 353***ce*P		**P**	**05 54 43.7**	**-0.2**
TIXI			pmax	pmax		
	comp=Z,339nm,1.7s					
TIXI			MLR	MLR		
	comp=Z,9μm,17.0s					
TIXI	**Tiksi**	**34.58 353** P		**P**	**05 54 43.8**	**-0.2**
	comp=Z,88nm,0.6s,baz=145,slow=7.6,SNR=101					
DDMP	**Don Marcelino,**	**34.66 209** *e*P		**P**	**05 54 43.0**	**-2.2**
SKMP	**Bagumbayan, Su**	**34.74 211** *e*P		**P**	**05 54 45.8**	**-0.1**
KMI	**Kunming**	**35.20 260** P		**P**	**05 54 49.8**	**-0.3**
KMI			pP	pP	05 55 02.8	+0.6
KMI			sP	sP	05 55 06.3	-1.3
KMI			PP	**PP**	**05 56 13.1**	**+2.6**
KMI			S	**S**	**06 00 18.5**	**-2.0**
KMI			SS	SS	06 02 35.9	-19
KMI			pmax	pmax		
	comp=Z,810nm,0.9s					
KMI			pmax	pmax		
	comp=Z,2μm,4.9s					
KMI			LR	LR		
	comp=Z,2μm,17.1s					
KMI			LR	LR		
	comp=Z,3μm,16.6s					
KMI			LR	LR		
	comp=Z,3μm,18.5s					
KMI	**Kunming**	**35.20 260** *e*P		**P**	**05 54 51.4**	**+1.3**
	comp=Z,670nm,0.8s					
KMI			LR	LR		
	comp=Z,13μm,20.0s					
MIDW	**Midway**	**35.50 93** *e*P		**P**	**05 54 53.4**	**+1.1**
	comp=Z,404nm,1.4s					
MIDW			LR	LR		
	comp=Z,16μm,22.0s					
BATP	**Bataraza**	**35.95 223** *e*P		**P**	**05 54 57.8**	**+1.6**
SLVN	**Son La**	**36.34 254** *e*P		**P**	**05 54 59.3**	**-0.4**
	comp=Z,244nm,1.0s					
SLVN			LR	LR		
	comp=Z,7μm,22.0s					
SGSI	**Sangihe**	**36.95 207** P		**P**	**05 55 03.9**	**-1.0**
KWAJ	**Kwajalein Atol**	**37.20 134** PFAKE			05 55 20.0	+13
KWAJ			LR	LR		
	comp=Z,14μm,20.0s					
NIKH	**Nikolski High**	**37.21 50** *e*P		**P**	**05 55 06.6**	**-0.1**
	comp=Z,330nm,0.9s					
NIKH			LR	LR		
	comp=Z,11μm,21.0s					
GAMB	**Gambell**	**38.03 32** *e*P		**P**	**05 55 14.6**	**+1.2**
	comp=Z,74nm,1.3s					
GAMB			LR	LR		
	comp=Z,3μm,21.0s					
PANO	**Nakornpanom**	**38.35 248** P		**P**	**05 55 17.0**	**+0.3**
	comp=Z,4.0nm,2.0s,comp=Z,77nm					
UNV	**Unalaska Valle**	**38.67 48** PFAKE			05 55 30.0	+11
UNV			LR	LR		
	comp=Z,5μm,20.0s					
NONG	**Nongkai**	**38.86 250** P		**P**	**05 55 21.0**	**0.0**
	comp=Z,6.6nm,1.2s,comp=Z,84nm					
SKNT	**Sakolnakorn**	**38.92 248** P		**P**	**05 55 21.4**	**-0.1**
	comp=Z,266nm,1.2s,comp=Z,5μm					
TNTI	**Ternate**	**39.06 203** *e*P		**P**	**05 55 22.3**	**-0.4**
	comp=Z,475nm,1.4s					
TNTI			LR	LR		
	comp=Z,2μm,21.0s					
TNTI	**Ternate**	**39.06 203** P		**P**	**05 55 22.1**	**-0.5**
AKUT	**Akutan**	**39.11 48** PFAKE			05 55 40.0	+17
AKUT			LR	LR		
	comp=Z,6μm,19.0s					
DLV	**T Lat**	**39.17 238** *e*P		**P**	**05 55 24.3**	**+0.5**
	comp=Z,288nm,1.0s					
DLV			LR	LR		
	comp=Z,8μm,22.0s					
MNI	**Manado**	**39.28 207** P		**P**	**05 55 26.5**	**+2.0**
MNI			pmax	pmax		
	comp=Z,366nm,1.0s					
SWI	**Sorong**	**39.59 196** P		**P**	**05 55 31.2**	**+4.2**
SWI			pmax	pmax		
	comp=Z,86nm,0.8s					
SWI	**Sorong**	**39.59 196** P		**P**	**05 55 26.9**	**-0.1**
MANU	**Manus Island**	**39.97 171** *e*P		**P**	**05 55 29.6**	**-0.5**
	comp=Z,52nm,0.9s					
DGZ	**Jazzator, Alta**	**40.07 305***c i*P		**P**	**05 55 31.8**	**+0.9**
DGZ			pmax	pmax		
	comp=Z,416nm,0.7s					
DGZ			MLR	MLR		
	comp=Z,6μm,16.0s					
GENI	**Genyem**	**40.17 182** P		**P**	**05 55 32.7**	**+0.9**
KHON	**Khomkaen**	**40.18 249** P		**P**	**05 55 32.1**	**+0.1**
	comp=Z,430μm,1.2s					
KMSI	**Cibinong**	**40.40 208** P		**P**	**05 55 33.7**	**0.0**
FALS	**False Pass**	**40.51 47** PFAKE			05 55 50.0	+16
FALS			LR	LR		
	comp=Z,6μm,20.0s					
PAYA	**Payao**	**40.56 255** P		**P**	**05 55 35.2**	**0.0**
	comp=Z,154μm,0.8s					
WMQ	**Urumqi**	**40.62 296** P		**P**	**05 55 36.3**	**+0.8**
WMQ			pP	pP	05 55 46.8	-1.0
WMQ			sP	sP	05 55 51.0	-2.2
WMQ			S	**S**	**06 01 43.1**	**+1.1**
WMQ			sS	sS	06 01 56.6	-6.0
WMQ			pmax	pmax		
	comp=Z,2μm,3.7s					
WMQ			LR	LR		
	comp=Z,13μm,18.5s					
WMQ			LR	LR		
	comp=Z,22μm,20.1s					
WMQ			LR	LR		
	comp=Z,65μm,28.5s					
WMQ	**Urumqi**	**40.62 296** *e*P		**P**	**05 55 36.5**	**+1.0**
	comp=Z,424nm,0.8s					
WMQ			LR	LR		
	comp=Z,12μm,21.0s					
PHRA	**Phrae**	**40.80 254** P		**P**	**05 55 37.0**	**0.0**
	comp=Z,23nm,1.2s,comp=Z,392nm					
ANM	**Nome**	**40.91 32** *e*P		**P**	**05 55 39.5**	**+2.1**
	comp=Z,294nm,1.3s					
ANM			LR	LR		
	comp=Z,4μm,22.0s					
UTTA	**Uttaradit**	**41.00 252** P		**P**	**05 55 38.6**	**-0.1**
	comp=Z,202μm,0.9s					
CHAI	**Chaiyaphum**	**41.08 249** P		**P**	**05 55 39.0**	**-0.4**

comp=Z,381μm,0.9s
LAMP Lampang 41.24 254 P **P 05 55 40.8 +0.1**
comp=Z,182μm,0.8s
MRSI Marisa 41.28 211 P **P 05 55 40.7 -0.2**
FAKI Fak Fak 41.39 194 *e*P **P 05 55 41.0 -0.9**
comp=Z,194nm,0.8s
FAKI LR LR
comp=Z,11μm,22.0s
FAKI Fak Fak 41.39 194 P **P 05 55 41.6 -0.3**
ZAA0 Zalesovo Array 41.52 312 *e*P **P 05 55 42.5 -0.1**
comp=Z,330nm,0.8s
ZAA0 LR LR
comp=Z,18μm,18.0s
ZAA1 Zalesovo Array 41.52 312 *e*P **P 05 55 42.5 0.0**
ZAA1 *e*PcP **PcP 05 57 39.2 -0.1**
ZALV Zalesovo Beam 41.52 312 P **P 05 55 42.5 0.0**
comp=Z,264nm,0.7s,baz=91,slow=7.4,SNR=719
ZALV PcP **PcP 05 57 39.2 -0.1**
comp=Z,82nm,1.0s,baz=120,slow=5.2,SNR=3.5
ZALV LR LR 06 13 43.5
comp=Z,17μm,18.2s,baz=87,slow=37
ZALV PKPPKP P'P'df 06 27 47.0 -11
comp=Z,0.5nm,0.3s,baz=291,slow=1.3,SNR=4.0
CMMT Chiang Mai 41.59 255 P **P 05 55 43.2 -0.4**
comp=Z,87nm,0.9s,comp=Z,1μm
CHTO Chiang Mai 41.59 255 *e*P **P 05 55 43.0 -0.6**
comp=Z,128nm,0.9s
CHTO LR LR
comp=Z,5μm,20.0s
CHTO Chiang Mai 41.59 255 P **P 05 55 43.3 -0.3**
CHTO pmax pmax
comp=Z,185nm,0.9s
CHTO Chiang Mai 41.59 255 P **P 05 55 43.9 +0.3**
SNR=36
CHTO P **P 05 55 43.9 +0.3**
SNR=36
CHTO P **P 05 55 43.9 +0.3**
SNR=36
CM31 Chiang Mai Arr 41.80 255 *e*P **P 05 55 44.7 -0.6**
comp=Z,65nm,0.7s
CM31 Chiang Mai Arr 41.80 255 P **P 05 55 45.7 +0.4**
SNR=23
CMAR Chiang Mai Arr 41.80 255 *e*P **P 05 55 45.1 -0.2**
CMAR Chiang Mai Arr 41.80 255 P **P 05 55 45.4 0.0**
comp=Z,37nm,0.7s,baz=45,slow=7.9,SNR=118
CMAR PcP **PcP 05 57 41.0 +0.2**
comp=Z,22nm,0.9s,baz=23,slow=2.2,SNR=4.9
CMAR LR LR 06 14 10.9
comp=Z,5μm,20.7s,baz=57,slow=38
ZSN Zaisan 42.00 302*c i*P **P 05 55 47.7 +1.1**
ZSN *e*S **S 06 02 02.8 +0.7**
ZSN pmax pmax
comp=Z,284nm,1.4s
ZSN smax smax
comp=E,64nm,4.4s
ZSN MLR MLR
comp=Z,972nm,16.0s
ZSN Zaisan 42.00 302⇑*i*P **P 05 55 47.8 +1.1**
comp=Z,284nm,1.4s
ZSN *e*S **S 06 02 02.9 +0.7**
comp=Z,64nm,4.4s
ZSN *e*LR LR 06 13 27.0
comp=Z,972nm,16.1s
SANI Sanana 42.16 204 P **P 05 55 47.0 -1.1**
SDPT Sand Point 42.21 46 PFAKE 05 56 00.0 +12
SDPT LR LR
comp=Z,4μm,20.0s
MPSI Mapaga 42.26 213 P **P 05 55 48.8 -0.2**
LSA Lhasa 42.27 274 *e*P **P 05 55 50.4 +0.8**
comp=Z,551nm,1.2s
LSA LR LR
comp=Z,7μm,22.0s
LSA Lhasa 42.27 274 *i* P **P 05 55 50.7 +1.1**
SNR=54
LUWI Luwuk 42.34 209 *e*P **P 05 55 47.8 -1.9**
comp=Z,493nm,1.2s
LUWI LR LR
comp=Z,4μm,22.0s
LUWI Luwuk 42.34 209 P **P 05 55 47.5 -2.1**
NVS Novosibirsk 42.43 313 *e*P **P 05 55 50.6 +0.6**
NVS *e* 05 56 02.8
NVS pmax pmax
comp=Z,548nm,1.5s
NVS pmax pmax
comp=N,75nm,1.6s
NVS pmax pmax
comp=E,332nm,1.3s
APSI Ampana 42.66 210 P **P 05 55 51.8 -0.4**
NRIK Noril'sk 42.66 335 P **P 05 55 51.6 -0.1**
comp=E,95nm,0.8s,baz=112,slow=9.8
NRIK LR LR 06 14 42.6
comp=E,14μm,18.8s,baz=108,slow=38
RDOG Red Dog Mine 42.80 27 *e*P **P 05 55 54.4 +1.5**
comp=E,208nm,1.1s
RDOG LR LR
comp=Z,5μm,21.0s
RABL Rabaul 42.88 164 *e*P **P 05 55 54.5 +0.4**
comp=Z,197nm,1.3s
UMPA Umpang Tak 43.22 252 P **P 05 55 58.3 +1.4**
comp=Z,386μm,1.1s
CHGN Chignik 43.36 45 PFAKE 05 56 10.0 +13
CHGN LR LR
comp=Z,6μm,21.0s
BNDI Bandanaira 43.44 197 P **P 05 55 58.1 -0.4**
SHL Shillong 43.54 269 P **P 05 55 58.5 -1.1**
SHL pmax pmax
comp=Z,389nm,0.6s
SHL Shillong 43.54 269⇑*i*P **P 05 55 58.5 -1.1**
SHL IAmb IAmb 05 55 60.0
comp=Z,151nm,0.6s
SHL *ex* x 06 02 30.0
MK31 Makanchi Array 43.84 301 *e*P **P 05 56 01.6 +0.1**
comp=Z,357nm,0.9s
MK31 Makanchi Array 43.84 301 *i* P **P 05 56 01.7 +0.1**
MK31 pmax pmax
comp=Z,398nm,0.9s
MK32 Makanchi Array 43.84 301 *e*P **P 05 56 01.9 +0.3**
MKAR Makanchi Array 43.84 301 *e*P **P 05 56 01.5 -0.1**
MKAR Makanchi Array 43.84 301 P **P 05 56 01.9 +0.3**
comp=Z,300nm,0.8s,baz=87,slow=9.1,SNR=969
MKAR LR LR 06 15 27.3
comp=Z,6μm,18.5s,baz=78,slow=38
MKAR P4KPbc 06 33 57.0
comp=Z,0.2nm,0.3s,baz=76,slow=6.1,SNR=3.6
MAKZ Makanchi 44.05 302 *e*P **P 05 56 03.5 +0.3**
comp=Z,432nm,1.0s
MAKZ LR LR
comp=Z,7μm,21.0s
MAKZ Makanchi 44.05 302 P **P 05 56 03.7 +0.5**
MAKZ pmax pmax
comp=Z,437nm,1.0s
SGKI Sangatta, Kali 44.06 216 P P 05 55 57.8 -5.8
SMKI Samarinda 44.17 216 P **P 05 56 05.8 +1.4**
SRDT SRDT 44.19 250 P **P 05 56 05.0 +0.4**
comp=Z,106nm,1.3s,comp=Z,2μm
SBUM Sibu 44.26 225 *e*P **P 05 56 04.7 -0.5**
comp=Z,48nm,1.0s
SBUM LR LR
comp=Z,2μm,20.0s
SBUM Sibu 44.26 225 P **P 05 56 06.0 +0.8**
SEM Semipalatinsk 44.60 307*c i*P **P 05 56 07.2 -0.6**
SEM pmax pmax
comp=Z,286nm,1.2s
SEM MLR MLR
comp=Z,7μm,18.0s
SEM Semipalatinsk 44.60 307⇑*i*P **P 05 56 07.2 -0.6**
comp=Z,286nm,1.2s
SEM *e*LR LR 06 14 50.6
comp=Z,7μm,18.5s
PHET Kaeng Krachan 44.75 248 P **P 05 56 09.7 +0.6**
comp=Z,369μm,0.9s
SVW2 Sparrevohn 44.87 38 *e*P **P 05 56 11.2 +1.6**
comp=Z,139nm,1.0s
BKB Balikpapan 45.03 216 P **P 05 56 12.0 +0.7**
KDI Kendari 45.09 207 P **P 05 56 11.4 -0.3**
BRDH Bariadhala 45.17 265 P **P 05 56 12.1 -0.3**
comp=Z,564nm,0.9s,baz=72,slow=8.7,SNR=24
TTSI Tana Toraja 45.34 211 P **P 05 56 12.6 -1.1**
KURK Kurchatov 45.58 308 *e*P **P 05 56 15.3 0.0**
comp=Z,1μm,0.9s
KURK LR LR
comp=Z,16μm,18.0s
KURK Kurchatov 45.58 308*ce*P **P 05 56 15.2 0.0**
KURK pmax pmax
comp=Z,964nm,1.0s
KURK MLR MLR
comp=Z,16μm,19.0s
KURK Kurchatov 45.58 308 P **P 05 56 15.3 0.0**
SNR=386
KURK P **P 05 56 15.3 0.0**
SNR=386
KURK P **P 05 56 15.3 0.0**
SNR=386
KURBB Kurchatov Arra 45.65 307 P **P 05 56 16.0 +0.1**
comp=Z,452nm,0.6s,baz=82,slow=8.2,SNR=665
SII Sitkinak Islan 45.70 44 *e*P **P 05 56 17.0 +0.8**
comp=Z,281nm,1.1s
SII LR LR
comp=Z,6μm,21.0s
MTKI Muara Teweh, K 45.72 219 P **P 05 56 17.3 +0.6**
IMAR Indian Mountai 45.97 31 *e*P **P 05 56 19.1 +0.9**
OHAK Old Harbor 46.14 43 *e*P **P 05 56 20.1 +0.5**
comp=Z,203nm,1.0s
OHAK LR LR
comp=Z,9μm,21.0s
KSM Kuching 46.14 226 *e*P **P 05 56 20.1 -0.1**
comp=Z,184nm,1.0s
KSM Kuching 46.14 226 P **P 05 56 21.0 +0.9**
SPSI Sidrap Palu 46.19 211 P **P 05 56 19.2 -1.2**
RSO Redoubt South 46.26 39 *e*P **P 05 56 21.7 +0.9**
TARA Tarawa 46.30 134 *e*P **P 05 56 22.3 +1.0**
comp=Z,207nm,1.0s
TARA LR LR
comp=Z,24μm,20.0s
BNSI Bone 46.45 210 P **P 05 56 22.7 +0.2**
KDAK Kodiak Island 46.48 42 *e*P **P 05 56 22.7 +0.5**
comp=Z,358nm,0.9s
KDAK LR LR
comp=Z,9μm,21.0s
KDAK Kodiak Island 46.48 42 *i* P **P 05 56 22.8 +0.5**
PPLA Purkeypile 46.50 35 *e*P **P 05 56 24.5 +1.9**
comp=Z,379nm,1.4s
SAUI Saumlaki 46.51 194 *e*P **P 05 56 23.5 +0.6**
comp=Z,952nm,1.2s
SAUI Saumlaki 46.51 194 P **P 05 56 23.4 +0.6**
PDGK Podgornoye 46.55 297 *i* P **P 05 56 22.8 -0.4**
PDGK pmax pmax
comp=Z,419nm,0.9s
CAST Castle Rocks 46.56 35 *e*P **P 05 56 24.3 +1.5**
comp=Z,99nm,0.9s
SHLS Shalkode 46.61 297*c i*P **P 05 56 21.4 -2.2**
SHLS *e*S **S 06 03 03.6 -5.9**
SHLS pmax pmax
comp=Z,168nm,0.9s
SHLS MLR MLR
comp=Z,5μm,19.0s
SHLS Shalkode 46.61 297⇑*i*P **P 05 56 21.5 -2.2**
comp=Z,168nm,0.9s
SHLS *e*S **S 06 03 03.6 -5.9**
SHLS *e*LR LR 06 14 53.6
comp=Z,5μm,19.1s
TDK Taldyqorghan 46.87 300 *i* P **P 05 56 26.2 +0.6**
TDK *e*S S 06 03 03.9 -9.1
TDK pmax pmax
comp=Z,406nm,1.2s
TDK MLR MLR
comp=Z,7μm,21.0s
TDK Taldyqorghan 46.87 300 *i* P **P 05 56 26.2 +0.6**
comp=Z,406nm,1.2s
TDK *e*S S 06 03 03.9 -9.1
TDK *e*LR LR 06 15 24.9
comp=Z,7μm,20.9s
BPAW Bear Paw Mtn. 47.05 34 *e*P **P 05 56 27.6 +0.9**
comp=Z,75nm,0.9s
BPAW LR LR
comp=Z,3μm,20.0s
KPKS Kokpek 47.08 298*c i*P **P 05 56 27.4 +0.2**
KPKS *e*S **S 06 03 14.7 -1.4**
KPKS pmax pmax
comp=Z,318nm,1.6s
KPKS MLR MLR
comp=Z,11μm,21.0s
KPKS Kokpek 47.08 298⇑*i*P **P 05 56 27.5 +0.2**
comp=Z,318nm,1.6s
KPKS *e*S **S 06 03 14.8 -1.4**
KPKS *e*LR LR 06 16 22.6
comp=Z,11μm,20.6s
JIRN Jiri 47.08 275 *e*P **P 05 56 28.4 +0.6**
comp=Z,2μm,1.0s
RAMN Ramite 47.08 274 *e*P **P 05 56 28.0 +0.3**
comp=Z,2μm,1.0s
KAPI Kappang 47.15 210 *e*P **P 05 56 28.0 +0.1**
comp=Z,1μm,1.4s
KAPI Kappang 47.15 210 P **P 05 56 28.6 +0.6**
SNR=151
KAPI P **P 05 56 28.6 +0.6**
SNR=151
KAPI P **P 05 56 28.6 +0.6**
SNR=151
MLY Manley 47.17 32 *e*P **P 05 56 29.2 +1.6**
comp=Z,132nm,0.9s
MLY LR LR
comp=Z,3μm,21.0s
PMG Port Moresby 47.21 172 *e*P **P 05 56 28.8 +0.4**
comp=Z,101nm,1.0s
PMG Port Moresby 47.21 172*d i*P **P 05 56 28.7 +0.4**
PMG pmax pmax
comp=Z,140nm,0.9s
BRLK Bradley Lake 47.23 40 *e*P **P 05 56 29.8 +1.7**
comp=Z,209nm,1.4s
BKSI Bulukumba 47.28 210 P **P 05 56 28.7 -0.3**
ZHN Zhinishke 47.33 297*c i*P **P 05 56 29.5 +0.2**
ZHN pmax pmax
comp=Z,125nm,1.5s
ZHN MLR MLR
comp=Z,4μm,19.0s
ZHN Zhinishke 47.33 297⇑*i*P **P 05 56 29.5 +0.2**
comp=Z,125nm,1.5s
ZHN *e*LR LR 06 16 37.6
comp=Z,4μm,18.5s
SATY Saty 47.38 297*c i*P **P 05 56 30.0 +0.3**
SATY MLR MLR
comp=Z,7μm,19.0s
SATY Saty 47.38 297⇑*i*P **P 05 56 30.0 +0.3**
SATY *e*LR LR 06 16 38.7
comp=Z,7μm,19.2s
COLD Coldfoot 47.46 29 *e*P **P 05 56 31.3 +1.5**
comp=Z,44nm,0.9s
JOHN Johnston Islan 47.65 102 PFAKE 05 56 40.0 +8.1
JOHN LR LR
comp=Z,12μm,21.0s
RC01 Rabbit Creek A 47.71 38 *e*P **P 05 56 32.7 +0.9**
comp=Z,177nm,1.1s
RC01 LR LR
comp=Z,4μm,20.0s
BWN Browne 47.72 34 *e*P **P 05 56 33.9 +2.1**
comp=Z,934nm,1.1s
BWN LR LR
comp=Z,3μm,20.0s
PKI Pulchoki 47.73 275 *e*P **P 05 56 32.9 0.0**
comp=Z,632nm,0.9s
KKN Kakani 47.74 275 *e*P **P 05 56 33.1 +0.3**
comp=Z,1μm,0.9s
PKIN Phulchoki 47.74 275 *e*P **P 05 56 32.8 -0.1**
comp=Z,350nm,0.7s
TOLK Toolik Lake Re 47.77 27 *e*P **P 05 56 33.6 +1.3**
comp=Z,208nm,1.0s
TOLK Toolik Lake Re 47.77 27 P **P 05 56 33.8 +1.6**
baz=267,SNR=132
BSSI Bau Bau, Buton 47.89 209 P **P 05 56 33.3 -0.4**
SEW Seward 47.92 39 *e*P **P 05 56 34.2 +0.8**
comp=Z,159nm,1.1s
SEW LR LR
comp=Z,7μm,20.0s
DMN Daman 47.96 275 *e*P **P 05 56 34.8 +0.3**
comp=Z,318nm,0.7s
SKLT Songkhla 47.96 241 P **P 05 56 34.9 +0.6**
comp=Z,85nm,1.3s,comp=Z,1μm
MCK McKinley 47.96 34 *e*P **P 05 56 34.5 +0.7**
comp=Z,148nm,1.0s
MCK LR LR
comp=Z,4μm,21.0s
PMR Palmer 47.97 37 *e*P **P 05 56 34.3 +0.5**
comp=Z,102nm,0.9s
PMR LR LR
comp=Z,5μm,22.0s
GHO Glory Hole Cre 48.06 37 PFAKE 05 56 50.0 +15
GHO LR LR
comp=Z,5μm,22.0s
TRTT Trang 48.14 243 P **P 05 56 36.3 +0.6**
comp=Z,145nm,1.0s,comp=Z,3μm
GKN Gorkha 48.15 276 *e*P **P 05 56 36.2 +0.3**
comp=Z,2μm,0.8s
CHKK Chushkaly 48.15 299⇑*i*P **P 05 56 35.8 +0.3**
comp=Z,4μm,1.0s
TARG Taragay, Kyrgy 48.19 296 PFAKE 05 56 50.0 +14
TARG LR LR
comp=Z,10μm,20.0s
KRAB Krabi 48.22 243 P **P 05 56 36.9 +0.6**
KNK Knik Glacier 48.31 37 *e*P **P 05 56 37.3 +0.9**
comp=Z,102nm,0.8s
KNK LR LR
comp=Z,3μm,20.0s
MDOK Medeo 48.31 298 *i* P **P 05 56 37.5 +0.6**
MDOK *e*S **S 06 03 29.5 -4.1**
MDOK pmax pmax
comp=Z,4μm,1.4s
MDOK smax smax
comp=E,1μm,13.9s
MDOK MLR MLR
comp=Z,8μm,21.0s
MDOK Medeo 48.31 298 *i* P **P 05 56 37.6 +0.6**
comp=Z,4μm,1.4s
MDOK *e*S **S 06 03 29.6 -4.1**
comp=Z,1μm,13.9s
MDOK *e*LR LR 06 15 25.7
comp=Z,8μm,21.3s
WRH Wood River Hil 48.31 33 *e*P **P 05 56 37.2 +0.8**
comp=Z,73nm,0.8s
WRH LR LR
comp=Z,4μm,21.0s
SML Sawmill 48.34 37 *e*P **P 05 56 37.7 +1.0**
comp=Z,144nm,0.8s
SML LR LR
comp=Z,4μm,22.0s
AAA Alma-Ata 48.39 298 *e*P **P 05 56 38.5 +1.1**
AAA *e*S **S 06 03 34.6 -0.1**
AAA pmax pmax
comp=Z,1μm,4.8s
AAA Alma-Ata 48.39 298 *e*P **P 05 56 37.2 -0.2**
comp=Z,150nm,1.2s
AAA *e*S **S 06 03 32.0 -2.6**
AAA *e*LR LR 06 16 33.7
comp=Z,9μm,22.3s
TCOL CIGO, UAF Yank 48.40 33 P **P 05 56 38.5 +1.4**
baz=272,SNR=21
COLA College 48.40 33 *e*P **P 05 56 38.4 +1.3**
comp=Z,101nm,0.8s
COLA College 48.40 33 *i* P **P 05 56 38.2 +1.1**
COLA pmax pmax
comp=Z,68nm,1.0s
COLA MLR MLR
comp=Z,2μm,22.0s
TNSS Tian-Shan 48.41 298⇑*i*P **P 05 56 38.9 +0.9**
TNSS pmax pmax
comp=Z,510nm,0.9s
TNSS Tian-Shan 48.41 298⇑*i*P **P 05 56 39.0 +0.9**
comp=Z,510nm,0.9s
KDJ Kajisay 48.52 296 PFAKE 05 56 50.0 +11
KDJ LR LR
comp=Z,17μm,22.0s
KUU Kurty 48.59 299 *e*P **P 05 56 38.5 -0.4**
KUU *e*S **S 06 03 37.3 -0.2**
KUU pmax pmax
comp=Z,602nm,1.4s
KUU MLR MLR
comp=Z,4μm,16.0s
KUU Kurty 48.59 299 *e*P **P 05 56 38.6 -0.4**
comp=Z,602nm,1.4s
KUU *e*S **S 06 03 37.3 -0.2**
KUU *e*LR LR 06 17 47.1
comp=Z,4μm,16.0s
DANN Dangsing 48.68 277 *e*P **P 05 56 40.9 +0.8**
DHY Denali Highway 48.70 35 *e*P **P 05 56 39.7 +0.1**
comp=Z,143nm,1.2s
DHY LR LR
comp=Z,4μm,20.0s
HDA Harding Lake 48.81 33 *e*P **P 05 56 40.7 +0.5**
comp=Z,139nm,0.9s
HDA LR LR
comp=Z,3μm,22.0s
HDA Harding Lake 48.81 33 P **P 05 56 40.8 +0.5**
baz=273
SCM Sheep Creek Mo 48.81 37 *e*P **P 05 56 41.5 +1.1**
comp=Z,145nm,0.8s
SCM LR LR
comp=Z,4μm,22.0s
ILAR Eielson Array 48.82 33 *e*P **P 05 56 40.5 +0.1**
ILAR Eielson Array 48.82 33 P **P 05 56 40.9 +0.5**
comp=Z,74nm,0.9s,baz=267,slow=5.8,SNR=369
ILAR LR LR 06 18 24.9
comp=Z,3μm,21.4s,baz=274,slow=37
ILB Eielson Array 48.82 33 *e*P **P 05 56 41.1 +0.8**
comp=Z,181nm,0.8s
GLI Glacier Island 49.01 38 PFAKE 05 56 50.0 +8.1
GLI LR LR
comp=Z,4μm,21.0s
KOLN Koldanda 49.07 276 *e*P **P 05 56 43.5 +0.5**
comp=Z,825nm,0.8s
ULHL Ulahol 49.15 297 P **P 05 56 44.5 +1.1**
SNR=6.6
BOK Bokaro 49.16 270 *e*P **P 05 56 42.3 -1.2**
BOK IAmb IAmb 05 56 45.2
comp=Z,184nm,0.4s
BOOM Boomskoye usch 49.28 297 PFAKE 05 57 00.0 +16
BOOM LR LR
comp=Z,22μm,19.0s
KULM Kulim 49.29 239 *e*P **P 05 56 44.4 -0.1**
comp=Z,241nm,1.4s
KULM LR LR
comp=Z,7μm,20.0s
KULM Kulim 49.29 239 P **P 05 56 45.0 +0.5**
TKM2 Tokmak 2 49.40 298 P **P 05 56 46.4 +1.1**
SNR=372
TKM2 Tokmak 2 49.40 298 *i* P **P 05 56 46.3 +1.0**
TKM2 pmax pmax
comp=Z,377nm,0.8s
PYUN Piuthan 49.40 277 *e*P **P 05 56 46.1 +0.6**
BRZS Berezniki 49.46 308*c i*P **P 05 56 45.3 -0.1**
BRZS *e*S **S 06 03 48.0 -1.4**
BRZS pmax pmax
comp=Z,371nm,1.6s
BRZS MLR MLR
comp=Z,4μm,18.0s
BRZS Berezniki 49.46 308⇑*i*P **P 05 56 45.3 -0.1**
comp=Z,371nm,1.6s
BRZS *e*S **S 06 03 48.0 -1.4**
BRZS *e*LR LR 06 17 44.7
comp=Z,4μm,17.7s
KLU Klutina 49.51 37 *e*P **P 05 56 46.7 +1.0**
comp=Z,162nm,1.0s
KLU LR LR
comp=Z,5μm,20.0s
MMRI Maumere 49.57 205 P **P 05 56 46.1 -0.4**
PAX Paxson 49.57 35 PFAKE 05 57 00.0 +14
PAX LR LR
comp=Z,3μm,22.0s
DGPR DIGLIPUR 49.59 254 *e*P **P 05 56 45.6 -1.2**
DGPR IAmb IAmb 05 56 48.7
comp=Z,524nm,0.0s
IPM Ipoh 49.62 238 *e*P **P 05 56 46.8 -0.3**
comp=Z,458nm,1.5s
IPM LR LR
comp=Z,6μm,20.0s
IPM Ipoh 49.62 238 P **P 05 56 47.0 -0.1**
DIV Divide 49.62 37 PFAKE 05 57 00.0 +13
DIV LR LR
comp=Z,4μm,20.0s
EYAK Cordova Ski Ar 49.71 38 PFAKE 05 57 00.0 +13
EYAK LR LR
comp=Z,8μm,22.0s
HARP HAARP 49.77 36 PFAKE 05 57 00.0 +12
HARP LR LR
comp=Z,4μm,18.0s
RIDG Independent Ri 49.78 34 *e*P **P 05 56 47.7 -0.1**
comp=Z,110nm,1.0s
RIDG LR LR
comp=Z,4μm,20.0s
MYKOM Kota Tinggi 49.79 233 *e*P **P 05 56 48.4 +0.1**
comp=Z,97nm,1.1s
MYKOM LR LR
comp=Z,5μm,20.0s
MYKOM Kota Tinggi 49.79 233 P **P 05 56 49.0 +0.7**
BTLS Baital 49.84 301*c i*P **P 05 56 48.4 0.0**
BTLS *e*S **S 06 03 52.7 -2.2**
BTLS pmax pmax
comp=Z,163nm,1.4s
BTLS smax smax
comp=E,197nm,6.8s

BTLS MLR MLR
comp=Z,2μm,17.0s
BTLS Baital 49.84 301⇑ iP P 05 56 48.4 0.0
comp=Z,163nm,1.4s
BTLS eS S 06 03 52.7 -2.2
comp=Z,197nm,6.8s
BTLS eLR LR 06 19 18.7
comp=Z,2μm,17.3s
KZA Kyzart 49.90 297 P **P 05 56 51.0 +1.6**
SNR=234
KBK Karagaybulak 49.93 298 P **P 05 56 50.2 +0.8**
SNR=13
CHMS Chumysh 49.96 298 P **P 05 56 50.0 +0.5**
SNR=5.8
SOEI Soe 49.97 203 PFAKE 05 57 00.0 +10
SOEI LR LR
comp=Z,3μm,22.0s
SOEI Soe 49.97 203 P **P 05 56 48.8 -0.9**
HNR Honiara 50.00 156 PFAKE 05 57 00.0 +10
HNR LR LR
comp=Z,10μm,21.0s
HNR Honiara 50.00 156 LR LR 06 17 12.7
comp=Z,8μm,20.1s,baz=322,slow=35
TPRI Tanjung Pinang 50.04 232 P **P 05 56 49.9 -0.3**
USP Ospenovka 50.06 299 P **P 05 56 50.6 +0.5**
SNR=14
OTUK Ortayu 50.10 305 i P **P 05 56 50.3 -0.1**
OTUK pmax pmax
comp=Z,521nm,1.2s
FRU1 Bishkek 50.10 298 eP **P 05 56 51.4 +0.8**
comp=Z,383nm,1.0s
FRU1 LR LR
comp=Z,13μm,18.0s
SCRK Sand Creek 50.13 34 eP **P 05 56 50.8 +0.3**
comp=Z,190nm,1.0s
SCRK LR LR
comp=Z,3μm,20.0s
DOT Dot Lake 50.13 34 eP **P 05 56 50.9 +0.5**
comp=Z,86nm,0.9s
DOT LR LR
comp=Z,4μm,22.0s
BVAR Borovoye Array 50.18 312 P **P 05 56 51.0 +0.2**
comp=Z,70nm,0.6s,baz=77,slow=6.5,SNR=183
BVAR PcP **PcP 05 58 08.5 -1.0**
comp=Z,74nm,0.8s,baz=98,slow=3.0,SNR=5.3
BVAR LR LR 06 19 13.0
comp=Z,386nm,18.5s,baz=356,slow=37
BVAR P4KPbc 06 34 23.5
comp=Z,1.1nm,0.6s,baz=84,slow=5.9,SNR=4.6
KSH Kashi 50.22 294 P **P 05 56 56.0 +4.4**
KSH pP pP 05 57 06.6 +2.4
KSH PP **PP 05 58 54.0 +7.0**
KSH S **S 06 04 06.5 +5.9**
KSH SS **SS 06 07 38.9 +4.8**
KSH pmax pmax
comp=Z,380nm,0.8s
KSH pmax pmax
comp=Z,3μm,5.4s
KSH LR LR
comp=Z,7μm,13.3s
KSH LR LR
comp=Z,7μm,14.7s
KSH LR LR
comp=Z,5μm,13.3s
BRVK Borovoye 50.23 312 eP **P 05 56 51.3 +0.1**
comp=Z,161nm,0.9s
BRVK LR LR
comp=Z,14μm,19.0s
BRVK Borovoye 50.23 312 ceP **P 05 56 51.3 +0.1**
BRVK pmax pmax
comp=Z,173nm,1.0s
BRVK Borovoye 50.23 312 P **P 05 56 51.8 +0.5**
SNR=99
BRVK P **P 05 56 51.8 +0.5**
SNR=99
BRVK P **P 05 56 51.8 +0.5**
SNR=99
AAK Ala-Archa 50.25 298 P **P 05 56 52.3 +0.5**
SNR=154
AAK Ala-Archa 50.25 298 eP **P 05 56 52.1 +0.2**
comp=Z,168nm,0.8s
AAK LR LR
comp=Z,15μm,19.0s
AAK Ala-Archa 50.25 298 i P **P 05 56 52.6 +0.7**
SNR=37
AAK Ala-Archa 50.25 298 ceP **P 05 56 52.0 +0.2**
AAK pmax pmax
comp=Z,189nm,0.8s
AAK Ala-Archa 50.25 298 P **P 05 56 52.5 +0.7**
SNR=108
AAK P **P 05 56 52.5 +0.7**
SNR=108
AAK P **P 05 56 52.5 +0.7**
SNR=108
MENT Mentasta 50.37 35 PFAKE 05 57 00.0 +7.8
MENT LR LR
comp=Z,4μm,20.0s
UCH Uchtor 50.37 297 P **P 05 56 53.9 +0.8**
SNR=113
HMT Hamilton 50.47 38 eP **P 05 56 54.2 +1.3**
comp=Z,142nm,1.0s
HMT LR LR
comp=Z,4μm,20.0s
BATI Baumata 50.58 203 P **P 05 56 53.0 -1.2**
PBA Port Blair 50.68 252 eP P 05 56 55.0 -0.1
PBA IAmb IAmb 05 56 59.7
comp=Z,141nm,1.3s
EKS2 Erkin-Say 50.75 298 P **P 05 56 56.0 +0.5**
SNR=205
PTH Pithoragarh 50.93 280 eP **P 05 56 54.9 -2.1**
AML Almayashu 50.98 298 P **P 05 56 58.6 +1.1**
SNR=19
BWNR Bhubaneshwar 51.03 266 ex **P 05 56 53.8 -3.9**
BWNR IAmb IAmb 05 56 55.2
comp=Z,146nm,1.3s
TGL Tana Glacier 51.10 38 PFAKE 05 57 10.0 +12
TGL LR LR
comp=Z,2μm,21.0s
BCAR Beaver Creek A 51.23 35 eP **P 05 56 59.9 +1.2**
EGAK Eagle 51.26 32 PFAKE 05 57 10.0 +11
EGAK LR LR
comp=Z,2μm,20.0s
BALM Baldy 51.29 37 PFAKE 05 57 10.0 +11
BALM LR LR
comp=Z,2μm,20.0s
PLAI Plampang 51.41 211 P **P 05 56 58.8 -1.6**
COEN Coen 51.46 178 PFAKE 05 57 10.0 +9.2
COEN LR LR
comp=Z,3μm,22.0s
KMMI Kalianget 51.48 216 P **P 05 57 00.9 -0.1**
BASI Baing, Sumba 51.62 207 P **P 05 56 59.1 -2.9**
ARSB Arslanbob 51.75 297 eP **P 05 57 03.5 +0.4**
comp=Z,575nm,1.1s
ARSB LR LR
comp=Z,21μm,22.0s
CTGM Chitina Glacie 51.78 37 PFAKE 05 57 20.0 +17
CTGM LR LR
comp=Z,2μm,20.0s
SRBI Singaraja 51.83 214 P **P 05 57 03.7 +0.1**
LHMI Lhok Sumawe 51.90 243 PFAKE 05 57 20.0 +16
LHMI LR LR
comp=Z,8μm,22.0s
LHMI Lhok Sumawe 51.90 243 P **P 05 57 02.0 -2.2**
GRJI Gresik 52.07 218 P **P 05 57 05.0 -0.4**
DAWY Dawson 52.13 33 PFAKE 05 57 20.0 +15
DAWY LR LR
comp=Z,5μm,22.0s
DDI Dehra Dun 52.27 282 eP **P 05 57 06.0 -0.8**
DDI IAmb IAmb 05 57 07.1
comp=Z,93nm,0.0s
PSI Prapat 52.27 239 eP **P 05 57 06.3 -0.9**
comp=Z,115nm,0.9s
PSI LR LR
comp=Z,6μm,21.0s
PCA Pinnacle 52.48 38 PFAKE 05 57 20.0 +12
PCA LR LR
comp=Z,3μm,20.0s
SMLA Simla 52.60 283 eP **P 05 57 08.5 -0.8**
JAGI Jajag, Banyuwa 52.65 215 eP **P 05 57 07.5 -2.2**
comp=Z,217nm,1.0s
JAGI Jajag, Banyuwa 52.65 215 P **P 05 57 09.0 -0.7**
BKNI Bangkinang 52.71 235 eP **P 05 57 10.4 +0.2**
comp=Z,625nm,1.0s
BKNI LR LR
comp=Z,3μm,19.0s
BKNI Bangkinang 52.71 235 P **P 05 57 10.8 +0.6**

DHRM DHARAMSHALA 52.78 285 eP **P 05 57 10.0 -0.9**
DHRM IAML 05 57 11.1
comp=Z,239nm,1.3s
GMJI Gumukmas 52.80 216 P **P 05 57 07.8 -3.0**
BCPM Bancas Point 52.81 38 PFAKE 05 57 20.0 +10
BCPM LR LR
comp=Z,4μm,22.0s
EPYK Eagle Plains 52.84 30 eP **P 05 57 12.2 +1.6**
comp=Z,550nm,1.0s
EPYK Eagle Plains 52.84 30 P **P 05 57 12.4 +1.9**
baz=280,SNR=331
CMBY CAMPBELL BAY 52.84 247 eP **P 05 57 09.9 -1.2**
CMBY IAmb IAmb 05 57 14.2
comp=Z,394nm,1.8s
KK31 Karatay Array 52.87 300 eP **P 05 57 11.1 0.0**
comp=Z,218nm,1.0s
KK31 Karatay Array 52.87 300 i P **P 05 57 11.2 0.0**
KK31 pmax pmax
comp=Z,167nm,1.0s
KKAR Karatay Array 52.87 300 eP **P 05 57 10.9 -0.3**
PMBI Palembang 52.92 229 P **P 05 57 12.6 +0.9**
BHK Bhakra 53.05 284 eP **P 05 57 13.0 +0.3**
JBG Jabagly 53.08 299 c iP **P 05 57 13.7 +0.8**
JBG pmax pmax
comp=Z,289nm,2.5s
JBG MLR MLR
comp=Z,2μm,17.0s
TPTI 53.13 241 P **P 05 57 10.5 -2.8**
SMRI Semarang 53.20 220 P **P 05 57 13.4 -0.4**
PWJI Pagerwojo 53.36 218 P **P 05 57 13.6 -1.3**
IUG Iuzhnay 53.53 299 c iP **P 05 57 16.7 +0.6**
IUG pmax pmax
comp=Z,298nm,1.4s
IUG MLR MLR
comp=Z,3μm,18.0s
IUG Iuzhnay 53.53 299⇑ iP **P 05 57 16.7 +0.6**
comp=Z,298nm,1.4s
IUG eLR LR 06 20 30.9
comp=Z,3μm,17.7s
WOJI Wonogiri, Jawa 53.63 219 P **P 05 57 14.2 -2.7**
HYT Haines Junctio 53.64 37 eP **P 05 57 19.1 +2.4**
comp=Z,464nm,1.2s
HYT LR LR
comp=Z,4μm,22.0s
NDI New Delhi 53.66 280 eP **P 05 57 17.0 -0.1**
INK Inuvik 53.69 27 eP **P 05 57 17.5 +0.8**
comp=Z,198nm,1.0s
INK Inuvik 53.69 27 P **P 05 57 18.0 +1.4**
comp=Z,120nm,0.8s,baz=284,slow=7.1,SNR=385
CHM Chimkent 53.77 299 eP **P 05 57 17.5 -0.2**
CHM pmax pmax
comp=Z,273nm,2.1s
CHM Chimkent 53.77 299 eP **P 05 57 17.6 -0.2**
comp=Z,273nm,2.1s
PCJI Pacitan 53.81 218 P **P 05 57 15.4 -2.8**
JCJI Jatiwangi 53.86 222 P **P 05 57 19.8 +1.2**
UGM Wanagama 53.89 219 eP **P 05 57 17.2 -1.7**
comp=Z,838nm,1.0s
UGM LR LR
comp=Z,2μm,22.0s
UGM Wanagama 53.89 219 P **P 05 57 17.4 -1.5**
YOGI Yogyakarta 53.93 220 P **P 05 57 18.0 -1.1**
OPA Opana 53.99 89 eP **P 05 57 21.0 +1.3**
comp=Z,589nm,1.3s
PDSI Padang 54.02 234 P **P 05 57 18.0 -1.9**
KIP Kipapa 54.13 89 eP **P 05 57 21.3 +0.7**
comp=Z,129nm,1.0s
KIP Kipapa 54.13 89 P **P 05 57 21.3 +0.7**
JBP Jabalpur 54.15 273 eP **P 05 57 20.7 0.0**
JBP AMB AMB 05 57 21.9
comp=Z,593nm,1.1s
JBP ex x 06 05 05.0
GSI Gunungsitoli 54.28 239 eP **P 05 57 21.9 +0.1**
comp=Z,720nm,1.0s
GSI LR LR
comp=Z,6μm,20.0s
GSI Gunungsitoli 54.28 239 P **P 05 57 21.3 -0.4**
TNG Tangerang 54.48 224 P **P 05 57 22.4 -0.7**
LEM Lembang 54.49 223 P **P 05 57 23.1 -0.3**
LEM pmax pmax
comp=Z,165nm,1.0s
LEM Lembang 54.49 223 P **P 05 57 22.9 -0.5**
GAR Garm 54.50 295 PFAKE 05 57 40.0 +17
GAR LR LR
comp=Z,24μm,20.0s
NIL Nilore 54.51 288 eP **P 05 57 23.6 +0.3**
comp=Z,350nm,1.0s
NIL Nilore 54.51 288 P **P 05 57 23.6 +0.3**
NIL pmax pmax
comp=Z,333nm,1.3s
SVE Sverdlovsk 54.69 318 d iP **P 05 57 24.9 +0.8**
SVE e 05 59 32.2
SVE eS **S 06 04 58.2 -2.6**
SVE e 06 10 47.5
SVE pmax pmax
comp=Z,879nm,1.3s
SVE MLR MLR
comp=E,16μm,17.0s
SVE MLR MLR
comp=Z,19μm,17.0s
PBSI Pulau Batu 54.80 237 P **P 05 57 25.0 -0.5**
WHY Whitehorse 54.93 37 eP **P 05 57 27.6 +1.6**
comp=Z,144nm,1.0s
WHY LR LR
comp=Z,2μm,21.0s
CISI Cisompet, Garu 54.99 222 eP **P 05 57 23.8 -3.1**
comp=Z,140nm,1.0s
CISI LR LR
comp=Z,2μm,21.0s
SKAG Skagway 55.05 38 PFAKE 05 57 40.0 +13
SKAG LR LR
comp=Z,3μm,22.0s
SISI Saibi 55.22 235 P **P 05 57 27.1 -1.4**
CGJI Cibinong 55.37 225 P **P 05 57 26.7 -2.9**
CHGR Chuyangaron 55.47 295 PFAKE 05 57 40.0 +10
CHGR LR LR
comp=Z,55μm,21.0s
BESE Bessie Mountai 55.54 39 eP **P 05 57 32.1 +1.7**
comp=Z,210nm,1.1s
BESE LR LR
comp=Z,2μm,21.0s
JIS Juneau Island 55.87 39 eP **P 05 57 34.5 +1.9**
comp=Z,207nm,1.0s
JIS LR LR
comp=Z,2μm,21.0s
ARU Arti 55.90 318 eP **P 05 57 32.9 +0.1**
comp=Z,563nm,0.9s
ARU LR LR
comp=Z,16μm,18.0s
ARU Arti 55.90 318 c iP **P 05 57 33.1 +0.3**
ARU *PP **pP 05 57 45.1 -0.6**
ARU 05 58 32.1
ARU 05 59 36.4
ARU S **S 06 05 18.4 +1.4**
ARU *SS **sS 06 05 38.2 -0.2**
ARU 06 07 17.3
ARU SS **SS 06 09 02.0 -0.7**
ARU pmax pmax
comp=Z,624nm,0.9s
ARU MLR MLR
comp=Z,17μm,17.0s
ARU Arti 55.90 318 P **P 05 57 33.2 +0.3**
comp=Z,165nm,0.8s,baz=80,slow=4.7,SNR=430
ARU LR LR 06 23 51.4
comp=Z,38μm,18.0s,baz=68,slow=38
NGP Nagpur 55.93 271⇑ eP **P 05 57 32.8 -0.8**
NGP IAmb IAmb 05 57 34.4
comp=Z,445nm,2.5s
NGP ex x 06 05 14.6
BHPL Bhopal 56.14 275 eP **P 05 57 33.1 -2.0**
BHPL IAmb IAmb 05 57 35.2
comp=Z,155nm,0.4s
HPAH Hawaii Prepara 56.70 90 PFAKE 05 57 50.0 +11
HPAH LR LR
comp=Z,3μm,22.0s
HUH Hualalai 56.78 90 PFAKE 05 57 50.0 +10
HUH LR LR
comp=Z,5μm,18.0s
KHLU Kahalu`u 56.78 90 PFAKE 05 57 50.0 +10
KHLU LR LR
comp=Z,4μm,21.0s
POHA Pohakuloa 56.98 90 eP **P 05 57 42.0 +0.6**
comp=Z,322nm,1.1s
POHA LR LR
comp=Z,4μm,22.0s

MLOA Mauna Loa Obse 57.06 90 PFAKE 05 58 00.0 +18
MLOA LR LR
comp=Z,6μm,22.0s
MWH Moku'aweowe 57.07 90 eP **P 05 57 44.3 +1.9**
comp=Z,586nm,1.5s
MWH LR LR
comp=Z,4μm,20.0s
KHU Kahuku 57.19 90 PFAKE 05 58 00.0 +17
KHU LR LR
comp=Z,7μm,22.0s
MLH Mauna Loa 57.24 90 eP **P 05 57 44.8 +1.6**
comp=Z,150nm,1.0s
AIN Ainahou 57.25 90 eP **P 05 57 44.9 +1.7**
comp=Z,262nm,1.0s
AIN LR LR
comp=Z,6μm,22.0s
KBL Kabul 57.27 291 eP **P 05 57 42.7 -0.6**
comp=Z,450nm,1.0s
KBL LR LR
comp=Z,8μm,21.0s
KBL Kabul 57.27 291 P **P 05 57 42.6 -0.7**
KBL pmax pmax
comp=Z,465nm,1.1s
UWE Uwekahuna 57.35 90 PFAKE 05 58 00.0 +16
UWE LR LR
comp=Z,5μm,22.0s
WRMHI West Rim 57.35 90 PFAKE 05 58 00.0 +16
WRMHI LR LR
comp=Z,4μm,22.0s
OBL Observatory Le 57.36 90 PFAKE 05 58 00.0 +16
OBL LR LR
comp=Z,6μm,22.0s
SBLHI Steaming Bluff 57.37 90 PFAKE 05 58 00.0 +16
SBLHI LR LR
comp=Z,5μm,22.0s
SDHHI Sand Hill 57.37 90 PFAKE 05 58 00.0 +16
SDHHI LR LR
comp=Z,4μm,21.0s
HATHI Halema'uma'u T 57.37 90 PFAKE 05 58 00.0 +16
HATHI LR LR
comp=Z,5μm,21.0s
RIM Rim 57.38 90 PFAKE 05 58 00.0 +16
RIM LR LR
comp=Z,5μm,21.0s
BYL Byron's Ledge 57.38 90 PFAKE 05 58 00.0 +16
BYL LR LR
comp=Z,6μm,21.0s
KKO Keanakako`i 57.38 90 PFAKE 05 58 00.0 +16
KKO LR LR
comp=Z,5μm,21.0s
HLP Hilina Pali 57.41 90 PFAKE 05 58 00.0 +16
HLP LR LR
comp=Z,5μm,20.0s
PUH Pauahi 57.44 90 PFAKE 05 58 00.0 +16
PUH LR LR
comp=Z,6μm,22.0s
CRAG Craig 57.44 42 eP **P 05 57 45.3 +1.5**
comp=Z,233nm,1.2s
CRAG LR LR
comp=Z,3μm,21.0s
STCH Steam Cracks 57.50 90 PFAKE 05 58 00.0 +15
STCH LR LR
comp=Z,5μm,21.0s
WRAK Wrangell Islan 57.52 41 eP **P 05 57 46.4 +2.1**
comp=Z,157nm,1.2s
FITZ Fitzroy Crossi 57.55 198 eP **P 05 57 44.9 0.0**
comp=Z,306nm,1.3s
AB31 Akbulak array 57.57 310 i P **P 05 57 44.9 +0.1**
AB31 pmax pmax
comp=Z,110nm,0.7s
ABKAR Akbulak array 57.57 310 eP **P 05 57 44.4 -0.4**
comp=Z,371nm,1.2s
CTA Charters Tower 57.71 175 P **P 05 57 47.9 +1.9**
CTA pmax pmax
comp=Z,97nm,1.3s
CTAO Charters Tower 57.71 175 eP **P 05 57 45.7 -0.3**
comp=Z,202nm,1.4s
CTAO Charters Tower 57.71 175 P **P 05 57 47.9 +1.9**
CTAO pmax pmax
comp=Z,91nm,1.7s
WC2 Warramunga Arr 57.78 188 PFAKE 05 58 00.0 +13
WC2 LR LR
comp=Z,5μm,22.0s
WC1 Warramunga Arr 57.78 188 PFAKE 05 58 00.0 +13
WC1 LR LR
comp=Z,2μm,20.0s
WRAB Tennant Creek 57.78 188 eP **P 05 57 45.5 -1.1**
comp=Z,218nm,0.8s
WRAB LR LR
comp=Z,4μm,22.0s
WRAB Tennant Creek 57.78 188 c iP **P 05 57 45.8 -0.8**
WRAB pmax pmax
comp=Z,38nm,0.5s
WB2 Warramunga Arr 57.80 188 eP **P 05 57 45.7 -0.9**
comp=Z,234nm,0.8s
WB2 LR LR
comp=Z,3μm,21.0s
WR1 Warramunga Arr 57.80 188 eP **P 05 57 46.0 -0.7**
WR1 eS **S 06 05 39.3 -3.4**
WR1 ⇑e 06 27 42.4
WR1 eP'P'ab P'P'ab 06 28 00.2 +8.4
WR3 Warramunga Arr 57.80 188 PFAKE 05 58 00.0 +13
WR3 LR LR
comp=Z,2μm,21.0s
WR4 Warramunga Arr 57.80 188 PFAKE 05 58 00.0 +13
WR4 LR LR
comp=Z,2μm,21.0s
WRA Warramunga Arr 57.80 188 P **P 05 57 46.0 -0.7**
comp=Z,178nm,0.8s,baz=6.1,slow=6.9,SNR=687
WRA S **S 06 05 39.3 -3.4**
comp=Z,5.8nm,1.1s,baz=23,slow=7.5,SNR=4.6
WRA PKPPKP 06 27 31.6
comp=Z,2.6nm,0.9s,baz=180,slow=1.4,SNR=8.1
WRA PKP2bc 06 27 42.4
comp=Z,5.1nm,1.0s,baz=195,slow=2.9,SNR=7.2
WRA PKP2ab 06 28 00.2
comp=Z,8.6nm,0.9s,baz=191,slow=3.2,SNR=9.1
WC3 Warramunga Arr 57.81 188 PFAKE 05 58 00.0 +13
WC3 LR LR
comp=Z,5μm,22.0s
WC4 Warramunga Arr 57.81 188 PFAKE 05 58 00.0 +13
WC4 LR LR
comp=Z,2μm,20.0s
DLBC Dease Lake 57.98 38 eP **P 05 57 49.7 +2.0**
comp=Z,244nm,1.2s
DLBC LR LR
comp=Z,3μm,21.0s
AKTO Aktyubinsk 58.28 312 P **P 05 57 49.6 -0.2**
comp=Z,184nm,0.9s,baz=75,slow=7.4,SNR=196
AKTO LR LR 06 24 10.6
comp=Z,9μm,18.6s,baz=64,slow=37
AKTO PKP2bc 06 27 41.2
comp=Z,0.6nm,0.4s,baz=203,slow=7.7,SNR=4.3
HYB Hyderabad 58.35 268⇑ iP **P 05 57 51.0 +0.2**
comp=Z,146nm,0.8s
HYB eS **S 06 05 48.0 -2.3**
HYB Hyderabad 58.35 268 eP **P 05 57 51.1 +0.3**
DIB Dawson Inlet, 58.62 45 eP **P 05 57 52.9 +0.8**
comp=Z,243nm,1.2s
DIB LR LR
comp=Z,3μm,21.0s
KNTN Kanton 59.10 122 eP **P 05 57 56.8 +0.8**
comp=Z,116nm,0.9s
KNTN LR LR
comp=Z,6μm,21.0s
HOPEN Hopen 59.37 346⇑ iP **P 05 57 58.0 +1.0**
HOPEN ePP **PP 06 00 09.1 +1.2**
HOPEN eS **S 06 06 02.4 +0.5**
HOPEN eScS **ScS 06 07 45.0 +2.4**
MDRS Chennai 59.49 263 eP **P 05 57 57.7 -1.0**
KIRV Kirov 59.74 323 P **P 05 58 00.3 +0.6**
comp=Z,625nm,0.8s,baz=72,slow=2.6,SNR=248
KIRV LR LR 06 26 24.5
comp=Z,4μm,18.1s,baz=69,slow=38
SPA0 Spitsbergen Ar 59.84 349 eP **P 05 58 00.7 +0.5**
comp=Z,161nm,1.2s
SPA0 Spitsbergen Ar 59.84 349⇑ iP **P 05 58 00.7 +0.5**
SPA0 epP **pP 05 58 12.5 -0.6**
SPA0 eS **S 06 06 09.5 +1.5**
SPITS Spitsbergen Ar 59.84 349 P **P 05 58 00.7 +0.5**
SPITS pmax pmax
comp=Z,11nm,0.5s
SPITS Spitsbergen Ar 59.84 349 LR LR 06 25 41.7
comp=Z,6μm,20.4s,baz=50,slow=38
KBS Kingsbay 59.96 350 eP **P 05 58 01.6 +0.6**
comp=Z,235nm,0.9s

KBS LR LR
comp=Z,3μm,18.0s
KBS Kingsbay 59.96 350 *ce*P **P 05 58 02.4 +1.4**
KBS pmax pmax
comp=Z,1μm,1.3s
KBS Kingsbay 59.96 350⇑ *i*P **P 05 58 02.1 +1.1**
KBS IVmB_BB 05 58 02.6
comp=Z,2μm,1.1s
KBS *es*P **sP 05 58 18.4 -0.7**
KBS *e*S **S 06 06 11.5 +1.9**
KBS *e*ScS **ScS 06 07 49.3 +2.3**
KBS IVMs_BB IVMs_BB 06 26 59.8
comp=Z,1μm,21.6s
PRGR Permogore 60.23 327⇑ *i*P **P 05 58 03.4 +0.4**
PRGR pmax pmax
comp=Z,464nm,0.9s
HSPB Hornsund (broa 60.76 348 *e*P **P 05 58 07.5 +1.0**
HSPB *e*S **S 06 06 19.8 0.0**
HSPB MLR MLR
comp=Z,32μm,21.8s
HSPB Hornsund (broa 60.76 348⇑ *i*P **P 05 58 07.5 +1.0**
HSPB *es*P **sP 05 58 24.0 -0.6**
HSPB *e*PP **PP 06 00 20.8 +0.6**
HSPB *e*S **S 06 06 20.4 +0.6**
HSPB *e*ScS **ScS 06 07 53.3 +0.3**
HSPB IVMs_BB IVMs_BB 06 26 03.4
comp=Z,2μm,19.6s
BBB Bella Bella 61.46 44 PFAKE 05 58 20.0 +8.4
BBB LR LR
comp=Z,2μm,21.0s
POO Poona 61.46 272 *e*P **P 05 58 10.8 -1.4**
POO IAmb IAmb 05 58 11.6
comp=Z,219nm,2.5s
LVZ Lovozero 61.50 336 *e*P **P 05 58 10.6 -1.1**
comp=Z,171nm,0.7s
LVZ LR LR
comp=Z,12μm,19.0s
LVZ Lovozero 61.50 336 *ce*P **P 05 58 11.4 -0.3**
LVZ pmax pmax
comp=Z,222nm,1.0s
AS31 Alice Springs 61.52 188 *e*P **P 05 58 11.4 -0.9**
comp=Z,27nm,0.8s
AS31 LR LR
comp=Z,100nm,22.0s
ASAR Alice Springs 61.52 188 *e*P **P 05 58 11.4 -0.9**
ASAR Alice Springs 61.52 188 P **P 05 58 12.0 -0.3**
ASAR Alice Springs 61.52 188 P **P 05 58 11.9 -0.3**
comp=Z,96nm,0.8s,baz=9.9,slow=5.9,SNR=559
ASAR LR LR 06 24 19.1
comp=Z,3μm,21.4s,baz=359,slow=35
ASAR PKP2bc 06 27 32.5
comp=Z,4.1nm,0.8s,baz=178,slow=2.2,SNR=10
ASAR P4KPbc 06 35 14.6
comp=Z,0.8nm,0.8s,baz=0.0,slow=5.6,SNR=9.2
BJO Bjornoya 61.75 345 IVmB_BB 05 58 14.1
comp=Z,3μm,2.9s
BJO *e*P **P 05 58 14.1 +0.9**
RES Resolute Bay 61.87 15 *e*P **P 05 58 14.2 +0.2**
comp=Z,183nm,0.9s
RES LR LR
comp=Z,2μm,21.0s
RES Resolute Bay 61.87 15 P **P 05 58 13.8 -0.2**
RES pmax pmax
comp=Z,224nm,1.0s
MBWA Marble Bar 62.10 203 P **P 05 58 16.2 0.0**
SNR=19
MBWA P **P 05 58 16.2 0.0**
SNR=19
MBWA P **P 05 58 16.2 0.0**
SNR=19
TMCR Tamitsa 62.17 331 *e*P **P 05 58 16.7 +0.6**
TMCR *e*S **S 06 06 38.5 +0.6**
TMCR pmax pmax
comp=Z,430nm,1.1s
BHJ Bhuj 62.24 279 *e*P **P 05 58 16.4 -0.9**
BHJ IAmb IAmb 05 58 19.3
PSA00 Pilbara Seismi 62.46 203 *e*P **P 05 58 18.0 -0.6**
comp=Z,171nm,0.9s
PALK Pallekele 62.65 257 *e*P **P 05 58 19.8 -0.3**
comp=Z,132nm,0.9s
PALK LR LR
comp=Z,3μm,22.0s
PALK Pallekele 62.65 257 *i*P **P 05 58 20.3 +0.2**
SNR=18
KEV Kevo 62.81 339 *e*P **P 05 58 20.6 +0.2**
comp=Z,171nm,0.8s
KEV LR LR
comp=Z,8μm,18.0s
KEV Kevo 62.81 339 P **P 05 58 20.7 +0.4**
KEV pmax pmax
comp=Z,292nm,1.2s
YKW3 Yellowknife Ar 63.08 30 *e*P **P 05 58 22.1 -0.1**
comp=Z,113nm,1.1s
YKW3 LR LR
comp=Z,2μm,22.0s
YKA Yellowknife Ar 63.12 30 *e*P **P 05 58 22.1 -0.5**
YKA Yellowknife Ar 63.12 30 P **P 05 58 23.0 +0.5**
YKA Yellowknife Ar 63.12 30 P **P 05 58 23.0 +0.5**
comp=Z,52nm,0.9s,baz=301,slow=6.7,SNR=433
YKA LR LR 06 25 53.0
comp=Z,186nm,21.8s,baz=288,slow=36
YKA PKP2bc 06 27 28.6
comp=Z,1.8nm,0.9s,baz=121,slow=2.3,SNR=6.6
YKA P4KPbc 06 35 21.0
comp=Z,0.4nm,0.8s,baz=301,slow=4.6,SNR=5.9
YKB5 Yellowknife Ar 63.12 30 *e*P **P 05 58 23.0 +0.5**
GOA Goa 63.17 269 *e*P **P 05 58 23.1 -0.5**
HAMF Hammerfest 63.17 341⇑ *i*P **P 05 58 22.8 +0.1**
HAMF IVmB_BB 05 58 23.3
comp=Z,2μm,1.6s
HAMF *es*P **sP 05 58 40.2 -0.7**
HAMF *e*S **S 06 06 50.9 +0.5**
HAMF IVMs_BB IVMs_BB 06 31 19.7
comp=Z,3μm,17.0s
KLMR Klimovskoe 63.21 328⇓ *i*P **P 05 58 23.2 +0.1**
KLMR pmax pmax
comp=Z,239nm,0.8s
ARA0 ARCESS Array S 63.36 339 *e*P **P 05 58 24.4 +0.4**
ARCES ARCESS Array B 63.36 339 *e*P **P 05 58 24.1 0.0**
ARCES ARCESS Array B 63.36 339 P **P 05 58 24.4 +0.4**
comp=Z,146nm,0.9s,baz=52,slow=7.8,SNR=274
ARCES PP **PP 06 00 44.2 +1.0**
comp=Z,44nm,1.0s,baz=54,slow=11,SNR=4.0
ARCES LR LR 06 30 09.4
comp=Z,4μm,18.7s,baz=46,slow=40
ARE0 ARCESS Array S 63.36 339 *e*P **P 05 58 23.5 -0.5**
comp=Z,13nm,1.2s
ARE0 LR LR
comp=Z,300nm,19.0s
ARE0 ARCESS Array S 63.36 339⇑ *i*P **P 05 58 24.6 +0.6**
ARE0 *ep*P **pP 05 58 36.1 -1.0**
ARE0 *e*S **S 06 06 52.7 -0.1**
ARE0 *e*SKSac **SKKSac 06 08 12.0 -0.9**
ARE0 *e*SS **SS 06 11 00.5 +1.4**
ARE0 IVMs_BB IVMs_BB 06 26 53.3
comp=Z,3μm,28.9s
ASHT Ashkhabad 63.40 299 P **P 05 58 27.2 +2.4**
ASHT pmax pmax
comp=Z,344nm,1.3s
EIDS Eidsvold 63.43 170 *e*P **P 05 58 25.0 +0.1**
comp=Z,152nm,1.3s
EIDS LR LR
comp=Z,3μm,22.0s
GEYT Alibeck 63.59 299 P **P 05 58 26.5 +0.3**
comp=Z,178nm,0.8s,baz=47,slow=2.8,SNR=6.7
GEYT LR LR 06 27 53.7
comp=Z,4μm,20.1s,baz=60,slow=38
GYA0B ALIBECK ARRAY 63.59 299 *e*P **P 05 58 26.3 +0.2**
comp=Z,313nm,1.1s
GYA0B LR LR
comp=Z,5μm,18.0s
DZM Mont Dzumac 63.95 154 *e*P **P 05 58 31.2 +2.7**
comp=Z,523nm,1.4s
DZM *e*S **S 06 07 04.3 +3.1**
comp=Z,7μm,36.4s
DZM Mont Dzumac 63.95 154 *e*LR LR 06 17 32.9
comp=Z,16μm,21.5s
DZM Mont Dzumac 63.95 154 PFAKE 05 58 40.0 +11
DZM LR LR
comp=Z,11μm,21.0s
DZM Mont Dzumac 63.95 154 P **P 05 58 29.6 +1.0**
comp=Z,19nm,0.9s,baz=328,slow=5.4
ONTNC Ouen Toro 64.17 154 PFAKE 05 58 40.0 +10
ONTNC LR LR
comp=Z,8μm,20.0s
KTK1 Kautokeino 64.32 339⇑ *i*P **P 05 58 30.8 +0.5**
KTK1 IVmBBB 05 58 31.4
comp=Z,2μm,0.7s
KTK1 *es*P **sP 05 58 47.5 -1.1**
KTK1 *e*PP **PP 06 00 49.6 -2.0**
KTK1 *e*S **S 06 07 05.9 +1.2**
SGF Sodankyl 64.33 337 P **P 05 58 30.5 +0.1**
SGF pmax pmax
comp=Z,491nm,0.9s
OUENC Ouen Island, N 64.41 154 *e*P **P 05 58 33.7 +2.3**
comp=Z,221nm,1.3s
OUENC LR LR
comp=Z,8μm,21.0s
MSF Maaselka 64.44 335 P **P 05 58 31.3 +0.1**
MSF pmax pmax
comp=Z,353nm,0.8s
TRD Trivandrum 64.80 261 *e*P **P 05 58 34.8 +0.6**
PINNC Pines Island, 64.80 154 PFAKE 05 58 50.0 +16
PINNC LR LR
comp=Z,5μm,20.0s
COCO West Island 65.00 229 *e*P **P 05 58 36.3 +0.9**
comp=Z,263nm,1.1s
COCO West Island 65.00 229 *i*P **P 05 58 37.2 +1.8**
DAG Danmarks Havn 65.06 355⇑ *i*P **P 05 58 35.3 +0.3**
DAG pmax pmax
comp=Z,230nm,1.0s
DAG Danmarks Havn 65.06 355⇑ *i*P **P 05 58 35.3 +0.3**
comp=Z,227nm,1.0s
TRO Tromso 65.07 341⇑ *i*P **P 05 58 35.3 +0.2**
TRO IVmB_BB 05 58 35.8
comp=Z,2μm,1.2s
TRO *es*P **sP 05 58 52.6 -0.8**
TRO *e*PP **PP 06 00 59.3 +1.2**
TRO *e*S **S 06 07 15.2 +1.4**
TRO IVMs_BB IVMs_BB 06 31 50.8
comp=Z,3μm,17.3s
JOF Joensuu 65.38 332 P **P 05 58 37.0 -0.3**
JOF pmax pmax
comp=Z,255nm,1.2s
LLLB Lillooet 65.65 44 PFAKE 05 58 50.0 +11
LLLB LR LR
comp=Z,3μm,20.0s
OUL Oulu 65.99 335 P **P 05 58 41.0 -0.2**
OUL pmax pmax
comp=Z,511nm,1.0s
XMAS Kiritimati 66.06 107 *e*P **P 05 58 43.5 +1.1**
comp=Z,187nm,1.0s
XMAS LR LR
comp=Z,15μm,21.0s
A04D Lummi Island 66.14 46 P **P 05 58 44.0 +1.5**
baz=300,SNR=6.9
D03D Eldon 66.52 47 P **P 05 58 47.0 +2.0**
baz=301,SNR=24
MBW Mount Baker 66.56 46 *e*P **P 05 58 46.7 +1.3**
SHUK Shuksan-Mt. Ba 66.66 46 *e*P **P 05 58 47.3 +1.3**
B05A Bryant 66.72 46 P **P 05 58 47.7 +1.5**
baz=301,SNR=28
MOS Moscow 66.74 323 *e*P **P 05 58 43.1 -3.0**
MOS *e* 05 59 13.3
MOS *e* 06 01 11.3
MOS *e*PPP PPP 06 02 45.4
MOS *e*S **S 06 07 32.3 -2.2**
MOS *e* 06 08 33.8
MOS pmax pmax
comp=Z,2μm,1.8s
MOS pmax pmax
comp=Z,712nm,1.3s
MOS pmax pmax
comp=N,300nm,1.1s
MOS pmax pmax
comp=E,200nm,1.1s
MOS pmax pmax
comp=N,326nm,1.2s
MOS pmax pmax
comp=E,236nm,1.2s
MOS smax smax
comp=N,1μm,3.6s
MOS MLR MLR
comp=Z,5μm,17.0s
D04E Lakebay 66.89 48 P **P 05 58 49.7 +2.4**
baz=301
B06A Marblemount 66.94 46 *e*P **P 05 58 48.6 +1.1**
comp=Z,314nm,1.1s
VRH Novokhopyorsk 67.12 318 *e*P **P 05 58 48.1 -0.6**
VRH *e* 06 01 18.3
VRH *e*S **S 06 07 34.1 -5.2**
VRH pmax pmax
comp=Z,530nm,0.7s
VRH pmax pmax
comp=Z,600nm,0.7s
VRH smax smax
comp=N,1μm,12.2s
VRH MLR MLR
comp=Z,16μm,17.0s
STEI Steigen 67.22 341⇑ *i*P **P 05 58 49.2 +0.2**
STEI IVmBBB 05 58 49.7
comp=Z,2μm,1.5s
STEI *e*PP **PP 06 01 17.3 +0.4**
STEI *e*S **S 06 07 39.4 -0.6**
STEI *e*SKSac **SKiKP 06 08 43.5 -0.8**
STEI IVMs_BB IVMs_BB 06 30 40.0
comp=Z,2μm,23.5s
KULLO Kullorsuaq 67.24 5⇑ *i*P **P 05 58 49.0 -0.1**
KULLO pmax pmax
comp=Z,110nm,0.9s
KULLO MLR MLR
comp=Z,3μm,18.0s
KULLO Kullorsuaq 67.24 5⇑ *i*P **P 05 58 49.0 -0.1**
comp=Z,110nm,0.9s
F04D Rainier, OR 67.31 49 P **P 05 58 51.8 +1.9**
baz=301
E04D Cinebar 67.33 48 P **P 05 58 52.1 +2.1**
baz=301,SNR=13
E04D S **S 06 07 44.7 +2.8**
baz=301
SUF Sumiainen 67.39 333 P **P 05 58 49.8 -0.4**
SUF pmax pmax
comp=Z,579nm,0.8s
LOF Lofoten 67.51 341 *e*P **P 05 58 51.5 +0.6**
LOF *ep*P **pP 05 59 03.1 -0.8**
LOF *e*S **S 06 07 44.5 +1.0**
LOF IVMs_BB IVMs_BB 06 31 56.9
comp=Z,2μm,18.6s
C06D Leavenworth 67.59 46 P **P 05 58 53.1 +1.4**
baz=302
OBN Obninsk 67.59 323 *e*P **P 05 58 51.4 -0.2**
comp=Z,622nm,1.2s
OBN LR LR
comp=Z,6μm,18.0s
OBN Obninsk 67.59 323 *c i*P **P 05 58 51.6 +0.1**
OBN *e* 06 01 21.0
OBN *i*S **S 06 07 43.5 -1.2**
OBN *e*SS **SS 06 12 00.8 -4.4**
OBN pmax pmax
comp=Z,748nm,1.5s
OBN MLR MLR
comp=Z,4μm,17.0s
OBN Obninsk 67.59 323 P **P 05 58 51.7 +0.1**
comp=Z,67nm,0.7s,baz=66,slow=1.6,SNR=87
OBN LR LR 06 30 53.8
comp=Z,1μm,18.4s,baz=50,slow=38
G03D McMinnville, O 67.61 50 P **P 05 58 53.7 +1.8**
baz=302,SNR=7.6
TDL Tradedollar La 67.64 48 *e*P **P 05 58 54.1 +1.8**
LON Longmire 67.67 48 *e*P **P 05 58 52.9 +0.5**
comp=Z,89nm,1.2s
LPSR Galich'ya Gora 67.82 320 *e*P **P 05 58 53.0 -0.1**
LPSR *e* 06 01 22.1
LPSR *e*S **S 06 07 43.6 -4.1**
LPSR pmax pmax
comp=Z,640nm,0.8s
LPSR pmax pmax
comp=Z,620nm,0.7s
LPSR smax smax
comp=N,530nm,12.7s
LPSR MLR MLR
comp=Z,22μm,17.0s
I02D Swisshome 67.83 51 P **P 05 58 55.4 +2.1**
baz=302
COR Corvallis 67.92 50 *e*P **P 05 58 54.4 +0.6**
comp=Z,404nm,1.1s
COR Corvallis 67.92 50 P **P 05 58 56.1 +2.3**
COR pmax pmax
comp=Z,404nm,1.2s
MNCY Minicoy 68.03 263 *e*P **P 05 58 55.5 +0.6**
LTY Liberty 68.07 47 *e*P **P 05 58 55.8 +1.0**
comp=Z,239nm,1.3s
MAK Makhachkala 68.11 308 *e*P **P 05 58 54.8 -0.2**
MAK *e* 06 01 23.3
MAK *e*S **S 06 07 52.7 +1.3**
MAK *e*SS **SS 06 12 15.1 +1.3**
MAK pmax pmax
comp=Z,213nm,0.9s
MAK MLR MLR
comp=Z,5μm,17.0s
KEBM Edson Butte 68.18 52 *e*P **P 05 58 57.5 +1.9**
comp=Z,487nm,1.1s
VORR Voronezh 68.19 319⇑ *i*P **P 05 58 54.0 -1.4**
VORR pmax pmax
comp=Z,1μm,1.0s
FIA0 FINESS Array S 68.23 332 *e*P **P 05 58 55.6 +0.2**
FINES FINESS Array B 68.23 332 *e*P **P 05 58 55.1 -0.3**
FINES FINESS Array B 68.23 332 *i*P **P 05 58 55.5 0.0**
FINES pmax pmax
comp=Z,410nm,0.7s
FINES FINESS Array B 68.23 332 P **P 05 58 55.6 +0.2**
comp=Z,410nm,0.7s,baz=54,slow=7.5,SNR=970
FINES LR LR 06 31 02.2
comp=Z,5μm,18.5s,baz=49,slow=38
B08A Colville Reser 68.24 45 PFAKE 05 59 10.0 +14
B08A LR LR
comp=Z,2μm,20.0s
J01E Myrtle Point 68.28 52 P **P 05 58 58.1 +2.0**
baz=302,SNR=11
H04D Lebanon 68.29 50 P **P 05 58 58.1 +1.9**
baz=302,SNR=7.1
F05D White Salmon 68.34 48 P **P 05 58 58.0 +1.6**
baz=302,SNR=6.0
I03D Drain, OR 68.36 51 P **P 05 58 58.7 +2.1**
baz=302,SNR=26
VAF Ylistaro 68.39 335 P **P 05 58 56.4 0.0**
VAF pmax pmax
comp=Z,448nm,0.9s
VSR Storozhevoye 68.47 319 *e*P **P 05 58 56.2 -0.9**
VSR *e* 06 01 25.0
VSR *e*S **S 06 07 50.3 -5.1**
VSR pmax pmax
comp=Z,510nm,0.7s
VSR pmax pmax
comp=Z,610nm,0.7s
VSR smax smax
comp=N,540nm,11.9s
VSR MLR MLR
comp=Z,17μm,16.0s
ARMA Armidale 68.47 171 *e*P **P 05 58 58.0 +0.6**
comp=Z,273nm,1.4s
ARMA LR LR
comp=Z,3μm,22.0s
VORD Divnogorie 68.54 318 *e*P **P 05 58 57.5 -0.1**
VORD *e*S **S 06 07 52.2 -4.0**
VORD pmax pmax
comp=Z,340nm,0.7s
VORD pmax pmax
comp=Z,370nm,0.7s
VORD smax smax
comp=N,870nm,11.5s
VORD MLR MLR
comp=Z,9μm,15.0s
K02D Willamette Mer 68.69 52 P **P 05 59 00.5 +1.7**
baz=302,SNR=21
MOR8 Moi Rana 68.72 340⇑ *i*P **P 05 58 57.6 -0.9**
G05D Wamic, OR 68.77 49 P **P 05 59 00.8 +1.7**
baz=303,SNR=14
KONS Konsvik 68.84 340 *e*P **P 05 58 59.1 -0.1**
KONS *e*PP **PP 06 01 31.7 +0.8**
I04A Tendick Farm, 68.88 51 P **P 05 59 01.5 +1.5**
baz=302,SNR=41
E07A Sunnyside 68.91 47 PFAKE 05 59 10.0 +10
E07A LR LR
comp=Z,1μm,20.0s
STOK Stokkvaagen 68.99 340 *e*P **P 05 59 00.5 +0.4**
L02E Cave Junction 69.01 53 P **P 05 59 02.6 +1.8**
baz=302,SNR=21
GROC Groznyy 69.04 309 *e*P **P 05 58 58.6 -2.3**
GROC *e**PP **pP 05 59 10.8 -3.2**
GROC *e**SP **sP 05 59 16.8 -2.4**
GROC *e* 05 59 24.2
GROC *e* 06 01 32.7
GROC *e*S **S 06 08 01.9 -0.6**
GROC *e**SS **pS 06 08 21.3 +2.8**
GROC pmax pmax
comp=Z,153nm,0.8s
C09A Chrisman Ranch 69.14 45 *e*P **P 05 59 02.5 +1.0**
comp=Z,335nm,1.1s
D08A Wollman Farm, 69.18 46 PFAKE 05 59 10.0 +8.3
D08A LR LR
comp=Z,2μm,21.0s
HAWA Hanford 69.19 47 *e*P **P 05 59 02.9 +1.2**
comp=Z,212nm,1.3s
HAWA LR LR
comp=Z,2μm,20.0s
F07A Phinny Hill Vi 69.23 48 *e*P **P 05 59 03.3 +1.3**
comp=Z,227nm,1.1s
F07A LR LR
comp=Z,2μm,22.0s
I05D Terrebonne, OR 69.24 50 P **P 05 59 03.6 +1.5**
baz=303,SNR=26
STKA Stephens Creek 69.28 180 PFAKE 05 59 10.0 +7.8
STKA LR LR
comp=Z,600nm,21.0s
STKA Stephens Creek 69.28 180 P **P 05 59 02.3 +0.1**
comp=Z,31nm,1.0s,baz=348,slow=8.1,SNR=47
STKA PKP2bc 06 27 10.1
comp=Z,4.5nm,0.8s,baz=231,slow=1.7,SNR=8.1
STKA LR LR 06 28 10.0
comp=Z,2μm,21.6s,baz=6.2,slow=35
J04D Umpqua Nationa 69.36 51 P **P 05 59 04.9 +1.7**
baz=303,SNR=47
E08A Dider Farm, El 69.41 47 *e*P **P 05 59 03.7 +0.6**
comp=Z,180nm,1.3s
E08A LR LR
comp=Z,2μm,22.0s
JMIC Jan Mayen 69.45 350⇑ *i*P **P 05 59 03.9 +1.0**
JMIC IVmB_BB 05 59 04.8
comp=Z,3μm,2.2s
NEW Newport 69.52 44 *e*P **P 05 59 04.4 +0.6**
comp=Z,295nm,1.2s
NEW Newport 69.52 44 P **P 05 59 04.8 +1.0**
NEW pmax pmax
comp=Z,284nm,1.2s
NEW Newport 69.52 44 P **P 05 59 05.0 +1.1**
baz=304
L04D Klamath Falls 69.80 52 P **P 05 59 07.4 +1.7**
baz=303,SNR=89
J05D Fort Rock, OR 69.88 50 P **P 05 59 08.0 +1.8**
baz=303,SNR=69
VSU Vasula 69.89 329 *ce*P **P 05 59 06.0 +0.2**
VSU pmax pmax
comp=Z,1μm,1.0s
VSU Vasula 69.89 329 *e*P **P 05 59 06.2 +0.4**
VSU IAmb IAmb 05 59 06.9
comp=Z,992nm,0.9s
M02C Callahan 69.90 53 P **P 05 59 08.3 +2.0**
baz=303,SNR=49
K04D Chiloquin, OR 69.92 51 P **P 05 59 08.2 +1.8**
baz=303,SNR=14
E09A Wood Farm, Sta 69.92 46 PFAKE 05 59 20.0 +14
E09A LR LR
comp=Z,2μm,21.0s
SUMG Summit 69.96 0 *e*P **P 05 59 07.3 +0.8**
comp=Z,292nm,1.1s
SUMG LR LR
comp=Z,4μm,22.0s
SUMG Summit 69.96 0⇑ *i*P **P 05 59 07.7 +1.2**
SUMG pmax pmax
comp=Z,710nm,1.1s
SUMG MLR MLR
comp=Z,15μm,24.0s
SUMG Summit 69.96 0⇑ *i*P **P 05 59 07.7 +1.2**
comp=Z,709nm,1.1s
KMRM Mail Ridge 69.99 54 PFAKE 05 59 20.0 +13
KMRM LR LR
comp=Z,4μm,22.0s
G08A Pilot Rock 70.13 48 PFAKE 05 59 20.0 +12
G08A LR LR
comp=Z,2μm,22.0s
N02D Trinity Center 70.22 53 P **P 05 59 10.3 +2.0**
baz=303,SNR=36
NCK Nalchik 70.23 310 *i*P **P 05 59 08.5 +0.3**
NCK pmax pmax
comp=Z,313nm,1.3s
NCK MLR MLR
comp=Z,7μm,18.0s

M04C Macdoel 70.32 52 P **P 05 59 10.7 +1.7**
baz=303,SNR=56
KCPM Cahto Peak 70.36 55 PFAKE 05 59 20.0 +11
KCPM LR LR
comp=Z,3μm,20.0s
K05A Summer Lake 70.39 51 *e*P **P 05 59 11.5 +2.0**
comp=Z,749nm,1.2s
K05A LR LR
comp=Z,2μm,21.0s
BBOO Buckleboo 70.40 185 PFAKE 05 59 20.0 +11
BBOO LR LR
comp=Z,3μm,22.0s
ZEI Tsey 70.43 309 *e*P P 05 59 03.1 -6.6
ZEI pmax pmax
comp=Z,146nm,0.8s
TBLG Delisi 70.50 308 *i* P **P 05 59 09.8 -0.1**
TBLG Delisi 70.50 308 *e*P **P 05 59 10.2 +0.3**
comp=Z,215nm,0.9s
KVAR Kislovodsk Arr 70.52 311 P **P 05 59 11.0 +1.0**
comp=Z,230nm,1.0s,baz=104,slow=19,SNR=172
KVAR LR LR 06 32 38.9
comp=Z,3μm,19.6s,baz=280,slow=38
KBZ Khabaz 70.52 311 P **P 05 59 10.5 +0.6**
comp=Z,281nm,0.9s,baz=64,slow=4.9,SNR=406
KBZ LR LR 06 35 02.1
comp=Z,5μm,18.2s,baz=45,slow=40
KIV Kislovodsk 70.52 311 *i* P **P 05 59 10.3 +0.2**
KIV Kislovodsk 70.52 311 *e*P **P 05 59 10.4 +0.3**
comp=Z,754nm,1.0s
KIV LR LR
comp=Z,4μm,18.0s
KIV Kislovodsk 70.52 311⇑ *i*P **P 05 59 10.8 +0.7**
KIV Kislovodsk 70.52 311 *i* P **P 05 59 10.9 +0.9**
SNR=151
KIV Kislovodsk 70.52 311 *e*P **P 05 59 10.6 +0.5**
KIV *e* 06 01 45.7
KIV *e* 06 08 21.2
KIV pmax pmax
comp=Z,2μm,1.1s
KIV MLR MLR
comp=Z,11μm,17.0s
KIV Kislovodsk 70.52 311 P **P 05 59 11.0 +0.9**
SNR=273
KIV P **P 05 59 11.0 +0.9**
SNR=273
WDC Whiskeytown Da 70.54 53 *e*P **P 05 59 10.9 +0.8**
comp=Z,182nm,1.3s
WDC LR LR
comp=Z,2μm,22.0s
O02D Mt. Diablo Mer 70.60 54 P **P 05 59 12.5 +1.9**
baz=303,SNR=37
NSS Namsos 70.65 339⇑ *i*P **P 05 59 10.3 0.0**
NSS IVmB_BB 05 59 10.8
comp=Z,2μm,1.1s
NSS *e*pP **pP 05 59 22.9 -0.6**
NSS *e*S **S 06 08 20.0 -0.6**
NSS IVMs_BB IVMs_BB 06 30 42.6
comp=Z,2μm,27.8s
MORW Morawa 70.65 204 *e*P **P 05 59 10.4 -0.3**
comp=Z,148nm,1.0s
F10A Beach Ranch, E 70.75 46 *e*P **P 05 59 12.1 +0.6**
comp=Z,107nm,1.3s
F10A LR LR
comp=Z,2μm,22.0s
WSAR Wadi Sarin 70.80 285 P **P 05 59 12.6 +0.6**
SNR=17
WSAR Wadi Sarin 70.80 285 P **P 05 59 12.4 +0.5**
comp=Z,112nm,1.0s,baz=92,slow=4.6,SNR=45
JLN Jalan Bani Buh 70.80 283 P **P 05 59 12.3 +0.3**
SNR=15
JLN P **P 05 59 12.3 +0.3**
SNR=15
ONI Oni 70.82 309 *i* P **P 05 59 11.7 -0.2**
WALA Waterton Lakes 70.82 42 PFAKE 05 59 20.0 +8.2
WALA LR LR
comp=Z,2μm,20.0s
WBK Wadi Bani Khal 70.89 284 P **P 05 59 13.4 +0.8**
SNR=17
NEY Neytrino 70.90 310 *i* P **P 05 59 12.6 +0.1**
NEY pmax pmax
comp=Z,24nm,0.7s
BIDO Bidbid 71.03 285 P **P 05 59 14.0 +0.7**
SNR=32
HOPS Hopland Field 71.07 55 PFAKE 05 59 30.0 +17
HOPS LR LR
comp=Z,3μm,22.0s
SHME Shamm 71.14 289 *i* P **P 05 59 14.2 +0.1**
SNR=26
O03E Paynes Creek 71.17 53 P **P 05 59 14.9 +0.8**
baz=304,SNR=37
MOD Modoc Plateau 71.21 51 PFAKE 05 59 30.0 +16
MOD LR LR
comp=Z,2μm,20.0s
SMDO Samad 71.34 285 P **P 05 59 15.6 +0.2**
SNR=22
BMO Blue Mountains 71.35 47 *e*P **P 05 59 16.2 +1.2**
comp=Z,200nm,1.1s
BMO LR LR
comp=Z,2μm,21.0s
GDXM Geysers 71.35 55 *e*P **P 05 59 16.6 +1.4**
comp=Z,129nm,1.2s
GDXM LR LR
comp=Z,4μm,22.0s
GNI Garni 71.37 307 *i* P **P 05 59 15.9 +0.5**
GNI Garni 71.37 307 *e*P **P 05 59 15.8 +0.5**
comp=Z,269nm,1.0s
GNI LR LR
comp=Z,6μm,21.0s
GNI Garni 71.37 307 *i* P **P 05 59 16.2 +0.8**
SNR=42
GNI Garni 71.37 307 *ce*P **P 05 59 16.3 +0.9**
GNI pmax pmax
comp=Z,636nm,1.3s
GNI Garni 71.37 307 P **P 05 59 16.7 +1.3**
SNR=96
GNI P **P 05 59 16.7 +1.3**
SNR=96
GNI Garni 71.37 307 P **P 05 59 16.5 +1.1**
comp=Z,104nm,0.9s,baz=335,slow=0.5,SNR=105
GNI LR LR 06 33 19.8
comp=Z,5μm,18.9s,baz=56,slow=38
SCO Scoresbysund 71.40 354 *e*P **P 05 59 15.5 +0.7**
comp=Z,210nm,1.2s
SCO LR LR
comp=Z,2μm,20.0s
SCO Scoresbysund 71.40 354 *i* P **P 05 59 15.9 +1.1**
SCO pmax pmax
comp=Z,100nm,0.8s
SCO MLR MLR
comp=Z,3μm,23.0s
SCO Scoresbysund 71.40 354 *i* P **P 05 59 15.9 +1.1**
comp=Z,105nm,0.8s
AKH Akhalkalaki 71.45 308 *i* P **P 05 59 16.5 +0.6**
AKH Akhalkalaki 71.45 308 *e*P **P 05 59 16.6 +0.7**
comp=Z,176nm,1.0s
AKH LR LR
comp=Z,5μm,19.0s
AKH Akhalkalaki 71.45 308⇑ *i*P **P 05 59 17.0 +1.1**
AKH Akhalkalaki 71.45 308 P **P 05 59 17.0 +1.1**
J08A Circle Bar Ran 71.51 49 *e*P **P 05 59 17.5 +1.4**
comp=Z,305nm,1.1s
J08A LR LR
comp=Z,2μm,20.0s
MSFE Esma-Masafi 71.51 288 *i* P **P 05 59 16.6 +0.3**
SNR=22
HOQ Hoqain 71.62 286 P **P 05 59 17.2 +0.2**
SNR=16
MCCM Marconi Confer 71.66 56 PFAKE 05 59 30.0 +13
MCCM LR LR
comp=Z,3μm,22.0s
JMDO Jabal Madar 71.68 284 P **P 05 59 18.6 +1.2**
SNR=6.7
ORV Oroville 71.77 54 *e*P **P 05 59 17.8 +0.2**
comp=Z,150nm,1.1s
ORV LR LR
comp=Z,2μm,22.0s
TASB TASBURUN-IGDIR 71.78 307 *i* P **P 05 59 18.1 +0.3**
HATD Hatta, Dubai 71.82 288 *i* P **P 05 59 18.6 +0.4**
SNR=31
HATD Hatta, Dubai 71.82 288 P **P 05 59 18.6 +0.4**
SNR=12
HATD P **P 05 59 18.6 +0.4**
SNR=12
IZAR Zarasai 71.86 327 *e*P **P 05 59 18.4 +0.6**
IZAR IAmb IAmb 05 59 19.1
comp=Z,112nm,0.7s
SOHO SOHO 71.90 287 P **P 05 59 18.3 -0.3**
SNR=30
WVOR Wild Horse Val 71.93 50 *e*P **P 05 59 19.6 +1.0**
comp=Z,269nm,1.3s
WVOR Wild Horse Val 71.93 50 P **P 05 59 19.7 +1.0**
WVOR pmax pmax
comp=Z,199nm,1.5s
IDID Didziasalis 71.94 327 *e*P **P 05 59 19.2 +0.9**
IDID IAmb IAmb 05 59 20.4
comp=Z,161nm,0.8s
ASHO Ashiyiah 71.96 287 *i* P **P 05 59 19.2 +0.2**
SNR=24
ASHO Ashiyiah 71.96 287 P **P 05 59 19.2 +0.2**
SNR=16
ASHO P **P 05 59 19.2 +0.2**
SNR=16
MICGM Minsk 71.96 326⇑ *i*P **P 05 59 19.0 +0.6**
MICGM PM 05 59 20.0
comp=Z,2.1nm,1.0s
MICGM PM 05 59 20.0
comp=N,0.6nm,1.5s
MICGM PM 05 59 21.0
comp=E,0.8nm,1.8s
MICGM *e*PP **PP 06 01 58.0 -0.1**
MICGM *e*PPP PPP 06 03 40.0
MICGM *e*S **S 06 08 34.0 -2.1**
MICGM *e*PS **PnS 06 08 56.0 -14**
MICGM *e*SS **SS 06 13 12.0 -0.4**
MICGM *e*SSS SSS 06 16 20.0
MICGM *e*LR LR 06 31 03.0
MICGM LRM MLR 06 33 25.0
comp=Z,7.2nm,18.0s
MNK Minsk 71.96 326⇑ *i*P **P 05 59 19.0 +0.6**
MNK *e* 06 01 58.0
MNK *e*PPP PPP 06 03 40.0
MNK *e*S **S 06 08 34.0 -2.1**
MNK *e*SS **SS 06 13 12.0 -0.4**
MNK *e*SSS SSS 06 16 20.0
MNK pmax pmax
comp=Z,2μm,1.0s
MNK pmax pmax
comp=N,570nm,1.5s
MNK pmax pmax
comp=E,840nm,1.8s
PLID Pearl Lake 71.97 47 *e*P **P 05 59 19.3 +0.3**
comp=E,211nm,1.3s
PLID LR LR
comp=Z,3μm,21.0s
ISAL Salakas 72.03 327 *e*P **P 05 59 19.8 +0.9**
ISAL IAmb IAmb 05 59 20.3
comp=Z,177nm,0.7s
NAZ Nazwa, Dubai 72.09 288 *i* P **P 05 59 19.9 +0.1**
SNR=11
NAZ Nazwa, Dubai 72.09 288 P **P 05 59 19.8 +0.1**
SNR=6.9
NAZ P **P 05 59 19.8 +0.1**
SNR=6.9
MSO Missoula 72.11 44 P **P 05 59 20.4 +0.7**
baz=306,SNR=11
IIGN Ignalina 72.14 327 *e*P **P 05 59 20.3 +0.9**
IIGN IAmb IAmb 05 59 21.6
comp=Z,179nm,0.8s
BSY Bisya 72.17 285 P **P 05 59 20.8 +0.6**
SNR=21
NACGM Naroch 72.19 327 *e*P **P 05 59 20.0 +0.2**
NACGM *e*PP PP 06 01 42.0 -18
NACGM *e*PPP PPP 06 03 42.0
NACGM *e*S **S 06 08 38.0 -0.7**
NACGM *e*PS 06 08 48.0
NACGM *e*SS **SS 06 13 10.0 -5.8**
NACGM *e*SSS SSS 06 15 34.0
NACGM *e*LQ LQ 06 24 42.0
NACGM *e*LR LR 06 28 26.0
NACGM LRM MLR 06 33 46.0
comp=Z,22nm,17.0s
SLIT Slitere, Latvi 72.21 330 *e*P **P 05 59 19.8 -0.1**
SLIT IAmb IAmb 05 59 20.4
comp=Z,2μm,0.7s
FAQ Al Faqa, Dubai 72.28 288 *i* P **P 05 59 20.7 -0.2**
SNR=24
FAQ Al Faqa, Dubai 72.28 288 P **P 05 59 21.0 +0.2**
SNR=7.1
FAQ P **P 05 59 21.0 +0.2**
SNR=7.1
ARQ Araqi 72.36 286 P **P 05 59 21.8 +0.4**
SNR=13
AFDM Forest Hills D 72.45 54 *e*P **P 05 59 22.8 +1.0**
comp=Z,142nm,1.2s
AFDM LR LR
comp=Z,2μm,21.0s
BATM Batumi 72.45 309 *i* P **P 05 59 21.1 -0.6**
BATM Batumi 72.45 309⇓ *i*P **P 05 59 22.1 +0.4**
CLDR Caldiran 72.46 306 *i* P **P 05 59 22.6 +0.6**
SOC Sochi 72.50 312 *c i* P **P 05 59 22.2 +0.3**
SOC *e**PP **pP 05 59 31.1 -4.0**
SOC *e*S **S 06 08 44.2 +1.5**
SOC *e* 06 09 22.3
SOC pmax pmax
comp=Z,257nm,0.8s
SOC MLR MLR
comp=Z,4μm,19.0s
ALNE Al Ain 72.54 287 *i* P **P 05 59 22.5 +0.1**
SNR=30
ASUD Al Ashush, Dub 72.54 288 *i* P **P 05 59 22.7 +0.3**
SNR=15
ASUD Al Ashush, Dub 72.54 288 P **P 05 59 22.3 -0.1**
SNR=5.4
ASUD P **P 05 59 22.3 -0.1**
SNR=5.4
MHTO MHTO 72.56 283 P **P 05 59 22.8 +0.2**
SNR=74
MHTO P **P 05 59 22.8 +0.2**
SNR=74
BCA Borcka 72.59 309 *i* P **P 05 59 22.0 -0.5**
BCA Borcka 72.59 309⇑ *i*P **P 05 59 22.9 +0.4**
IND Independence 72.61 53 *e*P **P 05 59 24.4 +1.5**
KBF Kyburz Flat 72.62 53 *e*P **P 05 59 24.2 +1.3**
NIUE Niue 72.63 132 PFAKE 05 59 40.0 +17
NIUE LR LR
comp=Z,8μm,21.0s
AGRB Hanur-Agry 72.81 307 *i* P **P 05 59 24.7 +0.7**
AJN Ajban 72.83 288 P **P 05 59 23.9 -0.3**
SNR=5.2
AJN P **P 05 59 23.9 -0.3**
SNR=5.2
RUBR Rubicon Trail 72.92 54 *e*P **P 05 59 25.5 +0.8**
comp=Z,163nm,1.0s
ILULI Ilulissat 72.93 5 *e*P **P 05 59 24.0 +0.1**
comp=Z,93nm,0.9s
ILULI LR LR
comp=Z,3μm,20.0s
ILULI Ilulissat 72.93 5⇑ *i*P **P 05 59 24.3 +0.4**
ILULI pmax pmax
comp=Z,91nm,0.9s
ILULI MLR MLR
comp=Z,4μm,23.0s
ILULI Ilulissat 72.93 5⇑ *i*P **P 05 59 24.3 +0.4**
comp=Z,91nm,0.9s
PABE Paberze 72.99 328 *e*P **P 05 59 24.9 +0.4**
PABE IAmb IAmb 05 59 26.3
comp=Z,635nm,0.8s
FFC Flin Flon 73.03 33 *e*P **P 05 59 24.8 0.0**
comp=Z,205nm,1.0s
FFC LR LR
comp=Z,2μm,22.0s
FFC Flin Flon 73.03 33 *i* P **P 05 59 25.3 +0.5**
CAN Canberra 73.04 174 *e*P **P 05 59 25.3 +0.3**
comp=Z,258nm,1.4s
CAN LR LR
comp=Z,2μm,20.0s
VANB Van 73.11 306 *i* P **P 05 59 26.3 +0.5**
ANN Anapa 73.12 314 *c i*P **P 05 59 25.2 -0.3**
ANN *i* *PP **pP 05 59 36.6 -2.1**
ANN *e* 06 02 07.3
ANN *e*PPP PPP 06 03 53.0
ANN *e*S **S 06 08 46.9 -2.7**
ANN pmax pmax
comp=N,119nm,1.4s
ANN pmax pmax
comp=Z,671nm,1.4s
ANN pmax pmax
comp=E,143nm,1.4s
ANN smax smax
comp=N,783nm,12.4s
ANN smax smax
comp=E,310nm,6.2s
ANN MLR MLR
comp=N,6μm,17.0s
ANN MLR MLR
comp=Z,5μm,17.0s
ANN MLR MLR
comp=E,4μm,17.0s
KOPR Koprukoy-ERZUR 73.28 308 *i* P **P 05 59 27.7 +0.9**
FCC Fort Churchill 73.30 27 *e*P **P 05 59 26.4 +0.1**
comp=E,234nm,1.0s
FCC LR LR
comp=Z,2μm,20.0s
CMB Columbia Colle 73.35 55 PFAKE 05 59 40.0 +13
CMB LR LR
comp=Z,4μm,22.0s
CMB Columbia Colle 73.35 55 P **P 05 59 28.3 +1.2**
NC405 NORSAR Array S 73.35 337 *e*P **P 05 59 26.6 -0.1**
comp=Z,894nm,1.0s
NC303 NORSAR Array S 73.37 337 *e*P **P 05 59 26.9 +0.1**
comp=Z,964nm,1.3s
SAO San Andreas Ge 73.38 56 *e*P **P 05 59 27.8 +0.5**
comp=Z,105nm,1.2s
SAO LR LR
comp=Z,2μm,22.0s
DOMB Dombas 73.41 339⇑ *i*P **P 05 59 27.4 +0.4**
DOMB IVmB_BB 05 59 27.9
comp=Z,3μm,0.9s
DOMB *e*S **S 06 08 52.8 +0.3**
DOMB IVMs_BB IVMs_BB 06 34 41.6
comp=Z,5μm,19.3s
MOL Molde 73.42 340⇑ *i*P **P 05 59 27.6 +0.7**
MOL IVmBBB 05 59 28.2
comp=Z,2μm,0.7s
MOL *e*pP **pP 05 59 39.4 -0.7**
MOL *e*sP **sP 05 59 44.2 -1.1**
MOL IVMs_BB IVMs_BB 06 36 09.9
comp=Z,2μm,21.0s
PBUR Paburg 73.47 329 *e*P **P 05 59 27.8 +0.5**
PBUR IAmb IAmb 05 59 28.2
comp=Z,403nm,0.7s
HFS Hagfors 73.48 336 LR LR 06 34 22.3
comp=Z,12μm,19.5s,baz=38,slow=38
DQM DQM 73.49 283 P **P 05 59 27.9 -0.1**
SNR=23
NC204 NORSAR Array S 73.52 338 *e*P **P 05 59 28.1 +0.5**
comp=Z,1μm,0.9s
YERR Yerington 73.54 53 *e*P **P 05 59 29.1 +0.8**
comp=Z,340nm,1.1s
NB2 NORSAR Subarra 73.56 337 P **P 05 59 28.0 +0.1**
comp=Z,458nm,0.9s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.56 337 P **P 05 59 28.0 +0.1**
baz=39,slow=6.2
NB200 NORSAR Array S 73.56 337 *e*P **P 05 59 28.2 +0.3**
NOA NORSAR Array B 73.56 337 P **P 05 59 28.2 +0.3**
comp=Z,259nm,0.9s,baz=38,slow=5.8,SNR=684
NOA LR LR 06 34 24.9
comp=Z,9μm,21.3s,baz=35,slow=38
EGMT Eagleton 73.65 42 PFAKE 05 59 40.0 +11
EGMT LR LR
comp=Z,2μm,21.0s
EGMT Eagleton 73.65 42 P **P 05 59 29.7 +1.0**
baz=309,SNR=138
WAKR Walker 73.69 54 PFAKE 05 59 40.0 +11
WAKR LR LR
comp=Z,2μm,21.0s
NC602 NORSAR Array S 73.70 337 *e*P **P 05 59 28.2 -0.5**
comp=Z,519nm,1.2s
NC602 NORSAR Array S 73.70 337 *i*P **P 05 59 28.6 -0.1**
NC602 *es*P **sP 05 59 45.8 -1.2**
NC602 *e*PP **PP 06 02 11.0 -1.8**
NC602 *e*S **SKiKP 06 08 54.7 +0.7**
NC602 *e*SS **SS 06 13 40.6 +2.0**
NC602 IVMs_BB IVMs_BB 06 34 57.9
comp=Z,4μm,15.0s
NORES NORESS Array B 73.70 337 P **P 05 59 28.4 -0.3**
NORES pmax pmax
comp=Z,114nm,1.0s
CUKT Cukurca 73.74 305 *i* P **P 05 59 29.5 0.0**
HLID Hailey 73.79 47 PFAKE 05 59 40.0 +10
HLID LR LR
comp=Z,2μm,22.0s
HLID Hailey 73.79 47 P **P 05 59 31.2 +1.5**
baz=307,SNR=92
AKASG Malin Array Be 73.80 322 *e*P **P 05 59 28.8 -0.5**
AKASG Malin Array Be 73.80 322 *i* P **P 05 59 29.3 -0.1**
AKASG pmax pmax
comp=Z,236nm,0.6s
AKASG Malin Array Be 73.80 322 P **P 05 59 29.4 -0.1**
comp=Z,238nm,0.6s,baz=46,slow=6.0,SNR=942
AKASG LR LR 06 35 54.7
comp=Z,4μm,18.5s,baz=45,slow=39
AKBB Malin Array Si 73.80 322 *e*P **P 05 59 29.0 -0.4**
comp=Z,370nm,0.8s
KIEV Kiev 73.81 322 *e*P **P 05 59 28.7 -0.8**
comp=Z,361nm,0.8s
KIEV LR LR
comp=Z,5μm,18.0s
KIEV Kiev 73.81 322⇑ *i*P **P 05 59 29.4 -0.1**
KIEV Kiev 73.81 322 *i* P **P 05 59 29.6 +0.1**
SNR=41
KIEV Kiev 73.81 322 *c i*P **P 05 59 29.2 -0.3**
KIEV pmax pmax
comp=Z,375nm,0.8s
NAO01 NORSAR Array S 73.82 337 *e*P **P 05 59 29.0 -0.3**
comp=Z,486nm,0.9s
LCCM Lewis and Clar 73.85 44 *e*P **P 05 59 31.3 +1.2**
AKN Aaknes 73.89 340⇑ *i*P **P 05 59 30.6 +0.9**
AKN IVmB_BB 05 59 31.1
comp=Z,2μm,1.4s
AKN *es*P **sP 05 59 47.3 -0.8**
AKN *e*S **S 06 08 58.3 +0.5**
AKN IVMs_BB IVMs_BB 06 36 44.5
comp=Z,2μm,14.1s
NWAO Narrogin (SRO) 73.89 201 *e*P **P 05 59 29.5 -0.5**
comp=Z,238nm,1.1s
NWAO LR LR
comp=Z,2μm,22.0s
NWAO Narrogin (SRO) 73.89 201 P **P 05 59 30.5 +0.5**
SNR=8.8
NWAO P **P 05 59 30.5 +0.5**
SNR=8.8
MCMT McKenzie Canyo 73.92 46 *e*P **P 05 59 31.0 +0.4**
BMN Battle Mountai 73.96 51 PFAKE 05 59 40.0 +9.2
BMN LR LR
comp=Z,3μm,22.0s
KTUT Trabzon 74.00 310⇑ *i*P **P 05 59 30.9 +0.2**
BOZ Bozeman (W) 74.14 44 *e*P **P 05 59 32.5 +0.8**
comp=Z,278nm,1.1s
BOZ LR LR
comp=Z,1μm,21.0s
BOZ Bozeman (W) 74.14 44 P **P 05 59 32.9 +1.2**
baz=308,SNR=185
KVN Kaiserville 74.22 53 *e*P **P 05 59 33.5 +1.1**
comp=Z,355nm,1.2s
MDPB Devils Postpil 74.43 54 *e*P **P 05 59 34.6 +1.0**
comp=Z,116nm,1.1s
MDPB LR LR
comp=Z,3μm,22.0s
NVAR Mina Array Bea 74.46 53 *e*P **P 05 59 34.8 +1.0**
NVAR Mina Array Bea 74.46 53 P **P 05 59 35.2 +1.4**
comp=Z,51nm,0.8s,baz=284,slow=6.0,SNR=242
NVAR LR LR 06 26 28.1
comp=Z,2μm,21.5s,baz=288,slow=31
NV01 Mina Array Sit 74.46 53 *e*P **P 05 59 35.2 +1.4**
OMMB Old Mammoth Mi 74.49 54 *e*P **P 05 59 34.9 +0.8**
comp=Z,132nm,1.2s
OMMB LR LR
comp=Z,3μm,22.0s
NV11 Mina Array Sit 74.55 53 *e*P **P 05 59 35.5 +1.3**
comp=Z,15nm,1.3s
OSL Oslo 74.58 337 *e*P **P 05 59 34.4 +0.7**
MLAC Mammoth, Mammo 74.58 54 P **P 05 59 36.3 +1.8**
baz=306,SNR=18
BNGB Bingl 74.61 307 *i* P **P 05 59 35.6 +1.1**
QLMT Earthquake Lak 74.72 45 *e*P **P 05 59 36.6 +1.5**
SKAR Skarslia 74.72 338⇑ *i*P **P 05 59 35.6 +0.9**
SKAR IVmB_BB 05 59 36.1
comp=Z,2μm,1.0s
SKAR *ep*P **pP 05 59 47.1 -0.8**
SKAR *e*S **S 06 09 09.7 +2.4**
SKAR IVMs_BB IVMs_BB 06 35 10.7
comp=Z,4μm,20.8s
PAGB Antelope Grade 74.77 57 PFAKE 05 59 50.0 +15
PAGB LR LR
comp=Z,2μm,21.0s
MZR Muzera 74.85 287 *i* P **P 05 59 36.0 -0.1**
SNR=7.7
MZR Muzera 74.85 287 P **P 05 59 35.6 -0.4**

SNR=8.0
MZR P **P** **05 59 35.6 -0.4**
SNR=8.0
FOO **Floro** **74.89 340**⇑ *i*P **P** **05 59 36.0 +0.5**
FOO IVmB_BB 05 59 36.7
comp=Z,2μm,1.0s
FOO *e*PP **PP** **06 02 23.4 +0.7**
FOO *e*S **S** **06 09 10.8 +1.8**
FOO IVMs_BB IVMs_BB 06 37 13.2
comp=Z,2μm,22.8s
SIM **Simferopol'** **74.90 315** *ce*P **P** **05 59 36.2 +0.3**
SIM pmax pmax
comp=Z,342nm,0.9s
SIM MLR MLR
comp=N,3μm,15.4s
HYA **Hoyanger** **74.94 339**⇑ *i*P **P** **05 59 36.5 +0.7**
HYA IVmB_BB 05 59 36.9
comp=Z,3μm,0.9s
HYA *e*S **S** **06 09 11.6 +2.1**
ELK **Elko** **74.99 50** *e*P **P** **05 59 37.9 +1.1**
comp=Z,141nm,1.1s
ELK LR LR
comp=Z,2μm,22.0s
VOG **Valley Oaks Go** **74.99 56** P **P** **05 59 37.3 +0.7**
baz=306
TOO **Toolangi** **75.05 177** PFAKE 05 59 50.0 +13
TOO LR LR
comp=Z,2μm,20.0s
TOO **Toolangi** **75.05 177** P **P** **05 59 40.4 +3.8**
TOO pmax pmax
comp=Z,67nm,1.8s
YHH **Holmes Hill** **75.07 45** *e*P **P** **05 59 38.5 +1.2**
comp=Z,168nm,1.1s
SFJD **Kangerlussuaq** **75.15 5** *e*P **P** **05 59 37.1 +0.2**
comp=Z,80nm,0.8s
SFJD LR LR
comp=Z,2μm,21.0s
SFJD **Kangerlussuaq** **75.15 5** P **P** **05 59 37.3 +0.4**
SFJD pmax pmax
comp=Z,119nm,1.2s
SFJD **Kangerlussuaq** **75.15 5**⇑ *i*P **P** **05 59 37.4 +0.5**
KONO **Kongsberg** **75.16 337** *e*P **P** **05 59 37.4 +0.3**
comp=Z,183nm,0.9s
KONO LR LR
comp=Z,8μm,18.0s
KONO **Kongsberg** **75.16 337** *ce*P **P** **05 59 37.5 +0.4**
KONO pmax pmax
comp=Z,203nm,1.0s
KONO **Kongsberg** **75.16 337**⇑ *i*P **P** **05 59 37.5 +0.4**
KONO IVmBBB 05 59 38.3
comp=Z,2μm,0.4s
KONO *es*P **sP** **05 59 54.3 -1.2**
KONO *e*PP **PP** **06 02 25.8 +0.7**
KONO *e*S **S** **06 09 12.7 +0.7**
KONO IVMs_BB IVMs_BB 06 35 42.7
comp=Z,3μm,16.2s
KLNR **Kaliningrad** **75.17 329** *i*P **P** **05 59 37.1 -0.1**
KLNR pmax pmax
comp=Z,649nm,1.2s
SMMC **Simmler** **75.18 57** P **P** **05 59 39.3 +1.5**
baz=306,SNR=6.1
YFT **Old Faithful** **75.29 45** *e*P **P** **05 59 41.0 +2.4**
comp=Z,233nm,1.1s
TIN **Tinemaha, Big** **75.31 54** P **P** **05 59 40.1 +1.5**
baz=306
SUE **Sulen** **75.42 340**⇑ *i*P **P** **05 59 39.4 +0.9**
SUE IVmB_BB 05 59 39.9
comp=Z,2μm,1.3s
SUE *es*P **sP** **05 59 56.0 -1.0**
SUE *e*PP **PP** **06 02 27.4 +0.2**
SUE *e*S **S** **06 09 15.7 +0.9**
SUE IVMs_BB IVMs_BB 06 37 02.8
comp=Z,2μm,15.6s
H17A **Grant Village** **75.47 45** P **P** **05 59 42.6 +3.1**
baz=309,SNR=175
VES **Vestal, Richgr** **75.47 56** P **P** **05 59 39.8 +0.5**
baz=306,SNR=24
PKM **Mcpherson Peak** **75.55 57** P **P** **05 59 41.5 +1.4**
baz=306,SNR=11
IMW **Indian Meadow** **75.58 45** PFAKE 05 59 50.0 +10
IMW LR LR
comp=Z,2μm,21.0s
FLWY **Flagg Ranch** **75.59 45** PFAKE 05 59 50.0 +10
FLWY LR LR
comp=Z,1μm,21.0s
RLMT **Red Lodge** **75.73 44** PFAKE 05 59 50.0 +9.0
RLMT LR LR
comp=Z,1μm,20.0s
RLMT **Red Lodge** **75.73 44** P **P** **05 59 42.4 +1.4**
baz=310,SNR=59
CWC **Cottonwood Cre** **75.77 55** P **P** **05 59 42.4 +1.0**
baz=307
ASK **Askoy** **75.78 339** IVmBBB 05 59 23.4
comp=Z,4μm,37.3s
ASK ⇑ *i*P **P** **05 59 41.6 +1.0**
ASK IVmB_BB 05 59 42.1
comp=Z,2μm,0.7s
MOOW **Moose Ponds** **75.78 45** *e*P **P** **05 59 42.6 +1.3**
comp=Z,238nm,1.1s
MOOW LR LR
comp=Z,2μm,21.0s
BER **Bergen** **75.82 339**⇑ *i*P **P** **05 59 41.8 +0.9**
BER IVmB_BB 05 59 42.2
comp=Z,3μm,0.8s
BER *ep*P **PcP** **05 59 53.3 0.0**
BER *es*P **sP** **05 59 58.2 -1.1**
BER *e*PP **PP** **06 02 31.5 +0.9**
BER *e*S **S** **06 09 21.2 +1.9**
BER IVMs_BB IVMs_BB 06 36 08.2
comp=Z,3μm,19.0s
TPAW **Teton Pass** **75.82 46** PFAKE 05 59 50.0 +8.4
TPAW LR LR
comp=Z,2μm,20.0s
RSDY **Resadiye-TOKAT** **75.83 310** *i*P **P** **05 59 41.8 +0.4**
ODD1 **Odda** **75.84 338**⇑ *i*P **P** **05 59 41.8 +0.7**
ODD1 IVmBBB 05 59 42.5
comp=Z,2μm,0.9s
ODD1 *ep*P **PcP** **05 59 53.5 0.0**
ODD1 *e*S **S** **06 09 21.5 +1.8**
SBC **Santa Barbara** **75.88 57** P **P** **05 59 44.0 +2.3**
baz=306
GRAC **Grapevine Rang** **75.90 54** P **P** **05 59 43.4 +1.5**
baz=307,SNR=43
LOHW **Long Hollow** **75.94 45** PFAKE 05 59 50.0 +7.8
LOHW LR LR
comp=Z,2μm,22.0s
SNOW **Snow King Moun** **75.95 46** PFAKE 05 59 50.0 +7.7
SNOW LR LR
comp=Z,2μm,22.0s
REDW **Red Top Meadow** **75.96 46** *e*P **P** **05 59 43.6 +1.3**
comp=Z,283nm,1.1s
REDW LR LR
comp=Z,2μm,22.0s
ISA **Isabella, Lake** **75.98 56** PFAKE 05 59 50.0 +7.6
ISA LR LR
comp=Z,2μm,20.0s
ISA **Isabella, Lake** **75.98 56** P **P** **05 59 42.6 +0.3**
baz=307,SNR=24
FRB **Frobisher Bay** **76.04 13** P **P** **05 59 42.1 0.0**
FRB pmax pmax
comp=Z,392nm,1.1s
ARVC **Arvin** **76.06 56** P **P** **05 59 43.6 +0.9**
baz=306,SNR=7.0
SNOP **Sinop** **76.09 313** *i*P **P** **05 59 42.8 0.0**
SNOP **Sinop** **76.09 313** *e*P **P** **05 59 43.1 +0.3**
comp=Z,266nm,0.8s
SNOP LR LR
comp=Z,2μm,22.0s
MFS **McCloud Flat S** **76.11 55** *e*P **P** **05 59 44.4 +1.2**
KVT **Kavak** **76.18 311** *i*P **P** **05 59 43.9 +0.5**
DAC **Darwin (Calif)** **76.19 55** PFAKE 06 00 00.0 +16
DAC LR LR
comp=Z,3μm,21.0s
AHID **Auburn Hatcher** **76.19 46** *e*P **P** **05 59 44.8 +1.1**
comp=Z,210nm,1.1s
AHID LR LR
comp=Z,2μm,21.0s
SCZ2 **Santa Cruz Isl** **76.19 58** P **P** **05 59 44.5 +1.0**
baz=306
DGMT **Dagmar** **76.19 39** PFAKE 06 00 00.0 +17
DGMT LR LR
comp=Z,2μm,21.0s
DGMT **Dagmar** **76.19 39** P **P** **05 59 44.1 +0.7**
baz=312,SNR=42
BGU **Big Grassy Mou** **76.21 49** *e*P **P** **05 59 44.9 +1.2**
comp=Z,162nm,1.3s

R11A **Troy Canyon, C** **76.22 52** *e*P **P** **05 59 45.1 +1.3**
comp=Z,258nm,1.2s
R11A **Troy Canyon, C** **76.22 52** P **P** **05 59 45.2 +1.3**
baz=307,SNR=130
BLS5 **Blasjo** **76.29 338**⇑ *i*P **P** **05 59 44.5 +0.9**
BLS5 IVmB_BB 05 59 44.9
comp=Z,2μm,1.1s
BLS5 *e*S **S** **06 09 26.6 +2.0**
BLS5 IVMs_BB IVMs_BB 06 35 58.8
comp=Z,5μm,18.5s
DIKM **Dikmen** **76.29 312** *i*P **P** **05 59 44.2 +0.2**
DIKM **Dikmen** **76.29 312**⇑ *i*P **P** **05 59 44.9 +0.9**
SVSK **Karacayir** **76.33 310** *i*P **P** **05 59 44.6 +0.5**
LAO **LASA Array** **76.35 41** *e*P **P** **05 59 45.5 +1.2**
comp=Z,588nm,1.1s
LAO LR LR
comp=Z,2μm,20.0s
LAO **LASA Array** **76.35 41** P **P** **05 59 45.5 +1.2**
baz=311,SNR=106
TOKT **Tokat** **76.35 311** *i*P **P** **05 59 44.5 +0.1**
MPMC **Manual Prospec** **76.38 55** P **P** **05 59 45.9 +1.0**
baz=307,SNR=55
KIS **Kishinev** **76.42 320**⇑ *i*P **P** **05 59 44.0 -0.6**
comp=Z,800nm,2.0s
KIS **Kishinev** **76.42 320** *i* PcP **P** **05 59 47.0 +2.4**
KIS **Kishinev** **76.42 320** *e*PP PP 06 02 16.0 -20
KIS *e*S **S** **06 09 22.0 -4.4**
KIS *i* ScS **SKSac** **06 09 45.0 -7.2**
KIS **Kishinev** **76.42 320**⇑ *i*P **P** **05 59 44.0 -0.6**
KIS *e* 06 04 24.0
KIS *e*S **S** **06 09 22.0 -4.4**
KIS *i* 06 09 45.0 -
KIS *i* PS **PnS** **06 10 18.0 +10**
KIS MLR MLR
comp=Z,16μm,16.0s
OSI **Osito Audit: C** **76.43 57** *e*P **P** **05 59 46.3 +1.3**
comp=Z,186nm,1.0s
OSI LR LR
comp=Z,4μm,22.0s
OSI **Osito Audit: C** **76.43 57** P **P** **05 59 46.3 +1.3**
baz=307
BLG **Laguna Peak, P** **76.51 57** P **P** **05 59 46.1 +0.7**
baz=307,SNR=5.3
FURC **Furnace Creek,** **76.54 54** P **P** **05 59 46.9 +1.4**
baz=307,SNR=55
HOMB **Homborsund** **76.60 337**⇑ *i*P **P** **05 59 45.8 +0.4**
HOMB IVmB_BB 05 59 46.2
comp=Z,2μm,1.3s
HOMB *es*S **S** **06 09 29.6 +1.7**
HOMB IVMs_BB IVMs_BB 06 36 24.4
comp=Z,5μm,18.3s
LRMC **Laurel Mtn Rad** **76.60 56** P **P** **05 59 46.8 +0.8**
baz=307,SNR=8.7
TPNV **Topopah Spring** **76.65 54** *e*P **P** **05 59 47.4 +1.1**
comp=Z,315nm,1.1s
TPNV LR LR
comp=Z,3μm,22.0s
TPNV **Topopah Spring** **76.65 54** P **P** **05 59 47.4 +1.1**
baz=307,SNR=126
HWUT **Hardware Ranch** **76.65 48** *e*P **P** **05 59 47.5 +1.3**
comp=Z,368nm,1.3s
URFA **Urfa** **76.70 307** *i*P **P** **05 59 47.5 +1.0**
SNCC **San Nicolas Is** **76.71 58** PFAKE 06 00 00.0 +14
SNCC LR LR
comp=Z,4μm,22.0s
SNCC **San Nicolas Is** **76.71 58** P **P** **05 59 47.6 +1.2**
baz=307
EDW2 **Edwards Air Fo** **76.76 56** P **P** **05 59 47.9 +1.1**
baz=307,SNR=14
DUG **Dugway, Tooele** **76.79 49** *e*P **P** **05 59 48.1 +1.2**
comp=Z,350nm,1.2s
DUG LR LR
comp=Z,2μm,21.0s
DUG **Dugway, Tooele** **76.79 49** P **P** **05 59 48.2 +1.2**
DUG pmax pmax
comp=Z,316nm,1.2s
DUG **Dugway, Tooele** **76.79 49** P **P** **05 59 48.5 +1.5**
baz=308,SNR=87
KMY **Karmoy** **76.82 339**⇑ *i*P **P** **05 59 47.6 +1.0**
KMY IVmBBB 05 59 48.0
comp=Z,2μm,1.2s
KMY *ep*P **pP** **05 59 59.1 -0.7**
KMY *e*PP **PP** **06 02 40.1 +1.0**
BZK **Bozkurt** **76.83 313** *i*P **P** **05 59 47.3 +0.3**
BZK **Bozkurt** **76.83 313**⇑ *i*P **P** **05 59 47.7 +0.7**
DARE **Darende-Malaty** **76.85 309** *i*P **P** **05 59 48.2 +0.9**
BSD **Bornholm Skovb** **76.86 332**⇑ *i*P **P** **05 59 47.0 +0.1**
BSD pmax pmax
comp=Z,460nm,1.0s
BSD MLR MLR
comp=Z,6μm,19.0s
BSD **Bornholm Skovb** **76.86 332** *i*P **P** **05 59 47.0 +0.1**
comp=Z,456nm,1.0s
LVV **L'vov** **76.86 324** *e*P **P** **05 59 47.5 +0.5**
LVV *e*S **S** **06 09 29.0 -2.2**
LVV pmax pmax
comp=Z,900nm,1.2s
LVV MLR MLR
comp=Z,8μm,17.0s
BEL **Belsk** **76.91 327** *e*P **P** **05 59 48.3 +1.1**
BEL LMZ LR 06 36 27.8
comp=Z,8μm,17.5s
BEL **Belsk** **76.91 327** *e*P **P** **05 59 48.3 +1.1**
BEL MLR MLR
comp=Z,8μm,17.5s
DECC **Green Verdugo** **76.91 57** P **P** **05 59 48.4 +0.8**
baz=307
IAS **Iasi** **76.93 320**⇓ *i*P **P** **05 59 47.8 +0.4**
IAS **Iasi** **76.93 320** P **P** **05 59 47.6 +0.2**
IAS pmax pmax
comp=Z,250nm,0.9s
BORG **Borgarnes** **76.94 353** *e*P **P** **05 59 49.1 +1.9**
comp=Z,203nm,0.9s
BORG **Borgarnes** **76.94 353** *i*P **P** **05 59 50.0 +2.8**
SNART **Snartemo** **76.95 337**⇑ *i*P **P** **05 59 47.9 +0.6**
SNART IVmB_BB 05 59 48.5
comp=Z,2μm,1.3s
SNART *ep*P **pP** **05 59 59.8 -0.8**
ANGG **Ammassalik, Gr** **76.95 360** *e*P **P** **05 59 47.2 0.0**
comp=Z,127nm,1.0s
ANGG LR LR
comp=Z,4μm,22.0s
PASC **Pasadena Art C** **77.06 57** PFAKE 06 00 00.0 +12
PASC LR LR
comp=Z,4μm,22.0s
LEOM **Leova** **77.06 319**⇑ *i*P **P** **05 59 48.6 +0.4**
LEOM **Leova** **77.06 319** P **P** **05 59 48.6 +0.4**
BW06 **Boulder Array** **77.07 46** PFAKE 06 00 00.0 +11
BW06 LR LR
comp=Z,2μm,21.0s
BW06 **Boulder Array** **77.07 46** P **P** **05 59 49.5 +0.9**
baz=310,SNR=56
PD31 **Pinedale Array** **77.07 46** *e*P **P** **05 59 49.4 +0.7**
comp=Z,160nm,1.1s
PDAR **Pinedale Array** **77.07 46** *e*P **P** **05 59 48.9 +0.2**
PDAR **Pinedale Array** **77.07 46** P **P** **05 59 49.4 +0.7**
comp=Z,42nm,0.8s,baz=277,slow=2.6,SNR=256
PDAR PKKPbc **PKKPbc** **06 18 54.3 -0.3**
comp=Z,1.8nm,0.9s,baz=116,slow=3.4,SNR=7.1
PDAR PKPPKP **P'P'df** **06 26 57.2 -5.6**
comp=Z,0.7nm,0.8s,baz=146,slow=3.4,SNR=3.7
PDAR LR LR 06 30 10.2
comp=Z,2μm,22.0s,baz=328,slow=33
MWC **Mount Wilson** **77.11 57** PFAKE 06 00 00.0 +11
MWC LR LR
comp=Z,4μm,21.0s
FMP **Fort Macarthur** **77.26 57** P **P** **05 59 50.4 +0.9**
baz=307
SHOC **Shoshone, Teco** **77.26 54** P **P** **05 59 50.5 +0.9**
baz=308,SNR=12
GSC **Goldstone, Bar** **77.28 55** P **P** **05 59 50.6 +0.9**
baz=307,SNR=6.4
COP **Copenhagen** **77.33 333**⇑ *i*P **P** **05 59 50.2 +0.7**
COP pmax pmax
comp=Z,460nm,1.0s
COP MLR MLR
comp=Z,4μm,17.0s
COP **Copenhagen** **77.33 333**⇑ *i*P **P** **05 59 50.2 +0.7**
comp=Z,463nm,1.0s
GKP **Gorka Klasztor** **77.34 329** *e*P **P** **05 59 50.2 +0.6**
GKP *e*S **S** **06 09 34.2 -2.0**
GKP LMZ LR 06 36 02.6
comp=Z,8μm,21.5s
GKP **Gorka Klasztor** **77.34 329** P **P** **05 59 50.4 +0.8**
GKP pmax pmax
comp=Z,344nm,0.9s

CIS **Catalina Islan** **77.36 58** P **P** **05 59 51.0 +0.9**
baz=307
BFSC **Mount Baldy Ra** **77.36 57** P **P** **05 59 51.0 +0.7**
baz=307,SNR=12
RRX **Edison Barstow** **77.42 56** P **P** **05 59 51.4 +1.0**
baz=307
PRAR **RASCA** **77.49 321**⇑ *i*P **P** **05 59 50.8 +0.2**
YOZ **Yozgat** **77.51 311** *i*P **P** **05 59 50.8 -0.2**
WHFO **Wadi Hawf** **77.56 283** P **P** **05 59 50.1 -1.4**
SNR=12
ILGA **Ilgaz** **77.57 313** *e*P **P** **05 59 52.8 +1.3**
comp=Z,293nm,0.8s
ILGA LR LR
comp=Z,4μm,19.0s
CORM **Corum** **77.59 311** *i*P **P** **05 59 51.9 +0.5**
SHPR **Sheep Range** **77.61 53** *e*P **P** **05 59 52.8 +1.1**
comp=Z,251nm,1.1s
SHPR LR LR
comp=Z,3μm,22.0s
KWP **Kalwaria Pacla** **77.61 324** *e*P **P** **05 59 52.4 +1.1**
KWP *e*S **S** **06 09 39.0 -0.3**
KWP LMZ LR 06 32 00.9
comp=Z,4μm,26.5s
KWP **Kalwaria Pacla** **77.61 324** PFAKE 06 00 00.0 +8.8
KWP LR LR
comp=Z,48μm,19.0s
KWP **Kalwaria Pacla** **77.61 324** *e*P **P** **05 59 52.4 +1.1**
KWP *e*S **S** **06 09 39.0 -0.3**
TLCR **77.62 318**⇑ *i*P **P** **05 59 51.7 +0.4**
TLCR **77.62 318** P **P** **05 59 51.6 +0.3**
KURC **Kurucasile-Bar** **77.63 314** *i*P **P** **05 59 51.7 +0.2**
BNN **Bunyan** **77.69 310** *i*P **P** **05 59 52.3 +0.3**
GIUM **Giurgiulesti** **77.74 319**⇓ *i*P **P** **05 59 53.1 +1.1**
LRW **Lerwick** **77.75 342**⇑ *e*P **P** **05 59 52.2 +0.5**
LRW IAmb IAmb 05 59 54.0
comp=Z,78nm,0.9s
LRW IAMs_20 IAMs_20 06 28 37.1
comp=Z,5μm,32.3s
TUQ **Turquoise Moun** **77.77 55** P **P** **05 59 53.7 +1.1**
baz=308,SNR=30
BUR08 **Bucovina Ar. S** **77.81 322** *e*P **P** **05 59 53.0 +0.6**
comp=Z,203nm,0.9s
BURAR **Bucovina Array** **77.82 322** *e*P **P** **05 59 53.0 +0.4**
BURAR **Bucovina Array** **77.82 322**⇑ *i*P **P** **05 59 53.2 +0.6**
BURAR **Bucovina Array** **77.82 322** P **P** **05 59 53.2 +0.6**
BBRC **Big Bear Solar** **77.84 56** P **P** **05 59 53.5 +0.5**
baz=308
BIZ **Bicaz** **77.84 321**⇑ *i*P **P** **05 59 53.5 +0.9**
MUD **Monsted U'grnd** **77.85 335**⇑ *i*P **P** **05 59 53.1 +0.7**
MUD pmax pmax
comp=Z,270nm,1.0s
MUD MLR MLR
comp=Z,10μm,20.0s
MUD **Monsted U'grnd** **77.85 335**⇑ *i*P **P** **05 59 53.1 +0.7**
comp=Z,273nm,1.0s
TESR **Tescani** **77.86 320**⇑ *i*P **P** **05 59 53.1 +0.4**
KMRS **Kahramanmaras** **77.87 308** *i*P **P** **05 59 53.4 +0.4**
HEC **Hector,Ludlow** **77.88 55** P **P** **05 59 54.2 +1.2**
baz=308,SNR=16
GAZ **Gaziantep** **77.88 308** *i*P **P** **05 59 53.5 +0.4**
RGN **Rugen** **77.89 332** PFAKE 06 00 00.0 +7.4
RGN LR LR
comp=Z,8μm,20.0s
TUDR **77.95 319**⇑ *i*P **P** **05 59 55.3 +2.1**
CFR **Carcaliu** **77.98 318**⇑ *i*P **P** **05 59 53.6 +0.3**
CFR **Carcaliu** **77.98 318** P **P** **05 59 53.2 -0.1**
CFR pmax pmax
comp=Z,194nm,1.3s
TCRU **Three Creeks R** **78.00 50** *e*P **P** **05 59 56.1 +2.2**
comp=Z,194nm,1.1s
MURC **Murrieta** **78.06 57** P **P** **05 59 54.7 +0.7**
baz=308,SNR=7.1
PETR **Petresti** **78.09 319**⇑ *i*P **P** **05 59 55.7 +1.8**
ODBI **Odobesti** **78.15 319**⇑ *i*P **P** **05 59 56.3 +2.0**
ABTO **Aybut** **78.25 283** P **P** **05 59 54.8 -0.6**
SNR=7.1
VRI **Vrincioaia** **78.25 320**⇑ *i*P **P** **05 59 55.8 +0.9**
VRI **Vrincioaia** **78.25 320** P **P** **05 59 55.5 +0.6**
VRI pmax pmax
comp=Z,296nm,1.3s
PLOR **Plostina** **78.30 320**⇑ *i*P **P** **05 59 55.9 +0.7**
PLOR **Plostina** **78.30 320** P **P** **05 59 55.8 +0.6**
KOLS **Kolonicke sedl** **78.31 324** *e*P **P** **05 59 55.8 +0.7**
KOLS pmax pmax
comp=Z,135nm,1.1s
KOLS **Kolonicke sedl** **78.31 324** *e*P **P** **05 59 55.8 +0.7**
KOLS *e*S **S** **06 09 44.4 -2.4**
KOLS *e*L L 06 37 29.1
TMUT **Trail Mountain** **78.31 49** *e*P **P** **05 59 56.7 +0.9**
comp=Z,166nm,1.1s
GMRC **Granite Mounta** **78.34 55** P **P** **05 59 56.6 +0.9**
baz=308,SNR=19
HARR **Harsova** **78.42 318**⇑ *i*P **P** **05 59 56.3 +0.5**
HARR **Harsova** **78.42 318** P **P** **05 59 56.3 +0.5**
TLB **Topalu** **78.43 318**⇑ *i*P **P** **05 59 56.4 +0.6**
TLB **Topalu** **78.43 318** P **P** **05 59 56.3 +0.5**
STHS **Stebnicka Huta** **78.44 325** *e*P **P** **05 59 56.7 +0.9**
STHS pmax pmax
comp=Z,186nm,1.3s
STHS **Stebnicka Huta** **78.44 325** *e*P **P** **05 59 56.7 +0.9**
EFOR **EFORIE** **78.45 317**⇓ *i*P **P** **05 59 56.8 +0.8**
GRER **78.45 319**⇓ *i*P **P** **05 59 58.1 +2.1**
OUZ **Omahuta** **78.46 154** PFAKE 06 00 10.0 +14
OUZ LR LR
comp=Z,5μm,20.0s
BR101 **Keskin Array S** **78.46 312** *e*P **P** **05 59 56.6 +0.3**
BR101 *e*PKKPbc **PKKPbc** **06 18 52.2 +0.8**
BR131 **Keskin Array S** **78.46 312** *e*P **P** **05 59 56.1 -0.3**
comp=Z,133nm,1.0s
BR131 **Keskin Array S** **78.46 312** P **P** **05 59 56.9 +0.5**
SNR=119
BRTR **Keskin Array B** **78.46 312** *e*P **P** **05 59 56.1 -0.3**
BRTR **Keskin Array B** **78.46 312** *i*P **P** **05 59 56.5 +0.2**
BRTR pmax pmax
comp=Z,156nm,1.1s
BRTR **Keskin Array B** **78.46 312** P **P** **05 59 56.6 +0.2**
comp=Z,154nm,1.1s,baz=93,slow=4.2,SNR=268
BRTR PKKPbc **PKKPbc** **06 18 52.2 +0.8**
comp=Z,1.5nm,0.8s,baz=248,slow=2.2,SNR=6.4
BRTR LR LR 06 39 21.6
comp=Z,2μm,18.4s,baz=50,slow=39
MFTR **Murfatlar** **78.50 318**⇓ *i*P **P** **05 59 56.6 +0.4**
OJC **Ojcow** **78.50 326** *e*P **P** **05 59 57.0 +0.8**
OJC LMZ LR 06 37 16.2
comp=Z,8μm,19.2s
OJC **Ojcow** **78.50 326** *e*P **P** **05 59 57.0 +0.8**
OJC MLR MLR
comp=Z,8μm,19.2s
UZH **Uzhgorod** **78.51 324**⇓ *i*P **P** **05 59 56.7 +0.5**
UZH *e* 06 00 02.8
UZH *i* *PP **sP** **06 00 12.5 -2.2**
UZH *i* 06 02 55.8
UZH *e*PPP PPP 06 04 47.2
UZH *i* S **S** **06 09 46.1 -2.9**
UZH MLR MLR
comp=N,3μm,16.0s
UZH MLR MLR
comp=E,3μm,16.0s
UZH MLR MLR
comp=Z,3μm,16.0s
LDFC **Landfair** **78.52 55** *e*P **P** **05 59 57.2 +0.5**
comp=Z,420nm,1.1s
PFO **Pinyon Flats O** **78.53 56** *e*P **P** **05 59 57.2 +0.3**
comp=Z,179nm,1.2s
PFO LR LR
comp=Z,4μm,22.0s
PFO **Pinyon Flats O** **78.53 56** P **P** **05 59 57.5 +0.7**
baz=308,SNR=13
109C **Camp Elliot, M** **78.55 57** P **P** **05 59 57.6 +0.9**
baz=308,SNR=6.6
CPE **Camp Elliot** **78.55 57** PFAKE 06 00 10.0 +13
CPE LR LR
comp=Z,3μm,22.0s
KOZT **Kozan** **78.55 309** *i*P **P** **05 59 56.9 +0.2**
OZUR **78.58 320**⇑ *i*P **P** **05 59 58.1 +1.4**
BELC **Belle Mtn. Jos** **78.60 56** P **P** **05 59 57.7 +0.5**
baz=308,SNR=11
CVDA **Cernavoda** **78.60 318**⇑ *i*P **P** **05 59 57.7 +0.9**
ARCR **ARCALIA** **78.61 322**⇑ *i*P **P** **05 59 58.4 +1.6**
BMR **Baia Mare** **78.61 323**⇓ *i*P **P** **05 59 57.9 +1.1**
TRPA **Tarpa** **78.75 323**⇑ *i*P **P** **05 59 58.6 +1.1**
TRPA **Tarpa** **78.75 323**⇑ *i*P **P** **05 59 58.1 +0.5**
TRPA *e*S **S** **06 09 53.1 +1.6**
TRPA *e*SS SS 06 15 08.0 +13

AMRR **Amara** 78.79 318⇑*i*P P 05 59 58.7 +0.9
ULM **Lac du Bonnet** 78.83 33 PFAKE 06 00 10.0 +12
ULM LR LR
comp=Z,2μm,22.0s
ULM **Lac du Bonnet** 78.83 33 P P 05 59 58.0 +0.1
comp=Z,69nm,1.0s,baz=314,slow=6.4,SNR=100
ULM LR LR 06 36 02.4
comp=Z,1μm,20.9s,baz=331,slow=36
K22A **Casper** 78.84 44 PFAKE 06 00 10.0 +12
K22A LR LR
comp=Z,1μm,20.0s
K22A **Casper** 78.84 44 P P 05 59 59.2 +0.8
baz=312,SNR=37
ISR **Istrita** 78.86 319⇓*i*P P 05 59 59.5 +1.2
ISR **Istrita** 78.86 319 P P 05 59 59.3 +1.0
ISR pmax pmax
comp=Z,674nm,1.1s
MDND **Maddock** 78.86 37 PFAKE 06 00 10.0 +12
MDND LR LR
comp=Z,3μm,21.0s
MDND **Maddock** 78.86 37 P P 05 59 59.0 +0.8
baz=315,SNR=29
YAYX **Yaylak** 78.86 311 *i*P P 05 59 57.9 -0.6
NIE **Niedzica** 78.86 325 *e*P P 05 59 59.4 +1.1
NIE LMZ LR 06 38 36.1
comp=Z,4μm,17.7s
NIE **Niedzica** 78.86 325 *e*P P 05 59 59.3 +1.1
NIE MLR MLR
comp=Z,4μm,17.7s
DOPR **Dopca** 78.87 320⇑*i*P P 05 59 59.6 +1.3
ANTO **Ankara** 78.87 312 *i*P P 05 59 58.6 +0.1
ANTO **Ankara** 78.87 312 *e*P P 05 59 59.0 +0.6
comp=Z,260nm,1.0s
ANTO **Ankara** 78.87 312⇑*i*P P 05 59 59.3 +0.8
ANTO **Ankara** 78.87 312 P P 05 59 59.1 +0.6
ANTO pmax pmax
comp=Z,296nm,1.1s
ANTO **Ankara** 78.87 312 P P 05 59 59.5 +1.0
SNR=45
ANTO P P 05 59 59.5 +1.0
SNR=45
ICOR **Ion Corvin** 78.87 318⇑*i*P P 05 59 59.4 +1.1
LOD **Lodumlu** 78.87 312 *i*P P 05 59 58.6 +0.1
BR231 **Keskin MP Arra** 78.90 312 *e*P P 05 59 58.6 -0.1
comp=Z,218nm,1.0s
CEYT **Ceyhan** 78.90 308 *i*P P 05 59 59.9 +1.3
MLR **Muntele Rosu** 78.91 320 *e*P P 05 59 58.8 +0.2
comp=Z,219nm,1.2s
MLR LR LR
comp=Z,13μm,18.0s
MLR **Muntele Rosu** 78.91 320⇑*i*P P 05 59 59.1 +0.4
PSN **Preselentsi** 78.96 317 P P 05 59 59.0 +0.2
BAR **Barrett** 78.96 57 *e*P P 05 59 58.8 -0.3
comp=Z,159nm,1.1s
BAR LR LR
comp=Z,3μm,22.0s
AFSR **Afar-Bala (An** 78.98 312 *i*P P 05 59 59.7 +0.6
MONP2 **Monument Peak** 79.00 57 P P 06 00 00.3 +0.8
baz=308,SNR=8.5
SERE **Sereflikochisa** 79.00 311 *i*P P 05 59 59.3 0.0
TAHT **Tahtakopru-Hat** 79.02 308 *i*P P 06 00 00.2 +0.9
NEE2 **Needles Airpor** 79.03 55 P P 05 59 60.0 +0.7
baz=308
IRM **Iron Mountain** 79.06 55 P P 06 00 00.7 +1.1
baz=308,SNR=12
YURE **YUREGIR** 79.09 308 *i*P P 06 00 01.1 +1.4
RWWY **Rawlins** 79.10 45 PFAKE 06 00 10.0 +10
RWWY LR LR
comp=Z,2μm,21.0s
LEHL **Lehliu** 79.15 319⇑*i*P P 06 00 00.8 +1.0
SECR 79.16 319⇓*i*P P 06 00 00.7 +0.8
KARA **Karaisali** 79.17 309 *i*P P 06 00 01.1 +1.0
BC3 **Big Chuckawall** 79.17 56 P P 06 00 01.1 +0.8
baz=308,SNR=22
RSSD **Black Hills** 79.21 42 *e*P P 06 00 00.5 +0.1
comp=Z,252nm,1.3s
RSSD LR LR
comp=Z,2μm,22.0s
RSSD **Black Hills** 79.21 42 P P 06 00 00.6 +0.1
RSSD pmax pmax
comp=Z,186nm,1.4s
RSSD **Black Hills** 79.21 42 P P 06 00 00.9 +0.5
baz=313
CJR **Cluj-Napoca** 79.24 322⇑*i*P P 06 00 01.6 +1.3
CJR **Cluj-Napoca** 79.24 322 P P 06 00 01.6 +1.3
PLAR **PLOIESTI** 79.26 319⇑*i*P P 06 00 01.3 +0.9
KULU **Kulu** 79.28 311 *i*P P 06 00 00.7 -0.1
SULR 79.31 319⇑*i*P P 06 00 01.5 +0.9
RAC **Raciborz** 79.31 327 *e*P P 06 00 01.9 +1.4
RAC MLR MLR
comp=Z,10μm,18.7s
RUE **Ruedersdorf** 79.31 331 *e*P P 06 00 00.9 +0.4
RUE IAmb IAmb 06 00 02.8
comp=Z,410nm,1.3s
IKP **In-Ko-Pah, Jac** 79.36 57 P P 06 00 02.0 +0.8
baz=308,SNR=9.1
SWSC **Sam W. Stewart** 79.38 57 P P 06 00 02.0 +0.7
baz=308,SNR=6.7
VOIR 79.40 320⇓*i*P P 06 00 02.0 +0.7
VOIR 79.40 320 P P 06 00 01.6 +0.3
VOIR pmax pmax
comp=Z,121nm,1.3s
KRTS **Karatas** 79.41 308 *i*P P 06 00 01.8 +0.5
MDUB **Mudurnu** 79.41 313 *i*P P 06 00 02.1 +0.7
MDUB **Mudurnu** 79.41 313 *e*P P 06 00 01.7 +0.3
comp=Z,1μm,0.9s
MDUB LR LR
comp=Z,6μm,21.0s
LANS **Liptovska Anna** 79.43 326 *e*P P 06 00 02.8 +1.5
LANS **Liptovska Anna** 79.43 326 *e*P P 06 00 02.8 +1.5
KECS **Kecovo** 79.45 325 *e*P P 06 00 02.2 +0.8
KECS pmax pmax
comp=Z,274nm,1.1s
KECS **Kecovo** 79.45 325 *e*P P 06 00 02.2 +0.8
U15A **North Rim** 79.47 52 PFAKE 06 00 10.0 +7.9
U15A LR LR
comp=Z,3μm,22.0s
OKC **Ostrava-Krasne** 79.51 327⇑*i*P P 06 00 02.3 +0.6
OKC *e*S S 06 10 00.0 +0.4
OKC MLR MLR
comp=Z,9μm,17.3s
OKC **Ostrava-Krasne** 79.51 327⇑*i*P P 06 00 02.3 +0.6
OKC *e*PP PP 06 02 07.9 -54
OKC *e*S S 06 10 00.0 +0.4
OKC AMS AMS 06 38 10.0
comp=Z,9μm,17.3s
SULT **Sultanhani-AKS** 79.51 310 *i*P P 06 00 02.7 +0.7
O20A **White River Ci** 79.53 47 *e*P P 06 00 02.9 +0.6
comp=Z,287nm,1.1s
O20A **White River Ci** 79.53 47 P P 06 00 03.1 +0.9
baz=311,SNR=47
MTUR **Matau** 79.54 320⇑*i*P P 06 00 03.0 +0.9
KSP **Ksiaz** 79.55 328 *e*P P 06 00 02.8 +0.9
KSP LMZ LR 06 39 00.2
comp=Z,7μm,20.7s
KSP **Ksiaz** 79.55 328 *e*P P 06 00 02.8 +0.9
KSP MLR MLR
comp=Z,7μm,20.7s
LTVH **Ltavrtes, Hu** 79.58 323⇑*i*P P 06 00 03.1 +1.0
DRGR 79.62 322⇑*i*P P 06 00 03.1 +0.7
PDMCI **Parker Dam,Lak** 79.62 55 P P 06 00 03.7 +1.1
baz=309,SNR=26
AUMIH **MIHALICIK** 79.64 313 *i*P P 06 00 03.0 +0.2
CHBY **Cihanbeyli** 79.64 311 *i*P P 06 00 02.9 +0.2
ARR **Arges** 79.66 320⇑*i*P P 06 00 04.2 +1.5
PRD **Provadia** 79.71 317 P P 06 00 03.0 +0.2
Y12C **Blythe** 79.72 55 *e*P P 06 00 04.2 +1.1
comp=Z,256nm,1.1s
Y12C LR LR
comp=Z,3μm,22.0s
Y12C **Blythe** 79.72 55 P P 06 00 04.3 +1.1
baz=309,SNR=20
SAUV **Serdivan-Sakar** 79.73 314 *i*P P 06 00 03.1 +0.1
MERS **Mersin** 79.75 309 *i*P P 05 59 59.5 -3.8
SGRR **Singureni** 79.77 319⇓*i*P P 06 00 03.0 -0.1
MORC **Moravsky Berou** 79.82 327 *e*P P 06 00 03.8 +0.4
comp=Z,278nm,1.0s
MORC LR LR
comp=Z,9μm,18.0s
MORC **Moravsky Berou** 79.82 327⇑*i*P P 06 00 04.2 +0.8
MORC **Moravsky Berou** 79.82 327 P P 06 00 03.7 +0.3
MORC pmax pmax
comp=Z,307nm,1.2s
MORC **Moravsky Berou** 79.82 327⇑*i*P P 06 00 04.2 +0.8
MORC *e*S S 06 10 03.2 +0.3

GULT **Gulveren** 79.83 314 *i*P P 06 00 03.8 +0.1
BIGH **Upper Bighouse** 79.86 342⇑*e*P P 06 00 04.2 +0.9
BIGH IAmb IAmb 06 00 04.8
comp=Z,142nm,0.8s
GOLR 79.86 320⇑*i*P P 06 00 03.8 +0.1
AUSIV **SIVRIHISAR** 79.88 312 *i*P P 06 00 03.7 -0.3
SVRH **Sivrihisar-ESK** 79.89 312 *i*P P 06 00 03.3 -0.8
MLA1 **Latheron** 79.90 342⇑*e*P P 06 00 04.4 +0.8
DPC **Dobruska-Polom** 79.91 328⇑*i*P P 06 00 05.0 +1.1
DPC *e*S S 06 10 04.1 +0.2
DPC MLR MLR
comp=Z,7μm,19.7s
DPC **Dobruska-Polom** 79.91 328⇑*i*P P 06 00 05.0 +1.1
DPC *e*S S 06 10 04.1 +0.2
DPC AMS AMS 06 38 40.0
comp=Z,7μm,19.7s
UPC **Upice** 79.92 328⇑*i*P P 06 00 04.6 +0.7
UPC *e* 06 00 07.7
UPC *e*S S 06 10 04.8 +0.9
UPC MLR MLR
comp=Z,7μm,18.0s
UPC **Upice** 79.92 328⇑*i*P P 06 00 04.6 +0.7
UPC *e*x x 06 00 07.7
UPC *e*S S 06 10 04.8 +0.9
UPC AMS AMS 06 38 00.0
comp=Z,7μm,18.0s
KRLC **Kraliky** 79.92 327⇑*i*P P 06 00 04.8 +0.8
KRLC *e* 06 00 08.1
KRLC **Kraliky** 79.92 327⇑*i*P P 06 00 04.8 +0.8
KRLC *e*x x 06 00 08.1
GLA **Glamis** 79.95 56 PFAKE 06 00 20.0 +16
GLA LR LR
comp=Z,4μm,22.0s
GLA **Glamis** 79.95 56 P P 06 00 05.5 +1.0
baz=309,SNR=15
SRCK **Saricakaya, Es** 80.02 313 *i*P P 06 00 04.6 0.0
LOT **Lotru** 80.04 321⇑*i*P P 06 00 05.4 +0.6
KIZT **Kizilcal** 80.05 312 *i*P P 06 00 05.2 +0.2
PV09 **Paradox Valley** 80.07 49 *e*P P 06 00 06.7 +1.4
HUMR **Humele** 80.07 320⇑*i*P P 06 00 04.5 -0.3
KLYT **Kilyos** 80.12 315⇑*i*P P 06 00 05.3 +0.2
PV21 **Cone Mtn., Par** 80.12 49 *e*P P 06 00 06.7 +1.1
comp=Z,298nm,1.1s
PV21 LR LR
comp=Z,2μm,22.0s
PSZ **Piszkesteto** 80.14 324 *e*P P 06 00 05.8 +0.6
comp=Z,355nm,1.0s
PSZ LR LR
comp=Z,4μm,18.0s
PSZ **Piszkesteto** 80.14 324⇑*i*P P 06 00 06.2 +1.0
PSZ **Piszkesteto** 80.14 324⇑*i*P P 06 00 06.0 +0.8
PSZ *e*S S 06 10 09.1 +2.6
DEV **Deva** 80.17 322⇓*i*P P 06 00 06.2 +0.9
DEV **Deva** 80.17 322 P P 06 00 06.2 +0.9
DEV pmax pmax
comp=Z,223nm,1.2s
PV23 **Carpenter Ridg** 80.17 49 *e*P P 06 00 06.5 +0.7
comp=Z,499nm,1.2s
VYHS **Vyhne** 80.20 325 *e*P P 06 00 06.4 +1.0
VYHS pmax pmax
comp=Z,98nm,1.0s
VYHS **Vyhne** 80.20 325 *e*P P 06 00 06.4 +1.0
VYHS *e*S S 06 10 03.3 -3.6
VYHS *e*L L 06 38 54.1
LADK **Ladik-KONYA** 80.20 311 *i*P P 06 00 06.1 +0.3
PV14 **Lion Creek, Pa** 80.22 49 *e*P P 06 00 06.9 +0.8
comp=Z,557nm,1.1s
BORA **Eskisehir** 80.23 313 *i*P P 06 00 06.1 +0.2
PV22 **Blue Mesa, Par** 80.25 49 *e*P P 06 00 06.9 +0.7
comp=Z,291nm,1.1s
PV22 LR LR
comp=Z,2μm,22.0s
AGMN **Agassiz Nation** 80.27 35 *e*P P 06 00 05.2 -0.6
comp=Z,399nm,1.7s
AGMN LR LR
comp=Z,3μm,22.0s
AGMN **Agassiz Nation** 80.27 35 P P 06 00 05.7 -0.1
baz=318,SNR=40
RSC **Scourie** 80.29 343⇑*i*P P 06 00 06.7 +1.0
PV16 **Nyswonger Mesa** 80.32 49 PFAKE 06 00 20.0 +13
PV16 LR LR
comp=Z,2μm,20.0s
N23A **Red Feather La** 80.34 45 PFAKE 06 00 20.0 +13
N23A LR LR
comp=Z,2μm,22.0s
N23A **Red Feather La** 80.34 45 P P 06 00 08.1 +1.4
baz=312,SNR=63
KONT **Konya--Tatoy** 80.37 311 *i*P P 06 00 07.1 +0.5
PV07 **Paradox Valley** 80.40 49 *e*P P 06 00 07.7 +0.7
comp=Z,268nm,1.3s
JAVC **Velka Javorina** 80.44 326⇑*i*P P 06 00 08.5 +1.7
JAVC **Velka Javorina** 80.44 326 *e*S S 06 10 11.0 +1.4
SZH **Strazhica** 80.44 318 P P 06 00 07.0 +0.1
TAU **Tasmania Unive** 80.46 176 PFAKE 06 00 20.0 +13
TAU LR LR
comp=Z,2μm,20.0s
RAR **Rarotonga** 80.49 126 PFAKE 06 00 20.0 +13
RAR LR LR
comp=Z,8μm,22.0s
BRG **Berggiesshubel** 80.49 329⇑*i*P P 06 00 07.6 +0.6
comp=Z,191nm,0.9s
BRG *i*pP pP 06 00 21.8 +1.5
comp=Z,62nm,1.0s
BRG sP sP 06 00 24.0 -1.4
BRG PP PP 06 03 04.0 -5.9
BRG S S 06 10 07.0 -2.9
BRG SS SS 06 15 13.0 -8.3
BRG **Berggiesshubel** 80.49 329⇑*i*P P 06 00 07.6 +0.6
BRG *i* *PP pP 06 00 21.8 +1.5
BRG S S 06 10 07.0 -2.9
BRG pmax pmax
comp=Z,191nm,0.9s
BRG MLR MLR
comp=N,6μm,18.9s
BRG MLR MLR
comp=E,4μm,19.5s
BRG MLR MLR
comp=Z,9μm,19.8s
PV02 **Paradox Valley** 80.49 49 *e*P P 06 00 09.0 +1.4
comp=Z,337nm,1.2s
SIRR **Siria** 80.50 322⇑*i*P P 06 00 07.8 +0.7
PVCC **Panska Ves** 80.50 329⇑*i*P P 06 00 07.9 +0.9
PVCC MLR MLR
comp=Z,6μm,18.0s
PVCC **Panska Ves** 80.50 329⇑*i*P P 06 00 07.9 +0.9
PVCC AMS AMS 06 38 20.0
comp=Z,6μm,18.0s
MCD **Coleburn Disti** 80.51 342⇑*e*P P 06 00 07.5 +0.5
KEBE **Keben-Mersin** 80.52 309 *i*P P 06 00 07.2 -0.3
CLL **Collm** 80.53 330 *e*P P 06 00 07.2 +0.1
comp=Z,381nm,1.0s
CLL LR LR
comp=Z,7μm,18.0s
CLL **Collm** 80.53 330⇑*i*P P 06 00 07.3 +0.1
CLL *e**SP pP 06 00 22.0 +1.5
CLL *e*S S 06 10 08.0 -2.2
CLL pmax pmax
comp=Z,397nm,1.0s
CLL MLR MLR
comp=Z,7μm,18.5s
CLL **Collm** 80.53 330⇑*i*P P 06 00 07.3 +0.1
comp=Z,397nm,1.0s
CLL *e*pmax 06 00 09.0
CLL *e*sP pP 06 00 22.0 +1.5
CLL *e* 06 02 12.0
CLL *e*PP PP 06 03 12.0 +1.8
CLL *e*PPP PPP 06 05 00.0
CLL *e*S S 06 10 08.0 -2.2
CLL *e* 06 10 40.0
CLL *e*PPS PPS 06 11 21.0
CLL *e*SS SS 06 15 24.0 +2.2
CLL *e*SSS SSS 06 19 12.0
CLL *e*SSSS 06 21 42.0
CLL *e*PKPPKPdf 06 26 56.0
CLL Lmax 06 38 00.0
CLL Lm MLR 06 38 00.0
comp=N,5μm,19.9s
CLL Lm MLR 06 38 00.0
comp=E,3μm,21.6s
CLL Lm MLR 06 38 00.0
comp=Z,7μm,18.5s
GZR **Gura Zlata** 80.58 321⇑*i*P P 06 00 08.2 +0.6
VRAC **Vranov** 80.58 327⇑*i*P P 06 00 08.6 +1.1
VRAC **Vranov** 80.58 327 P P 06 00 08.0 +0.5

VRAC pmax pmax
comp=Z,322nm,1.1s
VRAC **Vranov** 80.58 327⇑*i*P P 06 00 08.4 +0.9
VRAC **Vranov** 80.58 327 *e*S S 06 10 10.6 -0.3
WUAZ **Wupatki** 80.62 52 *e*P P 06 00 09.8 +1.6
comp=Z,364nm,1.1s
WUAZ **Wupatki** 80.62 52 P P 06 00 09.6 +1.4
baz=310,SNR=58
JMB **Yambol** 80.65 317 P P 06 00 08.9 +1.0
IKL **Isikli** 80.67 309 *i*P P 06 00 07.1 -1.1
TEVE **Tevekalti-Mers** 80.69 309 *i*P P 06 00 08.1 -0.3
PHSR **Pinarhisar** 80.70 316⇑*i*P P 06 00 09.1 +0.8
VLAD **Vladila** 80.74 319⇓*i*P P 06 00 08.7 +0.3
QASN **Qassioun** 80.75 305 *e*P P 06 00 10.0 +1.2
TOTH **TOTAH** 80.76 305 *e*P P 06 00 09.6 +0.8
AKKU **Akkuyu-Mersin** 80.80 309 *i*P P 06 00 08.4 -0.5
SMOL **Smolenice** 80.81 326 *e*P P 06 00 10.3 +1.6
SMOL **Smolenice** 80.81 326 *e*P P 06 00 10.3 +1.6
CRAR **CRAIOVA** 80.82 320⇓*i*P P 06 00 09.5 +0.7
113A **Mohawk Valley,** 80.83 56 PFAKE 06 00 20.0 +11
113A LR LR
comp=Z,3μm,22.0s
KRUC **Moravsky** 80.85 327 P P 06 00 09.3 +0.4
KRUC pmax pmax
comp=Z,305nm,1.2s
KRUC **Moravsky** 80.85 327⇑*i*P P 06 00 09.6 +0.7
KRUC **Moravsky** 80.85 327 *e*S S 06 10 15.6 +1.9
RRR **Rubha Reidh** 80.88 343⇑*e*P P 06 00 09.7 +0.8
SRE **Strehaia** 80.88 321⇑*i*P P 06 00 10.2 +1.0
SRE **Strehaia** 80.88 321 P P 06 00 10.1 +0.9
BERE **Bereket-Mersin** 80.88 309 *i*P P 06 00 09.6 +0.1
GOPC **GO Pecny, Ondr** 80.88 328⇑*i*P P 06 00 09.6 +0.5
GOPC *e*S S 06 10 13.6 -0.5
GOPC MLR MLR
comp=Z,7μm,17.9s
GOPC **GO Pecny, Ondr** 80.88 328⇑*i*P P 06 00 09.6 +0.5
GOPC *e*x x 06 00 12.6
GOPC *e*S S 06 10 13.6 -0.5
GOPC AMS AMS 06 38 50.0
comp=Z,7μm,17.9s
SMCO **Snowmass** 80.89 47 PFAKE 06 00 20.0 +10
SMCO LR LR
comp=Z,2μm,22.0s
DRUM **Mains of Drumt** 80.91 341⇑*e*P P 06 00 09.5 +0.4
DRUM IAmb IAmb 06 00 10.4
comp=Z,109nm,1.0s
DRUM IAMs_20 IAMs_20 06 39 01.2
comp=Z,4μm,22.1s
MDO **Dochfour** 80.91 342⇑*i*P P 06 00 09.4 +0.3
BHL **Bhannes** 80.92 306 *e*P P 06 00 09.8 +0.2
PRU **Pruhonice** 80.93 329⇑*i*P P 06 00 10.0 +0.7
PRU *e*S S 06 10 15.2 +0.7
PRU MLR MLR
comp=Z,6μm,17.4s
PRU **Pruhonice** 80.93 329⇑*i*P P 06 00 10.0 +0.7
PRU *e*S S 06 10 15.2 +0.7
PRU AMS AMS 06 38 50.0
comp=Z,6μm,17.4s
SRO **Srobarova** 80.94 325 *e*P P 06 00 10.8 +1.4
SRO **Srobarova** 80.94 325 *e*P P 06 00 10.8 +1.4
SRO2 **Moca** 80.94 325 *e*P P 06 00 09.2 -0.2
SRO2 **Moca** 80.94 325 *e*P P 06 00 09.2 -0.2
MODS **Modra-Piesok** 80.98 326 *e*P P 06 00 10.0 +0.3
MODS pmax pmax
comp=Z,231nm,1.1s
MODS **Modra-Piesok** 80.98 326 *e*P P 06 00 10.0 +0.3
MODS **Modra-Piesok** 80.98 326 *e*S S 06 10 11.7 -3.4
MODS *e*L L 06 39 12.8
BZS **Buzias** 80.99 322⇑*i*P P 06 00 10.0 +0.3
BZS **Buzias** 80.99 322 P P 06 00 09.5 -0.2
BZS pmax pmax
comp=Z,167nm,1.4s
RRH **Rhenigidale** 81.03 343 *i*P P 06 00 10.5 +0.8
BRBR **Barbar** 81.04 305 *e*P P 06 00 11.1 +0.6
RCY **Rachaya** 81.06 305 *e*P P 06 00 11.0 +0.5
IVI **Ivigtut** 81.06 5 *e*P P 06 00 09.3 -0.4
comp=Z,68nm,0.7s
TREC **Trest** 81.06 328⇑*i*P P 06 00 10.8 +0.7
TREC MLR MLR
comp=Z,6μm,16.5s
TREC **Trest** 81.06 328⇑*i*P P 06 00 10.8 +0.7
TREC *e*PCP PcP 06 00 13.7 -2.7
TREC AMS AMS 06 39 20.0
comp=Z,6μm,16.5s
TEKE **Tekeli-Mersin** 81.08 309 *i*P P 06 00 09.8 -0.6
KAC **Achnashellach** 81.08 343⇑*i*P P 06 00 10.9 +1.0
HERR **Herculane** 81.12 321⇓*i*P P 06 00 10.6 +0.2
ZST **Bratislava** 81.19 326 *e*P P 06 00 11.1 +0.4
ZST **Bratislava** 81.19 326 *e*P P 06 00 11.1 +0.4
ZST **Bratislava** 81.19 326 *e*S S 06 10 33.8 +17
ZST *e*SS SS 06 15 45.7 +14
SHBL **Chebaa** 81.21 305 *e*P P 06 00 11.4 +0.1
PHNC **Paralimni** 81.25 308 P P 06 00 11.1 -0.2
ISCO **Idaho Springs** 81.26 46 *e*P P 06 00 12.4 +0.8
comp=Z,245nm,1.4s
ISCO LR LR
comp=Z,2μm,22.0s
ISCO **Idaho Springs** 81.26 46 P P 06 00 12.6 +0.9
ISCO pmax pmax
comp=Z,142nm,1.4s
ISCO **Idaho Springs** 81.26 46 P P 06 00 12.9 +1.2
baz=312,SNR=40
NRS **Narsarsuaq** 81.26 3 *i*P P 06 00 10.9 +0.1
NRS pmax pmax
comp=Z,37nm,0.8s
NRS **Narsarsuaq** 81.26 3 *i*P P 06 00 10.9 +0.1
comp=Z,37nm,0.8s
X16A **Lo Mia Camp, P** 81.28 53 *e*P P 06 00 12.9 +1.1
comp=Z,243nm,1.1s
MVCO **Mesa Verde** 81.29 49 P P 06 00 12.9 +1.1
baz=311,SNR=25
PUNG **Punghina** 81.29 320⇑*i*P P 06 00 11.8 +0.5
CSKK **Cskako** 81.29 325 *e*P P 06 00 07.1 -4.2
KPL **Plockton** 81.31 343⇑*e*P P 06 00 12.2 +1.1
KPL IAmb IAmb 06 00 13.1
comp=Z,338nm,0.9s
EDU **Dundee** 81.37 341⇑*e*P P 06 00 12.0 +0.5
BANR **Banloc** 81.39 322⇑*i*P P 06 00 12.8 +1.0
MPEP **Malo Peshtene** 81.53 319 P P 06 00 13.1 +0.5
MDVR **Moldovita** 81.54 321⇑*i*P P 06 00 13.0 +0.3
ISP **Isparta** 81.55 312 *e*P P 06 00 12.6 -0.4
comp=Z,98nm,0.9s
ISP LR LR
comp=Z,2μm,19.0s
ISP **Isparta** 81.55 312⇑*i*P P 06 00 12.5 -0.4
ISP **Isparta** 81.55 312 P P 06 00 13.3 +0.3
ISP pmax pmax
comp=Z,129nm,1.0s
NKC **Novy Kostel** 81.59 330⇑*i*P P 06 00 13.3 +0.5
NKC *e*S S 06 10 20.2 -1.2
NKC MLR MLR
comp=Z,6μm,16.9s
NKC **Novy Kostel** 81.59 330⇑*i*P P 06 00 13.3 +0.5
NKC *e*S S 06 10 20.2 -1.2
NKC AMS AMS 06 39 00.0
comp=Z,6μm,16.9s
MOX **Moxa** 81.59 330 P P 06 00 12.8 0.0
MOX pmax pmax
comp=Z,162nm,1.3s
SUSD **Miller** 81.60 39 P P 06 00 13.3 +0.3
baz=316,SNR=19
MAMC **Mammari** 81.65 308 P P 06 00 13.5 +0.1
CSS **Mathiatis** 81.71 308 *e*P P 06 00 13.7 0.0
comp=Z,119nm,0.7s
CSS LR LR
comp=Z,2μm,20.0s
INVG **Invergeldie, C** 81.74 342⇑*e*P P 06 00 14.0 +0.5
INVG IAmb IAmb 06 00 14.4
comp=Z,62nm,0.7s
INVG IAMs_20 IAMs_20 06 39 51.8
comp=Z,5μm,18.1s
TIH **Tihany** 81.81 325⇑*i*P P 06 00 14.1 +0.1
SOP **Sopron** 81.82 326 P P 06 00 14.8 +0.7
SOP pmax pmax
comp=Z,363nm,1.1s
SOP **Sopron** 81.82 326⇑*i*P P 06 00 15.0 +1.0
SOP *e*S S 06 10 24.1 +0.3
SOP *e*SS SS 06 15 28.0 -13
ESY **Stoneypath** 81.83 341⇑*e*P P 06 00 14.4 +0.4
BALB **Balikesir** 81.86 314 *e*P P 06 00 14.1 -0.3
comp=Z,670nm,1.0s
BALB LR LR
comp=Z,7μm,18.0s
HIZ **Hauiti** 81.86 154 PFAKE 06 00 30.0 +16

HIZ LR LR
comp=Z,5µm,22.0s
PGB Panagyurishte 81.88 318 P **P 06 00 15.5 +1.0**
W18A Petrified Fore 81.90 52 PFAKE 06 00 30.0 +15
W18A LR LR
comp=Z,2µm,22.0s
W18A Petrified Fore 81.90 52 P **P 06 00 16.3 +1.3**
baz=311,SNR=6.0
PLD Plovdiv 81.90 318 P **P 06 00 15.2 +0.6**
S22A 4UR Ranch, Cre 81.93 48 *eP* **P 06 00 16.9 +1.6**
comp=Z,187nm,1.1s
S22A LR LR
comp=Z,2µm,22.0s
S22A 4UR Ranch, Cre 81.93 48 P **P 06 00 16.9 +1.6**
baz=312,SNR=78
CONA Conrad Observa 81.94 327 *i* P **P 06 00 15.9 +1.1**
comp=Z,214nm,1.0s,SNR=123
214A Organ Pipe Nat 81.97 56 P **P 06 00 16.2 +1.0**
baz=310,SNR=14
EDI Edinburgh 81.97 341⇑ *eP* **P 06 00 14.9 +0.3**
EDI IAMs_20 IAMs_20 06 33 09.4
comp=Z,5µm,32.1s
KHC Kasperske Hory 81.99 328 *eP* **P 06 00 15.2 +0.3**
comp=Z,114nm,1.0s
KHC LR LR
comp=Z,3µm,18.0s
KHC Kasperske Hory 81.99 328⇑ *iP* **P 06 00 15.5 +0.5**
KHC *e* 06 00 32.0
KHC *eS* **S 06 10 26.3 +0.7**
KHC MLR MLR
comp=Z,6µm,18.0s
KHC Kasperske Hory 81.99 328⇑ *iP* **P 06 00 15.5 +0.5**
KHC *eS*P **sP 06 00 32.0 -1.5**
KHC *eS* **S 06 10 26.3 +0.7**
KHC AMS AMS 06 40 50.0
comp=Z,6µm,18.0s
ALN Alexandroupoli 82.02 316 *eP* **P 06 00 14.8 -0.5**
comp=Z,71nm,1.2s
ALN LR LR
comp=Z,3µm,18.0s
EAB Aberfoyle 82.03 342⇑ *eP* **P 06 00 15.7 +0.7**
ALFC Alefka 82.04 309 P **P 06 00 15.0 -0.5**
EBL Broad Law 82.07 341⇑ *iP* **P 06 00 15.8 +0.6**
Q24A Divide 82.09 46 P **P 06 00 16.8 +0.7**
baz=313,SNR=14
EAU Auchinoon 82.11 341⇑ *eP* **P 06 00 15.9 +0.5**
SZAC Souni 82.13 308 P **P 06 00 15.8 -0.2**
BEO Beograd 82.13 322 P **P 06 00 15.0 -0.7**
X18A Snowflake 82.15 52 *eP* **P 06 00 17.3 +1.0**
comp=Z,216nm,1.3s
X18A LR LR
comp=Z,3µm,22.0s
GEC2 GERESS Array S 82.16 328 PFAKE 06 00 30.0 +14
GEC2 LR LR
comp=Z,7µm,18.0s
GERES GERESS Array B 82.16 328 *eP* **P 06 00 15.6 -0.4**
GERES GERESS Array B 82.16 328 P **P 06 00 16.2 +0.2**
comp=Z,97nm,0.9s,baz=36,slow=5.0,SNR=424
GERES PP **PP 06 03 25.8 +1.9**
comp=Z,17nm,1.0s,baz=43,slow=8.0,SNR=4.1
GERES PKKPbc **PKKPbc 06 18 43.5 0.0**
comp=Z,3.2nm,0.8s,baz=188,slow=0.9,SNR=16
GERES PKPPKP **P'P'df 06 26 50.1 -3.4**
comp=Z,0.6nm,0.9s,baz=282,slow=1.9,SNR=3.6
GERES LR LR 06 41 53.9
comp=Z,5µm,18.1s,baz=40,slow=39
RZN Rozhen 82.19 318 P **P 06 00 17.5 +1.1**
FRGS Fruska Gora 82.20 323⇑ *iP* **P 06 00 16.5 +0.4**
LAWE Loch Awe, Argy 82.23 342⇑ *eP* **P 06 00 16.5 +0.5**
LAWE IAmb IAmb 06 00 17.2
comp=Z,164nm,1.3s
MANT Manisa 82.25 313 *eP* **P 06 00 16.7 -0.1**
comp=Z,421nm,1.0s
MANT LR LR
comp=Z,8µm,18.0s
WET Wettzell 82.27 329 P **P 06 00 16.7 +0.3**
WET pmax pmax
comp=Z,191nm,1.2s
MXZ Matakaoa Point 82.27 151 PFAKE 06 00 30.0 +14
MXZ LR LR
comp=Z,3µm,22.0s
VTS Vitosha 82.31 319 PFAKE 06 00 30.0 +13
VTS LR LR
comp=Z,8µm,19.0s
VTS Vitosha 82.31 319⇑ *iP* **P 06 00 18.0 +1.1**
VTS Vitosha 82.31 319 P **P 06 00 17.5 +0.5**
VTS pmax pmax
comp=Z,285nm,1.1s
VTS Vitosha 82.31 319 P **P 06 00 18.1 +1.1**
PPCY Paphos 82.38 308 P **P 06 00 17.1 -0.1**
PGBU Glenifferbraes 82.40 341⇑ *iP* **P 06 00 17.7 +0.8**
PGBU IAmb IAmb 06 00 18.8
comp=Z,307nm,1.0s
URZ Urewera 82.44 153 PFAKE 06 00 30.0 +13
URZ LR LR
comp=Z,6µm,21.0s
URZ Urewera 82.44 153 P **P 06 00 16.0 -1.1**
comp=Z,18nm,0.9s,baz=212,slow=6.2,SNR=4.1
EYMN Ely 82.46 33 PFAKE 06 00 30.0 +13
EYMN LR LR
comp=Z,2µm,21.0s
EYMN Ely 82.46 33 P **P 06 00 17.5 +0.1**
baz=320,SNR=36
OGNE Ogallala 82.47 43 *eP* **P 06 00 18.5 +0.8**
comp=Z,673nm,1.4s
OGNE Ogallala 82.47 43 P **P 06 00 18.2 +0.5**
baz=314,SNR=7.7
EKA Eskdalemuir Ar 82.49 341 P **P 06 00 17.4 0.0**
EKA pmax pmax
comp=Z,29nm,0.5s
GRA1 Grafenberg Arr 82.50 330 *eP* **P 06 00 17.9 +0.3**
comp=Z,409nm,1.0s
GRA1 LR LR
comp=Z,5µm,19.0s
GRF Grafenberg Arr 82.50 330 P **P 06 00 18.2 +0.6**
GRF pmax pmax
comp=Z,474nm,1.2s
GRFO Grafenberg 82.50 330 *eP* **P 06 00 18.2 +0.6**
comp=Z,440nm,1.1s
GRFO LR LR
comp=Z,5µm,19.0s
ESK Eskdalemuir 82.52 341 *eP* **P 06 00 17.3 -0.3**
comp=Z,210nm,1.4s
ESK LR LR
comp=Z,4µm,21.0s
ESK Eskdalemuir 82.52 341⇑ *eP* **P 06 00 18.1 +0.5**
ESK IAmb IAmb 06 00 19.0
comp=Z,208nm,1.4s
ESK IAMs_20 IAMs_20 06 33 23.5
comp=Z,23µm,26.1s
ESK Eskdalemuir 82.52 341 *i* P **P 06 00 18.4 +0.8**
GRB1 Grafenberg Arr 82.57 330 P **P 06 00 18.6 +0.6**
GRB1 pmax pmax
comp=Z,426nm,1.1s
BUG Bochum--Univer 82.58 333 P **P 06 00 17.9 0.0**
BUG pmax pmax
comp=Z,253nm,1.1s
EZN Ezine 82.60 315⇑ *iP* **P 06 00 18.7 +0.4**
EZN Ezine 82.60 315 P **P 06 00 18.6 +0.3**
ARSA Arzberg 82.61 326 *i* P **P 06 00 18.9 +0.7**
comp=Z,131nm,1.1s,SNR=60
EDMD Edmundbyers 82.61 340⇑ *eP* **P 06 00 18.3 +0.2**
EDMD IAmb IAmb 06 00 19.3
comp=Z,73nm,0.8s
EDMD IAMs_20 IAMs_20 06 39 51.2
comp=Z,6µm,21.4s
BEHE Becsehely 82.64 325⇑ *iP* **P 06 00 18.6 +0.2**
BEHE Becsehely 82.64 325⇑ *iP* **P 06 00 18.0 -0.3**
MOA Molln 82.69 327 *i* P **P 06 00 19.3 +0.6**
comp=Z,163nm,1.1s,SNR=58
SDCO Great Sand Dun 82.71 47 *eP* **P 06 00 19.9 +0.6**
comp=Z,153nm,1.3s
SDCO LR LR
comp=Z,2µm,21.0s
SDCO Great Sand Dun 82.71 47 P **P 06 00 20.4 +1.1**
baz=313,SNR=61
BHH Howats Hill 82.72 340⇑ *iP* **P 06 00 19.3 +0.7**
TEKS Tekeris 82.78 322 *eP* **P 06 00 19.1 -0.1**
DIVS Divibare 82.88 322⇑ *iP* **P 06 00 20.0 +0.2**
GRC1 Grafenberg Arr 82.93 329 P **P 06 00 19.2 -0.7**
BKZ Black Stump Fm 83.02 153 PFAKE 06 00 30.0 +10
BKZ LR LR
comp=Z,6µm,22.0s
TUC Tucson 83.06 54 *eP* **P 06 00 21.4 +0.5**
comp=Z,155nm,1.3s
TUC LR LR
comp=Z,2µm,22.0s
TUC Tucson 83.06 54 P **P 06 00 21.9 +1.0**
TUC pmax pmax
comp=Z,20nm,1.3s
TUC Tucson 83.06 54 P **P 06 00 22.1 +1.2**
baz=311
KESW Keswick, Cumbr 83.14 340⇑ *eP* **P 06 00 21.6 +0.8**
KESW IAmb IAmb 06 00 22.1
comp=Z,169nm,0.8s
KESW IAMs_20 IAMs_20 06 40 31.8
comp=Z,7µm,20.0s
TNS Taunus Mts 83.14 332 P **P 06 00 21.1 +0.1**
TNS pmax pmax
comp=Z,169nm,1.3s
SRS Serrai 83.19 318 P **P 06 00 21.2 -0.2**
PERS Pernice 83.25 326 *i* P **P 06 00 22.0 +0.3**
SOKA Soboth 83.26 326 *i* P **P 06 00 22.0 +0.3**
comp=Z,426nm,1.2s,SNR=148
ECSD EROS Data Cent 83.27 38 PFAKE 06 00 30.0 +8.3
ECSD LR LR
comp=Z,2µm,20.0s
ECSD EROS Data Cent 83.27 38 P **P 06 00 22.0 +0.2**
baz=317,SNR=104
HPK Haverah Park 83.29 339⇑ *eP* **P 06 00 22.3 +0.7**
HPK IAmb IAmb 06 00 23.2
comp=Z,297nm,0.7s
HPK IAMs_20 IAMs_20 06 40 30.3
comp=Z,7µm,22.5s
GAL1 Galloway 83.31 341⇑ *eP* **P 06 00 22.2 +0.5**
GAL1 IAmb IAmb 06 00 23.1
comp=Z,87nm,0.7s
GAL1 IAMs_20 IAMs_20 06 40 59.1
comp=Z,2µm,21.4s
DOB Doboj 83.33 323 *eP* **P 06 00 21.7 -0.3**
BBLS Lazići 83.34 322⇑ *iP* **P 06 00 22.7 +0.5**
HAPS Han Pijesak,Bl 83.40 322 *eP* **P 06 00 22.2 -0.3**
CLGH Cloghs, Cushen 83.47 342⇑ *eP* **P 06 00 23.2 +0.7**
CLGH IAmb IAmb 06 00 23.8
comp=Z,152nm,0.8s
E38A The Farm, Brul 83.47 34 *eP* **P 06 00 22.2 -0.5**
comp=Z,192nm,0.8s
E38A LR LR
comp=Z,2µm,22.0s
E38A The Farm, Brul 83.47 34 P **P 06 00 22.7 0.0**
baz=320,SNR=54
C40A Isle Royale Na 83.48 32 *eP* **P 06 00 21.8 -0.9**
comp=Z,230nm,1.9s
C40A LR LR
comp=Z,2µm,20.0s
C40A Isle Royale Na 83.48 32 P **P 06 00 22.6 -0.1**
baz=322
ZAG Zagreb 83.48 325⇑ *iP* **P 06 00 23.0 +0.3**
KSCO Kaye Shedlock' 83.48 45 *eP* **P 06 00 22.7 -0.4**
comp=Z,415nm,1.4s
KSCO Kaye Shedlock' 83.48 45 P **P 06 00 23.6 +0.5**
baz=314,SNR=10
STIP Stip 83.52 319 *i* P **P 06 00 22.5 -0.5**
VAY Valandovo 83.59 318 *i* P **P 06 00 23.9 +0.5**
VAY Valandovo 83.59 318 P **P 06 00 23.6 +0.2**
OBKA Obir 83.60 326 *i* P **P 06 00 23.3 -0.2**
comp=Z,80nm,0.8s,SNR=26
F37A Hinrichs Farm, 83.67 35 P **P 06 00 23.7 0.0**
baz=320,SNR=13
BEBN Eben Emael 83.68 334⇑ P **P 06 00 23.6 0.0**
comp=Z,28nm,0.9s
BEBN ⇓pP **pP 06 00 33.4 -3.6**
KBA Koelnbreinsper 83.68 327 *i* P **P 06 00 24.0 -0.1**
comp=Z,174nm,0.8s,SNR=76
KBA Koelnbreinsper 83.68 327 P **P 06 00 23.9 -0.1**
KBA pmax pmax
comp=Z,201nm,1.0s
FUR Furstenfeldbru 83.69 329 P **P 06 00 24.4 +0.6**
FUR pmax pmax
comp=Z,649nm,0.9s
WACR West Acre 83.70 337⇑ *eP* **P 06 00 24.1 +0.4**
WACR IAmb IAmb 06 00 24.9
comp=Z,273nm,0.8s
WACR IAMs_20 IAMs_20 06 41 43.9
comp=Z,7µm,18.3s
SKO Skopje 83.70 320 *i* P **P 06 00 25.3 +1.3**
SKO Skopje 83.70 320 P **P 06 00 25.0 +1.0**
MEM Membach 83.72 333 P **P 06 00 23.8 0.0**
MEM pmax pmax
comp=Z,232nm,1.2s
MEM Membach 83.72 333⇑ P **P 06 00 23.8 0.0**
comp=Z,149nm,1.0s
CRES Cresnjev 83.72 325⇑ *iP* **P 06 00 23.9 -0.1**
PLE Pljevlja 83.75 322⇑ *iP* **P 06 00 24.4 +0.1**
BLY Banja Luka 83.75 324 *eP* **P 06 00 23.9 -0.2**
comp=Z,144nm,1.0s
BLY LR LR
comp=Z,9µm,18.0s
BLY Banja Luka 83.75 324⇓ *iP* **P 06 00 24.3 +0.1**
BLY Banja Luka 83.75 324⇑ *iP* **P 06 00 24.2 +0.1**
T25A Trinidad 83.76 47 P **P 06 00 25.8 +1.1**
baz=313,SNR=71
LBWR Ladybower, Pea 83.80 339⇑ *eP* **P 06 00 24.9 +0.7**
LBWR IAmb IAmb 06 00 25.9
comp=Z,591nm,0.8s
LBWR IAMs_20 IAMs_20 06 40 46.0
comp=Z,7µm,21.0s
IDGL Inch Island, C 83.81 343 *i* P **P 06 00 25.2 +1.0**
IDGL *e*SKS **S 06 10 46.5 +2.8**
IOMK Kirk Michael 83.82 341⇑ *eP* **P 06 00 24.9 +0.6**
IOMK IAmb IAmb 06 00 25.3
comp=Z,181nm,0.8s
IOMK IAMs_20 IAMs_20 06 41 14.9
comp=Z,9µm,19.4s
F38A Pierce - Schro 83.82 34 P **P 06 00 25.0 +0.5**
baz=320,SNR=166
IVA Berane 83.83 321⇑ *iP* **P 06 00 25.3 +0.6**
OZLJ Ozalj 83.88 325 P **P 06 00 24.7 -0.1**
MYKA Terra Mystica 83.91 327 *i* P **P 06 00 24.6 -0.4**
comp=Z,97nm,0.7s,SNR=39
WIM Isle of Man 83.95 341⇑ *iP* **P 06 00 25.6 +0.6**
SPMN Marine on St. 83.97 35 PFAKE 06 00 40.0 +15
SPMN LR LR
comp=Z,2µm,21.0s
SPMN Marine on St. 83.97 35 P **P 06 00 25.3 +0.1**
baz=320,SNR=29
LJU Ljubljana 83.97 326⇑ *iP* **P 06 00 24.9 -0.4**
PVY Plav 84.00 321⇑ *iP* **P 06 00 25.5 -0.2**
KTD Kalmit 84.02 331 P **P 06 00 25.8 +0.3**
VISS Visnje 84.02 326 *i* P **P 06 00 25.3 -0.2**
TASM ASL Pad, Albuq 84.03 50 P **P 06 00 27.3 +1.3**
baz=312,SNR=99
TASM ASL Pad, Albuq 84.03 50 P **P 06 00 27.2 +1.3**
baz=312,SNR=98
ANMO Albuquerque 84.03 50 *eP* **P 06 00 27.3 +1.3**
comp=Z,246nm,1.1s
ANMO LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 84.03 50 *i* P **P 06 00 26.5 +0.5**
ANMO pmax pmax
comp=Z,51nm,1.0s
ANMO MLR MLR
comp=Z,2µm,19.0s
ANMO Albuquerque 84.03 50 P **P 06 00 27.3 +1.3**
baz=312
STU Stuttgart 84.03 331 *eP* **P 06 00 26.0 +0.5**
comp=Z,467nm,1.2s
STU LR LR
comp=Z,5µm,19.0s
STU Stuttgart 84.03 331 P **P 06 00 25.7 +0.2**
STU pmax pmax
comp=Z,368nm,1.2s
KOME Kolasin 84.04 321⇑ *iP* **P 06 00 26.1 +0.3**
BOJS Bojanci 84.06 325 *i* P **P 06 00 25.8 0.0**
UPM Unac-Piva 84.08 322⇑ *iP* **P 06 00 25.9 -0.2**
UPM Unac-Piva 84.08 322⇑ *iP* **P 06 00 25.8 -0.3**
E39A Mellen 84.08 33 P **P 06 00 25.9 +0.1**
baz=321,SNR=48
BCLA Clavier 84.12 334⇑ P **P 06 00 25.9 -0.1**
comp=Z,134nm,1.3s
UCC Uccle 84.14 334 PFAKE 06 00 40.0 +14
UCC LR LR
comp=Z,7µm,20.0s
UCC Uccle 84.14 334⇑ P **P 06 00 25.7 -0.2**
comp=Z,67nm,1.5s
THZ Tophouse 84.16 157 *eP* **P 06 00 25.5 -0.5**
comp=Z,132nm,1.1s
THZ LR LR
comp=Z,5µm,22.0s
GMM Mts of Mourne 84.19 342⇑ *iP* **P 06 00 26.6 +0.5**
BGNE Belgrade 84.19 41 PFAKE 06 00 40.0 +13
BGNE LR LR
comp=Z,2µm,22.0s
BGNE Belgrade 84.19 41 P **P 06 00 26.6 +0.1**
baz=317,SNR=18
WATA Walderalm 84.23 328 *i* PcP **P 06 00 27.6 +0.9**
comp=Z,37nm,0.6s,SNR=14
KRUS Krusevo 84.24 319 *i* P **P 06 00 27.2 +0.4**
CEY Cerknica 84.25 326⇑ *iP* **P 06 00 26.3 -0.4**
WTTA Wattenberg 84.26 328 *i* P **P 06 00 27.1 +0.2**
comp=Z,120nm,1.1s,SNR=32
CWF Charnwood Fore 84.27 338⇑ *eP* **P 06 00 26.9 +0.3**
CWF IAmb IAmb 06 00 27.4
comp=Z,113nm,0.8s
CWF IAMs_20 IAMs_20 06 40 13.6
comp=Z,10µm,23.1s
BFZ Birch Farm 84.28 154 PFAKE 06 00 40.0 +13
BFZ LR LR
comp=Z,3µm,21.0s
F39A Loretta 84.28 34 P **P 06 00 27.1 +0.3**
baz=321,SNR=47
JAVS Javornik 84.29 326 *i* P **P 06 00 26.3 -0.7**
ABTA Abfaltersbach 84.30 328 *i* P **P 06 00 26.2 -0.8**
comp=Z,151nm,1.2s,SNR=45
E40A Wakefield 84.31 33 P **P 06 00 27.7 +0.7**
baz=322,SNR=73
NKY Niksic 84.32 321⇑ *iP* **P 06 00 27.2 0.0**
SNZO South Karori 84.32 156 PFAKE 06 00 40.0 +13
SNZO LR LR
comp=Z,5µm,22.0s
Y22D IRIS PASSCAL I 84.33 51 PFAKE 06 00 40.0 +13
Y22D LR LR
comp=Z,3µm,21.0s
Y22D IRIS PASSCAL I 84.33 51 P **P 06 00 29.1 +1.6**
baz=312
LPM Los Pinos Moun 84.35 51 *eP* **P 06 00 28.2 +0.5**
PMOR Pomariorio Ree 84.36 114 *eP* **P 06 00 27.9 +0.4**
comp=Z,216nm,1.1s
PMOR Pomariorio Ree 84.36 114 *eT* T 07 32 54.5
comp=Z,75nm,0.2s
NKME Niksic 84.38 321⇑ *iP* **P 06 00 27.3 -0.1**
D41A Chassel 84.39 32 *eP* **P 06 00 27.3 -0.1**
comp=Z,256nm,1.3s
D41A Chassel 84.39 32 P **P 06 00 27.8 +0.4**
baz=322,SNR=21
SNF Seneffe 84.41 334⇑ P **P 06 00 27.4 +0.1**
comp=Z,232nm,1.1s
SNF ⇑sP **pP 06 00 43.3 +2.5**
MOTA Moosalm 84.42 329 *i* P **P 06 00 27.8 +0.1**
comp=Z,111nm,0.8s,SNR=77
G38A Ridgeland 84.44 35 P **P 06 00 27.4 -0.3**
baz=320,SNR=33
RETA Reutte 84.44 329 *i* PcP **P 06 00 28.1 +0.4**
comp=Z,255nm,0.8s,SNR=118
WLF Walferdange 84.45 333 *eP* **P 06 00 27.8 +0.2**
comp=Z,2µm,1.8s
WLF LR LR
comp=Z,18µm,20.0s
WLF Walferdange 84.45 333 P **P 06 00 28.2 +0.6**
WLF pmax pmax
comp=Z,147nm,1.6s
WLF Walferdange 84.45 333 ⇓P **P 06 00 28.0 +0.4**
comp=Z,136nm,1.8s
BNM Barren Site 84.46 51 *eP* **P 06 00 29.8 +1.5**
SQTA Sankt Quirin 84.47 329 *i* P **P 06 00 28.1 +0.1**
comp=Z,91nm,0.7s,SNR=38
PDG Podgorica 84.48 321⇑ *iP* **P 06 00 28.1 +0.1**
PDG Podgorica 84.48 321⇑ *iP* **P 06 00 27.9 +0.1**
TTG Podgorica 84.48 321⇑ *iP* **P 06 00 28.0 +0.1**
TTG Podgorica 84.48 321 *eP* **P 06 00 27.9 0.0**
comp=Z,521nm,1.1s
TTG LR LR
comp=Z,10µm,18.0s
BRY Bratogost 84.48 322⇑ *iP* **P 06 00 27.7 -0.4**
BRY Bratogost 84.48 322⇑ *iP* **P 06 00 27.7 -0.4**
WME Myndd Eilian 84.52 340⇑ *iP* **P 06 00 28.4 +0.5**
RIY Rijeka 84.55 326⇑ *iP* **P 06 00 27.4 -0.8**
CEME Cevo 84.56 321⇑ *iP* **P 06 00 28.2 -0.2**
GIVF Givet 84.56 334 *eP* **P 06 00 27.5 -0.6**
GIVF pmax pmax
comp=Z,190nm,1.3s
TRI Trieste 84.57 326 *eP* **P 06 00 27.4 -0.9**
comp=Z,122nm,0.9s
TRI LR LR
comp=Z,10µm,19.0s
TRI Trieste 84.57 326 P **P 06 00 27.7 -0.6**
TRI pmax pmax
comp=Z,182nm,1.1s
WPS Cemaes, Angles 84.57 340 *eP* **P 06 00 28.4 +0.3**
WPS IAmb IAmb 06 00 28.9
comp=Z,132nm,1.4s
WPS IAMs_20 IAMs_20 06 41 54.9
comp=Z,5µm,19.7s
UDBI Udbina 84.58 324 P **P 06 00 27.9 -0.6**
FNA Florina 84.60 319 *eP* **P 06 00 28.1 -0.6**
comp=Z,195nm,1.1s
FNA LR LR
comp=Z,6µm,18.0s
FNA Florina 84.60 319 P **P 06 00 28.0 -0.6**
SCHQ Schefferville 84.61 16 *eP* **P 06 00 28.3 0.0**
comp=Z,97nm,0.8s
SCHQ LR LR
comp=Z,3µm,20.0s
SCHQ Schefferville 84.61 16 P **P 06 00 28.8 +0.5**
comp=Z,80nm,0.7s,baz=358,slow=5.7,SNR=50
SCHQ PKKP **PKKPdf 06 18 27.8 -0.3**
comp=Z,1.4nm,0.5s,baz=207,slow=2.3,SNR=3.3
SCHQ LR LR 06 40 22.1
comp=Z,3µm,20.9s,baz=342,slow=37
H38A Maiden Rock 84.62 35 P **P 06 00 28.9 +0.3**
baz=320,SNR=14
F40A Park Falls 84.63 33 P **P 06 00 28.7 0.0**
baz=322,SNR=39
319A Douglas 84.63 54 *eP* **P 06 00 29.6 +0.6**
comp=Z,306nm,1.1s
319A LR LR
comp=Z,2µm,22.0s
WLF1 Llynfaes 84.64 340⇑ *iP* **P 06 00 28.7 +0.3**
WLF1 IAmb IAmb 06 00 29.6
comp=Z,214nm,0.9s
WLF1 IAMs_20 IAMs_20 06 41 05.3
comp=Z,12µm,21.4s
DOU Dourbes 84.64 334 P **P 06 00 28.5 -0.1**
DOU pmax pmax
comp=Z,149nm,1.5s
DOU Dourbes 84.64 334 ⇑P **P 06 00 28.4 -0.1**
comp=Z,82nm,1.4s
G39A Holcombe 84.66 34 P **P 06 00 28.5 -0.2**
baz=321,SNR=37
OHR Ohrid 84.66 319 *i* P **P 06 00 29.1 +0.1**
OHR Ohrid 84.66 319 P **P 06 00 28.7 -0.2**
FOEL Foel Wylfa 84.67 339⇑ *eP* **P 06 00 29.4 +0.7**
FOEL IAmb IAmb 06 00 30.5
comp=Z,338nm,1.1s
FOEL IAMs_20 IAMs_20 06 41 23.8
comp=Z,6µm,22.8s
DRME Dracevica, Mon 84.69 321⇑ *iP* **P 06 00 29.2 +0.3**
DRME Dracevica, Mon 84.69 321⇑ *iP* **P 06 00 29.3 +0.3**
E41A Kenton 84.70 32 P **P 06 00 29.2 +0.3**
baz=322,SNR=76
TREB Trebinje 84.71 322 *eP* **P 06 00 28.4 -0.7**
YLL Llanberis 84.72 340⇑ *iP* **P 06 00 29.6 +0.7**
YRC Rhoscolyn 84.72 340⇑ *iP* **P 06 00 29.2 +0.4**
BFO Black Forest 84.73 331 *eP* **P 06 00 29.1 0.0**
comp=Z,408nm,1.0s
BFO LR LR
comp=Z,6µm,20.0s
BFO Black Forest 84.73 331 *i* P **P 06 00 29.2 +0.1**
BUM Brajici-Budva 84.75 321⇑ *iP* **P 06 00 29.2 -0.2**
BAIF Baives 84.81 334 *eP* **P 06 00 28.9 -0.5**
BAIF pmax pmax
comp=Z,136nm,1.0s
121A Cookes Peak, D 84.82 53 P **P 06 00 31.3 +1.2**
baz=312,SNR=36
ULC Ulcinj 84.83 321⇑ *iP* **P 06 00 29.6 -0.1**
FETA Feichten 84.83 329 *i* PcP **P 06 00 30.0 +0.2**
comp=Z,211nm,1.2s,SNR=90
LLW Llanuwychllyn 84.84 340⇑ *eP* **P 06 00 29.9 +0.5**
LLW IAmb IAmb 06 00 31.2
comp=Z,153nm,1.2s
HCY Herceg Novi 84.84 321⇑ *iP* **P 06 00 29.5 -0.2**
HCY Herceg Novi 84.84 321⇑ *iP* **P 06 00 29.1 -0.6**
PPT Papeete 84.85 117 LR LR 06 33 26.4
comp=Z,5µm,19.6s,baz=294,slow=32
PPT2 Papeete2 84.86 117 *eS* **S 06 10 56.5 +1.1**
comp=Z,1µm,24.5s
PPT2 *e*SS **SS 06 16 29.5 +0.5**
comp=Z,1µm,25.5s

PPT2	Papeete2	84.86 117	eLR	LR	06 27 12.6	
	comp=Z,16µm,29.2s,baz=317					
PPT2	Papeete2	84.86 117	eT	T	07 33 33.5	
	comp=Z,18nm,0.3s					
FOZ	Fox Glacier	84.88 160	PFAKE		06 00 40.0	+11
FOZ			LR	LR		
	comp=Z,5µm,21.0s					
LTZ	Lake Taylor	84.89 158	PFAKE		06 00 40.0	+10
LTZ			LR	LR		
	comp=Z,5µm,21.0s					
ELSH	Elham, Standar	84.91 336⇑	eP	P	06 00 30.1	+0.3
ELSH			IAmb	IAmb	06 00 31.1	
	comp=Z,537nm,0.9s					
ELSH			IAMs_20	IAMs_20	06 42 21.5	
	comp=Z,11µm,18.7s					
COWI	Conover	84.91 33	PFAKE		06 00 40.0	+10
COWI			LR	LR		
	comp=Z,2µm,21.0s					
STON	Ston	84.91 322	P	P	06 00 29.2	-0.8
STON	Ston	84.91 322⇑	iP	P	06 00 29.0	-1.0
KHZ	Kahutara	84.95 157	PFAKE		06 00 40.0	+10
KHZ			LR	LR		
	comp=Z,6µm,22.0s					
NVLJ	Novalja	84.96 325	P	P	06 00 29.5	-0.7
DAVA	Damuels	84.96 329	i PcP	P	06 00 30.7	+0.2
	comp=Z,286nm,0.8s,SNR=110					
TIR	Tirane	84.97 320	PFAKE		06 00 40.0	+10
TIR			LR	LR		
	comp=Z,17µm,19.0s					
TIR	Tirane	84.97 320⇑	iP	P	06 00 30.7	+0.3
TIR	Tirane	84.97 320	P	P	06 00 30.6	+0.2
TIR			pmax	pmax		
	comp=Z,402nm,1.1s					
APE	Apeiranthos	84.97 314⇑	iP	P	06 00 29.2	-1.3
TIAR	Tiarei	85.01 117	eT	T	07 33 43.7	
	comp=Z,13nm,0.3s					
KARP	Karpathos	85.07 312	eP	P	06 00 30.4	-0.6
	comp=Z,498nm,0.9s					
H39A	Augusta	85.08 35	P	P	06 00 31.2	+0.3
	baz=321,SNR=41					
HSIG		85.08 57	PFAKE		06 00 40.0	+8.8
HSIG			LR	LR		
	comp=Z,4µm,22.0s					
G40A	Rib Lake	85.10 34	PFAKE		06 00 40.0	+9.0
G40A			LR	LR		
	comp=Z,2µm,20.0s					
G40A	Rib Lake	85.10 34	P	P	06 00 31.2	+0.2
	baz=322,SNR=81					
SLE	Schleitheim	85.13 330	P	P	06 00 31.0	-0.1
E42A	Champion	85.17 32	P	P	06 00 31.6	+0.3
	baz=323,SNR=44					
DSB	Dublin	85.20 341	i P	P	06 00 31.9	+0.6
DSB			eSKS	S	06 11 02.1	+4.5
DSB	Dublin	85.20 341	eP	P	06 00 31.6	+0.3
	comp=Z,156nm,0.8s					
DSB			LR	LR		
	comp=Z,3µm,21.0s					
F41A	Three Lakes	85.21 33	P	P	06 00 32.0	+0.4
	baz=322,SNR=84					
CBKS	Cedar Bluff	85.22 43	P	P	06 00 31.7	-0.1
	baz=316,SNR=10.0					
ECH	Echery	85.27 331	PFAKE		06 00 40.0	+8.2
ECH			LR	LR		
	comp=Z,4µm,21.0s					
ECH	Echery	85.27 331	P	P	06 00 31.9	+0.1
SRIG	Santa Rosalia	85.31 59	PFAKE		06 00 40.0	+7.7
SRIG			LR	LR		
	comp=Z,5µm,22.0s					
FUORN	Ofenpass-Fuorn	85.34 329	eP	P	06 00 32.6	+0.1
	comp=Z,354nm,0.8s					
FUORN			LR	LR		
	comp=Z,9µm,19.0s					
STRD	Stroud	85.36 338⇑	eP	P	06 00 32.6	+0.5
STRD			IAmb	IAmb	06 00 33.7	
	comp=Z,618nm,0.9s					
STRD			IAMs_20	IAMs_20	06 40 57.7	
	comp=Z,9µm,23.2s					
RPZ	Rata Peaks	85.39 159	PFAKE		06 00 40.0	+7.9
RPZ			LR	LR		
	comp=Z,4µm,20.0s					
RPZ	Rata Peaks	85.39 159	P	P	06 00 33.3	+1.2
	comp=Z,13nm,0.8s,baz=50,slow=16,SNR=3.4					
HMNX	Herstmonceux	85.40 337⇑	eP	P	06 00 33.4	+1.0
HMNX			IAmb	IAmb	06 00 34.2	
	comp=Z,723nm,0.7s					
MCH1	Michaelchurch	85.41 339⇑	iP	P	06 00 32.5	+0.2
MCH1			IAmb	IAmb	06 00 33.9	
	comp=Z,190nm,0.8s					
MCH1			IAMs_20	IAMs_20	06 41 34.0	
	comp=Z,6µm,21.3s					
SWN1	Swindon	85.49 338⇑	eP	P	06 00 33.5	+0.7
SWN1			IAmb	IAmb	06 00 34.5	
	comp=Z,684nm,1.1s					
SWN1			IAMs_20	IAMs_20	06 40 14.8	
	comp=Z,11µm,24.1s					
WOL	Wolverton	85.49 338⇑	eP	P	06 00 32.9	+0.2
WOL			IAmb	IAmb	06 00 34.0	
	comp=Z,275nm,0.8s					
WOL			IAMs_20	IAMs_20	06 40 27.9	
	comp=Z,10µm,24.9s					
MONM	Monmouth	85.50 339⇑	eP	P	06 00 33.0	+0.2
MONM			IAmb	IAmb	06 00 34.3	
	comp=Z,290nm,0.8s					
MONM			IAMs_20	IAMs_20	06 39 35.2	
	comp=Z,7µm,24.3s					
H40A	Chili	85.52 34	P	P	06 00 33.5	+0.4
	baz=321,SNR=47					
OLDB	Oldbury-Upon-S	85.58 339	IAMs_20	IAMs_20	06 38 08.9	
	comp=Z,9µm,26.5s					
E43A	Lone Tree Farm	85.59 31	PFAKE		06 00 50.0	+17
E43A			LR	LR		
	comp=Z,2µm,21.0s					
E43A	Lone Tree Farm	85.59 31	P	P	06 00 33.6	+0.2
	baz=324,SNR=60					
I39A	Houston	85.60 35	eP	P	06 00 33.0	-0.6
	comp=Z,149nm,0.8s					
I39A			LR	LR		
	comp=Z,3µm,22.0s					
I39A	Houston	85.60 35	P	P	06 00 33.5	-0.1
	baz=321,SNR=58					
F42A	Maple Grove Fa	85.61 32	P	P	06 00 33.8	+0.3
	baz=323,SNR=20					
HINF	Hinteralfeld	85.72 331	eP	P	06 00 33.2	-0.9
HINF			pmax	pmax		
	comp=Z,103nm,1.0s					
CRLZ	Canterbury Las	85.72 158	PFAKE		06 00 50.0	+16
CRLZ			LR	LR		
	comp=Z,5µm,22.0s					
HAU	Haudompre	85.75 332	eP	P	06 00 33.4	-0.8
HAU			pmax	pmax		
	comp=Z,141nm,0.7s					
IGLA	Glengowla, Co	85.77 343	i P	P	06 00 33.8	-0.3
IGLA			eSKS	S	06 11 07.7	+4.5
LBZ	Lake Benmore	85.77 160	PFAKE		06 00 50.0	+16
LBZ			LR	LR		
	comp=Z,6µm,21.0s					
E44A	Grand Marais A	85.83 31	PFAKE		06 00 50.0	+15
E44A			LR	LR		
	comp=Z,2µm,22.0s					
E44A	Grand Marais A	85.83 31	P	P	06 00 35.2	+0.6
	baz=324,SNR=29					
TUE	Stuetta	85.83 329	eP	P	06 00 34.6	-0.3
	comp=Z,148nm,1.0s					
TUE			LR	LR		
	comp=Z,9µm,19.0s					
MQZ	McQueen's Vall	85.85 158	PFAKE		06 00 50.0	+16
MQZ			LR	LR		
	comp=Z,4µm,21.0s					
H41A	Junction City	85.85 34	PFAKE		06 00 50.0	+15
H41A			LR	LR		
	comp=Z,2µm,20.0s					
H41A	Junction City	85.85 34	P	P	06 00 35.0	+0.3
	baz=322,SNR=21					
WKZ	Wanaka	85.87 161	PFAKE		06 00 50.0	+16
WKZ			LR	LR		
	comp=Z,4µm,20.0s					
G42A	Mountain	85.89 33	PFAKE		06 00 50.0	+15
G42A			LR	LR		
	comp=Z,2µm,22.0s					
G42A	Mountain	85.89 33	P	P	06 00 35.3	+0.4
	baz=323,SNR=48					
J39A	Decorah	85.92 36	P	P	06 00 34.8	-0.3
	baz=321,SNR=62					
RSBS	Rosebush, Pemb	85.94 340⇑	eP	P	06 00 35.3	+0.3
RSBS			IAmb	IAmb	06 00 36.4	
	comp=Z,103nm,1.1s					
RSBS			IAMs_20	IAMs_20	06 42 03.4	
	comp=Z,3µm,22.2s					
F43A	Flat Rock, Esc	85.96 32	P	P	06 00 35.6	+0.3
	baz=324,SNR=51					
I40A	Norwalk	85.99 35	P	P	06 00 35.6	+0.2
	baz=321,SNR=28					
IGT	Igoumenitsa	86.06 318	P	P	06 00 35.0	-0.8
IWEX	Carrickbyrne,	86.09 341	i P	P	06 00 36.3	+0.5
IWEX			eSKS	S	06 11 12.9	+6.5
IWEX	Carrickbyrne,	86.09 341⇑	eP	P	06 00 36.2	+0.5
MEH	Mehetia	86.13 116	eT	T	07 35 06.9	
	comp=Z,80nm,0.3s					
MLZ	Mavora Lakes	86.14 162	PFAKE		06 00 50.0	+14
MLZ			LR	LR		
	comp=Z,3µm,21.0s					
F44A	Big Bay de Noc	86.15 31	P	P	06 00 36.6	+0.5
	baz=324,SNR=80					
I41A	Arkdale	86.19 34	PFAKE		06 00 50.0	+14
I41A			LR	LR		
	comp=Z,3µm,21.0s					
I41A	Arkdale	86.19 34	P	P	06 00 36.7	+0.3
	baz=322,SNR=11					
G43A	Wallace	86.20 32	PFAKE		06 00 50.0	+14
G43A			LR	LR		
	comp=Z,2µm,22.0s					
G43A	Wallace	86.20 32	P	P	06 00 37.0	+0.6
	baz=323,SNR=52					
MATQ	Matagami	86.22 24	P	P	06 00 36.3	-0.1
	baz=330,SNR=29					
TAOE	Nuku Hiva Isla	86.23 104	eT	T	07 35 13.4	
	comp=Z,28nm,0.2s					
TAOE	Nuku Hiva Isla	86.23 104	PFAKE		06 00 50.0	+13
TAOE			LR	LR		
	comp=Z,6µm,21.0s					
SCIA	State Center	86.30 38	PFAKE		06 00 50.0	+13
SCIA			LR	LR		
	comp=Z,2µm,22.0s					
SCIA	State Center	86.30 38	P	P	06 00 37.7	+0.7
	baz=320,SNR=29					
J40A	Soldiers Grove	86.32 35	P	P	06 00 36.9	-0.2
	baz=321,SNR=30					
K39A	Oelwein	86.32 36	P	P	06 00 36.8	-0.3
	baz=320,SNR=68					
E45A	Wooded Hills,	86.35 30	P	P	06 00 37.4	+0.2
	baz=325,SNR=21					
D46A	Sault St. Mari	86.36 29	P	P	06 00 37.2	0.0
	baz=326,SNR=96					
H42A	Shiocton	86.43 33	P	P	06 00 38.0	+0.5
	baz=323,SNR=34					
ODZ	Otahua Downs	86.50 160	PFAKE		06 00 50.0	+12
ODZ			LR	LR		
	comp=Z,5µm,21.0s					
D47A	Chapleau	86.58 29	P	P	06 00 38.2	-0.1
	baz=326,SNR=109					
FSSB	Fossombrone	86.58 326	S	S	06 11 11.0	-0.6
FASA	Fasano	86.63 321	eP	P	06 00 38.3	-0.3
BAI	Bari	86.64 322	eP	P	06 00 38.8	+0.1
J41A	Loganville	86.67 35	P	P	06 00 39.0	+0.2
	baz=322,SNR=40					
K40A	Colesburg	86.67 36	P	P	06 00 39.0	+0.1
	baz=321,SNR=47					
KSU1	Kansas State U	86.68 41	PFAKE		06 00 50.0	+11
KSU1			LR	LR		
	comp=Z,2µm,20.0s					
KSU1	Kansas State U	86.68 41	P	P	06 00 39.0	+0.1
	baz=318,SNR=36					
E46A	Sault Ste Mari	86.69 30	P	P	06 00 38.9	+0.1
	baz=325,SNR=66					
CGL1	Ceglie Messapi	86.69 321	eP	P	06 00 38.7	-0.2
L39A	Vinton	86.71 37	P	P	06 00 39.3	+0.3
	baz=320,SNR=60					
HTL	Hartland	86.73 339⇑	eP	P	06 00 39.5	+0.7
HTL			IAmb	IAmb	06 00 40.0	
	comp=Z,126nm,0.9s					
HTL			IAMs_20	IAMs_20	06 42 58.1	
	comp=Z,6µm,19.3s					
SENIN	Lac Senin/Sane	86.74 330	PFAKE		06 00 50.0	+11
SENIN			LR	LR		
	comp=Z,3µm,20.0s					
I42A	Draeger Farm,	86.75 34	PFAKE		06 00 50.0	+11
I42A			LR	LR		
	comp=Z,2µm,21.0s					
I42A	Draeger Farm,	86.75 34	P	P	06 00 39.6	+0.4
	baz=322,SNR=41					
DAMY	Dhamar	86.75 286	eP	P	06 00 40.6	+0.6
	comp=Z,170nm,1.1s					
DAMY			LR	LR		
	comp=Z,4µm,20.0s					
F45A	CMU Biological	86.76 31	P	P	06 00 39.5	+0.4
	baz=325,SNR=30					
H43A	Windswept, Lux	86.79 33	PFAKE		06 00 50.0	+11
H43A			LR	LR		
	comp=Z,2µm,22.0s					
H43A	Windswept, Lux	86.79 33	P	P	06 00 40.0	+0.6
	baz=323,SNR=34					
MASS	Massafra	86.87 321	eP	P	06 00 39.4	-0.4
TAR1	Taranto	86.88 321	eP	P	06 00 39.4	-0.4
MNTX	Cornudas Mount	86.89 52	eP	P	06 00 40.2	+0.2
	comp=Z,136nm,1.4s					
MNTX			LR	LR		
	comp=Z,1µm,21.0s					
MNTX	Cornudas Mount	86.89 52	P	P	06 00 40.7	+0.6
	baz=313,SNR=34					
MSTX	Muleshoe	86.91 49	P	P	06 00 40.6	+0.4
	baz=314,SNR=15					
ITM	Ithomi	86.91 316	eP	P	06 00 39.4	-0.7
ITM			LR	LR		
	comp=Z,365nm,0.7s					
AMTX	Amarillo	86.91 47	eP	P	06 00 41.2	+1.0
AMTX			LR	LR		
	comp=Z,217nm,1.1s					
AMTX	Amarillo	86.91 47	P	P	06 00 41.4	+1.1
	baz=315					
JFWS	Jewell Farm	86.92 35	eP	P	06 00 39.6	-0.4
JFWS			LR	LR		
	comp=Z,112nm,1.0s					
JFWS	Jewell Farm	86.92 35	P	P	06 00 40.0	0.0
	baz=322,SNR=21					
D48A	Paudash Townsh	86.97 28	P	P	06 00 39.7	-0.5
	baz=327,SNR=33					
F46A	Macinaw City C	86.99 30	P	P	06 00 40.8	+0.5
	baz=325,SNR=22					
CABF	La Chapelle	87.01 331	eP	P	06 00 39.8	-0.7
CABF			pmax	pmax		
	comp=Z,75nm,1.0s					
E47A	Iron Bridge	87.02 29	P	P	06 00 40.5	+0.1
	baz=326,SNR=66					
LSQQ	Lebel-sur-Quev	87.05 24	P	P	06 00 40.7	+0.3
	baz=330					
D49A	Beulah Townshi	87.06 28	P	P	06 00 40.3	-0.3
	baz=327,SNR=48					
MATE	Matera	87.08 321⇑	iP	P	06 00 40.0	-0.8
I43A	Langenfeld Bro	87.10 34	P	P	06 00 41.1	+0.3
	baz=323,SNR=14					
J42A	Columbus	87.11 34	P	P	06 00 41.1	+0.2
	baz=322,SNR=25					
CHGQ	Chibougamau	87.11 22	P	P	06 00 40.6	-0.2
	baz=332,SNR=63					
L40A	Anamosa	87.13 36	PFAKE		06 00 50.0	+9.0
L40A			LR	LR		
	comp=Z,2µm,22.0s					
L40A	Anamosa	87.13 36	P	P	06 00 41.1	0.0
	baz=321,SNR=43					
CLF	Chambon-Foret	87.22 334	PFAKE		06 00 50.0	+8.7
CLF			LR	LR		
	comp=Z,5µm,22.0s					
G45A	Suttons Bay	87.22 31	P	P	06 00 41.9	+0.5
	baz=324,SNR=39					
VLC	Villacollemand	87.26 327	PFAKE		06 00 50.0	+8.3
VLC			LR	LR		
	comp=Z,5µm,18.0s					
LOR	Lormes	87.29 333	eP	P	06 00 40.0	-1.8
LOR			pmax	pmax		
	comp=Z,314nm,1.0s					
G46A	Petoskey	87.32 31	P	P	06 00 42.4	+0.5
	baz=325,SNR=38					
VAL	Valentia	87.34 343	i P	P	06 00 39.8	-2.0
VAL			eSKS	S	06 11 23.5	+5.0
VAL	Valentia	87.34 343	P	P	06 00 42.7	+0.9
VAL			pmax	pmax		
	comp=Z,99nm,1.1s					
AQU	L'Aquila	87.35 324	PFAKE		06 00 50.0	+7.8
AQU			LR	LR		
	comp=Z,4µm,20.0s					
AQU	L'Aquila	87.35 324	P	P	06 00 42.5	+0.3
AQU			pmax	pmax		
	comp=Z,176nm,1.0s					
AQU	L'Aquila	87.35 324⇑	iP	P	06 00 42.3	+0.1
J43A	Natural Harves	87.38 34	P	P	06 00 42.4	+0.2
	baz=323,SNR=27					
H45A	Beulah	87.40 32	P	P	06 00 43.0	+0.7
	baz=324,SNR=37					
E48A	Lockeyer	87.42 29	P	P	06 00 42.2	-0.1
	baz=327,SNR=37					
FLN	La Foliniere	87.50 336	eP	P	06 00 42.0	-0.7
FLN			pmax	pmax		
	comp=Z,153nm,0.8s					
LDF	La Druitiere	87.53 336	eP	P	06 00 42.1	-0.7
LDF			pmax	pmax		
	comp=Z,124nm,0.8s					
JLP	Les Platons	87.59 337	eP	P	06 00 43.4	+0.3
SSF	Saint Saulge	87.59 333	eP	P	06 00 42.8	-0.4
SSF			pmax	pmax		
	comp=Z,186nm,1.0s					
JQE	Queens East	87.60 337⇑	eP	P	06 00 43.4	+0.3
JRS	Jersey	87.63 337⇑	eP	P	06 00 43.4	+0.2
JVM	Valle D.L. Mar	87.64 337⇑	eP	P	06 00 43.6	+0.3
JSA	Saint Aubin	87.66 337⇑	eP	P	06 00 43.7	+0.3
JSA			IAmb	IAmb	06 00 44.6	
	comp=Z,323nm,0.9s					
JSA			IAMs_20	IAMs_20	06 44 37.2	
	comp=Z,9µm,17.8s					
CCA1	Carnmenellis	87.66 339⇑	eP	P	06 00 43.6	+0.2
CCA1			IAmb	IAmb	06 00 44.0	
	comp=Z,248nm,1.4s					
CCA1			IAMs_20	IAMs_20	06 43 24.0	
	comp=Z,5µm,20.7s					
LPL	La Plagne	87.67 330	eP	P	06 00 43.7	-0.1
LPL			pmax	pmax		
	comp=Z,68nm,0.7s					
LPG	La Plagne	87.67 330	eP	P	06 00 43.2	-0.8
LPG			pmax	pmax		
	comp=Z,100nm,0.7s					
VLDQ	Val d'Or	87.71 25	PFAKE		06 00 50.0	+6.3
VLDQ			LR	LR		
	comp=Z,2µm,22.0s					
F48A	Evansville	87.79 29	P	P	06 00 44.3	+0.2
	baz=327,SNR=112					
I45A	Fountain	87.80 32	P	P	06 00 45.0	+0.8
	baz=324,SNR=14					
H46A	Fife Lake	87.82 31	P	P	06 00 45.0	+0.7
	baz=325,SNR=70					
SMF	Signal de Mont	87.83 332	eP	P	06 00 43.2	-1.1
SMF			pmax	pmax		
	comp=Z,206nm,1.1s					
GLMI	Grayling	87.83 31	P	P	06 00 45.3	+0.9
	baz=325,SNR=41					
G47A	Hillman	87.85 30	P	P	06 00 45.0	+0.6
	baz=326,SNR=46					
N40A	Mertquake, Sal	87.87 37	P	P	06 00 45.1	+0.5
	baz=321,SNR=8.3					
AVF	Avril sur Loir	87.88 333	eP	P	06 00 44.2	-0.3
AVF			pmax	pmax		
	comp=Z,304nm,1.0s					
L42A	Oliver, Polo	87.90 36	PFAKE		06 01 00.0	+15
L42A			LR	LR		
	comp=Z,2µm,21.0s					
L42A	Oliver, Polo	87.90 36	P	P	06 00 44.7	-0.1
	baz=322,SNR=26					
D51A	Lot 18 Range I	87.93 27	P	P	06 00 44.6	-0.2
	baz=329,SNR=15					
GRR	Gorron	87.94 336	eP	P	06 00 44.5	-0.3
GRR			pmax	pmax		
	comp=Z,309nm,0.9s					
M41A	Milan	87.98 36	P	P	06 00 45.4	+0.2
	baz=321,SNR=56					
E50A	Wahnapitae	88.00 28	P	P	06 00 45.2	+0.1
	baz=328,SNR=22					
F49A	Sandfield	88.07 29	P	P	06 00 45.6	+0.2
	baz=327,SNR=69					
BNI	Bardonecchia	88.07 330	PFAKE		06 01 00.0	+14
BNI			LR	LR		
	comp=Z,8µm,18.0s					
BNI	Bardonecchia	88.07 330	P	P	06 00 45.9	+0.2
BNI			pmax	pmax		
	comp=Z,54nm,1.0s					
TIP	Timpagrande	88.17 320	PFAKE		06 01 00.0	+14
TIP			LR	LR		
	comp=Z,8µm,20.0s					
TIP	Timpagrande	88.17 320⇑	iP	P	06 00 46.2	+0.1
H47A	Mio	88.18 31	P	P	06 00 46.9	+0.9
	baz=326,SNR=63					
L43A	Garden Prairie	88.18 35	P	P	06 00 46.2	+0.1
	baz=323,SNR=11					
I46A	Reed City	88.21 32	P	P	06 00 47.0	+0.8
	baz=325,SNR=41					
J45A	Montague	88.22 33	P	P	06 00 46.7	+0.5
	baz=324,SNR=5.9					
MBDF	Montbardon	88.30 330	eP	P	06 00 45.3	-1.5
MBDF			pmax	pmax		
	comp=Z,34nm,0.7s					
N41A	Harden Midland	88.35 37	PFAKE		06 01 00.0	+13
N41A			LR	LR		
	comp=Z,3µm,22.0s					
N41A	Harden Midland	88.35 37	P	P	06 00 47.4	+0.4
	baz=321,SNR=6.2					
E51A	G1948 Merrick	88.36 27	P	P	06 00 46.7	-0.2
	baz=329,SNR=53					
D52A	ZEK Kipawa Sen	88.36 26	P	P	06 00 46.8	0.0
	baz=330,SNR=50					
H48A	Harrisville	88.45 30	P	P	06 00 48.0	+0.7
	baz=326,SNR=43					
ORIF	Oris-en-Rattie	88.50 330	eP	P	06 00 47.5	-0.1
ORIF			pmax	pmax		
	comp=Z,62nm,0.8s					
D53A	Lac Vacive, Po	88.52 26	PFAKE		06 01 00.0	+12
D53A			LR	LR		
	comp=Z,2µm,20.0s					
D53A	Lac Vacive, Po	88.52 26	P	P	06 00 47.7	+0.1
	baz=330,SNR=84					
I47A	Gladwin	88.53 31	P	P	06 00 48.6	+0.9
	baz=325,SNR=46					
L44A	Lake County Fo	88.56 34	P	P	06 00 48.2	+0.3
	baz=323,SNR=8.5					
SGMF	Saint Gilles	88.60 337	eP	P	06 00 47.6	-0.3
SGMF			pmax	pmax		
	comp=Z,106nm,0.7s					
J46A	Howard City	88.61 32	P	P	06 00 48.8	+0.7
	baz=325,SNR=36					
M43A	Waltham Townsh	88.67 35	P	P	06 00 48.9	+0.5
	baz=322,SNR=48					
WMOK	Wichita Mounta	88.68 46	PFAKE		06 01 00.0	+11
WMOK			LR	LR		
	comp=Z,1µm,22.0s					
WMOK	Wichita Mounta	88.68 46	P	P	06 00 49.1	+0.5
	baz=317,SNR=28					
SSB	Saint Sauveur	88.72 331	PFAKE		06 01 00.0	+11
SSB			LR	LR		
	comp=Z,5µm,21.0s					
SSB	Saint Sauveur	88.72 331	eP	P	06 00 48.2	-0.4
TOBO	Tobermory, Bru	88.72 29	P	P	06 00 48.9	+0.3
	baz=327,SNR=55					
TCF	Toulx Ste Croi	88.72 333	eP	P	06 00 48.4	-0.2
TCF			pmax	pmax		
	comp=Z,46nm,0.8s					
I48A	Sherman Twp	88.72 31	P	P	06 00 49.5	+1.0
	baz=326,SNR=70					
F51A	Arnstein	88.72 28	P	P	06 00 48.7	+0.2
	baz=328,SNR=68					
SBF	Sospel	88.75 329	eP	P	06 00 47.1	-1.7
SBF			pmax	pmax		
	comp=Z,42nm,0.6s					
TBI	Tubuai	88.79 121	eS	S	06 11 33.7	+0.7
	comp=Z,2µm,30.8s					
TBI	Tubuai	88.79 121	eLR	LR	06 28 51.8	
	comp=Z,11µm,31.5s,baz=316					
TBI	Tubuai	88.79 121	eT	T	07 38 28.5	
	comp=Z,276nm,0.3s					
D54A	Lac Fusel, La	88.81 25	P	P	06 00 48.8	-0.1
	baz=331,SNR=54					
OK023	East Waterloo	88.87 44	PFAKE		06 01 00.0	+11
OK023			LR	LR		
	comp=Z,1µm,22.0s					
E52A	Mattawa	88.87 27	P	P	06 00 48.9	-0.3
	baz=329,SNR=23					
OK024	West corner E0	88.93 44	PFAKE		06 01 00.0	+10
OK024			LR	LR		
	comp=Z,1µm,19.0s					
N43A	Stutzman Famil	88.97 36	P	P	06 00 50.3	+0.5
	baz=322,SNR=19					

VIVF	Saint-Julien-I	89.02	331	eP	P	06 00 48.5	-1.5
VIVF				pmax	pmax		
comp=Z,129nm,2.0s							
J47A	Sunmer	89.04	32	P	P	06 00 51.1	+1.0
baz=325,SNR=62							
F52A	Sundridge	89.05	27	P	P	06 00 50.5	+0.4
baz=329,SNR=62							
K46A	Dorr	89.08	33	P	P	06 00 50.7	+0.4
baz=324,SNR=16							
QUIF	Quistinic	89.09	337	eP	P	06 00 49.7	-0.5
QUIF				pmax	pmax		
comp=Z,67nm,0.6s							
KLBO	Killbear Provi	89.10	28	P	P	06 00 50.7	+0.3
baz=328,SNR=81							
M44A	Midewin, Midew	89.13	35	PFAKE		06 01 00.0	+9.5
M44A				LR	LR		
comp=Z,3μm,21.0s							
M44A	Midewin, Midew	89.13	35	P	P	06 00 50.9	+0.4
baz=323,SNR=25							
E53A	Dumoine, Ponti	89.14	26	P	P	06 00 50.5	0.0
baz=330,SNR=21							
PGF	Pioggiola	89.16	327	eP	P	06 00 49.6	-1.2
PGF				pmax	pmax		
comp=Z,71nm,1.0s							
HDIL	Hopedale	89.21	36	PFAKE		06 01 00.0	+9.1
HDIL				LR	LR		
comp=Z,2μm,22.0s							
HDIL	Hopedale	89.21	36	P	P	06 00 51.4	+0.4
baz=322,SNR=41							
SLBS	Sierra La Lagu	89.25	60	eP	P	06 00 51.8	+0.3
comp=Z,104nm,1.3s							
SLBS				LR	LR		
comp=Z,3μm,22.0s							
E54A	Lac Daplat, Po	89.26	26	P	P	06 00 50.9	-0.1
baz=330,SNR=41							
I49A	Point Hope	89.28	30	PFAKE		06 01 00.0	+8.8
I49A				LR	LR		
comp=Z,2μm,20.0s							
I49A	Point Hope	89.28	30	P	P	06 00 52.2	+1.0
baz=326,SNR=21							
CEL	Celeste	89.30	320	PFAKE		06 01 00.0	+8.5
CEL				LR	LR		
comp=Z,8μm,19.0s							
FRF	La Foret Royal	89.32	329	eP	P	06 00 50.2	-1.2
FRF				pmax	pmax		
comp=Z,17nm,0.7s							
BUKO	Buck Lake	89.33	27	P	P	06 00 51.7	+0.3
baz=329,SNR=37							
BMRO	Meriville Lake	89.36	29	P	P	06 00 52.4	+0.9
baz=328,SNR=44							
ALGO	Algonquin Park	89.37	26	P	P	06 00 51.5	-0.1
baz=330,SNR=42							
L46A	Eue Claire	89.41	34	P	P	06 00 52.3	+0.4
baz=324,SNR=20							
J48A	Bridge Port	89.42	31	P	P	06 00 53.0	+1.1
baz=326,SNR=50							
K47A	Vermontville	89.43	32	P	P	06 00 52.4	+0.5
baz=325,SNR=14							
TUL1	Leonard	89.48	43	PFAKE		06 01 00.0	+7.7
TUL1				LR	LR		
comp=Z,1μm,22.0s							
TUL1	Leonard	89.48	43	P	P	06 00 52.9	+0.6
baz=318,SNR=22							
M45A	Boilermakers S	89.49	34	P	P	06 00 52.3	+0.1
baz=324,SNR=6.2							
N44A	Piper City	89.56	35	P	P	06 00 53.1	+0.5
baz=323,SNR=18							
LMR	La Mourre	89.56	329	eP	P	06 00 51.4	-1.1
LMR				pmax	pmax		
comp=Z,106nm,1.4s							
BRCO	Bruce Peninsul	89.57	29	P	P	06 00 53.5	+0.9
baz=327							
TXAR	Lajitas Array	89.58	52	eP	P	06 00 53.3	+0.3
TXAR	Lajitas Array	89.58	52	P	P	06 00 53.6	+0.6
comp=Z,33nm,0.7s,baz=297,slow=3.3,SNR=375							
TXAR				PP	PP	06 04 25.4	+0.9
comp=Z,3.2nm,1.0s,baz=356,slow=7.4,SNR=2.7							
TXAR				PKKPbc	PKKPbc	06 18 27.1	+1.5
comp=Z,1.1nm,0.6s,baz=150,slow=6.0,SNR=13							
TXAR				PKPPKP	P'P'df	06 26 32.9	-6.4
comp=Z,0.3nm,0.9s,baz=134,slow=7.2,SNR=4.1							
TXAR				LR	LR	06 35 11.5	
comp=Z,2μm,21.7s,baz=0.0,slow=32							
J49A	Marlette	89.64	31	P	P	06 00 53.9	+1.0
baz=326,SNR=45							
BASO	Ashfield	89.68	30	P	P	06 00 54.3	+1.2
baz=327,SNR=42							
K48A	Perry	89.69	32	P	P	06 00 53.9	+0.8
baz=326,SNR=18							
ABTX	Abilene, Hawle	89.71	48	PFAKE		06 01 10.0	+17
ABTX				LR	LR		
comp=Z,1μm,21.0s							
ABTX	Abilene, Hawle	89.71	48	P	P	06 00 54.2	+0.7
baz=316,SNR=18							
MSEY	Mahe Island	89.74	264	PFAKE		06 01 10.0	+16
MSEY				LR	LR		
comp=Z,2μm,20.0s							
BWLO	Walkerton	89.80	29	P	P	06 00 54.7	+1.1
baz=328,SNR=63							
N45A	Kentland	89.80	35	P	P	06 00 54.4	+0.7
baz=323,SNR=21							
ATD	Arta Tunnel	89.81	284	PFAKE		06 01 10.0	+16
ATD				LR	LR		
comp=Z,3μm,22.0s							
RJF	Les Rejaudoux	89.81	333	eP	P	06 00 53.5	-0.2
RJF				pmax	pmax		
comp=Z,77nm,0.8s							
P43A	Skaggs, Pawnee	89.82	37	P	P	06 00 54.2	+0.4
baz=322,SNR=29							
H52A	Wyevale	89.83	28	P	P	06 00 54.2	+0.4
baz=328,SNR=54							
LATQ	La Tuque	89.85	23	P	P	06 00 54.0	+0.3
baz=334,SNR=13							
M46A	Old House Fiel	89.87	34	PFAKE		06 01 10.0	+16
M46A				LR	LR		
comp=Z,3μm,21.0s							
M46A	Old House Fiel	89.87	34	P	P	06 00 54.6	+0.6
baz=324,SNR=13							
G53A	Haliburton	89.88	27	P	P	06 00 54.3	+0.3
baz=329,SNR=46							
PEMO	Pembroke	89.89	26	P	P	06 00 54.0	0.0
baz=330,SNR=42							
Q42A	Golden Eagle	89.91	38	P	P	06 00 54.8	+0.6
baz=321,SNR=15							
L47A	Sherwood	89.91	33	P	P	06 00 54.7	+0.5
baz=325,SNR=31							
O44A	Mansfield	89.92	36	P	P	06 00 54.6	+0.4
baz=323,SNR=16							
CAF	Calviac	89.94	333	eP	P	06 00 54.5	+0.2
CAF				pmax	pmax		
comp=Z,93nm,0.8s							
HPIG		89.95	55	PFAKE		06 01 10.0	+15
HPIG				LR	LR		
comp=Z,3μm,21.0s							
R41A	Rosebud	89.97	39	P	P	06 00 55.0	+0.4
baz=321,SNR=56							
K49A	Clarkson	89.98	31	P	P	06 00 55.4	+0.8
baz=326,SNR=21							
SADO	Sadowa	90.00	28	PFAKE		06 01 10.0	+15
SADO				LR	LR		
comp=Z,2μm,22.0s							
F55A	Otter Lake	90.07	25	P	P	06 00 54.7	-0.1
baz=331,SNR=15							
I51A	Listowel	90.11	29	P	P	06 00 56.1	+1.0
baz=328,SNR=23							
N46A	Monticello	90.11	34	P	P	06 00 55.5	+0.3
baz=324,SNR=10.0							
O45A	Potomac	90.18	35	P	P	06 00 56.2	+0.7
baz=323,SNR=36							
HHAR	Hobbs	90.19	42	PFAKE		06 01 10.0	+14
HHAR				LR	LR		
comp=Z,2μm,22.0s							
I52A	Shelburne	90.21	29	P	P	06 00 56.3	+0.8
baz=328,SNR=43							
CCM	Cathedral Cave	90.22	39	eP	P	06 00 55.8	+0.1
comp=Z,258nm,1.1s							
CCM				LR	LR		
comp=Z,2μm,22.0s							
CCM	Cathedral Cave	90.22	39	P	P	06 00 56.0	+0.3
baz=321							
BANO	Bancroft	90.22	27	P	P	06 00 56.0	+0.4
baz=330,SNR=58							
M47A	Cromwell	90.23	34	P	P	06 00 56.2	+0.5
baz=325,SNR=13							
SLM	Saint Louis	90.27	38	PFAKE		06 01 10.0	+14
SLM				LR	LR		
comp=Z,2μm,20.0s							
L48A	N Adams	90.27	32	P	P	06 00 56.6	+0.7
baz=325,SNR=56							
AAM	Ann Arbor	90.30	32	PFAKE		06 01 10.0	+14
AAM				LR	LR		
comp=Z,1μm,22.0s							
AAM	Ann Arbor	90.30	32	P	P	06 00 56.7	+0.7
baz=326,SNR=12							
S41A	Jillco Farms,	90.33	40	P	P	06 00 56.3	0.0
baz=321,SNR=17							
K50A	Casco	90.33	31	P	P	06 00 56.7	+0.6
baz=327,SNR=13							
SFIN	Lafayette	90.37	35	PFAKE		06 01 10.0	+14
SFIN				LR	LR		
comp=Z,2μm,20.0s							
SFIN	Lafayette	90.37	35	P	P	06 00 56.8	+0.5
baz=324,SNR=28							
LFF	La Frestale	90.41	333	eP	P	06 00 56.4	0.0
LFF				pmax	pmax		
comp=Z,109nm,0.8s							
L49A	Milan	90.41	32	P	P	06 00 57.4	+0.9
baz=326,SNR=19							
G55A	Calabogie	90.45	26	P	P	06 00 56.7	+0.1
baz=331,SNR=38							
PLVO	Plevna	90.51	26	PFAKE		06 01 10.0	+13
PLVO				LR	LR		
comp=Z,2μm,22.0s							
PLVO	Plevna	90.51	26	P	P	06 00 57.1	+0.2
baz=330,SNR=52							
M48A	Edgerton	90.52	33	PFAKE		06 01 10.0	+13
M48A				LR	LR		
comp=Z,2μm,20.0s							
M48A	Edgerton	90.52	33	P	P	06 00 57.6	+0.5
baz=325,SNR=10							
N47A	Urbana	90.59	34	P	P	06 00 57.6	+0.3
baz=325,SNR=32							
I53A	Kortright Cn E	90.64	28	P	P	06 00 58.2	+0.7
baz=329,SNR=10.0							
ACTO	Acton	90.64	29	P	P	06 00 58.3	+0.7
baz=328,SNR=14							
FVM	French Village	90.68	39	PFAKE		06 01 10.0	+12
FVM				LR	LR		
comp=Z,2μm,22.0s							
ORIO	Orleans, Innes	90.69	25	P	P	06 00 57.7	0.0
baz=332,SNR=38							
X37A	Clayton	90.69	44	PFAKE		06 01 10.0	+12
X37A				LR	LR		
comp=Z,2μm,20.0s							
U40A	Yellville	90.71	41	P	P	06 00 58.3	+0.2
baz=320,SNR=92							
PKRO	Pickering	90.71	28	P	P	06 00 58.5	+0.6
baz=329,SNR=29							
ALFO	Alfred	90.74	25	P	P	06 00 58.0	+0.1
baz=332,SNR=47							
P45A	Graceland, Par	90.75	36	PFAKE		06 01 10.0	+12
P45A				LR	LR		
comp=Z,2μm,21.0s							
P45A	Graceland, Par	90.75	36	P	P	06 00 58.7	+0.6
baz=323,SNR=8.7							
DELO	Deloro Mine	90.77	27	P	P	06 00 58.5	+0.3
baz=330,SNR=57							
J52A	Paris	90.80	29	P	P	06 00 59.2	+0.9
baz=328,SNR=31							
K51A	Iona Station	90.83	30	P	P	06 00 59.5	+1.1
baz=327,SNR=12							
M49A	Liberty Center	90.85	32	P	P	06 00 59.0	+0.5
baz=326,SNR=17							
L50A	Kingsville	90.87	31	P	P	06 00 59.2	+0.6
baz=326,SNR=7.8							
H55A	Tweed	90.89	27	P	P	06 00 59.0	+0.3
baz=330,SNR=46							
O47A	Sheridan	90.90	35	P	P	06 00 58.9	+0.1
baz=324,SNR=14							
N48A	Decatur	90.90	33	P	P	06 00 59.1	+0.3
baz=325,SNR=33							
TORO	Toronto–Lesli	90.91	28	P	P	06 00 59.6	+0.9
baz=329,SNR=5.4							
DRWO	Darlington Wes	90.92	28	P	P	06 00 59.6	+0.8
baz=329,SNR=16							
DRCO	St. Marys Ceme	90.92	28	P	P	06 00 59.7	+0.8
baz=329,SNR=10							
P46A	Rosedale	90.93	36	P	P	06 00 59.5	+0.5
baz=324,SNR=24							
WLVO	Wesleyville	91.00	28	P	P	06 00 59.9	+0.7
baz=330,SNR=32							
I55A	Frankford	91.01	27	P	P	06 00 59.4	+0.1
baz=330,SNR=33							
Q45A	Warren Harvey,	91.06	37	P	P	06 01 00.3	+0.7
baz=323							
K52A	Tillsonburg	91.09	30	P	P	06 01 00.5	+0.8
baz=328,SNR=16							
W39A	Magazine	91.10	42	PFAKE		06 01 10.0	+10
W39A				LR	LR		
comp=Z,2μm,19.0s							
W39A	Magazine	91.10	42	P	P	06 01 00.0	+0.2
baz=320,SNR=17							
JCT	Junction City	91.15	49	PFAKE		06 01 10.0	+10
JCT				LR	LR		
comp=Z,2μm,22.0s							
JCT	Junction City	91.15	49	P	P	06 01 00.7	+0.4
baz=316,SNR=16							
TYNO	Tyneside	91.15	29	P	P	06 01 00.7	+0.8
baz=328,SNR=19							
CLTB	Caltabellotta	91.17	321	PFAKE		06 01 10.0	+10
CLTB				LR	LR		
comp=Z,10μm,20.0s							
H56A	Elgin	91.18	26	P	P	06 01 00.3	+0.2
baz=331,SNR=35							
PLIO	Pelee Island,	91.18	31	P	P	06 01 00.7	+0.6
baz=327							
U41A	Viola	91.20	40	P	P	06 01 00.3	0.0
baz=321,SNR=22							
N49A	Columbus Grove	91.21	33	PFAKE		06 01 10.0	+10
N49A				LR	LR		
comp=Z,2μm,20.0s							
N49A	Columbus Grove	91.21	33	P	P	06 01 00.8	+0.5
baz=326,SNR=27							
OLIL	Olney	91.22	37	PFAKE		06 01 10.0	+10
OLIL				LR	LR		
comp=Z,2μm,21.0s							
MTLF	Montolieu	91.24	332	eP	P	06 01 00.2	-0.2
MTLF				pmax	pmax		
comp=Z,54nm,1.0s							
M50A	Fremont	91.30	32	PFAKE		06 01 10.0	+9.3
M50A				LR	LR		
comp=Z,2μm,22.0s							
M50A	Fremont	91.30	32	P	P	06 01 01.0	+0.4
baz=326							
STCO	Saint Catharin	91.32	29	P	P	06 01 01.4	+0.7
baz=329							
Q46A	CEJHS Indians,	91.33	36	P	P	06 01 01.3	+0.5
baz=324							
O48A	Farmland	91.33	34	P	P	06 01 01.2	+0.3
baz=325,SNR=30							
WHTX	Lake Whitney,	91.44	47	eP	P	06 01 02.0	+0.5
comp=Z,340nm,1.3s							
WHTX				LR	LR		
comp=Z,2μm,20.0s							
WHTX	Lake Whitney,	91.44	47	P	P	06 01 02.3	+0.8
baz=317,SNR=27							
P47A	Martinsville	91.46	35	P	P	06 01 01.9	+0.5
baz=324,SNR=19							
J54A	Appleton	91.47	28	PFAKE		06 01 10.0	+8.6
J54A				LR	LR		
comp=Z,1μm,20.0s							
J54A	Appleton	91.47	28	P	P	06 01 02.0	+0.6
baz=329,SNR=12							
R45A	Skylar, Fairfi	91.48	37	P	P	06 01 02.0	+0.5
baz=323,SNR=7.8							
S44A	Carbondale	91.48	38	P	P	06 01 02.0	+0.4
baz=322,SNR=19							
SIUC	Southern Illin	91.49	38	PFAKE		06 01 10.0	+8.4
SIUC				LR	LR		
comp=Z,2μm,22.0s							
PECO	Prince Edward	91.50	27	P	P	06 01 01.8	+0.3
baz=330,SNR=37							
BLO	Bloomington	91.60	35	PFAKE		06 01 10.0	+7.9
BLO				LR	LR		
comp=Z,3μm,22.0s							
PBMO	Poplar Bluff	91.62	39	eP	P	06 01 01.9	-0.3
comp=Z,149nm,1.2s							
PBMO				LR	LR		
comp=Z,1μm,22.0s							
MEDO	Medina	91.63	28	P	P	06 01 02.7	+0.5
baz=330,SNR=9.7							
H06N1	SOCORRO T-PHAS	91.67	65	T	T	07 43 04.2	
SNR=21							
MIAR	Mount Ida	91.70	43	PFAKE		06 01 10.0	+7.3
MIAR				LR	LR		
comp=Z,2μm,22.0s							
MIAR	Mount Ida	91.70	43	P	P	06 01 03.0	+0.3
MIAR				pmax	pmax		
comp=Z,176nm,1.3s							
MIAR	Mount Ida	91.70	43	P	P	06 01 03.3	+0.7
baz=320,SNR=70							
DRLN	Deer Lake	91.73	12	PFAKE		06 01 10.0	+7.5
DRLN				LR	LR		
comp=Z,4μm,22.0s							
LONY	Lake Ozonia	91.73	25	PFAKE		06 01 10.0	+7.4
LONY				LR	LR		
comp=Z,2μm,21.0s							
LONY	Lake Ozonia	91.73	25	P	P	06 01 02.8	+0.1
baz=332,SNR=15							
O49A	Covington	91.75	33	PFAKE		06 01 10.0	+7.2
O49A				LR	LR		
comp=Z,2μm,22.0s							
O49A	Covington	91.75	33	P	P	06 01 03.1	+0.3
baz=325,SNR=19							
J55A	Hilton	91.78	28	PFAKE		06 01 10.0	+7.2
J55A				LR	LR		
comp=Z,2μm,21.0s							
J55A	Hilton	91.78	28	P	P	06 01 03.2	+0.4
baz=330,SNR=26							
N50A	Nevada	91.78	32	P	P	06 01 03.4	+0.5
baz=326,SNR=9.1							
WHAR	Wooly Hollow	91.82	41	PFAKE		06 01 10.0	+6.8
WHAR				LR	LR		
comp=Z,2μm,20.0s							
S45A	Carrier Mills	91.83	38	P	P	06 01 03.6	+0.5
baz=323,SNR=6.6							
Q47A	Bedord North L	91.83	35	P	P	06 01 03.7	+0.5
baz=324,SNR=26							
PQI	Presque Isle	91.86	20	eP	P	06 01 03.4	+0.2
PQI				LR	LR		
comp=Z,71nm,1.0s							
WDD	Wied Dalam	91.86	320	PFAKE		06 01 10.0	+6.7
WDD				LR	LR		
comp=Z,5μm,19.0s							
P48A	Milroy	91.86	34	P	P	06 01 03.5	+0.1
baz=325,SNR=12							
MOQ	Mont Orford	91.86	23	eP	P	06 01 03.9	+0.6
FRNY	Flat Rock	91.87	24	PFAKE		06 01 10.0	+6.8
FRNY				LR	LR		
comp=Z,2μm,19.0s							
M52A	Chesterland	91.88	31	PFAKE		06 01 20.0	+17
M52A				LR	LR		
comp=Z,2μm,20.0s							
M52A	Chesterland	91.88	31	P	P	06 01 04.1	+0.7
baz=328							
R46A	Gibon Southern	91.91	37	P	P	06 01 04.2	+0.7
baz=323							
W41B	Gary Mavity, V	91.93	41	PFAKE		06 01 20.0	+16
W41B				LR	LR		
comp=Z,2μm,21.0s							
W41B	Gary Mavity, V	91.93	41	P	P	06 01 03.8	+0.2
baz=320,SNR=24							
ERPA	Erie	91.94	30	PFAKE		06 01 20.0	+16
ERPA				LR	LR		
comp=Z,2μm,20.0s							
ERPA	Erie	91.94	30	P	P	06 01 04.4	+0.8
baz=328,SNR=9.9							
L53A	Girard	91.97	30	P	P	06 01 04.4	+0.7
baz=328,SNR=16							
N51A	Ashland	91.98	32	PFAKE		06 01 20.0	+16
N51A				LR	LR		
comp=Z,2μm,21.0s							
N51A	Ashland	91.98	32	P	P	06 01 04.0	+0.2
baz=327,SNR=7.3							
USIN	University of	92.03	37	PFAKE		06 01 20.0	+16
USIN				LR	LR		
comp=Z,2μm,22.0s							
PARMO	Parma	92.05	39	PFAKE		06 01 20.0	+16
PARMO				LR	LR		
comp=Z,2μm,20.0s							
O50A	Cable	92.09	33	P	P	06 01 05.0	+0.6
baz=326,SNR=43							
L54A	Sinclairville	92.10	29	P	P	06 01 05.0	+0.6
baz=329,SNR=16							
P49A	Miami Univ. Ec	92.12	34	P	P	06 01 04.7	+0.2
baz=325,SNR=22							
X40A	Basin Creek Fa	92.14	42	eP	P	06 01 05.2	+0.5
comp=Z,130nm,1.3s							
X40A				LR	LR		
comp=Z,2μm,21.0s							
X40A	Basin Creek Fa	92.14	42	P	P	06 01 05.1	+0.4
baz=320,SNR=19							
K55A	Perry	92.15	28	P	P	06 01 05.0	+0.4
baz=330,SNR=24							
Q48A	North Vernon	92.16	35	P	P	06 01 05.0	+0.4
baz=324,SNR=8.3							
UALR	University of	92.18	42	PFAKE		06 01 20.0	+15
UALR				LR	LR		
comp=Z,2μm,21.0s							
EPF	Esparros	92.20	333	eP	P	06 01 04.2	-0.7
EPF				pmax	pmax		
comp=Z,28nm,1.0s							
MMNY	Mt. Morris Dam	92.21	28	eP	P	06 01 05.5	+0.6
comp=Z,83nm,1.1s							
MMNY				LR	LR		
comp=Z,2μm,20.0s							
S46A	Don Dixon Farm	92.23	37	P	P	06 01 05.3	+0.3
baz=323,SNR=6.1							
M53A	WI Miller and	92.24	30	P	P	06 01 05.5	+0.5
baz=328,SNR=11							
435B	Jarrell	92.25	48	PFAKE		06 01 20.0	+15
435B				LR	LR		
comp=Z,2μm,20.0s							
435B	Jarrell	92.25	48	P	P	06 01 05.7	+0.5
baz=317,SNR=9.4							
PVMO	Portageville	92.27	39	PFAKE		06 01 20.0	+15
PVMO				LR	LR		
comp=Z,2μm,21.0s							
ALLY	Alegheny Colle	92.27	30	eP	P	06 01 05.8	+0.6
comp=Z,88nm,1.0s							
ALLY				LR	LR		
comp=Z,2μm,21.0s							
ACSO	Alum Creek Sta	92.30	33	eP	P	06 01 05.3	0.0
comp=Z,81nm,0.9s							
ACSO				LR	LR		
comp=Z,1μm,20.0s							
ACSO	Alum Creek Sta	92.30	33	P	P	06 01 05.8	+0.5
baz=326,SNR=30							
R47A	Wooly Knot Far	92.30	36	P	P	06 01 05.7	+0.3
baz=324,SNR=12							
T45A	Paducah	92.31	38	PFAKE		06 01 20.0	+15
T45A				LR	LR		
comp=Z,2μm,22.0s							
T45A	Paducah	92.31	38	P	P	06 01 05.8	+0.3
baz=323							
N52A	McGinn's Farm,	92.36	31	P	P	06 01 05.7	+0.1
baz=327,SNR=5.2							
NCB	Newcomb	92.42	25	PFAKE		06 01 20.0	+14
NCB				LR	LR		
comp=Z,2μm,19.0s							
HBAR	Harrisburg	92.46	40	PFAKE		06 01 20.0	+14
HBAR				LR	LR		
comp=Z,2μm,22.0s							
GNAR	Gosnell	92.46	40	PFAKE		06 01 20.0	+14
GNAR				LR	LR		
comp=Z,1μm,20.0s							
P50A	Jamestown	92.46	33	P	P	06 01 06.4	+0.3
baz=326,SNR=22							
WCI	Wyandotte Cave	92.47	36	eP	P	06 01 06.2	+0.1
comp=Z,202nm,1.6s							
WCI				LR	LR		
comp=Z,2μm,21.0s							
WCI	Wyandotte Cave	92.47	36	P	P	06 01 06.5	+0.4
WCI				pmax	pmax		
comp=Z,68nm,1.5s							
WCI	Wyandotte Cave	92.47	36	P	P	06 01 06.5	+0.4
baz=324							
Q49A	Aurora	92.47	34	P	P	06 01 06.7	+0.5
baz=325,SNR=15							
L55A	Hinsdale	92.48	29	P	P	06 01 06.7	+0.6
baz=330,SNR=9.9							
R48A	Northridge Ran	92.52	35	P	P	06 01 07.0	+0.6
baz=324,SNR=8.8							
O51A	Pataskala	92.53	32	P	P	06 01 06.5	+0.1
baz=327,SNR=15							
M54A	Oil Creek Stat	92.58	30	eP	P	06 01 06.8	+0.1
comp=Z,54nm,1.0s							
M54A				LR	LR		
comp=Z,1μm,20.0s							
M54A	Oil Creek Stat	92.58	30	P	P	06 01 07.1	+0.5

baz=329,SNR=18
VT1 Waterbury 92.58 24 *e*P **P 06 01 06.9 +0.4**
VT1 comp=Z,83nm,1.2s LR LR
comp=Z,2μm,22.0s
GLAT Glass 92.59 39 PFAKE 06 01 20.0 +13
GLAT LR LR
comp=Z,2μm,21.0s
WLAR White Oak Lake 92.60 43 *e*P **P 06 01 06.3 -0.5**
WLAR comp=Z,229nm,1.2s LR LR
comp=Z,1μm,21.0s
ETSF Etsaut 92.64 333 *e*P **P 06 01 07.8 +0.8**
ETSF pmax pmax
comp=Z,38nm,0.8s
T46A Princeton 92.66 37 P **P 06 01 07.7 +0.7**
baz=323,SNR=21
SJPF Ste Jean 92.69 334 *e*P **P 06 01 07.3 +0.2**
SJPF pmax pmax
comp=Z,32nm,1.1s
S47A Hartford 92.70 37 P **P 06 01 07.3 0.0**
baz=324,SNR=6.2
N53A Lisbon 92.71 31 *e*P **P 06 01 07.3 +0.1**
N53A comp=Z,51nm,1.0s LR LR
comp=Z,2μm,20.0s
N53A Lisbon 92.71 31 P **P 06 01 07.7 +0.5**
baz=328,SNR=7.3
PKME Peaks-Kenny Pk 92.80 21 *e*P **P 06 01 08.4 +0.9**
PKME comp=Z,83nm,1.0s LR LR
comp=Z,2μm,21.0s
PKME Peaks-Kenny Pk 92.80 21 P **P 06 01 08.4 +0.9**
baz=336,SNR=14
HALT Halls 92.85 39 PFAKE 06 01 20.0 +12
HALT LR LR
comp=Z,2μm,21.0s
O52A Adamsville 92.88 32 *e*P **P 06 01 07.8 -0.2**
O52A comp=Z,47nm,0.9s LR LR
comp=Z,2μm,20.0s
O52A Adamsville 92.88 32 P **P 06 01 08.4 +0.4**
baz=327,SNR=16
P51A Williamsport 92.89 33 *e*P **P 06 01 07.6 -0.5**
P51A comp=Z,70nm,0.9s LR LR
comp=Z,2μm,22.0s
P51A Williamsport 92.89 33 P **P 06 01 08.1 +0.1**
baz=326,SNR=14
N54A Moraine State 92.92 30 PFAKE 06 01 20.0 +12
N54A LR LR
comp=Z,2μm,20.0s
N54A Moraine State 92.92 30 P **P 06 01 08.7 +0.6**
baz=328,SNR=19
LBNH Lisbon 92.93 23 PFAKE 06 01 20.0 +12
LBNH LR LR
comp=Z,2μm,20.0s
LBNH Lisbon 92.93 23 P **P 06 01 09.0 +0.8**
baz=334,SNR=8.3
R49A Shelbyville 92.93 35 P **P 06 01 08.8 +0.5**
baz=325,SNR=7.6
833A Chaparral WMA, 92.94 51 PFAKE 06 01 20.0 +11
833A LR LR
comp=Z,2μm,20.0s
833A Chaparral WMA, 92.94 51 P **P 06 01 09.4 +0.9**
baz=316,SNR=8.4
M55A Ridgway 92.97 29 P **P 06 01 09.1 +0.7**
baz=329,SNR=14
Q50A Georgetown 93.01 34 P **P 06 01 09.0 +0.4**
baz=326,SNR=8.0
O53A New Philadelph 93.03 31 P **P 06 01 08.9 +0.3**
baz=328,SNR=18
S48A Wiedeman Farm, 93.04 36 P **P 06 01 09.1 +0.3**
baz=324,SNR=19
U46A Springville 93.07 38 P **P 06 01 09.2 +0.3**
baz=323
T47A Sharon Grove 93.08 37 PFAKE 06 01 20.0 +11
T47A LR LR
comp=Z,2μm,22.0s
T47A Sharon Grove 93.08 37 P **P 06 01 09.4 +0.4**
baz=324,SNR=22
Z41A Richland Creek 93.10 43 PFAKE 06 01 20.0 +11
Z41A LR LR
comp=Z,1μm,20.0s
Z41A Richland Creek 93.10 43 P **P 06 01 09.7 +0.6**
baz=320
ACCN Adirondack Com 93.13 25 PFAKE 06 01 20.0 +11
ACCN LR LR
comp=Z,1μm,20.0s
Q51A Peebles 93.14 33 PFAKE 06 01 20.0 +11
Q51A LR LR
comp=Z,3μm,22.0s
Q51A Peebles 93.14 33 P **P 06 01 09.6 +0.4**
baz=326,SNR=44
X43A Marvell 93.15 41 PFAKE 06 01 20.0 +11
X43A LR LR
comp=Z,2μm,20.0s
X43A Marvell 93.15 41 P **P 06 01 09.6 +0.3**
baz=321,SNR=5.2
P52A Corning 93.16 32 P **P 06 01 09.3 +0.1**
baz=327,SNR=7.8
MET Memphis--Engin 93.16 40 PFAKE 06 01 20.0 +11
MET LR LR
comp=Z,2μm,20.0s
NATX Nacogdoches 93.20 45 PFAKE 06 01 20.0 +10
NATX LR LR
comp=Z,3μm,22.0s
NATX Nacogdoches 93.20 45 P **P 06 01 10.3 +0.7**
baz=319
ETX06 Route 59 and C 93.24 45 PFAKE 06 01 20.0 +10
ETX06 LR LR
comp=Z,1μm,22.0s
S49A Springfield 93.29 35 P **P 06 01 10.3 +0.4**
baz=325,SNR=19
HNH Hanover 93.30 24 PFAKE 06 01 20.0 +10
HNH LR LR
comp=Z,2μm,22.0s
R50A Paris 93.32 34 P **P 06 01 10.4 +0.4**
baz=325,SNR=21
T48A Bowling Green 93.32 36 P **P 06 01 10.3 +0.2**
baz=324,SNR=7.7
WVL Waterville 93.33 22 PFAKE 06 01 20.0 +10
WVL LR LR
comp=Z,2μm,20.0s
MAHO Mahon 93.36 328 *i* P **P 06 01 09.2 -1.0**
MAHO *e*SKS **SKSac 06 11 41.6 +0.8**
BINY Binghamton 93.37 27 PFAKE 06 01 20.0 +10
BINY LR LR
comp=Z,2μm,19.0s
BINY Binghamton 93.37 27 P **P 06 01 10.5 +0.3**
baz=331,SNR=13
WVT Waverly 93.42 38 *e*P **P 06 01 10.3 -0.2**
WVT comp=Z,79nm,1.4s LR LR
comp=Z,2μm,22.0s
WVT Waverly 93.42 38 P **P 06 01 10.8 +0.2**
WVT pmax pmax
comp=Z,34nm,1.1s
WVT Waverly 93.42 38 P **P 06 01 10.8 +0.2**
baz=323
O54A Avella 93.42 31 P **P 06 01 11.0 +0.5**
baz=328,SNR=28
U47A Clarksville 93.43 37 P **P 06 01 11.0 +0.4**
baz=323,SNR=13
LMN Caledonia Moun 93.45 18 *e*P **P 06 01 10.7 +0.2**
LMN comp=Z,108nm,0.9s LR LR
comp=Z,3μm,22.0s
N55A Marion Center 93.47 30 *e*P **P 06 01 10.1 -0.7**
N55A comp=Z,36nm,0.8s LR LR
comp=Z,2μm,21.0s
N55A Marion Center 93.47 30 P **P 06 01 11.0 +0.3**
baz=329,SNR=17
V46A Holladay 93.54 38 P **P 06 01 11.1 0.0**
baz=323,SNR=14
P53A Whipple 93.59 32 *e*P **P 06 01 11.3 0.0**
P53A comp=Z,50nm,0.9s LR LR
comp=Z,2μm,19.0s
P53A Whipple 93.59 32 P **P 06 01 11.5 +0.2**
baz=327,SNR=17
GGN Saint George 93.61 20 PFAKE 06 01 20.0 +8.8
GGN LR LR
comp=Z,2μm,20.0s
R51A Hillsboro 93.64 34 P **P 06 01 11.9 +0.4**
baz=326,SNR=12
Q52A Bidwell 93.66 33 P **P 06 01 11.6 0.0**
baz=327,SNR=11
TRY Troy 93.71 25 PFAKE 06 01 20.0 +8.3
TRY LR LR
comp=Z,2μm,20.0s
T49A Edmonton 93.73 36 PFAKE 06 01 20.0 +8.0
T49A LR LR
comp=Z,2μm,22.0s
T49A Edmonton 93.73 36 P **P 06 01 12.2 +0.3**
baz=325,SNR=22
U48A Cassie Pea, Po 93.73 37 P **P 06 01 12.1 0.0**
baz=324,SNR=12
S50A Richmond 93.78 35 P **P 06 01 12.4 +0.2**
baz=325,SNR=24
V47A Nunnelly 93.81 38 P **P 06 01 12.4 0.0**
baz=323,SNR=18
EMMW East Machias 93.82 20 PFAKE 06 01 20.0 +7.8
EMMW LR LR
comp=Z,2μm,21.0s
O55A Ligonier 93.83 30 P **P 06 01 12.7 +0.2**
baz=329,SNR=13
P54A Burton 93.87 31 P **P 06 01 13.1 +0.5**
baz=328,SNR=27
HKT Hockley 93.88 47 *e*P **P 06 01 13.3 +0.6**
HKT comp=Z,116nm,1.5s LR LR
comp=Z,2μm,20.0s
HKT Hockley 93.88 47 P **P 06 01 14.8 +2.1**
HKT pmax pmax
comp=Z,45nm,1.5s
OXF Oxford 93.91 40 *e*P **P 06 01 13.0 +0.2**
OXF comp=Z,155nm,1.3s LR LR
comp=Z,2μm,22.0s
OXF Oxford 93.91 40 P **P 06 01 12.9 +0.1**
baz=322,SNR=13
W46A Michie 93.94 39 P **P 06 01 12.8 -0.2**
baz=323
KSPA Keystone Colle 94.01 27 PFAKE 06 01 20.0 +6.8
KSPA LR LR
comp=Z,2μm,20.0s
R52A Catlettsburg 94.02 33 P **P 06 01 13.0 -0.2**
baz=326,SNR=11
SSPA Standing Stone 94.02 29 *e*P **P 06 01 12.8 -0.5**
SSPA comp=Z,18nm,0.9s LR LR
comp=Z,1μm,18.0s
SSPA Standing Stone 94.02 29 P **P 06 01 13.4 +0.2**
baz=330
Q53A Leroy 94.06 32 P **P 06 01 14.0 +0.5**
baz=327,SNR=28
O56A Blue Knob Stat 94.07 30 *e*P **P 06 01 13.5 -0.1**
O56A comp=Z,42nm,0.9s LR LR
comp=Z,1μm,20.0s
O56A Blue Knob Stat 94.07 30 P **P 06 01 13.8 +0.2**
baz=329,SNR=21
MCWV Mont Chateau 94.08 31 *e*P **P 06 01 13.8 +0.3**
MCWV comp=Z,27nm,0.9s LR LR
comp=Z,900nm,21.0s
MCWV Mont Chateau 94.08 31 P **P 06 01 14.1 +0.6**
baz=328,SNR=24
U49A Red Boiling Sp 94.09 36 P **P 06 01 13.8 +0.2**
baz=324,SNR=22
T50A Nancy 94.12 36 P **P 06 01 14.0 +0.3**
baz=325,SNR=39
S51A Beattyville 94.18 34 *e*P **P 06 01 14.1 +0.1**
S51A comp=Z,40nm,0.9s LR LR
comp=Z,2μm,20.0s
S51A Beattyville 94.18 34 P **P 06 01 14.1 +0.1**
baz=326,SNR=20
PLAL Pickwick Lake 94.21 39 *e*P **P 06 01 12.9 -1.3**
PLAL comp=Z,57nm,1.5s LR LR
comp=Z,2μm,22.0s
V48A Smith Brothers 94.22 38 *e*P **P 06 01 14.5 +0.2**
V48A comp=Z,64nm,1.4s LR LR
comp=Z,2μm,21.0s
V48A Smith Brothers 94.22 38 P **P 06 01 14.2 -0.1**
baz=324,SNR=12
P55A Reedsville 94.22 31 P **P 06 01 14.6 +0.3**
baz=328,SNR=19
W47A Westpoint 94.23 38 P **P 06 01 14.3 0.0**
baz=323,SNR=13
Q54A Coxs Mills 94.25 32 *e*P **P 06 01 14.7 +0.4**
Q54A comp=Z,71nm,1.0s LR LR
comp=Z,2μm,20.0s
Q54A Coxs Mills 94.25 32 P **P 06 01 14.8 +0.5**
baz=328,SNR=26
X46A Booneville 94.29 39 P **P 06 01 14.3 -0.2**
baz=323
R53A Hurricane 94.32 33 P **P 06 01 14.7 0.0**
baz=327,SNR=7.8
S52A Salyersville 94.37 34 P **P 06 01 15.2 +0.2**
baz=326
KVTX Kingsville 94.42 50 PFAKE 06 01 30.0 +15
KVTX LR LR
comp=Z,1μm,20.0s
KEST Kesra 94.52 323 *e*P **P 06 01 15.0 -0.7**
KEST comp=Z,74nm,1.1s LR LR
comp=Z,7μm,20.0s
KEST Kesra 94.52 323 P **P 06 01 15.5 -0.2**
comp=Z,45nm,1.0s,baz=309,slow=3.4,SNR=27
KEST PP **PP 06 05 04.1 +1.1**
comp=Z,14nm,1.1s,baz=186,slow=1.0,SNR=4.1
KEST LR LR 06 49 04.5
comp=Z,6μm,19.3s,baz=342,slow=39
Q55A Buckhannon 94.55 31 P **P 06 01 16.1 +0.3**
baz=328,SNR=12
QUA2 Belchertown 94.55 25 PFAKE 06 01 30.0 +14
QUA2 LR LR
comp=Z,2μm,20.0s
N59A State Game Lan 94.57 27 PFAKE 06 01 30.0 +14
N59A LR LR
comp=Z,2μm,19.0s
N59A State Game Lan 94.57 27 P **P 06 01 16.3 +0.5**
baz=331,SNR=9.3
T51A Gray 94.57 35 P **P 06 01 15.9 +0.1**
baz=326,SNR=10
HRV Adam Dziewonsk 94.61 24 *e*P **P 06 01 16.9 +1.1**
HRV comp=Z,44nm,1.1s LR LR
comp=Z,3μm,19.0s
HRV Adam Dziewonsk 94.61 24 P **P 06 01 17.3 +1.4**
HRV pmax pmax
comp=Z,38nm,1.2s
HRV Adam Dziewonsk 94.61 24 P **P 06 01 16.7 +0.9**
baz=334
U50A Jamestown 94.61 36 P **P 06 01 16.2 +0.2**
baz=325,SNR=21
GBN Guysborough 94.64 16 PFAKE 06 01 30.0 +14
GBN LR LR
comp=Z,3μm,22.0s
V49A McMinnville 94.64 37 P **P 06 01 16.1 -0.1**
baz=324,SNR=16
FURI Furi 94.65 285 *e*P **P 06 01 18.2 +1.3**
FURI comp=Z,278nm,1.4s LR LR
comp=Z,2μm,21.0s
W48A Pulaski 94.65 38 P **P 06 01 16.1 -0.1**
baz=324,SNR=28
KSCT Kent School, K 94.67 26 PFAKE 06 01 30.0 +14
KSCT LR LR
comp=Z,2μm,20.0s
X47A Russelville 94.69 39 P **P 06 01 15.9 -0.5**
baz=323,SNR=9.5
CMAH Djebel Manchou 94.70 325 P **P 06 01 15.3 -1.2**
S53A Williamson 94.79 33 P **P 06 01 16.9 +0.1**
baz=327,SNR=5.4
WES Weston 94.79 24 PFAKE 06 01 30.0 +13
WES LR LR
comp=Z,3μm,20.0s
ODNJ Ogdensburg 94.84 27 *e*P **P 06 01 16.4 -0.6**
ODNJ comp=Z,20nm,1.2s LR LR
comp=Z,2μm,19.0s
ZAIG Zacatecas 94.85 56 *e*P **P 06 01 18.9 +1.2**
ZAIG comp=Z,78nm,1.2s LR LR
comp=Z,4μm,20.0s
R54A Victor 94.86 32 P **P 06 01 17.3 +0.2**
baz=328,SNR=20
BCX Boston College 94.89 24 PFAKE 06 01 30.0 +13
BCX LR LR
comp=Z,2μm,20.0s
HAL Halifax 94.89 18 PFAKE 06 01 30.0 +13
HAL LR LR
comp=Z,3μm,21.0s
T52A Hallie 94.89 34 P **P 06 01 17.6 +0.3**
baz=326,SNR=12
O59A Robesonia 94.95 28 P **P 06 01 17.6 +0.1**
baz=331,SNR=11
ABSA Djebel Ababsia 94.96 324 P **P 06 01 18.0 +0.3**
W49A Belvidere 94.99 38 P **P 06 01 17.8 0.0**
baz=324,SNR=23
U51A La Follette 95.02 35 P **P 06 01 17.9 0.0**
baz=326,SNR=16
SWET Sewanee 95.07 37 PFAKE 06 01 30.0 +12
SWET LR LR
comp=Z,2μm,21.0s
V50A Pikeville 95.10 36 P **P 06 01 18.1 -0.2**
baz=325,SNR=7.9
TZTN Tazewell 95.10 35 PFAKE 06 01 30.0 +12
TZTN LR LR
comp=Z,3μm,21.0s
TZTN Tazewell 95.10 35 P **P 06 01 18.6 +0.3**
baz=326,SNR=20
VBMS Vicksburg 95.12 42 PFAKE 06 01 30.0 +12
VBMS LR LR
comp=Z,1μm,20.0s
VBMS Vicksburg 95.12 42 P **P 06 01 18.9 +0.5**
baz=321
R55A Marlinton 95.14 32 PFAKE 06 01 30.0 +11
R55A LR LR
comp=Z,2μm,20.0s
R55A Marlinton 95.14 32 P **P 06 01 18.7 +0.2**
baz=328,SNR=21
BRYW Bryant College 95.14 24 PFAKE 06 01 30.0 +12
BRYW LR LR
comp=Z,2μm,19.0s
X48A Hartselle 95.14 38 PFAKE 06 01 30.0 +12
X48A LR LR
comp=Z,2μm,22.0s
X48A Hartselle 95.14 38 P **P 06 01 17.9 -0.5**
baz=324,SNR=5.8
PAL Palisades 95.16 26 PFAKE 06 01 30.0 +12
PAL LR LR
comp=Z,2μm,20.0s
PAL Palisades 95.16 26 P **P 06 01 18.7 +0.2**
baz=333
T53A Wise 95.19 34 P **P 06 01 18.9 +0.1**
baz=326,SNR=7.6
Q57A Strasburg 95.19 30 P **P 06 01 18.7 +0.1**
baz=329,SNR=7.2
CKFL Kef-Lekhel 95.20 325 P **P 06 01 18.8 -0.1**
BRNJ Basking Ridge 95.21 27 PFAKE 06 01 30.0 +11
BRNJ LR LR
comp=Z,2μm,18.0s
YLE Yale 95.22 25 PFAKE 06 01 30.0 +11
YLE LR LR
comp=Z,2μm,21.0s
O60A Telford 95.23 28 P **P 06 01 18.8 0.0**
baz=332
U52A Thorn Hill 95.31 35 P **P 06 01 19.4 +0.2**
baz=326,SNR=32
CPNY Central Park 95.33 26 PFAKE 06 01 30.0 +11
CPNY LR LR
comp=Z,2μm,22.0s
V51A Loudon 95.34 36 *e*P **P 06 01 18.8 -0.5**
V51A comp=Z,36nm,1.0s LR LR
comp=Z,2μm,22.0s
V51A Loudon 95.34 36 P **P 06 01 19.5 +0.1**
baz=325,SNR=12
LNIG Linares 95.35 53 *e*P **P 06 01 18.6 -1.0**
comp=Z,69nm,1.4s
W50A Signal Mountai 95.38 37 *e*P **P 06 01 19.0 -0.6**
W50A comp=Z,23nm,1.0s LR LR
comp=Z,2μm,21.0s
W50A Signal Mountai 95.38 37 P **P 06 01 19.4 -0.2**
baz=325,SNR=12
S55A Lewisburg 95.41 32 P **P 06 01 19.6 -0.1**
baz=328,SNR=11
X49A Woodville 95.45 38 P **P 06 01 19.7 -0.1**
baz=324,SNR=12
DFRA Djebel Bou Aff 95.46 326 P **P 06 01 20.0 -0.1**
P59A Jarrettsville 95.47 29 P **P 06 01 19.9 0.0**
baz=331
SDMD Soldier's Deli 95.48 29 PFAKE 06 01 30.0 +10
SDMD LR LR
comp=Z,1μm,21.0s
Y48A Jasper 95.51 39 P **P 06 01 19.5 -0.7**
baz=323
T54A Tazewell 95.55 33 P **P 06 01 20.6 +0.2**
baz=327,SNR=18
CPCT Cooper Cave 95.55 36 *e*P **P 06 01 19.8 -0.5**
CPCT comp=Z,29nm,1.0s LR LR
comp=Z,2μm,21.0s
P60A Greenville 95.59 28 P **P 06 01 20.4 0.0**
baz=331,SNR=5.7
V52A Sevierville 95.66 35 *e*P **P 06 01 20.7 -0.1**
V52A comp=Z,100nm,1.6s LR LR
comp=Z,2μm,21.0s
V52A Sevierville 95.66 35 P **P 06 01 21.1 +0.3**
baz=326,SNR=20
W51A Cleveland 95.67 37 P **P 06 01 20.9 0.0**
baz=325,SNR=10
U53A Fall Branch 95.69 34 P **P 06 01 21.0 0.0**
baz=326,SNR=18
PBRG Braganca 95.69 337 *e*P **P 06 01 20.8 -0.1**
comp=Z,66nm,1.2s
R57A Stanardsville 95.78 31 P **P 06 01 21.6 +0.3**
baz=329,SNR=7.5
X50B Fort Payne 95.82 38 P **P 06 01 21.3 -0.3**
baz=324,SNR=5.3
T55A Pulaski 95.84 33 P **P 06 01 21.9 +0.2**
baz=328,SNR=22
UCM Universidad Co 95.88 334 *i* P **P 06 01 20.9 -0.9**
S56A Natural Bridge 95.88 32 P **P 06 01 21.9 +0.1**
baz=329,SNR=5.9
U54A Nelsons Funny 95.89 34 P **P 06 01 21.9 -0.1**
baz=327,SNR=9.5
GUD Guadarrama 95.89 334 P **P 06 01 21.7 -0.3**
BLA Blacksburg 95.92 32 *e*P **P 06 01 21.9 -0.1**
comp=Z,49nm,1.0s
BLA LR LR
comp=Z,2μm,22.0s
BLA Blacksburg 95.92 32 P **P 06 01 22.1 +0.1**
baz=328,SNR=17
Y49A Blount Mountai 95.93 38 *e*P **P 06 01 21.4 -0.7**
comp=Z,29nm,1.1s
Y49A LR LR
comp=Z,2μm,22.0s
Y49A Blount Mountai 95.93 38 P **P 06 01 21.8 -0.3**
baz=324,SNR=5.7
SET Setif 95.96 326 P **P 06 01 22.0 -0.3**
R58A Rapidan 95.99 30 P **P 06 01 22.4 +0.1**
baz=330,SNR=5.3
PGAV Gavieira, Arco 96.02 338 *e*P **P 06 01 22.6 +0.1**
comp=Z,78nm,1.8s
PGAV Gavieira, Arco 96.02 338 *e*SKS **SKKSac 06 12 20.2 +0.3**
PGAV Gavieira, Arco 96.02 338 *e*LR LR 06 33 52.4
comp=Z,3μm,20.0s
CKHR Kef el Ahmar 96.06 326 P **P 06 01 23.1 +0.3**
S57A Dark Hollow, R 96.07 31 *e*P **P 06 01 22.9 +0.2**
comp=Z,34nm,1.4s
S57A LR LR
comp=Z,2μm,19.0s
S57A Dark Hollow, R 96.07 31 P **P 06 01 22.8 +0.2**
baz=329,SNR=7.0
X51A Calhoun 96.11 37 PFAKE 06 01 30.0 +7.1
X51A LR LR
comp=Z,2μm,22.0s
X51A Calhoun 96.11 37 P **P 06 01 22.8 -0.1**
baz=325
W52A Murphy 96.12 36 PFAKE 06 01 30.0 +7.0
W52A LR LR
comp=Z,2μm,20.0s
W52A Murphy 96.12 36 P **P 06 01 22.9 -0.1**
baz=326
V53A Saluda 96.16 35 *e*P **P 06 01 23.0 -0.2**
comp=Z,45nm,1.3s
V53A LR LR
comp=Z,2μm,22.0s
V53A Saluda 96.16 35 P **P 06 01 23.3 +0.1**
baz=326,SNR=13
PCAB Cabril 96.18 338 *e*P **P 06 01 24.2 +1.1**

comp=Z,53nm,1.5s
Y50A Piedmont 96.24 38 P **P 06 01 23.1 -0.4**
baz=324,SNR=6.3
T56A Rocky Mt 96.24 32 P **P 06 01 23.4 0.0**
baz=328,SNR=9.3
U55A TA2, Sparta 96.25 33 P **P 06 01 23.5 -0.1**
baz=328,SNR=12
LRAL Lakeview Retre 96.30 39 PFAKE 06 01 40.0 +16
LRAL LR LR
comp=Z,2μm,20.0s
LRAL Lakeview Retre 96.30 39 P **P 06 01 23.5 -0.3**
baz=324
148A Greensboro 96.32 40 P **P 06 01 23.9 0.0**
baz=323
CBN Corbin Frederi 96.32 30 PFAKE 06 01 40.0 +16
CBN LR LR
comp=Z,1μm,20.0s
CBN Corbin Frederi 96.32 30 P **P 06 01 23.8 0.0**
baz=330
R58B Mineral 96.33 30 PFAKE 06 01 40.0 +16
R58B LR LR
comp=Z,2μm,20.0s
R58B Mineral 96.33 30 P **P 06 01 23.6 -0.2**
baz=330
MVO Moncorvo 96.37 337 *e*P **P 06 01 23.9 -0.1**
MVO Moncorvo 96.37 337 *e*SKS **SKKSac 06 12 29.3 +6.9**
MVO Moncorvo 96.37 337 *e*LR LR 06 35 59.8
comp=Z,6μm,22.0s
Z49A Columbiana 96.41 39 P **P 06 01 24.0 -0.3**
baz=324
W53A Cullowhee 96.41 35 P **P 06 01 24.6 +0.2**
baz=326,SNR=15
POLO Lamas de Olo 96.41 337 *e*P **P 06 01 24.2 -0.1**
comp=Z,36nm,2.7s
V54A Nebo 96.46 34 P **P 06 01 24.4 -0.1**
baz=327,SNR=9.8
PVRL Vila Real 96.48 337 *e*P **P 06 01 24.8 +0.3**
comp=Z,55nm,2.0s
X52A Dahlonega 96.54 36 P **P 06 01 24.8 0.0**
baz=326,SNR=8.5
Y51A Rockmart 96.56 37 P **P 06 01 24.7 -0.3**
baz=325,SNR=13
S58A Poland Farm, P 96.56 31 PFAKE 06 01 40.0 +15
S58A LR LR
comp=Z,1μm,20.0s
T57A Hurt 96.59 32 P **P 06 01 24.9 -0.1**
baz=329,SNR=11
Z50A Ashland 96.66 38 *e*P **P 06 01 25.1 -0.3**
comp=Z,95nm,1.4s
Z50A LR LR
comp=Z,2μm,22.0s
Z50A Ashland 96.66 38 P **P 06 01 25.1 -0.3**
baz=324,SNR=18
BG3 Lake Jocassee 96.66 35 *e*P **P 06 01 25.4 0.0**
comp=Z,43nm,1.0s
BG3 LR LR
comp=Z,2μm,22.0s
U56A King 96.67 33 P **P 06 01 25.3 -0.1**
baz=328,SNR=6.6
ESDC Sonseca Array 96.69 334 *e*P **P 06 01 24.8 -0.7**
ESDC Sonseca Array 96.69 334 P **P 06 01 25.3 -0.2**
comp=Z,17nm,0.8s,baz=19,slow=4.4,SNR=69
ESDC PP **PP 06 05 20.0 +0.5**
comp=Z,11nm,1.1s,baz=33,slow=6.2,SNR=3.8
ESDC LR LR 06 49 42.0
comp=Z,6μm,20.9s,baz=30,slow=38
ESLA Sonseca Array 96.69 334 *e*P **P 06 01 25.4 -0.1**
comp=Z,20nm,0.8s
ESLA LR LR
comp=Z,8μm,21.0s
V55A Taylorsville 96.72 34 P **P 06 01 25.3 -0.3**
baz=327,SNR=7.3
S59A Mechanicsville 96.73 30 P **P 06 01 26.0 +0.3**
baz=330
149A Jones 96.75 39 P **P 06 01 25.9 0.0**
baz=324,SNR=6.5
X53A Estanollee 96.90 36 P **P 06 01 26.9 +0.5**
baz=326,SNR=21
W54A Cherokee Point 96.92 35 P **P 06 01 26.6 0.0**
baz=327,SNR=13
T58A Grand View Acr 96.94 31 P **P 06 01 26.6 0.0**
baz=329,SNR=6.0
PAB San Pablo 96.94 334 *e*P **P 06 01 26.5 -0.1**
comp=Z,27nm,0.9s
PAB LR LR
comp=Z,8μm,20.0s
PAB San Pablo 96.94 334 P **P 06 01 26.8 +0.1**
PAB pmax pmax
comp=Z,34nm,1.3s
Z51A Franklin 96.97 38 P **P 06 01 26.6 -0.3**
baz=325
U57A Blanch 97.04 32 P Pdif 06 01 27.3 +0.1
baz=329,SNR=12
PVIS Viseu 97.04 337 *e*P Pdif 06 01 27.8 +0.6
Y52A Lilburn 97.06 37 *e*P Pdif 06 01 27.4 +0.1
comp=Z,21nm,1.1s
Y52A LR LR
comp=Z,2μm,22.0s
Y52A Lilburn 97.06 37 P Pdif 06 01 27.3 0.0
baz=325,SNR=5.6
V56A Mocksville 97.07 33 *e*P **P 06 01 26.7 -0.5**
comp=Z,21nm,1.0s
V56A LR LR
comp=Z,3μm,22.0s
V56A Mocksville 97.07 33 P **P 06 01 26.9 -0.3**
baz=328,SNR=7.4
249A Camden 97.08 40 P Pdif 06 01 27.6 +0.2
baz=323,SNR=5.9
150A Eclectic 97.13 39 P **P 06 01 27.1 -0.4**
baz=324
MTE Manteigas 97.22 337 *e*P Pdif 06 01 28.0 0.0
MTE Manteigas 97.22 337 *e*SKS **SKKSac 06 12 30.4 +1.7**
MTE Manteigas 97.22 337 *e*LR LR 06 36 18.8
comp=Z,5μm,22.0s
MTE Manteigas 97.22 337 PFAKE 06 01 40.0 +12
MTE LR LR
comp=Z,6μm,22.0s
KMSC Kings Mountain 97.26 34 PFAKE 06 01 40.0 +12
KMSC LR LR
comp=Z,3μm,21.0s
KMSC Kings Mountain 97.26 34 P **P 06 01 27.9 -0.2**
baz=327,SNR=16
X54A Belton 97.29 35 P Pdif 06 01 28.4 +0.1
baz=326,SNR=14
Y53A Monroe 97.30 36 P Pdif 06 01 28.5 +0.1
baz=326,SNR=7.2
T59A Double "B" Far 97.31 31 P Pdif 06 01 28.4 0.0
baz=330
PAULI Pauline 97.31 35 PFAKE 06 01 40.0 +12
PAULI LR LR
comp=Z,3μm,21.0s
V57A Coltrane Farms 97.31 33 P **P 06 01 27.9 -0.4**
baz=328,SNR=7.2
U58A Oxford 97.40 32 P **P 06 01 28.6 -0.1**
baz=329,SNR=13
CART Cartagena 97.44 331 PFAKE 06 01 40.0 +11
CART LR LR
comp=Z,4μm,20.0s
CART Cartagena 97.44 331 *e*P Pdif 06 01 29.6 +0.7
CART *e*SKS **SKKSac 06 12 26.0 -4.2**
Z52A Williamson 97.44 37 P **P 06 01 28.9 -0.1**
baz=325
250A Grady 97.51 39 *e*P Pdif 06 01 29.6 +0.2
comp=Z,113nm,1.4s
250A LR LR
comp=Z,2μm,20.0s
250A Grady 97.51 39 P **P 06 01 29.3 0.0**
baz=324
349A Repton 97.55 40 P Pdif 06 01 29.6 +0.1
baz=323
W56A Indian Trail 97.60 34 P **P 06 01 29.4 -0.2**
baz=328,SNR=9.5
HODGE Hodges 97.60 35 *e*P Pdif 06 01 29.7 0.0
comp=Z,25nm,1.0s
HODGE LR LR
comp=Z,2μm,22.0s
COI Coimbra 97.67 337 PFAKE 06 01 40.0 +10
COI LR LR
comp=Z,5μm,22.0s
V58A Windy Hill, Pi 97.67 32 P **P 06 01 29.9 -0.1**
baz=329,SNR=6.0
X55A Gracelyn & Ava 97.69 35 P **P 06 01 30.0 0.0**
baz=327,SNR=6.7
Y54A Tignall 97.71 36 P Pdif 06 01 30.5 +0.3
baz=326,SNR=33
PCBR Castelo Branco 97.71 336 *e*P Pdif 06 01 30.8 +0.7
GOGA Godfrey 97.72 37 PFAKE 06 01 40.0 +10
GOGA LR LR
comp=Z,2μm,21.0s
GOGA Godfrey 97.72 37 P Pdif 06 01 31.0 +0.8
GOGA pmax pmax
comp=Z,23nm,1.5s
GOGA Godfrey 97.72 37 P Pdif 06 01 30.3 0.0
baz=326,SNR=9.3
152A Waverly Hall 97.72 38 PFAKE 06 01 40.0 +10
152A LR LR
comp=Z,2μm,21.0s
152A Waverly Hall 97.72 38 P **P 06 01 29.8 -0.5**
baz=325
U59A Littleton 97.75 31 PFAKE 06 01 40.0 +10
U59A LR LR
comp=Z,2μm,22.0s
U59A Littleton 97.75 31 P **P 06 01 30.2 -0.1**
baz=330,SNR=5.3
BRAL Brewton 97.76 40 PFAKE 06 01 40.0 +10
BRAL LR LR
comp=Z,1μm,20.0s
Z53A Monticello 97.78 37 P **P 06 01 30.4 0.0**
baz=326,SNR=10.0
W57A Gilead 97.84 33 PFAKE 06 01 40.0 +9.3
W57A LR LR
comp=Z,2μm,21.0s
W57A Gilead 97.84 33 P **P 06 01 30.6 -0.1**
baz=328,SNR=18
251A Midway 97.85 39 P **P 06 01 30.4 -0.4**
baz=324
U60A Pendleton 97.90 31 P **P 06 01 30.7 -0.2**
baz=330
MOIG Morelia 97.92 58 PFAKE 06 01 40.0 +8.3
MOIG LR LR
comp=Z,2μm,22.0s
350A Dozier 97.93 40 P Pdif 06 01 31.5 +0.3
baz=324
X56A White Oak 97.94 34 P **P 06 01 31.1 -0.1**
baz=327,SNR=13
JSC Jenkinsville 98.01 35 PFAKE 06 01 40.0 +8.5
JSC LR LR
comp=Z,2μm,20.0s
Y55A Saluda 98.03 35 P Pdif 06 01 31.6 0.0
baz=327,SNR=18
PMRV Marv??o 98.06 336 *e*P Pdif 06 01 31.8 +0.1
PMRV Marv??o 98.06 336 *e*LR LR 06 34 53.4
comp=Z,5μm,22.0s
BIRD Birdtown, Kers 98.07 34 PFAKE 06 01 40.0 +8.3
BIRD LR LR
comp=Z,3μm,22.0s
V59A Middlesex 98.07 32 P Pdif 06 01 31.7 0.0
baz=329,SNR=8.7
Z54A Sparta 98.16 36 P Pdif 06 01 32.2 0.0
baz=326,SNR=6.9
153A Fort Valley 98.17 37 P Pdif 06 01 32.3 +0.1
baz=325
252A Lumpkin 98.26 38 P **P 06 01 32.6 0.0**
baz=325
W58A Raeford 98.28 33 P **P 06 01 32.5 -0.2**
baz=329,SNR=12
450A Crestview 98.29 40 P **P 06 01 32.7 -0.1**
baz=324
U61A Possum Corner 98.31 30 P **P 06 01 32.7 0.0**
baz=331
X57A Johnson Farm, 98.38 34 P **P 06 01 33.1 0.0**
baz=328,SNR=7.4
Y56A Pelion 98.40 35 P **P 06 01 33.2 -0.1**
baz=327
351A Pinckard 98.41 39 P **P 06 01 33.2 -0.1**
baz=324
V60A Jim Taylor Roa 98.47 31 PFAKE 06 01 50.0 +16
V60A LR LR
comp=Z,2μm,22.0s
V60A Jim Taylor Roa 98.47 31 P **P 06 01 33.1 -0.4**
baz=330
W59A Clinton 98.49 32 P **P 06 01 33.2 -0.4**
baz=329
Z55A Blythe 98.50 36 P Pdif 06 01 34.0 +0.3
baz=327
253A Americus 98.50 38 PFAKE 06 01 50.0 +16
253A LR LR
comp=Z,2μm,22.0s
253A Americus 98.50 38 P **P 06 01 33.7 0.0**
baz=325
154A Montrose 98.55 37 PFAKE 06 01 50.0 +16
154A LR LR
comp=Z,2μm,22.0s
154A Montrose 98.55 37 P Pdif 06 01 34.2 +0.3
baz=326
352A Blakely 98.59 39 PFAKE 06 01 50.0 +16
352A LR LR
comp=Z,2μm,22.0s
352A Blakely 98.59 39 P **P 06 01 34.1 0.0**
baz=325
Y57A Sumter 98.63 34 P **P 06 01 34.2 -0.1**
baz=328
X58A Rowland 98.63 33 PFAKE 06 01 50.0 +16
X58A LR LR
comp=Z,2μm,20.0s
X58A Rowland 98.63 33 P **P 06 01 34.1 -0.1**
baz=328
CNNC Cliffs of the 98.67 32 PFAKE 06 01 50.0 +16
CNNC LR LR
comp=Z,2μm,20.0s
CNNC Cliffs of the 98.67 32 P **P 06 01 34.3 -0.1**
baz=330
155A Kite 98.84 36 P Pdif 06 01 35.5 +0.3
baz=326,SNR=6.3
451A Vernon 98.87 40 PFAKE 06 01 50.0 +15
451A LR LR
comp=Z,1μm,22.0s
451A Vernon 98.87 40 P Pdif 06 01 35.5 +0.1
baz=324
W60A Pink Hill 98.90 32 P **P 06 01 35.3 -0.1**
baz=330
RKT Rikitea 98.92 112 *e*SKSac **SKSac 06 12 12.4 +2.3**
comp=Z,2μm,29.6s
RKT *e*SS **SS 06 19 50.4 -0.5**
comp=Z,2μm,33.5s
RKT Rikitea 98.92 112 *e*LR LR 06 33 37.0
comp=Z,7μm,28.0s
X59A McDuffie Farm, 98.94 33 P Pdif 06 01 35.8 +0.1
baz=329
452A Marianna 98.97 39 P **P 06 01 35.7 -0.1**
baz=324
254A Abbeville 99.01 37 P **Pdif 06 01 36.2 +0.2**
baz=326,SNR=5.9
Y58A Scranton 99.04 34 P **Pdif 06 01 36.2 +0.1**
baz=328
353A Camilla 99.05 38 P **Pdif 06 01 36.4 +0.2**
baz=325
Z57A Bowman 99.09 35 P **Pdif 06 01 36.4 +0.1**
baz=328,SNR=6.3
X60A Albert Glenn T 99.20 32 P **Pdif 06 01 36.8 0.0**
baz=329
156A Sylvania 99.27 36 P **Pdif 06 01 38.2 +1.0**
baz=327
TIGA Tifton 99.28 38 PFAKE 06 01 50.0 +13
TIGA LR LR
comp=Z,1μm,20.0s
TIGA Tifton 99.28 38 P **Pdif 06 01 37.6 +0.4**
baz=326
453A Whigham 99.40 39 PFAKE 06 01 50.0 +12
453A LR LR
comp=Z,2μm,22.0s
255A Hazlehurst 99.41 37 PFAKE 06 01 50.0 +12
255A LR LR
comp=Z,2μm,22.0s
255A Hazlehurst 99.41 37 P **Pdif 06 01 38.2 +0.4**
baz=326
Z58A St. Stephen 99.46 34 P **Pdif 06 01 37.9 0.0**
baz=328
157A Early Branch 99.48 35 P **Pdif 06 01 38.5 +0.4**
baz=327
NHSC New Hope 99.49 35 PFAKE 06 01 50.0 +12
NHSC LR LR
comp=Z,2μm,21.0s
NHSC New Hope 99.49 35 P **Pdif 06 01 39.0 +0.9**
baz=328
PBEJ Beja 99.49 336 *e*P **Pdif 06 01 39.5 +1.5**
comp=Z,36nm,1.4s
Y60A Bolivia 99.58 33 PFAKE 06 01 50.0 +12
Y60A LR LR
comp=Z,2μm,20.0s
Y60A Bolivia 99.58 33 P **Pdif 06 01 38.5 0.0**
baz=329
256A Glennville 99.64 36 P **Pdif 06 01 39.3 +0.5**
baz=327
LIJA Lijar 99.67 334 *i* P **Pdif 06 01 39.0 0.0**
MESJ Messejana 99.77 336 *e*Pdif **Pdif 06 01 39.3 +0.1**
MESJ *e*PP **PP 06 05 43.9 +0.9**
MESJ *e*SKSac **SKSac 06 12 15.1 +0.8**
MESJ *e*SS **SS 06 20 04.3 +4.3**
MESJ AMS AMS 06 49 18.8
comp=Z,5μm,25.1s
MESJ Messejana 99.77 336 *e*P **Pdif 06 01 39.4 +0.1**
MESJ Messejana 99.77 336 *e*P **Pdif 06 01 39.3 +0.1**
MESJ *e* 06 05 43.9
MESJ *e* 06 12 15.1
MESJ *e*SS SS 06 20 04.2 +4.2
Z59A Georgetown, SC 99.77 34 P **Pdif 06 01 39.4 0.0**
baz=328
158A Hollywood 99.79 35 P **Pdif 06 01 39.5 +0.1**
baz=328
PCVE Castro Verde 99.90 336 *e*P **Pdif 06 01 40.2 +0.3**
PVAQ Vaqueiros 100.01 336 *e*SKS 06 12 43.6
257A Skidaway Islan 100.05 36 PFAKE 06 01 50.0 +9.4
257A LR LR
comp=Z,2μm,22.0s
SFS San Fernando 100.35 334 PFAKE 06 01 50.0 +8.2
SFS LR LR
comp=Z,6μm,21.0s
456A Hilliard 100.62 37 PFAKE 06 01 50.0 +6.8
456A LR LR
comp=Z,2μm,21.0s
555A McAlpin 100.66 38 PFAKE 06 02 00.0 +17
555A LR LR
comp=Z,2μm,22.0s
TLIG Tlapa 101.17 57 PFAKE 06 02 00.0 +14
TLIG LR LR
comp=Z,2μm,20.0s
656A Willston 101.49 38 PFAKE 06 02 00.0 +13
656A LR LR
comp=Z,2μm,22.0s
KMBO Kilima Mbogo 102.00 278 *e*Pdif **Pdif 06 01 48.7 -1.2**
KMBO LR LR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 102.00 278 P **Pdif 06 01 49.3 -0.5**
KMBO Kilima Mbogo 102.00 278 P **Pdif 06 01 49.1 -0.8**
comp=Z,4.1nm,0.8s,baz=33,slow=5.6,SNR=6.3
658A Bunnell 102.07 37 PFAKE 06 02 00.0 +10
658A LR LR
comp=Z,2μm,20.0s
NAI Nairobi 102.44 278 PFAKE 06 02 00.0 +8.2
NAI LR LR
comp=Z,1μm,22.0s
RTC Rabat Centre 102.81 334 PFAKE 06 02 00.0 +7.1
RTC LR LR
comp=Z,11μm,18.0s
957A Wimauma 103.04 39 PFAKE 06 02 10.0 +16
957A LR LR
comp=Z,2μm,22.0s
DWPF Disney Wildern 103.08 38 PFAKE 06 02 10.0 +16
DWPF LR LR
comp=Z,3μm,22.0s
CMIG Matias Romero 103.93 55 PKKPbc PKKPbc 06 17 46.2 -0.3
comp=Z,3.0nm,0.9s,baz=90,slow=4.5,SNR=4.3
059A Moore Haven 104.16 39 PFAKE 06 02 10.0 +11
059A LR LR
comp=Z,2μm,22.0s
060A Indiantown 104.49 38 PFAKE 06 02 10.0 +10
060A LR LR
comp=Z,2μm,19.0s
061Z Ochoppi 105.19 39 PFAKE 06 06 30.0 +12
061Z LR LR
comp=Z,1μm,19.0s
TEIG Tepich 105.69 48 PFAKE 06 06 30.0 +11
TEIG LR LR
comp=Z,1μm,21.0s
CCIG Comitan 106.30 54 PFAKE 06 06 30.0 +10
CCIG LR LR
comp=Z,3μm,22.0s
CASY Casey 106.43 193 PFAKE 06 06 30.0 +11
CASY LR LR
comp=Z,1μm,20.0s
MBAR Mbarara 106.75 283 PFAKE 06 06 30.0 +8.9
MBAR LR LR
comp=Z,3μm,22.0s
TAM Tamanrasset 106.96 318 PFAKE 06 06 30.0 +8.7
TAM LR LR
comp=Z,3μm,20.0s
PMOZ Porto Moniz, M 107.04 341 *e*LR LR 06 49 23.5
comp=Z,2μm,22.0s
TGUH Tegucigalpa,Un 111.04 52 PFAKE 06 06 40.0 +11
TGUH LR LR
comp=Z,1μm,21.0s
GTBY Guantanamo Bay 113.05 38 PFAKE 06 06 40.0 +7.4
GTBY LR LR
comp=Z,1μm,20.0s
MTDJ Mount Denham 113.27 41 PFAKE 06 06 50.0 +17
MTDJ LR LR
comp=Z,900nm,21.0s
GRTK Grand Turk 113.50 33 PFAKE 06 06 50.0 +17
GRTK LR LR
comp=Z,2μm,20.0s
ESPN Las Esperanzas 114.31 50 PFAKE 06 06 50.0 +15
ESPN LR LR
comp=Z,900nm,20.0s
JTS Las Juntas de 115.37 52 PFAKE 06 06 50.0 +13
JTS LR LR
comp=Z,600nm,18.0s
SDDR Presa de Saban 115.65 35 PFAKE 06 06 50.0 +12
SDDR LR LR
comp=Z,2μm,20.0s
VNDA Vanda 115.69 175 *e*PKPdf **PKPdf 06 06 35.5 -0.4**
VNDA Vanda 115.69 175 PKP **PKPdf 06 06 35.3 -0.6**
comp=Z,4.1nm,0.8s,baz=319,slow=4.4,SNR=25
VNDA PKKPbc **PKKPbc 06 17 09.6 -0.5**
comp=Z,2.3nm,1.0s,baz=171,slow=3.6,SNR=4.4
HDC Heredia 116.12 52 PFAKE 06 06 50.0 +11
HDC LR LR
comp=Z,800nm,21.0s
SBA Scott Base 116.36 174 PFAKE 06 06 50.0 +13
SBA LR LR
comp=Z,1μm,20.0s
TOC1 Torodi Ar. Sit 116.88 315 PFAKE 06 06 50.0 +10
TOC1 LR LR
comp=Z,2μm,18.0s
TOC2 Torodi Ar. Sit 116.88 315 PFAKE 06 06 50.0 +10
TOC2 LR LR
comp=Z,2μm,19.0s
TOB2 Torodi Ar. Sit 116.89 315 PFAKE 06 06 50.0 +10
TOB2 LR LR
comp=Z,4μm,20.0s
TOC3 Torodi Ar. Sit 116.90 315 PFAKE 06 06 50.0 +10
TOC3 LR LR
comp=Z,1μm,18.0s
TOC7 Torodi Ar. Sit 116.90 315 PFAKE 06 06 50.0 +10
TOC7 LR LR
comp=Z,1μm,18.0s
TOA1 Torodi Ar. Sit 116.90 315 *e*PKPdf **PKPdf 06 06 39.1 -1.0**
TOA1 *e*PP **PP 06 07 51.1 +2.6**
TOA1 LR LR
comp=Z,1μm,18.0s
TOA0 Torodi Ar. Sit 116.90 315 *e*PKPdf **PKPdf 06 06 39.1 -1.0**
TOA0 LR LR
comp=Z,1μm,18.0s
TORD Torodi Ar. Bea 116.90 315 PKP **PKPdf 06 06 39.1 -1.1**
comp=Z,8.0nm,0.9s,baz=360,slow=3.4,SNR=21
TORD PP **PP 06 07 51.1 +2.6**
comp=Z,18nm,0.9s,baz=18,slow=9.7,SNR=5.2
TORD PKKPbc **PKKPbc 06 17 03.8 -0.8**
comp=Z,1.9nm,0.8s,baz=300,slow=3.4,SNR=4.6
TORD PKKPab **PKKPab 06 17 11.6 -0.3**
comp=Z,2.3nm,0.9s,baz=264,slow=4.3,SNR=6.7
TOB3 Torodi Ar. Sit 116.91 315 PFAKE 06 06 50.0 +10
TOB3 LR LR
comp=Z,1μm,19.0s
TOB5 Torodi Ar. Sit 116.91 315 PFAKE 06 06 50.0 +10
TOB5 LR LR
comp=Z,1μm,18.0s
TOA3 Torodi Ar. Sit 116.91 315 PFAKE 06 06 50.0 +10
TOA3 LR LR
comp=Z,1μm,18.0s
TOB4 Torodi Ar. Sit 116.92 315 PFAKE 06 06 50.0 +10
TOB4 LR LR
comp=Z,1μm,18.0s
TOC4 Torodi Ar. Sit 116.92 315 PFAKE 06 06 50.0 +10
TOC4 LR LR
comp=Z,1μm,18.0s
TOC5 Torodi Ar. Sit 116.93 315 PFAKE 06 06 50.0 +10
TOC5 LR LR
comp=Z,1μm,20.0s

LSZ	Lusaka	117.59	272	ePKPdf	PKPdf	06 06 40.7	-0.8
LSZ				LR	LR		
comp=Z,2μm,22.0s							
LSZ	Lusaka	117.59	272	PKP	PKPdf	06 06 41.1	-0.3
comp=Z,10nm,0.7s,baz=21,slow=3.1,SNR=18							
OBIP	Obispado Ponce	118.49	31	PFAKE		06 07 00.0	+17
OBIP				LR	LR		
comp=Z,1μm,21.0s							
SJG	San Juan	118.61	30	ePKPdf	PKPdf	06 06 43.2	-0.2
SJG				LR	LR		
comp=Z,1μm,21.0s							
SJG	San Juan	118.61	30	eP	PKPdf	06 06 42.2	-1.1
SJG	San Juan	118.61	30	PKIKP	PKPdf	06 06 43.1	-0.2
SJG	San Juan	118.61	30	eP	PKPdf	06 06 42.2	-1.1
ICMP	Isla Caja de M	118.66	31	PFAKE		06 07 00.0	+17
ICMP				LR	LR		
comp=Z,1μm,22.0s							
MTP	Monte Pirata	118.86	30	PFAKE		06 07 00.0	+16
MTP				LR	LR		
comp=Z,2μm,22.0s							
BCIP	Isla Barro Col	119.37	49	PFAKE		06 07 00.0	+15
BCIP				LR	LR		
comp=Z,800nm,21.0s							
MATP	Matopo	120.19	267	PKP	PKPdf	06 06 45.8	-0.6
comp=Z,28nm,0.8s,baz=52,slow=0.9,SNR=40							
MATP				PP	PP	06 08 09.8	-2.7
comp=Z,13nm,1.0s,baz=40,slow=5.3,SNR=5.6							
MAW	Mawson	120.25	206	ePKPdf	PKPdf	06 06 44.6	-0.2
MAW				LR	LR		
comp=Z,200nm,22.0s							
MAW	Mawson	120.25	206	PKP	PKPdf	06 06 44.5	-0.2
comp=Z,16nm,0.8s,baz=326,slow=2.3,SNR=35							
MAW				PKKPbc	PKKPbc	06 16 53.1	-0.4
comp=Z,6.2nm,0.9s,baz=274,slow=7.0,SNR=8.7							
SEUS	St. Eustatius	120.39	27	PFAKE		06 07 00.0	+13
SEUS				LR	LR		
comp=Z,2μm,22.0s							
ANWB	Willy Bob	120.65	26	PFAKE		06 07 00.0	+13
ANWB				LR	LR		
comp=Z,2μm,21.0s							
SJCC	San Jacinto, C	121.44	44	eP	PKPdf	06 06 48.8	-0.1
SJCC	San Jacinto, C	121.44	44	eP	PKPdf	06 06 48.8	-0.1
CODC	Agustn Codazz	122.34	42	eP	PKPdf	06 06 50.5	-0.1
CODC	Agustn Codazz	122.34	42	eP	PKPdf	06 06 50.5	-0.1
SMLC	San Martn de	122.95	43	eP	PKPdf	06 06 51.5	-0.3
SMLC	San Martn de	122.95	43	eP	PKPdf	06 06 51.5	-0.3
UREC	San Jos de Ur	123.01	45	eP	PKPdf	06 06 51.1	-0.8
UREC	San Jos de Ur	123.01	45	eP	PKPdf	06 06 51.1	-0.8
SOLC	Bahia Solano	123.15	48	eP	PKPdf	06 06 50.4	-1.8
SOLC	Bahia Solano	123.15	48	eP	PKPdf	06 06 50.4	-1.8
FDF	Fort de France	123.59	27	PFAKE		06 07 00.0	+6.7
FDF				LR	LR		
comp=Z,2μm,22.0s							
ZARC	Zaragoza, Cauc	123.60	45	eP	PKPdf	06 06 52.9	-0.2
ZARC	Zaragoza, Cauc	123.60	45	eP	PKPdf	06 06 52.9	-0.2
OCAC	Ocana	123.83	43	eP	PKiKP	06 06 53.9	0.0
OCAC	Ocana	123.83	43	eP	PKiKP	06 06 53.9	0.0
HELC	Santa Helena	124.28	47	eP	PKPdf	06 06 54.0	-0.8
HELC	Santa Helena	124.28	47	eP	PKPdf	06 06 54.0	-0.8
PTBC	PUERTO BERRIO	124.60	45	eP	PKPdf	06 06 54.5	-0.5
PTBC	PUERTO BERRIO	124.60	45	eP	PKPdf	06 06 54.5	-0.5
CAPV	Capacho	124.68	42	eP	PKPdf	06 06 55.5	+0.1
CAPV	Capacho	124.68	42	eP	PKPdf	06 06 55.5	+0.1
SDV	Santo Domingo	124.69	40	ePKPdf	PKPdf	06 06 54.7	-0.7
SDV				LR	LR		
comp=Z,1μm,20.0s							
SDV	Santo Domingo	124.69	40	eP	PKPdf	06 06 55.1	-0.3
SDV	Santo Domingo	124.69	40	eP	PKPdf	06 06 55.1	-0.3
LBTB	Lobatse	124.84	264	PKP	PKPdf	06 06 54.8	-0.3
comp=Z,56nm,0.9s,baz=116,slow=1.7,SNR=51							
GIRC	Giron, Santand	124.86	44	eP	PKPdf	06 06 55.5	-0.1
GIRC	Giron, Santand	124.86	44	eP	PKPdf	06 06 55.5	-0.1
PLMC	San Jos del P	124.87	48	eP	PKiKP	06 06 56.3	+0.4
PLMC	San Jos del P	124.87	48	eP	PKiKP	06 06 56.3	+0.4
PAMC	Pamplona, Colo	124.91	43	eP	PKPdf	06 06 55.8	-0.3
PAMC	Pamplona, Colo	124.91	43	eP	PKPdf	06 06 55.8	-0.3
GUY2C	Guyana, Caldas	125.16	47	eP	PKPdf	06 06 56.3	-0.3
GUY2C	Guyana, Caldas	125.16	47	eP	PKPdf	06 06 56.3	-0.3
NORC	Norcasia	125.17	46	eP	PKPdf	06 06 55.6	-0.5
NORC	Norcasia	125.17	46	eP	PKPdf	06 06 55.6	-0.5
YOTC	Yotoco, Valle	125.57	49	eP	PKPdf	06 06 56.2	-0.8
YOTC	Yotoco, Valle	125.57	49	eP	PKPdf	06 06 56.2	-0.8
SACV	Santiago Islan	125.73	342	PFAKE		06 07 10.0	+12
SACV				LR	LR		
comp=Z,2μm,22.0s							
GRGR	Grenville	125.80	28	PFAKE		06 07 10.0	+12
GRGR				LR	LR		
comp=Z,1μm,21.0s							
DBIC	Dimbokro	125.84	317	ePKPdf	PKPdf	06 06 56.5	-0.9
DBIC	Dimbokro	125.84	317	PKP	PKPdf	06 06 56.6	-0.8
comp=Z,31nm,1.0s,baz=18,slow=2.3,SNR=19							
DBIC				PP	PP	06 08 46.1	-3.3
comp=Z,32nm,1.1s,baz=12,slow=10,SNR=5.4							
RUSC	La Rusia	125.90	44	eP	PKPdf	06 06 57.9	-0.2
RUSC	La Rusia	125.90	44	eP	PKPdf	06 06 57.9	-0.2
TIC	Toumodi	125.95	317	ePKIKP	PKPdf	06 06 56.6	-1.0
KIC	Kosan Boka	126.04	317	ePKIKP	PKPdf	06 06 56.7	-1.0
comp=Z,93nm,1.1s							
ROSC	El Rosal	126.07	46	ePKPdf	PKPdf	06 06 58.4	+0.1
ROSC				LR	LR		
comp=Z,500nm,22.0s							
ROSC	El Rosal	126.07	46	PKP	PKiKP	06 06 58.9	+0.2
comp=Z,28nm,0.9s,baz=142,slow=1.8,SNR=20							
LIC	Lamto	126.31	317	ePKIKP	PKPdf	06 06 57.1	-1.1
comp=Z,116nm,1.1s							
BBAC	Balboa, Cauca	126.57	51	eP	PKPdf	06 06 58.5	-0.5
BBAC	Balboa, Cauca	126.57	51	eP	PKPdf	06 06 58.5	-0.5
CHIC	Chingaza	126.58	46	eP	PKPdf	06 06 59.2	-0.1
CHIC	Chingaza	126.58	46	eP	PKPdf	06 06 59.2	-0.1
PRAC	Prado	126.65	48	eP	PKPdf	06 06 58.4	-0.5
PRAC	Prado	126.65	48	eP	PKPdf	06 06 58.4	-0.5
MARP	Paez Belalcaza	126.71	49	eP	PKiKP	06 07 00.2	+0.4
MARP	Paez Belalcaza	126.71	49	eP	PKiKP	06 07 00.2	+0.4
BOSA	Boshof	126.83	260	ePKPdf	PKPdf	06 06 58.1	-0.8
BOSA	Boshof	126.83	260	PKP	PKPdf	06 06 58.4	-0.5
comp=Z,25nm,0.8s,baz=62,slow=1.7,SNR=25							
SOTA	Rioblanco	126.88	51	eP	PKiKP	06 07 00.2	-0.2
SOTA	Rioblanco	126.88	51	eP	PKiKP	06 07 00.2	-0.2
VILC	Villavicencio,	127.02	46	eP	PKiKP	06 07 00.1	-0.2
VILC	Villavicencio,	127.02	46	eP	PKiKP	06 07 00.1	-0.2
CRUC	La Cruz	127.11	51	eP	PKiKP	06 07 00.6	-0.1
CRUC	La Cruz	127.11	51	eP	PKiKP	06 07 00.6	-0.1
GCUF	Volcan Galeras	127.13	52	eP	PKiKP	06 07 01.1	+0.2
GCUF	Volcan Galeras	127.13	52	eP	PKiKP	06 07 01.1	+0.2
BETC	Betania	127.15	49	eP	PKiKP	06 07 00.8	+0.3
BETC	Betania	127.15	49	eP	PKiKP	06 07 00.8	+0.3
OTAV	Otavalo	127.19	54	ePKPdf	PKPdf	06 07 00.3	-0.2
OTAV				LR	LR		
comp=Z,1μm,21.0s							
OTAV	Otavalo	127.19	54	eP	PKiKP	06 07 00.9	-0.2
OTAV	Otavalo	127.19	54	eP	PKiKP	06 07 00.9	-0.2
OTAV	Otavalo	127.19	54	eP	PKPdf	06 07 00.3	-0.2
OTAV	Otavalo	127.19	54	eP	PKiKP	06 07 02.7	+1.7
QSPA	South Pole Qui	127.50	180	ePKPdf	PKPdf	06 06 58.0	-0.9
QSPA				LR	LR		
comp=Z,1μm,22.0s							
FLOC	Florencia	127.89	50	eP	PKPdf	06 07 01.5	+0.2
FLOC	Florencia	127.89	50	eP	PKPdf	06 07 01.5	+0.2
TSUM	Tsumeb	128.17	275	ePKPdf	PKiKP	06 07 02.3	0.0
TSUM				LR	LR		
comp=Z,2μm,21.0s							
GUVC	San Jose del G	128.91	46	eP	PKPdf	06 07 02.8	-0.4
GUVC	San Jose del G	128.91	46	eP	PKPdf	06 07 02.8	-0.4
SYO	Syowa Base	128.91	207⇑	eP	PKPpre	06 06 52.0	
PTLC	Puerto Leguiza	129.53	50	eP	PKiKP	06 07 05.1	0.0
PTLC	Puerto Leguiza	129.53	50	eP	PKiKP	06 07 05.1	0.0
SUR	Sutherland	131.91	258	ePKPdf	PKPdf	06 07 07.9	-0.6
SUR				LR	LR		
comp=Z,2μm,22.0s							
SUR	Sutherland	131.91	258	PKP	PKPdf	06 07 08.2	-0.3
comp=Z,12nm,0.9s,baz=197,slow=4.1,SNR=5.1							
ATAH	Atahualpa	132.69	60	PKP	PKiKP	06 07 11.8	-0.1
comp=Z,26nm,1.0s,baz=322,slow=4.0,SNR=16							
NNA	Nana	137.18	63	ePKPdf	PKPdf	06 07 18.6	-0.1
NNA				LR	LR		
comp=Z,2μm,20.0s							
NNA	Nana	137.18	63	*i* PKIKP	PKPdf	06 07 19.6	+0.9
NNA	Nana	137.18	63	PKP	PKPdf	06 07 19.1	+0.4
comp=Z,32nm,0.8s,baz=316,slow=5.5,SNR=11							
PTGA	Pitinga	138.15	33	ePKPpre	PKPdf	06 07 20.6	0.0
PTGA				ePKPdf	PKPdf	06 07 21.1	+0.6
PTGA				LR	LR		
comp=Z,1μm,19.0s							
PTGA	Pitinga	138.15	33	PKP	PKPdf	06 07 20.9	+0.4
comp=Z,23nm,1.1s							
PTGA				PP	PP	06 10 08.5	+0.1
comp=Z,2.0nm,0.3s,baz=349,slow=7.2,SNR=4.2							
PTGA	Pitinga	138.15	33	eP	PKiKP	06 07 23.4	+0.8
SNAA	Sanae	141.48	197	PKPdf	PKPdf	06 07 18.3	-6.6
SNAA	Sanae	141.48	197	ePKPpre	PKPpre	06 07 17.5	
SNAA	Sanae	141.48	197	PKhKP	PKPpre	06 07 18.0	
comp=Z,25nm,0.8s,baz=117,slow=1.9,SNR=30							
VNA2	Neumayer--Watz	143.05	196	PKPdf	PKPbc	06 07 24.0	-0.5
baz=103,slow=2.0							
VNA3	Neumayer Olymp	143.30	195	PKPdf	PKPbc	06 07 25.2	-0.1
VNA1	Neumayer--Stat	143.45	196	PKPdf	PKPbc	06 07 25.3	-0.3
LPAZ	La Paz	146.22	59	ePKPdf	PKPbc	06 07 36.1	-0.5
LPAZ	La Paz	146.22	59	PKPbc	PKPbc	06 07 36.3	-0.3
comp=Z,134nm,1.0s,baz=353,slow=4.6,SNR=167							
LPAZ	La Paz	146.22	59	eP	PKPbc	06 07 36.6	0.0
MNMC	Minye Minye	147.12	64	ePKPdf	PKPdf	06 07 36.4	-0.1
MNMC				ePKPbc	PKPab	06 07 40.0	-0.4
MNMC				LR	LR		
comp=Z,2μm,22.0s							
PB11	IPOC Station P	147.49	65	ePKPdf	PKPdf	06 07 38.1	+1.1
PB11				LR	LR		
comp=Z,3μm,21.0s							
GO01	Chusmiza	147.76	65	ePKPdf	PKPdf	06 07 38.5	+0.6
GO01				LR	LR		
comp=Z,3μm,22.0s							
RCBR	Riachuelo	148.13	355	ePKPbc	PKPbc	06 07 41.0	-0.4
RCBR				LR	LR		
comp=Z,68μm,19.0s							
RCBR	Riachuelo	148.13	355	PKPbc	PKPdf	06 07 39.6	+1.5
comp=Z,87nm,0.8s,baz=64,slow=0.8,SNR=4.2							
RCBR	Riachuelo	148.13	355	eP	PKPbc	06 07 41.2	-0.1
RCBR	Riachuelo	148.13	355	eP	PKPbc	06 07 41.4	+0.1
PB01	IPOC Station P	148.42	67	ePKPdf	PKPdf	06 07 38.9	+0.5
PB01				LR	LR		
comp=Z,3μm,21.0s							
PB04	IPOC Station P	148.72	70	ePKPdf	PKPdf	06 07 39.3	+0.4
PB04				ePKPbc	PKPbc	06 07 43.0	+0.3
PB04				LR	LR		
comp=Z,3μm,21.0s							
PMSA	Palmer Station	149.01	159	eP	PKiKP	06 07 42.9	-0.3
CLDB	Colider	149.02	35	eP	PKPbc	06 07 43.2	-0.4
PB10	IPOC Station P	149.10	72	ePKPbc	PKPbc	06 07 44.0	+0.4
PB10				LR	LR		
comp=Z,3μm,20.0s							
LVC	Limon Verde	149.80	69	ePKPdf	PKPdf	06 07 42.2	+1.3
LVC				ePKPbc	PKPbc	06 07 46.7	+1.0
LVC				epPKPab	sPKPdf	06 08 01.5	+1.6
LVC				LR	LR		
comp=Z,3μm,22.0s							
LVC	Limon Verde	149.80	69	PKP	PKPdf	06 07 38.9	-2.0
comp=Z,8.7nm,0.9s,baz=316,slow=18,SNR=3.3							
LVC				PKPbc	PKPbc	06 07 46.4	+0.7
comp=Z,93nm,1.1s,baz=276,slow=2.1,SNR=36							
LVC	Limon Verde	149.80	69	eP	PKPbc	06 07 44.4	-1.3
SIV	San Ignacio	150.52	49	PKP	PKPdf	06 07 41.7	-0.1
comp=Z,20nm,1.0s,baz=342,slow=0.8,SNR=50							
SIV				PKPbc	PKPbc	06 07 47.3	+0.1
comp=Z,106nm,1.0s,baz=314,slow=2.4,SNR=76							
GO02	Mina Guanaco	150.75	74	ePKPbc	PKPbc	06 07 48.1	+0.2
GO02				ePKPab	pPKPbc	06 08 03.2	+1.4
GO02				LR	LR		
comp=Z,4μm,22.0s							
GO03	Copiap	151.50	79	ePKPdf	PKPdf	06 07 43.3	+0.3
GO03				ePKPbc	PKPbc	06 07 49.2	0.0
GO03				LR	LR		
comp=Z,3μm,22.0s							
LCO	Las Campanas	151.79	82	ePKPdf	PKPdf	06 07 42.4	-1.3
LCO				ePKPbc	PKPbc	06 07 50.4	+0.3
LCO				ePKPab	pPKPbc	06 08 05.5	+1.4
LCO				LR	LR		
comp=Z,2μm,20.0s							
LCO	Las Campanas	151.79	82	ePKIKP	PKPdf	06 07 42.4	-1.3
LCO				*e*		06 07 50.4	
LCO				MLR	MLR		
comp=Z,2μm,20.0s							
LCO	Las Campanas	151.79	82	eP	PKPbc	06 07 47.4	-2.7
GO04	Tololo Observa	152.21	84	ePKPdf	PKPdf	06 07 43.5	-0.8
GO04				ePKPbc	PKPbc	06 07 50.6	-0.4
GO04				ePKPab	pPKPbc	06 08 05.2	+0.3
GO04				LR	LR		
comp=Z,2μm,21.0s							
GO09	Cerro Castillo	152.58	130	ePKPbc	PKiKP	06 07 51.4	+0.3
GO09				ePKPab	pPKPbc	06 08 06.5	+1.7
GO10	Punta Arenas	152.73	135	ePKPbc	PKiKP	06 07 51.7	+0.4
GO07	Milladeo Hill,	152.79	113	ePKPbc	PKPbc	06 07 51.2	-0.3
GO05	Huala	152.97	94	ePKPbc	PKPbc	06 07 52.3	0.0
GO05				LR	LR		
comp=Z,2μm,20.0s							
ROC1	El Roble	153.09	90	ePKPdf	PKPdf	06 07 44.7	-0.7
ROC1				ePKPbc	PKPbc	06 07 52.7	-0.1
PEL	Peldehue	153.40	90	ePKPdf	PKPdf	06 07 45.1	-0.6
PEL				ePKPbc	PKPbc	06 07 53.2	-0.1
PEL				LR	LR		
comp=Z,2μm,21.0s							
PEL	Peldehue	153.40	90	ePKIKP	PKPdf	06 07 45.1	-0.6
PEL				*e*		06 07 53.2	
PEL				MLR	MLR		
comp=Z,2μm,21.0s							
USHA	Ushuaia	153.44	140	PKPbc	PKiKP	06 07 52.6	0.0
comp=Z,45nm,1.0s,baz=273,slow=1.9,SNR=10.0							
USHA				PKPab	pPKPbc	06 08 06.2	-0.2
comp=Z,49nm,0.9s,baz=297,slow=3.8,SNR=7.6							
GO06	Curarrehue	154.22	104	ePKPdf	PKPdf	06 07 46.0	-0.7
GO06				LR	LR		
comp=Z,2μm,21.0s							
PLCA	Paso Flores	155.02	107	ePKPdf	PKPdf	06 07 46.9	-0.9
PLCA	Paso Flores	155.02	107	PKP	PKPdf	06 07 47.2	-0.5
comp=Z,4.2nm,0.8s,baz=273,slow=2.0,SNR=10							
PLCA	Paso Flores	155.02	107	eP	PKPdf	06 07 51.3	+3.5
BDFB	Brasilia	156.39	24	ePKPdf	PKPdf	06 07 50.2	-0.1
BDFB				ePKPdf	PKPdf	06 07 50.3	-0.1
BDFB				ePKPab	PKPab	06 08 19.2	+0.6
BDFB				ePKPab	sPKPdf	06 08 19.6	+10
BDFB				ePP	PP	06 11 54.6	-0.8
BDFB				LR	LR		
comp=Z,2μm,21.0s							
BDFB	Brasilia	156.39	24	ePKIKP	PKPdf	06 07 50.2	-0.1
BDFB				*e*		06 11 54.7	
BDFB				MLR	MLR		
comp=Z,2μm,21.0s							
BDFB	Brasilia	156.39	24	PKP	PKPdf	06 07 50.2	-0.1
comp=Z,9.9nm,1.1s,baz=28,slow=2.0,SNR=10.0							
BDFB				PKPab	PKPab	06 08 19.2	+0.6
comp=Z,34nm,0.9s,baz=312,slow=3.3,SNR=4.6							
BDFB				PP	PP	06 11 54.6	-0.8
comp=Z,37nm,1.2s,baz=325,slow=4.2,SNR=6.1							
JANB	Januaria	156.79	15	eP	PKPdf	06 07 49.5	-1.3
JANB	Januaria	156.79	15	eP	PKPdf	06 07 54.6	+3.8
AQDB	Aquidauana	157.17	46	eP	PKPdf	06 07 51.5	+0.4
AQDB	Aquidauana	157.17	46	eP	PKPdf	06 07 55.8	+4.7
MCI8	Montes Claros	158.43	14	eP	PKPdf	06 07 53.2	+0.5
MCI8	Montes Claros	158.43	14	eP	PKPdf	06 07 57.6	+4.8
MCI9	Montes Claros	158.47	14	eP	PKPdf	06 07 51.0	-1.8
ITRB	Iturama	159.23	33	eP	PKPdf	06 07 54.0	+0.4
PMNB	Patos De Minas	159.61	22	eP	PKPdf	06 07 54.5	+0.3
CPUP	Villa Florida	160.38	60	ePKPdf	PKPdf	06 07 52.6	-2.1
CPUP	Villa Florida	160.38	60	PKP	PKPdf	06 07 54.4	-0.3
comp=Z,5.8nm,0.9s,baz=204,slow=2.2,SNR=10							
CPUP				PP	PP	06 12 19.1	+1.0
comp=Z,4.1nm,1.0s,baz=343,slow=6.1,SNR=2.1							
TRCB	Terra Rica	160.73	43	eP	PKPdf	06 07 59.8	+4.6
SJMB	Sao Joao De Ma	160.86	8	eP	PKPdf	06 07 59.7	+4.2
BSFB	Barra de Sao F	161.02	7	eP	PKPdf	06 07 59.5	+3.9
BB19B	Bebedouro	161.21	31	eP	PKPdf	06 08 09.8	+14
BB19B	Bebedouro	161.21	31	eP	PKPdf	06 07 59.7	+3.9
TRQA	Tornquist	161.42	98	ePKPdf	PKPdf	06 07 54.0	-1.5
TRQA	Tornquist	161.42	98	ePKIKP	PKPdf	06 07 54.0	-1.5
TRQA	Tornquist	161.42	98	eP	PKPdf	06 08 00.9	+5.4
RIB01	Linhares ES	161.54	6	eP	PKPdf	06 07 59.7	+3.5
PTGB	Pitanga	162.56	46	eP	PKPdf	06 08 01.8	+4.6
FRTB	Fartura	162.75	37	eP	PKPdf	06 08 01.8	+4.5
ALF01	Guarapari-ES	162.80	7	eP	PKPdf	06 08 02.4	+5.0
VAS01	Vassouras-RJ	163.98	17	eP	PKPdf	06 08 03.0	+4.5
ITAB	Concordia	164.41	52	eP	PKPab	06 08 54.8	+1.4
TIJ01	Guaruva-PR	164.69	39	eP	PKPdf	06 08 04.3	+5.2
CNLB	Canela	166.66	54	eP	PKPdf	06 08 06.0	+5.4

IDC ***18*** *06:01:28.4±23.0, 30°.05S×179°.65E, h320km±231km, mb3.0/2, mb1 3.4/3, mb1mx3.1/29, mbtmp3.9/3, Error ellipse: s-maj=286.9km s-min=51.4km az=13.0*

ISCJB ***18*** *06:01:33.7±0.7, 30°.92S±0°.08×179°.8W±0°.2, h450km, mb3.3/2, Error ellipse: s-maj=18.2km s-min=9.2km az=17.1*

WEL ***18*** *06:01:40.6±1.1, 31°.S±.8°×18°.0W±1°.8, h359km±17km*

ISC 18 06:01:34.2±1.0, 31°.04S±0°.10×179°.7W±0°.1, h450km, n22, σ2°56/27, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.38	42	P	P	P	06 02 36.8	-0.3
GLKZ				S	S	S	06 03 24.3	-3.5
WMGZ	Waiomatatini S	6.93	192	P	P	P	06 03 21.3	+3.3
WMGZ				S	S	S	06 04 42.0	-1.1
WCZ	Waipu Caves	6.94	224	P	P	P	06 03 20.2	+1.9
OUZ	Omahuta	6.97	232	P	P	P	06 03 20.1	+1.6
HAZ	Te Kaha	7.00	196	P	P	P	06 03 20.6	+1.8
HAZ				S	S	S	06 04 41.7	-2.9
PUZ	Puketiti	7.21	193	P	P	P	06 03 24.8	+3.8
RUGZ	Raukumara Rang	7.23	196	P	P	P	06 03 23.2	+1.9
RUGZ				S	S	S	06 04 45.6	-3.5
TWGZ	Tauwhareparae	7.36	194	P	P	P	06 03 25.8	+3.1
CNGZ	Carnagh Statio	7.61	192	P	P	P	06 03 28.8	+3.5
MWZ	Matawai	7.61	196	P	P	P	06 03 27.4	+2.0
URZ	Urewera	7.65	199	P	P	P	06 03 27.6	+1.8
3.4nm,0.3s,baz=272,slow=4.1,SNR=28								
URZ				S	S	S	06 04 53.3	-3.9
1.5nm,0.3s,baz=136,slow=20,SNR=14								
URZ	Urewera	7.65	199	P	P	P	06 03 27.8	+2.0
RIGZ	Rimuhau	7.92	194	P	P	P	06 03 31.5	+2.9
MUGZ	Murupara	7.95	200	P	P	P	06 03 30.8	+1.8
SNGZ	Shannon Statio	8.09	196	P	P	P	06 03 32.5	+2.1
RAHZ	Arahi	8.28	197	P	P	P	06 03 35.1	+2.6
MTHZ	Maungataniwha	8.28	199	P	P	P	06 03 34.9	+2.4
MRHZ	Matea Rd	8.39	201	P	P	P	06 03 35.2	+1.4
NMHZ	Naumai	8.52	198	P	P	P	06 03 36.4	+1.2
ASAR	Alice Springs	41.58	268	P	P	P	06 08 41.7	+0.3
0.2nm,0.3s,baz=108,slow=7.4,SNR=5.5								
WRA	Warramunga Arr	42.63	274	P	P	P	06 08 49.8	+0.1
0.7nm,0.3s,baz=111,slow=7.9,SNR=19								
FINES	FINESS Array B	145.21	338	PKP	PKiKP	PKiKP	06 20 24.8	+1.8
2.9nm,1.1s,baz=79,slow=7.5,SNR=4.0								

IDC 18 06:10:35.8±2.0, 6°.74S×128°.54E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.5/34, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=111.6km s-min=31.7km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.29	157	Pn	Pn	Pn	06 13 57.9	-1.6
0.3nm,0.3s,baz=336,slow=14,SNR=15								
ASAR	Alice Springs	17.61	164	P	P	P	06 14 43.9	0.0
0.1nm,0.3s,baz=346,slow=9.3,SNR=13								
ASAR				S	S	Sn	06 17 45.8	-14
0.1nm,0.3s,baz=0.8,slow=30,SNR=3.5								
MKAR	Makanchi Array	67.22	327	P	P	P	06 21 32.0	0.0
0.4nm,0.4s,baz=111,slow=7.0,SNR=4.9								

MAN 18 06:15:59.3, 13°.85N×120°.55E, h78km, mb3.6, ML2.3, MS1.7, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.32	250	eP	Pn	Pn	06 16 13.2	+1.7
LUBP				eS	Sn	Sn	06 16 23.4	+3.0
PGP	Puerto Galera	0.52	131⇑	iP	Pn	Pn	06 16 14.8	+1.7
PGP				*i* S	Sn	Sn	06 16 26.6	+3.3
SJMP	San Jose	1.48	158	eP	Pn	Pn	06 16 25.3	+0.9
SJMP				eS	Sn	Sn	06 16 44.5	+1.3

IDC ***18*** *06:54:57.9±2.2, 82°.79N×9°.16W, h0km, mb3.1/3, mb1 3.5/6, mb1mx3.2/43, mbtmp3.4/6, ML3.3/3, Error ellipse: s-maj=46.8km s-min=32.0km az=41.0*

IEPN ***18*** *06:55:04.0, 82°.76N×5°.04W, h15km*

**ISC 18 06:54:59.4±1.2,

SDLR Sedlovina 1.57 320 PN **Pn 07 11 37.9 -1.5**
SDLR S **Sn 07 11 58.7 +0.1**
SMAR Somma 1.59 318 *eP* **Pn 07 11 38.4 -1.4**
SMAR S **Sn 07 12 01.3 +2.0**
SMAR Somma 1.59 318 PN **Pn 07 11 38.4 -1.4**
GRL Gorelyy 1.60 288 *eP* **Pn 07 11 39.7 -0.1**
GRL *eS* Sn 07 12 03.8 +4.5
GRL Gorelyy 1.60 288 PN **Pn 07 11 39.7 -0.1**
AVH Avacha 1.62 317 *eP* **Pn 07 11 39.2 -0.9**
AVH *eS* **Sn 07 12 02.3 +2.5**
AVH Avacha 1.62 317 PN **Pn 07 11 39.2 -0.9**
KRER Koryakskii 1.65 318 *eP* **Pn 07 11 39.5 -1.0**
KRER *eS* **Sn 07 12 03.2 +2.7**
KRER Koryakskii 1.65 318 PN **Pn 07 11 39.5 -1.0**
KRMR Karymshinskiy 1.67 297 *eP* **Pn 07 11 39.0 -1.6**
KRMR *eS* **Sn 07 12 03.4 +2.6**
KRMR Karymshinskiy 1.67 297 PN **Pn 07 11 39.0 -1.6**
ASAK Asacha 1.67 281 *eP* **Pn 07 11 39.8 -0.9**
ASAK S **Sn 07 12 02.1 +1.2**
ASAK Asacha 1.67 281 PN **Pn 07 11 39.8 -0.9**
ASAK S **Sn 07 12 02.1 +1.2**
KOK Koryaka 1.68 316 *eP* **Pn 07 11 40.3 -0.7**
KOK S **Sn 07 12 03.4 +2.1**
KOK Koryaka 1.68 316 PN **Pn 07 11 40.3 -0.7**
KRX Arik 1.73 318 *eP* **Pn 07 11 40.3 -1.3**
KRX S **Sn 07 12 02.8 +0.3**
KRX Arik 1.73 318 PN **Pn 07 11 40.3 -1.3**
KRX S **Sn 07 12 02.8 +0.3**
PETK Petropavlovsk- 2.03 301 P **Pn 07 11 44.7 -0.9**
comp=N,38nm,0.3s,baz=108,slow=18,SNR=352
PETK S **Sn 07 12 13.1 +3.4**
comp=N,80nm,0.3s,baz=217,slow=22,SNR=16
APC Apacha 2.25 293 *eP* **Pn 07 11 48.3 -0.3**
APC *eS* Sn 07 12 19.2 +4.2
APC Apacha 2.25 293 PN **Pn 07 11 48.3 -0.3**
PAU Pauzhetka 2.42 257 *eP* **Pn 07 11 49.9 -1.0**
PAU Pauzhetka 2.42 257 PN **Pn 07 11 49.9 -1.0**
MKZ Mys Kozlova 2.57 15 *eP* **Pn 07 11 50.8 -2.1**
MKZ *eS* **Sn 07 12 20.8 -2.1**
MKZ Mys Kozlova 2.57 15 PN **Pn 07 11 50.8 -2.1**
MKZ S **Sn 07 12 20.8 -2.1**
KZV Kizimen 3.03 357 *eP* **Pn 07 11 58.6 -0.9**
KZV *eS* **Sn 07 12 34.4 -0.2**
KZV Kizimen 3.03 357 PN **Pn 07 11 58.6 -0.9**
KZV S **Sn 07 12 34.4 -0.2**
TUMD Tumrok D 3.12 358 *eP* **Pn 07 11 59.5 -1.1**
TUMD *eS* **Sn 07 12 34.5 -2.1**
SKR Severo-Kuril's 3.13 245 P **Pn 07 11 57.7 -2.9**
SKR S **Sn 07 12 34.7 -2.0**
SKR Severo-Kuril's 3.13 245 *e*PN **Pn 07 11 59.2 -1.4**
SKR *eS* **Sn 07 12 33.3 -3.4**
SKR pmax pmax
comp=Z,118nm,1.3s
SKR smax smax
comp=E,506nm,0.6s
SKR smax smax
comp=N,518nm,0.6s
TUMR Tumrok 3.21 356 PN **Pn 07 11 59.5 -2.4**
TUMR S **Sn 07 12 34.5 -4.4**
ESO Esso 4.00 345 *eP* **Pn 07 12 11.9 -0.7**
ESO Esso 4.00 345 PN **Pn 07 12 11.9 -0.7**
LGNR Loginova 4.00 1 P **Pn 07 12 13.0 +0.1**
LGNR Loginova 4.00 1 PN **Pn 07 12 13.0 +0.1**
CIRR Tsirk 4.03 1 P **Pn 07 12 11.5 -1.8**
CIRR Tsirk 4.03 1 PN **Pn 07 12 11.5 -1.8**
SRDR Sredinnyy 4.26 354 P **Pn 07 12 16.0 -0.3**
SRDR Sredinnyy 4.26 354 PN **Pn 07 12 16.0 -0.3**
BKI Bering 4.48 44 *eP* **Pn 07 12 18.0 -1.2**
BKI *eS* **Sn 07 13 04.5 -5.4**
BKI Bering 4.48 44 PN **Pn 07 12 18.0 -1.2**
BDR Baidarnaya 4.50 4 *eP* **Pn 07 12 18.8 -0.8**
BDR Baidarnaya 4.50 4 PN **Pn 07 12 18.8 -0.8**
SMKR Semkarok 4.53 6 P **Pn 07 12 21.4 +1.4**
SMKR Semkarok 4.53 6 PN **Pn 07 12 21.4 +1.4**
SEY Seymchan 11.71 341 P **Pn 07 13 58.7 +0.5**
comp=N,0.2nm,0.3s,baz=141,slow=16,SNR=2.0
ASAJ Asahikawa 14.39 243 P **Pn 07 14 34.6 -0.2**
comp=N,0.7nm,0.3s,baz=67,slow=9.8,SNR=3.8
BILL Bilibino 16.24 8 *i* P **P 07 14 58.6 -2.8**
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,357nm,19.0s
KLR Kul'dur 18.44 273 *eP* **Pn 07 15 24.5 -1.7**
KLR pmax pmax
comp=Z,3.0nm,0.9s
KLR Kul'dur 18.44 273 P **Pn 07 15 25.8 -0.4**
comp=Z,0.2nm,0.3s,baz=61,slow=10,SNR=11
USRK Ussuriysk Ar. 20.54 259 P **P 07 15 46.8 -1.9**
comp=Z,4.1nm,0.7s,baz=60,slow=9.7,SNR=6.8
MJA0 Matsu Arr-Jizo 22.15 234 *eP* **P 07 16 06.3 +0.1**
MJA0 pmax pmax
comp=Z,2.0nm,0.3s
MJAR Matsushiro Arr 22.17 234 P **P 07 16 07.5 +1.1**
comp=Z,1.8nm,0.3s,baz=17,slow=9.9,SNR=8.4
TIXI Tiksi 24.12 336 *eP* **P 07 16 23.8 -1.6**
TIXI pmax pmax
comp=Z,8.0nm,0.7s
TIXI Tiksi 24.12 336 P **P 07 16 24.2 -1.2**
comp=Z,8.6nm,0.6s,baz=132,slow=7.5,SNR=7.5
KSRS Korea Array 27.13 250 *eP* **P 07 16 55.2 +2.2**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS Korea Array 27.13 250 P **P 07 16 53.6 +0.6**
comp=Z,1.2nm,0.7s,baz=46,slow=9.0,SNR=6.0
JNU Nakatsue 28.63 240 P **P 07 17 09.1 +2.7**
comp=Z,4.0nm,0.6s,baz=47,slow=18,SNR=2.7
ILAR Eielson Array 29.32 44 P **P 07 17 15.6 +3.3**
comp=Z,0.3nm,0.8s,baz=268,slow=6.3,SNR=2.8
H11N2 WAKE ISLAND Hy 32.67 169 T T 07 52 26.4
baz=357
H11N3 WAKE ISLAND Hy 32.69 169 T T 07 52 36.5
baz=357
H11N1 WAKE ISLAND Hy 32.69 169 T T 07 52 22.4
baz=357
INK Inuvik 34.49 37 P **P 07 17 58.8 +1.3**
comp=Z,0.8nm,0.9s,baz=293,slow=7.7,SNR=3.5
ZALV Zalesovo Beam 43.57 304 *eP* **P 07 19 10.1 -3.4**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 43.57 304 P **P 07 19 11.2 -2.3**
comp=Z,0.5nm,0.4s,baz=23,slow=7.8,SNR=4.1
YKA Yellowknife Ar 43.71 42 P **P 07 19 16.0 +1.5**
YKA Yellowknife Ar 43.71 42 P **P 07 19 16.0 +1.5**
comp=Z,0.1nm,0.3s,baz=298,slow=7.7,SNR=2.7
NVS Novosibirsk 43.93 306 *eP* **P 07 19 14.0 -2.4**
RES Resolute Bay 44.15 22 P **P 07 19 19.3 +1.5**
comp=Z,0.5nm,0.7s,baz=335,slow=9.2,SNR=3.1
DGZ Jazzator, Alta 44.38 297 *i* P **P 07 19 18.7 -1.6**
DGZ pmax pmax
comp=Z,2.0nm,0.7s
SPITS Spitsbergen Ar 48.17 351 P **P 07 19 49.6 +0.1**
SPITS pmax pmax
comp=Z,4.0nm,0.4s
KURK Kurchatov 48.52 303 *ce*P **P 07 19 50.3 -2.2**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURBB Kurchatov Arra 48.62 303 P **P 07 19 51.0 -2.2**
comp=Z,3.5nm,0.8s,baz=60,slow=7.6,SNR=28
KURBB PcP **PcP 07 21 17.5 -0.7**
comp=Z,1.1nm,0.6s,baz=61,slow=3.6,SNR=7.5
MKAR Makanchi Array 48.86 297 P **P 07 19 53.1 -2.1**
comp=Z,1.7nm,0.5s,baz=58,slow=7.1,SNR=21
BVAR Borovoye Array 51.24 309 P **P 07 20 11.2 -2.0**
comp=Z,3.6nm,0.5s,baz=46,slow=8.5,SNR=17
BRVK Borovoye 51.27 309 *ce*P **P 07 20 12.4 -1.0**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 54.33 342 P **P 07 20 35.0 -0.8**
comp=Z,4.3nm,0.8s,baz=38,slow=9.1,SNR=8.8
ARU Arti 54.34 318 *c i*P **P 07 20 34.3 -1.6**
ARU *PP **pP 07 20 47.4 +0.6**
ARU 07 22 39.3
ARU S **S 07 28 07.4 -3.2**
ARU SS **SS 07 31 43.6 -8.7**
ARU pmax pmax
comp=Z,4.0nm,0.5s
ARU Arti 54.34 318 P **P 07 20 34.9 -1.0**
comp=Z,2.0nm,0.4s,baz=344,slow=2.2,SNR=6.9
AAK Ala-Archa 55.79 297 *ce*P **P 07 20 46.5 -0.3**
AAK pmax pmax
comp=Z,5.0nm,1.7s
AAK Ala-Archa 55.79 297 P **P 07 20 45.4 -1.4**
comp=Z,2.0nm,0.6s,baz=48,slow=15,SNR=1.6

NVAR Mina Array Bea 55.81 70 P **P 07 20 51.1 +4.0**
comp=Z,0.6nm,0.7s,baz=284,slow=3.6,SNR=1.9
PDAR Pinedale Array 57.76 61 P **P 07 21 04.2 +3.3**
comp=Z,0.2nm,0.3s,baz=305,slow=7.1,SNR=2.4
KLMR Klimovskoe 57.97 330 *eP* **P 07 20 59.7 -2.0**
KLMR pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 58.27 259 *eP* **P 07 21 06.0 +1.6**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 58.27 259 P **P 07 21 05.5 +1.1**
comp=Z,2.7nm,0.8s,baz=21,slow=6.7,SNR=9.0
AKTO Aktyubinsk 58.72 313 P **P 07 21 06.2 -0.9**
comp=Z,1.6nm,0.5s,baz=41,slow=9.9,SNR=6.4
RAMN Ramite 59.55 276 *eP* **P 07 21 12.7 -0.8**
comp=Z,24nm,0.5s
KKN Kakani 59.75 277 *eP* **P 07 21 14.3 -0.6**
comp=Z,13nm,0.5s
PKI Pulchoki 59.83 277 *eP* **P 07 21 14.7 -0.9**
comp=Z,11nm,0.6s
DMN Daman 59.99 277 *eP* **P 07 21 16.1 -0.5**
comp=Z,13nm,0.6s
DANN Dangsing 60.27 279 *eP* **P 07 21 18.0 -0.6**
comp=Z,18nm,0.7s
KOLN Koldanda 60.79 278 *eP* **P 07 21 21.2 -0.8**
comp=Z,8.6nm,0.6s
PYUN Piuthan 60.92 279 *eP* **P 07 21 22.1 -0.8**
comp=Z,7.1nm,0.4s
FINES FINESS Array B 61.16 337 P **P 07 21 23.9 +0.2**
comp=Z,5.7nm,0.5s,baz=31,slow=8.6,SNR=57
OBN Obninsk 63.52 328 *eP* **P 07 21 37.7 -1.8**
OBN pmax pmax
comp=Z,4.0nm,0.9s
NB2 NORSAR Subarra 64.59 344 P **P 07 21 45.2 -1.4**
comp=Z,2.1nm,0.7s,baz=22,slow=6.5
NB2 NORSAR Subarra 64.59 344 P **P 07 21 46.0 -0.6**
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 64.59 344 P **P 07 21 46.2 -0.3**
comp=Z,2.2nm,0.7s,baz=21,slow=6.6,SNR=13
AKASG Malin Array Be 69.62 329 *ce*P **P 07 22 17.7 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 69.62 329 P **P 07 22 17.8 -0.8**
comp=Z,0.6nm,0.3s,baz=30,slow=6.6,SNR=4.3
KBZ Khabaz 70.47 317 P **P 07 22 24.6 +0.7**
comp=Z,2.3nm,0.8s,baz=52,slow=6.7,SNR=5.3
TXAR Lajitas Array 70.76 67 P **P 07 22 28.2 +2.2**
comp=Z,0.3nm,0.6s,baz=296,slow=4.5,SNR=5.4
EKA Eskdalemuir Ar 72.09 350 P **P 07 22 33.5 0.0**
EKA pmax pmax
comp=Z,1.0nm,0.4s
KOLS Kolonicke sedl 73.27 333 *eP* **P 07 22 41.1 +0.4**
KOLS Kolonicke sedl 73.27 333 *eP* **P 07 22 41.0 +0.4**
CLL Collm 73.40 339 *eP* **P 07 22 42.0 +0.7**
CLL pmax pmax
comp=Z,3.0nm,0.5s
CLL Collm 73.40 339 *eP* **P 07 22 42.0 +0.7**
comp=Z,3.0nm,0.5s
VYHS Vyhne 74.61 335 *eP* **P 07 22 49.2 +0.7**
VYHS Vyhne 74.61 335 *eP* **P 07 22 49.2 +0.7**
WRA Warramunga Arr 75.30 205 P **P 07 22 53.8 +1.1**
comp=Z,0.4nm,0.6s,baz=25,slow=5.2,SNR=4.4
GERES GERESS Array B 75.55 338 *eP* **P 07 22 56.3 +2.3**
GERES GERESS Array B 75.55 338 P **P 07 22 54.7 +0.6**
comp=Z,0.4nm,0.4s,baz=30,slow=6.8,SNR=3.4
BRTR Keskin Array B 77.58 321 P **P 07 23 06.0 +0.3**
comp=Z,0.8nm,0.5s,baz=37,slow=4.4,SNR=5.2
ASAR Alice Springs 78.97 205 P **P 07 23 14.9 +1.7**
comp=Z,0.5nm,0.6s,baz=11,slow=5.8,SNR=12
ESDC Sonseca Array 87.62 348 P **P 07 23 59.3 +1.5**
comp=Z,0.3nm,0.4s,baz=4.6,slow=5.0,SNR=3.8

*ISK **18** 07:14:27.9, 37°.32N×37°.11E, h6km, ML2.0/5*
*ISCJB **18** 07:14:28.6±0.7, 37°.31N±0°.04×37°.10E±0°.05, h9km±5km, Error ellipse: s-maj=8.2km s-min=5.6km az=35.3*
*DDA **18** 07:14:28.3, 37°.34N×37°.10E, h6km±1km, ML2.5*
ISC 18 07:14:28.3±1.1, 37°.32N±0°.04×37°.13E±0°.04, h11km±8km, n10, σ0°.42/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.16**	**157**	PG	**Pg**		**07 14 31.8**	**-0.2**
GAZ				SG	**Sg**		**07 14 34.8**	**+0.2**
HCB	**Kahramanmara**	**0.18**	**277**	*i* P	**Pg**		**07 14 32.8**	**+0.5**
HCB				*i* S	**Sg**		**07 14 35.2**	**+0.2**
KMRS	**Kahramanmaras**	**0.26**	**315**	PG	**Pg**		**07 14 33.3**	**-0.4**
KMRS				SG	**Sg**		**07 14 37.3**	**0.0**
KAMA	**Osmaniye**	**0.39**	**250**	*i* P	**Pg**		**07 14 36.0**	**-0.1**
ANDN	**Andirin**	**0.68**	**293**	IAML_P				
ANDN				*i* P	**Pg**		**07 14 41.2**	**-0.2**
KOZT	**Kozan**	**1.05**	**279**	PG	**Pb**		**07 14 48.1**	**-0.4**
KOZT				SG	**Sg**		**07 15 02.7**	**+0.5**
AKCD	**Akcadag**	**1.16**	**33**	*i* P	**Pg**		**07 14 51.1**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.21**	**219**	PN	**Pn**		**07 14 51.2**	**0.0**
TAHT				SN	**Sg**		**07 15 08.1**	**+0.8**
AKO	**Adana**	**1.35**	**276**	IAML_P				
AKO				*i* P	**Pg**		**07 14 54.4**	**+0.2**
URFA	**Urfa**	**1.35**	**84**	PN	**Pg**		**07 14 54.1**	**-0.2**

*IDC **18** 07:16:48.5±3.5, 37°.98N×74°.19E, h131km±25km, mb3.4/8, mb1 3.4/13, mb1mx3.2/50, mbtmp3.8/13, Error ellipse: s-maj=28.0km s-min=22.8km az=1.0*
*ISCJB **18** 07:16:49.2±0.4, 38°.03N±0°.04×74°.00E±0°.08, h150km, mb3.5/8, Error ellipse: s-maj=9.0km s-min=4.7km az=156.4*
*NNC **18** 07:16:52.5±3.4, 39°.03N×74°.89E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=24.9km s-min=15.7km az=151.0*
ISC 18 07:16:49.3±0.7, 37°.95N±0°.07×73°.95E±0°.07, h150km, n35, σ1.9/73/38, mb3.6/8, 4C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.18**	**357**	P	**Pn**		**07 17 52.5**	**+0.3**
	SNR=31							
KZA	**Kyzart**	**4.24**	**13**	P	**Pn**		**07 17 52.8**	**-0.2**
	SNR=31							
UCH	**Uchtor**	**4.29**	**6**	P	**Pn**		**07 17 53.9**	**+0.2**
	SNR=16							
AAK	**Ala-Archa**	**4.70**	**5**	⇑Pg	**Pn**		**07 17 58.1**	**-0.7**
	3.3nm,0.5s							
AAK				⇑Lg	Lg		07 18 47.1	
	16nm,0.6s							
AAK	**Ala-Archa**	**4.70**	**5**	P	**Pn**		**07 17 59.1**	**+0.3**
	1.4nm,0.3s,baz=149,slow=5.2,SNR=11							
AAK				S	**Sn**		**07 18 50.0**	**-3.0**
	1.1nm,0.3s,baz=196,slow=9.4,SNR=5.0							
EKS2	**Erkin-Say**	**4.71**	**358**	P	**Pn**		**07 17 59.7**	**+0.9**
	SNR=6.2							
KBK	**Karagaybulak**	**4.76**	**9**	P	**Pn**		**07 18 00.2**	**+0.6**
	SNR=8.4							
CHMS	**Chumysh**	**5.08**	**7**	P	**Pn**		**07 18 04.2**	**+0.5**
	SNR=8.0							
TKM2	**Tokmak 2**	**5.12**	**14**	P	**Pn**		**07 18 04.5**	**+0.1**
	SNR=22							
TKM2	**Tokmak 2**	**5.12**	**14**	⇑Pg	**Pn**		**07 18 04.8**	**+0.4**
	12nm,0.6s							
TKM2				⇓Lg	Lg		07 18 57.3	
	23nm,0.8s							
KST	**Kastek**	**5.31**	**16**	Pg	**Pn**		**07 18 07.1**	**+0.2**
	22nm,0.5s							
KST				Lg	Lg		07 19 04.7	
	28nm,0.8s							
DGS	**Degeres**	**5.46**	**14**	Pg	**Pn**		**07 18 08.3**	**-0.5**
	7.8nm,0.5s							
DGS				Lg	Lg		07 19 07.3	
	12nm,0.7s							
KK31	**Karatay Array**	**5.78**	**334**	Pn	**Pn**		**07 18 13.5**	**+0.6**
	2.0nm,0.2s,baz=139,slow=13,SNR=34							
KK31				⇑Sn	**Sn**		**07 19 14.5**	**-3.9**
	24nm,0.5s,baz=143,slow=20,SNR=24							
MKAR	**Makanchi Array**	**10.77**	**32**	P	**Pn**		**07 19 17.6**	**-1.7**
	0.1nm,0.3s,baz=210,slow=14,SNR=10							
WMQ	**Urumqi**	**11.93**	**56**	*e*P	**Pn**		**07 19 34.8**	**+0.2**
WMQ				sP	P		07 20 14.6	+33
PYUN	**Piuthan**	**12.40**	**140**	*e*P	**Pn**		**07 19 41.7**	**+0.7**
	24nm,0.3s							
GEYT	**Alibeck**	**12.51**	**275**	P	**Pn**		**07 19 42.7**	**+0.6**
	25nm,0.3s,baz=91,slow=13,SNR=8.4							
GEYT				S	**Sn**		**07 21 56.3**	**-4.0**
	23nm,0.3s,baz=177,slow=30,SNR=5.7							

DANN Dangsing 12.61 137 *e*P **Pn 07 19 44.1 +0.4**
19nm,0.4s
KOLN Koldanda 12.98 139 *e*P **P 07 19 49.5 -3.8**
9.0nm,0.3s
KURBB Kurchatov Arra 13.08 13 P **Pn 07 19 46.6 -2.7**
0.0nm,0.3s,baz=197,slow=11,SNR=5.8
DMN Daman 13.93 135 *e*P **P 07 20 00.9 -3.0**
5.9nm,0.3s
PKIN Phulchoki 14.12 134 *e*P **P 07 20 04.3 -1.7**
11nm,0.5s
PKI Pulchoki 14.13 134 *e*P **P 07 20 04.4 -1.8**
5.6nm,0.2s
JIRN Jiri 14.52 131 *e*P **P 07 20 08.9 -1.6**
22nm,0.4s
RAMN Ramite 15.29 132 *e*P **P 07 20 18.8 -0.1**
14nm,0.5s
AKTO Aktyubinsk 16.88 323 P **Pn 07 20 37.7 +1.3**
0.4nm,0.3s,baz=130,slow=10,SNR=4.3
ZALV Zalesovo Beam 17.66 22 P **Pn 07 20 44.4 -1.3**
1.7nm,0.3s,baz=215,slow=10,SNR=22
ARU Arti 21.15 336 P **P 07 21 24.3 +2.1**
0.8nm,0.3s,baz=152,slow=4.4,SNR=3.1
FINES FINESS Array B 37.64 324 P **P 07 23 51.0 +1.7**
0.8nm,0.5s,baz=101,slow=10,SNR=6.6
ARCES ARCESS Array B 40.74 336 P **P 07 24 16.7 +1.8**
1.9nm,0.6s,baz=108,slow=7.9,SNR=18
TIXI Tiksi 43.55 22 P **P 07 24 37.7 +0.1**
1.7nm,0.3s,baz=284,slow=6.7,SNR=6.8
NOA NORSAR Array B 44.66 322 P **P 07 24 48.4 +1.7**
0.3nm,0.5s,baz=91,slow=7.7,SNR=3.0
INK Inuvik 72.08 10 P **P 07 27 57.1 +0.6**
0.6nm,0.6s,baz=314,slow=3.5,SNR=4.0
YKA Yellowknife Ar 79.66 4 P **P 07 28 40.3 +0.7**
0.3nm,0.6s,baz=345,slow=5.4,SNR=7.1
WRA Warramunga Arr 80.80 124 P **P 07 28 47.0 +0.7**
0.4nm,0.7s,baz=324,slow=4.0,SNR=3.6

KRNET 18 07:17:15.5±0.1, 42°.75N×77°.53E, h17km, mb1.8, 6C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.67**	**203**	⇑*i*P		Pg	**07 17 28.6**	-0.2
	baz=2.0							
KDJ				⇑*i*S		Sg	07 17 37.9	+0.1
	baz=2.0							
TARG	**Taragay, Kyrgy**	**1.04**	**169**	⇓*i*P		Pb	07 17 35.1	-0.3
	baz=69							
TARG				⇓*i*S		Sb	07 17 49.1	+0.2
	baz=69							
ULHL	**Ulahol**	**1.08**	**242**	⇑*i*P		Pb	07 17 35.5	-0.4
	baz=42							
ULHL				⇑*i*S		Sg	07 17 50.3	-0.3
	baz=42							
BOOM	**Boomskoye usch**	**1.20**	**258**	⇑*i*P		Pn	07 17 37.5	-0.2
	baz=58							
BOOM				⇑*i*S		Sn	07 17 54.0	+0.3
	baz=58							
TKM2	**Tokmak 2**	**1.43**	**277**	⇓*i*P		Pb	07 17 41.9	0.0
	baz=77							
TKM2				⇓*i*S		Sg	07 18 01.5	-0.3
	baz=77							

*KRSC **18** 07:26:15.9±10.0, 52°.03N×160°.85E, h15km±10km, ML4.9*
*MOS **18** 07:26:16.6±1.4, 52°.06N×160°.67E, h12km, mb4.6/22, Error ellipse: s-maj=8.0km s-min=4.2km az=112.5*
*ISCJB **18** 07:26:20.8±0.7, 52°.10N±0°.04×160°.62E±0°.06, h45km±4km, mb4.1/54, Error ellipse: s-maj=7.5km s-min=5.0km az=138.7*
*NEIC **18** 07:26:22.2±2.9, 52°.18N×160°.48E, h32km±9km, mb4.4/18, Error ellipse: s-maj=25.9km s-min=15.9km az=173.0*
*IDC **18** 07:26:28.0±2.1, 52°.36N×159°.87E, h71km±18km, mb3.6/30, mb1 3.8/33, mb1mx3.7/49, mbtmp3.9/33, Error ellipse: s-maj=16.8km s-min=11.7km az=143.0*
ISC 18 07:26:22.5±1.2, 52°.14N±0°.04×160°.35E±0°.05, h33km±4km, n172, σ1.9/48/197, mb4.3/54, 4C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.98**	**348**	*i* P	**Pn**		**07 26 38.2**	**-1.7**
SPN				S	**Sn**		**07 26 53.7**	**+1.1**
SPN	**Mys Shipunski**	**0.98**	**348**	PN	**Pn**		**07 26 38.2**	**-1.7**
SPN				S	**Sn**		**07 26 53.7**	**+1.1**
RUS	**Russkaya**	**1.17**	**285**	*i* P	**Pn**		**07 26 42.2**	**-0.3**
RUS				S	**Sb**		**07 27 00.5**	**+1.6**
RUS	**Russkaya**	**1.17**	**285**	PN	**Pn**		**07 26 42.2**	**-0.3**
RUS				S	**Sb**		**07 27 00.5**	**+1.6**
DALK	**Dalny**	**1.32**	**313**	*i* P	**Pn**		**07 26 44.4**	**-0.2**
DALK				S	**Sb**		**07 27 04.9**	**+1.6**
DALK	**Dalny**	**1.32**	**313**	PN	**Pn**		**07 26 44.4**	**-0.2**
DALK				S	**Sb**		**07 27 04.9**	**+1.6**
PET	**Petropavlovsk**	**1.36**	**311**	*e*Pn	**Pn**		**07 26 45.2**	**0.0**
PET	**Petropavlovsk**	**1.36**	**311**	*i* P	**Pn**		**07 26 45.1**	**0.0**
PET				*e*S	**Sb**		**07 27 06.8**	**+2.3**
PET	**Petropavlovsk**	**1.36**	**311**	*e*PN	**Pn**		**07 26 45.1**	**0.0**
PET				*e*S	**Sb**		**07 27 05.2**	**+0.7**
PET				pmax	pmax			
	comp=Z,908nm,0.5s							
PET				smax	smax			
	comp=N,2μm,0.4s							
PET				smax	smax			
	comp=E,3μm,0.5s							
MTVR	**Mutnovka**	**1.37**	**285**	*i* P	**Pn**		**07 26 45.8**	**+0.3**
MTVR				S	**Sb**		**07 27 07.4**	**+2.4**
MTVR	**Mutnovka**	**1.37**	**285**	PN	**Pn**		**07 26 45.8**	**+0.3**
MTVR				S	**Sb**		**07 27 07.4**	**+2.4**
UGLR	**Uglovaya**	**1.42**	**320**	*e*P	**Pn**		**07 26 46.4**	**+0.4**
UGLR				*e*S	**Sb**		**07 27 08.8**	**+2.6**
UGLR	**Uglovaya**	**1.42**	**320**	PN	**Pn**		**07 26 46.4**	**+0.4**
UGLR				S	**Sb**		**07 27 08.8**	**+2.6**
KDTR	**Khodutka, Kamc**	**1.45**	**258**	*i* P	**Pn**		**07 26 46.0**	**-0.3**
KDTR				S	**Sb**		**07 27 08.3**	**+1.4**
KDTR	**Khodutka, Kamc**	**1.45**	**258**	PN	**Pn**		**07 26 46.0**	**-0.3**
KDTR				S	**Sb**		**07 27 08.3**	**+1.4**
SDLR	**Sedlovina**	**1.45**	**322**	*e*P	**Pn**		**07 26 46.6**	**+0.1**
SDLR				S	**Sb**		**07 27 09.2**	**+2.1**
SDLR	**Sedlovina**	**1.45**	**322**	PN	**Pn**		**07 26 46.6**	**+0.1**
SDLR				S	**Sb**		**07 27 09.2**	**+2.1**
GRL	**Gorelyy**	**1.46**	**287**	P	**Pb**		**07 26 48.1**	**-1.0**
GRL	**Gorelyy**	**1.46**	**287**	PN	**Pb**		**07 26 48.1**	**-1.0**
SMAR	**Somma**	**1.47**	**321**	*e*P	**Pn**		**07 26 47.0**	**+0.2**
SMAR	**Somma**	**1.47**	**321**	PN	**Pn**		**07 26 47.0**	**+0.2**
AVH	**Avacha**	**1.49**	**320**	*e*P	**Pn**		**07 26 47.6**	**+0.5**
AVH				*e*S	**Sb**		**07 27 10.2**	**+1.8**
AVH	**Avacha**	**1.49**	**320**	PN	**Pn**		**07 26 47.6**	**+0.5**
AVH				S	**Sb**		**07 27 10.2**	**+1.8**
KRER	**Koryakskii**	**1.52**	**321**	*e*P	**Pn**		**07 26 48.0**	**+0.5**
KRER				*e*S	**Sb**		**07 27 11.4**	**+2.2**
KRER	**Koryakskii**	**1.52**	**321**	PN	**Pn**		**07 26 48.0**	**+0.5**
KRER				S	**Sb**		**07 27 11.4**	**+2.2**
KRMR	**Karymshinskiy**	**1.52**	**298**	*i* P	**Pn**		**07 26 47.7**	**+0.3**
KRMR				*e*S	**Sb**		**07 27 11.8**	**+2.7**
KRMR	**Karymshinskiy**	**1.52**	**298**	PN	**Pn**		**07 26 47.7**	**+0.3**
KRMR				S	**Sb**		**07 27 11.8**	**+2.7**
ASAK	**Asacha**	**1.53**	**280**	*e*P	**Pb**		**07 26 48.3**	**-2.0**
ASAK	**Asacha**	**1.53**	**280**	PN	**Pb**		**07 26 48.3**	**-2.0**
KOK	**Koryaka**	**1.56**	**319**	*e*P	**Pb**		**07 26 49.0**	**-1.8**
KOK	**Koryaka**	**1.56**	**319**	PN	**Pb**		**07 26 49.0**	**-1.8**
KRX	**Arik**	**1.60**	**320**	*e*P	**Pn**		**07 26 48.9**	**+0.3**
KRX	**Arik**	**1.60**	**320**	PN	**Pn**		**07 26 48.9**	**+0.3**
PEA0B	**Petropavlovsk-**	**1.89**	**302**	*e*Pn	**Pn**		**07 26 53.3**	**+0.9**
PEA0B	**Petropavlovsk-**	**1.89**	**302**	*e*PN	**Pn**		**07 26 53.3**	**+0.9**
PETK	**Petropavlovsk-**	**1.89**	**302**	*e*Pn	**Pn**		**07 26 53.0**	**+0.6**
PETK	**Petropavlovsk-**	**1.89**	**302**	P	**Pn**		**07 26 53.1**	**+0.8**
	comp=E,41nm,0.3s,baz=111,slow=18,SNR=300							
PETK				S	**Sb**		**07 27 18.4**	**-1.1**
	comp=E,100nm,0.3s,baz=222,slow=18,SNR=12							
APC	**Apacha**	**2.10**	**293**	*e*P	**Pn**

TUMD Tumrok D 3.07 1 *e*P Pn 07 27 07.9 -0.7
TUMR Tumrok 3.15 358 PN Pn 07 27 07.9 -2.0
ESO Esso 3.92 346 P Pn 07 27 21.8 +1.5
ESO Esso 3.92 346 PN Pn 07 27 21.8 +1.5
SRDR Sredinnyy 4.20 355 P Pn 07 27 25.1 +0.9
SRDR Sredinnyy 4.20 355 PN Pn 07 27 25.1 +0.9
KBTR Krutoberegovo 4.33 19 P Pn 07 27 24.4 -1.5
KBTR Krutoberegovo 4.33 19 PN Pn 07 27 24.4 -1.5
SRKR Sorokina 4.55 6 P Pn 07 27 30.4 +1.4
SRKR Sorokina 4.55 6 PN Pn 07 27 30.4 +1.4
SMY Shemya 8.43 81 *e*Pn Pn 07 28 20.7 -1.4
SMY Shemya 8.43 81 *e*PN Pn 07 28 20.7 -1.4
SEY Seymchan 11.62 342 P Pn 07 29 06.9 +1.1
comp=Z,0.1nm,0.3s,baz=191,slow=22,SNR=1.7
ASAJ Asahikawa 14.29 243 P P 07 29 46.2 -2.9
comp=Z,0.8nm,0.3s,baz=164,slow=34,SNR=2.3
BILL Bilibino 16.21 8 *e*Pn P 07 30 09.7 -0.5
comp=Z,7.7nm,0.8s
BILL Bilibino 16.21 8 *ce*P P 07 30 10.2 0.0
BILL *e*S Sn 07 33 08.3 +2.5
BILL pmax pmax
comp=Z,6.0nm,0.6s
BILL MLR MLR
comp=Z,114nm,16.0s
KLR Kul'dur 18.30 272 *i* P Pn 07 30 34.0 +0.4
KLR pmax pmax
comp=Z,4.0nm,0.9s
KLR Kul'dur 18.30 272 P Pn 07 30 34.0 +0.4
comp=Z,0.2nm,0.3s,baz=56,slow=9.6,SNR=12
USRK Ussuriysk Ar. 20.42 258 P P 07 30 55.3 -1.2
comp=Z,5.6nm,0.9s,baz=47,slow=10,SNR=6.8
MJA0 Matsu Arr-Jizo 22.07 234 *e*P P 07 31 16.9 +2.4
MJA0 pmax pmax
comp=Z,2.0nm,0.4s
MJB9 Matsu-Tunnel 22.09 234 *e*P P 07 31 15.8 +1.1
comp=Z,11nm,1.0s
MAJO Matsushiro 22.09 234 *e*P P 07 31 15.6 +0.9
comp=Z,11nm,1.0s
MAJO Matsushiro 22.09 234 *e*P P 07 31 15.6 +0.9
MAJO pmax pmax
comp=Z,11nm,1.0s
MAT Matsushiro 22.09 234 P P 07 31 15.6 +0.9
MJAR Matsushiro Arr 22.09 234 P P 07 31 16.4 +1.7
comp=Z,2.2nm,0.4s,baz=21,slow=9.2,SNR=9.1
TIXI Tiksi 24.02 336 *e*P P 07 31 31.9 -1.9
comp=Z,8.7nm,0.7s
TIXI Tiksi 24.02 336 *i* P P 07 31 32.0 -1.8
TIXI pmax pmax
comp=Z,8.0nm,0.7s
TIXI Tiksi 24.02 336 P P 07 31 32.1 -1.6
comp=Z,8.0nm,0.6s,baz=131,slow=8.9,SNR=30
KSRS Korea Array 27.02 250 *e*P P 07 32 03.9 +2.6
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS Korea Array 27.02 250 P P 07 32 01.9 +0.6
comp=Z,1.0nm,0.5s,baz=42,slow=9.4,SNR=6.4
BPAW Bear Paw Mtn. 27.59 45 *e*P P 07 32 00.5 -5.7
comp=Z,1.6nm,0.6s
TOLK Toolik Lake Re 28.64 36 *e*P P 07 32 15.7 +0.1
comp=Z,2.7nm,1.4s
ILAR Eielson Array 29.38 44 P P 07 32 24.7 +2.5
comp=Z,0.2nm,0.8s,baz=199,slow=9.5,SNR=3.1
H11N2 WAKE ISLAND Hy 32.75 169 T T 08 08 53.5
baz=352,slow=76,SNR=32
H11N3 WAKE ISLAND Hy 32.76 169 T T 08 08 51.6
baz=352,slow=76,SNR=23
H11N1 WAKE ISLAND Hy 32.77 169 T T 08 08 54.7
baz=352,slow=76,SNR=42
TLY Talaya 34.22 292 *i* P P 07 33 04.2 -0.6
SONM Songino Array 34.28 285 *e*P P 07 33 04.9 -0.6
SONM Songino Array 34.28 285 *e*P P 07 33 04.9 -0.6
INK Inuvik 34.53 37 P P 07 33 08.7 +1.5
comp=Z,0.6nm,0.8s,baz=263,slow=7.3,SNR=2.2
HHC Hu-ho-hao-te 34.80 271 *e*P P 07 33 11.5 +1.5
NRIK Noril'sk 36.78 326 P P 07 33 25.0 -1.5
comp=Z,0.9nm,0.5s,baz=96,slow=13,SNR=4.0
LZH Lanzhou 42.50 271 *e*P P 07 34 14.8 +0.2
LZH pP pwP 07 34 26.6 -0.7
LZH sP sP 07 34 31.4 +4.7
ZALV Zalesovo Beam 43.43 304 *e*P P 07 34 19.3 -2.4
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 43.43 304 P P 07 34 19.1 -2.6
comp=Z,1.1nm,0.5s,baz=54,slow=5.5,SNR=4.0
YKA Yellowknife Ar 43.76 42 P P 07 34 24.4 +0.1
comp=Z,0.1nm,0.4s,baz=297,slow=11,SNR=6.0
NVS Novosibirsk 43.79 305 *e*P P 07 34 21.4 -3.2
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=E,5.0nm,1.0s
RES Resolute Bay 44.15 22 P P 07 34 27.4 +0.2
comp=E,0.9nm,0.8s,baz=334,slow=3.6,SNR=4.1
DGZ Jazzator, Alta 44.24 297 *i* P P 07 34 27.4 -1.1
DGZ pmax pmax
comp=Z,3.0nm,0.9s
CD2 Chengdu 46.04 265 *e*P P 07 34 41.5 -1.4
WMQ Urumqi 47.44 290 *e*P P 07 34 55.3 +1.6
WMQ pP sP 07 35 03.4 -2.5
WMQ sP pwP 07 35 10.9 +5.2
SPA0 Spitsbergen Ar 48.10 351 *e*P P 07 34 58.5 +0.2
comp=Z,19nm,1.0s
SPITS Spitsbergen Ar 48.10 351 P P 07 34 57.8 -0.5
SPITS pmax pmax
comp=Z,3.0nm,0.4s
KURK Kurchatov 48.38 303 *e*P P 07 34 58.6 -2.2
comp=Z,8.4nm,1.0s
KURK Kurchatov 48.38 303 *ce*P P 07 34 59.0 -1.7
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURBB Kurchatov Arra 48.48 303 P P 07 34 59.3 -2.2
comp=Z,3.3nm,0.8s,baz=60,slow=7.7,SNR=15
KURBB PcP **PcP** 07 36 26.8 -0.4
comp=Z,0.2nm,0.5s,baz=59,slow=3.6,SNR=3.1
MK31 Makanchi Array 48.72 297 *e*P P 07 35 01.7 -1.8
comp=Z,1.6nm,0.6s
MK31 Makanchi Array 48.72 297 *e*P P 07 35 01.7 -1.8
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 48.72 297 *e*P P 07 35 01.6 -1.8
MKAR Makanchi Array 48.72 297 P P 07 35 01.5 -2.0
comp=Z,1.6nm,0.5s,baz=58,slow=7.1,SNR=17
MAKZ Makanchi 48.88 297 *e*P P 07 35 02.7 -2.0
comp=Z,2.6nm,0.9s
MAKZ Makanchi 48.88 297 *e*P P 07 35 02.7 -2.0
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 51.11 309 P P 07 35 19.8 -1.7
comp=Z,3.3nm,0.6s,baz=52,slow=9.6,SNR=16
BRVK Borovoye 51.14 309 *e*P P 07 35 20.5 -1.2
comp=Z,5.2nm,0.6s
BRVK Borovoye 51.14 309 *ce*P P 07 35 20.8 -0.9
BRVK pmax pmax
comp=Z,2.0nm,0.6s
OTUK Ortayu 53.13 303 P P 07 35 36.0 -0.6
OTUK pmax pmax
comp=Z,3.0nm,0.9s
ARU Arti 54.21 318 *d i*P P 07 35 44.2 -0.2
ARU 07 36 46.2
ARU 07 37 43.2
ARU S **S** 07 43 15.8 -3.1
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 54.21 318 P P 07 35 43.0 -1.3
comp=Z,1.8nm,0.2s,baz=71,slow=2.3,SNR=4.9
ARCES ARCESS Array B 54.24 342 P P 07 35 43.6 -0.9
comp=Z,2.9nm,0.9s,baz=43,slow=10.0,SNR=7.2
AAK Ala-Archa 55.64 297 *ce*P P 07 35 54.8 -0.4
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 55.64 297 P P 07 35 54.4 -0.8
comp=Z,1.1nm,0.5s,baz=31,slow=6.8,SNR=4.0
NVAR Mina Array Bea 55.92 70 P P 07 36 01.5 +4.2
comp=Z,0.2nm,0.3s,baz=322,slow=5.7,SNR=2.5
KSH Kashi 56.92 293 P P 07 36 08.0 +3.7
KKAR Karatay Array 57.49 300 *e*P P 07 36 07.1 -1.0
KKAR Karatay Array 57.49 300 *e*P P 07 36 07.1 -1.0
KLMR Klimovskoe 57.85 330 *e*P P 07 36 08.3 -2.0
KLMR pmax pmax
comp=Z,6.0nm,0.9s
PDAR Pinedale Array 57.85 60 P P 07 36 14.3 +3.4
comp=Z,0.2nm,0.4s,baz=9.3,slow=28,SNR=2.7
OUL Oulu 57.96 339 P P 07 36 11.7 +0.7
OUL pmax pmax
comp=Z,11nm,1.2s

CMAR Chiang Mai Arr 58.15 259 *e*P P 07 36 14.5 +1.5
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 58.15 259 P P 07 36 14.0 +1.0
comp=Z,2.9nm,0.8s,baz=28,slow=7.4,SNR=9.0
ABKAR Akbulak array 58.53 311 *e*P P 07 36 13.7 -1.5
AKTO Aktyubinsk 58.58 313 P P 07 36 14.4 -1.3
comp=Z,0.9nm,0.4s,baz=72,slow=12,SNR=4.7
RAMN Ramite 59.41 275 *e*P P 07 36 21.2 -0.8
comp=Z,22nm,0.5s
KKN Kakani 59.61 277 *e*P P 07 36 22.6 -0.7
PKI Pulchoki 59.69 277 *e*P P 07 36 23.3 -0.7
comp=Z,9.9nm,0.6s
PKIN Phulchoki 59.69 277 *e*P P 07 36 23.2 -0.7
comp=Z,9.1nm,0.7s
DMN Daman 59.85 277 *e*P P 07 36 24.4 -0.6
comp=Z,16nm,0.7s
SUF Sumiainen 59.94 338 P P 07 36 24.9 +0.1
SUF pmax pmax
comp=Z,17nm,1.8s
DANN Dangsing 60.13 279 *e*P P 07 36 26.5 -0.5
comp=Z,18nm,0.7s
KOLN Koldanda 60.65 278 *e*P P 07 36 29.4 -1.0
comp=Z,9.6nm,0.7s
PYUN Piuthan 60.78 279 *e*P P 07 36 30.6 -0.7
comp=Z,15nm,0.9s
FINES FINESS Array B 61.06 337 P P 07 36 32.2 -0.2
comp=Z,5.6nm,0.5s,baz=30,slow=8.5,SNR=53
NIL Nilore 62.59 290 *e*P P 07 36 42.6 -0.6
comp=Z,5.5nm,0.8s
NIL Nilore 62.59 290 *e*P P 07 36 42.6 -0.6
NIL pmax pmax
comp=Z,6.0nm,0.8s
NB201 NORSAR Array S 64.48 344 *e*P P 07 36 55.6 +0.4
comp=Z,6.9nm,0.8s
NB2 NORSAR Subarra 64.50 344 P P 07 36 54.9 -0.5
comp=Z,2.2nm,0.7s,baz=22,slow=6.5
NB2 NORSAR Subarra 64.50 344 P P 07 36 54.9 -0.5
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 64.50 344 P P 07 36 55.3 -0.1
comp=Z,2.5nm,0.7s,baz=22,slow=6.6,SNR=13
AKASG Malin Array Be 69.51 329 *e*P P 07 37 26.5 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 69.51 329 P P 07 37 26.5 -0.8
comp=Z,2.8nm,0.7s,baz=30,slow=6.4,SNR=7.8
KIEV Kiev 69.52 329 *e*P P 07 37 27.1 -0.3
comp=Z,4.0nm,0.8s
KIEV Kiev 69.52 329 *e*P P 07 37 27.1 -0.3
KIEV pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 70.24 317 *e*P P 07 37 32.0 -0.1
KIV pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 70.34 317 P P 07 37 32.0 -0.4
comp=Z,1.2nm,0.5s,baz=284,slow=1.5,SNR=4.7
TXAR Lajitas Array 70.87 67 P P 07 37 38.7 +2.6
comp=Z,0.2nm,0.6s,baz=309,slow=3.9,SNR=3.5
KOLS Kolonicke sedl 73.16 333 *e*P P 07 37 49.5 0.0
KOLS pmax pmax
comp=Z,2.0nm,0.7s
KOLS Kolonicke sedl 73.16 333 *e*P P 07 37 49.5 0.0
CLL Collm 73.30 339 *e*P P 07 37 50.0 -0.2
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 73.30 339 *e*P P 07 37 50.0 -0.2
comp=Z,4.0nm,1.0s
CLL Lm MLR 08 14 00.0
comp=Z,300nm,21.9s
BURAR Bucovina Array 73.48 330 *e*P P 07 37 51.7 +0.3
BURAR Bucovina Array 73.48 330 P P 07 37 51.7 +0.3
LANS Liptovska Anna 73.74 334 *e*P P 07 37 53.7 +0.8
LANS Liptovska Anna 73.74 334 *e*P P 07 37 53.7 +0.8
VYHS Vyhne 74.51 335 *e*P P 07 37 57.5 +0.2
VYHS pmax pmax
comp=Z,2.0nm,1.1s
VYHS Vyhne 74.51 335 *e*P P 07 37 57.5 +0.2
MLR Muntele Rosu 75.14 329 *e*P P 07 38 02.5 +1.3
comp=Z,3.4nm,0.6s
MLR Muntele Rosu 75.14 329 *e*P P 07 38 02.5 +1.3
MLR pmax pmax
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 75.28 205 P P 07 38 02.2 +0.2
comp=Z,0.3nm,0.7s,baz=20,slow=5.4,SNR=3.8
GERES GERESS Array B 75.45 338 *e*P P 07 38 03.6 +0.7
GERES GERESS Array B 75.45 338 *e*P P 07 38 02.0 -0.9
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 75.45 338 P P 07 38 02.9 0.0
comp=Z,0.6nm,0.6s,baz=352,slow=4.6,SNR=3.7
KBA Koelnbreinsper 77.20 338 P P 07 38 14.4 +1.5
KBA pmax pmax
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 77.46 321 P P 07 38 14.4 0.0
comp=Z,1.0nm,0.8s,baz=32,slow=7.3,SNR=4.9
TUE Stuetta 78.66 340 *e*P P 07 38 22.0 +0.9
comp=Z,4.4nm,0.8s
ASAR Alice Springs 78.95 205 P P 07 38 23.5 +0.9
comp=Z,0.4nm,0.7s,baz=13,slow=5.1,SNR=5.8
ESDC Sonseca Array 87.55 348 P P 07 39 06.1 -0.8
comp=Z,0.2nm,0.3s,baz=351,slow=5.9,SNR=3.1

SNET ***18*** *08:00:03.9±0.8, 4°.99N×79°.62W, h16km±999km, mb4.6(NEIC)*
ISCJB ***18*** *08:00:41.3±0.8, 6°.61N±0°.02×82°.35W±0°.02, h13km±5km, mb4.5/104, MS4.1/22, Error ellipse: s-maj=4.4km s-min=2.4km az=28.5*
IDC ***18*** *08:00:41.8±0.7, 6°.65N×82°.47W, h0km, mb3.9/10, mb1 4.3/14, mb1mx4.1/29, mbtmp4.1/14, ML3.9/4, MS4.1/26, Ms1 4.1/26, ms1mx4.0/31, Error ellipse: s-maj=24.0km s-min=14.8km az=57.0*
NEIC ***18*** *08:00:43.3±1.9, 6°.64N×82°.35W, h8km±4km, mb4.6/118, Error ellipse: s-maj=15.0km s-min=6.5km az=66.0*
UCR ***18*** *08:00:43.2±2.6, 6°.68N×82°.36W, h12km±21km, MD4.5, mb4.6(NEIC)*
GCMT ***18*** *08:00:46.3±0.2, 6°.51N±0°.01×82°.42W±0°.01, h20km±1km, MW5.1/96, Moment Tensor Solution. s40,c55; s96,c164; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=0.09±.18; $M_{\theta\theta}$=1.15±.14; $M_{\phi\phi}$=-1.06±.16; $M_{r\theta}$=0.83±.29; $M_{r\phi}$=5.82±.14; $M_{\theta r}$=-0.69±.28; Best double couple: M_0=6.02100×10^16^ NP1:φ=275.00000°, δ=84.00000°, λ=-8.00000°. NP2: φ=6.00000°, δ=82.00000°, λ=-174.00000°. Principal axes: T 5.9760, Plg=2.0000°, Azm=321.0000°; N 0.0940, Plg=80.0000°, Azm=61.0000°; P -6.0670, Plg=10.0000°, Azm=230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 08:00:44.7±0.6, 6°.58N±0°.05×82°.36W±0°.04, h20km±5km, n589, σ1=49/597, mb4.5/104, MS4.1/22, 10C-4D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**1.85**	**357**	*e*P	**Pn**	**08 01 13.0**	**-2.4**
DVD				*e*S	**Sn**	**08 01 35.8**	**-2.4**
PTJ1	**Puerto Jimnez**	**2.16**	**334**	↑*e*P	**Pn**	**08 01 16.3**	**-3.3**
PTJ1				*e*S	**Sn**	**08 01 43.3**	**-2.5**
TBS2		**2.22**	**352**	*e*P	**Pn**	**08 01 19.2**	**-1.4**
TBS2				*e*S	**Sn**	**08 01 45.9**	**-1.7**
BRU2	**Volcan**	**2.23**	**352**	*e*P	**Pn**	**08 01 18.6**	**-2.1**
BRU2				*e*S	**Sn**	**08 01 47.0**	**-0.7**
EDSV	**San Vito**	**2.31**	**345**	↑*i*P	**Pn**	**08 01 19.5**	**-2.3**
AZU	**Azuero**	**2.40**	**60**	*e*P	**Pn**	**08 01 20.4**	**-2.5**
AZU				*e*S	**Sn**	**08 01 48.6**	**-3.1**
AZU	**Azuero**	**2.40**	**60**	*e*P	**Pn**	**08 01 20.4**	**-2.5**
AZU				*e*S	**Sn**	**08 01 48.6**	**-3.1**
AZU	**Azuero**	**2.40**	**60**	‖*i*P	**Pn**	**08 01 20.4**	**-2.5**
AZU				*e*S	**Sn**	**08 01 47.8**	**-4.0**
EDPN	**Palmar Norte**	**2.61**	**335**	*e*P	**Pn**	**08 01 22.9**	**-2.9**
EDBA	**Buenos Aires**	**2.72**	**341**	↑*e*P	**Pn**	**08 01 25.3**	**-2.1**
PNME	**Penonome**	**2.77**	**47**	*e*P	**Pn**	**08 01 26.8**	**-1.3**
PNME				*e*S	**Sn**	**08 02 01.4**	**+0.5**
EDLM	**Las Mercedes**	**2.95**	**336**	*e*P	**Pn**	**08 01 28.2**	**-2.3**
EDDO	**Dominical**	**3.05**	**331**	↑*e*P	**Pn**	**08 01 29.0**	**-2.9**
ZANG	**Zanguenga, Cho**	**3.42**	**46**	‖*e*P	**Pn**	**08 01 35.3**	**-1.7**
PINA	**Piqa, Costa Ab**	**3.50**	**40**	*e*P	**Pn**	**08 01 37.4**	**-0.7**
PINA				*e*S	**Sn**	**08 02 20.0**	**+1.0**
BCIP	**Isla Barro Col**	**3.59**	**44**	*e*Pn	**Pn**	**08 01 38.3**	**-1.0**
BCIP	**Isla Barro Col**	**3.59**	**44**	*e*P	**Pn**	**08 01 38.2**	**-1.0**
BCIP				*e*S	**Sb**	**08 02 27.9**	**-2.8**
BCIP	**Isla Barro Col**	**3.59**	**44**	*e*P	**Pn**	**08 01 38.2**	**-1.0**
BCIP				*e*S	**Sb**	**08 02 27.9**	**-2.8**
BCIP	**Isla Barro Col**	**3.59**	**44**	*e*P	**Pn**	**08 01 37.9**	**-1.3**
BCIP				*e*S	**Sn**	**08 02 21.4**	**+0.3**
UPA	**Univ. de Panam**	**3.68**	**49**	‖*e*P	**Pn**	**08 01 38.8**	**-1.8**
UPA				*e*S	**Sn**	**08 02 22.0**	**-1.4**
FRIJ	**El Hiral**	**3.70**	**45**	*e*P	**Pn**	**08 01 39.3**	**-1.6**
SJS	**Escuela Geolog**	**3.74**	**333**	*e*P	**Pn**	**08 01 41.9**	**+0.4**
HDC	**Heredia**	**3.82**	**333**	*e*Pn	**Pn**	**08 01 41.0**	**-1.6**
HDC	**Heredia**	**3.82**	**333**	↑*i*P	**Pn**	**08 01 40.9**	**-1.6**
HDC				*e*S	**Sn**	**08 02 26.0**	**-1.0**
SRA1	**San Ramn**	**4.07**	**329**	↑*i*P	**Pn**	**08 01 43.5**	**-2.5**
FORC	**Fortuna**	**4.49**	**330**	*i* P	**Pn**	**08 01 51.2**	**-0.5**
FORC				*i* S	**Sn**	**08 02 42.9**	**-0.5**
JTS	**Las Juntas de**	**4.49**	**325**	Pn	**Pn**	**08 01 49.1**	**-2.6**
127nm,0.3s,baz=351,slow=24,SNR=625							
JTS				Sn	**Sn**	**08 02 41.2**	**-2.3**
68nm,0.3s,baz=130,slow=23,SNR=14							
JTS	**Las Juntas de**	**4.49**	**325**	↑*e*P	**Pn**	**08 01 49.2**	**-2.6**
JTS				*e*S	**Sn**	**08 02 41.2**	**-2.3**
CASO	**Castillo**	**4.49**	**329**	*i* P	**Pn**	**08 01 49.8**	**-2.0**
ARE1	**Arenal 1**	**4.51**	**329**	*e*P	**Pn**	**08 01 51.0**	**-1.0**
CEDE	**Laguna Cedeo**	**4.52**	**329**	↑*e*P	**Pn**	**08 01 50.8**	**-1.4**
UPD2	**Meteti**	**4.73**	**65**	*e*P	**Pn**	**08 01 56.3**	**+1.3**
UPD2				*e*S	**Sn**	**08 02 50.4**	**+1.0**
AMAS	**Alto Masis**	**4.78**	**327**	*i* P	**Pn**	**08 01 54.2**	**-1.5**
ACAL	**Aguas Claras**	**4.82**	**327**	*i* P	**Pn**	**08 01 55.0**	**-1.3**
ACAL				*i* S	**Sn**	**08 02 51.4**	**-0.2**
PTEN	**Parque Tenorio**	**4.86**	**328**	*i* P	**Pn**	**08 01 55.4**	**-1.5**
CUI	**Cuipilapa**	**4.91**	**326**	*i* P	**Pn**	**08 01 56.4**	**-1.1**
SOLC	**Bahia Solano**	**4.94**	**94**	*e*P	**Pn**	**08 01 55.1**	**-2.8**
SOLC	**Bahia Solano**	**4.94**	**94**	*e*P	**Pn**	**08 01 55.1**	**-2.8**
COLC	**Colonia**	**4.94**	**326**	*i* P	**Pn**	**08 01 56.7**	**-1.2**
GUAB	**Guayabo de Bag**	**4.99**	**326**	*i* P	**Pn**	**08 01 56.7**	**-1.9**
LIM1	**Limonal**	**4.99**	**325**	*i* P	**Pn**	**08 01 57.1**	**-1.5**
MESS	**Mesas**	**5.00**	**326**	*e*P	**Pn**	**08 01 57.4**	**-1.3**
GPS2	**Hotel Rincn d**	**5.09**	**325**	*i* P	**Pn**	**08 01 59.2**	**-0.9**
GPS1	**Guardaparques**	**5.11**	**325**	*i* P	**Pn**	**08 01 59.4**	**-0.9**
NY14	**Universidad de**	**5.12**	**322**	*i* P	**Pn**	**08 01 59.5**	**-0.8**
NY14				*i* S	**Sn**	**08 02 56.7**	**-2.2**
LAPC	**Finca la Perla**	**5.15**	**324**	*i* P	**Pn**	**08 01 59.9**	**-0.9**
BUEV	**Buena Vista**	**5.16**	**325**	‖*e*P	**Pn**	**08 01 59.4**	**-1.7**
GB1A	**Borinquen Arri**	**5.17**	**325**	*i* P	**Pn**	**08 02 00.2**	**-1.0**
GBS3	**Finca Las Img**	**5.18**	**324**	*i* P	**Pn**	**08 01 59.7**	**-1.5**
GBS3				*i* S	**Sn**	**08 03 00.5**	**+0.1**
ESPN	**Las Esperanzas**	**5.90**	**341**	*e*Pn	**Pn**	**08 02 09.0**	**-2.1**
ESPN	**Las Esperanzas**	**5.90**	**341**	*e*P	**Pn**	**08 02 09.0**	**-2.1**
ACON	**Acoyapa**	**6.03**	**333**	*e*Pn	**Pn**	**08 02 11.3**	**-1.6**
ACON	**Acoyapa**	**6.03**	**333**	↑*e*P	**Pn**	**08 02 11.7**	**-1.2**
PLMC	**San Jos del P**	**6.27**	**105**	*e*P	**Pn**	**08 02 15.2**	**-1.1**
PLMC	**San Jos del P**	**6.27**	**105**	*e*P	**Pn**	**08 02 15.2**	**-1.1**
YOTC	**Yotoco, Valle**	**6.52**	**113**	*e*P	**Pn**	**08 02 17.1**	**-2.7**
YOTC	**Yotoco, Valle**	**6.52**	**113**	*e*P	**Pn**	**08 02 17.1**	**-2.7**
HELC	**Santa Helena**	**6.80**	**93**	*e*P	**Pn**	**08 02 23.0**	**-0.8**
HELC	**Santa Helena**	**6.80**	**93**	*e*P	**Pn**	**08 02 23.0**	**-0.8**
BBAC	**Balboa, Cauca**	**6.82**	**131**	*e*P	**Pn**	**08 02 20.7**	**-3.3**
BBAC	**Balboa, Cauca**	**6.82**	**131**	*e*P	**Pn**	**08 02 20.7**	**-3.3**
UREC	**San Jos de Ur**	**6.88**	**80**	*e*P	**Pn**	**08 02 23.5**	**-1.0**
UREC	**San Jos de Ur**	**6.88**	**80**	*e*P	**Pn**	**08 02 23.5**	**-1.0**
POPC	**Popayan, Colom**	**6.94**	**125**	*e*P	**Pn**	**08 02 22.1**	**-3.6**
POPC	**Popayan, Colom**	**6.94**	**125**	*e*P	**Pn**	**08 02 22.1**	**-3.6**
GUY2C	**Guyana, Caldas**	**7.09**	**101**	*e*P	**Pn**	**08 02 28.5**	**+0.7**
GUY2C	**Guyana, Caldas**	**7.09**	**101**	*e*P	**Pn**	**08 02 28.5**	**+0.7**
MATN	**Matagalpa**	**7.22**	**331**	↑*i*P	**Pn**	**08 02 27.3**	**-2.1**
SOTA	**Rioblanco**	**7.24**	**127**	*e*P	**Pn**	**08 02 27.7**	**-2.3**
SOTA	**Rioblanco**	**7.24**	**127**	*e*P	**Pn**	**08 02 27.7**	**-2.3**
CNGN	**Cerro Negro**	**7.27**	**324**	*e*P	**Pn**	**08 02 28.9**	**-1.1**
PCON	**Cinco Dias**	**7.29**	**125**	*e*P	**Pn**	**08 02 29.9**	**-0.8**
PCON	**Cinco Dias**	**7.29**	**125**	*e*P	**Pn**	**08 02 29.9**	**-0.8**
GCUF	**Volcan Galeras**	**7.30**	**137**	*e*P	**Pn**	**08 02 28.4**	**-2.4**
GCUF	**Volcan Galeras**	**7.30**	**137**	*e*P	**Pn**	**08 02 28.4**	**-2.4**
CRUC	**La Cruz**	**7.34**	**132**	*e*P	**Pn**	**08 02 29.5**	**-1.7**
CRUC	**La Cruz**	**7.34**	**132**	*e*P	**Pn**	**08 02 29.5**	**-1.7**
MARP	**Paez Belalcaza**	**7.38**	**120**	*e*P	**Pn**	**08 02 31.4**	**-0.3**
MARP	**Paez Belalcaza**	**7.38**	**120**	*e*P	**Pn**	**08 02 31.4**	**-0.3**
OTAV	**Otavalo**	**7.41**	**148**	*e*Pn	**Pn**	**08 02 28.5**	**-3.8**
OTAV	**Otavalo**	**7.41**	**148**	*e*P	**Pn**	**08 02 30.0**	**-2.2**
OTAV	**Otavalo**	**7.41**	**148**	*e*P	**Pn**	**08 02 30.0**	**-2.2**
ZARC	**Zaragoza, Cauc**	**7.50**	**83**	*e*P	**Pn**	**08 02 32.5**	**-0.6**
ZARC	**Zaragoza, Cauc**	**7.50**	**83**	*e*P	**Pn**	**08 02 32.5**	**-0.6**
NORC	**Norcasia**	**7.52**	**97**	*e*P	**Pn**	**08 02 33.6**	**+0.2**
NORC	**Norcasia**	**7.52**	**97**	*e*P	**Pn**	**08 02 33.6**	**+0.2**
ESTN	**Estel**	**7.59**	**329**	*e*Pn	**Pn**	**08 02 33.4**	**-1.0**
ESTN	**Estel**	**7.59**	**329**	*e*P	**Pn**	**08 02 33.3**	**-1.1**
ESTN	**Estel**	**7.59**	**329**	*e*P	**Pn**	**08 02 33.3**	**-1.1**
ESTN				*e*S	**Sb**	**08 04 31.3**	**+5.3**
CRIN	**San Cristobal**	**7.64**	**323**	*e*P	**Pn**	**08 02 34.3**	**-0.8**
RCON	**San Juan de Ri**	**7.81**	**332**	*e*P	**Pn**	**08 02 35.3**	**-2.3**
SJCC	**San Jacinto, C**	**7.84**	**65**	*e*P	**Pn**	**08 02 37.4**	**-0.3**
SJCC	**San Jacinto, C**	**7.84**	**65**	*e*P	**Pn**	**08 02 37.4**	**-0.3**
SJCC	**San Jacinto, C**	**7.84**	**65**	*e*P	**Pn**	**08 02 38.0**	**+0.2**
PTBC	**PUERTO BERRIO,**	**7.86**	**90**	*e*P	**Pn**	**08 02 39.1**	**+1.1**
PTBC	**PUERTO BERRIO,**	**7.86**	**90**	*e*P	**Pn**	**08 02 39.1**	**+1.1**
PRAC	**Prado**	**7.97**	**111**	*e*P	**Pn**	**08 02 39.9**	**+0.3**
PRAC	**Prado**	**7.97**	**111**	*e*P	**Pn**	**08 02 39.9**	**+0.3**
SOMN	**Somoto**	**7.99**	**329**	*e*P	**Pn**	**08 02 39.4**	**-0.5**
ROSC	**El Rosal**	**8.19**	**102**	*e*Pn	Pn	08 02 47.8	+4.9
ROSC	**El Rosal**	**8.19**	**102**	Pn	Pn	08 02 49.0	+6.1
1.4nm,0.3s,baz=105,slow=15,SNR=4.5							
ROSC				Sn	**Sn**	**08 04 23.8**	**+8.7**
1.1nm,0.3s,baz=96,slow=22,SNR=2.6							
ROSC				LR	LR	08 05 05.2	
comp=Z,480nm,20.0s,baz=327,slow=32							
FLOC	**Florencia**	**8.33**	**126**	*e*P	**Pn**	**08 02 43.8**	**-0.7**
FLOC	**Florencia**	**8.33**	**126**	*e*P	**Pn**	**08 02 43.8**	**-0.7**
SMLC	**San Martn de**	**8.51**	**74**	*e*P	**Pn**	**08 02 49.1**	**+2.2**
SMLC	**San Martn de**	**8.51**	**74**	*e*P	**Pn**	**08 02 49.1**	**+2.2**
CNCH	**Conchagua**	**8.56**	**321**	*e*P	**Pn**	**08 02 48.3**	**+0.5**
CNCH	**Conchagua**	**8.56**	**321**	*e*P	**Pn**	**08 02 48.3**	**+0.5**
BRRC	**Barranca, Sant**	**8.61**	**86**	*e*P	**Pn**	**08 02 48.8**	**+0.5**
BRRC	**Barranca, Sant**	**8.61**	**86**	*e*P	**Pn**	**08 02 48.8**	**+0.5**
ARGC	**Ariguani, Magd**	**8.67**	**67**	*e*P	**Pn**	**08 02 50.3**	**+1.1**
ARGC	**Ariguani, Magd**	**8.67**	**67**	*e*P	**Pn**	**08 02 50.3**	**+1.1**
CHIC

0.2nm,0.3s,baz=348,slow=14,SNR=3.3
ATAH LR LR 08 08 54.9
comp=Z,2µm,19.3s,baz=343,slow=34
CMIG Matias Romero 16.09 312 Pn P 08 04 31.9 -1.4
1.1nm,0.3s,baz=144,slow=11,SNR=20
CMIG LR LR 08 10 01.9
comp=Z,945nm,20.5s,baz=123,slow=35
SDDR Presa de Saban 16.38 40 ePn Pn 08 04 33.4 -0.2
35nm,0.9s
BANI BANI 16.58 44 ePn P 08 04 42.1 +3.4
OBIP Obispado Ponce 19.13 52 eP Pn 08 05 07.8 +0.1
58nm,1.0s
AOPR Arecibo Observ 19.19 51 eP P 08 05 07.7 +0.2
74nm,0.9s
TLIG Tlapa 19.22 306 eP Pn 08 05 10.2 +1.2
21nm,1.0s
NNA Nana 19.24 163 P P 08 05 07.4 -0.7
1.3nm,0.3s,baz=211,slow=11,SNR=2.9
NNA LR LR 08 11 47.6
comp=Z,357nm,21.9s,baz=328,slow=34
SJG San Juan 19.53 53 eP Pn 08 05 13.5 +1.0
40nm,1.0s
SJG San Juan 19.53 53 P P 08 05 10.7 -0.4
1.8nm,0.3s,baz=214,slow=7.6,SNR=9.5
SJG LR LR 08 12 10.4
comp=Z,524nm,21.8s,baz=242,slow=35
059Z Ave Maria 19.67 2 P P 08 05 10.7 -1.9
baz=183
HUMP Col San Antoni 19.78 53 eP P 08 05 14.2 +0.3
51nm,1.0s
060Z West Palm Beac 19.79 5 P P 08 05 13.2 -0.7
baz=185
CBYP Canovanas 19.85 53 eP Pn 08 05 16.1 -0.2
42nm,1.0s
MTP Monte Pirata 20.00 54 eP P 08 05 15.8 -0.4
82nm,1.1s
CUPR Culebra, Puert 20.32 53 eP Pn 08 05 22.1 +0.3
76nm,0.9s
058A Arcadia 20.37 1 P P 08 05 19.2 -1.1
baz=182
CDVI St. Croix 20.45 56 eP P 08 05 20.8 -0.4
156nm,0.8s
STVI Saint Thomas 20.61 54 eP P 08 05 19.7 -3.2
44nm,0.9s
857A Zephyrhills 21.57 0 P P 08 05 32.5 -0.6
baz=180
757A Oxford 22.25 1 P P 08 05 39.4 -1.0
baz=181
554A Perry 23.42 357 P P 08 05 51.3 -1.2
baz=177
PTGA Pitinga 23.50 107 LR LR 08 15 05.1
comp=Z,611nm,18.1s,baz=286,slow=36
552A Lynn Haven 23.59 354 P P 08 05 54.6 +0.3
baz=173
454A Quitman 24.04 357 P P 08 05 57.1 -1.5
baz=177
453A Whigham 24.22 356 eP P 08 06 01.9 +1.6
18nm,0.9s
453A Whigham 24.22 356 P P 08 06 01.0 +0.8
baz=175
LNIG Linares 24.50 320 eP P 08 06 03.5 +0.6
34nm,1.3s
353A Camilla 24.70 356 P P 08 06 02.7 -1.9
baz=176
351A Pinckard 24.76 353 P P 08 06 03.9 -1.3
baz=172,SNR=7.1
TIGA Tifton 24.76 357 P P 08 06 04.8 -0.3
baz=177
BRAL Brewton 24.86 350 P P 08 06 06.8 +0.8
baz=169
352A Blakely 24.89 355 eP P 08 06 06.1 -0.3
29nm,1.0s
352A Blakely 24.89 355 P P 08 06 05.2 -1.1
baz=174
350A Dozier 24.99 352 P P 08 06 07.3 0.0
baz=171
349A Repton 25.06 350 P P 08 06 08.3 +0.4
baz=169
255A Hazlehurst 25.22 360 P P 08 06 09.8 +0.5
baz=180
254A Abbeville 25.25 358 P P 08 06 08.9 -0.7
baz=178
ZAIG Zacatecas 25.26 312 eP P 08 06 11.4 +1.3
7.2nm,1.1s
256A Glennville 25.28 1 P P 08 06 08.8 -1.0
baz=181
252A Lumpkin 25.39 355 P P 08 06 11.2 +0.4
baz=174
253A Americus 25.41 357 P P 08 06 10.3 -0.7
baz=176
250A Grady 25.53 352 P P 08 06 11.0 -1.1
baz=171
251A Midway 25.55 354 P P 08 06 12.3 +0.1
baz=173,SNR=6.5
249A Camden 25.66 351 P P 08 06 13.3 0.0
baz=169
154A Montrose 25.91 359 eP P 08 06 16.1 +0.5
23nm,0.9s
154A Montrose 25.91 359 P P 08 06 14.9 -0.7
baz=178
155A Kite 25.91 360 P P 08 06 14.9 -0.7
baz=180
156A Sylvania 25.96 2 P P 08 06 16.7 +0.7
baz=182
151A Opelika 25.97 354 P P 08 06 16.7 +0.6
baz=173
152A Waverly Hall 26.05 355 eP P 08 06 17.2 +0.3
15nm,1.1s
152A Waverly Hall 26.05 355 P P 08 06 17.3 +0.3
baz=175
150A Eclectic 26.12 353 P P 08 06 17.9 +0.4
baz=172
149A Jones 26.22 352 P P 08 06 18.7 +0.3
baz=170
NHSC New Hope 26.48 4 P P 08 06 20.9 +0.2
baz=185
Z54A Sparta 26.53 359 P P 08 06 21.4 +0.2
baz=179,SNR=5.7
Z52A Williamson 26.55 356 P P 08 06 21.5 +0.2
baz=175
Z53A Monticello 26.59 358 P P 08 06 21.7 0.0
baz=177
Z57A Bowman 26.63 3 P P 08 06 21.8 -0.2
baz=184
LRAL Lakeview Retre 26.68 351 eP P 08 06 23.4 +0.9
9.6nm,0.9s
LRAL Lakeview Retre 26.68 351 P P 08 06 23.0 +0.5
baz=170
Z59A Georgetown, SC 26.68 6 P P 08 06 22.9 +0.3
baz=187
GOGA Godfrey 26.72 358 eP P 08 06 23.1 +0.2
16nm,1.3s
GOGA Godfrey 26.72 358 P P 08 06 22.6 -0.3
baz=178
Z58A St. Stephen 26.73 5 P P 08 06 23.4 +0.5
baz=186
LPAZ La Paz 26.73 148 eP P 08 06 25.1 +1.3
5.4nm,1.3s
LPAZ La Paz 26.73 148 P P 08 06 24.8 +0.9
0.9nm,0.7s,baz=322,slow=7.8,SNR=4.1
LPAZ LR LR 08 17 58.1
comp=Z,1µm,21.9s,baz=313,slow=39
Z50A Ashland 26.75 353 eP P 08 06 23.4 +0.2
9.4nm,1.0s
Z50A Ashland 26.75 353 P P 08 06 21.3 -1.9
baz=172,SNR=5.3
Z49A Columbiana 26.77 352 P P 08 06 22.2 -1.1
baz=171
833A Chaparral WMA, 26.98 325 eP P 08 06 25.0 -0.3
40nm,1.0s
833A Chaparral WMA, 26.98 325 P P 08 06 25.0 -0.3
baz=140
Y54A Tignall 27.15 359 P P 08 06 25.7 -1.0
baz=179
Y53A Monroe 27.17 358 P P 08 06 27.5 +0.5
baz=177
Y52A Lilburn 27.20 357 eP P 08 06 27.6 +0.3
19nm,1.2s
Y52A Lilburn 27.20 357 P P 08 06 27.7 +0.5
baz=176
Y55A Saluda 27.23 1 P P 08 06 26.8 -0.6
baz=181
Y51A Rockmart 27.30 355 P P 08 06 28.9 +0.7
baz=174
Y50A Piedmont 27.36 354 P P 08 06 28.4 -0.3
baz=173
Y49A Blount Mountai 27.40 353 P P 08 06 29.1 +0.1
baz=171

HODGE Hodges 27.52 0 eP P 08 06 30.6 +0.5
14nm,1.3s
Y48A Jasper 27.56 351 P P 08 06 30.9 +0.4
baz=170
X55A Gracelyn & Ava 27.77 1 P P 08 06 31.3 -1.0
baz=182
X53A Estanollee 27.80 358 P P 08 06 31.6 -1.0
baz=178
X56A White Oak 27.81 2 P P 08 06 32.4 -0.2
baz=183
X57A Johnson Farm, 27.83 4 P P 08 06 33.3 +0.5
baz=185
X54A Belton 27.83 360 P P 08 06 31.5 -1.4
baz=180
X50B Fort Payne 27.91 354 P P 08 06 30.6 -3.1
baz=173
X52A Dahlonega 27.93 357 P P 08 06 31.9 -1.9
baz=177
X51A Calhoun 27.95 356 P P 08 06 31.7 -2.2
baz=175
435B Jarrell 28.00 331 eP P 08 06 33.2 -1.2
14nm,0.8s
X49A Woodville 28.04 353 P P 08 06 33.3 -1.5
baz=172
Z41A Richland Creek 28.26 341 P P 08 06 35.1 -1.6
baz=158
BG3 Lake Jocassee 28.28 359 eP P 08 06 37.4 +0.5
9.1nm,1.0s
W52A Murphy 28.41 357 P P 08 06 37.4 -0.7
baz=177
KMSC Kings Mountain 28.44 2 P P 08 06 38.1 -0.2
baz=182
W56A Indian Trail 28.47 3 P P 08 06 37.9 -0.6
baz=184
MNMC Minye Minye 28.48 154 eP P 08 06 38.9 -0.1
10nm,1.0s
W51A Cleveland 28.53 356 P P 08 06 35.7 -3.4
baz=175
W50A Signal Mountai 28.61 355 eP P 08 06 39.2 -0.7
7.9nm,0.9s
W50A Signal Mountai 28.61 355 P P 08 06 38.0 -1.9
baz=174
W49A Belvidere 28.63 353 P P 08 06 37.4 -2.6
baz=172
SWET Sewanee 28.69 354 eP P 08 06 40.6 0.0
5.5nm,0.8s
W48A Pulaski 28.73 352 P P 08 06 39.5 -1.5
baz=170
CPCT Cooper Cave 28.80 356 eP P 08 06 41.4 -0.1
13nm,1.3s
JCT Junction City 28.87 328 eP P 08 06 41.6 -0.7
17nm,1.4s
JCT Junction City 28.87 328 P P 08 06 41.0 -1.3
baz=142
W47A Westpoint 28.94 351 P P 08 06 41.3 -1.5
baz=169
WHTX Lake Whitney, 28.95 333 P P 08 06 41.4 -1.5
baz=148
V53A Saluda 28.96 359 P P 08 06 41.5 -1.5
baz=179
V54A Nebo 29.06 1 P P 08 06 42.8 -1.0
baz=181
V50A Pikevile 29.06 355 P P 08 06 42.0 -1.8
baz=174
V51A Loudon 29.14 357 P P 08 06 43.9 -0.6
baz=176
V52A Sevierville 29.15 358 eP P 08 06 43.8 -0.8
8.7nm,1.1s
V52A Sevierville 29.15 358 P P 08 06 43.6 -1.0
baz=178
V55A Taylorsville 29.15 2 P P 08 06 44.9 +0.2
baz=182
V58A Windy Hill, Pi 29.23 5 P P 08 06 43.9 -1.4
baz=187
V49A McMinnville 29.23 354 P P 08 06 43.5 -1.8
baz=173
V59A Middlesex 29.29 7 P P 08 06 44.1 -1.8
baz=188
V48A Smith Brothers 29.31 353 eP P 08 06 45.5 -0.6
8.3nm,0.8s
V48A Smith Brothers 29.31 353 P P 08 06 45.4 -0.6
baz=171
V47A Nunnelly 29.49 351 P P 08 06 46.2 -1.5
baz=170
V46A Holladay 29.56 350 P P 08 06 46.4 -1.8
baz=168
MDP Montagnes des 29.60 91 LR LR 08 20 48.9
comp=Z,341nm,18.2s,baz=274,slow=41
U53A Fall Branch 29.65 360 P P 08 06 48.8 -0.3
baz=180
U56A King 29.68 3 P P 08 06 50.0 +0.6
baz=184
U52A Thorn Hill 29.69 358 P P 08 06 48.0 -1.4
baz=178
MIAR Mount Ida 29.70 341 P P 08 06 48.6 -0.8
baz=157
U51A La Follette 29.70 357 P P 08 06 48.5 -1.0
baz=177
U50A Jamestown 29.79 356 P P 08 06 49.6 -0.7
baz=175
U55A TA2, Sparta 29.81 2 P P 08 06 48.7 -1.9
baz=183
WVT Waverly 29.84 351 eP P 08 06 50.7 0.0
6.4nm,1.3s
WVT Waverly 29.84 351 P P 08 06 47.7 -3.0
baz=169
U57A Blanch 29.84 5 P P 08 06 49.8 -1.0
baz=186
TZTN Tazewell 29.85 358 P P 08 06 50.2 -0.6
baz=178
W41B Gary Mavity, V 29.88 344 eP P 08 06 49.4 -1.7
9.5nm,1.3s
W41B Gary Mavity, V 29.88 344 P P 08 06 49.9 -1.2
baz=160
U58A Oxford 29.88 6 P P 08 06 51.7 +0.6
baz=188
U49A Red Boiling Sp 29.96 354 P P 08 06 51.1 -0.6
baz=173
WHAR Wooly Hollow 30.00 344 eP P 08 06 51.5 -0.7
11nm,1.1s
U48A Cassie Pea, Po 30.04 353 P P 08 06 52.7 +0.2
baz=172
U47A Clarksville 30.06 352 P P 08 06 52.9 +0.2
baz=170
U60A Pendleton 30.13 8 P P 08 06 52.3 -1.0
baz=190
T53A Wise 30.26 360 P P 08 06 53.5 -1.1
baz=180
TXAR Lajitas Array 30.27 321 eP P 08 06 54.0 -0.7
TXAR Lajitas Array 30.27 321 P P 08 06 54.7 0.0
0.2nm,0.6s,baz=99,slow=17,SNR=4.9
TXAR PcP PcP 08 09 56.5 +1.2
0.2nm,0.7s,baz=141,slow=3.3,SNR=2.6
TXAR LR LR 08 20 47.7
comp=Z,192nm,20.2s,baz=0.0,slow=40
T51A Gray 30.28 357 P P 08 06 54.0 -0.6
baz=177
T54A Tazewell 30.35 1 P P 08 06 54.3 -1.1
baz=182
W39A Magazine 30.36 341 P P 08 06 54.1 -1.2
baz=157
T56A Rocky Mt 30.39 4 P P 08 06 55.9 +0.4
baz=185
T50A Nancy 30.39 356 P P 08 06 55.8 +0.2
baz=175
T52A Hallie 30.39 359 P P 08 06 55.8 +0.2
baz=179
T55A Pulaski 30.43 2 P P 08 06 55.9 -0.1
baz=183
T49A Edmonton 30.52 355 eP P 08 06 56.5 -0.2
5.0nm,0.8s
T49A Edmonton 30.52 355 P P 08 06 56.5 -0.2
baz=174
BLA Blacksburg 30.54 3 P P 08 06 57.2 +0.2
baz=184
T47A Sharon Grove 30.58 353 eP P 08 06 57.9 +0.7
8.3nm,1.0s
T47A Sharon Grove 30.58 353 P P 08 06 57.1 -0.1
baz=171
T48A Bowling Green 30.61 354 P P 08 06 56.1 -1.4
baz=172
T46A Princeton 30.74 351 P P 08 06 57.6 -1.0
baz=169
U41A Viola 30.89 345 P P 08 06 59.3 -0.8
baz=161
S51A Beattyville 30.94 358 eP P 08 06 59.8 -0.7
18nm,0.9s
S51A Beattyville 30.94 358 P P 08 06 59.4 -1.0

baz=178
S52A Salyersville 30.97 359 P P 08 06 59.3 -1.4
baz=179
S50A Richmond 31.01 357 P P 08 06 58.4 -2.7
baz=176
S55A Lewisburg 31.10 3 P P 08 07 01.6 -0.2
baz=184
S48A Wiedeman Farm, 31.12 354 P P 08 07 01.6 -0.4
baz=173
S47A Hartford 31.15 353 P P 08 07 01.6 -0.7
baz=171
U40A Yellville 31.16 343 P P 08 07 01.6 -0.8
baz=160
S49A Springfield 31.18 356 P P 08 07 01.9 -0.7
baz=174
R54A Victor 31.48 2 P P 08 07 04.8 -0.4
baz=183
R58B Mineral 31.51 7 P P 08 07 04.7 -0.7
baz=188
R51A Hillsboro 31.60 358 P P 08 07 06.1 -0.1
baz=178
S44A Carbondale 31.60 350 P P 08 07 04.4 -1.8
baz=167
R50A Paris 31.61 357 P P 08 07 06.5 +0.1
baz=176
R53A Hurricane 31.61 1 P P 08 07 06.6 +0.3
baz=181
R49A Shelbyville 31.67 356 P P 08 07 05.5 -1.4
baz=175
WCI Wyandotte Cave 31.71 354 eP P 08 07 06.7 -0.5
22nm,1.3s
WCI Wyandotte Cave 31.71 354 P P 08 07 06.2 -1.0
baz=173
R47A Wooly Knot Far 31.80 354 P P 08 07 07.4 -0.6
baz=172
R58A Rapidan 31.82 7 P P 08 07 08.6 +0.4
baz=188
R46A Gibon Southern 31.84 352 P P 08 07 08.9 +0.6
baz=170
R48A Northridge Ran 31.84 355 P P 08 07 08.7 +0.4
baz=173
WMOK Wichita Mounta 31.86 334 P P 08 07 06.7 -1.9
baz=148
R45A Skylar, Fairfi 32.02 351 P P 08 07 10.3 +0.3
baz=169
S41A Jillco Farms, 32.03 346 P P 08 07 10.4 +0.3
baz=162
Q53A Leroy 32.15 1 P P 08 07 11.0 -0.1
baz=182
Q52A Bidwell 32.24 0 P P 08 07 11.6 -0.3
baz=180
Q51A Peebles 32.32 359 eP P 08 07 12.2 -0.3
22nm,0.9s
Q51A Peebles 32.32 359 P P 08 07 12.4 -0.1
baz=178
Q55A Buckhannon 32.34 3 P P 08 07 12.9 +0.1
baz=184
Q48A North Vernon 32.35 355 P P 08 07 11.6 -1.2
baz=174
CCM Cathedral Cave 32.36 347 eP P 08 07 12.5 -0.4
7.6nm,0.9s
CCM Cathedral Cave 32.36 347 P P 08 07 11.4 -1.5
baz=163
Q49A Aurora 32.36 356 P P 08 07 11.8 -1.1
baz=175
Q47A Bedord North L 32.42 354 P P 08 07 12.3 -1.1
baz=172
OLIL Olney 32.43 352 eP P 08 07 14.4 +0.9
21nm,1.3s
Q57A Strasburg 32.51 6 P P 08 07 13.1 -1.1
baz=187
Q45A Warren Harvey, 32.60 352 P P 08 07 13.7 -1.3
baz=169
R41A Rosebud 32.62 347 P P 08 07 12.5 -2.7
baz=163
BLO Bloomington 32.67 354 eP P 08 07 15.4 -0.2
11nm,0.9s
P53A Whipple 32.78 1 eP P 08 07 15.7 -0.8
10nm,0.9s
P53A Whipple 32.78 1 P P 08 07 14.8 -1.8
baz=182
P48A Milroy 32.85 356 P P 08 07 15.1 -2.2
baz=174
P55A Reedsville 32.87 4 P P 08 07 16.3 -1.0
baz=185
P50A Jamestown 32.91 358 P P 08 07 17.1 -0.7
baz=177
P52A Corning 32.91 0 P P 08 07 17.1 -0.6
baz=180
P47A Martinsville 32.95 354 P P 08 07 17.0 -1.1
baz=173
MNTX Cornudas Mount 32.97 322 eP P 08 07 19.3 +0.9
8.9nm,1.3s
MNTX Cornudas Mount 32.97 322 P P 08 07 16.8 -1.6
baz=134,SNR=9.8
MCWV Mont Chateau 33.01 4 P P 08 07 17.4 -1.2
baz=185
P45A Graceland, Par 33.16 352 P P 08 07 19.1 -0.8
baz=170
MSTX Muleshoe 33.16 328 eP P 08 07 19.9 -0.3
9.0nm,1.0s
MSTX Muleshoe 33.16 328 P P 08 07 18.5 -1.7
baz=141
O52A Adamsville 33.40 1 P P 08 07 20.9 -1.1
baz=181
O51A Pataskala 33.42 360 P P 08 07 20.9 -1.3
baz=180
O50A Cable 33.44 358 P P 08 07 21.3 -1.1
baz=178
O54A Avella 33.51 3 P P 08 07 22.2 -0.8
baz=184
O49A Covington 33.51 357 P P 08 07 22.3 -0.7
baz=176
ACSO Alum Creek Sta 33.51 359 eP P 08 07 22.5 -0.5
19nm,0.9s
ACSO Alum Creek Sta 33.51 359 P P 08 07 22.2 -0.8
baz=179
O53A New Philadelph 33.54 2 P P 08 07 22.7 -0.5
baz=182
P43A Skaggs, Pawnee 33.54 350 P P 08 07 22.7 -0.5
baz=167
O55A Ligonier 33.60 4 P P 08 07 23.2 -0.6
baz=186
O48A Farmland 33.63 356 P P 08 07 23.4 -0.6
baz=175
O47A Sheridan 33.69 355 P P 08 07 23.7 -0.8
baz=173
O56A Blue Knob Stat 33.72 5 P P 08 07 24.1 -0.7
baz=187
O44A Mansfield 33.88 352 P P 08 07 25.0 -1.2
baz=169
N50A Nevada 34.05 359 P P 08 07 27.4 -0.3
baz=179
N55A Marion Center 34.19 5 P P 08 07 28.2 -0.7
baz=186
N51A Ashland 34.19 360 P P 08 07 28.0 -0.9
baz=180
N48A Decatur 34.22 356 P P 08 07 28.3 -0.8
baz=175
N49A Columbus Grove 34.24 358 P P 08 07 28.5 -0.8
baz=177
N47A Urbana 34.28 356 P P 08 07 28.9 -0.8
baz=174
N54A Moraine State 34.30 3 P P 08 07 28.9 -1.0
baz=184
HDIL Hopedale 34.40 351 P P 08 07 28.9 -1.8
baz=168
N44A Piper City 34.46 352 P P 08 07 29.4 -1.8
baz=170
M49A Liberty Center 34.78 358 P P 08 07 33.0 -1.0
baz=177
M55A Ridgway 34.89 5 P P 08 07 33.9 -1.0
baz=186
M43A Waltham Townsh 35.21 351 P P 08 07 37.0 -0.6
baz=169
319A Douglas 35.25 318 eP P 08 07 38.8 +0.5
12nm,1.1s
L48A N Adams 35.27 357 P P 08 07 37.5 -0.7
baz=176
L47A Sherwood 35.34 356 P P 08 07 38.2 -0.6
baz=175
BNM Barren Site 35.44 324 eP P 08 07 40.9 +0.8
Y22D IRIS PASSCAL I 35.56 324 eP P 08 07 43.1 +2.1
38nm,1.4s
L54A Sinclairville 35.61 4 P P 08 07 41.3 +0.1
baz=185
L55A Hinsdale 35.63 5 P P 08 07 41.3 0.0
baz=187

LENM	Lemitar	35.65	324	eP	P	08 07 42.5 +0.7
ANMO	Albuquerque	35.91	325	eP	P	08 07 44.2 +0.2
	8.6nm,1.0s					
TASM	ASL Pad, Albuq	35.91	325	P	P	08 07 44.0 -0.1
	baz=136,SNR=10					
TASM	ASL Pad, Albuq	35.91	325	P	P	08 07 44.1 0.0
	baz=136,SNR=10					
LAZ	Ladron	35.92	324	eP	P	08 07 44.8 +0.7
K47A	Vermontville	36.02	357	P	P	08 07 43.8 -0.8
	baz=176					
K46A	Dorr	36.09	356	P	P	08 07 43.8 -1.4
	baz=174					
K48A	Perry	36.11	358	P	P	08 07 44.1 -1.2
	baz=177					
K55A	Perry	36.20	5	P	P	08 07 45.5 -0.7
	baz=187					
L40A	Anamosa	36.20	349	eP	P	08 07 45.7 -0.4
	15nm,1.1s					
L40A	Anamosa	36.20	349	P	P	08 07 45.6 -0.5
	baz=165					
T25A	Trinidad	36.46	330	P	P	08 07 47.4 -1.3
	baz=141					
K40A	Colesburg	36.80	349	P	P	08 07 50.3 -1.0
	baz=165					
TUC	Tucson	36.83	318	eP	P	08 07 51.4 -0.4
	7.4nm,1.5s					
TUC	Tucson	36.83	318	P	P	08 07 50.9 -0.9
	baz=128					
I51A	Listowel	37.10	2	P	P	08 07 52.5 -1.2
	baz=182					
J41A	Loganville	37.25	351	P	P	08 07 54.3 -0.9
	baz=167					
BWLO	Walkerton	37.41	1	P	P	08 07 55.0 -1.4
	baz=182					
SDCO	Great Sand Dun	37.48	329	eP	P	08 07 56.9 -0.6
	12nm,1.4s					
SDCO	Great Sand Dun	37.48	329	P	P	08 07 56.5 -1.0
	baz=140,SNR=11					
PECO	Prince Edward	37.51	6	P	P	08 07 56.2 -1.0
	baz=189					
I42A	Draeger Farm,	37.61	352	P	P	08 07 56.9 -1.2
	baz=169					
X18A	Snowflake	37.70	321	eP	P	08 07 59.9 +0.6
	5.5nm,1.0s					
I55A	Frankford	37.71	6	P	P	08 07 56.4 -2.5
	baz=188					
BMRO	Meriville Lake	37.88	1	P	P	08 07 57.9 -2.5
	baz=182					
H46A	Fife Lake	37.90	357	P	P	08 07 59.5 -1.0
	baz=175					
W18A	Petrified Fore	37.96	322	eP	P	08 08 03.7 +2.2
	16nm,0.8s					
H52A	Wyevale	37.98	3	P	P	08 08 00.2 -1.0
	baz=184					
H55A	Tweed	38.09	6	P	P	08 08 01.2 -1.0
	baz=186					
S22A	4UR Ranch, Cre	38.17	328	eP	P	08 08 03.8 +0.5
	11nm,1.2s					
S22A	4UR Ranch, Cre	38.17	328	P	P	08 08 03.7 +0.3
	baz=138,SNR=8.0					
H56A	Elgin	38.24	7	P	P	08 08 02.1 -1.4
	baz=190					
G47A	Hillman	38.47	358	P	P	08 08 03.6 -1.8
	baz=178					
TOBO	Tobermory, Bru	38.51	1	P	P	08 08 02.7 -2.9
	baz=181					
G53A	Haliburton	38.53	4	P	P	08 08 04.1 -1.8
	baz=186					
H40A	Chili	38.54	351	P	P	08 08 03.7 -2.3
	baz=167					
PLVO	Plevna	38.59	6	eP	P	08 08 04.5 -1.8
	9.0nm,1.1s					
PLVO	Plevna	38.59	6	P	P	08 08 05.8 -0.6
	baz=188					
MVCO	Mesa Verde	38.68	326	eP	P	08 08 08.1 +0.5
	30nm,1.4s					
MVCO	Mesa Verde	38.68	326	P	P	08 08 07.7 +0.1
	baz=136,SNR=9.4					
H39A	Augusta	38.74	350	P	P	08 08 06.4 -1.3
	baz=166					
BUKO	Buck Lake	38.80	3	P	P	08 08 06.9 -1.2
	baz=185					
G42A	Mountain	38.88	353	P	P	08 08 07.1 -1.6
	baz=170					
H38A	Maiden Rock	38.93	349	P	P	08 08 08.0 -1.2
	baz=164					
F49A	Sandfield	39.04	0	P	P	08 08 09.1 -1.0
	baz=180					
ECSD	EROS Data Cent	39.07	344	P	P	08 08 07.6 -2.8
	baz=157					
F48A	Evansville	39.10	360	P	P	08 08 09.3 -1.4
	baz=180					
ISCO	Idaho Springs	39.12	331	P	P	08 08 09.4 -2.0
	baz=142					
G40A	Rib Lake	39.14	351	P	P	08 08 08.7 -2.3
	baz=168					
F52A	Sundridge	39.16	3	P	P	08 08 09.7 -1.4
	baz=185					
ORIO	Orleans, Innes	39.18	8	P	P	08 08 09.9 -1.4
	baz=191					
PEMO	Pembroke	39.20	6	P	P	08 08 08.9 -2.6
	baz=188					
WUAZ	Wupatki	39.23	321	eP	P	08 08 12.6 +0.5
	9.1nm,1.0s					
WUAZ	Wupatki	39.23	321	P	P	08 08 12.3 +0.1
	baz=130,SNR=7.4					
F51A	Arnstein	39.26	3	P	P	08 08 09.4 -2.6
	baz=184					
Y14A	Wickenburg	39.30	318	eP	P	08 08 13.2 +0.6
	6.0nm,1.3s					
G39A	Holcombe	39.31	350	P	P	08 08 09.8 -2.7
	baz=166					
SMCO	Snowmass	39.32	329	eP	P	08 08 13.4 +0.4
	8.3nm,1.1s					
G38A	Ridgeland	39.32	349	P	P	08 08 11.4 -1.1
	baz=165					
PV01	Paradox Valley	39.39	327	eP	P	08 08 13.7 +0.2
	7.5nm,1.2s					
ALGO	Algonquin Park	39.41	5	P	P	08 08 11.7 -1.5
	baz=187					
F44A	Big Bay de Noc	39.41	356	P	P	08 08 12.0 -1.1
	baz=174					
ALFO	Alfred	39.44	8	P	P	08 08 12.4 -1.1
	baz=192					
F41A	Three Lakes	39.45	353	P	P	08 08 12.3 -1.3
	baz=169					
PV02	Paradox Valley	39.53	327	eP	P	08 08 15.3 +0.7
	19nm,1.2s					
PV13	Radium Mtn., P	39.54	327	eP	P	08 08 14.9 +0.1
	17nm,1.0s					
E46A	Sault Ste Mari	39.68	358	P	P	08 08 14.1 -1.4
	baz=177					
E50A	Wahnapitae	39.72	2	P	P	08 08 14.5 -1.3
	baz=182					
E47A	Iron Bridge	39.74	359	P	P	08 08 14.6 -1.4
	baz=179					
E48A	Lockeyer	39.76	0	P	P	08 08 14.5 -1.6
	baz=180					
F40A	Park Falls	39.77	352	P	P	08 08 14.4 -1.8
	baz=168					
E51A	G1948 Merrick	39.88	3	P	P	08 08 15.8 -1.4
	baz=184					
PV21	Cone Mtn., Par	39.91	327	eP	P	08 08 18.4 +0.5
	6.1nm,0.9s					
E42A	Champion	39.99	354	P	P	08 08 16.2 -1.9
	baz=171					
N23A	Red Feather La	40.14	332	P	P	08 08 18.0 -1.8
	baz=142					
D46A	Sault St. Mari	40.19	358	P	P	08 08 16.7 -3.0
	baz=177					
E40A	Wakefield	40.25	352	P	P	08 08 17.6 -2.7
	baz=168					
E39A	Mellen	40.28	351	P	P	08 08 17.8 -2.7
	baz=167					
D47A	Chapleau	40.34	359	P	P	08 08 19.5 -1.4
	baz=179					
U15A	North Rim	40.39	322	eP	P	08 08 22.5 +0.6
	6.8nm,1.0s					
D48A	Paudash Townsh	40.45	1	P	P	08 08 19.7 -2.2
	baz=181					
D53A	Lac Vacive, Po	40.55	5	P	P	08 08 21.4 -1.4
	baz=187					
BDFB	Brasilia	40.55	123	LR	LR	08 24 50.7
	comp=Z,406nm,19.1s,baz=298,slow=36					
D49A	Beulah Townshi	40.56	1	P	P	08 08 21.5 -1.3
	baz=182					
W13A	Hualapai Mount	40.58	319	eP	P	08 08 23.9 +0.5
	6.6nm,1.1s					
D54A	Lac Fusel, La	40.72	6	P	P	08 08 22.2 -1.9
	baz=189					
CPUP	Villa Florida	40.74	144	LR	LR	08 27 22.0
	comp=Z,338nm,19.5s,baz=318,slow=39					
PKCU	Pink Cliffs	41.06	323	eP	P	08 08 28.3 +0.9
	36nm,1.3s					
KNB	Kanab	41.09	322	eP	P	08 08 28.8 +1.2
	11nm,1.2s					
LCMT	Little Creek M	41.35	322	eP	P	08 08 29.8 +0.2
	4.8nm,1.3s					
Q16A	Castle Valley	41.38	325	eP	P	08 08 31.0 +1.0
	6.5nm,1.1s					
SZCU	Shurtz Canyon	41.62	322	eP	P	08 08 33.1 +1.1
	9.5nm,1.4s					
RSSD	Black Hills	41.94	337	P	P	08 08 33.3 -1.1
	baz=147					
SHPR	Sheep Range	42.25	320	eP	P	08 08 37.1 +0.1
	5.1nm,1.2s					
MPU	Maple Canyon	42.40	326	eP	P	08 08 38.6 +0.4
	7.6nm,1.1s					
LSQQ	Lebel-sur-Quev	42.58	5	P	P	08 08 38.4 -0.9
	baz=188					
PSUT	Pine Spring	42.69	323	eP	P	08 08 41.2 +0.5
	7.7nm,0.9s					
CTU	Camp Tracy	42.94	327	eP	P	08 08 42.8 +0.3
	11nm,1.0s					
LRRC	Littlerock Res	43.06	315	eP	P	08 08 40.9 -2.5
AGMN	Agassiz Nation	43.13	347	P	P	08 08 42.8 -1.0
	baz=160					
DUG	Dugway, Tooele	43.18	325	P	P	08 08 43.1 -1.4
	baz=133					
TPNV	Topopah Spring	43.21	319	P	P	08 08 43.0 -1.9
	baz=126					
BW06	Boulder Array	43.30	331	eP	P	08 08 44.5 -1.2
	10nm,1.3s					
BW06	Boulder Array	43.30	331	P	P	08 08 44.4 -1.2
	baz=139					
PDAR	Pinedale Array	43.30	331	eP	P	08 08 44.2 -1.4
PDAR	Pinedale Array	43.30	331	P	P	08 08 44.0 -1.6
	1.0nm,0.8s,baz=140,slow=9.5,SNR=10					
PDAR				LR	LR	08 31 07.2
	comp=Z,127nm,18.2s,baz=133,slow=42					
R11A	Troy Canyon, C	43.63	321	P	P	08 08 47.6 -0.6
	baz=128					
BGU	Big Grassy Mou	43.80	326	eP	P	08 08 49.3 -0.2
	16nm,1.5s					
REDW	Red Top Meadow	44.38	330	eP	P	08 08 53.7 -0.5
	15nm,1.3s					
MOOW	Moose Ponds	44.61	331	eP	P	08 08 55.3 -0.8
	8.7nm,1.4s					
FXWY	Fox Creek	44.67	330	eP	P	08 08 56.3 -0.2
	4.1nm,1.0s					
GATR	Gnd/Air Tx Cnt	44.83	314	eP	P	08 08 53.7 -4.0
LAO	LASA Array	44.93	337	P	P	08 08 57.4 -1.0
	baz=145					
ELK	Elko	44.93	324	eP	P	08 08 58.3 -0.4
	3.7nm,0.9s					
RLMT	Red Lodge	44.96	333	P	P	08 08 57.5 -1.3
	baz=140					
ULM	Lac du Bonnet	44.98	348	eP	P	08 08 58.0 -0.5
	10nm,1.0s					
ULM	Lac du Bonnet	44.98	348	P	P	08 08 55.4 -3.2
	5.4nm,0.9s,baz=156,slow=9.2,SNR=5.6					
ULM				LR	LR	08 28 12.9
	comp=Z,223nm,20.6s,baz=148,slow=37					
H17A	Grant Village	45.01	331	P	P	08 08 57.8 -1.5
	baz=138					
YFT	Old Faithful	45.18	331	eP	P	08 09 01.4 +0.8
	16nm,1.4s					
NV11	Mina Array Sit	45.30	320	eP	P	08 09 02.0 +0.4
	0.5nm,1.3s					
OMMB	Old Mammoth Mi	45.39	318	eP	P	08 09 02.2 -0.3
	7.4nm,1.3s					
NV01	Mina Array Sit	45.40	320	eP	P	08 09 01.4 -1.0
NVAR	Mina Array Bea	45.40	320	eP	P	08 09 03.0 +0.6
NVAR	Mina Array Bea	45.40	320	P	P	08 09 01.4 -1.0
	1.6nm,0.6s,baz=128,slow=6.8,SNR=7.8					
NVAR				LR	LR	08 28 42.2
	comp=Z,341nm,18.6s,baz=122,slow=37					
YMR	Madison River	45.40	331	eP	P	08 09 03.0 +0.7
	11nm,1.2s					
DGMT	Dagmar	45.68	340	P	P	08 09 02.5 -1.8
	baz=149					
QLMT	Earthquake Lak	45.74	331	eP	P	08 09 05.7 +0.7
BMN	Battle Mountai	45.91	323	eP	P	08 09 06.5 +0.2
	15nm,1.0s					
HLID	Hailey	46.35	328	eP	P	08 09 09.6 -0.1
	4.7nm,0.8s					
HLID	Hailey	46.35	328	P	P	08 09 09.4 -0.4
	baz=133					
BOZ	Bozeman (W)	46.41	332	P	P	08 09 09.8 -0.4
	baz=138,SNR=11					
MCMT	McKenzie Canyo	46.44	330	eP	P	08 09 10.7 +0.2
PLID	Pearl Lake	48.22	328	eP	P	08 09 22.5 -1.9
	8.0nm,1.1s					
PLCA	Paso Flores	48.31	168	eP	P	08 09 25.0 +0.1
	7.6nm,1.3s					
PLCA	Paso Flores	48.31	168	P	P	08 09 23.9 -1.0
	1.4nm,0.7s,baz=27,slow=7.4,SNR=4.0					
MSO	Missoula	48.40	331	eP	P	08 09 24.7 -0.9
	16nm,1.4s					
MSO	Missoula	48.40	331	P	P	08 09 24.5 -1.1
	baz=136					
SCHQ	Schefferville	49.71	12	LR	LR	08 29 46.8
	comp=Z,196nm,22.0s,baz=264,slow=35					
L04D	Klamath Falls	50.06	322	P	P	08 09 36.7 -1.7
	baz=124					
E09A	Wood Farm, Sta	50.29	328	eP	P	08 09 38.4 -1.5
	15nm,1.2s					
FFC	Flin Flon	50.54	345	eP	P	08 09 41.8 +0.2
	5.4nm,1.0s					
NEW	Newport	50.95	331	P	P	08 09 42.8 -2.1
	baz=133					
GMW	Gold Mountain	53.41	327	eP	P	08 10 01.6 -1.7
A04D	Lummi Island	54.08	328	P	P	08 10 05.9 -2.1
	baz=128					
YKA	Yellowknife Ar	60.60	343	P	P	08 10 52.1 -1.7
	2.3nm,1.0s,baz=137,slow=6.7,SNR=21					
YKB5	Yellowknife Ar	60.60	343	eP	P	08 10 52.1 -1.7
YKW3	Yellowknife Ar	60.66	344	eP	P	08 10 54.0 -0.2
	4.8nm,0.9s					
DLBC	Dease Lake	63.34	334	eP	P	08 11 12.2 -0.3
	12nm,1.3s					
EPYK	Eagle Plains	70.28	340	eP	P	08 11 58.4 +1.9
	19nm,1.4s					
EPYK	Eagle Plains	70.28	340	P	P	08 11 56.7 +0.2
	baz=121					
INK	Inuvik	70.29	342	eP	P	08 11 57.3 +0.9
	15nm,1.4s					
PPT	Papeete	70.55	249	LR	LR	08 34 30.3
	comp=Z,378nm,18.5s,baz=110,slow=29					
PPT2	Papeete2	70.56	249	eLR	LR	08 33 23.6
	comp=Z,341nm,23.8s					
BCAR	Beaver Creek A	70.64	335	eP	P	08 11 58.0 -0.7
TBI	Tubuai	71.91	243	eLR	LR	08 34 02.6
	comp=Z,422nm,28.2s					
SCRK	Sand Creek	71.92	336	eP	P	08 12 07.0 +0.4
	5.7nm,1.2s					
PRP	Porcupine Dome	73.12	337	eP	P	08 12 12.1 -1.6
	6.0nm,1.2s					
HDA	Harding Lake	73.28	336	P	P	08 12 12.9 -1.6
	baz=110					
ILAR	Eielson Array	73.38	336	eP	P	08 12 14.2 -0.9
ILAR	Eielson Array	73.38	336	P	P	08 12 14.5 -0.6
	5.1nm,1.1s,baz=125,slow=4.5,SNR=13					
ILAR				LR	LR	08 47 07.1
	comp=Z,143nm,20.3s,baz=104,slow=38					
MCK	McKinley	73.88	335	eP	P	08 12 20.5 +2.4
	15nm,1.3s					
BPAW	Bear Paw Mtn.	74.86	335	eP	P	08 12 23.5 -0.2
	14nm,1.3s					
CAST	Castle Rocks	75.14	334	eP	P	08 12 25.0 -0.4
	6.6nm,1.0s					
COLD	Coldfoot	75.48	338	eP	P	08 12 26.4 -0.9
	8.8nm,1.3s					
TOLK	Toolik Lake Re	75.71	340	P	P	08 12 27.1 -1.5
	baz=109					
IMAR	Indian Mountai	76.49	336	eP	P	08 12 31.2 -1.8
DBIC	Dimbokro	76.90	85	LR	LR	08 44 54.6
	comp=Z,48nm,20.9s,baz=270,slow=34					
ESDC	Sonseca Array	76.91	51	P	P	08 12 38.4 +2.4
	0.9nm,0.7s,baz=281,slow=5.1,SNR=2.9					
ESDC				LR	LR	08 40 38.5
	comp=Z,84nm,21.8s,baz=160,slow=31					
RDOG	Red Dog Mine	80.40	338	eP	P	08 12 56.9 +2.3
	7.8nm,1.2s					
RAR	Rarotonga	80.73	247	eP	P	08 12 58.0 +0.7
	12nm,0.6s					
RAR	Rarotonga	80.73	247	P	P	08 12 58.6 +1.4
	18nm,0.6s,baz=105,slow=3.4,SNR=3.5					
TOA1	Torodi Ar. St	82.76	78	eP	P	08 13 09.1 +1.0
TORD	Torodi Ar. Bea	82.77	78	P	P	08 13 09.1 +0.9
	0.4nm,0.7s,baz=306,slow=4.8,SNR=3.4					
TORD				LR	LR	08 49 56.0
	comp=Z,67nm,19.3s,baz=315,slow=36					
NB200	NORSAR Array S	86.03	29	eP	P	08 13 23.6 -0.2
NOA	NORSAR Array B	86.03	29	P	P	08 13 23.6 -0.2
	0.3nm,0.6s,baz=276,slow=4.4,SNR=2.6					
NOA				LR	LR	08 50 12.0
	comp=Z,43nm,18.8s,baz=260,slow=34					
KEST	Kesra	87.59	54	LR	LR	08 48 36.0
	comp=Z,65nm,19.4s,baz=246,slow=33					
GERES	GERESS Array B	89.08	41	LR	LR	08 47 39.1
	comp=Z,78nm,19.9s,baz=306,slow=32					
FINES	FINESS Array B	92.94	27	LR	LR	08 54 03.2
	comp=Z,72nm,19.6s,baz=272,slow=34					
AKASG	Malin Array Be	98.31	37	LR	LR	08 58 22.4
	comp=Z,48nm,18.7s,baz=195,slow=35					
H11S2	WAKE ISLAND Hyl	07.52	292	T	T	10 15 12.7
	baz=77,slow=75,SNR=5.8					
H11S1	WAKE ISLAND Hyl	07.52	292	T	T	10 15 13.6
	baz=77,slow=75,SNR=6.5					
H11S3	WAKE ISLAND Hyl	07.53	292	T	T	10 15 13.9
	baz=77,slow=75,SNR=5.7					
MK32	Makanchi Array	125.14	13	ePKPdf	PKiKP	08 19 45.2 +0.7
MKAR	Makanchi Array	125.14	13	PKP	PKiKP	08 19 45.2 +0.7
	0.3nm,0.8s,baz=350,slow=2.8,SNR=2.2					
WMQ	Urumqi	129.04	9	eP	PKPdf	08 19 52.0 +0.3
KSH	Kashi	129.95	22	PKP	PKPdf	08 19 52.5 -1.2
KSH				PP	PP	08 22 10.3 +6.0
KSH				SKS	SKSdf	08 27 03.5 -1.1
KSH	Kashi	129.95	22	SS	SS	08 39 31.4 +3.8
HHC	Hu-ho-hao-te	131.10	346	eP	PKPdf	08 19 55.5 -0.3
NJ2	Nanjing	136.58	333	eP	PKPdf	08 20 06.8 +0.6
ASAR	Alice Springs	141.25	240	PKP	PKPdf	08 20 15.7 +0.7
	0.4nm,0.6s,baz=112,slow=2.0,SNR=3.7					
WR1	Warramunga Arr	141.99	246	ePKPdf	PKPdf	08 20 17.3 +0.9
WRA	Warramunga Arr	142.00	246	PKP	PKPdf	08 20 17.3 +0.9
	0.7nm,0.8s,baz=106,slow=2.6,SNR=5.1					
CD2	Chengdu	142.27	351	PKP	PKPdf	08 20 14.1 -2.6

SAR 18 08:12:02.5±0.5, 43°.11N×18°.27E, h6km±4km, ML1.6/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BRY	Bratogost	0.29	136	eP	g	Pg	08 12 08.2	+0.1
BRY				eS	g	Sg	08 12 13.1	+1.1
TREB	Trebinje	0.40	171	eP	g	Pg	08 12 09.7	-0.4
TREB				eS	g	Sg	08 12 16.3	+1.0
UPM	Unac-Piva	0.48	78	eP	g	Pg	08 12 11.4	-0.3
UPM				eS	g	Sg	08 12 18.8	+0.8
STON	Ston	0.48	241	i P	g	Pg	08 12 11.6	-0.2
STON				S	g	Sg	08 12 19.2	+1.3
STON	Ston	0.48	241	eP	g	Pg	08 12 11.1	-0.6
STON				eS	g	Sg	08 12 18.9	+1.0
HCY	Herceg Novi	0.68	166	eP	g	Pg	08 12 14.9	-0.7
HCY				eS	g	Sg	08 12 24.6	+0.2
BBLS	Lazići	1.12	47	eP	g	Pg	08 12 22.6	-1.5
BBLS				eS	g	Sg	08 12 38.3	-0.3

IDC 18 08:13:31.5±3.0, 21°.06S×163°.87E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/24, mbtmp3.4/3, ML1.9/1, Error ellipse: s-maj=96.2km s-min=22.0km az=11.0, New Caledonia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.60	113	Pn		Pn	08 14 15.1	+0.2
	0.2nm,0.3s,baz=140,slow=23,SNR=12							
DZM				Sn		Sn	08 14 48.1	+0.8
	0.2nm,0.3s,baz=314,slow=22,SNR=3.1							
STKA	Stephens Creek	22.62	237	P		P	08 18 33.7	-0.3
	0.5nm,0.3s,baz=82,slow=13,SNR=2.2							
WRA	Warramunga Arr	27.67	267	P		P	08 19 22.2	+0.8
	0.3nm,0.9s,baz=92,slow=8.3,SNR=2.8							
ASAR	Alice Springs	27.81	259	P		P	08 19 22.1	-0.6
	0.5nm,0.9s,baz=91,slow=7.4,SNR=4.0							

GEN 18 08:13:41.1, 44°.17N×10°.54E, h13km±2km, Ml1.0
ROM 18 08:13:40.4±0.0, 44°.175N±0°.002×10°.544E±0°.004, h14km, ML1.7/3, Error ellipse: s-maj=0.2km s-min=0.2km az=247.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SARO	Sassorosso	0.10	275	P		Pg	08 13 43.9	+0.2
SARO				S		Sg	08 13 46.1	+0.1
SARO	Sassorosso	0.10	275	P		Pg	08 13 42.5	-1.2
SARO	Sassorosso	0.10	275	P		Pg	08 13 43.9	+0.1
SARO				S		Sg	08 13 46.3	+0.4
SARO				END				
SARO				END				
SARO	Sassorosso	0.10	275	S		Sg	08 13 46.3	+0.4
VLC	Villacollemand	0.11	262	P		Pg	08 13 44.0	+0.3
VLC	Villacollemand	0.11	262	P		Pg	08 13 44.1	+0.3
VLC				END				
BDI	Bagni Di Lucca	0.12	161	P		Pg	08 13 44.1	+0.3
BDI				S		Sb	08 13 46.8	-0.4
CARD	Cardoso	0.16	197	P		Pb	08 13 44.7	-0.4
CARD				S		Sg	08 13 47.5	+0.6
CARD	Cardoso	0.16	197	P		Pg	08 13 44.6	+0.3
CARD	Cardoso	0.16	197	P		Pg	08 13 44.6	+0.3
CARD				S		Sb	08 13 47.6	-0.7
CARD				AML		AML		
	comp=E,725μm,0.1s							
CARD				AML		AML		
	comp=N,461μm,0.1s							
CARD				AML		AML		
	comp=E,724μm,0.1s							
CARD				AML		AML		
	comp=N,461μm,0.1s							
CARD				AML		AML		
	comp=N,461μm,0.1s							
CARD				AML		AML		
	comp=E,724μm,0.1s							
CARD				END				
CARD				END				
CARD	Cardoso	0.16	197	S		Sg	08 13 47.5	+0.6
POPM	Popiglio	0.20	130	P		Pg	08 13 45.4	+0.4
POPM				S		Sb	08 13 49.0	-0.6
POPM	Popiglio	0.20	130	P		Pg	08 13 45.4	+0.4
POPM	Popiglio	0.20	130	P		Pg	08 13 45.4	+0.4
POPM				S		Sb	08 13 49.0	-0.6
POPM				AML		AML		
	comp=E,243μm,0.4s							
POPM				AML		AML		
	comp=N,300μm,0.1s							
POPM				AML		AML		
	comp=E,243μm,0.4s							
POPM				AML		AML		
	comp=N,300μm,0.1s							
POPM				AML		AML		
	comp=E,243μm,0.4s							
POPM				AML		AML		
	comp=N,300μm,0.1s							
POPM				END				
POPM				END				
POPM	Popiglio	0.20	130	S		Sb	08 13 49.0	-0.6
ERBM	Eremo	0.26	339	P		Pg	08 13 46.3	+0.3
ERBM				AML		AML		
	comp=E,159μm,1.0s							
ERBM				AML		AML		
	comp=N,207μm,1.5s							
ERBM				AML		AML		
	comp=E,159μm,1.0s							
ERBM				AML		AML		
	comp=N,207μm,1.5s							
ERBM	Eremo	0.26	339	P		Pb	08 13 46.6	-0.4
ERBM	Eremo	0.26	339	P		Pb	08 13 46.7	-0.3
ERBM	Eremo	0.26	339	S		Sg	08 13 50.6	+0.8
MAIM	Mastiano	0.26	188	P		Pg	08 13 46.4	+0.3
MAIM				S		Sg	08 13 50.4	+0.6
MAIM	Mastiano	0.26	188	P		Pg	08 13 46.4	+0.3
MAIM	Mastiano	0.26	188	P		Pg	08 13 46.4	+0.4
MAIM	Mastiano	0.26	188	P		Pg	08 13 46.4	+0.4
MTCR	Monte La Croce	0.36	114	P		Pg	08 13 48.0	+0.3
MTCR				S		Sg	08 13 53.5	+0.7
MTCR				END				

MTCR END
MTCR Monte La Croce 0.36 114 P Pg 08 13 48.1 +0.3
MTCR Monte La Croce 0.36 114 S Sb 08 13 53.5 -0.7
GRAM Graiana 0.47 313 P Pb 08 13 50.1 -0.4
GRAM S Sg 08 13 56.5 +0.5
PLMA Palmaria, Port 0.52 256 P Pg 08 13 50.7 +0.1
PLMA Palmaria, Port 0.52 256 P Pg 08 13 50.7 +0.2
PLMA S Sg 08 13 57.8 +0.4
PLMA Palmaria, Port 0.52 256 P Pg 08 13 50.8 +0.2

*ISCJB **18** 08:22:18.8±0.7, 1°.63N±0°.05×97°.7E±0°.1, h30km, mb4.0/8, Error ellipse: s-maj=14.6km s-min=7.1km az=0.1*
*DJA **18** 08:22:19.1±2.0, 1°.N±6°×9°.7E±1°.3, h27km±8km, M3.6/3, MLv3.6/3*
*IDC **18** 08:22:25.5±5.2, 1°.61N×97°.58E, h79km±37km, mb3.7/8, mb1 3.7/9, mb1mx3.5/39, mbtmp4.0/9, Error ellipse: s-maj=60.7km s-min=16.9km az=61.0*
ISC 18 08:22:21.1±0.8, 1°.66N±0°.06×97°.7E±0°.1, h30km, n19, σ1§81/16, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.36**	**193**	P	**Pn**	**08 22 29.8**	**-0.5**
GSI				S	**Sn**	**08 22 39.2**	**+2.8**
PSI	**Prapat**	**1.70**	**48**	P	**Pb**	**08 22 53.7**	**+1.9**
	2.7nm,0.3s,baz=215,slow=4.9,SNR=12						
PSI				S	**Sn**	**08 23 08.7**	**-1.0**
	7.9nm,0.3s,baz=208,slow=9.8,SNR=31						
PBSI	**Pulau Batu**	**1.81**	**160**	P	**Pn**	**08 22 48.3**	**-2.0**
PBSI				S	**Sn**	**08 23 09.4**	**-2.8**
PBKI	**Pangkalan Bun**	**14.66**	**107**	P	**P**	**08 25 56.2**	**+3.7**
CMAR	**Chiang Mai Arr**	**16.75**	**4**	P	**P**	**08 26 15.5**	**-0.1**
	baz=195,slow=10,SNR=3.5						
H08S2	**Diego Garcia H**	**26.75**	**249**	T	T	08 54 53.3	
	baz=70,slow=75,SNR=295						
H08S3	**Diego Garcia H**	**26.75**	**250**	T	T	08 54 55.5	
	baz=70,slow=75,SNR=480						
H08S1	**Diego Carcia H**	**26.77**	**249**	T	T	08 54 48.5	
	baz=70,slow=75,SNR=361						
H01W3	**Cape Leeuwin H**	**39.50**	**158**	T	T	09 11 23.4	
	baz=333,slow=76,SNR=4.1						
H01W2	**Cape Leeuwin H**	**39.51**	**159**	T	T	09 11 25.9	
	baz=333,slow=76,SNR=5.0						
H01W1	**Cape Leeuwin H**	**39.51**	**158**	T	T	09 11 31.8	
	baz=333,slow=76,SNR=3.4						
WRA	**Warramunga Arr**	**41.89**	**123**	P	**P**	**08 30 08.9**	**-0.3**
	0.8nm,0.8s,baz=299,slow=9.0,SNR=7.8						
ASAR	**Alice Springs**	**43.31**	**128**	P	**P**	**08 30 19.3**	**-1.3**
	0.4nm,0.6s,baz=294,slow=7.6,SNR=5.1						
KSRS	**Korea Array**	**45.22**	**34**	P	**P**	**08 30 34.8**	**-0.8**
	1.2nm,0.7s,baz=221,slow=8.6,SNR=6.9						
MKAR	**Makanchi Array**	**46.91**	**346**	P	**P**	**08 30 48.5**	**-0.4**
	0.7nm,0.4s,baz=158,slow=9.1,SNR=13						
USRK	**Ussuriysk Ar.**	**52.15**	**31**	P	**P**	**08 31 29.0**	**+0.2**
	2.7nm,0°.7s,baz=209,slow=1.9,SNR=5.3						
ZALV	**Zalesovo Beam**	**53.18**	**351**	P	**P**	**08 31 35.5**	**-0.8**
	2.2nm,0.5s,baz=190,slow=6.2,SNR=11						
STKA	**Stephens Creek**	**53.33**	**133**	P	**P**	**08 31 37.7**	**-0.1**
	1.1nm,0.7s,baz=270,slow=6.1,SNR=2.1						
NRIK	**Noril'sk**	**67.91**	**356**	P	**P**	**08 33 15.4**	**-1.1**
	4.5nm,0.6s,baz=118,slow=7.2,SNR=8.7						

*ISCJB **18** 08:32:48.5±2.6, 40°.21N±0°.08×19°.9E±0°.2, h23km±17km, Error ellipse: s-maj=23.5km s-min=13.1km az=8.0*
*TIR **18** 08:32:48.3, 40°.16N×19°.88E, h18km, Md2.6/3*
*THE **18** 08:32:49.5, 40°.17N×19°.96E, h16km±1km, ML1.8/4, Error ellipse: s-maj=2.7km s-min=0.6km az=285.0*
ISC 18 08:32:49.1±1.2, 40°.16N±0°.03×20°.0E±0°.1, h17km±9km, n7, σ0§44/14, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.14**	**1**	P	**Pg**	**08 32 53.1**	**-0.1**
TPE				S	**Sb**	**08 32 56.2**	**+0.1**
TPE	**Tepelena**	**0.14**	**1**	*i* PG	**Pb**	**08 32 53.4**	**+0.1**
TPE				*i* SG	**Sb**	**08 32 56.5**	**+0.4**
SRN	**Sarande**	**0.28**	**181**	P	**Pg**	**08 32 55.0**	**-0.2**
SRN				S	**Sb**	**08 33 00.5**	**+0.5**
SRN	**Sarande**	**0.28**	**181**	*i* PG	**Pg**	**08 32 54.9**	**-0.2**
SRN				*i* SG	**Sb**	**08 33 00.4**	**+0.5**
KEK	**Kerkira**	**0.47**	**200**	P	**Pb**	**08 32 59.0**	**0.0**
KEK				S	**Sb**	**08 33 06.0**	**+0.4**
IGT	**Igoumenitsa**	**0.67**	**158**	P	**Pb**	**08 33 02.9**	**+0.5**
IGT				S	**Sn**	**08 33 13.3**	**-0.6**
IGT	**Igoumenitsa**	**0.67**	**158**	*i* PG	**Pg**	**08 33 02.0**	**-0.3**
IGT				*i* SG	**Sn**	**08 33 13.5**	**-0.5**

ROM 18 08:34:31.7±0.1, 43°.438N±0°.002×12°.462E±0°.003, h6km, Md1.0/2, Error ellipse: s-maj=0.2km s-min=0.1km az=35.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.04**	**286**	P	Pg	08 34 33.2	+0.1
ATPI	**Pietralunga -**	**0.04**	**286**	P	Pg	08 34 33.2	+0.1
ATPI				S	Sg	08 34 34.3	+0.2
ATPI				AML	AML		
	comp=E,68μm,0.3s						
ATPI				AML	AML		
	comp=N,128μm,0.3s						
ATPI				AML	AML		
	comp=N,128μm,0.3s						
ATPI				AML	AML		
	comp=E,68μm,0.3s						
ATPI				END			
ATPI				END			
ATPI				END			
ATPI				END			
ATPI	**Pietralunga -**	**0.04**	**286**	S	Sg	08 34 34.3	+0.2
ATVO	**AVT- Monte Val**	**0.07**	**215**	P	Pg	08 34 33.6	+0.2
ATVO	**AVT- Monte Val**	**0.07**	**215**	P	Pg	08 34 33.6	+0.2
ATVO				S	Sg	08 34 35.0	+0.4
ATVO				AML	AML		
	comp=E,32μm,0.2s						
ATVO				AML	AML		
	comp=N,32μm,0.1s						
ATVO				AML	AML		
	comp=E,32μm,0.2s						
ATVO				AML	AML		
	comp=N,32μm,0.1s						
ATVO				END			
ATVO				END			
ATVO				END			
ATVO				END			
ATVO	**AVT- Monte Val**	**0.07**	**215**	S	Sg	08 34 35.0	+0.4
ATFO	**Monte Foce - G**	**0.11**	**132**	P	Pg	08 34 34.2	+0.2
ATFO	**Monte Foce - G**	**0.11**	**132**	P	Pg	08 34 34.2	+0.2
ATFO				S	Sg	08 34 36.3	+0.7
ATFO				END			
ATFO				END			
ATFO	**Monte Foce - G**	**0.11**	**132**	S	Sg	08 34 36.4	+0.8
BADI	**Badiali**	**0.17**	**294**	P	Pg	08 34 35.5	+0.3
BADI	**Badiali**	**0.17**	**294**	P	Pg	08 34 35.6	+0.4
BADI				S	Sg	08 34 38.6	+1.2
BADI				END			
BADI				END			
BADI	**Badiali**	**0.17**	**294**	S	Sg	08 34 38.5	+1.1
ARRO	**Arrone**	**0.89**	**165**	S	Sb	08 35 02.0	+0.4
ARCI	**Arcidosso**	**0.93**	**231**	S	Sn	08 35 04.0	-1.1

*ISCJB **18** 09:02:02.8±1.6, 12°.86N±0°.09×88°.95W±0°.05, h29km±9km, Error ellipse: s-maj=17.0km s-min=5.6km az=24.1*
*UCR **18** 09:02:04.1±1.2, 12°.94N×88°.94W, h38km±70km, MD3.4, ML3.6*
*SNET **18** 09:02:04.4±0.7, 12°.97N×88°.96W, h35km±599km, ML3.6*
ISC 18 09:02:02.1±1.9, 12°.84N±0°.09×89°.00W±0°.06, h25km±15km, n46, σ0§77/52, 17D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UESV	**Ojushtada**	**0.57**	**20**	‖*eP*	**Pn**	**09 02 18.0**	**+3.3**
UESV	**Ojushtada**	**0.57**	**20**	‖*eP*	**Pn**	**09 02 18.0**	**+3.3**
LFRS	**El Faro**	**0.78**	**355**	*eP*	**Pn**	**09 02 17.4**	**-0.2**
SNVI	**San Vicente**	**0.78**	**11**	*eP*	**Pn**	**09 02 17.6**	**-0.1**
SNVI	**San Vicente**	**0.78**	**11**	‖*iP*	**Pn**	**09 02 17.6**	**-0.1**
TECA	**Tecapa**	**0.81**	**36**	‖*iP*	**Pn**	**09 02 18.2**	**+0.1**
TECA	**Tecapa**	**0.81**	**36**	‖*iP*	**Pn**	**09 02 18.2**	**+0.1**
PAVA	**Las Pavas**	**0.87**	**4**	‖*iP*	**Pn**	**09 02 19.0**	**+0.1**
PAVA				IAML		09 02 31.2	
	comp=Z,4μm,0.2s						
PAVA	**Las Pavas**	**0.87**	**4**	‖*iP*	**Pn**	**09 02 19.0**	**+0.1**
PAVA				IAML		09 02 31.2	
	comp=Z,4μm,0.2s						
SNET	**Serv Nac Est T**	**0.87**	**345**	‖*iP*	**Pn**	**09 02 18.9**	**+0.1**
SNET				*eS*	**Sb**	**09 02 30.0**	**0.0**
SNET				IAML		09 02 31.7	
	comp=Z,2μm,0.2s						
SNET	**Serv Nac Est T**	**0.87**	**345**	‖*iP*	**Pn**	**09 02 18.9**	**+0.1**
SNET				*eS*	**Sb**	**09 02 29.9**	**0.0**
SNET				IAML		09 02 31.7	
	comp=Z,2μm,0.2s						
LBRS	**Las Brisas**	**0.89**	**357**	*eP*	**Pn**	**09 02 19.4**	**+0.3**
OPAM	**San Salvador**	**0.89**	**347**	*eP*	**Pn**	**09 02 19.0**	**-0.1**
OPAM				IAML		09 02 31.8	
	comp=Z,1μm,0.3s						
OPAM	**San Salvador**	**0.89**	**347**	*eP*	**Pn**	**09 02 19.0**	**-0.1**
OPAM				IAML		09 02 31.8	
	comp=Z,1μm,0.3s						
LCY	**Lacayo**	**0.90**	**50**	*eP*	**Pn**	**09 02 19.2**	**+0.1**
LCY	**Lacayo**	**0.90**	**50**	*eP*	**Pn**	**09 02 19.2**	**+0.1**
PACA	**Pacayal**	**0.91**	**46**	‖*iP*	**Pn**	**09 02 19.5**	**+0.2**
PACA	**Pacayal**	**0.91**	**46**	‖*iP*	**Pn**	**09 02 19.5**	**+0.2**
LFU	**La Fuente**	**0.91**	**353**	‖*eP*	**Pn**	**09 02 19.5**	**+0.2**
LFU	**La Fuente**	**0.91**	**353**	‖*eP*	**Pn**	**09 02 19.5**	**+0.2**
UEES	**San Salvador**	**0.91**	**345**	‖*iP*	**Pn**	**09 02 19.3**	**-0.1**
UEES	**San Salvador**	**0.91**	**345**	‖*iP*	**Pn**	**09 02 19.3**	**-0.1**
VSM	**San Miguel**	**0.92**	**50**	*eP*	**Pn**	**09 02 19.8**	**+0.2**
BOQS	**Boqueron**	**0.93**	**343**	*eP*	**Pn**	**09 02 20.1**	**+0.3**
BOQS				*eS*	**Sn**	**09 02 32.1**	**-0.3**
CEVE	**Cerro Verde**	**1.16**	**328**	*eP*	**Pb**	**09 02 23.9**	**+0.3**
CEVE				IAML		09 02 43.2	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**1.16**	**328**	*eP*	**Pb**	**09 02 23.9**	**+0.3**
CEVE				IAML		09 02 43.2	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**1.17**	**329**	*eP*	**Pb**	**09 02 24.0**	**+0.3**
SBLS	**San Blas**	**1.17**	**329**	*eP*	**Pb**	**09 02 24.0**	**+0.3**
VICT	**Victoria**	**1.17**	**17**	‖*iP*	**Pn**	**09 02 22.8**	**-0.1**
VICT	**Victoria**	**1.17**	**17**	‖*iP*	**Pn**	**09 02 22.8**	**-0.1**
LCND	**La Caada**	**1.18**	**66**	*i P*	**Pb**	**09 02 23.4**	**-0.3**
LCND				IAML		09 02 39.9	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**1.18**	**66**	*i P*	**Pb**	**09 02 23.4**	**-0.3**
LCND				IAML		09 02 39.9	
	comp=Z,1μm,0.3s						
SNJE	**San Jose**	**1.18**	**330**	*eP*	**Pb**	**09 02 23.7**	**-0.2**
SNJE	**San Jose**	**1.18**	**330**	*eP*	**Pb**	**09 02 23.7**	**-0.2**
CAHU	**Cacacuatique**	**1.20**	**40**	*eP*	**Pn**	**09 02 23.4**	**0.0**
CAHU	**Cacacuatique**	**1.20**	**40**	*eP*	**Pn**	**09 02 23.4**	**0.0**
CNCH	**Conchagua**	**1.21**	**69**	*eP*	**Pn**	**09 02 23.6**	**+0.1**
CNCH				*eS*	**Sn**	**09 02 39.5**	**+0.3**
CNCH	**Conchagua**	**1.21**	**69**	*eS*	**Sn**	**09 02 39.5**	**+0.3**
RTR	**El Retiro**	**1.23**	**329**	*eP*	**Pb**	**09 02 24.7**	**0.0**
RTR	**El Retiro**	**1.23**	**329**	*eP*	**Pb**	**09 02 24.7**	**0.0**
UNIC	**Santa Ana**	**1.27**	**335**	*i P*	**Pb**	**09 02 24.8**	**-0.6**
UNIC	**Santa Ana**	**1.27**	**335**	*i P*	**Pb**	**09 02 24.8**	**-0.6**
CRIN	**San Cristobal**	**1.90**	**94**	*eP*	**Pn**	**09 02 33.9**	**+0.9**
CRIN				*eS*	**Sn**	**09 02 55.9**	**-0.4**
COPN	**Copaltepe**	**2.44**	**105**	*eP*	**Pn**	**09 02 41.1**	**+0.8**
ESTN	**Estel**	**2.58**	**84**	*eP*	**Pn**	**09 02 42.7**	**+0.5**
ESTN				*eS*	**Sn**	**09 03 11.2**	**-1.6**
MATN	**Matagalpa**	**3.00**	**88**	*eP*	**Pn**	**09 02 48.2**	**+0.1**

*NIED **18** 09:09:00, 37°.80N×142°.00E, h38km, Mw4.2 Best double couple: M0=2.09000×10^15 NP1:φ=59.00000°, δ0.00000°, λ-79.00000°. NP2:φ=228.00000°, δ90.00000°, λ-90.00000°.*
*MOS **18** 09:09:39.8±1.3, 37°.78N×142°.16E, h35km, mb4.7/10, Error ellipse: s-maj=9.7km s-min=6.3km az=99.4*
*ISCJB **18** 09:09:39.7±0.6, 37°.74N±0°.02×142°.14E±0°.04, h37km±4km, mb4.5/50, MS3.6/4, Error ellipse: s-maj=5.8km s-min=3.6km az=17.7*
*NEIC **18** 09:09:39.6±1.4, 37°.75N×142°.35E, h32km±5km, mb4.5/32, Error ellipse: s-maj=16.1km s-min=12.4km az=122.0*
NEIC Recorded [2 JMA] in Miyagi.
*JMA **18** 09:09:41.5±0.1, 37°.76N×141°.96E, h36km±2km, M4.3*
JMA Felt II J1.
*IDC **18** 09:09:42.8±2.0, 37°.74N×142°.11E, h41km±18km, mb3.9/22, mb1 4.1/27, mb1mx4.0/38, mbtmp4.1/27, ML3.8/5, MS3.4/9, Ms1 3.4/9, ms1mx3.1/46, Error ellipse: s-maj=14.0km s-min=10.6km az=109.0*
ISC 18 09:09:40.4±0.7, 37°.79N±0°.04×142°.15E±0°.05, h26km±4km, n147, σ1§64/159, mb4.4/50, MS3.6/4, 1C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.75**	**314**	P	**Pb**	**09 09 54.5**	**-0.4**
JIKH				S	**Sb**	**09 10 03.3**	**-1.4**
JIO	**Ouri**	**0.92**	**317**	P	**Pn**	**09 09 57.0**	**-0.6**
JIO				S	**Sb**	**09 10 07.8**	**-1.7**
JMM	**Marumori**	**1.08**	**275**	P	**Pn**	**09 09 58.4**	**-1.4**
JMM				S	**Sn**	**09 10 09.7**	**-4.2**
JFK	**Kawauchi**	**1.10**	**248**	P	**Pn**	**09 09 58.3**	**-1.8**
JFK				S	**Sn**	**09 10 10.6**	**-3.9**
JKMT	**Kesennumamotoy**	**1.15**	**333**	P	**Pn**	**09 10 00.7**	**-0.1**
JKMT				S	**Sn**	**09 10 14.1**	**-1.6**
ONAJ	**Iwakimizuishiy**	**1.28**	**238**	P	**Pn**	**09 10 00.9**	**-1.7**
ONAJ				S	**Sn**	**09 10 14.9**	**-4.0**
JOU	**Okura**	**1.31**	**297**	P	**Pn**	**09 10 02.7**	**-0.3**
JOU				*eS*	**Sn**	**09 10 17.6**	**-2.0**
JMK	**Ichinoseki**	**1.37**	**328**	P	**Pn**	**09 10 04.0**	**+0.1**
JMK				*eS*	**Sn**	**09 10 20.6**	**-0.6**
JFT	**Otama**	**1.47**	**260**	P	**Pn**	**09 10 04.7**	**-0.4**
JFT				*eS*	**Sn**	**09 10 21.1**	**-2.4**
JYS	**Shirataka**	**1.70**	**285**	P	**Pn**	**09 10 08.2**	**-0.2**
JYS				*eS*	**Sn**	**09 10 28.5**	**-0.9**
JYK	**Kaneyama**	**1.81**	**309**	P	**Pn**	**09 10 09.9**	**+0.1**
JOM	**Ohasama**	**1.81**	**338**	P	**Pn**	**09 10 10.7**	**+0.8**
JOM				*eS*	**Sn**	**09 10 32.3**	**+0.3**
JFY	**Yanaizu**	**1.98**	**260**	P	**Pn**	**09 10 11.9**	**-0.3**
JFY				*eS*	**Sn**	**09 10 33.5**	**-2.7**
JRG	**Rokugo**	**2.00**	**324**	P	**Pn**	**09 10 13.4**	**+0.9**
JYA	**Atsumi**	**2.08**	**293**	P	**Pn**	**09 10 13.6**	**0.0**
JYA				*eS*	**Sn**	**09 10 37.9**	**-0.8**
MJAR	**Matsushiro Arr**	**3.39**	**250**	*eP*	**Pn**	**09 10 33.0**	**+1.4**
MJAR	**Matsushiro Arr**	**3.39**	**250**	P	**Pn**	**09 10 33.0**	**+1.4**
	1.5nm,0.3s,baz=77,slow=16,SNR=47						
MJAR				S	**Sn**	**09 11 11.8**	**+0.9**
	1.3nm,0.3s,baz=80,slow=17,SNR=5.2						
MAJO	**Matsushiro**	**3.39**	**250**	*ePn*	**Pn**	**09 10 32.5**	**+0.9**
MAJO				*eSn*	**Sn**	**09 11 11.8**	**+0.9**
MAJO	**Matsushiro**	**3.39**	**250**	*eP*	**Pn**	**09 10 32.5**	**+0.9**
MAJO				*e*		09 11 11.8	
MAT	**Matsushiro**	**3.39**	**250**	P	**Pn**	**09 10 32.5**	**+0.9**
MAT				S	**Sn**	**09 11 12.9**	**+2.0**
MJB9	**Matsu-Tunnel**	**3.39**	**250**	*ePn*	**Pn**	**09 10 32.5**	**+0.9**
ERM	**Erimo**	**4.29**	**10**	*ePn*	**Pn**	**09 10 40.1**	**-3.9**
ERM	**Erimo**	**4.29**	**10**	*eP*	**Pn**	**09 10 40.1**	**-3.9**
INU	**Inuyama**	**4.80**	**241**	*ePn*	**Pn**	**09 10 51.8**	**+0.9**
JHJ2	**Mitsune**	**5.04**	**203**	*ePn*	**Pn**	**09 10 53.2**	**-1.1**
JHJ2				*eSn*	**Sn**	**09 11 50.8**	**-0.8**
JHJ	**Hachijo jima 2**	**5.04**	**203**	P	**Pn**	**09 10 53.8**	**-0.6**
	56nm,0.3s,baz=71,slow=19,SNR=17						
JHJ				S	**Sn**	**09 11 51.4**	**-0.4**
	53nm,0.3s,baz=92,slow=22,SNR=5.1						
JHJ				LR	LR	09 12 53.4	
	comp=Z,142nm,21.0s,baz=10.0,slow=38						
ASAJ	**Asahikawa**	**6.33**	**3**	P	**Pn**	**09 11 13.2**	**+1.2**
	7.5nm,0.3s,baz=214,slow=8.8,SNR=15						
ASAJ				S	**Sn**	**09 12 29.3**	**+5.9**
	1.9nm,0.3s,baz=283,slow=34,SNR=3.1						
ASAJ				LR	LR	09 14 05.5	
	comp=Z,287nm,21.4s,baz=90,slow=41						
YUK	**Yuzh-Kuril'sk**	**6.84**	**23**	*c iP*	**Pn**	**09 11 19.9**	**+0.9**
YUK				*eS*	**Sn**	**09 12 31.3**	**-4.7**
YUK				pmax	pmax		
	comp=Z,136nm,0.2s						
YUK				pmax	pmax		
	comp=N,45nm,0.1s						
YUK				pmax	pmax		
	comp=E,49nm,0.1s						
TEY	**Ternei**	**8.35**	**332**	‖*iP*	Pn	09 11 46.6	+6.9
TEY				pmax	pmax		
	comp=E,40nm,0.7s						
TEY				pmax	pmax		
	comp=Z,80nm,0.7s						
TEY				pmax	pmax		
	comp=N,90nm,0.6s						
KUR	**Kuril'sk**	**8.58**	**28**	*eP*	**Pn**	**09 11 44.6**	**+1.7**
KUR				*eS*	**Sn**	**09 13 15.0**	**-3.8**
KUR				pmax	pmax		
	comp=N,22nm,0.6s						
KUR				pmax	pmax		
	comp=Z,35nm,0.6s						
KUR				pmax	pmax		
	comp=E,15nm,0.5s						
KUR				smax	smax		
	comp=N,89nm,0.6s						
KUR				smax	smax		
	comp=E,54nm,0.5s						
YSS	**Yuzh-Sakhalins**	**9.17**	**3**	*e*Pn	**Pn**	**09 11 49.3**	**-1.6**
YSS	**Yuzh-Sakhalins**	**9.17**	**3**	*eP*	**Pn**	**09 11 55.2**	**+4.3**
USRK	**Ussuriysk Ar.**	**10.00**	**313**	P	**Pn**	**09 12 03.9**	**+1.7**
	comp=E,1.2nm,0.3s,baz=121,slow=14,SNR=12						
USRK				LR	LR	09 15 42.0	
	comp=E,213nm,19.6s,baz=110,slow=36						
JNU	**Nakatsue**	**10.30**	**247**	*e*Pn	**Pn**	**09 12 06.6**	**0.0**
JNU	**Nakatsue**	**10.30**	**247**	P	**Pn**	**09 12 09.6**	**+3.1**
	comp=E,0.3nm,0.3s,baz=320,slow=0.5,SNR=4.1						
KSRS	**Korea Array**	**11.29**	**273**	P	**Pn**	**09 12 24.1**	**+4.1**
	comp=E,0.5nm,0.3s,baz=82,slow=14,SNR=11						
KSRS				LR	LR	09 16 39.3	
	comp=E,167nm,18.5s,baz=30,slow=37						
KS15	**Wonju Array Si**	**11.32**	**273**	*e*Pn	**Pn**	**09 12 21.5**	**+1.0**
MDJ	**Mudanjiang**	**11.65**	**310**	P	Pn	09 12 31.1	+6.1
MDJ	**Mudanjiang**	**11.65**	**310**	*e*Pn	**Pn**	**09 12 24.7**	**-0.2**
KLR	**Kul'dur**	**13.69**	**330**	P	**Pn**	**09 12 52.7**	**+0.1**
	comp=E,0.2nm,0.3s,baz=167,slow=14,SNR=4.0						
KLR				LR	LR	09 18 11.5	
	comp=E,192nm,19.1s,baz=90,slow=37						
DL2	**Dalian**	**16.14**	**280**	P	**P**	**09 13 31.8**	**+3.4**
ZEA	**Zeya**	**18.98**	**332**	*e*P	P	09 13 49.8	-10
NJ2	**Nanjing**	**19.92**	**260**	*e*P	**Pn**	**09 14 12.1**	**+0.2**
MA2	**Magadan**	**22.50**	**11**	*e*P	**P**	**09 14 35.6**	**-2.0**
	comp=E,6.9nm,1.0s						
MA2	**Magadan**	**22.50**	**11**	P	**P**	**09 14 40.0**	**+2.4**
	comp=E,3.4nm,0.5s,baz=174,slow=14,SNR=4.9						
HHC	**Hu-ho-hao-te**	**23.80**	**287**	*e*P	**P**	**09 14 51.3**	**+0.2**
KNMB	**Chin-men Tao**	**24.21**	**244**	*e*P	**P**	**09 14 53.0**	**-1.9**
	comp=E,30nm,0.9s						
SEY	**Seymchan**	**25.94**	**11**	P	**P**	**09 15 12.0**	**+1.7**
SEY	**Seymchan**	**25.94**	**11**	P	**P**	**09 15 12.0**	**+1.7**
	comp=E,0.6nm,0.3s,baz=40,slow=17,SNR=2.5						
XAN	**Xi'an**	**27.09**	**272**	*e*P	**P**	**09 15 20.6**	**-0.4**
	comp=E,10nm,0.5s						
XAN	**Xi'an**	**27.09**	**272**	*e*P	**P**	**09 15 20.6**	**-0.4**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BOD	**Bodaibo**	**27.21**	**326**	*e*P	**P**	**09 15 19.8**	**-2.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ULN	**Ulaanbaatar**	**27.43**	**303**	*e*P	**P**	**09 15 23.6**	**-0.5**
	comp=Z,2.3nm,0.6s						
ULN	**Ulaanbaatar**	**27.43**	**303**	P	**P**	**09 15 23.9**	**-0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONA0	**Songino Array**	**27.86**	**303**	*e*P	**P**	**09 15 28.4**	**+0.4**
SONM	**Songino Array**	**27.86**	**303**	P	**P**	**09 15 28.4**	**+0.5**
	comp=Z,4.6nm,0.7s,baz=95,slow=9.9,SNR=3.5						
ENH	**Enshi**	**27.99**	**264**	*e*P	**P**	**09 15 28.4**	**-0.6**
	comp=Z,7.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.05**	**123**	T	T	09 44 58.0	
	baz=315,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.05**	**123**	T	T	09 45 04.4	
	baz=315						
H11N3	**WAKE ISLAND Hy**	**28.07**	**123**	T	T	09 44 59.8	
	baz=315,slow=75						
HKPS	**Hong Kong Po S**	**28.61**	**245**	*e*P	**P**	**09 15 34.2**	**-0.5**
	comp=Z,79nm,1.3s						
H11S1	**WAKE ISLAND Hy**	**28.79**	**125**	T	T	09 45 55.8	
	baz=318,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.79**	**125**	T	T	09 45 54.4	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**28.81**	**125**	T	T	09 45 55.9	
	baz=318,slow=74						
LZH	**Lanzhou**	**30.53**	**279**	*e*P	**P**	**09 15 52.3**	**+0.6**
LZH				pP	sP	09 16 02.6	+0.2
LZH				sP	pP	09 16 06.4	+7.1
CD2	**Chengdu**	**32.26**	**269**	*e*P	**P**	**09 16 06.0**	**-0.9**
WMQ	**Urumqi**	**41.03**	**296**	*e*P	**P**	**09 17 25.4**	**+4.0**
WMQ				pP	sP	09 17 31.5	-0.8
WMQ				sP	pP	09 17 38.0	+8.9
ZAA0	**Zalesovo Array**	**41.85**	**312**	*e*P	**P**	**09 17 27.5**	**-0.4**
	comp=Z,5.1nm,0.6s						
ZAA1	**Zalesovo Array**	**41.85**	**312**	*e*P	**P**	**09 17 27.9**	**0.0**
ZALV	**Zalesovo Beam**	**41.85**	**312**	*e*P	**P**	**09 17 27.1**	**-0.8**
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**09 17 27.9**	**0.0**
	comp=Z,3.8nm,0.4s,baz=88,slow=6.9,SNR=13						
ZALV				LR	LR	09 35 31.6	
	comp=Z,68nm,18.8s,baz=260,slow=37						
NRIK	**Noril'sk**	**42.83**	**335**	P	**P**	**09 17 35.8**	**+0.1**
	comp=Z,3.0nm,0.3s,baz=97,slow=3.0,SNR=4.6						
CHGN	**Chignik**	**43.02**	**45**	*e*P	**P**	**09 17 33.5**	**-3.9**
	comp=Z,69nm,0.7s						
MK31	**Makanchi Array**	**44.22**	**302**	*e*P	**P**	**09 17 47.0**	**-0.3**
	comp=Z,4.6nm,0.8s						

WRAB				pmax	pmax			
	comp=Z,7.0nm,0.8s							
WB2	**Warramunga Arr**	**57.89**	**189**	*e*P	**P**	**09 19 28.9**	**-1.1**	
	comp=Z,8.3nm,0.6s							
WR1	**Warramunga Arr**	**57.89**	**189**	*e*P	**P**	**09 19 29.6**	**-0.5**	
WRA	**Warramunga Arr**	**57.89**	**189**	P	**P**	**09 19 29.6**	**-0.6**	
	comp=Z,7.9nm,0.6s,baz=6.2,slow=6.7,SNR=106							
ABKAR	**Abkulak array**	**57.90**	**310**	*e*P	**P**	**09 19 29.2**	**-0.7**	
ABKAR				*e*P	**P**	**09 19 29.4**	**-0.6**	
AS31	**Alice Springs**	**61.62**	**189**	*e*P	**P**	**09 19 54.3**	**-1.4**	
	comp=Z,0.9nm,0.6s							
ASAR	**Alice Springs**	**61.62**	**189**	*e*P	**P**	**09 19 55.5**	**-0.2**	
ASAR				*e*pP	**sP**	**09 20 06.5**	**-0.2**	
ASAR	**Alice Springs**	**61.62**	**189**	P	**P**	**09 19 55.5**	**-0.2**	
	comp=Z,2.9nm,0.7s,baz=12,slow=6.8,SNR=34							
YKA	**Yellowknife Ar**	**62.86**	**31**	P	**P**	**09 20 04.7**	**+1.1**	
	comp=Z,0.5nm,0.6s,baz=303,slow=6.5,SNR=8.9							
YKB5	**Yellowknife Ar**	**62.86**	**31**	*e*P	**P**	**09 20 04.7**	**+1.1**	
ARA0	**ARCESS Array S**	**63.50**	**339**	*e*P	**P**	**09 20 08.7**	**+0.9**	
ARCES	**ARCESS Array B**	**63.50**	**339**	P	**P**	**09 20 08.7**	**+0.9**	
	comp=Z,2.2nm,0.9s,baz=55,slow=8.1,SNR=7.5							
GEYT	**Alibeck**	**63.98**	**299**	P	**P**	**09 20 11.3**	**-0.3**	
	comp=Z,327nm,0.6s,baz=42,slow=9.0,SNR=7.9							
GLK	**Glacier Lake**	**67.53**	**48**	*e*P	**P**	**09 20 31.6**	**-2.7**	
FIA0	**FINESS Array S**	**68.42**	**332**	*e*P	**P**	**09 20 39.5**	**0.0**	
FINES	**FINESS Array B**	**68.42**	**332**	*e*P	**P**	**09 20 39.1**	**-0.4**	
FINES	**FINESS Array B**	**68.42**	**332**	P	**P**	**09 20 39.5**	**0.0**	
	comp=Z,1.4nm,0.6s,baz=42,slow=8.6,SNR=8.4							
STKA	**Stephens Creek**	**69.31**	**181**	*e*P	**P**	**09 20 43.5**	**-1.8**	
	comp=Z,1.9nm,1.5s							
STKA	**Stephens Creek**	**69.31**	**181**	P	**P**	**09 20 45.4**	**+0.2**	
	comp=Z,1.7nm,0.7s,baz=351,slow=6.9,SNR=6.4							
KIV	**Kislovodsk**	**70.86**	**311**	*e*P	P	09 21 07.0	+12	
KIV				pmax	pmax			
	comp=Z,25nm,1.1s							
KBZ	**Khabaz**	**70.86**	**311**	P	**P**	**09 20 56.0**	**+1.2**	
KBZ	**Khabaz**	**70.86**	**311**	P	**P**	**09 20 56.0**	**+1.2**	
	comp=Z,1.6nm,0.6s,baz=181,slow=1.3,SNR=3.6							
NB2	**NORSAR Subarra**	**73.72**	**337**	P	**P**	**09 21 11.9**	**+0.2**	
	comp=Z,2.1nm,0.7s,baz=40,slow=6.2							
NB200	**NORSAR Array S**	**73.72**	**337**	*e*P	**P**	**09 21 11.7**	**0.0**	
NOA	**NORSAR Array B**	**73.72**	**337**	P	**P**	**09 21 11.7**	**0.0**	
	comp=Z,0.3nm,0.4s,baz=48,slow=5.4,SNR=3.4							
NOA				LR	LR	09 56 19.0		
	comp=Z,32nm,20.3s,baz=45,slow=38							
AKASG	**Malin Array Be**	**74.06**	**322**	P	**P**	**09 21 13.7**	**-0.1**	
	comp=Z,1.1nm,0.5s,baz=47,slow=5.9,SNR=5.0							
AKBB	**Malin Array Si**	**74.06**	**322**	*e*P	**P**	**09 21 13.1**	**-0.7**	
	comp=Z,3.3nm,0.8s							
NVAR	**Mina Array Bea**	**74.07**	**54**	P	**P**	**09 21 15.5**	**+1.1**	
	comp=Z,0.9nm,0.7s,baz=285,slow=6.4,SNR=6.8							
TCUT	**Toone Canyon**	**76.69**	**48**	*e*P	**P**	**09 21 26.8**	**-2.6**	
	comp=Z,24nm,1.3s							
PDAR	**Pinedale Array**	**76.72**	**46**	*e*P	P	09 21 24.3	-5.3	
PDAR	**Pinedale Array**	**76.72**	**46**	P	**P**	**09 21 30.8**	**+1.3**	
	comp=Z,0.9nm,0.6s,baz=257,slow=1.7,SNR=7.9							
ULM	**Lac du Bonnet**	**78.55**	**34**	P	**P**	**09 21 39.8**	**+0.5**	
	comp=Z,0.6nm,0.4s,baz=315,slow=7.1,SNR=2.3							
BR101	**Keskin Array S**	**78.79**	**312**	*e*P	**P**	**09 21 41.7**	**+0.6**	
BRTR	**Keskin Array B**	**78.79**	**312**	P	**P**	**09 21 41.7**	**+0.6**	
	comp=Z,0.3nm,0.4s,baz=221,slow=1.8,SNR=2.6							
PV21	**Cone Mtn., Par**	**79.75**	**49**	*e*P	**P**	**09 21 44.2**	**-2.3**	
	comp=Z,12nm,1.3s							
CLL	**Collm**	**80.73**	**330**	*e*P	**P**	**09 21 51.0**	**-0.1**	
CLL				*es*P	**sP**	**09 22 03.0**	**+0.7**	
VRAC	**Vranov**	**80.81**	**327**	LR	LR	10 00 59.8		
	comp=Z,32nm,18.6s,baz=24,slow=38							
GEC2	**GERESS Array S**	**82.38**	**329**	*e*P	**P**	**09 21 59.0**	**-1.0**	
	comp=Z,6.8nm,1.7s							
GEC2	**GERESS Array S**	**82.38**	**329**	*e*P	**P**	**09 21 59.0**	**-1.0**	
GEC2				pmax	pmax			
	comp=Z,7.0nm,1.7s							
GERES	**GERESS Array B**	**82.38**	**329**	P	**P**	**09 22 00.4**	**+0.3**	
	comp=Z,0.3nm,0.4s,baz=34,slow=5.3,SNR=4.4							
FUORN	**Ofenpass-Fuorn**	**85.56**	**329**	*e*P	**P**	**09 22 14.7**	**-1.8**	
	comp=Z,5.2nm,0.7s							
TXAR	**Lajitas Array**	**89.20**	**53**	P	**P**	**09 22 35.5**	**+1.3**	
	comp=Z,0.9nm,0.5s,baz=295,slow=2.8,SNR=22							
LPAZ	**La Paz**	**145.81**	**60**	PKPbc	**PKPbc**	**09 29 19.1**	**+0.7**	
	comp=Z,2.2nm,0.6s,baz=338,slow=1.8,SNR=20							

*NEIC **18** 09:24:17.9±0.0, 19°.48N×66°.34W, h13km, MD3.1(RSPR), After RSPR.*

RSPR 18 09:24:17.9, 19°.48N×66°.34W, h13km±6km, MD3.1/9, 13C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.02**	**190**	⇑*e*P	Pb	09 24 34.3	-3.1
EMPR	**Esperanza - Ma**	**1.02**	**190**	*e*Pg	Pb	09 24 34.3	-3.1
EMPR				*e*Pg	Pg	09 24 36.2	-1.4
AOPR	**Arecibo Observ**	**1.20**	**199**	⇑*e*P	Pn	09 24 36.9	-3.5
AOPR	**Arecibo Observ**	**1.20**	**199**	⇑*e*P	Pn	09 24 37.2	-3.1
AOPR				*e*S	Sb	09 24 52.7	-3.2
AOPR	**Arecibo Observ**	**1.20**	**199**	*e*Pn	Pn	09 24 36.9	-3.4
AOPR				*e*Sg	Sb	09 24 55.6	-0.2
CBYP	**Canovanas**	**1.29**	**159**	⇑*e*P	Pn	09 24 38.6	-3.0
CBYP	**Canovanas**	**1.29**	**159**	⇑*e*P	Pn	09 24 38.9	-2.8
CBYP				*e*S	Sb	09 24 54.7	-3.8
CBYP	**Canovanas**	**1.29**	**159**	*e*Pn	Pn	09 24 38.9	-2.8
CBYP				*e*Pn	Pn	09 24 38.9	-2.8
CBYP				*e*Sn	Sb	09 24 53.5	-5.0
CBYP				*e*Sn	Sn	09 24 54.7	-4.1
SJG	**San Juan**	**1.38**	**172**	⇑*e*P	Pn	09 24 39.8	-3.0
SJG	**San Juan**	**1.38**	**172**	*e*S	Sn	09 24 57.4	-3.4
SJG	**San Juan**	**1.38**	**172**	*e*Pn	Pn	09 24 40.2	-2.5
HUMP	**Col San Antoni**	**1.41**	**161**	⇑*e*P	Pn	09 24 40.4	-2.9
HUMP	**Col San Antoni**	**1.41**	**161**	*e*S	Sn	09 24 57.8	-3.9
HUMP	**Col San Antoni**	**1.41**	**161**	*e*Pn	Pn	09 24 40.4	-2.9
HUMP				*e*Sn	Sn	09 24 59.9	-1.9
CELP	**Cerrillos**	**1.42**	**189**	⇑*e*P	Pn	09 24 40.2	-3.1
CELP				*e*S	Sn	09 24 58.2	-3.8
CELP	**Cerrillos**	**1.42**	**189**	*e*Pn	Pn	09 24 40.2	-3.1
CELP				*e*Sn	Sn	09 24 58.2	-3.8
OBIP	**Obispado Ponce**	**1.46**	**190**	⇑*e*P	Pn	09 24 40.5	-3.4
OBIP	**Obispado Ponce**	**1.46**	**190**	*e*S	Sn	09 24 59.2	-3.6
OBIP	**Obispado Ponce**	**1.46**	**190**	*e*Pn	Pn	09 24 41.0	-2.9
OBIP				*e*Sn	Sn	09 25 02.4	-0.4
MPR	**Mayaguez**	**1.47**	**211**	*e*Pn	Pn	09 24 41.1	-3.0
MPR				*e*Sn	Sn	09 25 00.7	-2.6
LSP	**Las Mesas**	**1.48**	**209**	⇑*e*P	Pn	09 24 41.3	-2.9
LSP	**Las Mesas**	**1.48**	**209**	*e*Pn	Pn	09 24 41.3	-2.9
CUPR	**Culebra, Puert**	**1.54**	**139**	⇑*e*P	Pn	09 24 41.6	-3.4
CUPR	**Culebra, Puert**	**1.54**	**139**	*e*S	Sn	09 25 00.5	-4.4
CUPR	**Culebra, Puert**	**1.54**	**139**	*e*Pn	Pn	09 24 41.6	-3.4
MTP	**Monte Pirata**	**1.57**	**151**	⇑*e*P	Pn	09 24 42.4	-3.1
MTP	**Monte Pirata**	**1.57**	**151**	*e*S	Sn	09 25 01.4	-4.2
MTP	**Monte Pirata**	**1.57**	**151**	*e*Pn	Pn	09 24 42.8	-2.6
MTP				*e*Sn	Sn	09 25 00.8	-4.8
ICMP	**Isla Caja de M**	**1.60**	**186**	*e*Pn	Pn	09 24 44.1	-1.8
STVI	**Saint Thomas**	**1.73**	**130**	⇑*e*P	Pn	09 24 45.1	-2.5
STVI	**Saint Thomas**	**1.73**	**130**	*e*S	Sn	09 25 06.2	-3.4
STVI	**Saint Thomas**	**1.73**	**130**	*e*Pn	Pn	09 24 45.1	-2.5
STVI				*e*Sn	Sn	09 25 06.3	-3.3
CDVI	**St. Croix**	**2.28**	**139**	*e*Pn	Pn	09 24 55.7	+0.5
CDVI				*e*Sn	Sn	09 25 24.3	+1.2
SDDR	**Presa de Saban**	**4.70**	**265**	*e*Pn	Pn	09 25 27.7	-0.9

IDC 18 09:26:13.1±79.0, 59°.27S×145°.38E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/23, mbtmp3.6/3, Error ellipse: s-maj=1388.0km s-min=281.0km az=151.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.51**	**353**	P	P	09 32 01.4	+0.4
	0.8nm,0.7s,baz=175,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**36.49**	**342**	P	P	09 33 19.6	-0.3
	0.5nm,0.8s,baz=162,slow=9.5,SNR=4.5						
WRA	**Warramunga Arr**	**40.08**	**344**	P	P	09 33 49.9	-0.2
	0.6nm,0.7s,baz=166,slow=8.8,SNR=7.3						
H08S2	**Diego Garcia H**	**74.74**	**281**	T	T	11 00 56.5	
	baz=147,slow=76,SNR=8.3						
H08S1	**Diego Carcia H**	**74.75**	**281**	T	T	11 00 52.8	
	baz=147,slow=76,SNR=5.5						
H08S3	**Diego Garcia H**	**74.76**	**281**	T	T	11 00 58.0	
	baz=147,slow=76,SNR=11						

*TAP **18** 09:50:15.8, 23°.25N×120°.43E, h13km, ML3.8, B*
*JMA **18** 09:50:15.4±0.2, 23°.30N×120°.41E, h0km, M3.4*

*ISCJB **18** 09:50:16.8±0.2, 23°.26N±0°.01×120°.41E±0°.01, h13km±1km, Error ellipse: s-maj=2.1km s-min=2.0km az=12.0*
*ASIES **18** 09:50:16.3, 23°.27N×120°.44E, h16km, MW3.2*

ISC 18 09:50:16.2±0.8, 23°.27N±0°.01×120°.41E±0°.02, h14km±5km, n95, σ0.82/150, 9C-21D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK	**Hsinying**	**0.07**	**95**	⇓P	**Pg**	**09 50 19.1**	**0.0**
	baz=73						
TWK				*e*S	**Sg**	**09 50 21.3**	**+0.3**
	baz=73						
CHN1	**Nanshi**	**0.14**	**130**	⇓*i*P	**Pg**	**09 50 19.5**	**-0.3**
	baz=114						
CHN1				*i* S	**Sg**	**09 50 21.9**	**-0.3**
	baz=114						
CHN4	**Tsaushan**	**0.18**	**65**	⇓*i*P	**Pb**	**09 50 20.9**	**-0.5**
	baz=55						
CHN4				*i* S	**Sb**	**09 50 24.6**	**-0.2**
	baz=55						
WTP	**Ta-pu**	**0.19**	**98**	⇓*i*P	**Pg**	**09 50 20.7**	**+0.1**
	baz=90						
WTP				S	**Sb**	**09 50 24.4**	**-0.6**
	baz=90						
CHN8	**Yiju**	**0.20**	**291**	P	**Pb**	**09 50 21.5**	**-0.2**
	baz=298						
CHN8				S	**Sb**	**09 50 26.2**	**+0.9**
	baz=298						
CHN3	**Shinhua**	**0.20**	**193**	⇑*i*P	**Pb**	**09 50 21.1**	**-0.6**
	baz=207						
CHN3				S	**Sb**	**09 50 25.2**	**-0.1**
	baz=207						
TPUB	**Ta-pu**	**0.20**	**82**	⇓P	**Pg**	**09 50 20.8**	**0.0**
	baz=73						
TPUB				S	**Sb**	**09 50 24.4**	**-1.1**
	baz=73						
CHY	**Chiayi**	**0.22**	**3**	⇑*e*P	**Pb**	**09 50 22.2**	**+0.1**
CHY				*e*S	**Sb**	**09 50 26.5**	**+0.4**
SCLT	**Jiali**	**0.22**	**244**	⇓P	**Pb**	**09 50 21.6**	**-0.4**
	baz=253						
SCLT				S	**Sb**	**09 50 26.6**	**+0.6**
	baz=253						
SGST	**Jiashian**	**0.25**	**140**	⇓*i*P	**Pg**	**09 50 21.6**	**0.0**
	baz=132						
SGST				S	**Sb**	**09 50 25.9**	**-0.7**
	baz=132						
TAI1	**Yung-k'ang**	**0.29**	**216**	⇓P	**Pb**	**09 50 23.1**	**0.0**
	baz=227						
TAI1				*e*S	**Sb**	**09 50 28.7**	**+0.9**
	baz=227						
STYT	**Tauyuan**	**0.34**	**109**	⇓*i*P	**Pg**	**09 50 23.2**	**+0.1**
	baz=105						
STYT				S	**Sb**	**09 50 28.7**	**-0.6**
	baz=105						
WSF	**Szhu**	**0.40**	**334**	*e*P	**Pb**	**09 50 25.2**	**0.0**
	baz=335						
WSF				*e*S	**Sb**	**09 50 32.5**	**+1.3**
	baz=335						
CHN5	**Tsauling**	**0.40**	**37**	*e*P	**Pb**	**09 50 24.9**	**-0.4**
	baz=32						
CHN5				S	**Sb**	**09 50 31.5**	**+0.2**
	baz=32						
WDLH	**Douliu**	**0.43**	**15**	⇑*e*P	**Pb**	**09 50 25.9**	**+0.3**
	baz=13						
WGK	**Gukeng**	**0.43**	**18**	P	**Pb**	**09 50 25.9**	**+0.3**
	baz=17						
TWM1	**Shoushan**	**0.45**	**179**	*e*P	**Pb**	**09 50 26.8**	**+0.9**
	baz=180						
SGLT	**Jiouru**	**0.55**	**172**	*e*P	**Pb**	**09 50 27.9**	**+0.2**
	baz=173						
WMLT	**Mailiao**	**0.56**	**342**	*e*P	**Pb**	**09 50 27.9**	**+0.1**
	baz=342						
ELDTW	**Lidau**	**0.56**	**98**	⇓P	**Pg**	**09 50 27.3**	**0.0**
	baz=96						
SSD	**Sandimen**	**0.56**	**159**	⇓P	**Pb**	**09 50 27.5**	**-0.4**
	baz=147						
SSD				*e*S	**Sb**	**09 50 35.7**	**-0.1**
	baz=147						
WTCT	**Ta-ch'eng**	**0.60**	**348**	*e*P	**Pb**	**09 50 28.5**	**0.0**
	baz=348						
WTCT				*e*S	**Sb**	**09 50 38.0**	**+1.1**
	baz=348						
RLNB	**Erlin**	**0.62**	**355**	⇑P	**Pb**	**09 50 28.9**	**+0.1**
	baz=345						
RLNB				*e*S	**Sb**	**09 50 38.4**	**+1.1**
	baz=345						
WJS	**Zhushan**	**0.62**	**28**	⇑P	**Pb**	**09 50 29.2**	**+0.3**
	baz=25						
WJS				S	**Sb**	**09 50 38.6**	**+1.2**
	baz=25						
WNT	**Mingjian**	**0.65**	**22**	⇑P	**Pb**	**09 50 29.7**	**+0.3**
	baz=20						
WNT				S	**Sn**	**09 50 40.2**	**-1.0**
	baz=20						
MASBT	**Mashibuluo**	**0.69**	**163**	⇓P	**Pg**	**09 50 29.5**	**-0.2**
	baz=148						
MASBT				*e*S	**Sb**	**09 50 39.0**	**-0.4**
	baz=148						
WDGT	**Dungji**	**0.69**	**269**	⇓*i*P	**Pg**	**09 50 29.5**	**-0.2**
	baz=271						
WDGT				S	**Sg**	**09 50 39.3**	**+0.5**
	baz=271						
KAU	**Kaohsiung**	**0.71**	**188**	*e*P	**Pg**	**09 50 29.5**	**-0.5**
	baz=201						
SSLB	**Suanglung**	**0.71**	**44**	⇑P	**Pb**	**09 50 30.4**	**-0.1**
	baz=41						
SSLB				S	**Sb**	**09 50 40.5**	**+0.3**
	baz=41						
TYC	**Yuchr**	**0.75**	**33**	⇑*i*P	**Pb**	**09 50 31.3**	**+0.2**
	baz=31						
TYC				S	**Sn**	**09 50 42.6**	**-1.0**
	baz=31						
SMLT	**Sun Moon Lake**	**0.75**	**36**	⇑*i*P	**Pb**	**09 50 31.4**	**+0.1**
	baz=34						
SMLT				S	**Sn**	**09 50 43.0**	**-0.9**
	baz=34						
TWG	**Pinlang**	**0.76**	**126**	⇓*i*P	**Pb**	**09 50 30.9**	**-0.3**
	baz=113						
TWG				*e*S	**Sb**	**09 50 41.9**	**+0.6**
	baz=113						
TWGBT	**Beinan**	**0.76**	**126**	⇓P	**Pg**	**09 50 30.8**	**-0.2**
	baz=113						
TWGBT				S	**Sb**	**09 50 41.5**	**-0.1**
	baz=113						
PHUB	**P'eng-hu**	**0.81**	**287**	P	**Pg**	**09 50 31.2**	**-0.7**
	baz=289						
PHUB				S	**Sg**	**09 50 42.3**	**-0.3**
	baz=289						
WCHH	**Zhanghua**	**0.81**	**9**	*e*P	**Pn**	**09 50 32.7**	**-0.6**
	baz=8.0						
WCHH				*e*S	**Sn**	**09 50 44.9**	**-0.3**
	baz=8.0						
TWF1	**Yuli**	**0.82**	**84**	⇓P	**Pg**	**09 50 31.8**	**-0.2**
	baz=81						
TWF1				S	**Sb**	**09 50 43.6**	**+0.4**
	baz=81						
VWDT	**VWDT**	**0.82**	**54**	⇓P	**Pb**	**09 50 32.6**	**+0.3**
	baz=39						
VWDT				S	**Sn**	**09 50 44.1**	**-1.3**
	baz=39						
YULB	**Yu-li**	**0.82**	**82**	⇓P	**Pg**	**09 50 31.8**	**-0.4**
	baz=86						
YULB				S	**Sb**	**09 50 42.8**	**-0.5**
	baz=86						
ECL	**Taimali**	**0.84**	**143**	*e*S	**Sb**	**09 50 44.1**	**+0.4**
	baz=143						
PNG	**Penghu**	**0.84**	**291**	*e*P	**Pb**	**09 50 31.8**	**-0.8**
	baz=292						
PNG				*e*S	**Sg**	**09 50 43.8**	**+0.2**
	baz=292						
TTN	**Taitung**	**0.85**	**127**	P	**Pn**	**09 50 33.1**	**-0.7**
	baz=115						
TTN				*e*S	**Sn**	**09 50 47.7**	**+1.6**
	baz=115						
EHY	**Hungye**	**0.87**	**74**	⇓*i*P	**Pg**	**09 50 32.9**	**-0.1**
	baz=75						
EHY				*e*S	**Sb**	**09 50 44.8**	**+0.2**
	baz=75						
DPDB	**Guoxing**	**0.89**	**32**	P	**Pg**	**09 50 33.5**	**-0.1**
	baz=29						
DPDB				S	**Sn**	**09 50 46.5**	**-0.7**
	baz=29						
CHKT	**Chengkung**	**0.89**	**101**	P	**Pg**	**09 50 33.6**	**+0.1**
	baz=99						
CHKT				*e*S	**Sn**	**09 50 47.6**	**+0.5**
	baz=99						
TCU	**Taichung**	**0.90**	**15**	*e*P	**Pn**	**09 50 34.1**	**-0.5**
	baz=15						
VCHM	**Qimei**	**0.91**	**266**	⇓P	**Pb**	**09 50 32.9**	**-0.9**
	baz=269						
VCHM				*e*S	**Sb**	**09 50 45.2**	**-0.5**
	baz=269						
SCZT	**Fangliau**	**0.92**	**168**	P	**Pg**	**09 50 33.8**	**-0.2**
	baz=156						
TWP	**Hsiaoliuchiu**	**0.92**	**183**	*e*P	**Pn**	**09 50 35.3**	**+0.5**
	baz=206						
HGSD	**Ruisui**	**0.95**	**77**	⇓P	**Pn**	**09 50 35.0**	**-0.3**
	baz=80						
HGSD				*e*S	**Sn**	**09 50 49.0**	**+0.3**
	baz=80						
TAW	**Tawu**	**1.01**	**154**	*e*P	**Pb**	**09 50 35.4**	**-0.2**
	baz=148						
TAW				*e*S	**Sn**	**09 50 49.6**	**-0.6**
	baz=148						
CHGB	**Renai**	**1.05**	**42**	*e*P	**Pb**	**09 50 35.8**	**-0.5**
	baz=39						
CHGB				*e*S	**Sn**	**09 50 50.9**	**-0.5**
	baz=39						
ESL	**Shilin**	**1.08**	**60**	*e*P	**Pn**	**09 50 36.8**	**-0.2**
	baz=65						
ESL				*e*S	**Sn**	**09 50 51.6**	**-0.1**
	baz=65						
WHF	**Hehuan Shan**	**1.17**	**42**	P	**Pg**	**09 50 38.6**	**-0.2**
	baz=40						
WHF				*e*S	**Sn**	**09 50 54.6**	**+0.1**
	baz=40						
NSY	**Sanyi**	**1.18**	**16**	*e*P	**Pb**	**09 50 38.6**	**+0.2**
	baz=15						
NSY				*e*S	**Sg**	**09 50 56.3**	**+1.8**
	baz=15						
TWT	**Tachien**	**1.20**	**35**	P	**Pn**	**09 50 38.5**	**-0.3**
	baz=33						
TWT				S	**Sg**	**09 50 55.1**	**0.0**
	baz=33						
HEN	**Hengchun**	**1.30**	**167**	*e*P	**Pg**	**09 50 40.7**	**-0.4**
	baz=168						
HWA	**Hwalien**	**1.30**	**57**	*e*P	**Pg**	**09 50 41.0**	**-0.2**
	baz=55						
TWD	**Chiawan**	**1.35**	**53**	*e*P	**Pb**	**09 50 41.2**	**-0.1**
	baz=60						
TWD				*e*S	**Sg**	**09 50 59.2**	**-0.6**
	baz=60						
TWK1	**Hengchun**	**1.37**	**165**	*e*P	**Pg**	**09 50 42.0**	**-0.6**
	baz=166						
TWKBT	**Hengchun**	**1.38**	**164**	*e*P	**Pb**	**09 50 41.7**	**0.0**
	baz=166						
NACB	**Ninganchiao**	**1.41**	**50**	*e*P	**Pb**	**09 50 41.9**	**-0.4**
	baz=48						
NACB				*e*S	**Sb**	**09 51 00.3**	**+0.2**
	baz=48						
TSEB	**Hengchuen, Pin**	**1.44**	**162**	*e*P	**Pb**	**09 50 42.6**	**-0.2**
	baz=164						
NNSB	**Datong**	**1.45**	**37**	*e*P	**Pb**	**09 50 42.7**	**-0.4**
	baz=20						
NSTT	**Nanjuang**	**1.46**	**22**	*e*P	**Pn**	**09 50 42.2**	**+0.1**
	baz=21						
NSTT				*e*S	**Sb**	**09 51 01.4**	**-0.1**
	baz=21						
NNS	**Nan Shan**	**1.46**	**37**	*e*P	**Pn**	**09 50 42.4**	**+0.2**
	baz=20						
LAY	**Lan-yu**	**1.62**	**139**	*e*P	**Pn**	**09 50 44.5**	**+0.2**
	baz=127						
NSK	**Sanguang**	**1.64**	**32**	*e*P	**Pb**	**09 50 45.6**	**-0.8**
	baz=16						
YHNB	**Yeheng**	**1.65**	**32**	*e*P	**Pb**	**09 50 45.5**	**-0.9**
	baz=18						
YHNB				*e*S	**Sg**	**09 51 08.5**	**-0.8**
	baz=18						
ENA	**Nanau**	**1.67**	**46**	*e*P	**Pb**	**09 50 46.5**	**-0.4**
	baz=62						
NANB	**Nanao**	**1.68**	**47**	*e*P	**Pb**	**09 50 46.1**	**-0.8**
	baz=62						
ENTT	**Nioudou**	**1.72**	**38**	*e*P	**Pb**	**09 50 46.7**	**-0.9**
	baz=22						
TWE	**Neicheng**	**1.84**	**38**	*e*P	**Pb**	**09 50 48.6**	**-1.1**
	baz=21						
TWC	**Suao**	**1.87**	**44**	*e*P	**Pb**	**09 50 49.2**	**-1.0**
	baz=43						
VWUC	**VWUC**	**1.92**	**333**	*e*P	**Pn**	**09 50 49.2**	**+0.6**
	baz=332						
TWA	**Mucha**	**2.01**	**32**	*e*P	**Pb**	**09 50 51.6**	**-1.0**
	baz=16						
EOS1	**EOS1**	**2.02**	**51**	*e*P	**Pb**	**09 50 52.7**	**0.0**
	baz=48						
TIPB	**Shuangxi**	**2.13**	**37**	*e*P	**Pn**	**09 50 52.0**	**+0.6**
	baz=21						
KNM	**Kinmen**	**2.14**	**303**	*e*P	**Pb**	**09 50 54.3**	**-0.5**
	baz=301						
YM01	**YM01**	**2.14**	**29**	*e*P	**Pn**	**09 50 51.8**	**+0.1**
	baz=13						
YM10	**YM10**	**2.15**	**29**	*e*P	**Pn**	**09 50 51.7**	**0.0**
	baz=13						
NWF	**Wu-fen Shan**	**2.18**	**35**	*e*P	**Pb**	**09 50 55.5**	**-0.1**
	baz=18						
WFSB	**Wu-fen Shan**	**2.18**	**35**	*e*P	**Pb**	**09 50 55.2**	**-0.3**
	baz=18						
YM07	**YM07**	**2.19**	**30**	*e*P	**Pn**	**09 50 52.1**	**-0.2**
	baz=14						
KNMB	**Chin-men Tao**	**2.20**	**303**	*e*P	**Pb**	**09 50 54.5**	**-1.3**
	baz=304						
TWB1	**Santiao Chiao**	**2.25**	**39**	*e*P	**Pn**	**09 50 53.1**	**0.0**
	baz=23						
JYNG	**Yonagunijimaku**	**2.60**	**63**	P	**Pn**	**09 50 59.6**	**+1.8**
JYNG				*e*S	**Sb**	**09 51 31.8**	**-2.6**
YOJ	**Yonaguni jima**	**2.66**	**63**	*e*P	**Pn**	**09 50 59.8**	**+1.1**
	baz=60						
YOJ	**Yonaguni jima**	**2.66**	**63**	P	**Pb**	**

-1.8700, Plg17.0000°, Azm206.0000°; After THR.
NEIC Felt at Dubai and Ra's al Khaymah, United Arab Emirates.
DSN **18** 10:03:17.4±0.6,26°.61N×57°.95E,h10km,mb6.0/6, ML5.8/11,Ms5.3/5 Error ellipse: s-maj=12.2km s-min=6.0km az=134.0
GCMT **18** 10:03:17.3±0.1,26°.50N±0°.01×57°.68E±0°.01,h12km, MW5.5/121,Moment Tensor Solution. s103,c172; s121,c306; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.04±.03; $M_{\theta\theta}$=-1.24±.03; $M_{\phi\phi}$=1.28±.03; $M_{r\theta}$=0.73±.07; $M_{\theta\phi}$=2.05±.02; $M_{\phi r}$=0.28±.07; Best double couple: M_0=2.53100×10^{17} NP1:ϕ_s=74.00000°,δ=89.00000°, λ=18.00000°. NP2:ϕ_s=344.00000°,δ=72.00000°,λ=179.00000°. Principal axes: T 2.5690, Plg13.0000°, Azm301.0000°; N -0.0740, Plg72.0000°, Azm77.0000°; P -2.4930, Plg12.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
IDC **18** 10:03:19.5±1.8,26°.69N×57°.82E,h19km±11km,mb4.9/37, mb1 5.0/39,mb1mx5.0/46,mbtmp5.1/39,ML2.8/1,MS5.2/34, Ms1 5.2/34,ms1mx5.2/38 Error ellipse: s-maj=8.8km s-min=7.4km az=160.0
ISC 18 10:03:17.8±0.4,**26°.69N**±0°.03×**57°.82E**±0°.02,**h9**km±2km, **h9**km:**pP-P,n1748,**σ1^s**79**/1447,**mb5.5**/382,**MS5.4**/713, **67C-29D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.05**	**183**	*e*Pg	**Pg**	**10 03 37.4**	**-0.5**
JSK1				IAMB	IAmb	10 04 42.8	
	comp=Z,0.0nm,1.2s						
NIAN	**Nian**	**1.24**	**315**	*e*Pg	**Pb**	**10 03 41.0**	**-0.3**
NIAN				IAMB	IAmb	10 04 26.4	
	comp=Z,0.0nm,2.7s						
KHNJ	**Kahnooj**	**1.26**	**355**	*e*Pg	**Pn**	**10 03 39.8**	**-1.9**
GENO	**Geno**	**1.63**	**296**	*e*Pn	**Pn**	**10 03 46.9**	**0.0**
GENO				IAMB	IAmb	10 04 23.4	
	comp=Z,0.0nm,0.8s						
SHME	**Shamm**	**1.64**	**247**	*e*P	**Pn**	**10 03 45.9**	**-0.9**
	SNR=100						
SHME				S	**Sg**	**10 04 11.4**	**+0.9**
MSFE	**Esma-Masafi**	**2.00**	**229**	*e*P	**Pn**	**10 03 49.2**	**-2.6**
	SNR=95						
UMQ	**Umm Al-Quwin**	**2.26**	**240**	*e*P	**Pn**	**10 03 56.8**	**+1.4**
	SNR=77						
HATD	**Hatta, Dubai**	**2.40**	**220**	*e*P	**Pn**	**10 03 55.2**	**-2.0**
	SNR=116						
HATD	**Hatta, Dubai**	**2.40**	**220**	P	**Pn**	**10 03 55.3**	**-2.0**
	SNR=12						
HATD				P	**Pn**	**10 03 55.3**	**-2.0**
	SNR=12						
HATD				S	**Sn**	**10 04 27.1**	**+0.2**
HATD				S	**Sn**	**10 04 27.1**	**+0.2**
ASHO	**Ashiyiah**	**2.55**	**219**	*e*P	**Pn**	**10 03 58.0**	**-1.4**
	SNR=480						
ASHO	**Ashiyiah**	**2.55**	**219**	P	**Pn**	**10 03 58.6**	**-0.9**
	SNR=48						
ASHO				P	**Pn**	**10 03 58.6**	**-0.9**
	SNR=48						
NAZ	**Nazwa, Dubai**	**2.58**	**229**	*e*P	**Pn**	**10 04 00.2**	**+0.5**
	SNR=354						
CHBR	**Chabahar**	**2.63**	**114**	*e*Pn	**Pn**	**10 04 00.0**	**-0.4**
CHBR	**Chabahar**	**2.63**	**114**	*e*Pn	**Pn**	**10 04 00.0**	**-0.4**
FAQ	**Al Faqa, Dubai**	**2.79**	**227**	*e*P	**Pn**	**10 04 03.3**	**+0.7**
	SNR=37						
SOHO	**SOHO**	**2.80**	**205**	P	**Pn**	**10 03 59.4**	**-3.4**
	SNR=13						
SOHO				P	**Pn**	**10 03 59.4**	**-3.4**
	SNR=13						
ASUD	**Al Ashush, Dub**	**3.04**	**228**	*i* P	**Pn**	**10 04 07.3**	**+1.1**
	SNR=32						
ASUD	**Al Ashush, Dub**	**3.04**	**228**	P	**Pn**	**10 04 08.0**	**+1.9**
	SNR=31						
ASUD				P	**Pn**	**10 04 08.0**	**+1.9**
	SNR=31						
NGRK	**Negar Kerman**	**3.10**	**342**	*e*Pn	**Pn**	**10 04 08.9**	**+1.6**
NGRK				IAMB	IAmb	10 05 18.1	
	comp=Z,0.0nm,2.8s						
HOQ	**Hoqain**	**3.13**	**189**	P	**Pn**	**10 04 06.9**	**-0.4**
HOQ				S	**Sn**	**10 04 42.3**	**-2.5**
BIDO	**Bidbid**	**3.17**	**175**	P	**Pn**	**10 04 05.8**	**-2.1**
	SNR=12						
BIDO				S	**Sn**	**10 04 43.9**	**-1.9**
CHMN	**Cheshme madani**	**3.17**	**356**	*e*Pn	**Pn**	**10 04 10.9**	**+2.7**
CHMN				IAMB	IAmb	10 05 19.5	
	comp=Z,0.0nm,1.2s						
ALNE	**Al Ain**	**3.22**	**216**	*i* P	**Pn**	**10 04 09.2**	**+0.6**
	SNR=142						
AJN	**Ajban**	**3.32**	**231**	*i* P	**Pn**	**10 04 11.1**	**+1.2**
	SNR=79						
TVBK	**TV Kerman**	**3.42**	**344**	*e*Pn	**Pn**	**10 04 14.5**	**+2.9**
TVBK				IAMB	IAmb	10 05 25.2	
	comp=Z,0.0nm,2.0s						
WSAR	**Wadi Sarin**	**3.51**	**168**	P	**Pn**	**10 04 12.0**	**-0.7**
WSAR				S	**Sn**	**10 04 52.5**	**-1.8**
WSAR	**Wadi Sarin**	**3.51**	**168**	Pn	**Pn**	**10 04 11.2**	**-1.4**
	comp=Z,108nm,0.3s,baz=338,slow=6.4,SNR=258						
WSAR				Sn	**Sn**	**10 04 52.0**	**-2.4**
	comp=Z,391nm,0.3s,baz=263,slow=19,SNR=15						
SMDO	**Samad**	**3.62**	**177**	P	**Pn**	**10 04 12.9**	**-1.2**
	SNR=30						
SMDO				S	**Sn**	**10 04 56.6**	**-0.5**
KHGB	**Koh Gabri**	**3.86**	**342**	*e*Pn	**Pn**	**10 04 20.2**	**+2.6**
KHGB				IAMB	IAmb	10 05 29.4	
	comp=Z,0.0nm,0.9s						
SZD1	**Zahaedan-tmp**	**3.87**	**43**	*e*Pn	**Pn**	**10 04 19.1**	**+1.4**
ZHSF	**Zahedan**	**3.91**	**41**	*e*Pn	**Pn**	**10 04 19.4**	**+1.2**
ZHSF	**Zahedan**	**3.91**	**41**	*e*Pn	**Pn**	**10 04 19.4**	**+1.2**
JHRM	**Jahrom**	**4.18**	**297**	*e*Pn	**Pn**	**10 04 22.6**	**+0.7**
GHIR	**Ghir-Karzin**	**4.58**	**291**	*e*Pn	**Pn**	**10 04 27.9**	**+0.5**
GHIR	**Ghir-Karzin**	**4.58**	**291**	*e*Pn	**Pn**	**10 04 27.9**	**+0.5**
JLN	**Jalan Bani Buh**	**4.74**	**162**	P	**Pn**	**10 04 27.8**	**-1.8**
	SNR=6.3						
IPAR	**Pars**	**5.25**	**308**	*e*Pn	**Pn**	**10 04 35.6**	**-1.2**
MZR	**Muzera**	**5.39**	**228**	*i* P	**Pn**	**10 04 37.9**	**-0.5**
	SNR=25						
MZR	**Muzera**	**5.39**	**228**	P	**Pn**	**10 04 38.4**	**0.0**
MZR				S	**Sn**	**10 05 40.4**	**-0.2**
IMEH	**Mehriz**	**5.46**	**330**	*e*Pn	**Pn**	**10 04 40.3**	**+0.7**
SHI	**Shiraz**	**5.53**	**303**	*e*Pn	**Pn**	**10 04 39.3**	**-1.3**
MHTO	**MHTO**	**5.68**	**179**	P	**Pn**	**10 04 42.3**	**-0.1**
IKOO	**Kooshah**	**5.81**	**10**	*e*Pn	**Pn**	**10 04 46.1**	**+1.7**
IKAZ	**Kazeroun**	**6.11**	**302**	*e*Pn	**Pn**	**10 04 46.2**	**-2.4**
ITEG	**Tejag**	**6.24**	**7**	*e*Pn	**Pn**	**10 04 51.4**	**+1.1**
ICHK	**Chekchek**	**6.29**	**333**	*e*Pn	**Pn**	**10 04 52.5**	**+1.6**
ISAD	**Sadrabad**	**6.34**	**326**	*e*Pn	**Pn**	**10 04 52.2**	**+0.5**
YZKH	**Yazd**	**6.34**	**334**	*e*Pn	**Pn**	**10 04 52.0**	**+0.4**
TPRV	**Parvadeh(Tabas**	**6.39**	**351**	*e*Pn	**Pn**	**10 04 54.7**	**+2.4**
DQM	**DQM**	**6.73**	**182**	P	**Pn**	**10 04 55.4**	**-1.5**
TKDS	**Koohdasht(Taba**	**6.93**	**355**	*e*Pn	**Pn**	**10 05 02.5**	**+2.8**
TABS	**Tabas**	**6.96**	**355**	*e*Pn	**Pn**	**10 05 01.5**	**+1.3**
TABS	**Tabas**	**6.96**	**355**	*e*Pn	**Pn**	**10 05 01.5**	**+1.3**
IRAM	**Ramesheh**	**6.97**	**318**	*e*Pn	**Pn**	**10 04 59.5**	**-0.9**
TNSJ	**Nastanj**	**7.33**	**352**	*e*Pn	**Pn**	**10 05 08.4**	**+3.3**
IGAR	**Gharneh**	**7.60**	**320**	*e*Pn	**Pn**	**10 05 09.7**	**+0.7**
IZEF	**Zefreh**	**7.81**	**324**	*e*Pn	**Pn**	**10 05 11.0**	**-0.9**
ZNGN	**Zangian**	**8.13**	**313**	*e*Pn	**Pn**	**10 05 15.6**	**-0.8**
ROKH	**ROKH**	**8.17**	**315**	*e*Pn	**Pn**	**10 05 16.7**	**-0.1**
JHBN	**Jahan bin**	**8.33**	**313**	*e*Pn	**Pn**	**10 05 18.7**	**-0.4**
IPIR	**Pirpir**	**8.48**	**316**	*e*Pn	**Pn**	**10 05 20.9**	**-0.3**
IKLH	**Kolahrood**	**8.54**	**322**	*e*Pn	**Pn**	**10 05 22.4**	**+0.5**
DMTO	**DMTO**	**9.32**	**197**	P	**Pn**	**10 05 29.3**	**-3.0**
DMTO				P	**Pn**	**10 05 29.3**	**-3.0**
IANJ	**Anjilo**	**9.37**	**340**	*e*Pn	**Pn**	**10 05 36.0**	**+2.7**
JRKH	**Jarkhoshk**	**9.44**	**13**	*e*Pn	**Pn**	**10 05 36.8**	**+2.6**
IMOG	**Moghan**	**9.48**	**7**	*e*Pn	**Pn**	**10 05 38.4**	**+3.6**
SBZV	**Sabzevar**	**9.67**	**359**	*e*Pn	**Pn**	**10 05 41.1**	**+3.7**
KHMZ	**Khomeyn**	**9.78**	**318**	*e*Pn	**Pn**	**10 05 39.0**	**+0.2**
KHMZ	**Khomeyn**	**9.78**	**318**	*e*Pn	**Pn**	**10 05 39.0**	**+0.2**
IPAY	**Payeh**	**9.78**	**6**	*e*Pn	**Pn**	**10 05 43.2**	**+4.3**
IVRN	**Varamin**	**9.79**	**329**	*e*Pn	**Pn**	**10 05 40.1**	**+1.1**
IMYA	**Miami**	**9.82**	**11**	*e*Pn	**Pn**	**10 05 43.8**	**+4.4**
IAKL	**Akhelmad**	**9.92**	**4**	*e*Pn	**Pn**	**10 05 43.1**	**+2.3**
IFIR	**Firoozkooh**	**9.92**	**335**	*e*Pn	**Pn**	**10 05 42.8**	**+1.9**
IKRD	**Kardeh**	**10.07**	**3**	*e*Pn	**Pn**	**10 05 46.9**	**+3.9**
IALA	**Alasht**	**10.30**	**337**	*e*Pn	**Pn**	**10 05 48.4**	**+2.4**
IHSB	**Hasanabad**	**10.37**	**329**	*e*Pn	**Pn**	**10 05 48.1**	**+1.3**
IPRN	**Peran**	**10.61**	**335**	*e*Pn	**Pn**	**10 05 53.2**	**+3.0**
IKMR	**Kamar-syah**	**10.63**	**312**	*e*Pn	**Pn**	**10 05 50.2**	**-0.1**
IEMG	**Emamgholi**	**10.72**	**4**	*e*Pn	**Pn**	**10 05 54.5**	**+2.7**
IMND	**Minoodasht**	**10.73**	**350**	*e*Pn	**Pn**	**10 05 54.2**	**+2.5**
IDOB	**Doab**	**10.93**	**313**	*e*Pn	**Pn**	**10 05 52.5**	**-2.2**
IKFM	**Kafar-mosalman**	**11.00**	**311**	*e*Pn	**Pn**	**10 05 54.1**	**-1.2**
GEYT	**Alibeck**	**11.21**	**1**	Pn	**Pn**	**10 06 01.5**	**+3.2**
	baz=164,slow=26,SNR=3.4						
GEYT				Lg	Lg	10 09 12.2	
	comp=Z,19nm,0.3s,baz=202,slow=11,SNR=4.6						
GEYT				LR	LR	10 10 06.8	
	comp=Z,4μm,18.4s,baz=195,slow=36						
BHJ	**Bhuj**	**11.27**	**105**	*e*P	**Pn**	**10 05 57.3**	**-1.8**
BHJ				IAmb	IAmb	10 05 59.7	
	comp=Z,497nm,1.6s						
IBZA	**Bozab**	**11.56**	**315**	*e*Pn	**Pn**	**10 06 00.9**	**-2.4**
IKOM	**Komasi**	**11.61**	**312**	*e*Pn	**Pn**	**10 06 02.3**	**-1.5**
IGZV	**Ghazvin**	**11.64**	**328**	*e*Pn	**Pn**	**10 06 05.8**	**+1.5**
HSRG	**Sareghieh**	**11.81**	**318**	*e*Pn	**Pn**	**10 06 06.8**	**0.0**
KCHF	**Cheshme Sefid,**	**11.98**	**312**	*e*Pn	**Pn**	**10 06 06.3**	**-2.7**
IVIS	**Veis**	**12.25**	**312**	*e*Pn	**Pn**	**10 06 09.8**	**-2.9**
IGHG	**Ghaleghazi**	**12.33**	**311**	*e*Pn	**Pn**	**10 06 11.6**	**-2.2**
ILIN	**Lien**	**12.42**	**314**	*e*Pn	**Pn**	**10 06 11.9**	**-3.1**
KBL	**Kabul**	**12.43**	**48**	*e*Pn	**Pn**	**10 06 19.3**	**+4.1**
KBL	**Kabul**	**12.43**	**48**	P	**Pn**	**10 06 18.6**	**+3.4**
KBL				pmax	pmax		
	comp=Z,103nm,1.2s						
IDHR	**Dehrash**	**12.66**	**312**	*e*Pn	**Pn**	**10 06 15.6**	**-2.8**
THW	**Thamme Wali**	**13.54**	**60**	P	**Pn**	**10 06 29.3**	**-0.8**
CEP	**Cherat**	**14.09**	**56**	P	**Pn**	**10 06 37.3**	**-0.5**
LKRN	**Lenkeran, Azer**	**14.19**	**330**	P	**Pn**	**10 06 40.7**	**+1.8**
IHRS	**Heris**	**14.72**	**325**	*e*Pn	**Pn**	**10 06 46.4**	**-0.1**
IAZR	**Azarshahr**	**14.84**	**321**	*e*Pn	**Pn**	**10 06 47.9**	**-0.2**
NIL	**Nilore**	**15.03**	**59**	*e*Pn	**Pn**	**10 06 51.2**	**+0.7**
	comp=Z,369nm,0.8s						
NIL	**Nilore**	**15.03**	**59**	*e*P	**Pn**	**10 06 51.2**	**+0.7**
NIL				pmax	pmax		
	comp=Z,369nm,0.8s						
ITBZ	**Tabriz**	**15.14**	**322**	*e*Pn	**Pn**	**10 06 52.6**	**+0.6**
CHGR	**Chuyangaron**	**15.27**	**36**	*e*Pn	**Pn**	**10 06 51.5**	**-2.1**
	comp=Z,688nm,1.5s						
ISHB	**Shabestar**	**15.46**	**321**	*e*Pn	**Pn**	**10 06 55.8**	**-0.6**
IMRD	**Marand**	**15.72**	**323**	*e*Pn	**Pn**	**10 06 59.3**	**-0.4**
GAR	**Garm**	**16.13**	**37**	*e*Pn	**Pn**	**10 07 03.9**	**-1.1**
	comp=Z,198nm,0.9s						
GAR	**Garm**	**16.13**	**37**	*e*P	**Pn**	**10 07 03.9**	**-1.1**
GAR				pmax	pmax		
	comp=Z,198nm,0.9s						
NAX	**Nakhchivan**	**16.17**	**323**	P	**Pn**	**10 07 06.4**	**+1.0**
MNGR	**Mingechevir, A**	**16.63**	**330**	P	**P**	**10 07 12.9**	**-0.6**
POO	**Poona**	**16.87**	**115**	*e*P	**Pn**	**10 07 12.2**	**-2.1**
POO				IAmb	IAmb	10 07 22.3	
	comp=Z,546nm,1.4s						
GANJ	**Ganja**	**16.87**	**328**	P	**P**	**10 07 15.9**	**-0.4**
BHK	**Bhakra**	**16.93**	**69**	*ex*	**Pn**	**10 07 15.0**	**0.0**
SEKA	**Sheki**	**16.93**	**331**	P	**P**	**10 07 16.4**	**-0.6**
AKT	**Akhty**	**16.94**	**333**	*i* P	**P**	**10 07 16.4**	**-0.7**
VANB	**Van**	**16.97**	**318**	P	**Pn**	**10 07 15.2**	**-0.3**
DHRM	**DHARAMSHALA**	**17.01**	**67**	*e*P	**Pn**	**10 07 14.8**	**-1.5**
DHRM				IAmb	IAmb	10 07 26.9	
	comp=Z,574nm,1.1s						
CLDR	**Caldiran**	**17.02**	**320**	P	**P**	**10 07 17.1**	**-1.1**
AKDM	**Akdamar-Van**	**17.05**	**317**	P	**Pn**	**10 07 16.1**	**-0.5**
GNI	**Garni**	**17.28**	**324**	P	**Pn**	**10 07 19.1**	**-0.4**
GNI	**Garni**	**17.28**	**324**	*e*Pn	**P**	**10 07 20.6**	**-0.4**
	comp=Z,380nm,1.1s						
GNI	**Garni**	**17.28**	**324**	*i* P	**P**	**10 07 20.3**	**-0.6**
	SNR=55						
GNI	**Garni**	**17.28**	**324**	*ce*P	**Pn**	**10 07 19.8**	**+0.3**
GNI				pmax	pmax		
	comp=Z,601nm,1.7s						
GNI	**Garni**	**17.28**	**324**	P	**Pn**	**10 07 19.7**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=172,slow=2.8,SNR=16						
GNI				LR	LR	10 15 14.9	
	comp=Z,11μm,20.7s,baz=122,slow=41						
NDI	**New Delhi**	**17.30**	**79**	*e*P	**Pn**	**10 07 18.0**	**-1.6**
DAMY	**Dhamar**	**17.39**	**229**	*e*Pn	**Pn**	**10 07 17.5**	**-3.7**
	comp=Z,846nm,1.1s						
TAS	**Tashkent**	**17.40**	**30**	P	**Pn**	**10 07 20.8**	**0.0**
TAS				pmax	pmax		
	comp=Z,180nm,0.5s						
TASB	**TASBURUN-IGDIR**	**17.43**	**323**	P	**P**	**10 07 23.2**	**+0.7**
SMLA	**Simla**	**17.50**	**71**	*e*P	**Pn**	**10 07 22.4**	**+0.2**
SMLA				IAmb	IAmb	10 07 30.8	
	comp=Z,388nm,1.4s						
ZKTA	**Zakatala**	**17.53**	**331**	P	**P**	**10 07 24.4**	**+0.8**
MLAZ	**Malazgirt-MUS**	**17.82**	**318**	P	**Pn**	**10 07 26.0**	**-0.2**
AGRB	**Hanur-Agry**	**17.84**	**320**	P	**P**	**10 07 27.9**	**+0.7**
BHPL	**Bhopal**	**18.10**	**97**	*e*P	**Pn**	**10 07 27.6**	**-2.1**
DDI	**Dehra Dun**	**18.15**	**74**	*e*P	**Pn**	**10 07 28.5**	**-1.7**
DDI				IAmb	IAmb	10 07 36.4	
	comp=Z,407nm,1.4s						
MAK	**Makhachkala**	**18.29**	**335**	*e*P	**P**	**10 07 31.8**	**0.0**
MAK				*e*S	**Sn**	**10 10 55.4**	**-0.5**
MAK				pmax	pmax		
	comp=Z,583nm,1.3s						
MAK				MLR	MLR		
	comp=Z,6μm,17.0s						
CHM	**Chimkent**	**18.34**	**29**	*e*LR	LR	10 16 26.9	
	comp=Z,2μm,11.7s						
IUG	**Iuzhnay**	**18.39**	**30**	*e*P	**Pn**	**10 07 31.3**	**-1.8**
IUG				*e*S	**Sn**	**10 10 48.0**	**-11**
IUG				pmax	pmax		
	comp=Z,90nm,1.3s						
IUG				MLR	MLR		
	comp=Z,2μm,12.0s						
IUG	**Iuzhnay**	**18.39**	**30**	*e*P	**Pn**	**10 07 31.4**	**-1.7**
	comp=Z,90nm,1.3s						
IUG				*e*S	**Sn**	**10 10 48.1**	**-11**
IUG				*e*LR	LR	10 15 20.4	
	comp=Z,2μm,11.7s						
TBLG	**Delisi**	**18.46**	**328**	P	**P**	**10 07 33.2**	**-0.7**
TBLG	**Delisi**	**18.46**	**328**	*e*P	**Pn**	**10 07 34.2**	**+0.2**
	comp=Z,183nm,1.2s						
TBLG	**Delisi**	**18.46**	**328**	*e*P	**Pn**	**10 07 34.2**	**+0.2**
TBLG				pmax	pmax		
	comp=Z,183nm,1.2s						
VRTB	**Varto-Mus**	**18.50**	**316**	P	**Pn**	**10 07 35.2**	**+0.7**
KARS	**Kars**	**18.51**	**322**	*e*P	**Pn**	**10 07 35.8**	**+1.2**
KARS	**Kars**	**18.51**	**322**	*e*P	**Pn**	**10 07 35.8**	**+1.2**
GOA	**Goa**	**18.61**	**124**	*e*P	**P**	**10 07 33.3**	**-2.3**
GOA				IAmb	IAmb	10 07 40.5	
	comp=Z,362nm,1.4s						
BGD	**Bogdanovka**	**18.68**	**325**	*e*P	**Pn**	**10 07 37.8**	**+1.0**
KOPR	**Koprukoy-ERZUR**	**18.78**	**319**	P	**Pn**	**10 07 39.9**	**+2.0**
DVE	**Vedeno**	**18.83**	**333**	*i* P	**Pn**	**10 07 39.2**	**+0.8**
KARO	**Karliova-Bingo**	**18.84**	**316**	P	**Pn**	**10 07 40.0**	**+1.3**
JBG	**Jabagly**	**18.84**	**30**	*e*P	**P**	**10 07 36.7**	**-1.4**
JBG				*e*S	**S**	**10 11 11.0**	**-1.5**
JBG				pmax	pmax		
	comp=Z,65nm,1.5s						
JBG				smax	smax		
	comp=N,460nm,6.2s						
JBG				MLR	MLR		
	comp=Z,2μm,11.0s						
AKH	**Akhalkalaki**	**18.84**	**325**	P	**Pn**	**10 07 39.0**	**+0.2**
AKH	**Akhalkalaki**	**18.84**	**325**	*e*P	**Pn**	**10 07 39.7**	**+1.0**
	comp=Z,119nm,1.1s						
AKH	**Akhalkalaki**	**18.84**	**325**	⇑*i*P	**Pn**	**10 07 39.7**	**+1.0**
AKH	**Akhalkalaki**	**18.84**	**325**	*e*P	**Pn**	**10 07 39.7**	**+1.0**
AKH				pmax	pmax		
	comp=Z,119nm,1.1s						
SENK	**Senkaya-Erzuru**	**18.86**	**321**	P	**Pn**	**10 07 40.3**	**+1.3**
BNGB	**Bingl**	**18.88**	**315**	P	**Pn**	**10 07 39.5**	**+0.3**
BINT	**Bingol**	**18.94**	**314**	P	**Pn**	**10 07 39.5**	**-0.4**
ASF	**Jabal al Asfar**	**19.02**	**292**	P	**P**	**10 07 37.7**	**-2.4**
	comp=Z,144nm,1.0s						
ASF	**Jabal al Asfar**	**19.02**	**292**	P	**P**	**10 07 37.3**	**-2.9**
	comp=Z,2.6nm,0.3s,baz=66,slow=4.7,SNR=43						
ASF				S	Sn	10 10 58.5	-15
	comp=Z,1.0nm,0.3s,baz=8.7,slow=8.0,SNR=4.1						
ASF				LR	LR	10 16 31.5	
	comp=Z,3μm,21.0s,baz=62,slow=42						
GROC	**Groznyy**	**19.16**	**332**	*e*P	**P**	**10 07 41.3**	**-0.2**
GROC				*e*S	**Sn**	**10 11 15.7**	**-1.5**
GROC				pmax	pmax		
	comp=Z,154nm,1.7s						
YEDI	**Yedisu-Bingol**	**19.23**	**316**	P	**Pn**	**10 07 44.0**	**+0.6**
URFA	**Urfa**	**19.31**	**308**	P	**P**	**10 07 43.5**	**+0.2**
KK31	**Karatay Array**	**19.37**	**29**	*e*P	**Pn**	**10 07 44.5**	**-0.4**
	comp=Z,374nm,1.4s						
KK31	**Karatay Array**	**19.37**	**29**	*i* P	**Pn**	**10 07 44.2**	**-0.7**
KK31				pmax	pmax		
	comp=Z,82nm,0.8s						
KKAR	**Karatay Array**	**19.37**	**29**	*e*P	**Pn**	**10 07 44.3**	**-0.6**
	comp=Z,374nm,1.4s						
KKAR				*e*P	**P**	**10 07 44.6**	**+0.8**
KKAR	**Karatay Array**	**19.37**	**29**	*e*P	**Pn**	**10 07 44.3**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,374nm,1.4s						
SVRC	**Sivrice-ELAZID**	**19.44**	**311**	P	**Pn**	**10 07 46.3**	**+0.3**
SWQJ	**Swaqa**	**19.57**	**289**	P	**P**	**10 07 45.5**	**-0.6**
HSUJ	**Al Zarqa**	**19.59**	**291**	P	**P**	**10 07 46.4**	**0.0**
TOTH	**TOTAH**	**19.66**	**295**	*e*P	**Pn**	**10 07 49.7**	**+1.2**
TOTH				*e*S	S	10 10 58.1	-31
TOTH				AML	AML	10 12 15.5	
	comp=N,116nm,0.8s						
TOTH				AML	AML	10 12 50.4	
	comp=E,84nm,0.8s						
ZEI	**Tsey**	**19.68**	**328**	*e*P	**Pn**	**10 07 48.1**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,118nm,0.9s						
ONI	**Oni**	**19.74**	**327**	P	**P**	**10 07 48.4**	**+0.5**
ONI	**Oni**	**19.74**	**327**	P	**P**	**10 07 48.3**	**+0.4**
HSNJ	**Maan**	**19.77**	**286**	P	**Pn**	**10 07 49.7**	**-0.3**
WALJ	**Wala**	**19.82**	**289**	P	**Pn**	**10 07 50.1**	**-0.3**
KSH	**Kashi**	**19.83**	**45**	P	**P**	**10 07 44.3**	**-4.7**
KSH				sP	Pn	10 07 49.8	-0.7
KSH				PP	**PnPn**	**10 08 02.3**	**-2.1**
KSH				S	S	10 11 14.5	-18
KSH				SS	**SnSn**	**10 11 43.4**	**-4.4**
KSH				pmax	pmax		
	comp=Z,170nm,0.5s						
KSH				LR	LR		
	comp=Z,7μm,7.7s						
KSH				LR	LR		
	comp=Z,6μm,7.0s						
KSH				LR	LR		
	comp=Z,9μm,6.7s						
QASN	**Qassioun**	**19.83**	**295**	*e*P	**Pn**	**10 07 51.9**	**+1.3**
QASN				*e*S	S	10 11 01.4	-31
QASN				AML	AML	10 12 16.4	
	comp=E,133nm,0.9s						
QASN				AML	AML	10 12 21.1	
	comp=N,203nm,0.8s						
JDRJ	**Daraweish**	**19.84**	**287**	P	**P**	**10 07 48.8**	**-0.4**
	comp=N,628nm,1.4s						
BCA	**Borcka**	**19.87**	**322**	P	**P**	**10 07 49.8**	**+0.5**
BCA	**Borcka**	**19.87**	**322**	⇓*i*P	**Pn**	**10 07 50.4**	**-0.5**
KARJ		**19.90**	**288**	P	**Pn**	**10 07 52.5**	**+1.2**
BATM	**Batumi**	**19.94**	**322**	⇓*i*P	**Pn**	**10 07 51.5**	**-0.2**
BATM	**Batumi**	**19.94**	**322**	P	**Pn**	**10 07 51.4**	**-0.2**
PTH	**Pithoragarh**	**19.95**	**77**	*ex*	**Pn**	**10 07 55.2**	**+3.0**
LISJ	**El Lisan**	**20.06**	**288**	P	**P**	**10 07 52.0**	**+0.7**
BRBR	**Barbar**	**20.06**	**295**	*e*P	Pn	10 07 52.9	-0.6
BRBR				*e*S	S	10 11 06.1	-31
BRBR				AML	AML	10 12 36.6	
	comp=E,62nm,0.7s						
BRBR				AML	AML	10 12 39.9	
	comp=N,140nm,0.8s						
SHMJ	**Saham**	**20.07**	**293**	P	Pn	10 07 52.4	-0.9
NGP	**Nagpur**	**20.16**	**101**	⇑*e*P	**P**	**10 07 50.2**	**-2.4**
NGP				*ex*	x	10 11 44.5	
RCY	**Rachaya**	**20.18**	**295**	*e*P	**P**	**10 07 53.7**	**+0.8**
SHBL	**Chebaa**	**20.22**	**294**	*e*P	Pn	10 07 54.2	-1.0
HWQ	**Hawqa**	**20.29**	**297**	*e*P	**P**	**10 07 54.9**	**+0.8**
AQBJ	**Aqaba**	**20.29**	**284**	P	**P**	**10 07 54.7**	**+0.8**
MMLI	**Mount Malkishu**	**20.29**	**292**	P	**P**	**10 07 53.9**	**-0.1**
QRWL	**Qaraoun**	**20.31**	**295**	*e*P	Pn	10 07 55.2	-1.1
HRFI	**Mount Harif**	**20.32**	**285**	P	**P**	**10 07 55.2**	**+0.9**
GAZ	**Gaziantep**	**20.34**	**306**	P	Pn	10 07 56.3	-0.2
NCK	**Nalchik**	**20.36**	**

CUALT	Altinyayla-SIV	21.61 311	*i* P		P	10 08 09.5 +1.1
BOOM	Boomskoye usch	21.63 39	*e*P		P	10 08 08.4 -0.1
	comp=Z,254nm,0.9s					
BOOM			LR		LR	
	comp=Z,8μm,19.0s					
BOOM	Boomskoye usch	21.63 39	*e*P		P	10 08 08.4 -0.1
BOOM			pmax		pmax	
	comp=Z,254nm,0.9s					
BOOM			MLR		MLR	
	comp=Z,8μm,19.0s					
SVSK	Karacayir	21.77 313	P		P	10 08 11.5 +1.7
RSDY	Resadiye-TOKAT	21.81 314	P		P	10 08 11.2 +0.9
KARA	Karaisali	21.95 304	P		P	10 08 13.5 +1.7
CUSAR	Sarkisla-SIVAS	22.03 311	*i* P		P	10 08 14.0 +1.2
BNN	Bunyan	22.04 309	P		P	10 08 14.6 +1.7
EREN	Erenkoy	22.04 299	P		P	10 08 14.3 +1.5
KDJ	Kajisay	22.11 41	*e*P		P	10 08 14.8 +1.1
	comp=Z,318nm,0.9s					
KDJ			LR		LR	
	comp=Z,21μm,18.0s					
KDJ	Kajisay	22.11 41	*e*P		P	10 08 14.8 +1.1
KDJ			pmax		pmax	
	comp=Z,318nm,0.9s					
KDJ			MLR		MLR	
	comp=Z,21μm,18.0s					
MERS	Mersin	22.20 303	P		P	10 08 16.1 +1.5
TARG	Taragay, Kyrgy	22.24 43	*e*P		P	10 08 15.6 +0.2
	comp=Z,113nm,0.9s					
TARG			LR		LR	
	comp=Z,6μm,19.0s					
TOKT	Tokat	22.28 313	P		P	10 08 16.6 +1.2
SOC	Sochi	22.36 324	*c i* P		P	10 08 15.7 -0.4
SOC			*e*PPP		PPP	10 08 46.4
SOC			*e*S		S	10 12 21.4 -0.5
SOC			*e*SSS		SSS	10 13 07.3
SOC			pmax		pmax	
	comp=Z,337nm,1.8s					
SOC			MLR		MLR	
	comp=Z,8μm,15.0s					
KIZK	Mersin	22.36 302	P		P	10 08 17.1 +0.9
PYUN	Piuthan	22.38 81	*e*P		P	10 08 17.8 +1.0
	comp=Z,617nm,1.1s					
BTLS	Baital	22.47 31	*e*P		P	10 08 15.9 -1.4
BTLS			pmax		pmax	
	comp=Z,31nm,1.1s					
BTLS			MLR		MLR	
	comp=Z,1μm,12.0s					
BTLS	Baital	22.47 31	*e*P		P	10 08 15.9 -1.4
	comp=Z,31nm,1.1s					
BTLS			*e*S		S	10 12 29.1 +5.1
BTLS			*e*LR		LR	10 18 07.8
	comp=Z,1μm,11.7s					
SILI	Silifke-Mersin	22.49 301	P		P	10 08 17.7 +0.1
CSS	Mathiatis	22.55 297	P		P	10 08 19.0 +0.7
CSS	Mathiatis	22.55 297	*e*P		P	10 08 17.7 -0.6
	comp=Z,268nm,1.0s					
CSS			LR		LR	
	comp=Z,14μm,19.0s					
AB31	Akbulak array	22.59 4	*i* P		P	10 08 18.3 -0.2
AB31			pmax		pmax	
	comp=Z,68nm,0.7s					
ABKAR	Akbulak array	22.59 4	*e*P		P	10 08 17.8 -0.7
	comp=Z,235nm,1.2s					
ABKAR			*e*P		pP	10 08 18.0 -3.6
IKL	Isikli	22.63 301	P		P	10 08 19.7 +0.6
AAA	Alma-Ata	22.64 38	*e*P		P	10 08 19.8 +0.5
AAA			*e*S		S	10 12 16.5 -11
AAA			pmax		pmax	
	comp=Z,300nm,1.2s					
AAA			smax		smax	
	comp=N,3μm,9.7s					
AAA			MLR		MLR	
	comp=Z,6μm,15.0s					
AAA	Alma-Ata	22.64 38	*e*P		P	10 08 19.7 +0.5
	comp=Z,197nm,0.9s					
AAA			*e*S		S	10 12 26.3 -1.1
AAA			*e*LR		LR	10 17 12.5
	comp=Z,5μm,15.6s					
KEBE	Keben-Mersin	22.68 301	P		P	10 08 20.8 +1.1
MDOK	Medeo	22.69 39	*e*P		P	10 08 19.4 -0.4
MDOK			*e*S		S	10 12 23.8 -4.5
MDOK			smax		smax	
	comp=E,3μm,11.6s					
MDOK			MLR		MLR	
	comp=Z,5μm,18.0s					
MDOK	Medeo	22.69 39	*e*P		P	10 08 19.4 -0.4
	comp=Z,4μm,1.3s					
MDOK			*e*S		S	10 12 23.8 -4.5
	comp=Z,3μm,11.6s					
MDOK			*e*LR		LR	10 17 09.8
	comp=Z,5μm,17.6s					
MAMC	Mammari	22.69 298	P		P	10 08 21.5 +1.7
AKKU	Akkuyu-Mersin	22.71 301	P		P	10 08 20.5 +0.6
GULN	MERSIN_Gulnar	22.73 301	*i* P		P	10 08 21.0 +0.9
YOZ	Yozgat	22.77 310	P		P	10 08 20.5 -0.2
KUU	Kurty	22.79 36	*e*P		P	10 08 20.3 -0.4
KUU			*e*S		S	10 12 30.8 +1.0
KUU			pmax		pmax	
	comp=Z,109nm,1.1s					
KUU			smax		smax	
	comp=E,905nm,4.6s					
KUU			MLR		MLR	
	comp=Z,3μm,12.0s					
KUU	Kurty	22.79 36	*e*P		P	10 08 20.4 -0.4
	comp=Z,110nm,1.1s					
KUU			*e*S		S	10 12 30.8 +1.0
	comp=Z,905nm,4.6s					
KUU			*e*LR		LR	10 17 34.6
	comp=Z,3μm,11.7s					
SZAC	Souni	22.86 297	P		P	10 08 21.7 +0.2
KOLN	Koldanda	22.94 81	*e*P		P	10 08 23.3 +0.7
	comp=Z,447nm,1.3s					
KVT	Kavak	23.00 314	P		P	10 08 23.4 +0.4
KVT	Kavak	23.00 314	P		P	10 08 23.4 +0.4
BERE	Bereket-Mersin	23.02 301	P		P	10 08 23.6 +0.2
TEKE	Tekeli-Mersin	23.04 300	P		P	10 08 22.6 -0.8
DANN	Dangsing	23.05 80	*e*P		P	10 08 25.1 +1.2
	comp=Z,1μm,1.0s					
DESE	Dese	23.10 231	*e*P		P	10 08 21.3 -3.2
DESE			*e*S		S	10 12 40.8 +4.6
DESE	Dese	23.10 231	*e*P		P	10 08 21.3 -3.2
DESE			*e*S		S	10 12 40.8 +4.6
ALFC	Alefka	23.18 297	P		P	10 08 26.1 +1.2
PPCY	Paphos	23.32 297	P		P	10 08 25.4 -0.8
MNCY	Minicoy	23.32 139	*e*P		P	10 08 23.1 -3.3
SATY	Saty	23.40 40	*e*P		P	10 08 27.0 -0.1
SATY			*e*S		S	10 12 40.8 +0.4
SATY			pmax		pmax	
	comp=Z,121nm,1.2s					
SATY			smax		smax	
	comp=E,133nm,3.0s					
SATY			MLR		MLR	
	comp=Z,6μm,14.0s					
SATY	Saty	23.40 40	*e*P		P	10 08 27.0 -0.1
	comp=Z,121nm,1.2s					
SATY			*e*S		S	10 12 40.8 +0.4
	comp=Z,133nm,3.0s					
SATY			*e*LR		LR	10 18 11.1
	comp=Z,6μm,13.7s					
SULT	Sultanhani-AKS	23.43 305	P		P	10 08 29.2 +1.7
CORM	Corum	23.48 311	P		P	10 08 28.8 +0.8
YAYX	Yaylak	23.51 307	P		P	10 08 26.7 -1.6
SERE	Serefiikochisa	23.69 307	P		P	10 08 32.6 +2.6
AKTO	Aktyubinsk	23.71 0	P		P	10 08 28.7 -1.3
	comp=Z,51nm,0.6s,baz=167,slow=10,SNR=63					
AKTO			LR		LR	10 18 23.0
	comp=Z,9μm,21.9s,baz=171,slow=38					
DIKM	Dikmen	23.80 315	‖ *i* P		P	10 08 31.1 +0.2
UZB	Uzynbulak	23.81 41	*e*P		P	10 08 30.6 -0.6
UZB			*e*S		S	10 12 47.9 +0.8
UZB			pmax		pmax	
	comp=Z,87nm,1.1s					
UZB			MLR		MLR	
	comp=Z,2μm,12.0s					
UZB	Uzynbulak	23.81 41	*e*P		P	10 08 30.7 -0.6
	comp=Z,87nm,1.1s					
UZB			*e*S		S	10 12 48.0 +0.8
UZB			*e*LR		LR	10 18 31.9
	comp=Z,2μm,11.7s					
GKN	Gorkha	23.84 81	*e*P		P	10 08 32.1 +0.4
BR101	Keskin Array S	23.96 309	*e*P		P	10 08 32.9 +0.2
BR131	Keskin Array S	23.96 309	*e*P		P	10 08 32.5 -0.2
	comp=Z,568nm,1.5s					
BR131	Keskin Array S	23.96 309	*e*P		P	10 08 32.5 -0.2
BR131			pmax		pmax	
	comp=Z,568nm,1.5s					
BR131	Keskin Array S	23.96 309	P		P	10 08 32.9 +0.2
BRTR	Keskin Array B	23.96 309	*e*P		P	10 08 32.5 -0.2
BRTR	Keskin Array B	23.96 309	*e*P		P	10 08 32.5 -0.2
BRTR	Keskin Array B	23.96 309	P		P	10 08 32.9 +0.2
	comp=Z,57nm,0.9s,baz=129,slow=15,SNR=116					
BRTR			S		S	10 12 51.5 +1.9
	comp=Z,5.6nm,1.1s,baz=147,slow=12,SNR=2.9					
BRTR			LR		LR	10 19 44.5
	comp=Z,13μm,18.8s,baz=96,slow=41					
SNOP	Sinop	24.03 315	P		P	10 08 33.6 +0.5
SNOP	Sinop	24.03 315	*e*P		P	10 08 33.3 +0.2
	comp=Z,624nm,1.7s					
SNOP			LR		LR	
	comp=Z,5μm,21.0s					
CHBY	Cihanbeyli	24.03 306	P		P	10 08 34.9 +1.6
SHLS	Shalkode	24.07 41	*e*P		P	10 08 34.8 +1.2
SHLS			pmax		pmax	
	comp=Z,153nm,2.0s					
SHLS			MLR		MLR	
	comp=Z,3μm,12.0s					
SHLS	Shalkode	24.07 41	*e*P		P	10 08 34.9 +1.2
	comp=Z,153nm,2.0s					
SHLS			*e*LR		LR	10 18 47.6
	comp=Z,3μm,12.4s					
ANKE	Ethiopia-Afar	24.12 229	*i* P		P	10 08 36.5 +1.9
ANKE			*i* S		S	10 12 54.5 +1.6
ANKE	Ethiopia-Afar	24.12 229	*i* P		P	10 08 36.5 +1.9
ANKE			*i* S		S	10 12 54.5 +1.6
KULU	Kulu	24.13 307	P		P	10 08 32.9 -1.3
KONT	Konya--Tatoy	24.19 304	P		P	10 08 36.8 +2.1
PDGK	Podgornoye	24.19 41	*i* P		P	10 08 34.5 -0.3
PDGK			pmax		pmax	
	comp=Z,134nm,0.9s					
AFSR	Afar-Bala (An	24.24 308	P		P	10 08 36.4 +1.2
LADK	Ladik-KONYA	24.28 305	P		P	10 08 37.1 +1.5
DMN	Daman	24.28 82	*e*P		P	10 08 36.7 +0.8
	comp=Z,252nm,1.1s					
OTUK	Ortayu	24.33 24	*i* P		P	10 08 35.8 0.0
OTUK			pmax		pmax	
	comp=Z,144nm,1.3s					
CANT	Cankiri	24.37 311	P		P	10 08 35.2 -1.1
ANN	Anapa	24.39 323	*c i* P		P	10 08 36.8 +0.4
ANN			*e*PPP		PPP	10 09 14.4
ANN			*e*S		S	10 12 56.8 +0.8
ANN			*e*SS		SnSn	10 13 44.4 +5.0
ANN			pmax		pmax	
	comp=E,98nm,1.5s					
ANN			pmax		pmax	
	comp=Z,541nm,1.6s					
ANN			pmax		pmax	
	comp=N,244nm,1.5s					
ANN			MLR		MLR	
	comp=N,12μm,20.0s					
ANN			MLR		MLR	
	comp=Z,11μm,20.0s					
ANN			MLR		MLR	
	comp=E,6μm,20.0s					
KKN	Kakani	24.42 81	*e*P		P	10 08 37.2 +0.1
	comp=E,220nm,1.1s					
ILGA	Ilgaz	24.51 312	*e*P		P	10 08 38.2 +0.4
	comp=E,471nm,1.6s					
ILGA			LR		LR	
	comp=Z,2μm,19.0s					
PKIN	Phulchoki	24.54 82	*e*P		P	10 08 38.8 +0.5
	comp=Z,335nm,1.2s					
PKI	Pulchoki	24.55 82	*e*P		P	10 08 38.4 0.0
	comp=Z,441nm,1.2s					
ANTO	Ankara	24.61 309	P		P	10 08 39.9 +1.3
ANTO	Ankara	24.61 309	*e*P		P	10 08 39.5 +0.9
	comp=Z,343nm,1.3s					
ANTO			LR		LR	
	comp=Z,12μm,20.0s					
ANTO	Ankara	24.61 309	⇑ *i* P		P	10 08 39.5 +0.9
ANTO	Ankara	24.61 309	*e*P		P	10 08 39.5 +0.9
ANTO			pmax		pmax	
	comp=Z,343nm,1.3s					
ANTO			MLR		MLR	
	comp=Z,12μm,20.0s					
BR231	Keskin MP Arra	24.61 309	*e*P		P	10 08 39.5 +0.9
	comp=Z,224nm,1.1s					
LOD	Lodumlu	24.64 309	P		P	10 08 37.9 -0.9
BZK	Bozkurt	24.77 314	P		P	10 08 40.9 +1.1
BZK	Bozkurt	24.77 314	⇑ *i* P		P	10 08 40.7 +0.9
KIZT	Kizilcal	24.88 306	P		P	10 08 41.9 +0.9
MDRS	Chennai	25.01 118	*e*P		P	10 08 37.3 -4.9
MDRS			IAmb		IAmb	10 08 48.6
	comp=Z,120nm,1.2s					
AAE	Adis Abeba	25.18 229	*i* P		P	10 08 46.4 +2.2
AAE			*e*S		S	10 13 12.0 +2.2
JIRN	Jiri	25.24 81	*e*P		P	10 08 45.4 +0.7
	comp=Z,655nm,1.3s					
AUSIV	SIVRIHISAR	25.33 307	P		P	10 08 48.5 +3.4
AUSIV	SIVRIHISAR	25.33 307	*i* P		P	10 08 47.3 +2.2
FURI	Furi	25.34 229	*e*P		P	10 08 49.5 +4.0
	comp=Z,136nm,0.8s					
FURI			LR		LR	
	comp=Z,10μm,21.0s					
FURI	Furi	25.34 229	*e*P		P	10 08 47.6 +2.0
FURI			*e*S		S	10 13 22.7 +10
SVRH	Sivrihisar-ESK	25.35 307	P		P	10 08 45.5 +0.3
BCK	Bucak	25.37 302	P		P	10 08 46.3 +0.9
KORT	Korkueli	25.42 301	P		P	10 08 46.4 +0.4
BOK	Bokaro	25.53 90	*e*P		P	10 08 45.0 -1.9
BOK			IAmb		IAmb	10 08 50.6
	comp=Z,214nm,1.6s					
ISP	Isparta	25.53 303	P		P	10 08 48.0 +1.1
ISP	Isparta	25.53 303	*e*P		P	10 08 47.0 +0.1
	comp=Z,442nm,1.5s					
ISP			*e*P		P	10 08 47.2 +0.3
ISP			LR		LR	
	comp=Z,11μm,22.0s					
ISP	Isparta	25.53 303	P		P	10 08 47.2 +0.3
ISP	Isparta	25.53 303	⇑ *i* P		P	10 08 47.8 +0.9
ISP	Isparta	25.53 303	*e*P		P	10 08 47.0 +0.1
ISP			*e*			10 08 47.2
ISP			pmax		pmax	
	comp=Z,442nm,1.5s					
ISP			MLR		MLR	
	comp=Z,11μm,22.0s					
KURC	Kurucasile-Bar	25.53 313	P		P	10 08 48.2 +1.5
AUMIH	MIHALICIK	25.54 308	P		P	10 08 47.2 +0.2
TRD	Trivandrum	25.62 131	*e*P		P	10 08 44.2 -3.5
CIFT	Cifteler, Eski	25.64 306	P		P	10 08 48.9 +1.0
RAMN	Ramite	25.66 83	*e*P		P	10 08 48.5 +0.1
ELL	Elmali	25.70 300	P		P	10 08 49.8 +1.3
ELL	Elmali	25.70 300	P		P	10 08 49.8 +1.3
SHUT	Suhut-Afyon	25.74 304	P		P	10 08 50.3 +1.5
KSL	Kastellorizon	25.80 298	P		P	10 08 49.3 0.0
AKAS	Kas	25.80 299	P		P	10 08 49.7 +0.2
BRDR	BURDUR-Merkez	25.84 302	*i* P		P	10 08 50.8 +1.1
BRZS	Berezniki	25.92 22	*e*P		P	10 08 49.7 -0.5
BRZS			pmax		pmax	
	comp=Z,95nm,1.6s					
BRZS			MLR		MLR	
	comp=Z,349nm,7.0s					
BRZS	Berezniki	25.92 22	*e*P		P	10 08 49.7 -0.5
	comp=Z,94nm,1.6s					
BRZS			*e*LR		LR	10 19 10.4
	comp=Z,349nm,7.3s					
MDUB	Mudurnu	25.98 309	P		P	10 08 52.9 +2.0
MDUB	Mudurnu	25.98 309	*e*P		P	10 08 51.3 +0.4
	comp=Z,913nm,0.7s					
MDUB			LR		LR	
	comp=Z,37μm,20.0s					
SRCK	Saricakaya, Es	26.21 307	P		P	10 08 54.1 +1.1
BORA	Eskisehir	26.27 307	P		P	10 08 52.5 -1.1
FETY	Fethiye	26.31 299	P		P	10 08 54.3 +0.4
FETY	Fethiye	26.31 299	*e*P		P	10 08 53.2 -0.7
FETY	Fethiye	26.31 299	P		P	10 08 53.2 -0.7
SIM	Simferopol'	26.33 320	*c e*P		P	10 08 54.5 +0.5
SIM			*e*S		S	10 13 27.0 0.0
SIM			pmax		pmax	
	comp=Z,261nm,1.0s					
GULT	Gulveren	26.44 308	P		P	10 08 56.2 +1.1
AUBOZ	BOZOYUK	26.59 307	P		P	10 08 54.8 -1.6
SPNC	Sapanca-Adapaz	26.68 309	P		P	10 08 56.0 -1.2
DALY	Dalyan (Mula)	26.69 299	P		P	10 08 59.2 +1.9
SAUV	Serdivan-Sakar	26.69 309	P		P	10 08 56.6 -0.7
CAVI	Cavuskoy	26.83 307	P		P	10 08 59.6 +1.0
TVSB	Tavsanli	26.84 305	P		P	10 08 59.7 +1.0
ADVT	Abdulvahap	26.99 308	P		P	10 09 02.0 +2.1
KULA	Kula-Manisa	27.14 303	P		P	10 09 02.3 +0.9
KULA	Kula-Manisa	27.14 303	P		P	10 09 01.8 +0.4
HRT	Hereke	27.18 308	P		P	10 09 02.3 +0.5
HRT	Hereke	27.18 308	P		P	10 09 02.2 +0.5
MANT	Manisa	27.20 303	*e*P		P	10 09 02.3 +0.1
	comp=Z,642nm,1.2s					
MANT			LR		LR	
	comp=Z,27μm,21.0s					
VRH	Novokhopyorsk	27.37 338	*e*P		P	10 09 07.1 +3.8
VRH			*e*S		S	10 13 42.0 -1.2
VRH			pmax		pmax	
	comp=Z,60nm,0.6s					
VRH			smax		smax	
	comp=E,790nm,4.7s					
VRH			MLR		MLR	
	comp=Z,4μm,15.0s					
DAT	Datca	27.51 299	P		P	10 09 06.5 +1.7
AYDB	Zeytinkoy-Aydi	27.56 302	P		P	10 09 05.7 +0.4
MDNY	Mudanya-Bursa	27.57 307	P		P	10 09 05.7 +0.5
KARP	Karpathos	27.61 296	*e*P		P	10 09 04.1 -1.5
	comp=Z,349nm,0.9s					
KARP			LR		LR	
	comp=Z,4μm,18.0s					
KARP	Karpathos	27.61 296	P		P	10 09 05.8 +0.2
ARMT	Armutlu	27.66 307	P		P	10 09 06.3 +0.3
MAKZ	Makanchi	27.70 37	*e*P		P	10 09 07.1 +0.8
	comp=Z,88nm,1.2s					
MAKZ	Makanchi	27.70 37	*e*P		P	10 09 07.1 +0.8
MAKZ			pmax		pmax	
	comp=Z,88nm,1.2s					
KLYT	Kilyos	27.79 309	P		P	10 09 08.6 +1.5
KLYT	Kilyos	27.79 309	‖ *i* P		P	10 09 07.5 +0.4
BODT	Bodrum	27.79 299	P		P	10 09 04.8 -2.4
MK31	Makanchi Array	27.86 38	*e*P		P	10 09 08.3 +0.5
	comp=Z,104nm,1.6s					
MK31	Makanchi Array	27.86 38	*e*P		P	10 09 08.3 +0.5
MK31			pmax		pmax	
	comp=Z,104nm,1.6s					
MK32	Makanchi Array	27.86 38	*e*P		P	10 09 07.9 +0.2
MK32			*e*S		S	10 13 51.5 +0.3
MKAR	Makanchi Array	27.86 38	*e*P		P	10 09 08.0 +0.2
MKAR	Makanchi Array	27.86 38	P		P	10 09 07.9 +0.2
	comp=Z,7.0nm,0.8s,baz=224,slow=6.6,SNR=25					
MKAR			S		S	10 13 51.5 +0.3
	comp=Z,2.5nm,1.0s,baz=278,slow=9.9,SNR=3.1					
KCTX	Karacabey (Bur	27.91 306	P		P	10 09 08.0 -0.3
BVAR	Borovoye Array	27.93 16	P		P	10 09 07.1 -1.2
	comp=Z,18nm,0.7s,baz=198,slow=7.6,SNR=38					
BVAR			PcP		PcP	10 12 23.9 +0.3
	comp=Z,7.6nm,0.8s,baz=238,slow=1.9,SNR=4.0					
BVAR			LR		LR	10 22 12.8
	comp=Z,324nm,20.0s,baz=348,slow=41					
BRVK	Borovoye	27.94 16	*e*P		P	10 09 08.7 +0.4
	comp=Z,82nm,1.1s					
BRVK			LR		LR	
	comp=Z,14μm,18.0s					
BRVK	Borovoye	27.94 16	*c e*P		P	10 09 10.0 +1.7
BRVK			pmax		pmax	
	comp=Z,54nm,1.7s					
BGKT	Bogazkoy	27.95 309	P		P	10 09 08.3 -0.2
GCAM	G?zelcaml?	28.00 301	P		P	10 09 07.4 -1.6
BALB	Balikesir	28.05 305	*e*P		P	10 09 09.9 +0.4
	comp=Z,853nm,1.4s					
BALB			LR		LR	
	comp=Z,22μm,18.0s					
VORD	Divnogorie	28.06 335	*e*P		P	10 09 10.1 +0.7
VORD			pmax		pmax	
	comp=Z,50nm,1.0s					
CTKS	Kestanelik-??a	28.15 309	P		P	10 09 06.9 -3.5
EDC	Edincik	28.30 306	P		P	10 09 11.8 +0.1
EDC	Edincik	28.30 306	P		P	10 09 11.8 +0.1
VSR	Storozhevoye	28.30 335	*e*P		P	10 09 10.4 -1.2
VSR			*e*S		S	10 13 54.4 -3.5
VSR			pmax		pmax	
	comp=Z,70nm,0.8s					
VSR			smax		smax	
	comp=N,1μm,5.3s					
VSR			MLR		MLR	
	comp=Z,3μm,14.0s					
SMG	Samos	28.31 301	P		P	10 09 12.6 +0.8
VORR	Voronezh	28.65 336	*e*P		P	10 09 16.0 +1.3
VORR			pmax		pmax	
	comp=Z,300nm,1.4s					
KURBB	Kurchatov Arra	28.67 28	P		P	10 09 14.8 -0.1
	comp=Z,9.5nm,0.6s,baz=227,slow=8.4,SNR=46					
KRBG	Karabiga-Canak	28.72 306	P		P	10 09 13.0 -2.4
KURK	Kurchatov	28.77 28	*e*P		P	10 09 16.0 +0.2
	comp=Z,42nm,1.1s					
KURK			LR		LR	
	comp=Z,5μm,19.0s					
KURK	Kurchatov	28.77 28	*c e*P		P	10 09 16.2 +0.4
KURK			pmax		pmax	
	comp=Z,44nm,1.7s					
RKY	Sarkoy-Tekirda	28.90 307	P		P	10 09 15.6 -1.5
PHSR	Pinarhisar	28.98 309	P		P	10 09 16.5 -1.3
CHOS	Chios island	29.07 302	*e*P		P	10 09 19.1 +0.4
PALK	Pallekele	29.08 127	*e*P		P	10 09 19.9 +1.0
	comp=Z,41nm,1.1s					
PALK			LR		LR	
	comp=Z,7μm,22.0s					
PALK	Pallekele	29.08 127	*e*P		P	10 09 19.9 +1.0
PALK			pmax		pmax	
	comp=Z,41nm,1.1s					
PALK			MLR		MLR	
	comp=Z,7μm,22.0s					
PALK	Pallekele	29.08 127	P		P	10 09 19.3 +0.4
	comp=Z,18nm,0.9s,baz=297,slow=2.7,SNR=3.9					
PALK			LR		LR	10 21 08.7
	comp=Z,5μm,19.9s,baz=300,slow=37					
EZN	Ezine	29.25 305	‖ *i* P		P	10 09 20.7 +0.5
EZN	Ezine	29.25 305	P		P	10 09 20.7 +0.5
ERIK	Erikli-Kesan	29.38 306	*e*P		P	10 09 22.2 +1.0
IDI	Anoyia	29.40 295	*e*P		P	10 09 16.9 -4.7
IDI	Anoyia	29.40 295	P		P	10 09 18.6 -3.0
IDI	Anoyia	29.40 295	P		P	10 09 21.1 -0.5
	comp=Z,63nm,0.8s,baz=86,slow=12,SNR=14					
LSA	Lhasa	29.47 76	*e*P		P	10 09 23.6 +0.8
	comp=Z,27nm,0.9s					
LSA			LR		LR	
	comp=Z,10μm,20.0s					
LPSR	Galich'ya Gora	29.51 336	*e*P		P	10 09 24.2 +1.9
LPSR			*e*S		S	10 14 17.2 +0.4
LPSR			pmax		pmax	
	comp=Z,40nm,0.6s					
LPSR			smax		smax	
	comp=N,3μm,8.2s					
LPSR			MLR		MLR	
	comp=Z,3μm,16.0s					
TIRR	Tirgusor	29.55 315	*e*P		P	10 09 20.8 -1.9
	comp=Z,16nm,0.8s					
TIRR	Tirgusor	29.55 315	P		P	10 09 21.4 -1.3
TIRR			pmax		pmax	
	comp=Z,16nm,0.8s					
WMQ	Urumqi	29.57 47	P		P	10 09 25.0 +2.0
WMQ			pP		sP	10 09 29.4 +2.0
WMQ			sP		pP	10 09 32.5 +6.4
WMQ			PP		PnPn	10 10 21.0 +3.6
WMQ			S		S	10 14 16.4 -1.8
WMQ			sS		sS	10 14 26.9 +3.7
WMQ			pmax		pmax	
	comp=Z,120nm,1.1s					
WMQ			pmax		pmax	
	comp=Z,310nm,3.7s					
WMQ			LR		LR	
	comp=Z,22μm,15.7s					
WMQ			LR		LR	
	comp=Z,13μm,14.5s					
WMQ			LR		LR	
	comp=Z,21μm,19.7s					
WMQ	Urumqi	29.57 47	*e*P		P	10 09 25.0 +2.0
	comp=Z,96nm,1.1s					
WMQ			LR		LR	
	comp=Z,8μm,18.0s					
EDRB	Edirne	29.61 309	*e*P		P	10 09 23.9 +0.6
ZSN	Zaisan	29.67 39	*e*LR		LR	10 22 21.8
	comp=Z,1μm,12.9s					
ARU	Arti	29.72 1	*e*P		P	10 09 24.5 +0.4
	comp=Z,24nm,0.9s					
ARU			LR		LR	
	comp=Z,5μm,21.0s					
ARU	Arti	29.72 1	*c i* P		P	10 09 25.4 +1.3
ARU						10 10 15.7
ARU			PPP		PPP	10 10 28.2
ARU			S		S	10 14 24.9 +4.8
ARU			SS		ScP	10 15 58.1 -12
ARU			pmax		pmax	
	comp=Z,27nm,1.3s					

ARU MLR MLR
comp=Z,3μm,14.0s
ARU Arti 29.72 1 P **P 10 09 25.1 +1.0**
comp=Z,1.1nm,0.3s,baz=165,slow=5.3,SNR=16
ARU LR LR 10 22 40.2
comp=Z,8μm,21.9s,baz=183,slow=39
ALN Alexandroupoli 29.78 307 *e*P **P 10 09 25.5 +0.6**
ALN Alexandroupoli 29.78 307 *e*P **P 10 09 23.2 -1.7**
comp=Z,64nm,1.4s
ALN LR LR
comp=Z,5μm,19.0s
ALN Alexandroupoli 29.78 307 *e*P **P 10 09 23.2 -1.7**
ALN pmax pmax
comp=Z,65nm,1.4s
ALN MLR MLR
comp=Z,5μm,19.0s
ICOR Ion Corvin 29.79 314⇑*i*P **P 10 09 25.6 +0.7**
TLB Topalu 29.84 315⇓*i*P **P 10 09 25.4 +0.1**
TLB Topalu 29.84 315 P **P 10 09 25.4 +0.1**
HARR Harsova 29.96 315⇑*i*P **P 10 09 26.3 -0.1**
HARR Harsova 29.96 315 P **P 10 09 26.2 -0.1**
GVD Gavdhos 30.00 294 *e*P P 10 09 36.5 +10
CFR Carcaliu 30.05 316⇑*i*P **P 10 09 27.1 -0.1**
CFR Carcaliu 30.05 316 P **P 10 09 27.3 +0.1**
CFR pmax pmax
comp=Z,23nm,1.5s
LIA Limnos Island 30.12 304 P **P 10 09 29.0 +1.2**
IMMV Iera Moni Meta 30.16 295 *e*P **P 10 09 28.9 +0.6**
SVE Sverdlovsk 30.18 3 *e*P **P 10 09 30.0 +1.8**
SVE *e*S **S 10 14 26.0 -1.4**
SVE pmax pmax
comp=Z,44nm,1.0s
SVE MLR MLR
comp=Z,4μm,12.0s
RDO Rodhopi 30.23 307 *e*P **P 10 09 28.4 -0.4**
RDO Rodhopi 30.23 307 *e*P **P 10 09 29.1 +0.3**
RDO Rodhopi 30.23 307 P **P 10 09 29.8 +1.0**
KDZ Kurdzhali 30.47 308 *e*P **P 10 09 35.2 +4.2**
KIS Kishinev 30.54 319⇓*i*P **P 10 09 31.0 -0.5**
comp=Z,250nm,2.0s
KIS Kishinev 30.54 319 *e*PP PP 10 10 40.0 -0.4
KIS *e*S S 10 14 24.0 -9.2
KIS *i* Li 10 18 14.0
KIS *i* LQ LQ 10 18 50.0
KIS LRM MLR 10 24 08.0
comp=Z,4μm,18.0s
KIS Kishinev 30.54 319⇓*i*P **P 10 09 31.0 -0.5**
KIS *e* 10 10 40.0
KIS *e*S S 10 14 24.0 -9.2
KIS *e* 10 16 17.0
KIS pmax pmax
comp=Z,250nm,2.0s
KIS MLR MLR
comp=Z,7μm,20.0s
SHL Shillong 30.55 84 *e*P **P 10 09 28.4 -3.6**
DION Dionisos Attik 30.63 300 P **P 10 09 33.1 +0.7**
PTL Penteli 30.68 300 *e*P **P 10 09 33.5 +0.6**
PTL Penteli 30.68 300 P **P 10 09 33.5 +0.6**
ANKY Antikythira Is 30.76 296 *e*P **P 10 09 33.7 +0.1**
ANKY Antikythira Is 30.76 296 P **P 10 09 32.8 -0.8**
MRKA Markates 31.03 301 P **P 10 09 36.6 +0.7**
SGRR Singureni 31.03 313⇑*i*P **P 10 09 36.6 +0.8**
SULR 31.03 314⇑*i*P **P 10 09 37.2 +1.4**
ISR Istrita 31.04 315⇑*i*P **P 10 09 37.4 +1.4**
ISR Istrita 31.04 315 P **P 10 09 37.9 +1.9**
ISR pmax pmax
comp=Z,75nm,1.7s
DID Didima 31.06 299 *e*P **P 10 09 34.6 -1.7**
DID Didima 31.06 299 P **P 10 09 34.5 -1.7**
OUR Ouranopolis 31.12 305 P **P 10 09 36.1 -0.6**
PLD Plovdiv 31.13 308 P **P 10 09 37.4 +0.7**
VILL Villia 31.13 300 P **P 10 09 37.1 +0.2**
PAIG Paliouri 31.24 304 P **P 10 09 37.6 -0.2**
PAIG Paliouri 31.24 304 P **P 10 09 38.8 +1.0**
PAIG pmax pmax
comp=Z,63nm,1.4s
VRI Vrincioaia 31.25 316 *e*P **P 10 09 39.0 +1.2**
VRI Vrincioaia 31.25 316⇓*i*P **P 10 09 38.8 +1.0**
VRI Vrincioaia 31.25 316 P **P 10 09 38.8 +1.0**
VRI pmax pmax
comp=Z,28nm,0.8s
MSEY Mahe Island 31.26 185 *e*P **P 10 09 34.2 -3.9**
comp=Z,98nm,1.2s
MSEY LR LR
comp=Z,3μm,20.0s
MSEY Mahe Island 31.26 185 *e*P **P 10 09 34.2 -3.9**
MSEY pmax pmax
comp=Z,98nm,1.2s
MSEY MLR MLR
comp=Z,3μm,20.0s
PLOR Plostina 31.29 316⇑*i*P **P 10 09 39.2 +1.0**
PLOR Plostina 31.29 316 P **P 10 09 39.2 +1.0**
SECR 31.30 314⇑*i*P **P 10 09 38.8 +0.5**
IAS Iasi 31.38 319⇑*i*P **P 10 09 39.8 +0.9**
IAS Iasi 31.38 319 P **P 10 09 38.7 -0.2**
IAS pmax pmax
comp=Z,25nm,0.8s
ATAL Atalanti 31.46 301 *e*P **P 10 09 39.7 +0.1**
ATAL Atalanti 31.46 301 P **P 10 09 39.8 +0.1**
XOR Xorichti 31.47 302 P **P 10 09 39.5 -0.4**
PLG Polygyros 31.53 304 P **P 10 09 40.4 0.0**
MLR Muntele Rosu 31.58 315 *e*P **P 10 09 41.2 +0.4**
comp=Z,92nm,1.0s
MLR LR LR
comp=Z,3μm,20.0s
MLR Muntele Rosu 31.58 315⇑*i*P **P 10 09 42.6 +1.8**
MLR Muntele Rosu 31.58 315 *e*P **P 10 09 41.2 +0.4**
MLR pmax pmax
comp=Z,92nm,1.0s
MLR MLR MLR
comp=Z,3μm,20.0s
TESR Tescani 31.60 317⇑*i*P **P 10 09 41.4 +0.6**
SRS Serrai 31.62 306 P **P 10 09 41.6 +0.5**
SRS Serrai 31.62 306 P **P 10 09 41.8 +0.7**
SRS pmax pmax
comp=Z,103nm,1.3s
VLX Vlachokerasia 31.71 298 *e*P **P 10 09 41.6 -0.5**
VLX Vlachokerasia 31.71 298 P **P 10 09 40.5 -1.6**
SOH Sokhos 31.71 305 P **P 10 09 43.8 +1.8**
SOH Sokhos 31.71 305 P **P 10 09 43.2 +1.2**
SOH pmax pmax
comp=Z,62nm,1.2s
AXAR Agios Charalam 31.75 301 *e*P **P 10 09 44.8 +2.5**
AXAR Agios Charalam 31.75 301 P **P 10 09 45.0 +2.7**
DSF Desfina 31.78 300 P **P 10 09 41.4 -1.2**
HUMR Humele 31.80 313⇓*i*P **P 10 09 43.5 +0.8**
GUR Goura 31.84 300 *e*P **P 10 09 42.3 -0.9**
GUR Goura 31.84 300 P **P 10 09 42.2 -0.9**
HORT Hortiatis 31.84 305 *e*P **P 10 09 42.8 -0.4**
HORT Hortiatis 31.84 305 P **P 10 09 43.2 0.0**
GOLR 31.94 313⇑*i*P **P 10 09 44.9 +1.0**
THE Thessaloniki 31.95 305 P **P 10 09 44.1 +0.1**
THE pmax pmax
comp=Z,65nm,1.2s
KLV Kalavryta, Ach 32.01 300 P **P 10 09 43.3 -1.3**
ITM Ithomi 32.04 298 *e*P **P 10 09 44.6 -0.2**
comp=Z,298nm,1.7s
ITM LR LR
comp=Z,6μm,21.0s
ITM Ithomi 32.04 298 P **P 10 09 44.6 -0.2**
KALE Kalithea 32.08 300 *e*P **P 10 09 44.3 -0.9**
KALE Kalithea 32.08 300 P **P 10 09 43.1 -2.1**
TRIZ Trizonia 32.12 300 P **P 10 09 45.0 -0.5**
VOIR 32.12 314⇑*i*P **P 10 09 46.6 +1.0**
VOIR 32.12 314 P **P 10 09 45.8 +0.2**
VOIR pmax pmax
comp=Z,109nm,1.3s
BIZ Bicaz 32.13 317⇑*i*P **P 10 09 46.3 +0.8**
DOPR Dopca 32.13 315⇑*i*P **P 10 09 46.3 +0.7**
KNT Kendrikon 32.14 306 *e*P **P 10 09 44.9 -0.8**
KNT Kendrikon 32.14 306 P **P 10 09 45.9 +0.2**
KNT Kendrikon 32.14 306 P **P 10 09 47.3 +1.6**
KNT pmax pmax
comp=Z,24nm,1.2s
PYL PYLOS 32.15 297 *e*P **P 10 09 44.9 -0.9**
PYL PYLOS 32.15 297 P **P 10 09 44.9 -0.9**
LIT Litokhoron 32.17 304 *e*P **P 10 09 46.1 +0.2**
comp=Z,75nm,1.2s
LIT Litokhoron 32.17 304 *e*P **P 10 09 46.2 +0.2**
LIT pmax pmax
comp=Z,75nm,1.2s
LAKA Lakka 32.17 300 *e*P **P 10 09 44.5 -1.5**
LAKA Lakka 32.17 300 P **P 10 09 44.9 -1.1**

PRAR RASCA 32.25 318⇑*i*P **P 10 09 48.0 +1.4**
EFP Efpalio 32.26 300 P **P 10 09 45.5 -1.3**
AMT Artemida-Makis 32.27 299 P **P 10 09 48.2 +1.3**
VTS Vitosha 32.32 308 *e*P **P 10 09 46.5 -0.9**
VTS *e*P **P 10 09 46.8 -0.6**
VTS LR LR
comp=Z,8μm,20.0s
VTS Vitosha 32.32 308 P **P 10 09 48.2 +0.8**
VTS Vitosha 32.32 308⇑*i*P **P 10 09 47.9 +0.5**
DRO Drossia 32.33 299 P **P 10 09 47.1 -0.3**
DGZ Jazzator, Alta 32.35 37 *i*P **P 10 09 46.8 -0.8**
DGZ pmax pmax
comp=Z,16nm,1.3s
OBN Obninsk 32.36 337 *e*P **P 10 09 47.8 +0.4**
comp=Z,103nm,0.8s
OBN LR LR
comp=Z,4μm,19.0s
OBN Obninsk 32.36 337 *d i*P **P 10 09 48.5 +1.1**
OBN *e* 10 10 54.7
OBN *i* S **S 10 15 02.2 +0.8**
OBN pmax pmax
comp=Z,225nm,1.7s
OBN MLR MLR
comp=Z,4μm,16.0s
ARR Arges 32.36 314⇑*i*P **P 10 09 48.1 +0.4**
AKASG Malin Array Be 32.40 325 *e*P **P 10 09 47.2 -0.6**
AKASG Malin Array Be 32.40 325 P **P 10 09 47.4 -0.5**
comp=Z,94nm,0.9s,baz=126,slow=8.1,SNR=51
AKASG S **S 10 15 00.5 -1.7**
comp=Z,1.0nm,0.5s,baz=138,slow=17,SNR=3.6
AKASG LR LR 10 25 46.5
comp=Z,7μm,21.7s,baz=120,slow=42
AKBB Malin Array Si 32.40 325 *e*P **P 10 09 46.7 -1.2**
comp=Z,154nm,0.8s
AKBB *e*S **S 10 15 00.5 -1.7**
AKBB LR LR
comp=Z,1μm,20.0s
KIEV Kiev 32.41 325 *e*P **P 10 09 46.4 -1.5**
comp=Z,159nm,0.9s
KIEV LR LR
comp=Z,1μm,20.0s
KIEV Kiev 32.41 325 *i*P **P 10 09 47.6 -0.3**
SNR=103
KIEV Kiev 32.41 325 *c i*P **P 10 09 47.1 -0.8**
KIEV pmax pmax
comp=Z,150nm,0.8s
VAY Valandovo 32.42 306 *i*P **P 10 09 49.0 +0.9**
VAY Valandovo 32.42 306 P **P 10 09 52.3 +4.2**
GRG Griva 32.45 305 *e*P **P 10 09 48.9 +0.5**
GRG Griva 32.45 305 P **P 10 09 48.0 -0.4**
GRG Griva 32.45 305 P **P 10 09 49.1 +0.7**
GRG pmax pmax
comp=Z,82nm,1.2s
MOS Moscow 32.51 339 *e*P **P 10 09 47.3 -1.4**
MOS *e* 10 10 53.0
MOS *e*S **S 10 15 01.1 -2.6**
MOS *e*SS **SnSn 10 17 03.1 +6.1**
MOS pmax pmax
comp=Z,200nm,1.7s
MOS pmax pmax
comp=Z,117nm,1.5s
MOS MLR MLR
comp=Z,2μm,18.0s
CRAR CRAIOVA 32.51 312 P **P 10 09 49.9 +1.0**
RLS Riolos of Patr 32.54 300 P **P 10 09 48.6 -0.6**
PVO Paravola 32.59 301 P **P 10 09 49.1 -0.5**
STIP Stip 32.80 306 *i*P **P 10 09 50.8 -0.7**
MDB Medias 32.84 315⇑*i*P **P 10 09 52.9 +1.1**
LOT Lotru 32.95 314⇑*i*P **P 10 09 53.0 +0.1**
BURAR Bucovina Array 32.98 318 *e*P **P 10 09 53.0 -0.1**
BURAR Bucovina Array 32.98 318⇑*i*P **P 10 09 53.8 +0.7**
BURAR Bucovina Array 32.98 318 P **P 10 09 53.5 +0.4**
BUR08 Bucovina Ar. S 33.00 318 *e*P **P 10 09 53.3 +0.1**
comp=Z,29nm,1.0s
SRE Strehaia 33.03 312⇓*i*P **P 10 09 54.5 +1.0**
SRE Strehaia 33.03 312 P **P 10 09 54.4 +1.0**
HORU Horodok 33.06 321 P **P 10 09 54.2 +0.5**
KFL Anninata 33.08 299 P **P 10 09 52.3 -1.6**
PUNG Punghina 33.08 311⇑*i*P **P 10 09 54.4 +0.6**
FNA Florina 33.16 304 *e*P **P 10 09 53.9 -0.8**
FNA Florina 33.16 304 *e*P **P 10 09 54.6 -0.1**
comp=Z,219nm,1.3s
FNA LR LR
comp=Z,2μm,19.0s
FNA Florina 33.16 304 P **P 10 09 54.5 -0.1**
FNA Florina 33.16 304 *e*P **P 10 09 54.6 -0.1**
FNA pmax pmax
comp=Z,219nm,1.3s
FNA MLR MLR
comp=Z,2μm,19.0s
VLS Valsamata 33.24 300 P **P 10 09 53.5 -1.9**
EVGI Lefkada island 33.26 300 P **P 10 09 54.0 -1.5**
ARCR ARCALIA 33.26 317⇓*i*P **P 10 09 56.5 +1.1**
LKD2 Lefkada island 33.29 301 P **P 10 09 54.3 -1.5**
TSLK Tsoukalades, L 33.30 301 P **P 10 09 54.5 -1.3**
NEST Nestorio 33.31 304 P **P 10 09 56.4 +0.3**
KRUS Krusevo 33.39 305 *i*P **P 10 09 59.4 +2.7**
SKO Skopje 33.41 307 *i*P **P 10 09 57.6 +0.8**
CJR Cluj-Napoca 33.57 316⇑*i*P **P 10 09 59.0 +0.8**
GZR Gura Zlata 33.58 313⇓*i*P **P 10 09 58.1 -0.2**
HERR Herculane 33.63 312⇑*i*P **P 10 09 58.9 +0.2**
OHR Ohrid 33.66 305 *i*P **P 10 09 59.7 +0.7**
IGT Igoumenitsa 33.67 302 P **P 10 09 59.1 0.0**
NVS Novosibirsk 33.71 27 *e*P **P 10 09 59.5 +0.3**
NVS *e*S **S 10 15 22.4 0.0**
NVS pmax pmax
comp=Z,118nm,1.3s
NVS pmax pmax
comp=N,69nm,1.5s
NVS pmax pmax
comp=E,14nm,0.8s
NVS smax smax
comp=N,130nm,2.3s
NVS smax smax
comp=E,59nm,2.3s
ZAA0 Zalesovo Array 33.74 29 *e*P **P 10 09 58.6 -0.9**
comp=E,74nm,1.1s
ZAA0 LR LR
comp=Z,1μm,22.0s
ZALV Zalesovo Beam 33.74 29 P **P 10 09 59.1 -0.4**
comp=Z,11nm,0.4s,baz=236,slow=8.9,SNR=55
ZALV S **S 10 15 23.9 +0.9**
comp=Z,3.3nm,0.8s,baz=243,slow=19,SNR=3.6
ZAA1 Zalesovo Array 33.75 29 *e*P **P 10 09 59.1 -0.5**
ZAA1 *e*S **S 10 15 23.9 +0.9**
SRN Sarande 33.99 302 *i*P **P 10 10 04.6 +2.7**
KMBO Kilima Mbogo 34.03 219 *e*P **P 10 10 03.7 +1.0**
comp=Z,196nm,1.8s
KMBO LR LR
comp=Z,5μm,18.0s
KMBO Kilima Mbogo 34.03 219 *i*P **P 10 10 04.0 +1.3**
SNR=17
KMBO Kilima Mbogo 34.03 219 *e*P **P 10 10 03.7 +1.0**
KMBO pmax pmax
comp=Z,196nm,1.8s
KMBO MLR MLR
comp=Z,5μm,18.0s
KMBO Kilima Mbogo 34.03 219 *e*P **P 10 10 04.1 +1.5**
KMBO *e*S **S 10 15 32.6 +4.0**
KMBO Kilima Mbogo 34.03 219 P **P 10 10 03.6 +1.0**
comp=Z,19nm,0.7s,baz=21,slow=9.0,SNR=21
KMBO LR LR 10 25 40.8
comp=Z,5μm,18.6s,baz=34,slow=39
PHP Peshkopia 34.06 306 P **P 10 10 02.1 -0.4**
TPE Tepelena 34.06 303 *i*P **P 10 10 04.8 +2.3**
MDVR Moldovita 34.07 311⇓*i*P **P 10 10 03.3 +0.8**
KEK Kerkira 34.11 302 *e*P **P 10 10 01.1 -1.8**
KEK *e*P **P 10 10 01.1 -1.8**
KEK Kerkira 34.11 302 P **P 10 10 02.6 -0.3**
DRGR 34.16 315⇑*i*P **P 10 10 04.1 +0.7**
DRGR 34.16 315 P **P 10 10 04.9 +1.5**
DRGR pmax pmax
comp=Z,165nm,1.0s
TIR Tirane 34.40 305 *e*P **P 10 10 05.8 +0.4**
comp=Z,174nm,1.1s
TIR LR LR
comp=Z,5μm,19.0s
TIR Tirane 34.40 305⇑*i*P **P 10 10 05.4 0.0**
TIR Tirane 34.40 305 *e*P **P 10 10 05.8 +0.4**
TIR pmax pmax
comp=Z,174nm,1.1s
TIR MLR MLR
comp=Z,5μm,19.0s
TIR Tirane 34.40 305 *i*P P 10 10 14.1 +8.7

NAI Nairobi 34.40 219 PFAKE 10 10 10.0 +4.1
NAI LR LR
comp=Z,5μm,20.0s
BZS Buzias 34.42 313⇑*i*P **P 10 10 06.2 +0.7**
MORS Morshin 34.47 320 P **P 10 10 06.9 +1.0**
BCI Bajram Curri 34.50 307 *i*P **P 10 10 04.2 -2.0**
PUK Puka 34.54 306 *i*P P 10 10 01.1 -5.6
TRSU Trosnyk 34.55 317 P **P 10 10 07.5 +0.9**
SIRR Siria 34.63 314⇓*i*P **P 10 10 08.7 +1.3**
BANR Banloc 34.66 312⇓*i*P **P 10 10 08.8 +1.3**
LVV L'vov 34.72 321 *e*P **P 10 10 07.9 -0.1**
LVV *e*S **S 10 15 34.0 -4.1**
LVV MLR MLR
comp=Z,3μm,18.0s
TRPA Tarpa 34.82 317⇑*e*P **P 10 10 08.1 -0.8**
TRPA *e*S **S 10 15 48.1 +8.3**
LTVH Ltavrtes, Hu 34.91 316 *e*P **P 10 10 11.1 +1.4**
DIVS Divibare 35.02 310 *e*P **P 10 10 10.4 -0.5**
DRME Dracevica, Mon 35.09 306 *e*P **P 10 10 09.5 -1.8**
PDG Podgorica 35.09 307⇑*i*P **P 10 10 11.5 +0.1**
PDG Podgorica 35.09 307 *e*P **P 10 10 12.8 +1.4**
TTG Podgorica 35.09 307 *e*P **P 10 10 10.2 -1.2**
comp=Z,32nm,1.0s
TTG LR LR
comp=Z,11μm,18.0s
TTG Podgorica 35.09 307 *e*P **P 10 10 10.2 -1.2**
TTG pmax pmax
comp=Z,32nm,1.0s
TTG MLR MLR
comp=Z,11μm,18.0s
UZH Uzhgorod 35.19 318 *e*P **P 10 10 11.8 -0.3**
UZH *e* 10 10 19.4
UZH *e*PPP PPP 10 11 29.8
UZH *i* S **S 10 15 40.4 -4.9**
KOLS Kolonicke sedl 35.33 318 *e*P **P 10 10 13.7 +0.4**
KOLS pmax pmax
comp=Z,205nm,0.9s
KOLS Kolonicke sedl 35.33 318 *e*P **P 10 10 13.7 +0.4**
BBLS Lazići 35.36 309 *e*P **P 10 10 13.8 0.0**
KWP Kalwaria Pacla 35.39 320 *e*P **P 10 10 14.4 +0.6**
KWP LMZ LR 10 28 34.6
comp=Z,8μm,20.9s
KWP Kalwaria Pacla 35.39 320 *e*P **P 10 10 14.3 +0.5**
comp=Z,2μm,1.1s
KWP LR LR
comp=Z,30μm,20.0s
KWP Kalwaria Pacla 35.39 320 *e*P **P 10 10 14.4 +0.6**
KWP MLR MLR
comp=Z,8μm,20.9s
MICGM Minsk 35.41 330 *e*P **P 10 10 14.0 +0.1**
MICGM *e*LR LR 10 25 28.0
MNK Minsk 35.41 330 *e*P **P 10 10 14.0 +0.1**
FRGS Fruska Gora 35.47 311 *e*P **P 10 10 14.2 -0.4**
DGPR DIGLIPUR 35.51 105 *e*P P 10 10 09.8 -5.4
UPM Unac-Piva 35.54 308 *e*P **P 10 10 18.1 +2.7**
HCY Herceg Novi 35.65 306 *e*P **P 10 10 14.6 -1.5**
BRY Bratogost 35.72 307 *e*P **P 10 10 15.9 -1.1**
HAPS Han Pijesak,Bl 35.74 309 *e*P **P 10 10 15.5 -1.6**
TREB Trebinje 35.81 307 *e*P **P 10 10 17.5 -0.1**
PRGR Permogore 35.89 350 *e*P **P 10 10 17.6 -0.4**
PRGR pmax pmax
comp=Z,28nm,0.8s
PBA Port Blair 36.07 108 *e*P P 10 10 17.1 -2.9
PBA IAmb IAmb 10 10 26.7
comp=Z,586nm,1.9s
PBA IAMs_20 IAMs_20 10 27 35.9
comp=Z,7μm,20.1s
NACGM Naroch 36.16 330 *e*P **P 10 10 21.0 +0.7**
NACGM *e*S **S 10 16 02.0 +2.0**
NACGM *e*SS **SS 10 18 38.0 +0.4**
NACGM *e*SSS SSS 10 19 23.0
NACGM *e*LQ LQ 10 22 27.0
NACGM *e*LR LR 10 25 48.0
NACGM LRM MLR 10 27 11.0
comp=Z,9.8nm,22.0s
KECS Kecovo 36.22 317 *e*P **P 10 10 21.2 +0.3**
KECS pmax pmax
comp=Z,256nm,1.0s
KECS Kecovo 36.22 317 *e*P **P 10 10 21.2 +0.3**
STON Ston 36.31 307 *e*P **P 10 10 22.5 +0.7**
TIP Timpagrande 36.35 301 *e*P **P 10 10 22.7 +0.4**
comp=Z,142nm,1.1s
TIP LR LR
comp=Z,4μm,21.0s
TIP Timpagrande 36.35 301 P **P 10 10 22.3 0.0**
TIP Timpagrande 36.35 301⇑*i*P **P 10 10 22.9 +0.6**
KLMR Klimovskoe 36.36 345⇑*i*P **P 10 10 23.0 +1.1**
KLMR pmax pmax
comp=Z,151nm,1.3s
PSZ Piszkesteto 36.36 316 *e*P **P 10 10 22.7 +0.4**
comp=Z,89nm,1.0s
PSZ LR LR
comp=Z,6μm,21.0s
PSZ Piszkesteto 36.36 316⇑*i*P **P 10 10 22.9 +0.6**
PSZ Piszkesteto 36.36 316 *e*P **P 10 10 22.7 +0.4**
PSZ pmax pmax
comp=Z,89nm,1.0s
PSZ MLR MLR
comp=Z,6μm,21.0s
PSZ Piszkesteto 36.36 316⇑*e*P **P 10 10 22.1 -0.2**
PSZ *e*PP **PP 10 11 46.0 +1.1**
PSZ *e*S **S 10 16 04.1 +0.4**
IDID Didziasalis 36.43 330 *e*P **P 10 10 24.0 +1.3**
IDID IAmb IAmb 10 10 29.8
comp=Z,33nm,0.9s
MATE Matera 36.61 303⇓*i*P **P 10 10 25.0 +0.6**
IIGN Ignalina 36.69 330 *e*P **P 10 10 26.2 +1.4**
IIGN IAmb IAmb 10 10 31.1
comp=Z,84nm,1.2s
NIE Niedzica 36.71 318 *e*P **P 10 10 26.1 +0.9**
NIE LMZ LR 10 29 38.4
comp=Z,3μm,17.5s
NIE Niedzica 36.71 318 *e*P **P 10 10 26.1 +0.9**
NIE MLR MLR
comp=Z,3μm,17.5s
DGAR Diego Garcia 36.75 155 PFAKE 10 10 30.0 +4.3
DGAR LR LR
comp=Z,6μm,18.0s
ISAL Salakas 36.87 330 *e*P **P 10 10 27.7 +1.3**
ISAL IAmb IAmb 10 10 32.6
comp=Z,58nm,1.2s
CEL Celeste 36.92 299 *e*P **P 10 10 27.2 +0.1**
comp=Z,49nm,0.9s
IZAR Zarasai 36.92 330 *e*P **P 10 10 27.9 +1.1**
IZAR IAmb IAmb 10 10 33.1
comp=Z,61nm,1.2s
GTA Gaotai 37.10 59 ⇑P **P 10 10 30.8 +2.1**
GTA pP sP 10 10 40.4 +7.3
GTA PcP **PcP 10 12 47.6 -1.6**
GTA S **S 10 16 19.4 +4.3**
GTA pmax pmax
comp=Z,28nm,1.5s
GTA pmax pmax
comp=Z,150nm,4.6s
GTA LR LR
comp=Z,7μm,22.2s
GTA LR LR
comp=Z,2μm,21.9s
GTA LR LR
comp=Z,4μm,21.6s
LANS Liptovska Anna 37.10 318 *e*P **P 10 10 29.3 +0.8**
LANS Liptovska Anna 37.10 318 *e*P **P 10 10 29.3 +0.8**
BLY Banja Luka 37.14 310 *e*P **P 10 10 29.0 +0.1**
comp=Z,56nm,1.4s
BLY LR LR
comp=Z,4μm,19.0s
BLY Banja Luka 37.14 310⇑*i*P **P 10 10 29.4 +0.6**
BLY Banja Luka 37.14 310 *e*P **P 10 10 27.2 -1.6**
CSKK Cskako 37.20 314 *e*P **P 10 10 32.0 +2.7**
VYHS Vyhne 37.23 316 *e*P **P 10 10 30.1 +0.4**
VYHS pmax pmax
comp=Z,44nm,1.1s
VYHS Vyhne 37.23 316 *e*P **P 10 10 30.0 +0.4**
SRO2 Moca 37.25 315 *e*P **P 10 10 32.3 +2.6**
SRO2 Moca 37.25 315 *e*P **P 10 10 32.3 +2.6**
TIH Tihany 37.29 313 *e*P **P 10 10 30.1 0.0**
SRO Srobarova 37.32 315 *e*P **P 10 10 31.4 +1.1**
SRO Srobarova 37.32 315 *e*P **P 10 10 31.4 +1.1**
OJC Ojcow 37.33 319 *e*P **P 10 10 30.5 0.0**
OJC LMZ LR 10 29 48.5
comp=Z,7μm,20.6s
OJC Ojcow 37.33 319 *e*P **P 10 10 30.4 0.0**
comp=Z,146nm,0.8s
OJC Ojcow 37.33 319 *e*P **P 10 10 30.4 0.0**

OJC				pmax	pmax	
	comp=Z,146nm,0.8s					
BEL	**Belsk**	**37.49**	**322**	*e*P	**P**	**10 10 32.2 +0.6**
BEL				LMZ	LR	10 28 48.9
	comp=Z,7μm,21.7s					
BEL	**Belsk**	**37.49**	**322**	P	**P**	**10 10 31.8 +0.1**
BEL				pmax	pmax	
	comp=Z,188nm,1.1s					
MBAR	**Mbarara**	**37.64**	**228**	*e*P	**P**	**10 10 34.4 +0.8**
	comp=Z,47nm,1.0s					
MBAR				LR	LR	
	comp=Z,8μm,21.0s					
MBAR	**Mbarara**	**37.64**	**228**	*e*P	**P**	**10 10 34.4 +0.8**
MBAR				pmax	pmax	
	comp=Z,47nm,1.0s					
MBAR				MLR	MLR	
	comp=Z,8μm,21.0s					
PABE	**Paberze**	**37.81**	**329**	*e*P	**P**	**10 10 34.0 -0.3**
PABE				IAmb	IAmb	10 10 37.9
	comp=Z,186nm,1.2s					
WDD	**Wied Dalam**	**37.86**	**295**	PFAKE		10 10 40.0 +4.9
WDD				LR	LR	
	comp=Z,4μm,20.0s					
BEHE	**Becsehely**	**37.89**	**312**	*e*P	**P**	**10 10 35.5 +0.3**
BEHE	**Becsehely**	**37.89**	**312**	*e*P	**P**	**10 10 36.0 +0.8**
UDBI	**Udbina**	**38.06**	**309**	P	**P**	**10 10 36.4 -0.3**
JAVC	**Velka Javorina**	**38.09**	**316**	*e*P	**P**	**10 10 37.6 +0.7**
SMOL	**Smolenice**	**38.12**	**316**	*e*P	**P**	**10 10 38.6 +1.5**
SMOL	**Smolenice**	**38.12**	**316**	*e*P	**P**	**10 10 38.6 +1.5**
OKC	**Ostrava-Krasne**	**38.16**	**318**	*e*P	**P**	**10 10 38.7 +1.3**
OKC				MLR	MLR	
	comp=Z,3μm,15.6s					
OKC	**Ostrava-Krasne**	**38.16**	**318**	*e*P	**P**	**10 10 38.7 +1.3**
OKC				AMS	AMS	10 30 10.0
	comp=Z,3μm,15.6s					
MODS	**Modra-Piesok**	**38.16**	**315**	*e*P	**P**	**10 10 36.5 -1.0**
MODS				*e*		10 10 37.8
MODS				pmax	pmax	
	comp=Z,203nm,1.4s					
MODS	**Modra-Piesok**	**38.16**	**315**	*e*P	**P**	**10 10 36.5 -1.0**
ZST	**Bratislava**	**38.22**	**315**	*e*P	**P**	**10 10 36.8 -1.1**
ZST	**Bratislava**	**38.22**	**315**	*e*P	**P**	**10 10 36.8 -1.1**
ZAG	**Zagreb**	**38.24**	**311**	*e*P	**P**	**10 10 39.0 +0.9**
SOP	**Sopron**	**38.40**	**314**	P	**P**	**10 10 39.3 -0.1**
SOP				pmax	pmax	
	comp=Z,277nm,0.9s					
SOP	**Sopron**	**38.40**	**314**	*e*P	**P**	**10 10 39.1 -0.4**
SOP				*e*S	**S**	**10 16 35.0 +0.7**
VSU	**Vasula**	**38.49**	**334**	*ce*P	**P**	**10 10 38.5 -1.5**
VSU				pmax	pmax	
	comp=Z,395nm,1.7s					
VSU	**Vasula**	**38.49**	**334**	*e*P	**P**	**10 10 38.8 -1.2**
VSU				IAmb	IAmb	10 10 43.8
	comp=Z,217nm,1.0s					
MORC	**Moravsky Berou**	**38.50**	**318**	*e*P	**P**	**10 10 40.2 -0.1**
	comp=Z,96nm,1.3s					
MORC				LR	LR	
	comp=Z,3μm,21.0s					
MORC	**Moravsky Berou**	**38.50**	**318** ⇑	*i*P	**P**	**10 10 40.7 +0.4**
MORC	**Moravsky Berou**	**38.50**	**318**	*e*P	**P**	**10 10 40.2 -0.1**
MORC				pmax	pmax	
	comp=Z,96nm,1.3s					
MORC				MLR	MLR	
	comp=Z,3μm,21.0s					
MORC	**Moravsky Berou**	**38.50**	**318**	*e*P	**P**	**10 10 39.8 -0.5**
OZLJ	**Ozalj**	**38.53**	**311**	P	**P**	**10 10 39.5 -1.0**
CHTO	**Chiang Mai**	**38.59**	**93**	*e*P	**P**	**10 10 41.8 +0.3**
	comp=Z,37nm,1.3s					
CHTO				LR	LR	
	comp=Z,6μm,22.0s					
CHTO	**Chiang Mai**	**38.59**	**93**	*e*P	**P**	**10 10 41.8 +0.3**
CHTO				pmax	pmax	
	comp=Z,37nm,1.3s					
CHTO				MLR	MLR	
	comp=Z,6μm,22.0s					
CRES	**Cresnjev**	**38.59**	**311**	*e*P	**P**	**10 10 41.0 -0.2**
CMMT	**Chiang Mai**	**38.60**	**93**	P	**P**	**10 10 42.1 +0.6**
	comp=Z,11nm,1.5s,comp=Z,268nm					
BOJS	**Bojanci**	**38.65**	**310**	*i*P	**P**	**10 10 42.0 +0.4**
BOJS				*i*		10 10 44.8
NVLJ	**Novalja**	**38.69**	**309**	P	**P**	**10 10 41.4 -0.6**
CM31	**Chiang Mai Arr**	**38.71**	**93**	*e*P	**P**	**10 10 42.2 -0.2**
	comp=Z,34nm,1.4s					
CMAR	**Chiang Mai Arr**	**38.71**	**93**	*e*P	**P**	**10 10 42.6 +0.2**
CMAR	**Chiang Mai Arr**	**38.71**	**93**	P	**P**	**10 10 42.2 -0.2**
	comp=Z,3.1nm,0.9s,baz=284,slow=9.7,SNR=16					
CMAR				LR	LR	10 28 46.4
	comp=Z,5μm,21.8s,baz=274,slow=39					
VRAC	**Vranov**	**38.91**	**317** ⇑	*i*P	**P**	**10 10 44.3 +0.6**
VRAC	**Vranov**	**38.91**	**317**	P	**P**	**10 10 44.8 +1.1**
VRAC				pmax	pmax	
	comp=Z,80nm,1.2s					
VRAC	**Vranov**	**38.91**	**317**	*e*P	**P**	**10 10 43.7 0.0**
VRAC				*e*		10 12 22.5
CONA	**Conrad Observa**	**38.92**	**314**	*i*P	**P**	**10 10 43.3 -0.6**
	comp=Z,144nm,1.4s,SNR=79					
ARSA	**Arzberg**	**38.94**	**313**	*i*pP	**P**	**10 10 43.9 -0.2**
	comp=Z,107nm,1.0s,SNR=48					
KRUC	**Moravsky**	**38.95**	**316**	P	**P**	**10 10 44.5 +0.4**
KRUC				pmax	pmax	
	comp=Z,103nm,1.2s					
KRUC	**Moravsky**	**38.95**	**316**	*e*P	**P**	**10 10 43.6 -0.5**
KRUC				*e*		10 12 19.9
KRUC				*e*S	**S**	**10 16 36.5 -6.1**
CLTB	**Caltabellotta**	**38.98**	**298**	*e*P	**P**	**10 10 45.6 +1.0**
	comp=Z,139nm,1.3s					
CLTB				LR	LR	
	comp=Z,4μm,18.0s					
VISS	**Visnje**	**39.01**	**311**	*i*P	**P**	**10 10 45.5 +0.9**
PERS	**Pernice**	**39.03**	**312**	*i*P	**P**	**10 10 45.2 +0.3**
PERS				*i*		10 10 48.4
PBUR	**Paburg**	**39.05**	**329**	*e*P	**P**	**10 10 43.8 -1.0**
PBUR				IAmb	IAmb	10 10 48.4
	comp=Z,140nm,1.0s					
KRLC	**Kraliky**	**39.06**	**318**	*e*P	**P**	**10 10 46.4 +1.3**
KRLC	**Kraliky**	**39.06**	**318**	*e*P	**P**	**10 10 46.4 +1.3**
SOKA	**Soboth**	**39.10**	**312**	*i*pP	**P**	**10 10 45.4 0.0**
	comp=Z,59nm,1.2s,SNR=26					
PAYA	**Payao**	**39.24**	**92**	P	**P**	**10 10 48.0 +1.1**
	comp=Z,31μm,1.1s					
CEY	**Cerknica**	**39.27**	**311**	*e*P	**P**	**10 10 46.5 -0.3**
LJU	**Ljubljana**	**39.28**	**311**	*e*P	**P**	**10 10 47.3 +0.4**
LAMP	**Lampang**	**39.30**	**93**	P	**P**	**10 10 51.2 +3.8**
	comp=Z,20μm,0.8s					
AQU	**L'Aquila**	**39.33**	**305**	*e*P	**P**	**10 10 48.0 +0.6**
	comp=Z,150nm,1.1s					
AQU				LR	LR	
	comp=Z,9μm,18.0s					
AQU	**L'Aquila**	**39.33**	**305**	*e*P	**P**	**10 10 48.0 +0.6**
AQU				pmax	pmax	
	comp=Z,150nm,1.1s					
AQU				MLR	MLR	
	comp=Z,9μm,18.0s					
AQU	**L'Aquila**	**39.33**	**305**	*e*P	**P**	**10 10 46.7 -0.7**
OBKA	**Obir**	**39.38**	**312**	*i*pP	**P**	**10 10 48.1 +0.3**
	comp=Z,85nm,1.7s,SNR=20					
DPC	**Dobruska-Polom**	**39.44**	**318**	*e*P	**P**	**10 10 48.6 +0.4**
DPC				MLR	MLR	
	comp=Z,3μm,19.9s					
DPC	**Dobruska-Polom**	**39.44**	**318**	*e*P	**P**	**10 10 48.6 +0.4**
DPC				AMS	AMS	10 28 50.0
	comp=Z,3μm,19.9s					
UMPA	**Umpang Tak**	**39.44**	**97**	P	**P**	**10 10 51.5 +2.9**
	comp=Z,108μm,1.2s					
CMBY	**CAMPBELL BAY**	**39.50**	**113**	*e*P	P	10 10 42.4 -6.6
JAVS	**Javornik**	**39.55**	**311**	*i*P	**P**	**10 10 48.4 -0.9**
JAVS				*i*		10 10 52.1
TREC	**Trest**	**39.59**	**316**	*e*P	**P**	**10 10 50.2 +0.8**
TREC				MLR	MLR	
	comp=Z,4μm,18.5s					
TREC	**Trest**	**39.59**	**316**	*e*P	**P**	**10 10 50.2 +0.8**
TREC				AMS	AMS	10 30 40.0
	comp=Z,4μm,18.5s					
TMCR	**Tamitsa**	**39.61**	**347**	*e*P	**P**	**10 10 50.0 +0.7**
TMCR				pmax	pmax	
	comp=Z,91nm,1.1s					
KSP	**Ksiaz**	**39.64**	**319**	*e*P	**P**	**10 10 50.1 +0.3**
KSP				LMZ	LR	10 31 01.6
	comp=Z,5μm,19.7s					
KSP	**Ksiaz**	**39.64**	**319**	*e*P	**P**	**10 10 50.1 +0.3**
KSP				MLR	MLR	
	comp=Z,5μm,19.7s					
UPC	**Upice**	**39.68**	**318**	*e*P	**P**	**10 10 50.5 +0.3**
UPC				*e*S	**S**	**10 16 45.5 -8.2**
UPC				MLR	MLR	
	comp=Z,3μm,17.0s					
UPC	**Upice**	**39.68**	**318**	*e*P	**P**	**10 10 50.5 +0.3**
UPC				*e*S	**S**	**10 16 45.5 -8.2**
UPC				AMS	AMS	10 30 00.0
	comp=Z,3μm,17.0s					
TRI	**Trieste**	**39.72**	**310**	*e*P	**P**	**10 10 50.8 +0.3**
	comp=Z,227nm,1.4s					
TRI				LR	LR	
	comp=Z,5μm,21.0s					
TRI	**Trieste**	**39.72**	**310**	*e*P	**P**	**10 10 50.8 +0.3**
TRI				pmax	pmax	
	comp=Z,227nm,1.4s					
TRI				MLR	MLR	
	comp=Z,5μm,21.0s					
SLIT	**Slitere, Latvi**	**39.80**	**331**	*e*P	**P**	**10 10 49.5 -1.5**
SLIT				IAmb	IAmb	10 10 54.3
	comp=Z,282nm,1.0s					
PHRA	**Phrae**	**39.85**	**93**	P	**P**	**10 10 53.2 +1.3**
	comp=Z,2.7nm,1.1s,comp=Z,94nm					
MOA	**Molln**	**39.92**	**314**	*i*P	**P**	**10 10 51.5 -0.7**
	comp=Z,170nm,0.8s,SNR=95					
MYKA	**Terra Mystica**	**40.02**	**312**	*i*P	**P**	**10 10 52.5 -0.6**
	comp=Z,37nm,0.7s,SNR=16					
MYKA				*e*S	**S**	**10 17 01.1 +2.2**
	comp=Z,24nm,1.8s					
GKP	**Gorka Klasztor**	**40.07**	**323**	*e*P	**P**	**10 10 54.3 +1.0**
GKP				LMZ	LR	10 28 11.4
	comp=Z,6μm,29.4s					
GKP	**Gorka Klasztor**	**40.07**	**323**	*e*P	**P**	**10 10 54.3 +1.0**
LZH	**Lanzhou**	**40.08**	**65**	*e*P	**P**	**10 10 56.3 +2.4**
LZH				pP	sP	10 11 00.3 +2.0
LZH				sP	pP	10 11 03.5 +6.5
LZH				PP	**PP**	**10 12 29.9 +4.0**
LZH				S	**S**	**10 17 02.6 +2.3**
LZH				sS	sS	10 17 11.4 +5.9
LZH				SS	**SS**	**10 19 50.9 -6.6**
LZH				pmax	pmax	
	comp=Z,72nm,1.0s					
LZH				pmax	pmax	
	comp=Z,150nm,4.8s					
LZH				LR	LR	
	comp=Z,4μm,14.6s					
LZH				LR	LR	
	comp=Z,5μm,15.3s					
LZH				LR	LR	
	comp=Z,7μm,15.7s					
JOF	**Joensuu**	**40.22**	**342**	P	**P**	**10 10 56.6 +2.2**
JOF				pmax	pmax	
	comp=Z,92nm,1.1s					
GOPC	**GO Pecny, Ondr**	**40.22**	**317**	*e*P	**P**	**10 10 54.9 +0.2**
GOPC				MLR	MLR	
	comp=Z,5μm,17.2s					
GOPC	**GO Pecny, Ondr**	**40.22**	**317**	*e*P	**P**	**10 10 54.9 +0.2**
GOPC				AMS	AMS	10 31 20.0
	comp=Z,5μm,17.2s					
CD2	**Chengdu**	**40.26**	**73** ⇓	*i*P	**P**	**10 10 58.8 +3.5**
CD2				PP	**PnPn**	**10 12 35.3 +3.8**
CD2				PcP	**PcP**	**10 12 57.8 -1.3**
CD2				S	**S**	**10 17 04.1 +1.2**
CD2				ScS	**ScS**	**10 20 58.3 -4.2**
CD2				pmax	pmax	
	comp=Z,20nm,0.6s					
CD2				pmax	pmax	
	comp=Z,100nm,4.9s					
CD2				LR	LR	
	comp=Z,15μm,28.8s					
CD2				LR	LR	
	comp=Z,8μm,17.9s					
CD2				LR	LR	
	comp=Z,10μm,15.7s					
KMI	**Kunming**	**40.28**	**82**	P	**P**	**10 10 56.9 +1.2**
KMI				pP	sP	10 10 59.3 -0.8
KMI				PP	**PnPn**	**10 12 32.8 +0.8**
KMI				S	**S**	**10 17 03.8 +0.2**
KMI				SS	**SS**	**10 20 00.5 -1.4**
KMI				pmax	pmax	
	comp=Z,56nm,1.2s					
KMI				pmax	pmax	
	comp=Z,290nm,3.7s					
KMI				LR	LR	
	comp=Z,4μm,16.0s					
KMI				LR	LR	
	comp=Z,2μm,16.9s					
KMI				LR	LR	
	comp=Z,4μm,16.3s					
KMI	**Kunming**	**40.28**	**82**	PFAKE		10 11 10.0 +14
KMI				LR	LR	
	comp=Z,3μm,18.0s					
KBA	**Koelnbreinsper**	**40.32**	**312**	*i*pP	**P**	**10 10 55.2 -0.5**
	comp=Z,126nm,0.9s,SNR=56					
KBA				*e*S	**S**	**10 17 04.9 +1.2**
	comp=Z,13nm,1.3s					
KBA	**Koelnbreinsper**	**40.32**	**312**	P	**P**	**10 10 55.4 -0.4**
KBA				pmax	pmax	
	comp=Z,106nm,1.1s					
PRU	**Pruhonice**	**40.39**	**317**	*e*P	**P**	**10 10 56.4 +0.3**
PRU				*e*S	**S**	**10 16 55.7 -8.6**
PRU				MLR	MLR	
	comp=Z,6μm,17.9s					
PRU	**Pruhonice**	**40.39**	**317**	*e*P	**P**	**10 10 56.4 +0.3**
PRU				*e*S	**S**	**10 16 55.7 -8.6**
PRU				AMS	AMS	10 31 20.0
	comp=Z,6μm,17.9s					
UTTA	**Uttaradit**	**40.39**	**94**	P	**P**	**10 10 58.0 +1.5**
	comp=Z,51μm,1.1s,comp=Z,405μm					
SRDT	**SRDT**	**40.41**	**99**	P	P	10 11 01.4 +4.8
	comp=Z,25nm,1.7s,comp=Z,2μm					
PVCC	**Panska Ves**	**40.55**	**318**	*e*P	**P**	**10 10 58.8 +1.4**
PVCC				MLR	MLR	
	comp=Z,3μm,17.4s					
PVCC	**Panska Ves**	**40.55**	**318**	*e*P	**P**	**10 10 58.8 +1.4**
PVCC				AMS	AMS	10 31 50.0
	comp=Z,3μm,17.4s					
GEC2	**GERESS Array S**	**40.57**	**315**	*e*P	**P**	**10 10 57.1 -0.6**
	comp=Z,182nm,1.4s					
GEC2	**GERESS Array S**	**40.57**	**315**	*e*P	**P**	**10 10 57.1 -0.6**
GEC2				pmax	pmax	
	comp=Z,182nm,1.4s					
GERES	**GERESS Array B**	**40.57**	**315**	*e*P	**P**	**10 10 56.9 -0.7**
GERES	**GERESS Array B**	**40.57**	**315**	P	**P**	**10 10 56.8 -0.9**
	comp=Z,88nm,1.0s,baz=113,slow=8.8,SNR=46					
GERES				S	**S**	**10 17 05.1 -2.0**
	comp=Z,2.8nm,1.1s,baz=103,slow=2.9,SNR=4.1					
GERES				LR	LR	10 31 29.8
	comp=Z,4μm,20.1s,baz=115,slow=42					
KHC	**Kasperske Hory**	**40.73**	**315**	*e*P	**P**	**10 10 58.7 -0.2**
	comp=Z,72nm,1.0s					
KHC				LR	LR	
	comp=Z,1μm,22.0s					
KHC	**Kasperske Hory**	**40.73**	**315**	*e*P	**P**	**10 10 57.5 -1.4**
KHC				*e*		10 12 39.0
KHC				*e*S	**S**	**10 17 02.0 -7.4**
KHC				MLR	MLR	
	comp=Z,5μm,19.5s					
KHC	**Kasperske Hory**	**40.73**	**315**	*e*P	**P**	**10 10 57.5 -1.4**
KHC				*ex*	x	10 11 08.5
KHC				*e*PP	**PnPn**	**10 12 39.0 +2.3**
KHC				*e*S	**S**	**10 17 02.0 -7.4**
KHC				AMS	AMS	10 31 00.0
	comp=Z,5μm,19.5s					
FIA0	**FINESS Array S**	**40.77**	**337**	*e*P	**P**	**10 10 58.9 -0.1**
FIA0				*e*S	**S**	**10 17 07.6 -1.9**
FIA0	**FINESS Array S**	**40.77**	**337**	*e*P	**P**	**10 10 58.9 -0.1**
FIA0				*e*S	**S**	**10 17 07.6 -1.9**
FIA1	**FINESS Array S**	**40.77**	**337**	*e*P	**P**	**10 10 59.5 +0.5**
	comp=Z,68nm,0.9s					
FINES	**FINESS Array B**	**40.77**	**337**	*e*P	**P**	**10 10 59.2 +0.3**
FINES	**FINESS Array B**	**40.77**	**337**	*e*P	**P**	**10 10 59.3 +0.3**
FINES	**FINESS Array B**	**40.77**	**337**	P	**P**	**10 10 58.9 -0.1**
	comp=Z,39nm,0.8s,baz=120,slow=11,SNR=53					
FINES				S	**S**	**10 17 07.6 -1.9**
	comp=Z,5.3nm,1.1s,baz=160,slow=28,SNR=3.2					
ABTA	**Abfaltersbach**	**40.80**	**312**	*i*P	**P**	**10 10 58.7 -0.9**
	comp=Z,146nm,1.0s,SNR=66					
MOY	**Mondy**	**40.90**	**41**	*e*P	**P**	**10 11 02.3 +1.9**
MOY				pmax	pmax	
	comp=Z,39nm,1.6s					
BRG	**Berggiesshubel**	**41.04**	**318**	*i*P	**P**	**10 11 01.7 +0.2**
	comp=Z,49nm,1.2s					
BRG				*i*		10 11 13.5
	comp=Z,72nm,1.5s					
BRG				*i*PP	**PP**	**10 12 36.3 +0.3**
	comp=Z,24nm,1.2s					
BRG				*e*SCP	**ScP**	**10 16 51.7 +0.4**
	comp=Z,14nm,1.6s					
BRG				S	**S**	**10 17 09.0 -5.0**
BRG				SS	**SS**	**10 20 08.0 -8.0**
BRG	**Berggiesshubel**	**41.04**	**318**	*i*P	**P**	**10 11 01.7 +0.2**
BRG				*i*		10 12 36.3
BRG				S	**S**	**10 17 09.0 -5.0**
BRG				SS	**SS**	**10 20 08.0 -8.0**
BRG				pmax	pmax	
	comp=Z,49nm,1.2s					
BRG				pmax	pmax	
	comp=Z,24nm,1.2s					
BRG				MLR	MLR	
	comp=N,4μm,20.0s					
BRG				MLR	MLR	
	comp=E,5μm,18.9s					
BRG				MLR	MLR	
	comp=Z,2μm,20.8s					
WET	**Wettzell**	**41.17**	**315**	P	**P**	**10 11 02.3 -0.3**
WET				pmax	pmax	
	comp=Z,50nm,1.5s					
PHET	**Kaeng Krachan**	**41.46**	**101**	P	P	10 11 19.3 +14
WTTA	**Wattenberg**	**41.50**	**312**	*i*P	**P**	**10 11 04.2 -1.3**
	comp=Z,280nm,1.0s,SNR=93					
WTTA				*e*S	**S**	**10 17 19.2 -2.0**
	comp=Z,52nm,1.8s					
WATA	**Walderalm**	**41.55**	**312**	*i*pP	**P**	**10 11 05.5 -0.4**
	comp=Z,250nm,1.0s,SNR=41					
WATA				*e*S	**S**	**10 17 21.7 -0.3**
	comp=Z,26nm,1.4s					
SUF	**Sumiainen**	**41.64**	**339**	P	**P**	**10 11 08.2 +2.1**
SUF				pmax	pmax	
	comp=Z,55nm,1.0s					
RUE	**Ruedersdorf**	**41.69**	**320**	*e*P	**P**	**10 11 06.0 -0.7**
RUE				IAmb	IAmb	10 11 11.4
	comp=Z,115nm,1.1s					
CLL	**Collm**	**41.74**	**318**	*e*P	**P**	**10 11 07.5 +0.3**
	comp=Z,158nm,1.4s					
CLL				LR	LR	
	comp=Z,3μm,22.0s					
CLL	**Collm**	**41.74**	**318**	*i*P	**P**	**10 11 07.3 +0.1**
CLL				*e*S	**S**	**10 17 24.0 -0.3**
CLL				pmax	pmax	
	comp=Z,162nm,1.4s					
CLL				MLR	MLR	
	comp=Z,3μm,20.1s					
CLL	**Collm**	**41.74**	**318**	*i*P	**P**	**10 11 07.3 +0.1**
	comp=Z,162nm,1.4s					
CLL				*e*Pmax		10 11 10.0
CLL				*i*		10 11 18.4
CLL				*e*PP	**PP**	**10 12 40.0 -3.6**
CLL				*e*S	**S**	**10 17 24.0 -0.3**
CLL				*e*SS	**SnSn**	**10 20 36.0 -4.3**
CLL				LmH		10 30 00.0
	comp=N,3μm,21.8s					
CLL				LmH		10 30 00.0
	comp=E,4μm,20.2s					
CLL				LmV		10 32 00.0
	comp=Z,3μm,20.1s					
CLL				Lmax		10 32 00.0
NKC	**Novy Kostel**	**41.75**	**317**	*e*P	**P**	**10 11 07.7 +0.4**
NKC				*e*S	**S**	**10 17 24.7 +0.2**
NKC				MLR	MLR	
	comp=Z,4μm,18.2s					
NKC	**Novy Kostel**	**41.75**	**317**	*e*P	**P**	**10 11 07.7 +0.4**
NKC				*ex*	x	10 11 18.5
NKC				*e*S	**S**	**10 17 24.7 +0.2**
NKC				AMS	AMS	10 31 40.0
	comp=Z,4μm,18.2s					
SQTA	**Sankt Quirin**	**41.77**	**312**	*i*P	**P**	**10 11 06.2 -1.5**
	comp=Z,188nm,0.9s,SNR=77					
SQTA				*e*S	**S**	**10 17 22.8 -2.4**
	comp=Z,29nm,1.4s					
VLC	**Villacollemand**	**41.78**	**307**	*e*P	**P**	**10 11 08.1 +0.5**
	comp=Z,99nm,1.2s					
VLC				LR	LR	
	comp=Z,3μm,21.0s					
ZAK	**Zakamensk**	**41.85**	**43**	*e*P	**P**	**10 11 07.8 -0.4**
ZAK				pmax	pmax	
	comp=Z,14nm,1.2s					
MOTA	**Moosalm**	**41.87**	**312**	*i*P	**P**	**10 11 06.9 -1.6**
	comp=Z,177nm,1.0s,SNR=80					
MOTA				*e*S	**S**	**10 17 24.0 -2.6**
	comp=Z,21nm,1.4s					
FUR	**Furstenfeldbru**	**41.94**	**313**	P	**P**	**10 11 10.4 +1.5**
FUR				pmax	pmax	
	comp=Z,132nm,0.8s					
GRC1	**Grafenberg Arr**	**41.99**	**315**	P	**P**	**10 11 09.9 +0.6**
FETA	**Feichten**	**42.05**	**312**	*i*P	**P**	**10 11 09.0 -1.0**
	comp=Z,292nm,1.0s,SNR=116					
FETA				*e*S	**S**	**10 17 27.3 -2.1**
	comp=Z,57nm,1.4s					
KEST	**Kesra**	**42.07**	**295**	*e*P	**P**	**10 11 11.6 +1.4**
	comp=Z,35nm,1.7s					
KEST				LR	LR	
	comp=Z,4μm,20.0s					
KEST	**Kesra**	**42.07**	**295**	P	**P**	**10 11 11.4 +1.2**
	comp=Z,40nm,1.1s,baz=11,slow=1.5,SNR=12					
KEST				LR	LR	10 32 00.7
	comp=Z,4μm,19.8s,baz=38,slow=41					
BSD	**Bornholm Skovb**	**42.09**	**324**	*i*P	**P**	**10 11 09.7 -0.2**
BSD				pmax	pmax	
	comp=Z,180nm,0.7s					
BSD				MLR	MLR	
	comp=Z,4μm,20.0s					
BSD	**Bornholm Skovb**	**42.09**	**324**	*i*P	**P**	**10 11 09.7 -0.2**
	comp=Z,179nm,0.7s					
RETA	**Reutte**	**42.13**	**312**	*i*P	**P**	**10 11 08.9 -1.6**
	comp=Z,111nm,1.2s,SNR=36					
RETA				*e*S	**S**	**10 17 27.5 -2.8**
	comp=Z,32nm,1.4s					
SLVN	**Son La**	**42.26**	**87**	*e*P	**P**	**10 11 13.2 +1.4**
	comp=Z,66nm,1.4s					
SLVN				LR	LR	
	comp=Z,4μm,20.0s					
FUORN	**Ofenpass-Fuorn**	**42.28**	**311**	*e*P	**P**	**10 11 12.3 +0.3**
	comp=Z,103nm,1.1s					
FUORN				LR	LR	
	comp=Z,3μm,20.0s					
CHAI	**Chaiyaphum**	**42.34**	**96**	P	**P**	**10 11 16.3 +3.8**
	comp=Z,12μm,0.7s					
GRA1	**Grafenberg Arr**	**42.36**	**316**	*e*P	**P**	**10 11 13.1 +0.8**
	comp=Z,133nm,0.8s					
GRA1				LR	LR	
	comp=Z,3μm,22.0s					
GRF	**Grafenberg Arr**	**42.36**	**316**	P	**P**	**10 11 13.2 +0.9**
GRF				pmax	pmax	
	comp=Z,179nm,0.8s					
GRFO	**Grafenberg**	**42.36**	**316**	*e*P	**P**	**10 11 12.9 +0.6**
	comp=Z,115nm,0.8s					
GRFO				LR	LR	
	comp=Z,3μm,22.0s					
MOX	**Moxa**	**42.38**	**317**	P	**P**	**10 11 14.0 +1.6**
MOX				pmax	pmax	
	comp=Z,30nm,1.3s					
TLY	**Talaya**	**42.46**	**41**	*e*P	**P**	**10 11 11.6 -1.4**
	comp=Z,24nm,1.3s					
TLY				LR	LR	
	comp=Z,4μm,18.0s					
TLY	**Talaya**	**42.46**	**41**	*e*P	**P**	**10 11 11.6 -1.4**
PGF	**Pioggiola**	**42.59**	**305**	*e*P	**P**	**10 11 14.6 +0.3**
PGF				pmax	pmax	
	comp=Z,23nm,0.8s					
NONG	**Nongkai**	**42.60**	**92**	P	**P**	**10 11 15.1 +0.5**
	comp=Z,2.3nm,1.0s					
DAVA	**Damuels**	**42.67**	**312**	*i*P	**P**	**10 11 13.7 -1.4**
	comp=Z,458nm,1.1s,SNR=128					
DAVA				*e*S	**S**	**10 17 35.5 -3.0**
	comp=Z,66nm,1.7s					
RGN	**Rugen**	**42.70**	**323**	*e*P	**P**	**10 11 15.1 +0.1**
	comp=Z,290nm,1.1s					
RGN				LR	LR	
	comp=Z,2μm,19.0s					
TUE	**Stuetta**	**42.88**	**310**	*e*P	**P**	**10 11 16.8 +0.1**
	comp=Z,124nm,1.3s					
TUE				LR	LR	
	comp=Z,4μm,20.0s					
KHON	**Khomkaen**	**42.92**	**94**	P	**P**	**10 11 18.8 +1.6**
	comp=Z,47μm,0.8s					
IRK	**Irkutsk**	**43.00**	**41**	*e*P	**P**	**10 11 16.1 -1.4**
IRK				pmax	pmax	
	comp=Z,62nm,2.3s					
VAF	**Ylistaro**	**43.03**	**337**	P

SONA0				*e*PP	**PP**	**10 13 00.1 +0.6**
SONM	**Songino Array**	**43.20**	**48**	*e*P	**P**	**10 11 20.2 +1.0**
SONM	**Songino Array**	**43.20**	**48**	P	**P**	**10 11 19.8 +0.5**
	comp=Z,13nm,0.8s,baz=252,slow=9.0,SNR=12					
SONM				PP	**PP**	**10 13 00.1 +0.6**
	comp=Z,5.1nm,0.8s,baz=253,slow=8.9,SNR=2.1					
SONM				LR	LR	10 31 45.6
	comp=Z,7μm,19.2s,baz=254,slow=40					
OUL	**Oulu**	**43.42**	**341**	P	**P**	**10 11 22.4 +1.8**
OUL				pmax	pmax	
	comp=Z,54nm,1.4s					
STU	**Stuttgart**	**43.43**	**314**	*e*P	**P**	**10 11 20.3 -0.6**
	comp=Z,76nm,1.1s					
STU				LR	LR	
	comp=Z,3μm,18.0s					
STU	**Stuttgart**	**43.43**	**314**	*e*P	**P**	**10 11 20.3 -0.6**
STU				pmax	pmax	
	comp=Z,76nm,1.1s					
STU				MLR	MLR	
	comp=Z,3μm,18.0s					
GYA	**Guiyang**	**43.47**	**79**⇑	*i*P	**P**	**10 11 23.8 +2.1**
GYA				PP	**PcP**	**10 13 07.3 -2.6**
GYA				ScP	**ScP**	**10 17 05.8 +4.2**
GYA				S	**S**	**10 17 49.3 -1.3**
GYA				SS	**SS**	**10 21 01.8 -2.9**
GYA				pmax	pmax	
	comp=Z,30nm,0.4s					
GYA				pmax	pmax	
	comp=Z,140nm,5.3s					
GYA				LR	LR	
	comp=Z,5μm,15.9s					
GYA				LR	LR	
	comp=Z,1μm,15.9s					
GYA				LR	LR	
	comp=Z,4μm,18.7s					
APA	**Apatity**	**43.52**	**347**⇑	*i*P	**P**	**10 11 22.7 +1.4**
APA				*i*		10 13 06.0
APA				*i* PPP	PPP	10 13 45.0
APA				*i* S	**S**	**10 17 52.0 +2.0**
APA				pmax	pmax	
	comp=Z,63nm,0.9s					
LVZ	**Lovozero**	**43.55**	**348**	PFAKE		10 11 30.0 +8.3
LVZ				LR	LR	
	comp=Z,4μm,19.0s					
CMAH	**Djebel Manchou**	**43.60**	**296**	P	**P**	**10 11 24.8 +2.2**
COP	**Copenhagen**	**43.61**	**324**	*i* P	**P**	**10 11 23.9 +1.6**
COP				pmax	pmax	
	comp=Z,120nm,1.0s					
COP				MLR	MLR	
	comp=Z,2μm,19.0s					
COP	**Copenhagen**	**43.61**	**324**	*i* P	**P**	**10 11 23.9 +1.6**
	comp=Z,124nm,1.0s					
ULN	**Ulaanbaatar**	**43.64**	**48**	*e*P	**P**	**10 11 23.9 +1.1**
	comp=Z,25nm,1.0s					
ULN				LR	LR	
	comp=Z,6μm,19.0s					
ULN	**Ulaanbaatar**	**43.64**	**48**	*ce*P	**P**	**10 11 23.2 +0.3**
ULN				pmax	pmax	
	comp=Z,33nm,1.7s					
SLE	**Schleitheim**	**43.69**	**312**	P	**P**	**10 11 23.0 -0.1**
SLE				pmax	pmax	
	comp=Z,107nm,1.0s					
SKNT	**Sakolnakorn**	**43.73**	**93**	P	**P**	**10 11 24.5 +0.8**
	comp=Z,58nm,1.5s					
SAOF	**Saorge**	**43.78**	**307**	P	**P**	**10 11 27.6 +3.7**
SAOF				pmax	pmax	
	comp=Z,63nm,1.2s					
TRTT	**Trang**	**43.90**	**107**	P	**P**	**10 11 28.2 +3.1**
	comp=Z,20nm,1.3s					
BFO	**Black Forest**	**43.90**	**313**	*e*P	**P**	**10 11 23.9 -0.9**
	comp=Z,50nm,1.3s					
BFO				LR	LR	
	comp=Z,2μm,19.0s					
BFO	**Black Forest**	**43.90**	**313**	*ce*P	**P**	**10 11 25.1 +0.3**
CKFL	**Kef-Lekhel**	**44.18**	**296**	P	**P**	**10 11 29.6 +2.3**
PANO	**Nakornpanom**	**44.23**	**92**	P	**P**	**10 11 28.7 +1.0**
	comp=Z,1.4nm,1.2s					
SENIN	**Lac Senin/Sane**	**44.26**	**310**	*e*P	**P**	**10 11 27.0 -0.9**
	comp=Z,130nm,1.4s					
SENIN				LR	LR	
	comp=Z,2μm,22.0s					
XAN	**Xi'an**	**44.32**	**68**	P	**P**	**10 11 29.3 +0.9**
XAN				pP	sP	10 11 36.3 +3.5
XAN				PP	**PcP**	**10 13 17.9 +5.3**
XAN				S	**S**	**10 18 05.4 +2.6**
XAN				pmax	pmax	
	comp=Z,12nm,1.0s					
XAN				pmax	pmax	
	comp=Z,200nm,3.5s					
XAN				LR	LR	
	comp=Z,2μm,19.3s					
XAN				LR	LR	
	comp=Z,6μm,19.2s					
XAN				LR	LR	
	comp=Z,7μm,19.2s					
XAN	**Xi'an**	**44.32**	**68**	*e*P	**P**	**10 11 29.1 +0.7**
	comp=Z,79nm,1.1s					
XAN				LR	LR	
	comp=Z,8μm,21.0s					
XAN	**Xi'an**	**44.32**	**68**	*e*P	**P**	**10 11 29.1 +0.7**
XAN				pmax	pmax	
	comp=Z,79nm,1.1s					
XAN				MLR	MLR	
	comp=Z,8μm,21.0s					
CASM	**Ain Smara**	**44.37**	**296**	P	**P**	**10 11 28.5 -0.2**
MBDF	**Montbardon**	**44.42**	**308**	*e*P	**P**	**10 11 28.4 -0.7**
MBDF				pmax	pmax	
	comp=Z,44nm,0.8s					
CTEI	**Djebel Teioual**	**44.45**	**295**	P	**P**	**10 11 30.5 +1.1**
BNI	**Bardonecchia**	**44.52**	**308**	*e*P	**P**	**10 11 29.9 0.0**
	comp=Z,148nm,1.3s					
BNI				LR	LR	
	comp=Z,3μm,19.0s					
BNI	**Bardonecchia**	**44.52**	**308**	*e*P	**P**	**10 11 29.9 0.0**
BNI				pmax	pmax	
	comp=Z,148nm,1.3s					
BNI				MLR	MLR	
	comp=Z,3μm,19.0s					
LPG	**La Plagne**	**44.52**	**309**	*e*P	**P**	**10 11 30.0 -0.1**
LPG				pmax	pmax	
	comp=Z,81nm,1.0s					
LPL	**La Plagne**	**44.54**	**309**	*e*P	**P**	**10 11 29.3 -0.9**
LPL				pmax	pmax	
	comp=Z,52nm,0.8s					
MOF	**Molkenrain**	**44.60**	**312**	P	**P**	**10 11 31.5 +1.0**
CDF	**Champ du Feu**	**44.61**	**313**	*e*P	**P**	**10 11 28.2 -2.3**
CDF				pmax	pmax	
	comp=Z,78nm,1.3s					
ECH	**Echery**	**44.65**	**313**	*e*P	**P**	**10 11 30.3 -0.5**
	comp=Z,111nm,0.9s					
ECH				LR	LR	
	comp=Z,2μm,20.0s					
ECH	**Echery**	**44.65**	**313**	*e*P	**P**	**10 11 30.3 -0.5**
ECH				pmax	pmax	
	comp=Z,111nm,0.9s					
ECH				MLR	MLR	
	comp=Z,2μm,20.0s					
LOMF	**Lomont**	**44.73**	**311**	P	**P**	**10 11 31.1 -0.4**
HINF	**Hinteralfeld**	**44.78**	**312**	*e*P	**P**	**10 11 30.8 -1.1**
HINF				pmax	pmax	
	comp=Z,129nm,1.4s					
DFRA	**Djebel Bou Aff**	**44.85**	**296**	P	**P**	**10 11 34.5 +1.9**
ORIF	**Oris-en-Rattie**	**45.07**	**308**	*e*P	**P**	**10 11 35.8 +1.5**
ORIF				pmax	pmax	
	comp=Z,27nm,0.8s					
CABF	**La Chapelle**	**45.12**	**310**	*e*P	**P**	**10 11 34.0 -0.7**
CABF				pmax	pmax	
	comp=Z,129nm,1.0s					
HAU	**Haudompre**	**45.15**	**312**	*e*P	**P**	**10 11 33.3 -1.5**
HAU				pmax	pmax	
	comp=Z,61nm,0.8s					
CKHR	**Kef el Ahmar**	**45.17**	**295**	P	**P**	**10 11 33.5 -1.7**
BUG	**Bochum--Univer**	**45.23**	**317**	P	**P**	**10 11 37.7 +2.4**
BUG				pmax	pmax	
	comp=Z,113nm,1.1s					
ENH	**Enshi**	**45.24**	**73**	*e*P	**P**	**10 11 36.7 +1.0**
	comp=Z,56nm,1.0s					
ENH				LR	LR	
	comp=Z,800nm,21.0s					
SET	**Setif**	**45.25**	**295**	P	**P**	**10 11 35.0 -0.8**
WLF	**Walferdange**	**45.56**	**314**	*e*P	**P**	**10 11 37.9 -0.1**
	comp=Z,369nm,0.8s					
WLF				LR	LR	
	comp=Z,13μm,20.0s					
WLF	**Walferdange**	**45.56**	**314**	*e*P	**P**	**10 11 37.9 -0.1**
WLF				pmax	pmax	
	comp=Z,369nm,0.8s					
WLF				MLR	MLR	
	comp=Z,13μm,20.0s					
WLF	**Walferdange**	**45.56**	**314**	⇓P	**P**	**10 11 37.5 -0.5**
	comp=Z,75nm,0.9s					
MUD	**Monsted U'grnd**	**45.60**	**324**	*i* P	**P**	**10 11 39.8 +1.7**
MUD				pmax	pmax	
	comp=Z,72nm,1.0s					
MUD				MLR	MLR	
	comp=Z,5μm,19.0s					
MUD	**Monsted U'grnd**	**45.60**	**324**	*i* P	**P**	**10 11 39.8 +1.7**
	comp=Z,72nm,1.0s					
WTSB	**Winterswijk**	**45.64**	**318**	*e*P	**P**	**10 11 39.4 +0.9**
	comp=Z,355nm,2.1s					
GSI	**Gunungsitoli**	**45.75**	**117**	*e*P	**P**	**10 11 40.1 +0.2**
	comp=Z,44nm,1.0s					
MEM	**Membach**	**45.84**	**316**	P	**P**	**10 11 42.5 +2.4**
MEM				pmax	pmax	
	comp=Z,118nm,1.5s					
MEM	**Membach**	**45.84**	**316**	⇓P	**P**	**10 11 41.8 +1.7**
	comp=Z,72nm,1.5s					
HGN	**Heimansgroeve**	**45.91**	**316**	*e*P	**P**	**10 11 41.5 +0.8**
	comp=Z,439nm,2.0s					
HGN				*e*S	**S**	**10 18 23.2 -2.0**
VIVF	**Saint-Julien-l**	**45.92**	**308**	*e*P	**P**	**10 11 41.6 +0.7**
VIVF				pmax	pmax	
	comp=Z,37nm,1.0s					
PSI	**Prapat**	**45.97**	**114**	*e*P	**P**	**10 11 40.6 -1.1**
	comp=Z,25nm,1.0s					
PSI				LR	LR	
	comp=Z,2μm,22.0s					
PSI	**Prapat**	**45.97**	**114**	P	**P**	**10 11 42.3 +0.6**
PSI				pmax	pmax	
	comp=Z,25nm,1.0s					
PSI	**Prapat**	**45.97**	**114**	P	**P**	**10 11 41.3 -0.5**
	comp=Z,7.7nm,0.4s,baz=209,slow=10,SNR=5.2					
KULM	**Kulim**	**46.03**	**110**	*e*P	**P**	**10 11 40.0 -2.1**
	comp=Z,104nm,1.6s					
KULM				LR	LR	
	comp=Z,3μm,21.0s					
KULM	**Kulim**	**46.03**	**110**	P	P	10 11 47.0 +4.9
MAHO	**Mahon**	**46.03**	**301**	*i* P	**P**	**10 11 38.4 -3.4**
MAHO				*i* S	**S**	**10 18 25.8 -1.4**
SSB	**Saint Sauveur**	**46.05**	**308**	*e*P	**P**	**10 11 40.7 -1.2**
	comp=Z,61nm,0.8s					
SSB				LR	LR	
	comp=Z,2μm,19.0s					
SSB	**Saint Sauveur**	**46.05**	**308**	*e*P	**P**	**10 11 40.7 -1.2**
SSB				pmax	pmax	
	comp=Z,61nm,0.8s					
SSB				MLR	MLR	
	comp=Z,2μm,19.0s					
BEBN	**Eben Emael**	**46.08**	**316**	⇑P	**P**	**10 11 42.9 +0.9**
NRIK	**Noril'sk**	**46.10**	**14**	P	**P**	**10 11 42.4 +0.4**
	comp=Z,38nm,1.0s,baz=210,slow=5.2,SNR=37					
NRIK				LR	LR	10 34 40.9
	comp=Z,8μm,18.0s,baz=211,slow=41					
NC602	**NORSAR Array S**	**46.14**	**330**	*e*P	**P**	**10 11 41.8 -0.5**
	comp=Z,153nm,1.6s					
NC602	**NORSAR Array S**	**46.14**	**330**	IVmB_BB		10 11 43.4
	comp=Z,494nm,2.0s					
NC602				*e*pP	pP	10 11 45.1 -0.5
NC602				*e*PP	**PP**	**10 13 29.2 -1.2**
NC602				*e*S	**S**	**10 18 26.6 -1.6**
NC602				IVMs_BB	IVMs_BB	10 35 42.2
	comp=Z,1μm,12.6s					
NORES	**NORESS Array B**	**46.14**	**330**	P	**P**	**10 11 44.3 +1.9**
NORES				pmax	pmax	
	comp=Z,21nm,0.9s					
HHC	**Hu-ho-hao-te**	**46.18**	**58**	*e*P	**P**	**10 11 45.6 +2.5**
HHC				sP	sP	10 11 56.5 +9.0
HHC				S	**S**	**10 18 30.1 +0.6**
HHC				pmax	pmax	
	comp=Z,1μm,5.6s					
HHC				LR	LR	
	comp=Z,4μm,15.7s					
HHC				LR	LR	
	comp=Z,2μm,14.6s					
HHC				LR	LR	
	comp=Z,4μm,15.0s					
NC405	**NORSAR Array S**	**46.23**	**331**	*e*P	**P**	**10 11 43.3 +0.2**
	comp=Z,78nm,0.9s					
BCLA	**Clavier**	**46.24**	**315**	⇓P	**P**	**10 11 44.7 +1.4**
	comp=Z,92nm,1.4s					
NB201	**NORSAR Array S**	**46.39**	**331**	*e*P	**P**	**10 11 44.7 +0.4**
	comp=Z,88nm,1.1s					
NB2	**NORSAR Subarra**	**46.42**	**331**	P	**P**	**10 11 44.0 -0.6**
	comp=Z,43nm,1.1s,baz=115,slow=7.9					
NB2	**NORSAR Subarra**	**46.42**	**331**	P	**P**	**10 11 42.0 -2.6**
NB2				pmax	pmax	
	comp=Z,43nm,1.2s					
NB2	**NORSAR Subarra**	**46.42**	**331**	P	**P**	**10 11 44.0 -0.6**
	baz=115,slow=7.9					
NB200	**NORSAR Array S**	**46.42**	**331**	*e*P	**P**	**10 11 43.9 -0.7**
NOA	**NORSAR Array B**	**46.42**	**331**	P	**P**	**10 11 43.9 -0.7**
	comp=Z,28nm,1.0s,baz=115,slow=7.9,SNR=43					
NOA				PP	**PP**	**10 13 35.7 +2.2**
	comp=Z,1.5nm,0.8s,baz=114,slow=12,SNR=3.3					
NOA				LR	LR	10 34 24.3
	comp=Z,2μm,19.9s,baz=130,slow=40					
NC303	**NORSAR Array S**	**46.43**	**331**	*e*P	**P**	**10 11 42.2 -2.4**
	comp=Z,55nm,1.0s					
NAO01	**NORSAR Array S**	**46.48**	**330**	*e*P	**P**	**10 11 43.1 -1.9**
	comp=Z,71nm,1.0s					
KONO	**Kongsberg**	**46.56**	**329**	*e*P	**P**	**10 11 46.1 +0.4**
	comp=Z,42nm,1.0s					
KONO				LR	LR	
	comp=Z,4μm,22.0s					
KONO	**Kongsberg**	**46.56**	**329**	*ce*P	**P**	**10 11 46.4 +0.7**
KONO				pmax	pmax	
	comp=Z,41nm,1.3s					
KONO	**Kongsberg**	**46.56**	**329**	IVmB_BB		10 11 43.1
	comp=Z,443nm,3.1s					
KONO				*e*pP	pP	10 11 48.1 -0.8
KONO				*e*PP	**PP**	**10 13 33.0 -2.0**
KONO				*e*S	**S**	**10 18 32.2 -2.1**
KONO				IVMs_BB	IVMs_BB	10 33 56.8
	comp=Z,2μm,26.0s					
HOMB	**Homborsund**	**46.57**	**327**	*e*P	**P**	**10 11 44.0 -1.8**
HOMB				*e*pP	**pP**	**10 11 48.5 -0.5**
ABPO	**Ambohimpanom**	**46.58**	**194**	PFAKE		10 11 50.0 +3.6
ABPO				LR	LR	
	comp=Z,2μm,20.0s					
NBO00	**NORSAR Array S**	**46.61**	**331**	*e*P	**P**	**10 11 44.8 -1.2**
	comp=Z,74nm,1.2s					
DOU	**Dourbes**	**46.63**	**315**	P	**P**	**10 11 48.2 +1.8**
DOU				pmax	pmax	
	comp=Z,154nm,1.6s					
DOU	**Dourbes**	**46.63**	**315**	⇓P	**P**	**10 11 47.8 +1.4**
	comp=Z,104nm,1.4s					
SMF	**Signal de Mont**	**46.66**	**310**	*e*P	**P**	**10 11 45.1 -1.6**
SMF				pmax	pmax	
	comp=Z,167nm,1.0s					
KEV	**Kevo**	**46.67**	**346**	*e*P	**P**	**10 11 44.6 -1.7**
	comp=Z,63nm,0.9s					
KEV				LR	LR	
	comp=Z,3μm,18.0s					
KEV	**Kevo**	**46.67**	**346**	*e*P	**P**	**10 11 44.6 -1.7**
KEV				pmax	pmax	
	comp=Z,63nm,0.9s					
KEV				MLR	MLR	
	comp=Z,3μm,18.0s					
LOR	**Lormes**	**46.72**	**311**	*e*P	**P**	**10 11 45.3 -1.8**
LOR				pmax	pmax	
	comp=Z,145nm,1.2s					
NC204	**NORSAR Array S**	**46.72**	**331**	*e*P	**P**	**10 11 45.4 -1.6**
	comp=Z,56nm,1.0s					
IPM	**Ipoh**	**46.78**	**111**	*e*P	**P**	**10 11 45.0 -2.9**
	comp=Z,84nm,1.4s					
IPM				LR	LR	
	comp=Z,2μm,21.0s					
IPM	**Ipoh**	**46.78**	**111**	P	**P**	**10 11 48.0 0.0**
ARCES	**ARCESS Array B**	**46.84**	**345**	*e*P	**P**	**10 11 48.5 +0.8**
ARCES	**ARCESS Array B**	**46.84**	**345**	P	**P**	**10 11 48.6 +0.9**
	comp=Z,32nm,0.9s,baz=140,slow=6.3,SNR=32					
ARE0	**ARCESS Array S**	**46.84**	**345**	*e*P	**P**	**10 11 49.5 +1.8**
	comp=Z,3.0nm,1.2s					
ARE0				LR	LR	
	comp=Z,300nm,19.0s					
ARE0	**ARCESS Array S**	**46.84**	**345**	*e*pP	**pP**	**10 11 50.5 -0.5**
ARE0				*e*PP	**PP**	**10 13 36.2 -1.4**
ARE0				*e*S	**S**	**10 18 36.6 -1.4**
ARE0				IVMsBB		10 33 50.4
	comp=Z,2μm,11.1s					
BAIF	**Baives**	**46.87**	**315**	*e*P	**P**	**10 11 48.9 +0.7**
BAIF				pmax	pmax	
	comp=Z,298nm,1.3s					
SNF	**Seneffe**	**46.90**	**315**	⇓P	**P**	**10 11 50.0 +1.5**
	comp=Z,67nm,1.2s					
UCC	**Uccle**	**46.90**	**316**	*e*P	**P**	**10 11 49.2 +0.8**
	comp=Z,134nm,1.4s					
UCC				LR	LR	
	comp=Z,4μm,21.0s					
UCC	**Uccle**	**46.90**	**316**	*e*P	**P**	**10 11 49.2 +0.8**
UCC				pmax	pmax	
	comp=Z,134nm,1.4s					
UCC				MLR	MLR	
	comp=Z,4μm,21.0s					
UCC	**Uccle**	**46.90**	**316**	⇑P	**P**	**10 11 48.7 +0.2**
TIY	**Taiyuan**	**46.92**	**62**	*e*P	**P**	**10 11 52.1 +3.2**
TIY				S	**S**	**10 18 45.9 +5.7**
TIY				ScS	**ScS**	**10 21 46.5 +2.4**
TIY				pmax	pmax	
	comp=Z,54nm,0.9s					
TIY				LR	LR	
	comp=Z,3μm,11.4s					
TIY				LR	LR	
	comp=Z,550nm,10.2s					
TIY				LR	LR	
	comp=Z,4μm,22.0s					
SSF	**Saint Saulge**	**46.94**	**311**	*e*P	**P**	**10 11 47.3 -1.5**
SSF				pmax	pmax	
	comp=Z,179nm,1.0s					
KTK1	**Kautokeino**	**46.99**	**344**	*e*P	**P**	**10 11 47.5 -1.5**
KTK1				*e*pP	**pP**	**10 11 51.4 -0.7**
KTK1				*e*PP	**PP**	**10 13 38.7 -0.6**
KTK1				*e*S	**S**	**10 18 39.0 -1.2**
AVF	**Avril sur Loir**	**47.01**	**310**	*e*P	**P**	**10 11 47.6 -1.8**
AVF				pmax	pmax	
	comp=Z,322nm,1.9s					
SNART	**Snartemo**	**47.24**	**326**	*e*P	**P**	**10 11 48.8 -2.2**
SNART				*e*pP	**pP**	**10 11 53.8 -0.4**
TAM	**Tamanrasset**	**47.39**	**277**	*e*P	**P**	**10 11 53.2 +0.3**
	comp=Z,51nm,1.0s					
TAM				LR	LR	
	comp=Z,4μm,19.0s					
TAM	**Tamanrasset**	**47.39**	**277**	*e*P	**P**	**10 11 53.2 +0.3**
TAM				pmax	pmax	
	comp=Z,51nm,1.0s					
TAM				MLR	MLR	
	comp=Z,4μm,19.0s					
SKAR	**Skarslia**	**47.56**	**330**	*e*P	**P**	**10 11 51.3 -2.3**
SKAR				*e*pP	**pP**	**10 11 56.6 -0.3**
SKAR				IVmBBB		10 11 58.6
	comp=Z,496nm,3.2s					
SKAR				*e*PP	**PP**	**10 13 42.5 -2.4**
SKAR				*e*S	**S**	**10 18 46.8 -1.9**
SKAR				IVMs_BB	IVMs_BB	10 34 03.6
	comp=Z,2μm,20.3s					
MTLF	**Montolieu**	**47.60**	**305**	*e*P	**P**	**10 11 54.4 +0.3**
MTLF				pmax	pmax	
	comp=Z,77nm,1.0s					
MOR8	**Moi Rana**	**47.75**	**338**	*e*	**P**	**10 11 56.5 +1.6**
TCF	**Toulx Ste Croi**	**47.76**	**309**	*e*P	**P**	**10 11 53.8 -1.5**
TCF				pmax	pmax	
	comp=Z,99nm,1.2s					
NSS	**Namsos**	**47.76**	**335**	*e*P	**P**	**10 11 52.9 -2.0**
NSS				IVmB_BB		10 11 57.6
	comp=Z,421nm,1.6s					
NSS				*e*pP	**pP**	**10 11 57.7 -0.5**
NSS				*e*sP	**sP**	**10 11 59.9 +0.4**
NSS				*e*PP	**PP**	**10 13 44.6 -1.8**
NSS				*e*S	**S**	**10 18 50.6 -0.6**
NSS				IVMs_BB	IVMs_BB	10 36 23.3
	comp=Z,2μm,11.3s					
CAF	**Calviac**	**47.77**	**308**	*e*P	**P**	**10 11 54.7 -0.7**
CAF				pmax	pmax	
	comp=Z,44nm,0.8s					
DOMB	**Dombas**	**47.78**	**331**	*e*P	**P**	**10 11 52.7 -2.5**
DOMB				*e*pP	**pP**	**10 11 57.9 -0.6**
DOMB				IVmB_BB		10 12 07.7
	comp=Z,513nm,1.8s					
DOMB				*e*PP	**PP**	**10 13 44.9 -1.9**
DOMB				*e*S	**S**	**10 18 49.7 -2.0**
DOMB				IVMs_BB	IVMs_BB	10 37 34.0
	comp=Z,2μm,11.3s					
CLF	**Chambon-Foret**	**47.88**	**312**	*e*P	**P**	**10 11 55.0 -1.0**
	comp=Z,110nm,1.0s					
CLF				LR	LR	
	comp=Z,3μm,20.0s					
BLS5	**Blasjo**	**47.97**	**327**	*e*P	**P**	**10 11 55.0 -1.7**
BLS5				*e*pP	**pP**	**10 11 59.7 -0.2**
ODD1	**Odda**	**48.06**	**328**	*e*pP	**pP**	**10 12 00.0 -0.6**
ODD1				*e*sP	sP	10 12 02.1 +0.2
HAMF	**Hammerfest**	**48.08**	**345**	*e*P	**P**	**10 11 55.8 -1.5**
HAMF				*e*pP	**pP**	**10 11 59.9 -0.7**
HAMF				*e*PP	**PP**	**10 13 47.4 -1.9**
HAMF				*e*S	**S**	**10 18 54.2 -1.4**
HAMF				IVMs_BB	IVMs_BB	10 35 06.6
	comp=Z,3μm,11.6s					
RJF	**Les Rejaudoux**	**48.18**	**308**	*e*P	**P**	**10 11 58.3 -0.2**
RJF				pmax	pmax	
	comp=Z,138nm,1.3s					
QIZ	**Qiongzhong**	**48.27**	**88**	P	**P**	**10 12 00.1 +0.5**
QIZ				S	**S**	**10 19 00.8 +1.1**
QIZ				pmax	pmax	
	comp=Z,290nm,3.2s					
QIZ				LR	LR	
	comp=Z,4μm,22.6s					
QIZ				LR	LR	
	comp=Z,2μm,23.0s					
QIZ				LR	LR	
	comp=Z,3μm,18.1s					
QIZ	**Qiongzhong**	**48.27**	**88**	*e*P	**P**	**10 11 59.6 0.0**
	comp=Z,101nm,1.4s					
QIZ				LR	LR	
	comp=Z,3μm,18.0s					
EBNR	**Beni Rached**	**48.36**	**296**	P	**P**	**10 12 04.0 +3.9**
KONS	**Konsvik**	**48.38**	**338**	*e*P	**P**	**10 11 58.2 -1.5**
KONS				*e*pP	**pP**	**10 12 02.3 -0.6**
KMY	**Karmoy**	**48.49**	**327**	*e*P	**P**	**10 11 58.6 -2.0**
KMY				*e*pP	**pP**	**10 12 03.5 -0.4**
STEI	**Steigen**	**48.51**	**340**	*e*P	**P**	**10 11 59.5 -1.1**
STEI				IVmB_BB		10 12 01.3
	comp=Z,466nm,2.3s					
STEI				*e*pP	**pP**	**10 12 03.6 -0.3**
STEI				*e*S	**S**	**10 19 00.4 -1.2**
STEI				IVMs_BB	IVMs_BB	10 36 16.3
	comp=Z,2μm,11.0s					
TRO	**Tromso**	**48.53**	**343**	*e*P	**P**	**10 11 59.6 -1.2**
TRO				*e*pP	**pP**	**10 12 03.6 -0.4**
TRO				IVmB_BB		10 12 05.0
	comp=Z,842nm,1.5s					
TRO				*e*S	**S**	**10 19 00.3 -1.7**
TRO				IVMs_BB	IVMs_BB	10 36 17.1
	comp=Z,2μm,10.8s					
HYA	**Hoyanger**	**48.71**	**330**	*e*P	**P**	**10 12 00.1 -2.2**
HYA				*e*pP	**pP**	**10 12 05.2 -0.3**
EANR	**'Ain N'Sour**	**48.74**	**296**	P	**P**	**10 12 05.0 +1.9**
BER	**Bergen**	**48.83**	**328**	*e*pP	pP	10 12 05.8 -0.6
ASK	**Askoy**	**48.93**	**329**	*e*P	**P**	**10 12 02.0 -2.0**
ASK				*e*pP	**pP**	**10 12 06.7 -0.5**
BKNI	**Bangkinang**	**49.12**	**115**	P	P	10 12 00.7 -5.4
LOF	**Lofoten**	**49.14**	**340**	*e*P	**P**	**10 12 04.9 -0.6**
SUE	**Sulen**	**49.32**	**329**	*e*P	**P**	**10 12 04.8 -2.2**
WHN	**Wuhan**	**49.34**	**72**	⇓P	**P**	**10 12 09.3 +1.7**
WHN				S	**S**	**10 19 15.3 +0.9**
WHN				pmax	pmax	
	comp=Z,44nm,1.1s					
WHN				LR	LR	
	comp=Z,7μm,14.4s					
WHN				LR	LR	
	comp=Z,2μm,12.2s					
WHN				LR	LR	
	comp=Z,10μm,20.5s					
PDSI	**Padang**	**49.38**	**117**	P	**P**	**10 12 04.7 -3.5**
WACR	**West Acre**	**49.50**	**318**	*e*P	**P**	**10 12 10.1 +1.6**
WACR				IAmb	IAmb	10 12 13.8
	comp=Z,304nm,1.3s					
WACR				IAMs_20	IAMs_20	10 37 08.2
	comp=Z,3μm,17.6s					
DLV	**T Lat**	**49.70**	**97**	*e*P	**P**	**10 12 11.7 +0.9**
	comp=Z,50nm,1.0s					
DLV				LR	LR	
	comp=Z,2μm,22.0s					
BJT	**Baijiatuau**	**49.71**	**59**	*e*P	**P**	**10 12 10.8 +0.5**
	comp=Z,60nm,1.5s					
BJT				LR	LR	
	comp=Z,3μm,19.0s					
BJT	**Baijiatuau**	**49.71**	**59**	*e*P	**P**	**10 12 10.8 +0.5**
BJT				pmax	pmax	

comp=Z,60nm,1.5s
BJT MLR MLR
BJI Beijing 49.71 59 P P 10 12 12.4 +2.1
BJI S S 10 19 20.5 +1.1
BJI pmax pmax
comp=Z,20nm,1.5s
BJI LR LR
comp=Z,5μm,21.6s
BJI LR LR
comp=Z,2μm,19.1s
BJI LR LR
comp=Z,2μm,19.1s
FLN La Foliniere 49.76 312 *e*P **P 10 12 09.5 -1.1**
FLN pmax pmax
comp=Z,140nm,1.0s
BOD Bodaibo 49.92 36 *e*P **P 10 12 11.1 -0.5**
BOD *e*S **S 10 19 19.4 -2.4**
BOD pmax pmax
comp=Z,156nm,1.3s
GRR Gorron 49.98 312 *e*P **P 10 12 13.5 +1.2**
GRR pmax pmax
comp=Z,165nm,1.4s
SJPF Ste Jean 50.12 305 *e*P **P 10 12 13.8 +0.4**
SJPF pmax pmax
comp=Z,35nm,0.7s
CART Cartagena 50.26 298 PFAKE 10 12 20.0 +5.5
CART LR LR
comp=Z,2μm,19.0s
CART Cartagena 50.26 298 *e*P **P 10 12 15.7 +1.1**
WOL Wolverton 50.46 316 *e*P **P 10 12 17.8 +2.0**
WOL IAmb IAmb 10 12 19.3
comp=Z,176nm,1.0s
WOL IAMs_20 IAMs_20 10 37 28.2
comp=Z,3μm,21.3s
MYKOM Kota Tinggi 50.60 111 PFAKE 10 12 30.0 +13
MYKOM LR LR
comp=Z,2μm,19.0s
CWF Charnwood Fore 50.67 318 *e*P **P 10 12 19.3 +1.9**
CWF IAmb IAmb 10 12 22.4
comp=Z,40nm,1.0s
CWF IAMs_20 IAMs_20 10 40 00.8
comp=Z,3μm,17.2s
LSZ Lusaka 50.69 218 *e*P **P 10 12 14.7 -3.3**
comp=Z,23nm,1.0s
LSZ LR LR
comp=Z,4μm,20.0s
LSZ Lusaka 50.69 218 *e*P **P 10 12 14.7 -3.3**
LSZ pmax pmax
comp=Z,23nm,1.0s
LSZ MLR MLR
comp=Z,4μm,20.0s
TIA Tai'an 50.79 64 P **P 10 12 19.8 +1.2**
TIA S **S 10 19 37.4 +2.8**
TIA pmax pmax
comp=Z,30nm,1.6s
TIA LR LR
comp=Z,3μm,21.6s
TIA LR LR
comp=Z,3μm,19.6s
TIA LR LR
comp=Z,4μm,20.6s
JSA Saint Aubin 50.90 313 *e*P **P 10 12 20.4 +1.3**
JSA IAmb IAmb 10 12 22.2
comp=Z,148nm,1.1s
JSA IAMs_20 IAMs_20 10 38 49.5
comp=Z,3μm,19.0s
HPK Haverah Park 51.01 319 *e*P **P 10 12 21.9 +1.9**
HPK IAMs_20 IAMs_20 10 39 15.0
comp=Z,4μm,18.4s
STRD Stroud 51.09 316 *e*P **P 10 12 22.9 +2.4**
STRD IAMs_20 IAMs_20 10 37 49.0
comp=Z,4μm,20.6s
HKPS Hong Kong Po S 51.10 82 PFAKE 10 12 30.0 +8.9
HKPS LR LR
comp=Z,2μm,19.0s
EDMD Edmundbyers 51.33 320 *e*P **P 10 12 24.3 +2.0**
EDMD IAmb IAmb 10 12 25.5
comp=Z,69nm,0.9s
EDMD IAMs_20 IAMs_20 10 38 46.7
comp=Z,3μm,21.9s
MONM Monmouth 51.49 316 *e*P **P 10 12 25.1 +1.6**
MONM IAmb IAmb 10 12 26.5
comp=Z,80nm,0.9s
MONM IAMs_20 IAMs_20 10 38 10.9
comp=Z,3μm,19.1s
QUIF Quistinic 51.51 311 *e*P **P 10 12 23.4 -0.3**
QUIF pmax pmax
comp=Z,152nm,1.1s
ROSF Rostrenen 51.59 312 *e*P **P 10 12 25.0 +0.6**
ROSF pmax pmax
comp=Z,129nm,1.0s
HLM1 Long Mynd 51.60 317 *e*P **P 10 12 26.3 +1.9**
HLM1 IAmb IAmb 10 12 28.6
comp=Z,62nm,1.1s
HLM1 IAMs_20 IAMs_20 10 40 10.3
comp=Z,2μm,15.4s
MCH1 Michaelchurch 51.62 316 *e*P **P 10 12 26.6 +2.1**
MCH1 IAmb IAmb 10 12 27.5
comp=Z,92nm,0.9s
MCH1 IAMs_20 IAMs_20 10 38 15.6
comp=Z,4μm,20.1s
UCM Universidad Co 51.77 302 *e*P P 10 12 32.0 +6.1
UCM Universidad Co 51.77 302 *i* PS **S 10 19 50.6 +2.5**
FOEL Foel Wylfa 51.83 318 *e*P **P 10 12 28.2 +2.1**
FOEL IAmb IAmb 10 12 31.8
comp=Z,76nm,1.0s
FOEL IAMs_20 IAMs_20 10 39 49.7
comp=Z,2μm,14.3s
ESY Stoneypath 51.85 321 *e*P **P 10 12 28.2 +2.0**
DRUM Mains of Drumt 51.93 323 *e*P **P 10 12 29.1 +2.3**
DRUM IAmb IAmb 10 12 34.3
comp=Z,68nm,0.9s
DRUM IAMs_20 IAMs_20 10 37 51.3
comp=Z,4μm,24.6s
KESW Keswick, Cumbr 51.95 320 *e*P **P 10 12 29.6 +2.6**
KESW IAmb IAmb 10 12 32.3
comp=Z,50nm,1.1s
KESW IAMs_20 IAMs_20 10 39 03.2
comp=Z,4μm,20.7s
EBL Broad Law 52.07 321 *e*P **P 10 12 29.4 +1.5**
EKA Eskdalemuir Ar 52.08 321 P **P 10 12 28.5 +0.6**
EKA pmax pmax
comp=Z,4.0nm,0.5s
ESK Eskdalemuir 52.10 321 PFAKE 10 12 40.0 +12
ESK LR LR
comp=Z,4μm,22.0s
DYA Yadsworthy 52.10 314 *e*P **P 10 12 30.0 +1.8**
DYA IAmb IAmb 10 12 31.5
comp=Z,54nm,0.9s
HIA Hailar 52.16 47 *e*P **P 10 12 27.4 -1.3**
comp=Z,41nm,1.2s
HIA LR LR
comp=Z,2μm,19.0s
HIA Hailar 52.16 47 *e*P **P 10 12 27.4 -1.3**
HIA pmax pmax
comp=Z,41nm,1.2s
HIA MLR MLR
comp=Z,2μm,19.0s
ESDC Sonseca Array 52.37 301 *e*P **P 10 12 28.9 -1.6**
ESDC *e*P **P 10 12 29.4 -1.0**
ESDC Sonseca Array 52.37 301 P **P 10 12 29.4 -1.0**
comp=Z,16nm,0.9s,baz=71,slow=7.2,SNR=26
ESDC LR LR 10 38 53.7
comp=Z,951nm,18.0s,baz=105,slow=41
ESLA Sonseca Array 52.37 301 *e*P **P 10 12 27.0 -3.5**
comp=Z,33nm,0.9s
ESLA LR LR
comp=Z,1μm,19.0s
MCD Coleburn Disti 52.45 324 *e*P **P 10 12 32.5 +1.8**
HTL Hartland 52.48 315 *e*P **P 10 12 32.8 +1.8**
HTL IAmb IAmb 10 12 37.8
comp=Z,66nm,1.1s
HTL IAMs_20 IAMs_20 10 38 13.3
comp=Z,3μm,20.2s
WLF1 Llynfaes 52.58 318 *e*P **P 10 12 34.7 +3.0**
WLF1 IAMs_20 IAMs_20 10 40 16.2
comp=Z,7μm,18.6s
PAB San Pablo 52.68 301 *e*P **P 10 12 33.0 +0.2**
comp=Z,58nm,0.9s
PAB LR LR
comp=Z,2μm,22.0s
PAB San Pablo 52.68 301 *e*P **P 10 12 33.0 +0.2**
PAB pmax pmax
comp=Z,58nm,0.9s
PAB MLR MLR
comp=Z,2μm,22.0s
YRC Rhoscolyn 52.69 318 *e*P **P 10 12 33.9 +1.5**
RSBS Rosebush, Pemb 52.70 316 *e*P **P 10 12 35.0 +2.4**
RSBS IAMs_20 IAMs_20 10 40 04.5
comp=Z,1μm,20.0s
INVG Invergeldie, C 52.71 322 *e*P **P 10 12 34.9 +2.3**
INVG IAmb IAmb 10 12 35.5
comp=Z,53nm,0.9s
INVG IAMs_20 IAMs_20 10 38 15.9
comp=Z,5μm,21.4s
EAB Aberfoyle 52.85 322 *e*P **P 10 12 36.1 +2.5**
NJ2 Nanjing 52.85 69 *e*P **P 10 12 35.9 +1.9**
NJ2 sP **sP 10 12 42.6 +4.1**
NJ2 S **S 10 20 06.8 +3.8**
NJ2 pmax pmax
comp=Z,24nm,1.0s
NJ2 pmax pmax
comp=Z,600nm,4.2s
NJ2 LR LR
comp=Z,4μm,15.7s
NJ2 LR LR
comp=Z,4μm,20.1s
NJ2 LR LR
comp=Z,5μm,21.1s
PGBU Glenifferbraes 52.88 321 *e*P **P 10 12 36.3 +2.5**
PGBU IAmb IAmb 10 12 37.2
comp=Z,120nm,1.2s
PGBU IAMs_20 IAMs_20 10 38 21.9
comp=Z,5μm,23.0s
GAL1 Galloway 52.91 320 *e*P **P 10 12 36.5 +2.5**
GAL1 IAmb IAmb 10 12 37.3
comp=Z,20nm,0.9s
GAL1 IAMs_20 IAMs_20 10 39 43.4
comp=Z,2μm,16.5s
LAWE Loch Awe, Argy 53.44 322 *e*P **P 10 12 40.4 +2.4**
LAWE IAmb IAmb 10 12 41.2
comp=Z,75nm,1.0s
LAWE IAMs_20 IAMs_20 10 38 49.8
comp=Z,4μm,20.4s
KAC Achnashellach 53.53 323 *e*P **P 10 12 40.4 +1.8**
RSC Scourie 53.57 324 *e*P **P 10 12 41.2 +2.4**
GMM Mts of Mourne 53.58 319 *e*P **P 10 12 40.7 +1.7**
KPL Plockton 53.70 323 *e*P **P 10 12 42.2 +2.4**
KPL IAmb IAmb 10 12 42.9
comp=Z,55nm,1.0s
KPL IAMs_20 IAMs_20 10 39 09.3
comp=Z,3μm,21.2s
DSB Dublin 53.77 318 *e*P **P 10 12 39.7 -0.7**
DSB *e*S **S 10 20 15.5 +0.6**
DSB Dublin 53.77 318 PFAKE 10 12 50.0 +10
DSB LR LR
comp=Z,2μm,21.0s
IWEX Carrickbyrne, 53.97 317 *e*P **P 10 12 41.3 -0.6**
IWEX *e*S **S 10 20 16.3 -1.3**
DL2 Dalian 54.02 60 P **P 10 12 44.3 +1.8**
DL2 S **S 10 20 20.3 +1.6**
DL2 pmax pmax
comp=Z,30nm,1.3s
DL2 pmax pmax
comp=Z,130nm,9.9s
DL2 LR LR
comp=Z,6μm,22.9s
DL2 LR LR
comp=Z,780nm,22.5s
DL2 LR LR
comp=Z,4μm,18.0s
TOA2 Torodi Ar. Sit 54.07 267 PFAKE 10 12 50.0 +6.8
TOA2 LR LR
comp=Z,4μm,20.0s
TOB3 Torodi Ar. Sit 54.07 267 PFAKE 10 12 50.0 +6.8
TOB3 LR LR
comp=Z,2μm,19.0s
TOA0 Torodi Ar. Sit 54.08 267 *e*P **P 10 12 41.1 -2.2**
comp=Z,95nm,1.1s
TOA0 LR LR
comp=Z,3μm,18.0s
TORD Torodi Ar. Bea 54.08 267 P **P 10 12 42.4 -0.8**
comp=Z,9.1nm,0.8s,baz=253,slow=33,SNR=65
TORD LR LR 10 37 37.4
comp=Z,2μm,18.3s,baz=10.0,slow=38
TOA1 Torodi Ar. Sit 54.08 267 *e*P **P 10 12 42.4 -0.8**
TOA1 LR LR
comp=Z,3μm,18.0s
TOA3 Torodi Ar. Sit 54.08 267 PFAKE 10 12 50.0 +6.7
TOA3 LR LR
comp=Z,3μm,18.0s
TOC4 Torodi Ar. Sit 54.08 267 PFAKE 10 12 50.0 +6.7
TOC4 LR LR
comp=Z,3μm,18.0s
TOC7 Torodi Ar. Sit 54.08 267 PFAKE 10 12 50.0 +6.7
TOC7 LR LR
comp=Z,3μm,18.0s
TOB5 Torodi Ar. Sit 54.09 267 PFAKE 10 12 50.0 +6.7
TOB5 LR LR
comp=Z,3μm,18.0s
TOB4 Torodi Ar. Sit 54.09 267 PFAKE 10 12 50.0 +6.7
TOB4 LR LR
comp=Z,3μm,18.0s
TOC5 Torodi Ar. Sit 54.10 267 PFAKE 10 12 50.0 +6.6
TOC5 LR LR
comp=Z,4μm,18.0s
HSPB Hornsund (broa 54.20 349 *e*P **P 10 12 46.0 +2.8**
HSPB MLR MLR
comp=Z,10μm,22.7s
HSPB Hornsund (broa 54.20 349 *e*P **P 10 12 41.6 -1.6**
HSPB *e*pP **pP 10 12 46.4 -0.1**
HSPB IVmBBB 10 12 47.6
comp=Z,648nm,3.0s
HSPB *e*S **S 10 20 20.2 +0.1**
HSPB IVMs_BB IVMs_BB 10 41 11.4
comp=Z,1μm,14.9s
KNMB Chin-men Tao 54.23 78 PFAKE 10 12 50.0 +5.8
KNMB LR LR
comp=Z,2μm,19.0s
PBRG Braganca 54.27 304 *e*P **P 10 12 44.9 +0.5**
comp=Z,16nm,0.7s
QZH Quanzhou 54.27 77 P **P 10 12 44.4 -0.1**
QZH S **S 10 20 25.6 +3.1**
QZH LR LR
comp=Z,4μm,18.0s
QZH LR LR
comp=Z,4μm,19.7s
RRH Rhenigidale 54.32 324 *e*P **P 10 12 46.5 +2.2**
IDGL Inch Island, C 54.53 320 *e*P **P 10 12 46.1 +0.1**
IDGL *e*S **S 10 20 25.1 -0.1**
SFS San Fernando 54.53 297 PFAKE 10 13 00.0 +14
SFS LR LR
comp=Z,1μm,21.0s
MVO Moncorvo 54.55 303 *e*P **P 10 12 47.3 +0.9**
comp=Z,34nm,0.8s
MVO *e*S **S 10 20 23.4 -2.6**
MVO *e*SS SS 10 24 57.9 +50
SPA0 Spitsbergen Ar 54.87 350 *e*P **P 10 12 48.0 -0.2**
comp=Z,60nm,1.0s
SPA0 Spitsbergen Ar 54.87 350 *e*P **P 10 12 46.6 -1.6**
SPA0 *e*pP **sP 10 12 51.4 -1.3**
SPITS Spitsbergen Ar 54.87 350 P **P 10 12 48.8 +0.7**
SSE Sheshan 55.00 69 P **P 10 12 50.8 +1.1**
SSE S **S 10 20 33.9 +1.8**
SSE pmax pmax
comp=Z,6.0nm,0.7s
SSE pmax pmax
comp=Z,250nm,3.3s
SSE LR LR
comp=Z,1μm,16.7s
SSE LR LR
comp=Z,2μm,16.2s
SSE Sheshan 55.00 69 PFAKE 10 13 00.0 +10
SSE LR LR
comp=Z,5μm,19.0s
MTE Manteigas 55.03 302 *e*P **P 10 12 52.8 +2.9**
comp=Z,17nm,0.7s
MTE *e*S **S 10 20 30.1 -2.3**
MTE *e*SS SS 10 24 28.4 +13
MTE Manteigas 55.03 302 *e*P **P 10 12 45.3 -4.6**
comp=Z,92nm,1.1s
MTE LR LR
comp=Z,3μm,18.0s
PMRV Marv??o 55.03 301 *e*P **P 10 12 50.5 +0.6**
comp=Z,14nm,0.8s
PCBR Castelo Branco 55.05 301 *e*P **P 10 12 52.0 +2.0**
comp=Z,18nm,0.8s
PVRL Vila Real 55.05 303 *e*P **P 10 12 51.8 +1.7**
comp=Z,182nm,1.5s
POLO Lamas de Olo 55.10 303 *e*P **P 10 12 52.1 +1.6**
comp=Z,68nm,1.5s
SNY Shenyang 55.16 56 ||P P 10 12 57.9 +7.2
SNY S **S 10 20 34.3 +0.4**
PCAB Cabril 55.24 304 *e*P **P 10 12 51.6 +0.2**
comp=Z,17nm,0.8s
PGAV Gavieira, Arco 55.39 304 *e*P **P 10 12 55.5 +3.0**
comp=Z,205nm,1.4s
RTC Rabat Centre 55.49 294 PFAKE 10 13 00.0 +6.7
RTC LR LR
comp=Z,10μm,18.0s
IGLA Glengowla, Co 55.57 318 *e*P **P 10 12 53.3 -0.2**
IGLA *e*S **S 10 20 39.5 +0.4**
PVAQ Vaqueiros 55.58 299 *e*S **S 10 20 44.3 +4.5**
PVAQ *e*SS SS 10 24 56.9 +32
PBEJ Beja 55.60 299 *e*P **P 10 12 57.2 +3.2**
comp=Z,76nm,1.3s
EVO Evora 55.64 300 *i* P **P 10 12 56.9 +2.6**
EVO Evora 55.64 300 *i* PS PKiKP 10 20 43.0 +18
COI Coimbra 55.71 302 *e*P **P 10 12 56.1 +1.4**
comp=Z,53nm,0.7s
COI Coimbra 55.71 302 *e*P **P 10 12 57.7 +3.0**
COI pmax pmax
comp=Z,53nm,0.7s
PMTG Montargil 55.73 301 *e*P **P 10 12 57.3 +2.4**
comp=Z,88nm,1.5s
PTO Porto 55.73 303 *e*P **P 10 12 58.1 +3.2**
PTOM Tomar 55.79 301 *e*P **P 10 12 51.7 -3.6**
comp=Z,273nm,1.5s
PCAS Casmilo, Conde 55.80 302 *e*P **P 10 12 56.2 +0.8**
comp=Z,116nm,1.6s
PCAS *e*S **S 10 20 46.0 +3.4**
PCAS *e*SS SS 10 24 54.7 +27
PCVE Castro Verde 55.80 299 *e*P **P 10 12 58.7 +3.3**
MESJ Messejana 55.91 299 *e*P **P 10 12 56.9 +0.6**
MESJ AMb AMB 10 13 02.5
comp=Z,71nm,1.1s
MESJ *e*S **S 10 20 45.3 +1.2**
MESJ Messejana 55.91 299 *e*P **P 10 12 58.8 +2.6**
comp=Z,71nm,1.7s
MESJ Messejana 55.91 299 *e*P **P 10 12 56.8 +0.6**
MESJ *e*S **S 10 20 45.3 +1.2**
KBS Kingsbay 56.03 350 *e*P **P 10 12 56.8 +0.4**
comp=Z,67nm,1.2s
KBS LR LR
comp=Z,3μm,18.0s
KBS Kingsbay 56.03 350 *ce*P **P 10 12 57.9 +1.4**
KBS pmax pmax
comp=Z,343nm,1.7s
KBS Kingsbay 56.03 350 *e*pP **pP 10 12 59.4 -0.4**
KBS IVMs_BB IVMs_BB 10 43 46.0
comp=Z,2μm,12.6s
AVE Averroes 56.08 294 *i* P **P 10 13 00.7 +3.2**
AVE Averroes 56.08 294 *i* PS **S 10 20 48.0 +1.4**
VAL Valentia 56.10 316 *e*P **P 10 12 57.1 -0.2**
VAL *e*S **S 10 20 45.6 -0.6**
PNCL Nicolau / Gran 56.10 299 *e*P **P 10 12 58.5 +0.9**
comp=Z,104nm,1.3s
PNCL *e*S **S 10 20 51.6 +4.9**
KSM Kuching 56.22 107 *e*P **P 10 12 55.9 -2.8**
comp=Z,37nm,1.5s
KSM LR LR
comp=Z,3μm,20.0s
KSM Kuching 56.22 107 P **P 10 13 02.0 +3.3**
CN2 Changchun 56.31 54 *e*P **P 10 13 01.3 +2.3**
CN2 *e*S **S 10 20 46.3 -3.0**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,3μm,18.0s
CN2 LR LR
comp=Z,3μm,18.0s
CN2 LR LR
comp=Z,4μm,18.0s
TPUB Ta-pu 56.52 79 PFAKE 10 13 10.0 +9.2
TPUB LR LR
comp=Z,2μm,18.0s
PMAFR Mafra 56.56 301 *e*S **S 10 20 53.6 +0.9**
SSLB Suanglung 56.66 78 PFAKE 10 13 10.0 +8.2
SSLB LR LR
comp=Z,1μm,19.0s
YHNB Yeheng 56.78 77 PFAKE 10 13 10.0 +7.3
YHNB LR LR
comp=Z,4μm,20.0s
TATO Taipei 56.79 76 PFAKE 10 13 10.0 +7.4
TATO LR LR
comp=Z,4μm,18.0s
ZEA Zeya 56.90 42 *e*P **P 10 13 03.9 +0.9**
ZEA *e*S **S 10 20 59.0 +2.2**
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=E,41nm,1.0s
ZEA pmax pmax
comp=Z,64nm,1.2s
ZEA smax smax
comp=E,400nm,10.0s
ZEA smax smax
comp=N,300nm,5.0s
ZEA MLR MLR
comp=Z,3μm,13.0s
ZEA MLR MLR
comp=E,2μm,14.0s
TWG Pinlang 57.06 79 PFAKE 10 13 10.0 +5.4
TWG LR LR
comp=Z,6μm,19.0s
YULB Yu-li 57.08 78 PFAKE 10 13 10.0 +5.2
YULB LR LR
comp=Z,3μm,19.0s
NACB Ninganchiao 57.11 77 PFAKE 10 13 20.0 +15
NACB LR LR
comp=Z,5μm,21.0s
SBUM Sibu 57.36 105 *e*P **P 10 13 04.2 -2.6**
comp=Z,23nm,1.8s
SBUM LR LR
comp=Z,900nm,20.0s
SBUM Sibu 57.36 105 P **P 10 13 09.0 +2.2**
YOJ Yonaguni jima 58.26 77 PFAKE 10 13 20.0 +7.0
YOJ LR LR
comp=Z,3μm,19.0s
YAK Yakutsk 58.31 32 *e*P **P 10 13 12.5 -0.3**
YAK *e* 10 13 58.1
YAK *e* 10 15 21.3
YAK *e*PPP PPP 10 16 43.3
YAK *e*S **S 10 21 12.7 -2.3**
YAK *e**SS sS 10 21 28.9 +8.6
YAK *e* 10 23 00.0
YAK *e*SS **SS 10 25 02.0 -4.5**
YAK pmax pmax
comp=Z,527nm,0.9s
YAK pmax pmax
comp=N,50nm,0.9s
YAK pmax pmax
comp=E,316nm,1.1s
YAK pmax pmax
comp=Z,262nm,1.5s
YAK pmax pmax
comp=N,111nm,1.3s
YAK pmax pmax
comp=E,178nm,1.3s
YAK smax smax
comp=N,327nm,2.5s
YAK smax smax
comp=E,596nm,2.4s
YAK MLR MLR
comp=Z,13μm,18.0s
YAK MLR MLR
comp=E,11μm,17.0s
YAK MLR MLR
comp=N,6μm,18.0s
TJN Taejon 58.93 62 *ce*P **P 10 13 18.9 +1.4**
TIXI Tiksi 58.95 20 *e*P **P 10 13 15.9 -1.2**
comp=N,76nm,1.5s
TIXI Tiksi 58.95 20 *ce*P **P 10 13 16.1 -1.0**
TIXI pmax pmax
comp=Z,30nm,1.3s
TIXI MLR MLR
comp=Z,3μm,17.0s
KS15 Wonju Array Si 59.12 61 *e*P **P 10 13 16.7 -2.2**
comp=Z,20nm,1.4s
KSAR Wonju Array Be 59.12 61 *e*P **P 10 13 18.8 0.0**
KSAR Wonju Array Be 59.12 61 *e*P **P 10 13 18.8 0.0**
KSRS Korea Array 59.15 61 P **P 10 13 19.2 +0.2**
comp=Z,16nm,1.0s,baz=275,slow=6.7,SNR=33
KSRS LR LR 10 44 08.6
comp=Z,2μm,18.5s,baz=282,slow=41
MDJ Mudanjiang 59.16 52 P **P 10 13 19.9 +0.9**

MDJ PP **PP** **10 15 30.6 +1.0**
MDJ S **S** **10 21 28.8 +2.1**
MDJ SS **SS** **10 25 23.8 +3.2**
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,110nm,4.4s
MDJ LR LR
comp=Z,4μm,13.1s
MDJ LR LR
comp=Z,3μm,13.0s
MDJ LR LR
comp=Z,4μm,13.3s
MDJ Mudanjiang 59.16 52 PFAKE 10 13 30.0 +11
MDJ LR LR
comp=Z,3μm,18.0s
CISI Cisompet, Garu 59.21 118 PFAKE 10 13 30.0 +10
CISI LR LR
comp=Z,1μm,20.0s
KLR Kul'dur 60.02 47 *i* P **P** **10 13 25.1 +0.2**
KLR pmax pmax
comp=Z,39nm,1.0s
KLR Kul'dur 60.02 47 P **P** **10 13 24.7 -0.1**
comp=Z,25nm,0.9s,baz=285,slow=7.4,SNR=24
TSUM Tsumeb 60.04 225 *e*P **P** **10 13 22.6 -2.9**
comp=Z,41nm,1.4s
TSUM LR LR
comp=Z,5μm,19.0s
LBTB Lobatse 60.08 214 *e*P **P** **10 13 25.4 -0.2**
comp=Z,52nm,1.1s
USRK Ussuriysk Ar. 60.93 52 P **P** **10 13 31.1 0.0**
comp=Z,1.8nm,0.8s,baz=265,slow=9.6,SNR=5.8
USRK LR LR 10 42 04.0
comp=Z,2μm,19.9s,baz=266,slow=38
DAG Danmarks Havn 61.12 345 *i* P **P** **10 13 32.7 +0.8**
DAG pmax pmax
comp=Z,52nm,1.0s
DAG MLR MLR
comp=Z,2μm,19.0s
DAG Danmarks Havn 61.12 345 *i* P **P** **10 13 32.7 +0.8**
comp=Z,52nm,1.0s
BORG Borgarnes 61.59 331 PFAKE 10 13 50.0 +15
BORG LR LR
comp=Z,3μm,22.0s
SCO Scoresbysund 61.70 338 *e*P **P** **10 13 33.6 -2.3**
comp=Z,35nm,1.1s
SCO LR LR
comp=Z,3μm,22.0s
SCO Scoresbysund 61.70 338 *e*P **P** **10 13 33.6 -2.3**
SCO pmax pmax
comp=Z,35nm,1.1s
SCO MLR MLR
comp=Z,3μm,22.0s
SCO Scoresbysund 61.70 338 *i* P **P** **10 13 38.2 +2.3**
comp=Z,27nm,1.0s
JNU Nakatsue 62.50 65 *e*P **P** **10 13 45.5 +3.5**
comp=Z,92nm,1.4s
JNU LR LR
comp=Z,3μm,19.0s
JNU Nakatsue 62.50 65 P **P** **10 13 44.4 +2.3**
comp=Z,24nm,1.1s,baz=314,slow=1.7,SNR=4.4
DBIC Dimbokro 62.65 264 *e*P **P** **10 13 43.2 +0.1**
comp=Z,27nm,1.6s
DBIC Dimbokro 62.65 264 P **P** **10 13 42.5 -0.7**
comp=Z,28nm,1.0s,baz=51,slow=6.4,SNR=14
DBIC LR LR 10 41 35.6
comp=Z,2μm,18.4s,baz=39,slow=37
PWJI Pagerwojo 62.67 116 P **P** **10 13 43.9 +0.6**
KIC Kosan Boka 62.68 263 *e*P **P** **10 13 42.8 -0.6**
comp=Z,179nm,1.2s
GRNR Gornyy 62.78 44 *e*P **P** **10 13 46.5 +3.0**
GRNR pmax pmax
comp=Z,26nm,1.0s
TIC Toumodi 62.80 264 *e*P **P** **10 13 44.1 -0.1**
LIC Lamto 63.00 263 *e*P **P** **10 13 45.4 -0.1**
comp=Z,170nm,1.2s
BOSA Boshof 63.25 212 *e*P **P** **10 13 46.9 0.0**
comp=Z,27nm,0.8s
BOSA Boshof 63.25 212 *e*P **P** **10 13 46.9 0.0**
BOSA pmax pmax
comp=Z,27nm,0.8s
BOSA Boshof 63.25 212 P **P** **10 13 47.0 0.0**
comp=Z,20nm,0.9s,baz=40,slow=4.9,SNR=15
BOSA LR LR 10 42 07.4
comp=Z,2μm,21.0s,baz=27,slow=37
JAGI Jajag, Banyuwa 64.83 115 PFAKE 10 14 10.0 +12
JAGI LR LR
comp=Z,1μm,20.0s
MPSI Mapaga 65.07 103 P **P** **10 13 58.8 -0.3**
SRBI Singaraja 65.48 114 P **P** **10 14 03.1 +1.4**
TYV Tymovskoe 66.63 43 *e*P **P** **10 14 10.7 +2.1**
TYV *e* 10 23 05.5
TYV pmax pmax
comp=Z,35nm,1.4s
TYV pmax pmax
comp=Z,300nm,8.3s
SUMG Summit 66.64 341 *e*P **P** **10 14 08.9 +0.1**
comp=Z,128nm,0.9s
SUMG LR LR
comp=Z,2μm,20.0s
SUMG Summit 66.64 341 *e*P **P** **10 14 08.9 +0.1**
SUMG pmax pmax
comp=Z,128nm,0.9s
SUMG MLR MLR
comp=Z,2μm,20.0s
SUMG Summit 66.64 341 *i* P **P** **10 14 10.0 +1.2**
comp=Z,317nm,0.9s
TTSI Tana Toraja 66.68 106 P P 10 14 24.5 +15
INU Inuyama 66.77 61 *e*P **P** **10 14 09.9 +0.1**
comp=Z,80nm,1.3s
INU LR LR
comp=Z,3μm,20.0s
MRSI Marisa 66.78 102 P **P** **10 14 08.3 -1.9**
DAV Davao City (W) 67.00 94 PFAKE 10 14 20.0 +8.4
DAV LR LR
comp=Z,2μm,21.0s
APSI Ampana 67.20 103 P P 10 14 30.3 +17
MJB9 Matsu-Tunnel 67.34 59 *e*P **P** **10 14 11.1 -2.4**
comp=Z,32nm,1.2s
MJB9 LR LR
comp=Z,2μm,21.0s
MAJO Matsushiro 67.35 59 *e*P **P** **10 14 11.5 -2.0**
comp=Z,33nm,1.3s
MAJO LR LR
comp=Z,2μm,20.0s
MAJO Matsushiro 67.35 59 *e*P **P** **10 14 11.5 -2.0**
MAJO pmax pmax
comp=Z,33nm,1.3s
MAJO MLR MLR
comp=Z,2μm,20.0s
MAT Matsushiro 67.35 59 P **P** **10 14 14.1 +0.6**
MAT S **S** **10 23 13.2 +3.9**
MJAR Matsushiro Arr 67.35 59 *e*P **P** **10 14 11.7 -1.8**
MJAR Matsushiro Arr 67.35 59 *e*P **P** **10 14 11.7 -1.8**
MJAR Matsushiro Arr 67.35 59 P **P** **10 14 13.6 +0.1**
comp=Z,17nm,1.2s,baz=285,slow=8.0,SNR=25
MJAR LR LR 10 47 09.8
comp=Z,2μm,19.7s,baz=300,slow=39
BNSI Bone 67.61 107 P P 10 14 31.5 +16
KAPI Kappang 67.63 108 *e*P **P** **10 14 13.0 -2.5**
comp=Z,41nm,1.1s
KAPI LR LR
comp=Z,1μm,19.0s
KAPI Kappang 67.63 108 *e*P **P** **10 14 13.0 -2.5**
KAPI pmax pmax
comp=Z,41nm,1.1s
KAPI MLR MLR
comp=Z,1μm,19.0s
YSS Yuzh-Sakhalins 67.69 48 *e*P **P** **10 14 13.8 -1.7**
comp=Z,60nm,1.0s
YSS LR LR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 67.69 48 ||*i*P **P** **10 14 15.7 +0.3**
YSS *e* 10 14 48.6
YSS *e* 10 23 16.3
YSS pmax pmax
comp=Z,50nm,0.9s
PLAI Plampang 68.00 113 P **P** **10 14 17.9 +0.1**
BKSI Bulukumba 68.10 108 P P 10 14 34.6 +16
LUWI Luwuk 68.24 103 PFAKE 10 14 30.0 +11
LUWI LR LR
comp=Z,1μm,21.0s
SUR Sutherland 68.50 213 PFAKE 10 14 30.0 +9.2
SUR LR LR
comp=Z,3μm,22.0s
SEY Seymchan 68.61 29 *ce*P **P** **10 14 21.7 +0.8**

MA2 Magadan 68.83 33 *e*P **P** **10 14 20.6 -1.7**
comp=Z,49nm,1.0s
MA2 LR LR
comp=Z,3μm,21.0s
MA2 Magadan 68.83 33 *ce*P **P** **10 14 22.5 +0.1**
MA2 pmax pmax
comp=Z,54nm,1.0s
BSSI Bau Bau, Buton 68.84 109 P P 10 14 39.6 +16
ERM Erimo 69.38 53 PFAKE 10 14 40.0 +14
ERM LR LR
comp=Z,3μm,18.0s
YUK Yuzh-Kuril'sk 70.64 50 P **P** **10 14 35.5 +1.7**
YUK *e*S **S** **10 23 42.4 -5.5**
YUK SS **SS** **10 28 15.2 -3.9**
YUK *e*SSS SSS 10 31 21.8
KULLO Kullorsuaq 70.78 345 *i* P **P** **10 14 35.6 +1.5**
KULLO pmax pmax
comp=Z,76nm,1.0s
KULLO MLR MLR
comp=Z,2μm,23.0s
KULLO Kullorsuaq 70.78 345 *i* P **P** **10 14 35.6 +1.5**
comp=Z,76nm,1.0s
TNTI Ternate 71.42 99 P **P** **10 14 39.9 +0.9**
SANI Sanana 71.54 102 P **P** **10 14 38.5 -1.2**
MMRI Maumere 71.62 110 PFAKE 10 14 50.0 +10
MMRI LR LR
comp=Z,1μm,22.0s
ILULI Ilulissat 71.72 339 PFAKE 10 14 50.0 +10
ILULI LR LR
comp=Z,2μm,20.0s
BILL Bilibino 72.10 22 *e*P **P** **10 14 42.6 +0.5**
comp=Z,45nm,1.0s
BILL LR LR
comp=Z,4μm,18.0s
BILL Bilibino 72.10 22 *ce*P **P** **10 14 43.1 +0.9**
BILL *i* 10 14 52.9
BILL *e* 10 17 23.0
BILL *e*S **S** **10 24 05.5 +1.5**
BILL pmax pmax
comp=Z,66nm,1.3s
SFJD Kangerlussuaq 72.57 337 *e*P **P** **10 14 43.2 -1.7**
comp=Z,50nm,1.3s
SFJD LR LR
comp=Z,4μm,22.0s
SFJD Kangerlussuaq 72.57 337 *e*P **P** **10 14 43.3 -1.7**
SFJD pmax pmax
comp=Z,50nm,1.3s
SFJD MLR MLR
comp=Z,4μm,22.0s
SFJD Kangerlussuaq 72.57 337 *i* P **P** **10 14 46.0 +1.0**
SOEI Soe 73.91 110 *e*P **P** **10 14 50.2 -3.6**
comp=Z,268nm,1.2s
SOEI LR LR
comp=Z,2μm,20.0s
SOEI Soe 73.91 110 P **P** **10 14 55.6 +1.7**
PEA1 Petropavlovsk- 74.70 38 *e*P **P** **10 14 56.8 -1.0**
PEA0B Petropavlovsk- 74.70 38 PFAKE 10 15 10.0 +12
PEA0B LR LR
comp=Z,3μm,19.0s
PETK Petropavlovsk- 74.70 38 *e*P **P** **10 14 57.1 -0.6**
PETK Petropavlovsk- 74.70 38 P **P** **10 14 56.8 -1.0**
comp=Z,17nm,1.1s,baz=243,slow=0.2,SNR=9.2
PETK LR LR 10 51 19.1
comp=Z,2μm,18.3s,baz=285,slow=38
SHEL Horse Pasture 74.87 243 PFAKE 10 15 10.0 +11
SHEL LR LR
comp=Z,2μm,20.0s
PET Petropavlovsk 75.26 38 PFAKE 10 15 10.0 +9.0
PET LR LR
comp=Z,2μm,18.0s
PET Petropavlovsk 75.26 38 *e*P **P** **10 14 59.6 -1.4**
PET *e*S **S** **10 24 35.6 -4.6**
PET *e*PS 10 25 13.0
PET *e*SS SS **10 29 30.2 +1.1**
PET *e*SSS SSS 10 32 46.5
PET pmax pmax
comp=Z,21nm,1.1s
PET MLR MLR
comp=Z,2μm,21.0s
SACV Santiago Islan 75.91 280 PFAKE 10 15 10.0 +4.6
SACV LR LR
comp=Z,3μm,22.0s
MBWA Marble Bar 76.53 122 PFAKE 10 15 20.0 +11
MBWA LR LR
comp=Z,3μm,18.0s
PSAD1 Pilbara Seismi 76.78 122 PFAKE 10 15 20.0 +10
PSAD1 LR LR
comp=Z,3μm,19.0s
PSAC1 Pilbara Seismi 76.81 122 PFAKE 10 15 20.0 +10
PSAC1 LR LR
comp=Z,3μm,19.0s
PSAB1 Pilbara Seismi 76.84 122 PFAKE 10 15 20.0 +10
PSAB1 LR LR
comp=Z,3μm,22.0s
PSAD3 Pilbara Seismi 76.85 123 PFAKE 10 15 20.0 +9.5
PSAD3 LR LR
comp=Z,3μm,22.0s
PSAA1 Pilbara Seismi 76.86 122 PFAKE 10 15 20.0 +9.5
PSAA1 LR LR
comp=Z,3μm,22.0s
PSAA2 Pilbara Seismi 76.86 122 PFAKE 10 15 20.0 +9.5
PSAA2 LR LR
comp=Z,3μm,19.0s
PSA00 Pilbara Seismi 76.86 122 PFAKE 10 15 20.0 +9.5
PSA00 LR LR
comp=Z,2μm,19.0s
PSAB2 Pilbara Seismi 76.86 122 PFAKE 10 15 20.0 +9.4
PSAB2 LR LR
comp=Z,3μm,22.0s
PSAA3 Pilbara Seismi 76.87 122 PFAKE 10 15 20.0 +9.4
PSAA3 LR LR
comp=Z,3μm,18.0s
PSAC3 Pilbara Seismi 76.88 122 PFAKE 10 15 20.0 +9.4
PSAC3 LR LR
comp=Z,2μm,18.0s
PSAB3 Pilbara Seismi 76.88 122 PFAKE 10 15 20.0 +9.3
PSAB3 LR LR
comp=Z,3μm,19.0s
PSAC2 Pilbara Seismi 76.89 122 PFAKE 10 15 20.0 +9.2
PSAC2 LR LR
comp=Z,3μm,18.0s
PSAD2 Pilbara Seismi 76.97 122 PFAKE 10 15 20.0 +8.8
PSAD2 LR LR
comp=Z,3μm,21.0s
RES Resolute Bay 77.33 353 *e*P **P** **10 15 12.3 0.0**
comp=Z,7.1nm,0.9s
RES LR LR
comp=Z,2μm,20.0s
RES Resolute Bay 77.33 353 *e*P **P** **10 15 12.3 0.0**
RES pmax pmax
comp=Z,7.0nm,0.9s
RES MLR MLR
comp=Z,2μm,20.0s
FAKI Fak Fak 77.45 100 *e*P **P** **10 15 14.0 -0.1**
comp=Z,56nm,1.0s
FAKI Fak Fak 77.45 100 P **P** **10 15 17.4 +3.3**
MORW Morawa 78.66 131 PFAKE 10 15 30.0 +10
MORW LR LR
comp=Z,3μm,22.0s
FITZ Fitzroy Crossi 79.44 116 *e*P **P** **10 15 25.1 +0.2**
comp=Z,23nm,1.1s
RDOG Red Dog Mine 80.84 14 *e*P **P** **10 15 32.2 +0.4**
comp=Z,32nm,1.1s
RDOG LR LR
comp=Z,3μm,21.0s
MTN Manton Dam 81.26 109 PFAKE 10 15 40.0 +5.2
MTN LR LR
comp=Z,800nm,22.0s
NWAO Narrogin (SRO) 81.88 133 *e*P **P** **10 15 35.1 -2.6**
comp=Z,53nm,1.0s
NWAO LR LR
comp=Z,1μm,20.0s
NWAO Narrogin (SRO) 81.88 133 *e*P **P** **10 15 35.1 -2.6**
NWAO pmax pmax
comp=Z,53nm,1.0s
NWAO MLR MLR
comp=Z,1μm,20.0s
TOLK Toolik Lake Re 82.84 10 *e*P **P** **10 15 42.5 +0.2**
comp=Z,38nm,0.8s
TOLK LR LR
comp=Z,3μm,20.0s
ANM Nome 83.04 17 *e*P **P** **10 15 44.0 +0.7**
comp=Z,39nm,1.2s
ANM LR LR
comp=Z,2μm,21.0s
ANM Nome 83.04 17 *e*P **P** **10 15 44.0 +0.7**

ANM pmax pmax
comp=Z,39nm,1.2s
ANM MLR MLR
comp=Z,2μm,21.0s
SMY Shemya 83.47 33 PFAKE 10 15 50.0 +4.2
SMY LR LR
comp=Z,1μm,18.0s
COLD Coldfoot 84.03 11 *e*P **P** **10 15 48.5 +0.1**
comp=Z,25nm,1.1s
COLD LR LR
comp=Z,2μm,20.0s
GENI Genyem 84.32 96 P **P** **10 15 52.1 +1.3**
IMAR Indian Mountai 84.51 12 *e*P **P** **10 15 51.2 +0.3**
INK Inuvik 84.92 4 *e*P **P** **10 15 53.5 +0.7**
comp=Z,29nm,1.0s
INK LR LR
comp=Z,2μm,22.0s
INK Inuvik 84.92 4 *e*P **P** **10 15 53.5 +0.7**
INK pmax pmax
comp=Z,29nm,1.0s
INK MLR MLR
comp=Z,2μm,22.0s
DRLN Deer Lake 85.02 324 PFAKE 10 16 00.0 +6.2
DRLN LR LR
comp=Z,2μm,20.0s
FYU Fort Yukon 85.40 9 *e*P **P** **10 15 55.5 +0.2**
comp=Z,208nm,2.0s
FYU LR LR
comp=Z,1μm,22.0s
MLY Manley 85.93 12 *e*P **P** **10 15 58.8 +0.8**
comp=Z,27nm,0.9s
MLY LR LR
comp=Z,2μm,20.0s
SCHQ Schefferville 85.98 332 P **P** **10 15 58.8 +0.4**
comp=Z,5.5nm,1.0s,baz=57,slow=4.6,SNR=5.4
SCHQ LR LR 10 55 33.3
comp=Z,719nm,18.9s,baz=45,slow=36
PRP Porcupine Dome 86.34 10 *e*P **P** **10 16 01.3 +1.1**
comp=Z,23nm,0.9s
PRP LR LR
comp=Z,1μm,20.0s
MDM Murphy Dome 86.44 11 *e*P **P** **10 15 58.8 -1.7**
comp=Z,49nm,1.0s
MDM LR LR
comp=Z,2μm,20.0s
EPYK Eagle Plains 86.58 6 *e*P **P** **10 16 02.0 +0.8**
comp=Z,32nm,0.9s
EPYK LR LR
comp=Z,900nm,21.0s
COLA College 86.58 11 *e*P **P** **10 15 59.3 -1.9**
comp=Z,37nm,1.3s
COLA LR LR
comp=Z,3μm,20.0s
COLA College 86.58 11 *e*P **P** **10 15 59.3 -1.9**
COLA pmax pmax
comp=Z,37nm,1.3s
COLA MLR MLR
comp=Z,3μm,20.0s
BPAW Bear Paw Mtn. 86.73 12 *e*P **P** **10 16 00.6 -1.4**
comp=Z,115nm,1.3s
BPAW LR LR
comp=Z,2μm,20.0s
CCB Clear Creek Bu 86.80 11 *e*P **P** **10 16 02.7 +0.4**
comp=Z,15nm,1.1s
CCB LR LR
comp=Z,2μm,21.0s
ILAR Eielson Array 86.83 10 *e*P **P** **10 16 02.3 -0.1**
ILAR Eielson Array 86.83 10 *e*P **P** **10 16 02.3 -0.1**
ILAR Eielson Array 86.83 10 P **P** **10 16 02.5 0.0**
comp=Z,3.8nm,0.7s,baz=326,slow=3.8,SNR=26
ILAR PP **PP** **10 19 26.9 +2.7**
comp=Z,1.6nm,1.0s,baz=331,slow=7.2,SNR=3.5
ILAR PKKPbc **PKKPbc** **10 34 01.4 +3.9**
comp=Z,0.4nm,0.9s,baz=208,slow=1.8,SNR=4.1
ILAR LR LR 11 00 03.7
comp=Z,1μm,20.7s,baz=332,slow=39
ILB Eielson Array 86.83 10 *e*P **P** **10 16 01.6 -0.8**
comp=Z,14nm,2.0s
WRH Wood River Hil 86.91 11 *e*P **P** **10 16 03.2 +0.4**
comp=Z,20nm,1.2s
WRH LR LR
comp=Z,2μm,20.0s
BWN Browne 86.95 12 *e*P **P** **10 16 05.2 +2.2**
comp=Z,41nm,0.9s
BWN LR LR
comp=Z,2μm,19.0s
CAST Castle Rocks 87.13 13 *e*P **P** **10 16 04.8 +0.9**
comp=Z,74nm,1.1s
CAST LR LR
comp=Z,2μm,18.0s
HDA Harding Lake 87.16 10 *e*P **P** **10 16 01.4 -2.6**
comp=Z,15nm,0.9s
HDA LR LR
comp=Z,3μm,21.0s
SPIA Saint Paul Isl 87.19 24 PFAKE 10 16 10.0 +5.7
SPIA LR LR
comp=Z,3μm,21.0s
WC1 Warramunga Arr 87.43 114 PFAKE 10 16 10.0 +4.0
WC1 LR LR
comp=Z,600nm,20.0s
WRA Warramunga Arr 87.43 114 P **P** **10 16 06.3 +0.3**
comp=Z,5.8nm,0.9s,baz=304,slow=3.4,SNR=21
WRAB Tennant Creek 87.44 114 *e*P **P** **10 16 03.5 -2.6**
comp=Z,53nm,1.1s
WRAB LR LR
comp=Z,900nm,20.0s
WRAB Tennant Creek 87.44 114 *ce*P **P** **10 16 07.0 +0.9**
WRAB pmax pmax
comp=Z,13nm,1.3s
MCK McKinley 87.44 12 *e*P **P** **10 16 03.4 -2.1**
comp=Z,72nm,1.2s
MCK LR LR
comp=Z,2μm,20.0s
MCK McKinley 87.44 12 *e*P **P** **10 16 03.4 -2.1**
MCK pmax pmax
comp=Z,72nm,1.2s
MCK MLR MLR
comp=Z,2μm,20.0s
WB2 Warramunga Arr 87.44 114 *e*P **P** **10 16 03.6 -2.5**
comp=Z,131nm,1.6s
WB2 LR LR
comp=Z,900nm,21.0s
WC2 Warramunga Arr 87.45 114 PFAKE 10 16 10.0 +3.9
WC2 LR LR
comp=Z,1μm,21.0s
WR4 Warramunga Arr 87.49 114 PFAKE 10 16 10.0 +3.6
WR4 LR LR
comp=Z,700nm,19.0s
PPLA Purkeypile 87.58 13 PFAKE 10 16 20.0 +14
PPLA LR LR
comp=Z,2μm,22.0s
EGAK Eagle 87.64 8 *e*P **P** **10 16 03.9 -2.4**
comp=Z,44nm,1.0s
EGAK LR LR
comp=Z,2μm,21.0s
SCRK Sand Creek 88.02 9 PFAKE 10 16 20.0 +12
SCRK LR LR
comp=Z,1μm,21.0s
FORT Forrest 88.12 126 PFAKE 10 16 20.0 +11
FORT LR LR
comp=Z,1μm,19.0s
RIDG Independent Ri 88.12 10 *e*P **P** **10 16 07.5 -1.2**
comp=Z,20nm,1.1s
RIDG LR LR
comp=Z,2μm,21.0s
DOT Dot Lake 88.32 10 PFAKE 10 16 20.0 +10
DOT LR LR
comp=Z,1μm,20.0s
DHY Denali Highway 88.33 11 *e*P **P** **10 16 10.3 +0.4**
comp=Z,26nm,1.2s
DHY LR LR
comp=Z,2μm,22.0s
ADK Adak 88.36 30 PFAKE 10 16 20.0 +10
ADK LR LR
comp=Z,1μm,19.0s
SVW2 Sparrevohn 88.42 16 PFAKE 10 16 20.0 +10
SVW2 LR LR
comp=Z,1μm,22.0s
DAWY Dawson 88.54 7 PFAKE 10 16 20.0 +9.3
DAWY LR LR
comp=Z,2μm,20.0s
PAX Paxson 88.74 10 *e*P **P** **10 16 12.0 +0.3**
comp=Z,15nm,1.2s
PAX LR LR
comp=Z,2μm,20.0s
PAX Paxson 88.74 10 *e*P **P** **10 16 12.0 +0.3**
PAX pmax pmax

comp=Z,15nm,1.2s
PAX MLR MLR
comp=Z,2μm,20.0s
AS31 Alice Springs 88.91 117 *eP* **P 10 16 12.9 -0.1**
comp=Z,1.1nm,1.2s
ASAR Alice Springs 88.91 117 *eP* **P 10 16 13.1 0.0**
ASAR Alice Springs 88.91 117 *eP* **P 10 16 13.1 0.0**
ASAR Alice Springs 88.91 117 P **P 10 16 13.3 +0.3**
comp=Z,5.1nm,0.9s,baz=304,slow=4.2,SNR=24
ASAR LR LR 10 59 14.8
comp=Z,355nm,18.1s,baz=292,slow=38
MENT Mentasta 89.05 10 *eP* **P 10 16 15.7 +2.7**
comp=Z,17nm,1.0s
MENT LR LR
comp=Z,1μm,18.0s
BCAR Beaver Creek A 89.20 9 *eP* **P 10 16 14.4 +0.6**
GHO Glory Hole Cre 89.25 12 *eP* **P 10 16 14.9 +0.8**
comp=Z,56nm,1.2s
GHO LR LR
comp=Z,2μm,20.0s
SML Sawmill 89.33 12 *eP* **P 10 16 15.3 +0.9**
comp=Z,46nm,1.2s
SML LR LR
comp=Z,2μm,19.0s
SML Sawmill 89.33 12 *eP* **P 10 16 15.3 +0.9**
SML pmax pmax
comp=Z,46nm,1.2s
SML MLR MLR
comp=Z,2μm,19.0s
PMR Palmer 89.37 13 PFAKE 10 16 20.0 +5.5
PMR LR LR
comp=Z,2μm,21.0s
SCM Sheep Creek Mo 89.49 12 PFAKE 10 16 20.0 +4.8
SCM LR LR
comp=Z,2μm,20.0s
RC01 Rabbit Creek A 89.71 13 PFAKE 10 16 30.0 +14
RC01 LR LR
comp=Z,2μm,19.0s
KLU Klutina 90.05 11 PFAKE 10 16 30.0 +12
KLU LR LR
comp=Z,2μm,22.0s
MANU Manus Island 90.50 92 PFAKE 10 16 30.0 +9.3
MANU LR LR
comp=Z,600nm,22.0s
YKW3 Yellowknife Ar 90.86 357 *eP* **P 10 16 21.7 +0.3**
comp=Z,38nm,1.5s
YKW3 LR LR
comp=Z,1μm,21.0s
YKA Yellowknife Ar 90.92 356 *eP* **P 10 16 22.3 +0.5**
YKA Yellowknife Ar 90.92 356 *eP* **P 10 16 22.3 +0.5**
YKA Yellowknife Ar 90.92 356 P **P 10 16 22.6 +0.8**
comp=Z,4.0nm,0.8s,baz=0.3,slow=4.9,SNR=30
YKA PKKPbc **PKKPbc 10 33 47.6 +0.2**
comp=Z,0.4nm,1.0s,baz=179,slow=3.2,SNR=3.4
YKA LR LR 11 02 57.2
comp=Z,96nm,20.6s,baz=6.0,slow=39
EYAK Cordova Ski Ar 90.97 11 PFAKE 10 16 30.0 +8.0
EYAK LR LR
comp=Z,2μm,20.0s
LMN Caledonia Moun 91.01 324 PFAKE 10 16 30.0 +7.4
LMN LR LR
comp=Z,2μm,20.0s
BALM Baldy 91.06 10 PFAKE 10 16 30.0 +7.4
BALM LR LR
comp=Z,2μm,22.0s
UNV Unalaska Valle 91.11 24 PFAKE 10 16 30.0 +7.2
UNV LR LR
comp=Z,2μm,21.0s
AKUT Akutan 91.15 24 PFAKE 10 16 30.0 +7.0
AKUT LR LR
comp=Z,1μm,20.0s
TGL Tana Glacier 91.26 10 PFAKE 10 16 30.0 +6.5
TGL LR LR
comp=Z,2μm,20.0s
CTGM Chitina Glacie 91.28 9 PFAKE 10 16 30.0 +6.3
CTGM LR LR
comp=Z,1μm,20.0s
FALS False Pass 91.41 22 PFAKE 10 16 30.0 +5.9
FALS LR LR
comp=Z,4μm,19.0s
FCC Fort Churchill 91.72 346 *eP* **P 10 16 26.0 +0.5**
comp=Z,30nm,1.1s
FCC LR LR
comp=Z,2μm,22.0s
FCC Fort Churchill 91.72 346 *eP* **P 10 16 26.0 +0.5**
FCC pmax pmax
comp=Z,30nm,1.1s
FCC MLR MLR
comp=Z,2μm,22.0s
CHGN Chignik 91.80 19 PFAKE 10 16 30.0 +4.1
CHGN LR LR
comp=Z,2μm,19.0s
SDPT Sand Point 91.97 21 PFAKE 10 16 40.0 +13
SDPT LR LR
comp=Z,2μm,20.0s
COEN Coen 92.10 104 PFAKE 10 16 40.0 +12
COEN LR LR
comp=Z,500nm,19.0s
PQI Presque Isle 92.11 326 PFAKE 10 16 40.0 +12
PQI LR LR
comp=Z,2μm,20.0s
PCA Pinnacle 92.27 9 PFAKE 10 16 40.0 +12
PCA LR LR
comp=Z,2μm,19.0s
WHY Whitehorse 92.35 6 PFAKE 10 16 40.0 +11
WHY LR LR
comp=Z,1μm,19.0s
OHAK Old Harbor 92.40 16 PFAKE 10 16 40.0 +11
OHAK LR LR
comp=Z,3μm,22.0s
BCPM Bancas Point 92.49 9 PFAKE 10 16 40.0 +11
BCPM LR LR
comp=Z,1μm,20.0s
GGN Saint George 92.57 324 PFAKE 10 16 40.0 +10
GGN LR LR
comp=Z,1μm,20.0s
SII Sitkinak Islan 92.75 17 PFAKE 10 16 40.0 +10
SII LR LR
comp=Z,4μm,21.0s
EMMW East Machias 93.17 324 PFAKE 10 16 40.0 +7.5
EMMW LR LR
comp=Z,1μm,18.0s
SKAG Skagway 93.49 7 PFAKE 10 16 40.0 +6.3
SKAG LR LR
comp=Z,1μm,18.0s
PMG Port Moresby 93.57 99 PFAKE 10 16 40.0 +5.1
PMG LR LR
comp=Z,400nm,21.0s
PKME Peaks-Kenny Pk 93.72 326 PFAKE 10 16 40.0 +4.9
PKME LR LR
comp=Z,2μm,22.0s
MAW Mawson 94.08 178 PFAKE 10 16 40.0 +4.1
MAW LR LR
comp=Z,200nm,21.0s
MAW Mawson 94.08 178 LR LR 10 53 23.3
comp=Z,690nm,19.4s,baz=353,slow=32
WVL Waterville 94.40 325 PFAKE 10 16 50.0 +12
WVL LR LR
comp=Z,2μm,19.0s
BESE Bessie Mountai 94.40 7 PFAKE 10 16 50.0 +12
BESE LR LR
comp=Z,2μm,19.0s
JIS Juneau Island 94.75 6 PFAKE 10 16 50.0 +11
JIS LR LR
comp=Z,1μm,20.0s
DLBC Dease Lake 94.95 4 PFAKE 10 16 50.0 +9.5
DLBC LR LR
comp=Z,2μm,21.0s
MOQ Mont Orford 95.16 327 *eP* **P 10 16 42.0 +0.2**
RABL Rabaul 95.74 92 PFAKE 10 16 50.0 +5.1
RABL LR LR
comp=Z,800nm,22.0s
LBNH Lisbon 95.77 326 PFAKE 10 16 50.0 +5.5
LBNH LR LR
comp=Z,2μm,20.0s
RCBR Riachuelo 95.90 266 PFAKE 10 16 50.0 +4.3
RCBR LR LR
comp=Z,2μm,20.0s
RCBR Riachuelo 95.90 266 *eP* **P 10 16 47.9 +2.2**
VT1 Waterbury 96.11 327 PFAKE 10 16 50.0 +3.9
VT1 LR LR
comp=Z,2μm,21.0s
FRNY Flat Rock 96.15 328 *eP* **P 10 16 46.0 -0.2**
comp=Z,12nm,1.0s
D53A Lac Vacive, Po 96.33 331 PFAKE 10 17 00.0 +13
D53A LR LR
comp=Z,1μm,21.0s
HNH Hanover 96.34 326 PFAKE 10 17 00.0 +13
HNH LR LR
comp=Z,1μm,19.0s
BCX Boston College 96.76 325 PFAKE 10 17 00.0 +11
BCX LR LR
comp=Z,1μm,21.0s
WRAK Wrangell Islan 96.77 6 PFAKE 10 17 00.0 +11
WRAK LR LR
comp=Z,1μm,19.0s
LONY Lake Ozonia 96.78 328 *eP* **P 10 16 49.4 +0.3**
comp=Z,17nm,1.0s
LONY LR LR
comp=Z,2μm,21.0s
WES Weston 96.80 325 PFAKE 10 17 00.0 +11
WES LR LR
comp=Z,1μm,22.0s
HRV Adam Dziewonsk 96.83 325 PFAKE 10 17 00.0 +11
HRV LR LR
comp=Z,2μm,21.0s
FFC Flin Flon 97.08 348 *eP* Pdif 10 16 50.5 +0.3
comp=Z,14nm,1.4s
FFC LR LR
comp=Z,1μm,20.0s
FFC Flin Flon 97.08 348 *eP* Pdif 10 16 50.6 +0.3
FFC pmax pmax
comp=Z,14nm,1.4s
FFC MLR MLR
comp=Z,1μm,20.0s
BRYW Bryant College 97.25 324 PFAKE 10 17 00.0 +8.7
BRYW LR LR
comp=Z,2μm,22.0s
QUA2 Belchertown 97.41 325 PFAKE 10 17 00.0 +8.0
QUA2 LR LR
comp=Z,1μm,21.0s
CTAO Charters Tower 97.44 109 PFAKE 10 17 00.0 +7.5
CTAO LR LR
comp=Z,700nm,20.0s
CRAG Craig 97.64 6 PFAKE 10 17 00.0 +7.3
CRAG LR LR
comp=Z,2μm,21.0s
TRY Troy 97.74 326 PFAKE 10 17 00.0 +6.5
TRY LR LR
comp=Z,2μm,21.0s
YLE Yale 98.41 325 PFAKE 10 17 10.0 +14
YLE LR LR
comp=Z,2μm,22.0s
STKA Stephens Creek 98.76 121 PFAKE 10 17 10.0 +12
STKA LR LR
comp=Z,400nm,22.0s
STKA Stephens Creek 98.76 121 LR LR 10 58 58.8
comp=Z,2μm,21.9s,baz=287,slow=34
BINY Binghamton 99.28 327 PFAKE 10 17 10.0 +10
BINY LR LR
comp=Z,2μm,21.0s
J55A Hilton 99.33 329 PFAKE 10 17 10.0 +9.5
J55A LR LR
comp=Z,1μm,21.0s
E46A Sault Ste Mari 99.60 334 PFAKE 10 17 10.0 +8.3
E46A LR LR
comp=Z,2μm,21.0s
MEDO Medina 99.70 329 PFAKE 10 17 10.0 +7.8
MEDO LR LR
comp=Z,1μm,20.0s
J54A Appleton 99.70 329 PFAKE 10 17 10.0 +7.8
J54A LR LR
comp=Z,2μm,22.0s
ULM Lac du Bonnet 99.93 343 PFAKE 10 17 10.0 +7.0
ULM LR LR
comp=Z,1μm,19.0s
ULM Lac du Bonnet 99.93 343 LR LR 11 05 27.0
comp=Z,1μm,19.2s,baz=34,slow=37
E44A Grand Marais A 100.00 336 PFAKE 10 17 10.0 +6.5
E44A LR LR
comp=Z,2μm,21.0s
C40A Isle Royale Na 100.02 338 PFAKE 10 17 10.0 +6.5
C40A LR LR
comp=Z,1μm,21.0s
N59A State Game Lan 100.14 326 PFAKE 10 17 10.0 +5.8
N59A LR LR
comp=Z,2μm,19.0s
D41A Chassel 100.57 337 PFAKE 10 17 10.0 +4.0
D41A LR LR
comp=Z,1μm,20.0s
E43A Lone Tree Farm 100.60 336 PFAKE 10 17 10.0 +3.9
E43A LR LR
comp=Z,1μm,21.0s
EYMN Ely 100.75 340 PFAKE 10 17 20.0 +13
EYMN LR LR
comp=Z,2μm,22.0s
CASY Casey 100.91 161 PFAKE 10 17 20.0 +13
CASY LR LR
comp=Z,700nm,18.0s
I49A Point Hope 101.00 332 PFAKE 10 17 20.0 +12
I49A LR LR
comp=Z,1μm,21.0s
PAGS Pennsylvania G 101.13 326 PFAKE 10 17 20.0 +11
PAGS LR LR
comp=Z,2μm,20.0s
ERPA Erie 101.23 329 PFAKE 10 17 20.0 +11
ERPA LR LR
comp=Z,1μm,19.0s
G45A Suttons Bay 101.23 335 PFAKE 10 17 20.0 +11
G45A LR LR
comp=Z,2μm,22.0s
BBB Bella Bella 101.30 4 PFAKE 10 17 20.0 +11
BBB LR LR
comp=Z,1μm,20.0s
SSPA Standing Stone 101.39 327 PFAKE 10 17 20.0 +10
SSPA LR LR
comp=Z,2μm,21.0s
M54A Oil Creek Stat 101.56 329 PFAKE 10 17 20.0 +9.5
M54A LR LR
comp=Z,2μm,21.0s
COWI Conover 101.59 337 PFAKE 10 17 20.0 +9.4
COWI LR LR
comp=Z,2μm,21.0s
AGMN Agassiz Nation 101.71 342 PFAKE 10 17 20.0 +9.0
AGMN LR LR
comp=Z,2μm,21.0s
G43A Wallace 101.81 336 PFAKE 10 17 20.0 +8.5
G43A LR LR
comp=Z,2μm,22.0s
N55A Marion Center 101.81 328 PFAKE 10 17 20.0 +8.3
N55A LR LR
comp=Z,2μm,20.0s
K50A Casco 101.87 331 PFAKE 10 17 20.0 +8.2
K50A LR LR
comp=Z,1μm,19.0s
F41A Three Lakes 101.90 337 PFAKE 10 17 20.0 +8.0
F41A LR LR
comp=Z,1μm,20.0s
J48A Bridge Port 101.93 332 PFAKE 10 17 20.0 +7.9
J48A LR LR
comp=Z,2μm,19.0s
E38A The Farm, Brul 101.96 339 PFAKE 10 17 20.0 +7.8
E38A LR LR
comp=Z,1μm,21.0s
O56A Blue Knob Stat 102.01 327 PFAKE 10 17 20.0 +7.4
O56A LR LR
comp=Z,2μm,22.0s
G42A Mountain 102.09 336 PFAKE 10 17 20.0 +7.2
G42A LR LR
comp=Z,2μm,22.0s
N54A Moraine State 102.14 329 PFAKE 10 17 20.0 +6.9
N54A LR LR
comp=Z,1μm,22.0s
I45A Fountain 102.30 334 PFAKE 10 17 20.0 +6.3
I45A LR LR
comp=Z,2μm,21.0s
M52A Chesterland 102.31 330 PFAKE 10 17 20.0 +6.1
M52A LR LR
comp=Z,1μm,18.0s
N53A Lisbon 102.66 329 PFAKE 10 17 20.0 +4.6
N53A LR LR
comp=Z,2μm,20.0s
G40A Rib Lake 102.69 337 PFAKE 10 17 20.0 +4.5
G40A LR LR
comp=Z,2μm,18.0s
AAM Ann Arbor 102.69 332 PFAKE 10 17 20.0 +4.5
AAM LR LR
comp=Z,2μm,19.0s
H42A Shiocton 102.75 336 PFAKE 10 17 20.0 +4.2
H42A LR LR
comp=Z,2μm,22.0s
J45A Montague 102.86 334 PFAKE 10 17 30.0 +14
J45A LR LR
comp=Z,1μm,21.0s
CBN Corbin Frederi 103.00 325 PFAKE 10 17 30.0 +13
CBN LR LR
comp=Z,1μm,19.0s
H41A Junction City 103.06 337 PFAKE 10 17 30.0 +13
H41A LR LR
comp=Z,2μm,18.0s
MDND Maddock 103.08 345 PFAKE 10 17 30.0 +13
MDND LR LR
comp=Z,1μm,22.0s
MCWV Mont Chateau 103.10 328 PFAKE 10 17 30.0 +13
MCWV LR LR
comp=Z,600nm,22.0s
M50A Fremont 103.16 331 PFAKE 10 17 30.0 +12
M50A LR LR
comp=Z,2μm,19.0s
N51A Ashland 103.26 330 PFAKE 10 17 30.0 +12
N51A LR LR
comp=Z,1μm,19.0s
R58B Mineral 103.44 325 PFAKE 10 17 30.0 +11
R58B LR LR
comp=Z,1μm,20.0s
T60A Surry 103.48 324 PFAKE 10 17 30.0 +11
T60A LR LR
comp=Z,1μm,21.0s
SPMN Marine on St. 103.59 339 PFAKE 10 17 30.0 +11
SPMN LR LR
comp=Z,2μm,19.0s
I41A Arkdale 103.63 337 PFAKE 10 17 30.0 +10
I41A LR LR
comp=Z,2μm,18.0s
O52A Adamsville 103.66 329 PFAKE 10 17 30.0 +10
O52A LR LR
comp=Z,1μm,20.0s
EIDS Eidsvold 103.67 112 PFAKE 10 17 30.0 +10
EIDS LR LR
comp=Z,600nm,21.0s
S58A Poland Farm, P 103.80 325 PFAKE 10 17 30.0 +9.5
S58A LR LR
comp=Z,1μm,22.0s
M48A Edgerton 103.81 332 PFAKE 10 17 30.0 +9.5
M48A LR LR
comp=Z,2μm,19.0s
U61A Possum Corner 103.93 323 PFAKE 10 17 30.0 +8.9
U61A LR LR
comp=Z,2μm,20.0s
P53A Whipple 103.96 329 PFAKE 10 17 30.0 +8.8
P53A LR LR
comp=Z,2μm,22.0s
L46A Eue Claire 104.02 333 PFAKE 10 17 30.0 +8.5
L46A LR LR
comp=Z,1μm,20.0s
TOO Toolangi 104.03 125 PFAKE 10 17 30.0 +8.6
TOO LR LR
comp=Z,2μm,18.0s
T59A Double "B" Far 104.03 325 PFAKE 10 17 30.0 +8.4
T59A LR LR
comp=Z,1μm,19.0s
N49A Columbus Grove 104.05 331 PFAKE 10 17 30.0 +8.4
N49A LR LR
comp=Z,2μm,20.0s
ACSO Alum Creek Sta 104.09 330 PFAKE 10 17 30.0 +8.2
ACSO LR LR
comp=Z,1μm,20.0s
Q54A Coxs Mills 104.10 328 PFAKE 10 17 30.0 +8.1
Q54A LR LR
comp=Z,1μm,22.0s
S57A Dark Hollow, R 104.14 326 PFAKE 10 17 30.0 +7.9
S57A LR LR
comp=Z,1μm,19.0s
K43A Burlington 104.23 335 PFAKE 10 17 30.0 +7.6
K43A LR LR
comp=Z,1μm,22.0s
V62A Hyde County Ai 104.24 323 PFAKE 10 17 30.0 +7.5
V62A LR LR
comp=Z,800nm,21.0s
R55A Marlinton 104.31 327 PFAKE 10 17 30.0 +7.1
R55A LR LR
comp=Z,2μm,21.0s
I39A Houston 104.38 338 PFAKE 10 17 30.0 +7.0
I39A LR LR
comp=Z,1μm,20.0s
V61A Roper 104.41 323 PFAKE 10 17 30.0 +6.7
V61A LR LR
comp=Z,1μm,21.0s
M46A Old House Fiel 104.56 333 PFAKE 10 17 30.0 +6.2
M46A LR LR
comp=Z,2μm,20.0s
U59A Littleton 104.63 324 PFAKE 10 17 30.0 +5.8
U59A LR LR
comp=Z,1μm,21.0s
O49A Covington 104.72 331 PFAKE 10 17 30.0 +5.4
O49A LR LR
comp=Z,1μm,19.0s
P51A Williamsport 104.73 330 PFAKE 10 17 30.0 +5.3
P51A LR LR
comp=Z,1μm,20.0s
JFWS Jewell Farm 104.76 336 PFAKE 10 17 30.0 +5.3
JFWS LR LR
comp=Z,2μm,20.0s
V60A Jim Taylor Roa 104.79 324 PFAKE 10 17 30.0 +5.0
V60A LR LR
comp=Z,2μm,20.0s
EGMT Eagleton 104.80 351 PFAKE 10 17 30.0 +5.1
EGMT LR LR
comp=Z,1μm,21.0s
T57A Hurt 104.88 326 PFAKE 10 17 30.0 +4.6
T57A LR LR
comp=Z,1μm,18.0s
HNR Honiara 104.96 93 PFAKE 10 17 30.0 +3.9
HNR LR LR
comp=Z,900nm,21.0s
B06A Marblemount 105.14 360 PFAKE 10 21 50.0 +9.4
B06A LR LR
comp=Z,1μm,20.0s
R53A Hurricane 105.15 328 PFAKE 10 21 50.0 +9.0
R53A LR LR
comp=Z,1μm,22.0s
Q51A Peebles 105.23 330 PFAKE 10 21 50.0 +8.9
Q51A LR LR
comp=Z,1μm,18.0s
M44A Midewin, Midew 105.25 334 PFAKE 10 21 50.0 +9.0
M44A LR LR
comp=Z,2μm,21.0s
NEW Newport 105.25 356 PFAKE 10 21 50.0 +9.1
NEW LR LR
comp=Z,2μm,21.0s
B08A Colville Reser 105.26 358 PFAKE 10 21 50.0 +9.1
B08A LR LR
comp=Z,700nm,19.0s
BLA Blacksburg 105.30 327 PFAKE 10 21 50.0 +8.7
BLA LR LR
comp=Z,1μm,20.0s
L42A Oliver, Polo 105.34 335 PFAKE 10 21 50.0 +8.8
L42A LR LR
comp=Z,900nm,20.0s
CNNC Cliffs of the 105.52 324 PFAKE 10 21 50.0 +8.3
CNNC LR LR
comp=Z,2μm,20.0s
LAO LASA Array 105.55 349 PFAKE 10 21 50.0 +8.4
LAO LR LR
comp=Z,1μm,20.0s
SFIN Lafayette 105.72 333 PFAKE 10 21 50.0 +8.1
SFIN LR LR
comp=Z,2μm,19.0s
C09A Chrisman Ranch 105.77 357 PFAKE 10 21 50.0 +8.1
C09A LR LR
comp=Z,1μm,21.0s
CAN Canberra 105.79 122 PFAKE 10 21 50.0 +7.9
CAN LR LR
comp=Z,2μm,22.0s
L40A Anamosa 105.85 337 PFAKE 10 21 50.0 +7.9
L40A LR LR
comp=Z,1μm,20.0s
ARMA Armidale 106.04 116 PFAKE 10 21 50.0 +7.2
ARMA LR LR
comp=Z,2μm,21.0s
ECSD EROS Data Cent 106.10 341 PFAKE 10 21 50.0 +7.4
ECSD LR LR
comp=Z,2μm,21.0s
NLWA Neilton Lookou 106.25 1 PFAKE 10 21 50.0 +7.2
NLWA LR LR
comp=Z,2μm,21.0s
LTY Liberty 106.39 359 PFAKE 10 21 50.0 +6.9

LTY LR LR
comp=Z,1μm,21.0s
V56A Mocksville 106.43 326 PFAKE 10 21 50.0 +6.6
V56A LR LR
comp=Z,2μm,22.0s
HDIL Hopedale 106.45 334 PFAKE 10 21 50.0 +6.7
HDIL LR LR
comp=Z,2μm,22.0s
MSO Missoula 106.45 354 PFAKE 10 21 50.0 +6.7
MSO LR LR
comp=Z,2μm,21.0s
D05A Enumclaw 106.47 360 PFAKE 10 21 50.0 +6.9
D05A LR LR
comp=Z,900nm,20.0s
S51A Beattyville 106.47 329 PFAKE 10 21 50.0 +6.6
S51A LR LR
comp=Z,1μm,20.0s
BLO Bloomington 106.50 332 PFAKE 10 21 50.0 +6.6
BLO LR LR
comp=Z,2μm,20.0s
U54A Nelsons Funny 106.53 327 PFAKE 10 21 50.0 +6.3
U54A LR LR
comp=Z,2μm,21.0s
D08A Wollman Farm, 106.54 358 PFAKE 10 21 50.0 +6.7
D08A LR LR
comp=Z,1μm,21.0s
T52A Hallie 106.62 328 PFAKE 10 21 50.0 +6.3
T52A LR LR
comp=Z,2μm,21.0s
Y60A Bolivia 106.64 323 PFAKE 10 21 50.0 +6.2
Y60A LR LR
comp=Z,1μm,19.0s
SCIA State Center 106.68 338 PFAKE 10 21 50.0 +6.3
SCIA LR LR
comp=Z,1μm,22.0s
W57A Gilead 106.69 325 PFAKE 10 21 50.0 +6.1
W57A LR LR
comp=Z,1μm,22.0s
P45A Graceland, Par 106.71 333 PFAKE 10 21 50.0 +6.2
P45A LR LR
comp=Z,2μm,19.0s
X58A Rowland 106.81 324 PFAKE 10 21 50.0 +5.9
X58A LR LR
comp=Z,2μm,20.0s
N41A Harden Midland 106.90 336 PFAKE 10 21 50.0 +5.9
N41A LR LR
comp=Z,1μm,21.0s
LON Longmire 106.91 360 PFAKE 10 21 50.0 +5.9
LON LR LR
comp=Z,1μm,22.0s
GCMT Greycliff 106.97 351 *e*Sdif Sdif 10 29 36.5 -0.4
E09A Wood Farm, Sta 107.05 357 PFAKE 10 21 50.0 +5.8
E09A LR LR
comp=Z,1μm,21.0s
E07A Sunnyside 107.07 358 PFAKE 10 21 50.0 +5.7
E07A LR LR
comp=Z,1μm,19.0s
E08A Dider Farm, El 107.11 358 PFAKE 10 21 50.0 +5.7
E08A LR LR
comp=Z,1μm,22.0s
WCI Wyandotte Cave 107.19 331 PFAKE 10 21 50.0 +5.3
WCI LR LR
comp=Z,2μm,20.0s
HAWA Hanford 107.23 358 PFAKE 10 21 50.0 +5.4
HAWA LR LR
comp=Z,1μm,21.0s
BIRD Birdtown, Kers 107.33 325 PFAKE 10 21 50.0 +4.9
BIRD LR LR
comp=Z,2μm,22.0s
TZTN Tazewell 107.34 328 PFAKE 10 21 50.0 +4.9
TZTN LR LR
comp=Z,2μm,21.0s
KMSC Kings Mountain 107.38 326 PFAKE 10 21 50.0 +4.8
KMSC LR LR
comp=Z,2μm,22.0s
BOZ Bozeman (W) 107.42 352 PFAKE 10 21 50.0 +4.8
BOZ LR LR
comp=Z,1μm,21.0s
Y58A Scranton 107.48 324 PFAKE 10 21 50.0 +4.6
Y58A LR LR
comp=Z,1μm,21.0s
OLIL Olney 107.53 333 PFAKE 10 21 50.0 +4.7
OLIL LR LR
comp=Z,1μm,19.0s
F10A Beach Ranch, E 107.55 356 PFAKE 10 21 50.0 +4.7
F10A LR LR
comp=Z,1μm,22.0s
RLMT Red Lodge 107.57 350 PFAKE 10 21 50.0 +4.4
RLMT LR LR
comp=Z,1μm,22.0s
SKI Saint Kitts 107.59 300 PFAKE 10 21 50.0 +4.0
SKI LR LR
comp=Z,1μm,20.0s
RSSD Black Hills 107.60 346 PFAKE 10 21 50.0 +4.4
RSSD LR LR
comp=Z,2μm,22.0s
SEUS St. Eustatius 107.68 301 PFAKE 10 22 00.0 +14
SEUS LR LR
comp=Z,1μm,20.0s
V53A Saluda 107.69 327 PFAKE 10 21 50.0 +4.2
V53A LR LR
comp=Z,1μm,20.0s
F07A Phinny Hill Vi 107.73 358 PFAKE 10 21 50.0 +4.5
F07A LR LR
comp=Z,1μm,21.0s
Y57A Sumter 107.78 324 PFAKE 10 21 50.0 +4.1
Y57A LR LR
comp=Z,2μm,21.0s
T49A Edmonton 107.79 330 PFAKE 10 21 50.0 +4.1
T49A LR LR
comp=Z,2μm,22.0s
PAULI Pauline 107.87 326 PFAKE 10 22 00.0 +14
PAULI LR LR
comp=Z,1μm,22.0s
V52A Sevierville 107.93 328 PFAKE 10 22 00.0 +14
V52A LR LR
comp=Z,1μm,20.0s
USIN University of 108.00 332 PFAKE 10 22 00.0 +14
USIN LR LR
comp=Z,2μm,20.0s
JSC Jenkinsville 108.02 325 PFAKE 10 22 00.0 +14
JSC LR LR
comp=Z,1μm,19.0s
LKWY Lake 108.28 351 PFAKE 10 22 00.0 +13
LKWY LR LR
comp=Z,3μm,22.0s
BG3 Lake Jocassee 108.29 327 PFAKE 10 22 00.0 +13
BG3 LR LR
comp=Z,2μm,22.0s
G08A Pilot Rock 108.31 358 PFAKE 10 22 00.0 +13
G08A LR LR
comp=Z,1μm,22.0s
V51A Loudon 108.32 328 PFAKE 10 22 00.0 +13
V51A LR LR
comp=Z,2μm,21.0s
PLID Pearl Lake 108.35 355 PFAKE 10 22 00.0 +13
PLID LR LR
comp=Z,2μm,21.0s
NHSC New Hope 108.37 324 PFAKE 10 22 00.0 +13
NHSC LR LR
comp=Z,1μm,20.0s
G06A Carlson Farm, 108.41 359 PFAKE 10 22 00.0 +13
G06A LR LR
comp=Z,1μm,22.0s
H17A Grant Village 108.47 351 PFAKE 10 22 00.0 +13
H17A LR LR
comp=Z,2μm,18.0s
T47A Sharon Grove 108.58 331 PFAKE 10 22 00.0 +13
T47A LR LR
comp=Z,800nm,20.0s
BMO Blue Mountains 108.67 356 PFAKE 10 22 00.0 +13
BMO LR LR
comp=Z,2μm,22.0s
BGNE Belgrade 108.68 341 PFAKE 10 22 00.0 +13
BGNE LR LR
comp=Z,2μm,20.0s
CPCT Cooper Cave 108.68 328 PFAKE 10 22 00.0 +12
CPCT LR LR
comp=Z,2μm,20.0s
W52A Murphy 108.69 328 PFAKE 10 22 00.0 +12
W52A LR LR
comp=Z,1μm,21.0s
FLWY Flagg Ranch 108.79 351 PFAKE 10 22 00.0 +12
FLWY LR LR
comp=Z,1μm,21.0s

Z56A Williston 108.83 325 PFAKE 10 22 00.0 +12
Z56A LR LR
comp=Z,2μm,22.0s
SIUC Southern Illin 108.86 333 PFAKE 10 22 00.0 +12
SIUC LR LR
comp=Z,1μm,20.0s
H04A Detroit Lake 108.97 0 PFAKE 10 22 00.0 +12
H04A LR LR
comp=Z,1μm,22.0s
CLTN Cedars of Leba 108.99 330 PFAKE 10 22 00.0 +12
CLTN LR LR
comp=Z,700nm,20.0s
IMW Indian Meadow 109.01 351 PFAKE 10 22 00.0 +12
IMW LR LR
comp=Z,2μm,22.0s
COR Corvallis 109.07 1 PFAKE 10 22 00.0 +12
COR LR LR
comp=Z,900nm,20.0s
FVM French Village 109.11 334 PFAKE 10 22 00.0 +12
FVM LR LR
comp=Z,2μm,20.0s
MOOW Moose Ponds 109.13 351 PFAKE 10 22 00.0 +11
MOOW LR LR
comp=Z,2μm,22.0s
T45A Paducah 109.21 332 PFAKE 10 22 00.0 +11
T45A LR LR
comp=Z,2μm,20.0s
LOHW Long Hollow 109.24 351 PFAKE 10 22 00.0 +11
LOHW LR LR
comp=Z,2μm,21.0s
W50A Signal Mountai 109.26 329 PFAKE 10 22 00.0 +11
W50A LR LR
comp=Z,2μm,20.0s
CCM Cathedral Cave 109.36 335 PFAKE 10 22 00.0 +11
CCM LR LR
comp=Z,1μm,21.0s
CBYP Canovanas 109.40 303 PFAKE 10 22 00.0 +11
CBYP LR LR
comp=Z,700nm,22.0s
SNOW Snow King Moun 109.41 351 PFAKE 10 22 00.0 +11
SNOW LR LR
comp=Z,2μm,21.0s
TPAW Teton Pass 109.41 351 PFAKE 10 22 00.0 +11
TPAW LR LR
comp=Z,1μm,22.0s
HUMP Col San Antoni 109.48 303 PFAKE 10 22 00.0 +11
HUMP LR LR
comp=Z,700nm,21.0s
V48A Smith Brothers 109.50 330 PFAKE 10 22 00.0 +11
V48A LR LR
comp=Z,1μm,20.0s
K22A Casper 109.51 348 PFAKE 10 22 00.0 +11
K22A LR LR
comp=Z,2μm,20.0s
REDW Red Top Meadow 109.52 351 PFAKE 10 22 00.0 +11
REDW LR LR
comp=Z,1μm,20.0s
SWET Sewanee 109.53 329 PFAKE 10 22 00.0 +11
SWET LR LR
comp=Z,1μm,19.0s
I07A Izee 109.53 358 PFAKE 10 22 00.0 +11
I07A LR LR
comp=Z,1μm,20.0s
X51A Calhoun 109.56 328 PFAKE 10 22 00.0 +11
X51A LR LR
comp=Z,1μm,21.0s
WVT Waverly 109.62 331 PFAKE 10 22 00.0 +11
WVT LR LR
comp=Z,1μm,20.0s
257A Skidaway Islan 109.70 324 PFAKE 10 22 00.0 +10
257A LR LR
comp=Z,1μm,22.0s
SJG San Juan 109.72 303 PFAKE 10 22 00.0 +10
SJG LR LR
comp=Z,600nm,22.0s
HLID Hailey 109.73 354 PFAKE 10 22 00.0 +10
HLID LR LR
comp=Z,2μm,20.0s
Y52A Lilburn 109.75 327 PFAKE 10 22 00.0 +10
Y52A LR LR
comp=Z,1μm,22.0s
GOGA Godfrey 109.82 326 PFAKE 10 22 00.0 +10
GOGA LR LR
comp=Z,2μm,21.0s
PINE Pine Mountain 109.86 359 PFAKE 10 22 00.0 +10
PINE LR LR
comp=Z,900nm,21.0s
BW06 Boulder Array 109.92 350 PFAKE 10 22 00.0 +10
BW06 LR LR
comp=Z,1μm,22.0s
PD31 Pinedale Array 109.92 350 *e*PP **PP 10 22 20.6 -0.6**
PDAR Pinedale Array 109.92 350 PKiKP **PKiKP 10 21 51.8 +1.7**
comp=Z,0.3nm,0.5s,baz=52,slow=5.8,SNR=3.1
PDAR PP **PP 10 22 20.6 -0.6**
comp=Z,1.5nm,0.9s,baz=49,slow=8.5,SNR=3.9
PDAR PKKP PKKPdf 10 33 18.1 +10
comp=Z,0.8nm,0.8s,baz=168,slow=2.7,SNR=5.0
AOPR Arecibo Observ 110.03 304 PFAKE 10 22 00.0 +9.4
AOPR LR LR
comp=Z,2μm,22.0s
AHID Auburn Hatcher 110.14 351 PFAKE 10 22 00.0 +10
AHID LR LR
comp=Z,1μm,21.0s
PBMO Poplar Bluff 110.15 333 PFAKE 10 22 00.0 +10
PBMO LR LR
comp=Z,1μm,20.0s
OGNE Ogallala 110.16 344 PFAKE 10 22 00.0 +10
OGNE LR LR
comp=Z,1μm,21.0s
PVMO Portageville 110.17 333 PFAKE 10 22 00.0 +10
PVMO LR LR
comp=Z,2μm,19.0s
J08A Circle Bar Ran 110.22 357 PFAKE 10 22 00.0 +10
J08A LR LR
comp=Z,1μm,20.0s
154A Montrose 110.28 325 PFAKE 10 22 00.0 +9.3
154A LR LR
comp=Z,1μm,22.0s
KSU1 Kansas State U 110.33 339 PFAKE 10 22 00.0 +9.4
KSU1 LR LR
comp=Z,1μm,19.0s
MPR Mayaguez 110.40 304 PFAKE 10 22 00.0 +8.8
MPR LR LR
comp=Z,800nm,21.0s
255A Hazlehurst 110.50 325 PFAKE 10 22 00.0 +8.9
255A LR LR
comp=Z,2μm,20.0s
RWWY Rawlins 110.57 348 PFAKE 10 22 00.0 +8.7
RWWY LR LR
comp=Z,1μm,20.0s
PHWY Pilot Hill 110.60 347 PFAKE 10 22 00.0 +8.5
PHWY LR LR
comp=Z,1μm,21.0s
X48A Hartselle 110.67 329 PFAKE 10 22 00.0 +8.6
X48A LR LR
comp=Z,2μm,22.0s
GNAR Gosnell 110.69 333 PFAKE 10 22 00.0 +8.7
GNAR LR LR
comp=Z,1μm,19.0s
PLAL Pickwick Lake 110.69 331 PFAKE 10 22 00.0 +8.6
PLAL LR LR
comp=Z,1μm,22.0s
BDFB Brasilia 110.79 262 PFAKE 10 22 00.0 +7.9
BDFB LR LR
comp=Z,1μm,21.0s
BDFB Brasilia 110.79 262 PP **PP 10 22 30.2 +0.8**
comp=Z,1.8nm,0.6s,baz=65,slow=6.5,SNR=3.1
Y49A Blount Mountai 110.88 329 PFAKE 10 22 00.0 +8.2
Y49A LR LR
comp=Z,2μm,22.0s
K05A Summer Lake 110.92 359 PFAKE 10 22 00.0 +8.1
K05A LR LR
comp=Z,1μm,21.0s
152A Waverly Hall 111.04 327 PFAKE 10 22 00.0 +7.9
152A LR LR
comp=Z,2μm,22.0s
HUMO Hull Mountain 111.05 1 PFAKE 10 22 00.0 +8.1
HUMO LR LR
comp=Z,1μm,20.0s
N23A Red Feather La 111.09 347 PFAKE 10 22 00.0 +7.6
N23A LR LR
comp=Z,1μm,20.0s
Z50A Ashland 111.14 328 PFAKE 10 22 00.0 +7.7
Z50A LR LR
comp=Z,2μm,22.0s

WVOR Wild Horse Val 111.15 357 PFAKE 10 22 00.0 +7.8
WVOR LR LR
comp=Z,1μm,21.0s
GRTK Grand Turk 111.16 309 PFAKE 10 22 00.0 +7.4
GRTK LR LR
comp=Z,1μm,20.0s
456A Hilliard 111.21 323 PFAKE 10 22 00.0 +7.5
456A LR LR
comp=Z,2μm,22.0s
253A Americus 111.24 326 PFAKE 10 22 00.0 +7.5
253A LR LR
comp=Z,900nm,20.0s
HBAR Harrisburg 111.30 333 PFAKE 10 22 00.0 +7.5
HBAR LR LR
comp=Z,1μm,21.0s
HWUT Hardware Ranch 111.34 351 PFAKE 10 22 00.0 +7.3
HWUT LR LR
comp=Z,800nm,22.0s
MET Memphis--Engin 111.37 332 PFAKE 10 22 00.0 +7.3
MET LR LR
comp=Z,1μm,19.0s
TIGA Tifton 111.46 325 PFAKE 10 22 00.0 +7.1
TIGA LR LR
comp=Z,2μm,20.0s
CBKS Cedar Bluff 111.54 341 PFAKE 10 22 00.0 +7.0
CBKS LR LR
comp=Z,1μm,21.0s
OXF Oxford 111.67 331 PFAKE 10 22 00.0 +6.8
OXF LR LR
comp=Z,1μm,18.0s
MOD Modoc Plateau 111.73 358 PFAKE 10 22 00.0 +6.6
MOD LR LR
comp=Z,1μm,22.0s
658A Bunnell 111.81 322 PFAKE 10 22 00.0 +6.4
658A LR LR
comp=Z,800nm,20.0s
LRAL Lakeview Retre 111.83 329 PFAKE 10 22 00.0 +6.4
LRAL LR LR
comp=Z,2μm,22.0s
YBH Yreka Blue Hor 111.92 0 PFAKE 10 22 00.0 +6.3
YBH LR LR
comp=Z,1μm,22.0s
HHAR Hobbs 111.94 336 PFAKE 10 22 00.0 +6.2
HHAR LR LR
comp=Z,2μm,19.0s
ISCO Idaho Springs 112.08 346 PFAKE 10 22 00.0 +5.7
ISCO LR LR
comp=Z,1μm,20.0s
352A Blakely 112.11 326 PFAKE 10 22 00.0 +5.8
352A LR LR
comp=Z,800nm,20.0s
KSCO Kaye Shedlock' 112.13 344 PFAKE 10 22 00.0 +5.8
KSCO LR LR
comp=Z,2μm,20.0s
555A McAlpin 112.18 324 PFAKE 10 22 00.0 +5.7
555A LR LR
comp=Z,1μm,21.0s
WHAR Wooly Hollow 112.19 334 PFAKE 10 22 00.0 +5.8
WHAR LR LR
comp=Z,1μm,20.0s
O20A White River Ci 112.27 348 PFAKE 10 22 00.0 +5.5
O20A LR LR
comp=Z,1μm,19.0s
W41B Gary Mavity, V 112.27 334 PFAKE 10 22 00.0 +5.6
W41B LR LR
comp=Z,2μm,20.0s
X43A Marvell 112.29 332 PFAKE 10 22 00.0 +5.6
X43A LR LR
comp=Z,1μm,21.0s
453A Whigham 112.30 325 PFAKE 10 22 00.0 +5.5
453A LR LR
comp=Z,2μm,21.0s
250A Grady 112.36 327 PFAKE 10 22 00.0 +5.4
250A LR LR
comp=Z,1μm,21.0s
ELK Elko 112.60 354 PFAKE 10 22 00.0 +4.8
ELK LR LR
comp=Z,1μm,20.0s
UALR University of 112.66 334 PFAKE 10 22 00.0 +4.9
UALR LR LR
comp=Z,1μm,20.0s
147A Livingston 112.72 329 PFAKE 10 22 00.0 +4.7
147A LR LR
comp=Z,138μm,22.0s
KHMM Horse Mountain 112.77 1 PFAKE 10 22 00.0 +4.6
KHMM LR LR
comp=Z,1μm,19.0s
Q24A Divide 112.78 346 PFAKE 10 22 00.0 +4.3
Q24A LR LR
comp=Z,2μm,21.0s
JCC Jacoby Creek, 112.82 2 PFAKE 10 22 00.0 +4.8
JCC LR LR
comp=Z,1μm,21.0s
W39A Magazine 112.85 335 PFAKE 10 22 00.0 +4.5
W39A LR LR
comp=Z,2μm,20.0s
DUG Dugway, Tooele 112.89 352 PFAKE 10 22 00.0 +4.4
DUG LR LR
comp=Z,1μm,20.0s
DWPF Disney Wildern 112.92 321 PFAKE 10 22 00.0 +4.2
DWPF LR LR
comp=Z,800nm,21.0s
SDDR Presa de Saban 112.93 307 PFAKE 10 22 10.0 +14
SDDR LR LR
comp=Z,800nm,20.0s
TUL1 Leonard 112.94 337 PFAKE 10 22 00.0 +4.3
TUL1 LR LR
comp=Z,1μm,19.0s
SMCO Snowmass 112.95 347 PFAKE 10 22 10.0 +14
SMCO LR LR
comp=Z,2μm,22.0s
BMN Battle Mountai 113.07 356 PFAKE 10 22 00.0 +4.0
BMN LR LR
comp=Z,1μm,20.0s
WDC Whiskeytown Da 113.08 0 PFAKE 10 22 00.0 +4.2
WDC LR LR
comp=Z,1μm,20.0s
X40A Basin Creek Fa 113.10 334 PFAKE 10 22 00.0 +4.0
X40A LR LR
comp=Z,1μm,20.0s
060A Indiantown 113.13 320 PFAKE 10 22 10.0 +14
060A LR LR
comp=Z,800nm,21.0s
CCAR Cane Creek 113.17 333 PFAKE 10 22 10.0 +14
CCAR LR LR
comp=Z,2μm,22.0s
SPB Sao Paulo 113.19 254 PFAKE 10 22 10.0 +14
SPB LR LR
comp=Z,2μm,22.0s
451A Vernon 113.21 326 PFAKE 10 22 10.0 +14
451A LR LR
comp=Z,1μm,21.0s
MIAR Mount Ida 113.34 335 PFAKE 10 22 10.0 +14
MIAR LR LR
comp=Z,2μm,20.0s
BRAL Brewton 113.40 327 PFAKE 10 22 10.0 +13
BRAL LR LR
comp=Z,2μm,21.0s
KMRM Mail Ridge 113.42 1 PFAKE 10 22 10.0 +13
KMRM LR LR
comp=Z,1μm,20.0s
OK024 West corner E0 113.54 338 PFAKE 10 22 10.0 +13
OK024 LR LR
comp=Z,1μm,21.0s
U32A Winter Ranch, 113.57 340 PFAKE 10 22 10.0 +13
U32A LR LR
comp=Z,2μm,18.0s
OK023 East Waterloo 113.58 338 PFAKE 10 22 10.0 +13
OK023 LR LR
comp=Z,1μm,21.0s
059A Moore Haven 113.63 320 PFAKE 10 22 10.0 +13
059A LR LR
comp=Z,1μm,20.0s
957A Wimauma 113.70 322 PFAKE 10 22 10.0 +13
957A LR LR
comp=Z,1μm,20.0s
BEKR Beckworth 113.77 358 PFAKE 10 22 10.0 +13
BEKR LR LR
comp=Z,2μm,22.0s
PAHR Pah Rah Range 113.90 358 PFAKE 10 22 10.0 +12
PAHR LR LR
comp=Z,1μm,20.0s
WLAR White Oak Lake 113.92 334 PFAKE 10 22 10.0 +12
WLAR LR LR
comp=Z,1μm,21.0s

PV22	**Blue Mesa, Par**	**113.92 349**	PFAKE		10 22 10.0	+12
PV22			LR	LR		
comp=Z,1μm,19.0s						
X37A	**Clayton**	**113.98 336**	PFAKE		10 22 10.0	+12
X37A			LR	LR		
comp=Z,2μm,20.0s						
PV07	**Paradox Valley**	**113.99 348**	PFAKE		10 22 10.0	+12
PV07			LR	LR		
comp=Z,1μm,20.0s						
SDCO	**Great Sand Dun**	**114.02 346**	PFAKE		10 22 10.0	+12
SDCO			LR	LR		
comp=Z,1μm,22.0s						
ORV	**Oroville**	**114.10 359**	PFAKE		10 22 10.0	+12
ORV			LR	LR		
comp=Z,900nm,20.0s						
VBMS	**Vicksburg**	**114.11 331**	PFAKE		10 22 10.0	+12
VBMS			LR	LR		
comp=Z,1μm,21.0s						
Z41A	**Richland Creek**	**114.17 333**	PFAKE		10 22 10.0	+12
Z41A			LR	LR		
comp=Z,2μm,21.0s						
PV19	**Morning Glory**	**114.17 349**	PFAKE		10 22 10.0	+12
PV19			LR	LR		
comp=Z,1μm,20.0s						
PV03	**Paradox Valley**	**114.20 349**	PFAKE		10 22 10.0	+12
PV03			LR	LR		
comp=Z,2μm,22.0s						
PV13	**Radium Mtn., P**	**114.29 348**	PFAKE		10 22 10.0	+11
PV13			LR	LR		
comp=Z,1μm,20.0s						
S22A	**4UR Ranch, Cre**	**114.31 347**	PFAKE		10 22 10.0	+11
S22A			LR	LR		
comp=Z,1μm,19.0s						
VCNR	**Virginia City**	**114.32 358**	PFAKE		10 22 10.0	+12
VCNR			LR	LR		
comp=Z,700nm,21.0s						
061Z	**Ochoppi**	**114.33 319**	PFAKE		10 22 10.0	+11
061Z			LR	LR		
comp=Z,900nm,22.0s						
T25A	**Trinidad**	**114.35 344**	PFAKE		10 22 10.0	+11
T25A			LR	LR		
comp=Z,2μm,22.0s						
PV05	**Paradox Valley**	**114.42 349**	PFAKE		10 22 10.0	+11
PV05			LR	LR		
comp=Z,1μm,21.0s						
KVN	**Kaiserville**	**114.49 357**	PFAKE		10 22 10.0	+11
KVN			LR	LR		
comp=Z,1μm,21.0s						
PNTR	**Pine Nut**	**114.52 358**	PFAKE		10 22 10.0	+11
PNTR			LR	LR		
comp=Z,800nm,20.0s						
RUBR	**Rubicon Trail**	**114.58 358**	PFAKE		10 22 10.0	+11
RUBR			LR	LR		
comp=Z,1μm,22.0s						
YERR	**Yerington**	**114.61 357**	PFAKE		10 22 10.0	+11
YERR			LR	LR		
comp=Z,1μm,21.0s						
HOPS	**Hopland Field**	**114.66 1**	PFAKE		10 22 10.0	+11
HOPS			LR	LR		
comp=Z,1μm,22.0s						
AFDM	**Forest Hills D**	**114.70 359**	PFAKE		10 22 10.0	+11
AFDM			LR	LR		
comp=Z,800nm,21.0s						
GDXM	**Geysers**	**114.84 1**	PFAKE		10 22 10.0	+11
GDXM			LR	LR		
comp=Z,1μm,20.0s						
RYN	**Ryan**	**114.94 357**	PFAKE		10 22 10.0	+10
RYN			LR	LR		
comp=Z,1μm,20.0s						
GTBY	**Guantanamo Bay**	**114.96 311**	PFAKE		10 22 10.0	+10
GTBY			LR	LR		
comp=Z,700nm,22.0s						
PTGA	**Pitinga**	**115.01 283**	PFAKE		10 22 10.0	+10
PTGA			LR	LR		
comp=Z,1μm,21.0s						
PTGA	**Pitinga**	**115.01 283**	PP	**PP**	**10 22 59.3**	**+0.1**
baz=96,slow=16						
R11A	**Troy Canyon, C**	**115.01 354**	PFAKE		10 22 10.0	+10
R11A			LR	LR		
comp=Z,1μm,22.0s						
WMOK	**Wichita Mounta**	**115.01 339**	PFAKE		10 22 10.0	+10
WMOK			LR	LR		
comp=Z,2μm,20.0s						
WAKR	**Walker**	**115.10 358**	PFAKE		10 22 10.0	+10
WAKR			LR	LR		
comp=Z,1μm,19.0s						
NV11	**Mina Array Sit**	**115.11 357**	PFAKE		10 22 10.0	+10
NV11			LR	LR		
comp=Z,100nm,22.0s						
NV01	**Mina Array Sit**	**115.12 357**	*e*PKiKP	**PKiKP**	**10 21 59.7**	**-0.4**
NVAR	**Mina Array Bea**	**115.12 357**	PKP	**PKiKP**	**10 21 59.7**	**-0.4**
comp=Z,1.7nm,0.8s,baz=347,slow=0.5,SNR=11						
MVCO	**Mesa Verde**	**115.15 348**	PFAKE		10 22 10.0	+10
MVCO			LR	LR		
comp=Z,900nm,21.0s						
MCCM	**Marconi Confer**	**115.50 1**	PFAKE		10 22 10.0	+10
MCCM			LR	LR		
comp=Z,900nm,22.0s						
DZM	**Mont Dzumac**	**115.59 103**	*e*SP	SP	10 32 37.7	-5.4
comp=Z,1μm,31.4s						
DZM	**Mont Dzumac**	**115.59 103**	*e*LR	LR	10 56 53.3	
comp=Z,2μm,38.1s						
CMB	**Columbia Colle**	**115.60 358**	PFAKE		10 22 10.0	+9.2
CMB			LR	LR		
comp=Z,1μm,22.0s						
AMTX	**Amarillo**	**115.76 341**	PFAKE		10 22 10.0	+8.8
AMTX			LR	LR		
comp=Z,2μm,22.0s						
MDPB	**Devils Postpil**	**115.95 357**	PFAKE		10 22 10.0	+8.2
MDPB			LR	LR		
comp=Z,1μm,20.0s						
ETX06	**Route 59 and C**	**116.05 334**	PFAKE		10 22 10.0	+8.3
ETX06			LR	LR		
comp=Z,700nm,20.0s						
NATX	**Nacogdoches**	**116.22 334**	PFAKE		10 22 10.0	+7.9
NATX			LR	LR		
comp=Z,1μm,19.0s						
TPNV	**Topopah Spring**	**116.46 355**	PFAKE		10 22 10.0	+7.4
TPNV			LR	LR		
comp=Z,1μm,22.0s						
QSPA	**South Pole Qui**	**116.53 180**	PFAKE		10 22 10.0	+8.5
QSPA			LR	LR		
comp=Z,1μm,20.0s						
U15A	**North Rim**	**116.53 351**	PFAKE		10 22 10.0	+7.1
U15A			LR	LR		
comp=Z,800nm,20.0s						
SHPR	**Sheep Range**	**116.80 354**	PFAKE		10 22 10.0	+6.7
SHPR			LR	LR		
comp=Z,900nm,18.0s						
SAO	**San Andreas Ge**	**116.88 359**	PFAKE		10 22 10.0	+6.8
SAO			LR	LR		
comp=Z,1μm,20.0s						
ANMO	**Albuquerque**	**116.92 346**	PFAKE		10 22 10.0	+6.4
ANMO			LR	LR		
comp=Z,1μm,22.0s						
MSTX	**Muleshoe**	**116.93 342**	PFAKE		10 22 10.0	+6.5
MSTX			LR	LR		
comp=Z,2μm,20.0s						
WHTX	**Lake Whitney,**	**117.07 336**	PFAKE		10 22 10.0	+6.3
WHTX			LR	LR		
comp=Z,1μm,20.0s						
ABTX	**Abilene, Hawle**	**117.23 339**	PFAKE		10 22 10.0	+6.0
ABTX			LR	LR		
comp=Z,2μm,21.0s						
WUAZ	**Wupatki**	**117.29 350**	PFAKE		10 22 10.0	+5.7
WUAZ			LR	LR		
comp=Z,1μm,21.0s						
W18A	**Petrified Fore**	**117.41 349**	PFAKE		10 22 10.0	+5.5
W18A			LR	LR		
comp=Z,900nm,20.0s						
MTDJ	**Mount Denham**	**117.78 311**	PFAKE		10 22 10.0	+4.5
MTDJ			LR	LR		
comp=Z,500nm,20.0s						
Y22D	**IRIS PASSCAL I**	**117.86 346**	PFAKE		10 22 10.0	+4.6
Y22D			LR	LR		
comp=Z,1μm,20.0s						
ISA	**Isabella, Lake**	**117.89 357**	PFAKE		10 22 10.0	+4.7
ISA			LR	LR		
comp=Z,1μm,22.0s						
PAGB	**Antelope Grade**	**117.89 358**	PFAKE		10 22 10.0	+4.8
PAGB			LR	LR		
comp=Z,1μm,19.0s						
X18A	**Snowflake**	**118.02 349**	PFAKE		10 22 10.0	+4.3
X18A			LR	LR		
comp=Z,1μm,21.0s						
W13A	**Hualapai Mount**	**118.05 352**	PFAKE		10 22 10.0	+4.2
W13A			LR	LR		
comp=Z,800nm,19.0s						
GSC	**Goldstone, Bar**	**118.14 355**	PFAKE		10 22 10.0	+4.2
GSC			LR	LR		
comp=Z,900nm,19.0s						
435B	**Jarrell**	**118.20 336**	PFAKE		10 22 10.0	+4.1
435B			LR	LR		
comp=Z,2μm,21.0s						
LDFC	**Landfair**	**118.21 353**	PFAKE		10 22 10.0	+4.0
LDFC			LR	LR		
comp=Z,1μm,19.0s						
HKT	**Hockley**	**118.29 334**	PFAKE		10 22 10.0	+4.0
HKT			LR	LR		
comp=Z,2μm,18.0s						
X16A	**Lo Mia Camp, P**	**118.38 350**	PFAKE		10 22 20.0	+14
X16A			LR	LR		
comp=Z,2μm,22.0s						
SDV	**Santo Domingo**	**118.77 298**	PFAKE		10 22 20.0	+12
SDV			LR	LR		
comp=Z,700nm,21.0s						
CLNB	**Carlsbad**	**118.84 342**	*e*PKPdf	**PKPdf**	**10 22 06.3**	**-0.9**
OSI	**Osito Audit: C**	**118.94 357**	PFAKE		10 22 20.0	+13
OSI			LR	LR		
comp=Z,1μm,20.0s						
GDL2	**Guadalupe Moun**	**119.03 343**	*e*PKPdf	**PKPdf**	**10 22 07.5**	**-0.1**
Y14A	**Wickenburg**	**119.08 351**	PFAKE		10 22 20.0	+12
Y14A			LR	LR		
comp=Z,1μm,21.0s						
SYP	**Santa Ynez Pea**	**119.08 358**	*e*PKPdf	**PKPdf**	**10 22 06.5**	**-1.2**
JCT	**Junction City**	**119.26 338**	PFAKE		10 22 20.0	+12
JCT			LR	LR		
comp=Z,1μm,22.0s						
MWC	**Mount Wilson**	**119.30 356**	PFAKE		10 22 20.0	+12
MWC			LR	LR		
comp=Z,1μm,22.0s						
PASC	**Pasadena Art C**	**119.36 356**	PFAKE		10 22 20.0	+12
PASC			LR	LR		
comp=Z,1μm,21.0s						
Y12C	**Blythe**	**119.46 353**	PFAKE		10 22 20.0	+12
Y12C			LR	LR		
comp=Z,700nm,19.0s						
MNTX	**Cornudas Mount**	**119.77 344**	*e*PKPdf	**PKPdf**	**10 22 07.8**	**-1.1**
MNTX			LR	LR		
comp=Z,1μm,20.0s						
PFO	**Pinyon Flats O**	**119.79 355**	PFAKE		10 22 20.0	+11
PFO			LR	LR		
comp=Z,900nm,18.0s						
GLA	**Glamis**	**120.18 353**	PFAKE		10 22 20.0	+10
GLA			LR	LR		
comp=Z,800nm,21.0s						
TUC	**Tucson**	**120.33 349**	*e*PKPdf	**PKPdf**	**10 22 09.0**	**-1.1**
TUC			LR	LR		
comp=Z,800nm,20.0s						
TUC	**Tucson**	**120.33 349**	*e*PKIKP	**PKPdf**	**10 22 09.0**	**-1.1**
TUC			MLR	MLR		
comp=Z,800nm,20.0s						
CPE	**Camp Elliot**	**120.56 355**	PFAKE		10 22 20.0	+10
CPE			LR	LR		
comp=Z,800nm,20.0s						
BAR	**Barrett**	**120.73 355**	PFAKE		10 22 20.0	+9.1
BAR			LR	LR		
comp=Z,900nm,19.0s						
319A	**Douglas**	**120.96 347**	PFAKE		10 22 20.0	+8.5
319A			LR	LR		
comp=Z,2μm,21.0s						
833A	**Chaparral WMA,**	**121.09 337**	PFAKE		10 22 20.0	+8.4
833A			LR	LR		
comp=Z,1μm,19.0s						
LTX	**Lajitas**	**121.54 341**	*e*PKPdf	**PKPdf**	**10 22 12.1**	**-0.4**
LTX	**Lajitas**	**121.54 341**	*e*PKIKP	**PKPdf**	**10 22 12.1**	**-0.4**
TX31	**Lajitas Ar. Si**	**121.54 341**	*e*PKPdf	**PKPdf**	**10 22 12.2**	**-0.3**
TXAR	**Lajitas Array**	**121.54 341**	*e*PKPdf	**PKPdf**	**10 22 11.6**	**-0.9**
TXAR	**Lajitas Array**	**121.54 341**	*e*PKIKP	**PKPdf**	**10 22 11.6**	**-0.9**
TXAR	**Lajitas Array**	**121.54 341**	PKP	**PKPdf**	**10 22 12.1**	**-0.4**
comp=Z,0.6nm,0.8s,baz=154,slow=2.0,SNR=8.5						
TXAR			PP	**PP**	**10 23 42.9**	**0.0**
comp=Z,1.4nm,0.9s,baz=43,slow=4.1,SNR=2.9						
SIV	**San Ignacio**	**122.55 267**	PKP	**PKiKP**	**10 22 15.4**	**+0.7**
comp=Z,1.0nm,0.9s,baz=74,slow=12,SNR=3.9						
SIV			PP	**PP**	**10 23 54.3**	**+2.7**
comp=Z,1.9nm,0.9s,baz=108,slow=8.8,SNR=3.8						
CPUP	**Villa Florida**	**122.57 255**	PKP	**PKiKP**	**10 22 17.4**	**+3.0**
comp=Z,1.4nm,0.7s,baz=15,slow=3.0,SNR=3.8						
TEIG	**Tepich**	**122.94 321**	PFAKE		10 22 20.0	+4.6
TEIG			LR	LR		
comp=Z,700nm,20.0s						
MYIG	**Mrida**	**123.15 323**	PFAKE		10 22 20.0	+4.2
MYIG			LR	LR		
comp=Z,1μm,21.0s						
HSIG		**123.57 348**	PFAKE		10 22 30.0	+13
HSIG			LR	LR		
comp=Z,1μm,22.0s						
UWB	**Uwekahuna B**	**124.03 38**	PFAKE		10 22 30.0	+12
UWB			LR	LR		
comp=Z,2μm,21.0s						
WRMHI	**West Rim**	**124.04 38**	PFAKE		10 22 30.0	+12
WRMHI			LR	LR		
comp=Z,900nm,19.0s						
HATHI	**Halema'uma'u T**	**124.04 38**	PFAKE		10 22 30.0	+12
HATHI			LR	LR		
comp=Z,2μm,21.0s						
BYL	**Byron's Ledge**	**124.05 38**	PFAKE		10 22 30.0	+12
BYL			LR	LR		
comp=Z,1μm,21.0s						
ROSC	**El Rosal**	**124.11 297**	PFAKE		10 22 30.0	+12
ROSC			LR	LR		
comp=Z,100nm,18.0s						
NORC	**Norcasia**	**124.11 298**	*e*P	**PKiKP**	**10 22 18.6**	**+0.7**
NORC	**Norcasia**	**124.11 298**	*e*P	**PKiKP**	**10 22 18.6**	**+0.7**
LNIG	**Linares**	**124.22 335**	PFAKE		10 22 30.0	+12
LNIG			LR	LR		
comp=Z,700nm,19.0s						
HPIG		**124.37 342**	*e*PKPdf	**PKPdf**	**10 22 18.2**	**+0.1**
HPIG			LR	LR		
comp=Z,1μm,20.0s						
GUY2C	**Guyana, Caldas**	**124.71 298**	*e*P	**PKiKP**	**10 22 20.2**	**+0.5**
GUY2C	**Guyana, Caldas**	**124.71 298**	*e*P	**PKiKP**	**10 22 20.2**	**+0.5**
PRAC	**Prado**	**125.23 296**	*e*P	**PKPdf**	**10 22 17.1**	**-2.8**
PRAC	**Prado**	**125.23 296**	*e*P	**PKPdf**	**10 22 17.1**	**-2.8**
SRIG	**Santa Rosalia**	**125.46 349**	PFAKE		10 22 30.0	+10
SRIG			LR	LR		
comp=Z,1μm,20.0s						
BCIP	**Isla Barro Col**	**125.61 305**	PFAKE		10 22 30.0	+9.1
BCIP			LR	LR		
comp=Z,500nm,20.0s						
YOTC	**Yotoco, Valle**	**126.23 297**	*e*P	**PKPdf**	**10 22 20.2**	**-1.6**
YOTC	**Yotoco, Valle**	**126.23 297**	*e*P	**PKPdf**	**10 22 20.2**	**-1.6**
ESPN	**Las Esperanzas**	**126.63 312**	PFAKE		10 22 30.0	+7.1
ESPN			LR	LR		
comp=Z,600nm,20.0s						
TGUH	**Tegucigalpa,Un**	**127.17 316**	*e*PKPdf	**PKPdf**	**10 22 22.1**	**-1.3**
TGUH			LR	LR		
comp=Z,500nm,19.0s						
PCON	**Cinco Dias**	**127.26 296**	*e*P	**PKiKP**	**10 22 29.2**	**+4.3**
PCON	**Cinco Dias**	**127.26 296**	*e*P	**PKiKP**	**10 22 29.2**	**+4.3**
ZAIG	**Zacatecas**	**127.30 337**	PFAKE		10 22 30.0	+5.6
ZAIG			LR	LR		
comp=Z,800nm,22.0s						
PMSA	**Palmer Station**	**127.31 207**	*e*P	**PKiKP**	**10 22 23.9**	**+1.3**
POPC	**Popayan, Colom**	**127.36 296**	*e*P	**PKiKP**	**10 22 24.8**	**+0.2**
POPC	**Popayan, Colom**	**127.36 296**	*e*P	**PKiKP**	**10 22 24.8**	**+0.2**
LVIG	**Laguna Verde**	**127.53 329**	PFAKE		10 22 30.0	+5.4
LVIG			LR	LR		
comp=Z,500nm,22.0s						
SOTA	**Rioblanco**	**127.54 296**	*e*P	**PKiKP**	**10 22 25.6**	**+0.2**
SOTA	**Rioblanco**	**127.54 296**	*e*P	**PKiKP**	**10 22 25.6**	**+0.2**
BKZ	**Black Stump Fm**	**127.93 120**	PFAKE		10 22 30.0	+5.2
BKZ			LR	LR		
comp=Z,1μm,18.0s						
CCIG	**Comitan**	**128.27 322**	PFAKE		10 22 30.0	+3.7
CCIG			LR	LR		
comp=Z,1μm,22.0s						
TRQA	**Tornquist**	**128.70 241**	PFAKE		10 22 30.0	+3.6
TRQA			LR	LR		
comp=Z,2μm,22.0s						
TRQA	**Tornquist**	**128.70 241**	*e*P	**PKiKP**	**10 22 28.1**	**+1.8**
LPAZ	**La Paz**	**128.97 270**	PKP	**PKiKP**	**10 22 28.7**	**+0.4**
comp=Z,3.0nm,1.1s,baz=15,slow=4.0,SNR=4.6						
LPAZ	**La Paz**	**128.97 270**	*e*P	**PKiKP**	**10 22 28.3**	**0.0**
MOIG	**Morelia**	**129.61 334**	PFAKE		10 22 40.0	+11
MOIG			LR	LR		
comp=Z,800nm,22.0s						
OTAV	**Otavalo**	**130.14 295**	PFAKE		10 22 40.0	+9.4
OTAV			LR	LR		
comp=Z,600nm,21.0s						
OTAV	**Otavalo**	**130.14 295**	*e*P	**PKiKP**	**10 22 34.1**	**+3.6**
OTAV	**Otavalo**	**130.14 295**	*e*P	**PKiKP**	**10 22 34.1**	**+3.6**
OTAV	**Otavalo**	**130.14 295**	*e*P	**PKiKP**	**10 22 31.2**	**+0.6**
PB11	**IPOC Station P**	**131.52 267**	PFAKE		10 22 40.0	+7.3
PB11			LR	LR		
comp=Z,1μm,21.0s						
LVC	**Limon Verde**	**131.70 263**	*e*P	**PKiKP**	**10 22 33.9**	**+0.7**
LCO	**Las Campanas**	**134.72 255**	*e*P	**PKiKP**	**10 22 39.2**	**+0.1**
NNA	**Nana**	**135.04 280**	PKP	**PKPdf**	**10 22 38.8**	**+0.5**
comp=Z,4.8nm,0.5s,baz=243,slow=6.8,SNR=2.9						
PEL	**Peldehue**	**135.27 249**	PFAKE		10 22 50.0	+10
PEL			LR	LR		
comp=Z,2μm,20.0s						
PLCA	**Paso Flores**	**135.43 238**	*e*P	**PKiKP**	**10 22 40.3**	**+0.4**
GO06	**Curarrehue**	**136.17 240**	PFAKE		10 22 50.0	+8.5
GO06			LR	LR		
comp=Z,2μm,21.0s						
GO05	**Huala**	**136.45 246**	PFAKE		10 22 50.0	+7.9
GO05			LR	LR		
comp=Z,1μm,21.0s						
PPT2	**Papeete2**	**153.10 76**	*e*LR	LR	11 14 22.0	
comp=Z,1μm,23.5s						
TBI	**Tubuai**	**155.07 88**	*e*LR	LR	11 15 16.0	
comp=Z,1μm,24.0s						
RPN	**Rapa Nui**	**168.53 265**	PKPab	**PKPab**	**10 24 34.6**	**-0.6**
comp=Z,29nm,0.3s,baz=44,slow=19,SNR=6.5						

IDC 18 10:10:40.4±3.8, 19°.72S×177°.62W, h586km±45km, mb2.9/2, mb1 3.3/3, mb1mx2.9/31, mbtmp4.1/3, Error ellipse: s-maj=41.2km s-min=25.1km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.04**	**193**	P	P	P	10 14 25.7	-0.2
1.0nm,0.3s,baz=290,slow=1.7,SNR=6.6								
ASAR	**Alice Springs**	**45.05**	**256**	P	P	P	10 18 05.5	+0.1
2.5nm,0.9s,baz=86,slow=8.5,SNR=13								
ASAR				PcP	PcP	PcP	10 19 33.8	+0.2
0.7nm,0.7s,baz=108,slow=4.2,SNR=4.9								
ASAR				S	S	S	10 24 02.8	+0.1
0.6nm,0.8s,baz=93,slow=15,SNR=5.6								
WRA	**Warramunga Arr**	**45.07**	**261**	P	P	P	10 18 05.2	-0.3
1.4nm,0.8s,baz=96,slow=8.2,SNR=6.8								
ARCES	**ARCESS Array B**	**128.22**	**350**	PKP	PKPdf	PKPdf	10 28 39.6	-0.6
1.2nm,0.8s,baz=42,slow=1.5,SNR=6.3								
BRTR	**Keskin Array B**	**146.57**	**313**	PKPbc	PKPbc	PKPbc	10 29 16.6	-0.7
0.7nm,0.6s,baz=130,slow=5.2,SNR=4.5								

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*ISCJB **18** 10:22:19.5±0.5, 28°.57S±0°.05×66°.24W±0°.06, h33km, mb3.7/6, Error ellipse: s-maj=8.6km s-min=6.7km az=37.9*
*SJA **18** 10:22:20.8±0.6, 28°.60S×66°.42W, h61km±7km, ML4.0, MW4.4*
*NEIC **18** 10:22:22.2±2.1, 28°.64S×66°.34W, h50km±7km, mb4.3/1, MD4.4(SJA), Error ellipse: s-maj=19.9km s-min=18.0km az=158.0*
NEIC Felt [III] in the epicentral area and at Catamarca.
*IDC **18** 10:22:24.4±4.4, 28°.46S×66°.24W, h61km±33km, mb3.5/5, mb1 3.8/7, mb1mx3.6/24, mbtmp3.8/7, ML4.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/24, Error ellipse: s-maj=43.3km s-min=26.8km az=31.0*

ISC 18 10:22:20.7±0.7, 28°.61S±0°.08×66°.42W±0°.07, h35km, n40, σ1§96/41, mb3.9/6, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.57**	**73**	*i* P		**Pn**	**10 22 34.8**	**+2.4**
CYA				*i* S		**Sn**	**10 22 43.8**	**+3.1**
CYA				IAML			10 22 44.1	
comp=Z,8μm,0.5s								
VCA	**Vinchina**	**1.57**	**265**	*i* P		**Pn**	**10 22 48.1**	**+1.8**
VCA				IAML			10 23 12.8	
comp=Z,1μm,0.6s								
AGUA	**GUANDACOL**	**2.01**	**244**	*i* P		**Pn**	**10 22 54.6**	**+2.3**
AHML	**Horco Molle**	**2.06**	**28**	*i* P		**Pn**	**10 22 54.6**	**+1.8**
AHML				IAML			10 23 37.4	
comp=Z,577nm,0.4s								
AROD	**Rodeo**	**3.08**	**239**	*i* P		**Pn**	**10 23 10.0**	**+2.9**
TCA	**Tanti**	**3.15**	**150**	*i* P		**Pn**	**10 23 10.4**	**+2.5**
TCA				IAML			10 24 09.0	
comp=Z,497nm,0.4s								
GO03	**Copiap**	**3.52**	**286**	*e*Pn		**Pn**	**10 23 14.7**	**+1.8**
LCO	**Las Campanas**	**3.77**	**263**	*e*Pn		**Pn**	**10 23 19.8**	**+3.2**
GO04	**Tololo Observa**	**4.12**	**247**	*e*Pn		**Pn**	**10 23 24.2**	**+2.8**
GO02	**Mina Guanaco**	**4.45**	**320**	*e*Pn		**Pn**	**10 23 28.4**	**+2.4**
PEL	**Peldehue**	**5.82**	**218**	*e*Pn		**Pn**	**10 23 47.2**	**+2.7**
ROC1	**El Roble**	**5.88**	**221**	*e*Pn		**Pn**	**10 23 47.4**	**+1.9**
PB10	**IPOC Station P**	**6.29**	**323**	*e*Pn		**Pn**	**10 23 54.0**	**+3.0**
LVC	**Limon Verde**	**6.38**	**339**	*e*Pn		**Pn**	**10 23 54.1**	**+1.5**
LVC	**Limon Verde**	**6.38**	**339**	P		**Pn**	**10 23 56.3**	**+3.7**
comp=Z,1.9nm,0.3s,baz=171,slow=7.3,SNR=18								
GO05	**Huala**	**7.91**	**215**	*e*Pn		**Pn**	**10 24 12.0**	**-1.3**
CPUP	**Villa Florida**	**8.39**	**76**	*e*Pn		**Pn**	**10 24 21.1**	**+1.3**
CPUP	**Villa Florida**	**8.39**	**76**	P		**Pn**	**10 24 20.8**	**+1.0**
comp=Z,0.6nm,0.3s,baz=258,slow=12,SNR=9.0								
CPUP				LR		LR	10 27 51.5	
comp=Z,66nm,20.3s,baz=239,slow=40								
GO01	**Chusmiza**	**9.25**	**344**	*e*Pn		**Pn**	**10 24 34.1**	**+2.0**
MNMC	**Minye Minye**	**9.87**	**342**	*e*Pn		**Pn**	**10 24 42.2**	**+1.8**
BDFB	**Brasilia**	**21.35**	**57**	P		**P**	**10 27 01.9**	**-3.2**
comp=Z,1.8nm,0.4s,baz=168,slow=13,SNR=3.4								
PTGA	**Pitinga**	**28.40**	**14**	*e*P		**P**	**10 28 10.8**	**-1.3**
PTGA	**Pitinga**	**28.40**	**14**	P		**P**	**10 28 10.3**	**-1.7**
comp=Z,1.2nm,0.4s,baz=279,slow=19,SNR=3.6								
TXAR	**Lajitas Array**	**67.73**	**325**	P		**P**	**10 33 15.1**	**+0.3**
comp=Z,0.2nm,0.5s,baz=145,slow=10.0,SNR=4.8								
LTX	**Lajitas**	**67.73**	**325**	*e*P		**P**	**10 33 15.1**	**+0.3**
TOA1	**Torodi Ar. Sit**	**77.79**	**68**	*e*P		**P**	**10 34 13.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**77.79**	**68**	P		**P**	**10 34 13.6**	**-1.1**
comp=Z,0.3nm,0.5s,baz=270,slow=4.7,SNR=4.9								
N23A	**Red Feather La**	**78.26**	**330**	*e*S		**S**	**10 44 07.9**	**-1.9**
PD31	**Pinedale Array**	**81.36**	**329**	*e*P		**P**	**10 34 34.0**	**+0.2**
comp=Z,6.8nm,1.8s								
PDAR	**Pinedale Array**	**81.36**	**329**	P		**P**	**10 34 34.4**	**+0.5**
comp=Z,0.3nm,0.5s,baz=142,slow=9.2,SNR=2.3								
ULM	**Lac du Bonnet**	**82.75**	**341**	P		**P**	**10 34 40.9**	**+0.3**
comp=Z,1.1nm,0.7s,baz=90,slow=4.0,SNR=3.1								
GLK	**Glacier Lake**	**89.91**	**325**	*e*P		**P**	**10 35 14.1**	**-2.0**
AS31	**Alice Springs**	**124.46**	**203**	*e*PKPdf		**PKPdf**	**10 41 15.9**	**-0.9**
ASAR	**Alice Springs**	**124.46**	**203**	PKP		**PKPdf**	**10 41 16.7**	**-0.1**
comp=Z,0.3nm,0.5s,baz=132,slow=1.4,SNR=5.2								
WR1	**Warramunga Arr**	**127.73**	**205**	*e*PKPdf		**PKPdf**	**10 41 23.1**	**-0.1**
WRA	**Warramunga Arr**	**127.73**	**205**	PKP		**PKPdf**	**10 41 23.1**	**-0.1**
comp=Z,1.0nm,0.

SHI	**Shiraz**	**1.52**	**8**	*e*Pg	**Pb**	**10 44 15.2**	**+0.2**
SHI				*e*Sg	**Sg**	**10 44 36.0**	**0.0**
SHI				IAMB	IAmb	10 44 40.3	
	comp=Z,13μm,0.8s						
IKAZ	**Kazeroun**	**1.68**	**347**	*e*Pn	**Pn**	**10 44 17.0**	**+0.8**
IKAZ				IAMB	IAmb	10 44 51.9	
	comp=Z,10μm,0.5s						
IPAR	**Pars**	**1.83**	**22**	*e*Pn	**Pb**	**10 44 19.7**	**-0.7**
IPAR				IAMB	IAmb	10 44 48.3	
	comp=Z,16μm,0.9s						
KLNJ	**Kolanjah**	**2.92**	**349**	*e*Pn	**Pn**	**10 44 34.3**	**+1.0**
BNDS	**Bandar-Abbas**	**3.54**	**101**	*e*Pn	**Pn**	**10 44 44.5**	**+3.0**
IRAM	**Ramesheh**	**3.67**	**2**	*e*Pn	**Pn**	**10 44 43.8**	**+0.4**
IMEH	**Mehriz**	**3.83**	**32**	*e*Pn	**Pn**	**10 44 47.0**	**+1.3**
IMEH				IAMB	IAmb	10 44 49.4	
	comp=Z,2μm,0.4s						
ISAD	**Sadrabad**	**3.96**	**18**	*e*Pn	**Pn**	**10 44 48.5**	**+1.0**
KHGB	**Koh Gabri**	**4.30**	**58**	*e*Pn	**Pn**	**10 44 53.8**	**+1.7**
KRBR	**Kerman**	**4.34**	**64**	*e*Pn	**Pn**	**10 44 55.1**	**+2.3**
YZKH	**Yazd**	**4.70**	**25**	*e*Pn	**Pn**	**10 44 59.6**	**+2.2**
IZEF	**Zefreh**	**4.75**	**1**	*e*Pn	**Pn**	**10 44 58.9**	**+0.6**
TPRV	**Parvadeh(Tabas**	**6.19**	**37**	*e*Pn	**Pn**	**10 45 19.1**	**+1.2**
TKDS	**Koohdasht(Taba**	**6.87**	**36**	*e*Pn	**Pn**	**10 45 28.3**	**+1.0**
TNSJ	**Nastanj**	**6.90**	**32**	*e*Pn	**Pn**	**10 45 28.7**	**+1.0**
WSAR	**Wadi Sarin**	**7.53**	**129**	Pn	**Pn**	**10 45 36.1**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=311,slow=8.8,SNR=10						
WSAR				Sn	**Sn**	**10 46 56.9**	**-4.5**
	comp=Z,1.0nm,0.3s,baz=161,slow=16,SNR=3.0						
BRTR	**Keskin Array B**	**19.26**	**312**	P	**P**	**10 48 10.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=133,slow=13,SNR=7.6						
BVAR	**Borovoye Array**	**28.26**	**23**	P	**P**	**10 49 39.9**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=220,slow=10,SNR=3.3						
AKASG	**Malin Array Be**	**28.50**	**329**	P	**P**	**10 49 41.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=130,slow=7.5,SNR=4.8						
MKAR	**Makanchi Array**	**29.98**	**43**	P	**P**	**10 49 54.9**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=226,slow=9.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**30.00**	**34**	P	**P**	**10 49 55.7**	**+0.8**
	comp=Z,0.2nm,0.2s,baz=234,slow=7.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**35.08**	**34**	P	**P**	**10 50 38.8**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=222,slow=11,SNR=4.5						
FINES	**FINESS Array B**	**37.61**	**340**	P	**P**	**10 51 00.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=141,slow=9.3,SNR=6.6						
HFS	**Hagfors**	**41.27**	**332**	P	**P**	**10 51 31.3**	**0.0**
	comp=Z,1.3nm,0.5s,baz=141,slow=9.3,SNR=6.4						
NOA	**NORSAR Array B**	**42.79**	**332**	P	**P**	**10 51 43.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=122,slow=12,SNR=2.6						
TORD	**Torodi Ar. Bea**	**49.28**	**263**	P	**P**	**10 52 35.6**	**0.0**
	comp=Z,1.0nm,0.7s,baz=56,slow=8.4,SNR=8.2						
BOSA	**Boshof**	**62.08**	**207**	P	**P**	**10 54 08.2**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=34,slow=3.6,SNR=4.7						
YKA	**Yellowknife Ar**	**89.08**	**354**	P	**P**	**10 56 41.7**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=9.1,slow=5.2,SNR=5.4						

BJI ***18*** *10:57:47.7±0.0,27°.12N×57°.35E,h13km,mb5.1/60, mB5.3/44,Ms5.6/65,Ms7 5.4/62*

NEIC ***18*** *10:57:47.1±0.0,26°.50N×57°.71E,h15km,mb5.5/189, MS5.4/551,MW5.4,ML5.5(THR),MN5.5(TEH),Moment Tensor Solution. s38 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.13; $M_{\theta\theta}$=0.68; $M_{\phi\phi}$=0.81; $M_{r\theta}$=0.49; $M_{\theta\phi}$=1.10; $M_{\phi r}$=-0.18; Best double couple: M_0=1.40000×10^{17} NP1:ϕ_s=251.00000°, δ=77.00000°,λ=-17.00000°. NP2:ϕ_s=345.00000°,δ=73.00000°, λ=-167.00000°. Principal axes: T 1.4000, Plg3.0000°, Azm298.0000°; N 0.0700, Plg69.0000°, Azm36.0000°; P -1.4700, Plg21.0000°, Azm207.0000°; After THR.*

NEIC Felt at Farwaniya, Kuwait and at Dubai, United Arab Emirates.

DSN ***18*** *10:57:48.5±0.6,26°.60N×57°.94E,h10km,mb6.0/5, ML5.8/11 Error ellipse: s-maj=10.9km s-min=5.2km az=135.0*

GCMT ***18*** *10:57:48.1±0.1,26°.49N±0°.01×57°.64E±0°.01,h13km, MW5.5/120,Moment Tensor Solution. s109,c190; s120,c251; Duration: 1±4 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.09±.02; $M_{\theta\theta}$=0.60±.03; $M_{\phi\phi}$0.69±.03; $M_{r\theta}$0.79±.08; $M_{\theta\phi}$2.04±.03; $M_{\phi r}$0.30±.06; Best double couple: M_0=2.29600×10^{17} NP1:ϕ_s=81.00000°,δ=88.00000°, λ=21.00000°. NP2:ϕ_s=351.00000°,δ=69.00000°,λ=178.00000°. Principal axes: T 2.3910, Plg16.0000°, Azm308.0000°; N -0.1910, Plg69.0000°, Azm87.0000°; P -2.2010, Plg13.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

OMAN ***18*** *10:57:48.2±0.3,26°.76N×57°.91E,h10km,ml5.6/18, Mwp5.8/9 Error ellipse: s-maj=6.1km s-min=4.7km az=11.0*

ISCJB ***18*** *10:57:48.5±0.4,26°.70N±0°.01×57°.82E±0°.01,h14km±2km, mb5.4/341,MS5.3/596,Error ellipse: s-maj=2.2km s-min=1.9km az=16.4*

TEH ***18*** *10:57:48.6,26°.70N×57°.81E,h8km,ML5.6*

MOS ***18*** *10:57:49.2±0.9,26°.79N×57°.84E,h17km,mb5.7/135, MS5.1/63,Error ellipse: s-maj=4.2km s-min=2.4km az=116.3*

IDC ***18*** *10:57:51.8±1.4,26°.75N×57°.82E,h21km±8km,mb4.9/47, mb1 5.0/49,mb1mx5.0/57,mbtmp5.1/49,ML3.8/2,MS5.1/36, Ms1 5.1/36,ms1mx5.0/46,Error ellipse: s-maj=7.6km s-min=7.4km az=5.0*

ISC 18 10:57:49.6±0.6,26°.67N±0°.02×57°.80E±0°.02,h13km±3km, n1621,σ1°63/1368,mb5.5/384,MS5.4/611,84C-36D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.02**	**182**	*e*Pg	**Pb**	**10 58 09.4**	**+0.2**
NIAN	**Nian**	**1.24**	**316**	*e*Pg	**Pb**	**10 58 13.0**	**+0.1**
NIAN				IAMB	IAmb	10 58 42.2	
	comp=Z,0.0nm,0.4s						
KHNJ	**Kahnooj**	**1.28**	**356**	*e*Pg	**Pn**	**10 58 11.9**	**-1.4**
SHME	**Shamm**	**1.61**	**248**	*e*P	**Pn**	**10 58 18.0**	**+0.1**
	SNR=1402						
SHME				S	**Sg**	**10 58 41.4**	**-0.2**
SHME	**Shamm**	**1.61**	**248**	*e*Pn	**Pn**	**10 58 18.5**	**+0.6**
GENO	**Geno**	**1.63**	**297**	*e*Pn	**Pb**	**10 58 19.7**	**0.0**
GENO				*e*Sg	**Sg**	**10 58 43.4**	**+1.3**
MSFE	**Esma-Masafi**	**1.97**	**229**	*e*P	**Pn**	**10 58 20.6**	**-2.2**
	SNR=108						
MSFE	**Esma-Masafi**	**1.97**	**229**	*e*Pn	**Pn**	**10 58 21.6**	**-1.2**
UMQ	**Umm Al-Quwin**	**2.23**	**240**	*e*P	**Pn**	**10 58 28.0**	**+1.6**
	SNR=42						
UMQ	**Umm Al-Quwin**	**2.23**	**240**	P	**Pb**	**10 58 29.0**	**-0.8**
	SNR=6.4						
UMQ				P	**Pb**	**10 58 29.0**	**-0.8**
	SNR=6.4						
UMQ	**Umm Al-Quwin**	**2.23**	**240**	*e*Pn	**Pb**	**10 58 29.3**	**-0.6**
HATD	**Hatta, Dubai**	**2.37**	**220**	*e*P	**Pn**	**10 58 25.7**	**-2.6**
	SNR=198						
HATD	**Hatta, Dubai**	**2.37**	**220**	P	**Pn**	**10 58 26.4**	**-1.9**
HATD				P	**Pn**	**10 58 26.4**	**-1.9**
HATD	**Hatta, Dubai**	**2.37**	**220**	*e*Pn	**Pn**	**10 58 26.3**	**-2.0**
ASHO	**Ashiyiah**	**2.52**	**219**	*e*P	**Pn**	**10 58 29.5**	**-0.9**
	SNR=26						
ASHO	**Ashiyiah**	**2.52**	**219**	P	**Pn**	**10 58 31.8**	**+1.3**
	SNR=27						
ASHO				P	**Pn**	**10 58 31.8**	**+1.3**
	SNR=27						
ASHO				S	**Sn**	**10 59 03.3**	**+2.2**
ASHO				S	**Sn**	**10 59 03.3**	**+2.2**
ASHO	**Ashiyiah**	**2.52**	**219**	*e*Pn	**Pn**	**10 58 29.5**	**-0.9**
NAZ	**Nazwa, Dubai**	**2.55**	**230**	*e*P	**Pn**	**10 58 31.0**	**+0.2**
	SNR=464						
NAZ	**Nazwa, Dubai**	**2.55**	**230**	P	**Pn**	**10 58 32.3**	**+1.5**
	SNR=16						
NAZ				P	**Pn**	**10 58 32.3**	**+1.5**
	SNR=16						
NAZ	**Nazwa, Dubai**	**2.55**	**230**	*e*Pn	**Pn**	**10 58 32.4**	**+1.6**
CHBR	**Chabahar**	**2.63**	**113**	*e*Pn	**Pn**	**10 58 31.2**	**-0.7**
CHBR	**Chabahar**	**2.63**	**113**	*e*Pn	**Pn**	**10 58 31.2**	**-0.7**
FAQ	**Al Faqa, Dubai**	**2.76**	**227**	*e*P	**Pn**	**10 58 34.8**	**+1.1**
	SNR=339						
FAQ	**Al Faqa, Dubai**	**2.76**	**227**	P	**Pn**	**10 58 35.3**	**+1.6**
	SNR=52						
FAQ				S	**Sn**	**10 59 09.0**	**+2.0**
FAQ	**Al Faqa, Dubai**	**2.76**	**227**	*e*Pn	**Pn**	**10 58 35.1**	**+1.4**
SOHO	**SOHO**	**2.77**	**205**	S	**Sb**	**10 59 10.3**	**-2.6**
ASUD	**Al Ashush, Dub**	**3.02**	**228**	*i* P	**Pn**	**10 58 38.1**	**+0.9**
	SNR=26						
ASUD	**Al Ashush, Dub**	**3.02**	**228**	P	**Pn**	**10 58 39.4**	**+2.2**
	SNR=26						
ASUD				P	**Pn**	**10 58 39.4**	**+2.2**
	SNR=26						
ASUD				S	**Sb**	**10 59 17.9**	**-2.1**
ASUD				S	**Sb**	**10 59 17.9**	**-2.1**
ASUD	**Al Ashush, Dub**	**3.02**	**228**	*e*Pn	**Pn**	**10 58 39.3**	**+2.2**
HOQ	**Hoqain**	**3.10**	**188**	P	**Pn**	**10 58 36.9**	**-1.5**
	SNR=15						
HOQ	**Hoqain**	**3.10**	**188**	*e*Pn	**Pn**	**10 58 36.3**	**-2.1**
NGRK	**Negar Kerman**	**3.12**	**343**	*e*Pn	**Pn**	**10 58 40.7**	**+1.8**
NGRK				IAMB	IAmb	10 59 49.1	
	comp=Z,0.0nm,1.0s						
BIDO	**Bidbid**	**3.14**	**175**	P	**Pn**	**10 58 37.9**	**-1.0**
	SNR=21						
BIDO	**Bidbid**	**3.14**	**175**	*e*Pn	**Pn**	**10 58 37.7**	**-1.2**
CHMN	**Cheshme madani**	**3.19**	**356**	*e*Pn	**Pn**	**10 58 42.7**	**+2.8**
CHMN				IAMB	IAmb	10 59 47.8	
	comp=N,0.0nm,1.2s						
ALNE	**Al Ain**	**3.19**	**216**	*i* P	**Pn**	**10 58 40.1**	**+0.5**
	SNR=128						
ALNE	**Al Ain**	**3.19**	**216**	*e*Pn	**Pn**	**10 58 40.6**	**+1.0**
AJN	**Ajban**	**3.29**	**231**	*i* P	**Pn**	**10 58 41.5**	**+0.6**
	SNR=52						
AJN	**Ajban**	**3.29**	**231**	P	**Pn**	**10 58 41.7**	**+0.7**
	SNR=9.2						
AJN				P	**Pn**	**10 58 41.7**	**+0.7**
	SNR=9.2						
AJN				S	**Sn**	**10 59 22.2**	**+2.2**
AJN				S	**Sn**	**10 59 22.2**	**+2.2**
AJN	**Ajban**	**3.29**	**231**	*e*Pn	**Pn**	**10 58 42.1**	**+1.1**
TVBK	**TV Kerman**	**3.43**	**345**	*e*Pn	**Pn**	**10 58 45.8**	**+2.6**
TVBK				IAMB	IAmb	10 59 51.6	
	comp=Z,0.0nm,0.7s						
WSAR	**Wadi Sarin**	**3.49**	**167**	P	**Pn**	**10 58 43.2**	**-0.5**
WSAR	**Wadi Sarin**	**3.49**	**167**	Pn	**Pn**	**10 58 43.2**	**-0.5**
	comp=Z,142nm,0.3s,baz=341,slow=5.3,SNR=640						
WSAR				Sn	**Sn**	**10 59 22.1**	**-2.9**
	comp=Z,271nm,0.3s,baz=4.3,slow=11,SNR=7.9						
ARQ	**Araqi**	**3.51**	**200**	P	**Pn**	**10 58 45.6**	**+1.6**
ARQ				S	**Sn**	**10 59 27.9**	**+2.4**
SMDO	**Samad**	**3.60**	**176**	P	**Pn**	**10 58 44.9**	**-0.4**
	SNR=46						
KHGB	**Koh Gabri**	**3.88**	**343**	*e*Pn	**Pn**	**10 58 51.9**	**+2.7**
KHGB				IAMB	IAmb	11 00 04.2	
	comp=Z,0.0nm,0.9s						
SZD1	**Zahaedan-tmp**	**3.90**	**43**	*e*Pn	**Pb**	**10 58 55.9**	**-2.5**
ZHSF	**Zahedan**	**3.94**	**41**	*e*Pn	**Pn**	**10 58 51.8**	**+1.8**
ZHSF	**Zahedan**	**3.94**	**41**	*e*Pn	**Pn**	**10 58 51.8**	**+1.8**
BSY	**Bisya**	**3.94**	**188**	P	**Pn**	**10 58 51.5**	**+1.5**
BSY				S	**Sn**	**10 59 38.9**	**+2.8**
JHRM	**Jahrom**	**4.17**	**297**	*e*Pn	**Pn**	**10 58 53.5**	**+0.3**
WBK	**Wadi Bani Khal**	**4.17**	**165**	P	**Pn**	**10 58 53.4**	**+0.2**
JMDO	**Jabal Madar**	**4.29**	**176**	P	**Pn**	**10 58 55.7**	**+1.1**
JMDO				S	**Sn**	**10 59 45.3**	**+0.8**
GHIR	**Ghir-Karzin**	**4.57**	**292**	*e*Pn	**Pn**	**10 58 58.5**	**-0.2**
GHIR	**Ghir-Karzin**	**4.57**	**292**	*e*Pn	**Pn**	**10 58 58.5**	**-0.2**
JLN	**Jalan Bani Buh**	**4.73**	**162**	P	**Pn**	**10 58 59.8**	**-0.9**
	SNR=85						
MZR	**Muzera**	**5.36**	**228**	*i* P	**Pn**	**10 59 09.7**	**+0.3**
	SNR=56						
MZR	**Muzera**	**5.36**	**228**	*e*Pn	**Pn**	**10 59 09.3**	**-0.1**
IMEH	**Mehriz**	**5.47**	**330**	*e*Pn	**Pn**	**10 59 12.2**	**+1.0**
SHI	**Shiraz**	**5.53**	**304**	*e*Pn	**Pn**	**10 59 11.7**	**-0.2**
IKOO	**Kooshah**	**5.83**	**10**	*e*Pn	**Pn**	**10 59 17.4**	**+1.3**
IKAZ	**Kazeroun**	**6.11**	**302**	*e*Pn	**Pn**	**10 59 18.6**	**-1.4**
ITEG	**Tejag**	**6.26**	**7**	*e*Pn	**Pn**	**10 59 23.7**	**+1.7**
ICHK	**Chekchek**	**6.30**	**333**	*e*Pn	**Pn**	**10 59 24.3**	**+1.8**
IDAH	**Dahanechah**	**6.31**	**16**	*e*Pn	**Pn**	**10 59 24.9**	**+2.2**
ISAD	**Sadrabad**	**6.35**	**326**	*e*Pn	**Pn**	**10 59 24.7**	**+1.5**
YZKH	**Yazd**	**6.35**	**335**	*e*Pn	**Pn**	**10 59 24.2**	**+1.1**
TPRV	**Parvadeh(Tabas**	**6.42**	**352**	*e*Pn	**Pn**	**10 59 26.3**	**+2.3**
TKDS	**Koohdasht(Taba**	**6.95**	**355**	*e*Pn	**Pn**	**10 59 33.6**	**+2.3**
IRAM	**Ramesheh**	**6.98**	**319**	*e*Pn	**Pn**	**10 59 32.9**	**+1.1**
TNSJ	**Nastanj**	**7.35**	**352**	*e*Pn	**Pn**	**10 59 39.4**	**+2.6**
IGAR	**Gharneh**	**7.61**	**320**	*e*Pn	**Pn**	**10 59 40.6**	**+0.2**
IZEF	**Zefreh**	**7.82**	**324**	*e*Pn	**Pn**	**10 59 43.9**	**+0.5**
ZNGN	**Zangian**	**8.14**	**314**	*e*Pn	**Pn**	**10 59 47.4**	**-0.4**
ROKH	**ROKH**	**8.17**	**315**	*e*Pn	**Pn**	**10 59 47.6**	**-0.6**
JHBN	**Jahan bin**	**8.33**	**313**	*e*Pn	**Pn**	**10 59 50.9**	**+0.4**
IPIR	**Pirpir**	**8.49**	**317**	*e*Pn	**Pn**	**10 59 53.4**	**+0.8**
IKLH	**Kolahrood**	**8.55**	**322**	*e*Pn	**Pn**	**10 59 53.6**	**+0.2**
JRKH	**Jarkhoshk**	**9.47**	**13**	*e*Pn	**Pn**	**11 00 09.5**	**+3.6**
IMOG	**Moghan**	**9.51**	**8**	*e*Pn	**Pn**	**11 00 09.6**	**+3.1**
SBZV	**Sabzevar**	**9.70**	**359**	*e*Pn	**Pn**	**11 00 12.0**	**+2.9**
RBK	**Rabkut**	**9.71**	**201**	P	**Pn**	**11 00 10.0**	**+0.8**
	SNR=11						
KHMZ	**Khomeyn**	**9.78**	**318**	*e*Pn	**Pn**	**11 00 10.2**	**-0.1**
KHMZ	**Khomeyn**	**9.78**	**318**	*e*Pn	**Pn**	**11 00 10.2**	**-0.1**
IPAY	**Payeh**	**9.81**	**6**	*e*Pn	**Pn**	**11 00 13.8**	**+3.2**
IMYA	**Miami**	**9.84**	**11**	*e*Pn	**Pn**	**11 00 14.9**	**+3.8**
ISHM	**Shahmirzad**	**9.89**	**338**	*e*Pn	**Pn**	**11 00 15.6**	**+3.7**
IFIR	**Firoozkooh**	**9.94**	**335**	*e*Pn	**Pn**	**11 00 13.6**	**+1.2**
IAKL	**Akhelmad**	**9.94**	**4**	*e*Pn	**Pn**	**11 00 15.6**	**+3.1**
IKRD	**Kardeh**	**10.10**	**3**	*e*Pn	Pn	**11 00 20.0**	**+5.4**
IDM	**Damavand**	**10.16**	**332**	*e*Pn	**Pn**	**11 00 17.4**	**+1.8**
IALA	**Alasht**	**10.31**	**337**	*e*Pn	**Pn**	**11 00 19.4**	**+1.8**
ISFR	**Sfrayin**	**10.36**	**1**	*e*Pn	**Pn**	**11 00 21.9**	**+3.7**
IHSB	**Hasanabad**	**10.38**	**329**	*e*Pn	**Pn**	**11 00 19.3**	**+1.0**
TEH	**Tehran**	**10.58**	**330**	*e*Pn	**Pn**	**11 00 21.9**	**+0.8**
IPRN	**Peran**	**10.62**	**335**	*e*Pn	**Pn**	**11 00 24.9**	**+3.2**
IKMR	**Kamar-syah**	**10.64**	**312**	*e*Pn	**Pn**	**11 00 19.4**	**-2.3**
IEMG	**Emamgholi**	**10.74**	**4**	*e*Pn	**Pn**	**11 00 25.9**	**+2.4**
IDOB	**Doab**	**10.94**	**313**	*e*Pn	**Pn**	**11 00 23.9**	**-2.2**
GEYT	**Alibeck**	**11.23**	**1**	Pn	**Pn**	**11 00 32.5**	**+2.5**
	comp=Z,7.4nm,0.3s,baz=182,slow=14,SNR=3.9						
GEYT				Lg	Lg	11 03 43.5	
	comp=Z,26nm,0.3s,baz=173,slow=13,SNR=6.2						
GYA0B	**ALIBECK ARRAY**	**11.23**	**1**	*e*Pn	**Pn**	**11 00 31.3**	**+1.3**
BHJ	**Bhuj**	**11.28**	**105**	*e*P	**Pn**	**11 00 27.2**	**-3.4**
BHJ				IAmb	IAmb	11 00 38.0	
	comp=Z,184nm,0.5s						
QABG	**Abgarm-Qazvin**	**11.43**	**324**	*e*Pn	**Pn**	**11 00 32.6**	**-0.3**
QALM	**Alamut, Qazvin**	**11.49**	**330**	*e*Pn	**Pn**	**11 00 35.5**	**+1.9**
IBZA	**Bozab**	**11.57**	**315**	*e*Pn	**Pn**	**11 00 32.0**	**-2.7**
IKOM	**Komasi**	**11.61**	**313**	*e*Pn	**Pn**	**11 00 32.8**	**-2.4**
IGZV	**Ghazvin**	**11.65**	**328**	*e*Pn	**Pn**	**11 00 37.1**	**+1.3**
KCHF	**Cheshme Sefid,**	**11.98**	**312**	*e*Pn	**Pn**	**11 00 37.5**	**-2.9**
IVIS	**Veis**	**12.26**	**312**	*e*Pn	**Pn**	**11 00 41.9**	**-2.2**
IGHG	**Ghaleghazi**	**12.33**	**311**	*e*Pn	**Pn**	**11 00 43.0**	**-2.2**
ILIN	**Lien**	**12.42**	**314**	*e*Pn	**Pn**	**11 00 44.3**	**-2.1**
KBL	**Kabul**	**12.46**	**48**	*e*Pn	**Pn**	**11 00 49.2**	**+2.3**
KBL	**Kabul**	**12.46**	**48**	*e*P	**Pn**	**11 00 49.2**	**+2.3**
IDHR	**Dehrash**	**12.67**	**312**	*e*Pn	**Pn**	**11 00 46.2**	**-3.5**
CEP	**Cherat**	**14.12**	**56**	P	**Pn**	**11 01 09.1**	**-0.4**
MAHB	**Mahabad**	**14.39**	**317**	*e*Pn	**Pn**	**11 01 09.4**	**-3.8**
IAZR	**Azarshahr**	**14.84**	**321**	*e*Pn	**Pn**	**11 01 20.1**	**+0.6**
NIL	**Nilore**	**15.06**	**59**	*e*Pn	**Pn**	**11 01 21.5**	**-0.7**
	comp=Z,732nm,1.0s						
NIL	**Nilore**	**15.06**	**59**	*e*P	**Pn**	**11 01 21.5**	**-0.7**
NIL				pmax	pmax		
	comp=Z,732nm,1.0s						
CHCP	**Chirah Chowk**	**15.07**	**59**	P	**Pn**	**11 01 21.5**	**-0.9**
CHGR	**Chuyangaron**	**15.29**	**36**	*e*Pn	**Pn**	**11 01 22.2**	**-3.2**
	comp=Z,2μm,1.8s						
GAR	**Garm**	**16.16**	**37**	*e*Pn	**Pn**	**11 01 35.1**	**-1.5**
	comp=Z,247nm,1.0s						
GAR	**Garm**	**16.16**	**37**	*e*P	**Pn**	**11 01 35.1**	**-1.5**
GAR				pmax	pmax		
	comp=Z,247nm,1.0s						
NAX	**Nakhchivan**	**16.18**	**324**	P	**Pn**	**11 01 37.7**	**+0.9**
MNGR	**Mingechevir, A**	**16.64**	**330**	P	**Pn**	**11 01 43.6**	**+1.1**
POO	**Poona**	**16.87**	**115**	*e*P	**Pn**	**11 01 44.2**	**-1.5**
POO				IAmb	IAmb	11 01 51.6	
	comp=Z,261nm,1.4s						
GANJ	**Ganja**	**16.88**	**329**	P	**Pn**	**11 01 46.6**	**+0.9**
SEKA	**Sheki**	**16.95**	**332**	P	**Pn**	**11 01 46.9**	**+0.4**
BHK	**Bhakra**	**16.95**	**69**	*ex*	**P**	**11 01 49.0**	**+0.5**
BHK				*ex*	x	11 04 33.6	
AKT	**Akhty**	**16.95**	**333**	*i* P	**Pn**	**11 01 47.1**	**+0.5**
VANB	**Van**	**16.97**	**318**	P	**Pn**	**11 01 46.7**	**-0.2**
CLDR	**Caldiran**	**17.03**	**320**	P	**P**	**11 01 48.8**	**-0.7**
DHRM	**DHARAMSHALA**	**17.04**	**67**	*e*P	**Pn**	**11 01 47.6**	**-0.3**
DHRM				IAmb	IAmb	11 01 55.8	
	comp=Z,413nm,0.8s						
AKDM	**Akdamar-Van**	**17.05**	**317**	P	**Pn**	**11 01 46.7**	**-1.3**
GNI	**Garni**	**17.29**	**324**	P	**Pn**	**11 01 51.3**	**+0.3**
GNI	**Garni**	**17.29**	**324**	*e*P	**Pn**	**11 01 51.5**	**+0.6**
	comp=Z,559nm,1.1s						
GNI	**Garni**	**17.29**	**324**	*i* P	**P**	**11 01 51.7**	**-0.7**
	SNR=45						
GNI	**Garni**	**17.29**	**324**	*ce*P	**Pn**	**11 01 51.2**	**+0.3**
GNI				pmax	pmax		
	comp=Z,2μm,1.3s						
GNI	**Garni**	**17.29**	**324**	Pn	**P**	**11 01 52.7**	**+0.3**
	comp=Z,3.1nm,0.3s,baz=177,slow=1.2,SNR=39						
GNI				LR	LR	11 09 56.9	
	comp=Z,5μm,18.0s,baz=118,slow=42						
NDI	**New Delhi**	**17.32**	**79**	*e*P	**Pn**	**11 01 50.0**	**-1.2**
DAMY	**Dhamar**	**17.37**	**229**	*e*P	**Pn**	**11 01 48.6**	**-3.6**
	comp=Z,618nm,1.2s						
SMLA	**Simla**	**17.53**	**71**	*e*P	**Pn**	**11 01 52.8**	**-1.0**
SMLA				IAmb	IAmb	11 02 01.0	
	comp=Z,3μm,2.6s						
ZKTA	**Zakatala**	**17.54**	**331**	P	**P**	**11 01 54.8**	**-0.2**
MLAZ	**Malazgirt-MUS**	**17.82**	**318**	P	**Pn**	**11 01 55.1**	**-2.5**
AGRB	**Hanur-Ágry**	**17.85**	**320**	P	**P**	**11 01 59.2**	**+0.6**
BHPL	**Bhopal**	**18.11**	**97**	*e*P	**Pn**	**11 02 00.6**	**-0.6**
BHPL				IAmb	IAmb	11 02 11.6	
	comp=Z,507nm,1.7s						
DDI	**Dehra Dun**	**18.17**	**74**	*e*P	**P**	**11 02 02.0**	**-0.1**
DDI				IAMs_20	IAMs_20	11 10 24.1	
	comp=Z,28μm,17.6s						
MAK	**Makhachkala**	**18.30**	**335**	*e*P	**Pn**	**11 02 01.0**	**-2.2**
MAK				*e*S	**Sn**	**11 05 25.1**	**-2.3**
MAK				pmax	pmax		
	comp=Z,293nm,0.9s						
MAK				MLR	MLR		
	comp=Z,4μm,17.0s						
CHM	**Chimkent**	**18.37**	**29**	*e*P	**Pn**	**11 02 02.2**	**-1.8**
CHM				pmax	pmax		
	comp=Z,123nm,1.7s						
CHM				MLR	MLR		
	comp=Z,1μm,13.0s						
CHM	**Chimkent**	**18.37**	**29**	*e*P	**Pn**	**11 02 02.3**	**-1.8**
	comp=Z,123nm,1.7s						
CHM				*e*LR	LR	11 11 00.8	
	comp=Z,1μm,12.8s						
IUG	**Iuzhnay**	**18.41**	**30**	*e*P	**P**	**11 02 02.9**	**-1.8**
IUG				*e*S	**Sn**	**11 05 31.2**	**+0.8**
IUG				pmax	pmax		
	comp=Z,150nm,1.3s						
IUG				smax	smax		
	comp=N,94nm,2.4s						
IUG				MLR	MLR		
	comp=Z,2μm,12.0s						
IUG	**Iuzhnay**	**18.41**	**30**	*e*P	**P**	**11 02 02.9**	**-1.8**
	comp=Z,150nm,1.3s						
IUG				*e*S	**Sn**	**11 05 31.3**	**+0.8**
	comp=Z,94nm,2.4s						
IUG				*e*LR	LR	11 10 05.2	
	comp=Z,2μm,12.0s						
TBLG	**Delisi**	**18.48**	**328**	P	**P**	**11 02 03.7**	**-1.6**
TBLG	**Delisi**	**18.48**	**328**	*e*P	**P**	**11 02 05.3**	**0.0**
	comp=Z,136nm,1.0s						
TBLG	**Delisi**	**18.48**	**328**	*e*P	**P**	**11 02 05.3**	**0.0**
TBLG				pmax	pmax		
	comp=Z,136nm,1.0s						
VRTB	**Varto-Mus**	**18.50**	**316**	P	**Pn**	**11 02 07.7**	**+1.8**
BTLR	**Botlikh**	**18.56**	**332**	*i* P	**Pn**

JBP ex x 11 06 16.6
MMAI Mount Meron Ar 20.42 293 P P 11 02 27.4 +0.8
comp=Z,177nm,0.9s,baz=100,slow=12,SNR=96
MMAI S **S 11 06 05.6 -10**
comp=Z,63nm,0.7s,baz=109,slow=25,SNR=8.3
MMAI LR LR 11 12 37.5
comp=Z,4μm,18.3s,baz=90,slow=43
BHL Bhannes 20.42 296 *eP* **P 11 02 27.5 +0.8**
DQRL Deir Qamar 20.44 295 *eP* Pn 11 02 29.2 +0.1
AMAZ Amatzia 20.57 289 P **P 11 02 29.2 +0.9**
comp=Z,697nm,1.1s
NEY Neytrino 20.60 327*c i*P **P 11 02 29.3 +0.7**
ATD Arta Tunnel 20.62 226 *eP* **P 11 02 29.3 +0.4**
comp=Z,455nm,1.3s
ATD LR LR
comp=Z,4μm,21.0s
ATD Arta Tunnel 20.62 226 *eP* **P 11 02 29.7 +0.7**
ATD *e*S **S 11 06 17.7 -1.6**
ATD Arta Tunnel 20.62 226 P **P 11 02 29.6 +0.7**
comp=Z,206nm,1.1s,baz=30,slow=7.8,SNR=42
ATD S Sn 11 06 24.0 +0.2
comp=Z,4.2nm,0.5s,baz=299,slow=19,SNR=1.6
ATD LR LR 11 10 54.1
comp=Z,5μm,21.5s,baz=49,slow=38
KTUT Trabzon 20.64 318 P Pn 11 02 30.4 -0.9
KTUT Trabzon 20.64 318 ‖ *i*P **P 11 02 30.1 +1.1**
KMRS Kahramanmaras 20.70 307 P **P 11 02 30.9 +1.2**
TAHT Tahtakopru-Hat 20.78 303 P Pn 11 02 32.4 -0.5
DARE Darende-Malaty 20.78 310 P Pn 11 02 32.3 -0.7
KBZ Khabaz 20.88 328 P **P 11 02 32.7 +1.3**
comp=Z,20nm,1.1s,baz=150,slow=10,SNR=30
KBZ S **S 11 06 17.8 -6.1**
comp=Z,7.1nm,0.9s,baz=62,slow=17,SNR=1.6
KBZ LR LR 11 10 35.8
comp=Z,4μm,19.0s,baz=130,slow=37
KZIT Kziot 20.93 287 P **P 11 02 33.0 +0.8**
AAK Ala-Archa 20.97 36 *eP* **P 11 02 32.4 -0.3**
comp=Z,151nm,0.9s
AAK LR LR
comp=Z,4μm,19.0s
AAK Ala-Archa 20.97 36 *i* P **P 11 02 31.9 -0.8**
SNR=50
AAK Ala-Archa 20.97 36*ceP* **P 11 02 32.0 -0.7**
AAK pmax pmax
comp=Z,243nm,1.3s
AAK Ala-Archa 20.97 36 P **P 11 02 33.5 +0.8**
comp=Z,144nm,0.9s,baz=209,slow=8.8,SNR=79
AAK LR LR 11 10 49.5
comp=Z,4μm,20.8s,baz=220,slow=37
CUGUR Gurin_SVAS 21.00 310 *i* P Pn 11 02 36.8 +1.2
SHA1 Shidzhatmaz 21.00 328 *i* P **P 11 02 34.1 +1.1**
KVAR Kislovodsk Arr 21.14 329 P **P 11 02 36.5 +2.0**
comp=Z,38nm,1.0s,baz=90,slow=20,SNR=37
KVAR S **S 11 06 28.1 -1.4**
comp=Z,17nm,0.9s,baz=289,slow=14,SNR=1.7
KIV Kislovodsk 21.15 329 P **P 11 02 35.5 +1.0**
KIV Kislovodsk 21.15 329 *eP* **P 11 02 34.8 +0.2**
comp=Z,330nm,1.0s
KIV *e*S **S 11 06 28.1 -1.5**
KIV Kislovodsk 21.15 329 *i* P **P 11 02 35.5 +1.0**
SNR=83
KIV Kislovodsk 21.15 329 *eP* **P 11 02 34.3 -0.2**
KIV *e* 11 06 29.9
KIV pmax pmax
comp=Z,1μm,1.1s
CUKAN kangal_SIVAS 21.16 312 *i* P **P 11 02 37.2 +2.5**
FRU1 Bishkek 21.16 36 *eP* **P 11 02 35.3 +0.7**
comp=Z,322nm,1.3s
FRU1 LR LR
comp=Z,5μm,21.0s
FRU1 Bishkek 21.16 36 *eP* **P 11 02 35.3 +0.7**
FRU1 pmax pmax
comp=Z,322nm,1.3s
FRU1 MLR MLR
comp=Z,5μm,21.0s
DOMR Dombai 21.17 326 *i* P **P 11 02 33.0 -1.8**
CUZAR Zara_SIVAS 21.26 313 *i* P **P 11 02 38.2 +2.5**
HYB Hyderabad 21.30 111 *i* P **P 11 02 37.0 +0.8**
comp=Z,96nm,0.8s
HYB *e*S **S 11 06 28.0 -4.8**
HYB Hyderabad 21.30 111 *eP* **P 11 02 35.2 -1.0**
HYB IAmb IAmb 11 02 38.7
comp=Z,182nm,1.3s
CEYT Ceyhan 21.34 304 P **P 11 02 38.4 +1.9**
YURE YUREGIR 21.36 304 P **P 11 02 39.9 +3.1**
KRTS Karatas 21.46 303 P **P 11 02 39.8 +2.0**
KOZT Kozan 21.47 306 P **P 11 02 39.3 +1.4**
CUALT Altinyayla-SIV 21.62 311 *i* P **P 11 02 42.9 +3.2**
BOOM Boomskoye usch 21.66 39 *eP* **P 11 02 40.2 +0.1**
comp=Z,325nm,1.3s
BOOM LR LR
comp=Z,5μm,21.0s
BOOM Boomskoye usch 21.66 39 *eP* **P 11 02 40.2 +0.1**
BOOM pmax pmax
comp=Z,325nm,1.3s
BOOM MLR MLR
comp=Z,5μm,21.0s
SVSK Karacayir 21.78 313 P **P 11 02 42.5 +1.4**
RSDY Resadiye-TOKAT 21.82 314 P **P 11 02 39.8 -1.8**
KARA Karaisali 21.95 304 P **P 11 02 44.5 +1.4**
CUSAR Sarkisla-SIVAS 22.03 311 *i* P **P 11 02 46.1 +2.0**
EREN Erenkoy 22.04 299 P **P 11 02 45.3 +1.3**
BNN Bunyan 22.04 309 P **P 11 02 45.8 +1.6**
KDJ Kajisay 22.14 41 *eP* **P 11 02 45.3 0.0**
comp=Z,367nm,1.0s
KDJ LR LR
comp=Z,5μm,20.0s
KDJ Kajisay 22.14 41 *eP* **P 11 02 45.3 0.0**
KDJ pmax pmax
comp=Z,367nm,1.0s
KDJ MLR MLR
comp=Z,5μm,20.0s
MERS Mersin 22.20 303 P **P 11 02 47.1 +1.2**
TARG Taragay, Kyrgy 22.27 42 *eP* **P 11 02 46.3 -0.6**
comp=Z,115nm,1.0s
TARG LR LR
comp=Z,7μm,19.0s
TOKT Tokat 22.28 313 P **P 11 02 47.4 +0.7**
MTBS Maitube 22.35 38 *eP* **P 11 02 46.7 -0.7**
MTBS pmax pmax
comp=Z,363nm,1.2s
MTBS Maitube 22.35 38 *eP* **P 11 02 46.8 -0.7**
comp=Z,363nm,1.2s
KIZK Mersin 22.36 302 P **P 11 02 47.6 +0.2**
SOC Sochi 22.36 324*c i*P **P 11 02 46.4 -1.0**
SOC *e*PPP PPP 11 03 16.0
SOC *e*S **S 11 06 52.0 -0.9**
SOC *e*SSS SSS 11 07 38.2
SOC pmax pmax
comp=Z,356nm,1.6s
SOC MLR MLR
comp=Z,5μm,13.0s
PYUN Piuthan 22.40 81 *eP* **P 11 02 50.2 +1.9**
comp=Z,796nm,1.3s
SILI Silifke-Mersin 22.49 301 P **P 11 02 48.7 -0.1**
BTLS Baital 22.50 31 *eP* **P 11 02 47.6 -1.2**
BTLS *e*S **S 11 06 53.1 -2.3**
BTLS pmax pmax
comp=Z,67nm,1.2s
BTLS smax smax
comp=E,75nm,2.9s
BTLS MLR MLR
comp=Z,942nm,10.0s
BTLS Baital 22.50 31 *eP* **P 11 02 47.6 -1.2**
comp=Z,67nm,1.2s
BTLS *e*S **S 11 06 53.2 -2.3**
comp=Z,75nm,2.9s
BTLS *e*LR LR 11 12 52.9
comp=Z,942nm,9.8s
CSS Mathiatis 22.55 297 P **P 11 02 50.1 +0.6**
CSS Mathiatis 22.55 297 *eP* **P 11 02 49.8 +0.3**
comp=Z,386nm,1.1s
CSS LR LR
comp=Z,12μm,20.0s
CSS Mathiatis 22.55 297 P **P 11 02 49.6 +0.1**
CSS Mathiatis 22.55 297 P **P 11 02 49.7 +0.2**
comp=Z,93nm,1.1s
TNSS Tian-Shan 22.58 39 *eP* **P 11 02 49.7 -0.5**
TNSS pmax pmax
comp=Z,259nm,1.1s
TNSS Tian-Shan 22.58 39 *eP* **P 11 02 49.8 -0.5**
comp=Z,259nm,1.1s
AB31 Akbulak array 22.61 4 *i* P **P 11 02 49.4 -0.7**
AB31 pmax pmax
comp=Z,269nm,1.0s
ABKAR Akbulak array 22.61 4 *eP* **P 11 02 49.9 -0.2**
ABKAR *eP* **P 11 02 49.9 -0.2**
IKL Isikli 22.63 301 P **P 11 02 50.5 +0.1**
AAA Alma-Ata 22.67 38 *eP* **P 11 02 50.7 -0.1**
AAA *e*S **S 11 06 56.8 -2.0**
AAA pmax pmax
comp=Z,800nm,1.6s
AAA smax smax
comp=E,2μm,9.5s
AAA MLR MLR
comp=Z,4μm,16.0s
AAA Alma-Ata 22.67 38 *eP* **P 11 02 50.5 -0.3**
comp=Z,517nm,1.4s
AAA *e*S **S 11 06 59.8 +1.0**
AAA *e*LR LR 11 11 32.4
comp=Z,3μm,15.0s
KEBE Keben-Mersin 22.67 301 P **P 11 02 51.6 +0.7**
MAMC Mammari 22.69 298 P **P 11 02 52.7 +1.7**
AKKU Akkuyu-Mersin 22.71 301 P **P 11 02 51.7 +0.5**
MDOK Medeo 22.72 39 *i* P **P 11 02 50.7 -0.7**
MDOK *e*S **S 11 06 59.5 -0.2**
MDOK MLR MLR
comp=Z,3μm,18.0s
MDOK Medeo 22.72 39 *i* P **P 11 02 50.8 -0.7**
comp=Z,5μm,1.6s
MDOK *e*S **S 11 06 59.6 -0.2**
MDOK *e*LR LR 11 11 35.4
comp=Z,3μm,18.0s
KUU Kurty 22.81 36 *eP* **P 11 02 51.1 -1.1**
KUU *e*S **S 11 07 01.1 -0.1**
KUU pmax pmax
comp=Z,466nm,2.2s
KUU smax smax
comp=E,532nm,3.2s
KUU MLR MLR
comp=Z,3μm,12.0s
KUU Kurty 22.81 36 *eP* **P 11 02 51.2 -1.1**
comp=Z,466nm,2.2s
KUU *e*S **S 11 07 01.1 -0.1**
comp=Z,532nm,3.2s
KUU *e*LR LR 11 13 34.2
comp=Z,3μm,12.0s
SZAC Souni 22.85 297 P **P 11 02 54.3 +1.5**
TEVE Tevekalti-Mers 22.88 301 P **P 11 02 52.3 -0.8**
KOLN Koldanda 22.96 81 *eP* **P 11 02 56.2 +2.1**
comp=Z,150nm,0.8s
KVT Kavak 23.00 314 P **P 11 02 54.7 +0.4**
KVT Kavak 23.00 314 P **P 11 02 54.6 +0.3**
BERE Bereket-Mersin 23.02 301 P **P 11 02 55.2 +0.6**
TEKE Tekeli-Mersin 23.04 300 P **P 11 02 53.2 -1.5**
DANN Dangsing 23.07 80 *eP* **P 11 02 58.0 +2.6**
comp=Z,749nm,0.9s
DESE Dese 23.07 231 *eP* P 11 02 45.8 -10
DESE *e*S **S 11 07 09.9 +3.2**
DESE Dese 23.07 231 *eP* P 11 02 45.8 -10
DESE *e*S **S 11 07 09.9 +3.2**
CHKK Chushkaly 23.14 37 *eP* **P 11 02 54.1 -1.5**
CHKK pmax pmax
comp=Z,3μm,1.4s
CHKK Chushkaly 23.14 37 *eP* **P 11 02 54.2 -1.5**
comp=Z,3μm,1.4s
ALFC Alefka 23.18 298 P **P 11 02 57.9 +1.8**
COAL Corum-Alaca 23.28 311 *i* P **P 11 02 58.3 +1.0**
PPCY Paphos 23.31 297 P **P 11 02 58.7 +1.3**
MNCY Minicoy 23.32 139 *eP* **P 11 02 54.3 -3.3**
SATY Saty 23.43 40 *eP* **P 11 02 56.9 -1.7**
SATY *e*S **S 11 07 11.6 -0.1**
SATY pmax pmax
comp=Z,187nm,1.9s
SATY smax smax
comp=N,237nm,3.5s
SATY MLR MLR
comp=Z,4μm,14.0s
SATY Saty 23.43 40 *eP* **P 11 02 57.0 -1.7**
comp=Z,187nm,1.9s
SATY *e*S **S 11 07 11.6 -0.1**
comp=Z,237nm,3.5s
SATY *e*LR LR 11 13 10.2
comp=Z,4μm,13.5s
SULT Sultanhani-AKS 23.43 305 P **P 11 02 59.9 +1.2**
CORM Corum 23.49 311 P **P 11 02 59.9 +0.6**
ZHN Zhinishke 23.51 40 *eP* **P 11 02 58.0 -1.4**
ZHN pmax pmax
comp=Z,48nm,1.4s
ZHN MLR MLR
comp=Z,2μm,14.0s
ZHN Zhinishke 23.51 40 *eP* **P 11 02 58.1 -1.4**
comp=Z,48nm,1.4s
ZHN *e*LR LR 11 13 11.7
comp=Z,2μm,13.5s
YAYX Yaylak 23.51 307 P **P 11 02 58.8 -0.7**
SERE Sereflikochisa 23.69 307 P **P 11 03 00.5 -0.8**
AKTO Aktyubinsk 23.73 0 P **P 11 03 01.3 -0.1**
comp=Z,91nm,0.6s,baz=171,slow=9.4,SNR=181
AKTO S **S 11 07 14.7 -1.6**
comp=Z,13nm,1.0s,baz=30,slow=20,SNR=4.5
AKTO LR LR 11 13 51.8
comp=Z,7μm,18.6s,baz=172,slow=41
DIKM Dikmen 23.81 315 P **P 11 03 01.6 -0.6**
DIKM Dikmen 23.81 315 ⇑ *i*P **P 11 03 02.9 +0.7**
KPKS Kokpek 23.83 40 *eP* **P 11 03 01.0 -1.6**
KPKS *e*S **S 11 07 19.6 +1.4**
KPKS pmax pmax
comp=Z,238nm,1.6s
KPKS smax smax
comp=E,122nm,2.7s
KPKS MLR MLR
comp=Z,4μm,13.0s
KPKS Kokpek 23.83 40 *eP* **P 11 03 01.1 -1.6**
comp=Z,238nm,1.6s
KPKS *e*S **S 11 07 19.6 +1.4**
comp=Z,122nm,2.7s
KPKS *e*LR LR 11 13 18.4
comp=Z,4μm,12.8s
UZB Uzynbulak 23.84 41 *eP* **P 11 03 01.4 -1.3**
UZB *e*S **S 11 07 19.2 +0.8**
UZB pmax pmax
comp=Z,180nm,1.5s
UZB smax smax
comp=E,105nm,2.3s
UZB MLR MLR
comp=Z,2μm,13.0s
UZB Uzynbulak 23.84 41 *eP* **P 11 03 01.4 -1.3**
comp=Z,180nm,1.6s
UZB *e*S **S 11 07 19.2 +0.8**
comp=Z,106nm,2.3s
UZB *e*LR LR 11 13 14.7
comp=Z,2μm,12.8s
BR131 Keskin Array S 23.96 309 *eP* **P 11 03 03.9 0.0**
comp=Z,193nm,1.0s
BRTR Keskin Array B 23.96 309 *eP* **P 11 03 03.4 -0.6**
BRTR Keskin Array B 23.96 309 *i* P **P 11 03 04.0 0.0**
BRTR pmax pmax
comp=Z,100nm,0.9s
BRTR Keskin Array B 23.96 309 P **P 11 03 04.8 +0.9**
comp=Z,100nm,0.9s,baz=125,slow=11,SNR=153
BRTR S **S 11 07 24.0 +3.6**
comp=Z,5.7nm,1.0s,baz=128,slow=11,SNR=3.5
BRTR ScP **ScP 11 10 25.1 +0.7**
comp=Z,6.0nm,0.8s,baz=140,slow=5.9,SNR=11
BRTR LR LR 11 14 16.7
comp=Z,7μm,19.4s,baz=96,slow=41
CHBY Cihanbeyli 24.03 306 P **P 11 03 06.0 +1.5**
SNOP Sinop 24.04 315 P **P 11 03 03.7 -0.7**
SNOP Sinop 24.04 315 *eP* **P 11 03 04.0 -0.4**
comp=Z,848nm,1.7s
SHLS Shalkode 24.10 41 *eP* **P 11 03 06.8 +1.6**
SHLS pmax pmax
comp=Z,316nm,2.2s
SHLS MLR MLR
comp=Z,2μm,12.0s
SHLS Shalkode 24.10 41 *eP* **P 11 03 06.8 +1.6**
comp=Z,316nm,2.2s
SHLS *e*LR LR 11 13 39.5
comp=Z,2μm,12.0s
KULU Kulu 24.13 307 P **P 11 03 04.7 -0.8**
KONT Konya--Tatoy 24.19 304 P **P 11 03 07.8 +1.9**
PDGK Podgornoye 24.22 41 *i* P **P 11 03 05.9 -0.4**
PDGK pmax pmax
comp=Z,170nm,1.0s
AFSR Afar-Bala (An 24.25 308 P **P 11 03 07.5 +1.0**
LADK Ladik-KONYA 24.28 305 P **P 11 03 08.0 +1.2**
DMN Daman 24.30 82 *eP* **P 11 03 09.4 +2.1**
comp=Z,280nm,1.3s
OTUK Ortayu 24.36 24 *i* P **P 11 03 07.3 0.0**
OTUK pmax pmax
comp=Z,238nm,1.2s
CANT Cankiri 24.37 311 P **P 11 03 08.4 +0.8**
ANN Anapa 24.40 323*c i*P **P 11 03 07.8 +0.1**
ANN *e*PPP PPP 11 03 45.1
ANN *e*S **S 11 07 27.2 +0.2**
ANN *e*SS **SnSn 11 08 15.0 +4.3**
ANN pmax pmax
comp=Z,670nm,1.2s
ANN pmax pmax
comp=N,315nm,1.3s
ANN pmax pmax
comp=E,140nm,1.3s
ANN smax smax
comp=E,1μm,10.0s
ANN smax smax
comp=N,3μm,10.0s
ANN MLR MLR
comp=Z,7μm,20.0s
ANN MLR MLR
comp=E,3μm,20.0s
ANN MLR MLR
comp=N,4μm,20.0s
KKN Kakani 24.44 81 *eP* **P 11 03 10.2 +1.6**
comp=N,607nm,1.6s
ILGA Ilgaz 24.51 312 *eP* **P 11 03 09.3 +0.2**
comp=N,294nm,1.2s
PKIN Phulchoki 24.56 82 *eP* **P 11 03 10.9 +1.2**
comp=N,332nm,1.4s
PKI Pulchoki 24.57 82 *eP* **P 11 03 11.3 +1.4**
comp=N,398nm,1.2s
ANTO Ankara 24.61 309 P **P 11 03 10.5 +0.7**
ANTO Ankara 24.61 309 *eP* **P 11 03 10.4 +0.6**
comp=N,777nm,1.6s
ANTO Ankara 24.61 309 P **P 11 03 11.8 +2.0**
ANTO pmax pmax
comp=Z,220nm,1.0s
BR231 Keskin MP Arra 24.61 309 *eP* **P 11 03 11.5 +1.6**
comp=Z,951nm,1.8s
LOD Lodumlu 24.64 309 P **P 11 03 11.3 +1.2**
TDK Taldyqorghan 24.66 37 *eP* **P 11 03 09.2 -0.9**
TDK pmax pmax
comp=Z,466nm,1.8s
TDK MLR MLR
comp=Z,3μm,13.0s
TDK Taldyqorghan 24.66 37 *eP* **P 11 03 09.2 -0.9**
comp=Z,466nm,1.8s
TDK *e*LR LR 11 14 58.4
comp=Z,3μm,12.8s
BZK Bozkurt 24.77 314 P **P 11 03 10.1 -1.0**
BZK Bozkurt 24.77 314 ‖ *i*P **P 11 03 11.9 +0.8**
KIZT Kizilcal 24.88 306 P **P 11 03 13.2 +0.9**
MDRS Chennai 25.01 118 *eP* **P 11 03 10.0 -3.5**
MDRS IAmb IAmb 11 03 17.6
comp=Z,218nm,1.8s
AAE Adis Abeba 25.16 229 *eP* **P 11 03 17.6 +2.5**
AAE *e*S S 11 07 54.7 +14
JIRN Jiri 25.26 81 *eP* **P 11 03 17.2 +1.1**
comp=Z,468nm,1.0s
FURI Furi 25.31 229 *eP* **P 11 03 20.2 +3.6**
comp=Z,197nm,1.1s
FURI LR LR
comp=Z,6μm,20.0s
FURI Furi 25.31 229 *eP* **P 11 03 19.3 +2.7**
FURI *e*S **S 11 07 53.4 +11**
AUSIV SIVRIHISAR 25.33 307 P **P 11 03 17.1 +0.8**
SVRH Sivrihisar-ESK 25.35 307 P **P 11 03 16.9 +0.4**
KORT Korkueli 25.42 301 P **P 11 03 18.6 +1.4**
ISP Isparta 25.53 303 P **P 11 03 19.0 +0.9**
ISP Isparta 25.53 303 *eP* **P 11 03 18.5 +0.4**
ISP *eP* **P 11 03 18.6 +0.4**
ISP LR LR
comp=Z,6μm,22.0s
ISP Isparta 25.53 303 P **P 11 03 18.5 +0.4**
ISP Isparta 25.53 303 ⇑ *i*P **P 11 03 18.6 +0.4**
ISP Isparta 25.53 303 P **P 11 03 18.0 -0.1**
ISP pmax pmax
comp=Z,209nm,1.1s
KURC Kurucasile-Bar 25.53 313 P **P 11 03 17.8 -0.2**
AUMIH MIHALICIK 25.54 308 P **P 11 03 19.2 +1.0**
BOK Bokaro 25.54 90 *eP* **P 11 03 16.8 -1.5**
BOK IAmb IAmb 11 03 24.4
comp=Z,125nm,1.5s
TRD Trivandrum 25.61 131 *eP* **P 11 03 15.4 -3.5**
CIFT Cifteler, Eski 25.64 306 P **P 11 03 19.9 +0.7**
RAMN Ramite 25.68 83 *eP* **P 11 03 21.5 +1.7**
ELL Elmali 25.69 300 P **P 11 03 18.3 -1.4**
ELL Elmali 25.69 300 P **P 11 03 18.2 -1.4**
SHUT Suhut-Afyon 25.74 304 P **P 11 03 21.4 +1.3**
KSL Kastellorizon 25.80 298 P **P 11 03 20.3 -0.2**
BRZS Berezniki 25.94 22 *eP* **P 11 03 21.2 -0.4**
BRZS pmax pmax
comp=Z,238nm,1.7s
BRZS MLR MLR
comp=Z,3μm,13.0s
BRZS Berezniki 25.94 22 *eP* **P 11 03 21.3 -0.4**
comp=Z,238nm,1.7s
BRZS *e*LR LR 11 14 53.2
comp=Z,3μm,12.8s
MDUB Mudurnu 25.98 309 P **P 11 03 23.0 +0.8**
MDUB Mudurnu 25.98 309 *eP* **P 11 03 22.8 +0.6**
comp=Z,2μm,0.8s
MDUB LR LR
comp=Z,23μm,21.0s
SRCK Saricakaya, Es 26.21 307 P **P 11 03 23.2 -1.0**
BORA Eskisehir 26.27 307 P **P 11 03 23.4 -1.5**
FETY Fethiye 26.31 299 *eP* **P 11 03 25.6 +0.5**
FETY Fethiye 26.31 299 P **P 11 03 25.6 +0.5**
SIM Simferopol' 26.34 320*ceP* **P 11 03 25.5 +0.2**
SIM S S **11 07 54.0 -4.0**
SIM *e*SSS SSS 11 09 20.0
SIM pmax pmax
comp=Z,390nm,1.4s
GULT Gulveren 26.44 308 P **P 11 03 27.4 +1.0**
AUBOZ BOZOYUK 26.59 307 P **P 11 03 27.2 -0.5**
DALY Dalyan (Mula) 26.68 299 P **P 11 03 29.9 +1.4**
TURN Turunc 26.74 300 P **P 11 03 31.2 +2.2**
CAVI Cavuskoy 26.83 307 P **P 11 03 30.5 +0.7**
TVSB Tavsanli 26.84 305 P **P 11 03 31.1 +1.1**
ARG Arkhangelos 26.96 298 P **P 11 03 31.5 +0.5**
ARG pmax pmax
comp=Z,198nm,1.5s
ADVT Abdulvahap 26.99 308 P **P 11 03 31.9 +0.7**
KULA Kula-Manisa 27.13 303 P **P 11 03 33.0 +0.4**
KULA Kula-Manisa 27.13 303 P **P 11 03 33.1 +0.4**
HRT Hereke 27.18 308 P **P 11 03 30.7 -2.3**
HRT Hereke 27.18 308 P **P 11 03 30.6 -2.4**
MANT Manisa 27.20 303 *eP* **P 11 03 34.0 +0.6**
comp=Z,415nm,1.0s
MANT LR LR
comp=Z,17μm,22.0s
GEMT Gemlik 27.38 307 P **P 11 03 34.9 +0.2**
VRH Novokhopyorsk 27.39 338 *eP* **P 11 03 35.2 +0.6**
VRH *e*S **S 11 08 12.8 -1.5**
VRH pmax pmax
comp=Z,100nm,0.6s
VRH smax smax
comp=E,1μm,7.6s
VRH MLR MLR
comp=Z,3μm,15.0s
DAT Datca 27.50 299 P **P 11 03 36.8 +0.8**
AYDB Zeytinkoy-Aydi 27.56 302 P **P 11 03 37.7 +1.2**
MDNY Mudanya-Bursa 27.57 307 P **P 11 03 35.6 -0.8**
KARP Karpathos 27.60 296 *eP* **P 11 03 37.7 +0.9**
comp=Z,548nm,1.0s
KARP LR LR
comp=Z,3μm,20.0s
ARMT Armutlu 27.66 307 P **P 11 03 37.3 +0.1**
MAKZ Makanchi 27.73 37 *eP* **P 11 03 38.2 +0.4**
comp=Z,140nm,1.2s
MAKZ LR LR
comp=Z,2μm,20.0s
MAKZ Makanchi 27.73 37 P **P 11 03 37.4 -0.4**
MAKZ pmax pmax
comp=Z,157nm,1.5s
KLYT Kilyos 27.79 309 ⇑ *i*P **P 11 03 38.8 +0.5**
BODT Bodrum 27.79 299 P **P 11 03 38.7 +0.3**
BODT Bodrum 27.79 299 *eP* **P 11 03 39.3 +0.9**
BODT Bodrum 27.79 299 P **P 11 03 39.3 +0.9**
MK31 Makanchi Array 27.89 38 *eP* **P 11 03 39.5 +0.3**
comp=Z,66nm,1.3s
MK31 Makanchi Array 27.89 38 *i* P **P 11 03 39.3 0.0**
MK31 pmax pmax
comp=Z,81nm,1.3s

MK32 Makanchi Array 27.89 38 *e*P **P 11 03 39.4 +0.1**
MK32 *e*S **S 11 08 23.7 +1.3**
MKAR Makanchi Array 27.89 38 *e*P **P 11 03 39.3 0.0**
MKAR Makanchi Array 27.89 38 P **P 11 03 39.4 +0.1**
comp=Z,3.4nm,0.4s,baz=227,slow=7.6,SNR=28
MKAR S **S 11 08 23.7 +1.3**
comp=Z,2.6nm,1.1s,baz=200,slow=13,SNR=2.2
KCTX Karacabey (Bur 27.91 307 P **P 11 03 39.3 -0.2**
BGKT Bogazkoy 27.95 309 P **P 11 03 38.9 -0.9**
BVAR Borovoye Array 27.96 16 P **P 11 03 39.5 -0.2**
comp=Z,22nm,0.5s,baz=199,slow=7.8,SNR=162
BRVK Borovoye 27.96 16 *e*P **P 11 03 40.0 +0.3**
comp=Z,88nm,1.0s
BRVK LR LR
comp=Z,10μm,19.0s
BRVK Borovoye 27.96 16*ce*P **P 11 03 39.9 +0.1**
BRVK pmax pmax
comp=Z,80nm,1.7s
GCAM G?zelcaml? 28.00 301 P **P 11 03 42.1 +1.8**
BALB Balikesir 28.05 305 P **P 11 03 41.7 +0.9**
BALB Balikesir 28.05 305 *e*P **P 11 03 41.5 +0.7**
comp=Z,729nm,1.2s
VORD Divnogorie 28.07 335 *e*P **P 11 03 40.7 0.0**
VORD pmax pmax
comp=Z,50nm,0.8s
CTKS Kestanelik-??a 28.15 309 P **P 11 03 40.8 -0.8**
EDC Edincik 28.30 306 P **P 11 03 41.7 -1.2**
SMG Samos 28.30 301 P **P 11 03 43.8 +0.8**
VSR Storozhevoye 28.32 335 *e*P **P 11 03 41.7 -1.3**
VSR *e*S **S 11 08 24.2 -4.8**
VSR pmax pmax
comp=Z,90nm,0.8s
VSR smax smax
comp=N,500nm,4.7s
VSR MLR MLR
comp=Z,3μm,16.0s
VORR Voronezh 28.67 336 P **P 11 03 47.0 +0.9**
VORR pmax pmax
comp=Z,300nm,1.2s
KURBB Kurchatov Arra 28.69 28 P **P 11 03 46.9 +0.5**
comp=Z,11nm,0.5s,baz=227,slow=8.4,SNR=48
KRBG Karabiga-Canak 28.72 306 P **P 11 03 45.0 -1.7**
KURK Kurchatov 28.80 28 *e*P **P 11 03 47.7 +0.4**
comp=Z,44nm,1.0s
KURK LR LR
comp=Z,5μm,19.0s
KURK Kurchatov 28.80 28*ce*P **P 11 03 46.5 -0.8**
KURK pmax pmax
comp=Z,29nm,1.3s
PHSR Pinarhisar 28.99 309 P **P 11 03 48.9 -0.1**
PHSR Pinarhisar 28.99 309⇑*i*P **P 11 03 49.8 +0.8**
PALK Pallekele 29.08 127 *e*P **P 11 03 46.3 -3.8**
comp=Z,33nm,1.3s
PALK LR LR
comp=Z,4μm,18.0s
PALK Pallekele 29.08 127 P **P 11 03 53.0 +2.8**
PALK Pallekele 29.08 127 P **P 11 03 53.0 +2.8**
comp=Z,15nm,1.1s,baz=297,slow=11,SNR=2.8
APE Apeiranthos 29.18 299 *e*P **P 11 03 50.9 0.0**
APE Apeiranthos 29.18 299⇓*i*P **P 11 03 51.1 +0.2**
APE Apeiranthos 29.18 299 *i*P **P 11 03 49.8 -1.1**
APE pmax pmax
comp=Z,39nm,0.7s
EFOR EFORIE 29.24 314⇑*i*P **P 11 03 52.1 +0.9**
EZN Ezine 29.25 305 *e*P **P 11 03 50.9 -0.5**
EZN Ezine 29.25 305⇑*i*P **P 11 03 52.2 +0.8**
EZN Ezine 29.25 305 P **P 11 03 52.1 +0.7**
GELI Tayfur-Gelibol 29.32 306 *e*P **P 11 03 51.6 -0.4**
ERIK Erikli-Kesan 29.38 306 *e*P **P 11 03 53.3 +0.8**
IDI Anoyia 29.39 295 *e*P **P 11 03 52.5 -0.3**
IDI *e*S **S 11 08 45.4 -1.1**
IDI Anoyia 29.39 295 P **P 11 03 52.5 -0.3**
IDI Anoyia 29.39 295 P **P 11 03 54.2 +1.4**
comp=Z,32nm,0.7s,baz=89,slow=9.0,SNR=25
IDI S **S 11 08 45.4 -1.1**
comp=Z,21nm,1.1s,baz=345,slow=22,SNR=5.6
SIGR SIGRI 29.43 303 *e*P **P 11 03 52.6 -0.4**
BOZC Bozcaada 29.46 305 *e*P **P 11 03 51.9 -1.4**
LSA Lhasa 29.49 76 PFAKE 11 04 00.0 +5.8
LSA LR LR
comp=Z,10μm,20.0s
LPSR Galich'ya Gora 29.52 336 *e*P **P 11 03 53.8 +0.2**
LPSR *e*S **S 11 08 46.1 -1.8**
LPSR pmax pmax
comp=Z,60nm,0.8s
LPSR smax smax
comp=E,160nm,1.9s
LPSR MLR MLR
comp=Z,2μm,16.0s
TIRR Tirgusor 29.55 315 *e*P **P 11 03 54.6 +0.6**
comp=Z,17nm,1.1s
WMQ Urumqi 29.59 47 P **P 11 03 56.0 +1.5**
WMQ pP sP 11 04 00.8 +0.2
WMQ sP pP 11 04 04.1 +5.3
WMQ S **S 11 08 53.3 +3.9**
WMQ sS sS 11 08 58.3 +1.9
WMQ pmax pmax
comp=Z,78nm,1.3s
WMQ pmax pmax
comp=Z,270nm,3.6s
WMQ LR LR
comp=Z,17μm,16.9s
WMQ LR LR
comp=Z,10μm,17.9s
WMQ LR LR
comp=Z,16μm,17.9s
WMQ Urumqi 29.59 47 *e*P **P 11 03 56.1 +1.5**
comp=Z,90nm,1.0s
WMQ LR LR
comp=Z,4μm,22.0s
EDRB Edirne 29.61 309 *e*P **P 11 03 54.9 +0.3**
ENEZ Enez 29.66 306 *e*P **P 11 03 58.1 +3.1**
ZSN Zaisan 29.70 39 *e*LR LR 11 16 48.4
comp=Z,1μm,13.6s
ARU Arti 29.75 1 *e*P **P 11 03 56.2 +0.7**
comp=Z,62nm,1.2s
ARU LR LR
comp=Z,5μm,20.0s
ARU Arti 29.75 1*c i*P **P 11 03 55.5 0.0**
ARU 11 04 49.1
ARU PPP PPP 11 05 00.9
ARU 11 06 56.3
ARU S **S 11 08 53.6 +2.3**
ARU SS **SnSn 11 10 20.0 -1.0**
ARU pmax pmax
comp=Z,28nm,1.3s
ARU MLR MLR
comp=Z,3μm,20.0s
ARU Arti 29.75 1 P **P 11 03 55.6 0.0**
comp=Z,2.2nm,0.5s,baz=173,slow=5.7,SNR=15
ARU LR LR 11 18 15.6
comp=Z,6μm,18.7s,baz=182,slow=41
ALN Alexandroupoli 29.78 307 *e*P **P 11 03 54.7 -1.4**
ALN Alexandroupoli 29.78 307 *e*P **P 11 03 56.1 +0.1**
comp=Z,44nm,1.2s
ALN Alexandroupoli 29.78 307 P **P 11 03 56.2 +0.1**
ALN pmax pmax
comp=Z,35nm,1.2s
ICOR Ion Corvin 29.80 314⇓*i*P **P 11 03 56.7 +0.5**
TLB Topalu 29.85 315⇓*i*P **P 11 03 57.1 +0.5**
TLB Topalu 29.85 315 P **P 11 03 57.1 +0.5**
HARR Harsova 29.96 315⇓*i*P **P 11 03 58.0 +0.3**
HARR Harsova 29.96 315 P **P 11 03 57.9 +0.3**
GVD Gavdhos 29.99 294 *e*P **P 11 03 58.7 +0.7**
CFR Carcaliu 30.06 316⇓*i*P **P 11 03 58.5 0.0**
CFR Carcaliu 30.06 316 P **P 11 03 58.9 +0.4**
CFR pmax pmax
comp=Z,28nm,1.0s
IMMV Iera Moni Meta 30.15 295 *e*P **P 11 04 01.3 +1.8**
SVE Sverdlovsk 30.21 3⇑*e*P **P 11 04 00.4 +0.7**
SVE *e*S **S 11 08 53.6 -5.0**
SVE pmax pmax
comp=Z,52nm,1.0s
SVE MLR MLR
comp=Z,4μm,12.0s
RDO Rodhopi 30.23 307 *e*P **P 11 03 59.2 -0.8**
RDO Rodhopi 30.23 307 *e*P **P 11 04 00.9 +0.9**
RDO Rodhopi 30.23 307 P **P 11 04 00.9 +0.9**
KDZ Kurdzhali 30.48 308 *e*P **P 11 04 05.4 +3.1**
KIS Kishinev 30.55 319⇓*i*P **P 11 04 02.0 -0.8**
comp=Z,210nm,2.0s
KIS *e*S **S 11 09 00.0 -4.1**
KIS LRM MLR 11 17 16.0
comp=Z,3μm,17.0s

KIS Kishinev 30.55 319⇓*i*P **P 11 04 02.0 -0.8**
KIS *e* 11 05 16.0
KIS *e*S **S 11 09 00.0 -4.1**
KIS *i* 11 10 40.0
KIS *i* 11 10 59.0
KIS pmax pmax
comp=Z,210nm,2.0s
KIS MLR MLR
comp=Z,4μm,18.0s
SHL Shillong 30.57 84 P **P 11 04 05.3 +1.8**
SHL pmax pmax
comp=Z,26nm,1.4s
SHL Shillong 30.57 84 *e*P **P 11 04 02.2 -1.3**
LEHL Lehliu 30.59 314⇑*i*P **P 11 04 04.1 +1.0**
DION Dionisos Attik 30.63 300 P **P 11 04 04.7 +1.0**
PTL Penteli 30.67 300 *e*P **P 11 04 04.6 +0.5**
PTL Penteli 30.67 300 P **P 11 04 04.6 +0.5**
VLY Voula,Athens 30.69 300 *e*P **P 11 04 04.2 0.0**
VLY Voula,Athens 30.69 300 P **P 11 04 04.2 0.0**
ANKY Antikythira Is 30.75 296 *e*P **P 11 04 06.5 +1.7**
ANKY Antikythira Is 30.75 296 P **P 11 04 06.5 +1.7**
PETR Petresti 30.88 316⇑*i*P **P 11 04 06.9 +1.2**
MRKA Markates 31.02 301 P **P 11 04 07.6 +0.5**
SGRR Singureni 31.03 313⇓*i*P **P 11 04 07.6 +0.5**
SULR 31.04 314⇑*i*P **P 11 04 08.2 +1.1**
ISR Istrita 31.04 315 P **P 11 04 08.8 +1.6**
ISR pmax pmax
comp=Z,91nm,1.5s
DID Didima 31.06 299 *e*P **P 11 04 06.6 -0.9**
DID Didima 31.06 299 P **P 11 04 06.6 -0.9**
OUR Ouranopolis 31.12 305 *e*P **P 11 04 09.2 +1.3**
PLD Plovdiv 31.13 308 *e*P **P 11 04 07.5 -0.5**
PLD Plovdiv 31.13 308 P **P 11 04 09.7 +1.7**
MSEY Mahe Island 31.23 184 *e*P **P 11 04 09.9 +0.8**
comp=Z,68nm,1.1s
MSEY LR LR
comp=Z,3μm,20.0s
PAIG Paliouri 31.24 304 P **P 11 04 07.0 -2.0**
PAIG Paliouri 31.24 304 P **P 11 04 10.9 +1.9**
PAIG pmax pmax
comp=Z,57nm,1.4s
VRI Vrincioaia 31.26 316 *e*P **P 11 04 08.5 -0.6**
VRI Vrincioaia 31.26 316⇓*i*P **P 11 04 10.0 +0.9**
VRI Vrincioaia 31.26 316 P **P 11 04 10.5 +1.4**
VRI pmax pmax
comp=Z,42nm,2.1s
PLOR Plostina 31.30 316⇑*i*P **P 11 04 10.4 +0.9**
PLOR Plostina 31.30 316 P **P 11 04 10.4 +0.9**
SECR 31.31 314⇑*i*P **P 11 04 10.8 +1.2**
SMIA Simia 31.35 302 P **P 11 04 11.3 +1.3**
IAS Iasi 31.39 319⇓*i*P **P 11 04 10.3 +0.1**
IAS Iasi 31.39 319 P **P 11 04 10.0 -0.2**
IAS pmax pmax
comp=Z,39nm,0.9s
ATAL Atalanti 31.45 301 *e*P **P 11 04 10.8 -0.1**
ATAL Atalanti 31.45 301 P **P 11 04 10.8 -0.1**
XOR Xorichti 31.47 302 P **P 11 04 11.0 -0.1**
NVR Nevrokopi 31.49 306 P **P 11 04 11.9 +0.6**
PLG Polygyros 31.53 304 P **P 11 04 11.9 +0.3**
MLR Muntele Rosu 31.58 315 *e*P **P 11 04 13.4 +1.3**
comp=Z,170nm,1.3s
MLR Muntele Rosu 31.58 315⇓*i*P **P 11 04 13.3 +1.2**
MLR Muntele Rosu 31.58 315 P **P 11 04 13.6 +1.5**
comp=Z,42nm,0.8s,baz=121,slow=5.0,SNR=52
MLR LR LR 11 18 15.4
comp=Z,2μm,19.1s,baz=112,slow=39
TESR Tescani 31.60 317⇑*i*P **P 11 04 12.4 +0.3**
SRS Serrai 31.62 306 P **P 11 04 12.8 +0.4**
SRS Serrai 31.62 306 P **P 11 04 13.2 +0.8**
SRS pmax pmax
comp=Z,62nm,0.8s
SOH Sokhos 31.71 305 P **P 11 04 14.2 +1.0**
SOH Sokhos 31.71 305 P **P 11 04 14.3 +1.0**
SOH pmax pmax
comp=Z,49nm,1.0s
AXAR Agios Charalam 31.75 301 *e*P **P 11 04 16.6 +3.1**
AXAR Agios Charalam 31.75 301 P **P 11 04 16.6 +3.1**
DSF Desfina 31.78 301 P **P 11 04 13.0 -0.8**
HUMR Humele 31.81 313⇓*i*P **P 11 04 14.7 +0.8**
GUR Goura 31.83 300 *e*P **P 11 04 14.4 0.0**
GUR Goura 31.83 300 P **P 11 04 14.4 0.0**
HORT Hortiatis 31.84 305 *e*P **P 11 04 14.4 0.0**
GOLR 31.94 313⇑*i*P **P 11 04 16.5 +1.4**
THE Thessaloniki 31.95 305 P **P 11 04 16.9 +1.7**
THE pmax pmax
comp=Z,81nm,1.3s
KLV Kalavryta, Ach 32.00 300 P **P 11 04 15.5 -0.3**
MTUR Matau 32.03 314⇑*i*P **P 11 04 16.1 0.0**
MTUR Matau 32.03 314 P **P 11 04 16.0 0.0**
ITM Ithomi 32.04 298 *e*P **P 11 04 13.4 -2.7**
ITM Ithomi 32.04 298 *e*P **P 11 04 15.2 -0.8**
comp=Z,53nm,0.7s
ITM LR LR
comp=Z,4μm,21.0s
ITM Ithomi 32.04 298 P **P 11 04 15.6 -0.5**
KALE Kalithea 32.07 300 *e*P **P 11 04 15.6 -0.8**
KALE Kalithea 32.07 300 P **P 11 04 15.6 -0.8**
TRIZ Trizonia 32.12 300 P **P 11 04 16.4 -0.3**
VOIR 32.13 314⇓*i*P **P 11 04 17.8 +0.9**
VOIR 32.13 314 P **P 11 04 17.7 +0.9**
VOIR pmax pmax
comp=Z,83nm,1.0s
BIZ Bicaz 32.13 317⇓*i*P **P 11 04 17.1 +0.3**
KNT Kendrikon 32.14 306 P **P 11 04 16.2 -0.7**
KNT Kendrikon 32.14 306 P **P 11 04 17.7 +0.8**
KNT pmax pmax
comp=Z,27nm,1.2s
DOPR Dopca 32.14 315⇑*i*P **P 11 04 17.4 +0.5**
PYL PYLOS 32.14 297 *e*P **P 11 04 16.4 -0.6**
PYL PYLOS 32.14 297 P **P 11 04 16.4 -0.6**
LAKA Lakka 32.17 300 *e*P **P 11 04 16.9 -0.3**
LAKA Lakka 32.17 300 P **P 11 04 16.9 -0.3**
EFP Efpalio 32.26 300 P **P 11 04 17.4 -0.6**
AMT Artemida-Makis 32.26 299 P **P 11 04 18.3 +0.2**
VTS Vitosha 32.32 308 *e*P **P 11 04 18.8 +0.1**
comp=Z,23nm,0.9s
VTS *e*P **P 11 04 19.2 +0.5**
VTS LR LR
comp=Z,4μm,21.0s
VTS Vitosha 32.32 308 P **P 11 04 19.2 +0.5**
VTS Vitosha 32.32 308⇑*i*P **P 11 04 19.0 +0.3**
DRO Drossia 32.33 299 P **P 11 04 19.1 +0.5**
ARR Arges 32.37 314⇓*i*P **P 11 04 19.5 +0.6**
OBN Obninsk 32.38 337 *e*P **P 11 04 19.4 +0.7**
comp=Z,128nm,0.9s
OBN *e*S **S 11 09 32.1 -0.4**
OBN LR LR
comp=Z,3μm,19.0s
OBN Obninsk 32.38 337*c i*P **P 11 04 19.0 +0.3**
OBN *e* 11 05 29.2
OBN *i* S **S 11 09 32.1 -0.4**
OBN *e*SS **SnSn 11 11 28.2 +3.3**
OBN pmax pmax
comp=Z,234nm,1.3s
OBN MLR MLR
comp=Z,3μm,16.0s
OBN Obninsk 32.38 337 P **P 11 04 19.2 +0.5**
comp=Z,32nm,0.9s,baz=63,slow=0.8,SNR=32
OBN S **S 11 09 32.1 -0.4**
comp=Z,4.4nm,0.4s,baz=32,slow=21,SNR=4.3
DGZ Jazzator, Alta 32.38 37*c i*P **P 11 04 19.5 +0.4**
DGZ pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 32.41 325 *e*P **P 11 04 18.4 -0.7**
AKASG Malin Array Be 32.41 325 P **P 11 04 19.1 -0.1**
comp=Z,93nm,0.8s,baz=126,slow=8.1,SNR=160
AKASG PcP **PcP 11 07 07.5 +1.2**
comp=Z,1.4nm,0.5s,baz=92,slow=2.6,SNR=4.1
AKASG S **S 11 09 31.8 -1.4**
comp=Z,2.4nm,0.7s,baz=127,slow=18,SNR=5.4
AKASG LR LR 11 20 18.1
comp=Z,4μm,20.9s,baz=120,slow=42
AKBB Malin Array Si 32.41 325 *e*P **P 11 04 18.6 -0.6**
comp=Z,197nm,0.8s
AKBB LR LR
comp=Z,1μm,20.0s
KIEV Kiev 32.42 325 *e*P **P 11 04 18.7 -0.5**
comp=Z,182nm,0.8s
KIEV LR LR
comp=Z,4μm,20.0s
KIEV Kiev 32.42 325⇑*i*P **P 11 04 19.0 -0.2**
KIEV Kiev 32.42 325 *i*P **P 11 04 18.6 -0.5**
SNR=14

KIEV Kiev 32.42 325*c i*P **P 11 04 18.0 -1.2**
KIEV pmax pmax
comp=Z,184nm,0.8s
VAY Valandovo 32.42 306 *i*P **P 11 04 20.2 +0.8**
KIRV Kirov 32.44 352 P **P 11 04 19.6 +0.3**
comp=Z,37nm,0.8s,baz=156,slow=7.4,SNR=12
GRG Griva 32.45 305 *e*P **P 11 04 19.9 +0.3**
GRG Griva 32.45 305 P **P 11 04 20.0 +0.3**
GRG Griva 32.45 305 P **P 11 04 20.3 +0.7**
GRG pmax pmax
comp=Z,62nm,1.1s
CRAR CRAIOVA 32.51 312⇓*i*P **P 11 04 21.2 +1.1**
MOS Moscow 32.52 339 *e*P **P 11 04 18.9 -1.2**
MOS *e*S **S 11 09 33.3 -1.5**
MOS pmax pmax
comp=Z,149nm,1.4s
MOS pmax pmax
comp=Z,200nm,1.5s
MOS MLR MLR
comp=Z,2μm,18.0s
RLS Riolos of Patr 32.54 300 P **P 11 04 20.6 +0.2**
STIP Stip 32.80 306 *i*P **P 11 04 22.2 -0.4**
LOT Lotru 32.96 314 *e*P **P 11 04 23.8 -0.4**
LOT Lotru 32.96 314⇓*i*P **P 11 04 24.2 0.0**
BURAR Bucovina Array 32.98 318 *e*P **P 11 04 24.6 +0.2**
BURAR Bucovina Array 32.98 318⇑*i*P **P 11 04 25.2 +0.9**
BURAR Bucovina Array 32.98 318 P **P 11 04 25.1 +0.8**
BUR08 Bucovina Ar. S 33.01 318 *e*P **P 11 04 25.4 +0.8**
comp=Z,48nm,1.0s
SRE Strehaia 33.03 312⇑*i*P **P 11 04 26.0 +1.2**
SRE Strehaia 33.03 312 P **P 11 04 25.9 +1.2**
HORU Horodok 33.07 321 P **P 11 04 25.3 +0.3**
KFL Anninata 33.07 300 P **P 11 04 24.7 -0.4**
FNA Florina 33.16 304 *e*P **P 11 04 26.5 +0.7**
FNA Florina 33.16 304 *e*P **P 11 04 25.6 -0.2**
comp=Z,150nm,1.1s
FNA LR LR
comp=Z,1μm,20.0s
FNA Florina 33.16 304 P **P 11 04 26.2 +0.3**
FNA Florina 33.16 304 P **P 11 04 26.6 +0.7**
FNA pmax pmax
comp=Z,146nm,1.0s
VLS Valsamata 33.24 300 P **P 11 04 25.8 -0.8**
BIA Bitola 33.25 305 *i*P **P 11 04 28.1 +1.4**
ARCR ARCALIA 33.27 317⇑*i*P **P 11 04 27.8 +1.1**
LKD2 Lefkada island 33.29 301 P **P 11 04 26.4 -0.6**
TSLK Tsoukalades, L 33.30 301 P **P 11 04 26.9 -0.1**
NEST Nestorio 33.31 304 P **P 11 04 27.1 -0.2**
KSV Kosov 33.40 319 P **P 11 04 27.5 -0.4**
SKO Skopje 33.41 307 *i*P **P 11 04 28.8 +0.8**
CJR Cluj-Napoca 33.58 316⇑*i*P **P 11 04 30.5 +1.0**
CJR Cluj-Napoca 33.58 316 P **P 11 04 30.4 +1.0**
GZR Gura Zlata 33.58 313⇑*i*P **P 11 04 30.1 +0.5**
HERR Herculane 33.64 312⇓*i*P **P 11 04 30.6 +0.7**
OHR Ohrid 33.66 305 *i*P **P 11 04 31.1 +0.8**
OHR Ohrid 33.66 305 P **P 11 04 32.2 +1.9**
IGT Igoumenitsa 33.67 302 *e*P **P 11 04 29.2 -1.1**
IGT Igoumenitsa 33.67 302 P **P 11 04 29.2 -1.1**
IGT Igoumenitsa 33.67 302 P **P 11 04 29.9 -0.4**
DEV Deva 33.69 314⇑*i*P **P 11 04 31.3 +0.9**
DEV Deva 33.69 314 P **P 11 04 32.7 +2.3**
DEV pmax pmax
comp=Z,102nm,1.2s
NVS Novosibirsk 33.74 27⇑*i*P **P 11 04 31.2 +0.5**
NVS *e*S **S 11 09 53.9 +0.2**
NVS pmax pmax
comp=Z,117nm,1.3s
NVS pmax pmax
comp=N,41nm,0.8s
NVS smax smax
comp=N,213nm,1.7s
NVS smax smax
comp=E,42nm,1.9s
ZAA0 Zalesovo Array 33.77 29 *e*P **P 11 04 30.4 -0.5**
comp=E,63nm,0.8s
ZAA0 *e*S **S 11 09 54.0 -0.2**
ZAA0 LR LR
comp=Z,1μm,22.0s
ZALV Zalesovo Beam 33.77 29 *e*P **P 11 04 30.4 -0.5**
ZALV Zalesovo Beam 33.77 29 *i*P **P 11 04 30.7 -0.3**
ZALV pmax pmax
comp=Z,25nm,0.4s
ZALV Zalesovo Beam 33.77 29 P **P 11 04 31.0 0.0**
comp=Z,25nm,0.4s,baz=238,slow=8.5,SNR=95
ZALV S **S 11 09 53.8 -0.4**
comp=Z,18nm,0.8s,baz=235,slow=16,SNR=12
ZAA1 Zalesovo Array 33.77 29 *e*P **P 11 04 31.0 0.0**
ZAA1 *e*S **S 11 09 53.8 -0.5**
KMBO Kilima Mbogo 34.00 219 *e*P **P 11 04 35.5 +1.8**
comp=Z,51nm,1.3s
KMBO LR LR
comp=Z,3μm,18.0s
KMBO Kilima Mbogo 34.00 219 *i*P **P 11 04 36.0 +2.3**
KMBO pmax pmax
comp=Z,20nm,0.9s
KMBO Kilima Mbogo 34.00 219 P **P 11 04 35.0 +1.3**
comp=Z,20nm,0.9s,baz=30,slow=9.5,SNR=8.3
KMBO LR LR 11 20 12.4
comp=Z,3μm,18.9s,baz=40,slow=39
BMR Baia Mare 34.05 317⇑*i*P **P 11 04 34.4 +0.9**
PHP Peshkopia 34.06 306 P **P 11 04 33.6 -0.1**
MDVR Moldovita 34.07 312⇑*i*P **P 11 04 34.3 +0.5**
DRGR 34.17 315⇑*i*P **P 11 04 35.3 +0.7**
DRGR 34.17 315 P **P 11 04 35.3 +0.7**
DRGR pmax pmax
comp=Z,234nm,1.4s
NAI Nairobi 34.38 219 PFAKE 11 04 40.0 +3.1
NAI LR LR
comp=Z,4μm,19.0s
TIR Tirane 34.40 305 *e*P **P 11 04 33.2 -3.5**
comp=Z,199nm,1.2s
TIR LR LR
comp=Z,2μm,19.0s
TIR Tirane 34.40 305⇑*i*P **P 11 04 37.0 +0.4**
TIR Tirane 34.40 305 P **P 11 04 37.7 +1.1**
TIR pmax pmax
comp=Z,141nm,0.8s
BZS Buzias 34.43 313⇑*i*P **P 11 04 37.3 +0.5**
BZS Buzias 34.43 313 P **P 11 04 37.8 +1.0**
BZS pmax pmax
comp=Z,120nm,1.1s
MORS Morshin 34.48 320 P **P 11 04 38.5 +1.3**
TRSU Trosnyk 34.56 318 P **P 11 04 41.8 +3.9**
SIRR Siria 34.63 314⇓*i*P **P 11 04 39.8 +1.2**
BANR Banloc 34.66 312⇑*i*P **P 11 04 40.0 +1.2**
LVV L'vov 34.73 321 *e*P **P 11 04 38.9 -0.4**
LVV *e*S **S 11 10 08.1 -1.0**
LVV MLR MLR
comp=Z,2μm,19.0s
TRPA Tarpa 34.83 317⇑*i*P **P 11 04 40.7 +0.5**
TRPA Tarpa 34.83 317⇑*e*P **P 11 04 39.0 -1.2**
TRPA *e*S **S 11 10 12.0 +1.3**
LTVH Ltavrtes, Hu 34.91 316⇑*e*P **P 11 04 41.1 +0.1**
LTVH *e*PP PP 11 06 18.1 +18
LTVH *e*S S 11 10 21.0 +9.0
DIVS Divibare 35.02 310⇑*i*P **P 11 04 41.4 -0.7**
DRME Dracevica, Mon 35.09 306 *e*P **P 11 04 41.1 -1.5**
PDG Podgorica 35.09 307⇑*i*P **P 11 04 43.0 +0.4**
PDG Podgorica 35.09 307 *e*P **P 11 04 41.4 -1.2**
TTG Podgorica 35.09 307 *e*P **P 11 04 42.5 -0.1**
comp=Z,28nm,0.9s
TTG LR LR
comp=Z,7μm,18.0s
UZH Uzhgorod 35.19 318 *e*P **P 11 04 42.6 -0.7**
UZH *i* 11 04 45.3
UZH *e* 11 04 53.6
UZH *i* 11 06 01.5
UZH *e* 11 07 18.6
UZH *e*S **S 11 10 11.3 -4.9**
UZH *e*SS **SnSn 11 12 38.2 +4.9**
KOLS Kolonicke sedl 35.33 318 *e*P **P 11 04 46.0 +1.4**
KOLS pmax pmax
comp=Z,255nm,1.0s
KOLS Kolonicke sedl 35.33 318 *e*P **P 11 04 46.0 +1.4**
KOLS *e*S **S 11 10 16.6 -1.9**
BBLS Lazići 35.37 309⇑*i*P **P 11 04 44.7 -0.3**
KWP Kalwaria Pacla 35.39 320 *e*P **P 11 04 45.7 +0.6**
KWP LMZ LR 11 23 08.6
comp=Z,5μm,21.6s
KWP Kalwaria Pacla 35.39 320 *e*P **P 11 04 45.6 +0.5**
comp=Z,2μm,0.9s
KWP LR LR
comp=Z,22μm,20.0s

KWP	**Kalwaria Pacla**	35.39 320	*e*P		**P**	**11 04 45.7 +0.6**
KWP			MLR		MLR	
comp=Z,5μm,21.6s						
MICGM	**Minsk**	35.42 330⇓	*e*P		**P**	**11 04 44.0 -1.2**
MICGM			PM			11 04 45.0
comp=Z,0.3nm,1.2s						
MNK	**Minsk**	35.42 330⇓	*e*P		**P**	**11 04 44.0 -1.2**
MNK			pmax		pmax	
comp=Z,270nm,1.2s						
FRGS	**Fruska Gora**	35.47 311⇑	*i*P		**P**	**11 04 45.9 0.0**
UPM	**Unac-Piva**	35.54 308	*e*P		**P**	**11 04 45.8 -0.9**
HCY	**Herceg Novi**	35.65 306	*e*P		**P**	**11 04 46.4 -1.0**
BRY	**Bratogost**	35.72 307	*e*P		**P**	**11 04 47.7 -0.5**
HAPS	**Han Pljesak,Bl**	35.74 309	*e*P		**P**	**11 04 48.0 -0.3**
TREB	**Trebinje**	35.81 307	*e*P		**P**	**11 04 47.7 -1.1**
PRGR	**Permogore**	35.91 350	*e*P		**P**	**11 04 48.1 -1.3**
PRGR			pmax		pmax	
comp=Z,36nm,0.9s						
PBA	**Port Blair**	36.08 108	*e*P		P	11 04 48.4 -2.9
PBA			IAmb		IAmb	11 04 56.3
comp=Z,708nm,2.7s						
NACGM	**Naroch**	36.17 330	*e*P		**P**	**11 04 51.0 -0.6**
NACGM			*e*S		**S**	**11 10 30.0 -1.1**
NACGM			*e*SS		SS	11 12 46.0 -23
NACGM			*e*SSS		SSS	11 13 42.0
NACGM			*e*LQ		LQ	11 17 46.0
NACGM			*e*LR		LR	11 20 14.0
NACGM			LRM		MLR	11 21 43.0
comp=Z,6.2nm,20.0s						
KECS	**Kecovo**	36.22 317	*e*P		**P**	**11 04 53.4 +1.2**
KECS			pmax		pmax	
comp=Z,321nm,1.0s						
KECS	**Kecovo**	36.22 317	*e*P		**P**	**11 04 53.4 +1.2**
STON	**Ston**	36.31 307	*e*P		P	11 04 46.7 -6.3
TIP	**Timpagrande**	36.35 301	*e*P		**P**	**11 04 53.9 +0.4**
comp=Z,211nm,1.2s						
TIP			LR		LR	
comp=Z,3μm,21.0s						
TIP	**Timpagrande**	36.35 301	P		**P**	**11 04 54.3 +0.8**
TIP	**Timpagrande**	36.35 301⇑	*i*P		**P**	**11 04 53.9 +0.4**
PSZ	**Piszkesteto**	36.37 316	*e*P		**P**	**11 04 54.0 +0.4**
comp=Z,108nm,1.0s						
PSZ			LR		LR	
comp=Z,4μm,22.0s						
PSZ	**Piszkesteto**	36.37 316⇑	*i*P		**P**	**11 04 54.1 +0.5**
PSZ	**Piszkesteto**	36.37 316	P		**P**	**11 04 54.2 +0.6**
PSZ			pmax		pmax	
comp=Z,120nm,1.1s						
PSZ	**Piszkesteto**	36.37 316⇑	*e*P		**P**	**11 04 53.1 -0.5**
PSZ			*e*PP		**PP**	**11 06 17.0 +0.7**
PSZ			*e*S		**S**	**11 10 29.1 -5.5**
KLMR	**Klimovskoe**	36.37 345⇑	*i*P		**P**	**11 04 52.8 -0.5**
KLMR			pmax		pmax	
comp=Z,51nm,0.8s						
IDID	**Didziasalis**	36.45 330	*e*P		**P**	**11 04 54.6 +0.6**
IDID			IAmb		IAmb	11 04 58.4
comp=Z,42nm,0.9s						
IIGN	**Ignalina**	36.70 330	*e*P		**P**	**11 04 56.4 +0.2**
IIGN			IAmb		IAmb	11 05 03.6
comp=Z,53nm,0.9s						
NIE	**Niedzica**	36.71 318	*e*P		**P**	**11 04 56.9 +0.5**
NIE			LMZ		LR	11 24 26.9
comp=Z,2μm,18.4s						
NIE	**Niedzica**	36.71 318	*e*P		**P**	**11 04 56.9 +0.5**
NIE			MLR		MLR	
comp=Z,2μm,18.4s						
ISAL	**Salakas**	36.88 330	*e*P		**P**	**11 04 58.5 +0.8**
ISAL			IAmb		IAmb	11 05 02.1
comp=Z,40nm,0.9s						
CEL	**Celeste**	36.92 299	*e*P		**P**	**11 04 57.4 -0.9**
comp=Z,56nm,1.0s						
IZAR	**Zarasai**	36.94 331	*e*P		**P**	**11 04 58.5 +0.4**
IZAR			IAmb		IAmb	11 05 02.5
comp=Z,36nm,0.9s						
LANS	**Liptovska Anna**	37.10 318	*e*P		**P**	**11 05 01.2 +1.4**
LANS	**Liptovska Anna**	37.10 318	*e*P		**P**	**11 05 01.2 +1.4**
GTA	**Gaotai**	37.12 59	⇓P		**P**	**11 05 01.9 +1.7**
GTA			pP		sP	11 05 08.0 +1.7
GTA			sP		pP	11 05 11.3 +6.8
GTA			S		**S**	**11 10 50.8 +4.4**
GTA			pmax		pmax	
comp=Z,32nm,1.3s						
GTA			pmax		pmax	
comp=Z,220nm,4.9s						
GTA			LR		LR	
comp=Z,7μm,21.3s						
GTA			LR		LR	
comp=Z,3μm,20.9s						
GTA			LR		LR	
comp=Z,5μm,20.9s						
BLY	**Banja Luka**	37.14 310	*e*P		**P**	**11 05 00.0 -0.1**
comp=Z,137nm,1.9s						
BLY	**Banja Luka**	37.14 310⇑	*i*P		**P**	**11 05 00.3 +0.2**
BLY	**Banja Luka**	37.14 310⇑	*i*P		**P**	**11 04 59.8 -0.3**
CSKK	**Cskako**	37.20 314	*e*P		**P**	**11 05 01.0 +0.4**
CSKK			*e*S		**S**	**11 10 47.0 -0.1**
VYHS	**Vyhne**	37.24 316	*e*P		**P**	**11 05 01.5 +0.6**
VYHS			pmax		pmax	
comp=Z,44nm,1.1s						
VYHS	**Vyhne**	37.24 316	*e*P		**P**	**11 05 01.5 +0.6**
VYHS			*e*S		**S**	**11 10 44.8 -2.9**
SRO2	**Moca**	37.26 315	*e*P		**P**	**11 05 00.9 -0.1**
SRO2	**Moca**	37.26 315	*e*P		**P**	**11 05 00.9 -0.1**
TIH	**Tihany**	37.29 313	*e*P		**P**	**11 05 02.0 +0.7**
SRO	**Srobarova**	37.33 315	*e*P		**P**	**11 05 02.8 +1.2**
SRO	**Srobarova**	37.33 315	*e*P		**P**	**11 05 02.8 +1.2**
OJC	**Ojcow**	37.34 319	*e*P		**P**	**11 05 01.8 +0.1**
OJC			LMZ		LR	11 24 19.5
comp=Z,4μm,21.1s						
OJC	**Ojcow**	37.34 319	*e*P		**P**	**11 05 01.9 +0.2**
comp=Z,216nm,0.9s						
OJC	**Ojcow**	37.34 319	*e*P		**P**	**11 05 01.8 +0.1**
OJC			MLR		MLR	
comp=Z,4μm,21.1s						
BEL	**Belsk**	37.49 322	*e*P		**P**	**11 05 04.0 +1.0**
BEL			LMZ		LR	11 23 19.6
comp=Z,5μm,21.6s						
BEL	**Belsk**	37.49 322	*e*P		**P**	**11 05 04.0 +1.0**
BEL			MLR		MLR	
comp=Z,5μm,21.6s						
MBAR	**Mbarara**	37.61 228	*e*P		**P**	**11 05 06.0 +1.4**
comp=Z,28nm,1.1s						
MBAR			LR		LR	
comp=Z,6μm,19.0s						
PABE	**Paberze**	37.82 329	*e*P		**P**	**11 05 04.0 -1.6**
PABE			IAmb		IAmb	11 05 09.6
comp=Z,132nm,0.8s						
WDD	**Wied Dalam**	37.86 295	PFAKE			11 05 10.0 +3.7
WDD			LR		LR	
comp=Z,4μm,20.0s						
BEHE	**Becsehely**	37.89 312⇑	*i*P		**P**	**11 05 07.4 +1.0**
BEHE	**Becsehely**	37.89 312⇑	*e*P		**P**	**11 05 07.0 +0.6**
BEHE			*e*S		S	11 10 35.1 -23
VAE	**Valguarnera**	38.02 297	P		**P**	**11 05 11.1 +3.4**
comp=Z,107nm,1.1s,baz=67,slow=4.1,SNR=9.7						
UDBI	**Udbina**	38.06 309	P		**P**	**11 05 07.8 -0.2**
JAVC	**Velka Javorina**	38.09 316	*e*P		**P**	**11 05 09.0 +0.8**
SMOL	**Smolenice**	38.12 316	*e*P		**P**	**11 05 09.6 +1.2**
SMOL	**Smolenice**	38.12 316	*e*P		**P**	**11 05 09.6 +1.2**
OKC	**Ostrava-Krasne**	38.16 318	*e*P		**P**	**11 05 09.4 +0.7**
OKC			MLR		MLR	
comp=Z,2μm,16.1s						
OKC	**Ostrava-Krasne**	38.16 318	*e*P		**P**	**11 05 09.4 +0.7**
OKC			AMS		AMS	11 24 40.0
comp=Z,2μm,16.1s						
MODS	**Modra-Piesok**	38.17 315	*e*P		**P**	**11 05 08.3 -0.5**
MODS			pmax		pmax	
comp=Z,161nm,1.3s						
MODS	**Modra-Piesok**	38.17 315	*e*P		**P**	**11 05 08.3 -0.5**
MODS			*e*S		**S**	**11 11 03.1 +1.3**
ZST	**Bratislava**	38.22 315	*e*P		**P**	**11 05 08.8 -0.4**
ZST			*e*S		**S**	**11 11 01.1 -1.4**
ZST	**Bratislava**	38.22 315	*e*P		**P**	**11 05 08.8 -0.4**
ZST			*e*S		**S**	**11 11 01.1 -1.4**
SOP	**Sopron**	38.40 314	P		**P**	**11 05 11.3 +0.6**
SOP			pmax		pmax	
comp=Z,322nm,0.8s						
SOP	**Sopron**	38.40 314	*e*P		**P**	**11 05 11.0 +0.3**
SOP			*e*S		**S**	**11 11 04.0 -1.2**
VSU	**Vasula**	38.50 334	*ce*P		**P**	**11 05 10.7 -0.6**
VSU			pmax		pmax	
comp=Z,443nm,1.7s						
VSU	**Vasula**	38.50 334	*e*P		**P**	**11 05 10.2 -1.1**
VSU			IAmb		IAmb	11 05 16.5
comp=Z,225nm,1.0s						
MORC	**Moravsky Berou**	38.50 318	*e*P		**P**	**11 05 11.5 -0.1**
comp=Z,70nm,1.0s						
MORC			LR		LR	
comp=Z,2μm,20.0s						
MORC	**Moravsky Berou**	38.50 318⇑	*i*P		**P**	**11 05 11.6 -0.1**
MORC	**Moravsky Berou**	38.50 318	P		**P**	**11 05 11.7 +0.1**
MORC			pmax		pmax	
comp=Z,302nm,1.0s						
MORC	**Moravsky Berou**	38.50 318	*e*P		**P**	**11 05 11.4 -0.2**
MORC			*e*			11 06 44.4
CRES	**Cresnjev**	38.60 311⇑	*i*P		**P**	**11 05 12.8 +0.4**
CHTO	**Chiang Mai**	38.61 93	*e*P		**P**	**11 05 13.1 +0.3**
comp=Z,54nm,1.8s						
CHTO			LR		LR	
comp=Z,3μm,21.0s						
CHTO	**Chiang Mai**	38.61 93	P		**P**	**11 05 14.9 +2.1**
CHTO			pmax		pmax	
comp=Z,17nm,1.6s						
CMMT	**Chiang Mai**	38.61 93	P		**P**	**11 05 14.8 +1.9**
comp=Z,6.6nm,1.1s,comp=Z,236nm						
BOJS	**Bojanci**	38.65 310	*i* P		**P**	**11 05 13.2 +0.3**
NVLJ	**Novalja**	38.70 309	P		**P**	**11 05 12.7 -0.5**
CMAR	**Chiang Mai Arr**	38.73 93	*e*P		**P**	**11 05 13.6 -0.2**
CMAR	**Chiang Mai Arr**	38.73 93	P		**P**	**11 05 14.3 +0.5**
comp=Z,3.2nm,0.8s,baz=286,slow=9.9,SNR=9.1						
CMAR			LR		LR	11 23 17.8
comp=Z,4μm,21.9s,baz=272,slow=39						
VRAC	**Vranov**	38.91 317⇑	*i*P		**P**	**11 05 15.4 +0.4**
VRAC	**Vranov**	38.91 317	P		**P**	**11 05 15.7 +0.7**
VRAC			pmax		pmax	
comp=Z,82nm,1.8s						
VRAC	**Vranov**	38.91 317	*e*P		**P**	**11 05 15.7 +0.7**
VRAC			*e*			11 06 48.6
CONA	**Conrad Observa**	38.92 314	*i* pP		**P**	**11 05 15.1 -0.1**
comp=Z,67nm,0.8s,SNR=63						
ARSA	**Arzberg**	38.94 313	*i* pP		**P**	**11 05 15.7 +0.4**
comp=Z,93nm,1.0s,SNR=39						
KRUC	**Moravsky**	38.95 316	P		**P**	**11 05 15.8 +0.5**
KRUC			pmax		pmax	
comp=Z,107nm,1.6s						
KRUC	**Moravsky**	38.95 316	*e*P		**P**	**11 05 15.5 +0.2**
KRUC			*e*			11 06 50.3
KRUC			*e*S		**S**	**11 11 13.5 -0.1**
CLTB	**Caltabellotta**	38.98 298	*e*P		**P**	**11 05 15.9 +0.1**
comp=Z,88nm,1.0s						
CLTB			LR		LR	
comp=Z,4μm,18.0s						
VISS	**Visnje**	39.01 311	*i* P		**P**	**11 05 16.0 +0.1**
PERS	**Pernice**	39.04 312	*i* P		**P**	**11 05 16.1 -0.1**
PBUR	**Paburg**	39.06 329	*e*P		**P**	**11 05 14.3 -1.8**
PBUR			IAmb		IAmb	11 05 20.8
comp=Z,129nm,0.7s						
KRLC	**Kraliky**	39.07 318	*e*P		**P**	**11 05 16.8 +0.4**
KRLC	**Kraliky**	39.07 318	*e*P		**P**	**11 05 16.8 +0.4**
SOKA	**Soboth**	39.10 312	*i* pP		**P**	**11 05 16.8 0.0**
comp=Z,50nm,1.0s,SNR=30						
SOKA			*i* S		**S**	**11 11 14.8 -1.3**
comp=Z,14nm,1.1s,SNR=5.7						
CEY	**Cerknica**	39.27 311⇑	*i*P		**P**	**11 05 18.1 0.0**
LJU	**Ljubljana**	39.28 311⇑	*i*P		**P**	**11 05 18.9 +0.8**
LAMP	**Lampang**	39.32 93	P		P	11 05 23.9 +5.1
comp=Z,11μm,0.5s						
AQU	**L'Aquila**	39.33 305	PFAKE			11 05 30.0 +11
AQU			LR		LR	
comp=Z,4μm,21.0s						
AQU	**L'Aquila**	39.33 305	P		**P**	**11 05 20.7 +2.1**
AQU			pmax		pmax	
comp=Z,163nm,1.2s						
AQU	**L'Aquila**	39.33 305⇑	*i*P		**P**	**11 05 19.4 +0.8**
OBKA	**Obir**	39.38 312	*i* pP		**P**	**11 05 19.6 +0.5**
comp=Z,82nm,1.3s,SNR=15						
OBKA			*e*S		**S**	**11 11 16.3 -3.9**
comp=Z,11nm,1.4s						
DPC	**Dobruska-Polom**	39.45 318	*e*P		**P**	**11 05 19.8 +0.3**
DPC			MLR		MLR	
comp=Z,2μm,20.2s						
DPC	**Dobruska-Polom**	39.45 318	*e*P		**P**	**11 05 19.8 +0.3**
DPC			*e*PP		**PnPn**	**11 07 01.7 +8.9**
DPC			AMS		AMS	11 23 20.0
comp=Z,2μm,20.2s						
UMPA	**Umpang Tak**	39.46 97	P		**P**	**11 05 23.5 +3.5**
comp=Z,61μm,1.2s						
CMBY	**CAMPBELL BAY**	39.50 113	*e*P		P	11 05 14.8 -5.4
JAVS	**Javornik**	39.55 311	*i* P		**P**	**11 05 20.5 0.0**
TREC	**Trest**	39.59 316	*e*P		**P**	**11 05 21.8 +1.1**
TREC			*e*S		**S**	**11 11 20.2 -3.0**
TREC			MLR		MLR	
comp=Z,2μm,19.5s						
TREC	**Trest**	39.59 316	*e*P		**P**	**11 05 21.8 +1.1**
TREC			*e*S		**S**	**11 11 20.2 -3.0**
TREC			AMS		AMS	11 26 20.0
comp=Z,2μm,19.5s						
TMCR	**Tamitsa**	39.62 347	*e*P		**P**	**11 05 20.4 -0.3**
TMCR			pmax		pmax	
comp=Z,49nm,1.0s						
KSP	**Ksiaz**	39.64 319	*e*P		**P**	**11 05 21.2 +0.1**
KSP			LMZ		LR	11 25 33.7
comp=Z,4μm,19.6s						
KSP	**Ksiaz**	39.64 319	*e*P		**P**	**11 05 21.2 +0.1**
KSP			MLR		MLR	
comp=Z,4μm,19.6s						
UPC	**Upice**	39.69 318	*e*P		**P**	**11 05 22.1 +0.6**
UPC			*e*			11 06 55.9
UPC			MLR		MLR	
comp=Z,2μm,16.1s						
UPC	**Upice**	39.69 318	*e*P		**P**	**11 05 22.1 +0.6**
UPC			*e*PP		**PnPn**	**11 06 55.9 +0.3**
UPC			AMS		AMS	11 24 40.0
comp=Z,2μm,16.1s						
TRI	**Trieste**	39.72 310	*e*P		**P**	**11 05 20.2 -1.5**
comp=Z,168nm,1.1s						
TRI			LR		LR	
comp=Z,3μm,21.0s						
TRI	**Trieste**	39.72 310	P		**P**	**11 05 23.0 +1.3**
TRI			pmax		pmax	
comp=Z,144nm,1.0s						
SLIT	**Slitere, Latvi**	39.81 331	*e*P		**P**	**11 05 21.1 -1.3**
SLIT			IAmb		IAmb	11 05 26.9
comp=Z,305nm,0.8s						
PHRA	**Phrae**	39.86 93	P		**P**	**11 05 26.5 +3.2**
comp=Z,1.9nm,1.6s,comp=Z,80nm						
MOA	**Molln**	39.93 314	*i* pP		**P**	**11 05 23.7 +0.2**
comp=Z,160nm,0.8s,SNR=105						
MYKA	**Terra Mystica**	40.02 312	*i* pP		**P**	**11 05 24.3 0.0**
comp=Z,63nm,0.8s,SNR=25						
MYKA			*e*ScP		**ScP**	**11 11 18.4 +0.2**
comp=Z,9.6nm,1.6s						
MYKA			*e*S		**S**	**11 11 30.3 +0.6**
comp=Z,23nm,1.5s						
GKP	**Gorka Klasztor**	40.08 323	P		**P**	**11 05 27.3 +2.7**
GKP			pmax		pmax	
comp=Z,101nm,0.6s						
LZH	**Lanzhou**	40.10 65	*e*P		**P**	**11 05 26.5 +1.2**
LZH			pP		sP	11 05 30.8 -0.7
LZH			sP		pP	11 05 33.1 +3.5
LZH			PP		**PnPn**	**11 07 04.4 +3.4**
LZH			S		**S**	**11 11 29.3 -2.2**
LZH			sS		sS	11 11 40.3 +1.7
LZH			pmax		pmax	
comp=Z,78nm,1.0s						
LZH			pmax		pmax	
comp=Z,170nm,4.9s						
LZH			LR		LR	
comp=Z,4μm,14.1s						
LZH			LR		LR	
comp=Z,5μm,15.8s						
LZH			LR		LR	
comp=Z,7μm,15.9s						
GOPC	**GO Pecny, Ondr**	40.22 317	*e*P		**P**	**11 05 26.0 +0.1**
GOPC			*e*			11 05 29.4
GOPC			MLR		MLR	
comp=Z,2μm,16.2s						
GOPC	**GO Pecny, Ondr**	40.22 317	*e*P		**P**	**11 05 26.0 +0.1**
GOPC			*e*pP		**pP**	**11 05 29.4 -0.9**
GOPC			AMS		AMS	11 26 00.0
comp=Z,2μm,16.2s						
JOF	**Joensuu**	40.23 342	P		**P**	**11 05 26.2 +0.4**
JOF			pmax		pmax	
comp=Z,70nm,1.0s						
CD2	**Chengdu**	40.28 73	P		**P**	**11 05 30.3 +3.6**
CD2			S		**S**	**11 11 36.3 +2.2**
CD2			pmax		pmax	
comp=Z,20nm,0.5s						
CD2			pmax		pmax	
comp=Z,180nm,5.5s						
CD2			LR		LR	
comp=Z,5μm,19.6s						
CD2			LR		LR	
comp=Z,6μm,19.6s						
CD2			LR		LR	
comp=Z,9μm,16.3s						
KMI	**Kunming**	40.30 82	P		**P**	**11 05 26.0 -1.1**
KMI			S		**S**	**11 11 33.3 -1.5**
KMI			pmax		pmax	
comp=Z,11nm,0.7s						
KMI			pmax		pmax	
comp=Z,210nm,4.2s						
KMI			LR		LR	
comp=Z,3μm,18.8s						
KMI			LR		LR	
comp=Z,2μm,18.2s						
KMI			LR		LR	
comp=Z,4μm,18.5s						
KMI	**Kunming**	40.30 82	PFAKE			11 05 40.0 +13
KMI			LR		LR	
comp=Z,3μm,18.0s						
KBA	**Koelnbreinsper**	40.33 312	*i* pP		**P**	**11 05 27.1 +0.1**
comp=Z,227nm,1.6s,SNR=68						
KBA	**Koelnbreinsper**	40.33 312	P		**P**	**11 05 27.4 +0.4**
KBA			pmax		pmax	
comp=Z,120nm,0.9s						
PRU	**Pruhonice**	40.40 317	*e*P		**P**	**11 05 27.7 +0.4**
PRU			*e*			11 05 30.2
PRU			MLR		MLR	
comp=Z,3μm,18.3s						
PRU	**Pruhonice**	40.40 317	*e*P		**P**	**11 05 27.7 +0.4**
PRU			*e*pP		**pP**	**11 05 30.2 -1.5**
PRU			AMS		AMS	11 26 00.0
comp=Z,3μm,18.3s						
UTTA	**Uttaradit**	40.41 94	P		**P**	**11 05 30.6 +2.8**
comp=Z,28μm,1.0s,comp=Z,247μm						
PVCC	**Panska Ves**	40.56 318	*e*P		**P**	**11 05 29.2 +0.5**
PVCC			MLR		MLR	
comp=Z,2μm,16.6s						
PVCC	**Panska Ves**	40.56 318	*e*P		**P**	**11 05 29.2 +0.5**
PVCC			AMS		AMS	11 26 10.0
comp=Z,2μm,16.6s						
GEC2	**GERESS Array S**	40.57 315	*e*P		**P**	**11 05 29.0 +0.1**
comp=Z,94nm,0.9s						
GEC2			*e*ScP		**ScP**	**11 11 19.2 -1.1**
GEC2			LR		LR	
comp=Z,16μm,1.9s						
GERES	**GERESS Array B**	40.57 315	*e*P		**P**	**11 05 28.6 -0.4**
GERES	**GERESS Array B**	40.57 315	P		**P**	**11 05 29.1 +0.2**
comp=Z,58nm,0.8s,baz=113,slow=8.8,SNR=226						
GERES			ScP		**ScP**	**11 11 19.2 -1.1**
comp=Z,4.5nm,0.9s,baz=106,slow=2.9,SNR=8.9						
GERES			S		**S**	**11 11 33.6 -4.4**
comp=Z,1.2nm,0.9s,baz=138,slow=9.0,SNR=3.2						
GERES			LR		LR	11 26 11.2
comp=Z,2μm,18.6s,baz=116,slow=42						
KHC	**Kasperske Hory**	40.73 315	*e*P		**P**	**11 05 29.9 -0.3**
comp=Z,74nm,1.0s						
KHC			LR		LR	
comp=Z,800nm,19.0s						
KHC	**Kasperske Hory**	40.73 315	*e*P		**P**	**11 05 30.1 -0.1**
KHC			*e*			11 05 37.0
KHC			*e*S		**S**	**11 11 37.0 -3.3**
KHC			MLR		MLR	
comp=Z,3μm,18.4s						
KHC	**Kasperske Hory**	40.73 315	*e*P		**P**	**11 05 30.1 -0.1**
KHC			*e*x		x	11 05 37.0
KHC			*e*S		**S**	**11 11 37.0 -3.3**
KHC			AMS		AMS	11 25 40.0
comp=Z,3μm,18.4s						
FIA1	**FINESS Array S**	40.78 337	*e*P		**P**	**11 05 30.6 +0.3**
comp=Z,66nm,0.9s						
FIA0	**FINESS Array S**	40.78 337	*e*P		**P**	**11 05 30.6 +0.3**
FINES	**FINESS Array B**	40.78 337	P		**P**	**11 05 30.6 +0.3**
comp=Z,48nm,0.8s,baz=135,slow=8.5,SNR=87						
FINES			S		**S**	**11 11 37.3 -3.3**
comp=Z,9.7nm,1.1s,baz=119,slow=20,SNR=4.1						
ABTA	**Abfaltersbach**	40.80 312	*i* pP		**P**	**11 05 30.9 0.0**
comp=Z,118nm,0.9s,SNR=77						
ABTA			*e*S		**S**	**11 11 41.7 +0.2**
comp=Z,11nm,1.2s						
MOY	**Mondy**	40.92 41	*e*P		**P**	**11 05 33.2 +1.4**
MOY			pmax		pmax	
comp=Z,56nm,1.9s						
BRG	**Berggiesshubel**	41.05 318	*i* P		**P**	**11 05 33.0 +0.3**
comp=Z,50nm,1.1s						
BRG			*e*PP		**PP**	**11 07 05.6 -1.8**
comp=Z,25nm,1.4s						
BRG			*e*SCP		**ScP**	**11 11 21.9 -0.1**
comp=Z,12nm,1.2s						
BRG			S		**S**	**11 11 40.0 -4.9**
BRG	**Berggiesshubel**	41.05 318	*i* P		**P**	**11 05 33.0 +0.3**
BRG			*e*			11 07 05.6
BRG			S		**S**	**11 11 40.0 -4.9**
BRG			pmax		pmax	
comp=Z,51nm,1.1s						
BRG			pmax		pmax	
comp=Z,25nm,1.4s						
BRG			MLR		MLR	
comp=N,4μm,20.8s						
BRG			MLR		MLR	
comp=E,3μm,18.8s						
BRG			MLR		MLR	
comp=Z,3μm,18.3s						
WET	**Wettzell**	41.17 315	P		**P**	**11 05 33.7 -0.1**
WET			pmax		pmax	
comp=Z,71nm,1.3s						
WTTA	**Wattenberg**	41.50 312	*i* pP		**P**	**11 05 36.4 -0.4**
comp=Z,244nm,0.9s,SNR=99						
WTTA			*i* S		**S**	**11 11 49.8 -2.3**
comp=Z,87nm,1.4s,SNR=12						
WATA	**Walderalm**	41.56 312	*i* pP		**P**	**11 05 37.0 -0.2**
comp=Z,225nm,1.0s,SNR=71						
SUF	**Sumiainen**	41.66 339	P		**P**	**11 05 37.9 +0.4**
SUF			pmax		pmax	
comp=Z,68nm,1.1s						
RUE	**Ruedersdorf**	41.70 320	*e*P		**P**	**11 05 36.9 -1.1**
RUE			IAmb		IAmb	11 05 41.9
comp=Z,139nm,1.1s						
CLL	**Collm**	41.75 318	*e*P		**P**	**11 05 38.5 0.0**
comp=Z,91nm,1.0s						
CLL			LR		LR	
comp=Z,2μm,22.0s						
CLL	**Collm**	41.75 318⇑	*i*P		**P**	**11 05 38.5 0.0**
CLL			*i*			11 05 41.9
CLL			*e*			11 05 49.0
CLL			*e*S		**S**	**11 11 54.0 -1.3**
CLL			pmax		pmax	
comp=Z,131nm,1.3s						
CLL			MLR		MLR	
comp=Z,2μm,20.6s						
CLL	**Collm**	41.75 318⇑	*i*P		**P**	**11 05 38.5 0.0**
comp=Z,131nm,1.3s						
CLL			*i* sP		**pP**	**11 05 41.9 -0.9**
comp=Z,117nm,1.1s						
CLL			*e*Pmax			11 05 45.0
CLL			*e*			11 05 49.0
CLL			*e*PP		**PP**	**11 07 13.0 -1.9**
CLL			*e*S		**S**	**11 11 54.0 -1.3**
CLL			*e*SS		**SS**	**11 15 06.0 +5.1**
CLL			LmV			11 27 00.0
comp=Z,2μm,20.6s						
CLL			Lmax			11 27 00.0
NKC	**Novy Kostel**	41.76 317	*e*P		**P**	**11 05 39.4 +0.8**
NKC			MLR		MLR	
comp=Z,3μm,18.1s						
NKC	**Novy Kostel**	41.76 317	*e*P		**P**	**11 05 39.4 +0.8**
NKC			AMS		AMS	11 26 50.0
comp=Z,3μm,18.1s						
SQTA	**Sankt Quirin**	41.78 312	*i* pP		**P**	**11 05 38.2 -0.7**
comp=Z,162nm,0.5s,SNR=88						
SQTA			*e*S		**S**	**11 11 53.3 -2.8**
comp=Z,44nm,1.5s						
VLC	**Villacollemand**	41.78 307	*e*P		**P**	**11 05 39.6 +0.7**
comp=Z,170nm,1.1s						
MOTA	**Moosalm**	41.87 312	*i* pP		**P**	**11 05 38.8 -0.9**
comp=Z,217nm,1.1s,SNR=132						
ZAK	**Zakamensk**	41.88 43	*e*P		**P**	**11 05 39.3 -0.3**
ZAK			pmax		pmax	
comp=Z,14nm,1.4s						
FUR	**Furstenfe

GRB1 pmax pmax
comp=Z,133nm,0.9s
FETA Feichten 42.05 312 *i* pP **P 11 05 40.9 -0.3**
comp=Z,287nm,0.9s,SNR=148
FETA *e*S **S 11 11 57.3 -2.9**
comp=Z,86nm,1.6s,SNR=13
KEST Kesra 42.07 295 *e*P **P 11 05 39.8 -1.6**
comp=Z,34nm,1.8s
KEST LR LR
comp=Z,4μm,20.0s
KEST Kesra 42.07 295 P **P 11 05 41.5 +0.1**
comp=Z,49nm,0.9s,baz=52,slow=1.9,SNR=23
KEST ScP **ScP 11 11 27.6 +1.1**
comp=Z,8.8nm,1.2s,baz=37,slow=3.0,SNR=3.5
KEST LR LR 11 26 32.1
comp=Z,3μm,19.5s,baz=32,slow=41
BSD Bornholm Skovb 42.09 324 P **P 11 05 40.9 -0.3**
BSD pmax pmax
comp=Z,314nm,0.9s
BSD Bornholm Skovb 42.09 324 *i* P **P 11 05 40.5 -0.7**
comp=Z,228nm,0.8s
RETA Reutte 42.13 312 *i* pP **P 11 05 40.9 -0.8**
comp=Z,76nm,0.8s,SNR=43
RETA *e*S **S 11 11 58.5 -2.7**
comp=Z,68nm,1.5s,SNR=11
SLVN Son La 42.28 87 *e*P **P 11 05 43.3 +0.1**
comp=Z,25nm,1.2s
SLVN LR LR
comp=Z,2μm,19.0s
FUORN Ofenpass-Fuorn 42.29 311 *e*P **P 11 05 43.4 +0.2**
comp=Z,79nm,0.8s
FUORN LR LR
comp=Z,2μm,20.0s
CHAI Chaiyaphum 42.35 95 P P 11 05 50.6 +6.8
GRA1 Grafenberg Arr 42.37 316 PFAKE 11 05 50.0 +6.5
GRA1 LR LR
comp=Z,2μm,21.0s
GRF Grafenberg Arr 42.37 316 P **P 11 05 44.2 +0.7**
GRF pmax pmax
comp=Z,237nm,0.9s
GRFO Grafenberg 42.37 316 PFAKE 11 05 50.0 +6.5
GRFO LR LR
comp=Z,2μm,21.0s
GRFO Grafenberg 42.37 316 P **P 11 05 44.3 +0.8**
GRFO pmax pmax
comp=Z,208nm,0.9s
MOX Moxa 42.38 317 P **P 11 05 44.4 +0.7**
MOX pmax pmax
comp=Z,35nm,1.2s
TLY Talaya 42.49 41 PFAKE 11 05 50.0 +5.5
TLY LR LR
comp=Z,2μm,18.0s
DAVOX Davos/Dischmat 42.58 311 P **P 11 05 46.7 +1.2**
PGF Pioggiola 42.59 305 *e*P **P 11 05 45.9 +0.4**
PGF pmax pmax
comp=Z,24nm,0.9s
NONG Nongkai 42.62 92 P **P 11 05 47.1 +1.2**
comp=Z,1.9nm,0.9s
DAVA Damuels 42.67 312 *i* pP **P 11 05 45.7 -0.6**
comp=Z,206nm,0.5s,SNR=112
DAVA *e*S **S 11 12 06.1 -3.3**
comp=Z,92nm,1.7s,SNR=12
RGN Rugen 42.71 323 *e*P **P 11 05 45.0 -1.2**
comp=Z,272nm,0.9s
RGN LR LR
comp=Z,3μm,22.0s
TUE Stuetta 42.88 311 *e*P **P 11 05 47.7 -0.3**
comp=Z,82nm,0.7s
TUE LR LR
comp=Z,2μm,22.0s
KHON Khomkaen 42.94 94 P P 11 05 54.3 +5.8
comp=Z,32μm,0.6s
IRK Irkutsk 43.03 41 *e*P **P 11 05 48.6 -0.3**
IRK pmax pmax
comp=Z,56nm,1.9s
VAF Ylistaro 43.04 337 *e*P **P 11 05 49.7 +0.9**
VAF pmax pmax
comp=Z,45nm,1.2s
MSF Maaselka 43.20 343 P **P 11 05 50.3 +0.3**
MSF pmax pmax
comp=Z,68nm,0.8s
SONA0 Songino Array 43.23 48 *e*P **P 11 05 51.7 +1.0**
SONM Songino Array 43.23 48 *e*P **P 11 05 49.8 -0.9**
SONM Songino Array 43.23 48 P **P 11 05 51.7 +1.0**
comp=Z,12nm,0.7s,baz=259,slow=9.1,SNR=16
SONM LR LR 11 26 17.4
comp=Z,3μm,18.3s,baz=254,slow=40
STU Stuttgart 43.43 314 *e*P **P 11 05 50.4 -1.8**
comp=Z,47nm,0.8s
STU LR LR
comp=Z,2μm,21.0s
STU Stuttgart 43.43 314 P **P 11 05 52.1 -0.1**
STU pmax pmax
comp=Z,690nm,1.3s
OUL Oulu 43.44 341 P **P 11 05 52.1 +0.2**
OUL pmax pmax
comp=Z,54nm,1.1s
GYA Guiyang 43.48 79⇑ *i*P **P 11 05 56.8 +3.7**
GYA PP **PP 11 07 33.9 -0.2**
GYA S **S 11 12 21.3 -0.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=Z,2μm,19.6s
GYA LR LR
comp=Z,2μm,18.7s
GYA LR LR
comp=Z,4μm,19.6s
APA Apatity 43.54 347⇓ *i*P **P 11 05 52.9 +0.2**
APA *i* 11 07 42.0
APA *i* PPP PPP 11 08 08.0
APA *i* S **S 11 12 20.0 -1.1**
APA *i* SS **SS 11 15 32.0 -3.5**
APA pmax pmax
comp=Z,69nm,0.9s
ABSA Djebel Ababsia 43.56 296 P **P 11 05 55.5 +2.0**
LVZ Lovozero 43.57 348 *e*P **P 11 05 50.8 -2.3**
LVZ LR LR
comp=Z,4μm,19.0s
LVZ Lovozero 43.57 348 *ce*P **P 11 05 55.8 +2.8**
LVZ pmax pmax
comp=Z,56nm,1.7s
CMAH Djebel Manchou 43.60 296 P **P 11 05 55.1 +1.3**
COP Copenhagen 43.62 324 *i* P **P 11 05 54.2 +0.7**
COP pmax pmax
comp=Z,120nm,0.8s
COP Copenhagen 43.62 324 *i* P **P 11 05 54.2 +0.7**
comp=Z,124nm,0.8s
ULN Ulaanbaatar 43.67 48 *e*P **P 11 05 55.0 +0.7**
comp=Z,17nm,0.7s
ULN LR LR
comp=Z,4μm,21.0s
ULN Ulaanbaatar 43.67 48 *ce*P **P 11 05 55.4 +1.1**
ULN pmax pmax
comp=Z,20nm,0.8s
SLE Schleitheim 43.69 312 P **P 11 05 54.1 -0.2**
SLE pmax pmax
comp=Z,102nm,1.0s
SKNT Sakolnakorn 43.74 93 P **P 11 05 57.0 +1.9**
comp=Z,34nm,1.4s
SAOF Saorge 43.78 307 P **P 11 05 57.6 +2.5**
SAOF pmax pmax
comp=Z,102nm,1.1s
SBF Sospel 43.86 306 *e*P **P 11 05 55.1 -0.6**
SBF pmax pmax
comp=Z,178nm,1.0s
TOD Tromm 43.87 315 P **P 11 05 56.2 +0.5**
BFO Black Forest 43.91 313 *e*P **P 11 05 54.7 -1.3**
comp=Z,77nm,1.3s
BFO LR LR
comp=Z,1μm,21.0s
BFO Black Forest 43.91 313 *i* P **P 11 05 56.0 0.0**
CKFL Kef-Lekhel 44.17 296 P **P 11 06 00.4 +1.9**
TNS Taunus Mts 44.23 316 P **P 11 05 59.5 +0.8**
TNS pmax pmax
comp=Z,125nm,1.4s
PANO Nakornpanom 44.24 92 P **P 11 06 01.0 +1.9**
comp=Z,1.0nm,1.1s
LSD Lago del Serru 44.25 309 P **P 11 06 01.6 +2.5**
SENIN Lac Senin/Sane 44.26 310 *e*P **P 11 05 57.4 -1.8**
comp=Z,51nm,0.8s
SENIN LR LR
comp=Z,800nm,20.0s
KTD Kalmit 44.27 314 P **P 11 05 59.4 +0.5**

XAN Xi'an 44.34 68 P **P 11 06 00.8 +1.0**
XAN pP pP 11 06 03.8 -0.3
XAN S **S 11 12 36.6 +2.7**
XAN pmax pmax
comp=Z,10.0nm,1.3s
XAN pmax pmax
comp=Z,190nm,4.2s
XAN LR LR
comp=Z,2μm,17.3s
XAN LR LR
comp=Z,5μm,18.8s
XAN LR LR
comp=Z,5μm,18.2s
XAN Xi'an 44.34 68 *e*P **P 11 06 00.4 +0.6**
comp=Z,115nm,1.6s
XAN LR LR
comp=Z,5μm,19.0s
CASM Ain Smara 44.36 296 P **P 11 05 59.7 -0.2**
LANF Langenberg 44.38 314 P **P 11 05 59.4 -0.4**
FRF La Foret Royal 44.40 306 *e*P **P 11 06 00.2 +0.2**
FRF pmax pmax
comp=Z,83nm,1.4s
MBDF Montbardon 44.42 308 *e*P **P 11 06 00.3 -0.1**
MBDF pmax pmax
comp=Z,88nm,0.8s
CTEI Djebel Teioual 44.44 295 P **P 11 06 01.6 +1.0**
BNI Bardonecchia 44.52 308 *e*P **P 11 06 00.9 -0.2**
BNI Bardonecchia 44.52 308 P **P 11 06 01.5 +0.3**
BNI pmax pmax
comp=Z,137nm,1.2s
LPG La Plagne 44.52 309 *e*P **P 11 06 01.1 -0.3**
LPG pmax pmax
comp=Z,60nm,0.8s
LPL La Plagne 44.54 309 *e*P **P 11 06 00.7 -0.7**
LPL pmax pmax
comp=Z,81nm,0.8s
ECH Echery 44.65 313 *e*P **P 11 06 01.3 -0.8**
comp=Z,171nm,0.9s
ECH LR LR
comp=Z,2μm,19.0s
HINF Hinteralfeld 44.79 312 *e*P **P 11 06 02.3 -0.8**
HINF pmax pmax
comp=Z,85nm,1.1s
DFRA Djebel Bou Aff 44.84 296 P **P 11 06 05.2 +1.4**
ORIF Oris-en-Rattie 45.07 308 *e*P **P 11 06 04.3 -1.2**
ORIF pmax pmax
comp=Z,20nm,0.9s
CABF La Chapelle 45.12 310 *e*P **P 11 06 04.8 -1.1**
CABF pmax pmax
comp=Z,140nm,1.0s
HAU Haudompre 45.15 312 *e*P **P 11 06 05.1 -0.9**
HAU pmax pmax
comp=Z,71nm,0.8s
BUG Bochum--Univer 45.24 317 P **P 11 06 08.0 +1.4**
BUG pmax pmax
comp=Z,153nm,1.1s
SET Setif 45.25 296 P **P 11 06 06.0 -1.0**
ENH Enshi 45.26 73 *e*P **P 11 06 07.1 0.0**
comp=Z,58nm,1.2s
ENH LR LR
comp=Z,3μm,19.0s
WLF Walferdange 45.57 314 *e*P **P 11 06 08.9 -0.3**
comp=Z,669nm,1.0s
WLF LR LR
comp=Z,10μm,19.0s
WLF Walferdange 45.57 314 *e*P **P 11 06 10.1 +0.8**
WLF pmax pmax
comp=Z,693nm,1.0s
WLF Walferdange 45.57 314⇑ P **P 11 06 10.0 +0.8**
comp=Z,119nm,1.1s
MUD Monsted U'grnd 45.60 324 P **P 11 06 11.1 +1.7**
MUD pmax pmax
comp=Z,113nm,1.2s
MUD Monsted U'grnd 45.60 324 *i* P **P 11 06 10.0 +0.6**
comp=Z,79nm,0.8s
WTSB Winterswijk 45.65 318 *e*P **P 11 06 10.1 +0.3**
comp=Z,120nm,1.0s
MEM Membach 45.84 316 P **P 11 06 13.0 +1.6**
MEM pmax pmax
comp=Z,136nm,1.4s
MEM Membach 45.84 316⇓ P **P 11 06 12.8 +1.5**
comp=Z,79nm,1.2s
HGN Heimansgroeve 45.92 316 *e*P **P 11 06 12.7 +0.7**
comp=Z,148nm,1.0s
HGN *e*S **S 11 12 50.2 -5.9**
WIT Witteveen 45.93 319 P **P 11 06 15.5 +3.5**
WIT pmax pmax
comp=Z,865nm,1.1s
PSI Prapat 45.97 114 *e*P **P 11 06 10.8 -2.3**
comp=Z,24nm,1.2s
PSI LR LR
comp=Z,2μm,22.0s
PSI Prapat 45.97 114 P **P 11 06 13.1 +0.1**
comp=Z,7.3nm,0.5s,baz=306,slow=14,SNR=3.2
KULM Kulim 46.04 110 *e*P **P 11 06 09.6 -3.7**
comp=Z,25nm,1.1s
KULM LR LR
comp=Z,2μm,21.0s
SSB Saint Sauveur 46.05 308 *e*P **P 11 06 11.0 -2.2**
comp=Z,99nm,1.1s
BEBN Eben Emael 46.08 316⇓ P **P 11 06 14.8 +1.5**
NRIK Noril'sk 46.13 14 P **P 11 06 13.3 0.0**
comp=Z,28nm,0.8s,baz=216,slow=5.1,SNR=24
NRIK LR LR 11 28 53.4
comp=Z,5μm,19.4s,baz=211,slow=40
OPO Ambohidratompo 46.13 194 P **P 11 06 15.4 +1.2**
comp=Z,8.7nm,1.1s,baz=345,slow=12,SNR=2.6
OPO LR LR 11 22 41.8
comp=Z,1μm,21.8s,baz=179,slow=32
NC602 NORSAR Array S 46.15 331 *e*P **P 11 06 11.4 -2.2**
comp=Z,60nm,0.9s
NC602 NORSAR Array S 46.15 331 *e*P **P 11 06 13.1 -0.5**
NORES NORESS Array B 46.15 331 P **P 11 06 13.5 -0.2**
NORES pmax pmax
comp=Z,13nm,0.7s
OSL Oslo 46.17 329 *e*P **P 11 06 14.1 +0.2**
HHC Hu-ho-hao-te 46.20 58 *e*P **P 11 06 16.0 +1.5**
HHC sP sP 11 06 22.6 +1.9
HHC S **S 11 13 00.5 -0.2**
HHC ScS **ScS 11 16 08.6 -1.5**
HHC pmax pmax
comp=Z,1μm,5.3s
HHC LR LR
comp=Z,2μm,14.0s
HHC LR LR
comp=Z,2μm,15.7s
HHC LR LR
comp=Z,3μm,15.3s
NC405 NORSAR Array S 46.24 331 *e*P **P 11 06 12.3 -2.1**
comp=Z,74nm,0.8s
BCLA Clavier 46.25 315⇓ P **P 11 06 15.8 +1.3**
comp=Z,100nm,1.1s
NB201 NORSAR Array S 46.40 331 *e*P **P 11 06 13.4 -2.3**
comp=Z,80nm,1.0s
NB2 NORSAR Subarra 46.43 331 P **P 11 06 15.3 -0.6**
comp=Z,46nm,1.1s,baz=113,slow=7.9
NB2 NORSAR Subarra 46.43 331 P **P 11 06 15.3 -0.6**
baz=113,slow=7.9
NB200 NORSAR Array S 46.43 331 *e*P **P 11 06 15.6 -0.3**
NOA NORSAR Array B 46.43 331 P **P 11 06 15.6 -0.3**
comp=Z,23nm,0.8s,baz=115,slow=7.8,SNR=49
NOA PP **PP 11 08 07.0 +2.2**
comp=Z,6.1nm,0.8s,baz=117,slow=8.8,SNR=3.7
NOA LR LR 11 28 04.6
comp=Z,2μm,21.6s,baz=130,slow=39
NC303 NORSAR Array S 46.45 331 *e*P **P 11 06 15.6 -0.4**
comp=Z,55nm,1.1s
NAO01 NORSAR Array S 46.49 330 *e*P **P 11 06 16.1 -0.2**
comp=Z,73nm,0.8s
ABPO Ambohimpanom 46.56 194 PFAKE 11 06 20.0 +2.5
ABPO LR LR
comp=Z,2μm,19.0s
KONO Kongsberg 46.58 329 *e*P **P 11 06 17.1 +0.1**
comp=Z,48nm,0.9s
KONO LR LR
comp=Z,3μm,21.0s
KONO Kongsberg 46.58 329 *ce*P **P 11 06 17.9 +0.9**
KONO pmax pmax
comp=Z,75nm,1.3s
KONO Kongsberg 46.58 329 *e*P **P 11 06 16.2 -0.8**
HOMB Homborsund 46.58 327 *e*P **P 11 06 19.3 +2.3**
NBO00 NORSAR Array S 46.62 331 *e*P **P 11 06 16.9 -0.5**
comp=Z,80nm,1.1s
DOU Dourbes 46.64 315⇓ P **P 11 06 19.1 +1.4**
comp=Z,138nm,1.2s
KEV Kevo 46.68 346 *e*P **P 11 06 17.7 0.0**

comp=Z,69nm,0.9s
KEV LR LR
comp=Z,3μm,19.0s
NC204 NORSAR Array S 46.73 331 *e*P **P 11 06 16.4 -1.9**
comp=Z,53nm,1.0s
IPM Ipoh 46.78 110 *e*P **P 11 06 16.7 -2.5**
comp=Z,39nm,1.1s
IPM LR LR
comp=Z,2μm,21.0s
ARA0 ARCESS Array S 46.85 345 *e*P **P 11 06 19.3 +0.3**
ARA0 *e*PcP **PcP 11 07 51.9 +0.1**
ARA0 *e*PP **PP 11 08 09.8 +0.7**
ARCES ARCESS Array B 46.85 345 P **P 11 06 19.3 +0.3**
comp=Z,26nm,0.8s,baz=140,slow=7.8,SNR=48
ARCES PcP **PcP 11 07 51.9 +0.1**
comp=Z,14nm,0.7s,baz=138,slow=4.4,SNR=5.4
ARCES PP **PP 11 08 09.8 +0.7**
comp=Z,7.1nm,0.8s,baz=147,slow=8.4,SNR=2.3
ARCES LR LR 11 29 11.4
comp=Z,4μm,18.2s,baz=133,slow=40
ARE0 ARCESS Array S 46.85 345 *e*P **P 11 06 17.5 -1.6**
comp=Z,1.4nm,0.8s
ARE0 LR LR
comp=Z,200nm,20.0s
ARE0 ARCESS Array S 46.85 345 *e*P **P 11 06 18.8 -0.3**
SNF Seneffe 46.90 315⇑ P **P 11 06 20.2 +0.5**
comp=Z,110nm,1.2s
UCC Uccle 46.91 316 *e*P **P 11 06 17.3 -2.4**
comp=Z,46nm,0.9s
UCC LR LR
comp=Z,2μm,22.0s
UCC Uccle 46.91 316⇓ P **P 11 06 20.6 +0.9**
TIY Taiyuan 46.95 62 *e*P **P 11 06 22.6 +2.2**
TIY S **S 11 13 14.4 +3.0**
TIY LR LR
comp=Z,2μm,11.2s
TIY LR LR
comp=Z,1μm,13.0s
TIY LR LR
comp=Z,5μm,26.7s
KTK1 Kautokeino 47.01 344 *e*P **P 11 06 20.5 +0.2**
SNART Snartemo 47.24 326 *e*P **P 11 06 24.6 +2.3**
TAM Tamanrasset 47.38 277 *e*P **P 11 06 25.1 +1.1**
comp=Z,61nm,1.0s
TAM LR LR
comp=Z,3μm,18.0s
SKAR Skarslia 47.58 330 *e*P **P 11 06 25.7 +0.9**
MOR8 Moi Rana 47.76 338 *e*P **P 11 06 25.7 -0.5**
NSS Namsos 47.77 335 *e*P **P 11 06 26.5 +0.3**
DOMB Dombas 47.79 331 *e*P **P 11 06 27.0 +0.5**
CLF Chambon-Foret 47.88 312 *e*P **P 11 06 25.9 -1.5**
comp=Z,192nm,1.2s
CLF LR LR
comp=Z,2μm,18.0s
BLS5 Blasjo 47.98 327 *e*P **P 11 06 27.6 -0.4**
HAMF Hammerfest 48.10 345 *e*P **P 11 06 28.8 +0.1**
QIZ Qiongzhong 48.29 88 P **P 11 06 35.0 +4.1**
QIZ S **S 11 13 33.0 +2.3**
QIZ LR LR
comp=Z,4μm,20.6s
QIZ LR LR
comp=Z,1μm,16.2s
QIZ LR LR
comp=Z,2μm,18.2s
QIZ Qiongzhong 48.29 88 PFAKE 11 06 40.0 +9.1
QIZ LR LR
comp=Z,2μm,20.0s
KONS Konsvik 48.39 338 *e*P **P 11 06 31.2 +0.2**
KMY Karmoy 48.50 327 *e*P **P 11 06 31.7 -0.2**
STEI Steigen 48.52 340 *e*P **P 11 06 32.9 +0.9**
TRO Tromso 48.55 343 *e*P **P 11 06 32.4 +0.2**
HYA Hoyanger 48.72 330 *e*P **P 11 06 35.5 +2.0**
AKN Aaknes 48.74 331 *e*P **P 11 06 34.2 +0.4**
BER Bergen 48.84 328 *e*P **P 11 06 35.5 +1.0**
ASK Askoy 48.94 329 *e*P **P 11 06 34.2 -1.0**
BKNI Bangkinang 49.12 115 P **P 11 06 38.2 +0.9**
WHN Wuhan 49.36 72⇓ P **P 11 06 43.1 +4.1**
WHN S **S 11 13 46.3 +0.7**
WHN pmax pmax
comp=Z,40nm,0.8s
WHN LR LR
comp=Z,4μm,12.3s
WHN LR LR
comp=Z,6μm,15.2s
WHN LR LR
comp=Z,8μm,17.2s
PDSI Padang 49.39 117 P **P 11 06 40.1 +0.7**
WACR West Acre 49.51 318 *e*P **P 11 06 40.6 +0.9**
WACR IAmb IAmb 11 06 44.3
comp=Z,155nm,1.1s
DLV T Lat 49.71 97 *e*P **P 11 06 39.2 -2.9**
comp=Z,46nm,1.3s
DLV LR LR
comp=Z,2μm,20.0s
BJT Baijiatuau 49.73 59 PFAKE 11 06 50.0 +8.3
BJT LR LR
comp=Z,2μm,19.0s
FLN La Foliniere 49.76 312 *e*P **P 11 06 41.3 -0.5**
FLN pmax pmax
comp=Z,216nm,1.1s
BOD Bodaibo 49.95 36⇓ *i*P **P 11 06 43.0 -0.1**
BOD *e*S **S 11 13 53.4 +0.3**
BOD pmax pmax
comp=Z,159nm,1.3s
MYKOM Kota Tinggi 50.61 111 PFAKE 11 07 00.0 +11
MYKOM LR LR
comp=Z,2μm,20.0s
LSZ Lusaka 50.66 218 *e*P **P 11 06 45.4 -3.6**
comp=Z,28nm,1.3s
LSZ LR LR
comp=Z,3μm,20.0s
CWF Charnwood Fore 50.67 318 *e*P **P 11 06 49.2 +0.6**
CWF IAmb IAmb 11 06 52.2
comp=Z,70nm,1.3s
CWF IAMs_20 IAMs_20 11 34 41.1
comp=Z,2μm,16.0s
TIA Tai'an 50.82 64 P **P 11 06 50.3 +0.3**
TIA S **S 11 14 14.6 +8.8**
TIA SS **SS 11 17 42.9 +2.6**
TIA pmax pmax
comp=Z,31nm,1.6s
TIA LR LR
comp=Z,2μm,23.5s
TIA LR LR
comp=Z,3μm,20.6s
TIA LR LR
comp=Z,4μm,21.1s
SWN1 Swindon 50.84 316 *e*P **P 11 06 51.2 +1.2**
SWN1 IAmb IAmb 11 06 54.3
comp=Z,791nm,1.6s
JLP Les Platons 50.86 313 *e*P **P 11 06 50.4 +0.3**
JSA Saint Aubin 50.90 313 *e*P **P 11 06 50.8 +0.4**
JSA IAmb IAmb 11 06 54.3
comp=Z,304nm,1.1s
JVM Valle D.L. Mar 50.93 313 *e*P **P 11 06 51.0 +0.4**
LBWR Ladybower, Pea 51.01 318 *e*P **P 11 06 52.7 +1.5**
LBWR IAmb IAmb 11 06 55.5
comp=Z,43nm,0.9s
LBWR IAMs_20 IAMs_20 11 34 00.1
comp=Z,3μm,20.5s
HPK Haverah Park 51.02 319 *e*P **P 11 06 52.9 +1.7**
HPK IAMs_20 IAMs_20 11 33 46.8
comp=Z,3μm,17.5s
STRD Stroud 51.09 316 *e*P **P 11 06 53.3 +1.5**
STRD IAmb IAmb 11 06 55.1
comp=Z,67nm,0.8s
STRD IAMs_20 IAMs_20 11 32 21.3
comp=Z,3μm,16.5s
HKPS Hong Kong Po S 51.12 82 PFAKE 11 07 00.0 +7.5
HKPS LR LR
comp=Z,2μm,18.0s
OLDB Oldbury-Upon-S 51.33 316 *e*P **P 11 06 53.9 +0.3**
OLDB IAmb IAmb 11 06 57.2
comp=Z,144nm,1.2s
OLDB IAMs_20 IAMs_20 11 32 27.4
comp=Z,3μm,19.8s
EDMD Edmundbyers 51.34 320 *e*P **P 11 06 54.0 +0.4**
EDMD IAmb IAmb 11 06 55.8
comp=Z,80nm,1.0s
EDMD IAMs_20 IAMs_20 11 33 17.9
comp=Z,2μm,23.0s
MONM Monmouth 51.50 316 *e*P **P 11 06 55.3 +0.4**
MONM IAmb IAmb 11 06 58.4
comp=Z,122nm,1.2s
MONM IAMs_20 IAMs_20 11 32 42.2
comp=Z,3μm,20.3s

QUIF Quistinic 51.51 311 *e*P **P 11 06 54.6 -0.4**
QUIF pmax pmax
comp=Z,214nm,1.1s
ROSF Rostrenen 51.59 312 *e*P **P 11 06 55.3 -0.3**
ROSF pmax pmax
comp=Z,226nm,1.1s
MCH1 Michaelchurch 51.63 316 *e*P **P 11 06 56.0 +0.2**
MCH1 IAmb IAmb 11 06 59.5
comp=Z,94nm,1.0s
MCH1 IAMs_20 IAMs_20 11 32 47.9
comp=Z,3µm,16.2s
FOEL Foel Wylfa 51.84 318 *e*P **P 11 06 57.6 +0.2**
FOEL IAmb IAmb 11 06 60.0
comp=Z,59nm,0.9s
KESW Keswick, Cumbr 51.96 320 *e*P **P 11 06 59.0 +0.8**
KESW IAmb IAmb 11 07 01.0
comp=Z,63nm,1.0s
BBO1 Bothel 52.06 320 *e*P **P 11 06 58.9 -0.1**
EBL Broad Law 52.08 321 *e*P **P 11 06 59.5 +0.4**
EKA Eskdalemuir Ar 52.08 321 P **P 11 06 58.8 -0.4**
EKA pmax pmax
comp=Z,5.0nm,0.4s
ESK Eskdalemuir 52.11 321 *e*P **P 11 07 00.1 +0.8**
comp=Z,45nm,1.0s
ESK LR LR
comp=Z,2µm,21.0s
ESK Eskdalemuir 52.11 321 *i* P **P 11 07 03.4 +4.1**
DYA Yadsworthy 52.11 314 *e*P **P 11 07 00.2 +0.8**
DYA IAmb IAmb 11 07 03.5
comp=Z,88nm,1.1s
HIA Hailar 52.19 47 *e*P **P 11 06 58.8 -1.3**
comp=Z,18nm,0.8s
HIA LR LR
comp=Z,3µm,18.0s
ESDC Sonseca Array 52.37 301 *e*P **P 11 07 01.3 -0.3**
ESDC Sonseca Array 52.37 301 P **P 11 07 01.8 +0.1**
comp=Z,13nm,0.6s,baz=66,slow=7.6,SNR=48
ESDC PcP **PcP 11 08 13.5 +0.9**
comp=Z,2.6nm,0.6s,baz=54,slow=4.9,SNR=4.1
ESDC LR LR 11 31 36.5
comp=Z,1µm,21.6s,baz=100,slow=39
ESLA Sonseca Array 52.37 301 *e*P **P 11 06 57.9 -3.8**
comp=Z,54nm,1.0s
PAB San Pablo 52.68 301 *e*P **P 11 07 01.7 -2.3**
comp=Z,99nm,1.3s
PAB San Pablo 52.68 301 P **P 11 07 04.7 +0.7**
PAB pmax pmax
comp=Z,68nm,1.1s
YRC Rhoscolyn 52.69 318 *e*P **P 11 07 04.4 +0.7**
RSBS Rosebush, Pemb 52.70 316 *e*P **P 11 07 04.2 +0.4**
RSBS IAmb IAmb 11 07 06.5
comp=Z,20nm,0.9s
RSBS IAMs_20 IAMs_20 11 33 17.8
comp=Z,918nm,21.1s
INVG Invergeldie, C 52.72 322 *e*P **P 11 07 04.4 +0.6**
INVG IAmb IAmb 11 07 06.7
comp=Z,123nm,1.3s
INVG IAMs_20 IAMs_20 11 33 00.2
comp=Z,3µm,16.4s
NJ2 Nanjing 52.88 69 *e*P **P 11 07 08.3 +2.9**
NJ2 S **S 11 14 40.6 +6.4**
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 pmax pmax
comp=Z,630nm,4.0s
NJ2 LR LR
comp=Z,4µm,20.6s
NJ2 LR LR
comp=Z,4µm,18.4s
NJ2 LR LR
comp=Z,4µm,20.6s
GAL1 Galloway 52.92 320 *e*P **P 11 07 05.8 +0.5**
GAL1 IAmb IAmb 11 07 07.9
comp=Z,41nm,1.2s
GAL1 IAMs_20 IAMs_20 11 34 13.9
comp=Z,1µm,19.5s
CCA1 Carnmenellis 52.93 314 *e*P **P 11 07 05.4 -0.1**
CCA1 IAmb IAmb 11 07 09.6
comp=Z,114nm,1.1s
CCA1 IAMs_20 IAMs_20 11 32 54.7
comp=Z,2µm,19.2s
LAWE Loch Awe, Argy 53.45 322 *e*P **P 11 07 09.7 +0.5**
LAWE IAmb IAmb 11 07 12.4
comp=Z,102nm,1.1s
KPL Plockton 53.71 323 *e*P **P 11 07 11.4 +0.3**
KPL IAmb IAmb 11 07 14.7
comp=Z,104nm,1.1s
DSB Dublin 53.77 318 *e*P **P 11 07 11.3 -0.4**
DSB *e*S **S 11 14 45.1 -0.7**
DSB Dublin 53.77 318 *e*P **P 11 07 09.4 -2.2**
comp=Z,53nm,1.1s
DSB LR LR
comp=Z,2µm,22.0s
LIJA Lijar 53.83 298 *e*P **P 11 07 13.0 +0.5**
IWEX Carrickbyrne, 53.97 317 *e*P **P 11 07 13.1 0.0**
IWEX *e*S **S 11 14 48.9 +0.4**
TOC2 Torodi Ar. Sit 54.03 267 PFAKE 11 07 20.0 +5.9
TOC2 LR LR
comp=Z,3µm,18.0s
TOC3 Torodi Ar. Sit 54.04 267 PFAKE 11 07 20.0 +5.8
TOC3 LR LR
comp=Z,3µm,18.0s
TOC1 Torodi Ar. Sit 54.04 267 PFAKE 11 07 20.0 +5.8
TOC1 LR LR
comp=Z,3µm,18.0s
DL2 Dalian 54.04 60 *e*P **P 11 07 12.8 -1.1**
DL2 PP **PP 11 09 21.8 +6.6**
DL2 *e*S **S 11 14 48.0 -1.8**
DL2 pmax pmax
comp=Z,38nm,1.2s
DL2 pmax pmax
comp=Z,370nm,10.8s
DL2 LR LR
comp=Z,4µm,23.5s
DL2 LR LR
comp=Z,1µm,23.3s
DL2 LR LR
comp=Z,3µm,19.6s
TOB3 Torodi Ar. Sit 54.05 267 PFAKE 11 07 20.0 +5.7
TOB3 LR LR
comp=Z,2µm,21.0s
TOA0 Torodi Ar. Sit 54.06 267 *e*P **P 11 07 13.8 -0.6**
comp=Z,80nm,0.9s
TOA0 LR LR
comp=Z,3µm,18.0s
TORD Torodi Ar. Bea 54.06 267 *e*P **P 11 07 14.0 -0.3**
TORD Torodi Ar. Bea 54.06 267 P **P 11 07 12.4 -1.9**
comp=Z,24nm,0.7s,baz=70,slow=7.4,SNR=92
TORD LR LR 11 34 23.9
comp=Z,2µm,18.2s,baz=5.0,slow=40
TOA1 Torodi Ar. Sit 54.06 267 *e*P **P 11 07 12.4 -1.9**
TOA1 LR LR
comp=Z,2µm,20.0s
TOA3 Torodi Ar. Sit 54.06 267 PFAKE 11 07 20.0 +5.7
TOA3 LR LR
comp=Z,2µm,20.0s
TOC4 Torodi Ar. Sit 54.06 267 PFAKE 11 07 20.0 +5.6
TOC4 LR LR
comp=Z,3µm,18.0s
TOC7 Torodi Ar. Sit 54.07 267 PFAKE 11 07 20.0 +5.6
TOC7 LR LR
comp=Z,3µm,19.0s
TOB5 Torodi Ar. Sit 54.07 267 PFAKE 11 07 20.0 +5.6
TOB5 LR LR
comp=Z,3µm,18.0s
TOB4 Torodi Ar. Sit 54.07 267 PFAKE 11 07 20.0 +5.6
TOB4 LR LR
comp=Z,3µm,18.0s
TOC5 Torodi Ar. Sit 54.08 267 PFAKE 11 07 20.0 +5.5
TOC5 LR LR
comp=Z,3µm,18.0s
HSPB Hornsund (broa 54.22 349 *e*P **P 11 07 15.6 +1.0**
KNMB Chin-men Tao 54.25 78 PFAKE 11 07 30.0 +14
KNMB LR LR
comp=Z,2µm,20.0s
PBRG Braganca 54.27 304 *e*P **P 11 07 16.5 +0.9**
comp=Z,64nm,0.9s
RRH Rhenigidale 54.33 324 *e*P **P 11 07 16.4 +0.8**
SFS San Fernando 54.53 297 PFAKE 11 07 30.0 +13
SFS LR LR
comp=Z,1µm,20.0s
IDGL Inch Island, C 54.54 320 *e*P **P 11 07 18.2 +1.0**
IDGL *e*S **S 11 14 56.5 +0.4**
MVO Moncorvo 54.55 303 *e*P **P 11 07 19.1 +1.5**
comp=Z,127nm,0.9s
MVO *e*S **S 11 15 00.5 +3.7**

SPA0 Spitsbergen Ar 54.89 350 *e*P **P 11 07 16.4 -3.1**
comp=Z,90nm,1.3s
SPA0 Spitsbergen Ar 54.89 350 *e*P **P 11 07 19.9 +0.4**
SPITS Spitsbergen Ar 54.89 350 P **P 11 07 19.9 +0.4**
baz=110,slow=12
SSE Sheshan 55.02 69 PFAKE 11 07 30.0 +8.9
SSE LR LR
comp=Z,4µm,19.0s
MTE Manteigas 55.02 302 *e*P **P 11 07 22.7 +1.6**
comp=Z,122nm,1.4s
MTE Manteigas 55.02 302 *e*P **P 11 07 18.2 -2.9**
comp=Z,56nm,0.9s
PMRV Marv??o 55.03 301 *e*P **P 11 07 21.8 +0.7**
comp=Z,73nm,1.1s
PCBR Castelo Branco 55.04 301 *e*P **P 11 07 22.2 +1.1**
comp=Z,156nm,1.3s
PVRL Vila Real 55.05 303 *e*P **P 11 07 22.4 +1.1**
comp=Z,159nm,1.7s
POLO Lamas de Olo 55.10 303 *e*P **P 11 07 22.2 +0.5**
comp=Z,68nm,1.6s
SNY Shenyang 55.18 56 ⇓P **P 11 07 21.1 -1.0**
SNY S **S 11 15 02.3 -2.8**
SNY pmax pmax
comp=Z,18nm,0.5s
SNY pmax pmax
comp=Z,330nm,10.3s
SNY LR LR
comp=Z,2µm,17.4s
SNY LR LR
comp=Z,3µm,16.7s
SNY LR LR
comp=Z,4µm,14.7s
PCAB Cabril 55.23 304 *e*P **P 11 07 24.8 +2.2**
comp=Z,126nm,1.6s
PVIS Viseu 55.25 303 *e*P **P 11 07 24.4 +1.7**
comp=Z,129nm,1.1s
PGAV Gavieira, Arco 55.39 304 *e*P **P 11 07 26.3 +2.6**
comp=Z,143nm,1.5s
RTC Rabat Centre 55.49 294 PFAKE 11 07 30.0 +5.6
RTC LR LR
comp=Z,10µm,18.0s
IGLA Glengowla, Co 55.58 318 *e*P **P 11 07 25.3 +0.6**
IGLA *e*S **S 11 15 10.6 +0.6**
PBEJ Beja 55.60 299 *e*P **P 11 07 26.8 +1.6**
comp=Z,67nm,1.2s
COI Coimbra 55.71 302 *e*P **P 11 07 27.3 +1.4**
comp=Z,181nm,0.8s
COI Coimbra 55.71 302 *e*P **P 11 07 23.0 -3.0**
comp=Z,146nm,0.8s
PMTG Montargil 55.72 301 *e*P **P 11 07 27.4 +1.3**
PTO Porto 55.73 303 *e*P **P 11 07 27.3 +1.2**
PBDV Barranco-do-Ve 55.77 298 *e*P **P 11 07 28.1 +1.6**
PTOM Tomar 55.79 301 *e*P **P 11 07 27.9 +1.4**
comp=Z,220nm,1.4s
PCAS Casmilo, Conde 55.79 302 *e*P **P 11 07 28.0 +1.4**
comp=Z,124nm,1.9s
PCVE Castro Verde 55.80 299 *e*P **P 11 07 27.1 +0.5**
comp=Z,76nm,1.6s
MESJ Messejana 55.90 299 *e*P **P 11 07 27.4 0.0**
MESJ AMS AMS 11 33 25.3
comp=N,2µm,20.7s
MESJ Messejana 55.90 299 *e*P **P 11 07 29.0 +1.6**
comp=N,66nm,1.5s
MESJ Messejana 55.90 299 *e*P **P 11 07 27.4 0.0**
KBS Kingsbay 56.05 350 PFAKE 11 07 40.0 +12
KBS LR LR
comp=Z,2µm,20.0s
KBS Kingsbay 56.05 350 *ce*P **P 11 07 28.7 +0.9**
KBS pmax pmax
comp=Z,440nm,2.5s
KBS Kingsbay 56.05 350 *e*P **P 11 07 27.7 -0.1**
PNCL Nicolau / Gran 56.10 299 *e*P **P 11 07 30.0 +1.2**
comp=Z,88nm,1.5s
VAL Valentia 56.11 316 *e*P **P 11 07 28.6 +0.1**
KSM Kuching 56.23 107 PFAKE 11 07 40.0 +10
KSM LR LR
comp=Z,1µm,20.0s
MORF Marmelete 56.33 299 *e*P **P 11 07 31.6 +1.1**
CN2 Changchun 56.34 54 *e*P **P 11 07 31.5 +1.1**
CN2 *e*S **S 11 15 12.8 -7.7**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,4µm,17.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,3µm,18.0s
PFVI Vila Bisbo 56.50 298 *e*P **P 11 07 32.2 +0.6**
TPUB Ta-pu 56.54 79 PFAKE 11 07 40.0 +7.8
TPUB LR LR
comp=Z,2µm,18.0s
PMAFR Mafra 56.55 301 *e*P **P 11 07 35.1 +3.1**
comp=Z,315nm,1.6s
SSLB Suanglung 56.68 78 PFAKE 11 07 40.0 +6.8
SSLB LR LR
comp=Z,2µm,18.0s
YHNB Yeheng 56.80 77 PFAKE 11 07 40.0 +6.0
YHNB LR LR
comp=Z,4µm,20.0s
TATO Taipei 56.81 76 PFAKE 11 07 40.0 +6.0
TATO LR LR
comp=Z,2µm,20.0s
ZEA Zeya 56.93 42 *e*P **P 11 07 35.1 +0.7**
ZEA pmax pmax
comp=E,41nm,1.0s
ZEA pmax pmax
comp=Z,49nm,1.0s
ZEA MLR MLR
comp=N,2µm,14.0s
TWG Pinlang 57.08 79 PFAKE 11 07 50.0 +14
TWG LR LR
comp=Z,7µm,20.0s
YULB Yu-li 57.10 78 PFAKE 11 07 50.0 +14
YULB LR LR
comp=Z,2µm,21.0s
NACB Ninganchiao 57.13 77 PFAKE 11 07 50.0 +14
NACB LR LR
comp=Z,4µm,20.0s
SBUM Sibu 57.37 105 *e*P **P 11 07 35.3 -2.8**
comp=Z,8.9nm,1.5s
SBUM LR LR
comp=Z,700nm,19.0s
YAK Yakutsk 58.34 32 *e*P **P 11 07 43.3 -0.9**
YAK *e* 11 08 34.0
YAK *e* 11 09 52.2
YAK *e*PPP PPP 11 11 14.3
YAK *e*S **S 11 15 43.8 -2.4**
YAK *e* 11 17 24.3
YAK *e*SS **SS 11 19 34.1 -3.7**
YAK pmax pmax
comp=Z,326nm,0.9s
YAK pmax pmax
comp=N,21nm,0.9s
YAK pmax pmax
comp=E,214nm,1.2s
YAK pmax pmax
comp=Z,193nm,1.3s
YAK pmax pmax
comp=E,101nm,1.4s
YAK pmax pmax
comp=N,126nm,1.3s
YAK smax smax
comp=N,304nm,1.9s
YAK smax smax
comp=E,979nm,1.9s
YAK MLR MLR
comp=Z,7µm,16.0s
YAK MLR MLR
comp=N,3µm,17.0s
YAK MLR MLR
comp=E,4µm,16.0s
TIXI Tiksi 58.98 20 *e*P **P 11 07 48.2 -0.3**
comp=E,23nm,0.9s
TIXI Tiksi 58.98 20 *ce*P **P 11 07 48.0 -0.5**
TIXI pmax pmax
comp=Z,23nm,1.3s
TIXI MLR MLR
comp=Z,3µm,19.0s
KS15 Wonju Array Si 59.14 61 *e*P **P 11 07 50.3 0.0**
comp=Z,62nm,1.9s
KSAR Wonju Array Be 59.14 61 *e*P **P 11 07 50.9 +0.6**
KSRS Korea Array 59.17 61 P **P 11 07 51.1 +0.7**
comp=Z,12nm,0.5s,baz=275,slow=6.9,SNR=54
KSRS LR LR 11 37 19.4
comp=Z,2µm,21.2s,baz=276,slow=40

MDJ Mudanjiang 59.19 52 P **P 11 07 51.3 +0.9**
MDJ pmax pmax
comp=Z,4.0nm,0.5s
MDJ pmax pmax
comp=Z,250nm,6.2s
MDJ Mudanjiang 59.19 52 PFAKE 11 08 00.0 +10
MDJ LR LR
comp=Z,3µm,18.0s
CISI Cisompet, Garu 59.22 118 PFAKE 11 08 00.0 +9.0
CISI LR LR
comp=Z,1µm,21.0s
TSUM Tsumeb 60.01 225 *e*P P 11 07 51.8 -4.7
comp=Z,30nm,1.1s
TSUM LR LR
comp=Z,2µm,18.0s
KLR Kul'dur 60.05 47 *i* P **P 11 07 54.0 -2.3**
KLR pmax pmax
comp=Z,20nm,0.9s
KLR MLR MLR
comp=Z,2µm,15.0s
KLR Kul'dur 60.05 47 P **P 11 07 56.5 +0.3**
comp=Z,20nm,0.9s,baz=288,slow=5.7,SNR=34
LBTB Lobatse 60.05 214 *e*P **P 11 07 52.4 -4.2**
comp=Z,34nm,1.0s
USRK Ussuriysk Ar. 60.95 52 P **P 11 08 02.4 -0.2**
comp=Z,3.2nm,0.6s,baz=271,slow=7.0,SNR=7.4
USRK LR LR 11 37 11.0
comp=Z,2µm,18.9s,baz=271,slow=39
DAG Danmarks Havn 61.14 345 *i* P **P 11 08 04.5 +1.2**
DAG Danmarks Havn 61.14 345 *i* P **P 11 08 04.5 +1.2**
SCO Scoresbysund 61.71 338 *e*P **P 11 08 07.9 +0.7**
comp=Z,31nm,0.9s
SCO LR LR
comp=Z,2µm,21.0s
SCO Scoresbysund 61.71 338 *e*P **P 11 08 07.9 +0.7**
SCO pmax pmax
comp=Z,31nm,0.9s
SCO MLR MLR
comp=Z,2µm,21.0s
SCO Scoresbysund 61.71 338 ⇓*i*P **P 11 08 09.2 +2.0**
comp=Z,26nm,0.8s
JOW Kunigami 62.12 72 PFAKE 11 08 20.0 +9.3
JOW LR LR
comp=Z,2µm,21.0s
JNU Nakatsue 62.52 65 PFAKE 11 08 20.0 +6.6
JNU LR LR
comp=Z,4µm,19.0s
DBIC Dimbokro 62.63 264 *e*P **P 11 08 10.5 -3.7**
comp=Z,33nm,1.9s
DBIC Dimbokro 62.63 264 *e*P **P 11 08 10.5 -3.7**
DBIC pmax pmax
comp=Z,33nm,1.9s
DBIC Dimbokro 62.63 264 P **P 11 08 14.2 0.0**
comp=Z,14nm,0.8s,baz=56,slow=8.7,SNR=16
DBIC LR LR 11 36 15.6
comp=Z,2µm,18.5s,baz=38,slow=37
KIC Kosan Boka 62.66 263 *e*P **P 11 08 14.7 +0.2**
comp=Z,118nm,1.2s
PWJI Pagerwojo 62.68 116 P **P 11 08 15.4 +0.9**
TIC Toumodi 62.79 264 *e*P **P 11 08 15.4 +0.1**
GRNR Gornyy 62.81 44 *e*P **P 11 08 17.0 +2.1**
GRNR pmax pmax
comp=Z,26nm,1.0s
LIC Lamto 62.98 263 *e*P **P 11 08 16.7 +0.1**
comp=Z,150nm,1.4s
BOSA Boshof 63.22 212 *e*P **P 11 08 17.9 -0.1**
comp=Z,27nm,1.0s
BOSA Boshof 63.22 212 *e*P **P 11 08 17.9 -0.1**
BOSA pmax pmax
comp=Z,27nm,1.0s
BOSA Boshof 63.22 212 P **P 11 08 17.9 -0.1**
comp=Z,6.0nm,0.7s,baz=22,slow=8.9,SNR=8.9
BOSA LR LR 11 40 12.1
comp=Z,1µm,18.1s,baz=27,slow=40
MPSI Mapaga 65.08 103 P **P 11 08 31.5 +1.1**
comp=Z,22nm,1.3s,comp=Z,253nm
SUMG Summit 66.66 341 *e*P **P 11 08 41.1 +1.0**
comp=Z,74nm,0.7s
SUMG LR LR
comp=Z,2µm,20.0s
SUMG Summit 66.66 341 *e*P **P 11 08 41.1 +1.0**
SUMG pmax pmax
comp=Z,74nm,0.7s
SUMG MLR MLR
comp=Z,2µm,20.0s
SUMG Summit 66.66 341 *i* P **P 11 08 41.9 +1.8**
comp=Z,168nm,0.8s
TYV Tymovskoe 66.66 43 *e*P **P 11 08 40.7 +0.7**
TYV *e*S **S 11 17 36.8 +5.6**
TYV pmax pmax
comp=Z,33nm,0.9s
TYV smax smax
comp=N,400nm,9.9s
MRSI Marisa 66.80 102 P **P 11 08 43.2 +1.8**
comp=N,12nm,1.0s,comp=N,503nm
INU Inuyama 66.80 61 *e*P **P 11 08 37.5 -3.7**
comp=N,40nm,0.9s
INU LR LR
comp=Z,3µm,18.0s
DAV Davao City (W) 67.02 94 PFAKE 11 08 50.0 +7.1
DAV LR LR
comp=Z,1µm,20.0s
MJB9 Matsu-Tunnel 67.37 59 *e*P **P 11 08 45.2 +0.4**
comp=Z,22nm,1.0s
MAJO Matsushiro 67.37 59 *e*P **P 11 08 45.2 +0.4**
MAJO LR LR
comp=Z,2µm,21.0s
MAJO Matsushiro 67.37 59 *e*P **P 11 08 45.3 +0.4**
MAJO MLR MLR
comp=Z,2µm,21.0s
MAT Matsushiro 67.37 59 P **P 11 08 45.3 +0.5**
MAT S **S 11 17 38.8 -1.6**
MJAR Matsushiro Arr 67.37 59 P **P 11 08 45.3 +0.5**
comp=Z,8.2nm,0.9s,baz=276,slow=8.8,SNR=14
MJAR LR LR 11 41 41.5
comp=Z,2µm,21.4s,baz=295,slow=39
BNSI Bone 67.62 107 P **P 11 08 45.7 -1.0**
KAPI Kappang 67.64 108 PFAKE 11 09 00.0 +13
KAPI LR LR
comp=Z,900nm,20.0s
KAPI Kappang 67.64 108 P **P 11 08 48.0 +1.2**
KAPI Kappang 67.64 108 P **P 11 08 48.0 +1.2**
comp=Z,8.0nm,0.9s,baz=267,slow=15,SNR=3.0
GTOI Gorontalo 67.66 101 P P 11 08 59.5 +13
YSS Yuzh-Sakhalins 67.72 48 *e*P **P 11 08 47.3 +0.5**
comp=Z,61nm,0.8s
YSS LR LR
comp=Z,1µm,19.0s
YSS Yuzh-Sakhalins 67.72 48 ⇓*i*P **P 11 08 46.9 +0.1**
YSS pmax pmax
comp=Z,60nm,0.7s
YSS MLR MLR
comp=E,1µm,16.0s
LUWI Luwuk 68.25 103 PFAKE 11 09 00.0 +9.3
LUWI LR LR
comp=Z,900nm,22.0s
SEY Seymchan 68.64 29 *ce*P **P 11 08 53.1 +0.8**
MA2 Magadan 68.86 33 *e*P **P 11 08 52.8 -1.0**
comp=Z,21nm,0.8s
MA2 LR LR
comp=Z,3µm,18.0s
MA2 Magadan 68.86 33 *ce*P **P 11 08 52.9 -0.8**
MA2 pmax pmax
comp=Z,27nm,1.0s
ERM Erimo 69.41 53 PFAKE 11 09 10.0 +13
ERM LR LR
comp=Z,2µm,19.0s
JHJ2 Mitsune 69.69 62 PFAKE 11 09 10.0 +11
JHJ2 LR LR
comp=Z,3µm,20.0s
KULLO Kullorsuaq 70.80 345 ⇑*i*P **P 11 09 05.8 +0.4**
KULLO pmax pmax
comp=Z,87nm,1.0s
KULLO Kullorsuaq 70.80 345 ⇑*i*P **P 11 09 05.8 +0.4**
comp=Z,87nm,1.0s
SANI Sanana 71.55 102 P **P 11 09 11.4 +0.4**
MMRI Maumere 71.62 110 PFAKE 11 09 20.0 +8.6
MMRI LR LR
comp=Z,900nm,20.0s
ILULI Ilulissat 71.73 339 *e*P **P 11 09 06.5 -4.6**
comp=Z,29nm,0.8s
ILULI LR LR
comp=Z,2µm,20.0s
ILULI Ilulissat 71.73 339 *e*P **P 11 09 06.5 -4.6**
ILULI pmax pmax
comp=Z,29nm,0.8s

ILULI MLR MLR
comp=Z,2μm,20.0s
BILL Bilibino 72.12 22 *e*P **P 11 09 13.8 +0.3**
BILL comp=Z,23nm,0.8s LR LR
comp=Z,3μm,21.0s
BILL Bilibino 72.12 22 *de*P **P 11 09 13.4 -0.1**
BILL *i* 11 09 25.1
BILL *e*S **S 11 18 40.2 +5.1**
BILL *e*SS **SS 11 23 11.0 -0.6**
BILL pmax pmax
comp=Z,39nm,1.3s
BILL MLR MLR
comp=Z,2μm,16.0s
SFJD Kangerlussuaq 72.58 337 *e*P **P 11 09 13.9 -2.3**
SFJD comp=Z,26nm,1.0s LR LR
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 72.58 337 *e*P **P 11 09 13.9 -2.3**
SFJD pmax pmax
comp=Z,26nm,1.0s
SFJD MLR MLR
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 72.58 337 *i* P **P 11 09 15.2 -1.1**
SOEI Soe 73.91 110 *e*P **P 11 09 21.9 -3.2**
SOEI comp=Z,130nm,1.2s LR LR
comp=Z,1μm,21.0s
PEA1 Petropavlovsk- 74.72 38 *e*P **P 11 09 27.8 -1.3**
PEA0B Petropavlovsk- 74.73 38 PFAKE 11 09 40.0 +11
PEA0B LR LR
comp=Z,2μm,20.0s
PETK Petropavlovsk- 74.73 38 *e*P **P 11 09 28.1 -1.1**
PETK Petropavlovsk- 74.73 38 P **P 11 09 27.8 -1.4**
comp=Z,5.4nm,0.7s,baz=88,slow=1.5,SNR=7.2
PET Petropavlovsk 75.29 38 PFAKE 11 09 40.0 +7.7
PET LR LR
comp=Z,2μm,18.0s
PET Petropavlovsk 75.29 38 *e*P **P 11 09 31.6 -0.7**
PET *e*S **S 11 19 06.3 -5.0**
PET *e*SS **SS 11 23 58.3 -2.0**
PET *e*SSS SSS 11 27 18.8
PET pmax pmax
comp=Z,20nm,1.0s
SACV Santiago Islan 75.89 280 PFAKE 11 09 40.0 +3.5
SACV LR LR
comp=Z,2μm,21.0s
MBWA Marble Bar 76.53 122 PFAKE 11 09 50.0 +10
MBWA LR LR
comp=Z,2μm,19.0s
PSAD1 Pilbara Seismi 76.78 122 PFAKE 11 09 50.0 +8.7
PSAD1 LR LR
comp=Z,2μm,19.0s
PSAC1 Pilbara Seismi 76.81 122 PFAKE 11 09 50.0 +8.5
PSAC1 LR LR
comp=Z,2μm,18.0s
PSAB1 Pilbara Seismi 76.84 122 PFAKE 11 09 50.0 +8.4
PSAB1 LR LR
comp=Z,2μm,20.0s
PSAD3 Pilbara Seismi 76.85 123 PFAKE 11 09 50.0 +8.3
PSAD3 LR LR
comp=Z,2μm,22.0s
PSAA1 Pilbara Seismi 76.86 122 PFAKE 11 09 50.0 +8.3
PSAA1 LR LR
comp=Z,2μm,22.0s
PSAA2 Pilbara Seismi 76.86 122 PFAKE 11 09 50.0 +8.3
PSAA2 LR LR
comp=Z,2μm,19.0s
PSA00 Pilbara Seismi 76.86 122 PFAKE 11 09 50.0 +8.2
PSA00 LR LR
comp=Z,2μm,20.0s
PSAB2 Pilbara Seismi 76.86 122 PFAKE 11 09 50.0 +8.2
PSAB2 LR LR
comp=Z,2μm,19.0s
PSAA3 Pilbara Seismi 76.87 122 PFAKE 11 09 50.0 +8.2
PSAA3 LR LR
comp=Z,2μm,19.0s
PSAC3 Pilbara Seismi 76.88 122 PFAKE 11 09 50.0 +8.2
PSAC3 LR LR
comp=Z,2μm,19.0s
PSAB3 Pilbara Seismi 76.88 122 PFAKE 11 09 50.0 +8.1
PSAB3 LR LR
comp=Z,2μm,19.0s
PSAC2 Pilbara Seismi 76.90 122 PFAKE 11 09 50.0 +8.0
PSAC2 LR LR
comp=Z,2μm,19.0s
PSAD2 Pilbara Seismi 76.98 122 PFAKE 11 09 50.0 +7.6
PSAD2 LR LR
comp=Z,2μm,20.0s
RES Resolute Bay 77.35 353 *e*P **P 11 09 43.9 +0.2**
RES comp=Z,24nm,1.6s LR LR
comp=Z,2μm,20.0s
RES Resolute Bay 77.35 353 *e*P **P 11 09 43.9 +0.2**
RES pmax pmax
comp=Z,23nm,1.6s
RES MLR MLR
comp=Z,2μm,20.0s
FAKI Fak Fak 77.46 100 *e*P **P 11 09 45.6 +0.3**
comp=Z,38nm,1.2s
MORW Morawa 78.66 131 *e*P **P 11 09 53.2 +1.5**
MORW comp=Z,42nm,1.5s LR LR
comp=Z,3μm,22.0s
FITZ Fitzroy Crossi 79.44 116 *e*P **P 11 09 56.6 +0.5**
comp=Z,12nm,1.1s
FITZ Fitzroy Crossi 79.44 116 P **P 11 09 56.5 +0.5**
comp=Z,10.0nm,1.1s,baz=331,slow=5.4,SNR=7.7
RDOG Red Dog Mine 80.87 14 *e*P **P 11 10 00.3 -2.8**
RDOG comp=Z,38nm,1.2s LR LR
comp=Z,4μm,20.0s
MTN Manton Dam 81.27 109 PFAKE 11 10 10.0 +4.0
MTN LR LR
comp=Z,600nm,21.0s
GAMB Gambell 81.85 20 PFAKE 11 10 20.0 +12
GAMB LR LR
comp=Z,4μm,20.0s
NWAO Narrogin (SRO) 81.88 133 *e*P **P 11 10 08.5 -0.4**
comp=Z,38nm,1.3s
NWAO Narrogin (SRO) 81.88 133 *e*P **P 11 10 08.5 -0.4**
NWAO pmax pmax
comp=Z,38nm,1.3s
NWAO Narrogin (SRO) 81.88 133 P **P 11 10 08.9 0.0**
comp=Z,14nm,0.6s,baz=305,slow=4.1,SNR=13
TOLK Toolik Lake Re 82.86 10 *e*P **P 11 10 14.0 +0.4**
comp=Z,31nm,0.8s
TOLK LR LR
comp=Z,2μm,19.0s
TOLK Toolik Lake Re 82.86 10 P **P 11 10 14.6 +1.0**
baz=336
ANM Nome 83.06 17 *e*P **P 11 10 13.4 -1.3**
ANM comp=Z,60nm,1.2s LR LR
comp=Z,3μm,21.0s
ANM Nome 83.06 17 *e*P **P 11 10 13.4 -1.3**
ANM pmax pmax
comp=Z,60nm,1.2s
ANM MLR MLR
comp=Z,3μm,21.0s
SMY Shemya 83.50 33 PFAKE 11 10 30.0 +13
SMY LR LR
comp=Z,1μm,19.0s
COLD Coldfoot 84.05 11 *e*P **P 11 10 17.7 -2.0**
COLD comp=Z,14nm,0.9s LR LR
comp=Z,2μm,20.0s
IMAR Indian Mountai 84.54 12 *e*P **P 11 10 22.3 +0.1**
INK Inuvik 84.94 4 *e*P **P 11 10 22.7 -1.4**
INK comp=Z,20nm,0.9s *e*S **S 11 20 52.1 -0.2**
INK LR LR
comp=Z,2μm,22.0s
INK Inuvik 84.94 4 *e*P **P 11 10 22.7 -1.4**
INK *e*S **S 11 20 52.1 -0.2**
INK pmax pmax
comp=Z,20nm,0.9s
INK MLR MLR
comp=Z,2μm,22.0s
INK Inuvik 84.94 4 P **P 11 10 24.8 +0.6**
comp=Z,9.1nm,1.0s,baz=6.7,slow=7.6,SNR=25
FYU Fort Yukon 85.42 9 *e*P **P 11 10 25.4 -1.2**
FYU comp=Z,74nm,1.5s LR LR
comp=Z,1μm,18.0s
MLY Manley 85.96 12 *e*P **P 11 10 29.4 0.0**
comp=Z,21nm,1.0s
MLY LR LR
comp=Z,2μm,20.0s
SCHQ Schefferville 86.00 331 PFAKE 11 10 40.0 +10
SCHQ LR LR
comp=Z,700nm,21.0s
SCHQ Schefferville 86.00 331 LR LR 11 50 05.2
comp=Z,585nm,18.3s,baz=47,slow=36
PRP Porcupine Dome 86.37 10 *e*P **P 11 10 31.2 -0.3**
comp=Z,26nm,1.2s
PRP LR LR
comp=Z,2μm,19.0s
MDM Murphy Dome 86.46 11 *e*P **P 11 10 31.9 +0.1**
comp=Z,35nm,1.0s
MDM LR LR
comp=Z,2μm,20.0s
EPYK Eagle Plains 86.60 6 *e*P **P 11 10 32.7 +0.2**
comp=Z,59nm,1.4s
EPYK LR LR
comp=Z,900nm,20.0s
EPYK Eagle Plains 86.60 6 P **P 11 10 32.8 +0.2**
baz=347
TCOL CIGO, UAF Yank 86.60 11 P **P 11 10 32.0 -0.4**
baz=337
COLA College 86.60 11 *e*P **P 11 10 31.9 -0.6**
comp=Z,31nm,1.4s
COLA LR LR
comp=Z,2μm,20.0s
COLA College 86.60 11 *e*P **P 11 10 31.9 -0.6**
COLA pmax pmax
comp=Z,31nm,1.4s
COLA MLR MLR
comp=Z,2μm,20.0s
BPAW Bear Paw Mtn. 86.75 12 *e*P **P 11 10 33.7 +0.4**
comp=Z,112nm,1.4s
BPAW LR LR
comp=Z,2μm,19.0s
CCB Clear Creek Bu 86.82 11 *e*P **P 11 10 31.9 -1.7**
comp=Z,6.7nm,1.0s
CCB LR LR
comp=Z,2μm,21.0s
ILAR Eielson Array 86.86 10 *e*P **P 11 10 32.1 -1.6**
ILAR Eielson Array 86.86 10 *e*P **P 11 10 32.2 -1.6**
ILAR Eielson Array 86.86 10 P **P 11 10 34.0 +0.3**
comp=Z,6.3nm,0.7s,baz=328,slow=3.3,SNR=66
ILAR PKKPbc **PKKPbc 11 28 28.2 -0.4**
comp=Z,0.3nm,0.5s,baz=123,slow=2.1,SNR=4.8
ILAR LR LR 11 54 33.9
comp=Z,1μm,20.0s,baz=329,slow=39
ILB Eielson Array 86.86 10 *e*P **P 11 10 31.5 -2.3**
comp=Z,7.9nm,1.6s
WRH Wood River Hil 86.94 11 *e*P **P 11 10 33.0 -1.2**
comp=Z,22nm,1.3s
WRH LR LR
comp=Z,2μm,20.0s
BWN Browne 86.97 12 PFAKE 11 10 40.0 +5.7
BWN LR LR
comp=Z,2μm,20.0s
CAST Castle Rocks 87.16 13 *e*P **P 11 10 35.5 +0.2**
comp=Z,50nm,1.0s
HDA Harding Lake 87.18 10 *e*P **P 11 10 34.6 -0.8**
comp=Z,11nm,0.7s
HDA LR LR
comp=Z,2μm,20.0s
HDA Harding Lake 87.18 10 P **P 11 10 36.3 +0.9**
baz=336
SPIA Saint Paul Isl 87.22 24 PFAKE 11 10 40.0 +4.4
SPIA LR LR
comp=Z,2μm,19.0s
WC1 Warramunga Arr 87.43 114 PFAKE 11 10 50.0 +13
WC1 LR LR
comp=Z,500nm,21.0s
WRA Warramunga Arr 87.44 114 *i* P **P 11 10 38.5 +1.2**
WRA pmax pmax
comp=Z,7.0nm,0.6s
WRA Warramunga Arr 87.44 114 P **P 11 10 37.7 +0.4**
comp=Z,7.3nm,0.6s,baz=306,slow=3.6,SNR=29
WRA PKKPbc **PKKPbc 11 28 27.7 +1.0**
comp=Z,0.8nm,0.8s,baz=125,slow=2.7,SNR=6.1
WRAB Tennant Creek 87.44 114 *e*P **P 11 10 37.8 +0.4**
comp=Z,14nm,0.6s
WRAB LR LR
comp=Z,700nm,19.0s
WRAB Tennant Creek 87.44 114 *ce*P **P 11 10 38.0 +0.7**
WRAB pmax pmax
comp=Z,49nm,2.5s
WB2 Warramunga Arr 87.45 114 *e*P **P 11 10 37.5 +0.1**
comp=Z,17nm,0.9s
MCK McKinley 87.47 12 *e*P **P 11 10 37.4 +0.6**
comp=Z,71nm,1.3s
MCK LR LR
comp=Z,2μm,19.0s
MCK McKinley 87.47 12 *e*P **P 11 10 37.4 +0.6**
MCK pmax pmax
comp=Z,71nm,1.3s
MCK MLR MLR
comp=Z,2μm,19.0s
PPLA Purkeypile 87.60 13 *e*P **P 11 10 35.5 -2.1**
comp=Z,49nm,1.4s
PPLA LR LR
comp=Z,2μm,22.0s
EGAK Eagle 87.67 8 *e*P **P 11 10 36.0 -1.6**
comp=Z,35nm,1.0s
SCRK Sand Creek 88.05 9 *e*P **P 11 10 39.8 +0.1**
comp=Z,23nm,0.9s
SCRK LR LR
comp=Z,1μm,21.0s
FORT Forrest 88.12 126 PFAKE 11 10 50.0 +10
FORT LR LR
comp=Z,900nm,18.0s
RIDG Independent Ri 88.14 10 *e*P **P 11 10 40.8 +0.7**
comp=Z,26nm,1.2s
RIDG LR LR
comp=Z,2μm,22.0s
DOT Dot Lake 88.35 10 PFAKE 11 10 50.0 +9.0
DOT LR LR
comp=Z,1μm,21.0s
DHY Denali Highway 88.35 11 *e*P **P 11 10 39.0 -2.1**
comp=Z,12nm,1.0s
DHY LR LR
comp=Z,1μm,18.0s
ADK Adak 88.39 30 PFAKE 11 10 50.0 +8.7
ADK LR LR
comp=Z,1μm,20.0s
SVW2 Sparrevohn 88.44 16 PFAKE 11 10 50.0 +8.6
SVW2 LR LR
comp=Z,2μm,18.0s
DAWY Dawson 88.57 7 *e*P **P 11 10 39.3 -2.7**
comp=Z,21nm,0.9s
DAWY LR LR
comp=Z,2μm,22.0s
PAX Paxson 88.77 10 PFAKE 11 10 50.0 +7.0
PAX LR LR
comp=Z,2μm,21.0s
ASAR Alice Springs 88.92 117 *e*P **P 11 10 40.9 -3.4**
ASAR Alice Springs 88.92 117 *e*P **P 11 10 40.9 -3.4**
ASAR Alice Springs 88.92 117 P **P 11 10 45.1 +0.9**
comp=Z,8.7nm,1.0s,baz=300,slow=4.2,SNR=34
ASAR PKKPbc **PKKPbc 11 28 23.8 +0.6**
comp=Z,0.4nm,0.8s,baz=130,slow=3.3,SNR=4.7
ASAR LR LR 11 54 18.4
comp=Z,364nm,18.0s,baz=292,slow=38
AS31 Alice Springs 88.92 117 *e*P **P 11 10 40.7 -3.6**
comp=Z,2.2nm,1.5s
MENT Mentasta 89.07 10 *e*P **P 11 10 42.8 -1.6**
comp=Z,66nm,1.8s
MENT LR LR
comp=Z,1μm,20.0s
BCAR Beaver Creek A 89.23 9 *e*P **P 11 10 43.7 -1.4**
GHO Glory Hole Cre 89.27 12 PFAKE 11 10 50.0 +4.6
GHO LR LR
comp=Z,2μm,19.0s
SML Sawmill 89.35 12 *e*P **P 11 10 43.7 -2.0**
comp=Z,24nm,1.0s
SML LR LR
comp=Z,2μm,22.0s
PMR Palmer 89.40 13 *e*P **P 11 10 42.7 -3.1**
comp=Z,63nm,1.6s
PMR LR LR
comp=Z,2μm,20.0s
PMR Palmer 89.40 13 *e*P **P 11 10 42.7 -3.1**
PMR pmax pmax
comp=Z,63nm,1.6s
PMR MLR MLR
comp=Z,2μm,20.0s
SCM Sheep Creek Mo 89.51 12 PFAKE 11 11 00.0 +13
SCM LR LR
comp=Z,2μm,20.0s
GBN Guysborough 89.53 322 PFAKE 11 11 00.0 +13
GBN LR LR
comp=Z,1μm,20.0s
KNK Knik Glacier 89.69 12 PFAKE 11 11 00.0 +13
KNK LR LR
comp=Z,2μm,20.0s
RC01 Rabbit Creek A 89.74 13 PFAKE 11 11 00.0 +13
RC01 LR LR
comp=Z,900nm,18.0s
KLU Klutina 90.08 11 PFAKE 11 11 00.0 +11
KLU LR LR
comp=Z,2μm,22.0s
GLI Glacier Island 90.44 12 PFAKE 11 11 00.0 +9.2
GLI LR LR
comp=Z,2μm,19.0s
SEW Seward 90.70 13 PFAKE 11 11 00.0 +8.1
SEW LR LR
comp=Z,2μm,20.0s
YKW3 Yellowknife Ar 90.88 356 *e*P **P 11 10 53.4 +0.7**
comp=Z,34nm,1.4s
YKW3 LR LR
comp=Z,900nm,20.0s
NIKH Nikolski High 90.91 26 PFAKE 11 11 00.0 +6.9
NIKH LR LR
comp=Z,1μm,20.0s
YKA Yellowknife Ar 90.94 356 *e*P **P 11 10 53.6 +0.6**
YKA Yellowknife Ar 90.94 356 P **P 11 10 54.0 +1.0**
comp=Z,4.1nm,0.6s,baz=360,slow=4.5,SNR=70
YKA PKKPbc **PKKPbc 11 28 17.5 -1.0**
comp=Z,0.4nm,0.8s,baz=183,slow=2.8,SNR=6.1
YKA LR LR 11 57 28.0
comp=Z,68nm,20.2s,baz=2.5,slow=39
EYAK Cordova Ski Ar 90.99 11 PFAKE 11 11 00.0 +6.7
EYAK LR LR
comp=Z,2μm,19.0s
BALM Baldy 91.09 10 PFAKE 11 11 00.0 +6.1
BALM LR LR
comp=Z,1μm,20.0s
UNV Unalaska Valle 91.14 24 PFAKE 11 11 00.0 +5.9
UNV LR LR
comp=Z,2μm,20.0s
AKUT Akutan 91.18 24 PFAKE 11 11 00.0 +5.7
AKUT LR LR
comp=Z,1μm,21.0s
TGL Tana Glacier 91.28 10 PFAKE 11 11 00.0 +5.2
TGL LR LR
comp=Z,2μm,20.0s
CTGM Chitina Glacie 91.30 9 PFAKE 11 11 00.0 +5.0
CTGM LR LR
comp=Z,1μm,20.0s
FALS False Pass 91.43 22 PFAKE 11 11 00.0 +4.6
FALS LR LR
comp=Z,3μm,21.0s
FCC Fort Churchill 91.74 346 *e*P **P 11 10 57.2 +0.4**
comp=Z,20nm,0.8s
FCC LR LR
comp=Z,1μm,22.0s
FCC Fort Churchill 91.74 346 *e*P **P 11 10 57.2 +0.4**
FCC pmax pmax
comp=Z,20nm,0.8s
FCC MLR MLR
comp=Z,1μm,22.0s
CHGN Chignik 91.82 19 PFAKE 11 11 10.0 +13
CHGN LR LR
comp=Z,2μm,19.0s
SDPT Sand Point 92.00 21 PFAKE 11 11 10.0 +12
SDPT LR LR
comp=Z,2μm,20.0s
KDAK Kodiak Island 92.10 16 P **P 11 10 59.9 +1.4**
comp=Z,14nm,0.7s,baz=337,slow=2.4,SNR=6.1
PCA Pinnacle 92.29 9 PFAKE 11 11 10.0 +11
PCA LR LR
comp=Z,2μm,20.0s
WHY Whitehorse 92.38 6 PFAKE 11 11 10.0 +10
WHY LR LR
comp=Z,1μm,20.0s
BCPM Bancas Point 92.52 9 PFAKE 11 11 10.0 +10
BCPM LR LR
comp=Z,1μm,20.0s
CHGQ Chibougamau 92.75 331 P **P 11 11 02.4 +0.7**
baz=42
PMG Port Moresby 93.59 99 PFAKE 11 11 10.0 +3.9
PMG LR LR
comp=Z,500nm,19.0s
PMG Port Moresby 93.59 99 LR LR 11 56 18.6
comp=Z,185nm,21.6s,baz=291,slow=38
PKME Peaks-Kenny Pk 93.73 326 PFAKE 11 11 10.0 +3.7
PKME LR LR
comp=Z,1μm,20.0s
MAW Mawson 94.06 178 P **P 11 11 07.8 +0.8**
comp=Z,2.0nm,0.6s,baz=326,slow=15,SNR=3.6
MAW LR LR 11 47 55.0
comp=Z,527nm,19.9s,baz=354,slow=32
MATQ Matagami 94.23 333 P **P 11 11 09.5 +1.0**
baz=39
BESE Bessie Mountai 94.43 7 PFAKE 11 11 20.0 +11
BESE LR LR
comp=Z,2μm,19.0s
LSQQ Lebel-sur-Quev 94.50 332 P **P 11 11 11.1 +1.4**
baz=40
JIS Juneau Island 94.77 6 PFAKE 11 11 20.0 +9.2
JIS LR LR
comp=Z,1μm,20.0s
DLBC Dease Lake 94.97 4 PFAKE 11 11 20.0 +8.2
DLBC LR LR
comp=Z,2μm,21.0s
BBOO Buckleboo 95.01 124 PFAKE 11 11 20.0 +7.7
BBOO LR LR
comp=Z,1μm,20.0s
MOQ Mont Orford 95.17 327 *e*P **P 11 11 13.8 +0.8**
TRQ Mont Tremblant 95.59 329 *e*P **P 11 11 14.7 -0.1**
RABL Rabaul 95.75 92 PFAKE 11 11 20.0 +3.9
RABL LR LR
comp=Z,600nm,21.0s
D54A Lac Fusel, La 95.83 331 P **P 11 11 16.8 +0.9**
baz=40
RCBR Riachuelo 95.89 266 PFAKE 11 11 20.0 +3.2
RCBR LR LR
comp=Z,9μm,20.0s
RCBR Riachuelo 95.89 266 *e*P **P 11 11 18.1 +1.3**
VT1 Waterbury 96.12 327 PFAKE 11 11 30.0 +13
VT1 LR LR
comp=Z,1μm,21.0s
FRNY Flat Rock 96.16 328 *e*P **P 11 11 17.8 +0.3**
comp=Z,12nm,1.2s
ALFO Alfred 96.18 329 P **P 11 11 18.6 +1.1**
baz=42
SYO Syowa Base 96.32 187 *e*pP pP 11 11 20.0 -2.0
HNH Hanover 96.35 326 PFAKE 11 11 30.0 +12
HNH LR LR
comp=Z,900nm,19.0s
LONY Lake Ozonia 96.80 328 *e*P **P 11 11 20.6 +0.3**
comp=Z,12nm,0.9s
LONY Lake Ozonia 96.80 328 P **P 11 11 21.5 +1.2**
baz=42
HRV Adam Dziewonsk 96.84 325 PFAKE 11 11 30.0 +9.4
HRV LR LR
comp=Z,1μm,20.0s
FFC Flin Flon 97.09 348 *e*P **P 11 11 21.1 -0.3**
comp=Z,19nm,1.6s
FFC LR LR
comp=Z,1μm,22.0s
FFC Flin Flon 97.09 348 *e*P **P 11 11 21.2 -0.3**
FFC pmax pmax
comp=Z,19nm,1.6s
FFC MLR MLR
comp=Z,1μm,22.0s
CTA Charters Tower 97.45 109 LR LR 11 58 59.7
comp=Z,468nm,20.6s,baz=294,slow=38
CTAO Charters Tower 97.45 109 PFAKE 11 11 30.0 +6.3
CTAO LR LR
comp=Z,600nm,20.0s
PLVO Plevna 97.64 330 PFAKE 11 11 30.0 +5.8
PLVO LR LR
comp=Z,800nm,21.0s
TRY Troy 97.75 326 PFAKE 11 11 30.0 +5.3
TRY LR LR
comp=Z,1μm,20.0s
STKA Stephens Creek 98.76 121 PFAKE 11 11 40.0 +11
STKA LR LR
comp=Z,300nm,22.0s
STKA Stephens Creek 98.76 121 LR LR 11 59 14.9
comp=Z,641nm,18.2s,baz=289,slow=37
BINY Binghamton 99.29 327 PFAKE 11 11 40.0 +8.4
BINY LR LR

comp=Z,1μm,22.0s
J55A Hilton 99.34 329 PFAKE 11 11 40.0 +8.2
J55A LR LR
comp=Z,1μm,20.0s
ODNJ Ogdensburg 99.44 326 PFAKE 11 11 40.0 +7.7
ODNJ LR LR
comp=Z,1μm,21.0s
E46A Sault Ste Mari 99.61 334 PFAKE 11 11 40.0 +7.1
E46A LR LR
comp=Z,2μm,20.0s
BRNJ Basking Ridge 99.72 325 PFAKE 11 11 40.0 +6.5
BRNJ LR LR
comp=Z,1μm,22.0s
J54A Appleton 99.72 329 PFAKE 11 11 40.0 +6.6
J54A LR LR
comp=Z,1μm,20.0s
MEDO Medina 99.72 329 PFAKE 11 11 40.0 +6.6
MEDO LR LR
comp=Z,1μm,20.0s
MMNY Mt. Morris Dam 99.80 329 PFAKE 11 11 40.0 +6.2
MMNY LR LR
comp=Z,900nm,20.0s
ULM Lac du Bonnet 99.94 343 PFAKE 11 11 40.0 +5.7
ULM LR LR
comp=Z,1μm,20.0s
ULM Lac du Bonnet 99.94 343 P **Pdif 11 11 36.8 +2.5**
comp=Z,1.8nm,0.8s,baz=54,slow=2.7,SNR=4.7
ULM LR LR 11 59 58.0
comp=Z,586nm,18.8s,baz=30,slow=37
E44A Grand Marais A 100.01 336 PFAKE 11 11 40.0 +5.3
E44A LR LR
comp=Z,1μm,21.0s
C40A Isle Royale Na 100.04 338 PFAKE 11 11 40.0 +5.2
C40A LR LR
comp=Z,1μm,19.0s
LUPA Lehigh Univers 100.19 326 PFAKE 11 11 40.0 +4.4
LUPA LR LR
comp=Z,100nm,22.0s
D41A Chassel 100.58 337 PFAKE 11 11 50.0 +13
D41A LR LR
comp=Z,1μm,20.0s
E43A Lone Tree Farm 100.61 336 PFAKE 11 11 50.0 +13
E43A LR LR
comp=Z,1μm,22.0s
GLMI Grayling 101.02 334 PFAKE 11 11 50.0 +11
GLMI LR LR
comp=Z,900nm,20.0s
MVL Millersville 101.13 326 PFAKE 11 11 50.0 +10
MVL LR LR
comp=Z,700nm,20.0s
PAGS Pennsylvania G 101.14 326 PFAKE 11 11 50.0 +10
PAGS LR LR
comp=Z,1μm,21.0s
G45A Suttons Bay 101.24 335 PFAKE 11 11 50.0 +10
G45A LR LR
comp=Z,2μm,21.0s
BBB Bella Bella 101.32 4 PFAKE 11 11 50.0 +10
BBB LR LR
comp=Z,900nm,19.0s
SSPA Standing Stone 101.40 327 PFAKE 11 11 50.0 +9.0
SSPA LR LR
comp=Z,2μm,21.0s
COWI Conover 101.61 337 PFAKE 11 11 50.0 +8.1
COWI LR LR
comp=Z,2μm,20.0s
AGMN Agassiz Nation 101.73 342 PFAKE 11 11 50.0 +7.7
AGMN LR LR
comp=Z,1μm,21.0s
G43A Wallace 101.82 336 PFAKE 11 11 50.0 +7.2
G43A LR LR
comp=Z,1μm,21.0s
SDMD Soldier's Deli 101.82 326 PFAKE 11 11 50.0 +7.1
SDMD LR LR
comp=Z,500nm,21.0s
F41A Three Lakes 101.91 337 PFAKE 11 11 50.0 +6.8
F41A LR LR
comp=Z,1μm,20.0s
O56A Blue Knob Stat 102.02 327 PFAKE 11 11 50.0 +6.2
O56A LR LR
comp=Z,2μm,22.0s
G42A Mountain 102.10 336 PFAKE 11 11 50.0 +6.0
G42A LR LR
comp=Z,1μm,20.0s
N54A Moraine State 102.15 329 PFAKE 11 11 50.0 +5.6
N54A LR LR
comp=Z,1μm,22.0s
I45A Fountain 102.31 334 PFAKE 11 11 50.0 +5.0
I45A LR LR
comp=Z,2μm,20.0s
H43A Windswept, Lux 102.52 336 PFAKE 11 11 50.0 +4.1
H43A LR LR
comp=Z,1μm,21.0s
N53A Lisbon 102.67 329 PFAKE 11 12 00.0 +13
N53A LR LR
comp=Z,1μm,21.0s
G40A Rib Lake 102.70 337 PFAKE 11 12 00.0 +13
G40A LR LR
comp=Z,2μm,21.0s
AAM Ann Arbor 102.70 332 PFAKE 11 12 00.0 +13
AAM LR LR
comp=Z,1μm,20.0s
H42A Shiocton 102.77 336 PFAKE 11 12 00.0 +13
H42A LR LR
comp=Z,1μm,22.0s
J45A Montague 102.88 334 PFAKE 11 12 00.0 +13
J45A LR LR
comp=Z,1μm,20.0s
LLLB Lillooet 103.07 360 PFAKE 11 12 00.0 +12
LLLB LR LR
comp=Z,2μm,21.0s
H41A Junction City 103.08 337 PFAKE 11 12 00.0 +12
H41A LR LR
comp=Z,1μm,21.0s
MDND Maddock 103.09 345 PFAKE 11 12 00.0 +12
MDND LR LR
comp=Z,1μm,22.0s
N51A Ashland 103.27 330 PFAKE 11 12 00.0 +11
N51A LR LR
comp=Z,1μm,18.0s
T60A Surry 103.48 324 PFAKE 11 12 00.0 +10
T60A LR LR
comp=Z,900nm,21.0s
DGMT Dagmar 103.49 348 PFAKE 11 12 00.0 +10
DGMT LR LR
comp=Z,1μm,20.0s
SPMN Marine on St. 103.60 339 PFAKE 11 12 00.0 +9.3
SPMN LR LR
comp=Z,1μm,22.0s
I41A Arkdale 103.64 337 PFAKE 11 12 00.0 +9.1
I41A LR LR
comp=Z,1μm,19.0s
O52A Adamsville 103.67 329 PFAKE 11 12 00.0 +8.9
O52A LR LR
comp=Z,1μm,20.0s
EIDS Eidsvold 103.68 112 PFAKE 11 12 00.0 +8.7
EIDS LR LR
comp=Z,600nm,20.0s
S58A Poland Farm, P 103.81 325 PFAKE 11 12 00.0 +8.3
S58A LR LR
comp=Z,900nm,18.0s
M48A Edgerton 103.83 332 PFAKE 11 12 00.0 +8.2
M48A LR LR
comp=Z,1μm,20.0s
U61A Possum Corner 103.94 323 PFAKE 11 12 00.0 +7.6
U61A LR LR
comp=Z,1μm,20.0s
P53A Whipple 103.97 329 PFAKE 11 12 00.0 +7.5
P53A LR LR
comp=Z,2μm,22.0s
TOO Toolangi 104.03 125 PFAKE 11 12 00.0 +7.4
TOO LR LR
comp=Z,1μm,18.0s
L46A Eue Claire 104.04 333 PFAKE 11 12 00.0 +7.3
L46A LR LR
comp=Z,1μm,21.0s
T59A Double "B" Far 104.04 325 PFAKE 11 12 00.0 +7.2
T59A LR LR
comp=Z,900nm,21.0s
N49A Columbus Grove 104.06 331 PFAKE 11 12 00.0 +7.2
N49A LR LR
comp=Z,1μm,21.0s
S57A Dark Hollow, R 104.15 326 PFAKE 11 12 00.0 +6.7
S57A LR LR
comp=Z,1μm,19.0s
K43A Burlington 104.25 335 PFAKE 11 12 00.0 +6.4
K43A LR LR
comp=Z,1μm,20.0s
V62A Hyde County Ai 104.25 323 PFAKE 11 12 00.0 +6.2
V62A LR LR
comp=Z,900nm,21.0s
WALA Waterton Lakes 104.26 354 PFAKE 11 12 00.0 +6.3
WALA LR LR
comp=Z,1μm,21.0s
R55A Marlinton 104.32 327 PFAKE 11 12 00.0 +5.9
R55A LR LR
comp=Z,2μm,22.0s
I39A Houston 104.39 338 PFAKE 11 12 00.0 +5.7
I39A LR LR
comp=Z,1μm,20.0s
V61A Roper 104.42 323 PFAKE 11 12 00.0 +5.5
V61A LR LR
comp=Z,1μm,22.0s
M46A Old House Fiel 104.57 333 PFAKE 11 12 00.0 +4.9
M46A LR LR
comp=Z,2μm,20.0s
U59A Littleton 104.64 324 PFAKE 11 12 00.0 +4.5
U59A LR LR
comp=Z,1μm,19.0s
O49A Covington 104.73 331 PFAKE 11 12 00.0 +4.2
O49A LR LR
comp=Z,800nm,21.0s
P51A Williamsport 104.74 330 PFAKE 11 12 00.0 +4.1
P51A LR LR
comp=Z,1μm,20.0s
JFWS Jewell Farm 104.77 336 PFAKE 11 12 00.0 +4.0
JFWS LR LR
comp=Z,1μm,20.0s
V60A Jim Taylor Roa 104.80 324 PFAKE 11 12 00.0 +3.8
V60A LR LR
comp=Z,900nm,20.0s
T57A Hurt 104.89 326 PFAKE 11 12 10.0 +13
T57A LR LR
comp=Z,900nm,20.0s
R53A Hurricane 105.16 328 PFAKE 11 16 20.0 +7.9
R53A LR LR
comp=Z,900nm,18.0s
M44A Midewin, Midew 105.26 334 PFAKE 11 16 20.0 +7.8
M44A LR LR
comp=Z,2μm,21.0s
NEW Newport 105.28 356 PFAKE 11 16 20.0 +7.9
NEW LR LR
comp=Z,1μm,22.0s
B08A Colville Reser 105.28 358 PFAKE 11 16 20.0 +7.9
B08A LR LR
comp=Z,900nm,20.0s
BLA Blacksburg 105.31 327 PFAKE 11 16 20.0 +7.5
BLA LR LR
comp=Z,900nm,21.0s
L42A Oliver, Polo 105.35 335 PFAKE 11 16 20.0 +7.6
L42A LR LR
comp=Z,1μm,20.0s
LAO LASA Array 105.57 349 PFAKE 11 16 20.0 +7.2
LAO LR LR
comp=Z,900nm,20.0s
SFIN Lafayette 105.74 333 PFAKE 11 16 20.0 +6.9
SFIN LR LR
comp=Z,2μm,21.0s
C09A Chrisman Ranch 105.80 357 PFAKE 11 16 20.0 +6.9
C09A LR LR
comp=Z,1μm,21.0s
CAN Canberra 105.80 122 PFAKE 11 16 20.0 +6.7
CAN LR LR
comp=Z,1μm,22.0s
L40A Anamosa 105.86 337 PFAKE 11 16 20.0 +6.7
L40A LR LR
comp=Z,1μm,21.0s
ARMA Armidale 106.05 116 PFAKE 11 16 20.0 +6.0
ARMA LR LR
comp=Z,1μm,22.0s
ECSD EROS Data Cent 106.11 341 PFAKE 11 16 20.0 +6.2
ECSD LR LR
comp=Z,2μm,21.0s
NLWA Neilton Lookou 106.27 1 PFAKE 11 16 20.0 +6.0
NLWA LR LR
comp=Z,1μm,19.0s
LTY Liberty 106.41 359 PFAKE 11 16 20.0 +5.7
LTY LR LR
comp=Z,1μm,22.0s
V56A Mocksville 106.44 326 PFAKE 11 16 20.0 +5.4
V56A LR LR
comp=Z,1μm,21.0s
HDIL Hopedale 106.46 334 PFAKE 11 16 20.0 +5.5
HDIL LR LR
comp=Z,2μm,22.0s
MSO Missoula 106.47 354 PFAKE 11 16 20.0 +5.5
MSO LR LR
comp=Z,2μm,21.0s
D05A Enumclaw 106.49 360 PFAKE 11 16 20.0 +5.7
D05A LR LR
comp=Z,900nm,19.0s
U54A Nelsons Funny 106.54 327 PFAKE 11 16 20.0 +5.2
U54A LR LR
comp=Z,1μm,21.0s
D08A Wollman Farm, 106.56 358 PFAKE 11 16 20.0 +5.5
D08A LR LR
comp=Z,1μm,21.0s
T52A Hallie 106.63 328 PFAKE 11 16 20.0 +5.1
T52A LR LR
comp=Z,1μm,21.0s
Y60A Bolivia 106.64 323 PFAKE 11 16 20.0 +5.0
Y60A LR LR
comp=Z,900nm,22.0s
SCIA State Center 106.69 338 PFAKE 11 16 20.0 +5.1
SCIA LR LR
comp=Z,1μm,21.0s
P45A Graceland, Par 106.72 333 PFAKE 11 16 20.0 +5.0
P45A LR LR
comp=Z,1μm,19.0s
X58A Rowland 106.82 324 PFAKE 11 16 20.0 +4.7
X58A LR LR
comp=Z,1μm,20.0s
N41A Harden Midland 106.92 336 PFAKE 11 16 20.0 +4.7
N41A LR LR
comp=Z,1μm,20.0s
LON Longmire 106.93 360 PFAKE 11 16 20.0 +4.7
LON LR LR
comp=Z,1μm,22.0s
E09A Wood Farm, Sta 107.07 357 PFAKE 11 16 20.0 +4.5
E09A LR LR
comp=Z,2μm,20.0s
E07A Sunnyside 107.09 358 PFAKE 11 16 20.0 +4.5
E07A LR LR
comp=Z,1μm,20.0s
E08A Dider Farm, El 107.13 358 PFAKE 11 16 20.0 +4.4
E08A LR LR
comp=Z,1μm,20.0s
HAWA Hanford 107.25 358 PFAKE 11 16 20.0 +4.2
HAWA LR LR
comp=Z,900nm,21.0s
BIRD Birdtown, Kers 107.33 325 PFAKE 11 16 20.0 +3.7
BIRD LR LR
comp=Z,1μm,22.0s
KMSC Kings Mountain 107.39 326 PFAKE 11 16 20.0 +3.6
KMSC LR LR
comp=Z,2μm,22.0s
BOZ Bozeman (W) 107.44 352 PFAKE 11 16 20.0 +3.6
BOZ LR LR
comp=Z,900nm,20.0s
Y58A Scranton 107.49 324 PFAKE 11 16 30.0 +13
Y58A LR LR
comp=Z,1μm,20.0s
OLIL Olney 107.54 333 PFAKE 11 16 30.0 +13
OLIL LR LR
comp=Z,1μm,21.0s
F10A Beach Ranch, E 107.57 356 PFAKE 11 16 30.0 +13
F10A LR LR
comp=Z,2μm,22.0s
RLMT Red Lodge 107.59 350 PFAKE 11 16 30.0 +13
RLMT LR LR
comp=Z,1μm,22.0s
RSSD Black Hills 107.62 346 PFAKE 11 16 30.0 +13
RSSD LR LR
comp=Z,2μm,21.0s
SEUS St. Eustatius 107.68 301 PFAKE 11 16 30.0 +13
SEUS LR LR
comp=Z,1μm,20.0s
V53A Saluda 107.70 327 PFAKE 11 16 30.0 +13
V53A LR LR
comp=Z,1μm,22.0s
F07A Phinny Hill Vi 107.76 358 PFAKE 11 16 30.0 +13
F07A LR LR
comp=Z,1μm,21.0s
Y57A Sumter 107.79 324 PFAKE 11 16 30.0 +13
Y57A LR LR
comp=Z,1μm,21.0s
T49A Edmonton 107.80 330 PFAKE 11 16 30.0 +13
T49A LR LR
comp=Z,1μm,21.0s
PAULI Pauline 107.88 326 PFAKE 11 16 30.0 +13
PAULI LR LR
comp=Z,1μm,22.0s
USIN University of 108.01 332 PFAKE 11 16 30.0 +13
USIN LR LR
comp=Z,1μm,21.0s
JSC Jenkinsville 108.03 325 PFAKE 11 16 30.0 +12
JSC LR LR
comp=Z,1μm,19.0s
LKWY Lake 108.30 351 PFAKE 11 16 30.0 +12
LKWY LR LR
comp=Z,2μm,19.0s
BG3 Lake Jocassee 108.30 327 PFAKE 11 16 30.0 +12
BG3 LR LR
comp=Z,1μm,22.0s
V51A Loudon 108.33 328 PFAKE 11 16 30.0 +12
V51A LR LR
comp=Z,1μm,21.0s
G08A Pilot Rock 108.33 358 PFAKE 11 16 30.0 +12
G08A LR LR
comp=Z,1μm,21.0s
NHSC New Hope 108.38 324 PFAKE 11 16 30.0 +12
NHSC LR LR
comp=Z,1μm,20.0s
G06A Carlson Farm, 108.43 359 PFAKE 11 16 30.0 +12
G06A LR LR
comp=Z,1μm,21.0s
H17A Grant Village 108.49 351 PFAKE 11 16 30.0 +11
H17A LR LR
comp=Z,2μm,18.0s
HODGE Hodges 108.57 326 PFAKE 11 16 30.0 +11
HODGE LR LR
comp=Z,1μm,21.0s
T47A Sharon Grove 108.59 331 PFAKE 11 16 30.0 +11
T47A LR LR
comp=Z,900nm,18.0s
BMO Blue Mountains 108.69 356 PFAKE 11 16 30.0 +11
BMO LR LR
comp=Z,1μm,22.0s
CPCT Cooper Cave 108.69 328 PFAKE 11 16 30.0 +11
CPCT LR LR
comp=Z,1μm,21.0s
BGNE Belgrade 108.70 341 PFAKE 11 16 30.0 +11
BGNE LR LR
comp=Z,1μm,21.0s
W52A Murphy 108.70 328 PFAKE 11 16 30.0 +11
W52A LR LR
comp=Z,1μm,22.0s
FLWY Flagg Ranch 108.81 351 PFAKE 11 16 30.0 +11
FLWY LR LR
comp=Z,1μm,20.0s
Z56A Williston 108.83 325 PFAKE 11 16 30.0 +11
Z56A LR LR
comp=Z,1μm,22.0s
SIUC Southern Illin 108.87 333 PFAKE 11 16 30.0 +11
SIUC LR LR
comp=Z,1μm,22.0s
H04A Detroit Lake 109.00 360 PFAKE 11 16 30.0 +11
H04A LR LR
comp=Z,900nm,21.0s
IMW Indian Meadow 109.03 351 PFAKE 11 16 30.0 +10
IMW LR LR
comp=Z,1μm,22.0s
COR Corvallis 109.09 1 PFAKE 11 16 30.0 +11
COR LR LR
comp=Z,1μm,22.0s
FVM French Village 109.12 334 PFAKE 11 16 30.0 +10
FVM LR LR
comp=Z,1μm,20.0s
MOOW Moose Ponds 109.15 351 PFAKE 11 16 30.0 +10
MOOW LR LR
comp=Z,1μm,22.0s
T45A Paducah 109.22 332 PFAKE 11 16 30.0 +10
T45A LR LR
comp=Z,1μm,19.0s
LOHW Long Hollow 109.26 351 PFAKE 11 16 30.0 +10
LOHW LR LR
comp=Z,1μm,20.0s
W50A Signal Mountai 109.27 329 PFAKE 11 16 30.0 +10
W50A LR LR
comp=Z,2μm,21.0s
CCM Cathedral Cave 109.38 335 PFAKE 11 16 30.0 +10
CCM LR LR
comp=Z,1μm,22.0s
TPAW Teton Pass 109.43 351 PFAKE 11 16 30.0 +10
TPAW LR LR
comp=Z,2μm,22.0s
SNOW Snow King Moun 109.43 351 PFAKE 11 16 30.0 +10
SNOW LR LR
comp=Z,1μm,20.0s
V48A Smith Brothers 109.51 330 PFAKE 11 16 30.0 +10
V48A LR LR
comp=Z,1μm,20.0s
K22A Casper 109.53 348 PFAKE 11 16 30.0 +10
K22A LR LR
comp=Z,2μm,20.0s
REDW Red Top Meadow 109.54 351 PFAKE 11 16 30.0 +10
REDW LR LR
comp=Z,1μm,20.0s
SWET Sewanee 109.54 329 PFAKE 11 16 30.0 +10
SWET LR LR
comp=Z,900nm,20.0s
I07A Izee 109.56 358 PFAKE 11 16 30.0 +10
I07A LR LR
comp=Z,1μm,21.0s
X51A Calhoun 109.57 328 PFAKE 11 16 30.0 +10
X51A LR LR
comp=Z,800nm,20.0s
WVT Waverly 109.63 331 PFAKE 11 16 30.0 +9.5
WVT LR LR
comp=Z,1μm,21.0s
257A Skidaway Islan 109.71 324 PFAKE 11 16 30.0 +9.2
257A LR LR
comp=Z,900nm,22.0s
SJG San Juan 109.72 303 PFAKE 11 16 30.0 +8.9
SJG LR LR
comp=Z,600nm,20.0s
HLID Hailey 109.75 354 PFAKE 11 16 30.0 +9.2
HLID LR LR
comp=Z,2μm,20.0s
Y52A Lilburn 109.76 327 PFAKE 11 16 30.0 +9.1
Y52A LR LR
comp=Z,1μm,22.0s
GOGA Godfrey 109.83 326 PFAKE 11 16 30.0 +9.0
GOGA LR LR
comp=Z,1μm,22.0s
PINE Pine Mountain 109.88 359 PFAKE 11 16 30.0 +8.9
PINE LR LR
comp=Z,1μm,22.0s
PDAR Pinedale Array 109.94 350 PKiKP **PKiKP 11 16 24.8 +3.5**
comp=Z,0.5nm,0.7s,baz=105,slow=9.3,SNR=3.5
BW06 Boulder Array 109.94 350 PFAKE 11 16 30.0 +8.7
BW06 LR LR
comp=Z,900nm,19.0s
PARMO Parma 109.99 333 PFAKE 11 16 30.0 +8.8
PARMO LR LR
comp=Z,1μm,19.0s
AHID Auburn Hatcher 110.16 351 PFAKE 11 16 30.0 +8.4
AHID LR LR
comp=Z,1μm,22.0s
OGNE Ogallala 110.18 344 PFAKE 11 16 30.0 +8.4
OGNE LR LR
comp=Z,900nm,21.0s
PVMO Portageville 110.18 333 PFAKE 11 16 30.0 +8.5
PVMO LR LR
comp=Z,1μm,21.0s
J08A Circle Bar Ran 110.24 357 PFAKE 11 16 30.0 +8.4
J08A LR LR
comp=Z,2μm,22.0s
154A Montrose 110.29 325 PFAKE 11 16 30.0 +8.2
154A LR LR
comp=Z,900nm,21.0s
KSU1 Kansas State U 110.34 339 PFAKE 11 16 30.0 +8.2
KSU1 LR LR
comp=Z,700nm,19.0s
MPR Mayaguez 110.40 304 PFAKE 11 16 30.0 +7.6
MPR LR LR

comp=Z,600nm,19.0s
255A Hazlehurst 110.51 325 PFAKE 11 16 30.0 +7.7
255A LR LR
comp=Z,1μm,21.0s
RWWY Rawlins 110.59 348 PFAKE 11 16 30.0 +7.4
RWWY LR LR
comp=Z,2μm,21.0s
PHWY Pilot Hill 110.62 347 PFAKE 11 16 30.0 +7.3
PHWY LR LR
comp=Z,1μm,20.0s
X48A Hartselle 110.69 329 PFAKE 11 16 30.0 +7.4
X48A LR LR
comp=Z,2μm,22.0s
GNAR Gosnell 110.70 332 PFAKE 11 16 30.0 +7.5
GNAR LR LR
comp=Z,1μm,21.0s
Y49A Blount Mountai 110.89 329 PFAKE 11 16 30.0 +7.0
Y49A LR LR
comp=Z,2μm,20.0s
K05A Summer Lake 110.94 359 PFAKE 11 16 30.0 +6.9
K05A LR LR
comp=Z,1μm,20.0s
152A Waverly Hall 111.05 327 PFAKE 11 16 30.0 +6.7
152A LR LR
comp=Z,1μm,22.0s
HUMO Hull Mountain 111.07 1 PFAKE 11 16 30.0 +6.9
HUMO LR LR
comp=Z,1μm,20.0s
N23A Red Feather La 111.11 347 PFAKE 11 16 30.0 +6.4
N23A LR LR
comp=Z,1μm,21.0s
Z50A Ashland 111.15 328 PFAKE 11 16 30.0 +6.5
Z50A LR LR
comp=Z,1μm,22.0s
WVOR Wild Horse Val 111.17 357 PFAKE 11 16 30.0 +6.6
WVOR LR LR
comp=Z,2μm,22.0s
456A Hilliard 111.21 323 PFAKE 11 16 30.0 +6.4
456A LR LR
comp=Z,1μm,22.0s
253A Americus 111.25 326 PFAKE 11 16 30.0 +6.3
253A LR LR
comp=Z,900nm,21.0s
HBAR Harrisburg 111.31 333 PFAKE 11 16 30.0 +6.3
HBAR LR LR
comp=Z,1μm,21.0s
MET Memphis--Engin 111.39 332 PFAKE 11 16 30.0 +6.1
MET LR LR
comp=Z,1μm,19.0s
CBKS Cedar Bluff 111.56 341 PFAKE 11 16 30.0 +5.8
CBKS LR LR
comp=Z,1μm,21.0s
OXF Oxford 111.68 331 PFAKE 11 16 30.0 +5.6
OXF LR LR
comp=Z,1μm,19.0s
MOD Modoc Plateau 111.75 358 PFAKE 11 16 30.0 +5.4
MOD LR LR
comp=Z,800nm,21.0s
658A Bunnell 111.81 322 PFAKE 11 16 30.0 +5.2
658A LR LR
comp=Z,500nm,18.0s
LRAL Lakeview Retre 111.84 329 PFAKE 11 16 30.0 +5.2
LRAL LR LR
comp=Z,1μm,20.0s
YBH Yreka Blue Hor 111.95 0 PFAKE 11 16 30.0 +5.1
YBH LR LR
comp=Z,1μm,22.0s
HHAR Hobbs 111.96 336 PFAKE 11 16 30.0 +5.0
HHAR LR LR
comp=Z,2μm,20.0s
352A Blakely 112.11 326 PFAKE 11 16 30.0 +4.7
352A LR LR
comp=Z,900nm,19.0s
KSCO Kaye Shedlock' 112.15 344 PFAKE 11 16 30.0 +4.6
KSCO LR LR
comp=Z,1μm,21.0s
555A McAlpin 112.19 324 PFAKE 11 16 30.0 +4.5
555A LR LR
comp=Z,1μm,22.0s
WHAR Wooly Hollow 112.20 334 PFAKE 11 16 30.0 +4.6
WHAR LR LR
comp=Z,1μm,21.0s
W41B Gary Mavity, V 112.28 334 PFAKE 11 16 30.0 +4.4
W41B LR LR
comp=Z,1μm,19.0s
X43A Marvell 112.30 332 PFAKE 11 16 30.0 +4.4
X43A LR LR
comp=Z,1μm,22.0s
453A Whigham 112.31 325 PFAKE 11 16 30.0 +4.3
453A LR LR
comp=Z,1μm,20.0s
250A Grady 112.37 327 PFAKE 11 16 30.0 +4.2
250A LR LR
comp=Z,900nm,20.0s
656A Willston 112.55 323 PFAKE 11 16 30.0 +3.8
656A LR LR
comp=Z,900nm,21.0s
ELK Elko 112.62 354 PFAKE 11 16 40.0 +14
ELK LR LR
comp=Z,1μm,21.0s
UALR University of 112.67 334 PFAKE 11 16 40.0 +14
UALR LR LR
comp=Z,1μm,18.0s
Q24A Divide 112.79 346 PFAKE 11 16 40.0 +13
Q24A LR LR
comp=Z,1μm,22.0s
W39A Magazine 112.86 335 PFAKE 11 16 40.0 +13
W39A LR LR
comp=Z,1μm,20.0s
DUG Dugway, Tooele 112.91 352 PFAKE 11 16 40.0 +13
DUG LR LR
comp=Z,800nm,19.0s
DWPF Disney Wildern 112.92 321 PFAKE 11 16 40.0 +13
DWPF LR LR
comp=Z,600nm,22.0s
SDDR Presa de Saban 112.93 307 PFAKE 11 16 40.0 +13
SDDR LR LR
comp=Z,700nm,22.0s
TUL1 Leonard 112.95 337 PFAKE 11 16 40.0 +13
TUL1 LR LR
comp=Z,1μm,19.0s
SMCO Snowmass 112.97 347 PFAKE 11 16 40.0 +13
SMCO LR LR
comp=Z,2μm,21.0s
BMN Battle Mountai 113.09 356 PFAKE 11 16 40.0 +13
BMN LR LR
comp=Z,1μm,20.0s
WDC Whiskeytown Da 113.10 0 PFAKE 11 16 40.0 +13
WDC LR LR
comp=Z,1μm,22.0s
X40A Basin Creek Fa 113.12 334 PFAKE 11 16 40.0 +13
X40A LR LR
comp=Z,900nm,20.0s
060A Indiantown 113.13 320 PFAKE 11 16 40.0 +13
060A LR LR
comp=Z,800nm,22.0s
451A Vernon 113.22 326 PFAKE 11 16 40.0 +13
451A LR LR
comp=Z,1μm,21.0s
MIAR Mount Ida 113.36 334 PFAKE 11 16 40.0 +12
MIAR LR LR
comp=Z,1μm,19.0s
BRAL Brewton 113.41 327 PFAKE 11 16 40.0 +12
BRAL LR LR
comp=Z,1μm,19.0s
KMRM Mail Ridge 113.44 1 PFAKE 11 16 40.0 +12
KMRM LR LR
comp=Z,1μm,22.0s
OK024 West corner E0 113.56 338 PFAKE 11 16 40.0 +12
OK024 LR LR
comp=Z,900nm,22.0s
U32A Winter Ranch, 113.59 340 PFAKE 11 16 40.0 +12
U32A LR LR
comp=Z,1μm,21.0s
OK023 East Waterloo 113.59 338 PFAKE 11 16 40.0 +12
OK023 LR LR
comp=Z,900nm,20.0s
BEKR Beckworth 113.79 358 PFAKE 11 16 40.0 +11
BEKR LR LR
comp=Z,2μm,22.0s
PAHR Pah Rah Range 113.92 358 PFAKE 11 16 40.0 +11
PAHR LR LR
comp=Z,1μm,20.0s
WLAR White Oak Lake 113.93 334 PFAKE 11 16 40.0 +11
WLAR LR LR
comp=Z,1μm,22.0s
KCPM Cahto Peak 113.98 1 PFAKE 11 16 40.0 +11
KCPM LR LR
comp=Z,1μm,21.0s
X37A Clayton 113.99 336 PFAKE 11 16 40.0 +11
X37A LR LR
comp=Z,2μm,20.0s
PV04 Paradox Valley 114.09 349 PFAKE 11 16 40.0 +11
PV04 LR LR
comp=Z,900nm,20.0s
ORV Oroville 114.12 359 PFAKE 11 16 40.0 +11
ORV LR LR
comp=Z,1μm,22.0s
PV12 Saucer Basin, 114.15 348 PFAKE 11 16 40.0 +11
PV12 LR LR
comp=Z,800nm,19.0s
PV20 West Nyswonger 114.16 349 PFAKE 11 16 40.0 +11
PV20 LR LR
comp=Z,900nm,21.0s
PV16 Nyswonger Mesa 114.18 349 PFAKE 11 16 40.0 +11
PV16 LR LR
comp=Z,900nm,20.0s
PV11 David Mesa, Pa 114.18 349 PFAKE 11 16 40.0 +11
PV11 LR LR
comp=Z,1μm,21.0s
Z41A Richland Creek 114.18 333 PFAKE 11 16 40.0 +11
Z41A LR LR
comp=Z,2μm,22.0s
PV18 Skein Mesa, Pa 114.24 349 PFAKE 11 16 40.0 +10
PV18 LR LR
comp=Z,1μm,22.0s
S22A 4UR Ranch, Cre 114.32 347 PFAKE 11 16 40.0 +10
S22A LR LR
comp=Z,1μm,19.0s
061Z Ochoppi 114.34 319 PFAKE 11 16 40.0 +10
061Z LR LR
comp=Z,900nm,22.0s
VCNR Virginia City 114.34 358 PFAKE 11 16 40.0 +10
VCNR LR LR
comp=Z,800nm,22.0s
T25A Trinidad 114.37 344 PFAKE 11 16 40.0 +10
T25A LR LR
comp=Z,1μm,22.0s
KVN Kaiserville 114.51 356 PFAKE 11 16 40.0 +10
KVN LR LR
comp=Z,1μm,20.0s
PNTR Pine Nut 114.54 358 PFAKE 11 16 40.0 +10
PNTR LR LR
comp=Z,800nm,20.0s
RUBR Rubicon Trail 114.60 358 PFAKE 11 16 40.0 +10
RUBR LR LR
comp=Z,1μm,21.0s
YERR Yerington 114.63 357 PFAKE 11 16 40.0 +10
YERR LR LR
comp=Z,1μm,21.0s
HOPS Hopland Field 114.68 1 PFAKE 11 16 40.0 +10
HOPS LR LR
comp=Z,900nm,20.0s
AFDM Forest Hills D 114.72 359 PFAKE 11 16 40.0 +10
AFDM LR LR
comp=Z,700nm,21.0s
RYN Ryan 114.96 357 PFAKE 11 16 40.0 +9.2
RYN LR LR
comp=Z,1μm,21.0s
PTGA Pitinga 115.00 283 PFAKE 11 16 40.0 +8.7
PTGA LR LR
comp=Z,1μm,21.0s
WMOK Wichita Mounta 115.03 339 PFAKE 11 16 40.0 +9.1
WMOK LR LR
comp=Z,1μm,20.0s
R11A Troy Canyon, C 115.03 354 PFAKE 11 16 40.0 +9.0
R11A LR LR
comp=Z,1μm,21.0s
WAKR Walker 115.12 358 PFAKE 11 16 40.0 +8.8
WAKR LR LR
comp=Z,1μm,22.0s
NV11 Mina Array Sit 115.13 356 PFAKE 11 16 40.0 +8.8
NV11 LR LR
comp=Z,100nm,20.0s
NVAR Mina Array Bea 115.14 357 PKP **PKPdf 11 16 31.8 +0.6**
comp=Z,1.7nm,0.7s,baz=18,slow=1.7,SNR=12
MVCO Mesa Verde 115.17 348 PFAKE 11 16 40.0 +8.6
MVCO LR LR
comp=Z,2μm,22.0s
MCCM Marconi Confer 115.53 1 PFAKE 11 16 40.0 +8.3
MCCM LR LR
comp=Z,700nm,20.0s
CMB Columbia Colle 115.62 358 PFAKE 11 16 40.0 +8.0
CMB LR LR
comp=Z,1μm,22.0s
AMTX Amarillo 115.78 341 PFAKE 11 16 40.0 +7.6
AMTX LR LR
comp=Z,2μm,22.0s
MDPB Devils Postpil 115.97 357 PFAKE 11 16 40.0 +7.0
MDPB LR LR
comp=Z,900nm,19.0s
ETX06 Route 59 and C 116.06 334 PFAKE 11 16 40.0 +7.1
ETX06 LR LR
comp=Z,500nm,20.0s
NATX Nacogdoches 116.24 334 PFAKE 11 16 40.0 +6.7
NATX LR LR
comp=Z,900nm,20.0s
TPNV Topopah Spring 116.48 355 PFAKE 11 16 40.0 +6.2
TPNV LR LR
comp=Z,1μm,19.0s
QSPA South Pole Qui 116.51 180 *e*PKPdf **PKiKP 11 16 32.8 +0.1**
U15A North Rim 116.55 351 PFAKE 11 16 40.0 +5.9
U15A LR LR
comp=Z,900nm,19.0s
SHPR Sheep Range 116.82 354 PFAKE 11 16 40.0 +5.5
SHPR LR LR
comp=Z,900nm,19.0s
SAO San Andreas Ge 116.91 359 PFAKE 11 16 40.0 +5.6
SAO LR LR
comp=Z,1μm,20.0s
ANMO Albuquerque 116.94 346 PFAKE 11 16 40.0 +5.2
ANMO LR LR
comp=Z,1μm,20.0s
MSTX Muleshoe 116.94 342 PFAKE 11 16 40.0 +5.3
MSTX LR LR
comp=Z,1μm,20.0s
WHTX Lake Whitney, 117.08 336 PFAKE 11 16 40.0 +5.1
WHTX LR LR
comp=Z,800nm,20.0s
ABTX Abilene, Hawle 117.25 339 PFAKE 11 16 40.0 +4.8
ABTX LR LR
comp=Z,1μm,20.0s
WUAZ Wupatki 117.31 350 PFAKE 11 16 40.0 +4.5
WUAZ LR LR
comp=Z,1μm,21.0s
W18A Petrified Fore 117.43 349 PFAKE 11 16 40.0 +4.3
W18A LR LR
comp=Z,800nm,21.0s
Y22D IRIS PASSCAL I 117.88 346 PFAKE 11 16 50.0 +13
Y22D LR LR
comp=Z,1μm,22.0s
ISA Isabella, Lake 117.91 357 PFAKE 11 16 50.0 +13
ISA LR LR
comp=Z,1μm,21.0s
PAGB Antelope Grade 117.91 358 PFAKE 11 16 50.0 +14
PAGB LR LR
comp=Z,1μm,19.0s
X18A Snowflake 118.04 349 PFAKE 11 16 50.0 +13
X18A LR LR
comp=Z,800nm,19.0s
W13A Hualapai Mount 118.07 352 PFAKE 11 16 50.0 +13
W13A LR LR
comp=Z,800nm,22.0s
GSC Goldstone, Bar 118.16 355 PFAKE 11 16 50.0 +13
GSC LR LR
comp=Z,1μm,18.0s
435B Jarrell 118.22 336 PFAKE 11 16 50.0 +13
435B LR LR
comp=Z,1μm,20.0s
LDFC Landfair 118.23 353 PFAKE 11 16 50.0 +13
LDFC LR LR
comp=Z,1μm,22.0s
HKT Hockley 118.30 334 PFAKE 11 16 50.0 +13
HKT LR LR
comp=Z,1μm,19.0s
SDV Santo Domingo 118.76 298 PFAKE 11 16 50.0 +11
SDV LR LR
comp=Z,600nm,22.0s
VNDA Vanda 118.88 166 PKP **PKiKP 11 16 37.2 +0.3**
comp=Z,0.8nm,0.9s,baz=246,slow=6.0,SNR=4.2
VNDA PKKPbc **PKKPbc 11 26 54.4 +0.4**
comp=Z,1.3nm,0.7s,baz=73,slow=3.4,SNR=9.5
OSI Osito Audit: C 118.97 357 PFAKE 11 16 50.0 +11
OSI LR LR
comp=Z,1μm,20.0s
Y14A Wickenburg 119.10 351 PFAKE 11 16 50.0 +11
Y14A LR LR
comp=Z,900nm,20.0s
JCT Junction City 119.27 338 PFAKE 11 16 50.0 +11
JCT LR LR
comp=Z,1μm,21.0s
MWC Mount Wilson 119.32 356 PFAKE 11 16 50.0 +11
MWC LR LR
comp=Z,1μm,20.0s
PASC Pasadena Art C 119.38 356 PFAKE 11 16 50.0 +11
PASC LR LR
comp=Z,1μm,22.0s
MNTX Cornudas Mount 119.78 343 *e*PKPdf **PKiKP 11 16 40.4 +0.2**
MNTX LR LR
comp=Z,900nm,20.0s
PFO Pinyon Flats O 119.81 354 PFAKE 11 16 50.0 +10
PFO LR LR
comp=Z,900nm,22.0s
GLA Glamis 120.20 353 PFAKE 11 16 50.0 +9.0
GLA LR LR
comp=Z,800nm,22.0s
TUC Tucson 120.35 349 PFAKE 11 16 50.0 +8.6
TUC LR LR
comp=Z,800nm,21.0s
CPE Camp Elliot 120.58 355 PFAKE 11 16 50.0 +8.3
CPE LR LR
comp=Z,800nm,19.0s
319A Douglas 120.98 347 PFAKE 11 16 50.0 +7.3
319A LR LR
comp=Z,1μm,21.0s
833A Chaparral WMA, 121.10 336 PFAKE 11 16 50.0 +7.2
833A LR LR
comp=Z,1μm,20.0s
TX31 Lajitas Ar. Si 121.55 341 *e*PKPdf **PKPdf 11 16 39.5 -4.1**
TXAR Lajitas Array 121.55 341 *e*PKPdf **PKPdf 11 16 39.0 -4.7**
TXAR Lajitas Array 121.55 341 *e*PKiKP **PKPdf 11 16 39.0 -4.7**
TXAR Lajitas Array 121.55 341 PKP **PKiKP 11 16 44.2 +0.4**
comp=Z,1.4nm,0.6s,baz=175,slow=1.6,SNR=16
TXAR PP **PP 11 18 12.9 -1.3**
comp=Z,1.4nm,1.0s,baz=46,slow=5.3,SNR=3.1
CPUP Villa Florida 122.55 255 PKP **PKiKP 11 16 45.6 0.0**
comp=Z,1.2nm,0.7s,baz=40,slow=2.3,SNR=4.2
CPUP Villa Florida 122.55 255 *e*P **PKiKP 11 16 47.1 +1.5**
TEIG Tepich 122.95 321 PFAKE 11 16 50.0 +3.4
TEIG LR LR
comp=Z,700nm,21.0s
HSIG 123.59 348 PFAKE 11 17 00.0 +12
HSIG LR LR
comp=Z,1μm,22.0s
MWH Moku'aweowe 123.83 39 PFAKE 11 17 00.0 +11
MWH LR LR
comp=Z,1μm,20.0s
UWB Uwekahuna B 124.06 38 PFAKE 11 17 00.0 +11
UWB LR LR
comp=Z,2μm,20.0s
KKO Keanakako'i 124.09 38 PFAKE 11 17 00.0 +11
KKO LR LR
comp=Z,1μm,22.0s
ROSC El Rosal 124.10 297 PFAKE 11 17 00.0 +10
ROSC LR LR
comp=Z,200nm,22.0s
JCUZ Jacuzzi 124.19 38 PFAKE 11 17 00.0 +11
JCUZ LR LR
comp=Z,2μm,19.0s
HPIG 124.38 342 *e*PKPdf **PKPdf 11 16 49.3 0.0**
HPIG LR LR
comp=Z,1μm,21.0s
OXZ Oxford 124.98 126 PFAKE 11 17 00.0 +10
OXZ LR LR
comp=Z,1μm,18.0s
SRIG Santa Rosalia 125.48 349 PFAKE 11 17 00.0 +8.5
SRIG LR LR
comp=Z,1μm,22.0s
ESPN Las Esperanzas 126.64 312 PFAKE 11 17 00.0 +6.0
ESPN LR LR
comp=Z,500nm,20.0s
TGUH Tegucigalpa,Un 127.18 316 *e*PKPdf **PKPdf 11 16 49.5 -5.1**
ZAIG Zacatecas 127.31 337 PFAKE 11 17 00.0 +4.4
ZAIG LR LR
comp=Z,700nm,21.0s
ACON Acoyapa 127.38 312 PFAKE 11 17 00.0 +4.4
ACON LR LR
comp=Z,800nm,22.0s
CCIG Comitan 128.28 322 PFAKE 11 17 10.0 +12
CCIG LR LR
comp=Z,1μm,22.0s
JTS Las Juntas de 128.45 310 PFAKE 11 17 10.0 +12
JTS LR LR
comp=Z,600nm,22.0s
TRQA Tornquist 128.67 241 PFAKE 11 17 10.0 +13
TRQA LR LR
comp=Z,1μm,20.0s
TRQA Tornquist 128.67 241 *e*P **PKiKP 11 16 58.7 +1.2**
LPAZ La Paz 128.96 270 PKP **PKiKP 11 17 00.3 +1.0**
comp=Z,0.7nm,0.7s,baz=47,slow=2.4,SNR=2.8
OTAV Otavalo 130.14 295 *e*P **PKiKP 11 17 01.9 +0.2**
LVC Limon Verde 131.68 263 *e*P **PKiKP 11 17 04.2 -0.2**
LCO Las Campanas 134.70 255 *e*P **PKiKP 11 17 10.3 +0.1**
PLCA Paso Flores 135.41 238 *e*P **PKiKP 11 17 11.6 +0.5**

IDC 18 10:59:26.5±26.0, 17°.34S×173°.97W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/38, mbtmp4.0/5, Error ellipse: s-maj=488.2km s-min=49.8km az=63.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**		**22.26 199**	P	P	11 04 25.3	+0.2
	6.4nm,0.4s,baz=323,slow=1.7,SNR=10						
CTA	**Charters Tower**		**37.72 259**	P	P	11 06 45.0	+0.8
	0.9nm,0.5s,baz=92,slow=4.5,SNR=1.6						
STKA	**Stephens Creek**		**42.62 242**	P	P	11 07 23.5	-1.2
	0.6nm,0.4s,baz=75,slow=13,SNR=3.9						
WRA	**Warramunga Arr**		**48.90 258**	P	P	11 08 14.8	+0.3
	0.3nm,0.3s,baz=94,slow=7.2,SNR=5.3						
ASAR	**Alice Springs**		**49.02 253**	P	P	11 08 15.2	-0.4
	2.0nm,0.7s,baz=86,slow=8.2,SNR=6.4						

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*ISCJB **18** 10:59:58.1±1.4, 17°.7S±0°.8×179°.0W±0°.4, h539km, mb3.7/7, Error ellipse: s-maj=110.1km s-min=18.3km az=155.7*
*IDC **18** 11:00:01.3±7.8, 17°.82S×178°.99W, h569km±91km, mb3.2/7, mb1 3.4/7, mb1mx3.1/38, mbtmp4.1/7, Error ellipse: s-maj=95.8km s-min=37.9km az=161.0*
ISC 18 10:59:58.6±1.5, 17°.6S±0°.7×179°.0W±0°.4, h539km, n11, σ0°80/10, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**		**32.96 260**	P	**P**	**11 05 49.3**	**+0.1**
	3.6nm,0.7s,baz=100,slow=11,SNR=6.4						
STKA	**Stephens Creek**		**38.28 241**	P	**P**	**11 06 33.3**	**+0.1**
	1.2nm,0.4s,baz=84,slow=9.5,SNR=7.5						
WRA	**Warramunga Arr**		**44.15 259**	P	**P**	**11 07 19.5**	**-0.4**
	1.6nm,0.5s,baz=93,slow=6.9,SNR=59						
ASAR	**Alice Springs**		**44.34 254**	P	**P**	**11 07 21.4**	**0.0**
	11nm,0.4s,baz=89,slow=8.2,SNR=279						
FITZ	**Fitzroy Crossi**		**52.54 260**	P	**P**	**11 08 22.8**	**+0.5**
	0.9nm,0.3s,baz=81,slow=3.9,SNR=6.6						
TXAR	**Lajitas Array**		**86.31 58**	P	**P**	**11 11 43.7**	**-0.3**
	0.2nm,0.7s,baz=232,slow=4.4,SNR=2.8						
PDAR	**Pinedale Array**		**87.53 44**	P	**P**	**11 11 50.7**	**+1.1**
	0.3nm,0.5s,baz=227,slow=3.2,SNR=2.2						
MKAR	**Makanchi Array**		**108.56 314**	PKiKP	**PKiKP**	**11 17 24.9**	**-1.4**
	0.1nm,0.5s,baz=318,slow=1.9,SNR=1.7						
ARCES	**ARCESS Array B**		**125.96 350**	PKP	**PKPdf**	**11 17 58.0**	**-0.8**
	1.8nm,1.0s,baz=5.7,slow=1.8,SNR=4.1						
BRTR	**Keskin Array B**		**144.21 315**	PKP	PKPbc	11 18 32.5	-0.8
	0.6nm,0.5s,baz=129,slow=3.3,SNR=3.8						
GERES	**GERESS Array B**		**147.22 344**	PKPbc	**PKPbc**	**11 18 41.8**	**+0.2**
	0.7nm,0.4s,baz=27,slow=3.6,SNR=6.1						

IDC 18 11:00:20.3±4.5, 14°.48S×173°.11W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/40, mbtmp3.8/3, Error ellipse: s-maj=343.2km s-min=32.2km az=149.0, Samoa Islands region

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

WRA	Warramunga Arr	50.34	256	P	P	11 09 19.6 +0.2
	0.3nm,0.4s,baz=90,slow=7.5,SNR=2.2					
ASAR	Alice Springs	50.67	251	P	P	11 09 21.6 -0.3
	1.6nm,0.4s,baz=89,slow=8.2,SNR=8.9					
NVAR	Mina Array Bea	73.46	42	P	P	11 11 55.0 0.0
	0.4nm,0.6s,baz=217,slow=8.4,SNR=4.4					

*IDC **18** 11:08:15.4±1.0, 9°.20S×112°.50E, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/33, mbtmp4.0/12, ML3.8/1, Error ellipse: s-maj=41.4km s-min=15.9km az=57.0*
*DJA **18** 11:08:18.5±0.8, 10°.S±7°×11°.2E±°, h10km, M4.3/11, MLv4.3/11*
*NEIC **18** 11:08:19.9±2.1, 9°.38S×112°.47E, h35km, mb4.4/16, Error ellipse: s-maj=13.7km s-min=10.9km az=135.0*
ISC 18 11:08:15.0±1.5, 9°.51S±0°.05×112°.40E±0°.04, h5km±10km, n52, σ1§44/60, mb4.4/22, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	Pagerwojo	1.59	338	P	Pg	11 08 46.4	+0.8
PWJI				S	Sb	11 09 05.6	+0.3
GMJI	Gumukmas	1.60	40	P	Pg	11 08 47.0	+1.2
GMJI				S	Sg	11 09 06.9	+0.2
PCJI	Pacitan	1.78	317	P	Pg	11 08 48.9	-0.3
PCJI				S	Sn	11 09 09.5	0.0
JAGI	Jajag, Banyuwa	2.02	59	ePn	Pb	11 08 51.1	-1.1
JAGI	Jajag, Banyuwa	2.02	59	P	Pg	11 08 53.4	-0.3
WOJI	Wonogiri, Jawa	2.21	319	P	Pb	11 08 55.1	-0.4
WOJI				S	Sn	11 09 21.2	+1.1
NGJI	Ngawi	2.32	336	P	Pg	11 08 59.9	+0.3
UGM	Wanagama	2.44	310	ePn	Pb	11 08 58.4	-1.1
UGM				eSn	Sn	11 09 26.0	+0.2
UGM	Wanagama	2.44	310	P	Pb	11 08 58.5	-1.0
UGM				S	Sn	11 09 27.7	+1.8
GRJI	Gresik	2.58	2	P	Pb	11 09 02.1	+0.3
YOGI	Yogyakarta	2.67	309	P	Pb	11 09 02.3	-1.1
KMMI	Kalianget	2.90	33	P	Pb	11 09 06.1	-1.1
SMRI	Semarang	3.12	321	ePn	Pb	11 09 08.4	-2.7
SRBI	Singaraja	3.12	63	P	Pb	11 09 10.0	-1.1
CISI	Cisompet, Garu	4.93	293	ePn	Pn	11 09 32.0	+2.1
CISI				eSn	Sn	11 10 25.2	-2.2
XMIS	Christmas Isla	6.71	261	ePn	Pn	11 09 55.1	+0.7
MNAI	Manna	10.68	298	ePn	Pn	11 10 49.3	+0.5
GIRL	Giralia	13.18	173	ePn	Pn	11 11 21.4	-1.6
PSA00	Pilbara Seismi	13.97	150	ePn	Pn	11 11 32.3	-1.5
FITZ	Fitzroy Crossi	15.43	125	ePn	Pn	11 11 54.0	+0.5
	6.6nm,1.0s						
FITZ				eSn	Sn	11 14 40.9	-4.0
FITZ	Fitzroy Crossi	15.43	125	Pn	Pn	11 11 53.7	+0.2
	0.3nm,0.3s,baz=305,slow=11,SNR=6.7						
FITZ				Sn	Sn	11 14 29.6	-15
	0.0nm,0.3s,baz=125,slow=12,SNR=2.2						
MORW	Morawa	19.76	171	eP	Pn	11 12 48.6	+1.2
	29nm,1.6s						
FAKI	Fak Fak	20.78	73	eP	P	11 12 55.4	-1.9
	9.9nm,0.8s						
WR1	Warramunga Arr	23.59	119	eP	P	11 13 28.6	+1.6
WRA	Warramunga Arr	23.59	119	P	P	11 13 28.6	+1.6
	0.7nm,0.6s,baz=306,slow=11,SNR=7.0						
WRAB	Tennant Creek	23.59	119	eP	P	11 13 28.1	+1.1
	7.2nm,1.0s						
WB2	Warramunga Arr	23.60	119	eP	P	11 13 28.5	+1.4
	5.3nm,1.1s						
AS31	Alice Springs	24.91	127	eP	P	11 13 40.3	+1.0
	1.0nm,0.8s						
ASAR	Alice Springs	24.91	127	P	P	11 13 41.4	+2.1
	1.0nm,0.5s,baz=301,slow=9.5,SNR=12						
FORT	Forrest	25.70	148	eP	P	11 13 48.1	+1.8
	28nm,1.1s						
CMAR	Chiang Mai Arr	30.80	334	P	P	11 14 32.3	+0.4
	0.7nm,0.5s,baz=180,slow=7.9,SNR=5.7						
BBOO	Buckleboo	31.86	140	eP	P	11 14 42.4	+1.2
	23nm,1.4s						
STKA	Stephens Creek	35.03	134	eP	P	11 15 10.2	+1.3
	1.9nm,1.6s						
STKA	Stephens Creek	35.03	134	P	P	11 15 10.9	+2.1
	0.6nm,0.3s,baz=326,slow=11,SNR=2.8						
KS15	Wonju Array Si	48.91	16	eP	P	11 17 01.1	-0.9
	9.2nm,1.3s						
KSRS	Korea Array	48.93	16	P	P	11 17 01.1	-1.0
	1.0nm,0.8s,baz=205,slow=5.5,SNR=5.6						
USRK	Ussuriysk Ar.	56.33	17	P	P	11 17 56.1	-0.8
	3.4nm,0.7s,baz=200,slow=6.6,SNR=9.0						
KDJ	Kajisay	60.67	331	eP	P	11 18 26.4	-1.2
	4.0nm,1.0s						
MK31	Makanchi Array	62.16	337	eP	P	11 18 36.3	-1.0
	2.2nm,0.6s						
MK32	Makanchi Array	62.16	337	eP	P	11 18 36.3	-1.0
MKAR	Makanchi Array	62.16	337	P	P	11 18 36.3	-1.0
	3.2nm,0.4s,baz=148,slow=7.8,SNR=49						
AAK	Ala-Archa	62.38	329	eP	P	11 18 37.7	-1.4
	9.3nm,1.6s						
KKAR	Karatay Array	64.78	327	eP	P	11 18 53.6	-1.2
ZALV	Zalesovo Beam	67.39	343	P	P	11 19 09.6	-1.7
	1.7nm,0.4s,baz=152,slow=4.9,SNR=7.1						
VNDA	Vanda	72.56	170	eP	P	11 19 44.0	+1.3
VNDA	Vanda	72.56	170	P	P	11 19 46.9	+4.2
	0.5nm,0.7s,baz=323,slow=5.1,SNR=2.2						
PETK	Petropavlovsk-	73.30	27	P	P	11 19 47.0	-0.5
	3.3nm,1.0s,baz=192,slow=5.7,SNR=3.0						
PEA1	Petropavlovsk-	73.30	27	eP	P	11 19 47.0	-0.5
ABKAR	Akbulak array	74.34	327	eP	P	11 19 52.9	-0.7
	3.6nm,0.5s						
BR101	Keskin Array S	87.49	311	eP	P	11 21 04.2	0.0
BRTR	Keskin Array B	87.49	311	P	P	11 21 04.2	0.0
	0.2nm,0.4s,baz=141,slow=7.1,SNR=2.8						
SNAA	Sanae	88.70	197	eP	P	11 21 10.5	+1.2
	6.7nm,1.6s						

*SOME **18** 11:38:10.1, 42°.22N×82°.00E, h5km*
*NNC **18** 11:38:16.4±4.4, 42°.25N×81°.73E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=32.7km s-min=15.6km az=158.0*
ISC 18 11:38:04.0±2.6, 42°.5N±0°.1×82°.77E±0°.10, h10km, n11, σ1§66/20, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.00	298	eP	Pg	11 38 44.2	+1.9
	8.0nm,0.3s						
KTMS				eS	Sg	11 39 09.1	+0.8
	33nm,0.7s						
SHLS	Shalkode	2.51	286	eP	Pn	11 38 45.5	+0.5
	4.3nm,0.3s						
SHLS				eS	Sn	11 39 11.1	-4.7
	30nm,0.3s						
PDGK	Podgornoye	2.54	290	⇓Pg	Pg	11 38 52.1	-0.6
	3.1nm,0.7s						
PDGK				⇓Lg	Lg	11 39 21.1	
	10nm,0.6s						
DJR	Jarkent	2.82	311	⇑iP	Pg	11 38 59.6	+1.5
	2.4nm,0.5s						
DJR				eS	Sg	11 39 35.4	+0.7
	2.8nm,0.4s						
KPKS	Kokpek	3.14	289	eP	Pb	11 39 00.8	+0.9
	5.2nm,0.2s						
KPKS				eS	Sb	11 39 37.2	-1.1
	21nm,0.5s						
SATY	Saty	3.25	281	eP	Pb	11 39 01.9	-0.1
	4.4nm,0.2s						
SATY				eS	Sb	11 39 39.2	-2.5
	7.2nm,0.4s						
KAPS	Kapalarasan	3.70	319	eP	Pg	11 39 16.1	+1.2
	1.3nm,0.4s						
KAPS				eS	Sg	11 40 03.5	+0.6
	2.3nm,0.5s						
MK31	Makanchi Array	4.28	356	⇑Pg	Pg	11 39 38.7	+13
	0.4nm,0.6s,baz=183,slow=17,SNR=3.3						
MK31				⇑Sn	Sg	11 40 21.5	0.0
	1.1nm,0.6s,baz=190,slow=27						
MK31				⇓Lg	Lg	11 40 41.4	
	1.2nm,0.6s,baz=185,slow=26,SNR=5.2						
TNSS	Tian-Shan	4.31	279	eP	Pb	11 39 21.1	+0.9
	1.5nm,0.7s						
TNSS				eS	Sb	11 40 12.4	0.0
	3.1nm,0.5s						
MAKZ	Makanchi	4.32	353	⇓Pn	Pg	11 39 27.0	+0.2
	1.0nm,0.5s						
MAKZ				⇑Sn	Sg	11 40 21.1	-1.6
	0.7nm,0.5s						
MAKZ				⇑Lg	Lg	11 40 41.0	
	2.0nm,0.7s						
KTBS	Karatobe	4.61	287	eP	Pb	11 39 26.6	+1.6
	0.7nm,0.7s						
KTBS				eS	Sb	11 40 21.6	+1.0
	4.0nm,0.4s						

*IDC **18** 11:43:47.4±0.6, 21°.15S×168°.65E, h0km, mb4.5/19, mb1 4.6/21, mb1mx4.5/32, mbtmp4.5/21, ML4.3/2, MS3.5/1, Ms1 3.5/1, ms1mx3.1/29, Error ellipse: s-maj=19.7km s-min=14.3km az=146.0*
*NEIC **18** 11:43:50.8±1.0, 21°.16S×168°.55E, h22km±4km, mb4.9/51, Error ellipse: s-maj=14.6km s-min=7.4km az=140.0*
*BJI **18** 11:43:50.2±0.0, 20°.97S×168°.76E, h25km, mb4.7/16, mB5.2/10, Ms5.0/3, Ms7 4.8/4*
*ISCJB **18** 11:43:51.9±1.1, 21°.19S±0°.05×168°.52E±0°.05, h41km±10km, mb4.8/65, MS5.1/1, Error ellipse: s-maj=9.1km s-min=7.3km az=29.2*
ISC 18 11:43:51.1±0.7, 21°.18S±0°.06×168°.57E±0°.07, h24km±4km, h24km:pP-P, n165, σ0§68/158, mb4.9/64, 7C-6D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.59	239	ePg	Pb	11 44 02.3	-0.6
MARNC				eSg	Sn	11 44 12.6	-0.3
PINNC	Pines Island,	1.77	216	ePn	Pn	11 44 19.3	-1.0
PINNC				eSn	Sn	11 44 42.6	+0.5
OUENC	Ouen Island, N	2.03	232	ePn	Pn	11 44 23.6	-0.3
DZM	Mont Dzumac	2.17	245	ePn	Pn	11 44 25.3	-0.6
DZM	Mont Dzumac	2.17	245	Pn	Pn	11 44 26.1	+0.2
	387nm,0.3s,baz=70,slow=13,SNR=3271						
DZM				Sn	Sn	11 44 53.5	+1.4
	488nm,0.3s,baz=138,slow=23,SNR=9.4						
DZM				LR	LR	11 45 04.5	
	comp=Z,1μm,20.8s,baz=156,slow=34						
OUZ	Omahuta	14.67	164	ePn	Pn	11 47 17.8	+0.6
EIDS	Eidsvold	16.60	252	ePn	Pn	11 47 42.4	-0.1
	37nm,1.1s						
ARMA	Armidale	17.80	235	ePn	Pn	11 47 57.1	-0.4
	34nm,1.3s						
URZ	Urewera	18.55	158	eP	Pn	11 48 07.4	+0.9
	41nm,1.1s						
URZ	Urewera	18.55	158	P	P	11 48 05.8	-0.4
	0.2nm,0.3s,baz=69,slow=14,SNR=2.3						
BKZ	Black Stump Fm	19.18	161	eP	Pn	11 48 14.0	-0.1
	26nm,1.0s						
BFZ	Birch Farm	20.51	163	eP	P	11 48 28.3	+0.7
	27nm,0.9s						
THZ	Tophouse	20.85	171	eP	Pn	11 48 33.5	-0.4
	80nm,1.6s						
CTA	Charters Tower	20.91	269	P	Pn	11 48 33.6	-1.2
	24nm,0.9s,baz=89,slow=13,SNR=11						
CTAO	Charters Tower	20.91	269	eP	P	11 48 31.8	-0.4
	41nm,1.0s						
RPZ	Rata Peaks	22.57	175	P	P	11 48 52.5	+2.8
	12nm,0.9s,baz=212,slow=9.5,SNR=2.8						
PMG	Port Moresby	23.70	296	eP	P	11 49 01.4	0.0
	20nm,0.9s						
PMG	Port Moresby	23.70	296	P	P	11 49 01.6	+0.2
	12nm,0.8s,baz=60,slow=14,SNR=3.6						
COEN	Coen	25.23	282	eP	P	11 49 16.1	+0.6
	6.2nm,0.8s						
STKA	Stephens Creek	26.32	241	eP	P	11 49 24.6	-0.6
	3.4nm,1.2s						
STKA	Stephens Creek	26.32	241	P	P	11 49 26.5	+1.3
	5.4nm,0.6s,baz=82,slow=10,SNR=17						
WC3	Warramunga Arr	32.01	266	eP	P	11 50 14.9	-1.0
	10nm,1.0s						
WB2	Warramunga Arr	32.03	266	eP	P	11 50 15.2	-0.9
	40nm,1.6s						
WRAB	Tennant Creek	32.03	266	eP	P	11 50 14.9	-1.2
	9.9nm,1.0s						
WR1	Warramunga Arr	32.04	266	eP	P	11 50 15.4	-0.8
WRA	Warramunga Arr	32.04	266	P	P	11 50 15.4	-0.8
	5.9nm,0.9s,baz=96,slow=7.8,SNR=25						
AS31	Alice Springs	32.10	259	eP	P	11 50 16.5	-0.2
	11nm,0.6s						
ASAR	Alice Springs	32.10	259	eP	P	11 50 16.2	-0.5
ASAR	Alice Springs	32.10	259	P	P	11 50 16.9	+0.2
	28nm,0.7s,baz=82,slow=9.1,SNR=324						
JAY	Jayapura	32.87	301	P	P	11 50 23.7	+0.2
	8.5nm,0.8s,baz=14,slow=8.3,SNR=3.4						
MTN	Manton Dam	36.67	277	eP	P	11 50 56.2	-0.1
	18nm,0.8s						
FITZ	Fitzroy Crossi	40.46	267	eP	P	11 51 28.3	+0.1
	40nm,0.8s						
FITZ	Fitzroy Crossi	40.46	267	P	P	11 51 28.8	+0.6
	17nm,0.8s,baz=156,slow=10,SNR=35						
PSA00	Pilbara Seismi	45.23	260	eP	P	11 52 06.8	0.0
	41nm,1.1s						
SANI	Sanana	45.61	289	P	P	11 52 09.9	0.0
SANI				pP	pwP	11 52 20.8	-0.5
MMRI	Maumere	46.31	278	eP	P	11 52 15.1	-0.4
	29nm,1.0s						
NWAO	Narrogin (SRO)	46.79	244	eP	P	11 52 19.2	+0.2
	29nm,1.2s						
BNSI	Bone	49.88	283	P	P	11 52 56.4	+13
MPSI	Mapaga	52.11	288	P	P	11 52 59.9	+0.1
	7.8nm,0.8s						
VNDA	Vanda	56.49	182	eP	P	11 53 31.3	+0.6
	3.4nm,1.1s						
VNDA	Vanda	56.49	182	P	P	11 53 31.5	+0.7
	1.1nm,0.7s,baz=6.1,slow=7.3,SNR=8.0						
SBA	Scott Base	56.73	180	eP	P	11 53 34.2	+1.7
	16nm,1.0s						
CASY	Casey	58.11	204	eP	P	11 53 41.9	-0.5
	19nm,1.4s						
MJAR	Matsushiro Arr	64.17	333	P	P	11 54 23.4	-0.4
	2.3nm,1.0s,baz=172,slow=7.2,SNR=5.3						
MAJO	Matsushiro	64.18	333	eP	P	11 54 23.4	-0.4
DSRI	Dabo	65.66	279	P	P	11 54 46.2	+12
QSPA	South Pole Qui	68.89	180	eP	P	11 54 54.1	+0.3
	13nm,1.1s						
ASAJ	Asahikawa	69.19	340	P	P	11 54 57.6	+1.9
	4.6nm,0.7s,baz=259,slow=12,SNR=4.2						
KSRS	Korea Array	69.75	326	P	P	11 54 58.7	-0.6
	0.4nm,0.7s,baz=145,slow=4.7,SNR=2.7						
KS15	Wonju Array Si	69.77	326	eP	P	11 54 59.6	+0.3
	7.8nm,1.2s						
NJ2	Nanjing	71.17	317	eP	P	11 55 08.5	+0.4
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
USRK	Ussuriysk Ar.	73.17	333	P	P	11 55 20.8	+1.0
	6.5nm,0.8s,baz=151,slow=4.5,SNR=12						
PETK	Petropavlovsk-	74.57	353	P	P	11 55 28.4	+0.6
	3.1nm,0.8s,baz=184,slow=4.0,SNR=3.0						
PEA1	Petropavlovsk-	74.58	353	eP	P	11 55 28.4	+0.5
KLR	Kul'dur	77.38	336	P	P	11 55 43.7	-0.2
	2.1nm,0.7s,baz=86,slow=0.9,SNR=7.1						
PHRA	Phrae	77.67	295	P	P	11 55 59.4	+13
	1.3nm,1.0s						
UNV	Unalaska Valle	77.75	15	eP	P	11 55 46.3	+0.5
	22nm,1.1s						
LAMP	Lampang	78.18	295	P	P	11 56 02.5	+13
	20μm,0.8s						
CMAR	Chiang Mai Arr	78.73	295	eP	P	11 55 52.8	+0.7
CMAR	Chiang Mai Arr	78.73	295	P	P	11 55 53.1	+1.0
	0.6nm,0.3s,baz=126,slow=4.4,SNR=7.6						
KMI	Kunming	78.77	303	P	P	11 55 53.1	+0.6
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
KMI				pmax	pmax		
	comp=Z,67nm,4.2s						
CMMT	Chiang Mai	78.89	295	P	P	11 56 05.7	+13
	6.2nm,0.9s						
CD2	Chengdu	80.92	308	eP	P	11 56 03.9	+0.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	Hu-ho-hao-te	81.28	320	eP	P	11 56 07.8	+2.2
HHC				pmax	pmax		
	comp=Z,55nm,1.2s						
HHC				pmax	pmax		
	comp=Z,180nm,7.7s						
SYO	Syowa Base	82.91	196	eP	P	11 56 12.4	-1.1
SYO	Syowa Base	82.91	196	ePcP	PcP	11 56 18.6	+0.3
SNAA	Sanae	87.21	183	P	P	11 56 34.7	-0.5
SNAA	Sanae	87.21	183	eP	P	11 56 35.1	-0.1
	10.0nm,1.1s						
KCPM	Cahto Peak	87.53	46	eP	P	11 56 36.8	-0.4
	13nm,0.9s						
JCC	Jacoby Creek,	87.80	45	eP	P	11 56 38.6	+0.3
	40nm,1.5s						
VNA3	Neumayer Olymp	87.82	181	P	P	11 56 37.1	-1.0
KHMM	Horse Mountain	88.02	45	eP	P	11 56 40.0	+0.4
	20nm,1.2s						
ULN	Ulaanbaatar	88.04	324	eP	P	11 56 39.7	+0.1
	5.6nm,0.9s						
VNA2	Neumayer--Watz	88.11	181	P	P	11 56 39.5	+0.1
	baz=184,slow=4.4						
SONM	Songino Array	88.39	323	eP	P	11 56 41.2	+0.1
SONM	Songino Array	88.39	323	P	P	11 56 41.6	+0.5
	2.3nm,0.8s,baz=142,slow=7.5,SNR=3.9						
VNA1	Neumayer--Stat	88.40	181	P	P	11 56 40.0	-0.8
WDC	Whiskeytown Da	88.66	45	eP	P	11 56 42.5	+0.1
	7.7nm,1.2s						
CMB	Columbia Colle	88.91	48	eP	P	11 56 43.2	-0.5
	4.6nm,0.8s						
AFDM	Forest Hills D	88.93	47	eP	P	11 56 43.4	-0.4
	7.6nm,1.1s						
BILL	Bilibino	88.97	359	eP	P	11 56 43.2	0.0
	20nm,1.5s						
YBH	Yreka Blue Hor	89.12	44	eP	P	11 56 44.6	-0.1
	6.5nm,1.2s						
YBH	Yreka Blue Hor	89.12	44	P	P	11 56 44.6	-0.1
	1.7nm,0.8s,baz=98,slow=12,SNR=6.8						
ISA	Isabella, Lake	89.18	51	eP	P	11 56 44.9	-0.2
	4.7nm,0.9s						
KNK	Knik Glacier	89.22	19	eP	P	11 56 44.7	+0.1
	34nm,0.6s						
HUMO	Hull Mountain	89.39	43	eP	P	11 56 45.8	0.0
	7.9nm,0.8s						
BEKR	Beckworth	89.78	47	eP	P	11 56 47.7	-0.3
	4.3nm,0.9s						
YERR	Yerington	90.14	48	eP	P	11 56 49.8	+0.1
	5.2nm,1.0s						
RYN	Ryan	90.48	48	eP	P	11 56 51.2	-0.1
	6.5nm,1.0s						
NVAR	Mina Array Bea	90.54	49	P	P	11 56 51.3	-0.3
	2.3nm,0.8s,baz=226,slow=8.4,SNR=15						
NV11	Mina Array Sit	90.65	49	eP	P	11 56 51.5	-0.5
	0.4nm,0.8s						
K05A	Summer Lake	90.78	44	eP	P	11 56 52.6	0.0
	10nm,1.1s						
KVN	Kaiserville	90.97	48	eP	P	11 56 52.9	-0.6
	5.5nm,0.8s						
PINE	Pine Mountain	91.25	43	eP	P	11 56 55.0	+0.3
	14nm,0.8s						
TPNV	Topopah Spring	91.36	51	eP	P	11 56 55.1	-0.3
	6.9nm,0.9s						
GLK	Glacier Lake	92.17	40	eP	P	11 56 58.9	+0.1
ILAR	Eielson Array	92.26	18	P	P	11 56 56.8	-1.8
	0.7nm,0.7s,baz=231,slow=6.6,SNR=6.8						
I07A	Izee	92.31	43	eP	P	11 56 59.5	0.0
	5.0nm,0.9s						
J08A	Circle Bar Ran	92.64	44	eP	P	11 57 00.9	-0.2
	6.7nm,0.9s						
U15A	North Rim	94.04	53	eP	P	11 57 08.6	+0.7
	3.1nm,0.8s						
WMQ	Urumqi	98.09	314	eP	Pdif	11 57 26.8	+0.9
WMQ				LR	LR		
	comp=Z,750nm,22.7s						
LTX	Lajitas	98.23	62	eP	Pdif	11 57 27.2	+0.3
TXAR	Lajitas Array	98.23	62	P	Pdif	11 57 27.2	+0.3
	0.3nm,0.8s,baz=254,slow=6.5,SNR=3.6						
YKA	Yellowknife Ar	102.67	28	P	Pdif	11 57 46.1	+0.4
	0.4nm,0.9s,baz=260,slow=5.2,SNR=4.8						
YKB5	Yellowknife Ar	102.67	28	ePdif	Pdif	11 57 46.1	+0.4
BVAR	Borovoye Array	111.50	320	PKiKP	PKiKP	12 02 21.5	-1.7
	0.9nm,0.6s,baz=92,slow=4.9,SNR=5.5						
ABKAR	Akbulak array	117.82	315	ePKPdf	PKPdf	12 02 34.9	-0.5
ARU	Arti	118.43	324	ePKPdf	PKPdf	12 02 36.2	-0.1
ARU	Arti	118.43	324	PKP	PKPdf	12 02 36.1	-0.2
	0.9nm,0.5s,baz=292,slow=2.6,SNR=5.2						
AKTO	Aktyubinsk	119.06	317	PKP	PKPdf	12 02 37.4	-0.3
	1.6nm,0.7s,baz=113,slow=3.0,SNR=5.0						
ARA0	ARCESS Array S	126.77	345	ePKPdf	PKPdf	12 02 51.5	-0.5
ARCES	ARCESS Array B	126.77	345	PKP	PKPdf	12 02 51.5	-0.5
	3.2nm,0.8s,baz=92,slow=2.0,SNR=9.6						
FIA0	FINESS Array S	132.12	337	ePKPdf	PKPdf	12 03 01.4	-1.0
FINES	FINESS Array B	132.12	337	PKP	PKPdf	12 03 01.4	-1.0
	1.7nm,0.9s,baz=60,slow=4.6,SNR=4.4						
AKASG	Malin Array Be	136.67	323	PKP	PKPdf	12 03 10.3	-0.9
	1.2nm,0.6s,baz=56,slow=2.5,SNR=5.8						
BRTR	Keskin Array B	137.47	306	ePKPdf	PKPdf	12 03 12.3	-1.0
MORC	Moravsky Berou	143.40	328	ePKP	PKPbc	12 03 21.9	+1.2
MORC				e		12 03 35.6	
VYHS	Vyhne	143.55	326	ePKP	PKPdf	12 03 23.2	-0.6
DPC	Dobruska-Polom	143.60	330	ePKP	PKPbc	12 03 21.8	+0.5
DPC				epPKP	sPKPdf	12 03 34.3	+1.7
UPC	Upice	143.63	330	ePKP	PKPbc	12 03 21.5	+0.2
UPC				epPKP	sPKPdf	12 03 35.6	+3.0
JAVC	Velka Javorina	143.92	327	ePKP	PKPdf	12 03 24.7	+0.2
PVCC	Panska Ves	144.28	331	ePKP	PKPbc	12 03 23.7	+0.4
PVCC				epPKP	sPKPdf	12 03 36.1	+2.3
BRG	Berggiesshubel	144.30	332	i PKP	PKPbc	12 03 23.5	+0.1
	13nm,0.9s						
BRG				i		12 03 35.6	
	12nm,1.0s						
CLL	Collm	144.38	334	ePKPdf	PKPbc	12 03 23.7	+0.2
CLL	Collm	144.38	334	⇓iPKPdf	PKPbc	12 03 23.4	-0.2
	comp=Z,15nm,0.9s						
CLL				i PKiKP	PKiKP	12 03 28.3	-0.5
CLL				i pPKiKP	pPKiKP	12 03 35.5	+0.2
CLL				i sPKiKP	sPKiKP	12 03 39.9	+2.4
KRUC	Moravsky	144.43	328	ePKP	PKPbc	12 03 24.3	+0.5
GOPC	GO Pecny, Ondr	144.61	330	ePKP	PKPab	12 03 24.0	-0.2
PRU	Pruhonice	144.67	331	ePKP	PKPbc	12 03 24.8	+0.3
PRU				ex	x	12 03 39.0	
TREC	Trest	144.71	329	ePKP	PKPbc	12 03 25.1	+0.4
TREC				epPKP	sPKPdf	12 03 37.4	+2.8
EKA	Eskdalemuir Ar	145.33	352	PKPbc	PKPbc	12 03 25.7	-0.8
	comp=Z,4.4nm,0.7s,baz=13,slow=2.1,SNR=9.0						
NKC	Novy Kostel	145.42	333	ePKP	PKPab	12 03 27.4	+0.2
CONA	Conrad Observa	145.44	327	i PKPab	PKPab	12 03 28.1	+0.

comp=Z,0.3nm,0.6s,baz=122,slow=5.2,SNR=4.6
TOA1 **Torodi Ar. Sit** 165.15 240 *e*PKPdf **PKPdf** 12 03 53.7 -0.6
TOA1 *e*PKPab **PKPab** 12 04 51.0 -0.4

IDC 18 11:57:50.4±1.1,55°.73S×27°.69W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/24, mbtmp3.7/3, Error ellipse: s-maj=85.2km s-min=33.0km az=93.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**46.88**	**183**	P	P	12 06 21.9	+0.3
	0.6nm,0.5s,baz=169,slow=5.2,SNR=9.5						
TORD	**Torodi Ar. Bea**	**72.92**	**30**	P	P	12 09 21.5	+0.3
	0.4nm,0.8s,baz=214,slow=5.6,SNR=2.4						
ASAR	**Alice Springs**	**99.38**	**163**	P	Pdif	12 11 33.2	-1.4
	0.2nm,0.8s,baz=181,slow=3.7,SNR=4.9						
INK	**Inuvik**	**145.38**	**321**	PKPbc	PKPbc	12 17 27.8	-0.6
	0.9nm,0.7s,baz=124,slow=1.5,SNR=6.6						
ILAR	**Eielson Array**	**149.69**	**312**	PKPbc	PKPbc	12 17 39.7	-0.7
	0.8nm,0.7s,baz=121,slow=2.6,SNR=10						

*IDC **18** 12:00:20.3±1.8, 37°.53S×74°.78W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=70.0km s-min=27.3km az=55.0*
*ISCJB **18** 12:00:22.9±0.9, 37°.76S±0°.07×75°.11W±0°.09, h33km, mb3.7/4, Error ellipse: s-maj=10.7km s-min=9.9km az=8.7*
*GUC **18** 12:00:27.1±0.5, 37°.97S×74°.79W, h35km±59km, ML3.4*
ISC 18 12:00:24.5±1.1, 37°.79S±0°.07×75°.1W±0°.1, h35km, n8, σ2°32/12, mb3.5/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**2.68**	**65**	*e*P	**Pn**	**12 01 06.8**	**+1.7**
CCHI				*e*S	**Sn**	**12 01 37.1**	**+0.8**
CCHI				IAML		12 01 47.9	
	comp=N,263nm,0.5s						
GO06	**Curarrehue**	**3.34**	**123**	*e*P	**Pn**	**12 01 13.9**	**-0.5**
GO06				*e*S	**Sn**	**12 01 49.5**	**-3.5**
GO06				IAML		12 01 55.3	
	comp=N,57nm,0.4s						
GO05	**Huala**	**3.77**	**43**	*e*P	**Pn**	**12 01 19.8**	**-0.3**
GO05				*e*S	**Sn**	**12 02 02.6**	**-0.6**
GO05				IAML		12 02 09.4	
	comp=E,44nm,0.3s						
PLCA	**Paso Flores**	**4.58**	**131**	Pn	**Pn**	**12 01 30.6**	**-0.8**
	comp=E,0.4nm,0.3s,baz=305,slow=8.4,SNR=13						
PLCA				Sn	**Sn**	**12 02 27.8**	**+4.4**
	comp=E,1.3nm,0.3s,baz=36,slow=19,SNR=9.3						
LPAZ	**La Paz**	**22.28**	**18**	P	**P**	**12 05 16.3**	**-3.1**
	comp=E,0.6nm,0.4s,baz=172,slow=7.1,SNR=2.3						
TXAR	**Lajitas Array**	**71.94**	**334**	P	**P**	**12 11 44.8**	**+0.5**
	comp=E,0.3nm,0.7s,baz=150,slow=7.3,SNR=4.6						
PDAR	**Pinedale Array**	**86.10**	**335**	P	**P**	**12 13 03.1**	**+1.4**
	comp=E,0.1nm,0.3s,baz=134,slow=3.9,SNR=2.3						
ULM	**Lac du Bonnet**	**89.56**	**347**	P	**P**	**12 13 17.6**	**-0.1**
	comp=E,1.3nm,0.6s,baz=160,slow=4.2,SNR=3.7						

*ISCJB **18** 12:09:41.8±0.2, 26°.66N±0°.02×57°.83E±0°.03, h10km, mb4.5/94, MS3.6/14, Error ellipse: s-maj=3.3km s-min=2.5km az=3.5*
*DSN **18** 12:09:42.5±3.0, 26°.66N×57°.91E, h10km, ML4.5/8, Error ellipse: s-maj=41.2km s-min=11.7km az=5.0*
*TEH **18** 12:09:42.4, 26°.74N×57°.89E, h11km, ML4.5*
*IDC **18** 12:09:42.4±0.7, 26°.69N×57°.77E, h0km, mb4.0/24, mb1 4.1/26, mb1mx4.0/56, mbtmp4.1/26, ML4.1/2, MS3.6/13, Ms1 3.6/13, ms1mx3.4/42, Error ellipse: s-maj=16.5km s-min=11.0km az=3.0*
*NEIC **18** 12:09:43.8±0.0, 26°.73N×57°.87E, h15km, mb4.5/46, ML4.5(THR), MN4.5(TEH), After TEH.*
*MOS **18** 12:09:43.0±1.1, 26°.68N×57°.86E, h18km, mb4.7/34, Error ellipse: s-maj=7.5km s-min=4.5km az=117.3*
*OMAN **18** 12:09:46.7±0.8, 26°.46N×57°.92E, h15km, ml4.3/13, Error ellipse: s-maj=15.8km s-min=6.1km az=36.0*
ISC 18 12:09:43.3±0.4, 26°.62N±0°.03×57°.83E±0°.04, h10km, n264, σ1°25/269, mb4.5/94, MS3.6/14, 18C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**0.98**	**183**	*e*Pg	**Pn**	**12 10 04.2**	**+1.0**
NIAN	**Nian**	**1.29**	**317**	*e*Pn	**Pn**	**12 10 07.3**	**-0.1**
NIAN	**Nian**	**1.29**	**317**	IAMB	IAmb	12 10 51.6	
	comp=Z,0.0nm,1.0s						
NIAN				*e*Pg	**Pn**	**12 10 07.4**	**0.0**
KHNJ	**Kahnooj**	**1.32**	**355**	*e*Pg	**Pn**	**12 10 06.0**	**-1.9**
SHME	**Shamm**	**1.62**	**250**	*e*P	**Pn**	**12 10 12.3**	**+0.3**
	SNR=187						
SHME				S	**Sb**	**12 10 35.0**	**+1.1**
BNDS	**Bandar-Abbas**	**1.67**	**298**	*e*Pg	Pn	12 10 07.1	-5.7
GENO	**Geno**	**1.67**	**298**	*e*Pn	**Pn**	**12 10 13.5**	**+0.7**
GENO	**Geno**	**1.67**	**298**	*e*Pn	**Pn**	**12 10 13.5**	**+0.7**
GENO				IAMB	IAmb	12 10 42.5	
	comp=Z,0.0nm,0.4s						
MSFE	**Esma-Masafi**	**1.96**	**230**	*e*P	**Pn**	**12 10 15.6**	**-1.0**
	SNR=39						
UMQ	**Umm Al-Quwin**	**2.24**	**241**	P	**Pb**	**12 10 23.9**	**+0.1**
HATD	**Hatta, Dubai**	**2.36**	**221**	*e*P	**Pn**	**12 10 20.6**	**-1.5**
	SNR=14						
HATD	**Hatta, Dubai**	**2.36**	**221**	S	**Sn**	**12 10 50.3**	**-0.8**
ASHO	**Ashiyiah**	**2.51**	**220**	*e*P	**Pn**	**12 10 24.8**	**+0.6**
	SNR=32						
ASHO	**Ashiyiah**	**2.51**	**220**	P	**Pn**	**12 10 25.2**	**+1.0**
	SNR=12						
NAZ	**Nazwa, Dubai**	**2.55**	**231**	*e*P	**Pn**	**12 10 25.3**	**+0.7**
	SNR=49						
NAZ	**Nazwa, Dubai**	**2.55**	**231**	P	**Pn**	**12 10 27.2**	**+2.6**
	SNR=21						
CHBR	**Chabahar**	**2.59**	**113**	*e*Pn	**Pb**	**12 10 30.0**	**+0.1**
FAQ	**Al Faqa, Dubai**	**2.75**	**228**	*e*P	**Pn**	**12 10 28.3**	**+0.7**
	SNR=55						
FAQ	**Al Faqa, Dubai**	**2.75**	**228**	P	**Pn**	**12 10 29.7**	**+2.1**
	SNR=14						
FAQ				S	**Sb**	**12 11 06.6**	**+0.1**
ASUD	**Al Ashush, Dub**	**3.01**	**229**	*i* P	**Pn**	**12 10 32.3**	**+1.2**
	SNR=6.7						
HOQ	**Hoqain**	**3.06**	**189**	P	**Pn**	**12 10 31.2**	**-0.7**
	SNR=11						
HOQ				S	**Sn**	**12 11 08.3**	**-0.3**
BIDO	**Bidbid**	**3.10**	**175**	P	**Pn**	**12 10 32.0**	**-0.3**
	SNR=5.3						
BIDO				S	**Sn**	**12 11 09.3**	**-0.2**
NGRK	**Negar Kerman**	**3.16**	**342**	*e*Pn	**Pn**	**12 10 34.7**	**+1.2**
NGRK	**Negar Kerman**	**3.16**	**342**	*e*Pn	**Pn**	**12 10 35.0**	**+1.5**
NGRK				IAMB	IAmb	12 11 30.2	
	comp=Z,0.0nm,0.8s						
ALNE	**Al Ain**	**3.17**	**217**	*i* P	**Pn**	**12 10 34.5**	**+1.2**
	SNR=9.3						
CHMN	**Cheshme madani**	**3.23**	**355**	*e*Pn	**Pn**	**12 10 37.4**	**+2.9**
CHMN	**Cheshme madani**	**3.23**	**355**	*e*Pn	**Pn**	**12 10 37.4**	**+2.9**
CHMN				IAMB	IAmb	12 11 39.1	
	comp=Z,0.0nm,0.7s						
WSAR	**Wadi Sarin**	**3.45**	**168**	P	**Pn**	**12 10 37.5**	**+0.4**
	SNR=7.0						
WSAR				S	**Sn**	**12 11 16.9**	**-1.1**
WSAR	**Wadi Sarin**	**3.45**	**168**	Pn	**Pn**	**12 10 37.8**	**+0.6**
	comp=Z,34nm,0.3s,baz=335,slow=4.6,SNR=135						
WSAR				Sn	**Sn**	**12 11 16.6**	**-1.4**
	comp=Z,87nm,0.3s,baz=20,slow=17,SNR=5.4						
TVBK	**TV Kerman**	**3.48**	**345**	*e*Pn	**Pn**	**12 10 40.9**	**+3.0**
TVBK				IAMB	IAmb	12 11 46.3	
	comp=Z,0.0nm,1.0s						
ARQ	**Araqi**	**3.48**	**200**	P	**Pn**	**12 10 39.8**	**+2.2**
	SNR=12						
SMDO	**Samad**	**3.56**	**177**	P	**Pn**	**12 10 39.0**	**+0.3**
	SNR=14						
SMDO				S	**Sn**	**12 11 20.4**	**-0.4**
BSY	**Bisya**	**3.91**	**189**	P	**Pn**	**12 10 45.7**	**+2.3**
	SNR=12						
SZD1	**Zahaedan-tmp**	**3.91**	**43**	*e*Pn	**Pb**	**12 10 50.0**	**-2.5**
KHGB	**Koh Gabri**	**3.92**	**343**	*e*Pn	**Pn**	**12 10 46.3**	**+2.4**
KHGB				IAMB	IAmb	12 11 57.2	
	comp=Z,0.0nm,0.8s						
ZHSF	**Zahedan**	**3.95**	**40**	*e*Pn	**Pn**	**12 10 44.3**	**+0.1**
WBK	**Wadi Bani Khal**	**4.13**	**165**	P	**Pn**	**12 10 48.2**	**+1.7**
	SNR=6.2						
WBK				S	**Sn**	**12 11 32.2**	**-2.7**
JHRM	**Jahrom**	**4.22**	**297**	*e*Pn	**Pn**	**12 10 48.6**	**+0.8**
GHIR	**Ghir-Karzin**	**4.61**	**292**	*e*Pn	**Pn**	**12 10 50.1**	**-3.1**
IPAR	**Pars**	**5.30**	**308**	*e*Pn	**Pn**	**12 11 02.7**	**-0.1**
BSRN	**Basiran**	**5.44**	**12**	*e*Pn	**Pn**	**12 11 03.2**	**-1.4**
IMEH	**Mehriz**	**5.52**	**330**	*e*Pn	**Pn**	**12 11 06.3**	**+0.5**
SHI	**Shiraz**	**5.58**	**304**	*e*Pn	**Pn**	**12 11 05.4**	**-1.1**
IKOO	**Kooshah**	**5.87**	**10**	*e*Pn	**Pn**	**12 11 10.7**	**+0.1**
IKAZ	**Kazeroun**	**6.15**	**302**	*e*Pn	**Pn**	**12 11 12.6**	**-2.0**
ITEG	**Tejag**	**6.30**	**7**	*e*Pn	**Pn**	**12 11 18.0**	**+1.5**
ISAD	**Sadrabad**	**6.39**	**326**	*e*Pn	**Pn**	**12 11 18.7**	**+0.8**
TPRV	**Parvadeh(Tabas**	**6.46**	**351**	*e*Pn	**Pn**	**12 11 20.0**	**+1.4**
IMON	**Monand**	**6.74**	**13**	*e*Pn	**Pn**	**12 11 25.5**	**+3.0**
TKDS	**Koohdasht(Taba**	**6.99**	**355**	*e*Pn	**Pn**	**12 11 29.2**	**+3.3**
KLNJ	**Kolanjah**	**7.00**	**310**	*e*Pn	**Pn**	**12 11 25.3**	**-1.0**
IRAM	**Ramesheh**	**7.03**	**319**	*e*Pn	**Pn**	**12 11 26.0**	**-0.5**
IGAR	**Gharneh**	**7.66**	**320**	*e*Pn	**Pn**	**12 11 35.5**	**+0.4**
IZEF	**Zefreh**	**7.87**	**324**	*e*Pn	**Pn**	**12 11 37.6**	**-0.5**
ZNGN	**Zangian**	**8.19**	**314**	*e*Pn	**Pn**	**12 11 42.0**	**-0.5**
ROKH	**ROKH**	**8.22**	**316**	*e*Pn	**Pn**	**12 11 42.1**	**-0.8**
JHBN	**Jahan bin**	**8.38**	**313**	*e*Pn	**Pn**	**12 11 44.3**	**-0.9**
IKLH	**Kolahrood**	**8.60**	**322**	*e*Pn	**Pn**	**12 11 48.7**	**+0.6**
GEYT	**Alibeck**	**11.28**	**1**	Pn	**Pn**	**12 12 27.0**	**+2.5**
	baz=188,slow=9.0,SNR=5.2						
GEYT				LR	LR	12 17 38.8	
	comp=Z,176nm,21.0s,baz=300,slow=42						
GYA0B	**ALIBECK ARRAY**	**11.28**	**1**	*e*Pn	**Pn**	**12 12 24.8**	**+0.2**
KBL	**Kabul**	**12.46**	**48**	*e*Pn	**Pn**	**12 12 40.7**	**-0.3**
KBL	**Kabul**	**12.46**	**48**	*e*P	**Pn**	**12 12 40.7**	**-0.3**
NIL	**Nilore**	**15.06**	**59**	*e*Pn	**Pn**	**12 13 16.2**	**0.0**
NIL	**Nilore**	**15.06**	**59**	*e*P	**Pn**	**12 13 16.2**	**0.0**
CHGR	**Chuyangaron**	**15.31**	**36**	*e*Pn	**Pn**	**12 13 19.2**	**-0.4**
	comp=Z,14nm,1.0s						
GAR	**Garm**	**16.18**	**37**	*e*Pn	**Pn**	**12 13 29.5**	**-1.4**
	comp=Z,9.3nm,0.9s						
GAR	**Garm**	**16.18**	**37**	*e*P	**Pn**	**12 13 29.5**	**-1.4**
GAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AKT	**Akhty**	**17.00**	**333**	*i* P	**P**	**12 13 43.1**	**-0.1**
BTK	**Batken**	**17.21**	**36**	*e*Pn	**Pn**	**12 13 43.1**	**-0.8**
	comp=Z,12nm,1.0s						
BTK	**Batken**	**17.21**	**36**	*e*P	**Pn**	**12 13 43.1**	**-0.8**
BTK				pmax	pmax		
	comp=Z,12nm,1.0s						
GNI	**Garni**	**17.34**	**324**	*e*Pn	**Pn**	**12 13 44.5**	**-1.0**
	comp=Z,16nm,0.8s						
GNI	**Garni**	**17.34**	**324**	*ce*P	**P**	**12 13 46.4**	**-0.5**
GNI				pmax	pmax		
	comp=Z,99nm,1.0s						
GNI	**Garni**	**17.34**	**324**	P	**P**	**12 13 47.8**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=340,slow=2.5,SNR=6.9						
GNI				LR	LR	12 21 39.5	
	comp=Z,147nm,20.6s,baz=114,slow=42						
DAMY	**Dhamar**	**17.36**	**229**	*e*Pn	**Pn**	**12 13 44.0**	**-2.2**
	comp=Z,83nm,1.5s						
DVE	**Vedeno**	**18.89**	**333**	*i* P	**Pn**	**12 14 05.4**	**+0.9**
AKH	**Akhalkalaki**	**18.90**	**325**	*e*P	**P**	**12 14 03.4**	**-0.8**
	comp=Z,7.6nm,0.9s						
AKH	**Akhalkalaki**	**18.90**	**325**	*e*P	**P**	**12 14 03.4**	**-0.8**
AKH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ASF	**Jabal al Asfar**	**19.05**	**292**	P	**P**	**12 14 05.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=257,slow=1.7,SNR=6.4						
ASF				S	Sn	12 17 24.7	-15
	comp=Z,0.4nm,0.3s,baz=47,slow=6.8,SNR=3.1						
ARSB	**Arslanbob**	**19.27**	**37**	*e*P	**Pn**	**12 14 08.1**	**-1.0**
	comp=Z,9.8nm,0.8s						
KK31	**Karatay Array**	**19.42**	**29**	*e*P	**Pn**	**12 14 09.7**	**-1.1**
	comp=Z,15nm,0.9s						
KK31	**Karatay Array**	**19.42**	**29**	*e*P	**Pn**	**12 14 09.7**	**-1.1**
KK31				pmax	pmax		
	comp=Z,15nm,0.9s						
KKAR	**Karatay Array**	**19.42**	**29**	*e*P	**P**	**12 14 09.4**	**-0.3**
	comp=Z,15nm,0.9s						
KKAR				*e*P	**Pn**	**12 14 09.7**	**-1.1**
KKAR	**Karatay Array**	**19.42**	**29**	*e*P	**P**	**12 14 09.4**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,15nm,0.9s						
KSH	**Kashi**	**19.86**	**45**	P	**P**	**12 14 12.3**	**-2.4**
KSH				pP	Pn	12 14 16.1	-0.2
KSH				PP	**PnPn**	**12 14 29.6**	**-0.6**
KSH				S	S	12 17 46.5	-12
KSH				SS	**SnSn**	**12 18 12.3**	**-1.8**
EIL	**Elat**	**20.40**	**284**	P	**P**	**12 14 21.6**	**+1.1**
	comp=Z,12nm,0.8s,baz=80,slow=9.8,SNR=6.9						
EIL				S	Sn	12 18 17.7	+5.2
	comp=Z,6.6nm,1.0s,baz=44,slow=14,SNR=3.0						
EIL				LR	LR	12 23 39.0	
	comp=Z,180nm,19.3s,baz=82,slow=41						
NCK	**Nalchik**	**20.42**	**329**	*i* P	**P**	**12 14 21.6**	**+1.0**
NCK				pmax	pmax		
	comp=Z,11nm,0.9s						
MMAI	**Mount Meron Ar**	**20.46**	**293**	P	Pn	12 14 22.6	-0.7
	comp=Z,8.1nm,0.8s,baz=99,slow=16,SNR=12						
MMAI				S	**S**	**12 18 12.2**	**+1.9**
	comp=Z,1.0nm,0.5s,baz=111,slow=28,SNR=2.9						
MMAI				LR	LR	12 22 32.9	
	comp=Z,96nm,20.9s,baz=90,slow=38						
ATD	**Arta Tunnel**	**20.61**	**226**	*e*P	**P**	**12 14 21.7**	**-1.1**
	comp=Z,37nm,1.2s						
ATD	**Arta Tunnel**	**20.61**	**226**	P	Pn	12 14 24.5	-0.6
	comp=Z,24nm,1.1s,baz=354,slow=5.8,SNR=6.3						
ATD				LR	LR	12 22 48.9	
	comp=Z,154nm,21.4s,baz=46,slow=38						
KBZ	**Khabaz**	**20.93**	**328**	P	Pn	12 14 30.0	+1.4
KBZ	**Khabaz**	**20.93**	**328**	P	Pn	12 14 29.9	+1.4
	comp=Z,2.6nm,0.6s,baz=118,slow=15,SNR=4.6						
AAK	**Ala-Archa**	**20.99**	**36**	*e*P	**P**	**12 14 27.2**	**+0.2**
	comp=Z,9.9nm,0.8s						
AAK	**Ala-Archa**	**20.99**	**36**	*ce*P	Pn	12 14 28.1	-1.4
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	**Ala-Archa**	**20.99**	**36**	P	**P**	**12 14 27.4**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=189,slow=4.5,SNR=8.6						
AAK				LR	LR	12 22 32.7	
	comp=Z,122nm,19.4s,baz=258,slow=37						
SHA1	**Shidzhatmaz**	**21.05**	**328**	*i* P	**P**	**12 14 28.9**	**+1.3**
KVAR	**Kislovodsk Arr**	**21.19**	**329**	P	**P**	**12 14 31.4**	**+2.3**
	comp=Z,3.7nm,0.5s,baz=253,slow=20,SNR=6.1						
KIV	**Kislovodsk**	**21.20**	**329**	*e*P	**P**	**12 14 29.0**	**-0.1**
	comp=Z,19nm,0.9s						
KIV	**Kislovodsk**	**21.20**	**329**	*e*P	**P**	**12 14 32.5**	**+3.4**
KIV				pmax	pmax		
	comp=Z,63nm,1.0s						
KIV				MLR	MLR		
	comp=Z,238nm,14.0s						
DOMR	**Dombai**	**21.22**	**326**	*i* P	**P**	**12 14 30.7**	**+1.3**
HYB	**Hyderabad**	**21.26**	**111**	*i* P	**P**	**12 14 31.5**	**+1.6**
BOOM	**Boomskoye usch**	**21.68**	**38**	*e*P	**P**	**12 14 34.1**	**-0.3**
	comp=Z,10nm,0.8s						
BOOM	**Boomskoye usch**	**21.68**	**38**	*e*P	**P**	**12 14 34.1**	**-0.3**
BOOM				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KDJ	**Kajisay**	**22.15**	**41**	*e*P	**P**	**12 14 39.4**	**-0.1**
	comp=Z,16nm,0.9s						
KDJ	**Kajisay**	**22.15**	**41**	*e*P	**P**	**12 14 39.4**	**-0.1**
KDJ				pmax	pmax		
	comp=Z,17nm,0.9s						
CSS	**Mathiatis**	**22.59**	**298**	*e*P	**P**	**12 14 43.4**	**-0.7**
	comp=Z,13nm,0.7s						
ABKAR	**Akbulak array**	**22.66**	**4**	*e*P	**P**	**12 14 44.2**	**-0.4**
	comp=Z,9.3nm,0.8s						
ABKAR				*e*P	**pP**	**12 14 44.4**	**-3.4**
AKTO	**Aktyubinsk**	**23.78**	**0**	P	**P**	**12 14 55.0**	**-1.0**
	comp=Z,9.9nm,0.8s,baz=181,slow=11,SNR=14						
AKTO				S	**S**	**12 19 08.8**	**-2.5**
	comp=Z,0.5nm,0.4s,baz=353,slow=8.1,SNR=2.0						
AKTO				LR	LR	12 24 47.9	
	comp=Z,241nm,19.7s,baz=81,slow=38						
BR131	**Keskin Array S**	**24.01**	**309**	*e*P	**P**	**12 14 58.2**	**-0.3**
	comp=Z,12nm,0.8s						
BRTR	**Keskin Array B**	**24.01**	**309**	*e*P	**P**	**12 14 57.6**	**-0.9**
BRTR	**Keskin Array B**	**24.01**	**309**	P	**P**	**12 14 58.5**	**+0.1**
	comp=Z,9.9nm,0.8s,baz=123,slow=11,SNR=46						
BRTR				LR	LR	12 26 09.2	
	comp=Z,295nm,19.0s,baz=78,slow=41						
PDGK	**Podgornoye**	**24.23**	**41**	P	**P**	**12 15 04.1**	**+3.6**
PDGK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OTUK	**Ortayu**	**24.38**	**24**	P	**P**	**12 15 04.9**	**+3.2**
OTUK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ANN	**Anapa**	**24.45**	**323**	*e*P	**P**	**12 15 01.8**	**-0.4**
ANN				*e*S	**S**	**12 19 21.7**	**-0.4**
ANN				pmax	pmax		
	comp=Z,32nm,0.9s						
ANN				MLR	MLR		
	comp=Z,410nm,24.0s						
ANTO	**Ankara**	**24.66**	**309**	*e*P	**P**	**12 15 03.7**	**-0.7**
	comp=Z,13nm,0.8s						
ANTO	**Ankara**	**24.66**	**309**	P	**P**	**12 15 03.9**	**-0.4**
ANTO				pmax	pmax		
	comp=Z,13nm,0.8s						
MDUB	**Mudurnu**	**26.02**	**309**	*e*P	**P**	**12 15 16.7**	**0.0**
	comp=Z,164nm,0.8s						
SIM	**Simferopol'**	**26.39**	**320**	⇑*e*P	**P**	**12 15 20.9**	**+1.1**
SIM				pmax	pmax		
	comp=Z,21nm,1.6s						
MANT	**Manisa**	**27.25**	**303**	*e*P	**P**	**12 15 26.8**	**-1.2**
	comp=Z,88nm,1.6s						
MAKZ	**Makanchi**	**27.75**	**37**	*e*P	**P**	**12 15 31.9**	**-0.1**
	comp=Z,7.7nm,1.4s						
MK31	**Makanchi Array**	**27.91**	**37**	*e*P	**P**	**12 15 33.5**	**0.0**
	comp=Z,1.2nm,0.8s						
MK32	**Makanchi Array**	**27.91**	**37**	*e*P	**P**	**12 15 33.5**	**0.0**
MKAR	**Makanchi Array**	**27.91**	**37**	*e*P	**P**	**12 15 33.3**	**-0.2**
MKAR	**Makanchi Array**	**27.91**	**37**	P	**P**	**12 15 33.5**	**0.0**
	comp=Z,0.4nm,0.7s,baz=207,slow=2.9,SNR=3.0						
BVAR	**Borovoye Array**	**27.99**	**16**	P	**P**	**12 15 33.8**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=209,slow=4.8,SNR=8.8						
KURBB	**Kurchatov Arra**	**28.72**	**28**	P	**P**	**12 15 40.6**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=226,slow=8.4,SNR=6.3						
KURK	**Kurchatov**	**28.82**	**28**	P	**P**	**12 15 40.6**	**-1.0**
PALK	**Pallekele**	**29.04**	**127**	LR	LR	12 27 32.3	
	comp=Z,120nm,18.4s,baz=294,slow=37						
IDI	**Anoyia**	**29.43**	**295**	P	**P**	**12 15 47.2**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=85,slow=13,SNR=4.3						
WMQ	**Urumqi**	**29.60**	**47**	*e*P	**P**	**12 15 50.3**	**+1.6**
MLR	**Muntele Rosu**	**31.63**	**315**	⇑*i*P	**P**	**12 16 08.1**	**+1.5**
MLR	**Muntele Rosu**	**31.63**	**315**	⇑P	**P**	**12 16 08.1**	**+1.5**
SRS	**Serrai**	**31.67**	**306**	*e*P	**P**	**12 16 09.0**	**+2.1**
SRS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VOIR		**32.18**	**314**	⇑*i*P	**P**	**12 16 11.8**	**+0.4**
VOIR		**32.18**	**314**	P	**P**	**12 16 12.1**	**+0.7**
VOIR				pmax	pmax		
	comp=Z,9.0nm,1.4s						
DOPR	**Dopca**	**32.19**	**315**	⇓*i*P	**P**	**12 16 11.7**	**+0.3**
ARR	**Arges**	**32.42**	**314**	⇓*i*P	**P**	**12 16 14.3**	**+0.8**
OBN	**Obninsk**	**32.42**	**337**	*ce*P	**P**	**12 16 13.9**	**+0.6**
OBN				pmax	pmax		
	comp=Z,13nm,0.4s						
OBN				MLR	MLR		
	comp=Z,127nm,18.0s						
AKASG	**Malin Array Be**	**32.46**	**325**	*e*P	**P**	**12 16 12.8**	**-0.9**
AKASG	**Malin Array Be**	**32.46**	**325**	*ce*P	**P**	**12 16 12.6**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**32.46**	**325**	P	**P**	**12 16 12.5**	**-1.2**
	comp=Z,3.3nm,0.6s,baz=122,slow=8.2,SNR=15						
AKASG				LR	LR	12 32 33.7	
	comp=Z,67nm,19.9s,baz=35,slow=42						
KIEV	**Kiev**	**32.47**	**325**	*e*P	**P**	**12 16 12.6**	**-1.1**
	comp=Z,7.6nm,0.7s						
KIEV	**Kiev**	**32.47**	**325**	⇑*i*P	**P**	**12 16 12.8**	**-0.9**
KIEV	**Kiev**	**32.47**	**325**	⇑P	**P**	**12 16 12.8**	**-0.9**
BURAR	**Bucovina Array**	**33.03**	**318**	*e*P	**P**	**12 16 18.0**	**-0.9**
BURAR	**Bucovina Array**	**33.03**	**318**	⇑*i*P	**P**	**12 16 19.0**	**+0.1**
BURAR	**Bucovina Array**	**33.03**	**318**	⇑P	**P**	**12 16 19.0**	**+0.1**
BUR08	**Bucovina Ar. S**	**33.06**	**318**	*e*P	**P**	**12 16 18.2**	**-0.8**
	comp=Z,2.2nm,0.8s						
FNA	**Florina**	**33.20**	**305**	*e*P	**P**	**12 16 19.5**	**-0.9**
	comp=Z,27nm,1.5s						
NVS	**Novosibirsk**	**33.76**	**27**	*e*P	**P**	**12 16 27.2**	**+2.2**
NVS				*e*S	**S**	**12 21 51.3**	**+2.9**
NVS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				smax	smax		
	comp=N,6.0nm,1.4s						
ZAA0	**Zalesovo Array**	**33.79**	**29**	*e*P	**P**	**12 16 25.4**	**+0.1**
	comp=N,4.6nm,0.8s						
ZALV	**Zalesovo Beam**	**33.79**	**29**	P	**P**	**12 16 27.5**	**+2.2**
	comp=N,0.9nm,0.4s,baz=283,slow=13,SNR=3.5						
MDVR	**Moldovita**	**34.12**	**312**	⇑*i*P	**P**	**12 16 28.6**	**+0.3**
BZS	**Buzias**	**34.47**	**313**	⇑*i*P	**P**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLL				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CLL	**Collm**	**41.80**	**318**	⇓*i*P	**P**	**12 17 33.3**	**+0.3**
	comp=Z,8.0nm,1.3s						
SQTA	**Sankt Quirin**	**41.82**	**312**	*i* P	**P**	**12 17 32.5**	**-0.8**
	comp=Z,15nm,0.6s,SNR=9.3						
MOTA	**Moosalm**	**41.92**	**312**	*i* P	**P**	**12 17 32.9**	**-1.3**
	comp=Z,7.5nm,0.6s,SNR=7.0						
FETA	**Feichten**	**42.10**	**312**	*i* P	**P**	**12 17 35.1**	**-0.6**
	comp=Z,13nm,0.7s,SNR=8.1						
RETA	**Reutte**	**42.18**	**312**	*i* P	**P**	**12 17 35.1**	**-1.1**
	comp=Z,5.4nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**42.33**	**311**	*e*P	**P**	**12 17 37.0**	**-0.8**
	comp=Z,5.3nm,0.7s						
GRFO	**Grafenberg**	**42.41**	**316**	*e*P	**P**	**12 17 37.3**	**-0.7**
	comp=Z,14nm,1.0s						
DAVA	**Damuels**	**42.72**	**312**	*i* P	**P**	**12 17 40.0**	**-0.8**
	comp=Z,24nm,0.6s,SNR=7.0						
SENIN	**Lac Senin/Sane**	**44.31**	**310**	*e*P	**P**	**12 17 52.4**	**-1.2**
	comp=Z,8.6nm,1.1s						
CDF	**Champ du Feu**	**44.66**	**313**	*e*P	**P**	**12 17 56.3**	**0.0**
CDF				pmax	pmax		
	comp=Z,33nm,1.9s						
ECH	**Echery**	**44.70**	**313**	*e*P	**P**	**12 17 55.5**	**-1.0**
	comp=Z,8.7nm,1.0s						
ECH	**Echery**	**44.70**	**313**	P	**P**	**12 17 56.4**	**-0.1**
ECH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CABF	**La Chapelle**	**45.17**	**310**	*e*P	**P**	**12 18 00.1**	**-0.3**
CABF				pmax	pmax		
	comp=Z,93nm,1.9s						
HAU	**Haudompre**	**45.20**	**312**	*e*P	**P**	**12 17 59.6**	**-0.9**
HAU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NRIK	**Noril'sk**	**46.16**	**14**	LR	LR	12 41 05.0	
	comp=Z,236nm,18.1s,baz=100,slow=41						
HHC	**Hu-ho-hao-te**	**46.20**	**58**	*e*P	**P**	**12 18 07.9**	**-0.7**
NB2	**NORSAR Subarra**	**46.48**	**331**	P	**P**	**12 18 10.8**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=113,slow=7.9						
NB200	**NORSAR Array S**	**46.48**	**331**	*e*P	**P**	**12 18 08.8**	**-1.6**
NOA	**NORSAR Array B**	**46.48**	**331**	P	**P**	**12 18 08.8**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=114,slow=7.8,SNR=4.5						
GIVF	**Givet**	**46.54**	**315**	*e*P	**P**	**12 18 11.5**	**+0.5**
GIVF				pmax	pmax		
	comp=Z,19nm,1.2s						
SMF	**Signal de Mont**	**46.71**	**310**	*e*P	**P**	**12 18 11.2**	**-1.2**
SMF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LOR	**Lormes**	**46.77**	**311**	*e*P	**P**	**12 18 11.6**	**-1.3**
LOR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARA0	**ARCESS Array S**	**46.90**	**345**	*e*P	**P**	**12 18 13.2**	**-0.4**
ARCES	**ARCESS Array B**	**46.90**	**345**	P	**P**	**12 18 13.2**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=150,slow=9.4,SNR=5.3						
BAIF	**Baives**	**46.92**	**315**	*e*P	**P**	**12 18 14.3**	**+0.3**
BAIF				pmax	pmax		
	comp=Z,13nm,1.2s						
SSF	**Saint Saulge**	**46.98**	**311**	*e*P	**P**	**12 18 13.6**	**-0.9**
SSF				pmax	pmax		
	comp=Z,13nm,0.9s						
AVF	**Avril sur Loir**	**47.06**	**310**	*e*P	**P**	**12 18 14.1**	**-1.0**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BGF	**Bois d'Agland**	**47.39**	**310**	*e*P	**P**	**12 18 20.2**	**+2.5**
BGF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RJF	**Les Rejaudoux**	**48.23**	**308**	*e*P	**P**	**12 18 23.9**	**-0.3**
RJF				pmax	pmax		
	comp=Z,44nm,1.7s						
LFF	**La Frestale**	**48.76**	**308**	*e*P	**P**	**12 18 28.2**	**-0.1**
LFF				pmax	pmax		
	comp=Z,13nm,1.1s						
LDF	**La Druitiere**	**49.56**	**312**	*e*P	**P**	**12 18 33.6**	**-0.8**
LDF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BOD	**Bodaibo**	**49.97**	**35**	*e*P	**P**	**12 18 35.5**	**-1.8**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SGMF	**Saint Gilles**	**51.16**	**312**	*e*P	**P**	**12 18 46.9**	**+0.4**
SGMF				pmax	pmax		
	comp=Z,52nm,1.8s						
ESDC	**Sonseca Array**	**52.41**	**301**	P	**P**	**12 18 55.8**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=77,slow=7.2,SNR=6.4						
ESDC				LR	LR	12 45 30.6	
	comp=Z,60nm,18.5s,baz=5.0,slow=41						
PAB	**San Pablo**	**52.72**	**301**	*e*P	**P**	**12 18 57.8**	**-0.6**
	comp=Z,19nm,1.4s						
TOA0	**Torodi Ar. Sit**	**54.08**	**267**	*e*P	**P**	**12 19 07.7**	**-0.9**
	comp=Z,4.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**54.08**	**267**	P	**P**	**12 19 06.9**	**-1.7**
	comp=Z,2.4nm,0.6s,baz=65,slow=7.4,SNR=17						
TIXI	**Tiksi**	**59.01**	**20**	*i* P	P	12 19 47.8	+5.0
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSAR	**Wonju Array Be**	**59.14**	**61**	*e*P	**P**	**12 19 45.0**	**+0.7**
KSRS	**Korea Array**	**59.17**	**61**	P	**P**	**12 19 45.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=277,slow=7.1,SNR=4.0						
KLR	**Kul'dur**	**60.06**	**47**	*i* P	**P**	**12 19 50.8**	**+0.4**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KLR	**Kul'dur**	**60.06**	**47**	P	**P**	**12 19 51.8**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=279,slow=13,SNR=3.5						
SEY	**Seymchan**	**68.66**	**29**	*e*P	**P**	**12 20 47.0**	**+0.4**
SEY	**Seymchan**	**68.66**	**29**	P	**P**	**12 20 47.0**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=297,slow=6.0,SNR=8.2						
BILL	**Bilibino**	**72.15**	**22**	*i* P	**P**	**12 21 10.8**	**+3.0**
BILL				pmax	pmax		
	comp=Z,14nm,3.5s						
IMAR	**Indian Mountai**	**84.57**	**12**	*e*P	**P**	**12 22 16.5**	**0.0**
BPAW	**Bear Paw Mtn.**	**86.79**	**12**	*e*P	**P**	**12 22 27.8**	**+0.2**
	comp=Z,4.3nm,1.0s						
ILAR	**Eielson Array**	**86.89**	**10**	P	**P**	**12 22 28.7**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=327,slow=4.1,SNR=5.6						
ILB	**Eielson Array**	**86.89**	**10**	*e*P	**P**	**12 22 28.0**	**0.0**
	comp=Z,3.3nm,1.4s						
CAST	**Castle Rocks**	**87.19**	**13**	*e*P	**P**	**12 22 30.7**	**+1.1**
	comp=Z,7.6nm,1.2s						
WRA	**Warramunga Arr**	**87.40**	**114**	P	**P**	**12 22 31.8**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=303,slow=3.4,SNR=4.0						
WR1	**Warramunga Arr**	**87.40**	**114**	*e*P	**P**	**12 22 31.8**	**+0.6**
WB2	**Warramunga Arr**	**87.41**	**114**	*e*P	**P**	**12 22 31.9**	**+0.6**
	comp=Z,8.6nm,1.4s						
WC3	**Warramunga Arr**	**87.43**	**114**	*e*P	**P**	**12 22 31.3**	**-0.1**
	comp=Z,4.0nm,1.0s						
ASAR	**Alice Springs**	**88.87**	**117**	P	**P**	**12 22 38.9**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=306,slow=4.0,SNR=3.4						
YKA	**Yellowknife Ar**	**90.99**	**356**	P	**P**	**12 22 49.7**	**+2.3**
	comp=Z,0.1nm,0.6s,baz=0.1,slow=4.0,SNR=3.2						
YKB5	**Yellowknife Ar**	**90.99**	**356**	*e*P	**P**	**12 22 49.7**	**+2.3**
LTX	**Lajitas**	**121.60**	**341**	*e*PKPdf	**PKiKP**	**12 28 40.0**	**+1.9**
LTX	**Lajitas**	**121.60**	**341**	*e*PKIKP	**PKiKP**	**12 28 40.0**	**+1.9**
TXAR	**Lajitas Array**	**121.60**	**341**	PKIKP	**PKiKP**	**12 28 40.0**	**+1.9**
TXAR	**Lajitas Array**	**121.60**	**341**	PKP	**PKiKP**	**12 28 40.0**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=75,slow=1.0,SNR=2.4						

UCR 18 12:11:53.9±2.1, 10°.59N×86°.59W, h15km±14km, MD4.2, 4C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**1.04**	**87**	*i* P	Pb	12 12 13.6	-0.1
GBS3	**Finca Las Img**	**1.13**	**80**	*i* P	Pb	12 12 14.6	-0.7
BUEV	**Buena Vista**	**1.18**	**80**	⇑*e*P	Pn	12 12 15.1	-0.9
GB1A	**Borinquen Arri**	**1.20**	**79**	⇑*e*P	Pn	12 12 15.3	-0.9
GB1A				*e*S	Sb	12 12 31.2	-0.5
GPS2	**Hotel Rincn d**	**1.23**	**82**	*i* P	Pn	12 12 15.9	-0.8
BUAI	**Buenos Aires**	**1.27**	**77**	*i* P	Pn	12 12 17.1	-0.2
LIM1	**Limonal**	**1.32**	**85**	*i* P	Pn	12 12 17.1	-0.8
COLC	**Colonia**	**1.37**	**87**	*i* P	Pn	12 12 18.3	-0.3
MESS	**Mesas**	**1.38**	**83**	*i* P	Pn	12 12 18.1	-0.7
MESS				⇑*e*P	Pn	12 12 18.1	-0.7
CUI	**Cuipilapa**	**1.41**	**87**	⇑*i* P	Pn	12 12 18.6	-0.5
ACAL	**Aguas Claras**	**1.53**	**88**	*i* P	Pn	12 12 20.8	-0.1
JTS	**Las Juntas de**	**1.64**	**100**	*e*P	Pn	12 12 21.5	-0.8
ARE1	**Arenal 1**	**1.85**	**94**	*e*P	Pn	12 12 25.6	+0.5
CEDE	**Laguna Cedeo**	**1.86**	**93**	*e*P	Pn	12 12 25.3	0.0
ACON	**Acoyapa**	**1.96**	**45**	*e*P	Pn	12 12 25.3	-1.3
CRIN	**San Cristobal**	**2.15**	**348**	*e*P	Pn	12 12 28.2	-1.2
MATN	**Matagalpa**	**2.42**	**16**	*e*P	Pn	12 12 31.8	-1.3

UCR 18 12:14:52.8±1.4, 10°.65N×86°.66W, h18km±9km, MD4.2, 2C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**1.10**	**90**	*i* P	Pn	12 15 13.1	-0.2
BUEV	**Buena Vista**	**1.24**	**83**	*i* P	Pn	12 15 14.3	-0.9
GB1A	**Borinquen Arri**	**1.25**	**82**	*i* P	Pn	12 15 14.9	-0.5
GB1A				*e*S	Sb	12 15 31.7	0.0
LIM1	**Limonal**	**1.38**	**88**	*i* P	Pn	12 15 16.8	-0.4
MESS	**Mesas**	**1.44**	**86**	⇑*e*P	Pn	12 15 17.6	-0.4
MESS				*i* P	Pb	12 15 17.6	-1.5
MESS				*i* S	Sb	12 15 37.4	+0.3
CUI	**Cuipilapa**	**1.47**	**89**	⇑*e*P	Pn	12 15 18.0	-0.4
JTS	**Las Juntas de**	**1.71**	**102**	*e*P	Pn	12 15 21.1	-0.6
CEDE	**Laguna Cedeo**	**1.93**	**95**	*e*P	Pn	12 15 25.5	+0.8
ACON	**Acoyapa**	**1.96**	**48**	*e*P	Pn	12 15 24.7	-0.4

*ISK **18** 12:15:50.3, 37°.04N×28°.42E, h5km, ML2.5/13*
*ISCJB **18** 12:15:51.6±0.6, 37°.04N±0°.05×28°.37E±0°.05, h14km, Error ellipse: s-maj=7.9km s-min=4.7km az=25.4*
*DDA **18** 12:15:51.6, 37°.04N×28°.40E, h7km±4km, ML2.4*
ISC 18 12:15:52.3±1.0, 37°.04N±0°.04×28°.40E±0°.03, h14km, n20, σ1°56/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.23**	**136**	PG	**Pb**	**12 15 57.4**	**-0.9**
TURN				SG	**Sb**	**12 16 02.5**	**+0.2**
TURN	**Turunc**	**0.23**	**136**	*i* P	**Pb**	**12 15 58.0**	**-0.3**
DALY	**Dalyan (Mula)**	**0.30**	**138**	PG	**Pg**	**12 15 57.2**	**-1.3**
DALY	**Dalyan (Mula)**	**0.30**	**138**	IAML_P			
	comp=Z,3μm,0.2s						
DALY				*i* P	**Pg**	**12 15 57.5**	**-1.0**
DALY				*i* S	**Sg**	**12 16 02.5**	**-0.2**
MRSB	**Marmaris-Mugla**	**0.36**	**207**	PG	**Pg**	**12 15 58.6**	**-1.1**
BBRN	**Bozburun-Marma**	**0.45**	**218**	PG	**Pg**	**12 16 00.2**	**-1.1**
TAVA	**DENIZLI_Tavas**	**0.59**	**44**	IAML_P			
	comp=Z,1μm,0.1s						
TAVA				*i* P	**Pg**	**12 16 03.0**	**-0.9**
DATC	**Datca-Mugla**	**0.66**	**245**	PG	**Pg**	**12 16 04.2**	**-1.0**
FETY	**Fethiye**	**0.68**	**126**	PG	**Pg**	**12 16 04.2**	**-1.4**
DAT	**Datca**	**0.73**	**245**	PG	**Pg**	**12 16 05.7**	**-0.9**
DAT	**Datca**	**0.73**	**245**	IAML_P			
	comp=Z,124nm,0.1s						
DAT				*i* P	**Pb**	**12 16 06.3**	**-0.6**
AYDN	**Tasoluk**	**0.75**	**326**	*i* P	**Pb**	**12 16 06.8**	**-0.4**
BDRM	**Kayabasi**	**0.77**	**272**	IAML_P			
	comp=Z,641nm,0.2s						
BDRM				*i* P	**Pn**	**12 16 10.1**	**+1.4**
BODT	**Bodrum**	**0.88**	**272**	PG	**Pg**	**12 16 08.4**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**0.99**	**336**	PG	**Pb**	**12 16 10.7**	**-0.7**
ELL	**Elmali**	**1.24**	**103**	PN	**Pn**	**12 16 14.8**	**-0.6**
AKAS	**Kas**	**1.26**	**129**	PN	**Pg**	**12 16 15.6**	**-1.0**
AKAS	**Kas**	**1.26**	**129**	IAML_P			
	comp=Z,1μm,0.2s						
AKAS				*i* P	**Pg**	**12 16 16.8**	**+0.2**
AKAS				*i* S	**Sg**	**12 16 38.5**	**+5.5**
KORT	**Korkueli**	**1.56**	**91**	PN	**Pb**	**12 16 19.8**	**-1.2**
KARP	**Karpathos**	**1.80**	**214**	PN	**Pb**	**12 16 23.7**	**-1.3**

UCR 18 12:28:31.6±1.0, 10°.61N×86°.62W, h31km±57km, MD4.1, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**1.07**	**88**	*i* P	Pn	12 28 50.7	+0.2
GBS3	**Finca Las Img**	**1.16**	**81**	*i* P	Pn	12 28 51.3	-0.4
LAPC	**Finca la Perla**	**1.18**	**82**	*i* P	Pn	12 28 51.6	-0.4
BUEV	**Buena Vista**	**1.21**	**81**	*e*P	Pn	12 28 52.4	-0.1
BUEV				*e*S	Sb	12 29 09.3	+0.1
GB1A	**Borinquen Arri**	**1.22**	**80**	*i* P	Pn	12 28 52.5	-0.1
GB1A				*e*S	Sb	12 29 08.9	-0.7
GPS1	**Guardaparques**	**1.26**	**82**	*i* P	Pn	12 28 53.0	-0.2
GPS1				*i* S	Sn	12 29 09.7	+0.5
LIM1	**Limonal**	**1.35**	**86**	*i* P	Pn	12 28 53.9	-0.5
COLC	**Colonia**	**1.39**	**88**	*i* P	Pn	12 28 54.9	-0.1
MESS	**Mesas**	**1.41**	**85**	*e*P	Pn	12 28 55.5	+0.3
CUI	**Cuipilapa**	**1.43**	**88**	*i* P	Pn	12 28 55.5	0.0
CUI				*e*S	Sn	12 29 13.6	+0.2
ACAL	**Aguas Claras**	**1.56**	**89**	*i* P	Pn	12 28 57.8	+0.5
JTS	**Las Juntas de**	**1.67**	**101**	*e*P	Pn	12 28 58.8	0.0
ARE1	**Arenal 1**	**1.87**	**94**	*e*P	Pn	12 29 02.5	+0.9
CEDE	**Laguna Cedeo**	**1.89**	**94**	*e*P	Pn	12 28 57.4	-4.4
ACON	**Acoyapa**	**1.96**	**46**	*e*P	Pn	12 29 02.5	-0.3

*ISCJB **18** 12:33:20.0±1.0, 21°.65S±0°.04×70°.05W±0°.09, h79km±7km, Error ellipse: s-maj=13.7km s-min=5.5km az=14.5*
*SJA **18** 12:33:19.5±0.4, 21°.69S×70°.04W, h77km±1km, ML2.3, MW4.1*
*GUC **18** 12:33:20.6±0.7, 21°.67S×69°.89W, h81km±3km, ML3.2*
ISC 18 12:33:20.2±1.7, 21°.64S±0°.04×70°.06W±0°.08, h77km±9km, n16, σ0°49/30, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**IPOC Station P**	**0.18**	**116**	*i* P	**Pn**	**12 33 31.7**	**-0.2**
PB07				*i* S	**Sn**	**12 33 40.6**	**+0.2**
PB07	**IPOC Station P**	**0.18**	**116**	⇓*i* P	**Pn**	**12 33 32.1**	**+0.2**
PB07				*i* S	**Sn**	**12 33 40.4**	**0.0**
PB07				IAML		12 33 41.3	
	comp=E,4μm,0.3s						
PB02	**IPOC Station P**	**0.36**	**26**	*i* P	**Pn**	**12 33 33.0**	**+0.2**
PB02				*i* S	**Sn**	**12 33 42.6**	**+0.6**
PB02	**IPOC Station P**	**0.36**	**26**	*e*P	**Pn**	**12 33 33.0**	**+0.2**
PB02				*i* S	**Sn**	**12 33 41.9**	**-0.1**
PB02				IAML		12 33 42.6	
	comp=E,6μm,0.1s						
PB03	**IPOC Station P**	**0.49**	**144**	*i* P	**Pn**	**12 33 33.5**	**-0.4**
PB03				*i* S	**Sn**	**12 33 43.7**	**-0.3**
PB03	**IPOC Station P**	**0.49**	**144**	⇓*i* P	**Pn**	**12 33 33.9**	**+0.1**
PB03				*i* S	**Sn**	**12 33 43.4**	**-0.6**
PB03				IAML		12 33 43.9	
	comp=N,2μm,0.2s						
PB04	**IPOC Station P**	**0.69**	**187**	*e*P	**Pn**	**12 33 36.3**	**+0.5**
PB04				*i* S	**Sn**	**12 33 47.8**	**+0.5**
PB04				IAML		12 33 49.7	
	comp=N,1μm,0.1s						
PB01	**IPOC Station P**	**0.80**	**42**	*e*P	**Pn**	**12 33 36.5**	**-0.4**
PB01				*i* S	**Sn**	**12 33 48.2**	**-1.1**
PB01				IAML		12 33 49.4	
	comp=E,3μm,0.4s						
PB06	**IPOC Station P**	**1.15**	**157**	*e*P	**Pn**	**12 33 40.5**	**-0.6**
PB06				*i* S	**Sn**	**12 33 56.0**	**-0.7**
PB06				IAML		12 33 56.7	
	comp=E,393nm,0.7s						
PB05	**IPOC Station P**	**1.21**	**186**	⇑*i* P	**Pn**	**12 33 42.1**	**+0.3**
PB05				*i* S	**Sn**	**12 33 58.2**	**+0.1**
PB05				IAML		12 33 59.9	
	comp=E,470nm,0.4s						
LVC	**Limon Verde**	**1.44**	**132**	*i* P	**Pn**	**12 33 45.1**	**+0.1**
LVC				*i* S	**Sn**	**12 34 03.9**	**+0.3**
LVC	**Limon Verde**	**1.44**	**132**	*e*P	**Pn**	**12 33 45.2**	**+0.2**
LVC				*i* S	**Sn**	**12 34 03.4**	**-0.2**
PB15	**IPOC Station P**	**1.65**	**161**	*i* P	**Pn**	**12 33 47.5**	**-0.1**
PB08	**IPOC Station P**	**1.72**	**30**	⇑*i* P	**Pn**	**12 33 48.8**	**0.0**
PB08				*i* S	**Sn**	**12 34 10.0**	**-0.2**
PB08				IAML		12 34 10.9	
	comp=N,401nm,0.2s						
PB10	**IPOC Station P**	**1.92**	**194**	⇑*i* P	**Pn**	**12 33 50.7**	**-0.2**
PB10				*i* S	**Sn**	**12 34 13.7**	**-0.6**
PB10				IAML		12 34 15.3	
	comp=E,80nm,0.3s						
HJA	**Humahuaca**	**4.58**	**111**	*i* P	**Pn**	**12 34 28.5**	**+1.1**
HJA				IAML		12 34 54.7	
	comp=Z,2.4nm,0.5s						

*IDC **18** 12:36:39.7±19.0, 19°.34N×66°.02W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.5/38, mbtmp3.5/5, Error ellipse: s-maj=431.7km s-min=64.1km az=153.0*
*ISCJB **18** 12:36:42.7±0.6, 19°.50N±0°.03×66°.32W±0°.04, h19km, mb3.5/5, Error ellipse: s-maj=5.2km s-min=4.4km az=136.1*
*NEIC **18** 12:36:45.5±0.0, 19°.48N×66°.31W, h52km, MD3.4(RSPR), After RSPR.*
*RSPR **18** 12:36:45.6, 19°.48N×66°.31W, h52km±6km, MD3.4/15*
ISC 18 12:36:44.3±0.8, 19°.40N±0°.05×66°.35W±0°.04, h19km, n43, σ0°53/45, mb3.6/5, 13C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.93**	**190**	*e*S	**Sn**	**12 37 16.0**	**+0.8**
EMPR	**Esperanza - Ma**	**0.93**	**190**	⇑*e*P	**Pg**	**12 37 02.4**	**-0.1**
EMPR	**Esperanza - Ma**	**0.93**	**190**	*e*Pn	**Pg**	**12 37 02.4**	**-0.1**
EMPR				*e*Sn	**Sg**	**12 37 15.1**	**+0.3**
AOPR	**Arecibo Observ**	**1.11**	**200**	*e*S	**Sg**	**12 37 20.5**	**0.0**
AOPR	**Arecibo Observ**	**1.11**	**200**	⇓*e*P	**Pb**	**12 37 04.9**	**-0.1**
AOPR	**Arecibo Observ**	**1.11**	**200**	*e*Pn	**Pn**	**12 37 04.6**	**-0.3**
AGPR	**Aguadilla, PR**	**1.17**	**218**	*e*S	**Sg**	**12 37 22.0**	**-0.4**
AGPR	**Aguadilla, PR**	**1.17**	**218**	⇑*e*P	**Pb**	**12 37 05.7**	**-0.3**
CBYP	**Canovanas**	**1.22**	**157**	⇑*e*P	**Pb**	**12 37 06.5**	**-0.3**
CBYP	**Canovanas**	**1.22**	**157**	*e*Pn	**Pb**	**12 37 06.5**	**-0.3**
CBYP				*e*Sn	**Sg**	**12 37 23.5**	**-0.3**
AGP	**Aguadilla**	**1.24**	**217**	*e*Pn	**Pn**	**12 37 05.9**	**-0.7**
SJG	**San Juan**	**1.30**	**171**	*e*S	**Sb**	**12 37 25.1**	**+0.8**
SJG	**San Juan**	**1.30**	**171**	⇑*e*P	**Pb**	**12 37 07.9**	**-0.1**
SJG	**San Juan**	**1.30**	**171**	*e*Pn	**Pb**	**12 37 07.9**	**-0.1**
CELP	**Cerrillos**	**1.33**	**189**	⇑*e*P	**Pn**	**12 37 07.9**	**0.0**
OBIP	**Obispado Ponce**	**1.37**	**190**	*e*S	**Sb**	**12 37 26.4**	**-0.1**
OBIP	**Obispado Ponce**	**1.37**	**190**	⇑*e*P	**Pn**	**12 37 08.3**	**-0.1**
OBIP	**Obispado Ponce**	**1.37**	**190**	*e*Pn	**Pb**	**12 37 09.2**	**-0.2**
MPR	**Mayaguez**	**1.40**	**212**	*e*Pn	**Pb**	**12 37 09.1**	**-0.6**
LSP	**Las Mesas**	**1.40**	**210**	⇑*e*P	**Pn**	**12 37 09.1**	**+0.3**
IDE	**Isla Desecheo**	**1.46**	**227**	⇓*e*P	**Pb**	**12 37 10.2**	**-0.7**
IDE	**Isla Desecheo**	**1.46**	**227**	*e*S	**Sb**	**12 37 29.1**	**-0.1**
CUPR	**Culebra, Puert**	**1.49**	**137**	*e*S	**Sn**	**12 37 28.1**	**-0.8**
CUPR	**Culebra, Puert**	**1.49**	**137**	⇑*e*P	**Pn**	**12 37 09.5**	**-0.5**
CUPR	**Culebra, Puert**	**1.49**	**137**	*e*Pn	**Pn**	**12 37 09.8**	**-0.2**
MTP	**Monte Pirata**	**1.50**	**149**	*e*S	**Sn**	**12 37 29.0**	**-0.3**
MTP	**Monte Pirata**	**1.50**	**149**	⇑*e*P	**Pn**	**12 37 10.0**	**-0.3**
MTP	**Monte Pirata**	**1.50**	**149**	*e*Pn	**Pn**	**12 37 10.5**	**+0.2**
ICMP	**Isla Caja de M**	**1.51**	**186**	⇑*e*P	**Pn**	**12 37 10.5**	**+0.1**
ICMP	**Isla Caja de M**	**1.51**	**186**	*e*Pn	**Pb**	**12 37 11.2**	**-0.6**
STVI	**Saint Thomas**	**1.69**	**128**	⇑*e*P	**Pn**	**12 37 12.4**	**-0.4**
STVI	**Saint Thomas**	**1.69**	**128**	*e*S	**Sn**	**12 37 32.8**	**-1.1**
STVI	**Saint Thomas**	**1.69**	**128**	*e*Pn	**Pn**	**12 37 12.8**	**+0.1**
PCDR	**Punta Cana, DR**	**2.11**	**246**	⇑*e*P	**Pn**	**12 37 18.8**	**+0.2**
PCDR	**Punta Cana, DR**	**2.11**	**246**	*e*S	**Sn**	**12 37 44.7**	**+0.4**
CDVI	**St. Croix**	**2.23**	**137**	*e*Pn	**Pn**	**12 37 21.9**	**+1.7**
DR12	**Loma Pena Alta**	**2.93**	**258**	⇑*e*P	**Pn**	**12 37 29.2**	**-0.7**
SDDR	**Presa de Saban**	**4.68**	**266**	*e*Pn	**Pn**	**12 37 54.5**	**+0.5**
TXAR	**Lajitas Array**	**35.27**	**294**	P	**P**	**12 43 39.1**	**+1.0**
	0.4nm,0.6s,baz=96,slow=9.5,SNR=8.3						
NVAR	**Mina Array Bea**	**48.60**	**304**	P	**P**	**12 45 27.6**	**+0.5**
	0.3nm,0.5s,baz=90,slow=8.9,SNR=2.9						
YKA	**Yellowknife Ar**	**54.25**	**335**	P	**P**	**12 46 08.2**	**-0.5**
	0.3nm,0.6s,baz=114,slow=7.5,SNR=4.2						
INK	**Inuvik**	**63.72**	**338**	P	**P**	**12 47 13.8**	**-0.5**
	0.6nm,0.7s,baz=75,slow=5.3,SNR=4.0						
ILAR	**Eielson Array**	**68.60**	**333**	P	**P**	**12 47 45.7**	**0.0**
	0.4nm,0.8s,baz=108,slow=4.1,SNR=5.0						

*DDA **18** 12:37:13.6, 35°.94N×31°.36E, h24km±1km, ML3.2*
*ISK **18** 12:37:13.2, 35°.84N×31°.25E, h19km, ML3.1/19*
*ISCJB **18** 12:37:15.2±0.9, 35°.92N±0°.04×31°.30E±0°.04, h29km±9km, Error ellipse: s-maj=7.8km s-min=4.2km az=21.7*
*NIC **18** 12:37:16.5±0.4, 35°.89N×31°.18E, h25km, ML3.3*
ISC 18 12:37:14.2±1.2, 35°.86N±0°.04×31°.30E±0°.03, h16km±10km, n45, σ1°25/53, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.90**	**301**	IAML_P			
	comp=Z,3μm,0.1s						
AKUM				*i* P	**Pg**	**12 37 31.3**	**-0.3**
AKUM				*i* S	**Sb**	**12 37 44.4**	**+1.2**
GAZI	**Gazipasa**

BRBR			AML	AML	12 41 06.2	
	comp=N,78nm,0.6s					
BRBR			AML	AML	12 41 10.0	
	comp=E,29nm,0.5s					
HWQ	**Hawqa**	**0.50 18**	*e*P	**Pg**	**12 40 58.4**	**-0.2**
QASN	**Qassioun**	**0.51 122**	*e*P	**Pg**	**12 40 58.4**	**-0.3**
TOTH	**TOTAH**	**0.71 128**	*e*P	**Pb**	**12 41 03.1**	**0.0**
TOTH			*e*S	**Sb**	**12 41 13.0**	**+0.1**
TOTH			AML	AML	12 41 20.8	
	comp=N,16nm,0.7s					
TOTH			AML	AML	12 41 22.7	
	comp=E,12nm,0.5s					

IDC ***18*** *13:04:23.3±2.3, 31°.08N×85°.78E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.3/54, mbtmp3.4/7, ML2.7/1, Error ellipse: s-maj=77.4km s-min=21.9km az=70.0*
ISCJB ***18*** *13:04:25.4±1.7, 31°.1N±0°.2×85°.6E±0°.4, h33km, mb3.2/4, Error ellipse: s-maj=54.6km s-min=13.2km az=156.0*

ISC 18 13:04:28.1±2.1, 31°.2N±0°.2×85°.8E±0°.4, h35km, n7, σ0s84/7, mb3.3/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.86**	**351**	Pn	**Pn**	**13 08 07.3**	**-1.2**
	0.0nm,0.3s,baz=172,slow=12,SNR=2.6						
CMAR	**Chiang Mai Arr**	**17.37**	**134**	P	**Pn**	**13 08 27.3**	**-0.5**
	baz=316,slow=11,SNR=5.5						
KURBB	**Kurchatov Arra**	**20.19**	**347**	P	**P**	**13 09 00.2**	**+0.7**
	1.6nm,0.7s,baz=163,slow=10,SNR=8.4						
ZALV	**Zalesovo Beam**	**22.80**	**359**	P	**P**	**13 09 28.1**	**+0.6**
	0.3nm,0.3s,baz=182,slow=8.7,SNR=1.9						
SONM	**Songino Array**	**22.93**	**38**	P	**P**	**13 09 29.4**	**+0.3**
	0.9nm,0.8s,baz=226,slow=14,SNR=2.0						
WRA	**Warramunga Arr**	**68.94**	**131**	P	**P**	**13 15 29.9**	**0.0**
	0.2nm,0.6s,baz=328,slow=6.5,SNR=5.1						
ASAR	**Alice Springs**	**71.38**	**134**	P	**P**	**13 15 45.2**	**+0.5**
	0.1nm,0.4s,baz=320,slow=6.2,SNR=2.5						

NEIC ***18*** *13:13:23.9±0.0, 19°.52N×66°.32W, h13km, MD3.3(RSPR), After RSPR.*

RSPR 18 13:13:23.9, 19°.52N×66°.32W, h13km±2km, MD3.2/7, 10C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.06**	**191**	*e*Pg	Pb	13 13 42.3	-1.7
EMPR				*e*Sn	Sb	13 13 57.1	-0.7
AOPR	**Arecibo Observ**	**1.24**	**199**	↑*e*P	Pn	13 13 43.4	-3.5
AOPR	**Arecibo Observ**	**1.24**	**199**	*e*S	Sb	13 13 59.4	-3.6
AOPR	**Arecibo Observ**	**1.24**	**199**	*e*Pn	Pn	13 13 43.4	-3.5
AOPR				*e*Sn	Sb	13 13 59.4	-3.6
CBYP	**Canovanas**	**1.32**	**160**	↑*e*P	Pn	13 13 44.6	-3.4
CBYP	**Canovanas**	**1.32**	**160**	*e*S	Sb	13 14 01.8	-3.6
CBYP	**Canovanas**	**1.32**	**160**	*e*Pn	Pn	13 13 44.6	-3.4
CBYP				*e*Sn	Sb	13 14 03.4	-2.0
AGP	**Aguadilla**	**1.35**	**215**	*e*Sg	Sn	13 13 59.8	-6.5
SJG	**San Juan**	**1.41**	**173**	*e*Pn	Pn	13 13 46.6	-2.6
CELP	**Cerrillos**	**1.46**	**190**	↑*e*P	Pn	13 13 46.6	-3.4
CELP				*e*S	Sn	13 14 04.5	-4.4
CELP	**Cerrillos**	**1.46**	**190**	*e*Pn	Pn	13 13 46.6	-3.4
CELP				*e*Sn	Sn	13 14 04.5	-4.4
OBIP	**Obispado Ponce**	**1.50**	**190**	↑*e*P	Pn	13 13 47.5	-2.9
OBIP	**Obispado Ponce**	**1.50**	**190**	*e*S	Sn	13 14 06.0	-3.8
OBIP	**Obispado Ponce**	**1.50**	**190**	*e*Pn	Pn	13 13 47.5	-2.9
OBIP				*e*Sn	Sn	13 14 06.0	-3.8
MPR	**Mayaguez**	**1.52**	**211**	*e*Pn	Pn	13 13 47.1	-3.6
MPR				*e*Sn	Sn	13 14 06.4	-3.9
LSP	**Las Mesas**	**1.52**	**208**	↑*e*P	Pn	13 13 48.0	-2.8
LSP	**Las Mesas**	**1.52**	**208**	*e*Pn	Pn	13 13 48.0	-2.8
CUPR	**Culebra, Puert**	**1.56**	**141**	↑*e*P	Pn	13 13 48.1	-3.2
CUPR	**Culebra, Puert**	**1.56**	**141**	*e*S	Sn	13 14 07.2	-4.1
CUPR	**Culebra, Puert**	**1.56**	**141**	*e*Pn	Pn	13 13 48.2	-3.1
CUPR				*e*Sn	Sn	13 14 06.4	-4.9
IDE	**Isla Desecheo**	**1.57**	**224**	↑*e*P	Pn	13 13 48.7	-2.7
IDE	**Isla Desecheo**	**1.57**	**224**	*e*S	Sn	13 14 07.6	-4.0
IDE	**Isla Desecheo**	**1.57**	**224**	*e*Pn	Pn	13 13 48.7	-2.7
IDE				*e*Sn	Sn	13 14 07.6	-4.0
MTP	**Monte Pirata**	**1.59**	**153**	↑*e*P	Pn	13 13 49.2	-2.6
MTP	**Monte Pirata**	**1.59**	**153**	*e*Pn	Pn	13 13 49.2	-2.6
MTP				*e*Sn	Sn	13 14 11.5	-0.8
ICMP	**Isla Caja de M**	**1.64**	**187**	*e*Pn	Pn	13 13 49.7	-2.7
STVI	**Saint Thomas**	**1.74**	**132**	↑*e*P	Pn	13 13 50.8	-3.0
STVI	**Saint Thomas**	**1.74**	**132**	*e*Pn	Pn	13 13 52.9	-0.9
STVI				*e*Sn	Sn	13 14 13.6	-2.3
PCDR	**Punta Cana, DR**	**2.19**	**243**	*e*Pn	Pn	13 13 57.1	-2.8
DR12	**Loma Pena Alta**	**2.98**	**256**	↑*e*P	Pn	13 14 08.5	-2.4
DR12				*e*S	Sn	13 14 43.1	-3.4
SDDR	**Presa de Saban**	**4.72**	**264**	*e*Pn	Pn	13 14 34.0	-0.9
GRTK	**Grand Turk**	**4.92**	**295**	*e*Pn	Pn	13 14 36.5	-1.1
BBSR	**BB Station**	**12.88**	**6**	*e*Pn	Pn	13 16 25.1	-1.5
061Z	**Ochoppi**	**14.86**	**298**	*e*Pn	Pn	13 16 49.9	-3.9
V62A	**Hyde County Ai**	**18.10**	**334**	*e*Pn	Pn	13 17 31.0	-4.0

RSNC 18 13:18:40.9±1.2, 4°.57N×74°.38W, h0km±4km, ML3.0, Mw3.5, 3C-5D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.65**	**85**	↓↓*i*P	Pg	13 18 52.4	-0.9
CHIC				*i*		13 19 09.9	
	comp=Z,318nm,0.5s						
CTAU	**Tausa, Cundina**	**0.71**	**28**	*e*P	Pg	13 18 55.4	+0.9
VILC	**Villavicencio,**	**0.82**	**124**	*e*P	Pg	13 18 55.6	-1.0
VILC				*e*S	Sg	13 19 07.7	+0.4
VILC				*i*		13 19 09.7	
	comp=Z,616nm,0.5s						
PRAC	**Prado**	**0.99**	**211**	↑↑*i*P	Pg	13 18 58.7	-1.2
PRAC				*e*S	Sg	13 19 13.2	+0.5
PRAC				*i*		13 19 17.4	
	comp=Z,255nm,0.6s						
RREF	**El Recreo**	**1.02**	**289**	↓↓*i*P	Pg	13 18 59.1	-1.4
RREF				*e*S	Sg	13 19 14.4	+0.6
RREF				*i*		13 19 17.9	
	comp=Z,200nm,0.3s						
NORC	**Norcasia**	**1.10**	**334**	↓↓*i*P	Pg	13 19 00.3	-1.7
NORC				*e*S	Sg	13 19 15.5	-0.9
NORC				*i*		13 19 16.2	
	comp=Z,325nm,0.2s						
GUY2C	**Guyana, Caldas**	**1.18**	**304**	↓↓*i*P	Pg	13 19 02.2	-1.3
GUY2C				*e*S	Sb	13 19 19.9	-0.6
GUY2C				*i*		13 19 22.3	
	comp=Z,113nm,0.3s						
RUSC	**La Rusia**	**1.84**	**44**	↑↑*e*P	Pn	13 19 13.7	-0.5
RUSC				↑↑*i*P	Pb	13 19 13.8	-1.9
RUSC				*e*S	Sn	13 19 38.2	-0.3
RUSC				*i*		13 19 47.5	
	comp=Z,135nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.96**	**358**	*e*P	Pn	13 19 13.3	-2.1
PTBC				*e*S	Sn	13 19 40.7	-0.1
PTBC				*i*		13 19 42.0	
	comp=Z,139nm,0.2s						
HELC	**Santa Helena**	**1.98**	**325**	↓↓*i*P	Pn	13 19 15.0	-1.0
HELC				*e*S	Sn	13 19 41.1	-0.6
HELC				*i*		13 19 44.0	
	comp=Z,129nm,0.3s						
YOTC	**Yotoco, Valle**	**2.05**	**254**	*e*P	Pn	13 19 15.5	-1.2
YOTC				*e*S	Sn	13 19 42.7	-0.4
YOTC				*i*		13 19 45.4	
	comp=Z,50nm,0.4s						
YOPC	**Yopal, Colombi**	**2.10**	**68**	*e*P	Pn	13 19 17.8	+0.3
YOPC				*e*S	Sb	13 19 46.9	+0.3
YOPC				*i*		13 19 51.8	
	comp=Z,219nm,0.4s						
MARP	**Paez Belalcaza**	**2.33**	**223**	*e*P	Pn	13 19 19.8	-1.0
MARP				*e*S	Sn	13 19 50.3	0.0
MARP				*i*		13 19 57.5	
	comp=Z,125nm,0.5s						
BARC	**Barichara**	**2.33**	**31**	*e*P	Pn	13 19 21.0	+0.2
BARC				*e*S	Sn	13 19 50.0	-0.3
BARC				*i*		13 20 06.0	
	comp=Z,87nm,0.4s						
BRRC	**Barranca, Sant**	**2.61**	**15**	*i*P	Pn	13 19 23.0	-1.3
BRRC				*i*		13 20 12.5	
	comp=Z,129nm,0.5s						
GIRC	**Giron, Santand**	**2.76**	**25**	*e*P	Pn	13 19 26.1	-0.5
GIRC				*e*S	Sn	13 20 00.5	-0.1
GIRC				*i*		13 20 11.9	
	comp=Z,59nm,0.4s						
ZARC	**Zaragoza, Cauc**	**2.94**	**351**	*e*P	Pn	13 19 28.3	-0.7
ZARC				*e*S	Sn	13 20 04.2	-0.9
ZARC				*i*		13 20 17.5	
	comp=Z,54nm,0.5s						
PCON	**Cinco Dias**	**3.00**	**222**	*e*P	Pb	13 19 33.0	-2.6
PCON				*e*S	Sb	13 20 13.8	+0.6
PCON				*i*		13 20 20.6	
	comp=Z,71nm,0.4s						
PAMC	**Pamplona, Colo**	**3.22**	**31**	*e*P	Pn	13 19 32.6	-0.6
PAMC				*e*S	Sb	13 20 18.4	-0.8
PAMC				*i*		13 20 26.1	
	comp=Z,35nm,0.5s						
FLOC	**Florencia**	**3.23**	**203**	*e*P	Pn	13 19 33.0	+0.1
FLOC				*e*S	Sb	13 20 18.4	-0.6
FLOC				*i*		13 20 33.2	
	comp=Z,65nm,0.7s						

ISCJB ***18*** *13:18:42.5±0.9, 43°.38N±0°.06×146°.73E±0°.08, h58km±9km, mb3.8/3, Error ellipse: s-maj=12.2km s-min=6.4km az=43.7.*
JMA ***18*** *13:18:42.4±0.2, 43°.28N×146°.76E, h48km±2km, M3.3*
MOS ***18*** *13:18:43.1±1.3, 43°.42N×146°.60E, h64km, mb4.1/3, Error ellipse: s-maj=22.9km s-min=15.2km az=98.7*
SKHL ***18*** *13:18:45.4±0.1, 43°.53N×146°.50E, h72km±3km, mb3.9/4*

ISC 18 13:18:43.4±1.5, 43°.38N±0°.07×146°.71E±0°.07, h49km±14km, n28, σ1s16/43, mb3.8/3, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.71**	**269**	P	**Pn**	**13 18 56.7**	**-0.5**
NEM2				*e*S	**Sn**	**13 19 07.5**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**0.90**	**317**	*c i*PN	**Pn**	**13 18 59.7**	**-0.1**
YUK				*i* S	**Sn**	**13 19 12.2**	**+0.5**
YUK				pmax	pmax		
	comp=N,90nm,0.1s						
YUK				pmax	pmax		
	comp=E,150nm,0.1s						
YUK				pmax	pmax		
	comp=Z,561nm,0.1s						
YUK				smax	smax		
	comp=N,801nm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.90**	**317**	*i* P	**Pn**	**13 18 59.7**	**-0.1**
YUK				AMB	AMB	13 19 01.0	
	comp=E,90nm,0.2s						
YUK				AMB	AMB	13 19 01.0	
	comp=E,20nm,0.2s						
YUK				AMB	AMB	13 19 01.0	
	comp=E,60nm,0.2s						
YUK				*i* S	**Sn**	**13 19 10.4**	**-1.3**
YUK				A	A	13 19 13.0	
	comp=E,800nm,0.4s						
YUK				A	A	13 19 13.0	
	comp=E,2μm,0.4s						
GRPR	**Tuman**	**0.92**	**312**	*d i*PN	**Pn**	**13 19 00.0**	**0.0**
GRPR				*i* S	**Sn**	**13 19 11.8**	**-0.3**
GRPR				pmax	pmax		
	comp=Z,251nm,0.1s						
GRPR				smax	smax		
	comp=N,431nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
GRPR	**Tuman**	**0.92**	**312**	*i* P	**Pn**	**13 19 00.0**	**0.0**
GRPR				AMB	AMB	13 19 00.0	
	comp=N,50nm,0.2s						
GRPR				*i* S	**Sn**	**13 19 11.0**	**-1.1**
GRPR				A	A	13 19 13.0	
	comp=N,1μm,0.3s						
GRPR				A	A	13 19 13.0	
	comp=N,431nm,0.3s						
LAGR	**Lagunnoye**	**0.95**	**315**	*e*PN	**Pn**	**13 19 00.5**	**0.0**
LAGR				*e*S	**Sn**	**13 19 11.8**	**-1.2**
LAGR				pmax	pmax		
	comp=N,88nm,0.1s						
LAGR				pmax	pmax		
	comp=E,113nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,380nm,0.1s						
LAGR				smax	smax		
	comp=E,2μm,0.5s						
LAGR				smax	smax		
	comp=N,1μm,0.4s						
LAGR	**Lagunnoye**	**0.95**	**315**	*e*P	**Pn**	**13 19 00.0**	**-0.5**
LAGR				AMB	AMB	13 19 01.0	
	comp=N,10.0nm,0.2s						
LAGR				AMB	AMB	13 19 01.0	
	comp=N,20nm,0.2s						
LAGR				AMB	AMB	13 19 01.0	
	comp=N,40nm,0.2s						
LAGR				*e*S	**Sn**	**13 19 11.0**	**-2.0**
LAGR				A	A	13 19 20.0	
	comp=N,1μm,0.5s						
LAGR				A	A	13 19 20.0	
	comp=N,2μm,0.5s						
JKHN	**Kushirohamanak**	**1.17**	**256**	P	**Pn**	**13 19 03.3**	**-0.2**
JKHN				*e*S	**Sn**	**13 19 18.6**	**+0.3**
JRA	**Rausu**	**1.28**	**296**	P	**Pn**	**13 19 05.4**	**+0.5**
JRA				*e*S	**Sn**	**13 19 22.0**	**+1.0**
JNK	**Nakash**	**1.47**	**279**	P	**Pn**	**13 19 07.2**	**-0.3**
JNK				*e*S	**Sn**	**13 19 25.8**	**+0.3**
JAK	**Akkeshi**	**1.52**	**256**	P	**Pn**	**13 19 07.5**	**-0.7**
JAK				*e*S	**Sn**	**13 19 26.3**	**-0.6**
KUR	**Kuril'sk**	**2.03**	**24**	*c i*PN	**Pn**	**13 19 16.1**	**+1.0**
KUR				*i* S	**Sn**	**13 19 38.9**	**-0.2**
KUR				pmax	pmax		
	comp=Z,16nm,0.2s						
KUR				smax	smax		
	comp=N,29nm,0.2s						
KUR				smax	smax		
	comp=E,134nm,0.2s						
KUR	**Kuril'sk**	**2.03**	**24**	*i* P	**Pn**	**13 19 16.1**	**+1.0**
KUR				AMB	AMB	13 19 16.5	
	comp=E,20nm,0.2s						
KUR				*i* S	**Sn**	**13 19 39.0**	**-0.2**
KUR				A	A	13 19 43.0	
	comp=E,30nm,0.2s						
KUR				A	A	13 19 43.0	
	comp=E,130nm,0.2s						
JTKR	**Abashiri--Toko**	**2.12**	**287**	P	**Pn**	**13 19 17.5**	**+1.1**
JTKR				*e*S	**Sn**	**13 19 44.1**	**+2.6**
JAR	**Ashorobuto**	**2.15**	**269**	P	**Pn**	**13 19 17.1**	**+0.3**
JAR				*e*S	**Sn**	**13 19 43.4**	**+1.1**
JOB	**Onbets**	**2.16**	**258**	P	**Pn**	**13 19 17.0**	**+0.1**
JMP	**Maruseppu**	**2.51**	**286**	P	**Pn**	**13 19 23.2**	**+1.4**
JCH	**Churui**	**2.58**	**254**	P	**Pn**	**13 19 22.6**	**0.0**
ERM	**Erimo**	**2.96**	**244**	*i* PN	**Pn**	**13 19 29.2**	**+1.4**
KLR	**Kul'dur**	**11.88**	**305**	*i* PN	**Pn**	**13 21 30.8**	**+0.8**
KLR	**Kul'dur**	**11.88**	**305**	*e*P	**Pn**	**13 21 30.8**	**+0.8**
BILL	**Bilibino**	**26.80**	**16**	*e*P	**P**	**13 24 21.0**	**+2.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.7s						
BILL	**Bilibino**	**26.80**	**16**	*e*P	**P**	**13 24 21.0**	**+2.5**
TIXI	**Tiksi**	**29.66**	**349**	*e*P	**P**	**13 24 43.8**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.4s						
TIXI	**Tiksi**	**29.66**	**349**	*e*P	**P**	**13 24 43.8**	**-0.1**
BRVK	**Borovoye**	**49.54**	**310**	*i* P	**P**	**13 27 26.8**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRVK	**Borovoye**	**49.54**	**310**	*e*P	**P**	**13 27 26.8**	**-2.2**
PFO	**Pinyon Flats O**	**72.25**	**60**	*i* P	**P**	**13 30 02.2**	**-1.5**

SJA 18 13:30:40.7±0.6, 23°.55S×67°.76W, h183km±7km, ML2.4, MW3.7, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.41**	**311**	*i* P	Pn	13 31 12.5	0.0
LVC				*i* S	Sn	13 31 37.0	-0.1
PB15	**IPOC Station P**	**1.60**	**282**	*i* P	Pn	13 31 14.8	+0.7
PB15				*i* S	Sn	13 31 39.8	-0.2
HJA	**Humahuaca**	**2.19**	**82**	*i* P	Pn	13 31 21.7	+1.3
HJA				IAML		13 31 22.5	
	comp=Z,14nm,0.6s						
PB03	**IPOC Station P**	**2.37**	**309**	*i* P	Pn	13 31 22.9	+0.7
PB03				*i* S	Sn	13 31 53.8	-0.6
PB07	**IPOC Station P**	**2.67**	**312**	*i* P	Pn	13 31 26.4	+0.6
PB07				*i* S	Sn	13 32 00.5	-0.3

KRSC 18 13:37:06.7±10.0, 52°.12N×158°.79E, h76km±10km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.36**	**332**	*i* P	Pn	13 37 19.7	+0.9
RUS				*e*S	Sn	13 37 28.2	+0.4
MTVR	**Mutnovka**	**0.52**	**315**	*i* P	Pn	13 37 21.5	+1.2
MTVR				*e*S	Sn	13 37 31.3	+0.9
KDTR	**Khodutka, Kamc**	**0.54**	**235**	*i* P	Pn	13 37 21.3	+1.0
KDTR				*i* S	Sn	13 37 30.9	+0.5
ASAK	**Asacha**	**0.61**	**296**	P	Pn	13 37 22.3	+1.2
GRL	**Gorelyy**	**0.62**	**315**	P	Pn	13 37 23.2	+1.9
GRL				S	Sn	13 37 34.6	+2.6
KRMR	**Karymshinskiy**	**0.82**	**331**	*e*P	Pn	13 37 24.4	+1.1
KRMR				*e*S	Sn	13 37 36.9	+1.3
PET	**Petropavlovsk**	**0.91**	**355**	*i* P	Pn	13 37 25.5	+1.2
PET				*e*S	Sn	13 37 38.4	+0.9
DALK	**Dalny**	**0.92**	**359**	*e*P	Pn	13 37 25.7	+1.3
DALK				*e*S	Sn	13 37 38.4	+0.8
UGLR	**Uglovaya**	**1.09**	**1**	*e*P	Pn	13 37 28.4	+1.7
UGLR				*e*S	Sn	13 37 43.6	+1.9
NLC	**Nalytchevo**	**1.11**	**18**	*e*P	Pn	13 37 27.5	+0.8
NLC				*e*S	Sn	13 37 41.7	0.0
SMAR	**Somma**	**1.15**	**0**	P	Pn	13 37 28.9	+1.4
AVH	**Avacha**	**1.15**	**358**	P	Pn	13 37 29.5	+2.1
AVH				S	Sn	13 37 45.4	+2.5
SDLR	**Sedlovina**	**1.16**	**3**	*e*P	Pn	13 37 28.9	+1.3
SDLR				*e*S	Sn	13 37 44.1	+0.9
KOK	**Koryaka**	**1.18**	**356**	*e*P	Pn	13 37 30.0	+2.2
KOK				*e*S	Sn	13 37 46.1	+2.5
KRER	**Koryakskii**	**1.19**	**359**	*e*P	Pn	13 37 29.9	+1.9
KRER				*e*S	Sn	13 37 45.9	+2.0
SPN	**Mys Shipunski**	**1.24**	**37**	*e*P	Pn	13 37 30.7	+2.3
SPN				*e*S	Sn	13 37 47.3	+2.6
KRX	**Arik**	**1.25**	**356**	*e*P	Pn	13 37 30.5	+1.9
KRX				*e*S	Sn	13 37 46.6	+1.5
APC	**Apacha**	**1.28**	**310**	P	Pn	13 37 30.2	+1.3
APC				S	Sn	13 37 46.7	+1.0
PAU	**Pauzhetka**	**1.39**	**243**	P	Pn	13 37 32.1	+1.8
PAU				S	Sn	13 37 49.6	+1.4
SKR	**Severo-Kuril's**	**2.21**	**230**	P	Pn	13 37 43.5	+2.4
SKR				S	Sn	13 38 08.8	+1.3
MKZ	**Mys Kozlova**	**3.01**	**35**	*e*P	Pn	13 37 53.9	+1.9
MKZ				*e*S	Sn	13 38 27.7	+0.8
KBTR	**Krutoberegovo**	**4.73**	**28**	P	Pn	13 38 18.0	+2.6

TEH 18 13:45:03.8, 26°.75N×57°.92E, h29km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.11**	**187**	*e*Pg	Pb	13 45 26.6	+2.1
KHNJ	**Kahnooj**	**1.21**	**351**	*e*Pg	Pb	13 45 27.2	+1.1
KHNJ				*e*Sg	Sb	13 45 46.4	+5.0
NIAN	**Nian**	**1.26**	**310**	*e*Pg	Pb	13 45 28.6	+1.6
NIAN				IAMB	IAmb	13 45 30.0	
	comp=Z,0.0nm,0.3s						
BNDS	**Bandar-Abbas**	**1.69**	**293**	*e*Pg	Pn	13 45 24.9	-6.6
GENO	**Geno**	**1.69**	**293**	*e*Pn	Pb	13 45 34.4	0.0
GENO				IAMB	IAmb	13 46 02.2	
	comp=Z,0.0nm,0.3s						
CHBR	**Chabahar**	**2.57**	**116**	*e*Pn	Pn	13 45 45.7	+2.2
NGRK	**Negar Kerman**	**3.07**	**340**	*e*Pn	Pb	13 45 55.0	-3.0
NGRK				IAMB	IAmb	13 46 03.2	
	comp=Z,0.0nm,0.2s						
CHMN	**Cheshme madani**	**3.12**	**354**	IAMB	IAmb	13 46 10.8	
	comp=Z,0.0nm,0.6s						
KRBR	**Kerman**	**3.38**	**343**	*e*Pn	Pn	13 45 54.4	-0.5
TVBK	**TV Kerman**	**3.38**	**343**	*e*Pn	Pb	13 46 01.7	-1.6
TVBK				IAMB	IAmb	13 46 14.0	
	comp=Z,0.0nm,0.3s						
ZHSF	**Zahedan**	**3.81**	**41**	*e*Pn	Pn	13 46 03.8	+3.2
KHGB	**Koh Gabri**	**3.83**	**341**	IAMB	IAmb	13 46 19.0	
	comp=Z,0.0nm,0.3s						
KHGB				*e*Pn	Pn	13 46 05.5	+4.5

ANF ***18*** *13:46:06.7±1.2, 40°.45N×124°.34W, ML3.9/10, Error ellipse: s-maj=13.5km s-min=5.4km az=44.0*
IDC ***18*** *13:46:06.2±1.8, 40°.42N×124°.29W, h0km, mb3.7/3, mb1 4.1/8, mb1mx3.7/46, mbtmp3.8/8, ML3.5/4, MS3.3/8, Ms1 3.3/8, ms1mx2.9/35, Error ellipse: s-maj=18.3km s-min=9.9km az=94.0*
NEIC ***18*** *13:46:08.8±0.0, 40°.29N×124°.46W, h24km, MW4.3(BRK), After NCEDC.*
NEIC Felt [III] at Ferndale, Petrolia and Whitethorn; [II] at Arcata, Eureka, Fortuna, Hydesville, Loleta and McKinleyville. Also felt at Blue Lake and Rio Dell.
NCEDC ***18*** *13:46:08.8, 40°.29N×124°.46W, h24km, MW4.3(BRK)*

ISC 18 13:46:08.5±1.3, 40°.34N±0°.04×124°.46W±0°.06, h22km±4km, n160, σ1s56/168, MS3.1/3, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**0.58**	**34**	*e*Pg	**Pb**	**13 46 19.5**	**-0.5**
JCC				*e*Sn	**Sb**	**13 46 27.7**	**0.0**
KMRM	**Mail Ridge**	**0.58**	**101**	*e*Pg	**Pb**	**13 46 20.5**	**+0.4**
KMRM				*e*Sg	**Sn**	**13 46 30.3**	**-0.2**
KCSM	**Cold Springs**	**0.75**	**74**	*e*Pg	**Pb**	**13 46 22.6**	**-0.3**
KHMM	**Horse Mountain**	**0.77**	**46**	*e*Pg	**Pb**	**13 46 23.0**	**-0.3**
KHMM				*e*Sg	**Sb**	**13 46 33.6**	**+0.3**
KKPM	**Kettenpom Peak**	**0.88**	**102**	*e*Pg	**Pb**	**13 46 23.5**	**-1.6**
KIPM	**Iron Peak**	**0.92**	**125**	*e*Pg	**Pb**	**13 46 24.8**	**-1.0**
KCPM	**Cahto Peak**	**0.94**	**134**	*e*Pg	**Pb**	**13 46 24.9**	**-1.2**
KCPM				*e*Sg	**Sb**	**13 46 35.1**	**-3.1**
KFPM	**Farley Peak**	**1.06**	**131**	*e*Pn	**Pn**	**13 46 26.3**	**-1.8**
KBNM	**Bluenose Ridge**	**1.07**	**114**	*e*Pn	**Pn**	**13 46 27.1**	**-1.2**
GTC	**Three Chop Rid**	**1.17**	**143**	*e*Pn	**Pn**	**13 46 27.7**	**-1.8**
KOMM	**Orleans Mounta**	**1.21**	**39**	*e*Pn	**Pn**	**13 46 28.9**	**-1.3**
KRMB	**Red Mountain**	**1.25**	**19**	*e*Pn	**Pn**	**13 46 29.2**	**-1.6**
KRMB				*e*Sn	**Sn**	**13 46 44.5**	**-2.5**
O02D	**Mt. Diablo Mer**	**1.29**	**97**	P	**

baz=222,SNR=15
K04D S **Sn** **13 47 30.9 -0.6**
baz=222
BEKR Beckworth 3.18 97 *e*Pn **Pn 13 46 56.9 -0.4**
J04D Umpqua Nationa 3.39 30 P **Pn 13 47 00.3 +0.1**
baz=212,SNR=23
I03D Drain, OR 3.45 13 P **Pn 13 47 00.9 0.0**
baz=194,SNR=92
MOD Modoc Plateau 3.50 62 *e*Pn **Pn 13 47 00.8 -1.0**
RUBR Rubicon Trail 3.56 110 *e*Pn **Pn 13 47 03.2 +0.6**
K05A Summer Lake 3.58 47 *e*Pn **Pn 13 47 03.1 +0.2**
I04A Tendick Farm, 3.77 23 P **Pn 13 47 05.9 +0.6**
baz=204,SNR=41
I04A S **Sn** **13 47 47.6 -1.5**
baz=204
I02D Swisshome 3.79 7 P **Pn 13 47 05.5 -0.1**
baz=187,SNR=75
I02D S **Sn** **13 47 48.0 -1.4**
baz=187
J05D Fort Rock, OR 3.80 38 P **Pn 13 47 06.3 +0.5**
baz=220,SNR=56
J05D S **Sn** **13 47 48.5 -1.5**
baz=220
VCNR Virginia City 3.85 104 *e*Pn **Pn 13 47 06.7 +0.2**
CMB Columbia Colle 3.91 125 *e*Pn **Pn 13 47 07.7 +0.4**
SAO San Andreas Ge 4.28 146 *e*Pn **Pn 13 47 10.0 -2.3**
WAKR Walker 4.30 114 *e*Pn **Pn 13 47 13.3 +0.6**
COR Corvallis 4.33 11 *e*Pn **Pn 13 47 14.4 +1.5**
H04D Lebanon 4.37 16 P **Pn 13 47 14.2 +0.7**
baz=197,SNR=32
H04D S **Sn** **13 48 01.8 -1.9**
baz=197
I05D Terrebonne, OR 4.62 29 P **Pn 13 47 17.6 +0.7**
baz=211,SNR=10
RYN Ryan 4.90 109 *e*Pn **Pn 13 47 20.9 -0.1**
G03D McMinnville, O 4.95 10 P **Pn 13 47 22.4 +0.9**
baz=190,SNR=10
G03D S **Sn** **13 48 18.4 +0.4**
baz=190
MDPB Devils Postpil 4.99 121 *e*Pn **Pn 13 47 23.3 +1.0**
NVAR Mina Array Bea 5.14 110 Pn **Pn 13 47 24.6 +0.3**
2.8nm,0.3s,baz=292,slow=14,SNR=103
NVAR Sn **Sn** **13 48 25.3 +2.3**
0.4nm,0.3s,baz=283,slow=16,SNR=2.6
NVAR Lg Lg 13 48 42.3
0.5nm,0.3s,baz=293,slow=25,SNR=3.7
G05D Wamic, OR 5.42 24 P **Pn 13 47 28.3 +0.4**
baz=206,SNR=6.5
G06A Carlson Farm, 5.64 29 *e*Pn **Pn 13 47 32.6 +1.6**
PAGB Antelope Grade 5.67 143 *e*Pn **Pn 13 47 30.1 -1.4**
F05D White Salmon 5.96 21 S **Sn** **13 48 41.6 -1.3**
baz=202
SMMC Simmler 6.13 143 P **Pn 13 47 37.4 -0.5**
baz=326
SMMC S **Sn** **13 48 46.1 -1.2**
baz=326
E04D Cinebar 6.36 12 S **Sn** **13 48 51.4 -1.4**
baz=193
F07A Phinny Hill Vi 6.46 29 *e*Pn **Pn 13 47 43.9 +1.7**
PKM Mcpherson Peak 6.57 144 S **Sn** **13 48 56.3 -2.0**
baz=327
ISA Isabella, Lake 6.64 133 P **Pn 13 47 45.8 +1.0**
baz=316
ARVC Arvin 6.85 138 P **Pn 13 47 48.4 +0.7**
baz=321
HAWA Hanford 7.03 29 *e*Pn **Pn 13 47 51.6 +1.5**
ELK Elko 7.03 84 *e*Pn **Pn 13 47 51.7 +1.4**
ELK Elko 7.03 84 Pn **Pn 13 47 50.6 +0.3**
0.2nm,0.3s,baz=276,slow=12,SNR=19
ELK Lg Lg 13 49 42.6
0.2nm,0.3s,baz=71,slow=14,SNR=3.8
NLWA Neilton Lookou 7.06 3 *e*Pn **Pn 13 47 51.5 +1.0**
R11A Troy Canyon, C 7.16 103 P **Pn 13 47 51.6 -0.4**
baz=288
D03D Eldon 7.26 7 P **Pn 13 47 53.6 +0.4**
baz=188
TPNV Topopah Spring 7.26 115 *e*Pn **Pn 13 47 55.7 +2.3**
TPNV Topopah Spring 7.26 115 P **Pn 13 47 53.5 0.0**
baz=300
EDW2 Edwards Air Fo 7.48 135 P **Pn 13 47 55.4 -0.9**
baz=318
F10A Beach Ranch, E 7.72 41 *e*Pn **Pn 13 48 02.4 +2.8**
B05A Bryant 8.10 11 P **Pn 13 48 04.9 +0.2**
baz=193
HLID Hailey 8.15 63 P **Pn 13 48 05.6 0.0**
baz=250,SNR=21
PGC Sidney 8.34 5 *e*Pn **Pn 13 48 08.9 +0.9**
BGU Big Grassy Mou 8.71 82 *e*Pn **Pn 13 48 15.1 +1.8**
B08A Colville Reser 8.81 23 *e*Pn **Pn 13 48 16.5 +2.0**
DUG Dugway, Tooele 8.90 87 *e*Pn **Pn 13 48 17.0 +1.0**
DUG Dugway, Tooele 8.90 87 P **Pn 13 48 15.7 -0.2**
baz=274,SNR=22
PFO Pinyon Flats O 9.27 134 Pn **Pn 13 48 20.8 -0.2**
0.4nm,0.3s,baz=288,slow=6.4,SNR=2.6
PFO LR LR 13 52 24.3
comp=Z,233nm,19.0s,baz=276,slow=41
NEW Newport 9.50 31 LR LR 13 52 36.4
comp=Z,171nm,18.7s,baz=228,slow=42
MCMT McKenzie Canyo 9.66 59 *e*Pn **Pn 13 48 29.3 +2.9**
MSU Marysvale 9.68 97 *e*Pn **Pn 13 48 28.5 +1.9**
MTPU Mount Pierson 9.80 100 *e*Pn **Pn 13 48 29.8 +1.3**
BC3 Big Chuckawall 9.81 130 P **Pn 13 48 26.9 -1.5**
baz=315
MSO Missoula 10.01 46 *e*Pn **Pn 13 48 34.0 +3.1**
MSO Missoula 10.01 46 P **Pn 13 48 31.9 +0.9**
baz=233,SNR=6.8
BOZ Bozeman (W) 10.76 57 P **Pn 13 48 42.6 +1.3**
baz=245
SRU San Rafael Swe 10.80 92 *e*Pn Pn 13 48 45.9 +3.9
YPP Pitchstone Pla 10.85 64 *e*Pn **Pn 13 48 45.8 +3.1**
FLWY Flagg Ranch 10.87 65 *e*Pn **Pn 13 48 46.0 +3.2**
HRY Holter Researc 11.15 51 *e*Pn **Pn 13 48 48.4 +1.8**
PDAR Pinedale Array 11.43 73 Pn **Pn 13 48 53.1 +2.6**
baz=281,slow=9.1,SNR=5.9
PDAR LR LR 13 53 49.0
comp=Z,178nm,19.3s,baz=261,slow=41
PV09 Paradox Valley 12.00 94 *e*Pn **Pn 13 49 01.5 +3.1**
PV23 Carpenter Ridg 12.10 94 *e*Pn **Pn 13 49 02.1 +2.3**
O20A White River Ci 12.40 86 P **Pn 13 49 03.4 -0.4**
baz=276,SNR=5.9
MVCO Mesa Verde 12.84 99 P **Pn 13 49 09.8 -0.1**
baz=289
EGMT Eagleton 13.04 49 P **Pn 13 49 12.7 +0.3**
baz=239
K22A Casper 13.64 74 P **Pn 13 49 19.5 -1.2**
baz=266
S22A 4UR Ranch, Cre 13.95 95 P **Pn 13 49 23.9 -1.1**
baz=286,SNR=24
N23A Red Feather La 14.08 82 P **Pn 13 49 27.2 +0.4**
baz=274
ISCO Idaho Springs 14.44 86 *e*Pn **Pn 13 49 32.2 +0.4**
ISCO Idaho Springs 14.44 86 P **Pn 13 49 32.3 +0.4**
baz=278
LAO LASA Array 14.66 58 P **Pn 13 49 33.8 -0.7**
baz=251
Q24A Divide 14.94 89 P **Pn 13 49 38.2 -0.4**
baz=281
SDCO Great Sand Dun 14.96 94 P **Pn 13 49 39.2 +0.4**
baz=286,SNR=40
TASM ASL Pad, Albuq 15.23 105 P **Pn 13 49 41.1 -1.3**
baz=296,SNR=5.7
TASM ASL Pad, Albuq 15.23 105 P **Pn 13 49 40.3 -2.1**
baz=296
ANMO Albuquerque 15.24 105 *e*Pn **Pn 13 49 43.9 +1.5**
ANMO Albuquerque 15.24 105 P **Pn 13 49 41.6 -0.8**
baz=296
ANMO Albuquerque 15.24 105 Pn **Pn 13 49 43.1 +0.7**
0.1nm,0.3s,baz=302,slow=13,SNR=7.2
ANMO LR LR 13 55 53.5
comp=Z,124nm,21.1s,baz=296,slow=39
RSSD Black Hills 15.59 69 P **Pn 13 49 44.6 -2.3**
baz=263
T25A Trinidad 15.96 95 P **Pn 13 49 50.2 -1.7**
baz=288,SNR=8.2
DLBC Dease Lake 18.46 351 LR LR 13 56 42.2
comp=Z,68nm,19.5s,baz=110,slow=35
CBKS Cedar Bluff 19.10 87 *e*P **P 13 50 30.0 +0.3**
CBKS Cedar Bluff 19.10 87 P **P 13 50 28.7 -1.1**
baz=282
MDND Maddock 19.31 59 P **P 13 50 29.7 -2.2**
baz=256
LPIG La Paz 20.09 139 LR LR 13 59 02.5
comp=Z,114nm,19.4s,baz=330,slow=39
TX31 Lajitas Ar. Si 20.24 116 *e*P Pn 13 50 44.4 +0.1
LTX Lajitas 20.24 116 *e*P Pn 13 50 44.1 -0.2
TXAR Lajitas Array 20.24 116 P Pn 13 50 44.1 -0.2
4.2nm,0.9s,baz=301,slow=9.8,SNR=32
TXAR LR LR 13 59 45.2
comp=Z,82nm,18.8s,baz=0.0,slow=41
FFC Flin Flon 20.78 39 *e*P **P 13 50 47.4 -0.4**
ECSD EROS Data Cent 20.92 72 P **P 13 50 46.4 -3.0**
baz=270
WMOK Wichita Mounta 21.08 97 P **P 13 50 49.1 -2.2**
baz=293
KSU1 Kansas State U 21.43 84 P **P 13 50 54.8 -0.1**
baz=282,SNR=7.0
AGMN Agassiz Nation 21.86 59 P **P 13 50 57.8 -1.7**
baz=259
ULM Lac du Bonnet 22.29 54 P **P 13 51 02.1 -2.0**
5.8nm,0.8s,baz=252,slow=10,SNR=10
JCT Junction City 22.31 108 P **P 13 51 03.0 -1.5**
baz=303
YKA Yellowknife Ar 22.96 12 P **P 13 51 12.2 +1.1**
1.3nm,0.9s,baz=199,slow=10,SNR=5.9
YKB5 Yellowknife Ar 22.96 12 *e*P **P 13 51 12.2 +1.1**
F38A Pierce - Schro 24.32 66 P **P 13 51 22.3 -2.0**
baz=268
G38A Ridgeland 24.32 68 P **P 13 51 21.6 -2.8**
baz=270
I39A Houston 24.60 71 P **P 13 51 24.5 -2.4**
baz=273
W39A Magazine 24.71 92 P **P 13 51 25.2 -2.8**
baz=291
H39A Augusta 24.73 69 P **P 13 51 25.0 -3.2**
baz=272
G39A Holcombe 24.80 67 P **P 13 51 26.0 -2.8**
baz=270
F39A Loretta 24.98 66 P **P 13 51 27.6 -2.8**
baz=269
U40A Yellville 25.03 89 P **P 13 51 28.3 -2.6**
baz=289
J40A Soldiers Grove 25.20 72 P **P 13 51 30.2 -2.1**
baz=275
E39A Mellen 25.25 65 P **P 13 51 30.9 -1.9**
baz=268
G40A Rib Lake 25.49 67 P **P 13 51 32.4 -2.7**
baz=271
S41A Jillco Farms, 25.50 86 P **P 13 51 32.4 -2.8**
baz=286
F40A Park Falls 25.54 66 P **P 13 51 33.0 -2.4**
baz=270
R41A Rosebud 25.59 84 P **P 13 51 34.2 -1.8**
baz=285
J41A Loganville 25.73 72 P **P 13 51 36.5 -0.7**
baz=275
W41B Gary Mavity, V 25.90 91 P **P 13 51 38.2 -0.6**
baz=291
L42A Oliver, Polo 26.14 75 P **P 13 51 39.6 -1.3**
baz=278
D41A Chassel 26.63 63 P **P 13 51 45.6 +0.3**
baz=268
G42A Mountain 26.74 67 P **P 13 51 46.3 -0.1**
baz=272
F43A Flat Rock, Esc 27.60 66 P **P 13 51 53.5 -0.5**
baz=272
INK Inuvik 28.45 353 LR LR 14 03 24.6
comp=Z,34nm,18.0s,baz=297,slow=37
H11N3 WAKE ISLAND Hy 61.41 272 T T 15 03 06.7
baz=53,slow=75,SNR=135
H11N2 WAKE ISLAND Hy 61.41 272 T T 15 03 08.0
baz=53,slow=75,SNR=111
H11N1 WAKE ISLAND Hy 61.42 272 T T 15 03 09.1
baz=53,slow=75,SNR=115
H11S1 WAKE ISLAND Hy 62.27 271 T T 15 04 18.8
baz=54,slow=75,SNR=94
H11S2 WAKE ISLAND Hy 62.28 271 T T 15 04 19.1
baz=54,slow=75,SNR=90
H11S3 WAKE ISLAND Hy 62.29 271 T T 15 04 10.1
baz=54,slow=75,SNR=54
HHC Hu-ho-hao-te 84.49 321 *e*P **P 13 58 40.5 +0.8**
WMQ Urumqi 91.35 337 *e*P **P 13 59 16.1 +3.6**
WMQ pP sP 13 59 22.5 +0.2
CD2 Chengdu 96.21 320 *e*P **P 13 59 34.8 -0.3**
KSH Kashi 98.36 344 P Pdif 13 59 47.6 +2.8

NIED ***18*** *13:49:00,39.°80N×141.°80E,h56km,Mw4.0 Best double couple: M₀1.10000×10¹⁵ NP1:φ₀195.00000°,δ23.00000°, λ87.00000°. NP2:φ₀19.00000°,δ67.00000°,λ91.00000°.*
NEIC ***18*** *13:49:23.1±0.8,39.°13N×145.°27E,h35km,mb4.3/5,Error ellipse: s-maj=23.6km s-min=10.7km az=148.0*
ISCJB ***18*** *13:49:44.7±0.4,39.°76N±0.°03×141.°88E±0.°07,h66km±2km, mb3.9/17,Error ellipse: s-maj=8.8km s-min=4.2km az=13.7*
JMA ***18*** *13:49:45.8,39.°76N×141.°84E,h59km±1km,M3.8 Broadband fault plane solution: P waves. NP1: φ₀23.00000°,δ69.00000°,λ91.00000°. NP2:φ₀200.00000°, δ21.00000°,λ88.00000°. Principal axes: T Plg66.0000°, Azm294.0000°; N Plg1.0000°, Azm202.0000°; P Plg24.0000°, Azm112.0000°;*
JMA Felt II J1.
IDC ***18*** *13:49:47.6±1.7,39.°74N×141.°79E,h78km±14km,mb3.6/14, mb1 3.7/19,mb1mx3.6/45,mbtmp3.9/19,MS2.6/4, Ms1 2.6/4,ms1mx2.5/5 Error ellipse: s-maj=19.9km s-min=10.8km az=108.0*

ISC 18 13:49:45.7±0.7,39.°74N±0.°03×141.°86E±0.°07,h60km±5km, n51,σ1.°61/56,mb4.0/17,3C-8D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.16**	**190**	⇑P	**Pn**	**13 49 55.2**	**+0.2**
MIYJ				S	**Sn**	**13 50 01.7**	**0.0**
JTH	**Tanohata**	**0.20**	**2**	⇑P	**Pn**	**13 49 55.2**	**0.0**
JTH				S	**Sn**	**13 50 01.7**	**-0.3**
JKZ	**Kuzumaki**	**0.47**	**301**	⇓P	**Pn**	**13 49 57.4**	**0.0**
JKZ				S	**Sn**	**13 50 05.3**	**-0.7**
JKEN	**Kujiedanarisaw**	**0.48**	**347**	P	**Pn**	**13 49 57.2**	**-0.3**
JKEN				S	**Sn**	**13 50 05.4**	**-0.6**
JOM	**Ohasama**	**0.51**	**239**	⇓P	**Pn**	**13 49 57.7**	**-0.1**
JOM				S	**Sn**	**13 50 06.3**	**-0.2**
JANG	**Nango**	**0.69**	**338**	⇓P	**Pn**	**13 49 59.3**	**-0.5**
JANG				S	**Sn**	**13 50 09.2**	**-0.9**
JMK	**Ichinoseki**	**0.93**	**212**	⇓P	**Pn**	**13 50 02.8**	**0.0**
JMK				S	**Sn**	**13 50 15.8**	**+0.4**
JRG	**Rokugo**	**1.00**	**251**	⇓P	**Pn**	**13 50 03.5**	**-0.3**
JAH	**Hinai**	**1.04**	**296**	⇓P	**Pn**	**13 50 04.1**	**-0.1**
JAH				S	**Sn**	**13 50 18.4**	**+0.4**
JTM	**Tenmabayashi**	**1.21**	**330**	⇓P	**Pn**	**13 50 06.1**	**-0.4**
JTM				S	**Sn**	**13 50 21.4**	**-0.6**
JIO	**Ouri**	**1.34**	**197**	⇑P	**Pn**	**13 50 08.3**	**+0.1**
JIO				S	**Sn**	**13 50 24.7**	**-0.4**
JYK	**Kaneyama**	**1.42**	**235**	⇓P	**Pn**	**13 50 09.4**	**+0.1**
JYK				*e*S	**Sn**	**13 50 27.5**	**+0.5**
MJB9	**Matsu-Tunnel**	**4.29**	**223**	*e*Pn	**Pn**	**13 50 51.4**	**+2.9**
MAJO	**Matsushiro**	**4.29**	**223**	*e*Pn	**Pn**	**13 50 51.0**	**+2.5**
MAT	**Matsushiro**	**4.29**	**223**	P	**Pn**	**13 50 50.7**	**+2.2**
MAT				S	**Sn**	**13 51 40.2**	**+2.9**
MJAR	**Matsushiro Arr**	**4.29**	**223**	*e*Pn	**Pn**	**13 50 51.9**	**+3.4**
MJAR	**Matsushiro Arr**	**4.29**	**223**	P	**Pn**	**13 50 51.3**	**+2.7**
	0.2nm,0.3s,baz=32,slow=13,SNR=24						
MJAR				LR	LR	13 52 48.5	
	comp=Z,63nm,20.1s,baz=15,slow=42						
ASAJ	**Asahikawa**	**4.41**	**7**	P	**Pn**	**13 50 51.5**	**+1.5**
	2.1nm,0.3s,baz=212,slow=13,SNR=19						
ASAJ				S	**Sn**	**13 51 41.9**	**+1.9**
	2.3nm,0.3s,baz=192,slow=20,SNR=3.0						
ASAJ				LR	LR	13 52 40.8	
	comp=Z,80nm,20.4s,baz=180,slow=39						
INU	**Inuyama**	**5.83**	**223**	*e*Pn	Pn	13 51 15.0	+5.6
JHJ	**Hachijo jima 2**	**6.81**	**195**	P	**Pn**	**13 51 24.2**	**+1.3**
	4.1nm,0.3s,baz=19,slow=16,SNR=3.2						
JHJ				S	**Sn**	**13 52 34.0**	**-5.2**
	3.1nm,0.3s,baz=45,slow=19,SNR=2.2						
USRK	**Ussuriysk Ar.**	**8.60**	**304**	P	**Pn**	**13 51 48.0**	**+0.7**
	0.1nm,0.3s,baz=94,slow=15,SNR=8.9						
JNU	**Nakatsue**	**11.03**	**237**	*e*Pn	**Pn**	**13 52 25.3**	**+4.6**
JNU	**Nakatsue**	**11.03**	**237**	LR	LR	13 56 56.1	
	comp=Z,38nm,19.6s,baz=8.0,slow=39						
KSRS	**Korea Array**	**11.14**	**263**	P	**Pn**	**13 52 25.2**	**+3.1**
	0.1nm,0.3s,baz=72,slow=14,SNR=6.6						
KSRS				LR	LR	13 56 08.3	
	comp=Z,43nm,21.4s,baz=104,slow=34						
MA2	**Magadan**	**20.64**	**13**	P	**P**	**13 54 20.7**	**+0.7**
	2.8nm,0.6s,baz=213,slow=11,SNR=4.4						
SEY	**Seymchan**	**24.07**	**12**	P	**P**	**13 54 56.2**	**+1.1**
	6.0nm,1.0s,baz=202,slow=9.2,SNR=7.4						
HKPS	**Hong Kong Po S**	**29.28**	**242**	*e*P	**P**	**13 55 40.0**	**-2.3**
	26nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**29.33**	**126**	T	T	14 26 18.0	
	baz=318,slow=75,SNR=386						
H11N1	**WAKE ISLAND Hy**	**29.34**	**126**	T	T	14 26 18.4	
	baz=318,slow=75,SNR=293						
H11N3	**WAKE ISLAND Hy**	**29.35**	**126**	T	T	14 26 19.3	
	baz=318,slow=75,SNR=369						
H11S1	**WAKE ISLAND Hy**	**30.13**	**127**	T	T	14 27 22.4	
	baz=320,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**30.13**	**127**	T	T	14 27 22.1	
	baz=320,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**30.15**	**127**	T	T	14 27 23.3	
	baz=320,slow=76,SNR=52						
ZAA0	**Zalesovo Array**	**40.40**	**310**	*e*P	**P**	**13 57 17.2**	**-0.4**
	3.3nm,0.6s						
ZALV	**Zalesovo Beam**	**40.40**	**310**	*e*P	**P**	**13 57 17.2**	**-0.4**
ZALV	**Zalesovo Beam**	**40.40**	**310**	P	**P**	**13 57 17.4**	**-0.2**
	3.2nm,0.6s,baz=89,slow=7.4,SNR=16						
MKAR	**Makanchi Array**	**43.03**	**300**	*e*P	**P**	**13 57 39.4**	**+0.2**
MKAR	**Makanchi Array**	**43.03**	**300**	P	**P**	**13 57 39.1**	**-0.1**
	1.8nm,0.7s,baz=85,slow=9.7,SNR=19						
MAKZ	**Makanchi**	**43.23**	**300**	*e*P	**P**	**13 57 38.4**	**-2.5**
	1.8nm,0.8s						
ILAR	**Eielson Array**	**47.04**	**34**	P	**P**	**13 58 11.7**	**+0.9**
	0.5nm,0.7s,baz=264,slow=6.0,SNR=6.3						
INK	**Inuvik**	**51.83**	**28**	P	**P**	**13 58 48.5**	**+1.4**
	0.9nm,0.9s,baz=283,slow=2.4,SNR=3.1						
ABKAR	**Akbulak array**	**56.49**	**309**	*e*P	**P**	**13 59 21.0**	**-0.3**
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**59.78**	**188**	P	**P**	**13 59 43.7**	**-0.8**
	1.1nm,0.8s,baz=172,slow=12,SNR=6.3						
YKA	**Yellowknife Ar**	**61.31**	**31**	P	**P**	**13 59 53.8**	**-0.6**
	0.3nm,0.8s,baz=307,slow=6.1,SNR=4.1						
ASAR	**Alice Springs**	**63.51**	**188**	P	**P**	**14 00 09.4**	**-0.2**
	0.4nm,0.6s,baz=2.5,slow=6.5,SNR=5.7						
FINES	**FINESS Array B**	**66.59**	**332**	P	**P**	**14 00 29.1**	**-0.1**
	2.8nm,0.7s,baz=53,slow=7.4,SNR=8.8						
KBZ	**Khabaz**	**69.42**	**310**	P	**P**	**14 00 46.1**	**-1.0**
	2.0nm,0.9s,baz=27,slow=2.3,SNR=4.3						
NOA	**NORSAR Array B**	**71.83**	**337**	P	**P**	**14 01 00.5**	**-1.1**
	1.3nm,0.9s,baz=38,slow=6.1,SNR=3.5						
AKASG	**Malin Array Be**	**72.38**	**322**	P	**P**	**14 01 04.5**	**-0.5**
	0.4nm,0.3s,baz=41,slow=6.3,SNR=4.1						
CLL	**Collm**	**78.93**	**330**	*e*P	P	14 01 34.0	-8.4
GERES	**GERESS Array B**	**80.60**	**328**	P	**P**	**14 01 52.1**	**+0.4**
	0.3nm,0.5s,baz=47,slow=4.3,SNR=2.9						

IDC ***18*** *14:14:51.5±5.8,7.°03S×129.°22E,h110km±56km,mb3.7/6, mb1 3.9/9,mb1mx3.6/26,mbtmp4.2/9,Error ellipse: s-maj=61.5km s-min=18.8km az=50.0*
ISCJB ***18*** *14:14:53.7±0.4,7.°17S±0.°06×129.°14E±0.°07,h150km, mb3.8/5,Error ellipse: s-maj=10.5km s-min=6.2km az=144.3*
DJA ***18*** *14:14:55.5±0.4,7.°5S±4.°×12.°9E±.°,h231km±12km,M4.3/7, mB4.8/2,mb4.1/7,MLv4.4/6,Mw(mB)4.0/2*

ISC 18 14:14:55.2±0.6,7.°31S±0.°06×129.°21E±0.°06,h150km,n25, σ2.°32/28,mb3.8/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.17**	**108**	P	**Pn**	**14 15 36.2**	**+3.8**
SAUI				S	**Sn**	**14 16 03.1**	**+2.1**
BNDI	**Bandanaira**	**2.86**	**14**	P	**Pn**	**14 15 43.1**	**+2.3**
FAKI	**Fak Fak**	**5.31**	**35**	P	**Pn**	**14 16 10.8**	**-2.0**
SOEI	**Soe**	**5.46**	**243**	P	Pn	14 16 19.8	+4.9
SANI	**Sanana**	**6.14**	**328**	P	**Pn**	**14 16 25.0**	**+1.2**
BATI	**Baumata**	**6.19**	**242**	P	Pn	14 16 29.8	+5.2
BATI				S	**Sn**	**14 17 38.9**	**+4.4**
FITZ	**Fitzroy Crossi**	**11.27**	**198**	P	**Pn**	**14 17 32.4**	**+0.4**
	1.5nm,0.3s,baz=31,slow=10,SNR=46						
FITZ				S	**Sn**	**14 19 31.6**	**-5.0**
	3.6nm,0.3s,baz=63,slow=16,SNR=7.7						
PLAI	**Plampang**	**11.42**	**262**	P	**Pn**	**14 17 34.2**	**+0.1**
WRA	**Warramunga Arr**	**13.50**	**159**	P	**Pn**	**14 18 00.4**	**-0.5**
	1.0nm,0.3s,baz=338,slow=13,SNR=51						
WRA				S	**Sn**	**14 20 25.9**	**-4.6**
	3.2nm,0.3s,baz=320,slow=24,SNR=14						
ASAR	**Alice Springs**	**16.87**	**165**	P	**Pn**	**14 18 44.5**	**+1.8**
	2.5nm,0.3s,baz=345,slow=10,SNR=328						
ASAR				S	**S**	**14 21 46.8**	**-3.5**
	0.8nm,0.3s,baz=353,slow=27,SNR=6.6						
CTA	**Charters Tower**	**20.84**	**129**	P	**P**	**14 19 27.2**	**+2.0**
	5.1nm,0.9s,baz=315,slow=17,SNR=4.3						
STKA	**Stephens Creek**	**27.03**	**156**	P	**P**	**14 20 26.5**	**+3.1**
	1.4nm,0.6s,baz=323,slow=10,SNR=3.7						
CMAR	**Chiang Mai Arr**	**39.34**	**311**	P	**P**	**14 22 09.6**	**-0.6**
	1.2nm,0.6s,baz=141,slow=6.8,SNR=9.1						
ODAN	**Odare**	**52.88**	**312**	*e*P	**P**	**14 23 55.4**	**-0.8**
	9.8nm,0.5s						
RAMN	**Ramite**	**53.51**	**311**	*e*P	**P**	**14 24 00.3**	**-0.5**
	17nm,0.5s						
PKI	**Pulchoki**	**54.74**	**311**	*e*P	**P**	**14 24 08.7**	**-1.1**
	5.2nm,0.5s						
PKIN	**Phulchoki**	**54.75**	**311**	*e*P	**P**	**14 24 08.6**	**-1.2**
	4.9nm,0.5s						
KKN	**Kakani**	**54.95**	**311**	*e*P	**P**	**14 24 10.5**	**-0.7**
GKN	**Gorkha**	**55.55**	**311**	*e*P	**P**	**14 24 14.7**	**-0.7**
	14nm,0.4s						
KOLN	**Koldanda**	**56.20**	**310**	*e*P	**P**	**14 24 19.6**	**-0.5**
	5.5nm,0.3s						
DANN	**Dangsing**	**56.38**	**311**	*e*P	**P**	**14 24 20.7**	**-0.8**
	6.6nm,0.5s						
MKAR	**Makanchi Array**	**68.06**	**327**	P	**P**	**14 25 38.0**	**-0.7**
	0.6nm,0.4s,baz=120,slow=8.2,SNR=12						
ZALV	**Zalesovo Beam**	**71.52**	**334**	P	**P**	**14 25 58.1**	**-1.5**
	0.7nm,0.3s,baz=95,slow=5.1,SNR=4.0						
NRIK	**Noril'sk**	**81.67**	**346**	P	**P**	**14 26 55.6**	**-0.7**
	1.7nm,0.7s,baz=115,slow=9.3,SNR=4.3						
LPAZ	**La Paz**	**150.94**	**144**	PKPbc	**PKiKP**	**14 34 33.0**	**+0.5**
	0.6nm,0.4s,baz=270,slow=5.1,SNR=4.8						

MAN 18 14:47:60.0,13.°88N×120.°64E,h86km,mb3.8,ML2.6, MS2.1,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.41**	**249**	*e*P	Pn	14 48 15.4	+1.9
LUBP				*e*S	Sn	14 48 26.8	+3.1
PGP	**Puerto Galera**	**0.48**	**141**	⇑*i*P	Pn	14 48 16.1	+1.9
PGP				*i* S	Sn	14 48 28.1	+3.3
SJMP	**San Jose**	**1.49**	**161**	*e*P	Pn	14 48 26.2	+0.8
SJMP				*e*S	Sn	14 48 45.7	+1.1
SCZP	**Santa Cruz**	**2.01**	**340**	*e*P	Pn	14 48 33.1	+0.9
SCZP				*e*S	Sn	14 48 57.2	+0.4
SMPP	**San Manuel, Pa**	**2.26**	**1**	*e*P	Pn	14 48 36.1	+0.6

TEH 18 14:48:07.7,35.°33N×51.°94E,h12km,ML3.6,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDMV	**Damavand**	**0.26**	**18**	*e*Pg	Pg	14 48 13.2	-0.1
IDMV				IAMB	IAmb	14 48 19.8	
	comp=Z,0.0nm,0.4s						
DAMV	**Damavand**	**0.30**	**5**	*e*Pg	Pg	14 48 14.0	0.0
IHSB	**Hasanabad**	**0.55**	**281**	*e*Pg	Pg	14 48 18.7	+0.2
IHSB				IAMB	IAmb	14 48 19.2	
	comp=Z,0.0nm,0.2s						
IHSB				*e*Sg	Sb	14 48 26.9	-0.3
TEH	**Tehran**	**0.61**	**312**	*e*Pg	Pg	14 48 19.6	0.0
TEH				IAMB	IAmb	14 48 30.4	
	comp=Z,0.0nm,0.5s						
IFIR	**Firoozkooh**	**0.74**	**65**	*e*Pg	Pg	14 48 21.5	-0.5
IFIR				IAMB	IAmb	14 48 35.0	
	comp=Z,0.0nm,0.2s						
ILAS	**Lasjerd**	**0.84**	**86**	*e*Pg	Pg	14 48 24.0	0.0
ILAS				IAMB	IAmb	14 48 41.8	
	comp=Z,0.0nm,0.2s						
CHTH	**Charan**	**0.88**	**311**	*e*Pg	Pg	14 48 24.3	-0.4
IPRN	**Peran**	**0.97**	**20**	*e*Pg	Pn	14 48 27.0	-0.2
IPRN				IAMB	IAmb	14 48 43.7	
	comp=Z,0.0nm,0.3s						
GHVR	**GHOM**	**1.00**	**212**	*e*Pg	Pb	14 48 26.9	0.0
IALA	**Alasht**	**1.03**	**43**	*e*Pg	Pb	14 48 27.8	+0.1
IALA				IAMB	IAmb	14 48 44.5	
	comp=Z,0.0nm,0.3s						
THKV	**Tehran--Karaj**	**1.04**	**304**	*e*Pg	Pb	14 48 27.6	-0.1
**IM

QALM				IAMB	IAmb	14 48 58.2		
	comp=Z,0.0nm,0.3s							
IANJ	**Anjilo**	**1.62**	**85**	*e*Pn	Pb	14 48 37.5	-0.2	
IKIA	**Kiasar**	**1.67**	**58**	*e*Pn	Pg	14 48 39.6	-0.2	
IKIA				IAMB	IAmb	14 49 08.4		
	comp=Z,0.0nm,0.4s							
IGZV	**Ghazvin**	**1.75**	**308**	*e*Pn	Pn	14 48 38.8	+0.8	
IGZV				IAMB	IAmb	14 49 03.6		
	comp=Z,0.0nm,0.2s							
ASAO	**Ashtian**	**1.75**	**244**	*e*Pn	Pb	14 48 39.7	-0.2	
QABG	**Abgarm-Qazvin**	**1.96**	**282**	*e*Pn	Pb	14 48 42.8	-0.6	
QABG				IAMB	IAmb	14 49 14.9		
	comp=Z,0.0nm,0.3s							
IKLH	**Kolahrood**	**2.03**	**188**	*e*Pn	Pb	14 48 43.4	-1.2	
IKLH				IAMB	IAmb	14 49 19.4		
	comp=Z,0.0nm,0.3s							
KHMZ	**Khomeyn**	**2.28**	**226**	*e*Pn	Pb	14 48 47.3	-1.5	
IZEF	**Zefreh**	**2.45**	**172**	*e*Pn	Pn	14 48 49.4	+1.7	
IZEF				IAMB	IAmb	14 49 27.0		
	comp=Z,0.0nm,0.3s							
ANAR	**Anarak**	**2.60**	**145**	*e*Pn	Pn	14 48 51.7	+2.1	
IPIR	**Pirpir**	**2.78**	**198**	*e*Pn	Pb	14 48 56.3	-1.1	
IPIR				IAMB	IAmb	14 49 43.5		
	comp=Z,0.0nm,0.7s							
IGAR	**Gharneh**	**2.92**	**178**	*e*Pn	Pb	14 48 57.1	-2.7	
IGAR				IAMB	IAmb	14 49 03.7		
	comp=Z,0.0nm,0.3s							
ZNJK	**Zanjan**	**2.96**	**298**	*e*Pn	Pn	14 48 56.3	+1.7	
ROKH	**ROKH**	**3.07**	**194**	*e*Pn	Pb	14 48 59.3	-3.1	
JHBN	**Jahan bin**	**3.27**	**199**	*e*Pn	Pn	14 49 02.2	+3.2	
JHBN				IAMB	IAmb	14 50 12.0		
	comp=Z,0.0nm,0.6s							
ZNGN	**Zangian**	**3.33**	**196**	*e*Pn	Pb	14 49 03.6	-3.2	
IKMR	**Kamar-syah**	**3.45**	**239**	*e*Pn	Pb	14 49 05.0	-3.7	
IDOB	**Doab**	**3.46**	**245**	*e*Pn	Pb	14 49 05.5	-3.5	
IDOB				IAMB	IAmb	14 50 24.8		
	comp=Z,0.0nm,1.4s							
IRAM	**Ramesheh**	**3.53**	**174**	*e*Pn	Pn	14 49 05.4	+2.9	
ISAD	**Sadrabad**	**3.71**	**156**	*e*Pn	Pn	14 49 07.5	+2.5	
IVIS	**Veis**	**4.25**	**261**	*e*Pn	Pn	14 49 15.3	+2.9	
KLNJ	**Kolanjah**	**4.32**	**184**	*e*Pn	Pn	14 49 17.1	+3.6	
IMEH	**Mehriz**	**4.52**	**150**	*e*Pn	Pn	14 49 20.2	+4.0	
TPRV	**Parvadeh(Taba**	**4.56**	**119**	*e*Pn	Pn	14 49 18.6	+2.1	
TKDS	**Koohdasht(Taba**	**4.61**	**110**	*e*Pn	Pn	14 49 19.6	+2.3	
SBZV	**Sabzevar**	**4.73**	**75**	*e*Pn	Pn	14 49 21.6	+2.6	

IDC 18 15:01:08.1±2.0, 2°.04N×124°.85E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.1/44, mbtmp3.3/3, Error ellipse: s-maj=209.1km s-min=25.5km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75**	**157**	P	P	15 06 22.5	+0.3
	0.5nm,0.4s,baz=336,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**27.03**	**161**	P	P	15 06 51.9	-0.3
	0.1nm,0.3s,baz=333,slow=7.3,SNR=4.5						
MKAR	**Makanchi Array**	**57.90**	**327**	P	P	15 11 02.0	0.0
	0.1nm,0.4s,baz=116,slow=6.9,SNR=3.0						

ISCJB ***18*** *15:10:39.7±0.3, 26°.64N±0°.02×57°.76E±0°.05, h10km, mb4.0/25, MS2.9/10, Error ellipse: s-maj=6.0km s-min=3.5km az=8.7*
IDC ***18*** *15:10:40.0±1.3, 26°.65N±57°.60E, h0km, mb3.7/16, mb1 3.9/18, mb1mx3.7/48, mbtmp3.8/18, ML4.4/3, MS3.0/11, Ms1 3.1/11, ms1mx2.9/50, Error ellipse: s-maj=24.0km s-min=18.9km az=155.0*
TEH ***18*** *15:10:40.6, 26°.73N×57°.79E, h8km, ML4.1*
NEIC ***18*** *15:10:40.0±0.0, 26°.77N×57°.87E, h6km, mb4.2/13, MN4.1(TEH), After TEH.*
DSN ***18*** *15:10:40.4±2.6, 26°.52N×57°.94E, h10km, ML3.9/7, Error ellipse: s-maj=33.6km s-min=12.3km az=12.0*
OMAN ***18*** *15:10:42.0±2.3, 26°.44N×57°.81E, h2km±32km, ml3.7/8, Error ellipse: s-maj=41.5km s-min=8.7km az=29.0*
MOS ***18*** *15:10:41.3±1.3, 26°.79N×57°.61E, h13km, mb4.3/8, Error ellipse: s-maj=13.1km s-min=8.5km az=97.7*

ISC 18 15:10:41.2±0.5, 26°.63N±0°.03×57°.77E±0°.04, h10km, n115, σ1§48/116, mb4.1/30, MS2.9/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**0.99**	**180**	*e*Pg	**Pn**	**15 11 02.2**	**+1.1**
NIAN	**Nian**	**1.24**	**318**	IAMB	IAmb	15 11 34.3	
	comp=Z,0.0nm,0.5s						
NIAN				*e*Pg	**Pn**	**15 11 04.7**	**+0.1**
KHNJ	**Kahnooj**	**1.31**	**358**	IAMB	IAmb	15 11 27.6	
	comp=Z,0.0nm,0.8s						
KHNJ				*e*Pg	**Pn**	**15 11 03.7**	**-1.9**
SHME	**Shamm**	**1.57**	**249**	P	**Pn**	**15 11 09.8**	**+0.6**
SHME				S	**Sg**	**15 11 32.4**	**+0.6**
SHME	**Shamm**	**1.57**	**249**	*e*Pn	**Pb**	**15 11 10.1**	**-0.3**
GENO	**Geno**	**1.62**	**299**	*e*Pn	**Pb**	**15 11 11.0**	**-0.2**
GENO				IAMB	IAmb	15 11 43.1	
	comp=Z,0.0nm,0.4s						
MSFE	**Esma-Masafi**	**1.93**	**229**	*e*P	**Pn**	**15 11 12.7**	**-1.3**
	SNR=10						
MSFE	**Esma-Masafi**	**1.93**	**229**	*e*Pn	**Pn**	**15 11 13.1**	**-1.0**
UMQ	**Umm Al-Quwin**	**2.19**	**240**	*e*Pn	**Pb**	**15 11 21.2**	**+0.3**
HATD	**Hatta, Dubai**	**2.33**	**220**	*e*P	**Pn**	**15 11 17.6**	**-1.9**
	SNR=7.7						
HATD	**Hatta, Dubai**	**2.33**	**220**	P	**Pn**	**15 11 18.1**	**-1.5**
HATD				S	**Sn**	**15 11 49.0**	**+0.8**
HATD	**Hatta, Dubai**	**2.33**	**220**	*e*Pn	**Pn**	**15 11 15.9**	**-3.7**
ASHO	**Ashiyiah**	**2.48**	**219**	*e*P	**Pn**	**15 11 21.2**	**-0.5**
	SNR=16						
ASHO	**Ashiyiah**	**2.48**	**219**	P	**Pn**	**15 11 21.2**	**-0.5**
ASHO	**Ashiyiah**	**2.48**	**219**	*e*Pn	**Pn**	**15 11 21.0**	**-0.7**
NAZ	**Nazwa, Dubai**	**2.51**	**230**	*e*P	**Pn**	**15 11 22.9**	**+0.9**
	SNR=16						
NAZ	**Nazwa, Dubai**	**2.51**	**230**	P	**Pn**	**15 11 24.1**	**+2.0**
NAZ	**Nazwa, Dubai**	**2.51**	**230**	*e*Pn	**Pb**	**15 11 24.8**	**-1.5**
CHBR	**Chabahar**	**2.65**	**112**	*e*Pn	**Pb**	**15 11 29.9**	**+1.2**
FAQ	**Al Faqa, Dubai**	**2.72**	**227**	P	**Pn**	**15 11 26.0**	**+1.1**
FAQ	**Al Faqa, Dubai**	**2.72**	**227**	P	**Pn**	**15 11 27.0**	**+2.1**
FAQ	**Al Faqa, Dubai**	**2.72**	**227**	*e*Pn	**Pn**	**15 11 27.1**	**+2.2**
SOHO	**SOHO**	**2.73**	**204**	P	**Pn**	**15 11 23.1**	**-2.0**
SOHO				P	**Pn**	**15 11 23.1**	**-2.0**
ASUD	**Al Ashush, Dub**	**2.98**	**228**	*e*Pn	**Pn**	**15 11 30.6**	**+2.2**
HOQ	**Hoqain**	**3.07**	**188**	*e*Pn	**Pn**	**15 11 28.9**	**-0.8**
NGRK	**Negar Kerman**	**3.14**	**343**	*e*Pn	**Pn**	**15 11 32.7**	**+1.7**
NGRK				IAMB	IAmb	15 12 29.4	
	comp=Z,0.0nm,0.8s						
ALNE	**Al Ain**	**3.15**	**216**	*i* P	**Pn**	**15 11 30.1**	**-0.8**
	SNR=9.9						
ALNE	**Al Ain**	**3.15**	**216**	*e*Pn	**Pn**	**15 11 32.8**	**+1.9**
CHMN	**Cheshme madani**	**3.22**	**356**	*e*Pn	**Pn**	**15 11 34.6**	**+2.4**
CHMN				IAMB	IAmb	15 12 44.7	
	comp=N,0.0nm,0.9s						
KRBR	**Kerman**	**3.45**	**345**	*e*Pn	**Pn**	**15 11 37.6**	**+2.3**
TVBK	**TV Kerman**	**3.46**	**345**	*e*Pn	**Pn**	**15 11 38.3**	**+2.9**
TVBK				IAMB	IAmb	15 12 38.2	
	comp=Z,0.0nm,0.6s						
WSAR	**Wadi Sarin**	**3.47**	**167**	P	**Pn**	**15 11 35.2**	**-0.1**
WSAR				S	**Sn**	**15 12 14.5**	**-2.0**
WSAR	**Wadi Sarin**	**3.47**	**167**	Pn	**Pn**	**15 11 35.1**	**-0.1**
	comp=Z,27nm,0.3s,baz=343,slow=5.4,SNR=155						
WSAR				Sn	**Sn**	**15 12 13.6**	**-2.8**
	comp=Z,30nm,0.3s,baz=240,slow=23,SNR=14						
KHGB	**Koh Gabri**	**3.90**	**343**	*e*Pn	**Pn**	**15 11 42.6**	**+1.2**
KHGB				IAMB	IAmb	15 12 54.5	
	comp=Z,0.0nm,1.0s						
ZHSF	**Zahedan**	**3.98**	**41**	*e*Pn	**Pb**	**15 11 48.5**	**-3.0**
GHIR	**Ghir-Karzin**	**4.56**	**292**	*e*Pn	**Pn**	**15 11 50.4**	**+0.1**
BSRN	**Basiran**	**5.44**	**12**	*e*Pn	**Pn**	**15 12 06.4**	**+3.9**
IMEH	**Mehriz**	**5.49**	**330**	*e*Pn	**Pn**	**15 12 03.8**	**+0.6**
MHTO	**MHTO**	**5.62**	**178**	P	**Pn**	**15 12 05.2**	**+0.4**
MHTO				S	**Sn**	**15 13 08.7**	**-0.9**
IKAZ	**Kazeroun**	**6.10**	**302**	*e*Pn	**Pn**	**15 12 10.5**	**-1.2**
ISAD	**Sadrabad**	**6.36**	**327**	*e*Pn	**Pn**	**15 12 15.4**	**+0.2**
TPRV	**Parvadeh(Tabas**	**6.44**	**352**	*e*Pn	**Pn**	**15 12 17.3**	**+1.1**
KLNJ	**Kolanjah**	**6.95**	**310**	*e*Pn	**Pn**	**15 12 23.6**	**+0.1**
IRAM	**Ramesheh**	**6.98**	**319**	*e*Pn	**Pn**	**15 12 23.9**	**+0.2**
TNSJ	**Nastanj**	**7.37**	**352**	*e*Pn	**Pn**	**15 12 31.0**	**+2.0**
GEYT	**Alibeck**	**11.27**	**1**	Pn	**Pn**	**15 13 22.3**	**0.0**
	comp=Z,9.3nm,0.3s,baz=168,slow=8.8,SNR=5.4						
GEYT				LR	LR	15 18 48.1	
	comp=Z,46nm,19.3s,baz=200,slow=43						
GNI	**Garni**	**17.30**	**324**	LR	LR	15 22 36.4	
	comp=Z,63nm,20.5s,baz=115,slow=42						
ASF	**Jabal al Asfar**	**19.00**	**292**	P	**P**	**15 15 02.0**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=114,slow=15,SNR=2.4						
ARSB	**Arslanbob**	**19.29**	**37**	*e*P	**P**	**15 15 04.3**	**-2.0**
	comp=Z,6.8nm,0.8s						
KK31	**Karatay Array**	**19.44**	**29**	*e*P	**Pn**	**15 15 09.4**	**+0.5**
	comp=Z,8.5nm,1.3s						
KK31	**Karatay Array**	**19.44**	**29**	*e*P	**Pn**	**15 15 09.4**	**+0.5**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KKAR	**Karatay Array**	**19.44**	**29**	*e*P	**Pn**	**15 15 10.1**	**+1.2**
KKAR	**Karatay Array**	**19.44**	**29**	*e*P	**Pn**	**15 15 10.1**	**+1.2**
EIL	**Elat**	**20.34**	**284**	P	**P**	**15 15 16.3**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=135,slow=10.0,SNR=1.9						
EIL				LR	LR	15 24 57.7	
	comp=Z,44nm,19.7s,baz=286,slow=42						
MMAI	**Mount Meron Ar**	**20.40**	**293**	P	**P**	**15 15 16.9**	**-1.6**
	comp=Z,2.9nm,0.8s,baz=94,slow=14,SNR=4.5						
MMAI				LR	LR	15 25 44.3	
	comp=Z,58nm,18.8s,baz=65,slow=45						
ATD	**Arta Tunnel**	**20.57**	**226**	LR	LR	15 23 01.8	
	comp=Z,36nm,20.6s,baz=327,slow=36						
KBZ	**Khabaz**	**20.89**	**329**	P	**P**	**15 15 23.4**	**0.0**
	comp=Z,0.6nm,0.4s,baz=153,slow=11,SNR=2.4						
KVAR	**Kislovodsk Arr**	**21.16**	**329**	P	**P**	**15 15 25.2**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=156,slow=12,SNR=2.4						
KIV	**Kislovodsk**	**21.16**	**329**	*e*P	**P**	**15 15 25.2**	**-1.3**
	comp=Z,8.8nm,1.0s						
KIV	**Kislovodsk**	**21.16**	**329**	*e*P	**P**	**15 15 31.4**	**+4.8**
KIV				pmax	pmax		
	comp=Z,26nm,1.1s						
KIV				MLR	MLR		
	comp=Z,40nm,14.0s						
BOOM	**Boomskoye usch**	**21.70**	**39**	*e*P	**P**	**15 15 33.6**	**+1.1**
	comp=Z,21nm,1.7s						
BOOM	**Boomskoye usch**	**21.70**	**39**	*e*P	**P**	**15 15 33.6**	**+1.1**
BOOM				pmax	pmax		
	comp=Z,21nm,1.7s						
KDJ	**Kajisay**	**22.18**	**41**	*e*P	**P**	**15 15 40.1**	**+2.4**
	comp=Z,7.4nm,0.8s						
KDJ	**Kajisay**	**22.18**	**41**	*e*P	**P**	**15 15 40.1**	**+2.4**
KDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TARG	**Taragay, Kyrgy**	**22.31**	**42**	*e*P	**P**	**15 15 39.7**	**+0.3**
	comp=Z,4.3nm,1.1s						
ABKAR	**Akbulak array**	**22.65**	**4**	*e*P	**P**	**15 15 42.4**	**+0.1**
AKTO	**Aktyubinsk**	**23.77**	**0**	P	**P**	**15 15 53.4**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=186,slow=11,SNR=13						
AKTO				LR	LR	15 26 50.6	
	comp=Z,39nm,18.6s,baz=171,slow=41						
BR131	**Keskin Array S**	**23.96**	**309**	*e*P	**P**	**15 15 57.8**	**+1.9**
	comp=Z,4.2nm,0.9s						
BR131	**Keskin Array S**	**23.96**	**309**	*e*P	**P**	**15 15 57.8**	**+1.9**
BR131				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR	**Keskin Array B**	**23.96**	**309**	*e*P	**P**	**15 15 56.0**	**+0.2**
BRTR	**Keskin Array B**	**23.96**	**309**	*e*P	**P**	**15 15 56.1**	**+0.2**
BRTR	**Keskin Array B**	**23.96**	**309**	P	**P**	**15 15 55.8**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=123,slow=9.0,SNR=19						
BRTR				LR	LR	15 27 05.7	
	comp=Z,96nm,18.5s,baz=96,slow=41						
MKAR	**Makanchi Array**	**27.93**	**37**	*e*P	**P**	**15 16 33.5**	**+1.9**
MKAR	**Makanchi Array**	**27.93**	**37**	*e*P	**P**	**15 16 33.5**	**+1.9**
MKAR	**Makanchi Array**	**27.93**	**37**	P	**P**	**15 16 34.6**	**+3.0**
	comp=Z,0.4nm,0.8s,baz=220,slow=8.7,SNR=3.3						
BVAR	**Borovoye Array**	**28.00**	**16**	P	**P**	**15 16 31.6**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=205,slow=6.6,SNR=6.5						
KURBB	**Kurchatov Arra**	**28.73**	**28**	P	**P**	**15 16 39.6**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=227,slow=9.1,SNR=3.2						
KURK	**Kurchatov**	**28.84**	**28**	P	**P**	**15 16 39.6**	**0.0**
AKASG	**Malin Array Be**	**32.42**	**325**	P	**P**	**15 17 10.0**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=129,slow=8.3,SNR=5.8						
AKASG				LR	LR	15 33 33.0	
	comp=Z,20nm,21.8s,baz=30,slow=42						
AKBB	**Malin Array Si**	**32.42**	**325**	*e*P	**P**	**15 17 12.2**	**+1.0**
	comp=Z,3.9nm,0.6s						
KIEV	**Kiev**	**32.43**	**325**	*e*P	**P**	**15 17 12.1**	**+0.9**
	comp=Z,3.8nm,0.7s						
KIEV	**Kiev**	**32.43**	**325**	*e*P	**P**	**15 17 12.1**	**+0.9**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**33.81**	**29**	P	**P**	**15 17 23.1**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=236,slow=10,SNR=3.8						
KOLS	**Kolonicke sedl**	**35.34**	**319**	*e*P	**P**	**15 17 37.6**	**+1.0**
KOLS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KOLS	**Kolonicke sedl**	**35.34**	**319**	*e*P	**P**	**15 17 37.6**	**+1.0**
VYHS	**Vyhne**	**37.24**	**316**	*e*P	**P**	**15 17 54.5**	**+1.6**
VYHS	**Vyhne**	**37.24**	**316**	*e*P	**P**	**15 17 54.5**	**+1.6**
CMAR	**Chiang Mai Arr**	**38.75**	**93**	LR	LR	15 36 10.2	
	comp=Z,24nm,20.6s,baz=275,slow=39						
TRI	**Trieste**	**39.72**	**310**	*e*P	**P**	**15 18 11.3**	**-2.4**
	comp=Z,12nm,0.9s						
TRI	**Trieste**	**39.72**	**310**	*e*P	**P**	**15 18 11.3**	**-2.4**
TRI				pmax	pmax		
	comp=Z,12nm,0.9s						
MOA	**Molln**	**39.93**	**314**	*i* pP	**P**	**15 18 15.6**	**+0.1**
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**40.57**	**315**	P	**P**	**15 18 20.1**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=118,slow=7.7,SNR=7.0						
KHC	**Kasperske Hory**	**40.73**	**315**	*e*P	**P**	**15 18 21.4**	**-0.8**
	comp=Z,1.6nm,1.0s						
KHC	**Kasperske Hory**	**40.73**	**315**	*e*P	**P**	**15 18 21.4**	**-0.8**
KHC				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KHC	**Kasperske Hory**	**40.73**	**315**	*e*P	**P**	**15 18 21.5**	**-0.7**
FIA0	**FINESS Array S**	**40.80**	**337**	*e*P	**P**	**15 18 21.8**	**-0.7**
FIA0	**FINESS Array S**	**40.80**	**337**	*e*P	**P**	**15 18 21.8**	**-0.7**
FIA1	**FINESS Array S**	**40.80**	**337**	*e*P	**P**	**15 18 21.7**	**-0.7**
	comp=Z,10nm,1.3s						
FINES	**FINESS Array B**	**40.80**	**337**	P	**P**	**15 18 21.7**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=144,slow=9.5,SNR=6.8						
WTTA	**Wattenberg**	**41.50**	**312**	*i* pP	**P**	**15 18 28.3**	**-0.3**
	comp=Z,7.8nm,1.1s						
CLL	**Collm**	**41.76**	**318**	*e*P	**P**	**15 18 30.0**	**-0.5**
CLL	**Collm**	**41.76**	**318**	*e*P	**P**	**15 18 30.0**	**-0.5**
SQTA	**Sankt Quirin**	**41.78**	**312**	*i* pP	**P**	**15 18 30.3**	**-0.6**
	comp=Z,4.0nm,0.5s						
FETA	**Feichten**	**42.05**	**312**	*e*pP	**P**	**15 18 32.8**	**-0.4**
	comp=Z,7.7nm,1.1s						
RETA	**Reutte**	**42.13**	**312**	*e*P	**P**	**15 18 32.8**	**-0.9**
	comp=Z,2.3nm,0.9s						
DAVA	**Damuels**	**42.67**	**312**	*e*pP	**P**	**15 18 37.7**	**-0.5**
	comp=Z,6.6nm,0.5s						
NRIK	**Noril'sk**	**46.17**	**14**	LR	LR	15 42 20.2	
	comp=Z,37nm,19.9s,baz=120,slow=41						
NOA	**NORSAR Array B**	**46.44**	**331**	LR	LR	15 39 58.6	
	comp=Z,7.3nm,19.3s,baz=285,slow=38						
ARA0	**ARCESS Array S**	**46.88**	**345**	*e*P	**P**	**15 19 11.2**	**0.0**
ARCES	**ARCESS Array B**	**46.88**	**345**	P	**P**	**15 19 11.2**	**0.0**
	comp=Z,1.3nm,0.7s,baz=120,slow=8.9,SNR=2.2						
BOD	**Bodaibo**	**49.99**	**36**	*e*P	**P**	**15 19 34.1**	**-1.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s						
TORD	**Torodi Ar. Bea**	**54.03**	**267**	P	**P**	**15 20 05.4**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=61,slow=7.6,SNR=7.5						
TOA1	**Torodi Ar. Sit**	**54.03**	**267**	*e*P	**P**	**15 20 05.4**	**-0.7**
ILAR	**Eielson Array**	**86.89**	**10**	P	**P**	**15 23 27.6**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=326,slow=4.5,SNR=4.0						
ILB	**Eielson Array**	**86.89**	**10**	*e*P	**P**	**15 23 27.6**	**+1.7**
	comp=Z,17nm,1.9s						

MEX 18 15:26:07.1±0.6, 16°.61N×100°.57W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.53**	**33**	*i* P	Pg	15 26 16.1	-1.1
CAIG				*e*S	Sg	15 26 24.2	+0.1
ZIIG	**Zihuatanejo**	**1.31**	**319**	*e*P	Pn	15 26 27.8	-4.3
ZIIG				*i* S	Sg	15 26 45.0	-4.3
MEIG	**Mezcala**	**1.59**	**35**	*e*P	Pn	15 26 32.2	-3.9
MEIG				*i* S	Sn	15 26 53.0	-4.1
ARIG	**Puente Sto Nin**	**1.68**	**7**	*e*P	Pn	15 26 33.6	-3.5
ARIG				*e*S	Sn	15 26 55.0	-4.2
PLIG	**Platanillo**	**2.05**	**30**	*e*P	Pn	15 26 39.6	-2.8
PLIG				*i* S	Sn	15 27 04.4	-3.9
TLIG	**Tlapa**	**2.14**	**63**	*e*P	Pn	15 26 40.7	-2.9
TLIG				*i* S	Sn	15 27 06.2	-4.4
PNIG	**Pinotepa**	**2.35**	**95**	*e*P	Pn	15 26 42.8	-3.6
PNIG				*i* S	Sn	15 27 12.3	-3.5
YAIG	**Yautepec**	**2.66**	**32**	*e*P	Pn	15 26 48.1	-2.8
YAIG				*i* S	Sn	15 27 19.6	-3.9
PPM	**Popocatepetl**	**3.07**	**37**	*e*P	Pn	15 26 54.5	-2.2
PPM				*i* S	Sn	15 27 30.5	-3.5
TPIG	**Tehuac#an**	**3.55**	**59**	*e*P	Pn	15 27 00.8	-2.2
TPIG				*i* S	Sn	15 27 42.7	-2.9

IDC 18 15:33:54.8±1.6, 4°.31S×138°.81E, h0km, mb3.4/1, mb1 3.3/4, mb1mx3.2/33, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=45.1km s-min=24.2km az=121.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.60**	**47**	Pn	Pn	15 34 38.7	+0.5
	0.9nm,0.3s,baz=215,slow=15,SNR=8.8						
JAY				Sn	Sn	15 35 10.1	-0.6
	1.9nm,0.3s,baz=117,slow=19,SNR=5.3						
WRA	**Warramunga Arr**	**16.13**	**195**	Pn	Pn	15 37 43.6	+0.5
	0.1nm,0.3s,baz=15,slow=13,SNR=9.6						
ASAR	**Alice Springs**	**19.81**	**193**	P	P	15 38 26.8	-0.4
	0.1nm,0.3s,baz=22,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**71.11**	**323**	P	P	15 45 15.2	+0.1
	0.3nm,0.6s,baz=100,slow=6.0,SNR=3.4						

BJI ***18*** *15:35:49.0±0.0, 9°.73S×124°.69E, h95km, mb5.0/46, mB5.0/28*
ISCJB ***18*** *15:35:56.8±0.2, 9°.01S±0°.02×124°.11E±0°.02, h100km, mb4.8/77, Error ellipse: s-maj=3.7km s-min=2.8km az=145.2*
MOS ***18*** *15:35:56.7±1.1, 8°.99S×124°.28E, h109km, mb4.9/32, Error ellipse: s-maj=13.6km s-min=6.3km az=117.2*
DJA ***18*** *15:35:57.6±0.2, 9°.S±2°×12°.4E±°, h106km±3km, M4.6/34, mB5.1/18, mb4.9/34, MLv5.0/14, Mw(mB)4.5/18*
NEIC ***18*** *15:35:57.7±0.6, 9°.03S×124°.07E, h96km±6km, mb4.9/32, Error ellipse: s-maj=8.2km s-min=5.9km az=225.0*
NEIC Felt [III] at Kefamenanu.
KLM ***18*** *15:35:57.0, 9°.17S×124°.38E, h107km, mb4.9*
GCMT ***18*** *15:35:59.7±0.3, 9°.06S±0°.03×124°.24E±0°.03, h106km±6km, MW4.8/63, Moment Tensor Solution. s17,c19; s63,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.03±.13; Mθθ=0.87±.12; Mφφ=0.89±.13; Mrθ=1.28±.06; Mrφ=0.27±.11; Mθφ=1.27±.08; Best double couple: M=2.01900×10^16 NP1:φ=229.00000°, δ=89.00000°, λ=-63.00000°. NP2: φ=321.00000°, δ=27.00000°, λ=-178.00000°. Principal axes: T 2.1210, Plg38.0000°, Azm295.0000°; N -0.2040, Plg27.0000°, Azm48.0000°; P -1.9170, Plg40.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***18*** *15:36:01.3±1.8, 8°.90S×124°.06E, h124km±16km, mb4.3/21, mb1 4.3/23, mb1mx4.2/43, mbtmp4.7/23, MS3.3/13, Ms1 3.3/13, ms1mx3.1/28 Error ellipse: s-maj=15.8km s-min=8.7km az=60.0*

ISC 18 15:35:58.1±0.3, 9°.05S±0°.04×124°.08E±0°.04, h100km, n260, σ1§95/271, mb4.8/77, 10C-7D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.73**	**165**	*e*Pn	**Pn**	**15 36 16.4**	**+0.4**
SOEI				*e*Sn	**Sn**	**15 36 30.7**	**+1.4**
SOEI	**Soe**	**0.73**	**165**	P	**Pn**	**15 36 16.3**	**+0.4**
MMRI	**Maumere**	**1.87**	**283**	*e*Pn	**Pn**	**15 36 30.0**	**+1.0**
MMRI				*e*Sn	**Sn**	**15 36 49.4**	**-3.2**
MMRI	**Maumere**	**1.87**	**283**	P	**Pn**	**15 36 29.9**	**+0.9**
BASI	**Baing, Sumba**	**3.65**	**251**	P	**Pn**	**15 36 53.9**	**+1.3**
WSI	**Waingapu**	**3.79**	**260**	P	**Pn**	**15 36 55.9**	**+1.5**
BSSI	**Bau Bau, Buton**	**4.58**	**309**	P	**Pn**	**15 37 07.2**	**+2.0**
BSSI				S	**Sn**	**15 38 00.2**	**+2.8**
KDI	**Kendari**	**5.26**	**344**	P	**Pn**	**15 37 15.1**	**+0.6**

SBUM	Sibu	16.44	313	*e*Pn	Pn	15 39 42.3	-0.7
	comp=Z,21nm,0.9s						
SBUM	Sibu	16.44	313	P	P	15 39 46.0	+2.1
LEM	Lembang	16.45	277	P	P	15 39 45.2	+0.9
LEM				pmax	pmax		
	comp=Z,70nm,0.8s						
GIRL	Giralia	16.49	214	*e*Pn	P	15 39 47.0	+2.5
	comp=Z,108nm,1.3s						
GIRL	Giralia	16.49	214	P	P	15 39 46.8	+2.3
	baz=16,SNR=10						
PAGZ	Pagadian	16.80	358	*e*P	P	15 39 49.1	+1.2
BUKP	Musuan	16.84	3	*e*P	P	15 39 49.2	+0.7
GENI	Genyem	17.23	69	P	Pn	15 39 52.0	-0.7
KSM	Kuching	17.25	307	*e*Pn	P	15 39 55.3	+2.3
	comp=Z,34nm,1.0s						
KSM	Kuching	17.25	307	P	P	15 39 55.0	+2.1
AS31	Alice Springs	17.31	148	*e*Pn	P	15 39 52.2	-1.4
	comp=Z,33nm,1.0s						
ASAR	Alice Springs	17.31	148	*e*Pn	P	15 39 53.0	-0.6
ASAR	Alice Springs	17.31	148	*e*P	P	15 39 53.0	-0.6
ASAR	Alice Springs	17.31	148	P	P	15 39 51.6	-1.9
	comp=Z,2.1nm,0.3s,baz=321,slow=11,SNR=89						
ASAR				S	Sn	15 42 52.5	-14
	comp=Z,3.0nm,0.3s,baz=326,slow=21,SNR=12						
SKJI	Sukabumi	17.47	275	P	Pn	15 39 56.8	+1.2
	comp=Z,257nm,1.0s						
JAY	Jayapura	17.76	70	P	Pn	15 40 00.2	+1.1
	comp=Z,1.0nm,0.3s,baz=224,slow=12,SNR=7.0						
XMIS	Christmas Isla	18.22	264	*e*P	P	15 40 03.6	0.0
	comp=Z,114nm,1.0s						
MEEK	Meekatharra	18.25	196	P	Pn	15 40 05.4	+0.5
	baz=18,SNR=15						
CGJI	Cibinong	18.38	276	P	P	15 40 03.7	-1.6
QIS	Mount Isa	18.85	129	P	Pn	15 40 11.9	-0.2
	baz=19,SNR=57						
MSLP	Maasin	19.07	2	*e*P	Pn	15 40 15.7	+1.0
PALU	Palau	19.30	33	P	P	15 40 16.0	+0.6
	baz=19,SNR=5.5						
COEN	Coen	19.33	106	*e*P	P	15 40 16.6	+0.8
	comp=Z,29nm,0.6s						
COEN	Coen	19.33	106	P	Pn	15 40 17.3	-0.5
	baz=19,SNR=13						
GUIM	Jordan	19.60	356	*e*P	P	15 40 16.4	-2.2
OCLP	Ormoc	19.97	2	*e*P	Pn	15 40 37.2	+12
CUYO	Cuyo Island	20.00	351	*e*P	Pn	15 40 24.9	-0.7
ENPP	El Nido	20.65	347	*e*P	P	15 40 30.1	+0.2
MORW	Morawa	21.30	200	*e*P	P	15 40 37.9	+1.1
	comp=Z,26nm,1.0s						
MORW	Morawa	21.30	200	P	P	15 40 37.5	+0.7
	baz=21,SNR=12						
OTRP	Odiongan	21.37	354	*e*P	P	15 40 39.1	+1.5
MNAI	Manna	21.49	281	*e*P	P	15 40 38.3	-0.7
	comp=Z,136nm,1.2s						
SJMP	San Jose	21.57	352	*e*P	P	15 40 41.4	+1.6
FORT	Forrest	21.94	171	*e*P	P	15 40 44.3	+0.8
	comp=Z,130nm,0.9s						
FORT	Forrest	21.94	171	P	P	15 40 44.1	+0.6
	baz=22,SNR=35						
KMBL	Kambalda	22.30	185	P	P	15 40 48.1	+0.7
	baz=22,SNR=9.6						
BOAC	Boac	22.47	354	*e*P	P	15 40 50.1	+0.8
BLDU	Ballidu	22.54	197	P	P	15 40 50.3	+0.4
	baz=23,SNR=16						
PMG	Port Moresby	22.78	93	P	P	15 40 57.3	+4.8
	comp=Z,34nm,0.7s,baz=239,slow=5.2,SNR=14						
PMG				LR	LR	15 51 25.6	
	comp=Z,88nm,18.2s,baz=262,slow=40						
MYKOM	Kota Tinggi	22.86	297	*e*P	P	15 40 53.6	+0.4
	comp=Z,35nm,0.9s						
MYKOM	Kota Tinggi	22.86	297	P	P	15 40 54.0	+0.8
KLBR	Kellerberrin	23.19	194	P	P	15 40 56.8	+0.5
	baz=23,SNR=14						
MUN	Mundaring	23.96	197	P	P	15 41 04.5	+1.3
	baz=24,SNR=4.9						
CTA	Charters Tower	24.07	120	P	P	15 41 05.6	+1.2
	comp=Z,35nm,0.9s,baz=286,slow=13,SNR=32						
CTAO	Charters Tower	24.07	120	*e*P	P	15 41 06.1	+1.7
	comp=Z,47nm,0.9s						
CTAO	Charters Tower	24.07	120	*e*P	P	15 41 06.1	+1.7
CTAO				pmax	pmax		
	comp=Z,47nm,0.9s						
NWAO	Narrogin (SRO)	24.59	194	*e*P	P	15 41 10.0	+1.0
	comp=Z,25nm,1.1s						
NWAO	Narrogin (SRO)	24.59	194	P	P	15 41 09.9	+0.9
	baz=25,SNR=4.8						
NWAO	Narrogin (SRO)	24.59	194	*e*P	P	15 41 10.0	+1.0
NWAO				pmax	pmax		
	comp=Z,25nm,1.1s						
NWAO	Narrogin (SRO)	24.59	194	P	P	15 41 09.7	+0.7
	comp=Z,11nm,1.0s,baz=23,slow=9.6,SNR=8.3						
NWAO				LR	LR	15 52 48.9	
	comp=Z,84nm,20.5s,baz=2.5,slow=41						
BKNI	Bangkinang	24.77	291	P	P	15 41 08.8	-2.0
CAUP	Cauayan	25.92	355	*e*P	P	15 41 23.6	+2.5
BBOO	Buckleboo	26.11	157	*e*P	P	15 41 24.0	+1.2
	comp=Z,50nm,0.7s						
BBOO	Buckleboo	26.11	157	P	P	15 41 24.0	+1.2
	baz=26,SNR=54						
RKGY	Rocky Gully	26.26	193	P	P	15 41 26.3	+2.2
	baz=26						
IPM	Ipoh	26.62	299	P	P	15 41 28.0	+0.4
KULM	Kulim	27.36	300	*e*P	P	15 41 33.7	-0.5
KULM	Kulim	27.36	300	P	P	15 41 34.0	-0.1
PSI	Prapat	27.70	294	*e*P	P	15 41 37.1	-0.2
	comp=Z,13nm,1.0s						
PSI	Prapat	27.70	294	*e*P	P	15 41 37.1	-0.2
PSI				pmax	pmax		
	comp=Z,13nm,1.0s						
PSI	Prapat	27.70	294	P	P	15 41 36.8	-0.5
	comp=Z,3.4nm,0.4s,baz=153,slow=6.2,SNR=9.1						
HTT	Hallett	27.86	153	P	P	15 41 40.3	+1.8
	baz=28,SNR=12						
STKA	Stephens Creek	27.93	147	*e*P	P	15 41 40.8	+1.7
	comp=Z,4.8nm,0.9s						
STKA	Stephens Creek	27.93	147	P	P	15 41 40.8	+1.7
	baz=28,SNR=34						
STKA	Stephens Creek	27.93	147	*e*P	P	15 41 40.8	+1.7
STKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
STKA	Stephens Creek	27.93	147	P	P	15 41 40.6	+1.5
	comp=Z,19nm,0.8s,baz=328,slow=8.6,SNR=34						
STKA				LR	LR	15 53 58.2	
	comp=Z,171nm,19.0s,baz=360,slow=38						
RMQ	Roma	29.11	130	P	P	15 41 52.0	+2.4
	baz=29,SNR=7.9						
TRTT	Trang	29.53	304	P	P	15 41 54.7	+1.3
CMSA	Cobar Meteorol	30.07	141	P	P	15 41 59.8	+1.8
	baz=30,SNR=49						
ARPS	Mount Arapiles	31.96	152	P	P	15 42 16.8	+2.3
	baz=32,SNR=39						
PANO	Nakornpanom	32.37	323	P	P	15 42 20.3	+1.9
	comp=Z,0.4nm,1.1s						
SKNT	Sakolnakorn	32.61	322	P	P	15 42 22.1	+1.6
CHAI	Chaiyaphum	33.06	318	P	P	15 42 26.7	+2.2
	comp=Z,28μm,0.9s,comp=Z,360μm						
ARMA	Armidale	33.36	133	P	P	15 42 28.7	+1.6
	baz=33						
YNG	Young	33.61	142	P	P	15 42 31.8	+2.7
	baz=34,SNR=11						
CAN	Canberra	34.67	143	P	P	15 42 41.6	+3.4
	baz=35						
CNB	Canberra Magne	34.88	142	P	P	15 42 43.0	+2.9
	baz=35,SNR=14						
RIV	Riverview	35.05	139	P	P	15 42 44.9	+3.4
	baz=35						
PHRA	Phrae	36.10	319	P	P	15 42 53.6	+3.0
	comp=Z,1.0nm,1.1s						
LAMP	Lampang	36.50	319	P	P	15 42 56.6	+2.5
CMAR	Chiang Mai Arr	36.91	318	P	P	15 42 58.8	+1.2
	comp=Z,13nm,1.0s,baz=144,slow=6.7,SNR=64						
CMAR				ScP	ScP	15 48 53.2	-1.9
	comp=Z,1.8nm,0.9s,baz=154,slow=3.0,SNR=11						
CMAR				LR	LR	15 59 16.0	
	comp=Z,27nm,21.1s,baz=140,slow=38						
CMMT	Chiang Mai	37.16	318	P	P	15 43 00.8	+1.1
CHTO	Chiang Mai	37.16	318	*e*P	P	15 43 00.8	+1.1
	comp=Z,26nm,1.1s						
CHTO	Chiang Mai	37.16	318	*e*P	P	15 43 00.8	+1.1
CHTO				pmax	pmax		
	comp=Z,26nm,1.1s						
KMI	Kunming	39.83	329	P	P	15 43 23.9	+1.8
KMI				pmax	pmax		
	comp=Z,21nm,0.5s						
KMI				pmax	pmax		
	comp=Z,100nm,5.9s						
WHN	Wuhan	40.46	347	⇓P	P	15 43 26.9	-0.1
WHN				pmax	pmax		
	comp=Z,38nm,0.8s						
NJ2	Nanjing	41.17	353	*e*P	P	15 43 32.3	-0.5
NJ2				pmax	pmax		
	comp=Z,21nm,0.5s						
DZM	Mont Dzumac	42.66	113	P	P	15 43 46.7	+1.4
	comp=Z,12nm,1.0s,baz=299,slow=5.2,SNR=9.9						
CD2	Chengdu	44.26	335	P	P	15 43 58.1	+0.2
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
XAN	Xi'an	45.20	342	P	P	15 44 04.0	-1.3
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSRS	Korea Array	46.40	4	P	P	15 44 13.9	-0.7
	comp=Z,0.6nm,0.5s,baz=183,slow=10,SNR=7.5						
KSRS				PcP	PcP	15 45 47.3	-0.6
	comp=Z,1.2nm,0.8s,baz=185,slow=2.7,SNR=4.5						
KSRS				LR	LR	16 07 01.4	
	comp=Z,6.1nm,18.9s,baz=130,slow=40						
MAJO	Matsushiro	47.25	16	*e*P	P	15 44 20.0	-1.3
	comp=Z,11nm,0.9s						
MAJO	Matsushiro	47.25	16	*e*P	P	15 44 20.0	-1.3
MAJO				pmax	pmax		
	comp=Z,11nm,0.9s						
MAT	Matsushiro	47.25	16	P	P	15 44 19.5	-1.8
MJAR	Matsushiro Arr	47.25	16	P	P	15 44 19.6	-1.7
MJAR	Matsushiro Arr	47.25	16	P	P	15 44 19.9	-1.5
	comp=Z,10nm,0.9s,baz=195,slow=9.2,SNR=30						
MJB9	Matsu-Tunnel	47.26	16	*e*P	P	15 44 20.1	-1.2
	comp=Z,11nm,0.9s						
LZH	Lanzhou	48.77	338	*e*P	P	15 44 35.4	+2.2
LZH				pP	pwP	15 44 58.5	-0.9
LZH				sP	sP	15 45 09.8	+2.5
LZH				pmax	pmax		
	comp=Z,34nm,1.1s						
LZH				pmax	pmax		
	comp=Z,190nm,4.8s						
LSA	Lhasa	49.89	322	*e*P	P	15 44 42.6	+0.4
	comp=Z,20nm,0.8s						
LSA	Lhasa	49.89	322	*e*P	P	15 44 42.6	+0.4
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
ODAN	Odare	50.41	316	*e*P	P	15 44 45.4	-0.5
	comp=Z,60nm,0.7s						
HHC	Hu-ho-hao-te	50.97	348	*e*P	P	15 44 54.4	+4.7
HHC				pmax	pmax		
	comp=Z,67nm,1.0s						
HHC				pmax	pmax		
	comp=Z,270nm,5.1s						
RAMN	Ramite	51.01	316	*e*P	P	15 44 50.7	+0.3
	comp=Z,166nm,0.8s						
JIRN	Jiri	51.74	316	*e*P	P	15 44 56.0	0.0
	comp=Z,116nm,0.9s						
HYB	Hyderabad	52.11	300	*i* P	P	15 44 57.0	-1.5
PKI	Pulchoki	52.22	315	*e*P	P	15 44 59.1	-0.4
	comp=Z,48nm,0.2s						
PKIN	Phulchoki	52.23	315	*e*P	P	15 44 59.1	-0.5
	comp=Z,32nm,0.2s						
MLZ	Mavora Lakes	52.31	142	*e*P	P	15 45 01.8	+2.2
	comp=Z,23nm,1.0s						
KKN	Kakani	52.45	316	*e*P	P	15 45 00.8	-0.3
DMN	Daman	52.45	315	*e*P	P	15 45 01.0	-0.2
GTA	Gaotai	53.22	337	⇓P	P	15 45 06.3	-0.1
GTA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,70nm,5.4s						
GTA				LR	LR		
	comp=Z,58nm,15.2s						
GTA				LR	LR		
	comp=Z,97nm,14.9s						
GTA				LR	LR		
	comp=Z,80nm,17.1s						
RPZ	Rata Peaks	53.40	139	P	P	15 45 09.8	+2.2
	comp=Z,45nm,0.9s,baz=264,slow=1.5,SNR=15						
USRK	Ussuriysk Ar.	53.48	7	P	P	15 45 07.6	-0.5
	comp=Z,12nm,0.8s,baz=192,slow=7.1,SNR=50						
KOLN	Koldanda	53.61	314	*e*P	P	15 45 09.4	-0.2
MDJ	Mudanjiang	53.65	5	P	P	15 45 08.8	-0.5
MDJ				pmax	pmax		
	comp=Z,71nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,130nm,2.6s						
DANN	Dangsing	53.85	315	*e*P	P	15 45 11.1	-0.3
	comp=Z,164nm,0.7s						
OXZ	Oxford	53.88	138	*e*P	P	15 45 12.4	+1.3
	comp=Z,14nm,0.8s						
PYUN	Piuthan	54.24	314	*e*P	P	15 45 14.1	-0.1
	comp=Z,216nm,0.8s						
TEY	Ternei	55.01	11⇑	*e*P	P	15 45 18.2	-0.9
TEY				pmax	pmax		
	comp=N,20nm,1.2s						
TEY				pmax	pmax		
	comp=Z,20nm,1.1s						
CASY	Casey	57.90	186	*e*P	P	15 45 41.7	+2.3
	comp=Z,6.1nm,0.9s						
KLR	Kul'dur	58.42	6	*d i*P	P	15 45 42.2	-1.0
KLR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ULN	Ulaanbaatar	58.64	347	*ce*P	P	15 45 42.8	-2.2
ULN				pmax	pmax		
	comp=Z,13nm,1.3s						
SONA0	Songino Array	58.76	346	*e*P	P	15 45 44.7	-1.1
SONM	Songino Array	58.76	346	P	P	15 45 44.9	-0.9
SONM	Songino Array	58.76	346	P	P	15 45 44.7	-1.1
	comp=Z,6.0nm,0.8s,baz=162,slow=9.5,SNR=15						
GRNR	Gornyy	60.53	9	*e*P	P	15 46 01.0	+3.3
ZAK	Zakamensk	61.89	345	*e*P	P	15 46 06.0	-1.0
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMQ	Urumqi	62.11	331	P	P	15 46 08.8	+0.2
WMQ				sP	sP	15 46 44.1	+0.9
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,260nm,6.3s						
WMQ				LR	LR		
	comp=Z,240nm,35.3s						
WMQ				LR	LR		
	comp=Z,1μm,39.1s						
WMQ				LR	LR		
	comp=Z,220nm,27.3s						
ZEA	Zeya	62.60	2	*e*P	P	15 46 10.9	-0.6
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
TLY	Talaya	63.00	346	*d i*P	P	15 46 13.4	-0.9
MOY	Mondy	63.66	344	*e*P	P	15 46 18.6	-0.2
MOY				pmax	pmax		
	comp=Z,15nm,1.7s						
NIL	Nilore	64.26	314	*e*P	P	15 46 22.7	-0.3
	comp=Z,40nm,0.9s						
NIL	Nilore	64.26	314	*e*P	P	15 46 22.7	-0.3
NIL				pmax	pmax		
	comp=Z,40nm,0.9s						
KSH	Kashi	65.72	321	P	P	15 46 32.4	-0.1
KSH				pP	pP	15 46 57.3	+0.8
KSH				PP	PP	15 49 00.5	+2.1
KSH				S	S	15 55 04.6	-6.4
KSH				pmax	pmax		
	comp=Z,25nm,0.5s						
KSH				pmax	pmax		
	comp=Z,210nm,6.9s						
KSH				LR	LR		
	comp=Z,120nm,6.6s						
KSH				LR	LR		
	comp=Z,110nm,7.4s						
KSH				LR	LR		
	comp=Z,380nm,5.6s						
KDJ	Kajisay	66.57	324	*e*P	P	15 46 37.8	-0.1
	comp=Z,7.7nm,0.9s						
KDJ	Kajisay	66.57	324	*e*P	P	15 46 37.8	-0.1
KDJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DGZ	Jazzator, Alta	66.69	335	*d i*P	P	15 46 37.9	-0.5
DGZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MK31	Makanchi Array	66.89	330	*e*P	P	15 46 39.1	-0.5
	comp=Z,16nm,0.9s						
MK31	Makanchi Array	66.89	330	*e*P	P	15 46 39.1	-0.5
MK31				pmax	pmax		
	comp=Z,16nm,0.9s						
MKAR	Makanchi Array	66.89	330	*e*P	P	15 46 38.5	-1.2
MKAR	Makanchi Array	66.89	330	*ce*P	P	15 46 39.0	-0.6
MKAR				pmax	pmax		
	comp=Z,20nm,0.9s						
MKAR	Makanchi Array	66.89	330	P	P	15 46 39.0	-0.6
	comp=Z,20nm,0.9s,baz=136,slow=8.0,SNR=102						
MAKZ	Makanchi	67.06	330	*e*P	P	15 46 39.9	-0.8
	comp=Z,12nm,1.0s						
MAKZ	Makanchi	67.06	330	*e*P	P	15 46 39.9	-0.8
MAKZ				pmax	pmax		
	comp=Z,12nm,1.0s						
BOD	Bodaibo	67.14	354	*e*P	P	15 46 39.8	-1.1
BOD				pmax	pmax		
	comp=Z,17nm,1.2s						
KBL	Kabul	67.73	313	*e*P	P	15 46 44.4	-1.0
	comp=Z,27nm,0.9s						
KBL	Kabul	67.73	313	*e*P	P	15 46 44.4	-1.0
KBL				pmax	pmax		
	comp=Z,27nm,0.9s						
PEA0B	Petropavlovsk-	68.21	21	*e*P	P	15 46 48.5	+0.8
	comp=Z,45nm,1.5s						
PEA0B	Petropavlovsk-	68.21	21	*e*P	P	15 46 48.5	+0.8
PEA0B				pmax	pmax		
	comp=Z,45nm,1.5s						
PETK	Petropavlovsk-	68.21	21	*e*P	P	15 46 48.0	+0.3
PETK	Petropavlovsk-	68.21	21	*e*P	P	15 46 48.1	+0.3
PETK	Petropavlovsk-	68.21	21	P	P	15 46 47.8	+0.1
	comp=Z,6.4nm,0.8s,baz=215,slow=3.8,SNR=9.1						
PETK				LR	LR	16 16 57.9	
	comp=Z,12nm,20.5s,baz=123,slow=36						
PEA1	Petropavlovsk-	68.21	21	*e*P	P	15 46 47.8	+0.1
AAK	Ala-Archa	68.47	323	*ce*P	P	15 46 50.0	+0.2
AAK				pmax	pmax		
	comp=Z,12nm,0.7s						
ARSB	Arslanbob	68.63	321	*e*P	P	15 46 50.8	0.0
	comp=Z,24nm,0.8s						
MAW	Mawson	70.94	201	*e*P	P	15 47 05.0	+0.7
	comp=Z,1.0nm,0.9s						
MAW	Mawson	70.94	201	*e*P	P	15 47 05.0	+0.7
MAW				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MAW	Mawson	70.94	201	P	P	15 47 05.0	+0.7
	comp=Z,2.5nm,0.7s,baz=39,slow=8.8,SNR=4.2						
MAW				LR	LR	16 14 21.1	
	comp=Z,44nm,22.0s,baz=43,slow=32						
ZALV	Zalesovo Beam	70.97	337	*e*P	P	15 47 03.0	-1.7
ZALV	Zalesovo Beam	70.97	337	P	P	15 47 03.0	-1.7
	comp=Z,15nm,0.9s,baz=133,slow=4.4,SNR=30						
ZAA1	Zalesovo Array	70.98	337	*e*P	P	15 47 03.0	-1.7
YAK	Yakutsk	70.99	3	*e*P	P	15 47 04.0	-0.6
YAK				pmax	pmax		
	comp=Z,54nm,0.7s						
YAK				pmax	pmax		
	comp=N,23nm,0.8s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.7s						
KKAR	Karatay Array	71.14	321	P	P	15 47 06.5	+0.5
KKAR				pmax	pmax		
	comp=Z,39nm,1.0s						
VNDA	Vanda	71.20	172	*e*P	P	15 47 03.2	-2.6
VNDA	Vanda	71.20	172	*e*P	P	15 47 03.2	-2.6
VNDA	Vanda	71.20	172	P	P	15 47 07.0	+1.3
	comp=Z,2.4nm,0.6s,baz=323,slow=7.4,SNR=28						
VNDA				LR	LR	16 17 52.2	
	comp=Z,38nm,18.9s,baz=319,slow=35						
KURK	Kurchatov	71.35	331	*ce*P	P	15 47 06.4	-0.6
KURK				pmax	pmax		
	comp=Z,27nm,1.0s						
MA2	Magadan	71.66	14	*ce*P	P	15 47 09.0	+0.3
MA2				pmax	pmax		
	comp=Z,8.0nm,1.7s						
NVS	Novosibirsk	72.26	337	*e*P	P	15 47 10.8	-1.6
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SEY	Seymchan	75.00	13	*ce*P	P	15 47 28.4	+0.2
BRVK	Borovoye	76.85	330	*ce*P	P	15 47 39.0	0.0
BRVK				pmax	pmax		
	comp=Z,18nm,2.5s						
GEYT	Alibeck	77.14	312	LR	LR	16 28 30.7	
	comp=Z,10nm,18.4s,baz=55,slow=41						
SYO	Syowa Base	79.64	201⇑	*e*P	P	15 47 54.4	+0.3
ABKAR	Akbulak array	80.55	323	*e*P	P	15 47 58.9	-0.5
TIXI	Tiksi	80.58	2	*e*P	P	15 47 58.4	-0.7
	comp=Z,5.5nm,0.7s						
TIXI	Tiksi	80.58	2	*ce*P	P	15 47 58.3	-0.8
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
QSPA	South Pole Qui	80.94	180	*e*P	P	15 48 03.5	+2.1
	comp=Z,9.5nm,1.0s						
AKTO	Aktyubinsk	82.17	324	P	P	15 48 07.0	-1.0
	comp=Z,10nm,0.7s,baz=102,slow=5.6,SNR=33						
NRIK	Noril'sk	82.20	348	P	P	15 48 07.2	-0.5
	comp=Z,1.2nm,0.3s,baz=168,slow=4.0,SNR=6.4						
BILL	Bilibino	82.50	15	*e*P	P	15 48 10.2	+0.9
BILL				*e*		15 51 20.3	
BILL				pmax	pmax		
	comp=Z,5.0nm,2.5s						
SVE	Sverdlovsk	83.56	330	*e*P	P	15 48 15.3	+0.4
SVE				pmax	pmax		
	comp=Z,20nm,1.0s						
ARU	Arti	84.41	329	*d i*P	P	15 48 18.8	-0.5
ARU						15 51 35.1	
ARU				S	S	15 58 32.7	-4.4
ARU				SS	SS	16 04 06.5	-3.2
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARU	Arti	84.41	329	P	P	15 48 17.9	-1.4
	comp=Z,0.6nm,0.2s,baz=110,slow=3.7,SNR=5.5						
ZEI	Tsey	88.95	313	*e*P	P	15 48 39.4	-2.6
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KBZ	Khabaz	89.88	314	P	P	15 48 45.1	-0.8
	comp=Z,1.3nm,0.5s,baz=103,slow=3.0,SNR=5.8						
KIV	Kislovodsk	90.08	314	*e*P	P	15 48 46.6	-0.5
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
SNAA	Sanae	92.26	195	P	P	15 48 59.2	+2.5
SNAA	Sanae	92.26	195	P	P	15 49 00.7	+4.0
VNA2	Neumayer--Watz	93.87	194	P	P	15 49 06.8	+2.8
	baz=129,slow=4.3						
VNA3	Neumayer Olymp	94.19	194	P	P	15 49 07.5	+2.0
OBN	Obninsk	95.93	325	*e*P	P	15 49 12.7	-0.9
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BR101	Keskin Array S	96.05	309	*e*P	P	15 49 14.0	-0.8
BRTR	Keskin Array B	96.05	309	P	P	15 49 14.0	-0.8
	comp=Z,0.5nm,0.7s,baz=134,slow=6.2,SNR=3.4						
BRTR				LR	LR	16 37 58.8	
	comp=Z,7.2nm,21.2s,baz=88,slow=39						
KIEV	Kiev	100.02	320	*i* P	Pdif	15 49 32.5	+0.4
KIEV				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TORD	Torodi Ar. Bea	123.41	280	PKP	PKiKP	15 54 45.6	+0.8
	comp=Z,1.2nm,0.8s,baz=100,slow=1.9,SNR=7.1						
TOA1	Torodi Ar. Sit	123.42	280	*e*PKPdf	PKiKP	15 54 45.6	+0.8
TXAR	Lajitas Array	131.00	59	SKP	SKPbc	15 58 15.4	+0.9

JFT	**Otama**	**1.54 278**	P	Pb	15 37 29.9	-0.6
JFT			S	Sb	15 37 48.7	-0.8
JOU	**Okura**	**1.63 310**	P	Pb	15 37 31.0	-1.0
JOU			S	Sb	15 37 51.2	-0.9
JMK	**Ichinoseki**	**1.81 334**	P	Pn	15 37 33.3	+1.1
JMK			*e*S	Sn	15 37 55.6	+1.3
MAT	**Matsushiro**	**3.33 258**	P	Pn	15 37 56.6	+3.4
MAT			S	Sb	15 38 36.6	-4.6

ISCJB ***18*** *15:40:24.5±0.2,51°.49N∝0°.01×16°.11E±0°.02,h0km, mb3.6/4,Error ellipse: s-maj=2.2km s-min=2.0km az=44.7*
LDG ***18*** *15:40:26.9±0.2,51°.47N×16°.14E,h1km,ml3.4/9,Error ellipse: s-maj=5.7km s-min=2.6km az=12.0,Suspected Mining induced.*
IPEC ***18*** *15:40:26.7±0.3,51°.52N×16°.21E,h0km±2km,ML2.8/3, Error ellipse: s-maj=3.5km s-min=1.7km az=63.0*
IDC ***18*** *15:40:27.9±0.6,51°.50N×15°.88E,h0km,mb3.6/4, mb1 3.5/11,mb1mx3.4/52,mbtmp3.5/11,ML3.1/7,Error ellipse: s-maj=11.2km s-min=5.7km az=101.0*
PRU ***18*** *15:40:28.1±0.0,51°.45N×16°.10E,h0km*
BGR ***18*** *15:40:29.5±0.5,51°.40N×16°.05E,h1km,ML3.4/13,Error ellipse: s-maj=11.1km s-min=4.4km az=17.0*
VIE ***18*** *15:40:29.7±0.7,51°.30N×16°.14E,h0km,mb2.8/9,ml3.0/10, Error ellipse: s-maj=7.4km s-min=5.2km az=52.0, Suspected Mining induced.*
UPP ***18*** *15:40:30.8±3.0,51°.73N×15°.61E,h0km,ML2.4,Suspected explosion*

ISC 18 15:40:25.0±0.6,51°.52N±0°.03×16°.07E±0°.02,h0km,n92, σ1º95/166,mb3.7/4,10D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**168**	*i* Pg	**Pb**	**15 40 40.1**	**+0.2**
KSP				*e*Sg	**Sg**	15 40 48.1	+1.0
KSP	**Ksiaz**	**0.69**	**168**	*e*Pg	**Pb**	**15 40 40.1**	**+0.2**
UPC	**Upice**	**1.01**	**182**	⇓*i*PG	**Pb**	**15 40 46.1**	**+0.8**
UPC				*e*SG	**Sg**	**15 40 59.0**	**+1.6**
	comp=Z,371nm,0.4s						
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*Pg	**Pb**	**15 40 48.9**	**+0.6**
DPC				*e*Sg	**Sb**	**15 41 05.2**	**+1.1**
DPC	**Dobruska-Polom**	**1.18**	**172**	⇓*i*PG	**Pb**	**15 40 48.8**	**+0.6**
DPC				*e*SG	**Sg**	**15 41 03.9**	**+1.1**
	comp=Z,94nm,0.4s						
PVCC	**Panska Ves**	**1.37**	**224**	⇓*e*PG	**Pb**	**15 40 53.1**	**+1.7**
PVCC				*e*SG	**Sn**	**15 41 12.0**	**+1.9**
	comp=Z,333nm,0.3s						
BRG	**Berggiesshubel**	**1.48**	**245**	PN	**Pg**	**15 40 54.5**	**+1.1**
BRG				PG	**Pb**	**15 40 56.9**	**+3.5**
BRG				SG	**Sn**	**15 41 15.8**	**+2.8**
	149nm,0.6s						
BRG	**Berggiesshubel**	**1.48**	**245**	*e*Pg	**Pg**	**15 40 55.9**	**+2.5**
BRG				*e*Sg	**Sn**	**15 41 15.7**	**+2.8**
KRLC	**Kraliky**	**1.51**	**162**	⇓*e*PG	**Pb**	**15 40 54.4**	**+0.5**
KRLC				*e*SG	**Sg**	**15 41 13.4**	**-0.1**
	comp=Z,40nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.80**	**207**	⇓*e*PN	**Pn**	**15 40 58.4**	**+1.2**
GOPC				*e*PG	**Pg**	**15 41 00.1**	**+0.7**
GOPC				*e*SG	**Sg**	**15 41 23.8**	**+1.1**
	comp=Z,52nm,0.5s						
FBE	**Freiberg**	**1.81**	**252**	*e*Pg	**Pg**	**15 41 01.7**	**+2.1**
FBE				*e*Sg	**Sg**	**15 41 25.2**	**+2.2**
PRU	**Pruhonice**	**1.81**	**213**	⇓*e*PN	**Pb**	**15 40 58.7**	**-0.3**
PRU				*e*PG	**Pg**	**15 41 00.6**	**+1.0**
PRU				*e*SG	**Sg**	**15 41 24.2**	**+1.1**
	comp=Z,68nm,0.3s						
CLL	**Collm**	**1.93**	**265**	*e*Pn	**Pn**	**15 41 00.0**	**+1.0**
CLL				*e*Pg	**Pg**	**15 41 03.0**	**+1.1**
CLL				*e*		15 41 06.0	
CLL				*i*		15 41 08.0	
CLL				*e*		15 41 19.0	
CLL				*e*Sg	**Sg**	**15 41 29.0**	**+2.1**
	comp=Z,50nm,0.4s						
CLL	**Collm**	**1.93**	**265**	*e*Pn	**Pb**	**15 41 00.7**	**-0.2**
CLL				*e*Sg	**Sg**	**15 41 30.5**	**+3.6**
MORC	**Moravsky Berou**	**1.98**	**151**	*e*PN	**Pn**	**15 41 00.7**	**+0.9**
MORC				*e*SG	**Sb**	**15 41 27.6**	**+0.5**
MORC	**Moravsky Berou**	**1.98**	**151**	*e*Pn	**Pn**	**15 41 00.6**	**+0.8**
	baz=335						
MORC				*e*Sg	**Sb**	**15 41 27.5**	**+0.5**
	comp=Z,64nm,0.4s,baz=335						
MORC	**Moravsky Berou**	**1.98**	**151**	*e*Pn	**Pn**	**15 41 00.9**	**+1.2**
OKC	**Ostrava-Krasne**	**2.14**	**141**	*e*Pn	**Pn**	**15 41 03.1**	**+1.2**
OKC				*e*Sg	**Sg**	**15 41 34.3**	**+0.6**
OKC	**Ostrava-Krasne**	**2.14**	**141**	⇓*e*PN	**Pn**	**15 41 02.6**	**+0.7**
OKC				*e*PG	**Pg**	**15 41 06.2**	**+0.3**
OKC				*e*SG	**Sb**	**15 41 32.8**	**+1.2**
	comp=Z,88nm,0.5s						
VRAC	**Vranov**	**2.24**	**171**	*e*PN	**Pn**	**15 41 04.7**	**+1.4**
VRAC				*e*SG	**Sb**	**15 41 36.2**	**+1.8**
VRAC	**Vranov**	**2.24**	**171**	*e*Pn	**Pn**	**15 41 04.7**	**+1.4**
	baz=354						
VRAC				*e*Sg	**Sb**	**15 41 36.1**	**+1.7**
	comp=Z,38nm,0.3s,baz=354						
VRAC	**Vranov**	**2.24**	**171**	Pn	**Pb**	**15 41 05.5**	**-0.7**
	comp=Z,5.2nm,0.3s,baz=337,slow=15,SNR=32						
VRAC				Pg	**Pg**	**15 41 10.4**	**+2.6**
	comp=Z,8.9nm,0.3s,baz=348,slow=18,SNR=19						
VRAC				Lg	Lg	15 41 36.2	
	comp=Z,14nm,0.3s,baz=104,slow=22,SNR=8.4						
TREC	**Trest**	**2.25**	**190**	⇓*e*PN	**Pb**	**15 41 05.6**	**-0.9**
TREC				*e*PG	**Pg**	**15 41 08.8**	**+0.7**
TREC				*e*SG	**Sg**	**15 41 37.7**	**+0.3**
	comp=Z,56nm,0.3s						
KRUC	**Moravsky**	**2.47**	**175**	*e*PN	**Pn**	**15 41 08.2**	**+1.8**
KRUC				*e*PG	**Pg**	**15 41 11.9**	**-0.3**
KRUC				*e*SG	**Sg**	**15 41 43.8**	**-0.3**
KRUC	**Moravsky**	**2.47**	**175**	*e*Pn	**Pn**	**15 41 08.1**	**+1.7**
	baz=357						
KRUC	**Moravsky**	**2.47**	**175**	*e*Pg	**Pg**	**15 41 11.9**	**-0.3**
	baz=357						
KRUC				*e*Sg	**Sg**	**15 41 43.8**	**-0.3**
	comp=Z,55nm,0.5s,baz=357						
TANN	**Tannenbergstha**	**2.53**	**246**	*e*Pn	**Pb**	**15 41 09.8**	**-1.5**
NKC	**Novy Kostel**	**2.63**	**242**	⇓*e*PN	**Pn**	**15 41 10.9**	**+2.3**
NKC				*e*PG	**Pg**	**15 41 17.0**	**+1.7**
NKC				*e*SG	**Sg**	**15 41 52.6**	**+3.3**
	comp=Z,123nm,0.3s						
OJC	**Ojcow**	**2.70**	**117**	*e*Pn	**Pn**	**15 41 10.2**	**+0.6**
OJC				*e*Pg	**Pg**	**15 41 18.8**	**+2.2**
OJC				*e*Sg	**Sg**	**15 41 53.9**	**+2.3**
OJC	**Ojcow**	**2.70**	**117**	*e*Pn	**Pg**	**15 41 16.6**	**0.0**
JAVC	**Velka Javorina**	**2.85**	**158**	*e*PN	**Pn**	**15 41 13.5**	**+1.7**
JAVC				*e*SG	**Sb**	**15 41 54.7**	**+2.5**
KHC	**Kasperske Hory**	**2.87**	**215**	⇓*e*PN	**Pn**	**15 41 13.5**	**+1.5**
KHC				*e*PG	**Pg**	**15 41 19.8**	**-0.2**
KHC				*e*SN	**Sn**	**15 41 48.1**	**+0.8**
KHC				*e*SG	**Sg**	**15 41 58.8**	**+1.6**
	comp=Z,37nm,0.4s						
MOX	**Moxa**	**2.94**	**254**	*e*Sg	**Sg**	**15 42 02.7**	**+3.4**
MANZ	**Manzenberg**	**2.94**	**240**	*e*Pn	**Pn**	**15 41 15.3**	**+2.3**
ROTZ	**Rotzenmuhle**	**3.02**	**236**	*e*Pn	**Pn**	**15 41 16.1**	**+2.1**
ROTZ				*e*Sg	**Sg**	**15 42 03.2**	**+1.4**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**15 41 17.3**	**+2.4**
GEC2				*e*Sg	**Sg**	**15 42 04.0**	**+0.3**
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**15 41 17.1**	**+2.2**
	comp=Z,2.7nm,0.3s,baz=26,slow=13,SNR=69						
GERES				Pg	**Pg**	**15 41 23.1**	**-0.8**
	comp=Z,9.1nm,0.3s,baz=28,slow=16,SNR=56						
GERES				Sn	**Sn**	**15 41 51.9**	**-0.5**
	comp=Z,5.5nm,0.3s,baz=34,slow=19,SNR=5.2						
GERES				Lg	Lg	15 42 02.2	
	comp=Z,9.7nm,0.3s,baz=29,slow=26,SNR=8.3						
SMOL	**Smolenice**	**3.13**	**163**	*e*PG	**Pg**	**15 41 26.7**	**+1.8**
SMOL				*e*SG	**Sg**	**15 42 06.4**	**+0.9**
WET	**Wettzell**	**3.13**	**222**	*e*Pn	**Pn**	**15 41 17.5**	**+1.9**
LANS	**Liptovska Anna**	**3.22**	**136**	*e*PN	**Pn**	**15 41 17.7**	**+0.9**
LANS				*e*PG	**Pg**	**15 41 26.5**	**-0.1**
LANS				*e*SG	**Sg**	**15 42 08.6**	**+0.3**
MODS	**Modra-Piesok**	**3.24**	**166**	*e*PN	**Pn**	**15 41 18.6**	**+1.5**
MODS				*e*PG	**Pg**	**15 41 27.1**	**0.0**
MODS				*e*SG	**Sg**	**15 42 07.5**	**-1.6**
ZST	**Bratislava**	**3.39**	**168**	*e*PG	**Pg**	**15 41 29.0**	**-0.9**
ZST				*e*SG	**Sg**	**15 42 13.0**	**-0.8**
NIE	**Niedzica**	**3.42**	**126**	*e*P	**Pg**	**15 41 30.9**	**+0.4**
NIE				*e*S	**Sg**	**15 42 15.5**	**+0.6**
VYHS	**Vyhne**	**3.51**	**148**	*e*PN	**Pn**	**15 41 21.9**	**+1.1**
VYHS				*e*PG	**Pg**	**15 41 31.9**	**-0.4**
VYHS				*e*SG	**Sg**	**15 42 17.4**	**-0.4**
CLZ	**Clausthal**	**3.56**	**277**	*e*Pn	**Pn**	**15 41 24.9**	**+3.4**
GRF	**Grafenberg Arr**	**3.59**	**241**	*e*Pn	**Pn**	**15 41 24.5**	**+2.7**
CONA	**Conrad Observa**	**3.59**	**182**	*i* Pn	**Pn**	**15 41 24.1**	**+2.1**
	comp=Z,5.5nm,0.4s						
CONA				*e*Pg	**Pg**	**15 41 34.4**	**+0.6**
	comp=Z,13nm,0.4s						
CONA				Sg	**Sg**	**15 42 20.8**	**+0.4**
	comp=Z,29nm,0.4s						
BSD	**Bornholm Skovb**	**3.67**	**350**	*i* P	**Pn**	**15 41 24.4**	**+1.5**
BSD				*i* S	**Sn**	**15 42 05.1**	**-1.7**
MOA	**Molln**	**3.85**	**198**	*i* Pn	**Pn**	**15 41 27.7**	**+2.3**
	comp=Z,2.5nm,0.2s						
MOA				*e*Pg	**Pg**	**15 41 40.0**	**+1.3**
	comp=Z,6.6nm,0.2s						
MOA				Sg	**Sg**	**15 42 29.9**	**+1.3**
	comp=Z,27nm,0.4s						
STHS	**Stebnicka Huta**	**3.92**	**120**	*e*PN	**Pn**	**15 41 27.9**	**+1.5**
STHS				*e*PG	**Pg**	**15 41 40.6**	**+0.6**
STHS				*e*SG	**Sg**	**15 42 34.7**	**+3.9**
ARSA	**Arzberg**	**4.29**	**185**	*i* Pn	**Pn**	**15 41 34.7**	**+3.2**
	comp=Z,3.8nm,0.3s						
ARSA				Sg	**Sg**	**15 42 44.9**	**+2.4**
	comp=Z,32nm,0.7s						
LUNU	**Lund**	**4.41**	**340**	P	**Pn**	**15 41 33.8**	**+0.8**
LUNU				S	**Sn**	**15 42 23.4**	**-1.6**
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*PN	**Pn**	**15 41 39.0**	**+1.2**
KOLS				*e*PG	**Pg**	**15 41 57.8**	**+1.9**
KBA	**Koelnbreinsper**	**4.79**	**203**	*i* Pn	**Pn**	**15 41 40.8**	**+2.4**
	comp=Z,1.9nm,0.3s						
BLEU	**Blekinge**	**4.80**	**358**	P	**Pn**	**15 41 40.3**	**+1.9**
BLEU				S	**Sn**	**15 42 32.6**	**-2.0**
BJUU	**Bjuv**	**4.91**	**340**	P	**Pn**	**15 41 40.9**	**+0.9**
WATA	**Walderalm**	**5.11**	**217**	*i* Pn	**Pn**	**15 41 45.6**	**+2.8**
	comp=Z,3.7nm,0.3s						
DEL	**Delary**	**5.13**	**346**	P	**Pn**	**15 41 44.2**	**+1.2**
WTTA	**Wattenberg**	**5.15**	**216**	*i* Pn	**Pn**	**15 41 46.4**	**+3.0**
	comp=Z,1.0nm,0.2s						
RETA	**Reutte**	**5.31**	**223**	*i* Pn	**Pn**	**15 41 47.3**	**+1.7**
	comp=Z,1.6nm,0.2s						
SQTA	**Sankt Quirin**	**5.34**	**218**	*i* Pn	**Pn**	**15 41 49.3**	**+3.3**
	comp=Z,2.3nm,0.2s						
VXJU	**Vaexsjoe**	**5.46**	**353**	P	**Pn**	**15 41 49.1**	**+1.7**
BYXU	**Byxelkrok**	**5.81**	**5**	P	**Pn**	**15 41 54.4**	**+2.1**
FABU	**Falkenberg**	**5.83**	**342**	P	**Pn**	**15 41 53.7**	**+1.1**
GNOU	**Gnosjoe**	**5.94**	**348**	P	**Pn**	**15 41 55.7**	**+1.6**
DAVOX	**Davos/Dischmat**	**6.24**	**223**	Pn	**Pn**	**15 42 00.6**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=75,slow=16,SNR=5.0						
DAVOX				Lg	Lg	15 43 43.8	
	comp=Z,0.5nm,0.3s,baz=22,slow=9.3,SNR=3.0						
CDF	**Champ du Feu**	**6.47**	**245**	*e*Pn	**Pn**	**15 42 02.0**	**+0.6**
CDF	**Champ du Feu**	**6.47**	**245**	*e*Pg	**Pg**	**15 42 27.4**	**-1.4**
CDF				*e*Sg	**Sg**	**15 43 50.1**	**-2.4**
	comp=Z,33nm,0.9s						
HINF	**Hinteralfeld**	**7.03**	**242**	*e*Pn	**Pn**	**15 42 09.4**	**+0.3**
HINF	**Hinteralfeld**	**7.03**	**242**	*e*Pg	**Pg**	**15 42 36.9**	**-2.7**
HINF				*e*Sn	**Sn**	**15 43 24.4**	**-5.4**
HINF				*e*Sg	**Sg**	**15 44 08.4**	**-2.3**
	comp=Z,6.4nm,0.5s						
HAU	**Haudompre**	**7.21**	**245**	*e*Pn	**Pn**	**15 42 11.6**	**+0.1**
HAU	**Haudompre**	**7.21**	**245**	*e*Pg	**Pg**	**15 42 40.7**	**-2.3**
HAU				*e*Sg	**Sg**	**15 44 12.8**	**-3.5**
	comp=Z,8.8nm,0.5s						
GIVF	**Givet**	**7.26**	**263**	*e*Sg	**Sg**	**15 44 15.3**	**-2.8**
	comp=Z,4.0nm,0.4s						
PAGF	**Fort de Pagny**	**7.29**	**250**	*e*Pn	**Pn**	**15 42 12.7**	**+0.1**
	baz=68						
PAGF	**Fort de Pagny**	**7.29**	**250**	*e*Pg	**Pg**	**15 42 43.9**	**-0.6**
PAGF				*e*Sg	**Sg**	**15 44 15.5**	**-3.4**
	comp=Z,3.7nm,0.3s						
BAIF	**Baives**	**7.66**	**264**	*e*Pg	**Pg**	**15 42 49.3**	**-2.3**
BAIF				*e*Sg	**Sg**	**15 44 27.7**	**-3.0**
	comp=Z,71nm,1.6s						
MEZF	**Maizieres J'vi**	**7.71**	**251**	*e*Pn	**Pn**	**15 42 18.2**	**-0.2**
MEZF	**Maizieres J'vi**	**7.71**	**251**	*e*Pg	**Pg**	**15 42 50.7**	**-1.9**
MEZF				*e*Sn	**Sn**	**15 43 41.8**	**-4.6**
MEZF				*e*Sg	**Sg**	**15 44 29.8**	**-2.6**
	comp=Z,3.7nm,0.3s						
SFTF	**Sexfontaines**	**7.86**	**249**	*e*Pn	**Pn**	**15 42 20.7**	**+0.2**
SFTF	**Sexfontaines**	**7.86**	**249**	*e*Pg	**Pg**	**15 42 53.0**	**-2.4**
SFTF				*e*Sn	**Sn**	**15 43 44.5**	**-5.6**
	baz=70						
SFTF				*e*Sg	**Sg**	**15 44 32.6**	**-4.6**
	comp=Z,5.2nm,0.5s						
AKASG	**Malin Array Be**	**8.32**	**90**	Pn	**Pn**	**15 42 28.1**	**+1.3**
	comp=Z,1.5nm,0.3s,baz=278,slow=12,SNR=6.4						
AKASG				Sn	**Sn**	**15 43 55.3**	**-6.1**
	comp=Z,1.5nm,0.3s,baz=275,slow=23,SNR=4.4						
AKASG				Lg	Lg	15 44 57.5	
	comp=Z,0.2nm,0.3s,baz=278,slow=27,SNR=3.4						
HFS	**Hagfors**	**8.74**	**352**	Pn	**Pn**	**15 42 32.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=166,slow=14,SNR=11						
HFS				Sn	**Sn**	**15 44 09.4**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=172,slow=21,SNR=3.0						
LOR	**Lormes**	**9.02**	**247**	*e*Pn	**Pn**	**15 42 36.3**	**-0.1**
	baz=67						
SSF	**Saint Saulge**	**9.34**	**246**	*e*Pn	**Pn**	**15 42 40.4**	**-0.3**
NOA	**NORSAR Array B**	**9.92**	**346**	Pn	**Pn**	**15 42 48.3**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=163,slow=12,SNR=4.3						
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**15 43 08.7**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=209,slow=12,SNR=17						
FINES				Sn	Sn	15 45 06.6	-9.4
	comp=Z,0.2nm,0.3s,baz=214,slow=22,SNR=3.0						
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn	**Pn**	**15 43 15.6**	**-2.6**
	baz=101,slow=14,SNR=3.8						
ARCES	**ARCESS Array B**	**18.62**	**10**	P	**P**	**15 44 41.6**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=190,slow=13,SNR=14						
ARU	**Arti**	**25.16**	**62**	P	**P**	**15 45 54.0**	**+2.5**
	comp=Z,0.6nm,0.4s,baz=228,slow=5.9,SNR=3.7						
AKTO	**Aktyubinsk**	**26.18**	**76**	P	**P**	**15 46 03.5**	**+2.7**
	comp=Z,0.9nm,0.7s,baz=305,slow=2.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**39.99**	**202**	P	**P**	**15 48 03.1**	**+1.8**
	comp=Z,0.9nm,1.1s,baz=2.5,slow=10,SNR=2.5						
YKA	**Yellowknife Ar**	**59.84**	**336**	P	**P**	**15 50 33.5**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=24,slow=6.8,SNR=4.4						

ISK ***18*** *15:41:25.7,37°.32N×37°.12E,h10km,ML2.1/6*
ISCJB ***18*** *15:41:26.6±0.7,37°.24N±0°.04×37°.05E±0°.05,h4km±7km, Error ellipse: s-maj=6.8km s-min=5.4km az=139.0*
DDA ***18*** *15:41:26.3,37°.31N×37°.09E,h6km±1km,ML2.5*

ISC 18 15:41:26.5±1.0,37°.28N±0°.04×37°.10E±0°.03,h8km±8km, n16,σ0º75/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.14**	**140**	PG	**Pg**	**15 41 29.6**	**+0.1**
GAZ				SG	**Sg**	**15 41 32.5**	**+0.8**
HCB	**Kahramanmara**	**0.17**	**293**	IAML_P			
	comp=Z,6μm,0.2s						
HCB				*i* P	**Pg**	**15 41 29.8**	**-0.2**
KMRS	**Kahramanmaras**	**0.28**	**325**	PG	**Pg**	**15 41 31.8**	**-0.2**
KMRS				SG	**Sg**	**15 41 35.6**	**-0.2**
KAMA	**Osmaniye**	**0.36**	**255**	IAML_P			
	comp=Z,3μm,0.2s						
KAMA				*i* P	**Pb**	**15 41 34.3**	**-0.8**
KUZU	**Kuzuini**	**0.50**	**182**	*i* P	**Pb**	**15 41 37.4**	**-0.2**
ANDN	**Andirin**	**0.67**	**297**	IAML_P			
	comp=Z,2μm,0.3s						
ANDN				*i* P	**Pg**	**15 41 39.0**	**-0.5**
ATAB	**Bozova**	**0.97**	**78**	*i* P	**Pb**	**15 41 45.2**	**-0.3**
KOZT	**Kozan**	**1.03**	**282**	PG	**Pg**	**15 41 45.9**	**-0.4**
ELBS	**KAHRAMANMARAS**	**1.04**	**1**	*i* P	**Pn**	**15 41 48.8**	**+1.3**
ELBS				*i* S	**Sn**	**15 42 03.9**	**+1.5**
CEYT	**Ceyhan**	**1.11**	**256**	PN	**Pb**	**15 41 47.7**	**-0.2**
TAHT	**Tahtakopru-Hat**	**1.16**	**219**	PN	**Pn**	**15 41 49.2**	**+0.2**
AKCD	**Akcadag**	**1.21**	**32**	IAML_P			
	comp=Z,1μm,0.2s						
AKCD				*i* P	**Pn**	**15 41 49.1**	**-0.7**
AKCD				*i* S	**Sn**	**15 42 07.1**	**+0.7**
YURE	**YUREGIR**	**1.26**	**249**	PN	**Pg**	**15 41 50.4**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.27**	**108**	*i* P	**Pg**	**15 41 51.1**	**+0.2**
URFA	**Urfa**	**1.38**	**83**	PN	**Pn**	**15 41 50.9**	**-1.2**
SANL	**SANLIURFA_Merk**	**1.51**	**93**	*i* P	**Pg**	**15 41 54.8**	**-0.7**

ISCJB ***18*** *15:51:00.2±0.4,39°.64N±0°.03×142°.12E±0°.05,h57km±2km, mb4.3/39,Error ellipse: s-maj=7.1km s-min=3.8km az=27.2*
NIED ***18*** *15:51:00,39°.60N×142°.10E,h53km,Mw4.1 Best double couple: M0=1.60000×10^15 NP1:φs=183.00000°,δ20.00000°, λ74.00000°. NP2:φs=20.00000°,δ71.00000°,λ96.00000°.*
BJI ***18*** *15:51:00.7±0.0,39°.60N×142°.30E,h60km,mb4.4/8, mB4.6/6,Ms4.9/1,Ms7 4.7/1*
MOS ***18*** *15:51:01.1±1.0,39°.69N×142°.15E,h67km,mb4.5/14,Error ellipse: s-maj=9.3km s-min=5.9km az=95.4*
JMA ***18*** *15:51:01.1,39°.63N×142°.10E,h48km±1km,M4.0 Broadband fault plane solution: P waves. NP1: φs=25.00000°,δ51.00000°,λ107.00000°. NP2: φs=179.00000°,δ42.00000°,λ70.00000°. Principal axes: T Plg76.0000°, Azm352.0000°; N Plg13.0000°, Azm194.0000°; P Plg5.0000°, Azm103.0000°;*
JMA Felt III J1.
IDC ***18*** *15:51:03.0±1.5,39°.65N×142°.04E,h67km±13km,mb3.8/19, mb1 3.9/25,mb1mx3.8/39,mbtmp4.1/25,MS3.0/6, Ms1 3.0/6,ms1mx2.8/32 Error ellipse: s-maj=16.5km s-min=8.9km az=113.0*
NEIC ***18*** *15:51:03.1±0.7,39°.65N×142°.07E,h65km±6km,mb4.7/12, Error ellipse: s-maj=10.4km s-min=6.0km az=119.0*
NEIC Recorded [3 JMA] in Iwate.

ISC 18 15:51:01.3±0.7,39°.63N±0°.04×142°.12E±0°.06,h53km±6km, n125,σ1º59/134,mb4.2/39,8C-8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.24**	**257**	⇑P	**Pn**	**15 51 09.4**	**-0.8**
MIYJ				S	**Sn**	**15 51 15.0**	**-1.7**
JTH	**Tanohata**	**0.37**	**327**	⇓P	**Pn**	**15 51 10.6**	**-0.8**
JTH				S	**Sn**	**15 51 17.2**	**-1.4**
OFUJ	**Ofunato**	**0.65**	**213**	⇑P	**Pn**	**15 51 13.8**	**-0.8**
OFUJ				S	**Sn**	**15 51 22.7**	**-1.5**
JOM	**Ohasama**	**0.66**	**257**	⇓P	**Pn**	**15 51 14.2**	**-0.5**
JOM				S	**Sn**	**15 51 23.7**	**-0.7**
JKZ	**Kuzumaki**	**0.70**	**300**	⇓P	**Pn**	**15 51 14.8**	**-0.5**
JKZ				S	**Sn**	**15 51 24.2**	**-1.3**
JANG	**Nango**	**0.88**	**328**	⇓P	**Pn**	**15 51 16.7**	**-0.8**
JMK	**Ichinoseki**	**0.97**	**226**	⇓P	**Pn**	**15 51 18.2**	**-0.5**
JMK				S	**Sn**	**15 51 31.0**	**-0.6**
JRG	**Rokugo**	**1.17**	**259**	⇓P	**Pn**	**15 51 21.0**	**-0.4**
JAH	**Hinai**	**1.27**	**297**	⇓P	**Pn**	**15 51 22.6**	**-0.1**
JTM	**Tenmabayashi**	**1.41**	**325**	⇓P	**Pn**	**15 51 24.2**	**-0.4**
ERM	**Erimo**	**2.51**	**18**	*e*Pn	**Pn**	**15 51 40.1**	**+0.5**
ERM				*e*Sn	**Sn**	**15 52 08.8**	**-0.1**
ERM	**Erimo**	**2.51**	**18**	*i* P	**Pn**	**15 51 40.4**	**+0.8**
MJAR	**Matsushiro Arr**	**4.36**	**226**	*e*Pn	**Pn**	**15 52 06.4**	**+1.3**
MJAR	**Matsushiro Arr**	**4.36**	**226**	P	**Pn**	**15 52 07.3**	**+2.3**
	1.1nm,0.3s,baz=33,slow=13,SNR=239						
MJAR				S	**Sn**	**15 52 57.0**	**+2.5**
	baz=233,slow=33,SNR=1.5						
MJB9	**Matsu-Tunnel**	**4.36**	**226**	*e*Pn	**Pn**	**15 52 06.6**	**+1.6**
MAJO	**Matsushiro**	**4.36**	**226**	*e*Pn	**Pn**	**15 52 06.0**	**+1.0**
MAJO	**Matsushiro**	**4.36**	**226**	*i* P	**Pn**	**15 52 06.4**	**+1.4**
MAT	**Matsushiro**	**4.36**	**226**	P	**Pn**	**15 52 06.6**	**+1.6**
MAT				S	**Sn**	**15 52 59.4**	**+4.8**
ASAJ	**Asahikawa**	**4.50**	**4**	P	**Pn**	**15 52 07.7**	**+0.9**
	3.0nm,0.3s,baz=216,slow=12,SNR=28						
ASAJ				S	**Sn**	**15 52 57.9**	**+0.1**
	1.3nm,0.3s,baz=199,slow=18,SNR=2.5						
YUK	**Yuzh-Kuril'sk**	**5.21**	**31**	*i* P	**Pn**	**15 52 16.5**	**-0.1**
INU	**Inuyama**	**5.89**	**225**	*e*Pn	**Pn**	**15 52 28.6**	**+2.6**
JHJ	**Hachijo jima 2**	**6.76**	**197**	P	**Pn**	**15 52 37.5**	**-0.5**
	8.4nm,0.3s,baz=88,slow=22,SNR=5.3						
JHJ				S	**Sn**	**15 53 49.5**	**-4.2**
	11nm,0.3s,baz=60,slow=20,SNR=3.3						
JHJ				LR	LR	15 55 33.5	
	comp=Z,45nm,19.6s,baz=102,slow=40						
JHJ2	**Mitsune**	**6.76**	**197**	*e*Pn	**Pn**	**15 52 38.4**	**+0.4**
TEY	**Ternei**	**6.77**	**325**	⇑*e*P	**Pn**	**15 52 41.9**	**+3.9**
TEY				pmax	pm

comp=Z,3.0nm,0.8s
DGZ Jazzator, Alta 39.38 303 *i* P **P 15 58 25.9 +0.3**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 40.62 310 *e*P **P 15 58 35.9 +0.2**
comp=Z,4.6nm,0.6s
ZALV Zalesovo Beam 40.62 310 *e*P **P 15 58 35.3 -0.4**
ZALV Zalesovo Beam 40.62 310 P **P 15 58 35.7 0.0**
comp=Z,3.8nm,0.4s,baz=91,slow=8.3,SNR=21
ZALV PcP **PcP 16 00 36.8 +0.1**
comp=Z,1.3nm,0.4s,baz=91,slow=3.3,SNR=4.8
ZALV LR LR 16 16 06.0
comp=Z,42nm,18.9s,baz=256,slow=37
CMAR Chiang Mai Arr 42.74 253 P **P 15 58 53.6 +0.2**
comp=Z,0.6nm,0.6s,baz=46,slow=6.4,SNR=5.2
MK31 Makanchi Array 43.26 300 *e*P **P 15 58 57.3 -0.1**
comp=Z,3.4nm,0.6s
MK31 Makanchi Array 43.26 300 *e*P **P 15 58 57.3 -0.1**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 43.26 300 *e*P **P 15 58 57.0 -0.4**
MKAR Makanchi Array 43.26 300 P **P 15 58 57.2 -0.2**
comp=Z,3.3nm,0.6s,baz=84,slow=9.7,SNR=40
MKAR PcP **PcP 16 00 43.9 -1.7**
comp=Z,0.5nm,0.8s,baz=46,slow=4.2,SNR=2.3
IMAR Indian Mountai 44.15 32 *e*P **P 15 59 05.8 +1.6**
KURK Kurchatov 44.81 306 *e*P **P 15 59 09.4 -0.3**
comp=Z,13nm,1.0s
KURK Kurchatov 44.81 306 *c e*P **P 15 59 09.5 -0.2**
KURK pmax pmax
comp=Z,4.0nm,0.6s
KDAK Kodiak Island 44.82 44 P **P 15 59 10.4 +0.8**
comp=Z,11nm,1.0s,baz=346,slow=3.4,SNR=5.1
TOLK Toolik Lake Re 45.92 28 *e*P **P 15 59 19.9 +1.7**
comp=Z,22nm,1.8s
ILAR Eielson Array 47.02 34 P **P 15 59 28.0 +1.1**
comp=Z,0.9nm,0.7s,baz=265,slow=5.8,SNR=11
JIRN Jiri 47.38 273 *e*P **P 15 59 30.8 +0.2**
comp=Z,5.4nm,0.3s
RAMN Ramite 47.42 272 *e*P **P 15 59 30.8 0.0**
comp=Z,13nm,0.8s
KKN Kakani 48.02 274 *e*P **P 15 59 35.2 -0.2**
comp=Z,20nm,0.8s
PKI Pulchoki 48.03 274 *e*P **P 15 59 35.2 -0.4**
comp=Z,6.9nm,0.8s
PKIN Phulchoki 48.03 274 *e*P **P 15 59 35.1 -0.5**
comp=Z,3.4nm,0.5s
SCRK Sand Creek 48.35 35 *e*P **P 15 59 38.6 +1.3**
comp=Z,25nm,2.0s
DANN Dangsing 48.91 275 *e*P **P 15 59 42.8 +0.4**
comp=Z,42nm,0.6s
BRVK Borovoye 49.32 311 *i* P **P 15 59 45.3 +0.5**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
KOLN Koldanda 49.32 275 *e*P **P 15 59 45.1 -0.3**
comp=Z,6.8nm,0.6s
PYUN Piuthan 49.63 276 *e*P **P 15 59 47.9 +0.2**
comp=Z,14nm,0.9s
EPYK Eagle Plains 51.01 31 *e*P **P 15 59 59.6 +2.2**
comp=Z,4.9nm,0.8s
ARSB Arslanbob 51.31 296 *e*P **P 16 00 00.7 +0.5**
comp=Z,5.0nm,0.8s
INK Inuvik 51.83 28 *e*P **P 16 00 05.3 +1.9**
comp=Z,10nm,1.6s
INK Inuvik 51.83 28 *e*P **P 16 00 05.3 +1.9**
INK pmax pmax
comp=Z,10.0nm,1.6s
INK Inuvik 51.83 28 P **P 16 00 05.0 +1.6**
comp=Z,2.2nm,0.6s,baz=289,slow=5.1,SNR=11
KKAR Karatay Array 52.34 299 *e*P **P 16 00 07.2 -0.5**
KKAR Karatay Array 52.34 299 *e*P **P 16 00 07.2 -0.5**
COEN Coen 53.32 179 *e*P **P 16 00 16.2 +1.2**
comp=Z,42nm,1.8s
ARU Arti 54.80 318 *e*P **P 16 00 25.5 0.0**
comp=Z,8.5nm,0.7s
ARU Arti 54.80 318 *c i*P **P 16 00 26.0 +0.5**
ARU S **S 16 08 03.5 +1.3**
ARU SS **SS 16 11 41.9 -3.4**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 56.72 309 *e*P **P 16 00 39.0 -0.2**
comp=Z,7.4nm,0.6s
WR1 Warramunga Arr 59.70 188 *e*P **P 16 00 59.5 -0.8**
WRA Warramunga Arr 59.70 188 P **P 16 00 59.5 -0.9**
comp=Z,1.6nm,0.8s,baz=8.4,slow=6.2,SNR=12
YKA Yellowknife Ar 61.29 31 P **P 16 01 10.6 -0.1**
comp=Z,0.3nm,0.6s,baz=300,slow=6.1,SNR=4.3
YKB5 Yellowknife Ar 61.29 31 *e*P **P 16 01 10.6 -0.1**
ARA0 ARCESS Array S 61.77 339 *e*P **P 16 01 13.8 -0.1**
ARCES ARCESS Array B 61.77 339 P **P 16 01 13.8 -0.1**
comp=Z,1.8nm,0.8s,baz=52,slow=8.0,SNR=7.6
ASAR Alice Springs 63.43 188 P **P 16 01 25.2 -0.2**
comp=Z,0.9nm,0.8s,baz=1.2,slow=4.3,SNR=17
GLK Glacier Lake 66.32 48 *e*P **P 16 01 46.4 +2.1**
OBN Obninsk 66.36 323 *e*P **P 16 01 43.7 -0.4**
OBN pmax pmax
comp=Z,5.0nm,0.5s
FIA0 FINESS Array S 66.78 332 *e*P **P 16 01 46.6 -0.1**
FIA0 FINESS Array S 66.78 332 *e*P **P 16 01 46.6 -0.1**
FINES FINESS Array B 66.78 332 P **P 16 01 46.6 -0.1**
comp=Z,3.4nm,0.6s,baz=42,slow=9.0,SNR=18
KIV Kislovodsk 69.64 311 *e*P **P 16 02 05.6 +0.6**
KIV pmax pmax
comp=Z,32nm,1.1s
KBZ Khabaz 69.64 310 P **P 16 02 03.5 -1.5**
comp=Z,2.7nm,0.9s,baz=244,slow=0.1,SNR=5.3
KBZ LR LR 16 35 16.7
comp=Z,23nm,19.0s,baz=84,slow=38
NB2 NORSAR Subarra 72.01 337 P **P 16 02 19.0 -0.1**
comp=Z,1.0nm,0.5s,baz=35,slow=6.2
NB2 NORSAR Subarra 72.01 337 P **P 16 02 18.7 -0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 72.01 337 P **P 16 02 18.9 -0.1**
comp=Z,1.4nm,0.6s,baz=38,slow=6.0,SNR=7.9
AKASG Malin Array Be 72.59 322 P **P 16 02 22.0 -0.6**
AKASG Malin Array Be 72.59 322 P **P 16 02 22.0 -0.6**
comp=Z,1.4nm,0.5s,baz=44,slow=6.5,SNR=8.4
NV01 Mina Array Sit 73.00 54 *e*P **P 16 02 27.0 +1.3**
NVAR Mina Array Bea 73.00 54 P **P 16 02 27.0 +1.3**
comp=Z,0.5nm,0.7s,baz=300,slow=5.9,SNR=3.4
VYHS Vyhne 78.91 325 *e*P **P 16 02 56.3 -2.5**
VYHS Vyhne 78.91 325 *e*P **P 16 02 56.3 -2.5**
CLL Collm 79.12 330 *i* P **P 16 02 59.9 0.0**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 79.12 330 *i* P **P 16 02 59.9 0.0**
comp=Z,4.0nm,0.7s
KHC Kasperske Hory 80.62 329 *e*P **P 16 03 08.5 +0.4**
KHC Kasperske Hory 80.62 329 *e*P **P 16 03 08.5 +0.4**
GERES GERESS Array B 80.80 328 P **P 16 03 08.8 -0.3**
comp=Z,0.3nm,0.4s,baz=46,slow=7.6,SNR=6.2
SNAA Sanae 143.39 198 PKPdf PKPab 16 10 24.7 -0.1
VNA2 Neumayer--Watz 144.96 197 PKPdf PKPbc 16 10 30.1 -0.5
baz=90,slow=1.9
VNA3 Neumayer Olymp 145.21 196 PKPdf **PKPbc 16 10 30.3 -1.1**
VNA1 Neumayer--Stat 145.36 197 PKPdf **PKPbc 16 10 29.6 -2.2**

*IDC **18** 15:53:59.8±2.7, 40°.36N×124°.76W, h0km, mb3.0/1, mb1 3.8/4, mb1mx3.4/34, mbtmp3.4/4, ML4.1/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/6, Error ellipse: s-maj=34.6km s-min=19.2km az=58.0*
*ISCJB **18** 15:54:03.6±0.5, 40°.46N±0°.02×124°.51W±0°.05, h36km±9km, mb3.0/1, MS2.9/1, Error ellipse: s-maj=5.9km s-min=2.8km az=168.8*
*NCEDC **18** 15:54:04.9, 40°.42N×124°.49W, h25km, MW3.8(BRK)*
*NEIC **18** 15:54:04.9±0.0, 40°.42N×124°.49W, h25km, MW3.8(BRK), After NCEDC.*
NEIC Felt [III] at Blue Lake, Eureka, Ferndale and Loleta; [II] at Arcata, Bayside, Fortuna and McKinleyville. Also felt at Kneeland, Petrolia, Redway, Trinidad and Whitethorn.
*ANF **18** 15:54:06.0±0.9, 40°.57N×124°.25W, h22km±8km, ML3.6/16, Error ellipse: s-maj=6.0km s-min=3.2km az=74.0*
ISC 18 15:54:03.6±1.4, 40°.44N±0°.03×124°.54W±0°.06, h27km±10km, nT8, σT39/99, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSMM	**Slide Mountain**	**0.38**	**133**	*e*Pg		**Pb**	**15 54 12.5**	**+0.6**
JCC	**Jacoby Creek,**	**0.54**	**46**	*e*Pg		**Pb**	**15 54 14.4**	**0.0**
JCC				*e*Pn		Pn	15 54 21.9	+6.5
KMRM	**Mail Ridge**	**0.67**	**109**	*e*Pg		**Pb**	**15 54 17.1**	**+0.4**
KMRM				*e*Sn		**Sb**	**15 54 26.0**	**+0.3**
KHMM	**Horse Mountain**	**0.75**	**55**	*e*Pg		**Pb**	**15 54 18.0**	**-0.1**
KHMM				*e*Sg		**Sb**	**15 54 27.6**	**-0.5**
KCSM	**Cold Springs**	**0.79**	**83**	*e*Pg		**Pb**	**15 54 18.6**	**-0.1**
KKPM	**Kettenpom Peak**	**0.97**	**107**	*e*Pg		**Pn**	**15 54 20.0**	**-1.5**
KIPM	**Iron Peak**	**1.03**	**128**	*e*Pn		**Pn**	**15 54 21.9**	**-0.4**
KCPM	**Cahto Peak**	**1.05**	**136**	*e*Pn		**Pn**	**15 54 22.1**	**-0.5**
KCPM				*e*Sg		**Sb**	**15 54 35.5**	**-1.2**
KFPM	**Farley Peak**	**1.17**	**133**	*e*Pn		**Pn**	**15 54 23.7**	**-0.6**
O02D	**Mt. Diablo Mer**	**1.36**	**101**	P		**Pn**	**15 54 26.4**	**-0.5**
O02D	baz=282,SNR=1000			S		**Sn**	**15 54 42.8**	**-1.4**
N02D	**Trinity Center**	**1.49**	**68**	P		**Pn**	**15 54 28.2**	**-0.4**
N02D	baz=249,SNR=1000			S		**Sn**	**15 54 45.4**	**-1.9**
WDC	**Whiskeytown Da**	**1.53**	**84**	*e*Pn		**Pn**	**15 54 28.6**	**-0.5**
WDC				*e*Sn		**Sn**	**15 54 47.0**	**-1.1**
M02C	**Callahan**	**1.59**	**53**	P		**Pn**	**15 54 29.5**	**-0.5**
M02C	baz=233,SNR=1000			S		**Sn**	**15 54 47.9**	**-1.8**
KTRM	**Thompson Ridge**	**1.71**	**30**	*e*Pn		**Pn**	**15 54 31.3**	**-0.4**
HOPS	**Hopland Field**	**1.83**	**142**	*e*Pn		**Pn**	**15 54 32.8**	**-0.5**
HOPS				*e*Sn		**Sn**	**15 54 54.7**	**-1.0**
L02E	**Cave Junction**	**1.85**	**22**	P		**Pn**	**15 54 33.3**	**-0.3**
L02E	baz=201,SNR=1000			S		**Sn**	**15 54 54.7**	**-1.4**
YBH	**Yreka Blue Hor**	**1.89**	**46**	*e*Pn		**Pn**	**15 54 34.1**	**-0.1**
YBH				*e*Sn		**Sn**	**15 54 57.6**	**+0.5**
O03E	**Paynes Creek**	**2.10**	**93**	P		**Pn**	**15 54 36.3**	**-0.7**
O03E	baz=275,SNR=763			S		**Sn**	**15 55 00.2**	**-2.0**
GDXM	**Geysers**	**2.12**	**140**	*e*Pn		**Pn**	**15 54 36.9**	**-0.3**
K02D	**Willamette Mer**	**2.34**	**16**	P		**Pn**	**15 54 40.0**	**-0.4**
K02D	baz=195,SNR=31			S		**Sn**	**15 55 07.0**	**-1.4**
KEBM	**Edson Butte**	**2.43**	**4**	*e*Pn		**Pn**	**15 54 40.0**	**-1.6**
M04C	**Macdoel**	**2.44**	**56**	P		**Pn**	**15 54 42.2**	**+0.5**
M04C	baz=237,SNR=80			Sb		**Sn**	**15 55 12.2**	**+1.5**
L04D	**Klamath Falls**	**2.44**	**43**	P		**Pn**	**15 54 43.2**	**+1.4**
L04D	baz=223,SNR=356			Sb		**Sn**	**15 55 12.7**	**+1.8**
HUMO	**Hull Mountain**	**2.47**	**28**	*e*Pn		**Pn**	**15 54 42.0**	**-0.1**
HUMO				*e*Sn		**Sn**	**15 55 11.2**	**-0.2**
ORV	**Oroville**	**2.50**	**110**	*e*Sn		**Sn**	**15 55 09.6**	**-2.3**
J01E	**Myrtle Point**	**2.76**	**9**	P		**Pn**	**15 54 46.4**	**+0.5**
J01E	baz=189,SNR=38			S		**Sn**	**15 55 17.4**	**-1.0**
K04D	**Chiloquin, OR**	**3.02**	**43**	S		**Sn**	**15 55 23.0**	**-2.1**
AFDM	**Forest Hills D**	**3.13**	**117**	*e*Pn		**Pn**	**15 54 51.3**	**+0.1**
AFDM				*e*Sn		**Sn**	**15 55 25.2**	**-2.5**
BEKR	**Beckworth**	**3.25**	**99**	*e*Pn		**Pn**	**15 54 53.3**	**+0.3**
BEKR				*e*Sn		**Sn**	**15 55 31.1**	**+0.2**
I03D	**Drain, OR**	**3.37**	**15**	P		**Pn**	**15 54 55.3**	**+0.9**
I03D	baz=195,SNR=113			S		**Sn**	**15 55 31.9**	**-1.6**
MOD	**Modoc Plateau**	**3.51**	**64**	*e*Pn		**Pn**	**15 54 56.4**	**-0.2**
K05A	**Summer Lake**	**3.56**	**49**	*e*Pn		**Pn**	**15 54 58.2**	**+0.9**
K05A				*e*Sn		**Sn**	**15 55 39.6**	**+1.1**
RUBR	**Rubicon Trail**	**3.65**	**111**	*e*Pn		**Pn**	**15 54 59.5**	**+1.0**
RUBR				*e*Sn		**Sn**	**15 55 41.5**	**+0.7**
I02D	**Swisshome**	**3.70**	**8**	P		**Pn**	**15 54 59.9**	**+0.9**
I02D	baz=188,SNR=68			S		**Sn**	**15 55 40.4**	**-1.2**
I04A	**Tendick Farm,**	**3.71**	**25**	P		**Pn**	**15 55 00.2**	**+1.1**
I04A	baz=205,SNR=33			S		**Sn**	**15 55 41.1**	**-0.8**
J05D	**Fort Rock, OR**	**3.76**	**40**	P		**Pn**	**15 55 01.2**	**+1.2**
J05D	baz=221,SNR=37			S		**Sn**	**15 55 42.2**	**-1.2**
VCNR	**Virginia City**	**3.93**	**105**	*e*Pn		**Pn**	**15 55 03.0**	**+0.6**
VCNR				*e*Sn		**Sn**	**15 55 50.5**	**+2.9**
CMB	**Columbia Colle**	**4.02**	**125**	*e*Pn		**Pn**	**15 55 04.7**	**+1.3**
PNTR	**Pine Nut**	**4.04**	**108**	*e*Pn		**Pn**	**15 55 04.9**	**+1.1**
COR	**Corvallis**	**4.24**	**12**	*e*Pn		**Pn**	**15 55 09.0**	**+2.6**
COR				*e*Sn		**Sn**	**15 55 56.8**	**+1.8**
PINE	**Pine Mountain**	**4.29**	**37**	*e*Sn		**Sn**	**15 55 56.9**	**+0.5**
H04D	**Lebanon**	**4.29**	**17**	P		**Pn**	**15 55 08.6**	**+1.5**
H04D	baz=198,SNR=20			S		**Sn**	**15 55 55.3**	**-0.9**
WAKR	**Walker**	**4.39**	**114**	*e*Pn		**Pn**	**15 55 10.8**	**+2.1**
G03D	**McMinnville, O**	**4.86**	**11**	S		**Sn**	**15 56 09.7**	**-0.5**
WVOR	**Wild Horse Val**	**4.86**	**64**	*e*Pn		**Pn**	**15 55 14.5**	**-0.5**
RYN	**Ryan**	**4.99**	**109**	*e*Pn		**Pn**	**15 55 17.9**	**+1.1**
NVAR	**Mina Array Bea**	**5.23**	**111**	Pn		**Pn**	**15 55 21.8**	**+1.6**
NVAR	2.8nm,0.3s,baz=291,slow=14,SNR=33			Pg		**Pb**	**15 55 30.4**	**-4.0**
NVAR	2.0nm,0.3s,baz=281,slow=16,SNR=13			Sn		**Sn**	**15 56 22.6**	**+3.0**
BMN	**Battle Mountai**	**5.58**	**88**	*e*Pn		**Pn**	**15 55 23.0**	**-2.0**
PAGB	**Antelope Grade**	**5.79**	**143**	*e*Pn		**Pn**	**15 55 27.8**	**+0.1**
SMMC	**Simmler**	**6.25**	**144**	P		**Pn**	**15 55 36.3**	**+2.2**
PKM	**Mcpherson Peak**	**6.69**	**144**	P		**Pn**	**15 55 40.7**	**+0.5**
ISA	**Isabella, Lake**	**6.75**	**133**	P		**Pn**	**15 55 43.0**	**+2.0**
ARVC	**Arvin**	**6.97**	**138**	P		**Pn**	**15 55 45.7**	**+1.8**
ELK	**Elko**	**7.08**	**85**	*e*Pn		**Pn**	**15 55 45.7**	**0.0**
D03D	**Eldon**	**7.17**	**8**	P		**Pn**	**15 55 47.9**	**+1.4**
R11A	**Troy Canyon, C**	**7.24**	**104**	*e*Pn		**Pn**	**15 55 48.8**	**+1.1**
R11A	**Troy Canyon, C**	**7.24**	**104**	P		**Pn**	**15 55 48.4**	**+0.6**
OSI	**Osito Audit: C**	**7.43**	**140**	P		**Pn**	**15 55 52.2**	**+2.0**
EDW2	**Edwards Air Fo**	**7.60**	**135**	P		**Pn**	**15 55 54.4**	**+1.8**
HEC	**Hector,Ludlow**	**8.58**	**128**	P		**Pn**	**15 56 08.4**	**+2.3**
DUG	**Dugway, Tooele**	**8.96**	**88**	*e*Pn		**Pn**	**15 56 13.7**	**+2.4**
DUG	**Dugway, Tooele**	**8.96**	**88**	P		**Pn**	**15 56 11.1**	**-0.2**
PFO	**Pinyon Flats O**	**9.39**	**134**	*e*Pn		**Pn**	**15 56 19.0**	**+1.8**
PFO	**Pinyon Flats O**	**9.39**	**134**	P		**Pn**	**15 56 18.6**	**+1.4**
PFO	**Pinyon Flats O**	**9.39**	**134**	Pn		**Pn**	**15 56 19.0**	**+1.8**
MSU	**Marysvale**	**9.75**	**97**	*e*Pn		**Pn**	**15 56 24.7**	**+2.5**
MONP2	**Monument Peak**	**9.96**	**137**	P		**Pn**	**15 56 26.7**	**+1.7**
PDAR	**Pinedale Array**	**11.46**	**73**	Pn		Pn	15 56 51.5	+5.9
YKA	**Yellowknife Ar**	**22.88**	**12**	P		**P**	**15 59 05.0**	**+0.3**
YKB5	**Yellowknife Ar**	**22.88**	**12**	*e*P		**P**	**15 59 05.0**	**+0.4**
KDAK	**Kodiak Island**	**24.98**	**323**	LR		LR	16 05 46.8	
H11N3	**WAKE ISLAND Hy**	**61.34**	**272**	T		T	17 11 32.7	
H11N2	**WAKE ISLAND Hy**	**61.34**	**272**	T		T	17 11 19.2	
H11N1	**WAKE ISLAND Hy**	**61.36**	**272**	T		T	17 11 21.8	
H11S1	**WAKE ISLAND Hy**	**62.21**	**271**	T		T	17 12 39.1	
H11S2	**WAKE ISLAND Hy**	**62.22**	**271**	T		T	17 12 39.6	
H11S3	**WAKE ISLAND Hy**	**62.23**	**271**	T		T	17 12 32.7	
HHC	**Hu-ho-hao-te**	**84.37**	**321**	*e*P		**P**	**16 06 34.5**	**+1.0**

TEH 18 15:56:16.0, 26°.73N×57°.76E, h8km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.08**	**179**	*e*Pg		Pg	15 56 36.8	0.0
NIAN	**Nian**	**1.17**	**316**	*e*Pg		Pn	15 56 39.5	+0.8
NIAN				IAMB		IAmb	15 56 43.8	
	comp=Z,0.0nm,0.2s							
KHNJ	**Kahnooj**	**1.22**	**358**	*e*Pg		Pb	15 56 38.4	-0.9
KHNJ				*e*Sg		Sn	15 56 57.1	+1.0
GENO	**Geno**	**1.56**	**296**	*e*Pn		Pg	15 56 46.2	+0.2
GENO				IAMB		IAmb	15 57 16.0	
	comp=Z,0.0nm,0.4s							
BNDS	**Bandar-Abbas**	**1.56**	**296**	*e*Pg		Pn	15 56 39.3	-5.0
SHME	**Shamm**	**1.60**	**245**	*e*Pn		Pb	15 56 45.4	-0.4
MSFE	**Esma-Masafi**	**1.98**	**227**	*e*Pn		Pn	15 56 48.3	-1.5
HATD	**Hatta, Dubai**	**2.39**	**218**	*e*Pn		Pn	15 56 55.8	+0.3
ASHO	**Ashiyiah**	**2.54**	**217**	*e*Pn		Pn	15 56 58.3	+0.7
NAZ	**Nazwa, Dubai**	**2.56**	**228**	*e*Pn		Pn	15 56 55.9	-1.9
CHBR	**Chabahar**	**2.70**	**114**	*e*Pn		Pb	15 57 02.4	-2.1
FAQ	**Al Faqa, Dubai**	**2.77**	**225**	*e*Pn		Pn	15 57 00.9	+0.2
ASUD	**Al Ashush, Dub**	**3.03**	**227**	*e*Pn		Pn	15 57 06.0	+1.8
NGRK	**Negar Kerman**	**3.04**	**343**	IAMB		IAmb	15 57 14.6	
	comp=Z,0.0nm,0.2s							
NGRK				*e*Pn		Pn	15 57 07.1	+2.3
CHMN	**Cheshme madani**	**3.13**	**357**	IAMB		IAmb	15 57 16.8	
	comp=Z,0.0nm,0.4s							
CHMN				*e*Pn		Pb	15 57 09.7	-2.4
HOQ	**Hoqain**	**3.15**	**187**	*e*Pn		Pn	15 57 02.9	-3.1
BIDO	**Bidbid**	**3.21**	**174**	*e*Pn		Pn	15 57 03.1	-3.6
TVBK	**TV Kerman**	**3.37**	**345**	*e*Pn		Pn	15 57 12.6	+3.4
TVBK				IAMB		IAmb	15 57 27.3	
	comp=Z,0.0nm,0.3s							
KHGB	**Koh Gabri**	**3.81**	**343**	*e*Pn		Pn	15 57 17.2	+2.0
KHGB				IAMB		IAmb	15 57 29.9	
	comp=Z,0.0nm,0.4s							
ZHSF	**Zahedan**	**3.92**	**42**	*e*Pn		Pn	15 57 20.1	+3.4
GHIR	**Ghir-Karzin**	**4.51**	**291**	*e*Pn		Pn	15 57 21.0	-3.8
IMEH	**Mehriz**	**5.40**	**330**	*e*Pn		Pn	15 57 39.3	+2.2
IKAZ	**Kazeroun**	**6.04**	**302**	*e*Pn		Pn	15 57 45.0	-1.0
ITEG	**Tejag**	**6.21**	**8**	*e*Pn		Pn	15 57 49.5	+1.3
ISAD	**Sadrabad**	**6.27**	**326**	*e*Pn		Pn	15 57 51.2	+2.1
KLNJ	**Kolanjah**	**6.88**	**310**	*e*Pn		Pn	15 58 00.1	+2.5
IRAM	**Ramesheh**	**6.91**	**318**	*e*Pn		Pn	15 57 59.3	+1.6
ROKH	**ROKH**	**8.10**	**315**	*e*Pn		Pn	15 58 15.5	+1.3

DJA 18 16:13:16.3±0.7, 11°S±5°×11°9E±°, h10km, M4.0/7, mb4.0/5, mB4.2/1, MLv3.9/7, Mw(mB)3.3/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**2.21**	**66**	P		Pn	16 13 52.5	-0.6
BASI				S		Sn	16 14 19.4	-1.1
PLAI	**Plampang**	**2.42**	**342**	P		Pn	16 13 56.9	+1.0
PLAI				S		Sn	16 14 24.7	-0.8
MMRI	**Maumere**	**4.42**	**56**	P		Pn	16 14 23.2	-0.3
JAGI	**Jajag, Banyuwa**	**5.07**	**301**	P		Pn	16 14 30.8	-1.6
BATI	**Baumata**	**5.13**	**80**	P		Pn	16 14 33.0	-0.3
	8.0nm,0.7s							
BSSI	**Bau Bau, Buton**	**5.33**	**21**	P		Pn	16 14 36.7	+0.7
BSSI				S		Sn	16 15 38.8	+1.3
SOEI	**Soe**	**5.81**	**77**	P		Pn	16 14 43.2	+0.5
	19nm,0.8s,0.1nm							
BKSI	**Bulukumba**	**5.99**	**15**	P		Pn	16 14 47.3	+2.2

IDC 18 16:22:54.4±6.6, 19°.26N×146°.90E, h234km±43km, mb3.0/4, mb1 3.3/5, mb1mx2.9/37, mbtmp3.7/5, Error ellipse: s-maj=138.1km s-min=23.9km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.97**	**199**	P		Pn	16 24 21.9	0.0
	3.1nm,0.3s,baz=171,slow=18,SNR=1.4							
GUMO				S		S	16 25 22.9	-8.7
	1.9nm,0.3s,baz=6.4,slow=22,SNR=1.4							
WRA	**Warramunga Arr**	**40.86**	**198**	P		P	16 30 13.5	-0.3
	0.4nm,0.3s,baz=20,slow=8.2,SNR=13							
ASAR	**Alice Springs**	**44.51**	**197**	P		P	16 30 43.1	+0.1
	0.4nm,0.6s,baz=16,slow=7.4,SNR=14							
MKAR	**Makanchi Array**	**58.90**	**314**	P		P	16 32 29.1	+0.1
	0.1nm,0.3s,baz=97,slow=7.5,SNR=1.9							
FINES	**FINESS Array B**	**86.85**	**336**	P		P	16 35 12.3	-0.1
	0.4nm,0.4s,baz=67,slow=6.4,SNR=4.8							

*IDC **18** 16:45:53.2±2.7, 31°.59S×69°.04W, h103km±23km, mb3.3/4, mb1 3.5/9, mb1mx3.4/25, mbtmp3.6/9, Error ellipse: s-maj=33.1km s-min=23.4km az=92.0*
*ISCJB **18** 16:45:54.7±0.4, 31°.50S±0°.03×69°.25W±0°.05, h128km±3km, mb3.4/4, Error ellipse: s-maj=6.6km s-min=4.2km az=4.2*
*SJA **18** 16:45:54.6±0.7, 31°.52S×69°.23W, h123km±3km, ML3.9, MW4.0*
*GUC **18** 16:45:55.6±0.6, 31°.52S×69°.53W, h138km±17km, ML3.7*
ISC 18 16:45:55.0±0.7, 31°.49S±0°.04×69°.22W±0°.05, h122km±6km, n37, σ1°20/51, mb3.4/4, 1C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.32**	**192**	‖ *i*P		**Pn**	**16 46 12.5**	**-0.1**
RTLS				IAML			16 46 26.8	
	comp=Z,2μm,0.2s							
RTLS				*i* S		**Sn**	**16 46 26.9**	**+0.9**
ZON	**Zonda**	**0.47**	**97**	*i* P		**Pn**	**16 46 13.2**	**+0.1**
ZON				*i* S		**Sn**	**16 46 27.1**	**+0.5**
ZON				IAML			16 46 27.2	
	comp=Z,2μm,0.2s							
SJA	**San Juan**	**0.56**	**94**	*i* P		**Pn**	**16 46 14.0**	**+0.3**
SJA				IAML			16 46 28.8	
	comp=Z,1μm,0.3s							
RTLL	**Cerro Villicun**	**0.66**	**76**	*i* P		**Pn**	**16 46 14.4**	**+0.2**
RTLL				*i* S		**Sn**	**16 46 29.9**	**+1.1**
RTCV	**Cerro Valdivia**	**0.69**	**123**	*i* P		**Pn**	**16 46 14.8**	**+0.3**
AUSP	**Uspallata**	**0.75**	**191**	*i* P		**Pn**	**16 46 15.4**	**+0.2**
AUSP				*i* S		**Sn**	**16 46 31.6**	**+1.0**
AMOG	**MOGNA**	**0.83**	**49**	*i* P		**Pn**	**16 46 16.2**	**+0.5**
CFA	**Coronel Fontan**	**0.85**	**98**	*i* P		**Pn**	**16 46 16.1**	**+0.3**
ACCO	**Cerro Coronel**	**0.91**	**8**	‖ *i*P		**Pn**	**16 46 17.5**	**+0.8**
ASAL	**Salagasta**	**1.15**	**164**	*i* P		**Pn**	**16 46 19.2**	**+0.5**
ACDV	**Cuesta del Vie**	**1.32**	**4**	*i* P		**Pn**	**16 46 22.0**	**+1.3**
ACDV				*i* S		**Sn**	**16 46 41.8**	**+1.7**
ACDV				IAML			16 46 42.6	
	comp=Z,589nm,0.7s							
AROD	**Rodeo**	**1.33**	**351**	*i* P		**Pn**	**16 46 22.5**	**+1.4**
AROD				*i* S		**Sn**	**16 46 42.9**	**+2.1**
ARCO	**CERRO ARCO**	**1.37**	**170**	*i* P		**Pn**	**16 46 21.9**	**+0.7**
ARCO				*i* S		**Sn**	**16 46 41.4**	**+0.2**
ARCO				IAML			16 46 43.5	
	comp=Z,4μm,0.8s							
AAGR	**Agrelo**	**1.63**	**168**	*i* P		**Pn**	**16 46 24.6**	**+0.4**
GO04	**Tololo Observa**	**1.89**	**314**	‖ *e*P		**Pn**	**16 46 27.9**	**+0.5**
GO04				*e*S		**Sn**	**16 46 52.9**	**+0.8**
GO04				IAML			16 46 59.3	
	comp=E,1μm,0.5s

comp=Z,0.1nm,0.3s,baz=13,slow=11,SNR=3.3
CPUP Villa Florida 11.61 67 P **Pn 16 48 33.5 -3.5**
comp=Z,0.2nm,0.3s,baz=256,slow=8.3,SNR=2.9
LPAZ La Paz 15.16 4 P **P 16 49 25.1 -0.5**
comp=Z,0.1nm,0.3s,baz=168,slow=9.3,SNR=4.4
SIV San Ignacio 17.12 28 P **P 16 49 46.6 -0.1**
comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=4.2
TXAR Lajitas Array 68.79 328 P **P 16 56 47.7 +1.7**
comp=Z,0.6nm,0.7s,baz=152,slow=8.1,SNR=6.9
TORD Torodi Ar. Bea 81.10 69 P **P 16 57 57.4 +0.3**
comp=Z,0.5nm,0.6s,baz=278,slow=5.2,SNR=3.1
PDAR Pinedale Array 82.65 331 P **P 16 58 05.0 +0.2**
comp=Z,0.3nm,0.5s,baz=144,slow=6.3,SNR=2.9
NVAR Mina Array Bea 83.24 323 P **P 16 58 10.0 +2.1**
comp=Z,0.3nm,0.6s,baz=122,slow=8.6,SNR=2.8
ASAR Alice Springs 120.86 205 PKP **PKPdf 17 04 32.4 -1.0**
comp=Z,0.2nm,0.8s,baz=151,slow=2.1,SNR=2.9
WRA Warramunga Arr 124.09 207 PKP **PKPdf 17 04 39.4 -0.2**
comp=Z,0.8nm,1.0s,baz=162,slow=2.8,SNR=3.9
ZALV Zalesovo Beam 150.84 32 PKPbc **PKPbc 17 05 33.2 +0.7**
comp=Z,1.3nm,0.5s,baz=301,slow=2.7,SNR=5.0
MKAR Makanchi Array 153.32 47 PKPbc **PKPbc 17 05 38.9 +0.4**
comp=Z,0.4nm,0.7s,baz=236,slow=3.4,SNR=3.9

*ISCJB **18** 16:50:27.7±0.7,30°.44N±0°.07×138°.5E±0°.1,h440km, mb3.3/6, Error ellipse: s-maj=16.6km s-min=8.1km az=19.4*
*IDC **18** 16:50:28.2±0.8,30°.41N×138°.65E,h440km±13km,mb3.0/6, mb1 3.0/10,mb1mx2.7/43,mbtmp3.7/10,Error ellipse: s-maj=30.3km s-min=13.1km az=79.0*
*JMA **18** 16:50:30.4±0.3,30°.84N×139°.02E,h478km,M3.4*
ISC 18 16:50:28.9±1.0,30°.54N±0°.09×138°.6E±0°.2,h440km,n22, σ1§76/28,mb3.3/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.76**	**21**	P	**P**	**16 51 35.1**	**+1.8**
	12nm,0.3s,baz=18,slow=21,SNR=16						
JHJ				S	**S**	**16 52 26.5**	**+0.8**
	6.7nm,0.3s,baz=59,slow=19,SNR=4.0						
JHJ2	**Mitsune**	**2.77**	**21**	P	**P**	**16 51 36.0**	**+2.7**
JMKN	**Mikurajimanish**	**3.45**	**14**	P	**P**	**16 51 40.4**	**+1.8**
BSO3	**Boso 3**	**4.55**	**20**	P	**P**	**16 51 49.6**	**+1.6**
BSO3				eS	**S**	**16 52 52.5**	**-0.1**
BSO1	**Boso 1**	**4.57**	**25**	P	**P**	**16 51 49.8**	**+1.9**
BSO4	**Boso 4**	**4.67**	**18**	P	**P**	**16 51 50.7**	**+1.3**
JOD2	**Odawara 2**	**4.73**	**5**	P	**P**	**16 51 51.1**	**+1.0**
JNY	**Yasuok**	**4.85**	**353**	P	**P**	**16 51 53.8**	**+2.5**
JHU	**Hanno**	**5.33**	**6**	P	**P**	**16 51 56.7**	**+0.8**
JHU				eS	**S**	**16 53 04.5**	**-2.5**
JRY	**Ryogami san**	**5.47**	**2**	P	**P**	**16 51 58.8**	**+1.5**
JYT	**Yasato**	**5.83**	**13**	P	**P**	**16 52 01.1**	**+0.2**
JYT				eS	**S**	**16 53 13.4**	**-2.8**
JAG	**Ashikaga**	**5.92**	**7**	P	**P**	**16 52 01.9**	**+0.1**
JAG				eS	**S**	**16 53 13.9**	**-4.0**
MJAR	**Matsushiro Arr**	**6.00**	**357**	P	**P**	**16 52 03.5**	**+0.8**
	0.1nm,0.3s,baz=177,slow=11,SNR=12						
MJAR				S	**S**	**16 53 18.9**	**-0.6**
	0.0nm,0.3s,baz=340,slow=39,SNR=3.1						
JHO	**Hitachi**	**6.28**	**15**	P	**P**	**16 52 06.0**	**+0.4**
KSRS	**Korea Array**	**11.23**	**311**	P	**P**	**16 53 00.1**	**+0.7**
	0.1nm,0.3s,baz=124,slow=10,SNR=4.2						
KLR	**Kul'dur**	**19.38**	**346**	P	**P**	**16 54 25.7**	**+0.7**
	0.1nm,0.3s,baz=190,slow=6.1,SNR=4.1						
SONM	**Songino Array**	**30.07**	**314**	P	**P**	**16 56 02.8**	**+2.2**
	2.1nm,0.4s,baz=140,slow=7.5,SNR=5.6						
CMAR	**Chiang Mai Arr**	**37.86**	**261**	P	**P**	**16 57 05.3**	**-1.4**
	0.3nm,0.6s,baz=58,slow=5.4,SNR=3.1						
WRA	**Warramunga Arr**	**50.35**	**185**	P	**P**	**16 58 42.3**	**-1.7**
	0.3nm,0.3s,baz=360,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**54.08**	**185**	P	**P**	**16 59 09.4**	**-1.6**
	0.4nm,1.0s,baz=20,slow=11,SNR=5.9						
ARCES	**ARCESS Array B**	**69.26**	**340**	P	**P**	**17 00 50.3**	**+0.3**
	0.7nm,0.5s,baz=82,slow=8.7,SNR=6.5						
FINES	**FINESS Array B**	**73.47**	**332**	P	**P**	**17 01 14.6**	**-0.4**
	3.0nm,1.1s,baz=66,slow=7.8,SNR=5.5						

TEH 18 16:52:17.0,26°.78N×57°.95E,h11km,ML3.5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.14**	**188**	*e*Pg	Pg	16 52 39.4	+0.4
JSK1				IAMB	IAmb	16 53 08.4	
	comp=N,0.0nm,0.5s						
KHNJ	**Kahnooj**	**1.19**	**350**	*e*Pg	Pg	16 52 40.2	+0.4
KHNJ				IAMB	IAmb	16 53 04.7	
	comp=Z,0.0nm,0.8s						
NIAN	**Nian**	**1.26**	**309**	*e*Pg	Pg	16 52 41.8	+0.6
NIAN				eSg	Sg	16 53 00.0	+2.4
NIAN				IAMB	IAmb	16 53 04.1	
	comp=Z,0.0nm,0.2s						
GENO	**Geno**	**1.70**	**292**	*e*Pn	Pb	16 52 47.8	-0.6
GENO				IAMB	IAmb	16 53 14.9	
	comp=Z,0.0nm,0.4s						

*IDC **18** 16:54:50.5±0.8,52°.24N×160°.40E,h0km,mb3.8/16, mb1 4.0/19,mb1mx3.8/40,mbtmp3.8/19,ML3.6/3,MS3.2/5, Ms1 3.2/5,ms1mx2.8/49,Error ellipse: s-maj=17.9km s-min=14.2km az=164.0*
*KRSC **18** 16:54:50.6±10.0,52°.03N×160°.71E,h61km±10km,ML4.4*
*ISCJB **18** 16:54:54.4±0.7,52°.13N±0°.04×160°.52E±0°.06,h47km±5km, mb4.0/30,Error ellipse: s-maj=7.4km s-min=4.4km az=135.9*
*MOS **18** 16:54:54.5±1.0,52°.16N×160°.48E,h49km,mb4.5/8,Error ellipse: s-maj=8.4km s-min=4.6km az=107.8*
*NEIC **18** 16:54:56.2±0.5,52°.20N×160°.30E,h35km,mb4.2/11,Error ellipse: s-maj=10.3km s-min=8.7km az=160.0*
ISC 18 16:54:54.3±1.2,52°.12N±0°.04×160°.58E±0°.04,h29km±7km, n144,σ1§25/172,mb4.1/30,1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.04**	**341**	*e*P	**Pn**	**16 55 11.5**	**-1.3**
SPN				eS	**Sn**	**16 55 24.6**	**-1.7**
SPN	**Mys Shipunski**	**1.04**	**341**	PN	**Pn**	**16 55 11.5**	**-1.3**
SPN				S	**Sn**	**16 55 24.6**	**-1.7**
NLC	**Nalytchevo**	**1.29**	**325**	*e*P	**Pn**	**16 55 16.0**	**-0.3**
NLC	**Nalytchevo**	**1.29**	**325**	PN	**Pn**	**16 55 16.0**	**-0.3**
RUS	**Russkaya**	**1.31**	**285**	*e*P	**Pn**	**16 55 15.5**	**-1.0**
RUS				eS	**Sn**	**16 55 31.8**	**-1.1**
RUS	**Russkaya**	**1.31**	**285**	PN	**Pn**	**16 55 15.5**	**-1.0**
RUS				S	**Sn**	**16 55 31.8**	**-1.1**
DALK	**Dalny**	**1.44**	**310**	*e*P	**Pn**	**16 55 17.7**	**-0.6**
DALK				eS	**Sn**	**16 55 36.5**	**+0.3**
DALK	**Dalny**	**1.44**	**310**	PN	**Pn**	**16 55 17.7**	**-0.6**
DALK				S	**Sn**	**16 55 36.5**	**+0.3**
PET	**Petropavlovsk**	**1.48**	**309**	*e*Pn	**Pn**	**16 55 18.3**	**-0.6**
PET	**Petropavlovsk**	**1.48**	**309**	*e*P	**Pn**	**16 55 18.3**	**-0.6**
PET				eS	**Sn**	**16 55 37.9**	**+0.6**
PET	**Petropavlovsk**	**1.48**	**309**	*e*PN	**Pn**	**16 55 18.4**	**-0.6**
PET				eS	**Sb**	**16 55 40.0**	**+0.4**
PET				pmax	pmax		
	comp=Z,33nm,0.5s						
PET				pmax	pmax		
	comp=Z,600nm,2.4s						
PET				pmax	pmax		
	comp=Z,100nm,3.8s						
PET				smax	smax		
	comp=E,1μm,0.8s						
PET				smax	smax		
	comp=N,1μm,0.4s						
MTVR	**Mutnovka**	**1.51**	**285**	*e*P	**Pn**	**16 55 19.0**	**-0.5**
MTVR				eS	**Sn**	**16 55 38.2**	**-0.1**
MTVR	**Mutnovka**	**1.51**	**285**	PN	**Pn**	**16 55 19.0**	**-0.5**
MTVR				S	**Sn**	**16 55 38.2**	**-0.1**
UGLR	**Uglovaya**	**1.53**	**316**	*e*P	**Pn**	**16 55 19.6**	**0.0**
UGLR				eS	**Sb**	**16 55 41.6**	**+0.6**
UGLR	**Uglovaya**	**1.53**	**316**	PN	**Pn**	**16 55 19.6**	**0.0**
UGLR				S	**Sb**	**16 55 41.6**	**+0.6**
SDLR	**Sedlovina**	**1.55**	**319**	*e*P	**Pn**	**16 55 20.3**	**+0.3**
SDLR				eS	**Sb**	**16 55 41.9**	**+0.2**
SDLR	**Sedlovina**	**1.55**	**319**	PN	**Pn**	**16 55 20.3**	**+0.3**
SDLR				S	**Sb**	**16 55 41.9**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.58**	**260**	*e*P	**Pn**	**16 55 19.2**	**-1.0**
KDTR				eS	**Sn**	**16 55 38.7**	**-0.9**
KDTR	**Khodutka, Kamc**	**1.58**	**260**	PN	**Pn**	**16 55 19.2**	**-1.0**
KDTR				S	**Sn**	**16 55 38.7**	**-0.9**
SMAR	**Somma**	**1.58**	**317**	*e*P	**Pn**	**16 55 20.3**	**-0.1**
SMAR	**Somma**	**1.58**	**317**	PN	**Pn**	**16 55 20.3**	**-0.1**
GRL	**Gorelyy**	**1.60**	**287**	*e*P	**Pn**	**16 55 21.4**	**+0.8**
GRL	**Gorelyy**	**1.60**	**287**	PN	**Pn**	**16 55 21.4**	**+0.8**
AVH	**Avacha**	**1.60**	**317**	*e*P	**Pn**	**16 55 21.2**	**+0.5**
AVH	**Avacha**	**1.60**	**317**	PN	**Pn**	**16 55 21.2**	**+0.5**
KRER	**Koryakskii**	**1.63**	**318**	*e*P	**Pn**	**16 55 21.0**	**-0.1**
KRER				eS	**Sb**	**16 55 44.3**	**+0.4**
KRER	**Koryakskii**	**1.63**	**318**	PN	**Pn**	**16 55 21.0**	**-0.1**
KRER				S	**Sb**	**16 55 44.3**	**+0.4**
KRMR	**Karymshinskiy**	**1.66**	**296**	*e*P	**Pn**	**16 55 20.8**	**-0.5**
KRMR				S	**Sn**	**16 55 42.5**	**+0.9**
KRMR	**Karymshinskiy**	**1.66**	**296**	PN	**Pn**	**16 55 20.8**	**-0.5**
KRMR				S	**Sn**	**16 55 42.5**	**+0.9**
KOK	**Koryaka**	**1.67**	**316**	*e*P	**Pn**	**16 55 22.6**	**+1.1**
KOK	**Koryaka**	**1.67**	**316**	PN	**Pn**	**16 55 22.6**	**+1.1**
KRX	**Arik**	**1.71**	**317**	*e*P	**Pn**	**16 55 22.2**	**0.0**
KRX	**Arik**	**1.71**	**317**	PN	**Pn**	**16 55 22.2**	**0.0**
PEA0B	**Petropavlovsk-**	**2.02**	**301**	*e*Pn	**Pn**	**16 55 26.4**	**+0.1**
PEA0B	**Petropavlovsk-**	**2.02**	**301**	*e*PN	**Pn**	**16 55 26.4**	**+0.1**
PETK	**Petropavlovsk-**	**2.02**	**301**	*e*Pn	**Pn**	**16 55 26.8**	**+0.6**
PETK	**Petropavlovsk-**	**2.02**	**301**	Pn	**Pn**	**16 55 25.5**	**-0.7**
	comp=N,23nm,0.3s,baz=108,slow=18,SNR=55						
PETK				Sn	**Sn**	**16 55 50.7**	**+0.2**
	comp=N,37nm,0.3s,baz=204,slow=21,SNR=12						
PEA1	**Petropavlovsk-**	**2.02**	**301**	*e*Pn	**Pn**	**16 55 25.5**	**-0.8**
PEA1				eSn	**Sn**	**16 55 50.7**	**+0.2**
APC	**Apacha**	**2.24**	**293**	*e*P	**Pn**	**16 55 29.9**	**+0.6**
APC				eS	**Sb**	**16 56 01.2**	**0.0**
APC	**Apacha**	**2.24**	**293**	PN	**Pn**	**16 55 29.9**	**+0.6**
GNL	**Ganaly**	**2.25**	**316**	*e*P	**Pn**	**16 55 30.6**	**+1.1**
GNL	**Ganaly**	**2.25**	**316**	PN	**Pn**	**16 55 30.6**	**+1.1**
PAU	**Pauzhetka**	**2.43**	**256**	*e*P	**Pn**	**16 55 32.5**	**+0.6**
PAU	**Pauzhetka**	**2.43**	**256**	PN	**Pn**	**16 55 32.5**	**+0.6**
KZV	**Kizimen**	**3.01**	**357**	*e*P	**Pn**	**16 55 41.1**	**+1.1**
KZV				eS	**Sn**	**16 56 15.2**	**+0.1**
KZV	**Kizimen**	**3.01**	**357**	PN	**Pn**	**16 55 41.1**	**+1.1**
KZV				S	**Sn**	**16 56 15.2**	**+0.1**
TUMD	**Tumrok D**	**3.09**	**358**	*e*P	**Pn**	**16 55 40.9**	**-0.2**
TUMD				eS	**Sn**	**16 56 16.9**	**-0.2**
SKR	**Severo-Kuril's**	**3.14**	**245**	*e*P	**Pn**	**16 55 40.6**	**-1.1**
SKR				eS	**Sn**	**16 56 16.1**	**-2.0**
SKR	**Severo-Kuril's**	**3.14**	**245**	*e*PN	**Pn**	**16 55 41.2**	**-0.5**
SKR				eS	**Sn**	**16 56 16.6**	**-1.5**
SKR				pmax	pmax		
	comp=Z,69nm,0.5s						
SKR				smax	smax		
	comp=N,385nm,0.5s						
SKR				smax	smax		
	comp=E,260nm,0.5s						
TUMR	**Tumrok**	**3.18**	**356**	PN	**Pn**	**16 55 40.9**	**-1.5**
TUMR				S	**Sn**	**16 56 16.9**	**-2.5**
ESO	**Esso**	**3.97**	**345**	*e*P	**Pn**	**16 55 53.8**	**+0.7**
ESO	**Esso**	**3.97**	**345**	PN	**Pn**	**16 55 53.8**	**+0.7**
LGNR	**Loginova**	**3.97**	**1**	P	**Pn**	**16 55 55.2**	**+1.8**
LGNR	**Loginova**	**3.97**	**1**	PN	**Pn**	**16 55 55.2**	**+1.8**
KLY	**Klyuchi**	**4.21**	**1**	P	**Pn**	**16 55 58.2**	**+1.9**
KLY	**Klyuchi**	**4.21**	**1**	PN	**Pn**	**16 55 58.2**	**+1.9**
SRDR	**Sredinnyy**	**4.24**	**354**	P	**Pn**	**16 55 57.5**	**+0.7**
SRDR	**Sredinnyy**	**4.24**	**354**	PN	**Pn**	**16 55 57.5**	**+0.7**
KBTR	**Krutoberegovo**	**4.31**	**17**	*e*P	**Pn**	**16 55 58.0**	**+0.3**
KBTR	**Krutoberegovo**	**4.31**	**17**	PN	**Pn**	**16 55 58.0**	**+0.3**
BKI	**Bering**	**4.46**	**44**	*e*P	**Pn**	**16 55 59.1**	**-0.6**
BKI				eS	**Sn**	**16 56 45.8**	**-4.7**
BKI	**Bering**	**4.46**	**44**	PN	**Pn**	**16 55 59.1**	**-0.6**
SEY	**Seymchan**	**11.69**	**341**	Pn	**Pn**	**16 57 40.3**	**+1.5**
	comp=E,0.3nm,0.3s,baz=168,slow=14,SNR=2.8						
ASAJ	**Asahikawa**	**14.40**	**243**	Pn	**Pn**	**16 58 15.4**	**-0.6**
	comp=E,0.5nm,0.3s,baz=50,slow=14,SNR=5.7						
ASAJ				LR	LR	17 04 52.4	
	comp=E,61nm,19.0s,baz=16,slow=42						
GRNR	**Gornyy**	**15.11**	**274**	*e*P	**P**	**16 58 31.9**	**+1.6**
GRNR				pmax	pmax		
	comp=Z,15nm,0.9s						
BILL	**Bilibino**	**16.21**	**8**	*i* P	**P**	**16 58 42.3**	**-0.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KLR	**Kul'dur**	**18.44**	**272**	*i* P	**P**	**16 59 06.7**	**-0.5**
KLR				pmax	pmax		
	comp=Z,9.0nm,2.2s						
KLR	**Kul'dur**	**18.44**	**272**	P	**P**	**16 59 06.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=58,slow=10,SNR=6.1						
KLR				LR	LR	17 07 07.1	
	comp=Z,80nm,18.6s,baz=74,slow=40						
YAK	**Yakutsk**	**19.31**	**313**	*e*P	**P**	**16 59 13.9**	**-2.7**
YAK				pmax	pmax		
	comp=Z,83nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,0.9s						
YAK				pmax	pmax		
	comp=E,33nm,0.9s						
USRK	**Ussuriysk Ar.**	**20.55**	**259**	P	**P**	**16 59 28.6**	**-1.5**
	comp=E,3.4nm,0.8s,baz=74,slow=12,SNR=4.2						
MJA0	**Matsu Arr-Jizo**	**22.17**	**234**	*e*P	**P**	**16 59 49.3**	**+1.5**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MJAR	**Matsushiro Arr**	**22.19**	**234**	P	**P**	**16 59 48.6**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=19,slow=11,SNR=10						
MJB9	**Matsu-Tunnel**	**22.19**	**234**	*e*P	**P**	**16 59 47.8**	**-0.2**
	comp=Z,6.6nm,0.8s						
MAJO	**Matsushiro**	**22.19**	**234**	*e*P	**P**	**16 59 47.8**	**-0.2**
	comp=Z,6.4nm,0.8s						
MAJO	**Matsushiro**	**22.19**	**234**	*e*P	**P**	**16 59 47.8**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TIXI	**Tiksi**	**24.09**	**336**	*e*P	**P**	**17 00 05.4**	**-1.3**
	comp=Z,0.4nm,1.1s						
TIXI	**Tiksi**	**24.09**	**336**	*i* P	**P**	**17 00 04.5**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIXI	**Tiksi**	**24.09**	**336**	P	**P**	**17 00 05.4**	**-1.3**
	comp=Z,2.4nm,0.4s,baz=144,slow=9.3,SNR=17						
JHJ2	**Mitsune**	**24.22**	**226**	*e*P	**P**	**17 00 10.8**	**+2.6**
	comp=Z,122nm,1.0s						
HIA	**Hailar**	**25.78**	**280**	*i* P	**P**	**17 00 20.6**	**-1.8**
HIA				pmax	pmax		
	comp=Z,42nm,0.7s						
KSRS	**Korea Array**	**27.14**	**250**	LR	LR	17 11 09.4	
	comp=Z,24nm,18.3s,baz=40,slow=36						
ILAR	**Eielson Array**	**29.30**	**44**	P	**P**	**17 00 53.3**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=270,slow=7.2,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**32.70**	**169**	T	T	17 36 02.5	
	baz=352,slow=75						
H11N3	**WAKE ISLAND Hy**	**32.71**	**169**	T	T	17 36 10.4	
	baz=352,slow=75						
H11N1	**WAKE ISLAND Hy**	**32.72**	**169**	T	T	17 36 08.8	
	baz=352,slow=75						
ULN	**Ulaanbaatar**	**34.02**	**285**	*i* P	**P**	**17 01 33.1**	**-2.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONM	**Songino Array**	**34.42**	**285**	LR	LR	17 17 17.1	
	comp=Z,128nm,18.3s,baz=344,slow=39						
DGZ	**Jazzator, Alta**	**44.37**	**297**	*i* P	**P**	**17 03 00.1**	**-1.7**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SPA0	**Spitsbergen Ar**	**48.15**	**351**	*e*P	**P**	**17 03 31.5**	**+0.6**
	comp=Z,22nm,1.1s						
SPITS	**Spitsbergen Ar**	**48.15**	**351**	P	**P**	**17 03 31.3**	**+0.3**
SPITS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURK	**Kurchatov**	**48.50**	**303**	*e*P	**P**	**17 03 31.9**	**-2.1**
	comp=Z,3.2nm,0.9s						
KURK	**Kurchatov**	**48.50**	**303**	*i* P	**P**	**17 03 32.1**	**-1.9**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURBB	**Kurchatov Arra**	**48.60**	**303**	P	**P**	**17 03 32.7**	**-2.1**
	comp=Z,1.4nm,0.7s,baz=59,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**48.85**	**297**	P	**P**	**17 03 34.8**	**-2.0**
	comp=Z,0.9nm,0.5s,baz=56,slow=7.2,SNR=19						
BRVK	**Borovoye**	**51.26**	**309**	*e*P	**P**	**17 03 53.6**	**-1.3**
	comp=Z,2.4nm,0.6s						
BRVK	**Borovoye**	**51.26**	**309**	*i* P	**P**	**17 03 53.7**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARA0	**ARCESS Array S**	**54.31**	**342**	*e*P	**P**	**17 04 16.4**	**-0.8**
ARCES	**ARCESS Array B**	**54.31**	**342**	*e*P	**P**	**17 04 17.1**	**-0.1**
ARCES	**ARCESS Array B**	**54.31**	**342**	*e*P	**P**	**17 04 17.1**	**-0.1**
ARCES	**ARCESS Array B**	**54.31**	**342**	P	**P**	**17 04 16.4**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=43,slow=9.0,SNR=4.3						
ARE0	**ARCESS Array S**	**54.31**	**342**	*e*P	**P**	**17 04 17.2**	**0.0**
	comp=Z,0.5nm,1.1s						
ARU	**Arti**	**54.32**	**318**	*e*P	**P**	**17 04 16.2**	**-1.2**
	comp=Z,3.7nm,0.5s						
ARU	**Arti**	**54.32**	**318**	*d* iP	**P**	**17 04 16.2**	**-1.2**
ARU				*PP	**pP**	**17 04 26.5**	**+1.1**
ARU						17 06 16.4	
ARU				S	**S**	**17 11 51.9**	**-1.1**
ARU				SS	**SKiKP**	**17 15 29.2**	**+4.0**
ARU				pmax	pmax		
	comp=Z,12nm,2.2s						
HSLM	**San Luis Dam**	**55.08**	**73**	*e*P	**P**	**17 04 27.2**	**+3.9**
TMCR	**Tamitsa**	**55.78**	**333**	*e*P	**P**	**17 04 26.2**	**-1.7**
TMCR				pmax	pmax		
	comp=Z,12nm,1.1s						
NV01	**Mina Array Sit**	**55.80**	**70**	*e*P	**P**	**17 04 30.5**	**+1.8**
NVAR	**Mina Array Bea**	**55.80**	**70**	P	**P**	**17 04 30.5**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=306,slow=7.7,SNR=4.3						
PD31	**Pinedale Array**	**57.75**	**61**	*e*P	**P**	**17 04 43.6**	**+1.2**
	comp=Z,1.1nm,1.1s						
PDAR	**Pinedale Array**	**57.75**	**61**	P	**P**	**17 04 43.6**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=347,slow=7.5,SNR=3.0						
CM31	**Chiang Mai Arr**	**58.28**	**259**	*e*P	**P**	**17 04 47.2**	**+1.0**
	comp=Z,1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.28**	**259**	*e*P	**P**	**17 04 47.6**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.28**	**259**	P	**P**	**17 04 47.2**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=26,slow=6.4,SNR=10						
JIRN	**Jiri**	**59.28**	**276**	*e*P	**P**	**17 04 53.1**	**-0.4**
	comp=Z,8.6nm,0.7s						
RAMN	**Ramite**	**59.55**	**276**	*e*P	**P**	**17 04 54.1**	**-1.1**
	comp=Z,14nm,0.4s						
KKN	**Kakani**	**59.75**	**277**	*e*P	**P**	**17 04 56.2**	**-0.4**
	comp=Z,6.6nm,0.6s						
PKI	**Pulchoki**	**59.83**	**277**	*e*P	**P**	**17 04 56.6**	**-0.6**
PKIN	**Phulchoki**	**59.83**	**277**	*e*P	**P**	**17 04 56.6**	**-0.6**
DANN	**Dangsing**	**60.27**	**279**	*e*P	**P**	**17 04 59.8**	**-0.4**
	comp=Z,13nm,0.8s						
KOLN	**Koldanda**	**60.79**	**278**	*e*P	**P**	**17 05 02.9**	**-0.8**
	comp=Z,5.8nm,0.6s						
PYUN	**Piuthan**	**60.92**	**279**	*e*P	**P**	**17 05 04.3**	**-0.3**
	comp=Z,6.4nm,0.6s						
PV09	**Paradox Valley**	**60.95**	**64**	*e*P	**P**	**17 05 08.3**	**+3.6**
FIA0	**FINESS Array S**	**61.13**	**337**	*e*P	**P**	**17 05 05.5**	**+0.3**
FIA0	**FINESS Array S**	**61.13**	**337**	*e*P	**P**	**17 05 05.5**	**+0.3**
FINES	**FINESS Array B**	**61.13**	**337**	P	**P**	**17 05 05.5**	**+0.3**
	comp=Z,3.2nm,0.5s,baz=28,slow=8.8,SNR=48						
FINES				LR	LR	17 35 03.6	
	comp=Z,20nm,19.4s,baz=349,slow=40						
OBN	**Obninsk**	**63.50**	**328**	*e*P	**P**	**17 05 20.9**	**-0.2**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NB2	**NORSAR Subarra**	**64.56**	**344**	P	**P**	**17 05 28.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=23,slow=6.9						
NB200	**NORSAR Array S**	**64.56**	**344**	*e*P	**P**	**17 05 28.9**	**+0.7**
NOA	**NORSAR Array B**	**64.56**	**344**	P	**P**	**17 05 28.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=23,slow=6.8,SNR=4.5						
AKASG	**Malin Array Be**	**69.60**	**329**	P	**P**	**17 05 59.3**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=30,slow=6.6,SNR=3.1						
AKBB	**Malin Array Si**	**69.60**	**329**	*e*P	**P**	**17 05 59.3**	**-0.9**
	comp=Z,3.9nm,1.1s						
AKBB	**Malin Array Si**	**69.60**	**329**	*e*P	**P**	**17 05 59.3**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KBZ	**Khabaz**	**70.45**	**317**	P	**P**	**17 06 04.1**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=96,slow=4.1,SNR=4.1						
LTX	**Lajitas**	**70.75**	**67**	*e*P	**P**	**17 06 09.0**	**+1.3**
LTX	**Lajitas**	**70.75**	**67**	*e*P	**P**	**17 06 09.0**	**+1.3**
TXAR	**Lajitas Array**	**70.75**	**67**	P	**P**	**17 06 09.0**	**+1.3**
TXAR	**Lajitas Array**	**70.75**	**67**	P	**P**	**17 06 09.0**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=323,slow=3.9,SNR=3.9						
KOLS	**Kolonicke sedl**	**73.25**	**333**	*e*P	**P**	**17 06 24.3**	**+2.0**
KOLS	**Kolonicke sedl**	**73.25**	**333**	*e*P	**P**	**17 06 24.3**	**+2.0**
CLL	**Collm**	**73.37**	**339**	*e*P	**P**	**17 06 23.0**	**+0.1**
CLL	**Collm**	**73.37**	**339**	*e*P	**P**	**17 06 23.0**	**+0.1**
VYHS	**Vyhne**	**74.59**	**335**	*e*P	**P**	**17 06 32.2**	**+2.1**
VYHS	**Vyhne**	**74.59**	**335**	*e*P	**P**	**17 06 32

PB01 IAML 17 15 40.8
comp=E,114nnm,0.1s
PB07 IPOC Station P 1.15 276 *i* P **Pn 17 15 21.4 +0.1**
PB07 IPOC Station P 1.15 276⇑ *i* P **Pn 17 15 21.3 +0.1**
PB07 *i* S **Sn 17 15 38.9 -0.9**
PB07 IAML 17 15 42.3
comp=E,192nnm,0.3s
PB06 IPOC Station P 1.19 225⇑ *i* P **Pn 17 15 22.0 +0.3**
PB06 *i* S **Sn 17 15 40.7 +0.1**
PB06 IAML 17 15 41.5
comp=E,220nnm,0.3s
PB02 IPOC Station P 1.27 295 *i* P **Pn 17 15 22.4 0.0**
PB02 IPOC Station P 1.27 295⇑ *i* P **Pn 17 15 22.4 0.0**
PB02 *e*S **Sn 17 15 40.7 -1.2**
PB02 IAML 17 15 44.6
comp=E,122nnm,0.2s
PB04 IPOC Station P 1.46 251⇑ *i* P **Pn 17 15 24.6 0.0**
PB04 *e*S **Sn 17 15 45.1 -0.6**
PB04 IAML 17 15 47.7
comp=N,102nnm,0.2s
PB15 IPOC Station P 1.54 209 *i* P **Pn 17 15 25.5 +0.1**
PB15 IPOC Station P 1.54 209 *e*P **Pn 17 15 26.2 +0.7**
PB15 *i* S **Sn 17 15 48.6 +1.3**
PB08 IPOC Station P 1.77 345⇑ *i* P **Pn 17 15 29.2 +0.8**
PB08 *i* S **Sn 17 15 52.9 +0.5**
PB08 IAML 17 15 55.1
comp=E,159nnm,0.9s
GO01 Chusmiza 2.24 347⇓ *i* P **Pn 17 15 34.6 +0.5**
GO01 *i* S **Sn 17 16 02.8 +0.1**
GO01 IAML 17 16 06.7
comp=N,96nnm,0.2s
MNMC Minye Minye 2.85 342 *e*P **Pn 17 15 42.0 +0.3**
MNMC *i* S **Sn 17 16 16.4 0.0**
MNMC IAML 17 16 18.0
comp=N,72nnm,0.2s
HJA Humahuaca 3.29 115 *i* P **Pn 17 15 46.7 -0.8**
HJA IAML 17 15 50.9
comp=Z,5.0nnm,0.5s

ISCJB ***18*** *17:19:26.9±0.2,28°.23S±0'.02×178°.42E±0'.04,h600km, mb4.6/137,Error ellipse: s-maj=4.3km s-min=2.9km az=21.1*
MOS ***18*** *17:19:28.5±1.1,28°.21S×178°.42E,h620km,mb4.8/12, Error ellipse: s-maj=12.6km s-min=11.3km az=55.0*
NEIC ***18*** *17:19:28.8±2.2,28°.28S×178°.55E,h617km±5km, mb4.7/131,Error ellipse: s-maj=14.1km s-min=12.0km az=88.0*
IDC ***18*** *17:19:29.1±1.2,28°.27S×178°.56E,h620km±13km, mb3.7/16,mb1 3.9/19,mb1mx3.8/30,mbtmp4.7/19,Error ellipse: s-maj=13.9km s-min=10.8km az=76.0*
ISC 18 17:19:27.3±0.3,28°.33S±0'.05×178°.59E±0'.05,h600km, n403,σ1$30/444,mb4.6/137,14C-16D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUZ	**Omahuta**	**8.08**	**210**	*e*P	P	17 21 32.9	+5.7
MXZ	**Matakaoa Point**	**9.21**	**181**	*e*P	**P**	**17 21 39.0**	**+1.0**
URZ	**Urewera**	**9.98**	**187**	*e*P	**P**	**17 21 46.3**	**+0.6**
URZ				*e*S	**S**	**17 23 34.2**	**-5.1**
URZ	**Urewera**	**9.98**	**187**	P	**P**	**17 21 46.2**	**+0.6**
	12nm,0.3s,baz=341,slow=5.1,SNR=64						
URZ				S	**S**	**17 23 36.4**	**-2.9**
	5.2nm,0.3s,baz=69,slow=20,SNR=11						
HIZ	**Hauiti**	**10.62**	**196**	*e*P	**P**	**17 21 56.3**	**+4.2**
BKZ	**Black Stump Fm**	**10.95**	**189**	*e*P	**P**	**17 21 55.5**	**+0.1**
BKZ				*e*S	**S**	**17 23 54.8**	**-2.2**
PINNC	**Pines Island,**	**11.56**	**297**	*e*P	**P**	**17 22 04.5**	**+2.8**
MARNC	**Mare, Loyalty**	**11.75**	**303**	*e*P	**P**	**17 22 06.1**	**+2.4**
OUENC	**Ouen Island, N**	**12.13**	**296**	*e*P	**P**	**17 22 10.3**	**+2.8**
BFZ	**Birch Farm**	**12.47**	**188**	*e*P	**P**	**17 22 10.3**	**-0.2**
BFZ				*e*S	**S**	**17 24 23.4**	**-1.5**
ONTNC	**Ouen Toro**	**12.50**	**296**	*e*P	**P**	**17 22 13.8**	**+2.6**
DZM	**Mont Dzumac**	**12.63**	**297**	*e*P	**P**	**17 22 14.9**	**+2.3**
DZM				*e*S	**S**	**17 24 33.2**	**+4.8**
DZM	**Mont Dzumac**	**12.63**	**297**	P	**P**	**17 22 15.1**	**+2.5**
	16nm,0.3s,baz=154,slow=8.7,SNR=387						
DZM				S	**S**	**17 24 31.4**	**+3.0**
	baz=180,slow=20,SNR=11						
SNZO	**South Karori**	**13.34**	**193**	*e*P	**P**	**17 22 19.1**	**-0.2**
SNZO				*e*S	**S**	**17 24 38.1**	**-2.3**
NIUE	**Niue**	**13.97**	**51**	*e*P	**P**	**17 22 27.3**	**+1.2**
THZ	**Tophouse**	**14.18**	**198**	*e*P	**P**	**17 22 28.9**	**+1.1**
THZ				*e*S	**S**	**17 24 53.7**	**-1.6**
KHZ	**Kahutara**	**14.64**	**195**	*e*P	**P**	**17 22 32.2**	**+0.2**
KHZ				*e*S	**S**	**17 25 01.9**	**-0.8**
LTZ	**Lake Taylor**	**15.30**	**198**	*e*P	**P**	**17 22 38.9**	**+0.8**
	112nm,0.5s						
LTZ				*e*S	**S**	**17 25 12.3**	**-1.4**
OXZ	**Oxford**	**15.87**	**198**	*e*P	**P**	**17 22 43.9**	**+0.7**
	145nm,0.7s						
OXZ				*e*S	**S**	**17 25 23.6**	**+0.7**
CRLZ	**Canterbury Las**	**15.96**	**196**	*e*P	**P**	**17 22 44.6**	**+0.7**
	283nm,1.7s						
MQZ	**McQueen's Vall**	**16.07**	**196**	*e*P	**P**	**17 22 46.2**	**+1.2**
	163nm,1.6s						
RPZ	**Rata Peaks**	**16.51**	**200**	*e*P	**P**	**17 22 50.0**	**+0.9**
	39nm,0.6s						
RPZ	**Rata Peaks**	**16.51**	**200**	P	**P**	**17 22 50.6**	**+1.6**
	15nm,0.3s,baz=180,slow=0.2,SNR=42						
RPZ				S	**S**	**17 25 31.4**	**-2.0**
	0.6nm,0.3s,baz=0.0,slow=11,SNR=2.7						
FOZ	**Fox Glacier**	**16.74**	**203**	*e*P	**P**	**17 22 52.5**	**+1.4**
	42nm,0.6s						
FOZ				*e*S	**S**	**17 25 33.8**	**-3.2**
LHI	**Lord Howe Isla**	**17.22**	**255**	*e*P	**P**	**17 22 59.0**	**+3.2**
	206nm,0.6s						
LHI	**Lord Howe Isla**	**17.22**	**255**	P	**P**	**17 22 56.7**	**+0.9**
	baz=17,SNR=11						
LBZ	**Lake Benmore**	**17.38**	**201**	*e*P	**P**	**17 22 57.6**	**+0.6**
	138nm,2.0s						
ODZ	**Otahua Downs**	**17.84**	**199**	*e*P	**P**	**17 23 01.6**	**+0.4**
	135nm,1.9s						
WKZ	**Wanaka**	**18.15**	**202**	*e*P	**P**	**17 23 04.0**	**-0.1**
	241nm,1.9s						
MLZ	**Mavora Lakes**	**18.93**	**203**	*e*P	**P**	**17 23 12.0**	**+0.9**
	43nm,1.4s						
DCZ	**Deep Cove**	**19.36**	**205**	*e*P	**P**	**17 23 17.4**	**+2.5**
	28nm,1.2s						
WHZ	**Wether Hill Ro**	**19.45**	**203**	*e*P	**P**	**17 23 17.3**	**+1.5**
	119nm,1.9s						
ARMA	**Armidale**	**23.57**	**258**	*e*P	**P**	**17 23 55.6**	**+2.6**
	18nm,0.8s						
ARMA	**Armidale**	**23.57**	**258**	P	**P**	**17 23 53.6**	**+0.6**
	baz=24,SNR=14						
MGCD	**Mangrove Creek**	**24.07**	**251**	P	**P**	**17 23 58.0**	**+0.7**
	baz=24,SNR=38						
RIV	**Riverview**	**24.09**	**250**	P	**P**	**17 23 57.6**	**+0.3**
	baz=24,SNR=3.8						
EIDS	**Eidsvold**	**24.70**	**270**	*e*P	**P**	**17 24 03.7**	**+0.8**
	57nm,1.0s						
EIDS	**Eidsvold**	**24.70**	**270**	P	**P**	**17 24 03.7**	**+0.8**
	baz=25,SNR=22						
HNR	**Honiara**	**25.70**	**313**	*e*P	**P**	**17 24 10.7**	**-1.2**
	103nm,0.8s						
HNR	**Honiara**	**25.70**	**313**	*e*P	**P**	**17 24 10.7**	**-1.2**
HNR				pmax	pmax		
	comp=Z,103nm,0.8s						
HNR	**Honiara**	**25.70**	**313**	P	**P**	**17 24 11.2**	**-0.7**
	comp=Z,109nm,0.7s,baz=236,slow=0.6,SNR=12						
CNB	**Canberra Magne**	**25.73**	**247**	P	**P**	**17 24 13.2**	**+1.3**
	baz=26,SNR=24						
CAN	**Canberra**	**26.02**	**247**	*e*P	**P**	**17 24 16.6**	**+2.0**
	comp=Z,19nm,0.6s						
CAN	**Canberra**	**26.02**	**247**	*e*P	**P**	**17 24 16.6**	**+2.0**
CAN				pmax	pmax		
	comp=Z,19nm,0.6s						
MILA	**Mila**	**26.17**	**243**	P	**P**	**17 24 16.4**	**+0.6**
	baz=26,SNR=7.2						
YNG	**Young**	**26.41**	**249**	P	**P**	**17 24 19.0**	**+1.1**
	baz=26,SNR=12						
RMQ	**Roma**	**26.52**	**267**	P	**P**	**17 24 21.2**	**+2.2**
	baz=26,SNR=6.7						
KNTN	**Kanton**	**27.04**	**22**	*e*P	**P**	**17 24 24.0**	**+0.4**
	comp=Z,272nm,1.5s						
CMSA	**Cobar Meteorol**	**28.63**	**255**	P	**P**	**17 24 38.9**	**+1.7**
	baz=29,SNR=30						
MOO	**Moorlands**	**29.03**	**233**	P	**P**	**17 24 43.3**	**+2.8**
	baz=29,SNR=4.7						
TAU	**Tasmania Unive**	**29.09**	**232**	*e*P	**P**	**17 24 43.5**	**+2.5**
	comp=Z,39nm,0.9s						
TAU	**Tasmania Unive**	**29.09**	**232**	*e*P	**P**	**17 24 43.5**	**+2.5**
TAU				pmax	pmax		
	comp=Z,39nm,0.9s						
TOO	**Toolangi**	**29.14**	**243**	*e*P	**P**	**17 24 44.0**	**+2.4**
	comp=Z,25nm,0.8s						
TOO	**Toolangi**	**29.14**	**243**	P	**P**	**17 24 43.9**	**+2.4**
	baz=29,SNR=21						
TOO	**Toolangi**	**29.14**	**243**	*e*P	**P**	**17 24 44.0**	**+2.4**
TOO				pmax	pmax		
	comp=Z,25nm,0.8s						
MCQ	**Macquarie Isla**	**29.80**	**203**	*e*P	**P**	**17 24 47.9**	**+1.0**
	comp=Z,159nm,1.4s						
MCQ	**Macquarie Isla**	**29.80**	**203**	*e*P	**P**	**17 24 47.9**	**+1.0**
MCQ				pmax	pmax		
	comp=Z,159nm,1.4s						
TARA	**Tarawa**	**30.01**	**349**	*e*P	**P**	**17 24 49.5**	**+0.2**
	comp=Z,91nm,0.9s						
CTA	**Charters Tower**	**30.54**	**278**	P	**P**	**17 24 55.0**	**+1.2**
CTA				pmax	pmax		
	comp=Z,199nm,0.5s						
CTA	**Charters Tower**	**30.54**	**278**	P	**P**	**17 24 55.4**	**+1.6**
	comp=Z,121nm,0.4s,baz=100,slow=12						
CTAO	**Charters Tower**	**30.54**	**278**	*e*P	**P**	**17 24 55.4**	**+1.6**
	comp=Z,147nm,0.4s						
CTAO	**Charters Tower**	**30.54**	**278**	*e*P	**P**	**17 24 55.4**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,147nm,0.4s						
ARPS	**Mount Arapiles**	**31.95**	**245**	P	**P**	**17 25 07.4**	**+1.9**
	baz=32,SNR=47						
STKA	**Stephens Creek**	**32.10**	**254**	*e*P	**P**	**17 25 08.0**	**+1.1**
	comp=Z,3.4nm,0.8s						
STKA	**Stephens Creek**	**32.10**	**254**	P	**P**	**17 25 08.4**	**+1.5**
	baz=32,SNR=11						
STKA	**Stephens Creek**	**32.10**	**254**	*e*P	**P**	**17 25 08.0**	**+1.1**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**32.10**	**254**	P	**P**	**17 25 08.0**	**+1.1**
	comp=Z,12nm,0.5s,baz=94,slow=11,SNR=23						
STKA				ScP	**ScP**	**17 30 22.3**	**-2.5**
	comp=Z,2.0nm,0.4s,baz=57,slow=2.5,SNR=3.4						
HTT	**Hallett**	**34.27**	**251**	P	**P**	**17 25 26.3**	**+1.1**
	baz=34,SNR=68						
RABL	**Rabaul**	**34.75**	**309**	*e*P	**P**	**17 25 29.4**	**+0.1**
	comp=Z,77nm,0.4s						
PMG	**Port Moresby**	**35.02**	**296**	*e*P	**P**	**17 25 32.3**	**+0.7**
	comp=Z,24nm,1.0s						
PMG	**Port Moresby**	**35.02**	**296**	*e*P	**P**	**17 25 32.3**	**+0.7**
PMG				pmax	pmax		
	comp=Z,24nm,1.0s						
COEN	**Coen**	**35.84**	**286**	*e*P	**P**	**17 25 39.1**	**+0.8**
	comp=Z,30nm,0.8s						
COEN	**Coen**	**35.84**	**286**	P	**P**	**17 25 39.6**	**+1.3**
	baz=36,SNR=26						
QIS	**Mount Isa**	**36.20**	**274**	P	**P**	**17 25 41.6**	**+0.4**
	baz=36,SNR=20						
BBOO	**Buckleboo**	**36.71**	**252**	*e*P	**P**	**17 25 45.3**	**+0.1**
	comp=Z,58nm,0.6s						
BBOO	**Buckleboo**	**36.71**	**252**	P	**P**	**17 25 45.5**	**+0.2**
	baz=37,SNR=54						
MANU	**Manus Island**	**39.63**	**306**	*e*P	**P**	**17 26 09.4**	**+0.3**
	comp=Z,32nm,0.8s						
PATS	**Pohnpei**	**40.06**	**328**	*e*P	**P**	**17 26 12.5**	**+0.1**
	comp=Z,181nm,1.6s						
AS31	**Alice Springs**	**40.26**	**266**	*e*P	**P**	**17 26 14.5**	**+0.5**
	comp=Z,14nm,0.7s						
ASAR	**Alice Springs**	**40.26**	**266**	*e*P	**P**	**17 26 13.9**	**-0.1**
ASAR	**Alice Springs**	**40.26**	**266**	*e*P	**P**	**17 26 13.9**	**-0.1**
ASAR	**Alice Springs**	**40.26**	**266**	P	**P**	**17 26 14.5**	**+0.5**
	comp=Z,32nm,0.5s,baz=96,slow=6.8,SNR=1760						
ASAR				ScP	**ScP**	**17 30 52.8**	**-2.8**
	comp=Z,6.1nm,0.6s,baz=109,slow=4.0,SNR=15						
ASAR				S	**S**	**17 31 36.0**	**-3.6**
	comp=Z,6.7nm,0.9s,baz=110,slow=14,SNR=15						
WC3	**Warramunga Arr**	**41.01**	**272**	*e*P	**P**	**17 26 20.4**	**+0.4**
	comp=Z,78nm,0.6s						
WB2	**Warramunga Arr**	**41.04**	**272**	*e*P	**P**	**17 26 20.2**	**0.0**
	comp=Z,77nm,0.6s						
WRAB	**Tennant Creek**	**41.04**	**272**	*e*P	**P**	**17 26 20.5**	**+0.3**
	comp=Z,59nm,0.6s						
WRAB	**Tennant Creek**	**41.04**	**272**	*c i*P	**P**	**17 26 19.7**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,43nm,0.8s						
WRA	**Warramunga Arr**	**41.05**	**272**	P	**P**	**17 26 20.5**	**+0.2**
	comp=Z,53nm,0.4s,baz=104,slow=7.8,SNR=303						
WRA				PcP	**pP**	**17 28 03.4**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=121,slow=4.0,SNR=4.7						
WRA				ScP	**ScP**	**17 30 56.8**	**-1.8**
	comp=Z,2.0nm,0.7s,baz=99,slow=3.8,SNR=4.9						
WRA				S	**S**	**17 31 45.9**	**-5.1**
	comp=Z,9.4nm,0.8s,baz=106,slow=14,SNR=12						
FORT	**Forrest**	**43.72**	**254**	*e*P	**P**	**17 26 40.5**	**-0.4**
	comp=Z,84nm,0.7s						
FORT	**Forrest**	**43.72**	**254**	P	**P**	**17 26 40.7**	**-0.2**
	baz=44,SNR=25						
WRKA	**Warakurna**	**44.80**	**262**	P	**P**	**17 26 49.1**	**-0.3**
	baz=45,SNR=320						
KDU	**Kakadu**	**45.62**	**280**	P	**P**	**17 26 55.2**	**-0.4**
	baz=46,SNR=21						
MTN	**Manton Dam**	**46.71**	**279**	*e*P	**P**	**17 27 03.6**	**-0.3**
	comp=Z,21nm,0.6s						
MTN	**Manton Dam**	**46.71**	**279**	P	**P**	**17 27 03.6**	**-0.3**
	baz=47,SNR=17						
KNRA	**Kununurra**	**47.58**	**274**	P	**P**	**17 27 10.7**	**+0.4**
	baz=48,SNR=21						
KMBL	**Kambalda**	**48.82**	**252**	P	**P**	**17 27 18.9**	**-0.5**
	baz=49,SNR=5.1						
SAUI	**Saumlaki**	**48.90**	**285**	*e*P	**P**	**17 27 20.6**	**+0.5**
	comp=Z,107nm,0.9s						
FITZ	**Fitzroy Crossi**	**49.38**	**270**	*e*P	**P**	**17 27 23.9**	**+0.3**
	comp=Z,21nm,0.6s						
FITZ	**Fitzroy Crossi**	**49.38**	**270**	P	**P**	**17 27 23.9**	**+0.3**
	baz=49,SNR=64						
FITZ	**Fitzroy Crossi**	**49.38**	**270**	S	**S**	**17 33 45.0**	**-2.4**
	comp=Z,1.2nm,0.8s,baz=207,slow=4.8,SNR=5.1						
VNDA	**Vanda**	**49.88**	**185**	*e*P	**P**	**17 27 28.2**	**+1.8**
	comp=Z,14nm,2.0s						
VNDA	**Vanda**	**49.88**	**185**	*e*P	**P**	**17 27 28.2**	**+1.8**
VNDA				pmax	pmax		
	comp=Z,14nm,2.0s						
VNDA	**Vanda**	**49.88**	**185**	P	**P**	**17 27 27.6**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=0.1,slow=8.1,SNR=13						
VNDA				PcP	**PcP**	**17 28 34.5**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=12,slow=3.7,SNR=4.6						
VNDA				ScP	**ScP**	**17 31 32.4**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=22,slow=1.4,SNR=4.5						
SBA	**Scott Base**	**49.90**	**183**	*e*P	**P**	**17 27 29.4**	**+2.9**
	comp=Z,15nm,1.0s						
SBA				*e*PcP	**PcP**	**17 28 37.0**	**+1.5**
SBA	**Scott Base**	**49.90**	**183**	*e*P	**P**	**17 27 29.4**	**+2.9**
SBA				*e*		17 28 37.0	
SBA				pmax	pmax		
	comp=Z,15nm,1.0s						
FAKI	**Fak Fak**	**50.82**	**291**	*e*P	**P**	**17 27 33.8**	**-0.4**
	comp=Z,32nm,1.0s						
BNDI	**Bandanaira**	**51.88**	**288**	P	**P**	**17 27 41.2**	**-0.6**
	comp=Z,78nm,1.0s						
KLBR	**Kellerberrin**	**52.21**	**251**	P	**P**	**17 27 43.6**	**-0.4**
	baz=52,SNR=13						
NWAO	**Narrogin (SRO)**	**52.35**	**249**	*e*P	**P**	**17 27 44.5**	**-0.5**
	comp=Z,54nm,1.7s						
NWAO	**Narrogin (SRO)**	**52.35**	**249**	P	**P**	**17 27 44.4**	**-0.5**
	baz=52,SNR=5.0						
NWAO	**Narrogin (SRO)**	**52.35**	**249**	*e*P	**P**	**17 27 44.5**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,54nm,1.7s						
MEEK	**Meekatharra**	**52.74**	**257**	P	**P**	**17 27 47.2**	**-0.7**
	baz=53,SNR=24						
GUMO	**Guam**	**52.93**	**317**	*e*P	**P**	**17 27 48.3**	**-0.8**
	comp=Z,187nm,1.6s						
GUMO	**Guam**	**52.93**	**317**	*e*P	**P**	**17 27 48.3**	**-0.8**
GUMO				pmax	pmax		
	comp=Z,187nm,1.6s						
PSAD2	**Pilbara Seismi**	**53.13**	**263**	*e*P	**P**	**17 27 50.2**	**-0.5**
	comp=Z,18nm,0.7s						
PSAC2	**Pilbara Seismi**	**53.20**	**263**	*e*P	**P**	**17 27 50.2**	**-1.0**
	comp=Z,20nm,0.8s						
PSAB3	**Pilbara Seismi**	**53.23**	**263**	*e*P	**P**	**17 27 50.6**	**-0.7**
	comp=Z,16nm,0.8s						
PSAB3				*e*PcP	**PcP**	**17 28 47.4**	**-1.8**
PSAA3	**Pilbara Seismi**	**53.24**	**263**	*e*P	**P**	**17 27 50.7**	**-0.7**
	comp=Z,18nm,0.8s						
PSAB2	**Pilbara Seismi**	**53.24**	**263**	*e*P	**P**	**17 27 50.8**	**-0.6**
	comp=Z,19nm,0.8s						
PSA00	**Pilbara Seismi**	**53.25**	**263**	*e*P	**P**	**17 27 50.8**	**-0.7**
	comp=Z,15nm,0.8s						
PSAC3	**Pilbara Seismi**	**53.25**	**263**	*e*P	**P**	**17 27 50.9**	**-0.6**
	comp=Z,19nm,1.0s						
PSAA2	**Pilbara Seismi**	**53.25**	**263**	*e*P	**P**	**17 27 50.9**	**-0.6**
	comp=Z,15nm,0.8s						
PSAA2				*e*PcP	**PcP**	**17 28 48.1**	**-1.2**
PSAA1	**Pilbara Seismi**	**53.25**	**263**	*e*P	**P**	**17 27 51.1**	**-0.4**
	comp=Z,17nm,0.7s						
PSAB1	**Pilbara Seismi**	**53.27**	**263**	*e*P	**P**	**17 27 51.1**	**-0.5**
	comp=Z,19nm,0.8s						
PSAD3	**Pilbara Seismi**	**53.28**	**263**	*e*P	**P**	**17 27 51.3**	**-0.5**
	comp=Z,26nm,1.1s						
PSAC1	**Pilbara Seismi**	**53.29**	**263**	*e*P	**P**	**17 27 51.2**	**-0.6**
	comp=Z,20nm,0.9s						
PSAD1	**Pilbara Seismi**	**53.30**	**263**	*e*P	**P**	**17 27 51.4**	**-0.5**
	comp=Z,26nm,0.8s						
BLDU	**Ballidu**	**53.31**	**251**	P	**P**	**17 27 51.4**	**-0.4**
	baz=53,SNR=25						
MUN	**Mundaring**	**53.41**	**250**	P	**P**	**17 27 52.3**	**-0.2**
	baz=53,SNR=5.4						
MBWA	**Marble Bar**	**53.49**	**264**	*e*P	**P**	**17 27 51.1**	**-2.1**
AIN	**Ainahou**	**53.65**	**31**	*e*P	**P**	**17 27 54.6**	**+0.2**
	comp=Z,342nm,1.7s						
MLH	**Mauna Loa**	**53.79**	**31**	*e*P	**P**	**17 27 56.5**	**+1.0**
	comp=Z,137nm,1.3s						
MLH	**Mauna Loa**	**53.79**	**31**	*e*P	**P**	**17 27 56.5**	**+1.0**
MLH				pmax	pmax		
	comp=Z,137nm,1.3s						
HMH	**Humu'ula Sheep**	**53.84**	**31**	*e*P	**P**	**17 27 57.2**	**+1.3**
	comp=Z,168nm,1.4s						
SOEI	**Soe**	**54.10**	**279**	*e*P	**P**	**17 27 59.2**	**+1.5**
	comp=Z,42nm,0.9s						
SOEI	**Soe**	**54.10**	**279**	P	**P**	**17 27 58.2**	**+0.5**
	comp=Z,50nm,1.0s						
HPAH	**Hawaii Prepara**	**54.12**	**30**	*e*P	**P**	**17 27 58.5**	**+1.0**
	comp=Z,160nm,1.5s						
MORW	**Morawa**	**54.27**	**253**	*e*P	**P**	**17 27 58.4**	**-0.2**
	comp=Z,21nm,1.3s						
MORW	**Morawa**	**54.27**	**253**	P	**P**	**17 27 58.2**	**-0.4**
	baz=54,SNR=7.7						
BATI	**Baumata**	**54.42**	**278**	P	**P**	**17 28 02.9**	**+3.1**
CASY	**Casey**	**55.60**	**207**	*e*P	**P**	**17 28 07.7**	**+0.6**
	comp=Z,9.3nm,0.6s						
MMRI	**Maumere**	**56.40**	**279**	*e*P	**P**	**17 28 13.4**	**-0.1**
	comp=Z,61nm,1.1s						
MMRI	**Maumere**	**56.40**	**279**	P	**P**	**17 28 13.7**	**+0.3**
	comp=Z,52nm,1.1s						
SANI	**Sanana**	**56.50**	**288**	P	**P**	**17 28 13.8**	**-0.4**
	comp=Z,50nm,0.6s,comp=Z,450nm						
TNTI	**Ternate**	**56.92**	**292**	*e*P	**P**	**17 28 16.4**	**-0.6**
	comp=Z,26nm,1.2s						
GIRL	**Giralia**	**57.78**	**260**	*e*P	**P**	**17 28 23.9**	**+1.2**
GIRL				*ep*P	**pwP**	**17 30 18.4**	**-1.9**
GIRL	**Giralia**	**57.78**	**260**	P	**P**	**17 28 23.9**	**+1.2**
	baz=58,SNR=6.6						
LUWI	**Luwuk**	**59.75**	**287**	*e*P	**P**	**17 28 35.5**	**-0.5**
	comp=Z,56nm,1.0s						
LUWI	**Luwuk**	**59.75**	**287**	P	**P**	**17 28 35.5**	**-0.5**
BKSI	**Bulukumba**	**59.83**	**281**	P	**P**	**17 28 35.3**	**-1.2**
	comp=Z,23nm,0.8s,comp=Z,194nm						
PLAI	**Plampang**	**60.20**	**276**	P	**P**	**17 28 38.5**	**-0.5**
BNSI	**Bone**	**60.30**	**282**	P	**P**	**17 28 40.1**	**+0.5**
	comp=Z,27nm,1.1s						
MRSI	**Marisa**	**61.26**	**288**	P	**P**	**17 28 43.9**	**-2.1**
QSPA	**South Pole Qui**	**61.77**	**180**	*e*P	**P**	**17 28 50.2**	**+1.6**
	comp=Z,11nm,0.8s						
SRBI	**Singaraja**	**62.80**	**276**	P	**P**	**17 28 55.6**	**-0.3**
MPSI	**Mapaga**	**62.91**	**286**	P	**P**	**17 28 56.0**	**-0.6**
JAGI	**Jajag, Banyuwa**	**63.55**	**275**	*e*P	**P**	**17 29 00.1**	**-0.6**
	comp=Z,35nm,0.7s						
PWJI	**Pagerwojo**	**65.82**	**274**	P	**P**	**17 29 13.9**	**-1.0**
PCJI	**Pacitan**	**66.29**	**273**	P	**P**	**17 29 18.4**	**+0.5**
	comp=Z,105nm,0.8s						
WOJI	**Wonogiri, Jawa**	**66.68**	**274**	P	**P**	**17 29 18.4**	**-1.8**
UGM	**Wanagama**	**67.00**	**273**	*e*P	**P**	**17 29 22.2**	**0.0**
	comp=Z,267nm,1.7s						
CISI	**Cisompet, Garu**	**69.54**	**272**	*e*P	**P**	**17 29 37.1**	**-0.6**
	comp=Z,71nm,0.6s						
CISI	**Cisompet, Garu**	**69.54**	**272**	P	**P**	**17 29 35.9**	**-1.8**
LEM	**Lembang**	**70.05**	**273**	P	**P**	**17 29 40.0**	**-0.8**
SBUM	**Sibu**	**70.55**	**284**	*e*P	**P**	**17 29 43.7**	**+0.2**
	comp=Z,11nm,1.2s						
SBUM	**Sibu**	**70.55**	**284**	P	**P**	**17 29 44.0**	**+0.5**
KSM	**Kuching**	**71.69**	**282**	*e*P	**P**	**17 29 50.1**	**-0.1**
	comp=Z,20nm,0.8s						
KSM	**Kuching**	**71.69**	**282**	P	**P**	**17 29 51.0**	**+0.8**
CGJI	**Cibinong**	**71.84**	**272**	P	**P**	**17 29 50.5**	**-0.6**
	comp=Z,48nm,0.8s,comp=Z,782nm						
MAW	**Mawson**	**73.18**	**201**	*e*P	**P**	**17 29 58.7**	**+1.0**
	comp=Z,2.0nm,1.4s						
MAW	**Mawson**	**73.18**	**201**	*e*P	**P**	**17 29 58.7**	**+1.0**
MAW				pmax	pmax		
	comp=Z,2.0nm,1.4s						
MAW	**Mawson**	**73.18**	**201**	P	**P**	**17 29 58.2**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=117,slow=8.2,SNR=7.2						
MJAR	**Matsushiro Arr**	**74.87**	**327**	*e*P	**P**	**17 30 07.1**	**-0.6**
MJAR	**Matsushiro Arr**	**74.87**	**327**	*e*P	**P**	**17 30 07.1**	**-0.6**
MJAR	**Matsushiro Arr**	**74.87**	**327**	P	**P**	**17 30 06.6**	**-1.2**
	comp=Z,2.9nm,0.7s,baz=168,slow=6.4,SNR=18						
MAJO	**Matsushiro**	**74.87**	**327**	*e*P	**P**	**17 30 06.8**	**-1.0**
	comp=Z

PLCA	Paso Flores	86.09	135	eP	P	17 31 07.1	+1.2
	comp=Z,11nm,1.5s						
PLCA	Paso Flores	86.09	135	P	P	17 31 07.3	+1.4
	comp=Z,2.7nm,0.8s,baz=215,slow=5.8,SNR=8.2						
HOPS	Hopland Field	86.29	42	eP	P	17 31 07.9	+1.4
	comp=Z,83nm,1.8s						
KCPM	Cahto Peak	86.45	41	eP	P	17 31 09.6	+2.2
	comp=Z,20nm,1.2s						
CN2	Changchun	86.71	325	eP	P	17 31 08.8	+0.4
KMRM	Mail Ridge	86.73	40	eP	P	17 31 10.5	+1.8
	comp=Z,11nm,1.0s						
JCC	Jacoby Creek,	86.95	40	eP	P	17 31 11.7	+2.1
	comp=Z,36nm,1.3s						
ISA	Isabella, Lake	86.98	47	eP	P	17 31 09.8	-0.2
	comp=Z,7.0nm,0.9s						
PFO	Pinyon Flats O	87.06	49	i P	P	17 31 13.1	+2.6
GRNR	Gornyy	87.12	335	eP	P	17 31 13.2	+3.0
GRNR				pmax	pmax		
	comp=Z,20nm,1.0s						
KHMM	Horse Mountain	87.15	40	eP	P	17 31 12.7	+1.9
	comp=Z,16nm,1.3s						
CMB	Columbia Colle	87.27	44	eP	P	17 31 11.5	+0.3
	comp=Z,10nm,1.4s						
CMB	Columbia Colle	87.27	44	P	P	17 31 12.2	+0.9
WDC	Whiskeytown Da	87.64	41	eP	P	17 31 13.4	+0.6
	comp=Z,6.7nm,0.9s						
WDC	Whiskeytown Da	87.64	41	P	P	17 31 14.6	+1.8
KLR	Kul'dur	87.77	331	i P	P	17 31 13.1	-0.1
KLR				pmax	pmax		
	comp=Z,10.0nm,1.8s						
ENH	Enshi	87.98	306	eP	P	17 31 14.4	-0.3
	comp=Z,11nm,1.0s						
RUBR	Rubicon Trail	88.06	43	eP	P	17 31 16.4	+1.2
	comp=Z,15nm,0.6s						
WAKR	Walker	88.15	44	eP	P	17 31 16.0	+0.5
	comp=Z,4.9nm,0.9s						
HSIG		88.26	56	eP	P	17 31 17.3	+1.2
	comp=Z,12nm,0.9s						
YBH	Yreka Blue Hor	88.30	40	eP	P	17 31 16.6	+0.6
	comp=Z,12nm,1.4s						
YBH	Yreka Blue Hor	88.30	40	P	P	17 31 17.0	+1.0
113A	Mohawk Valley,	88.38	51	eP	P	17 31 17.4	+0.9
	comp=Z,4.1nm,1.0s						
PNTR	Pine Nut	88.42	43	eP	P	17 31 17.7	+0.9
	comp=Z,7.0nm,0.9s						
Y12C	Blythe	88.44	50	eP	P	17 31 15.5	-1.3
	comp=Z,11nm,1.5s						
BEKR	Beckworth	88.45	42	eP	P	17 31 17.1	+0.2
	comp=Z,3.0nm,0.8s						
HUMO	Hull Mountain	88.73	39	eP	P	17 31 19.7	+1.8
	comp=Z,19nm,1.5s						
NVAR	Mina Array Bea	88.80	44	eP	P	17 31 19.1	+0.5
NVAR	Mina Array Bea	88.80	44	P	P	17 31 19.5	+0.9
	comp=Z,2.8nm,0.8s,baz=219,slow=7.7,SNR=13						
NV11	Mina Array Sit	88.89	45	eP	P	17 31 19.4	+0.5
	comp=Z,0.3nm,1.0s						
PAHR	Pah Rah Range	88.93	43	eP	P	17 31 20.0	+0.9
	comp=Z,4.2nm,0.9s						
TPNV	Topopah Spring	89.19	47	eP	P	17 31 21.1	+0.8
	comp=Z,5.7nm,0.8s						
KVN	Kaiserville	89.31	44	eP	P	17 31 21.8	+0.9
	comp=Z,2.8nm,0.7s						
KVN	Kaiserville	89.31	44	P	P	17 31 22.2	+1.3
BJT	Baijiatuan	89.36	317	eP	P	17 31 20.6	-0.3
	comp=Z,7.2nm,0.8s						
Y14A	Wickenburg	89.58	51	eP	P	17 31 23.2	+1.1
	comp=Z,2.8nm,0.8s						
SHPR	Sheep Range	89.63	48	eP	P	17 31 22.9	+0.5
	comp=Z,8.0nm,1.6s						
W13A	Hualapai Mount	89.65	49	eP	P	17 31 23.1	+0.5
	comp=Z,1.8nm,0.9s						
MOD	Modoc Plateau	89.78	41	eP	P	17 31 23.6	+0.7
	comp=Z,5.8nm,0.8s						
CM31	Chiang Mai Arr	89.89	291	eP	P	17 31 25.4	+1.5
	comp=Z,11nm,1.5s						
CMAR	Chiang Mai Arr	89.89	291	eP	P	17 31 24.6	+0.7
CMAR	Chiang Mai Arr	89.89	291	P	P	17 31 25.1	+1.2
	comp=Z,1.9nm,0.9s,baz=135,slow=3.8,SNR=16						
K05A	Summer Lake	89.97	40	eP	P	17 31 25.3	+1.5
	comp=Z,9.3nm,1.1s						
KMI	Kunming	90.22	298	P	P	17 31 26.9	+1.4
BMN	Battle Mountai	90.69	43	eP	P	17 31 27.9	+0.7
	comp=Z,3.8nm,0.6s						
LCMT	Little Creek M	91.18	48	eP	P	17 31 30.7	+1.2
	comp=Z,2.6nm,0.8s						
I07A	Izee	91.61	39	eP	P	17 31 32.2	+0.9
	comp=Z,12nm,1.8s						
PSUT	Pine Spring	91.66	46	eP	P	17 31 32.1	+0.3
	comp=Z,2.7nm,0.7s						
ELK	Elko	92.08	44	eP	P	17 31 34.2	+0.5
ELK	Elko	92.08	44	P	P	17 31 34.5	+0.7
	comp=Z,1.4nm,0.7s,baz=275,slow=6.0,SNR=7.0						
CD2	Chengdu	92.46	304	eP	P	17 31 36.1	+0.6
HHC	Hu-ho-hao-te	92.67	316	eP	P	17 31 39.0	+2.8
HHC	Hu-ho-hao-te	92.67	316	S	S	17 41 47.4	-2.8
SEY	Seymchan	93.32	348	i P	P	17 31 38.6	+0.1
TXAR	Lajitas Array	93.82	59	P	P	17 31 42.6	+0.8
	comp=Z,0.2nm,0.6s,baz=251,slow=3.8,SNR=3.5						
LZH	Lanzhou	95.10	308	eP	P	17 31 50.9	+3.4
LZH				pP	pP	17 33 58.3	+2.2
LZH				sP	sP	17 34 56.6	+1.6
IMAR	Indian Mountai	96.38	11	eP	P	17 31 52.4	0.0
BILL	Bilibino	96.51	355	eP	P	17 31 52.6	-0.2
BILL				e		17 36 02.2	
BILL				eS	SKSac	17 41 26.5	-5.1
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	Eielson Array	96.62	14	P	P	17 31 52.5	-0.8
	comp=Z,0.5nm,0.7s,baz=235,slow=5.3,SNR=6.5						
PDAR	Pinedale Array	96.73	45	P	P	17 31 53.7	-1.0
	comp=Z,0.3nm,0.5s,baz=238,slow=1.7,SNR=3.1						
YKA	Yellowknife Ar	104.89	26	PKKPbc	PKKPbc	17 48 09.9	-2.0
	comp=Z,0.3nm,0.5s,baz=48,slow=3.3,SNR=3.8						
MKAR	Makanchi Array	114.17	312	PKIKP	PKPdf	17 36 57.8	-1.5
	comp=Z,1.3nm,0.7s,baz=170,slow=0.7,SNR=15						
MKAR				PKKPbc	PKKPbc	17 47 41.4	-0.7
	comp=Z,0.4nm,0.6s,baz=274,slow=4.3,SNR=4.6						
ZALV	Zalesovo Beam	114.52	320	ePKPdf	PKPdf	17 36 57.9	-1.7
ZALV	Zalesovo Beam	114.52	320	ePKIKP	PKPdf	17 36 58.3	-1.3
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	114.52	320	PKP	PKPdf	17 36 57.4	-2.2
	comp=Z,1.0nm,0.5s,baz=182,slow=1.4,SNR=5.3						
SUR	Sutherland	116.04	201	PKP	PKPdf	17 37 03.1	-0.6
	comp=Z,3.9nm,0.9s,baz=104,slow=4.2,SNR=2.6						
BOOM	Boomskoye usch	117.42	306	ePKPdf	PKPdf	17 37 04.9	-1.0
KURK	Kurchatov	117.47	315	ePKPdf	PKPdf	17 37 03.9	-1.6
AAK	Ala-Archa	118.49	305	ePKPdf	PKPdf	17 37 06.5	-1.4
GAR	Garm	120.74	301	ePKPdf	PKPdf	17 37 11.2	-1.1
LBTB	Lobatse	120.94	209	PKP	PKPdf	17 37 12.6	-0.6
	comp=Z,1.7nm,0.7s,baz=222,slow=14,SNR=4.3						
KK31	Karatay Array	121.45	305	ePKPdf	PKPdf	17 37 12.2	-1.2
KKAR	Karatay Array	121.45	305	ePKPdf	PKPdf	17 37 12.1	-1.3
KKAR				ePKPdf	PKPdf	17 37 12.2	-1.2
BRVK	Borovoye	122.92	317	ePKPdf	PKPdf	17 37 14.9	-1.0
TSUM	Tsumeb	129.30	203	PKP	PKPdf	17 37 29.6	+0.3
	comp=Z,0.6nm,0.4s,baz=158,slow=5.4,SNR=3.1						
ABKAR	Akbulak array	129.31	312	ePKPdf	PKPdf	17 37 27.3	-0.8
ABKAR				ePKPdf	PKPdf	17 37 28.0	-0.1
ARU	Arti	129.61	321	ePKPdf	PKPdf	17 37 27.2	-1.3
ARU	Arti	129.61	321	i PKIKP	PKPdf	17 37 27.7	-0.8
ARU						17 39 46.4	
ARU				SS	SS	17 56 17.6	-8.5
GEYT	Alibeck	129.97	297	PKP	PKPdf	17 37 28.9	-0.9
	comp=Z,630nm,1.0s,baz=93,slow=3.0,SNR=7.5						
GEYT				SKPbc	SKPbc	17 39 57.0	-0.5
	comp=Z,11nm,1.0s,baz=183,slow=5.8,SNR=24						
ARCES	ARCESS Array B	135.92	347	PKhKP	PKPpre	17 37 26.8	
	comp=Z,1.7nm,0.8s,baz=50,slow=2.4,SNR=13						
ARCES				PKP	PKPdf	17 37 39.4	-0.6
	comp=Z,5.6nm,0.7s,baz=42,slow=1.6,SNR=16						
ARCES				SKPbc	SKPbc	17 40 13.9	-2.3
	comp=Z,1.1nm,0.7s,baz=20,slow=3.9,SNR=4.0						
ARE0	ARCESS Array S	135.92	347	ePKPdf	PKPdf	17 37 40.5	+0.5
GNI	Garni	140.47	300	i PKIKP	PKPdf	17 37 47.3	-2.1
KBZ	Khabaz	141.49	306	PKhKP	PKPpre	17 37 45.7	
	comp=Z,1.4nm,0.6s,baz=64,slow=2.4,SNR=5.1						
KIV	Kislovodsk	141.60	306	⇑i P	PKPdf	17 37 48.4	-2.9
KIV	Kislovodsk	141.60	306	i PKIKP	PKPdf	17 37 51.7	+0.4
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
OBN	Obninsk	141.77	325	ePKIKP	PKPdf	17 37 51.3	+0.3
OBN				pmax	pmax		
	comp=Z,8.0nm,0.4s						
FIA1	FINESS Array S	142.16	339	ePKPpre	PKPpre	17 37 46.5	
FINES	FINESS Array B	142.16	339	PKhKP	PKPpre	17 37 47.0	
	comp=Z,6.3nm,0.3s,baz=52,slow=2.9,SNR=146						
FINES				SKPbc	SKPbc	17 40 31.1	-2.2
	comp=Z,3.4nm,1.0s,baz=75,slow=2.2,SNR=4.5						
NSS	Namsos	142.79	350	e	PKPdf	17 37 49.2	-3.4
VSU	Vasula	144.11	335	eP	PKPbc	17 37 54.0	-0.8
VSU				IAmb	IAmb	17 37 54.8	
	comp=Z,208nm,0.7s						
ANN	Anapa	145.11	309	ePKIKP	PKPdf	17 37 55.0	-2.2
ANN				pmax	pmax		
	comp=Z,42nm,0.9s						
DOMB	Dombas	145.57	351	ePKPbc	PKPbc	17 37 58.4	-0.7
DOMB				ePKPab	PKPab	17 38 00.3	-0.5
NC303	NORSAR Array S	146.00	349	ePKPdf	PKPdf	17 37 59.1	+0.9
NC405	NORSAR Array S	146.05	349	ePKPdf	PKPbc	17 37 59.7	-0.8
IZAR	Zarasai	146.18	332	eP	PKPbc	17 38 00.2	-0.7
IZAR				IAmb	IAmb	17 38 02.4	
	comp=Z,19nm,1.1s						
NB201	NORSAR Array S	146.18	349	ePKPdf	PKPbc	17 37 59.8	-1.1
NB2	NORSAR Subarra	146.21	349	PKP	PKPdf	17 37 59.7	+1.1
	comp=Z,15nm,0.7s,baz=14,slow=2.8						
NB2	NORSAR Subarra	146.21	349	PKPab	PKPdf	17 37 59.7	+1.1
	baz=14,slow=2.8						
NOA	NORSAR Array B	146.21	349	PKPbc	PKPbc	17 37 59.9	-1.0
	comp=Z,11nm,0.6s,baz=17,slow=4.3,SNR=40						
IDID	Didziasalis	146.27	331	eP	PKPbc	17 38 00.9	-0.2
IDID				IAmb	IAmb	17 38 01.6	
	comp=Z,9.9nm,0.8s						
NBO00	NORSAR Array S	146.29	349	ePKPdf	PKPbc	17 37 60.0	-1.2
ISAL	Salakas	146.35	332	eP	PKPbc	17 38 00.8	-0.5
ISAL				IAmb	IAmb	17 38 02.8	
	comp=Z,7.4nm,0.8s						
NC602	NORSAR Array S	146.44	349	ePKPdf	PKPdf	17 38 00.1	+1.1
NC602	NORSAR Array S	146.44	349	ePKPbc	PKPbc	17 38 00.6	-0.9
NAO01	NORSAR Array S	146.44	349	ePKPbc	PKPbc	17 38 00.8	-0.8
IIGN	Ignalina	146.46	331	eP	PKPbc	17 38 01.4	-0.3
IIGN				IAmb	IAmb	17 38 02.2	
	comp=Z,12nm,0.7s						
SKAR	Skarslia	146.99	351	ePKPbc	PKPbc	17 38 02.7	-0.4
SKAR				ePKPab	PKPab	17 38 06.2	-0.3
PABE	Paberze	147.28	333	eP	PKPbc	17 38 03.2	-0.6
PABE				IAmb	IAmb	17 38 04.2	
	comp=Z,55nm,0.6s						
SIM	Simferopol'	147.33	310	ePKP2	PKPbc	17 38 04.2	-0.2
SIM				pmax	pmax		
	comp=Z,18nm,0.8s						
BER	Bergen	147.62	354	ePKPbc	PKPbc	17 38 04.2	-0.4
PBUR	Paburg	147.68	335	eP	PKPbc	17 38 04.4	-0.4
PBUR				IAmb	IAmb	17 38 05.0	
	comp=Z,51nm,0.6s						
SEVA	Sevastopol	147.76	310	⇓i P	PKPbc	17 38 05.4	0.0
KONO	Kongsberg	147.79	350	ePKPbc	PKPbc	17 38 04.4	-0.6
AKASG	Malin Array Be	147.85	322	ePKIKP	PKPbc	17 38 04.5	-1.0
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.3s						
AKASG	Malin Array Be	147.85	322	PKPbc	PKPbc	17 38 04.2	-1.2
	comp=Z,5.8nm,0.3s,baz=47,slow=3.8,SNR=32						
AKBB	Malin Array Si	147.85	322	ePKPdf	PKPdf	17 38 00.5	-1.1
AKBB				ePKPbc	PKPbc	17 38 04.8	-0.7
KIEV	Kiev	147.86	322	ePKPdf	PKPdf	17 38 00.7	-0.9
KIEV				ePKPbc	PKPbc	17 38 04.8	-0.7
KIEV	Kiev	147.86	322	⇓i P	PKPbc	17 38 04.8	-0.7
KIEV	Kiev	147.86	322	⇓PKP2	PKPbc	17 38 04.8	-0.7
KMY	Karmoy	148.78	353	ePKPbc	PKPbc	17 38 07.3	-0.2
KMY				ePKPab	PKPab	17 38 13.7	-0.1
KMY				ePP	PP	17 41 44.8	+0.6
BR131	Keskin Array S	148.99	301	ePKPbc	PKPbc	17 38 07.5	-1.3
BR131				ePKPab	PKPab	17 38 15.2	-0.5
BRTR	Keskin Array B	148.99	301	ePKPdf	PKPdf	17 38 02.6	-1.4
BRTR				ePKPbc	PKPbc	17 38 07.2	-1.6
BRTR				ePKPab	PKPab	17 38 15.2	-0.5
BRTR	Keskin Array B	148.99	301	PKPbc	PKPbc	17 38 07.8	-1.0
	comp=Z,3.5nm,0.8s,baz=117,slow=4.4,SNR=14						
BRTR				PKPab	PKPab	17 38 14.4	-1.2
	comp=Z,4.3nm,0.7s,baz=130,slow=4.4,SNR=13						
HOMB	Homborsund	149.28	350	ePKPdf	PKPdf	17 38 03.0	-0.6
HOMB				ePKPbc	PKPbc	17 38 08.4	-0.3
SNART	Snartemo	149.40	351	ePKPbc	PKPbc	17 38 08.8	-0.2
ANTO	Ankara	149.60	301	ePKPbc	PKPbc	17 38 09.9	-0.3
ANTO	Ankara	149.60	301	⇓i P	PKPbc	17 38 10.1	-0.1
CSS	Mathiatis	149.80	291	ePKPbc	PKPbc	17 38 09.7	-1.1
MDUB	Mudurnu	150.66	303	ePKPbc	PKPbc	17 38 11.7	-1.0
TLCR		150.74	313	⇓i P	PKPbc	17 38 12.4	-0.1
TLCR		150.74	313	⇓PKIKP	PKPbc	17 38 12.4	-0.1
CFR	Carcaliu	151.18	314	⇑i P	PKPbc	17 38 13.1	-0.4
CFR	Carcaliu	151.18	314	⇑PKIKP	PKPbc	17 38 13.1	-0.4
BEL	Belsk	151.24	331	ePKP	PKiKP	17 38 13.9	+0.2
BEL	Belsk	151.24	331	ePKIKP	PKiKP	17 38 13.9	+0.2
TESR	Tescani	151.48	317	⇑i P	PKPbc	17 38 13.5	-0.7
TLB	Topalu	151.49	313	⇓i P	PKPbc	17 38 14.2	-0.1
TLB	Topalu	151.49	313	⇓PKIKP	PKPbc	17 38 14.2	-0.1
HARR	Harsova	151.52	313	⇓i P	PKiKP	17 38 14.7	+0.1
HARR	Harsova	151.52	313	⇓PKIKP	PKiKP	17 38 14.7	+0.1
BIZ	Bicaz	151.59	318	⇑i P	PKPbc	17 38 14.5	+0.1
BUR08	Bucovina Ar. S	151.73	320	ePKPbc	PKPbc	17 38 15.0	+0.1
BUR08				ePKPab	PKPab	17 38 25.1	-1.7
BURAR	Bucovina Array	151.74	320	ePKPdf	PKPdf	17 38 08.5	+0.6
BURAR				ePKPbc	PKPbc	17 38 14.9	0.0
BURAR				ePKPab	PKPab	17 38 26.3	-0.5
BURAR	Bucovina Array	151.74	320	⇓i P	PKiKP	17 38 15.6	+0.5
BURAR	Bucovina Array	151.74	320	⇓PKIKP	PKiKP	17 38 15.7	+0.6
MLR	Muntele Rosu	152.41	316	⇑i P	PKPbc	17 38 15.3	-1.2
MLR	Muntele Rosu	152.41	316	⇑PKIKP	PKPbc	17 38 15.3	-1.2
DOPR	Dopca	152.51	317	⇑i P	PKPbc	17 38 15.8	-0.7
KOLS	Kolonicke sedl	152.53	325	ePKIKP	PKiKP	17 38 17.1	+0.5
KOLS	Kolonicke sedl	152.53	325	ePKP	PKiKP	17 38 17.0	+0.5
TRPA	Tarpa	152.90	323	⇓i P	PKPab	17 38 31.0	-0.5
ARR	Arges	153.27	317	⇓i P	PKiKP	17 38 19.4	+1.1
LOT	Lotru	153.75	317	⇓i P	PKPab	17 38 35.8	+0.3
KSP	Ksiaz	153.83	334	ePKP	PKPbc	17 38 18.8	-0.4
KSP	Ksiaz	153.83	334	ePKIKP	PKPbc	17 38 18.8	-0.4
PSZ	Piszkesteto	154.39	326	⇑i P	PKPab	17 38 37.7	-0.4
PSZ	Piszkesteto	154.39	326	⇑PKP2	PKPab	17 38 37.7	-0.4
VYHS	Vyhne	154.51	328	ePKP2	PKPab	17 38 38.5	0.0
VYHS	Vyhne	154.51	328	ePKP	PKPab	17 38 38.5	0.0
CLL	Collm	154.61	339	ePKPdf	PKPdf	17 38 10.3	-1.4
CLL				ePKPab	PKPab	17 38 37.7	-1.0
CLL	Collm	154.61	339	ePKIKP	PKPdf	17 38 10.3	-1.4
CLL				e		17 38 37.7	
CLL	Collm	154.61	339	ePKPdf	PKPdf	17 38 11.0	-0.7
	comp=Z,4.0nm,1.1s						
CLL				ePKPdiff	PKPbc	17 38 21.0	+0.2
	comp=Z,5.0nm,0.9s						
CLL				⇑i PKPab	PKPab	17 38 38.3	-0.5
	comp=Z,5.0nm,0.9s						
BRG	Berggiesshubel	154.66	337	ePKP	PKPab	17 38 38.8	-0.3
	comp=Z,3.6nm,0.8s						
BRG	Berggiesshubel	154.66	337	ePKP2	PKPab	17 38 38.8	-0.3
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HERR	Herculane	154.86	317	⇑i P	PKPab	17 38 40.1	0.0
KHC	Kasperske Hory	156.25	335	ePKPab	PKPab	17 38 45.5	-0.5
KHC	Kasperske Hory	156.25	335	ePKP2	PKPab	17 38 45.5	-0.5
CONA	Conrad Observa	156.28	330	ePKPab	PKPab	17 38 46.3	0.0
	comp=Z,3.6nm,0.7s						
GERES	GERESS Array B	156.43	334	ePKIKP	PKPdf	17 38 16.4	+2.1
GERES	GERESS Array B	156.43	334	PKP	PKPdf	17 38 14.5	+0.1
	comp=Z,0.4nm,0.8s,baz=46,slow=3.9,SNR=3.6						
GERES				PKPbc	PKPbc	17 38 24.2	
	comp=Z,0.5nm,0.7s,baz=0.0,slow=0.7,SNR=4.7						
GERES				PKPab	PKPab	17 38 46.5	-0.4
	comp=Z,1.3nm,0.7s,baz=32,slow=5.2,SNR=9.9						
DBIC	Dimbokro	158.21	171	PKPab	PKPab	17 38 55.4	+0.2
	comp=Z,1.3nm,0.5s,baz=202,slow=6.7,SNR=3.5						
MYKA	Terra Mystica	158.24	331	i PKPab	PKPab	17 38 53.6	-1.2
	comp=Z,2.8nm,0.7s						
WATA	Walderalm	158.48	335	i PKPab	PKPab	17 38 56.5	+0.6
	comp=Z,2.4nm,0.5s						
RETA	Reutte	158.64	337	i PKPab	PKPab	17 38 56.4	-0.1
	comp=Z,5.1nm,1.0s						
MOTA	Moosalm	158.65	336	i PKPab	PKPab	17 38 56.2	-0.4
	comp=Z,4.2nm,0.7s						
BFO	Black Forest	158.65	342	ePKPab	PKPab	17 38 55.5	-0.9
BFO	Black Forest	158.65	342	ePKP2	PKPab	17 38 55.5	-0.9
SQTA	Sankt Quirin	158.71	336	i PKPab	PKPab	17 38 56.5	-0.3
	comp=Z,4.5nm,0.8s						
FETA	Feichten	159.06	336	i PKPab	PKPab	17 38 58.1	-0.3
	comp=Z,5.2nm,1.0s						
DAVA	Damuels	159.12	338	i PKPab	PKPab	17 38 58.3	-0.4
	comp=Z,6.4nm,0.8s						
FUORN	Ofenpass-Fuorn	159.56	336	ePKPab	PKPab	17 39 00.5	-0.3
TOA0	Torodi Ar. Sit	164.62	191	ePKPab	PKPab	17 39 23.3	0.0
TORD	Torodi Ar. Bea	164.62	191	PKP	PKPdf	17 38 22.5	-1.4
	comp=Z,1.7nm,1.1s,baz=117,slow=0.3,SNR=5.3						
TORD				PKPab	PKPab	17 39 22.3	-1.0
	comp=Z,3.0nm,0.7s,baz=167,slow=3.4,SNR=16						
ESDC	Sonseca Array	168.49	10	ePKPdf	PKPdf	17 38 26.7	+0.4
ESDC				ePKPab	PKPab	17 39 38.3	-1.7
ESDC	Sonseca Array	168.49	10	PKPab	PKPab	17 39 38.9	-1.1
	comp=Z,0.2nm,0.5s,baz=352,slow=5.2,SNR=5.7						

SJA ***18*** *17:21:21.3±0.8, 22°.05S×67°.93W, h107km±12km, ML1.7, MW3.8*
ISCJB ***18*** *17:21:27.1±1.3, 22°.20S±0°.05×68°.6W±0°.1, h125km±10km, Error ellipse: s-maj=17.2km s-min=8.1km az=172.7*
GUC ***18*** *17:21:28.4±0.5, 22°.19S×68°.57W, h117km±3km, ML2.8*
ISC 18 17:21:26.9±2.6, 22°.18S±0°.06×68°.5W±0°.1, h120km±14km, n18,σ1°9.12/30, 6C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.59	223	i P	Pn	17 21 44.8	-1.2
LVC				i S	Sn	17 22 01.0	+0.7
LVC	Limon Verde	0.59	223	⇑i P	Pn	17 21 46.1	+0.2
LVC				i S	Sn	17 21 59.6	-0.7
PB09	IPOC Station P	0.81	298	i P	Pn	17 21 46.3	-1.0
PB09	IPOC Station P	0.81	298	⇑e P	Pn	17 21 47.9	+0.5
PB09				eS	Sn	17 22 02.8	0.0
PB09				IAML		17 22 03.7	
	comp=N,169nm,0.2s						
PB06	IPOC Station P	1.14	242	i P	Pn	17 21 50.8	+0.2
PB03	IPOC Station P	1.19	276	i P	Pn	17 21 51.1	0.0
PB03	IPOC Station P	1.19	276	⇑e P	Pn	17 21 51.0	0.0
PB03				eS	Sn	17 22 08.7	-0.7
PB03				IAML		17 22 10.0	
	comp=N,223nm,0.1s						
PB15	IPOC Station P	1.38	222	i P	Pn	17 21 53.6	+0.4
PB15				i S	Sn	17 22 17.1	+3.9
PB15	IPOC Station P	1.38	222	eP	Pn	17 21 53.8	+0.6
PB15				eS	Sn	17 22 13.1	-0.1
PB07	IPOC Station P	1.39	289	i P	Pn	17 21 53.3	+0.1
PB07	IPOC Station P	1.39	289	⇑e P	Pn	17 21 53.3	+0.1
PB07				eS	Sn	17 22 12.4	-0.8
PB07				IAML		17 22 13.8	
	comp=E,290nm,0.1s						
PB01	IPOC Station P	1.47	320	⇑e P	Pn	17 21 54.5	+0.4
PB01				eS	Sn	17 22 14.5	-0.3
PB01				IAML		17 22 16.0	
	comp=E,163nm,0.1s						
PB04	IPOC Station P	1.56	264	⇑e P	Pn	17 21 55.2	0.0
PB04				eS	Sn	17 22 15.5	-1.2
PB02	IPOC Station P	1.57	303	i P	Pn	17 21 55.3	0.0
PB02				i S	Sn	17 22 19.8	+2.8
PB02	IPOC Station P	1.57	303	⇓e P	Pn	17 21 55.5	+0.2
PB02				eS	Sn	17 22 16.1	-0.8
PB02				IAML		17 22 17.3	
	comp=E,238nm,0.2s						
PB05	IPOC Station P	1.73	247	eP	Pn	17 21 57.0	-0.3
PB05				i S	Sn	17 22 19.5	-0.9
PB05				IAML		17 22 26.6	
	comp=E,64nm,0.1s						
HJA	Humahuaca	3.01	111	i P	Pn	17 22 03.9	-10
HJA				IAML		17 22 17.7	
	comp=Z,2.8nm,0.4s						
GO02	Mina Guanaco	3.15	199	eP	Pn	17 22 14.

KORT	**Korkueli**	**1.58**	**90**	PN		**Pn**	**17 36 36.8**	**-0.8**
KORT	**Korkueli**	**1.58**	**90**	IAML_P				
	comp=Z,2μm,0.2s							
KORT				*i* P		**Pg**	**17 36 40.4**	**+0.7**
KHAL	**Karahalli**	**1.61**	**33**	IAML_P				
	comp=Z,928nm,0.4s							
KHAL				*i* P		**Pb**	**17 36 38.5**	**-0.8**
AKUM	**Antalya-Kumluc**	**1.73**	**113**	IAML_P				
	comp=Z,713nm,0.2s							
AKUM				*i* P		**Pg**	**17 36 43.2**	**+0.7**
USAK	**Uak-Merkez**	**1.77**	**17**	IAML_P				
	comp=Z,626nm,0.2s							
USAK				*i* P		**Pn**	**17 36 40.0**	**-0.1**
KARP	**Karpathos**	**1.77**	**214**	PN		**Pn**	**17 36 39.6**	**-0.5**
KARP	**Karpathos**	**1.77**	**214**	P		**Pb**	**17 36 40.9**	**-1.1**
URLA	**Izmir**	**1.94**	**314**	PN		**Pn**	**17 36 42.3**	**-0.2**
AMGA	**Amorgos Island**	**2.00**	**265**	P		**Pn**	**17 36 43.2**	**-0.1**
APE	**Apeiranthos**	**2.28**	**272**	PN		**Pn**	**17 36 47.5**	**+0.4**
APE	**Apeiranthos**	**2.28**	**272**	P		**Pn**	**17 36 47.4**	**+0.3**
CHOS	**Chios island**	**2.29**	**307**	PN		**Pn**	**17 36 47.4**	**+0.1**
CHOS	**Chios island**	**2.29**	**307**	P		**Pn**	**17 36 47.6**	**+0.3**
ZKR	**Zakros**	**2.58**	**223**	PN		**Pb**	**17 36 53.5**	**-2.3**
KEPZ	**Antalya-Kepez**	**2.59**	**92**	IAML_P				
	comp=Z,329nm,0.2s							
KEPZ				*i* P		**Pb**	**17 36 55.0**	**-0.9**

PRU ***18*** *17:37:24.9±0.0, 50°.28N×12°.47E, h2km, West Bohemia Swarm*

WBNET 18 17:37:24.6, 50°.27N×12°.44E, h8km, MI0.4, 5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**268**	⇓P	Pg	17 37 26.1	-0.1
LBCW				S	Sg	17 37 27.2	0.0
NKC	**Novy Kostel**	**0.03**	**169**	*e*PG	Pg	17 37 26.1	-0.1
NKC				*e*SG	Sg	17 37 27.1	-0.3
	comp=Z,7.3nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**169**	⇑P	Pg	17 37 26.1	-0.1
NKC				S	Sg	17 37 27.2	-0.2
VAC	**Vackov**	**0.05**	**232**	⇓P	Pg	17 37 26.3	-0.1
VAC				S	Sg	17 37 27.5	-0.2
STCW	**Studenec**	**0.05**	**97**	⇑P	Pg	17 37 26.3	-0.2
STCW				S	Sg	17 37 27.4	-0.4
POCW	**Potky**	**0.06**	**353**	⇓P	Pg	17 37 26.4	-0.1
POCW				S	Sg	17 37 27.8	-0.1
KVC	**Kvetna**	**0.08**	**140**	⇓P	Pg	17 37 26.5	-0.2
KVC				S	Sg	17 37 27.9	-0.3
KRCW	**Kraslice**	**0.09**	**42**	⇑P	Pg	17 37 26.7	-0.2
KRCW				S	Sg	17 37 28.2	-0.3
SKC	**Skalna**	**0.11**	**207**	⇑P	Pg	17 37 27.0	-0.1
SKC				S	Sg	17 37 28.8	-0.1
KOCW	**Kopaniny**	**0.13**	**270**	⇓P	Pg	17 37 27.4	-0.1
KOCW				S	Sg	17 37 29.4	-0.2
KACW	**Kaceov**	**0.13**	**157**	⇓P	Pg	17 37 27.5	-0.1
KACW				S	Sg	17 37 29.5	0.0
ZHC	**Zelena Hora**	**0.21**	**203**	⇑P	Pg	17 37 28.8	-0.1
ZHC				S	Sg	17 37 31.7	-0.1
LACW	**Lazy**	**0.25**	**151**	⇓P	Pg	17 37 29.5	-0.1
LACW				S	Sg	17 37 32.9	0.0

IDC ***18*** *17:43:11.4±0.5, 56°.13N×164°.58E, h0km, mb4.0/32, mb1 4.2/35, mb1mx4.1/61, mbtmp4.1/35, ML4.4/3, MS3.6/25, Ms1 3.6/25, ms1mx3.5/45, Error ellipse: s-maj=14.3km s-min=9.0km az=165.0*

KRSC ***18*** *17:43:12.3±10.0, 56°.05N×164°.76E, h60km±10km, ML5.0*

BJI ***18*** *17:43:12.7±0.0, 56°.00N×164°.70E, h31km, mb4.5/33, mB4.9/27, Ms4.5/14, Ms7 4.2/12*

MOS ***18*** *17:43:14.9±1.0, 56°.08N×164°.63E, h41km, mb4.8/31, Error ellipse: s-maj=5.9km s-min=4.1km az=59.8*

ISCJB ***18*** *17:43:14.5±0.3, 56°.04N±0°.02×164°.66E±0°.03, h35km±3km, mb4.6/208, MS3.7/26, Error ellipse: s-maj=3.7km s-min=2.2km az=160.9*

NEIC ***18*** *17:43:16.0±2.1, 56°.03N×164°.67E, h32km±5km, mb4.7/169, Error ellipse: s-maj=13.3km s-min=10.6km az=161.0*

ISC 18 17:43:15.2±1.7, 56°.05N±0°.03×164°.68E±0°.03, h28km±12km, n432, σ1§45/472, mb4.6/208, MS3.6/27, 7C-3D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.05**	**280**	*e*P	**Pn**	**17 43 31.2**	**-2.8**
KBTR				*e*S	**Sn**	**17 43 44.9**	**-2.8**
KBTR	**Krutoberegovo**	**1.05**	**280**	PN	**Pn**	**17 43 31.2**	**-2.8**
KBTR				S	**Sn**	**17 43 44.9**	**-2.8**
BKI	**Bering**	**1.12**	**138**	*e*P	**Pn**	**17 43 33.0**	**-1.9**
BKI				*e*S	**Sn**	**17 43 46.9**	**-2.5**
BKI	**Bering**	**1.12**	**138**	PN	**Pn**	**17 43 33.0**	**-1.9**
BKI				S	**Sn**	**17 43 46.9**	**-2.5**
KBG	**Krutoberegovo**	**1.12**	**281**	*e*P	**Pn**	**17 43 32.5**	**-2.5**
KBG				*e*S	**Sn**	**17 43 48.3**	**-1.1**
KBG	**Krutoberegovo**	**1.12**	**281**	PN	**Pn**	**17 43 32.5**	**-2.5**
KBG				S	**Sn**	**17 43 48.3**	**-1.1**
SMKR	**Semkarok**	**1.87**	**288**	*e*P	**Pn**	**17 43 44.3**	**-1.0**
SMKR				*e*S	**Sn**	**17 44 08.5**	**+0.6**
SMKR	**Semkarok**	**1.87**	**288**	PN	**Pn**	**17 43 44.3**	**-1.0**
SMKR				S	**Sn**	**17 44 08.5**	**+0.6**
BDR	**Baidarnaya**	**2.00**	**287**	*e*P	**Pn**	**17 43 46.7**	**-0.5**
BDR				*e*S	**Sn**	**17 44 12.3**	**+1.0**
BDR	**Baidarnaya**	**2.00**	**287**	PN	**Pn**	**17 43 46.7**	**-0.5**
BDR				S	**Sn**	**17 44 12.3**	**+1.0**
SRKR	**Sorokina**	**2.04**	**289**	*e*P	**Pn**	**17 43 47.1**	**-0.6**
SRKR				*e*S	**Sn**	**17 44 13.7**	**+1.4**
SRKR	**Sorokina**	**2.04**	**289**	PN	**Pn**	**17 43 47.1**	**-0.6**
SRKR				S	**Sn**	**17 44 13.7**	**+1.4**
CIRR	**Tsirk**	**2.20**	**273**	*e*P	**Pn**	**17 43 50.3**	**+0.3**
CIRR	**Tsirk**	**2.20**	**273**	PN	**Pn**	**17 43 50.3**	**+0.3**
LGNR	**Loginova**	**2.23**	**273**	*e*P	**Pn**	**17 43 50.9**	**+0.3**
LGNR	**Loginova**	**2.23**	**273**	PN	**Pn**	**17 43 50.9**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**2.24**	**269**	*e*P	**Pn**	**17 43 50.6**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**2.24**	**269**	PN	**Pn**	**17 43 50.6**	**+0.2**
KLY	**Klyuchi**	**2.27**	**278**	*e*P	**Pn**	**17 43 48.9**	**-1.8**
KLY				*e*S	**Sn**	**17 44 17.1**	**-0.5**
KLY	**Klyuchi**	**2.27**	**278**	PN	**Pn**	**17 43 48.9**	**-1.8**
KLY				S	**Sn**	**17 44 17.1**	**-0.5**
BZWR	**Bezymyannyi-We**	**2.35**	**270**	*e*P	**Pn**	**17 43 52.8**	**+0.8**
BZWR	**Bezymyannyi-We**	**2.35**	**270**	PN	**Pn**	**17 43 52.8**	**+0.8**
BZMR	**Bezymyannaya**	**2.35**	**269**	*e*P	**Pn**	**17 43 52.5**	**+0.4**
BZMR	**Bezymyannaya**	**2.35**	**269**	PN	**Pn**	**17 43 52.5**	**+0.4**
KIRR	**Kirishev**	**2.44**	**270**	*e*P	**Pn**	**17 43 53.9**	**+0.7**
KIRR	**Kirishev**	**2.44**	**270**	PN	**Pn**	**17 43 53.9**	**+0.7**
KPT	**Kopyto**	**2.50**	**270**	*e*P	**Pn**	**17 43 54.6**	**+0.6**
KPT	**Kopyto**	**2.50**	**270**	PN	**Pn**	**17 43 54.6**	**+0.6**
TUMD	**Tumrok D**	**2.57**	**253**	*e*P	**Pn**	**17 43 55.1**	**+0.2**
TUMD				*e*S	**Sn**	**17 44 25.7**	**+0.5**
KZV	**Kizimen**	**2.66**	**251**	*e*P	**Pn**	**17 43 57.0**	**+0.8**
KZV	**Kizimen**	**2.66**	**251**	PN	**Pn**	**17 43 57.0**	**+0.8**
TUMR	**Tumrok**	**2.68**	**255**	PN	**Pn**	**17 43 55.1**	**-1.4**
TUMR				S	**Sn**	**17 44 25.7**	**-2.3**
KOZ	**Kozyrevsk**	**2.69**	**272**	*e*P	**Pn**	**17 43 58.1**	**+1.5**
KOZ	**Kozyrevsk**	**2.69**	**272**	PN	**Pn**	**17 43 58.1**	**+1.5**
SRDR	**Sredinnyy**	**2.79**	**278**	*e*P	**Pn**	**17 43 58.3**	**+0.4**
SRDR				*e*S	**Sn**	**17 44 33.3**	**+2.7**
SRDR	**Sredinnyy**	**2.79**	**278**	PN	**Pn**	**17 43 58.3**	**+0.4**
SRDR				S	**Sn**	**17 44 33.3**	**+2.7**
OSSR	**Ossora**	**3.33**	**346**	*i* P	**Pn**	**17 44 03.3**	**-1.9**
OSSR				*e*S	**Sn**	**17 44 44.1**	**+0.3**
OSSR	**Ossora**	**3.33**	**346**	PN	**Pn**	**17 44 03.3**	**-1.9**
OSSR				S	**Sn**	**17 44 44.1**	**+0.3**
ESO	**Esso**	**3.36**	**270**	*e*P	**Pn**	**17 44 06.3**	**+0.5**
ESO	**Esso**	**3.36**	**270**	PN	**Pn**	**17 44 06.3**	**+0.5**
PALN	**Palana**	**3.97**	**322**	*e*P	**Pn**	**17 44 14.2**	**+0.2**
PALN	**Palana**	**3.97**	**322**	PN	**Pn**	**17 44 14.2**	**+0.2**
SPN	**Mys Shipunski**	**4.01**	**224**	*e*P	**Pn**	**17 44 13.2**	**-1.4**
SPN				*e*S	**Sn**	**17 44 56.2**	**-4.4**
SPN	**Mys Shipunski**	**4.01**	**224**	PN	**Pn**	**17 44 13.2**	**-1.4**
NLC	**Nalytchevo**	**4.23**	**229**	*e*P	**Pn**	**17 44 19.0**	**+1.3**
NLC				*e*S	**Sn**	**17 45 04.4**	**-1.7**
NLC	**Nalytchevo**	**4.23**	**229**	PN	**Pn**	**17 44 19.0**	**+1.3**
SDLR	**Sedlovina**	**4.36**	**233**	*e*P	**Pn**	**17 44 20.2**	**+0.6**
SDLR				*e*S	**Sn**	**17 45 09.9**	**+0.4**
SDLR	**Sedlovina**	**4.36**	**233**	PN	**Pn**	**17 44 20.2**	**+0.6**
SDLR				S	**Sn**	**17 45 09.9**	**+0.4**
KRER	**Koryakskii**	**4.40**	**234**	*e*P	**Pn**	**17 44 21.3**	**+1.0**
KRER				*e*S	**Sn**	**17 45 11.0**	**+0.4**
KRER	**Koryakskii**	**4.40**	**234**	PN	**Pn**	**17 44 21.3**	**+1.0**
KRER				S	**Sn**	**17 45 11.0**	**+0.4**
SMAR	**Somma**	**4.41**	**233**	*e*P	**Pn**	**17 44 21.0**	**+0.7**
SMAR				*e*S	**Sn**	**17 45 10.5**	**-0.2**
SMAR	**Somma**	**4.41**	**233**	PN	**Pn**	**17 44 21.0**	**+0.7**
SMAR				S	**Sn**	**17 45 10.5**	**-0.2**
KRX	**Arik**	**4.41**	**235**	*e*P	**Pn**	**17 44 21.6**	**+1.3**
KRX				*e*S	**Sn**	**17 45 12.4**	**+1.6**
KRX	**Arik**	**4.41**	**235**	PN	**Pn**	**17 44 21.6**	**+1.3**
KRX				S	**Sn**	**17 45 12.4**	**+1.6**
UGLR	**Uglovaya**	**4.43**	**233**	*e*P	**Pn**	**17 44 21.5**	**+0.9**
UGLR				*e*S	**Sn**	**17 45 11.6**	**+0.4**
UGLR	**Uglovaya**	**4.43**	**233**	PN	**Pn**	**17 44 21.5**	**+0.9**
UGLR				S	**Sn**	**17 45 11.6**	**+0.4**
AVH	**Avacha**	**4.43**	**233**	*e*P	**Pn**	**17 44 21.7**	**+1.1**
AVH				*e*S	**Sn**	**17 45 11.9**	**+0.7**
AVH	**Avacha**	**4.43**	**233**	PN	**Pn**	**17 44 21.7**	**+1.1**
AVH				S	**Sn**	**17 45 11.9**	**+0.7**
KOK	**Koryaka**	**4.46**	**234**	*e*P	**Pn**	**17 44 22.2**	**+1.2**
KOK				*e*S	**Sn**	**17 45 13.2**	**+1.2**
KOK	**Koryaka**	**4.46**	**234**	PN	**Pn**	**17 44 22.2**	**+1.2**
KOK				S	**Sn**	**17 45 13.2**	**+1.2**
TILK	**Tilichiki**	**4.48**	**9**	*e*P	**Pn**	**17 44 20.2**	**-0.9**
TILK	**Tilichiki**	**4.48**	**9**	PN	**Pn**	**17 44 20.2**	**-0.9**
GNL	**Ganaly**	**4.55**	**242**	*e*P	**Pn**	**17 44 23.7**	**+1.5**
GNL	**Ganaly**	**4.55**	**242**	PN	**Pn**	**17 44 23.7**	**+1.5**
DALK	**Dalny**	**4.58**	**231**	*e*P	**Pn**	**17 44 23.0**	**+0.5**
DALK				*e*S	**Sn**	**17 45 14.3**	**-0.5**
DALK	**Dalny**	**4.58**	**231**	PN	**Pn**	**17 44 23.0**	**+0.5**
PET	**Petropavlovsk**	**4.63**	**232**	*e*Pn	**Pn**	**17 44 23.6**	**+0.4**
PET				*e*Sn	**Sn**	**17 45 14.9**	**-1.1**
PET	**Petropavlovsk**	**4.63**	**232**	*e*P	**Pn**	**17 44 23.9**	**+0.7**
PET				*e*S	**Sn**	**17 45 15.4**	**-0.6**
PET	**Petropavlovsk**	**4.63**	**232**	*e*PN	**Pn**	**17 44 23.5**	**+0.3**
PET				pmax	pmax		
	comp=Z,100nm,0.7s						
PET				MLR	MLR		
	comp=Z,500nm,14.0s						
KRMR	**Karymshinskiy**	**5.00**	**233**	*e*P	**Pn**	**17 44 28.9**	**+0.7**
KRMR				*e*S	**Sn**	**17 45 25.8**	**+0.8**
KRMR	**Karymshinskiy**	**5.00**	**233**	PN	**Pn**	**17 44 28.9**	**+0.7**
KRMR				S	**Sn**	**17 45 25.8**	**+0.8**
PEA1	**Petropavlovsk-**	**5.01**	**237**	*e*Pn	**Pn**	**17 44 29.4**	**+1.0**
PEA1				*e*Sn	**Sn**	**17 45 25.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**5.01**	**237**	*e*Pn	**Pn**	**17 44 29.6**	**+1.1**
PEA0B				*e*Sn	**Sn**	**17 45 26.7**	**+1.3**
PEA0B	**Petropavlovsk-**	**5.01**	**237**	*e*PN	**Pn**	**17 44 29.6**	**+1.1**
PEA0B				*e*		17 45 26.7	
PETK	**Petropavlovsk-**	**5.01**	**237**	*e*Pn	**Pn**	**17 44 29.0**	**+0.5**
PETK				*e*Sn	**Sn**	**17 45 27.3**	**+1.9**
PETK	**Petropavlovsk-**	**5.01**	**237**	*e*PN	**Pn**	**17 44 29.0**	**+0.5**
PETK				*e*		17 45 27.3	
PETK	**Petropavlovsk-**	**5.01**	**237**	Pn	**Pn**	**17 44 29.4**	**+1.0**
	comp=Z,11nm,0.3s,baz=71,slow=17,SNR=129						
PETK				Sn	**Sn**	**17 45 25.9**	**+0.5**
	comp=Z,7.7nm,0.3s,baz=114,slow=14,SNR=5.8						
PETK				LR	LR	17 46 42.7	
	comp=Z,728nm,21.7s,baz=55,slow=42						
RUS	**Russkaya**	**5.12**	**227**	*e*P	**Pn**	**17 44 30.4**	**+0.6**
RUS				*e*S	**Sn**	**17 45 25.5**	**-2.4**
RUS	**Russkaya**	**5.12**	**227**	PN	**Pn**	**17 44 30.4**	**+0.6**
MTVR	**Mutnovka**	**5.22**	**230**	*e*P	**Pn**	**17 44 32.7**	**+1.3**
MTVR				*e*S	**Sn**	**17 45 29.8**	**-0.8**
MTVR	**Mutnovka**	**5.22**	**230**	PN	**Pn**	**17 44 32.7**	**+1.3**
APC	**Apacha**	**5.38**	**238**	*e*P	**Pn**	**17 44 35.3**	**+1.8**
APC	**Apacha**	**5.38**	**238**	PN	**Pn**	**17 44 35.3**	**+1.8**
ASAK	**Asacha**	**5.41**	**230**	*e*P	**Pn**	**17 44 36.0**	**+2.0**
ASAK	**Asacha**	**5.41**	**230**	PN	**Pn**	**17 44 36.0**	**+2.0**
KDTR	**Khodutka, Kamc**	**5.76**	**225**	*e*P	**Pn**	**17 44 38.7**	**0.0**
KDTR	**Khodutka, Kamc**	**5.76**	**225**	PN	**Pn**	**17 44 38.7**	**0.0**
SMY	**Shemya**	**6.43**	**117**	*e*Pn	**Pn**	**17 44 47.2**	**-0.7**
SMY	**Shemya**	**6.43**	**117**	*e*PN	**Pn**	**17 44 47.2**	**-0.7**
KMSK	**Kamenskaya**	**6.49**	**6**	*e*P	**Pn**	**17 44 47.8**	**-0.8**
KMSK	**Kamenskaya**	**6.49**	**6**	PN	**Pn**	**17 44 47.8**	**-0.8**
PAU	**Pauzhetka**	**6.54**	**229**	*e*P	**Pn**	**17 44 50.9**	**+1.5**
PAU	**Pauzhetka**	**6.54**	**229**	PN	**Pn**	**17 44 50.9**	**+1.5**
SKR	**Severo-Kuril's**	**7.42**	**227**	*e*P	**Pn**	**17 45 02.4**	**+1.0**
SKR	**Severo-Kuril's**	**7.42**	**227**	*e*PN	**Pn**	**17 45 02.0**	**+0.6**
SKR				pmax	pmax		
	comp=Z,93nm,0.5s						
SKR				MLR	MLR		
	comp=Z,400nm,16.0s						
MA2	**Magadan**	**8.22**	**301**	*e*Pn	**Pn**	**17 45 14.3**	**+1.9**
MA2	**Magadan**	**8.22**	**301**	*e*PN	**Pn**	**17 45 14.4**	**+1.9**
MA2	**Magadan**	**8.22**	**301**	Pn	**Pn**	**17 45 13.1**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=117,slow=12,SNR=6.0						
MA2				LR	LR	17 48 28.0	
	comp=Z,220nm,20.3s,baz=98,slow=39						
SEY	**Seymchan**	**9.30**	**323**	*i* PN	**Pn**	**17 45 23.2**	**-4.0**
SEY	**Seymchan**	**9.30**	**323**	Pn	**Pn**	**17 45 26.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=142,slow=15,SNR=3.4						
KIWB	**Kanaga Island**	**11.49**	**104**	*e*Pn	**Pn**	**17 45 56.4**	**-0.8**
ADK	**Adak**	**11.73**	**103**	*e*Pn	**Pn**	**17 45 58.3**	**-2.2**
ADK	**Adak**	**11.73**	**103**	*e*PN	**Pn**	**17 45 58.3**	**-2.2**
GSTR	**Great Sitkin T**	**11.98**	**101**	*e*Pn	**Pn**	**17 46 02.2**	**-1.6**
BILL	**Bilibino**	**12.06**	**3**	*e*Pn	**Pn**	**17 46 05.5**	**+0.7**
BILL	**Bilibino**	**12.06**	**3**	*de*PN	**Pn**	**17 46 05.9**	**+1.0**
BILL				pmax	pmax		
	comp=Z,11nm,0.6s						
SPIA	**Saint Paul Isl**	**13.83**	**75**	*e*Pn	**Pn**	**17 46 28.0**	**-1.1**
GAMB	**Gambell**	**14.08**	**47**	*e*Pn	**Pn**	**17 46 31.7**	**-0.7**
TYV	**Tymovskoe**	**14.08**	**258**	*e*P	**Pn**	**17 46 31.3**	**-1.2**
TYV				pmax	pmax		
	comp=Z,14nm,1.3s						
TYV				pmax	pmax		
	comp=Z,300nm,4.6s						
NIKH	**Nikolski High**	**15.64**	**90**	*e*Pn	**Pn**	**17 46 52.7**	**-0.6**
	comp=Z,119nm,0.5s						
YSS	**Yuzh-Sakhalins**	**16.34**	**245**	*e*Pn	**Pn**	**17 47 02.5**	**+0.1**
	comp=Z,43nm,1.0s						
YSS	**Yuzh-Sakhalins**	**16.34**	**245**	⇓*e*P	**Pn**	**17 47 03.0**	**+0.7**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS				MLR	MLR		
	comp=E,300nm,13.0s						
UNV	**Unalaska Valle**	**16.65**	**86**	*e*Pn	**Pn**	**17 47 06.4**	**+0.2**
	comp=E,33nm,1.0s						
AKUT	**Akutan**	**16.96**	**84**	*e*Pn	**Pn**	**17 47 10.3**	**+0.1**
	comp=E,174nm,1.6s						
YUK	**Yuzh-Kuril'sk**	**16.98**	**233**	*e*P	**Pn**	**17 47 06.6**	**-3.8**
YUK				*e*S	**Sn**	**17 50 09.9**	**-8.1**
YUK				pmax	pmax		
	comp=Z,95nm,0.4s						
GRNR	**Gornyy**	**17.58**	**264**	*e*P	**P**	**17 47 20.2**	**+1.4**
GRNR				pmax	pmax		
	comp=Z,12nm,1.0s						
FALS	**False Pass**	**18.05**	**80**	*e*Pn	**P**	**17 47 24.8**	**+0.9**
	comp=Z,61nm,1.0s						
ASAJ	**Asahikawa**	**18.43**	**239**	P	**Pn**	**17 47 28.3**	**-0.1**
	comp=Z,5.0nm,0.3s,baz=47,slow=9.0,SNR=48						
ASAJ				LR	LR	17 54 07.3	
	comp=Z,297nm,20.9s,baz=28,slow=36						
YAK	**Yakutsk**	**18.79**	**303**	*e*P	**P**	**17 47 30.9**	**-1.0**
YAK				*e*S	**Sn**	**17 50 51.5**	**-10**
YAK				pmax	pmax		
	comp=N,3.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,18nm,1.0s						
YAK				pmax	pmax		
	comp=Z,23nm,0.9s						
YAK				smax	smax		
	comp=N,169nm,3.8s						
YAK				smax	smax		
	comp=E,198nm,3.7s						
YAK				MLR	MLR		
	comp=Z,369nm,13.0s						
YAK				MLR	MLR		
	comp=N,258nm,17.0s						
YAK				MLR	MLR		
	comp=E,438nm,15.0s						
RDOG	**Red Dog Mine**	**19.07**	**38**	*e*P	**Pn**	**17 47 37.0**	**+1.1**
	comp=E,45nm,1.7s						
ERM	**Erimo**	**19.79**	**234**	*e*P	**P**	**17 47 41.7**	**-1.3**
	comp=E,72nm,1.1s						
ERM	**Erimo**	**19.79**	**234**	*i* P	**P**	**17 47 43.4**	**+0.4**
CHGN	**Chignik**	**20.40**	**74**	*e*P	Pn	17 47 50.8	-0.9
	comp=E,70nm,1.2s						
TEY	**Ternei**	**20.81**	**250**	⇑*e*P	**P**	**17 47 52.8**	**-1.3**
TEY				pmax	pmax		
	comp=N,10.0nm,2.3s						
TEY				pmax	pmax		
	comp=Z,10.0nm,2.9s						
KLR	**Kul'dur**	**20.96**	**265**	*i* P	**P**	**17 47 54.7**	**-1.0**
KLR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KLR	**Kul'dur**	**20.96**	**265**	P	**P**	**17 47 55.0**	**-0.6**
	comp=Z,5.3nm,0.7s,baz=58,slow=10,SNR=18						
KLR				LR	LR	17 56 40.4	
	comp=Z,165nm,18.5s,baz=46,slow=39						
SVW2	**Sparrevohn**	**21.08**	**60**	*e*P	**P**	**17 47 58.5**	**+1.7**
	comp=Z,22nm,1.3s						
ZEA	**Zeya**	**21.48**	**280**	*e*P	**P**	**17 47 58.0**	**-3.2**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
ZEA				MLR	MLR		
	comp=N,400nm,13.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,13.0s						
TIXI	**Tiksi**	**21.68**	**330**	*e*P	**P**	**17 48 02.8**	**-0.4**
	comp=Z,18nm,0.7s						
TIXI	**Tiksi**	**21.68**	**330**	*ce*P	**P**	**17 48 01.5**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,27nm,1.7s						
TIXI	**Tiksi**	**21.68**	**330**	P	**P**	**17 48 03.5**	**+0.3**
	comp=Z,7.2nm,0.7s,baz=116,slow=10,SNR=24						
IMAR	**Indian Mountai**	**22.02**	**46**	*e*P	**P**	**17 48 08.0**	**+1.1**
RSO	**Redoubt South**	**22.52**	**61**	*e*P	**P**	**17 48 14.8**	**+2.3**
PPLA	**Purkeypile**	**22.58**	**55**	*e*P	**P**	**17 48 16.5**	**+3.4**
	comp=Z,61nm,1.7s						
CAST	**Castle Rocks**	**22.61**	**53**	*e*P	**P**	**17 48 14.7**	**+1.5**
	comp=Z,25nm,1.6s						
BPAW	**Bear Paw Mtn.**	**23.09**	**52**	*e*P	**P**	**17 48 18.0**	**-0.2**
	comp=Z,65nm,2.0s						
KDAK	**Kodiak Island**	**23.11**	**68**	*e*P	**P**	**17 48 19.6**	**+1.1**
	comp=Z,136nm,1.6s						
KDAK	**Kodiak Island**	**23.11**	**68**	*e*P	**P**	**17 48 19.6**	**+1.1**
KDAK				pmax	pmax		
	comp=Z,136nm,1.6s						
MLY	**Manley**	**23.20**	**49**	*e*P	**P**	**17 48 20.5**	**+1.1**
	comp=Z,16nm,1.4s						
BRLK	**Bradley Lake**	**23.55**	**62**	*e*P	**P**	**17 48 22.8**	**-0.1**
	comp=Z,111nm,2.0s						
COLD	**Coldfoot**	**23.57**	**44**	*e*P	**P**	**17 48 23.8**	**+0.8**
	comp=Z,7.1nm,1.2s						
BWN	**Browne**	**23.75**	**51**	*e*P	**P**	**17 48 25.9**	**+1.2**
	comp=Z,58nm,1.0s						
USRK	**Ussuriysk Ar.**	**23.83**	**254**	P	**P**	**17 48 24.2**	**-1.4**
	comp=Z,3.7nm,0.7s,baz=60,slow=12,SNR=8.1						
USRK				LR	LR	17 58 09.5	
	comp=Z,285nm,20.2s,baz=46,slow=38						
TOLK	**Toolik Lake Re**	**23.99**	**40**	*e*P	**P**	**17 48 26.5**	**-0.4**
	comp=Z,13nm,0.8s						
MCK	**McKinley**	**24.01**	**52**	*e*P	**P**	**17 48 27.1**	**0.0**
	comp=Z,14nm,0.9s						
MCK	**McKinley**	**24.01**	**52**	*e*P	**P**	**17 48 27.1**	**0.0**
MCK				pmax	pmax		
	comp=Z,14nm,0.9s						
GHO	**Glory Hole Cre**	**24.19**	**57**	*e*P	**P**	**17 48 28.8**	**-0.1**
	comp=Z,72nm,1.7s						
SEW	**Seward**	**24.20**	**61**	*e*P	**P**	**17 48 28.2**	**-0.7**
	comp=Z,154nm,2.0s						
MDM	**Murphy Dome**	**24.27**	**49**	*e*P	**P**	**17 48 31.2**	**+1.6**
	comp=Z,8.3nm,1.0s						
WRH	**Wood River Hil**	**24.34**	**51**	*e*P	**P**	**17 48 30.2**	**+0.1**
	comp=Z,18nm,0.8s						
COLA	**College**	**24.43**	**50**	*e*P	**P**	**17 48 32.8**	**+1.8**
	comp=Z,20nm,0.8s						
CCB	**Clear Creek Bu**	**24.46**	**50**	*e*P	**P**	**17 48 31.1**	**-0.2**
	comp=Z,27nm,0.8s						
KNK	**Knik Glacier**	**24.46**	**58**	*e*P	**P**	**17 48 30.3**	**-1.0**
	comp=Z,26nm,1.0s						
SML	**Sawmill**	**24.46**	**57**	*e*P	**P**	**17 48 32.1**	**+0.7**
	comp=Z,17nm,0.8s						
SML	**Sawmill**	**24.46**	**57**	*e*P	**P**	**17 48 32.1**	**+0.7

H11N1 WAKE ISLAND Hy 36.32 176 T T 18 28 13.6
baz=358,slow=76,SNR=422
HHC Hu-ho-hao-te 37.36 269 *e*P **P** **17 50 23.9 -1.3**
HHC pmax pmax
comp=Z,74nm,0.9s
HHC pmax pmax
comp=Z,270nm,6.2s
HHC LR LR
comp=Z,880nm,13.4s
HHC LR LR
comp=Z,740nm,14.0s
HHC LR LR
comp=Z,840nm,13.1s
H11S1 WAKE ISLAND Hy 37.51 177 T T 18 29 40.5
baz=358,slow=76,SNR=16
H11S3 WAKE ISLAND Hy 37.52 177 T T 18 29 44.6
baz=358,slow=76,SNR=13
H11S2 WAKE ISLAND Hy 37.52 177 T T 18 29 45.1
baz=358,slow=76,SNR=9.6
YKW3 Yellowknife Ar 39.15 46 *e*P **P** **17 50 40.1 +0.3**
comp=Z,3.3nm,1.0s
YKA Yellowknife Ar 39.18 46 *e*P **P** **17 50 39.6 -0.4**
YKA Yellowknife Ar 39.18 46⇑ *e*P P 17 50 49.0 +8.9
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 39.18 46 P **P** **17 50 40.2 +0.1**
comp=Z,0.7nm,0.4s,baz=299,slow=8.1,SNR=11
RES Resolute Bay 39.55 24 *e*P **P** **17 50 43.6 +0.6**
comp=Z,1.6nm,1.8s
RES Resolute Bay 39.55 24 P **P** **17 50 43.0 0.0**
comp=Z,1.2nm,0.6s,baz=312,slow=8.2,SNR=10
NJ2 Nanjing 39.72 252 *e*P **P** **17 50 44.3 -0.6**
NJ2 pmax pmax
comp=Z,11nm,0.5s
LLLB Lillooet 42.28 65 *e*P **P** **17 51 06.4 +0.5**
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 43.44 302 LR LR 18 10 19.8
comp=Z,53nm,19.8s,baz=68,slow=38
NVS Novosibirsk 43.65 304 *e*P P 17 51 10.9 -5.9
SPA0 Spitsbergen Ar 44.64 351 *e*P **P** **17 51 25.1 +0.6**
comp=Z,125nm,1.8s
DGZ Jazzator, Alta 44.77 296 *i*P **P** **17 51 25.4 -0.6**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
GTA Gaotai 44.92 277 ⇑P **P** **17 51 26.8 -0.5**
GTA pP pP 17 51 35.0 +0.5
GTA sP pwP 17 51 39.0 -1.2
GTA PcP **PcP** **17 53 09.3 +0.9**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,36nm,6.0s
GTA LR LR
comp=Z,190nm,17.8s
GTA LR LR
comp=Z,170nm,17.8s
GTA LR LR
comp=Z,140nm,18.4s
B08A Colville Reser 44.98 66 *e*P **P** **17 51 28.2 +0.7**
comp=Z,11nm,0.8s
LZH Lanzhou 45.02 270 *e*P **P** **17 51 30.3 +2.1**
LZH pP pwP 17 51 40.8 -0.2
LZH sP sP 17 51 44.0 +5.8
LZH pmax pmax
comp=Z,25nm,1.0s
NEW Newport 46.17 65 P **P** **17 51 38.4 +1.4**
comp=Z,0.9nm,0.5s,baz=331,slow=19,SNR=2.0
LPH Laupahoehoe 46.68 124 *e*P **P** **17 51 43.2 +2.1**
E09A Wood Farm, Sta 46.79 67 *e*P **P** **17 51 40.6 -1.2**
comp=Z,13nm,0.8s
PINE Pine Mountain 47.14 72 *e*P **P** **17 51 45.6 +0.8**
comp=Z,13nm,1.1s
DAG Danmarks Havn 47.43 1 P **P** **17 51 46.4 0.0**
DAG pmax pmax
comp=Z,8.0nm,1.1s
YBH Yreka Blue Hor 47.59 75 *e*P **P** **17 51 49.0 +0.7**
comp=Z,8.6nm,1.0s
YBH Yreka Blue Hor 47.59 75 P **P** **17 51 49.8 +1.6**
comp=Z,0.5nm,0.4s,baz=267,slow=9.6,SNR=2.5
F10A Beach Ranch, E 47.63 67 *e*P **P** **17 51 49.3 +0.8**
comp=Z,4.4nm,0.8s
KHMM Horse Mountain 47.63 77 *e*P **P** **17 51 48.1 -0.5**
comp=Z,27nm,1.5s
K05A Summer Lake 47.89 73 *e*P **P** **17 51 51.9 +1.2**
comp=Z,10nm,1.0s
BMO Blue Mountains 48.34 69 *e*P **P** **17 51 54.1 +0.1**
comp=Z,7.6nm,1.1s
KURK Kurchatov 48.43 302 *i*P **P** **17 51 54.2 -0.3**
KURK pmax pmax
comp=Z,2.0nm,1.1s
WDC Whiskeytown Da 48.48 76 *e*P **P** **17 51 53.9 -1.1**
comp=Z,6.2nm,1.0s
WDC Whiskeytown Da 48.48 76 P **P** **17 51 53.9 -1.1**
WDC pmax pmax
comp=Z,6.0nm,1.0s
WMQ Urumqi 48.50 290 P **P** **17 51 57.8 +2.6**
WMQ sP pwP 17 52 09.3 +1.4
WMQ pmax pmax
comp=Z,33nm,0.6s
WMQ pmax pmax
comp=Z,250nm,3.8s
WMQ LR LR
comp=Z,2μm,18.9s
WMQ LR LR
comp=Z,690nm,17.5s
WMQ LR LR
comp=Z,610nm,26.3s
KURBB Kurchatov Arra 48.54 302 P **P** **17 51 54.8 -0.5**
comp=Z,0.8nm,0.5s,baz=56,slow=7.7,SNR=7.4
MSO Missoula 48.74 65 *e*P **P** **17 51 58.0 +1.0**
comp=Z,17nm,1.5s
MOD Modoc Plateau 48.77 73 *e*P **P** **17 51 58.2 +0.7**
comp=Z,10nm,0.9s
PLID Pearl Lake 48.86 68 *e*P **P** **17 51 57.6 -0.6**
comp=Z,6.6nm,1.1s
CD2 Chengdu 48.89 266 *e*P **P** **17 51 56.8 -1.5**
FFC Flin Flon 49.06 50 *e*P **P** **17 51 59.9 +0.6**
comp=Z,2.8nm,1.1s
MK31 Makanchi Array 49.27 296 *e*P **P** **17 51 59.5 -1.5**
comp=Z,8.3nm,2.0s
MKAR Makanchi Array 49.27 296 *e*P **P** **17 51 59.3 -1.7**
MKAR Makanchi Array 49.27 296 P **P** **17 52 00.1 -0.9**
comp=Z,1.2nm,0.6s,baz=51,slow=6.9,SNR=14
MKAR LR LR 18 12 10.9
comp=Z,75nm,19.7s,baz=38,slow=35
WVOR Wild Horse Val 49.30 72 *e*P **P** **17 52 02.0 +0.6**
comp=Z,5.4nm,0.9s
ORV Oroville 49.77 77 *e*P **P** **17 52 05.5 +0.6**
comp=Z,2.2nm,0.9s
HRY Holter Researc 49.88 63 *e*P **P** **17 52 04.6 -1.2**
EGMT Eagleton 50.01 61 *e*P **P** **17 52 06.1 -0.6**
comp=Z,5.0nm,0.9s
BEKR Beckworth 50.17 75 *e*P **P** **17 52 08.3 +0.2**
comp=Z,9.3nm,1.2s
DLMT Dillon 50.42 65 *e*P **P** **17 52 11.5 +1.6**
comp=Z,4.7nm,0.9s
AFDM Forest Hills D 50.49 77 *e*P **P** **17 52 10.9 +0.5**
comp=Z,6.1nm,1.2s
BVAR Borovoye Array 50.63 309 P **P** **17 52 11.0 -0.2**
comp=Z,2.6nm,0.6s,baz=54,slow=7.5,SNR=13
BRVK Borovoye 50.65 309 *e*P **P** **17 52 11.7 +0.3**
comp=Z,5.4nm,0.6s
BRVK Borovoye 50.65 309 *ce*P **P** **17 52 12.5 +1.1**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
MCMT McKenzie Canyo 50.66 66 *e*P **P** **17 52 12.5 +0.6**
SUMG Summit 50.67 9 *e*P **P** **17 52 11.6 -0.1**
comp=Z,16nm,1.4s
HLID Hailey 50.74 68 *e*P **P** **17 52 12.7 +0.3**
comp=Z,4.5nm,1.0s
BOZ Bozeman (W) 50.75 64 *e*P **P** **17 52 12.2 -0.2**
comp=Z,4.8nm,0.9s
BOZ Bozeman (W) 50.75 64 P **P** **17 52 12.3 -0.2**
BOZ pmax pmax
comp=Z,5.0nm,1.0s
PAHR Pah Rah Range 50.81 75 *e*P **P** **17 52 13.4 +0.5**
comp=Z,9.9nm,1.2s
PNTR Pine Nut 51.13 76 *e*P **P** **17 52 15.6 +0.1**
comp=Z,9.9nm,0.9s
ARCES ARCESS Array B 51.28 343 *e*P **P** **17 52 15.7 -0.2**
ARCES ARCESS Array B 51.28 343 *e*P **P** **17 52 15.7 -0.2**
ARCES ARCESS Array B 51.28 343 P **P** **17 52 13.8 -2.0**
comp=Z,3.3nm,0.7s,baz=14,slow=10,SNR=7.1
QLMT Earthquake Lak 51.39 65 *e*P **P** **17 52 17.6 +0.3**
YERR Yerington 51.41 75 *e*P **P** **17 52 18.2 +0.7**
comp=Z,13nm,1.3s
BMN Battle Mountai 51.46 73 *e*P **P** **17 52 18.8 +1.0**
comp=Z,9.4nm,1.3s
YHB Horse Butte 51.56 65 *e*P **P** **17 52 18.9 +0.2**
comp=Z,6.6nm,0.8s
GCMT Greycliff 51.60 63 *e*P **P** **17 52 18.6 -0.2**
WAKR Walker 51.64 76 *e*P **P** **17 52 19.1 -0.1**
comp=Z,13nm,1.2s
YHH Holmes Hill 51.71 65 *e*P **P** **17 52 20.9 +1.1**
comp=Z,6.8nm,1.0s
YNR Norris Junctio 51.85 65 *e*P **P** **17 52 22.2 +1.4**
comp=Z,4.6nm,0.9s
YFT Old Faithful 51.95 65 *e*P **P** **17 52 21.9 +0.4**
comp=Z,8.4nm,0.8s
KVN Kaiserville 51.98 75 *e*P **P** **17 52 23.5 +1.8**
comp=Z,8.0nm,1.2s
RYN Ryan 52.05 75 *e*P **P** **17 52 21.9 -0.3**
comp=Z,7.1nm,1.2s
YPP Pitchstone Pla 52.10 65 *e*P **P** **17 52 22.2 -0.5**
comp=Z,4.7nm,1.1s
H17A Grant Village 52.13 65 *e*P **P** **17 52 22.1 -0.7**
comp=Z,6.9nm,0.8s
RLMT Red Lodge 52.27 63 *e*P **P** **17 52 23.9 0.0**
comp=Z,12nm,0.8s
FLWY Flagg Ranch 52.28 65 *e*P **P** **17 52 22.8 -1.2**
comp=Z,7.6nm,0.8s
IMW Indian Meadow 52.29 65 *e*P **P** **17 52 24.0 -0.1**
comp=Z,12nm,1.2s
ELK Elko 52.30 71 *e*P **P** **17 52 25.2 +1.0**
comp=Z,6.1nm,1.2s
ELK Elko 52.30 71 LR LR 18 12 24.9
comp=Z,42nm,19.3s,baz=312,slow=34
NVAR Mina Array Bea 52.31 75 *e*P **P** **17 52 25.5 +1.2**
NVAR Mina Array Bea 52.31 75 P **P** **17 52 23.5 -0.7**
comp=Z,0.5nm,0.6s,baz=305,slow=6.3,SNR=2.2
NV11 Mina Array Sit 52.39 75 *e*P **P** **17 52 25.4 +0.6**
comp=Z,0.7nm,1.3s
FXWY Fox Creek 52.43 66 *e*P **P** **17 52 26.3 +1.2**
comp=Z,5.2nm,0.8s
MDPB Devils Postpil 52.47 77 *e*P **P** **17 52 25.9 +0.4**
comp=Z,6.6nm,1.0s
MOOW Moose Ponds 52.50 65 *e*P **P** **17 52 25.1 -0.4**
comp=Z,3.3nm,0.9s
OMMB Old Mammoth Mi 52.52 76 *e*P **P** **17 52 26.9 +0.9**
comp=Z,17nm,1.8s
TPAW Teton Pass 52.58 66 *e*P **P** **17 52 25.5 -0.8**
comp=Z,5.3nm,0.8s
LAO LASA Array 52.67 60 *e*P **P** **17 52 27.9 +1.3**
comp=Z,11nm,0.8s
LOHW Long Hollow 52.67 65 *e*P **P** **17 52 26.4 -0.4**
comp=Z,5.8nm,0.8s
REDW Red Top Meadow 52.72 66 *e*P **P** **17 52 28.8 +1.6**
comp=Z,16nm,1.5s
HVU Hansel Valley 52.85 68 *e*P **P** **17 52 29.9 +1.8**
comp=Z,6.8nm,1.2s
ARU Arti 53.00 318 *e*P **P** **17 52 28.7 -0.2**
comp=Z,8.9nm,1.1s
ARU Arti 53.00 318 *d i*P **P** **17 52 29.0 +0.2**
ARU 17 54 23.9
ARU S **S** **17 59 53.5 -2.8**
ARU SS **SS** **18 03 26.9 -7.9**
ARU pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 53.00 318 P **P** **17 52 28.6 -0.2**
comp=Z,1.3nm,0.5s,baz=17,slow=2.1,SNR=5.8
OTUK Ortayu 53.10 303 P **P** **17 52 31.2 +1.4**
OTUK pmax pmax
comp=Z,2.0nm,2.3s
PDGK Podgornoye 53.11 295 P **P** **17 52 31.1 +1.1**
PDGK pmax pmax
comp=Z,3.0nm,1.1s
PRGR Permogore 53.33 329 P **P** **17 52 29.7 -1.5**
PRGR pmax pmax
comp=Z,5.0nm,0.9s
HWUT Hardware Ranch 53.61 68 *e*P **P** **17 52 34.4 +0.7**
comp=Z,8.8nm,1.3s
FRB Frobisher Bay 53.70 26 LR LR 18 18 34.0
comp=Z,49nm,18.4s,baz=162,slow=40
BW06 Boulder Array 53.81 66 *e*P **P** **17 52 35.2 -0.1**
comp=Z,6.1nm,0.8s
PD31 Pinedale Array 53.81 66 *e*P **P** **17 52 34.8 -0.5**
comp=Z,5.8nm,0.8s
PDAR Pinedale Array 53.81 66 *e*P **P** **17 52 35.6 +0.3**
PDAR Pinedale Array 53.81 66 P **P** **17 52 36.1 +0.9**
comp=Z,0.5nm,0.7s,baz=297,slow=4.0,SNR=2.3
R11A Troy Canyon, C 53.84 73 *e*P **P** **17 52 37.0 +1.5**
comp=Z,8.5nm,1.5s
KMI Kunming 53.93 262 P **P** **17 52 37.3 +1.0**
KMI pmax pmax
comp=Z,27nm,0.5s
KMI pmax pmax
comp=Z,67nm,3.5s
DUG Dugway, Tooele 53.97 70 *e*P **P** **17 52 37.8 +1.4**
comp=Z,5.6nm,1.0s
DAC Darwin (Calif) 54.27 77 *e*P **P** **17 52 40.2 +1.6**
comp=Z,7.6nm,1.1s
SFJD Kangerlussuaq 54.47 16 *e*P **P** **17 52 40.8 +1.4**
comp=Z,88nm,2.0s
SFJD Kangerlussuaq 54.47 16 LR LR 18 16 02.4
comp=Z,37nm,21.6s,baz=340,slow=36
ULM Lac du Bonnet 54.86 51 *e*P **P** **17 52 42.5 0.0**
comp=Z,3.7nm,0.8s
ULM Lac du Bonnet 54.86 51 P **P** **17 52 42.8 +0.3**
comp=Z,1.4nm,0.7s,baz=294,slow=10.0,SNR=2.8
KDJ Kajisay 55.15 295 *e*P **P** **17 52 44.1 -0.8**
comp=Z,3.2nm,0.9s
GSC Goldstone, Bar 55.42 77 *e*P **P** **17 52 46.4 -0.4**
comp=Z,14nm,1.0s
TMUT Trail Mountain 55.48 70 *e*P **P** **17 52 47.7 +0.2**
comp=Z,6.4nm,1.0s
BOOM Boomskoye usch 55.51 296 *e*P **P** **17 52 48.4 +0.9**
comp=Z,3.6nm,1.0s
BOOM Boomskoye usch 55.51 296 P **P** **17 52 48.4 +0.9**
BOOM pmax pmax
comp=Z,3.0nm,1.0s
MSU Marysvale 55.54 71 *e*P **P** **17 52 48.0 +0.1**
MSU Marysvale 55.54 71 P **P** **17 52 48.0 +0.1**
RSSD Black Hills 55.59 61 *e*P **P** **17 52 48.4 +0.3**
comp=Z,7.7nm,0.8s
RSSD Black Hills 55.59 61 P **P** **17 52 48.4 +0.3**
RSSD pmax pmax
comp=Z,8.0nm,0.8s
P17A Butcher Ranch, 55.59 69 *e*P **P** **17 52 49.5 +1.4**
comp=Z,6.9nm,1.2s
SZCU Shurtz Canyon 55.73 72 *e*P **P** **17 52 51.2 +2.0**
comp=Z,6.5nm,1.2s
Q16A Castle Valley 55.77 70 *e*P **P** **17 52 50.0 +0.5**
comp=Z,6.0nm,1.0s
RWWY Rawlins 55.78 65 *e*P **P** **17 52 49.1 -0.5**
comp=Z,13nm,0.6s
SRU San Rafael Swe 55.97 69 *e*P **P** **17 52 50.6 -0.3**
comp=Z,12nm,0.9s
SRU San Rafael Swe 55.97 69 P **P** **17 52 50.6 -0.3**
SRU pmax pmax
comp=Z,12nm,0.9s
LCMT Little Creek M 56.08 73 *e*P **P** **17 52 51.6 0.0**
comp=Z,7.8nm,1.2s
AAK Ala-Archa 56.13 297 *e*P **P** **17 52 51.8 -0.2**
comp=Z,3.7nm,0.8s
AAK Ala-Archa 56.13 297 *ce*P **P** **17 52 52.8 +0.9**
AAK pmax pmax
comp=Z,5.0nm,1.7s
SLVN Son La 56.30 258 *e*P **P** **17 52 53.8 +0.5**
comp=Z,5.2nm,0.8s
AGMN Agassiz Nation 56.32 52 *e*P **P** **17 52 52.8 -0.2**
comp=Z,5.0nm,0.9s
O20A White River Ci 56.40 67 *e*P **P** **17 52 56.0 +2.0**
comp=Z,29nm,1.4s
LDFC Landfair 56.51 76 *e*P **P** **17 52 55.0 +0.3**
comp=Z,16nm,1.0s
LSA Lhasa 56.87 275 *e*P **P** **17 52 58.4 +0.6**
comp=Z,9.7nm,0.8s
LSA Lhasa 56.87 275 P **P** **17 52 58.4 +0.6**
LSA pmax pmax
comp=Z,10.0nm,0.8s
N23A Red Feather La 57.01 65 *e*P **P** **17 52 58.5 +0.2**
comp=Z,7.1nm,1.0s
U15A North Rim 57.02 73 *e*P **P** **17 52 58.7 +0.2**
comp=Z,10nm,1.5s
PV21 Cone Mtn., Par 57.19 69 *e*P **P** **17 53 00.8 +1.1**
comp=Z,5.3nm,0.9s
PV23 Carpenter Ridg 57.25 69 *e*P **P** **17 52 59.9 -0.2**
comp=Z,13nm,1.1s
PV14 Lion Creek, Pa 57.30 69 *e*P **P** **17 53 00.4 0.0**
comp=Z,9.9nm,1.1s
PV22 Blue Mesa, Par 57.31 68 *e*P **P** **17 53 00.2 -0.2**
comp=Z,17nm,1.3s
PV04 Paradox Valley 57.35 69 *e*P **P** **17 53 00.7 0.0**
comp=Z,12nm,1.1s
PV20 West Nyswonger 57.36 69 *e*P **P** **17 53 01.8 +1.1**
comp=Z,10nm,1.1s
PV19 Morning Glory 57.37 69 *e*P **P** **17 53 01.9 +1.0**
comp=Z,14nm,1.1s
PV16 Nyswonger Mesa 57.41 69 *e*P **P** **17 53 00.6 -0.5**
comp=Z,7.8nm,0.9s
PV11 David Mesa, Pa 57.44 69 *e*P **P** **17 53 00.1 -1.3**
comp=Z,18nm,0.4s
PV07 Paradox Valley 57.45 68 *e*P **P** **17 53 00.8 -0.6**
comp=Z,9.9nm,1.2s
PV18 Skein Mesa, Pa 57.46 69 *e*P **P** **17 53 02.1 +0.6**
comp=Z,11nm,1.1s
PV12 Saucer Basin, 57.46 69 *e*P **P** **17 53 02.8 +1.3**
comp=Z,15nm,1.3s
PV03 Paradox Valley 57.48 69 *e*P **P** **17 53 02.8 +1.1**
comp=Z,11nm,1.1s
PV05 Paradox Valley 57.48 69 *e*P **P** **17 53 02.0 +0.3**
comp=Z,11nm,1.0s
PV13 Radium Mtn., P 57.57 69 *e*P **P** **17 53 02.7 +0.4**
comp=Z,8.9nm,0.9s
KSH Kashi 57.70 294 P **P** **17 53 06.4 +3.4**
KSH pP pwP 17 53 16.8 +0.8
KSH PP **PP** **17 55 17.1 +6.4**
KSH S **S** **18 01 00.5 +0.8**
KSH SS **SS** **18 04 54.4 +4.8**
KSH pmax pmax
comp=Z,190nm,3.8s
KSH LR LR
comp=Z,160nm,10.0s
KSH LR LR
comp=Z,130nm,8.8s
PV01 Paradox Valley 57.72 69 *e*P **P** **17 53 04.1 +0.7**
comp=Z,7.6nm,1.4s
KK31 Karatay Array 57.74 300 *e*P **P** **17 53 02.5 -0.7**
comp=Z,5.3nm,0.9s
KKAR Karatay Array 57.74 300 *e*P **P** **17 53 02.2 -0.9**
comp=Z,5.3nm,0.9s
KKAR *e*P **P** **17 53 02.5 -0.7**
AKTO Aktyubinsk 57.76 314 P **P** **17 53 02.8 -0.3**
comp=Z,1.6nm,0.7s,baz=44,slow=5.0,SNR=4.9
SMCO Snowmass 57.77 67 *e*P **P** **17 53 05.5 +1.6**
comp=Z,7.3nm,1.1s
ABKAR Akbulak array 57.87 312 *e*P **P** **17 53 03.1 -0.8**
ABKAR *e*P **P** **17 53 03.7 -0.3**
ISCO Idaho Springs 58.00 65 *e*P **P** **17 53 06.7 +1.3**
comp=Z,8.8nm,1.2s
ISCO Idaho Springs 58.00 65 P **P** **17 53 06.7 +1.3**
ISCO pmax pmax
comp=Z,9.0nm,1.2s
FIA1 FINESS Array S 58.42 338 *e*P **P** **17 53 07.1 -0.4**
comp=Z,22nm,1.5s
FINES FINESS Array B 58.42 338 *i*P **P** **17 53 07.4 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 58.42 338 P **P** **17 53 06.3 -1.2**
comp=Z,2.7nm,0.7s,baz=16,slow=8.5,SNR=10.0
FINES LR LR 18 21 34.6
comp=Z,36nm,19.1s,baz=37,slow=40
PANO Nakornpanom 59.32 254 P **P** **17 53 16.6 +2.2**
comp=Z,0.4nm,1.1s
PANO Nakornpanom 59.32 254 P **P** **17 53 16.6 +2.2**
comp=Z,0.4nm,1.1s
NONG Nongkai 59.37 256 P **P** **17 53 16.5 +1.8**
comp=Z,0.2nm,1.0s
NONG Nongkai 59.37 256 P **P** **17 53 16.5 +1.8**
SHL Shillong 59.66 271 P **P** **17 53 16.6 -0.3**
SHL pmax pmax
comp=Z,11nm,0.6s
SKNT Sakolnakorn 59.80 255 P **P** **17 53 19.0 +1.3**
comp=Z,16nm,0.9s
SKNT Sakolnakorn 59.80 255 P **P** **17 53 19.0 +1.3**
comp=Z,16nm,0.9s
BTK Batken 59.89 298 *e*P **P** **17 53 17.7 -0.5**
comp=Z,4.7nm,0.7s
PHRA Phrae 60.61 259 P **P** **17 53 24.6 +1.3**
comp=Z,3.6nm,1.0s
LAMP Lampang 60.92 260 P **P** **17 53 26.9 +1.5**
comp=Z,56μm,0.8s,comp=Z,427μm
LAMP Lampang 60.92 260 P **P** **17 53 26.9 +1.5**
comp=Z,56μm,0.8s,comp=Z,427μm
GAR Garm 60.95 297 *e*P **P** **17 53 25.2 -0.3**
comp=Z,20nm,1.3s
KHON Khomkaen 60.95 256 P **P** **17 53 27.7 +2.1**
comp=Z,19μm,0.4s
KHON Khomkaen 60.95 256 P **P** **17 53 27.7 +2.1**
comp=Z,19μm,0.4s
UTTA Uttaradit 61.05 259 P **P** **17 53 27.5 +1.3**
comp=Z,31μm,0.9s,comp=Z,270μm
CMMT Chiang Mai 61.07 261 P **P** **17 53 27.2 +0.8**
CMMT Chiang Mai 61.07 261 P **P** **17 53 27.2 +0.8**
comp=Z,9.9nm,1.0s
CHTO Chiang Mai 61.07 261 *e*P **P** **17 53 26.8 +0.4**
comp=Z,14nm,0.8s
CHTO Chiang Mai 61.07 261 P **P** **17 53 26.8 +0.4**
CHTO pmax pmax
comp=Z,14nm,0.8s
ODAN Odare 61.16 276 *e*P **P** **17 53 27.4 +0.1**
JIRN Jiri 61.21 277 *e*P **P** **17 53 27.9 +0.2**
comp=Z,16nm,0.5s
CM31 Chiang Mai Arr 61.35 260 *e*P **P** **17 53 29.5 +1.1**
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 61.35 260 *e*P **P** **17 53 29.3 +1.0**
CMAR Chiang Mai Arr 61.35 260 P **P** **17 53 29.5 +1.2**
comp=Z,8.6nm,0.7s,baz=21,slow=7.0,SNR=78
CMAR LR LR 18 21 14.0
comp=Z,98nm,19.1s,baz=14,slow=37
NB2 NORSAR Subarra 61.39 346 P **P** **17 53 27.5 -0.6**
comp=Z,1.2nm,0.8s,baz=17,slow=6.9
NOA NORSAR Array B 61.39 346 P **P** **17 53 26.7 -1.3**
comp=Z,1.8nm,0.8s,baz=18,slow=6.9,SNR=5.5
NOA LR LR 18 24 30.8
comp=Z,12nm,18.2s,baz=355,slow=40
OBN Obninsk 61.41 329 *i*P **P** **17 53 31.7 +3.5**
OBN pmax pmax
comp=Z,3.0nm,0.9s
RAMN Ramite 61.53 277 *e*P **P** **17 53 29.8 0.0**
comp=Z,84nm,0.8s
LENM Lemitar 61.57 70 *e*P **P** **17 53 31.1 +1.2**
KKN Kakani 61.62 278 *e*P **P** **17 53 30.6 +0.3**
comp=Z,34nm,0.6s
PKI Pulchoki 61.71 278 *e*P **P** **17 53 31.1 0.0**
comp=Z,45nm,0.7s
PKIN Phulchoki 61.72 278 *e*P **P** **17 53 31.1 +0.1**
comp=Z,35nm,0.6s
CHAI Chaiyaphum 61.76 256 P P 17 53 43.1 +12
comp=Z,17μm,1.2s
CHGR Chuyangaron 61.79 298 *e*P **P** **17 53 31.3 +0.1**
comp=Z,13nm,1.2s
GKN Gorkha 61.81 279 *e*P **P** **17 53 31.6 +0.1**
DMN Daman 61.85 278 *e*P **P** **17 53 32.3 +0.4**
comp=Z,24nm,0.8s
DANN Dangsing 62.02 280 *e*P **P** **17 53 33.5 +0.4**
comp=Z,69nm,0.6s
KOLN Koldanda 62.56 279 *e*P **P** **17 53 36.8 +0.2**
comp=Z,38nm,0.5s
PYUN Piuthan 62.64 280 *e*P **P** **17 53 37.3 +0.1**
comp=Z,57nm,0.8s
LPSR Galich'ya Gora 62.87 326 *e*P **P** **17 53 36.7 -1.3**
LPSR pmax pmax
comp=Z,8.0nm,1.1s
VRH Novokhopyorsk 63.17 324 *e*P **P** **17 53 37.8 -2.2**
VRH pmax pmax
comp=Z,10.0nm,0.7s
NIL Nilore 63.58 291 *e*P **P** **17 53 43.4 +0.3**
comp=Z,14nm,1.1s
NIL Nilore 63.58 291 P **P** **17 53 43.4 +0.3**
NIL pmax pmax
comp=Z,14nm,1.2s
VSR Storozhevoye 63.99 325 *e*P **P** **17 53 43.1 -2.3**
VSR pmax pmax
comp=Z,8.0nm,1.1s
MNTX Cornudas Mount 64.32 71 *e*P **P** **17 53 50.5 +2.5**
comp=Z,3.0nm,0.9s
WMOK Wichita Mounta 65.36 64 *e*P **P** **17 53 56.3 +1.6**
comp=Z,5.0nm,1.0s
WMOK Wichita Mounta 65.36 64 P **P** **17 53 56.3 +1.6**
WMOK pmax pmax
comp=Z,5.0nm,1.0s
TX31 Lajitas Ar. Si 67.09 71 *e*P **P** **17 54 06.8 +0.9**
comp=Z,4.2nm,1.1s
TXAR Lajitas Array 67.09 71 *e*P **P** **17 54 07.1 +1.1**
TXAR Lajitas Array 67.09 71 P **P** **17 54 07.5 +1.6**
comp=Z,0.6nm,0.6s,baz=300,slow=5.1,SNR=6.3
TXAR LR LR 18 22 33.8
comp=Z,34nm,20.0s,baz=0.0,slow=35
AKASG Malin Array Be 67.38 331 *i*P **P** **17 54 07.1 -0.2**
AKASG pmax pmax

comp=Z,1.0nm,0.4s
AKASG Malin Array Be 67.38 331 P P 17 54 06.6 -0.8
comp=Z,0.7nm,0.4s,baz=31,slow=6.1,SNR=4.5
AKASG LR LR 18 24 45.8
comp=Z,45nm,21.3s,baz=25,slow=37
GEYT Alibeck 67.65 305 P P 17 54 09.5 +0.2
comp=Z,167nm,0.5s,baz=46,slow=4.2,SNR=4.7
GEYT LR LR 18 25 45.4
comp=Z,63nm,18.7s,baz=20,slow=38
KIV Kislovodsk 69.03 319 *e*P P 17 54 19.7 +1.8
KIV pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 69.15 319 P P 17 54 19.2 +0.7
comp=Z,2.3nm,0.9s,baz=332,slow=5.9,SNR=4.7
KBZ LR LR 18 29 16.9
comp=Z,55nm,19.1s,baz=52,slow=40
CLL Collm 70.47 342 *e*P P 17 54 27.0 +0.5
CLL Collm 70.47 342 *e*P P 17 54 27.0 +0.5
VYHS Vyhne 71.99 337 *e*P P 17 54 41.3 +5.5
VYHS Vyhne 71.99 337 *e*P P 17 54 41.3 +5.5
GERES GERESS Array B 72.70 340 P P 17 54 40.3 +0.2
comp=Z,0.6nm,0.6s,baz=35,slow=4.9,SNR=8.0
GERES LR LR 18 30 11.7
comp=Z,42nm,19.0s,baz=17,slow=39
BR101 Keskin Array S 75.95 323 *e*P P 17 54 59.3 +0.1
BRTR Keskin Array B 75.95 323 P P 17 54 59.3 +0.1
comp=Z,0.6nm,0.8s,baz=41,slow=5.4,SNR=3.5
BRTR LR LR 18 31 56.0
comp=Z,25nm,18.4s,baz=79,slow=39
WRA Warramunga Arr 79.93 209 P P 17 55 21.8 +0.6
comp=Z,0.5nm,0.8s,baz=20,slow=5.2,SNR=5.4
PPT Papeete 82.81 136 LR LR 18 30 59.6
comp=Z,96nm,18.1s,baz=316,slow=35
AS31 Alice Springs 83.59 208 *e*P P 17 55 40.9 +0.4
comp=Z,0.9nm,0.8s
ASAR Alice Springs 83.59 208 *e*P P 17 55 41.6 +1.1
ASAR Alice Springs 83.59 208 P P 17 55 41.2 +0.8
comp=Z,0.8nm,1.0s,baz=16,slow=5.4,SNR=4.7

*IDC **18** 18:05:43.5±1.6, 43.°46N×105.°17W, h0km, mb3.9/3, mb1 3.7/8, mb1mx3.5/48, mbtmp3.6/8, ML3.2/5, Error ellipse: s-maj=40.3km s-min=7.9km az=153.0*
*ISCJB **18** 18:05:44.1±0.3, 43.°79N±0.°02×105.°15W±0.°04, h0km, mb3.9/3, Error ellipse: s-maj=3.9km s-min=3.1km az=8.5*
*NEIC **18** 18:05:46.5±0.3, 43.°79N×105.°23W, h0km, ML3.4, Error ellipse: s-maj=3.8km s-min=3.4km az=97.0, Suspected Mining explosion.*
NEIC 60 km [37 miles] SSE of Gillette.
*ANF **18** 18:05:47.2±0.4, 43.°78N×105.°30W, ML3.7/10, Error ellipse: s-maj=5.3km s-min=3.4km az=115.0*
ISC 18 18:05:45.1±0.6, 43.°76N±0.°04×105.°16W±0.°06, h0km, n116, σ1§69/122, mb3.9/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.89**	**66**	*e*Pb	**Pn**	**18 06 06.0**	**+0.9**
RSSD	**Black Hills**	**0.89**	**66**	P	**Pn**	**18 06 05.7**	**+0.6**
	baz=249						
K22A	**Casper**	**1.49**	**222**	*e*Pn	**Pn**	**18 06 13.2**	**0.0**
K22A	**Casper**	**1.49**	**222**	P	**Pn**	**18 06 13.3**	**0.0**
	baz=39						
K22A				S	**Sn**	**18 06 34.9**	**+1.3**
	baz=39						
PHWY	**Pilot Hill**	**2.47**	**185**	*e*Pn	**Pn**	**18 06 29.7**	**+2.8**
RWWY	**Rawlins**	**2.56**	**217**	*e*Pn	**Pn**	**18 06 30.8**	**+2.7**
N23A	**Red Feather La**	**2.92**	**192**	*e*Pn	**Pn**	**18 06 36.0**	**+2.9**
N23A	**Red Feather La**	**2.92**	**192**	P	**Pn**	**18 06 36.1**	**+3.0**
	baz=10						
N23A				S	**Sb**	**18 07 13.4**	**-1.2**
	baz=10						
LAO	**LASA Array**	**3.02**	**346**	*e*Pn	**Pn**	**18 06 35.9**	**+1.7**
LAO	**LASA Array**	**3.02**	**346**	P	**Pn**	**18 06 35.7**	**+1.5**
	baz=166						
LAO				S	**Sn**	**18 07 13.7**	**+2.5**
	baz=166						
RLMT	**Red Lodge**	**3.24**	**296**	*e*Pn	**Pn**	**18 06 38.4**	**+1.0**
RLMT	**Red Lodge**	**3.24**	**296**	P	**Pn**	**18 06 38.5**	**+1.1**
	baz=114						
BW06	**Boulder Array**	**3.36**	**254**	*e*Pn	**Pn**	**18 06 39.8**	**+0.8**
BW06	**Boulder Array**	**3.36**	**254**	P	**Pn**	**18 06 40.4**	**+1.3**
	baz=71						
PD31	**Pinedale Array**	**3.36**	**254**	*e*Pn	**Pn**	**18 06 40.1**	**+1.0**
PDAR	**Pinedale Array**	**3.36**	**254**	Pn	**Pn**	**18 06 40.1**	**+1.0**
	2.4nm,0.3s,baz=69,slow=16,SNR=28						
PDAR				Lg	Lg	18 07 25.7	
	14nm,0.3s,baz=66,slow=30,SNR=14						
OGNE	**Ogallala**	**3.65**	**139**	*e*Pn	**Pn**	**18 06 47.0**	**+4.1**
GCMT	**Greycliff**	**3.79**	**304**	*e*Pn	**Pn**	**18 06 46.0**	**+1.0**
LKWY	**Lake**	**3.85**	**284**	*e*Pn	**Pn**	**18 06 46.6**	**+0.7**
LOHW	**Long Hollow**	**3.95**	**270**	*e*Pn	**Pn**	**18 06 48.5**	**+1.4**
H17A	**Grant Village**	**3.95**	**281**	*e*Pn	**Pn**	**18 06 48.9**	**+1.7**
ISCO	**Idaho Springs**	**3.97**	**185**	*e*Pn	**Pn**	**18 06 50.5**	**+3.0**
ISCO	**Idaho Springs**	**3.97**	**185**	P	**Pn**	**18 06 50.6**	**+3.0**
	baz=4.0						
ISCO				Sb	**Sg**	**18 07 50.8**	**-1.9**
	baz=4.0						
FLWY	**Flagg Ranch**	**4.01**	**276**	*e*Pn	**Pn**	**18 06 47.8**	**-0.2**
MOOW	**Moose Ponds**	**4.04**	**272**	*e*Pn	**Pn**	**18 06 52.1**	**+3.7**
SNOW	**Snow King Moun**	**4.07**	**268**	*e*Pn	**Pn**	**18 06 50.9**	**+2.0**
YNR	**Norris Junctio**	**4.08**	**285**	*e*Pn	**Pn**	**18 06 50.0**	**+1.0**
YPP	**Pitchstone Pla**	**4.10**	**279**	*e*Pn	**Pn**	**18 06 50.9**	**+1.6**
YFT	**Old Faithful**	**4.14**	**282**	*e*Pn	**Pn**	**18 06 50.5**	**+0.7**
REDW	**Red Top Meadow**	**4.15**	**266**	*e*Pn	**Pn**	**18 06 51.1**	**+1.1**
IMW	**Indian Meadow**	**4.18**	**274**	*e*Pn	**Pn**	**18 06 51.6**	**+1.2**
TPAW	**Teton Pass**	**4.21**	**268**	*e*Pn	**Pn**	**18 06 52.2**	**+1.5**
YHH	**Holmes Hill**	**4.21**	**286**	*e*Pn	**Pn**	**18 06 52.6**	**+1.8**
FXWY	**Fox Creek**	**4.25**	**270**	*e*Pn	**Pn**	**18 06 52.4**	**+1.0**
YMR	**Madison River**	**4.27**	**284**	*e*Pn	**Pn**	**18 06 52.3**	**+0.8**
O20A	**White River Ci**	**4.29**	**213**	*e*Pn	**Pn**	**18 06 54.0**	**+2.1**
O20A	**White River Ci**	**4.29**	**213**	P	**Pn**	**18 06 54.4**	**+2.6**
	baz=30						
YHB	**Horse Butte**	**4.45**	**285**	*e*Pn	**Pn**	**18 06 54.2**	**+0.2**
AHID	**Auburn Hatcher**	**4.45**	**259**	*e*Pn	**Pn**	**18 06 57.0**	**+3.1**
QLMT	**Earthquake Lak**	**4.62**	**286**	*e*Pn	**Pn**	**18 06 56.2**	**-0.2**
DGMT	**Dagmar**	**4.76**	**8**	*e*Pn	**Pn**	**18 06 58.8**	**+0.8**
SMCO	**Snowmass**	**4.78**	**197**	*e*Pn	**Pn**	**18 07 00.4**	**+1.7**
Q24A	**Divide**	**4.79**	**180**	*e*Pn	**Pn**	**18 07 00.5**	**+1.7**
BOZ	**Bozeman (W)**	**4.96**	**294**	*e*Pn	**Pn**	**18 07 01.5**	**+0.5**
KSCO	**Kaye Shedlock'**	**5.12**	**157**	*e*Pn	**Pn**	**18 07 05.5**	**+2.4**
KSCO	**Kaye Shedlock'**	**5.12**	**157**	P	**Pn**	**18 07 06.0**	**+2.9**
	baz=339						
HWUT	**Hardware Ranch**	**5.19**	**248**	*e*Pn	**Pn**	**18 07 05.3**	**+1.2**
TCUT	**Toone Canyon**	**5.32**	**242**	*e*Pn	**Pn**	**18 07 07.7**	**+1.7**
EGMT	**Eagleton**	**5.33**	**325**	*e*Pn	**Pn**	**18 07 06.7**	**+0.7**
EGMT	**Eagleton**	**5.33**	**325**	P	**Pn**	**18 07 06.7**	**+0.7**
	baz=142						
DLMT	**Dillon**	**5.55**	**289**	*e*Pn	**Pn**	**18 07 11.1**	**+2.1**
HRY	**Holter Researc**	**5.55**	**304**	*e*Pn	**Pn**	**18 07 10.1**	**+1.0**
LRM	**Limekiln Ridge**	**5.58**	**294**	*e*Pn	**Pn**	**18 07 13.3**	**+3.7**
MCMT	**McKenzie Canyo**	**5.62**	**284**	*e*Pn	**Pn**	**18 07 08.1**	**-2.0**
JLU	**Jordanelle**	**5.64**	**238**	*e*Pn	**Pn**	**18 07 08.8**	**-1.6**
MDND	**Maddock**	**5.64**	**42**	*e*Pn	**Pn**	**18 07 11.4**	**+1.3**
BGNE	**Belgrade**	**5.69**	**112**	*e*Pn	**Pn**	**18 07 13.4**	**+2.6**
CTU	**Camp Tracy**	**5.77**	**240**	*e*Pn	**Pn**	**18 07 11.2**	**-1.0**
PV22	**Blue Mesa, Par**	**5.89**	**209**	*e*Pn	**Pn**	**18 07 16.1**	**+2.3**
PV07	**Paradox Valley**	**5.93**	**207**	*e*Pn	**Pn**	**18 07 13.3**	**-1.1**
PV21	**Cone Mtn., Par**	**5.94**	**210**	*e*Pn	**Pn**	**18 07 15.2**	**+0.7**
HVU	**Hansel Valley**	**5.94**	**253**	*e*Pn	**Pn**	**18 07 14.2**	**-0.3**
P17A	**Butcher Ranch,**	**5.99**	**226**	*e*Pn	**Pn**	**18 07 17.8**	**+2.7**
PV23	**Carpenter Ridg**	**6.05**	**210**	*e*Pn	**Pn**	**18 07 17.5**	**+1.5**
PV09	**Paradox Valley**	**6.05**	**211**	*e*Pn	**Pn**	**18 07 17.4**	**+1.3**
PV04	**Paradox Valley**	**6.06**	**209**	*e*Pn	**Pn**	**18 07 17.4**	**+1.2**
PV12	**Saucer Basin,**	**6.09**	**208**	*e*Pn	**Pn**	**18 07 19.5**	**+2.9**
MPU	**Maple Canyon**	**6.11**	**234**	*e*Pn	**Pn**	**18 07 14.9**	**-1.9**
PV14	**Lion Creek, Pa**	**6.12**	**210**	*e*Pn	**Pn**	**18 07 16.7**	**-0.3**
PV10	**Paradox Valley**	**6.13**	**210**	*e*Pn	**Pn**	**18 07 19.7**	**+2.6**
PV20	**West Nyswonger**	**6.13**	**209**	*e*Pn	**Pn**	**18 07 15.6**	**-1.5**
PV11	**David Mesa, Pa**	**6.14**	**208**	*e*Pn	**Pn**	**18 07 17.3**	**+0.1**
PV16	**Nyswonger Mesa**	**6.14**	**209**	*e*Pn	**Pn**	**18 07 18.0**	**+0.8**
S22A	**4UR Ranch, Cre**	**6.14**	**192**	*e*Pn	**Pn**	**18 07 18.3**	**+1.0**
SRU	**San Rafael Swe**	**6.15**	**223**	*e*Pn	**Pn**	**18 07 17.8**	**+0.4**
PV19	**Morning Glory**	**6.17**	**209**	*e*Pn	**Pn**	**18 07 18.9**	**+1.3**
PV03	**Paradox Valley**	**6.17**	**208**	*e*Pn	**Pn**	**18 07 19.5**	**+1.9**
PV02	**Paradox Valley**	**6.17**	**207**	*e*Pn	**Pn**	**18 07 18.6**	**+1.0**
PV17	**East Wray Mesa**	**6.18**	**209**	*e*Pn	**Pn**	**18 07 19.1**	**+1.2**
PV01	**Paradox Valley**	**6.18**	**206**	*e*Pn	**Pn**	**18 07 19.8**	**+2.0**
ECSD	**EROS Data Cent**	**6.19**	**87**	*e*Pn	**Pn**	**18 07 21.3**	**+3.5**
PV18	**Skein Mesa, Pa**	**6.20**	**208**	*e*Pn	**Pn**	**18 07 20.3**	**+2.3**
PV13	**Radium Mtn., P**	**6.24**	**208**	*e*Pn	**Pn**	**18 07 20.6**	**+1.9**
TMUT	**Trail Mountain**	**6.36**	**228**	*e*Pn	**Pn**	**18 07 21.8**	**+1.4**
NLU	**North Lily Min**	**6.41**	**236**	*e*Pn	**Pn**	**18 07 21.1**	**+0.1**
CBKS	**Cedar Bluff**	**6.41**	**139**	*e*Pn	**Pn**	**18 07 23.2**	**+2.4**
PV05	**Paradox Valley**	**6.41**	**209**	*e*Pn	**Pn**	**18 07 20.4**	**-0.6**
Q16A	**Castle Valley**	**6.62**	**225**	*e*Pn	**Pn**	**18 07 24.2**	**+0.4**
T25A	**Trinidad**	**6.64**	**175**	*e*Pn	**Pn**	**18 07 25.3**	**+1.1**
HLID	**Hailey**	**6.71**	**271**	*e*Pn	**Pn**	**18 07 24.4**	**-0.7**
DUG	**Dugway, Tooele**	**6.72**	**241**	*e*Pn	**Pn**	**18 07 24.9**	**-0.3**
MSO	**Missoula**	**6.91**	**299**	*e*Pn	**Pn**	**18 07 27.1**	**-0.5**
MVCO	**Mesa Verde**	**7.02**	**202**	*e*Pn	**Pn**	**18 07 30.0**	**+0.7**
MSU	**Marysvale**	**7.45**	**228**	*e*Pn	**Pn**	**18 07 35.9**	**+0.7**
TCRU	**Three Creeks R**	**7.53**	**229**	*e*Pn	**Pn**	**18 07 36.4**	**+0.1**
AGMN	**Agassiz Nation**	**7.90**	**52**	*e*Pn	**Pn**	**18 07 42.3**	**+1.1**
WALA	**Waterton Lakes**	**8.04**	**314**	*e*Pn	**Pn**	**18 07 43.0**	**-0.1**
ULM	**Lac du Bonnet**	**9.07**	**41**	*e*Pn	**Pn**	**18 07 57.5**	**+0.4**
ULM				Pg		18 08 30.4	
ULM				Sn	**Sn**	**18 09 37.8**	**-2.2**
ULM				Lg	Lg	18 10 26.6	
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**18 07 56.6**	**-0.5**
	0.8nm,0.3s,baz=233,slow=10,SNR=10						
ULM				Pg		18 08 30.4	
	0.4nm,0.3s,baz=236,slow=18,SNR=2.8						
ULM				Sn	**Sn**	**18 09 37.8**	**-2.2**
	0.4nm,0.3s,baz=150,slow=20,SNR=1.7						
ULM				Lg	Lg	18 10 26.6	
	0.3nm,0.3s,baz=323,slow=20,SNR=2.6						
WUAZ	**Wupatki**	**9.52**	**212**	*e*Pn	**Pn**	**18 08 03.6**	**+0.1**
I39A	**Houston**	**9.86**	**85**	*e*Pn	**Pn**	**18 08 08.8**	**+0.7**
I07A	**Izee**	**10.36**	**277**	*e*Pn	**Pn**	**18 08 13.4**	**-1.5**
FFC	**Flin Flon**	**11.17**	**10**	*e*Pn	**Pn**	**18 08 25.6**	**-0.3**
NVAR	**Mina Array Bea**	**11.25**	**246**	Pn	**Pn**	**18 08 27.0**	**-0.3**
	0.0nm,0.3s,baz=50,slow=11,SNR=2.2						
MDPB	**Devils Postpil**	**12.20**	**245**	*e*Pn	**Pn**	**18 08 39.2**	**-1.1**
YBH	**Yreka Blue Hor**	**13.06**	**267**	Pn	**Pn**	**18 08 53.7**	**+1.9**
	0.1nm,0.3s,baz=151,slow=8.1,SNR=4.6						
BFSC	**Mount Baldy Ra**	**13.58**	**230**	*e*Pn	**Pn**	**18 09 00.9**	**+1.8**
KHMM	**Horse Mountain**	**14.04**	**265**	*e*Pn	**Pn**	**18 09 04.5**	**-0.8**
YKA	**Yellowknife Ar**	**19.56**	**347**	P	**P**	**18 10 14.5**	**+0.4**
	0.1nm,0.3s,baz=160,slow=12,SNR=3.1						
YKB5	**Yellowknife Ar**	**19.56**	**347**	*e*P	**P**	**18 10 14.6**	**+0.4**
ARA0	**ARCESS Array S**	**61.37**	**18**	*e*P	**P**	**18 16 03.0**	**+0.8**
ARCES	**ARCESS Array B**	**61.37**	**18**	P	**P**	**18 16 03.0**	**+0.8**
	1.1nm,0.8s,baz=331,slow=7.2,SNR=4.5						
MK32	**Makanchi Array**	**89.59**	**355**	*e*P	**P**	**18 18 44.5**	**+0.1**
MKAR	**Makanchi Array**	**89.59**	**355**	P	**P**	**18 18 44.5**	**+0.1**
	0.5nm,0.7s,baz=358,slow=4.7,SNR=6.9						
TOA1	**Torodi Ar. Sit**	**92.80**	**69**	*e*P	**P**	**18 18 57.1**	**-2.6**
TORD	**Torodi Ar. Bea**	**92.80**	**69**	P	**P**	**18 18 57.1**	**-2.7**
	0.2nm,0.5s,baz=320,slow=3.8,SNR=2.7						

*PGC **18** 18:33:21.8±6.9, 67.°81N×140.°83W, h1km, ML2.6/2, 274km west of Fort McPherson, Nt Northern Yukon Territory, Canada*
NEIC 18 18:33:20.5±0.0, 68.°04N×140.°91W, h10km, ML2.6(OTT), ML2.7(AEIC), After AEIC., Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM05	**Burnt Mountain**	**1.53**	**248**	*e*Pn	Pn	18 33 48.1	+0.2
FYU	**Fort Yukon**	**2.23**	**231**	*e*Pn	Pn	18 33 58.7	+1.1
FYU				*e*Sn	Sn	18 34 26.8	+1.6
EPYK	**Eagle Plains**	**2.34**	**134**	*e*Pn	Pn	18 33 59.2	+0.2
INK	**Inuvik**	**2.77**	**81**	*e*Pn	Pn	18 34 07.5	+2.5
INK				*e*Sn	Sn	18 34 40.8	+2.3
INK	**Inuvik**	**2.77**	**81**	Pn	Pn	18 34 07.3	+2.4
INK				Sn	Sb	18 34 42.5	-1.6
PRP	**Porcupine Dome**	**3.12**	**218**	*e*Pn	Pn	18 34 09.3	-0.6
TOLK	**Toolik Lake Re**	**3.27**	**285**	*e*Pn	Pn	18 34 12.1	+0.3
EGAK	**Eagle**	**3.27**	**182**	*e*Pn	Pn	18 34 14.2	+2.3
PS01	**TAPS Pump Stn**	**3.54**	**313**	*e*Pn	Pn	18 34 16.0	+0.5
COLD	**Coldfoot**	**3.65**	**261**	*e*Pn	Pn	18 34 17.7	+0.8
COLD	**Coldfoot**	**3.65**	**261**	Pn	Pn	18 34 19.6	+2.7
COLD				Sg	Sg	18 35 14.5	-2.9
DAWY	**Dawson**	**4.04**	**170**	*e*Pn	Pn	18 34 20.8	-1.6
DAWY	**Dawson**	**4.04**	**170**	Pn	Pn	18 34 20.5	-1.9
DAWY				Sn	Sn	18 35 04.3	-5.4
DAWY				Sg	Sb	18 35 20.8	+0.3
ILAR	**Eielson Array**	**4.06**	**219**	*e*Pn	Pn	18 34 20.3	-2.5
ILB	**Eielson Array**	**4.06**	**219**	*e*Pn	Pn	18 34 22.0	-0.7
COLA	**College**	**4.22**	**225**	*e*Pn	Pn	18 34 21.1	-3.8
MDM	**Murphy Dome**	**4.26**	**227**	*e*Pn	Pn	18 34 25.9	+0.5
SCRK	**Sand Creek**	**4.27**	**199**	*e*Pn	Pn	18 34 24.3	-1.3
HDA	**Harding Lake**	**4.39**	**217**	*e*Pn	Pn	18 34 27.1	0.0
CCB	**Clear Creek Bu**	**4.39**	**222**	*e*Pn	Pn	18 34 24.5	-2.7
DOT	**Dot Lake**	**4.59**	**198**	*e*Pn	Pn	18 34 28.5	-1.5
RIDG	**Independent Ri**	**4.61**	**202**	*e*Pn	Pn	18 34 28.8	-1.4
WRH	**Wood River Hil**	**4.61**	**222**	*e*Pn	Pn	18 34 29.9	-0.3
MLY	**Manley**	**4.95**	**237**	*e*Pn	Pn	18 34 34.9	0.0
BCA3	**Beaver Creek A**	**5.01**	**185**	*e*Pn	Pn	18 34 34.2	-1.5
BCAR	**Beaver Creek A**	**5.01**	**185**	*e*Pn	Pn	18 34 32.0	-3.7
BWN	**Browne**	**5.21**	**226**	*e*Pn	Pn	18 34 37.3	-1.2
MCK	**McKinley**	**5.43**	**221**	*e*Pn	Pn	18 34 41.8	+0.3
PAX	**Paxson**	**5.43**	**203**	*e*Pn	Pn	18 34 41.5	0.0
PAX	**Paxson**	**5.43**	**203**	Sn	Sn	18 35 39.5	-4.5
PAX				Sg	Sb	18 36 05.3	+4.7
IM3	**Indian Mountai**	**5.44**	**254**	*e*Pn	Pn	18 34 41.8	+0.3
IMAR	**Indian Mountai**	**5.44**	**254**	*e*Pn	Pn	18 34 38.4	-3.1
BPAW	**Bear Paw Mtn.**	**5.69**	**231**	*e*Pn	Pn	18 34 40.6	-4.5
HARP	**HAARP**	**5.93**	**200**	*e*Pn	Pn	18 34 48.6	+0.3
YUK2	**White River**	**6.28**	**180**	Sg	Sb	18 34 30.7	+5.8
CAST	**Castle Rocks**	**6.53**	**230**	*e*Pn	Pn	18 34 54.9	-1.7
SCM	**Sheep Creek Mo**	**6.79**	**207**	*e*Pn	Pn	18 34 58.5	-1.8
KLU	**Klutina**	**6.91**	**200**	*e*Pn	Pn	18 34 58.2	-3.6
PPLA	**Purkeypile**	**6.97**	**228**	*e*Pn	Pn	18 34 59.2	-3.5
SML	**Sawmill**	**7.00**	**210**	*e*Pn	Pn	18 35 02.4	-0.7
BALM	**Baldy**	**7.06**	**186**	*e*Pn	Pn	18 35 01.8	-2.1
GHO	**Glory Hole Cre**	**7.15**	**212**	*e*Pn	Pn	18 35 02.6	-2.5
DHRN	**Dharma Camp**	**8.24**	**87**	Pn	Pn	18 35 20.8	+0.8
DHRN				Sn	Sn	18 36 48.7	-4.3
KUKN	**Kugluktuk,NWT**	**9.69**	**79**	Pn	Pn	18 35 38.9	-0.9
KUKN				Sn	Sn	18 37 21.7	-6.8
YKW3	**Yellowknife Ar**	**12.21**	**104**	Sn	Sn	18 38 17.3	-13

IDC 18 18:34:14.8±27.0, 17.°80S×177.°43W, h569km±240km, mb3.1/4, mb1 3.2/4, mb1mx2.7/27, mbtmp4.0/4, Error ellipse: s-maj=264.8km s-min=36.7km az=37.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.93**	**192**	P	P	18 38 18.1	-0.1
	5.9nm,0.8s,baz=30,slow=16,SNR=4.0						
STKA	**Stephens Creek**	**39.50**	**241**	P	P	18 40 57.2	0.0
	1.6nm,0.7s,baz=61,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**45.57**	**259**	P	P	18 41 44.5	-0.3
	0.5nm,0.3s,baz=97,slow=7.2,SNR=19						
ASAR	**Alice Springs**	**45.72**	**254**	P	P	18 41 45.9	-0.1
	1.3nm,0.5s,baz=92,slow=8.0,SNR=66						
ASAR				PcP	PcP	18 43 11.6	-0.3
	0.2nm,0.8s,baz=92,slow=5.8,SNR=3.4						

*NEIC **18** 18:43:49.0±0.0, 19.°45N×66.°27W, h60km, MD3.3(RSPR), After RSPR.*
RSPR 18 18:43:49.0, 19.°45N×66.°27W, h60km±9km, MD3.2/6, 3C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.00**	**194**	*e*Pn	Pn	18 44 06.2	-0.7
AOPR	**Arecibo Observ**	**1.19**	**203**	*e*Pn	Pn	18 44 07.8	-1.7
AOPR				*e*Sn	Sn	18 44 20.5	-4.3
CBYP	**Canovanas**	**1.23**	**162**	*e*S	Sn	18 44 25.0	-0.9
CBYP	**Canovanas**	**1.23**	**162**‖	*e*P	Pn	18 44 09.4	-0.7
CBYP	**Canovanas**	**1.23**	**162**	*e*Pn	Pn	18 44 08.8	-1.4
CBYP				*e*Pn	Pn	18 44 09.4	-0.7
CBYP				*e*Sn	Sn	18 44 25.0	-0.9
CBYP				*e*Sn	Sn	18 44 25.0	-0.9
AGP	**Aguadilla**	**1.32**	**219**	*e*Pn	Pn	18 44 08.6	-2.7
SJG	**San Juan**	**1.33**	**175**	*e*Pn	Pn	18 44 09.5	-1.9
HUMP	**Col San Antoni**	**1.36**	**163**⇑	*e*P	Pn	18 44 10.8	-1.0
HUMP	**Col San Antoni**	**1.36**	**163**	*e*S	Sn	18 44 26.5	-2.2
HUMP	**Col San Antoni**	**1.36**	**163**	*e*Pn	Pn	18 44 10.9	-0.8
CELP	**Cerrillos**	**1.40**	**192**⇑	*e*P	Pn	18 44 11.5	-0.8
CELP	**Cerrillos**	**1.40**	**192**	*e*Pn	Pn	18 44 11.5	-0.8
OBIP	**Obispado Ponce**	**1.43**	**193**	*e*Pn	Pn	18 44 11.1	-1.6
CUPR	**Culebra, Puert**	**1.47**	**140**	*e*Pn	Pn	18 44 12.7	-0.5
MPR	**Mayaguez**	**1.48**	**214**	*e*Pn	Pn	18 44 12.1	-1.3
LSP	**Las Mesas**	**1.48**	**212**‖	*e*P	Pn	18 44 12.4	-1.0
LSP	**Las Mesas**	**1.48**	**212**	*e*Pn	Pn	18 44 12.4	-1.0
MTP	**Monte Pirata**	**1.50**	**153**⇑	*e*P	Pn	18 44 13.1	-0.6
MTP	**Monte Pirata**	**1.50**	**153**	*e*S	Sn	18 44 31.6	-0.8
MTP	**Monte Pirata**	**1.50**	**153**	*e*Pn	Pn	18 44 13.6	-0.1
STVI	**Saint Thomas**	**1.65**	**131**	*e*Pn	Pn	18 44 13.1	-2.6
SDDR	**Presa de Saban**	**4.77**	**265**	*e*Pn	Pn	18 44 58.8	+0.5

IDC 18 18:45:14.9±4.9, 5.°81S×132.°24E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.3/27, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=323.8km s-min=32.1km az=74.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.20**	**172**	Pn	Pn	18 48 36.6	-0.8
	0.3nm,0.3s,baz=352,slow=14,SNR=22						
WRA				Sn	Sn	18 51 02.9	-13
	0.2nm,0.3s,baz=343,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**17.83**	**175**	P	P	18 49 25.1	-0.3
	0.2nm,0.3s,baz=349,slow=8.6,SNR=20						
ASAR				S	Sn	18 52 28.3	-16
	0.0nm,0.3s,baz=354,slow=29,SNR=4.1						
MKAR	**Makanchi Array**	**68.48**	**326**	P	P	18 56 19.1	0.0
	0.2nm,0.4s,baz=118,slow=5.9,SNR=4.8						

SJA 18 18:47:58.7±0.5, 25.°99S×67.°75W, h110km±110km, ML2.6, MW3.7, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**3.49**	**38**	*i* P	Pn	18 48 53.4	+1.8
HJA				IAML		18 48 58.5	
	comp=Z,12nm,0.2s						
LVC	**Limon Verde**	**3.52**	**342**	*i* P	Pn	18 48 53.7	+1.6
PB10	**IPOC Station P**	**3.55**	**313**	*i* P	Pn	18 48 53.4	+1.4
PB10				*i* S	Sn	18 49 33.5	+0.3
PB05	**IPOC Station P**	**3.84**	**324**	*i* P	Pn	18 48 57.0	+1.0
PB05				*i* S	Sn	18 49 40.6	+0.2

MAN 18 18:50:22.7, 6.°29N×123.°90E, h6km, mb4.0, ML2.4, MS2.4, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.68**	**70**	*e*P	Pg	18 50 35.8	-0.1
SKMP				*e*S	Sg	18 50 44.3	-0.5
CTBH	**Cotabato--PC H**	**0.99**	**20**⇓	*i* P	Pg	18 50 42.0	+0.2
CTBH				*i* S	Sg	18 50 55.0	+0.3
PAGZ	**Pagadian**	**1.64**	**342**	*e*P	Pn	18 50 51.9	-0.1
PAGZ				*e*S	Sn	18 51 13.3	-0.1
DDMP	**Don Marcelino,**	**1.81**	**96**	*e*P	Pn	18 50 54.5	0.0
DDMP				*

1.4nm,0.7s,baz=27,slow=8.1,SNR=3.5
PDAR Pinedale Array 57.30 57 P **P 19 04 07.0 +1.0**
0.6nm,0.6s,baz=34,slow=2.0,SNR=5.4
GERES GERESS Array B 57.71 323 P **P 19 04 08.9 +0.3**
0.4nm,0.8s,baz=12,slow=7.4,SNR=3.7
BRTR Keskin Array B 60.59 303 P **P 19 04 25.9 -2.7**
0.5nm,0.8s,baz=90,slow=2.5,SNR=3.9
TXAR Lajitas Array 71.48 58 P **P 19 05 40.0 +1.3**
0.1nm,0.3s,baz=325,slow=1.4,SNR=2.2

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*IDC **18** 19:00:23.3±6.0,29°.53S×178°.97W,h326km±48km,mb2.8/2, mb1 3.3/4,mb1mx3.0/35,mbtmp4.0/4,Error ellipse: s-maj=60.4km s-min=34.6km az=53.0*
ISC 18 19:00:21.3±1.0,29°.47S±0°.09×178°.8W±0°.1,h300km,n52, σ1§25/57,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.79**	**74**	P	**Pn**	**19 01 02.4**	**+1.6**
GLKZ	**Green Lake**	**0.80**	**75**	P	**Pn**	**19 01 03.0**	**+2.2**
GLKZ				S	**S**	**19 01 33.4**	**+1.2**
WMGZ	**Waiomatatini S**	**8.65**	**195**	P	**Pn**	**19 02 22.4**	**-0.3**
WCZ	**Waipu Caves**	**8.66**	**220**	P	**P**	**19 02 29.3**	**+1.3**
HAZ	**Te Kaha**	**8.74**	**198**	P	**Pn**	**19 02 24.6**	**+0.7**
PKGZ	**Pakihiroa**	**8.79**	**196**	P	**Pn**	**19 02 24.8**	**+0.2**
PKGZ				S	**S**	**19 04 06.4**	**+1.6**
PUZ	**Puketiti**	**8.93**	**195**	P	**Pn**	**19 02 25.3**	**-0.9**
RUGZ	**Raukumara Rang**	**8.97**	**198**	P	**Pn**	**19 02 27.1**	**+0.3**
MKAZ	**Moumakai**	**9.14**	**212**	P	**P**	**19 02 33.3**	**0.0**
MWZ	**Matawai**	**9.36**	**198**	P	**Pn**	**19 02 31.6**	**+0.2**
TKGZ	**Te Karaka**	**9.37**	**196**	P	**P**	**19 02 34.8**	**-1.1**
URZ	**Urewera**	**9.40**	**200**	P	**Pn**	**19 02 33.4**	**+1.4**
URZ	1.5nm,0.3s,baz=346,slow=12,SNR=21			S	**S**	**19 04 16.7**	**-1.7**
	1.8nm,0.3s,baz=88,slow=24,SNR=11						
URZ	**Urewera**	**9.40**	**200**	P	**Pn**	**19 02 31.6**	**-0.4**
URZ				S	**S**	**19 04 19.0**	**+0.6**
RIGZ	**Rimuhau**	**9.64**	**196**	P	**P**	**19 02 37.3**	**-1.7**
MUGZ	**Murupara**	**9.71**	**201**	P	**P**	**19 02 37.9**	**-1.7**
MUGZ				S	**S**	**19 04 26.2**	**+0.8**
PRGZ	**Paritu Road**	**9.82**	**195**	P	**P**	**19 02 41.3**	**+0.3**
SNGZ	**Shannon Statio**	**9.82**	**198**	P	**Pn**	**19 02 36.9**	**-0.4**
KNZ	**Kokohu**	**9.97**	**196**	P	**P**	**19 02 41.0**	**-1.5**
RAHZ	**Arahi**	**10.02**	**199**	P	**Pn**	**19 02 40.9**	**+1.3**
MTHZ	**Maungataniwha**	**10.03**	**200**	P	**P**	**19 02 41.7**	**-1.6**
MHGZ	**Mahia Peninsul**	**10.04**	**195**	P	**P**	**19 02 42.7**	**-0.6**
MRHZ	**Matea Rd**	**10.15**	**202**	P	**P**	**19 02 43.2**	**-1.4**
NMHZ	**Naumai**	**10.27**	**200**	P	**P**	**19 02 45.1**	**-0.9**
ARHZ	**Aropaoanui**	**10.37**	**198**	P	**Pn**	**19 02 44.4**	**+0.6**
BKZ	**Black Stump Fm**	**10.43**	**201**	P	**Pn**	**19 02 43.9**	**-0.7**
HIZ	**Hauiti**	**10.44**	**209**	P	**P**	**19 02 50.4**	**+2.5**
MCHZ	**McNeill Hill**	**10.62**	**199**	P	**P**	**19 02 49.9**	**+0.1**
KWHZ	**Kaweka Forest**	**10.69**	**200**	P	**P**	**19 02 49.2**	**-1.4**
BHHZ	**Black Hill Sta**	**10.86**	**202**	P	**Pn**	**19 02 48.4**	**-1.5**
MOVZ	**Moawhango**	**10.88**	**203**	P	**P**	**19 02 51.7**	**-1.1**
KAHZ	**Kahuranaki**	**10.90**	**198**	P	**P**	**19 02 52.1**	**-0.8**
KRHZ	**Kereru**	**10.90**	**200**	P	**Pn**	**19 02 50.4**	**0.0**
PXZ	**Pawanui**	**11.12**	**198**	P	**Pn**	**19 02 53.6**	**+0.6**
PNHZ	**Pukenui**	**11.20**	**200**	P	**P**	**19 02 55.4**	**-0.9**
PRHZ	**Porangahau**	**11.40**	**198**	P	**P**	**19 02 57.9**	**-0.6**
LREZ	**Lake Rotokare**	**11.43**	**208**	P	P	19 03 04.2	+5.4
DVHZ	**Dannevirke**	**11.57**	**200**	P	**P**	**19 02 59.9**	**-0.4**
KIW	**Kapiti Island**	**12.47**	**203**	P	**P**	**19 03 10.5**	**+0.1**
CAW	**Cannon Point**	**12.64**	**202**	P	**Pn**	**19 03 11.6**	**+0.1**
DUWZ	**D'Urville Isla**	**12.77**	**206**	P	**P**	**19 03 14.4**	**+0.7**
TCW	**Tory Channel**	**13.00**	**204**	P	**P**	**19 03 16.4**	**+0.2**
TUWZ	**Tuamarina**	**13.31**	**204**	P	**Pn**	**19 03 19.7**	**+0.1**
NNZ	**Nelson**	**13.34**	**206**	P	**P**	**19 03 20.3**	**+0.4**
QRZ	**Quartz Range**	**13.36**	**210**	P	**Pn**	**19 03 23.1**	**+2.9**
THZ	**Tophouse**	**13.99**	**207**	P	**Pn**	**19 03 28.3**	**+0.6**
KHZ	**Kahutara**	**14.32**	**204**	P	**Pn**	**19 03 31.8**	**+0.3**
DZM	**Mont Dzumac**	**15.19**	**296**	P	**P**	**19 03 40.3**	**-0.3**
	0.6nm,0.3s,baz=125,slow=19,SNR=17						
INZ	**Inchbonnie**	**15.38**	**208**	P	**Pn**	**19 03 46.2**	**+2.1**
OXZ	**Oxford**	**15.66**	**205**	P	**Pn**	**19 03 50.0**	**+2.7**
ASAR	**Alice Springs**	**42.47**	**266**	P	**P**	**19 07 46.1**	**-1.7**
	0.3nm,0.5s,baz=102,slow=6.6,SNR=17						
ASAR				PcP	**PcP**	**19 09 34.0**	**-0.6**
	0.4nm,0.9s,baz=108,slow=5.0,SNR=2.7						
WRA	**Warramunga Arr**	**43.37**	**272**	P	**P**	**19 07 52.9**	**-2.1**
	0.5nm,0.6s,baz=109,slow=7.3,SNR=8.1						
FINES	**FINESS Array B**	**144.03**	**340**	PKP	**PKPab**	**19 19 17.4**	**-1.5**
	0.6nm,0.5s,baz=42,slow=4.3,SNR=4.2						

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*ISCJB **18** 19:05:46.9±0.7,23°.7S±0°.1×179°.7E±0°.1,h548km,mb3.6/7, Error ellipse: s-maj=17.0km s-min=15.4km az=26.2*
*IDC **18** 19:05:46.6±2.1,23°.63S×179°.73E,h531km±23km,mb3.2/8, mb1 3.4/11,mb1mx3.2/37,mbtmp4.1/11,Error ellipse: s-maj=21.7km s-min=16.7km az=173.0*
ISC 18 19:05:47.8±0.7,23°.7S±0°.1×179°.7E±0°.1,h548km,n20, σ1§22/19,mb3.8/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.30**	**275**	P	**P**	**19 08 28.3**	**-1.3**
	0.1nm,0.3s,baz=252,slow=20,SNR=2.6						
URZ	**Urewera**	**14.64**	**188**	P	**P**	**19 08 52.0**	**-1.4**
	1.3nm,0.3s,baz=45,slow=1.4,SNR=7.1						
RAR	**Rarotonga**	**19.16**	**86**	P	**P**	**19 09 36.5**	**+0.1**
	1.8nm,0.3s,baz=148,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**41.76**	**261**	P	**P**	**19 12 50.3**	**+0.6**
	1.9nm,0.7s,baz=96,slow=7.3,SNR=42						
ASAR				ScP	**ScP**	**19 17 34.2**	**+2.8**
	0.4nm,0.8s,baz=108,slow=2.9,SNR=4.0						
WRA	**Warramunga Arr**	**42.11**	**266**	P	**P**	**19 12 52.8**	**+0.3**
	2.2nm,0.4s,baz=98,slow=8.4,SNR=45						
VNDA	**Vanda**	**54.51**	**185**	P	**P**	**19 14 24.8**	**+1.1**
	0.6nm,0.8s,baz=14,slow=7.3,SNR=4.0						
MJAR	**Matsushiro Arr**	**71.59**	**326**	P	**P**	**19 16 13.5**	**-0.4**
	2.2nm,0.8s,baz=169,slow=5.2,SNR=11						
MAT	**Matsushiro**	**71.60**	**326**	P	**P**	**19 16 12.5**	**-1.5**
KSRS	**Korea Array**	**77.93**	**320**	P	**P**	**19 16 50.9**	**+1.6**
	1.0nm,0.7s,baz=148,slow=5.6,SNR=4.2						
PETK	**Petropavlovsk-**	**78.88**	**347**	P	**P**	**19 16 53.6**	**-0.5**
	2.0nm,0.6s,baz=123,slow=7.4,SNR=4.6						
CMAR	**Chiang Mai Arr**	**89.19**	**290**	P	**P**	**19 17 47.7**	**+1.9**
	1.1nm,0.9s,baz=158,slow=3.5,SNR=6.5						
KURBB	**Kurchatov Arra**	**114.92**	**316**	PKP	PKPdf	19 23 24.9	-1.3
	0.4nm,0.7s,baz=99,slow=1.3,SNR=4.1						
BVAR	**Borovoye Array**	**120.12**	**319**	PKP	**PKPdf**	**19 23 35.3**	**-0.9**
	0.5nm,0.4s,baz=100,slow=3.4,SNR=3.6						
ARCES	**ARCESS Array B**	**137.48**	**348**	PKP	**PKPdf**	**19 23 57.7**	**-0.1**
	4.3nm,1.1s,baz=64,slow=2.1,SNR=4.0						
FINES	**FINESS Array B**	**138.20**	**341**	PKhKP	PKPpre	19 24 01.1	
	2.6nm,1.1s,baz=117,slow=1.9,SNR=3.8						
FINES				PKP	**PKPdf**	**19 24 10.3**	**+0.2**
	3.1nm,1.1s,baz=202,slow=1.0,SNR=5.1						
HFS	**Hagfors**	**142.33**	**349**	PKhKP	PKPpre	19 24 12.9	
	2.7nm,0.4s,baz=64,slow=3.4,SNR=27						
AKASG	**Malin Array Be**	**144.67**	**327**	PKP	**PKPdf**	**19 24 20.9**	**-1.0**
	1.3nm,0.5s,baz=44,slow=4.5,SNR=17						
BRTR	**Keskin Array B**	**147.24**	**307**	PKPbc	**PKPbc**	**19 24 29.6**	**-0.5**
	0.8nm,0.6s,baz=154,slow=7.5,SNR=4.0						
MLR	**Muntele Rosu**	**149.60**	**322**	PKPbc	**PKPbc**	**19 24 35.6**	**-0.2**
	0.6nm,0.4s,baz=0.0,slow=1.0,SNR=3.6						
BRG	**Berggiesshubel**	**150.74**	**341**	*i* PKP	**PKPbc**	**19 24 37.8**	**-0.3**
	6.1nm,1.3s						

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*KRSC **18** 19:06:34.1±10.0,51°.96N×160°.87E,h51km±10km,ML4.6*
*ISCJB **18** 19:06:37.2±0.6,52°.02N±0°.04×160°.75E±0°.05,h37km±4km, mb4.2/41,MS3.4/8,Error ellipse: s-maj=6.6km s-min=4.4km az=143.8*
*NEIC **18** 19:06:37.3±1.9,52°.21N×160°.61E,h15km±5km,mb4.4/23, Error ellipse: s-maj=17.1km s-min=3.3km az=193.0*
*MOS **18** 19:06:37.1±1.0,52°.02N×160°.69E,h38km,mb4.5/9,Error ellipse: s-maj=8.0km s-min=4.3km az=105.2*
*IDC **18** 19:06:45.9±4.0,52°.33N×159°.82E,h66km±27km,mb3.8/21, mb1 3.9/23,mb1mx3.6/71,mbtmp4.1/23,ML3.6/2,MS3.4/8, Ms1 3.4/8,ms1mx3.1/45,Error ellipse: s-maj=40.0km s-min=15.6km az=107.0*
ISC 18 19:06:37.7±2.1,52°.03N±0°.04×160°.70E±0°.04,h25km±14km, n161,σ1§28/182,mb4.3/41,MS3.4/8,1C,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.15**	**339**	*e*P	**Pn**	**19 06 56.0**	**-2.1**
SPN				*e*S	**Sn**	**19 07 11.2**	**-1.8**
SPN	**Mys Shipunski**	**1.15**	**339**	PN	**Pn**	**19 06 56.0**	**-2.1**
SPN				S	**Sn**	**19 07 11.2**	**-1.8**
RUS	**Russkaya**	**1.40**	**288**	*e*P	**Pn**	**19 07 00.1**	**-1.5**
RUS	**Russkaya**	**1.40**	**288**	PN	**Pn**	**19 07 00.1**	**-1.5**
NLC	**Nalytchevo**	**1.41**	**325**	*e*P	**Pn**	**19 07 00.5**	**-1.2**
NLC				*e*S	**Sn**	**19 07 19.9**	**+0.4**
NLC	**Nalytchevo**	**1.41**	**325**	PN	**Pn**	**19 07 00.5**	**-1.2**
NLC				S	**Sn**	**19 07 19.9**	**+0.4**
DALK	**Dalny**	**1.55**	**311**	*e*P	**Pn**	**19 07 02.4**	**-1.3**
DALK				*e*S	**Sn**	**19 07 22.9**	**-0.1**
DALK	**Dalny**	**1.55**	**311**	PN	**Pn**	**19 07 02.4**	**-1.3**
DALK				S	**Sn**	**19 07 22.9**	**-0.1**
PET	**Petropavlovsk**	**1.60**	**309**	*e*Pn	**Pn**	**19 07 03.0**	**-1.3**
PET	**Petropavlovsk**	**1.60**	**309**	*e*P	**Pn**	**19 07 03.3**	**-1.0**
PET				*e*S	**Sn**	**19 07 24.6**	**+0.5**
PET	**Petropavlovsk**	**1.60**	**309**	*e*PN	**Pn**	**19 07 03.0**	**-1.3**
PET				*e*S	**Sn**	**19 07 24.2**	**+0.1**
PET				pmax	pmax		
	comp=Z,700nm,2.1s						
PET				pmax	pmax		
	comp=Z,372nm,0.3s						
PET				smax	smax		
	comp=N,1μm,0.4s						
PET				smax	smax		
	comp=E,2μm,0.8s						
MTVR	**Mutnovka**	**1.61**	**287**	*e*P	**Pn**	**19 07 03.7**	**-1.0**
MTVR				*e*S	**Sn**	**19 07 24.4**	**-0.3**
MTVR	**Mutnovka**	**1.61**	**287**	PN	**Pn**	**19 07 03.7**	**-1.0**
MTVR				S	**Sn**	**19 07 24.4**	**-0.3**
KDTR	**Khodutka, Kamc**	**1.64**	**263**	*e*P	**Pn**	**19 07 04.0**	**-0.9**
KDTR				*e*S	**Sn**	**19 07 24.2**	**-0.9**
KDTR	**Khodutka, Kamc**	**1.64**	**263**	PN	**Pn**	**19 07 04.0**	**-0.9**
KDTR				S	**Sn**	**19 07 24.2**	**-0.9**
UGLR	**Uglovaya**	**1.64**	**317**	*e*P	**Pn**	**19 07 04.6**	**-0.5**
UGLR				*e*S	**Sn**	**19 07 27.2**	**+1.8**
UGLR	**Uglovaya**	**1.64**	**317**	PN	**Pn**	**19 07 04.6**	**-0.5**
UGLR				S	**Sn**	**19 07 27.2**	**+1.8**
SDLR	**Sedlovina**	**1.67**	**319**	*e*P	**Pn**	**19 07 04.5**	**-0.9**
SDLR	**Sedlovina**	**1.67**	**319**	PN	**Pn**	**19 07 04.5**	**-0.9**
SMAR	**Somma**	**1.69**	**318**	*e*P	**Pn**	**19 07 05.4**	**-0.4**
SMAR	**Somma**	**1.69**	**318**	PN	**Pn**	**19 07 05.4**	**-0.4**
GRL	**Gorelyy**	**1.69**	**289**	*e*P	**Pn**	**19 07 07.3**	**+1.5**
GRL	**Gorelyy**	**1.69**	**289**	PN	**Pn**	**19 07 07.3**	**+1.5**
AVH	**Avacha**	**1.72**	**317**	*e*P	**Pn**	**19 07 05.7**	**-0.4**
AVH	**Avacha**	**1.72**	**317**	PN	**Pn**	**19 07 05.7**	**-0.4**
KRER	**Koryakskii**	**1.74**	**318**	*e*P	**Pn**	**19 07 06.3**	**-0.2**
KRER				*e*S	**Sn**	**19 07 30.0**	**+2.0**
KRER	**Koryakskii**	**1.74**	**318**	PN	**Pn**	**19 07 06.3**	**-0.2**
KRER				S	**Sn**	**19 07 30.0**	**+2.0**
ASAK	**Asacha**	**1.76**	**283**	*e*P	**Pn**	**19 07 06.4**	**-0.2**
ASAK	**Asacha**	**1.76**	**283**	PN	**Pn**	**19 07 06.4**	**-0.2**
KRMR	**Karymshinskiy**	**1.76**	**298**	*e*P	**Pn**	**19 07 05.6**	**-1.0**
KRMR				*e*S	**Sn**	**19 07 27.7**	**-0.5**
KRMR	**Karymshinskiy**	**1.76**	**298**	PN	**Pn**	**19 07 05.6**	**-1.0**
KRMR				S	**Sn**	**19 07 27.7**	**-0.5**
KOK	**Koryaka**	**1.78**	**316**	*e*P	**Pn**	**19 07 06.7**	**-0.3**
KOK				*e*S	**Sb**	**19 07 32.8**	**+1.1**
KOK	**Koryaka**	**1.78**	**316**	PN	**Pn**	**19 07 06.7**	**-0.3**
KOK				S	**Sb**	**19 07 32.8**	**+1.1**
KRX	**Arik**	**1.82**	**318**	*e*P	**Pn**	**19 07 07.2**	**-0.4**
KRX	**Arik**	**1.82**	**318**	PN	**Pn**	**19 07 07.2**	**-0.4**
PEA0B	**Petropavlovsk-**	**2.12**	**302**	*e*Pn	**Pn**	**19 07 10.7**	**-0.9**
PEA0B				*e*Sn	**Sn**	**19 07 37.3**	**+0.1**
PEA0B	**Petropavlovsk-**	**2.12**	**302**	*e*PN	**Pn**	**19 07 10.7**	**-0.9**
PEA0B				*e*		19 07 37.3	
PETK	**Petropavlovsk-**	**2.12**	**302**	P	**Pn**	**19 07 11.1**	**-0.5**
	comp=E,34nm,0.3s,baz=106,slow=20,SNR=376						
PETK				S	**Sn**	**19 07 39.6**	**+2.4**
	comp=E,72nm,0.3s,baz=254,slow=19,SNR=12						
PETK				LR	LR	19 08 09.6	
	comp=E,795nm,18.4s,baz=39,slow=56						
PEA1	**Petropavlovsk-**	**2.13**	**302**	*e*Pn	**Pn**	**19 07 11.1**	**-0.6**
PEA1				*e*Sn	**Sn**	**19 07 39.6**	**+2.4**
APC	**Apacha**	**2.34**	**294**	*e*P	**Pn**	**19 07 15.1**	**+0.5**
APC				*e*S	**Sb**	**19 07 47.6**	**-0.1**
APC	**Apacha**	**2.34**	**294**	PN	**Pn**	**19 07 15.1**	**+0.5**
APC				S	**Sb**	**19 07 47.6**	**-0.1**
PAU	**Pauzhetka**	**2.48**	**258**	*e*P	**Pn**	**19 07 18.2**	**+1.7**
PAU	**Pauzhetka**	**2.48**	**258**	PN	**Pn**	**19 07 18.2**	**+1.7**
KZV	**Kizimen**	**3.10**	**356**	*e*P	**Pn**	**19 07 25.6**	**+0.5**
KZV				*e*S	**Sn**	**19 08 00.3**	**-1.1**
KZV	**Kizimen**	**3.10**	**356**	PN	**Pn**	**19 07 25.6**	**+0.5**
KZV				S	**Sn**	**19 08 00.3**	**-1.1**
SKR	**Severo-Kuril's**	**3.17**	**247**	*e*P	**Pn**	**19 07 26.4**	**+0.4**
SKR				*e*S	**Sn**	**19 08 01.5**	**-1.4**
SKR	**Severo-Kuril's**	**3.17**	**247**	*e*PN	**Pn**	**19 07 26.8**	**+0.8**
SKR				*e*S	**Sn**	**19 08 01.9**	**-1.0**
SKR				pmax	pmax		
	comp=Z,43nm,0.5s						
SKR				smax	smax		
	comp=E,279nm,0.5s						
SKR				smax	smax		
	comp=N,322nm,0.6s						
TUMD	**Tumrok D**	**3.18**	**357**	*e*P	**Pn**	**19 07 25.8**	**-0.4**
TUMD				*e*S	**Sn**	**19 08 01.6**	**-1.7**
TUMR	**Tumrok**	**3.27**	**354**	PN	**Pn**	**19 07 25.8**	**-1.7**
LGNR	**Loginova**	**4.06**	**360**	*e*P	**Pn**	**19 07 39.8**	**+1.4**
LGNR	**Loginova**	**4.06**	**360**	PN	**Pn**	**19 07 39.8**	**+1.4**
ESO	**Esso**	**4.08**	**344**	*e*P	**Pn**	**19 07 38.7**	**+0.3**
ESO	**Esso**	**4.08**	**344**	PN	**Pn**	**19 07 38.7**	**+0.3**
CIRR	**Tsirk**	**4.09**	**0**	*e*P	**Pn**	**19 07 40.7**	**+1.9**
CIRR	**Tsirk**	**4.09**	**0**	PN	**Pn**	**19 07 40.7**	**+1.9**
SRDR	**Sredinnyy**	**4.33**	**353**	*e*P	**Pn**	**19 07 42.3**	**+0.3**
SRDR	**Sredinnyy**	**4.33**	**353**	PN	**Pn**	**19 07 42.3**	**+0.3**
KBTR	**Krutoberegovo**	**4.37**	**16**	*e*P	**Pn**	**19 07 42.3**	**-0.1**
KBTR	**Krutoberegovo**	**4.37**	**16**	PN	**Pn**	**19 07 42.3**	**-0.1**
KBG	**Krutoberegovo**	**4.39**	**15**	*e*P	**Pn**	**19 07 42.9**	**+0.2**
KBG	**Krutoberegovo**	**4.39**	**15**	PN	**Pn**	**19 07 42.9**	**+0.2**
BKI	**Bering**	**4.47**	**43**	*e*P	**Pn**	**19 07 44.3**	**+0.6**
BKI				*e*S	**Sn**	**19 08 30.6**	**-4.3**
BKI	**Bering**	**4.47**	**43**	PN	**Pn**	**19 07 44.3**	**+0.6**
BDR	**Baidarnaya**	**4.56**	**4**	*e*P	**Pn**	**19 07 45.8**	**+0.7**
BDR	**Baidarnaya**	**4.56**	**4**	PN	**Pn**	**19 07 45.8**	**+0.7**
SMKR	**Semkarok**	**4.58**	**5**	*e*P	**Pn**	**19 07 45.2**	**-0.2**
SMKR	**Semkarok**	**4.58**	**5**	PN	**Pn**	**19 07 45.2**	**-0.2**
SRKR	**Sorokina**	**4.64**	**3**	*e*P	**Pn**	**19 07 48.0**	**+1.8**
SRKR	**Sorokina**	**4.64**	**3**	PN	**Pn**	**19 07 48.0**	**+1.8**
SMY	**Shemya**	**8.23**	**80**	*e*Pn	**Pn**	**19 08 37.5**	**+2.1**
SMY	**Shemya**	**8.23**	**80**	*e*PN	**Pn**	**19 08 37.5**	**+2.1**
TILK	**Tilichiki**	**8.96**	**18**	*e*P	**Pn**	**19 08 46.5**	**+1.2**
TILK	**Tilichiki**	**8.96**	**18**	PN	**Pn**	**19 08 46.5**	**+1.2**
MA2	**Magadan**	**9.39**	**327**	LR	LR	19 13 07.6	
	comp=N,210nm,18.2s,baz=162,slow=43						
ASAJ	**Asahikawa**	**14.43**	**244**	P	**Pn**	**19 10 00.3**	**+0.1**
	comp=N,0.6nm,0.3s,baz=64,slow=15,SNR=6.8						
GRNR	**Gornyy**	**15.19**	**275**	*e*P	**P**	**19 10 17.6**	**+2.4**
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
ERM	**Erimo**	**15.56**	**237**	*e*Pn	**Pn**	**19 10 12.9**	**-2.4**
	comp=Z,66nm,1.2s						
ERM	**Erimo**	**15.56**	**237**	*e*P	**Pn**	**19 10 12.9**	**-2.4**
ERM				pmax	pmax		
	comp=Z,66nm,1.2s						
BILL	**Bilibino**	**16.29**	**7**	*e*Pn	**Pn**	**19 10 24.2**	**-0.2**
	comp=Z,6.5nm,0.9s						
BILL	**Bilibino**	**16.29**	**7**	*e*P	**P**	**19 10 28.9**	**+1.7**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KLR	**Kul'dur**	**18.52**	**273**	P	**P**	**19 10 49.7**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=110,slow=12,SNR=3.3						
ZEA	**Zeya**	**20.15**	**288**	*e*P	Pn	19 11 19.2	+7.4
ZEA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZEA				MLR	MLR		
	comp=Z,200nm,16.0s						
USRK	**Ussuriysk Ar.**	**20.60**	**259**	P	**P**	**19 11 13.3**	**-1.4**
	comp=Z,5.2nm,1.1s,baz=61,slow=12,SNR=4.4						
MAT	**Matsushiro**	**22.20**	**235**	S	**P**	**19 11 30.9**	**-1.1**
MJAR	**Matsushiro Arr**	**22.20**	**235**	P	**P**	**19 11 34.8**	**+2.8**
	comp=Z,3.2nm,0.9s,baz=35,slow=8.7,SNR=5.6						
MJAR				LR	LR	19 20 52.0	
	comp=Z,106nm,20.3s,baz=80,slow=39						
TIXI	**Tiksi**	**24.20**	**336**	*e*P	**P**	**19 11 49.7**	**-2.0**
	comp=Z,4.9nm,0.8s						
TIXI	**Tiksi**	**24.20**	**336**	P	**P**	**19 11 50.7**	**-1.1**
	comp=Z,2.6nm,0.4s,baz=129,slow=8.7,SNR=15						
JHJ2	**Mitsune**	**24.22**	**227**	*e*P	**P**	**19 11 53.7**	**+1.4**
	comp=Z,165nm,1.1s						
HIA	**Hailar**	**25.87**	**280**	*e*P	**P**	**19 12 05.4**	**-1.8**
	comp=Z,6.4nm,0.6s						
HIA	**Hailar**	**25.87**	**280**	*e*P	**P**	**19 12 05.4**	**-1.8**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSRS	**Korea Array**	**27.18**	**251**	*e*P	**P**	**19 12 21.8**	**+2.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**27.18**	**251**	P	**P**	**19 12 20.5**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=54,slow=9.7,SNR=5.1						
KSRS				LR	LR	19 24 07.2	
	comp=Z,60nm,18.4s,baz=75,slow=39						
H11N2	**WAKE ISLAND Hy**	**32.60**	**169**	T	T	19 49 00.5	
	baz=352,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy**	**32.61**	**169**	T	T	19 49 11.4	
	baz=352,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**32.62**	**169**	T	T	19 48 59.1	
	baz=352,slow=75,SNR=59						
H11S1	**WAKE ISLAND Hy**	**33.78**	**170**	T	T	19 50 39.4	
	baz=349						
H11S3	**WAKE ISLAND Hy**	**33.80**	**170**	T	T	19 50 49.4	
	baz=349,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**33.80**	**170**	T	T	19 50 48.2	
	baz=349						
ULN	**Ulaanbaatar**	**34.11**	**285**	*i* P	**P**	**19 13 16.3**	**-4.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONM	**Songino Array**	**34.52**	**285**	LR	LR	19 29 00.1	
	comp=Z,199nm,18.1s,baz=69,slow=39						
ZALV	**Zalesovo Beam**	**43.67**	**304**	LR	LR	19 34 11.3	
	comp=Z,66nm,18.6s,baz=68,slow=38						
WMQ	**Urumqi**	**47.68**	**291**	*e*P	**P**	**19 15 11.4**	**-0.4**
	comp=Z,9.5nm,0.4s						
WMQ	**Urumqi**	**47.68**	**291**	*e*P	**P**	**19 15 11.5**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SPA0	**Spitsbergen Ar**	**48.24**	**351**	*e*P	**P**	**19 15 15.4**	**-0.4**
	comp=Z,45nm,1.4s						
KURK	**Kurchatov**	**48.61**	**303**	*e*P	**P**	**19 15 17.1**	**-1.8**
	comp=Z,8.3nm,1.4s						
KURK	**Kurchatov**	**48.61**	**303**	*e*P	**P**	**19 15 17.1**	**-1.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KURBB	**Kurchatov Arra**	**48.72**	**303**	P	**P**	**19 15 17.6**	**-2.1**
	comp=Z,1.3nm,0.6s,baz=60,slow=7.9,SNR=13						
MK31	**Makanchi Array**	**48.95**	**297**	*e*P	**P**	**19 15 20.0**	**-1.6**
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**48.95**	**297**	*e*P	**P**	**19 15 20.0**	**-1.6**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MK32	**Makanchi Array**	**48.95**	**297**	*e*P	**P**	**19 15 19.7**	**-1.9**
MKAR	**Makanchi Array**	**48.95**	**297**	P	**P**	**19 15 19.7**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=56,slow=6.7,SNR=17						
BVAR	**Borovoye Array**	**51.34**	**309**	P	**P**	**19 15 37.9**	**-1.7**
	comp=Z,1.5nm,0.5s,baz=65,slow=6.8,SNR=10						
ARA0	**ARCESS Array S**	**54.41**	**342**	*e*P	**P**	**19 16 01.4**	**-0.7**
ARCES	**ARCESS Array B**	**54.41**	**342**	*e*P	**P**	**19 16 01.6**	**-0.4**
ARCES	**ARCESS Array B**	**54.41**	**342**	*e*P	**P**	**19 16 00.7**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,6.0nm,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.27**	**204**	*i* Pg	**Pn**	**19 13 00.0**	**-1.0**
	356nm,0.6s						
BTLR				⇑*e*Sg	**Sn**	**19 13 08.0**	**-2.4**
	3μm,0.5s						
DBC	**Dubki**	**0.36**	**72**	*i* Pg	Pn	19 13 02.2	+0.7
DBC				*e*Sg	Sn	19 13 11.5	+0.2
XNZR	**Khunzakh**	**0.45**	**146**	*e*Pg	**Pn**	**19 13 03.1**	**+0.9**
XNZR				*e*Sg	**Sn**	**19 13 12.3**	**-0.2**
GROC	**Groznyy**	**0.51**	**305**	*e*Pg	**Pn**	**19 13 02.9**	**+0.4**
GROC				*e*Sg	**Sn**	**19 13 12.9**	**-0.1**
MAK	**Makhachkala**	**0.84**	**86**	*e*Pg	Pn	19 13 08.9	+3.3
MAK				*e*Sg	Sn	19 13 22.4	+3.8
LGD	**Lagodekhi**	**1.08**	**185**	P	**Pn**	**19 13 09.8**	**+1.2**
LGD				S	**Sn**	**19 13 25.5**	**+1.7**
KMGR	**Komgaron**	**1.11**	**278**	*i* Pg	**Pn**	**19 13 10.9**	**+1.9**
KMGR				*e*Sg	**Sn**	**19 13 24.5**	**0.0**
URKR	**Urkarakh**	**1.20**	**128**	*e*Pg	**Pn**	**19 13 12.5**	**+2.4**
URKR				*e*Sg	**Sn**	**19 13 30.1**	**+3.7**
VLKR	**Vladikavkaz**	**1.25**	**277**	*i* Pg	**Pn**	**19 13 12.4**	**+1.8**
VLKR				*e*Sg	**Sn**	**19 13 28.3**	**+0.9**
ZKTA	**Zakatala**	**1.29**	**172**	P	**Pn**	**19 13 12.0**	**+0.9**
	SNR=26						
ZKTA				S	**Sn**	**19 13 30.1**	**+1.8**
BTKR	**Batakoyurt**	**1.41**	**290**	*i* Pg	**Pn**	**19 13 14.8**	**+2.1**
BTKR				*e*Sg	**Sn**	**19 13 31.9**	**+0.8**
TRKR	**Terskaya**	**1.44**	**305**	*i* Pg	**Pn**	**19 13 15.0**	**+2.0**
TRKR				*e*Sg	**Sn**	**19 13 34.7**	**+3.0**
GUDG	**Gudauri**	**1.46**	**253**	P	**Pn**	**19 13 16.0**	**+2.5**
GUDG				S	**Sn**	**19 13 35.7**	**+3.1**
DDFL	**Dedoflistskaro**	**1.48**	**187**	P	**Pn**	**19 13 12.3**	**-1.2**
DDFL				S	**Sn**	**19 13 34.8**	**+2.2**
ARNR	**Ardon**	**1.55**	**281**	*e*Pg	**Pn**	**19 13 16.4**	**+1.9**
ARNR				*e*Sg	**Sn**	**19 13 36.2**	**+2.0**
TBLG	**Delisi**	**1.69**	**226**	P	**Pn**	**19 13 19.2**	**+3.0**
TBLG				S	**Sn**	**19 13 37.8**	**+0.4**
BTNK	**Botanikuri**	**1.69**	**224**	P	**Pn**	**19 13 17.8**	**+1.5**
KORR	**Kora**	**1.70**	**277**	*e*Pg	**Pn**	**19 13 17.8**	**+1.5**
KORR				*e*Sg	**Sn**	**19 13 39.1**	**+1.4**
DRN	**Derbent**	**1.70**	**121**	*e*Pg	**Pn**	**19 13 19.8**	**+3.5**
	85nm,0.7s						
DRN				⇓*e*Sg	**Sn**	**19 13 42.8**	**+5.2**
	424nm,0.6s						
PRTR	**Priterechnaya**	**1.74**	**300**	*e*Pg	**Pn**	**19 13 18.8**	**+2.0**
PRTR				*e*Sg	**Sn**	**19 13 41.2**	**+2.7**
AKT	**Akhty**	**1.75**	**144**	*i* Pg	**Pn**	**19 13 19.2**	**+2.0**
	122nm,0.3s						
AKT				⇑*e*Sg	**Sn**	**19 13 41.5**	**+2.5**
	961nm,0.6s						
SEKA	**Sheki**	**1.81**	**160**	P	**Pn**	**19 13 19.0**	**+1.2**
	SNR=53						
SEKA				S	**Sn**	**19 13 41.4**	**+1.1**
ZEI	**Tsey**	**1.82**	**267**	*e*Pg	**Pn**	**19 13 18.8**	**+0.7**
ZEI				*e*Sg	**Sn**	**19 13 39.6**	**-1.1**
LSNR	**Lesken**	**1.90**	**282**	*i* Pg	**Pn**	**19 13 20.5**	**+1.6**
LSNR				*e*Sg	**Sn**	**19 13 43.9**	**+1.6**
QSAR	**Qusar**	**1.98**	**134**	P	**Pn**	**19 13 23.4**	**+3.3**
	SNR=17						
QSAR				S	**Sn**	**19 13 48.4**	**+4.1**
QZX	**Qazax, Azerbai**	**2.00**	**202**	P	**Pn**	**19 13 21.0**	**+0.7**
	SNR=10						
QZX				S	**Sn**	**19 13 44.1**	**-0.5**
DIGR	**Digorskoe uzhe**	**2.05**	**271**	*e*Pg	**Pn**	**19 13 22.4**	**+1.3**
DIGR				*e*Sg	**Sn**	**19 13 45.0**	**-1.1**
NCK	**Nalchik**	**2.11**	**287**	*e*Pg	**Pn**	**19 13 23.4**	**+1.6**
NCK				*e*Sg	**Sn**	**19 13 48.3**	**+1.0**
KZRT	**Kazreti**	**2.11**	**225**	P	**Pn**	**19 13 22.6**	**+0.7**
KZRT				S	**Sn**	**19 13 47.3**	**-0.1**
ONI	**Oni**	**2.17**	**262**	P	**Pn**	**19 13 25.4**	**+2.8**
ONI				S	**Sn**	**19 13 52.2**	**+3.3**
XNQ	**Khinaliq**	**2.18**	**142**	P	**Pn**	**19 13 25.4**	**+2.5**
	SNR=59						
XNQ				S	**Sn**	**19 13 52.6**	**+3.2**
MNGR	**Mingechevir, A**	**2.20**	**166**	S	**Sn**	**19 13 50.0**	**+0.6**
QUBA	**Quba, Azerbaij**	**2.22**	**134**	P	**Pn**	**19 13 26.5**	**+3.2**
	SNR=13						
QUBA				S	**Sn**	**19 13 53.4**	**+3.5**
GDB	**GEDABAY**	**2.24**	**192**	P	**Pn**	**19 13 24.0**	**+0.4**
	SNR=13						
GDB				S	**Sn**	**19 13 49.1**	**-1.5**
QBL	**Gabala**	**2.25**	**150**	P	**Pn**	**19 13 25.3**	**+1.6**
	SNR=5.2						
QBL				S	**Sn**	**19 13 52.3**	**+1.6**
GANJ	**Ganja**	**2.26**	**181**	P	**Pn**	**19 13 24.2**	**+0.3**
	SNR=23						
GANJ				S	**Sn**	**19 13 50.0**	**-1.1**
SRKG	**Sareki**	**2.30**	**256**	P	**Pn**	**19 13 25.4**	**+1.1**
SRKG				S	**Sn**	**19 13 54.0**	**+2.1**
IML	**Ismayilli**	**2.51**	**147**	P	**Pn**	**19 13 29.0**	**+1.8**
	SNR=7.8						
IML				S	**Sn**	**19 13 58.0**	**+1.0**
PYA1	**Pyatigorsk**	**2.65**	**297**	*i* Pn	**Pn**	**19 13 29.8**	**+0.9**
PYA1				*e*Sn	**Sn**	**19 13 58.9**	**-1.2**
KBZ	**Khabaz**	**2.66**	**289**	Pn	**Pn**	**19 13 29.6**	**+0.5**
	18nm,0.3s,baz=113,slow=3.8,SNR=412						
KBZ				Sn	**Sn**	**19 13 59.5**	**-0.9**
	19nm,0.3s,baz=303,slow=21,SNR=14						
NEY	**Neytrino**	**2.69**	**278**	*i* Pn	**Pn**	**19 13 30.7**	**+1.0**
NEY				*e*Sn	**Sn**	**19 14 00.8**	**-0.7**
PQL	**Pirkuli**	**2.69**	**141**	P	**Pn**	**19 13 31.9**	**+2.2**
	SNR=5.6						
PQL				S	**Sn**	**19 14 01.8**	**+0.3**
BRDA	**Brd**	**2.71**	**167**	P	**Pn**	**19 13 30.6**	**+0.8**
	SNR=3.8						
BRDA				S	**Sn**	**19 13 59.1**	**-2.7**
ATGJ	**Altiaghaj**	**2.81**	**136**	P	**Pn**	**19 13 32.3**	**+1.1**
	SNR=6.9						
ATGJ				S	**Sn**	**19 14 06.1**	**+1.9**
SHA1	**Shidzhatmaz**	**2.83**	**288**	*i* Pn	**Pn**	**19 13 32.1**	**+0.5**
SHA1				*e*Sn	**Sn**	**19 14 03.4**	**-1.5**
KIV0	**Kislovodsk Arr**	**2.87**	**293**	*i* Pn	**Pn**	**19 13 32.7**	**+0.6**
KIV0				*e*Sn	**Sn**	**19 14 04.5**	**-1.2**
GNI	**Garni**	**3.02**	**204**	Pn	**Pn**	**19 13 35.3**	**+1.2**
	1.2nm,0.3s,baz=26,slow=11,SNR=5.7						
GNI				Pg		19 13 42.7	
	3.5nm,0.3s,baz=284,slow=3.8,SNR=12						
GNI				Sn	**Sn**	**19 14 11.1**	**+1.7**
	2.8nm,0.3s,baz=203,slow=24,SNR=4.8						
GBS	**Qobustan**	**3.06**	**140**	P	**Pn**	**19 13 36.6**	**+2.0**
	SNR=3.0						
GBS				S	**Sn**	**19 14 10.7**	**+0.5**
NVNR	**Nevinnomyssk**	**3.62**	**300**	*e*Pn	**Pn**	**19 13 43.5**	**+1.6**
NVNR				*e*Sn	**Sn**	**19 14 22.5**	**-1.0**
ARXR	**Arkhyz**	**3.78**	**282**	*e*Pn	**Pn**	**19 13 47.0**	**+2.7**
ARXR				*e*Sn	**Sn**	**19 14 26.6**	**-1.1**
GLBA	**Clilabad**	**3.97**	**157**	P	**Pn**	**19 13 46.0**	**-0.8**
	SNR=7.4						
GLBA				S	**Sn**	**19 14 30.3**	**-2.0**
LRK	**Lerik**	**4.52**	**160**	P	**Pn**	**19 13 55.4**	**+0.9**
	SNR=54						
LRK				S	**Sn**	**19 14 44.5**	**-1.3**
LKRN	**Lenkeran, Azer**	**4.58**	**156**	P	**Pn**	**19 13 54.5**	**-0.6**
	SNR=4.6						
LKRN				S	**Sn**	**19 14 43.1**	**-3.9**
ASTR	**Astara**	**4.72**	**156**	P	**Pn**	**19 13 57.4**	**+0.4**
	SNR=3.3						
ASTR				S	**Sn**	**19 14 48.3**	**-2.2**
ERBR	**Yeremizino-Bor**	**5.07**	**306**	*e*Pn	**Pn**	**19 14 04.3**	**+2.6**
ERBR				*e*Sn	**Sn**	**19 14 57.3**	**-1.6**
GEYT	**Alibeck**	**10.24**	**115**	Pn	**Pn**	**19 15 11.4**	**-1.0**
	baz=307,slow=14,SNR=0.7						
GEYT				Sn	**Sn**	**19 16 59.5**	**-5.9**
	5.4nm,0.3s,baz=273,slow=30,SNR=3.1						
GYA0B	**ALIBECK ARRAY**	**10.24**	**115**	⇓Pn	**Pn**	**19 15 12.4**	**0.0**
GYA0B				⇑Sn	**Sn**	**19 16 59.7**	**-5.7**
AKTO	**Aktyubinsk**	**10.97**	**43**	⇓Pn	**Pn**	**19 15 22.7**	**+0.5**
	1.8nm,0.7s						
AKTO				⇑Sn	**Sn**	**19 17 17.9**	**-5.1**
	4.5nm,0.8s						
AKTO	**Aktyubinsk**	**10.97**	**43**	Pn	**Pn**	**19 15 20.9**	**-1.3**
	0.4nm,0.3s,baz=233,slow=8.9,SNR=6.2						
AKTO				Sn	**Sn**	**19 17 17.8**	**-5.1**
	0.4nm,0.3s,baz=70,slow=22,SNR=6.2						
AB31	**Akbulak array**	**11.36**	**51**	⇑Pn	**Pn**	**19 15 28.3**	**+0.9**
	0.2nm,0.3s,baz=240,slow=11,SNR=20						
AB31				Sn	**Sn**	**19 17 28.5**	**-3.7**
	1.7nm,0.5s,baz=241,slow=22,SNR=5.7						
AKASG	**Malin Array Be**	**14.07**	**310**	Pn	**Pn**	**19 16 01.3**	**-2.2**
	0.8nm,0.3s,baz=108,slow=15,SNR=3.8						
KK31	**Karatay Array**	**17.65**	**81**	Pn	**Pn**	**19 16 49.3**	**+0.8**
	1.2nm,0.8s,baz=286,slow=13,SNR=6.5						
KK31				⇓Sn	**Sn**	**19 20 00.3**	**-4.5**
	0.7nm,0.6s,baz=275,slow=22,SNR=5.1						
BVAR	**Borovoye Array**	**18.91**	**49**	P	**P**	**19 17 04.2**	**+2.1**
	0.2nm,0.3s,baz=251,slow=9.2,SNR=4.4						
AAK	**Ala-Archa**	**20.61**	**81**	P	**P**	**19 17 23.5**	**+2.7**
	0.7nm,0.4s,baz=221,slow=11,SNR=3.5						
FINES	**FINESS Array B**	**22.17**	**334**	P	**P**	**19 17 39.5**	**+2.5**
	1.1nm,0.4s,baz=145,slow=12,SNR=9.3						
KURBB	**Kurchatov Arra**	**23.20**	**59**	P	**P**	**19 17 50.1**	**+2.4**
	0.9nm,0.5s,baz=267,slow=8.8,SNR=9.0						
HFS	**Hagfors**	**26.25**	**322**	P	**P**	**19 18 17.0**	**+1.8**
	1.6nm,0.8s,baz=132,slow=8.0,SNR=3.5						

IDC 18 19:25:28.9±3.3, 30°.23N×140°.70E, h481km±64km, mb2.5/2, mb1 2.8/4, mb1mx2.5/40, mbtmp3.4/4, Error ellipse: s-maj=280.6km s-min=68.7km az=78.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.98**	**345**	P	P	19 26 38.1	0.0
	7.9nm,0.3s,baz=74,slow=20,SNR=5.4						
JHJ				S	S	19 27 29.9	-4.6
	5.3nm,0.3s,baz=66,slow=19,SNR=3.4						
MJAR	**Matsushiro Arr**	**6.63**	**342**	P	P	19 27 10.2	-0.3
	0.1nm,0.3s,baz=174,slow=11,SNR=20						
WRA	**Warramunga Arr**	**50.26**	**188**	P	P	19 33 39.9	-0.2
	0.7nm,1.1s,baz=12,slow=7.4,SNR=4.5						
ASAR	**Alice Springs**	**53.98**	**188**	P	P	19 34 07.0	0.0
	0.4nm,1.1s,baz=24,slow=11,SNR=5.1						

*IDC **18** 19:27:44.8±5.0, 31°.75S×179°.93W, h315km±45km, mb3.3/5, mb1 3.4/6, mb1mx3.1/32, mbtmp4.0/6, Error ellipse: s-maj=48.9km s-min=27.0km az=28.0*
*WEL **18** 19:27:49.1±1.0, 32°.S±8°×17°.9W±1°.9, h300km±13km*
ISC 18 19:27:46.1±0.9, 31°.64S±0°.08×179°.8E±0°.1, h300km, n48, σ2°.32/46, mb3.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.10**	**41**	P	**Pn**	**19 28 44.7**	**+1.8**
GLKZ				S	**S**	**19 29 29.1**	**+0.9**
GRZ	**Great Barrier**	**5.83**	**217**	P	Pn	19 29 21.6	+8.4
MXZ	**Matakaoa Point**	**6.03**	**191**	P	**Pn**	**19 29 20.2**	**+4.5**
MXZ				S	**S**	**19 30 28.2**	**+0.3**
KUZ	**Kuaotunu**	**6.10**	**212**	P	Pn	19 29 22.9	+6.5
WMGZ	**Waiomatatini S**	**6.27**	**190**	P	**Pn**	**19 29 20.7**	**+2.3**
WMGZ				S	**S**	**19 30 34.2**	**+1.2**
HAZ	**Te Kaha**	**6.32**	**194**	P	**Pn**	**19 29 20.8**	**+1.7**
HAZ				S	**S**	**19 30 34.8**	**+0.7**
PKGZ	**Pakihiroa**	**6.39**	**192**	P	**Pn**	**19 29 22.6**	**+2.6**
PUZ	**Puketiti**	**6.54**	**191**	P	**Pn**	**19 29 21.3**	**-0.5**
PUZ				S	**S**	**19 30 37.5**	**-1.5**
RUGZ	**Raukumara Rang**	**6.54**	**195**	P	**Pn**	**19 29 24.3**	**+2.4**
ETAZ	**East Tamaki Re**	**6.64**	**216**	P	Pn	19 29 29.9	+6.8
MKAZ	**Moumakai**	**6.65**	**214**	P	Pn	19 29 29.3	+6.2
TWGZ	**Tauwhareparae**	**6.69**	**192**	P	**Pn**	**19 29 24.3**	**+0.7**
OPRZ	**Ohinepanea**	**6.73**	**202**	P	**Pn**	**19 29 28.3**	**+4.2**
MWZ	**Matawai**	**6.93**	**195**	P	**Pn**	**19 29 26.1**	**-0.4**
CNGZ	**Carnagh Statio**	**6.95**	**190**	P	**Pn**	**19 29 27.8**	**+1.1**
URZ	**Urewera**	**6.96**	**198**	P	**Pn**	**19 29 25.9**	**-0.9**
	3.3nm,0.3s,baz=272,slow=4.2,SNR=25						
URZ				S	**S**	**19 30 46.9**	**-1.3**
	3.9nm,0.3s,baz=94,slow=22,SNR=11						
URZ	**Urewera**	**6.96**	**198**	P	**Pn**	**19 29 27.5**	**+0.7**
TKGZ	**Te Karaka**	**6.97**	**193**	P	**Pn**	**19 29 29.5**	**+2.6**
TOZ	**Tahuroa Road**	**7.02**	**209**	P	Pn	19 29 33.2	+5.6
OMRZ	**Omania**	**7.03**	**202**	P	Pn	19 29 33.7	+6.0
RAGZ	**Rawiri**	**7.11**	**195**	P	**Pn**	**19 29 31.7**	**+3.0**
RIGZ	**Rimuhau**	**7.24**	**193**	P	**Pn**	**19 29 30.4**	**+0.1**
MUGZ	**Murupara**	**7.25**	**199**	P	**Pn**	**19 29 32.1**	**+1.7**
GRRZ	**Galatos Road**	**7.34**	**203**	P	**Pn**	**19 29 36.0**	**+4.6**
PRRZ	**Plateau Road**	**7.38**	**201**	P	**Pn**	**19 29 34.9**	**+2.9**
SNGZ	**Shannon Statio**	**7.40**	**195**	P	**Pn**	**19 29 32.6**	**+0.4**
ALRZ	**Allen Road**	**7.46**	**201**	P	**Pn**	**19 29 36.0**	**+3.1**
WPRZ	**Whakapapatarin**	**7.47**	**202**	P	Pn	19 29 38.0	+4.9
KUTZ	**Kaahu Road**	**7.56**	**204**	P	**Pn**	**19 29 38.7**	**+4.5**
KNZ	**Kokohu**	**7.56**	**192**	P	**Pn**	**19 29 36.1**	**+2.0**
RAHZ	**Arahi**	**7.59**	**196**	P	**Pn**	**19 29 36.1**	**+1.6**
MHGZ	**Mahia Peninsul**	**7.65**	**191**	P	**Pn**	**19 29 38.1**	**+2.8**
MRHZ	**Matea Rd**	**7.68**	**200**	P	**Pn**	**19 29 38.4**	**+2.7**
WHHZ	**Waihua**	**7.71**	**195**	P	**Pn**	**19 29 38.0**	**+2.1**
RATZ	**Rangitukua**	**7.92**	**203**	P	**Pn**	**19 29 41.5**	**+2.9**
ARHZ	**Aropaoanui**	**7.94**	**196**	P	**Pn**	**19 29 40.5**	**+1.8**
KRVZ	**Karewarewa**	**8.17**	**203**	P	**Pn**	**19 29 44.0**	**+2.3**
MCHZ	**McNeill Hill**	**8.18**	**197**	P	**Pn**	**19 29 44.4**	**+2.6**
CKHZ	**Cape Kidnapper**	**8.30**	**195**	P	**Pn**	**19 29 42.1**	**-1.1**
WHVZ	**Whangaehu Hut**	**8.35**	**203**	P	**Pn**	**19 29 46.4**	**+2.3**
RPZ	**Rata Peaks**	**13.88**	**207**	S	S	19 33 12.8	-11
	0.5nm,0.3s,baz=108,slow=19,SNR=3.0						
CTA	**Charters Tower**	**32.15**	**283**	P	**P**	**19 33 47.3**	**+0.9**
	2.8nm,0.8s,baz=109,slow=14,SNR=5.6						
STKA	**Stephens Creek**	**32.35**	**259**	P	**P**	**19 33 46.9**	**-1.1**
	1.4nm,0.4s,baz=74,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**41.15**	**269**	P	**P**	**19 35 01.2**	**-0.7**
	0.4nm,0.5s,baz=109,slow=7.5,SNR=23						
WRA	**Warramunga Arr**	**42.26**	**275**	P	**P**	**19 35 09.9**	**-0.9**
	0.5nm,0.3s,baz=110,slow=7.9,SNR=15						
FITZ	**Fitzroy Crossi**	**50.46**	**272**	P	**P**	**19 36 13.6**	**-0.6**
	2.2nm,1.0s,baz=107,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**145.60**	**338**	PKPbc	**PKPdf**	**19 46 45.5**	**-2.4**
	0.7nm,0.4s,baz=45,slow=4.1,SNR=12						
TORD	**Torodi Ar. Bea**	**161.51**	**186**	PKPab	**PKPab**	**19 47 54.1**	**-3.7**
	0.2nm,0.4s,baz=196,slow=4.5,SNR=4.2						

KRSC 18 19:28:31.6±10.0, 52°.01N×160°.92E, h51km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.22**	**334**	*e*P	Pn	19 28 53.4	+1.1
SPN				*e*S	Sn	19 29 08.7	+1.1
NLC	**Nalytchevo**	**1.50**	**321**	P	Pn	19 28 58.2	+2.0
NLC				S	Sn	19 29 17.9	+3.3
RUS	**Russkaya**	**1.54**	**287**	*e*P	Pn	19 28 57.7	+1.1
RUS				*e*S	Sn	19 29 16.7	+1.3
MTVR	**Mutnovka**	**1.75**	**287**	*e*P	Pn	19 29 01.1	+1.5
MTVR				S	Sn	19 29 22.9	+2.1
UGLR	**Uglovaya**	**1.75**	**314**	*e*P	Pn	19 29 02.0	+2.4
UGLR				*e*S	Sn	19 29 23.8	+3.0
KDTR	**Khodutka, Kamc**	**1.77**	**264**	*e*P	Pn	19 29 01.4	+1.6
KDTR				S	Sn	19 29 23.1	+2.0
SDLR	**Sedlovina**	**1.77**	**316**	*e*P	Pn	19 29 02.2	+2.3
SMAR	**Somma**	**1.80**	**315**	P	Pn	19 29 02.8	+2.4
AVH	**Avacha**	**1.83**	**314**	*e*P	Pn	19 29 03.1	+2.5
KRER	**Koryakskii**	**1.85**	**315**	*e*P	Pn	19 29 03.8	+2.7
KOK	**Koryaka**	**1.89**	**314**	P	Pn	19 29 04.4	+2.9
KRMR	**Karymshinskiy**	**1.89**	**297**	*e*P	Pn	19 29 03.2	+1.7
KRMR				*e*S	Sn	19 29 26.9	+2.8
ASAK	**Asacha**	**1.89**	**282**	*e*P	Pn	19 29 03.6	+2.0
ASAK				S	Sn	19 29 27.9	+3.6
KRX	**Arik**	**1.93**	**315**	*e*P	Pn	19 29 04.7	+2.6
APC	**Apacha**	**2.48**	**293**	*e*P	Pn	19 29 12.6	+3.2
APC				S	Sn	19 29 43.4	+5.0
KZV	**Kizimen**	**3.13**	**353**	S	Sn	19 29 57.1	+2.4
TUMD	**Tumrok D**	**3.21**	**355**	P	Pn	19 29 21.8	+2.3
TUMD				*e*S	Sn	19 29 58.7	+2.2
KBTR	**Krutoberegovo**	**4.35**	**14**	P	Pn	19 29 40.1	+5.0

*NEIC **18** 19:29:08.9±0.0, 14°.80N×95°.13W, h30km, MD4.1(MEX), After MEX.*
MEX 18 19:29:07.8±0.5, 14°.84N×95°.18W, h30km±40km, MD4.0, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.08**	**65**	*e*Pn	Pn	19 29 38.3	-2.3
PCIG				*e*Sn	Sn	19 30 03.2	-2.3
PCIG		**2.08**	**65**	*e*P	Pn	19 29 38.2	-2.5
PCIG				*e*S	Sn	19 30 03.1	-2.4
CCIG	**Comitan**	**3.26**	**63**	*e*Pn	Pn	19 29 57.1	0.0
CCIG				*e*Sn	Sn	19 30 36.1	+1.1
CCIG	**Comitan**	**3.26**	**63**	*i* P	Pn	19 29 55.6	-1.5
CCIG				*e*S	Sn	19 30 32.5	-2.6
TLIG	**Tlapa**	**4.24**	**310**	*e*Pn	Pn	19 30 11.3	+0.8
TLIG				*e*Sn	Sn	19 30 54.7	-4.3
LVIG	**Laguna Verde**	**5.00**	**346**	*e*Pn	Pn	19 30 22.4	+1.5
TEIG	**Tepich**	**8.49**	**50**	*e*Pn	Pn	19 31 06.3	-2.5
JCT	**Junction City**	**16.14**	**345**	*e*Pn	Pn	19 32 52.5	-0.2
TXAR	**Lajitas Array**	**16.42**	**333**	*e*Pn	Pn	19 32 56.3	0.0

KRSC 18 19:33:10.4±10.0, 51°.95N×160°.85E, h53km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.25**	**337**	*e*P	Pn	19 33 32.4	+0.8
SPN				*e*S	Sn	19 33 47.8	+0.4
RUS	**Russkaya**	**1.52**	**289**	*e*P	Pn	19 33 36.8	+1.6
RUS				*e*S	Sn	19 33 55.5	+1.7
NLC	**Nalytchevo**	**1.53**	**324**	P	Pn	19 33 36.9	+1.6
NLC				S	Sn	19 33 55.9	+1.9
DALK	**Dalny**	**1.68**	**311**	*e*P	Pn	19 33 39.0	+1.7
DALK				S	Sn	19 33 58.6	+0.9
MTVR	**Mutnovka**	**1.73**	**289**	*e*P	Pn	19 33 40.2	+2.1
MTVR				*e*S	Sn	19 34 01.1	+2.0
KDTR	**Khodutka, Kamc**	**1.73**	**266**	*e*P	Pn	19 33 40.4	+2.4
KDTR				S	Sn	19 33 59.8	+0.9
UGLR	**Uglovaya**	**1.76**	**316**	*e*P	Pn	19 33 41.1	+2.5
UGLR				S	Sn	19 34 02.7	+2.7
SDLR	**Sedlovina**	**1.79**	**319**	*e*P	Pn	19 33 41.2	+2.2
SMAR	**Somma**	**1.81**	**317**	*e*P	Pn	19 33 42.3	+2.9
AVH	**Avacha**	**1.84**	**316**	P	Pn	19 33 42.1	+2.4
KRER	**Koryakskii**	**1.86**	**317**	*e*P	Pn	19 33 42.9	+2.8
ASAK	**Asacha**	**1.87**	**284**	*e*P	Pn	19 33 42.6	+2.6
KRMR	**Karymshinskiy**	**1.89**	**299**	*e*P	Pn	19 33 42.2	+2.0
KRMR				*e*S	Sn	19 34 06.3	+3.6
KOK	**Koryaka**	**1.90**	**316**	P	Pn	19 33 43.7	+3.2
KRX	**Arik**	**1.94**	**317**	P	Pn	19 33 43.8	+2.7
APC	**Apacha**	**2.46**	**295**	P	Pn	19 33 52.5	+4.5
APC				S	Sn	19 34 23.6	+6.7
KZV	**Kizimen**	**3.18**	**354**	P	Pn	19 34 02.2	+4.1
TUMD	**Tumrok D**	**3.27**	**355**	P	Pn	19 34 01.4	+2.3
TUMD				*e*S	Sn	19 34 38.0	+1.3
KBTR	**Krutoberegovo**	**4.42**	**14**	P	Pn	19 34 18.9	+4.1

*KRNET **18** 19:43:21.6±0.1, 41°.51N×73°.19E, h10km, mb3.3*
*NNC **18** 19:43:22.3±1.2, 41°.49N×73°.09E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=9.6km s-min=4.9km az=8.0*
*SOME **18** 19:43:24.5, 41°.62N×73°.27E, h5km*
ISC 18 19:43:21.5±1.1, 41°.49N±0°.03×73°.23E±0°.02, h3km±11km, n53, σ1°.83/81, 15C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.25**	**229**	⇓*i*P	**Pg**	**19 43 26.3**	**0.0**
	baz=21						
ARSB				⇓*i*S	**Sg**	**19 43 30.0**	**+0.4**
	baz=21						
ARLS	**Aral**	**0.90**	**65**	⇓*i*P	**Pb**	**19 43 39.6**	**-0.3**
	baz=66						
ARLS				⇓*i*S	**Sb**	**19 43 52.5**	**+0.2**
	baz=66						
ARK	**Arkit**	**1.00**	**289**	⇓*i*P	**Pg**	**19 43 40.0**	**-0.7**
	baz=87						
ARK				⇓*i*S	**Sb**	**19 43 53.2**	**-2.0**
	baz=87						
MRKS	**Merke**	**1.26**	**360**	P	**Pg**	**19 43 47.0**	**+1.3**
	54nm,0.4s						
MRKS				S	**Sn**	**19 44 04.3**	**+0.7**
	191nm,0.4s						
MRKS	**Merke**	**1.26**	**360**	*e*P	**Pg**	**19 43 47.0**	**+1.3**
	54nm,0.4s						
MRKS				*e*S	**Sn**	**19 44 03.7**	**+0.1**
	191nm,0.4s						
FRU1	**Bishkek**	**1.68**	**38**	⇑*e*P	**Pb**	**19 43 53.1**	**-0.1**
	baz=39						
FRU1				⇑*i*S	**Sg**	**19 44 16.6**	**+1.0**
	baz=39		

TARG	**Taragay, Kyrgy**	**3.44**	**84**	⇓*e*P		**Pb**	**19 44 20.6**	**-2.7**
	baz=85							
TARG				⇓*i*S		**Sb**	**19 45 04.4**	**-1.2**
	baz=85							
CHKK	**Chushkaly**	**3.64**	**48**	Pg		**Pg**	**19 44 30.9**	**-0.5**
	6.6nm,0.7s							
CHKK				Lg		Lg	19 45 19.2	
	22nm,0.7s							
CHKK	**Chushkaly**	**3.64**	**48**	*e*P		**Pg**	**19 44 30.9**	**-0.5**
	6.6nm,0.7s							
CHKK				*e*S		**Sg**	**19 45 19.2**	**+0.7**
	22nm,0.7s							
KURS	**Kuram**	**4.17**	**60**	Pg		**Pg**	**19 44 41.1**	**-0.2**
	4.1nm,0.7s							
KURS				Lg		Lg	19 45 36.4	
	5.8nm,1.5s							
KURS	**Kuram**	**4.17**	**60**	*e*P		**Pg**	**19 44 41.1**	**-0.2**
	4.1nm,0.7s							
KURS				*e*S		**Sg**	**19 45 36.4**	**+1.1**
	5.8nm,1.5s							
ARXS	**Arharly**	**4.34**	**50**	Pg		**Pg**	**19 44 43.6**	**-1.1**
	17nm,0.5s							
ARXS				Lg		Lg	19 45 40.2	
	13nm,0.8s							
ARXS	**Arharly**	**4.34**	**50**	*e*P		**Pg**	**19 44 43.6**	**-1.1**
	17nm,0.5s							
ARXS				*e*S		**Sg**	**19 45 40.2**	**-0.7**
	13nm,0.8s							
KPKS	**Kokpek**	**4.49**	**62**	*e*P		**Pg**	**19 44 47.3**	**-0.3**
	11nm,0.7s							
KPKS				*e*S		**Sg**	**19 45 46.4**	**+0.6**
	23nm,0.5s							
UZB	**Uzynbulak**	**4.60**	**67**	Pg		**Pg**	**19 44 47.4**	**-2.3**
	2.8nm,1.0s							
UZB				Lg		Lg	19 45 46.9	
	4.7nm,0.7s							
UZB	**Uzynbulak**	**4.60**	**67**	*e*P		**Pg**	**19 44 47.4**	**-2.3**
	2.8nm,1.0s							
UZB				*e*S		**Sg**	**19 45 46.9**	**-2.5**
	4.7nm,0.7s							
SHLS	**Shalkode**	**4.91**	**68**	Pg		**Pg**	**19 44 59.6**	**+4.0**
	3.7nm,0.8s							
SHLS				Lg		Lg	19 46 07.8	
	12nm,0.9s							
SHLS	**Shalkode**	**4.91**	**68**	*e*P		**Pg**	**19 44 59.6**	**+4.0**
	3.7nm,0.8s							
SHLS				*e*S		**Sg**	**19 46 07.8**	**+8.5**
	12nm,0.9s							
PDGK	**Podgornoye**	**4.99**	**66**	Pg		**Pg**	**19 44 54.1**	**-3.0**
	1.7nm,0.7s							
PDGK				Lg		Lg	19 45 58.4	
	3.4nm,0.7s							
PDGK	**Podgornoye**	**4.99**	**66**	⇓Pg		**Pg**	**19 44 54.1**	**-3.0**
	3.8nm,0.7s							
PDGK				⇑Lg		Lg	19 46 02.5	
	17nm,1.0s							
TDK	**Taldyqorghan**	**5.16**	**45**	Pg		**Pg**	**19 44 57.8**	**-2.6**
	18nm,0.7s							
TDK				Lg		Lg	19 46 04.9	
	15nm,0.7s							
TDK	**Taldyqorghan**	**5.16**	**45**	*e*P		**Pg**	**19 44 57.8**	**-2.6**
	18nm,0.6s							
TDK				*e*S		**Sg**	**19 46 04.9**	**-2.4**
	17nm,0.7s							
DJR	**Jarkent**	**5.59**	**57**	Pg		**Pg**	**19 45 06.8**	**-1.9**
	2.4nm,0.5s							
DJR				Lg		Lg	19 46 20.4	
	2.6nm,0.6s							
DJR	**Jarkent**	**5.59**	**57**	*e*P		**Pg**	**19 45 06.8**	**-1.9**
	1.9nm,0.4s							
DJR				*e*S		**Sg**	**19 46 20.4**	**-0.7**
	5.6nm,0.9s							
KAPS	**Kapalarasan**	**5.86**	**48**	*e*P		**Pg**	**19 45 10.7**	**-3.1**
	1.2nm,0.3s							
KAPS				*e*S		**Sg**	**19 46 27.1**	**-2.6**
	5.9nm,0.7s							
OTUK	**Ortayu**	**6.79**	**355**	⇑Pg		Pg	19 45 25.3	-6.3
	2.3nm,1.2s							
OTUK				⇑Lg		Lg	19 46 58.0	
	16nm,0.5s							
MK31	**Makanchi Array**	**8.40**	**48**	⇑Pn		**Pn**	**19 45 25.2**	**+1.1**
	2.0nm,0.9s,baz=231,slow=13,SNR=4.2							
MK31				⇑Lg		Lg	19 47 52.5	
	1.3nm,0.6s							
KURBB	**Kurchatov Arra**	**9.85**	**20**	⇓Lg		Lg	19 48 35.5	
	12nm,0.7s							

*IDC **18** 19:51:06.2±1.3, 9°.28S×119°.59E, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.5/41, mbtmp3.7/6, ML3.6/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/37, Error ellipse: s-maj=72.9km s-min=19.7km az=59.0*

*DJA **18** 19:51:15.6±0.8, 10°.S±4°.×12°.0E±°, h13km±7km, M4.3/11, mb4.8/4, mB4.6/1, MLv4.0/11, Mw(mB)3.8/1*

ISC 18 19:51:11.7±0.9, 9°.86S±0°.10×119°.3E±0°.1, h50km, n20, σ2§49/19, mb3.7/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.01**	**79**	P	**Pn**	**19 51 30.9**	**+1.3**
BASI	**Baing, Sumba**	**1.32**	**106**	P	**Pn**	**19 51 36.7**	**+2.9**
PLAI	**Plampang**	**1.81**	**304**	P	Pn	19 51 47.0	+6.5
MMRI	**Maumere**	**3.16**	**67**	P	**Pn**	**19 51 59.4**	**+0.4**
BSSI	**Bau Bau, Buton**	**3.88**	**18**	P	**Pn**	**19 52 09.3**	**+0.3**
BKSI	**Bulukumba**	**4.59**	**10**	P	**Pn**	**19 52 19.9**	**+1.3**
KAPI	**Kappang**	**4.84**	**5**	Pg	**Pn**	**19 52 24.1**	**+2.0**
	6.1nm,0.3s,baz=224,slow=8.1,SNR=9.0						
KAPI				Lg	Lg	19 53 12.7	
	9.4nm,0.3s,baz=106,slow=20,SNR=7.9						
KAPI				LR	LR	19 54 16.9	
	comp=Z,75nm,18.2s,baz=198,slow=45						
SOEI	**Soe**	**4.91**	**89**	P	**Pn**	**19 52 27.3**	**+4.2**
BNSI	**Bone**	**5.49**	**9**	P	**Pn**	**19 52 32.7**	**+1.7**
SPSI	**Sidrap Palu**	**5.88**	**5**	P	**Pn**	**19 52 37.0**	**+0.6**
TTSI	**Tana Toraja**	**6.79**	**4**	P	**Pn**	**19 52 48.6**	**-0.3**
LUWI	**Luwuk**	**9.42**	**22**	P	Pn	19 53 16.7	-8.3
FITZ	**Fitzroy Crossi**	**10.24**	**144**	Pn	**Pn**	**19 53 38.4**	**+2.2**
	0.8nm,0.3s,baz=339,slow=11,SNR=29						
FITZ				Sn	**Sn**	**19 55 24.7**	**-4.9**
	1.1nm,0.3s,baz=186,slow=22,SNR=11						
FITZ				LR	LR	19 57 42.5	
	comp=Z,34nm,19.4s,baz=61,slow=38						
TNG	**Tangerang**	**13.04**	**285**	P	**P**	**19 54 24.3**	**+0.8**
WRA	**Warramunga Arr**	**17.65**	**126**	P	**Pn**	**19 55 13.8**	**-0.4**
	0.1nm,0.3s,baz=298,slow=13,SNR=8.2						
WRA				S	Sn	19 58 16.0	-14
	0.1nm,0.3s,baz=293,slow=24,SNR=3.9						
ASAR	**Alice Springs**	**19.57**	**136**	P	**Pn**	**19 55 39.7**	**+2.3**
	0.2nm,0.3s,baz=326,slow=14,SNR=18						
ASAR				S	**S**	**19 59 09.3**	**-4.9**
	0.1nm,0.3s,baz=318,slow=26,SNR=4.5						
MKAR	**Makanchi Array**	**65.35**	**333**	P	**P**	**20 01 48.2**	**-0.7**
	0.4nm,0.5s,baz=158,slow=7.7,SNR=8.5						
KURBB	**Kurchatov Arra**	**69.86**	**334**	P	**P**	**20 02 16.3**	**-0.8**
	0.3nm,0.8s,baz=141,slow=4.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**69.94**	**339**	P	**P**	**20 02 16.3**	**-1.3**
	0.4nm,0.3s,baz=136,slow=6.6,SNR=2.9						
NRIK	**Noril'sk**	**82.05**	**349**	LR	LR	20 41 29.6	
	comp=Z,50nm,20.1s,baz=56,slow=37						

*ISCJB **18** 19:52:01.8±2.5, 29°.6N±0°.2×113°.3W±0°.2, h10km, mb3.1/1, MS3.5/10, Error ellipse: s-maj=37.2km s-min=13.1km az=24.9*

*IDC **18** 19:52:06.2±2.4, 30°.17N×112°.95W, h0km, mb3.3/1, mb1 3.7/7, mb1mx3.5/44, mbtmp3.4/7, ML3.5/6, MS3.5/16, Ms1 3.5/16, ms1mx3.5/22, Error ellipse: s-maj=42.9km s-min=13.4km az=31.0*

ISC 18 19:52:03.2±2.6, 29°.6N±0°.3×113°.4W±0°.2, h10km, n19, σ1§73/8, MS3.5/10, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flats O**	**4.83**	**327**	Pn	**Pn**	**19 53 17.3**	**+1.3**
	0.3nm,0.3s,baz=124,slow=7.7,SNR=3.1						
LPIG	**La Paz**	**6.08**	**153**	LR	LR	19 56 08.0	
	comp=Z,271nm,20.2s,baz=354,slow=37						
ANMO	**Albuquerque**	**7.93**	**46**	Pn	**Pn**	**19 53 59.7**	**+1.0**
	0.1nm,0.3s,baz=222,slow=12,SNR=2.0						
ANMO				Lg	Lg	19 56 01.4	
	0.1nm,0.3s,baz=322,slow=19,SNR=2.6						
ANMO				LR	LR	19 56 44.9	
	comp=Z,174nm,21.4s,baz=238,slow=38						
TXAR	**Lajitas Array**	**8.45**	**89**	Pn	**Pn**	**19 54 06.0**	**+0.3**
	0.3nm,0.3s,baz=261,slow=16,SNR=5.7						
TXAR				Lg	Lg	19 56 32.5	
	0.1nm,0.3s,baz=300,slow=25,SNR=3.0						
NVAR	**Mina Array Bea**	**9.75**	**336**	Pn	**Pn**	**19 54 22.4**	**-1.3**
	0.2nm,0.3s,baz=140,slow=15,SNR=5.2						
NVAR				LR	LR	19 57 44.7	
	comp=Z,415nm,20.2s,baz=160,slow=36						
ELK	**Elko**	**11.26**	**353**	Pn	**Pn**	**19 54 41.5**	**-2.9**
	0.1nm,0.3s,baz=207,slow=14,SNR=2.5						
ELK				Lg	Lg	19 57 38.0	
	0.1nm,0.3s,baz=292,slow=5.4,SNR=2.1						
ELK				LR	LR	19 58 58.7	
	comp=Z,310nm,20.7s,baz=174,slow=38						
PDAR	**Pinedale Array**	**13.52**	**12**	Pn	**Pn**	**19 55 16.1**	**+0.8**
	0.1nm,0.3s,baz=209,slow=16,SNR=2.9						
YBH	**Yreka Blue Hor**	**14.31**	**331**	LR	LR	20 00 39.0	
	comp=Z,254nm,21.6s,baz=180,slow=37						
NEW	**Newport**	**18.90**	**352**	P	**Pn**	**19 56 23.2**	**-1.2**
	0.1nm,0.3s,baz=202,slow=5.4,SNR=3.4						
NEW				LR	LR	20 03 19.3	
	comp=Z,137nm,20.0s,baz=208,slow=37						
CMIG	**Matias Romero**	**20.98**	**122**	LR	LR	20 05 55.8	
	comp=Z,211nm,18.6s,baz=282,slow=40						
ULM	**Lac du Bonnet**	**24.51**	**28**	LR	LR	20 05 43.6	
	comp=Z,25nm,21.2s,baz=233,slow=34						
BBB	**Bella Bella**	**25.11**	**338**	LR	LR	20 06 37.3	
	comp=Z,133nm,21.9s,baz=142,slow=35						
APG	**El Apazote**	**25.59**	**120**	LR	LR	20 09 01.1	
	comp=Z,216nm,20.8s,baz=296,slow=40						
DLBC	**Dease Lake**	**31.07**	**343**	LR	LR	20 10 39.1	
	comp=Z,317nm,18.4s,baz=138,slow=36						
YKA	**Yellowknife Ar**	**32.94**	**359**	LR	LR	20 12 40.7	
	comp=Z,22nm,20.2s,baz=195,slow=38						
ILAR	**Eielson Array**	**40.99**	**339**	P	**P**	**19 59 46.7**	**+0.7**
	0.5nm,0.9s,baz=147,slow=6.8,SNR=4.3						
ILAR				LR	LR	20 15 42.0	
	comp=Z,45nm,19.5s,baz=138,slow=35						
ROSC	**El Rosal**	**44.32**	**116**	LR	LR	20 20 12.3	
	comp=Z,47nm,18.8s,baz=32,slow=38						
SPITS	**Spitsbergen Ar**	**68.56**	**10**	LR	LR	20 33 53.5	
	comp=Z,98nm,19.9s,baz=330,slow=37						
NOA	**NORSAR Array B**	**79.15**	**24**	LR	LR	20 37 37.5	
	comp=Z,34nm,22.0s,baz=310,slow=35						

*ISCJB **18** 20:12:39.1±0.6, 55°.02S±0°.07×22°.0W±0°.1, h10km, mb4.4/8, MS3.4/6, Error ellipse: s-maj=11.1km s-min=8.2km az=24.2*

*IDC **18** 20:12:39.6±0.8, 54°.98S×21°.85W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/23, mbtmp4.2/5, ML4.7/1, MS3.4/7, Ms1 3.4/7, ms1mx3.2/22, Error ellipse: s-maj=31.6km s-min=27.2km az=159.0*

*NEIC **18** 20:12:40.6±1.0, 55°.11S×21°.82W, h10km, mb4.5/7, Error ellipse: s-maj=22.7km s-min=18.2km az=217.0*

ISC 18 20:12:40.9±0.5, 54°.99S±0°.10×21°.78W±0°.08, h10km, n51, σ1§47/41, mb4.4/8, MS3.4/6, Southwestern Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.56**	**269**	*e*Pn	**Pn**	**20 14 44.5**	**-0.2**
HOPE				*e*Sn	**Sn**	**20 16 19.6**	**-1.7**
VNA1	**Neumayer--Stat**	**16.81**	**164**	P	**Pn**	**20 16 36.4**	**+0.3**
VNA3	**Neumayer Olymp**	**17.14**	**167**	P	**Pn**	**20 16 39.8**	**-0.5**
VNA2	**Neumayer--Watz**	**17.19**	**164**	P	**Pn**	**20 16 40.9**	**0.0**
	baz=329,slow=14						
SNAA	**Sanae**	**18.61**	**161**	P	**Pn**	**20 17 00.5**	**+2.1**
SNAA	**Sanae**	**18.61**	**161**	*e*P	**P**	**20 16 55.7**	**-2.5**
	17nm,0.7s						
SNAA	**Sanae**	**18.61**	**161**	P	**Pn**	**20 16 60.0**	**+1.6**
	2.2nm,0.3s,baz=288,slow=15,SNR=131						
SNAA				LR	LR	20 22 07.6	
	comp=Z,150nm,21.0s,baz=321,slow=30						
PMSA	**Palmer Station**	**22.91**	**228**	P	**P**	**20 17 51.4**	**+6.9**
	33nm,0.6s,baz=177,slow=15,SNR=15						
PMSA				LR	LR	20 25 46.5	
	comp=Z,168nm,19.0s,baz=92,slow=34						
PLCA	**Paso Flores**	**34.93**	**273**	*e*P	**P**	**20 19 32.6**	**-0.1**
	12nm,1.5s						
PLCA	**Paso Flores**	**34.93**	**273**	P	**P**	**20 19 32.9**	**+0.2**
	1.7nm,0.8s,baz=148,slow=11,SNR=5.8						
PLCA				LR	LR	20 35 39.1	
	comp=Z,30nm,18.0s,baz=313,slow=40						
QSPA	**South Pole Qui**	**35.26**	**180**	*e*P	**P**	**20 19 33.8**	**-1.7**
	3.0nm,0.8s						
CPUP	**Villa Florida**	**38.62**	**303**	LR	LR	20 35 10.3	
	comp=Z,32nm,19.2s,baz=182,slow=35						
BOSA	**Boshof**	**42.72**	**72**	*e*P	**P**	**20 20 38.2**	**0.0**
	6.1nm,1.2s						
BOSA	**Boshof**	**42.72**	**72**	P	**P**	**20 20 38.1**	**0.0**
	0.7nm,0.6s,baz=194,slow=3.6,SNR=3.3						
BOSA				LR	LR	20 34 35.6	
	comp=Z,92nm,18.1s,baz=207,slow=31						
GO02	**Mina Guanaco**	**45.87**	**291**	*e*P	**P**	**20 21 02.7**	**-0.9**
	27nm,1.5s						
H10S2	**ASCENSION HYDR**	**46.26**	**10**	T	T	21 11 02.7	
	baz=186,slow=75,SNR=32						
H10S3	**ASCENSION HYDR**	**46.26**	**10**	T	T	21 11 02.7	
	baz=186,slow=75,SNR=25						
H10S1	**ASCENSION HYDR**	**46.27**	**10**	T	T	21 11 04.4	
	baz=186,slow=75,SNR=26						
H10N1	**ASCENSION HYDR**	**47.37**	**10**	T	T	21 12 23.9	
	baz=114,slow=10,SNR=11						
H10N3	**ASCENSION HYDR**	**47.38**	**10**	T	T	21 12 25.1	
	baz=114,slow=10,SNR=28						
H10N2	**ASCENSION HYDR**	**47.39**	**10**	T	T	21 12 25.1	
	baz=114,slow=10,SNR=27						
VNDA	**Vanda**	**47.74**	**181**	*e*P	**P**	**20 21 16.8**	**-0.4**
VNDA	**Vanda**	**47.74**	**181**	LR	LR	20 39 27.1	
	comp=Z,37nm,20.5s,baz=168,slow=34						
DBIC	**Dimbokro**	**63.04**	**19**	*e*P	**P**	**20 23 08.8**	**+0.7**
	9.3nm,1.3s						
DBIC	**Dimbokro**	**63.04**	**19**	P	**P**	**20 23 09.2**	**+1.1**
	3.0nm,0.9s,baz=164,slow=7.6,SNR=3.3						
TOA0	**Torodi Ar. Sit**	**70.72**	**24**	*e*P	**P**	**20 23 57.7**	**+0.8**
	3.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.72**	**24**	P	**P**	**20 23 57.7**	**+0.8**
	2.4nm,0.9s,baz=195,slow=5.0,SNR=12						
TORD				LR	LR	20 49 10.9	
	comp=Z,28nm,21.8s,baz=310,slow=31						
H08N3	**Diego Garcia H**	**86.44**	**96**	T	T	22 01 25.8	
	baz=217,slow=74,SNR=6.3						
H08N1	**Diego Carcia H**	**86.46**	**96**	T	T	22 01 23.4	
	baz=217						
H08N2	**Diego Garcia H**	**86.47**	**96**	T	T	22 01 27.7	
	baz=217,slow=74,SNR=7.8						
FIA0	**FINESS Array S**	**122.06**	**25**	*e*PKPdf	**PKPdf**	**20 31 34.0**	**-0.1**
FINES	**FINESS Array B**	**122.06**	**25**	PKP	**PKPdf**	**20 31 34.0**	**-0.1**
	1.4nm,0.7s,baz=0.0,slow=1.9,SNR=5.8						
CMAR	**Chiang Mai Arr**	**122.46**	**105**	PKP	**PKPdf**	**20 31 35.6**	**-0.7**
	1.0nm,0.8s,baz=234,slow=3.9,SNR=6.6						
ARA0	**ARCESS Array S**	**128.87**	**19**	*e*PKPdf	**PKPdf**	**20 31 46.6**	**-0.3**
ARCES	**ARCESS Array B**	**128.87**	**19**	PKP	**PKPdf**	**20 31 46.6**	**-0.3**
	2.3nm,1.0s,baz=165,slow=3.7,SNR=4.8						
GLK	**Glacier Lake**	**131.25**	**295**	*e*PKPpre	PKPpre	20 31 44.9	
BVAR	**Borovoye Array**	**131.64**	**54**	PKP	**PKPdf**	**20 31 53.3**	**+0.6**
	0.7nm,0.6s,baz=270,slow=1.5,SNR=5.7						
MK32	**Makanchi Array**	**133.63**	**67**	*e*PKPdf	**PKPdf**	**20 31 56.7**	**0.0**
MKAR	**Makanchi Array**	**133.63**	**67**	PKP	**PKPdf**	**20 31 56.7**	**0.0**
	3.8nm,1.3s,baz=222,slow=1.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**134.08**	**61**	PKP	**PKPdf**	**20 31 58.5**	**+1.1**
	0.8nm,0.8s,baz=246,slow=2.0,SNR=5.1						
YKA	**Yellowknife Ar**	**137.47**	**317**	PKP	**PKPdf**	**20 32 01.8**	**-1.5**
	0.7nm,0.8s,baz=117,slow=2.6,SNR=6.8						
YKB5	**Yellowknife Ar**	**137.47**	**317**	*e*PKPdf	**PKPdf**	**20 32 01.8**	**-1.5**
INK	**Inuvik**	**146.93**	**321**	*e*PKPdf	**PKPdf**	**20 32 19.1**	**-0.8**
INK				*e*PKPbc	**PKPbc**	**20 32 22.1**	**+0.1**
SONA0	**Songino Array**	**147.55**	**81**	*e*PKPbc	**PKPbc**	**20 32 24.3**	**-0.3**
SONM	**Songino Array**	**147.55**	**81**	PKPbc	**PKPbc**	**20 32 24.3**	**-0.3**
	2.3nm,0.8s,baz=196,slow=2.6,SNR=9.0						
MENT	**Mentasta**	**150.02**	**309**	*e*PKPdf	**PKPdf**	**20 32 24.0**	**-1.2**
SCRK	**Sand Creek**	**150.33**	**311**	*e*PKPdf	**PKPdf**	**20 32 26.7**	**+0.9**
RIDG	**Independent Ri**	**150.66**	**310**	*e*PKPbc	**PKPbc**	**20 32 31.9**	**+0.1**
ILAR	**Eielson Array**	**151.69**	**312**	PKPbc	**PKPbc**	**20 32 33.8**	**-0.3**
	3.4nm,0.9s,baz=116,slow=1.6,SNR=26						
ILB	**Eielson Array**	**151.69**	**312**	*e*PKPbc	**PKPbc**	**20 32 33.7**	**-0.3**
TOLK	**Toolik Lake Re**	**152.84**	**321**	*e*PKPbc	**PKPbc**	**20 32 36.4**	**-0.2**

SJA 18 20:14:44.6±0.8, 21°.96S×67°.12W, h208km±8km, ML2.7, MW3.7, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.78**	**248**	*i* P	Pn	20 15 22.6	+0.7
LVC				*i* S	S	20 15 50.5	-0.1
PB09	**IPOC Station P**	**1.97**	**274**	*i* P	Pn	20 15 24.4	+0.7
PB09				*i* S	S	20 15 54.3	+0.7
HJA	**Humahuaca**	**2.02**	**128**	*i* P	Pn	20 15 25.1	+0.9
HJA				IAML		20 15 25.3	
	comp=Z,30nm,0.5s						
HJA				*i* S	S	20 15 55.3	+0.5
PB01	**IPOC Station P**	**2.38**	**292**	*i* P	Pn	20 15 28.0	+0.2
PB01				*i* S	S	20 16 00.5	-0.5
PB06	**IPOC Station P**	**2.39**	**251**	*i* P	Pn	20 15 29.0	+1.0
PB06				*i* S	S	20 16 00.6	-0.6
PB03	**IPOC Station P**	**2.44**	**267**	*i* P	Pn	20 15 28.9	+0.4
PB03				*i* S	S	20 16 01.2	-1.1
PB15	**IPOC Station P**	**2.50**	**240**	*i* P	Pn	20 15 30.1	+0.9
PB15				*i* S	S	20 16 03.1	-0.5
PB07	**IPOC Station P**	**2.58**	**275**	*i* P	Pn	20 15 30.3	+0.2
PB07				*i* S	S	20 16 03.0	-2.0
PB08	**IPOC Station P**	**2.62**	**313**	*i* P	Pn	20 15 31.9	+1.1
PB02	**IPOC Station P**	**2.66**	**283**	*i* P	Pn	20 15 30.9	0.0
PB02				*i* S	S	20 16 04.2	-2.2
PB04	**IPOC Station P**	**2.83**	**262**	*i* P	Pn	20 15 33.2	+0.3
PB04				*i* S	S	20 16 00.9	-9.2
PB05	**IPOC Station P**	**2.98**	**252**	*i* P	Pn	20 15 35.1	+0.5
PB05				*i* S	S	20 16 09.9	-3.4
PB11	**IPOC Station P**	**3.22**	**312**	*i* P	Pn	20 15 37.5	0.0
PB10	**IPOC Station P**	**3.52**	**243**	*i* P	Pn	20 15 41.6	+0.8
MNMCX	**Minye Minye**	**3.64**	**320**	*i* P	Pn	20 15 43.5	+0.8
MNMCX				*i* S	S	20 16 26.7	-1.0
PSGCX	**Pisagua**	**3.66**	**309**	*i* P	Pn	20 15 42.0	-0.7
PSGCX				*i* S	S	20 16 25.6	-2.1

*IDC **18** 20:32:46.9±1.6, 0°.82N×98°.04E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.4/54, mbtmp3.6/7, ML3.5/1, MS2.9/3, Ms1 3.0/3, ms1mx2.6/45, Error ellipse: s-maj=40.3km s-min=24.4km az=67.0*

*ISCJB **18** 20:32:50.0±1.3, 0°.9N±0°.2×98°.0E±0°.2, h35km, mb3.6/6, MS3.6/1, Error ellipse: s-maj=31.2km s-min=19.9km az=159.3*

ISC 18 20:32:52.3±1.8, 0°.9N±0°.2×98°.1E±0°.3, h35km, n12, σ0§95/8, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.06**	**24**	Pg	**Pn**	**20 33 25.1**	**+0.6**
	5.9nm,0.3s,baz=139,slow=9.2,SNR=16						
PSI				LR	LR	20 34 07.6	
	comp=Z,97nm,18.4s,baz=232,slow=39						
CMAR	**Chiang Mai Arr**	**17.46**	**3**	P	**Pn**	**20 36 51.4**	**-1.9**
	0.1nm,0.3s,baz=189,slow=11,SNR=4.2						
CMAR				LR	LR	20 43 14.6	
	comp=Z,20nm,18.5s,baz=190,slow=36						
H08S2	**Diego Garcia H**	**26.92**	**251**	T	T	21 06 01.9	
	baz=72,slow=75,SNR=7.9						
H08S3	**Diego Garcia H**	**26.92**	**251**	T	T	21 06 03.0	
	baz=72,slow=75,SNR=5.1						
H08S1	**Diego Carcia H**	**26.93**	**251**	T	T	21 05 58.8	
	baz=72,slow=75,SNR=6.5						
WRA	**Warramunga Arr**	**41.11**	**122**	P	**P**	**20 40 33.0**	**-0.3**
	1.3nm,1.2s,baz=313,slow=9.8,SNR=4.0						
SONM	**Songino Array**	**47.30**	**8**	P	**P**	**20 41 22.9**	**+0.4**
	0.6nm,0.4s,baz=176,slow=10,SNR=4.7						
MKAR	**Makanchi Array**	**47.75**	**345**	P	**P**	**20 41 26.4**	**+0.5**
	0.4nm,0.5s,baz=156,slow=8.2,SNR=6.6						
KURBB	**Kurchatov Arra**	**52.25**	**344**	P	**P**	**20 42 00.4**	**+0.4**
	0.1nm,0.4s,baz=161,slow=6.9,SNR=3.0						
STKA	**Stephens Creek**	**52.49**	**132**	LR	LR	21 05 07.6	
	comp=Z,51nm,19.2s,baz=200,slow=37						
ZALV	**Zalesovo Beam**	**54.00**	**350**	P	**P**	**20 42 12.9**	**+0.1**
	0.8nm,0.5s,baz=180,slow=5.4,SNR=5.1						
BVAR	**Borovoye Array**	**56.83**	**340**	P	**P**	**20 42 33.3**	**+0.1**
	0.5nm,0.7s,baz=133,slow=12,SNR=3.6						

IDC 18 20:33:18.4±75.0, 17°.65S×167°.52E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/27, mbtmp3.9/3, Error ellipse: s-maj=1253.0km s-min=119.4km az=71.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.38**	**234**	P	P	20 39 05.8	+0.2
	0.7nm,0.4s,baz=66,slow=10.0,SNR=3.8						
WRA	**Warramunga Arr**	**31.47**	**261**	P	P	20 39 42.0	0.0
	0.5nm,0.7s,baz=90,slow=8.9,SNR=4.8						
ASAR	**Alice Springs**	**31.97**	**253**	P	P	20 39 46.3	-0.1
	2.3nm,1.0s,baz=82,slow=9.1,SNR=13						

*IPEC **18** 20:34:18.1±0.3, 47°.61N×20°.45E, h9km±1km, ML1.8/3, Error ellipse: s-maj=2.3km s-min=1.9km az=22.0*

*SIGU **18** 20:34:18.1±0.3, 48°.N±2°.×2°.0E±°, h15km, mb2.1/5*

*ISCJB **18** 20:34:19.1±0.5, 47°.61N±0°.02×20°.18E±0°.02, h9km

MEZ				Sm		20 35 40.6	
CJR	**Cluj-Napoca**	**2.40**	**112**	⇑*i*P	**Pb**	**20 35 01.1**	**-1.2**
CJR	**Cluj-Napoca**	**2.40**	**112**	S	**Sb**	**20 35 31.0**	**-0.8**
SOP	**Sopron**	**2.57**	**272**	*e*Pn	**Pn**	**20 35 00.1**	**-0.2**
SOP				Sn	**Sn**	**20 35 30.1**	**-1.2**
RAKU	**Rahkiv**	**2.59**	**80**	*e*Pn	**Pb**	**20 35 03.3**	**-2.2**
ARCR	**ARCALIA**	**2.78**	**100**	⇓*i*P	**Pb**	**20 35 06.1**	**-2.5**
ARCR	**ARCALIA**	**2.78**	**100**	S	**Sb**	**20 35 42.3**	**-0.1**
GZR	**Gura Zlata**	**2.81**	**143**	⇓*i*P	**Pn**	**20 35 05.1**	**+1.3**
GZR	**Gura Zlata**	**2.81**	**143**	S	**Sn**	**20 35 37.3**	**-0.1**
NSLU	**Nyzhne Selyshc**	**2.81**	**77**	*e*Pn	**Pn**	**20 34 59.0**	**-4.7**
NSLU				Pm		20 35 07.0	
NSLU				*e*Sn	Sn	20 35 27.8	-9.5
NSLU				Sm		20 35 37.5	
MORC	**Moravsky Berou**	**2.83**	**320**	⇓*i*P	**Pn**	**20 35 04.7**	**+0.8**
MORC	**Moravsky Berou**	**2.83**	**320**	S	**Sn**	**20 35 38.2**	**+0.5**
MORC	**Moravsky Berou**	**2.83**	**320**	*e*PN	**Pn**	**20 35 04.8**	**+0.8**
MORC				*e*SG	**Sn**	**20 35 38.0**	**+0.3**
MORC	**Moravsky Berou**	**2.83**	**320**	*e*Pn	**Pn**	**20 35 04.7**	**+0.8**
	baz=137						
MORC				*e*Sn	**Sn**	**20 35 38.0**	**+0.3**
	3.8nm,0.4s						
KRUC	**Moravsky**	**2.99**	**300**	*e*PN	**Pn**	**20 35 06.4**	**+0.2**
KRUC				*e*SG	**Sn**	**20 35 41.4**	**-0.4**
KRUC	**Moravsky**	**2.99**	**300**	*e*Pn	**Pn**	**20 35 06.4**	**+0.2**
	baz=117						
KRUC				*e*Sn	**Sn**	**20 35 41.3**	**-0.5**
	2.4nm,0.4s						
VRAC	**Vranov**	**3.00**	**305**	⇑*i*P	**Pn**	**20 35 05.8**	**-0.5**
VRAC	**Vranov**	**3.00**	**305**	S	**Sn**	**20 35 41.7**	**-0.2**
VRAC	**Vranov**	**3.00**	**305**	*e*PN	**Pn**	**20 35 06.9**	**+0.6**
VRAC				*e*SG	**Sn**	**20 35 41.9**	**-0.1**
VRAC	**Vranov**	**3.00**	**305**	*e*Pn	**Pn**	**20 35 06.8**	**+0.5**
	baz=122						
VRAC				*e*Sn	**Sn**	**20 35 41.8**	**-0.2**
	3.3nm,0.2s						
CONA	**Conrad Observa**	**3.04**	**277**	*e*Pn	**Pn**	**20 35 07.1**	**+0.1**
	1.3nm,0.2s						
CONA				*e*Sn	**Sn**	**20 35 42.4**	**-0.7**
	5.1nm,0.4s						
LOT	**Lotru**	**3.23**	**132**	⇑*i*P	**Pn**	**20 35 10.6**	**+1.1**
LOT	**Lotru**	**3.23**	**132**	S	**Sn**	**20 35 49.5**	**+1.8**
ARSA	**Arzberg**	**3.30**	**265**	*i* Pn	**Pn**	**20 35 11.3**	**+0.8**
	1.9nm,0.3s						
ARSA				*i* Sn	**Sn**	**20 35 49.0**	**-0.5**
	4.3nm,0.4s						
KRLC	**Kraliky**	**3.38**	**317**	*e*PN	**Pn**	**20 35 13.0**	**+1.4**
DPC	**Dobruska-Polom**	**3.79**	**317**	*e*PN	**Pn**	**20 35 18.1**	**+1.0**
DPC				*e*SN	**Sn**	**20 36 00.8**	**-0.6**
MOA	**Molln**	**4.11**	**275**	*i* Pn	**Pn**	**20 35 22.8**	**+1.2**
	0.3nm,0.1s						
KBA	**Koelnbreinsper**	**4.80**	**266**	*i* Pn	**Pn**	**20 35 32.5**	**+1.3**
	1.0nm,0.3s						

IDC 18 20:50:36.8±16.0, 22°96'S×179°36'E, h590km±193km, mb3.1/5, mb1 3.4/5, mb1mx2.9/37, mbtmp4.1/5, Error ellipse: s-maj=198.7km s-min=57.2km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.89**	**269**	P	P	20 56 07.6	+0.7
	4.4nm,0.4s,baz=95,slow=11,SNR=10						
ASAR	**Alice Springs**	**41.61**	**260**	P	P	20 57 34.0	-0.9
	0.8nm,0.4s,baz=99,slow=7.3,SNR=30						
WRA	**Warramunga Arr**	**41.89**	**265**	P	P	20 57 36.4	-0.7
	2.2nm,0.4s,baz=99,slow=8.4,SNR=53						
FITZ	**Fitzroy Crossi**	**50.32**	**265**	P	P	20 58 41.4	+0.6
	1.0nm,0.5s,baz=123,slow=5.1,SNR=9.8						
TXAR	**Lajitas Array**	**90.44**	**58**	P	P	21 02 36.6	-0.1
	0.3nm,0.7s,baz=210,slow=6.6,SNR=4.1						

*ISCJB **18** 20:52:52.4±0.3, 15°.33N±0°.03×120°.39E±0°.06, h138km±3km, mb3.7/10, Error ellipse: s-maj=9.1km s-min=5.7km az=173.3*
*MAN **18** 20:52:52.8, 15°.36N×120°.29E, h125km, mb4.8, ML3.7, MS3.6*
*IDC **18** 20:52:53.9±0.7, 15°.23N×120°.64E, h152km±6km, mb3.6/12, mb1 3.7/12, mb1mx3.3/53, mbtmp4.0/12, MS2.9/1, Ms1 2.9/1, ms1mx2.2/30, Error ellipse: s-maj=29.0km s-min=10.9km az=68.0*
ISC 18 20:52:53.0±0.7, 15°.31N±0°.04×120°.37E±0°.06, h136km±6km, n35, σ1§21/43, mb3.9/10, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.64**	**316**	*e*P	**Pn**	**20 53 13.1**	**-0.6**
SCZP				*e*S	**Sn**	**20 53 28.5**	**-0.9**
SMPP	**San Manuel, Pa**	**0.89**	**19**	*e*P	**Pn**	**20 53 15.0**	**-0.6**
SMPP				*e*S	**Sn**	**20 53 31.6**	**-1.2**
BOLP	**Bolinao**	**1.16**	**338**	*e*P	**Pn**	**20 53 17.8**	**-0.2**
BOLP				*e*S	**Sn**	**20 53 37.2**	**+0.1**
BALP	**Baler**	**1.24**	**69**	*e*P	**Pn**	**20 53 19.3**	**+0.5**
BALP				*e*S	**Sn**	**20 53 39.2**	**+0.8**
TGY	**Tagaytay City**	**1.32**	**155**	P	**Pn**	**20 53 20.1**	**+0.3**
	111nm,0.3s,baz=129,slow=3.7,SNR=14						
TGY				S	**Sn**	**20 53 40.8**	**+0.7**
	98nm,0.3s,baz=230,slow=13,SNR=16						
POLP	**Polilio Island**	**1.62**	**111**	*e*P	**Pn**	**20 53 22.8**	**-0.1**
PGP	**Puerto Galera**	**1.88**	**163**	⇓*i*P	**Pn**	**20 53 25.9**	**-0.1**
PGP				*i* S	**Sn**	**20 53 52.4**	**+1.2**
CAUP	**Cauayan**	**2.14**	**40**	*e*P	**Pn**	**20 53 29.5**	**+0.4**
CAUP				*e*S	**Sn**	**20 53 59.5**	**+2.7**
ABRA	**Dolores**	**2.35**	**8**	*e*P	**Pn**	**20 53 30.9**	**-0.8**
ABRA				*e*S	**Sn**	**20 53 59.7**	**-1.7**
PALP	**Palanan**	**2.63**	**48**	*e*P	**Pn**	**20 53 35.4**	**+0.2**
APYP	**Conner**	**2.67**	**18**	*e*P	**Pn**	**20 53 35.6**	**-0.1**
APYP				*e*S	**Sn**	**20 54 07.8**	**-0.8**
CVP	**Callao Caves**	**2.76**	**30**	*e*P	**Pn**	**20 53 36.5**	**-0.2**
SGCP	**Mt. Cagua**	**3.33**	**29**	*e*P	**Pn**	**20 53 44.8**	**+0.7**
NANT	**Nan**	**19.12**	**283**	P	**Pn**	**20 57 09.0**	**+1.0**
	7μm,0.7s						
PHRA	**Phrae**	**19.53**	**282**	P	**Pn**	**20 57 13.7**	**+1.0**
	1.0nm,0.9s,50nm						
KAPI	**Kappang**	**20.20**	**182**	P	**P**	**20 57 17.9**	**+0.7**
	5.7nm,0.7s,baz=51,slow=4.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**20.74**	**282**	P	**P**	**20 57 25.8**	**+2.7**
	4.3nm,0.8s,baz=97,slow=7.9,SNR=54						
RAMN	**Ramite**	**33.46**	**296**	*e*P	**P**	**20 59 20.9**	**+1.4**
	4.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**33.60**	**171**	P	**P**	**20 59 18.4**	**-2.0**
	1.4nm,0.8s,baz=24,slow=10.0,SNR=7.3						
JIRN	**Jiri**	**33.98**	**297**	*e*P	**P**	**20 59 25.5**	**+1.3**
	11nm,0.5s						
SONM	**Songino Array**	**34.44**	**343**	LR	LR	21 14 21.3	
	comp=Z,21nm,19.9s,baz=111,slow=37						
PKI	**Pulchoki**	**34.63**	**296**	*e*P	**P**	**20 59 30.4**	**+0.6**
	5.0nm,0.7s						
PKIN	**Phulchoki**	**34.65**	**296**	*e*P	**P**	**20 59 30.2**	**+0.4**
	4.8nm,0.6s						
KLR	**Kul'dur**	**35.09**	**13**	P	**P**	**20 59 33.4**	**+0.4**
	2.3nm,0.6s,baz=236,slow=6.7,SNR=8.1						
DANN	**Dangsing**	**36.23**	**297**	*e*P	**P**	**20 59 44.1**	**+0.7**
	13nm,0.8s						
PYUN	**Piuthan**	**36.84**	**297**	*e*P	**P**	**20 59 49.5**	**+1.0**
	12nm,0.8s						
WRA	**Warramunga Arr**	**37.62**	**158**	P	**P**	**20 59 52.6**	**-2.2**
	2.6nm,0.6s,baz=348,slow=15,SNR=50						
ASAR	**Alice Springs**	**40.93**	**161**	P	**P**	**21 00 20.4**	**-1.9**
	2.1nm,0.6s,baz=339,slow=6.9,SNR=59						
MKAR	**Makanchi Array**	**44.56**	**323**	P	**P**	**21 00 52.8**	**+1.5**
	0.5nm,0.6s,baz=134,slow=7.0,SNR=5.2						
ZALV	**Zalesovo Beam**	**47.49**	**332**	P	**P**	**21 01 13.6**	**-0.5**
	0.5nm,0.4s,baz=137,slow=6.9,SNR=3.4						
KURBB	**Kurchatov Arra**	**48.69**	**326**	P	**P**	**21 01 24.6**	**+1.3**
	2.4nm,0.8s,baz=131,slow=8.3,SNR=13						
STKA	**Stephens Creek**	**51.14**	**157**	P	**P**	**21 01 39.6**	**-2.4**
	1.5nm,0.6s,baz=351,slow=11,SNR=6.0						
ARCES	**ARCESS Array B**	**77.48**	**339**	P	**P**	**21 04 33.4**	**+0.3**
	1.2nm,0.8s,baz=69,slow=6.6,SNR=6.0						
NB2	**NORSAR Subarra**	**85.70**	**333**	P	**P**	**21 05 16.0**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=64,slow=4.8						
NOA	**NORSAR Array B**	**85.70**	**333**	P	**P**	**21 05 15.4**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=66,slow=4.9,SNR=5.2						

*NEIC **18** 21:06:50.2±1.1, 9°.50N×122°.63E, h32km±5km, mb4.3/11, Error ellipse: s-maj=27.2km s-min=13.3km az=89.0*
NEIC Felt [IV PIVS] at Jinoba-an; [III PIVS] at Bayawan and Sipalay; [II PIVS] at Pamplona and Santa Catalina; [I PIVS] at Sibulan and Tanjay.

*IDC **18** 21:06:50.1±0.8, 9°.52N×122°.68E, h32km±6km, mb3.8/14, mb1 3.9/14, mb1mx3.7/47, mbtmp4.0/14, MS3.2/9, Ms1 3.2/9, ms1mx3.0/35, Error ellipse: s-maj=39.0km s-min=12.5km az=71.0*
*MAN **18** 21:06:51.8, 9°.65N×122°.61E, h19km, ML2.0, MS4.7*
ISC 18 21:06:50.3±0.7, 9°.52N±0°.03×122°.59E±0°.04, h33km±5km, h33km:pP-P, n76, σ1§69/86, mb4.1/25, MS3.1/6, 7C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.66**	**105**	⇓*i*P	**Pn**	**21 07 05.9**	**+2.4**
SNPH				*i* S	**Sn**	**21 07 15.7**	**+3.0**
GUIM	**Jordan**	**1.10**	**360**	*e*P	**Pn**	**21 07 09.2**	**-0.3**
GUIM				*e*S	**Sn**	**21 07 23.4**	**-0.2**
DCPH	**Dipolog City**	**1.20**	**141**	⇑*e*P	**Pb**	**21 07 16.4**	**+3.9**
DCPH				*e*S	**Sb**	**21 07 30.8**	**+3.1**
JAP	**San Jose, Anti**	**1.38**	**333**	⇑*e*P	**Pn**	**21 07 14.3**	**+1.0**
JAP				*e*S	**Sb**	**21 07 32.4**	**-0.3**
LLP	**Lapu-Lapu**	**1.57**	**60**	⇓*i*P	**Pb**	**21 07 18.8**	**0.0**
LLP				*i* S	**Sb**	**21 07 39.6**	**+1.3**
PAGZ	**Pagadian**	**1.84**	**155**	*e*P	**Pb**	**21 07 23.0**	**-0.3**
PAGZ				*e*S	**Sb**	**21 07 49.3**	**+3.4**
MSLP	**Maasin**	**2.32**	**75**	*e*P	**Pb**	**21 07 30.1**	**-1.4**
MSLP				*e*S	**Sb**	**21 07 59.6**	**-0.1**
CGP	**Cagayan de Oro**	**2.33**	**117**	⇑*e*P	**Pb**	**21 07 30.0**	**-1.7**
CGP				*e*S	**Sb**	**21 07 58.5**	**-1.6**
OCLP	**Ormoc**	**2.50**	**52**	*e*P	**Pb**	**21 07 31.5**	**-3.1**
OCLP				*e*S	**Sn**	**21 07 58.6**	**+0.4**
ZCP	**Zamboanga City**	**2.62**	**191**	⇑*i*P	**Pn**	**21 07 31.6**	**+1.2**
ZCP				*i* S	**Sn**	**21 08 01.4**	**+0.3**
CTBH	**Cotabato--PC H**	**2.81**	**144**	⇑*i*P	**Pb**	**21 07 37.7**	**-2.1**
CTBH				*i* S	**Sb**	**21 08 14.9**	**+1.1**
PLP	**Palo**	**2.86**	**55**	⇑*e*P	**Pn**	**21 07 36.0**	**+2.3**
PLP				*e*S	**Sn**	**21 08 09.2**	**+2.1**
SCPH	**Surigao**	**2.87**	**85**	⇑*e*P	Pb	21 07 45.1	+4.2
BUKP	**Musuan**	**2.94**	**124**	*e*P	**Pb**	**21 07 39.4**	**-2.7**
BUKP				*e*S	**Sb**	**21 08 15.3**	**-2.3**
BUTP	**Butuan**	**3.04**	**100**	*e*P	**Pb**	**21 07 40.2**	**-3.5**
BUTP				*e*S	**Sb**	**21 08 20.7**	**+0.2**
BESP	**Borongan**	**3.48**	**53**	*e*P	**Pn**	**21 07 43.3**	**+1.1**
BESP				*e*S	**Sn**	**21 08 25.4**	**+3.0**
SKMP	**Bagumbayan, Su**	**3.55**	**147**	*e*P	**Pb**	**21 07 47.9**	**-4.7**
SKMP				*e*S	**Sb**	**21 08 29.3**	**-6.0**
CNP	**Catarman**	**3.60**	**34**	*e*P	**Pn**	**21 07 45.4**	**+1.5**
CNP				*e*S	**Sn**	**21 08 25.1**	**-0.2**
DAV	**Davao City (W)**	**3.83**	**129**	LR	LR	21 09 36.2	
	comp=Z,418nm,21.4s,baz=228,slow=44						
MATI	**Mati**	**4.44**	**125**	*e*P	Pn	21 07 59.9	+4.5
DDMP	**Don Marcelino,**	**4.59**	**137**	*e*P	Pb	21 08 04.2	-6.0
DDMP				*e*S	**Sn**	**21 08 46.2**	**-3.5**
TGY	**Tagaytay City**	**4.83**	**341**	LR	LR	21 10 15.6	
	comp=Z,345nm,20.3s,baz=198,slow=42						
TNTI	**Ternate**	**9.90**	**151**	*e*Pn	Pn	21 09 15.8	+5.3
LUWI	**Luwuk**	**10.49**	**179**	*e*Pn	**Pn**	**21 09 19.9**	**+1.3**
KAPI	**Kappang**	**14.71**	**191**	LR	LR	21 16 11.3	
	comp=Z,69nm,21.5s,baz=3.0,slow=38						
CMAR	**Chiang Mai Arr**	**24.58**	**294**	P	**P**	**21 12 07.3**	**-0.3**
	0.9nm,0.8s,baz=112,slow=6.9,SNR=6.5						
CMAR				LR	LR	21 21 48.9	
	comp=Z,37nm,18.1s,baz=191,slow=36						
FITZ	**Fitzroy Crossi**	**27.61**	**174**	P	**P**	**21 12 34.4**	**-0.5**
	4.3nm,0.9s,baz=7.3,slow=7.9,SNR=7.8						
KSRS	**Korea Array**	**28.23**	**9**	LR	LR	21 23 13.9	
	comp=Z,26nm,21.7s,baz=195,slow=35						
MJAR	**Matsushiro Arr**	**30.41**	**25**	LR	LR	21 26 12.4	
	comp=Z,18nm,18.4s,baz=210,slow=38						
PSA00	**Pilbara Seismi**	**31.02**	**185**	*e*P	**P**	**21 13 04.7**	**-0.5**
	11nm,0.8s						
WR1	**Warramunga Arr**	**31.48**	**158**	*e*P	**P**	**21 13 08.7**	**-0.6**
WR1				*e*PcP	**PcP**	**21 15 59.6**	**-2.5**
WRA	**Warramunga Arr**	**31.48**	**158**	P	**P**	**21 13 08.7**	**-0.6**
	1.2nm,0.5s,baz=337,slow=9.5,SNR=23						
WRA				PcP	**PcP**	**21 15 59.6**	**-2.5**
	0.4nm,0.6s,baz=328,slow=2.9,SNR=3.3						
WB2	**Warramunga Arr**	**31.48**	**158**	*e*P	**P**	**21 13 08.7**	**-0.6**
	2.7nm,0.8s						
AS31	**Alice Springs**	**34.79**	**162**	*e*P	**P**	**21 13 37.9**	**-0.2**
	1.7nm,0.6s						
AS31				*e*PcP	**PcP**	**21 16 09.8**	**-1.5**
ASAR	**Alice Springs**	**34.79**	**162**	P	**P**	**21 13 38.6**	**+0.4**
	3.3nm,0.6s,baz=338,slow=7.0,SNR=67						
ASAR				PcP	**PcP**	**21 16 09.8**	**-1.5**
	0.4nm,0.5s,baz=346,slow=3.2,SNR=5.8						
USRK	**Ussuriysk Ar.**	**35.50**	**12**	pP	pP	21 13 54.3	+0.7
	2.6nm,0.8s,baz=204,slow=7.1,SNR=5.9						
RAMN	**Ramite**	**38.14**	**302**	*e*P	**P**	**21 14 08.2**	**+1.1**
	15nm,1.0s						
JIRN	**Jiri**	**38.73**	**303**	*e*P	**P**	**21 14 13.2**	**+1.0**
	14nm,0.6s						
PKI	**Pulchoki**	**39.35**	**302**	*e*P	**P**	**21 14 17.7**	**+0.4**
PKIN	**Phulchoki**	**39.36**	**302**	*e*P	**P**	**21 14 17.7**	**+0.4**
KKN	**Kakani**	**39.53**	**302**	*e*P	**P**	**21 14 19.2**	**+0.5**
GKN	**Gorkha**	**40.14**	**302**	*e*P	**P**	**21 14 24.7**	**+1.0**
KLR	**Kul'dur**	**40.32**	**9**	pP	pP	21 14 34.4	+0.1
	1.2nm,0.8s,baz=249,slow=17,SNR=2.3						
SONA0	**Songino Array**	**40.57**	**343**	*e*P	**P**	**21 14 28.3**	**+1.4**
SONA0				*e*pP	**pP**	**21 14 36.3**	**-0.3**
SONM	**Songino Array**	**40.57**	**343**	P	**P**	**21 14 28.3**	**+1.4**
	0.4nm,0.5s,baz=163,slow=7.1,SNR=3.7						
SONM				pP	**pP**	**21 14 36.3**	**-0.3**
	1.2nm,0.9s,baz=165,slow=7.5,SNR=5.4						
SONM				LR	LR	21 32 21.7	
	comp=Z,44nm,20.3s,baz=122,slow=38						
KOLN	**Koldanda**	**40.93**	**302**	*e*P	**P**	**21 14 31.0**	**+0.7**
	10nm,0.6s						
DANN	**Dangsing**	**40.98**	**303**	*e*P	**P**	**21 14 31.4**	**+0.6**
	12nm,0.9s						
PYUN	**Piuthan**	**41.55**	**302**	*e*P	**P**	**21 14 36.3**	**+1.0**
	44nm,1.3s						
NWAO	**Narrogin (SRO)**	**42.52**	**187**	*e*P	**P**	**21 14 43.7**	**+0.9**
	20nm,0.9s						
BBOO	**Buckleboo**	**44.01**	**164**	*e*P	**P**	**21 14 55.1**	**+0.2**
	9.4nm,1.1s						
STKA	**Stephens Creek**	**45.00**	**157**	*e*P	**P**	**21 15 02.8**	**0.0**
	1.3nm,0.9s						
STKA	**Stephens Creek**	**45.00**	**157**	P	**P**	**21 15 02.9**	**0.0**
	4.5nm,0.8s,baz=339,slow=6.4,SNR=8.3						
MK32	**Makanchi Array**	**50.49**	**325**	*e*pP	pP	21 15 55.4	+0.2
MKAR	**Makanchi Array**	**50.49**	**325**	pP	pP	21 15 55.4	+0.2
	2.8nm,0.8s,baz=128,slow=9.4,SNR=6.8						
ZALV	**Zalesovo Beam**	**53.60**	**333**	P	**P**	**21 16 08.6**	**+0.4**
	0.3nm,0.4s,baz=131,slow=8.0,SNR=2.2						
ZALV				pP	**pP**	**21 16 17.5**	**-0.7**
	0.8nm,0.4s,baz=119,slow=5.2,SNR=3.8						
ZAA1	**Zalesovo Array**	**53.60**	**333**	*e*P	**P**	**21 16 08.6**	**+0.3**
ZAA1				*e*pP	**pP**	**21 16 17.5**	**-0.7**
KURBB	**Kurchatov Arra**	**54.68**	**327**	P	**P**	**21 16 17.4**	**+1.3**
	0.6nm,0.6s,baz=122,slow=8.7,SNR=6.9						
KURBB				pP	**pP**	**21 16 26.3**	**+0.1**
	2.1nm,0.5s,baz=120,slow=8.9,SNR=22						
KURK	**Kurchatov**	**54.68**	**327**	*e*P	**P**	**21 16 16.6**	**+0.5**
KURK				*e*pP	**pP**	**21 16 26.3**	**+0.2**
BVAR	**Borovoye Array**	**60.26**	**327**	pP	pP	21 17 05.6	0.0
	1.0nm,0.7s,baz=119,slow=12,SNR=5.5						
TIXI	**Tiksi**	**62.20**	**2**	*e*P	**P**	**21 17 08.1**	**-0.1**
	2.0nm,1.1s						
TIXI	**Tiksi**	**62.20**	**2**	P	**P**	**21 17 08.0**	**-0.2**
	0.4nm,0.3s,baz=139,slow=2.6,SNR=4.6						
GEYT	**Alibeck**	**64.11**	**308**	LR	LR	21 49 21.1	
	comp=Z,17nm,19.2s,baz=30,slow=40						
ILAR	**Eielson Array**	**81.69**	**26**	P	**P**	**21 19 04.1**	**-1.1**
	0.3nm,0.8s,baz=268,slow=4.5,SNR=3.9						
BR101	**Keskin Array S**	**83.19**	**309**	*e*pP	pP	21 19 22.9	-1.3
BRTR	**Keskin Array B**	**83.19**	**309**	pP	pP	21 19 22.9	-1.3
	0.5nm,0.8s,baz=108,slow=4.0,SNR=4.0						
ARA0	**ARCESS Array S**	**83.62**	**339**	*e*P	**P**	**21 19 14.5**	**-0.8**
ARCES	**ARCESS Array B**	**83.62**	**339**	P	**P**	**21 19 14.5**	**-0.8**
	2.2nm,0.9s,baz=79,slow=6.3,SNR=5.3						
SPITS	**Spitsbergen Ar**	**84.03**	**349**	P	**P**	**21 19 17.3**	**+0.1**
	2.0nm,0.6s,baz=99,slow=7.6,SNR=4.1						
FIA0	**FINESS Array S**	**84.82**	**331**	*e*P	**P**	**21 19 21.0**	**-0.4**
FINES	**FINESS Array B**	**84.82**	**331**	P	**P**	**21 19 21.0**	**-0.4**
	1.0nm,0.8s,baz=80,slow=6.5,SNR=6.2						
MLR	**Muntele Rosu**	**87.91**	**316**	*e*P	**P**	**21 19 37.6**	**+0.5**
	0.7nm,0.7s						
BURAR	**Bucovina Array**	**87.97**	**318**	*e*P	**P**	**21 19 38.7**	**+1.3**
VNDA	**Vanda**	**89.67**	**172**	*e*P	**P**	**21 19 43.9**	**-0.6**
	1.2nm,1.0s						
VNDA	**Vanda**	**89.67**	**172**	P	**P**	**21 19 44.0**	**-0.5**
	0.5nm,0.6s,baz=312,slow=5.8,SNR=8.9						
NOA	**NORSAR Array B**	**91.80**	**333**	LR	LR	22 06 10.1	
	comp=Z,17nm,18.4s,baz=300,slow=39						
PLCA	**Paso Flores**	**146.80**	**162**	PKPbc	**PKPbc**	**21 26 30.0**	**+0.4**
	1.4nm,0.6s,baz=243,slow=4.5,SNR=6.3						

*SOME **18** 21:12:10.8, 41°.05N×78°.55E, h15km*
*KRNET **18** 21:12:10.3±0.1, 41°.15N×78°.67E, mb3.2*
*NNC **18** 21:12:11.7±1.5, 41°.11N×78°.49E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=10.4km s-min=6.8km az=174.0*
ISC 18 21:12:13.0±1.9, 41°.19N±0°.07×78°.42E±0°.04, h1km±11km, n51, σ1§57/81, 17C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.71**	**320**	⇓*i*P	**Pg**	**21 12 26.9**	**+0.3**
	baz=12						
TARG				⇓*i*S	**Sb**	**21 12 39.5**	**+0.6**
	baz=12						
KDJ	**Kajisay**	**1.32**	**316**	⇓*i*P	**Pn**	**21 12 37.4**	**-1.4**
	baz=12						
KDJ				⇓*i*S	**Sg**	**21 12 57.9**	**+2.4**
	baz=12						
NRN	**Naryn**	**1.84**	**279**	⇑*i*P	**Pg**	**21 12 47.6**	**-0.6**
	baz=79						
NRN				⇑*i*S	**Sg**	**21 13 15.0**	**+3.0**
	baz=79						
ZHN	**Zhinishke**	**1.98**	**0**	*e*P	**Pg**	**21 12 50.5**	**-0.4**
	20nm,0.3s						
ZHN				*e*S	**Sg**	**21 13 18.9**	**+2.3**
	68nm,0.3s						
UZB	**Uzynbulak**	**2.01**	**13**	Pg	**Pb**	**21 12 50.0**	**-0.4**
	9.1nm,0.3s						
UZB				Lg	Lg	21 13 18.3	
	45nm,0.5s						
UZB	**Uzynbulak**	**2.01**	**13**	*e*P	**Pb**	**21 12 50.0**	**-0.4**
	9.1nm,0.3s						
UZB				*e*S	**Sg**	**21 13 18.3**	**+0.7**
	45nm,0.5s						
SHLS	**Shalkode**	**2.12**	**21**	Pg	**Pg**	**21 12 54.7**	**+1.2**
	12nm,0.4s						
SHLS				Lg	Lg	21 13 26.3	
	67nm,0.8s						
SHLS	**Shalkode**	**2.12**	**21**	*e*P	**Pg**	**21 12 54.7**	**+1.2**
	12nm,0.4s						
SHLS				*e*S	**Sg**	**21 13 26.0**	**+5.0**
	168nm,0.6s						
TNSS	**Tian-Shan**	**2.15**	**330**	Pg	**Pb**	**21 12 53.3**	**+0.3**
	25nm,0.6s						
TNSS				Lg	Lg	21 13 24.5	
	57nm,0.6s						
TNSS	**Tian-Shan**	**2.15**	**330**	*e*P	**Pb**	**21 12 53.3**	**+0.3**
	25nm,0.6s						
TNSS				*e*S	**Sg**	**21 13 24.1**	**+2.1**
	57nm,0.6s						
MDOK	**Medeo**	**2.22**	**333**	⇑Pg	**Pb**	**21 12 54.2**	**+0.1**
MDOK				⇑Lg	Lg	21 13 27.6	
MDOK	**Medeo**	**2.22**	**333**	Pg	**Pb**	**21 12 54.5**	**+0.5**
	48nm,0.4s						
MDOK				Lg	Lg	21 13 27.0	
	138nm,0.6s						
MDOK	**Medeo**	**2.22**	**333**	*e*P	**Pb**	**21 12 54.5**	**+0.5**
	48nm,0.4s						
MDOK				*e*S	**Sg**	**21 13 26.1**	**+1.7**
	138nm,0.6s						
BOOM	**Boomskoye usch**	**2.26**	**306**	⇑*i*P	**Pb**	**21 12 53.3**	**-1.5**
	baz=4.0						
BOOM				⇑*i*S	**Sb**	**21 13 23.5**	**+0.2**
	baz=4.0						
KOTS	**Kotyrbulak**	**2.27**	**335**	Pg	**Pb**	**21 12 55.1**	**+0.4**
	27nm,0.2s						
KOTS				Pg	**Pb**	**21 12 55.3**	**+0.6**
	30nm,0.5s						
KOTS				Lg	Lg	21 13 27.5	
	49nm,0.4s						
KOTS				Lg	Lg	21 13 28.4

baz=84
ARLS ⇑iS **Sb** **21 13 45.3 -3.4**
baz=84
FRU1 Bishkek 3.26 301⇓eP **Pn** **21 13 06.8 +1.6**
baz=0.0
FRU1 ⇓iS **Sb** **21 13 48.0 -3.8**
baz=0.0
DJR Jarkent 3.30 17 Pg **Pb** **21 13 12.4 0.0**
4.0nm,0.4s
DJR Lg Lg 21 13 57.0
35nm,0.5s
DJR Jarkent 3.30 17 eP **Pb** **21 13 12.4 0.0**
4.9nm,0.2s
DJR eS **Sg** **21 13 57.0 -2.0**
40nm,0.5s
TDK Taldyqorghan 3.81 360 Pg **Pb** **21 13 22.7 +1.7**
21nm,0.5s
TDK Lg Lg 21 14 14.5
35nm,0.5s
TDK Taldyqorghan 3.81 360 eP **Pb** **21 13 22.8 +1.7**
21nm,0.5s
TDK eS **Sg** **21 14 14.5 -0.9**
35nm,0.5s
ARSB Arslanbob 4.10 274⇑iP **Pn** **21 13 18.1 +1.2**
baz=74
ARSB ⇑iS **Sn** **21 14 08.8 +3.2**
baz=74
KAPS Kapalarasan 4.15 9 Pg **Pb** **21 13 28.4 +1.5**
1.8nm,0.5s
KAPS Lg Lg 21 14 24.5
11nm,1.0s
KAPS Kapalarasan 4.15 9 eP **Pb** **21 13 28.4 +1.5**
1.8nm,0.5s
KAPS eS **Sg** **21 14 24.5 -1.9**
11nm,1.0s
MRKS Merke 4.17 294 Pg **Pg** **21 13 30.8 -2.1**
3.4nm,0.8s
MRKS Lg Lg 21 14 28.4
5.7nm,0.4s
MRKS Merke 4.17 294 eP **Pb** **21 13 28.7 +1.5**
1.1nm,0.1s
MRKS eS **Sg** **21 14 24.5 -2.4**
5.7nm,0.4s
MK31 Makanchi Array 6.26 25 Pn **Pn** **21 13 45.8 -0.7**
0.7nm,0.7s,baz=205,slow=14,SNR=5.4
MK31 ⇓Sn **Sn** **21 14 59.6 +0.9**
0.9nm,0.7s,baz=203,slow=14,SNR=6.8
MK31 ⇑Lg Lg 21 15 32.5
1.9nm,0.7s,baz=135,slow=9.7,SNR=6.6
OTUK Ortayu 8.28 331⇑Lg Lg 21 16 39.2
2.4nm,0.6s

*IDC **18** 21:18:12.2±1.1, 5°.29N×125°.25E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/35, mbtmp3.6/5, MS2.5/1, Ms1 2.5/1, ms1mx2.2/26, Error ellipse: s-maj=61.9km s-min=18.5km az=84.0*
*MAN **18** 21:18:17.9, 5°.36N×125°.27E, h60km, mb4.8, ML3.7, MS3.7*
ISC 18 21:18:14.9±1.8, 5°.21N±0°.06×125°.19E±0°.06, h16km±11km, n15, σ1°48/22, mb3.5/5, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.03**	**30**	eP	**Pb**	**21 18 35.1**	**+0.8**
DDMP				eS	**Sg**	**21 18 49.4**	**+1.0**
SKMP	**Bagumbayan, Su**	**1.45**	**334**	eP	**Pg**	**21 18 41.2**	**-1.6**
SKMP				eS	**Sb**	**21 18 58.7**	**-1.0**
DMPH	**Davao City--Mi**	**1.89**	**10**⇑	eP	**Pg**	**21 18 51.4**	**+0.2**
DMPH				eS	**Sg**	**21 19 17.4**	**+1.8**
DAV	**Davao City (W)**	**1.89**	**12**	Pn	**Pn**	**21 18 46.0**	**-0.4**
	107nm,0.3s,baz=96,slow=4.8,SNR=3.0						
DAV				Sn	**Sb**	**21 19 13.9**	**+1.6**
	55nm,0.3s,baz=59,slow=20,SNR=7.8						
MATI	**Mati**	**2.03**	**32**	eP	**Pn**	**21 18 47.9**	**-0.4**
MATI				eS	**Sn**	**21 19 11.1**	**-2.3**
CTBH	**Cotabato--PC H**	**2.20**	**335**⇑	iP	**Pb**	**21 18 54.1**	**-0.3**
CTBH				iS	**Sb**	**21 19 20.6**	**-0.8**
BUKP	**Musuan**	**2.65**	**357**	eP	**Pn**	**21 18 58.3**	**+1.2**
BUKP				eS	**Sn**	**21 19 30.4**	**+1.5**
PAGZ	**Pagadian**	**3.17**	**326**	eP	**Pn**	**21 19 06.6**	**+2.5**
PAGZ				eS	**Sn**	**21 19 42.5**	**+0.8**
CGP	**Cagayan de Oro**	**3.26**	**351**⇓	eP	**Pg**	**21 19 14.7**	**-2.7**
KAPI	**Kappang**	**11.52**	**208**	LR	LR	21 25 18.9	
	comp=Z,24nm,19.6s,baz=106,slow=37						
FITZ	**Fitzroy Crossi**	**23.17**	**179**	P	**P**	**21 23 21.2**	**+0.4**
	1.8nm,0.8s,baz=51,slow=13,SNR=6.5						
WRA	**Warramunga Arr**	**26.57**	**160**	P	**P**	**21 23 52.7**	**+0.3**
	0.6nm,0.5s,baz=341,slow=9.4,SNR=18						
ASAR	**Alice Springs**	**29.94**	**164**	P	**P**	**21 24 23.5**	**+1.1**
	0.2nm,0.4s,baz=347,slow=7.6,SNR=4.9						
MKAR	**Makanchi Array**	**55.47**	**325**	P	**P**	**21 27 48.5**	**-0.4**
	0.2nm,0.4s,baz=119,slow=7.5,SNR=4.5						
ILAR	**Eielson Array**	**84.44**	**25**	P	**P**	**21 30 44.8**	**-1.7**
	0.3nm,0.5s,baz=258,slow=5.3,SNR=4.2						

MAN 18 21:39:54.7, 6°.08N×123°.93E, h28km, mb3.6, ML2.3, MS1.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.75**	**55**	eP	Pb	21 40 08.8	-0.4
SKMP				eS	Sb	21 40 17.3	-1.9
CTBH	**Cotabato--PC H**	**1.17**	**16**⇑	iP	Pb	21 40 16.6	+0.1
CTBH				iS	Sb	21 40 31.2	0.0
DDMP	**Don Marcelino,**	**1.77**	**89**	eP	Pn	21 40 24.7	+1.1
DDMP				eS	Sn	21 40 45.2	0.0
PAGZ	**Pagadian**	**1.83**	**343**	eP	Pn	21 40 24.0	-0.4
PAGZ				eS	Sn	21 40 47.2	+0.5
BUKP	**Musuan**	**2.11**	**32**	eP	Pn	21 40 28.8	+0.5
BUKP				eS	Sn	21 40 53.9	+0.3

*SJA **18** 22:01:11.7±0.8, 32°.85S×70°.27W, h121km±5km, ML2.7, MW3.3*
*ISCJB **18** 22:01:12.6±1.3, 32°.85S±0°.07×70°.28W±0°.08, h120km±9km, Error ellipse: s-maj=14.0km s-min=7.0km az=43.2*
*GUC **18** 22:01:13.5±0.4, 32°.68S×70°.04W, h90km±6km, ML3.1*
ISC 18 22:01:13.7±2.8, 32°.85S±0°.07×70°.27W±0°.08, h112km±19km, n13, σ0°67/24, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.46**	**229**	iP	**Pn**	**22 01 29.9**	**-0.6**
PEL				iS	**Sn**	**22 01 43.7**	**+0.4**
PEL	**Peldehue**	**0.46**	**229**⇑	eP	**Pn**	**22 01 29.9**	**-0.6**
PEL				eS	**Sn**	**22 01 42.5**	**-0.7**
PEL				IAML		22 01 43.4	
	comp=N,709nm,0.3s						
FCH	**Farellones**	**0.48**	**182**⇑	eP	**Pn**	**22 01 30.7**	**-0.3**
FCH				eS	**Sn**	**22 01 43.2**	**-0.9**
FCH				IAML		22 01 44.0	
	comp=E,1μm,0.2s						
CLCH	**Cerro Calan**	**0.59**	**202**⇑	eP	**Pn**	**22 01 31.2**	**-0.3**
CLCH				eS	**Sn**	**22 01 44.9**	**0.0**
CLCH				IAML		22 01 45.6	
	comp=E,559nm,0.3s						
ANTU	**Antumapu**	**0.78**	**203**	eP	**Pn**	**22 01 33.5**	**+0.5**
ANTU				eS	**Sn**	**22 01 48.6**	**+1.0**
ANTU				IAML		22 01 49.2	
	comp=N,1μm,0.2s						
AUSP	**Uspallata**	**0.97**	**51**	iP	**Pn**	**22 01 34.7**	**-0.3**
AUSP				iS	**Sn**	**22 01 52.6**	**+1.5**
LMEL	**Las Melosas**	**1.00**	**177**⇑	eP	**Pn**	**22 01 35.4**	**+0.2**
LMEL				eS	**Sn**	**22 01 52.3**	**+0.8**
ARCO	**CERRO ARCO**	**1.13**	**90**	iP	**Pn**	**22 01 36.4**	**-0.2**
ARCO				iS	**Sn**	**22 01 54.0**	**+0.2**
ARCO				IAML		22 01 54.1	
	comp=Z,192nm,0.2s						
AAGR	**Agrelo**	**1.24**	**102**	iP	**Pn**	**22 01 37.4**	**-0.3**
AAGR				iS	**Sn**	**22 01 56.3**	**+0.4**
RTLS	**Leoncito**	**1.33**	**39**	iP	**Pn**	**22 01 39.5**	**+0.6**
RTLS				iS	**Sn**	**22 01 58.6**	**+0.6**
RTLS				IAML		22 02 00.1	
	comp=Z,39nm,0.2s						
RTCV	**Cerro Valdivia**	**1.76**	**57**	iP	**Pn**	**22 01 43.0**	**-0.8**
RTCV				iS	**Sn**	**22 02 06.7**	**-0.2**
AMOG	**MOGNA**	**2.43**	**39**	iP	**Pn**	**22 01 52.1**	**-0.2**
ACAN	**Cantantal**	**2.67**	**79**	iP	**Pn**	**22 01 54.6**	**-0.8**

EAF 18 22:09:37.0±0.4, 4°.81S×36°.27E, h38km±2km, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOND	**Kondoa**	**0.49**	**259**	iP	Pn	22 09 47.3	-0.3
KOND				iS	Sn	22 09 55.0	0.0
KIBA	**Kibaya**	**0.58**	**148**	iP	Pn	22 09 48.5	-0.5
KIBA				iS	Sn	22 09 57.2	-0.1

ISC 18 22:25:17.0±1.1, 48°.13N±0°.04×20°.88E±0°.03, h9km±10km, n14, σ0°78/20, 3C-1D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**0.44**	**324**	ePG	**Pg**	**22 25 25.8**	**+0.1**
KECS				eSG	**Sg**	**22 25 31.9**	**+0.4**
PSZ	**Piszkesteto**	**0.69**	**253**⇑	iP	**Pg**	**22 25 30.4**	**0.0**
PSZ	**Piszkesteto**	**0.69**	**253**	S	**Sg**	**22 25 40.0**	**+0.6**
PSZ	**Piszkesteto**	**0.69**	**253**	ePg	**Pg**	**22 25 30.0**	**-0.4**
PSZ				eSg	**Sg**	**22 25 40.0**	**+0.6**
LTVH	**Ltavrtes, Hu**	**1.01**	**137**	ePg	**Pn**	**22 25 38.0**	**+0.6**
LTVH				eSg	**Sn**	**22 25 54.0**	**+2.2**
TRPA	**Tarpa**	**1.11**	**89**⇓	iP	**Pb**	**22 25 38.3**	**-0.1**
TRPA	**Tarpa**	**1.11**	**89**	S	**Sg**	**22 25 53.2**	**+0.3**
TRPA	**Tarpa**	**1.11**	**89**	ePg	**Pb**	**22 25 37.1**	**-1.4**
TRPA				eSg	**Sb**	**22 25 53.0**	**0.0**
LANS	**Liptovska Anna**	**1.39**	**318**	ePG	**Pb**	**22 25 43.2**	**+0.1**
LANS				eSG	**Sn**	**22 26 01.0**	**0.0**
VYHS	**Vyhne**	**1.41**	**286**	ePG	**Pn**	**22 25 42.3**	**-0.6**
VYHS				eSG	**Sb**	**22 26 01.6**	**0.0**
DRGR		**1.83**	**136**⇑	iP	**Pn**	**22 25 48.3**	**-0.4**
DRGR		**1.83**	**136**	S	**Sn**	**22 26 12.1**	**+0.1**
SIRR	**Siria**	**1.94**	**164**⇑	iP	**Pn**	**22 25 49.6**	**-0.5**
SIRR	**Siria**	**1.94**	**164**	S	**Sb**	**22 26 16.0**	**-0.7**

*ISCJB **18** 22:27:04.0±1.4, 39°.24N±0°.04×142°.54E±0°.09, h27km±6km, mb3.4/2, Error ellipse: s-maj=11.7km s-min=5.8km az=15.8*
*JMA **18** 22:27:05.0±0.1, 39°.27N×142°.49E, h32km±1km, M3.4*
*IDC **18** 22:27:08.6±3.3, 39°.29N×142°.71E, h72km±30km, mb3.1/2, mb1 3.3/4, mb1mx3.0/33, mbtmp3.3/4, MS2.3/2, Ms1 2.3/2, ms1mx2.0/17, Error ellipse: s-maj=44.5km s-min=13.5km az=112.0*
ISC 18 22:27:05.6±1.9, 39°.20N±0°.05×142°.40E±0°.09, h31km±11km, n20, σ1°52/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.58**	**258**	P	**Pn**	**22 27 17.8**	**+0.2**
OFUJ				S	**Sb**	**22 27 26.7**	**+1.3**
MIYJ	**Miyakonagasawa**	**0.58**	**310**	P	**Pb**	**22 27 16.8**	**-0.6**
MIYJ				eS	**Sb**	**22 27 25.3**	**-0.2**
JKMT	**Kesennumamotoy**	**0.82**	**242**	P	**Pn**	**22 27 21.5**	**+0.6**
JKMT				S	**Sn**	**22 27 33.1**	**+1.1**
JTH	**Tanohata**	**0.84**	**331**	P	**Pn**	**22 27 20.1**	**-1.2**
JTH				eS	**Sn**	**22 27 31.4**	**-1.2**
JOM	**Ohasama**	**0.90**	**288**	P	**Pn**	**22 27 22.4**	**+0.4**
JOM				S	**Sn**	**22 27 34.6**	**+0.7**
JMK	**Ichinoseki**	**0.95**	**255**	P	**Pn**	**22 27 23.6**	**+0.9**
JMK				eS	**Sn**	**22 27 36.6**	**+1.4**
JIO	**Ouri**	**1.11**	**228**	P	**Pn**	**22 27 25.4**	**+0.5**
JIO				S	**Sn**	**22 27 39.9**	**+0.8**
JKZ	**Kuzumaki**	**1.13**	**314**	P	**Pn**	**22 27 25.5**	**+0.2**
JKZ				S	**Sb**	**22 27 40.2**	**-0.9**
JANG	**Nango**	**1.35**	**330**	P	**Pn**	**22 27 27.7**	**-0.6**
JANG				S	**Sn**	**22 27 44.8**	**-0.3**
JRG	**Rokugo**	**1.38**	**279**	P	**Pb**	**22 27 30.6**	**-0.2**
JRG				eS	**Sb**	**22 27 50.0**	**+2.0**
MJAR	**Matsushiro Arr**	**4.25**	**233**	P	Pn	22 28 13.2	+5.1
	0.3nm,0.3s,baz=37,slow=12,SNR=34						
MJAR				S	**Sb**	**22 29 05.7**	**-4.6**
	0.0nm,0.3s,baz=238,slow=41,SNR=2.9						
MJAR				LR	LR	22 30 26.4	
	comp=Z,18nm,20.4s,baz=100,slow=44						
ASAJ	**Asahikawa**	**4.91**	**2**	P	**Pn**	**22 28 20.4**	**+3.2**
	0.4nm,0.3s,baz=189,slow=19,SNR=2.9						
ASAJ				S	**Sn**	**22 29 13.2**	**+0.3**
	0.5nm,0.3s,baz=51,slow=31,SNR=1.5						
ASAJ				LR	LR	22 30 39.5	
	comp=Z,63nm,21.3s,baz=106,slow=44						
H11N2	**WAKE ISLAND Hy 28.68**	**126**		T	T	23 03 24.2	
	baz=318,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy 28.69**	**126**		T	T	23 03 24.9	
	baz=318,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy 28.70**	**126**		T	T	23 03 31.4	
	baz=318,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy 29.48**	**127**		T	T	23 04 29.3	
	baz=319,slow=76,SNR=5.0						
H11S3	**WAKE ISLAND Hy 29.48**	**127**		T	T	23 04 31.9	
	baz=319,slow=76,SNR=6.0						
H11S2	**WAKE ISLAND Hy 29.49**	**127**		T	T	23 04 28.0	
	baz=319,slow=76,SNR=4.8						
MKAR	**Makanchi Array**	**43.66**	**300**	P	**P**	**22 35 07.6**	**+0.4**
	0.3nm,0.7s,baz=60,slow=8.7,SNR=1.9						
WRA	**Warramunga Arr**	**59.32**	**189**	P	**P**	**22 37 03.5**	**-0.9**
	0.3nm,0.5s,baz=7.6,slow=6.3,SNR=7.3						

*IDC **18** 22:37:48.5±2.0, 36°.53N×28°.87E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.2/41, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=47.0km s-min=22.7km az=140.0*
*ATH **18** 22:37:49.8, 37°.04N×28°.43E, h22km±3km, ML3.2/4, Error ellipse: s-maj=4.6km s-min=1.7km az=178.0*
*DDA **18** 22:37:49.7, 37°.05N×28°.46E, h7km±5km, ML3.4*
*ISCJB **18** 22:37:49.7±0.4, 37°.05N±0°.02×28°.46E±0°.02, h5km±4km, mb3.7/1, Error ellipse: s-maj=3.9km s-min=2.9km az=11.4*
*ISK **18** 22:37:49.4, 37°.02N×28°.44E, h8km, ML3.4/26*
*THE **18** 22:37:50.6, 37°.01N×28°.42E, h0km±1km, ML3.1/9, Error ellipse: s-maj=1.5km s-min=0.8km az=41.0*
ISC 18 22:37:51.5±0.9, 37°.02N±0°.02×28°.41E±0°.02, h12km±7km, n79, σ1°11/96, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.21**	**134**	PG	**Pg**	**22 37 55.9**	**-0.1**
TURN				SG	**Sg**	**22 38 00.7**	**+1.6**
TURN	**Turunc**	**0.21**	**134**	iP	**Pg**	**22 37 56.7**	**+0.7**
TURN				iS	**Sg**	**22 38 01.8**	**+2.7**
DALY	**Dalyan (Mula)**	**0.28**	**137**	PG	**Pg**	**22 37 55.2**	**-2.0**
DALY				SG	**Sg**	**22 37 59.6**	**-1.5**
DALY	**Dalyan (Mula)**	**0.28**	**137**	IAML_P			
	comp=Z,45μm,0.2s						
DALY				iP	**Pg**	**22 37 55.3**	**-1.9**
DALY				iS	**Sg**	**22 38 00.1**	**-0.9**
MRSB	**Marmaris-Mugla**	**0.35**	**210**	PG	**Pg**	**22 37 56.8**	**-1.7**
BBRN	**Bozburun-Marma**	**0.45**	**220**	PG	**Pg**	**22 37 58.7**	**-1.5**
TAVA	**DENIZLI_Tavas**	**0.60**	**42**	IAML_P			
	comp=Z,11μm,0.2s						
TAVA				iP	**Pg**	**22 38 01.9**	**-1.2**
DATC	**Datca-Mugla**	**0.66**	**247**	PG	**Pg**	**22 38 02.9**	**-1.3**
FETY	**Fethiye**	**0.66**	**125**	PG	**Pg**	**22 38 02.5**	**-1.8**
FETY	**Fethiye**	**0.66**	**125**	P	**Pg**	**22 38 03.0**	**-1.3**
FETY	**Fethiye**	**0.66**	**125**	iP	**Pg**	**22 38 02.2**	**-2.1**
FETY				iS	**Sg**	**22 38 12.6**	**-0.4**
DAT	**Datca**	**0.73**	**247**	PG	**Pg**	**22 38 04.1**	**-1.6**
DAT	**Datca**	**0.73**	**247**	IAML_P			
	comp=Z,2μm,0.2s						
DAT				iP	**Pg**	**22 38 04.4**	**-1.3**
DAT				iS	**Sb**	**22 38 17.1**	**+0.9**
AYDN	**Tasoluk**	**0.77**	**326**	iP	**Pg**	**22 38 05.4**	**-0.9**
BDRM	**Kayabasi**	**0.78**	**274**	IAML_P			
	comp=Z,10μm,0.3s						
BDRM				iP	**Pg**	**22 38 05.5**	**-1.0**
BDRM				iS	**Sb**	**22 38 17.9**	**+0.4**
ARG	**Arkhangelos**	**0.84**	**196**	PG	**Pg**	**22 38 05.8**	**-1.8**
ARG	**Arkhangelos**	**0.84**	**196**	P	**Pg**	**22 38 06.0**	**-1.6**
ARG				S	**Sb**	**22 38 20.0**	**+0.9**
ARG	**Arkhangelos**	**0.84**	**196**	P	**Pg**	**22 38 05.8**	**-1.8**
ARG				AML	AML	22 38 22.6	
	comp=E,3575μm,0.3s						
ARG				AML	AML	22 38 23.7	
	comp=N,2953μm,0.4s						
DENT	**Denizli**	**0.88**	**34**	PG	**Pg**	**22 38 05.8**	**-2.7**
BODT	**Bodrum**	**0.88**	**273**	PG	**Pg**	**22 38 07.1**	**-1.4**
BODT	**Bodrum**	**0.88**	**273**	P	**Pg**	**22 38 08.2**	**-0.3**
BODT				S	**Sn**	**22 38 22.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**336**	PG	**Pg**	**22 38 09.4**	**-1.6**
NISR	**Nisiros**	**1.11**	**249**	P	**Pb**	**22 38 12.0**	**-0.6**
NISR				S	**Sn**	**22 38 28.7**	**+0.7**
NISR	**Nisiros**	**1.11**	**249**	P	**Pb**	**22 38 11.6**	**-1.0**
GCAM	**G?zelcaml?**	**1.16**	**306**	PN	**Pb**	**22 38 12.6**	**-0.8**
GCAM	**G?zelcaml?**	**1.16**	**306**	IAML_P			
	comp=Z,6μm,0.2s						
GCAM				iP	**Pb**	**22 38 13.3**	**-0.1**
GCAM				iS	**Sn**	**22 38 30.2**	**+0.9**
ELL	**Elmali**	**1.23**	**102**	PN	**Pn**	**22 38 13.3**	**-1.3**
AKAS	**Kas**	**1.24**	**129**	PN	**Pn**	**22 38 13.7**	**-1.0**
AKAS	**Kas**	**1.24**	**129**	IAML_P			
	comp=Z,11μm,0.2s						
AKAS				iP	**Pn**	**22 38 14.4**	**-0.3**
KSL	**Kastellorizon**	**1.28**	**132**	P	**Pn**	**22 38 14.5**	**-0.7**
KSL				S	**Sg**	**22 38 33.0**	**+0.3**
KSL	**Kastellorizon**	**1.28**	**132**	P	**Pn**	**22 38 14.2**	**-1.0**
KSL				AML	AML	22 38 37.8	
	comp=N,1247μm,0.6s						
KSL				AML	AML	22 38 38.7	
	comp=E,1491μm,0.5s						
SMG	**Samos**	**1.43**	**299**	P	**Pn**	**22 38 16.5**	**-0.8**
SMG				S	**Sn**	**22 38 35.9**	**-0.1**
SMG	**Samos**	**1.43**	**299**	P	**Pn**	**22 38 16.4**	**-0.9**
MANT	**Manisa**	**1.47**	**4**	IAML_P			
	comp=Z,2μm,0.2s						
MANT				iP	**Pn**	**22 38 17.1**	**-0.9**
BRDR	**BURDUR-Merkez**	**1.48**	**62**	IAML_P			
	comp=Z,5μm,0.4s						
BRDR				iP	**Pn**	**22 38 17.9**	**-0.1**
KULA	**Kula-Manisa**	**1.50**	**7**	PN	**Pn**	**22 38 17.3**	**-1.0**
KULA	**Kula-Manisa**	**1.50**	**7**	P	**Pn**	**22 38 17.3**	**-1.0**
KORT	**Korkueli**	**1.55**	**90**	PN	**Pn**	**22 38 18.0**	**-1.0**
KORT	**Korkueli**	**1.55**	**90**	IAML_P			
	comp=Z,4μm,0.3s						
KORT				iP	**Pg**	**22 38 20.8**	**-0.4**
KORT				iS	**Sg**	**22 38 43.0**	**+1.7**
KHAL	**Karahalli**	**1.59**	**32**	IAML_P			
	comp=Z,5μm,0.4s						
KHAL				iP	**Pn**	**22 38 18.6**	**-1.0**
AKUM	**Antalya-Kumluc**	**1.70**	**114**	IAML_P			
	comp=Z,2μm,0.2s						
AKUM				iP	**Pb**	**22 38 22.7**	**0.0**
USAK	**Uak-Merkez**	**1.76**	**16**	IAML_P			
	comp=Z,2μm,0.3s						
USAK				iP	**Pn**	**22 38 21.9**	**+0.1**
KARP	**Karpathos**	**1.79**	**215**	PN	**Pn**	**22 38 21.6**	**-0.6**
KARP	**Karpathos**	**1.79**	**215**	P	**Pn**	**22 38 22.2**	**0.0**
KARP	**Karpathos**	**1.79**	**215**	P	**Pn**	**22 38 22.0**	**-0.2**
KARP				AML	AML	22 38 48.1	
	comp=E,1588μm,0.5s						
KARP				AML	AML	22 38 56.5	
	comp=N,1454μm,0.5s						
BCK	**Bucak**	**1.79**	**75**	PN	**Pn**	**22 38 21.1**	**-1.2**
KZIL	**AFYON_Kizioren**	**1.84**	**47**	IAML_P			
	comp=Z,517nm,0.2s						
KZIL				iP	**Pn**	**22 38 22.6**	**-0.5**
ISP	**Isparta**	**1.86**	**64**	P	**Pn**	**22 38 22.7**	**-0.5**
AKHS	**Akhisar**	**1.91**	**346**	IAML_P			
	comp=Z,2μm,0.2s						
AKHS				iP	**Pn**	**22 38 23.2**	**-0.7**
ZEY	**zmir**	**1.94**	**309**	IAML_P			
	comp=Z,1μm,0.2s						
ZEY				iP	**Pn**	**22 38 23.9**	**-0.4**
URLA	**Izmir**	**1.97**	**313**	PN	**Pn**	**22 38 23.9**	**-0.7**
AMGA	**Amorgos Island**	**2.03**	**265**	P	**Pn**	**22 38 24.7**	**-0.8**
AMGA				AML	AML	22 39 04.3	
	comp=N,444μm,0.5s						
AMGA				AML	AML	22 39 06.3	
	comp=E,391μm,0.7s						
GEDZ	**Gediz**	**2.17**	**21**	PN	**Pn**	**22 38 26.6**	**-0.9**
SHUT	**Suhut-Afyon**	**2.28**	**47**	PN	**Pn**	**22 38 28.2**	**-0.9**
APE	**Apeiranthos**	**2.31**	**272**	PN	**Pn**	**22 38 28.9**	**-0.4**
APE	**Apeiranthos**	**2.31**	**272**	P	**Pn**	**22 38 29.0**	**-0.3**
CHOS	**Chios island**	**2.31**	**307**	PN	**Pn**	**22 38 29.1**	**-0.4**
CHOS	**Chios island**	**2.31**	**307**	P	**Pn**	**22 38 29.3**	**-0.2**
CHOS				S	**Sn**	**22 38 58.2**	**+0.3**
CHOS	**Chios island**	**2.31**	**307**	P	**Pn**	**22 38 29.2**	**-0.2**
THR3	**Thira Island,**	**2.50**	**257**	P	**Pn**	**22 38 31.6**	**-0.3**
THR5	**Thira Island,**	**2.54**	**257**	P	**Pn**	**22 38 32.7**	**+0.3**
TVSB	**Tavsanli**	**2.56**	**18**	PN	**Pn**	**22 38 31.9**	**-1.0**
ZKR	**Zakros**	**2.61**	**224**	PN	**Pn**	**22 38 33.1**	**-0.3**
ZKR	**Zakros**	**2.61**	**224**	P	**Pn**	**22 38 34.0**	**+0.6**
BALB	**Balikesir**	**2.65**	**351**	PN	**Pn**	**22 38 33.7**	**-0.3**
PRK	**Paraskevi**	**2.79**	**323**	P	**Pn**	**22 38 35.3**	**-0.6**
NPS	**Neapolis**	**2.87**	**233**	P	**Pn**	**22 38 37.0**	**0.0**
NPS				S	**Sn**	**22 39 12.2**	**+0.7**
SIGR	**SIGRI**	**2.98**	**318**	P	**Pn**	**22 38 38.4**	**-0.1**
SIGR	**SIGRI**	**2.98**	**318**	P	**Pn**	**22 38 38.2**	**-0.3**
DION	**Dionisos Attik**	**3.71**	**288**	P	**Pn**	**22 38 49.2**	**+0.5**
VLY	**Voula,Athens**	**3.77**	**284**	P	**Pn**	**22 38 49.5**	**+0.1**
LIA	**Limnos Island**	**3.83**	**320**	P	**Pn**	**22 38 50.3**	**+0.1**
VLI	**Veliai**	**4.40**	**268**	P	**Pn**	**22 38 58.8**	**+0.7**
BRTR	**Keskin Array B**	**4.91**	**55**	Pn	**Pn**	**22 39 05.9**	**+0.7**
	comp=E,1.5nm,0.3s,baz=234,slow=12,SNR=64						
BRTR				Sn	**Sn**	**22 40 02.6**	**+0.6**
	comp=E,0.2nm,0.3s,baz=228,slow=26,SNR=5.3						
BRBR	**Barbar**	**7.14**	**118**	eP	**Pn**	**22 39 35.2**	**-0.7**
BRBR				eS	Sn	22 40 41.0	-16
BRBR				AML	AML	22 40 57.7	
	comp=N,7.0nm,0.4s						
BRBR				AML	AML	22 40 59.3	
	comp=E,4.5nm,0.4s						
QASN	**Qassioun**	**7.31**	**116**	eP	**Pn**	**22 39 39.0**	**+0.8**
TOTH	**TOTAH**	**7.51**	**117**	eP	**Pn**	**22 39 40.5**	**-0.3**
TOTH				eS	Sn	22 40 46.5	-19
TOTH				AML	AML	22 41 10.3	
	comp=N,5.3nm,0.4s						
TOTH				AML	AML	22 41 10.7	
	comp=E,3.1nm,0.5s						
GERES	**GERESS Array B**	**15.96**	**322**	Pn	**P**	**22 41 43.4**	**+4.0**
	comp=E,0.1nm,0.3s,baz=128,slow=12,SNR=2.5						
TORD	**Torodi Ar. Bea**	**33.71**	**232**	P	**P**	**22 44 31.4**	**-1.2**
	comp=E,0.4nm,0.4s,baz=37,slow=8.4,SNR=9.3						

*ISCJB **18** 22:38:16.9±0.6, 37°.29N±0°.05×37°.08E±0°.07, h8km±7km, Error ellipse: s-maj=11.6km s-min=5.9km az=142.5*
*DDA **18** 22:38:16.5, 37°.31N×37°.11E, h7km±2km, ML2.7*
*ISK **18** 22:38:16.2, 37°.31N×37°.12E, h8km, ML1.8/6*
**ISC 18 22:38:16.8±1.0, 37°.30N±0°.04×37°.12E±0°.04, h10km±9km, n13, σ0°48/15,

*GCMT **18** 22:39:41.2±0.5, 52°.21N±0°.04×160°.57E±0°.06, h27km±1km, MW4.8/53, Moment Tensor Solution. s30,c34; s53,c72; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.97±.20; $M_{\theta\theta}$-1.19±.13; $M_{\phi\phi}$-0.78±.12; $M_{r\theta}$0.83±.24; $M_{r\phi}$-1.17±.08; $M_{\theta\phi}$0.44±.19; Best double couple: $M_0$2.27500×10^{16} NP1:ϕ_s55.00000°, δ57.00000°, λ96.00000°. NP2: ϕ_s224.00000°, δ33.00000°, λ81.00000°. Principal axes: T 2.1820, Plg77.0000°, Azm345.0000°; N 0.1830, Plg5.0000°, Azm232.0000°; P -2.3690, Plg12.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **18** 22:39:46.8±0.0, 52°.77N×158°.97E, h94km, mb4.9/58, mB4.8/37*

ISC 18 22:39:38.0±0.4, 52°.17N±0°.04×160°.43E±0°.03, h49km±3km, h49km:pP-P, n653, σ1$60/660, mb4.9/256, MS4.6/38, 70C-13D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97**	**345**	*e*P		**Pn**		**22 39 52.6**	**-2.6**
SPN				*e*S		**Sn**		**22 40 05.9**	**-2.0**
SPN	**Mys Shipunski**	**0.97**	**345**	PN		**Pn**		**22 39 52.6**	**-2.6**
SPN				S		**Sn**		**22 40 05.9**	**-2.0**
NLC	**Nalytchevo**	**1.20**	**327**	*e*P		**Pn**		**22 39 56.8**	**-1.6**
NLC				*e*S		**Sn**		**22 40 15.6**	**+2.0**
NLC	**Nalytchevo**	**1.20**	**327**	PN		**Pn**		**22 39 56.8**	**-1.6**
NLC				S		**Sn**		**22 40 15.6**	**+2.0**
RUS	**Russkaya**	**1.20**	**284**	*e*P		**Pn**		**22 39 56.9**	**-1.5**
RUS	**Russkaya**	**1.20**	**284**	PN		**Pn**		**22 39 56.9**	**-1.5**
DALK	**Dalny**	**1.34**	**311**	*e*P		**Pn**		**22 39 59.0**	**-1.2**
DALK				*e*S		**Sn**		**22 40 19.6**	**+2.7**
DALK	**Dalny**	**1.34**	**311**	PN		**Pn**		**22 39 59.0**	**-1.2**
PET	**Petropavlovsk**	**1.38**	**309**	*e*Pn		**Pn**		**22 39 59.1**	**-1.7**
PET	**Petropavlovsk**	**1.38**	**309**	*e*P		**Pn**		**22 39 59.7**	**-1.1**
PET	**Petropavlovsk**	**1.38**	**309**	⇑*e*PN		**Pn**		**22 39 59.8**	**-1.1**
PET	comp=Z,7μm,2.3s			pmax		pmax			
PET	comp=Z,3μm,0.5s			pmax		pmax			
MTVR	**Mutnovka**	**1.41**	**284**	*e*P		**Pn**		**22 40 00.4**	**-1.0**
MTVR	**Mutnovka**	**1.41**	**284**	PN		**Pn**		**22 40 00.4**	**-1.0**
UGLR	**Uglovaya**	**1.43**	**318**	*e*P		**Pn**		**22 40 00.8**	**-0.8**
UGLR	**Uglovaya**	**1.43**	**318**	PN		**Pn**		**22 40 00.8**	**-0.8**
SDLR	**Sedlovina**	**1.46**	**321**	*e*P		**Pn**		**22 40 00.8**	**-1.2**
SDLR	**Sedlovina**	**1.46**	**321**	PN		**Pn**		**22 40 00.8**	**-1.2**
SMAR	**Somma**	**1.48**	**319**	*e*P		**Pn**		**22 40 01.3**	**-1.1**
SMAR	**Somma**	**1.48**	**319**	PN		**Pn**		**22 40 01.3**	**-1.1**
GRL	**Gorelyy**	**1.49**	**286**	*e*P		**Pn**		**22 40 02.6**	**+0.1**
GRL	**Gorelyy**	**1.49**	**286**	PN		**Pn**		**22 40 02.6**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.50**	**257**	*e*P		**Pn**		**22 40 00.7**	**-1.7**
KDTR				*e*S		**Sn**		**22 40 20.3**	**-0.4**
KDTR	**Khodutka, Kamc**	**1.50**	**257**	PN		**Pn**		**22 40 00.7**	**-1.7**
KDTR				S		**Sn**		**22 40 20.3**	**-0.4**
AVH	**Avacha**	**1.51**	**318**	*e*P		**Pn**		**22 40 01.9**	**-0.7**
AVH	**Avacha**	**1.51**	**318**	PN		**Pn**		**22 40 01.9**	**-0.7**
KRER	**Koryakskii**	**1.53**	**319**	*e*P		**Pn**		**22 40 02.3**	**-0.8**
KRER	**Koryakskii**	**1.53**	**319**	PN		**Pn**		**22 40 02.3**	**-0.8**
KRMR	**Karymshinskiy**	**1.55**	**296**	*e*P		**Pn**		**22 40 02.3**	**-0.9**
KRMR				*e*S		**Sn**		**22 40 24.8**	**+2.7**
KRMR	**Karymshinskiy**	**1.55**	**296**	PN		**Pn**		**22 40 02.3**	**-0.9**
ASAK	**Asacha**	**1.57**	**279**	*e*P		**Pn**		**22 40 03.1**	**-0.4**
ASAK	**Asacha**	**1.57**	**279**	PN		**Pn**		**22 40 03.1**	**-0.4**
KOK	**Koryaka**	**1.57**	**317**	*e*P		**Pn**		**22 40 02.7**	**-0.8**
KOK	**Koryaka**	**1.57**	**317**	PN		**Pn**		**22 40 02.7**	**-0.8**
KRX	**Arik**	**1.61**	**319**	*e*P		**Pn**		**22 40 03.3**	**-0.8**
KRX	**Arik**	**1.61**	**319**	PN		**Pn**		**22 40 03.3**	**-0.8**
I44RU	**PETROPAVLOVSK-**	**1.90**	**301**	Pn		**Pn**		**22 40 06.6**	**-1.4**
	baz=96,slow=21,SNR=2.2								
PEA0B	**Petropavlovsk-**	**1.91**	**301**	*e*Pn		**Pn**		**22 40 07.9**	**-0.2**
PEA0B	**Petropavlovsk-**	**1.91**	**301**	*e*PN		**Pn**		**22 40 07.9**	**-0.2**
PETK	**Petropavlovsk-**	**1.91**	**301**	*e*Pn		**Pn**		**22 40 06.6**	**-1.5**
PETK	**Petropavlovsk-**	**1.91**	**301**	*e*PN		**Pn**		**22 40 06.6**	**-1.5**
PETK	**Petropavlovsk-**	**1.91**	**301**	Pn		**Pn**		**22 40 07.7**	**-0.4**
	comp=Z,169nm,0.3s,baz=108,slow=18,SNR=552								
PETK				Sn		**Sn**		**22 40 36.0**	**+5.0**
	comp=Z,542nm,0.3s,baz=101,slow=38,SNR=13								
PETK				LR		LR		22 40 39.9	
	comp=Z,2μm,19.9s,baz=59,slow=39								
PEA1	**Petropavlovsk-**	**1.91**	**301**	*e*Pn		**Pn**		**22 40 07.7**	**-0.5**
PEA1				*e*Sn		**Sn**		**22 40 36.0**	**+5.0**
APC	**Apacha**	**2.13**	**292**	*e*P		**Pn**		**22 40 11.5**	**+0.4**
APC				*e*S		**Sn**		**22 40 40.4**	**+4.0**
APC	**Apacha**	**2.13**	**292**	PN		**Pn**		**22 40 11.5**	**+0.4**
PAU	**Pauzhetka**	**2.35**	**254**	*e*P		**Pn**		**22 40 14.1**	**0.0**
PAU	**Pauzhetka**	**2.35**	**254**	PN		**Pn**		**22 40 14.1**	**0.0**
MKZ	**Mys Kozlova**	**2.52**	**18**	*e*P		**Pn**		**22 40 13.8**	**-2.6**
MKZ	**Mys Kozlova**	**2.52**	**18**	PN		**Pn**		**22 40 13.8**	**-2.6**
KZV	**Kizimen**	**2.96**	**359**	*e*P		**Pn**		**22 40 21.7**	**-0.8**
KZV	**Kizimen**	**2.96**	**359**	PN		**Pn**		**22 40 21.7**	**-0.8**
TUMD	**Tumrok D**	**3.04**	**360**	*e*P		**Pn**		**22 40 22.2**	**-1.4**
TUMD				*e*S		**Sn**		**22 40 58.3**	**-0.5**
SKR	**Severo-Kuril's**	**3.08**	**243**	*e*P		**Pn**		**22 40 22.3**	**-1.7**
SKR	**Severo-Kuril's**	**3.08**	**243**	*e*PN		**Pn**		**22 40 22.0**	**-2.0**
SKR				*e*S		**Sn**		**22 40 57.4**	**-2.2**
SKR	comp=Z,473nm,0.7s			pmax		pmax			
SKR	comp=N,2μm,0.8s			smax		smax			
SKR	comp=E,3μm,0.7s			smax		smax			
SKR	comp=Z,3μm,12.0s			MLR		MLR			
SKR	comp=Z,5μm,14.0s			MLR		MLR			
TUMR	**Tumrok**	**3.13**	**357**	PN		**Pn**		**22 40 22.2**	**-2.7**
TUMR				S		**Sn**		**22 40 58.3**	**-2.7**
ALID	**Alaid**	**3.31**	**249**	*e*P		**Pn**		**22 40 26.7**	**-0.7**
ALID	**Alaid**	**3.31**	**249**	PN		**Pn**		**22 40 26.7**	**-0.7**
BZMR	**Bezymyannaya**	**3.78**	**1**	*e*P		**Pn**		**22 40 35.4**	**+1.6**
BZMR	**Bezymyannaya**	**3.78**	**1**	PN		**Pn**		**22 40 35.4**	**+1.6**
BZGR	**Bezymyannyi-Gr**	**3.79**	**2**	*e*P		**Pn**		**22 40 34.0**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**3.79**	**2**	PN		**Pn**		**22 40 34.0**	**+0.1**
KIRR	**Kirishev**	**3.80**	**359**	*e*P		**Pn**		**22 40 33.9**	**-0.1**
KIRR	**Kirishev**	**3.80**	**359**	PN		**Pn**		**22 40 33.9**	**-0.1**
BZWR	**Bezymyannyi-We**	**3.81**	**1**	*e*P		**Pn**		**22 40 34.5**	**+0.3**
BZWR	**Bezymyannyi-We**	**3.81**	**1**	PN		**Pn**		**22 40 34.5**	**+0.3**
KPT	**Kopyto**	**3.81**	**358**	*e*P		**Pn**		**22 40 34.6**	**+0.4**
KPT	**Kopyto**	**3.81**	**358**	PN		**Pn**		**22 40 34.6**	**+0.4**
ESO	**Esso**	**3.90**	**346**	*e*P		**Pn**		**22 40 34.4**	**-1.0**
ESO	**Esso**	**3.90**	**346**	PN		**Pn**		**22 40 34.4**	**-1.0**
KOZ	**Kozyrevsk**	**3.91**	**355**	*e*P		**Pn**		**22 40 35.6**	**+0.1**
KOZ	**Kozyrevsk**	**3.91**	**355**	PN		**Pn**		**22 40 35.6**	**+0.1**
LGNR	**Loginova**	**3.93**	**2**	*e*P		**Pn**		**22 40 36.7**	**+0.7**
LGNR	**Loginova**	**3.93**	**2**	PN		**Pn**		**22 40 36.7**	**+0.7**
CIRR	**Tsirk**	**3.96**	**3**	*e*P		**Pn**		**22 40 37.0**	**+0.7**
CIRR	**Tsirk**	**3.96**	**3**	PN		**Pn**		**22 40 37.0**	**+0.7**
KLY	**Klyuchi**	**4.16**	**2**	*e*P		**Pn**		**22 40 39.1**	**+0.3**
KLY	**Klyuchi**	**4.16**	**2**	PN		**Pn**		**22 40 39.1**	**+0.3**
KBTR	**Krutoberegovo**	**4.29**	**18**	*e*P		**Pn**		**22 40 38.8**	**-1.8**
KBTR	**Krutoberegovo**	**4.29**	**18**	PN		**Pn**		**22 40 38.8**	**-1.8**
KBG	**Krutoberegovo**	**4.31**	**17**	*e*P		**Pn**		**22 40 39.8**	**-1.1**
KBG	**Krutoberegovo**	**4.31**	**17**	PN		**Pn**		**22 40 39.8**	**-1.1**
BDR	**Baidarnaya**	**4.44**	**6**	*e*P		**Pn**		**22 40 43.1**	**+0.4**
BDR	**Baidarnaya**	**4.44**	**6**	PN		**Pn**		**22 40 43.1**	**+0.4**
SMKR	**Semkarok**	**4.47**	**7**	*e*P		**Pn**		**22 40 42.4**	**-0.8**
SMKR				*e*S		**Sn**		**22 41 35.1**	**+1.2**
SMKR	**Semkarok**	**4.47**	**7**	PN		**Pn**		**22 40 42.4**	**-0.8**
SMKR				S		**Sn**		**22 41 35.1**	**+1.2**
BKI	**Bering**	**4.49**	**45**	*e*P		**Pn**		**22 40 40.2**	**-3.1**
BKI				*e*S		**Sn**		**22 41 26.5**	**-7.7**
BKI	**Bering**	**4.49**	**45**	PN		**Pn**		**22 40 40.2**	**-3.1**
SRKR	**Sorokina**	**4.52**	**5**	*e*P		**Pn**		**22 40 43.0**	**-0.9**
SRKR				*e*S		**Sn**		**22 41 35.2**	**+0.1**
SRKR	**Sorokina**	**4.52**	**5**	PN		**Pn**		**22 40 43.0**	**-0.9**
SRKR				S		**Sn**		**22 41 35.2**	**+0.1**
PALN	**Palana**	**6.95**	**358**	*e*P		**Pn**		**22 41 17.9**	**+0.9**
PALN	**Palana**	**6.95**	**358**	PN		**Pn**		**22 41 17.9**	**+0.9**
OSSR	**Ossora**	**7.25**	**11**	*e*P		**Pn**		**22 41 20.4**	**-0.8**
OSSR	**Ossora**	**7.25**	**11**	PN		**Pn**		**22 41 20.4**	**-0.8**
SMY	**Shemya**	**8.38**	**81**	*e*Pn		**Pn**		**22 41 34.6**	**-1.9**
SMY	**Shemya**	**8.38**	**81**	*e*PN		**Pn**		**22 41 34.7**	**-1.9**
TILK	**Tilichiki**	**8.88**	**19**	*e*P		**Pn**		**22 41 44.0**	**+0.5**
TILK	**Tilichiki**	**8.88**	**19**	PN		**Pn**		**22 41 44.0**	**+0.5**
MA2	**Magadan**	**9.19**	**328**	*e*Pn		Pn		22 41 42.5	-5.3
MA2	**Magadan**	**9.19**	**328**	Pn		**Pn**		**22 41 48.1**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=153,slow=14,SNR=6.6								
KUR	**Kuril'sk**	**10.81**	**235**	*i* PN		**Pn**		**22 42 08.6**	**-1.3**
TYV	**Tymovskoe**	**11.15**	**270**	*e*PN		**Pn**		**22 42 14.6**	**0.0**
TYV				*e*S		**Sn**		**22 44 20.0**	**+2.3**
TYV				pmax		pmax			
TYV	comp=Z,5.0nm,0.8s			pmax		pmax			
TYV	comp=Z,300nm,4.4s			smax		smax			
TYV	comp=N,600nm,8.0s			MLR		MLR			
TYV	comp=E,3μm,15.0s			MLR		MLR			
TYV	comp=Z,3μm,15.0s								
SEY	**Seymchan**	**11.62**	**341**	*i* PN		**Pn**		**22 42 21.1**	**+0.3**
SEY	**Seymchan**	**11.62**	**341**	Pn		**Pn**		**22 42 21.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=140,slow=9.7,SNR=7.6								
NKL	**Nikolayevsk**	**12.03**	**283**	*e*PN		P		22 42 33.0	-5.1
NKL				pmax		pmax			
NKL	comp=Z,43nm,1.0s			MLR		MLR			
NKL	comp=E,2μm,14.0s			MLR		MLR			
NKL	comp=Z,4μm,14.0s								
UGL	**Uglegorsk**	**12.06**	**262**	PN		Pn		22 42 17.5	-9.5
UGL				pmax		pmax			
UGL	comp=Z,28nm,0.7s								
YSS	**Yuzh-Sakhalins**	**12.59**	**253**	*e*Pn		**Pn**		**22 42 31.5**	**-2.8**
YSS	**Yuzh-Sakhalins**	**12.59**	**253**	⇑*e*PN		**Pn**		**22 42 35.9**	**+1.7**
YSS				pmax		pmax			
YSS	comp=Z,30nm,1.2s			pmax		pmax			
YSS	comp=Z,100nm,2.4s			MLR		MLR			
YSS	comp=N,900nm,14.0s			MLR		MLR			
YSS	comp=Z,1μm,14.0s			MLR		MLR			
YSS	comp=E,900nm,16.0s								
YUK	**Yuzh-Kuril'sk**	**12.67**	**236**	*e*PN		Pn		22 42 22.8	-12
ADK	**Adak**	**14.09**	**82**	*e*Pn		**Pn**		**22 42 53.2**	**-1.4**
ADK	**Adak**	**14.09**	**82**	*e*P		**Pn**		**22 42 53.2**	**-1.4**
ASAJ	**Asahikawa**	**14.34**	**243**	Pn		**Pn**		**22 42 56.8**	**-1.2**
	comp=E,1.2nm,0.3s,baz=64,slow=13,SNR=17								
ASAJ				LR		LR		22 49 16.2	
	comp=E,1μm,18.6s,baz=60,slow=41								
GRNR	**Gornyy**	**15.01**	**274**	*e*P		**P**		**22 43 09.5**	**-1.8**
GRNR				pmax		pmax			
	comp=Z,21nm,1.0s								
ERM	**Érimo**	**15.50**	**236**	*e*Pn		**Pn**		**22 43 09.8**	**-3.2**
	comp=Z,38nm,0.9s								
ERM	**Érimo**	**15.50**	**236**	*i* P		**Pn**		**22 43 09.6**	**-3.5**
BILL	**Biiibino**	**16.18**	**8**	*e*Pn		**Pn**		**22 43 20.7**	**-0.8**
	comp=Z,49nm,0.7s								
BILL	**Biiibino**	**16.18**	**8**	*ce*P		**Pn**		**22 43 20.8**	**-0.8**
BILL				*e*S		**Sn**		**22 46 14.3**	**-5.4**
BILL				pmax		pmax			
BILL	comp=Z,66nm,1.0s			MLR		MLR			
BILL	comp=Z,995nm,19.0s								
TEY	**Ternei**	**17.25**	**255**	⇓*e*P		**P**		**22 43 36.2**	**+0.2**
TEY				pmax		pmax			
TEY	comp=N,20nm,0.6s								
KLR	**Kul'dur**	**18.35**	**272**	*i* P		**P**		**22 43 47.2**	**-0.9**
KLR				pmax		pmax			
KLR	comp=Z,23nm,0.9s			MLR		MLR			
KLR	comp=Z,1μm,15.0s								
KLR	**Kul'dur**	**18.35**	**272**	P		**P**		**22 43 47.3**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=65,slow=11,SNR=46								
KLR				LR		LR		22 51 48.0	
	comp=Z,1μm,18.1s,baz=74,slow=40								
YAK	**Yakutsk**	**19.21**	**313**	*e*P		**P**		**22 43 55.0**	**-2.5**
YAK				pmax		pmax			
YAK	comp=Z,1μm,0.9s			pmax		pmax			
YAK	comp=N,247nm,1.1s			pmax		pmax			
YAK	comp=E,377nm,0.9s			MLR		MLR			
YAK	comp=Z,3μm,15.0s			MLR		MLR			
YAK	comp=N,2μm,14.0s			MLR		MLR			
YAK	comp=E,2μm,14.0s								
ZEA	**Zeya**	**19.95**	**288**	*e*P		**P**		**22 44 03.4**	**-2.2**
ZEA				pmax		pmax			
ZEA	comp=Z,26nm,0.8s			MLR		MLR			
ZEA	comp=E,1μm,15.0s			MLR		MLR			
ZEA	comp=Z,2μm,15.0s			MLR		MLR			
ZEA	comp=N,1μm,14.0s								
USRK	**Ussuriysk Ar.**	**20.46**	**258**	P		**P**		**22 44 09.1**	**-2.1**
	comp=N,34nm,1.0s,baz=57,slow=10,SNR=27								
USRK				LR		LR		22 52 11.0	
	comp=N,657nm,20.1s,baz=58,slow=37								
MDJ	**Mudanjiang**	**21.70**	**262**	P		**P**		**22 44 22.8**	**-1.7**
MDJ				S		**S**		**22 48 11.3**	**-11**
MDJ				pmax		pmax			
MDJ	comp=N,31nm,0.8s			LR		LR			
MDJ	comp=N,2μm,16.9s			LR		LR			
MDJ	comp=N,730nm,18.8s			LR		LR			
MDJ	comp=N,1μm,18.2s								
MDJ	**Mudanjiang**	**21.70**	**262**	*e*P		**P**		**22 44 23.1**	**-1.4**
	comp=N,22nm,0.8s								
MJB9	**Matsu-Tunnel**	**22.14**	**234**	*e*P		**P**		**22 44 30.6**	**+1.2**
MAJO	**Matsushiro**	**22.14**	**234**	*e*P		**P**		**22 44 30.4**	**+1.1**
	comp=N,49nm,0.8s								
MAJO	**Matsushiro**	**22.14**	**234**	*i* P		**P**		**22 44 29.3**	**-0.1**
MAJO				pmax		pmax			
MAJO	comp=Z,40nm,1.0s			MLR		MLR			
MAJO	comp=Z,891nm,21.0s								
MAT	**Matsushiro**	**22.14**	**234**	P		**P**		**22 44 29.9**	**+0.5**
MAT				S		**S**		**22 48 26.0**	**-4.3**
MJAR	**Matsushiro Arr**	**22.14**	**234**	*e*P		**P**		**22 44 30.4**	**+1.0**
MJAR	**Matsushiro Arr**	**22.14**	**234**	*e*P		**P**		**22 44 30.4**	**+1.0**
MJAR	**Matsushiro Arr**	**22.14**	**234**	P		**P**		**22 44 29.8**	**+0.4**
	comp=Z,18nm,0.9s,baz=21,slow=9.4,SNR=77								
MJAR				LR		LR		22 53 38.2	
	comp=Z,896nm,21.3s,baz=65,slow=38								
INU	**Inuyama**	**23.68**	**234**	*e*P		**P**		**22 44 45.7**	**+0.8**
RDOG	**Red Dog Mine**	**23.69**	**34**	*e*P		**P**		**22 44 43.8**	**-0.9**
	comp=Z,30nm,1.2s								
TIXI	**Tiksi**	**24.01**	**336**	*e*P		**P**		**22 44 45.8**	**-1.9**
	comp=Z,45nm,0.8s								
TIXI				*e*P		**P**		**22 44 46.6**	**-1.1**
TIXI	**Tiksi**	**24.01**	**336**	*ce*P		**P**		**22 44 45.9**	**-1.7**
TIXI				*i* *PP		**pP**		**22 44 58.9**	**-0.6**
TIXI				pmax		pmax			
TIXI	comp=Z,52nm,0.9s			MLR		MLR			
TIXI	comp=Z,555nm,17.0s								
TIXI	**Tiksi**	**24.01**	**336**	P		**P**		**22 44 46.6**	**-1.1**
	comp=Z,44nm,0.7s,baz=128,slow=8.6,SNR=120								
JHJ	**Hachijo jima 2**	**24.20**	**226**	LR		LR		22 57 40.6	
	comp=Z,183nm,18.5s,baz=84,slow=45								
CN2	**Changchun**	**24.66**	**264**	*e*P		**P**		**22 44 51.6**	**-2.2**
CN2				pmax		pmax			
CN2	comp=Z,20nm,0.8s			LR		LR			
CN2	comp=Z,830nm,17.0s			LR		LR			
CN2	comp=Z,710nm,17.0s			LR		LR			
CN2	comp=Z,1μm,17.0s								
SVW2	**Sparrevohn**	**25.33**	**52**	*e*P		**P**		**22 45 00.1**	**+0.3**
	comp=Z,49nm,1.5s								
HIA	**Hailar**	**25.68**	**280**	*e*P		**P**		**22 45 00.8**	**-2.4**
	comp=Z,49nm,0.8s								
HIA	**Hailar**	**25.68**	**280**	*i* P		**P**		**22 45 01.1**	**-2.0**
HIA				*i* *PP		**pP**		**22 45 13.0**	**-2.0**
HIA				pmax		pmax			
HIA	comp=Z,340nm,0.8s								
IMAR	**Indian Mountai**	**26.56**	**41**	*e*P		**P**		**22 45 12.1**	**+1.2**
RSO	**Redoubt South**	**26.73**	**53**	*e*P		**P**		**22 45 10.9**	**-1.7**
BOD	**Bodaibo**	**26.78**	**301**	*e*P		**P**		**22 45 10.5**	**-2.4**
BOD				pmax		pmax			
BOD	comp=Z,19nm,1.5s								
KSRS	**Korea Array**	**27.07**	**250**	P		**P**		**22 45 15.9**	**+0.3**
	comp=Z,7.8nm,0.9s,baz=41,slow=9.3,SNR=25								
KSRS				LR		LR		22 57 03.9	
	comp=Z,453nm,18.4s,baz=55,slow=39								
KDAK	**Kodiak Island**	**27.09**	**59**	*e*P		**P**		**22 45 15.8**	**+0.2**
	comp=Z,76nm,1.3s								
KDAK	**Kodiak Island**	**27.09**	**59**	P		**P**		**22 45 15.8**	**+0.2**
	comp=Z,8.1nm,0.9s,baz=252,slow=16,SNR=3.4								
KS15	**Wonju Array Si**	**27.10**	**250**	*e*P		**P**		**22 45 15.9**	**0.0**
KSAR	**Wonju Array Be**	**27.10**	**250**	*e*P		**P**		**22 45 15.1**	**-0.8**
BPAW	**Bear Paw Mtn.**	**27.54**	**45**	*e*P		**P**		**22 45 21.0**	**+1.3**
	comp=Z,13nm,1.0s								
TJN	**Taejon**	**28.14**	**249**	*i* P		**P**		**22 45 26.3**	**+1.1**
JNU	**Nakatsue**	**28.59**	**240**	*e*P		**P**		**22 45 31.1**	**+1.8**
	comp=Z,40nm,0.8s								
JNU	**Nakatsue**	**28.59**	**240**	P		**P**		**22 45 29.1**	**-0.2**
	comp=Z,8.2nm,0.8s,baz=113,slow=7.7,SNR=2.6								
JNU				LR		LR		22 58 20.5	
	comp=Z,359nm,19.4s,baz=40,slow=40								
TOLK	**Toolik Lake Re**	**28.59**	**36**	*e*P		**P**		**22 45 28.4**	**-0.7**
	comp=Z,4.1nm,0.8s								
SML	**Sawmill**	**28.79**	**50**	P		P		22 45 40.2	+9.4
SML				pmax		pmax			
	comp=Z,21nm,0.9s								
COLA	**College**	**28.92**	**44**	P		P		22 45 44.6	+13
COLA				pmax		pmax			
	comp=Z,13nm,1.0s								
ILAR	**Eielson Array**	**29.33**	**44**	P		**P**		**22 45 35.4**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=252,slow=7.6,SNR=8.8								
ILAR				PcP		**PcP**		**22 48 42.2**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=278,slow=3.5,SNR=2.7								
ILAR				LR		LR		22 58 59.9	
	comp=Z,274nm,19.1s,baz=282,slow=40								
ILB	**Eielson Array**	**29.33**	**44**	*e*PcP		**PcP**		**22 48 42.2**	**+1.5**
DL2	**Dalian**	**29.85**	**259**	*e*P		**P**		**22 45 39.3**	**-1.1**
DL2				S		**S**		**22 50 29.1**	**-4.6**
DL2				pmax		pmax			
	comp=Z,24nm,1.0s								
DL2				LR		LR			
	comp=Z,630nm,15.9s								
DL2				LR		LR			
	comp=Z,240nm,12.6s								
DL2				LR		LR			
	comp=Z,570nm,20.9s								
PRP	**Porcupine Dome**	**29.91**	**43**	*e*P		**P**		**22 45 42.2**	**+1.4**
	comp=Z,11nm,0.9s								
RIDG	**Independent Ri**	**30.26**	**46**	*e*P		**P**		**22 45 46.7**	**+2.8**
	comp=Z,18nm,1.4s								
H11N2	**WAKE ISLAND Hy**	**32.76**	**169**	T		T		23 22 07.4	
	baz=352,slow=76								
H11N3	**WAKE ISLAND Hy**	**32.78**	**169**	T		T		23 22 26.6	
	baz=352,slow=76								
H11N1	**WAKE ISLAND Hy**	**32.78**	**169**	T		T		23 22 09.6	
	baz=352,slow=76								
ULN	**Ulaanbaatar**	**33.91**	**284**	*de*P		**P**		**22 46 15.3**	**-0.9**
ULN				pmax		pmax			
	comp=Z,9.0nm,0.8s								
H11S1	**WAKE ISLAND Hy**	**33.95**	**169**	T		T		23 23 36.5	
	baz=352,slow=76								
H11S3	**WAKE ISLAND Hy**	**33.96**	**169**	T		T		23 23 44.3	
	baz=352,slow=76								
H11S2	**WAKE ISLAND Hy**	**33.97**	**169**	T		T		23 23 44.8	
	baz=352,slow=76								
TLY	**Talaya**	**34.25**	**292**	*e*P		**P**		**22 46 17.5**	**-1.4**
	comp=Z,19nm,1.0s								
TLY	**Talaya**	**34.25**	**292**	*c i*P		**P**		**22 46 17.9**	**-1.0**
TLY	**Talaya**	**34.25**	**292**	P		**P**		**22 46 18.4**	**-0.5**
	SNR=5.3								
SONA0	**Songino Array**	**34.32**	**285**	*e*PcP		**PcP**		**22 48 55.5**	**+0.9**
SONM	**Songino Array**	**34.32**	**285**	*e*P		**P**		**22 46 17.7**	**-1.9**
SONM	**Songino Array**	**34.32**	**285**	P		**P**		**22 46 18.2**	**-1.5**
	comp=Z,2.8nm,0.6s,baz=50,slow=6.7,SNR=7.8								
SONM				PcP		**PcP**		**22 48 55.5**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=70,slow=2.0,SNR=2.8								
SONM				LR		LR		23 01 57.7	
	comp=Z,2μm,18.3s,baz=70,slow=39								
INK	**Inuvik**	**34.49**	**37**	*e*P		**P**		**22 46 20.6**	**-0.1**
	comp=Z,5.7nm,0.9s								
INK				*e*PcP		**PcP**		**22 48 56.3**	**+1.8**
INK	**Inuvik**	**34.49**	**37**	P		**P**		**22 46 20.5**	**-0.1**
	comp=Z,3.

comp=Z,1μm,18.6s
CD2 LR LR
comp=Z,750nm,15.7s
WMQ Urumqi 47.48 290 P **P** **22 48 08.0 +0.3**
WMQ pP sP 22 48 26.9 +1.1
WMQ pmax pmax
comp=Z,82nm,1.3s
WMQ pmax pmax
comp=Z,64nm,3.7s
WMQ LR LR
comp=Z,2μm,14.1s
WMQ LR LR
comp=Z,2μm,14.1s
WMQ LR LR
comp=Z,3μm,15.9s
GYA Guiyang 47.51 259 P **P** **22 48 09.3 +1.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
KBS Kingsbay 47.83 352 *e*P **P** **22 48 09.5 -0.4**
comp=Z,25nm,0.8s
KBS Kingsbay 47.83 352 *ce*P **P** **22 48 12.3 +2.4**
KBS pmax pmax
comp=Z,255nm,2.5s
SPA0 Spitsbergen Ar 48.09 351 *e*P **P** **22 48 12.9 +1.0**
SPITS Spitsbergen Ar 48.09 351 P **P** **22 48 12.3 +0.3**
SPITS pmax pmax
comp=Z,4.0nm,0.4s
SPITS Spitsbergen Ar 48.09 351 LR LR 23 08 05.9
comp=Z,163nm,20.2s,baz=20,slow=36
KURK Kurchatov 48.40 303 *e*P **P** **22 48 13.0 -1.7**
comp=Z,44nm,1.0s
KURK Kurchatov 48.40 303 *ce*P **P** **22 48 13.2 -1.5**
KURK pmax pmax
comp=Z,60nm,1.3s
KURK Kurchatov 48.40 303 P **P** **22 48 13.0 -1.7**
SNR=24
MK31 Makanchi Array 48.74 297⇑ *e*P **P** **22 48 15.5 -2.0**
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 48.74 297 *e*P **P** **22 48 15.7 -1.8**
MKAR Makanchi Array 48.74 297 P **P** **22 48 16.1 -1.4**
comp=Z,6.7nm,0.6s,baz=57,slow=6.9,SNR=60
MAKZ Makanchi 48.91 297 *e*P **P** **22 48 17.1 -1.7**
comp=Z,14nm,0.9s
MAKZ Makanchi 48.91 297 *i* P **P** **22 48 16.5 -2.2**
MAKZ pmax pmax
comp=Z,15nm,0.9s
B08A Colville Reser 48.96 61 *e*P **P** **22 48 20.6 +1.5**
B08A *e*pP **pP** **22 48 31.2 0.0**
NEW Newport 50.20 60 *e*P **P** **22 48 32.5 +4.0**
comp=Z,8.3nm,1.1s
NEW Newport 50.20 60 P P 22 48 40.9 +12
NEW pmax pmax
comp=Z,8.0nm,1.2s
KMI Kunming 50.87 261 P **P** **22 48 35.3 +1.2**
KMI pmax pmax
comp=Z,14nm,0.5s
KMI pmax pmax
comp=Z,82nm,4.0s
KULLO Kullorsuaq 51.05 12 *i* P **P** **22 48 34.7 +0.2**
KULLO pmax pmax
comp=Z,25nm,0.9s
KULLO Kullorsuaq 51.05 12 *i* P **P** **22 48 34.7 +0.2**
comp=Z,25nm,0.9s
YBH Yreka Blue Hor 51.16 69 *e*P **P** **22 48 38.0 +2.2**
comp=Z,9.1nm,0.8s
YBH Yreka Blue Hor 51.16 69 P **P** **22 48 38.1 +2.2**
comp=Z,2.7nm,1.0s,baz=309,slow=6.1,SNR=4.6
BRVK Borovoye 51.16 309 *e*P **P** **22 48 34.3 -1.4**
comp=Z,31nm,0.9s
BRVK Borovoye 51.16 309 *ce*P **P** **22 48 34.9 -0.7**
BRVK pmax pmax
comp=Z,39nm,1.0s
BRVK Borovoye 51.16 309 P **P** **22 48 34.2 -1.4**
SNR=13
DAG Danmarks Havn 51.34 360 *i* P **P** **22 48 36.8 +0.2**
DAG pmax pmax
comp=Z,13nm,1.0s
DAG Danmarks Havn 51.34 360 *i* P **P** **22 48 36.8 +0.2**
comp=Z,13nm,1.0s
WDC Whiskeytown Da 51.99 70 *e*P **P** **22 48 44.1 +2.0**
WDC *e*pP **pP** **22 48 55.3 +1.1**
MOD Modoc Plateau 52.43 68 *e*P **P** **22 48 50.0 +4.6**
comp=Z,12nm,0.8s
PDGK Podgornoye 52.45 295 *i* P **P** **22 48 44.3 -1.2**
PDGK pmax pmax
comp=Z,15nm,0.9s
SLVN Son La 53.01 257 *e*P **P** **22 48 51.0 +1.2**
comp=Z,11nm,0.9s
SVE Sverdlovsk 53.09 317⇑ *e*P **P** **22 48 50.2 +0.3**
SVE pmax pmax
comp=Z,12nm,0.9s
SVE MLR MLR
comp=Z,855nm,17.0s
OTUK Ortayu 53.15 303 *i* P **P** **22 48 49.1 -1.4**
OTUK pmax pmax
comp=Z,24nm,0.9s
FFC Flin Flon 53.53 46 *e*P **P** **22 48 55.4 +2.3**
comp=Z,5.2nm,1.0s
LVZ Lovozero 53.63 338 *e*P **P** **22 48 52.8 -1.0**
comp=Z,34nm,0.8s
LVZ Lovozero 53.63 338 *ce*P **P** **22 48 54.1 +0.3**
LVZ pmax pmax
comp=Z,35nm,1.0s
BEKR Beckworth 53.72 70 *e*P **P** **22 48 56.1 +1.1**
comp=Z,14nm,1.0s
AFDM Forest Hills D 53.98 71 *e*P **P** **22 48 58.2 +1.6**
APA Apatity 54.19 338⇓ *i*P **P** **22 48 57.0 -0.7**
ARU Arti 54.22 318 *e*P **P** **22 48 57.0 -1.1**
comp=Z,22nm,0.7s
ARU Arti 54.22 318 *c i*P **P** **22 48 57.5 -0.6**
ARU *PP **pP** **22 49 09.2 -2.0**
ARU S **S** **22 56 32.2 +0.8**
ARU SS **SS** **23 00 11.7 -1.3**
ARU pmax pmax
comp=Z,26nm,0.9s
ARU MLR MLR
comp=Z,486nm,18.0s
ARCES ARCESS Array B 54.23 342 *e*P **P** **22 48 57.9 -0.2**
ARCES ARCESS Array B 54.23 342 *e*P **P** **22 48 57.9 -0.2**
ARCES ARCESS Array B 54.23 342 P **P** **22 48 58.2 +0.1**
comp=Z,18nm,0.9s,baz=37,slow=8.3,SNR=27
PAHR Pah Rah Range 54.39 69 *e*P **P** **22 49 00.2 +0.3**
comp=Z,15nm,1.0s
KDJ Kajisay 54.52 295 *e*P **P** **22 48 59.9 -0.9**
comp=Z,13nm,0.9s
MCMT McKenzie Canyo 54.65 61 *e*P **P** **22 49 01.8 0.0**
PNTR Pine Nut 54.68 70 *e*P **P** **22 49 05.1 +3.0**
comp=Z,16nm,0.8s
LSA Lhasa 54.69 274 *e*P **P** **22 49 03.0 +0.5**
comp=Z,12nm,0.8s
LSA Lhasa 54.69 274 *i* P **P** **22 49 03.3 +0.8**
SNR=6.2
LSA Lhasa 54.69 274 P **P** **22 49 03.4 +0.8**
LSA pmax pmax
comp=Z,120nm,0.7s
BOZ Bozeman (W) 54.80 59 *e*P **P** **22 49 03.3 +0.6**
comp=Z,6.4nm,0.9s
SUMG Summit 54.86 7 *e*P **P** **22 49 03.6 +0.6**
comp=Z,33nm,1.0s
SUMG Summit 54.86 7 *i* P **P** **22 49 03.9 +0.8**
SUMG pmax pmax
comp=Z,82nm,1.0s
SUMG Summit 54.86 7 *i* P **P** **22 49 03.9 +0.8**
comp=Z,82nm,1.0s
CMB Columbia Colle 54.93 71 *e*P **P** **22 49 05.7 +2.1**
comp=Z,7.5nm,1.0s
YERR Yerington 54.96 70 *e*P **P** **22 49 05.6 +1.6**
comp=Z,14nm,1.0s
BOOM Boomskoye usch 54.97 296 *e*P **P** **22 49 03.1 -1.0**
comp=Z,15nm,1.1s
BMN Battle Mountai 55.15 67 *e*P **P** **22 49 06.8 +1.4**
comp=Z,15nm,1.0s
BMN Battle Mountai 55.15 67 P P 22 49 14.8 +9.5
BMN pmax pmax
comp=Z,15nm,1.0s
WAKR Walker 55.16 70 *e*P **P** **22 49 07.0 +1.5**
comp=Z,11nm,0.8s
PRGR Permogore 55.34 328 *e*P **P** **22 49 05.6 -0.5**
PRGR pmax pmax
comp=Z,37nm,0.7s
QLMT Earthquake Lak 55.41 60 *e*P **P** **22 49 04.9 -2.3**
FRU1 Bishkek 55.48 297 *e*P **P** **22 49 07.0 -0.6**
comp=Z,24nm,0.9s
KVN Kaiserville 55.57 69 *e*P **P** **22 49 10.8 +2.4**
comp=Z,13nm,1.0s
RYN Ryan 55.61 70 *e*P P 22 49 14.1 +5.4
comp=Z,7.1nm,0.9s
AAK Ala-Archa 55.67 297 *e*P **P** **22 49 08.0 -1.0**
comp=Z,14nm,1.0s
AAK Ala-Archa 55.67 297 *i* P **P** **22 49 08.4 -0.7**
SNR=18
AAK Ala-Archa 55.67 297 *ce*P **P** **22 49 08.5 -0.6**
AAK pmax pmax
comp=Z,19nm,1.3s
AAK Ala-Archa 55.67 297 P **P** **22 49 08.3 -0.7**
SNR=6.9
TMCR Tamitsa 55.70 333 *e*P **P** **22 49 08.2 -0.5**
TMCR pmax pmax
comp=Z,69nm,0.9s
GCMT Greycliff 55.70 58 *e*P **P** **22 49 09.6 +0.4**
SGF Sodankyl 55.80 340 P **P** **22 49 10.5 +1.1**
SGF pmax pmax
comp=Z,30nm,1.2s
PANO Nakornpanom 55.82 253 P **P** **22 49 13.1 +2.9**
comp=Z,0.8nm,1.0s
NVAR Mina Array Bea 55.87 70 P **P** **22 49 11.7 +1.1**
comp=Z,2.6nm,0.8s,baz=298,slow=6.4,SNR=6.1
NONG Nongkai 55.98 255 P **P** **22 49 13.2 +1.9**
comp=Z,0.7nm,0.9s
ELK Elko 56.06 66 *e*P **P** **22 49 14.4 +2.5**
comp=Z,3.3nm,0.8s
FLWY Flagg Ranch 56.30 60 *e*pP pP 22 49 24.9 -1.1
SKNT Sakolnakorn 56.33 253 P **P** **22 49 15.7 +1.9**
comp=Z,34nm,1.1s
RLMT Red Lodge 56.36 58 *e*P **P** **22 49 16.4 +2.4**
RLMT *e*pP **pP** **22 49 26.9 +0.5**
FXWY Fox Creek 56.42 61 *e*pP pP 22 49 25.2 -1.7
MOOW Moose Ponds 56.50 60 *e*pP pP 22 49 26.8 -0.6
MSF Maaselka 56.55 338 P **P** **22 49 15.3 +0.5**
MSF pmax pmax
comp=Z,85nm,1.1s
LOHW Long Hollow 56.67 60 *e*pP pP 22 49 26.6 -2.0
REDW Red Top Meadow 56.70 61 *e*pP pP 22 49 27.9 -1.0
ILULI Ilulissat 56.74 13 *e*P **P** **22 49 15.4 -0.6**
comp=Z,19nm,0.9s
KSH Kashi 56.95 293 P **P** **22 49 20.6 +2.4**
KSH pP sP 22 49 40.3 +3.8
KSH PP **PP** **22 51 28.5 +3.7**
KSH S **S** **22 57 01.8 -6.8**
KSH SS **SS** **23 00 52.3 -4.6**
KSH pmax pmax
comp=Z,5.0nm,0.6s
KSH pmax pmax
comp=Z,130nm,3.5s
KSH LR LR
comp=Z,390nm,12.9s
KSH LR LR
comp=Z,400nm,10.7s
KSH LR LR
comp=Z,920nm,11.9s
AHID Auburn Hatcher 56.97 61 *e*pP pP 22 49 29.1 -1.6
BGU Big Grassy Mou 57.17 64 *e*pP pP 22 49 31.7 -0.4
SHL Shillong 57.20 270 P **P** **22 49 20.0 -0.2**
SHL pmax pmax
comp=Z,17nm,0.8s
SPUT South Promonto 57.23 63 *e*pP pP 22 49 29.9 -2.6
PHRA Phrae 57.39 258 P **P** **22 49 23.3 +2.0**
comp=Z,5.9nm,1.3s,comp=Z,62nm
R11A Troy Canyon, C 57.49 68 *e*P **P** **22 49 22.2 +0.2**
HWUT Hardware Ranch 57.51 63 *e*pP pP 22 49 32.4 -2.1
KHON Khomkaen 57.51 254 P **P** **22 49 24.8 +2.6**
comp=Z,40μm,0.6s
KK31 Karatay Array 57.52 300⇑ *e*P **P** **22 49 20.6 -1.4**
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 57.52 300 *e*P **P** **22 49 20.6 -1.4**
KKAR *e*P **P** **22 49 20.7 -1.3**
LAMP Lampang 57.73 258 P **P** **22 49 25.7 +2.0**
comp=Z,47μm,0.9s,comp=Z,405μm
DAC Darwin (Calif) 57.76 71 *e*P **P** **22 49 25.8 +1.8**
comp=Z,3.6nm,1.0s
DAC Darwin (Calif) 57.76 71 P P 22 49 34.6 +11
DAC pmax pmax
comp=Z,12nm,1.6s
UTTA Uttaradit 57.77 257 P **P** **22 49 25.9 +1.9**
comp=Z,45μm,0.9s,comp=Z,315μm
DUG Dugway, Tooele 57.79 65 *e*P **P** **22 49 24.8 +0.7**
comp=Z,14nm,1.3s
DUG Dugway, Tooele 57.79 65 P P 22 49 35.3 +11
DUG pmax pmax
comp=Z,14nm,1.3s
BW06 Boulder Array 57.80 60 *e*P **P** **22 49 25.5 +1.3**
BW06 *e*pP **pP** **22 49 36.1 -0.5**
PDAR Pinedale Array 57.80 60 *e*pP pP 22 49 34.9 -1.8
PDAR Pinedale Array 57.80 60 P **P** **22 49 26.1 +1.8**
comp=Z,0.8nm,0.6s,baz=311,slow=3.2,SNR=6.6
PDAR PP **PP** **22 51 36.9 +4.5**
comp=Z,1.7nm,0.7s,baz=303,slow=3.1,SNR=3.7
PDAR LR LR 23 14 50.1
comp=Z,48nm,19.1s,baz=325,slow=37
KLMR Klimovskoe 57.86 330⇑ *i*P **P** **22 49 24.1 +0.1**
KLMR pmax pmax
comp=Z,40nm,0.9s
CMMT Chiang Mai 57.92 259 P **P** **22 49 26.4 +1.3**
comp=Z,18nm,1.0s,comp=Z,193nm
CHTO Chiang Mai 57.92 259 *e*P **P** **22 49 26.1 +1.1**
comp=Z,26nm,0.9s
CHTO Chiang Mai 57.92 259 P **P** **22 49 25.2 +0.1**
CHTO pmax pmax
comp=Z,26nm,0.9s
CHTO Chiang Mai 57.92 259 P **P** **22 49 26.6 +1.5**
SNR=7.3
OUL Oulu 57.95 339 P **P** **22 49 24.9 +0.3**
OUL pmax pmax
comp=Z,40nm,1.3s
TPNV Topopah Spring 58.07 70 *e*P **P** **22 49 28.0 +1.9**
comp=Z,11nm,1.0s
CM31 Chiang Mai Arr 58.19 259 P **P** **22 49 28.8 +1.8**
SNR=6.3
CMAR Chiang Mai Arr 58.19 259 *e*P **P** **22 49 28.0 +1.0**
CMAR Chiang Mai Arr 58.19 259 P **P** **22 49 28.6 +1.6**
comp=Z,14m,0.8s,baz=26,slow=7.0,SNR=81
JLU Jordanelle 58.26 63 *e*pP pP 22 49 38.5 -1.5
PSUT Pine Spring 58.34 67 *e*pP pP 22 49 37.4 -3.2
CHAI Chaiyaphum 58.35 254 P **P** **22 49 30.1 +2.0**
comp=Z,22μm,0.9s
NLU North Lily Min 58.36 64 *e*pP pP 22 49 37.9 -2.7
JOF Joensuu 58.49 335 P **P** **22 49 28.7 +0.2**
JOF pmax pmax
comp=Z,63nm,1.4s
AB31 Akbulak array 58.55 311⇑ *e*P **P** **22 49 27.9 -1.2**
AB31 pmax pmax
comp=Z,9.0nm,0.7s
ABKAR Akbulak array 58.55 311 *e*P **P** **22 49 27.5 -1.6**
ABKAR *e* 22 49 28.4
ABKAR *e* 22 49 28.7
MPU Maple Canyon 58.56 64 *e*pP pP 22 49 40.4 -1.6
SHPR Sheep Range 59.01 69 *e*pP pP 22 49 44.2 -0.9
ODAN Odare 59.03 275 *e*P **P** **22 49 33.2 +0.2**
comp=Z,31nm,0.7s
JIRN Jiri 59.19 276 *e*P **P** **22 49 34.2 -0.1**
comp=Z,44nm,0.7s
TMUT Trail Mountain 59.30 64 *e*pP pP 22 49 45.3 -1.9
MSU Marysvale 59.31 66 *e*P **P** **22 49 34.6 -0.2**
MDND Maddock 59.31 50 *e*P **P** **22 49 37.3 +2.9**
comp=Z,49nm,1.1s
ULM Lac du Bonnet 59.31 46 *e*P **P** **22 49 35.7 +1.4**
comp=Z,8.8nm,1.0s
ULM Lac du Bonnet 59.31 46 P **P** **22 49 35.3 +0.9**
comp=Z,2.9nm,1.0s,baz=302,slow=16,SNR=3.5
RAMN Ramite 59.45 275 *e*P **P** **22 49 35.8 -0.1**
comp=Z,81nm,0.6s
BTK Batken 59.45 297 *e*P **P** **22 49 34.4 -1.2**
comp=Z,17nm,0.8s
KKN Kakani 59.65 277 *e*P **P** **22 49 37.3 0.0**
comp=Z,65nm,0.6s
PKI Pulchoki 59.73 277 *e*P **P** **22 49 37.7 -0.2**
comp=Z,38nm,0.7s
PKIN Phulchoki 59.73 277 *e*P **P** **22 49 37.7 -0.2**
comp=Z,32nm,0.7s
LCMT Little Creek M 59.75 68 *e*pP pP 22 49 46.7 -3.5
RSSD Black Hills 59.75 56 *e*P **P** **22 49 38.4 +0.6**
comp=Z,20nm,0.8s
SRU San Rafael Swe 59.81 64 *e*P **P** **22 49 39.6 +1.4**
comp=Z,11nm,0.9s
DMN Daman 59.89 277 *e*P **P** **22 49 39.2 +0.3**
comp=Z,69nm,0.7s
GKN Gorkha 59.89 278 *e*P **P** **22 49 38.7 -0.1**
comp=Z,50nm,0.7s
SUF Sumiainen 59.93 338 P **P** **22 49 39.0 +0.6**
SUF pmax pmax
comp=Z,99nm,0.7s
UMPA Umpang Tak 59.98 257 P **P** **22 49 43.1 +3.7**
comp=Z,49μm,0.8s,comp=Z,427μm
DANN Dangsing 60.17 279 *e*P **P** **22 49 41.0 +0.1**
comp=Z,67nm,0.7s
VAF Ylistaro 60.44 339 P **P** **22 49 42.9 +1.1**
VAF pmax pmax
comp=Z,52nm,1.2s
KOLN Koldanda 60.69 278 *e*P **P** **22 49 44.2 -0.2**
comp=Z,42nm,0.7s
W13A Hualapai Mount 60.73 70 *e*P **P** **22 49 48.4 +3.8**
comp=Z,9.4nm,1.5s
PYUN Piuthan 60.82 279 *e*P **P** **22 49 45.1 -0.2**
comp=Z,44nm,0.7s
N23A Red Feather La 61.04 60 *e*pP pP 22 49 57.9 -1.2
FINES FINESS Array B 61.05 337 *e*P **P** **22 49 46.3 +0.3**
FINES FINESS Array B 61.05 337 P **P** **22 49 46.8 +0.7**
comp=Z,37nm,0.7s,baz=32,slow=8.3,SNR=165
PV20 West Nyswonger 61.21 64 *e*P **P** **22 49 49.1 +1.3**
PV20 *e*pP **pP** **22 50 00.9 +0.6**
PV17 East Wray Mesa 61.26 64 *e*P **P** **22 49 48.1 0.0**
comp=Z,17nm,0.9s
PV16 Nyswonger Mesa 61.26 64 *e*P **P** **22 49 49.4 +1.3**
PV16 *e*pP **pP** **22 50 01.2 +0.6**
PV11 David Mesa, Pa 61.30 64 *e*P **P** **22 49 50.6 +2.3**
comp=Z,17nm,0.9s
PV18 Skein Mesa, Pa 61.31 64 *e*P **P** **22 49 49.2 +0.7**
comp=Z,13nm,0.9s
Y12C Blythe 61.32 71 *e*P **P** **22 49 50.6 +2.3**
comp=Z,6.9nm,1.0s
PV05 Paradox Valley 61.33 64 *e*P **P** **22 49 49.8 +1.2**
comp=Z,14nm,0.9s
SANI Sanana 61.33 220 P **P** **22 49 49.5 +1.0**
comp=Z,12nm,1.1s
GLA Glamis 61.64 72 P P 22 50 01.4 +11
GLA pmax pmax
comp=Z,9.0nm,0.9s
SMCO Snowmass 61.71 62 *e*P **P** **22 49 53.0 +1.6**
comp=Z,4.9nm,0.8s
ISCO Idaho Springs 62.00 61 *e*P **P** **22 49 55.0 +1.8**
comp=Z,9.4nm,1.0s
ISCO Idaho Springs 62.00 61 P P 22 50 03.6 +10
ISCO pmax pmax
comp=Z,9.0nm,1.0s
PMG Port Moresby 62.38 195 *ce*P **P** **22 49 53.5 -1.9**
PMG pmax pmax
comp=Z,85nm,2.5s
MOS Moscow 62.55 328 *e*P **P** **22 49 55.4 -0.8**
MOS *e* 22 50 07.7
MOS pmax pmax
comp=Z,35nm,0.7s
NIL Nilore 62.62 290 *e*P **P** **22 49 57.1 0.0**
comp=Z,26nm,0.7s
NIL Nilore 62.62 290 P **P** **22 49 57.1 0.0**
NIL pmax pmax
comp=Z,38nm,0.8s
EYMN Ely 62.96 46 *e*P **P** **22 49 59.4 +0.3**
comp=Z,11nm,1.1s
W18A Petrified Fore 63.09 67 *e*pP pP 22 50 10.7 -2.3
OBN Obninsk 63.41 328 *e*P **P** **22 50 02.7 +0.8**
comp=Z,19nm,0.6s
OBN Obninsk 63.41 328 *ce*P **P** **22 50 01.8 -0.1**
OBN *i* *PP **pP** **22 50 11.9 -3.2**
OBN *e*S **S** **22 58 32.6 +2.1**
OBN pmax pmax
comp=Z,43nm,1.4s
OBN MLR MLR
comp=Z,210nm,19.0s
OBN Obninsk 63.41 328 P **P** **22 50 01.2 -0.7**
comp=Z,3.2nm,0.4s,baz=80,slow=20,SNR=8.8
BORG Borgarnes 63.41 1 *e*P **P** **22 50 01.2 -0.5**
comp=Z,81nm,1.4s
BORG Borgarnes 63.41 1 P **P** **22 50 01.2 -0.5**
comp=Z,20nm,0.9s,baz=60,slow=2.5,SNR=3.0
VSU Vasula 63.48 335 *ce*P **P** **22 50 03.3 +1.0**
VSU pmax pmax
comp=Z,73nm,0.7s
VSU Vasula 63.48 335 *e*P **P** **22 50 02.9 +0.6**
SDCO Great Sand Dun 63.54 62 *e*P **P** **22 50 04.5 +1.0**
comp=Z,6.2nm,1.3s
ECSD EROS Data Cent 63.73 52 *e*P **P** **22 50 03.8 -0.4**
comp=Z,13nm,1.0s
KBL Kabul 64.38 294 *e*P **P** **22 50 06.5 -2.4**
comp=Z,8.2nm,0.6s
KBL Kabul 64.38 294 P **P** **22 50 07.4 -1.5**
KBL pmax pmax
comp=Z,12nm,0.8s
NB2 NORSAR Subarra 64.49 344 P **P** **22 50 09.1 +0.1**
comp=Z,14nm,0.8s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.49 344 P **P** **22 50 09.1 +0.1**
baz=22,slow=6.9
NOA NORSAR Array B 64.49 344 P **P** **22 50 09.2 +0.1**
comp=Z,12nm,0.8s,baz=21,slow=6.6,SNR=47
TUC Tucson 64.53 70 P P 22 50 23.2 +13
TUC pmax pmax
comp=Z,4.0nm,1.3s
LPSR Galich'ya Gora 64.66 325 *e*P **P** **22 50 09.7 -0.4**
LPSR pmax pmax
comp=Z,30nm,0.7s
NORES NORESS Array B 64.72 344 P **P** **22 50 11.0 +0.6**
NORES pmax pmax
comp=Z,4.0nm,0.6s
VRH Novokhopyorsk 64.77 322 *e*P **P** **22 50 09.8 -1.1**
VRH pmax pmax
comp=Z,20nm,0.6s
HFS Hagfors 64.90 342 P **P** **22 50 11.7 +0.1**
comp=Z,10nm,0.6s,baz=46,slow=4.3,SNR=44
ANMO Albuquerque 65.06 65 P P 22 50 26.3 +13
ANMO pmax pmax
comp=Z,5.0nm,1.2s
SLIT Slitere, Latvi 65.34 337 *e*P **P** **22 50 14.2 -0.2**
LENM Lemitar 65.34 66 *e*P **P** **22 50 16.9 +1.8**
LENM *e*pP **pP** **22 50 28.1 +0.4**
SPSI Sidrap Palu 65.67 226 P **P** **22 50 36.6 +20**
VSR Storozhevoye 65.70 324 *e*P **P** **22 50 15.3 -1.6**
VSR pmax pmax
comp=Z,20nm,0.9s
IZAR Zarasai 65.98 334 *e*P **P** **22 50 19.3 +0.7**
BER Bergen 66.03 347 P **P** **22 50 19.5 +0.6**
BER pmax pmax
comp=Z,40nm,0.9s
ISAL Salakas 66.17 334 *e*P **P** **22 50 20.8 +1.0**
IDID Didziasalis 66.22 333 *e*P **P** **22 50 20.7 +0.5**
H41A Junction City 66.33 47 *e*P **P** **22 50 20.2 -0.9**
comp=Z,8.2nm,1.1s
IIGN Ignalina 66.34 333 *e*P **P** **22 50 21.7 +0.8**
SCHQ Schefferville 66.38 28 *e*P **P** **22 50 19.9 -1.3**
comp=Z,11nm,0.9s
SCHQ Schefferville 66.38 28 P **P** **22 50 21.7 +0.5**
comp=Z,3.8nm,0.8s,baz=354,slow=6.9,SNR=7.1
MICGM Minsk 66.61 332 *e* **P** **22 50 24.0 +1.3**
MNK Minsk 66.61 332 *e*P **P** **22 50 24.0 +1.3**
PABE Paberze 66.81 335 *e*P **P** **22 50 23.4 -0.5**
PBUR Paburg 66.86 336 *e*P **P** **22 50 24.1 -0.2**
GEYT Alibeck 67.77 303 P **P** **22 50 30.2 -0.2**
comp=Z,175nm,0.4s,baz=29,slow=3.4,SNR=29
MNTX Cornudas Mount 68.07 66 *e*P **P** **22 50 34.5 +2.1**
comp=Z,8.6nm,1.1s
VLDQ Val d'Or 68.58 38 *e*P **P** **22 50 33.9 -1.3**
comp=Z,8.8nm,1.0s
N41A Harden Midland 68.81 51 *e*P **P** **22 50 36.6 -0.2**
comp=Z,30nm,1.0s
MAK Makhachkala 68.97 314 *e*P **P** **22 50 37.5 -0.2**
MAK *e*S **S** **22 59 40.6 +2.2**
MAK pmax pmax
comp=Z,54nm,1.2s
MAK MLR MLR
comp=Z,202nm,15.0s
WMOK Wichita Mounta 69.40 60 *e*P **P** **22 50 42.3 +1.7**
comp=Z,14nm,0.9s
AKASG Malin Array Be 69.51 329 P **P** **22 50 40.8 -0.2**
comp=Z,23nm,0.9s,baz=31,slow=6.4,SNR=13
KIEV Kiev 69.53 329 *e*P **P** **22 50 40.5 -0.5**
comp=Z,24nm,0.9s
KIEV Kiev 69.53 329⇓ *i*P **P** **22 50 41.1 +0.1**
KIEV Kiev 69.53 329 *i* P **P** **22 50 40.9 -0.1**
SNR=15
KIEV Kiev 69.53 329 *i* P **P** **22 50 40.8 -0.2**
KIEV pmax pmax
comp=Z,30nm,1.0s
AKT Akhty 70.05 312 *i* P **P** **22 50 44.2 -0.4**
TUL1 Leonard 70.07 57 *e*P **P** **22 50 45.1 +0.5**
comp=Z,17nm,1.1s
NCK Nalchik 70.25 316 *i* P **P** **22 50 44.9 -0.7**
NCK pmax pmax
comp=Z,10.0nm,0.9s

KVAR Kislovodsk Arr 70.25 317 P **P 22 50 45.3 -0.4**
comp=Z,3.2nm,0.7s,baz=45,slow=14,SNR=9.0
KIV Kislovodsk 70.25 317 *e*P **P 22 50 45.8 0.0**
comp=Z,8.0nm,0.7s
KIV Kislovodsk 70.25 317⇑ *i*P **P 22 50 46.5 +0.7**
KIV Kislovodsk 70.25 317 P **P 22 50 46.4 +0.7**
KIV Kislovodsk 70.25 317 *e*P **P 22 50 46.1 +0.3**
KIV pmax pmax
comp=Z,32nm,1.0s
KIV MLR MLR
comp=Z,635nm,18.0s
KBZ Khabaz 70.35 317 P **P 22 50 46.4 +0.2**
comp=Z,14nm,0.8s,baz=78,slow=3.2,SNR=37
SHA1 Shidzhatmaz 70.44 317 *i* P **P 22 50 47.6 +0.5**
GKP Gorka Klasztor 70.51 338 P **P 22 50 48.5 +1.5**
GKP pmax pmax
comp=Z,42nm,0.5s
ZEI Tsey 70.69 316 *e*P **P 22 50 47.6 -1.0**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
CCM Cathedral Cave 70.69 53 *e*P **P 22 50 47.5 -0.9**
comp=Z,14nm,1.3s
CCM Cathedral Cave 70.69 53 P P 22 50 57.8 +9.4
CCM pmax pmax
comp=Z,14nm,1.2s
HHAR Hobbs 70.73 56 *e*P **P 22 50 49.1 +0.4**
comp=Z,12nm,1.0s
TX31 Lajitas Ar. Si 70.81 67 *e*pP pP 22 51 00.3 -1.8
TXAR Lajitas Array 70.82 67 *e*pP pP 22 50 59.9 -2.3
TXAR Lajitas Array 70.82 67 P **P 22 50 51.0 +1.6**
TXAR Lajitas Array 70.82 67 P **P 22 50 51.0 +1.6**
comp=Z,1.4nm,0.8s,baz=301,slow=4.7,SNR=10
BEL Belsk 70.94 335 P **P 22 50 51.4 +1.8**
BEL pmax pmax
comp=Z,78nm,1.0s
TRQ Mont Tremblant 71.24 37 *e*P **P 22 50 51.4 -0.3**
BSEG Bad Segeberg 71.36 342 P **P 22 50 54.4 +2.3**
BSEG pmax pmax
comp=Z,23nm,1.0s
HYB Hyderabad 71.49 275 *i* P **P 22 50 53.5 0.0**
comp=Z,58nm,0.8s
ANN Anapa 71.67 321 *e*P **P 22 50 53.3 -0.9**
ANN pmax pmax
comp=Z,35nm,1.4s
ANN MLR MLR
comp=Z,320nm,20.0s
SOC Sochi 71.78 319 *e*P **P 22 50 54.0 -0.9**
SOC *e*PPP PPP 22 55 18.9
SOC *e*S **S 23 00 10.4 -0.8**
SOC pmax pmax
comp=Z,22nm,1.1s
SOC MLR MLR
comp=Z,457nm,17.0s
LVV L'vov 71.86 332 *e*P **P 22 50 56.0 +0.7**
AKH Akhalkalaki 71.99 315⇓ *i*P **P 22 50 57.8 +1.4**
AKH Akhalkalaki 71.99 315 P **P 22 50 57.8 +1.4**
EKA Eskdalemuir Ar 72.01 350 P **P 22 50 55.7 -0.3**
EKA pmax pmax
comp=Z,2.0nm,0.4s
EKA Eskdalemuir Ar 72.01 350 P **P 22 50 56.0 0.0**
comp=Z,3.7nm,0.6s,baz=15,slow=5.1,SNR=16
JCT Junction City 72.10 63 *e*P **P 22 50 58.5 +1.4**
comp=Z,20nm,1.4s
MIAR Mount Ida 72.27 56 *e*P **P 22 50 59.3 +1.3**
comp=Z,11nm,1.1s
MIAR Mount Ida 72.27 56 P P 22 51 10.3 +12
MIAR pmax pmax
comp=Z,11nm,1.2s
KWP Kalwaria Pacla 72.41 333 P **P 22 50 59.8 +1.2**
KWP pmax pmax
comp=Z,62nm,1.1s
W41B Gary Mavity, V 72.45 55 *e*P **P 22 50 59.4 +0.3**
comp=Z,11nm,1.0s
GNI Garni 72.46 314 *e*P **P 22 51 00.0 +0.8**
comp=Z,12nm,0.8s
GNI Garni 72.46 314 *i* P **P 22 51 00.6 +1.4**
SNR=10
GNI Garni 72.46 314 *ce*P **P 22 51 00.6 +1.4**
GNI pmax pmax
comp=Z,57nm,0.7s
GNI Garni 72.46 314 P **P 22 51 00.4 +1.2**
comp=Z,8.5nm,0.8s,baz=323,slow=3.7,SNR=14
OJC Ojcow 72.67 335 P **P 22 51 01.3 +1.2**
OJC pmax pmax
comp=Z,31nm,0.6s
X40A Basin Creek Fa 72.69 56 *e*P **P 22 51 01.1 +0.6**
comp=Z,9.2nm,1.3s
KARS Kars 72.81 315 *e*P **P 22 51 01.8 +0.5**
comp=Z,27nm,0.9s
MOQ Mont Orford 72.86 36 *e*P **P 22 51 01.5 +0.1**
WCI Wyandotte Cave 72.92 49 *e*P **P 22 51 02.6 +0.8**
comp=Z,8.9nm,0.9s
WCI Wyandotte Cave 72.92 49 P P 22 51 13.9 +12
WCI pmax pmax
comp=Z,14nm,1.3s
IAS Iasi 73.12 329 P **P 22 51 03.7 +0.9**
IAS pmax pmax
comp=Z,12nm,1.1s
KOLS Kolonicke sedl 73.16 333 *e*P **P 22 51 04.0 +1.0**
KOLS pmax pmax
comp=Z,11nm,0.9s
KOLS Kolonicke sedl 73.16 333 *e*P **P 22 51 04.0 +1.0**
RAC Raciborz 73.21 336 *e*P **P 22 51 03.7 +0.4**
RAC *e* 22 51 29.1
NIE Niedzica 73.27 334 P **P 22 51 05.0 +1.3**
NIE pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 73.29 339 *e*P **P 22 51 04.0 +0.3**
CLL *e*(S) **S 23 00 24.0 -4.2**
CLL *e* 23 00 54.0
CLL *e*SS **SS 23 05 18.0 +8.6**
CLL LmH 23 26 00.0
comp=N,100nm,19.8s
CLL LmH 23 26 00.0
comp=E,200nm,18.8s
UPC Upice 73.36 337 AMS AMS 23 29 40.0
comp=E,400nm,13.5s
PRAR RASCA 73.39 329⇑ *i*P **P 22 51 04.5 +0.1**
DPC Dobruska-Polom 73.43 337 AMS AMS 23 29 40.0
comp=E,300nm,16.9s
UZH Uzhgorod 73.43 332⇑ *i*P **P 22 51 01.3 -3.3**
UZH *e* 22 51 11.7
UZH *e**PP **sP 22 51 23.2 -0.2**
UZH *e*PPP PPP 22 55 37.6
UZH *e*PS **PnS 23 01 00.9 -6.1**
UZH *i* SP SKiKP 23 01 21.5 +51
OKC Ostrava-Krasne 73.45 336 AMS AMS 23 27 10.0
comp=E,300nm,15.0s
BUR08 Bucovina Ar. S 73.46 330 *e*P **P 22 51 05.5 +0.5**
comp=E,15nm,0.8s
BURAR Bucovina Array 73.48 330 *e*P **P 22 51 05.5 +0.5**
BURAR Bucovina Array 73.48 330⇑ *i*P **P 22 51 05.7 +0.7**
BURAR Bucovina Array 73.48 330 P **P 22 51 05.6 +0.5**
T47A Sharon Grove 73.53 50 *e*P **P 22 51 05.8 +0.4**
comp=E,31nm,1.5s
PVCC Panska Ves 73.67 338 AMS AMS 23 29 00.0
comp=E,400nm,15.6s
LANS Liptovska Anna 73.73 334 *e*P **P 22 51 08.2 +1.8**
LANS Liptovska Anna 73.73 334 *e*P **P 22 51 08.2 +1.8**
BIZ Bicaz 73.81 329⇑ *i*P **P 22 51 07.7 +0.9**
TRPA Tarpa 73.81 332⇑ *i*P **P 22 51 08.2 +1.4**
TRPA Tarpa 73.81 332 *e*P **P 22 51 07.1 +0.3**
WVT Waverly 73.88 52 *e*P **P 22 51 07.9 +0.4**
comp=E,8.2nm,1.1s
WTSB Winterswijk 73.89 343 *e*P **P 22 51 08.0 +0.8**
comp=E,19nm,0.7s
TESR Tescani 74.01 329⇑ *i*P **P 22 51 08.4 +0.3**
KECS Kecovo 74.07 334 *e*P **P 22 51 09.4 +1.0**
KECS Kecovo 74.07 334 *e*P **P 22 51 09.4 +1.0**
DZM Mont Dzumac 74.10 174 *e*LR LR 23 14 20.9
comp=E,295nm,27.3s
PRU Pruhonice 74.19 338 AMS AMS 23 29 40.0
comp=E,300nm,14.3s
MOX Moxa 74.22 340 P **P 22 51 10.5 +1.3**
MOX pmax pmax
comp=Z,10.0nm,0.8s
BUG Bochum--Univer 74.31 343 P **P 22 51 11.5 +1.9**
BUG pmax pmax
comp=Z,13nm,1.1s
TLCR 74.47 327⇑ *i*P **P 22 51 11.4 +0.7**
TLCR 74.47 327 P **P 22 51 11.3 +0.6**
VYHS Vyhne 74.50 335 *e*P **P 22 51 12.1 +1.2**
VYHS pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 74.50 335 *e*P **P 22 51 12.1 +1.2**

PETR Petresti 74.52 328⇑ *i*P **P 22 51 12.5 +1.5**
VRI Vrincioaia 74.56 328⇑ *i*P **P 22 51 11.8 +0.5**
VRI Vrincioaia 74.56 328 P **P 22 51 14.7 +3.4**
VRI pmax pmax
comp=Z,14nm,0.9s
PLOR Plostina 74.60 328⇑ *i*P **P 22 51 12.4 +0.9**
PLOR Plostina 74.60 328 P **P 22 51 12.3 +0.8**
LTVH Ltavrtes, Hu 74.67 332⇓ *e*P **P 22 51 13.0 +1.2**
PLAL Pickwick Lake 74.68 52 *e*P **P 22 51 11.5 -0.6**
comp=Z,8.7nm,0.9s
CFR Carcaliu 74.71 327⇑ *i*P **P 22 51 12.6 +0.5**
CFR Carcaliu 74.71 327 P **P 22 51 12.4 +0.3**
CFR pmax pmax
comp=Z,15nm,1.0s
PSZ Piszkesteto 74.75 334 *e*P **P 22 51 14.1 +1.7**
comp=Z,12nm,0.9s
PSZ Piszkesteto 74.75 334⇑ *i*P **P 22 51 13.9 +1.5**
PSZ Piszkesteto 74.75 334 *e*P **P 22 51 13.1 +0.7**
CJR Cluj-Napoca 74.78 331⇑ *i*P **P 22 51 14.4 +1.8**
CJR Cluj-Napoca 74.78 331 P **P 22 51 14.3 +1.7**
SMOL Smolenice 74.85 336 P **P 22 51 15.3 +2.4**
SMOL pmax pmax
comp=Z,48nm,0.5s
DOPR Dopca 74.90 329⇑ *i*P **P 22 51 14.4 +1.2**
DRGR 74.97 331⇑ *i*P **P 22 51 14.4 +0.7**
MODS Modra-Piesok 75.02 336 *e*P **P 22 51 14.6 +0.7**
MODS pmax pmax
comp=Z,12nm,0.9s
MODS Modra-Piesok 75.02 336 *e*P **P 22 51 14.6 +0.7**
MODS *e* 22 52 04.3
MLR Muntele Rosu 75.15 329 *e*P **P 22 51 15.7 +0.9**
comp=Z,20nm,0.7s
MLR Muntele Rosu 75.15 329⇓ *i*P **P 22 51 15.8 +1.0**
MLR Muntele Rosu 75.15 329 P **P 22 51 15.5 +0.7**
comp=Z,18nm,0.6s,baz=202,slow=1.5,SNR=65
DIKM Dikmen 75.19 321⇑ *i*P **P 22 51 16.2 +1.3**
HGN Heimansgroeve 75.20 344 *e*P **P 22 51 15.8 +1.0**
comp=Z,57nm,1.3s
GRA1 Grafenberg Arr 75.20 340 *e*P **P 22 51 16.3 +1.4**
comp=Z,17nm,0.9s
GRF Grafenberg Arr 75.20 340 P **P 22 51 16.7 +1.8**
GRF pmax pmax
comp=Z,13nm,0.8s
GRFO Grafenberg 75.20 340 *e*P **P 22 51 16.4 +1.5**
comp=Z,15nm,0.9s
GRFO Grafenberg 75.20 340 P **P 22 51 16.8 +1.9**
GRFO pmax pmax
comp=Z,19nm,0.9s
BEBN Eben Emael 75.21 344⇑ P **P 22 51 15.9 +1.1**
KHC Kasperske Hory 75.21 338 *e*P **P 22 51 16.7 +1.7**
KHC AMS AMS 23 30 30.0
comp=Z,300nm,15.9s
ZST Bratislava 75.23 336 *e*P **P 22 51 15.9 +0.9**
ZST Bratislava 75.23 336 *e*P **P 22 51 15.9 +0.9**
TNS Taunus Mts 75.26 342 P **P 22 51 16.8 +1.5**
TNS pmax pmax
comp=Z,19nm,1.1s
TLB Topalu 75.26 327⇑ *i*P **P 22 51 15.8 +0.5**
TLB Topalu 75.26 327 P **P 22 51 15.7 +0.5**
ISR Istrita 75.28 328 P **P 22 51 17.8 +2.3**
ISR pmax pmax
comp=Z,37nm,1.3s
WR1 Warramunga Arr 75.33 205 *e*P **P 22 51 16.5 +0.7**
WRA Warramunga Arr 75.33 205 *ce*P **P 22 51 17.7 +1.9**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 75.33 205 P **P 22 51 16.5 +0.7**
comp=Z,1.3nm,0.7s,baz=24,slow=5.1,SNR=11
WC3 Warramunga Arr 75.33 205 *e*P **P 22 51 16.8 +1.0**
comp=Z,9.9nm,1.3s
MEM Membach 75.33 343 P **P 22 51 17.0 +1.4**
MEM pmax pmax
comp=Z,55nm,1.0s
MEM Membach 75.33 343⇑ P **P 22 51 16.3 +0.7**
comp=Z,36nm,1.0s
MEM ⇑PcP **pP 22 51 30.4 +1.4**
MEM ⇑pP **sP 22 51 40.0 +5.7**
UCC Uccle 75.43 345⇓ P **P 22 51 17.2 +1.1**
AMRR Amara 75.47 327⇑ *i*P **P 22 51 17.8 +1.3**
VOIR 75.48 329⇑ *i*P **P 22 51 18.0 +1.4**
VOIR 75.48 329 P **P 22 51 17.7 +1.1**
VOIR pmax pmax
comp=Z,22nm,0.8s
MFTR Murfatlar 75.49 326⇓ *i*P **P 22 51 17.6 +1.0**
SWET Sewanee 75.52 51 *e*P **P 22 51 17.5 +0.4**
SWET *e*pP **PcP 22 51 28.4 -1.5**
BCLA Clavier 75.64 344⇑ P **P 22 51 18.3 +0.9**
comp=Z,12nm,1.5s
ARR Arges 75.67 330⇑ *i*P **P 22 51 19.4 +1.7**
CSKK Cskako 75.70 335 *e*P **P 22 51 19.1 +1.3**
SNF Seneffe 75.72 345⇑ P **P 22 51 18.8 +1.0**
DEV Deva 75.74 331 P **P 22 51 20.4 +2.4**
DEV pmax pmax
comp=Z,8.0nm,1.8s
ICOR Ion Corvin 75.75 327⇑ *i*P **P 22 51 19.5 +1.4**
SIRR Siria 75.75 332⇑ *i*P **P 22 51 19.1 +1.0**
SULR 75.77 328⇑ *i*P **P 22 51 19.1 +0.9**
CONA Conrad Observa 75.79 336 *i* P **P 22 51 19.9 +1.5**
comp=Z,12nm,0.9s,SNR=9.5
W50A Signal Mountai 75.83 50 *e*P **P 22 51 19.1 +0.3**
comp=Z,7.1nm,0.9s
SOP Sopron 75.84 336 P **P 22 51 20.7 +2.1**
SOP pmax pmax
comp=Z,10.0nm,0.7s
SOP Sopron 75.84 336 *e*P **P 22 51 20.0 +1.4**
CPCT Cooper Cave 76.00 50 *e*P **P 22 51 20.3 +0.6**
comp=Z,10.0nm,1.1s
DOU Dourbes 76.07 344⇓ P **P 22 51 20.9 +1.1**
DOU ⇓PcP **pP 22 51 32.8 -0.5**
GZR Gura Zlata 76.22 331⇓ *i*P **P 22 51 21.7 +0.9**
GZR Gura Zlata 76.22 331 P **P 22 51 21.7 +0.9**
WLF Walferdange 76.22 343⇑ P **P 22 51 24.2 +3.6**
MOA Molln 76.25 337 *i* P **P 22 51 22.2 +1.2**
comp=Z,6.6nm,0.8s
SGRR Singureni 76.27 328⇓ *i*P **P 22 51 21.0 0.0**
BZS Buzias 76.36 332⇑ *i*P **P 22 51 22.0 +0.4**
BZS Buzias 76.36 332 P **P 22 51 21.9 +0.4**
BZS pmax pmax
comp=Z,18nm,1.5s
STU Stuttgart 76.49 341 P **P 22 51 23.7 +1.4**
STU pmax pmax
comp=Z,22nm,0.8s
ARSA Arzberg 76.50 336 *i* P **P 22 51 23.9 +1.5**
comp=Z,12nm,1.0s,SNR=8.6
PRD Provadia 76.70 327 *e*P **P 22 51 24.0 +0.5**
BANR Banloc 76.71 332⇑ *i*P **P 22 51 25.0 +1.5**
HERR Herculane 76.79 331⇑ *i*P **P 22 51 24.3 +0.3**
VLAD Vladila 76.97 329⇑ *i*P **P 22 51 25.9 +0.9**
BFO Black Forest 77.09 341 *e*P **P 22 51 25.0 -0.7**
comp=Z,27nm,1.5s
BFO Black Forest 77.09 341 *ce*P **P 22 51 27.3 +1.6**
MDVR Moldovita 77.09 331⇑ *i*P **P 22 51 26.1 +0.3**
Z50A Ashland 77.12 52 *e*P **P 22 51 25.9 -0.1**
comp=Z,9.7nm,0.8s
SZH Strazhica 77.13 328 *e*P **P 22 51 25.0 -1.0**
SOKA Soboth 77.16 336 *i* P **P 22 51 27.5 +1.4**
comp=Z,15nm,1.1s,SNR=9.8
PERS Pernice 77.18 336 *i* P **P 22 51 27.5 +1.3**
PUNG Punghina 77.18 330⇑ *i*P **P 22 51 26.5 +0.3**
KBA Koelnbreinsper 77.19 338 *i* P **P 22 51 28.3 +1.9**
comp=Z,37nm,0.8s,SNR=26
KBA Koelnbreinsper 77.19 338 P **P 22 51 28.2 +1.8**
KBA pmax pmax
comp=Z,47nm,0.8s
WATA Walderalm 77.35 339 *i* P **P 22 51 28.8 +1.5**
comp=Z,4.3nm,0.7s,SNR=5.4
RETA Reutte 77.39 339 *i* P **P 22 51 28.8 +1.4**
comp=Z,6.1nm,0.8s
WTTA Wattenberg 77.41 339 *i* P **P 22 51 29.4 +1.7**
comp=Z,24nm,1.3s,SNR=6.3
ECH Echery 77.42 342 P **P 22 51 28.9 +1.4**
ECH pmax pmax
comp=Z,12nm,1.0s
OBKA Obir 77.44 337 *i* P **P 22 51 29.0 +1.3**
comp=Z,10.0nm,0.9s,SNR=5.2
MOTA Moosalm 77.45 339 *i* P **P 22 51 29.1 +1.2**
comp=Z,9.5nm,0.8s,SNR=9.6
BR131 Keskin Array S 77.47 321 P **P 22 51 28.7 +0.6**
SNR=8.9
BRTR Keskin Array B 77.47 321 *e*P **P 22 51 28.1 0.0**
BRTR Keskin Array B 77.47 321 P **P 22 51 28.6 +0.5**
comp=Z,7.0nm,0.9s,baz=38,slow=4.1,SNR=39
SQTA Sankt Quirin 77.54 339 *i* P **P 22 51 29.9 +1.5**
comp=Z,19nm,0.9s,SNR=7.7

ANTO Ankara 77.67 321 *e*P **P 22 51 29.2 +0.1**
comp=Z,25nm,1.1s
ANTO Ankara 77.67 321 P **P 22 51 31.1 +2.0**
ANTO pmax pmax
comp=Z,13nm,0.8s
ABTA Abfaltersbach 77.70 338 *i* P **P 22 51 30.3 +1.1**
comp=Z,10nm,0.8s,SNR=7.4
MDUB Mudurnu 77.75 323 *e*P **P 22 51 30.1 +0.5**
comp=Z,98nm,0.8s
DAVA Damuels 77.77 340 *e*P **P 22 51 30.6 +0.9**
comp=Z,10nm,0.9s
FETA Feichten 77.84 339 *i* P **P 22 51 31.5 +1.4**
comp=Z,10nm,0.9s,SNR=5.1
KLYT Kilyos 77.85 325⇑ *i*P **P 22 51 30.5 +0.5**
CTYL Yalikoy Yolu 77.92 325⇓ *i*P **P 22 51 30.9 +0.5**
PALK Pallekele 77.99 266 P **P 22 51 31.9 +0.7**
VISS Visnje 78.03 336 *i* P **P 22 51 31.6 +0.7**
SHME Shamm 78.03 297 P **P 22 51 31.1 -0.2**
PHSR Pinarhisar 78.05 326⇑ *i*P **P 22 51 32.1 +1.0**
JAVS Javornik 78.13 337 *i* P **P 22 51 31.9 +0.3**
BOJS Bojanci 78.20 336 *i* P **P 22 51 32.8 +1.0**
DAVOX Davos/Dischmat 78.25 340 P **P 22 51 33.0 +0.7**
comp=Z,7.4nm,0.7s,baz=105,slow=2.0,SNR=11
FUORN Ofenpass-Fuorn 78.32 340 *e*P **P 22 51 34.1 +1.3**
comp=Z,9.0nm,0.7s
PLD Plovdiv 78.58 328 P **P 22 51 35.1 +1.1**
PLD pmax pmax
comp=Z,2.0nm,0.8s
VTS Vitosha 78.58 329 *e*P **P 22 51 34.7 +0.5**
comp=Z,13nm,0.8s
VTS Vitosha 78.58 329⇑ *i*P **P 22 51 35.0 +0.8**
VTS Vitosha 78.58 329 P **P 22 51 34.7 +0.5**
VTS pmax pmax
comp=Z,21nm,0.8s
VTS Vitosha 78.58 329 *e*P **P 22 51 34.0 -0.2**
TUE Stuetta 78.65 340 *e*P **P 22 51 35.9 +1.3**
comp=Z,17nm,0.8s
ASAR Alice Springs 79.00 205 P **P 22 51 37.9 +1.5**
comp=Z,1.3nm,0.6s,baz=14,slow=5.3,SNR=30
HATD Hatta, Dubai 79.00 296 *i* P **P 22 51 36.7 +0.1**
SNR=5.6
ASHO Ashiyiah 79.16 296 P **P 22 51 37.8 +0.3**
ALN Alexandroupoli 79.21 327 *e*P **P 22 51 37.8 +0.4**
comp=Z,10.0nm,1.0s
ALN Alexandroupoli 79.21 327 P **P 22 51 38.5 +1.0**
ALN pmax pmax
comp=Z,12nm,1.0s
MMB Musomiste 79.36 328 *e*P **P 22 51 39.0 +0.7**
FAQ Al Faqa, Dubai 79.36 297 P **P 22 51 38.8 +0.2**
BALB Balikesir 79.69 325 *e*P **P 22 51 40.1 0.0**
comp=Z,78nm,1.0s
SKO Skopje 79.73 330 *i* P **P 22 51 41.2 +0.9**
STIP Stip 79.75 330 *i* P **P 22 51 40.2 -0.2**
SRS Serrai 79.83 328 P **P 22 51 41.3 +0.4**
SRS pmax pmax
comp=Z,23nm,0.9s
PDG Podgorica 79.96 332⇑ *i*P **P 22 51 41.9 +0.4**
TTG Podgorica 79.96 332 *e*P **P 22 51 41.5 0.0**
comp=Z,17nm,0.9s
VAY Valandovo 79.97 329 *i* P **P 22 51 42.7 +1.1**
VAY Valandovo 79.97 329 P **P 22 51 43.4 +1.8**
KNT Kendrikon 80.01 329 P **P 22 51 42.6 +0.8**
KNT pmax pmax
comp=Z,22nm,1.0s
EZN Ezine 80.07 326⇑ *i*P **P 22 51 42.5 +0.3**
EZN Ezine 80.07 326 P **P 22 51 42.4 +0.3**
SOH Sokhos 80.17 328 P **P 22 51 44.0 +1.2**
SOH pmax pmax
comp=Z,5.0nm,1.3s
GRG Griva 80.35 329 P **P 22 51 44.7 +1.0**
GRG pmax pmax
comp=Z,19nm,1.2s
TIR Tirane 80.78 331⇑ *i*P **P 22 51 46.3 +0.4**
TIR Tirane 80.78 331 P **P 22 51 46.8 +0.9**
TIR pmax pmax
comp=Z,28nm,0.8s
FNA Florina 80.83 330 P **P 22 51 46.8 +0.5**
FNA pmax pmax
comp=Z,10.0nm,0.8s
PAIG Paliouri 80.87 328 P **P 22 51 46.7 +0.2**
PAIG pmax pmax
comp=Z,20nm,0.9s
LIT Litokhoron 81.10 329 *e*P **P 22 51 47.0 -0.7**
comp=Z,6.6nm,0.8s
LIT Litokhoron 81.10 329 P **P 22 51 47.1 -0.7**
LIT pmax pmax
comp=Z,10.0nm,1.1s
AQU L'Aquila 81.62 336 *e*P **P 22 51 52.5 +2.1**
comp=Z,23nm,0.9s
AQU L'Aquila 81.62 336 P **P 22 51 52.6 +2.1**
AQU pmax pmax
comp=Z,28nm,0.9s
CSS Mathiatis 81.70 319 *e*P **P 22 51 50.9 -0.1**
comp=Z,24nm,0.8s
PPT2 Papeete2 81.89 132 *e*LR LR 23 17 54.0
comp=Z,197nm,24.2s
IGT Igoumenitsa 82.30 330 P **P 22 51 54.2 +0.2**
MMAI Mount Meron Ar 82.52 316 P **P 22 51 56.4 +1.0**
comp=Z,19nm,0.7s,baz=34,slow=6.2,SNR=48
ASF Jabal al Asfar 82.59 315 P **P 22 51 56.7 +0.9**
comp=Z,11nm,0.8s,baz=7.7,slow=2.5,SNR=26
TIP Timpagrande 83.69 332⇑ *i*P **P 22 52 01.9 +0.6**
ITM Ithomi 83.94 328 *e*P **P 22 52 02.3 -0.2**
comp=Z,13nm,0.7s
IDI Anoyia 84.64 325 P **P 22 52 04.5 -1.7**
comp=Z,5.1nm,0.6s,baz=23,slow=11,SNR=11
EIL Elat 85.59 315 P **P 22 52 11.6 +0.7**
comp=Z,9.5nm,0.9s,baz=15,slow=5.1,SNR=6.0
ESDC Sonseca Array 87.53 348 *e*P **P 22 52 20.6 +0.2**
ESDC Sonseca Array 87.53 348 P **P 22 52 21.3 +1.0**
comp=Z,2.5nm,0.7s,baz=15,slow=4.8,SNR=6.6
KEST Kesra 88.89 337 *e*P **P 22 52 25.9 -1.0**
comp=Z,20nm,1.2s
KEST Kesra 88.89 337 P **P 22 52 27.5 +0.6**
comp=Z,8.2nm,1.0s,baz=269,slow=13,SNR=3.2
MDT Midelt 94.37 347 P **P 22 52 53.9 +1.6**
comp=Z,2.6nm,0.8s,baz=307,slow=9.1,SNR=2.0
TORD Torodi Ar. Bea 112.40 338 PP **PP 22 58 52.6 -1.1**
comp=Z,1.7nm,0.8s,baz=4.1,slow=10,SNR=8.0
PLCA Paso Flores 143.78 92 PKP **PKPdf 22 59 08.2 +1.3**
comp=Z,1.0nm,0.9s,baz=307,slow=5.1,SNR=2.2

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*IDC **18** 22:41:31.4±0.7, 52°.25N×160°.20E, h0km, mb4.4/29, mb1 4.5/31, mb1mx4.3/59, mbtmp4.4/31, ML3.9/2, MS3.6/4, Ms1 3.5/4, ms1mx3.3/26, Error ellipse: s-maj=18.0km s-min=13.3km az=143.0*
*KRSC **18** 22:41:31.2±10.0, 52°.05N×160°.83E, h49km±10km, ML4.9*
*MOS **18** 22:41:35.3±1.1, 52°.16N×160°.45E, h49km, mb4.9/20, Error ellipse: s-maj=8.8km s-min=5.2km az=111.9*
*ISCJB **18** 22:41:36.2±0.8, 52°.16N±0°.04×160°.42E±0°.08, h56km±5km, mb4.5/46, MS3.5/3, Error ellipse: s-maj=9.5km s-min=4.9km az=34.9*
*NEIC **18** 22:41:36.2±0.3, 52°.14N×160°.29E, h35km, mb4.8/10, Error ellipse: s-maj=7.9km s-min=5.8km az=146.0*

ISC 18 22:41:36.0±1.0, 52°.13N±0°.05×160°.56E±0°.06, h40km±8km, n150, σ1$38/163, mb4.6/46, MS3.8/3, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.02**	**341**	*e*P	**Pn**	**22 41 51.8**	**-2.0**
SPN				*e*S	**Sn**	**22 42 05.4**	**-1.6**
SPN	**Mys Shipunski**	**1.02**	**341**	PN	**Pn**	**22 41 51.8**	**-2.0**
SPN				S	**Sn**	**22 42 05.4**	**-1.6**
NLC	**Nalytchevo**	**1.28**	**325**	*e*P	**Pn**	**22 41 56.6**	**-0.7**
NLC				*e*S	**Sn**	**22 42 15.1**	**+1.9**
NLC	**Nalytchevo**	**1.28**	**325**	PN	**Pn**	**22 41 56.6**	**-0.7**
NLC				S	**Sn**	**22 42 15.1**	**+1.9**
RUS	**Russkaya**	**1.30**	**284**	*e*P	**Pn**	**22 41 56.3**	**-1.2**
RUS	**Russkaya**	**1.30**	**284**	PN	**Pn**	**22 41 56.3**	**-1.2**
DALK	**Dalny**	**1.43**	**310**	*e*P	**Pn**	**22 41 58.4**	**-0.9**
DALK				*e*S	**Sn**	**22 42 18.5**	**+1.7**
DALK	**Dalny**	**1.43**	**310**	PN	**Pn**	**22 41 58.4**	**-0.9**
DALK				S	**Sn**	**22 42 18.5**	**+1.7**
PET	**Petropavlovsk**	**1.47**	**308**	*e*Pn	**Pn**	**22 41 59.1**	**-0.8**
PET	**Petropavlovsk**	**1.47**	**308**	*e*P	**Pn**	**22 41 59.1**	**-0.8**
PET				*e*S	**Sn**	**22 42 19.4**	**+1.5**
PET	**Petropavlovsk**	**1.47**	**308**	*e*PN	**Pn**	**22 42 00.1**	**+0.2**
PET				*e*S	**Sn**	**22 42 20.3**	**+2.4**
PET				pmax	pmax		
PET	comp=Z,1μm,0.5s			smax	smax		

comp=N,4μm,0.7s
PET smax smax

comp=E,5μm,0.7s
UGLR Uglovaya 1.51 316 *e*P **Pn 22 42 00.8 +0.1**
UGLR *e*S **Sn 22 42 22.4 +3.2**
UGLR Uglovaya 1.51 316 PN **Pn 22 42 00.8 +0.1**
UGLR S **Sn 22 42 22.4 +3.2**
SDLR Sedlovina 1.54 319 *e*P **Pn 22 42 01.3 +0.3**
SDLR Sedlovina 1.54 319 PN **Pn 22 42 01.3 +0.3**
SMAR Somma 1.56 317 *e*P **Pn 22 42 02.0 +0.6**
SMAR Somma 1.56 317 PN **Pn 22 42 02.0 +0.6**
KDTR Khodutka, Kamc 1.57 259 *e*P **Pn 22 42 00.1 -1.2**
KDTR *e*S **Sn 22 42 19.4 -1.0**
KDTR Khodutka, Kamc 1.57 259 PN **Pn 22 42 00.1 -1.2**
KDTR S **Sn 22 42 19.4 -1.0**
GRL Gorelyy 1.58 286 *e*P **Pn 22 42 02.5 +0.8**
GRL Gorelyy 1.58 286 PN **Pn 22 42 02.5 +0.8**
AVH Avacha 1.59 316 *e*P **Pn 22 42 02.0 +0.3**
AVH Avacha 1.59 316 PN **Pn 22 42 02.0 +0.3**
KRER Koryakskii 1.61 318 *e*S **Sn 22 42 23.7 +1.9**
KRMR Karymshinskiy 1.65 296 *e*P **Pn 22 42 01.7 -0.6**
KRMR *e*S **Sn 22 42 24.0 +1.8**
KRMR Karymshinskiy 1.65 296 PN **Pn 22 42 01.7 -0.6**
KRMR S **Sn 22 42 24.0 +1.8**
ASAK Asacha 1.66 280 *e*P **Pn 22 42 02.4 -0.2**
ASAK Asacha 1.66 280 PN **Pn 22 42 02.4 -0.2**
KRX Arik 1.69 317 *e*P **Pn 22 42 03.4 +0.2**
KRX Arik 1.69 317 PN **Pn 22 42 03.4 +0.2**
PEA0B Petropavlovsk- 2.00 300 *e*Pn **Pn 22 42 07.3 +0.1**
PEA0B Petropavlovsk- 2.00 300 *e*PN **Pn 22 42 07.4 +0.1**
PETK Petropavlovsk- 2.00 300 Pn **Pn 22 42 07.1 -0.1**
comp=E,56nm,0.3s,baz=103,slow=19,SNR=6.8
PETK Sn **Sn 22 42 35.4 +4.3**
comp=E,163nm,0.3s,baz=94,slow=21,SNR=3.3
PEA1 Petropavlovsk- 2.00 301 *e*Pn **Pn 22 42 07.2 -0.2**
APC Apacha 2.23 292 *e*P **Pn 22 42 12.2 +1.9**
APC *e*S **Sn 22 42 41.7 +5.1**
APC Apacha 2.23 292 PN **Pn 22 42 12.2 +1.9**
PAU Pauzhetka 2.42 256 *e*P **Pn 22 42 13.4 +0.4**
PAU Pauzhetka 2.42 256 PN **Pn 22 42 13.4 +0.4**
KZV Kizimen 2.99 357 *e*P **Pn 22 42 21.7 +0.7**
KZV Kizimen 2.99 357 PN **Pn 22 42 21.7 +0.7**
TUMD Tumrok D 3.08 358 *e*P **Pn 22 42 21.2 -0.9**
TUMD *e*S **Sn 22 42 57.4 -0.3**
SKR Severo-Kuril's 3.14 244 *e*P **Pn 22 42 23.0 +0.2**
SKR Severo-Kuril's 3.14 244 *e*PN **Pn 22 42 22.0 -0.8**
SKR *e*S **Sn 22 42 58.8 -0.2**
SKR smax smax

comp=N,987nm,0.8s
SKR smax smax

comp=E,1μm,0.7s
TUMR Tumrok 3.17 356 PN **Pn 22 42 21.2 -2.2**
TUMR S **Sn 22 42 57.4 -2.6**
KBTR Krutoberegovo 4.30 17 *e*P **Pn 22 42 38.0 -0.7**
KBTR Krutoberegovo 4.30 17 PN **Pn 22 42 38.0 -0.7**
SEY Seymchan 11.68 341 LR LR 22 49 05.2
comp=E,534nm,18.1s,baz=154,slow=40
ASAJ Asahikawa 14.40 243 Pn **Pn 22 44 54.6 -2.5**
comp=E,1.3nm,0.3s,baz=84,slow=9.2,SNR=4.8
GRNR Gornyy 15.10 274 *e*P **P 22 45 12.9 +2.0**
GRNR pmax pmax

comp=Z,63nm,1.0s
BILL Bilibino 16.20 8 *e*Pn **Pn 22 45 21.1 +0.7**
comp=Z,16nm,0.8s
BILL Bilibino 16.20 8 *e*P **P 22 45 23.5 +0.5**
BILL pmax pmax

comp=Z,15nm,0.7s
KLR Kul'dur 18.43 272 *i* P **Pn 22 45 48.4 +0.2**
KLR pmax pmax

comp=Z,6.0nm,0.9s
KLR Kul'dur 18.43 272 Pn **P 22 45 44.6 -3.1**
comp=Z,0.1nm,0.3s,baz=80,slow=4.9,SNR=1.6
USRK Ussuriysk Ar. 20.54 259 P **P 22 46 08.9 -1.9**
comp=Z,14nm,1.0s,baz=53,slow=9.9,SNR=4.9
MJA0 Matsu Arr-Jizo 22.17 234 *e*P **P 22 46 30.6 +2.2**
MJA0 pmax pmax

comp=Z,6.0nm,0.7s
MJAR Matsushiro Arr 22.19 234 P **P 22 46 29.2 +0.5**
comp=Z,8.8nm,0.8s,baz=42,slow=8.1,SNR=6.0
MAJO Matsushiro 22.19 234 *e*P **P 22 46 27.6 -1.0**
comp=Z,18nm,0.9s
MAJO Matsushiro 22.19 234 *e*P **P 22 46 27.6 -1.0**
MAJO pmax pmax

comp=Z,18nm,0.9s
MAT Matsushiro 22.19 234 P **P 22 46 29.7 +1.1**
TIXI Tiksi 24.08 336 *i* P **P 22 46 45.9 -1.2**
TIXI pmax pmax

comp=Z,11nm,0.6s
TIXI Tiksi 24.08 336 P **P 22 46 46.1 -1.1**
comp=Z,15nm,0.7s,baz=129,slow=7.8,SNR=6.9
HIA Hailar 25.77 280 *i* P **P 22 47 00.7 -2.1**
HIA pmax pmax

comp=Z,156nm,1.0s
KSRS Korea Array 27.14 250 P **P 22 47 14.2 -1.0**
comp=Z,3.0nm,0.9s,baz=48,slow=9.6,SNR=2.9
KSAR Wonju Array Be 27.17 250 P **P 22 47 14.2 -1.2**
KSAR Wonju Array Be 27.17 250 P **P 22 47 14.2 -1.2**
H11N2 WAKE ISLAND Hy 32.71 169 T T 23 23 59.8
baz=352
H11N3 WAKE ISLAND Hy 32.73 169 T T 23 24 02.0
baz=352
H11N1 WAKE ISLAND Hy 32.73 169 T T 23 24 02.2
baz=352
H11S1 WAKE ISLAND Hy 33.90 170 T T 23 25 40.7
baz=352
H11S3 WAKE ISLAND Hy 33.91 170 T T 23 25 32.5
baz=352
H11S2 WAKE ISLAND Hy 33.91 170 T T 23 25 36.1
baz=352
TLY Talaya 34.34 292 *i* P **P 22 48 15.6 -3.0**
SONA0 Songino Array 34.41 285 *e*P **P 22 48 18.3 -1.0**
SONA0 *e*PcP **PcP 22 50 55.2 +1.1**
SONM Songino Array 34.41 285 *e*P P 22 48 14.3 -5.0
SONM pmax pmax

comp=Z,1.0nm,0.7s
SONM Songino Array 34.41 285 P **P 22 48 18.3 -1.0**
comp=Z,0.8nm,0.4s,baz=46,slow=7.9,SNR=3.9
SONM PcP **PcP 22 50 55.2 +1.1**
comp=Z,0.6nm,0.6s,baz=66,slow=3.6,SNR=2.5
INK Inuvik 34.46 37 *e*P **P 22 48 20.5 +1.2**
comp=Z,2.6nm,0.9s
INK Inuvik 34.46 37 P **P 22 48 20.6 +1.2**
comp=Z,1.8nm,0.7s,baz=278,slow=4.7,SNR=2.9
NRIK Noril'sk 36.86 326 P **P 22 48 38.5 -1.4**
comp=Z,5.1nm,0.9s,baz=90,slow=15,SNR=2.7
GUMO Guam 40.46 204 LR LR 23 04 40.4
comp=Z,130nm,19.1s,baz=14,slow=34
ZALV Zalesovo Beam 43.54 304 *e*P **P 22 49 39.1 +3.7**
ZALV pmax pmax

comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 43.68 42 P **P 22 49 37.5 +1.1**
comp=Z,0.8nm,0.9s,baz=294,slow=6.7,SNR=4.0
YKA LR LR 23 07 14.5
comp=Z,7.3nm,21.3s,baz=289,slow=35
YKB5 Yellowknife Ar 43.68 42 *e*P **P 22 49 37.5 +1.1**
DGZ Jazzator, Alta 44.36 297 *i* P **P 22 49 40.5 -1.7**
DGZ pmax pmax

comp=Z,4.0nm,0.8s
SPITS Spitsbergen Ar 48.13 351 P **P 22 50 12.0 +0.7**
SPITS pmax pmax

comp=Z,4.0nm,0.4s
KURK Kurchatov 48.49 303 *i* P **P 22 50 12.5 -1.8**
KURK pmax pmax

comp=Z,11nm,0.9s
MK32 Makanchi Array 48.84 297 *e*P **P 22 50 15.4 -1.7**
MKAR Makanchi Array 48.84 297 P **P 22 50 15.4 -1.7**
comp=Z,2.8nm,0.5s,baz=56,slow=6.7,SNR=11
BRVK Borovoye 51.25 309 *e*P **P 22 50 34.5 -0.7**
comp=Z,7.6nm,0.8s
BRVK Borovoye 51.25 309 *e*P **P 22 50 34.5 -0.7**
BRVK pmax pmax

comp=Z,8.0nm,0.8s
ARA0 ARCESS Array S 54.29 342 *e*P **P 22 50 57.5 0.0**
ARCES ARCESS Array B 54.29 342 P **P 22 50 57.5 0.0**
comp=Z,4.2nm,0.8s,baz=42,slow=9.9,SNR=5.0
ARU Arti 54.30 318 *e*P **P 22 50 57.0 -0.7**
comp=Z,11nm,0.4s
ARU Arti 54.30 318 *d i*P **P 22 50 56.8 -0.9**
ARU *PP **pP 22 51 08.8 +0.1**
ARU S **S 22 58 28.2 -4.1**
ARU pmax pmax

comp=Z,14nm,1.1s
ARU Arti 54.30 318 P **P 22 50 56.8 -0.9**
comp=Z,3.7nm,0.5s,baz=64,slow=3.4,SNR=9.5

PRGR Permogore 55.41 328 P **P 22 51 04.9 -0.7**
PRGR pmax pmax

comp=Z,12nm,0.6s
TMCR Tamitsa 55.77 333 *e*P **P 22 51 08.4 +0.3**
TMCR pmax pmax

comp=Z,17nm,0.8s
NV01 Mina Array Sit 55.80 70 *e*P **P 22 51 11.8 +2.7**
NVAR Mina Array Bea 55.80 70 P **P 22 51 11.8 +2.7**
comp=Z,0.6nm,0.6s,baz=302,slow=7.3,SNR=2.0
KIRV Kirov 56.34 324 P **P 22 51 12.8 +0.4**
comp=Z,14nm,0.5s,baz=47,slow=7.2,SNR=6.5
KLMR Klimovskoe 57.93 330 *e*P **P 22 51 22.7 -0.8**
KLMR pmax pmax

comp=Z,11nm,1.0s
CHTO Chiang Mai 58.00 259 *e*P **P 22 51 23.9 -0.7**
comp=Z,9.1nm,0.8s
CHTO Chiang Mai 58.00 259 *e*P **P 22 51 23.9 -0.7**
CHTO pmax pmax

comp=Z,9.0nm,0.8s
CMAR Chiang Mai Arr 58.27 259 *e*P **P 22 51 28.4 +1.9**
CMAR pmax pmax

comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 58.27 259 P **P 22 51 27.2 +0.7**
comp=Z,4.7nm,0.7s,baz=27,slow=6.9,SNR=7.4
AKTO Aktyubinsk 58.69 313 P **P 22 51 27.7 -1.3**
comp=Z,2.1nm,0.6s,baz=86,slow=11,SNR=5.9
ULM Lac du Bonnet 59.27 47 LR LR 23 17 17.5
comp=Z,124nm,20.2s,baz=336,slow=36
JIRN Jiri 59.28 276 *e*P **P 22 51 33.6 -0.3**
comp=Z,21nm,0.7s
RAMN Ramite 59.54 276 *e*P **P 22 51 35.1 -0.4**
comp=Z,43nm,0.5s
KKN Kakani 59.74 277 *e*P **P 22 51 36.7 -0.2**
comp=Z,26nm,0.6s
PKI Pulchoki 59.82 277 *e*P **P 22 51 37.1 -0.5**
comp=Z,14nm,0.6s
PKIN Phulchoki 59.82 277 *e*P **P 22 51 37.1 -0.4**
comp=Z,14nm,0.6s
DMN Daman 59.98 277 *e*P **P 22 51 38.5 -0.1**
comp=Z,26nm,0.6s
GKN Gorkha 59.98 278 *e*P **P 22 51 38.1 -0.4**
comp=Z,26nm,0.7s
DANN Dangsing 60.27 279 *e*P **P 22 51 40.4 -0.2**
comp=Z,33nm,0.7s
KOLN Koldanda 60.78 278 *e*P **P 22 51 43.6 -0.4**
comp=Z,16nm,0.6s
PYUN Piuthan 60.91 279 *e*P **P 22 51 44.5 -0.4**
comp=Z,21nm,0.7s
FIA0 FINESS Array S 61.12 337 *e*P **P 22 51 46.1 +0.6**
FIA0 FINESS Array S 61.12 337 *e*P **P 22 51 46.1 +0.6**
FINES FINESS Array B 61.12 337 P **P 22 51 46.1 +0.6**
comp=Z,12nm,0.5s,baz=29,slow=8.7,SNR=22
NIL Nilore 62.72 290 *e*P **P 22 51 56.1 -0.6**
comp=Z,9.7nm,0.8s
NIL Nilore 62.72 290 *e*P **P 22 51 56.1 -0.6**
NIL pmax pmax

comp=Z,10.0nm,0.8s
OBN Obninsk 63.48 328 *e*P **P 22 52 00.3 -1.1**
OBN pmax pmax

comp=Z,6.0nm,1.0s
NC204 NORSAR Array S 64.40 344 *e*P **P 22 52 07.2 -0.2**
comp=Z,16nm,0.8s
NB201 NORSAR Array S 64.53 344 *e*P **P 22 52 08.3 +0.1**
comp=Z,15nm,0.8s
NB2 NORSAR Subarra 64.55 344 P **P 22 52 08.4 0.0**
comp=Z,3.8nm,0.7s,baz=21,slow=6.9
NB2 NORSAR Subarra 64.55 344 P **P 22 52 08.3 -0.1**
NB2 pmax pmax

comp=Z,4.0nm,0.7s
NOA NORSAR Array B 64.55 344 P **P 22 52 08.8 +0.4**
comp=Z,4.3nm,0.7s,baz=21,slow=6.6,SNR=7.8
HFS Hagfors 64.96 342 P **P 22 52 11.2 +0.2**
comp=Z,3.9nm,0.5s,baz=31,slow=3.5,SNR=7.4
GEYT Alibeck 67.86 304 P **P 22 52 29.0 -0.9**
comp=Z,425nm,0.6s,baz=56,slow=5.4,SNR=5.9
AKASG Malin Array Be 69.59 329 P **P 22 52 40.2 -0.2**
comp=Z,7.4nm,0.8s,baz=30,slow=6.6,SNR=4.5
AKBB Malin Array Si 69.59 329 *e*P **P 22 52 40.2 -0.2**
comp=Z,6.9nm,0.9s
AKBB Malin Array Si 69.59 329 *e*P **P 22 52 40.2 -0.2**
AKBB pmax pmax

comp=Z,7.0nm,0.9s
KIV Kislovodsk 70.34 317 *e*P **P 22 52 45.1 -0.2**
KIV pmax pmax

comp=Z,11nm,1.1s
KBZ Khabaz 70.44 317 P **P 22 52 46.1 +0.4**
comp=Z,5.0nm,0.8s,baz=65,slow=2.7,SNR=4.2
TXAR Lajitas Array 70.75 67 P **P 22 52 50.3 +2.3**
comp=Z,0.7nm,0.6s,baz=299,slow=4.0,SNR=3.6
HYB Hyderabad 71.58 275 *i* P **P 22 52 53.0 -0.1**
EKA Eskdalemuir Ar 72.06 350 P **P 22 52 55.8 +0.4**
comp=Z,1.4nm,0.6s,baz=18,slow=5.1,SNR=7.0
MLR Muntele Rosu 75.22 329 *e*P **P 22 53 15.3 +1.0**
comp=Z,8.3nm,0.7s
MLR Muntele Rosu 75.22 329 P **P 22 53 14.6 +0.3**
comp=Z,7.6nm,0.6s,baz=312,slow=1.9,SNR=9.8
WR1 Warramunga Arr 75.33 205 *e*P **P 22 53 15.9 +1.1**
WRA Warramunga Arr 75.33 205 P **P 22 53 15.9 +1.0**
comp=Z,0.8nm,0.7s,baz=22,slow=5.1,SNR=2.9
BFO Black Forest 77.15 341 *e*P **P 22 53 26.3 +1.2**
comp=Z,10nm,0.8s
BFO Black Forest 77.15 341 *e*P **P 22 53 26.3 +1.2**
BFO pmax pmax

comp=Z,10.0nm,0.8s
BR101 Keskin Array S 77.55 321 *e*P **P 22 53 28.1 +0.6**
BRTR Keskin Array B 77.55 321 P **P 22 53 28.1 +0.6**
comp=Z,2.2nm,0.9s,baz=35,slow=2.9,SNR=5.1
ASAR Alice Springs 79.00 205 P **P 22 53 36.8 +1.4**
comp=Z,0.9nm,0.6s,baz=14,slow=5.4,SNR=4.2
MMAI Mount Meron Ar 82.60 316 P **P 22 53 55.8 +0.9**
comp=Z,5.4nm,0.6s,baz=40,slow=6.6,SNR=8.4
ASF Jabal al Asfar 82.68 315 P **P 22 53 56.3 +1.0**
comp=Z,4.0nm,0.9s,baz=17,slow=2.4,SNR=4.4
IDI Anoyia 84.72 325 P **P 22 54 03.7 -1.9**
comp=Z,2.3nm,0.6s,baz=25,slow=12,SNR=4.5
ESDC Sonseca Array 87.58 348 P **P 22 54 20.1 +0.4**
comp=Z,1.0nm,0.7s,baz=0.9,slow=5.7,SNR=4.6

IDC ***18*** *22:44:15.3±1.6,52°.17N×160°.71E,h0km,mb3.9/8, mb1 3.9/9,mb1mx3.5/61,mbtmp3.9/9,ML2.7/1,Error ellipse: s-maj=34.8km s-min=26.5km az=96.0*
MOS ***18*** *22:44:17.6±0.6,52°.08N×160°.76E,h26km,mb4.0/1,Error ellipse: s-maj=14.6km s-min=6.3km az=123.7*
KRSC ***18*** *22:44:18.2±10.0,52°.11N×160°.54E,h21km±10km,ML4.4*
ISC 18 22:44:17.0±3.2,52°.08N±0°.05×160°.60E±0°.06,h11km±19km, n47,σ0°88/68,mb3.9/8,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.08**	**341**	*e*P	**Pb**	**22 44 36.8**	**-0.9**
SPN				*e*S	**Sb**	**22 44 50.0**	**-1.8**
SPN	**Mys Shipunski**	**1.08**	**341**	PN	**Pb**	**22 44 36.8**	**-0.9**
SPN				S	**Sb**	**22 44 50.0**	**-1.8**
RUS	**Russkaya**	**1.33**	**286**	*e*P	**Pn**	**22 44 41.3**	**-0.2**
RUS				*e*S	**Sn**	**22 44 57.9**	**-1.2**
RUS	**Russkaya**	**1.33**	**286**	PN	**Pn**	**22 44 41.3**	**-0.2**
RUS				S	**Sn**	**22 44 57.9**	**-1.2**
NLC	**Nalytchevo**	**1.34**	**326**	*e*P	**Pn**	**22 44 41.4**	**-0.2**
NLC				*e*S	**Sn**	**22 44 58.2**	**-1.1**
NLC	**Nalytchevo**	**1.34**	**326**	PN	**Pn**	**22 44 41.4**	**-0.2**
NLC				S	**Sn**	**22 44 58.2**	**-1.1**
DALK	**Dalny**	**1.48**	**311**	*e*P	**Pn**	**22 44 43.4**	**-0.1**
DALK				*e*S	**Sn**	**22 45 01.9**	**-0.8**
DALK	**Dalny**	**1.48**	**311**	PN	**Pn**	**22 44 43.4**	**-0.1**
DALK				S	**Sn**	**22 45 01.9**	**-0.8**
PET	**Petropavlovsk**	**1.52**	**309**	*e*P	**Pn**	**22 44 44.6**	**+0.5**
PET				*e*S	**Sn**	**22 45 04.5**	**+0.7**
PET	**Petropavlovsk**	**1.52**	**309**	*e*PN	**Pn**	**22 44 44.7**	**+0.6**
PET				*e*S	**Sb**	**22 45 05.6**	**+1.2**
PET				pmax	pmax		

comp=Z,203nm,0.5s
PET smax smax

comp=N,599nm,0.6s
PET smax smax

comp=E,757nm,0.5s
MTVR Mutnovka 1.54 286 *e*P **Pn 22 44 44.9 +0.4**
MTVR *e*S **Sn 22 45 05.2 +0.7**
MTVR Mutnovka 1.54 286 PN **Pn 22 44 44.9 +0.4**
MTVR S **Sn 22 45 05.2 +0.7**
UGLR Uglovaya 1.57 317 *e*P **Pn 22 44 45.7 +0.8**
UGLR *e*S **Sb 22 45 07.1 +1.2**
UGLR Uglovaya 1.57 317 PN **Pn 22 44 45.7 +0.8**
UGLR S **Sb 22 45 07.1 +1.2**

KDTR Khodutka, Kamc 1.58 261 *e*P **Pn 22 44 45.0 +0.1**
KDTR *e*S **Sn 22 45 04.6 -0.7**
KDTR Khodutka, Kamc 1.58 261 PN **Pn 22 44 45.0 +0.1**
KDTR S **Sn 22 45 04.6 -0.7**
SDLR Sedlovina 1.59 320 *e*P **Pb 22 44 47.1 +0.6**
SDLR Sedlovina 1.59 320 PN **Pb 22 44 47.1 +0.6**
SMAR Somma 1.61 318 *e*P **Pn 22 44 46.8 +1.2**
SMAR Somma 1.61 318 PN **Pn 22 44 46.8 +1.2**
AVH Avacha 1.64 317 *e*P **Pn 22 44 46.9 +1.0**
AVH Avacha 1.64 317 PN **Pn 22 44 46.9 +1.0**
KRER Koryakskii 1.67 318 *e*P **Pn 22 44 46.8 +0.5**
KRER Koryakskii 1.67 318 PN **Pn 22 44 46.8 +0.5**
ASAK Asacha 1.69 282 *e*P **Pn 22 44 47.5 +1.0**
ASAK Asacha 1.69 282 PN **Pn 22 44 47.5 +1.0**
KRMR Karymshinskiy 1.69 298 *e*P **Pn 22 44 46.6 +0.2**
KRMR *e*S **Sn 22 45 08.4 +0.4**
KRMR Karymshinskiy 1.69 298 PN **Pn 22 44 46.6 +0.2**
KRMR S **Sn 22 45 08.4 +0.4**
KOK Koryaka 1.70 316 *e*P **Pn 22 44 46.8 +0.1**
KOK Koryaka 1.70 316 PN **Pn 22 44 46.8 +0.1**
KRX Arik 1.75 318 *e*P **Pn 22 44 47.9 +0.5**
KRX Arik 1.75 318 PN **Pn 22 44 47.9 +0.5**
PETK Petropavlovsk- 2.05 301 Pn **Pn 22 44 52.2 +0.8**
comp=E,12nm,0.3s,baz=109,slow=19,SNR=27
PETK Sn **Sb 22 45 19.6 0.0**
comp=E,42nm,0.3s,baz=246,slow=19,SNR=5.8
APC Apacha 2.27 293 *e*P **Pn 22 44 54.9 +0.6**
APC *e*S **Sn 22 45 22.1 -0.1**
APC Apacha 2.27 293 PN **Pn 22 44 54.9 +0.6**
APC S **Sn 22 45 22.1 -0.1**
PAU Pauzhetka 2.43 257 *e*P **Pb 22 44 59.6 -1.1**
PAU Pauzhetka 2.43 257 PN **Pb 22 44 59.6 -1.1**
KZV Kizimen 3.05 357 *e*P **Pn 22 45 06.7 +1.4**
KZV Kizimen 3.05 357 PN **Pn 22 45 06.7 +1.4**
MJAR Matsushiro Arr 22.18 234 P **P 22 49 14.6 +1.6**
comp=E,0.7nm,0.7s,baz=18,slow=10,SNR=2.1
SPITS Spitsbergen Ar 48.19 351 P **P 22 52 56.6 -0.2**
comp=E,1.3nm,0.5s,baz=35,slow=5.3,SNR=6.2
MKAR Makanchi Array 48.88 297 P **P 22 53 00.7 -1.7**
comp=E,0.4nm,0.5s,baz=52,slow=9.5,SNR=3.9
CMAR Chiang Mai Arr 58.28 259 P **P 22 54 12.2 +0.5**
comp=E,1.0nm,0.3s,baz=27,slow=8.1,SNR=3.1
FINES FINESS Array B 61.18 337 P **P 22 54 31.1 +0.1**
comp=E,1.3nm,0.4s,baz=28,slow=8.4,SNR=6.5
AKASG Malin Array Be 69.64 329 P **P 22 55 25.4 -0.6**
comp=E,0.2nm,0.3s,baz=35,slow=7.1,SNR=1.8
ASAR Alice Springs 78.96 205 P **P 22 56 21.6 +1.2**
comp=E,0.3nm,0.8s,baz=12,slow=5.1,SNR=2.3
MMAI Mount Meron Ar 82.66 316 P **P 22 56 40.4 -0.1**
comp=E,0.6nm,0.5s,baz=40,slow=7.8,SNR=3.6

ISCJB ***18*** *22:47:57.3±0.2,43°.185N±0°.010×0°.07W±0°.01,h8km±1km, Error ellipse: s-maj=1.7km s-min=1.5km az=138.1*
STR ***18*** *22:48:00.6±0.8,43°.N±2°.×°.±°.,h2km±7km,M3.3/7,MLv3.3/7*
LDG ***18*** *22:48:00.2±0.1,43°.00N×0°.09W,h2km,Md3.8/3,Ml3.8/46, Error ellipse: s-maj=1.2km s-min=0.9km az=44.0*
MDD ***18*** *22:48:00.8±0.2,43°.03N×0°.04W,h3km±2km,mbLg3.2/58, Error ellipse: s-maj=2.2km s-min=1.7km az=174.0, PRXIMO*
MRB ***18*** *22:48:00.3±0.3,43°.01N×0°.05W,h4km±3km,ML3.3/17, Error ellipse: s-maj=1.1km s-min=0.8km az=221.0*
INMG ***18*** *22:48:01.1±1.6,43°.02N×0°.05W,h5km±3km,ML2.8,Error ellipse: s-maj=2.7km s-min=2.4km az=40.0*
SFS ***18*** *22:48:01.0,42°.90N×0°.07W,ML3.2,LUS ST.SAUVEUR (FRANCIA)*
ISC 18 22:47:59.1±0.8,43°.06N±0°.01×0°.06W±0°.01,h18km±3km, n222,σ1°55/427,1C-3D,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYLO	**Lourdes**	**0.04**	**12**	Pg	**Pg**	**22 48 02.3**	**-0.1**
PYLO	**Lourdes**	**0.04**	**12**	P	**Pg**	**22 48 02.3**	**-0.1**
PYLO				S	**Sg**	**22 48 03.6**	**-1.0**
	10μm,0.1s						
EPF	**Esparros**	**0.29**	**95**	*e*Pg	**Pg**	**22 48 06.0**	**+0.4**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**22 48 10.2**	**+0.2**
	3μm,0.2s						
EPF	**Esparros**	**0.29**	**95**	Pg	**Pg**	**22 48 06.0**	**+0.4**
EPF				Lg	Lg	22 48 10.2	
	2μm,0.2s						
EPF	**Esparros**	**0.29**	**95**	Pg	**Pg**	**22 48 06.0**	**+0.4**
EPF				Sg	**Sg**	**22 48 10.2**	**+0.2**
FMON	**Montouss**	**0.35**	**89**	P	**Pg**	**22 48 06.8**	**+0.3**
FMON				S	**Sg**	**22 48 12.0**	**+0.4**
	852nm,0.2s						
ETSF	**Etsaut**	**0.40**	**247**	*e*Pg	**Pg**	**22 48 07.8**	**+0.4**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**22 48 12.9**	**-0.1**
	2μm,0.2s,SNR=1.0						
ETSF	**Etsaut**	**0.40**	**247**	Pg	**Pg**	**22 48 07.8**	**+0.4**
ETSF				Lg	Lg	22 48 12.9	
	990nm,0.2s						
ETSF	**Etsaut**	**0.40**	**247**	Pg	**Pg**	**22 48 07.8**	**+0.4**
ETSF				Sg	**Sg**	**22 48 12.9**	**-0.1**
ECHI	**Chisagues Biel**	**0.43**	**154**	Pg	**Pg**	**22 48 07.7**	**-0.3**
ECHI				Sg	**Sg**	**22 48 12.8**	**-1.3**
ECHI	**Chisagues Biel**	**0.43**	**154**	Pg	**Pg**	**22 48 07.7**	**-0.3**
	113nm,0.1s,SNR=7.9						
ECHI				Lg	Lg	22 48 12.8	
	3μm,0.2s,SNR=7.9						
ECHI	**Chisagues Biel**	**0.43**	**154**	P	**Pg**	**22 48 07.7**	**-0.3**
ECHI				S	**Sg**	**22 48 12.8**	**-1.3**
	3μm,0.1s						
ATE	**Arette**	**0.47**	**274**	Pg	**Pg**	**22 48 09.1**	**+0.5**
ATE				Sg	**Sb**	**22 48 16.3**	**+0.8**
ATE	**Arette**	**0.47**	**274**	⇑Pg	**Pb**	**22 48 09.3**	**+0.5**
	67nm,0.2s,SNR=18						
ATE				Lg	Lg	22 48 16.3	
	258nm,0.2s,SNR=7.9						
ATE	**Arette**	**0.47**	**274**	P	**Pg**	**22 48 09.2**	**+0.5**
ATE				S	**Sb**	**22 48 16.1**	**+0.6**
	318nm,0.2s						
URDF	**Urds**	**0.55**	**315**	Pg	**Pn**	**22 48 12.4**	**+0.5**
CARA	**Val d'Aran**	**0.73**	**118**	P	**Pb**	**22 48 13.6**	**+0.2**
CARA				S	**Sg**	**22 48 23.8**	**+0.4**
	579nm,0.2s						
SJPF	**Ste Jean**	**0.85**	**274**	*e*Pg	**Pg**	**22 48 16.4**	**+0.6**
	SNR=1.0						
SJPF				*e*Sg	**Sb**	**22 48 27.3**	**+0.7**
	178nm,0.3s						
SJPF	**Ste Jean**	**0.85**	**274**	Pg	**Pg**	**22 48 16.4**	**+0.6**
SJPF				Lg	Lg	22 48 27.3	
	89nm,0.3s						
SJPF	**Ste Jean**	**0.85**	**274**	Pg	**Pg**	**22 48 16.4**	**+0.6**
CTRE	**Tremp**	**0.96**	**140**	Pg	**Pb**	**22 48 17.5**	**+0.3**
CTRE				Lg	Lg	22 48 30.1	
	222nm,0.3s						
CTRE	**Tremp**	**0.96**	**140**	P	**Pb**	**22 48 17.5**	**+0.3**
CTRE				S	**Sb**	**22 48 30.2**	**+0.6**
	222nm,0.3s						
CEST	**Esterri de Car**	**1.07**	**115**	Pg	**Pb**	**22 48 19.3**	**+0.2**
CEST				Lg	Lg	22 48 33.8	
	260nm,0.2s						
CEST	**Esterri de Car**	**1.07**	**115**	P	**Pb**	**22 48 19.4**	**+0.2**
CEST				S	**Sn**	**22 48 33.9**	**+0.1**
	260nm,0.2s						
EALK	**Alkurruntz**	**1.07**	**279**	Pg	**Pg**	**22 48 21.0**	**+1.1**
	29nm,0.4s,SNR=38						
EALK				Lg	Lg	22 48 35.4	
	70nm,0.3s,SNR=64						
EALK	**Alkurruntz**	**1.07**	**279**	Pg	**Pg**	**22 48 21.0**	**+1.1**
IUNC	**Unciti**	**1.10**	**255**	Pg	**Pg**	**22 48 21.5**	**+1.1**
	29nm,0.2s,SNR=7.9						
IUNC				Lg	Lg	22 48 36.9	
	64nm,0.2s,SNR=7.9						
CSOR	**Sort**	**1.11**	**127**	⇓Pg	**Pn**	**22 48 20.5**	**+0.6**
	115nm,0.1s,SNR=18						
CSOR				Lg	Lg	22 48 34.8	
	206nm,0.2s						
CSOR	**Sort**	**1.11**	**127**	P	**Pn**	**22 48 20.2**	**+0.4**
CSOR				S	**Sn**	**22 48 35.0**	**+0.2**
	226nm,0.2s						
EARA	**Aranguren**	**1.15**	**256**	⇓Pg	**Pg**	**22 48 22.4**	**+1.0**
	7.7nm,0.3s,SNR=18						
EARA				Lg	Lg	22 48 36.9	
	56nm,0.3s,SNR=100						
CORG	**Organya**	**1.31**	**129**	Pg	**Pb**	**22 48 23.6**	**+0.4**
CORG				Lg	Lg	22 48 40.9	
	0.8nm,0.2s						
CORG	**Organya**	**1.31**	**129**	P	**Pb**	**22 48 23.7**	**+0.5**
CORG				S	**Sg**	**22 48 40.9**	**-0.6**

CAVN Les Avellanes 1.32 153 Pg **Pb 22 48 23.5 +0.2**
CAVN Lg Lg 22 48 41.0
861nm,0.2s
CAVN Les Avellanes 1.32 153 P **Pb 22 48 23.9 +0.5**
CAVN S **Sb 22 48 41.0 +1.1**
2µm,0.2s
ARBS La Rabassa 1.33 117 P **Pb 22 48 24.2 +0.5**
ARBS S **Sg 22 48 41.7 -0.6**
314nm,0.4s
ESAC San Caprasio 1.37 193 Pg **Pg 22 48 25.7 +0.2**
232nm,0.2s,SNR=373
ESAC Lg Lg 22 48 43.7
3µm,0.2s
MONQ Montcuq 1.59 34 Pg **Pg 22 48 31.0 +1.2**
MONQ Sg **Sg 22 48 52.8 +2.2**
FNEB Nbias 1.60 95 Pg **Pg 22 48 30.4 +0.6**
FNEB Sg **Sg 22 48 51.9 +1.2**
FNEB Nbias 1.60 95 Pg **Pb 22 48 29.0 +0.9**
FNEB Lg Lg 22 48 50.1
269nm,0.2s
FNEB Nbias 1.60 95 P **Pb 22 48 29.0 +0.9**
FNEB S **Sg 22 48 50.1 -0.6**
269nm,0.2s
CLLI Llivia 1.60 110 Pg **Pg 22 48 30.0 0.0**
3.6nm,0.1s,SNR=78
CLLI Lg Lg 22 48 50.9
221nm,0.3s,SNR=13
CLLI Llivia 1.60 110 P **Pb 22 48 29.0 +0.7**
CLLI S **Sg 22 48 50.6 -0.4**
271nm,0.3s
EMIR Miracle 1.64 134 Pg **Pg 22 48 30.7 +0.1**
43nm,0.1s,SNR=92
EMIR Lg Lg 22 48 52.4
105nm,0.3s,SNR=12
MTLF Montolieu 1.69 80 *e*Pn **Pb 22 48 29.8 +0.2**
SNR=1.0
MTLF Montolieu 1.69 80 *e*Pg **Pg 22 48 32.3 +0.7**
MTLF SNR=1.0
MTLF *e*Sg **Sg 22 48 54.4 +0.8**
460nm,0.3s
MTLF Montolieu 1.69 80 Pn **Pb 22 48 29.8 +0.2**
MTLF Pg **Pg 22 48 32.3 +0.7**
MTLF Lg Lg 22 48 54.4
230nm,0.3s
MTLF Montolieu 1.69 80 Pn **Pb 22 48 29.8 +0.2**
MTLF Sg **Sg 22 48 54.4 +0.8**
CBRU Bruguera 1.82 114 Pg **Pb 22 48 32.0 0.0**
CBRU Lg Lg 22 48 55.5
260nm,0.4s
CBRU Bruguera 1.82 114 P **Pb 22 48 31.6 -0.4**
CBRU S **Sb 22 48 55.6 +1.0**
519nm,0.4s
CORI Orista 1.90 124 Pn **Pb 22 48 33.1 -0.1**
CORI Sn **Sb 22 48 56.5 -0.1**
1µm,0.2s
CORI Orista 1.90 124 P **Pb 22 48 32.2 -1.0**
CORI S **Sb 22 48 56.5 -0.1**
1µm,0.2s
EPOB Poblet 1.90 153 Pn **Pb 22 48 33.2 -0.1**
50nm,0.5s,SNR=102
EPOB Pg **Pg 22 48 35.2 -0.5**
22nm,0.3s,SNR=16
EPOB Lg Lg 22 48 59.2
87nm,0.3s,SNR=8.2
EPOB Poblet 1.90 153 P **Pb 22 48 32.5 -0.8**
EPOB S **Sb 22 48 56.8 +0.1**
367nm,0.3s
LFF La Frestale 1.97 17 *e*Pn **Pb 22 48 33.9 -0.5**
SNR=1.0
LFF La Frestale 1.97 17 *e*Pg **Pg 22 48 38.0 +1.1**
LFF SNR=1.0
LFF *e*Sn **Sb 22 48 57.8 -0.8**
SNR=1.0
LFF *e*Sg **Sg 22 49 04.0 +1.5**
552nm,0.4s,SNR=1.0
LFF La Frestale 1.97 17 Pn **Pb 22 48 33.9 -0.5**
LFF Pg **Pg 22 48 38.0 +1.1**
LFF Sn **Sb 22 48 57.8 -0.8**
LFF Lg Lg 22 49 04.0
276nm,0.4s
ERTA Horta de San J 2.12 172 Pg **Pg 22 48 39.1 -0.7**
21nm,0.4s,SNR=18
ERTA Lg Lg 22 49 05.1
132nm,0.3s,SNR=16
CBEU Beuda 2.17 111 P **Pn 22 48 36.3 +1.9**
CBEU S **Sb 22 49 04.0 -0.5**
362nm,0.3s
SJAF Saint Jean de 2.24 104 Pn **Pb 22 48 39.8 +0.8**
1.0nm,0.1s,SNR=7.9
SJAF Pg **Pg 22 48 42.2 +0.1**
1.0nm,0.1s,SNR=7.9
SJAF Sn **Sg 22 49 09.1 -2.1**
7.5nm,0.1s,SNR=7.9
SJAF Lg Lg 22 49 12.2
35nm,0.3s,SNR=7.9
EJON La Jonquera 2.25 105 Pn **Pb 22 48 39.9 +0.6**
18nm,0.2s,SNR=36
EJON Pg **Pg 22 48 42.6 +0.2**
10nm,0.3s,SNR=7.9
EJON Lg Lg 22 49 11.7
107nm,0.3s
CFON Fontmartina 2.26 124 Pn **Pb 22 48 39.4 0.0**
69nm,0.4s,SNR=70
CFON Pg **Pg 22 48 42.2 -0.3**
85nm,0.3s,SNR=9.0
CFON Lg Lg 22 49 10.2
646nm,0.3s,SNR=16
CAF Calviac 2.42 39 *e*Pn **Pn 22 48 39.4 +1.7**
SNR=1.0
CAF Calviac 2.42 39 *e*Pg **Pg 22 48 46.4 +0.9**
CAF *e*Sg **Sg 22 49 17.6 +0.8**
89nm,0.1s,SNR=1.0
CAF Calviac 2.42 39 Pn **Pn 22 48 39.4 +1.7**
CAF Pg **Pg 22 48 46.4 +0.9**
CAF Lg Lg 22 49 17.6
44nm,0.1s
ELAN Lanestosa 2.48 275 Pn **Pb 22 48 43.2 +0.1**
10nm,0.7s,SNR=27
ELAN Sn **Sb 22 49 15.3 +2.1**
35nm,0.8s,SNR=4.8
CCAS Cassa de la Se 2.49 117 P **Pn 22 48 40.9 +2.2**
CCAS S **Sn 22 49 10.6 +2.1**
120nm,0.5s
RJF Les Rejaudoux 2.52 26 *e*Pn **Pn 22 48 41.5 +2.4**
SNR=1.0
RJF Les Rejaudoux 2.52 26 *e*Pg **Pg 22 48 47.9 +0.5**
RJF *e*Sg **Sg 22 49 21.0 +1.0**
166nm,0.2s
RJF Les Rejaudoux 2.52 26 Pn **Pn 22 48 41.5 +2.4**
RJF Pg **Pg 22 48 47.9 +0.5**
RJF Lg Lg 22 49 21.0
83nm,0.2s
ETOR Torete 2.69 214 ⇓Pn **Pb 22 48 44.6 -2.0**
13nm,0.2s,SNR=18
ETOR Sn **Sn 22 49 15.7 +2.1**
70nm,0.5s
ETOR Lg Lg 22 49 25.5
70nm,0.5s
EMOS Mosqueruela 2.71 187 Pn **Pb 22 48 45.2 -1.9**
23nm,0.5s,SNR=24
EMOS Pg **Pg 22 48 49.0 -2.0**
0.9nm,0.1s,SNR=7.9
EMOS Lg Lg 22 49 26.8
82nm,0.3s,SNR=7.9
LASF Ste Croix 3.02 69 *e*Pn **Pn 22 48 47.7 +1.6**
SNR=1.0
LASF Ste Croix 3.02 69 *e*Pg **Pg 22 48 57.5 +0.5**
LASF *e*Sn **Sn 22 49 23.8 +2.0**
LASF *e*Sg **Sg 22 49 36.2 0.0**
157nm,0.4s
LASF Ste Croix 3.02 69 Pn **Pn 22 48 47.7 +1.6**
LASF Pg **Pg 22 48 57.5 +0.5**
LASF Sn **Sn 22 49 23.8 +2.0**
LASF Lg Lg 22 49 36.2
79nm,0.4s
ECHE Chera 3.53 191 Pn **Pn 22 48 54.7 +1.7**
0.5nm,0.2s,SNR=7.9
ECHE Pg **Pg 22 49 05.2 -1.5**
0.8nm,0.1s,SNR=7.9
ECHE Sn **Sn 22 49 35.8 +1.5**
2.3nm,0.2s,SNR=7.9
ECHE Lg Lg 22 49 48.2
5.3nm,0.3s,SNR=7.9
MFF Saint Martin d 3.54 359 *e*Pn **Pn 22 48 55.2 +2.0**
SNR=1.0
MFF Saint Martin d 3.54 359 *e*Pg **Pg 22 49 06.8 -0.2**
MFF *e*Sn **Sn 22 49 35.4 +0.8**
MFF *e*Sg **Sg 22 49 52.3 -0.6**
79nm,0.3s,SNR=1.0
MFF Saint Martin d 3.54 359 Pn **Pn 22 48 55.2 +2.0**
MFF Pg **Pg 22 49 06.8 -0.2**
MFF Sn **Sn 22 49 35.4 +0.8**
MFF Lg Lg 22 49 52.3
40nm,0.3s
TCF Toulx Ste Croi 3.61 26 *e*Pn **Pn 22 48 55.4 +1.2**
SNR=1.0
TCF Toulx Ste Croi 3.61 26 *e*Pg **Pg 22 49 08.2 -0.1**
TCF *e*Sn **Sn 22 49 37.6 +1.2**
SNR=1.0
TCF *e*Sg **Sg 22 49 55.3 +0.2**
69nm,0.2s,SNR=1.0
TCF Toulx Ste Croi 3.61 26 Pn **Pn 22 48 55.4 +1.2**
TCF Pg **Pg 22 49 08.2 -0.1**
TCF Sn **Sn 22 49 37.6 +1.2**
TCF Lg Lg 22 49 55.3
35nm,0.2s
UCM Universidad Co 3.64 222 *e*Pn **Pn 22 48 56.9 +2.4**
UCM Universidad Co 3.64 222 *e*Pg **Pg 22 49 08.3 -0.4**
UCM *e*S **Sn 22 49 37.6 +0.6**
EARI Arriondas 3.77 275 Pn **Pn 22 49 00.4 +4.0**
18nm,1.0s,SNR=12
EARI Sn **Sn 22 49 43.8 +3.4**
9.7nm,0.5s,SNR=6.1
VIVF Saint-Julien-l 3.86 61 *e*Pn **Pn 22 49 00.4 +2.8**
SNR=1.0
VIVF Saint-Julien-l 3.86 61 *e*Pg **Pg 22 49 12.2 -0.8**
VIVF *e*Sn **Sn 22 49 43.1 +0.6**
VIVF *e*Sg **Sg 22 50 03.0 -0.1**
38nm,0.3s
VIVF Saint-Julien-l 3.86 61 Pn **Pn 22 49 00.4 +2.8**
VIVF Pg **Pg 22 49 12.2 -0.8**
VIVF Sn **Sn 22 49 43.1 +0.6**
VIVF Lg Lg 22 50 03.0
19nm,0.3s
GUD Guadarrama 3.90 233 Pn **Pn 22 49 01.3 +3.2**
4.0nm,0.3s,SNR=18
GUD Sn **Sn 22 49 45.7 +2.2**
10nm,0.3s,SNR=5.8
ETOS Mallorca 3.93 146 Pn **Pn 22 49 01.4 +2.8**
6.8nm,0.5s,SNR=7.3
ETOS Sn **Sn 22 49 45.0 +0.8**
22nm,0.8s
BGF Bois d'Agland 4.07 30 *e*Pn **Pn 22 49 02.4 +2.0**
SNR=1.0
BGF Bois d'Agland 4.07 30 *e*Pg **Pg 22 49 16.7 -0.2**
BGF *e*Sg **Sg 22 50 08.8 -0.8**
404nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.07 30 Pn **Pn 22 49 02.4 +2.0**
BGF Pg **Pg 22 49 16.7 -0.2**
BGF Lg Lg 22 50 08.8
202nm,0.4s
EIBI Ibiza 4.16 165 Sn **Sn 22 49 49.3 -0.6**
7.1nm,0.2s,SNR=7.9
SMRF Simiane la Rot 4.20 75 *e*Pn **Pn 22 49 04.5 +2.2**
SNR=1.0
SMRF Simiane la Rot 4.20 75 *e*Pg **Pg 22 49 19.2 -0.3**
SMRF *e*Sn **Sn 22 49 51.6 +0.7**
SMRF *e*Sg **Sg 22 50 14.8 +0.9**
99nm,0.8s,SNR=1.0
SMRF Simiane la Rot 4.20 75 Pn **Pn 22 49 04.5 +2.2**
SMRF Pg **Pg 22 49 19.2 -0.3**
SMRF Sn **Sn 22 49 51.6 +0.7**
SMRF Lg Lg 22 50 14.8
99nm,0.8s
AVF Avril sur Loir 4.45 32 *e*Pn **Pn 22 49 07.7 +2.1**
SNR=1.0
AVF Avril sur Loir 4.45 32 *e*Pg **Pg 22 49 23.6 -0.7**
AVF *e*Sn **Sn 22 49 57.2 +0.3**
SNR=1.0
AVF *e*Sg **Sg 22 50 21.5 -0.4**
46nm,0.3s,SNR=1.0
AVF Avril sur Loir 4.45 32 Pn **Pn 22 49 07.7 +2.1**
AVF Pg **Pg 22 49 23.6 -0.7**
AVF Sn **Sn 22 49 57.2 +0.3**
AVF Lg Lg 22 50 21.5
23nm,0.3s
ESDC Sonseca Array 4.48 222 Pn **Pn 22 49 08.1 +2.0**
2.9nm,0.2s,baz=44,slow=14,SNR=82
ESDC Sn **Sn 22 49 57.0 -0.8**
6.0nm,0.2s,baz=43,slow=24,SNR=11
SMF Signal de Mont 4.53 36 *e*Pn **Pn 22 49 09.1 +2.3**
SNR=1.0
SMF Signal de Mont 4.53 36 *e*Pg **Pg 22 49 25.5 -0.4**
SMF *e*Sn **Sn 22 49 59.8 +0.7**
SMF *e*Sg **Sg 22 50 24.0 -0.6**
28nm,0.3s,SNR=1.0
SMF Signal de Mont 4.53 36 Pn **Pn 22 49 09.1 +2.3**
SMF Pg **Pg 22 49 25.5 -0.4**
SMF Sn **Sn 22 49 59.8 +0.7**
SMF Lg Lg 22 50 24.0
14nm,0.3s
ETOB Tobarra 4.55 195 Pn **Pn 22 49 10.0 +2.9**
4.9nm,0.7s,SNR=14
ETOB Sn **Sn 22 49 59.3 -0.2**
21nm,0.9s
ETOB Lg Lg 22 50 25.4
SNR=7.9
HYF Humbligny 4.62 23 *e*Pn **Pn 22 49 10.1 +2.1**
HYF Humbligny 4.62 23 *e*P Pn 22 49 14.0 +6.0
HYF Humbligny 4.62 23 *e*Pg **Pg 22 49 26.8 -0.8**
HYF *e*Sg **Sg 22 50 26.8 -0.7**
HYF Humbligny 4.62 23 Pn **Pn 22 49 10.1 +2.1**
HYF Pg **Pg 22 49 26.8 -0.8**
HYF Lg Lg 22 50 26.8
ORIF Oris-en-Rattie 4.67 65 *e*Pn **Pn 22 49 10.0 +1.2**
SNR=1.0
ORIF Oris-en-Rattie 4.67 65 *e*Pg **Pg 22 49 28.0 -0.6**
ORIF *e*Sn **Sn 22 50 01.9 -0.7**
ORIF *e*Sg **Sg 22 50 28.6 -0.5**
12nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie 4.67 65 Pn **Pn 22 49 10.0 +1.2**
ORIF Pg **Pg 22 49 28.0 -0.6**
ORIF Sn **Sn 22 50 01.9 -0.7**
ORIF Lg Lg 22 50 28.6
5.8nm,0.4s
SSF Saint Saulge 4.73 31 *e*Pn **Pn 22 49 11.9 +2.4**
SNR=1.0
SSF Saint Saulge 4.73 31 *e*Pg **Pg 22 49 29.0 -0.7**
SSF *e*Sn **Sn 22 50 04.2 +0.3**
SSF *e*Sg **Sg 22 50 30.5 -0.5**
70nm,0.4s
SSF Saint Saulge 4.73 31 Pn **Pn 22 49 11.9 +2.4**
SSF Pg **Pg 22 49 29.0 -0.7**
SSF Sn **Sn 22 50 04.2 +0.3**
SSF Lg Lg 22 50 30.5
35nm,0.4s
PAB San Pablo 4.77 224 Pn **Pn 22 49 12.5 +2.4**
5.1nm,0.2s,SNR=7.9
PAB Sn **Sn 22 50 04.8 -0.1**
4.6nm,0.4s,SNR=7.9
LMR La Mourre 4.81 84 *e*Pn **Pn 22 49 12.4 +1.8**
LMR La Mourre 4.81 84 *e*Pg **Pg 22 49 29.9 -1.3**
LMR *e*Sn **Sn 22 50 05.2 -0.6**
LMR *e*Sg **Sg 22 50 32.5 -1.0**
11nm,0.2s
LMR La Mourre 4.81 84 Pn **Pn 22 49 12.4 +1.8**
LMR Pg **Pg 22 49 29.9 -1.3**
LMR Sn **Sn 22 50 05.2 -0.6**
LMR Lg Lg 22 50 32.5
5.5nm,0.2s
FRF La Foret Royal 4.92 82 *e*Pn **Pn 22 49 14.3 +2.2**
FRF La Foret Royal 4.92 82 *e*Pg **Pg 22 49 32.1 -1.2**
FRF *e*Sn **Sn 22 50 08.0 -0.6**
FRF *e*Sg **Sg 22 50 34.4 -2.6**
28nm,0.4s
FRF La Foret Royal 4.92 82 Pn **Pn 22 49 14.3 +2.2**
FRF Pg **Pg 22 49 32.1 -1.2**
FRF Sn **Sn 22 50 08.0 -0.6**
FRF Lg Lg 22 50 34.4
14nm,0.4s
LOR Lormes 5.04 32 *e*Pn **Pn 22 49 15.6 +1.8**
SNR=1.0
LOR Lormes 5.04 32 *e*Pg **Pg 22 49 34.4 -1.2**
LOR *e*Sg **Sg 22 50 39.7 -1.1**
50nm,0.4s,SNR=1.0
LOR Lormes 5.04 32 Pn **Pn 22 49 15.6 +1.8**
LOR Pg **Pg 22 49 34.4 -1.2**
LOR Lg Lg 22 50 39.7
25nm,0.4s
ECAL Calabor 5.06 260 Pn **Pn 22 49 16.6 +2.5**
4.9nm,0.4s,SNR=6.7
ECAL Sn **Sn 22 50 14.0 +1.8**
12nm,0.3s,SNR=6.9
PBRG Braganca 5.10 258 *e*Pn **Pn 22 49 17.7 +3.1**
PBRG *e*Sn **Sn 22 50 14.5 +1.4**
PBRG A A 22 50 16.9
10nm,0.3s
PBRG Braganca 5.10 258 Pn **Pn 22 49 17.7 +3.1**
PBRG Sn **Sn 22 50 14.5 +1.4**
5.2nm,0.3s
EPON Pontenova 5.19 275 Pn **Pn 22 49 19.5 +3.7**
22nm,1.0s,SNR=7.0
EPON Sn **Sn 22 50 18.6 +3.3**
68nm,1.3s
MBDF Montbardon 5.21 69 *e*Pg **Pg 22 49 37.8 -1.1**
MBDF *e*Sn **Sn 22 50 15.5 -0.4**
MBDF *e*Sg **Sg 22 50 45.0 -1.3**
12nm,0.7s
MBDF Montbardon 5.21 69 Pg **Pg 22 49 37.8 -1.1**
MBDF Sn **Sn 22 50 15.5 -0.4**
MBDF Lg Lg 22 50 45.0
6.1nm,0.7s
EMUR La Murta 5.29 190 Pn **Pn 22 49 20.2 +3.0**
7.9nm,0.9s,SNR=9.7
EMUR Sn **Sn 22 50 18.6 +0.9**
74nm,1.4s
QUIF Quistinic 5.33 337 *e*Pn **Pn 22 49 19.6 +1.9**
SNR=1.0
QUIF Quistinic 5.33 337 *e*Pg **Pg 22 49 39.3 -1.7**
QUIF *e*Sn **Sn 22 50 16.8 -1.7**
QUIF *e*Sg **Sg 22 50 47.8 -2.2**
16nm,0.3s
QUIF Quistinic 5.33 337 Pn **Pn 22 49 19.6 +1.9**
QUIF Pg **Pg 22 49 39.3 -1.7**
QUIF Sn **Sn 22 50 16.8 -1.7**
QUIF Lg Lg 22 50 47.8
7.8nm,0.3s
GRR Gorron 5.36 354 *e*Pn **Pn 22 49 19.5 +1.4**
GRR Gorron 5.36 354 *e*Pg **Pg 22 49 40.2 -1.5**
GRR *e*Sn **Sn 22 50 18.7 -0.7**
8.3nm,0.2s,SNR=1.0
GRR *e*Sg **Sg 22 50 48.3 -2.8**
12nm,0.2s
GRR Gorron 5.36 354 Pn **Pn 22 49 19.5 +1.4**
GRR Pg **Pg 22 49 40.2 -1.5**
GRR Sn **Sn 22 50 18.7 -0.7**
4.2nm,0.2s
GRR Lg Lg 22 50 48.3
5.9nm,0.2s
EPLA Plasencia 5.42 239 Pn **Pn 22 49 21.5 +2.5**
2.4nm,0.4s,SNR=20
EPLA Sn **Sn 22 50 21.6 +0.7**
4.6nm,0.3s,SNR=7.1
LPL La Plagne 5.46 61 *e*Pn **Pn 22 49 21.6 +1.9**
LPL La Plagne 5.46 61 *e*Pg **Pg 22 49 42.6 -1.0**
LPL *e*Sn **Sn 22 50 22.0 -0.2**
LPL *e*Sg **Sg 22 50 53.3 -1.0**
15nm,0.5s,SNR=1.0
LPL La Plagne 5.46 61 Pn **Pn 22 49 21.6 +1.9**
LPL Pg **Pg 22 49 42.6 -1.0**
LPL Sn **Sn 22 50 22.0 -0.2**
LPL Lg Lg 22 50 53.3
7.3nm,0.5s
LPG La Plagne 5.46 61 *e*Pn **Pn 22 49 22.0 +2.1**
LPG La Plagne 5.46 61 *e*Pg **Pg 22 49 43.0 -0.7**
LPG *e*Sn **Sn 22 50 22.2 -0.2**
LPG *e*Sg **Sg 22 50 53.6 -0.9**
20nm,0.6s
LPG La Plagne 5.46 61 Pn **Pn 22 49 22.0 +2.1**
LPG Pg **Pg 22 49 43.0 -0.7**
LPG Sn **Sn 22 50 22.2 -0.2**
LPG Lg Lg 22 50 53.6
9.9nm,0.6s
SGMF Saint Gilles 5.48 342 *e*Pn **Pn 22 49 21.3 +1.5**
SNR=1.0
SGMF Saint Gilles 5.48 342 *e*Pg **Pg 22 49 42.0 -2.0**
SGMF *e*Sn **Sn 22 50 21.5 -0.9**
6.3nm,0.3s,SNR=1.0
SGMF *e*Sg **Sg 22 50 52.4 -2.6**
9.0nm,0.3s
SGMF Saint Gilles 5.48 342 Pn **Pn 22 49 21.3 +1.5**
SGMF Pg **Pg 22 49 42.0 -2.0**
SGMF Sn **Sn 22 50 21.5 -0.9**
3.2nm,0.3s
SGMF Lg Lg 22 50 52.4
4.5nm,0.3s
SBF Sospel 5.51 79 *e*Pn **Pn 22 49 22.3 +2.0**
SBF Sospel 5.51 79 *e*Pg **Pg 22 49 42.6 -2.1**
SBF *e*Sn **Sn 22 50 22.5 -0.8**
SBF *e*Sg **Sg 22 50 53.3 -2.7**
13nm,0.2s
SBF Sospel 5.51 79 Pn **Pn 22 49 22.3 +2.0**
SBF Pg **Pg 22 49 42.6 -2.1**
SBF Sn **Sn 22 50 22.5 -0.8**
SBF Lg Lg 22 50 53.3
6.5nm,0.2s
MVO Moncorvo 5.52 252 *e*Pn **Pn 22 49 23.2 +2.8**
MVO *e*Sn **Sn 22 50 24.4 +1.0**
MVO A A 22 50 37.0
7.7nm,0.8s
LDF La Druitiere 5.54 360 *e*Pn **Pn 22 49 21.4 +0.8**
SNR=1.0
LDF La Druitiere 5.54 360 *e*Pg **Pg 22 49 43.5 -1.6**
LDF *e*Sn **Sn 22 50 22.8 -0.9**
SNR=1.0
LDF *e*Sg **Sg 22 50 55.4 -1.3**
21nm,0.4s,SNR=1.0
CABF La Chapelle 5.63 49 *e*Pn **Pn 22 49 24.7 +2.7**
CABF La Chapelle 5.63 49 *e*Pg **Pg 22 49 46.4 -0.5**
CABF *e*Sn **Sn 22 50 24.2 -2.0**
CABF *e*Sg **Sg 22 50 58.6 -1.2**
41nm,0.6s,SNR=1.0
CABF La Chapelle 5.63 49 Pn **Pn 22 49 24.7 +2.7**
CABF Pg **Pg 22 49 46.4 -0.5**
CABF Sn **Sn 22 50 24.2 -2.0**
CABF Lg Lg 22 50 58.6
20nm,0.6s
FLN La Foliniere 5.71 357 *e*Pn **Pn 22 49 24.0 +1.0**
baz=178,SNR=1.0
FLN La Foliniere 5.71 357 *e*Pg **Pg 22 49 46.9 -1.5**
baz=177
FLN *e*Sn **Sn 22 50 27.3 -0.8**
FLN *e*Sg **Sg 22 51 00.3 -2.1**
18nm,0.3s,baz=177
FLN La Foliniere 5.71 357 Pn **Pn 22 49 24.0 +1.0**
FLN Pg **Pg 22 49 46.9 -1.5**
FLN Sn **Sn 22 50 27.3 -0.8**
FLN Lg Lg 22 51 00.3
9.1nm,0.3s
EQES Quesada 5.73 205 Pn **Pn 22 49 25.4 +2.1**
2.2nm,0.4s,SNR=8.3
EQES Sn **Sn 22 50 27.4 -1.3**
6.1nm,0.5s
ROSF Rostrenen 5.74 338 *e*Pn **Pn 22 49 24.6 +1.3**
SNR=1.0
ROSF Rostrenen 5.74 338 *e*Pg **Pg 22 49 47.0 -1.9**
ROSF *e*Sn **Sn 22 50 27.0 -1.7**
9.4nm,0.4s,SNR=1.0
ROSF *e*Sg **Sg 22 51 00.6 -2.6**
25nm,0.5s
ROSF Rostrenen 5.74 338 Pn **Pn 22 49 24.6 +1.3**
ROSF Pg **Pg 22 49 47.0 -1.9**
ROSF Sn **Sn 22 50 27.0 -1.7**
4.7nm,0.4s
ROSF Lg Lg 22 51 00.6
12nm,0.5s
EAGO Agolada(Pontev 5.90 270 Pn **Pn 22 49 28.6 +3.0**
1.2nm,0.2s,SNR=7.9
EAGO Sn **Sn 22 50 33.7 +1.0**
1.2nm,0.2s,SNR=7.9
PVRL Vila Real 5.96 255 *e*Pn **Pn 22 49 29.2 +2.7**
PVRL Vila Real 5.96 255 Pn **Pn 22 49 29.2 +2.7**
POLO Lamas de Olo 5.98 256 *e*Pn **Pn 22 49 29.5 +2.7**
POLO *e*Sn **Sn 22 50 34.7 -0.2**
POLO A A 22 50 51.2
2.3nm,0.6s
POLO Lamas de Olo 5.98 256 Pn **Pn 22 49 29.5 +2.7**
POLO Sn **Sn 22 50 34.7 -0.2**
2.3nm,0.6s
ELOB Lobios 6.04 261 Pn **Pn 22 49 30.5 +3.0**
4.6nm,0.5s,SNR=5.7
ELOB Sn **Sn 22 50 35.3 -0.9**
65nm,1.6s
PCAB Cabril 6.05 260 *e*Pn **Pn 22 49 30.4 +2.7**
PCAB Cabril 6.05 260 Pn **Pn 22 49 30.4 +2.7**
PGAV Gavieira, Arco 6.17 263 *e*Pn **Pn 22 49 32.3 +3.0**

PGAV				*e*Sn		**Sn**	**22 50 41.3 +1.9**
PGAV				A		A	22 50 55.0
	4.7nm,0.7s						
PGAV	**Gavieira, Arco**	**6.17**	**263**	Pn		**Pn**	**22 49 32.3 +3.0**
PGAV				Sn		**Sn**	**22 50 41.3 +1.9**
	4.7nm,0.7s						
SFTF	**Sexfontaines**	**6.27**	**33**	*e*Pn		**Pn**	**22 49 32.6 +2.0**
SFTF	**Sexfontaines**	**6.27**	**33**	*e*Pg		**Pg**	**22 49 56.9 -2.1**
SFTF				*e*Sn		**Sn**	**22 50 41.3 -0.4**
SFTF				*e*Sg		**Sg**	**22 51 18.8 -1.3**
	64nm,0.8s						
SFTF	**Sexfontaines**	**6.27**	**33**	Pn		**Pn**	**22 49 32.6 +2.0**
SFTF				Pg		**Pg**	**22 49 56.9 -2.1**
SFTF				Sn		**Sn**	**22 50 41.3 -0.4**
SFTF				Lg		Lg	22 51 18.8
	64nm,0.8s						
PVIS	**Viseu**	**6.30**	**251**	*e*Pn		**Pn**	**22 49 33.2 +2.1**
PVIS				*e*Sn		**Sn**	**22 50 41.6 -1.0**
PVIS				A		A	22 50 48.9
	3.2nm,0.7s						
PVIS	**Viseu**	**6.30**	**251**	Pn		**Pn**	**22 49 33.2 +2.1**
PVIS				Sn		**Sn**	**22 50 41.6 -1.0**
	1.6nm,0.7s						
PCBR	**Castelo Branco**	**6.43**	**243**	*e*Pn		**Pn**	**22 49 35.1 +2.2**
PCBR				*e*Sn		**Sn**	**22 50 45.4 -0.4**
PCBR				A		A	22 50 46.1
	4.3nm,0.3s						
PCBR	**Castelo Branco**	**6.43**	**243**	Pn		**Pn**	**22 49 35.1 +2.2**
PCBR				Sn		**Sn**	**22 50 45.4 -0.4**
	2.2nm,0.3s						
ECAB	**El Cabril**	**6.43**	**221**	Pn		**Pn**	**22 49 35.1 +2.1**
	3.8nm,0.8s,SNR=9.2						
ECAB				Sn		**Sn**	**22 50 44.0 -1.9**
	0.9nm,0.2s,SNR=6.4						
EZAM	**Zamans**	**6.44**	**265**	Sn		**Sn**	**22 50 46.6 +0.7**
	2.3nm,0.2s,SNR=7.9						
MEZF	**Maizieres J'vi**	**6.51**	**32**	*e*Pn		**Pn**	**22 49 35.7 +1.8**
	baz=211						
MEZF	**Maizieres J'vi**	**6.51**	**32**	*e*Pg		**Pg**	**22 50 02.0 -1.7**
	baz=212						
MEZF				*e*Sn		**Sn**	**22 50 46.7 -1.0**
MEZF				*e*Sg		**Sg**	**22 51 29.4 +1.5**
	36nm,0.5s						
MEZF	**Maizieres J'vi**	**6.51**	**32**	Pn		**Pn**	**22 49 35.7 +1.8**
MEZF				Pg		**Pg**	**22 50 02.0 -1.7**
MEZF				Sn		**Sn**	**22 50 46.7 -1.0**
MEZF				Lg		Lg	22 51 29.4
	36nm,0.5s						
EBER	**Berja**	**6.52**	**200**	Pn		**Pn**	**22 49 38.9 +4.6**
	0.3nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.54**	**272**	Pn		**Pn**	**22 49 37.4 +3.0**
	1.2nm,0.1s,SNR=7.9						
EMAZ				Sn		**Sn**	**22 50 47.7 -0.7**
	1.5nm,0.3s,SNR=7.9						
PMRV	**Marv??o**	**6.61**	**239**	*e*Pn		**Pn**	**22 49 37.5 +2.2**
PMRV				*e*Sn		**Sn**	**22 50 49.0 -1.2**
PMRV				A		A	22 50 51.1
	9.2nm,0.8s						
PMRV	**Marv??o**	**6.61**	**239**	Pn		**Pn**	**22 49 37.5 +2.2**
PMRV				Sn		**Sn**	**22 50 49.0 -1.2**
	9.2nm,0.8s						
PGF	**Pioggiola**	**6.68**	**91**	*e*Pn		**Pn**	**22 49 38.3 +1.9**
	SNR=1.0						
PGF				*e*Sn		**Sn**	**22 50 50.9 -1.2**
	4.5nm,0.3s,SNR=1.0						
PGF	**Pioggiola**	**6.68**	**91**	Pn		**Pn**	**22 49 38.3 +1.9**
PGF				Sn		**Sn**	**22 50 50.9 -1.2**
	2.2nm,0.3s						
HAU	**Haudompre**	**6.69**	**40**	*e*Pn		**Pn**	**22 49 38.5 +2.1**
HAU	**Haudompre**	**6.69**	**40**	*e*Pg		**Pg**	**22 50 06.3 -0.7**
HAU				*e*Sn		**Sn**	**22 50 49.8 -2.3**
HAU				*e*Sg		**Sg**	**22 51 30.6 -2.9**
	18nm,0.5s						
HAU	**Haudompre**	**6.69**	**40**	Pn		**Pn**	**22 49 38.5 +2.1**
HAU				Pg		**Pg**	**22 50 06.3 -0.7**
HAU				Sn		**Sn**	**22 50 49.8 -2.3**
HAU				Lg		Lg	22 51 30.6
	9.1nm,0.5s						
EBAD	**Badajoz**	**6.80**	**233**	Pn		**Pn**	**22 49 39.8 +1.9**
	1.9nm,0.4s,SNR=12						
EBAD				Sn		**Sn**	**22 50 52.6 -2.2**
	0.8nm,0.3s,SNR=5.9						
HINF	**Hinteralfeld**	**6.80**	**43**	*e*Pn		**Pn**	**22 49 39.0 +1.0**
HINF	**Hinteralfeld**	**6.80**	**43**	*e*Pg		**Pg**	**22 50 07.8 -1.4**
HINF				*e*Sn		**Sn**	**22 50 54.3 -0.7**
HINF				*e*Sg		**Sg**	**22 51 36.7 -0.6**
	8.6nm,0.3s						
HINF	**Hinteralfeld**	**6.80**	**43**	Pn		**Pn**	**22 49 39.0 +1.0**
HINF				Pg		**Pg**	**22 50 07.8 -1.4**
HINF				Sn		**Sn**	**22 50 54.3 -0.7**
HINF				Lg		Lg	22 51 36.7
	4.3nm,0.3s						
PAGF	**Fort de Pagny**	**6.82**	**34**	*e*Pn		**Pn**	**22 49 39.8 +1.6**
PAGF	**Fort de Pagny**	**6.82**	**34**	*e*Pg		**Pg**	**22 50 07.4 -2.2**
PAGF				*e*Sn		**Sn**	**22 50 54.3 -1.1**
PAGF				*e*Sg		**Sg**	**22 51 35.8 -2.1**
	112nm,1.1s						
PCAS	**Casmilo, Conde**	**7.00**	**247**	*e*Pn		**Pn**	**22 49 43.3 +2.6**
PCAS				*e*Sn		**Sn**	**22 51 00.0 +0.1**
PCAS				A		A	22 51 22.1
	4.4nm,0.8s						
PCAS	**Casmilo, Conde**	**7.00**	**247**	Pn		**Pn**	**22 49 43.3 +2.6**
PCAS				Sn		**Sn**	**22 51 00.0 +0.1**
	4.4nm,0.8s						
EMIN	**Mina Concepcio**	**7.30**	**226**	Pn		**Pn**	**22 49 46.3 +1.4**
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn		**Sn**	**22 51 04.8 -2.5**
	0.6nm,0.3s,SNR=7.9						
PMTG	**Montargil**	**7.34**	**240**	*e*Pn		**Pn**	**22 49 47.5 +2.1**
PMTG				*e*Sn		**Sn**	**22 51 07.5 -0.7**
PMTG	**Montargil**	**7.34**	**240**	Pn		**Pn**	**22 49 47.5 +2.1**
PMTG				Sn		**Sn**	**22 51 07.5 -0.7**
CDF	**Champ du Feu**	**7.42**	**41**	*e*Pg		**Pg**	**22 50 18.9 -2.0**
CDF	**Champ du Feu**	**7.42**	**41**	Pg		**Pg**	**22 50 18.9 -2.0**
EVO	**Evora**	**7.54**	**236**	*e*Pn		**Pn**	**22 49 48.6 +0.5**
EVO				*e*Sn		**Sn**	**22 51 12.2 -0.8**
EVO	**Evora**	**7.54**	**236**	Pn		**Pn**	**22 49 48.6 +0.5**
EVO				Sn		**Sn**	**22 51 12.2 -0.8**
BAIF	**Baives**	**7.59**	**21**	*e*Pn		**Pn**	**22 49 50.5 +1.7**
	SNR=1.0						
BAIF				*e*Sn		**Sn**	**22 51 12.0 -2.3**
BAIF				*e*Sg		Sb	22 51 59.8 +19
	17nm,0.7s						
BAIF	**Baives**	**7.59**	**21**	Pn		**Pn**	**22 49 50.5 +1.7**
BAIF				Sn		**Sn**	**22 51 12.0 -2.3**
BAIF				Lg		Lg	22 51 59.8
	8.6nm,0.7s						
GIVF	**Givet**	**7.81**	**24**	*e*Pn		**Pn**	**22 49 53.5 +1.8**
GIVF	**Givet**	**7.81**	**24**	*e*Pg		Pb	22 50 25.6 +12
GIVF				*e*Sn		**Sn**	**22 51 17.6 -2.0**
GIVF				*e*Sg		Sb	22 52 06.0 +20
	18nm,0.5s						
GIVF	**Givet**	**7.81**	**24**	Pn		**Pn**	**22 49 53.5 +1.8**
GIVF				Pg		Pb	22 50 25.6 +12
GIVF				Sn		**Sn**	**22 51 17.6 -2.0**
GIVF				Lg		Lg	22 52 06.0
	9.1nm,0.5s						
MESJ	**Messejana**	**8.11**	**233**	*e*Pn		**Pn**	**22 49 58.4 +2.5**
MESJ				*e*Sn		**Sn**	**22 51 26.7 -0.5**
MESJ	**Messejana**	**8.11**	**233**	Pn		**Pn**	**22 49 58.4 +2.5**
MESJ				Sn		**Sn**	**22 51 26.7 -0.5**
PNCL	**Nicolau / Gran**	**8.12**	**235**	*e*Pn		**Pn**	**22 49 57.9 +1.9**
PNCL				*e*Sn		**Sn**	**22 51 26.6 -0.7**
PNCL				A		A	22 51 29.3
	3.0nm,0.6s						
PNCL	**Nicolau / Gran**	**8.12**	**235**	Pn		**Pn**	**22 49 57.9 +1.9**
PNCL				Sn		**Sn**	**22 51 26.6 -0.7**
	3.0nm,0.6s						
PVAQ	**Vaqueiros**	**8.13**	**229**	*e*Pn		**Pn**	**22 49 58.8 +2.6**
PVAQ				*e*Sn		**Sn**	**22 51 24.3 -3.4**
PVAQ	**Vaqueiros**	**8.13**	**229**	Pn		**Pn**	**22 49 58.8 +2.6**
PVAQ				Sn		**Sn**	**22 51 24.3 -3.4**
PCVE	**Castro Verde**	**8.15**	**231**	*e*Sn		**Sn**	**22 51 25.9 -2.2**
PCVE	**Castro Verde**	**8.15**	**231**	Sn		**Sn**	**22 51 25.9 -2.2**

*ISCJB **18** 22:50:25.1±0.3,51°.48N±0°.02×16°.22E±0°.03,h0km, Error ellipse: s-maj=2.6km s-min=2.1km az=150.6*
*IPEC **18** 22:50:27.3±0.3,51°.50N×16°.27E, h0km, ML2.7/3, Error ellipse: s-maj=1.8km s-min=1.4km az=47.0*
*IDC **18** 22:50:28.8±0.7,51°.41N×16°.14E, h0km, mb1 3.4/6, mb1mx3.2/50, mbtmp3.3/6, ML2.9/6, Error ellipse: s-maj=11.2km s-min=6.4km az=106.0*

*PRU **18** 22:50:28.5±0.0,51°.44N×16°.14E, h0km*
*BGR **18** 22:50:28.9±0.6,51°.44N×16°.18E, h1km, ML3.2/13, Error ellipse: s-maj=6.7km s-min=3.3km az=26.0*
*UPP **18** 22:50:30.3±3.1,51°.57N×15°.47E, h0km, ML1.8, Suspected explosion*
ISC 18 22:50:25.8±0.7,**51°.52N**±0°.03×**16°.22E**±0°.02,**h0**km,**n71**, σ1§**34**/123,**10D**,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**176**	*i* Pg	**Pb**	**22 50 40.1**	**-0.4**
KSP				*i* Sg	**Sg**	**22 50 47.9**	**+0.2**
KSP	**Ksiaz**	**0.68**	**176**	*e*Pg	**Pb**	**22 50 40.1**	**-0.4**
KSP				*e*Sg	**Sg**	**22 50 48.6**	**+1.0**
UPC	**Upice**	**1.02**	**187**	||*i*PG	**Pb**	**22 50 46.3**	**-0.1**
UPC				*e*SG	**Sg**	**22 50 59.3**	**+0.7**
	comp=Z,189nm,0.5s						
DPC	**Dobruska-Polom**	**1.17**	**177**	*e*Pg	**Pb**	**22 50 48.9**	**-0.1**
DPC				*e*Sg	**Sg**	**22 51 04.1**	**+0.6**
DPC	**Dobruska-Polom**	**1.17**	**177**	||*i*PG	**Pb**	**22 50 48.9**	**-0.1**
DPC				*e*SG	**Sg**	**22 51 04.1**	**+0.6**
	comp=Z,69nm,0.3s						
PVCC	**Panska Ves**	**1.44**	**227**	*e*P	**Pb**	**22 50 54.1**	**+0.6**
PVCC				*e*		22 51 12.6	
PVCC	**Panska Ves**	**1.44**	**227**	||*e*PG	**Pb**	**22 50 54.1**	**+0.6**
PVCC				*e*SG	**Sb**	**22 51 12.6**	**+0.2**
	comp=Z,250nm,0.2s						
KRLC	**Kraliky**	**1.49**	**166**	*e*P	**Pb**	**22 50 55.2**	**+0.8**
KRLC	**Kraliky**	**1.49**	**166**	||*e*PG	**Pb**	**22 50 55.2**	**+0.8**
KRLC				*e*SG	**Sg**	**22 51 13.6**	**-0.1**
	comp=Z,18nm,0.4s						
BRG	**Berggiesshubel**	**1.57**	**247**	PN	**Pn**	**22 50 55.4**	**+0.4**
BRG				PG	**Pg**	**22 50 56.8**	**+0.9**
BRG				SG	**Sg**	**22 51 17.3**	**+1.0**
	104nm,0.4s						
BRG	**Berggiesshubel**	**1.57**	**247**	P	**Pn**	**22 50 55.4**	**+0.4**
BRG						22 51 17.3	
BRG	**Berggiesshubel**	**1.57**	**247**	*e*Pn	**Pg**	**22 50 56.3**	**+0.4**
BRG				*e*Sg	**Sg**	**22 51 17.3**	**+1.0**
GOPC	**GO Pecny, Ondr**	**1.85**	**210**	*e*P	**Pn**	**22 50 58.8**	**0.0**
GOPC				*e*		22 51 24.0	
GOPC	**GO Pecny, Ondr**	**1.85**	**210**	||*e*PN	**Pn**	**22 50 58.8**	**0.0**
GOPC				*e*PG	**Pb**	**22 51 00.8**	**+0.3**
GOPC				*e*SG	**Sb**	**22 51 24.0**	**-0.1**
	comp=Z,53nm,0.5s						
PRU	**Pruhonice**	**1.87**	**215**	*e*P	**Pn**	**22 50 59.4**	**+0.4**
PRU				*e*		22 51 24.8	
PRU	**Pruhonice**	**1.87**	**215**	||*e*PN	**Pn**	**22 50 59.4**	**+0.4**
PRU				*e*PG	**Pb**	**22 51 01.1**	**+0.3**
PRU				*e*SG	**Sb**	**22 51 24.8**	**+0.1**
	comp=Z,83nm,0.4s						
FBE	**Freiberg**	**1.90**	**253**	*e*Pn	**Pb**	**22 51 01.8**	**+0.5**
FBE				*e*Pg	**Pg**	**22 51 03.6**	**+1.5**
FBE				*e*Sg	**Sg**	**22 51 27.8**	**+1.0**
MORC	**Moravsky Berou**	**1.94**	**154**	*e*PN	**Pn**	**22 51 00.8**	**+0.8**
MORC				*e*SG	**Sb**	**22 51 27.0**	**+0.2**
MORC	**Moravsky Berou**	**1.94**	**154**	*e*Pn	**Pn**	**22 51 00.8**	**+0.8**
	baz=335						
MORC				*e*Sg	**Sb**	**22 51 27.0**	**+0.2**
	51nm,0.5s,baz=335						
MORC	**Moravsky Berou**	**1.94**	**154**	*e*Pn	**Pn**	**22 51 01.0**	**+1.0**
CLL	**Collm**	**2.02**	**265**	*e*P	**Pn**	**22 51 02.0**	**+0.8**
CLL				*e*		22 51 31.0	
CLL	**Collm**	**2.02**	**265**	*e*Pn	**Pn**	**22 51 02.0**	**+0.8**
CLL				*e*Pg	**Pg**	**22 51 05.0**	**+0.4**
CLL				*e*Sg	**Sg**	**22 51 31.0**	**+0.2**
	comp=Z,53nm,0.4s						
CLL	**Collm**	**2.02**	**265**	*e*Pn	**Pn**	**22 51 02.2**	**+1.0**
CLL				*e*Sg	**Sg**	**22 51 32.4**	**+1.6**
OKC	**Ostrava-Krasne**	**2.08**	**143**	*e*P	**Pn**	**22 51 02.1**	**+0.1**
OKC	**Ostrava-Krasne**	**2.08**	**143**	*e*Pn	**Pn**	**22 51 02.9**	**+0.9**
OKC				*e*Sg	**Sg**	**22 51 32.7**	**0.0**
OKC	**Ostrava-Krasne**	**2.08**	**143**	||*e*PN	**Pn**	**22 51 02.1**	**+0.1**
OKC				*e*PG	**Pg**	**22 51 06.2**	**+0.5**
OKC				*e*SG	**Sg**	**22 51 32.4**	**-0.3**
	comp=Z,45nm,0.4s						
VRAC	**Vranov**	**2.23**	**174**	P	**Pn**	**22 51 05.1**	**+1.1**
VRAC	**Vranov**	**2.23**	**174**	*e*PN	**Pn**	**22 51 05.1**	**+1.1**
VRAC				*e*SG	**Sb**	**22 51 36.2**	**+1.2**
VRAC	**Vranov**	**2.23**	**174**	*e*Pn	**Pn**	**22 51 05.1**	**+1.1**
	baz=355						
VRAC				*e*Sg	**Sb**	**22 51 36.1**	**+1.1**
	comp=Z,47nm,0.4s,baz=355						
VRAC	**Vranov**	**2.23**	**174**	Pn	**Pn**	**22 51 05.1**	**+1.1**
	comp=Z,3.9nm,0.3s,baz=353,slow=16,SNR=23						
VRAC				Pg	**Pg**	**22 51 08.7**	**+0.3**
	comp=Z,5.1nm,0.3s,baz=352,slow=16,SNR=19						
VRAC				Lg	Lg	22 51 36.5	
	comp=Z,7.9nm,0.3s,baz=77,slow=22,SNR=10						
TREC	**Trest**	**2.28**	**192**	*e*P	**Pn**	**22 51 05.8**	**+1.1**
TREC	**Trest**	**2.28**	**192**	||*e*PN	**Pn**	**22 51 05.8**	**+1.1**
TREC				*e*PG	**Pb**	**22 51 08.8**	**+1.0**
TREC				*e*SG	**Sb**	**22 51 37.6**	**+1.1**
	comp=Z,53nm,0.2s						
KRUC	**Moravsky**	**2.46**	**177**	P	**Pb**	**22 51 11.5**	**+0.5**
KRUC				pmax	pmax		
	comp=Z,24nm,0.8s						
KRUC	**Moravsky**	**2.46**	**177**	*e*PN	**Pn**	**22 51 08.7**	**+1.5**
KRUC				*e*PG	**Pb**	**22 51 11.9**	**+0.9**
KRUC				*e*SG	**Sg**	**22 51 43.8**	**-1.2**
KRUC	**Moravsky**	**2.46**	**177**	*e*Pn	**Pn**	**22 51 08.7**	**+1.5**
	baz=358						
KRUC	**Moravsky**	**2.46**	**177**	*e*Pg	**Pb**	**22 51 11.9**	**+0.9**
	baz=358						
KRUC				*e*Sg	**Sg**	**22 51 43.7**	**-1.2**
	comp=Z,27nm,0.4s,baz=358						
OJC	**Ojcow**	**2.62**	**118**	*e*Pn	**Pn**	**22 51 09.3**	**0.0**
OJC				*e*Pg	**Pg**	**22 51 17.7**	**+1.8**
OJC				*e*Sg	**Sg**	**22 51 52.2**	**+2.4**
TANN	**Tannenbergstha**	**2.62**	**246**	*e*Pn	**Pn**	**22 51 10.6**	**+1.2**
TANN				*e*Sg	**Sg**	**22 51 48.6**	**-1.4**
NKC	**Novy Kostel**	**2.71**	**243**	*e*P	**Pn**	**22 51 11.9**	**+1.2**
NKC				*e*		22 51 18.1	
NKC	**Novy Kostel**	**2.71**	**243**	||*e*PN	**Pn**	**22 51 11.9**	**+1.2**
NKC				*e*PG	**Pg**	**22 51 18.1**	**+0.3**
NKC				*e*SG	**Sg**	**22 51 52.7**	**-0.3**
	comp=Z,75nm,0.3s						
JAVC	**Velka Javorina**	**2.82**	**160**	*e*PN	**Pn**	**22 51 13.2**	**+1.0**
JAVC				*e*SG	**Sg**	**22 51 55.7**	**-0.8**
KHC	**Kasperske Hory**	**2.93**	**216**	*e*P	**Pn**	**22 51 14.4**	**+0.7**
KHC				*e*		22 51 20.6	
KHC	**Kasperske Hory**	**2.93**	**216**	||*e*PN	**Pn**	**22 51 14.4**	**+0.7**
KHC				*e*PG	**Pb**	**22 51 20.6**	**+1.7**
KHC				*e*SN	**Sn**	**22 51 48.1**	**-1.5**
KHC				*e*SG	**Sg**	**22 51 58.5**	**-1.4**
	comp=Z,36nm,0.5s						
MANZ	**Manzenberg**	**3.03**	**241**	*e*Pn	**Pn**	**22 51 16.3**	**+1.3**
MOX	**Moxa**	**3.03**	**255**	*e*Pn	**Pn**	**22 51 16.4**	**+1.3**
ROTZ	**Rotzenmuhle**	**3.10**	**237**	*e*Pn	**Pn**	**22 51 17.1**	**+1.1**
SMOL	**Smolenice**	**3.11**	**165**	*e*PG	**Pg**	**22 51 26.9**	**+1.5**
SMOL				*e*SG	**Sg**	**22 52 05.8**	**+0.1**
GEC2	**GERESS Array S**	**3.13**	**212**	*e*Pn	**Pn**	**22 51 17.5**	**+1.0**
GERES	**GERESS Array B**	**3.13**	**212**	*e*P	**Pn**	**22 51 17.3**	**+0.8**
GERES	**GERESS Array B**	**3.13**	**212**	P	**Pn**	**22 51 17.6**	**+1.1**
GERES						22 51 23.8	
GERES	**GERESS Array B**	**3.13**	**212**	Pn	**Pn**	**22 51 17.6**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=33,slow=12,SNR=43						
GERES				Pg	**Pb**	**22 51 23.8**	**+1.4**
	comp=Z,5.0nm,0.3s,baz=35,slow=17,SNR=29						
GERES				Lg	Lg	22 52 02.8	
	comp=Z,10nm,0.3s,baz=31,slow=29,SNR=14						
LANS	**Liptovska Anna**	**3.16**	**137**	*e*PN	**Pn**	**22 51 18.3**	**+1.5**
LANS				*e*PG	**Pg**	**22 51 27.5**	**+1.2**
LANS				*e*SG	**Sg**	**22 52 06.2**	**-1.0**
WET	**Wettzell**	**3.20**	**223**	P	**Pn**	**22 51 17.2**	**-0.2**
WET				pmax	pmax		
	comp=Z,13nm,1.0s						
WET	**Wettzell**	**3.20**	**223**	*e*Pn	**Pn**	**22 51 17.4**	**0.0**
NIE	**Niedzica**	**3.35**	**127**	*e*P	**Pg**	**22 51 32.3**	**+2.3**
NIE				*e*S	**Sg**	**22 52 16.8**	**+3.5**
ZST	**Bratislava**	**3.38**	**170**	*e*SG	**Sg**	**22 52 14.3**	**+0.1**
VYHS	**Vyhne**	**3.47**	**150**	*e*PG	**Pg**	**22 51 32.8**	**+0.6**
VYHS				*e*SG	**Sg**	**22 52 18.6**	**+1.4**
BSD	**Bornholm Skovb**	**3.68**	**348**	*i* P	**Pn**	**22 51 25.4**	**+1.4**
BSD				*i* S	**Sn**	**22 52 07.9**	**-0.1**
SOP	**Sopron**	**3.85**	**177**	*e*Sg	**Sg**	**22 52 28.0**	**-1.3**
CSKK	**Cskako**	**4.37**	**161**	Sn	Sn	22 52 16.0	-9.0
BJUU	**Bjuv**	**4.94**	**339**	P	**Pn**	**22 51 41.1**	**-0.1**
BJUU				S	**Sn**	**22 52 37.0**	**-2.0**
DEL	**Delary**	**5.15**	**345**	P	**Pn**	**22 51 45.1**	**+1.1**
DEL				S	**Sn**	**22 52 42.5**	**-1.6**
FABU	**Falkenberg**	**5.86**	**341**	P	**Pn**	**22 51 54.8**	**+1.0**
GNOU	**Gnosjoe**	**5.96**	**347**	P	**Pn**	**22 51 57.0**	**+1.8**
GOTU	**Gotland**	**6.33**	**12**	P	**Pn**	**22 52 03.5**	**+3.3**
BORU	**Boraas**	**6.45**	**343**	P	**Pn**	**22 52 03.7**	**+1.9**
VIKU	**Vikbolandet**	**7.00**	**2**	P	**Pn**	**22 52 11.6**	**+2.1**
AKASG	**Malin Array Be**	**8.23**	**91**	Pn	**Pn**	**22 52 28.1**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=277,slow=12,SNR=1.9						
AKASG				Sn	**Sn**	**22 53 55.0**	**-4.9**
	comp=Z,0.8nm,0.3s,baz=1.5,slow=37,SNR=1.3						
AKASG				Lg	Lg	22 54 52.2	
	baz=276,slow=26,SNR=2.6						
HFS	**Hagfors**	**8.75**	**352**	Pn	**Pn**	**22 52 35.1**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=165,slow=13,SNR=1.7						
HFS				Sn	**Sn**	**22 54 11.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=168,slow=29,SNR=1.6						
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**22 53 09.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=210,slow=10,SNR=6.1						
FINES				Sn	**Sn**	**22 55 09.2**	**-6.6**
	comp=Z,0.1nm,0.3s,baz=212,slow=18,SNR=2.2						
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**P**	**22 54 43.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=197,slow=12,SNR=5.2						

*KRSC **18** 23:03:30.5±10.0, 52°.01N×160°.85E, h58km±10km, ML3.7*
*ISCJB **18** 23:03:31.2±1.6, 52°.05N±0°.06×160°.83E±0°.08, h15km±12km, mb3.4/3, Error ellipse: s-maj=10.2km s-min=8.3km az=166.2*
*IDC **18** 23:03:32.0±2.1, 52°.39N×160°.86E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/37, mbtmp3.4/4, ML2.2/1, Error ellipse: s-maj=61.5km s-min=24.5km az=10.0*
ISC 18 23:03:30.9±2.5,**52°.06N**±0°.08×**160°.70E**±0°.06,**h4**km±13km, **n23**,σ1§**02**/30,**mb3.4**/3,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.12**	**339**	*e*P	**Pg**	**23 03 52.0**	**-0.3**
SPN				S	**Sg**	**23 04 07.2**	**+0.3**
NLC	**Nalytchevo**	**1.39**	**324**	*e*P	**Pn**	**23 03 56.8**	**-0.2**
NLC				*e*S	**Sb**	**23 04 15.6**	**+0.2**
RUS	**Russkaya**	**1.40**	**286**	*e*P	**Pn**	**23 03 56.5**	**-0.6**
RUS				S	**Sb**	**23 04 15.2**	**-0.4**
DALK	**Dalny**	**1.54**	**310**	P	**Pn**	**23 03 58.4**	**-0.6**
DALK				S	**Sn**	**23 04 18.4**	**-1.1**
MTVR	**Mutnovka**	**1.60**	**286**	*e*P	**Pn**	**23 04 00.0**	**-0.1**
MTVR				*e*S	**Sn**	**23 04 20.7**	**-0.6**
UGLR	**Uglovaya**	**1.62**	**316**	*e*P	**Pn**	**23 04 00.8**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.64**	**262**	*e*P	**Pn**	**23 04 00.4**	**-0.1**
KDTR				*e*S	**Sn**	**23 04 19.1**	**-2.9**
SDLR	**Sedlovina**	**1.65**	**319**	P	**Pn**	**23 04 00.4**	**-0.3**
SMAR	**Somma**	**1.67**	**317**	P	**Pn**	**23 04 01.0**	**-0.1**
AVH	**Avacha**	**1.70**	**316**	P	**Pn**	**23 04 01.8**	**+0.4**
KRER	**Koryakskii**	**1.72**	**317**	*e*P	**Pn**	**23 04 02.4**	**+0.6**
KRMR	**Karymshinskiy**	**1.75**	**297**	*e*P	**Pn**	**23 04 01.6**	**-0.4**
KRMR				*e*S	**Sn**	**23 04 25.7**	**+0.9**
KRX	**Arik**	**1.80**	**317**	*e*P	**Pn**	**23 04 02.9**	**0.0**
PETK	**Petropavlovsk-**	**2.11**	**301**	Pn	**Pn**	**23 04 07.6**	**+0.6**
	4.2nm,0.3s,baz=110,slow=19,SNR=45						
PETK				Sn	**Sn**	**23 04 35.3**	**+1.6**
	8.8nm,0.3s,baz=108,slow=21,SNR=8.5						
APC	**Apacha**	**2.33**	**293**	P	**Pn**	**23 04 11.8**	**+1.8**
APC				S	**Sb**	**23 04 42.5**	**-0.1**
TUMD	**Tumrok D**	**3.16**	**357**	P	**Pn**	**23 04 20.5**	**-0.8**
TUMD				S	**Sn**	**23 04 57.1**	**-2.4**
KBTR	**Krutoberegovo**	**4.34**	**16**	P	**Pn**	**23 04 38.2**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**32.62**	**169**	T	T	23 44 47.1	
	baz=353						
H11N3	**WAKE ISLAND Hy**	**32.64**	**169**	T	T	23 44 49.0	
	baz=359						
H11N1	**WAKE ISLAND Hy**	**32.64**	**169**	T	T	23 44 49.3	
	baz=353						
FINES	**FINESS Array B**	**61.22**	**337**	P	**P**	**23 13 46.3**	**0.0**
	0.5nm,0.5s,baz=31,slow=8.9,SNR=9.5						
TXAR	**Lajitas Array**	**70

PET	**Petropavlovsk**	**1.48 308**	⇑ *i* PN	**Pn**	**23 07 20.6**	**0.0**
PET			*e*S	**Sn**	**23 07 39.9**	**+0.4**
PET			pmax	pmax		
	comp=Z,402nm,0.5s					
PET			smax	smax		
	comp=E,2μm,0.6s					
PET			smax	smax		
	comp=N,1μm,0.7s					
MTVR	**Mutnovka**	**1.51 285**	*e*P	**Pn**	**23 07 21.2**	**+0.1**
MTVR			*e*S	**Sn**	**23 07 40.6**	**0.0**
MTVR	**Mutnovka**	**1.51 285**	PN	**Pn**	**23 07 21.2**	**+0.1**
MTVR			S	**Sn**	**23 07 40.6**	**0.0**
SDLR	**Sedlovina**	**1.55 319**	*e*P	**Pn**	**23 07 22.0**	**+0.4**
SDLR	**Sedlovina**	**1.55 319**	PN	**Pn**	**23 07 22.0**	**+0.4**
SMAR	**Somma**	**1.57 317**	P	**Pn**	**23 07 22.7**	**+0.7**
SMAR	**Somma**	**1.57 317**	PN	**Pn**	**23 07 22.7**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.57 259**	*e*P	**Pn**	**23 07 21.6**	**-0.3**
KDTR			*e*S	**Sn**	**23 07 40.7**	**-1.2**
KDTR	**Khodutka, Kamc**	**1.57 259**	PN	**Pn**	**23 07 21.6**	**-0.3**
KDTR			S	**Sn**	**23 07 40.7**	**-1.2**
GRL	**Gorelyy**	**1.59 287**	P	**Pb**	**23 07 23.5**	**-0.2**
GRL	**Gorelyy**	**1.59 287**	PN	**Pb**	**23 07 23.5**	**-0.2**
AVH	**Avacha**	**1.60 316**	*e*P	**Pn**	**23 07 23.2**	**+0.9**
AVH	**Avacha**	**1.60 316**	PN	**Pn**	**23 07 23.2**	**+0.9**
KRER	**Koryakskii**	**1.62 318**	*e*P	**Pn**	**23 07 23.3**	**+0.6**
KRER			S	**Sn**	**23 07 43.1**	**-0.3**
KRER	**Koryakskii**	**1.62 318**	PN	**Pn**	**23 07 23.3**	**+0.6**
KRER			S	**Sn**	**23 07 43.1**	**-0.3**
KRMR	**Karymshinskiy**	**1.65 296**	*e*P	**Pn**	**23 07 23.2**	**+0.3**
KRMR			S	**Sn**	**23 07 43.6**	**-0.2**
KRMR	**Karymshinskiy**	**1.65 296**	PN	**Pn**	**23 07 23.2**	**+0.3**
KRMR			S	**Sn**	**23 07 43.6**	**-0.2**
KOK	**Koryaka**	**1.66 316**	P	**Pn**	**23 07 23.9**	**+0.7**
KOK	**Koryaka**	**1.66 316**	PN	**Pn**	**23 07 23.9**	**+0.7**
ASAK	**Asacha**	**1.66 280**	P	**Pn**	**23 07 23.6**	**+0.4**
ASAK			S	**Sb**	**23 07 45.9**	**+0.3**
ASAK	**Asacha**	**1.66 280**	PN	**Pn**	**23 07 23.6**	**+0.4**
ASAK			S	**Sb**	**23 07 45.9**	**+0.3**
KRX	**Arik**	**1.70 317**	P	**Pn**	**23 07 24.4**	**+0.6**
KRX	**Arik**	**1.70 317**	PN	**Pn**	**23 07 24.4**	**+0.6**
PETK	**Petropavlovsk-**	**2.01 301**	P	**Pn**	**23 07 28.6**	**+0.7**
	comp=N,27nm,0.3s,baz=106,slow=18,SNR=38					
PETK			Sn	**Sn**	**23 07 53.1**	**+0.4**
	comp=N,27nm,0.3s,baz=96,slow=21,SNR=5.1					
APC	**Apacha**	**2.23 292**	*e*P	**Pn**	**23 07 32.4**	**+1.5**
APC			*e*S	**Sb**	**23 08 00.8**	**-1.2**
APC	**Apacha**	**2.23 292**	PN	**Pn**	**23 07 32.4**	**+1.5**
APC			S	**Sb**	**23 08 00.8**	**-1.2**
PAU	**Pauzhetka**	**2.43 256**	*e*P	**Pn**	**23 07 35.2**	**+1.6**
PAU	**Pauzhetka**	**2.43 256**	PN	**Pn**	**23 07 35.2**	**+1.6**
MKZ	**Mys Kozlova**	**2.53 15**	S	**Sn**	**23 08 03.3**	**-2.3**
KZV	**Kizimen**	**3.00 357**	*e*P	**Pn**	**23 07 42.2**	**+0.6**
KZV			*e*S	**Sn**	**23 08 16.7**	**-0.6**
KZV	**Kizimen**	**3.00 357**	PN	**Pn**	**23 07 42.2**	**+0.6**
KZV			S	**Sn**	**23 08 16.7**	**-0.6**
TUMD	**Tumrok D**	**3.09 358**	*e*P	**Pn**	**23 07 43.0**	**+0.3**
TUMD			*e*S	**Sn**	**23 08 18.2**	**-1.1**
SKR	**Severo-Kuril's**	**3.14 244**	*e*P	**Pn**	**23 07 43.7**	**+0.4**
SKR			*e*S	**Sn**	**23 08 19.2**	**-1.3**
SKR	**Severo-Kuril's**	**3.14 244**	*e*PN	**Pn**	**23 07 43.8**	**+0.4**
SKR			*e*S	**Sn**	**23 08 18.5**	**-2.0**
SKR			pmax	pmax		
	comp=Z,44nm,0.6s					
SKR			smax	smax		
	comp=N,341nm,0.7s					
SKR			smax	smax		
	comp=E,367nm,0.6s					
TUMR	**Tumrok**	**3.18 356**	PN	**Pn**	**23 07 43.0**	**-1.0**
TUMR			S	**Sn**	**23 08 18.2**	**-3.4**
ALID	**Alaid**	**3.38 250**	P	**Pn**	**23 07 48.7**	**+1.9**
ALID	**Alaid**	**3.38 250**	PN	**Pn**	**23 07 48.7**	**+1.9**
ESO	**Esso**	**3.97 345**	*e*P	**Pn**	**23 07 57.0**	**+2.2**
ESO	**Esso**	**3.97 345**	PN	**Pn**	**23 07 57.0**	**+2.2**
LGNR	**Loginova**	**3.97 1**	P	**Pn**	**23 07 57.9**	**+2.9**
LGNR	**Loginova**	**3.97 1**	PN	**Pn**	**23 07 57.9**	**+2.9**
SRDR	**Sredinnyy**	**4.23 354**	*e*P	**Pn**	**23 07 58.6**	**+0.1**
SRDR	**Sredinnyy**	**4.23 354**	PN	**Pn**	**23 07 58.6**	**+0.1**
KBTR	**Krutoberegovo**	**4.30 17**	P	**Pn**	**23 07 59.5**	**+0.2**
KBTR	**Krutoberegovo**	**4.30 17**	PN	**Pn**	**23 07 59.5**	**+0.2**
BKI	**Bering**	**4.45 44**	*e*P	**Pn**	**23 08 01.1**	**-0.3**
BKI			*e*S	**Sn**	**23 08 47.3**	**-5.6**
BKI	**Bering**	**4.45 44**	PN	**Pn**	**23 08 01.1**	**-0.3**
BDR	**Baidarnaya**	**4.47 5**	P	**Pn**	**23 08 03.4**	**+1.7**
BDR	**Baidarnaya**	**4.47 5**	PN	**Pn**	**23 08 03.4**	**+1.7**
SMKR	**Semkarok**	**4.50 6**	P	**Pn**	**23 08 04.4**	**+2.3**
SMKR	**Semkarok**	**4.50 6**	PN	**Pn**	**23 08 04.4**	**+2.3**
SRKR	**Sorokina**	**4.55 4**	P	**Pn**	**23 08 04.9**	**+2.0**
SRKR	**Sorokina**	**4.55 4**	PN	**Pn**	**23 08 04.9**	**+2.0**
BILL	**Bilibino**	**16.20 8**	*e*P	**Pn**	**23 10 42.1**	**+0.8**
BILL			pmax	pmax		
	comp=Z,4.0nm,0.7s					
KLR	**Kul'dur**	**18.44 272**	*i* P	**P**	**23 11 08.2**	**-1.0**
KLR			pmax	pmax		
	comp=Z,7.0nm,2.5s					
KLR	**Kul'dur**	**18.44 272**	P	**P**	**23 11 06.8**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=78,slow=9.3,SNR=2.8					
USRK	**Ussuriysk Ar.**	**20.55 259**	P	**P**	**23 11 28.9**	**-3.3**
	comp=Z,3.3nm,0.9s,baz=66,slow=11,SNR=4.1					
MJAR	**Matsushiro Ar**	**22.19 234**	P	**P**	**23 11 49.7**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=49,slow=8.9,SNR=8.2					
TIXI	**Tiksi**	**24.09 336**	*i* P	**P**	**23 12 07.2**	**-1.7**
TIXI			pmax	pmax		
	comp=Z,2.0nm,0.5s					
TIXI	**Tiksi**	**24.09 336**	P	**P**	**23 12 07.5**	**-1.4**
	comp=Z,2.3nm,0.3s,baz=122,slow=8.5,SNR=11					
HIA	**Hailar**	**25.78 280**	*i* P	**P**	**23 12 23.5**	**-1.0**
HIA			pmax	pmax		
	comp=Z,49nm,0.8s					
H11N2	**WAKE ISLAND Hy**	**32.70 169**	T	T	23 49 21.0	
	baz=353					
H11N3	**WAKE ISLAND Hy**	**32.72 169**	T	T	23 49 23.0	
	baz=353					
H11N1	**WAKE ISLAND Hy**	**32.72 169**	T	T	23 49 20.7	
	baz=353					
H11S1	**WAKE ISLAND Hy**	**33.89 170**	T	T	23 50 55.0	
	baz=352					
H11S3	**WAKE ISLAND Hy**	**33.90 170**	T	T	23 50 51.1	
	baz=352					
H11S2	**WAKE ISLAND Hy**	**33.91 170**	T	T	23 50 50.2	
	baz=352					
TLY	**Talaya**	**34.35 292**	*i* P	**P**	**23 13 42.0**	**+1.6**
INK	**Inuvik**	**34.47 37**	P	**P**	**23 13 43.7**	**+2.6**
	comp=Z,0.6nm,0.8s,baz=287,slow=11,SNR=2.1					
NRIK	**Noril'sk**	**36.87 326**	LR	LR	23 30 44.1	
	comp=Z,78nm,18.1s,baz=46,slow=39					
ZALV	**Zalesovo Beam**	**43.55 304**	P	**P**	**23 14 54.8**	**-2.5**
	comp=Z,0.4nm,0.4s,baz=76,slow=6.1,SNR=2.9					
YKA	**Yellowknife Ar**	**43.69 42**	P	**P**	**23 15 01.0**	**+2.8**
	comp=Z,0.2nm,0.7s,baz=298,slow=8.5,SNR=2.9					
DGZ	**Jazzator, Alta**	**44.37 297**	*i* P	**P**	**23 15 03.1**	**-1.0**
DGZ			pmax	pmax		
	comp=Z,1.0nm,0.9s					
SPITS	**Spitsbergen Ar**	**48.14 351**	P	**P**	**23 15 33.2**	**0.0**
SPITS			pmax	pmax		
	comp=Z,2.0nm,0.4s					
KURK	**Kurchatov**	**48.50 303**	*i* P	**P**	**23 15 34.0**	**-2.3**
KURK			pmax	pmax		
	comp=Z,4.0nm,1.1s					
MKAR	**Makanchi Array**	**48.84 297**	P	**P**	**23 15 36.9**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=53,slow=6.9,SNR=14					
BRVK	**Borovoye**	**51.25 309**	*i* P	**P**	**23 15 55.7**	**-1.5**
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.6s					
ARCES	**ARCESS Array B**	**54.30 342**	*e*P	**P**	**23 16 18.9**	**-0.6**
ARCES			pmax	pmax		
	comp=Z,2.0nm,0.8s					
ARCES	**ARCESS Array B**	**54.30 342**	P	**P**	**23 16 18.9**	**-0.6**
	comp=Z,2.5nm,1.0s,baz=50,slow=8.1,SNR=4.8					
ARU	**Arti**	**54.31 318**	*d* *i* P	**P**	**23 16 18.2**	**-1.5**
ARU					23 18 16.7	
ARU			S	**S**	**23 23 55.4**	**-1.1**
ARU			SS	**SKiKP**	**23 27 30.6**	**+1.4**
ARU			pmax	pmax		
	comp=Z,3.0nm,0.6s					
NVAR	**Mina Array Bea**	**55.80 70**	P	**P**	**23 16 33.3**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=300,slow=7.2,SNR=1.7					
PDAR	**Pinedale Array**	**57.74 61**	P	**P**	**23 16 47.5**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=311,slow=3.5,SNR=2.6					
CMAR	**Chiang Mai Arr**	**58.27 259**	P	**P**	**23 16 47.3**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=34,slow=7.0,SNR=7.2					
JIRN	**Jiri**	**59.28 276**	*e*P	**P**	**23 16 55.2**	**-0.7**
	comp=Z,6.1nm,0.5s					
RAMN	**Ramite**	**59.54 276**	*e*P	**P**	**23 16 56.7**	**-0.8**
	comp=Z,13nm,0.5s					
KKN	**Kakani**	**59.75 277**	*e*P	**P**	**23 16 58.0**	**-0.9**
PKI	**Pulchoki**	**59.83 277**	*e*P	**P**	**23 16 58.8**	**-0.8**
PKIN	**Phulchoki**	**59.83 277**	*e*P	**P**	**23 16 58.7**	**-0.8**
DANN	**Dangsing**	**60.27 279**	*e*P	**P**	**23 17 02.0**	**-0.6**
KOLN	**Koldanda**	**60.79 278**	*e*P	**P**	**23 17 05.3**	**-0.7**
PYUN	**Piuthan**	**60.92 279**	*e*P	**P**	**23 17 06.2**	**-0.7**
	comp=Z,8.1nm,0.7s					
FINES	**FINESS Array B**	**61.13 337**	*e*P	**P**	**23 17 07.5**	**0.0**
FINES			pmax	pmax		
	comp=Z,5.0nm,0.6s					
FINES	**FINESS Array B**	**61.13 337**	P	**P**	**23 17 07.3**	**-0.2**
	comp=Z,5.2nm,0.6s,baz=34,slow=8.4,SNR=54					
NB2	**NORSAR Subarra**	**64.56 344**	P	**P**	**23 17 29.7**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=20,slow=6.9					
NOA	**NORSAR Array B**	**64.56 344**	P	**P**	**23 17 30.0**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=21,slow=6.6,SNR=5.1					
AKASG	**Malin Array Be**	**69.60 329**	P	**P**	**23 18 01.7**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=33,slow=6.9,SNR=4.4					
KBZ	**Khabaz**	**70.44 317**	P	**P**	**23 18 07.3**	**-0.5**
	comp=Z,2.6nm,1.0s,baz=64,slow=3.4,SNR=4.4					
TXAR	**Lajitas Array**	**70.75 67**	P	**P**	**23 18 12.3**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=282,slow=4.5,SNR=2.7					
KOLS	**Kolonicke sedl**	**73.24 333**	*e*P	**P**	**23 18 25.1**	**+0.5**
KOLS	**Kolonicke sedl**	**73.24 333**	*e*P	**P**	**23 18 25.1**	**+0.5**
CLL	**Collm**	**73.36 339**	*e*P	**P**	**23 18 27.0**	**+1.8**
CLL	**Collm**	**73.36 339**	*e*(P)	**P**	**23 18 27.0**	**+1.8**
VYHS	**Vyhne**	**74.58 335**	*e*P	**P**	**23 18 34.3**	**+1.9**
VYHS	**Vyhne**	**74.58 335**	*e*P	**P**	**23 18 34.3**	**+1.9**
GERES	**GERESS Array B**	**75.52 338**	P	**P**	**23 18 36.9**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=27,slow=6.3,SNR=4.5					
BRTR	**Keskin Array B**	**77.56 321**	P	**P**	**23 18 49.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=63,slow=4.4,SNR=3.9					
ASAR	**Alice Springs**	**79.00 205**	P	**P**	**23 18 58.1**	**+0.6**
	comp=Z,0.1nm,0.6s,baz=12,slow=4.0,SNR=4.1					

*ISCJB **18** 23:25:06.6±0.4, 60°.40S±0°.07×33°.0W±0°.2, h10km, mb4.6/25, MS4.4/16, Error ellipse: s-maj=13.5km s-min=6.6km az=142.0*

*IDC **18** 23:25:06.8±0.5, 60°.33S×33°.16W, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.3/22, mbtmp4.3/14, ML4.0/2, MS4.3/16, Ms1 4.3/16, ms1mx4.3/17, Error ellipse: s-maj=18.8km s-min=15.0km az=47.0*

*NEIC **18** 23:25:09.2±0.3, 60°.29S×33°.18W, h10km, mb4.9/17, Error ellipse: s-maj=13.8km s-min=7.0km az=60.0*

*GCMT **18** 23:25:12.2±0.2, 60°.55S±0°.01×32°.95W±0°.03, h12km, MW5.0/90, Moment Tensor Solution. s32,c39; s90,c141; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.90±.11; Mθθ=1.58±.10; Mφφ=-0.67±.10; Mrθ=1.54±.29; Mrφ=3.56±.08; Mθφ=0.53±.28; Best double couple: Mo=4.00700×10^16 NP1:φs=98.00000°, δ=88.00000°, λ=20.00000°. NP2: φs=8.00000°, δ=70.00000°, λ=178.00000°. Principal axes: T 4.6290, Plg16.0000°, Azm325.0000°; N -1.2380, Plg70.0000°, Azm104.0000°; P -3.3860, Plg13.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 23:25:08.6±0.4, 60°.33S±0°.08×33°.03W±0°.09, h10km, n77, σ1§32/64, mb4.8/25, MS4.3/16, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.34**	**341**	*e*Pn	**Pn**	**23 26 42.2**	**+0.2**
VNA3	**Neumayer Olymp**	**14.41**	**149**	P	**Pn**	**23 28 28.3**	**-4.0**
VNA3				S	Sn	23 30 59.0	-13
VNA1	**Neumayer--Stat**	**14.44**	**146**	P	**Pn**	**23 28 29.3**	**-3.4**
VNA1				S	Sn	23 31 03.1	-9.4
VNA2	**Neumayer--Watz**	**14.83**	**146**	P	**Pn**	**23 28 34.1**	**-3.9**
	baz=311,slow=16						
VNA2				S	Sn	23 31 11.0	-11
	baz=304,slow=23						
PMSA	**Palmer Station**	**14.88**	**239**	LR	LR	23 33 42.7	
	comp=Z,2μm,19.3s,baz=78,slow=35						
EFI	**East Falkland**	**16.37**	**291**	*e*Pn	**Pn**	**23 28 58.3**	**+0.1**
	178nm,1.8s						
SNAA	**Sanae**	**16.48**	**146**	P	**Pn**	**23 28 58.1**	**-1.3**
SNAA				S	Sn	23 31 51.4	-11
SNAA	**Sanae**	**16.48**	**146**	Pn	**Pn**	**23 28 57.8**	**-1.7**
	1.7nm,0.3s,baz=322,slow=16,SNR=47						
SNAA				Sn	Sn	23 31 48.5	-14
	0.2nm,0.3s,baz=284,slow=13,SNR=1.8						
SNAA				LR	LR	23 33 52.0	
	comp=Z,2μm,21.2s,baz=318,slow=32						
USHA	**Ushuaia**	**19.59**	**271**	P	**P**	**23 29 34.1**	**-2.3**
	0.1nm,0.3s,baz=104,slow=12,SNR=1.9						
USHA				LR	LR	23 35 13.9	
	comp=Z,957nm,19.1s,baz=46,slow=31						
QSPA	**South Pole Qui**	**29.91**	**180**	*e*P	**P**	**23 31 17.9**	**+1.6**
	28nm,1.2s						
PLCA	**Paso Flores**	**30.26**	**293**	P	**P**	**23 31 19.0**	**-0.5**
	0.5nm,0.6s,baz=180,slow=8.1,SNR=2.5						
SYO	**Syowa Base**	**30.38**	**137**	⇑ *e*P	P	23 31 14.8	-5.3
CPUP	**Villa Florida**	**37.85**	**323**	*e*P	**P**	**23 32 24.9**	**-0.3**
	16nm,1.4s						
CPUP	**Villa Florida**	**37.85**	**323**	P	**P**	**23 32 24.9**	**-0.3**
	5.2nm,0.9s,baz=158,slow=8.1,SNR=9.8						
CPUP				LR	LR	23 47 24.4	
	comp=Z,398nm,19.9s,baz=165,slow=35						
MAW	**Mawson**	**38.59**	**142**	*e*P	**P**	**23 32 31.5**	**+0.4**
	1.9nm,1.0s						
MAW	**Mawson**	**38.59**	**142**	P	**P**	**23 32 30.9**	**-0.1**
	5.2nm,0.8s,baz=237,slow=9.1,SNR=8.7						
MAW				LR	LR	23 46 31.1	
	comp=Z,516nm,21.4s,baz=248,slow=33						
GO04	**Tololo Observa**	**39.25**	**303**	*e*P	**P**	**23 32 37.2**	**-0.1**
	62nm,2.0s						
SBA	**Scott Base**	**41.53**	**186**	*e*P	**P**	**23 32 56.7**	**+1.3**
	14nm,1.2s						
VNDA	**Vanda**	**42.09**	**185**	*e*P	**P**	**23 33 02.0**	**+2.0**
	19nm,1.4s						
VNDA	**Vanda**	**42.09**	**185**	P	**P**	**23 33 00.6**	**+0.6**
	6.1nm,0.9s,baz=194,slow=6.2,SNR=35						
VNDA				LR	LR	23 49 33.1	
	comp=Z,152nm,19.1s,baz=178,slow=35						
GO02	**Mina Guanaco**	**43.20**	**308**	*e*P	**P**	**23 33 10.2**	**+0.3**
	14nm,0.7s						
BDFB	**Brasilia**	**45.94**	**340**	*e*P	**P**	**23 33 31.8**	**+0.2**
	38nm,1.6s						
BDFB	**Brasilia**	**45.94**	**340**	P	**P**	**23 33 31.0**	**-0.5**
	5.1nm,1.0s,baz=155,slow=3.7,SNR=4.2						
BDFB				LR	LR	23 50 17.6	
	comp=Z,371nm,20.7s,baz=155,slow=33						
PB01	**IPOC Station P**	**46.89**	**310**	*e*P	**P**	**23 33 39.1**	**+0.2**
	16nm,1.1s						
PB11	**IPOC Station P**	**48.12**	**311**	*e*P	**P**	**23 33 49.0**	**+0.4**
	26nm,1.2s						
MNMC	**Minye Minye**	**48.67**	**311**	*e*P	**P**	**23 33 52.8**	**-0.2**
	18nm,1.0s						
BOSA	**Boshof**	**49.97**	**78**	P	**P**	**23 34 03.4**	**+0.7**
	2.5nm,1.0s,baz=207,slow=6.8,SNR=3.1						
BOSA				LR	LR	23 52 00.7	
	comp=Z,156nm,18.7s,baz=209,slow=32						
LPAZ	**La Paz**	**50.75**	**315**	P	**P**	**23 34 09.0**	**-0.2**
	2.4nm,0.6s,baz=174,slow=2.7,SNR=7.3						
LPAZ				LR	LR	23 56 54.0	
	comp=Z,232nm,19.8s,baz=145,slow=38						
CASY	**Casey**	**50.85**	**162**	*e*P	**P**	**23 34 10.6**	**+1.8**
	51nm,1.8s						
H10S2	**ASCENSION HYDR**	**53.08**	**23**	T	T	00 31 52.2	
	baz=191,slow=75,SNR=485						
H10S3	**ASCENSION HYDR**	**53.08**	**23**	T	T	00 31 52.4	
	baz=191,slow=75,SNR=354						
H10S1	**ASCENSION HYDR**	**53.10**	**23**	T	T	00 31 58.6	
	baz=191,slow=75,SNR=324						
LBTB	**Lobatse**	**53.14**	**75**	*e*P	**P**	**23 34 28.3**	**+1.8**
	35nm,1.7s						
LBTB	**Lobatse**	**53.14**	**75**	P	**P**	**23 34 27.4**	**+0.9**
	1.5nm,0.7s,baz=206,slow=9.7,SNR=2.3						
H10N1	**ASCENSION HYDR**	**54.20**	**23**	T	T	00 33 16.3	
	baz=190,slow=75,SNR=285						
H10N3	**ASCENSION HYDR**	**54.20**	**23**	T	T	00 33 16.2	
	baz=190,slow=75,SNR=490						
H10N2	**ASCENSION HYDR**	**54.21**	**23**	T	T	00 33 17.3	
	baz=190,slow=75,SNR=357						
RPN	**Rapa Nui**	**60.11**	**267**	LR	LR	23 55 37.1	
	comp=Z,69nm,18.4s,baz=143,slow=30						
PTGA	**Pitinga**	**62.97**	**329**	LR	LR	00 01 50.4	
	comp=Z,995nm,21.4s,baz=172,slow=35						
MDP	**Montagnes des**	**67.03**	**339**	LR	LR	00 04 29.8	
	comp=Z,217nm,20.5s,baz=210,slow=35						
OTAV	**Otavalo**	**69.78**	**311**	*e*P	**P**	**23 36 20.1**	**+0.7**
	9.2nm,1.1s						
DBIC	**Dimbokro**	**70.39**	**30**	P	**P**	**23 36 22.5**	**0.0**
	2.1nm,0.9s,baz=198,slow=6.4,SNR=2.5						
DBIC				LR	LR	00 00 15.1	
	comp=Z,83nm,21.4s,baz=189,slow=30						
SDV	**Santo Domingo**	**75.14**	**321**	*e*P	**P**	**23 36 50.2**	**-0.8**
	5.1nm,0.8s						
TOA0	**Torodi Ar. Sit**	**78.33**	**35**	*e*P	**P**	**23 37 10.2**	**+1.5**
	10nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.33**	**35**	P	**P**	**23 37 08.7**	**0.0**
	8.0nm,0.9s,baz=195,slow=5.8,SNR=20						
TORD				PP	**PP**	**23 40 05.2**	**-0.8**
	0.7nm,0.6s,baz=209,slow=6.0,SNR=4.1						
TORD				LR	LR	00 04 24.6	
	comp=Z,208nm,21.3s,baz=280,slow=30						
KMBO	**Kilima Mbogo**	**79.35**	**73**	LR	LR	00 10 02.1	
	comp=Z,246nm,18.1s,baz=236,slow=34						
TBI	**Tubuai**	**82.05**	**236**	*e*LR	LR	00 03 06.0	
	comp=Z,429nm,26.8s,baz=162						
STVI	**Saint Thomas**	**82.55**	**330**	*e*P	**P**	**23 37 31.4**	**+0.1**
	40nm,1.2s						
PPT2	**Papeete2**	**87.23**	**239**	*e*LR	LR	00 05 29.7	
	comp=Z,620nm,26.8s						
PPT	**Papeete**	**87.25**	**239**	P	**P**	**23 37 55.4**	**+0.2**
	23nm,0.7s,baz=76,slow=8.3,SNR=3.0						
STKA	**Stephens Creek**	**88.03**	**175**	P	**P**	**23 37 58.5**	**-0.3**
	1.3nm,0.3s,baz=172,slow=7.2,SNR=4.2						
TAOE	**Nuku Hiva Isla**	**90.69**	**251**	*e*LR	LR	00 07 12.0	
	comp=Z,426nm,26.2s						
ASAR	**Alice Springs**	**95.63**	**168**	*e*P	**P**	**23 38 33.1**	**-1.1**
ASAR	**Alice Springs**	**95.63**	**168**	P	**P**	**23 38 32.9**	**-1.3**
	1.4nm,0.9s,baz=183,slow=3.9,SNR=8.7						
ASAR				PP	**PP**	**23 42 28.9**	**+4.4**
	0.9nm,1.0s,baz=158,slow=4.0,SNR=4.4						
ASAR				LR	LR	00 18 57.7	
	comp=Z,301nm,21.6s,baz=200,slow=34						
TMUT	**Trail Mountain**	**117.91**	**301**	*e*PKPdf	**PKPdf**	**23 43 54.7**	**-0.2**
NOA	**NORSAR Array B**	**125.75**	**25**	PKP	**PKPdf**	**23 44 08.4**	**-0.5**
	0.3nm,0.6s,baz=201,slow=1.8,SNR=2.8						
CMAR	**Chiang Mai Arr**	**126.07**	**119**	PKP	**PKiKP**	**23 44 11.2**	**+0.1**
	0.6nm,0.3s,baz=242,slow=3.4,SNR=4.6						
FINES	**FINESS Array B**	**129.64**	**32**	PKP	**PKPdf**	**23 44 15.8**	**-0.3**
	1.1nm,0.9s,baz=176,slow=5.2,SNR=3.6						
YKA	**Yellowknife Ar**	**137.26**	**317**	*e*PKPdf	**PKPdf**	**23 44 29.9**	**-0.5**
YKA	**Yellowknife Ar**	**137.26**	**317**	PKhKP	PKPpre	23 44 27.0	
	0.7nm,0.9s,baz=127,slow=3.0,SNR=7.8						
YKA				PP	**PP**	**23 47 16.7**	**+0.3**
	0.9nm,1.2s,baz=120,slow=6.8,SNR=4.0						
CD2	**Chengdu**	**139.03**	**116**	PKP	**PKPdf**	**23 44 35.8**	**+1.0**
MKAR	**Makanchi Array**	**140.94**	**80**	PKhKP	PKPpre	23 44 24.8	
	0.4nm,0.8s,baz=221,slow=2.6,SNR=2.5						
MKAR				PKP	**PKPdf**	**23 44 37.1**	**-0.6**
	0.4nm,0.7s,baz=219,slow=2.3,SNR=3.1						
HYT	**Haines Junctio**	**144.80**	**305**	*e*PKPdf	PKPbc	23 44 43.8	+0.4
ZALV	**Zalesovo Beam**	**146.83**	**73**	*e*PKPdf	**PKPbc**	**23 44 49.1**	**-0.4**
ZALV	**Zalesovo Beam**	**146.83**	**73**	PKPbc	**PKPbc**	**23 44 48.2**	**-1.4**
	1.4nm,0.7s,baz=219,slow=3.8,SNR=6.4						
INK	**Inuvik**	**147.03**	**318**	PKPbc	**PKPbc**	**23 44 48.5**	**-1.2**
	9.3nm,1.1s,baz=114,slow=3.3,SNR=14						
DAWY	**Dawson**	**147.22**	**309**	*e*PKPdf	**PKPbc**	**23 44 49.5**	**-1.0**
BCAR	**Beaver Creek A**	**147.69**	**306**	*e*PKPdf	**PKPbc**	**23 44 51.6**	**-0.2**
PRP	**Porcupine Dome**	**150.21**	**309**	*e*PKPdf	**PKPdf**	**23 44 54.1**	**+1.0**
ILAR	**Eielson Array**	**150.46**	**307**	PKPbc	**PKPbc**	**23 44 58.1**	**-0.5**
	15nm,1.1s,baz=153,slow=1.6,SNR=42						
ILB	**Eielson Array**	**150.46**	**307**	*e*PKPbc	**PKPbc**	**23 44 58.5**	**-0.2**
CCB	**Clear Creek Bu**	**150.77**	**307**	*e*PKPbc	**PKPbc**	**23 44 59.4**	**0.0**
WRH	**Wood River Hil**	**150.82**	**306**	*e*PKPbc	**PKPbc**	**23 44 59.8**	**+0.3**
MDM	**Murphy Dome**	**151.06**	**307**	*e*PKPbc	**PKPbc**	**23 44 59.9**

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RUS                                  S    Sn   23 29 58.3 +1.8
DALK  Dalny          1.39 309  eP        Pn   23 29 41.1 -1.2
DALK                                 eS   Sn   23 30 01.2 +1.7
DALK  Dalny          1.39 309  PN        Pn   23 29 41.1 -1.2
DALK                                 S    Sn   23 30 01.2 +1.7
PET   Petropavlovsk  1.44 308  ePn       Pn   23 29 41.9 -1.0
PET   Petropavlovsk  1.44 308α iPN       Pn   23 29 42.2 -0.7
PET                                  eS   Sn   23 30 01.9 +1.3
PET                                  pmax pmax
        comp=Z,3μm,2.5s
PET                                  pmax pmax
        comp=Z,1μm,0.5s
PET                                  smax smax
        comp=E,12μm,0.7s
UGLR  Uglovaya       1.48 316  P         Pn   23 29 43.6  0.0
UGLR  Uglovaya       1.48 316  PN        Pn   23 29 43.6  0.0
MTVR  Mutnovka       1.48 284  P         Pn   23 29 42.8 -0.8
MTVR  Mutnovka       1.48 284  PN        Pn   23 29 42.8 -0.8
SDLR  Sedlovina      1.50 319  P         Pn   23 29 43.4 -0.6
SDLR  Sedlovina      1.50 319  PN        Pn   23 29 43.4 -0.6
AVH   Avacha         1.56 316  P         Pn   23 29 44.1 -0.5
AVH   Avacha         1.56 316  PN        Pn   23 29 44.1 -0.5
GRL   Gorelyy        1.56 286  eP        Pn   23 29 45.5 +0.8
GRL                                  eS   Sn   23 30 08.8 +5.0
GRL   Gorelyy        1.56 286  PN        Pn   23 29 45.5 +0.8
KDTR  Khodutka, Kamc 1.56 258  P         Pn   23 29 43.0 -1.6
KDTR                                 S    Sn   23 30 02.6 -1.0
KDTR  Khodutka, Kamc 1.56 258  PN        Pn   23 29 43.0 -1.6
KDTR                                 S    Sn   23 30 02.6 -1.0
KRER  Koryakskii     1.58 317  P         Pn   23 29 44.5 -0.6
KRER                                 S    Sn   23 30 07.5 +3.1
KRER  Koryakskii     1.58 317  PN        Pn   23 29 44.5 -0.6
KRER                                 S    Sn   23 30 07.5 +3.1
KRMR  Karymshinskiy  1.62 295  P         Pn   23 29 44.8 -0.6
KRMR                                 eS   Sn   23 30 07.9 +2.9
KRMR  Karymshinskiy  1.62 295  PN        Pn   23 29 44.8 -0.6
KRMR                                 S    Sn   23 30 07.9 +2.9
ASAK  Asacha         1.64 279  P         Pn   23 29 45.7  0.0
ASAK  Asacha         1.64 279  PN        Pn   23 29 45.7  0.0
KRX   Arik           1.66 317  P         Pn   23 29 45.3 -0.8
KRX   Arik           1.66 317  PN        Pn   23 29 45.3 -0.8
PEA0B Petropavlovsk- 1.97 300  ePn       Pn   23 29 49.5 -0.8
PEA0B Petropavlovsk- 1.97 300  ePN       Pn   23 29 49.5 -0.8
PETK  Petropavlovsk- 1.97 300  ePn       Pn   23 29 49.0 -1.2
PETK  Petropavlovsk- 1.97 300  Pn        Pn   23 29 49.9 -0.3
        comp=E,77nm,0.3s,baz=105,slow=17,SNR=30
PETK                                 Sn   Sn   23 30 17.0 +3.2
        comp=E,253nm,0.3s,baz=100,slow=24,SNR=18
PEA1  Petropavlovsk- 1.98 300  ePn       Pn   23 29 46.7 -3.6
PEA1                                 eSn  Sn   23 30 17.0 +3.1
APC   Apacha         2.20 292  eP        Pn   23 29 54.0 +0.6
APC                                  eS   Sn   23 30 26.1 +6.8
APC   Apacha         2.20 292  PN        Pn   23 29 54.0 +0.6
PAU   Pauzhetka      2.42 255  P         Pn   23 29 55.3 -1.0
PAU   Pauzhetka      2.42 255  PN        Pn   23 29 55.3 -1.0
KZV   Kizimen        2.96 357  P         Pn   23 30 05.0 +1.0
KZV   Kizimen        2.96 357  PN        Pn   23 30 05.0 +1.0
TUMD  Tumrok D       3.05 359  eP        Pn   23 30 03.9 -1.2
TUMD                                 eS   Sn   23 30 39.6 -0.7
TUMR  Tumrok         3.14 356  PN        Pn   23 30 03.9 -2.5
TUMR                                 S    Sn   23 30 39.6 -3.0
SKR   Severo-Kuril's 3.14 244  P         Pn   23 30 05.2 -1.0
SKR                                  S    Sn   23 30 40.7 -1.7
SKR   Severo-Kuril's 3.14 244  ePN       Pn   23 30 05.2 -1.0
SKR                                  eS   Sn   23 30 39.4 -3.0
SKR                                  pmax pmax
        comp=Z,181nm,0.8s
SKR                                  smax smax
        comp=E,1μm,0.9s
SKR                                  smax smax
        comp=N,1μm,0.6s
BZMR  Bezymyannaya   3.78 360  P         Pn   23 30 16.1 +0.9
BZMR  Bezymyannaya   3.78 360  PN        Pn   23 30 16.1 +0.9
BZGR  Bezymyannyi-Gr 3.79   1  P         Pn   23 30 17.2 +1.9
BZGR  Bezymyannyi-Gr 3.79   1  PN        Pn   23 30 17.2 +1.9
KIRR  Kirishev       3.80 358  P         Pn   23 30 16.8 +1.3
KIRR  Kirishev       3.80 358  PN        Pn   23 30 16.8 +1.3
ESO   Esso           3.92 345  eP        Pn   23 30 17.0 -0.1
ESO   Esso           3.92 345  PN        Pn   23 30 17.0 -0.1
KOZ   Kozyrevsk      3.92 355  P         Pn   23 30 17.0 -0.1
KOZ   Kozyrevsk      3.92 355  PN        Pn   23 30 17.0 -0.1
LGNR  Loginova       3.93   1  P         Pn   23 30 18.7 +1.3
LGNR  Loginova       3.93   1  PN        Pn   23 30 18.7 +1.3
CIRR  Tsirk          3.96   2  P         Pn   23 30 20.1 +2.4
CIRR  Tsirk          3.96   2  PN        Pn   23 30 20.1 +2.4
KRSR  Krestovskiy    4.07   0  P         Pn   23 30 20.4 +1.3
KRSR  Krestovskiy    4.07   0  PN        Pn   23 30 20.4 +1.3
KLY   Klyuchi        4.16   1  P         Pn   23 30 22.2 +1.9
KLY   Klyuchi        4.16   1  PN        Pn   23 30 22.2 +1.9
SRDR  Sredinnyy      4.19 354  P         Pn   23 30 21.5 +0.7
SRDR  Sredinnyy      4.19 354  PN        Pn   23 30 21.5 +0.7
KBTR  Krutoberegovo  4.27  17  P         Pn   23 30 21.8  0.0
KBTR  Krutoberegovo  4.27  17  PN        Pn   23 30 21.8  0.0
KBG   Krutoberegovo  4.30  16  P         Pn   23 30 21.5 -0.6
KBG   Krutoberegovo  4.30  16  PN        Pn   23 30 21.5 -0.6
BDR   Baidarnaya     4.43   5  P         Pn   23 30 24.7 +0.6
BDR   Baidarnaya     4.43   5  PN        Pn   23 30 24.7 +0.6
BKI   Bering         4.44  45  P         Pn   23 30 22.5 -1.6
BKI                                  S    Sn   23 31 08.9 -5.6
BKI   Bering         4.44  45  PN        Pn   23 30 22.5 -1.6
SMKR  Semkarok       4.46   7  P         Pn   23 30 24.8 +0.3
SMKR  Semkarok       4.46   7  PN        Pn   23 30 24.8 +0.3
SRKR  Sorokina       4.52   4  P         Pn   23 30 25.5 +0.2
SRKR  Sorokina       4.52   4  PN        Pn   23 30 25.5 +0.2
MA2   Magadan        9.23 327  Pn        Pn   23 31 30.4 +0.6
        comp=N,0.3nm,0.3s,baz=118,slow=11,SNR=3.9
KUR   Kuril'sk      10.86 235  iPN       Pn   23 31 54.0 +1.9
SEY   Seymchan      11.64 341  iPN       Pn   23 32 00.2 -2.5
SEY   Seymchan      11.64 341  Pn        Pn   23 32 02.3 -0.4
        comp=N,0.2nm,0.3s,baz=139,slow=20,SNR=2.6
YSS   Yuzh-Sakhalins 12.66 253 ePN       P    23 32 29.5 +2.4
YSS                                  MLR  MLR
        comp=Z,900nm,14.0s
YSS                                  MLR  MLR
        comp=N,300nm,12.0s
YSS                                  MLR  MLR
        comp=E,600nm,15.0s
ASAJ  Asahikawa     14.40 243  Pn        Pn   23 32 39.4 -1.0
        comp=E,1.2nm,0.3s,baz=72,slow=14,SNR=13
ASAJ                                 LR   LR   23 38 59.4
        comp=E,533nm,18.8s,baz=33,slow=41
GRNR  Gornyy        15.08 274  eP        P    23 33 01.5 +7.5
GRNR                                 pmax pmax
        comp=Z,21nm,1.0s
BILL  Bilibino      16.17   8  ePn       Pn   23 33 04.0 +0.6
        comp=Z,23nm,0.7s
BILL  Bilibino      16.17   8  eP        Pn   23 33 03.9 +0.6
BILL                                 pmax pmax
        comp=Z,18nm,0.6s
BILL                                 MLR  MLR
        comp=Z,622nm,19.0s
TEY   Ternei        17.31 255‖ eP        Pn   23 33 18.0 +0.3
TEY                                  pmax pmax
        comp=Z,30nm,0.7s
KLR   Kul'dur       18.42 272  iP        Pn   23 33 31.1 -0.2
KLR                                  pmax pmax
        comp=Z,9.0nm,0.8s
KLR   Kul'dur       18.42 272  Pn        P    23 33 29.2 -1.7
        comp=Z,0.3nm,0.3s,baz=57,slow=9.9,SNR=25
YAK   Yakutsk       19.26 313  eP        P    23 33 37.3 -2.8
YAK                                  eS   S    23 37 04.3  -11
YAK                                  pmax pmax
        comp=Z,282nm,0.9s
YAK                                  pmax pmax
        comp=N,42nm,0.9s
YAK                                  pmax pmax
        comp=E,60nm,0.8s
YAK                                  smax smax
        comp=E,143nm,2.3s
YAK                                  smax smax
        comp=N,134nm,2.8s
YAK                                  MLR  MLR
        comp=Z,2μm,14.0s
YAK                                  MLR  MLR
        comp=N,928nm,14.0s
YAK                                  MLR  MLR
        comp=E,1μm,14.0s
ZEA   Zeya          20.02 288  eP        P    23 33 46.6 -1.8
ZEA                                  pmax pmax
        comp=Z,10.0nm,0.8s
ZEA                                  MLR  MLR
        comp=E,1μm,16.0s
ZEA                                  MLR  MLR
        comp=Z,1μm,16.0s
ZEA                                  MLR  MLR
        comp=N,800nm,15.0s
USRK  Ussuriysk Ar. 20.53 259  P         P    23 33 52.1 -1.9
        comp=N,11nm,0.9s,baz=59,slow=11,SNR=14
MDJ   Mudanjiang    21.77 262  P         P    23 34 05.8 -1.5
MDJ                                  pmax pmax
        comp=N,14nm,0.5s
MDJ                                  pmax pmax
        comp=N,170nm,4.3s
MJA0  Matsu Arr-Jizo 22.18 234 eP        P    23 34 13.5 +1.7
MJA0                                 pmax pmax
        comp=Z,10.0nm,0.6s
MJB9  Matsu-Tunnel  22.20 234  eP        P    23 34 13.5 +1.5
MAJO  Matsushiro    22.20 234  eP        P    23 34 12.2 +0.2
        comp=Z,19nm,0.7s
MAJO  Matsushiro    22.20 234  i P       P    23 34 12.2 +0.2
MAJO                                 pmax pmax
        comp=Z,12nm,0.9s
MAT   Matsushiro    22.20 234  P         P    23 34 13.0 +1.0
MAT                                  S    S    23 38 09.0  -4.9
MJAR  Matsushiro Arr 22.20 234 eP        P    23 34 12.7 +0.7
MJAR  Matsushiro Arr 22.20 234 P         P    23 34 11.9  -0.1
        comp=Z,11nm,0.9s,baz=17,slow=10.0,SNR=41
MJAR                                 LR   LR   23 43 21.1
        comp=Z,553nm,20.8s,baz=65,slow=38
INU   Inuyama       23.73 234  eP        P    23 34 27.9 +0.3
TIXI  Tiksi         24.04 336  eP        P    23 34 28.3 -1.8
        comp=Z,22nm,0.6s
TIXI                                 eP       P    23 34 28.9 -1.2
TIXI  Tiksi         24.04 336d iP        P    23 34 28.6 -1.5
TIXI                                 pmax pmax
        comp=Z,20nm,0.7s
TIXI  Tiksi         24.04 336  P         P    23 34 28.9 -1.2
        comp=Z,21nm,0.7s,baz=129,slow=8.6,SNR=47
HIA   Hailar        25.75 280  eP        P    23 34 43.8 -2.1
        comp=Z,22nm,0.7s
HIA   Hailar        25.75 280  i P       P    23 34 43.9 -2.0
HIA                                  pmax pmax
        comp=Z,132nm,0.7s
BOD   Bodaibo       26.85 301  eP        P    23 34 53.2 -2.4
BOD                                  pmax pmax
        comp=Z,7.0nm,1.3s
KSRS  Korea Array   27.13 250  eP        P    23 35 01.2 +2.8
KSRS                                 pmax pmax
        comp=Z,3.0nm,0.8s
KSRS  Korea Array   27.13 250  P         P    23 34 59.2 +0.8
        comp=Z,3.3nm,0.8s,baz=47,slow=9.2,SNR=10
KSRS                                 LR   LR   23 46 46.4
        comp=Z,309nm,18.2s,baz=58,slow=39
KS15  Wonju Array Si 27.16 250  eP        P    23 34 59.2 +0.5
KSAR  Wonju Array Be 27.16 250  eP        P    23 34 59.9 +1.2
TOLK  Toolik Lake Re 28.55  36  eP        P    23 35 12.3 +1.4
        comp=Z,6.2nm,1.4s
JNU   Nakatsue      28.64 240  eP        P    23 35 13.4 +1.5
        comp=Z,27nm,1.1s
JNU   Nakatsue      28.64 240  P         P    23 35 12.1 +0.2
        comp=Z,8.3nm,0.8s,baz=55,slow=12,SNR=3.4
ILAR  Eielson Array 29.29  44  P         P    23 35 17.4  0.0
        comp=Z,0.9nm,0.8s,baz=277,slow=7.2,SNR=6.1
ILAR                                 PcP  PcP  23 38 23.6 +0.6
        comp=Z,0.5nm,0.8s,baz=272,slow=4.3,SNR=3.3
ILB   Eielson Array 29.29  44  eP        P    23 35 17.4  0.0
ILB                                  ePcP PcP  23 38 23.6 +0.6
H11N2 WAKE ISLAND Hy 32.74 169   T         T    00 11 36.7
        baz=353,slow=76,SNR=244
H11N3 WAKE ISLAND Hy 32.76 169   T         T    00 11 44.3
        baz=353,slow=76,SNR=230
H11N1 WAKE ISLAND Hy 32.76 169   T         T    00 11 46.4
        baz=353,slow=76,SNR=254
H11S1 WAKE ISLAND Hy 33.93 169   T         T    00 13 24.5
        baz=352,slow=76
H11S3 WAKE ISLAND Hy 33.94 170   T         T    00 13 22.9
        baz=352
H11S2 WAKE ISLAND Hy 33.95 169   T         T    00 13 40.7
        baz=352,slow=76
ULN   Ulaanbaatar   33.98 284  eP        P    23 35 56.8 -2.2
        comp=Z,2.5nm,0.8s
ULN   Ulaanbaatar   33.98 284  i P       P    23 35 57.2 -1.7
ULN                                  pmax pmax
        comp=Z,3.0nm,0.9s
TLY   Talaya        34.32 292  i P       P    23 36 00.5 -1.1
SONA0 Songino Array 34.39 285  eP        P    23 36 01.0 -1.4
SONA0                                ePcP PcP  23 38 38.0 +0.8
SONM  Songino Array 34.39 285  eP        P    23 36 00.1 -2.3
SONM  Songino Array 34.39 285  P         P    23 36 01.0 -1.4
        comp=Z,1.0nm,0.6s,baz=58,slow=8.1,SNR=4.3
SONM                                 PcP  PcP  23 38 38.0 +0.8
        comp=Z,1.0nm,0.8s,baz=60,slow=3.5,SNR=2.9
SONM                                 LR   LR   23 51 30.4
        comp=Z,942nm,18.3s,baz=73,slow=39
INK   Inuvik        34.45  37  eP        P    23 36 03.1 +0.6
        comp=Z,2.9nm,0.9s
INK                                  ePcP PcP  23 38 37.9 +1.1
INK   Inuvik        34.45  37  P         P    23 36 03.3 +0.8
        comp=Z,1.9nm,0.7s,baz=290,slow=4.4,SNR=9.6
INK                                  PcP  PcP  23 38 37.9 +1.1
        comp=Z,0.5nm,0.5s,baz=243,slow=2.3,SNR=2.9
HHC   Hu-ho-hao-te  34.91 271  eP        P    23 36 07.8 +0.8
HHC                                  S    S    23 41 19.5  -16
HHC                                  pmax pmax
        comp=Z,80nm,0.8s
HHC                                  pmax pmax
        comp=Z,310nm,4.3s
HHC                                  LR   LR
        comp=Z,720nm,12.0s
HHC                                  LR   LR
        comp=Z,870nm,11.4s
HHC                                  LR   LR
        comp=Z,840nm,12.4s
ZAK   Zakamensk     35.07 290  eP        P    23 36 06.6 -1.6
ZAK                                  pmax pmax
        comp=Z,4.0nm,0.9s
MOY   Mondy         35.83 293  eP        P    23 36 13.8 -0.9
NJ2   Nanjing       36.23 253  eP        P    23 36 19.3 +1.1
NJ2                                  pmax pmax
        comp=Z,21nm,0.5s
NRIK  Noril'sk      36.83 326  eP        P    23 36 21.4 -1.5
NRIK  Noril'sk      36.83 326  P         P    23 36 21.9 -1.0
        comp=Z,3.0nm,0.7s,baz=88,slow=10,SNR=12
DLBC  Dease Lake    38.39  52  eP        P    23 36 37.2 +0.9
        comp=Z,7.2nm,1.1s
DLBC  Dease Lake    38.39  52  P         P    23 36 37.9 +1.5
        comp=Z,1.8nm,0.7s,baz=286,slow=16,SNR=3.2
WHN   Wuhan         39.98 256  P         P    23 36 51.3 +1.5
WHN                                  S    S    23 42 53.6 +1.3
WHN                                  LR   LR
        comp=Z,1μm,15.8s
WHN                                  LR   LR
        comp=Z,2μm,18.2s
WHN                                  LR   LR
        comp=Z,650nm,11.0s
GUMO  Guam          40.48 204  P         P    23 37 04.4 +10
GUMO                                 pmax pmax
        comp=Z,93nm,1.3s
LZH   Lanzhou       42.61 271  eP        P    23 37 11.9 +0.3
LZH                                  pP   sP   23 37 31.3 +4.7
LZH                                  sP   pwP  23 37 40.8 +15
LZH                                  pmax pmax
        comp=Z,21nm,1.0s
GTA   Gaotai        42.99 278  eP        P    23 37 14.0 -0.5
GTA                                  pmax pmax
        comp=Z,3.0nm,0.9s
ZAA1  Zalesovo Array 43.51 304 eP        P    23 37 16.1 -2.3
ZALV  Zalesovo Beam 43.51 304  eP        P    23 37 15.8 -2.6
ZALV                                 pmax pmax
        comp=Z,3.0nm,0.6s
ZALV  Zalesovo Beam 43.51 304  P         P    23 37 16.1 -2.3
        comp=Z,2.5nm,0.6s,baz=62,slow=6.6,SNR=11
ZALV                                 PcP  PcP  23 39 10.4 +4.8
        comp=Z,0.9nm,0.6s,baz=40,slow=2.5,SNR=2.9
YKA   Yellowknife Ar 43.67  42  P         P    23 37 20.1 +0.6
        comp=Z,0.6nm,0.6s,baz=297,slow=7.6,SNR=5.3
YKB5  Yellowknife Ar 43.67  42  eP        P    23 37 20.1 +0.6
NVS   Novosibirsk   43.87 305  eP        P    23 37 19.3 -2.0
NVS                                  e        23 37 29.5
NVS                                  eS   S    23 43 39.3  -10
NVS                                  pmax pmax
        comp=Z,15nm,1.3s
NVS                                  pmax pmax
        comp=N,8.0nm,1.5s
NVS                                  pmax pmax
        comp=E,18nm,1.5s
NVS                                  smax smax
        comp=E,10.0nm,1.5s
RES   Resolute Bay  44.09  22  eP        P    23 37 23.5 +0.7
        comp=E,3.3nm,0.9s
RES   Resolute Bay  44.09  22  P         P    23 37 23.2 +0.5
        comp=E,2.3nm,0.8s,baz=316,slow=8.4,SNR=13
RES                                  PcP  PcP  23 39 08.7 +1.5
        comp=E,1.7nm,0.7s,baz=306,slow=2.7,SNR=4.1
DGZ   Jazzator, Alta 44.33 297c iP       P    23 37 24.0 -1.2
DGZ                                  pmax pmax
        comp=Z,6.0nm,0.7s
CD2   Chengdu       46.15 266  eP        P    23 37 38.6 -1.2
CD2                                  pmax pmax
        comp=Z,20nm,0.6s
CD2                                  LR   LR
        comp=Z,630nm,20.0s
CD2                                  LR   LR
        comp=Z,570nm,19.2s
CD2                                  LR   LR
        comp=Z,360nm,14.1s
WMQ   Urumqi        47.54 290  eP        P    23 37 50.1 -0.4
WMQ                                  pP   sP   23 38 10.6 +4.6
WMQ                                  sP   pwP  23 38 18.5 +14
WMQ                                  pmax pmax
        comp=Z,43nm,0.9s
WMQ                                  LR   LR
        comp=Z,9μm,32.5s
WMQ                                  LR   LR
        comp=Z,7μm,38.3s
SPA0  Spitsbergen Ar 48.10 351  eP        P    23 37 54.8 +0.5
SPITS Spitsbergen Ar 48.10 351  P         P    23 37 55.0 +0.7
SPITS                                pmax pmax
        comp=Z,4.0nm,0.4s
KURK  Kurchatov     48.46 303  eP        P    23 37 55.5 -1.9
        comp=Z,14nm,1.0s
KURK  Kurchatov     48.46 303  i P       P    23 37 55.5 -1.9
KURK                                 pmax pmax
        comp=Z,15nm,1.0s
MK31  Makanchi Array 48.81 297 eP        P    23 37 58.5 -1.7
MK32  Makanchi Array 48.81 297 eP        P    23 37 58.5 -1.7
MKAR  Makanchi Array 48.81 297 eP        P    23 37 58.1 -2.1
MKAR  Makanchi Array 48.81 297 P         P    23 37 58.5 -1.7
        comp=Z,3.6nm,0.6s,baz=58,slow=7.1,SNR=34
MAKZ  Makanchi      48.97 297  eP        P    23 37 58.6 -2.8
        comp=Z,5.2nm,0.8s
BRVK  Borovoye      51.21 309  eP        P    23 38 16.8 -1.5
        comp=Z,9.8nm,0.6s
BRVK  Borovoye      51.21 309d iP        P    23 38 17.1 -1.2
BRVK                                 pmax pmax
        comp=Z,12nm,0.9s
DAG   Danmarks Havn 51.34 360  i P       P    23 38 18.9  0.0
DAG                                  pmax pmax
        comp=Z,7.0nm,1.0s
DAG   Danmarks Havn 51.34 360  i P       P    23 38 18.9  0.0
        comp=Z,6.6nm,1.0s
QIZ   Qiongzhong    51.36 250  P         P    23 38 21.0 +1.3
QIZ                                  S    S    23 45 29.8 -6.4
QIZ                                  LR   LR
        comp=Z,150nm,26.5s
QIZ                                  LR   LR
        comp=Z,240nm,14.7s
QIZ                                  LR   LR
        comp=Z,180nm,19.4s
PDGK  Podgornoye    52.51 295  P         P    23 38 27.2 -1.1
PDGK                                 pmax pmax
        comp=Z,5.0nm,0.9s
SLVN  Son La        53.07 257  eP        P    23 38 32.0 -0.6
        comp=Z,4.7nm,0.9s
OTUK  Ortayu        53.21 303  P         P    23 38 32.3 -0.9
OTUK                                 pmax pmax
        comp=Z,8.0nm,0.9s
BEKR  Beckworth     53.66  70  eP        P    23 38 37.3 +0.5
        comp=Z,3.5nm,0.9s
ARA0  ARCESS Array S 54.26 342 eP        P    23 38 40.5  0.0
ARCES ARCESS Array B 54.26 342 eP        P    23 38 40.2 -0.3
ARCES ARCESS Array B 54.26 342 P         P    23 38 40.5  0.0
        comp=Z,6.3nm,0.8s,baz=39,slow=9.9,SNR=14
ARU   Arti          54.27 318  eP        P    23 38 39.8 -1.0
        comp=Z,13nm,0.5s
ARU   Arti          54.27 318c iP        P    23 38 39.5 -1.3
ARU                                  *PP  pP   23 38 52.2 +0.3
ARU                                           23 39 44.5
ARU                                           23 40 38.5
ARU                                  S    S    23 46 11.9 -3.1
ARU                                  pmax pmax
        comp=Z,10.0nm,0.6s
ARU                                  MLR  MLR
        comp=Z,243nm,16.0s
PAHR  Pah Rah Range 54.33  69  eP        P    23 38 41.6 -0.1
        comp=Z,3.5nm,0.9s
KDJ   Kajisay       54.59 295  eP        P    23 38 41.8 -1.8
        comp=Z,4.7nm,0.9s
KDJ   Kajisay       54.59 295  P         P    23 38 41.8 -1.8
KDJ                                  pmax pmax
        comp=Z,5.0nm,0.9s
BOZ   Bozeman (W)   54.74  59  eP        P    23 38 45.9 +1.4
        comp=Z,1.9nm,0.8s
BOZ   Bozeman (W)   54.74  59  P         P    23 38 56.0 +11
BOZ                                  pmax pmax
        comp=Z,9.0nm,1.8s
LSA   Lhasa         54.76 274  eP        P    23 38 44.6 -0.7
        comp=Z,9.3nm,0.6s
SUMG  Summit        54.85   7  eP        P    23 38 46.2 +0.9
        comp=Z,9.2nm,0.9s
SUMG  Summit        54.85   7  i P       P    23 38 46.2 +0.9
SUMG                                 pmax pmax
        comp=Z,23nm,0.9s
SUMG  Summit        54.85   7  i P       P    23 38 46.2 +0.9
        comp=Z,23nm,0.9s
PRGR  Permogore     55.38 328  eP        P    23 38 47.2 -1.5
PRGR                                 pmax pmax
        comp=Z,18nm,0.6s
KVN   Kaiserville   55.51  69  eP        P    23 38 55.4 +5.2
        comp=Z,3.5nm,0.9s
KVN   Kaiserville   55.51  69  P         P    23 39 02.3 +12
KVN                                  pmax pmax
        comp=Z,3.0nm,0.9s
TMCR  Tamitsa       55.73 333  eP        P    23 38 50.9 -0.3
TMCR                                 pmax pmax
        comp=Z,16nm,0.6s
AAK   Ala-Archa     55.74 297  eP        P    23 38 51.0 -0.8
        comp=Z,3.9nm,0.9s
AAK   Ala-Archa     55.74 297  i P       P    23 38 50.5 -1.3
AAK                                  pmax pmax
        comp=Z,4.0nm,0.9s
NV01  Mina Array Sit 55.81  70  eP        P    23 38 54.9 +2.5
NVAR  Mina Array Bea 55.81  70  P         P    23 38 54.9 +2.5
        comp=Z,0.8nm,0.6s,baz=298,slow=7.7,SNR=3.7
PANO  Nakornpanom   55.89 253  P         P    23 38 56.6 +3.7
        comp=Z,0.4nm,0.8s,comp=Z,99nm
NONG  Nongkai       56.04 255  P         P    23 38 56.1 +2.1
        comp=Z,0.3nm,0.8s,comp=Z,94nm
RLMT  Red Lodge     56.30  58  eP        P    23 38 57.5 +1.6
        comp=Z,3.6nm,0.9s
SKNT  Sakolnakorn   56.40 253  P         P    23 38 58.6 +2.0
        comp=Z,16nm,0.7s
MSF   Maaselka      56.58 338  P         P    23 38 57.9 +0.7
MSF                                  pmax pmax
        comp=Z,37nm,1.2s
PAYA  Payao         57.01 259  P         P    23 39 02.9 +2.0
        comp=Z,32μm,0.7s
KSH   Kashi         57.02 293  P         P    23 39 01.4 +0.5
KSH                                  pP   sP   23 39 22.3 +5.8
KSH                                  S    S    23 46 38.8  -14
KSH                                  SS   SS   23 50 30.4  -10
KSH                                  pmax pmax
        comp=Z,9.0nm,0.6s
KSH                                  pmax pmax
        comp=Z,140nm,3.9s
KSH                                  LR   LR
        comp=Z,130nm,9.5s
KSH                                  LR   LR
        comp=Z,83nm,7.8s
KSH                                  LR   LR
        comp=Z,310nm,11.2s
PHRA  Phrae         57.45 258  P         P    23 39 06.0 +2.0
        comp=Z,2.5nm,1.1s
KK31  Karatay Array 57.58 300  eP        P    23 39 04.1 -0.6
KKAR  Karatay Array 57.58 300  eP        P    23 39 02.9 -1.8
SCO   Scoresbysund  57.65   1  eP        P    23 39 06.0 +1.3
SCO   Scoresbysund  57.65   1  i P       P    23 39 06.0 +1.3
PDAR  Pinedale Array 57.74  61  P         P    23 39 08.3 +2.2
        comp=Z,0.8nm,0.7s,baz=321,slow=3.8,SNR=6.8
LAMP  Lampang       57.79 258  P         P    23 39 08.5 +2.0
        comp=Z,25μm,0.8s,comp=Z,247μm
UTTA  Uttaradit     57.84 257  P         P    23 39 08.7 +2.0
        comp=Z,21μm,0.8s,comp=Z,180μm
KLMR  Klimovskoe    57.89 330  eP        P    23 39 05.3 -1.3
KLMR                                 pmax pmax
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comp=Z,13nm,0.8s
OUL Oulu 57.98 339 P **P** 23 39 07.5 +0.4
OUL pmax pmax
comp=Z,25nm,1.3s
CMMT Chiang Mai 57.99 259 P **P** 23 39 09.1 +1.3
comp=Z,8.3nm,0.8s,comp=Z,240nm
CHTO Chiang Mai 57.99 259 *eP* **P** 23 39 09.0 +1.2
comp=Z,10nm,0.8s
CHTO Chiang Mai 57.99 259 P **P** 23 39 09.0 +1.2
CHTO pmax pmax
comp=Z,10.0nm,0.7s
CM31 Chiang Mai Arr 58.26 259 *eP* **P** 23 39 10.9 +1.1
CMAR Chiang Mai Arr 58.26 259 *eP* **P** 23 39 11.2 +1.5
CMAR Chiang Mai Arr 58.26 259 *eP* **P** 23 39 11.3 +1.6
CMAR pmax pmax
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arr 58.26 259 P **P** 23 39 10.9 +1.1
comp=Z,5.8nm,0.6s,baz=27,slow=6.8,SNR=30
CHAI Chaiyaphum 58.42 254 P **P** 23 39 13.0 +2.2
comp=Z,17µm,0.9s
JOF Joensuu 58.53 335 P **P** 23 39 11.1 +0.1
JOF pmax pmax
comp=Z,30nm,1.3s
ABKAR Akbulak array 58.61 311 *eP* **P** 23 39 10.1 -1.7
ABKAR *eP* **P** 23 39 10.8 -0.9
JIRN Jiri 59.26 276 *eP* **P** 23 39 16.6 -0.4
comp=Z,26nm,0.6s
ULM Lac du Bonnet 59.27 47 *eP* **P** 23 39 18.0 +1.7
ULM pmax pmax
comp=Z,1.0nm,0.5s
ULM Lac du Bonnet 59.27 47 P **P** 23 39 17.8 +1.5
comp=Z,1.3nm,0.5s,baz=317,slow=8.7,SNR=3.6
BTK Batken 59.52 297 *eP* **P** 23 39 17.2 -1.1
comp=Z,6.0nm,0.8s
RAMN Ramite 59.52 276 *eP* **P** 23 39 18.2 -0.5
comp=Z,53nm,0.6s
RSSD Black Hills 59.70 56 *eP* **P** 23 39 20.6 +1.0
comp=Z,6.9nm,0.8s
KKN Kakani 59.72 277 *eP* **P** 23 39 19.7 -0.3
comp=Z,43nm,0.6s
PKI Pulchoki 59.80 277 *eP* **P** 23 39 20.3 -0.4
comp=Z,22nm,0.7s
PKIN Phulchoki 59.80 277 *eP* **P** 23 39 20.3 -0.4
comp=Z,20nm,0.7s
DMN Daman 59.96 277 *eP* **P** 23 39 21.6 -0.1
comp=Z,45nm,0.7s
GKN Gorkha 59.96 278 *eP* **P** 23 39 21.2 -0.4
comp=Z,29nm,0.7s
SUF Sumiainen 59.96 338 P **P** 23 39 21.5 +0.6
SUF pmax pmax
comp=Z,52nm,0.7s
DANN Dangsing 60.24 279 *eP* **P** 23 39 23.5 -0.2
comp=Z,44nm,0.7s
VAF Ylistaro 60.47 339 P **P** 23 39 25.6 +1.3
VAF pmax pmax
comp=Z,25nm,0.7s
GAR Garm 60.54 296 *eP* **P** 23 39 24.0 -1.4
comp=Z,10nm,0.8s
KOLN Koldanda 60.76 278 *eP* **P** 23 39 26.7 -0.4
comp=Z,28nm,0.6s
PYUN Piuthan 60.89 279 *eP* **P** 23 39 27.7 -0.3
comp=Z,27nm,0.7s
FIA1 FINESS Array S 61.08 337 *eP* **P** 23 39 28.8 +0.3
FIA0 FINESS Array S 61.09 337 *eP* **P** 23 39 28.4 -0.1
FINES FINESS Array B 61.09 337 *eP* **P** 23 39 28.7 +0.2
FINES FINESS Array B 61.09 337 P **P** 23 39 28.4 -0.1
comp=Z,16nm,0.5s,baz=31,slow=8.8,SNR=126
PV03 Paradox Valley 61.28 64 *eP* **P** 23 39 32.8 +2.3
comp=Z,5.5nm,0.7s
ISCO Idaho Springs 61.94 61 *eP* **P** 23 39 37.3 +2.2
comp=Z,2.9nm,0.8s
PHET Kaeng Krachan 62.16 254 P **P** 23 39 39.6 +3.2
comp=Z,42µm,0.8s
NIL Nilore 62.69 290 *eP* **P** 23 39 38.8 -1.0
comp=Z,14nm,0.7s
NIL Nilore 62.69 290 P **P** 23 39 39.8 0.0
NIL pmax pmax
comp=Z,14nm,0.7s
OBN Obninsk 63.45 328 *eP* **P** 23 39 43.9 -0.5
OBN *i* *PP **sP** 23 39 59.6 -0.7
OBN *e* 23 42 03.3
OBN pmax pmax
comp=Z,28nm,1.7s
OBN MLR MLR
comp=Z,122nm,19.0s
VSU Vasula 63.51 335 *i* P **P** 23 39 44.4 -0.4
VSU pmax pmax
comp=Z,32nm,0.8s
VSU Vasula 63.51 335 *eP* **P** 23 39 44.6 -0.2
VSU IAmb IAmb 23 39 45.8
comp=Z,45nm,0.8s
NC303 NORSAR Array S 64.31 344 *eP* **P** 23 39 50.9 +0.8
NC405 NORSAR Array S 64.36 344 *eP* **P** 23 39 51.2 +0.9
NC204 NORSAR Array S 64.37 344 *eP* **P** 23 39 51.0 +0.6
KBL Kabul 64.45 294 *eP* **P** 23 39 50.2 -1.4
comp=Z,4.8nm,0.6s
KBL Kabul 64.45 294 P **P** 23 39 51.0 -0.6
KBL pmax pmax
comp=Z,7.0nm,0.7s
NB201 NORSAR Array S 64.49 344 *eP* **P** 23 39 52.1 +0.8
NB2 NORSAR Subarra 64.51 344 P **P** 23 39 51.4 0.0
comp=Z,6.6nm,0.7s,baz=22,slow=6.9
NB200 NORSAR Array S 64.51 344 *eP* **P** 23 39 51.5 +0.1
NOA NORSAR Array B 64.51 344 P **P** 23 39 51.5 +0.1
comp=Z,5.6nm,0.7s,baz=21,slow=6.6,SNR=30
NBO00 NORSAR Array S 64.60 344 *eP* **P** 23 39 53.2 +1.2
LPSR Galich'ya Gora 64.70 325 *eP* **P** 23 39 52.0 -0.7
LPSR pmax pmax
comp=Z,10.0nm,0.6s
NORES NORESS Array B 64.75 344 P **P** 23 39 54.3 +1.4
NAO01 NORSAR Array S 64.75 344 *eP* **P** 23 39 53.4 +0.4
VRH Novokhopyorsk 64.82 322 *eP* **P** 23 39 52.5 -1.0
VRH pmax pmax
comp=Z,10.0nm,0.6s
SLIT Slitere, Latvi 65.37 337 *eP* **P** 23 39 56.8 -0.1
SLIT IAmb IAmb 23 39 58.5
comp=Z,127nm,0.7s
VSR Storozhevoye 65.75 324 *eP* **P** 23 39 58.0 -1.5
VSR pmax pmax
comp=Z,8.0nm,0.6s
IDID Didziasalis 66.26 333 *eP* **P** 23 40 02.9 +0.1
IDID IAmb IAmb 23 40 04.5
comp=Z,5.2nm,0.8s
SCHQ Schefferville 66.35 28 *eP* **P** 23 40 04.0 +0.7
comp=Z,5.7nm,0.8s
SCHQ Schefferville 66.35 28 P **P** 23 40 04.0 +0.7
comp=Z,4.6nm,0.6s,baz=342,slow=9.6,SNR=2.5
IIGN Ignalina 66.37 334 *eP* **P** 23 40 03.9 +0.5
IIGN IAmb IAmb 23 40 05.3
comp=Z,8.9nm,0.7s
PABE Paberze 66.84 335 *eP* **P** 23 40 06.6 +0.2
PABE IAmb IAmb 23 40 08.1
comp=Z,27nm,0.8s
GEYT Alibeck 67.83 303 P **P** 23 40 12.6 -0.4
comp=Z,5.1nm,0.8s,baz=44,slow=4.5,SNR=14
GYA0B ALIBECK ARRAY 67.83 303 *eP* **P** 23 40 11.9 -1.1
OK023 East Waterloo 69.44 58 *eP* **P** 23 40 24.9 +1.8
comp=Z,51nm,1.1s
AKASG Malin Array Be 69.55 329 P **P** 23 40 23.1 -0.4
comp=Z,5.3nm,0.6s,baz=29,slow=6.5,SNR=16
AKBB Malin Array Si 69.55 329 *eP* **P** 23 40 22.6 -0.9
comp=Z,9.1nm,0.9s
KIEV Kiev 69.56 329 *eP* **P** 23 40 22.6 -1.0
comp=Z,8.0nm,0.8s
KIEV Kiev 69.56 329⇑ *iP* **P** 23 40 23.3 -0.3
KIEV Kiev 69.56 329*c* *iP* **P** 23 40 22.9 -0.7
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 70.31 317 *eP* **P** 23 40 29.0 +0.6
comp=Z,3.8nm,0.7s
KIV Kislovodsk 70.31 317⇑ *iP* **P** 23 40 29.4 +1.0
KIV Kislovodsk 70.31 317 *eP* **P** 23 40 28.8 +0.4
KIV pmax pmax
comp=Z,15nm,0.9s
KIV MLR MLR
comp=Z,362nm,17.0s
KBZ Khabaz 70.40 317 P **P** 23 40 29.4 +0.6
comp=Z,5.5nm,0.8s,baz=59,slow=4.8,SNR=17
GKP Gorka Klasztor 70.54 338 P **P** 23 40 27.2 -2.3
ZEI Tsey 70.74 316 *eP* **P** 23 40 30.4 -0.8
ZEI pmax pmax
comp=Z,4.0nm,0.6s
TXAR Lajitas Array 70.75 67 P **P** 23 40 33.2 +1.8
comp=Z,0.8nm,0.7s,baz=274,slow=4.0,SNR=6.3
TBLG Delisi 71.23 315 *eP* **P** 23 40 33.8 -0.1
comp=Z,7.3nm,0.8s

HYB Hyderabad 71.56 275 *i* P **P** 23 40 36.5 +0.2
EKA Eskdalemuir Ar 72.02 350 P **P** 23 40 38.7 +0.3
EKA pmax pmax
comp=Z,2.0nm,0.4s
AKH Akhalkalaki 72.04 315 *eP* **P** 23 40 39.3 +0.3
comp=Z,5.5nm,0.8s
AKH Akhalkalaki 72.04 315⇑ *iP* **P** 23 40 40.1 +1.0
AKH Akhalkalaki 72.04 315 P **P** 23 40 40.0 +1.0
KMPD K-Podol'skiy 72.29 330 P **P** 23 40 40.0 -0.2
KWP Kalwaria Pacla 72.45 333 *eP* **P** 23 40 42.4 +1.3
KWP Kalwaria Pacla 72.45 333 *eP* **P** 23 40 42.2 +1.1
comp=Z,164nm,0.8s
KWP Kalwaria Pacla 72.45 333 *eP* **P** 23 40 42.4 +1.3
GNI Garni 72.52 314 *eP* **P** 23 40 42.2 +0.3
comp=Z,6.2nm,0.8s
GNI Garni 72.52 314 *i* P **P** 23 40 41.5 -0.4
GNI pmax pmax
comp=Z,28nm,1.2s
OJC Ojcow 72.70 335 *eP* **P** 23 40 43.5 +0.9
OJC Ojcow 72.70 335 *eP* **P** 23 40 42.9 +0.3
comp=Z,6.9nm,0.9s
OJC Ojcow 72.70 335 *eP* **P** 23 40 43.5 +0.9
KSP Ksiaz 73.01 337 *eP* **P** 23 40 45.2 +0.8
KSP Ksiaz 73.01 337 *eP* **P** 23 40 45.2 +0.8
CTA Charters Tower 73.01 194 P **P** 23 40 47.5 +2.9
comp=Z,0.6nm,0.3s,baz=22,slow=5.4,SNR=1.8
KOLS Kolonicke sedl 73.20 333 *eP* **P** 23 40 46.4 +0.8
KOLS pmax pmax
comp=Z,4.0nm,0.7s
KOLS Kolonicke sedl 73.20 333 *eP* **P** 23 40 46.4 +0.8
NIE Niedzica 73.30 334 *eP* **P** 23 40 47.1 +0.9
NIE Niedzica 73.30 334 *eP* **P** 23 40 47.1 +0.9
CLL Collm 73.32 339 *eP* **P** 23 40 46.0 -0.2
comp=Z,7.8nm,0.8s
CLL Collm 73.32 339⇑ *iP* **P** 23 40 46.4 +0.2
CLL *i* 23 40 58.6
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 73.32 339⇑ *iP* **P** 23 40 46.4 +0.2
comp=Z,8.0nm,0.8s
CLL *i* pP **pP** 23 40 58.6 +1.0
CLL *e* 23 41 08.0
CLL *i* pPcP 23 41 14.6
UPC Upice 73.39 337 *eP* **P** 23 40 47.9 +1.3
UPC Upice 73.39 337 *eP* **P** 23 40 47.9 +1.3
DPC Dobruska-Polom 73.46 337 *eP* **P** 23 40 47.9 +0.8
DPC *e* 23 41 00.5
DPC Dobruska-Polom 73.46 337 *eP* **P** 23 40 47.9 +0.8
DPC *ep*P **pwP** 23 41 00.5 -1.5
BUR08 Bucovina Ar. S 73.50 330 *eP* **P** 23 40 48.0 +0.5
comp=Z,7.2nm,0.7s
BURAR Bucovina Array 73.52 330 *eP* **P** 23 40 47.9 +0.3
BURAR Bucovina Array 73.52 330⇑ *iP* **P** 23 40 48.1 +0.5
BURAR Bucovina Array 73.52 330 P **P** 23 40 48.1 +0.5
BRG Berggiesshubel 73.52 339 *eP* **P** 23 40 48.2 +0.8
comp=Z,6.2nm,1.2s
BRG Berggiesshubel 73.52 339 *eP* **P** 23 40 48.2 +0.8
BRG pmax pmax
comp=Z,6.0nm,1.2s
KRLC Kraliky 73.60 337 *eP* **P** 23 40 49.5 +1.5
KRLC Kraliky 73.60 337 *eP* **P** 23 40 49.5 +1.5
MORC Moravsky Berou 73.69 336 *eP* **P** 23 40 49.5 +1.0
MORC Moravsky Berou 73.69 336⇑ *iP* **P** 23 40 49.7 +1.2
MORC Moravsky Berou 73.69 336 P **P** 23 40 49.7 +1.2
MORC Moravsky Berou 73.69 336 *eP* **P** 23 40 49.3 +0.8
LANS Liptovska Anna 73.77 335 *eP* **P** 23 40 50.8 +1.8
LANS Liptovska Anna 73.77 335 *eP* **P** 23 40 50.8 +1.8
BIZ Bicaz 73.85 329⇑ *iP* **P** 23 40 49.9 +0.5
TRPA Tarpa 73.85 332⇓ *iP* **P** 23 40 50.7 +1.3
TESR Tescani 74.05 329⇑ *iP* **P** 23 40 50.8 +0.2
PRU Pruhonice 74.22 338 *eP* **P** 23 40 52.7 +1.2
PRU *e* 23 41 04.6
PRU Pruhonice 74.22 338 *eP* **P** 23 40 52.7 +1.2
PRU *ep*P **pwP** 23 41 04.6 -1.8
GOPC GO Pecny, Ondr 74.23 338 *eP* **P** 23 40 54.2 +2.6
GOPC GO Pecny, Ondr 74.23 338 *eP* **P** 23 40 54.2 +2.6
ARCR ARCALIA 74.25 331⇑ *iP* **P** 23 40 53.2 +1.4
VRAC Vranov 74.36 336⇑ *iP* **P** 23 40 53.8 +1.4
VRAC Vranov 74.36 336 P **P** 23 40 53.8 +1.4
VRAC Vranov 74.36 336 *eP* **P** 23 40 53.4 +1.0
JAVC Velka Javorina 74.50 336 *eP* **P** 23 40 55.3 +2.0
VYHS Vyhne 74.54 335 *eP* **P** 23 40 54.6 +1.2
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 74.54 335 *eP* **P** 23 40 54.6 +1.2
VRI Vrincioaia 74.60 328⇑ *iP* **P** 23 40 54.4 +0.6
VRI Vrincioaia 74.60 328 P **P** 23 40 54.4 +0.6
KRUC Moravsky 74.64 336 *eP* **P** 23 40 55.0 +1.1
TREC Trest 74.64 337 *eP* **P** 23 40 55.3 +1.3
TREC Trest 74.64 337 *eP* **P** 23 40 55.3 +1.3
CFR Carcaliu 74.75 327⇑ *iP* **P** 23 40 54.9 +0.3
CFR Carcaliu 74.75 327 P **P** 23 40 54.8 +0.2
PSZ Piszkesteto 74.78 334 *eP* **P** 23 40 55.5 +0.6
comp=Z,4.1nm,0.8s
PSZ Piszkesteto 74.78 334⇑ *iP* **P** 23 40 56.3 +1.4
PSZ Piszkesteto 74.78 334 P **P** 23 40 55.5 +0.6
PSZ pmax pmax
comp=Z,4.0nm,0.8s
CJR Cluj-Napoca 74.82 331⇑ *iP* **P** 23 40 56.1 +1.0
CJR Cluj-Napoca 74.82 331 P **P** 23 40 56.1 +1.0
DOPR Dopca 74.94 329⇓ *iP* **P** 23 40 56.7 +0.9
DRGR 75.01 331⇑ *iP* **P** 23 40 56.9 +0.7
DRGR 75.01 331 P **P** 23 40 56.8 +0.6
MODS Modra-Piesok 75.05 336 *eP* **P** 23 40 57.1 +0.7
MODS pmax pmax
comp=Z,6.0nm,1.0s
MODS Modra-Piesok 75.05 336 *eP* **P** 23 40 57.1 +0.7
MLR Muntele Rosu 75.19 329 *eP* **P** 23 40 58.7 +1.3
comp=Z,11nm,0.6s
MLR Muntele Rosu 75.19 329⇑ *iP* **P** 23 40 58.8 +1.4
MLR Muntele Rosu 75.19 329 P **P** 23 40 58.7 +1.3
GRFO Grafenberg 75.23 340 *eP* **P** 23 40 56.7 -0.7
comp=Z,6.4nm,0.7s
GRFO Grafenberg 75.23 340 P **P** 23 40 58.9 +1.5
GRFO pmax pmax
comp=Z,6.0nm,0.7s
DIKM Dikmen 75.23 321⇑ *iP* **P** 23 40 58.1 +0.6
KHC Kasperske Hory 75.24 338 *eP* **P** 23 40 58.7 +1.3
comp=Z,2.5nm,1.0s
KHC Kasperske Hory 75.24 338 *eP* **P** 23 40 58.8 +1.3
KHC *e* 23 41 11.6
KHC Kasperske Hory 75.24 338 *eP* **P** 23 40 58.8 +1.3
KHC *ep*P **pwP** 23 41 11.6 -0.8
TLB Topalu 75.30 327⇓ *iP* **P** 23 40 58.6 +0.8
TLB Topalu 75.30 327 P **P** 23 40 58.6 +0.8
WR1 Warramunga Arr 75.35 205 *eP* **P** 23 40 58.8 +0.6
WRA Warramunga Arr 75.35 205 *eP* **P** 23 40 59.2 +0.9
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 75.35 205 P **P** 23 40 58.8 +0.5
comp=Z,1.4nm,0.9s,baz=25,slow=5.3,SNR=7.0
MEM Membach 75.36 344 ⇑P **P** 23 40 59.1 +1.0
comp=Z,15nm,0.8s
MEM ⇑PcP **sP** 23 41 12.9 -1.0
GEC2 GERESS Array S 75.48 338 *eP* **P** 23 41 00.1 +1.2
GERES GERESS Array B 75.48 338 *eP* **P** 23 40 59.9 +1.0
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 75.48 338 P **P** 23 40 59.5 +0.5
comp=Z,1.8nm,0.6s,baz=34,slow=5.1,SNR=23
AMRR Amara 75.52 327⇑ *iP* **P** 23 41 00.1 +1.0
VOIR 75.52 329⇓ *iP* **P** 23 41 00.5 +1.3
VOIR 75.52 329 P **P** 23 41 00.4 +1.3
BCLA Clavier 75.66 344 ⇓P **P** 23 41 00.9 +1.1
ARR Arges 75.71 330⇓ *iP* **P** 23 41 01.8 +1.5
SNF Seneffe 75.75 345 ⇑P **P** 23 41 01.0 +0.7
SIRR Siria 75.79 332⇑ *iP* **P** 23 41 01.5 +0.8
ICOR Ion Corvin 75.80 327⇑ *iP* **P** 23 41 01.8 +1.1
CONA Conrad Observa 75.82 336 *iP* **P** 23 41 02.4 +1.5
comp=Z,5.4nm,0.8s
GIVF Givet 76.05 344 P **P** 23 41 00.4 -1.6
DOU Dourbes 76.09 344 ⇑P **P** 23 41 03.0 +0.7
BAIF Baives 76.19 345 *eP* **P** 23 41 03.6 +0.8
BAIF pmax pmax
comp=Z,5.0nm,0.8s
GZR Gura Zlata 76.25 331⇑ *iP* **P** 23 41 03.9 +0.5
FITZ Fitzroy Crossi 76.27 214 P **P** 23 41 04.6 +1.0
comp=Z,0.9nm,0.6s,baz=6.3,slow=9.2,SNR=3.1
MOA Molln 76.28 337 *iP* **P** 23 41 04.4 +0.9
comp=Z,2.1nm,0.8s
BZS Buzias 76.40 332⇑ *iP* **P** 23 41 04.5 +0.4
BZS Buzias 76.40 332 P **P** 23 41 04.5 +0.4
ARSA Arzberg 76.54 336 *iP* **P** 23 41 06.0 +1.1

comp=Z,4.6nm,1.1s
MDVR Moldovita 77.13 331⇓ *iP* **P** 23 41 08.5 +0.2
SOKA Soboth 77.19 336 *iP* **P** 23 41 09.9 +1.3
comp=Z,2.5nm,0.5s
KBA Koelnbreinsper 77.22 338 *iP* **P** 23 41 10.7 +1.7
comp=Z,17nm,0.8s
CDF Champ du Feu 77.24 342 *eP* **P** 23 41 09.7 +0.8
CDF pmax pmax
comp=Z,4.0nm,0.6s
WATA Walderalm 77.38 339 *iP* **P** 23 41 11.2 +1.4
comp=Z,1.6nm,0.5s
WTTA Wattenberg 77.44 339 *eP* **P** 23 41 11.8 +1.7
comp=Z,4.8nm,0.9s
ECH Echery 77.45 342 *eP* **P** 23 41 11.0 +1.0
OBKA Obir 77.47 337 *iP* **P** 23 41 11.3 +1.1
comp=Z,4.0nm,0.6s
MOTA Moosalm 77.48 339 *iP* **P** 23 41 10.8 +0.5
comp=Z,5.4nm,0.8s
BR101 Keskin Array S 77.51 321 *eP* **P** 23 41 11.1 +0.4
BR131 Keskin Array S 77.51 321 *eP* **P** 23 41 11.3 +0.7
BRTR Keskin Array B 77.51 321 *eP* **P** 23 41 09.1 -1.5
BRTR Keskin Array B 77.51 321 P **P** 23 41 11.1 +0.4
comp=Z,2.8nm,0.8s,baz=35,slow=3.8,SNR=19
BRTR PP **PP** 23 44 05.4 +0.4
comp=Z,0.6nm,0.7s,baz=50,slow=4.5,SNR=3.6
SQTA Sankt Quirin 77.57 339 *iP* **P** 23 41 12.2 +1.4
comp=Z,8.7nm,0.9s
ABTA Abfaltersbach 77.73 338 *iP* **P** 23 41 12.8 +1.1
MDUB Mudurnu 77.80 323 *eP* **P** 23 41 12.7 +0.6
comp=Z,44nm,0.7s
HAU Haudompre 77.80 343 *eP* **P** 23 41 12.7 +0.7
HAU pmax pmax
comp=Z,6.0nm,0.7s
FETA Feichten 77.86 339 *iP* **P** 23 41 14.0 +1.5
comp=Z,5.5nm,0.9s
HINF Hinteralfeld 77.89 342 P **P** 23 41 12.7 +0.2
HINF pmax pmax
comp=Z,45nm,1.9s
CTYL Yalikoy Yolu 77.97 325⇓ *iP* **P** 23 41 13.6 +0.7
FLN La Foliniere 78.16 347 *eP* **P** 23 41 14.5 +0.6
FLN pmax pmax
comp=Z,21nm,1.4s
LDF La Druitiere 78.28 347 *eP* **P** 23 41 15.9 +1.3
LDF pmax pmax
comp=Z,55nm,2.0s
FUORN Ofenpass-Fuorn 78.35 340 *eP* **P** 23 41 15.2 -0.1
comp=Z,5.3nm,0.8s
PLD Plovdiv 78.62 328 P **P** 23 41 18.1 +1.6
VTS Vitosha 78.62 329 *eP* **P** 23 41 16.5 -0.2
comp=Z,6.0nm,0.7s
VTS Vitosha 78.62 329⇑ *iP* **P** 23 41 17.3 +0.5
VTS Vitosha 78.62 329 P **P** 23 41 17.3 +0.5
TUE Stuetta 78.68 340 *eP* **P** 23 41 18.1 +1.0
comp=Z,9.9nm,0.7s
SGMF Saint Gilles 78.93 349 *eP* **P** 23 41 19.0 +0.9
SGMF pmax pmax
comp=Z,17nm,1.1s
ASAR Alice Springs 79.02 205 P **P** 23 41 20.4 +1.5
comp=Z,1.1nm,0.6s,baz=16,slow=5.4,SNR=20
CABF La Chapelle 79.19 342 *eP* **P** 23 41 20.9 +1.1
CABF pmax pmax
comp=Z,93nm,2.0s
SSF Saint Saulge 79.22 344 *eP* **P** 23 41 20.6 +0.9
SSF pmax pmax
comp=Z,9.0nm,1.0s
ALN Alexandroupoli 79.25 327 *eP* **P** 23 41 20.0 0.0
comp=Z,5.5nm,0.9s
QUIF Quistinic 79.33 349 *eP* **P** 23 41 21.1 +0.8
QUIF pmax pmax
comp=Z,50nm,1.5s
AVF Avril sur Loir 79.50 344 *eP* **P** 23 41 22.3 +1.0
AVF pmax pmax
comp=Z,8.0nm,0.8s
SMF Signal de Mont 79.56 344 *eP* **P** 23 41 22.6 +0.9
SMF pmax pmax
comp=Z,52nm,2.2s
BALB Balikesir 79.73 325 *eP* **P** 23 41 23.3 +0.6
comp=Z,32nm,0.9s
STIP Stip 79.79 330 *i* PKP **P** 23 41 22.4 -0.5
SRS Serrai 79.87 328 *eP* **P** 23 41 23.8 +0.4
PDG Podgorica 80.00 332⇑ *iP* **P** 23 41 24.1 +0.1
TTG Podgorica 80.00 332 *eP* **P** 23 41 22.9 -1.2
comp=Z,7.3nm,0.8s
VAY Valandovo 80.01 329 *i* PKP **P** 23 41 24.8 +0.6
LPL La Plagne 80.12 342 *eP* **P** 23 41 26.0 +1.0
LPL pmax pmax
comp=Z,8.0nm,0.7s
LPG La Plagne 80.14 342 *eP* **P** 23 41 26.9 +1.7
LPG pmax pmax
comp=Z,8.0nm,0.7s
TCF Toulx Ste Croi 80.18 345 *eP* **P** 23 41 26.1 +1.1
TCF pmax pmax
comp=Z,38nm,1.8s
ORIF Oris-en-Rattie 80.86 342 *eP* **P** 23 41 31.7 +2.9
ORIF pmax pmax
comp=Z,40nm,1.6s
FNA Florina 80.87 330 *eP* **P** 23 41 31.7 +2.8
VIVF Saint-Julien-l 81.15 343 *eP* **P** 23 41 31.9 +1.7
VIVF pmax pmax
comp=Z,49nm,2.1s
CAF Calviac 81.53 345 *eP* **P** 23 41 33.3 +1.0
CAF pmax pmax
comp=Z,107nm,2.0s
CSS Mathiatis 81.75 319 *eP* **P** 23 41 33.9 +0.3
comp=Z,11nm,0.7s
MTLF Montolieu 83.05 344 *eP* **P** 23 41 41.9 +1.7
MTLF pmax pmax
comp=Z,194nm,2.2s
ETSF Etsaut 83.91 346 *eP* **P** 23 41 46.6 +1.9
ETSF pmax pmax
comp=Z,13nm,0.9s
ESDC Sonseca Array 87.55 348 *eP* **P** 23 42 02.5 -0.3
comp=Z,1.9nm,1.0s
ESDC Sonseca Array 87.55 348 P **P** 23 42 03.3 +0.5
comp=Z,1.3nm,0.6s,baz=2.7,slow=5.0,SNR=9.5
TORD Torodi Ar. Bea 112.43 338 PP **PP** 23 48 31.6 -4.6
comp=Z,0.6nm,0.8s,baz=12,slow=8.2,SNR=4.4
DBIC Dimbokro 120.08 343 PKP **PKiKP** 23 48 06.5 +0.6
comp=Z,2.1nm,0.7s,baz=353,slow=10,SNR=3.2
PLCA Paso Flores 143.72 92 *e*PKIKP **PKiKP** 23 48 52.3 -0.4
PLCA pmax pmax
comp=Z,2.0nm,1.1s

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*IDC **18** 23:50:42.7±0.4, 17°.27N×62°.02W, h0km, mb4.1/27, mb1 4.3/31, mb1mx4.3/39, mbtmp4.1/31, ML3.2/4, MS3.7/8, Ms1 3.7/8, ms1mx3.3/41, Error ellipse: s-maj=12.2km s-min=10.6km az=103.0*
*BJI **18** 23:50:44.8±0.0, 17°.40N×62°.00W, h20km, Ms7 5.1/2*
*TRN **18** 23:50:44.2, 17°.45N×62°.03W, h14km, MD4.4*
*MOS **18** 23:50:45.9±1.1, 17°.36N×62°.13W, h25km, mb4.9/30, Error ellipse: s-maj=9.7km s-min=7.1km az=131.8*
*ISCJB **18** 23:50:46.6±0.3, 17°.47N±0°.01×62°.01W±0°.02, h32km±2km, mb4.5/85, MS3.8/9, Error ellipse: s-maj=3.5km s-min=1.6km az=150.1*
*NEIC **18** 23:50:46.5±0.5, 17°.44N×62°.00W, h19km±3km, mb4.8/50, MD4.4(TRN), Error ellipse: s-maj=3.9km s-min=3.0km az=223.0*
NEIC Felt [IV] at Cedar Grove and Saint John's. Also felt at All Saints, Codrington, English Harbour, Old Road and Potters Village. Felt [III] at Basseterre, Saint Kitts. Also felt at Mansion and Monkey Hill. Felt at Gingerland, Nevis and at Cole Bay, Saint Martin. Also felt on Saint-Barthelemy and at Les Abymes and Pointe-a-Pitre, Guadeloupe.

ISC 18 23:50:47.1±0.8, 17°.43N±0°.02×61°.98W±0°.03, h27km±5km, n626, σ1$27/628, mb4.6/92, MS3.7/9, 16C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.30	38	*e*Pg	Pb	23 50 52.9	-1.4
ANWB	Willy Bob	0.30	38	*e*P	Pb	23 50 53.0	-1.4
ANWB				*e*S	Sb	23 50 57.7	-1.6
BPA	Boggy Peak	0.40	162	*e*P	Pb	23 50 55.2	-0.6
BPA				*e*S	Sb	23 51 02.4	+0.7
BPA	Boggy Peak	0.40	162	*e*P	Pb	23 50 55.2	-0.6
BPA				*e*S	Sb	23 51 02.4	+0.7
NEV	Hard Times	0.63	243	*e*P	Pb	23 50 59.3	-0.4
NEV	Hard Times	0.63	243	*e*P	Pb	23 50 59.3	-0.4
NVRH	Round Hill, Ne	0.64	248	*e*P	Pb	23 50 58.8	-0.9
NVBH	Bath Hotel, Ne	0.68	243	*e*P	Pb	23 50 59.9	-0.6
NVDO	Nevis, Disaste	0.68	243	*e*P	Pb	23 50 60.0	-0.5

NVDO eS Sb 23 51 09.6 +0.1
SKI Saint Kitts 0.73 263 ePg Pb 23 51 00.2 -1.1
SKI Saint Kitts 0.73 263 eP Pb 23 51 00.5 -0.7
SKI eS Sn 23 51 12.1 0.0
SKI Saint Kitts 0.73 263 eP Pb 23 51 00.2 -1.1
SKOC St. Kitts, UWI 0.73 260 eP Pb 23 50 59.9 -1.4
SKOC eS Sb 23 51 11.1 +0.3
MLYT Lee's Yard 0.73 196 eP Pb 23 51 00.8 -0.5
MLYT eS Sn 23 51 13.2 +1.1
BSK Brimstone Hill 0.82 265 eP Pb 23 51 02.0 -0.9
BSK Brimstone Hill 0.82 265 eP Pb 23 51 02.0 -0.9
SEUS St. Eustatius 0.95 274 ePg Pn 23 51 04.1 -0.8
SEUS St. Eustatius 0.95 274 eP Pn 23 51 04.2 -0.6
SEUS eS Sn 23 51 18.5 +0.9
ABD La Joyeuse, An 1.06 153 eP Pn 23 51 06.0 -0.2
CBE Ff, Capester 1.40 165 eP Pn 23 51 11.4 +0.4
H05N1 Guadeloupe/Mar 1.42 141 T T 23 51 32.1
DEG La Desirade 1.42 141 eP Pn 23 51 11.2 -0.1
DEG La Desirade 1.42 141 eP Pn 23 51 11.2 -0.1
TBG Guadaloupe-3 1.60 168 eP Pn 23 51 14.6 +0.9
TDBA Terre de Bas, 1.60 168 eP Pn 23 51 14.8 +1.0
MAGL Barre de l'ile 1.62 155 eP Pn 23 51 14.0 +0.1
MDPV Dominica, Penn 1.87 163 eP Pn 23 51 18.5 +1.1
MDPV eS Sb 23 51 43.8 +0.2
MDPO Dominica; Chan 1.91 164 eP Pn 23 51 19.1 +1.1
MDPO eS Sb 23 51 43.7 -1.1
BBL Barber's Block 1.95 165 eP Pn 23 51 19.4 +0.7
BBL eS Sb 23 51 44.4 -1.6
DWS Wesley 1.96 161 eP Pn 23 51 19.5 +0.8
DWS eS Sb 23 51 46.2 +0.1
MDN Morne-Daniel 2.17 165 eP Pn 23 51 22.9 +1.3
MDN eS Sn 23 51 49.9 +2.3
DLPL La Plaine 2.20 161 eP Pn 23 51 22.7 +0.7
DLPL La Plaine 2.20 161 eP Pb 23 51 24.6 -1.7
DLPL eS Sb 23 51 51.4 -1.7
DBCT Belle View Cho 2.23 164 eP Pn 23 51 23.9 +1.4
DBCT eS Sn 23 51 51.2 +2.1
DPMT Pointe Michel 2.23 165 eP Pn 23 51 23.7 +1.3
DPMT eS Sb 23 51 52.8 -1.2
DSTT Stowe 2.26 163 eP Pn 23 51 23.4 +0.5
DSTT eS Sn 23 51 52.2 +2.2
DSHT Scott's Head 2.28 165 eP Pn 23 51 23.4 +0.4
DSHT Scott's Head 2.28 165 eP Pn 23 51 24.1 +1.0
CDVI St. Croix 2.67 277 ePn Pn 23 51 28.4 -0.1
PCM Pelee Case Pet 2.70 164 eP Pn 23 51 29.6 +0.7
CXM Morne La Croix 2.72 163 eP Pn 23 51 30.0 +0.8
BAMF Morne Balai 2.72 163 eP Pn 23 51 29.9 +0.7
GBMF Grand Be 2.73 163 eP Pn 23 51 30.0 +0.7
PML Morne Lenard 2.74 164 eP Pn 23 51 30.1 +0.6
FDF Fort de France 2.80 163 ePn Pn 23 51 30.5 +0.3
FDF Fort de France 2.80 163 eP Pn 23 51 30.9 +0.6
FDF eS Sn 23 52 06.2 +3.0
FDF Fort de France 2.80 163 eP Pn 23 51 30.5 +0.3
ILAM Ilet Lapin Mar 2.84 158 eP Pn 23 51 31.1 +0.3
STVI Saint Thomas 2.97 288 ePn Pn 23 51 31.7 -0.9
ZAM Aeronautique 2.98 162 eP Pn 23 51 33.5 +0.8
LPMF Morne Lapointe 3.00 161 eP Pn 23 51 33.1 +0.1
TRMF Trois Ilets 3.01 163 eP Pn 23 51 34.1 +1.0
BIM Bigot 3.02 163 eP Pn 23 51 34.7 +1.3
MVM Montagne Vaucl 3.04 160 eP Pn 23 51 34.0 +0.3
MPOM Morne Pois Mar 3.16 160 eP Pn 23 51 35.6 +0.5
CUPR Culebra, Puert 3.26 286 ePn Pn 23 51 36.3 -0.2
MTP Monte Pirata 3.47 282 ePn Pn 23 51 39.4 0.0
SLBI Saint Lucia, B 3.52 164 eP Pn 23 51 40.9 +0.7
SLBI eS Sn 23 52 22.6 +1.6
SLW Petit Monier 3.53 163 eP Pn 23 51 41.7 +1.3
SLW eS Sn 23 52 23.1 +1.8
SLB Belfond 3.69 166 eP Pn 23 51 44.3 +1.7
SLB eS Sn 23 52 27.5 +2.2
SLPA Patience 3.70 164 eP Pn 23 51 43.7 +1.1
SLDE Delcer 3.71 166 eP Pn 23 51 44.0 +1.2
SLDE eS Sn 23 52 27.8 +2.1
HUMP Col San Antoni 3.75 282 ePn Pn 23 51 43.5 +0.1
CBYP Canovanas 3.78 283 ePn Pn 23 51 44.1 +0.2
MCLT Moule a Chique 3.83 165 eP Pn 23 51 45.8 +1.3
MCLT eS Sn 23 52 30.5 +1.9
SJG San Juan 4.03 280 Pn Pn 23 51 47.7 +0.6
83nm,0.3s,baz=99,slow=13,SNR=348
SJG Sn Sn 23 52 35.4 +1.9
83nm,0.3s,baz=10,slow=20,SNR=3.6
SFAN Fancy Village 4.10 169 eP Pn 23 51 49.5 +1.4
SFAN Fancy Village 4.10 169 eS Sn 23 52 36.3 +1.1
SSV Crater Summit 4.15 169 eP Pn 23 51 50.1 +1.2
SVV Soufriere Volc 4.15 170 eP Pn 23 51 50.9 +2.1
SVB Belmont 4.19 170 ePn Pn 23 51 50.1 +0.7
SVB Belmont 4.19 170 eP Pn 23 51 51.3 +1.8
SVB Belmont 4.19 170 eS Sn 23 52 39.2 +1.6
SVCV St. Vincent, C 4.21 169 eP Pn 23 51 50.7 +1.1
SVCV St. Vincent, C 4.21 169 eS Sn 23 52 39.2 +1.2
FCV Fort Charlotte 4.30 170 eP Pn 23 51 51.8 +0.9
FCV Fort Charlotte 4.30 170 eS Sn 23 52 42.2 +1.9
ICMP Isla Caja de M 4.36 277 ePn Pn 23 51 51.3 -0.4
OBIP Obispado Ponce 4.45 279 ePn Pn 23 51 53.2 +0.2
EMPR Esperanza - Ma 4.45 284 ePn Pn 23 51 52.2 -0.8
BBGH Gun Hill 4.86 151 ePn Pn 23 52 00.7 +2.1
BBGH Gun Hill 4.86 151 eP Pn 23 51 59.8 +1.2
BBSP Saint Philip 4.94 150 eP Pn 23 52 00.9 +1.3
MPR Mayaguez 4.97 280 ePn Pn 23 52 00.6 +0.5
AGP Aguadilla 5.01 282 ePn Pn 23 52 00.2 -0.4
GRGR Grenville 5.27 176 ePn Pn 23 52 05.9 +1.6
GRGR Grenville 5.27 176 eP Pn 23 52 05.4 +1.1
PCDR Punta Cana, DR 6.18 281 ePn Pn 23 52 17.6 +0.8
TOSP Speyside 6.25 167 eP Pn 23 52 19.1 +1.3
TRN Trinidad (W) 6.76 175 e Pn 23 52 14.3 -10
TPP Pointe-a-Pierr 7.09 176 e Pn 23 52 15.0 -14
SDDR Presa de Saban 8.98 281 eP Pn 23 52 55.0 -0.3
LGNH Logne 10.17 278 ePn Pn 23 53 11.9 +0.5
SDV Santo Domingo 11.96 226 ePn Pn 23 53 36.6 +0.4
SDV Santo Domingo 11.96 226 eP Pn 23 53 38.1 +1.9
SDV Santo Domingo 11.96 226 eP Pn 23 53 38.1 +1.9
SDV Santo Domingo 11.96 226 Pn Pn 23 53 31.5 -4.6
0.7nm,0.3s,baz=34,slow=11,SNR=3.5
SDV Sn Sn 23 55 43.2 -5.6
0.4nm,0.3s,baz=158,slow=22,SNR=1.4
SDV Santo Domingo 11.96 226 eP Pn 23 53 38.9 +2.8
OCAC Ocana 14.33 232 eP Pn 23 54 11.6 +3.0
OCAC Ocana 14.33 232 eP Pn 23 54 11.6 +3.0
PAMC Pamplona, Colo 14.49 228 eP Pn 23 54 10.1 -0.9
PAMC Pamplona, Colo 14.49 228 eP Pn 23 54 10.1 -0.9
SJCC San Jacinto, C 14.84 241 eP P 23 54 19.4 -1.6
SJCC San Jacinto, C 14.84 241 eP P 23 54 19.4 -1.6
BBSR BB Station 15.08 351 ePn Pn 23 54 19.3 +0.9
114nm,1.6s
MDP Montagnes des 15.29 142 Pn Pn 23 54 17.5 -3.8
0.4nm,0.3s,baz=326,slow=18,SNR=6.4
MDP Sn Sn 23 56 59.0 -11
0.4nm,0.3s,baz=183,slow=2.9,SNR=1.3
BARC Barichara 15.35 227 eP P 23 54 29.1 +2.3
BARC Barichara 15.35 227 eP P 23 54 29.1 +2.3
RUSC La Rusia 15.79 225 eP P 23 54 34.4 +2.4
RUSC La Rusia 15.79 225 eP P 23 54 34.4 +2.4
ZARC Zaragoza, Cauc 15.97 233 eP P 23 54 32.8 -0.8
ZARC Zaragoza, Cauc 15.97 233 eP P 23 54 32.8 -0.8
PTBC PUERTO BERRIO, 16.30 230 eP P 23 54 39.0 +1.9
PTBC PUERTO BERRIO, 16.30 230 eP P 23 54 39.0 +1.9
CHIC Chingaza 17.15 223 eP P 23 54 48.7 +1.7
CHIC Chingaza 17.15 223 eP P 23 54 48.7 +1.7
HELC Santa Helena 17.32 231 eP P 23 54 51.2 +2.4
HELC Santa Helena 17.32 231 eP P 23 54 51.2 +2.4
ROSC El Rosal 17.39 225 ePn P 23 54 49.5 -0.2
50nm,1.5s
ROSC El Rosal 17.39 225 P Pn 23 54 46.9 -1.6
0.6nm,0.3s,baz=68,slow=14,SNR=1.9
VILC Villavicencio, 17.52 222 eP P 23 54 54.1 +3.3
VILC Villavicencio, 17.52 222 eP P 23 54 54.1 +3.3
PTGA Pitinga 18.15 174 ePn Pn 23 54 56.8 -0.7
16nm,0.8s
PTGA Pitinga 18.15 174 P Pn 23 54 54.4 -3.1
0.3nm,0.3s,baz=348,slow=13,SNR=11
PRAC Prado 18.60 224 eP P 23 55 02.0 -0.6
PRAC Prado 18.60 224 eP P 23 55 02.0 -0.6
BCIP Isla Barro Col 19.20 247 eP Pn 23 55 17.0 +6.7
BCIP Isla Barro Col 19.20 247 eP Pn 23 55 17.0 +6.7
060Z West Palm Beac 19.39 301 P P 23 55 11.4 +0.2
baz=114
YOTC Yotoco, Valle 19.41 228 eP Pn 23 55 15.6 +2.8
YOTC Yotoco, Valle 19.41 228 eP Pn 23 55 15.6 +2.8
059Z Ave Maria 20.10 300 P P 23 55 18.8 -0.1
baz=112
059A Moore Haven 20.10 302 P P 23 55 18.5 -0.4
baz=114
959A Okeechobee 20.12 303 P P 23 55 19.0 -0.1
baz=116
859A Kempfer Cattle 20.38 305 P P 23 55 22.0 +0.1
baz=117
PCON Cinco Dias 20.63 225 eP Pn 23 55 32.4 +4.7
PCON Cinco Dias 20.63 225 eP Pn 23 55 32.4 +4.7
058A Arcadia 20.67 301 P P 23 55 24.6 -0.5
baz=114
DWPF Disney Wildern 20.82 304 P P 23 55 26.5 -0.2
baz=117
658A Bunnell 21.30 308 P P 23 55 31.3 -0.6
baz=120
BBAC Balboa, Cauca 21.43 226 eP P 23 55 37.0 +3.4
BBAC Balboa, Cauca 21.43 226 eP P 23 55 37.0 +3.4
857A Zephyrhills 21.52 304 P P 23 55 33.7 -0.6
baz=116
757A Oxford 21.69 305 P P 23 55 35.6 -0.5
baz=118
657A Interlachen 21.84 307 P P 23 55 37.5 -0.2
baz=119
V62A Hyde County Ai 21.92 328 P P 23 55 38.1 -0.4
baz=142
557A Orange Park 21.95 308 P P 23 55 38.4 -0.5
baz=120
Y60A Bolivia 22.00 322 P P 23 55 38.9 -0.5
baz=135
Z59A Georgetown, SC 22.14 319 P P 23 55 40.8 0.0
baz=131
W61A Ground Anchor 22.16 326 P P 23 55 41.5 +0.4
baz=139
656A Willston 22.25 306 P P 23 55 42.0 -0.1
baz=118
X60A Albert Glenn T 22.27 323 P P 23 55 42.2 0.0
baz=136
158A Hollywood 22.40 316 P P 23 55 43.9 +0.2
baz=129
556A Lake Butler 22.45 308 P P 23 55 43.6 -0.6
baz=120
257A Skidaway Islan 22.51 314 P P 23 55 45.3 +0.4
baz=126
456A Hilliard 22.53 310 P P 23 55 45.4 +0.3
baz=122
Z58A St. Stephen 22.54 318 P P 23 55 45.5 +0.4
baz=130,SNR=6.9
NHSC New Hope 22.63 317 P P 23 55 46.2 +0.2
baz=129
Y58A Scranton 22.82 319 P P 23 55 48.0 -0.1
baz=132
655A Horseshoe Beac 22.88 306 P P 23 55 48.3 -0.4
baz=117
157A Early Branch 22.91 315 P P 23 55 48.9 -0.1
baz=127
356A Blackshear 22.93 311 P P 23 55 49.2 -0.1
baz=123
555A McAlpin 22.94 307 eP P 23 55 50.0 +0.6
36nm,1.0s
555A McAlpin 22.94 307 P P 23 55 49.7 +0.3
baz=119
Z57A Bowman 23.09 317 P P 23 55 50.9 0.0
baz=129
256A Glennville 23.11 313 P P 23 55 51.2 0.0
baz=124
156A Sylvania 23.23 314 P P 23 55 52.1 -0.2
baz=126
U60A Pendleton 23.24 328 P P 23 55 52.9 +0.5
baz=141
455A Stateville 23.29 309 P P 23 55 53.0 +0.1
baz=120
W58A Raeford 23.31 322 P P 23 55 53.4 +0.3
baz=134
Y57A Sumter 23.34 319 P P 23 55 53.4 0.0
baz=131
JTS Las Juntas de 23.39 255 P P 23 55 53.7 -0.3
1.3nm,0.3s,baz=108,slow=9.5,SNR=2.5
355A Pearson 23.46 310 P P 23 55 54.9 +0.3
baz=122
554A Perry 23.47 306 P P 23 55 55.0 +0.3
baz=118
255A Hazlehurst 23.50 312 P P 23 55 54.7 -0.3
baz=123
OTAV Otavalo 23.55 225 eP P 23 55 57.5 +1.4
25nm,1.2s
OTAV Otavalo 23.55 225 eP P 23 55 57.5 +1.4
OTAV pmax pmax
comp=Z,25nm,1.2s
OTAV Otavalo 23.55 225 eP P 23 55 56.5 +0.4
454A Quitman 23.73 308 P P 23 55 57.4 +0.2
baz=119
V58A Windy Hill, Pi 23.79 324 P P 23 55 57.7 0.0
baz=136
W57A Gilead 23.85 321 P P 23 55 58.3 -0.1
baz=133
155A Kite 23.88 313 P P 23 55 58.9 +0.3
baz=125
U58A Oxford 23.91 325 P P 23 55 59.2 +0.3
baz=138
Z55A Blythe 24.00 315 P P 23 55 59.8 +0.1
baz=126
TIGA Tifton 24.05 309 P P 23 56 00.7 +0.5
baz=121,SNR=5.9
X56A White Oak 24.06 319 P P 23 56 00.2 -0.1
baz=130,SNR=5.7
W56A Indian Trail 24.20 320 P P 23 56 01.3 -0.3
baz=132
V57A Coltrane Farms 24.23 323 P P 23 56 02.0 +0.1
baz=135
Y55A Saluda 24.24 316 P P 23 56 01.8 -0.1
baz=128,SNR=8.1
T58A Grand View Acr 24.32 326 P P 23 56 04.2 +1.6
baz=139
X55A Gracelyn & Ava 24.42 318 P P 23 56 03.9 +0.2
baz=129
353A Camilla 24.47 309 P P 23 56 04.0 -0.1
baz=120
Z54A Sparta 24.49 314 P P 23 56 03.9 -0.3
baz=125,SNR=6.8
V56A Mocksville 24.60 322 P P 23 56 05.3 +0.1
baz=133
KMSC Kings Mountain 24.66 319 P P 23 56 06.1 +0.3
baz=131
Y54A Tignall 24.75 315 P P 23 56 07.5 +1.0
baz=126,SNR=12
U56A King 24.91 323 P P 23 56 09.0 +1.0
baz=134
X54A Belton 24.95 317 P P 23 56 08.5 +0.1
baz=128,SNR=9.0
452A Marianna 24.97 307 P P 23 56 08.8 +0.2
baz=117,SNR=7.4
Z53A Monticello 25.02 313 P P 23 56 09.0 0.0
baz=124,SNR=7.9
GOGA Godfrey 25.02 314 P P 23 56 10.3 +1.3
GOGA pmax pmax
comp=Z,24nm,1.3s
GOGA Godfrey 25.02 314 P P 23 56 09.1 +0.1
baz=124,SNR=11
TEIG Tepich 25.03 281 eP P 23 56 09.2 -0.1
comp=Z,37nm,1.1s
V55A Taylorsville 25.06 321 P P 23 56 09.9 +0.5
baz=132
352A Blakely 25.07 308 P P 23 56 09.4 -0.1
baz=119
R58A Rapidan 25.08 329 P P 23 56 10.2 +0.6
baz=142
S57A Dark Hollow, R 25.15 327 P P 23 56 10.4 +0.2
baz=139
W54A Cherokee Point 25.16 318 P P 23 56 10.6 +0.2
baz=129
252A Lumpkin 25.18 309 P P 23 56 10.9 +0.4
baz=120,SNR=13
T56A Rocky Mt 25.19 324 P P 23 56 11.1 +0.5
baz=136
R57A Stanardsville 25.34 328 P P 23 56 13.0 +1.1
baz=141
Y53A Monroe 25.35 314 P P 23 56 12.3 +0.3
baz=125,SNR=8.5
U55A TA2, Sparta 25.40 322 P P 23 56 12.8 +0.2
baz=134,SNR=6.5
P59A Jarrettsville 25.42 333 P P 23 56 13.1 +0.5
baz=146
V54A Nebo 25.46 320 P P 23 56 14.7 +1.6
baz=131,SNR=7.2
351A Pinckard 25.48 307 P P 23 56 13.3 0.0
baz=117
152A Waverly Hall 25.50 311 P P 23 56 13.9 +0.4
baz=121,SNR=16
X53A Estanollee 25.53 316 P P 23 56 13.9 +0.2
baz=126
BLA Blacksburg 25.54 324 P P 23 56 14.2 +0.5
baz=136
Z52A Williamson 25.56 312 P P 23 56 14.1 +0.1
baz=123
O60A Telford 25.60 336 P P 23 56 14.6 +0.5
baz=149
T55A Pulaski 25.68 324 P P 23 56 15.5 +0.4
baz=135
Y52A Lilburn 25.68 314 eP P 23 56 16.0 +1.0
comp=Z,19nm,1.2s
Y52A Lilburn 25.68 314 P P 23 56 15.2 +0.1
baz=124
251A Midway 25.72 309 P P 23 56 15.6 +0.2
baz=119,SNR=25
W53A Cullowhee 25.84 317 P P 23 56 17.4 +0.8
baz=128,SNR=9.8
Q57A Strasburg 25.86 330 P P 23 56 17.5 +0.9
baz=142
U54A Nelsons Funny 25.87 321 P P 23 56 17.8 +0.9
baz=132
151A Opelika 25.87 310 P P 23 56 17.0 +0.2
baz=120,SNR=7.1
O59A Robesonia 25.91 335 P P 23 56 18.1 +1.1
baz=148
V53A Saluda 25.93 319 P P 23 56 17.8 +0.4
baz=129
S55A Lewisburg 25.98 325 P P 23 56 17.9 +0.1
baz=136
X52A Dahlonega 25.99 315 P P 23 56 18.8 +0.9
baz=126
T54A Tazewell 26.09 322 P P 23 56 19.5 +0.7
baz=134
350A Dozier 26.11 307 P P 23 56 19.8 +0.9
baz=117
R55A Marlinton 26.15 326 P P 23 56 19.6 +0.2
baz=138
Z51A Franklin 26.17 312 P P 23 56 20.0 +0.5
baz=122
U53A Fall Branch 26.23 320 P P 23 56 20.5 +0.5
baz=131
N59A State Game Lan 26.25 336 P P 23 56 21.0 +0.8
baz=149
W52A Murphy 26.30 316 P P 23 56 21.1 +0.4
baz=126
250A Grady 26.31 308 P P 23 56 21.0 +0.2
baz=118
Y51A Rockmart 26.40 313 P P 23 56 22.2 +0.7
baz=123
150A Eclectic 26.42 309 P P 23 56 22.6 +0.8
baz=119
449A Pace 26.51 305 P P 23 56 23.2 +0.6
baz=114
V52A Sevierville 26.54 318 P P 23 56 23.3 +0.6
baz=128
R54A Victor 26.55 325 P P 23 56 23.6 +0.7
baz=136
BRAL Brewton 26.55 306 P P 23 56 23.5 +0.5
baz=115
T53A Wise 26.61 321 P P 23 56 23.5 0.0
baz=132
Q55A Buckhannon 26.66 327 P P 23 56 24.5 +0.6
baz=139
Z50A Ashland 26.67 311 P P 23 56 24.3 +0.3
baz=120
U52A Thorn Hill 26.73 319 P P 23 56 23.3 -1.3
baz=130
349A Repton 26.74 306 P P 23 56 25.0 +0.4
baz=116
S53A Williamson 26.84 323 P P 23 56 26.4 +0.9
baz=133
Y50A Piedmont 26.86 312 P P 23 56 26.4 +0.7
baz=122
W51A Cleveland 26.89 315 P P 23 56 26.7 +0.7
baz=125
SSPA Standing Stone 26.90 333 P P 23 56 26.9 +0.9
baz=145
O56A Blue Knob Stat 26.91 331 P P 23 56 26.7 +0.6
baz=143
P55A Reedsville 26.92 328 P P 23 56 25.8 -0.5
baz=140
TZTN Tazewell 26.94 319 P P 23 56 26.6 +0.1
baz=129
249A Camden 26.95 307 P P 23 56 26.8 +0.2
baz=117
T52A Hallie 26.96 321 P P 23 56 25.9 -0.7
baz=131
V51A Loudon 27.00 317 P P 23 56 27.6 +0.7
baz=127
Q54A Coxs Mills 27.05 326 P P 23 56 28.1 +0.8
baz=137
Z49A Columbiana 27.08 310 P P 23 56 27.9 +0.2
baz=120
X50B Fort Payne 27.11 313 P P 23 56 28.2 +0.2
baz=123
U51A La Follette 27.13 318 P P 23 56 29.3 +1.1
baz=128
R53A Hurricane 27.19 324 P P 23 56 29.5 +0.9
baz=135
W50A Signal Mountai 27.29 315 P P 23 56 30.4 +0.8
baz=125
Q53A Leroy 27.32 325 P P 23 56 30.9 +1.1
baz=136
Y49A Blount Mountai 27.33 311 P P 23 56 30.2 +0.3
baz=121
LRAL Lakeview Retre 27.35 309 P P 23 56 30.4 +0.3
baz=119,SNR=7.1
V50A Pikevile 27.41 316 P P 23 56 31.4 +0.7
baz=126
BINY Binghamton 27.44 337 P P 23 56 32.3 +1.4
baz=150
APG El Apazote 27.44 269 P P 23 56 37.8 +6.4
comp=Z,9.6nm,0.7s,baz=154,slow=16,SNR=3.6
APG LR LR 00 07 28.7
comp=Z,265nm,19.4s,baz=122,slow=37
T51A Gray 27.46 319 P P 23 56 32.1 +1.1
baz=129
N55A Marion Center 27.51 331 P P 23 56 32.6 +1.1
baz=143
148A Greensboro 27.60 308 P P 23 56 32.8 +0.5
baz=117
X49A Woodville 27.61 313 P P 23 56 32.8 +0.3
baz=122
S51A Beattyville 27.67 321 P P 23 56 33.4 +0.4
baz=131
U50A Jamestown 27.68 318 P P 23 56 33.8 +0.6
baz=127
O54A Avella 27.71 329 P P 23 56 35.1 +1.8
baz=140
Q52A Bidwell 27.80 325 P P 23 56 33.8 -0.3
baz=135
W49A Belvidere 27.89 314 P P 23 56 34.3 -0.7
baz=123
Y48A Jasper 27.90 311 P P 23 56 35.2 +0.2
baz=120
M55A Ridgway 27.96 332 P P 23 56 36.1 +0.5
baz=144
V49A McMinnville 28.00 315 P P 23 56 36.8 +0.8
baz=125
T50A Nancy 28.05 319 P P 23 56 36.6 +0.2
baz=128,SNR=5.1
X48A Hartselle 28.08 312 P P 23 56 36.6 0.0
baz=121
147A Livingston 28.14 308 P P 23 56 36.2 -0.9
baz=116
U49A Red Boiling Sp 28.35 317 P P 23 56 39.1 +0.1
baz=126
V48A Smith Brothers 28.61 314 P P 23 56 42.1 +0.7
baz=123
X47A Russelville 28.70 311 P P 23 56 42.4 +0.2
baz=120,SNR=26
CLDB Colider 28.78 167 eP P 23 56 42.6 -0.3
O51A Pataskala 28.83 326 P P 23 56 43.9 +0.6
baz=136
W47A Westpoint 28.88 313 P P 23 56 44.4 +0.7
baz=122
V47A Nunnelly 29.13 314 P P 23 56 46.5 +0.5
baz=122
X46A Booneville 29.24 311 P P 23 56 47.1 +0.2
baz=119
ATAH Atahualpa 29.30 215 P P 23 56 46.7 -1.4
comp=Z,8.9nm,0.9s,baz=193,slow=4.3,SNR=5.1
PECO Prince Edward 29.31 338 P P 23 56 47.5 0.0
baz=150
Q49A Aurora 29.34 322 P P 23 56 47.5 -0.2
baz=131
W46A Michie 29.37 312 P P 23 56 47.7 -0.5
baz=120
WVT Waverly 29.51 314 eP P 23 56 50.3 +1.0
comp=Z,5.4nm,0.6s

WVT	Waverly	29.51	314	eP	P	23 56 50.3 +1.0
WVT				pmax	pmax	
	comp=Z,5.0nm,0.6s					
WVT	Waverly	29.51	314	P	P	23 56 49.8 +0.5
	baz=122					
V46A	Holladay	29.53	313	P	P	23 56 49.8 +0.2
	baz=122					
R48A	Northridge Ran	29.54	320	P	P	23 56 50.5 +0.8
	baz=128					
P49A	Miami Univ. Ec	29.58	323	P	P	23 56 50.5 +0.6
	baz=132					
H56A	Elgin	29.62	339	P	P	23 56 51.9 +1.7
	baz=152					
WCI	Wyandotte Cave	29.70	319	P	P	23 56 51.9 +0.9
	baz=128					
Q48A	North Vernon	29.79	321	P	P	23 56 52.5 +0.8
	baz=130					
OXF	Oxford	29.82	310	P	P	23 56 52.1 0.0
	baz=118,SNR=15					
U46A	Springville	29.87	314	P	P	23 56 53.2 +0.7
	baz=122					
T46A	Princeton	30.05	316	P	P	23 56 54.8 +0.7
	baz=124					
S46A	Don Dixon Farm	30.29	317	P	P	23 56 56.3 +0.1
	baz=125					
N48A	Decatur	30.65	324	P	P	23 56 59.8 +0.5
	baz=133					
SADO	Sadowa	30.83	336	P	P	23 57 01.9 +1.0
	comp=Z,2.2nm,0.7s,baz=146,slow=4.2,SNR=2.8					
S45A	Carrier Mills	30.85	316	P	P	23 57 01.5 +0.3
	baz=124					
N47A	Urbana	31.04	324	P	P	23 57 02.9 +0.1
	baz=132					
BASO	Ashfield	31.28	332	P	P	23 57 05.0 +0.1
	baz=142					
S44A	Carbondale	31.31	316	P	P	23 57 05.7 +0.5
	baz=123					
K48A	Perry	31.53	328	P	P	23 57 08.7 +1.6
	baz=137					
E54A	Lac Daplat, Po	31.55	340	P	P	23 57 08.8 +1.5
	baz=152					
N46A	Monticello	31.64	323	P	P	23 57 08.4 +0.3
	baz=130					
F51A	Arnstein	32.10	336	P	P	23 57 13.3 +1.2
	baz=147					
W41B	Gary Mavity, V	32.20	309	P	P	23 57 13.5 +0.4
	baz=116,SNR=17					
X40A	Basin Creek Fa	32.35	308	P	P	23 57 14.6 +0.2
	baz=114,SNR=12					
U41A	Viola	32.48	311	P	P	23 57 15.5 -0.1
	baz=118,SNR=15					
P43A	Skaggs, Pawnee	32.56	318	P	P	23 57 16.8 +0.5
	baz=125					
NATX	Nacogdoches	32.81	302	P	P	23 57 18.9 +0.4
	baz=108,SNR=7.0					
CCM	Cathedral Cave	32.84	315	eP	P	23 57 18.8 +0.1
	comp=Z,9.2nm,0.6s					
CCM	Cathedral Cave	32.84	315	eP	P	23 57 18.8 +0.1
CCM				pmax	pmax	
	comp=Z,9.0nm,0.6s					
CCM	Cathedral Cave	32.84	315	P	P	23 57 19.0 +0.3
	baz=121					
MIAR	Mount Ida	32.94	307	P	P	23 57 20.8 +1.2
MIAR				pmax	pmax	
	comp=Z,8.0nm,1.1s					
MIAR	Mount Ida	32.94	307	P	P	23 57 19.6 0.0
	baz=113					
S41A	Jillco Farms,	32.95	314	P	P	23 57 19.1 -0.6
	baz=120,SNR=10					
R41A	Rosebud	33.05	315	P	P	23 57 20.7 +0.2
	baz=121					
U40A	Yellville	33.16	311	P	P	23 57 21.0 -0.5
	baz=116,SNR=15					
HKT	Hockley	33.28	298	eP	P	23 57 20.9 -1.7
	comp=Z,20nm,1.1s					
HKT	Hockley	33.28	298	eP	P	23 57 20.9 -1.7
HKT				pmax	pmax	
	comp=Z,20nm,1.1s					
W39A	Magazine	33.35	308	eP	P	23 57 23.8 +0.7
	comp=Z,21nm,1.0s					
W39A	Magazine	33.35	308	P	P	23 57 23.9 +0.7
	baz=114,SNR=11					
E48A	Lockeyer	33.45	334	P	P	23 57 23.8 -0.1
	baz=143					
L43A	Garden Prairie	33.62	323	P	P	23 57 26.0 +0.6
	baz=129					
LPAZ	La Paz	34.05	191	P	P	23 57 28.1 -1.9
	comp=Z,1.0nm,0.7s,baz=2.0,slow=14,SNR=3.4					
LPAZ				LR	LR	00 12 17.2
	comp=Z,112nm,21.6s,baz=4.0,slow=38					
LPAZ	La Paz	34.05	191	eP	P	23 57 29.2 -0.8
L42A	Oliver, Polo	34.05	322	P	P	23 57 29.5 +0.3
	baz=128					
J43A	Natural Harves	34.21	325	P	P	23 57 30.9 +0.4
	baz=131					
E46A	Sault Ste Mari	34.28	332	P	P	23 57 31.8 +0.7
	baz=140					
D47A	Chapleau	34.30	334	P	P	23 57 32.5 +1.2
	baz=142					
H07S1	FLORES T-PHASE	34.53	44	T	T	00 33 36.2
J42A	Columbus	34.56	324	P	P	23 57 33.8 +0.3
	baz=130					
H07N1	FLORES T-PHASE	34.75	44	T	T	00 33 46.4
I42A	Draeger Farm,	34.81	325	P	P	23 57 35.8 +0.1
	baz=131					
435B	Jarrell	34.95	299	P	P	23 57 36.9 -0.3
	baz=104					
J41A	Loganville	35.09	323	P	P	23 57 38.6 +0.5
	baz=129					
TUL1	Leonard	35.14	308	P	P	23 57 38.5 -0.2
	baz=113,SNR=8.1					
WHTX	Lake Whitney,	35.16	301	P	P	23 57 38.6 -0.3
	baz=106,SNR=5.2					
I41A	Arkdale	35.45	324	P	P	23 57 41.5 +0.3
	baz=130					
L39A	Vinton	35.52	320	P	P	23 57 41.8 -0.1
	baz=125					
BDFB	Brasilia	35.63	156	eP	P	23 57 45.4 +2.3
	comp=Z,17nm,1.3s					
BDFB	Brasilia	35.63	156	eP	P	23 57 45.4 +2.3
BDFB				pmax	pmax	
	comp=Z,17nm,1.3s					
BDFB	Brasilia	35.63	156	P	P	23 57 39.7 -3.4
	comp=Z,1.9nm,0.7s,baz=219,slow=8.8,SNR=1.4					
BDFB				LR	LR	00 13 42.3
	comp=Z,132nm,20.5s,baz=276,slow=39					
I40A	Norwalk	35.76	324	P	P	23 57 44.0 +0.1
	baz=129					
K39A	Oelwein	35.79	321	P	P	23 57 44.2 0.0
	baz=126					
833A	Chaparral WMA,	36.00	294	P	P	23 57 45.7 -0.5
	baz=99					
H40A	Chili	36.10	325	P	P	23 57 46.8 0.0
	baz=130					
F41A	Three Lakes	36.14	327	P	P	23 57 47.8 +0.6
	baz=133					
I39A	Houston	36.26	323	P	P	23 57 48.5 +0.3
	baz=127					
COWI	Conover	36.40	328	eP	P	23 57 49.2 -0.2
	comp=Z,12nm,1.4s					
G40A	Rib Lake	36.41	326	P	P	23 57 50.0 +0.6
	baz=131					
H39A	Augusta	36.63	324	P	P	23 57 51.4 +0.1
	baz=129					
JANB	Januaria	36.69	151	eP	P	23 57 51.6 -0.5
JCT	Junction City	36.75	298	P	P	23 57 51.7 -0.9
	baz=102,SNR=15					
F40A	Park Falls	36.79	327	P	P	23 57 52.9 +0.2
	baz=131					
G39A	Holcombe	36.95	325	P	P	23 57 54.6 +0.6
	baz=129					
WMOK	Wichita Mounta	37.02	305	P	P	23 57 53.9 -1.0
	baz=108,SNR=8.6					
E40A	Wakefield	37.03	327	P	P	23 57 55.3 +0.6
	baz=132					
KSU1	Kansas State U	37.04	313	P	P	23 57 54.6 -0.3
	baz=116					
ABTX	Abilene, Hawle	37.11	301	P	P	23 57 55.1 -0.5
	baz=105,SNR=13					
F39A	Loretta	37.21	326	P	P	23 57 56.5 +0.3
	baz=130					
E39A	Mellen	37.32	327	P	P	23 57 58.0 +0.8
	baz=131					
SCHQ	Schefferville	37.52	355	P	P	23 58 00.0 +1.3
	comp=Z,4.9nm,0.8s,baz=222,slow=12,SNR=1.9					
GO01	Chusmiza	37.54	191	eP	P	23 57 58.8 -1.0
	comp=Z,25nm,1.4s					
PB11	IPOC Station P	37.72	192	eP	P	23 58 00.8 -0.1
	comp=Z,37nm,1.5s					
F38A	Pierce - Schro	37.76	325	P	P	23 58 01.3 +0.5
	baz=129					
AQDB	Aquidauana	38.17	170	eP	P	23 58 05.1 +0.6
MCI8	Montes Claros	38.26	151	eP	P	23 58 04.5 -0.9
MCI9	Montes Claros	38.31	151	eP	P	23 58 06.0 +0.1
MCI6	Montes Claros	38.40	151	eP	P	23 58 05.8 -0.9
ITRB	Iturama	38.63	162	eP	P	23 58 08.2 -0.2
BGNE	Belgrade	39.12	315	P	P	23 58 12.9 +0.5
	baz=117					
CBKS	Cedar Bluff	39.15	311	P	P	23 58 12.8 +0.1
	baz=112					
ECSD	EROS Data Cent	39.24	319	P	P	23 58 13.4 0.0
	baz=121					
AMTX	Amarillo	39.34	304	P	P	23 58 14.4 -0.1
	baz=106					
TXAR	Lajitas Array	39.86	295	eP	P	23 58 17.9 -1.0
TXAR	Lajitas Array	39.86	295	P	P	23 58 17.8 -1.1
	comp=Z,1.8nm,0.6s,baz=111,slow=7.7,SNR=17					
TXAR				PcP	PcP	00 00 24.8 +0.2
	comp=Z,0.8nm,0.7s,baz=103,slow=5.1,SNR=3.5					
MSTX	Muleshoe	39.98	302	P	P	23 58 19.1 -0.8
	baz=104,SNR=15					
LVC	Limon Verde	40.37	190	P	P	23 58 20.5 -2.8
	comp=Z,4.7nm,1.0s,baz=5.7,slow=10,SNR=3.9					
LVC	Limon Verde	40.37	190	eP	P	23 58 24.4 +1.1
BB19B	Bebedouro	40.47	160	eP	P	23 58 23.5 -0.3
TRCB	Terra Rica	41.01	167	eP	P	23 58 28.1 -0.2
SJMB	Sao Joao De Ma	41.32	149	eP	P	23 58 29.4 -1.4
KSCO	Kaye Shedlock'	41.33	310	P	P	23 58 30.7 -0.2
	baz=110					
BSFB	Barra de Sao F	41.59	149	eP	P	23 58 32.0 -1.0
MNTX	Cornudas Mount	41.68	298	P	P	23 58 33.3 -0.4
	baz=100,SNR=13					
BSCB	Bom Sucesso	41.75	155	eP	P	23 58 33.7 -0.7
RCLB	Rio Claro- Sao	42.05	160	eP	P	23 58 36.3 -0.6
T25A	Trinidad	42.09	306	P	P	23 58 37.4 +0.1
	baz=106,SNR=18					
FRTB	Fartura	42.30	163	eP	P	23 58 37.3 -1.5
ULM	Lac du Bonnet	42.53	328	eP	P	23 58 39.8 -0.6
	comp=Z,11nm,0.6s					
ULM	Lac du Bonnet	42.53	328	eP	P	23 58 39.3 -1.0
ULM				pmax	pmax	
	comp=Z,4.0nm,1.1s					
ULM	Lac du Bonnet	42.53	328	P	P	23 58 39.6 -0.7
	comp=Z,2.8nm,0.5s,baz=133,slow=8.5,SNR=5.6					
SDCO	Great Sand Dun	43.09	307	P	P	23 58 45.6 +0.1
	baz=106,SNR=25					
ANMO	Albuquerque	43.17	303	eP	P	23 58 46.8 +0.8
	comp=Z,14nm,0.9s					
ANMO	Albuquerque	43.17	303	deP	P	23 58 46.8 +0.8
ANMO				pmax	pmax	
	comp=Z,10.0nm,1.0s					
ANMO	Albuquerque	43.17	303	P	P	23 58 46.6 +0.6
	baz=102					
TASM	ASL Pad, Albuq	43.17	303	P	P	23 58 45.9 -0.1
	baz=102,SNR=21					
TASM	ASL Pad, Albuq	43.17	303	P	P	23 58 46.1 0.0
	baz=102,SNR=20					
Y22D	IRIS PASSCAL I	43.37	301	P	P	23 58 47.6 0.0
	baz=101					
DUB01	Friburgo-RJ	43.71	153	eP	P	23 58 46.4 -3.9
CPUP	Villa Florida	43.73	174	eP	P	23 58 49.4 -0.9
	comp=Z,14nm,0.9s					
CPUP	Villa Florida	43.73	174	eP	P	23 58 49.4 -0.9
CPUP				pmax	pmax	
	comp=Z,14nm,0.9s					
CPUP	Villa Florida	43.73	174	P	P	23 58 48.9 -1.4
	comp=Z,14nm,0.9s,baz=2.3,slow=9.6,SNR=26					
CPUP				LR	LR	00 21 08.5
	comp=Z,56nm,18.7s,baz=356,slow=42					
CPUP	Villa Florida	43.73	174	eP	P	23 58 49.2 -1.1
ISCO	Idaho Springs	43.77	310	P	P	23 58 51.6 +0.6
ISCO				pmax	pmax	
	comp=Z,12nm,1.3s					
ISCO	Idaho Springs	43.77	310	P	P	23 58 51.2 +0.3
	baz=108,SNR=13					
121A	Cookes Peak, D	43.82	299	P	P	23 58 51.9 +0.6
	baz=99,SNR=6.4					
S22A	4UR Ranch, Cre	44.11	307	P	P	23 58 53.9 +0.2
	baz=105,SNR=9.7					
PHWY	Pilot Hill	44.14	312	eP	P	23 58 54.0 +0.2
	comp=Z,11nm,0.8s					
RSSD	Black Hills	44.19	316	eP	P	23 58 54.6 +0.4
	comp=Z,4.7nm,0.6s					
RSSD	Black Hills	44.19	316	eP	P	23 58 54.6 +0.4
RSSD				pmax	pmax	
	comp=Z,5.0nm,0.6s					
RSSD	Black Hills	44.19	316	P	P	23 58 54.4 +0.3
	baz=114					
N23A	Red Feather La	44.35	311	P	P	23 58 56.1 +0.5
	baz=109					
319A	Douglas	44.93	297	eP	P	23 59 00.7 +0.6
	comp=Z,19nm,0.8s					
MVCO	Mesa Verde	45.27	305	P	P	23 59 03.0 +0.1
	baz=103					
K22A	Casper	45.34	313	P	P	23 59 03.8 +0.5
	baz=110,SNR=6.0					
O20A	White River Ci	45.80	309	P	P	23 59 07.1 +0.1
	baz=106					
W18A	Petrified Fore	45.84	302	P	P	23 59 07.4 0.0
	baz=100,SNR=7.9					
PV21	Cone Mtn., Par	45.95	307	eP	P	23 59 08.4 +0.2
	comp=Z,8.0nm,1.1s					
PV10	Paradox Valley	45.95	307	eP	P	23 59 08.3 0.0
	comp=Z,14nm,1.0s					
TUC	Tucson	46.31	298	eP	P	23 59 11.9 +0.9
	comp=Z,7.4nm,0.9s					
TUC	Tucson	46.31	298	eP	P	23 59 11.9 +0.9
TUC				pmax	pmax	
	comp=Z,7.0nm,0.9s					
TUC	Tucson	46.31	298	P	P	23 59 11.5 +0.6
	baz=97					
FRB	Frobisher Bay	46.50	356	P	P	23 59 12.6 +0.8
	comp=Z,10.0nm,0.8s,baz=170,slow=7.5,SNR=7.4					
WUAZ	Wupatki	47.23	302	P	P	23 59 18.8 +0.5
	baz=99,SNR=9.8					
TER01	Tubaro-SC	47.35	165	eP	P	23 59 19.4 +0.5
PDAR	Pinedale Array	47.49	312	eP	P	23 59 20.2 -0.1
PDAR	Pinedale Array	47.49	312	P	P	23 59 20.5 +0.2
	comp=Z,7.6nm,0.9s,baz=111,slow=8.1,SNR=46					
PDAR				PcP	PcP	00 00 50.5 +0.2
	comp=Z,1.4nm,0.7s,baz=118,slow=5.2,SNR=1.9					
BW06	Boulder Array	47.49	312	P	P	23 59 20.3 0.0
	baz=107,SNR=9.2					
Q16A	Castle Valley	47.70	307	eP	P	23 59 22.8 +0.9
	comp=Z,12nm,1.2s					
214A	Organ Pipe Nat	47.98	297	P	P	23 59 23.8 -0.2
	baz=95					
RLMT	Red Lodge	48.03	316	P	P	23 59 24.6 +0.2
	baz=110,SNR=9.3					
GO04	Tololo Observa	48.08	190	eP	P	23 59 23.1 -1.8
	comp=Z,14nm,0.9s					
FFC	Flin Flon	48.19	330	eP	P	23 59 24.6 -0.5
	comp=Z,5.2nm,1.3s					
FFC	Flin Flon	48.19	330	ceP	P	23 59 25.3 +0.2
CPSB	Cacapava Do Su	48.26	170	eP	P	23 59 25.1 -0.8
KNB	Kanab	48.62	304	eP	P	23 59 28.8 -0.3
	comp=Z,8.0nm,0.9s					
KNB	Kanab	48.62	304	eP	P	23 59 28.8 -0.3
KNB				pmax	pmax	
	comp=Z,8.0nm,0.9s					
FLWY	Flagg Ranch	48.68	314	eP	P	23 59 29.7 +0.3
	comp=Z,9.8nm,1.0s					
DUG	Dugway, Tooele	49.21	308	P	P	23 59 34.1 +0.6
DUG				pmax	pmax	
	comp=Z,22nm,1.0s					
DUG	Dugway, Tooele	49.21	308	P	P	23 59 34.2 +0.6
	baz=102,SNR=15					
YHB	Horse Butte	49.22	315	eP	P	23 59 34.6 +1.1
	comp=Z,15nm,0.8s					
EGMT	Eagleton	49.36	319	eP	P	23 59 35.2 +0.9
	comp=Z,8.1nm,0.8s					
EGMT	Eagleton	49.36	319	P	P	23 59 35.3 +0.9
	baz=111					
PLTB	Pedras Altas	49.57	171	eP	P	23 59 35.6 -0.4
Y12C	Blythe	49.58	300	P	P	23 59 36.6 +0.4
	baz=96					
BOZ	Bozeman (W)	49.76	316	P	P	23 59 37.4 -0.2
	baz=108					
IRM	Iron Mountain	50.13	300	P	P	23 59 41.1 +0.6
	baz=96,SNR=7.9					
BC3	Big Chuckawall	50.34	299	P	P	23 59 42.4 +0.3
	baz=95					
MCMT	McKenzie Canyo	50.37	314	eP	P	23 59 43.4 +1.1
SHPR	Sheep Range	50.41	303	eP	P	23 59 43.0 +0.4
	comp=Z,20nm,1.8s					
GMRC	Granite Mounta	50.62	301	P	P	23 59 44.1 -0.2
	baz=96					
BELC	Belle Mtn. Jos	50.83	300	P	P	23 59 46.0 +0.1
	baz=95					
TUQ	Turquoise Moun	50.90	302	P	P	23 59 46.6 +0.3
	baz=96					
R11A	Troy Canyon, C	51.00	305	P	P	23 59 47.7 +0.5
	baz=99,SNR=7.9					
MONP2	Monument Peak	51.10	298	P	P	23 59 47.9 -0.1
	baz=94					
HLID	Hailey	51.13	312	P	P	23 59 48.7 +0.6
	baz=104,SNR=14					
HEC	Hector,Ludlow	51.17	301	P	P	23 59 49.0 +0.7
	baz=95					
TPNV	Topopah Spring	51.33	304	eP	P	23 59 50.3 +0.7
	comp=Z,9.2nm,0.9s					
TPNV	Topopah Spring	51.33	304	eP	P	23 59 50.3 +0.7
TPNV				pmax	pmax	
	comp=Z,9.0nm,0.9s					
TPNV	Topopah Spring	51.33	304	P	P	23 59 50.4 +0.8
	baz=97,SNR=6.9					
GSC	Goldstone, Bar	51.60	301	P	P	23 59 52.1 +0.6
	baz=95					
FURC	Furnace Creek,	51.77	303	P	P	23 59 53.1 +0.5
	baz=96					
GRAC	Grapevine Rang	52.23	304	P	P	23 59 56.9 +0.7
	baz=96,SNR=7.0					
MPMC	Manual Prospec	52.23	302	P	P	23 59 56.2 -0.1
	baz=96					
EDW2	Edwards Air Fo	52.54	301	P	P	23 59 58.8 +0.2
	baz=94					
CWC	Cottonwood Cre	52.74	303	P	P	23 59 59.5 -0.7
	baz=95					
NVAR	Mina Array Bea	53.13	305	P	P	00 00 03.2 +0.2
	comp=Z,2.5nm,0.6s,baz=100,slow=6.7,SNR=11					
NVAR				PcP	PcP	00 01 11.4 +0.3
	comp=Z,0.6nm,0.5s,baz=101,slow=4.9,SNR=1.9					
H10N3	ASCENSION HYDR	53.21	114	T	T	00 57 09.6
	baz=299,slow=75,SNR=1798					
H10N2	ASCENSION HYDR	53.22	114	T	T	00 57 11.6
	baz=299,slow=75,SNR=2175					
H10N1	ASCENSION HYDR	53.23	114	T	T	00 57 16.3
	baz=299,slow=75,SNR=1884					
VES	Vestal, Richgr	53.50	302	P	P	00 00 06.3 +0.8
	baz=94					
H10S3	ASCENSION HYDR	53.60	116	T	T	00 57 41.1
	baz=300,slow=75,SNR=1447					
H10S1	ASCENSION HYDR	53.61	116	T	T	00 57 41.6
	baz=300,slow=75,SNR=1344					
H10S2	ASCENSION HYDR	53.62	116	T	T	00 57 42.5
	baz=300,slow=75,SNR=1309					
NEW	Newport	54.12	317	P	P	00 00 10.1 +0.2
	baz=105					
ESDC	Sonseca Array	54.58	53	P	P	00 00 14.8 +1.4
	comp=Z,0.3nm,0.5s,baz=280,slow=7.7,SNR=3.4					
G08A	Pilot Rock	54.68	314	eP	P	00 00 14.4 +0.2
	comp=Z,3.7nm,0.8s					
CMB	Columbia Colle	54.72	305	eP	P	00 00 15.0 +0.6
	comp=Z,9.4nm,1.4s					
CMB	Columbia Colle	54.72	305	eP	P	00 00 15.0 +0.6
CMB				pmax	pmax	
	comp=Z,9.0nm,1.4s					
J05D	Fort Rock, OR	55.96	311	P	P	00 00 23.0 -0.4
	baz=98					
O03E	Paynes Creek	56.02	307	P	P	00 00 24.3 +0.4
	baz=96					
I05D	Terrebonne, OR	56.19	312	P	P	00 00 25.2 +0.3
	baz=99					
M04C	Macdoel	56.21	309	P	P	00 00 24.9 -0.3
	baz=97					
G05D	Wamic, OR	56.31	313	P	P	00 00 25.7 -0.1
	baz=99					
F05D	White Salmon	56.52	314	P	P	00 00 28.1 +0.9
	baz=100					
J04D	Umpqua Nationa	56.59	311	P	P	00 00 28.4 +0.5
	baz=97					
L04D	Klamath Falls	56.60	309	P	P	00 00 28.4 +0.4
	baz=97					
WDC	Whiskeytown Da	56.61	307	eP	P	00 00 26.5 -1.4
	comp=Z,9.8nm,1.2s					
WDC	Whiskeytown Da	56.61	307	eP	P	00 00 26.5 -1.4
WDC				pmax	pmax	
	comp=Z,10.0nm,1.2s					
DBIC	Dimbokro	56.70	93	P	P	00 00 29.1 +0.2
	comp=Z,4.3nm,0.9s,baz=277,slow=6.3,SNR=4.6					
DBIC				LR	LR	00 22 30.2
	comp=Z,40nm,20.6s,baz=241,slow=34					
O02D	Mt. Diablo Mer	56.77	307	P	P	00 00 27.9 -1.2
	baz=95					
N02D	Trinity Center	56.77	308	P	P	00 00 28.2 -0.9
	baz=96					
M02C	Callahan	56.92	308	P	P	00 00 29.5 -0.7
	baz=96					
H04D	Lebanon	57.20	312	P	P	00 00 31.8 -0.3
	baz=98					
GO06	Curarrehue	57.40	189	eP	P	00 00 32.9 -0.6
	comp=Z,42nm,1.9s					
LLLB	Lillooet	57.69	319	eP	P	00 00 36.0 +0.6
	comp=Z,7.2nm,0.9s					
YKA	Yellowknife Ar	57.81	334	eP	P	00 00 35.2 -0.8
YKA	Yellowknife Ar	57.81	334	eP	P	00 00 35.2 -0.8
YKA	Yellowknife Ar	57.81	334	P	P	00 00 35.7 -0.3
	comp=Z,1.5nm,0.7s,baz=106,slow=7.5,SNR=21					
PLCA	Paso Flores	58.41	188	P	P	00 00 39.3 -1.1
	comp=Z,5.3nm,1.0s,baz=17,slow=7.7,SNR=11					
PLCA	Paso Flores	58.41	188	eP	P	00 00 39.5 -1.0
TORD	Torodi Ar. Bea	61.34	84	P	P	00 01 01.3 +0.2
	comp=Z,1.6nm,0.9s,baz=267,slow=5.8,SNR=7.4					
TORD				LR	LR	00 23 45.1
	comp=Z,57nm,21.6s,baz=315,slow=32					
BFO	Black Forest	64.13	44	ceP	P	00 01 22.9 +3.7
KEST	Kesra	65.06	58	P	P	00 01 26.0 +0.4
	comp=Z,5.4nm,1.1s,baz=238,slow=13,SNR=1.9					
FETA	Feichten	65.72	46	eP	P	00 01 37.1 +7.3
	comp=Z,6.1nm,1.1s					
MOTA	Moosalm	65.98	45	eP	P	00 01 39.1 +7.7
	comp=Z,5.2nm,1.1s					
SQTA	Sankt Quirin	66.05	46	epP	P	00 01 37.7 +5.9
	comp=Z,4.0nm,0.9s					
NB2	NORSAR Subarra	66.78	30	P	P	00 01 34.8 -1.3
	comp=Z,5.5nm,1.1s,baz=262,slow=6.9					
NOA	NORSAR Array B	66.78	30	P	P	00 01 35.1 -1.0
	comp=Z,0.5nm,0.7s,baz=266,slow=6.6,SNR=2.6					
NOA				LR	LR	00 28 44.4
	comp=Z,33nm,18.2s,baz=205,slow=34					
ABTA	Abfaltersbach	66.94	46	epP	P	00 01 44.1 +6.5
	comp=Z,5.4nm,1.1s					
INK	Inuvik	67.12	337	eP	P	00 01 38.0 -0.1
	comp=Z,11nm,1.1s					
INK	Inuvik	67.12	337	eP	P	00 01 38.0 -0.1
INK				pmax	pmax	
	comp=Z,11nm,1.1s					
CLL	Collm	67.23	41	iP	P	00 01 41.2 +2.1
CLL				pmax	pmax	
	comp=Z,24nm,2.2s					
CLL	Collm	67.23	41	iP	P	00 01 41.2 +2.1
	comp=Z,24nm,2.2s					
KBA	Koelnbreinsper	67.51	46	epP	P	00 01 44.5 +3.3
	comp=Z,5.3nm,1.4s					
GERES	GERESS Array B	67.70	44	P	P	00 01 43.0 +0.7
	comp=Z,0.4nm,0.7s,baz=283,slow=6.6,SNR=3.7					
GERES				LR	LR	00 26 55.9
	comp=Z,106nm,21.6s,baz=257,slow=32					
MYKA	Terra Mystica	67.73	46	P	P	00 01 50.1 +7.7
	comp=Z,3.3nm,1.0s					
EPYK	Eagle Plains	68.05	335	P	P	00 01 43.0 -1.1
	baz=97					
MOA	Molln	68.11	45	epP	P	00 01 51.1 +6.3
	comp=Z,2.8nm,0.9s					
SOKA	Soboth	68.68	46	epP	P	00 01 53.3 +4.9
	comp=Z,4.2nm,1.2s					
EFI	East Falkland	68.89	177	iP	P	00 01 49.7 +0.4
EFI				pmax	pmax	
	comp=Z,15nm,0.8s					
ARSA	Arzberg	68.98	45	epP	P	00 01 53.4 +3.1
	comp=Z,2.4nm,1.2s					
CONA	Conrad Observa	69.18	45	epP	P

SMOL	Smolenice	70.19	44	eP	P	00 01 58.4	+0.8
TIH	Tihany	70.63	46	eP	P	00 02 00.1	-0.3
SRO	Srobarova	70.83	45	eP	P	00 02 01.0	-0.5
SRO	Srobarova	70.83	45	eP	P	00 02 01.0	-0.5
CSKK	Cskako	70.83	45	eP	P	00 02 03.0	+1.4
SRO2	Moca	70.89	45	eP	P	00 02 00.6	-1.3
SRO2	Moca	70.89	45	eP	P	00 02 00.6	-1.3
VYHS	Vyhne	71.12	44	eP	P	00 01 50.8	-13
VYHS				e		00 01 55.4	
ILAR	Eielson Array	72.22	333	eP	P	00 02 09.4	-0.3
ILAR	Eielson Array	72.22	333	eP	P	00 02 09.4	-0.3
ILAR	Eielson Array	72.22	333	P	P	00 02 09.7	+0.1
	comp=Z,2.7nm,0.9s,baz=128,slow=5.6,SNR=13						
ILB	Eielson Array	72.22	333	eP	P	00 02 10.3	+0.7
	comp=Z,10nm,1.3s						
COLA	College	72.63	334	iP	P	00 02 12.2	+0.2
COLA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	ARCESS Array B	72.94	22	P	P	00 02 14.1	+0.2
	comp=Z,3.1nm,1.0s,baz=267,slow=5.4,SNR=3.3						
TOLK	Toolik Lake Re	73.04	338	eP	P	00 02 15.4	+0.9
	comp=Z,4.7nm,0.7s						
KNK	Knik Glacier	73.19	330	eP	P	00 02 15.0	-0.5
	comp=Z,79nm,1.8s						
MCK	McKinley	73.19	332	eP	P	00 02 15.3	-0.2
	comp=Z,15nm,1.3s						
MCK	McKinley	73.19	332	eP	P	00 02 15.3	-0.2
MCK				pmax	pmax		
	comp=Z,15nm,1.3s						
BZS	Buzias	73.34	47⇑	iP	P	00 02 19.4	+2.8
BZS	Buzias	73.34	47	⇑P	P	00 02 19.4	+2.8
BWN	Browne	73.38	333	eP	P	00 02 17.1	+0.6
	comp=Z,68nm,1.7s						
TRPA	Tarpa	73.62	44⇑	iP	P	00 02 20.8	+2.6
MLY	Manley	73.84	334	eP	P	00 02 19.5	+0.2
	comp=Z,8.4nm,1.1s						
DRGR		73.92	45⇑	iP	P	00 02 22.3	+2.2
DRGR		73.92	45	⇑P	P	00 02 22.3	+2.2
FINES	FINESS Array B	73.94	30	eP	P	00 02 23.6	+3.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	73.94	30	P	P	00 02 21.0	+1.1
	comp=Z,1.7nm,0.6s,baz=242,slow=4.1,SNR=10						
BPAW	Bear Paw Mtn.	74.06	333	eP	P	00 02 20.6	+0.1
	comp=Z,12nm,1.0s						
GZR	Gura Zlata	74.18	47⇑	iP	P	00 02 28.0	+6.4
IMAR	Indian Mountai	74.96	335	eP	P	00 02 25.7	0.0
VTS	Vitosha	74.96	50	eP	P	00 02 27.1	+0.8
	comp=Z,2.3nm,1.0s						
VTS	Vitosha	74.96	50⇓	iP	P	00 02 33.6	+7.3
VTS	Vitosha	74.96	50	eP	P	00 02 27.2	+0.8
VTS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
RSO	Redoubt South	75.39	329	eP	P	00 02 29.0	+0.5
BUR08	Bucovina Ar. S	75.46	44	eP	P	00 02 28.9	-0.2
	comp=Z,5.2nm,1.0s						
ARR	Arges	75.47	47⇓	iP	P	00 02 32.4	+3.3
BURAR	Bucovina Array	75.48	44	eP	P	00 02 29.7	+0.5
BURAR	Bucovina Array	75.48	44⇑	iP	P	00 02 32.1	+2.9
BURAR	Bucovina Array	75.48	44	eP	P	00 02 29.7	+0.5
VOIR		75.75	47⇑	iP	P	00 02 33.6	+2.9
VOIR		75.75	47	⇑P	P	00 02 33.6	+2.9
DOPR	Dopca	75.89	46⇑	iP	P	00 02 33.7	+2.3
BIZ	Bicaz	76.19	45⇑	iP	P	00 02 36.1	+2.9
MLR	Muntele Rosu	76.36	46	eP	P	00 02 35.9	+1.6
	comp=Z,9.8nm,0.9s						
MLR	Muntele Rosu	76.36	46⇓	iP	P	00 02 38.1	+3.8
MLR	Muntele Rosu	76.36	46	eP	P	00 02 35.9	+1.6
MLR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TESR	Tescani	76.64	45⇑	iP	P	00 02 38.1	+2.4
PLOR	Plostina	76.77	46⇓	iP	P	00 02 45.1	+8.6
PLOR	Plostina	76.77	46	⇓P	P	00 02 45.1	+8.6
VRI	Vrincioaia	76.82	46⇓	iP	P	00 02 48.7	+12
VRI	Vrincioaia	76.82	46	⇓P	P	00 02 48.7	+12
AKASG	Malin Array Be	77.47	41	P	P	00 02 40.9	+0.6
	comp=Z,0.2nm,0.2s,baz=285,slow=4.5,SNR=2.6						
TLB	Topalu	78.00	47⇑	iP	P	00 02 44.6	+1.3
TLB	Topalu	78.00	47	⇑P	P	00 02 44.6	+1.3
OBN	Obninsk	80.67	35	iP	P	00 02 58.6	+1.0
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PRGR	Permogore	82.90	27	eP	P	00 03 10.0	+0.7
PRGR				pmax	pmax		
	comp=Z,12nm,1.1s						
BR131	Keskin Array S	83.26	51	eP	P	00 03 12.5	+0.7
	comp=Z,3.3nm,1.1s						
BR131	Keskin Array S	83.26	51	eP	P	00 03 12.5	+0.7
BR131				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRTR	Keskin Array B	83.26	51	eP	P	00 03 14.4	+2.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	83.26	51	P	P	00 03 13.4	+1.5
	comp=Z,0.7nm,0.7s,baz=270,slow=3.3,SNR=6.3						
BILL	Bilibino	87.90	344	iP	P	00 03 33.9	-0.2
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KIV	Kislovodsk	88.21	44	eP	P	00 03 37.0	+0.8
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
KBZ	Khabaz	88.44	44	P	P	00 03 38.1	+1.0
	comp=Z,0.6nm,0.6s,baz=249,slow=8.6,SNR=1.7						
TIXI	Tiksi	90.84	357	iP	P	00 03 49.8	+2.0
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GNI	Garni	91.11	47	iP	P	00 03 50.4	+0.4
GNI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KSH	Kashi	111.08	34	PKP	PKiKP	00 09 16.0	-2.8
KSH				sPKP		00 09 29.0	
KSH				PP	PP	00 09 58.3	+1.5
KSH				SKS	SKSdf	00 16 22.6	-6.9
KSH				LR	LR		
	comp=Z,220nm,7.5s						
WMQ	Urumqi	113.02	23	ePKP	PKiKP	00 09 22.8	+0.5
HHC	Hu-ho-hao-te	121.71	6	ePKP	PKPdf	00 09 36.1	-3.0
HHC				LR	LR		
	comp=Z,440nm,19.1s						
CD2	Chengdu	130.02	16	PKP	PKPdf	00 09 53.5	-1.7
NJ2	Nanjing	130.80	359	ePKP	PKPdf	00 09 56.5	-0.1
WHN	Wuhan	132.18	4	ePKP	PKPdf	00 09 59.4	+0.2
ASAR	Alice Springs	163.88	245	PKP	PKPdf	00 10 48.9	+0.2
	comp=Z,0.4nm,0.8s,baz=107,slow=1.1,SNR=3.7						
ASAR				PKPab	PKPab	00 11 40.9	-0.6
	comp=Z,0.5nm,0.7s,baz=116,slow=4.1,SNR=6.2						
WRA	Warramunga Arr	164.33	258	PKP	PKPdf	00 10 49.6	+0.4
	comp=Z,0.5nm,0.8s,baz=107,slow=0.9,SNR=3.4						
WRA				PKPab	PKPab	00 11 41.9	-1.6
	comp=Z,0.8nm,1.1s,baz=93,slow=4.1,SNR=2.9						

*IDC **18** 23:53:15.7±1.3, 58.°47S×25.°36W, h0km, mb3.6/2, mb1 3.7/2, mb1mx3.5/22, mbtmp3.6/2, Error ellipse: s-maj=106.8km s-min=35.0km az=101.0*

ISC 18 23:53:20.9±1.2, 58.°7S±0.°2×24.°5W±0.°4, h35km, n8, σ1§01/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.81	157	P	Pn	23 56 33.6	-0.1
VNA3	Neumayer Olymp	14.03	160	P	Pn	23 56 35.9	-0.8
VNA2	Neumayer--Watz	14.20	157	P	Pn	23 56 38.6	-0.6
	baz=320,slow=15						
SNAA	Sanae	15.74	155	P	Pn	23 56 59.6	-0.1
VNDA	Vanda	44.02	182	P	P	00 01 25.5	+1.3
	0.4nm,0.7s,baz=184,slow=5.7,SNR=4.6						
TORD	Torodi Ar. Bea	74.67	26	P	P	00 04 57.1	+0.6
	0.3nm,0.3s,baz=193,slow=7.3,SNR=7.5						
YKA	Yellowknife Ar	139.09	315	PKP	PKPdf	00 12 40.9	-1.3
	0.2nm,0.4s,baz=127,slow=2.1,SNR=3.2						
ILAR	Eielson Array	152.93	307	PKPbc	PKPbc	00 13 12.1	-0.6
	0.8nm,0.7s,baz=117,slow=3.1,SNR=8.6						

ROM 19 00:00:35.5±0.1, 40.°285N±0.°005×15.°456E±0.°007, h11km, ML0.8/2, Error ellipse: s-maj=0.8km s-min=0.4km az=228.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMPR	Campora	0.12	286	P	Pg	00 00 39.2	+0.6
CMPR				S	Sg	00 00 41.5	+0.7
CMPR				AML	AML		
	comp=E,71μm,0.2s						
CMPR				AML	AML		
	comp=N,115μm,0.3s						
CMPR				AML	AML		
	comp=N,115μm,0.3s						
CMPR				AML	AML		
	comp=E,71μm,0.2s						
CMPR	Campora	0.12	286	P	Pb	00 00 39.3	-0.6
CMPR	Campora	0.12	286	S	Sg	00 00 41.5	+0.7
MGR	Morigerati	0.17	153	P	Pg	00 00 39.8	+0.6
MGR				S	Sg	00 00 42.7	+0.9
MGR	Morigerati	0.17	153	P	Pb	00 00 39.9	-0.7
MGR	Morigerati	0.17	153	S	Sg	00 00 42.6	+0.8
SLCN	Sala Consilina	0.17	52	P	Pg	00 00 39.8	+0.5
SLCN	Sala Consilina	0.17	52	P	Pg	00 00 40.0	+0.6
SLCN	Sala Consilina	0.17	52	P	Pb	00 00 40.1	-0.7
CDRU	Civita di Ruta	0.23	331	P	Pg	00 00 39.3	-1.2
CDRU	Civita di Ruta	0.23	331	P	Pg	00 00 40.8	+0.3
CDRU				S	Sg	00 00 44.8	+1.0
CDRU				AML	AML		
	comp=E,32μm,0.2s						
CDRU				AML	AML		
	comp=N,17μm,0.6s						
CDRU				AML	AML		
	comp=E,32μm,0.2s						
CDRU				AML	AML		
	comp=N,17μm,0.6s						
CDRU	Civita di Ruta	0.23	331	P	Pg	00 00 40.8	+0.4
CDRU	Civita di Ruta	0.23	331	S	Sg	00 00 44.3	+0.5
MCRV	Calabrutti - M	0.54	336	P	Pg	00 00 40.3	-5.9
MCRV	Calabrutti - M	0.54	336	S	Sn	00 01 03.0	+4.5

*NIED **19** 00:20:00, 24.°30N×121.°60E, h56km, Mw3.9 Best double couple: M07.13000×10^14 NP1:φ=33.00000°, δ30.00000°, λ42.00000°. NP2:φ=265.00000°, δ70.00000°, λ113.00000°.*
*JMA **19** 00:20:28.8±0.2, 24.°34N×121.°63E, h64km±2km, M3.9*
*BJI **19** 00:20:28.3±0.0, 24.°50N×121.°50E, h10km, ML3.9/7*
*TAP **19** 00:20:29.6, 24.°37N×121.°66E, h59km, ML4.4, B*
*ISCJB **19** 00:20:29.4±0.2, 24.°40N±0.°01×121.°69E±0.°02, h63km±2km, Error ellipse: s-maj=2.8km s-min=1.9km az=42.7*
*ASIES **19** 00:20:30.7, 24.°45N×121.°69E, h52km, MW3.5*

ISC 19 00:20:30.0±1.2, 24.°40N±0.°02×121.°67E±0.°02, h59km±4km, n116, σ0§87/190, 31C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.07	66	⇑P	Pn	00 20 38.6	-0.3
	baz=54						
ENA				eS	Sn	00 20 45.2	-0.1
	baz=54						
NANB	Nanao	0.08	69	⇑P	Pn	00 20 38.6	-0.3
	baz=54						
NANB				S	Sn	00 20 45.2	-0.1
	baz=54						
NACB	Ninganchiao	0.23	197	⇑P	Pn	00 20 38.7	-0.9
	baz=188						
NACB				S	Sn	00 20 45.1	-1.4
	baz=188						
NDT	Datong Townshi	0.25	325	⇑iP	Pn	00 20 40.0	+0.3
	baz=321						
NDT				S	Sn	00 20 47.1	+0.4
	baz=321						
ETLH	Xiulin Townshi	0.26	222	eP	Pn	00 20 39.4	-0.5
	baz=231						
ETLH				eS	Sn	00 20 46.0	-0.9
	baz=231						
ENTT	Nioudou	0.26	339	⇑iP	Pn	00 20 40.0	+0.2
	baz=348						
ENTT				S	Sn	00 20 47.1	+0.3
	baz=348						
NNSB	Datong	0.26	277	⇑P	Pn	00 20 40.0	0.0
	baz=283						
NNSB				S	Sn	00 20 47.0	-0.1
	baz=283						
TWC	Suao	0.27	38	⇑iP	Pn	00 20 40.0	+0.2
	baz=32						
TWC				eS	Sn	00 20 47.2	+0.3
	baz=32						
NNS	Nan Shan	0.27	279	⇑iP	Pn	00 20 40.1	+0.1
	baz=285						
NNS				S	Sn	00 20 47.2	0.0
	baz=285						
TWE	Neicheng	0.32	360	⇑iP	Pn	00 20 40.5	+0.3
	baz=3.0						
TWE				S	Sn	00 20 48.3	+0.7
	baz=3.0						
TWD	Chiawan	0.32	192	⇓P	Pn	00 20 39.3	-0.9
	baz=195						
TWD				S	Sn	00 20 46.0	-1.6
	baz=195						
ILA	Ilan	0.37	11	⇑P	Pn	00 20 41.1	+0.5
	baz=8.0						
ILA				S	Sn	00 20 49.5	+1.2
	baz=8.0						
YHNB	Yeheng	0.38	315	⇓P	Pn	00 20 40.9	+0.1
	baz=319						
YHNB				S	Sn	00 20 48.2	-0.4
	baz=319						
NSK	Sanguang	0.40	314	⇓iP	Pn	00 20 40.9	0.0
	baz=318						
NSK				S	Sn	00 20 48.6	-0.3
	baz=318						
HWA	Hwalien	0.42	188	eP	Pn	00 20 40.5	-0.6
	baz=195						
HWA				eS	Sn	00 20 49.0	-0.2
	baz=195						
EOS1	EOS1	0.45	70	P	Pn	00 20 42.2	+0.9
	baz=67						
EOS1				eS	Sn	00 20 52.7	+3.2
	baz=67						
WHF	Hehuan Shan	0.45	236	⇑iP	Pn	00 20 41.8	-0.1
	baz=234						
WHF				S	Sn	00 20 49.7	-0.6
	baz=234						
NTC	Toucheng	0.48	18	P	Pn	00 20 42.3	+0.6
	baz=9.0						
NTC				eS	Sn	00 20 51.3	+1.2
	baz=9.0						
ENLB	Shoufeng	0.50	187	P	Pn	00 20 41.2	-0.7
	baz=195						
ENLB				S	Sn	00 20 50.0	-0.5
	baz=195						
EGS		0.51	28	⇑iP	Pn	00 20 42.9	+0.9
	baz=28						
EGS				eS	Sn	00 20 53.2	+2.5
	baz=28						
CHGB	Renai	0.56	233	⇑P	Pn	00 20 43.0	+0.2
	baz=236						
CHGB				eS	Sn	00 20 51.5	-0.6
	baz=236						
NHDH	Xindian Distri	0.58	347	⇓P	Pn	00 20 42.9	+0.1
	baz=348						
NHDH				S	Sn	00 20 52.3	+0.3
	baz=348						
TWA	Mucha	0.58	352	⇑P	Pn	00 20 43.0	+0.1
	baz=354						
TWA				eS	Sn	00 20 52.2	0.0
	baz=354						
TIPB	Shuangxi	0.59	14	⇑iP	Pn	00 20 43.3	+0.3
	baz=4.0						
TIPB				S	Sn	00 20 52.8	+0.5
	baz=4.0						
TATO	Taipei	0.60	344	⇑P	Pn	00 20 43.0	0.0
	baz=355						
TATO				S	Sn	00 20 52.3	-0.2
	baz=355						
ESL	Shilin	0.62	200	eP	Pn	00 20 41.7	-1.6
	baz=195						
OWD	Renai	0.63	226	eP	Pn	00 20 43.5	-0.1
	baz=225						
OWD				eS	Sn	00 20 53.1	-0.3
	baz=225						
LIOB	Emei	0.64	293	⇓P	Pn	00 20 43.7	+0.2
	baz=295						
NSTT	Nanjuang	0.65	291	eP	Pn	00 20 43.4	-0.2
	baz=294						
NSTT				eS	Sn	00 20 53.7	+0.1
	baz=294						
TAP	Taipei	0.66	347	eP	Pn	00 20 43.7	+0.1
	baz=348						
TAP				eS	Sn	00 20 53.7	+0.1
	baz=348						
WHP	Taichung City	0.67	260	P	Pn	00 20 44.8	+0.9
	baz=263						
WHP				eS	Sn	00 20 55.3	+1.1
	baz=263						
TWB1	Santiao Chiao	0.67	26	⇓P	Pn	00 20 44.6	+0.7
	baz=16						
TWB1				eS	Sn	00 20 54.7	+0.7
	baz=16						
NWF	Wu-fen Shan	0.68	9	⇑iP	Pn	00 20 44.3	+0.2
	baz=357						
NWF				S	Sn	00 20 54.3	0.0
	baz=357						
WFSB	Wu-fen Shan	0.68	9	⇑P	Pn	00 20 44.3	+0.3
	baz=357						
WFSB				S	Sn	00 20 54.4	+0.3
	baz=357						
NCUH	Zhongli	0.72	322	P	Pn	00 20 44.5	+0.1
	baz=324						
NCUH				eS	Sn	00 20 55.5	+0.5
	baz=324						
NCU	National Centr	0.72	323	⇓P	Pn	00 20 44.6	+0.1
	baz=324						
NCU				S	Sn	00 20 55.3	+0.3
	baz=324						
SBCB	Hsinchu	0.73	302	P	Pn	00 20 44.8	+0.2
	baz=315						
SBCB				eS	Sn	00 20 55.9	+0.5
	baz=315						
TWS1	Kuangyinshan	0.73	342	⇓iP	Pn	00 20 44.8	+0.1
	baz=351						
TWS1				eS	Sn	00 20 56.1	+0.7
	baz=351						
YM01	YM01	0.75	353	⇑iP	Pn	00 20 44.7	-0.2
	baz=345						
YM01				S	Sn	00 20 55.5	-0.3
	baz=345						
HSN	Hsinchu	0.75	302	eP	Pn	00 20 44.3	-0.5
	baz=319						
HSN				S	Sn	00 20 55.8	0.0
	baz=319						
EGFH	Guangfu	0.76	197	eP	Pn	00 20 44.0	-0.9
	baz=197						
YM10	YM10	0.76	353	P	Pn	00 20 44.9	-0.2
	baz=353						
YM10				S	Sn	00 20 55.5	-0.5
	baz=353						
YM11	YM11	0.77	354	⇑P	Pn	00 20 44.9	-0.3
	baz=345						
YM11				eS	Sn	00 20 55.6	-0.7
	baz=345						
YM07	YM07	0.78	357	⇑P	Pn	00 20 44.9	-0.3
	baz=357						
YM07				eS	Sn	00 20 55.7	-0.6
	baz=357						
NTST	Danshui	0.79	345	eP	Pn	00 20 45.5	+0.2
	baz=355						
NTST				eS	Sn	00 20 57.4	+0.8
	baz=355						
YM08	YM08	0.79	355	⇑P	Pn	00 20 44.9	-0.5
	baz=347						
YM08				S	Sn	00 20 55.5	-1.1
	baz=347						
VWDT	VWDT	0.80	217	⇑P	Pn	00 20 45.5	0.0
	baz=213						
VWDT				S	Sn	00 20 57.0	+0.1
	baz=213						
NMLH	Miaoli	0.81	280	⇓P	Pn	00 20 45.9	+0.3
	baz=282						
NMLH				S	Sn	00 20 57.6	+0.6
	baz=282						
NSY	Sanyi	0.83	271	eP	Pn	00 20 46.2	+0.4
	baz=273						
SMLT	Sun Moon Lake	0.87	234	P	Pn	00 20 47.0	+0.5
	baz=235						
SMLT				S	Sn	00 20 59.7	+1.2
	baz=235						
TWY	Chenhua	0.88	356	P	Pn	00 20 46.5	+0.1
	baz=347						
TWY				eS	Sn	00 20 58.7	+0.2
	baz=347						
SSLB	Suanglung	0.89	227	P	Pn	00 20 46.6	0.0
	baz=232						
SSLB				eS	Sn	00 21 00.1	+1.1
	baz=232						
HGSD	Ruisui	0.93	194	eP	Pn	00 20 46.4	-0.7
	baz=202						
HGSD				eS	Sn	00 20 59.6	-0.2
	baz=202						
TCU	Taichung	0.94	255	eP	Pn	00 20 47.0	-0.2
	baz=257						
TCU				eS	Sn	00 21 00.5	+0.6
	baz=257						
WDJ	Dajia District	0.94	267	eP	Pn	00 20 47.8	+0.6
	baz=269						
EHY	Hungye	0.94	200	eP	Pn	00 20 46.5	-0.8
	baz=192						
WHYT	Xinyi Township	1.02	227	P	Pn	00 20 49.1	+0.8
	baz=237						
WHYT				eS	Sn	00 21 03.9	+2.0
	baz=237						
WNT	Mingjian	1.04	240	⇑eP	Pn	00 20 49.0	+0.5
	baz=253						
YULB	Yu-li	1.06	199	eP	Pn	00 20 46.8	-2.0
	baz=195						
WCHH	Zhanghua	1.06	253	P	Pn	00 20 48.7	-0.1
	baz=255						
WCHH				eS	Sn	00 21 03.4	+0.6
	baz=255						
TWF1	Yuli	1.10	198	eP	Pn	00 20 47.3	-2.0
	baz=198						
YUS	Yu-Shan	1.12	216	⇑P	Pn	00 20 50.0	-0.1
	baz=209						
YUS				S	Sn	00 21 05.2	+0.4
	baz=209						
JYNG	Yonagunijimaku	1.17	87	P	Pn	00 20 50.1	-0.1
JYNG				S	Sn	00 21 05.1	-0.1
CHN5	Tsauling	1.21	229	P	Pn	00 20 51.4	+0.5
	baz=240						
CHN5				eS	Sn	00 21 07.2	+0.8
	baz=240						
YOJ	Yonaguni jima	1.23	87	⇓P	Pn	00 20 50.9	-0.2
	baz=75						
YOJ				S	Sn	00 21 06.3	-0.4
	baz=75						
YOJ	Yonaguni jima	1.23	87	P	Pn	00 20 50.8	-0.2
YOJ				S	Sn	00 21 06.3	-0.4
WGK	Gukeng	1.23	235	eP	Pn	00 20 51.5	+0.4
	baz=247						
WGK				eS	Sn	00 21 08.5	+1.6
	baz=247						
WDLH	Douliu	1.25	236	⇑eP	Pn	00 20 51.8	+0.5
	baz=248						
PCYT	Pengchaiyu	1.28	17	⇑P	Pn	00 20 51.6	-0.1
	baz=6.0						
PCYT				eS	Sn	00 21 07.7	-0.3
	baz=6.0						
RLNB	Erlin	1.30	247	⇑P	Pn	00 20 52.0	0.0
	baz=259						
RLNB				eS	Sn	00 21 08.7	+0.4
	baz=259						
CHKT	Chengkung	1.32	192	eP	Pn	00 20 52.1	-0.2
	baz=192						
ELDTW	Lidau	1.34	206	eP	Pn	00 20 51.9	-0.8
	baz=200						
WTCT	Ta-ch'eng	1.38	248	eP	Pn	00 20 52.6	-0.4
	baz=259						
WTCT				eS	Sn	00 21 10.1	-0.1
	baz=259						
CHN4	Tsaushan	1.43	224	eP	Pn	00 20 54.4	+0.6
	baz=225						
CHN4				eS	Sn	00 21 14.2	+2.5
	baz=225						
CHY	Chiayi	1.45	232	P	Pn	00 20 54.3	+0.3
	baz=245						
CHY				eS	Sn	00 21 13.5	+1.4
	baz=245						
STYT	Tauyuan	1.49	214	eP	Pn	00 20 54.8	+0.2
	baz=207						
STYT				eS	Sn	00 21 13.6	+0.6
	baz=207						
WTP	Ta-pu	1.50	220	⇑P	Pn	00 20 55.0	+0.2
	baz=233						
WTP				eS	Sn	00 21 15.1	+1.8
	baz=233						
WSF	Szhu	1.52	241	P	Pn	00 20 54.8	-0.2
	baz=242						
WSF				eS	Sn	00 21 14.2	+0.4
	baz=242						
WLGB	Puzi	1.55	234	eP	Pn	00 20 55.2	-0.2
	baz=236						
TWK	Hsinying	1.56	224	⇑iP	Pn	00 20 55.8	+0.2

	baz=225								
TWK					*e*S		**Sn**	**00 21 17.4**	**+2.5**
	baz=225								
SNST	**Tainan City**	**1.59**	**223**		*e*P		**Pn**	**00 20 56.4**	**+0.5**
	baz=236								
CHN1	**Nanshi**	**1.60**	**221**		*e*P		**Pn**	**00 20 56.4**	**+0.3**
	baz=234								
SGST	**Jiashian**	**1.65**	**217**		*e*P		**Pn**	**00 20 57.2**	**+0.5**
	baz=231								
TWG	**Pinlang**	**1.66**	**199**		*e*P		**Pn**	**00 20 55.5**	**-1.5**
	baz=190								
TWGBT	**Beinan**	**1.66**	**199**		*e*P		**Pn**	**00 20 55.5**	**-1.5**
	baz=190								
SLGT	**Liugui**	**1.68**	**214**		*e*P		**Pn**	**00 20 57.9**	**+0.7**
	baz=215								
CHN8	**Yiju**	**1.70**	**232**		*e*P		**Pn**	**00 20 57.1**	**-0.3**
	baz=245								
TTN	**Taitung**	**1.71**	**196**		*e*P		**Pn**	**00 20 58.5**	**+1.0**
	baz=188								
SCLT	**Jiali**	**1.82**	**228**		*e*P		**Pn**	**00 20 58.5**	**-0.5**
	baz=230								
IRIF	**Iriomote-Funau**	**1.88**	**92**		P		**Pn**	**00 20 59.3**	**-0.5**
IRIF					S		**Sn**	**00 21 21.6**	**-0.9**
SSD	**Sandimen**	**1.90**	**210**	⇑	P		**Pn**	**00 21 00.9**	**+0.8**
	baz=211								
ECL	**Taimali**	**1.91**	**200**		*e*P		**Pn**	**00 21 01.6**	**+1.4**
	baz=193								
TWM1	**Shoushan**	**1.94**	**216**		*e*P		**Pn**	**00 21 03.6**	**+2.9**
	baz=217								
HATJ	**Hateruma jima**	**1.98**	**99**		P		**Pn**	**00 21 01.6**	**+0.4**
HATJ					S		**Sn**	**00 21 25.2**	**+0.3**
MASBT	**Mashibuluo**	**2.02**	**208**		*e*P		**Pn**	**00 21 02.3**	**+0.6**
	baz=221								
PNG	**Penghu**	**2.10**	**247**		*e*P		**Pn**	**00 21 01.2**	**-1.6**
	baz=249								
VWUC	**VWUC**	**2.10**	**287**	⇓	*e*P		**Pn**	**00 21 01.8**	**-1.1**
	baz=288								
PHUB	**P'eng-hu**	**2.11**	**246**		P		**Pn**	**00 21 01.6**	**-1.4**
	baz=247								
JKRS	**Kuro-shima**	**2.14**	**94**		P		**Pn**	**00 21 03.5**	**+0.1**
JKRS					S		**Sn**	**00 21 29.0**	**+0.2**
TAW	**Tawu**	**2.15**	**199**		*e*P		**Pn**	**00 21 03.4**	**-0.2**
	baz=191								
SSPT	**Xinbi**	**2.16**	**208**		*e*P		**Pn**	**00 21 05.4**	**+1.8**
	baz=209								
WDGT	**Dungji**	**2.16**	**239**		*e*P		**Pn**	**00 21 03.0**	**-0.6**
	baz=240								
SCZT	**Fangliau**	**2.23**	**206**		*e*P		**Pn**	**00 21 05.4**	**+0.8**
	baz=218								
JIJ	**Ishigaki jima**	**2.26**	**90**		P		**Pn**	**00 21 04.2**	**-0.8**
JIJ					S		**Sn**	**00 21 30.5**	**-1.2**
MATB	**Ma-tsu**	**2.34**	**319**		*e*P		**Pn**	**00 21 05.0**	**-1.1**
	baz=318								
VCHM	**Qimei**	**2.37**	**240**		*e*P		**Pn**	**00 21 05.2**	**-1.3**
	baz=242								
JISG	**Ishigakijimahi**	**2.42**	**85**		P		**Pn**	**00 21 06.5**	**-0.6**
JISG					S		**Sn**	**00 21 35.0**	**-0.5**
TWK1	**Hengchun**	**2.57**	**198**		*e*P		**Pn**	**00 21 09.9**	**+0.7**
	baz=190								
TWKBT	**Hengchun**	**2.57**	**198**		*e*P		**Pn**	**00 21 10.2**	**+0.9**
	baz=190								
TSEB	**Hengchuen, Pin**	**2.58**	**196**		*e*P		**Pn**	**00 21 10.2**	**+0.7**
	baz=190								
JTJ	**Tarama**	**2.77**	**84**		P		**Pn**	**00 21 12.2**	**+0.2**
JTJ					S		**Sn**	**00 21 44.0**	**-0.3**
QZH	**Quanzhou**	**2.85**	**282**	⇓	*i*Pn		**Pn**	**00 21 11.9**	**-1.2**
QZH					Sn		**Sn**	**00 21 42.8**	**-3.4**
QZH					smax		smax		
	comp=N,230nm,0.4s								
QZH					smax		smax		
	comp=E,170nm,0.4s								
KNM	**Kinmen**	**2.95**	**271**		*e*P		**Pn**	**00 21 15.0**	**+0.6**
	baz=272								
KNMB	**Chin-men Tao**	**2.99**	**272**		*e*P		**Pn**	**00 21 13.6**	**-1.4**
	baz=273								
JIRB	**Irabujima**	**3.22**	**82**		P		**Pn**	**00 21 18.6**	**+0.5**
JMJ	**Miyako jima 2**	**3.33**	**82**		*e*P		**Pn**	**00 21 19.9**	**+0.3**
	baz=82								

TAP 19 00:27:17.3, 21°.99N×120°.33E, h44km, ML3.7, 4C, C, Taiwan region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.35**	**5**		*i*P	Pn	00 27 27.4	+0.9
	baz=358							
TWP					S	Sn	00 27 35.7	+2.8
	baz=358							
WLCH	**Liuqiu**	**0.36**	**7**		*i*P	Pn	00 27 27.3	+0.8
	baz=360							
WLCH					*e*S	Sn	00 27 35.9	+2.9
	baz=360							
HEN	**Hengchun**	**0.38**	**88**		*i*P	Pn	00 27 27.2	+0.5
	baz=89							
HEN					*i*S	Sn	00 27 35.3	+2.0
	baz=89							
TWK1	**Hengchun**	**0.44**	**96**	⇑	*i*P	Pn	00 27 28.0	+0.5
	baz=97							
TWK1					*i*S	Sn	00 27 36.7	+2.0
	baz=97							
TWKBT	**Hengchun**	**0.45**	**97**	⇑	*i*P	Pn	00 27 27.9	+0.4
	baz=97							
TWKBT					S	Sn	00 27 36.3	+1.5
	baz=97							
SCZT	**Fangliau**	**0.46**	**35**	⇑	*i*P	Pn	00 27 27.8	0.0
	baz=36							
SCZT					*i*S	Sn	00 27 36.1	+1.0
	baz=36							
SSPT	**Xinbi**	**0.53**	**24**		*i*P	Pn	00 27 29.1	+0.4
	baz=35							
SSPT					S	Sn	00 27 38.7	+2.0
	baz=35							
TSEB	**Hengchuen, Pin**	**0.54**	**100**		*i*P	Pn	00 27 28.8	+0.1
	baz=101							
TSEB					S	Sn	00 27 37.9	+1.2
	baz=101							
KAU	**Kaohsiung**	**0.57**	**358**		*e*P	Pn	00 27 30.2	+1.1
	baz=358							
KAU					S	Sn	00 27 40.4	+2.8
	baz=358							
TAW	**Tawu**	**0.64**	**55**		*i*P	Pn	00 27 30.4	+0.4
	baz=44							
TAW					S	Sn	00 27 40.5	+1.4
	baz=44							
MASBT	**Mashibuluo**	**0.68**	**24**	⇑	*i*P	Pn	00 27 30.7	+0.2
	baz=35							
MASBT					S	Sn	00 27 40.7	+0.7
	baz=35							
SGLT	**Jiouru**	**0.74**	**11**		P	Pn	00 27 33.1	+1.7
	baz=22							
SGLT					S	Sn	00 27 44.5	+2.9
	baz=22							
SNJT	**Kaohsiung City**	**0.76**	**0**		*i*P	Pn	00 27 32.6	+1.0
SNJT					S	Sn	00 27 44.5	+2.6
SSD	**Sandimen**	**0.80**	**20**		*i*P	Pn	00 27 32.5	+0.3
	baz=31							
SSD					S	Sn	00 27 44.5	+1.5
	baz=31							
TWM1	**Shoushan**	**0.83**	**6**		P	Pn	00 27 34.2	+1.5
	baz=6.0							
TWM1					S	Sn	00 27 45.5	+1.7
	baz=6.0							
ECL	**Taimali**	**0.83**	**44**		*e*P	Pn	00 27 32.9	+0.2
	baz=37							
SLGT	**Liugui**	**1.04**	**16**		*i*P	Pn	00 27 36.5	+1.0
	baz=28							
SLGT					S	Sn	00 27 51.0	+2.2
	baz=28							
TAI1	**Yung-k'ang**	**1.04**	**355**		*e*S	Sn	00 27 50.5	+1.5
	baz=355							
TTN	**Taitung**	**1.07**	**45**		*e*P	Pn	00 27 37.9	+2.0
	baz=34							
TWG	**Pinlang**	**1.07**	**40**		*i*P	Pn	00 27 37.0	+1.1
	baz=50							
TWG					*e*S	Sn	00 27 50.7	+1.1
	baz=50							
TWGBT	**Beinan**	**1.07**	**40**		*i*P	Pn	00 27 37.0	+1.0
	baz=50							
TWGBT					*e*S	Sn	00 27 50.9	+1.3
	baz=50							
CHN3	**Shinhua**	**1.08**	**2**		S	Sn	00 27 52.9	+3.2
	baz=2.0							
SGST	**Jiashian**	**1.11**	**12**		*e*P	Pn	00 27 38.0	+1.6
	baz=359							
SGST					S	Sn	00 27 52.7	+2.2
	baz=359							
SCLT	**Jiali**	**1.18**	**354**		*e*P	Pn	00 27 38.1	+0.7
	baz=354							
SCLT					S	Sn	00 27 54.5	+2.1
	baz=354							
CHN1	**Nanshi**	**1.20**	**9**		P	Pn	00 27 38.8	+1.1
	baz=9.0							
CHN1					S	Sn	00 27 54.5	+1.7
	baz=9.0							
STYT	**Tauyuan**	**1.23**	**19**		P	Pn	00 27 39.5	+1.3
	baz=19							
STYT					*e*S	Sn	00 27 55.5	+1.9
	baz=19							
SNST	**Tainan City**	**1.23**	**7**		P	Pn	00 27 39.5	+1.4
	baz=7.0							
SNST					S	Sn	00 27 54.9	+1.4
	baz=7.0							
WTP	**Ta-pu**	**1.27**	**12**		P	Pn	00 27 39.5	+0.7
	baz=1.0							
WTP					S	Sn	00 27 56.7	+2.0
	baz=1.0							
TWK	**Hsinying**	**1.27**	**6**		*i*P	Pn	00 27 39.5	+0.7
	baz=7.0							
TWK					S	Sn	00 27 55.9	+1.1
	baz=7.0							
ELDTW	**Lidau**	**1.35**	**28**		P	Pn	00 27 40.8	+1.0
	baz=28							
ELDTW					*e*S	Sn	00 27 58.4	+1.8
	baz=28							
CHN8	**Yiju**	**1.35**	**355**		*e*S	Sn	00 27 57.9	+1.4
	baz=356							
CHN4	**Tsaushan**	**1.37**	**10**		*i*P	Pn	00 27 40.6	+0.5
	baz=10.0							
CHN4					S	Sn	00 27 58.3	+1.3
	baz=10.0							
WDGT	**Dungji**	**1.41**	**334**		P	Pn	00 27 40.7	+0.3
	baz=346							
WDGT					S	Sn	00 27 58.6	+0.8
	baz=346							
CHKT	**Chengkung**	**1.46**	**41**		*e*P	Pn	00 27 42.4	+1.2
	baz=50							
CHKT					*e*S	Sn	00 28 01.2	+2.1
	baz=50							
VCHM	**Qimei**	**1.47**	**326**		P	Pn	00 27 41.0	-0.4
	baz=338							
VCHM					S	Sn	00 27 59.5	+0.1
	baz=338							
CHY	**Chiayi**	**1.50**	**3**		*e*P	Pn	00 27 42.3	+0.6
	baz=4.0							
CHY					*e*S	Sn	00 28 00.8	+0.6
	baz=4.0							
CHN2	**Minshiung**	**1.54**	**5**		S	Sn	00 28 02.2	+1.2
	baz=5.0							
ALS	**Alishan**	**1.57**	**16**		P	Pn	00 27 44.0	+0.9
	baz=5.0							
YUS	**Yu-Shan**	**1.59**	**21**		P	Pn	00 27 44.8	+1.3
	baz=9.0							
YUS					*e*S	Sn	00 28 04.9	+1.7
	baz=9.0							
TWF1	**Yuli**	**1.62**	**33**		P	Pn	00 27 45.0	+1.5
	baz=22							
TWF1					S	Sn	00 28 05.3	+2.2
	baz=22							
WSF	**Szhu**	**1.64**	**356**		P	Pn	00 27 44.2	+0.5
	baz=357							
WSF					S	Sn	00 28 04.6	+1.0
	baz=357							
YULB	**Yu-li**	**1.65**	**32**		P	Pn	00 27 45.4	+1.5
	baz=22							
YULB					S	Sn	00 28 05.6	+1.7
	baz=22							
PHUB	**P'eng-hu**	**1.67**	**335**		P	Pn	00 27 44.6	+0.5
	baz=346							
PHUB					S	Sn	00 28 04.0	-0.2
	baz=346							
WGK	**Gukeng**	**1.70**	**7**		*e*P	Pn	00 27 45.0	+0.6
	baz=8.0							
WGK					S	Sn	00 28 06.1	+1.1
	baz=8.0							
WDLH	**Douliu**	**1.70**	**6**		P	Pn	00 27 45.2	+0.7
	baz=6.0							
WDLH					S	Sn	00 28 05.9	+0.9
	baz=6.0							
PNG	**Penghu**	**1.72**	**336**		P	Pn	00 27 45.3	+0.4
	baz=346							
PNG					S	Sn	00 28 05.6	0.0
	baz=346							
WHYT	**Xinyi Township**	**1.76**	**16**		P	Pn	00 27 46.5	+1.1
	baz=16							
WHYT					S	Sn	00 28 08.0	+1.3
	baz=16							
HGSD	**Ruisui**	**1.80**	**34**		*i*P	Pn	00 27 47.6	+1.7
	baz=22							
HGSD					S	Sn	00 28 09.7	+2.2
	baz=22							
WTCT	**Ta-ch'eng**	**1.86**	**359**		*e*S	Sn	00 28 10.2	+1.2
	baz=359							
SSLB	**Suanglung**	**1.88**	**18**		P	Pn	00 27 48.0	+1.0
	baz=8.0							
SSLB					S	Sn	00 28 10.0	+0.5
	baz=8.0							
RLNB	**Erlin**	**1.89**	**1**		*e*P	Pn	00 27 47.1	0.0
	baz=1.0							
RLNB					S	Sn	00 28 10.3	+0.6
	baz=1.0							
WNT	**Mingjian**	**1.90**	**10**		*e*P	Pn	00 27 47.9	+0.6
	baz=10.0							
WNT					S	Sn	00 28 11.4	+1.3
	baz=10.0							
VWDT	**VWDT**	**1.90**	**23**		P	Pn	00 27 48.3	+1.0
	baz=12							
VWDT					S	Sn	00 28 11.7	+1.7
	baz=12							
EGFH	**Guangfu**	**1.95**	**31**		P	Pn	00 27 49.9	+1.9
	baz=31							
EGFH					*e*S	Sn	00 28 12.8	+1.6
	baz=31							
SMLT	**Sun Moon Lake**	**1.95**	**15**		P	Pn	00 27 49.2	+1.1
	baz=5.0							
SMLT					S	Sn	00 28 12.9	+1.5
	baz=5.0							
ESL	**Shilin**	**2.08**	**29**		P	Pn	00 27 51.0	+1.3
	baz=29							
ESL					S	Sn	00 28 15.8	+1.4
	baz=29							
WCHH	**Zhanghua**	**2.09**	**6**		*e*P	Pn	00 27 51.0	+1.2
	baz=16							
WCHH					S	Sn	00 28 15.6	+1.1
	baz=16							
OWD	**Renai**	**2.10**	**22**		P	Pn	00 27 51.6	+1.4
	baz=10.0							
OWD					S	Sn	00 28 16.5	+1.3
	baz=10.0							
TCU	**Taichung**	**2.17**	**8**		*e*P	Pn	00 27 52.2	+1.3
	baz=9.0							
TCU					S	Sn	00 28 17.4	+0.8
	baz=9.0							
CHGB	**Renai**	**2.20**	**21**		P	Pn	00 27 53.3	+1.7
	baz=9.0							
CHGB					*e*S	Sn	00 28 18.6	+0.9
	baz=9.0							
WHF	**Hehuan Shan**	**2.31**	**22**		P	Pn	00 27 55.2	+1.9
	baz=11							
WHF					*e*S	Sn	00 28 21.9	+1.2
	baz=11							
WHP	**Taichung City**	**2.34**	**14**		P	Pn	00 27 55.2	+1.8
	baz=14							
WHP					S	Sn	00 28 23.0	+2.0
	baz=14							
WDJ	**Dajia District**	**2.36**	**7**		*e*P	Pn	00 27 55.5	+1.9
	baz=15							
WDJ					*e*S	Sn	00 28 23.3	+1.9
	baz=15							
TWD	**Chiawan**	**2.38**	**29**		P	Pn	00 27 55.1	+1.2
	baz=29							
TWD					S	Sn	00 28 23.2	+1.4
	baz=29							
NSY	**Sanyi**	**2.44**	**9**		*e*S	Sn	00 28 24.8	+1.4
	baz=10.0							
ETLH	**Xiulin Townshi**	**2.44**	**25**		P	Pn	00 27 56.6	+1.8
	baz=16							
ETLH					S	Sn	00 28 25.1	+1.6
	baz=16							
NACB	**Ninganchiao**	**2.46**	**28**		P	Pn	00 27 55.9	+0.9
	baz=28							
NACB					S	Sn	00 28 24.2	+0.4
	baz=28							
NNSB	**Datong**	**2.61**	**22**		P	Pn	00 27 59.1	+2.0
	baz=11							
NNSB					S	Sn	00 28 29.7	+2.0
	baz=11							
NNS	**Nan Shan**	**2.62**	**21**		P	Pn	00 27 59.7	+2.5
	baz=12							
NNS					S	Sn	00 28 30.2	+2.3
	baz=12							
ENA	**Nanau**	**2.75**	**28**		*e*P	Pn	00 28 00.2	+1.3
	baz=38							
ENA					*e*S	Sn	00 28 31.6	+0.8
	baz=38							
NANB	**Nanao**	**2.75**	**28**		P	Pn	00 27 59.8	+0.9
	baz=38							
NANB					S	Sn	00 28 31.3	+0.4
	baz=38							
NDT	**Datong Townshi**	**2.81**	**22**		P	Pn	00 28 02.2	+2.4
	baz=12							
NDT					S	Sn	00 28 34.0	+1.4
	baz=12							
NSK	**Sanguang**	**2.83**	**19**		P	Pn	00 28 02.3	+2.2
	baz=20							
NSK					S	Sn	00 28 34.3	+1.2
	baz=20							
YHNB	**Yeheng**	**2.83**	**20**		P	Pn	00 28 01.9	+1.8
	baz=20							
YHNB					*e*S	Sn	00 28 34.4	+1.4
	baz=20							
ENTT	**Nioudou**	**2.87**	**23**		P	Pn	00 28 02.5	+1.9
	baz=13							
ENTT					S	Sn	00 28 36.2	+2.3
	baz=13							
TWC	**Suao**	**2.95**	**28**		*e*P	Pn	00 28 02.8	+1.1
	baz=28							
TWC					*e*S	Sn	00 28 37.3	+1.4
	baz=28							
KNM	**Kinmen**	**2.98**	**324**		*e*S	Sn	00 28 39.5	+3.0
	baz=322							
SLBB	**Yuanshan**	**3.00**	**23**		*e*P	Pn	00 28 04.7	+2.3
	baz=14							
SLBB					*e*S	Sn	00 28 38.4	+1.3
	baz=14							
EOS1	**EOS1**	**3.03**	**33**		P	Pn	00 28 05.4	+2.6
	baz=45							
EOS1					S	Sn	00 28 39.7	+1.9
	baz=45							
KNMB	**Chin-men Tao**	**3.04**	**324**		P	Pn	00 28 03.3	+0.4
	baz=325							
KNMB					S	Sn	00 28 38.5	+0.4
	baz=325							
VWUC	**VWUC**	**3.09**	**345**		*e*P	Pn	00 28 05.5	+1.9
	baz=345							
VWUC					*e*S	Sn	00 28 39.5	+0.2
	baz=345							
EGS		**3.20**	**27**		*e*P	Pn	00 28 07.5	+2.4
	baz=27							
TIPB	**Shuangxi**	**3.27**	**25**		P	Pn	00 28 08.1	+2.0
	baz=36							
TIPB					S	Sn	00 28 45.0	+1.3
	baz=36							
TWB1	**Santiao Chiao**	**3.36**	**27**		*e*P	Pn	00 28 10.3	+3.0
	baz=27							
TWB1					*e*S	Sn	00 28 48.5	+2.4
	baz=27							
YOJ	**Yonaguni jima**	**3.48**	**45**		*e*P	Pn	00 28 11.4	+2.5
	baz=45							
YOJ					S	Sn	00 28 50.1	+1.3
	baz=45							
VDOS	**Pratas Island**	**3.59**	**250**		*e*P	Pn	00 28 11.7	+1.2
	baz=249							
VDOS					*e*S	Sn	00 28 52.2	+0.4
	baz=249							
MATB	**Ma-tsu**	**4.15**	**355**		P	Pn	00 28 18.8	+0.5
	baz=355							
MATB					*e*S	Sn	00 29 04.5	-1.0
	baz=355							

KRSC 19 00:41:27.0±10.0, 52°.04N×160°.79E, h50km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.16**	**337**		P	Pn	00 41 48.0	+1.2
SPN					S	Sn	00 42 02.9	+1.4
NLC	**Nalytchevo**	**1.43**	**323**		P	Pn	00 41 52.2	+1.6
NLC					S	Sn	00 42 10.3	+2.1
RUS	**Russkaya**	**1.45**	**287**		P	Pn	00 41 52.4	+1.6
RUS					S	Sn	00 42 10.9	+2.2
DALK	**Dalny**	**1.59**	**309**		P	Pn	00 41 54.5	+1.8
DALK					S	Sn	00 42 14.0	+1.9
PET	**Petropavlovsk**	**1.63**	**308**		P	Pn	00 41 55.2	+1.9
PET					S	Sn	00 42 15.8	+2.7
MTVR	**Mutnovka**	**1.66**	**286**		P	Pn	00 41 55.7	+1.9
MTVR					S	Sn	00 42 15.9	+1.9
UGLR	**Uglovaya**	**1.67**	**315**		P	Pn	00 41 56.1	+2.1
UGLR					S	Sn	00 42 17.0	+2.7
KDTR	**Khodutka, Kamc**	**1.69**	**263**		P	Pn	00 41 56.1	+2.0
KDTR					S	Sn	00 42 15.5	+0.9
SDLR	**Sedlovina**	**1.70**	**318**		P	Pn	00 41 56.4	+2.1
SMAR	**Somma**	**1.72**	**316**		P	Pn	00 41 56.5	+1.8
AVH	**Avacha**	**1.75**	**315**		P	Pn	00 41 57.3	+2.3
KRER	**Koryakskii**	**1.77**	**316**		P	Pn	00 41 57.7	+2.3
KRMR	**Karymshinskiy**	**1.81**	**297**		P	Pn	00 41 57.8	+2.1
KRMR					S	Sn	00 42 20.2	+2.8
KRX	**Arik**	**1.85**	**316**		P	Pn	00 41 58.6	+2.1
APC	**Apacha**	**2.39**	**293**		P	Pn	00 42 06.7	+3.1
APC					S	Sn	00 42 35.5	+3.8
KBTR	**Krutoberegovo**	**4.34**	**15**		P	Pn	00 42 34.3	+3.9
KBTR					S	Sn	00 43 23.5	+3.8

*IDC **19** 00:44:47.0±2.5, 59°.48S×33°.89W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.4/22, mbtmp3.8/1, Error ellipse: s-maj=151.6km s-min=72.7km az=153.0*

ISC 19 00:44:46.0±1.5, 60°.6S±0°.2×32°.9W±0°.5, h10km, n14, σ1§40/8, Scotia Sea

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**14.13**	**149**		P	**Pn**	**00 48 06.7**	**+0.9**
VNA1	**Neumayer--Stat**	**14.16**	**145**		P	**Pn**	**00 48 06.7**	**+0.4**
VNA2	**Neumayer--Watz**	**14.55**	**146**		P	**Pn**	**00 48 11.5**	**-0.2**
	baz=310,slow=16							
SNAA	**Sanae**	**16.20**	**145**		P	**P**	**00 48 35.2**	**-1.4**
H10S2	**ASCENSION HYDR**	**53.30**	**23**		T	T	01 51 36.1	
	baz=191,slow=75,SNR=30							
H10S3	**ASCENSION HYDR**	**53.30**	**23**		T	T	01 51 36.1	
	baz=191,slow=75,SNR=26							
H10S1	**ASCENSION HYDR**	**53.31**	**23**		T	T	01 51 37.4	
	baz=191,slow=75,SNR=31							
H10N1	**ASCENSION HYDR**	**54.41**	**23**		T	T	01 52 53.3	
	baz=190,slow=75,SNR=18							
H10N3	**ASCENSION HYDR**	**54.42**	**23**		T	T	01 52 53.2	
	baz=190,slow=75,SNR=39							
H10N2	**ASCENSION HYDR**	**54.43**	**23**		T	T	01 53 00.0	
	baz=190,slow=75,SNR=33							
TORD	**Torodi Ar. Bea**	**78.50**	**34**		P	**P**	**00 56 46.4**	**-0.7**
	0.5nm,0.6s,baz=203,slow=5.7,SNR=7.4							
YKA	**Yellowknife Ar**	**137.52**	**317**		PKP	**PKPdf**	**01 04 07.7**	**-0.6**
	0.1nm,0.7s,baz=134,slow=1.5,SNR=2.8							
ZALV	**Zalesovo Beam**	**146.83**	**73**		PKPbc	**PKPbc**	**01 04 29.5**	**+2.5**
	0.3nm,0.3s,baz=215,slow=1.8,SNR=4.1							
ILAR	**Eielson Array**	**150.69**	**307**		PKPbc	**PKPbc**	**01 04 36.5**	**-0.1**
	1.0nm,0.9s,baz=113,slow=2.1,SNR=4.6							

*ISCJB **19** 00:54:28.6±1.2, 43°.27N±0°.06×146°.6E±0°.1, h35km±64km, Error ellipse: s-maj=13.5km s-min=9.9km az=20.6*
*JMA **19** 00:54:28.8±0.2, 43°.20N×146°.49E, h51km±2km, M3.0*
*SKHL **19** 00:54:28.8±0.3, 43°.21N×146°.55E, h40km±4km, mb3.4/3*

ISC 19 00:54:28.9±2.2, 43°.3N±0°.1×146°.56E±0°.08, h34km±4km, n12, σ0§61/19, Kuril Islands

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.60**	**281**		P	**Pb**	**00 54 41.0**	**-0.2**
NEM2					*e*S	**Sb**	**00 54 49.8**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**0.93**	**327**		*i*P	**Pn**	**00 54 45.0**	**-0.5**
YUK					AMB	AMB	00 54 46.0	
	40nm,0.2s				

GRPR A A 00 54 58.0
180nm,0.2s
GRPR A A 00 54 58.0
140nm,0.2s
LAGR Lagunnoye 0.98 325 *e*P **Pn 00 54 46.0 -0.2**
LAGR 10.0nm,0.4s AMB AMB 00 54 48.0
LAGR *e*S **Sn 00 54 59.0 +0.2**
LAGR A A 00 55 05.0
160nm,0.2s
LAGR A A 00 55 05.0
140nm,0.2s
JKHN Kushirohamanak 1.04 261 P **Pn 00 54 46.9 -0.1**
JRA Rausu 1.25 304 P **Pn 00 54 50.3 +0.4**
JRA *e*S **Sn 00 55 06.2 +0.8**
JNK Nakash 1.38 284 P **Pn 00 54 51.5 -0.2**
JNK *e*S **Sn 00 55 08.2 -0.6**
JAK Akkeshi 1.39 260 P **Pn 00 54 51.3 -0.5**
JAR Ashorobuto 2.04 272 P **Pn 00 55 01.0 +0.3**
JTKR Abashiri--Toko 2.05 291 P **Pn 00 55 02.0 +1.1**
KUR Kuril'sk 2.19 25 *e*P **Pn 00 55 03.0 +0.2**
KUR 10.0nm,0.4s AMB AMB 00 55 05.0
KUR *e*S **Sn 00 55 29.0 +0.3**
KUR A A 00 55 35.0
20nm,0.2s
KUR A A 00 55 35.0
70nm,0.2s
JMP Maruseppu 2.44 289 P **Pn 00 55 07.5 +1.2**

NNC 19 01:02:02.8±6.7, 38.79N×69.07E, h0km, mb3.5, mpv2.9, 2C-2D, Error ellipse: s-maj=77.2km s-min=35.3km az=135.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.44**	**14**	⇓Pn	Pn	01 03 11.5	+0.1
	0.4nm,0.2s,baz=194,slow=12,SNR=6.5						
KK31				⇑Pg	Pg	01 03 24.8	-3.1
	1.0nm,0.3s,baz=202,slow=18,SNR=4.0						
KK31				⇓Lg	Lg	01 04 23.4	
	9.1nm,0.6s,baz=191,slow=26,SNR=9.0						
AB31	**Akbulak array**	**12.34**	**331**	P	Pn	01 04 57.5	-2.1
	0.3nm,0.3s,baz=146,slow=14,SNR=8.7						
AKTO	**Aktyubinsk**	**14.03**	**330**	⇑P	Pn	01 05 23.9	+1.2
	2.1nm,0.9s						

IDC 19 01:11:09.5±4.1, 5.71S×130.94E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.4/25, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=309.2km s-min=32.1km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.52**	**167**	Pn	Pn	01 14 36.0	-0.4
	0.3nm,0.3s,baz=347,slow=14,SNR=14						
WRA				Sn	Sn	01 17 04.8	-14
	0.4nm,0.3s,baz=330,slow=23,SNR=5.7						
ASAR	**Alice Springs**	**18.07**	**171**	P	Pn	01 15 22.3	0.0
	0.2nm,0.3s,baz=345,slow=10,SNR=6.3						
ASAR				S	Sn	01 18 30.4	-14
	0.1nm,0.3s,baz=2.1,slow=28,SNR=3.9						
MKAR	**Makanchi Array**	**67.68**	**326**	P	P	01 22 08.7	+0.1
	0.4nm,0.5s,baz=128,slow=6.8,SNR=4.6						

*ISK **19** 01:13:23.9, 42.21N×26.31E, h8km, ML2.2/12*
*SOF **19** 01:13:24.5, 42.23N×26.26E, h4km*
*DDA **19** 01:13:25.0, 42.20N×26.38E, h7km±4km, ML2.5*
*ISCJB **19** 01:13:27.4±0.3, 41.98N±0.02×26.29E±0.03, h10km, Error ellipse: s-maj=4.0km s-min=2.7km az=150.4*

ISC 19 01:13:24.9±0.8, 42.19N±0.02×26.29E±0.02, h10km, n56, σ19.14/60, 7C-9D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.35**	**38**	PG	**Pg**	**01 13 31.2**	**-0.8**
JMB				SG	**Sg**	**01 13 36.5**	**-0.2**
JMB	**Yambol**	**0.35**	**38**	Pg	**Pg**	**01 13 31.2**	**-0.8**
EDRB	**Edirne**	**0.48**	**135**	PG	**Pg**	**01 13 33.9**	**-0.4**
EDRB				SG	**Sg**	**01 13 40.9**	**+0.3**
DIM	**Dimitrovgrad**	**0.58**	**257**	P	**Pg**	**01 13 35.3**	**-0.9**
KIRK	**Kırklareli**	**0.72**	**124**	*i* P	**Pg**	**01 13 38.8**	**-0.2**
KIRK				*i* S	**Sb**	**01 13 49.0**	**-0.7**
PHSR	**Pinarhisar**	**1.07**	**121**	PG	**Pg**	**01 13 45.0**	**-0.6**
PHSR	**Pinarhisar**	**1.07**	**121**	⇓*i*P	**Pg**	**01 13 42.8**	**-2.8**
PHSR	**Pinarhisar**	**1.07**	**121**	S	**Sg**	**01 13 59.5**	**-0.1**
SZH	**Strazhica**	**1.11**	**346**	P	**Pb**	**01 13 45.5**	**-0.7**
RDO	**Rodhopi**	**1.18**	**209**	PN	**Pn**	**01 13 47.3**	**-0.2**
PLD	**Plovdiv**	**1.19**	**267**	PN	**Pb**	**01 13 47.2**	**-0.3**
RZN	**Rozhen**	**1.28**	**248**	P	**Pn**	**01 13 48.6**	**-0.4**
PRD	**Provadia**	**1.30**	**39**	P	**Pn**	**01 13 48.3**	**-0.8**
ALN	**Alexandroupoli**	**1.30**	**188**	PN	**Pn**	**01 13 49.3**	**+0.1**
KESN	**Edirne-Kesan**	**1.39**	**168**	IAML_P			
	comp=Z,313nm,0.4s						
KESN				*i* P	**Pg**	**01 13 52.0**	**+0.3**
KESN				*i* S	**Sb**	**01 14 09.5**	**+0.3**
ENEZ	**Enez**	**1.45**	**184**	PN	**Pn**	**01 13 51.2**	**0.0**
ERIK	**Erikli-Kesan**	**1.52**	**174**	PN	**Pn**	**01 13 52.4**	**+0.2**
SART	**Tekirdag**	**1.64**	**156**	IAML_P			
	comp=Z,1μm,0.4s						
SART				*i* P	**Pg**	**01 13 56.3**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.64**	**156**	PN	**Pn**	**01 13 53.9**	**0.0**
CTYL	**Yalikoy Yolu**	**1.65**	**115**	PN	**Pn**	**01 13 53.9**	**-0.1**
CTYL	**Yalikoy Yolu**	**1.65**	**115**	⇓*i*P	**Pg**	**01 13 56.7**	**+0.1**
CTYL	**Yalikoy Yolu**	**1.65**	**115**	S	**Sg**	**01 14 19.6**	**+1.5**
KIYI	**Yalıkoy-Catalc**	**1.66**	**114**	PN	**Pn**	**01 13 53.9**	**-0.1**
SLVT	**Silivri**	**1.73**	**123**	PN	**Pn**	**01 13 55.1**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.79**	**176**	PN	**Pn**	**01 13 56.3**	**+0.4**
LPK	**Lapseki**	**1.85**	**169**	PN	**Pn**	**01 13 57.0**	**+0.3**
ELBA	**Catalca**	**1.91**	**122**	IAML_P			
	comp=Z,264nm,0.1s						
ELBA				*i* P	**Pn**	**01 13 58.2**	**+0.7**
CTKS	**Kestanelik-??a**	**1.91**	**119**	PN	**Pn**	**01 13 57.6**	**+0.1**
KRBG	**Karabiga-Canak**	**1.95**	**157**	PN	**Pn**	**01 13 58.3**	**+0.3**
PSN	**Preselentsi**	**2.04**	**42**	PN	**Pn**	**01 13 58.3**	**-1.0**
SGRR	**Singureni**	**2.05**	**354**	⇑*i*P	**Pg**	**01 14 05.5**	**+1.3**
SGRR	**Singureni**	**2.05**	**354**	S	**Sg**	**01 14 34.4**	**+3.7**
ICOR	**Ion Corvin**	**2.22**	**29**	⇓*i*P	**Pg**	**01 14 07.9**	**+0.4**
ICOR	**Ion Corvin**	**2.22**	**29**	S	**Sg**	**01 14 37.8**	**+1.5**
KLYT	**Kilyos**	**2.26**	**113**	⇑*i*P	**Pb**	**01 14 05.5**	**-0.3**
KLYT	**Kilyos**	**2.26**	**113**	S	**Sb**	**01 14 34.2**	**+0.4**
VLAD	**Vladila**	**2.28**	**323**	⇓*i*P	**Pg**	**01 14 07.9**	**-0.7**
VTS	**Vitosha**	**2.31**	**282**	⇑*i*P	**Pb**	**01 14 07.4**	**+0.7**
VTS	**Vitosha**	**2.31**	**282**	S	**Sg**	**01 14 37.9**	**-1.1**
EZN	**Ezine**	**2.36**	**179**	⇓*i*P	**Pb**	**01 14 05.8**	**-1.7**
EZN	**Ezine**	**2.36**	**179**	S	**Sn**	**01 14 34.3**	**+1.6**
SULR		**2.49**	**359**	⇓*i*P	**Pg**	**01 14 11.1**	**-1.6**
SULR		**2.49**	**359**	S	**Sg**	**01 14 45.8**	**+0.9**
TLB	**Topalu**	**2.71**	**27**	⇓*i*P	**Pb**	**01 14 14.2**	**+0.6**
TLB	**Topalu**	**2.71**	**27**	S	**Sg**	**01 14 49.3**	**-2.8**
STIP	**Stip**	**3.10**	**262**	*i* Pn	**Pn**	**01 14 13.0**	**-1.0**
CFR	**Carcaliu**	**3.27**	**23**	⇑*i*P	**Pb**	**01 14 22.6**	**-0.5**
CFR	**Carcaliu**	**3.27**	**23**	S	**Sb**	**01 15 04.8**	**+1.8**
MLR	**Muntele Rosu**	**3.31**	**356**	⇓*i*P	**Pb**	**01 14 23.0**	**-0.8**
MLR	**Muntele Rosu**	**3.31**	**356**	S	**Sb**	**01 15 06.1**	**+1.9**
VOIR		**3.37**	**345**	⇑*i*P	**Pb**	**01 14 23.7**	**-1.1**
VOIR		**3.37**	**345**	S	**Sb**	**01 15 06.6**	**+0.7**
ARR	**Arges**	**3.40**	**340**	⇑*i*P	**Pb**	**01 14 24.2**	**-1.1**
ARR	**Arges**	**3.40**	**340**	S	**Sb**	**01 15 07.4**	**+0.7**
PLOR	**Plostina**	**3.67**	**4**	⇑*i*P	**Pb**	**01 14 28.1**	**-1.8**
VRI	**Vrincioaia**	**3.69**	**5**	⇓*i*P	**Pb**	**01 14 28.0**	**-2.2**

*ISCJB **19** 01:23:21.6±0.3, 27.52N±0.04×104.13E±0.03, h10km, mb4.3/37, MS2.8/1, Error ellipse: s-maj=5.4km s-min=4.1km az=14.4*
*BJI **19** 01:23:22.4±0.0, 27.48N×103.96E, h8km, mb3.8/3, ML3.8/15, Ms7 3.5/4*
*IDC **19** 01:23:22.1±0.7, 27.55N×104.08E, h0km, mb4.1/15, mb1 4.2/16, mb1mx4.0/43, mbtmp4.1/16, ML4.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/42, Error ellipse: s-maj=21.3km s-min=14.9km az=54.0*
*NEIC **19** 01:23:24.7±1.0, 27.60N×104.15E, h16km±5km, mb4.4/12, Error ellipse: s-maj=17.5km s-min=13.5km az=116.0*
*MOS **19** 01:23:24.8±1.0, 27.53N×104.08E, h33km, mb4.6/18, Error ellipse: s-maj=12.2km s-min=6.5km az=106.1*

ISC 19 01:23:23.8±0.4, 27.58N±0.04×104.14E±0.04, h10km, n99, σ19.76/110, mb4.3/37, 9C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.51**	**116**	⇑*i*Pn	**Pb**	**01 24 08.1**	**-1.0**
GYA				Pg	**Pg**	**01 24 09.8**	**-2.2**
GYA				Sn	**Sb**	**01 24 41.4**	**+1.2**
GYA				Sg	**Sg**	**01 24 46.0**	**+1.4**
GYA				smax	smax		
	comp=N,1μm,0.7s						
GYA				smax	smax		
	comp=E,520nm,0.7s						
KMI	**Kunming**	**2.75**	**207**	Pg	**Pn**	**01 24 09.1**	**+0.9**
KMI				Sg	**Sn**	**01 24 43.5**	**+1.9**
KMI				smax	smax		
	comp=N,91nm,1.0s						
KMI				smax	smax		
	comp=E,110nm,0.9s						
KMI	**Kunming**	**2.75**	**207**	*e*Pn	**Pn**	**01 24 08.8**	**+0.7**
KMI	**Kunming**	**2.75**	**207**	*e*P	**Pn**	**01 24 08.8**	**+0.7**
CD2	**Chengdu**	**3.34**	**354**	Pn	**Pn**	**01 24 19.1**	**+3.0**
CD2				Pg	**Pg**	**01 24 26.3**	**-1.4**
CD2				Sn	**Sn**	**01 24 51.0**	**-4.8**
CD2				Sg	**Sg**	**01 25 09.1**	**-1.9**
CD2				smax	smax		
	comp=N,730nm,0.6s						
CD2				smax	smax		
	comp=E,750nm,0.8s						
ENH	**Enshi**	**5.40**	**59**	*e*Pn	**Pn**	**01 24 45.3**	**+0.8**
SLVN	**Son La**	**6.22**	**182**	*e*Pn	**Pn**	**01 24 53.5**	**-2.2**
XAN	**Xi'an**	**7.64**	**31**	Pn	**Pn**	**01 25 17.8**	**+2.6**
XAN				Sn	**Sn**	**01 26 39.6**	**-2.3**
XAN				smax	smax		
	comp=N,72nm,1.0s						
XAN				smax	smax		
	comp=E,84nm,1.4s						
XAN				LR	LR		
	comp=Z,130nm,6.5s						
XAN	**Xi'an**	**7.64**	**31**	*e*Pn	**Pn**	**01 25 11.3**	**-3.9**
XAN				*e*Sn	**Sn**	**01 26 39.9**	**-2.0**
XAN				*e*Lg	Lg	01 27 36.1	
XAN	**Xi'an**	**7.64**	**31**	*e*P	**Pn**	**01 25 11.3**	**-3.9**
XAN				*e*		01 26 39.9	
WHN	**Wuhan**	**9.41**	**69**	P	**Pn**	**01 25 40.3**	**+0.8**
WHN				S	**Sn**	**01 27 28.3**	**+2.9**
WHN				LR	LR		
	comp=Z,490nm,9.1s						
CM31	**Chiang Mai Arr**	**10.26**	**209**	*e*Pn	**Pn**	**01 25 51.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**10.26**	**209**	Pn	**Pn**	**01 25 51.9**	**+0.7**
	0.9nm,0.3s,baz=19,slow=12,SNR=4.1						
HHC	**Hu-ho-hao-te**	**14.58**	**23**	*e*P	**Pn**	**01 26 52.4**	**+2.1**
HHC				S	**Sn**	**01 29 40.1**	**+8.0**
ODAN	**Odare**	**14.92**	**271**	*e*P	**P**	**01 26 59.7**	**-1.1**
	27nm,0.5s						
RAMN	**Ramite**	**15.61**	**272**	*e*P	**P**	**01 27 08.7**	**+0.2**
	41nm,0.6s						
JIRN	**Jiri**	**15.91**	**274**	*e*P	**Pn**	**01 27 11.0**	**+2.8**
	37nm,0.7s						
PKI	**Pulchoki**	**16.61**	**274**	*e*P	**Pn**	**01 27 18.5**	**+1.4**
	24nm,0.5s						
PKIN	**Phulchoki**	**16.62**	**274**	*e*P	**Pn**	**01 27 18.4**	**+1.2**
	21nm,0.5s						
KKN	**Kakani**	**16.71**	**275**	*e*P	**Pn**	**01 27 19.6**	**+1.3**
	19nm,0.7s						
DANN	**Dangsing**	**18.02**	**277**	*e*P	**Pn**	**01 27 33.4**	**-1.3**
	13nm,0.5s						
KOLN	**Koldanda**	**18.20**	**275**	*e*P	**Pn**	**01 27 36.0**	**-0.8**
	5.7nm,0.5s						
PYUN	**Piuthan**	**18.71**	**277**	*e*P	**P**	**01 27 41.4**	**-1.4**
	6.1nm,0.5s						
SONA0	**Songino Array**	**20.30**	**4**	*e*P	**P**	**01 28 01.5**	**+1.6**
SONM	**Songino Array**	**20.30**	**4**	*e*P	**P**	**01 28 00.9**	**+1.0**
SONM	**Songino Array**	**20.30**	**4**	*e*P	**P**	**01 28 00.9**	**+1.0**
SONM	**Songino Array**	**20.30**	**4**	P	**P**	**01 28 01.5**	**+1.6**
	3.8nm,0.5s,baz=184,slow=10,SNR=12						
ULN	**Ulaanbaatar**	**20.38**	**6**	*e*P	**P**	**01 28 01.8**	**+1.0**
	6.6nm,1.1s						
ULN	**Ulaanbaatar**	**20.38**	**6**	*ce*P	Pn	01 28 02.9	+0.1
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WMQ	**Urumqi**	**20.94**	**325**	*e*P	**P**	**01 28 07.6**	**+0.9**
KS15	**Wonju Array Si**	**22.26**	**58**	*e*P	**P**	**01 28 21.3**	**+0.4**
	comp=Z,123nm,2.0s						
KSRS	**Korea Array**	**22.29**	**58**	P	**P**	**01 28 21.3**	**0.0**
	comp=Z,2.8nm,0.7s,baz=248,slow=10,SNR=9.9						
ZAK	**Zakamensk**	**22.78**	**359**	*e*P	**P**	**01 28 27.1**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.9s						
PDGK	**Podgornoye**	**25.36**	**315**	P	**P**	**01 28 51.8**	**+0.6**
PDGK				pmax	pmax		
	comp=Z,12nm,0.6s						
MK31	**Makanchi Array**	**25.75**	**324**	*e*P	**P**	**01 28 54.6**	**0.0**
	comp=Z,5.5nm,0.7s						
MK31	**Makanchi Array**	**25.75**	**324**	*e*P	**P**	**01 28 54.6**	**0.0**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MK32	**Makanchi Array**	**25.75**	**324**	*e*P	**P**	**01 28 54.9**	**+0.3**
MKAR	**Makanchi Array**	**25.75**	**324**	*e*P	**P**	**01 28 55.4**	**+0.8**
MKAR	**Makanchi Array**	**25.75**	**324**	*e*P	**P**	**01 28 55.4**	**+0.8**
MKAR	**Makanchi Array**	**25.75**	**324**	P	**P**	**01 28 54.8**	**+0.3**
	comp=Z,6.3nm,0.7s,baz=127,slow=11,SNR=35						
KSH	**Kashi**	**26.21**	**304**	P	**P**	**01 29 00.3**	**+1.4**
KSH				pP	sP	01 29 04.3	+0.4
KSH				PP	**PnPn**	**01 29 41.3**	**+3.8**
KSH				S	**S**	**01 33 29.3**	**-1.8**
KSH				SS	**SnSn**	**01 34 37.8**	**+7.9**
KSH				pmax	pmax		
	comp=Z,95nm,2.9s						
NIL	**Nilore**	**27.20**	**290**	P	**P**	**01 29 08.9**	**+1.1**
NIL				pmax	pmax		
	comp=Z,11nm,0.8s						
USRK	**Ussuriysk Ar.**	**27.82**	**46**	P	**P**	**01 29 13.7**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=254,slow=9.7,SNR=11						
ZAA0	**Zalesovo Array**	**29.93**	**337**	*e*P	**P**	**01 29 31.9**	**+0.1**
	comp=Z,6.5nm,0.8s						
ZALV	**Zalesovo Beam**	**29.93**	**337**	P	**P**	**01 29 31.7**	**-0.1**
	comp=Z,7.1nm,0.7s,baz=145,slow=8.6,SNR=30						
ZAA1	**Zalesovo Array**	**29.94**	**337**	*e*P	**P**	**01 29 31.7**	**-0.2**
PALK	**Pallekele**	**30.02**	**232**	*ce*P	**P**	**01 29 30.2**	**-2.8**
KURK	**Kurchatov**	**30.15**	**327**	*e*P	**P**	**01 29 33.8**	**0.0**
	comp=Z,6.9nm,0.6s						
KURK	**Kurchatov**	**30.15**	**327**	*ce*P	**P**	**01 29 34.4**	**+0.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OTUK	**Ortayu**	**32.13**	**319**	P	**P**	**01 29 52.2**	**+0.8**
OTUK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BRVK	**Borovoye**	**35.70**	**325**	*e*P	**P**	**01 30 22.3**	**0.0**
	comp=Z,3.5nm,0.8s						
BRVK	**Borovoye**	**35.70**	**325**	*ce*P	**P**	**01 30 23.3**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GEYT	**Alibeck**	**39.71**	**297**	P	**P**	**01 30 57.0**	**+0.6**
	comp=Z,1μm,1.0s,baz=120,slow=9.0,SNR=7.7						
GYA0B	**ALIBECK ARRAY**	**39.71**	**297**	*e*P	**P**	**01 30 56.6**	**+0.2**
	comp=Z,5.9nm,0.8s						
ABKAR	**Akbulak array**	**40.10**	**315**	*e*P	**P**	**01 30 59.4**	**0.0**
GUMO	**Guam**	**40.40**	**102**	LR	LR	01 45 58.3	
	comp=Z,16nm,21.8s,baz=123,slow=34						
NRIK	**Noril'sk**	**42.91**	**351**	P	**P**	**01 31 22.7**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=131,slow=4.5,SNR=5.9						
ARU	**Arti**	**43.27**	**325**	*e*P	**P**	**01 31 25.1**	**-0.2**
	comp=Z,4.3nm,0.7s						
ARU	**Arti**	**43.27**	**325**	*ce*P	**P**	**01 31 26.4**	**+1.1**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI	**Tiksi**	**46.20**	**11**	*ce*P	**P**	**01 31 48.9**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BILL	**Bilibino**	**54.35**	**24**	*e*P	**P**	**01 32 50.2**	**-0.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.8s						
OBN	**Obninsk**	**55.14**	**320**	*e*P	**P**	**01 32 55.0**	**-1.2**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WR1	**Warramunga Arr**	**55.56**	**145**	*e*P	**P**	**01 32 59.4**	**-0.2**
WRA	**Warramunga Arr**	**55.56**	**145**	P	**P**	**01 32 59.4**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=331,slow=7.3,SNR=20						
JOF	**Joensuu**	**58.03**	**329**	P	**P**	**01 33 16.1**	**-0.5**
JOF				pmax	pmax		
	comp=Z,8.0nm,1.1s						
AS31	**Alice Springs**	**58.49**	**148**	*e*P	**P**	**01 33 20.1**	**-0.2**
	comp=Z,1.9nm,1.4s						
ASAR	**Alice Springs**	**58.49**	**148**	P	**P**	**01 33 20.1**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=331,slow=6.6,SNR=18						
BR101	**Keskin Array S**	**58.55**	**302**	*e*P	**P**	**01 33 20.2**	**-0.7**
BRTR	**Keskin Array B**	**58.55**	**302**	*ce*P	**P**	**01 33 19.7**	**-1.2**
BRTR	**Keskin Array B**	**58.55**	**302**	P	**P**	**01 33 20.2**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=108,slow=6.0,SNR=5.5						
MSF	**Maaselka**	**59.09**	**332**	P	**P**	**01 33 23.5**	**-0.5**
AKASG	**Malin Array Be**	**59.85**	**315**	P	**P**	**01 33 28.5**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=68,slow=7.1,SNR=6.7						
AKBB	**Malin Array Si**	**59.85**	**315**	*e*P	**P**	**01 33 28.5**	**-0.9**
	comp=Z,21nm,1.9s						
AKBB	**Malin Array Si**	**59.85**	**315**	*e*P	**P**	**01 33 28.5**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,21nm,1.9s						
KEV	**Kevo**	**59.96**	**337**	P	**P**	**01 33 29.3**	**-0.6**
SGF	**Sodankyl**	**60.11**	**334**	P	**P**	**01 33 30.8**	**-0.1**
SUF	**Sumiainen**	**60.41**	**329**	P	**P**	**01 33 32.2**	**-0.8**
SUF				pmax	pmax		
	comp=Z,7.0nm,2.5s						
OUL	**Oulu**	**60.41**	**332**	P	**P**	**01 33 32.3**	**-0.7**
OUL				pmax	pmax		
	comp=Z,17nm,1.4s						
ARA0	**ARCESS Array S**	**60.49**	**337**	*e*P	**P**	**01 33 33.4**	**-0.2**
ARCES	**ARCESS Array B**	**60.49**	**337**	P	**P**	**01 33 33.4**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=90,slow=7.2,SNR=8.7						
FIA0	**FINESS Array S**	**60.52**	**327**	*e*P	**P**	**01 33 33.4**	**-0.4**
FIA0	**FINESS Array S**	**60.52**	**327**	*e*P	**P**	**01 33 33.4**	**-0.4**
FINES	**FINESS Array B**	**60.52**	**327**	P	**P**	**01 33 33.4**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=84,slow=6.5,SNR=18						
VAF	**Ylistaro**	**61.97**	**329**	P	**P**	**01 33 42.9**	**-0.7**
VAF				pmax	pmax		
	comp=Z,9.0nm,2.2s						
KOLS	**Kolonicke sedl**	**64.59**	**314**	*e*P	**P**	**01 34 01.4**	**+0.1**
KOLS	**Kolonicke sedl**	**64.59**	**314**	*e*P	**P**	**01 34 01.4**	**+0.1**
GRG	**Griva**	**66.59**	**305**	P	**P**	**01 34 12.6**	**-1.8**
GRG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VYHS	**Vyhne**	**66.91**	**314**	*e*P	**P**	**01 34 16.2**	**-0.1**
VYHS	**Vyhne**	**66.91**	**314**	*e*P	**P**	**01 34 16.2**	**-0.1**
NB2	**NORSAR Subarra**	**67.65**	**328**	P	**P**	**01 34 19.4**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=90,slow=4.6						
NB200	**NORSAR Array S**	**67.65**	**328**	*e*P	**P**	**01 34 19.5**	**-1.3**
NOA	**NORSAR Array B**	**67.65**	**328**	P	**P**	**01 34 19.5**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=76,slow=5.0,SNR=5.5						
GEC2	**GERESS Array S**	**70.05**	**315**	*e*P	**P**	**01 34 35.6**	**-0.4**
	comp=Z,12nm,1.8s						
GEC2	**GERESS Array S**	**70.05**	**315**	*e*P	**P**	**01 34 35.6**	**-0.4**
GEC2				pmax	pmax		
	comp=Z,12nm,1.8s						
GERES	**GERESS Array B**	**70.05**	**315**	P	**P**	**01 34 35.6**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=75,slow=5.7,SNR=8.1						
BORG	**Borgarnes**	**78.75**	**339**	*ce*P	**P**	**01 35 24.8**	**-1.4**
YKA	**Yellowknife Ar**	**85.04**	**17**	P	**P**	**01 35 59.6**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=326,slow=5.0,SNR=5.4						
YKB5	**Yellowknife Ar**	**85.04**	**17**	*e*P	**P**	**01 35 59.6**	**+0.2**
YERR	**Yerington**	**102.37**	**33**	*e*Sdif	Sdif	01 49 02.6	-1.9

MAN 19 01:23:48.4, 13.69N×120.62E, h69km, mb3.9, ML2.7, MS2.2, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**278**	*e*P	Pn	01 24 01.4	+1.5
LUBP				*e*S	Sn	01 24 11.9	+3.5
PGP	**Puerto Galera**	**0.37**	**119**	⇑*e*P	Pn	01 24 01.9	+1.9
PGP				*i* S	Sn	01 24 11.8	+3.3
SJMP	**San Jose**	**1.31**	**158**	*e*P	Pn	01 24 12.2	+1.3
SJMP				*e*S	Sn	01 24 29.0	+1.4

*NEIC **19** 01:25:57.3±0.0, 15.99N×96.42W, h64km, MD4.1(MEX), After MEX.*

MEX 19 01:25:57.5±0.8, 16.02N×96.47W, h58km±9km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.35**	**181**	*e*P	Pn	01 26 05.9	-1.9
PANG				*e*S	Sn	01 26 13.7	-1.6
HUIG	**Huatulco**	**0.43**	**126**	*e*Pn	Pn	01 26 07.4	-1.2
HUIG				*e*Sn	Sn	01 26 14.8	-1.7
HUIG	**Huatulco**	**0.43**	**126**	*e*P	Pn	01 26 07.3	-1.2
HUIG				*e*S	Sn	01 26 14.8	-1.7
PNIG	**Pinotepa**	**1.64**	**283**	*e*Pn	Pn	01 26 22.0	-2.1
PNIG				*e*Sn	Sn	01 26 40.8	-3.3
PNIG	**Pinotepa**	**1.64**	**283**	*e*P	Pn	01 26 22.0	-2.1
PNIG				*i* S	Sn	01 26 41.4	-2.7
CMIG	**Matias Romero**	**1.85**	**55**	*e*Pn	Pn	01 26 24.9	-2.1
CMIG				*e*Sn	Sn	01 26 39.9	-9.4
CMIG	**Matias Romero**	**1.85**	**55**	*e*P	Pn	01 26 24.9	-2.1
CMIG				*e*S	Sn	01 26 47.3	-2.0
TLIG	**Tlapa**	**2.53**	**308**	*e*Pn	Pn	01 26 37.6	+1.3
TLIG				*e*Sn	Sn	01 27 11.2	+5.2
TLIG	**Tlapa**	**2.53**	**308**	*i* P	Pn	01 26 35.5	-0.8
TLIG				*i* S	Sn	01 27 03.9	-2.1
CCIG	**Comitan**	**4.17**	**86**	*e*Pn	Pn	01 26 59.2	+0.4

*NIED **19** 01:33:00, 36.70N×140.70E, h8km, Mw3.4 Best double couple: M0:1.

*ISK **19** 01:35:11.7, 37°.32N×37°.13E, h7km, ML2.7/16*
*ISCJB **19** 01:35:12.4±0.5, 37°.30N±0°.03×37°.12E±0°.03, h7km±5km, Error ellipse: s-maj=5.4km s-min=4.3km az=19.4*
ISC 19 01:35:12.4±0.9, 37°.31N±0°.03×37°.13E±0°.03, h10km±8km, n38, σ0s71/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**154**		**PG**		**Pg**	**01 35 15.6**	**-0.1**
GAZ					SG		**Sg**	**01 35 18.4**	**+0.3**
HCB	**Kahramanmara**	**0.18**	**282**	IAML_P					
	comp=Z,41μm,0.2s								
HCB				*i* P			**Pg**	**01 35 16.4**	**+0.1**
KMRS	**Kahramanmaras**	**0.27**	**317**		PG		**Pg**	**01 35 17.6**	**-0.3**
KMRS					SG		**Sg**	**01 35 21.3**	**-0.3**
KAMA	**Osmaniye**	**0.39**	**252**	IAML_P					
	comp=Z,15μm,0.1s								
KAMA				*i* P			**Pg**	**01 35 19.6**	**-0.5**
KAMA				*i* S			**Sg**	**01 35 25.3**	**0.0**
KUZU	**Kuzuini**	**0.53**	**185**	*i* P			**Pb**	**01 35 23.8**	**0.0**
ANDN	**Andirin**	**0.68**	**294**	IAML_P					
	comp=Z,14μm,0.2s								
ANDN				*i* P			**Pb**	**01 35 25.4**	**-1.1**
ATAB	**Bozova**	**0.94**	**80**	*i* P			**Pn**	**01 35 31.9**	**+0.1**
ELBS	**KAHRAMANMARAS**	**1.02**	**0**	*i* P			**Pb**	**01 35 32.2**	**0.0**
KOZT	**Kozan**	**1.05**	**280**	PG			**Pg**	**01 35 31.8**	**-0.8**
KOZT				SG			**Sn**	**01 35 47.6**	**-0.4**
SAIM	**ADANA**	**1.07**	**309**	IAML_P					
	comp=Z,4μm,0.3s								
SAIM				*i* P			**Pb**	**01 35 32.4**	**-0.7**
SAIM				*i* S			**Sn**	**01 35 49.0**	**+0.5**
CEYT	**Ceyhan**	**1.14**	**256**	PN			**Pn**	**01 35 34.2**	**-0.2**
AKCD	**Akcadag**	**1.17**	**32**	IAML_P					
	comp=Z,9μm,0.2s								
AKCD				*i* P			**Pn**	**01 35 35.5**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.20**	**220**	PN			**Pg**	**01 35 34.5**	**-0.9**
SURC	**SANLIURFA_SURC**	**1.26**	**109**	*i* P			**Pg**	**01 35 35.8**	**-0.7**
YURE	**YUREGIR**	**1.29**	**249**	PN			**Pb**	**01 35 36.7**	**-0.1**
YURE	**YUREGIR**	**1.29**	**249**	*i* P			**Pb**	**01 35 38.6**	**+1.8**
DARE	**Darende-Malaty**	**1.29**	**12**	PN			**Pb**	**01 35 36.7**	**-0.2**
AKO	**Adana**	**1.35**	**277**	IAML_P					
	comp=Z,1μm,0.2s								
AKO				*i* P			**Pg**	**01 35 37.7**	**-0.6**
URFA	**Urfa**	**1.35**	**84**	PN			**Pn**	**01 35 37.0**	**-0.4**
CUGUR	**Gurin_SVAS**	**1.42**	**4**	*i* P			**Pg**	**01 35 40.1**	**+0.4**
SANL	**SANLIURFA_Merk**	**1.49**	**95**	*i* P			**Pn**	**01 35 39.5**	**+0.2**
KRTS	**Karatas**	**1.58**	**243**	PN			**Pb**	**01 35 41.4**	**-0.4**
YAHY	**KAYSERI_Yahyal**	**1.61**	**300**	IAML_P					
	comp=Z,2μm,0.3s								
YAHY				*i* P			**Pb**	**01 35 41.9**	**-0.4**
KARA	**Karaisali**	**1.66**	**269**	PN			**Pn**	**01 35 41.8**	**+0.3**
HEKM	**Malatya_Hekimh**	**1.70**	**22**	IAML_P					
	comp=Z,4μm,0.3s								
HEKM				*i* P			**Pg**	**01 35 45.4**	**+0.3**
BNN	**Bunyan**	**1.85**	**327**	PN			**Pn**	**01 35 44.7**	**+0.4**
CUKAN	**kangal_SIVAS**	**2.03**	**7**	*i* P			**Pg**	**01 35 50.4**	**-0.8**
SVRC	**Sivrice-ELAZID**	**2.03**	**57**	PN			**Pn**	**01 35 46.9**	**+0.1**
MERS	**Mersin**	**2.13**	**259**	PN			**Pn**	**01 35 48.4**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**2.22**	**342**	*i* P			**Pg**	**01 35 54.0**	**-1.1**
KIZK	**Mersin**	**2.53**	**252**	PN			**Pn**	**01 35 54.5**	**+1.0**
SVSK	**Karacayir**	**2.61**	**358**	PN			**Pn**	**01 35 55.7**	**+1.1**
YOZ	**Yozgat**	**2.73**	**329**	PN			**Pn**	**01 35 57.5**	**+1.1**
KEBE	**Keben-Mersin**	**2.87**	**254**	PN			**Pn**	**01 35 59.7**	**+1.4**
IKL	**Isikli**	**2.96**	**250**	PN			**Pn**	**01 36 00.2**	**+0.7**
SULT	**Sultanhani-AKS**	**3.00**	**288**	PN			**Pn**	**01 36 00.7**	**+0.6**
TOKT	**Tokat**	**3.05**	**352**	PN			**Pn**	**01 36 01.6**	**+0.9**
TEKE	**Tekeli-Mersin**	**3.43**	**251**	PN			**Pn**	**01 36 06.9**	**+1.0**

IDC 19 01:46:06.6±2.4, 13°.44S×166°.34E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/25, mbtmp3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/22, Error ellipse: s-maj=154.4km s-min=30.4km az=134.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.58**	**179**		LR		LR	01 51 04.8	
	comp=Z,112nm,18.2s,baz=130,slow=35								
STKA	**Stephens Creek**	**29.18**	**227**		P		P	01 52 10.0	+0.1
	1.3nm,0.5s,baz=66,slow=10.0,SNR=4.8								
ASAR	**Alice Springs**	**32.32**	**247**		P		P	01 52 37.8	0.0
	0.7nm,0.6s,baz=73,slow=9.4,SNR=15								
ILAR	**Eielson Array**	**85.59**	**18**		P		P	01 58 47.0	+0.5
	0.3nm,0.6s,baz=231,slow=5.1,SNR=4.4								
ARCES	**ARCESS Array B**	**118.78**	**345**		PKP		PKPdf	02 04 55.7	-0.7
	2.3nm,1.0s,baz=66,slow=2.9,SNR=5.3								
FINES	**FINESS Array B**	**124.20**	**338**		PKP		PKPdf	02 05 06.5	-0.5
	1.5nm,0.9s,baz=48,slow=2.1,SNR=4.1								

*SJA **19** 01:50:21.0±0.5, 32°.43S×72°.90W, h64km±9km, ML3.2, MW3.5*
*GUC **19** 01:50:32.5±0.4, 32°.55S×71°.55W, h36km±2km, ML3.2*
ISC 19 01:50:30.3±3.7, 32°.66S±0°.08×71°.8W±0°.2, h25km, n11, σ0s77/16, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**1.05**	**118**	⇓*i* P			**Pn**	**01 50 50.0**	**+0.5**
PEL				*e* S			**Sn**	**01 51 02.6**	**-0.7**
PEL				IAML				01 51 06.2	
	comp=N,1μm,0.2s								
CLCH	**Cerro Calan**	**1.28**	**125**	⇓*i* P			**Pb**	**01 50 53.6**	**-0.3**
CLCH				*e* S			**Sb**	**01 51 09.6**	**-0.4**
CLCH				IAML				01 51 12.6	
	comp=N,827nm,0.4s								
ANTU	**Antumapu**	**1.33**	**133**	*e* P			**Pb**	**01 50 54.9**	**+0.2**
ANTU				*e* S			**Sb**	**01 51 11.9**	**+0.6**
ANTU				IAML				01 51 15.1	
	comp=E,663nm,0.4s								
FCH	**Farellones**	**1.43**	**118**	⇓*i* P			**Pb**	**01 50 56.0**	**-0.4**
FCH				*e* S			**Sb**	**01 51 14.3**	**0.0**
FCH				IAML				01 51 15.8	
	comp=N,532nm,0.3s								
LMEL	**Las Melosas**	**1.78**	**132**	⇓*i* P			**Pb**	**01 51 01.9**	**-0.5**
LMEL				*e* S			**Sb**	**01 51 24.4**	**0.0**
LMEL				IAML				01 51 29.1	
	comp=N,709nm,0.1s								
AUSP	**Uspallata**	**2.08**	**79**	*i* P			**Pb**	**01 51 08.8**	**+1.3**
AUSP				*i* S			Sb	01 51 44.3	+11
RTLS	**Leoncito**	**2.28**	**69**	*i* P			**Pb**	**01 51 10.9**	**0.0**
RTLS				*i* S			Sb	01 51 47.6	+8.8
RTLS				IAML				01 51 53.7	
	comp=Z,44nm,0.3s								
ARCO	**CERRO ARCO**	**2.42**	**95**	*i* P			**Pb**	**01 51 13.7**	**+0.5**
ARCO				IAML				01 51 20.6	
	comp=Z,71nm,0.4s								
ARCO				*i* S			Sb	01 51 53.3	+11
ASAL	**Salagasta**	**2.50**	**89**	*i* P			**Pb**	**01 51 14.8**	**+0.3**
ASAL				*i* S			Sb	01 51 54.2	+9.4
AAGR	**Agrelo**	**2.53**	**101**	*i* P			**Pb**	**01 51 15.4**	**+0.3**
RTCV	**Cerro Valdivia**	**2.87**	**75**	*i* P			**Pb**	**01 51 18.9**	**-1.9**

*ISCJB **19** 02:01:23.9±1.0, 22°.56S±0°.04×68°.84W±0°.06, h101km±8km, Error ellipse: s-maj=9.6km s-min=7.1km az=6.6*
*SJA **19** 02:01:23.1±0.7, 22°.52S×68°.79W, h96km±4km, ML2.5, MW3.5*
*GUC **19** 02:01:24.2±0.5, 22°.57S×68°.83W, h100km±2km, ML3.2*
ISC 19 02:01:25.1±1.7, 22°.56S±0°.04×68°.84W±0°.06, h90km±10km, n20, σ0s56/36, 8C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.09**	**230**	*i* P			**Pn**	**02 01 37.4**	**-1.0**
LVC				*i* S			**Sn**	**02 01 48.3**	**+0.2**
LVC	**Limon Verde**	**0.09**	**230**	*e* P			**Pn**	**02 01 38.0**	**-0.4**
LVC				*e* S			**Sn**	**02 01 48.0**	**-0.1**
PB06	**IPOC Station P**	**0.69**	**257**	*i* P			**Pn**	**02 01 41.5**	**-0.3**
PB06				*i* S			**Sn**	**02 01 55.4**	**+1.2**
PB06	**IPOC Station P**	**0.69**	**257**	⇑*i* P			**Pn**	**02 01 41.3**	**-0.4**
PB06				*i* S			**Sn**	**02 01 54.5**	**+0.4**
PB06				IAML				02 01 56.5	
	comp=E,823nm,0.1s								
PB09	**IPOC Station P**	**0.84**	**334**	*i* P			**Pn**	**02 01 42.8**	**-0.5**
PB09				*i* S			**Sn**	**02 01 57.1**	**+0.2**
PB09	**IPOC Station P**	**0.84**	**334**	⇓*i* P			**Pn**	**02 01 43.5**	**+0.2**
PB09				*i* S			**Sn**	**02 01 57.6**	**+0.8**
PB09				IAML				02 01 58.6	
	comp=N,382nm,0.5s								
PB15	**IPOC Station P**	**0.87**	**222**	*i* P			**Pn**	**02 01 43.5**	**-0.2**
PB15				*i* S			**Sn**	**02 01 58.9**	**+1.4**
PB15	**IPOC Station P**	**0.87**	**222**	⇑*i* P			**Pn**	**02 01 43.5**	**-0.2**
PB15				*i* S			**Sn**	**02 01 57.8**	**+0.3**
PB03	**IPOC Station P**	**0.98**	**301**	*i* P			**Pn**	**02 01 44.3**	**-0.5**
PB03				*i* S			**Sn**	**02 02 00.2**	**+0.6**
PB03	**IPOC Station P**	**0.98**	**301**	⇑*i* P			**Pn**	**02 01 44.5**	**-0.3**
PB03				*i* S			**Sn**	**02 01 60.0**	**+0.4**
PB03				IAML				02 02 00.5	
	comp=N,912nm,0.5s								
PB04	**IPOC Station P**	**1.23**	**280**	⇑*i* P			**Pn**	**02 01 47.3**	**-0.4**
PB04				*i* S			**Sn**	**02 02 04.9**	**+0.2**
PB04				IAML				02 02 12.9	
	comp=N,571nm,0.1s								
PB07	**IPOC Station P**	**1.27**	**310**	*i* P			**Pn**	**02 01 47.5**	**-0.7**
PB07	**IPOC Station P**	**1.27**	**310**	⇑*i* P			**Pn**	**02 01 48.0**	**-0.3**
PB07				*i* S			**Sn**	**02 02 06.2**	**+0.5**
PB07				IAML				02 02 08.1	
	comp=E,573nm,0.2s								
PB05	**IPOC Station P**	**1.29**	**256**	⇑*i* P			**Pn**	**02 01 47.8**	**-0.6**
PB05				*i* S			**Sn**	**02 02 06.1**	**+0.1**
PB05				IAML				02 02 08.5	
	comp=E,267nm,0.4s								
PB02	**IPOC Station P**	**1.57**	**321**	*i* P			**Pn**	**02 01 51.0**	**-1.0**
PB02	**IPOC Station P**	**1.57**	**321**	⇓*i* P			**Pn**	**02 01 51.7**	**-0.3**
PB02				*i* S			**Sn**	**02 02 12.3**	**+0.1**
PB02				IAML				02 02 18.2	
	comp=E,667nm,0.4s								
PB01	**IPOC Station P**	**1.62**	**338**	⇓*i* P			**Pn**	**02 01 52.3**	**-0.3**
PB01				*i* S			**Sn**	**02 02 13.8**	**+0.5**
PB01				IAML				02 02 14.8	
	comp=E,472nm,0.4s								
PB10	**IPOC Station P**	**1.84**	**239**	⇑*i* P			**Pn**	**02 01 55.0**	**-0.4**
PB10				*i* S			**Sn**	**02 02 18.4**	**0.0**
PB08	**IPOC Station P**	**2.42**	**353**	⇑*i* P			**Pn**	**02 02 03.3**	**0.0**
HJA	**Humahuaca**	**3.23**	**102**	*i* P			**Pn**	**02 02 13.9**	**-0.3**
HJA				IAML				02 02 15.9	
	comp=Z,10nm,0.6s								

*SJA **19** 02:07:51.9±0.6, 22°.01S×68°.45W, h139km±6km, ML2.3, MW3.2*
*GUC **19** 02:07:54.4±0.6, 22°.02S×68°.59W, h133km±3km, ML3.4*
ISC 19 02:07:53.4±1.6, 22°.04S±0°.04×68°.52W±0°.07, h135km±11km, n23, σ0s64/43, 12C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.68**	**212**	*i* P			**Pn**	**02 08 14.1**	**-0.4**
LVC				*i* S			**Sn**	**02 08 31.3**	**+0.7**
LVC	**Limon Verde**	**0.68**	**212**	⇓*e* P			**Pn**	**02 08 14.5**	**0.0**
LVC				*i* S			**Sn**	**02 08 29.8**	**-0.8**
PB09	**IPOC Station P**	**0.71**	**289**	*i* P			**Pn**	**02 08 14.9**	**+0.3**
PB09	**IPOC Station P**	**0.71**	**289**	⇑*i* P			**Pn**	**02 08 14.9**	**+0.3**
PB09				*e* S			**Sn**	**02 08 30.0**	**-0.6**
PB03	**IPOC Station P**	**1.15**	**269**	*i* P			**Pn**	**02 08 18.5**	**+0.2**
PB03				*i* S			**Sn**	**02 08 38.3**	**+1.1**
PB03	**IPOC Station P**	**1.15**	**269**	⇑*i* P			**Pn**	**02 08 18.4**	**+0.2**
PB03				*e* S			**Sn**	**02 08 36.3**	**-0.9**
PB03				IAML				02 08 37.7	
	comp=E,804nm,0.2s								
PB06	**IPOC Station P**	**1.18**	**235**	*i* P			**Pn**	**02 08 18.8**	**+0.1**
PB06				*i* S			**Sn**	**02 08 39.0**	**+1.2**
PB06	**IPOC Station P**	**1.18**	**235**	⇑*i* P			**Pn**	**02 08 19.0**	**+0.3**
PB06				*e* S			**Sn**	**02 08 37.6**	**-0.3**
PB06				IAML				02 08 39.0	
	comp=E,647nm,0.1s								
PB07	**IPOC Station P**	**1.31**	**283**	*i* P			**Pn**	**02 08 20.3**	**+0.4**
PB07				*i* S			**Sn**	**02 08 40.9**	**+0.8**
PB07	**IPOC Station P**	**1.31**	**283**	⇑*i* P			**Pn**	**02 08 20.2**	**+0.3**
PB07				*e* S			**Sn**	**02 08 39.2**	**-0.9**
PB07				IAML				02 08 40.3	
	comp=N,796nm,0.2s								
PB01	**IPOC Station P**	**1.34**	**317**	⇑*i* P			**Pn**	**02 08 20.1**	**-0.1**
PB01				*e* S			**Sn**	**02 08 39.7**	**-0.9**
PB01				IAML				02 08 42.1	
	comp=E,454nm,0.2s								
PB15	**IPOC Station P**	**1.46**	**217**	⇓*i* P			**Pn**	**02 08 22.5**	**+0.9**
PB15				*e* S			**Sn**	**02 08 43.5**	**+0.4**
PB02	**IPOC Station P**	**1.47**	**299**	*i* P			**Pn**	**02 08 21.7**	**+0.2**
PB02				*i* S			**Sn**	**02 08 43.3**	**+0.3**
PB02	**IPOC Station P**	**1.47**	**299**	⇑*i* P			**Pn**	**02 08 21.6**	**0.0**
PB02				*e* S			**Sn**	**02 08 41.9**	**-1.1**
PB02				IAML				02 08 43.9	
	comp=E,533nm,0.4s								
PB04	**IPOC Station P**	**1.54**	**259**	*i* P			**Pn**	**02 08 22.8**	**+0.4**
PB04	**IPOC Station P**	**1.54**	**259**	*e* P			**Pn**	**02 08 22.6**	**+0.1**
PB04				*i* S			**Sn**	**02 08 43.7**	**-0.9**
PB04				IAML				02 08 46.2	
	comp=N,699nm,0.2s								
PB05	**IPOC Station P**	**1.76**	**242**	⇑*i* P			**Pn**	**02 08 24.9**	**+0.1**
PB05				*e* S			**Sn**	**02 08 48.0**	**-1.0**
PB05				IAML				02 08 53.6	
	comp=E,278nm,0.4s								
PB08	**IPOC Station P**	**1.98**	**342**	⇑*i* P			**Pn**	**02 08 28.7**	**+0.9**
PB08				*e* S			**Sn**	**02 08 54.7**	**+0.7**
PB08				IAML				02 08 56.6	
	comp=E,235nm,0.3s								
PB10	**IPOC Station P**	**2.39**	**232**	⇑*e* P			**Pn**	**02 08 32.4**	**+0.1**
PB10				*i* S			**Sn**	**02 09 01.4**	**-0.9**
PB10				IAML				02 09 02.4	
	comp=N,110nm,0.7s								
GO01	**Chusmiza**	**2.44**	**345**	⇑*e* P			**Pn**	**02 08 34.2**	**+0.7**
GO01				*i* S			**Sn**	**02 09 04.5**	**+0.2**
GO01				IAML				02 09 07.8	
	comp=E,258nm,0.2s								
PB11	**IPOC Station P**	**2.50**	**335**	⇑*i* P			**Pn**	**02 08 33.6**	**-0.3**
PB11				*i* S			**Sn**	**02 09 04.4**	**-0.8**
PB11				IAML				02 09 08.0	
	comp=N,267nm,0.1s								
HJA	**Humahuaca**	**3.10**	**113**	*i* P			**Pn**	**02 08 41.4**	**-0.4**
HJA				IAML				02 08 45.3	
	comp=Z,6.7nm,0.5s								
GO02	**Mina Guanaco**	**3.26**	**197**	⇑*e* P			**Pn**	**02 08 44.2**	**+0.3**
GO02				*e* S			**Sn**	**02 09 23.2**	**+0.3**

*DJA **19** 02:16:22.6±0.3, 0°.S±3°.×12°.6E±°, h10km, M4.1/13, mb4.3/6, mB4.6/4, MLv4.1/13, Mw(mB)3.8/4*
*ISCJB **19** 02:16:24.4±0.3, 0°.48S±0°.04×125°.57E±0°.04, h57km, mb4.0/18, MS2.8/2, Error ellipse: s-maj=6.2km s-min=5.5km az=142.4*
*IDC **19** 02:16:28.5±3.7, 0°.54S×125°.38E, h75km±35km, mb3.7/14, mb1 3.8/16, mb1mx3.7/44, mbtmp4.0/16, ML4.0/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/26, Error ellipse: s-maj=30.7km s-min=12.6km az=68.0*
*NEIC **19** 02:16:30.7±1.4, 0°.60S×125°.42E, h100km±13km, mb4.1/7, Error ellipse: s-maj=16.2km s-min=6.0km az=62.0*
ISC 19 02:16:26.4±0.5, 0°.48S±0°.06×125°.61E±0°.07, h57km, n43, σ0s87/46, mb4.0/18, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.61**	**166**		P		**Pn**	**02 16 50.6**	**-1.9**
KMSI	**Cibinong**	**1.94**	**303**		P		**Pn**	**02 16 55.5**	**-1.4**
TNTI	**Ternate**	**2.15**	**55**		P		**Pn**	**02 16 58.6**	**-1.3**
TNTI					S		**Sn**	**02 17 25.1**	**-0.3**
LUWI	**Luwuk**	**2.89**	**259**		*e*Pn		Pn	02 17 13.6	+3.6
MRSI	**Marisa**	**3.79**	**284**		P		**Pn**	**02 17 21.2**	**-1.1**
APSI	**Ampana**	**3.98**	**264**		P		**Pn**	**02 17 24.9**	**-0.1**
MPSI	**Mapaga**	**5.77**	**278**		P		**Pn**	**02 17 48.7**	**-0.8**
TTSI	**Tana Toraja**	**6.33**	**246**		P		**Pn**	**02 17 56.7**	**-0.4**
BNSI	**Bone**	**6.74**	**235**		P		**Pn**	**02 18 02.2**	**-0.6**
SPSI	**Sidrap Palu**	**6.79**	**239**		P		**Pn**	**02 18 03.4**	**0.0**
FAKI	**Fak Fak**	**7.07**	**110**		P		**Pn**	**02 18 06.5**	**-0.7**
BKSI	**Bulukumba**	**7.29**	**229**		P		**Pn**	**02 18 10.2**	**-0.1**
KAPI	**Kappang**	**7.38**	**232**		P		**Pn**	**02 18 11.9**	**+0.3**
	1.4nm,0.3s,baz=59,slow=12,SNR=4.2								
FITZ	**Fitzroy Crossi**	**17.51**	**180**		*e*P		**Pn**	**02 20 26.6**	**-0.1**
	4.9nm,0.7s								
FITZ	**Fitzroy Crossi**	**17.51**	**180**		P		**Pn**	**02 20 26.2**	**-0.5**
	0.5nm,0.3s,baz=21,slow=7.5,SNR=14								
WRA	**Warramunga Arr**	**21.15**	**157**		P		**P**	**02 21 06.6**	**-0.3**
	7.2nm,0.5s,baz=339,slow=12,SNR=16								
WR1	**Warramunga Arr**	**21.15**	**157**		*e*P		**P**	**02 21 06.6**	**-0.3**
WB2	**Warramunga Arr**	**21.15**	**157**		*e*P		**P**	**02 21 06.7**	**-0.3**
	10nm,0.8s								
AS31	**Alice Springs**	**24.41**	**161**		*e*P		**P**	**02 21 39.8**	**0.0**
	1.3nm,0.8s								
AS31					*e*PcP		**PcP**	**02 25 18.2**	**+0.4**
ASAR	**Alice Springs**	**24.42**	**161**		*e*P		**P**	**02 21 40.4**	**+0.6**
ASAR					PcP		**PcP**	**02 25 18.2**	**+0.4**
ASAR	**Alice Springs**	**24.42**	**161**		P		**P**	**02 21 40.8**	**+1.0**
	5.1nm,0.9s,baz=342,slow=9.9,SNR=30								
ASAR					PcP		**PcP**	**02 25 18.2**	**+0.4**
	0.5nm,0.5s,baz=350,slow=2.1,SNR=8.9								
CMAR	**Chiang Mai Arr**	**32.27**	**307**		P		**P**	**02 22 49.2**	**-0.7**
	0.8nm,0.3s,baz=139,slow=7.5,SNR=4.8								
CMAR					LR		LR	02 39 28.7	
	comp=Z,8.8nm,18.1s,baz=175,slow=43								
STKA	**Stephens Creek**	**34.70**	**156**		*e*P		**P**	**02 23 12.0**	**+1.2**
	6.8nm,2.0s								
STKA	**Stephens Creek**	**34.70**	**156**		P		**P**	**02 23 12.0**	**+1.2**
	2.5nm,0.5s,baz=334,slow=9.2,SNR=6.8								
STKA					LR		LR	02 39 08.2	
	comp=Z,33nm,19.0s,baz=22,slow=39								
KSAR	**Wonju Array Be**	**37.79**	**3**		P		**P**	**02 23 38.1**	**+1.0**
KSRS	**Korea Array**	**37.80**	**3**		P		**P**	**02 23 38.2**	**+0.9**
	0.7nm,0.7s,baz=182,slow=9.0,SNR=4.1								
KLR	**Kul'dur**	**49.80**	**5**		P		**P**	**02 25 14.5**	**+1.2**
	0.8nm,0.7s,baz=163,slow=11,SNR=3.0								
PETK	**Petropavlovsk-**	**59.72**	**22**		P		**P**	**02 26 26.5**	**+1.4**
	0.9nm,0.6s,baz=93,slow=3.5,SNR=4.6								
PEA1	**Petropavlovsk-**	**59.73**	**22**		*e*P		**P**	**02 26 26.6**	**+1.4**
MK32	**Makanchi Array**	**60.41**	**327**		*e*P		**P**	**02 26 29.2**	**-0.7**
MKAR	**Makanchi Array**	**60.41**	**327**		P		**P**	**02 26 29.2**	**-0.7**
	0.9nm,0.4s,baz=120,slow=8.9,SNR=12								
ZALV	**Zalesovo Beam**	**63.84**	**335**		P		**P**	**02 26 51.3**	**-1.5**
	0.4nm,0.3s,baz=116,slow=6.9,SNR=3.9								
ZAA1	**Zalesovo Array**	**63.85**	**335**		*e*P		**P**	**02 26 51.3**	**-1.5**
KURBB	**Kurchatov Arra**	**64.70**	**329**		P		**P**	**02 26 58.1**	**-0.4**
	1.1nm,0.6s,baz=136,slow=6.5,SNR=12								
KURK	**Kurchatov**	**64.71**	**329**		*e*P		**P**	**02 26 58.0**	**-0.5**
	3.7nm,0.6s								
BVAR	**Borovoye Array**	**70.25**	**328**		P		**P**	**02 27 32.9**	**-0.6**
	0.7nm,0.6s,baz=141,slow=9.6,SNR=7.2								
ABKAR	**Akbulak array**	**74.71**	**322**		*e*P		**P**	**02 27 59.5**	**-0.6**
	1.4nm,0.6s								
AKTO	**Aktyubinsk**	**76.27**	**323**		P		**P**	**02 28 09.3**	**+0.3**
	1.8nm,0.4s,baz=115,slow=5.7,SNR=11								
ARU	**Arti**	**77.89**	**328**		*e*P		**P**	**02 28 17.3**	**-0.6**
	4.8nm,0.9s								
ARU	**Arti**	**77.89**	**328**		P		**P**	**02 28 17.7**	**-0.3**
	1.1nm,0.6s,baz=128,slow=3.5,SNR=4.9								
VNDA	**Vanda**	**79.42**	**172**		P		**P**	**02 28 25.9**	**-0.2**
	0.5nm,0.8s,baz=317,slow=6.2,SNR=3.5								
TORD	**Torodi Ar. Bea**	**123.05**	**285**		PKP		**PKPdf**	**02 35 16.4**	**-1.1**
	0.3nm,0.6s,baz=92,slow=2.2,SNR=3.4								
TOA1	**Torodi Ar. Sit**	**123.05**	**285**		*e*PKPdf		**PKPdf**	**02 35 16.4**	**-1.1**

MEX 19 02:23:44.9±0.8, 15°.16N×92°.83W, h112km±7km, MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.60**	**115**		*e*P		Pn	02 24 01.7	-0.9
THIG					*e*S		Sn	02 24 14.8	-1.1
PCIG		**0.66**	**325**		*e*P		Pn	02 24 01.7	-1.4
PCIG					*e*S		Sn	02 24 14.9	-1.9
CCIG	**Comitan**	**1.30**	**31**		*e*P		Pn	02 24 08.9	-0.8
CCIG					*e*S		Sn	02 24 26.9	-1.5

MAN 19 02:35:10.4, 11°.54N×125°.27E, h29km, mb4.0, ML2.8, MS2.4, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.18**	**71**		*e*P		Pn	02 35 17.6	+0.4
BESP					*e*S		Sb	02 35 23.6	+3.3
PLP	**Palo**	**0.47**	**217**		⇓*i* P		Pb	02 35 20.6	+0.3
PLP					*i* S		Sn	02 35 29.1	+0.5
**OC

STKA LR LR 03 06 54.5
comp=Z,237nm,20.7s,baz=24,slow=35
FITZ Fitzroy Crossi 29.32 250 *eP* **P 02 57 57.5 -0.7**
11nm,1.3s
FITZ Fitzroy Crossi 29.32 250 P **P 02 57 57.5 -0.7**
1.7nm,0.7s,baz=76,slow=9.6,SNR=7.2
MJAR Matsushiro Arr 48.11 342 P **P 03 00 35.4 +0.4**
0.5nm,0.6s,baz=140,slow=6.2,SNR=2.9
MJAR LR LR 03 18 17.3
comp=Z,77nm,21.9s,baz=125,slow=33
MAJO Matsushiro 48.11 342 *eP* **P 03 00 35.4 +0.4**
KSRS Korea Array 52.76 333 LR LR 03 22 26.0
comp=Z,30nm,19.2s,baz=146,slow=35
USRK Ussuriysk Ar. 57.03 341 LR LR 03 23 30.1
comp=Z,29nm,21.4s,baz=137,slow=33
MK32 Makanchi Array 84.81 319 *eP* **P 03 04 29.7 +0.2**
MKAR Makanchi Array 84.81 319 P **P 03 04 29.7 +0.2**
0.5nm,0.6s,baz=108,slow=7.6,SNR=4.6
ILAR Eielson Array 85.70 22 P **P 03 04 34.7 +1.3**
0.2nm,0.8s,baz=241,slow=4.1,SNR=4.1
ILB Eielson Array 85.70 22 *eP* **P 03 04 34.8 +1.3**
11nm,1.7s
ZALV Zalesovo Beam 85.81 326 P **P 03 04 34.2 0.0**
0.9nm,0.5s,baz=127,slow=6.2,SNR=4.1
ZAA1 Zalesovo Array 85.81 326 *eP* **P 03 04 34.2 0.0**
SYP Santa Ynez Pea 91.56 55 *eP* **P 03 05 03.2 +0.9**
GLK Glacier Lake 92.52 43 *eP* **P 03 05 03.8 -2.5**
WPW White Pass 92.59 43 *eP* **P 03 05 06.2 -0.5**

DDA ***19*** *03:13:57.6, 38.°59N×44.°24E, h7km±2km, ML2.5*
ISK ***19*** *03:13:57.0, 38.°60N×44.°21E, h5km, ML2.3/6*
ISC 19 03:13:58.4±1.5, 38.°57N±0.°04×44.°27E±0.°07, h9km±15km, n14, σ1§28/19, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASK	**Baskale_VAN**	**0.56**	**202**	*i* P	**Pg**	**03 14 09.2**	**+0.1**
CLDR	**Caldiran**	**0.64**	**334**	PG	**Pg**	**03 14 09.4**	**-1.4**
CLDR				SG	**Sg**	**03 14 18.7**	**-0.5**
CLDR	**Caldiran**	**0.64**	**334**	IAML_P			
	comp=Z,3μm,0.2s						
CLDR				*i* P	**Pg**	**03 14 09.2**	**-1.6**
CLDR				*i* S	**Sg**	**03 14 19.6**	**+0.4**
TVAN	**Van**	**0.68**	**267**	IAML_P			
	comp=Z,1μm,0.3s						
TVAN				*i* P	**Pg**	**03 14 11.1**	**-0.5**
VMUR	**Van-Muradiye**	**0.69**	**308**	*i* P	**Pg**	**03 14 12.8**	**+1.1**
VMUR				*i* S	**Sg**	**03 14 24.1**	**+3.3**
VANB	**Van**	**0.69**	**273**	PG	**Pg**	**03 14 10.5**	**-1.2**
YOVA	**Hakkari_Yksek**	**0.98**	**179**	IAML_P			
	comp=Z,997nm,0.2s						
YOVA				*i* P	**Pb**	**03 14 17.7**	**+0.2**
GEVA	**Gevas**	**0.98**	**255**	IAML_P			
	comp=Z,680nm,0.3s						
GEVA				*i* P	**Pg**	**03 14 15.6**	**-1.7**
GEVA				*i* S	**Sg**	**03 14 30.4**	**+0.2**
AKDM	**Akdamar-Van**	**1.04**	**257**	PG	**Pg**	**03 14 16.9**	**-1.5**
AKDM				SG	**Sg**	**03 14 32.4**	**+0.5**
ADCV	**BITLIS_Adilcev**	**1.23**	**282**	*i* P	**Pg**	**03 14 21.5**	**-0.6**
TUTA	**Tutak**	**1.41**	**307**	IAML_P			
	comp=Z,401nm,0.2s						
TUTA				*i* P	**Pn**	**03 14 24.0**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.42**	**359**	PN	**Pn**	**03 14 24.9**	**+0.6**
AGRB	**Hanur-Agry**	**1.42**	**316**	PN	**Pn**	**03 14 24.5**	**+0.1**
GNI	**Garni**	**1.62**	**13**	PN	**Pn**	**03 14 27.4**	**+0.1**

ISCJB ***19*** *03:37:08.6±0.5, 36.°87S±0.°03×70.°66W±0.°08, h100km, mb3.7/4, Error ellipse: s-maj=9.5km s-min=4.8km az=175.7*
IDC ***19*** *03:37:09.9±2.6, 36.°77S×70.°69W, h105km±38km, mb3.4/5, mb1 3.6/8, mb1mx3.4/31, mbtmp3.9/8, Error ellipse: s-maj=105.9km s-min=16.5km az=91.0*
GUC ***19*** *03:37:09.9±0.6, 36.°84S×70.°91W, h122km±13km, ML4.0*
ISC 19 03:37:09.5±0.8, 36.°84S±0.°04×70.°77W±0.°09, h100km, n19, σ1§16/24, mb3.8/4, 1C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.08**	**282**	⇑*i* P	**Pn**	**03 37 31.7**	**+0.9**
CCHI				*i* S	**Sn**	**03 37 47.8**	**+1.0**
GO05	**Huala**	**2.05**	**332**	⇓*i* P	**Pn**	**03 37 43.5**	**+0.7**
GO05				*i* S	**Sn**	**03 38 08.6**	**+0.3**
GO05				IAML		03 38 10.2	
	comp=E,637nm,0.6s						
GO06	**Curarrehue**	**2.80**	**191**	*i* P	**Pn**	**03 37 53.5**	**+0.8**
LMEL	**Las Melosas**	**3.02**	**9**	⇓*i* P	**Pn**	**03 37 58.3**	**+2.5**
ANTU	**Antumapu**	**3.26**	**2**	*eP*	**Pn**	**03 38 00.3**	**+1.4**
ANTU				IAML		03 38 41.3	
	comp=E,237nm,0.5s						
CLCH	**Cerro Calan**	**3.44**	**3**	⇓*i* P	**Pn**	**03 38 02.3**	**+1.0**
CLCH				*i* S	**Sn**	**03 38 42.0**	**+0.8**
CLCH				IAML		03 38 44.7	
	comp=E,300nm,0.4s						
FCH	**Farellones**	**3.52**	**7**	*eP*	**Pn**	**03 38 03.7**	**+1.0**
FCH				*i* S	**Sn**	**03 38 44.9**	**+1.3**
PEL	**Peldehue**	**3.69**	**1**	⇓*i* P	**Pn**	**03 38 05.0**	**+0.4**
PEL				*i* S	**Sn**	**03 38 48.1**	**+1.0**
PLCA	**Paso Flores**	**3.89**	**178**	P	**Pn**	**03 38 08.8**	**+1.5**
	comp=E,7.6nm,0.3s,baz=6.6,slow=12,SNR=264						
LVC	**Limon Verde**	**14.27**	**7**	P	**Pn**	**03 40 26.1**	**-1.3**
	comp=E,0.2nm,0.3s,baz=219,slow=13,SNR=2.9						
USHA	**Ushuaia**	**18.07**	**176**	P	**P**	**03 41 13.8**	**+0.9**
	comp=E,0.2nm,0.3s,baz=343,slow=9.1,SNR=2.7						
LPAZ	**La Paz**	**20.60**	**7**	P	**P**	**03 41 41.0**	**-0.4**
	comp=E,0.9nm,0.7s,baz=176,slow=7.4,SNR=4.5						
SIV	**San Ignacio**	**22.48**	**25**	P	**P**	**03 41 59.6**	**-1.1**
	comp=E,1.0nm,0.8s,baz=203,slow=11,SNR=6.9						
VNA3	**Neumayer Olymp**	**46.35**	**157**	P	**P**	**03 45 24.4**	**-0.7**
VNA2	**Neumayer-Watz**	**47.00**	**156**	P	**P**	**03 45 29.5**	**-0.7**
	baz=276,slow=8.5						
SNAA	**Sanae**	**48.57**	**157**	P	**P**	**03 45 41.5**	**-0.9**
SNAA	**Sanae**	**48.57**	**157**	P	**P**	**03 45 41.5**	**-0.9**
	comp=E,0.9nm,0.5s,baz=298,slow=9.5,SNR=14						
BOSA	**Boshof**	**77.86**	**117**	P	**P**	**03 48 57.5**	**+1.0**
	comp=E,2.5nm,0.8s,baz=233,slow=5.7,SNR=8.4						
TORD	**Torodi Ar. Bea**	**84.23**	**69**	P	**P**	**03 49 28.8**	**-1.4**
	comp=E,0.8nm,1.0s,baz=245,slow=5.5,SNR=6.8						

IDC ***19*** *03:41:18.4±0.6, 56.°08N×164.°64E, h0km, mb4.1/26, mb1 4.2/29, mb1mx4.2/47, mbtmp4.1/29, ML4.6/3, MS4.2/32, Ms1 4.2/32, ms1mx4.2/39, Error ellipse: s-maj=14.6km s-min=9.6km az=160.0*
KRSC ***19*** *03:41:19.0±10.0, 56.°00N×164.°83E, h71km±10km, ML5.2, FELT [II] at Nikolskoe.*
MOS ***19*** *03:41:21.7±0.9, 56.°08N×164.°61E, h39km, mb5.0/55, MS4.3/15, Error ellipse: s-maj=5.3km s-min=3.9km az=67.5*
NEIC ***19*** *03:41:21.7±1.4, 56.°17N×164.°41E, h21km±10km, mb5.0/74, Error ellipse: s-maj=5.4km s-min=2.7km az=159.0*
GCMT ***19*** *03:41:21.7±0.2, 56.°16N±0.°01×164.°79E±0.°02, h23km±1km, MW5.2/112, Moment Tensor Solution. s76,c120; s112,c185; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}0.09±.15; $M_{\theta\theta}$-6.45±.15; $M_{\phi\phi}$6.36±.15; $M_{r\theta}$-0.05±.22; $M_{\theta\phi}$-1.79±.13; $M_{r\phi}$0.88±.21; Best double couple: M_0=6.70900×10^16 NP1:ϕ_s37.00000°, δ85.00000°, λ6.00000°. NP2:ϕ_s307.00000°, δ84.00000°, λ175.00000°. Principal axes: T 6.7210, Plg8.0000°, Azm262.0000°; N -0.0260, Plg82.0000°, Azm78.0000°; P -6.6960, Plg1.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***19*** *03:41:22.8±0.0, 56.°28N×163.°21E, h9km, mb4.7/47, mB4.9/35, Ms5.1/38, Ms7 4.8/37*
ISCJB ***19*** *03:41:29.3±0.4, 56.°10N±0.°03×163.°41E±0.°03, h61km±3km, mb4.8/148, Error ellipse: s-maj=4.6km s-min=2.8km az=156.3*
ISC 19 03:41:26.1±0.6, 56.°06N±0.°03×163.°92E±0.°03, h27km±4km, n711, σ2§73/634, mb4.8/155, MS4.4/55, 30C-5D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.63**	**284**	*eP*	**Pn**	**03 41 38.5**	**-0.7**
KBTR	**Krutoberegovo**	**0.63**	**284**	PN	**Pn**	**03 41 38.5**	**-0.7**
KBG	**Krutoberegovo**	**0.71**	**287**	*eP*	**Pn**	**03 41 39.6**	**-0.6**
KBG				*eS*	**Sn**	**03 41 54.6**	**+4.4**
KBG	**Krutoberegovo**	**0.71**	**287**	PN	**Pn**	**03 41 39.6**	**-0.6**
KBG				S	**Sn**	**03 41 54.6**	**+4.4**
BKI	**Bering**	**1.45**	**126**	*eP*	Pn	03 41 39.3	-11
BKI				*eS*	Sn	03 41 53.2	-15
BKI	**Bering**	**1.45**	**126**	PN	Pn	03 41 39.3	-11
BKI				S	Sn	03 41 53.2	-15
SMKR	**Semkarok**	**1.46**	**292**	*eP*	**Pn**	**03 41 51.7**	**+1.0**
SMKR				*eS*	**Sb**	**03 42 15.5**	**+4.7**
SMKR	**Semkarok**	**1.46**	**292**	PN	**Pn**	**03 41 51.7**	**+1.0**
SMKR				S	**Sb**	**03 42 15.5**	**+4.7**
BDR	**Baidarnaya**	**1.59**	**290**	*eP*	**Pn**	**03 41 54.0**	**+1.5**
BDR				*eS*	**Sb**	**03 42 19.9**	**+5.3**
BDR	**Baidarnaya**	**1.59**	**290**	PN	**Pn**	**03 41 54.0**	**+1.5**
BDR				S	**Sb**	**03 42 19.9**	**+5.3**
SRKR	**Sorokina**	**1.64**	**292**	*eP*	**Pn**	**03 41 54.6**	**+1.4**
SRKR	**Sorokina**	**1.64**	**292**	PN	**Pn**	**03 41 54.6**	**+1.4**
CIRR	**Tsirk**	**1.78**	**273**	*eP*	**Pn**	**03 41 57.3**	**+2.2**
CIRR	**Tsirk**	**1.78**	**273**	PN	**Pn**	**03 41 57.3**	**+2.2**
LGNR	**Loginova**	**1.81**	**272**	*eP*	**Pn**	**03 41 58.0**	**+2.3**
LGNR	**Loginova**	**1.81**	**272**	PN	**Pn**	**03 41 58.0**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**1.81**	**268**	*eP*	**Pn**	**03 41 57.9**	**+2.3**
BZGR				*eS*	**Sb**	**03 42 26.7**	**+5.7**
BZGR	**Bezymyannyi-Gr**	**1.81**	**268**	PN	**Pn**	**03 41 57.9**	**+2.3**
BZGR				S	**Sb**	**03 42 26.7**	**+5.7**
KLY	**Klyuchi**	**1.84**	**279**	*eP*	**Pn**	**03 41 56.3**	**+0.4**
KLY				*eS*	**Sb**	**03 42 23.6**	**+1.9**
KLY	**Klyuchi**	**1.84**	**279**	PN	**Pn**	**03 41 56.3**	**+0.4**
KLY				S	**Sb**	**03 42 23.6**	**+1.9**
KRSR	**Krestovskiy**	**1.89**	**276**	*eP*	**Pn**	**03 41 58.1**	**+1.6**
KRSR	**Krestovskiy**	**1.89**	**276**	PN	**Pn**	**03 41 58.1**	**+1.6**
BZWR	**Bezymyannyi-We**	**1.93**	**269**	*eP*	**Pn**	**03 41 59.7**	**+2.5**
BZWR	**Bezymyannyi-We**	**1.93**	**269**	PN	**Pn**	**03 41 59.7**	**+2.5**
BZMR	**Bezymyannaya**	**1.93**	**268**	*eP*	**Pn**	**03 41 59.6**	**+2.4**
BZMR				*eS*	**Sb**	**03 42 29.8**	**+5.5**
BZMR	**Bezymyannaya**	**1.93**	**268**	PN	**Pn**	**03 41 59.6**	**+2.4**
BZMR				S	**Sb**	**03 42 29.8**	**+5.5**
MKZ	**Mys Kozlova**	**1.96**	**221**	*eP*	**Pn**	**03 41 56.5**	**-0.9**
MKZ				*eS*	**Sb**	**03 42 23.0**	**-2.0**
MKZ	**Mys Kozlova**	**1.96**	**221**	PN	**Pn**	**03 41 56.5**	**-0.9**
MKZ				S	**Sb**	**03 42 23.0**	**-2.0**
KIRR	**Kirishev**	**2.01**	**268**	*eP*	**Pn**	**03 42 00.9**	**+2.6**
KIRR				*eS*	**Sb**	**03 42 31.5**	**+4.8**
KIRR	**Kirishev**	**2.01**	**268**	PN	**Pn**	**03 42 00.9**	**+2.6**
KIRR				S	**Sb**	**03 42 31.5**	**+4.8**
KPT	**Kopyto**	**2.08**	**269**	*eP*	**Pn**	**03 42 01.8**	**+2.6**
KPT				*eS*	**Sb**	**03 42 33.8**	**+5.3**
KPT	**Kopyto**	**2.08**	**269**	PN	**Pn**	**03 42 01.8**	**+2.6**
KPT				S	**Sb**	**03 42 33.8**	**+5.3**
KMNR	**Kamenistaya**	**2.10**	**263**	*eP*	**Pb**	**03 42 02.4**	**-1.0**
KMNR	**Kamenistaya**	**2.10**	**263**	PN	**Pb**	**03 42 02.4**	**-1.0**
TUMD	**Tumrok D**	**2.17**	**248**	*eP*	**Pn**	**03 42 02.0**	**+1.6**
TUMD				*eS*	**Sb**	**03 42 31.9**	**+0.7**
KZV	**Kizimen**	**2.27**	**247**	*eP*	**Pn**	**03 42 03.6**	**+1.8**
KZV	**Kizimen**	**2.27**	**247**	PN	**Pn**	**03 42 03.6**	**+1.8**
KOZ	**Kozyrevsk**	**2.27**	**272**	*eP*	**Pn**	**03 42 04.7**	**+3.0**
KOZ				*eS*	**Sb**	**03 42 39.4**	**+5.5**
KOZ	**Kozyrevsk**	**2.27**	**272**	PN	**Pn**	**03 42 04.7**	**+3.0**
KOZ				S	**Sb**	**03 42 39.4**	**+5.5**
TUMR	**Tumrok**	**2.27**	**252**	PN	**Pn**	**03 42 02.0**	**+0.1**
TUMR				S	**Sb**	**03 42 31.9**	**-2.3**
SRDR	**Sredinnyy**	**2.36**	**278**	*eP*	**Pn**	**03 42 05.7**	**+2.6**
SRDR				*eS*	**Sb**	**03 42 40.5**	**+3.8**
SRDR	**Sredinnyy**	**2.36**	**278**	PN	**Pn**	**03 42 05.7**	**+2.6**
SRDR				S	**Sb**	**03 42 40.5**	**+3.8**
ESO	**Esso**	**2.94**	**270**	*eP*	**Pn**	**03 42 13.4**	**+2.5**
ESO	**Esso**	**2.94**	**270**	PN	**Pn**	**03 42 13.4**	**+2.5**
OSSR	**Ossora**	**3.23**	**352**	*eP*	Pn	03 42 10.6	-4.3
OSSR				*eS*	**Sn**	**03 42 46.3**	**-6.2**
OSSR	**Ossora**	**3.23**	**352**	PN	Pn	03 42 10.6	-4.3
PALN	**Palana**	**3.71**	**327**	*eP*	**Pn**	**03 42 20.1**	**-1.4**
PALN	**Palana**	**3.71**	**327**	PN	**Pn**	**03 42 20.1**	**-1.4**
SPN	**Mys Shipunski**	**3.73**	**219**	*eP*	**Pn**	**03 42 20.5**	**-1.3**
SPN				*eS*	**Sn**	**03 43 04.1**	**-0.8**
SPN	**Mys Shipunski**	**3.73**	**219**	PN	**Pn**	**03 42 20.5**	**-1.3**
NLC	**Nalytchevo**	**3.93**	**224**	*eP*	**Pn**	**03 42 24.8**	**+0.3**
NLC				*eS*	**Sn**	**03 43 11.7**	**+2.0**
NLC	**Nalytchevo**	**3.93**	**224**	PN	**Pn**	**03 42 24.8**	**+0.3**
SDLR	**Sedlovina**	**4.04**	**228**	*eP*	**Pn**	**03 42 27.0**	**+0.9**
SDLR				*eS*	**Sn**	**03 43 16.7**	**+4.1**
SDLR	**Sedlovina**	**4.04**	**228**	PN	**Pn**	**03 42 27.0**	**+0.9**
SDLR				S	**Sn**	**03 43 16.7**	**+4.1**
KRER	**Koryakskii**	**4.08**	**230**	*eP*	**Pn**	**03 42 28.1**	**+1.3**
KRER				*eS*	**Sn**	**03 43 19.5**	**+5.9**
KRER	**Koryakskii**	**4.08**	**230**	PN	**Pn**	**03 42 28.1**	**+1.3**
KRER				S	**Sn**	**03 43 19.5**	**+5.9**
KRX	**Arik**	**4.08**	**231**	*eP*	**Pn**	**03 42 28.3**	**+1.5**
KRX	**Arik**	**4.08**	**231**	PN	**Pn**	**03 42 28.3**	**+1.5**
SMAR	**Somma**	**4.08**	**229**	*eP*	**Pn**	**03 42 27.8**	**+0.9**
SMAR				*eS*	**Sn**	**03 43 17.6**	**+3.8**
SMAR	**Somma**	**4.08**	**229**	PN	**Pn**	**03 42 27.8**	**+0.9**
SMAR				S	**Sn**	**03 43 17.6**	**+3.8**
AVH	**Avacha**	**4.11**	**229**	*eP*	**Pn**	**03 42 28.5**	**+1.4**
AVH				*eS*	**Sn**	**03 43 20.0**	**+5.8**
AVH	**Avacha**	**4.11**	**229**	PN	**Pn**	**03 42 28.5**	**+1.4**
AVH				S	**Sn**	**03 43 20.0**	**+5.8**
UGLR	**Uglovaya**	**4.11**	**228**	*eP*	**Pn**	**03 42 28.1**	**+0.9**
UGLR	**Uglovaya**	**4.11**	**228**	PN	**Pn**	**03 42 28.1**	**+0.9**
KOK	**Koryaka**	**4.13**	**230**	*eP*	**Pn**	**03 42 29.1**	**+1.7**
KOK	**Koryaka**	**4.13**	**230**	PN	**Pn**	**03 42 29.1**	**+1.7**
DALK	**Dalny**	**4.27**	**227**	*eP*	**Pn**	**03 42 29.7**	**+0.5**
DALK				*eS*	**Sn**	**03 43 20.3**	**+2.2**
DALK	**Dalny**	**4.27**	**227**	PN	**Pn**	**03 42 29.7**	**+0.5**
PET	**Petropavlovsk**	**4.32**	**227**	*e*Pn	**Pn**	**03 42 30.6**	**+0.7**
PET	**Petropavlovsk**	**4.32**	**227**	*eP*	**Pn**	**03 42 31.0**	**+1.1**
PET				*eS*	**Sn**	**03 43 20.8**	**+1.6**
PET	**Petropavlovsk**	**4.32**	**227**	*e*PN	**Pn**	**03 42 30.8**	**+0.9**
PET				MLR	MLR		
	comp=Z,2μm,15.0s						
PET				MLR	MLR		
	comp=Z,2μm,13.0s						
TILK	**Tilichiki**	**4.55**	**14**	*eP*	Pn	03 42 27.1	-5.9
TILK	**Tilichiki**	**4.55**	**14**	PN	Pn	03 42 27.1	-5.9
PEA1	**Petropavlovsk-**	**4.67**	**233**	*e*Pn	**Pn**	**03 42 36.2**	**+1.5**
PEA1				*e*Sn	**Sn**	**03 43 34.6**	**+6.7**
PEA0B	**Petropavlovsk-**	**4.67**	**233**	*e*Pn	**Pn**	**03 42 34.1**	**-0.6**
PEA0B	**Petropavlovsk-**	**4.67**	**233**	*e*PN	**Pn**	**03 42 34.1**	**-0.6**
PETK	**Petropavlovsk-**	**4.67**	**233**	*e*Pn	**Pn**	**03 42 33.9**	**-0.9**
PETK	**Petropavlovsk-**	**4.67**	**233**	Pn	**Pn**	**03 42 36.2**	**+1.5**
	comp=Z,18nm,0.3s,baz=66,slow=17,SNR=140						
PETK				Sn	**Sn**	**03 43 34.6**	**+6.6**
	comp=Z,8.6nm,0.3s,baz=39,slow=18,SNR=3.2						
KRMR	**Karymshinskiy**	**4.68**	**229**	*eP*	**Pn**	**03 42 36.1**	**+1.3**
KRMR				*eS*	**Sn**	**03 43 32.1**	**+4.0**
KRMR	**Karymshinskiy**	**4.68**	**229**	PN	**Pn**	**03 42 36.1**	**+1.3**
RUS	**Russkaya**	**4.82**	**223**	*eP*	**Pn**	**03 42 36.8**	**0.0**
RUS				*eS*	**Sn**	**03 43 31.8**	**+0.2**
RUS	**Russkaya**	**4.82**	**223**	PN	**Pn**	**03 42 36.8**	**0.0**
MTVR	**Mutnovka**	**4.91**	**226**	*eP*	**Pn**	**03 42 39.7**	**+1.5**
MTVR				*eS*	**Sn**	**03 43 35.8**	**+1.7**
MTVR	**Mutnovka**	**4.91**	**226**	PN	**Pn**	**03 42 39.7**	**+1.5**
APC	**Apacha**	**5.04**	**234**	*eP*	**Pn**	**03 42 42.3**	**+2.6**
APC	**Apacha**	**5.04**	**234**	PN	**Pn**	**03 42 42.3**	**+2.6**
ASAK	**Asacha**	**5.10**	**226**	*eP*	**Pn**	**03 42 42.6**	**+1.9**
ASAK	**Asacha**	**5.10**	**226**	PN	**Pn**	**03 42 42.6**	**+1.9**
KDTR	**Khodutka, Kamc**	**5.48**	**221**	*eP*	**Pn**	**03 42 45.9**	**+0.1**
KDTR				*eS*	**Sn**	**03 43 46.9**	**-0.9**
KDTR	**Khodutka, Kamc**	**5.48**	**221**	PN	**Pn**	**03 42 45.9**	**+0.1**
KMSK	**Kamenskaya**	**6.53**	**9**	*eP*	Pn	03 42 54.7	-5.5
KMSK	**Kamenskaya**	**6.53**	**9**	PN	Pn	03 42 54.7	-5.5
SKR	**Severo-Kuril's**	**7.12**	**224**	*eP*	**Pn**	**03 43 08.8**	**+0.4**
SKR				*eS*	**Sn**	**03 44 29.2**	**+0.9**
SKR	**Severo-Kuril's**	**7.12**	**224**	*e*PN	**Pn**	**03 43 08.9**	**+0.5**
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				MLR	MLR		
	comp=Z,3μm,12.0s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
ALID	**Alaid**	**7.21**	**227**	*eP*	**Pn**	**03 43 10.9**	**+1.2**
ALID	**Alaid**	**7.21**	**227**	PN	**Pn**	**03 43 10.9**	**+1.2**
MA2	**Magadan**	**7.86**	**302**	*e*Pn	**Pn**	**03 43 15.3**	**-3.1**
MA2	**Magadan**	**7.86**	**302**	Pn	**Pn**	**03 43 20.1**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=129,slow=14,SNR=3.3						
MA2				LR	LR	03 46 36.3	
	comp=Z,1μm,20.4s,baz=106,slow=39						
SEY	**Seymchan**	**9.04**	**324**	*e*PN	**Pn**	**03 43 34.8**	**+0.2**
SEY	**Seymchan**	**9.04**	**324**	Pn	**Pn**	**03 43 33.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=140,slow=12,SNR=5.6						
BILL	**Bilibino**	**12.07**	**4**	*e*Pn	Pn	03 44 11.7	-4.3
BILL	**Bilibino**	**12.07**	**4**	*ce*PN	Pn	03 44 12.1	-3.9
BILL				pmax	pmax		
	comp=Z,68nm,1.4s						
OKH	**Okha**	**12.36**	**267**	*de*PN	Pn	03 44 14.4	-5.5
OKH				pmax	pmax		
	comp=Z,200nm,8.3s						
OKH				MLR	MLR		
	comp=Z,2μm,11.0s						
TYV	**Tymovskoe**	**13.67**	**257**	*eP*	**Pn**	**03 44 41.8**	**+3.9**
TYV				*e*		03 47 19.7	
TYV				pmax	pmax		
	comp=Z,39nm,1.5s						
TYV				pmax	pmax		
	comp=Z,600nm,4.1s						
NKL	**Nikolayevsk**	**13.76**	**267**	*eP*	**Pn**	**03 44 42.8**	**+3.7**
NKL				MLR	MLR		
	comp=N,2μm,15.0s						
NKL				MLR	MLR		
	comp=E,900nm,15.0s						
NKL				MLR	MLR		
	comp=Z,1μm,15.0s						
KUR	**Kuril'sk**	**14.83**	**230**	*eP*	**Pn**	**03 44 53.3**	**-0.4**
KUR				S	**Sn**	**03 47 34.9**	**-2.0**
KUR				MLR	MLR		
	comp=Z,1μm,14.0s						
KUR				MLR	MLR		
	comp=E,1μm,13.0s						
YSS	**Yuzh-Sakhalins**	**15.96**	**244**	*e*Pn	**Pn**	**03 45 07.5**	**-1.0**
	comp=E,83nm,1.0s						
YSS	**Yuzh-Sakhalins**	**15.96**	**244**	⇑*eP*	**Pn**	**03 45 08.9**	**+0.4**
YSS				*eS*	**Sn**	**03 48 09.6**	**+5.2**
YSS				pmax	pmax		
	comp=Z,400nm,4.0s						
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,70nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YUK	**Yuzh-Kuril'sk**	**16.65**	**231**	*eP*	**Pn**	**03 45 16.4**	**-0.8**
YUK				pmax	pmax		
	comp=Z,142nm,0.4s						
YUK				MLR	MLR		
	comp=Z,994nm,16.0s						
GRNR	**Gornyy**	**17.16**	**264**	*eP*	**P**	**03 45 28.2**	**+3.1**
GRNR				pmax	pmax		
	comp=Z,63nm,1.0s						
ASAJ	**Asahikawa**	**18.08**	**238**	P	**Pn**	**03 45 35.3**	**+0.3**
	comp=Z,9.3nm,0.3s,baz=30,slow=5.9,SNR=55						
ASAJ				LR	LR	03 52 13.9	
	comp=Z,2μm,20.8s,baz=7.5,slow=36						
YAK	**Yakutsk**	**18.43**	**303**	*eP*	**P**	**03 45 37.7**	**-1.3**
YAK				*eS*	**Sn**	**03 48 59.7**	**-4.3**
YAK				pmax	pmax		
	comp=Z,85nm,1.0s						
YAK				pmax	pmax		
	comp=E,80nm,1.4s						
YAK				pmax	pmax		
	comp=N,9.0nm,0.9s						
YAK				smax	smax		
	comp=N,369nm,3.0s						
YAK				smax	smax		
	comp=E,225nm,2.5s						
YAK				MLR	MLR		
	comp=Z,4μm,17.0s						
YAK				MLR	MLR		
	comp=N,3μm,13.0s						
YAK				MLR	MLR		
	comp=E,2μm,17.0s						
RDOG	**Red Dog Mine**	**19.33**	**38**	*eP*	P	03 45 42.4	-6.4
	comp=E,20nm,1.1s						
ERM	**Erimo**	**19.45**	**232**	*eP*	**P**	**03 45 49.8**	**-0.5**
	comp=E,64nm,0.4s						
ERM	**Erimo**	**19.45**	**232**	*i* P	**P**	**03 45 48.4**	**-1.9**
TEY	**Ternei**	**20.42**	**249**	⇑*eP*	**P**	**03 46 01.2**	**+0.4**
TEY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLR	**Kul'dur**	**20.54**	**264**	*i* P	**P**	**03 46 01.9**	**-0.2**
KLR				pmax	pmax		
	comp=Z,18nm,1.1s						
KLR	**Kul'dur**	**20.54**	**264**	P	**P**	**03 46 02.2**	**+0.1**
	comp=Z,8.8nm,0.7s,baz=52,slow=10,SNR=23						
KLR				LR	LR	03 54 57.1	
	comp=Z,1μm,18.4s,baz=56,slow=39						
ZEA	**Zeya**	**21.06**	**279**	*eP*	**P**	**03 46 07.2**	**-0.5**
ZEA				pmax	pmax		
	comp=Z,37nm,1.4s						
ZEA				MLR	MLR		
	comp=Z,1μm,14.0s						
ZEA				MLR	MLR		
	comp=E,800nm,16.0s						
ZEA				MLR	MLR		
	comp=N,2μm,13.0s						

comp=Z,20nm,1.0s
BOD Bodaibo 26.79 295 *e*P P 03 46 56.6 -6.8
BOD pmax pmax
comp=Z,9.0nm,1.9s
BCAR Beaver Creek A 27.61 53 *e*P P 03 47 03.2 -7.5
BCAR *e*pwP pP 03 47 13.7 -3.9
DAWY Dawson 28.48 50 *e*P P 03 47 13.1 -5.4
comp=Z,9.8nm,0.9s
EPYK Eagle Plains 29.21 45 P **P** **03 47 27.6 +2.6**
baz=279
INK Inuvik 30.16 41 P P 03 47 27.4 -5.9
comp=Z,0.6nm,0.4s,baz=273,slow=5.4,SNR=6.8
INK LR LR 04 01 28.4
comp=Z,471nm,18.6s,baz=256,slow=40
KSRS Korea Array 30.41 248 P **P** **03 47 34.9 -0.8**
comp=Z,3.0nm,0.5s,baz=36,slow=8.5,SNR=23
KSRS LR LR 03 59 41.8
comp=Z,445nm,18.9s,baz=60,slow=36
KS15 Wonju Array Si 30.43 248 *e*P **P** **03 47 34.9 -1.1**
comp=Z,99nm,1.8s
KSAR Wonju Array Be 30.43 248 *e*P **P** **03 47 33.9 -2.1**
KSAR Wonju Array Be 30.43 248 *e*P **P** **03 47 33.9 -2.1**
JNU Nakatsue 32.35 239 *e*P **P** **03 47 52.1 -0.8**
comp=Z,112nm,1.9s
JNU Nakatsue 32.35 239 P **P** **03 47 54.6 +1.8**
comp=Z,9.5nm,1.0s,baz=180,slow=2.0,SNR=4.6
JIS Juneau Island 32.50 60 *e*P P 03 47 48.3 -5.6
comp=Z,55nm,1.2s
DL2 Dalian 32.70 256 *e*P P 03 47 50.5 -5.3
DL2 S S 03 53 01.0 -9.3
DL2 pmax pmax
comp=Z,14nm,1.3s
DL2 pmax pmax
comp=Z,65nm,6.4s
DL2 LR LR
comp=Z,2μm,16.6s
DL2 LR LR
comp=Z,1μm,16.2s
DL2 LR LR
comp=Z,1μm,12.8s
DLBC Dease Lake 34.53 58 *e*P P 03 48 06.5 -5.2
comp=Z,24nm,0.9s
TLY Talaya 34.82 289 *i*P **P** **03 48 14.8 +0.6**
NRIK Noril'sk 34.82 323 P **P** **03 48 12.5 -1.5**
comp=Z,4.2nm,0.6s,baz=91,slow=8.3,SNR=3.8
NRIK LR LR 04 02 52.8
comp=Z,516nm,18.1s,baz=74,slow=37
BJI Beijing 34.91 263 *e*P **P** **03 48 17.1 +2.1**
BJI S **S** **03 53 42.3 -2.2**
BJI pmax pmax
comp=Z,6.0nm,1.0s
BJI LR LR
comp=Z,2μm,15.2s
BJI LR LR
comp=Z,1μm,16.1s
BJI LR LR
comp=Z,520nm,21.6s
ULN Ulaanbaatar 35.06 281 *e*P **P** **03 48 15.6 -0.9**
comp=Z,17nm,1.3s
ULN Ulaanbaatar 35.06 281 *ce*P **P** **03 48 15.6 -0.9**
ULN pmax pmax
comp=Z,16nm,1.3s
SONA0 Songino Array 35.44 281 *e*P **P** **03 48 19.3 -0.5**
SONM Songino Array 35.44 281 *e*P **P** **03 48 18.1 -1.7**
SONM Songino Array 35.44 281 *e*P **P** **03 48 18.1 -1.7**
SONM Songino Array 35.44 281 P **P** **03 48 19.3 -0.5**
comp=Z,5.1nm,0.7s,baz=61,slow=8.6,SNR=14
SONM LR LR 04 04 21.2
comp=Z,586nm,18.0s,baz=54,slow=39
ZAK Zakamensk 35.70 287 *e*P **P** **03 48 19.9 -2.0**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
H11N2 WAKE ISLAND Hy 36.34 175 T T 04 27 17.2
baz=357,slow=76,SNR=4.8
H11N3 WAKE ISLAND Hy 36.35 175 T T 04 27 32.3
baz=357,slow=76,SNR=3.6
H11N1 WAKE ISLAND Hy 36.36 175 T T 04 27 32.3
baz=357,slow=76,SNR=3.0
HHC Hu-ho-hao-te 36.94 268 *e*P **P** **03 48 32.8 +0.2**
HHC pmax pmax
comp=Z,88nm,0.9s
HHC pmax pmax
comp=Z,320nm,5.2s
HHC LR LR
comp=Z,990nm,13.2s
HHC LR LR
comp=Z,680nm,14.4s
HHC LR LR
comp=Z,900nm,13.5s
H11S1 WAKE ISLAND Hy 37.55 176 T T 04 27 51.9
baz=359,slow=76,SNR=50
H11S3 WAKE ISLAND Hy 37.56 176 T T 04 27 51.6
baz=359,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 37.56 176 T T 04 27 51.6
baz=359,slow=76,SNR=47
NJ2 Nanjing 39.32 252 *e*P **P** **03 48 51.6 -0.9**
NJ2 pmax pmax
comp=Z,15nm,0.6s
NJ2 LR LR
comp=Z,1μm,17.9s
NJ2 LR LR
comp=Z,1μm,16.8s
NJ2 LR LR
comp=Z,920nm,20.6s
YKA Yellowknife Ar 39.48 46 P P 03 48 47.3 -6.3
comp=Z,0.6nm,0.4s,baz=298,slow=8.1,SNR=14
RES Resolute Bay 39.72 24 *e*P P 03 48 50.5 -4.9
comp=Z,8.4nm,1.4s
RES Resolute Bay 39.72 24 *e*P P 03 48 50.5 -4.9
RES pmax pmax
comp=Z,8.0nm,1.4s
RES Resolute Bay 39.72 24 P P 03 48 50.5 -4.9
comp=Z,1.6nm,0.8s,baz=326,slow=9.1,SNR=6.6
RES LR LR 04 05 50.4
comp=Z,187nm,21.8s,baz=328,slow=37
ZALV Zalesovo Beam 43.08 302 P **P** **03 49 24.5 +1.4**
comp=Z,0.3nm,0.4s,baz=52,slow=8.4,SNR=2.6
ZALV PP **PP** **03 51 02.8 -0.3**
comp=Z,0.4nm,0.4s,baz=49,slow=14,SNR=2.5
ZALV LR LR 04 08 27.6
comp=Z,308nm,19.6s,baz=46,slow=38
NVS Novosibirsk 43.30 304 *e*P **P** **03 49 22.9 -2.0**
A04D Lummi Island 43.40 67 P **P** **03 49 28.4 +2.6**
baz=309
D03D Eldon 43.94 69 P **P** **03 49 33.8 +3.5**
baz=310
B05A Bryant 44.00 68 P **P** **03 49 33.9 +3.3**
baz=309,SNR=8.6
D04E Lakebay 44.34 69 P **P** **03 49 35.9 +2.6**
baz=310
DGZ Jazzator, Alta 44.38 295 *i*P **P** **03 49 32.6 -1.3**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
GTA Gaotai 44.50 276 ⇑P **P** **03 49 34.1 -0.9**
GTA pP pP 03 49 41.8 -0.4
GTA sP pwP 03 49 45.0 -1.6
GTA pmax pmax
comp=Z,14nm,1.1s
GTA pmax pmax
comp=Z,79nm,5.7s
GTA LR LR
comp=Z,1μm,19.4s
GTA LR LR
comp=Z,1μm,20.3s
GTA LR LR
comp=Z,880nm,20.0s
LZH Lanzhou 44.59 270 *e*P **P** **03 49 34.5 -1.3**
LZH pP pP 03 49 37.5 -5.6
LZH sP sP 03 49 39.6 -6.3
LZH *e*S **S** **03 56 10.9 +1.0**
LZH sS pS 03 56 18.8 -0.4
LZH pmax pmax
comp=Z,12nm,1.1s
LZH pmax pmax
comp=Z,160nm,4.3s
LZH LR LR
comp=Z,1μm,14.1s
LZH LR LR
comp=Z,920nm,15.2s
LZH LR LR
comp=Z,1μm,15.4s
C06D Leavenworth 44.84 67 P **P** **03 49 40.5 +3.1**
baz=310
E04D Cinebar 44.84 70 P **P** **03 49 40.8 +3.3**
baz=311,SNR=7.7
GUMO Guam 44.86 207 LR LR 04 06 27.0
comp=Z,93nm,19.1s,baz=12,slow=34

F04D Rainier, OR 44.92 71 P **P** **03 49 41.7 +3.6**
baz=311
G03D McMinnville, O 45.35 72 P **P** **03 49 45.1 +3.5**
baz=311
B08A Colville Reser 45.36 66 *e*P P 03 49 36.0 -5.7
I02D Swisshome 45.77 73 P **P** **03 49 48.0 +3.2**
baz=312
H04D Lebanon 46.09 72 P **P** **03 49 50.9 +3.5**
baz=312
I03D Drain, OR 46.31 73 P **P** **03 49 52.1 +3.0**
baz=312
J01E Myrtle Point 46.36 74 P **P** **03 49 52.2 +2.7**
baz=313
G05D Wamic, OR 46.37 70 P **P** **03 49 52.7 +3.2**
baz=312
NEW Newport 46.55 65 P **P** **03 49 54.5 +3.5**
NEW pmax pmax
comp=Z,19nm,1.4s
NEW Newport 46.55 65 P **P** **03 49 53.7 +2.7**
baz=311,SNR=7.2
F07A Phinny Hill Vi 46.66 69 *e*P P 03 49 47.6 -4.2
comp=Z,26nm,0.9s
I04A Tendick Farm, 46.75 73 P **P** **03 49 55.6 +3.0**
baz=313
K02D Willamette Mer 46.82 75 P **P** **03 49 56.1 +2.8**
baz=313
I05D Terrebonne, OR 46.96 71 P **P** **03 49 57.2 +2.9**
baz=312
L02E Cave Junction 47.22 75 P **P** **03 49 59.8 +3.5**
baz=314
J04D Umpqua Nationa 47.29 73 P **P** **03 50 00.1 +3.1**
baz=313
PINE Pine Mountain 47.54 72 *e*P P 03 49 53.6 -5.4
comp=Z,42nm,1.2s
WALA Waterton Lakes 47.64 62 *e*P P 03 49 53.7 -5.9
comp=Z,32nm,1.0s
J05D Fort Rock, OR 47.73 72 P **P** **03 50 03.0 +2.6**
baz=313,SNR=11
L04D Klamath Falls 47.88 74 P **P** **03 50 04.2 +2.6**
baz=314,SNR=7.0
K04D Chiloquin, OR 47.90 73 P **P** **03 50 04.8 +3.2**
baz=314
KURK Kurchatov 48.07 302 *e*P **P** **03 49 59.8 -2.8**
comp=Z,11nm,0.8s
KURK Kurchatov 48.07 302 *de*P **P** **03 50 01.4 -1.3**
KURK pmax pmax
comp=Z,13nm,1.0s
WMQ Urumqi 48.10 289 *e*P **P** **03 50 02.8 -0.3**
WMQ pP pP 03 50 07.0 -4.1
WMQ pmax pmax
comp=Z,45nm,0.7s
WMQ pmax pmax
comp=Z,260nm,3.7s
WMQ LR LR
comp=Z,9μm,18.5s
WMQ LR LR
comp=Z,4μm,19.3s
WMQ LR LR
comp=Z,3μm,22.9s
M02C Callahan 48.16 75 P **P** **03 50 05.8 +2.2**
baz=314,SNR=6.2
KURBB Kurchatov Arra 48.17 302 P **P** **03 50 01.9 -1.6**
comp=Z,6.5nm,0.9s,baz=53,slow=7.9,SNR=14
KURBB PP **PP** **03 51 56.1 +0.5**
comp=Z,1.2nm,0.9s,baz=47,slow=9.4,SNR=4.0
M04C Macdoel 48.43 74 P **P** **03 50 09.4 +3.6**
baz=314,SNR=6.3
CD2 Chengdu 48.47 265 *e*P **P** **03 50 04.6 -1.5**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,1μm,19.1s
CD2 LR LR
comp=Z,1μm,17.2s
CD2 LR LR
comp=Z,810nm,15.7s
N02D Trinity Center 48.53 76 P **P** **03 50 09.7 +3.2**
baz=314,SNR=7.3
MK31 Makanchi Array 48.88 296 *e*P **P** **03 50 07.5 -1.6**
comp=Z,6.3nm,1.2s
MK31 Makanchi Array 48.88 296 *e*P **P** **03 50 07.5 -1.6**
MK31 pmax pmax
comp=Z,6.0nm,1.2s
MKAR Makanchi Array 48.88 296 *e*P **P** **03 50 06.5 -2.6**
MKAR Makanchi Array 48.88 296 P **P** **03 50 07.4 -1.7**
comp=Z,1.4nm,0.4s,baz=56,slow=6.6,SNR=19
MKAR LR LR 04 12 03.8
comp=Z,364nm,19.0s,baz=34,slow=38
MAKZ Makanchi 49.03 296 *e*P **P** **03 50 08.2 -2.0**
comp=Z,5.8nm,0.9s
MAKZ Makanchi 49.03 296 *e*P **P** **03 50 08.2 -2.0**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
O02D Mt. Diablo Mer 49.04 76 P **P** **03 50 13.6 +3.2**
baz=315
MSO Missoula 49.11 64 P **P** **03 50 13.8 +2.8**
baz=313,SNR=11
PLID Pearl Lake 49.25 67 *e*P P 03 50 06.8 -5.4
comp=Z,13nm,1.0s
O03E Paynes Creek 49.49 76 P **P** **03 50 16.8 +3.0**
baz=315,SNR=12
WVOR Wild Horse Val 49.70 71 P **P** **03 50 19.3 +3.8**
WVOR pmax pmax
comp=Z,18nm,1.5s
HRY Holter Researc 50.25 63 *e*P P 03 50 13.6 -6.0
GYA Guiyang 50.29 259 *e*P **P** **03 50 21.4 +1.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 50.31 308 *e*P **P** **03 50 17.3 -2.5**
comp=Z,19nm,0.6s
BRVK Borovoye 50.31 308 *ce*P **P** **03 50 19.5 -0.3**
BRVK pmax pmax
comp=Z,16nm,0.8s
EGMT Eagleton 50.38 60 P **P** **03 50 23.1 +2.6**
baz=314,SNR=6.6
LRM Limekiln Ridge 50.56 64 *e*P P 03 50 10.2 -12
SUMG Summit 50.72 9 *e*P P 03 50 18.5 -4.6
comp=Z,19nm,1.3s
SUMG Summit 50.72 9 *e*P P 03 50 18.5 -4.6
SUMG pmax pmax
comp=Z,19nm,1.3s
MCMT McKenzie Canyo 51.05 65 *e*P P 03 50 19.7 -6.1
HLID Hailey 51.13 67 P **P** **03 50 29.0 +2.6**
baz=315,SNR=8.2
BOZ Bozeman (W) 51.13 64 P **P** **03 50 28.8 +2.6**
baz=314,SNR=8.4
ARA0 ARCESS Array S 51.14 343 *e*P **P** **03 50 22.3 -3.5**
ARCES ARCESS Array B 51.14 343 *e*P P 03 50 22.0 -3.8
ARCES ARCESS Array B 51.14 343 *e*P P 03 50 22.0 -3.8
ARCES ARCESS Array B 51.14 343 P **P** **03 50 22.3 -3.5**
comp=Z,2.9nm,0.8s,baz=51,slow=9.6,SNR=6.1
APA Apatity 51.34 338 ⇑*i*P **P** **03 50 30.8 +3.4**
APA pmax pmax
comp=Z,5.0nm,1.2s
YHH Holmes Hill 52.09 64 *e*P P 03 50 28.1 -5.5
comp=Z,21nm,1.1s
H17A Grant Village 52.50 64 *e*P P 03 50 31.7 -4.9
comp=Z,25nm,1.0s
H17A Grant Village 52.50 64 P P 03 50 41.1 +4.4
baz=316,SNR=8.5
RLMT Red Lodge 52.65 63 *e*P P 03 50 32.7 -4.9
comp=Z,41nm,1.2s
RLMT Red Lodge 52.65 63 P **P** **03 50 39.8 +2.1**
baz=316,SNR=7.3
IMW Indian Meadow 52.67 65 *e*P P 03 50 33.0 -5.0
comp=Z,24nm,1.0s
ARU Arti 52.71 318 *ce*P **P** **03 50 35.0 -2.7**
ARU pmax pmax
comp=Z,15nm,1.3s
PDGK Podgornoye 52.72 294 P **P** **03 50 38.2 +0.1**
PDGK pmax pmax
comp=Z,6.0nm,1.1s
NVAR Mina Array Bea 52.72 75 P P 03 50 31.6 -6.7
comp=Z,1.0nm,0.8s,baz=294,slow=4.7,SNR=3.7
NVAR LR LR 04 11 14.4
comp=Z,179nm,21.8s,baz=289,slow=34
DGMT Dagmar 52.72 57 P **P** **03 50 41.0 +3.0**
baz=316
OTUK Ortayu 52.74 303 P **P** **03 50 37.4 -0.7**
OTUK pmax pmax
comp=Z,9.0nm,1.0s
FXWY Fox Creek 52.81 65 *e*P P 03 50 33.6 -5.4
comp=Z,15nm,1.0s
MDPB Devils Postpil 52.88 76 *e*P P 03 50 33.6 -5.9
comp=Z,30nm,1.2s
MLAC Mammoth, Mammo 53.01 76 P **P** **03 50 44.4 +3.9**
baz=317

LAO LASA Array 53.03 60 *e*P P 03 50 34.9 -5.3
comp=Z,36nm,1.1s
LAO LASA Array 53.03 60 P **P** **03 50 43.4 +3.1**
baz=316,SNR=8.8
LOHW Long Hollow 53.05 65 *e*P P 03 50 35.1 -5.5
comp=Z,18nm,1.0s
PRGR Permogore 53.10 328 *e*P **P** **03 50 37.7 -2.8**
PRGR pmax pmax
comp=Z,22nm,0.9s
TMCR Tamitsa 53.12 334 *e*P **P** **03 50 37.4 -3.2**
TMCR pmax pmax
comp=Z,21nm,1.0s
KMI Kunming 53.51 261 P **P** **03 50 44.8 +0.5**
KMI pP pP 03 50 48.1 -3.7
KMI sP sP 03 50 49.9 -4.6
KMI S **S** **03 58 16.1 +0.6**
KMI SS **SS** **04 01 52.3 -3.3**
KMI pmax pmax
comp=Z,13nm,0.8s
KMI pmax pmax
comp=Z,110nm,5.4s
KMI LR LR
comp=Z,920nm,20.5s
KMI LR LR
comp=Z,640nm,20.0s
KMI LR LR
comp=Z,570nm,19.1s
VOG Valley Oaks Go 53.67 77 P **P** **03 50 48.4 +3.4**
baz=318
TIN Tinemaha, Big 53.76 76 P **P** **03 50 49.1 +3.2**
baz=317
SMMC Simmler 54.07 79 P **P** **03 50 52.0 +3.9**
baz=318
VES Vestal, Richgr 54.19 77 P **P** **03 50 52.0 +3.2**
baz=318,SNR=5.8
BW06 Boulder Array 54.19 65 P **P** **03 50 52.1 +3.1**
baz=317,SNR=8.4
PD31 Pinedale Array 54.19 65 *e*P P 03 50 43.2 -5.8
comp=Z,17nm,1.0s
PDAR Pinedale Array 54.19 65 *e*P P 03 50 43.4 -5.7
PDAR Pinedale Array 54.19 65 P P 03 50 43.0 -6.0
comp=Z,2.7nm,0.8s,baz=322,slow=11,SNR=7.7
PDAR LR LR 04 14 03.9
comp=Z,204nm,21.0s,baz=345,slow=36
R11A Troy Canyon, C 54.24 73 P **P** **03 50 52.9 +3.4**
baz=317,SNR=8.4
GRAC Grapevine Rang 54.27 75 P **P** **03 50 52.8 +3.3**
baz=318
CWC Cottonwood Cre 54.29 76 P **P** **03 50 52.7 +3.0**
baz=318
DUG Dugway, Tooele 54.37 69 *e*P P 03 50 44.0 -6.2
comp=Z,14nm,1.1s
DUG Dugway, Tooele 54.37 69 *e*P P 03 50 44.1 -6.2
DUG pmax pmax
comp=Z,14nm,1.1s
DUG Dugway, Tooele 54.37 69 P **P** **03 50 54.1 +3.9**
baz=317,SNR=7.5
PKM Mcpherson Peak 54.49 79 P **P** **03 50 54.4 +3.2**
baz=318
ISA Isabella, Lake 54.65 77 P P 03 50 56.7 +4.4
baz=318
DAC Darwin (Calif) 54.68 76 *e*P P 03 50 47.9 -4.7
comp=Z,16nm,1.3s
DAC Darwin (Calif) 54.68 76 *e*P P 03 50 47.9 -4.7
DAC pmax pmax
comp=Z,16nm,1.3s
KDJ Kajisay 54.76 295 *e*P **P** **03 50 51.4 -1.7**
comp=Z,8.2nm,1.0s
KDJ Kajisay 54.76 295 *e*P **P** **03 50 51.4 -1.7**
KDJ pmax pmax
comp=Z,8.0nm,1.0s
ARVC Arvin 54.85 78 P **P** **03 50 57.7 +4.0**
baz=318
SBC Santa Barbara 54.88 79 P P 03 50 58.2 +4.4
baz=318
MPMC Manual Prospec 54.90 76 P **P** **03 50 58.1 +3.9**
baz=318,SNR=6.9
TPNV Topopah Spring 54.91 75 *e*P P 03 50 48.4 -5.9
comp=Z,30nm,1.4s
TPNV Topopah Spring 54.91 75 *e*P P 03 50 48.4 -5.9
TPNV pmax pmax
comp=Z,30nm,1.4s
TPNV Topopah Spring 54.91 75 P **P** **03 50 58.3 +4.0**
baz=318,SNR=6.5
FURC Furnace Creek, 54.93 75 P P 03 50 58.6 +4.4
baz=318,SNR=7.7
OUL Oulu 55.02 340 P **P** **03 50 57.3 +2.9**
OUL pmax pmax
comp=Z,14nm,1.0s
PSUT Pine Spring 55.03 71 *e*P P 03 50 49.4 -5.8
comp=Z,16nm,1.2s
ULM Lac du Bonnet 55.18 50 P P 03 50 49.7 -6.2
comp=Z,1.3nm,0.7s,baz=343,slow=8.5,SNR=3.8
ULM LR LR 04 15 54.1
comp=Z,205nm,18.4s,baz=325,slow=38
LRMC Laurel Mtn Rad 55.22 77 P **P** **03 50 59.9 +3.5**
baz=318,SNR=6.6
SCZ2 Santa Cruz Isl 55.25 79 P **P** **03 50 60.0 +3.4**
baz=319
OSI Osito Audit: C 55.29 78 P **P** **03 51 00.2 +3.3**
baz=318
MDND Maddock 55.30 54 P **P** **03 50 59.2 +2.5**
baz=318
KLMR Klimovskoe 55.48 331 *e*P P 03 50 52.8 -5.0
KLMR pmax pmax
comp=Z,18nm,1.3s
BLG Laguna Peak, P 55.48 79 P **P** **03 51 02.1 +3.8**
baz=319
EDW2 Edwards Air Fo 55.49 77 P **P** **03 51 01.5 +3.1**
baz=318,SNR=5.5
SHOC Shoshone, Teco 55.67 75 P **P** **03 51 03.4 +3.8**
baz=318,SNR=5.5
AAK Ala-Archa 55.75 297 *e*P **P** **03 50 58.8 -1.4**
comp=Z,9.3nm,0.8s
AAK Ala-Archa 55.75 297 *ce*P **P** **03 50 58.8 -1.4**
AAK pmax pmax
comp=Z,10.0nm,0.8s
DECC Green Verdugo 55.77 78 P **P** **03 51 04.1 +3.8**
baz=319
K22A Casper 55.80 63 P **P** **03 51 03.7 +3.1**
baz=318,SNR=8.0
SHPR Sheep Range 55.83 74 *e*P P 03 50 55.1 -5.7
comp=Z,21nm,1.6s
GSC Goldstone, Bar 55.83 76 P **P** **03 51 04.5 +3.7**
baz=318,SNR=7.8
SNCC San Nicolas Is 55.87 80 P **P** **03 51 05.2 +4.1**
baz=319
MSU Marysvale 55.94 70 *e*P P 03 50 56.5 -5.2
RSSD Black Hills 55.95 60 *e*P P 03 50 55.4 -6.3
comp=Z,33nm,1.4s
RSSD Black Hills 55.95 60 *e*P P 03 50 55.4 -6.3
RSSD pmax pmax
comp=Z,33nm,1.4s
RSSD Black Hills 55.95 60 P **P** **03 51 04.1 +2.4**
baz=318
RRX Edison Barstow 56.04 77 P **P** **03 51 06.2 +3.9**
baz=319
BFSC Mount Baldy Ra 56.16 78 P **P** **03 51 07.0 +3.7**
baz=319
Q16A Castle Valley 56.17 69 *e*P **P** **03 50 59.5 -3.8**
comp=Z,24nm,1.3s
FMP Fort Macarthur 56.20 79 P **P** **03 51 06.9 +3.5**
baz=319
TUQ Turquoise Moun 56.21 75 P **P** **03 51 07.2 +3.6**
baz=319
SRU San Rafael Swe 56.36 69 *e*P P 03 50 59.1 -5.6
comp=Z,31nm,1.1s
SRU San Rafael Swe 56.36 69 *e*P P 03 50 59.1 -5.6
SRU pmax pmax
comp=Z,31nm,1.1s
CIS Catalina Islan 56.37 79 P **P** **03 51 08.1 +3.5**
baz=319
HEC Hector,Ludlow 56.44 76 P **P** **03 51 08.8 +3.6**
baz=319
BBRC Big Bear Solar 56.54 77 P **P** **03 51 09.3 +3.2**
baz=319
SCI2 San Clemente I 56.61 79 P **P** **03 51 09.5 +3.2**
baz=319
AGMN Agassiz Nation 56.65 52 P **P** **03 51 08.3 +2.0**
baz=319
KNB Kanab 56.70 72 *e*P P 03 51 02.3 -4.8
comp=Z,22nm,1.3s
KNB Kanab 56.70 72 *e*P P 03 51 02.3 -4.8
KNB pmax pmax
comp=Z,22nm,1.3s
O20A White River Ci 56.79 66 *e*P P 03 51 02.7 -5.0
comp=Z,35nm,1.0s

O20A	White River Ci	56.79	66	P	P	03 51 09.6	+1.9
	baz=318,SNR=7.2						
GMRC	Granite Mounta	56.84	76	P	P	03 51 11.9	+3.9
	baz=319,SNR=6.0						
MURC	Murrieta	56.89	78	P	P	03 51 12.2	+3.9
	baz=319						
SUF	Sumiainen	57.09	338	P	P	03 51 07.9	-1.3
SUF				pmax	pmax		
	comp=Z,30nm,1.4s						
BELC	Belle Mtn. Jos	57.24	77	P	P	03 51 13.8	+2.9
	baz=319						
PFO	Pinyon Flats O	57.28	77	P	P	03 51 14.8	+3.6
	baz=319						
KSH	Kashi	57.30	293	P	P	03 51 14.0	+2.7
KSH				PP	PP	03 53 23.0	+4.8
KSH				S	S	03 59 05.6	0.0
KSH				SS	SS	04 02 54.3	-0.2
KSH				pmax	pmax		
	comp=Z,30nm,1.1s						
KSH				pmax	pmax		
	comp=Z,120nm,3.3s						
KSH				LR	LR		
	comp=Z,390nm,7.1s						
KSH				LR	LR		
	comp=Z,420nm,11.9s						
KSH				LR	LR		
	comp=Z,630nm,11.1s						
KK31	Karatay Array	57.37	300	eP	P	03 51 08.3	-3.2
	comp=Z,16nm,0.9s						
KK31	Karatay Array	57.37	300	eP	P	03 51 08.3	-3.2
KK31				pmax	pmax		
	comp=Z,16nm,0.9s						
KKAR	Karatay Array	57.37	300	eP	P	03 51 08.9	-2.7
KKAR	Karatay Array	57.37	300	eP	P	03 51 08.9	-2.7
N23A	Red Feather La	57.39	64	eP	P	03 51 07.1	-5.0
	comp=Z,20nm,1.0s						
N23A	Red Feather La	57.39	64	P	P	03 51 15.2	+3.1
	baz=319,SNR=7.3						
NEE2	Needles Airpor	57.42	75	P	P	03 51 15.6	+3.7
	baz=319						
109C	Camp Elliot, M	57.48	78	P	P	03 51 16.4	+4.0
	baz=320						
VAF	Ylistaro	57.48	340	P	P	03 51 10.7	-1.3
VAF				pmax	pmax		
	comp=Z,26nm,1.2s						
PV09	Paradox Valley	57.54	68	eP	P	03 51 09.3	-3.9
ABKAR	Akbulak array	57.54	311	eP	P	03 51 10.4	-2.2
	comp=Z,14nm,1.4s						
IRM	Iron Mountain	57.59	76	P	P	03 51 16.2	+3.0
	baz=319,SNR=6.0						
BC3	Big Chuckawall	57.80	77	P	P	03 51 17.9	+3.0
	baz=319						
PV18	Skein Mesa, Pa	57.85	68	eP	P	03 51 10.1	-5.1
	comp=Z,30nm,1.2s						
PDMCI	Parker Dam,Lak	58.02	75	P	P	03 51 20.0	+3.8
	baz=319						
SUSD	Miller	58.14	57	P	P	03 51 19.7	+2.8
	baz=319						
SWSC	Sam W. Stewart	58.15	77	P	P	03 51 21.4	+4.2
	baz=320						
IKP	In-Ko-Pah, Jac	58.20	78	P	P	03 51 20.9	+3.2
	baz=320						
Y12C	Blythe	58.23	76	P	P	03 51 21.2	+3.5
	baz=320						
FIA0	FINESS Array S	58.25	338	eP	P	03 51 14.1	-3.3
FIA0	FINESS Array S	58.25	338	eP	P	03 51 14.1	-3.3
FINES	FINESS Array B	58.25	338	eP	P	03 51 13.5	-3.9
FINES	FINESS Array B	58.25	338	eP	P	03 51 13.5	-3.9
FINES	FINESS Array B	58.25	338	P	P	03 51 14.1	-3.3
	comp=Z,2.4nm,0.7s,baz=29,slow=7.4,SNR=19						
FINES				LR	LR	04 19 41.3	
	comp=Z,282nm,19.2s,baz=38,slow=40						
ISCO	Idaho Springs	58.38	65	P	P	03 51 22.5	+3.4
	baz=319,SNR=9.2						
GLA	Glamis	58.60	77	P	P	03 51 23.9	+3.6
	baz=320						
WUAZ	Wupatki	58.60	72	P	P	03 51 23.8	+3.3
	baz=319						
EYMN	Ely	58.81	50	P	P	03 51 24.5	+3.0
	baz=321						
MVCO	Mesa Verde	58.84	69	P	P	03 51 25.4	+3.1
	baz=319						
PANO	Nakornpanom	58.91	254	P	P	03 51 23.2	+0.6
	comp=Z,1.1nm,1.2s,comp=Z,17nm						
SHL	Shillong	59.23	271	eP	P	03 51 23.5	-1.5
Q24A	Divide	59.24	65	P	P	03 51 28.1	+3.0
	baz=320						
S22A	4UR Ranch, Cre	59.30	67	P	P	03 51 28.2	+2.8
	baz=320						
OGNE	Ogallala	59.30	61	P	P	03 51 28.0	+2.8
	baz=320						
SKNT	Sakolnakorn	59.40	254	P	P	03 51 26.2	+0.2
	comp=Z,33nm,1.3s						
PAYA	Payao	59.70	260	P	P	03 51 28.8	+0.7
	comp=Z,77µm,1.1s						
ECSD	EROS Data Cent	59.77	56	P	P	03 51 30.8	+2.5
	baz=320,SNR=5.1						
W18A	Petrified Fore	59.77	71	P	P	03 51 31.7	+3.1
	baz=320						
C40A	Isle Royale Na	59.82	48	P	P	03 51 30.8	+2.3
	baz=322						
E38A	The Farm, Brul	59.82	51	P	P	03 51 30.7	+2.1
	baz=322						
SDCO	Great Sand Dun	59.99	66	P	P	03 51 32.5	+2.3
	baz=320						
F37A	Hinrichs Farm,	60.04	52	P	P	03 51 32.5	+2.4
	baz=321						
F38A	Pierce - Schro	60.19	51	P	P	03 51 32.6	+1.5
	baz=322						
PHRA	Phrae	60.20	259	P	P	03 51 32.0	+0.5
	comp=Z,6.2nm,1.5s,comp=Z,115nm						
MOS	Moscow	60.33	328	eP	P	03 51 34.6	+2.7
SPMN	Marine on St.	60.35	52	P	P	03 51 34.2	+2.0
	baz=322						
E39A	Mellen	60.43	50	P	P	03 51 35.0	+2.2
	baz=322						
KSCO	Kaye Shedlock'	60.48	63	P	P	03 51 36.2	+2.9
	baz=320						
LAMP	Lampang	60.51	259	P	P	03 51 34.2	+0.6
	comp=Z,82µm,0.9s,comp=Z,764µm						
214A	Organ Pipe Nat	60.53	76	P	P	03 51 36.6	+3.0
	baz=320						
KHON	Khomkaen	60.55	255	P	P	03 51 35.5	+1.7
	comp=Z,52µm,0.8s						
GAR	Garm	60.57	297	eP	P	03 51 31.0	-2.9
	comp=Z,54nm,1.3s						
GAR	Garm	60.57	297	eP	P	03 51 31.0	-2.9
GAR				pmax	pmax		
	comp=Z,54nm,1.3s						
UTTA	Uttaradit	60.63	258	P	P	03 51 34.8	+0.4
	comp=Z,45µm,1.1s,comp=Z,629µm						
F39A	Loretta	60.64	51	P	P	03 51 36.4	+2.2
	baz=322						
CMMT	Chiang Mai	60.65	260	P	P	03 51 34.4	-0.2
	comp=Z,16nm,1.1s,comp=Z,318nm						
CHTO	Chiang Mai	60.65	260	eP	P	03 51 33.1	-1.4
	comp=Z,24nm,0.8s						
CHTO	Chiang Mai	60.65	260	P	P	03 51 33.6	-1.0
CHTO				pmax	pmax		
	comp=Z,24nm,0.8s						
E40A	Wakefield	60.66	50	P	P	03 51 37.2	+2.9
	baz=322						
D41A	Chassel	60.74	48	P	P	03 51 36.2	+1.3
	baz=323						
JIRN	Jiri	60.79	277	eP	P	03 51 34.5	-1.4
BGNE	Belgrade	60.84	59	P	P	03 51 37.9	+2.3
	baz=321						
CMAR	Chiang Mai Arr	60.94	260	eP	P	03 51 35.6	-1.0
CMAR	Chiang Mai Arr	60.94	260	P	P	03 51 36.4	-0.1
	comp=Z,17nm,0.9s,baz=20,slow=7.4,SNR=50						
CMAR				LR	LR	04 19 32.8	
	comp=Z,404nm,20.5s,baz=50,slow=37						
F40A	Park Falls	60.98	50	P	P	03 51 38.6	+2.1
	baz=322						
H38A	Maiden Rock	61.01	52	P	P	03 51 38.5	+1.8
	baz=322						
T25A	Trinidad	61.01	66	P	P	03 51 39.9	+2.8
	baz=320						
G39A	Holcombe	61.02	51	P	P	03 51 38.9	+2.2
	baz=322						
E41A	Kenton	61.04	49	P	P	03 51 38.8	+1.9
	baz=323						
RAMN	Ramite	61.11	276	eP	P	03 51 36.6	-1.3
	comp=Z,138nm,0.9s						
OBN	Obninsk	61.18	329	eP	P	03 51 35.1	-2.5
OBN				e		03 52 23.2	
OBN				e		03 53 48.8	
OBN				ePPP	PPP	03 55 15.8	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KKN	Kakani	61.20	278	eP	P	03 51 37.5	-0.9
	comp=Z,50nm,0.5s						
NB2	NORSAR Subarra	61.27	345	P	P	03 51 34.6	-3.7
	comp=Z,14nm,1.0s,baz=17,slow=6.9						
NOA	NORSAR Array B	61.27	345	P	P	03 51 35.4	-2.9
	comp=Z,3.1nm,1.0s,baz=18,slow=6.9,SNR=4.1						
NOA				LR	LR	04 19 49.6	
	comp=Z,52nm,19.0s,baz=0.0,slow=38						
PKI	Pulchoki	61.29	277	eP	P	03 51 38.0	-1.2
	comp=Z,70nm,0.7s						
PKIN	Phulchoki	61.30	277	eP	P	03 51 38.0	-1.2
	comp=Z,53nm,0.6s						
CHAI	Chaiyaphum	61.36	255	P	P	03 51 49.3	+10
TUC	Tucson	61.36	74	P	P	03 51 42.2	+2.8
	baz=321						
GKN	Gorkha	61.39	278	eP	P	03 51 38.5	-1.2
DMN	Daman	61.43	278	eP	P	03 51 39.1	-1.0
	comp=Z,99nm,1.2s						
G40A	Rib Lake	61.46	51	P	P	03 51 41.4	+1.7
	baz=322						
E42A	Champion	61.51	48	P	P	03 51 42.4	+2.3
	baz=323						
F41A	Three Lakes	61.56	50	P	P	03 51 42.6	+2.2
	baz=323						
DANN	Dangsing	61.60	279	eP	P	03 51 40.3	-1.0
	comp=Z,83nm,0.6s						
TASM	ASL Pad, Albuq	61.63	69	P	P	03 51 43.5	+2.2
	baz=321						
TASM	ASL Pad, Albuq	61.63	69	P	P	03 51 43.3	+1.9
	baz=321						
ANMO	Albuquerque	61.63	69	eP	P	03 51 35.3	-6.0
	comp=Z,4.2nm,1.1s						
ANMO	Albuquerque	61.63	69	eP	P	03 51 35.3	-6.0
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
H40A	Chili	61.89	51	P	P	03 51 45.5	+2.8
	baz=323						
E43A	Lone Tree Farm	61.94	48	P	P	03 51 45.6	+2.7
	baz=324						
SCHQ	Schefferville	61.97	31	LR	LR	04 22 38.6	
	comp=Z,236nm,18.3s,baz=6.5,slow=40						
I39A	Houston	61.99	52	P	P	03 51 46.2	+2.8
	baz=322						
CBKS	Cedar Bluff	62.07	61	P	P	03 51 47.5	+3.5
	baz=321						
KOLN	Koldanda	62.14	279	eP	P	03 51 43.6	-1.2
	comp=Z,50nm,0.5s						
PYUN	Piuthan	62.22	280	eP	P	03 51 44.1	-1.3
	comp=Z,166nm,1.1s						
G42A	Mountain	62.24	50	P	P	03 51 47.4	+2.4
	baz=323						
F43A	Flat Rock, Esc	62.30	48	P	P	03 51 47.6	+2.3
	baz=324						
J39A	Decorah	62.32	53	P	P	03 51 48.2	+2.6
	baz=322						
I40A	Norwalk	62.37	52	P	P	03 51 48.3	+2.4
	baz=323						
G43A	Wallace	62.55	49	P	P	03 51 49.3	+2.3
	baz=324						
LPSR	Galich'ya Gora	62.62	326	eP	P	03 51 44.9	-2.5
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
J40A	Soldiers Grove	62.70	52	P	P	03 51 50.8	+2.7
	baz=323						
E45A	Wooded Hills,	62.71	47	P	P	03 51 50.6	+2.5
	baz=324						
121A	Cookes Peak, D	62.79	72	P	P	03 51 51.9	+2.8
	baz=321						
MATQ	Matagami	62.81	40	P	P	03 51 51.0	+2.3
	baz=327						
UMPA	Umpang Tak	62.81	258	P	P	03 52 01.6	+12
VRH	Novokhopyorsk	62.91	323	eP	P	03 51 45.8	-3.5
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
J41A	Loganville	63.05	52	P	P	03 51 53.1	+2.7
	baz=323						
K40A	Colesburg	63.08	53	P	P	03 51 53.4	+2.8
	baz=323						
I42A	Draeger Farm,	63.11	51	P	P	03 51 53.4	+2.6
	baz=323						
H43A	Windswept, Lux	63.14	50	P	P	03 51 53.6	+2.7
	baz=324						
L39A	Viron	63.15	54	P	P	03 51 54.4	+3.4
	baz=323						
NIL	Nilore	63.18	291	eP	P	03 51 49.6	-1.9
	comp=Z,17nm,0.8s						
NIL	Nilore	63.18	291	eP	P	03 51 49.6	-1.9
NIL				pmax	pmax		
	comp=Z,17nm,0.8s						
D49A	Beulah Townshi	63.48	44	P	P	03 51 55.3	+2.1
	baz=326						
LSQQ	Lebel-sur-Quev	63.63	40	P	P	03 51 56.4	+2.3
	baz=327						
VSR	Storozhevoye	63.73	325	eP	P	03 51 51.4	-3.4
VSR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
E48A	Lockeyer	63.81	45	P	P	03 51 57.6	+2.2
	baz=326						
VORD	Divnogorie	63.91	325	eP	P	03 51 52.2	-3.7
VORD				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MSTX	Muleshoe	64.31	67	P	P	03 52 02.3	+3.3
	baz=322						
KBL	Kabul	64.67	294	eP	P	03 51 57.8	-3.6
	comp=Z,14nm,0.8s						
KBL	Kabul	64.67	294	eP	P	03 51 57.8	-3.6
KBL				pmax	pmax		
	comp=Z,14nm,0.8s						
MNTX	Cornudas Mount	64.72	70	eP	P	03 51 55.6	-6.0
	comp=Z,5.6nm,1.0s						
MNTX	Cornudas Mount	64.72	70	P	P	03 52 05.3	+3.7
	baz=322						
N41A	Harden Midland	64.79	54	P	P	03 52 04.5	+2.6
	baz=324						
E51A	G1948 Merrick	64.81	43	P	P	03 52 04.2	+2.3
	baz=327						
D52A	ZEK Kipawa Sen	64.85	42	P	P	03 52 04.8	+2.6
	baz=327						
I48A	Sherman Twp	65.08	47	P	P	03 52 06.1	+2.4
	baz=326						
D54A	Lac Fusel, La	65.35	41	P	P	03 52 06.7	+1.3
	baz=328						
F52A	Sundridge	65.49	43	P	P	03 52 08.3	+2.0
	baz=327						
M44A	Midewin, Midew	65.51	52	P	P	03 52 08.8	+2.3
	baz=324						
E54A	Lac Daplat, Po	65.76	42	P	P	03 52 10.1	+2.0
	baz=328						
N45A	Kentland	66.18	52	P	P	03 52 13.3	+2.5
	baz=325						
PEMO	Pembroke	66.38	42	P	P	03 52 13.1	+1.0
	baz=328						
Q42A	Golden Eagle	66.38	55	P	P	03 52 15.6	+3.4
	baz=324						
N46A	Monticello	66.48	51	P	P	03 52 15.8	+3.0
	baz=325						
I51A	Listowel	66.48	46	P	P	03 52 15.6	+2.8
	baz=327						
R41A	Rosebud	66.49	56	P	P	03 52 16.0	+3.1
	baz=324						
F55A	Otter Lake	66.58	41	P	P	03 52 15.7	+2.4
	baz=328						
I52A	Shelburne	66.60	45	P	P	03 52 16.5	+3.0
	baz=327						
BANO	Bancroft	66.68	43	P	P	03 52 16.4	+2.4
	baz=328						
SFIN	Lafayette	66.74	52	P	P	03 52 17.4	+2.9
	baz=325						
CCM	Cathedral Cave	66.75	56	P	P	03 52 20.0	+5.5
CCM				pmax	pmax		
	comp=Z,27nm,1.6s						
CCM	Cathedral Cave	66.75	56	P	P	03 52 17.4	+2.9
	baz=324						
L49A	Milan	66.76	49	P	P	03 52 17.4	+2.9
	baz=326						
S41A	Jillco Farms,	66.89	57	P	P	03 52 18.4	+2.9
	baz=324						
N47A	Urbana	66.95	51	P	P	03 52 18.3	+2.5
	baz=326						
AKASG	Malin Array Be	67.17	331	P	P	03 52 13.7	-3.3
	comp=Z,0.8nm,0.4s,baz=27,slow=6.6,SNR=4.1						
AKASG				LR	LR	04 22 53.6	
	comp=Z,236nm,20.8s,baz=50,slow=37						
KIEV	Kiev	67.18	331	i P	P	03 52 20.2	+3.2
KIEV	Kiev	67.18	331	i P	P	03 52 16.5	-0.5
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DELO	Deloro Mine	67.22	43	P	P	03 52 19.1	+1.7
	baz=328						
N48A	Decatur	67.25	50	P	P	03 52 20.2	+2.5
	baz=326						
GEYT	Alibeck	67.30	304	P	P	03 52 16.9	-1.2
	comp=Z,438nm,0.6s,baz=357,slow=6.5,SNR=7.3						
GEYT				LR	LR	04 23 44.2	
	comp=Z,386nm,18.1s,baz=30,slow=38						
GYA0B	ALIBECK ARRAY	67.30	304	eP	P	03 52 16.0	-2.1
	comp=Z,10nm,0.9s						
I55A	Frankford	67.45	43	P	P	03 52 21.0	+2.1
	baz=328						
TXAR	Lajitas Array	67.49	71	eP	P	03 52 13.9	-5.5
TXAR	Lajitas Array	67.49	71	P	P	03 52 13.7	-5.8
	comp=Z,1.0nm,0.6s,baz=306,slow=5.1,SNR=11						
SBUM	Sibu	67.51	238	eP	P	03 52 17.9	-1.7
	comp=Z,31nm,1.8s						
N49A	Columbus Grove	67.56	50	P	P	03 52 22.6	+2.9
	baz=326						
O48A	Farmland	67.69	51	P	P	03 52 23.4	+3.0
	baz=326						
Q46A	CEJHS Indians,	67.73	53	P	P	03 52 23.9	+3.1
	baz=325						
U41A	Viola	67.81	58	P	P	03 52 24.4	+3.1
	baz=324						
P47A	Martinsville	67.84	52	P	P	03 52 24.7	+3.2
	baz=326						
W39A	Magazine	67.84	60	P	P	03 52 25.2	+3.7
	baz=324						
J54A	Appleton	67.87	44	P	P	03 52 24.3	+2.8
	baz=328						
PECO	Prince Edward	67.95	43	P	P	03 52 24.3	+2.2
	baz=328						
MEDO	Medina	68.04	44	P	P	03 52 25.4	+2.8
	baz=328						
P48A	Milroy	68.23	51	P	P	03 52 26.5	+2.6
	baz=326						
M52A	Chesterland	68.23	47	P	P	03 52 26.0	+2.1
	baz=327						
LONY	Lake Ozonia	68.27	41	P	P	03 52 25.8	+1.7
	baz=329						
L53A	Girard	68.33	46	P	P	03 52 26.3	+1.8
	baz=328						
O50A	Cable	68.44	50	P	P	03 52 27.3	+2.1
	baz=326						
MIAR	Mount Ida	68.47	60	P	P	03 52 29.6	+4.2
MIAR				pmax	pmax		
	comp=Z,17nm,1.5s						
MIAR	Mount Ida	68.47	60	P	P	03 52 27.7	+2.3
	baz=324						
L54A	Sinclairville	68.48	45	P	P	03 52 27.2	+1.8
	baz=328						
P49A	Miami Univ. Ec	68.48	51	P	P	03 52 27.8	+2.4
	baz=326						
MOQ	Mont Orford	68.51	39	eP	P	03 52 18.9	-6.8
K55A	Perry	68.56	44	P	P	03 52 27.8	+1.9
	baz=328						
W41B	Gary Mavity, V	68.60	59	P	P	03 52 29.0	+2.7
	baz=325						
JCT	Junction City	68.60	67	P	P	03 52 29.5	+3.1
	baz=324						
R47A	Wooly Knot Far	68.70	53	P	P	03 52 29.4	+2.5
	baz=326						
KIV	Kislovodsk	68.74	319	eP	P	03 52 22.7	-4.4
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,510nm,17.0s						
P50A	Jamestown	68.81	50	P	P	03 52 29.8	+2.2
	baz=327						
KBZ	Khabaz	68.86	318	P	P	03 52 29.1	+1.5
	comp=Z,2.1nm,0.8s,baz=224,slow=6.6,SNR=3.8						
KBZ				LR	LR	04 26 57.6	
	comp=Z,414nm,18.2s,baz=39,slow=40						
WCI	Wyandotte Cave	68.86	53	P	P	03 52 31.0	+3.2
	baz=326						
X40A	Basin Creek Fa	68.87	60	P	P	03 52 30.8	+2.9
	baz=324						
L55A	Hinsdale	68.87	45	P	P	03 52 29.0	+1.1
	baz=328						
O51A	Pataskala	68.88	49	P	P	03 52 30.4	+2.5
	baz=327						
M54A	Oil Creek Stat	68.95	46	P	P	03 52 31.3	+2.9
	baz=328						
S47A	Hartford	69.12	53	P	P	03 52 32.8	+3.3
	baz=326						
ZEI	Tsey	69.28	317	eP	P	03 52 38.5	+7.8
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
M55A	Ridgway	69.35	46	P	P	03 52 33.2	+2.3
	baz=328						
LBNH	Lisbon	69.56	39	P	P	03 52 34.3	+2.3
	baz=331						
N55A	Marion Center	69.84	46	P	P	03 52 36.1	+2.2
	baz=328						
Z41A	Richland Creek	69.88	60	P	P	03 52 38.0	+3.8
	baz=325						
U47A	Clarksville	69.88	54	P	P	03 52 37.0	+2.8
	baz=326						
ANN	Anapa	69.89	322	eP	P	03 52 41.5	+7.5
ANN				MLR	MLR		
	comp=N,459nm,15.0s						
ANN				MLR	MLR		
	comp=Z,527nm,15.0s						
ANN				MLR	MLR		
	comp=E,555nm,15.0s						
WVT	Waverly	69.89	55	eP	P	03 52 29.4	-4.8
	comp=E,25nm,2.0s						
WVT	Waverly	69.89	55	eP	P	03 52 29.4	-4.8
WVT				pmax	pmax		
	comp=Z,25nm,2.0s						
WVT	Waverly	69.89	55	P	P	03 52 37.1	+2.9
	baz=326						
P53A	Whipple	69.94	48	P	P	03 52 36.8	+2.3
	baz=328						
OJC	Ojcow	69.97	336	eP	P	03 52 32.6	-1.9
OJC	Ojcow	69.97	336	eP	P	03 52 30.3	-4.2
	comp=Z,12nm,1.1s						
OJC	Ojcow	69.97	336	eP	P	03 52 30.3	-4.2
OJC				pmax	pmax		
	comp=Z,12nm,1.1s						
R51A	Hillsboro	69.99	51	P	P	03 52 37.2	+2.4
	baz=327						
Q52A	Bidwell	70.01	49	P	P	03 52 36.8	+1.9
	baz=327						
V46A	Holladay	70.03	55	P	P	03 52 37.4	+2.3
	baz=326						
T49A	Edmonton	70.13	53	P	P	03 52 38.7	+3.0
	baz=326						
KSP	Ksiaz	70.13	339	eP	P	03 52 32.7	-2.8
KSP	Ksiaz	70.13	339	eP	P	03 52 32.7	-2.8
P54A	Burton	70.22	48	P	P	03 52 39.2	+3.0
	baz=328						
V47A	Nunnelly	70.28	55	P	P	03 52 39.7	+3.1
	baz=326						
CLL	Collm	70.32	341	eP	P	03 52 33.7	-2.9
	comp=Z,9.0nm,1.2s						
CLL	Collm	70.32	341	eP	P	03 52 33.0	-3.6
CLL				i		03 52 44.1	
CLL				pmax	pmax		
	comp=Z,8.0nm,1.4s						
CLL	Collm	70.32	341	eP	P	03 52 33.0	-3.6
	comp=Z,8.0nm,1.4s						
CLL				e(pP)	pP	03 52 38.0	-6.3
CLL				i sP	sP	03 52 44.1	-3.2
	comp=Z,41nm,2.2s						
CLL				epPP		03 55 15.0	
CLL				eS	S	04 01 42.0	-4.6
CLL				eSS	SS	04 06 18.0	+2.0
CLL				e		04 07 48.0	
CLL				eSSS	SSS	04 09 36.0	
CLL				Lm	MLR	04 25 00.0	
	comp=Z,200nm,20.1s						
Q53A	Leroy	70.41	49	P	P	03 52 40.3	+2.9
	baz=328						
O56A	Blue Knob Stat	70.44	46	P	P	03 52 37.2	-0.5
	baz=328						
OXF	Oxford	70.49	57	P	P	03 52 40.2	+2.3
	baz=326						
UPC	Upice	70.51	339	AMS	AMS	04 29 10.0	
	comp=Z,200nm,16.6s						
T50A	Nancy	70.51	52	P	P	03 52 40.3	+2.3
	baz=327						
833A	Chaparral WMA,	70.54	68	P	P	03 52 41.7	+3.4
	baz=324						

BRG	**Berggiesshubel**	**70.56**	**340**	*e*P	P		03 52 46.2 +8.1
	comp=Z,33nm,1.9s						
BRG	**Berggiesshubel**	**70.56**	**340**	*e*P	P		03 52 46.2 +8.1
BRG				pmax	pmax		
	comp=Z,33nm,1.9s						
BRG				MLR	MLR		
	comp=N,204nm,14.7s						
BRG				MLR	MLR		
	comp=E,119nm,13.1s						
BRG				MLR	MLR		
	comp=Z,169nm,23.2s						
P55A	**Reedsville**	**70.57**	**47**	P	**P**		**03 52 39.4 +1.0**
	baz=328						
DPC	**Dobruska-Polom**	**70.59**	**339**	*e*P	**P**		**03 52 36.4 -2.0**
DPC				MLR	MLR		
	comp=Z,200nm,16.5s						
DPC	**Dobruska-Polom**	**70.59**	**339**	*e*P	**P**		**03 52 36.4 -2.0**
DPC				*e*pP	**pP**		**03 52 41.2 -4.8**
DPC				AMS	AMS		04 29 50.0
	comp=Z,200nm,16.5s						
KOLS	**Kolonicke sedl**	**70.59**	**334**	*e*P	P		03 52 47.5 +9.2
KOLS	**Kolonicke sedl**	**70.59**	**334**	*es*P	P		03 52 47.5 +9.2
KIS	**Kishinev**	**70.64**	**329**	*e*P	P		03 52 46.0 +7.4
KIS				*e*LQ	LQ		04 17 42.0
KIS				*e*L	L		04 22 12.0
KIS				LRM	MLR		04 28 06.0
	comp=Z,500nm,16.0s						
KIS	**Kishinev**	**70.64**	**329**	*e*P	P		03 52 46.0 +7.4
KIS				MLR	MLR		
	comp=Z,500nm,16.0s						
KIS				MLR	MLR		
	comp=N,400nm,15.0s						
V48A	**Smith Brothers**	**70.67**	**54**	P	**P**		**03 52 41.0 +1.9**
	baz=326						
W47A	**Westpoint**	**70.72**	**55**	P	**P**		**03 52 42.1 +2.7**
	baz=326						
S52A	**Salyersville**	**70.73**	**51**	P	**P**		**03 52 41.9 +2.5**
	baz=327						
PVCC	**Panska Ves**	**70.77**	**340**	AMS	AMS		04 31 00.0
	comp=N,300nm,14.6s						
X46A	**Boonesville**	**70.84**	**56**	P	**P**		**03 52 42.9 +2.8**
	baz=326						
MORC	**Moravsky Berou**	**70.88**	**338**	*e*P	**P**		**03 52 37.9 -2.3**
	comp=N,71nm,1.1s						
MORC	**Moravsky Berou**	**70.88**	**338**	⇑*i*P	**P**		**03 52 37.0 -3.1**
MORC	**Moravsky Berou**	**70.88**	**338**	⇑P	**P**		**03 52 37.0 -3.1**
MORC	**Moravsky Berou**	**70.88**	**338**	*e*P	**P**		**03 52 36.4 -3.7**
Q55A	**Buckhannon**	**70.90**	**48**	P	**P**		**03 52 44.0 +3.6**
	baz=328						
T51A	**Gray**	**70.95**	**52**	P	**P**		**03 52 43.8 +3.1**
	baz=327						
LANS	**Liptovska Anna**	**71.05**	**336**	*e*P	P		03 52 51.4 +10
LANS	**Liptovska Anna**	**71.05**	**336**	*es*P	P		03 52 51.4 +10
BURAR	**Bucovina Array**	**71.06**	**332**	*e*P	**P**		**03 52 39.0 -2.4**
BURAR	**Bucovina Array**	**71.06**	**332**	⇑*i*P	**P**		**03 52 45.0 +3.6**
BURAR	**Bucovina Array**	**71.06**	**332**	⇑P	**P**		**03 52 45.0 +3.6**
W48A	**Pulaski**	**71.12**	**55**	P	**P**		**03 52 45.3 +3.5**
	baz=326						
S53A	**Williamson**	**71.14**	**50**	P	**P**		**03 52 45.0 +3.1**
	baz=328						
MOX	**Moxa**	**71.20**	**342**	P	**P**		**03 52 46.3 +4.3**
MOX				pmax	pmax		
	comp=Z,5.0nm,1.0s						
R54A	**Victor**	**71.20**	**49**	P	**P**		**03 52 45.6 +3.3**
	baz=328						
X47A	**Russelville**	**71.21**	**56**	P	**P**		**03 52 45.8 +3.5**
	baz=326						
TRPA	**Tarpa**	**71.27**	**334**	⇑*i*P	**P**		**03 52 44.9 +2.5**
PRU	**Pruhonice**	**71.29**	**340**	*e*P	**P**		**03 52 39.8 -2.8**
PRU				MLR	MLR		
	comp=Z,200nm,17.0s						
PRU	**Pruhonice**	**71.29**	**340**	*e*P	**P**		**03 52 39.8 -2.8**
PRU				AMS	AMS		04 27 10.0
	comp=Z,200nm,17.0s						
GOPC	**GO Pecny, Ondr**	**71.31**	**340**	*e*P	**P**		**03 52 42.0 -0.7**
GOPC				MLR	MLR		
	comp=Z,200nm,18.5s						
GOPC	**GO Pecny, Ondr**	**71.31**	**340**	*e*P	**P**		**03 52 42.0 -0.7**
GOPC				AMS	AMS		04 28 10.0
	comp=Z,200nm,18.5s						
O59A	**Robesonia**	**71.35**	**44**	P	**P**		**03 52 46.0 +2.9**
	baz=330						
U51A	**La Follette**	**71.41**	**52**	P	**P**		**03 52 43.9 +0.4**
	baz=327						
W49A	**Belvidere**	**71.44**	**54**	P	**P**		**03 52 47.1 +3.4**
	baz=326						
BIZ	**Bicaz**	**71.45**	**331**	⇓*i*P	**P**		**03 52 42.3 -1.3**
NKC	**Novy Kostel**	**71.45**	**341**	P	**P**		**03 52 48.0 +4.4**
NKC				pmax	pmax		
	comp=Z,2.0nm,1.1s						
VRAC	**Vranov**	**71.53**	**338**	⇑*i*P	**P**		**03 52 41.8 -2.2**
VRAC	**Vranov**	**71.53**	**338**	⇑P	**P**		**03 52 41.8 -2.2**
PAL	**Palisades**	**71.64**	**42**	P	**P**		**03 52 47.1 +2.4**
	baz=330						
X48A	**Hartselle**	**71.64**	**55**	P	**P**		**03 52 48.1 +3.2**
	baz=326						
S55A	**Lewisburg**	**71.76**	**49**	P	**P**		**03 52 48.2 +2.6**
	baz=328						
TREC	**Trest**	**71.77**	**339**	AMS	AMS		04 30 00.0
	comp=Z,200nm,16.4s						
KRUC	**Moravsky**	**71.80**	**338**	*e*P	**P**		**03 52 43.0 -2.6**
VYHS	**Vyhne**	**71.81**	**336**	*e*P	**P**		**03 52 44.0 -1.8**
VYHS				*e*			03 52 54.6
VYHS	**Vyhne**	**71.81**	**336**	*e*P	**P**		**03 52 43.9 -1.8**
VYHS				*es*P	**pP**		**03 52 54.6 +1.2**
W50A	**Signal Mountai**	**71.81**	**54**	P	**P**		**03 52 49.1 +3.1**
	baz=327						
X49A	**Woodville**	**71.92**	**55**	P	P		03 52 50.9 +4.3
	baz=327						
V52A	**Sevierville**	**72.04**	**52**	P	**P**		**03 52 49.6 +2.3**
	baz=327						
W51A	**Cleveland**	**72.09**	**53**	P	**P**		**03 52 50.2 +2.6**
	baz=327						
U54A	**Nelsons Funny**	**72.25**	**50**	P	**P**		**03 52 51.6 +2.9**
	baz=328						
BLA	**Blacksburg**	**72.27**	**49**	P	**P**		**03 52 50.5 +1.8**
	baz=328						
KHC	**Kasperske Hory**	**72.30**	**340**	*e*P	**P**		**03 52 45.7 -3.0**
	comp=Z,3.0nm,1.3s						
KHC	**Kasperske Hory**	**72.30**	**340**	*e*P	**P**		**03 52 45.7 -3.0**
KHC				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KHC	**Kasperske Hory**	**72.30**	**340**	*e*P	**P**		**03 52 46.6 -2.1**
KHC				*e*pP	**pP**		**03 52 51.2 -5.2**
KHC				AMS	AMS		04 27 50.0
	comp=Z,200nm,18.0s						
WET	**Wettzell**	**72.42**	**341**	P	P		03 52 54.1 +4.7
WET				pmax	pmax		
	comp=Z,5.0nm,1.2s						
Y49A	**Blount Mountai**	**72.42**	**55**	P	**P**		**03 52 53.1 +3.5**
	baz=327						
DRGR		**72.48**	**333**	⇑*i*P	**P**		**03 52 54.1 +4.3**
DRGR		**72.48**	**333**	⇑P	**P**		**03 52 54.1 +4.3**
CFR	**Carcaliu**	**72.49**	**329**	⇑*i*P	**P**		**03 52 52.4 +2.6**
CFR	**Carcaliu**	**72.49**	**329**	⇑P	**P**		**03 52 52.4 +2.6**
GEC2	**GERESS Array S**	**72.55**	**340**	*e*P	**P**		**03 52 47.1 -3.2**
	comp=Z,3.2nm,0.9s						
GEC2	**GERESS Array S**	**72.55**	**340**	*e*P	**P**		**03 52 47.1 -3.2**
GEC2				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	**GERESS Array B**	**72.55**	**340**	*e*P	**P**		**03 52 46.8 -3.5**
GERES	**GERESS Array B**	**72.55**	**340**	*e*P	**P**		**03 52 46.8 -3.5**
GERES	**GERESS Array B**	**72.55**	**340**	P	**P**		**03 52 47.1 -3.2**
	comp=Z,0.5nm,0.5s,baz=32,slow=5.3,SNR=7.5						
GERES				LR	LR		04 28 19.8
	comp=Z,205nm,19.4s,baz=32,slow=39						
Y50A	**Piedmont**	**72.71**	**55**	P	**P**		**03 52 53.0 +1.7**
	baz=327						
V54A	**Nebo**	**72.82**	**51**	P	**P**		**03 52 54.5 +2.5**
	baz=328						
MLR	**Muntele Rosu**	**72.82**	**330**	⇑*i*P	**P**		**03 52 55.1 +3.1**
MLR	**Muntele Rosu**	**72.82**	**330**	⇑P	**P**		**03 52 55.1 +3.1**
Z49A	**Columbiana**	**72.92**	**56**	P	**P**		**03 52 55.1 +2.5**
	baz=327						
X52A	**Dahlonega**	**72.94**	**53**	P	**P**		**03 52 55.6 +2.9**
	baz=328						
CONA	**Conrad Observa**	**72.99**	**338**	P	**P**		**03 52 51.1 -1.8**
	comp=Z,5.2nm,1.5s						
VOIR		**73.12**	**331**	⇓*i*P	**P**		**03 52 54.4 +0.8**
VOIR		**73.12**	**331**	⇓P	**P**		**03 52 54.4 +0.8**
Z50A	**Ashland**	**73.15**	**55**	P	**P**		**03 52 57.2 +3.3**
	baz=327						
HYB	**Hyderabad**	**73.17**	**276**	*i*P	P		03 53 03.0 +8.7
149A	**Jones**	**73.29**	**56**	P	**P**		**03 52 57.9 +3.1**
	baz=327						
ARR	**Arges**	**73.29**	**331**	⇑*i*P	**P**		**03 52 57.1 +2.4**
Y52A	**Lilburn**	**73.49**	**54**	P	**P**		**03 52 58.6 +2.7**
	baz=328						
KMSC	**Kings Mountain**	**73.62**	**51**	P	**P**		**03 52 59.7 +3.1**
	baz=328						
249A	**Camden**	**73.66**	**57**	P	**P**		**03 53 00.6 +3.7**
	baz=327						
X54A	**Belton**	**73.67**	**52**	P	**P**		**03 52 59.5 +2.6**
	baz=328						
ARSA	**Arzberg**	**73.70**	**338**	pP	**P**		**03 52 55.5 -1.5**
	comp=Z,2.2nm,1.1s						
Y53A	**Monroe**	**73.71**	**53**	P	**P**		**03 53 00.4 +3.2**
	baz=328						
GZR	**Gura Zlata**	**73.76**	**333**	⇑*i*P	**P**		**03 52 59.9 +2.5**
GZR	**Gura Zlata**	**73.76**	**333**	⇑P	**P**		**03 52 59.9 +2.5**
BZS	**Buzias**	**73.85**	**333**	⇑*i*P	**P**		**03 53 00.9 +3.1**
BZS	**Buzias**	**73.85**	**333**	⇑P	**P**		**03 53 00.9 +3.1**
Z52A	**Williamson**	**73.89**	**54**	P	**P**		**03 53 01.8 +3.5**
	baz=328						
V58A	**Windy Hill, Pi**	**74.02**	**49**	P	**P**		**03 53 02.0 +3.0**
	baz=329						
151A	**Opelika**	**74.03**	**55**	P	**P**		**03 53 01.6 +2.5**
	baz=327						
250A	**Grady**	**74.05**	**56**	P	**P**		**03 53 02.3 +3.1**
	baz=327						
X55A	**Gracelyn & Ava**	**74.06**	**51**	P	**P**		**03 53 01.8 +2.6**
	baz=328						
Y54A	**Tignall**	**74.11**	**53**	P	**P**		**03 53 03.0 +3.4**
	baz=328						
GOGA	**Godfrey**	**74.14**	**53**	P	**P**		**03 53 03.4 +3.7**
	baz=328						
349A	**Repton**	**74.14**	**57**	P	**P**		**03 53 03.2 +3.4**
	baz=327						
152A	**Waverly Hall**	**74.19**	**55**	P	**P**		**03 53 03.3 +3.3**
	baz=328						
W57A	**Gilead**	**74.19**	**50**	P	**P**		**03 53 03.6 +3.6**
	baz=329						
KBA	**Koelnbreinsper**	**74.31**	**340**	P	**P**		**03 53 04.2 +3.5**
	comp=Z,16nm,1.2s						
SOKA	**Soboth**	**74.35**	**338**	pP	**P**		**03 53 02.6 +1.7**
	comp=Z,4.3nm,1.1s						
251A	**Midway**	**74.36**	**56**	P	**P**		**03 53 04.1 +3.1**
	baz=327						
Y55A	**Saluda**	**74.41**	**52**	P	**P**		**03 53 05.0 +3.7**
	baz=328						
V59A	**Middlesex**	**74.41**	**48**	P	**P**		**03 53 03.4 +2.2**
	baz=329						
WTTA	**Wattenberg**	**74.46**	**341**	pP	**P**		**03 53 01.4 -0.2**
	comp=Z,5.1nm,1.1s						
MOTA	**Moosalm**	**74.47**	**341**	*e*P	**P**		**03 53 05.6 +4.0**
	comp=Z,1.5nm,0.7s						
Z54A	**Sparta**	**74.56**	**53**	P	**P**		**03 53 05.7 +3.5**
	baz=328						
SQTA	**Sankt Quirin**	**74.58**	**341**	*e*pP	**P**		**03 53 03.3 +1.1**
	comp=Z,6.5nm,1.2s						
OBKA	**Obir**	**74.61**	**339**	*e*P	**P**		**03 53 00.7 -1.7**
	comp=Z,2.8nm,0.7s						
W58A	**Raeford**	**74.63**	**49**	P	**P**		**03 53 05.6 +3.0**
	baz=329						
MYKA	**Terra Mystica**	**74.68**	**339**	P	**P**		**03 53 06.7 +3.9**
	comp=Z,7.1nm,1.1s						
ABTA	**Abfaltersbach**	**74.79**	**340**	pP	**P**		**03 53 05.3 +1.8**
	comp=Z,7.4nm,1.0s						
FETA	**Feichten**	**74.86**	**341**	pP	**P**		**03 53 06.6 +2.8**
	comp=Z,4.4nm,1.2s						
Z56A	**Williston**	**75.14**	**52**	P	**P**		**03 53 06.8 +1.3**
	baz=329						
155A	**Kite**	**75.25**	**53**	P	**P**		**03 53 07.3 +1.1**
	baz=328						
X60A	**Albert Glenn T**	**75.54**	**49**	P	**P**		**03 53 10.5 +2.7**
	baz=330						
BRTR	**Keskin Array B**	**75.68**	**323**	*e*P	**P**		**03 53 05.6 -3.1**
BRTR	**Keskin Array B**	**75.68**	**323**	*e*P	**P**		**03 53 05.6 -3.1**
BRTR	**Keskin Array B**	**75.68**	**323**	P	**P**		**03 53 06.7 -2.0**
	comp=Z,0.3nm,0.4s,baz=48,slow=4.3,SNR=3.9						
BRTR				LR	LR		04 30 04.1
	comp=Z,139nm,19.6s,baz=44,slow=38						
255A	**Hazlehurst**	**75.83**	**53**	P	**P**		**03 53 12.8 +3.2**
	baz=328						
Y60A	**Bolivia**	**75.93**	**49**	P	**P**		**03 53 12.5 +2.5**
	baz=330						
355A	**Pearson**	**76.16**	**54**	P	P		03 53 15.7 +4.3
	baz=328						
KNT	**Kendrikon**	**77.67**	**331**	P	**P**		**03 53 20.5 +0.7**
DZM	**Mont Dzumac**	**77.85**	**178**	*e*LR	LR		04 17 22.7
	comp=Z,268nm,23.9s						
DZM	**Mont Dzumac**	**77.85**	**178**	LR	LR		04 22 21.2
	comp=Z,155nm,19.3s,baz=20,slow=32						
WR1	**Warramunga Arr**	**79.73**	**208**	*e*P	**P**		**03 53 29.3 -1.9**
WRA	**Warramunga Arr**	**79.73**	**208**	P	**P**		**03 53 29.3 -1.9**
	comp=Z,0.5nm,0.8s,baz=27,slow=6.2,SNR=6.0						
060A	**Indiantown**	**80.95**	**54**	P	**P**		**03 53 39.6 +1.7**
	baz=330						
RAR	**Rarotonga**	**82.88**	**146**	LR	LR		04 22 21.2
	comp=Z,126nm,21.1s,baz=320,slow=30						
PPT	**Papeete**	**83.11**	**136**	LR	LR		04 21 58.6
	comp=Z,172nm,21.8s,baz=314,slow=29						
PPT2	**Papeete2**	**83.13**	**136**	*e*LR	LR		04 19 38.5
	comp=Z,645nm,27.2s,baz=339						
AS31	**Alice Springs**	**83.40**	**207**	*e*P	**P**		**03 53 47.9 -2.6**
	comp=Z,1.6nm,1.0s						
ASAR	**Alice Springs**	**83.40**	**207**	P	**P**		**03 53 47.9 -2.6**
	comp=Z,0.3nm,0.6s,baz=16,slow=5.2,SNR=3.7						
ASAR				LR	LR		04 31 05.7
	comp=Z,39nm,19.8s,baz=20,slow=36						
ESDC	**Sonseca Array**	**84.08**	**351**	P	**P**		**03 53 52.9 -1.1**
	comp=Z,0.5nm,0.7s,baz=357,slow=5.3,SNR=3.4						
KEST	**Kesra**	**86.03**	**340**	LR	LR		04 38 02.4
	comp=Z,52nm,18.0s,baz=326,slow=40						
TBI	**Tubuai**	**88.41**	**138**	*e*LR	LR		04 22 10.7
	comp=Z,288nm,25.2s,baz=340						
STKA	**Stephens Creek**	**89.64**	**199**	LR	LR		04 32 24.8
	comp=Z,54nm,19.0s,baz=19,slow=34						

SOME ***19*** *03:43:01.9, 43°.30N×84°.45E, h10km*
NNC ***19*** *03:43:04.0±1.5, 43°.52N×84°.36E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=10.9km s-min=6.2km az=130.0*
ISC 19 03:43:00.9±3.0, 43°.27N±0°.09×84°.5E±0°.1, h10km, n29, σ2°.32/39, 3C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.99**	**275**	Pg	**Pb**	**03 43 56.1**	**+1.7**
	7.5nm,0.2s						
KTMS				Lg	Lg	03 44 36.5	
	40nm,0.4s						
KTMS	**Ketmen**	**2.99**	**275**	*e*P	**Pb**	**03 43 56.1**	**+1.7**
	7.5nm,0.2s						
KTMS				*e*S	**Sg**	**03 44 36.5**	**-0.5**
	40nm,0.4s						
DJR	**Jarkent**	**3.53**	**289**	Pg	**Pb**	**03 44 06.2**	**+2.6**
	4.9nm,0.2s						
DJR				Lg	Lg	03 44 52.3	
	9.7nm,0.2s						
DJR	**Jarkent**	**3.53**	**289**	*e*P	**Pb**	**03 44 06.2**	**+2.6**
	4.9nm,0.2s						
DJR				*e*S	**Sg**	**03 44 52.3**	**-2.0**
	9.7nm,0.2s						
PDGK	**Podgornoye**	**3.62**	**273**	Pg	**Pb**	**03 44 08.0**	**+2.9**
	1.3nm,0.2s						
PDGK				Lg	Lg	03 44 56.1	
	12nm,0.3s						
PDGK	**Podgornoye**	**3.62**	**273**	⇓Pg	**Pg**	**03 44 08.8**	**-1.4**
	1.9nm,0.4s						
PDGK				⇑Lg	Lg	03 44 56.0	
	11nm,0.4s						
SHLS	**Shalkode**	**3.65**	**270**	Pg	**Pb**	**03 44 03.6**	**-1.9**
	22nm,0.3s						
SHLS				Lg	Lg	03 44 48.6	
	74nm,0.3s						
SHLS	**Shalkode**	**3.65**	**270**	*e*P	**Pb**	**03 44 03.6**	**-1.9**
	22nm,0.3s						
SHLS				*e*S	**Sb**	**03 44 48.6**	**-1.2**
	74nm,0.3s						
MK31	**Makanchi Array**	**3.84**	**337**	Pg	**Pb**	**03 44 09.3**	**+0.6**
	1.0nm,0.3s,baz=153,slow=16,SNR=12						
MK31				⇑Lg	Lg	03 44 55.8	
	5.4nm,0.4s,baz=142,slow=29,SNR=12						
MAKZ	**Makanchi**	**3.94**	**335**	⇓Pg	**Pb**	**03 44 13.1**	**+2.6**
	1.1nm,0.3s						
MAKZ				⇓Lg	Lg	03 44 58.3	
	5.9nm,0.5s						
UZB	**Uzynbulak**	**3.97**	**270**	Pg	**Pb**	**03 44 14.7**	**+3.7**
	3.1nm,0.3s						
UZB				Lg	Lg	03 45 07.8	
	14nm,0.4s						
UZB	**Uzynbulak**	**3.97**	**270**	*e*P	**Pb**	**03 44 14.7**	**+3.7**
	3.1nm,0.3s						
UZB				*e*S	**Sg**	**03 45 07.8**	**-0.5**
	14nm,0.4s						
KAPS	**Kapalarasan**	**4.17**	**301**	Pg	**Pg**	**03 44 18.7**	**-2.1**
	3.0nm,0.4s						
KAPS				Lg	Lg	03 45 14.4	
	6.7nm,0.4s						
KAPS	**Kapalarasan**	**4.17**	**301**	*e*P	**Pg**	**03 44 18.7**	**-2.1**
	3.0nm,0.4s						
KAPS				*e*S	**Sg**	**03 45 14.4**	**-0.4**
	6.7nm,0.4s						
KPKS	**Kokpek**	**4.21**	**275**	*e*P	**Pg**	**03 44 19.6**	**-1.9**
	11nm,0.2s						
KPKS				*e*S	**Sg**	**03 45 15.9**	**0.0**
	18nm,0.3s						
SATY	**Saty**	**4.42**	**269**	Pg	**Pg**	**03 44 24.2**	**-1.5**
	3.0nm,0.1s						
SATY				Lg	Lg	03 45 23.8	
	16nm,0.1s						
SATY	**Saty**	**4.42**	**269**	*e*P	**Pg**	**03 44 24.2**	**-1.5**
	3.0nm,0.1s						
SATY				*e*S	**Sg**	**03 45 23.8**	**+0.9**
	16nm,0.1s						
MNBS	**Baschi**	**4.46**	**282**	Pg	**Pb**	**03 44 20.8**	**+1.4**
	4.3nm,0.5s						
MNBS				Lg	Lg	03 45 18.5	
	6.6nm,0.2s						
MNBS	**Baschi**	**4.46**	**282**	*e*P	**Pb**	**03 44 20.8**	**+1.4**
	3.8nm,0.2s						
MNBS				*e*S	**Sb**	**03 45 18.5**	**+5.3**
	10nm,0.5s						
ARXS	**Arharly**	**4.89**	**283**	Pg	**Pg**	**03 44 32.0**	**-2.5**
	2.6nm,0.5s						
ARXS				Lg	Lg	03 45 36.9	
	6.9nm,0.4s						
ARXS	**Arharly**	**4.89**	**283**	*e*P	**Pg**	**03 44 32.0**	**-2.5**
	2.4nm,0.4s						
ARXS				*e*S	**Sg**	**03 45 36.9**	**-0.9**
	13nm,0.7s						
TNSS	**Tian-Shan**	**5.49**	**270**	Pg	**Pg**	**03 44 44.3**	**-1.8**
	2.0nm,0.3s						
TNSS				Lg	Lg	03 45 58.5	
	4.1nm,0.2s						
TNSS	**Tian-Shan**	**5.49**	**270**	*e*P	**Pg**	**03 44 44.3**	**-1.8**
	2.0nm,0.4s						
TNSS				*e*S	**Sg**	**03 45 58.5**	**+1.3**
	4.3nm,0.6s						
KTBS	**Karatobe**	**5.67**	**277**	Pg	**Pg**	**03 44 46.4**	**-3.0**
	0.9nm,0.4s						
KTBS				Lg	Lg	03 46 01.9	
	3.8nm,0.4s						
KTBS	**Karatobe**	**5.67**	**277**	*e*P	**Pg**	**03 44 46.4**	**-3.0**
	0.9nm,0.4s						
KTBS				*e*S	**Sg**	**03 46 01.9**	**-0.8**
	3.8nm,0.4s						
KUU	**Kurty**	**5.92**	**279**	Pg	**Pg**	**03 44 50.9**	**-3.4**
	1.0nm,0.2s						
KUU				Lg	Lg	03 46 09.6	
	4.1nm,0.3s						
KUU	**Kurty**	**5.92**	**279**	*e*P	**Pg**	**03 44 50.9**	**-3.4**
	1.0nm,0.2s						
KUU				*e*S	**Sg**	**03 46 09.6**	**-1.4**
	4.1nm,0.3s						
KURBB	**Kurchatov Arra**	**8.39**	**333**	⇓Lg	Lg	03 47 21.7	
	14nm,0.7s						
KURK	**Kurchatov**	**8.44**	**334**	⇑Lg	Lg	03 47 21.1	
	4.2nm,0.7s						

ISCJB ***19*** *03:51:02.5±0.7, 20°.6S±0°.1×178°.2W±0°.1, h500km, mb3.7/9, Error ellipse: s-maj=20.5km s-min=14.2km az=41.2*
IDC ***19*** *03:51:04.4±4.2, 20°.54S×178°.20W, h512km±47km, mb3.3/9, mb1 3.5/11, mb1mx3.3/34, mbtmp4.2/11, Error ellipse: s-maj=23.8km s-min=21.3km az=1.0*
ISC 19 03:51:03.5±0.7, 20°.5S±0°.2×178°.2W±0°.1, h500km, n15, σ1°.24/17, mb4.0/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.39**	**261**	P	**P**	**03 54 08.9**	**+1.4**
	0.3nm,0.3s,baz=83,slow=18,SNR=3.8						
URZ	**Urewera**	**18.16**	**192**	P	**P**	**03 54 43.6**	**-1.6**
	2.4nm,0.3s,baz=346,slow=8.3,SNR=12						
RPZ	**Rata Peaks**	**24.83**	**199**	P	**P**	**03 55 44.6**	**-0.7**
	5.7nm,0.8s,baz=63,slow=6.8,SNR=3.0						
STKA	**Stephens Creek**	**37.62**	**244**	P	**P**	**03 57 35.7**	**+0.6**
	2.5nm,0.5s,baz=80,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**44.33**	**257**	P	**P**	**03 58 28.9**	**+0.1**
	11nm,0.6s,baz=99,slow=7.8,SNR=188						
ASAR				PcP	**pP**	**04 00 01.4**	**+1.1**
	1.1nm,0.6s,baz=101,slow=3.6,SNR=7.2						
ASAR				S	**S**	**04 04 23.5**	**-2.8**
	0.9nm,0.9s,baz=92,slow=15,SNR=6.6						
WRA	**Warramunga Arr**	**44.41**	**262**	P	**P**	**03 58 29.1**	**-0.3**
	1.9nm,0.3s,baz=96,slow=7.4,SNR=66						
VNDA	**Vanda**	**57.90**	**185**	P	**P**	**04 00 07.2**	**+0.7**
	0.4nm,0.5s,baz=16,slow=7.5,SNR=4.7						
NVAR	**Mina Array Bea**	**81.16**	**43**	P	**P**	**04 02 27.8**	**+1.1**
	0.6nm,0.7s,baz=226,slow=7.4,SNR=2.5						
SEY	**Seymchan**	**86.33**	**347**	P	**P**	**04 02 51.2**	**-0.2**
	1.7nm,0.6s,baz=130,slow=8.1,SNR=7.6						
TXAR	**Lajitas Array**	**87.22**	**57**	P	**P**	**04 02 56.3**	**-0.4**
	0.4nm,0.9s,baz=205,slow=5.5,SNR=4.7						
ILAR	**Eielson Array**	**88.35**	**13**	P	**P**	**04 03 00.2**	**-0.8**
	0.5nm,0.5s,baz=215,slow=5.4,SNR=7.0						
ARCES	**ARCESS Array B**	**128.88**	**350**	PKP	**PKPdf**	**04 09 12.5**	**-0.6**
	1.5nm,0.9s,baz=19,slow=3.1,SNR=4.8						
AKASG	**Malin Array Be**	**142.92**	**331**	PKhKP	PKPpre	04 09 35.7	
	4.1nm,0.5s,baz=40,slow=4.5,SNR=16						
BRTR	**Keskin Array B**	**146.69**	**312**	PKPbc	**PKPdf**	**04 09 48.2**	**+1.6**
	1.1nm,0.6s,baz=142,slow=3.8,SNR=9.3						
GERES	**GERESS Array B**	**150.14**	**344**	PKPbc	**PKPbc**	**04 09 56.7**	**-0.8**
	0.3nm,0.5s,baz=48,slow=2.0,SNR=5.3						
GERES				PKPab	**PKPab**	**04 10 04.7**	**-0.9**
	0.2n

MJAR				S		Sn	03 59 03.0	+0.7
	0.6nm,0.3s,baz=79,slow=21,SNR=6.4							
MAJO	Matsushiro	3.39	249	eP	n	Pn	03 58 24.9	+1.8
MAT	Matsushiro	3.39	249	P		Pn	03 58 25.3	+2.2
MAT				S		Sn	03 59 05.9	+3.6
MJB9	Matsu-Tunnel	3.39	249	eP	n	Pn	03 58 25.4	+2.3
ERM	Erimo	4.26	10	eP	n	Pn	03 58 33.8	-1.2
INU	Inuyama	4.80	241	eP	n	Pn	03 58 45.3	+2.8
JHJ2	Mitsune	5.07	203	eP	n	Pn	03 58 45.9	-0.3
JHJ	Hachijo jima 2	5.07	203	P	n	Pn	03 58 45.6	-0.6
	9.3nm,0.3s,baz=307,slow=15,SNR=17							
JHJ				S		Sn	03 59 42.2	-1.7
	15nm,0.3s,baz=259,slow=23,SNR=7.1							
ASAJ	Asahikawa	6.29	3	P		Pn	03 59 04.5	+1.6
	1.8nm,0.3s,baz=220,slow=9.5,SNR=8.5							
ASAJ				S		Sn	04 00 16.5	+2.6
	0.8nm,0.3s,baz=270,slow=20,SNR=3.5							
USRK	Ussuriysk Ar.	9.96	313	P		Pn	03 59 54.9	+1.7
	0.6nm,0.3s,baz=122,slow=14,SNR=7.5							
KSRS	Korea Array	11.28	272	P		Pn	04 00 13.7	+2.4
	0.2nm,0.3s,baz=82,slow=14,SNR=6.3							
KLR	Kul'dur	13.65	330	P		P	04 00 52.3	+0.2
	0.2nm,0.3s,baz=120,slow=9.6,SNR=6.7							
HHC	Hu-ho-hao-te	23.78	287	eP		P	04 02 42.8	+0.5
HHC				S		S	04 06 58.8	+2.7
SONM	Songino Array	27.83	303	P		P	04 03 19.2	+0.2
	2.2nm,0.7s,baz=100,slow=8.4,SNR=7.2							
H11N2	WAKE ISLAND Hy	28.08	123	T		T	04 33 48.3	
	baz=316							
H11N1	WAKE ISLAND Hy	28.09	123	T		T	04 33 47.7	
	baz=316							
H11N3	WAKE ISLAND Hy	28.10	123	T		T	04 33 49.5	
	baz=316							
H11S1	WAKE ISLAND Hy	28.83	125	T		T	04 34 44.3	
	baz=317,slow=76,SNR=15							
H11S3	WAKE ISLAND Hy	28.83	125	T		T	04 34 44.1	
	baz=317,slow=20,SNR=20							
H11S2	WAKE ISLAND Hy	28.84	125	T		T	04 34 44.0	
	baz=317,slow=76,SNR=21							
LZH	Lanzhou	30.51	279	eP		P	04 03 43.0	+0.1
LZH				pP		sP	04 03 52.8	-1.6
LZH				sP		pP	04 03 56.8	+5.7
CD2	Chengdu	32.25	269	eP		P	04 03 57.3	-0.9
WMQ	Urumqi	41.00	296	eP		P	04 05 14.5	+1.9
ZALV	Zalesovo Beam	41.81	312	P		P	04 05 18.8	-0.2
	1.6nm,0.6s,baz=97,slow=7.3,SNR=6.4							
NRIK	Noril'sk	42.79	335	LR		LR	04 22 49.8	
	comp=Z,107nm,21.0s,baz=54,slow=35							
MK31	Makanchi Array	44.19	302	eP		P	04 05 38.9	+0.5
	2.3nm,0.8s							
MKAR	Makanchi Array	44.19	302	P		P	04 05 38.7	+0.3
	0.9nm,0.6s,baz=87,slow=9.8,SNR=8.2							
KURK	Kurchatov	45.90	308	eP		P	04 05 51.6	-0.3
	6.1nm,0.9s							
KURBB	Kurchatov Arra	45.97	307	P		P	04 05 52.0	-0.4
	3.2nm,0.6s,baz=83,slow=8.2,SNR=20							
ILAR	Eielson Array	48.52	33	P		P	04 06 12.1	0.0
	0.9nm,0.8s,baz=267,slow=6.4,SNR=7.8							
KSH	Kashi	50.61	294	P		P	04 06 31.1	+2.5
ABKAR	Akbulak array	57.87	310	eP		P	04 07 20.4	-0.7
WRA	Warramunga Arr	57.93	189	P		P	04 07 20.8	-0.9
	3.3nm,0.6s,baz=7.2,slow=6.9,SNR=34							
ASAR	Alice Springs	61.65	189	eP		P	04 07 46.0	-1.3
ASAR	Alice Springs	61.65	189	P		P	04 07 46.5	-0.9
	1.2nm,0.8s,baz=9.0,slow=5.2,SNR=13							
RES	Resolute Bay	61.69	15	P		P	04 07 47.0	0.0
	0.2nm,0.5s,baz=313,slow=7.3,SNR=4.9							
YKA	Yellowknife Ar	62.84	31	P		P	04 07 54.9	+0.1
	0.3nm,0.6s,baz=305,slow=6.8,SNR=6.2							
ARCES	ARCESS Array B	63.46	339	P		P	04 07 59.0	+0.1
	2.7nm,1.0s,baz=49,slow=11,SNR=3.1							
FINES	FINESS Array B	68.38	332	P		P	04 08 30.5	-0.1
	0.8nm,0.9s,baz=38,slow=7.6,SNR=3.1							
PDAR	Pinedale Array	76.70	46	P		P	04 09 20.9	+0.1
	0.8nm,0.8s,baz=299,slow=3.1,SNR=4.1							
CLL	Collm	80.69	330	eP		P	04 09 41.0	-1.3
CLL				i	pP	pP	04 09 50.6	-0.5
CLL				es	P	sP	04 09 56.0	+1.7
TXAR	Lajitas Array	89.19	53	P		P	04 10 25.6	+0.1
	0.3nm,0.6s,baz=292,slow=2.9,SNR=6.4							
LPAZ	La Paz	145.80	59	PKPbc		PKPbc	04 17 09.3	-0.3
	1.7nm,0.6s,baz=61,slow=3.8,SNR=6.4							

MEX 19 04:09:11.8±0.3, 14°.80N×93°.04W, h67km±8km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PCIG		0.92	349	eP		Pn	04 09 27.6	-1.5
PCIG				i	S	Sn	04 09 40.1	-1.8
CCIG	Comitan	1.71	30	i	P	Pn	04 09 38.3	-1.4
CCIG				i	S	Sn	04 09 58.8	-2.0

KRSC 19 04:13:59.0±10.0, 51°.07N×157°.31E, h119km±10km, ML4.1
ISCJB 19 04:13:59.8±0.5, 51°.11N±0°.07×157°.2E±0°.1, h121km±4km, mb3.6/7, Error ellipse: s-maj=17.5km s-min=4.5km az=42.8
IDC 19 04:14:02.8±1.9, 51°.52N×156°.67E, h135km±15km, mb3.3/7, mb1 3.6/9, mb1mx3.3/34, mbtmp3.8/9, Error ellipse: s-maj=38.1km s-min=12.8km az=147.0

ISC 19 04:14:00.7±0.8, 51°.17N±0°.08×157°.09E±0°.08, h120km±6km, n40, σ1s25/52, mb3.6/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.34	329	eP		Pn	04 14 17.8	0.0
PAU				eS		Sn	04 14 30.7	0.0
SKR	Severo-Kuril's	0.79	232	eP		Pn	04 14 20.9	+0.2
SKR				eS		Sn	04 14 36.2	+0.4
KDTR	Khodutka, Kamc	0.89	44	eP		Pn	04 14 21.4	-0.2
KDTR				eS		Sn	04 14 36.8	-0.6
ALID	Alaid	1.02	253	eP		Pn	04 14 22.6	-0.5
ALID				eS		Sn	04 14 38.9	-1.1
ASAK	Asacha	1.31	22	eP		Pn	04 14 26.0	-0.1
ASAK				eS		Sn	04 14 45.5	+0.2
MTVR	Mutnovka	1.48	27	eP		Pn	04 14 28.2	+0.2
MTVR				eS		Sn	04 14 49.0	+0.3
RUS	Russkaya	1.54	34	eP		Pn	04 14 28.2	-0.3
RUS				eS		Sn	04 14 49.1	-0.6
APC	Apacha	1.76	1	eP		Pn	04 14 30.2	-0.9
KRMR	Karymshinskiy	1.78	21	eP		Pn	04 14 31.2	-0.2
KRMR				eS		Sn	04 14 55.0	+0.2
PETK	Petropavlovsk-	1.98	11	P		Pn	04 14 33.4	-0.4
	7.0nm,0.3s,baz=171,slow=11,SNR=100							
PETK				S		Sn	04 14 57.5	-1.7
	2.5nm,0.3s,baz=131,slow=18,SNR=4.7							
PET	Petropavlovsk	2.09	27	eP		Pn	04 14 34.6	-0.6
DALK	Dalny	2.12	28	eP		Pn	04 14 35.9	+0.2
DALK				eS		Sn	04 15 03.2	+0.8
UGLR	Uglovaya	2.30	27	eP		Pn	04 14 38.8	+0.8
UGLR				eS		Sn	04 15 08.1	+1.5
KOK	Koryaka	2.33	23	eP		Pn	04 14 39.6	+1.3
KOK				eS		Sn	04 15 09.5	+2.3
AVH	Avacha	2.33	25	eP		Pn	04 14 39.6	+1.3
AVH				eS		Sn	04 15 09.3	+2.1
SMAR	Somma	2.34	26	eP		Pn	04 14 39.2	+0.5
SMAR				eS		Sn	04 15 08.7	+1.0
KRER	Koryakskii	2.37	25	eP		Pn	04 14 39.7	+0.8
KRER				eS		Sn	04 15 09.1	+0.9
SDLR	Sedlovina	2.38	27	eP		Pn	04 14 39.4	+0.4
SDLR				eS		Sn	04 15 09.2	+0.8
KRX	Arik	2.39	23	P		Pn	04 14 39.9	+0.7
NLC	Nalytchevo	2.44	34	eP		Pn	04 14 38.6	-1.0
NLC				eS		Sn	04 15 06.5	-3.0
SPN	Mys Shipunski	2.64	42	eP		Pn	04 14 42.1	-0.2
SPN				eS		Sn	04 15 12.6	-1.6
KZV	Kizimen	4.39	25	P		Pn	04 15 08.0	+2.4
MKZ	Mys Kozlova	4.40	38	S		Sn	04 15 52.1	-3.7
KBTR	Krutoberegovo	6.08	32	eP		Pn	04 15 27.1	-1.0
ASAJ	Asahikawa	12.04	240	P		Pn	04 16 49.1	+0.7
	0.6nm,0.3s,baz=58,slow=14,SNR=7.6							
KLR	Kul'dur	16.32	273	P		P	04 17 44.5	+1.1
	0.2nm,0.3s,baz=71,slow=11,SNR=6.2							
MJAR	Matsushiro Arr	19.90	230	P		P	04 18 23.5	+0.9
	0.1nm,0.3s,baz=30,slow=6.7,SNR=10							
ILAR	Eielson Array	31.48	43	P		P	04 20 10.0	-0.6
	0.5nm,0.7s,baz=250,slow=8.8,SNR=5.5							
H11N2	WAKE ISLAND Hy	32.32	163	T		T	04 54 24.6	
	baz=349,slow=76,SNR=9.3							
H11N3	WAKE ISLAND Hy	32.33	163	T		T	04 54 17.8	
	baz=349,slow=76,SNR=11							
H11N1	WAKE ISLAND Hy	32.33	163	T		T	04 54 26.9	
	baz=349,slow=76,SNR=6.3							
H11S1	WAKE ISLAND Hy	33.47	163	T		T	04 55 41.2	
	baz=349,slow=76,SNR=9.5							
H11S3	WAKE ISLAND Hy	33.48	163	T		T	04 55 42.0	
	baz=349,slow=76,SNR=8.3							
H11S2	WAKE ISLAND Hy	33.49	163	T		T	04 55 42.5	
	baz=349,slow=76,SNR=9.5							
YKA	Yellowknife Ar	45.83	40	P		P	04 22 09.8	-0.3
	0.4nm,0.5s,baz=295,slow=7.8,SNR=8.1							
MKAR	Makanchi Array	47.32	296	P		P	04 22 19.1	-2.9
	0.3nm,0.5s,baz=64,slow=9.1,SNR=4.4							
CMAR	Chiang Mai Arr	55.95	257	P		P	04 23 26.2	-0.3
	1.1nm,0.4s,baz=48,slow=6.1,SNR=3.1							
NVAR	Mina Array Bea	58.17	67	P		P	04 23 43.3	+1.2
	0.9nm,0.6s,baz=284,slow=9.1,SNR=4.8							
PDAR	Pinedale Array	60.09	58	P		P	04 23 56.5	+1.1
	0.4nm,0.6s,baz=17,slow=2.0,SNR=4.2							
TXAR	Lajitas Array	73.12	64	P		P	04 25 19.1	+1.0
	0.7nm,0.6s,baz=297,slow=4.2,SNR=12							

IDC 19 04:30:30.7±8.7, 26°.37N×58°.56E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/29, mbtmp3.5/4, Error ellipse: s-maj=173.4km s-min=54.4km az=113.0
TEH 19 04:30:35.1, 26°.61N×57°.97E, h16km, ML3.7
OMAN 19 04:30:35.9±0.3, 26°.70N×58°.24E, h20km, ml3.5/7, Error ellipse: s-maj=5.5km s-min=3.9km az=29.0
DSN 19 04:30:35.9±2.9, 26°.59N×57°.94E, h10km, ML3.5/6, Error ellipse: s-maj=39.7km s-min=11.0km az=7.0
ISCJB 19 04:30:36.2±0.5, 26°.58N±0°.03×57°.91E±0°.06, h10km, mb3.4/4, Error ellipse: s-maj=8.2km s-min=3.9km az=177.1

ISC 19 04:30:37.7±0.8, 26°.54N±0°.04×57°.70E±0°.04, h10km, n42, σ1s57/47, mb3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NIAN	Nian	1.28	323	ePg		Pn	04 31 01.3	-0.3
NIAN					IAMB	IAmb	04 31 25.9	
	comp=Z,0.0nm,0.3s							
KHNJ	Kahnooj	1.40	0	ePg		Pn	04 31 00.1	-3.3
SHME	Shamm	1.48	251	eP		Pg	04 31 06.4	+0.2
	SNR=27							
SHME				S		Sg	04 31 28.5	+3.0
SHME	Shamm	1.48	251	ePn		Pg	04 31 06.1	-0.1
GENO	Geno	1.61	302		IAMB	IAmb	04 31 38.0	
	comp=Z,0.0nm,0.3s							
GENO				ePn		Pb	04 31 07.5	-0.2
MSFE	Esma-Masafi	1.82	230	P		Pn	04 31 09.3	+0.2
MSFE	Esma-Masafi	1.82	230	ePn		Pn	04 31 08.6	-0.5
HATD	Hatta, Dubai	2.22	220	P		Pn	04 31 15.7	+1.2
HATD	Hatta, Dubai	2.22	220	P		Pb	04 31 17.0	-0.9
HATD	Hatta, Dubai	2.22	220	ePn		Pb	04 31 17.1	-0.8
ASHO	Ashiyiah	2.37	219	eP		Pn	04 31 17.6	+0.9
	SNR=11							
ASHO	Ashiyiah	2.37	219	P		Pb	04 31 18.9	-1.6
	SNR=10							
ASHO	Ashiyiah	2.37	219	ePn		Pn	04 31 17.5	+0.8
NAZ	Nazwa, Dubai	2.40	230	P		Pn	04 31 17.3	+0.3
NAZ	Nazwa, Dubai	2.40	230	ePn		Pn	04 31 14.0	-3.1
FAQ	Al Faqa, Dubai	2.61	227	eP		Pn	04 31 22.3	+2.3
	SNR=7.3							
FAQ	Al Faqa, Dubai	2.61	227	P		Pb	04 31 23.5	-1.1
FAQ				S		Sg	04 32 00.9	-0.7
FAQ	Al Faqa, Dubai	2.61	227	ePn		Pb	04 31 23.9	-0.7
CHBR	Chabahar	2.67	110	ePn		Pb	04 31 24.7	-0.9
HOQ	Hoqain	2.96	187	P		Pn	04 31 24.8	-0.1
HOQ				S		Sn	04 32 01.3	+0.8
HOQ	Hoqain	2.96	187	ePn		Pn	04 31 25.3	+0.5
NGRK	Negar Kerman	3.21	345	ePn		Pn	04 31 29.2	+0.6
NGRK					IAMB	IAmb	04 32 29.9	
	comp=Z,0.0nm,0.6s							
CHMN	Cheshme madani	3.31	358	ePn		Pn	04 31 29.9	-0.1
CHMN					IAMB	IAmb	04 32 32.9	
	comp=Z,0.0nm,0.9s							
WSAR	Wadi Sarin	3.39	165	P		Pn	04 31 31.1	+0.3
	SNR=71							
WSAR				S		Sn	04 32 09.8	-1.3
SMDO	Samad	3.48	175	P		Pn	04 31 32.9	+0.9
	SNR=9.1							
SMDO				S		Sn	04 32 14.8	+1.5
KRBR	Kerman	3.53	347	ePn		Pn	04 31 35.8	+2.9
TVBK	TV Kerman	3.53	347	ePn		Pn	04 31 34.2	+1.2
TVBK					IAMB	IAmb	04 32 43.0	
	comp=Z,0.0nm,0.6s							
KHGB	Koh Gabri	3.97	345	ePn		Pn	04 31 40.3	+1.4
KHGB					IAMB	IAmb	04 32 50.4	
	comp=Z,0.0nm,0.9s							
ZHSF	Zahedan	4.09	41	ePn		Pn	04 31 43.6	+3.1
GHIR	Ghir-Karzin	4.54	294	ePn		Pn	04 31 50.7	+4.1
IPAR	Pars	5.26	310	ePn		Pn	04 31 57.6	+0.9
IMEH	Mehriz	5.54	331	ePn		Pn	04 31 59.7	-0.8
BSRN	Basiran	5.55	13	ePn		Pn	04 32 03.6	+3.1
IKOO	Kooshah	5.97	11	ePn		Pn	04 32 05.6	-0.8
IKAZ	Kazeroun	6.10	303	ePn		Pn	04 32 07.4	-0.8
ITEG	Tejag	6.40	8	ePn		Pn	04 32 12.0	-0.2
TPRV	Parvadeh(Tabas	6.53	352	ePn		Pn	04 32 14.4	+0.5
IRAM	Ramesheh	7.01	320	ePn		Pn	04 32 21.1	+0.4
BRTR	Keskin Array B	23.97	309	P		P	04 35 54.0	+1.5
	comp=Z,1.0nm,0.8s,baz=134,slow=6.2,SNR=7.8							
GERES	GERESS Array B	40.60	315	P		P	04 38 16.8	-0.8
	comp=Z,0.3nm,0.6s,baz=116,slow=8.9,SNR=5.4							
FINES	FINESS Array B	40.87	337	P		P	04 38 17.8	-1.7
	comp=Z,1.3nm,0.8s,baz=147,slow=11,SNR=5.0							
TORD	Torodi Ar. Bea	53.96	267	P		P	04 40 02.2	+0.1
	comp=Z,0.3nm,0.6s,baz=61,slow=8.5,SNR=5.6							

IDC 19 04:46:01.9±3.0, 9°.33S×110°.16E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/30, mbtmp3.7/3, Error ellipse: s-maj=154.9km s-min=25.1km az=47.0
ISCJB 19 04:46:20.2±0.6, 8°.41S±0°.10×111°.55E±0°.04, h132km±7km, Error ellipse: s-maj=16.4km s-min=6.7km az=7.4
DJA 19 04:46:21.8±0.4, 8°.5±6°.×11°.2E±°., h109km±5km, M3.9/13, mb4.4/2, mB5.0/1, MLv3.6/13, Mw(mB)4.3/1

ISC 19 04:46:20.8±1.1, 8°.4S±0°.1×111°.54E±0°.05, h130km±9km, n15, σ0s75/21, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PCJI	Pacitan	0.42	303	P		Pn	04 46 40.1	+0.6
WOJI	Wonogiri, Jawa	0.84	314	P		Pn	04 46 42.7	+0.4
WOJI				S		Sn	04 46 57.7	-0.9
UGM	Wanagama	1.12	297	P		Pn	04 46 45.0	0.0
UGM				S		Sn	04 47 02.5	-0.8
YOGI	Yogyakarta	1.37	296	P		Pn	04 46 47.6	+0.1
YOGI				S		Sn	04 47 07.7	-0.1
SMRI	Semarang	1.74	321	P		Pn	04 46 52.2	+0.4
SMRI				S		Sn	04 47 16.1	+0.7
GRJI	Gresik	1.77	32	P		Pn	04 46 52.6	+0.5
GRJI				S		Sn	04 47 15.5	-0.4
JAGI	Jajag, Banyuwa	2.59	91	P		Pn	04 47 02.6	+0.4
JAGI				S		Sn	04 47 32.6	-1.4
KMMI	Kalianget	2.77	61	P		Pn	04 47 04.8	+0.3
CISI	Cisompet, Garu	3.78	283	P		Pn	04 47 18.4	+0.6
CGJI	Cibinong	6.07	287	P		Pn	04 47 48.7	+0.4
	53nm,0.5s,2μm0.3nm							
PLAI	Plampang	6.18	94	P		Pn	04 47 50.5	+0.6
DSRI	Dabo	10.50	318	P		Pn	04 48 48.3	+0.3
WRA	Warramunga Arr	24.86	120	P		P	04 51 32.8	+1.3
	1.0nm,0.6s,baz=287,slow=12,SNR=9.9							
ASAR	Alice Springs	26.24	128	P		P	04 51 44.5	+0.5
	0.2nm,0.5s,baz=301,slow=9.3,SNR=3.7							
MKAR	Makanchi Array	60.83	337	P		P	04 56 18.1	-1.2
	0.9nm,0.4s,baz=144,slow=6.9,SNR=14							

KRSC 19 05:01:20.5±10.0, 50°.75N×160°.18E, h86km±10km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.70	310	eP		Pn	05 01 50.0	+1.5
KDTR				eS		Sn	05 02 11.0	+1.2
RUS	Russkaya	1.99	329	eP		Pn	05 01 53.3	+1.0
RUS				eS		Sn	05 02 17.6	+1.1
MTVR	Mutnovka	2.14	325	eP		Pn	05 01 56.1	+1.6
MTVR				eS		Sn	05 02 22.6	+2.1
ASAK	Asacha	2.17	320	P		Pn	05 01 56.8	+1.9
SPN	Mys Shipunski	2.36	358	P		Pn	05 01 58.5	+1.3
SPN				S		Sn	05 02 25.8	+0.4
KRMR	Karymshinskiy	2.45	329	eP		Pn	05 02 00.8	+2.4
KRMR				eS		Sn	05 02 30.4	+2.9
DALK	Dalny	2.46	339	S		Sn	05 02 29.8	+2.1
NLC	Nalytchevo	2.48	348	S		Sn	05 02 31.4	+3.0
SKR	Severo-Kuril's	2.59	270	S		Sn	05 02 31.4	+0.6
UGLR	Uglovaya	2.61	342	P		Pn	05 02 03.5	+2.8
SDLR	Sedlovina	2.66	343	eP		Pn	05 02 03.9	+2.5
SMAR	Somma	2.66	342	P		Pn	05 02 05.3	+3.8
AVH	Avacha	2.68	341	eP		Pn	05 02 05.1	+3.5
AVH				S		Sn	05 02 37.1	+3.9
KRER	Koryakskii	2.71	341	P		Pn	05 02 06.6	+4.4
KRER				S		Sn	05 02 39.6	+5.4
ALID	Alaid	2.94	274	P		Pn	05 02 07.7	+2.5
MKZ	Mys Kozlova	3.93	13	P		Pn	05 02 19.8	+1.4
MKZ				S		Sn	05 03 02.6	-0.7
KZV	Kizimen	4.38	1	P		Pn	05 02 28.4	+3.8
TUMD	Tumrok D	4.47	2	P		Pn	05 02 29.2	+3.5
TUMD				S		Sn	05 03 18.3	+1.9
KBTR	Krutoberegovo	5.69	15	eP		Pn	05 02 44.8	+2.4

MEX 19 05:03:38.3±0.9, 16°.01N×94°.18W, h67km±40km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PCIG		0.97	108	eP		Pn	05 03 54.2	-2.1
PCIG				eS		Sn	05 04 08.3	-1.4
CMIG	Matias Romero	1.27	328	eP		Pn	05 03 59.7	-0.5
CMIG				eS		Sn	05 04 14.2	-2.3

ISCJB 19 05:10:22.2±0.3, 21°.52S±0°.02×68°.42W±0°.05, h153km±4km, mb3.8/7, Error ellipse: s-maj=7.0km s-min=3.8km az=169.3
IDC 19 05:10:22.9±0.5, 21°.55S×68°.10W, h131km±6km, mb3.6/5, mb1 3.6/10, mb1mx3.5/25, mbtmp3.9/10, Error ellipse: s-maj=18.6km s-min=10.1km az=118.0
SJA 19 05:10:22.4±0.8, 21°.49S×68°.39W, h146km±5km, ML3.8, MW3.4
NEIC 19 05:10:23.0±0.0, 21°.50S×68°.46W, h145km, mb4.0/8, ML4.1(GUC), After GUC.
GUC 19 05:10:23.6±0.7, 21°.50S×68°.44W, h152km±5km, ML4.3

ISC 19 05:10:22.7±0.6, 21°.54S±0°.03×68°.36W±0°.05, h143km±6km, n65, σ1s34/98, mb3.9/7, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.86	253	eP		Pn	05 10 46.9	+1.0
PB09				eS		Sn	05 11 04.3	+0.7
PB09	IPOC Station P	0.86	253	eP		Pn	05 10 46.9	+1.0
PB09				i	S	Sn	05 11 04.2	+0.7
PB01	IPOC Station P	1.17	295	ePn		Pn	05 10 48.8	+0.3
PB01				eSn		Sn	05 11 08.3	+0.2
PB01	IPOC Station P	1.17	295	eP		Pn	05 10 48.7	+0.3
PB01				i	S	Sn	05 11 07.9	-0.2
PB01				IAML			05 11 09.7	
	comp=N,5μm,0.4s							
LVC	Limon Verde	1.18	206	ePn		Pn	05 10 49.8	+0.8
LVC				eSn		Sn	05 11 07.5	-1.4
LVC	Limon Verde	1.18	206	eP		Pn	05 10 49.7	+0.8
LVC				eS		Sn	05 11 09.9	+1.0
LVC	Limon Verde	1.18	206	P		Pn	05 10 49.7	+0.8
	comp=N,27nm,0.3s,baz=36,slow=6.3,SNR=202							
LVC				LR		LR	05 11 04.6	
	comp=N,17nm,20.0s,baz=50,slow=32							
LVC				S		Sn	05 11 09.0	+0.1
	comp=N,156nm,0.3s,baz=70,slow=20,SNR=76							
PB03	IPOC Station P	1.39	249	eP		Pn	05 10 51.5	+0.7
PB03				i	S	Sn	05 11 12.3	0.0
PB03				IAML			05 11 13.1	
	comp=E,7μm,0.2s							
PB07	IPOC Station P	1.43	262	eP		Pn	05 10 52.1	+0.8
PB07				eS		Sn	05 11 13.5	+0.4
PB07	IPOC Station P	1.43	262	eP		Pn	05 10 52.0	+0.8
PB07				i	S	Sn	05 11 13.3	+0.2
PB07				IAML			05 11 14.1	
	comp=N,9μm,0.2s							
PB02	IPOC Station P	1.45	279	eP		Pn	05 10 52.0	+0.6
PB02				eS		Sn	05 11 13.4	+0.2
PB02	IPOC Station P	1.45	279	eP		Pn	05 10 51.8	+0.4
PB02				i	S	Sn	05 11 13.3	0.0
PB08	IPOC Station P	1.58	332	eS		Sn	05 11 15.4	-0.9
PB08	IPOC Station P	1.58	332	eP		Pn	05 10 53.9	+0.7
PB08				i	S	Sn	05 11 16.7	+0.4
PB08				IAML			05 11 18.0	
	comp=E,2μm,0.5s							
PB06	IPOC Station P	1.61	224	eP		Pn	05 10 54.1	+0.9
PB06	IPOC Station P	1.61	224	eP		Pn	05 10 54.0	+0.9
PB06				i	S	Sn	05 11 17.5	+1.0
PB06				IAML			05 11 18.6	
	comp=E,4μm,0.7s							
PB04	IPOC Station P	1.84	244	ePn		Pn	05 10 56.5	+0.7
PB04				eSn		Sn	05 11 20.8	-0.2
PB04	IPOC Station P	1.

comp=E,11nm,0.6s
GO06 Curarrehue 18.18 188 *e*P **Pn 05 14 26.1 0.0**
comp=E,7.8nm,1.4s
PLCA Paso Flores 19.22 185 *e*P **Pn 05 14 39.2 +1.0**
comp=E,3.7nm,1.5s
PLCA Paso Flores 19.22 185 P **Pn 05 14 38.5 +0.3**
comp=E,0.1nm,0.3s,baz=23,slow=12,SNR=6.3
SPB Sao Paulo 19.43 100 *e*P **P 05 14 38.8 +0.7**
comp=E,52nm,1.4s
BDFB Brasilia 20.15 77 *e*P **P 05 14 46.1 +0.1**
comp=E,29nm,1.7s
BDFB Brasilia 20.15 77 P **P 05 14 45.6 -0.3**
comp=E,1.0nm,0.3s,baz=253,slow=9.4,SNR=8.9
PTGA Pitinga 22.25 23 *e*P **P 05 15 07.3 -0.7**
comp=E,1.9nm,0.6s
PTGA Pitinga 22.25 23 P **P 05 15 07.5 -0.6**
comp=E,1.7nm,0.4s,baz=325,slow=22,SNR=7.2
OTAV Otavalo 23.79 334 *e*P **P 05 15 21.7 -1.2**
comp=E,4.8nm,1.4s
SDV Santo Domingo 30.32 356 *e*P **P 05 16 21.0 0.0**
comp=E,5.3nm,1.1s
TXAR Lajitas Array 60.96 325 P **P 05 20 22.6 +1.6**
comp=E,0.1nm,0.6s,baz=137,slow=8.1,SNR=2.3
TXAR pP **pP 05 20 56.4 0.0**
comp=E,0.1nm,0.7s,baz=154,slow=6.9,SNR=2.1
DBIC Dimbokro 68.25 73 P **P 05 21 09.0 +0.5**
comp=E,3.0nm,0.7s,baz=220,slow=8.3,SNR=5.3
TORD Torodi Ar. Bea 76.89 70 P **P 05 21 58.7 -0.8**
comp=E,1.4nm,0.5s,baz=262,slow=5.1,SNR=21
YKA Yellowknife Ar 91.40 340 P **P 05 23 13.8 +1.9**
comp=E,1.1nm,0.6s,baz=135,slow=4.5,SNR=41
YKA pP **pP 05 23 48.9 -1.0**
comp=E,0.5nm,0.8s,baz=136,slow=4.9,SNR=3.7
WRA Warramunga Arr 133.17 210 PKP **PKiKP 05 29 24.7 +1.2**
comp=E,0.4nm,0.6s,baz=161,slow=3.0,SNR=3.9
MKAR Makanchi Array 145.37 36 PKPbc **PKPbc 05 29 45.6 +1.9**
comp=E,0.2nm,0.4s,baz=332,slow=3.8,SNR=3.4
MKAR pPKPbc pPKPab 05 30 17.6 -5.1
comp=E,0.2nm,0.6s,baz=328,slow=5.2,SNR=1.8
CD2 Chengdu 168.30 36 PKP **PKPdf 05 30 11.0 -1.7**

MAN 19 05:12:52.4, 10.72N×124.96E, h103km, mb3.9, ML2.6, MS2.2, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.48**	**314**	*e*P	Pn	05 13 10.4	+2.1
OCLP				*e*S	Sn	05 13 17.4	-2.9
MSLP	**Maasin**	**0.59**	**190**	*e*P	Pn	05 13 10.7	+1.6
MSLP				*e*S	Sn	05 13 25.1	+3.5
LLP	**Lapu-Lapu**	**1.06**	**248**	*e*P	Pn	05 13 13.8	+0.2
LLP				*i* S	Sn	05 13 22.6	-7.1
BUTP	**Butuan**	**1.85**	**159**	*e*P	Pn	05 13 24.0	+0.8

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*IDC **19** 05:32:28.3±0.9, 15°.97S×70°.64W, h0km, mb3.7/3, mb1 4.1/8, mb1mx3.8/41, mbtmp3.9/8, ML3.7/5, MS3.2/4, Ms1 3.2/4, ms1mx2.8/33, Error ellipse: s-maj=24.5km s-min=17.6km az=35.0*
*ISCJB **19** 05:32:31.3±0.7, 15°.95S±0°.06×70°.67W±0°.06, h33km, mb3.7/3, MS3.9/1, Error ellipse: s-maj=9.3km s-min=7.7km az=33.6*
ISC 19 05:32:33.4±0.8, 15°.95S±0°.08×70°.66W±0°.08, h35km, n13, σ1§25/14, mb3.6/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.46**	**98**	Pn	**Pn**	**05 33 11.5**	**0.0**
	27nm,0.3s,baz=278,slow=13,SNR=306						
LPAZ				Sn	**Sn**	**05 33 42.1**	**+1.4**
	baz=137,slow=12,SNR=1.9						
LPAZ				LR	LR	05 34 07.3	
	comp=Z,147nm,21.8s,baz=240,slow=41						
LVC	**Limon Verde**	**6.83**	**166**	Pn	**Pn**	**05 34 11.8**	**+0.3**
	0.7nm,0.3s,baz=307,slow=6.2,SNR=10.0						
LVC				Sn	**Sn**	**05 35 29.5**	**+1.2**
	baz=170,slow=18,SNR=1.9						
NNA	**Nana**	**7.18**	**302**	Pn	**Pn**	**05 34 17.1**	**+1.2**
	1.8nm,0.3s,baz=103,slow=14,SNR=4.2						
SIV	**San Ignacio**	**9.22**	**92**	Pn	**Pn**	**05 34 42.6**	**-1.5**
	1.6nm,0.3s,baz=286,slow=10,SNR=71						
SIV				Sn	**Sn**	**05 36 28.5**	**+1.9**
	0.3nm,0.3s,baz=193,slow=19,SNR=1.7						
SIV				Lg	Lg	05 37 19.2	
	0.2nm,0.3s,baz=13,slow=19,SNR=3.2						
SIV				LR	LR	05 38 35.5	
	comp=Z,155nm,18.8s,baz=242,slow=40						
CPUP	**Villa Florida**	**16.15**	**132**	LR	LR	05 43 22.2	
	comp=Z,61nm,19.6s,baz=358,slow=41						
PTGA	**Pitinga**	**18.44**	**36**	P	**P**	**05 36 45.2**	**-0.8**
	0.2nm,0.3s,baz=299,slow=18,SNR=3.9						
PLCA	**Paso Flores**	**24.70**	**180**	P	**P**	**05 37 49.9**	**-1.4**
	1.5nm,1.0s,baz=11,slow=14,SNR=3.9						
TXAR	**Lajitas Array**	**55.16**	**325**	P	**P**	**05 42 03.5**	**+0.8**
	0.6nm,0.9s,baz=144,slow=8.8,SNR=6.5						
YKA	**Yellowknife Ar**	**85.42**	**341**	P	**P**	**05 45 07.0**	**+0.1**
	0.7nm,0.8s,baz=138,slow=5.1,SNR=16						
BOSA	**Boshof**	**87.54**	**119**	LR	LR	06 24 34.0	
	comp=Z,43nm,18.1s,baz=187,slow=36						
ZALV	**Zalesovo Beam**	**137.53**	**21**	PKP	**PKiKP**	**05 51 54.9**	**-0.5**
	0.5nm,0.3s,baz=318,slow=1.9,SNR=3.2						
MJAR	**Matsushiro Arr**	**147.17**	**314**	PKPbc	**PKPbc**	**05 52 13.4**	**+0.1**
	2.6nm,0.8s,baz=119,slow=1.5,SNR=7.6						
SONM	**Songino Array**	**148.11**	**4**	PKPbc	**PKPbc**	**05 52 13.9**	**-1.7**
	0.6nm,0.5s,baz=298,slow=1.6,SNR=3.9						

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*ISCJB **19** 05:37:47.5±0.4, 17°.19S±0°.03×70°.81W±0°.04, h127km±4km, mb4.6/55, Error ellipse: s-maj=6.9km s-min=4.3km az=139.0*
*LIM **19** 05:37:49.0, 17°.34S×70°.92W, h106km, ML4.4, MB4.7(NEIC), ML4.7(GUC)*
*NEIC **19** 05:37:49.0±0.0, 17°.34S×70°.92W, h106km, mb4.7/49, ML4.4(ARE), ML4.7(GUC), After ARE.*
NEIC Felt [III] at Moquegua.
*IDC **19** 05:37:50.3±0.6, 17°.04S×70°.65W, h118km±4km, mb4.0/16, mb1 4.1/22, mb1mx3.9/44, mbtmp4.4/22, Error ellipse: s-maj=12.6km s-min=9.0km az=1.0*
*GUC **19** 05:37:51.3±0.6, 17°.24S×70°.49W, h115km±7km, ML4.6*
*VAO **19** 05:37:53.4±0.3, 17°.22S×70°.34W, h124km, mb4.4*
ISC 19 05:37:48.8±0.4, 17°.21S±0°.04×70°.73W±0°.05, h114km±4km, h114km:pP-P, n428, σ1§30/455, mb4.6/55, 5C-3D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**1.45**	**165**	*i* P	**Pn**	**05 38 15.9**	**+0.5**
PB12				*i* S	**Sn**	**05 38 37.7**	**+2.1**
PB12	**IPOC Station P**	**1.45**	**165**	⇑*i*P	**Pn**	**05 38 16.4**	**+1.0**
PB12				*i* S	**Sn**	**05 38 36.4**	**+0.8**
PB12				IAML		05 38 37.8	
	comp=E,8μm,0.4s						
MNMC	**Minye Minye**	**2.19**	**151**	*e*Pn	**Pn**	**05 38 26.6**	**+1.9**
MNMC				*e*Sn	**Sn**	**05 38 50.8**	**-1.4**
MNMC	**Minye Minye**	**2.19**	**151**	⇓*i*P	**Pn**	**05 38 26.2**	**+1.5**
MNMC				*i* S	**Sn**	**05 38 52.6**	**+0.4**
MNMC				IAML		05 39 02.9	
	comp=E,6μm,0.5s						
MNMCX	**Minye Minye**	**2.19**	**151**	*i* P	**Pn**	**05 38 26.0**	**+1.3**
PSGC	**Pisagua**	**2.44**	**167**	⇑*i*P	**Pn**	**05 38 28.4**	**+0.6**
PSGC				*i* S	**Sn**	**05 38 56.7**	**-1.0**
PSGC				IAML		05 38 59.8	
	comp=N,2μm,0.3s						
PSGCX	**Pisagua**	**2.44**	**167**	*i* P	**Pn**	**05 38 28.2**	**+0.4**
PSGCX				*i* S	**Sn**	**05 38 58.9**	**+1.1**
LPAZ	**La Paz**	**2.65**	**70**	*e*Pn	**Pn**	**05 38 32.5**	**+1.6**
LPAZ				*e*		05 38 32.6	
LPAZ				*e*Sn	**Sn**	**05 39 04.2**	**+1.0**
LPAZ	**La Paz**	**2.65**	**70**	*i* P	**Pn**	**05 38 32.0**	**+1.1**
LPAZ	**La Paz**	**2.65**	**70**	⇑*i*P	**Pn**	**05 38 32.5**	**+1.6**
LPAZ				*i* S	**Sn**	**05 39 03.8**	**+0.7**
LPAZ	**La Paz**	**2.65**	**70**	P	**Pn**	**05 38 32.5**	**+1.6**
	comp=N,62nm,0.3s,baz=294,slow=5.7,SNR=1069						
LPAZ				S	**Sn**	**05 39 04.2**	**+1.0**
	comp=N,21nm,0.3s,baz=166,slow=22,SNR=9.7						
PB11	**IPOC Station P**	**2.73**	**158**	*e*Pn	**Pn**	**05 38 32.5**	**+0.9**
PB11				*e*Sn	**Sn**	**05 39 00.1**	**-4.4**
PB11	**IPOC Station P**	**2.73**	**158**	*i* P	**Pn**	**05 38 32.2**	**+0.6**
PB11	**IPOC Station P**	**2.73**	**158**	⇑*i*P	**Pn**	**05 38 32.2**	**+0.6**
GO01	**Chusmiza**	**2.85**	**150**	*e*Pn	**Pn**	**05 38 36.0**	**+2.6**
GO01	**Chusmiza**	**2.85**	**150**	⇓*i*P	**Pn**	**05 38 35.6**	**+2.2**
PB08	**IPOC Station P**	**3.28**	**153**	⇓*i*P	**Pn**	**05 38 40.6**	**+1.6**
PB08				*i* S	**Sn**	**05 39 18.0**	**+0.4**
PB08				IAML		05 39 20.9	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**3.99**	**163**	*e*Pn	**Pn**	**05 38 47.8**	**-0.4**
PB01				*e*Sn	**Sn**	**05 39 31.5**	**-2.8**
PB01	**IPOC Station P**	**3.99**	**163**	*i* P	**Pn**	**05 38 48.4**	**+0.2**
PB09	**IPOC Station P**	**4.78**	**163**	⇑*e*P	**Pn**	**05 39 00.2**	**+1.4**
PB04	**IPOC Station P**	**5.13**	**174**	*e*Pn	**Pn**	**05 39 03.5**	**-0.1**
LVC	**Limon Verde**	**5.64**	**163**	*e*Pn	**Pn**	**05 39 11.7**	**+1.0**
LVC				*e*Sn	**Sn**	**05 40 12.4**	**-2.0**
LVC	**Limon Verde**	**5.64**	**163**	P	**Pn**	**05 39 12.2**	**+1.5**
	comp=E,6.6nm,0.3s,baz=355,slow=8.5,SNR=52						
LVC				S	**Sn**	**05 40 12.2**	**-2.2**
	comp=E,33nm,0.3s,baz=69,slow=21,SNR=24						
LVC	**Limon Verde**	**5.64**	**163**	*e*P	**Pn**	**05 39 13.3**	**+2.6**
PB10	**IPOC Station P**	**6.28**	**179**	*e*Pn	**Pn**	**05 39 18.5**	**-0.4**
HJA	**Humahuaca**	**7.78**	**141**	*i* P	**Pn**	**05 39 39.7**	**0.0**
HJA				IAML		05 40 21.0	
	comp=Z,13nm,0.5s						
NNA	**Nana**	**7.87**	**310**	*e*Pn	**Pn**	**05 39 39.7**	**-1.0**
NNA	**Nana**	**7.87**	**310**	P	**Pn**	**05 39 39.6**	**-1.1**
	comp=Z,3.4nm,0.3s,baz=139,slow=13,SNR=7.3						
NNA				S	**Sn**	**05 41 03.7**	**-4.6**
	comp=Z,3.3nm,0.3s,baz=207,slow=18,SNR=3.9						
GO02	**Mina Guanaco**	**7.99**	**173**	*e*Pn	**Pn**	**05 39 40.9**	**-1.5**
AZAP	**Zapla**	**8.76**	**144**	*i* P	**Pn**	**05 39 52.8**	**0.0**
SIV	**San Ignacio**	**9.33**	**84**	P	**Pn**	**05 39 59.7**	**-0.8**
	comp=Z,9.1nm,0.3s,baz=272,slow=9.4,SNR=103						
SIV				S	**Sn**	**05 41 39.0**	**-4.7**
	baz=338,slow=4.2,SNR=5.5						
LCO	**Las Campanas**	**11.75**	**180**	*e*P	**Pn**	**05 40 36.9**	**+3.8**
AQDB	**Aquidauana**	**14.59**	**105**	*e*P	**Pn**	**05 41 09.2**	**-0.6**
CPUP	**Villa Florida**	**15.39**	**128**	*e*Pn	**Pn**	**05 41 21.0**	**+1.2**
	comp=Z,6.0nm,1.5s						
CPUP	**Villa Florida**	**15.39**	**128**	P	**P**	**05 41 21.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=299,slow=11,SNR=3.4						
CPUP	**Villa Florida**	**15.39**	**128**	*e*P	**P**	**05 41 21.3**	**-0.6**
CLDB	**Colider**	**15.79**	**68**	*e*P	**Pn**	**05 41 25.2**	**+0.3**
PTLC	**Puerto Leguiza**	**17.73**	**347**	*e*P	**P**	**05 41 42.2**	**-5.6**
PTLC	**Puerto Leguiza**	**17.73**	**347**	*e*P	**P**	**05 41 42.2**	**-5.6**
GO05	**Huala**	**17.76**	**183**	*e*P	**P**	**05 41 45.6**	**-2.5**
	comp=Z,32nm,1.5s						
TRCB	**Terra Rica**	**17.88**	**111**	*e*P	**Pn**	**05 41 50.6**	**+0.2**
OTAV	**Otavalo**	**18.93**	**336**	*e*P	**P**	**05 42 01.8**	**+0.3**
	comp=Z,18nm,1.4s						
OTAV	**Otavalo**	**18.93**	**336**	*e*P	**Pn**	**05 42 05.4**	**+2.0**
OTAV	**Otavalo**	**18.93**	**336**	*e*P	**Pn**	**05 42 05.4**	**+2.0**
OTAV	**Otavalo**	**18.93**	**336**	*e*P	**Pn**	**05 42 06.1**	**+2.8**
PTGB	**Pitanga**	**18.95**	**116**	*e*P	**P**	**05 42 01.6**	**+0.4**
FLOC	**Florencia**	**19.29**	**345**	*e*P	**P**	**05 42 04.1**	**-0.9**
FLOC	**Florencia**	**19.29**	**345**	*e*P	**P**	**05 42 04.1**	**-0.9**
GCUF	**Volcan Galeras**	**19.45**	**340**	*e*P	**Pn**	**05 42 11.0**	**+1.6**
GCUF	**Volcan Galeras**	**19.45**	**340**	*e*P	**Pn**	**05 42 11.0**	**+1.6**
ITRB	**Iturama**	**19.48**	**100**	*e*P	**P**	**05 42 07.8**	**+0.9**
PTGA	**Pitinga**	**19.50**	**34**	*e*P	**P**	**05 42 05.4**	**-1.7**
	comp=Z,47nm,0.5s						
PTGA	**Pitinga**	**19.50**	**34**	P	**P**	**05 42 05.8**	**-1.4**
	comp=Z,9.0nm,0.3s,baz=206,slow=14,SNR=95						
CRUC	**La Cruz**	**19.64**	**341**	*e*P	**Pn**	**05 42 12.5**	**+0.9**
CRUC	**La Cruz**	**19.64**	**341**	*e*P	**Pn**	**05 42 12.5**	**+0.9**
ITAB	**Concordia**	**19.87**	**123**	*e*P	**P**	**05 42 11.2**	**+0.1**
SOTA	**Rioblanco**	**20.08**	**343**	*e*P	**P**	**05 42 15.3**	**+1.4**
SOTA	**Rioblanco**	**20.08**	**343**	*e*P	**P**	**05 42 15.3**	**+1.4**
BBAC	**Balboa, Cauca**	**20.16**	**341**	*e*P	Pn	05 42 16.6	-0.8
BBAC	**Balboa, Cauca**	**20.16**	**341**	*e*P	Pn	05 42 16.6	-0.8
PCON	**Cinco Dias**	**20.20**	**343**	*e*P	Pn	05 42 17.4	-0.9
PCON	**Cinco Dias**	**20.20**	**343**	*e*P	Pn	05 42 17.4	-0.9
POPC	**Popayan, Colom**	**20.48**	**343**	*e*P	**P**	**05 42 19.0**	**+1.0**
POPC	**Popayan, Colom**	**20.48**	**343**	*e*P	**P**	**05 42 19.0**	**+1.0**
FRTB	**Fartura**	**20.76**	**111**	*e*P	**P**	**05 42 21.1**	**+0.4**
BB19B	**Bebedouro**	**21.31**	**104**	*e*P	**P**	**05 42 26.0**	**-0.8**
YOTC	**Yotoco, Valle**	**21.77**	**345**	*e*P	**P**	**05 42 30.7**	**-1.0**
YOTC	**Yotoco, Valle**	**21.77**	**345**	*e*P	**P**	**05 42 30.7**	**-1.0**
CNLB	**Canela**	**21.84**	**127**	*e*P	**P**	**05 42 31.4**	**-0.8**
BDFB	**Brasilia**	**21.84**	**89**	*e*P	**P**	**05 42 30.4**	**-2.0**
	comp=Z,10nm,0.8s						
BDFB				*e*P	**P**	**05 42 30.9**	**-1.5**
BDFB	**Brasilia**	**21.84**	**89**	P	**P**	**05 42 30.9**	**-1.5**
	comp=Z,5.4nm,0.3s,baz=256,slow=8.2,SNR=27						
TRQA	**Tornquist**	**22.14**	**161**	*e*P	**P**	**05 42 34.8**	**-0.5**
	comp=Z,7.9nm,1.1s						
TRQA	**Tornquist**	**22.14**	**161**	*e*P	**P**	**05 42 38.1**	**+2.8**
GO06	**Curarrehue**	**22.31**	**182**	*e*P	**P**	**05 42 35.8**	**-1.3**
	comp=Z,7.1nm,0.8s						
RCLB	**Rio Claro- Sao**	**22.42**	**107**	*e*P	**P**	**05 42 37.6**	**-0.6**
PLMC	**San Jos del P**	**22.65**	**345**	*e*P	**P**	**05 42 39.0**	**-1.7**
PLMC	**San Jos del P**	**22.65**	**345**	*e*P	**P**	**05 42 39.0**	**-1.7**
SPB	**Sao Paulo**	**22.72**	**110**	*e*P	**P**	**05 42 41.6**	**+0.3**
	comp=Z,30nm,1.3s						
SPB	**Sao Paulo**	**22.72**	**110**	*e*P	**P**	**05 42 40.8**	**-0.5**
GUY2C	**Guyana, Caldas**	**22.75**	**348**	*e*P	**P**	**05 42 40.5**	**-1.6**
GUY2C	**Guyana, Caldas**	**22.75**	**348**	*e*P	**P**	**05 42 40.5**	**-1.6**
TER01	**Tubaro-SC**	**22.83**	**123**	*e*P	**P**	**05 42 44.1**	**+1.9**
RUSC	**La Rusia**	**23.07**	**354**	*e*P	**P**	**05 42 42.2**	**-3.0**
RUSC	**La Rusia**	**23.07**	**354**	*e*P	**P**	**05 42 42.2**	**-3.0**
PLCA	**Paso Flores**	**23.44**	**180**	*e*P	**P**	**05 42 50.7**	**+2.8**
	comp=Z,7.1nm,0.8s						
PLCA	**Paso Flores**	**23.44**	**180**	P	**P**	**05 42 50.5**	**+2.6**
	comp=Z,6.8nm,0.8s,baz=18,slow=11,SNR=31						
PLCA	**Paso Flores**	**23.44**	**180**	*e*P	**P**	**05 42 50.9**	**+3.0**
TAMC	**Tame, Arauca**	**23.52**	**357**	*e*P	**P**	**05 42 47.1**	**-1.7**
TAMC	**Tame, Arauca**	**23.52**	**357**	*e*P	**P**	**05 42 47.1**	**-1.7**
HELC	**Santa Helena**	**23.73**	**348**	*e*P	**P**	**05 42 49.5**	**-1.5**
HELC	**Santa Helena**	**23.73**	**348**	*e*P	**P**	**05 42 49.5**	**-1.5**
PTBC	**PUERTO BERRIO,**	**23.88**	**351**	*e*P	**P**	**05 42 47.7**	**-4.3**
PTBC	**PUERTO BERRIO,**	**23.88**	**351**	*e*P	**P**	**05 42 47.7**	**-4.3**
BSCB	**Bom Sucesso**	**24.80**	**103**	*e*P	**P**	**05 43 01.4**	**+1.0**
UREC	**San Jos de Ur**	**25.25**	**349**	*e*P	**P**	**05 43 02.3**	**-2.2**
UREC	**San Jos de Ur**	**25.25**	**349**	*e*P	**P**	**05 43 02.3**	**-2.2**
PAYG	**Puerto Ayora**	**25.31**	**308**	*e*P	**P**	**05 43 08.3**	**+3.2**
	comp=Z,52nm,1.1s						
JANB	**Januaria**	**25.46**	**89**	*e*P	**P**	**05 43 06.1**	**-0.3**
MCI8	**Montes Claros**	**25.64**	**93**	*e*P	**P**	**05 43 08.9**	**+0.7**
MCI6	**Montes Claros**	**25.66**	**93**	*e*P	**P**	**05 43 09.1**	**+0.9**
MCI9	**Montes Claros**	**25.66**	**93**	*e*P	**P**	**05 43 09.1**	**+0.8**
SDV	**Santo Domingo**	**25.93**	**0**	*e*P	**P**	**05 43 11.5**	**+0.7**
	comp=Z,6.1nm,1.1s						
SDV	**Santo Domingo**	**25.93**	**0**	P	**P**	**05 43 09.6**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=69,slow=2.4,SNR=8.9						
SDV	**Santo Domingo**	**25.93**	**0**	*e*P	**P**	**05 43 14.2**	**+3.5**
SMLC	**San Martn de**	**26.05**	**352**	*e*P	**P**	**05 43 07.9**	**-3.8**
SMLC	**San Martn de**	**26.05**	**352**	*e*P	**P**	**05 43 07.9**	**-3.8**
VAS01	**Vassouras-RJ**	**26.15**	**106**	*e*P	**P**	**05 43 12.9**	**+0.3**
SJMB	**Sao Joao De Ma**	**28.13**	**98**	*e*P	**P**	**05 43 30.3**	**-0.1**
MDP	**Montagnes des**	**28.47**	**40**	P	**P**	**05 43 32.1**	**-1.2**
	comp=Z,9.4nm,0.6s,baz=232,slow=8.5,SNR=19						
RCBR	**Riachuelo**	**35.88**	**76**	*e*P	**P**	**05 44 38.0**	**-0.2**
APG	**El Apazote**	**37.47**	**328**	P	**P**	**05 44 53.1**	**+1.4**
	comp=Z,2.4nm,0.6s,baz=145,slow=11,SNR=4.1						
758A	**Lake Helen**	**47.00**	**347**	P	**P**	**05 46 08.2**	**-0.3**
	baz=166						
656A	**Willston**	**47.69**	**346**	P	**P**	**05 46 13.6**	**-0.3**
	baz=165						
657A	**Interlachen**	**47.75**	**347**	P	**P**	**05 46 14.2**	**-0.1**
	baz=166						
655A	**Horseshoe Beac**	**47.99**	**345**	P	**P**	**05 46 16.1**	**-0.2**
	baz=164						
557A	**Orange Park**	**48.13**	**347**	P	**P**	**05 46 17.1**	**-0.2**
	baz=166						
555A	**McAlpin**	**48.51**	**346**	P	**P**	**05 46 20.0**	**-0.3**
	baz=164						
554A	**Perry**	**48.65**	**345**	P	**P**	**05 46 21.1**	**-0.2**
	baz=163						
456A	**Hilliard**	**48.88**	**347**	P	**P**	**05 46 23.0**	**0.0**
	baz=166						
455A	**Stateville**	**49.12**	**346**	P	**P**	**05 46 24.9**	**0.0**
	baz=164						
454A	**Quitman**	**49.24**	**345**	P	**P**	**05 46 25.8**	**0.0**
	baz=164						
453A	**Whigham**	**49.54**	**345**	*e*P	**P**	**05 46 28.6**	**+0.6**
	comp=Z,28nm,0.8s						
453A	**Whigham**	**49.54**	**345**	P	**P**	**05 46 28.2**	**+0.1**
	baz=163						
355A	**Pearson**	**49.66**	**346**	P	**P**	**05 46 28.7**	**-0.2**
	baz=165						
452A	**Marianna**	**49.76**	**344**	P	**P**	**05 46 29.6**	**-0.1**
	baz=162						
TIGA	**Tifton**	**49.92**	**346**	*e*P	**P**	**05 46 31.1**	**+0.2**
	comp=Z,9.8nm,0.8s						
TIGA	**Tifton**	**49.92**	**346**	P	**P**	**05 46 30.6**	**-0.3**
	baz=164						
353A	**Camilla**	**49.99**	**345**	P	**P**	**05 46 31.2**	**-0.2**
	baz=163						
255A	**Hazlehurst**	**50.14**	**347**	P	**P**	**05 46 32.3**	**-0.2**
	baz=165						
449A	**Pace**	**50.26**	**341**	P	**P**	**05 46 33.1**	**-0.4**
	baz=159						
352A	**Blakely**	**50.29**	**344**	*e*P	**P**	**05 46 34.1**	**+0.3**
	comp=Z,20nm,0.8s						
352A	**Blakely**	**50.29**	**344**	P	**P**	**05 46 33.5**	**-0.2**
	baz=162,SNR=6.4						
253A	**Americus**	**50.65**	**345**	P	**P**	**05 46 36.2**	**-0.2**
	baz=163						
349A	**Repton**	**50.80**	**342**	P	**P**	**05 46 37.3**	**-0.3**
	baz=160						
NHSC	**New Hope**	**50.84**	**350**	P	**P**	**05 46 37.6**	**-0.2**
	baz=168						
154A	**Montrose**	**50.94**	**347**	*e*P	**P**	**05 46 38.9**	**+0.3**
	comp=Z,24nm,0.7s						
154A	**Montrose**	**50.94**	**347**	P	**P**	**05 46 38.2**	**-0.4**
	baz=165						
251A	**Midway**	**51.00**	**344**	P	**P**	**05 46 38.6**	**-0.4**
	baz=162,SNR=9.3						
250A	**Grady**	**51.12**	**343**	P	**P**	**05 46 39.6**	**-0.4**
	baz=161						
153A	**Fort Valley**	**51.14**	**346**	P	**P**	**05 46 39.5**	**-0.5**
	baz=164,SNR=6.3						
249A	**Camden**	**51.37**	**342**	P	**P**	**05 46 41.5**	**-0.2**
	baz=160						
152A	**Waverly Hall**	**51.37**	**345**	*e*P	**P**	**05 46 41.1**	**-0.8**
	comp=Z,8.0nm,0.6s						
152A	**Waverly Hall**	**51.37**	**345**	P	**P**	**05 46 41.4**	**-0.5**
	baz=163						
151A	**Opelika**	**51.39**	**344**	P	**P**	**05 46 41.5**	**-0.4**
	baz=162						
Z54A	**Sparta**	**51.48**	**347**	P	**P**	**05 46 42.1**	**-0.5**
	baz=165						
Z53A	**Monticello**	**51.68**	**346**	P	**P**	**05 46 43.3**	**-0.8**
	baz=164						
Y57A	**Sumter**	**51.76**	**350**	P	**P**	**05 46 44.0**	**-0.7**
	baz=168						
GOGA	**Godfrey**	**51.78**	**346**	P	**P**	**05 46 44.2**	**-0.7**
	baz=164						
Z52A	**Williamson**	**51.79**	**345**	P	**P**	**05 46 44.5**	**-0.5**
	baz=163,SNR=5.2						
149A	**Jones**	**51.86**	**343**	P	**P**	**05 46 44.7**	**-0.7**
	baz=160						
Y55A	**Saluda**	**51.95**	**348**	P	**P**	**05 46 45.7**	**-0.4**
	baz=166						
X60A	**Albert Glenn T**	**51.96**	**352**	P	**P**	**05 46 45.4**	**-0.8**
	baz=171						
Y54A	**Tignall**	**52.05**	**347**	P	**P**	**05 46 46.1**	**-0.7**
	baz=165						
Z50A	**Ashland**	**52.24**	**344**	*e*P	**P**	**05 46 48.3**	**0.0**
	comp=Z,4.3nm,0.6s						
Z50A	**Ashland**	**52.24**	**344**	P	**P**	**05 46 47.9**	**-0.4**
	baz=162						
Y53A	**Monroe**	**52.24**	**346**	P	**P**	**05 46 47.5**	**-0.7**
	baz=164						
LRAL	**Lakeview Retre**	**52.33**	**343**	P	**P**	**05 46 48.4**	**-0.4**
	baz=160						
X56A	**White Oak**	**52.34**	**349**	P	**P**	**05 46 48.7**	**-0.3**
	baz=168						
Y52A	**Lilburn**	**52.35**	**346**	P	**P**	**05 46 48.7**	**-0.4**
	baz=164						
X55A	**Gracelyn & Ava**	**52.43**	**349**	P	**P**	**05 46 49.1**	**-0.6**
	baz=167						
W58A	**Raeford**	**52.56**	**351**	P	**P**	**05 46 49.6**	**-1.0**
	baz=170						
Y51A	**Rockmart**	**52.63**	**345**	P	**P**	**05 46 50.5**	**-0.6**
	baz=163						
X54A	**Belton**	**52.65**	**348**	P	**P**	**05 46 50.7**	**-0.6**
	baz=166						
X53A	**Estanollee**	**52.80**	**347**	P	**P**	**05 46 51.9**	**-0.5**
	baz=165						
W57A	**Gilead**	**52.81**	**350**	P	**P**	**05 46 51.5**	**-1.0**
	baz=169						
W56A	**Indian Trail**	**52.89**	**350**	P	**P**	**05 46 52.3**	**-0.7**
	baz=168						
Y49A	**Blount Mountai**	**52.94**	**344**	P	**P**	**05 46 52.9**	**-0.5**
	baz=161						
V61A	**Roper**	**53.00**	**354**	P	**P**	**05 46 53.3**	**-0.5**
	baz=173						
X52A	**Dahlon

T52A	Hallie	55.25	348	eP	P	05 47 09.7 -0.4
	comp=Z,8.2nm,0.8s					
T52A	Hallie	55.25	348	P	P	05 47 09.2 -1.0
	baz=166					
U49A	Red Boiling Sp	55.29	345	P	P	05 47 09.4 -1.1
	baz=162,SNR=5.7					
T51A	Gray	55.31	347	P	P	05 47 09.8 -0.7
	baz=164					
S55A	Lewisburg	55.45	351	P	P	05 47 11.3 -0.4
	baz=169					
WVT	Waverly	55.46	343	eP	P	05 47 10.8 -0.9
	comp=Z,3.6nm,0.5s					
WVT	Waverly	55.46	343	P	P	05 47 10.7 -0.9
	baz=160					
CBN	Corbin Frederi	55.47	354	P	P	05 47 10.7 -1.0
	baz=172					
U48A	Cassie Pea, Po	55.48	345	P	P	05 47 10.9 -0.9
	baz=162					
T50A	Nancy	55.55	346	P	P	05 47 11.2 -1.1
	baz=164,SNR=5.1					
U47A	Clarksville	55.61	344	P	P	05 47 11.8 -0.8
	baz=161					
R58A	Rapidan	55.63	353	P	P	05 47 12.2 -0.6
	baz=172					
S53A	Williamson	55.64	349	P	P	05 47 12.0 -1.0
	baz=167					
R57A	Stanardsville	55.69	353	P	P	05 47 12.6 -0.7
	baz=171					
T49A	Edmonton	55.80	346	eP	P	05 47 13.2 -0.9
	comp=Z,15nm,0.6s					
T49A	Edmonton	55.80	346	P	P	05 47 13.3 -0.8
	baz=163,SNR=12					
S52A	Salyersville	55.82	348	P	P	05 47 13.3 -0.9
	baz=166,SNR=5.2					
MIAR	Mount Ida	55.87	337	P	P	05 47 13.9 -0.7
	baz=153					
S51A	Beattyville	55.88	348	P	P	05 47 13.6 -1.0
	baz=165					
R55A	Marlinton	55.90	351	P	P	05 47 14.5 -0.3
	baz=169					
R54A	Victor	55.93	350	P	P	05 47 14.7 -0.4
	baz=168					
W41B	Gary Mavity, V	55.96	339	P	P	05 47 14.7 -0.5
	baz=155					
T48A	Bowling Green	56.01	345	P	P	05 47 14.7 -0.8
	baz=162					
T47A	Sharon Grove	56.08	344	eP	P	05 47 15.2 -0.9
	comp=Z,6.8nm,0.9s					
T47A	Sharon Grove	56.08	344	P	P	05 47 15.4 -0.6
	baz=161					
S50A	Richmond	56.09	347	P	P	05 47 15.4 -0.7
	baz=164					
LTX	Lajitas	56.15	325	eP	P	05 47 17.3 +0.5
TXAR	Lajitas Array	56.15	325	P	P	05 47 17.3 +0.5
	comp=Z,0.4nm,0.7s,baz=152,slow=8.7,SNR=6.9					
TXAR				pP	pP	05 47 44.9 -0.1
	comp=Z,0.6nm,0.9s,baz=134,slow=8.9,SNR=3.3					
R53A	Hurricane	56.24	349	P	P	05 47 16.5 -0.6
	baz=167					
T46A	Princeton	56.34	344	P	P	05 47 17.4 -0.5
	baz=160					
S49A	Springfield	56.39	346	P	P	05 47 17.1 -1.2
	baz=163,SNR=5.1					
Q57A	Strasburg	56.41	353	P	P	05 47 17.7 -0.7
	baz=171					
S48A	Wiedeman Farm,	56.45	345	P	P	05 47 17.4 -1.3
	baz=162,SNR=8.0					
R51A	Hillsboro	56.52	348	P	P	05 47 18.3 -0.9
	baz=165					
Q55A	Buckhannon	56.59	351	P	P	05 47 19.3 -0.4
	baz=169					
S47A	Hartford	56.59	345	P	P	05 47 18.6 -1.0
	baz=161					
R50A	Paris	56.65	347	P	P	05 47 19.3 -0.8
	baz=164					
Q53A	Leroy	56.68	350	P	P	05 47 19.5 -0.8
	baz=168,SNR=8.4					
Q54A	Coxs Mills	56.69	351	P	P	05 47 19.7 -0.6
	baz=168					
PBMO	Poplar Bluff	56.83	341	eP	P	05 47 20.9 -0.4
	comp=Z,7.1nm,0.6s					
R49A	Shelbyville	56.85	346	P	P	05 47 20.8 -0.7
	baz=163					
S46A	Don Dixon Farm	56.89	344	P	P	05 47 20.9 -0.9
	baz=160					
Q52A	Bidwell	56.91	349	P	P	05 47 21.2 -0.7
	baz=167					
WCI	Wyandotte Cave	57.05	345	eP	P	05 47 22.2 -0.7
	comp=Z,7.1nm,0.6s					
WCI	Wyandotte Cave	57.05	345	P	P	05 47 22.2 -0.7
	baz=162					
P55A	Reedsville	57.06	352	P	P	05 47 22.5 -0.5
	baz=170					
Q50A	Georgetown	57.12	348	P	P	05 47 22.6 -0.8
	baz=165					
R47A	Wooly Knot Far	57.17	345	P	P	05 47 22.8 -0.9
	baz=162					
Q51A	Peebles	57.17	348	P	P	05 47 22.7 -1.1
	baz=166					
U40A	Yellville	57.23	339	P	P	05 47 23.9 -0.4
	baz=155					
P54A	Burton	57.24	351	P	P	05 47 23.9 -0.4
	baz=169					
P53A	Whipple	57.27	350	eP	P	05 47 24.0 -0.4
	comp=Z,12nm,0.6s					
P53A	Whipple	57.27	350	P	P	05 47 23.8 -0.6
	baz=168,SNR=5.8					
S44A	Carbondale	57.32	343	P	P	05 47 24.2 -0.7
	baz=159					
SIUC	Southern Illin	57.33	343	eP	P	05 47 24.8 -0.1
	comp=Z,12nm,0.5s					
Q49A	Aurora	57.47	347	P	P	05 47 24.8 -1.1
	baz=164					
P52A	Corning	57.54	350	P	P	05 47 25.3 -1.1
	baz=167					
Q48A	North Vernon	57.58	346	P	P	05 47 25.6 -1.0
	baz=163					
R45A	Skylar, Fairfi	57.61	344	P	P	05 47 26.1 -0.8
	baz=160					
O55A	Ligonier	57.67	352	P	P	05 47 26.7 -0.6
	baz=170					
Q47A	Bedord North L	57.75	346	P	P	05 47 26.7 -1.1
	baz=162					
P50A	Jamestown	57.82	348	P	P	05 47 27.2 -1.2
	baz=165					
FVM	French Village	57.94	342	eP	P	05 47 29.5 +0.4
	comp=Z,8.8nm,0.8s					
P49A	Miami Univ. Ec	57.94	347	P	P	05 47 27.7 -1.4
	baz=164					
O52A	Adamsville	57.96	350	P	P	05 47 28.3 -1.0
	baz=167					
S41A	Jillco Farms,	57.98	340	P	P	05 47 28.5 -1.0
	baz=156					
O53A	New Philadelph	57.99	351	P	P	05 47 28.7 -0.7
	baz=168					
P48A	Milroy	58.02	347	P	P	05 47 27.9 -1.8
	baz=163					
O51A	Pataskala	58.12	349	P	P	05 47 29.3 -1.1
	baz=167					
N55A	Marion Center	58.20	353	P	P	05 47 30.3 -0.7
	baz=171					
P47A	Martinsville	58.24	346	P	P	05 47 29.9 -1.3
	baz=162					
CCM	Cathedral Cave	58.25	341	eP	P	05 47 32.3 +1.0
	comp=Z,5.1nm,0.9s					
CCM	Cathedral Cave	58.25	341	P	P	05 47 30.8 -0.6
	baz=157					
ACSO	Alum Creek Sta	58.27	349	eP	P	05 47 30.4 -1.1
	comp=Z,11nm,1.0s					
ACSO	Alum Creek Sta	58.27	349	P	P	05 47 30.7 -0.7
	baz=166					
O50A	Cable	58.31	348	P	P	05 47 30.8 -0.9
	baz=165					
N53A	Lisbon	58.48	351	P	P	05 47 32.1 -0.7
	baz=169					
O49A	Covington	58.49	348	eP	P	05 47 31.6 -1.3
	comp=Z,6.0nm,0.8s					
O49A	Covington	58.49	348	P	P	05 47 31.9 -1.1
	baz=165					
N54A	Moraine State	58.51	352	P	P	05 47 32.6 -0.5
	baz=170					
R41A	Rosebud	58.52	341	P	P	05 47 32.9 -0.3
	baz=157					
O48A	Farmland	58.73	347	P	P	05 47 33.7 -0.8
	baz=164					
N50A	Nevada	58.83	349	P	P	05 47 34.3 -0.9
	baz=166					
N51A	Ashland	58.83	350	P	P	05 47 34.3 -1.0
	baz=167					
M55A	Ridgway	58.85	353	P	P	05 47 34.4 -1.0
	baz=171					
O47A	Sheridan	58.93	346	P	P	05 47 34.8 -1.2
	baz=163					
M53A	Wl Miller and	59.07	351	P	P	05 47 36.2 -0.8
	baz=169					
N49A	Columbus Grove	59.17	348	eP	P	05 47 36.6 -1.0
	comp=Z,17nm,0.7s					
N49A	Columbus Grove	59.17	348	P	P	05 47 36.6 -1.0
	baz=165,SNR=6.3					
M51A	Elyria	59.20	350	P	P	05 47 36.9 -0.9
	baz=167					
ALLY	Alegheny Colle	59.20	352	eP	P	05 47 37.2 -0.7
	comp=Z,10nm,0.6s					
N48A	Decatur	59.28	347	P	P	05 47 37.2 -1.2
	baz=164					
SFIN	Lafayette	59.28	345	P	P	05 47 37.1 -1.3
	baz=162					
BINY	Binghamton	59.31	355	P	P	05 47 37.3 -1.2
	baz=174					
O45A	Potomac	59.31	345	P	P	05 47 37.3 -1.3
	baz=161					
N47A	Urbana	59.44	347	P	P	05 47 38.4 -1.0
	baz=163					
L53A	Girard	59.52	352	P	P	05 47 39.3 -0.8
	baz=169					
L55A	Hinsdale	59.52	353	P	P	05 47 39.6 -0.5
	baz=171					
ERPA	Erie	59.64	352	P	P	05 47 40.2 -0.7
	baz=170					
M49A	Liberty Center	59.66	348	P	P	05 47 40.3 -0.7
	baz=165					
L54A	Sinclairville	59.67	353	P	P	05 47 40.5 -0.6
	baz=170					
N46A	Monticello	59.69	346	P	P	05 47 40.1 -1.0
	baz=162					
L48A	N Adams	60.20	348	P	P	05 47 43.8 -0.9
	baz=165					
L47A	Sherwood	60.39	348	P	P	05 47 44.8 -1.1
	baz=164					
M43A	Waltham Townsh	60.74	344	P	P	05 47 47.3 -1.0
	baz=160					
J52A	Paris	60.81	352	P	P	05 47 47.8 -1.0
	baz=169					
K47A	Vermontville	61.01	348	P	P	05 47 48.4 -1.8
	baz=164					
KSU1	Kansas State U	61.03	337	P	P	05 47 48.5 -1.9
	baz=152					
PECO	Prince Edward	61.11	355	P	P	05 47 50.7 -0.1
	baz=173					
ACTO	Acton	61.12	352	P	P	05 47 50.5 -0.3
	baz=170					
PKRO	Pickering	61.35	353	P	P	05 47 51.4 -1.0
	baz=171					
L43A	Garden Prairie	61.39	345	P	P	05 47 51.7 -1.0
	baz=160					
I51A	Listowel	61.44	352	P	P	05 47 52.2 -0.8
	baz=169					
I55A	Frankford	61.45	354	P	P	05 47 52.1 -1.0
	baz=172					
J47A	Sunmer	61.52	348	eP	P	05 47 52.6 -1.0
	comp=Z,12nm,0.7s					
J47A	Sunmer	61.52	348	P	P	05 47 52.9 -0.7
	baz=165					
I52A	Shelburne	61.59	352	P	P	05 47 53.2 -0.9
	baz=170					
H56A	Elgin	61.71	356	P	P	05 47 53.8 -1.0
	baz=174					
BASO	Ashfield	61.74	351	P	P	05 47 54.1 -0.9
	baz=168					
DELO	Deloro Mine	61.75	354	P	P	05 47 54.0 -1.0
	baz=172					
BWLO	Walkerton	61.76	352	P	P	05 47 54.4 -0.8
	baz=169					
K43A	Burlington	61.78	345	P	P	05 47 54.2 -1.1
	baz=161					
I49A	Point Hope	61.85	350	P	P	05 47 54.4 -1.3
	baz=167					
K42A	Prairie Point,	62.10	345	P	P	05 47 56.8 -0.7
	baz=160					
H52A	Wyevale	62.12	353	P	P	05 47 56.6 -0.9
	baz=170					
I47A	Gladwin	62.22	349	P	P	05 47 57.1 -1.2
	baz=165					
I48A	Sherman Twp	62.24	349	P	P	05 47 57.1 -1.3
	baz=166					
BMRO	Meriville Lake	62.24	352	P	P	05 47 57.2 -1.1
	baz=169					
BANO	Bancroft	62.27	354	P	P	05 47 57.3 -1.3
	baz=172					
I46A	Reed City	62.32	348	P	P	05 47 57.4 -1.5
	baz=164					
G53A	Haliburton	62.44	354	P	P	05 47 57.9 -1.8
	baz=171					
JFWS	Jewell Farm	62.46	344	P	P	05 47 58.3 -1.6
	baz=159					
H48A	Harrisville	62.67	350	P	P	05 48 00.2 -1.1
	baz=166					
H47A	Mio	62.73	349	P	P	05 48 00.2 -1.4
	baz=165					
I43A	Langenfeld Bro	62.85	346	P	P	05 48 01.5 -1.0
	baz=161					
H46A	Fife Lake	62.85	348	P	P	05 48 01.1 -1.4
	baz=164					
KLBO	Killbear Provi	62.86	352	P	P	05 48 01.3 -1.1
	baz=170					
PEMO	Pembroke	62.86	355	P	P	05 48 01.3 -1.2
	baz=173					
TOBO	Tobermory, Bru	62.91	351	P	P	05 48 01.4 -1.3
	baz=168					
I42A	Draeger Farm,	63.04	345	P	P	05 48 02.9 -0.8
	baz=160					
J40A	Soldiers Grove	63.04	344	P	P	05 48 02.8 -1.0
	baz=158					
J39A	Decorah	63.25	343	P	P	05 48 04.1 -1.1
	baz=157					
H43A	Windswept, Lux	63.32	346	P	P	05 48 04.1 -1.4
	baz=162					
F51A	Arnstein	63.38	353	P	P	05 48 05.0 -0.9
	baz=170					
G45A	Suttons Bay	63.42	348	P	P	05 48 05.3 -0.9
	baz=164					
F49A	Sandfield	63.51	351	P	P	05 48 05.3 -1.5
	baz=168					
H42A	Shiocton	63.53	346	eP	P	05 48 06.5 -0.5
	comp=Z,8.7nm,0.8s					
G46A	Petoskey	63.54	349	P	P	05 48 05.9 -1.0
	baz=165					
E54A	Lac Daplat, Po	63.61	355	P	P	05 48 06.5 -0.9
	baz=173					
I39A	Houston	63.68	343	eP	P	05 48 08.5 +0.6
	comp=Z,5.2nm,0.6s					
I39A	Houston	63.68	343	P	P	05 48 07.1 -0.8
	baz=158					
SDCO	Great Sand Dun	63.70	330	eP	P	05 48 09.8 +1.2
	comp=Z,2.6nm,0.9s					
E50A	Wahnapitae	63.97	352	P	P	05 48 08.7 -1.1
	baz=169					
G43A	Wallace	64.05	347	P	P	05 48 09.8 -0.5
	baz=162					
H40A	Chili	64.09	345	P	P	05 48 10.3 -0.3
	baz=159					
G42A	Mountain	64.20	346	P	P	05 48 09.9 -1.4
	baz=161					
E48A	Lockeyer	64.22	351	P	P	05 48 10.1 -1.3
	baz=168					
D54A	Lac Fusel, La	64.28	356	P	P	05 48 10.6 -1.2
	baz=174					
D53A	Lac Vacive, Po	64.29	355	P	P	05 48 10.8 -1.1
	baz=172					
E47A	Iron Bridge	64.37	350	P	P	05 48 11.6 -0.8
	baz=167					
E46A	Sault Ste Mari	64.45	350	eP	P	05 48 12.1 -0.9
	comp=Z,6.0nm,0.8s					
E46A	Sault Ste Mari	64.45	350	P	P	05 48 12.0 -0.9
	baz=166					
F43A	Flat Rock, Esc	64.49	347	P	P	05 48 12.8 -0.3
	baz=162					
F41A	Three Lakes	64.83	346	P	P	05 48 14.7 -0.7
	baz=160					
D48A	Paudash Townsh	64.85	352	P	P	05 48 14.8 -0.8
	baz=168					
D49A	Beulah Townshi	64.89	352	P	P	05 48 15.0 -0.8
	baz=169					
D47A	Chapleau	64.93	351	P	P	05 48 15.0 -1.0
	baz=167					
ECSD	EROS Data Cent	65.12	340	P	P	05 48 17.4 0.0
	baz=153					
E40A	Wakefield	65.68	346	P	P	05 48 20.7 -0.2
	baz=160					
E39A	Mellen	65.78	345	P	P	05 48 21.6 +0.1
	baz=159					
LSQQ	Lebel-sur-Quev	66.20	356	P	P	05 48 23.2 -0.9
	baz=173					
MATQ	Matagami	66.95	355	P	P	05 48 27.9 -1.0
	baz=173					
EYMN	Ely	67.47	345	P	P	05 48 31.6 -0.6
	baz=158					
LIC	Lamto	68.94	76	eP	P	05 48 41.2 -0.9
	comp=Z,32nm,0.7s					
TIC	Toumodi	69.09	76	eP	P	05 48 42.1 -1.0
KIC	Kosan Boka	69.25	76	eP	P	05 48 43.4 -0.7
	comp=Z,48nm,0.7s					
DBIC	Dimbokro	69.25	76	eP	P	05 48 43.2 -0.8
	comp=Z,20nm,0.8s					
DBIC	Dimbokro	69.25	76	P	P	05 48 43.5 -0.5
	comp=Z,17nm,0.6s,baz=226,slow=6.1,SNR=32					
PD31	Pinedale Array	69.55	330	eP	P	05 48 47.5 +1.9
	comp=Z,1.6nm,1.1s					
PDAR	Pinedale Array	69.55	330	P	P	05 48 46.6 +1.0
	comp=Z,0.3nm,0.5s,baz=119,slow=7.3,SNR=2.6					
ULM	Lac du Bonnet	70.73	343	eP	P	05 48 51.9 -0.4
	comp=Z,3.1nm,0.8s					
ULM	Lac du Bonnet	70.73	343	P	P	05 48 52.1 -0.2
	comp=Z,2.3nm,0.4s,baz=152,slow=6.1,SNR=14					
PAHR	Pah Rah Range	72.55	323	eP	P	05 49 03.4 -0.3
	comp=Z,3.0nm,0.7s					
BOZ	Bozeman (W)	72.67	331	P	P	05 49 05.2 +0.9
	baz=139					
TOA1	Torodi Ar. Sit	77.60	72	eP	P	05 49 31.5 -1.4
TOA1				epP	pP	05 50 02.6 -0.8
TOA0	Torodi Ar. Sit	77.60	72	eP	P	05 49 32.4 -0.6
	comp=Z,22nm,0.6s					
TORD	Torodi Ar. Bea	77.60	72	P	P	05 49 31.5 -1.4
	comp=Z,15nm,0.6s,baz=255,slow=4.9,SNR=132					
TORD				pP	pP	05 50 02.7 -0.8
	comp=Z,3.2nm,0.6s,baz=280,slow=5.2,SNR=3.9					
MDT	Midelt	80.37	51	P	P	05 49 48.8 +0.9
	comp=Z,4.0nm,0.8s,baz=274,slow=7.0,SNR=6.9					
VNDA	Vanda	80.76	190	eP	P	05 49 52.7 +3.6
VNDA	Vanda	80.76	190	P	P	05 49 52.5 +3.4
	comp=Z,0.9nm,0.7s,baz=118,slow=4.7,SNR=10					
TSUM	Tsumeb	82.95	108	eP	P	05 50 02.6 +0.7
	comp=Z,4.8nm,0.8s					
TSUM	Tsumeb	82.95	108	P	P	05 50 03.1 +1.3
	comp=Z,4.0nm,0.8s,baz=255,slow=3.5,SNR=9.5					
ESDC	Sonseca Array	84.03	45	eP	P	05 50 06.9 +0.2
ESDC				eP	P	05 50 07.1 +0.3
ESDC	Sonseca Array	84.03	45	P	P	05 50 07.1 +0.3
	comp=Z,3.0nm,0.7s,baz=253,slow=5.4,SNR=18					
YKA	Yellowknife Ar	86.59	341	eP	P	05 50 20.9 +2.0
YKA	Yellowknife Ar	86.59	341	P	P	05 50 19.5 +0.6
	comp=Z,0.5nm,0.5s,baz=136,slow=5.2,SNR=14					
YKA				pP	pP	05 50 48.8 -0.4
	comp=Z,1.3nm,0.8s,baz=135,slow=4.8,SNR=5.5					
YKB5	Yellowknife Ar	86.59	341	eP	P	05 50 19.5 +0.6
YKB5				epP	pP	05 50 48.8 -0.4
EKA	Eskdalemuir Ar	91.88	32	P	P	05 50 43.9 0.0
	comp=Z,0.2nm,0.5s,baz=234,slow=4.3,SNR=2.8					
EPYK	Eagle Plains	96.45	338	P	P	05 51 05.6 +0.9
	baz=118					
VYHS	Vyhne	102.40	43	ePDIF	Pdif	05 51 34.3 +2.6
ASAR	Alice Springs	132.79	211	PKP	PKiKP	05 56 52.3 -0.1
	comp=Z,0.2nm,0.4s,baz=128,slow=2.4,SNR=4.5					
AS31	Alice Springs	132.79	211	ePKPdf	PKPdf	05 56 52.0 +0.8
WR1	Warramunga Arr	135.63	215	ePKPdf	PKiKP	05 56 57.7 -0.5
WRA	Warramunga Arr	135.63	215	PKP	PKiKP	05 56 57.7 -0.5
	comp=Z,1.3nm,0.7s,baz=145,slow=1.7,SNR=8.2					
ZAA1	Zalesovo Array	138.71	22	ePKPdf	PKPdf	05 57 01.9 +0.7
ZAA1				epPKPdf	pPKPdf	05 57 34.3 +1.0
ZALV	Zalesovo Beam	138.72	22	PKP	PKPdf	05 57 01.9 +0.7
	comp=Z,0.5nm,0.3s,baz=290,slow=4.3,SNR=4.4					
ZALV				pPKP	pPKPdf	05 57 34.3 +1.0
	comp=Z,0.5nm,0.3s,baz=258,slow=7.4,SNR=2.1					
MK32	Makanchi Array	143.02	31	ePKPpre	PKPpre	05 57 06.1
MK32				eSKPbc	SKiKP	06 00 38.3 0.0
MKAR	Makanchi Array	143.02	31	PKhKP	PKPpre	05 57 06.1
	comp=Z,0.3nm,0.4s,baz=297,slow=6.3,SNR=5.5					
MKAR				SKPbc	SKiKP	06 00 38.3 0.0
	comp=Z,0.2nm,0.6s,baz=292,slow=4.2,SNR=3.7					
KSH	Kashi	143.54	46	PKP	PKPab	05 57 07.8 +0.6
KSH				pPKP	pPKPdf	05 57 34.9 -8.0
KSH				PP	PP	06 00 24.3 +0.9
KSH				SKS	SKSdf	06 04 02.4 -7.5
MJAR	Matsushiro Arr	147.99	313	PKPbc	PKiKP	05 57 22.8 -0.2
	comp=Z,1.9nm,0.5s,baz=96,slow=1.1,SNR=7.0					
MJAR				pPKPbc	pPKPbc	05 57 52.8 -0.2
	comp=Z,1.4nm,0.6s,baz=354,slow=1.2,SNR=4.1					
MAJO	Matsushiro	147.99	313	ePKPbc	PKiKP	05 57 22.8 -0.2
MAJO				epPKPdf	pPKPbc	05 57 52.8 -0.2
SONA0	Songino Array	149.36	4	ePKPbc	PKiKP	05 57 26.2 +0.5
SONA0				epPKPdf	pPKPbc	05 57 56.5 -0.1
SONM	Songino Array	149.36	4	ePKPbc	PKiKP	05 57 25.6 -0.1
SONM				ePKPab	PKPab	05 57 29.7 +0.2
SONM	Songino Array	149.36	4	PKPbc	PKiKP	05 57 26.2 +0.5
	comp=Z,1.6nm,0.5s,baz=320,slow=2.1,SNR=11					
SONM				pPKPbc	pPKPbc	05 57 56.5 -0.1
	comp=Z,0.9nm,0.6s,baz=312,slow=2.3,SNR=3.0					
CD2	Chengdu	165.46	19	PKP	PKPdf	05 57 39.6 -0.8

OMAN ***19*** *05:41:13.3±0.6,26°.66N×57°.82E,h0km±13km,ml3.5/7, Error ellipse: s-maj=28.1km s-min=5.0km az=28.0*
ISCJB ***19*** *05:41:14.7±0.4,26°.57N±0°.03×57°.70E±0°.05,h10km, mb3.4/6,MS2.8/2,Error ellipse: s-maj=7.0km s-min=4.0km az=170.5*
TEH ***19*** *05:41:14.2,26°.69N×57°.92E,h36km,ML3.6*
IDC ***19*** *05:41:26.7±2.7,28°.17N×57°.12E,h0km,mb3.5/6, mb1 3.6/6,mb1mx3.4/49,mbtmp3.5/6,MS2.8/3,Ms1 2.8/3, ms1mx2.4/43,Error ellipse: s-maj=57.0km s-min=30.0km az=157.0*

ISC 19 05:41:16.6±0.8,26°.57N±0°.05×57°.62E±0°.05,h10km,n39, σ1§81/36,mb3.5/6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	Jask	0.93	172	ePg	Pg	05 41 34.9	+0.3
NIAN	Nian	1.21	325	ePg	Pn	05 41 38.5	-1.2
NIAN				IAMB	IAmb	05 41 45.3	
	comp=Z,0.0nm,0.3s						
KHNJ	Kahnooj	1.38	3	ePg	Pn	05 41 37.7	-4.3
SHME	Shamm	1.43	249	ePn	Pg	05 41 43.6	-0.4
GENO	Geno	1.54	303	ePn	Pn	05 41 43.6	-0.7
GENO				eSg	Sg	05 42 09.1	+2.9
GENO				IAMB	IAmb	05 42 12.2	
	comp=Z,0.0nm,0.4s						
MSFE	Esma-Masafi	1.78	228	ePn	Pn	05 41 46.2	-1.4
HATD	Hatta, Dubai	2.19	218	ePn	Pn	05 41 51.8	-1.4
ASHO	Ashiyiah	2.35	217	P	Pn	05 41 56.7	+1.4
	SNR=14						
ASHO	Ashiyiah	2.35	217	ePn	Pn	05 41 54.4	-0.9
NAZ	Nazwa, Dubai	2.37	229	ePn	Pn	05 41 56.7	+1.2
FAQ	Al Faqa, Dubai	2.58	226	ePn	Pn	05 42 00.2	+1.7
SOHO	SOHO	2.61	202	P	Pn	05 41 56.3	-2.6
CHBR	Chabahar	2.75	110	ePn	Pn	05 42 02.6	+1.8
HOQ	Hoqain	2.98	185	P	Pn	05 42 01.8	-2.3
	SNR=12						
HOQ	Hoqain	2.98	185	ePn	Pn	05 42 02.5	-1.6
ALNE	Al Ain	3.02	215	ePn	Pn	05 42 03.0	-1.6
BIDO	Bidbid	3.07	171	ePn	Pn	05 42 02.2	-3.0
NGRK	Negar Kerman	3.17	346	ePn	Pn	05 42 05.3	-1.6
NGRK				IAMB	IAmb	05 43 00.2	
	comp=Z,0.0nm,0.5s						
CHMN	Cheshme madani	3.28	359	IAMB	IAmb	05 40 00.2	
	comp=Z,0.0nm,1.1s						
CHMN				ePn	Pn	05 42 08.0	-0.5
WSAR	Wadi Sarin	3.44	164	P	Pn	05 42 08.3	-2.0
	SNR=12						
KRBR	Kerman	3.49	348	ePn	Pn	05 42 12.9	+1.6
TVBK	TV Kerman	3.49	348	ePn	Pn	05 42 11.2	-0.1
TVBK				IAMB	IAmb	05 42 23.8	
	comp=Z,0.0nm,0.4s						
SMDO	Samad	3.51	174	P	Pn	05 42 11.3	-0.1
	SNR=17						
SMDO				S	Sn	05 42 53.2	+0.1
KHGB	Koh Gabri	3.93	345	IAMB	IAmb	05 43 22.1	
	comp=Z,0.0nm,0.6s						
ZHSF	Zahedan	4.12	42	ePn	Pn	05

IRAM	**Ramesheh**	**6.95**	**320**	*e*Pn		**Pn**	**05 42 58.0**	**-0.7**
SHRT	**Shahrakht**	**7.42**	**17**	*e*Pn		**Pn**	**05 43 05.8**	**+0.7**
GEYT	**Alibeck**	**11.34**	**2**	LR		LR	05 47 33.6	
	comp=Z,29nm,18.4s,baz=215,slow=38							
BRTR	**Keskin Array B**	**23.90**	**309**	P		**P**	**05 46 30.6**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=132,slow=12,SNR=5.2							
MKAR	**Makanchi Array**	**28.07**	**38**	P		**P**	**05 47 11.4**	**+3.1**
	comp=Z,0.2nm,0.4s,baz=240,slow=11,SNR=3.5							
CMAR	**Chiang Mai Arr**	**38.88**	**93**	LR		LR	06 06 41.6	
	comp=Z,9.2nm,19.2s,baz=210,slow=38							
GERES	**GERESS Array B**	**40.53**	**315**	P		**P**	**05 48 54.1**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=121,slow=9.5,SNR=6.5							
GERES				LR		LR	06 05 45.0	
	comp=Z,23nm,20.1s,baz=252,slow=37							
FINES	**FINESS Array B**	**40.81**	**337**	P		**P**	**05 48 55.0**	**-3.0**
	comp=Z,1.1nm,0.8s,baz=121,slow=13,SNR=3.2							
HFS	**Hagfors**	**44.93**	**331**	P		**P**	**05 49 30.7**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=119,slow=15,SNR=2.3							
TORD	**Torodi Ar. Bea**	**53.89**	**267**	P		P	05 50 49.6	+9.1
	comp=Z,0.4nm,0.5s,baz=66,slow=8.8,SNR=1.9							

SOME ***19*** *05:53:08.6, 39.°02N×71.°77E, h15km*
IDC ***19*** *05:53:11.1±1.7, 38.°93N×71.°68E, h0km, mb3.6/3, mb1 3.6/8, mb1mx3.4/45, mbtmp3.6/8, ML3.3/5, MS4.5/1, Ms1 4.5/1, ms1mx2.3/53, Error ellipse: s-maj=28.5km s-min=15.5km az=139.0*
KRNET ***19*** *05:53:12.3±0.1, 39.°05N×71.°41E, mb3.7*
NNC ***19*** *05:53:18.0±3.8, 39.°72N×71.°50E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=31.5km s-min=16.8km az=171.0*
ISC 19 05:53:16.2±1.3, 39.°49N±0.°09×71.°57E±0.°04, h10km, n29, σ3°03/41, mb3.7/3, 9C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.81**	**315**	⇓*i*P		**Pn**	**05 53 33.3**	**-0.5**
	baz=36							
BTK				⇓*i*S		**Sn**	**05 53 48.4**	**+2.5**
	baz=36							
ARSB	**Arslanbob**	**2.13**	**30**	⇑*i*P		**Pg**	**05 53 56.8**	**-0.2**
	baz=28							
ARSB				⇑*i*S		**Sg**	**05 54 28.9**	**+4.3**
	baz=28							
ARK	**Arkit**	**2.32**	**7**	⇑*i*P		**Pg**	**05 53 59.4**	**-1.4**
	baz=9.0							
ARK				⇑*i*S		**Sg**	**05 54 34.1**	**+3.2**
	baz=9.0							
TAS	**Tashkent**	**2.53**	**317**	⇑*e*P		**Pb**	**05 53 59.4**	**-2.3**
	baz=25							
TAS				⇑*e*S		**Sg**	**05 54 34.5**	**-3.0**
	baz=25							
IUG	**Iuzhnay**	**2.90**	**337**	*e*P		**Pg**	**05 54 09.6**	**-2.1**
	69nm,0.3s							
IUG				*e*S		**Sg**	**05 54 52.2**	**+2.9**
	150nm,0.4s							
ARLS	**Aral**	**3.16**	**41**	⇓*i*P		**Pb**	**05 54 10.5**	**-2.1**
	baz=37							
ARLS				⇓*i*S		**Sg**	**05 54 53.2**	**-4.6**
	baz=37							
MRKS	**Merke**	**3.48**	**21**	Pg		**Pb**	**05 54 16.3**	**-1.7**
	10nm,0.7s							
MRKS				Lg		Lg	05 55 03.5	
	15nm,0.6s							
MRKS	**Merke**	**3.48**	**21**	*e*P		**Pb**	**05 54 18.0**	**0.0**
	12nm,0.6s							
MRKS				*e*S		**Sg**	**05 55 05.8**	**-2.3**
	15nm,0.3s							
KK31	**Karatay Array**	**3.70**	**348**	⇑Pg		**Pb**	**05 54 19.4**	**-2.1**
	5.4nm,0.4s,baz=164,slow=12,SNR=88							
KK31				⇑Lg		Lg	05 55 08.4	
	20nm,0.6s,baz=151,slow=22,SNR=5.2							
AAK	**Ala-Archa**	**3.84**	**34**	Pn		**Pb**	**05 54 21.2**	**-3.0**
	3.4nm,0.3s,baz=188,slow=6.6,SNR=22							
AAK				Sn		**Sg**	**05 55 12.6**	**-7.0**
	1.2nm,0.3s,baz=358,slow=20,SNR=5.9							
KST	**Kastek**	**4.85**	**42**	*e*P		**Pb**	**05 54 41.2**	**-0.2**
	4.9nm,0.3s							
KST				*e*S		**Sg**	**05 55 45.6**	**-6.4**
	14nm,0.6s							
DGS	**Degeres**	**4.90**	**39**	Pg		**Pg**	**05 54 45.7**	**-4.4**
	8.7nm,0.5s							
DGS				Lg		Lg	05 55 53.1	
	12nm,0.6s							
DGS	**Degeres**	**4.90**	**39**	*e*P		**Pg**	**05 54 45.8**	**-4.4**
	8.7nm,0.5s							
DGS				*e*S		**Sg**	**05 55 53.1**	**-0.6**
	12nm,0.6s							
TNSS	**Tian-Shan**	**5.38**	**47**	Pg		**Pb**	**05 54 53.6**	**+3.0**
	2.6nm,0.3s							
TNSS				Lg		Lg	05 56 07.0	
	8.4nm,0.5s							
TNSS	**Tian-Shan**	**5.38**	**47**	*e*P		**Pb**	**05 54 53.6**	**+3.0**
	2.6nm,0.3s							
TNSS				*e*S		**Sg**	**05 56 07.0**	**-2.0**
	8.4nm,0.5s							
KUU	**Kurty**	**5.67**	**38**	Pg		**Pb**	**05 54 58.5**	**+3.3**
	1.8nm,0.3s							
KUU				Lg		Lg	05 56 15.3	
	7.3nm,0.6s							
KUU	**Kurty**	**5.67**	**38**	*e*P		**Pb**	**05 54 58.5**	**+3.3**
	1.8nm,0.3s							
KUU				*e*S		**Sg**	**05 56 15.3**	**-2.7**
	7.3nm,0.6s							
KTBS	**Karatobe**	**5.70**	**41**	Pg		**Pb**	**05 54 58.8**	**+3.1**
	1.2nm,0.4s							
KTBS				Lg		Lg	05 56 16.0	
	20nm,0.4s							
KTBS	**Karatobe**	**5.70**	**41**	*e*P		**Pb**	**05 54 58.8**	**+3.1**
	1.2nm,0.4s							
KTBS				*e*S		**Sg**	**05 56 16.0**	**-3.1**
	20nm,0.4s							
MKAR	**Makanchi Array**	**10.70**	**44**	Pn		**Pn**	**05 55 53.3**	**+3.8**
	0.1nm,0.3s,baz=233,slow=12,SNR=3.8							
AB31	**Akbulak array**	**12.81**	**323**	⇓P		**Pn**	**05 56 18.8**	**+0.6**
	0.3nm,0.3s,baz=146,slow=13,SNR=19							
BVAR	**Borovoye Array**	**13.56**	**357**	Pn		**Pn**	**05 56 30.8**	**+2.3**
	0.1nm,0.3s,baz=148,slow=8.5,SNR=3.8							
BVAR				Sn		**Sn**	**05 59 01.1**	**+1.9**
	0.1nm,0.3s,baz=154,slow=24,SNR=2.8							
AKTO	**Aktyubinsk**	**14.52**	**323**	⇑P		**P**	**05 56 46.7**	**-1.7**
	3.6nm,0.7s							
AKTO	**Aktyubinsk**	**14.52**	**323**	Pn		**Pn**	**05 56 42.0**	**+0.3**
	0.1nm,0.3s,baz=89,slow=14,SNR=2.5							
ZALV	**Zalesovo Beam**	**17.03**	**28**	P		**P**	**05 57 17.2**	**+1.0**
	0.4nm,0.3s,baz=209,slow=12,SNR=5.7							
HFS	**Hagfors**	**41.03**	**320**	P		**P**	**06 00 59.1**	**-0.2**
	1.3nm,0.8s,baz=88,slow=12,SNR=3.3							
JHJ	**Hachijo jima 2**	**54.17**	**74**	LR		LR	06 27 37.2	
	comp=Z,398nm,20.0s,baz=96,slow=38							
TORD	**Torodi Ar. Bea**	**56.26**	**268**	P		P	06 04 01.2	-3.6
	0.2nm,0.4s,baz=50,slow=5.3,SNR=4.5							
YKA	**Yellowknife Ar**	**78.24**	**3**	P		**P**	**06 05 15.8**	**+0.2**
	0.2nm,0.5s,baz=351,slow=5.7,SNR=8.0							

ISK ***19*** *06:08:09.9, 37.°08N×36.°20E, h15km, ML2.0/6*
ISCJB ***19*** *06:08:10.7±0.5, 37.°08N±0.°03×36.°20E±0.°03, h2km±9km, Error ellipse: s-maj=5.2km s-min=3.8km az=161.9*
DDA ***19*** *06:08:10.3, 37.°09N×36.°22E, h7km±4km, ML2.6*
ISC 19 06:08:10.3±1.1, 37.°10N±0.°03×36.°20E±0.°03, h13km±11km, n15, σ0°34/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.37**	**257**	PG		**Pg**	**06 08 17.9**	**+0.1**
CEYT				SG		**Sb**	**06 08 23.8**	**-0.6**
KAMA	**Osmaniye**	**0.39**	**76**	*i* P		**Pb**	**06 08 18.9**	**-0.2**
KAMA				*i* S		**Sg**	**06 08 23.4**	**+0.1**
KOZT	**Kozan**	**0.48**	**322**	PG		**Pg**	**06 08 19.9**	**0.0**
KOZT				SG		**Sb**	**06 08 27.9**	**+0.1**
ANDN	**Andirin**	**0.50**	**14**	IAML_P				
	comp=Z,436nm,0.1s							
ANDN				*i* P		**Pb**	**06 08 20.6**	**-0.4**
ANDN				*i* S		**Sb**	**06 08 28.2**	**-0.1**
YURE	**YUREGIR**	**0.53**	**239**	PG		**Pg**	**06 08 20.8**	**+0.1**
YURE				SG		**Sb**	**06 08 28.6**	**-0.4**
YURE	**YUREGIR**	**0.53**	**239**	*i* P		**Pg**	**06 08 20.9**	**+0.1**
HCB	**Kahramanmara**	**0.62**	**66**	IAML_P				
	comp=Z,845nm,0.1s							
HCB				*i* P		**Pg**	**06 08 22.4**	**0.0**
HCB				*i* S		**Sb**	**06 08 31.4**	**-0.3**
KMRS	**Kahramanmaras**	**0.69**	**54**	PG		**Pb**	**06 08 24.0**	**-0.3**
TAHT	**Tahtakopru-Hat**	**0.72**	**181**	PG		**Pg**	**06 08 23.8**	**-0.5**
TAHT				SG		**Sb**	**06 08 34.6**	**+0.1**
KUZU	**Kuzuini**	**0.77**	**114**	*i* P		**Pb**	**06 08 26.1**	**+0.4**
KUZU				*i* S		**Sb**	**06 08 36.5**	**+0.4**
GAZ	**Gaziantep**	**0.81**	**84**	PG		**Pb**	**06 08 26.3**	**-0.1**
KIZK	**Mersin**	**1.76**	**250**	PN		**Pn**	**06 08 40.8**	**+0.3**
AKCD	**Akcadag**	**1.82**	**48**	*i* P		**Pg**	**06 08 45.6**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.94**	**96**	*i* P		**Pg**	**06 08 47.1**	**-0.5**
KEBE	**Keben-Mersin**	**2.10**	**253**	PN		**Pn**	**06 08 45.6**	**+0.4**

REY ***19*** *06:10:16.6, 62.°23N×25.°24W, h10km*
IDC ***19*** *06:10:21.6±1.0, 62.°59N×25.°48W, h0km, mb3.3/6, mb1 3.6/6, mb1mx3.3/55, mbtmp3.3/6, Error ellipse: s-maj=50.3km s-min=19.0km az=20.0*
ISC 19 06:10:22.6±0.9, 62.°63N±0.°09×25.°13W±0.°08, h10km, n35, σ2°09/46, mb3.2/6, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**1.62**	**41**	S		**Sn**	**06 11 12.9**	**+0.8**
	baz=35							
IGRV	**Grindav??k**	**1.73**	**43**	P		**Pn**	**06 10 50.2**	**-2.5**
	baz=36							
IGRV				S		**Sn**	**06 11 15.5**	**+0.8**
	baz=36							
INYL	**Nylenda**	**1.73**	**37**	P		**Pn**	**06 10 50.4**	**-2.3**
	baz=32							
INYL				S		**Sb**	**06 11 16.4**	**+0.2**
	baz=32							
IVOG	**Vogar**	**1.83**	**41**	P		**Pn**	**06 10 51.8**	**-2.2**
	baz=35							
IVOG				S		**Sb**	**06 11 18.7**	**-0.3**
	baz=35							
IKRI	**Krysuvik**	**1.87**	**46**	S		**Sb**	**06 11 19.5**	**-0.6**
	baz=40							
IKRI				P		**Pn**	**06 10 52.1**	**-2.5**
	baz=40							
IVOS	**Vogsosar**	**1.98**	**50**	P		**Pn**	**06 10 53.4**	**-2.7**
	baz=43							
IVOS				S		**Sb**	**06 11 22.6**	**-0.7**
	baz=43							
IKAS	**Kald??rsel**	**2.04**	**45**	P		**Pn**	**06 10 54.7**	**-2.2**
	baz=39							
IKAS				S		**Sb**	**06 11 24.9**	**-0.1**
	baz=39							
ISAN	**Sandskeio**	**2.15**	**47**	P		**Pn**	**06 10 56.2**	**-2.3**
	baz=40							
ISAN				S		**Sb**	**06 11 27.7**	**-0.6**
	baz=40							
IBJA	**Bjarnastaoir**	**2.18**	**51**	P		**Pn**	**06 10 56.2**	**-2.7**
	baz=44							
IBJA				S		**Sb**	**06 11 27.9**	**-1.1**
	baz=44							
IKUD	**Kuludalsa**	**2.24**	**39**	P		**Pn**	**06 10 57.8**	**-1.9**
	baz=34							
IKUD				S		**Sb**	**06 11 30.3**	**-0.5**
	baz=34							
ISOL	**Solvholt**	**2.30**	**53**	P		**Pn**	**06 10 57.5**	**-3.0**
	baz=47							
ISOL				S		**Sn**	**06 11 30.5**	**+1.7**
	baz=47							
IKRO	**Krokur**	**2.33**	**49**	P		**Pn**	**06 10 58.7**	**-2.2**
	baz=43							
IKRO				S		**Sn**	**06 11 31.8**	**+2.2**
	baz=43							
IASM	**Asmuli**	**2.37**	**57**	P		**Pn**	**06 10 58.7**	**-2.8**
	baz=50							
IMID	**Miomork**	**2.59**	**64**	P		**Pn**	**06 11 01.7**	**-2.8**
	baz=57							
IHAU	**Haukadalur**	**2.69**	**58**	P		**Pn**	**06 11 03.5**	**-2.4**
	baz=52							
ISMJ	**Smjorgil**	**2.70**	**65**	P		**Pn**	**06 11 02.8**	**-3.1**
	baz=58							
IASB	**`sbjarnarst**	**2.72**	**37**	P		**Pn**	**06 11 05.1**	**-1.2**
	baz=33							
IESK	**Eystri-Skogar**	**2.73**	**68**	P		**Pn**	**06 11 03.8**	**-2.7**
	baz=61							
IGYG	**Gygjarholskot**	**2.76**	**51**	P		**Pn**	**06 11 04.9**	**-2.0**
	baz=46							
IMJO	**Mjoaskard**	**2.79**	**60**	P		**Pn**	**06 11 04.8**	**-2.5**
	baz=53							
IALF	**Alftagrof**	**2.84**	**70**	P		**Pn**	**06 11 04.7**	**-3.3**
	baz=63							
ISLY	**Slysaalda**	**2.97**	**63**	P		**Pn**	**06 11 07.2**	**-2.6**
	baz=57							
IHVO	**Lagu-Hvolar**	**3.00**	**70**	P		**Pn**	**06 11 06.7**	**-3.4**
	baz=63							
IRJU	**Rjupnafell**	**3.10**	**68**	P		**Pn**	**06 11 08.4**	**-3.1**
	baz=62							
IVAT	**Vatnsfell**	**3.20**	**58**	P		**Pn**	**06 11 11.3**	**-1.6**
	baz=53							
IJOK	**Jokulheimar**	**3.53**	**58**	P		**Pn**	**06 11 16.0**	**-1.5**
	baz=53							
ISKR	**Skrokkalda**	**3.58**	**54**	P		**Pn**	**06 11 17.4**	**-0.8**
	baz=50							
IKAL	**Kalfafell**	**3.61**	**65**	P		**Pn**	**06 11 15.9**	**-2.6**
	baz=60							
IDYN	**Dyngjuhals**	**4.08**	**54**	P		**Pn**	**06 11 24.2**	**-0.9**
	baz=50							
ESDC	**Sonseca Array**	**26.29**	**141**	P		**P**	**06 15 59.5**	**+1.4**
	0.2nm,0.4s,baz=335,slow=7.8,SNR=4.1							
AKASG	**Malin Array Be**	**31.16**	**87**	P		**P**	**06 16 42.5**	**+1.2**
	0.1nm,0.2s,baz=320,slow=9.0,SNR=4.7							
YKA	**Yellowknife Ar**	**38.06**	**311**	P		**P**	**06 17 40.7**	**0.0**
	0.3nm,0.8s,baz=48,slow=8.7,SNR=5.7							
BRTR	**Keskin Array B**	**41.47**	**95**	P		**P**	**06 18 11.9**	**+2.4**
	0.4nm,0.6s,baz=321,slow=6.5,SNR=3.7							
PDAR	**Pinedale Array**	**50.73**	**289**	P		**P**	**06 19 21.8**	**-0.7**
	0.3nm,0.6s,baz=69,slow=5.1,SNR=4.3							
TXAR	**Lajitas Array**	**59.18**	**275**	P		**P**	**06 20 22.6**	**-0.9**
	0.1nm,0.5s,baz=40,slow=7.1,SNR=2.4							

UCR ***19*** *06:16:14.6±3.4, 14.°95N×87.°85W, h30km±44km, MD3.8, ML3.6*
SNET ***19*** *06:16:16.6±0.9, 13.°52N×88.°51W, h182km±5km, ML3.6*
IDC ***19*** *06:16:16.2±1.4, 13.°89N×88.°32W, h182km±23km, mb3.3/4, mb1 3.5/7, mb1mx3.1/51, mbtmp3.8/7, Error ellipse: s-maj=62.1km s-min=16.9km az=40.0*
ISC 19 06:16:14.9±0.9, 13.°6N±0.°1×88.°48W±0.°07, h198km±6km, n52, σ1°43/63, 10C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECA	**Tecapa**	**0.07**	**198**	*e*P		**Pn**	**06 16 41.7**	**+0.5**
TECA	**Tecapa**	**0.07**	**198**	*e*P		**Pn**	**06 16 41.7**	**+0.5**
PACA	**Pacayal**	**0.18**	**119**	⇑*e*P		**Pn**	**06 16 41.9**	**+0.7**
PACA	**Pacayal**	**0.18**	**119**	⇑*e*P		**Pn**	**06 16 41.9**	**+0.7**
LCY	**Lacayo**	**0.23**	**126**	*e*P		**Pn**	**06 16 41.4**	**+0.2**
LCY	**Lacayo**	**0.23**	**126**	*e*P		**Pn**	**06 16 41.4**	**+0.2**
VSM	**San Miguel**	**0.24**	**122**	*e*P		**Pn**	**06 16 41.4**	**0.0**
VSM	**San Miguel**	**0.24**	**122**	*e*P		**Pn**	**06 16 41.4**	**0.0**
CAHU	**Cacacuatique**	**0.34**	**51**	*e*P		**Pn**	**06 16 42.0**	**+0.4**
CAHU				*e*S		**Sn**	**06 17 02.0**	**-0.2**
SNVI	**San Vicente**	**0.35**	**279**	*e*P		**Pn**	**06 16 41.5**	**-0.1**
SNVI	**San Vicente**	**0.35**	**279**	*e*P		**Pn**	**06 16 41.5**	**-0.1**
VICT	**Victoria**	**0.43**	**339**	⇑*e*P		**Pn**	**06 16 42.3**	**+0.5**
VICT				IAML			06 16 42.7	
	comp=Z,498nm,0.3s							
VICT	**Victoria**	**0.43**	**339**	⇑*e*P		**Pn**	**06 16 42.3**	**+0.5**
VICT				IAML			06 16 42.7	
	comp=Z,498nm,0.3s							
PAVA	**Las Pavas**	**0.47**	**289**	⇑*e*P		**Pn**	**06 16 42.6**	**+0.8**
PAVA				IAML			06 16 43.4	
	comp=Z,4μm,0.3s							
PAVA	**Las Pavas**	**0.47**	**289**	⇑*e*P		**Pn**	**06 16 42.6**	**+0.8**
PAVA				IAML			06 16 43.4	
	comp=Z,4μm,0.3s							
LFRS	**El Faro**	**0.57**	**277**	⇑*e*P		**Pn**	**06 16 42.7**	**+0.5**
LBRS	**Las Brisas**	**0.57**	**288**	⇑*e*P		**Pn**	**06 16 43.0**	**+0.8**
LCND	**La Caada**	**0.63**	**113**	⇑*e*P		**Pn**	**06 16 43.0**	**+0.6**
LCND				*e*S		**Sn**	**06 17 01.9**	**-1.6**
LCND	**La Caada**	**0.63**	**113**	⇑*e*P		**Pn**	**06 16 43.0**	**+0.6**
LCND				*e*S		**Sn**	**06 17 01.9**	**-1.6**
LFU	**La Fuente**	**0.64**	**287**	*e*P		**Pn**	**06 16 43.0**	**+0.5**
LFU	**La Fuente**	**0.64**	**287**	*e*P		**Pn**	**06 16 43.0**	**+0.5**
CNCH	**Conchagua**	**0.69**	**114**	*e*P		**Pn**	**06 16 43.5**	**+0.7**
CNCH				*e*S		**Sn**	**06 17 04.3**	**0.0**
CNCH	**Conchagua**	**0.69**	**114**	*e*P		**Pn**	**06 16 43.3**	**+0.5**
CNCH				*e*P		**Pn**	**06 16 43.6**	**+0.8**
CNCH				*e*S		**Sn**	**06 17 04.3**	**0.0**
OPAM	**San Salvador**	**0.72**	**283**	*e*P		**Pn**	**06 16 43.4**	**+0.5**
OPAM				IAML			06 16 44.2	
	comp=Z,695nm,0.3s							
OPAM	**San Salvador**	**0.72**	**283**	*e*P		**Pn**	**06 16 43.4**	**+0.5**
OPAM				IAML			06 16 44.2	
	comp=Z,695nm,0.3s							
SNET	**Serv Nac Est T**	**0.74**	**280**	*e*P		**Pn**	**06 16 43.6**	**+0.6**
SNET	**Serv Nac Est T**	**0.74**	**280**	*e*P		**Pn**	**06 16 43.6**	**+0.6**
UEES	**San Salvador**	**0.76**	**283**	*e*P		**Pn**	**06 16 43.1**	**0.0**
UEES	**San Salvador**	**0.76**	**283**	*e*P		**Pn**	**06 16 43.1**	**0.0**
BOQS	**Boqueron**	**0.80**	**283**	*e*P		**Pn**	**06 16 43.5**	**0.0**
SNJE	**San Jose**	**1.14**	**286**	*e*P		**Pn**	**06 16 46.1**	**+0.4**
SNJE	**San Jose**	**1.14**	**286**	*e*P		**Pn**	**06 16 46.1**	**+0.4**
CEVE	**Cerro Verde**	**1.14**	**284**	*e*P		**Pn**	**06 16 46.4**	**+0.6**
CEVE				IAML			06 16 59.5	
	comp=Z,547nm,0.2s							
CEVE	**Cerro Verde**	**1.14**	**284**	*e*P		**Pn**	**06 16 46.4**	**+0.6**
CEVE				IAML			06 16 59.5	
	comp=Z,547nm,0.2s							
SBLS	**San Blas**	**1.14**	**284**	*e*P		**Pn**	**06 16 46.3**	**+0.5**
SBLS	**San Blas**	**1.14**	**284**	*e*P		**Pn**	**06 16 46.3**	**+0.5**
RTR	**El Retiro**	**1.18**	**287**	*e*P		**Pn**	**06 16 46.7**	**+0.7**
RTR	**El Retiro**	**1.18**	**287**	*e*P		**Pn**	**06 16 46.7**	**+0.7**
TGUH	**Tegucigalpa,Un**	**1.27**	**67**	⇓*e*P		**Pn**	**06 16 47.2**	**+0.7**
CRIN	**San Cristobal**	**1.63**	**121**	*e*P		**Pn**	**06 16 51.0**	**+1.2**
IXG	**Ixpaco**	**2.00**	**288**	*e*P		**Pn**	**06 16 55.1**	**+1.7**
CNGN	**Cerro Negro**	**2.03**	**121**	*e*P		**Pn**	**06 16 54.4**	**+0.7**
CNGN				*e*S		**Sn**	**06 17 26.1**	**+2.3**
NBG	**Las Nubes**	**2.08**	**300**	*e*P		**Pn**	**06 16 56.9**	**+2.5**
COPN	**Copaltepe**	**2.30**	**126**	*e*P		**Pn**	**06 16 57.9**	**+1.4**
APG	**El Apazote**	**2.40**	**307**	P		**Pn**	**06 16 59.5**	**+1.6**
	comp=Z,12nm,0.3s,baz=118,slow=11,SNR=172							
APG				S		**Sn**	**06 17 29.6**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=351,slow=21,SNR=7.0							
FUG	**Fuego 3**	**2.46**	**291**	*e*P		**Pn**	**06 17 01.0**	**+2.6**
FUG				*e*S		**Sn**	**06 17 35.0**	**+2.8**
JTS	**Las Juntas de**	**4.74**	**133**	P		**Pn**	**06 17 28.1**	**+2.1**
	comp=Z,21nm,0.3s,baz=175,slow=23,SNR=100							
JTS				S		**Sn**	**06 18 19.5**	**-2.5**
	comp=Z,13nm,0.3s,baz=212,slow=18,SNR=11							
CMIG	**Matias Romero**	**7.11**	**300**	P		**Pn**	**06 17 56.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=136,slow=12,SNR=9.2							
CMIG				S		**Sn**	**06 19 10.0**	**-7.2**
	comp=Z,0.8nm,0.3s,baz=338,slow=14,SNR=10							
TXAR	**Lajitas Array**	**21.09**	**321**	P		**P**	**06 20 45.9**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=137,slow=9.8,SNR=6.2							
SADO	**Sadowa**	**32.11**	**13**	P		**P**	**06 22 23.4**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=248,slow=6.4,SNR=7.5							
ULM	**Lac du Bonnet**	**37.09**	**352**	P		**P**	**06 23 05.0**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=183,slow=8.4,SNR=4.6							
YKA	**Yellowknife Ar**	**52.29**	**345**	P		**P**	**06 25 06.3**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=132,slow=8.7,SNR=15							

NIED ***19*** *06:24:00, 36.°40N×143.°10E, h5km, Mw4.6 Best double couple: M0 9.16000×10^15 NP1:φs35.00000°, δ38.00000°, λ-114.00000°. NP2:φs245.00000°, δ56.00000°, λ-72.00000°.*
BJI ***19*** *06:24:04.2±0.0, 36.°56N×143.°37E, h10km, mb4.8/54, mB4.9/35, Ms4.5/45, Ms7 4.3/43*
IDC ***19*** *06:24:04.5±0.4, 36.°34N×143.°40E, h0km, mb4.6/33, mb1 4.8/40, mb1mx4.6/56, mbtmp4.6/40, ML4.2/5, MS3.8/23, Ms1 3.8/23, ms1mx3.7/40, Error ellipse: s-maj=12.5km s-min=10.1km az=115.0*
ISCJB ***19*** *06:24:06.0±0.9, 36.°47N±0.°02×143.°28E±0.°02, h15km±5km, mb4.9/299, MS4.2/43, Error ellipse: s-maj=4.1km s-min=2.3km az=170.9*
NEIC ***19*** *06:24:06.5±1.1, 36.°35N×143.°35E, h12km, mb4.9/242, Error ellipse: s-maj=14.2km s-min=11.1km az=125.0*
MOS ***19*** *06:24:07.1±0.9, 36.°65N×143.°28E, h16km, mb5.1/74, Error ellipse: s-maj=7.0km s-min=4.2km az=108.6*
GCMT ***19*** *06:24:08.6±0.3, 36.°36N±0.°02×143.°36E±0.°04, h12km±1km, MW4.8/75, Moment Tensor Solution. s28,c28; s75,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.71±.12; Mθθ1.07±.08; Mφφ0.64±.07; Mrθ-0.99±.23; Mrφ0.85±.06; Mθφ0.40±.24; Best double couple: M0 2.00200×10^16 NP1:φs75.00000°, δ58.00000°, λ-64.00000°. NP2: φs212.00000°, δ40.00000°, λ-125.00000°. Principal axes: T 1.8300, Plg10.0000°, Azm147.0000°; N 0.3500, Plg22.0000°, Azm241.0000°; P -2.1750, Plg66.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
JMA ***19*** *06:24:09.0±0.3, 36.°45N×143.°14E, h77km, M4.6*
ISC 19 06:24:06.8±0.8, 36.°40N±0.°04×143.°34E±0.°04, h15km±4km, n870, σ1°17/890, mb4.9/304, MS4.1/43, 35C-20D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**2.13**	**252**	P		**Pn**	**06 24 41.6**	**-0.3**
CHOJ				*e*S		**Sn**	**06 25 04.6**	**-3.4**
ONAJ	**Iwakimizuishiy**	**2.16**	**290**	P		**Pn**	**06 24 41.2**

YSS MLR MLR
comp=Z,800nm,16.0s
JNU Nakatsue 10.76 256 *e*Pn **Pn 06 26 41.1 +0.7**
JNU Nakatsue 10.76 256 Pn **Pn 06 26 40.9 +0.5**
comp=Z,1.0nm,0.3s,baz=74,slow=9.8,SNR=13
JNU LR LR 06 31 28.4
comp=Z,738nm,18.8s,baz=76,slow=41
VLA Vladivostok 11.08 311⇑ *e*P **Pn 06 26 45.8 +1.1**
MSHR Mys Shultsa 11.26 307⇓ *e*P **Pn 06 26 47.0 -0.1**
USRK Ussuriysk Ar. 11.65 315 Pn **Pn 06 26 53.6 +1.1**
comp=Z,0.6nm,0.3s,baz=130,slow=15,SNR=21
USRK LR LR 06 30 50.9
comp=Z,793nm,20.1s,baz=142,slow=35
KSRS Korea Array 12.39 279 Pn **Pn 06 27 05.4 +2.7**
comp=Z,0.3nm,0.3s,baz=95,slow=14,SNR=12
KSRS LR LR 06 32 13.8
comp=Z,237nm,19.8s,baz=81,slow=39
KS15 Wonju Array Si 12.42 279 *e*Pn **Pn 06 27 03.9 +0.9**
KSAR Wonju Array Be 12.42 279 *e*Pn **Pn 06 27 04.8 +1.8**
TYV Tymovskoe 14.47 358 *e*P **Pn 06 27 27.5 -3.5**
TYV pmax pmax
comp=Z,11nm,1.3s
GRNR Gornyy 15.21 343 *e*P **Pn 06 27 40.0 -1.0**
GRNR pmax pmax
comp=Z,25nm,1.0s
JOW Kunigami 15.97 238 *e*Pn **Pn 06 27 52.1 +1.0**
comp=Z,30nm,1.2s
SNY Shenyang 16.26 296 ⇑P **Pn 06 27 55.9 +1.3**
SNY pmax pmax
comp=Z,11nm,0.5s
SNY pmax pmax
comp=Z,170nm,3.5s
SNY LR LR
comp=Z,1μm,13.7s
SNY LR LR
comp=Z,1μm,15.8s
SNY LR LR
comp=Z,2μm,15.2s
OKH Okha 17.16 359 *d*e*P* P 06 28 18.0 +11
OKH *e*S **Sn 06 31 11.6 -4.7**
OKH pmax pmax
comp=Z,100nm,13.6s
DL2 Dalian 17.38 285 *e*P **Pn 06 28 02.6 -6.1**
DL2 *e*S **Sn 06 31 16.0 -5.8**
PEA0B Petropavlovsk- 19.51 27 *e*P **Pn 06 28 34.1 -0.5**
comp=Z,47nm,1.3s
PETK Petropavlovsk- 19.51 27 *e*P **Pn 06 28 34.1 -0.5**
PETK Petropavlovsk- 19.51 27 P **P 06 28 33.9 +0.5**
baz=219,slow=9.2,SNR=7.6
PETK LR LR 06 38 14.6
comp=Z,258nm,18.0s,baz=220,slow=44
PEA1 Petropavlovsk- 19.52 27 *e*P **P 06 28 33.9 +0.5**
PET Petropavlovsk 19.80 28 *e*P **P 06 28 36.6 +0.1**
comp=Z,87nm,1.4s
ZEA Zeya 20.65 332 *e*P **P 06 28 45.4 -0.4**
ZEA pmax pmax
comp=N,200nm,3.0s
ZEA pmax pmax
comp=E,200nm,3.0s
ZEA pmax pmax
comp=Z,400nm,3.0s
ZEA pmax pmax
comp=N,100nm,0.8s
ZEA pmax pmax
comp=E,73nm,0.8s
ZEA pmax pmax
comp=Z,150nm,0.8s
ZEA MLR MLR
comp=N,900nm,16.0s
ZEA MLR MLR
comp=E,500nm,16.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
NJ2 Nanjing 20.69 265 *e*P **P 06 28 46.5 +0.1**
NJ2 pmax pmax
comp=Z,16nm,0.5s
NJ2 LR LR
comp=Z,470nm,17.9s
NJ2 LR LR
comp=Z,760nm,14.1s
NJ2 LR LR
comp=Z,900nm,19.6s
HIA Hailar 21.46 314 *e*P **P 06 28 53.5 -1.1**
comp=Z,18nm,1.2s
BJI Beijing 21.62 288 ⇑*i*P **P 06 28 52.8 -3.5**
BJI S **S 06 32 54.3 -1.1**
BJI pmax pmax
comp=Z,7.0nm,1.0s
BJI LR LR
comp=Z,250nm,12.8s
BJI LR LR
comp=Z,290nm,10.8s
BJT Baijiatuau 21.63 288 *e*P **P 06 28 55.7 -0.7**
comp=Z,19nm,1.0s
GUMO Guam 22.75 176 LR LR 06 36 48.2
comp=Z,84nm,19.0s,baz=24,slow=34
SSLB Suanglung 23.03 243 *e*P **P 06 29 11.6 +0.1**
comp=Z,17nm,0.8s
TPUB Ta-pu 23.56 243 *e*P **P 06 29 17.4 +0.5**
comp=Z,100nm,1.4s
MA2 Magadan 23.69 9 *e*P **P 06 29 17.6 -0.2**
comp=Z,54nm,1.6s
MA2 Magadan 23.69 9 P **P 06 29 18.1 +0.4**
comp=Z,10nm,0.7s,baz=196,slow=7.7,SNR=7.0
MA2 LR LR 06 39 33.9
comp=Z,139nm,19.5s,baz=206,slow=39
WHN Wuhan 24.83 265 ⇑P **P 06 29 29.1 +0.6**
WHN sP **pwP 06 29 40.5 +0.6**
WHN S **S 06 33 51.3 +0.6**
WHN pmax pmax
comp=Z,160nm,1.7s
WHN pmax pmax
comp=Z,670nm,4.2s
WHN LR LR
comp=Z,620nm,11.2s
WHN LR LR
comp=Z,770nm,11.8s
WHN LR LR
comp=Z,1μm,16.2s
HHC Hu-ho-hao-te 25.15 290 *e*P **P 06 29 31.8 +0.3**
HHC sP pwP 06 29 45.3 +2.4
HHC S **S 06 33 48.9 -7.1**
HHC SS **SnSn 06 34 55.1 +9.3**
HHC pmax pmax
comp=Z,83nm,0.7s
HHC pmax pmax
comp=Z,290nm,4.1s
HHC LR LR
comp=Z,930nm,12.1s
HHC LR LR
comp=Z,810nm,11.9s
HHC LR LR
comp=Z,1μm,10.7s
BTO Baotou 26.32 289 *e*P **P 06 29 40.8 -1.4**
H11N2 WAKE ISLAND Hy 26.49 122 T T 06 57 05.9
baz=314,slow=75,SNR=55
H11N1 WAKE ISLAND Hy 26.50 122 T T 06 57 06.9
baz=314,slow=75,SNR=28
H11N3 WAKE ISLAND Hy 26.51 122 T T 06 57 10.6
baz=314,slow=75,SNR=23
YAK Yakutsk 27.05 346 *e*P **P 06 29 47.4 -0.9**
YAK *e**PP **pwP 06 29 57.5 -2.4**
YAK *e* 06 30 34.6
YAK *e*S **S 06 34 29.5 +4.2**
YAK *e*SS SnSn 06 35 47.9 +16
YAK pmax pmax
comp=Z,327nm,1.3s
YAK pmax pmax
comp=N,254nm,1.4s
YAK pmax pmax
comp=E,111nm,1.3s
YAK pmax pmax
comp=Z,221nm,1.4s
YAK pmax pmax
comp=N,83nm,1.2s
YAK pmax pmax
comp=E,97nm,1.3s
YAK smax smax
comp=N,642nm,2.8s
YAK smax smax
comp=E,155nm,1.2s
YAK MLR MLR
comp=Z,2μm,15.0s
YAK MLR MLR
comp=N,1μm,15.0s
YAK MLR MLR
comp=E,2μm,17.0s

SEY Seymchan 27.15 9 ⇓*e*P **P 06 29 49.1 -0.1**
SEY Seymchan 27.15 9 P **P 06 29 50.2 +1.1**
comp=E,7.6nm,0.9s,baz=192,slow=8.5,SNR=15
H11S1 WAKE ISLAND Hy 27.21 125 T T 06 57 58.2
baz=316,slow=76,SNR=8.7
H11S3 WAKE ISLAND Hy 27.22 125 T T 06 58 02.7
baz=316,slow=76,SNR=7.3
H11S2 WAKE ISLAND Hy 27.23 125 T T 06 58 00.2
baz=316,slow=76,SNR=8.2
XAN Xi'an 28.14 275 P **P 06 29 58.8 +0.4**
XAN pP sP 06 30 01.6 -0.3
XAN pmax pmax
comp=E,12nm,0.8s
XAN pmax pmax
comp=E,150nm,6.7s
XAN LR LR
comp=E,290nm,20.2s
XAN LR LR
comp=E,190nm,21.1s
XAN LR LR
comp=E,260nm,12.5s
XAN Xi'an 28.14 275 *e*P **P 06 29 58.3 -0.2**
comp=E,43nm,1.2s
XAN Xi'an 28.14 275 P **P 06 29 58.8 +0.4**
XAN pmax pmax
comp=Z,43nm,1.2s
ENH Enshi 28.84 268 *e*P **P 06 30 04.2 -0.5**
comp=Z,35nm,1.1s
BOD Bodaibo 28.90 327 *e*P **P 06 30 08.9 +4.0**
BOD pmax pmax
comp=Z,30nm,0.8s
ULN Ulaanbaatar 28.99 305 *e*P **P 06 30 07.0 +0.9**
comp=Z,10nm,0.9s
ULN Ulaanbaatar 28.99 305 *d i*P **P 06 30 07.1 +1.0**
ULN pmax pmax
comp=Z,7.0nm,1.0s
SONA0 Songino Array 29.43 304 *e*P **P 06 30 11.6 +1.7**
SONA0 *e*PcP **PcP 06 33 15.5 0.0**
SONM Songino Array 29.43 304 *e*P **P 06 30 10.8 +1.0**
SONM Songino Array 29.43 304 P **P 06 30 11.6 +1.7**
comp=Z,8.6nm,0.8s,baz=106,slow=8.6,SNR=28
SONM PcP **PcP 06 33 15.5 0.0**
comp=Z,1.7nm,0.8s,baz=117,slow=3.4,SNR=4.9
SONM LR LR 06 42 05.1
comp=Z,140nm,19.1s,baz=119,slow=37
IRK Irkutsk 31.68 312 *e*P **P 06 30 32.0 +2.5**
IRK pmax pmax
comp=Z,40nm,3.0s
LZH Lanzhou 31.71 281 *e*P **P 06 30 31.1 +0.9**
LZH pP sP 06 30 34.0 +0.3
LZH sP pP 06 30 36.1 +3.4
LZH *e*S **S 06 35 38.8 -0.6**
LZH sS sS 06 35 46.8 +3.6
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.1s
LZH LR LR
comp=Z,1μm,14.6s
LZH LR LR
comp=Z,1μm,11.7s
LZH LR LR
comp=Z,2μm,17.4s
ZAK Zakamensk 31.88 309 *e*P **P 06 30 32.2 +0.7**
ZAK *e* 06 33 16.8
ZAK pmax pmax
comp=Z,10.0nm,1.5s
ZAK pmax pmax
comp=Z,4.0nm,1.3s
TLY Talaya 31.92 311 *e*P **P 06 30 31.7 0.0**
comp=Z,27nm,1.4s
TLY Talaya 31.92 311 ⇓*e*P **P 06 30 33.9 +2.2**
ADK Adak 32.13 48 *e*P **P 06 30 32.3 -1.1**
comp=Z,62nm,1.2s
GYA Guiyang 32.66 263 ⇑*i*P **P 06 30 38.4 -0.2**
GYA pP sP 06 30 42.8 +0.7
GYA PP **PnPn 06 31 44.3 -2.2**
GYA S **S 06 35 52.1 -2.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,80nm,5.4s
GYA LR LR
comp=Z,370nm,16.2s
GYA LR LR
comp=Z,170nm,15.5s
GYA LR LR
comp=Z,280nm,16.2s
CD2 Chengdu 33.24 272 *e*P **P 06 30 42.1 -1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 LR LR
comp=Z,670nm,15.5s
CD2 LR LR
comp=Z,560nm,14.5s
CD2 LR LR
comp=Z,860nm,17.5s
QIZ Qiongzhong 34.11 249 *e*P **P 06 30 50.9 -0.3**
comp=Z,43nm,1.4s
BILL Bilibino 34.22 15 *e*P **P 06 30 51.5 -0.1**
comp=Z,27nm,1.3s
BILL Bilibino 34.22 15 *d i*P **P 06 30 51.3 -0.2**
BILL *i* 06 31 02.2
BILL *e* 06 32 01.5
BILL pmax pmax
comp=Z,31nm,1.7s
BILL MLR MLR
comp=Z,230nm,22.0s
GTA Gaotai 34.23 288 ⇓P **P 06 30 53.3 +1.1**
GTA pP pwP 06 31 00.4 -3.2
GTA sP sP 06 31 05.0 +9.3
GTA pmax pmax
comp=Z,16nm,0.9s
GTA pmax pmax
comp=Z,79nm,6.0s
GTA LR LR
comp=Z,250nm,17.8s
GTA LR LR
comp=Z,230nm,17.5s
GTA LR LR
comp=Z,270nm,16.5s
TIXI Tiksi 36.12 352 *e*P **P 06 31 07.0 -0.9**
comp=Z,3.3nm,0.8s
TIXI *e*P **P 06 31 07.2 -0.6**
TIXI Tiksi 36.12 352 ⇑*i*P **P 06 31 07.6 -0.2**
TIXI pmax pmax
comp=Z,6.0nm,1.3s
TIXI Tiksi 36.12 352 P **P 06 31 07.2 -0.6**
comp=Z,1.9nm,0.3s,baz=147,slow=5.9,SNR=6.1
KMI Kunming 36.42 264 P **P 06 31 12.8 +1.6**
KMI pP sP 06 31 15.8 +1.1
KMI S **S 06 36 54.3 +1.8**
KMI pmax pmax
comp=Z,17nm,0.9s
KMI pmax pmax
comp=Z,110nm,3.9s
KMI LR LR
comp=Z,230nm,15.8s
KMI LR LR
comp=Z,370nm,16.2s
KMI LR LR
comp=Z,250nm,16.9s
PANO Nakornpanom 39.20 251 P **P 06 31 38.7 +4.1**
comp=Z,0.2nm,0.4s
SKNT Sakolnakorn 39.79 252 P **P 06 31 41.0 +1.5**
comp=Z,11nm,1.0s
PHRA Phrae 41.82 257 P **P 06 31 58.1 +1.9**
comp=Z,1.2nm,1.4s
CHAI Chaiyaphum 41.96 252 P **P 06 31 59.5 +2.1**
comp=Z,23μm,0.8s
UTTA Uttaradit 41.99 255 P **P 06 32 01.3 +3.7**
comp=Z,13μm,1.0s
DGZ Jazzator, Alta 42.02 307 *d i*P **P 06 31 59.0 +1.3**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
WMQ Urumqi 42.51 298 *e*P **P 06 32 01.6 -0.1**
WMQ sP pwP 06 32 13.8 +0.5
WMQ pmax pmax
comp=Z,41nm,1.7s
WMQ pmax pmax
comp=Z,240nm,3.7s
WMQ LR LR
comp=Z,1μm,23.9s
WMQ LR LR
comp=Z,360nm,19.5s
WMQ LR LR

comp=Z,2μm,31.5s
CMMT Chiang Mai 42.66 258 P **P 06 32 04.8 +1.8**
comp=Z,2.9nm,0.8s,comp=Z,234nm
CHTO Chiang Mai 42.66 258 *e*P **P 06 32 02.5 -0.6**
comp=Z,11nm,1.4s
CHTO Chiang Mai 42.66 258 P **P 06 32 02.5 -0.6**
CHTO pmax pmax
comp=Z,11nm,1.3s
CM31 Chiang Mai Arr 42.85 258 *e*P **P 06 32 05.3 +0.6**
comp=Z,4.4nm,0.9s
CMAR Chiang Mai Arr 42.85 258 P **P 06 32 05.3 +0.6**
comp=Z,2.1nm,0.6s,baz=81,slow=4.6,SNR=10
CMAR LR LR 06 53 03.9
comp=Z,150nm,18.4s,baz=60,slow=41
RDOG Red Dog Mine 43.38 26 *e*P **P 06 32 09.2 +0.8**
comp=Z,20nm,1.0s
ZAA1 Zalesovo Array 43.49 313 *e*P **P 06 32 10.1 +0.8**
ZAA0 Zalesovo Array 43.49 313 *e*P **P 06 32 09.6 +0.3**
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 43.49 313 *e*P **P 06 32 09.9 +0.6**
ZALV Zalesovo Beam 43.49 313 P **P 06 32 10.1 +0.8**
comp=Z,11nm,0.7s,baz=96,slow=7.2,SNR=31
ZALV PcP **PcP 06 33 57.2 +0.1**
comp=Z,7.6nm,0.8s,baz=100,slow=2.7,SNR=6.0
ZALV LR LR 06 51 01.2
comp=Z,179nm,20.1s,baz=67,slow=37
NVS Novosibirsk 44.40 314 *e*P **P 06 32 16.9 +0.3**
NVS pmax pmax
comp=Z,40nm,2.0s
NRIK Noril'sk 44.49 335 P **P 06 32 17.7 +0.5**
comp=Z,0.9nm,0.3s,baz=108,slow=5.5,SNR=7.7
SHL Shillong 44.96 271 P **P 06 32 21.8 +0.1**
SHL pmax pmax
comp=Z,9.0nm,0.5s
PHET Kaeng Krachan 45.59 251 P **P 06 32 28.3 +1.7**
comp=Z,40μm,0.8s,comp=Z,585μm
MK31 Makanchi Array 45.77 303 *e*P **P 06 32 28.0 +0.3**
comp=Z,10nm,1.0s
MK31 Makanchi Array 45.77 303 *i*P **P 06 32 28.0 +0.3**
MK31 pmax pmax
comp=Z,12nm,0.9s
MK32 Makanchi Array 45.77 303 *e*P **P 06 32 27.9 +0.2**
MKAR Makanchi Array 45.77 303 *e*P **P 06 32 28.0 +0.3**
MKAR Makanchi Array 45.77 303 P **P 06 32 27.9 +0.3**
comp=Z,3.1nm,0.8s,baz=87,slow=9.7,SNR=24
MKAR LR LR 06 51 54.7
comp=Z,113nm,18.9s,baz=78,slow=36
MAKZ Makanchi 45.98 303 *e*P **P 06 32 29.4 +0.1**
comp=Z,14nm,1.0s
IMAR Indian Mountai 46.42 30 *e*P **P 06 32 32.8 +0.4**
RSO Redoubt South 46.45 38 *e*P **P 06 32 34.3 +1.3**
KDAK Kodiak Island 46.54 42 *e*P **P 06 32 33.8 +0.3**
comp=Z,44nm,0.8s
KDAK Kodiak Island 46.54 42 *i*P **P 06 32 33.6 +0.1**
KAPI Kappang 46.74 213 P **P 06 32 35.5 0.0**
comp=Z,8.2nm,0.9s,baz=342,slow=3.2,SNR=3.2
CAST Castle Rocks 46.88 34 *e*P **P 06 32 37.5 +1.3**
comp=Z,10nm,0.9s
BPAW Bear Paw Mtn. 47.41 33 *e*P **P 06 32 41.1 +0.8**
comp=Z,28nm,1.6s
KURK Kurchatov 47.54 309 *e*P **P 06 32 41.8 +0.3**
comp=Z,30nm,0.8s
KURK Kurchatov 47.54 309 *d i*P **P 06 32 41.2 -0.3**
KURK pmax pmax
comp=Z,35nm,0.9s
MLY Manley 47.57 32 *e*P **P 06 32 42.8 +1.2**
comp=Z,17nm,1.0s
RC01 Rabbit Creek A 47.93 37 *e*P **P 06 32 44.8 +0.4**
comp=Z,38nm,1.2s
MCK McKinley 48.30 33 *e*P **P 06 32 48.1 +0.8**
comp=Z,13nm,1.0s
GHO Glory Hole Cre 48.31 36 *e*P **P 06 32 47.9 +0.5**
comp=Z,46nm,1.3s
TOLK Toolik Lake Re 48.33 27 *e*P **P 06 32 48.5 +1.0**
comp=Z,18nm,1.0s
TOLK Toolik Lake Re 48.33 27 P **P 06 32 48.4 +1.0**
baz=264
PDGK Podgornoye 48.44 299 P **P 06 32 48.1 -0.6**
PDGK pmax pmax
comp=Z,19nm,1.1s
SML Sawmill 48.59 36 *e*P **P 06 32 50.4 +0.9**
comp=Z,21nm,0.8s
RAMN Ramite 48.60 276 *e*P **P 06 32 51.0 +0.7**
comp=Z,84nm,0.8s
JIRN Jiri 48.63 277 *e*P **P 06 32 51.5 +0.9**
comp=Z,62nm,1.0s
MDM Murphy Dome 48.63 32 *e*P **P 06 32 50.8 +1.0**
comp=Z,25nm,1.0s
WRH Wood River Hil 48.69 32 *e*P **P 06 32 50.9 +0.8**
comp=Z,5.6nm,0.8s
TCOL CIGO, UAF Yank 48.79 32 P **P 06 32 51.6 +0.7**
baz=269
COLA College 48.79 32 *e*P **P 06 32 51.6 +0.6**
comp=Z,10nm,1.0s
COLA College 48.79 32 *d i*P **P 06 32 51.5 +0.6**
COLA pmax pmax
comp=Z,7.0nm,0.9s
CCB Clear Creek Bu 48.81 32 *e*P **P 06 32 50.7 -0.4**
comp=Z,8.8nm,1.2s
SCM Sheep Creek Mo 49.07 36 *e*P **P 06 32 53.9 +0.7**
comp=Z,24nm,1.0s
SCM Sheep Creek Mo 49.07 36 P **P 06 32 53.9 +0.7**
SCM pmax pmax
comp=Z,24nm,1.0s
HDA Harding Lake 49.18 33 *e*P **P 06 32 54.1 +0.1**
comp=Z,14nm,1.0s
HDA Harding Lake 49.18 33 P **P 06 32 55.0 +1.1**
baz=270
ILAR Eielson Array 49.21 32 P **P 06 32 54.0 -0.1**
comp=Z,8.2nm,0.8s,baz=265,slow=6.4,SNR=86
ILB Eielson Array 49.21 32 *e*P **P 06 32 54.4 +0.3**
comp=Z,14nm,0.9s
PKI Pulchoki 49.29 277 *e*P **P 06 32 55.9 +0.2**
comp=Z,13nm,0.6s
PKIN Phulchoki 49.30 277 *e*P **P 06 32 56.0 +0.3**
comp=Z,10.0nm,0.5s
KKN Kakani 49.30 277 *e*P **P 06 32 56.1 +0.5**
DMN Daman 49.52 277 *e*P **P 06 32 57.8 +0.5**
GKN Gorkha 49.72 278 *e*P **P 06 32 59.4 +0.6**
comp=Z,71nm,0.6s
KLU Klutina 49.75 36 *e*P **P 06 32 59.3 +0.8**
comp=Z,32nm,1.2s
PRP Porcupine Dome 49.78 31 *e*P **P 06 32 58.5 -0.2**
comp=Z,6.6nm,1.0s
FYU Fort Yukon 49.89 30 *e*P **P 06 33 00.2 +1.0**
comp=Z,66nm,1.6s
TARG Taragay, Kyrgy 50.07 297 *e*P **P 06 33 02.1 +0.5**
comp=Z,16nm,0.8s
DANN Dangsing 50.27 279 *e*P **P 06 33 04.0 +0.9**
comp=Z,119nm,0.6s
MTN Manton Dam 50.31 196 *e*P **P 06 33 02.7 -0.2**
comp=Z,15nm,0.8s
SCRK Sand Creek 50.49 33 *e*P **P 06 33 04.3 +0.2**
comp=Z,14nm,1.0s
KOLN Koldanda 50.65 278 *e*P **P 06 33 06.4 +0.5**
comp=Z,14nm,0.6s
PYUN Piuthan 51.00 279 *e*P **P 06 33 09.1 +0.6**
comp=Z,75nm,1.1s
BCAR Beaver Creek A 51.55 34 *e*P **P 06 33 13.0 +1.1**
OTUK Ortayu 52.05 307 P **P 06 33 15.6 -0.3**
OTUK pmax pmax
comp=Z,34nm,1.4s
KSH Kashi 52.08 295 P P 06 33 21.3 +5.0
KSH pP pwP 06 33 25.4 -2.5
KSH PP **PP 06 35 20.3 +5.9**
KSH S **S 06 40 47.3 +7.4**
KSH SS **SS 06 44 20.9 +4.1**
KSH pmax pmax
comp=Z,33nm,1.0s
KSH pmax pmax
comp=Z,130nm,2.6s
KSH LR LR
comp=Z,210nm,8.3s
KSH LR LR
comp=Z,320nm,9.3s
KSH LR LR
comp=Z,470nm,8.9s
AAK Ala-Archa 52.16 299 *e*P **P 06 33 14.8 -2.1**
comp=Z,14nm,1.5s
AAK Ala-Archa 52.16 299 *c e*P **P 06 33 18.0 +1.1**
AAK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 52.20 313 *e*P **P 06 33 16.6 -0.3**
comp=Z,11nm,0.8s
BRVK Borovoye 52.20 313 *d i*P **P 06 33 17.3 +0.4**
BRVK pmax pmax
comp=Z,12nm,1.0s

DAWY **Dawson** 52.50 33 *e*P P 06 33 19.8 +0.8
comp=Z,9.9nm,1.4s
EPYK **Eagle Plains** 53.31 30 *e*P P 06 33 26.1 +1.2
comp=Z,39nm,1.0s
EPYK **Eagle Plains** 53.31 30 P P 06 33 26.2 +1.3
baz=278,SNR=22
ARSB **Arslanbob** 53.64 298 *e*P P 06 33 28.5 +0.6
comp=Z,26nm,1.1s
HYT **Haines Junctio** 53.89 37 *e*P P 06 33 30.2 +0.8
comp=Z,62nm,1.5s
INK **Inuvik** 54.25 27 *e*P P 06 33 31.8 +0.2
comp=Z,12nm,0.9s
INK **Inuvik** 54.25 27 P P 06 33 32.2 +0.5
comp=Z,9.4nm,0.8s,baz=283,slow=6.6,SNR=29
KK31 **Karatay Array** 54.78 301 *e*P P 06 33 36.3 +0.2
comp=Z,25nm,1.1s
KK31 **Karatay Array** 54.78 301 *i*P P 06 33 36.0 0.0
KK31 pmax pmax
comp=Z,26nm,1.3s
KKAR **Karatay Array** 54.78 301 *e*P P 06 33 36.3 +0.2
KKAR *e*P P 06 33 36.4 +0.4
WHY **Whitehorse** 55.18 36 *e*P P 06 33 40.1 +1.4
comp=Z,9.4nm,0.9s
NIL **Nilore** 56.29 289 *e*P P 06 33 47.0 +0.1
comp=Z,16nm,0.9s
NIL **Nilore** 56.29 289 P P 06 33 47.7 +0.7
NIL pmax pmax
comp=Z,16nm,1.0s
GAR **Garm** 56.37 296 *e*P P 06 33 47.9 +0.3
comp=Z,21nm,1.1s
SVE **Sverdlovsk** 56.65 319 *e*P P 06 33 49.9 +0.8
SVE pmax pmax
comp=Z,46nm,1.2s
WRAB **Tennant Creek** 56.66 190 *e*P P 06 33 48.8 -0.8
comp=Z,25nm,0.8s
WRAB **Tennant Creek** 56.66 190*d i*P P 06 33 48.6 -1.0
WRAB pmax pmax
comp=Z,53nm,1.7s
WB2 **Warramunga Arr** 56.67 190 *e*P P 06 33 48.7 -1.0
comp=Z,31nm,0.8s
WR1 **Warramunga Arr** 56.67 190 *e*P P 06 33 48.9 -0.8
WRA **Warramunga Arr** 56.67 190 P P 06 33 48.9 -0.8
comp=Z,20nm,0.6s,baz=11,slow=6.8,SNR=156
FITZ **Fitzroy Crossi** 56.73 200 *e*P P 06 33 49.5 -0.5
comp=Z,15nm,1.3s
FITZ **Fitzroy Crossi** 56.73 200 P P 06 33 49.1 -0.9
comp=Z,5.0nm,0.9s,baz=18,slow=8.3,SNR=4.5
ARU **Arti** 57.86 319 *e*P P 06 33 58.2 +0.5
comp=Z,42nm,1.0s
ARU **Arti** 57.86 319*d i*P P 06 33 57.9 +0.2
ARU pmax pmax
comp=Z,75nm,1.7s
DLBC **Dease Lake** 58.17 38 *e*P P 06 34 01.1 +1.1
comp=Z,10nm,1.2s
DLBC **Dease Lake** 58.17 38 P P 06 34 01.1 +1.1
comp=Z,2.9nm,0.8s,baz=40,slow=4.9,SNR=4.6
HYB **Hyderabad** 59.75 270 *i*P P 06 34 11.5 +0.1
HYB *e* 06 34 24.0
AS31 **Alice Springs** 60.40 190 *e*P P 06 34 15.2 -0.4
comp=Z,14nm,1.3s
ASAR **Alice Springs** 60.40 190 *e*P P 06 34 15.2 -0.4
ASAR **Alice Springs** 60.40 190 P P 06 34 15.0 -0.6
comp=Z,9.7nm,0.6s,baz=2.8,slow=6.9,SNR=133
ASAR LR LR 07 02 03.0
DZM **Mont Dzumac** 62.11 156 *e*LR LR 06 52 55.5
comp=Z,205nm,35.3s
PRGR **Permogore** 62.14 328 *e*P P 06 34 24.8 -2.1
PRGR *e* 06 34 35.1
PRGR pmax pmax
comp=Z,31nm,1.3s
RES **Resolute Bay** 62.83 15 *e*P P 06 34 31.3 -0.1
comp=Z,23nm,1.0s
RES **Resolute Bay** 62.83 15 P P 06 34 31.5 +0.2
comp=Z,13nm,0.9s,baz=315,slow=6.5,SNR=41
YKW3 **Yellowknife Ar** 63.54 30 *e*P P 06 34 36.0 -0.3
comp=Z,18nm,1.6s
YKA **Yellowknife Ar** 63.58 30 P P 06 34 36.4 -0.1
comp=Z,2.6nm,0.8s,baz=299,slow=6.5,SNR=31
YKB5 **Yellowknife Ar** 63.58 30 *e*P P 06 34 36.4 -0.1
TMCR **Tamitsa** 64.04 332 *e*P P 06 34 37.7 -1.8
TMCR pmax pmax
comp=Z,35nm,1.4s
KLMR **Klimovskoe** 65.12 328 *e*P P 06 34 44.4 -2.2
KLMR pmax pmax
comp=Z,19nm,1.0s
ARA0 **ARCESS Array S** 65.13 340 *e*P P 06 34 47.3 +0.6
ARCES **ARCESS Array B** 65.13 340 P P 06 34 47.3 +0.6
comp=Z,4.0nm,0.8s,baz=48,slow=7.3,SNR=9.0
GEYT **Alibeck** 65.50 300 P P 06 34 50.2 +0.6
comp=Z,12nm,1.0s,baz=162,slow=0.9,SNR=18
GEYT LR LR 07 04 27.9
comp=Z,89nm,19.7s,baz=35,slow=37
GYA0B **ALIBECK ARRAY** 65.50 300 *e*P P 06 34 48.5 -1.1
comp=Z,13nm,1.0s
MSF **Maaselka** 66.27 336 P P 06 34 55.7 +1.7
MSF pmax pmax
comp=Z,14nm,1.2s
D03D **Eldon** 66.39 48 P P 06 34 56.7 +1.6
baz=298
DAG **Danmarks Havn** 66.54 356 *i*P P 06 34 55.0 -0.5
DAG pmax pmax
comp=Z,38nm,1.3s
DAG **Danmarks Havn** 66.54 356 *i*P P 06 34 55.0 -0.5
comp=Z,20nm,1.3s
B05A **Bryant** 66.63 47 P P 06 34 57.4 +0.8
baz=299
GHW **Garrison Hill** 67.12 48 *e*P P 06 35 01.5 +1.7
F04D **Rainier, OR** 67.14 49 P P 06 35 00.6 +0.7
baz=299
E04D **Cinebar** 67.18 48 P P 06 35 01.3 +1.2
baz=299
JOF **Joensuu** 67.25 333 P P 06 35 00.9 +0.6
JOF pmax pmax
comp=Z,15nm,1.1s
G03D **McMinnville, O** 67.41 50 P P 06 35 03.2 +1.6
baz=299
OUL **Oulu** 67.81 336 P P 06 35 04.6 +0.8
OUL pmax pmax
comp=Z,19nm,2.1s
STKA **Stephens Creek** 67.94 182 *e*P P 06 35 04.0 -0.9
comp=Z,2.2nm,1.5s
STKA **Stephens Creek** 67.94 182 P P 06 35 04.5 -0.4
comp=Z,4.3nm,0.8s,baz=354,slow=9.1,SNR=7.6
STKA LR LR 07 07 16.8
comp=Z,24nm,18.7s,baz=27,slow=38
B08A **Colville Reser** 68.19 45 *e*P P 06 35 07.0 +0.5
comp=Z,13nm,1.3s
FORT **Forrest** 68.34 194 *e*P P 06 35 07.5 0.0
comp=Z,39nm,0.7s
K02D **Willamette Mer** 68.40 52 P P 06 35 08.8 +0.8
baz=300
I04A **Tendick Farm,** 68.64 51 P P 06 35 10.2 +0.7
baz=300
MOS **Moscow** 68.68 324 *e*P P 06 35 08.9 -0.5
MOS pmax pmax
comp=Z,48nm,1.2s
I05D **Terrebonne, OR** 69.03 50 P P 06 35 12.7 +0.8
baz=301
C09A **Chrisman Ranch** 69.08 46 *e*P P 06 35 11.9 -0.1
comp=Z,17nm,1.3s
VRH **Novokhopyorsk** 69.09 319 *e*P P 06 35 11.6 -0.4
VRH pmax pmax
comp=Z,40nm,1.5s
J04D **Umpqua Nationa** 69.11 51 P P 06 35 12.7 +0.1
baz=301
SUF **Sumiainen** 69.24 334 P P 06 35 13.2 +0.4
SUF pmax pmax
comp=Z,28nm,1.3s
NEW **Newport** 69.50 45 *e*P P 06 35 15.1 +0.4
comp=Z,8.3nm,1.0s
NEW **Newport** 69.50 45 P P 06 35 15.0 +0.2
baz=302
YBH **Yreka Blue Hor** 69.50 53 *e*P P 06 35 15.6 +0.8
comp=Z,7.7nm,1.1s
YBH **Yreka Blue Hor** 69.50 53 P P 06 35 16.5 +1.6
YBH pmax pmax
comp=Z,8.0nm,1.1s
L04D **Klamath Falls** 69.51 52 P P 06 35 16.1 +1.1
baz=301
OBN **Obninsk** 69.53 324*de*P P 06 35 15.0 +0.4
OBN *i* 06 35 26.0
OBN *e* 06 35 36.2
OBN *e* 06 37 46.6
OBN *e*PPP PPP 06 39 27.3
OBN *e*S S 06 44 18.3 -3.4
OBN pmax pmax
comp=Z,51nm,1.7s
OBN MLR MLR
comp=Z,131nm,15.0s
PINE **Pine Mountain** 69.56 50 *e*P P 06 35 16.7 +1.3
comp=Z,29nm,1.3s
M02C **Callahan** 69.58 53 P P 06 35 16.1 +0.7
baz=301
J05D **Fort Rock, OR** 69.64 51 P P 06 35 16.6 +0.8
baz=301
K04D **Chiloquin, OR** 69.65 52 P P 06 35 16.8 +1.0
baz=301
LPSR **Galich'ya Gora** 69.78 321 *e*P P 06 35 16.5 +0.2
LPSR pmax pmax
comp=Z,30nm,1.1s
N02D **Trinity Center** 69.89 54 P P 06 35 18.2 +0.9
baz=301
M04C **Macdoel** 70.03 52 P P 06 35 19.1 +0.8
baz=301
FIA1 **FINESS Array S** 70.09 333 *e*P P 06 35 18.1 0.0
comp=Z,26nm,0.8s
FIA0 **FINESS Array S** 70.09 333 *e*P P 06 35 18.3 +0.3
FINES **FINESS Array B** 70.09 333 *e*P P 06 35 18.5 +0.5
FINES **FINESS Array B** 70.09 333 P P 06 35 18.3 +0.3
comp=Z,16nm,0.8s,baz=55,slow=7.9,SNR=49
FINES LR LR 07 11 20.7
comp=Z,80nm,18.9s,baz=28,slow=40
K05A **Summer Lake** 70.14 51 *e*P P 06 35 19.5 +0.5
comp=Z,19nm,1.0s
VAF **Ylistaro** 70.23 335 P P 06 35 19.7 +0.9
VAF pmax pmax
comp=Z,25nm,1.2s
O02D **Mt. Diablo Mer** 70.25 54 P P 06 35 20.0 +0.5
baz=301
VSR **Storozhevoye** 70.43 320 *e*P P 06 35 19.0 -1.3
VSR pmax pmax
comp=Z,20nm,1.5s
VORD **Divnogorie** 70.50 319 *e*P P 06 35 20.3 -0.4
VORD pmax pmax
comp=Z,30nm,1.5s
O03E **Paynes Creek** 70.83 54 P P 06 35 23.2 +0.1
baz=302
MOD **Modoc Plateau** 70.95 52 *e*P P 06 35 24.4 +0.5
comp=Z,8.6nm,1.1s
BMO **Blue Mountains** 71.22 48 *e*P P 06 35 25.6 +0.2
comp=Z,6.4nm,1.2s
J08A **Circle Bar Ran** 71.31 50 *e*P P 06 35 27.1 +1.2
comp=Z,11nm,1.1s
SUMG **Summit** 71.31 1 *e*P P 06 35 26.3 +0.5
comp=Z,15nm,0.9s
SUMG **Summit** 71.31 1 *i*P P 06 35 26.4 +0.6
SUMG pmax pmax
comp=Z,37nm,0.9s
SUMG **Summit** 71.31 1 *i*P P 06 35 26.4 +0.6
comp=Z,37nm,0.9s
WVOR **Wild Horse Val** 71.71 51 *e*P P 06 35 28.7 +0.3
comp=Z,14nm,1.4s
WVOR **Wild Horse Val** 71.71 51 P P 06 35 29.6 +1.2
WVOR pmax pmax
comp=Z,13nm,1.3s
VSU **Vasula** 71.78 330*ce*P P 06 35 29.1 +0.8
VSU pmax pmax
comp=Z,93nm,1.7s
VSU **Vasula** 71.78 330 *e*P P 06 35 28.8 +0.4
VSU IAmb IAmb 06 35 29.9
comp=Z,61nm,1.0s
BEKR **Beckworth** 72.00 54 *e*P P 06 35 30.7 +0.5
comp=Z,8.6nm,0.9s
MSO **Missoula** 72.09 45 *e*P P 06 35 30.6 0.0
comp=Z,6.8nm,1.0s
MSO **Missoula** 72.09 45 P P 06 35 30.6 0.0
baz=304
AFDM **Forest Hills D** 72.09 55 *e*P P 06 35 30.6 0.0
comp=Z,10.0nm,1.3s
ZEI **Tsey** 72.40 310 *e*P P 06 35 31.6 -1.0
ZEI pmax pmax
comp=Z,8.0nm,1.0s
KBZ **Khabaz** 72.49 312 P P 06 35 33.7 +0.8
comp=Z,8.3nm,0.8s,baz=56,slow=3.3,SNR=15
KIV **Kislovodsk** 72.49 312 *e*P P 06 35 33.4 +0.4
KIV *e*PcP pwP 06 35 47.5 +2.6
KIV **Kislovodsk** 72.49 312⇑*i*P P 06 35 34.8 +1.8
KIV **Kislovodsk** 72.49 312 *e*P P 06 35 33.8 +0.8
KIV pmax pmax
comp=Z,66nm,1.1s
VCNR **Virginia City** 72.77 54 *e*P P 06 35 35.6 +0.7
comp=Z,7.5nm,1.1s
NEY **Neytrino** 72.86 311⇑*e*P P 06 35 37.0 +1.7
NEY pmax pmax
comp=Z,1.0nm,0.6s
SCO **Scoresbysund** 72.89 355 *i*P P 06 35 35.6 +0.8
SCO **Scoresbysund** 72.89 355 *i*P P 06 35 35.6 +0.8
CMB **Columbia Colle** 72.97 55 *e*P P 06 35 35.8 -0.1
comp=Z,16nm,1.4s
YERR **Yerington** 73.20 54 *e*P P 06 35 37.5 0.0
comp=Z,11nm,1.0s
GNI **Garni** 73.33 308⇑*e*P P 06 35 39.9 +1.8
GNI pmax pmax
comp=Z,95nm,1.7s
WAKR **Walker** 73.34 54 *e*P P 06 35 38.7 +0.4
comp=Z,24nm,1.7s
HRY **Holter Researc** 73.34 44 *e*P P 06 35 38.7 +0.7
FFC **Flin Flon** 73.39 33 *e*P P 06 35 38.2 +0.1
comp=Z,13nm,0.9s
FFC **Flin Flon** 73.39 33 *i*P P 06 35 38.4 +0.4
DOMR **Dombai** 73.50 312⇑*e*P P 06 35 38.5 -0.6
DOMR pmax pmax
comp=Z,6.0nm,1.0s
HLID **Hailey** 73.66 48 *e*P P 06 35 40.7 +0.7
comp=Z,4.9nm,1.1s
HLID **Hailey** 73.66 48 P P 06 35 40.8 +0.7
baz=305
DLMT **Dillon** 73.69 45 *e*P P 06 35 40.8 +0.6
comp=Z,9.3nm,0.9s
BMN **Battle Mountai** 73.70 52 *e*P P 06 35 40.2 -0.1
comp=Z,12nm,1.1s
EGMT **Eagleton** 73.72 42 *e*P P 06 35 40.1 -0.1
comp=Z,17nm,1.2s
EGMT **Eagleton** 73.72 42 P P 06 35 40.6 +0.4
baz=306
IDID **Didziasalis** 73.85 328 *e*P P 06 35 41.7 +1.0
IDID IAmb IAmb 06 35 43.6
comp=Z,12nm,1.3s
KVN **Kaiserville** 73.91 53 *e*P P 06 35 41.8 +0.2
comp=Z,13nm,1.0s
KVN **Kaiserville** 73.91 53 P P 06 35 42.7 +1.1
KVN pmax pmax
comp=Z,13nm,1.0s
ISAL **Salakas** 73.94 328 *e*P P 06 35 42.4 +1.2
ISAL IAmb IAmb 06 35 44.2
comp=Z,18nm,1.1s
IIGN **Ignalina** 74.05 328 *e*P P 06 35 42.9 +1.1
IIGN IAmb IAmb 06 35 43.6
comp=Z,12nm,1.1s
BOZ **Bozeman (W)** 74.11 45 *e*P P 06 35 42.2 -0.4
comp=Z,9.1nm,0.9s
BOZ **Bozeman (W)** 74.11 45 P P 06 35 43.1 +0.5
BOZ pmax pmax
comp=Z,9.0nm,0.9s
BOZ **Bozeman (W)** 74.11 45 P P 06 35 43.1 +0.5
baz=306
NV01 **Mina Array Sit** 74.12 54 *e*P P 06 35 44.0 +1.2
NVAR **Mina Array Bea** 74.12 54 *e*P P 06 35 43.3 +0.4
NVAR **Mina Array Bea** 74.12 54 P P 06 35 44.0 +1.2
comp=Z,7.6nm,0.8s,baz=281,slow=5.9,SNR=32
ELK **Elko** 74.77 51 *e*P P 06 35 47.3 +0.7
comp=Z,6.7nm,1.3s
GATR **Gnd/Air Tx Cnt** 74.80 58 *e*P P 06 35 49.3 +2.6
YHB **Horse Butte** 74.86 45 *e*P P 06 35 47.5 +0.5
comp=Z,11nm,1.1s
PABE **Paberze** 74.89 329 *e*P P 06 35 46.3 -0.4
PABE IAmb IAmb 06 35 48.1
comp=Z,35nm,1.0s
YHH **Holmes Hill** 75.03 45 *e*P P 06 35 48.3 +0.1
comp=Z,5.5nm,1.1s
YMR **Madison River** 75.04 45 *e*P P 06 35 49.0 +0.9
comp=Z,11nm,1.3s
VES **Vestal, Richgr** 75.05 56 P P 06 35 48.3 +0.3
baz=304
GCMT **Greycliff** 75.10 44 *e*P P 06 35 48.4 +0.1
NC405 **NORSAR Array S** 75.16 338 *e*P P 06 35 48.5 +0.3
comp=Z,69nm,1.1s
NC303 **NORSAR Array S** 75.17 338 *e*P P 06 35 48.7 +0.4
comp=Z,60nm,1.1s
YFT **Old Faithful** 75.24 45 *e*P P 06 35 51.1 +1.8
comp=Z,15nm,1.4s
HFS **Hagfors** 75.30 337 P P 06 35 49.6 +0.5
comp=Z,14nm,0.8s,baz=69,slow=4.9,SNR=20
NC204 **NORSAR Array S** 75.31 338 *e*P P 06 35 49.4 +0.2
comp=Z,83nm,0.9s
NB201 **NORSAR Array S** 75.33 338 *e*P P 06 35 49.8 +0.5
comp=Z,53nm,1.0s
NB2 **NORSAR Subarra** 75.36 338 P P 06 35 49.6 +0.2
comp=Z,25nm,0.8s,baz=38,slow=5.9
NB2 **NORSAR Subarra** 75.36 338 P P 06 35 49.6 +0.2
baz=38,slow=5.9
NB200 **NORSAR Array S** 75.36 338 *e*P P 06 35 49.9 +0.4
NOA **NORSAR Array B** 75.36 338 P P 06 35 49.9 +0.4
comp=Z,16nm,0.8s,baz=38,slow=5.7,SNR=48
NOA LR LR 07 13 07.1
comp=Z,130nm,18.2s,baz=35,slow=39
YPP **Pitchstone Pla** 75.37 46 *e*P P 06 35 51.6 +1.5
comp=Z,5.2nm,1.0s
CWC **Cottonwood Cre** 75.38 55 P P 06 35 50.3 +0.1
baz=304
LKWY **Lake** 75.42 45 *e*P P 06 35 52.6 +2.2
comp=Z,13nm,1.3s
H17A **Grant Village** 75.42 45 *e*P P 06 35 52.2 +1.8
comp=Z,16nm,1.0s
H17A **Grant Village** 75.42 45 P P 06 35 51.9 +1.5
baz=307
NBO00 **NORSAR Array S** 75.50 338 *e*P P 06 35 50.1 -0.1
comp=Z,46nm,0.9s
IMW **Indian Meadow** 75.51 46 *e*P P 06 35 51.3 +0.4
comp=Z,25nm,1.6s
FLWY **Flagg Ranch** 75.54 46 *e*P P 06 35 51.8 +0.8
comp=Z,9.8nm,1.0s
GRAC **Grapevine Rang** 75.54 55 P P 06 35 51.9 +0.9
baz=305,SNR=6.8
ISA **Isabella, Lake** 75.56 56 P P 06 35 51.1 0.0
baz=304
FXWY **Fox Creek** 75.61 46 *e*P P 06 35 51.5 0.0
comp=Z,13nm,1.4s
ARVC **Arvin** 75.62 57 P P 06 35 51.7 +0.4
baz=304
HVU **Hansel Valley** 75.68 49 *e*P P 06 35 52.1 +0.4
comp=Z,7.1nm,1.0s
HVU **Hansel Valley** 75.68 49 P P 06 35 53.0 +1.2
HVU pmax pmax
comp=Z,7.0nm,1.0s
SCZ2 **Santa Cruz Isl** 75.71 58 P P 06 35 52.9 +1.0
baz=304
MOOW **Moose Ponds** 75.71 46 *e*P P 06 35 52.3 +0.3
comp=Z,16nm,1.6s
RLMT **Red Lodge** 75.73 44 *e*P P 06 35 52.7 +0.7
comp=Z,17nm,1.4s
RLMT **Red Lodge** 75.73 44 P P 06 35 52.7 +0.7
baz=307
AKASG **Malin Array Be** 75.74 323 *e*P P 06 35 50.7 -1.0
AKASG **Malin Array Be** 75.74 323 *e*P P 06 35 50.7 -1.0
AKASG **Malin Array Be** 75.74 323 P P 06 35 51.8 0.0
comp=Z,7.8nm,0.7s,baz=44,slow=6.3,SNR=33
AKASG LR LR 07 12 06.1
comp=Z,75nm,18.2s,baz=35,slow=38
AKBB **Malin Array Si** 75.74 323 *e*P P 06 35 51.0 -0.7
comp=Z,3.4nm,1.3s
TPAW **Teton Pass** 75.75 46 *e*P P 06 35 52.0 -0.3
comp=Z,5.2nm,0.9s
KIEV **Kiev** 75.76 323 *e*P P 06 35 51.8 0.0
comp=Z,15nm,1.0s
KIEV **Kiev** 75.76 323⇑*i*P P 06 35 52.1 +0.3
KIEV **Kiev** 75.76 323*d i*P P 06 35 51.5 -0.3
KIEV pmax pmax
comp=Z,12nm,1.0s
LOHW **Long Hollow** 75.88 46 *e*P P 06 35 53.7 +0.7
comp=Z,3.0nm,0.9s
SNOW **Snow King Moun** 75.88 46 *e*P P 06 35 52.7 -0.3
comp=Z,8.0nm,1.1s
REDW **Red Top Meadow** 75.88 46 *e*P P 06 35 53.4 +0.5
comp=Z,8.2nm,1.1s
R11A **Troy Canyon, C** 75.92 53 *e*P P 06 35 53.8 +0.6
comp=Z,13nm,1.2s
R11A **Troy Canyon, C** 75.92 53 P P 06 35 54.0 +0.8
baz=305
OSI **Osito Audit: C** 75.98 57 P P 06 35 54.2 +0.8
baz=305
MPMC **Manual Prospec** 75.99 56 P P 06 35 54.1 +0.4
baz=305,SNR=8.9
BGU **Big Grassy Mou** 76.03 49 *e*P P 06 35 54.3 +0.5
comp=Z,4.1nm,1.0s
AHID **Auburn Hatcher** 76.09 47 *e*P P 06 35 54.5 +0.3
comp=Z,13nm,1.5s
FURC **Furnace Creek,** 76.17 55 P P 06 35 55.0 +0.6
baz=305
LRMC **Laurel Mtn Rad** 76.19 56 P P 06 35 55.2 +0.4
baz=305
TPNV **Topopah Spring** 76.30 54 *e*P P 06 35 55.1 -0.3
comp=Z,12nm,1.0s
TPNV **Topopah Spring** 76.30 54 P P 06 35 55.7 +0.3
baz=305,SNR=10.0
EDW2 **Edwards Air Fo** 76.33 57 P P 06 35 56.2 +0.7
baz=305
DGMT **Dagmar** 76.36 39 P P 06 35 55.3 0.0
baz=310
LAO **LASA Array** 76.43 42 *e*P P 06 35 56.4 +0.6
comp=Z,24nm,1.4s
LAO **LASA Array** 76.43 42 P P 06 35 56.0 +0.2
baz=309
DECC **Green Verdugo** 76.45 57 P P 06 35 56.9 +0.8
baz=305
HWUT **Hardware Ranch** 76.51 48 *e*P P 06 35 56.7 +0.2
comp=Z,13nm,1.4s
DUG **Dugway, Tooele** 76.59 50 *e*P P 06 35 57.5 +0.5
comp=Z,14nm,1.1s
DUG **Dugway, Tooele** 76.59 50 P P 06 35 58.1 +1.1
DUG pmax pmax
comp=Z,18nm,1.1s
DUG **Dugway, Tooele** 76.59 50 P P 06 35 57.6 +0.7
baz=306
GSC **Goldstone, Bar** 76.88 56 *e*P P 06 35 58.4 -0.2
comp=Z,6.2nm,0.9s
GSC **Goldstone, Bar** 76.88 56 *e*P P 06 35 58.4 -0.2
GSC pmax pmax
comp=Z,6.0nm,0.9s
GSC **Goldstone, Bar** 76.88 56 P P 06 35 58.9 +0.2
baz=305
CIS **Catalina Islan** 76.88 58 P P 06 35 58.6 0.0
baz=305
SHOC **Shoshone, Teco** 76.89 55 P P 06 35 58.9 +0.3
baz=306
TCUT **Toone Canyon** 76.90 48 *e*P P 06 35 58.1 -0.7
comp=Z,12nm,0.9s
BFSC **Mount Baldy Ra** 76.92 57 P P 06 35 59.2 +0.3
baz=305
PSUT **Pine Spring** 76.92 52 *e*P P 06 35 59.2 +0.2
comp=Z,9.9nm,1.1s
CTU **Camp Tracy** 76.94 49 *e*P P 06 35 58.9 -0.1
comp=Z,5.2nm,1.0s
KONO **Kongsberg** 76.96 338⇑*e*P P 06 35 59.1 +0.6
KONO pmax pmax
comp=Z,30nm,1.4s
BW06 **Boulder Array** 77.00 46 *e*P P 06 35 58.4 -0.9
comp=Z,3.4nm,0.9s
BW06 **Boulder Array** 77.00 46 P P 06 35 59.4 +0.1
baz=308
PD31 **Pinedale Array** 77.00 46 *e*P P 06 35 59.1 -0.2
comp=Z,3.0nm,0.8s
PDAR **Pinedale Array** 77.00 46 *e*P P 06 35 59.1 -0.2
PDAR **Pinedale Array** 77.00 46 P P 06 35 59.6 +0.3
comp=Z,2.2nm,0.7s,baz=277,slow=2.7,SNR=20
FRB **Frobisher Bay** 77.03 14 P P 06 35 58.6 -0.1
comp=Z,8.1nm,0.6s,baz=336,slow=6.1,SNR=26
JLU **Jordanelle** 77.18 49 *e*P P 06 36 00.2 -0.2
comp=Z,6.6nm,0.9s
NLU **North Lily Min** 77.19 50 *e*P P 06 36 00.2 -0.2
comp=Z,7.1nm,1.0s
SHPR **Sheep Range** 77.27 54 *e*P P 06 36 01.1 +0.2
comp=Z,11nm,1.2s
TUQ **Turquoise Moun** 77.39 55 P P 06 36 01.8 +0.3
baz=306
MPU **Maple Canyon** 77.42 49 *e*P P 06 36 01.3 -0.5
comp=Z,12nm,1.0s
HEC **Hector,Ludlow** 77.47 56 P P 06 36 02.3 +0.4
baz=306
MURC **Murrieta** 77.60 57 P P 06 36 02.7 +0.1
baz=306
TCRU **Three Creeks R** 77.76 51 *e*P P 06 36 03.8 +0.1
comp=Z,11nm,1.3s
GMRC **Granite Mounta** 77.95 56 P P 06 36 04.7 +0.1
baz=306
SZCU **Shurtz Canyon** 77.96 52 *e*P P 06 36 05.7 +0.8
comp=Z,9.7nm,1.2s
MSU **Marysvale** 77.99 51 *e*P P 06 36 05.4 +0.4
MSU **Marysvale** 77.99 51 *e*P P 06 36 05.4 +0.4
109C **Camp Elliot, M** 78.08 58 P P 06 36 05.4 +0.2
baz=306

PFO	Pinyon Flats O	78.09	57	*i* P		P	06 36 06.6	+1.1
PFO	Pinyon Flats O	78.09	57	P		P	06 36 05.3	-0.1
	baz=306							
TMUT	Trail Mountain	78.12	50	*e*P		P	06 36 05.4	-0.3
	comp=Z,6.5nm,1.3s							
BELC	Belle Mtn. Jos	78.18	57	P		P	06 36 05.9	-0.1
	baz=306							
LCMT	Little Creek M	78.21	53	*e*P		P	06 36 06.6	+0.5
	comp=Z,12nm,1.0s							
MTPU	Mount Pierson	78.27	51	*e*P		P	06 36 06.8	+0.1
	comp=Z,13nm,1.2s							
P17A	Butcher Ranch,	78.30	49	*e*P		P	06 36 06.7	+0.1
	comp=Z,19nm,1.0s							
Q16A	Castle Valley	78.37	50	*e*P		P	06 36 07.4	+0.3
	comp=Z,30nm,1.5s							
KNB	Kanab	78.48	52	*e*P		P	06 36 08.8	+1.2
	comp=Z,20nm,1.1s							
KNB	Kanab	78.48	52	P		P	06 36 08.8	+1.2
KNB				pmax		pmax		
	comp=Z,20nm,1.1s							
MONP2	Monument Peak	78.54	58	P		P	06 36 07.9	-0.1
	baz=306							
SRU	San Rafael Swe	78.65	50	*e*P		P	06 36 09.1	+0.6
	comp=Z,15nm,0.9s							
SRU	San Rafael Swe	78.65	50	P		P	06 36 09.1	+0.6
SRU				pmax		pmax		
	comp=Z,15nm,0.9s							
IRM	Iron Mountain	78.66	56	P		P	06 36 08.7	+0.2
	baz=306							
BC3	Big Chuckawall	78.75	57	P		P	06 36 09.2	+0.1
	baz=306							
K22A	Casper	78.82	45	*e*P		P	06 36 09.4	0.0
	comp=Z,5.7nm,0.9s							
K22A	Casper	78.82	45	P		P	06 36 09.2	-0.2
	baz=310							
BEL	Belsk	78.82	328	*e*P		P	06 36 09.8	+0.9
IKP	In-Ko-Pah, Jac	78.89	58	P		P	06 36 10.6	+0.7
	baz=306							
SWSC	Sam W. Stewart	78.93	57	P		P	06 36 10.2	+0.3
	baz=306							
RWWY	Rawlins	79.03	46	*e*P		P	06 36 10.2	-0.5
	comp=Z,8.0nm,0.8s							
MDND	Maddock	79.08	38	P		P	06 36 10.5	0.0
	baz=313							
ULM	Lac du Bonnet	79.17	34	P		P	06 36 10.3	-0.6
	comp=Z,3.4nm,0.9s,baz=323,slow=8.0,SNR=5.8							
U15A	North Rim	79.17	53	*e*P		P	06 36 12.0	+0.5
	comp=Z,6.3nm,0.9s							
PDMCI	Parker Dam,Lak	79.24	55	P		P	06 36 11.6	0.0
	baz=307							
RSSD	Black Hills	79.26	43	*e*P		P	06 36 10.7	-1.1
	comp=Z,5.2nm,1.0s							
RSSD	Black Hills	79.26	43	P		P	06 36 12.1	+0.3
RSSD				pmax		pmax		
	comp=Z,6.0nm,1.4s							
RSSD	Black Hills	79.26	43	P		P	06 36 11.6	-0.3
	baz=311							
Y12C	Blythe	79.31	56	P		P	06 36 12.6	+0.6
	baz=307							
O20A	White River Ci	79.40	48	*e*P		P	06 36 13.2	+0.5
	comp=Z,10nm,1.0s							
O20A	White River Ci	79.40	48	P		P	06 36 12.9	+0.2
	baz=309							
GLA	Glamis	79.53	57	P		P	06 36 13.4	+0.2
	baz=307							
KWP	Kalwaria Pacla	79.54	325	*e*P		P	06 36 14.6	+1.6
BUR08	Bucovina Ar. S	79.75	323	*e*P		P	06 36 14.9	+0.6
	comp=Z,8.6nm,1.0s							
BURAR	Bucovina Array	79.77	323	⇑*i*P		P	06 36 14.7	+0.3
BURAR	Bucovina Array	79.77	323	P		P	06 36 14.7	+0.3
BIZ	Bicaz	79.79	322	⇑*i*P		P	06 36 15.6	+1.2
TESR	Tescani	79.81	321	⇑*i*P		P	06 36 15.2	+0.7
PV09	Paradox Valley	79.89	49	*e*P		P	06 36 15.8	+0.3
PV21	Cone Mtn., Par	79.94	49	*e*P		P	06 36 15.8	+0.1
	comp=Z,13nm,0.8s							
CFR	Carcaliu	79.95	319	P		P	06 36 17.2	+2.0
CFR				pmax		pmax		
	comp=Z,4.0nm,1.0s							
PV23	Carpenter Ridg	79.99	49	*e*P		P	06 36 16.2	+0.2
	comp=Z,34nm,1.2s							
PV10	Paradox Valley	80.02	50	*e*P		P	06 36 16.1	0.0
	comp=Z,38nm,1.0s							
PV14	Lion Creek, Pa	80.03	50	*e*P		P	06 36 16.9	+0.7
	comp=Z,30nm,1.1s							
PV22	Blue Mesa, Par	80.07	49	*e*P		P	06 36 16.8	+0.5
	comp=Z,12nm,1.0s							
PV20	West Nyswonger	80.08	50	*e*P		P	06 36 16.7	+0.3
	comp=Z,22nm,1.0s							
PV04	Paradox Valley	80.09	49	*e*P		P	06 36 16.6	+0.2
	comp=Z,23nm,1.2s							
PV19	Morning Glory	80.09	50	*e*P		P	06 36 16.9	+0.4
	comp=Z,23nm,0.9s							
PV17	East Wray Mesa	80.13	50	*e*P		P	06 36 17.0	+0.3
	comp=Z,36nm,1.1s							
PV16	Nyswonger Mesa	80.14	50	*e*P		P	06 36 16.9	+0.2
	comp=Z,26nm,1.2s							
PV05	Paradox Valley	80.17	50	*e*P		P	06 36 17.5	+0.6
	comp=Z,43nm,1.2s							
PV11	David Mesa, Pa	80.17	49	*e*P		P	06 36 17.3	+0.5
	comp=Z,52nm,1.4s							
PV18	Skein Mesa, Pa	80.18	50	*e*P		P	06 36 17.4	+0.4
	comp=Z,26nm,1.2s							
PV12	Saucer Basin,	80.20	49	*e*P		P	06 36 17.2	+0.2
	comp=Z,44nm,1.5s							
VRI	Vrincioaia	80.21	321	⇑*i*P		P	06 36 17.8	+1.1
VRI	Vrincioaia	80.21	321	P		P	06 36 18.7	+2.0
VRI				pmax		pmax		
	comp=Z,12nm,1.3s							
PV03	Paradox Valley	80.21	50	*e*P		P	06 36 17.0	-0.1
	comp=Z,18nm,1.1s							
Y14A	Wickenburg	80.21	55	*e*P		P	06 36 17.3	+0.3
	comp=Z,10nm,1.2s							
PV07	Paradox Valley	80.22	49	*e*P		P	06 36 17.5	+0.3
	comp=Z,6.9nm,1.0s							
KOLS	Kolonicke sedl	80.24	325	*e*P		P	06 36 17.6	+0.8
PLOR	Plostina	80.26	321	⇑*i*P		P	06 36 17.1	+0.1
PLOR	Plostina	80.26	321	P		P	06 36 17.1	+0.1
N23A	Red Feather La	80.27	46	*e*P		P	06 36 17.8	+0.3
	comp=Z,15nm,1.0s							
N23A	Red Feather La	80.27	46	P		P	06 36 18.1	+0.7
	baz=310							
PV13	Radium Mtn., P	80.29	50	*e*P		P	06 36 17.8	+0.3
	comp=Z,24nm,1.1s							
PV02	Paradox Valley	80.31	50	*e*P		P	06 36 17.7	0.0
	comp=Z,20nm,1.2s							
WUAZ	Wupatki	80.32	53	*e*P		P	06 36 17.3	-0.4
	comp=Z,10nm,1.0s							
WUAZ	Wupatki	80.32	53	P		P	06 36 18.3	+0.7
	baz=308,SNR=6.7							
OJC	Ojcow	80.42	327	*e*P		P	06 36 18.1	+0.3
OJC	Ojcow	80.42	327	*e*P		P	06 36 18.0	+0.3
	comp=Z,31nm,1.4s							
OJC	Ojcow	80.42	327	*e*P		P	06 36 18.0	+0.3
OJC				pmax		pmax		
	comp=Z,31nm,1.4s							
BR101	Keskin Array S	80.43	313	*e*P		P	06 36 18.9	+0.7
BR131	Keskin Array S	80.43	313	*e*P		P	06 36 18.7	+0.5
	comp=Z,8.9nm,1.0s							
BRTR	Keskin Array B	80.43	313	*e*P		P	06 36 18.1	0.0
BRTR	Keskin Array B	80.43	313	*e*P		P	06 36 18.1	0.0
BRTR	Keskin Array B	80.43	313	P		P	06 36 18.9	+0.7
	comp=Z,4.5nm,0.9s,baz=108,slow=4.0,SNR=22							
BRTR				LR		LR	07 16 37.2	
	comp=Z,56nm,18.9s,baz=69,slow=39							
PV01	Paradox Valley	80.46	49	*e*P		P	06 36 18.7	+0.3
	comp=Z,13nm,1.0s							
OZUR		80.53	321	⇑*i*P		P	06 36 19.5	+1.1
AGMN	Agassiz Nation	80.56	36	*e*P		P	06 36 17.1	-1.4
	comp=Z,6.7nm,1.1s							
AGMN	Agassiz Nation	80.56	36	P		P	06 36 18.7	+0.2
	baz=315							
TRPA	Tarpa	80.69	324	⇑*i*P		P	06 36 20.4	+1.2
TRPA	Tarpa	80.69	324	*e*P		P	06 36 20.0	+0.9
SMCO	Snowmass	80.77	48	*e*P		P	06 36 20.8	+0.5
	comp=Z,15nm,1.6s							
NIE	Niedzica	80.79	326	*e*P		P	06 36 20.0	+0.3
DOPR	Dopca	80.82	321	⇑*i*P		P	06 36 21.3	+1.3
MLR	Muntele Rosu	80.87	321	*e*P		P	06 36 20.1	-0.3
	comp=Z,13nm,1.4s							
MLR	Muntele Rosu	80.87	321	⇑*i*P		P	06 36 20.9	+0.5
MLR	Muntele Rosu	80.87	321	*e*P		P	06 36 20.1	-0.3
MLR				pmax		pmax		
	comp=Z,13nm,1.4s							
X16A	Lo Mia Camp, P	80.95	54	*e*P		P	06 36 21.5	+0.4
	comp=Z,7.8nm,1.0s							
MVCO	Mesa Verde	81.08	50	*e*P		P	06 36 21.8	0.0
	comp=Z,13nm,1.4s							
MVCO	Mesa Verde	81.08	50	P		P	06 36 22.2	+0.4
	baz=309,SNR=5.9							
ISCO	Idaho Springs	81.17	47	*e*P		P	06 36 23.4	+1.0
	comp=Z,6.1nm,1.1s							
ISCO	Idaho Springs	81.17	47	P		P	06 36 23.4	+1.0
ISCO				pmax		pmax		
	comp=Z,6.0nm,1.1s							
ISCO	Idaho Springs	81.17	47	P		P	06 36 23.0	+0.6
	baz=310							
VOIR		81.36	321	⇑*i*P		P	06 36 23.8	+0.9
VOIR		81.36	321	P		P	06 36 24.7	+1.8
VOIR				pmax		pmax		
	comp=Z,3.0nm,1.3s							
OKC	Ostrava-Krasne	81.43	328	AMS		AMS	07 16 00.0	
	comp=Z,200nm,19.1s							
KSP	Ksiaz	81.45	329	*e*P		P	06 36 23.2	0.0
214A	Organ Pipe Nat	81.54	57	P		P	06 36 24.2	+0.1
	baz=308							
DRGR		81.56	323	⇑*i*P		P	06 36 24.7	+0.7
DRGR		81.56	323	P		P	06 36 25.2	+1.2
DRGR				pmax		pmax		
	comp=Z,13nm,2.0s							
W18A	Petrified Fore	81.61	52	P		P	06 36 25.2	+0.6
	baz=309							
ARR	Arges	81.62	321	⇑*i*P		P	06 36 26.0	+1.7
MORC	Moravsky Berou	81.73	328	*e*P		P	06 36 25.0	+0.2
	comp=Z,17nm,1.5s							
MORC	Moravsky Berou	81.73	328	⇑*i*P		P	06 36 25.4	+0.6
MORC	Moravsky Berou	81.73	328	P		P	06 36 26.0	+1.2
MORC				pmax		pmax		
	comp=Z,7.0nm,1.3s							
MORC	Moravsky Berou	81.73	328	*e*P		P	06 36 25.1	+0.3
MORC				*e*			06 36 37.5	
SUSD	Miller	81.75	40	P		P	06 36 24.7	-0.2
	baz=314							
S22A	4UR Ranch, Cre	81.77	49	*e*P		P	06 36 26.0	+0.5
	comp=Z,9.4nm,1.0s							
S22A	4UR Ranch, Cre	81.77	49	P		P	06 36 26.4	+0.9
	baz=310,SNR=11							
DPC	Dobruska-Polom	81.81	329	*e*P		P	06 36 25.8	+0.6
DPC				*ex*		x	06 36 38.4	
DPC				AMS		AMS	07 18 30.0	
	comp=Z,200nm,13.1s							
UPC	Upice	81.82	329	*e*P		P	06 36 26.3	+1.1
UPC				*ex*		x	06 36 38.1	
UPC				AMS		AMS	07 16 50.0	
	comp=Z,200nm,14.4s							
Q24A	Divide	81.99	47	P		P	06 36 27.0	+0.3
	baz=311							
LOT	Lotru	82.00	322	⇑*i*P		P	06 36 26.2	-0.1
PSZ	Piszkesteto	82.07	325	*e*P		P	06 36 27.7	+1.1
	comp=Z,16nm,1.2s							
PSZ	Piszkesteto	82.07	325	⇓*i*P		P	06 36 27.8	+1.1
PSZ	Piszkesteto	82.07	325	*e*P		P	06 36 27.7	+1.1
PSZ				pmax		pmax		
	comp=Z,16nm,1.2s							
PSZ	Piszkesteto	82.07	325	*e*P		P	06 36 26.1	-0.5
VYHS	Vyhne	82.12	326	*e*P		P	06 36 27.8	+1.0
JAVC	Velka Javorina	82.36	327	*e*P		P	06 36 29.9	+1.8
BRG	Berggiesshubel	82.38	330	*e*P		P	06 36 28.3	+0.3
	comp=Z,9.2nm,1.4s							
CLL	Collm	82.41	331	*e*P		P	06 36 28.2	0.0
	comp=Z,27nm,1.6s							
CLL	Collm	82.41	331	*e*P		P	06 36 28.2	0.0
CLL				pmax		pmax		
	comp=Z,27nm,1.6s							
CLL	Collm	82.41	331	⇓*i*P		P	06 36 28.1	-0.1
	comp=Z,22nm,1.5s							
CLL				*i*			06 36 40.6	
	comp=Z,11nm,1.2s							
OGNE	Ogallala	82.47	44	P		P	06 36 28.8	-0.1
	baz=312							
VRAC	Vranov	82.49	328	⇑*i*P		P	06 36 29.9	+1.2
VRAC	Vranov	82.49	328	*e*P		P	06 36 29.7	+1.0
VRAC				*e*			06 36 41.8	
VRAC	Vranov	82.49	328	P		P	06 36 29.4	+0.7
	comp=Z,4.4nm,1.0s,baz=73,slow=3.4,SNR=8.7							
GZR	Gura Zlata	82.53	322	⇓*i*P		P	06 36 29.6	+0.6
SDCO	Great Sand Dun	82.57	48	*e*P		P	06 36 30.8	+1.0
	comp=Z,4.2nm,1.0s							
SDCO	Great Sand Dun	82.57	48	P		P	06 36 30.1	+0.4
	baz=311,SNR=7.4							
TUC	Tucson	82.68	55	*e*P		P	06 36 30.9	+0.8
	comp=Z,10nm,1.4s							
TUC	Tucson	82.68	55	P		P	06 36 30.9	+0.8
TUC				pmax		pmax		
	comp=Z,10.0nm,1.4s							
TUC	Tucson	82.68	55	P		P	06 36 30.2	+0.1
	baz=309							
KRUC	Moravsky	82.76	328	*e*P		P	06 36 30.7	+0.6
KRUC				*e*			06 36 43.5	
GOPC	GO Pecny, Ondr	82.78	329	*e*P		P	06 36 35.4	+5.2
GOPC				AMS		AMS	07 20 00.0	
	comp=Z,200nm,15.2s							
EYMN	Ely	82.82	34	P		P	06 36 29.7	-0.8
	baz=318							
PRU	Pruhonice	82.83	330	*e*P		P	06 36 31.1	+0.7
PRU				AMS		AMS	07 17 40.0	
	comp=Z,200nm,14.4s							
BZS	Buzias	82.93	323	P		P	06 36 32.2	+1.1
BZS				pmax		pmax		
	comp=Z,5.0nm,1.4s							
PPT	Papeete	82.96	118	LR		LR	07 11 51.4	
	comp=Z,67nm,19.3s,baz=326,slow=35							
TREC	Trest	82.97	329	AMS		AMS	07 19 20.0	
	comp=Z,200nm,14.8s							
PPT2	Papeete2	82.98	118	*e*LR		LR	07 02 00.3	
	comp=Z,205nm,34.2s							
CLZ	Clausthal	82.98	333	P		P	06 36 33.0	+1.7
CLZ				pmax		pmax		
	comp=Z,8.0nm,1.1s							
CSKK	Cskako	83.22	326	*e*P		P	06 36 23.1	-9.5
ECSD	EROS Data Cent	83.44	39	*e*P		P	06 36 33.8	0.0
	comp=Z,8.1nm,1.1s							
ECSD	EROS Data Cent	83.44	39	P		P	06 36 33.4	-0.4
	baz=35							
NKC	Novy Kostel	83.48	331	AMS		AMS	07 18 10.0	
	comp=Z,200nm,16.9s							
ISP	Isparta	83.52	313	⇓*i*P		P	06 36 35.0	+0.6
ISP	Isparta	83.52	313	P		P	06 36 35.0	+0.6
T25A	Trinidad	83.62	48	*e*P		P	06 36 35.5	+0.5
	comp=Z,9.9nm,1.0s							
T25A	Trinidad	83.62	48	P		P	06 36 35.6	+0.5
	baz=311,SNR=7.5							
CSS	Mathiatis	83.67	309	*e*P		P	06 36 35.8	+0.7
	comp=Z,18nm,1.1s							
LAZ	Ladron	83.72	52	*e*P		P	06 36 36.8	+1.2
SOP	Sopron	83.74	327	P		P	06 36 37.9	+2.7
SOP				pmax		pmax		
	comp=Z,8.0nm,1.2s							
E38A	The Farm, Brul	83.80	35	*e*P		P	06 36 35.1	-0.4
	comp=Z,14nm,0.9s							
E38A	The Farm, Brul	83.80	35	P		P	06 36 34.7	-0.8
	baz=318,SNR=5.5							
TASM	ASL Pad, Albuq	83.80	51	P		P	06 36 36.8	+0.8
	baz=310,SNR=9.8							
TASM	ASL Pad, Albuq	83.80	51	P		P	06 36 36.4	+0.4
	baz=310,SNR=9.8							
ANMO	Albuquerque	83.80	51	*e*P		P	06 36 36.6	+0.6
	comp=Z,7.8nm,1.0s							
ANMO	Albuquerque	83.80	51	*e*P		P	06 36 36.6	+0.6
ANMO				pmax		pmax		
	comp=Z,8.0nm,1.0s							
ANMO	Albuquerque	83.80	51	P		P	06 36 36.7	+0.6
	baz=310							
BALB	Balikesir	83.83	315	*e*P		P	06 36 36.7	+0.9
	comp=Z,175nm,1.6s							
KHC	Kasperske Hory	83.89	329	*e*P		P	06 36 36.4	+0.4
	comp=Z,3.5nm,1.1s							
KHC	Kasperske Hory	83.89	329	*e*P		P	06 36 36.4	+0.4
KHC				pmax		pmax		
	comp=Z,3.0nm,1.1s							
KHC	Kasperske Hory	83.89	329	*e*P		P	06 36 36.2	+0.2
KHC				AMS		AMS	07 18 20.0	
	comp=Z,200nm,17.4s							
ALN	Alexandroupoli	83.99	317	*e*P		P	06 36 36.5	-0.1
	comp=Z,9.8nm,1.3s							
ALN	Alexandroupoli	83.99	317	P		P	06 36 36.5	-0.1
ALN				pmax		pmax		
	comp=Z,10.0nm,1.3s							
GEC2	GERESS Array S	84.06	329	*e*P		P	06 36 37.1	+0.2
	comp=Z,2.3nm,1.4s							
GEC2	GERESS Array S	84.06	329	*e*P		P	06 36 37.1	+0.2
GEC2				pmax		pmax		
	comp=Z,2.0nm,1.4s							
GERES	GERESS Array B	84.06	329	P		P	06 36 37.1	+0.2
	comp=Z,1.2nm,0.8s,baz=36,slow=5.0,SNR=11							
GERES				LR		LR	07 16 50.0	
	comp=Z,44nm,18.7s,baz=46,slow=38							
F38A	Pierce - Schro	84.13	35	P		P	06 36 36.7	-0.5
	baz=318,SNR=5.5							
WET	Wettzell	84.16	330	P		P	06 36 39.1	+1.7
WET				pmax		pmax		
	comp=Z,5.0nm,1.5s							
BNM	Barren Site	84.21	52	*e*P		P	06 36 37.9	-0.2
MANT	Manisa	84.22	314	*e*P		P	06 36 38.1	0.0
	comp=Z,109nm,1.4s							
EKA	Eskdalemuir Ar	84.24	342	*e*P		P	06 36 32.0	-5.6
EKA	Eskdalemuir Ar	84.24	342	P		P	06 36 38.2	+0.7
	comp=Z,3.1nm,0.9s,baz=25,slow=5.3,SNR=7.2							
SPMN	Marine on St.	84.24	36	P		P	06 36 37.3	-0.5
	baz=318							
319A	Douglas	84.26	55	*e*P		P	06 36 39.1	+0.8
	comp=Z,12nm,1.0s							
VTS	Vitosha	84.27	320	*e*P		P	06 36 39.0	+0.8
	comp=Z,14nm,1.0s							
VTS	Vitosha	84.27	320	⇑*i*P		P	06 36 39.4	+1.2
VTS	Vitosha	84.27	320	*e*P		P	06 36 39.0	+0.8
VTS				pmax		pmax		
	comp=Z,14nm,1.0s							
BGNE	Belgrade	84.28	42	P		P	06 36 37.6	-0.5
	baz=315							
GRF	Grafenberg Arr	84.39	331	P		P	06 36 42.9	+4.4
GRF				pmax		pmax		
	comp=Z,20nm,1.4s							
GRFO	Grafenberg	84.39	331	P		P	06 36 42.9	+4.4
GRFO				pmax		pmax		
	comp=Z,18nm,1.4s							
E39A	Mellen	84.42	34	P		P	06 36 38.4	-0.3
	baz=319							
121A	Cookes Peak, D	84.51	53	P		P	06 36 39.8	+0.2
	baz=310							
EZN	Ezine	84.57	316	⇑*i*P		P	06 36 40.5	+1.0
EZN	Ezine	84.57	316	P		P	06 36 40.5	+1.0
F39A	Loretta	84.61	35	P		P	06 36 39.2	-0.4
	baz=319							
E40A	Wakefield	84.67	34	P		P	06 36 39.8	-0.1
	baz=320,SNR=7.4							
G38A	Ridgeland	84.73	36	P		P	06 36 40.0	-0.3
	baz=318							
D41A	Chassel	84.79	33	P		P	06 36 40.2	-0.3
	baz=320							
H38A	Maiden Rock	84.90	36	P		P	06 36 40.8	-0.3
	baz=318							
G39A	Holcombe	84.96	35	P		P	06 36 41.1	-0.3
	baz=319							
F40A	Park Falls	84.97	34	P		P	06 36 41.1	-0.3
	baz=320							
E41A	Kenton	85.07	33	P		P	06 36 41.6	-0.3
	baz=320							
CBKS	Cedar Bluff	85.22	44	P		P	06 36 42.1	-0.8
	baz=314							
H39A	Augusta	85.37	36	P		P	06 36 42.8	-0.7
	baz=319							
G40A	Rib Lake	85.43	35	*e*P		P	06 36 43.8	0.0
	comp=Z,10nm,1.1s							
G40A	Rib Lake	85.43	35	P		P	06 36 43.3	-0.5
	baz=319,SNR=5.4							
SCHQ	Schefferville	85.51	17	LR		LR	07 20 29.0	
	comp=Z,44nm,18.5s,baz=29,slow=40							
E42A	Champion	85.56	33	P		P	06 36 43.7	-0.7
	baz=321							
F41A	Three Lakes	85.57	34	P		P	06 36 43.9	-0.6
	baz=320							
H40A	Chili	85.83	35	P		P	06 36 45.7	-0.1
	baz=319							
I39A	Houston	85.87	36	P		P	06 36 45.2	-0.8
	baz=319							
F42A	Maple Grove Fa	85.98	33	P		P	06 36 46.2	-0.3
	baz=321							
E43A	Lone Tree Farm	86.00	32	P		P	06 36 45.4	-1.1
	baz=322							
J39A	Decorah	86.17	37	P		P	06 36 46.7	-0.9
	baz=319,SNR=8.5							
H41A	Junction City	86.17	35	*e*P		P	06 36 47.5	+0.1
	comp=Z,12nm,1.1s							
H41A	Junction City	86.17	35	P		P	06 36 47.0	-0.5
	baz=320							
G42A	Mountain	86.25	34	P		P	06 36 47.3	-0.6
	baz=321							
I40A	Norwalk	86.28	36	P		P	06 36 47.6	-0.5
	baz=319							
F43A	Flat Rock, Esc	86.35	33	P		P	06 36 47.9	-0.4
	baz=322							
PDG	Podgorica	86.43	322	⇑*i*P		P	06 36 49.0	+0.3
TTG	Podgorica	86.43	322	*e*P		P	06 36 49.0	+0.3
	comp=Z,20nm,1.2s							
TTG	Podgorica	86.43	322	*e*P		P	06 36 49.0	+0.3
TTG				pmax		pmax		
	comp=Z,20nm,1.2s							
SCIA	State Center	86.49	39	P		P	06 36 49.0	-0.1
	baz=318							
I41A	Arkdale	86.50	35	*e*P		P	06 36 49.3	+0.2
	comp=Z,23nm,1.3s							
I41A	Arkdale	86.50	35	P		P	06 36 48.5	-0.6
	baz=320							
K39A	Oelwein	86.56	37	P		P	06 36 48.5	-0.9
	baz=318,SNR=6.3							
F44A	Big Bay de Noc	86.56	32	P		P	06 36 48.8	-0.6
	baz=322							
G43A	Wallace	86.57	33	P		P	06 36 49.2	-0.2
	baz=321							
J40A	Soldiers Grove	86.59	36	P		P	06 36 48.9	-0.7
	baz=319							
MNTX	Cornudas Mount	86.60	53	*e*P		P	06 36 50.1	+0.3
	comp=Z,3.2nm,1.1s							
MNTX	Cornudas Mount	86.60	53	P		P	06 36 49.7	-0.1
	baz=311							
BFO	Black Forest	86.61	332	*e*P		P	06 36 50.0	+0.4
	comp=Z,16nm,1.2s							
BFO	Black Forest	86.61	332	*e*P		P	06 36 50.0	+0.4
BFO				pmax		pmax		
	comp=Z,16nm,1.2s							
MSTX	Muleshoe	86.73	50	P		P	06 36 50.3	-0.3
	baz=312							
KSU1	Kansas State U	86.75	42	P		P	06 36 49.9	-0.5
	baz=

	baz=329						
J43A	Natural Harves	87.69	35	P	P	06 36 54.4	-0.5
	baz=321,SNR=5.4						
K42A	Prairie Point,	87.72	36	P	P	06 36 54.5	-0.6
	baz=320,SNR=5.4						
G46A	Petoskey	87.75	32	P	P	06 36 54.9	-0.2
	baz=323						
H45A	Beulah	87.79	33	P	P	06 36 55.3	0.0
	baz=322						
CHGQ	Chibougamau	87.82	23	P	P	06 36 54.9	-0.5
	baz=330						
E48A	Lockeyer	87.92	30	P	P	06 36 55.8	-0.2
	baz=325						
N40A	Mertquake, Sal	88.07	38	P	P	06 36 56.5	-0.2
	baz=319						
L42A	Oliver, Polo	88.16	37	P	P	06 36 56.4	-0.8
	baz=320						
I45A	Fountain	88.17	33	P	P	06 36 57.0	-0.1
	baz=322						
M41A	Milan	88.22	37	P	P	06 36 56.9	-0.6
	baz=319						
H46A	Fife Lake	88.22	32	P	P	06 36 57.2	-0.3
	baz=323						
GLMI	Grayling	88.25	32	eP	P	06 36 58.3	+0.8
	comp=Z,49nm,1.2s						
GLMI	Grayling	88.25	32	P	P	06 36 57.1	-0.4
	baz=323						
K43A	Burlington	88.26	35	P	P	06 36 57.4	-0.2
	baz=321						
F48A	Evansville	88.27	30	P	P	06 36 56.9	-0.7
	baz=325						
G47A	Hillman	88.29	31	P	P	06 36 57.3	-0.4
	baz=324						
VLDQ	Val d'Or	88.33	26	eP	P	06 36 56.9	-0.9
	comp=Z,8.9nm,1.0s						
L43A	Garden Prairie	88.47	36	P	P	06 36 57.8	-0.8
	baz=320						
E50A	Wahnapitae	88.53	29	P	P	06 36 58.3	-0.5
	baz=326						
F49A	Sandfield	88.56	30	P	P	06 36 58.7	-0.3
	baz=325						
N41A	Harden Midland	88.57	38	eP	P	06 36 58.5	-0.6
	comp=Z,19nm,1.3s						
N41A	Harden Midland	88.57	38	P	P	06 36 58.7	-0.4
	baz=319						
J45A	Montague	88.58	34	P	P	06 36 58.7	-0.3
	baz=322						
I46A	Reed City	88.59	33	P	P	06 36 59.0	-0.2
	baz=323						
WMOK	Wichita Mounta	88.60	47	P	P	06 36 59.1	-0.3
	baz=315						
H47A	Mio	88.60	32	P	P	06 36 59.2	0.0
	baz=324						
L44A	Lake County Fo	88.86	35	P	P	06 36 59.9	-0.6
	baz=321						
H48A	Harrisville	88.89	31	P	P	06 37 00.2	-0.4
	baz=324						
E51A	G1948 Merrick	88.92	28	P	P	06 36 60.0	-0.6
	baz=327						
M43A	Waltham Townsh	88.94	37	P	P	06 37 00.8	0.0
	baz=320						
I47A	Gladwin	88.94	32	eP	P	06 37 00.3	-0.5
	comp=Z,32nm,1.5s						
D52A	ZEK Kipawa Sen	88.95	27	P	P	06 37 00.4	-0.4
	baz=328						
J46A	Howard City	88.98	33	P	P	06 37 00.5	-0.5
	baz=323						
D53A	Lac Vacive, Po	89.12	27	P	P	06 37 01.2	-0.4
	baz=328						
I48A	Sherman Twp	89.15	32	P	P	06 37 01.9	+0.1
	baz=324						
TOBO	Tobermory, Bru	89.21	30	P	P	06 37 01.9	-0.1
	baz=325						
N43A	Stutzman Famil	89.22	37	P	P	06 37 02.0	-0.1
	baz=320						
F51A	Arnstein	89.26	29	P	P	06 37 01.7	-0.5
	baz=326						
TX31	Lajitas Ar. Si	89.27	54	eP	P	06 37 03.0	+0.3
	comp=Z,3.7nm,0.8s						
LTX	Lajitas	89.27	54	eP	P	06 37 03.0	+0.2
LTX	Lajitas	89.27	54	eP	P	06 37 03.0	+0.2
TXAR	Lajitas Array	89.27	54	P	P	06 37 03.0	+0.2
TXAR	Lajitas Array	89.27	54	P	P	06 37 03.0	+0.2
	comp=Z,2.4nm,0.7s,baz=303,slow=3.5,SNR=44						
M44A	Midewin, Midew	89.41	36	eP	P	06 37 03.4	+0.4
	comp=Z,21nm,1.1s						
M44A	Midewin, Midew	89.41	36	P	P	06 37 02.9	-0.1
	baz=321						
J47A	Sunmer	89.43	33	P	P	06 37 03.4	+0.3
	baz=323						
D54A	Lac Fusel, La	89.43	26	P	P	06 37 02.7	-0.3
	baz=329						
E52A	Mattawa	89.44	28	P	P	06 37 02.8	-0.3
	baz=327						
K46A	Dorr	89.44	34	P	P	06 37 02.7	-0.5
	baz=322						
HDIL	Hopedale	89.45	37	eP	P	06 37 03.6	+0.3
	comp=Z,19nm,1.0s						
HDIL	Hopedale	89.45	37	P	P	06 37 03.1	-0.1
	baz=320						
TUL1	Leonard	89.49	44	P	P	06 37 03.3	-0.2
	baz=316						
F52A	Sundridge	89.60	28	P	P	06 37 03.3	-0.5
	baz=327						
KLBO	Killbear Provi	89.62	29	P	P	06 37 03.8	-0.2
	baz=326						
I49A	Point Hope	89.72	31	P	P	06 37 05.0	+0.5
	baz=324						
E53A	Dumoine, Ponti	89.73	27	P	P	06 37 04.2	-0.2
	baz=328						
L46A	Eue Claire	89.74	35	P	P	06 37 04.4	-0.1
	baz=322						
K47A	Vermontville	89.80	33	P	P	06 37 04.6	-0.3
	baz=323						
N44A	Piper City	89.83	36	P	P	06 37 04.8	-0.2
	baz=321						
J48A	Bridge Port	89.83	32	P	P	06 37 06.0	+1.0
	baz=324						
BMRO	Meriville Lake	89.85	30	P	P	06 37 04.7	-0.3
	baz=326						
E54A	Lac Daplat, Po	89.85	27	P	P	06 37 04.3	-0.8
	baz=328						
BUKO	Buck Lake	89.86	29	P	P	06 37 04.5	-0.6
	baz=327						
ALGO	Algonquin Park	89.94	27	P	P	06 37 04.9	-0.5
	baz=328						
J49A	Marlette	90.06	32	P	P	06 37 05.9	-0.2
	baz=324						
K48A	Perry	90.08	33	P	P	06 37 06.0	-0.2
	baz=324						
N45A	Kentland	90.08	36	P	P	06 37 06.1	-0.1
	baz=321						
Q42A	Golden Eagle	90.09	39	P	P	06 37 06.1	-0.1
	baz=319						
R41A	Rosebud	90.12	40	P	P	06 37 06.2	-0.2
	baz=319						
BASO	Ashfield	90.14	31	P	P	06 37 06.1	-0.3
	baz=325						
L47A	Sherwood	90.27	34	P	P	06 37 06.9	-0.2
	baz=323						
BWLO	Walkerton	90.27	30	P	P	06 37 07.1	+0.1
	baz=326						
H52A	Wyevale	90.34	29	P	P	06 37 07.3	-0.1
	baz=326						
CCM	Cathedral Cave	90.37	40	eP	P	06 37 07.4	-0.2
	comp=Z,14nm,1.1s						
CCM	Cathedral Cave	90.37	40	P	P	06 37 07.7	+0.1
CCM				pmax	pmax		
	comp=Z,12nm,1.2s						
CCM	Cathedral Cave	90.37	40	P	P	06 37 07.4	-0.2
	baz=319						
G53A	Haliburton	90.43	28	P	P	06 37 07.5	-0.2
	baz=327						
S41A	Jillco Farms,	90.46	41	P	P	06 37 07.8	-0.3
	baz=319						
PEMO	Pembroke	90.48	27	P	P	06 37 07.6	-0.3
	baz=328						
I51A	Listowel	90.58	30	P	P	06 37 08.7	+0.3
	baz=326						
L48A	N Adams	90.64	34	P	P	06 37 08.8	0.0
	baz=323						
AAM	Ann Arbor	90.69	33	P	P	06 37 09.2	+0.2
	baz=324						
I52A	Shelburne	90.70	30	P	P	06 37 08.8	-0.2
	baz=326						
BANO	Bancroft	90.78	28	P	P	06 37 09.2	-0.2
	baz=328						
U40A	Yellville	90.78	42	P	P	06 37 09.4	-0.1
	baz=318						
L49A	Milan	90.80	33	P	P	06 37 09.3	-0.2
	baz=324						
M48A	Edgerton	90.88	34	P	P	06 37 09.6	-0.3
	baz=323						
N47A	Urbana	90.91	35	P	P	06 37 09.9	-0.2
	baz=322						
JCT	Junction City	90.94	50	P	P	06 37 10.8	+0.4
	baz=314						
P45A	Graceland, Par	91.00	37	P	P	06 37 10.1	-0.4
	baz=321						
G55A	Calabogie	91.03	27	P	P	06 37 10.3	-0.2
	baz=329						
PLVO	Plevna	91.08	27	P	P	06 37 10.2	-0.6
	baz=328						
W39A	Magazine	91.13	43	P	P	06 37 11.2	0.0
	baz=317						
ACTO	Acton	91.13	30	P	P	06 37 10.6	-0.4
	baz=326						
I53A	Kortright Cn E	91.14	30	P	P	06 37 10.6	-0.4
	baz=327						
O47A	Sheridan	91.20	36	P	P	06 37 11.2	-0.2
	baz=322						
M49A	Liberty Center	91.22	34	P	P	06 37 11.2	-0.3
	baz=324						
N48A	Decatur	91.23	35	P	P	06 37 11.6	+0.1
	baz=323						
Q45A	Warren Harvey,	91.29	38	P	P	06 37 12.3	+0.4
	baz=321						
ORIO	Orleans, Innes	91.30	26	P	P	06 37 11.3	-0.4
	baz=330						
WHTX	Lake Whitney,	91.32	48	P	P	06 37 12.3	+0.2
	baz=315						
DELO	Deloro Mine	91.32	28	P	P	06 37 11.2	-0.7
	baz=328						
ALFO	Alfred	91.37	26	P	P	06 37 11.6	-0.4
	baz=330						
OLIL	Olney	91.44	38	eP	P	06 37 12.8	+0.2
	comp=Z,15nm,1.1s						
H55A	Tweed	91.46	28	P	P	06 37 12.1	-0.4
	baz=328						
WLVO	Wesleyville	91.53	29	P	P	06 37 13.0	+0.2
	baz=326						
K52A	Tillsonburg	91.55	31	P	P	06 37 13.4	+0.4
	baz=328						
I55A	Frankford	91.55	28	P	P	06 37 13.2	+0.3
	baz=328						
N49A	Columbus Grove	91.57	34	P	P	06 37 13.3	+0.2
	baz=324						
PLIO	Pelee Island,	91.59	33	P	P	06 37 13.2	+0.1
	baz=325						
S44A	Carbondale	91.67	39	P	P	06 37 13.4	-0.2
	baz=320						
SIUC	Southern Illin	91.67	39	eP	P	06 37 12.8	-0.8
	comp=Z,9.8nm,1.0s						
MIAR	Mount Ida	91.72	44	eP	P	06 37 13.8	-0.2
	comp=Z,14nm,1.1s						
MIAR	Mount Ida	91.72	44	P	P	06 37 14.4	+0.5
MIAR				pmax	pmax		
	comp=Z,16nm,1.1s						
MIAR	Mount Ida	91.72	44	P	P	06 37 14.1	+0.1
	baz=318						
P47A	Martinsville	91.74	36	P	P	06 37 13.8	-0.2
	baz=322						
PBMO	Poplar Bluff	91.76	40	eP	P	06 37 13.7	-0.4
	comp=Z,12nm,0.9s						
H56A	Elgin	91.77	27	P	P	06 37 13.5	-0.4
	baz=329						
WHAR	Wooly Hollow	91.88	43	eP	P	06 37 14.0	-0.7
	comp=Z,16nm,1.1s						
W41B	Gary Mavity, V	91.99	43	P	P	06 37 14.5	-0.7
	baz=318						
S45A	Carrier Mills	92.02	39	P	P	06 37 14.9	-0.4
	baz=321						
O49A	Covington	92.09	35	P	P	06 37 15.6	0.0
	baz=323						
Q47A	Bedord North L	92.10	37	P	P	06 37 15.5	-0.1
	baz=322						
P48A	Milroy	92.16	36	P	P	06 37 15.9	0.0
	baz=323						
X40A	Basin Creek Fa	92.18	43	P	P	06 37 16.4	+0.3
	baz=318						
PARMO	Parma	92.20	40	eP	P	06 37 15.7	-0.4
	comp=Z,31nm,1.0s						
M52A	Chesterland	92.31	32	P	P	06 37 16.7	+0.2
	baz=326						
J55A	Hilton	92.31	29	P	P	06 37 16.7	+0.3
	baz=328						
LONY	Lake Ozonia	92.35	26	P	P	06 37 16.7	+0.1
	baz=330						
L53A	Girard	92.43	31	P	P	06 37 17.1	0.0
	baz=326						
Q48A	North Vernon	92.44	36	P	P	06 37 17.0	-0.2
	baz=322						
O50A	Cable	92.45	34	P	P	06 37 17.2	0.0
	baz=324						
S46A	Don Dixon Farm	92.45	38	P	P	06 37 17.1	-0.2
	baz=321						
R47A	Wooly Knot Far	92.56	37	P	P	06 37 18.2	+0.5
	baz=322						
ACSO	Alum Creek Sta	92.66	34	P	P	06 37 17.6	-0.6
	baz=324						
K55A	Perry	92.66	29	P	P	06 37 18.2	+0.1
	baz=328						
WCI	Wyandotte Cave	92.72	37	P	P	06 37 19.0	+0.5
	baz=322						
P50A	Jamestown	92.80	35	P	P	06 37 18.5	-0.3
	baz=324						
T46A	Princeton	92.86	39	P	P	06 37 19.9	+0.7
	baz=321						
P51A	Williamsport	93.24	34	P	P	06 37 20.8	0.0
	baz=324						
S48A	Wiedeman Farm,	93.29	37	P	P	06 37 21.1	0.0
	baz=322						
T47A	Sharon Grove	93.29	38	P	P	06 37 21.4	+0.3
	baz=322						
N54A	Moraine State	93.36	31	P	P	06 37 21.4	0.0
	baz=326						
M55A	Ridgway	93.45	30	P	P	06 37 21.6	-0.2
	baz=327						
Q51A	Peebles	93.47	35	P	P	06 37 21.9	0.0
	baz=324						
P52A	Corning	93.53	33	P	P	06 37 22.1	-0.1
	baz=325						
PKME	Peaks-Kenny Pk	93.53	22	P	P	06 37 22.0	0.0
	baz=334						
S49A	Springfield	93.56	37	P	P	06 37 22.3	-0.1
	baz=323						
WVT	Waverly	93.60	39	P	P	06 37 22.5	-0.1
	baz=321						
R50A	Paris	93.62	36	P	P	06 37 22.5	-0.1
	baz=323						
U47A	Clarksville	93.63	39	P	P	06 37 22.6	-0.1
	baz=321						
V46A	Holladay	93.70	40	P	P	06 37 23.2	+0.2
	baz=321						
BINY	Binghamton	93.92	28	P	P	06 37 24.0	0.0
	baz=329						
T49A	Edmonton	93.98	37	P	P	06 37 24.1	-0.2
	baz=323						
P53A	Whipple	93.98	33	P	P	06 37 22.3	-2.0
	baz=325						
Q52A	Bidwell	94.02	34	P	P	06 37 24.1	-0.4
	baz=325						
OXF	Oxford	94.02	41	P	P	06 37 24.6	+0.1
	baz=320						
S50A	Richmond	94.06	36	P	P	06 37 24.7	0.0
	baz=323						
O55A	Ligonier	94.28	31	P	P	06 37 25.3	-0.3
	baz=327						
P54A	Burton	94.28	32	P	P	06 37 25.4	-0.3
	baz=326						
U49A	Red Boiling Sp	94.32	38	P	P	06 37 26.1	+0.2
	baz=322						
R52A	Catlettsburg	94.36	35	P	P	06 37 24.8	-1.2
	baz=324						
T50A	Nancy	94.38	37	P	P	06 37 25.6	-0.6
	baz=323						
W47A	Westpoint	94.40	40	P	P	06 37 25.6	-0.7
	baz=321						
V48A	Smith Brothers	94.41	39	P	P	06 37 26.1	-0.2
	baz=322						
S51A	Beattyville	94.48	36	P	P	06 37 26.6	0.0
	baz=324						
SSPA	Standing Stone	94.50	30	P	P	06 37 26.7	+0.1
	baz=328						
MCWV	Mont Chateau	94.51	32	P	P	06 37 26.4	-0.3
	baz=326						
O56A	Blue Knob Stat	94.54	31	P	P	06 37 27.2	+0.3
	baz=327						
P55A	Reedsville	94.64	32	P	P	06 37 27.7	+0.4
	baz=326						
R53A	Hurricane	94.67	34	P	P	06 37 27.4	0.0
	baz=325						
S52A	Salyersville	94.69	35	P	P	06 37 27.5	-0.1
	baz=324						
W48A	Pulaski	94.83	39	P	P	06 37 28.1	-0.1
	baz=322						
X47A	Russelville	94.83	40	P	P	06 37 28.2	-0.1
	baz=321						
T51A	Gray	94.85	36	P	P	06 37 28.2	-0.2
	baz=324						
Q55A	Buckhannon	94.96	33	P	P	06 37 28.9	+0.1
	baz=326						
W49A	Belvidere	95.18	39	P	P	06 37 29.7	-0.1
	baz=322						
O59A	Robesonia	95.46	29	P	P	06 37 30.9	-0.1
	baz=329						
R55A	Marlinton	95.53	33	P	P	06 37 31.3	-0.2
	baz=326						
U52A	Thorn Hill	95.59	36	P	P	06 37 31.1	-0.7
	baz=324						
X49A	Woodville	95.62	39	P	P	06 37 31.3	-0.6
	baz=322						
T54A	Tazewell	95.88	35	P	P	06 37 33.2	+0.1
	baz=325						
KEST	Kesra	96.46	324	LR	LR	07 27 28.1	
	comp=Z,109nm,18.8s,baz=296,slow=39						
X53A	Estanollee	97.14	37	P	Pdif	06 37 39.1	+0.3
	baz=324						
ESDC	Sonseca Array	98.53	335	LR	LR	07 27 12.8	
	comp=Z,59nm,18.1s,baz=100,slow=38						
TOA1	Torodi Ar. Sit	118.87	316	ePKPdf	PKPdf	06 42 54.5	-0.8
TORD	Torodi Ar. Bea	118.87	316	PKP	PKPdf	06 42 54.5	-0.8
	comp=Z,0.7nm,0.7s,baz=24,slow=2.5,SNR=4.9						
TORD				PP	PP	06 44 04.6	-8.6
	comp=Z,0.9nm,1.0s,baz=33,slow=4.2,SNR=3.9						
QSPA	South Pole Qui	126.14	180	ePKPdf	PKPdf	06 43 07.1	-0.5
SNAA	Sanae	140.58	196	PKPdf	PKPdf	06 43 33.2	-1.5
VNA2	Neumayer--Watz	142.12	195	PKPdf	PKPdf	06 43 31.9	-5.4
VNA3	Neumayer Olymp	142.33	194	PKPdf	PKPdf	06 43 32.9	-4.8
VNA1	Neumayer--Stat	142.52	195	PKPdf	PKPdf	06 43 33.8	-4.2
LPAZ	La Paz	145.64	63	ePKPdf	PKPdf	06 43 45.1	-0.8
LPAZ	La Paz	145.64	63	ePKP2	PKPdf	06 43 45.1	-0.8
LPAZ	La Paz	145.64	63	PKPbc	PKPbc	06 43 45.9	-0.2
	comp=Z,9.8nm,0.7s,baz=332,slow=3.3,SNR=39						
MNMC	Minye Minye	146.37	68	ePKPdf	PKPbc	06 43 47.3	-0.6
PB11	IPOC Station P	146.71	69	ePKPdf	PKPdf	06 43 47.5	+0.4
LVC	Limon Verde	148.91	73	PKPbc	PKPbc	06 43 55.0	+0.2
	comp=Z,9.1nm,0.9s,baz=260,slow=6.1,SNR=3.3						
SIV	San Ignacio	150.27	53	PKP	PKPdf	06 43 53.3	+0.5
	comp=Z,6.9nm,1.0s,baz=262,slow=1.7,SNR=10						
SIV				PKPbc	PKPbc	06 43 57.7	-0.2
	comp=Z,5.9nm,0.9s,baz=293,slow=2.0,SNR=17						
USHA	Ushuaia	151.48	140	PKPbc	PKPbc	06 44 00.3	+0.7
	comp=Z,23nm,1.0s,baz=20,slow=4.3,SNR=6.8						
PLCA	Paso Flores	153.25	110	ePKPbc	PKPbc	06 44 04.4	+0.3
PLCA				ePKPab	PKPab	06 44 16.4	+0.4
PLCA	Paso Flores	153.25	110	PKPbc	PKPbc	06 44 04.4	+0.3
	comp=Z,2.7nm,1.0s,baz=222,slow=5.7,SNR=5.0						
BDFB	Brasilia	156.99	29	PKPab	PKPab	06 44 31.7	-0.8
	comp=Z,1.9nm,0.7s,baz=14,slow=6.2,SNR=3.0						

REY ***19*** *06:27:40.5,62.°22N×25.°25W,h10km*
ISCJB ***19*** *06:27:45.2±0.3,62.°69N±0.°03×25.°43W±0.°06,h10km,*
mb4.1/36,MS3.5/27,Error ellipse: s-maj=5.2km
s-min=3.1km az=152.0
IDC ***19*** *06:27:45.4±0.7,62.°64N×25.°48W,h0km,mb3.9/15,*
mb1 4.1/18,mb1mx3.9/47,mbtmp3.9/18,ML2.9/2,MS3.5/28,
Ms1 3.5/28,ms1mx3.4/51,Error ellipse: s-maj=19.6km
s-min=13.6km az=15.0
NEIC ***19*** *06:27:47.2±1.1,62.°63N×25.°43W,h10km±2km,mb4.4/33,*
Error ellipse: s-maj=15.0km s-min=11.6km az=179.0
ISC 19 06:27:47.0±0.4,62.°63N±0.°06×25.°31W±0.°05,h10km,n126,
σ2.°01/125**,mb4.2**/36**,MS3.5**/28**,Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	Reykjanes	1.68	44	S	Sn	06 28 37.0	-0.9
	baz=35						
IRNE				P	Pn	06 28 12.8	-3.5
	baz=35						
INYL	Nylenda	1.78	40	S	Sn	06 28 40.0	-0.3
	baz=32						
INYL				P	Pn	06 28 14.2	-3.5
	baz=32						
IGRV	Grindav??k	1.79	45	S	Sn	06 28 39.7	-0.8
	baz=37						
IGRV				P	Pn	06 28 14.3	-3.5
	baz=37						
IVOG	Vogar	1.89	43	P	Pn	06 28 15.5	-3.7
	baz=35						
IVOG				S	Sn	06 28 42.9	-0.1
	baz=35						
IVOS	Vogsosar	2.04	51	P	Pn	06 28 17.4	-4.0
	baz=43						
IVOS				S	Sn	06 28 46.9	+0.1
	baz=43						
IKAS	Kald??rsel	2.10	47	S	Sn	06 28 49.3	+1.1
	baz=39						
IKAS				P	Pn	06 28 18.5	-3.6
	baz=39						
ISAN	Sandskeio	2.21	48	S	Sn	06 28 51.9	+0.9
	baz=41						
ISAN				P	Pn	06 28 20.0	-3.7
	baz=41						
IBJA	Bjarnastaoir	2.24	52	P	Pn	06 28 20.2	-3.8
	baz=44						
IBJA				S	Sn	06 28 51.7	0.0
	baz=44						
IKUD	Kuludalsa	2.29	41	P	Pn	06 28 21.9	-2.8
	baz=34						
IKUD				S	Sb	06 28 54.6	-2.1
	baz=34						
ISOL	Solvholt	2.37	55	P	Pn	06 28 21.7	-4.0
	baz=47						
IKRO	Krokur	2.40	50	P	Pn	06 28 22.6	-3.6
	baz=43						
IKRO				S	Sn	06 28 55.9	+0.3
	baz=43						
IHEI	Heioarbar	2.42	47	P	Pn	06 28 23.7	-2.8
	baz=41						
IASM	Asmuli	2.45	58	P	Pn	06 28 22.7	-4.2
	baz=50						
IASM				S	Sn	06 28 56.0	-0.8
	baz=50						
IHAU	Haukadalur	2.76	59	P	Pn	06 28 27.4	-3.9
	baz=52						
BORG	Borgarnes	2.77	38	ePn	Pn	06 28 29.6	-1.7
BORG				eSn	Sn	06 29 07.1	+2.3
BORG	Borgarnes	2.77	38	Pn	Pn	06 28 29.5	-1.8
	102nm,0.3s,baz=225,slow=7.8,SNR=462						
BORG				Sn	Sn	06 29 03.3	-1.4
	baz=240,slow=20,SNR=3.8						
BORG				LR	LR	06 29 16.9	
	comp=Z,115nm,20.3s,baz=181,slow=32						
IASB	`sbjarnarst	2.77	38	P	Pn	06 28 29.3	-2.1
	baz=33						
ISMJ	Smjorgil	2.77	65	P	Pn	06 28 26.8	-4.6
	baz=58						
IESK	Eystri-Skogar	2.81	69	P	Pn	06 28 27.4	-4.6
	baz=61						
IGYG	Gygjarholskot	2.83	52	P	Pn	06 28 28.9	-3.1
	baz=46						
IMJO	Mjoaskard	2.87	60	P	Pn	06 28 28.9	-3.8
	baz=54						
IGOD	Go??abunga	2.91	67	P	Pn	06 28 28.9	-4.4
	baz=59						
IALF	Alftagrof	2.92	70	P	Pn	06 28 28.8	-4.6
	baz=63						
IHVO	Lagu-Hvolar	3.08	70	P	Pn	06 28 30.8	-4.7
	baz=63						
IVAT	Vatnsfell	3.27	59	P	Pn	06 28 35.4	-2.9
	baz=53						
IJOK	Jokulheimar	3.60	59	P	Pn	06 28 40.3	-2.5
	baz=53						
ISKR	Skrokkalda	3.65	55	P	Pn	06 28 41.1	-2.3
	baz=50						
IKAL	Kalfafell	3.69	66	P	Pn	06 28 40.9	-3.0
	baz=60						
IGRF	Grimsfjall	4.02	60	P	Pn	06 28 46.2	-2.5
	baz=55						
IDYN	Dyngjuhals	4.15	55	P	Pn	06 28 48.0	-2.3

baz=50
SCO Scoresbysund 8.00 8 *e*Pn **Pn 06 29 42.5 -0.6**
NRS Narsarsuaq 9.59 270 *e*Pn **Pn 06 30 03.4 -1.5**
JMIC Jan Mayen 10.64 31 LR LR 06 33 36.6
comp=Z,155nm,20.1s,baz=251,slow=33
SUMG Summit 11.13 339 *e*Pn **Pn 06 30 26.5 +0.2**
SUMG Summit 11.13 339 *i* P **Pn 06 30 27.2 +0.9**
ILULI Ilulissat 12.34 313 *e*Pn **Pn 06 30 41.7 -0.6**
ESK Eskdalemuir 13.49 113 *e*Pn **Pn 06 30 59.2 +1.0**
EKA Eskdalemuir Ar 13.50 113 Pn **Pn 06 30 59.6 +1.3**
baz=299,slow=12,SNR=5.7
NC204 NORSAR Array S 16.88 78 *e*Pn **P 06 31 44.1 -1.0**
10nm,0.9s
NB200 NORSAR Array S 17.17 79 *e*Pn **Pn 06 31 46.5 -0.2**
NOA NORSAR Array B 17.17 79 P **Pn 06 31 46.5 -0.2**
0.0nm,0.3s,baz=290,slow=12,SNR=2.6
NOA LR LR 06 37 53.7
comp=Z,116nm,20.1s,baz=290,slow=35
NC602 NORSAR Array S 17.43 80 *e*Pn **P 06 31 50.6 -0.5**
7.5nm,1.1s
HFS Hagfors 18.65 80 LR LR 06 38 48.3
comp=Z,133nm,19.9s,baz=304,slow=35
FRB Frobisher Bay 19.26 293 LR LR 06 38 59.5
comp=Z,374nm,18.1s,baz=36,slow=35
SPITS Spitsbergen Ar 20.13 23 LR LR 06 38 14.1
comp=Z,40nm,18.4s,baz=0.0,slow=31
ARA0 ARCESS Array S 21.12 49 *e*P **P 06 32 32.2 +0.8**
ARCES ARCESS Array B 21.12 49 *e*P **P 06 32 32.5 +1.1**
ARCES ARCESS Array B 21.12 49 P **P 06 32 32.2 +0.8**
3.4nm,0.8s,baz=270,slow=9.9,SNR=7.8
SCHQ Schefferville 22.56 269 LR LR 06 40 19.2
comp=Z,134nm,20.0s,baz=43,slow=34
ECH Echery 23.07 114 *e*P **P 06 32 51.4 -0.9**
19nm,1.3s
CLL Collm 23.37 101 *e*P **P 06 32 56.4 +1.1**
9.4nm,1.2s
CLL Collm 23.37 101 *e*P **P 06 32 56.0 +0.7**
comp=Z,8.0nm,1.2s
CLL *e* 06 33 11.0
CLL Lm MLR 06 42 00.0
comp=Z,200nm,20.1s
BFO Black Forest 23.48 112 *e*P **P 06 32 56.8 +0.4**
comp=Z,11nm,1.4s
STU Stuttgart 23.52 110 *e*P **P 06 32 56.6 -0.1**
comp=Z,6.1nm,0.9s
FIA0 FINESS Array S 23.61 70 *e*P **P 06 32 57.8 +0.2**
FINES FINESS Array B 23.61 70 P **P 06 32 57.8 +0.2**
comp=Z,2.2nm,0.9s,baz=301,slow=13,SNR=4.4
FINES LR LR 06 41 48.7
comp=Z,88nm,19.0s,baz=262,slow=36
BRG Berggiesshubel 24.10 101 *e*P **P 06 33 02.1 -0.2**
comp=Z,3.3nm,0.9s
PRU Pruhonice 25.00 102 *e*P **P 06 33 11.4 +0.9**
PRU AMS AMS 06 43 10.0
comp=Z,200nm,18.5s
PRU Pruhonice 25.00 102 *ex* **PcP 06 36 43.7 -1.4**
GOPC GO Pecny, Ondr 25.16 102 AMS AMS 06 43 30.0
comp=Z,200nm,15.9s
GOPC GO Pecny, Ondr 25.16 102 *ex* **PcP 06 36 43.0 -2.5**
KHC Kasperske Hory 25.18 104 *e*P **P 06 33 13.3 +1.1**
comp=Z,4.0nm,1.2s
KHC *e*PcP **PcP 06 36 48.3 +2.7**
KHC Kasperske Hory 25.18 104 *e*P **P 06 33 14.2 +1.9**
KHC AMS AMS 06 43 30.0
comp=Z,200nm,14.2s
KHC Kasperske Hory 25.18 104 *ex* **PcP 06 36 48.7 +3.1**
UPC Upice 25.30 99 *e*P **P 06 33 15.7 +2.5**
DAVOX Davos/Dischmat 25.34 112 LR LR 06 42 36.8
comp=Z,64nm,19.3s,baz=309,slow=35
TUE Stuetta 25.36 113 *e*P **P 06 33 14.9 +0.8**
comp=Z,13nm,1.5s
GEC2 GERESS Array S 25.45 105 *e*P **P 06 33 15.7 +1.0**
comp=Z,5.2nm,1.4s
GERES GERESS Array B 25.45 105 *e*P **P 06 33 15.7 +1.0**
GERES GERESS Array B 25.45 105 P **P 06 33 16.1 +1.4**
comp=Z,0.7nm,0.8s,baz=333,slow=10,SNR=6.2
GERES LR LR 06 43 54.3
comp=Z,148nm,18.9s,baz=312,slow=38
DPC Dobruska-Polom 25.55 99 *e*P **P 06 33 16.4 +0.8**
TREC Trest 25.92 102 AMS AMS 06 43 40.0
comp=Z,200nm,17.1s
RES Resolute Bay 26.14 326 LR LR 06 43 09.3
comp=Z,122nm,20.4s,baz=64,slow=35
ESDC Sonseca Array 26.35 141 P **P 06 33 23.3 +0.4**
comp=Z,0.2nm,0.4s,baz=335,slow=9.5,SNR=3.5
ESDC LR LR 06 42 42.9
comp=Z,79nm,19.5s,baz=195,slow=34
VRAC Vranov 26.41 101 LR LR 06 44 11.4
comp=Z,128nm,19.1s,baz=309,slow=37
MORC Moravsky Berou 26.51 99 *e*P **P 06 33 25.0 +0.7**
comp=Z,4.7nm,1.2s
PSZ Piszkesteto 28.93 99 *e*P **P 06 33 47.4 +1.4**
comp=Z,9.9nm,1.5s
AKASG Malin Array Be 31.25 87 P **P 06 34 05.8 -0.6**
comp=Z,1.1nm,0.8s,baz=318,slow=8.8,SNR=5.4
AKASG LR LR 06 46 46.6
comp=Z,86nm,18.5s,baz=290,slow=36
AKBB Malin Array Si 31.25 87 *e*P **P 06 34 06.0 -0.3**
comp=Z,5.8nm,1.3s
KEST Kesra 34.42 125 LR LR 06 48 35.1
comp=Z,99nm,18.5s,baz=278,slow=36
SADO Sadowa 35.24 265 LR LR 06 47 22.5
comp=Z,175nm,20.1s,baz=42,slow=34
YKA Yellowknife Ar 38.00 311 P **P 06 35 04.0 -0.4**
comp=Z,2.4nm,1.1s,baz=49,slow=8.3,SNR=9.6
YKA PcP **PcP 06 37 19.2 -0.5**
comp=Z,0.4nm,0.7s,baz=36,slow=3.3,SNR=5.4
YKA LR LR 06 50 02.1
comp=Z,17nm,18.3s,baz=48,slow=35
YKB5 Yellowknife Ar 38.00 311 *e*P **P 06 35 04.0 -0.4**
YKB5 *e*PcP **PcP 06 37 19.2 -0.5**
N54A Moraine State 38.60 262 *e*P **P 06 35 09.8 0.0**
comp=Z,23nm,1.4s
ULM Lac du Bonnet 38.86 285 *e*P **P 06 35 10.4 -1.5**
comp=Z,11nm,1.4s
ULM Lac du Bonnet 38.86 285 P **P 06 35 10.4 -1.5**
comp=Z,4.7nm,1.1s,baz=337,slow=7.5,SNR=4.7
ULM LR LR 06 50 07.6
comp=Z,140nm,19.1s,baz=38,slow=35
AGMN Agassiz Nation 40.28 283 *e*P **P 06 35 23.5 -0.2**
P53A Whipple 40.42 262 *e*P **P 06 35 24.8 -0.2**
comp=Z,7.6nm,0.8s
N49A Columbus Grove 40.56 266 *e*P **P 06 35 25.5 -0.6**
comp=Z,11nm,1.0s
BR101 Keskin Array S 41.55 95 *e*P **P 06 35 35.6 +1.1**
BRTR Keskin Array B 41.55 95 P **P 06 35 35.6 +1.1**
comp=Z,1.4nm,0.8s,baz=324,slow=5.6,SNR=8.8
BRTR LR LR 06 54 00.8
comp=Z,27nm,18.4s,baz=304,slow=38
KBZ Khabaz 42.68 83 LR LR 06 53 35.1
comp=Z,120nm,21.1s,baz=360,slow=36
TOLK Toolik Lake Re 43.13 334 *e*P **P 06 35 47.8 +0.9**
comp=Z,23nm,1.6s
ECSD EROS Data Cent 44.09 279 *e*P **P 06 35 54.4 -0.5**
comp=Z,8.1nm,1.4s
ILAR Eielson Array 45.77 329 *e*P **P 06 36 08.4 +0.5**
ILAR Eielson Array 45.77 329 P **P 06 36 08.2 +0.3**
comp=Z,1.0nm,0.8s,baz=31,slow=7.1,SNR=7.4
ILAR PcP **PcP 06 37 44.8 -0.5**
comp=Z,0.6nm,0.6s,baz=2.7,slow=3.1,SNR=4.5
ILAR LR LR 06 57 05.4
comp=Z,104nm,18.3s,baz=286,slow=38
ILB Eielson Array 45.77 329 *e*P **P 06 36 07.1 -0.9**
comp=Z,4.4nm,1.4s
DLBC Dease Lake 46.17 315 *e*P **P 06 36 11.3 0.0**
comp=Z,14nm,1.6s
DLBC Dease Lake 46.17 315 LR LR 06 55 28.2
comp=Z,157nm,19.0s,baz=252,slow=36
IMAR Indian Mountai 46.25 334 *e*P **P 06 36 12.6 +0.9**
WHAR Wooly Hollow 48.86 269 *e*P **P 06 36 32.1 -0.2**
comp=Z,19nm,1.4s
NEW Newport 49.46 298 LR LR 06 57 24.5
comp=Z,137nm,19.1s,baz=330,slow=36
X40A Basin Creek Fa 49.77 269 *e*P **P 06 36 39.0 -0.3**
comp=Z,7.7nm,1.3s
PD31 Pinedale Array 50.65 289 *e*P **P 06 36 43.9 -2.3**
comp=Z,2.3nm,1.4s
PDAR Pinedale Array 50.65 289 P **P 06 36 45.1 -1.1**
comp=Z,1.3nm,0.7s,baz=54,slow=4.7,SNR=5.8
PDAR LR LR 06 57 11.9
comp=Z,90nm,18.9s,baz=38,slow=35
TOA1 Torodi Ar. Sit 53.01 146 *e*P **P 06 37 03.7 0.0**
TORD Torodi Ar. Bea 53.02 146 P **P 06 37 03.7 -0.1**
comp=Z,0.5nm,0.8s,baz=347,slow=5.9,SNR=3.2
TORD LR LR 06 58 10.4
comp=Z,19nm,18.5s,baz=215,slow=34
SPUT South Promonto 53.09 290 *e*P **P 06 37 04.0 -0.3**
comp=Z,13nm,1.5s
MK31 Makanchi Array 56.75 52 *e*P **P 06 37 31.3 +0.8**
comp=Z,3.3nm,1.1s
MK32 Makanchi Array 56.75 52 *e*P **P 06 37 31.8 +1.2**
MKAR Makanchi Array 56.75 52 *e*P **P 06 37 31.3 +0.8**
MKAR Makanchi Array 56.75 52 P **P 06 37 31.8 +1.2**
comp=Z,2.3nm,0.9s,baz=326,slow=6.3,SNR=7.9
KVN Kaiserville 57.39 293 *e*P **P 06 37 35.6 +0.2**
comp=Z,18nm,1.7s
KSH Kashi 60.53 61 P P 06 38 00.8 +3.7
KSH PP **PP 06 40 14.5 +4.5**
KSH S **S 06 46 13.0 +0.5**
KSH Kashi 60.53 61 SS SS 06 50 10.5 +0.7
WMQ Urumqi 61.24 49 *e*P **P 06 38 05.0 +3.2**
SONA0 Songino Array 63.38 34 *e*P **P 06 38 16.5 +0.4**
SONM Songino Array 63.38 34 *e*P **P 06 38 16.8 +0.7**
SONM Songino Array 63.38 34 P **P 06 38 16.5 +0.4**
comp=Z,0.8nm,0.6s,baz=324,slow=9.2,SNR=5.0
JTS Las Juntas de 67.21 247 LR LR 07 04 45.0
comp=Z,30nm,20.9s,baz=4.5,slow=33
HHC Hu-ho-hao-te 71.22 33 *e*P **P 06 39 06.1 +0.2**
CD2 Chengdu 78.29 43 *e*P **P 06 39 46.1 -0.8**
WHN Wuhan 81.69 34 *e*P P 06 40 15.3 +10
SIV San Ignacio 83.23 214 P **P 06 40 13.3 +0.1**
comp=Z,2.3nm,1.0s,baz=58,slow=5.4,SNR=8.7
CMAR Chiang Mai Arr 88.16 52 P **P 06 40 38.6 +0.7**
comp=Z,1.1nm,0.3s,baz=337,slow=3.9,SNR=8.9
CMAR LR LR 07 22 41.9
comp=Z,16nm,19.5s,baz=170,slow=37
BOSA Boshof 99.46 136 LR LR 07 27 25.5
comp=Z,52nm,18.1s,baz=10.0,slow=36

NEIC ***19*** *06:37:51.7±0.0, 18°.98N×68°.49W, h104km, MD3.6(RSPR), After RSPR.*
RSPR 19 06:37:51.7, 18°.98N×68°.49W, h104km±3km, MD3.6/11, 14C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.47**	**168**	*e*P	P	Pn	06 38 06.9	-0.8
PCDR				*e*S	S	Sn	06 38 18.9	-0.7
PCDR	**Punta Cana, DR**	**0.47**	**168**	*e*S	S	Sn	06 38 19.6	0.0
PCDR	**Punta Cana, DR**	**0.47**	**168**	*e*P	P	Pn	06 38 07.0	-0.8
PCDR	**Punta Cana, DR**	**0.47**	**168**	*e*Pn	P	Pn	06 38 07.2	-0.6
PCDR				*e*Sn	S	Sn	06 38 19.6	0.0
DR12	**Loma Pena Alta**	**0.87**	**258**	*e*P	P	Pn	06 38 10.5	-0.6
DR12				*e*S	S	Sn	06 38 25.4	-0.3
AGP	**Aguadilla**	**1.40**	**114**	*e*Pn	P	Pn	06 38 18.3	+1.4
AGP				*e*Sn	S	Sn	06 38 39.4	+3.4
MPR	**Mayaguez**	**1.49**	**121**	*e*Pn	P	Pn	06 38 18.3	+0.3
MPR				*e*Sn	S	Sn	06 38 37.7	-0.2
LSP	**Las Mesas**	**1.55**	**121**	*e*P	P	Pn	06 38 18.4	-0.5
LSP	**Las Mesas**	**1.55**	**121**	*e*Pn	P	Pn	06 38 18.4	-0.5
AOPR	**Arecibo Observ**	**1.76**	**111**	*e*P	P	Pn	06 38 21.6	+0.2
AOPR	**Arecibo Observ**	**1.76**	**111**	*e*S	S	Sn	06 38 44.2	+0.2
AOPR	**Arecibo Observ**	**1.76**	**111**	*e*Pn	P	Pn	06 38 21.8	+0.4
AOPR				*e*Sn	S	Sn	06 38 45.2	+1.2
BANI	**BANI**	**1.87**	**252**	*e*Pn	P	Pn	06 38 21.4	-1.5
BANI				*e*Sn	S	Sn	06 38 43.8	-2.8
EMPR	**Esperanza - Ma**	**1.92**	**105**	*e*P	P	Pn	06 38 23.4	0.0
EMPR	**Esperanza - Ma**	**1.92**	**105**	*e*Pn	P	Pn	06 38 23.4	0.0
EMPR				*e*Sn	S	Sn	06 38 51.1	+3.5
OBIP	**Obispado Ponce**	**2.01**	**117**	*e*P	P	Pn	06 38 24.4	-0.2
OBIP	**Obispado Ponce**	**2.01**	**117**	*e*S	S	Sn	06 38 49.6	-0.2
OBIP	**Obispado Ponce**	**2.01**	**117**	*e*Pn	P	Pn	06 38 23.9	-0.7
OBIP				*e*Sn	S	Sn	06 38 50.2	+0.5
CELP	**Cerrillos**	**2.02**	**116**	*e*P	P	Pn	06 38 23.8	-0.9
CELP				*e*S	S	Sn	06 38 50.0	+0.1
CELP	**Cerrillos**	**2.02**	**116**	*e*Pn	P	Pn	06 38 23.8	-0.9
CELP				*e*Sn	S	Sn	06 38 50.0	+0.1
ICMP	**Isla Caja de M**	**2.15**	**120**	*e*Pn	P	Pn	06 38 27.5	+1.1
SJG	**San Juan**	**2.38**	**111**	*e*P	P	Pn	06 38 29.3	0.0
SJG	**San Juan**	**2.38**	**111**	*e*S	S	Sn	06 38 58.2	0.0
SJG	**San Juan**	**2.38**	**111**	*e*Pn	P	Pn	06 38 29.5	+0.2
SJG				*e*Sn	S	Sn	06 39 00.1	+1.9
CBYP	**Canovanas**	**2.59**	**105**	*e*P	P	Pn	06 38 32.2	0.0
CBYP	**Canovanas**	**2.59**	**105**	*e*S	S	Sn	06 39 03.6	+0.3
CBYP	**Canovanas**	**2.59**	**105**	*e*Pn	P	Pn	06 38 32.2	0.0
CBYP				*e*Pn	P	Pn	06 38 32.2	0.0
CBYP				*e*Sn	S	Sn	06 39 03.6	+0.3
CBYP				*e*Sn	S	Sn	06 39 03.6	+0.3
HUMP	**Col San Antoni**	**2.63**	**108**	*e*P	P	Pn	06 38 32.2	-0.5
HUMP	**Col San Antoni**	**2.63**	**108**	*e*S	S	Sn	06 39 04.8	+0.6
HUMP	**Col San Antoni**	**2.63**	**108**	*e*S	S	Sn	06 39 04.8	+0.5
HUMP	**Col San Antoni**	**2.63**	**108**	*e*Pn	P	Pn	06 38 33.2	+0.4
HUMP				*e*Sn	S	Sn	06 39 03.8	-0.5
SDDR	**Presa de Saban**	**2.65**	**271**	*e*Pn	P	Pn	06 38 34.9	+1.9
SDDR				*e*Sn	S	Sn	06 39 05.8	+1.0
MTP	**Monte Pirata**	**2.92**	**107**	*e*P	P	Pn	06 38 36.3	-0.2
MTP	**Monte Pirata**	**2.92**	**107**	*e*S	S	Sn	06 39 12.0	+1.0
MTP	**Monte Pirata**	**2.92**	**107**	*e*Pn	P	Pn	06 38 37.0	+0.5
CUPR	**Culebra, Puert**	**3.11**	**102**	*e*P	P	Pn	06 38 38.8	-0.2
CUPR	**Culebra, Puert**	**3.11**	**102**	*e*Pn	P	Pn	06 38 39.2	+0.1
STVI	**Saint Thomas**	**3.41**	**100**	*e*P	P	Pn	06 38 44.1	+1.1
STVI	**Saint Thomas**	**3.41**	**100**	*e*S	S	Sn	06 39 23.0	+0.4
STVI	**Saint Thomas**	**3.41**	**100**	*e*Pn	P	Pn	06 38 43.4	+0.4

TAP 19 06:45:15.5, 24°.27N×121°.76E, h12km, ML1.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.15**	**357**	*e*P	P	Pg	06 45 19.0	-0.1
	baz=356							
NANB				*e*S	S	Sg	06 45 21.7	0.0
	baz=356							
ENA	**Nanau**	**0.15**	**354**	P	P	Pg	06 45 19.0	-0.2
	baz=356							
ENA				*e*S	S	Sg	06 45 21.8	0.0
	baz=356							
NACB	**Ninganchiao**	**0.18**	**237**	*e*P	P	Pg	06 45 19.5	-0.1
	baz=236							
TWD	**Chiawan**	**0.24**	**218**	*e*P	P	Pg	06 45 20.6	-0.1
	baz=216							
NNSB	**Datong**	**0.38**	**294**	*e*S	S	Sg	06 45 28.4	+0.1
	baz=294							
NNS	**Nan Shan**	**0.39**	**295**	*e*S	S	Sg	06 45 28.6	-0.1
	baz=295							
ENTT	**Nioudou**	**0.41**	**334**	*e*S	S	Sg	06 45 29.4	+0.4
	baz=334							
YHNB	**Yeheng**	**0.53**	**318**	*e*S	S	Sg	06 45 33.1	+0.2
	baz=318							

TAP 19 06:45:17.1, 24°.40N×121°.43E, h10km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.05**	**307**	*e*P	P	Pg	06 45 19.2	-0.1
	baz=306							
NNSB				*e*S	S	Sg	06 45 20.4	-0.6
	baz=306							
NNS	**Nan Shan**	**0.06**	**310**	*e*P	P	Pg	06 45 19.2	-0.2
	baz=312							
NNS				S	S	Sg	06 45 20.8	-0.4
	baz=312							
ETLH	**Xiulin Townshi**	**0.20**	**165**	*e*P	P	Pg	06 45 21.0	-0.4
	baz=255							
ETLH	**Xiulin Townshi**	**0.20**	**165**	*e*P	P	Pg	06 45 21.0	-0.4
	baz=165							
ETLH				*e*S	S	Sg	06 45 24.4	+0.1
	baz=165							
NDT	**Datong Townshi**	**0.22**	**21**	*e*P	P	Pg	06 45 21.8	+0.2
	baz=21							
ENTT	**Nioudou**	**0.27**	**28**	*e*P	P	Pg	06 45 22.7	0.0
	baz=29							
NACB	**Ninganchiao**	**0.27**	**145**	*e*P	P	Pg	06 45 22.6	-0.1
	baz=145							
NACB	**Ninganchiao**	**0.27**	**145**	*e*S	P	Pg	06 45 22.6	-0.1
	baz=236							
YHNB	**Yeheng**	**0.27**	**350**	*e*P	P	Pg	06 45 23.1	+0.4
	baz=350							
YHNB				*e*S	S	Sg	06 45 26.4	-0.1
	baz=350							
NSK	**Sanguang**	**0.28**	**347**	*e*P	P	Pg	06 45 23.3	+0.4
	baz=348							
NSK				S	S	Sg	06 45 26.8	0.0
	baz=348							
WHF	**Hehuan Shan**	**0.29**	**210**	*e*P	P	Pg	06 45 23.1	-0.1
	baz=208							
CHGB	**Renai**	**0.41**	**214**	*e*P	P	Pg	06 45 25.1	-0.2
	baz=214							

IDC ***19*** *06:52:07.8±3.3, 51°.53N×160°.36E, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.1/45, mbtmp3.4/3, ML2.2/1, MS2.6/2, Ms1 2.6/2, ms1mx2.4/38, Error ellipse: s-maj=95.9km s-min=49.5km az=39.0*
KRSC ***19*** *06:52:10.2±10.0, 51°.98N×160°.88E, h45km±10km, ML3.8*
ISC 19 06:52:09.3±2.2, 52°.03N±0°.07×160°.73E±0°.06, h4km±11km, n26, σ0°91/42, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.15**	**338**	P	**Pn**		**06 52 32.3**	**+0.1**
SPN				S	**Sg**		**06 52 45.6**	**-0.7**
NLC	**Nalytchevo**	**1.42**	**324**	P	**Pg**		**06 52 36.9**	**+0.4**
NLC				S	**Sg**		**06 52 56.0**	**+1.1**
RUS	**Russkaya**	**1.42**	**287**	P	**Pg**		**06 52 36.5**	**-0.1**
RUS				S	**Sb**		**06 52 53.0**	**-1.8**
DALK	**Dalny**	**1.57**	**310**	P	**Pb**		**06 52 38.5**	**-0.3**
DALK				S	**Sb**		**06 52 58.8**	**-0.2**
PET	**Petropavlovsk**	**1.61**	**309**	P	**Pb**		**06 52 39.3**	**-0.3**
PET				S	**Sn**		**06 52 59.9**	**+0.2**
MTVR	**Mutnovka**	**1.63**	**287**	P	**Pb**		**06 52 39.9**	**-0.1**
MTVR				S	**Sb**		**06 53 01.0**	**+0.1**
UGLR	**Uglovaya**	**1.66**	**316**	P	**Pg**		**06 52 40.8**	**-0.2**
UGLR				S	**Sg**		**06 53 02.7**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.66**	**263**	P	**Pn**		**06 52 39.0**	**-0.1**
KDTR				S	**Sn**		**06 52 59.6**	**-1.2**
SDLR	**Sedlovina**	**1.68**	**319**	P	**Pb**		**06 52 41.0**	**+0.2**
SDLR				S	**Sb**		**06 53 02.7**	**+0.3**
SMAR	**Somma**	**1.70**	**317**	P	**Pb**		**06 52 41.0**	**-0.3**
AVH	**Avacha**	**1.73**	**316**	P	**Pg**		**06 52 42.3**	**-0.2**
AVH				S	**Sg**		**06 53 04.9**	**0.0**
KRER	**Koryakskii**	**1.75**	**317**	P	**Pb**		**06 52 41.5**	**-0.7**
ASAK	**Asacha**	**1.78**	**283**	P	**Pb**		**06 52 42.5**	**0.0**
ASAK				S	**Sb**		**06 53 05.6**	**+0.5**
KRMR	**Karymshinskiy**	**1.78**	**298**	P	**Pb**		**06 52 42.2**	**-0.3**
KRMR				S	**Sb**		**06 53 05.1**	**0.0**
KOK	**Koryaka**	**1.79**	**316**	P	**Pg**		**06 52 43.5**	**-0.2**
KOK				S	**Sg**		**06 53 07.3**	**+0.4**
KRX	**Arik**	**1.84**	**317**	P	**Pb**		**06 52 43.3**	**-0.2**
KRX				S	**Sb**		**06 53 07.2**	**+0.3**
PETK	**Petropavlovsk-**	**2.14**	**301**	Pn	**Pb**		**06 52 47.6**	**-1.1**
	3.2nm,0.3s,baz=115,slow=20,SNR=51							
PETK				Sn	**Sb**		**06 53 14.8**	**-0.7**
	8.7nm,0.3s,baz=213,slow=19,SNR=13							
PETK				LR	LR		06 53 28.6	
	comp=Z,39nm,21.5s,baz=163,slow=36							
APC	**Apacha**	**2.36**	**294**	P	**Pb**		**06 52 51.7**	**-0.6**
APC				S	**Sb**		**06 53 22.4**	**+0.6**
MKZ	**Mys Kozlova**	**2.60**	**13**	P	**Pn**		**06 52 53.6**	**+1.6**
MKZ				S	**Sn**		**06 53 23.5**	**-0.5**
KZV	**Kizimen**	**3.10**	**355**	P	**Pb**		**06 53 02.2**	**-2.8**
TUMD	**Tumrok D**	**3.18**	**357**	S	**Sn**		**06 53 37.5**	**-1.0**
KBTR	**Krutoberegovo**	**4.36**	**16**	P	**Pn**		**06 53 18.4**	**+2.2**
BKI	**Bering**	**4.45**	**42**	S	**Sn**		**06 54 08.3**	**-1.4**
USRK	**Ussuriysk Ar.**	**20.62**	**259**	LR	LR		07 04 48.2	
	comp=Z,52nm,18.9s,baz=354,slow=37							
MKAR	**Makanchi Array**	**48.97**	**297**	P	**P**		**07 00 55.7**	**-0.9**
	0.2nm,0.5s,baz=64,slow=8.3,SNR=2.5							
FINES	**FINESS Array B**	**61.25**	**337**	P	**P**		**07 02 26.4**	**+1.6**
	0.6nm,0.5s,baz=42,slow=8.9,SNR=6.0							

MAN 19 06:59:39.2, 6°.17N×124°.89E, h14km, mb4.3, ML3.1, MS2.9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.49**	**315**	*e*P	Pg		06 59 48.9	-0.1
SKMP				*e*S	Sb		06 59 56.7	-0.1
DDMP	**Don Marcelino,**	**0.82**	**94**	*e*P	Pb		06 59 55.2	0.0
DDMP				*e*S	Sn		07 00 08.4	+0.1
DMPH	**Davao City--Mi**	**1.10**	**341**	*e*P	Pb		06 59 58.2	-1.7
DMPH				*e*S	Sn		07 00 18.7	+3.6
CTBH	**Cotabato--PC H**	**1.23**	**329**	*i*P	Pb		07 00 02.1	-0.1
CTBH				*i* S	Sg		07 00 18.8	-0.1
PAGZ	**Pagadian**	**2.24**	**318**	*e*P	Pn		07 00 15.4	-0.5
PAGZ				*e*S	Sb		07 00 45.6	-1.6

ISCJB ***19*** *07:00:37.5±1.3, 23°.5S±0°.1×179°.8W±0°.2, h400km, mb3.7/6, Error ellipse: s-maj=24.6km s-min=15.4km az=172.9*
IDC ***19*** *07:00:39.0±8.3, 23°.32S×179°.81W, h403km±88km, mb3.4/6, mb1 3.6/7, mb1mx3.2/34, mbtmp4.2/7, Error ellipse: s-maj=50.4km s-min=23.3km az=22.0*
ISC 19 07:00:38.5±1.3, 23°.5S±0°.1×179°.7W±0°.2, h400km, n8, σ2°22/9, mb3.8/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.95**	**190**	P	**P**		**07 03 53.7**	**+3.4**
	0.6nm,0.3s,baz=2.7,slow=17,SNR=4.4							
URZ				S	**S**		**07 06 25.7**	**-3.4**
	0.1nm,0.3s,baz=202,slow=19,SNR=2.8							
RPZ	**Rata Peaks**	**21.54**	**198**	P	**P**		**07 04 58.3**	**+1.4**
	4.7nm,0.6s,baz=7.7,slow=5.0,SNR=4.9							
CTA	**Charters Tower**	**31.73**	**270**	P	**P**		**07 06 28.6**	**+1.0**
	7.5nm,0.4s,baz=96,slow=12,SNR=17							
STKA	**Stephens Creek**	**35.11**	**248**	P	**P**		**07 06 56.2**	**+0.1**
	0.5nm,0.3s,baz=110,slow=12,SNR=3.2							
ASAR	**Alice Springs**	**42.35**	**260**	P	**P**		**07 07 54.6**	**-1.1**
	2.7nm,0.8s,baz=98,slow=7.2,SNR=23							
WRA	**Warramunga Arr**	**42.69**	**266**	P	**P**		**07 07 57.0**	**-1.4**
	3.1nm,0.4s,baz=98,slow=8.4,SNR=50							
TXAR	**Lajitas Array**	**90.01**	**58**	P	**P**		**07 12 53.5**	**-0.8**
	0.1nm,0.6s,baz=202,slow=6.8,SNR=2.8							
BRTR	**Keskin Array B**	**147.55**	**308**	PKPbc	**PKPbc**		**07 19 37.0**	**+0.2**
	0.4nm,0.5s,baz=85,slow=3.0,SNR=3.3							

IDC ***19*** *07:08:44.9±1.2, 39°.53N×110°.44E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.4/50, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=25.7km s-min=22.5km az=56.0*
ISCJB ***19*** *07:08:48.5±1.0, 39°.70N±0°.09×110°.4E±0°.2, h33km, mb3.4/5, Error ellipse: s-maj=20.1km s-min=11.8km az=158.6*
ISC 19 07:08:49.9±1.2, 39°.6N±0°.1×110°.4E±0°.2, h35km, n6, σ1°08/7, mb3.4/5, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.74**	**342**	Pn	**Pn**		**07 10 53.9**	**+0.1**
	0.2nm,0.3s,baz=156,slow=13,SNR=21							
SONM				Sn	**Sn**		**07 12 30.1**	**-1.1**
	0.1nm,0.3s,baz=154,slow=27,SNR=2.5							
SONM				Lg	Lg		07 13 22.3	
	0.4nm,0.3s,baz=159,slow=29,SNR=3.2							
MKAR	**Makanchi Array**	**21.63**	**299**	P	**P**

PRK				S	Sb	07 20 38.9	-0.7
PRK	**Paraskevi**	**0.31**	**36**	P	Pb	07 20 34.0	-0.4
PRK				S	Sb	07 20 38.8	-0.7
PRK				AML	AML	07 20 39.6	
	comp=N,1894μm,0.4s						
PRK				AML	AML	07 20 40.4	
	comp=E,1194μm,0.7s						
GPNR	**Gulpinar-Canak**	**0.47**	**9**	PG	Pb	07 20 36.6	-0.5
GPNR				SG	Sb	07 20 43.8	-0.3
PSRA	**Psara**	**0.58**	**219**	P	Pb	07 20 39.0	0.0
AYVA	**Ayvalik**	**0.60**	**58**	IAML_P			
	comp=Z,900nm,0.1s						
AYVA				*i* P	Pb	07 20 39.1	-0.2
AYVA				*i* S	Sg	07 20 46.5	+0.2
CHOS	**Chios island**	**0.60**	**179**	PG	Pg	07 20 38.3	-0.2
CHOS				SG	Sg	07 20 46.9	+0.4
CHOS	**Chios island**	**0.60**	**179**	P	Pb	07 20 39.2	-0.3
CHOS				S	Sb	07 20 49.0	+1.0
CHOS	**Chios island**	**0.60**	**179**	P	Pg	07 20 38.4	-0.1
CHOS				AML	AML	07 20 51.5	
	comp=N,466μm,0.3s						
CHOS				AML	AML	07 20 52.0	
	comp=E,820μm,0.4s						
FOCM	**Foa**	**0.61**	**117**	PG	Pg	07 20 38.6	0.0
CESE	**eme**	**0.69**	**163**	PG	Pg	07 20 39.9	-0.3
URLA	**Izmir**	**0.77**	**145**	PG	Pg	07 20 41.2	-0.4
URLA	**Izmir**	**0.77**	**145**	*i* P	Pg	07 20 41.5	-0.1
ZEDA	**zmir-Bergama**	**0.81**	**92**	IAML_P			
	comp=Z,2μm,0.1s						
ZEDA				*i* P	Pb	07 20 42.5	-0.4
ZEDA				*i* S	Sb	07 20 54.8	+0.8
ZEY	**zmir**	**0.84**	**154**	IAML_P			
	comp=Z,960nm,0.2s						
ZEY				*i* P	Pg	07 20 42.3	-0.6
BAYC	**CANAKKALE_Bayr**	**0.85**	**28**	*i* P	Pn	07 20 44.8	+0.1
BAYC				*i* S	Sn	07 20 57.2	0.0
BOZC	**Bozcaada**	**0.85**	**1**	PG	Pb	07 20 43.6	0.0
BOZC	**Bozcaada**	**0.85**	**1**	IAML_P			
	comp=Z,2μm,0.2s						
BOZC				*i* P	Pb	07 20 43.6	0.0
BOZC				*i* S	Sb	07 20 55.4	+0.4
EZN	**Ezine**	**0.86**	**15**	PG	Pb	07 20 43.8	0.0
LIA	**Limnos Island**	**1.12**	**324**	P	Pn	07 20 48.9	+0.5
LIA				S	Sn	07 21 05.2	+1.3
LIA	**Limnos Island**	**1.12**	**324**	P	Pn	07 20 48.5	0.0
LIA				AML	AML	07 21 06.4	
	comp=E,232μm,0.6s						
LIA				AML	AML	07 21 06.8	
	comp=N,183μm,0.3s						
SMG	**Samos**	**1.43**	**154**	P	Pg	07 20 53.7	-0.5
SMG	**Samos**	**1.43**	**154**	P	Pn	07 20 52.8	+0.1
GELI	**Tayfur-Gelibol**	**1.44**	**13**	PN	Pb	07 20 53.4	-0.3
LPK	**Lapseki**	**1.49**	**22**	PN	Pb	07 20 53.9	-0.6
BALB	**Balikesir**	**1.57**	**65**	PN	Pn	07 20 54.8	+0.2
KRBG	**Karabiga-Canak**	**1.71**	**34**	PN	Pn	07 20 56.7	+0.2
ERIK	**Erikli-Kesan**	**1.72**	**12**	PN	Pn	07 20 57.1	+0.5
ALN	**Alexandroupoli**	**1.90**	**0**	PN	Pn	07 20 59.5	+0.3
THAS	**Thassos island**	**1.90**	**328**	P	Pn	07 20 59.4	+0.1
THAS	**Thassos island**	**1.90**	**328**	P	Pn	07 20 59.3	+0.1
APE	**Apeiranthos**	**1.96**	**192**	PN	Pn	07 20 59.5	-0.6
DURS	**Dursunbey**	**1.99**	**71**	*i* P	Pn	07 21 00.9	+0.4

MEX 19 07:33:52.1±0.7, 16°.99N×99°.64W, h15km±9km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.60**	**276**	*e*P	Pg	07 34 02.0	-2.0
CAIG				*e*S	Sg	07 34 10.1	-2.0
MEIG	**Mezcala**	**0.93**	**1**	*e*P	Pb	07 34 06.2	-3.8
MEIG				*e*S	Sb	07 34 17.8	-4.4
TLIG	**Tlapa**	**1.17**	**61**	*e*P	Pn	07 34 10.6	-3.5
TLIG				*e*S	Sb	07 34 25.2	-4.0
PLIG	**Platanillo**	**1.40**	**5**	*e*P	Pn	07 34 13.8	-3.5
PLIG				*e*S	Sn	07 34 30.9	-4.6
PNIG	**Pinotepa**	**1.56**	**112**	*e*P	Pn	07 34 16.0	-3.5
PNIG				*i* S	Sn	07 34 34.7	-4.8

NIED ***19*** *07:42:00, 39°.20N×142°.40E, h29km, Mw3.4 Best double couple: M₀1.67000×10¹⁴ NP1:φ₀70.00000°, δ26.00000°, λ-59.00000°. NP2:φ₀216.00000°, δ68.00000°, λ-104.00000°.*
ISCJB ***19*** *07:42:15.8±1.0, 39°.20N±0°.04×142°.41E±0°.07, h27km, mb3.5/3, Error ellipse: s-maj=8.3km s-min=4.5km az=21.0*
JMA ***19*** *07:42:16.4±0.1, 39°.23N×142°.40E, h35km±1km, M3.5*
IDC ***19*** *07:42:20.7±2.6, 39°.22N×142°.30E, h84km±24km, mb3.2/3, mb1 3.3/6, mb1mx3.0/55, mbtmp3.5/6, Error ellipse: s-maj=37.6km s-min=17.6km az=99.0*

ISC 19 07:42:15.9±1.3, 39°.18N±0°.04×142°.39E±0°.08, h27km, n22, σ1°68/27, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.57**	**260**	P	Pb	07 42 28.1	+0.8
OFUJ				S	Sb	07 42 36.2	+1.1
MIYJ	**Miyakonagasawa**	**0.59**	**312**	P	Pb	07 42 27.7	0.0
MIYJ				S	Sb	07 42 35.5	-0.3
JKMT	**Kesennumamotoy**	**0.80**	**243**	P	Pb	07 42 31.5	+0.3
JKMT				*e*S	Sb	07 42 42.4	+0.7
JTH	**Tanohata**	**0.86**	**332**	P	Pb	07 42 31.3	-0.9
JTH				*e*S	Sb	07 42 42.4	-0.9
JOM	**Ohasama**	**0.90**	**289**	P	Pn	07 42 32.7	-0.1
JOM				S	Sb	07 42 44.4	-0.1
JMK	**Ichinoseki**	**0.94**	**256**	P	Pn	07 42 33.5	+0.2
JMK				*e*S	Sb	07 42 46.0	+0.4
JIO	**Ouri**	**1.09**	**229**	P	Pn	07 42 35.5	+0.2
JIO				S	Sn	07 42 49.5	0.0
JKZ	**Kuzumaki**	**1.15**	**315**	P	Pn	07 42 36.3	+0.1
JKZ				S	Sn	07 42 50.6	-0.5
JANG	**Nango**	**1.37**	**331**	P	Pn	07 42 38.9	-0.3
JANG				S	Sn	07 42 56.1	-0.4
JRG	**Rokugo**	**1.38**	**280**	P	Pn	07 42 40.2	+0.8
JRG				S	Sb	07 42 58.8	+0.6
MJAR	**Matsushiro Arr**	**4.23**	**233**	P	Pn	07 43 21.6	+3.1
	0.1nm,0.3s,baz=41,slow=11,SNR=13						
ASAJ	**Asahikawa**	**4.93**	**2**	P	Pn	07 43 30.1	+1.9
	0.8nm,0.3s,baz=187,slow=8.1,SNR=3.3						
ASAJ				S	Sn	07 44 28.5	+4.1
	0.6nm,0.3s,baz=270,slow=17,SNR=2.7						
USRK	**Ussuriysk Ar.**	**9.25**	**306**	P	Pn	07 44 32.0	+4.5
	0.1nm,0.3s,baz=112,slow=14,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	08 18 45.0	
	baz=318,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**28.68**	**126**	T	T	08 18 45.8	
	baz=318,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.69**	**125**	T	T	08 18 45.0	
	baz=318,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**29.46**	**127**	T	T	08 19 48.2	
	baz=320						
H11S3	**WAKE ISLAND Hy**	**29.47**	**127**	T	T	08 19 35.4	
	baz=320						
H11S2	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	08 19 47.1	
	baz=320						
MKAR	**Makanchi Array**	**43.67**	**300**	P	P	07 50 15.6	-2.6
	0.4nm,0.8s,baz=81,slow=9.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**45.32**	**306**	P	P	07 50 29.4	-1.8
	0.6nm,0.5s,baz=82,slow=8.6,SNR=5.2						
WRA	**Warramunga Arr**	**59.29**	**189**	P	P	07 52 14.1	-1.1
	0.6nm,0.8s,baz=6.7,slow=7.1,SNR=4.5						

ISCJB ***19*** *07:49:08.8±0.3, 5°.10N±0°.05×94°.23E±0°.05, h43km, mb4.4/29, MS3.2/7, Error ellipse: s-maj=8.3km s-min=4.0km az=43.5*
NEIC ***19*** *07:49:11.0±0.9, 5°.15N×94°.26E, h47km±7km, mb4.6/18, Error ellipse: s-maj=20.1km s-min=8.8km az=53.0*
IDC ***19*** *07:49:12.3±3.3, 5°.34N×94°.44E, h52km±30km, mb3.9/13, mb1 4.0/15, mb1mx3.7/42, mbtmp4.2/15, ML4.1/2, MS3.2/10, Ms1 3.2/10, ms1mx3.0/44, Error ellipse: s-maj=26.2km s-min=13.3km az=51.0*

ISC 19 07:49:11.1±0.5, 5°.21N±0°.06×94°.28E±0°.05, h43km, n103, σ1°49/101, mb4.4/31, MS3.3/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.82**	**349**	*e*P	Pn	07 49 40.5	+0.6
LHMI	**Lhok Sumawe**	**2.65**	**90**	*e*Pn	Pn	07 49 52.2	+0.8
GSI	**Gunungsitoli**	**5.09**	**140**	*e*Pn	Pn	07 50 23.8	-1.1
PSI	**Prapat**	**5.21**	**117**	P	Pn	07 50 27.9	+1.2
	9.7nm,0.3s,baz=302,slow=13,SNR=31						
PSI				S	Sn	07 51 28.1	+2.4
	2.2nm,0.3s,baz=315,slow=17,SNR=2.1						
PSI				LR	LR	07 52 47.9	
	comp=Z,395nm,18.9s,baz=342,slow=42						
KRAB	**Krabi**	**5.72**	**58**	P	Sn	07 51 39.5	+1.5
TRTT	**Trang**	**5.97**	**64**	P	Sn	07 51 41.2	-3.0
KULM	**Kulim**	**6.34**	**89**	*e*Pn	Pn	07 50 42.0	-0.1
PBA	**Port Blair**	**6.58**	**347**	*e*P	Pn	07 50 44.8	-0.6
SKLT	**Songkhla**	**6.59**	**73**	P	Sn	07 51 57.5	-2.0
	0.1nm18nm,0.8s						
IPM	**Ipoh**	**6.76**	**96**	*e*Pn	Pn	07 50 47.5	-0.3
DGPR	**DIGLIPUR**	**8.03**	**351**	*e*P	Pn	07 51 03.9	-1.3
BKNI	**Bangkinang**	**8.31**	**126**	*e*Pn	Pn	07 51 09.4	+0.2
MYKOM	**Kota Tinggi**	**10.13**	**109**	*e*Pn	Pn	07 51 33.2	-0.9
UMPA	**Umpang Tak**	**11.81**	**22**	P	Pn	07 51 59.2	+2.1
MNAI	**Manna**	**12.86**	**138**	*e*Pn	Pn	07 52 09.9	-1.6
PALK	**Pallekele**	**13.65**	**279**	*e*Pn	Pn	07 52 22.1	-0.3
PALK	**Pallekele**	**13.65**	**279**	P	Pn	07 52 25.0	+2.7
	0.8nm,0.3s,baz=114,slow=19,SNR=4.0						
PALK				S	Sn	07 54 41.3	-11
	3.3nm,0.3s,baz=117,slow=9.0,SNR=11						
PALK				LR	LR	07 57 05.2	
	comp=Z,57nm,18.8s,baz=117,slow=34						
UTTA	**Uttaradit**	**13.88**	**26**	P	P	07 52 33.3	+0.7
	26μm,0.7s,247μm						
CM31	**Chiang Mai Arr**	**13.93**	**19**	*e*Pn	Pn	07 52 28.2	+2.2
CMAR	**Chiang Mai Arr**	**13.93**	**19**	*e*Pn	Pn	07 52 21.1	-4.9
CMAR	**Chiang Mai Arr**	**13.93**	**19**	P	Pn	07 52 29.2	+3.2
	2.0nm,0.3s,baz=207,slow=14,SNR=29						
CMAR				LR	LR	07 56 59.5	
	comp=Z,78nm,21.7s,baz=194,slow=34						
LAMP	**Lampang**	**14.22**	**21**	P	P	07 52 37.1	+0.7
	29μm,0.6s						
CHTO	**Chiang Mai**	**14.26**	**18**	*e*Pn	Pn	07 52 30.8	+0.3
CMMT	**Chiang Mai**	**14.26**	**18**	P	P	07 52 34.8	-2.1
	7.0nm,0.7s						
SKNT	**Sakolnakorn**	**15.06**	**38**	P	P	07 52 46.8	+1.0
	7.3nm,0.7s						
PAYA	**Payao**	**15.08**	**21**	P	P	07 52 47.1	+1.1
	26μm,0.6s						
BWNR	**Bhubaneshwar**	**17.11**	**332**	*ex*	Pn	07 53 02.3	-4.9
BWNR				IAmb	IAmb	07 53 03.7	
	comp=Z,29nm,0.6s						
HYB	**Hyderabad**	**19.60**	**309**	*e*P	P	07 53 36.3	+0.3
BOK	**Bokaro**	**20.17**	**337**	*e*P	P	07 53 42.9	+0.9
BOK				IAmb	IAmb	07 53 45.6	
	comp=Z,14nm,0.8s						
SHL	**Shillong**	**20.37**	**354**	*e*P	P	07 53 45.5	+1.1
NGP	**Nagpur**	**21.67**	**318**	*e*P	P	07 53 58.7	+0.4
ODAN	**Odare**	**22.51**	**344**	*e*P	P	07 54 05.9	-1.6
GOA	**Goa**	**22.54**	**298**	*e*P	P	07 54 08.6	+0.9
GOA				IAmb	IAmb	07 54 10.1	
	comp=Z,14nm,0.3s						
RAMN	**Ramite**	**22.83**	**342**	*e*P	P	07 54 09.7	-1.1
	comp=Z,22nm,0.5s						
PKI	**Pulchoki**	**23.79**	**340**	*e*P	P	07 54 18.5	-1.8
	comp=Z,14nm,0.5s						
PKIN	**Phulchoki**	**23.80**	**340**	*e*P	P	07 54 19.9	-0.4
	comp=Z,14nm,0.5s						
BHPL	**Bhopal**	**24.20**	**319**	*e*P	P	07 54 24.0	+0.1
BHPL				IAmb	IAmb	07 54 26.7	
	comp=Z,14nm,1.2s						
LSA	**Lhasa**	**24.54**	**353**	*e*P	P	07 54 27.2	-0.1
	comp=Z,11nm,0.6s						
KOLN	**Koldanda**	**24.63**	**337**	*e*P	P	07 54 27.8	-0.1
DANN	**Dangsing**	**25.09**	**338**	*e*P	P	07 54 31.7	-0.5
	comp=Z,39nm,0.5s						
PYUN	**Piuthan**	**25.17**	**336**	*e*P	P	07 54 33.0	+0.2
	comp=Z,35nm,0.4s						
H08S2	**Diego Garcia H**	**25.21**	**240**	T	T	08 20 31.1	
	baz=60,slow=76,SNR=174						
H08S3	**Diego Garcia H**	**25.21**	**240**	T	T	08 20 41.4	
	baz=60,slow=76,SNR=134						
H08S1	**Diego Carcia H**	**25.23**	**240**	T	T	08 20 26.0	
	baz=60,slow=76,SNR=193						
CD2	**Chengdu**	**27.07**	**18**	*e*P	P	07 54 50.8	+1.0
KAPI	**Kappang**	**27.39**	**111**	LR	LR	08 06 16.5	
	comp=Z,43nm,19.1s,baz=278,slow=38						
SMLA	**Simla**	**30.39**	**330**	*e*P	P	07 55 21.3	+2.1
SMLA				IAmb	IAmb	07 55 23.4	
WHN	**Wuhan**	**31.50**	**35**	P	P	07 55 37.0	+8.0
DHRM	**DHARAMSHALA**	**31.73**	**330**	*ex*	P	07 55 28.2	-3.1
XAN	**Xi'an**	**31.74**	**24**	P	P	07 55 28.9	-2.3
XAN				pP	pP	07 55 33.4	-8.6
LZH	**Lanzhou**	**31.96**	**15**	*e*P	P	07 55 35.6	+2.4
LZH				pP	sP	07 55 49.3	+0.4
LZH				sP	pwP	07 55 54.3	+6.9
NIL	**Nilore**	**34.39**	**328**	*e*P	P	07 55 53.5	-0.9
	comp=Z,8.2nm,0.4s						
GTA	**Gaotai**	**34.41**	**8**	*e*P	P	07 56 06.9	+12
GTA				pP	sP	07 56 12.3	+2.0
GTA				sP	pwP	07 56 15.5	+6.7
NJ2	**Nanjing**	**35.24**	**38**	*e*P	P	07 56 02.1	+0.5
KSH	**Kashi**	**37.95**	**337**	P	P	07 56 27.1	+2.3
KSH				sP	sP	07 56 49.5	+8.8
KSH				PP	PnPn	07 57 57.5	+3.8
KSH				S	S	08 02 15.3	+1.5
KSH				SS	SnSn	08 04 55.3	-3.1
HHC	**Hu-ho-hao-te**	**38.72**	**21**	*e*P	P	07 56 33.3	+2.1
HHC				S	S	08 02 26.8	+1.4
WMQ	**Urumqi**	**38.89**	**352**	*e*P	P	07 56 34.1	+1.6
AAK	**Ala-Archa**	**41.20**	**338**	*e*P	P	07 56 51.0	-0.8
	comp=Z,3.2nm,0.8s						
MK31	**Makanchi Array**	**42.70**	**348**	*e*P	P	07 57 03.8	-0.1
	comp=Z,5.7nm,0.6s						
MK32	**Makanchi Array**	**42.70**	**348**	*e*P	P	07 57 03.8	-0.1
MKAR	**Makanchi Array**	**42.70**	**348**	*e*P	P	07 57 03.5	-0.3
MKAR	**Makanchi Array**	**42.70**	**348**	P	P	07 57 03.8	-0.1
	comp=Z,7.7nm,0.5s,baz=169,slow=7.7,SNR=98						
MKAR				LR	LR	08 17 38.2	
	comp=Z,20nm,18.5s,baz=165,slow=40						
MAKZ	**Makanchi**	**42.78**	**348**	*e*P	P	07 57 03.8	-0.7
	comp=Z,11nm,0.5s						
KKAR	**Karatay Array**	**43.20**	**334**	*e*P	P	07 57 07.9	0.0
SONA0	**Songino Array**	**43.72**	**12**	*e*P	P	07 57 11.1	-1.1
SONM	**Songino Array**	**43.72**	**12**	P	P	07 57 11.1	-1.1
	comp=Z,1.0nm,0.5s,baz=197,slow=7.8,SNR=7.0						
KSRS	**Korea Array**	**44.40**	**39**	LR	LR	08 16 35.4	
	comp=Z,38nm,18.4s,baz=244,slow=37						
GEYT	**Alibeck**	**46.29**	**320**	P	P	07 57 33.4	+0.7
	comp=Z,1.8nm,0.5s,baz=140,slow=7.7,SNR=4.8						
GEYT				LR	LR	08 18 39.7	
	comp=Z,17nm,18.8s,baz=215,slow=38						
WRA	**Warramunga Arr**	**46.64**	**124**	P	P	07 57 35.0	-0.7
	comp=Z,9.7nm,0.7s,baz=301,slow=9.0,SNR=57						
WR1	**Warramunga Arr**	**46.64**	**124**	*e*P	P	07 57 35.0	-0.7
WRAB	**Tennant Creek**	**46.65**	**124**	*e*P	P	07 57 35.2	-0.5
	comp=Z,12nm,0.6s						
WB2	**Warramunga Arr**	**46.65**	**124**	*e*P	P	07 57 34.9	-0.8
	comp=Z,11nm,0.8s						
KURK	**Kurchatov**	**47.21**	**346**	*e*P	P	07 57 40.4	+0.8
	comp=Z,11nm,0.6s						
AS31	**Alice Springs**	**48.14**	**128**	*e*P	P	07 57 46.7	-0.6
	comp=Z,1.2nm,0.6s						
ASAR	**Alice Springs**	**48.14**	**128**	P	P	07 57 46.9	-0.4
	comp=Z,1.9nm,0.6s,baz=300,slow=7.5,SNR=45						
ASAR				PcP	PcP	07 59 14.5	+0.1
	comp=Z,0.7nm,0.5s,baz=309,slow=2.6,SNR=2.7						
ZAA0	**Zalesovo Array**	**49.20**	**353**	*e*P	P	07 57 54.6	-0.2
	comp=Z,7.5nm,0.9s						
ZALV	**Zalesovo Beam**	**49.20**	**353**	P	P	07 57 54.8	-0.1
	comp=Z,3.6nm,0.3s,baz=186,slow=7.8,SNR=18						
ZALV				LR	LR	08 20 21.9	
	comp=Z,30nm,19.6s,baz=76,slow=38						
ZAA1	**Zalesovo Array**	**49.20**	**353**	*e*P	P	07 57 54.8	-0.1
ATD	**Arta Tunnel**	**51.22**	**281**	*e*P	P	07 58 10.4	-0.5
	comp=Z,83nm,0.3s						
BRVK	**Borovoye**	**51.60**	**342**	*e*P	P	07 58 12.6	-0.5
	comp=Z,3.8nm,0.6s						
ABKAR	**Akbulak array**	**52.63**	**332**	*e*P	P	07 58 20.6	-0.2
	comp=Z,6.0nm,1.3s						
ABKAR				*e*P	P	07 58 20.6	-0.2
STKA	**Stephens Creek**	**58.19**	**133**	*e*P	P	07 58 59.8	-1.3
	comp=Z,3.3nm,1.6s						
STKA	**Stephens Creek**	**58.19**	**133**	P	P	07 59 01.1	-0.1
	comp=Z,0.6nm,0.4s,baz=321,slow=5.2,SNR=3.6						
STKA				LR	LR	08 26 52.5	
	comp=Z,40nm,18.1s,baz=23,slow=39						
NRIK	**Noril'sk**	**64.19**	**357**	P	P	07 59 40.2	-0.9
	comp=Z,1.2nm,0.5s,baz=154,slow=4.7,SNR=4.4						
NRIK				LR	LR	08 28 24.2	
	comp=Z,21nm,20.9s,baz=149,slow=37						
BR101	**Keskin Array S**	**64.28**	**312**	*e*P	P	07 59 42.1	-0.3
BRTR	**Keskin Array B**	**64.28**	**312**	P	P	07 59 42.1	-0.3
	comp=Z,0.9nm,0.6s,baz=131,slow=7.3,SNR=7.1						
AKASG	**Malin Array Be**	**70.32**	**322**	P	P	08 00 18.7	-1.5
	comp=Z,0.7nm,0.6s,baz=93,slow=4.9,SNR=7.1						
AKBB	**Malin Array Si**	**70.32**	**322**	*e*P	P	08 00 19.7	-0.5
	comp=Z,7.4nm,1.6s						
BOSA	**Boshof**	**74.31**	**239**	P	P	08 00 46.5	+1.9
	comp=Z,0.9nm,0.5s,baz=73,slow=3.3,SNR=4.5						
FIA0	**FINESS Array S**	**75.12**	**333**	*e*P	P	08 00 48.2	-0.3
FINES	**FINESS Array B**	**75.12**	**333**	P	P	08 00 48.2	-0.3
	comp=Z,0.7nm,0.6s,baz=90,slow=7.6,SNR=4.1						
OJC	**Ojcow**	**76.10**	**320**	*e*P	P	08 00 53.5	-0.9
	comp=Z,3.2nm,0.6s						
VYHS	**Vyhne**	**76.48**	**319**	*e*P	P	08 00 59.0	+2.4
ARA0	**ARCESS Array S**	**77.80**	**340**	*e*P	P	08 01 04.1	+0.5
ARCES	**ARCESS Array B**	**77.80**	**340**	P	P	08 01 04.1	+0.5
	comp=Z,1.3nm,0.7s,baz=100,slow=6.5,SNR=3.9						
GEC2	**GERESS Array S**	**79.90**	**319**	*e*P	P	08 01 16.1	+0.4
	comp=Z,2.5nm,1.0s						
GERES	**GERESS Array B**	**79.90**	**319**	*e*P	P	08 01 15.3	-0.3
GERES	**GERESS Array B**	**79.90**	**319**	P	P	08 01 16.6	+1.0
	comp=Z,0.8nm,0.5s,baz=87,slow=6.8,SNR=8.5						
CLL	**Collm**	**80.50**	**321**	*e*(P)	P	08 01 22.0	+3.3
LTX	**Lajitas**	**141.56**	**26**	*e*PKPdf	**PKPdf**	08 08 36.8	-1.7
TXAR	**Lajitas Array**	**141.56**	**26**	PKP	**PKPdf**	08 08 36.8	-1.7
	comp=Z,0.1nm,0.6s,baz=305,slow=3.2,SNR=2.9						
CPUP	**Villa Florida**	**145.70**	**229**	*e*PKPdf	**PKPdf**	08 08 42.8	-2.9
CPUP	**Villa Florida**	**145.70**	**229**	PKPbc	**PKPbc**	08 08 46.6	+0.5
	comp=Z,1.4nm,0.9s,baz=76,slow=5.8,SNR=3.5						

IDC ***19*** *08:14:14.7±2.4, 15°.84S×13°.04W, h0km, mb4.0/7, mb1 4.0/7, mb1mx3.8/31, mbtmp4.0/7, MS4.0/1, Ms1 4.0/1, ms1mx3.1/27, Error ellipse: s-maj=91.4km s-min=22.6km az=145.0*
ISCJB ***19*** *08:14:15.1±0.4, 15°.62S±0°.07×13°.17W±0°.09, h10km, mb4.5/15, MS3.9/1, Error ellipse: s-maj=12.9km s-min=9.3km az=20.3*
NEIC ***19*** *08:14:17.4±1.5, 15°.51S×13°.28W, h10km±2km, mb4.7/12, Error ellipse: s-maj=17.4km s-min=7.9km az=206.0*

ISC 19 08:14:17.1±0.6, 15°.58S±0°.09×13°.19W±0°.10, h10km, n36, σ0°89/32, mb4.6/15, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**6.73**	**348**	T	T	08 23 00.4	
	baz=169,slow=74,SNR=543						
H10S3	**ASCENSION HYDR**	**6.74**	**348**	T	T	08 23 01.3	
	baz=169,slow=74,SNR=506						
H10S1	**ASCENSION HYDR**	**6.75**	**348**	T	T	08 22 59.3	
	baz=169,slow=74,SNR=502						
SHEL	**Horse Pasture**	**7.18**	**94**	*e*Pn	Pn	08 16 00.7	-1.6
ASCN	**Ascension**	**7.69**	**351**	*e*Pn	Pn	08 16 07.9	-1.3
DBIC	**Dimbokro**	**23.60**	**21**	*e*P	P	08 19 28.3	-0.1
	29nm,1.4s						
DBIC	**Dimbokro**	**23.60**	**21**	P	P	08 19 31.0	+2.6
	4.2nm,0.8s,baz=222,slow=11,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**32.12**	**28**	*e*P	P	08 20 45.2	+0.3
	7.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**32.12**	**28**	P	P	08 20 45.0	+0.2
	4.7nm,0.9s,baz=214,slow=8.3,SNR=17						
TOA1	**Torodi Ar. Sit**	**32.12**	**28**	*e*P	P	08 20 45.0	+0.1
SUR	**Sutherland**	**35.09**	**125**	*e*P	P	08 21 11.9	+1.1
	19nm,1.3s						
SUR	**Sutherland**	**35.09**	**125**	LR	LR	08 32 45.7	
	comp=Z,196nm,18.0s,baz=291,slow=32						
CPUP	**Villa Florida**	**42.40**	**248**	*e*P	P	08 22 12.6	+0.5
	8.6nm,1.4s						
CPUP	**Villa Florida**	**42.40**	**248**	P	P	08 22 11.7	-0.4
	2.7nm,1.0s,baz=112,slow=8.0,SNR=5.3						
GO04	**Tololo Observa**	**54.51**	**244**	*e*P	P	08 23 45.9	+0.1
	9.6nm,0.8s						
VNA1	**Neumayer--Stat**	**55.13**	**178**	P	P	08 23 48.5	-0.8
VNA2	**Neumayer--Watz**	**55.44**	**178**	P	P	08 23 50.8	-0.6
	baz=354,slow=9.0						
VNA3	**Neumayer Olymp**	**55.68**	**179**	P	P	08 23 52.2	-1.1
SNAA	**Sanae**	**56.41**	**176**	P	P	08 23 58.1	-0.4
H05N1	**Guadeloupe/Mar**	**56.89**	**302**	T	T	09 25 31.6	
	SNR=3.7						
SDV	**Santo Domingo**	**61.87**	**289**	*e*P	P	08 24 36.5	-0.9
	10nm,1.1s						
SDV	**Santo Domingo**

nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 19 08:21:32.0±0.4, 15°.63S±0°.08×13°.20W±0°.08, h10km, n70, σ1§17/52, mb4.7/30, MS4.2/14, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**6.78**	**348**	T	T	08 30 09.7	
	baz=169,slow=74,SNR=189						
H10S3	**ASCENSION HYDR**	**6.79**	**348**	T	T	08 30 12.0	
	baz=169,slow=74,SNR=193						
H10S1	**ASCENSION HYDR**	**6.80**	**348**	T	T	08 30 14.3	
	baz=169,slow=74,SNR=160						
SHEL	**Horse Pasture**	**7.18**	**94**	*e*Pn	**Pn**	**08 23 15.6**	**-1.6**
ASCN	**Ascension**	**7.73**	**351**	*e*Pn	**Pn**	**08 23 21.3**	**-3.5**
H10N1	**ASCENSION HYDR**	**7.84**	**351**	T	T	08 31 32.3	
	baz=171,slow=78						
H10N3	**ASCENSION HYDR**	**7.84**	**350**	T	T	08 31 36.0	
	baz=171,slow=78						
H10N2	**ASCENSION HYDR**	**7.86**	**351**	T	T	08 31 36.1	
	baz=171,slow=78						
DBIC	**Dimbokro**	**23.65**	**21**	*e*P	**P**	**08 26 44.3**	**+0.6**
	33nm,1.4s						
DBIC	**Dimbokro**	**23.65**	**21**	P	**P**	**08 26 46.0**	**+2.2**
	3.3nm,0.7s,baz=190,slow=6.1,SNR=3.5						
DBIC				LR	LR	08 34 04.3	
	comp=Z,211nm,18.2s,baz=178,slow=32						
RCBR	**Riachuelo**	**24.31**	**291**	P	**P**	**08 26 50.0**	**-0.1**
	36nm,0.5s,baz=108,slow=3.3,SNR=3.3						
TSUM	**Tsumeb**	**29.56**	**101**	LR	LR	08 37 03.7	
	comp=Z,549nm,21.6s,baz=327,slow=32						
TORD	**Torodi Ar. Bea**	**32.16**	**28**	P	**P**	**08 28 00.5**	**+0.3**
	2.2nm,0.8s,baz=208,slow=7.8,SNR=8.1						
TOA1	**Torodi Ar. Sit**	**32.17**	**28**	*e*P	**P**	**08 28 00.5**	**+0.3**
BDFB	**Brasilia**	**33.51**	**265**	P	**P**	**08 28 12.7**	**+0.5**
	3.7nm,1.0s,baz=92,slow=9.1,SNR=3.0						
BDFB				LR	LR	08 38 54.6	
	comp=Z,837nm,21.6s,baz=97,slow=31						
BOSA	**Boshof**	**37.73**	**117**	LR	LR	08 41 42.5	
	comp=Z,555nm,19.4s,baz=273,slow=32						
CPUP	**Villa Florida**	**42.38**	**248**	*e*P	**P**	**08 29 27.3**	**+0.4**
	7.3nm,1.3s						
CPUP	**Villa Florida**	**42.38**	**248**	P	**P**	**08 29 26.9**	**0.0**
	2.6nm,0.9s,baz=91,slow=7.8,SNR=5.2						
CPUP				LR	LR	08 44 10.3	
	comp=Z,318nm,20.6s,baz=97,slow=32						
SIV	**San Ignacio**	**45.98**	**263**	P	**P**	**08 29 55.6**	**-0.3**
	0.9nm,0.7s,baz=128,slow=13,SNR=4.4						
KMBO	**Kilima Mbogo**	**51.78**	**79**	*e*P	**P**	**08 30 38.7**	**-2.1**
	9.8nm,1.6s						
KMBO	**Kilima Mbogo**	**51.78**	**79**	LR	LR	08 50 52.8	
	comp=Z,207nm,19.6s,baz=270,slow=34						
LPAZ	**La Paz**	**52.68**	**261**	*e*P	**P**	**08 30 47.4**	**-0.4**
LPAZ	**La Paz**	**52.68**	**261**	LR	LR	08 51 28.7	
	comp=Z,250nm,20.3s,baz=115,slow=34						
LCO	**Las Campanas**	**54.37**	**245**	*e*P	**P**	**08 30 59.1**	**-0.7**
	20nm,0.9s						
GO04	**Tololo Observa**	**54.48**	**244**	*e*P	**P**	**08 30 59.2**	**-1.3**
	44nm,1.5s						
VNA1	**Neumayer--Stat**	**55.08**	**178**	P	**P**	**08 31 04.3**	**+0.4**
PLCA	**Paso Flores**	**55.32**	**231**	LR	LR	08 53 22.3	
	comp=Z,244nm,18.3s,baz=106,slow=35						
VNA2	**Neumayer--Watz**	**55.39**	**178**	P	**P**	**08 31 06.6**	**+0.5**
	baz=354,slow=9.9						
VNA3	**Neumayer Olymp**	**55.64**	**179**	P	**P**	**08 31 07.4**	**-0.5**
ESDC	**Sonseca Array**	**55.69**	**9**	P	**P**	**08 31 10.2**	**+1.6**
	0.2nm,0.4s,baz=201,slow=6.9,SNR=3.2						
SNAA	**Sanae**	**56.37**	**176**	P	**P**	**08 31 13.6**	**+0.5**
SNAA	**Sanae**	**56.37**	**176**	*e*P	**P**	**08 31 13.7**	**+0.5**
	18nm,1.4s						
SNAA	**Sanae**	**56.37**	**176**	P	**P**	**08 31 12.9**	**-0.3**
	2.9nm,1.0s,baz=346,slow=4.7,SNR=6.9						
H05N1	**Guadeloupe/Mar**	**56.91**	**302**	T	T	09 32 43.4	
	SNR=4.8						
PMSA	**Palmer Station**	**59.83**	**203**	LR	LR	08 52 51.4	
	comp=Z,106nm,18.1s,baz=42,slow=32						
NNA	**Nana**	**61.72**	**265**	LR	LR	08 57 13.9	
	comp=Z,404nm,19.5s,baz=136,slow=35						
SDV	**Santo Domingo**	**61.88**	**289**	*e*P	**P**	**08 31 52.4**	**0.0**
	28nm,1.5s						
SDV	**Santo Domingo**	**61.88**	**289**	P	**P**	**08 31 53.3**	**+0.9**
	4.9nm,0.8s,baz=98,slow=6.7,SNR=6.2						
ROSC	**El Rosal**	**63.82**	**284**	*e*P	**P**	**08 32 05.0**	**-0.6**
	2.4nm,1.0s						
ROSC	**El Rosal**	**63.82**	**284**	LR	LR	08 59 10.8	
	comp=Z,872nm,18.5s,baz=156,slow=35						
ATAH	**Atahualpa**	**64.27**	**270**	LR	LR	09 00 08.4	
	comp=Z,321nm,20.1s,baz=126,slow=36						
GEC2	**GERESS Array S**	**68.49**	**19**	*e*P	**P**	**08 32 34.8**	**+0.3**
	5.4nm,1.4s						
GERES	**GERESS Array B**	**68.49**	**19**	P	**P**	**08 32 35.7**	**+1.2**
	0.2nm,0.5s,baz=202,slow=7.0,SNR=4.3						
BR101	**Keskin Array S**	**70.25**	**37**	*e*P	**P**	**08 32 46.9**	**+1.1**
BRTR	**Keskin Array B**	**70.25**	**37**	P	**P**	**08 32 46.9**	**+1.1**
	0.9nm,0.7s,baz=204,slow=5.4,SNR=5.8						
MAW	**Mawson**	**70.36**	**157**	*e*P	**P**	**08 32 46.1**	**+0.4**
	1.7nm,1.3s						
MAW	**Mawson**	**70.36**	**157**	P	**P**	**08 32 46.2**	**+0.4**
	3.8nm,1.1s,baz=281,slow=9.3,SNR=3.7						
MAW				LR	LR	08 56 54.9	
	comp=Z,145nm,19.9s,baz=260,slow=30						
MLR	**Muntele Rosu**	**70.41**	**28**	*e*P	**P**	**08 32 47.3**	**+0.8**
	18nm,1.4s						
QSPA	**South Pole Qui**	**74.54**	**180**	*e*P	**P**	**08 33 11.0**	**+0.1**
	12nm,1.1s						
AKASG	**Malin Array Be**	**75.78**	**26**	P	**P**	**08 33 19.1**	**+1.1**
	0.2nm,0.2s,baz=220,slow=5.7,SNR=7.2						
AKBB	**Malin Array Si**	**75.78**	**26**	*e*P	**P**	**08 33 17.6**	**-0.4**
	11nm,1.4s						
U59A	**Littleton**	**79.88**	**312**	*e*P	**P**	**08 33 41.4**	**+0.2**
	26nm,1.4s						
V56A	**Mocksville**	**81.59**	**311**	*e*P	**P**	**08 33 50.5**	**+0.1**
	24nm,1.6s						
FIA0	**FINESS Array S**	**82.90**	**18**	*e*P	**P**	**08 33 58.8**	**+2.2**
FINES	**FINESS Array B**	**82.90**	**18**	P	**P**	**08 33 58.8**	**+2.2**
	0.6nm,0.7s,baz=205,slow=6.2,SNR=3.2						
SADO	**Sadowa**	**84.73**	**319**	*e*P	**P**	**08 34 05.5**	**-0.9**
	18nm,1.4s						
SADO	**Sadowa**	**84.73**	**319**	P	**P**	**08 34 07.2**	**+0.8**
	1.1nm,0.3s,baz=97,slow=9.2,SNR=3.7						
GEYT	**Alibeck**	**85.40**	**49**	P	**P**	**08 34 11.2**	**+1.2**
	334nm,0.4s,baz=260,slow=4.1,SNR=3.3						
SBA	**Scott Base**	**86.70**	**180**	*e*P	**P**	**08 34 16.3**	**+0.6**
	14nm,1.4s						
VNDA	**Vanda**	**86.99**	**179**	P	**P**	**08 34 17.9**	**+0.7**
	0.4nm,0.8s,baz=201,slow=6.3,SNR=3.4						
VNDA				LR	LR	09 08 31.2	
	comp=Z,48nm,18.7s,baz=188,slow=32						
WVT	**Waverly**	**87.16**	**309**	*e*P	**P**	**08 34 18.9**	**+0.3**
	7.3nm,1.3s						
CCM	**Cathedral Cave**	**90.39**	**309**	*e*P	**P**	**08 34 34.3**	**+0.4**
	16nm,1.4s						
HHAR	**Hobbs**	**91.86**	**307**	*e*P	**P**	**08 34 38.6**	**-2.1**
	5.7nm,1.1s						
LTX	**Lajitas**	**97.90**	**298**	*e*P	Pdif	08 35 09.8	+1.1
TXAR	**Lajitas Array**	**97.90**	**298**	P	Pdif	08 35 09.8	+1.1
	0.3nm,0.7s,baz=139,slow=7.2,SNR=3.0						
ASAR	**Alice Springs**	**129.41**	**140**	PKP	**PKiKP**	**08 40 42.5**	**-0.2**
	0.6nm,1.0s,baz=214,slow=3.1,SNR=3.1						
AS31	**Alice Springs**	**129.41**	**140**	*e*PKPdf	**PKPdf**	**08 40 39.5**	**-2.4**
PEA0B	**Petropavlovsk-**	**141.92**	**9**	*e*PKPdf	**PKPdf**	**08 41 02.4**	**-1.7**
MAJO	**Matsushiro**	**147.14**	**45**	*e*PKPbc	**PKPbc**	**08 41 16.5**	**+0.6**
MJAR	**Matsushiro Arr**	**147.14**	**45**	PKPbc	**PKPbc**	**08 41 16.5**	**+0.6**
	1.1nm,0.8s,baz=278,slow=3.3,SNR=5.3						

ISCJB 19 08:22:37.0±0.6, 45°.24S±0°.04×167°.25E±0°.04, h18km±5km, mb4.1/8, Error ellipse: s-maj=6.3km s-min=4.7km az=148.6

IDC 19 08:22:36.0±1.5, 44°.90S×167°.25E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, ML4.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/7, Error ellipse: s-maj=50.3km s-min=16.6km az=168.0

NEIC 19 08:22:37.5±0.0, 45°.38S×167°.40E, h5km, mb4.2/6, ML4.4(WEL), After WEL.

WEL 19 08:22:37.6, 45°S±4°×16°7E±°, h5km, ML4.5/19

ISC 19 08:22:37.7±0.9, 45°.32S±0°.04×167°.40E±0°.03, h15km±6km, n93, σ1§57/87, mb4.1/8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.23**	**229**	*e*Pg	**Pg**	**08 22 42.9**	**+0.1**
DCZ	**Deep Cove**	**0.23**	**229**	P	**Pg**	**08 22 42.9**	**+0.1**
DCZ				S	**Sg**	**08 22 46.3**	**+0.1**
MLZ	**Mavora Lakes**	**0.51**	**96**	*e*Pg	**Pb**	**08 22 48.8**	**+0.4**
MLZ				*e*Sg	**Sb**	**08 22 55.5**	**-0.1**
MLZ	**Mavora Lakes**	**0.51**	**96**	P	**Pb**	**08 22 48.8**	**+0.4**
MLZ				S	**Sb**	**08 22 56.7**	**+1.1**
WHZ	**Wether Hill Ro**	**0.69**	**146**	*e*Pg	**Pb**	**08 22 51.8**	**+0.3**
WHZ	**Wether Hill Ro**	**0.69**	**146**	P	**Pb**	**08 22 51.7**	**+0.3**
MSZ	**Milford Sound**	**0.75**	**30**	P	**Pg**	**08 22 51.1**	**-1.1**
MSZ				S	**Sg**	**08 23 01.3**	**-0.7**
WKZ	**Wanaka**	**1.25**	**67**	*e*Pg	**Pg**	**08 23 01.6**	**-0.2**
WKZ				*e*Sn	**Sg**	**08 23 18.8**	**+0.7**
WKZ	**Wanaka**	**1.25**	**67**	P	**Pg**	**08 23 01.5**	**-0.2**
EAZ	**Earnscleugh**	**1.35**	**87**	P	**Pb**	**08 23 03.1**	**+0.4**
APZ	**The Paps**	**1.57**	**165**	P	**Pb**	**08 23 06.2**	**-0.2**
JCZ	**Jackson Bay**	**1.59**	**39**	P	**Pn**	**08 23 05.7**	**+0.4**
TUZ	**Tuapeka**	**1.69**	**113**	P	**Pb**	**08 23 08.4**	**-0.1**
TUZ				S	**Sg**	**08 23 31.0**	**-1.2**
SYZ	**Scrubby Hill**	**1.72**	**136**	P	**Pb**	**08 23 09.1**	**+0.1**
LBZ	**Lake Benmore**	**2.19**	**66**	*e*Pn	**Pn**	**08 23 14.6**	**+1.0**
LBZ	**Lake Benmore**	**2.19**	**66**	P	**Pn**	**08 23 14.5**	**+1.0**
ODZ	**Otahua Downs**	**2.31**	**84**	*e*Pn	**Pn**	**08 23 16.5**	**+1.3**
ODZ	**Otahua Downs**	**2.31**	**84**	P	**Pn**	**08 23 16.5**	**+1.3**
HHSZ	**Highcliff Hill**	**2.32**	**105**	P	**Pb**	**08 23 17.5**	**-1.7**
FOZ	**Fox Glacier**	**2.49**	**45**	*e*Pn	**Pn**	**08 23 19.3**	**+1.8**
FOZ	**Fox Glacier**	**2.49**	**45**	P	**Pn**	**08 23 19.0**	**+1.4**
GCSZ	**Gaunt Creek Bo**	**2.90**	**47**	P	**Pn**	**08 23 24.6**	**+1.3**
RPZ	**Rata Peaks**	**3.07**	**60**	*e*Pn	**Pn**	**08 23 25.8**	**+0.2**
RPZ	**Rata Peaks**	**3.07**	**60**	Pn	**Pn**	**08 23 25.5**	**0.0**
	21nm,0.3s,baz=224,slow=8.2,SNR=249						
RPZ				Sn	**Sn**	**08 24 02.5**	**+0.5**
	45nm,0.3s,baz=351,slow=23,SNR=8.3						
RPZ				Lg	Lg	08 24 09.6	
	40nm,0.3s,baz=80,slow=18,SNR=6.0						
RPZ				LR	LR	08 24 10.2	
	comp=Z,153nm,18.2s,baz=272,slow=32						
RPZ	**Rata Peaks**	**3.07**	**60**	P	**Pn**	**08 23 25.7**	**+0.2**
WVZ	**Waitaha Valley**	**3.29**	**48**	P	**Pn**	**08 23 30.3**	**+1.8**
OXZ	**Oxford**	**3.88**	**61**	*e*Pn	**Pn**	**08 23 36.4**	**-0.4**
OXZ	**Oxford**	**3.88**	**61**	P	**Pn**	**08 23 36.3**	**-0.4**
INZ	**Inchbonnie**	**3.91**	**50**	P	**Pn**	**08 23 38.3**	**+1.2**
MQZ	**McQueen's Vall**	**4.09**	**69**	*e*Pn	**Pn**	**08 23 39.3**	**-0.3**
MQZ	**McQueen's Vall**	**4.09**	**69**	P	**Pn**	**08 23 39.3**	**-0.3**
CRLZ	**Canterbury Las**	**4.13**	**67**	*e*Pn	**Pn**	**08 23 40.4**	**+0.3**
LTZ	**Lake Taylor**	**4.33**	**56**	*e*Pn	**Pn**	**08 23 43.0**	**0.0**
LTZ	**Lake Taylor**	**4.33**	**56**	P	**Pn**	**08 23 42.3**	**-0.6**
AMCZ	**Amberley**	**4.34**	**62**	P	**Pn**	**08 23 42.8**	**-0.2**
OKCZ	**Okains Bay**	**4.35**	**71**	P	**Pn**	**08 23 43.7**	**+0.5**
DSZ	**Denniston Nort**	**4.80**	**43**	P	**Pn**	**08 23 51.0**	**+1.6**
KHZ	**Kahutara**	**5.30**	**59**	*e*Pn	**Pn**	**08 23 56.3**	**+0.1**
KHZ	**Kahutara**	**5.30**	**59**	P	**Pn**	**08 23 56.4**	**+0.2**
THZ	**Tophouse**	**5.35**	**50**	*e*Pn	**Pn**	**08 23 57.1**	**+0.1**
THZ	**Tophouse**	**5.35**	**50**	P	**Pn**	**08 23 57.0**	**0.0**
QRZ	**Quartz Range**	**5.86**	**42**	P	**Pn**	**08 24 05.4**	**+1.5**
NNZ	**Nelson**	**5.99**	**49**	P	**Pn**	**08 24 08.1**	**+2.4**
TUWZ	**Tuamarina**	**6.15**	**53**	P	Pn	08 24 13.2	+5.3
TCW	**Tory Channel**	**6.49**	**53**	P	Pn	08 24 17.5	+5.0
DUWZ	**D'Urville Isla**	**6.57**	**49**	P	**Pn**	**08 24 16.9**	**+3.1**
SNZO	**South Karori**	**6.67**	**56**	*e*Pn	Pn	08 24 22.5	+7.5
CAW	**Cannon Point**	**7.01**	**56**	P	**Pn**	**08 24 20.6**	**+1.0**
KIW	**Kapiti Island**	**7.08**	**54**	P	**Pn**	**08 24 22.7**	**+2.1**
MTW	**Mount Morrison**	**7.23**	**58**	P	**Pn**	**08 24 25.0**	**+2.2**
MRZ	**Mangatainoka R**	**7.59**	**55**	P	**Pn**	**08 24 27.2**	**-0.5**
NBEZ	**Newall Road No**	**7.72**	**41**	P	**Pn**	**08 24 30.9**	**+1.6**
KHEZ	**Kahui Hut**	**7.76**	**41**	P	**Pn**	**08 24 31.7**	**+1.6**
PREZ	**Palmer Road**	**7.79**	**42**	P	**Pn**	**08 24 32.7**	**+2.2**
LREZ	**Lake Rotokare**	**7.82**	**44**	P	**Pn**	**08 24 33.3**	**+2.5**
PKE	**Pukeiti**	**7.83**	**41**	P	**Pn**	**08 24 32.6**	**+1.6**
WAZ	**Wanganui**	**7.89**	**48**	P	**Pn**	**08 24 36.2**	**+4.3**
BFZ	**Birch Farm**	**7.97**	**58**	*e*Pn	**Pn**	**08 24 33.0**	**+0.2**
VRZ	**Vera Road**	**8.25**	**44**	P	**Pn**	**08 24 39.2**	**+2.4**
TUVZ	**Tukino**	**8.60**	**48**	P	Pn	08 24 46.8	+5.1
NGZ	**Ngauruhoe**	**8.64**	**48**	P	**Pn**	**08 24 46.8**	**+4.6**
KRVZ	**Karewarewa**	**8.72**	**47**	P	**Pn**	**08 24 47.6**	**+4.3**
HIZ	**Hauiti**	**8.78**	**42**	*e*Pn	**Pn**	**08 24 45.7**	**+1.7**
HIZ	**Hauiti**	**8.78**	**42**	P	**Pn**	**08 24 45.6**	**+1.5**
BKZ	**Black Stump Fm**	**9.12**	**51**	*e*Pn	**Pn**	**08 24 51.9**	**+3.1**
TLZ	**Tolley Road**	**9.25**	**44**	P	**Pn**	**08 24 52.6**	**+2.0**
TOZ	**Tahuroa Road**	**9.71**	**42**	P	**Pn**	**08 24 58.0**	**+1.3**
AWAZ	**Awhitu Peninsu**	**9.89**	**36**	P	**Pn**	**08 25 00.7**	**+1.6**
MKAZ	**Moumakai**	**10.07**	**38**	P	**Pn**	**08 25 04.0**	**+2.3**
TAU	**Tasmania Unive**	**14.62**	**272**	*e*Pn	**Pn**	**08 26 03.2**	**-0.6**
DZM	**Mont Dzumac**	**23.20**	**358**	*e*P	**P**	**08 27 44.2**	**+0.3**
	13nm,1.2s						
EIDS	**Eidsvold**	**23.86**	**321**	*e*P	**P**	**08 27 48.0**	**-2.4**
	11nm,1.2s						
STKA	**Stephens Creek**	**24.10**	**295**	*e*P	**P**	**08 27 52.0**	**-0.6**
	2.2nm,1.4s						
CTAO	**Charters Tower**	**30.63**	**318**	*e*P	**P**	**08 28 51.2**	**0.0**
	8.6nm,1.4s						
NIUE	**Niue**	**32.23**	**43**	*e*P	**P**	**08 29 05.7**	**+0.4**
	136nm,1.0s						
AS31	**Alice Springs**	**34.68**	**297**	*e*P	**P**	**08 29 26.0**	**-0.7**
	2.7nm,1.5s						
ASAR	**Alice Springs**	**34.68**	**297**	P	**P**	**08 29 26.1**	**-0.6**
	0.3nm,1.0s,baz=134,slow=6.8,SNR=3.1						
WR1	**Warramunga Arr**	**37.19**	**302**	*e*P	**P**	**08 29 44.8**	**-3.5**
WRA	**Warramunga Arr**	**37.19**	**302**	P	**P**	**08 29 44.8**	**-3.5**
	0.5nm,0.8s,baz=141,slow=8.7,SNR=2.2						
H01W1	**Cape Leeuwin H**	**41.35**	**265**	T	T	09 14 08.0	
	baz=120,slow=75,SNR=128						
H01W2	**Cape Leeuwin H**	**41.37**	**265**	T	T	09 14 11.9	
	baz=120,slow=75,SNR=156						
H01W3	**Cape Leeuwin H**	**41.37**	**265**	T	T	09 14 12.4	
	baz=120,slow=75,SNR=156						
H08S2	**Diego Garcia H**	**88.06**	**261**	T	T	10 12 30.6	
	baz=135,slow=76,SNR=44						
H08S1	**Diego Garcia H**	**88.07**	**261**	T	T	10 12 31.3	
	baz=135,slow=76,SNR=36						
H08S3	**Diego Garcia H**	**88.08**	**261**	T	T	10 12 32.0	
	baz=135,slow=76,SNR=42						
H08N1	**Diego Carcia H**	**90.01**	**261**	T	T	10 15 04.6	
	baz=130						
H08N3	**Diego Garcia H**	**90.02**	**261**	T	T	10 14 59.5	
	baz=130,slow=74						
H08N2	**Diego Garcia H**	**90.03**	**261**	T	T	10 14 52.8	
	baz=130,slow=74						
CD2	**Chengdu**	**95.33**	**309**	*e*P	**P**	**08 36 02.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**145.71**	**205**	PKPbc	**PKPbc**	**08 42 16.4**	**+0.4**
	0.5nm,0.7s,baz=163,slow=1.5,SNR=3.3						
TOA1	**Torodi Ar. Sit**	**145.71**	**205**	*e*PKPdf	**PKPbc**	**08 42 16.4**	**+0.3**
BR101	**Keskin Array S**	**145.84**	**277**	*e*PKPdf	**PKPab**	**08 42 16.9**	**+0.5**
BRTR	**Keskin Array B**	**145.84**	**277**	PKPbc	**PKPbc**	**08 42 16.9**	**+0.9**
	0.5nm,0.8s,baz=101,slow=1.9,SNR=3.7						

IDC 19 08:24:21.6±1.9, 14°.32N×60°.13W, h45km±14km, mb3.3/6, mb1 3.8/10, mb1mx3.4/47, mbtmp3.8/10, ML3.6/4, Error ellipse: s-maj=35.5km s-min=10.8km az=80.0

ISCJB 19 08:24:24.0±0.3, 14°.26N±0°.01×60°.45W±0°.04, h74km±3km, mb3.6/6, Error ellipse: s-maj=6.1km s-min=2.2km az=171.9

NEIC 19 08:24:24.2±0.0, 14°.26N×60°.43W, h46km, MD4.0(TRN), After TRN.

NEIC Felt on Saint Lucia.

TRN 19 08:24:24.1, 14°.26N×60°.42W, h40km, MD4.0

ISC 19 08:24:23.5±0.8, 14°.26N±0°.02×60°.41W±0°.04, h56km±7km, n109, σ1§69/149, mb3.6/6, 8D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**0.45**	**291**	P	**Pn**	**08 24 35.1**	**+0.5**
H05S1				S	**Sn**	**08 24 43.2**	**+0.6**
MPOM	**Morne Pois Mar**	**0.47**	**293**	*e*P	**Pn**	**08 24 35.6**	**+0.7**
MVM	**Montagne Vaucl**	**0.55**	**302**	*e*P	**Pn**	**08 24 36.6**	**+0.7**
SLW	**Petit Monier**	**0.57**	**245**	*i* P	**Pn**	**08 24 37.5**	**+1.5**
SLW	**Petit Monier**	**0.57**	**245**	||*i*P	**Pn**	**08 24 37.5**	**+1.5**
SLBI	**Saint Lucia, B**	**0.60**	**247**	||*i*P	**Pn**	**08 24 36.6**	**+0.3**
SLBI				*e*S	**Sn**	**08 24 46.5**	**+0.8**
LPMF	**Morne Lapointe**	**0.62**	**300**	||*e*P	**Pn**	**08 24 37.3**	**+0.6**
SLPA	**Patience**	**0.64**	**231**	*e*P	**Pn**	**08 24 38.4**	**+1.5**
SLPA				*e*S	**Sn**	**08 24 48.3**	**+1.8**
ZAM	**Aeronautique**	**0.68**	**297**	*e*P	**Pn**	**08 24 38.1**	**+0.8**
ILAM	**Ilet Lapin Mar**	**0.68**	**319**	||*e*P	**Pn**	**08 24 38.0**	**+0.6**
TRMF	**Trois Ilets**	**0.68**	**294**	||*e*P	**Pn**	**08 24 38.4**	**+1.0**
BIM	**Bigot**	**0.69**	**292**	||*e*P	**Pn**	**08 24 38.4**	**+0.9**
SLB	**Belfond**	**0.75**	**235**	*e*P	**Pn**	**08 24 39.8**	**+1.5**
SLB	**Belfond**	**0.75**	**235**	*e*P	**Pn**	**08 24 39.8**	**+1.5**
MCLT	**Moule a Chique**	**0.76**	**223**	*i* P	**Pn**	**08 24 38.6**	**+0.4**
MCLT	**Moule a Chique**	**0.76**	**223**	||*i*P	**Pn**	**08 24 38.6**	**+0.4**
MCLT				*e*S	**Sn**	**08 24 49.9**	**+0.9**
SLDE	**Delcer**	**0.78**	**234**	*e*P	**Pn**	**08 24 40.4**	**+1.8**
SLDE				*e*S	**Sn**	**08 24 51.8**	**+2.2**
FDF	**Fort de France**	**0.86**	**303**	*e*Pn	**Pn**	**08 24 40.8**	**+1.1**
FDF				*e*Sn	**Sn**	**08 24 52.3**	**+0.8**
FDF	**Fort de France**	**0.86**	**303**	*e*P	**Pn**	**08 24 40.3**	**+0.7**
FDF				*e*S	**Sn**	**08 24 52.9**	**+1.4**
BAMF	**Morne Balai**	**0.90**	**308**	*e*P	**Pn**	**08 24 41.1**	**+0.8**
GBMF	**Grand Be**	**0.91**	**306**	*e*P	**Pn**	**08 24 41.1**	**+0.8**
PML	**Morne Lenard**	**0.91**	**305**	*e*P	**Pn**	**08 24 41.2**	**+0.9**
CXM	**Morne La Croix**	**0.92**	**307**	*e*P	**Pn**	**08 24 41.3**	**+0.8**
PCM	**Pelee Case Pet**	**0.95**	**305**	*e*P	**Pn**	**08 24 41.8**	**+0.9**
SFAN	**Fancy Village**	**1.15**	**220**	*e*P	**Pn**	**08 24 45.1**	**+1.7**
SFAN				*e*S	**Sn**	**08 24 59.7**	**+1.5**
SSV	**Crater Summit**	**1.20**	**219**	*e*P	**Pn**	**08 24 45.7**	**+1.5**
SSV	**Crater Summit**	**1.20**	**219**	*e*P	**Pn**	**08 24 45.7**	**+1.5**
SSV				*e*S	**Sn**	**08 25 02.2**	**+2.6**
SVCV	**St. Vincent, C**	**1.22**	**216**	*e*P	**Pn**	**08 24 45.0**	**+0.6**
SVCV				*e*S	**Sn**	**08 25 00.8**	**+0.9**
SVV	**Soufriere Volc**	**1.22**	**220**	*e*P	**Pn**	**08 24 46.2**	**+1.7**
SVV				*e*S	**Sn**	**08 25 02.6**	**+2.5**
SVB	**Belmont**	**1.28**	**220**	*e*Pn	**Pn**	**08 24 46.2**	**+1.0**
SVB				*e*Sn	**Sn**	**08 25 03.3**	**+1.9**
SVB	**Belmont**	**1.28**	**220**	||*i*P	**Pn**	**08 24 46.0**	**+0.7**
SVB				*e*S	**Sn**	**08 25 03.1**	**+1.7**
DSHT	**Scott's Head**	**1.33**	**315**	*e*P	**Pn**	**08 24 47.1**	**+1.2**
DSHT				*e*S	**Sn**	**08 25 04.5**	**+2.0**
DLPL	**La Plaine**	**1.34**	**323**	*e*P	**Pn**	**08 24 47.4**	**+1.3**
DLPL				*e*S	**Sn**	**08 25 04.4**	**+1.6**
DBCT	**Belle View Cho**	**1.35**	**318**	*e*P	**Pn**	**08 24 48.1**	**+1.9**
DBCT				*e*S	**Sn**	**08 25 06.0**	**+2.9**
DPMT	**Pointe Michel**	**1.36**	**317**	*e*P	**Pn**	**08 24 47.9**	**+1.6**
DPMT				*e*S	**Sn**	**08 25 06.0**	**+2.5**
FCV	**Fort Charlotte**	**1.37**	**217**	*e*P	**Pn**	**08 24 47.9**	**+1.5**
FCV				*e*S	**Sn**	**08 25 05.0**	**+1.5**
BBGH	**Gun Hill**	**1.39**	**143**	*e*Pn	**Pn**	**08 24 48.2**	**+1.6**
BBGH	**Gun Hill**	**1.39**	**143**	*e*P	**Pn**	**08 24 48.1**	**+1.5**
BBGH				*e*S	**Sn**	**08 25 07.1**	**+3.2**
MDN	**Morne-Daniel**	**1.42**	**318**	*e*P	**Pn**	**08 24 49.5**	**+2.5**
MDN	**Morne-Daniel**	**1.42**	**318**	*e*P	**Pn**	**08 24 49.5**	**+2.5**
MDN				*e*S	**Sn**	**08 25 07.1**	**+2.4**
BBSP	**Saint Philip**	**1.48**	**141**	*e*P	**Pn**	**08 24 50.3**	**+2.5**
BBSP				*e*S	**Sn**	**08 25 08.5**	**+2.4**
DWS	**Wesley**	**1.56**	**326**	*e*P	**Pn**	**08 24 50.3**	**+1.3**
DWS				*e*S	**Sn**	**08 25 09.5**	**+1

H10N1 ASCENSION HYDR 7.15 359 T T 08 44 04.6
baz=172,slow=79
H10N3 ASCENSION HYDR 7.16 359 T T 08 44 02.3
baz=172,slow=79
H10N2 ASCENSION HYDR 7.17 359 T T 08 44 00.6
baz=172,slow=79
DBIC Dimbokro 23.52 24 LR LR 08 46 06.0
comp=Z,57nm,21.5s,baz=156,slow=31
TORD Torodi Ar. Bea 32.18 30 P P 08 40 33.3 0.0
1.5nm,1.0s,baz=209,slow=7.9,SNR=5.2
TORD LR LR 08 51 15.0
comp=Z,101nm,20.2s,baz=300,slow=32
BDFB Brasilia 32.48 264 LR LR 08 51 36.5
comp=Z,140nm,20.6s,baz=116,slow=32
BOSA Boshof 38.96 117 LR LR 08 55 18.1
comp=Z,62nm,18.6s,baz=240,slow=33
CPUP Villa Florida 41.59 247 LR LR 08 58 04.8
comp=Z,59nm,18.4s,baz=104,slow=35
MDP Montagnes des 42.92 295 LR LR 08 56 13.8
comp=Z,42nm,21.9s,baz=80,slow=31
BRTR Keskin Array B 70.44 37 P P 08 45 20.0 +0.1
0.3nm,0.7s,baz=227,slow=6.9,SNR=3.0
AKASG Malin Array Be 75.74 27 P P 08 45 50.9 0.0
0.2nm,0.3s,baz=215,slow=5.0,SNR=2.7

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*ISCJB **19** 08:35:27.1±0.3,37°.49S±0°.03×177°.52E±0°.04,h132km±2km, mb4.3/12, Error ellipse: s-maj=5.6km s-min=4.6km az=135.2*
*NEIC **19** 08:35:27.9±0.0,37°.50S×177°.50E,h127km,mb4.3/8, ML4.2(WEL), After WEL.*
NEIC Felt at Whakatane.
*IDC **19** 08:35:27.9±1.0,38°.03S×177°.60E,h145km±6km,mb4.0/6, mb1 4.2/7,mb1mx3.8/27,mbtmp4.5/7,MS3.8/3,Ms1 3.8/3, ms1mx3.0/27, Error ellipse: s-maj=28.6km s-min=24.1km az=16.0*
*WEL **19** 08:35:28.2,37°S±3°×17°7E±°,h120km±3km,ML4.5/8*
ISC 19 08:35:27.8±0.6,**37°.62S**±0°.05×**177°.44E**±0°.04,**h139**km±4km, **n171,**σ1§**96**/190,**mb4.3**/12,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.21**	**295**	P	**Pn**	**08 35 44.4**	**-2.2**
HAZ	**Te Kaha**	**0.31**	**117**	P	**Pn**	**08 35 45.1**	**-1.8**
HAZ				S	**Sn**	**08 35 58.5**	**-2.9**
RUGZ	**Raukumara Rang**	**0.40**	**151**	P	**Pn**	**08 35 45.8**	**-1.6**
RUGZ				S	**Sn**	**08 35 59.1**	**-3.3**
WHRZ	**Whale Island**	**0.43**	**237**	P	**Pn**	**08 35 47.0**	**-0.5**
WHRZ				S	**Sn**	**08 35 59.7**	**-2.8**
PKGZ	**Pakihiroa**	**0.58**	**118**	P	**Pn**	**08 35 47.4**	**-0.9**
PKGZ				S	**Sn**	**08 36 02.3**	**-1.5**
URZ	**Urewera**	**0.69**	**202**	*e*Pn	**Pn**	**08 35 49.0**	**+0.1**
URZ				*e*Sn	**Sn**	**08 36 05.1**	**0.0**
URZ	**Urewera**	**0.69**	**202**	P	**Pn**	**08 35 48.8**	**-0.1**
	406nm,0.3s,baz=353,slow=3.0,SNR=3321						
URZ				LR	LR	08 35 54.6	
	comp=Z,64nm,19.9s,baz=18,slow=60						
URZ				S	**Sn**	**08 36 04.9**	**-0.2**
	1μm,0.3s,baz=45,slow=19,SNR=169						
URZ	**Urewera**	**0.69**	**202**	P	**Pn**	**08 35 49.0**	**+0.1**
URZ				S	**Sn**	**08 36 04.9**	**-0.2**
MXZ	**Matakaoa Point**	**0.69**	**86**	*e*Pn	**Pn**	**08 35 47.2**	**-1.8**
MXZ				*e*Sn	**Sn**	**08 36 02.2**	**-2.8**
MXZ	**Matakaoa Point**	**0.69**	**86**	P	**Pn**	**08 35 47.2**	**-1.8**
MXZ				S	**Sn**	**08 36 01.8**	**-3.3**
MARZ	**Manawahe**	**0.70**	**238**	P	**Pn**	**08 35 48.9**	**-0.1**
TWGZ	**Tauwhareparae**	**0.70**	**142**	P	**Pn**	**08 35 49.3**	**+0.2**
TWGZ				S	**Sn**	**08 36 05.4**	**0.0**
MWZ	**Matawai**	**0.72**	**174**	P	**Pn**	**08 35 49.3**	**+0.1**
MWZ				S	**Sn**	**08 36 05.6**	**0.0**
OPRZ	**Ohinepanea**	**0.73**	**252**	P	**Pn**	**08 35 48.7**	**-0.6**
OPRZ				S	**Sn**	**08 36 04.1**	**-1.5**
EDRZ	**Edgecumbe**	**0.74**	**228**	P	**Pn**	**08 35 49.6**	**+0.2**
PUZ	**Puketiti**	**0.79**	**125**	P	**Pn**	**08 35 49.1**	**-0.6**
WMGZ	**Waiomatatini S**	**0.80**	**105**	P	**Pn**	**08 35 48.8**	**-1.0**
WMGZ				S	**Sn**	**08 36 04.5**	**-1.9**
RAGZ	**Rawiri**	**0.88**	**181**	P	**Pn**	**08 35 51.7**	**+1.2**
TKGZ	**Te Karaka**	**0.88**	**158**	P	**Pn**	**08 35 50.8**	**+0.4**
TKGZ				S	**Sn**	**08 36 07.9**	**+0.2**
LIRZ	**Lichensteins R**	**0.92**	**245**	P	**Pn**	**08 35 51.2**	**+0.5**
MKRZ	**Makatiti**	**0.93**	**236**	P	**Pn**	**08 35 52.6**	**+1.7**
TGRZ	**Tauranga**	**0.94**	**263**	P	**Pn**	**08 35 50.5**	**-0.4**
TARZ	**Mount Tarawera**	**0.96**	**230**	P	**Pn**	**08 35 52.3**	**+1.1**
OMRZ	**Omania**	**0.97**	**240**	P	**Pn**	**08 35 51.9**	**+0.6**
MUGZ	**Murupara**	**1.00**	**211**	P	**Pn**	**08 35 52.2**	**+0.7**
RRRZ	**Republican Roa**	**1.02**	**225**	P	**Pn**	**08 35 52.5**	**+0.8**
KARZ	**Kaharoa**	**1.02**	**247**	P	**Pn**	**08 35 52.1**	**+0.4**
CNRZ	**Carnagh Statio**	**1.06**	**145**	P	**Pn**	**08 35 52.7**	**+0.7**
HLRZ	**Highlands Stat**	**1.06**	**233**	P	**Pn**	**08 35 53.2**	**+1.1**
NGRZ	**Ngongotaha**	**1.10**	**244**	P	**Pn**	**08 35 53.3**	**+0.9**
RIGZ	**Rimuhau**	**1.12**	**167**	P	**Pn**	**08 35 53.3**	**+0.7**
UTU	**Utuhina**	**1.13**	**240**	P	**Pn**	**08 35 53.9**	**+1.2**
SNGZ	**Shannon Statio**	**1.16**	**184**	P	**Pn**	**08 35 54.0**	**+1.0**
HSRZ	**Hossack Road**	**1.17**	**233**	P	**Pn**	**08 35 54.5**	**+1.5**
HRRZ	**Handcock Road**	**1.19**	**229**	P	**Pn**	**08 35 54.5**	**+1.2**
PRRZ	**Plateau Road**	**1.20**	**223**	P	**Pn**	**08 35 54.5**	**+1.1**
KMRZ	**Kaimai**	**1.21**	**259**	P	**Pn**	**08 35 53.6**	**+0.2**
ALRZ	**Allen Road**	**1.28**	**222**	P	**Pn**	**08 35 55.3**	**+1.2**
GRRZ	**Galatos Road**	**1.28**	**235**	P	**Pn**	**08 35 55.6**	**+1.5**
MTHZ	**Maungataniwha**	**1.32**	**201**	P	**Pn**	**08 35 55.4**	**+0.8**
RAHZ	**Arahi**	**1.32**	**192**	P	**Pn**	**08 35 56.1**	**+1.5**
PRGZ	**Paritu Road**	**1.35**	**165**	P	**Pn**	**08 35 55.7**	**+0.8**
WPRZ	**Whakapapatarin**	**1.35**	**228**	P	**Pn**	**08 35 56.3**	**+1.5**
KNZ	**Kokohu**	**1.41**	**172**	P	**Pn**	**08 35 56.4**	**+0.9**
MRHZ	**Matea Rd**	**1.45**	**213**	P	**Pn**	**08 35 57.0**	**+1.0**
WHHZ	**Waihua**	**1.47**	**186**	P	**Pn**	**08 35 57.7**	**+1.6**
TOZ	**Tahuroa Road**	**1.54**	**265**	P	**Pn**	**08 35 57.3**	**+0.5**
KUTZ	**Kaahu Road**	**1.54**	**235**	P	**Pn**	**08 35 58.6**	**+1.7**
NMHZ	**Naumai**	**1.56**	**198**	P	**Pn**	**08 35 58.8**	**+1.7**
WHTZ	**Whakaora**	**1.57**	**228**	P	**Pn**	**08 35 59.3**	**+2.1**
MHGZ	**Mahia Peninsul**	**1.58**	**167**	P	**Pn**	**08 35 58.9**	**+1.6**
KUZ	**Kuaotunu**	**1.62**	**302**	P	**Pn**	**08 35 55.8**	**-1.9**
HATZ	**Hinemaiaia**	**1.65**	**219**	P	**Pn**	**08 35 59.5**	**+1.3**
TLZ	**Tolley Road**	**1.66**	**244**	P	**Pn**	**08 35 59.6**	**+1.4**
ARHZ	**Aropaoanui**	**1.68**	**192**	P	**Pn**	**08 35 59.9**	**+1.5**
BKZ	**Black Stump Fm**	**1.71**	**205**	*e*Pn	**Pn**	**08 35 59.7**	**+0.8**
BKZ				*e*Sn	**Sn**	**08 36 26.5**	**+3.7**
BKZ	**Black Stump Fm**	**1.71**	**205**	P	**Pn**	**08 35 59.7**	**+0.8**
WATZ	**Wairara**	**1.73**	**230**	P	**Pn**	**08 36 00.8**	**+1.8**
RATZ	**Rangitukua**	**1.81**	**226**	P	**Pn**	**08 36 01.6**	**+1.7**
RITZ	**Rihia Road**	**1.84**	**222**	P	**Pn**	**08 36 02.3**	**+2.0**
MKAZ	**Moumakai**	**1.88**	**285**	P	**Pn**	**08 36 00.6**	**-0.2**
MCHZ	**McNeill Hill**	**1.91**	**197**	P	**Pn**	**08 36 02.5**	**+1.4**
KATZ	**Kakaramea**	**1.93**	**225**	P	**Pn**	**08 36 03.1**	**+1.7**
KWHZ	**Kaweka Forest**	**1.97**	**203**	P	**Pn**	**08 36 03.0**	**+1.1**
WIAZ	**Waiheke Island**	**2.01**	**293**	P	**Pn**	**08 36 01.5**	**-0.8**
KRVZ	**Karewarewa**	**2.04**	**223**	P	**Pn**	**08 36 04.5**	**+1.7**
CKHZ	**Cape Kidnapper**	**2.06**	**188**	P	**Pn**	**08 36 04.0**	**+1.1**
WTVZ	**West Tongariro**	**2.08**	**224**	P	**Pn**	**08 36 04.9**	**+1.6**
GRZ	**Great Barrier**	**2.09**	**310**	P	**Pn**	**08 36 01.3**	**-2.0**
KBAZ	**Karaka Road Bo**	**2.10**	**284**	P	**Pn**	**08 36 04.2**	**+0.9**
ETAZ	**East Tamaki Re**	**2.11**	**288**	P	**Pn**	**08 36 03.7**	**+0.2**
NGZ	**Ngauruhoe**	**2.12**	**222**	P	**Pn**	**08 36 05.4**	**+1.6**
TWVZ	**Taurewa**	**2.14**	**227**	P	**Pn**	**08 36 05.6**	**+1.7**
BHHZ	**Black Hill Sta**	**2.16**	**210**	P	**Pn**	**08 36 04.9**	**+0.8**
TUVZ	**Tukino**	**2.16**	**220**	P	**Pn**	**08 36 05.5**	**+1.3**
KRHZ	**Kereru**	**2.19**	**202**	P	**Pn**	**08 36 05.0**	**+0.6**
MBAZ	**Motutapu North**	**2.20**	**292**	P	**Pn**	**08 36 04.5**	**-0.1**
FWVZ	**Far West T-bar**	**2.20**	**222**	P	**Pn**	**08 36 06.2**	**+1.3**
WHVZ	**Whangaehu Hut**	**2.21**	**227**	P	**Pn**	**08 36 06.2**	**+1.3**
DRZ	**Dome Shelter**	**2.21**	**221**	P	**Pn**	**08 36 06.2**	**+1.1**
KAHZ	**Kahuranaki**	**2.22**	**191**	P	**Pn**	**08 36 05.9**	**+1.1**
MOVZ	**Moawhango**	**2.22**	**216**	P	**Pn**	**08 36 05.6**	**+0.7**
HIZ	**Hauiti**	**2.22**	**246**	*e*Pn	**Pn**	**08 36 05.2**	**+0.3**
HIZ	**Hauiti**	**2.22**	**246**	P	**Pn**	**08 36 07.0**	**+2.1**
EPAZ	**Eden Park BICE**	**2.27**	**288**	P	**Pn**	**08 36 05.9**	**+0.4**
HBAZ	**Herne Bay Bore**	**2.29**	**289**	P	**Pn**	**08 36 06.1**	**+0.5**
AWAZ	**Awhitu Peninsu**	**2.29**	**283**	P	**Pn**	**08 36 06.2**	**+0.5**
ABAZ	**Army Bay**	**2.31**	**295**	P	**Pn**	**08 36 05.7**	**-0.3**
PKVZ	**Pokaka**	**2.34**	**224**	P	**Pn**	**08 36 07.9**	**+1.5**
MTVZ	**Mangateitei**	**2.34**	**221**	P	**Pn**	**08 36 07.7**	**+1.3**
WTAZ	**Waiatarua**	**2.38**	**286**	P	**Pn**	**08 36 07.5**	**+0.6**
PXZ	**Pawanui**	**2.45**	**190**	P	**Pn**	**08 36 08.1**	**+0.5**
PNHZ	**Pukenui**	**2.49**	**202**	P	**Pn**	**08 36 08.4**	**+0.2**
WPHZ	**Waipukurau**	**2.56**	**197**	P	**Pn**	**08 36 09.5**	**+0.4**
VRZ	**Vera Road**	**2.59**	**234**	P	**Pn**	**08 36 11.3**	**+2.0**
TSZ	**Takapari Road**	**2.69**	**205**	P	**Pn**	**08 36 10.8**	**0.0**
PRHZ	**Porangahau**	**2.72**	**193**	P	**Pn**	**08 36 11.3**	**+0.3**
MHEZ	**Mangahewa**	**2.85**	**238**	P	**Pn**	**08 36 15.5**	**+2.9**
DVHZ	**Dannevirke**	**2.85**	**200**	P	**Pn**	**08 36 12.6**	**-0.1**
WAZ	**Wanganui**	**2.87**	**221**	P	**Pn**	**08 36 14.2**	**+1.2**
ANWZ	**Angora Road**	**2.93**	**194**	P	**Pn**	**08 36 14.0**	**+0.2**
DREZ	**Durham Road**	**2.99**	**237**	P	**Pn**	**08 36 16.5**	**+2.1**
WCZ	**Waipu Caves**	**2.99**	**303**	P	**Pn**	**08 36 13.8**	**-0.8**
LREZ	**Lake Rotokare**	**3.01**	**231**	P	**Pn**	**08 36 16.7**	**+2.0**
POWZ	**Post Office Ro**	**3.06**	**205**	P	**Pn**	**08 36 15.3**	**-0.1**
OHWZ	**Ohakea**	**3.07**	**212**	P	**Pn**	**08 36 16.5**	**+1.0**
PREZ	**Palmer Road**	**3.09**	**235**	P	**Pn**	**08 36 18.4**	**+2.5**
PKE	**Pukeiti**	**3.13**	**239**	P	**Pn**	**08 36 18.7**	**+2.3**
PRWZ	**Pori Road**	**3.15**	**201**	P	**Pn**	**08 36 16.5**	**0.0**
KHEZ	**Kahui Hut**	**3.16**	**237**	P	**Pn**	**08 36 18.8**	**+2.0**
BFZ	**Birch Farm**	**3.20**	**196**	*e*Pn	**Pn**	**08 36 16.8**	**-0.4**
BFZ	**Birch Farm**	**3.20**	**196**	P	**Pn**	**08 36 16.8**	**-0.4**
NBEZ	**Newall Road No**	**3.25**	**238**	P	**Pn**	**08 36 20.1**	**+2.3**
NMEZ	**Nama Road**	**3.32**	**236**	P	**Pn**	**08 36 20.4**	**+1.7**
TIWZ	**Tintock**	**3.38**	**200**	P	**Pn**	**08 36 19.2**	**-0.3**
CPWZ	**Castlepoint**	**3.42**	**196**	P	**Pn**	**08 36 20.5**	**+0.4**
OUZ	**Omahuta**	**3.91**	**307**	*e*Pn	**Pn**	**08 36 26.3**	**-0.3**
OUZ	**Omahuta**	**3.91**	**307**	P	**Pn**	**08 36 25.7**	**-0.8**
SNZO	**South Karori**	**4.25**	**209**	*e*Pn	**Pn**	**08 36 29.0**	**-1.9**
THZ	**Tophouse**	**5.42**	**219**	*e*Pn	**Pn**	**08 36 45.0**	**-1.5**
KHZ	**Kahutara**	**5.65**	**211**	*e*Pn	**Pn**	**08 36 47.5**	**-2.0**
LTZ	**Lake Taylor**	**6.50**	**216**	*e*Pn	**Pn**	**08 36 58.4**	**-2.6**
CRLZ	**Canterbury Las**	**6.99**	**210**	*e*Pn	**Pn**	**08 37 04.5**	**-3.0**
CRLZ				*e*Sn	**Sn**	**08 38 19.3**	**-6.2**
OXZ	**Oxford**	**7.03**	**214**	*e*Pn	**Pn**	**08 37 04.6**	**-3.5**
MQZ	**McQueen's Vall**	**7.08**	**209**	*e*Pn	**Pn**	**08 37 05.2**	**-3.6**
MQZ				*e*Sn	**Sn**	**08 38 22.9**	**-5.0**
CTZ	**Chatham Island**	**7.60**	**145**	P	**Pn**	**08 37 19.9**	**+4.3**
RPZ	**Rata Peaks**	**7.78**	**217**	*e*Pn	**Pn**	**08 37 15.9**	**-2.3**
RPZ	**Rata Peaks**	**7.78**	**217**	P	**Pn**	**08 37 15.5**	**-2.7**
	30nm,0.3s,baz=18,slow=1.2,SNR=160						
RPZ				S	**Sn**	**08 38 39.0**	**-5.8**
	8.9nm,0.3s,baz=75,slow=20,SNR=14						
FOZ	**Fox Glacier**	**8.28**	**222**	*e*Pn	**Pn**	**08 37 25.2**	**+0.5**
FOZ				*e*Sn	**Sn**	**08 38 53.9**	**-2.7**
LBZ	**Lake Benmore**	**8.70**	**217**	*e*Pn	**Pn**	**08 37 27.6**	**-2.9**
ODZ	**Otahua Downs**	**9.00**	**212**	*e*Pn	**Pn**	**08 37 31.6**	**-2.9**
WKZ	**Wanaka**	**9.59**	**219**	*e*Pn	**Pn**	**08 37 39.0**	**-3.4**
MLZ	**Mavora Lakes**	**10.42**	**219**	*e*Pn	**Pn**	**08 37 50.2**	**-3.3**
WHZ	**Wether Hill Ro**	**10.88**	**218**	*e*Pn	**Pn**	**08 37 56.3**	**-3.2**
DCZ	**Deep Cove**	**10.98**	**221**	*e*Pn	**Pn**	**08 37 58.2**	**-2.6**
DZM	**Mont Dzumac**	**18.17**	**325**	*e*P	**Pn**	**08 39 31.4**	**+0.1**
	26nm,1.5s						
DZM	**Mont Dzumac**	**18.17**	**325**	P	**Pn**	**08 39 31.0**	**-0.3**
	0.3nm,0.3s,baz=136,slow=16,SNR=4.5						
MCQ	**Macquarie Isla**	**21.09**	**211**	*e*P	**P**	**08 39 57.2**	**-3.6**
	130nm,1.1s						
CAN	**Canberra**	**22.95**	**267**	*e*P	**P**	**08 40 19.3**	**-0.8**
	25nm,1.3s						
TOO	**Toolangi**	**25.25**	**260**	*e*P	**P**	**08 40 40.4**	**-0.6**
	11nm,1.2s						
EIDS	**Eidsvold**	**25.48**	**291**	*e*P	**P**	**08 40 44.0**	**+1.0**
	17nm,1.6s						
RAR	**Rarotonga**	**25.62**	**57**	LR	LR	08 51 37.8	
	comp=Z,62nm,18.2s,baz=102,slow=38						
CTA	**Charters Tower**	**32.21**	**294**	P	**P**	**08 41 45.1**	**+2.3**
	6.4nm,0.7s,baz=117,slow=10,SNR=8.2						
CTAO	**Charters Tower**	**32.21**	**294**	*e*P	**P**	**08 41 43.8**	**+1.0**
	16nm,1.4s						
BBOO	**Buckleboo**	**33.95**	**265**	*e*P	**P**	**08 41 58.9**	**+1.1**
	33nm,1.6s						
PMG	**Port Moresby**	**39.16**	**308**	LR	LR	08 57 17.4	
	comp=Z,62nm,21.0s,baz=66,slow=33						
AS31	**Alice Springs**	**39.60**	**278**	*e*P	**P**	**08 42 45.7**	**-0.1**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**39.60**	**278**	P	**P**	**08 42 47.0**	**+1.2**
	2.1nm,0.6s,baz=122,slow=8.3,SNR=49						
ASAR				PcP	**PcP**	**08 44 50.3**	**+0.1**
	1.1nm,0.4s,baz=117,slow=3.9,SNR=11						
ASAR				ScP	**ScP**	**08 48 22.4**	**-3.5**
	0.1nm,0.5s,baz=112,slow=3.4,SNR=4.4						
WRA	**Warramunga Arr**	**41.27**	**283**	P	**P**	**08 43 00.4**	**+0.9**
	3.2nm,0.7s,baz=123,slow=7.9,SNR=31						
WRA				PcP	**PcP**	**08 44 55.7**	**+0.1**
	0.5nm,0.6s,baz=128,slow=3.4,SNR=2.8						
SNAA	**Sanae**	**71.01**	**180**	P	**P**	**08 46 33.4**	**+3.4**
VNA3	**Neumayer Olymp**	**71.32**	**178**	P	**P**	**08 46 35.0**	**+3.3**
VNA2	**Neumayer--Watz**	**71.71**	**178**	P	**P**	**08 46 37.5**	**+3.5**
VNA1	**Neumayer--Stat**	**71.96**	**178**	P	**P**	**08 46 39.9**	**+4.4**
ASAJ	**Asahikawa**	**87.26**	**336**	LR	LR	09 24 11.9	
	comp=Z,254nm,18.2s,baz=354,slow=33						
KSRS	**Korea Array**	**87.58**	**323**	P	**P**	**08 48 01.6**	**+1.7**
	2.6nm,1.0s,baz=150,slow=5.7,SNR=5.5						
NJ2	**Nanjing**	**88.25**	**314**	*e*P	P	08 47 55.1	-8.1
PETK	**Petropavlovsk-**	**91.97**	**348**	P	**P**	**08 48 20.8**	**+0.8**
	1.2nm,0.6s,baz=138,slow=7.5,SNR=4.6						
PEA1	**Petropavlovsk-**	**91.97**	**348**	*e*P	**P**	**08 48 20.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**92.34**	**291**	P	**P**	**08 48 24.3**	**+1.7**
	0.9nm,0.5s,baz=150,slow=3.8,SNR=4.4						
HHC	**Hu-ho-hao-te**	**98.61**	**316**	*e*P	P	08 48 42.1	-8.7
LZH	**Lanzhou**	**100.06**	**308**	*e*P	**Pdif**	**08 48 47.3**	**-10**
LZH				pP	pP	08 49 32.1	-0.7
LZH				sP	sP	08 49 54.8	+7.5
YKA	**Yellowknife Ar**	**113.58**	**28**	PKiKP	**PKiKP**	**08 53 49.2**	**+0.7**
	0.1nm,0.3s,baz=246,slow=2.0,SNR=4.2						
MKAR	**Makanchi Array**	**119.38**	**308**	PKP	**PKiKP**	**08 54 00.5**	**+0.2**
	0.2nm,0.5s,baz=86,slow=3.0,SNR=2.7						
ARCES	**ARCESS Array B**	**144.63**	**343**	PKPbc	PKPbc	08 54 45.8	-0.1
	7.1nm,0.6s,baz=52,slow=2.6,SNR=50						
KBZ	**Khabaz**	**145.33**	**295**	PKPbc	**PKPbc**	**08 54 48.6**	**-0.2**
	0.5nm,0.5s,baz=0.0,slow=5.1,SNR=3.5						
FINES	**FINESS Array B**	**150.22**	**332**	PKPbc	**PKPbc**	**08 55 01.2**	**-0.1**
	1.8nm,0.3s,baz=35,slow=4.3,SNR=37						
BRTR	**Keskin Array B**	**151.77**	**286**	PKPbc	**PKPbc**	**08 55 06.0**	**0.0**
	0.8nm,0.4s,baz=158,slow=3.7,SNR=7.9						
BRTR				PKPab	**PKPab**	**08 55 15.8**	**+0.3**
	0.9nm,0.8s,baz=143,slow=5.0,SNR=4.6						
AKASG	**Malin Array Be**	**153.94**	**310**	PKPbc	**PKiKP**	**08 55 10.4**	**+0.2**
	0.2nm,0.3s,baz=62,slow=2.2,SNR=3.6						
AKASG				PKPab	**PKPab**	**08 55 24.0**	**0.0**
	0.2nm,0.3s,baz=57,slow=3.9,SNR=4.9						
AKBB	**Malin Array Si**	**153.94**	**310**	*e*PKPdf	**PKPdf**	**08 55 03.5**	**+1.5**
AKBB				*e*PKPab	**PKPab**	**08 55 23.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**155.34**	**190**	PKPbc	PKPbc	08 55 15.1	
	0.3nm,0.3s,baz=152,slow=2.5,SNR=6.7						
TORD				PKPab	**PKPab**	**08 55 26.1**	**-4.7**
	0.2nm,0.3s,baz=166,slow=4.6,SNR=3.4						
GERES	**GERESS Array B**	**163.72**	**319**	PKPab	**PKPab**	**08 56 06.5**	**-0.1**
	0.4nm,0.7s,baz=46,slow=4.2,SNR=4.5						

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*KRSC **19** 08:39:43.0±10.0,56°.06N×164°.73E,h60km±10km,ML4.4*
*ISCJB **19** 08:39:43.5±0.7,56°.06N±0°.03×164°.67E±0°.04,h19km±5km, mb4.0/27,MS3.5/11,Error ellipse: s-maj=4.4km s-min=3.6km az=160.4*
*IDC **19** 08:39:43.3±0.8,56°.26N×164°.38E,h0km,mb3.8/15, mb1 4.0/17,mb1mx3.8/45,mbtmp3.8/17,MLS.9/2,MS3.4/13, Ms1 3.4/13,ms1mx3.2/46,Error ellipse: s-maj=25.0km s-min=12.1km az=147.0*
*MOS **19** 08:39:45.1±0.8,56°.10N×164°.67E,h37km,mb4.5/3,Error ellipse: s-maj=7.5km s-min=4.7km az=57.7*
*NEIC **19** 08:39:52.5±1.8,56°.45N×163°.29E,h35km±5km,mb4.4/15, Error ellipse: s-maj=19.5km s-min=4.6km az=115.0*
ISC 19 08:39:42.8±1.3,**56°.05N**±0°.04×**164°.61E**±0°.03,**h1**km±8km, **n156,**σ1§**56**/175,**mb4.1**/27,**MS3.3**/11,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.01**	**280**	*e*P	**Pg**	**08 40 01.8**	**-0.4**
KBTR				*e*S	**Sg**	**08 40 15.0**	**-0.4**
KBTR	**Krutoberegovo**	**1.01**	**280**	PN	**Pg**	**08 40 01.8**	**-0.4**
KBTR				S	**Sg**	**08 40 15.0**	**-0.4**
KBG	**Krutoberegovo**	**1.08**	**282**	*e*P	**Pg**	**08 40 02.8**	**-0.8**
KBG				*e*S	**Sg**	**08 40 17.1**	**-0.5**
KBG	**Krutoberegovo**	**1.08**	**282**	PN	**Pg**	**08 40 02.8**	**-0.8**
KBG				S	**Sg**	**08 40 17.1**	**-0.5**
BKI	**Bering**	**1.15**	**137**	*e*P	**Pg**	**08 40 04.9**	**+0.1**
BKI				*e*S	**Sg**	**08 40 19.3**	**-0.3**
BKI	**Bering**	**1.15**	**137**	PN	**Pg**	**08 40 04.9**	**+0.1**
BKI				S	**Sg**	**08 40 19.3**	**-0.3**
SMKR	**Semkarok**	**1.83**	**288**	*e*P	**Pn**	**08 40 14.9**	**-0.6**
SMKR				*e*S	**Sn**	**08 40 37.8**	**-1.5**
SMKR	**Semkarok**	**1.83**	**288**	PN	**Pn**	**08 40 14.9**	**-0.6**
SMKR				S	**Sn**	**08 40 37.8**	**-1.5**
BDR	**Baidarnaya**	**1.96**	**287**	*e*P	**Pn**	**08 40 17.3**	**0.0**
BDR				*e*S	**Sn**	**08 40 41.9**	**-0.7**
BDR	**Baidarnaya**	**1.96**	**287**	PN	**Pn**	**08 40 17.3**	**0.0**
BDR				S	**Sn**	**08 40 41.9**	**-0.7**
SRKR	**Sorokina**	**2.01**	**289**	*e*P	**Pn**	**08 40 17.6**	**-0.3**
SRKR				*e*S	**Sn**	**08 40 42.2**	**-1.5**
SRKR	**Sorokina**	**2.01**	**289**	PN	**Pn**	**08 40 17.6**	**-0.3**
SRKR				S	**Sn**	**08 40 42.2**	**-1.5**
CIRR	**Tsirk**	**2.17**	**273**	*e*P	**Pn**	**08 40 20.4**	**+0.3**
CIRR	**Tsirk**	**2.17**	**273**	PN	**Pn**	**08 40 20.4**	**+0.3**
LGNR	**Loginova**	**2.20**	**273**	P	**Pn**	**08 40 21.5**	**+0.8**
LGNR				S	**Sn**	**08 40 49.4**	**+0.7**
LGNR	**Loginova**	**2.20**	**273**	PN	**Pn**	**08 40 21.5**	**+0.8**
LGNR				S	**Sn**	**08 40 49.4**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.20**	**269**	P	**Pn**	**08 40 21.4**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**2.20**	**269**	PN	**Pn**	**08 40 21.4**	**+0.8**
MKZ	**Mys Kozlova**	**2.22**	**229**	*e*P	**Pn**	**08 40 20.4**	**-0.4**
MKZ				*e*S	**Sn**	**08 40 46.5**	**-2.3**
MKZ	**Mys Kozlova**	**2.22**	**229**	PN	**Pn**	**08 40 20.4**	**-0.4**
MKZ				S	**Sn**	**08 40 46.5**	**-2.3**
KLY	**Klyuchi**	**2.23**	**278**	*e*P	**Pn**	**08 40 19.6**	**-1.2**
KLY				*e*S	**Sn**	**08 40 45.5**	**-3.4**
KLY	**Klyuchi**	**2.23**	**278**	PN	**Pn**	**08 40 19.6**	**-1.2**
KLY				S	**Sn**	**08 40 45.5**	**-3.4**
KRSR	**Krestovskiy**	**2.27**	**276**	P	**Pn**	**08 40 21.7**	**+0.2**
KRSR				S	**Sn**	**08 40 49.8**	**-0.4**
KRSR	**Krestovskiy**	**2.27**	**276**	PN	**Pn**	**08 40 21.7**	**+0.2**
KRSR				S	**Sn**	**08 40 49.8**	**-0.4**
BZWR	**Bezymyannyi-We**	**2.31**	**270**	*e*P	**Pn**	**08 40 22.8**	**+0.6**
BZWR				S	**Sn**	**08 40 52.6**	**+1.3**
BZWR	**Bezymyannyi-We**	**2.31**	**270**	PN	**Pn**	**08 40 22.8**	**+0.6**
BZWR				S	**Sn**	**08 40 52.6**	**+1.3**
BZMR	**Bezymyannaya**	**2.32**	**269**	*e*P	**Pn**	**08 40 23.1**	**+0.9**
BZMR				*e*S	**Sn**	**08 40 53.2**	**+1.8**
BZMR	**Bezymyannaya**	**2.32**	**269**	PN	**Pn**	**08 40 23.1**	**+0.9**
BZMR				S	**Sn**	**08 40 53.2**	**+1.8**
KIRR	**Kirishev**	**2.40**	**269**	*e*P	**Pn**	**08 40 24.5**	**+1.2**
KIRR				*e*S	**Sn

comp=Z,22nm,0.8s
MJAR Matsushiro Arr 26.43 234 P **P 08 45 21.6 +0.7**
comp=Z,2.7nm,0.6s,baz=25,slow=7.0,SNR=11
MJAR LR LR 08 56 55.5
comp=Z,73nm,18.5s,baz=95,slow=39
INK Inuvik 29.91 41 P **P 08 45 51.4 -0.3**
comp=Z,1.0nm,0.9s,baz=309,slow=7.3,SNR=2.3
INK LR LR 08 59 51.2
comp=Z,44nm,19.1s,baz=334,slow=40
KSRS Korea Array 30.76 248 P **P 08 45 59.3 -0.1**
comp=Z,0.9nm,0.5s,baz=33,slow=9.1,SNR=5.6
KSRS LR LR 08 57 54.3
comp=Z,49nm,19.6s,baz=60,slow=36
NRIK Noril'sk 35.06 323 LR LR 09 01 39.1
comp=Z,50nm,19.9s,baz=78,slow=38
SONA0 Songino Array 35.82 282 *e*P **P 08 46 42.3 -1.4**
SONM Songino Array 35.82 282 *e*P **P 08 46 43.0 -0.7**
SONM Songino Array 35.82 282 P **P 08 46 42.3 -1.4**
comp=Z,1.2nm,0.7s,baz=50,slow=7.9,SNR=7.5
SONM LR LR 09 02 42.9
comp=Z,74nm,18.1s,baz=46,slow=39
H11N2 WAKE ISLAND Hy 36.30 176 T T 09 24 44.0
baz=358,slow=76,SNR=756
H11N3 WAKE ISLAND Hy 36.32 176 T T 09 24 45.3
baz=358,slow=76,SNR=458
H11N1 WAKE ISLAND Hy 36.32 176 T T 09 24 45.3
baz=358,slow=76,SNR=430
H11S1 WAKE ISLAND Hy 37.51 177 T T 09 26 12.8
baz=359,slow=76,SNR=11
H11S3 WAKE ISLAND Hy 37.52 177 T T 09 26 27.1
baz=359,slow=76,SNR=11
H11S2 WAKE ISLAND Hy 37.53 177 T T 09 26 16.6
baz=359,slow=76,SNR=9.5
YKA Yellowknife Ar 39.21 46 P **P 08 47 11.4 -0.5**
comp=Z,0.1nm,0.5s,baz=300,slow=8.3,SNR=4.5
RES Resolute Bay 39.57 24 P **P 08 47 14.3 -0.6**
comp=Z,0.8nm,0.8s,baz=269,slow=9.5,SNR=4.2
CD2 Chengdu 48.85 265 *e*P **P 08 48 32.9 +3.1**
MK32 Makanchi Array 49.23 296 *e*P **P 08 48 31.2 -1.3**
MKAR Makanchi Array 49.23 296 *e*P **P 08 48 30.8 -1.7**
MKAR Makanchi Array 49.23 296 *e*P **P 08 48 30.8 -1.7**
MKAR Makanchi Array 49.23 296 P **P 08 48 31.2 -1.3**
comp=Z,0.5nm,0.4s,baz=49,slow=6.7,SNR=8.8
WVOR Wild Horse Val 49.33 72 *e*P P 08 48 41.4 +8.0
comp=Z,4.9nm,0.8s
WVOR Wild Horse Val 49.33 72 *e*P P 08 48 41.4 +7.9
WVOR pmax pmax
comp=Z,5.0nm,1.0s
PEV Pleasant Valle 51.47 79 *e*P P 08 48 56.5 +7.0
YHH Holmes Hill 51.74 65 *e*P P 08 49 01.6 +10
comp=Z,3.9nm,1.2s
RLMT Red Lodge 52.30 63 *e*P P 08 49 04.2 +8.3
comp=Z,11nm,1.4s
AHID Auburn Hatcher 53.05 66 *e*P P 08 49 07.3 +5.8
comp=Z,4.4nm,0.9s
BW06 Boulder Array 53.84 65 *e*P P 08 49 15.4 +8.1
comp=Z,5.2nm,1.3s
PDAR Pinedale Array 53.84 65 P **P 08 49 08.1 +0.8**
comp=Z,0.2nm,0.4s,baz=316,slow=5.2,SNR=2.4
SRU San Rafael Swe 56.01 69 *e*P P 08 49 31.2 +8.2
comp=Z,4.1nm,1.0s
SRU San Rafael Swe 56.01 69 *e*P P 08 49 31.2 +8.2
SRU pmax pmax
comp=Z,4.0nm,1.0s
O20A White River Ci 56.44 67 *e*P P 08 49 35.5 +9.4
comp=Z,4.1nm,1.0s
PV03 Paradox Valley 57.52 69 *e*P P 08 49 44.2 +10
comp=Z,5.0nm,1.3s
SMCO Snowmass 57.80 67 *e*P P 08 49 44.6 +8.6
comp=Z,3.7nm,1.3s
FIA0 FINESS Array S 58.40 338 *e*P **P 08 49 38.0 -1.3**
FIA0 FINESS Array S 58.40 338 *e*P **P 08 49 38.0 -1.3**
FINES FINESS Array B 58.40 338 *e*P **P 08 49 37.7 -1.6**
FINES FINESS Array B 58.40 338 *e*P **P 08 49 37.7 -1.6**
FINES FINESS Array B 58.40 338 P **P 08 49 38.0 -1.3**
comp=Z,1.3nm,0.7s,baz=15,slow=5.8,SNR=5.1
CMAR Chiang Mai Arr 61.32 260 P **P 08 50 00.1 +0.2**
comp=Z,2.8nm,0.7s,baz=19,slow=6.8,SNR=13
CMAR LR LR 09 17 45.2
comp=Z,56nm,19.8s,baz=260,slow=37
NB2 NORSAR Subarra 61.38 346 P **P 08 49 58.0 -1.9**
comp=Z,0.5nm,0.5s,baz=17,slow=6.9
NB200 NORSAR Array S 61.38 346 *e*P **P 08 49 58.4 -1.5**
NOA NORSAR Array B 61.38 346 P **P 08 49 58.4 -1.5**
comp=Z,0.7nm,0.6s,baz=18,slow=6.8,SNR=4.6
HNR Honiara 65.36 185 LR LR 09 19 01.5
comp=Z,32nm,18.2s,baz=333,slow=36
KVAR Kislovodsk Arr 69.00 319 LR LR 09 25 09.7
comp=Z,366nm,18.8s,baz=86,slow=40
ASAR Alice Springs 83.58 208 P **P 08 52 14.4 +2.0**
comp=Z,0.2nm,0.7s,baz=23,slow=5.0,SNR=2.9

IDC 19 08:46:41.1±1.7, 11°.05S×165°.10E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/33, mbtmp4.0/6, ML4.1/2, Error ellipse: s-maj=32.9km s-min=29.9km az=131.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.32 287**		Pn	Pn	08 48 03.2	+1.4
HNR	8.4nm,0.3s,baz=146,slow=3.6,SNR=2.6			Sn	Sn	08 49 05.2	+1.3
DZM	**Mont Dzumac**	**11.04 173**		Pn	Pn	08 49 19.8	-0.6
	5.6nm,0.3s,baz=37,slow=20,SNR=3.3						
STKA	**Stephens Creek**	**30.01 223**		P	P	08 52 52.4	+0.7
	0.8nm,0.3s,baz=288,slow=12,SNR=41						
WRA	**Warramunga Arr**	**30.89 250**		P	P	08 52 59.2	-0.4
	2.2nm,0.7s,baz=50,slow=7.9,SNR=5.7						
ASAR	**Alice Springs**	**32.23 243**		P	P	08 53 10.9	-0.5
	0.8nm,0.6s,baz=67,slow=9.1,SNR=14						
ILAR	**Eielson Array**	**83.72 19**		P	P	08 59 11.7	+0.1
	1.0nm,0.6s,baz=67,slow=10.0,SNR=18						
	0.2nm,0.5s,baz=229,slow=4.8,SNR=5.2						

TIR ***19*** *08:55:46.0, 41°.45N×20°.48E, h7km, Md2.7/3*
SKO ***19*** *08:55:46.8, 41°.46N×20°.48E, h14km, M1.8, ML2.2*
BEO ***19*** *08:55:48.4±0.4, 41°.41N×20°.49E, h3km±3km, ML1.8/9*
ISC 19 08:55:46.9±1.0, 41°.45N±0°.03×20°.45E±0°.02, h16km±8km, n24, σ1°.54/39, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.23 358**		*i* PG	**Pg**	**08 55 51.2**	**-1.0**
PHP				*i* SG	**Sg**	**08 55 55.3**	**-0.5**
OHR	**Ohrid**	**0.43 143**		*i* Pg	**Pb**	**08 55 55.5**	**-0.6**
OHR				*i* Sg	**Sb**	**08 56 03.0**	**+0.6**
OHR				*e*Lg	Lg	08 56 04.0	
	comp=E,112nm,0.4s						
OHR				*e*Lg	Lg	08 56 04.0	
	comp=N,210nm,0.4s						
TIR	**Tirane**	**0.46 257**		*e*Pg	**Pb**	**08 55 56.7**	**+0.2**
TIR				*e*Sg	**Sb**	**08 56 04.2**	**+1.2**
TIR	**Tirane**	**0.46 257**		*i* Pg	**Pb**	**08 55 56.4**	**-0.1**
TIR	**Tirane**	**0.46 257**		*i* PG	**Pb**	**08 55 56.2**	**-0.3**
TIR				*i* SG	**Sb**	**08 56 04.2**	**+1.2**
KRUS	**Krusevo**	**0.60 98**		*i* Pg	**Pb**	**08 55 58.5**	**-0.6**
KRUS				*i* Sg	**Sb**	**08 56 07.6**	**+0.2**
KRUS				*e*Lg	Lg	08 56 08.5	
	comp=N,31nm,0.4s						
KRUS				*e*Lg	Lg	08 56 08.5	
	comp=E,38nm,0.4s						
BIA	**Bitola**	**0.79 123**		*e*Pg	**Pb**	**08 56 02.0**	**-0.2**
BIA				*i* Sg	**Sn**	**08 56 13.4**	**-1.3**
BIA				*e*Lg	Lg	08 56 14.0	
	comp=E,58nm,0.5s						
BIA				*e*Lg	Lg	08 56 14.1	
	comp=N,39nm,0.3s						
SKO	**Skopje**	**0.90 55**		*e*Pg	**Pb**	**08 56 04.0**	**-0.1**
SKO				*e*Sg	**Sn**	**08 56 16.9**	**-0.7**
FNA	**Florina**	**0.97 134**		*i* Pg	**Pn**	**08 56 05.2**	**-0.7**
FNA	**Florina**	**0.97 134**		*i* PN	**Pn**	**08 56 05.1**	**-0.7**
FNA				*i* SN	**Sn**	**08 56 19.2**	**0.0**
STIP	**Stip**	**1.32 79**		*i* Pg	**Pg**	**08 56 15.0**	**+2.6**
STIP				*i* Sg	**Sg**	**08 56 35.9**	**+6.3**
STIP				*e*Lg	Lg	08 56 40.0	
	comp=N,11nm,0.5s						
STIP				*e*Lg	Lg	08 56 40.0	
	comp=E,8.0nm,0.4s						
PDG	**Podgorica**	**1.32 318**		*e*Sg	**Sg**	**08 56 32.4**	**+2.8**
GRG	**Griva**	**1.55 108**		*i* Pg	**Pg**	**08 56 15.5**	**-1.2**
VAY	**Valandovo**	**1.60 94**		*e*Pg	**Pg**	**08 56 16.4**	**-1.2**
VAY				*e*Sg	**Sg**	**08 56 38.9**	**+0.5**
VAY	**Valandovo**	**1.60 94**		*i* Pg	**Pg**	**08 56 16.4**	**-1.2**
VAY				*i* Sg	**Sg**	**08 56 38.6**	**+0.2**
VAY				*e*Lg	Lg	08 56 40.5	
	comp=N,40nm,0.9s						
VAY				*e*Lg	Lg	08 56 40.5	
	comp=E,15nm,0.5s						
BARS	**Barje**	**1.70 36**		*e*Pn	**Pg**	**08 56 18.7**	**-0.8**
BARS				*e*Sg	**Sg**	**08 56 43.6**	**+2.0**
BOSS	**Bosilegrad**	**1.83 55**		*e*Pn	**Pb**	**08 56 20.0**	**0.0**
SJES	**Sjenica**	**1.84 349**		*e*Pn	**Pg**	**08 56 22.0**	**-0.3**
SJES				*e*Sg	**Sg**	**08 56 47.7**	**+1.5**
TREB	**Trebinje**	**2.01 310**		*e*Pn	**Pb**	**08 56 23.7**	**+0.7**
TREB				*e*Sn	**Sg**	**08 56 50.8**	**-0.8**
IVAS	**Ivanjica**	**2.13 354**		*e*Pn	**Pb**	**08 56 24.3**	**-0.9**
VTS	**Vitosha**	**2.38 60**		*e*Pn	**Pb**	**08 56 27.8**	**-1.5**
ZAPS	**Zavoj**	**2.43 41**		*e*Pg	**Pg**	**08 56 32.5**	**-1.0**
STON	**Ston**	**2.49 306**		*i* Pn	**Pb**	**08 56 30.2**	**-1.0**
STON				Sn	**Sb**	**08 57 02.8**	**+1.2**
BBLS	**Lazići**	**2.53 343**		*e*Pn	**Pb**	**08 56 30.9**	**-1.1**

IGIL ***19*** *09:07:24.8, 36°.67N×5°.31E, h0km, MS4.3*
IDC ***19*** *09:07:25.0±0.4, 36°.73N×5°.19E, h0km, mb4.5/39, mb1 4.6/49, mb1mx4.5/67, mbtmp4.5/49, ML4.3/8, MS4.6/36, Ms1 4.6/36, ms1mx4.4/54, Error ellipse: s-maj=10.1km s-min=9.0km az=20.0*
BJI ***19*** *09:07:24.8±0.0, 37°.13N×4°.70E, h14km, mb4.9/28, mB5.0/23, Ms5.1/16, Ms7 4.8/14*
LDG ***19*** *09:07:25.6±0.1, 36°.75N×5°.10E, h2km, Ml4.9/47, ms4.5/7*
NEIC ***19*** *09:07:26.5±2.1, 36°.70N×5°.26E, h7km±3km, mb5.0/150, MS4.9/344, ML5.5(ALG), Error ellipse: s-maj=10.5km s-min=7.2km az=188.0*
NEIC At least 5 people injured and some houses slightly damaged in the Bejaia area. Felt at Bordj Bou Arreridj and Boumerdes.
MOS ***19*** *09:07:26.7±1.4, 36°.83N×5°.15E, h17km, mb5.0/57, MS4.7/41, Error ellipse: s-maj=4.5km s-min=2.1km az=78.1*
MED_RC ***19*** *09:07:27.0±0.5, 36°.66N×5°.19E, h14km±1km, MW5.2/18, Moment Tensor Solution. Mantle waves: s18,c30; Duration: 1ꝑ4 Moment tensor: Scale 10¹⁶Nm; Mrr=2.35±.31; Mθθ=4.44±.28; Mφφ=6.79±.35; Mrθ=2.06±.66; Mθφ=4.58±.26; Mφr=0.36±.61; Best double couple: M0=7.67000×10¹⁶ NP1:φs=62.00000°, δ=78.00000°, λ=-20.00000°. NP2:φs=156.00000°, δ=70.00000°, λ=-168.00000°. Principal axes: T 8.5200, Plg=6.0000°, Azm=110.0000°; N -1.7000, Plg=67.0000°, Azm=213.0000°; P -6.8200, Plg=22.0000°, Azm=18.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=40s.*
CRAAG ***19*** *09:07:27.8, 36°.54N×5°.20E, Ml5.2*
MDD ***19*** *09:07:27.3±0.8, 36°.77N×5°.31E, h6km±9km, mb5.4/70, Error ellipse: s-maj=6.0km s-min=3.8km az=158.0, PRXIMO*
ISCJB ***19*** *09:07:27.2±0.1, 36°.92N±0°.01×5°.111E±0°.010, h13km, mb4.8/189, MS4.8/361, Error ellipse: s-maj=1.9km s-min=1.1km az=177.7*
GCMT ***19*** *09:07:28.5±0.2, 36°.59N±0°.01×5°.19E±0°.01, h15km, MW5.2/114, Moment Tensor Solution. s69,c100; s114,c196; Duration: 1ꝑ0 Moment tensor: Scale 10¹⁶ Nm; Mrr=0.31±.12; Mθθ=5.83±.14; Mφφ=6.14±.13; Mrθ=3.74±.47; Mθφ=2.35±.10; Mφr=0.72±.34; Best double couple: M0=7.42300×10¹⁶ NP1:φs=54.00000°, δ=82.00000°, λ=-27.00000°. NP2:φs=149.00000°, δ=63.00000°, λ=-170.00000°. Principal axes: T 6.8990, Plg=13.0000°, Azm=104.0000°; N 1.0470, Plg=61.0000°, Azm=218.0000°; P -7.9470, Plg=25.0000°, Azm=8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 09:07:27.3±0.3, 36°.74N±0°.03×5°.19E±0°.03, h13km, n1344, σ2ꝑ28/1291, mb4.9/194, MS4.9/363, 42C-42D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.57 163**		P	**Pg**	**09 07 36.0**	**-2.4**
SET	**Setif**	**0.57 163**		P	**Pg**	**09 07 36.0**	**-2.4**
DFRA	**Djebel Bou Aff**	**0.58 110**		P	**Pg**	**09 07 38.0**	**-0.8**
DFRA	**Djebel Bou Aff**	**0.58 110**		P	**Pg**	**09 07 38.0**	**-0.8**
CKHR	**Kef el Ahmar**	**0.77 160**		P	**Pg**	**09 07 41.3**	**-1.0**
CKHR	**Kef el Ahmar**	**0.77 160**		P	**Pg**	**09 07 41.3**	**-1.0**
CASM	**Ain Smara**	**1.15 114**		P	**Pb**	**09 07 47.4**	**-1.7**
CASM	**Ain Smara**	**1.15 114**		P	**Pb**	**09 07 47.4**	**-1.7**
CTEI	**Djebel Teioual**	**1.19 124**		P	**Pn**	**09 07 48.0**	**-1.8**
CTEI	**Djebel Teioual**	**1.19 124**		P	**Pn**	**09 07 48.0**	**-1.8**
AKET	**Djebel Ketaf**	**1.27 237**		P	**Pn**	**09 07 50.8**	**0.0**
AKET	**Djebel Ketaf**	**1.27 237**		*e*Pn	**Pn**	**09 07 50.9**	**+0.1**
AKET	**Djebel Ketaf**	**1.27 237**		P	**Pn**	**09 07 50.8**	**0.0**
CKFL	**Kef-Lekhel**	**1.28 105**		P	**Pn**	**09 07 49.5**	**-1.5**
CKFL	**Kef-Lekhel**	**1.28 105**		P	**Pn**	**09 07 49.5**	**-1.5**
CAEH	**'Ain El Ouahch**	**1.33 88**		P	**Pn**	**09 07 49.8**	**-1.8**
CAEH	**'Ain El Ouahch**	**1.33 88**		P	**Pn**	**09 07 49.8**	**-1.8**
ABMS	**Boumerdes**	**1.38 271**		P	**Pn**	**09 07 52.2**	**0.0**
ABMS	**Boumerdes**	**1.38 271**		*e*Pn	**Pn**	**09 07 52.2**	**0.0**
ABMS	**Boumerdes**	**1.38 271**		P	**Pn**	**09 07 52.2**	**0.0**
ABA	**Alger-Bouzarea**	**1.73 273**		P	**Pn**	**09 07 56.6**	**-0.5**
ABA	**Alger-Bouzarea**	**1.73 273**		P	**Pn**	**09 07 56.6**	**-0.5**
CMAH	**Djebel Manchou**	**1.79 93**		P	**Pn**	**09 07 56.6**	**-1.4**
CMAH	**Djebel Manchou**	**1.79 93**		P	**Pn**	**09 07 56.6**	**-1.4**
ABSA	**Djebel Ababsia**	**1.90 104**		P	**Pn**	**09 07 58.1**	**-1.4**
CABS	**Djebel Ababsia**	**1.90 104**		P	**Pn**	**09 07 58.1**	**-1.4**
EBNR	**Beni Rached**	**2.98 262**		P	**Pn**	**09 08 14.3**	**-0.1**
EBNR	**Beni Rached**	**2.98 262**		*e*Pn	**Pn**	**09 08 14.3**	**-0.1**
ECHA	**Ech Chlef**	**3.14 260**		P	**Pn**	**09 08 17.2**	**+0.7**
ECHF	**Ech Chlef**	**3.16 260**		*e*Pn	**Pn**	**09 08 17.2**	**+0.5**
ECHF	**Ech Chlef**	**3.16 260**		P	**Pn**	**09 08 17.2**	**+0.5**
MAHO	**Mahon**	**3.23 347**		⇓P	**Pn**	**09 08 17.1**	**-0.6**
MAHO				S	**Sn**	**09 08 52.9**	**-3.1**
MAHO	**Mahon**	**3.23 347**		⇓*i*P	**Pn**	**09 08 17.1**	**-0.6**
MAHO				*e*S	**Sn**	**09 08 52.9**	**-3.1**
EANR	**'Ain N'Sour**	**3.40 258**		P	**Pn**	**09 08 18.8**	**-1.3**
EANR	**'Ain N'Sour**	**3.40 258**		*e*Pn	**Pn**	**09 08 18.8**	**-1.3**
EANR	**'Ain N'Sour**	**3.40 258**		P	**Pn**	**09 08 18.8**	**-1.3**
ETRT	**Tiaret**	**3.43 248**		P	**Pn**	**09 08 21.6**	**+1.0**
ETRT	**Tiaret**	**3.43 248**		*e*Pn	**Pn**	**09 08 21.6**	**+1.0**
ETRT	**Tiaret**	**3.43 248**		P	**Pn**	**09 08 21.6**	**+1.0**
KEST	**Kesra**	**3.51 105**		*e*Pn	**Pn**	**09 08 20.9**	**-0.6**
KEST	**Kesra**	**3.51 105**		Pn	**Pn**	**09 08 21.0**	**-0.6**
	176nm,0.3s,baz=245,slow=5.1,SNR=296						
KEST				Sn	**Sn**	**09 09 03.2**	**+0.2**
	159nm,0.3s,baz=295,slow=23,SNR=9.7						
KEST				LR	LR	09 09 15.8	
	comp=Z,5μm,21.7s,baz=146,slow=32						
KEST				Lg	Lg	09 09 16.4	
	baz=21,slow=18,SNR=2.4						
ETOS	**Mallorca**	**3.55 329**		⇓P	**Pn**	**09 08 22.9**	**+0.8**
	240nm,0.3s,SNR=18						
ETOS				S	**Sn**	**09 09 01.8**	**-2.2**
	1μm,0.5s,SNR=4.7						
OKGL	**Djebel Kef Gue**	**3.74 260**		P	**Pn**	**09 08 23.0**	**-1.7**
OKGL	**Djebel Kef Gue**	**3.74 260**		*e*Pn	**Pn**	**09 08 23.0**	**-1.7**
OKGL	**Djebel Kef Gue**	**3.74 260**		P	**Pn**	**09 08 24.4**	**-0.3**
	126nm,0.2s,SNR=7.9						
OJGS	**Djebel Guires**	**3.80 252**		P	**Pn**	**09 08 24.0**	**-1.7**
OJGS	**Djebel Guires**	**3.80 252**		P	**Pn**	**09 08 24.0**	**-1.7**
EIBI	**Ibiza**	**3.80 308**		P	**Pn**	**09 08 25.8**	**+0.2**
	265nm,0.2s,SNR=96						
EIBI				S	**Sn**	**09 09 09.4**	**-0.8**
	1μm,0.2s,SNR=4.7						
OJBR	**Djebel Berber**	**4.09 255**		P	Pn	09 08 23.5	-6.1
OJBR	**Djebel Berber**	**4.09 255**		P	Pn	09 08 23.5	-6.1
ODJA	**Bouhanifia**	**4.55 254**		P	**Pn**	**09 08 36.0**	**0.0**
ODJA	**Bouhanifia**	**4.55 254**		P	**Pn**	**09 08 36.0**	**0.0**
EBEN2	**Beniarda presa**	**4.68 296**		P	**Pn**	**09 08 39.4**	**+1.7**
	654nm,0.6s,SNR=4.0						
EBEN2				S	**Sn**	**09 09 30.9**	**-1.0**
	652nm,0.5s,SNR=7.9						
USTO	**Oran**	**4.75 259**		P	**Pb**	**09 08 48.0**	**-2.4**
USTO	**Oran**	**4.75 259**		P	**Pb**	**09 08 48.0**	**-2.4**
ETRV	**Los Montesinos**	**4.91 287**		P	**Pn**	**09 08 41.3**	**+0.5**
	704nm,0.4s,SNR=7.9						
ETRV				S	**Sn**	**09 09 37.6**	**+0.1**
	1μm,0.5s,SNR=7.9						
AFON	**Font Roja**	**4.94 295**		P	**Pn**	**09 08 42.7**	**+1.5**
	48nm,0.3s,SNR=27						
AFON				S	**Sn**	**09 09 38.0**	**-0.3**
	363nm,0.4s						
CART	**Cartagena**	**5.02 282**		*e*Pn	**Pn**	**09 08 43.0**	**+0.8**
CART				*e*Sn	**Sn**	**09 09 39.0**	**-1.1**
CART	**Cartagena**	**5.02 282**		⇓*e*P	**Pn**	**09 08 43.4**	**+1.1**
CART				S	**Sn**	**09 09 38.1**	**-2.0**
CART	**Cartagena**	**5.02 282**		⇓*e*P	**Pn**	**09 08 43.4**	**+1.1**
CART				*e*S	**Sn**	**09 09 38.1**	**-2.0**
OTSS	**Djebel Tessala**	**5.07 255**		P	**Pn**	**09 08 45.0**	**+1.9**
OTSS	**Djebel Tessala**	**5.07 255**		*e*Pn	**Pn**	**09 08 41.5**	**-1.6**
OTSS	**Djebel Tessala**	**5.07 255**		P	**Pn**	**09 08 45.0**	**+1.9**
EMUR	**La Murta**	**5.25 284**		P	**Pn**	**09 08 45.9**	**+0.5**
	69nm,0.3s,SNR=132						
EMUR				S	**Sn**	**09 09 42.8**	**-3.0**
	242nm,0.3s,SNR=8.8						
ODZI	**Dziouia**	**5.40 256**		P	**Pn**	**09 08 43.0**	**-4.6**
ODZI	**Dziouia**	**5.40 256**		P	**Pn**	**09 08 43.0**	**-4.6**
CFON	**Fontmartina**	**5.45 338**		⇓P	**Pn**	**09 08 48.1**	**-0.2**
	37nm,0.2s,SNR=18						
CFON				S	**Sn**	**09 09 46.8**	**-4.1**
	629nm,0.3s,SNR=6.6						
EPOB	**Poblet**	**5.61 326**		⇓P	**Pn**	**09 08 51.0**	**+0.6**
	27nm,0.2s,SNR=18						
EPOB				S	**Sn**	**09 09 50.0**	**-4.7**
	452nm,0.4s,SNR=13						
ECHE	**Chera**	**5.62 302**		P	**Pn**	**09 08 52.5**	**+1.8**
	263nm,0.4s,SNR=7.9						
ECHE				S	**Sn**	**09 09 53.6**	**-1.5**
	230nm,0.6s,SNR=7.9						
ERTA	**Horta de San J**	**5.66 319**		P	**Pn**	**09 08 52.2**	**+1.0**
	7.0nm,0.1s,SNR=22						
ERTA				S	**Sn**	**09 09 51.3**	**-4.7**
	110nm,0.3s,SNR=8.7						
ETOB	**Tobarra**	**5.67 292**		P	**Pn**	**09 08 52.6**	**+1.3**
	87nm,0.4s,SNR=76						
ETOB				S	**Sn**	**09 09 54.3**	**-2.1**
	717nm,0.6s,SNR=4.3						
EMOS	**Mosqueruela**	**5.72 311**		P	**Pn**	**09 08 53.7**	**+1.5**
	53nm,0.3s,SNR=144						
EMOS				S	**Sn**	**09 09 56.1**	**-1.7**
	127nm,0.3s						
EMIR	**Miracle**	**5.89 332**		P	**Pn**	**09 08 56.0**	**+1.6**
	189nm,0.3s,SNR=257						
EMIR				S	**Sn**	**09 09 58.6**	**-3.2**
	351nm,0.3s,SNR=5.7						
ENIJ	**Nijar**	**5.94 274**		P	**Pn**	**09 08 54.3**	**-0.6**
	133nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**09 09 58.2**	**-4.7**
	294nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**5.97 343**		⇓P	**Pn**	**09 08 54.7**	**-0.7**
	41nm,0.2s,SNR=18						
EJON				S	**Sn**	**09 09 58.9**	**-4.7**
	343nm,0.5s						
SJAF	**Saint Jean de**	**6.00 343**		⇑P	**Pn**	**09 08 55.1**	**-0.8**
	34nm,0.3s,SNR=18						
SJAF				S	**Sn**	**09 10 01.5**	**-2.9**
	154nm,0.4s,SNR=7.9						
CLLI	**Llivia**	**6.24 338**		⇓P	**Pn**	**09 09 00.5**	**+1.2**
	495nm,0.9s,SNR=18						
CLLI				S	**Sn**	**09 10 07.7**	**-2.9**
	226nm,0.6s,SNR=12						
SESP	**Santiago Espad**	**6.31 285**		P	**Pn**	**09 09 02.0**	**+1.9**
	303nm,0.5s,SNR=7.9						
SESP				S	**Sn**	**09 10 12.2**	**0.0**
	246nm,0.3s,SNR=7.9						
CSOR	**Sort**	**6.44 332**		⇓P	**Pn**	**09 09 04.1**	**+2.2**
	55nm,0.2s,SNR=18						
CSOR				S	**Sn**	**09 10 12.1**	**-3.2**
	292nm,0.4s,SNR=7.9						
CLTB	**Caltabellotta**	**6.46 80**		*e*Pn	**Pn**	**09 09 01.7**	**-0.5**
CLTB				*e*Sn	**Sn**	**09 10 13.9**	**-1.9**
EBER	**Berja**	**6.49 274**		P	**Pn**	**09 09 02.6**	**-0.1**
	51nm,0.3s,SNR=55						
EBER				S	**Sn**	**09 10 13.4**	**-3.2**
	703nm,0.7s						
PGF	**Pioggiola**	**6.50 26**		*e*Pn	**Pn**	**09 09 01.0**	**-1.7**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**09 10 09.4**	**-7.3**
	2μm,0.6s,SNR=1.0						
PGF	**Pioggiola**	**6.50 26**		P	**Pn**	**09 09 01.9**	**-0.8**
PGF	**Pioggiola**	**6.50 26**		P	**Pn**	**09 09 01.0**	**-1.7**
PGF				S	**Sn**	**09 10 09.4**	**-7.3**
	950nm,0.6s						
GORA	**Gorafe**	**6.62 279**		P	**Pn**	**09 09 07.7**	**+3.4**
	69nm,0.3s,SNR=7.9						
GORA				S	**Sn**	**09 10 20.1**	**+0.3**
	439nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**6.63 320**		⇓P	**Pn**	**09 09 06.5**	**+2.0**
	187nm,0.3s,SNR=18						
ESAC				S	**Sn**	**09 10 17.0**	**-3.0**
	1μm,0.5s						
LMR	**La Mourre**	**6.66 8**		*e*Pn	**Pn**	**09 09 03.1**	**-1.7**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**09 10 14.3**	**-6.2**
	396nm,0.4s						
LMR	**La Mourre**	**6.66 8**		*e*P	**Pn**	**09 09 03.2**	**-1.6**
LMR				pmax	pmax		
	comp=Z,56nm,0.3s						
LMR	**La Mourre**	**6.66 8**		P	**Pn**	**09 09 03.1**	**-1.7**
LMR				S	**Sn**	**09 10 14.3**	**-6.2**
	comp=Z,198nm,0.4s						
EQES	**Quesada**	**6.67 282**		⇑P	**Pn**	**09 09 07.6**	**+2.4**
	comp=Z,805nm,0.8s,SNR=18						
EQES				S	**Sn**	**09 10 21.1**	**0.0**
	comp=Z,997nm,0.7s						
EALB	**Alboran**	**6.69 266**		P	**Pn**	**09 09 04.9**	**-0.3**
	comp=Z,35nm,0.3s,SNR=7.0						
EALB				S	**Sn**	**09 10 17.6**	**-3.7**
	comp=Z,553nm,0.8s						
MELI	**Melilla**	**6.74 260**		S	**Sn**	**09 10 20.4**	**-2.2**
	comp=Z,152nm,0.4s,SNR=7.9						
FRF	**La Foret Royal**	**6.90 9**		*e*Pn	**Pn**	**09 09 06.1**	**-2.0**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**09 10 20.2**	**-6.3**
	comp=Z

comp=Z,53nm,0.3s
SBF Sospel 7.32 13 P **Pn 09 09 11.9 -2.0**
SBF S **Sn 09 10 29.3 -7.5**
comp=Z,223nm,0.3s
NEGI Seborga 7.35 14 P **Pn 09 09 13.0 -1.4**
NEGI Seborga 7.35 14 P **Pn 09 09 13.2 -1.2**
NEGI Seborga 7.35 14 S **Pn 09 09 14.0 -0.4**
LASF Ste Croix 7.39 353 *e*Pn **Pn 09 09 13.0 -1.9**
LASF *e*Sn **Sn 09 10 31.6 -7.1**
comp=Z,488nm,0.8s,SNR=1.0
LASF Ste Croix 7.39 353 P **Pn 09 09 13.0 -1.9**
LASF S **Sn 09 10 31.6 -7.1**
comp=Z,244nm,0.8s
VAE Valguarnera 7.40 82 Pn **Pn 09 09 12.7 -2.5**
comp=Z,1.0nm,0.3s,baz=227,slow=19,SNR=1.9
VAE Sn **Sn 09 10 38.5 -0.5**
comp=Z,2.6nm,0.3s,baz=18,slow=20,SNR=1.5
VAE LR LR 09 12 43.8
comp=Z,17μm,18.5s,baz=268,slow=43
IMI Imperia 7.45 15 P **Pn 09 09 14.0 -1.7**
IMI Imperia 7.45 15 P **Pn 09 09 14.2 -1.6**
IMI Imperia 7.45 15 P **Pn 09 09 14.7 -1.0**
SAOF Saorge 7.46 13 P **Pn 09 09 16.5 +0.7**
SAOF pmax pmax
comp=Z,196nm,0.7s
SAOF Saorge 7.46 13 P **Pn 09 09 14.9 -0.9**
EGOR Sierra Gorda, 7.46 276 P **Pn 09 09 18.5 +2.5**
comp=Z,258nm,0.8s,SNR=7.9
EGOR S **Sn 09 10 42.4 +1.9**
comp=Z,358nm,0.5s,SNR=7.9
UCM Universidad Co 7.51 301 *e*P **Pn 09 09 18.9 +2.4**
UCM *e*S **Sn 09 10 47.8 +6.3**
MGRO Montegrosso 7.56 14 P **Pn 09 09 15.9 -1.4**
MGRO AML AML
comp=E,218μm,0.5s
MGRO AML AML
comp=N,356μm,1.0s
MGRO AML AML
comp=E,218μm,0.5s
MGRO AML AML
comp=N,356μm,1.0s
MGRO AML AML
comp=N,356μm,1.0s
MGRO AML AML
comp=E,218μm,0.5s
MGRO Montegrosso 7.56 14 P **Pn 09 09 15.9 -1.4**
ISO Isola 7.56 10 P **Pn 09 09 18.0 +0.7**
ISO pmax pmax
comp=Z,148nm,0.8s
ETSF Etsaut 7.57 326 *e*Pn **Pn 09 09 16.3 -1.1**
SNR=1.0
ETSF *e*Sn Sn 09 10 34.2 -9.0
comp=Z,218nm,0.5s,SNR=1.0
ETSF Etsaut 7.57 326 P Pn 09 09 25.0 +7.6
ETSF Etsaut 7.57 326 P **Pn 09 09 16.3 -1.1**
ETSF S Sn 09 10 34.2 -9.0
comp=Z,109nm,0.5s
WDD Wied Dalam 7.59 94 *e*Pn **Pn 09 09 17.3 -0.3**
ENR Entracque 7.67 12 P **Pn 09 09 18.0 -0.7**
ENR AML AML
comp=E,219μm,0.6s
ENR AML AML
comp=N,478μm,1.6s
ENR AML AML
comp=E,219μm,0.6s
ENR AML AML
comp=N,479μm,1.6s
ENR AML AML
comp=N,479μm,1.6s
ENR AML AML
comp=E,219μm,0.6s
ENR Entracque 7.67 12 P **Pn 09 09 18.8 +0.1**
STV Sant Anna di V 7.67 12 P **Pn 09 09 18.3 -0.4**
STV Sant Anna di V 7.67 12 P **Pn 09 09 17.2 -1.5**
STV Sant Anna di V 7.67 12 P **Pn 09 09 18.4 -0.4**
STV AML AML
comp=E,235μm,1.6s
STV AML AML
comp=N,244μm,1.4s
STV AML AML
comp=E,235μm,1.6s
STV AML AML
comp=N,244μm,1.4s
STV AML AML
comp=E,235μm,1.6s
STV AML AML
comp=N,244μm,1.4s
RORO Rocca Rossa 7.68 16 P **Pn 09 09 18.1 -0.7**
RORO Rocca Rossa 7.68 16 P **Pn 09 09 18.1 -0.7**
RORO AML AML
comp=E,239μm,0.2s
RORO AML AML
comp=N,410μm,0.7s
RORO AML AML
comp=E,238μm,0.2s
RORO AML AML
comp=N,410μm,0.7s
RORO AML AML
comp=N,410μm,0.7s
RORO AML AML
comp=E,238μm,0.2s
EMAL Malaga-Limoner 7.72 273 ⇓*i*P **Pn 09 09 19.4 -0.1**
EMAL *e*S **Sn 09 10 42.9 -3.9**
GBOS Grotte di Boss 7.76 14 P **Pn 09 09 19.6 -0.3**
GBOS AML AML
comp=E,218μm,0.7s
GBOS AML AML
comp=N,301μm,1.2s
GBOS AML AML
comp=E,218μm,0.7s
GBOS AML AML
comp=N,301μm,1.2s
GBOS AML AML
comp=E,218μm,0.7s
GBOS AML AML
comp=N,301μm,1.2s
GBOS Grotte di Boss 7.76 14 P **Pn 09 09 19.7 -0.3**
ESDC Sonseca Array 7.78 295 *e*Pn **Pn 09 09 20.9 +0.6**
ESDC *e*Sn **Sn 09 10 47.5 -0.7**
ESDC Sonseca Array 7.78 295 P **Pn 09 09 21.8 +1.5**
comp=N,29nm,0.2s,baz=100,slow=14,SNR=112
ESDC Sonseca Array 7.78 295 Pn **Pn 09 09 20.2 -0.1**
comp=N,19nm,0.3s,baz=101,slow=14,SNR=102
ESDC Sn **Sn 09 10 47.5 -0.7**
comp=N,18nm,0.3s,baz=106,slow=25,SNR=5.3
ESLA Sonseca Array 7.78 295 *e*Pn **Pn 09 09 22.0 +1.8**
ATE Arette 7.79 326 P **Pn 09 09 22.7 +2.4**
comp=N,41nm,0.3s,SNR=7.9
ATE S **Sn 09 10 45.3 -3.0**
comp=N,274nm,0.7s,SNR=7.9
FINB Finale Ligure 7.80 17 P **Pn 09 09 19.8 -0.6**
FINB Finale Ligure 7.80 17 P **Pn 09 09 20.1 -0.3**
FINB Finale Ligure 7.80 17 P **Pn 09 09 21.6 +1.1**
PZZ Stroppo 7.89 10 P **Pn 09 09 22.1 +0.3**
PZZ Stroppo 7.89 10 P **Pn 09 09 21.4 -0.4**
PZZ AML AML
comp=E,370μm,0.7s
PZZ AML AML
comp=N,493μm,1.1s
PZZ AML AML
comp=E,371μm,0.7s
PZZ AML AML
comp=N,493μm,1.1s
PZZ AML AML
comp=N,493μm,1.1s
PZZ AML AML
comp=E,371μm,0.7s
PZZ Stroppo 7.89 10 P **Pn 09 09 22.2 +0.3**
PZZ Stroppo 7.89 10 P **Pn 09 09 22.6 +0.7**
DOI San Damiano 7.91 11 P **Pn 09 09 22.6 +0.6**
DOI San Damiano 7.91 11 P **Pn 09 09 22.2 +0.2**
DOI AML AML
comp=E,324μm,0.6s
DOI AML AML
comp=N,310μm,0.9s
DOI AML AML
comp=E,324μm,0.6s
DOI AML AML
comp=N,310μm,0.9s
DOI AML AML
comp=N,310μm,0.9s
DOI AML AML
comp=E,324μm,0.6s
DOI San Damiano 7.91 11 P **Pn 09 09 22.7 +0.6**
DOI San Damiano 7.91 11 P **Pn 09 09 23.3 +1.3**
IUNC Unciti 7.91 321 P **Pn 09 09 24.2 +2.1**
comp=E,26nm,0.2s,SNR=7.9
IUNC S **Sn 09 10 49.2 -2.2**
comp=E,138nm,0.3s,SNR=7.9
EARA Aranguren 7.96 321 P **Pn 09 09 24.8 +2.1**
comp=E,14nm,0.3s,SNR=22
EARA S **Sn 09 10 50.0 -2.7**
comp=E,98nm,0.5s,SNR=7.9
EMIJ Mijas 8.01 272 P **Pn 09 09 21.9 -1.5**
comp=E,15nm,0.3s,SNR=38
EMIJ S **Sn 09 10 48.5 -5.5**
comp=E,118nm,0.7s,SNR=7.9
PAB San Pablo 8.02 293 *e*Pn **Pn 09 09 25.1 +1.4**
PAB San Pablo 8.02 293 *e*P **Pn 09 09 25.1 +1.4**
PAB San Pablo 8.02 293 P **Pn 09 09 25.0 +1.4**
comp=E,40nm,0.5s,SNR=7.9
PAB S **Sn 09 10 49.7 -4.5**
comp=E,34nm,0.7s,SNR=4.0
SJPF Ste Jean 8.05 324 *e*Pn **Pn 09 09 22.7 -1.2**
SNR=1.0
SJPF *e*Sn Sn 09 10 45.4 -9.3
comp=E,144nm,0.3s
SJPF Ste Jean 8.05 324 P **Pn 09 09 27.0 +3.1**
SJPF Ste Jean 8.05 324 P **Pn 09 09 22.7 -1.2**
SJPF S Sn 09 10 45.4 -9.3
comp=E,72nm,0.3s
MBDF Montbardon 8.06 8 *e*Pn **Pn 09 09 22.4 -1.8**
MBDF *e*Sn **Sn 09 10 48.5 -6.8**
comp=E,467nm,0.6s
MBDF Montbardon 8.06 8 *e*P **Pn 09 09 24.6 +0.4**
MBDF pmax pmax
comp=Z,192nm,0.7s
MBDF Montbardon 8.06 8 P **Pn 09 09 22.4 -1.8**
MBDF S **Sn 09 10 48.5 -6.8**
comp=Z,234nm,0.6s
VIVF Saint-Julien-l 8.11 357 *e*Pn **Pn 09 09 22.7 -2.1**
SNR=1.0
VIVF *e*Sn **Sn 09 10 48.8 -7.6**
comp=Z,167nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 8.11 357 *e*P **Pn 09 09 23.4 -1.4**
VIVF Saint-Julien-l 8.11 357 P **Pn 09 09 22.7 -2.1**
VIVF S **Sn 09 10 48.8 -7.6**
comp=Z,84nm,0.4s
ORIF Oris-en-Rattie 8.18 3 *e*Pn **Pn 09 09 24.2 -1.6**
SNR=1.0
ORIF *e*Sn **Sn 09 10 50.4 -7.8**
comp=Z,253nm,0.7s
ORIF *e*R
comp=Z,12μm,21.8s
ORIF Oris-en-Rattie 8.18 3 *e*P **Pn 09 09 25.8 0.0**
ORIF pmax pmax
comp=Z,165nm,1.1s
ORIF Oris-en-Rattie 8.18 3 P **Pn 09 09 24.2 -1.6**
ORIF S **Sn 09 10 50.4 -7.8**
comp=Z,126nm,0.7s
RRL Rocca Remolon 8.26 8 P **Pn 09 09 27.5 +0.5**
RRL AML AML
comp=E,462μm,0.8s
RRL AML AML
comp=N,517μm,1.1s
RRL AML AML
comp=N,517μm,1.1s
RRL AML AML
comp=E,462μm,0.8s
RRL Rocca Remolon 8.26 8 P **Pn 09 09 27.5 +0.5**
EALK Alkurruntz 8.26 324 P **Pn 09 09 29.2 +2.3**
comp=E,75nm,0.5s,SNR=70
EALK S **Sn 09 10 58.0 -2.1**
comp=E,291nm,0.4s,SNR=7.9
GUD Guadarrama 8.28 301 P **Pn 09 09 29.7 +2.5**
GUD pmax pmax
comp=Z,62nm,0.6s
GUD Guadarrama 8.28 301 P **Pn 09 09 29.7 +2.5**
comp=Z,62nm,0.6s,SNR=54
BNI Bardonecchia 8.38 7 *e*Pn **Pn 09 09 29.4 +0.9**
BNI Bardonecchia 8.38 7 *e*P **Pn 09 09 29.4 +0.9**
VLC Villacollemand 8.40 26 *e*Pn **Pn 09 09 29.0 +0.3**
AQU L'Aquila 8.46 46 *e*Pn **Pn 09 09 33.1 +3.5**
LIJA Lijar 8.50 274 P **Pn 09 09 32.2 +2.1**
LIJA S Sn 09 11 18.0 +12
LIJA Lijar 8.50 274 *i* P **Pn 09 09 32.2 +2.1**
LIJA *e*S Sn 09 11 18.0 +12
CAF Calviac 8.51 345 *e*Pn **Pn 09 09 29.0 -1.2**
SNR=1.0
CAF *e*Sn **Sn 09 10 57.4 -8.7**
comp=Z,81nm,0.5s
CAF Calviac 8.51 345 *e*P **Pn 09 09 30.0 -0.2**
CAF pmax pmax
comp=Z,26nm,0.4s
CAF Calviac 8.51 345 P **Pn 09 09 29.0 -1.2**
CAF S **Sn 09 10 57.4 -8.7**
comp=Z,40nm,0.5s
RSP Reno Superiore 8.54 10 P **Pn 09 09 30.5 -0.2**
RSP AML AML
comp=E,274μm,0.6s
RSP AML AML
comp=N,326μm,1.2s
RSP AML AML
comp=E,274μm,0.6s
RSP AML AML
comp=N,326μm,1.2s
RSP Reno Superiore 8.54 10 P **Pn 09 09 31.5 +0.7**
SSB Saint Sauveur 8.54 357 *e*Pn **Pn 09 09 29.6 -1.1**
SSB *e*Sn **Sn 09 11 01.6 -5.3**
SSB Saint Sauveur 8.54 357 *e*P **Pn 09 09 29.6 -1.1**
SSB *e* 09 11 01.6
ECAB El Cabril 8.55 282 P **Pn 09 09 31.1 +0.3**
comp=N,18nm,0.3s,SNR=74
ECAB S **Sn 09 11 04.9 -2.2**
comp=N,46nm,0.5s,SNR=7.9
ECEU Ceuta 8.57 267 P **Pn 09 09 30.3 -0.8**
comp=N,8.8nm,0.3s,SNR=7.7
ECEU S **Sn 09 11 04.1 -3.6**
comp=N,61nm,0.6s,SNR=7.9
MONC Moncucco Torin 8.57 13 P **Pn 09 09 31.5 +0.4**
MONC Moncucco Torin 8.57 13 P **Pn 09 09 33.9 +2.8**
EJIF Jimena Fronter 8.58 271 P **Pn 09 09 31.1 -0.1**
EJIF pmax pmax
comp=Z,4.0nm,0.3s
EJIF Jimena Fronter 8.58 271 P **Pn 09 09 31.1 -0.1**
comp=Z,3.8nm,0.3s,SNR=4.0
EJIF S **Sn 09 11 04.1 -3.8**
comp=Z,28nm,0.6s,SNR=7.9
ALJ Aljibe 8.72 272 P **Pn 09 09 36.0 +2.9**
ALJ S Sn 09 11 24.5 +13
ALJ Aljibe 8.72 272 *e*P **Pn 09 09 36.0 +2.9**
ALJ *e*S Sn 09 11 24.5 +13
LPG La Plagne 8.82 7 *e*Pn **Pn 09 09 33.3 -1.5**
SNR=1.0
LPG *e*Sn **Sn 09 11 06.2 -8.0**
comp=Z,204nm,0.5s
LPG La Plagne 8.82 7 *e*P **Pn 09 09 35.6 +0.8**
LPG pmax pmax
comp=Z,153nm,0.5s
LPG La Plagne 8.82 7 P **Pn 09 09 33.3 -1.5**
LPG S **Sn 09 11 06.2 -8.0**
comp=Z,102nm,0.5s
LSD Lago del Serru 8.83 9 P **Pn 09 09 35.9 +1.1**
LSD Lago del Serru 8.83 9 P **Pn 09 09 38.0 +3.2**
LPL La Plagne 8.84 7 *e*Pn **Pn 09 09 32.9 -2.1**
LPL *e*Sn **Sn 09 11 06.2 -8.3**
comp=Z,283nm,0.5s
LPL La Plagne 8.84 7 *e*P **Pn 09 09 35.1 +0.1**
LPL pmax pmax
comp=Z,143nm,0.6s
LPL La Plagne 8.84 7 P **Pn 09 09 32.9 -2.1**
LPL S **Sn 09 11 06.2 -8.3**
comp=Z,142nm,0.5s
LFF La Frestale 8.85 339 *e*Pn **Pn 09 09 33.9 -1.0**
SNR=1.0
LFF *e*Sn **Sn 09 11 05.8 -8.7**
comp=Z,71nm,0.4s
LFF La Frestale 8.85 339 P **Pn 09 09 38.0 +3.1**
LFF La Frestale 8.85 339 P **Pn 09 09 33.9 -1.0**
LFF S **Sn 09 11 05.8 -8.7**
comp=Z,35nm,0.4s
ESPR Espera 8.86 274 P **Pn 09 09 36.7 +1.6**
comp=Z,21nm,0.6s,SNR=20
ESPR S **Sn 09 11 16.4 +1.6**
comp=Z,58nm,0.7s,SNR=7.9
MDT Midelt 8.96 247 Pn **Pn 09 09 35.6 -0.9**
comp=Z,1.0nm,0.3s,baz=52,slow=12,SNR=19
MDT Sn **Sn 09 11 15.0 -2.4**
baz=284,slow=12,SNR=2.2
MDT Lg Lg 09 12 02.0
baz=216,slow=6.6,SNR=5.4
MDT LR LR 09 13 17.8
comp=Z,7μm,20.8s,baz=70,slow=39
RJF Les Rejaudoux 8.99 343 *e*Pn **Pn 09 09 35.3 -1.5**
SNR=1.0
RJF *e*Sn **Sn 09 11 09.4 -8.5**
comp=Z,54nm,0.4s,SNR=1.0
RJF *e*R
comp=Z,6μm,20.5s
RJF Les Rejaudoux 8.99 343 *e*P **Pn 09 09 36.0 -0.8**
RJF pmax pmax
comp=Z,22nm,0.5s
RJF Les Rejaudoux 8.99 343 P **Pn 09 09 35.3 -1.5**
RJF S **Sn 09 11 09.4 -8.5**
comp=Z,27nm,0.4s
RSL Roselend 9.00 6 P **Pn 09 09 39.6 +2.5**
CNIL Conil 9.06 271 P **Pn 09 09 40.0 +2.3**
CNIL Conil 9.06 271 *e*P **Pn 09 09 40.0 +2.3**
CFF Clermont-Ferra 9.15 351 P **Pn 09 09 42.7 +3.8**
CFF pmax pmax
comp=Z,157nm,0.9s
ELAN Lanestosa 9.26 317 P **Pn 09 09 42.6 +2.1**
comp=Z,75nm,0.7s,SNR=42
ELAN S **Sn 09 11 20.6 -4.0**
comp=Z,38nm,0.4s,SNR=7.9
MNTV Mantova 9.40 25 P Pn 09 09 53.4 +11
EPLA Plasencia 9.45 294 P **Pn 09 09 44.2 +1.1**
comp=Z,5.3nm,0.4s,SNR=17
TIP Timpagrande 9.45 72 *e*Pn **Pn 09 09 43.6 +0.4**
DIX Grande Dixence 9.48 9 P **Pn 09 09 45.6 +1.9**
EMIN Mina Concepcio 9.52 280 P **Pn 09 09 43.8 -0.2**
comp=Z,30nm,0.7s,SNR=29
EMIN S **Sn 09 11 26.8 -4.0**
comp=Z,28nm,0.4s,SNR=7.9
CAPR Capriolo 9.57 20 P **Pn 09 09 46.2 +1.5**
SENIN Lac Senin/Sane 9.74 9 *e*Pn **Pn 09 09 48.3 +1.1**
SENIN *e*Sn **Sn 09 11 32.7 -3.9**
TCF Toulx Ste Croi 9.79 348 *e*Pn **Pn 09 09 46.7 -1.1**
SNR=1.0
TCF *e*Sn **Sn 09 11 29.2 -8.4**
comp=Z,35nm,0.6s
TCF Toulx Ste Croi 9.79 348 *e*P **Pn 09 09 47.2 -0.6**
TCF pmax pmax
comp=Z,26nm,0.7s
TCF Toulx Ste Croi 9.79 348 P **Pn 09 09 46.7 -1.1**
TCF S **Sn 09 11 29.2 -8.4**
comp=Z,18nm,0.6s
EBAD Badajoz 9.87 285 P **Pn 09 09 49.3 +0.4**
comp=Z,32nm,0.7s,SNR=21
EBAD S **Sn 09 11 37.2 -2.4**
comp=Z,11nm,0.2s,SNR=5.0
CABF La Chapelle 9.88 4 *e*Pn **Pn 09 09 47.3 -1.8**
SNR=1.0
CABF *e*Sn Sn 09 11 30.2 -10
comp=Z,69nm,0.6s
CABF La Chapelle 9.88 4 *e*P **Pn 09 09 48.4 -0.7**
CABF pmax pmax
comp=Z,48nm,0.7s
CABF La Chapelle 9.88 4 P **Pn 09 09 47.3 -1.8**
CABF S Sn 09 11 30.2 -10
comp=Z,34nm,0.6s
SMF Signal de Mont 9.95 355 *e*Pn **Pn 09 09 47.8 -2.1**
SNR=1.0
SMF *e*Sn Sn 09 11 31.9 -9.4
comp=Z,77nm,0.6s
SMF Signal de Mont 9.95 355 *e*P **Pn 09 09 49.0 -0.9**
SMF pmax pmax
comp=Z,12nm,0.4s
SMF Signal de Mont 9.95 355 P **Pn 09 09 47.8 -2.1**
SMF S Sn 09 11 31.9 -9.4
comp=Z,39nm,0.6s
BGF Bois d'Agland 9.96 351 *e*Pn **Pn 09 09 48.6 -1.5**
SNR=1.0
BGF *e*Sn Sn 09 11 31.6 -10
comp=Z,128nm,0.6s
BGF Bois d'Agland 9.96 351 *e*P **Pn 09 09 49.5 -0.6**
BGF pmax pmax
comp=Z,12nm,0.2s
BGF Bois d'Agland 9.96 351 P **Pn 09 09 48.6 -1.5**
BGF S Sn 09 11 31.6 -10
comp=Z,64nm,0.6s
AVF Avril sur Loir 10.13 353 *e*Pn **Pn 09 09 50.4 -2.0**
SNR=1.0
AVF *e*Sn Sn 09 11 36.1 -10
comp=Z,47nm,0.6s
AVF Avril sur Loir 10.13 353 *e*P **Pn 09 09 51.3 -1.1**
AVF pmax pmax
comp=Z,44nm,1.2s
AVF Avril sur Loir 10.13 353 P **Pn 09 09 50.4 -2.0**
AVF S Sn 09 11 36.1 -10
comp=Z,23nm,0.6s
EGRO El Granado 10.15 278 P **Pn 09 09 52.7 0.0**
comp=Z,50nm,0.7s,SNR=20
EGRO S **Sn 09 11 41.2 -5.2**
comp=Z,32nm,0.4s,SNR=5.2
TUE Stuetta 10.20 16 *e*Pn **Pn 09 09 54.2 +0.6**
VDL Val di Lei 10.24 17 P **Pn 09 09 56.8 +2.7**
PMRV Marv??o 10.28 289 *e*P **Pn 09 09 56.2 +1.8**
comp=Z,133nm,1.1s
PMRV *e*S **Sn 09 11 52.9 +3.4**
PMRV A A 09 14 04.9
comp=Z,4μm,18.6s
PMRV Marv??o 10.28 289 P **Pn 09 09 56.2 +1.8**
comp=Z,133nm,1.1s
PMRV S **Sn 09 11 52.9 +3.4**
comp=Z,4μm,18.6s
EARI Arriondas 10.32 313 P **Pn 09 09 57.5 +2.5**
comp=Z,18nm,0.5s,SNR=26
EARI S **Sn 09 11 49.5 -1.0**
comp=Z,21nm,0.5s,SNR=7.9
PVAQ Vaqueiros 10.34 278 *e*S **Sn 09 11 47.4 -3.6**
PVAQ Vaqueiros 10.34 278 S **Sn 09 11 47.4 -3.6**
SSF Saint Saulge 10.39 354 *e*Pn **Pn 09 09 53.5 -2.4**
SNR=1.0
SSF *e*Sn Sn 09 11 41.4 -11
comp=Z,26nm,0.5s
SSF Saint Saulge 10.39 354 *e*P **Pn 09 09 55.0 -0.9**
SSF pmax pmax
comp=Z,25nm,0.8s
SSF Saint Saulge 10.39 354 P **Pn 09 09 53.5 -2.4**
SSF S Sn 09 11 41.4 -11
comp=Z,13nm,0.5s
PCBR Castelo Branco 10.43 291 *e*P **Pn 09 09 58.6 +2.1**
comp=Z,199nm,1.2s
PCBR *e*S **Sn 09 11 50.4 -2.8**
PCBR A A 09 14 07.6
comp=Z,2μm,18.8s
PCBR Castelo Branco 10.43 291 P **Pn 09 09 58.6 +2.1**
comp=Z,99nm,1.2s
PCBR S **Sn 09 11 50.4 -2.8**
comp=Z,1μm,18.8s
PBEJ Beja 10.47 281 *e*P **Pn 09 09 58.2 +1.1**
comp=Z,113nm,1.6s
PBEJ *e*S **Sn 09 11 55.5 +1.2**
PBEJ A A 09 14 12.0
comp=Z,1μm,18.2s
PBEJ Beja 10.47 281 P **Pn 09 09 58.2 +1.1**
comp=Z,57nm,1.6s
PBEJ S **Sn 09 11 55.5 +1.2**
comp=Z,683nm,18.2s
MVO Moncorvo 10.49 299 *e*P **Pn 09 09 59.5 +2.1**
comp=Z,120nm,0.8s
MVO *e*S **Sn 09 11 53.4 -1.4**
MVO A A 09 14 15.8
comp=Z,3μm,19.4s
PBDV Barranco-do-Ve 10.51 277 *e*P **Pn 09 09 57.9 +0.2**
comp=Z,154nm,1.3s
PBDV *e*S **Sn 09 11 52.9 -2.4**
PBDV A A 09 14 16.1
comp=Z,3μm,19.4s
PBDV Barranco-do-Ve 10.51 277 P **Pn 09 09 57.9 +0.2**
comp=Z,154nm,1.3s
PBDV S **Sn 09 11 52.9 -2.4**
comp=Z,3μm,19.4s
PBRG Braganca 10.54 302 *e*P **Pn 09 10 00.1 +2.0**
comp=Z,120nm,1.4s
PBRG *e*S **Sn 09 11 52.9 -3.1**
PBRG A A 09 14 19.5
comp=Z,4μm,17.3s
PBRG Braganca 10.54 302 P **Pn 09 10 00.1 +2.0**
comp=Z,60nm,1.4s
PBRG S **Sn 09 11 52.9 -3.1**
comp=Z,2μm,17.3s
LOR Lormes 10.56 355 *e*Pn **Pn 09 09 57.0 -1.4**
baz=177,SNR=1.0
LOR *e*Sn Sn 09 11 47.4 -9.1
comp=Z,40nm,0.4s
LOR *e*R
comp=Z,4μm,22.2s

LOR	**Lormes**	**10.56 355**	*e*P	**Pn**	**09 09 57.5**	**-0.9**
LOR			pmax	pmax		
	comp=Z,41nm,1.0s					
LOR	**Lormes**	**10.56 355**	P	**Pn**	**09 09 57.0**	**-1.4**
LOR			S	Sn	09 11 47.4	-9.1
	comp=Z,20nm,0.4s					
FUORN	**Ofenpass-Fuorn**	**10.57 19**	*e*Pn	**Pn**	**09 10 00.7**	**+2.1**
ECAL	**Calabor**	**10.59 303**	P	**Pn**	**09 10 00.5**	**+1.7**
	comp=Z,124nm,0.6s,SNR=143					
ECAL			S	**Sn**	**09 11 53.8**	**-3.6**
	comp=Z,30nm,0.4s,SNR=4.0					
PCVE	**Castro Verde**	**10.60 279**	*e*P	**Pn**	**09 09 58.8**	**0.0**
	comp=Z,127nm,1.6s					
PCVE			*e*S	**Sn**	**09 11 55.4**	**-1.9**
PCVE			A	A	09 14 17.5	
	comp=Z,3μm,18.0s					
PCVE	**Castro Verde**	**10.60 279**	P	**Pn**	**09 09 58.8**	**0.0**
	comp=Z,127nm,1.6s					
PCVE			S	**Sn**	**09 11 55.4**	**-1.9**
	comp=Z,3μm,18.0s					
MTE	**Manteigas**	**10.62 294**	*e*P	**Pn**	**09 10 01.6**	**+2.4**
	comp=Z,54nm,1.1s					
MTE			*e*S	**Sn**	**09 11 57.5**	**-0.5**
MTE			A	A	09 13 54.4	
	comp=Z,2μm,21.9s					
MTE	**Manteigas**	**10.62 294**	*e*Pn	**Pn**	**09 10 01.3**	**+2.1**
MTE	**Manteigas**	**10.62 294**	P	**Pn**	**09 10 01.6**	**+2.4**
	comp=Z,27nm,1.1s					
MTE			S	**Sn**	**09 11 57.5**	**-0.5**
	comp=Z,1μm,21.9s					
DAVOX	**Davos/Dischmat**	**10.62 18**	Pn	**Pn**	**09 09 59.2**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=188,slow=7.7,SNR=28					
DAVOX			Sn	**Sn**	**09 11 52.9**	**-5.3**
	comp=Z,1.4nm,0.3s,baz=165,slow=20,SNR=2.9					
DAVOX			LR	LR	09 13 57.4	
	comp=Z,5μm,18.9s,baz=202,slow=37					
EVO	**Evora**	**10.62 284**	*e*P	**Pn**	**09 10 00.6**	**+1.4**
	comp=Z,93nm,1.5s					
EVO			*e*S	**Sn**	**09 11 56.7**	**-1.3**
EVO			A	A	09 14 27.3	
	comp=Z,2μm,18.6s					
EVO	**Evora**	**10.62 284**	P	**Pn**	**09 10 00.6**	**+1.4**
	comp=Z,93nm,1.5s					
EVO			S	**Sn**	**09 11 56.7**	**-1.3**
	comp=Z,2μm,18.6s					
EVO	**Evora**	**10.62 284⇓**	*e*P	**Pn**	**09 09 59.7**	**+0.5**
EVO			*e*S	**Sn**	**09 11 56.3**	**-1.7**
MFF	**Saint Martin d**	**10.63 340**	*e*Pn	**Pn**	**09 09 58.1**	**-1.1**
	SNR=1.0					
MFF			*e*Sn	**Sn**	**09 11 49.2**	**-8.8**
	comp=Z,37nm,0.5s					
MFF	**Saint Martin d**	**10.63 340**	P	**Pn**	**09 10 01.1**	**+1.9**
MFF	**Saint Martin d**	**10.63 340**	P	**Pn**	**09 09 58.1**	**-1.1**
MFF			S	**Sn**	**09 11 49.2**	**-8.8**
	comp=Z,19nm,0.5s					
HYF	**Humbligny**	**10.69 351**	*e*Pn	**Pn**	**09 09 57.9**	**-2.1**
HYF			*e*Sn	**Sn**	**09 11 52.5**	**-7.0**
HYF	**Humbligny**	**10.69 351**	P	**Pn**	**09 09 57.9**	**-2.1**
HYF			S	**Sn**	**09 11 52.5**	**-7.0**
MESJ	**Messejana**	**10.74 280**	*e*P	**Pn**	**09 10 01.1**	**+0.2**
MESJ			*e*S	**Sn**	**09 12 05.0**	**+4.1**
MESJ			AMS	AMS	09 13 53.8	
	comp=N,3μm,18.2s					
MESJ	**Messejana**	**10.74 280**	*e*P	**Pn**	**09 10 01.2**	**+0.4**
	comp=N,95nm,1.6s					
MESJ			*e*S	**Sn**	**09 11 57.9**	**-3.0**
MESJ			A	A	09 14 21.5	
	comp=N,3μm,17.9s					
MESJ	**Messejana**	**10.74 280**	*e*P	**Pn**	**09 10 01.0**	**+0.2**
MESJ			*e*S	**Sn**	**09 12 05.0**	**+4.1**
MESJ	**Messejana**	**10.74 280**	P	**Pn**	**09 10 01.1**	**+0.2**
MESJ			S	**Sn**	**09 11 57.9**	**-3.0**
	comp=N,3μm,17.9s					
PMTG	**Montargil**	**10.85 286**	*e*P	**Pn**	**09 10 04.3**	**+2.0**
	comp=N,135nm,2.3s					
PMTG			*e*S	**Sn**	**09 12 04.0**	**+0.4**
PMTG			A	A	09 14 11.8	
	comp=N,3μm,18.9s					
PMTG	**Montargil**	**10.85 286**	P	**Pn**	**09 10 04.3**	**+2.0**
	comp=N,135nm,2.3s					
PMTG			S	**Sn**	**09 12 04.0**	**+0.4**
	comp=N,3μm,18.9s					
PVIS	**Viseu**	**10.96 295**	*e*P	**Pn**	**09 10 04.9**	**+1.0**
	comp=N,84nm,1.0s					
PVIS			*e*S	**Sn**	**09 12 05.7**	**-0.7**
PVIS			A	A	09 20 18.8	
	comp=N,2μm,22.3s					
PVIS	**Viseu**	**10.96 295**	P	**Pn**	**09 10 04.9**	**+1.0**
	comp=N,42nm,1.0s					
PVIS			S	**Sn**	**09 12 05.7**	**-0.7**
	comp=N,1μm,22.3s					
PNCL	**Nicolau / Gran**	**11.00 281**	*e*P	**Pn**	**09 10 04.9**	**+0.6**
	comp=N,63nm,1.7s					
PNCL			*e*S	**Sn**	**09 12 06.4**	**-0.8**
PNCL			A	A	09 14 38.9	
	comp=N,2μm,17.4s					
PNCL	**Nicolau / Gran**	**11.00 281**	P	**Pn**	**09 10 04.9**	**+0.6**
	comp=N,63nm,1.7s					
PNCL			S	**Sn**	**09 12 06.4**	**-0.8**
	comp=N,2μm,17.4s					
PVRL	**Vila Real**	**11.01 298**	*e*P	**Pn**	**09 10 06.4**	**+1.8**
	comp=N,98nm,1.4s					
PVRL			*e*S	**Sn**	**09 12 09.3**	**+1.7**
PVRL			A	A	09 16 37.2	
	comp=N,3μm,21.7s					
PVRL	**Vila Real**	**11.01 298**	P	**Pn**	**09 10 06.4**	**+1.8**
	comp=N,49nm,1.4s					
PVRL			S	**Sn**	**09 12 09.3**	**+1.7**
	comp=N,2μm,21.7s					
FETA	**Feichten**	**11.06 20**	*e*Pn	**Pn**	**09 10 08.9**	**+3.6**
	comp=N,24nm,0.9s,SNR=12					
FETA			Sn	**Sn**	**09 12 06.8**	**-2.2**
	comp=N,16nm,1.1s					
MORF	**Marmelete**	**11.08 277**	*e*P	**Pn**	**09 10 07.0**	**+1.5**
	comp=N,130nm,1.6s					
MORF			*e*S	**Sn**	**09 12 05.2**	**-4.2**
MORF			A	A	09 14 43.8	
	comp=N,3μm,17.9s					
MORF	**Marmelete**	**11.08 277**	P	**Pn**	**09 10 07.0**	**+1.5**
	comp=N,130nm,1.6s					
MORF			S	**Sn**	**09 12 05.2**	**-4.2**
	comp=N,3μm,17.9s					
PTOM	**Tomar**	**11.09 289**	*e*P	**Pn**	**09 10 07.3**	**+1.8**
	comp=N,105nm,2.1s					
PTOM			*e*S	**Sn**	**09 12 08.1**	**-1.2**
PTOM			A	A	09 14 52.5	
	comp=N,2μm,16.3s					
PTOM	**Tomar**	**11.09 289**	P	**Pn**	**09 10 07.3**	**+1.8**
	comp=N,53nm,2.1s					
PTOM			S	**Sn**	**09 12 08.1**	**-1.2**
	comp=N,915nm,16.3s					
DAVA	**Damuels**	**11.10 17**	*e*Pn	**Pn**	**09 10 07.2**	**+1.4**
	comp=N,42nm,0.8s,SNR=5.1					
DAVA			Sn	**Sn**	**09 12 07.7**	**-2.0**
	comp=N,43nm,0.6s					
POLO	**Lamas de Olo**	**11.10 299**	*e*P	**Pn**	**09 10 07.5**	**+1.7**
	comp=N,36nm,1.1s					
POLO			*e*S	**Sn**	**09 12 11.5**	**+1.6**
POLO			A	A	09 14 43.7	
	comp=N,1μm,17.9s					
POLO	**Lamas de Olo**	**11.10 299**	P	**Pn**	**09 10 07.5**	**+1.7**
	comp=N,36nm,1.1s					
POLO			S	**Sn**	**09 12 11.5**	**+1.6**
	comp=N,1μm,17.9s					
HINF	**Hinteralfeld**	**11.13 6**	*e*Pn	**Pn**	**09 10 04.3**	**-1.9**
	SNR=1.0					
HINF			*e*Sn	Sn	09 12 01.2	-9.3
	comp=N,30nm,0.4s					
HINF	**Hinteralfeld**	**11.13 6**	*e*P	**Pn**	**09 10 04.3**	**-1.9**
HINF			pmax	pmax		
	comp=Z,50nm,0.6s					
HINF	**Hinteralfeld**	**11.13 6**	P	**Pn**	**09 10 04.3**	**-1.9**
HINF			S	Sn	09 12 01.2	-9.3
	comp=Z,15nm,0.4s					
PTEO	**Sao Teotonio**	**11.14 278**	*e*P	**Pn**	**09 10 06.0**	**-0.2**
	comp=Z,130nm,1.1s					
PTEO			*e*S	**Sn**	**09 12 07.3**	**-3.3**
PTEO			A	A	09 14 41.6	
	comp=Z,1μm,17.4s					
PTEO	**Sao Teotonio**	**11.14 278**	P	**Pn**	**09 10 06.0**	**-0.2**
	comp=Z,65nm,1.1s					
PTEO			S	**Sn**	**09 12 07.3**	**-3.3**
	comp=Z,744nm,17.4s					
COI	**Coimbra**	**11.21 292**	*e*P	**Pn**	**09 10 09.9**	**+2.7**
	comp=Z,155nm,1.1s					
COI			A	A	09 14 35.0	
	comp=Z,3μm,18.3s					
COI	**Coimbra**	**11.21 292**	*e*Pn	**Pn**	**09 10 09.1**	**+1.9**
COI	**Coimbra**	**11.21 292**	*e*P	**Pn**	**09 10 09.1**	**+1.9**
COI	**Coimbra**	**11.21 292**	P	**Pn**	**09 10 09.9**	**+2.7**
	comp=Z,77nm,1.1s					
PFVI	**Vila Bisbo**	**11.23 276**	*e*P	**Pn**	**09 10 07.5**	**0.0**
	comp=Z,210nm,1.6s					
PFVI			*e*S	**Sn**	**09 12 13.3**	**+0.5**
PFVI			A	A	09 14 49.4	
	comp=Z,3μm,18.4s					
PCAS	**Casmilo, Conde**	**11.24 291**	*e*P	**Pn**	**09 10 09.3**	**+1.7**
	comp=Z,146nm,1.0s					
PCAS			*e*S	**Sn**	**09 12 14.0**	**+0.9**
PCAS			A	A	09 14 44.2	
	comp=Z,4μm,17.9s					
PCAS	**Casmilo, Conde**	**11.24 291**	P	**Pn**	**09 10 09.3**	**+1.7**
	comp=Z,146nm,1.0s					
PCAS			S	**Sn**	**09 12 14.0**	**+0.9**
	comp=Z,4μm,17.9s					
SLE	**Schleitheim**	**11.28 11**	P	**Pn**	**09 10 11.4**	**+3.2**
SLE			pmax	pmax		
	comp=Z,23nm,1.1s					
HAU	**Haudompre**	**11.29 4**	*e*Pn	**Pn**	**09 10 06.3**	**-2.0**
	SNR=1.0					
HAU			*e*Sn	Sn	09 12 04.9	-9.3
	comp=Z,98nm,0.3s					
HAU			*e*R			
	comp=Z,5μm,17.2s					
HAU	**Haudompre**	**11.29 4**	*e*P	**Pn**	**09 10 06.6**	**-1.7**
HAU			pmax	pmax		
	comp=Z,85nm,0.4s					
HAU	**Haudompre**	**11.29 4**	P	**Pn**	**09 10 06.3**	**-2.0**
HAU			S	Sn	09 12 04.9	-9.3
	comp=Z,49nm,0.3s					
SQTA	**Sankt Quirin**	**11.38 21**	*e*Pn	**Pn**	**09 10 12.1**	**+2.5**
	comp=Z,6.2nm,0.3s,SNR=22					
SQTA			Sn	**Sn**	**09 12 14.3**	**-2.4**
	comp=Z,16nm,0.4s					
PCAB	**Cabril**	**11.39 300**	*e*P	**Pn**	**09 10 12.0**	**+2.4**
	comp=Z,95nm,1.4s					
PCAB			*e*S	**Sn**	**09 12 15.3**	**-1.4**
PCAB			A	A	09 14 49.3	
	comp=Z,1μm,17.3s					
PCAB	**Cabril**	**11.39 300**	P	**Pn**	**09 10 12.0**	**+2.4**
	comp=Z,48nm,1.4s					
PCAB			S	**Sn**	**09 12 15.3**	**-1.4**
	comp=Z,740nm,17.3s					
ABTA	**Abfaltersbach**	**11.39 26**	*e*Pn	**Pn**	**09 10 11.3**	**+1.6**
	comp=Z,16nm,0.7s,SNR=17					
ABTA			Sn	**Sn**	**09 12 20.1**	**+3.3**
	comp=Z,35nm,0.7s					
CADS	**Cadrg**	**11.43 31**	*e*Pn	**Pn**	**09 10 12.0**	**+1.8**
SFTF	**Sexfontaines**	**11.46 359**	*e*Pn	**Pn**	**09 10 08.3**	**-2.2**
SFTF			*e*Sn	**Sn**	**09 12 09.4**	**-8.9**
	comp=Z,40nm,0.5s,baz=178					
SFTF	**Sexfontaines**	**11.46 359**	P	**Pn**	**09 10 08.3**	**-2.2**
SFTF			S	**Sn**	**09 12 09.4**	**-8.9**
	comp=Z,40nm,0.5s					
MOTA	**Moosalm**	**11.46 21**	*e*Pn	**Pn**	**09 10 13.5**	**+2.7**
	comp=Z,27nm,0.6s,SNR=34					
ELOB	**Lobios**	**11.47 301**	P	**Pn**	**09 10 13.1**	**+2.3**
	comp=Z,25nm,0.5s,SNR=45					
ELOB			S	**Sn**	**09 12 15.6**	**-3.2**
	comp=Z,42nm,0.7s,SNR=4.0					
CLF	**Chambon-Foret**	**11.48 350**	*e*Pn	**Pn**	**09 10 11.4**	**+0.5**
RETA	**Reutte**	**11.50 19**	*e*Pn	**Pn**	**09 10 13.4**	**+2.2**
	comp=Z,12nm,0.7s					
RETA			Sn	**Sn**	**09 12 16.1**	**-3.5**
	comp=Z,2.6nm,0.4s					
EPON	**Pontenova**	**11.51 309**	P	**Pn**	**09 10 13.1**	**+1.7**
	comp=Z,13nm,0.3s,SNR=32					
EPON			S	**Sn**	**09 12 13.7**	**-6.1**
	comp=Z,8.8nm,0.4s,SNR=4.0					
LIS	**Lisbon**	**11.53 284**	*e*P	**Pn**	**09 10 12.2**	**+0.7**
LIS			*e*S	**Sn**	**09 12 23.9**	**+3.7**
LIS			AMS	AMS	09 14 16.7	
	comp=N,3μm,17.0s					
LIS	**Lisbon**	**11.53 284**	*e*P	**Pn**	**09 10 12.2**	**+0.7**
LIS			*e*S	**Sn**	**09 12 23.8**	**+3.7**
LIS	**Lisbon**	**11.53 284**	P	**Pn**	**09 10 12.2**	**+0.7**
LIS			S	**Sn**	**09 12 23.9**	**+3.7**
	comp=N,3μm,17.0s					
WTTA	**Wattenberg**	**11.55 22**	*e*Pn	**Pn**	**09 10 13.9**	**+2.0**
	comp=N,18nm,0.6s,SNR=11					
WTTA			Sn	**Sn**	**09 12 16.0**	**-4.9**
	comp=N,21nm,0.8s					
WTTA	**Wattenberg**	**11.55 22**	P	**Pn**	**09 10 15.6**	**+3.6**
WTTA	**Wattenberg**	**11.55 22**	AML	AML		
	comp=N,100μm,1.1s					
WTTA			AML	AML		
	comp=E,109μm,0.8s					
WTTA			AML	AML		
	comp=N,100μm,1.1s					
WTTA			AML	AML		
	comp=E,109μm,0.8s					
ECH	**Echery**	**11.56 7**	*e*Pn	**Pn**	**09 10 10.2**	**-1.7**
ECH	**Echery**	**11.56 7**	*e*P	**Pn**	**09 10 10.2**	**-1.7**
WATA	**Walderalm**	**11.59 22**	*e*Pn	**Pn**	**09 10 15.3**	**+2.8**
	comp=E,0.2nm,0.1s,SNR=8.0					
PTO	**Porto**	**11.60 296**	*e*P	**Pn**	**09 10 14.9**	**+2.4**
	comp=E,77nm,1.0s					
PTO			A	A	09 16 10.5	
	comp=E,4μm,21.4s					
PTO	**Porto**	**11.60 296**	P	**Pn**	**09 10 14.9**	**+2.4**
	comp=E,38nm,1.0s					
GORS	**Gorjuse**	**11.61 32**	*e*Pn	**Pn**	**09 10 12.2**	**-0.5**
LJU	**Ljubljana**	**11.63 34**	*e*Pn	**Pn**	**09 10 12.7**	**-0.3**
PGAV	**Gavieira, Arco**	**11.65 301**	*e*P	**Pn**	**09 10 15.8**	**+2.5**
	comp=E,84nm,0.8s					
PGAV			*e*S	**Sn**	**09 12 24.0**	**+0.7**
PGAV			A	A	09 15 02.3	
	comp=E,2μm,16.5s					
PGAV	**Gavieira, Arco**	**11.65 301**	P	**Pn**	**09 10 15.8**	**+2.5**
	comp=E,84nm,0.8s					
PGAV			S	**Sn**	**09 12 24.0**	**+0.7**
	comp=E,2μm,16.5s					
PMAFR	**Mafra**	**11.66 285**	*e*P	**Pn**	**09 10 15.0**	**+1.7**
	comp=E,260nm,1.3s					
PMAFR			*e*S	**Sn**	**09 12 22.1**	**-1.2**
PMAFR			A	A	09 14 46.3	
	comp=E,2μm,19.6s					
MYKA	**Terra Mystica**	**11.72 30**	Pn	**Pn**	**09 10 14.8**	**+0.6**
	comp=E,7.0nm,0.7s					
MEZF	**Maizieres J'vi**	**11.75 360**	*e*Pn	**Pn**	**09 10 12.9**	**-1.7**
	baz=178,SNR=1.0					
MEZF			*e*Sn	Sn	09 12 14.8	-11
	comp=E,54nm,0.5s					
MEZF	**Maizieres J'vi**	**11.75 360**	P	**Pn**	**09 10 12.9**	**-1.7**
MEZF			S	Sn	09 12 14.8	-11
	comp=E,54nm,0.5s					
CDF	**Champ du Feu**	**11.76 7**	*e*Pn	**Pn**	**09 10 13.0**	**-1.8**
	SNR=1.0					
CDF			*e*Sn	Sn	09 12 16.4	-10
	comp=E,84nm,0.8s					
CDF	**Champ du Feu**	**11.76 7**	P	**Pn**	**09 10 14.1**	**-0.7**
CDF	**Champ du Feu**	**11.76 7**	P	**Pn**	**09 10 13.0**	**-1.8**
CDF			S	Sn	09 12 16.4	-10
	comp=E,42nm,0.8s					
BFO	**Black Forest**	**11.81 10**	*e*Pn	**Pn**	**09 10 13.5**	**-1.8**
BFO			*e*Sn	**Sn**	**09 12 19.4**	**-7.6**
BFO	**Black Forest**	**11.81 10**	*e*P	**Pn**	**09 10 13.5**	**-1.8**
BFO			*e*		09 12 19.4	
PAGF	**Fort de Pagny**	**11.81 2**	*e*Pn	**Pn**	**09 10 13.7**	**-1.7**
	baz=179					
PAGF			*e*Sn	Sn	09 12 15.7	-11
	comp=E,54nm,0.5s,baz=174					
EAGO	**Agolada(Pontev**	**11.87 305**	P	**Pn**	**09 10 18.5**	**+2.2**
	comp=E,28nm,0.5s,SNR=7.9					
EAGO			S	**Sn**	**09 12 23.3**	**-5.2**
	comp=E,5.8nm,0.5s,SNR=4.0					
KBA	**Koelnbreinsper**	**11.97 28**	Pn	**Pn**	**09 10 19.7**	**+1.9**
	comp=E,21nm,0.8s,SNR=20					
KBA			Sn	**Sn**	**09 12 35.6**	**+4.4**
	comp=E,2.6nm,0.4s					
KBA	**Koelnbreinsper**	**11.97 28**	P	**Pn**	**09 10 21.1**	**+3.3**
KBA			pmax	pmax		
	comp=Z,50nm,1.1s					
OBKA	**Obir**	**12.00 33**	Pn	**Pn**	**09 10 20.2**	**+2.2**
	comp=Z,8.7nm,0.8s					
EZAM	**Zamans**	**12.01 301**	P	**Pn**	**09 10 21.2**	**+3.0**
	comp=Z,14nm,0.7s,SNR=4.0					
TTG	**Podgorica**	**12.24 58**	*e*Pn	**Pn**	**09 10 22.4**	**+1.1**
TTG	**Podgorica**	**12.24 58**	*e*P	**Pn**	**09 10 22.4**	**+1.1**
SOKA	**Soboth**	**12.34 33**	Pn	**Pn**	**09 10 22.5**	**-0.2**
	comp=Z,6.1nm,0.5s					
STU	**Stuttgart**	**12.37 12**	*e*Pn	**Pn**	**09 10 23.1**	**0.0**
STU	**Stuttgart**	**12.37 12**	*e*P	**Pn**	**09 10 23.1**	**0.0**
GRR	**Gorron**	**12.46 341**	*e*Pn	**Pn**	**09 10 22.3**	**-1.9**
	SNR=1.0					
GRR			*e*Sn	Sn	09 12 31.8	-11
	comp=Z,34nm,0.5s					
GRR	**Gorron**	**12.46 341**	*e*P	**Pn**	**09 10 23.5**	**-0.7**
GRR			pmax	pmax		
	comp=Z,30nm,0.9s					
GRR	**Gorron**	**12.46 341**	P	**Pn**	**09 10 22.3**	**-1.9**
GRR			S	Sn	09 12 31.8	-11
	comp=Z,17nm,0.5s					
LDF	**La Druitiere**	**12.47 343**	*e*Pn	**Pn**	**09 10 22.7**	**-1.7**
	SNR=1.0					
LDF			*e*Sn	Sn	09 12 31.7	-11
	comp=Z,23nm,0.8s					
LDF	**La Druitiere**	**12.47 343**	*e*P	**Pn**	**09 10 23.4**	**-1.0**
LDF			pmax	pmax		
	comp=Z,211nm,2.0s					
EMAZ	**Mazaricos**	**12.52 304**	P	**Pn**	**09 10 27.3**	**+2.1**
	comp=Z,5.9nm,0.3s,SNR=7.9					
EMAZ			S	**Sn**	**09 12 41.5**	**-2.9**
	comp=Z,2.7nm,0.3s,SNR=7.9					
FLN	**La Foliniere**	**12.71 343**	*e*Pn	**Pn**	**09 10 26.0**	**-1.7**
	baz=164,SNR=1.0					
FLN			*e*Sn	Sn	09 12 38.0	-11
	comp=Z,50nm,0.9s,baz=173					
FLN			*e*R			
	comp=Z,3μm,15.5s					
FLN	**La Foliniere**	**12.71 343**	*e*P	**Pn**	**09 10 27.5**	**-0.2**
FLN			pmax	pmax		
	comp=Z,119nm,1.7s					
FLN	**La Foliniere**	**12.71 343**	P	**Pn**	**09 10 26.0**	**-1.7**
FLN			S	Sn	09 12 38.0	-11
	comp=Z,25nm,0.9s					
QUIF	**Quistinic**	**12.75 334**	*e*Pn	**Pn**	**09 10 26.3**	**-1.9**
	SNR=1.0					
QUIF			*e*Sn	Sn	09 12 38.4	-12
	comp=Z,22nm,0.6s					
QUIF	**Quistinic**	**12.75 334**	P	**Pn**	**09 10 30.2**	**+2.0**
QUIF	**Quistinic**	**12.75 334**	P	**Pn**	**09 10 26.3**	**-1.9**
QUIF			S	Sn	09 12 38.4	-12
	comp=Z,11nm,0.6s					
SGMF	**Saint Gilles**	**12.84 336**	*e*Pn	**Pn**	**09 10 27.5**	**-1.9**
	SNR=1.0					
SGMF			*e*Sn	Sn	09 12 42.8	-9.3
	comp=Z,31nm,0.6s					
SGMF	**Saint Gilles**	**12.84 336**	P	**Pn**	**09 10 31.7**	**+2.3**
SGMF	**Saint Gilles**	**12.84 336**	P	**Pn**	**09 10 27.5**	**-1.9**
SGMF			S	Sn	09 12 42.8	-9.3
	comp=Z,16nm,0.6s					
OHR	**Ohrid**	**12.91 65**	*i* P	**Pn**	**09 10 33.9**	**+3.4**
WLF	**Walferdange**	**12.94 3**	*e*Pn	**Pn**	**09 10 30.4**	**-0.3**
WLF	**Walferdange**	**12.94 3**	*e*P	**Pn**	**09 10 30.4**	**-0.3**
WLF	**Walferdange**	**12.94 3**	⇑P	**Pn**	**09 10 29.8**	**-1.0**
MOA	**Molln**	**12.96 28**	*e*Pn	**Pn**	**09 10 32.4**	**+1.3**
	comp=Z,7.4nm,0.7s,SNR=10					
ARSA	**Arzberg**	**13.00 33**	*e*Pn	**Pn**	**09 10 32.8**	**+1.1**
	comp=Z,20nm,0.8s,SNR=15					
BEHE	**Becsehely**	**13.01 38**	*e*Pn	**P**	**09 10 42.1**	**-0.1**
KPRO	**Kipourio**	**13.09 71**	P	**P**	**09 10 39.0**	**-4.3**
ROSF	**Rostrenen**	**13.15 334**	*e*Pn	**Pn**	**09 10 31.8**	**-1.8**
	SNR=1.0					
ROSF			*e*Sn	Sn	09 12 49.7	-10
	comp=Z,30nm,0.6s					
ROSF	**Rostrenen**	**13.15 334**	P	**Pn**	**09 10 35.7**	**+2.1**
ROSF	**Rostrenen**	**13.15 334**	P	**Pn**	**09 10 31.8**	**-1.8**
ROSF			S	Sn	09 12 49.7	-10
	comp=Z,15nm,0.6s					
DRO	**Drossia**	**13.20 80**	P	**P**	**09 10 40.6**	**-3.8**
FNA	**Florina**	**13.26 67**	*e*Pn	**Pn**	**09 10 37.0**	**+1.7**
FNA	**Florina**	**13.26 67**	*e*P	**Pn**	**09 10 37.0**	**+1.7**
BAIF	**Baives**	**13.33 357**	*e*Pn	**Pn**	**09 10 33.5**	**-2.6**
	SNR=1.0					
BAIF			*e*Sn	Sn	09 12 54.3	-10
	comp=Z,29nm,0.8s					
BAIF	**Baives**	**13.33 357**	*e*P	**Pn**	**09 10 35.4**	**-0.7**
BAIF			pmax	pmax		
	comp=Z,30nm,0.4s					
BAIF	**Baives**	**13.33 357**	P	**Pn**	**09 10 33.5**	**-2.6**
BAIF			S	Sn	09 12 54.3	-10
	comp=Z,15nm,0.8s					
DOU	**Dourbes**	**13.36 358**	P	**Pn**	**09 10 36.4**	**0.0**
DOU			pmax	pmax		
	comp=Z,102nm,0.8s					
DOU	**Dourbes**	**13.36 358**	⇑P	**Pn**	**09 10 36.3**	**-0.2**
GIVF	**Givet**	**13.36 359**	*e*Pn	**Pn**	**09 10 35.6**	**-0.9**
	SNR=1.0					
GIVF			*e*Sn	Sn	09 12 53.1	-12
	comp=Z,13nm,0.4s					
GIVF	**Givet**	**13.36 359**	*e*P	**Pn**	**09 10 35.8**	**-0.7**
GIVF			pmax	pmax		
	comp=Z,54nm,0.8s					
GIVF	**Givet**	**13.36 359**	P	**Pn**	**09 10 35.6**	**-0.9**
GIVF			S	Sn	09 12 53.1	-12
	comp=Z,6.5nm,0.4s					
ANX	**Ano Chora**	**13.38 77**	P	**Pn**	**09 10 39.5**	**+2.5**
ITM	**Ithomi**	**13.39 83**	*e*Pn	**Pn**	**09 10 37.6**	**+0.6**
ITM	**Ithomi**	**13.39 83**	P	**P**	**09 10 42.1**	**-4.5**
LAKA	**Lakka**	**13.42 79**	P	**P**	**09 10 47.7**	**+0.9**
GRB1	**Grafenberg Arr**	**13.49 18**	P	**Pn**	**09 10 40.2**	**+1.9**
GRB1			pmax	pmax		
	comp=Z,48nm,1.0s					
KALE	**Kalithea**	**13.55 78**	P	**P**	**09 10 45.3**	**-3.0**
KLV	**Kalavryta, Ach**	**13.55 79**	P	**P**	**09 10 45.1**	**-3.3**
GEC2	**GERESS Array S**	**13.60 25**	*e*Pn	**Pn**	**09 10 41.2**	**+1.3**
GERES	**GERESS Array B**	**13.60 25**	*e*Pn	**Pn**	**09 10 39.1**	**-0.8**
GERES	**GERESS Array B**	**13.60 25**	*e*P	**Pn**	**09 10 39.1**	**-0.8**
GERES	**GERESS Array B**	**13.60 25**	Pn	**Pn**	**09 10 38.2**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=201,slow=11,SNR=31					
GERES			Sn	**Sn**	**09 13 06.1**	**-4.7**
	comp=Z,0.7nm,0.3s,baz=236,slow=20,SNR=5.2					
GERES			LR	LR	09 15 47.9	
	comp=Z,2μm,21.4s,baz=230,slow=37					
WET	**Wettzell**	**13.60 22**	P	**Pn**	**09 10 40.9**	**+1.0**
WET			pmax	pmax		
	comp=Z,53nm,1.1s					
SKO	**Skopje**	**13.61 62**	*i* P	**Pn**	**09 10 43.8**	**+3.8**
GRFO	**Grafenberg**	**13.66 17**	*e*Pn	**Pn**	**09 10 40.5**	**-0.1**
GRFO	**Grafenberg**	**13.66 17**	*e*P	**Pn**	**09 10 40.5**	**-0.1**
GRA1	**Grafenberg Arr**	**

SMIA	Simia	14.40	76	P	P	09 10 55.6	-2.2
ZST	Bratislava	14.41	34	eP	P	09 10 59.4	+1.6
ZST	Bratislava	14.41	34	eP	P	09 10 59.4	+1.6
DID	Didima	14.42	82	P	Pn	09 10 52.4	+1.3
XOR	Xorichti	14.42	74	P	Pn	09 10 53.2	+2.0
KNT	Kendrikon	14.46	67	P	Pn	09 10 54.0	+2.3
NKC	Novy Kostel	14.46	19	eP	Pn	09 10 52.5	+0.8
NKC				MLR	MLR		
	comp=Z,4μm,11.2s						
NKC	Novy Kostel	14.46	19	eP	Pn	09 10 52.5	+0.8
NKC				AMS	AMS	09 18 20.0	
	comp=Z,4μm,11.2s						
VILL	Villia	14.47	79	P	P	09 10 56.5	-2.0
TREC	Trest	14.61	28	eP	Pn	09 10 53.6	-0.1
TREC				MLR	MLR		
	comp=Z,4μm,13.5s						
TREC	Trest	14.61	28	eP	Pn	09 10 53.6	-0.1
TREC				epP	P	09 11 01.7	+1.6
TREC				AMS	AMS	09 17 50.0	
	comp=Z,4μm,13.5s						
MODS	Modra-Piesok	14.62	34	eP	Pn	09 10 54.7	+0.9
MODS	Modra-Piesok	14.62	34	ePN	Pn	09 10 54.7	+0.9
MODS				e		09 11 02.3	
MRKA	Markates	14.69	77	P	P	09 10 58.7	-2.3
KKB	Krupnik	14.76	64	P	P	09 11 02.0	+0.3
KRUC	Moravsky	14.78	30	ePN	Pn	09 10 57.2	+1.3
PRU	Pruhonice	14.87	24	eP	Pn	09 10 56.7	-0.4
PRU				MLR	MLR		
	comp=Z,2μm,11.7s						
PRU	Pruhonice	14.87	24	eP	Pn	09 10 56.7	-0.4
PRU				ex	x	09 11 01.7	
PRU				AMS	AMS	09 18 10.0	
	comp=Z,2μm,11.7s						
GOPC	GO Pecny, Ondr	14.88	25	eP	Pn	09 10 57.4	+0.1
GOPC				MLR	MLR		
	comp=Z,2μm,13.5s						
GOPC	GO Pecny, Ondr	14.88	25	eP	Pn	09 10 57.4	+0.1
GOPC				epP	P	09 11 04.6	+1.5
GOPC				AMS	AMS	09 18 20.0	
	comp=Z,2μm,13.5s						
PTL	Penteli	14.90	79	P	P	09 11 02.7	-0.7
DION	Dionisos Attik	14.96	79	P	Pn	09 11 00.2	+1.8
SRS	Serrai	14.97	67	P	P	09 11 02.8	-1.2
SRS				pmax	pmax		
	comp=Z,17nm,1.2s						
VRAC	Vranov	15.05	30⇑	iP	Pn	09 10 59.0	-0.6
VRAC	Vranov	15.05	30	⇑P	Pn	09 10 59.0	-0.6
VRAC	Vranov	15.05	30	ePN	Pn	09 11 00.7	+1.1
VRAC	Vranov	15.05	30	Pn	Pn	09 10 59.3	-0.3
	comp=Z,0.3nm,0.3s,baz=242,slow=14,SNR=6.4						
VRAC				LR	LR	09 17 13.7	
	comp=Z,3μm,19.3s,baz=211,slow=39						
VTS	Vitosha	15.07	62	ePn	Pn	09 11 02.0	+2.0
	comp=Z,41nm,1.5s						
VTS	Vitosha	15.07	62	P	Pn	09 11 01.7	+1.7
VTS	Vitosha	15.07	62⇑	iP	P	09 11 03.4	-1.9
VTS	Vitosha	15.07	62	eP	Pn	09 11 02.0	+2.0
VTS				pmax	pmax		
	comp=Z,41nm,1.5s						
VTS	Vitosha	15.07	62	P	Pn	09 11 02.0	+2.0
OUR	Ouranopolis	15.13	71	P	P	09 11 05.3	-0.5
JAVC	Velka Javorina	15.16	33	ePN	P	09 11 05.4	-0.7
BZS	Buzias	15.19	49⇑	iP	P	09 11 04.2	-2.3
BZS	Buzias	15.19	49	⇑P	P	09 11 04.2	-2.3
NVR	Nevrokopi	15.21	67	P	P	09 11 06.4	-0.4
WTSB	Winterswijk	15.26	4	eP	Pn	09 11 02.0	-0.3
	comp=Z,32nm,0.6s						
PVCC	Panska Ves	15.34	23	eP	Pn	09 11 04.3	+0.9
PVCC				MLR	MLR		
	comp=Z,3μm,13.9s						
PVCC	Panska Ves	15.34	23	eP	Pn	09 11 04.3	+0.9
PVCC				AMS	AMS	09 18 00.0	
	comp=Z,3μm,13.9s						
VYHS	Vyhne	15.42	36	eP	Pn	09 11 05.9	+1.4
VYHS	Vyhne	15.42	36	ePN	Pn	09 11 05.9	+1.4
VYHS	Vyhne	15.42	36	eP	P	09 11 13.7	+4.6
SERI	Serifos	15.43	83	P	Pn	09 11 04.2	-0.5
BRG	Berggiesshubel	15.46	21	eP	Pn	09 11 05.7	+0.8
	comp=Z,57nm,1.5s						
BRG				SS	S	09 14 08.0	-3.8
BRG	Berggiesshubel	15.46	21	eP	Pn	09 11 05.7	+0.8
BRG				pmax	pmax		
	comp=Z,57nm,1.5s						
BRG				MLR	MLR		
	comp=N,2μm,13.8s						
BRG				MLR	MLR		
	comp=E,5μm,14.7s						
BRG				MLR	MLR		
	comp=Z,3μm,15.1s						
SIRR	Siria	15.55	47⇓	iP	Pn	09 11 07.0	+0.8
PSZ	Piszkesteto	15.55	40	ePn	Pn	09 11 06.2	-0.1
	comp=Z,114nm,1.7s						
PSZ	Piszkesteto	15.55	40⇑	iP	P	09 11 09.9	-0.7
PSZ	Piszkesteto	15.55	40	eP	Pn	09 11 06.2	-0.1
PSZ				pmax	pmax		
	comp=Z,114nm,1.7s						
PSZ	Piszkesteto	15.55	40	ePn	Pn	09 11 06.0	-0.3
CLL	Collm	15.59	19	ePn	Pn	09 11 06.9	+0.3
	comp=Z,54nm,1.2s						
CLL	Collm	15.59	19	eP	Pn	09 11 06.9	+0.3
CLL				pmax	pmax		
	comp=Z,55nm,1.2s						
CLL	Collm	15.59	19	eP	Pn	09 11 07.0	+0.3
	comp=Z,101nm,1.8s						
CLL				ePP	PnPn	09 11 15.0	0.0
CLL				i sPP		09 11 18.4	
	comp=Z,56nm,1.2s						
CLL				i		09 11 28.6	
CLL				e		09 12 05.0	
CLL				eS	S	09 14 12.0	-2.5
CLL				LmH		09 16 00.0	
	comp=N,2μm,19.8s						
CLL				LmH		09 16 00.0	
	comp=E,2μm,18.9s						
CLL				Lmax		09 19 00.0	
THAS	Thassos island	15.73	70	P	Pn	09 11 08.3	-0.2
DPC	Dobruska-Polom	15.79	27	eP	Pn	09 11 09.3	0.0
DPC				MLR	MLR		
	comp=Z,3μm,11.9s						
DPC	Dobruska-Polom	15.79	27	eP	Pn	09 11 09.3	0.0
DPC				epP	pP	09 11 15.6	-1.1
DPC				AMS	AMS	09 19 20.0	
	comp=Z,3μm,11.9s						
MORC	Moravsky Berou	15.80	31	ePn	P	09 11 11.6	-1.7
	comp=Z,114nm,1.8s						
MORC	Moravsky Berou	15.80	31⇑	iP	Pn	09 11 11.3	+1.8
MORC	Moravsky Berou	15.80	31	⇑P	Pn	09 11 11.3	+1.8
MORC	Moravsky Berou	15.80	31	ePN	P	09 11 11.8	-1.5
GZR	Gura Zlata	15.80	51⇑	iP	Pn	09 11 10.7	+1.2
UPC	Upice	15.81	26	eP	Pn	09 11 09.7	+0.2
UPC				MLR	MLR		
	comp=Z,2μm,11.7s						
UPC	Upice	15.81	26	eP	Pn	09 11 09.7	+0.2
UPC				epP	P	09 11 14.2	+0.9
UPC				AMS	AMS	09 19 40.0	
	comp=Z,2μm,11.7s						
RZN	Rozhen	15.91	66	P	P	09 11 14.0	-0.7
PLD	Plovdiv	15.99	64	P	P	09 11 15.7	+0.4
PLD				pmax	pmax		
	comp=Z,2.0nm,1.1s						
LIA	Limnos Island	16.00	73	P	P	09 11 13.7	-1.8
IDI	Anoyia	16.01	89	Pn	Pn	09 11 11.5	-0.7
	comp=Z,0.2nm,0.3s,baz=302,slow=11,SNR=6.5						
IDI				LR	LR	09 18 29.1	
	comp=Z,631nm,21.1s,baz=284,slow=42						
OKC	Ostrava-Krasne	16.10	32	eP	P	09 11 15.6	-0.9
OKC				MLR	MLR		
	comp=Z,3μm,14.5s						
OKC	Ostrava-Krasne	16.10	32	eP	P	09 11 15.6	-0.9
OKC				AMS	AMS	09 18 40.0	
	comp=Z,3μm,14.5s						
DEV	Deva	16.11	50	P	P	09 11 17.9	+1.2
DEV				pmax	pmax		
	comp=Z,27nm,1.2s						
LANS	Liptovska Anna	16.18	36	eP	P	09 11 20.5	+3.0
LANS	Liptovska Anna	16.18	36	eP	P	09 11 20.5	+3.0
KSP	Ksiaz	16.19	26	eP	P	09 11 18.4	+0.9
KSP				LMZ	LR	09 16 45.9	
	comp=Z,2μm,22.4s						
KSP	Ksiaz	16.19	26	eP	P	09 11 18.4	+0.9
KSP				MLR	MLR		
	comp=Z,2μm,22.4s						
KECS	Kecovo	16.22	39	eP	P	09 11 20.7	+2.8
KECS	Kecovo	16.22	39	eP	P	09 11 20.7	+2.8
APE	Apeiranthos	16.27	83	P	P	09 11 17.2	-1.4
APE	Apeiranthos	16.27	83⇑	iP	Pn	09 11 15.2	-0.4
APE	Apeiranthos	16.27	83⇓	eP	Pn	09 11 15.2	-0.4
LTVH	Ltavrtes, Hu	16.30	44	ePn	P	09 11 23.1	+4.3
LTVH				Sn	S	09 14 32.1	+2.9
RAC	Raciborz	16.31	31	eP	P	09 11 18.2	-0.6
RAC				MLR	MLR		
	comp=Z,4μm,19.3s						
SMTH	Samothraki Isl	16.32	71	P	Pn	09 11 17.5	+1.3
KDZ	Kurdzhali	16.42	66	P	P	09 11 22.0	+1.9
RDO	Rodhopi	16.42	68	P	P	09 11 19.6	-0.5
DRGR		16.45	47⇑	iP	P	09 11 21.6	+1.1
DRGR		16.45	47	⇑P	P	09 11 21.6	+1.1
SIGR	SIGRI	16.48	75	P	P	09 11 20.2	-0.6
LAST	Lasithi	16.50	89	P	Pn	09 11 19.5	+0.9
ANAF	Anafi Island	16.55	85	P	P	09 11 20.9	-0.7
AMGA	Amorgos Island	16.59	83	P	Pn	09 11 20.7	+1.1
NPS	Neapolis	16.59	89	P	P	09 11 24.0	+1.9
CHOS	Chios island	16.62	78	P	P	09 11 22.1	-0.4
NIE	Niedzica	16.76	36	eP	P	09 11 24.2	+0.3
NIE				LMZ	LR	09 18 43.5	
	comp=Z,3μm,16.8s						
NIE	Niedzica	16.76	36	eP	P	09 11 24.2	+0.3
NIE				MLR	MLR		
	comp=Z,3μm,16.8s						
ALN	Alexandroupoli	16.77	69	ePn	Pn	09 11 21.9	+0.1
	comp=Z,26nm,1.1s						
ALN	Alexandroupoli	16.77	69	P	Pn	09 11 22.4	+0.6
ALN	Alexandroupoli	16.77	69	eP	Pn	09 11 21.9	+0.1
ALN				pmax	pmax		
	comp=Z,26nm,1.1s						
PRK	Paraskevi	16.80	75	P	P	09 11 25.9	+1.5
EZN	Ezine	16.87	73⇓	iP	Pn	09 11 22.9	-0.2
EZN	Ezine	16.87	73	⇓P	Pn	09 11 22.9	-0.2
ARR	Arges	16.98	53⇓	iP	P	09 11 26.5	+0.1
TRPA	Tarpa	17.09	43	ePn	Pn	09 11 26.1	+0.3
TRPA				Sn	Sn	09 14 38.1	+2.6
OJC	Ojcow	17.10	33	eP	P	09 11 27.4	-0.2
OJC				LMZ	LR	09 18 52.0	
	comp=Z,6μm,16.6s						
OJC	Ojcow	17.10	33	ePn	P	09 11 27.6	0.0
	comp=Z,110nm,1.7s						
OJC	Ojcow	17.10	33	eP	P	09 11 27.4	-0.2
OJC				MLR	MLR		
	comp=Z,6μm,16.6s						
SZH	Strazhica	17.15	61	P	Pn	09 11 27.0	+0.3
UZH	Uzhgorod	17.25	41	eP	Pn	09 11 28.4	+0.6
UZH				eS	Sn	09 14 36.3	-3.1
UZH				MLR	MLR		
	comp=N,850nm,13.0s						
UZH				MLR	MLR		
	comp=E,1μm,13.0s						
UZH				MLR	MLR		
	comp=Z,350nm,13.0s						
SMG	Samos	17.27	80	P	P	09 11 31.1	+1.6
VOIR		17.27	54⇑	iP	P	09 11 31.8	+2.2
VOIR		17.27	54	⇑P	P	09 11 31.8	+2.2
KOLS	Kolonicke sedl	17.43	40	eP	P	09 11 33.9	+2.7
KOLS	Kolonicke sedl	17.43	40	eP	P	09 11 33.9	+2.7
EDRB	Edirne	17.43	66	P	P	09 11 32.8	+1.5
JMB	Yambol	17.43	64	P	P	09 11 31.0	-0.3
BSEG	Bad Segeberg	17.56	10	P	P	09 11 34.6	+2.0
BSEG				pmax	pmax		
	comp=Z,49nm,1.5s						
BODT	Bodrum	17.69	82	P	Pn	09 11 33.4	0.0
DOPR	Dopca	17.70	52⇓	iP	P	09 11 35.8	+1.5
IWEX	Carrickbyrne,	17.76	335	eP	P	09 11 36.7	+1.8
KARP	Karpathos	17.78	87	eP	P	09 11 35.5	+0.2
	comp=Z,90nm,0.8s						
KARP	Karpathos	17.78	87	P	P	09 11 35.7	+0.4
MLR	Muntele Rosu	17.88	54	ePn	Pn	09 11 35.8	+0.1
	comp=Z,30nm,1.0s						
MLR	Muntele Rosu	17.88	54⇑	iP	P	09 11 37.6	+1.2
MLR	Muntele Rosu	17.88	54	eP	Pn	09 11 35.8	+0.1
MLR				pmax	pmax		
	comp=Z,31nm,1.0s						
MLR	Muntele Rosu	17.88	54	P	Pn	09 11 35.3	-0.4
	comp=Z,0.2nm,0.3s,baz=172,slow=8.1,SNR=8.3						
MLR				LR	LR	09 19 12.9	
	comp=Z,4μm,19.2s,baz=250,slow=40						
BALB	Balikesir	18.06	74	ePn	P	09 11 39.6	+1.3
	comp=Z,343nm,1.5s						
KWP	Kalwaria Pacla	18.08	39	eP	P	09 11 41.4	+2.9
KWP				LMZ	LR	09 20 01.8	
	comp=Z,7μm,15.3s						
KWP	Kalwaria Pacla	18.08	39	ePn	P	09 11 40.9	+2.5
	comp=Z,1μm,1.3s						
KWP	Kalwaria Pacla	18.08	39	eP	P	09 11 41.4	+2.9
KWP				MLR	MLR		
	comp=Z,7μm,15.3s						
ISR	Istrita	18.14	56⇓	iP	P	09 11 42.2	+3.1
ISR	Istrita	18.14	56	⇓P	P	09 11 42.2	+3.1
PRD	Provadia	18.18	62	P	P	09 11 40.0	+0.5
BURAR	Bucovina Array	18.34	47	ePn	P	09 11 43.4	+2.0
BUR08	Bucovina Ar. S	18.34	47	ePn	P	09 11 44.5	+3.0
	comp=Z,21nm,1.1s						
DSB	Dublin	18.38	338	eP	Pn	09 11 43.1	+1.4
DSB	Dublin	18.38	338	eP	Pn	09 11 43.6	+2.0
	comp=Z,213nm,1.5s						
BISRR	Bisoca	18.40	55⇑	iP	Pn	09 11 47.8	+5.8
ARG	Arkhangelos	18.45	85	P	Pn	09 11 46.6	+3.9
ARG				pmax	pmax		
	comp=Z,55nm,1.0s						
PLOR	Plostina	18.47	54⇓	iP	Pn	09 11 43.7	+0.8
PLOR	Plostina	18.47	54	⇓P	Pn	09 11 43.7	+0.8
CTYL	Yalikoy Yolu	18.52	68⇓	iP	Pn	09 11 44.2	+0.7
VRI	Vrincioaia	18.52	54⇑	iP	Pn	09 11 45.8	+2.2
VRI	Vrincioaia	18.52	54	⇑P	Pn	09 11 45.8	+2.2
GKP	Gorka Klasztor	18.55	23	eP	Pn	09 11 45.4	+1.7
GKP				LMZ	LR	09 18 43.6	
	comp=Z,2μm,18.6s						
GKP	Gorka Klasztor	18.55	23	eP	Pn	09 11 45.4	+1.7
GKP				MLR	MLR		
	comp=Z,2μm,18.6s						
BIZ	Bicaz	18.56	50⇑	iP	Pn	09 11 48.2	+4.2
MANT	Manisa	18.59	78	eP	Pn	09 11 44.9	+0.3
	comp=Z,189nm,1.2s						
KULA	Kula-Manisa	18.67	77	P	Pn	09 11 48.6	+3.2
ICOR	Ion Corvin	18.69	60⇑	iP	Pn	09 11 48.0	+2.5
ODBI	Odobesti	18.70	54⇑	iP	Pn	09 11 49.3	+3.6
BEL	Belsk	18.71	31	eP	Pn	09 11 47.4	+1.7
BEL				LMZ	LR	09 19 09.6	
	comp=Z,2μm,19.1s						
BEL	Belsk	18.71	31	eP	Pn	09 11 47.4	+1.7
BEL				MLR	MLR		
	comp=Z,2μm,19.1s						
VAL	Valentia	18.72	329	eP	Pn	09 11 48.9	+3.1
TESR	Tescani	18.72	52⇑	iP	Pn	09 11 51.0	+5.0
LVV	L'vov	18.88	40	eP	Pn	09 11 48.0	+0.2
LVV				eS	Sn	09 15 20.0	+1.2
LVV				MLR	MLR		
	comp=Z,3μm,13.0s						
TLB	Topalu	18.98	59⇓	iP	P	09 11 48.6	+0.2
TLB	Topalu	18.98	59	⇓P	P	09 11 48.6	+0.2
ISK	Istanbul-Kandi	19.05	70	P	Pn	09 11 53.0	+3.1
MFTR	Murfatlar	19.13	60⇑	iP	Pn	09 11 51.6	+0.7
CFR	Carcaliu	19.22	57⇓	iP	Pn	09 11 52.2	+0.3
CFR	Carcaliu	19.22	57	⇓P	Pn	09 11 52.2	+0.3
ESK	Eskdalemuir	19.44	345	eP	P	09 11 53.3	-0.1
	comp=Z,50nm,1.2s						
ESK	Eskdalemuir	19.44	345	iP	Pn	09 11 57.5	+3.0
EKA	Eskdalemuir Ar	19.45	346	P	Pn	09 11 54.6	0.0
	baz=157,slow=13,SNR=23						
EKA				S	Sn	09 15 26.4	-6.1
	baz=154,slow=16,SNR=3.6						
IGLA	Glengowla, Co	19.53	333	eP	P	09 11 50.1	-4.1
BSD	Bornholm Skovb	19.54	17	eP	Pn	09 11 55.7	0.0
BSD				pmax	pmax		
	comp=Z,58nm,0.9s						
BSD	Bornholm Skovb	19.54	17	iP	Pn	09 11 55.7	0.0
	comp=Z,58nm,0.9s						
TLCR		19.68	57⇑	iP	Pn	09 11 57.2	-0.2
TLCR		19.68	57	⇑P	Pn	09 11 57.2	-0.2
LEOM	Leova	19.73	53⇓	iP	Pn	09 11 59.3	+1.3
LEOM	Leova	19.73	53	⇓P	Pn	09 11 59.3	+1.3
MUD	Monsted U'grnd	19.90	7⇓	iP	Pn	09 11 59.8	-0.1
MUD				pmax	pmax		
	comp=Z,74nm,1.1s						
MUD	Monsted U'grnd	19.90	7⇓	iP	Pn	09 11 59.8	-0.1
	comp=Z,74nm,1.1s						
ISP	Isparta	20.17	79	eP	P	09 12 01.9	+0.3
	comp=Z,76nm,1.6s						
ISP	Isparta	20.17	79	eP	P	09 12 01.9	+0.3
ISP				pmax	pmax		
	comp=Z,76nm,1.6s						
KIS	Kishinev	20.29	52	eP	P	09 12 00.0	-2.6
	comp=Z,290nm,2.0s						
KIS	Kishinev	20.29	52	ePP	Pn	09 12 18.0	+13
KIS				eS	S	09 15 40.0	-10
KIS	Kishinev	20.29	52	i PcP	PcP	09 16 08.0	-7.8
KIS				eSS	Sn	09 16 13.0	+20
KIS				eSSS	SSS	09 16 24.0	
KIS				eL	L	09 19 04.0	
KIS				LRM	MLR	09 21 20.0	
	comp=Z,3μm,15.0s						
KIS	Kishinev	20.29	52	eP	P	09 12 02.0	-0.6
KIS				i		09 12 10.0	
KIS				i		09 12 18.0	
KIS				eS	S	09 15 46.0	-3.7
KIS				i		09 16 13.0	
KIS				eSS	SnSn	09 16 24.0	+17
KIS				pmax	pmax		
	comp=Z,290nm,2.0s						
KIS				MLR	MLR		
	comp=Z,3μm,15.0s						
KIS				MLR	MLR		
	comp=N,3μm,12.0s						
IDGL	Inch Island, C	20.29	339	eP	Pn	09 12 04.8	+0.2
MDUB	Mudurnu	20.63	72	eP	P	09 12 07.6	+1.0
	comp=N,646nm,1.8s						
KLNR	Kaliningrad	20.64	25	d iP	P	09 12 07.2	+0.9
KLNR				pmax	pmax		
	comp=Z,222nm,1.1s						
ANTO	Ankara	21.85	73	eP	P	09 12 21.2	+1.6
	comp=Z,32nm,1.2s						
ANTO	Ankara	21.85	73	P	P	09 12 25.2	+5.6
ANTO				pmax	pmax		
	comp=Z,22nm,1.5s						
ANTO	Ankara	21.85	73	P	P	09 12 22.0	+2.4
	SNR=7.8						
ANTO				P	P	09 12 22.0	+2.4
	SNR=7.8						
KIEV	Kiev	22.14	43	eP	P	09 12 21.6	-0.9
	comp=Z,49nm,1.0s						
KIEV				LR	LR		
	comp=Z,2μm,21.0s						
KIEV	Kiev	22.14	43	i P	P	09 12 21.3	-1.2
	SNR=24						
KIEV	Kiev	22.14	43	deP	P	09 12 21.5	-0.9
KIEV				pmax	pmax		
	comp=Z,16nm,1.1s						
AKASG	Malin Array Be	22.15	43	eP	P	09 12 20.6	-2.1
AKASG	Malin Array Be	22.15	43	i P	P	09 12 21.5	-1.1
AKASG				pmax	pmax		
	comp=Z,16nm,0.6s						
AKASG	Malin Array Be	22.15	43	P	P	09 12 21.2	-1.4
	comp=Z,16nm,0.6s,baz=244,slow=11,SNR=24						
AKASG				S	S	09 16 24.1	-2.1
	comp=Z,0.8nm,0.5s,baz=241,slow=19,SNR=11						
AKASG				LR	LR	09 21 07.5	
	comp=Z,2μm,21.5s,baz=240,slow=37						
AKBB	Malin Array Si	22.15	43	eP	P	09 12 21.3	-1.3
	comp=Z,47nm,0.9s						
AKBB				LR	LR		
	comp=Z,2μm,18.0s						
BR101	Keskin Array S	22.50	74	eP	P	09 12 27.0	+0.3
BR131	Keskin Array S	22.50	74	eP	P	09 12 27.8	+1.1
	comp=Z,15nm,0.8s						
BR131	Keskin Array S	22.50	74	P	P	09 12 28.3	+1.6
	SNR=14						
BRTR	Keskin Array B	22.50	74	eP	P	09 12 27.8	+1.1
BRTR	Keskin Array B	22.50	74	i P	P	09 12 28.3	+1.6
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRTR	Keskin Array B	22.50	74	P	P	09 12 27.0	+0.3
	comp=Z,4.6nm,0.7s,baz=264,slow=9.9,SNR=32						
BRTR				LR	LR	09 21 20.9	
	comp=Z,197nm,20.9s,baz=266,slow=37						
ILGA	Ilgaz	22.57	70	eP	P	09 12 30.0	+2.5
	comp=Z,58nm,1.8s						
PABE	Paberze	22.70	28	eP	P	09 12 28.1	-0.4
PABE				IAmb	IAmb	09 12 38.5	
	comp=Z,103nm,1.1s						
CSS	Mathiatis	22.85	86	eP	P	09 12 28.2	-2.0
	comp=Z,33nm,1.0s						
CSS	Mathiatis	22.85	86	P	P	09 12 34.8	+4.5
	comp=Z,10.0nm,1.1s						
KONO	Kongsberg	23.10	6	eP	P	09 12 32.3	-0.3
	comp=Z,48nm,1.3s						
KONO				LR	LR		
	comp=Z,2μm,19.0s						
KONO	Kongsberg	23.10	6	d iP	P	09 12 32.6	0.0
KONO				pmax	pmax		
	comp=Z,73nm,2.5s						
SIM	Simferopol'	23.27	60	eP	P	09 12 33.4	-1.1
SIM				eS	S	09 16 37.0	-9.5
SIM				pmax	pmax		
	comp=Z,16nm,1.0s						
SIM				MLR	MLR		
	comp=Z,1μm,14.0s						
NACGM	Naroch	23.42	32	eP	P	09 12 34.0	-1.9
NACGM				eP	P	09 12 34.0	-1.9
NACGM				ePP	PnPn	09 13 22.0	+20
NACGM				eS	S	09 16 46.0	-2.6
NACGM				eSS	Sn	09 17 06.0	-1.8
NACGM				eSSS	SSS	09 17 42.0	
NACGM				eLQ	LQ	09 20 12.0	
NACGM				eLR	LR	09 21 38.0	
NACGM				LRM	MLR	09 23 27.0	
	comp=Z,3.4nm,14.0s						
IIGN	Ignalina	23.49	31	eP	P	09 12 36.3	-0.3
IIGN				IAmb	IAmb	09 12 40.7	
	comp=Z,46nm,1.2s						
ISAL	Salakas	23.60	30	eP	P	09 12 37.1	-0.5
ISAL				IAmb	IAmb	09 12 41.9	
	comp=Z,68nm,1.2s						
MICGM	Minsk	23.64	34⇑	eP	P	09 12 36.0	-2.1
MICGM				PM		09 12 37.0	
	comp=Z,0.2nm,0.8s						
MICGM				eS	S	09 16 46.0	-6.2
MICGM				eLQ	LQ	09 20 18.0	
MICGM				eLR	LR	09 21 34.0	
MICGM				LRM	MLR	09 22 50.0	
	comp=Z,1.8nm,16.0s						
MNK	Minsk	23.64	34⇑	eP	P	09 12 36.0	-2.1
MNK				eS	S	09 16 46.0	-6.2
MNK				pmax	pmax		
	comp=Z,180nm,0.8s						
MNK				MLR	MLR		
	comp=Z,2μm,16.0s						
BER	Bergen	23.66	0	P	P	09 12 40.1	+2.0
BER				pmax	pmax		
	comp=Z,32nm,1.1s						
IDID	Didziasalis	23.68	32	eP	P	09 12 38.1	-0.3
IDID				IAmb	IAmb	09 12 42.5	
	comp=Z,24nm,1.1s						
TOA1	Torodi Ar. Sit	23.70	189	eP	P	09 12 37.1	-1.8
TOA1				eS	S	09 16 49.7	-4.0

NOA LR LR 09 23 18.9
comp=Z,2μm,18.2s,baz=190,slow=39
NC405 NORSAR Array S 24.74 8 *eP* **P 09 12 48.7 +0.5**
comp=Z,60nm,0.9s
MMAI Mount Meron Ar 25.01 90 P **P 09 12 51.2 +0.2**
comp=Z,9.9nm,0.7s,baz=282,slow=7.2,SNR=5.6
SHMJ Saham 25.39 90 P **P 09 12 57.0 +2.7**
ANN Anapa 25.58 62 *eP* **P 09 12 56.2 +0.3**
ANN *e**PP **sP 09 13 00.8 -0.3**
ANN *e* 09 13 33.7
ANN *e*S **S 09 17 25.0 +1.6**
ANN pmax pmax
comp=Z,42nm,1.0s
ANN MLR MLR
comp=N,692nm,12.0s
ANN MLR MLR
comp=Z,884nm,12.0s
ANN MLR MLR
comp=E,245nm,12.0s
GHAJ Ghor Haditha 25.69 93 P **P 09 13 00.0 +2.9**
comp=E,25nm,1.1s
EIL Elat 25.81 97 P **P 09 12 59.0 +0.8**
comp=E,27nm,0.9s,baz=306,slow=7.7,SNR=15
AQBJ Aqaba 25.87 97 P **P 09 13 00.7 +2.0**
VSU Vasula 25.92 26 *deP* **P 09 12 58.6 -0.2**
VSU pmax pmax
comp=Z,136nm,1.5s
VSU Vasula 25.92 26 *eP* **P 09 12 58.7 -0.2**
VSU IAmb IAmb 09 13 04.2
comp=Z,148nm,1.1s
ASF Jabal al Asfar 26.47 91 P **P 09 13 06.4 +2.1**
comp=Z,23nm,1.6s
ASF Jabal al Asfar 26.47 91 P **P 09 13 05.4 +1.1**
comp=Z,11nm,0.9s,baz=264,slow=3.0,SNR=13
SOC Sochi 27.11 65 *eP* **P 09 13 14.4 +4.5**
SOC *e*S **S 09 17 52.4 +4.7**
SOC pmax pmax
comp=Z,11nm,0.6s
SOC MLR MLR
comp=Z,243nm,12.0s
FIA0 FINESS Array S 28.00 21 *eP* **P 09 13 16.8 -0.7**
FINES FINESS Array B 28.00 21 P **P 09 13 16.8 -0.7**
comp=Z,3.4nm,0.8s,baz=224,slow=5.3,SNR=12
FINES LR LR 09 24 10.5
comp=Z,494nm,19.7s,baz=206,slow=36
FIA1 FINESS Array S 28.00 21 *eP* **P 09 13 17.1 -0.4**
VSR Storozhevoye 28.11 48 *eP* **P 09 13 18.0 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=Z,2μm,14.0s
OBN Obninsk 28.17 39 *eP* **P 09 13 19.9 +0.7**
comp=Z,36nm,1.0s
OBN LR LR
comp=Z,2μm,21.0s
OBN Obninsk 28.17 39 *eP* **P 09 13 18.8 -0.4**
OBN *e*PPP PPP 09 14 14.2
OBN pmax pmax
comp=Z,62nm,1.7s
OBN MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 28.17 39 P **P 09 13 19.4 +0.3**
comp=Z,4.7nm,0.5s,baz=214,slow=4.0,SNR=8.0
OBN LR LR 09 25 44.0
comp=Z,442nm,18.9s,baz=234,slow=39
LPSR Galich'ya Gora 28.42 45 *eP* **P 09 13 22.4 +0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR MLR MLR
comp=Z,2μm,13.0s
VAF Ylistaro 28.43 17 P **P 09 13 22.4 +1.0**
VAF pmax pmax
comp=Z,45nm,0.9s
MOS Moscow 29.00 39 *eP* **P 09 13 24.7 -1.8**
MOS *e*S **S 09 18 14.9 -2.1**
MOS MLR MLR
comp=E,3μm,15.0s
MOS MLR MLR
comp=Z,3μm,15.0s
SUF Sumiainen 29.04 20 P **P 09 13 28.4 +1.6**
SUF pmax pmax
comp=Z,28nm,1.0s
KIV Kislovodsk 29.28 64 *eP* **P 09 13 30.0 +0.7**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,804nm,15.0s
KBZ Khabaz 29.43 64 P **P 09 13 28.9 -1.5**
comp=Z,0.9nm,0.5s,baz=338,slow=11,SNR=2.4
VRH Novokhopyorsk 29.65 49 *eP* **P 09 13 32.3 0.0**
VRH pmax pmax
comp=Z,30nm,0.8s
VRH MLR MLR
comp=Z,2μm,18.0s
JOF Joensuu 30.72 23 P **P 09 13 45.0 +3.3**
JOF pmax pmax
comp=Z,17nm,2.1s
GNI Garni 30.99 71⇑ *eP* **P 09 13 46.5 +2.0**
GNI pmax pmax
comp=Z,22nm,1.5s
DBIC Dimbokro 31.31 199 *eP* **P 09 13 49.3 +2.0**
comp=Z,20nm,1.3s
DBIC Dimbokro 31.31 199 P **P 09 13 45.5 -1.8**
comp=Z,9.2nm,1.1s,baz=0.8,slow=11,SNR=2.6
DBIC LR LR 09 27 27.5
comp=Z,2μm,19.5s,baz=345,slow=38
TIC Toumodi 31.38 200 *eP* **P 09 13 49.0 +1.1**
KIC Kosan Boka 31.58 199 *eP* **P 09 13 49.3 -0.4**
comp=Z,53nm,1.1s
LIC Lamto 31.78 200 *eP* **P 09 13 52.2 +0.7**
comp=Z,95nm,1.6s
LIC Lamto 31.78 200 *eP* **P 09 13 52.4 +0.9**
comp=Z,16nm,0.6s,baz=358
LIC *e*R
comp=Z,3μm,18.2s
MSF Maaselka 32.36 18 P **P 09 13 57.2 +1.1**
MSF pmax pmax
comp=Z,44nm,1.1s
KLMR Klimovskoe 32.42 31⇓ *iP* **P 09 13 56.1 -0.6**
KLMR pmax pmax
comp=Z,42nm,1.2s
MAK Makhachkala 32.80 66 *eP* **P 09 13 58.6 -1.6**
MAK *e* 09 15 05.8
MAK *e*S **S 09 19 14.3 -2.6**
MAK *e*SS **SnSn 09 21 10.3 -2.7**
MAK pmax pmax
comp=Z,87nm,1.0s
TMCR Tamitsa 33.79 25 *eP* **P 09 14 06.8 -1.7**
TMCR pmax pmax
comp=Z,13nm,0.9s
ARA0 ARCESS Array S 34.66 12 *eP* **P 09 14 14.7 -1.4**
ARA0 *e*PcP **PcP 09 16 49.2 -0.7**
ARCES ARCESS Array B 34.66 12 P **P 09 14 14.7 -1.4**
comp=Z,4.0nm,0.6s,baz=198,slow=3.5,SNR=15
ARCES PcP **PcP 09 16 49.2 -0.7**
comp=Z,1.8nm,0.5s,baz=212,slow=2.8,SNR=6.8
ARCES LR LR 09 28 20.1
comp=Z,1μm,21.7s,baz=228,slow=36
KEV Kevo 35.12 13 PFAKE 09 14 30.0 +10
KEV LR LR
comp=Z,1μm,19.0s
LVZ Lovozero 35.31 19 PFAKE 09 14 30.0 +8.2
LVZ LR LR
comp=Z,800nm,21.0s
PRGR Permogore 35.38 32 *eP* **P 09 14 20.7 -1.7**
PRGR pmax pmax
comp=Z,24nm,0.9s
SCO Scoresbysund 36.75 345 PFAKE 09 14 50.0 +16
SCO LR LR
comp=Z,1μm,20.0s
ARU Arti 40.40 43 *eP* **P 09 15 04.3 -0.5**
comp=Z,49nm,0.8s
ARU LR LR
comp=Z,2μm,18.0s
ARU Arti 40.40 43 *ceP* **P 09 15 04.4 -0.5**
ARU pmax pmax
comp=Z,53nm,0.8s
ARU Arti 40.40 43 P **P 09 15 04.5 -0.3**
comp=Z,18nm,0.7s,baz=263,slow=5.2,SNR=22
ABKAR Akbulak array 41.09 55 *eP* **P 09 15 11.1 +0.5**
comp=Z,4.3nm,1.0s
IVI Ivigtut 41.13 324 PFAKE 09 15 20.0 +9.3
IVI LR LR
comp=Z,2μm,18.0s
DAG Danmarks Havn 41.51 352 *i* P **P 09 15 14.7 +1.0**
DAG Danmarks Havn 41.51 352 *i* P **P 09 15 14.7 +1.0**

SVE Sverdlovsk 41.58 43 *eP* **P 09 15 15.4 +0.9**
SVE *e*S **S 09 21 35.0 +5.0**
SVE pmax pmax
comp=Z,68nm,0.9s
SVE MLR MLR
comp=Z,2μm,18.0s
GEYT Alibeck 41.62 72 P **P 09 15 14.8 -0.4**
comp=Z,5μm,0.8s,baz=276,slow=13,SNR=9.8
SUMG Summit 42.01 342 *eP* **P 09 15 19.6 +1.3**
comp=Z,48nm,1.2s
SUMG Summit 42.01 342 *eP* **P 09 15 19.6 +1.3**
SUMG pmax pmax
comp=Z,48nm,1.2s
SUMG Summit 42.01 342 *i* P **P 09 15 20.0 +1.7**
KBS Kingsbay 42.39 2 PFAKE 09 15 30.0 +9.2
KBS LR LR
comp=Z,900nm,18.0s
KBS Kingsbay 42.39 2⇑ *eP* **P 09 15 23.2 +2.4**
KBS pmax pmax
comp=Z,86nm,1.7s
SFJD Kangerlussuaq 43.52 332 *eP* **P 09 15 30.6 +0.5**
comp=Z,22nm,0.9s
SFJD Kangerlussuaq 43.52 332 P **P 09 15 29.4 -0.7**
comp=Z,15nm,0.9s,baz=102,slow=9.2,SNR=4.8
SFJD Kangerlussuaq 43.52 332 *i* P **P 09 15 31.0 +0.8**
ILULI Ilulissat 44.31 335 PFAKE 09 15 50.0 +14
ILULI LR LR
comp=Z,1μm,18.0s
SHME Shamm 44.33 89 P **P 09 15 37.7 +0.5**
NAZ Nazwa, Dubai 44.42 91 P **P 09 15 37.8 -0.2**
FAQ Al Faqa, Dubai 44.48 91 P **P 09 15 37.9 -0.5**
HATD Hatta, Dubai 44.88 90 *i* P **P 09 15 41.0 -0.6**
SNR=10
ASHO Ashiyiah 44.88 91 *i* P **P 09 15 41.0 -0.7**
SNR=8.1
SOHO SOHO 45.52 91 P **P 09 15 46.4 -0.3**
SNR=5.6
SOHO P **P 09 15 46.4 -0.3**
SNR=5.6
BRVK Borovoye 47.23 48 *eP* **P 09 15 59.8 +0.1**
comp=Z,21nm,1.2s
BRVK LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 47.23 48⇓ *eP* **P 09 16 01.8 +2.1**
BRVK pmax pmax
comp=Z,15nm,1.0s
KMBO Kilima Mbogo 48.01 134 *eP* **P 09 16 06.3 -0.2**
comp=Z,11nm,1.1s
KMBO Kilima Mbogo 48.01 134 *i* P **P 09 16 06.5 0.0**
KMBO pmax pmax
comp=Z,5.0nm,0.7s
KMBO Kilima Mbogo 48.01 134 P **P 09 16 06.1 -0.4**
comp=Z,5.2nm,0.7s,baz=340,slow=6.5,SNR=10
KMBO LR LR 09 36 44.7
comp=Z,545nm,18.3s,baz=318,slow=37
MHTO MHTO 48.23 94 P **P 09 16 07.8 -0.1**
OTUK Ortayu 49.34 54 P **P 09 16 18.8 +2.6**
OTUK pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 49.37 61 *eP* **P 09 16 16.5 0.0**
KKAR Karatay Array 49.37 61 *eP* **P 09 16 16.5 0.0**
GBN Guysborough 49.72 302 PFAKE 09 16 30.0 +11
GBN LR LR
comp=Z,2μm,20.0s
GAR Garm 50.46 66 *eP* **P 09 16 24.8 -0.1**
comp=Z,11nm,1.0s
GAR Garm 50.46 66 *eP* **P 09 16 24.8 -0.1**
GAR pmax pmax
comp=Z,11nm,1.0s
SCHQ Schefferville 51.01 315 *eP* **P 09 16 28.8 +0.2**
comp=Z,19nm,1.1s
SCHQ LR LR
comp=Z,500nm,18.0s
SCHQ Schefferville 51.01 315 P **P 09 16 28.4 -0.3**
comp=Z,10nm,0.9s,baz=82,slow=7.5,SNR=4.1
SCHQ LR LR 09 34 40.8
comp=Z,426nm,19.6s,baz=98,slow=32
LMN Caledonia Moun 51.83 303 *eP* **P 09 16 34.5 -0.4**
comp=Z,47nm,1.4s
LMN LR LR
comp=Z,900nm,19.0s
BATG Bathurst New B 52.26 305 *eP* **P 09 16 38.8 +0.7**
comp=Z,69nm,1.4s
AAK Ala-Archa 52.30 61⇑ *eP* **P 09 16 37.6 -1.1**
AAK pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 52.74 50 *eP* **P 09 16 41.4 -0.2**
comp=Z,14nm,0.8s
KURK LR LR
comp=Z,600nm,19.0s
KURK Kurchatov 52.74 50 *ceP* **P 09 16 41.6 0.0**
KURK pmax pmax
comp=Z,20nm,1.7s
KURK Kurchatov 52.74 50 P **P 09 16 41.4 -0.2**
SNR=8.6
GGN Saint George 53.41 303 PFAKE 09 17 00.0 +13
GGN LR LR
comp=Z,1μm,20.0s
NRIK Noril'sk 53.50 26 P **P 09 16 47.0 0.0**
comp=Z,3.9nm,0.7s,baz=279,slow=5.1,SNR=6.8
NRIK LR LR 09 42 47.9
comp=Z,577nm,18.7s,baz=257,slow=40
PQI Presque Isle 53.72 305 *eP* **P 09 16 49.6 +0.7**
comp=Z,24nm,1.1s
PQI LR LR
comp=Z,1μm,18.0s
EMMW East Machias 53.95 303 PFAKE 09 17 00.0 +9.4
EMMW LR LR
comp=Z,1μm,20.0s
NVS Novosibirsk 54.40 44 *eP* **P 09 16 54.2 +0.5**
NVS pmax pmax
comp=Z,16nm,0.8s
KSH Kashi 54.41 64 P **P 09 16 55.4 +1.2**
KSH pP sP 09 16 59.3 -0.1
KSH PP **PP 09 18 58.5 +2.4**
KSH S **S 09 24 30.0 -2.4**
KSH SS **SKiKP 09 28 08.3 +4.1**
KSH pmax pmax
comp=Z,19nm,0.5s
KSH pmax pmax
comp=Z,91nm,3.0s
KSH LR LR
comp=Z,310nm,11.5s
KSH LR LR
comp=Z,260nm,8.8s
KSH LR LR
comp=Z,430nm,11.4s
TARG Taragay, Kyrgy 54.92 61 *eP* **P 09 17 00.2 +1.9**
comp=Z,10nm,0.6s
PKME Peaks-Kenny Pk 55.01 304 PFAKE 09 17 10.0 +12
PKME LR LR
comp=Z,700nm,19.0s
WVL Waterville 55.49 303 PFAKE 09 17 10.0 +8.3
WVL LR LR
comp=Z,1μm,18.0s
ZAA1 Zalesovo Array 55.53 45 *eP* **P 09 17 01.5 -0.4**
ZAA0 Zalesovo Array 55.53 45 *eP* **P 09 17 00.6 -1.4**
comp=Z,12nm,0.8s
ZAA0 LR LR
comp=Z,1μm,19.0s
ZALV Zalesovo Beam 55.53 45 *eP* **P 09 17 01.3 -0.6**
ZALV Zalesovo Beam 55.53 45 *i* P **P 09 17 01.7 -0.2**
ZALV pmax pmax
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 55.53 45 P **P 09 17 01.5 -0.4**
comp=Z,12nm,0.7s,baz=283,slow=7.2,SNR=22
ZALV LR LR 09 43 00.3
comp=Z,1μm,18.2s,baz=252,slow=38
PDGK Podgornoye 55.53 58 P **P 09 17 04.1 +1.8**
PDGK pmax pmax
comp=Z,11nm,1.4s
MAKZ Makanchi 56.01 54 *eP* **P 09 17 05.2 -0.3**
comp=Z,8.8nm,1.0s
MAKZ LR LR
comp=Z,500nm,20.0s
MAKZ Makanchi 56.01 54 *eP* **P 09 17 05.2 -0.3**
MAKZ pmax pmax
comp=Z,9.0nm,1.0s
MAKZ MLR MLR
comp=Z,500nm,20.0s
LSZ Lusaka 56.11 153 *eP* **P 09 17 05.8 -0.7**
comp=Z,5.4nm,0.9s
LSZ Lusaka 56.11 153 *eP* **P 09 17 05.9 -0.7**
LSZ pmax pmax
comp=Z,5.0nm,0.9s
LSZ Lusaka 56.11 153 P **P 09 17 05.8 -0.7**

comp=Z,2.9nm,0.6s,baz=4.2,slow=7.9,SNR=5.1
MK31 Makanchi Array 56.22 54 *eP* **P 09 17 06.3 -0.7**
comp=Z,7.6nm,0.8s
MK31 Makanchi Array 56.22 54 *eP* **P 09 17 06.3 -0.7**
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MK32 Makanchi Array 56.22 54 *eP* **P 09 17 06.4 -0.7**
MKAR Makanchi Array 56.22 54 *i* P **P 09 17 06.6 -0.4**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
MKAR Makanchi Array 56.22 54 P **P 09 17 06.4 -0.7**
comp=Z,6.0nm,0.5s,baz=290,slow=6.1,SNR=38
CHGQ Chibougamau 56.74 311 P **P 09 17 11.1 +0.4**
baz=71
TSUM Tsumeb 56.86 166 *eP* **P 09 17 12.4 +0.5**
comp=Z,19nm,1.4s
LBNH Lisbon 57.12 303 PFAKE 09 17 30.0 +17
LBNH LR LR
comp=Z,1μm,21.0s
RCBR Riachuelo 57.17 231 PFAKE 09 17 30.0 +16
RCBR LR LR
comp=Z,1μm,20.0s
WES Weston 57.40 301 PFAKE 09 17 30.0 +15
WES LR LR
comp=Z,900nm,21.0s
HRV Adam Dziewonsk 57.51 301 PFAKE 09 17 30.0 +14
HRV LR LR
comp=Z,900nm,20.0s
RES Resolute Bay 57.53 342 *eP* **P 09 17 16.4 +0.6**
comp=Z,14nm,1.4s
RES LR LR
comp=Z,500nm,18.0s
RES Resolute Bay 57.53 342 P **P 09 17 14.9 -1.0**
comp=Z,3.3nm,0.9s,baz=56,slow=4.0,SNR=9.0
HNH Hanover 57.56 303 PFAKE 09 17 30.0 +13
HNH LR LR
comp=Z,1μm,20.0s
VT1 Waterbury 57.64 304 PFAKE 09 17 30.0 +13
VT1 LR LR
comp=Z,900nm,19.0s
BRYW Bryant College 57.72 301 PFAKE 09 17 30.0 +12
BRYW LR LR
comp=Z,600nm,19.0s
FRNY Flat Rock 58.01 305 *eP* **P 09 17 22.0 +2.3**
comp=Z,34nm,1.5s
FRNY LR LR
comp=Z,900nm,20.0s
TRQ Mont Tremblant 58.13 306 *eP* **P 09 17 22.2 +1.6**
QUA2 Belchertown 58.14 301 PFAKE 09 17 30.0 +9.3
QUA2 LR LR
comp=Z,700nm,20.0s
DGZ Jazzator, Alta 58.44 49 *d i* P **P 09 17 22.9 +0.1**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
ACCN Adirondack Com 58.61 303 PFAKE 09 17 40.0 +16
ACCN LR LR
comp=Z,1μm,20.0s
LSQQ Lebel-sur-Quev 58.63 310 P **P 09 17 24.5 +0.6**
baz=69
LONY Lake Ozonia 58.75 305 PFAKE 09 17 40.0 +15
LONY LR LR
comp=Z,1μm,19.0s
NCB Newcomb 58.76 304 PFAKE 09 17 40.0 +15
NCB LR LR
comp=Z,700nm,21.0s
MATQ Matagami 58.77 311 P **P 09 17 25.1 +0.1**
baz=69
TRY Troy 58.86 302 PFAKE 09 17 40.0 +14
TRY LR LR
comp=Z,800nm,20.0s
ORIO Orleans, Innes 59.04 306 P **P 09 17 26.9 0.0**
baz=68
KSCT Kent School, K 59.13 301 PFAKE 09 17 40.0 +12
KSCT LR LR
comp=Z,700nm,22.0s
VLDQ Val d'Or 59.27 309 PFAKE 09 17 40.0 +12
VLDQ LR LR
comp=Z,500nm,19.0s
PAL Palisades 59.72 301 PFAKE 09 17 40.0 +8.4
PAL LR LR
comp=Z,500nm,19.0s
E54A Lac Daplat, Po 59.74 307 P **P 09 17 32.6 +0.9**
baz=67
D53A Lac Vacive, Po 59.82 308 *eP* **P 09 17 32.9 +0.6**
comp=Z,36nm,1.1s
D53A LR LR
comp=Z,800nm,19.0s
D53A Lac Vacive, Po 59.82 308 P **P 09 17 33.2 +1.0**
baz=67
H56A Elgin 59.86 305 P **P 09 17 33.5 +1.0**
baz=67
ODNJ Ogdensburg 60.17 301 PFAKE 09 17 50.0 +15
ODNJ LR LR
comp=Z,500nm,20.0s
PLVO Plevna 60.22 306 PFAKE 09 17 50.0 +15
PLVO LR LR
comp=Z,700nm,18.0s
BRNJ Basking Ridge 60.30 301 PFAKE 09 17 50.0 +14
BRNJ LR LR
comp=Z,600nm,19.0s
ALGO Algonquin Park 60.48 307 P **P 09 17 37.5 +0.7**
baz=66
PECO Prince Edward 60.61 305 PFAKE 09 17 50.0 +12
PECO LR LR
comp=Z,1μm,19.0s
BINY Binghamton 60.65 303 PFAKE 09 17 50.0 +12
BINY LR LR
comp=Z,1μm,20.0s
E52A Mattawa 60.74 308 P **P 09 17 39.2 +0.7**
baz=66
KSPA Keystone Colle 60.77 302 PFAKE 09 17 50.0 +11
KSPA LR LR
comp=Z,900nm,22.0s
DELO Deloro Mine 60.78 306 PFAKE 09 17 50.0 +11
DELO LR LR
comp=Z,900nm,18.0s
WMQ Urumqi 60.87 55 *eP* **P 09 17 42.3 +2.8**
WMQ LR LR
comp=Z,2μm,15.3s
WMQ LR LR
comp=Z,2μm,16.7s
WMQ LR LR
comp=Z,2μm,15.3s
N59A State Game Lan 61.04 301 PFAKE 09 17 50.0 +9.3
N59A LR LR
comp=Z,600nm,21.0s
E51A G1948 Merrick 61.16 308 P **P 09 17 42.2 +0.8**
baz=66
PSUB Penn St. - Bra 61.24 300 PFAKE 09 17 50.0 +8.0
PSUB LR LR
comp=Z,500nm,19.0s
J55A Hilton 61.43 304 PFAKE 09 18 00.0 +17
J55A LR LR
comp=Z,900nm,18.0s
BUKO Buck Lake 61.55 307 P **P 09 17 44.6 +0.5**
baz=65
SADO Sadowa 61.67 306 PFAKE 09 18 00.0 +15
SADO LR LR
comp=Z,700nm,22.0s
F51A Arnstein 61.68 308 P **P 09 17 46.4 +1.5**
baz=65
MEDO Medina 61.90 304 PFAKE 09 18 00.0 +14
MEDO LR LR
comp=Z,1μm,18.0s
J54A Appleton 61.97 305 PFAKE 09 18 00.0 +13
J54A LR LR
comp=Z,1μm,19.0s
PAGS Pennsylvania G 61.99 301 PFAKE 09 18 00.0 +13
PAGS LR LR
comp=Z,600nm,20.0s
KLBO Killbear Provi 62.11 307 P **P 09 17 48.5 +0.7**
baz=65
SSPA Standing Stone 62.61 302 *eP* **P 09 17 52.5 +1.3**
comp=Z,21nm,1.1s
SSPA LR LR
comp=Z,500nm,19.0s
SSPA Standing Stone 62.61 302 P **P 09 17 53.0 +1.8**
baz=64
M55A Ridgway 62.84 303 P **P 09 17 54.0 +1.2**
baz=64
O56A Blue Knob Stat 63.24 302 PFAKE 09 18 10.0 +15
O56A LR LR
comp=Z,600nm,20.0s
N55A Marion Center 63.29 302 PFAKE 09 18 10.0 +14
N55A LR LR
comp=Z,1μm,20.0s

CBN **Corbin Frederi** **63.34 299** PFAKE 09 18 10.0 +14
CBN LR LR
comp=Z,600nm,18.0s
T60A **Surry** **63.37 298** PFAKE 09 18 10.0 +14
T60A LR LR
comp=Z,800nm,20.0s
ERPA **Erie** **63.37 304** PFAKE 09 18 10.0 +14
ERPA LR LR
comp=Z,700nm,22.0s
M54A **Oil Creek Stat** **63.43 303** PFAKE 09 18 10.0 +13
M54A LR LR
comp=Z,900nm,21.0s
M54A **Oil Creek Stat** **63.43 303** P **P** **09 18 00.3 +3.6**
baz=63
U61A **Possum Corner** **63.53 297** PFAKE 09 18 10.0 +13
U61A LR LR
comp=Z,400nm,18.0s
R58B **Mineral** **63.80 299** PFAKE 09 18 10.0 +11
R58B LR LR
comp=Z,600nm,18.0s
D46A **Sault St. Mari** **63.84 310** P **P** **09 18 03.3 +4.0**
baz=63
FCC **Fort Churchill** **63.84 325** *eP* **P** **09 17 59.3 +0.3**
comp=Z,22nm,1.0s
FCC LR LR
comp=Z,600nm,20.0s
FCC **Fort Churchill** **63.84 325** *eP* **P** **09 17 59.3 +0.3**
FCC pmax pmax
comp=Z,22nm,1.0s
FCC MLR MLR
comp=Z,600nm,20.0s
N54A **Moraine State** **63.89 303** PFAKE 09 18 10.0 +10
N54A LR LR
comp=Z,1μm,21.0s
T59A **Double "B" Far** **64.03 298** PFAKE 09 18 10.0 +9.3
T59A LR LR
comp=Z,900nm,20.0s
S58A **Poland Farm, P** **64.08 299** *eP* **P** **09 18 04.0 +3.0**
comp=Z,17nm,1.1s
S58A LR LR
comp=Z,600nm,20.0s
R57A **Stanardsville** **64.10 300** P **P** **09 18 04.5 +3.4**
baz=62
LBTB **Lobatse** **64.37 159** *eP* **P** **09 18 02.3 -0.7**
comp=Z,14nm,1.1s
LBTB **Lobatse** **64.37 159** *eP* **P** **09 18 02.3 -0.7**
LBTB pmax pmax
comp=Z,14nm,1.1s
H48A **Harrisville** **64.38 308** PFAKE 09 18 20.0 +17
H48A LR LR
comp=Z,800nm,18.0s
V60A **Jim Taylor Roa** **64.38 297** PFAKE 09 18 20.0 +17
V60A LR LR
comp=Z,400nm,19.0s
MCWV **Mont Chateau** **64.39 301** *eP* **P** **09 18 04.0 +0.9**
comp=Z,8.2nm,1.0s
MCWV LR LR
comp=Z,400nm,20.0s
I49A **Point Hope** **64.41 307** PFAKE 09 18 20.0 +17
I49A LR LR
comp=Z,700nm,21.0s
P55A **Reedsville** **64.44 301** P **P** **09 18 06.6 +3.1**
baz=62
U59A **Littleton** **64.49 297** PFAKE 09 18 20.0 +16
U59A LR LR
comp=Z,700nm,19.0s
U59A **Littleton** **64.49 297** P **P** **09 18 06.2 +2.5**
baz=62
N53A **Lisbon** **64.53 303** PFAKE 09 18 20.0 +16
N53A LR LR
comp=Z,1μm,20.0s
N53A **Lisbon** **64.53 303** P **P** **09 18 07.2 +3.3**
baz=62
M52A **Chesterland** **64.55 304** PFAKE 09 18 20.0 +16
M52A LR LR
comp=Z,800nm,22.0s
SJG **San Juan** **64.63 274** PFAKE 09 18 20.0 +15
SJG LR LR
comp=Z,300nm,20.0s
S57A **Dark Hollow, R** **64.65 299** PFAKE 09 18 20.0 +15
S57A LR LR
comp=Z,400nm,20.0s
K50A **Casco** **64.81 306** PFAKE 09 18 20.0 +14
K50A LR LR
comp=Z,800nm,20.0s
K50A **Casco** **64.81 306** P **P** **09 18 09.8 +4.1**
baz=62
I48A **Sherman Twp** **64.86 307** P **P** **09 18 09.4 +3.4**
baz=62
TIXI **Tiksi** **64.92 17** *eP* **P** **09 18 06.5 +0.6**
comp=Z,18nm,1.5s
TIXI **Tiksi** **64.92 17⇓** *eP* **P** **09 18 06.8 +0.9**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
TIXI **Tiksi** **64.92 17** P **P** **09 18 06.2 +0.2**
comp=Z,3.0nm,0.7s,baz=317,slow=6.6,SNR=8.6
H47A **Mio** **64.99 308** P **P** **09 18 10.2 +3.3**
baz=62
O53A **New Philadelph** **65.05 303** P **P** **09 18 09.1 +1.8**
baz=62
CNNC **Cliffs of the** **65.08 296** PFAKE 09 18 20.0 +12
CNNC LR LR
comp=Z,400nm,20.0s
R55A **Marlinton** **65.22 300** PFAKE 09 18 20.0 +11
R55A LR LR
comp=Z,700nm,21.0s
R55A **Marlinton** **65.22 300** P **P** **09 18 10.7 +2.1**
baz=62
T57A **Hurt** **65.22 299** PFAKE 09 18 20.0 +12
T57A LR LR
comp=Z,600nm,20.0s
J48A **Bridge Port** **65.32 307** PFAKE 09 18 20.0 +11
J48A LR LR
comp=Z,800nm,21.0s
J48A **Bridge Port** **65.32 307** P **P** **09 18 10.4 +1.3**
baz=62
Q54A **Coxs Mills** **65.38 301** *eP* **P** **09 18 11.0 +1.5**
comp=Z,16nm,0.8s
Q54A LR LR
comp=Z,700nm,18.0s
Q54A **Coxs Mills** **65.38 301** P **P** **09 18 11.3 +1.8**
baz=62
I47A **Gladwin** **65.45 308** PFAKE 09 18 20.0 +10
I47A LR LR
comp=Z,800nm,19.0s
N51A **Ashland** **65.51 304** PFAKE 09 18 20.0 +10
N51A LR LR
comp=Z,700nm,22.0s
P53A **Whipple** **65.52 302** *eP* **P** **09 18 12.2 +1.8**
comp=Z,30nm,1.3s
P53A LR LR
comp=Z,900nm,20.0s
P53A **Whipple** **65.52 302** P **P** **09 18 12.6 +2.1**
baz=62
O52A **Adamsville** **65.53 303** PFAKE 09 18 20.0 +10
O52A LR LR
comp=Z,1μm,20.0s
U57A **Blanch** **65.55 298** P **P** **09 18 11.9 +1.3**
baz=61
AAM **Ann Arbor** **65.71 306** PFAKE 09 18 20.0 +8.5
AAM LR LR
comp=Z,800nm,20.0s
M50A **Fremont** **65.73 304** PFAKE 09 18 20.0 +8.3
M50A LR LR
comp=Z,700nm,18.0s
T56A **Rocky Mt** **65.75 299** P **P** **09 18 13.9 +1.9**
baz=61
R54A **Victor** **65.87 301** P **P** **09 18 13.8 +1.1**
baz=61
E43A **Lone Tree Farm** **65.89 311** PFAKE 09 18 30.0 +17
E43A LR LR
comp=Z,600nm,19.0s
Y60A **Bolivia** **65.91 295** PFAKE 09 18 30.0 +17
Y60A LR LR
comp=Z,400nm,21.0s
BLA **Blacksburg** **65.94 299** PFAKE 09 18 30.0 +17
BLA LR LR
comp=Z,500nm,18.0s
J47A **Sunmer** **66.02 307** PFAKE 09 18 30.0 +16
J47A LR LR
comp=Z,900nm,19.0s
O51A **Pataskala** **66.03 303** P **P** **09 18 15.1 +1.4**
baz=61
W58A **Raeford** **66.15 297** P **P** **09 18 15.9 +1.4**
baz=61
ACSO **Alum Creek Sta** **66.25 303** PFAKE 09 18 30.0 +15
ACSO LR LR
comp=Z,900nm,22.0s
ACSO **Alum Creek Sta** **66.25 303** P **P** **09 18 16.6 +1.6**
baz=61
S54A **Dingess, Beckl** **66.28 300** P **P** **09 18 16.2 +0.9**
baz=61
Q52A **Bidwell** **66.37 302** P **P** **09 18 17.6 +1.7**
baz=61
L48A **N Adams** **66.39 305** P **P** **09 18 17.1 +1.1**
baz=61
X58A **Rowland** **66.45 296** PFAKE 09 18 30.0 +14
X58A LR LR
comp=Z,600nm,20.0s
R53A **Hurricane** **66.46 301** *eP* **P** **09 18 17.1 +0.6**
comp=Z,18nm,0.8s
R53A LR LR
comp=Z,600nm,20.0s
R53A **Hurricane** **66.46 301** P **P** **09 18 17.0 +0.6**
baz=61
D41A **Chassel** **66.50 312** PFAKE 09 18 30.0 +13
D41A LR LR
comp=Z,700nm,20.0s
I45A **Fountain** **66.54 308** PFAKE 09 18 30.0 +13
I45A LR LR
comp=Z,400nm,21.0s
W57A **Gilead** **66.63 297** PFAKE 09 18 30.0 +12
W57A LR LR
comp=Z,500nm,19.0s
P51A **Williamsport** **66.66 303** *eP* **P** **09 18 19.5 +1.8**
comp=Z,13nm,0.9s
P51A LR LR
comp=Z,800nm,20.0s
V56A **Mocksville** **66.67 298** PFAKE 09 18 30.0 +12
V56A LR LR
comp=Z,600nm,20.0s
N49A **Columbus Grove** **66.72 304** *eP* **P** **09 18 20.0 +2.0**
comp=Z,13nm,0.9s
N49A LR LR
comp=Z,800nm,19.0s
O50A **Cable** **66.72 303** P **P** **09 18 20.3 +2.2**
baz=61
U55A **TA2, Sparta** **66.72 299** P **P** **09 18 20.2 +1.9**
baz=61
M48A **Edgerton** **66.79 305** PFAKE 09 18 30.0 +11
M48A LR LR
comp=Z,700nm,18.0s
G43A **Wallace** **66.85 310** *eP* **P** **09 18 21.6 +2.8**
comp=Z,11nm,0.9s
L47A **Sherwood** **66.87 306** P **P** **09 18 20.8 +1.8**
baz=61
TLY **Talaya** **66.88 42** *eP* **P** **09 18 20.0 +1.0**
comp=Z,35nm,1.9s
TLY LR LR
comp=Z,2μm,18.0s
TLY **Talaya** **66.88 42⇑** *eP* **P** **09 18 20.3 +1.3**
TLY **Talaya** **66.88 42** P **P** **09 18 20.8 +1.8**
SNR=7.4
TLY P **P** **09 18 20.8 +1.8**
SNR=7.4
S53A **Williamson** **66.90 300** P **P** **09 18 21.5 +2.2**
baz=61
J45A **Montague** **66.92 308** PFAKE 09 18 30.0 +11
J45A LR LR
comp=Z,500nm,20.0s
Y58A **Scranton** **67.01 296** PFAKE 09 18 30.0 +10
Y58A LR LR
comp=Z,400nm,19.0s
W56A **Indian Trail** **67.06 297** P **P** **09 18 23.0 +2.7**
baz=60
Q51A **Peebles** **67.08 302** *eP* **P** **09 18 20.4 0.0**
comp=Z,16nm,0.9s
Q51A LR LR
comp=Z,1μm,20.0s
Q51A **Peebles** **67.08 302** P **P** **09 18 21.3 +0.9**
baz=61
P50A **Jamestown** **67.10 303** P **P** **09 18 21.2 +0.6**
baz=61
O49A **Covington** **67.17 304** *eP* **P** **09 18 22.8 +1.8**
comp=Z,15nm,0.7s
O49A LR LR
comp=Z,1μm,21.0s
U54A **Nelsons Funny** **67.25 299** PFAKE 09 18 30.0 +8.4
U54A LR LR
comp=Z,500nm,19.0s
H43A **Windswept, Lux** **67.29 309** PFAKE 09 18 30.0 +8.4
H43A LR LR
comp=Z,400nm,19.0s
G42A **Mountain** **67.31 310** *eP* **P** **09 18 24.0 +2.2**
comp=Z,26nm,1.4s
G42A LR LR
comp=Z,700nm,18.0s
G42A **Mountain** **67.31 310** P **P** **09 18 23.2 +1.4**
baz=60
COWI **Conover** **67.32 311** *eP* **P** **09 18 21.8 0.0**
comp=Z,13nm,1.1s
COWI LR LR
comp=Z,700nm,20.0s
ZAK **Zakamensk** **67.34 43** *eP* **P** **09 18 22.1 +0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
Y57A **Sumter** **67.48 296** PFAKE 09 18 40.0 +17
Y57A LR LR
comp=Z,600nm,20.0s
F41A **Three Lakes** **67.48 311** *eP* **P** **09 18 24.9 +2.0**
comp=Z,12nm,1.1s
F41A LR LR
comp=Z,700nm,20.0s
T53A **Wise** **67.52 300** P **P** **09 18 24.9 +1.5**
baz=60
L46A **Eue Claire** **67.56 306** PFAKE 09 18 40.0 +17
L46A LR LR
comp=Z,800nm,19.0s
KMSC **Kings Mountain** **67.59 298** PFAKE 09 18 40.0 +16
KMSC LR LR
comp=Z,600nm,20.0s
R51A **Hillsboro** **67.59 302** P **P** **09 18 25.0 +1.3**
baz=60
E40A **Wakefield** **67.60 312** P **P** **09 18 24.6 +1.0**
baz=60
BOSA **Boshof** **67.69 161** P **P** **09 18 23.4 -1.0**
comp=Z,4.2nm,0.7s,baz=342,slow=7.3,SNR=7.1
BOSA LR LR 09 48 24.0
comp=Z,1μm,20.3s,baz=344,slow=36
X56A **White Oak** **67.70 297** P **P** **09 18 27.0 +2.6**
baz=60
T52A **Hallie** **67.78 300** PFAKE 09 18 40.0 +15
T52A LR LR
comp=Z,500nm,20.0s
NHSC **New Hope** **67.78 295** PFAKE 09 18 40.0 +15
NHSC LR LR
comp=Z,300nm,20.0s
EYMN **Ely** **67.79 314** *eP* **P** **09 18 25.2 +0.4**
comp=Z,14nm,0.9s
EYMN LR LR
comp=Z,200nm,18.0s
EYMN **Ely** **67.79 314** P **P** **09 18 25.8 +1.0**
baz=59
U53A **Fall Branch** **67.86 299** P **P** **09 18 26.9 +1.5**
baz=60
M46A **Old House Fiel** **67.90 306** PFAKE 09 18 40.0 +14
M46A LR LR
comp=Z,800nm,20.0s
S51A **Beattyville** **67.93 301** PFAKE 09 18 40.0 +14
S51A LR LR
comp=Z,800nm,19.0s
JSC **Jenkinsville** **67.97 297** PFAKE 09 18 40.0 +14
JSC LR LR
comp=Z,500nm,20.0s
F40A **Park Falls** **68.00 311** P **P** **09 18 26.4 +0.3**
baz=60
E39A **Mellen** **68.03 312** P **P** **09 18 26.7 +0.4**
baz=59
PAULI **Pauline** **68.09 298** PFAKE 09 18 40.0 +13
PAULI LR LR
comp=Z,500nm,19.0s
X55A **Gracelyn & Ava** **68.14 297** P **P** **09 18 28.3 +1.2**
baz=60
W54A **Cherokee Point** **68.22 298** P **P** **09 18 29.6 +1.9**
baz=60
SDDR **Presa de Saban** **68.27 278** PFAKE 09 18 40.0 +12
SDDR LR LR
comp=Z,700nm,21.0s
V53A **Saluda** **68.37 299** *eP* **P** **09 18 29.6 +0.9**
comp=Z,14nm,0.9s
V53A LR LR
comp=Z,700nm,21.0s
V53A **Saluda** **68.37 299** P **P** **09 18 30.1 +1.4**
baz=60
H41A **Junction City** **68.38 310** PFAKE 09 18 40.0 +11
H41A LR LR
comp=Z,700nm,20.0s
G40A **Rib Lake** **68.38 311** PFAKE 09 18 40.0 +11
G40A LR LR
comp=Z,500nm,18.0s
TZTN **Tazewell** **68.45 300** PFAKE 09 18 40.0 +11
TZTN LR LR
comp=Z,500nm,22.0s
S50A **Richmond** **68.46 301** P **P** **09 18 31.6 +2.5**
baz=60
F39A **Loretta** **68.48 312** P **P** **09 18 29.7 +0.5**
baz=59
T51A **Gray** **68.51 301** P **P** **09 18 31.4 +2.0**
baz=60
K43A **Burlington** **68.52 308** PFAKE 09 18 40.0 +11
K43A LR LR
comp=Z,500nm,20.0s
Z56A **Williston** **68.53 296** PFAKE 09 18 40.0 +10
Z56A LR LR
comp=Z,600nm,19.0s
BOD **Bodaibo** **68.62 33** *eP* P 09 18 16.4 -13
BOD pmax pmax
comp=Z,9.0nm,1.2s
R49A **Shelbyville** **68.68 302** P **P** **09 18 31.3 +0.8**
baz=60
HODGE **Hodges** **68.71 297** PFAKE 09 18 40.0 +9.3
HODGE LR LR
comp=Z,400nm,20.0s
Q48A **North Vernon** **68.74 303** P **P** **09 18 31.1 +0.3**
baz=59
I41A **Arkdale** **68.80 310** PFAKE 09 18 40.0 +8.9
I41A LR LR
comp=Z,400nm,19.0s
BG3 **Lake Jocassee** **68.80 298** PFAKE 09 18 40.0 +8.7
BG3 LR LR
comp=Z,600nm,20.0s
H40A **Chili** **68.83 310** P **P** **09 18 32.2 +0.9**
baz=59
V52A **Sevierville** **68.84 299** PFAKE 09 18 40.0 +8.5
V52A LR LR
comp=Z,400nm,19.0s
V52A **Sevierville** **68.84 299** P **P** **09 18 33.9 +2.4**
baz=59
SFIN **Lafayette** **68.91 305** PFAKE 09 18 40.0 +8.1
SFIN LR LR
comp=Z,700nm,19.0s
G39A **Holcombe** **68.96 311** P **P** **09 18 33.1 +1.0**
baz=59
257A **Skidaway Islan** **68.97 295** PFAKE 09 18 40.0 +7.7
257A LR LR
comp=Z,400nm,19.0s
M44A **Midewin, Midew** **69.01 306** PFAKE 09 18 50.0 +18
M44A LR LR
comp=Z,1μm,18.0s
F38A **Pierce - Schro** **69.03 312** P **P** **09 18 33.4 +0.8**
baz=58
ULM **Lac du Bonnet** **69.04 318** *eP* **P** **09 18 31.7 -0.8**
comp=Z,26nm,0.9s
ULM **Lac du Bonnet** **69.04 318** P **P** **09 18 32.4 -0.1**
comp=Z,20nm,0.9s,baz=64,slow=5.2,SNR=14
ULM LR LR 09 44 54.1
comp=Z,252nm,21.4s,baz=55,slow=33
T50A **Nancy** **69.10 301** P **P** **09 18 33.6 +0.4**
baz=59
BLO **Bloomington** **69.14 304** *eP* **P** **09 18 33.4 0.0**
comp=Z,10nm,0.9s
BLO LR LR
comp=Z,800nm,22.0s
BLO **Bloomington** **69.14 304** *eP* **P** **09 18 33.4 0.0**
BLO pmax pmax
comp=Z,10.0nm,0.9s
BLO MLR MLR
comp=Z,800nm,22.0s
Y54A **Tignall** **69.20 297** P **P** **09 18 35.4 +1.6**
baz=59
H39A **Augusta** **69.34 311** P **P** **09 18 34.9 +0.4**
baz=58
I40A **Norwalk** **69.35 310** P **P** **09 18 35.1 +0.5**
baz=59
V51A **Loudon** **69.38 300** *eP* **P** **09 18 35.3 +0.4**
comp=Z,15nm,0.9s
V51A LR LR
comp=Z,300nm,19.0s
W52A **Murphy** **69.45 299** PFAKE 09 18 50.0 +15
W52A LR LR
comp=Z,600nm,20.0s
W52A **Murphy** **69.45 299** P **P** **09 18 37.3 +1.9**
baz=59
WCI **Wyandotte Cave** **69.47 303** *eP* **P** **09 18 35.8 +0.4**
comp=Z,12nm,0.8s
WCI LR LR
comp=Z,1μm,20.0s
WCI **Wyandotte Cave** **69.47 303** *eP* **P** **09 18 35.8 +0.4**
WCI pmax pmax
comp=Z,12nm,0.8s
WCI MLR MLR
comp=Z,1μm,20.0s
WCI **Wyandotte Cave** **69.47 303** P **P** **09 18 37.7 +2.3**
baz=59
T49A **Edmonton** **69.53 301** PFAKE 09 18 50.0 +14
T49A LR LR
comp=Z,1μm,20.0s
T49A **Edmonton** **69.53 301** P **P** **09 18 38.2 +2.4**
baz=59
R47A **Wooly Knot Far** **69.60 303** P **P** **09 18 38.7 +2.5**
baz=59
JFWS **Jewell Farm** **69.62 309** *eP* **P** **09 18 37.7 +1.4**
comp=Z,5.8nm,1.0s
JFWS LR LR
comp=Z,400nm,20.0s
Z54A **Sparta** **69.63 297** P **P** **09 18 38.1 +1.6**
baz=59
FFC **Flin Flon** **69.66 324** *eP* **P** **09 18 36.6 +0.4**
comp=Z,6.5nm,1.0s
FFC LR LR
comp=Z,500nm,21.0s
FFC **Flin Flon** **69.66 324** *i* P **P** **09 18 37.1 +0.8**
X52A **Dahlonega** **69.68 298** P **P** **09 18 37.9 +1.1**
baz=59
155A **Kite** **69.68 296** P **P** **09 18 38.0 +1.2**
baz=59
CPCT **Cooper Cave** **69.68 299** *eP* **P** **09 18 37.3 +0.5**
comp=Z,7.2nm,0.9s
CPCT LR LR
comp=Z,400nm,20.0s
L42A **Oliver, Polo** **69.73 308** PFAKE 09 18 50.0 +13
L42A LR LR
comp=Z,500nm,19.0s
P45A **Graceland, Par** **69.77 305** *eP* **P** **09 18 36.8 -0.4**
comp=Z,11nm,0.8s
P45A LR LR
comp=Z,700nm,19.0s
Y53A **Monroe** **69.84 298** P **P** **09 18 39.1 +1.3**
baz=59
I39A **Houston** **69.92 310** PFAKE 09 18 50.0 +12
I39A LR LR
comp=Z,700nm,19.0s
YKW3 **Yellowknife Ar** **69.95 335** *eP* **P** **09 18 38.6 +0.7**
comp=Z,20nm,1.3s
YKW3 LR LR
comp=Z,400nm,18.0s
SPMN **Marine on St.** **69.97 312** *eP* **P** **09 18 38.5 +0.1**
comp=Z,8.5nm,0.8s
SPMN LR LR
comp=Z,500nm,20.0s
SPMN **Marine on St.** **69.97 312** P **P** **09 18 39.0 +0.6**
baz=58
V50A **Pikevile** **69.97 300** P **P** **09 18 39.7 +1.1**
baz=59
YKA **Yellowknife Ar** **69.99 335** *eP* **P** **09 18 38.3 +0.1**
YKA **Yellowknife Ar** **69.99 335** *eP* **P** **09 18 38.3 +0.1**
YKA **Yellowknife Ar** **69.99 335** P **P** **09 18 38.1 0.0**
comp=Z,4.8nm,0.6s,baz=49,slow=6.3,SNR=71
YKA LR LR 09 46 38.0
comp=Z,47nm,21.2s,baz=50,slow=34
YKB5 **Yellowknife Ar** **69.99 335** *eP* **P** **09 18 38.1 0.0**
GOGA **Godfrey** **69.99 297** PFAKE 09 18 50.0 +11
GOGA LR LR
comp=Z,400nm,18.0s
255A **Hazlehurst** **70.05 295** PFAKE 09 18 50.0 +11
255A LR LR
comp=Z,400nm,20.0s
AGMN **Agassiz Nation** **70.09 316** *eP* **P** **09 18 39.4 +0.3**
comp=Z,19nm,1.4s
AGMN LR LR

comp=Z,600nm,19.0s
AGMN Agassiz Nation 70.09 316 P P 09 18 39.8 +0.8
baz=57
Z53A Monticello 70.13 297 P P 09 18 40.6 +1.1
baz=58
154A Montrose 70.15 296 PFAKE 09 18 50.0 +10
154A LR LR
comp=Z,600nm,20.0s
154A Montrose 70.15 296 P P 09 18 41.4 +1.7
baz=58
Y52A Lilburn 70.18 298 *e*P **P 09 18 40.9 +1.1**
comp=Z,10nm,0.9s
Y52A LR LR
comp=Z,500nm,20.0s
Y52A Lilburn 70.18 298 P P 09 18 41.0 +1.2
baz=58
HDIL Hopedale 70.25 306 PFAKE 09 18 50.0 +10
HDIL LR LR
comp=Z,1μm,19.0s
W50A Signal Mountai 70.36 300 *e*P **P 09 18 43.3 +2.2**
comp=Z,8.0nm,0.8s
W50A LR LR
comp=Z,400nm,18.0s
X51A Calhoun 70.38 299 PFAKE 09 18 50.0 +9.0
X51A LR LR
comp=Z,700nm,18.0s
OLIL Olney 70.42 304 PFAKE 09 18 50.0 +8.8
OLIL LR LR
comp=Z,500nm,21.0s
SONA0 Songino Array 70.43 45 *e*P **P 09 18 41.0 -0.3**
SONM Songino Array 70.43 45 *e*P **P 09 18 43.6 +2.3**
SONM Songino Array 70.43 45 P **P 09 18 41.0 -0.3**
SONM Songino Array 70.43 45 P **P 09 18 41.0 -0.3**
comp=Z,1.6nm,0.8s,baz=310,slow=7.1,SNR=8.8
SONM LR LR 09 51 46.3
comp=Z,1μm,19.7s,baz=298,slow=38
658A Bunnell 70.46 292 PFAKE 09 18 50.0 +8.4
658A LR LR
comp=Z,400nm,18.0s
658A Bunnell 70.46 292 P P 09 18 42.9 +1.4
baz=58
U48A Cassie Pea, Po 70.53 301 P P 09 18 42.1 +0.1
baz=58
USIN University of 70.53 303 PFAKE 09 18 50.0 +8.1
USIN LR LR
comp=Z,700nm,21.0s
CLTN Cedars of Leba 70.61 301 *e*P **P 09 18 42.2 -0.2**
comp=Z,5.4nm,0.9s
CLTN LR LR
comp=Z,500nm,20.0s
M41A Milan 70.62 307 P P 09 18 42.6 +0.2
baz=58
T47A Sharon Grove 70.67 302 *e*P **P 09 18 42.2 -0.5**
comp=Z,24nm,0.8s
T47A LR LR
comp=Z,700nm,19.0s
T47A Sharon Grove 70.67 302 P P 09 18 43.1 +0.4
baz=58
PTGA Pitinga 70.74 254 *e*P **P 09 18 45.2 +1.8**
comp=Z,11nm,1.3s
ULN Ulaanbaatar 70.78 44 PFAKE 09 19 00.0 +17
ULN LR LR
comp=Z,1μm,20.0s
ULN Ulaanbaatar 70.78 44⇑ *e*P **P 09 18 42.9 -0.6**
ULN pmax pmax
comp=Z,1.0nm,0.8s
Z52A Williamson 70.78 297 P P 09 18 44.4 +0.8
baz=58
SWET Sewanee 70.79 300 PFAKE 09 19 00.0 +16
SWET LR LR
comp=Z,300nm,20.0s
INK Inuvik 70.82 345 *e*P **P 09 18 43.1 0.0**
comp=Z,4.7nm,1.0s
INK LR LR
comp=Z,400nm,19.0s
INK Inuvik 70.82 345 P P 09 18 42.9 -0.2
comp=Z,2.9nm,0.8s,baz=27,slow=11,SNR=7.7
Y51A Rockmart 70.87 298 P P 09 18 44.7 +0.6
baz=58
P43A Skaggs, Pawnee 70.88 305 P P 09 18 46.1 +2.1
baz=58
GTA Gaotai 70.94 55 *e*P **P 09 18 45.9 +1.3**
GTA pP sP 09 18 50.4 +0.5
GTA sP pP 09 18 53.3 +4.8
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,120nm,5.4s
GTA LR LR
comp=Z,390nm,19.0s
GTA LR LR
comp=Z,270nm,20.3s
GTA LR LR
comp=Z,340nm,20.3s
060A Indiantown 71.04 290 PFAKE 09 19 00.0 +15
060A LR LR
comp=Z,300nm,18.0s
W49A Belvidere 71.07 300 P P 09 18 46.2 +0.9
baz=58
U47A Clarksville 71.08 302 P P 09 18 45.7 +0.4
baz=58
TIGA Tifton 71.11 295 PFAKE 09 19 00.0 +14
TIGA LR LR
comp=Z,500nm,20.0s
V48A Smith Brothers 71.13 301 *e*P **P 09 18 45.6 0.0**
comp=Z,16nm,1.1s
V48A LR LR
comp=Z,700nm,20.0s
V48A Smith Brothers 71.13 301 P P 09 18 45.8 +0.2
baz=58
253A Americus 71.17 296 PFAKE 09 19 00.0 +14
253A LR LR
comp=Z,500nm,20.0s
T46A Princeton 71.17 302 P P 09 18 46.0 +0.2
baz=58
N41A Harden Midland 71.18 307 PFAKE 09 19 00.0 +14
N41A LR LR
comp=Z,1μm,20.0s
152A Waverly Hall 71.27 297 PFAKE 09 19 00.0 +13
152A LR LR
comp=Z,300nm,20.0s
152A Waverly Hall 71.27 297 P P 09 18 47.5 +1.0
baz=58
DWPF Disney Wildern 71.28 291 PFAKE 09 19 00.0 +13
DWPF LR LR
comp=Z,300nm,21.0s
555A McAlpin 71.35 294 PFAKE 09 19 00.0 +13
555A LR LR
comp=Z,300nm,19.0s
656A Willston 71.43 293 PFAKE 09 19 00.0 +13
656A LR LR
comp=Z,400nm,20.0s
X49A Woodville 71.44 299 P P 09 18 48.3 +0.8
baz=58
WVT Waverly 71.62 302 *e*P **P 09 18 49.2 +0.7**
comp=Z,4.7nm,0.8s
WVT LR LR
comp=Z,1μm,20.0s
WVT Waverly 71.62 302 *e*P **P 09 18 49.2 +0.7**
WVT pmax pmax
comp=Z,5.0nm,0.8s
WVT MLR MLR
comp=Z,1μm,20.0s
WVT Waverly 71.62 302 P P 09 18 48.3 -0.2
baz=58
059A Moore Haven 71.67 290 PFAKE 09 19 00.0 +11
059A LR LR
comp=Z,300nm,19.0s
T45A Paducah 71.69 303 PFAKE 09 19 00.0 +11
T45A LR LR
comp=Z,900nm,21.0s
SIUC Southern Illin 71.71 304 PFAKE 09 19 00.0 +11
SIUC LR LR
comp=Z,500nm,21.0s
Z50A Ashland 71.82 298 PFAKE 09 19 00.0 +10
Z50A LR LR
comp=Z,600nm,21.0s
Y49A Blount Mountai 71.84 299 *e*P **P 09 18 50.5 +0.6**
comp=Z,6.8nm,0.8s
Y49A LR LR
comp=Z,800nm,20.0s
SLM Saint Louis 71.89 305 PFAKE 09 19 00.0 +10
SLM LR LR
comp=Z,200nm,20.0s
YAK Yakutsk 71.89 24 *e*P P 09 19 01.0 +11
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK pmax pmax
comp=E,12nm,0.9s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK MLR MLR
comp=N,2μm,13.0s
YAK MLR MLR
comp=E,827nm,15.0s
453A Whigham 71.95 295 PFAKE 09 19 00.0 +9.4
453A LR LR
comp=Z,500nm,20.0s
X48A Hartselle 71.97 300 PFAKE 09 19 00.0 +9.3
X48A LR LR
comp=Z,400nm,20.0s
X48A Hartselle 71.97 300 P P 09 18 50.5 -0.2
baz=58
V46A Holladay 71.99 301 P P 09 18 50.2 -0.5
baz=57
SCIA State Center 72.02 309 PFAKE 09 19 00.0 +9.1
SCIA LR LR
comp=Z,500nm,18.0s
352A Blakely 72.06 296 PFAKE 09 19 00.0 +8.8
352A LR LR
comp=Z,500nm,20.0s
061Z Ochoppi 72.08 289 PFAKE 09 19 00.0 +8.6
061Z LR LR
comp=Z,400nm,20.0s
957A Wimauma 72.11 291 PFAKE 09 19 00.0 +8.4
957A LR LR
comp=Z,300nm,19.0s
BDFB Brasilia 72.31 234 *e*P **P 09 18 53.7 +0.7**
BDFB LR LR
comp=Z,800nm,18.0s
BDFB Brasilia 72.31 234 P P 09 18 53.7 +0.7
comp=Z,3.3nm,0.9s,baz=229,slow=5.4,SNR=4.4
BDFB LR LR 09 48 43.0
comp=Z,612nm,19.2s,baz=73,slow=34
Y48A Jasper 72.35 299 P P 09 18 53.7 +0.7
baz=57
FVM French Village 72.37 304 *e*P **P 09 18 53.1 +0.1**
comp=Z,11nm,0.8s
FVM LR LR
comp=Z,700nm,18.0s
FVM French Village 72.37 304 *e*P **P 09 18 53.1 +0.1**
FVM pmax pmax
comp=Z,11nm,0.8s
FVM MLR MLR
comp=Z,700nm,18.0s
PLAL Pickwick Lake 72.40 301 *e*P **P 09 18 52.8 -0.4**
comp=Z,14nm,0.9s
X47A Russelville 72.50 300 P P 09 18 53.6 -0.2
baz=57
W46A Michie 72.53 301 P P 09 18 53.9 -0.1
baz=57
GLAT Glass 72.53 302 PFAKE 09 19 10.0 +16
GLAT LR LR
comp=Z,1μm,22.0s
PARMO Parma 72.64 303 PFAKE 09 19 10.0 +15
PARMO LR LR
comp=Z,800nm,21.0s
SHL Shillong 72.69 71 P P 09 18 57.2 +1.8
SHL pmax pmax
comp=Z,10.0nm,0.9s
SHL Shillong 72.69 71 *e*P **P 09 18 56.0 +0.6**
LRAL Lakeview Retre 72.70 298 PFAKE 09 19 10.0 +15
LRAL LR LR
comp=Z,600nm,20.0s
LRAL Lakeview Retre 72.70 298 P P 09 18 55.7 +0.7
baz=57
PVMO Portageville 72.73 303 PFAKE 09 19 10.0 +15
PVMO LR LR
comp=Z,900nm,21.0s
250A Grady 72.75 297 PFAKE 09 19 10.0 +15
250A LR LR
comp=Z,300nm,20.0s
HALT Halls 72.77 302 PFAKE 09 19 10.0 +15
HALT LR LR
comp=Z,1μm,20.0s
149A Jones 72.79 298 P P 09 18 56.3 +0.8
baz=57
R41A Rosebud 72.83 305 P P 09 18 56.9 +1.2
baz=56
CCM Cathedral Cave 72.87 305 *e*P **P 09 18 55.7 -0.3**
comp=Z,12nm,0.8s
CCM LR LR
comp=Z,800nm,19.0s
CCM Cathedral Cave 72.87 305 *e*P **P 09 18 55.7 -0.3**
CCM pmax pmax
comp=Z,12nm,0.8s
CCM MLR MLR
comp=Z,800nm,19.0s
CCM Cathedral Cave 72.87 305 P P 09 18 56.2 +0.2
baz=56
X46A Booneville 72.98 301 P P 09 18 56.9 +0.2
baz=57
PBMO Poplar Bluff 73.03 303 *e*P **P 09 18 56.1 -0.8**
comp=Z,14nm,0.8s
PBMO LR LR
comp=Z,600nm,20.0s
ECSD EROS Data Cent 73.07 312 *e*P **P 09 18 58.0 +0.9**
comp=Z,6.8nm,0.8s
ECSD LR LR
comp=Z,400nm,18.0s
ECSD EROS Data Cent 73.07 312 P P 09 18 57.4 +0.3
baz=55
451A Vernon 73.11 296 PFAKE 09 19 10.0 +12
451A LR LR
comp=Z,600nm,19.0s
EPYK Eagle Plains 73.12 345 PFAKE 09 19 10.0 +13
EPYK LR LR
comp=Z,400nm,18.0s
EPYK Eagle Plains 73.12 345 P P 09 18 57.5 +0.5
baz=31
GNAR Gosnell 73.20 302 PFAKE 09 19 10.0 +12
GNAR LR LR
comp=Z,900nm,21.0s
TOLK Toolik Lake Re 73.26 351 *e*P **P 09 18 58.0 +0.2**
comp=Z,12nm,0.9s
TOLK LR LR
comp=Z,400nm,20.0s
TOLK Toolik Lake Re 73.26 351 P P 09 18 59.4 +1.5
baz=21
249A Camden 73.36 298 P P 09 18 60.0 +1.0
baz=57
SDV Santo Domingo 73.39 269 *e*P **P 09 19 01.3 +1.7**
comp=Z,22nm,1.5s
SDV LR LR
comp=Z,300nm,20.0s
S41A Jillco Farms, 73.46 305 P P 09 19 00.2 +0.7
baz=56
OXF Oxford 73.58 301 *e*P **P 09 18 59.0 -1.1**
comp=Z,40nm,0.9s
OXF LR LR
comp=Z,700nm,18.0s
OXF Oxford 73.58 301 *e*P **P 09 18 59.1 -1.1**
OXF pmax pmax
comp=Z,40nm,0.9s
OXF MLR MLR
comp=Z,700nm,18.0s
OXF Oxford 73.58 301 P P 09 18 59.9 -0.3
baz=56
MET Memphis--Engin 73.60 302 PFAKE 09 19 10.0 +10
MET LR LR
comp=Z,1μm,19.0s
BRAL Brewton 73.75 297 PFAKE 09 19 10.0 +8.7
BRAL LR LR
comp=Z,300nm,18.0s
HBAR Harrisburg 73.86 302 PFAKE 09 19 10.0 +8.2
HBAR LR LR
comp=Z,700nm,21.0s
FYU Fort Yukon 74.54 348 *e*P **P 09 19 05.2 0.0**
comp=Z,18nm,1.0s
BILL Bilibino 74.57 7 *e*P **P 09 19 06.1 +0.7**
BILL *e* 09 19 20.5
BILL *e*PPP PPP 09 23 37.4
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL MLR MLR
comp=Z,358nm,18.0s
X43A Marvell 74.58 302 PFAKE 09 19 20.0 +14
X43A LR LR
comp=Z,2μm,21.0s
U40A Yellville 74.88 304 P P 09 19 08.4 +0.6
baz=55
WHAR Wooly Hollow 75.11 303 PFAKE 09 19 20.0 +11
WHAR LR LR
comp=Z,900nm,22.0s
W41B Gary Mavity, V 75.14 303 PFAKE 09 19 20.0 +11
W41B LR LR
comp=Z,700nm,20.0s
W41B Gary Mavity, V 75.14 303 P P 09 19 09.7 +0.4
baz=55
BGNE Belgrade 75.34 311 PFAKE 09 19 20.0 +10
BGNE LR LR
comp=Z,500nm,20.0s
LZH Lanzhou 75.44 56 *e*P **P 09 19 13.9 +2.7**
LZH pP sP 09 19 16.3 -0.2
LZH sP pP 09 19 18.3 +3.1
LZH sS sS 09 29 07.3 +9.5
LZH pmax pmax
comp=Z,23nm,0.9s
LZH pmax pmax
comp=Z,100nm,4.1s
LZH LR LR
comp=Z,480nm,14.1s
LZH LR LR
comp=Z,340nm,16.8s
LZH LR LR
comp=Z,580nm,16.8s
CCAR Cane Creek 75.53 302 PFAKE 09 19 20.0 +8.4
CCAR LR LR
comp=Z,1μm,20.0s
PRP Porcupine Dome 75.55 348 PFAKE 09 19 20.0 +8.7
PRP LR LR
comp=Z,400nm,19.0s
VBMS Vicksburg 75.62 299 PFAKE 09 19 20.0 +7.9
VBMS LR LR
comp=Z,600nm,18.0s
DAWY Dawson 75.69 345 *e*P **P 09 19 13.2 +1.2**
comp=Z,7.2nm,0.8s
DAWY LR LR
comp=Z,400nm,18.0s
X40A Basin Creek Fa 75.93 303 *e*P **P 09 19 13.7 -0.1**
comp=Z,10nm,0.8s
X40A LR LR
comp=Z,600nm,22.0s
X40A Basin Creek Fa 75.93 303 P P 09 19 14.3 +0.5
baz=55
W39A Magazine 76.17 304 *e*P **P 09 19 15.3 +0.2**
comp=Z,16nm,0.8s
W39A LR LR
comp=Z,1μm,21.0s
W39A Magazine 76.17 304 P P 09 19 15.9 +0.7
baz=55
IMAR Indian Mountai 76.31 351 *e*P **P 09 19 17.0 +1.5**
MIAR Mount Ida 76.40 303 *e*P **P 09 19 16.8 +0.3**
comp=Z,12nm,0.8s
MIAR LR LR
comp=Z,900nm,22.0s
MIAR Mount Ida 76.40 303 *e*P **P 09 19 16.8 +0.3**
MIAR pmax pmax
comp=Z,12nm,0.8s
MIAR MLR MLR
comp=Z,900nm,22.0s
MIAR Mount Ida 76.40 303 P P 09 19 17.4 +0.9
baz=55
ILAR Eielson Array 76.47 348 *e*P **P 09 19 16.9 +0.5**
ILAR Eielson Array 76.47 348 P P 09 19 16.1 -0.2
comp=Z,1.0nm,0.6s,baz=0.2,slow=4.9,SNR=10
ILAR LR LR 09 55 55.3
comp=Z,341nm,20.0s,baz=52,slow=38
MDM Murphy Dome 76.51 349 PFAKE 09 19 30.0 +13
MDM LR LR
comp=Z,400nm,19.0s
COLA College 76.53 349 PFAKE 09 19 30.0 +13
COLA LR LR
comp=Z,500nm,19.0s
COLA College 76.53 349⇓ *e*P **P 09 19 18.6 +1.9**
COLA pmax pmax
comp=Z,3.0nm,0.9s
WLAR White Oak Lake 76.58 302 PFAKE 09 19 30.0 +12
WLAR LR LR
comp=Z,900nm,19.0s
Z41A Richland Creek 76.61 301 PFAKE 09 19 30.0 +12
Z41A LR LR
comp=Z,1μm,19.0s
HIA Hailar 76.62 38 PFAKE 09 19 30.0 +12
HIA LR LR
comp=Z,1μm,20.0s
LAO LASA Array 76.69 319 *e*P **P 09 19 19.6 +1.5**
comp=Z,14nm,0.9s
LAO LASA Array 76.69 319 P P 09 19 19.9 +1.8
baz=50
HDA Harding Lake 76.81 348 PFAKE 09 19 30.0 +12
HDA LR LR
comp=Z,300nm,18.0s
HDA Harding Lake 76.81 348 P P 09 19 19.4 +1.0
baz=23
MLY Manley 76.82 350 PFAKE 09 19 30.0 +12
MLY LR LR
comp=Z,300nm,20.0s
WRH Wood River Hil 76.94 348 PFAKE 09 19 30.0 +11
WRH LR LR
comp=Z,500nm,18.0s
RIDG Independent Ri 77.06 347 *e*P **P 09 19 21.4 +1.6**
comp=Z,15nm,1.2s
RIDG LR LR
comp=Z,400nm,19.0s
BCAR Beaver Creek A 77.08 345 *e*P **P 09 19 21.2 +1.3**
TUL1 Leonard 77.08 305 *e*P **P 09 19 20.5 +0.1**
comp=Z,11nm,0.8s
TUL1 LR LR
comp=Z,600nm,20.0s
TUL1 Leonard 77.08 305 P P 09 19 22.3 +2.0
baz=54
RSSD Black Hills 77.13 316 *e*P **P 09 19 22.1 +1.3**
comp=Z,7.4nm,1.1s
RSSD LR LR
comp=Z,300nm,19.0s
RSSD Black Hills 77.13 316 P P 09 19 22.1 +1.3
baz=51
SEY Seymchan 77.24 15⇑ *e*P **P 09 19 22.1 +1.4**
SEY Seymchan 77.24 15 P P 09 19 21.3 +0.5
comp=Z,1.4nm,0.4s,baz=320,slow=4.2,SNR=9.5
HHC Hu-ho-hao-te 77.50 48 *e*P **P 09 19 22.1 -0.7**
HHC sP sP 09 19 29.8 +1.7
HHC S **S 09 29 10.1 -3.6**
HHC ScS **SKSac 09 29 36.3 +0.3**
HHC pmax pmax
comp=Z,51nm,1.1s
HHC pmax pmax
comp=Z,200nm,7.0s
HHC LR LR
comp=Z,330nm,16.3s
HHC LR LR
comp=Z,470nm,17.1s
HHC LR LR
comp=Z,390nm,16.4s
EGMT Eagleton 77.64 321 PFAKE 09 19 40.0 +17
EGMT LR LR
comp=Z,300nm,18.0s
EGMT Eagleton 77.64 321 P P 09 19 24.7 +1.3
baz=48
BPAW Bear Paw Mtn. 77.74 350 PFAKE 09 19 40.0 +16
BPAW LR LR
comp=Z,400nm,19.0s
MCK McKinley 77.77 349 PFAKE 09 19 40.0 +16
MCK LR LR
comp=Z,500nm,19.0s
SPB Sao Paulo 77.86 228 PFAKE 09 19 40.0 +15
SPB LR LR
comp=Z,1μm,19.0s
CBKS Cedar Bluff 77.87 309 PFAKE 09 19 40.0 +15
CBKS LR LR
comp=Z,500nm,18.0s
OK024 West corner E0 78.02 306 *e*P **P 09 19 25.9 +0.3**
comp=Z,14nm,0.9s
DLBC Dease Lake 78.07 338 PFAKE 09 19 40.0 +14
DLBC LR LR
comp=Z,400nm,20.0s
DLBC Dease Lake 78.07 338 P P 09 19 26.1 +0.6
comp=Z,2.6nm,0.8s,baz=226,slow=2.6,SNR=3.5
DHY Denali Highway 78.12 348 *e*P **P 09 19 26.9 +1.0**
comp=Z,33nm,1.4s
DHY LR LR
comp=Z,300nm,19.0s
CD2 Chengdu 78.37 60 *e*P **P 09 19 25.8 -1.9**
CD2 pmax pmax
comp=Z,20nm,0.5s
CAST Castle Rocks 78.54 350 PFAKE 09 19 40.0 +12
CAST LR LR

comp=Z,300nm,19.0s
NATX Nacogdoches 78.76 301 PFAKE 09 19 40.0 +10
NATX LR LR
comp=Z,1μm,19.0s
U32A Winter Ranch, 78.88 307 PFAKE 09 19 40.0 +10
U32A LR LR
comp=Z,700nm,18.0s
BALM Baldy 79.02 345 PFAKE 09 19 40.0 +9.2
BALM LR LR
comp=Z,300nm,21.0s
GCMT Greycliff 79.09 320 *e*P **P** **09 19 32.8 +1.2**
RLMT Red Lodge 79.33 319 P **P** **09 19 34.4 +1.5**
baz=48
K22A Casper 79.47 316 *e*P **P** **09 19 34.3 +0.6**
comp=Z,11nm,1.0s
K22A LR LR
comp=Z,400nm,20.0s
K22A Casper 79.47 316 P **P** **09 19 34.6 +0.9**
baz=49
PHWY Pilot Hill 79.73 314 *e*P **P** **09 19 36.2 +0.8**
comp=Z,17nm,0.9s
PHWY LR LR
comp=Z,300nm,18.0s
WMOK Wichita Mounta 79.74 306 *e*P **P** **09 19 35.8 +0.7**
comp=Z,8.2nm,0.9s
WMOK LR LR
comp=Z,700nm,19.0s
WMOK Wichita Mounta 79.74 306 *e*P **P** **09 19 35.8 +0.7**
WMOK pmax pmax
comp=Z,8.0nm,0.9s
WMOK MLR MLR
comp=Z,700nm,19.0s
WMOK Wichita Mounta 79.74 306 P **P** **09 19 36.3 +1.2**
baz=52
MA2 Magadan 79.89 17 *e*P **P** **09 19 36.6 +1.1**
comp=Z,7.8nm,0.8s
MA2 LR LR
comp=Z,500nm,20.0s
MA2 Magadan 79.89 17 P **P** **09 19 36.1 +0.6**
comp=Z,6.1nm,0.7s,baz=346,slow=9.8,SNR=5.6
BOZ Bozeman (W) 80.23 321 PFAKE 09 19 50.0 +12
BOZ LR LR
comp=Z,400nm,21.0s
BOZ Bozeman (W) 80.23 321 P **P** **09 19 39.5 +1.7**
baz=47
N23A Red Feather La 80.28 314 PFAKE 09 19 50.0 +12
N23A LR LR
comp=Z,300nm,20.0s
N23A Red Feather La 80.28 314 P **P** **09 19 39.9 +1.6**
baz=49
LKWY Lake 80.30 319 PFAKE 09 19 50.0 +12
LKWY LR LR
comp=Z,500nm,18.0s
H17A Grant Village 80.51 319 PFAKE 09 19 50.0 +11
H17A LR LR
comp=Z,600nm,20.0s
H17A Grant Village 80.51 319 P **P** **09 19 42.8 +3.4**
baz=47
WHTX Lake Whitney, 80.53 303 PFAKE 09 19 50.0 +11
WHTX LR LR
comp=Z,700nm,22.0s
MSO Missoula 80.53 323 PFAKE 09 19 50.0 +11
MSO LR LR
comp=Z,400nm,18.0s
HKT Hockley 80.64 300 PFAKE 09 19 50.0 +10
HKT LR LR
comp=Z,700nm,19.0s
YPP Pitchstone Pla 80.71 319 *e*P **P** **09 19 43.3 +2.8**
comp=Z,5.2nm,1.0s
BJT Baijiatuau 80.75 47 PFAKE 09 19 50.0 +10
BJT LR LR
comp=Z,800nm,21.0s
ISCO Idaho Springs 80.80 313 *e*P **P** **09 19 42.6 +1.5**
comp=Z,6.2nm,0.9s
ISCO LR LR
comp=Z,300nm,20.0s
ISCO Idaho Springs 80.80 313 *e*P **P** **09 19 42.6 +1.5**
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO MLR MLR
comp=Z,300nm,20.0s
ISCO Idaho Springs 80.80 313 P **P** **09 19 42.9 +1.8**
baz=49
NEW Newport 81.01 325 PFAKE 09 19 50.0 +8.3
NEW LR LR
comp=Z,700nm,18.0s
NEW Newport 81.01 325 P **P** **09 19 41.4 -0.4**
comp=Z,4.8nm,1.0s,baz=9.0,slow=6.2,SNR=5.4
KMI Kunming 81.03 65 P **P** **09 19 41.5 -1.0**
KMI pP pP 09 19 46.0 -0.4
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI pmax pmax
comp=Z,86nm,5.2s
KMI LR LR
comp=Z,190nm,17.3s
KMI LR LR
comp=Z,120nm,16.2s
KMI LR LR
comp=Z,210nm,17.8s
MOOW Moose Ponds 81.03 319 PFAKE 09 19 50.0 +7.8
MOOW LR LR
comp=Z,300nm,20.0s
Q24A Divide 81.06 312 PFAKE 09 19 50.0 +7.5
Q24A LR LR
comp=Z,500nm,21.0s
BW06 Boulder Array 81.06 317 *e*P **P** **09 19 42.4 0.0**
comp=Z,4.3nm,0.9s
BW06 LR LR
comp=Z,500nm,19.0s
BW06 Boulder Array 81.06 317 P **P** **09 19 42.6 +0.2**
baz=48
PDAR Pinedale Array 81.06 317 *e*P **P** **09 19 42.9 +0.5**
PDAR Pinedale Array 81.06 317 P **P** **09 19 42.4 0.0**
comp=Z,1.4nm,0.6s,baz=58,slow=5.6,SNR=14
PDAR LR LR 09 52 22.0
comp=Z,329nm,20.7s,baz=52,slow=33
SNOW Snow King Moun 81.23 319 *e*P **P** **09 19 44.8 +1.5**
comp=Z,6.4nm,1.0s
SNOW LR LR
comp=Z,500nm,21.0s
LLLB Lillooet 81.34 329 PFAKE 09 20 00.0 +17
LLLB LR LR
comp=Z,600nm,18.0s
435B Jarrell 81.35 302 PFAKE 09 20 00.0 +16
435B LR LR
comp=Z,900nm,20.0s
REDW Red Top Meadow 81.36 318 *e*P **P** **09 19 45.1 +1.2**
comp=Z,6.3nm,0.9s
REDW LR LR
comp=Z,500nm,18.0s
MCMT McKenzie Canyo 81.39 321 *e*P **P** **09 19 45.9 +1.8**
ABTX Abilene, Hawle 81.60 304 PFAKE 09 20 00.0 +15
ABTX LR LR
comp=Z,500nm,19.0s
T25A Trinidad 81.79 310 P **P** **09 19 48.0 +1.7**
baz=50
C09A Chrisman Ranch 81.88 325 PFAKE 09 20 00.0 +14
C09A LR LR
comp=Z,800nm,18.0s
AHID Auburn Hatcher 81.90 318 *e*P **P** **09 19 47.1 +0.4**
comp=Z,7.1nm,0.8s
AHID LR LR
comp=Z,600nm,18.0s
B08A Colville Reser 81.94 326 *e*P **P** **09 19 47.0 +0.4**
comp=Z,8.1nm,1.0s
B08A LR LR
comp=Z,700nm,18.0s
SDCO Great Sand Dun 82.06 312 PFAKE 09 20 00.0 +12
SDCO LR LR
comp=Z,400nm,18.0s
SDCO Great Sand Dun 82.06 312 P **P** **09 19 49.0 +1.2**
baz=49
CMAR Chiang Mai Arr 82.09 73 *e*P **P** **09 19 48.0 +0.1**
CMAR Chiang Mai Arr 82.09 73 *i* P **P** **09 19 48.7 +0.8**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 82.09 73 P **P** **09 19 47.8 -0.1**
comp=Z,2.3nm,0.7s,baz=306,slow=6.9,SNR=14
CMAR LR LR 10 04 29.5
comp=Z,83nm,18.9s,baz=323,slow=42
O20A White River Ci 82.09 315 P **P** **09 19 48.7 +0.9**
baz=48
D08A Wollman Farm, 82.72 325 PFAKE 09 20 00.0 +9.3
D08A LR LR
comp=Z,700nm,18.0s
F10A Beach Ranch, E 82.73 324 PFAKE 09 20 00.0 +9.1
F10A LR LR
comp=Z,600nm,20.0s
B06A Marblemount 82.77 327 PFAKE 09 20 00.0 +9.1
B06A LR LR
comp=Z,500nm,18.0s
E09A Wood Farm, Sta 82.77 324 PFAKE 09 20 00.0 +9.1
E09A LR LR
comp=Z,700nm,18.0s
MSTX Muleshoe 82.80 307 PFAKE 09 20 00.0 +8.5
MSTX LR LR
comp=Z,900nm,22.0s
S22A 4UR Ranch, Cre 82.86 312 *e*P **P** **09 19 53.0 +1.1**
comp=Z,5.0nm,1.0s
S22A LR LR
comp=Z,500nm,20.0s
S22A 4UR Ranch, Cre 82.86 312 P **P** **09 19 53.6 +1.6**
baz=48
HWUT Hardware Ranch 82.94 318 PFAKE 09 20 00.0 +7.8
HWUT LR LR
comp=Z,400nm,18.0s
MOBC Moresby Island 83.07 336 PFAKE 09 20 00.0 +7.6
MOBC LR LR
comp=Z,700nm,18.0s
HLID Hailey 83.08 320 PFAKE 09 20 00.0 +7.1
HLID LR LR
comp=Z,500nm,21.0s
E08A Dider Farm, El 83.21 325 PFAKE 09 20 10.0 +17
E08A LR LR
comp=Z,700nm,18.0s
LTY Liberty 83.36 326 PFAKE 09 20 10.0 +16
LTY LR LR
comp=Z,600nm,19.0s
PV07 Paradox Valley 83.47 314 PFAKE 09 20 10.0 +15
PV07 LR LR
comp=Z,500nm,18.0s
HAWA Hanford 83.50 325 PFAKE 09 20 10.0 +15
HAWA LR LR
comp=Z,600nm,19.0s
E07A Sunnyside 83.52 325 PFAKE 09 20 10.0 +15
E07A LR LR
comp=Z,500nm,19.0s
JLU Jordanelle 83.58 317 *e*P **P** **09 19 56.0 +0.4**
comp=Z,4.3nm,0.9s
BMO Blue Mountains 83.59 323 *e*P **P** **09 19 55.6 +0.2**
comp=Z,11nm,1.2s
BMO LR LR
comp=Z,400nm,20.0s
BMO Blue Mountains 83.59 323 *e*P **P** **09 19 55.6 +0.2**
BMO pmax pmax
comp=Z,11nm,1.2s
BMO MLR MLR
comp=Z,400nm,20.0s
PV12 Saucer Basin, 83.64 314 *e*P **P** **09 19 57.2 +1.3**
comp=Z,6.6nm,0.8s
PV23 Carpenter Ridg 83.67 314 *e*P **P** **09 19 56.9 +0.8**
comp=Z,34nm,1.7s
PV02 Paradox Valley 83.67 314 PFAKE 09 20 10.0 +14
PV02 LR LR
comp=Z,1μm,21.0s
PV11 David Mesa, Pa 83.69 314 *e*P **P** **09 19 57.5 +1.3**
comp=Z,9.3nm,0.8s
PV03 Paradox Valley 83.70 314 *e*P **P** **09 19 57.1 +0.9**
comp=Z,10nm,1.3s
PV16 Nyswonger Mesa 83.71 314 PFAKE 09 20 10.0 +14
PV16 LR LR
comp=Z,600nm,20.0s
PV18 Skein Mesa, Pa 83.75 314 PFAKE 09 20 10.0 +14
PV18 LR LR
comp=Z,500nm,18.0s
PV05 Paradox Valley 83.97 314 PFAKE 09 20 10.0 +12
PV05 LR LR
comp=Z,500nm,18.0s
KDAK Kodiak Island 83.99 348 *e*P **P** **09 19 58.1 +1.2**
comp=Z,19nm,1.0s
KDAK Kodiak Island 83.99 348 *e*P **P** **09 19 58.2 +1.2**
KDAK pmax pmax
comp=Z,19nm,1.0s
KDAK Kodiak Island 83.99 348 P **P** **09 19 57.8 +0.8**
comp=Z,4.9nm,0.7s,baz=259,slow=4.0,SNR=4.8
D05A Enumclaw 84.00 327 PFAKE 09 20 10.0 +13
D05A LR LR
comp=Z,800nm,18.0s
F07A Phinny Hill Vi 84.05 325 PFAKE 09 20 10.0 +12
F07A LR LR
comp=Z,800nm,18.0s
G08A Pilot Rock 84.05 324 PFAKE 09 20 10.0 +12
G08A LR LR
comp=Z,800nm,18.0s
SRU San Rafael Swe 84.08 315 *e*P **P** **09 19 58.5 +0.3**
comp=Z,6.2nm,0.8s
SRU San Rafael Swe 84.08 315 *e*P **P** **09 19 58.5 +0.3**
SRU pmax pmax
comp=Z,6.0nm,0.8s
MVCO Mesa Verde 84.20 313 *e*P **P** **09 20 00.1 +1.3**
comp=Z,6.7nm,0.8s
MVCO Mesa Verde 84.20 313 P **P** **09 19 59.9 +1.1**
baz=48
D03D Eldon 84.21 328 P **P** **09 19 59.5 +1.1**
baz=39
LON Longmire 84.26 327 PFAKE 09 20 10.0 +11
LON LR LR
comp=Z,600nm,19.0s
ANMO Albuquerque 84.48 310 *e*P **P** **09 20 01.2 +1.0**
comp=Z,4.4nm,1.1s
ANMO Albuquerque 84.48 310 *i*P **P** **09 20 02.0 +1.8**
ANMO pmax pmax
comp=Z,10.0nm,2.5s
ANMO Albuquerque 84.48 310 P **P** **09 20 01.8 +1.6**
baz=48
TASM ASL Pad, Albuq 84.48 310 P **P** **09 20 01.9 +1.7**
baz=48
TASM ASL Pad, Albuq 84.48 310 P **P** **09 20 01.9 +1.7**
baz=48
DUG Dugway, Tooele 84.61 317 *e*P **P** **09 20 01.2 +0.5**
comp=Z,4.3nm,0.9s
DUG Dugway, Tooele 84.61 317 *e*P **P** **09 20 01.2 +0.5**
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 84.61 317 P **P** **09 20 01.6 +0.9**
baz=45
NLWA Neilton Lookou 84.66 328 PFAKE 09 20 10.0 +9.3
NLWA LR LR
comp=Z,900nm,18.0s
G06A Carlson Farm, 84.88 325 PFAKE 09 20 10.0 +8.2
G06A LR LR
comp=Z,800nm,19.0s
BNM Barren Site 85.11 309 *e*P **P** **09 20 05.1 +1.7**
I07A Izee 85.21 324 PFAKE 09 20 20.0 +16
I07A LR LR
comp=Z,500nm,20.0s
Y22D IRIS PASSCAL I 85.34 310 PFAKE 09 20 20.0 +15
Y22D LR LR
comp=Z,600nm,19.0s
WHN Wuhan 85.77 55 *e*P **P** **09 20 02.8 -3.7**
MNTX Cornudas Mount 85.94 307 PFAKE 09 20 20.0 +13
MNTX LR LR
comp=Z,800nm,18.0s
MNTX Cornudas Mount 85.94 307 P **P** **09 20 07.9 +0.6**
baz=49
CPUP Villa Florida 86.00 233 P **P** **09 20 08.9 +1.4**
comp=Z,3.9nm,0.9s,baz=60,slow=5.6,SNR=6.5
CPUP LR LR 09 57 10.0
comp=Z,503nm,18.9s,baz=58,slow=35
H04A Detroit Lake 86.01 325 PFAKE 09 20 20.0 +13
H04A LR LR
comp=Z,500nm,18.0s
WVOR Wild Horse Val 86.02 322 *e*P **P** **09 20 08.7 +1.0**
comp=Z,5.3nm,1.1s
WVOR Wild Horse Val 86.02 322 *e*P **P** **09 20 08.7 +1.0**
WVOR pmax pmax
comp=Z,5.0nm,1.1s
PINE Pine Mountain 86.11 324 PFAKE 09 20 20.0 +12
PINE LR LR
comp=Z,600nm,19.0s
LNIG Linares 86.28 298 *e*P **P** **09 20 09.7 +0.5**
comp=Z,7.4nm,0.9s
TXAR Lajitas Array 86.35 304 *e*P **P** **09 20 10.9 +1.3**
TXAR Lajitas Array 86.35 304 P **P** **09 20 09.6 0.0**
comp=Z,0.9nm,0.8s,baz=77,slow=6.6,SNR=7.5
TXAR LR LR 09 57 54.5
comp=Z,267nm,19.1s,baz=0.0,slow=35
LPAZ La Paz 86.83 247 LR LR 09 56 50.0
comp=Z,277nm,21.3s,baz=62,slow=34
NJ2 Nanjing 87.66 51 *e*P **P** **09 20 14.8 -0.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KVN Kaiserville 88.26 319 PFAKE 09 20 30.0 +11
KVN LR LR
comp=Z,400nm,18.0s
YBH Yreka Blue Hor 88.53 324 PFAKE 09 20 30.0 +10
YBH LR LR
comp=Z,400nm,20.0s
BEKR Beckworth 88.81 321 PFAKE 09 20 30.0 +8.7
BEKR LR LR
comp=Z,300nm,20.0s
TPNV Topopah Spring 88.81 317 PFAKE 09 20 30.0 +8.7
TPNV LR LR
comp=Z,400nm,19.0s
NVAR Mina Array Bea 88.82 319 LR LR 09 58 37.2
comp=Z,197nm,18.3s,baz=51,slow=35
VCNR Virginia City 88.88 320 PFAKE 09 20 30.0 +8.4
VCNR LR LR
comp=Z,400nm,18.0s
YERR Yerington 88.90 320 *e*P **P** **09 20 22.3 +0.6**
comp=Z,5.9nm,1.0s
TUC Tucson 88.92 310 *e*P **P** **09 20 22.8 +1.0**
comp=Z,4.5nm,1.1s
TUC Tucson 88.92 310 *e*P **P** **09 20 22.8 +1.0**
TUC pmax pmax
comp=Z,4.0nm,1.1s
PNTR Pine Nut 89.00 320 PFAKE 09 20 30.0 +7.7
PNTR LR LR
comp=Z,400nm,18.0s
KSRS Korea Array 89.14 42 LR LR 10 04 11.7
comp=Z,226nm,19.9s,baz=321,slow=38
MDPB Devils Postpil 89.83 319 PFAKE 09 20 40.0 +14
MDPB LR LR
comp=Z,500nm,18.0s
Y12C Blythe 90.14 314 PFAKE 09 20 40.0 +13
Y12C LR LR
comp=Z,500nm,18.0s
CMB Columbia Colle 90.20 320 PFAKE 09 20 40.0 +12
CMB LR LR
comp=Z,300nm,21.0s
GSC Goldstone, Bar 90.31 316 PFAKE 09 20 40.0 +12
GSC LR LR
comp=Z,400nm,20.0s
KCPM Cahto Peak 90.53 323 PFAKE 09 20 40.0 +11
KCPM LR LR
comp=Z,600nm,20.0s
PSI Prapat 91.33 86 LR LR 10 09 12.0
comp=Z,197nm,18.1s,baz=304,slow=41
MJB9 Matsu-Tunnel 95.05 36 PFAKE 09 21 00.0 +10
MJB9 LR LR
comp=Z,600nm,20.0s
MJAR Matsushiro Arr 95.06 36 LR LR 10 07 33.4
comp=Z,583nm,18.3s,baz=335,slow=38
JOW Kunigami 97.14 49 PFAKE 09 21 10.0 +10
JOW LR LR
comp=Z,1μm,19.0s
SARN Sarigan 115.13 42 PFAKE 09 26 20.0 +11
SARN LR LR
comp=Z,600nm,20.0s
NPOC North of Pu'u 121.15 338 PFAKE 09 26 30.0 +9.4
NPOC LR LR
comp=Z,2μm,20.0s
SBLHI Steaming Bluff 121.16 338 PFAKE 09 26 30.0 +9.4
SBLHI LR LR
comp=Z,1μm,20.0s
NPH North Pit 121.18 338 PFAKE 09 26 30.0 +9.3
NPH LR LR
comp=Z,2μm,19.0s
WAKE Wake Island 121.59 21 PFAKE 09 26 30.0 +8.7
WAKE LR LR
comp=Z,2μm,22.0s
WR1 Warramunga Arr 132.77 84 *e*PKPdf **PKPdf** **09 26 42.9 +0.5**
WRA Warramunga Arr 132.77 84 PKP **PKPdf** **09 26 42.9 +0.5**
comp=Z,1.1nm,0.7s,baz=236,slow=1.4,SNR=8.0
WRAB Tennant Creek 132.77 84 *e*PKPdf **PKiKP** **09 26 43.6 0.0**
WRAB Tennant Creek 132.77 84 *e*PKIKP **PKiKP** **09 26 43.6 0.0**
WB2 Warramunga Arr 132.78 84 *e*PKPdf **PKiKP** **09 26 44.1 +0.6**
ASAR Alice Springs 134.29 88 *e*PKPdf **PKPdf** **09 26 45.2 0.0**
ASAR Alice Springs 134.29 88 *e*PKIKP **PKPdf** **09 26 45.2 0.0**
ASAR Alice Springs 134.29 88 PKhKP PKPpre 09 26 38.6
comp=Z,0.9nm,1.1s,baz=270,slow=1.8,SNR=4.7
ASAR PKP **PKPdf** **09 26 45.5 +0.3**
comp=Z,1.1nm,0.9s,baz=324,slow=1.6,SNR=10
STKA Stephens Creek 143.90 95 *e*PKPdf **PKPdf** **09 27 01.7 -0.7**
STKA Stephens Creek 143.90 95 PKP PKPbc 09 27 00.6 +0.4
comp=Z,1.8nm,0.7s,baz=307,slow=6.6,SNR=4.6
TOO Toolangi 148.51 104 *e*PKPbc **PKPbc** **09 27 16.0 +2.3**
TOO Toolangi 148.51 104 *e*PKP2 **PKPbc** **09 27 16.0 +2.3**
PPT2 Papeete2 150.69 304 *e*LR LR 10 17 27.5
comp=Z,171nm,25.0s
CAN Canberra 150.80 98 *e*PKPbc **PKPbc** **09 27 21.2 +1.7**
CAN Canberra 150.80 98 *e*PKIKP **PKPbc** **09 27 21.2 +1.7**
ARMA Armidale 151.43 87 *e*PKPbc **PKPbc** **09 27 24.6 +3.4**
DZM Mont Dzumac 158.14 53 *e*LR LR 10 20 41.2
comp=Z,289nm,22.9s
DZM Mont Dzumac 158.14 53 PFAKE 09 27 40.0 +16
DZM LR LR
comp=Z,1μm,21.0s

KRSC 19 09:15:19.5±10.0, 55°.94N×164°.54E, h15km±10km, ML3.6,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.00**	**286**	*e*P		Pb		09 15 37.7	-0.8
KBTR				*e*S		Sb		09 15 50.9	-0.6
KBG	**Krutoberegovo**	**1.07**	**288**	*e*P		Pb		09 15 38.7	-1.1
KBG				*e*S		Sb		09 15 53.7	+0.1
BKI	**Bering**	**1.10**	**131**	*e*P		Pb		09 15 39.9	-0.2
BKI				*e*S		Sb		09 15 54.3	+0.1
SMKR	**Semkarok**	**1.83**	**292**	*e*P		Pn		09 15 51.1	+0.6
SMKR				*e*S		Sb		09 16 14.5	-0.9
BDR	**Baidarnaya**	**1.96**	**290**	*e*P		Pn		09 15 53.5	+1.2
BDR				*e*S		Sb		09 16 18.8	-0.4
SRKR	**Sorokina**	**2.01**	**292**	*e*P		Pn		09 15 53.9	+1.0
SRKR				*e*S		Sn		09 16 18.8	+1.0
MKZ	**Mys Kozlova**	**2.12**	**230**	*e*P		Pb		09 15 56.0	-1.6
MKZ				*e*S		Sn		09 16 22.0	+1.6
LGNR	**Loginova**	**2.17**	**275**	*e*P		Pb		09 15 57.6	-0.9
KLY	**Klyuchi**	**2.21**	**281**	*e*P		Pn		09 15 55.4	-0.1
KLY				*e*S		Sn		09 16 21.7	-0.8
TUMD	**Tumrok D**	**2.46**	**254**	*e*P		Pb		09 16 01.9	-1.5
KZV	**Kizimen**	**2.55**	**253**	*e*P		Pb		09 16 03.4	-1.6
SRDR	**Sredinnyy**	**2.73**	**280**	*e*P		Pb		09 16 05.8	-2.1
SRDR				*e*S		Sb		09 16 39.6	-1.5
SDLR	**Sedlovina**	**4.23**	**233**	*e*P		Pn		09 16 26.8	+3.3
SMAR	**Somma**	**4.28**	**234**	*e*P		Pn		09 16 27.5	+3.3
UGLR	**Uglovaya**	**4.30**	**233**	*e*P		Pn		09 16 28.0	+3.5

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*NSSC **19** 09:24:27.0±1.6, 33°.82N×35°.68E, h5km±36km, ML1.4*
*ISCJB **19** 09:24:28.2±1.8, 33°.80N±0°.05×35°.7E±0°.1, h19km±18km,*
Error ellipse: s-maj=16.8km s-min=7.5km az=174.4
*GRAL **19** 09:24:29.2±0.3, 33°.80N×35°.78E, h10km±4km, MD2.6*
ISC 19 09:24:28.4±1.1, 33°.82N±0°.05×35°.80E±0°.07, h11km±15km,
n7, σ0=47/12, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.15**	**304**	*e*P		**Pg**		**09 24 32.3**	**+0.4**
BHL				*e*S		**Sg**		**09 24 34.6**	**+0.2**
DQRL	**Deir Qamar**	**0.23**	**239**	*e*P		**Pg**		**09 24 33.0**	**-0.1**
DQRL				*e*S		**Sg**		**09 24 35.9**	**-0.5**
RCY	**Rachaya**	**0.33**	**175**	*e*P		**Pg**		**09 24 34.9**	**-0.1**
RCY				*e*S		**Sg**		**09 24 39.2**	**-0.2**
BRBR	**Barbar**	**0.43**	**163**	*e*P		**Pg**		**09 24 36.9**	**0.0**
BRBR				*e*S		**Sg**		**09 24 42.4**	**-0.2**
BRBR					AML	AML		09 24 47.2	
	comp=E,24nm,0.3s								
BRBR					AML	AML		09 24 47.8	
	comp=N,30nm,0.6s								
HWQ	**Hawqa**	**0.47**	**15**	*e*P		**Pb**		**09 24 38.3**	**-0.5**
QASN	**Qassioun**	**0.49**	**126**	*e*P		**Pg**		**09 24 37.7**	**-0.3**
QASN					AML	AML		09 24 44.2	
	comp=E,23nm,0.4s								
QASN					AML	AML		09 24 46.9	
	comp=N,52nm,0.5s								
TOTH	**TOTAH**	**0.70**	**131**	*e*P		**Pb**		**09 24 42.7**	**+0.1**
TOTH				*e*S		**Sb**		**09 24 53.1**	**+0.9**
TOTH					AML	AML		09 25 01.7	
	comp=N,12nm,0.6s								
TOTH					AML	AML		09 25 09.9	
	comp=E,8.5nm,0.5s								

*ISK **19** 09:24:32.5, 38.31N×28.14E, h15km, ML2.0/4*
*DDA **19** 09:24:32.5, 38.31N×28.14E, h7km±3km, ML2.6*
ISC 19 09:24:32.6±1.4, 38.31N±0.05×28.12E±0.04, h9km±13km, n9, σ0.9/71/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.39**	**62**	IAML_P			
	comp=Z,1μm,0.1s						
MANT				*i* P	**Pb**	**09 24 41.6**	**-0.2**
MANT				*i* S	**Sg**	**09 24 45.5**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.41**	**206**	PG	**Pb**	**09 24 41.5**	**-0.5**
AYDB				SG	**Sb**	**09 24 47.5**	**-0.8**
KULA	**Kula-Manisa**	**0.47**	**64**	PG	**Pg**	**09 24 41.9**	**+0.1**
KULA				SG	**Sb**	**09 24 48.8**	**-1.4**
AKHS	**Akhisar**	**0.62**	**337**	IAML_P			
	comp=Z,2μm,0.1s						
AKHS				*i* P	**Pb**	**09 24 45.1**	**-0.4**
AYDN	**Tasoluk**	**0.68**	**196**	IAML_P			
	comp=Z,1μm,0.1s						
AYDN				*i* P	**Pb**	**09 24 46.3**	**-0.2**
USAK	**Uak-Merkez**	**0.81**	**60**	IAML_P			
	comp=Z,425nm,0.1s						
USAK				*i* P	**Pb**	**09 24 48.2**	**-0.7**
USAK				*i* S	**Sb**	**09 25 00.1**	**+0.1**
KHAL	**Karahalli**	**1.08**	**86**	*i* P	**Pn**	**09 24 55.3**	**+1.3**
URLA	**Izmir**	**1.20**	**273**	PN	**Pb**	**09 24 55.6**	**+0.1**
URLA				SN	**Sn**	**09 25 12.0**	**+0.1**
CHOS	**Chios island**	**1.62**	**273**	PN	**Pn**	**09 25 01.7**	**+0.3**
CHOS				SN	**Sb**	**09 25 23.1**	**-0.3**

MAN 19 09:24:53.6, 18.28N×122.95E, h21km, mb3.7, ML2.4, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.86**	**268**	*e*P	Pb	09 25 09.7	-0.1
SGCP				*e*S	Sb	09 25 19.2	-1.6
CVP	**Callao Caves**	**1.22**	**242**	⇑*i*P	Pn	09 25 15.1	-0.3
CVP				*i* S	Sb	09 25 30.1	-1.1
APYP	**Conner**	**1.68**	**256**	*e*P	Pb	09 25 23.0	-0.7
APYP				*e*S	Sn	09 25 42.0	-0.6
CAUP	**Cauayan**	**1.71**	**219**	*e*P	Pn	09 25 22.4	+0.3
CAUP				*e*S	Sb	09 25 45.6	+0.3
ABRA	**Dolores**	**2.22**	**254**	*e*P	Pn	09 25 30.0	+0.8
ABRA				*e*S	Sn	09 25 56.9	+0.9

*ISCJB **19** 09:26:07.2±0.8, 18.9N±0.2×145.3E±0.3, h214km, mb3.2/7, Error ellipse: s-maj=39.4km s-min=19.2km az=14.9*
*IDC **19** 09:26:11.6±18.0, 18.92N×145.40E, h243km±187km, mb3.0/7, mb1 3.3/7, mb1mx3.0/30, mbtmp3.6/7, Error ellipse: s-maj=36.3km s-min=30.7km az=88.0*
ISC 19 09:26:08.6±1.0, 18.9N±0.2×145.4E±0.3, h214km, n7, σ1.9/02/7, mb3.3/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.13**	**196**	P	**P**	**09 33 23.8**	**-0.1**
	0.5nm,0.8s,baz=21,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**43.80**	**195**	P	**P**	**09 33 53.5**	**-0.1**
	0.2nm,0.7s,baz=13,slow=8.6,SNR=4.1						
MKAR	**Makanchi Array**	**58.09**	**314**	P	**P**	**09 35 40.7**	**+1.0**
	0.4nm,0.5s,baz=91,slow=8.9,SNR=4.4						
ILAR	**Eielson Array**	**63.56**	**26**	P	**P**	**09 36 15.4**	**-0.7**
	0.3nm,0.7s,baz=261,slow=3.6,SNR=3.6						
YKA	**Yellowknife Ar**	**77.91**	**28**	P	**P**	**09 37 42.7**	**+0.1**
	0.3nm,0.5s,baz=288,slow=5.5,SNR=8.2						
NVAR	**Mina Array Bea**	**83.22**	**52**	P	**P**	**09 38 12.5**	**+0.9**
	0.4nm,0.5s,baz=270,slow=6.0,SNR=2.6						
FINES	**FINESS Array B**	**86.55**	**335**	P	**P**	**09 38 26.0**	**-1.3**
	0.5nm,0.3s,baz=68,slow=4.8,SNR=10						

*NIED **19** 09:36:00, 37.60N×144.50E, h5km, Mw4.2 Best double couple: M0:2.27000×10^15 NP1:φs=84.00000°, δ23.00000°, λ-102.00000°. NP2:φs=277.00000°, δ68.00000°, λ-85.00000°.*
*IDC **19** 09:36:53.3±0.6, 37.38N×144.71E, h0km, mb4.0/22, mb1 4.2/28, mb1mx4.1/54, mbtmp4.0/28, ML3.5/6, MS3.2/5, Ms1 3.2/5, ms1mx2.9/38, Error ellipse: s-maj=15.6km s-min=13.3km az=122.0*
*JMA **19** 09:36:58.2±0.2, 37.56N×144.48E, h47km, M4.4*
*ISCJB **19** 09:36:58.2±0.2, 37.53N±0.03×144.47E±0.03, h33km, mb4.2/62, MS3.3/2, Error ellipse: s-maj=4.2km s-min=2.9km az=174.9*
*MOS **19** 09:36:58.3±1.6, 37.60N×144.57E, h38km, mb4.4/21, Error ellipse: s-maj=9.3km s-min=5.8km az=103.2*
*NEIC **19** 09:37:01.0±2.3, 37.51N×144.59E, h42km±6km, mb4.4/38, Error ellipse: s-maj=17.6km s-min=11.8km az=112.0*
ISC 19 09:36:59.9±0.4, 37.56N±0.05×144.56E±0.05, h35km, n179, σ2.9/07/194, mb4.3/62, 11C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.56**	**288**	P	**Pn**	**09 37 37.2**	**-1.7**
JIKH				*e*S	**Sn**	**09 38 06.9**	**-2.0**
JIO	**Ouri**	**2.69**	**290**	P	**Pn**	**09 37 39.5**	**-1.2**
JIO				*e*S	**Sn**	**09 38 10.3**	**-1.8**
JKMT	**Kesennumamotoy**	**2.74**	**298**	P	**Pn**	**09 37 39.8**	**-1.5**
JKMT				S	**Sn**	**09 38 11.0**	**-2.2**
OFUJ	**Ofunato**	**2.74**	**305**	P	**Pn**	**09 37 40.1**	**-1.2**
OFUJ				*e*S	**Sn**	**09 38 11.6**	**-1.6**
JMK	**Ichinoseki**	**2.98**	**299**	P	**Pn**	**09 37 43.6**	**-1.0**
JMK				S	**Sn**	**09 38 17.9**	**-1.2**
JOM	**Ohasama**	**3.20**	**308**	*e*S	**Sn**	**09 38 23.6**	**-1.0**
JFT	**Otama**	**3.36**	**271**	P	**Pn**	**09 37 49.5**	**-0.4**
JFT				*e*S	**Sn**	**09 38 27.3**	**-1.3**
JYK	**Kaneyama**	**3.58**	**294**	P	**Pn**	**09 37 52.4**	**-0.5**
JYK				*e*S	**Sn**	**09 38 33.7**	**-0.2**
BSO1	**Boso 1**	**4.10**	**226**	P	**Pn**	**09 37 57.1**	**-2.5**
BSO1				*e*S	**Sn**	**09 38 44.6**	**-1.5**
ERM	**Erimo**	**4.58**	**347**	*e*Pn	**Pn**	**09 38 05.6**	**-1.1**
ERM				*e*Sn	**Sn**	**09 38 55.3**	**-3.3**
ERM	**Erimo**	**4.58**	**347**	*de*P	**Pn**	**09 38 05.4**	**-1.3**
JOT	**Ohata**	**4.69**	**326**	P	**Pn**	**09 38 07.9**	**-0.2**
JRY	**Ryogami san**	**4.80**	**253**	P	**Pn**	**09 38 07.6**	**-2.1**
JRY				*e*S	**Sn**	**09 39 00.7**	**-3.4**
JOD2	**Odawara 2**	**4.97**	**244**	P	**Pn**	**09 38 10.6**	**-1.5**
JOD2				*e*S	**Sn**	**09 39 03.8**	**-4.6**
JKB	**Kayabe**	**5.11**	**329**	P	**Pn**	**09 38 13.6**	**-0.3**
JKB				*e*S	**Sn**	**09 39 11.3**	**-0.3**
JCH	**Churui**	**5.13**	**350**	P	**Pn**	**09 38 11.7**	**-2.6**
JCH				*e*S	**Sn**	**09 39 07.4**	**-4.9**
MJAR	**Matsushiro Arr**	**5.18**	**261**	*e*Pn	**Pn**	**09 38 14.3**	**-0.7**
MJAR				*e*Sn	**Sn**	**09 39 15.2**	**+1.6**
MJAR	**Matsushiro Arr**	**5.18**	**261**	*e*P	**Pn**	**09 38 14.3**	**-0.7**
MJAR				*e*		09 39 15.2	
MJAR	**Matsushiro Arr**	**5.18**	**261**	Pn	**Pn**	**09 38 13.8**	**-1.2**
	1.1nm,0.3s,baz=92,slow=16,SNR=44						
MJAR				Sn	**Sn**	**09 39 07.7**	**-5.9**
	0.1nm,0.3s,baz=85,slow=14,SNR=2.4						
MAJO	**Matsushiro**	**5.18**	**261**	*e*Pn	**Pn**	**09 38 14.7**	**-0.3**
MAJO				*e*Sn	**Sn**	**09 39 07.7**	**-5.9**
MAJO	**Matsushiro**	**5.18**	**261**	*d i*P	**Pn**	**09 38 15.0**	**0.0**
MAT	**Matsushiro**	**5.18**	**261**	P	**Pn**	**09 38 15.1**	**+0.1**
MAT				S	**Sn**	**09 39 13.5**	**-0.1**
MJB9	**Matsu-Tunnel**	**5.19**	**261**	*e*Pn	**Pn**	**09 38 14.8**	**-0.3**
NEM2	**Nemuro 2**	**5.87**	**8**	P	**Pn**	**09 38 19.7**	**-4.7**
NEM2				*e*S	**Sn**	**09 39 23.3**	**-7.1**
JHJ2	**Mitsune**	**5.89**	**223**	*e*Pn	**Pn**	**09 38 21.6**	**-3.2**
JHJ2				*e*Sn	**Sn**	**09 39 25.5**	**-5.5**
JHJ	**Hachijo jima 2**	**5.91**	**223**	Pn	**Pn**	**09 38 20.8**	**-4.1**
	14nm,0.3s,baz=101,slow=22,SNR=14						
JHJ				Sn	**Sn**	**09 39 22.8**	**-8.5**
	61nm,0.3s,baz=10,slow=21,SNR=11						
JOSM	**Okushiri–Mats**	**5.98**	**321**	P	**Pn**	**09 38 25.4**	**-0.5**
JTKR	**Abashiri–Toko**	**6.43**	**356**	P	**Pn**	**09 38 29.5**	**-2.5**
JTKR				*e*S	**Sn**	**09 39 38.2**	**-5.8**
INU	**Inuyama**	**6.47**	**252**	*e*Pn	**Pn**	**09 38 33.9**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**6.54**	**8**	*c i*P	**Pn**	**09 38 30.1**	**-3.5**
YUK				*i* S	**Sn**	**09 39 39.1**	**-7.9**
YUK				pmax	pmax		
	comp=N,92nm,0.5s						
YUK				pmax	pmax		
	comp=Z,153nm,0.5s						
YUK				pmax	pmax		
	comp=E,87nm,0.3s						
YUK				smax	smax		
	comp=N,155nm,0.3s						
YUK				smax	smax		
	comp=E,314nm,0.5s						
ASAJ	**Asahikawa**	**6.72**	**348**	Pn	**Pn**	**09 38 34.1**	**-1.9**
	comp=E,2.8nm,0.3s,baz=217,slow=15,SNR=17						
ASAJ				Sn	**Sn**	**09 39 47.6**	**-3.7**
	comp=E,0.9nm,0.3s,baz=342,slow=20,SNR=3.3						
KUR	**Kuril'sk**	**8.06**	**17**	*e*P	**Pn**	**09 38 51.6**	**-2.8**
KUR				*e*S	**Sn**	**09 40 16.3**	**-7.9**
KUR				pmax	pmax		
	comp=N,28nm,0.5s						
KUR				pmax	pmax		
	comp=Z,42nm,0.5s						
KUR				pmax	pmax		
	comp=E,39nm,0.4s						
KUR				smax	smax		
	comp=E,66nm,0.5s						
KUR				smax	smax		
	comp=N,51nm,0.6s						
YSS	**Yuzh-Sakhalins**	**9.48**	**352**	*e*P	**Pn**	**09 39 13.6**	**-0.3**
TEY	**Ternei**	**9.57**	**324**	*e*P	**Pn**	**09 39 14.1**	**-1.0**
MSHR	**Mys Shultsa**	**11.43**	**300**	⇑*e*P	**Pn**	**09 39 42.7**	**+2.1**
USRK	**Ussuriysk Ar.**	**11.60**	**309**	Pn	**Pn**	**09 39 42.1**	**-0.8**
	comp=N,0.3nm,0.3s,baz=108,slow=16,SNR=5.4						
USRK				LR	LR	09 44 29.0	
	comp=N,178nm,18.5s,baz=156,slow=39						
JNU	**Nakatsue**	**12.02**	**252**	LR	LR	09 44 39.1	
	comp=N,88nm,19.9s,baz=130,slow=39						
KSRS	**Korea Array**	**13.22**	**275**	Pn	**Pn**	**09 40 04.6**	**-0.4**
	comp=N,0.1nm,0.3s,baz=94,slow=13,SNR=5.9						
KSRS				LR	LR	09 45 14.1	
	comp=N,47nm,21.1s,baz=280,slow=37						
KLR	**Kul'dur**	**14.90**	**326**	Pn	**Pn**	**09 40 27.8**	**-0.1**
	comp=N,0.1nm,0.3s,baz=153,slow=13,SNR=2.6						
PETK	**Petropavlovsk-**	**18.04**	**26**	*e*Pn	**P**	**09 41 08.1**	**+0.3**
PETK	**Petropavlovsk-**	**18.04**	**26**	*e*P	**P**	**09 41 08.1**	**+0.3**
ZEA	**Zeya**	**20.12**	**329**	*e*P	**P**	**09 41 31.4**	**+0.8**
ZEA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NJ2	**Nanjing**	**21.78**	**263**	*e*P	**P**	**09 41 48.4**	**-0.3**
GUMO	**Guam**	**23.87**	**179**	LR	LR	09 50 18.6	
	comp=Z,53nm,18.7s,baz=12,slow=34						
HHC	**Hu-ho-hao-te**	**25.70**	**288**	*e*P	**P**	**09 42 28.9**	**+2.1**
HHC				sP	pwP	09 42 44.8	+1.9
HHC				S	**S**	**09 46 56.8**	**+3.6**
HHC	**Hu-ho-hao-te**	**25.70**	**288**	ScS	ScS	09 53 27.3	+4.9
SEY	**Seymchan**	**25.85**	**8**	⇑*e*P	**P**	**09 42 29.1**	**+1.3**
SEY	**Seymchan**	**25.85**	**8**	P	**P**	**09 42 27.8**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=212,slow=9.0,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**26.34**	**126**	T	T	10 09 40.5	
	baz=317,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.35**	**126**	T	T	10 09 40.2	
	baz=317,slow=74						
H11N3	**WAKE ISLAND Hy**	**26.36**	**126**	T	T	10 09 35.6	
	baz=317,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.12**	**128**	T	T	10 10 53.1	
	baz=319,slow=76						
H11S3	**WAKE ISLAND Hy**	**27.12**	**128**	T	T	10 10 39.0	
	baz=319,slow=76						
H11S2	**WAKE ISLAND Hy**	**27.14**	**128**	T	T	10 10 23.3	
	baz=319,slow=76						
BOD	**Bodaibo**	**28.48**	**325**	*e*P	**P**	**09 42 51.9**	**+0.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,2.0s						
SONA0	**Songino Array**	**29.60**	**303**	*e*P	**P**	**09 43 03.1**	**+1.4**
SONM	**Songino Array**	**29.60**	**303**	P	**P**	**09 43 03.1**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=80,slow=8.7,SNR=2.8						
LZH	**Lanzhou**	**32.45**	**280**	*e*P	P	09 43 33.8	+6.8
LZH				pP	pwP	09 43 45.0	+1.8
LZH				sP	sP	09 43 49.1	+10
BILL	**Bilibino**	**32.84**	**15**	*e*P	**P**	**09 43 30.1**	**+0.2**
BILL				*e*		09 44 38.7	
BILL				*e*PPP	PPP	09 44 51.6	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CD2	**Chengdu**	**34.18**	**271**	*e*P	**P**	**09 43 41.3**	**-0.7**
GTA	**Gaotai**	**34.81**	**287**	*e*P	P	09 43 53.0	+5.5
GTA				pP	pP	09 43 57.1	+1.4
GTA				sP	sP	09 43 59.8	+0.6
FAKI	**Fak Fak**	**41.86**	**199**	*e*P	**P**	**09 44 47.3**	**+0.5**
	comp=Z,28nm,1.2s						
DGZ	**Jazzator, Alta**	**42.13**	**306**	*ce*P	**P**	**09 44 50.9**	**+2.1**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WMQ	**Urumqi**	**42.84**	**297**	*e*P	**P**	**09 44 56.9**	**+2.3**
ZAA1	**Zalesovo Array**	**43.42**	**312**	*e*P	**P**	**09 44 59.6**	**+0.6**
ZAA1				*e*PP	**PcP**	**09 46 44.9**	**-2.0**
ZALV	**Zalesovo Beam**	**43.42**	**312**	*e*P	**P**	**09 44 59.8**	**+0.8**
ZALV	**Zalesovo Beam**	**43.42**	**312**	P	**P**	**09 44 59.6**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=134,slow=6.2,SNR=3.0						
ZALV				PcP	**PcP**	**09 46 44.9**	**-2.0**
	comp=Z,0.9nm,0.4s,baz=96,slow=1.9,SNR=3.6						
CHTO	**Chiang Mai**	**43.86**	**258**	*e*P	**P**	**09 45 04.7**	**+1.7**
	comp=Z,4.5nm,0.9s						
CHTO	**Chiang Mai**	**43.86**	**258**	P	**P**	**09 45 04.7**	**+1.7**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.06**	**257**	*e*P	**P**	**09 45 06.0**	**+1.4**
CMAR	**Chiang Mai Arr**	**44.06**	**257**	*ce*P	**P**	**09 45 06.5**	**+1.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.06**	**257**	P	**P**	**09 45 04.0**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=45,slow=7.7,SNR=7.1						
IMAR	**Indian Mountai**	**44.92**	**31**	*e*P	**P**	**09 45 11.7**	**+0.8**
CAST	**Castle Rocks**	**45.38**	**34**	*e*P	**P**	**09 45 15.9**	**+1.3**
	comp=Z,1.6nm,0.9s						
MK32	**Makanchi Array**	**45.97**	**302**	*e*P	**P**	**09 45 19.9**	**+0.4**
MKAR	**Makanchi Array**	**45.97**	**302**	*e*P	**P**	**09 45 20.6**	**+1.2**
MKAR	**Makanchi Array**	**45.97**	**302**	*i* P	**P**	**09 45 20.5**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**45.97**	**302**	P	**P**	**09 45 19.9**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=82,slow=8.9,SNR=8.1						
MLY	**Manley**	**46.07**	**32**	*e*P	**P**	**09 45 21.3**	**+1.2**
	comp=Z,2.6nm,0.9s						
MDM	**Murphy Dome**	**47.13**	**32**	*e*P	**P**	**09 45 29.4**	**+1.1**
	comp=Z,3.8nm,0.9s						
KURK	**Kurchatov**	**47.59**	**308**	*e*P	**P**	**09 45 33.0**	**+1.0**
	comp=Z,3.3nm,0.6s						
KURK	**Kurchatov**	**47.59**	**308**	⇓*e*P	**P**	**09 45 32.5**	**+0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURBB	**Kurchatov Arra**	**47.66**	**308**	P	**P**	**09 45 32.6**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=81,slow=7.8,SNR=21						
HDA	**Harding Lake**	**47.68**	**33**	*e*P	**P**	**09 45 32.9**	**+0.3**
	comp=Z,3.3nm,1.1s						
ILAR	**Eielson Array**	**47.70**	**33**	*e*P	**P**	**09 45 32.1**	**-0.6**
ILAR	**Eielson Array**	**47.70**	**33**	P	**P**	**09 45 32.0**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=261,slow=6.6,SNR=14						
ILB	**Eielson Array**	**47.70**	**33**	*e*P	**P**	**09 45 32.2**	**-0.6**
	comp=Z,3.1nm,0.9s						
BALM	**Baldy**	**50.00**	**37**	*e*P	**P**	**09 45 51.5**	**+0.9**
	comp=Z,10.0nm,1.2s						
EPYK	**Eagle Plains**	**51.82**	**30**	*e*P	**P**	**09 46 05.6**	**+1.5**
	comp=Z,6.6nm,1.0s						
BRVK	**Borovoye**	**52.13**	**313**	⇑*e*P	**P**	**09 46 07.7**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**52.44**	**299**	*e*P	**P**	**09 46 09.3**	**+0.1**
	comp=Z,2.3nm,1.0s						
AAK	**Ala-Archa**	**52.44**	**299**	*e*P	**P**	**09 46 09.3**	**+0.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSH	**Kashi**	**52.48**	**295**	P	P	09 46 14.8	+5.3
INK	**Inuvik**	**52.77**	**28**	*e*P	**P**	**09 46 11.8**	**+0.8**
	comp=Z,2.9nm,0.9s						
INK	**Inuvik**	**52.77**	**28**	P	**P**	**09 46 10.4**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=281,slow=5.1,SNR=8.2						
WHY	**Whitehorse**	**53.67**	**37**	*e*P	**P**	**09 46 19.7**	**+1.8**
	comp=Z,5.0nm,1.2s						
ARU	**Arti**	**57.62**	**319**	*e*P	**P**	**09 46 47.2**	**+1.1**
	comp=Z,9.3nm,1.4s						
ARU	**Arti**	**57.62**	**319**	⇓*e*P	**P**	**09 46 47.7**	**+1.5**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.3s						
WRAB	**Tennant Creek**	**57.99**	**191**	*e*P	**P**	**09 46 47.3**	**-1.7**
	comp=Z,17nm,1.1s						
WRAB	**Tennant Creek**	**57.99**	**191**	*ce*P	**P**	**09 46 47.3**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,19nm,2.5s						
WB2	**Warramunga Arr**	**57.99**	**191**	*e*P	**P**	**09 46 47.4**	**-1.7**
	comp=Z,12nm,1.0s						
WR1	**Warramunga Arr**	**58.00**	**191**	*e*P	**P**	**09 46 46.6**	**-2.6**
WRA	**Warramunga Arr**	**58.00**	**191**	*i* P	**P**	**09 46 47.5**	**-1.6**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRA	**Warramunga Arr**	**58.00**	**191**	P	**P**	**09 46 46.6**	**-2.6**
	comp=Z,6.7nm,0.8s,baz=12,slow=6.3,SNR=34						
FITZ	**Fitzroy Crossi**	**58.16**	**201**	*e*P	**P**	**09 46 49.9**	**-0.4**
	comp=Z,4.9nm,1.1s						
KBS	**Kingsbay**	**60.56**	**351**	*e*P	**P**	**09 47 07.8**	**+1.6**
	comp=Z,12nm,1.4s						
KBS	**Kingsbay**	**60.56**	**351**	*e*P	**P**	**09 47 07.8**	**+1.6**
KBS				pmax	pmax		
	comp=Z,12nm,1.4s						
RES	**Resolute Bay**	**61.45**	**15**	*e*P	**P**	**09 47 12.3**	**+0.1**
	comp=Z,2.3nm,1.2s						
RES	**Resolute Bay**	**61.45**	**15**	P	**P**	**09 47 11.7**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=335,slow=4.8,SNR=4.8						
AS31	**Alice Springs**	**61.72**	**191**	*e*P	**P**	**09 47 13.3**	**-1.4**
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**61.72**	**191**	*e*P	**P**	**09 47 12.9**	**-1.8**
ASAR	**Alice Springs**	**61.72**	**191**	P	**P**	**09 47 12.2**	**-2.5**
	comp=Z,2.3nm,0.8s,baz=20,slow=9.9,SNR=26						
YKA	**Yellowknife Ar**	**62.08**	**31**	P	**P**	**09 47 15.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=300,slow=6.5,SNR=5.8						
YKB5	**Yellowknife Ar**	**62.08**	**31**	*e*P	**P**	**09 47 15.9**	**-0.8**
PALK	**Pallekele**	**64.93**	**259**	*i* P	**P**	**09 47 36.7**	**+0.4**
GEYT	**Alibeck**	**65.76**	**300**	P	**P**	**09 47 41.3**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=68,slow=16,SNR=4.4						
GLK	**Glacier Lake**	**66.25**	**49**	*e*P	**P**	**09 47 44.6**	**+0.1**
STKA	**Stephens Creek**	**69.13**	**183**	*e*P	**P**	**09 48 01.6**	**-0.9**
	comp=Z,1.4nm,1.5s						
STKA	**Stephens Creek**	**69.13**	**183**	P	**P**	**09 48 00.0**	**-2.4**
	comp=Z,0.6nm,0.2s,baz=344,slow=8.0,SNR=3.5						
F10A	**Beach Ranch, E**	**69.15**	**48**	*e*P	**P**	**09 48 02.9**	**+0.1**
	comp=Z,4.4nm,1.4s						
OBN	**Obninsk**	**69.16**	**324**	*e*P	**P**	**09 48 03.4**	**+1.0**
OBN				*e*		09 48 26.8	
OBN				*e*		09 50 36.4	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
FIA0	**FINESS Array S**	**69.50**	**333**	*e*P	**P**	**09 48 04.0**	**-0.5**
FINES	**FINESS Array B**	**69.50**	**333**	*e*P	**P**	**09 48 05.5**	**+1.1**
FINES	**FINESS Array B**	**69.50**	**333**	*i* P	**P**	**09 48 04.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**69.50**	**333**	P	**P**	**09 48 04.0**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=56,slow=5.2,SNR=6.4						
FORT	**Forrest**	**69.71**	**195**	*e*P	**P**	**09 48 05.7**	**-0.3**
	comp=Z,23nm,1.3s						
HRY	**Holter Researc**	**71.83**	**45**	*e*P	**P**	**09 48 18.4**	**-0.7**
FFC	**Flin Flon**	**71.89**	**34**	*e*P	**P**	**09 48 19.3**	**+0.2**
	comp=Z,3.6nm,1.1s						
FFC	**Flin Flon**	**71.89**	**34**	*i* P	**P**	**09 48 20.5**	**+1.4**
LRM	**Limekiln Ridge**	**72.00**	**46**	*e*P	**P**	**09 48 21.4**	**+1.1**
KIV	**Kislovodsk**	**72.44**	**312**	*e*P	**P**	**09 48 25.9**	**+3.1**
KIV				pmax	pmax		
	comp=Z,23nm,1.1s						
KBZ	**Khabaz**	**72.45**	**312**	P	**P**	**09 48 23.2**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=241,slow=2.8,SNR=6.1						
BOZ	**Bozeman (W)**	**72.60**	**46**	*e*P	**P**	**09 48 24.4**	**+0.6**
	comp=Z,2.9nm,0.8s						
BOZ	**Bozeman (W)**	**72.60**	**46**	P	**P**	**09 48 24.4**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NV01	**Mina Array Sit**	**72.65**	**55**	*e*P	**P**	**09 48 23.6**	**-0.6**
NVAR	**Mina Array Bea**	**72.65**	**55**	P	**P**	**09 48 23.6**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=278,slow=6.9,SNR=3.9						
QLMT	**Earthquake Lak**	**73.17**	**46**	*e*P	**P**	**09 48 28.8**	**+1.6**
H17A	**Grant Village**	**73.91**	**46**	*e*P	**P**	**09 48 34.3**	**+2.6**
	comp=Z,6.5nm,1.0s						
IMW	**Indian Meadow**	**74.00**	**47**	*e*P	**P**	**09 48 33.8**	**+1.5**
	comp=Z,4.0nm,0.9s						
SNOW	**Snow King Moun**	**74.37**	**47**	*e*P	**P**	**09 48 35.7**	**+1.4**
	comp=Z,3.0nm,0.8s						
NB2	**NORSAR Subarra**	**74.65**	**338**	P	**P**	**09 48 35.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=37,slow=5.9						
NB200	**NORSAR Array S**	**74.65**	**338**	*e*P	**P**	**09 48 35.1**	**-0.2**
NOA	**NORSAR Array B**	**74.65**	**338**	P	**P**	**09 48 35.1**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=38,slow=5.9,SNR=5.9						
NOA				LR	LR	10 25 39.6	
	comp=Z,29nm,21.1s,baz=185,slow=39						
DUG	**Dugway, Tooele**	**75.10**	**51**	*e*P	**P**	**09 48 39.6**	**+1.1**

ILAR	Eielson Array	88.09	13	P	P	09 56 44.3	-0.8
	0.6nm,0.6s,baz=219,slow=5.5,SNR=5.8						
PDAR	Pinedale Array	88.91	43	P	P	09 56 49.1	-0.6
	0.5nm,0.7s,baz=221,slow=3.6,SNR=3.8						
CMAR	Chiang Mai Arr	89.81	290	P	P	09 56 56.0	+1.8
	0.4nm,0.4s,baz=93,slow=4.9,SNR=3.5						
AKASG	Malin Array Be	142.66	331	PKhKP	PKPpre	10 03 20.3	
	0.9nm,0.4s,baz=40,slow=4.2,SNR=7.7						
BRTR	Keskin Array B	146.49	312	PKPbc	PKPbc	10 03 33.0	-0.5
	0.5nm,0.6s,baz=153,slow=5.0,SNR=3.1						
GERES	GERESS Array B	149.87	344	PKPbc	PKPbc	10 03 41.4	-0.2
	0.1nm,0.5s,baz=105,slow=1.1,SNR=4.4						

MAN 19 09:59:17.9, 6°72N×123°74E, h4km, mb3.8, ML2.6, MS2.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.71	45	⇑iP	Pg	09 59 32.0	+0.4
CTBH				i S	Sg	09 59 40.7	-0.1
SKMP	Bagumbayan, Su	0.82	104	eP	Pg	09 59 33.5	-0.2
SKMP				eS	Sg	09 59 44.0	-0.3
PAGZ	Pagadian	1.18	343	eP	Pb	09 59 40.9	0.0
PAGZ				eS	Sb	09 59 56.5	-0.1
IPIL	Ipil	1.57	313	eP	Pn	09 59 46.9	+0.3
IPIL				eS	Sb	10 00 07.8	-0.1
BUKP	Musuan	1.75	49	eP	Pn	09 59 49.8	+0.7
BUKP				eS	Sn	10 00 12.3	+0.4
DDMP	Don Marcelino,	2.05	107	eP	Pn	09 59 53.9	+0.7
DDMP				eS	Sn	10 00 19.4	+0.1

*DSN **19** 10:06:40.0±3.7, 26°92N×58°20E, h10km, ML3.6/6, Error ellipse: s-maj=61.4km s-min=15.5km az=175.0*
*TEH **19** 10:06:44.3, 26°82N×57°93E, h11km, ML3.6*
ISC 19 10:06:42.7±1.3, 26°86N±0°04×58°01E±0°09, h10km, n20, σ1§50/21, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	1.12	346	ePg	Pn	10 07 06.2	+1.7
JSK1	Jask	1.23	190	ePg	Pg	10 07 07.9	+1.6
NIAN	Nian	1.26	304	IAMB	IAmb	10 07 38.2	
NIAN	comp=Z,0.0nm,0.4s						
				ePg	Pg	10 07 08.7	+1.7
GENO	Geno	1.73	289	ePn	Pg	10 07 16.3	+0.4
SHME	Shamm	1.86	245	eP	Pn	10 07 14.1	-0.5
SHME	SNR=27						
				S	Sb	10 07 40.9	+0.7
SHME	Shamm	1.86	245	ePn	Pn	10 07 14.9	+0.2
MSFE	Esma-Masafi	2.24	229	eP	Pn	10 07 17.4	-2.4
MSFE	SNR=6.4						
				ePn	Pn	10 07 19.4	-0.4
HATD	Hatta, Dubai	2.64	220	eP	Pn	10 07 24.1	-1.2
HATD	SNR=8.6						
				ePn	Pn	10 07 26.8	+1.5
ASHO	Ashiyiah	2.79	220	eP	Pn	10 07 26.4	-1.1
ASHO	SNR=9.2						
				ePn	Pn	10 07 28.2	+0.7
NAZ	Nazwa, Dubai	2.82	229	ePn	Pn	10 07 30.1	+2.3
NGRK	Negar Kerman	3.00	338	ePn	Pb	10 07 36.8	+0.3
NGRK				IAMB	IAmb	10 07 43.3	
	comp=Z,0.0nm,0.2s						
CHMN	Cheshme madani	3.02	352	ePn	Pg	10 07 40.3	-0.4
CHMN				IAMB	IAmb	10 08 42.4	
	comp=N,0.0nm,0.9s						
FAQ	Al Faqa, Dubai	3.03	227	P	Pn	10 07 31.3	+0.6
FAQ	Al Faqa, Dubai	3.03	227	ePn	Pb	10 07 35.1	-1.6
ASUD	Al Ashush, Dub	3.29	228	P	Pn	10 07 34.9	+0.7
TVBK	TV Kerman	3.31	341	ePn	Pb	10 07 40.6	-1.1
TVBK				IAMB	IAmb	10 07 50.1	
	comp=Z,0.0nm,0.2s						
KHGB	Koh Gabri	3.76	339	ePn	Pb	10 07 46.2	-3.1
KHGB				IAMB	IAmb	10 08 52.9	
	comp=Z,0.0nm,0.7s						

*IDC **19** 10:18:18.1±0.7, 52°19N×160°42E, h0km, mb3.8/25, mb1 4.0/28, mb1mx3.9/61, mbtmp3.8/28, ML3.5/2, MS3.9/19, Ms1 3.9/19, ms1mx3.6/58, Error ellipse: s-maj=17.4km s-min=11.5km az=160.0*
*KRSC **19** 10:18:19.2±10.0, 52°05N×160°71E, h52km±10km, ML4.4*
*ISCJB **19** 10:18:21.8±0.6, 52°04N±0°03×160°55E±0°05, h47km±4km, mb4.1/50, MS3.9/17, Error ellipse: s-maj=6.5km s-min=4.2km az=141.0*
*MOS **19** 10:18:21.6±1.0, 52°06N×160°50E, h47km, mb4.4/21, Error ellipse: s-maj=7.6km s-min=4.2km az=106.2*
*NEIC **19** 10:18:24.3±2.9, 52°23N×160°20E, h35km±4km, mb4.4/26, Error ellipse: s-maj=13.9km s-min=12.3km az=83.0*
ISC 19 10:18:23.4±0.4, 52°12N±0°04×160°50E±0°04, h39km±3km, n194, σ1§49/218, mb4.2/50, MS3.9/17, 6C-6D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.03	344	eP	Pn	10 18 39.7	-1.6
SPN				eS	Sn	10 18 54.4	0.0
SPN	Mys Shipunski	1.03	344	PN	Pn	10 18 39.7	-1.6
SPN				S	Sn	10 18 54.4	0.0
RUS	Russkaya	1.26	285	eP	Pn	10 18 43.6	-0.9
RUS				eS	Sn	10 19 00.4	+0.2
RUS	Russkaya	1.26	285	PN	Pn	10 18 43.6	-0.9
RUS				S	Sn	10 19 00.4	+0.2
NLC	Nalytchevo	1.27	327	eP	Pn	10 18 44.5	-0.1
NLC				S	Sn	10 19 02.3	+1.9
NLC	Nalytchevo	1.27	327	PN	Pn	10 18 44.5	-0.1
NLC				S	Sn	10 19 02.3	+1.9
DALK	Dalny	1.41	311	eP	Pn	10 18 45.8	-0.7
DALK				S	Sn	10 19 04.7	+1.0
DALK	Dalny	1.41	311	PN	Pn	10 18 45.8	-0.7
DALK				S	Sn	10 19 04.7	+1.0
PET	Petropavlovsk	1.45	310	ePn	Pn	10 18 46.4	-0.6
PET	Petropavlovsk	1.45	310	eP	Pn	10 18 46.5	-0.6
PET				S	Sn	10 19 05.7	+0.9
PET	Petropavlovsk	1.45	310	⇑iPN	Pn	10 18 46.5	-0.6
PET				eS	Sn	10 19 05.6	+0.8
PET				pmax	pmax		
	comp=Z,2μm,2.7s						
PET				smax	smax		
	comp=N,2μm,0.9s						
PET				smax	smax		
	comp=E,3μm,0.9s						
MTVR	Mutnovka	1.47	285	eP	Pn	10 18 47.0	-0.5
MTVR				S	Sn	10 19 06.8	+1.3
MTVR	Mutnovka	1.47	285	PN	Pn	10 18 47.0	-0.5
MTVR				S	Sn	10 19 06.8	+1.3
UGLR	Uglovaya	1.50	318	eP	Pn	10 18 47.9	+0.1
UGLR				S	Sn	10 19 08.1	+1.9
UGLR	Uglovaya	1.50	318	PN	Pn	10 18 47.9	+0.1
UGLR				S	Sn	10 19 08.1	+1.9
SDLR	Sedlovina	1.52	320	eP	Pn	10 18 48.0	-0.2
SDLR				S	Sn	10 19 08.4	+1.5
SDLR	Sedlovina	1.52	320	PN	Pn	10 18 48.0	-0.2
SDLR				S	Sn	10 19 08.4	+1.5
KDTR	Khodutka, Kamc	1.53	259	eP	Pn	10 18 47.2	-0.9
KDTR				S	Sn	10 19 06.6	-0.2
KDTR	Khodutka, Kamc	1.53	259	PN	Pn	10 18 47.2	-0.9
KDTR				S	Sn	10 19 06.6	-0.2
SMAR	Somma	1.55	319	eP	Pn	10 18 48.4	-0.2
SMAR	Somma	1.55	319	PN	Pn	10 18 48.4	-0.2
GRL	Gorelyy	1.55	287	eP	Pn	10 18 48.9	+0.3
GRL	Gorelyy	1.55	287	PN	Pn	10 18 48.9	+0.3
AVH	Avacha	1.57	318	eP	Pn	10 18 49.1	+0.2
AVH				S	Sn	10 19 10.2	+2.2
AVH	Avacha	1.57	318	PN	Pn	10 18 49.1	+0.2
AVH				S	Sn	10 19 10.2	+2.2
KRER	Koryakskii	1.60	319	eP	Pn	10 18 49.5	+0.2
KRER				eS	Sn	10 19 11.8	+3.0
KRER	Koryakskii	1.60	319	PN	Pn	10 18 49.5	+0.2
KRER				S	Sn	10 19 11.8	+3.0
KRMR	Karymshinskiy	1.62	297	eP	Pn	10 18 48.9	-0.5
KRMR	Karymshinskiy	1.62	297	PN	Pn	10 18 48.9	-0.5
ASAK	Asacha	1.62	281	eP	Pn	10 18 49.5	0.0
ASAK				S	Sn	10 19 11.9	+2.7
ASAK	Asacha	1.62	281	PN	Pn	10 18 49.5	0.0
ASAK				S	Sn	10 19 11.9	+2.7
KOK	Koryaka	1.64	317	eP	Pn	10 18 49.9	+0.2
KOK	Koryaka	1.64	317	PN	Pn	10 18 49.9	+0.2
KRX	Arik	1.68	319	eP	Pn	10 18 50.2	-0.2
KRX				eS	Sn	10 19 12.1	+1.4
KRX	Arik	1.68	319	PN	Pn	10 18 50.2	-0.2
KRX				S	Sn	10 19 12.1	+1.4
PEA0B	Petropavlovsk-	1.98	301	ePn	Pn	10 18 54.6	+0.3
PEA0B	Petropavlovsk-	1.98	301	ePN	Pn	10 18 54.6	+0.3
PETK	Petropavlovsk-	1.98	301	ePn	Pn	10 18 54.0	-0.3
PETK	Petropavlovsk-	1.98	301	ePN	Pn	10 18 54.0	-0.3
PETK	Petropavlovsk-	1.98	301	Pn	Pn	10 18 53.5	-0.9
	comp=E,23nm,0.3s,baz=108,slow=19,SNR=225						
PETK				Sn	Sn	10 19 18.7	+0.9
	comp=E,25nm,0.3s,baz=133,slow=50,SNR=6.9						
PETK				LR	LR	10 19 53.0	
	comp=E,3μm,18.7s,baz=59,slow=50						
PEA1	Petropavlovsk-	1.98	301	ePn	Pn	10 18 53.5	-0.9
PEA1				eSn	Sn	10 19 18.7	+0.8
APC	Apacha	2.20	293	eP	Pn	10 18 58.0	+0.7
APC				eS	Sn	10 19 26.1	+2.9
APC	Apacha	2.20	293	PN	Pn	10 18 58.0	+0.7
APC				S	Sn	10 19 26.1	+2.9
PAU	Pauzhetka	2.38	256	eP	Pn	10 19 01.2	+1.4
PAU	Pauzhetka	2.38	256	PN	Pn	10 19 01.2	+1.4
MKZ	Mys Kozlova	2.56	16	eP	Pn	10 19 01.1	-1.1
MKZ	Mys Kozlova	2.56	16	PN	Pn	10 19 01.1	-1.1
KZV	Kizimen	3.01	358	eP	Pn	10 19 09.9	+1.3
KZV				eS	Sn	10 19 44.1	+0.7
KZV	Kizimen	3.01	358	PN	Pn	10 19 09.9	+1.3
KZV				S	Sn	10 19 44.1	+0.7
TUMD	Tumrok D	3.10	359	P	Pn	10 19 10.3	+0.6
SKR	Severo-Kuril's	3.10	244	eS	Sn	10 19 46.1	+0.7
SKR	Severo-Kuril's	3.10	244	ePN	Pn	10 19 07.6	-2.1
SKR				eS	Sn	10 19 43.2	-2.2
SKR				pmax	pmax		
	comp=Z,91nm,0.8s						
SKR				smax	smax		
	comp=N,612nm,1.2s						
SKR				smax	smax		
	comp=E,498nm,0.9s						
SKR				MLR	MLR		
	comp=Z,1μm,13.0s						
SKR				MLR	MLR		
	comp=Z,2μm,15.0s						
TUMR	Tumrok	3.18	356	PN	Pn	10 19 10.3	-0.7
ALID	Alaid	3.33	250	eP	Pn	10 19 14.2	+1.1
ALID	Alaid	3.33	250	PN	Pn	10 19 14.2	+1.1
BZGR	Bezymyannyi-Gr	3.83	2	eP	Pn	10 19 20.3	+0.4
BZGR	Bezymyannyi-Gr	3.83	2	PN	Pn	10 19 20.3	+0.4
ESO	Esso	3.96	345	eP	Pn	10 19 22.9	+1.3
ESO	Esso	3.96	345	PN	Pn	10 19 22.9	+1.3
KOZ	Kozyrevsk	3.97	355	eP	Pn	10 19 22.9	+1.2
KOZ	Kozyrevsk	3.97	355	PN	Pn	10 19 22.9	+1.2
SRDR	Sredinnyy	4.24	354	eP	Pn	10 19 26.6	+1.2
SRDR	Sredinnyy	4.24	354	PN	Pn	10 19 26.6	+1.2
KBTR	Krutoberegovo	4.32	17	eP	Pn	10 19 26.8	+0.3
KBTR	Krutoberegovo	4.32	17	PN	Pn	10 19 26.8	+0.3
BKI	Bering	4.49	44	eP	Pn	10 19 28.5	-0.3
BKI				eS	Sn	10 20 15.0	-4.7
BKI	Bering	4.49	44	PN	Pn	10 19 28.5	-0.3
MA2	Magadan	9.26	328	LR	LR	10 24 52.2	
	comp=Z,734nm,18.1s,baz=144,slow=43						
OKH	Okha	10.73	285	dePN	Pn	10 20 49.3	-4.9
OKH				MLR	MLR		
	comp=Z,1μm,14.0s						
SEY	Seymchan	11.68	341	⇓ePN	Pn	10 21 08.9	+1.7
SEY	Seymchan	11.68	341	Pn	Pn	10 21 07.3	+0.1
	baz=17,slow=19,SNR=2.5						
YSS	Yuzh-Sakhalins	12.62	253	ePN	Pn	10 21 19.3	-0.9
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
ASAJ	Asahikawa	14.36	243	Pn	Pn	10 21 42.7	-1.2
	comp=Z,0.3nm,0.3s,baz=49,slow=16,SNR=3.0						
ASAJ				LR	LR	10 28 13.0	
	comp=Z,325nm,19.3s,baz=28,slow=41						
BILL	Bilibino	16.22	8	ePn	P	10 22 11.0	+0.3
	comp=Z,7.4nm,0.9s						
BILL	Bilibino	16.22	8	eP	Pn	10 22 09.5	+1.5
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,345nm,19.0s						
TEY	Ternei	17.28	255	eP	Pn	10 22 09.4	-12
KLR	Kul'dur	18.40	272	P	P	10 22 34.1	-0.8
	comp=Z,0.1nm,0.3s,baz=56,slow=11,SNR=9.3						
KLR				LR	LR	10 30 25.5	
	comp=Z,308nm,19.9s,baz=72,slow=40						
YAK	Yakutsk	19.28	313	eP	P	10 22 41.6	-2.8
YAK				e*SS	S	10 26 14.7	-5.6
YAK				pmax	pmax		
	comp=E,88nm,1.1s						
YAK				pmax	pmax		
	comp=Z,168nm,1.0s						
YAK				pmax	pmax		
	comp=N,37nm,1.0s						
YAK				MLR	MLR		
	comp=Z,1μm,15.0s						
YAK				MLR	MLR		
	comp=E,1μm,14.0s						
YAK				MLR	MLR		
	comp=N,1μm,14.0s						
USRK	Ussuriysk Ar.	20.50	259	P	P	10 22 56.5	-1.3
	comp=N,7.7nm,1.0s,baz=56,slow=8.9,SNR=7.4						
USRK				LR	LR	10 30 57.0	
	comp=N,257nm,20.0s,baz=57,slow=37						
MJB9	Matsu-Tunnel	22.15	234	eP	P	10 23 15.0	-0.7
	comp=N,14nm,1.0s						
MAJO	Matsushiro	22.15	234	eP	P	10 23 15.3	-0.4
	comp=N,15nm,1.0s						
MAJO	Matsushiro	22.15	234	ceP	P	10 23 17.8	+2.1
MAJO				pmax	pmax		
	comp=Z,15nm,1.2s						
MAT	Matsushiro	22.15	234	P	P	10 23 17.2	+1.5
MJAR	Matsushiro Arr	22.15	234	eP	P	10 23 17.1	+1.4
MJAR	Matsushiro Arr	22.15	234	P	P	10 23 15.3	-0.4
	comp=Z,6.0nm,1.1s,baz=20,slow=9.7,SNR=13						
MJAR				LR	LR	10 32 24.6	
	comp=N,349nm,20.9s,baz=5.0,slow=38						
TIXI	Tiksi	24.08	336	eP	P	10 23 33.0	-1.6
	comp=Z,6.6nm,0.9s						
TIXI	Tiksi	24.08	336	⇓eP	P	10 23 33.4	-1.2
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BOD	Bodaibo	26.85	301	eP	P	10 23 54.0	-5.9
BOD				pmax	pmax		
	comp=Z,5.0nm,1.8s						
KSRS	Korea Array	27.10	250	P	P	10 24 02.2	-0.1
	comp=Z,2.3nm,1.0s,baz=40,slow=9.9,SNR=6.6						
KSRS				LR	LR	10 35 49.7	
	comp=Z,210nm,18.4s,baz=56,slow=39						
JNU	Nakatsue	28.60	240	LR	LR	10 37 38.2	
	comp=Z,109nm,19.1s,baz=36,slow=41						
TOLK	Toolik Lake Re	28.61	36	eP	P	10 24 17.5	+1.9
	comp=Z,2.2nm,1.1s						
SML	Sawmill	28.79	50	eP	P	10 24 17.4	+0.2
	comp=Z,19nm,1.5s						
SML	Sawmill	28.79	50	eP	P	10 24 17.4	+0.2
SML				pmax	pmax		
	comp=Z,19nm,1.5s						
ILAR	Eielson Array	29.34	44	P	P	10 24 21.6	-0.4
	comp=Z,0.3nm,0.7s,baz=269,slow=9.0,SNR=2.6						
BCAR	Beaver Creek A	31.70	47	eP	P	10 24 46.1	+3.2
H11N2	WAKE ISLAND Hy	32.70	169	T	T	10 59 38.4	
	baz=353,slow=74						
H11N3	WAKE ISLAND Hy	32.72	169	T	T	10 59 33.1	
	baz=353						
H11N1	WAKE ISLAND Hy	32.72	169	T	T	10 59 32.6	
	baz=353,slow=74						
ULN	Ulaanbaatar	33.97	285	⇑eP	P	10 25 00.7	-2.4
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONA0	Songino Array	34.38	285	eP	P	10 25 06.3	-0.3
SONM	Songino Array	34.38	285	P	P	10 25 06.3	-0.3
	comp=Z,0.3nm,0.3s,baz=56,slow=7.0,SNR=3.4						
SONM				LR	LR	10 40 34.6	
	comp=Z,603nm,18.4s,baz=75,slow=39						
INK	Inuvik	34.50	37	eP	P	10 25 08.6	+1.4
	comp=Z,2.1nm,1.0s						
INK	Inuvik	34.50	37	P	P	10 25 07.5	+0.4
	comp=Z,0.5nm,0.6s,baz=301,slow=7.0,SNR=2.9						
HHC	Hu-ho-hao-te	34.89	271	eP	P	10 25 10.4	-0.6
ZAK	Zakamensk	35.06	290	eP	P	10 25 09.8	-2.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
NJ2	Nanjing	36.19	253	eP	P	10 25 18.8	-3.3
NRIK	Noril'sk	36.85	326	LR	LR	10 42 01.7	
	comp=Z,537nm,18.2s,baz=52,slow=39						
WHN	Wuhan	39.95	256	P	P	10 25 57.1	+3.4
LZH	Lanzhou	42.59	271	eP	P	10 26 15.3	-0.3
LZH				pP	sP	10 26 31.4	+1.2
LZH				sP	pwP	10 26 37.9	+8.5
LZH				SS	SS	10 35 40.8	-5.4
ZAA1	Zalesovo Array	43.52	304	eP	P	10 26 23.1	+0.4
ZALV	Zalesovo Beam	43.52	304	eP	P	10 26 20.4	-2.3
ZALV	Zalesovo Beam	43.52	304	i P	P	10 26 22.1	-0.6
ZALV	Zalesovo Beam	43.52	304	P	P	10 26 23.1	+0.4
	comp=Z,0.5nm,0.3s,baz=65,slow=6.8,SNR=4.0						
ZALV				LR	LR	10 45 55.1	
	comp=Z,214nm,18.5s,baz=62,slow=38						
YKA	Yellowknife Ar	43.72	42	P	P	10 26 24.2	0.0
	comp=Z,0.4nm,1.0s,baz=295,slow=7.9,SNR=2.9						
YKB5	Yellowknife Ar	43.72	42	eP	P	10 26 24.2	0.0
NVS	Novosibirsk	43.88	306	eP	P	10 26 22.9	-2.7
RES	Resolute Bay	44.14	22	P	P	10 26 28.4	+0.9
	comp=Z,0.8nm,0.9s,baz=142,slow=22,SNR=3.5						
DGZ	Jazzator, Alta	44.33	297	⇑eP	P	10 26 28.2	-1.3
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CD2	Chengdu	46.13	266	eP	P	10 26 41.6	-2.2
WMQ	Urumqi	47.53	290	eP	P	10 26 55.6	+0.9
SPA0	Spitsbergen Ar	48.14	351	eP	P	10 26 59.8	+0.9
	comp=Z,32nm,1.3s						
SPITS	Spitsbergen Ar	48.14	351	P	P	10 26 59.0	+0.2
	comp=Z,1.3nm,0.4s,baz=67,slow=11,SNR=18						
KURK	Kurchatov	48.47	303	eP	P	10 26 59.8	-1.8
	comp=Z,7.0nm,0.9s						
KURK	Kurchatov	48.47	303	c i P	P	10 26 59.7	-2.0
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURBB	Kurchatov Arra	48.57	303	P	P	10 27 00.7	-1.8
	comp=Z,4.4nm,1.0s,baz=59,slow=7.7,SNR=16						
MK31	Makanchi Array	48.81	297	eP	P	10 27 03.0	-1.4
	comp=Z,1.6nm,1.0s						
MK32	Makanchi Array	48.81	297	eP	P	10 27 02.8	-1.6
MKAR	Makanchi Array	48.81	297	P	P	10 27 02.8	-1.6
	comp=Z,0.5nm,0.4s,baz=58,slow=9.1,SNR=6.9						
MKAR				LR	LR	10 48 56.4	
	comp=Z,172nm,18.7s,baz=40,slow=38						
KMI	Kunming	50.91	261	P	P	10 27 22.1	+1.3
BVAR	Borovoye Array	51.20	309	P	P	10 27 20.6	-1.8
	comp=Z,1.4nm,0.6s,baz=81,slow=8.9,SNR=9.8						
BRVK	Borovoye	51.23	309	eP	P	10 27 21.7	-0.9
	comp=Z,4.7nm,0.9s						
BRVK	Borovoye	51.23	309	d i P	P	10 27 21.4	-1.2
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FCC	Fort Churchill	54.09	38	eP	P	10 27 47.0	+3.3
	comp=Z,5.8nm,1.3s						
FCC	Fort Churchill	54.09	38	eP	P	10 27 47.0	+3.3
FCC				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ARU	Arti	54.29	318	eP	P	10 27 44.7	-0.4
	comp=Z,6.5nm,1.2s						
ARU	Arti	54.29	318	⇓eP	P	10 27 44.5	-0.6
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	Arti	54.29	318	P	P	10 27 44.2	-0.9
	comp=Z,0.6nm,0.3s,baz=38,slow=2.9,SNR=3.5						
ARA0	ARCESS Array S	54.30	342	eP	P	10 27 45.0	-0.1
ARCES	ARCESS Array B	54.30	342	P	P	10 27 45.0	-0.1
ARCES	ARCESS Array B	54.30	342	P	P	10 27 45.0	-0.1
	comp=Z,4.0nm,0.9s,baz=42,slow=9.6,SNR=4.5						
PRGR	Permogore	55.40	328	eP	P	10 27 50.7	-2.4
PRGR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AAK	Ala-Archa	55.74	297	eP	P	10 27 54.2	-1.8
	comp=Z,6.3nm,1.4s						
AAK	Ala-Archa	55.74	297	⇑eP	P	10 27 54.7	-1.3
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	Ala-Archa	55.74	297	LR	LR	10 52 37.9	
	comp=Z,66nm,19.3s,baz=34,slow=37						
NV01	Mina Array Sit	55.85	70	eP	P	10 27 57.1	+0.2
NVAR	Mina Array Bea	55.85	70	P	P	10 27 57.1	+0.2
	comp=Z,0.2nm,0.5s,baz=308,slow=10,SNR=1.9						
KSH	Kashi	57.02	293	P	P	10 28 07.1	+2.0
PD31	Pinedale Array	57.79	61	eP	P	10 28 13.5	+2.8
	comp=Z,4.7nm,1.5s						
PDAR	Pinedale Array	57.79	61	eP	P	10 28 13.7	+3.0
PDAR	Pinedale Array	57.79	61	P	P	10 28 10.2	-0.5
	comp=Z,0.6nm,0.8s,baz=350,slow=3.6,SNR=5.1						
CMAR	Chiang Mai Arr	58.23	259	i P	P	10 28 15.3	+1.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	Chiang Mai Arr	58.23	259	P	P	10 28 14.6	+0.8
	comp=Z,0.7nm,0.4s,baz=20,slow=7.6,SNR=9.9						
CMAR				LR	LR	10 55 38.2	
	comp=Z,94nm,19.9s,baz=245,slow=38						
ABKAR	Akbulak array	58.62	311	eP	P	10 28 15.7	-0.3
	comp=Z,2.6nm,0.9s						
GAR	Garm	60.54	296	eP	P	10 28 28.8	-0.8
	comp=Z,9.3nm,1.1s						
GAR	Garm	60.54	296	eP	P	10 28 28.8	-0.8
GAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
FIA1	FINESS Array S	61.12	337	eP	P	10 28 33.4	+0.4
	comp=Z,17nm,1.3s						
FIA0	FINESS Array S	61.12	337	eP	P	10 28 32.9	-0.1
FINES	FINESS Array B	61.12	337	eP	P	10 28 33.9	+0.9
FINES	FINESS Array B	61.12	337	i P	P	10 28 33.5	+0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	FINESS Array B	61.12	337	P	P	10 28 32.9	-0.1
	comp=Z,1.6nm,0.4s,baz=37,slow=7.1,SNR=15						
FINES				LR	LR	10 58 43.7	
	comp=Z,94nm,19.4s,baz=26,slow=40						
OGNE	Ogallala	63.05	57	eP	P	10 28 49.7	+3.3
	comp=Z,14nm,0.9s						
OBN	Obninsk	63.48	328	eP	P	10 28 46.9	-1.9
OBN				e		10 29 28.0	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NB2	NOR

comp=Z,1.1nm,1.0s,baz=20,slow=4.1,SNR=6.8
BRTR LR LR 11 09 59.3
comp=Z,62nm,19.7s,baz=34,slow=40
MDUB Mudurnu 77.82 323 *e*P **P 10 30 18.2 +1.7**
comp=Z,33nm,0.4s
DAVOX Davos/Dischmat 78.31 340 LR LR 11 10 33.0
comp=Z,68nm,18.6s,baz=24,slow=40
ASAR Alice Springs 78.97 205 *e*P **P 10 30 25.4 +2.6**
ASAR Alice Springs 78.97 205 *p*P **P 10 30 24.8 +1.9**
comp=Z,0.3nm,1.0s,baz=15,slow=5.5,SNR=5.1
GO06 Curarrehue 142.49 92 *e*PKPpre PKPpre 10 37 47.6

KRSC 19 10:21:12.6±10.0, 52°.07N×160°.63E, h56km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.09**	**340**	*e*P	Pn	10 21 33.0	+1.3
SPN				*e*S	Sn	10 21 46.0	+0.1
NLC	**Nalytchevo**	**1.35**	**325**	P	Pn	10 21 38.0	+2.9
NLC				S	Sn	10 21 55.7	+3.7
RUS	**Russkaya**	**1.35**	**286**	P	Pn	10 21 36.4	+1.2
RUS				S	Sn	10 21 52.9	+0.8
DALK	**Dalny**	**1.50**	**311**	P	Pn	10 21 38.5	+1.4
DALK				S	Sn	10 21 56.7	+1.2
MTVR	**Mutnovka**	**1.56**	**286**	*e*P	Pn	10 21 39.8	+1.7
MTVR				*e*S	Sn	10 21 58.5	+1.1
UGLR	**Uglovaya**	**1.58**	**317**	P	Pn	10 21 41.3	+2.9
UGLR				S	Sn	10 22 01.7	+3.8
KDTR	**Khodutka, Kamc**	**1.60**	**262**	S	Sn	10 21 57.4	-0.8
SDLR	**Sedlovina**	**1.61**	**319**	P	Pn	10 21 42.2	+3.4
AVH	**Avacha**	**1.66**	**317**	P	Pn	10 21 42.8	+3.4
KRMR	**Karymshinskiy**	**1.71**	**297**	*e*P	Pn	10 21 41.9	+1.9
KRMR				S	Sn	10 22 03.4	+2.7
ASAK	**Asacha**	**1.71**	**282**	*e*P	Pn	10 21 43.0	+2.9
ASAK				S	Sn	10 22 04.4	+3.5
MKZ	**Mys Kozlova**	**2.57**	**14**	P	Pn	10 21 53.5	+1.8
MKZ				S	Sn	10 22 23.3	+1.5
KBTR	**Krutoberegovo**	**4.34**	**16**	P	Pn	10 22 19.7	+3.8

IDC 19 10:23:41.2±7.0, 36°.38N×70°.39E, h101km±43km, mb2.9/2, mb1 3.2/4, mb1mx2.9/57, mbtmp3.6/4, Error ellipse: s-maj=84.9km s-min=20.7km az=153.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.01**	**26**	P	Pn	10 25 21.6	+0.2
	1.6nm,0.3s,baz=194,slow=5.8,SNR=12						
AAK				S	Sn	10 26 40.0	+0.4
	0.4nm,0.3s,baz=315,slow=19,SNR=5.8						
GEYT	**Alibeck**	**9.92**	**283**	P	Pn	10 26 01.1	+0.3
	0.9nm,0.3s,baz=97,slow=12,SNR=4.5						
GEYT				S	Sn	10 27 50.5	+0.2
	0.4nm,0.3s,baz=104,slow=6.1,SNR=3.4						
ZALV	**Zalesovo Beam**	**20.23**	**25**	P	P	10 28 07.9	-0.1
	1.4nm,0.4s,baz=220,slow=11,SNR=5.9						
YKA	**Yellowknife Ar**	**81.39**	**2**	P	P	10 35 46.4	+0.1
	0.1nm,0.5s,baz=352,slow=5.3,SNR=3.0						

MAN 19 10:27:00.4, 5°.88N×124°.75E, h26km, mb3.8, ML2.6, MS2.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.67**	**342**	*e*P	Pb	10 27 12.1	-1.4
SKMP				*e*S	Sb	10 27 19.6	-2.7
DDMP	**Don Marcelino,**	**0.98**	**77**	*e*P	Pn	10 27 18.3	-0.2
DDMP				*e*S	Sb	10 27 31.3	0.0
CTBH	**Cotabato--PC H**	**1.42**	**339**	⇓*i*P	Pn	10 27 25.3	+0.8
CTBH				*i*S	Sn	10 27 42.1	-0.3
BUKP	**Musuan**	**2.01**	**9**	*e*P	Pn	10 27 34.0	+1.3
BUKP				*e*S	Sn	10 27 58.1	+1.2
BESP	**Borongan**	**5.72**	**7**	*e*P	Pn	10 28 25.1	+1.4

MAN 19 10:27:58.7, 10°.64N×125°.73E, h214km, mb4.3, ML3.1, MS2.8, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.89**	**196**	⇑*e*P	Pn	10 28 30.4	+1.1
PLP	**Palo**	**0.90**	**305**	⇓*e*P	Pn	10 28 25.9	-3.5
PLP				*e*S	S	10 28 47.9	-5.3
MSLP	**Maasin**	**1.00**	**240**	*e*P	Pn	10 28 29.4	-0.5
MSLP				*e*S	S	10 28 54.1	0.0
OCLP	**Ormoc**	**1.18**	**290**	*e*P	Pn	10 28 32.1	+0.9
OCLP				*e*S	S	10 28 57.5	+1.3
CNP	**Cataman**	**2.13**	**331**	*e*P	Pn	10 28 39.9	+0.3
CNP				*e*S	S	10 29 11.8	+0.5

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*SJA **19** 10:33:44.0±0.5, 22°.49S×68°.25W, h169km±10km, ML2.4, MW3.4*
*IDC **19** 10:33:54.7±0.9, 22°.68S×68°.34W, h101km±8km, mb3.6/4, mb1 3.8/7, mb1mx3.5/28, mbtmp4.0/7, Error ellipse: s-maj=27.8km s-min=20.7km az=123.0*
ISC 19 10:33:55.1±0.8, 22°.56S±0°.08×68°.58W±0°.10, h107km, n16, σ2§27/17, mb3.9/4, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.30**	**261**	P	**Pn**	**10 34 10.1**	**-0.9**
	819nm,0.3s,baz=58,slow=3.3,SNR=116						
LVC				S	**Sn**	**10 34 25.3**	**+2.4**
	701nm,0.3s,baz=294,slow=22,SNR=73						
PB15	**IPOC Station P**	**1.04**	**232**	*i*P	**Pn**	**10 34 14.1**	**-2.6**
PB15				*i*S	**Sn**	**10 34 36.7**	**+3.7**
PB03	**IPOC Station P**	**1.20**	**295**	*i*P	**Pn**	**10 34 15.3**	**-3.1**
PB03				*i*S	**Sn**	**10 34 38.7**	**+2.7**
PB07	**IPOC Station P**	**1.47**	**304**	*i*P	**Pn**	**10 34 18.1**	**-3.4**
HJA	**Humahuaca**	**3.00**	**103**	*i*P	Pn	10 34 30.3	-11
HJA				IAML		10 35 03.7	
	comp=Z,10nm,0.6s						
AZAP	**Zapla**	**3.63**	**118**	*i*P	Pn	10 34 38.7	-11
LPAZ	**La Paz**	**6.26**	**4**	P	**Pn**	**10 35 27.9**	**+2.4**
	comp=Z,9.3nm,0.3s,baz=194,slow=3.3,SNR=206						
SIV	**San Ignacio**	**9.64**	**49**	P	**Pn**	**10 36 09.3**	**-1.7**
	comp=Z,2.7nm,0.3s,baz=244,slow=9.0,SNR=33						
SIV				S	Sn	10 37 49.8	-7.7
	comp=Z,0.9nm,0.3s,baz=142,slow=22,SNR=8.0						
PLCA	**Paso Flores**	**18.19**	**185**	P	**Pn**	**10 37 58.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=32,slow=11,SNR=5.9						
PTGA	**Pitinga**	**23.26**	**22**	P	**P**	**10 38 53.3**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=196,slow=18,SNR=6.9						
TXAR	**Lajitas Array**	**61.67**	**325**	P	**P**	**10 44 03.1**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=134,slow=7.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**77.43**	**70**	P	**P**	**10 45 38.5**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=262,slow=5.4,SNR=16						
YKA	**Yellowknife Ar**	**92.28**	**340**	P	**P**	**10 46 53.4**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=137,slow=4.5,SNR=19						
ASAR	**Alice Springs**	**129.11**	**207**	PKP	**PKiKP**	**10 52 51.6**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=148,slow=3.5,SNR=4.6						
WRA	**Warramunga Arr**	**132.19**	**210**	PKP	**PKiKP**	**10 52 57.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=165,slow=2.6,SNR=6.2						
MKAR	**Makanchi Array**	**146.30**	**37**	PKPbc	**PKPbc**	**10 53 23.6**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=328,slow=2.8,SNR=11						

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*NEIC **19** 10:34:40.4±0.9, 25°.90S×178°.92W, h185km±8km, mb4.5/8, Error ellipse: s-maj=30.2km s-min=18.6km az=140.0*
*IDC **19** 10:34:42.0±7.8, 25°.84S×179°.27W, h178km±76km, mb3.8/5, mb1 3.8/7, mb1mx3.4/35, mbtmp4.3/7, Error ellipse: s-maj=48.7km s-min=40.1km az=79.0*
ISC 19 10:34:41.5±0.7, 26°.03S±0°.08×178°.7W±0°.1, h200km, n27, σ1§67/26, mb4.2/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.28**	**168**	*e*Pn	**Pn**	**10 35 36.2**	**+1.8**
OUZ	**Omahuta**	**11.29**	**214**	*e*Pn	**Pn**	**10 37 19.1**	**+1.8**
URZ	**Urewera**	**12.69**	**195**	*e*P	**P**	**10 37 39.4**	**+0.7**
URZ	**Urewera**	**12.69**	**195**	P	**P**	**10 37 37.7**	**-0.9**
	0.8nm,0.3s,baz=273,slow=3.9,SNR=16						
URZ				S	**Sn**	**10 39 54.8**	**-1.6**
	1.5nm,0.3s,baz=93,slow=23,SNR=14						
BKZ	**Black Stump Fm**	**13.70**	**196**	*e*Pn	**P**	**10 37 51.3**	**+1.4**
RPZ	**Rata Peaks**	**19.50**	**203**	P	**P**	**10 38 54.7**	**+1.2**
	0.3nm,0.3s,baz=32,slow=9.5,SNR=2.6						
WHZ	**Wether Hill Ro**	**22.51**	**205**	*e*P	**P**	**10 39 24.5**	**+0.3**
	28nm,1.5s						
EIDS	**Eidsvold**	**27.19**	**265**	*e*P	**P**	**10 40 09.1**	**+2.4**
	16nm,1.5s						
CTAO	**Charters Tower**	**32.70**	**273**	*e*P	**P**	**10 40 56.5**	**+1.2**
	12nm,1.4s						
STKA	**Stephens Creek**	**35.07**	**251**	P	**P**	**10 41 15.4**	**-0.1**
	0.5nm,0.3s,baz=97,slow=16,SNR=2.9						
AS31	**Alice Springs**	**42.87**	**263**	*e*P	**P**	**10 42 19.5**	**-1.0**
	0.8nm,0.6s						
ASAR	**Alice Springs**	**42.87**	**263**	P	**P**	**10 42 19.1**	**-1.3**
	0.9nm,0.3s,baz=96,slow=7.2,SNR=65						
WB2	**Warramunga Arr**	**43.45**	**268**	*e*P	**P**	**10 42 24.1**	**-0.9**
	9.3nm,1.4s						
WR1	**Warramunga Arr**	**43.46**	**268**	*e*P	**P**	**10 42 23.3**	**-1.8**
WRA	**Warramunga Arr**	**43.46**	**268**	P	**P**	**10 42 23.3**	**-1.8**
	0.8nm,0.3s,baz=101,slow=7.6,SNR=29						
FORT	**Forrest**	**46.70**	**251**	*e*P	**P**	**10 42 50.2**	**-0.2**
	16nm,0.8s						
HUH	**Hualalai**	**50.59**	**28**	*e*P	**P**	**10 43 20.3**	**-0.1**
	122nm,1.3s						
FITZ	**Fitzroy Crossi**	**51.85**	**267**	P	**P**	**10 43 28.8**	**-0.8**
	1.4nm,0.5s,baz=102,slow=3.0,SNR=6.6						
GUMO	**Guam**	**52.98**	**314**	P	**P**	**10 43 37.1**	**-0.7**
	25nm,0.7s,baz=340,slow=16,SNR=3.6						
SNAA	**Sanae**	**82.52**	**179**	Pdiff	P	10 46 35.2	-6.3
VNA3	**Neumayer Olymp**	**82.69**	**176**	Pdiff	**P**	**10 46 38.2**	**-4.1**
ARVC	**Arvin**	**83.11**	**46**	*e*P	**P**	**10 46 45.7**	**+0.8**
VNA2	**Neumayer--Watz**	**83.12**	**177**	Pdiff	**P**	**10 46 40.8**	**-3.7**
VNA1	**Neumayer--Stat**	**83.35**	**177**	Pdiff	P	10 46 40.4	-5.1
GLK	**Glacier Lake**	**88.79**	**35**	*e*P	**P**	**10 47 13.7**	**+1.1**
BR101	**Keskin Array S**	**149.77**	**305**	*e*PKPbc	**PKiKP**	**10 54 09.5**	**+0.7**
BRTR	**Keskin Array B**	**149.77**	**305**	PKPbc	**PKiKP**	**10 54 09.5**	**+0.7**
	0.6nm,0.5s,baz=107,slow=3.5,SNR=3.6						

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*ATH **19** 10:37:49.9, 36°.85N×26°.67E, h29km±3km, ML2.5/3, Error ellipse: s-maj=3.0km s-min=1.4km az=11.0*
*THE **19** 10:37:50.4, 36°.87N×26°.67E, h7km±4km, ML2.4/4, Error ellipse: s-maj=4.8km s-min=0.6km az=133.0*
*ISK **19** 10:37:50.3, 36°.89N×26°.67E, h14km, ML2.5/11*
*ISCJB **19** 10:37:51.2±0.4, 36°.85N±0°.03×26°.68E±0°.03, h20km±8km, Error ellipse: s-maj=5.5km s-min=3.8km az=166.9*
*DDA **19** 10:37:51.0, 36°.91N×26°.71E, h7km±4km, ML2.8*
ISC 19 10:37:50.5±0.9, 36°.87N±0°.03×26°.67E±0°.02, h17km±9km, n30, σ0§79/44, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.45**	**125**	P	**Pg**	**10 37 59.6**	**+0.1**
NISR				S	**Sg**	**10 38 05.8**	**+0.3**
NISR	**Nisiros**	**0.45**	**125**	P	**Pg**	**10 37 59.7**	**+0.3**
NISR				S	**Sg**	**10 38 05.9**	**+0.3**
NISR				AML	AML	10 38 06.8	
	comp=N,1100μm,0.2s						
NISR				AML	AML	10 38 07.0	
	comp=E,1687μm,0.2s						
BODT	**Bodrum**	**0.54**	**69**	PG	**Pg**	**10 38 01.2**	**-0.1**
BODT				SG	**Sb**	**10 38 09.4**	**+0.3**
BODT	**Bodrum**	**0.54**	**69**	P	**Pg**	**10 38 01.2**	**-0.1**
BODT				S	**Sb**	**10 38 09.4**	**+0.3**
AMGA	**Amorgos Island**	**0.63**	**267**	P	**Pg**	**10 38 02.4**	**-0.4**
AMGA				S	**Sb**	**10 38 11.5**	**0.0**
AMGA	**Amorgos Island**	**0.63**	**267**	P	**Pg**	**10 38 02.4**	**-0.4**
AMGA				S	**Sg**	**10 38 11.3**	**+0.1**
AMGA				AML	AML	10 38 14.2	
	comp=E,505μm,0.2s						
AMGA				AML	AML	10 38 14.6	
	comp=N,960μm,0.4s						
BDRM	**Kayabasi**	**0.65**	**72**	IAML_P			
	comp=Z,2μm,0.2s						
BDRM				*i*P	**Pn**	**10 38 04.5**	**-0.3**
BDRM				*i*S	**Sb**	**10 38 12.4**	**+0.3**
DAT	**Datca**	**0.74**	**101**	PG	**Pb**	**10 38 05.3**	**+0.3**
DAT				SG	**Sb**	**10 38 15.9**	**+1.1**
DAT	**Datca**	**0.74**	**101**	IAML_P			
	comp=Z,1μm,0.2s						
DAT				*i*P	**Pb**	**10 38 05.6**	**+0.6**
SMG	**Samos**	**0.85**	**9**	P	**Pb**	**10 38 06.8**	**+0.1**
SMG				S	**Sb**	**10 38 18.6**	**+0.8**
SMG	**Samos**	**0.85**	**9**	P	**Pb**	**10 38 06.8**	**+0.1**
ANAF	**Anafi Island**	**0.89**	**235**	P	**Pb**	**10 38 07.1**	**-0.4**
ANAF				S	**Sg**	**10 38 19.6**	**+0.2**
ANAF	**Anafi Island**	**0.89**	**235**	P	**Pb**	**10 38 07.0**	**-0.4**
ANAF				S	**Sg**	**10 38 19.9**	**+0.4**
ANAF				AML	AML	10 38 23.6	
	comp=E,1140μm,0.3s						
ANAF				AML	AML	10 38 23.9	
	comp=N,914μm,0.3s						
APE	**Apeiranthos**	**0.94**	**282**	PG	**Pg**	**10 38 08.7**	**0.0**
APE				SG	**Sn**	**10 38 22.2**	**+0.2**
APE	**Apeiranthos**	**0.94**	**282**	P	**Pb**	**10 38 07.9**	**-0.4**
APE				S	**Sn**	**10 38 22.5**	**+0.5**
GCAM	**G?zelcaml?**	**0.94**	**28**	PG	**Pn**	**10 38 08.8**	**-0.1**
GCAM				SG	**Sn**	**10 38 22.4**	**+0.4**
GCAM	**G?zelcaml?**	**0.94**	**28**	IAML_P			
	comp=Z,686nm,0.1s						
GCAM				*i*P	**Pn**	**10 38 09.4**	**+0.5**
THR3	**Thira Island,**	**1.12**	**246**	P	**Pn**	**10 38 11.8**	**+0.4**
THR3	**Thira Island,**	**1.12**	**246**	P	**Pn**	**10 38 11.7**	**+0.4**
BBRN	**Bozburun-Marma**	**1.13**	**99**	PN	**Pg**	**10 38 12.3**	**0.0**
AYDN	**Tasoluk**	**1.24**	**50**	IAML_P			
	comp=Z,695nm,0.1s						
AYDN				*i*P	**Pb**	**10 38 13.5**	**0.0**
KARP	**Karpathos**	**1.38**	**163**	PN	**Pn**	**10 38 15.7**	**+0.7**
KARP	**Karpathos**	**1.38**	**163**	P	**Pn**	**10 38 14.5**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**42**	PN	**Pn**	**10 38 16.4**	**+0.4**
URLA	**Izmir**	**1.49**	**358**	PN	**Pb**	**10 38 17.2**	**-0.5**
URLA	**Izmir**	**1.49**	**358**	*i*P	**Pg**	**10 38 18.1**	**-1.0**
TURN	**Turunc**	**1.55**	**89**	PN	**Pn**	**10 38 13.9**	**-3.3**
TURN	**Turunc**	**1.55**	**89**	IAML_P			
	comp=Z,954nm,0.2s						
TURN				*i*P	**Pn**	**10 38 14.7**	**-2.6**
CHOS	**Chios island**	**1.59**	**342**	PN	**Pn**	**10 38 18.4**	**+0.4**
ZKR	**Zakros**	**1.79**	**192**	PN	**Pb**	**10 38 22.2**	**-0.6**

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*IDC **19** 10:44:34.0±1.2, 0°.09S×126°.09E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.7/46, mbtmp4.0/7, ML4.0/1, Error ellipse: s-maj=79.2km s-min=17.2km az=62.0*
*ISCJB **19** 10:44:38.1±0.5, 0°.31S±0°.06×125°.88E±0°.05, h44km, mb3.9/6, Error ellipse: s-maj=8.3km s-min=6.5km az=178.9*
*DJA **19** 10:44:38.4±1.4, 0°.S±4°.×12°.6E±°, h31km±21km, M4.1/10, mb4.3/4, MLv4.0/10*
ISC 19 10:44:40.0±0.8, 0°.28S±0°.06×125°.93E±0°.05, h44km, n16, σ1§57/19, mb4.0/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.76**	**178**	P	**Pn**	**10 45 06.2**	**-1.8**
TNTI	**Ternate**	**1.78**	**54**	P	**Pn**	**10 45 06.8**	**-1.5**
TNTI				S	**Sn**	**10 45 29.7**	**0.0**
KMSI	**Cibinong**	**2.13**	**294**	P	**Pn**	**10 45 12.0**	**-1.0**
KMSI				S	**Sn**	**10 45 38.0**	**-0.3**
LUWI	**Luwuk**	**3.25**	**257**	P	**Pn**	**10 45 30.0**	**+1.6**
MRSI	**Marisa**	**4.06**	**281**	P	**Pn**	**10 45 36.5**	**-3.1**
APSI	**Ampana**	**4.33**	**262**	P	**Pn**	**10 45 41.2**	**-2.1**
MPSI	**Mapaga**	**6.06**	**276**	P	**Pn**	**10 46 08.4**	**+1.3**
TTSI	**Tana Toraja**	**6.70**	**246**	P	**Pn**	**10 46 14.0**	**-1.8**
SPSI	**Sidrap Palu**	**7.16**	**239**	P	**Pn**	**10 46 19.9**	**-2.3**
FITZ	**Fitzroy Crossi**	**17.71**	**181**	P	**Pn**	**10 48 42.9**	**-0.5**
	0.3nm,0.3s,baz=351,slow=6.1,SNR=12						
WRA	**Warramunga Arr**	**21.20**	**158**	P	**P**	**10 49 22.2**	**+0.1**
	4.9nm,0.5s,baz=339,slow=12,SNR=87						
ASAR	**Alice Springs**	**24.50**	**162**	P	**P**	**10 49 56.9**	**+1.5**
	2.7nm,0.8s,baz=342,slow=11,SNR=33						
ASAR				PcP	**PcP**	**10 53 34.3**	**+1.0**
	0.2nm,0.4s,baz=347,slow=2.0,SNR=5.2						
CMAR	**Chiang Mai Arr**	**32.41**	**307**	P	**P**	**10 51 05.8**	**-0.2**
	0.4nm,0.3s,baz=133,slow=7.5,SNR=4.5						
STKA	**Stephens Creek**	**34.74**	**156**	P	**P**	**10 51 27.6**	**+1.5**
	1.1nm,0.5s,baz=315,slow=5.7,SNR=5.2						
MKAR	**Makanchi Array**	**60.42**	**327**	P	**P**	**10 54 44.6**	**-0.4**
	0.5nm,0.4s,baz=121,slow=6.9,SNR=7.4						
AKTO	**Aktyubinsk**	**76.31**	**322**	P	**P**	**10 56 24.6**	**+0.3**
	1.1nm,0.4s,baz=98,slow=8.5,SNR=5.8						

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*MEX **19** 10:48:01.3±0.7, 16°.77N×93°.81W, h101km±13km, MD4.0*
NEIC 19 10:48:00.4±0.0, 17°.23N×93°.70W, h104km, MD4.0(MEX), After MEX., Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.14**	**263**	*e*Pn	Pn	10 48 21.5	-1.1
CMIG				*e*Sn	Sn	10 48 37.6	-1.7
CMIG	**Matias Romero**	**1.14**	**263**	*e*P	Pn	10 48 21.4	-1.2
CMIG				*e*S	Sn	10 48 37.4	-2.0
PCIG		**1.58**	**163**	*e*Pn	Pn	10 48 22.6	-5.3
PCIG				*e*Sn	Sn	10 48 39.9	-8.9
PCIG		**1.58**	**163**	*e*P	Pn	10 48 22.4	-5.5
PCIG				*e*S	Sn	10 48 39.9	-8.9
CCIG	**Comitan**	**1.77**	**122**	*e*Pn	Pn	10 48 28.6	-1.8
CCIG				*e*Sn	Sn	10 48 50.8	-2.4
CCIG	**Comitan**	**1.77**	**122**	*e*P	Pn	10 48 28.9	-1.5
CCIG				*i*S	Sn	10 48 49.7	-3.5
TLIG	**Tlapa**	**4.66**	**275**	*e*Pn	Pn	10 49 08.4	-0.2
TEIG	**Tepich**	**5.95**	**59**	*e*Pn	Pn	10 49 28.7	+2.7
TGUH	**Tegucigalpa,Un**	**6.95**	**116**	*e*Pn	Pn	10 49 36.1	-3.5
LNIG	**Linares**	**9.34**	**326**	*e*Pn	Pn	10 50 12.3	+0.3

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*SJA **19** 10:50:06.7±0.3, 21°.24S×68°.95W, h156km±4km, ML2.6, MW3.9*
*ISCJB **19** 10:50:09.5±1.0, 21°.27S±0°.03×68°.9W±0°.1, h129km±12km, Error ellipse: s-maj=17.5km s-min=5.3km az=5.7*
*GUC **19** 10:50:10.1±0.6, 21°.26S×68°.90W, h126km±5km, ML3.1*
ISC 19 10:50:09.9±1.9, 21°.26S±0°.04×68°.91W±0°.10, h127km±18km, n17, σ0§68/31, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.58**	**292**	⇑*i*P	**Pn**	**10 50 28.7**	**-0.6**
PB01				*i*S	**Sn**	**10 50 43.1**	**-0.7**
PB01				IAML		10 50 43.7	
	comp=E,938nm,0.2s						
PB02	**IPOC Station P**	**0.93**	**266**	*i*P	**Pn**	**10 50 31.8**	**-0.2**
PB02				*i*S	**Sn**	**10 50 50.5**	**+1.9**
PB02	**IPOC Station P**	**0.93**	**266**	⇑*i*P	**Pn**	**10 50 31.9**	**0.0**
PB02				*i*S	**Sn**	**10 50 48.2**	**-0.5**
PB02				IAML		10 50 50.8	
	comp=E,618nm,0.5s						
PB07	**IPOC Station P**	**1.02**	**243**	*i*P	**Pn**	**10 50 32.7**	**-0.2**
PB07	**IPOC Station P**	**1.02**	**243**	⇑*i*P	**Pn**	**10 50 32.8**	**-0.1**
PB07				*i*S	**Sn**	**10 50 50.0**	**-0.4**
PB07				IAML		10 50 51.3	
	comp=N,374nm,0.3s						
PB03	**IPOC Station P**	**1.11**	**225**	*i*P	**Pn**	**10 50 33.7**	**-0.1**
PB03				*i*S	**Sn**	**10 50 53.7**	**+1.8**
PB03	**IPOC Station P**	**1.11**	**225**	⇑*i*P	**Pn**	**10 50 33.7**	**-0.1**
PB03				*i*S	**Sn**	**10 50 51.2**	**-0.7**
PB03				IAML		10 50 51.7	
	comp=E,294nm,0.1s						
PB08	**IPOC Station P**	**1.14**	**348**	*i*P	**Pn**	**10 50 34.2**	**-0.1**
PB08				*i*S	**Sn**	**10 50 54.3**	**+1.5**
PB08	**IPOC Station P**	**1.14**	**348**	⇑*i*P	**Pn**	**10 50 34.2**	**-0.1**
PB08				*i*S	**Sn**	**10 50 52.9**	**+0.1**
PB08				IAML		10 50 53.7	
	comp=E,241nm,0.2s						
PB06	**IPOC Station P**	**1.56**	**203**	⇑*i*P	**Pn**	**10 50 38.7**	**0.0**
PB06				*i*S	**Sn**	**10 51 00.3**	**-0.3**
PB06				IAML		10 51 01.7	
	comp=N,139nm,0.2s						
PB04	**IPOC Station P**	**1.57**	**227**	⇑*e*P	**Pn**	**10 50 38.7**	**-0.1**
PB04				*i*S	**Sn**	**10 51 00.6**	**-0.2**
PB04				IAML		10 51 04.0	
	comp=N,149nm,0.2s						
GO01	**Chusmiza**	**1.61**	**350**	⇑*e*P	**Pn**	**10 50 39.5**	**-0.1**
GO01				*i*S	**Sn**	**10 51 02.6**	**+0.5**
GO01				IAML		10 51 03.6	
	comp=N,312nm,0.1s						
PB11	**IPOC Station P**	**1.65**	**335**	*i*P	**Pn**	**10 50 39.0**	**-0.8**
PB11	**IPOC Station P**	**1.65**	**335**	⇑*i*P	**Pn**	**10 50 39.5**	**-0.2**
PB11				*i*S	**Sn**	**10 51 02.1**	**-0.3**
PB11				IAML		10 51 03.6	
	comp=E,335nm,0.2s						
PB15	**IPOC Station P**	**2.01**	**195**	*e*P	**Pn**	**10 50 44.5**	**+0.5**
PB15				*i*S	**Sn**	**10 51 10.0**	**-0.1**
PB15				IAML		10 51 21.0	
	comp=E,245nm,0.4s						
MNMC	**Minye Minye**	**2.22**	**343**	*e*P	**Pn**	**10 50 46.8**	**0.0**
MNMC				*i*S	**Sn**	**10 51 14.9**	**+0.1**
MNMC				IAML		10 51 17.2	
	comp=N,152nm,0.1s						
HJA	**Humahuaca**	**3.77**	**122**	*i*P	**Pn**	**10 51 06.6**	**-0.3**
HJA				IAML		10 51 09.4	
	comp=Z,6.9nm,0.4s						

IDC 19 10:59:27.1±3.5, 6°.20S×154°.47E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.4/31, mbtmp3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/30, Error ellipse: s-maj=177.5km s-min=47.1km az=127.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.91**	**246**	LR	LR	11 04 17.0	
	comp=Z,105nm,20.8s,baz=332,slow=37						
WRA	**Warramunga Arr**	**23.86**	**233**	P	P	11 04 42.0	-0.4
	4.2nm,0.8s,baz=58,slow=9.2,SNR=15						
ASAR	**Alice Springs**	**26.32**	**227**	P	P	11 05 05.0	0.0
	0.6nm,0.8s,baz=58,slow=9.0,SNR=6.

NMHZ **Naumai** 9.66 205 P Pn 11 04 24.1 -3.7
BKZ **Black Stump Fm** 9.84 206 *e*Pn Pn 11 04 26.3 -3.9
BKZ *e*Sn Sn 11 06 18.3 -1.1
BKZ **Black Stump Fm** 9.84 206 P Pn 11 04 27.1 -3.1
MCHZ **McNeill Hill** 10.01 205 P Pn 11 04 30.6 -1.8
HIZ **Hauiti** 10.01 214 *e*Pn Pn 11 04 29.7 -2.8
KWHZ **Kaweka Forest** 10.09 206 P Pn 11 04 31.3 -2.3
KAHZ **Kahuranaki** 10.26 203 P Pn 11 04 32.3 -3.6
BHHZ **Black Hill Sta** 10.28 207 P Pn 11 04 33.6 -2.6
DVHZ **Dannevirke** 10.95 204 P Pn 11 04 47.1 +1.7
ANWZ **Angora Road** 10.99 203 P Pn 11 04 53.2 +7.4
BFZ **Birch Farm** 11.26 203 *e*Pn Pn 11 04 45.1 -4.5
TIWZ **Tintock** 11.47 204 P Pn 11 04 51.8 -0.7
MRZ **Mangatainoka R** 11.48 206 P Pn 11 04 48.4 -4.2
KIW **Kapiti Island** 11.91 207 P Pn 11 04 55.1 -3.5
CAW **Cannon Point** 12.06 206 P Pn 11 04 57.6 -2.9
SNZO **South Karori** 12.38 207 *e*Pn Pn 11 04 59.8 -5.0
SNZO *e*Sn Sn 11 07 11.4 -10
TUWZ **Tuamarina** 12.78 209 P Pn 11 05 07.9 -2.5
THZ **Tophouse** 13.50 211 *e*Pn Pn 11 05 16.2 -4.1
THZ **Tophouse** 13.50 211 P Pn 11 05 17.9 -2.4
KHZ **Kahutara** 13.78 207 *e*Pn Pn 11 05 21.2 -2.7
KHZ **Kahutara** 13.78 207 P Pn 11 05 22.5 -1.4
LTZ **Lake Taylor** 14.60 210 *e*Pn Pn 11 05 31.2 -4.0
OXZ **Oxford** 15.14 209 *e*Pn Pn 11 05 36.4 -6.1
41nm,0.5s
MQZ **McQueen's Vall** 15.21 207 *e*Pn Pn 11 05 39.1 -4.2
67nm,1.4s
MARNC **Mare, Loyalty** 15.44 302 *e*Pn P 11 05 50.3 -0.3
44nm,0.8s
OUENC **Ouen Island, N** 15.79 297 *e*Pn P 11 05 55.0 +0.6
46nm,0.8s
RPZ **Rata Peaks** 15.88 210 *e*Pn Pn 11 05 47.9 -4.2
16nm,1.0s
RPZ **Rata Peaks** 15.88 210 Pn Pn 11 05 47.8 -4.2
0.6nm,0.3s,baz=8.4,slow=14,SNR=3.1
RPZ Sn Sn 11 08 31.4 -15
3.6nm,0.3s,baz=290,slow=18,SNR=9.5
RPZ LR LR 11 12 06.5
comp=Z,189nm,21.1s,baz=43,slow=38
DZM **Mont Dzumac** 16.29 297 *e*P P 11 06 02.8 +2.7
77nm,1.0s
DZM *e*LR LR 11 09 49.0
comp=Z,782nm,25.3s
DZM **Mont Dzumac** 16.29 297 *e*Pn P 11 06 02.1 +2.1
29nm,0.7s
DZM **Mont Dzumac** 16.29 297 LR LR 11 11 03.9
comp=Z,382nm,19.2s,baz=143,slow=33
FOZ **Fox Glacier** 16.30 213 *e*Pn Pn 11 05 55.1 -2.2
12nm,0.9s
LBZ **Lake Benmore** 16.79 211 *e*Pn Pn 11 06 01.2 -2.4
2.3nm,0.9s
WKZ **Wanaka** 17.66 212 *e*Pn Pn 11 06 10.4 -4.0
31nm,1.2s
RAR **Rarotonga** 18.73 65 LR LR 11 11 32.2
comp=Z,323nm,21.2s,baz=274,slow=30
WHZ **Wether Hill Ro** 18.96 212 *e*P P 11 06 26.4 -2.9
6.3nm,0.6s
ARMA **Armidale** 26.21 262 *e*P P 11 07 46.8 +4.0
10nm,1.1s
ARMA **Armidale** 26.21 262 P P 11 07 44.2 +1.3
baz=26,SNR=5.4
TBI **Tubuai** 26.31 81 *e*LR LR 11 14 15.4
comp=Z,345nm,26.2s,baz=241
TBI **Tubuai** 26.31 81 *e*T T 11 34 53.5
41nm,0.3s
MGCD **Mangrove Creek** 26.40 256 P P 11 07 45.6 +1.1
baz=26,SNR=9.7
EIDS **Eidsvold** 27.79 273 *e*P P 11 07 59.4 +2.3
14nm,0.9s
EIDS **Eidsvold** 27.79 273 P P 11 07 59.3 +2.3
baz=28,SNR=7.6
CNB **Canberra Magne** 27.82 251 P P 11 07 57.7 +0.5
baz=28,SNR=9.2
MILA **Mila** 28.05 248 P P 11 08 01.1 +1.7
baz=28,SNR=3.1
CAN **Canberra** 28.11 251 *e*P P 11 08 02.6 +2.7
24nm,0.8s
CAN **Canberra** 28.11 251 *e*P P 11 08 02.6 +2.7
CAN pmax pmax
comp=Z,24nm,0.8s
PAE **Paea** 28.76 70 *e*T T 11 37 54.7
comp=Z,18nm,0.3s
PPT2 **Papeete2** 28.80 70 *e*S S 11 12 57.0 +3.2
comp=Z,77nm,23.5s
PPT2 *e*LR LR 11 15 30.0
comp=Z,370nm,26.2s
PPT2 **Papeete2** 28.80 70 *e*T T 11 37 58.8
comp=Z,11nm,0.3s
PPT **Papeete** 28.81 70 LR LR 11 16 36.2
comp=Z,109nm,21.7s,baz=288,slow=30
TVO **Taravao** 28.96 71 *e*T T 11 38 10.7
comp=Z,3.3nm,0.3s
HNR **Honiara** 29.36 311 LR LR 11 18 11.5
comp=Z,86nm,18.1s,baz=156,slow=33
RMQ **Roma** 29.48 269 P P 11 08 14.0 +1.9
baz=29,SNR=20
TAU **Tasmania Unive** 30.30 236 *e*P P 11 08 20.1 +1.0
comp=Z,21nm,1.1s
TAU **Tasmania Unive** 30.30 236 *e*P P 11 08 20.1 +1.0
TAU pmax pmax
comp=Z,21nm,1.1s
TOO **Toolangi** 31.00 247 *e*P P 11 08 27.7 +2.3
comp=Z,12nm,0.8s
TOO **Toolangi** 31.00 247 P P 11 08 27.1 +1.6
baz=31,SNR=9.1
TOO **Toolangi** 31.00 247 *e*P P 11 08 27.7 +2.3
TOO pmax pmax
comp=Z,12nm,0.8s
CMSA **Cobar Meteorol** 31.11 258 P P 11 08 29.0 +2.6
baz=31,SNR=16
VAH **Vaihoa** 31.64 68 *e*T T 11 41 30.5
comp=Z,83nm,0.2s
CTA **Charters Tower** 33.86 279 P P 11 08 53.0 +2.4
comp=Z,40nm,0.7s,baz=105,slow=11,SNR=59
CTA LR LR 11 19 54.9
comp=Z,392nm,20.8s,baz=100,slow=32
CTAO **Charters Tower** 33.86 279 *e*P P 11 08 52.8 +2.2
comp=Z,38nm,0.6s
CTAO **Charters Tower** 33.86 279 *e*P P 11 08 52.8 +2.2
CTAO pmax pmax
comp=Z,38nm,0.6s
STKA **Stephens Creek** 34.52 257 *e*P P 11 08 58.1 +1.8
comp=Z,12nm,0.8s
STKA **Stephens Creek** 34.52 257 P P 11 08 58.4 +2.2
baz=34,SNR=42
STKA **Stephens Creek** 34.52 257 *e*P P 11 08 58.1 +1.8
STKA pmax pmax
comp=Z,12nm,0.8s
STKA **Stephens Creek** 34.52 257 P P 11 08 58.4 +2.2
comp=Z,68nm,0.9s,baz=89,slow=9.3,SNR=107
STKA LR LR 11 22 19.3
comp=Z,120nm,18.3s,baz=43,slow=35
HTT **Hallett** 36.54 254 P P 11 09 15.3 +1.7
baz=36,SNR=8.5
PMG **Port Moresby** 38.67 295 LR LR 11 21 59.4
comp=Z,128nm,20.9s,baz=146,slow=31
RKT **Rikitea** 38.86 90 *e*T T 11 50 36.0
comp=Z,2.1nm,0.4s
BBOO **Buckleboo** 39.01 254 *e*P P 11 09 35.0 +0.6
comp=Z,14nm,0.6s
BBOO **Buckleboo** 39.01 254 P P 11 09 35.0 +0.6
baz=39,SNR=26
COEN **Coen** 39.33 286 *e*P P 11 09 38.8 +1.5
comp=Z,16nm,1.0s
COEN **Coen** 39.33 286 P P 11 09 39.1 +1.8
baz=39,SNR=5.1
QIS **Mount Isa** 39.37 274 P P 11 09 38.7 +1.1
baz=39,SNR=7.1
AS31 **Alice Springs** 43.16 267 *e*P P 11 10 08.2 -0.6
comp=Z,3.2nm,0.8s
ASAR **Alice Springs** 43.16 267 *e*P P 11 10 07.9 -0.8
ASAR **Alice Springs** 43.16 267 *e*P P 11 10 07.9 -0.8
ASAR **Alice Springs** 43.16 267 P P 11 10 08.3 -0.4
comp=Z,9.3nm,0.6s,baz=103,slow=7.6,SNR=192
ASAR PcP PcP 11 11 59.2 +1.2
comp=Z,1.8nm,0.7s,baz=128,slow=4.5,SNR=4.3
ASAR LR LR 11 27 52.7
comp=Z,155nm,18.5s,baz=102,slow=36
WB2 **Warramunga Arr** 44.14 272 *e*P P 11 10 16.6 -0.1
comp=Z,24nm,0.7s
WRAB **Tennant Creek** 44.15 272 *e*P P 11 10 16.6 0.0
comp=Z,21nm,0.8s
WRAB **Tennant Creek** 44.15 272 *c i*P P 11 10 16.1 -0.6
WRAB pmax pmax
comp=Z,23nm,0.8s
WR1 **Warramunga Arr** 44.15 272 *e*P P 11 10 16.4 -0.3
WR1 *e*S S 11 16 46.0 -1.6
WRA **Warramunga Arr** 44.15 272 P P 11 10 16.4 -0.3
comp=Z,18nm,0.5s,baz=112,slow=8.0,SNR=186
WRA S S 11 16 46.0 -1.6
comp=Z,2.1nm,0.9s,baz=96,slow=14,SNR=6.4
FORT **Forrest** 46.09 255 P P 11 10 32.1 +0.2
baz=46,SNR=12
WRKA **Warakurna** 47.53 263 P P 11 10 42.3 -1.1
baz=47,SNR=21
VNDA **Vanda** 48.07 186 *e*P P 11 10 49.0 +2.3
comp=Z,3.0nm,0.8s
VNDA **Vanda** 48.07 186 *e*P P 11 10 49.0 +2.3
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA **Vanda** 48.07 186 P P 11 10 49.1 +2.4
comp=Z,2.2nm,0.6s,baz=4.9,slow=7.4,SNR=20
VNDA LR LR 11 27 24.9
comp=Z,59nm,21.7s,baz=7.5,slow=32
KDU **Kakadu** 48.97 280 P P 11 10 54.8 +0.3
baz=49,SNR=4.4
MTN **Manton Dam** 50.04 279 *e*P P 11 11 04.2 +1.6
comp=Z,9.3nm,1.1s
MTN **Manton Dam** 50.04 279 P P 11 11 03.9 +1.2
baz=50,SNR=4.9
KNRA **Kununurra** 50.76 274 P P 11 11 08.3 +0.2
baz=51,SNR=8.1
FITZ **Fitzroy Crossi** 52.41 270 *e*P P 11 11 20.4 -0.1
comp=Z,14nm,0.8s
FITZ **Fitzroy Crossi** 52.41 270 P P 11 11 20.1 -0.3
baz=52,SNR=14
FITZ **Fitzroy Crossi** 52.41 270 P P 11 11 20.2 -0.3
comp=Z,14nm,0.8s,baz=158,slow=8.1,SNR=19
FITZ LR LR 11 32 14.2
comp=Z,129nm,18.9s,baz=133,slow=34
KLBR **Kellerberrin** 54.39 251 P P 11 11 33.9 -1.0
baz=54,SNR=6.0
FAKI **Fak Fak** 54.40 290 *e*P P 11 11 35.0 -0.1
comp=Z,12nm,1.0s
NWAO **Narrogin (SRO)** 54.43 249 *e*P P 11 11 35.8 +0.7
comp=Z,5.7nm,0.9s
NWAO **Narrogin (SRO)** 54.43 249 *e*P P 11 11 35.8 +0.7
NWAO pmax pmax
comp=Z,6.0nm,0.9s
CASY **Casey** 55.13 208 *e*P P 11 11 39.8 +0.2
comp=Z,38nm,0.6s
GUMO **Guam** 56.54 315 LR LR 11 34 23.9
comp=Z,29nm,18.8s,baz=140,slow=34
MORW **Morawa** 56.57 253 *e*P P 11 11 49.7 -0.9
comp=Z,12nm,1.0s
MORW **Morawa** 56.57 253 P P 11 11 49.4 -1.1
baz=56,SNR=4.7
QSPA **South Pole Qui** 59.67 180 *e*P P 11 12 14.1 +2.3
comp=Z,41nm,0.8s
MMRI **Maumere** 59.70 278 *e*P P 11 12 13.9 +1.3
comp=Z,42nm,0.6s
SANI **Sanana** 60.02 287 P P 11 12 13.7 -1.1
KAPI **Kappang** 63.67 280 *e*P P 11 12 37.2 -2.1
comp=Z,9.3nm,1.0s
KAPI **Kappang** 63.67 280 *e*P P 11 12 37.2 -2.1
KAPI pmax pmax
comp=Z,9.0nm,1.0s
PCJI **Pacitan** 69.43 273 P P 11 13 16.0 -0.2
WOJI **Wonogiri, Jawa** 69.82 273 P P 11 13 17.8 -0.8
MAW **Mawson** 72.29 201 *e*P P 11 13 33.5 +0.8
comp=Z,1.9nm,0.8s
MAW **Mawson** 72.29 201 P P 11 13 32.8 +0.2
baz=72,SNR=12
MAW **Mawson** 72.29 201 *e*P P 11 13 33.5 +0.8
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW **Mawson** 72.29 201 P P 11 13 33.2 +0.5
comp=Z,8.0nm,0.8s,baz=149,slow=7.1,SNR=13
MAW LR LR 11 43 43.7
comp=Z,75nm,19.5s,baz=122,slow=34
SBUM **Sibu** 73.98 283 *e*P P 11 13 43.0 -0.6
comp=Z,1.9nm,0.8s
SYO **Syowa Base** 77.09 193 ‖ *i*P P 11 13 59.6 -0.8
SYO **Syowa Base** 77.09 193 ‖ *i*sP P 11 14 02.0 +1.6
SYO **Syowa Base** 77.09 193 ‖ *e*PcP PcP 11 14 08.8 -2.4
SNAA **Sanae** 78.12 178 P P 11 14 06.9 +0.6
SNAA **Sanae** 78.12 178 *e*P P 11 14 06.3 0.0
comp=Z,6.0nm,0.9s
SNAA **Sanae** 78.12 178 *e*P P 11 14 06.3 0.0
SNAA pmax pmax
comp=Z,6.0nm,0.9s
VNA3 **Neumayer Olymp** 78.27 176 P P 11 14 07.4 +0.4
MJAR **Matsushiro Arr** 78.30 325 P P 11 14 06.5 -1.1
comp=Z,2.1nm,0.8s,baz=171,slow=6.8,SNR=6.6
MAJO **Matsushiro** 78.30 325 *e*P P 11 14 06.5 -1.1
MAJO **Matsushiro** 78.30 325 *e*P P 11 14 06.5 -1.1
MNAI **Manna** 78.41 272 P P 11 14 19.8 +11
VNA2 **Neumayer--Watz** 78.70 177 P P 11 14 10.0 +0.6
baz=181,slow=4.5
VNA1 **Neumayer--Stat** 78.93 177 P P 11 14 11.1 +0.5
DLV **T Lat** 82.22 289 *e*P P 11 14 30.6 +1.1
comp=Z,13nm,0.7s
PDSI **Padang** 82.29 273 P P 11 14 28.5 -1.2
PLCA **Paso Flores** 82.44 133 *e*P P 11 14 31.6 +1.4
comp=Z,6.3nm,0.9s
PLCA **Paso Flores** 82.44 133 *e*P P 11 14 31.6 +1.4
PLCA pmax pmax
comp=Z,6.0nm,0.9s
PLCA **Paso Flores** 82.44 133 P P 11 14 31.6 +1.4
comp=Z,5.0nm,0.9s,baz=247,slow=5.7,SNR=12
PLCA LR LR 11 48 57.2
comp=Z,29nm,18.1s,baz=220,slow=34
EFI **East Falkland** 82.73 147 *e*P P 11 14 32.2 +0.9
comp=Z,12nm,0.9s
EFI **East Falkland** 82.73 147 *e*P P 11 14 32.2 +0.9
EFI pmax pmax
comp=Z,12nm,0.9s
KSRS **Korea Array** 84.41 320 P P 11 14 40.2 +0.4
comp=Z,1.2nm,0.8s,baz=142,slow=6.2,SNR=4.4
PETK **Petropavlovsk-** 85.86 346 P P 11 14 47.2 +0.4
comp=Z,11nm,0.7s,baz=122,slow=6.4,SNR=10
PEA1 **Petropavlovsk-** 85.86 346 *e*P P 11 14 47.2 +0.4
ISA **Isabella, Lake** 86.29 45 *e*P P 11 14 49.7 +0.2
comp=Z,6.9nm,1.1s
ISA **Isabella, Lake** 86.29 45 *e*P P 11 14 49.7 +0.2
ISA pmax pmax
comp=Z,7.0nm,1.1s
NJ2 **Nanjing** 86.31 311 *e*P P 11 14 52.0 +2.5
NJ2 pmax pmax
comp=Z,11nm,0.5s
NV01 **Mina Array Sit** 88.23 43 *e*P P 11 14 59.8 +0.8
NVAR **Mina Array Bea** 88.23 43 P P 11 14 59.8 +0.8
comp=Z,2.2nm,0.7s,baz=221,slow=8.2,SNR=15
WHN **Wuhan** 88.41 307 *e*P P 11 15 03.8 +4.1
W13A **Hualapai Mount** 88.78 48 *e*P P 11 15 02.1 +0.5
comp=Z,5.5nm,1.1s
TUC **Tucson** 89.09 51 *e*P P 11 15 04.0 +1.0
comp=Z,12nm,1.4s
TUC **Tucson** 89.09 51 *e*P P 11 15 04.0 +1.0
TUC pmax pmax
comp=Z,12nm,1.4s
X16A **Lo Mia Camp, P** 89.93 49 *e*P P 11 15 07.8 +0.8
comp=Z,8.8nm,1.0s
U15A **North Rim** 90.62 47 *e*P P 11 15 11.5 +1.2
comp=Z,5.5nm,0.9s
KLR **Kul'dur** 91.09 330 ‖ *e*P P 11 15 11.9 +0.1
KLR pmax pmax
comp=Z,10.0nm,2.3s
WPW **White Pass** 92.10 35 *e*P P 11 15 18.6 +1.9
TXAR **Lajitas Array** 92.36 57 P P 11 15 18.3 0.0
comp=Z,0.4nm,0.8s,baz=235,slow=3.2,SNR=3.1
TXAR LR LR 11 47 20.5
comp=Z,30nm,21.4s,baz=0.0,slow=29
CM31 **Chiang Mai Arr** 93.46 289 *e*P P 11 15 24.0 +0.5
comp=Z,4.1nm,0.4s
CMAR **Chiang Mai Arr** 93.46 289 P P 11 15 24.9 +1.4
comp=Z,0.5nm,0.4s,baz=122,slow=3.4,SNR=2.7
ANMO **Albuquerque** 93.56 51 ⇑ *e*P P 11 15 24.5 +0.7
ANMO pmax pmax
comp=Z,9.0nm,3.2s
SEY **Seymchan** 96.02 347 ⇑ *e*P P 11 15 33.3 -0.8
PDAR **Pinedale Array** 96.12 44 PKKPbc PKKPbc 11 32 21.8 -1.6
comp=Z,0.4nm,0.7s,baz=46,slow=2.6,SNR=3.5
PDAR LR LR 11 51 14.1
comp=Z,37nm,21.7s,baz=272,slow=31
CD2 **Chengdu** 96.15 302 *e*P P 11 15 35.0 -0.6
HHC **Hu-ho-hao-te** 96.30 314 *e*P P 11 15 38.5 +2.4
COLA **College** 97.86 12 ‖ *e*P Pdif 11 15 42.9 +0.5
COLA pmax pmax
comp=Z,2.0nm,0.9s
ILAR **Eielson Array** 97.95 13 P P 11 15 41.9 -0.9
comp=Z,0.3nm,0.7s,baz=214,slow=5.6,SNR=4.5
BILL **Bilibino** 98.88 354 *e*P P 11 15 45.7 -1.2
BILL *e* 11 19 47.9
BILL pmax pmax
comp=Z,2.0nm,1.3s
CPUP **Villa Florida** 99.92 128 LR LR 11 52 54.1
comp=Z,29nm,20.2s,baz=224,slow=30
GTA **Gaotai** 103.21 308 *e*PKP PKiKP 11 20 25.3 -1.2
YKA **Yellowknife Ar** 105.45 25 PKKPbc PKKPbc 11 31 52.6 -4.0
comp=Z,0.7nm,0.7s,baz=39,slow=3.1,SNR=16
YKB5 **Yellowknife Ar** 105.45 25 *e*PKKPbc PKKPbc 11 31 52.6 -4.0
WMQ **Urumqi** 113.29 308 *e*PKP PKiKP 11 20 44.9 -0.2
WMQ LR LR
comp=Z,170nm,25.3s
BOSA **Boshof** 117.25 203 PKP PKPdf 11 20 53.1 -0.3
comp=Z,1.2nm,0.5s,baz=147,slow=2.4,SNR=3.7
MK31 **Makanchi Array** 117.83 310 *e*PKPdf PKPdf 11 20 51.7 -2.0
MK32 **Makanchi Array** 117.83 310 *e*PKPdf PKPdf 11 20 52.5 -1.2
MKAR **Makanchi Array** 117.83 310 *e*PKPdf PKPdf 11 20 52.1 -1.5
MKAR **Makanchi Array** 117.83 310 PKP PKPdf 11 20 52.5 -1.2
comp=Z,1.3nm,0.7s,baz=210,slow=3.1,SNR=13
MAKZ **Makanchi** 118.05 310 *e*PKPdf PKPdf 11 20 52.3 -1.8
ZALV **Zalesovo Beam** 118.09 318 *e*PKPdf PKPdf 11 20 51.0 -2.9
ZALV **Zalesovo Beam** 118.09 318 *e*PKIKP PKPdf 11 20 51.0 -2.9
ZALV **Zalesovo Beam** 118.09 318 PKP PKPdf 11 20 51.9 -2.0
comp=Z,1.2nm,0.5s,baz=160,slow=2.3,SNR=5.0
ZAA1 **Zalesovo Array** 118.09 318 *e*PKPdf PKPdf 11 20 51.9 -2.0
NVS **Novosibirsk** 119.20 319 *e*PKIKP PKPdf 11 20 53.1 -2.8
KSH **Kashi** 120.30 301 PKP PKPdf 11 20 56.1 -2.7
KSH PP PP 11 22 30.8 +5.3
KSH SKS SKSdf 11 28 07.5 -0.7
NRN **Naryn** 120.79 303 *e*PKPdf PKPdf 11 20 59.6 -0.3
KURK **Kurchatov** 121.11 314 *e*PKPdf PKPdf 11 20 58.1 -1.6
KURK **Kurchatov** 121.11 314 *c i*PKIKP PKPdf 11 20 58.3 -1.5
KURK pmax pmax
comp=Z,6.0nm,0.8s
AAK **Ala-Archa** 122.18 304 ⇑ *i*PKIKP PKPdf 11 20 58.3 -4.0
AAK pmax pmax
comp=Z,4.0nm,1.3s
GAR **Garm** 124.42 299 *e*PKPdf PKiKP 11 21 06.5 -0.5
GAR **Garm** 124.42 299 *e*PKIKP PKiKP 11 21 06.5 -0.5
KK31 **Karatay Array** 125.14 304 *e*PKPdf PKPdf 11 21 06.9 -0.9
KK31 **Karatay Array** 125.14 304 *e*PKIKP PKPdf 11 21 06.9 -0.9
KKAR **Karatay Array** 125.14 304 *e*PKPdf PKPdf 11 21 06.7 -1.1
KKAR **Karatay Array** 125.14 304 *e*PKIKP PKPdf 11 21 06.7 -1.1
BRVK **Borovoye** 126.53 316 *e*PKPdf PKPdf 11 21 09.7 -0.4
BRVK **Borovoye** 126.53 316 ‖ *i*PKIKP PKPdf 11 21 09.4 -0.7
SPITS **Spitsbergen Ar** 131.74 356 PKP PKPdf 11 21 19.8 +0.4
comp=Z,4.8nm,0.7s,baz=346,slow=1.7,SNR=6.4
ABKAR **Akbulak array** 132.97 311 *e*PKPdf PKiKP 11 21 22.8 -0.8
ARU **Arti** 133.15 321 ⇑ *i*PKIKP PKPdf 11 21 22.1 -0.5
PRGR **Permogore** 137.88 331 *e*PKIKP PKPdf 11 21 29.7 -1.5
PRGR pmax pmax
comp=Z,5.0nm,0.4s
ARA0 **ARCESS Array S** 138.63 348 *e*PKPpre PKPpre 11 21 24.6
ARCES **ARCESS Array B** 138.63 348 PKhKP PKPpre 11 21 24.6
comp=Z,2.2nm,0.8s,baz=48,slow=1.8,SNR=6.6
KLMR **Klimovskoe** 140.82 332 *e*PKIKP PKPdf 11 21 35.3 -1.3
KLMR pmax pmax
comp=Z,8.0nm,0.9s
VRH **Novokhopyorsk** 144.10 317 *e*PKIKP PKPab 11 21 39.0 -1.4
VRH pmax pmax
comp=Z,7.0nm,0.4s
GNI **Garni** 144.13 298 ‖ *e*PKIKP PKPbc 11 21 42.0 +0.4
ZEI **Tsey** 144.57 302 *i*PKIKP PKPab 11 21 41.6 -1.1
ZEI pmax pmax
comp=Z,12nm,0.9s
AKH **Akhalkalaki** 145.00 300 *e*PKPdf PKPbc 11 21 44.2 -0.1
AKH **Akhalkalaki** 145.00 300 PKIKP PKPdf 11 21 44.6 -0.3
LPSR **Galich'ya Gora** 145.17 320 *e*PKP2 PKPbc 11 21 42.6 -1.6
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KBZ **Khabaz** 145.17 304 PKPbc PKPbc 11 21 43.5 -1.0
comp=Z,6.0nm,0.8s,baz=164,slow=2.3,SNR=9.4
FIA1 **FINESS Array S** 145.19 340 *e*PKPbc PKPbc 11 21 42.4 -1.6
FIA0 **FINESS Array S** 145.20 340 *e*PKPbc PKPbc 11 21 43.1 -0.8
FIA0 **FINESS Array S** 145.20 340 *e*PKIKP PKPbc 11 21 43.2 -0.8
FINES **FINESS Array B** 145.20 340 *e*PKPbc PKPbc 11 21 42.7 -1.3
FINES **FINESS Array B** 145.20 340 *e*PKIKP PKPbc 11 21 42.7 -1.3
FINES **FINESS Array B** 145.20 340 PKPbc PKPbc 11 21 43.1 -0.8
comp=Z,31nm,0.7s,baz=62,slow=3.3,SNR=130
OBN **Obninsk** 145.23 325 *de*PKP2 PKPbc 11 21 42.4 -1.9
OBN pmax pmax
comp=Z,14nm,0.9s
KIV **Kislovodsk** 145.29 304 *i*PKIKP PKPbc 11 21 44.5 -0.5
KIV pmax pmax
comp=Z,25nm,1.1s
NEY **Neytrino** 145.37 303 ⇑ *e*PKIKP PKPbc 11 21 44.5 -0.9
VSR **Storozhevoye** 145.60 318 *e*PKP2 PKPdf 11 21 43.5 -1.8
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSU **Vasula** 147.28 336 ‖ *e*PKIKP PKPdf 11 21 47.5 -0.4
NC303 **NORSAR Array S** 148.59 351 *e*PKPbc PKPbc 11 21 53.1 -0.6
NB2 **NORSAR Subarra** 148.79 351 PKP PKPbc 11 21 53.5 -0.8
comp=Z,3.9nm,0.6s,baz=12,slow=2.6
NB200 **NORSAR Array S** 148.79 351 *e*PKPbc PKPbc 11 21 53.5 -0.8
NOA **NORSAR Array B** 148.79 351 PKPbc PKPbc 11 21 53.5 -0.8
comp=Z,7.1nm,0.7s,baz=14,slow=4.2,SNR=24
ANN **Anapa** 148.80 307 *e*PKP2 PKPab 11 21 57.2 -1.5
ANN pmax pmax
comp=Z,45nm,0.9s
NBO00 **NORSAR Array S** 148.86 352 *e*PKPdf PKPbc 11 21 52.8 -1.6
NAO01 **NORSAR Array S** 149.02 352 *e*PKPbc PKPbc 11 21 54.3 -0.6
NC602 **NORSAR Array S** 149.04 351 *e*PKPbc PKPbc 11 21 53.9 -1.1
KONO **Kongsberg** 150.34 352 *e*PKPbc PKPbc 11 21 57.1 -1.0
KONO **Kongsberg** 150.34 352 *e*PKIKP PKPbc 11 21 57.1 -1.0
AKASG **Malin Array Be** 151.36 323 *e*PKPbc PKPbc 11 21 59.7 -1.1
AKASG **Malin Array Be** 151.36 323 PKIKP PKPbc 11 21 59.6 -1.1
AKASG **Malin Array Be** 151.36 323 PKPbc PKPbc 11 21 59.9 -0.9
comp=Z,18nm,0.8s,baz=49,slow=3.1,SNR=47
KIEV **Kiev** 151.37 323 *e*PKPbc PKPbc 11 22 00.3 -0.5
KIEV **Kiev** 151.37 323 *e*PKIKP PKPbc 11 22 00.3 -0.5
BR101 **Keskin Array S** 152.66 298 *e*PKPbc PKPbc 11 22 03.2 -1.1
BR131 **Keskin Array S** 152.66 298 *e*PKPbc PKPbc 11 22 02.8 -1.5
BR131 **Keskin Array S** 152.66 298 *e*PKIKP PKPbc 11 22 02.8 -1.5
BRTR **Keskin Array B** 152.66 298 PKPbc PKPbc 11 22 03.2 -1.1
comp=Z,4.4nm,0.7s,baz=130,slow=3.0,SNR=12
BURAR **Bucovina Array** 155.29 320 *e*PKPbc PKPbc 11 22 09.9
BURAR **Bucovina Array** 155.29 320 *e*PKIKP PKPdf 11 22 09.9 +9.2
KOLS **Kolonicke sedl** 155.98 326 *e*PKIKP PKPdf 11 22 14.5 +13
KOLS *e* 11 22 32.0
KOLS **Kolonicke sedl** 155.98 326 *e*PKP PKPdf 11 22 14.5 +13
KOLS *e* 11 22 32.0
CLL **Collm** 157.61 342 *i*PKP2 PKPab 11 22 34.4 -1.1
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL **Collm** 157.61 342 *i*PKPab PKPab 11 22 34.4 -1.1
comp=Z,5.0nm,1.0s
CLL *i*pPKPab2 11 22 37.4
comp=Z,7.0nm,0.9s
BRG **Berggiesshubel** 157.74 340 *e*PKP PKPab 11 22 34.7 -1.4
comp=Z,15nm,2.0s
BRG *i* 11 22 39.0
comp=Z,5.5nm,0.8s
BRG **Berggiesshubel** 157.74 340 *e*PKP2 PKPab 11 22 34.7 -1.4
BRG pmax pmax
comp=Z,15nm,2.0s
VYHS **Vyhne** 157.88 329 *e*PKP2 PKPab 11 22 39.9 +3.0
VYHS **Vyhne** 157.88 329 *e*PKP PKPab 11 22 39.9 +3.0
TOA0 **Torodi Ar. Sit** 162.79 179 *e*PKPab PKPab 11 22 58.8 -0.2
TORD **Torodi Ar. Bea** 162.79 179 PKPab PKPab 11 22 58.0 -1.0
comp=Z,5.2nm,0.8s,baz=175,slow=5.5,SNR=19
TOA1 **Torodi Ar. Sit** 162.80 179 *e*PKPab PKPab 11 22 58.0 -1.0

IDC 19 11:09:41.5±3.2, 4.74S×153.15E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/33, mbtmp3.7/4, Error ellipse: s-maj=105.4km s-min=33.7km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.75	229	P	P	11 14 55.1	-0.6
0.5nm,0.4s,baz=54,slow=10,SNR=9.0							
ASAR	Alice Springs	26.43	223	P	P	11 15 20.1	-0.2
0.2nm,0.6s,baz=58,slow=8.8,SNR=2.8							
FITZ	Fitzroy Crossi	30.00	242	P	P	11 15 53.4	+1.3
1.5nm,0.6s,baz=66,slow=11,SNR=5.5							
MKAR	Makanchi Array	80.51	319	P	P	11 21 55.6	0.0
0.9nm,0.7s,baz=100,slow=7.1,SNR=5.3							
TORD	Torodi Ar. Bea	150.62	288	PKPbc	PKPbc	11 29 35.7	-0.9
0.6nm,0.7s,baz=67,slow=2.7,SNR=4.1							

*ISCJB **19** 11:32:32.1±0.5, 12°.41N×0°.04×89°.27W×0°.04, h40km, mb4.3/23, MS3.2/1, Error ellipse: s-maj=7.6km s-min=3.8km az=39.5*
*SNET **19** 11:32:32.3±1.2, 12°.43N×89°.26W, h35km±22km, ML3.3*
*UCR **19** 11:32:33.2±1.3, 12°.47N×89°.27W, h31km, MD4.0, ML3.5, mb4.3(NEIC)*
*NEIC **19** 11:32:35.0±3.0, 12°.58N×89°.04W, h36km±5km, mb4.3/30, Error ellipse: s-maj=21.1km s-min=15.0km az=219.0*
*IDC **19** 11:32:37.9±2.5, 13°.33N×88°.40W, h43km±29km, mb3.6/3, mb1 3.9/5, mb1mx3.4/37, mbtmp3.7/5, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/24, Error ellipse: s-maj=85.7km s-min=24.8km az=45.0*

ISC 19 11:32:34.3±0.7, 12°.46N±0°.06×89°.20W±0°.05, h40km, n74, σ1°51/80, mb4.3/23, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	San Vicente	1.20	17	eP	Pn	11 32 54.4	-0.4
SNET	Serv Nac Est T	1.22	359	eP	Pn	11 32 53.9	-1.2
SNET				eS	Sn	11 33 10.5	+0.2
SNET	Serv Nac Est T	1.22	359	eP	Pn	11 32 53.6	-1.4
SNET				eS	Sn	11 33 10.1	-0.2
SNET				IAML		11 33 19.8	
	comp=Z,564nm,0.4s						
TECA	Tecapa	1.23	34	eP	Pn	11 32 54.1	-1.2
UEES	San Salvador	1.26	358	eP	Pn	11 32 54.0	-1.5
UEES				IAML		11 33 13.6	
	comp=Z,653nm,0.3s						
BOQS	Boqueron	1.27	357	eP	Pn	11 32 54.7	-1.1
PAVA	Las Pavas	1.27	12	eP	Pn	11 32 54.7	-1.0
PAVA				IAML		11 33 18.6	
	comp=Z,1μm,0.3s						
LFU	La Fuente	1.28	4	eP	Pn	11 32 54.9	-0.9
LFU				IAML		11 33 20.9	
	comp=Z,25nm,0.4s						
LCY	Lacayo	1.30	43	eP	Pn	11 32 54.3	-1.9
PACA	Pacayal	1.32	41	eP	Pn	11 32 55.3	-1.1
PACA				IAML		11 33 37.0	
	comp=Z,2μm,0.3s						
VSM	San Miguel	1.32	43	eP	Pn	11 32 56.2	-0.4
VSM				IAML		11 33 23.3	
	comp=Z,788nm,0.7s						
VSM	San Miguel	1.32	43	eP	Pn	11 32 55.7	-0.8
CEVE	Cerro Verde	1.42	343	eP	Pn	11 32 56.4	-1.5
CEVE				eS	Sn	11 33 15.8	+0.3
CEVE				IAML		11 33 29.4	
	comp=Z,2μm,0.4s						
SBLS	San Blas	1.43	343	eP	Pn	11 32 57.1	-0.9
SBLS	San Blas	1.43	343	eP	Pn	11 32 56.5	-1.5
SNJE	San Jose	1.45	344	eP	Pn	11 32 56.9	-1.4
RTR	El Retiro	1.49	343	eP	Pn	11 32 57.7	-1.1
LCND	La Caada	1.53	57	eP	Pn	11 32 58.2	-1.0
LCND				eS	Sn	11 33 18.2	+0.3
CNCH	Conchagua	1.56	59	eP	Pn	11 32 59.6	-0.2
VICT	Victoria	1.59	20	eP	Pn	11 32 59.5	-0.6
CAHU	Cacacuatique	1.62	37	eP	Pn	11 33 01.2	+0.6
CAHU	Cacacuatique	1.62	37	eP	Pn	11 33 00.7	+0.1
CRIN	San Cristobal	2.12	83	eP	Pn	11 33 07.1	-0.2
TGUH	Tegucigalpa,Un	2.46	50	ePn	Pn	11 33 11.7	-0.2
TGUH	Tegucigalpa,Un	2.46	50	eP	Pn	11 33 12.3	+0.3
COPN	Copaltepe	2.57	96	eP	Pn	11 33 12.7	-0.8
APG	El Apazote	2.81	334	P	Pn	11 33 17.9	+0.9
	comp=Z,3.5nm,0.3s,baz=160,slow=7.7,SNR=21						
ESTN	Estel	2.84	77	ePn	Pn	11 33 16.1	-1.2
ESTN	Estel	2.84	77	eP	Pn	11 33 18.6	+1.3
MATN	Matagalpa	3.23	81	eP	Pn	11 33 22.1	-0.6
ACON	Acoyapa	3.97	97	ePn	Pn	11 33 33.6	+0.8
NY14	Universidad de	4.02	116	iP	Pn	11 33 33.6	+0.2
BUEV	Buena Vista	4.07	114	iP	Pn	11 33 36.0	+1.7
BUEV				iS	Sn	11 34 20.0	-0.7
LIM1	Limonal	4.25	114	iP	Pn	11 33 38.0	+1.4
CUI	Cuipilapa	4.35	114	iP	Pn	11 33 38.6	+0.6
AMAS	Alto Masis	4.52	114	iP	Pn	11 33 41.2	+0.8
JTS	Las Juntas de	4.69	117	P	Pn	11 33 43.8	+1.1
	comp=Z,2.2nm,0.3s,baz=12,slow=20,SNR=15						
JTS				S	Sn	11 34 31.8	-4.2
	comp=Z,2.3nm,0.3s,baz=275,slow=20,SNR=4.7						
CCIG	Comitan	4.74	324	ePn	Pn	11 33 44.9	+1.4
CMIG	Matias Romero	7.17	311	P	Pn	11 34 16.9	+0.2
	comp=Z,0.4nm,0.3s,baz=126,slow=9.4,SNR=4.2						
CMIG				S	Sn	11 35 32.2	-4.7
	comp=Z,0.4nm,0.3s,baz=127,slow=20,SNR=2.4						
TEIG	Tepich	7.77	6	ePn	Pn	11 34 27.4	+2.4
435B	Jarrell	19.81	338	eP	P	11 37 01.3	-0.3
	comp=Z,12nm,0.7s						
JCT	Junction City	20.44	333	eP	P	11 37 08.1	-0.3
	comp=Z,3.9nm,0.7s						
152A	Waverly Hall	20.53	11	eP	P	11 37 09.7	+0.4
	comp=Z,66nm,0.1s						
WHTX	Lake Whitney,	20.87	340	eP	P	11 37 12.7	-0.3
	comp=Z,12nm,0.8s						
GOGA	Godfrey	21.50	13	eP	P	11 37 20.0	+0.2
	comp=Z,7.9nm,1.4s						
TXAR	Lajitas Array	21.51	324	P	P	11 37 21.0	+1.0
	comp=Z,1.5nm,0.5s,baz=136,slow=10,SNR=26						
MIAR	Mount Ida	22.34	350	eP	P	11 37 26.4	-2.4
	comp=Z,6.9nm,0.8s						
X51A	Calhoun	22.36	9	eP	P	11 37 29.2	+0.3
	comp=Z,319nm,0.6s						
WHAR	Wooly Hollow	22.90	354	eP	P	11 37 35.0	+0.3
	comp=Z,3.0nm,0.9s						
W39A	Magazine	23.01	350	eP	P	11 37 36.8	+0.9
	comp=Z,4.7nm,0.9s						
BIRD	Birdtown, Kers	23.47	18	eP	P	11 37 40.0	-0.3
	comp=Z,15nm,1.5s						
WVT	Waverly	23.60	3	eP	P	11 37 42.1	+0.6
	comp=Z,1.8nm,1.0s						
PBMO	Poplar Bluff	24.24	358	eP	P	11 37 47.2	-0.3
	comp=Z,7.7nm,0.9s						
CCM	Cathedral Cave	25.55	356	eP	P	11 37 58.2	-1.2
	comp=Z,7.0nm,0.7s						
NNA	Nana	27.21	153	LR	LR	11 46 55.9	
	comp=Z,74nm,21.9s,baz=244,slow=31						
L40A	Anamosa	29.54	357	eP	P	11 38 33.9	-1.3
	comp=Z,7.8nm,0.9s						
N59A	State Game Lan	30.70	20	eP	P	11 38 45.5	+0.1
	comp=Z,8.2nm,1.3s						
I42A	Draeger Farm,	31.32	0	eP	P	11 38 49.8	-1.1
	comp=Z,5.8nm,0.6s						
I41A	Arkdale	31.49	359	eP	P	11 38 50.9	-1.4
	comp=Z,12nm,0.6s						
G42A	Mountain	32.67	1	eP	P	11 39 01.4	-1.3
	comp=Z,4.9nm,1.0s						
COWI	Conover	33.53	0	eP	P	11 39 08.5	-1.7
	comp=Z,4.6nm,0.8s						
SNCC	San Nicolas Is	34.56	312	eP	P	11 39 20.7	+1.4
	comp=Z,196nm,1.4s						
C40A	Isle Royale Na	35.34	0	eP	P	11 39 24.2	-1.6
	comp=Z,9.1nm,0.9s						
EYMN	Ely	35.43	357	eP	P	11 39 24.4	-2.1
	comp=Z,3.2nm,0.6s						
GATR	Gnd/Air Tx Cnt	35.91	313	eP	P	11 39 35.6	+4.7
REDW	Red Top Meadow	36.02	333	eP	P	11 39 32.0	0.0
	comp=Z,2.4nm,1.0s						
SNOW	Snow King Moun	36.06	333	eP	P	11 39 33.2	+0.9
	comp=Z,3.0nm,1.0s						
ULM	Lac du Bonnet	38.08	353	eP	P	11 39 46.6	-2.4
	comp=Z,2.7nm,1.1s						
ULM	Lac du Bonnet	38.08	353	P	P	11 39 46.4	-2.6
	comp=Z,0.8nm,0.4s,baz=176,slow=9.8,SNR=4.2						
YKA	Yellowknife Ar	53.16	346	P	P	11 41 46.4	-1.6
	comp=Z,1.0nm,0.8s,baz=145,slow=7.2,SNR=8.7						
CD2	Chengdu	135.11	344	PKP	PKPdf	11 51 49.5	-0.7
WRA	Warramunga Arr	137.63	254	PKP	PKiKP	11 52 01.5	+4.6
	comp=Z,0.5nm,1.0s,baz=90,slow=2.5,SNR=3.4						
CMAR	Chiang Mai Arr	148.24	345	ePKPbc	PKPbc	11 52 18.0	+1.0
CMAR	Chiang Mai Arr	148.24	345	PKPbc	PKPbc	11 52 17.4	+0.3
	comp=Z,0.9nm,0.3s,baz=344,slow=3.0,SNR=4.1						

MEX 19 11:42:40.2±0.6, 16°.23N×98°.07W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.17	340	eP	Pg	11 42 42.9	-0.7
PNIG				eS	Sg	11 42 45.8	0.0
TLIG	Tlapa	1.41	340	eP	Pn	11 43 03.3	-3.3
TLIG				iS	Sb	11 43 20.0	-5.3
MEIG	Mezcala	2.25	319	eP	Pn	11 43 14.5	-3.7
MEIG				iS	Sn	11 43 42.7	-3.6
CMIG	Matias Romero	3.17	74	iP	Pn	11 43 27.4	-3.3
CMIG				eS	Sn	11 44 05.1	-3.9

MEX 19 11:44:29.1±0.8, 19°.76N×103°.87W, h7km±9km, MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		0.38	137	eP	Pg	11 44 36.2	-0.3
EZ5V				iS	Sg	11 44 40.8	-0.7

*NSSC **19** 11:47:14.6±0.6, 33°.54N×35°.55E, h5km±11km, ML1.9*
*GRAL **19** 11:47:17.9±0.3, 33°.49N×35°.70E, h0km±3km, MD3.2*

ISC 19 11:47:15.1±2.7, 33°.4N±0°.1×35°.6E±0°.1, h12km±8km, n8, σ0°94/15, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRWL	Qaraoun	0.12	31	eP	Pg	11 47 18.9	+0.5
QRWL				eS	Sg	11 47 19.8	-1.1
RCY	Rachaya	0.20	74	eP	Pg	11 47 19.8	+0.2
RCY				eS	Sg	11 47 21.5	-1.2
DQRL	Deir Qamar	0.27	354	eP	Pb	11 47 22.1	+0.2
DQRL				eS	Sg	11 47 25.4	+0.8
BRBR	Barbar	0.29	96	eP	Pg	11 47 21.8	+0.6
BRBR				eS	Sg	11 47 26.9	+1.6
BRBR				AML	AML	11 47 28.6	
	comp=E,96nm,0.5s						
BRBR				AML	AML	11 47 29.3	
	comp=N,316nm,0.5s						
BHL	Bhannes	0.46	5	eP	Pb	11 47 25.3	-0.1
BHL				eS	Sg	11 47 30.9	+0.3
QASN	Qassioun	0.57	81	eP	Pb	11 47 26.6	-0.5
QASN				eS	Sg	11 47 35.0	+1.2
QASN				AML	AML	11 47 42.8	
	comp=E,73nm,0.4s						
QASN				AML	AML	11 47 45.5	
	comp=N,158nm,0.4s						
TOTH	TOTAH	0.69	96	eP	Pn	11 47 29.8	-1.0
TOTH				eS	Sb	11 47 39.3	+0.6
TOTH				AML	AML	11 47 49.1	
	comp=E,31nm,0.4s						
TOTH				AML	AML	11 47 55.9	
	comp=N,35nm,0.7s						
HWQ	Hawqa	0.88	19	eP	Pg	11 47 32.4	+0.2

MEX 19 11:50:01.1±0.8, 19°.79N×103°.90W, h5km, MD3.7, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		0.42	137	eP	Pg	11 50 08.8	-0.5
EZ5V				iS	Sg	11 50 14.8	0.0

*KRSC **19** 11:53:55.5±10.0, 52°.07N×160°.76E, h41km±10km, ML4.6*
*IDC **19** 11:53:56.1±0.8, 52°.39N×160°.24E, h0km, mb3.8/18, mb1 4.0/20, mb1mx3.9/39, mbtmp3.8/20, ML3.7/2, MS3.8/16, Ms1 3.9/16, ms1mx3.6/38, Error ellipse: s-maj=24.1km s-min=14.2km az=150.0*
*ISCJB **19** 11:53:58.1±0.6, 52°.09N±0°.04×160°.65E±0°.05, h47km±4km, mb4.1/35, MS3.8/16, Error ellipse: s-maj=6.9km s-min=3.9km az=140.1*
*MOS **19** 11:53:59.1±1.0, 52°.16N×160°.48E, h50km, mb4.4/18, Error ellipse: s-maj=7.3km s-min=3.9km az=99.6*
*NEIC **19** 11:54:01.3±2.9, 52°.33N×160°.11E, h35km±5km, mb4.4/21, Error ellipse: s-maj=16.2km s-min=14.7km az=167.0*

ISC 19 11:54:00.6±0.5, 52°.18N±0°.05×160°.53E±0°.05, h39km±4km, n178, σ1°59/202, mb4.2/35, MS3.8/16, 6C-4D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.97	342	eP	Pn	11 54 15.6	-2.1
SPN				eS	Sn	11 54 30.1	-0.2
SPN	Mys Shipunski	0.97	342	PN	Pn	11 54 15.6	-2.1
SPN				S	Sn	11 54 30.1	-0.2
NLC	Nalytchevo	1.23	324	eP	Pn	11 54 20.2	-1.0
NLC				eS	Sn	11 54 38.0	+1.4
NLC	Nalytchevo	1.23	324	PN	Pn	11 54 20.2	-1.0
NLC				S	Sn	11 54 38.0	+1.4
RUS	Russkaya	1.27	282	eP	Pn	11 54 20.2	-1.6
RUS				eS	Sn	11 54 38.4	+0.9
RUS	Russkaya	1.27	282	PN	Pn	11 54 20.2	-1.6
RUS				S	Sn	11 54 38.4	+0.9
DALK	Dalny	1.38	309	eP	Pn	11 54 22.2	-1.1
DALK				eS	Sn	11 54 41.1	+0.8
DALK	Dalny	1.38	309	PN	Pn	11 54 22.2	-1.1
DALK				S	Sn	11 54 41.1	+0.8
PET	Petropavlovsk	1.43	307	ePn	Pn	11 54 22.9	-1.0
PET	Petropavlovsk	1.43	307	↑iPN	Pn	11 54 22.9	-1.0
PET				eS	Sn	11 54 42.6	+1.2
PET				pmax	pmax		
	comp=Z,1μm,0.7s						
PET				smax	smax		
	comp=E,2μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.4s						
UGLR	Uglovaya	1.47	315	eP	Pn	11 54 24.4	-0.2
UGLR				eS	Sn	11 54 45.4	+2.8
UGLR	Uglovaya	1.47	315	PN	Pn	11 54 24.4	-0.2
UGLR				S	Sn	11 54 45.4	+2.8
MTVR	Mutnovka	1.47	283	eP	Pn	11 54 23.7	-1.1
MTVR				eS	Sn	11 54 43.9	+1.0
MTVR	Mutnovka	1.47	283	PN	Pn	11 54 23.7	-1.1
MTVR				S	Sn	11 54 43.9	+1.0
SDLR	Sedlovina	1.49	318	eP	Pn	11 54 24.0	-1.0
SDLR				eS	Sn	11 54 44.9	+1.7
SDLR	Sedlovina	1.49	318	PN	Pn	11 54 24.0	-1.0
SDLR				S	Sn	11 54 44.9	+1.7
SMAR	Somma	1.51	317	eP	Pn	11 54 24.4	-1.0
SMAR				eS	Sn	11 54 45.7	+1.8
SMAR	Somma	1.51	317	PN	Pn	11 54 24.4	-1.0
SMAR				S	Sn	11 54 45.7	+1.8
AVH	Avacha	1.54	316	eP	Pn	11 54 25.3	-0.3
AVH	Avacha	1.54	316	PN	Pn	11 54 25.3	-0.3
GRL	Gorelyy	1.55	285	eP	Pn	11 54 26.3	+0.5
GRL				eS	Sn	11 54 48.5	+3.7
GRL	Gorelyy	1.55	285	PN	Pn	11 54 26.3	+0.5
GRL				S	Sn	11 54 48.5	+3.7
KDTR	Khodutka, Kamc	1.56	257	eP	Pn	11 54 24.1	-1.7
KDTR				eS	Sn	11 54 43.6	-1.2
KDTR	Khodutka, Kamc	1.56	257	PN	Pn	11 54 24.1	-1.7
KDTR				S	Sn	11 54 43.6	-1.2
KRER	Koryakskii	1.56	317	eP	Pn	11 54 25.6	-0.5
KRER				eS	Sn	11 54 46.9	+1.7
KRER	Koryakskii	1.56	317	PN	Pn	11 54 25.6	-0.5
KRER				S	Sn	11 54 46.9	+1.7
KOK	Koryaka	1.60	315	eP	Pn	11 54 26.6	+0.1
KOK	Koryaka	1.60	315	PN	Pn	11 54 26.6	+0.1
KRMR	Karymshinskiy	1.61	295	eP	Pn	11 54 25.6	-0.8
KRMR				eS	Sn	11 54 47.2	+1.3
KRMR	Karymshinskiy	1.61	295	PN	Pn	11 54 25.6	-0.8
KRMR				S	Sn	11 54 47.2	+1.3
ASAK	Asacha	1.63	278	eP	Pn	11 54 26.2	-0.7
ASAK				eS	Sn	11 54 48.5	+1.9
ASAK	Asacha	1.63	278	PN	Pn	11 54 26.2	-0.7
ASAK				S	Sn	11 54 48.5	+1.9
KRX	Arik	1.65	317	eP	Pn	11 54 26.5	-0.6
KRX	Arik	1.65	317	PN	Pn	11 54 26.5	-0.6
PEA0B	Petropavlovsk-	1.96	299	ePn	Pn	11 54 31.0	-0.3
PEA0B	Petropavlovsk-	1.96	299	ePN	Pn	11 54 31.0	-0.3
PETK	Petropavlovsk-	1.96	299	ePn	Pn	11 54 30.7	-0.7
PETK	Petropavlovsk-	1.96	299	ePN	Pn	11 54 30.7	-0.7
PETK	Petropavlovsk-	1.96	299	Pn	Pn	11 54 30.9	-0.4
	comp=N,73nm,0.3s,baz=108,slow=18,SNR=367						
PETK				Sn	Sn	11 54 58.4	+3.7
	comp=N,103nm,0.3s,baz=114,slow=18,SNR=9.6						
PETK				LR	LR	11 55 29.0	
	comp=N,3μm,18.4s,baz=41,slow=55						
APC	Apacha	2.19	291	eP	Pn	11 54 34.5	0.0
APC				eS	Sn	11 55 03.3	+3.0
APC	Apacha	2.19	291	PN	Pn	11 54 34.5	0.0
APC				S	Sn	11 55 03.3	+3.0
PAU	Pauzhetka	2.42	254	eP	Pn	11 54 38.5	+0.9
PAU	Pauzhetka	2.42	254	PN	Pn	11 54 38.5	+0.9
MKZ	Mys Kozlova	2.49	16	eP	Pn	11 54 36.9	-1.6
MKZ				eS	Sn	11 55 06.3	-1.3
MKZ	Mys Kozlova	2.49	16	PN	Pn	11 54 36.9	-1.6
MKZ				S	Sn	11 55 06.3	-1.3
KZV	Kizimen	2.94	357	eP	Pn	11 54 45.8	+0.8
KZV				eS	Sn	11 55 20.5	+1.4
KZV	Kizimen	2.94	357	PN	Pn	11 54 45.8	+0.8
KZV				S	Sn	11 55 20.5	+1.4
TUMD	Tumrok D	3.03	359	eP	Pn	11 54 45.5	-0.5
TUMD				eS	Sn	11 55 21.3	+0.2
TUMR	Tumrok	3.12	356	PN	Pn	11 54 45.5	-1.8
TUMR				S	Sn	11 55 21.3	-2.1
SKR	Severo-Kuril's	3.14	243	ePN	Pn	11 54 46.5	-1.0
SKR				eS	Sn	11 55 21.5	-2.2
SKR				pmax	pmax		
	comp=Z,143nm,1.4s						
SKR				smax	smax		
	comp=N,589nm,0.7s						
SKR				smax	smax		
	comp=E,543nm,0.6s						
ALID	Alaid	3.38	249	eP	Pn	11 54 50.4	-0.5
ALID	Alaid	3.38	249	PN	Pn	11 54 50.4	-0.5
BZGR	Bezymyannyi-Gr	3.77	1	eP	Pn	11 54 57.6	+1.3
BZGR	Bezymyannyi-Gr	3.77	1	PN	Pn	11 54 57.6	+1.3
ESO	Esso	3.91	345	eP	Pn	11 54 58.1	+0.1
ESO	Esso	3.91	345	PN	Pn	11 54 58.1	+0.1
LGNR	Loginova	3.91	1	eP	Pn	11 55 00.6	+2.2
LGNR	Loginova	3.91	1	PN	Pn	11 55 00.6	+2.2
KRSR	Krestovskiy	4.05	0	eP	Pn	11 55 01.9	+1.8
KRSR	Krestovskiy	4.05	0	PN	Pn	11 55 01.9	+1.8
KLY	Klyuchi	4.14	1	eP	Pn	11 55 03.0	+1.7
KLY	Klyuchi	4.14	1	PN	Pn	11 55 03.0	+1.7
SRDR	Sredinnyy	4.17	354	eP	Pn	11 55 03.6	+1.8
SRDR	Sredinnyy	4.17	354	PN	Pn	11 55 03.6	+1.8
KBTR	Krutoberegovo	4.25	17	eP	Pn	11 55 02.2	-0.6
KBTR	Krutoberegovo	4.25	17	PN	Pn	11 55 02.2	-0.6
KBG	Krutoberegovo	4.28	16	eP	Pn	11 55 03.1	0.0
KBG	Krutoberegovo	4.28	16	PN	Pn	11 55 03.1	0.0
BDR	Baidarnaya	4.42	5	eP	Pn	11 55 06.5	+1.4
BDR	Baidarnaya	4.42	5	PN	Pn	11 55 06.5	+1.4
BKI	Bering	4.43	45	eP	Pn	11 55 04.2	-1.0
BKI	Bering	4.43	45	PN	Pn	11 55 04.2	-1.0
SMKR	Semkarok	4.45	7	eP	Pn	11 55 05.9	+0.4
SMKR	Semkarok	4.45	7	PN	Pn	11 55 05.9	+0.4
SRKR	Sorokina	4.50	4	eP	Pn	11 55 07.5	+1.3
SRKR	Sorokina	4.50	4	PN	Pn	11 55 07.5	+1.3
TILK	Tilichiki	8.85	18	eP	Pn	11 56 05.2	-0.6
TILK	Tilichiki	8.85	18	PN	Pn	11 56 05.2	-0.6
MA2	Magadan	9.21	327	ePn	Pn	11 56 13.6	+2.8
MA2	Magadan	9.21	327	ePN	Pn	11 56 13.6	+2.8
MA2	Magadan	9.21	327	LR	LR	12 00 18.8	
	comp=E,611nm,19.1s,baz=142,slow=43						
SEY	Seymchan	11.62	341	‖ePN	Pn	11 56 39.8	-3.9
YSS	Yuzh-Sakhalins	12.66	253	ePN	Pn	11 56 57.3	-0.6
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YUK	Yuzh-Kuril'sk	12.73	236	PN	P	11 57 11.7	+2.4
YUK				MLR	MLR		
	comp=Z,686nm,17.0s						
ASAJ	Asahikawa	14.41	243	Pn	Pn	11 57 19.6	-2.1
	comp=Z,0.6nm,0.3s,baz=76,slow=17,SNR=5.7						
BILL	Bilibino	16.15	8	ePn	P	11 57 47.1	-0.1
	comp=Z,6.5nm,0.9s						
BILL	Bilibino	16.15	8	eP	Pn	11 57 44.6	+0.2
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KLR	Kul'dur	18.41	272	‖eP	P	11 58 11.7	-0.6
KLR				pmax	pmax		
	comp=Z,11nm,2.3s						
KLR	Kul'dur	18.41	272	P	P	11 58 12.1	-0.2
	comp=Z,0.3nm,0.3s,baz=49,slow=9.6,SNR=6.8						
YAK	Yakutsk	19.25	313	eP	P	11 58 18.2	-3.1
YAK				eS	Sn	12 01 58.5	+1.5
YAK				pmax	pmax		
	comp=Z,132nm,1.0s						
YAK				pmax	pmax		
	comp=E,75nm,1.2s						
YAK				pmax	pmax		
	comp=N,28nm,1.0s						
YAK				smax	smax		
	comp=N,216nm,4.1s						
YAK				smax	smax		
	comp=E,167nm,3.3s						
YAK				MLR	MLR		
	comp=Z,1μm,15.0s						
YAK				MLR	MLR		
	comp=E,1μm,14.0s						
YAK				MLR	MLR		
	comp=N,1μm,15.0s						
ZEA	Zeya	20.01	288	eP	Pn	11 58 45.2	+14
ZEA				pmax	pmax		
	comp=Z,14nm,1.4s						
USRK	Ussuriysk Ar.	20.53	258	P	P	11 58 34.1	-1.3
	comp=Z,3.6nm,0.9s,baz=57,slow=8.8,SNR=4.6						
MAJO	Matsushiro	22.20	234	eP	P	11 58 54.2	+0.8
MAJO	Matsushiro	22.20	234	↑‖eP	P	11 58 51.6	-1.9
MAJO				pmax	pmax		
	comp=Z,12nm,1.3s						
MJAR	Matsushiro Arr	22.20	234	P	P	11 58 54.2	+0.8
	comp=Z,3.9nm,1.0s,baz=14,slow=9.2,SNR=11						
MJAR				LR	LR	12 08 12.4	
	comp=Z,312nm,20.6s,baz=20,slow=39						
TIXI	Tiksi	24.03	336	eP	P	11 59 09.5	-1.9
	comp=Z,5.9nm,0.8s						
TIXI	Tiksi	24.03	336	‖eP	P	11 59 10.0	-1.4
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HIA	Hailar	25.75	280	eP	P	11 59 26.1	-1.2
	comp=Z,10.0nm,1.0s						
HIA	Hailar	25.75	280	eP	P	11 59 26.1	-1.2
HIA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KSRS	Korea Array	27.14	250	P	P	11 59 41.9	+2.1
	comp=Z,0.8nm,0.6s,baz=35,slow=11,SNR=3.7						
KSRS				LR	LR	12 11 27.1	
	comp=Z,177nm,18.6s,baz=56,slow=39						
HOM	Homer	27.29	55	eP	P	11 59 45.4	+4.4
	comp=Z,204nm,1.0s						
SCM	Sheep Creek Mo	29.20	50	eP	P	12 00 01.2	+3.0
	comp=Z,14nm,1.3s						
SCM	Sheep Creek Mo	29.20	50	eP	P	12 00 01.2	+3.0
SCM				pmax	pmax		
	comp=Z,14nm,1.3s						
ILAR	Eielson Array	29.28	44	P	P	11 59 59.2	+0.5
	comp=Z,0.3nm,0.7s,baz=256,slow=7.3,SNR=3.0						
ILAR				LR

comp=Z,1.1nm,0.7s
MK31 Makanchi Array 48.80 297 *e*P **P 12 02 39.0 -2.5**
MK31 pmax pmax
comp=Z,1.0nm,0.7s
MK32 Makanchi Array 48.80 297 *e*P **P 12 02 39.3 -2.2**
MKAR Makanchi Array 48.80 297 *e*P **P 12 02 39.1 -2.4**
MKAR Makanchi Array 48.80 297 *i* P **P 12 02 39.2 -2.4**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 48.80 297 P **P 12 02 39.3 -2.2**
comp=Z,0.6nm,0.4s,baz=56,slow=7.1,SNR=8.0
MAKZ Makanchi 48.96 297 *e*P **P 12 02 40.1 -2.7**
comp=Z,2.5nm,0.9s
MAKZ Makanchi 48.96 297 *e*P **P 12 02 40.1 -2.7**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 51.20 309 *e*P **P 12 02 57.8 -1.8**
comp=Z,5.3nm,1.1s
BRVK Borovoye 51.20 309⇑ *e*P **P 12 02 58.0 -1.6**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
ARA0 ARCESS Array S 54.24 342 *e*P **P 12 03 19.5 -2.3**
ARCES ARCESS Array B 54.24 342 *e*P **P 12 03 21.5 -0.3**
ARCES ARCESS Array B 54.24 342 *e*P **P 12 03 21.5 -0.3**
ARCES ARCESS Array B 54.24 342 P **P 12 03 19.5 -2.3**
comp=Z,1.6nm,0.8s,baz=41,slow=9.7,SNR=4.6
ARU Arti 54.25 318 *e*P **P 12 03 21.3 -0.8**
comp=Z,8.4nm,1.3s
ARU Arti 54.25 318 *e*P **P 12 03 21.3 -0.8**
ARU pmax pmax
comp=Z,8.0nm,1.3s
NVAR Mina Array Bea 55.80 70 P **P 12 03 36.3 +2.4**
comp=Z,0.5nm,0.7s,baz=298,slow=7.7,SNR=2.8
NV01 Mina Array Sit 55.81 70 *e*P **P 12 03 36.3 +2.4**
PDAR Pinedale Array 57.74 61 P **P 12 03 50.0 +2.4**
comp=Z,0.5nm,0.7s,baz=336,slow=3.3,SNR=4.1
CMAR Chiang Mai Arr 58.26 259 *e*P **P 12 03 52.0 +0.8**
CMAR Chiang Mai Arr 58.26 259 *i* P **P 12 03 52.2 +1.0**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 58.26 259 P **P 12 03 51.5 +0.3**
comp=Z,1.4nm,0.3s,baz=28,slow=6.5,SNR=5.2
CMAR LR LR 12 31 15.1
comp=Z,99nm,18.1s,baz=48,slow=38
ABKAR Akbulak array 58.59 311 *e*P **P 12 03 52.3 -0.8**
comp=Z,3.0nm,1.1s
FIA0 FINESS Array S 61.07 337 *e*P **P 12 04 09.8 0.0**
FINES FINESS Array B 61.07 337 *i* P **P 12 04 10.0 +0.1**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 61.07 337 P **P 12 04 09.8 0.0**
comp=Z,2.7nm,0.5s,baz=32,slow=8.9,SNR=50
FINES LR LR 12 36 58.7
comp=Z,67nm,18.4s,baz=28,slow=42
OBN Obninsk 63.43 328 *e*P **P 12 04 24.0 -1.8**
OBN *e* 12 05 02.6
OBN pmax pmax
comp=Z,4.0nm,0.9s
NB2 NORSAR Subarra 64.50 344 P **P 12 04 32.3 -0.5**
comp=Z,2.6nm,0.9s,baz=23,slow=6.9
NB200 NORSAR Array S 64.50 344 *e*P **P 12 04 32.7 0.0**
NOA NORSAR Array B 64.50 344 P **P 12 04 32.7 0.0**
comp=Z,0.8nm,0.5s,baz=23,slow=6.7,SNR=6.1
NOA LR LR 12 36 17.4
comp=Z,38nm,19.4s,baz=5.0,slow=40
GEYT Alibeck 67.81 303 LR LR 12 37 01.4
comp=Z,156nm,18.7s,baz=0.0,slow=38
OK023 East Waterloo 69.44 58 *e*P **P 12 05 03.8 -0.7**
comp=Z,7.9nm,0.9s
AKASG Malin Array Be 69.54 329 *i* P **P 12 05 04.5 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 69.54 329 P **P 12 05 04.0 -0.8**
comp=Z,0.5nm,0.3s,baz=30,slow=6.1,SNR=8.5
AKASG LR LR 12 40 58.0
comp=Z,106nm,18.8s,baz=5.0,slow=41
AKBB Malin Array Si 69.54 329 *e*P **P 12 05 03.4 -1.4**
comp=Z,3.7nm,1.0s
KIEV Kiev 69.55 329 *e*P **P 12 05 03.4 -1.5**
comp=Z,3.3nm,1.0s
KIEV Kiev 69.55 329⇑ *e*P **P 12 05 03.6 -1.3**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
TXAR Lajitas Array 70.75 67 P **P 12 05 13.4 +0.6**
comp=Z,0.3nm,0.8s,baz=302,slow=5.2,SNR=3.8
LPIG La Paz 70.84 75 LR LR 12 35 55.8
comp=Z,17nm,18.2s,baz=212,slow=36
CLL Collm 73.31 339 *e*P **P 12 05 28.0 +0.4**
CLL Collm 73.31 339 *e*P **P 12 05 28.0 +0.4**
BUR08 Bucovina Ar. S 73.48 330 *e*P **P 12 05 28.0 -0.8**
comp=Z,4.5nm,1.4s
BURAR Bucovina Array 73.50 330 *e*P **P 12 05 28.6 -0.4**
BURAR Bucovina Array 73.50 330 *e*P **P 12 05 28.5 -0.4**
GEC2 GERESS Array S 75.46 338 *e*P **P 12 05 38.8 -1.5**
comp=Z,3.0nm,1.2s
GEC2 GERESS Array S 75.46 338 *e*P **P 12 05 38.8 -1.5**
GEC2 pmax pmax
comp=Z,3.0nm,1.2s
GERES GERESS Array B 75.46 338 P **P 12 05 41.2 +0.9**
comp=Z,0.7nm,0.6s,baz=47,slow=4.4,SNR=3.6
GERES LR LR 12 42 23.3
comp=Z,41nm,20.9s,baz=89,slow=39
BR101 Keskin Array S 77.50 321 *e*P **P 12 05 52.0 0.0**
BRTR Keskin Array B 77.50 321 P **P 12 05 52.0 0.0**
comp=Z,0.5nm,0.6s,baz=20,slow=3.9,SNR=5.0
BRTR LR LR 12 45 35.4
comp=Z,41nm,20.4s,baz=44,slow=40
ASAR Alice Springs 79.03 205 P **P 12 06 01.5 +1.1**
comp=Z,0.2nm,0.6s,baz=14,slow=5.0,SNR=7.2
PPT Papeete 81.83 133 LR LR 12 39 37.4
comp=Z,59nm,18.0s,baz=338,slow=33
KEST Kesra 88.90 337 LR LR 12 52 01.5
comp=Z,68nm,18.4s,baz=284,slow=39

*IDC **19** 11:54:07.0±1.4, 13°.73N×92°.38W, h0km, mb3.8/5, mb1 4.0/9, mb1mx3.7/37, mbtmp3.7/9, ML3.2/4, Error ellipse: s-maj=43.0km s-min=19.7km az=41.0*
*UCR **19** 11:54:08.1±0.8, 13°.75N×92°.66W, h35km±999km, MD3.7, mb4.1(NEIC)*
*NEIC **19** 11:54:11.9±3.0, 13°.65N×92°.31W, h36km±5km, mb4.1/19, Error ellipse: s-maj=13.8km s-min=4.7km az=154.0*
ISC 19 11:54:11.4±0.7, 13°.64N±0°.07×92°.34W±0°.05, h32km, n43, σ1§45/49, mb4.1/17, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.66**	**61**	*e*P	**Pn**	**11 54 38.0**	**-0.4**
PCG	**Pacaya**	**1.83**	**66**	*e*P	**Pn**	**11 54 41.0**	**0.0**
PCG				*e*S	**Sb**	**11 55 07.1**	**-0.2**
IXG	**Ixpaco**	**1.91**	**74**	*e*P	**Pn**	**11 54 42.1**	**+0.1**
IXG				*e*S	**Sb**	**11 55 08.2**	**-1.2**
NBG	**Las Nubes**	**2.15**	**64**	*e*P	**Pn**	**11 54 46.2**	**+0.9**
NBG				*e*S	**Sb**	**11 55 15.1**	**-1.1**
APG	**El Apazote**	**2.26**	**53**	Pn	**Pn**	**11 54 46.6**	**-0.2**
	11nm,0.3s,baz=168,slow=13,SNR=138						
APG				Sn	**Sn**	**11 55 17.1**	**+3.3**
	20nm,0.3s,baz=66,slow=20,SNR=5.5						
CCIG	**Comitan**	**2.63**	**4**	*e*Pn	**Pn**	**11 54 51.8**	**-0.1**
CMIG	**Matias Romero**	**4.22**	**325**	Pn	**Pn**	**11 55 10.4**	**-3.1**
	0.7nm,0.3s,baz=146,slow=13,SNR=9.0						
CMIG				Sn	**Sn**	**11 56 05.5**	**+3.8**
	9.4nm,0.3s,baz=41,slow=19,SNR=6.7						
ESTN	**Estel**	**5.83**	**95**	*e*Pn	**Pn**	**11 55 36.5**	**+0.7**
TLIG	**Tlapa**	**7.16**	**304**	*e*Pn	**Pn**	**11 55 54.5**	**+0.5**
TEIG	**Tepich**	**7.61**	**30**	*e*Pn	**Pn**	**11 55 59.3**	**-0.9**
JTS	**Las Juntas de**	**7.96**	**114**	Pn	**Pn**	**11 56 05.5**	**+0.6**
	0.2nm,0.3s,baz=343,slow=17,SNR=2.2						
JTS				Sn	**Sn**	**11 57 33.3**	**-0.6**
	5.2nm,0.3s,baz=43,slow=19,SNR=22						
JTS				Lg	Lg	11 58 15.2	
	baz=214,slow=21,SNR=2.3						
PAYG	**Puerto Ayora**	**14.37**	**172**	*e*Pn	**Pn**	**11 57 34.3**	**+1.5**
656A	**Willston**	**18.09**	**29**	*e*Pn	**P**	**11 58 21.4**	**+0.9**
	19nm,1.1s						
453A	**Whigham**	**18.65**	**22**	*e*P	**Pn**	**11 58 29.4**	**+2.2**
	32nm,1.5s						
658A	**Bunnell**	**18.76**	**31**	*e*P	**P**	**11 58 26.5**	**-1.4**
	145nm,1.4s						
TXAR	**Lajitas Array**	**18.82**	**328**	*e*P	**Pn**	**11 58 30.6**	**+1.3**
TXAR	**Lajitas Array**	**18.82**	**328**	P	**Pn**	**11 58 28.9**	**-0.5**
	0.0nm,0.3s,baz=145,slow=13,SNR=7.8						
TX31	**Lajitas Ar. Si**	**18.82**	**328**	*e*P	**Pn**	**11 58 30.8**	**+1.4**
	4.3nm,1.4s						
AMTX	**Amarillo**	**22.77**	**340**	*e*P	**P**	**11 59 09.2**	**-2.2**
	7.9nm,0.8s						
CPCT	**Cooper Cave**	**22.83**	**17**	*e*P	**P**	**11 59 09.4**	**-2.4**
	2.7nm,0.8s						
BG3	**Lake Jocassee**	**22.89**	**20**	*e*P	**P**	**11 59 14.2**	**+1.7**
	6.7nm,1.3s						
N51A	**Ashland**	**28.54**	**16**	*e*P	**P**	**12 00 04.4**	**+0.2**
	11nm,1.1s						
PV12	**Saucer Basin,**	**28.59**	**332**	*e*P	**P**	**12 00 06.3**	**+1.3**
	3.7nm,1.0s						
REDW	**Red Top Meadow**	**33.63**	**335**	*e*P	**P**	**12 00 49.3**	**0.0**
	10nm,1.5s						
SNOW	**Snow King Moun**	**33.67**	**335**	*e*P	**P**	**12 00 49.4**	**-0.3**
	4.9nm,0.8s						
NV01	**Mina Array Sit**	**33.74**	**322**	*e*P	**P**	**12 00 51.3**	**+0.9**
NVAR	**Mina Array Bea**	**33.74**	**322**	P	**P**	**12 00 51.3**	**+0.9**
	0.7nm,0.7s,baz=135,slow=9.0,SNR=4.6						
MCMT	**McKenzie Canyo**	**35.65**	**335**	*e*P	**P**	**12 01 07.8**	**+1.0**
GBGM	**Boggs Mountain**	**36.70**	**319**	*e*P	**P**	**12 01 14.7**	**-1.0**
LPAZ	**La Paz**	**38.17**	**140**	*e*P	**P**	**12 01 27.1**	**-1.8**
	1.2nm,1.1s						
F10A	**Beach Ranch, E**	**38.47**	**332**	*e*P	**P**	**12 01 29.7**	**-0.8**
	2.6nm,0.8s						
GLK	**Glacier Lake**	**41.00**	**329**	*e*P	**P**	**12 01 48.8**	**-2.8**
SIV	**San Ignacio**	**42.69**	**133**	P	**P**	**12 02 06.2**	**+0.6**
	0.9nm,0.8s,baz=223,slow=8.8,SNR=5.2						
YKA	**Yellowknife Ar**	**51.30**	**347**	P	**P**	**12 03 10.7**	**-1.5**
	2.0nm,0.7s,baz=150,slow=7.5,SNR=38						
YKB5	**Yellowknife Ar**	**51.30**	**347**	*e*P	**P**	**12 03 10.7**	**-1.5**
YKW3	**Yellowknife Ar**	**51.36**	**347**	*e*P	**P**	**12 03 12.0**	**-0.7**
	2.2nm,0.8s						
INK	**Inuvik**	**60.69**	**344**	*e*P	**P**	**12 04 17.7**	**-1.6**
	3.6nm,1.3s						
INK	**Inuvik**	**60.69**	**344**	P	**P**	**12 04 18.1**	**-1.2**
	1.1nm,0.7s,baz=106,slow=8.4,SNR=4.9						
ILAR	**Eielson Array**	**63.04**	**337**	*e*P	**P**	**12 04 36.1**	**+0.9**
ILAR	**Eielson Array**	**63.04**	**337**	P	**P**	**12 04 34.6**	**-0.6**
	0.5nm,0.7s,baz=130,slow=4.4,SNR=7.4						
CAST	**Castle Rocks**	**64.56**	**335**	*e*P	**P**	**12 04 44.8**	**-0.4**
	1.6nm,0.9s						
TOLK	**Toolik Lake Re**	**65.74**	**340**	*e*P	**P**	**12 04 52.8**	**-0.1**
	3.4nm,1.3s						
CMAR	**Chiang Mai Arr**	**146.22**	**340**	PKPbc	**PKPbc**	**12 13 50.0**	**+0.4**
	1.6nm,0.7s,baz=337,slow=3.5,SNR=12						

*ISCJB **19** 12:18:42.0±0.2, 12°.22S±0°.04×167°.07E±0°.06, h220km, mb4.3/65, Error ellipse: s-maj=7.7km s-min=4.8km az=12.0*
*NEIC **19** 12:18:43.7±1.5, 12°.23S×167°.09E, h223km±6km, mb4.5/57, Error ellipse: s-maj=20.4km s-min=15.5km az=87.0*
*IDC **19** 12:18:44.6±3.2, 12°.31S×167°.10E, h234km±30km, mb3.8/16, mb1 3.9/18, mb1mx3.7/43, mbtmp4.3/18, Error ellipse: s-maj=17.8km s-min=14.1km az=76.0*
ISC 19 12:18:43.3±0.4, 12°.22S±0°.06×167°.1E±0°.1, h220km, n107, σ0§89/110, mb4.4/65, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**9.25**	**175**	*e*Pn	**Pn**	**12 20 53.6**	**+1.0**
DZM	**Mont Dzumac**	**9.82**	**184**	P	**Pn**	**12 21 00.8**	**+0.7**
	0.4nm,0.3s,baz=30,slow=20,SNR=6.5						
DZM				S	**S**	**12 22 49.9**	**-0.5**
	0.2nm,0.3s,baz=164,slow=7.0,SNR=3.2						
OUENC	**Ouen Island, N**	**10.15**	**182**	*e*Pn	**Pn**	**12 21 06.5**	**+2.4**
PINNC	**Pines Island,**	**10.34**	**178**	*e*Pn	**Pn**	**12 21 07.9**	**+1.3**
RABL	**Rabaul**	**16.81**	**297**	*e*P	**P**	**12 22 22.3**	**-2.7**
	28nm,0.4s						
PMG	**Port Moresby**	**19.81**	**276**	*e*P	**P**	**12 22 57.3**	**-0.2**
PMG				*e*		12 22 59.2	
PMG	**Port Moresby**	**19.81**	**276**	P	**P**	**12 22 57.3**	**-0.2**
	0.9nm,0.3s,baz=24,slow=18,SNR=3.1						
EIDS	**Eidsvold**	**20.02**	**227**	*e*P	**P**	**12 23 00.8**	**+1.3**
	24nm,0.6s						
CTA	**Charters Tower**	**21.51**	**246**	P	**P**	**12 23 15.7**	**+0.5**
	13nm,0.8s,baz=78,slow=11,SNR=19						
CTAO	**Charters Tower**	**21.51**	**246**	*e*P	**P**	**12 23 15.8**	**+0.6**
	11nm,0.7s						
ARMA	**Armidale**	**23.11**	**216**	*e*P	**P**	**12 23 32.1**	**+2.0**
	7.4nm,0.7s						
COEN	**Coen**	**23.40**	**263**	*e*P	**P**	**12 23 33.7**	**+1.0**
	29nm,1.5s						
BFZ	**Birch Farm**	**29.47**	**166**	*e*P	**P**	**12 24 25.3**	**-1.4**
	52nm,1.4s						
SNZO	**South Karori**	**29.73**	**168**	*e*P	**P**	**12 24 28.1**	**-0.9**
THZ	**Tophouse**	**29.86**	**171**	*e*P	**P**	**12 24 30.1**	**-0.1**
	7.7nm,0.9s						
KHZ	**Kahutara**	**30.60**	**171**	*e*P	**P**	**12 24 36.1**	**-0.5**
	24nm,1.2s						
LTZ	**Lake Taylor**	**30.78**	**173**	*e*P	**P**	**12 24 38.0**	**-0.3**
	32nm,1.5s						
OXZ	**Oxford**	**31.29**	**173**	*e*P	**P**	**12 24 43.3**	**+0.6**
	21nm,1.4s						
FOZ	**Fox Glacier**	**31.29**	**176**	*e*P	**P**	**12 24 42.6**	**-0.1**
	15nm,1.1s						
RPZ	**Rata Peaks**	**31.57**	**175**	*e*P	**P**	**12 24 48.1**	**+3.0**
	4.9nm,0.6s						
MQZ	**McQueen's Vall**	**31.74**	**172**	*e*P	**P**	**12 24 47.3**	**+0.7**
	34nm,1.4s						
WB2	**Warramunga Arr**	**32.38**	**252**	*e*P	**P**	**12 24 51.4**	**-1.1**
	3.0nm,0.5s						
WRAB	**Tennant Creek**	**32.38**	**252**	*e*P	**P**	**12 24 51.3**	**-1.2**
	7.4nm,1.3s						
WR1	**Warramunga Arr**	**32.39**	**252**	*e*P	**P**	**12 24 51.5**	**-1.1**
WRA	**Warramunga Arr**	**32.39**	**252**	P	**P**	**12 24 51.5**	**-1.1**
	2.4nm,0.5s,baz=83,slow=9.1,SNR=4.6						
AS31	**Alice Springs**	**33.51**	**246**	*e*P	**P**	**12 25 01.0**	**-1.4**
	0.9nm,0.6s						
ASAR	**Alice Springs**	**33.51**	**246**	*e*P	**P**	**12 25 01.3**	**-1.1**
ASAR	**Alice Springs**	**33.51**	**246**	P	**P**	**12 25 01.1**	**-1.3**
	3.0nm,0.7s,baz=71,slow=9.5,SNR=53						
WHZ	**Wether Hill Ro**	**33.57**	**179**	*e*P	**P**	**12 25 01.8**	**-0.7**
	33nm,1.4s						
BBOO	**Buckleboo**	**35.06**	**229**	*e*P	**P**	**12 25 15.3**	**-0.1**
	20nm,1.3s						
FITZ	**Fitzroy Crossi**	**40.41**	**256**	*e*P	**P**	**12 26 00.5**	**+0.2**
	2.4nm,0.6s						
FORT	**Forrest**	**40.51**	**237**	*e*P	**P**	**12 26 01.0**	**-0.1**
	23nm,0.9s						
PSA00	**Pilbara Seismi**	**46.04**	**252**	*e*P	**P**	**12 26 45.6**	**+0.2**
	14nm,1.1s						
MJAR	**Matsushiro Arr**	**55.63**	**332**	*e*P	**P**	**12 27 56.8**	**+0.2**
MJAR	**Matsushiro Arr**	**55.63**	**332**	P	**P**	**12 27 55.7**	**-0.8**
	1.8nm,0.7s,baz=171,slow=8.5,SNR=6.5						
MAJO	**Matsushiro**	**55.63**	**332**	*e*P	**P**	**12 27 56.6**	**+0.1**
	4.9nm,1.1s						
MJB9	**Matsu-Tunnel**	**55.64**	**332**	*e*P	**P**	**12 27 56.6**	**0.0**
	4.7nm,1.1s						
JNU	**Nakatsue**	**56.82**	**324**	*e*P	**P**	**12 28 04.4**	**-0.6**
	62nm,1.5s						
JNU	**Nakatsue**	**56.82**	**324**	P	**P**	**12 28 04.7**	**-0.4**
	14nm,1.1s,baz=158,slow=5.4,SNR=3.6						
ASAJ	**Asahikawa**	**60.35**	**340**	P	**P**	**12 28 30.3**	**+1.2**
	4.4nm,0.6s,baz=73,slow=0.9,SNR=6.6						
VNDA	**Vanda**	**65.36**	**181**	*e*P	**P**	**12 29 01.1**	**-0.5**
VNDA	**Vanda**	**65.36**	**181**	P	**P**	**12 29 00.7**	**-0.9**
	0.8nm,0.6s,baz=354,slow=5.8,SNR=16						
SBA	**Scott Base**	**65.63**	**180**	*e*P	**P**	**12 29 03.8**	**+0.5**
	2.0nm,0.8s						
KLR	**Kul'dur**	**68.67**	**336**	P	**P**	**12 29 23.8**	**+1.0**
	1.5nm,0.7s,baz=141,slow=2.5,SNR=5.5						
CMAR	**Chiang Mai Arr**	**73.82**	**293**	P	**P**	**12 29 55.2**	**+0.9**
	1.0nm,0.9s,baz=108,slow=5.2,SNR=5.7						
SEY	**Seymchan**	**75.79**	**353**	P	**P**	**12 30 04.9**	**+0.4**
	4.1nm,0.5s,baz=139,slow=5.4,SNR=9.7						
QSPA	**South Pole Qui**	**77.80**	**180**	*e*P	**P**	**12 30 15.3**	**-0.7**
	5.0nm,0.9s						
SONA0	**Songino Array**	**80.41**	**323**	*e*P	**P**	**12 30 30.7**	**+0.3**
SONM	**Songino Array**	**80.41**	**323**	P	**P**	**12 30 30.7**	**+0.3**
	0.6nm,0.6s,baz=116,slow=3.4,SNR=5.0						
SUA	**Musitna One**	**80.58**	**19**	*e*P	**P**	**12 30 30.9**	**-0.1**
	12nm,1.1s						
RC01	**Rabbit Creek A**	**80.62**	**20**	*e*P	**P**	**12 30 31.3**	**+0.1**
	9.0nm,1.0s						
KNK	**Knik Glacier**	**81.28**	**20**	*e*P	**P**	**12 30 34.8**	**+0.2**
	5.0nm,0.8s						
GLI	**Glacier Island**	**81.36**	**21**	*e*P	**P**	**12 30 34.6**	**-0.4**
	28nm,1.3s						
SML	**Sawmill**	**81.61**	**20**	*e*P	**P**	**12 30 37.0**	**+0.6**
	8.3nm,0.9s						
CAST	**Castle Rocks**	**81.65**	**17**	*e*P	**P**	**12 30 36.6**	**+0.1**
	6.1nm,0.7s						
SCM	**Sheep Creek Mo**	**81.96**	**20**	*e*P	**P**	**12 30 38.9**	**+0.7**
	9.8nm,0.7s						
HMT	**Hamilton**	**82.00**	**22**	*e*P	**P**	**12 30 38.9**	**+0.5**
	31nm,1.3s						
BPAW	**Bear Paw Mtn.**	**82.48**	**17**	*e*P	**P**	**12 30 41.0**	**+0.1**
	5.1nm,1.4s						
MCK	**McKinley**	**82.82**	**18**	*e*P	**P**	**12 30 42.3**	**-0.3**
	3.8nm,0.7s						
DIB	**Dawson Inlet,**	**82.96**	**32**	*e*P	**P**	**12 30 44.0**	**+0.6**
	28nm,1.3s						
BWN	**Browne**	**82.98**	**18**	*e*P	**P**	**12 30 43.5**	**+0.1**
	17nm,1.0s						
BALM	**Baldy**	**83.17**	**22**	*e*P	**P**	**12 30 44.9**	**+0.3**
	14nm,1.3s						
IMAR	**Indian Mountai**	**83.19**	**15**	*e*P	**P**	**12 30 45.4**	**+1.0**
MLY	**Manley**	**83.26**	**17**	*e*P	**P**	**12 30 44.9**	**+0.1**
	11nm,1.5s						
CTGM	**Chitina Glacie**	**83.50**	**23**	*e*P	**P**	**12 30 47.0**	**+0.7**
	20nm,1.3s						
WRH	**Wood River Hil**	**83.61**	**18**	*e*P	**P**	**12 30 46.4**	**-0.2**
	16nm,1.2s						
YBH	**Yreka Blue Hor**	**83.75**	**45**	P	**P**	**12 30 48.0**	**+0.1**
	2.8nm,0.8s,baz=241,slow=5.8,SNR=7.0						
CCB	**Clear Creek Bu**	**83.83**	**18**	*e*P	**P**	**12 30 47.1**	**-0.6**
	9.3nm,0.6s						
HDA	**Harding Lake**	**83.92**	**18**	*e*P	**P**	**12 30 48.2**	**+0.1**
	23nm,0.6s						
MDM	**Murphy Dome**	**83.93**	**18**	*e*P	**P**	**12 30 47.9**	**-0.3**
	8.3nm,0.7s						
AFDM	**Forest Hills D**	**83.96**	**48**	*e*P	**P**	**12 30 49.4**	**+0.4**
	4.5nm,1.0s						
RIDG	**Independent Ri**	**84.11**	**19**	*e*P	**P**	**12 30 49.7**	**+0.5**
	6.5nm,0.6s						
MHDM	**Hidden Dam**	**84.12**	**50**	*e*P	**P**	**12 30 49.3**	**-0.4**
ILAR	**Eielson Array**	**84.19**	**18**	*e*P	**P**	**12 30 49.7**	**+0.2**
ILAR	**Eielson Array**	**84.19**	**18**	P	**P**	**12 30 49.5**	**+0.1**
	8.4nm,0.6s,baz=237,slow=5.2,SNR=30						
ILB	**Eielson Array**	**84.19**	**18**	*e*P	**P**	**12 30 49.2**	**-0.3**
	9.5nm,0.6s						
SCRK	**Sand Creek**	**84.56**	**20**	*e*P	**P**	**12 30 51.9**	**+0.4**
	5.8nm,0.6s						
BEKR	**Beckworth**	**84.73**	**47**	*e*P	**P**	**12 30 52.7**	**-0.3**
	3.7nm,1.2s						
NV01	**Mina Array Sit**	**85.74**	**49**	*e*P	**P**	**12 30 58.5**	**+0.4**
NVAR	**Mina Array Bea**	**85.74**	**49**	P	**P**	**12 30 58.5**	**+0.4**
	0.9nm,0.7s,baz=230,slow=9.0,SNR=6.2						
J08A	**Circle Bar Ran**	**87.25**	**45**	*e*P	**P**	**12 31 06.2**	**+1.0**
	3.8nm,0.8s						
U15A	**North Rim**	**89.73**	**53**	*e*P	**P**	**12 31 18.5**	**+1.3**
	3.7nm,1.0s						
HLID	**Hailey**	**90.12**	**45**	*e*P	**P**	**12 31 19.7**	**+1.0**
	1.7nm,0.8s						
MK31	**Makanchi Array**	**95.30**	**317**	*e*P	**P**	**12 31 42.7**	**+0.4**
	1.7nm,0.8s						
MK32	**Makanchi Array**	**95.30**	**317**	*e*P	**P**	**12 31 42.5**	**+0.2**
MKAR	**Makanchi Array**	**95.30**	**317**	*e*P	**P**	**12 31 42.4**	**+0.1**
MKAR	**Makanchi Array**	**95.30**	**317**	P	**P**	**12 31 42.5**	**+0.2**
	2.1nm,0.6s,baz=94,slow=6.7,SNR=22						
YKA	**Yellowknife Ar**	**95.39**	**27**	P	**P**	**12 31 40.8**	**-1.4**
	0.8nm,0.6s,baz=258,slow=4.6,SNR=31						
YKB5	**Yellowknife Ar**	**95.39**	**27**	*e*P	**P**	**12 31 40.9**	**-1.4**
SNAA	**Sanae**	**96.03**	**183**	P	**P**	**12 31 43.3**	**-2.0**
VNA3	**Neumayer Olymp**	**96.71**	**181**	P	**P**	**12 31 46.2**	**-2.0**
VNA2	**Neumayer--Watz**	**96.97**	**182**	P	**P**	**12 31 47.8**	**-1.6**
	baz=187,slow=5.1						
ARA0	**ARCESS Array S**	**117.80**	**346**	*e*PKPdf	**PKPdf**	**12 37 02.1**	**-0.8**
ARCES	**ARCESS Array B**	**117.80**	**346**	PKP	**PKPdf**	**12 37 02.1**	**-0.8**
	2.1nm,0.5s,baz=89,slow=2.5,SNR=27						
FIA0	**FINESS Array S**	**123.35**	**339**	*e*PKPdf	**PKPdf**	**12 37 13.0**	**-0.7**
FINES	**FINESS Array B**	**123.35**	**339**	PKP	**PKPdf**	**12 37 13.0**	**-0.7**
	9.5nm,1.2s,baz=70,slow=1.8,SNR=11						
NB200	**NORSAR Array S**	**128.18**	**345**	*e*PKPdf	**PKPdf**	**12 37 22.3**	**-0.7**
NOA	**NORSAR Array B**	**128.18**	**345**	PKP	**PKPdf**	**12 37 22.3**	**-0.7**
	0.2nm,0.4s,baz=40,slow=2.7,SNR=2.7						
AKASG	**Malin Array Be**	**128.58**	**327**	PKP	**PKPdf**	**12 37 23.3**	**-0.7**
	0.3nm,0.4s,baz=66,slow=2.3,SNR=2.9						
GERES	**GERESS Array B**	**137.35**	**334**	PKP	**PKPdf**	**12 37 41.3**	**+0.6**
	0.6nm,0.5s,baz=45,slow=3.3,SNR=3.1						
BNI	**Bardonecchia**	**143.26**	**337**	*e*PKPdf	**PKPdf**	**12 37 50.9**	**-0.7**
KEST	**Kesra**	**149.16**	**323**	*e*PKPbc	**PKPbc**	**12 38 06.5**	**+0.4**
KEST	**Kesra**	**149.16**	**323**	PKPbc	**PKPbc**	**12 38 06.3**	**+0.1**
	3.0nm,0.6s,baz=190,slow=4.7,SNR=4.3						
MTE	**Manteigas**	**151.54**	**351**	*e*PKPbc	**PKiKP**	**12 38 11.9**	**-0.1**
ESDC	**Sonseca Array**	**151.54**	**345**	PKPbc	**PKPbc**	**12 38 11.6**	**-0.1**
	1.1nm,0.6s,baz=360,slow=2.0,SNR=11						
ESDC				PKPab	**PKPab**	**12 38 21.6**	**+0.7**
	2.0nm,1.1s,baz=18,slow=4.2,SNR=5.1						
ESLA	**Sonseca Array**	**151.54**	**345**	*e*PKPbc	**PKPbc**	**12 38 12.1**	**+0.5**
ESLA				*e*PKPab	**PKPab**	**12 38 21.9**	**+1.1**
PAB	**San Pablo**	**151.75**	**346**	*e*PKPbc	**PKPbc**	**12 38 11.9**	**-0.3**

*IDC **19** 12:23:22.7±2.0, 52°.25N×160°.81E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.5/47, mbtmp3.7/9, ML3.1/2, MS3.4/4, Ms1 3.4/4, ms1mx2.8/59, Error ellipse: s-maj=39.1km s-min=26.7km az=129.0*
*KRSC **19** 12:23:24.1±10.0, 52°.06N×160°.78E, h41km±10km, ML4.3*
*ISCJB **19** 12:23:25.5

ASAK	Asacha	1.72	281	eP	Pn	12 23 54.7	-0.6
ASAK				eS	Sn	12 24 16.8	+0.7
ASAK	Asacha	1.72	281	PN	Pn	12 23 54.7	-0.6
ASAK				S	Sn	12 24 16.8	+0.7
KRX	Arik	1.75	317	eP	Pn	12 23 55.7	-0.2
KRX	Arik	1.75	317	PN	Pn	12 23 55.7	-0.2
PETK	Petropavlovsk-	2.07	300	Pn	Pn	12 23 59.5	-0.5
	comp=E,19nm,0.3s,baz=108,slow=19,SNR=199						
PETK				Sn	Sn	12 24 27.0	+2.4
	comp=E,61nm,0.3s,baz=245,slow=21,SNR=20						
PETK				LR	LR	12 24 57.0	
	comp=E,277nm,20.0s,baz=51,slow=45						
APC	Apacha	2.29	292	eP	Pn	12 24 03.2	+0.1
APC				eS	Sn	12 24 32.3	+2.2
APC	Apacha	2.29	292	PN	Pn	12 24 03.2	+0.1
APC				S	Sn	12 24 32.3	+2.2
MKZ	Mys Kozlova	2.54	14	eP	Pn	12 24 05.8	-0.7
MKZ	Mys Kozlova	2.54	14	PN	Pn	12 24 05.8	-0.7
KZV	Kizimen	3.02	356	eP	Pn	12 24 13.6	+0.3
KZV				eS	Sn	12 24 48.5	+0.1
KZV	Kizimen	3.02	356	PN	Pn	12 24 13.6	+0.3
KZV				S	Sn	12 24 48.5	+0.1
TUMD	Tumrok D	3.11	357	eP	Pn	12 24 14.3	-0.1
TUMD				eS	Sn	12 24 49.7	-0.6
SKR	Severo-Kuril's	3.18	245	ePN	Pn	12 24 14.4	-0.9
TUMR	Tumrok	3.20	355	PN	Pn	12 24 14.3	-1.4
ALID	Alaid	3.42	251	eP	Pn	12 24 19.5	+0.7
ALID	Alaid	3.42	251	PN	Pn	12 24 19.5	+0.7
ESO	Esso	4.00	344	eP	Pn	12 24 28.1	+1.5
ESO	Esso	4.00	344	PN	Pn	12 24 28.1	+1.5
KLY	Klyuchi	4.22	360	eP	Pn	12 24 33.7	+4.2
KLY	Klyuchi	4.22	360	PN	Pn	12 24 33.7	+4.2
KBTR	Krutoberegovo	4.31	16	eP	Pn	12 24 31.2	+0.5
KBTR	Krutoberegovo	4.31	16	PN	Pn	12 24 31.2	+0.5
KBG	Krutoberegovo	4.33	15	eP	Pn	12 24 32.0	+0.9
KBG	Krutoberegovo	4.33	15	PN	Pn	12 24 32.0	+0.9
SRKR	Sorokina	4.57	4	eP	Pn	12 24 34.6	+0.1
SRKR	Sorokina	4.57	4	PN	Pn	12 24 34.6	+0.1
BILL	Bilibino	16.22	8	eP	Pn	12 27 13.0	+0.6
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KLR	Kul'dur	18.50	273⇑	eP	P	12 27 38.1	-2.2
KLR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KLR	Kul'dur	18.50	273	P	Pn	12 27 41.7	+1.0
	comp=Z,0.1nm,0.3s,baz=63,slow=6.1,SNR=5.3						
MJAR	Matsushiro Arr	22.22	234	P	P	12 28 22.4	+1.7
	comp=Z,0.9nm,0.7s,baz=49,slow=12,SNR=4.0						
TIXI	Tiksi	24.13	336⇑	eP	P	12 28 38.4	-1.0
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	Tiksi	24.13	336	P	P	12 28 38.0	-1.4
	comp=Z,3.2nm,0.9s,baz=125,slow=9.0,SNR=15						
KDAK	Kodiak Island	27.00	59	LR	LR	12 40 16.4	
	comp=Z,87nm,18.8s,baz=238,slow=38						
H11N2	WAKE ISLAND Hy	32.67	169	T	T	13 04 52.0	
	baz=352						
H11N3	WAKE ISLAND Hy	32.69	169	T	T	13 04 38.5	
	baz=352						
H11N1	WAKE ISLAND Hy	32.69	169	T	T	13 04 46.7	
	baz=352						
H11S1	WAKE ISLAND Hy	33.86	170	T	T	13 06 27.1	
	baz=351						
H11S3	WAKE ISLAND Hy	33.87	170	T	T	13 06 36.7	
	baz=351						
H11S2	WAKE ISLAND Hy	33.88	170	T	T	13 06 23.7	
	baz=351						
BBB	Bella Bella	42.06	60	LR	LR	12 45 20.9	
	comp=Z,74nm,21.3s,baz=82,slow=32						
DGZ	Jazzator, Alta	44.42	297⇑	eP	P	12 31 30.4	-4.1
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	Kurchatov	48.56	303⇓	eP	P	12 32 04.9	-1.7
KURK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MKAR	Makanchi Array	48.90	297	P	P	12 32 08.1	-1.3
	comp=Z,0.5nm,0.5s,baz=50,slow=7.2,SNR=3.6						
CMAR	Chiang Mai Arr	58.32	259	P	P	12 33 20.4	+1.7
	comp=Z,0.5nm,0.7s,baz=21,slow=5.6,SNR=4.3						
FINES	FINESS Array B	61.17	337	iP	P	12 33 38.5	+0.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	61.17	337	P	P	12 33 38.2	+0.6
	comp=Z,1.7nm,0.6s,baz=27,slow=7.8,SNR=13						
OBN	Obninsk	63.54	328	eP	P	12 33 53.0	-0.5
OBN				e		12 36 15.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NB2	NORSAR Subarra	64.59	344	P	P	12 34 01.0	+0.6
	comp=Z,0.8nm,0.7s,baz=23,slow=6.9						
NOA	NORSAR Array B	64.59	344	P	P	12 34 01.3	+0.8
	comp=Z,0.7nm,0.7s,baz=23,slow=6.5,SNR=4.0						
AKASG	Malin Array Be	69.64	329	P	P	12 34 32.8	+0.2
	comp=Z,0.2nm,0.2s,baz=32,slow=7.1,SNR=3.6						
URZ	Urewera	91.13	167	LR	LR	13 15 33.7	
	comp=Z,38nm,19.5s,baz=190,slow=34						

IDC ***19*** *12:24:46.8s0.6, 54°.10N×168°.61E, h0km, mb4.1/26, mb1 4.3/28, mb1mx4.2/49, mbtmp4.1/28, ML3.4/1, MS3.3/6, Ms1 3.3/6, ms1mx2.9/55, Error ellipse: s-maj=16.5km s-min=11.1km az=168.0*

ISCJB ***19*** *12:24:50.3±0.5, 54°.02N±0°.03×168°.51E±0°.04, h36km±4km, mb4.3/86, MS3.3/6, Error ellipse: s-maj=5.5km s-min=3.4km az=169.9*

MOS ***19*** *12:24:50.7±0.8, 53°.97N×168°.54E, h42km, mb4.6/25, Error ellipse: s-maj=6.3km s-min=5.5km az=133.2*

KRSC ***19*** *12:24:50.5±10.0, 53°.85N×168°.37E, h103km±10km, ML4.9*

NEIC ***19*** *12:24:52.0±1.4, 54°.12N×168°.52E, h35km±5km, mb4.3/58, Error ellipse: s-maj=17.7km s-min=11.5km az=166.0*

ISC 19 12:24:51.9±0.5, 53°.90N±0°.05×168°.43E±0°.04, h38km±1km, n299, σ1§70/347, mb4.3/86, MS3.3/6, 16C-6D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.94	313	P	Pn	12 25 22.4	+0.2
BKI				S	Sn	12 25 49.4	+4.1
BKI	Bering	1.94	313	P	Pn	12 25 22.6	+0.4
BKI				S	Sn	12 25 48.9	+3.6
BKI	Bering	1.94	313	PN	Pn	12 25 22.6	+0.4
BKI				S	Sn	12 25 48.9	+3.6
SMY	Shemya	3.60	107	eP	Pn	12 25 45.6	+0.6
SMY				S	Sn	12 26 26.9	+0.7
SMY	Shemya	3.60	107	PN	Pn	12 25 45.6	+0.6
SMY				S	Sn	12 26 26.9	+0.7
KBTR	Krutoberegovo	3.97	308	P	Pn	12 25 51.2	+1.1
KBTR				S	Sn	12 26 39.5	+4.2
KBTR	Krutoberegovo	3.97	308	eP	Pn	12 25 51.3	+1.1
KBTR	Krutoberegovo	3.97	308	PN	Pn	12 25 51.3	+1.1
MKZ	Mys Kozlova	3.99	282	P	Pn	12 25 52.1	+1.7
MKZ				eS	Sn	12 26 33.5	-2.2
MKZ	Mys Kozlova	3.99	282	eP	Pn	12 25 51.0	+0.6
MKZ				S	Sn	12 26 33.6	-2.2
MKZ	Mys Kozlova	3.99	282	PN	Pn	12 25 52.1	+1.7
KBG	Krutoberegovo	4.05	308	P	Pn	12 25 53.4	+2.2
KBG				S	Sn	12 26 41.1	+3.8
KBG	Krutoberegovo	4.05	308	eP	Pn	12 25 53.1	+1.9
KBG				S	Sn	12 26 37.0	-0.3
KBG	Krutoberegovo	4.05	308	PN	Pn	12 25 53.1	+1.9
KBG				S	Sn	12 26 37.0	-0.3
TUMD	Tumrok D	4.85	289	P	Pn	12 26 04.2	+1.9
TUMD				S	Sn	12 26 55.4	-1.8
TUMD	Tumrok D	4.85	289	P	Pn	12 26 03.8	+1.5
TUMD				S	Sn	12 26 54.5	-2.7
KZV	Kizimen	4.89	288	eP	Pn	12 26 03.7	+0.7
KZV				S	Sn	12 26 55.6	-2.8
KZV	Kizimen	4.89	288	P	Pn	12 26 03.9	+0.9
KZV				S	Sn	12 26 55.3	-3.1
KZV	Kizimen	4.89	288	PN	Pn	12 26 03.7	+0.7
CIRR	Tsirk	4.95	300	P	Pn	12 26 05.8	+2.1
CIRR	Tsirk	4.95	300	PN	Pn	12 26 05.8	+2.1
LGNR	Loginova	4.96	299	P	Pn	12 26 06.3	+2.2
LGNR				S	Sn	12 27 00.0	-0.3
LGNR	Loginova	4.96	299	PN	Pn	12 26 06.3	+2.2
TUMR	Tumrok	5.01	289	PN	Pn	12 26 04.2	-0.4
KLY	Klyuchi	5.08	302	eP	Pn	12 26 06.8	+1.5
KLY				eS	Sn	12 27 01.8	-0.8
KLY	Klyuchi	5.08	302	P	Pn	12 26 05.3	0.0
KLY				S	Sn	12 26 56.7	-5.9
KLY	Klyuchi	5.08	302	PN	Pn	12 26 05.3	0.0
SPN	Mys Shipunski	5.08	264	eP	Pn	12 26 05.7	+0.2
SPN				eS	Sn	12 26 59.1	-3.7
SPN	Mys Shipunski	5.08	264	P	Pn	12 26 06.1	+0.6
SPN				S	Sn	12 26 58.9	-3.9
SPN	Mys Shipunski	5.08	264	PN	Pn	12 26 06.1	+0.6
NLC	Nalytchevo	5.47	266	eP	Pn	12 26 11.8	+1.1
NLC				eS	Sn	12 27 09.3	-3.0
NLC	Nalytchevo	5.47	266	S	Sn	12 27 09.2	-3.0
NLC	Nalytchevo	5.47	266	PN	Pn	12 26 11.8	+1.1
SRDR	Sredinnyy	5.56	299	P	Pn	12 26 14.8	+2.8
SRDR	Sredinnyy	5.56	299	PN	Pn	12 26 14.8	+2.8
SDLR	Sedlovina	5.72	268	eP	Pn	12 26 15.7	+1.4
SDLR				eS	Sn	12 27 16.4	-2.3
SDLR	Sedlovina	5.72	268	P	Pn	12 26 15.7	+1.4
SDLR				S	Sn	12 27 15.7	-3.0
SDLR	Sedlovina	5.72	268	PN	Pn	12 26 15.7	+1.4
UGLR	Uglovaya	5.77	267	eP	Pn	12 26 16.3	+1.3
UGLR				eS	Sn	12 27 19.9	0.0
UGLR	Uglovaya	5.77	267	P	Pn	12 26 16.7	+1.7
UGLR				S	Sn	12 27 18.4	-1.5
UGLR	Uglovaya	5.77	267	PN	Pn	12 26 16.3	+1.3
SMAR	Somma	5.77	268	eP	Pn	12 26 16.5	+1.4
SMAR	Somma	5.77	268	P	Pn	12 26 16.6	+1.4
SMAR				S	Sn	12 27 17.3	-2.8
SMAR	Somma	5.77	268	PN	Pn	12 26 16.5	+1.4
KRER	Koryakskii	5.80	268	P	Pn	12 26 16.8	+1.4
KRER				S	Sn	12 27 19.1	-1.6
KRER	Koryakskii	5.80	268	P	Pn	12 26 17.4	+2.0
KRER				S	Sn	12 27 19.2	-1.5
KRER	Koryakskii	5.80	268	PN	Pn	12 26 16.8	+1.4
AVH	Avacha	5.81	268	eP	Pn	12 26 17.0	+1.5
AVH				S	Sn	12 27 19.2	-1.6
AVH	Avacha	5.81	268	eP	Pn	12 26 17.2	+1.7
AVH	Avacha	5.81	268	PN	Pn	12 26 17.0	+1.5
DALK	Dalny	5.85	265	eP	Pn	12 26 17.1	+1.2
DALK				eS	Sn	12 27 19.5	-2.1
DALK	Dalny	5.85	265	P	Pn	12 26 17.1	+1.2
DALK				S	Sn	12 27 19.7	-1.9
DALK	Dalny	5.85	265	PN	Pn	12 26 17.1	+1.2
KRX	Arik	5.85	269	eP	Pn	12 26 17.6	+1.5
KRX				S	Sn	12 27 19.7	-2.1
KRX	Arik	5.85	269	P	Pn	12 26 17.6	+1.5
KRX				S	Sn	12 27 18.9	-2.9
KRX	Arik	5.85	269	PN	Pn	12 26 17.6	+1.5
KOK	Koryaka	5.87	268	S	Sn	12 27 21.6	-0.6
PET	Petropavlovsk	5.91	265	ePn	Pn	12 26 18.3	+1.6
PET	Petropavlovsk	5.91	265	P	Pn	12 26 18.6	+1.9
PET				S	Sn	12 27 21.5	-1.6
PET	Petropavlovsk	5.91	265	ePN	Pn	12 26 20.0	+3.3
ESO	Esso	5.97	294	P	Pn	12 26 21.6	+4.0
ESO	Esso	5.97	294	P	Pn	12 26 19.2	+1.6
ESO	Esso	5.97	294	PN	Pn	12 26 19.2	+1.6
OSSR	Ossora	6.13	333	eP	Pn	12 26 20.9	+1.2
OSSR	Ossora	6.13	333	P	Pn	12 26 20.9	+1.2
OSSR	Ossora	6.13	333	PN	Pn	12 26 20.9	+1.2
RUS	Russkaya	6.14	260	eP	Pn	12 26 21.7	+1.7
RUS				eS	Sn	12 27 25.6	-3.3
RUS	Russkaya	6.14	260	P	Pn	12 26 21.3	+1.3
RUS				S	Sn	12 27 26.2	-2.7
RUS	Russkaya	6.14	260	PN	Pn	12 26 21.3	+1.3
KRMR	Karymshinskiy	6.26	264	eP	Pn	12 26 22.9	+1.3
KRMR				eS	Sn	12 27 29.2	-2.6
KRMR	Karymshinskiy	6.26	264	P	Pn	12 26 23.5	+1.9
KRMR				S	Sn	12 27 28.9	-2.9
KRMR	Karymshinskiy	6.26	264	PN	Pn	12 26 22.9	+1.3
MTVR	Mutnovka	6.32	261	eP	Pn	12 26 24.3	+1.6
MTVR				eS	Sn	12 27 30.7	-2.8
MTVR	Mutnovka	6.32	261	P	Pn	12 26 24.2	+1.6
MTVR				S	Sn	12 27 30.8	-2.8
MTVR	Mutnovka	6.32	261	PN	Pn	12 26 24.2	+1.6
PEA1	Petropavlovsk-	6.45	267	ePn	Pn	12 26 26.4	+2.2
PEA1				eSn	Sn	12 27 37.0	+0.5
PEA0B	Petropavlovsk-	6.45	267	ePn	Pn	12 26 26.7	+2.4
PEA0B	Petropavlovsk-	6.45	267	ePN	Pn	12 26 26.7	+2.4
PETK	Petropavlovsk-	6.45	267	ePn	Pn	12 26 26.4	+2.1
PETK				eSn	Sn	12 27 37.6	+1.1
PETK	Petropavlovsk-	6.45	267	Pn	Pn	12 26 26.4	+2.1
	3.8nm,0.3s,baz=94,slow=21,SNR=28						
PETK				Sn	Sn	12 27 37.0	+0.5
	9.9nm,0.3s,baz=89,slow=19,SNR=6.9						
ASAK	Asacha	6.52	261	P	Pn	12 26 27.2	+2.0
ASAK				S	Sn	12 27 36.7	-1.5
ASAK	Asacha	6.52	261	P	Pn	12 26 27.2	+2.0
ASAK				S	Sn	12 27 36.5	-1.7
ASAK	Asacha	6.52	261	PN	Pn	12 26 27.2	+2.0
KDTR	Khodutka, Kamc	6.61	256	eS	Sn	12 27 36.9	-3.5
KDTR	Khodutka, Kamc	6.61	256	S	Sn	12 27 36.5	-3.9
TILK	Tilichiki	6.68	350	eP	Pn	12 26 28.3	+1.0
TILK				eS	Sn	12 27 41.2	-0.7
TILK	Tilichiki	6.68	350	P	Pn	12 26 29.3	+2.0
TILK				S	Sn	12 27 40.8	-1.1
TILK	Tilichiki	6.68	350	PN	Pn	12 26 29.3	+2.0
APC	Apacha	6.81	266	S	Sn	12 27 45.1	-0.2
PALN	Palana	7.00	321	eP	Pn	12 26 34.8	+3.2
PALN	Palana	7.00	321	P	Pn	12 26 34.2	+2.6
PALN	Palana	7.00	321	PN	Pn	12 26 34.2	+2.6
SKR	Severo-Kuril's	8.21	252	P	Pn	12 26 51.1	+2.8
SKR				S	Sn	12 28 16.1	-3.5
SKR	Severo-Kuril's	8.21	252	P	Pn	12 26 49.7	+1.4
SKR				S	Sn	12 28 14.9	-4.7
SKR	Severo-Kuril's	8.21	252	PN	Pn	12 26 51.1	+2.8
ALID	Alaid	8.45	254	P	Pn	12 26 53.6	+1.9
ALID				S	Sn	12 28 23.9	-1.8
ALID	Alaid	8.45	254	PN	Pn	12 26 53.6	+1.9
KMSK	Kamenskaya	8.67	353	eP	Pn	12 26 55.1	+0.6
KMSK				eS	Sn	12 28 29.9	-0.9
KMSK	Kamenskaya	8.67	353	P	Pn	12 26 55.9	+1.4
KMSK				S	Sn	12 28 29.9	-0.9
KMSK	Kamenskaya	8.67	353	PN	Pn	12 26 55.9	+1.4
ADK	Adak	9.22	97	ePn	Pn	12 27 02.7	+0.5
ADK	Adak	9.22	97	ePN	Pn	12 27 02.7	+0.5
MA2	Magadan	11.22	307	LR	LR	12 31 53.3	
	comp=Z,123nm,18.6s,baz=135,slow=38						
SEY	Seymchan	12.32	324	Pn	Pn	12 27 42.7	-1.7
	baz=322,slow=19,SNR=2.0						
BILL	Bilibino	14.22	357	eP	P	12 28 17.1	0.0
BILL	Bilibino	14.22	357	eP	Pn	12 28 06.7	-3.7
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
YAK	Yakutsk	21.80	307	eP	P	12 29 39.8	-0.4
YAK				e		12 29 58.8	
YAK				eS	S	12 33 37.1	-1.8
YAK				e*SS	sS	12 33 51.2	-1.6
YAK				e		12 40 59.4	
YAK				pmax	pmax		
	comp=Z,64nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,0.9s						
YAK				pmax	pmax		
	comp=E,14nm,0.9s						
YAK				smax	smax		
	comp=E,157nm,2.7s						
YAK				MLR	MLR		
	comp=Z,177nm,16.0s						
YAK				MLR	MLR		
	comp=E,186nm,17.0s						
YAK				MLR	MLR		
	comp=N,59nm,17.0s						
KDAK	Kodiak Island	22.01	64	eP	P	12 29 40.9	-1.6
	comp=N,33nm,1.4s						
KDAK	Kodiak Island	22.01	64	iP	P	12 29 42.8	+0.2
KDAK	Kodiak Island	22.01	64	P	P	12 29 40.7	-1.9
	comp=N,4.7nm,0.7s,baz=235,slow=3.0,SNR=7.8						
IMAR	Indian Mountai	22.05	42	eP	P	12 29 40.3	-2.6
IMAR				ePcP	PcP	12 33 39.8	+0.4
CAST	Castle Rocks	22.27	49	eP	P	12 29 45.3	0.0
	comp=N,3.1nm,1.0s						
BRLK	Bradley Lake	22.73	59	eP	P	12 29 47.5	-2.8
	comp=N,14nm,1.1s						
BPAW	Bear Paw Mtn.	22.84	47	eP	P	12 29 49.7	-1.7
	comp=N,6.2nm,1.1s						
MLY	Manley	23.08	45	eP	P	12 29 52.0	-1.8
	comp=N,5.0nm,1.0s						
MLY				ePcP	PcP	12 33 42.2	+0.6
KLR	Kul'dur	23.10	273⇓	eP	P	12 29 55.3	+1.2
KLR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KLR	Kul'dur	23.10	273	P	P	12 29 54.9	+0.8
	comp=Z,0.5nm,0.3s,baz=163,slow=19,SNR=3.0						
KLR				LR	LR	12 38 33.8	
	comp=Z,67nm,21.2s,baz=66,slow=36						
BWN	Browne	23.51	47	eP	P	12 29 58.3	+0.3
	comp=Z,14nm,0.8s						
MCK	McKinley	23.70	49	eP	P	12 29 58.8	-1.1
	comp=Z,7.7nm,1.1s						
MCK	McKinley	23.70	49	eP	P	12 29 58.8	-1.1
MCK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SML	Sawmill	23.91	53	eP	P	12 29 59.8	-2.1
	comp=Z,9.4nm,0.9s						
SML	Sawmill	23.91	53	eP	P	12 29 59.8	-2.1
SML				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MDM	Murphy Dome	24.13	46	eP	P	12 30 02.5	-1.4
	comp=Z,4.3nm,0.7s						
WRH	Wood River Hil	24.14	47	eP	P	12 30 02.4	-1.4
	comp=Z,4.6nm,0.8s						
CCB	Clear Creek Bu	24.27	46	eP	P	12 30 03.7	-1.4
	comp=Z,5.8nm,0.8s						
COLA	College	24.28	46	eP	P	12 30 04.0	-1.2
	comp=Z,19nm,0.8s						
COLA	College	24.28	46	c iP	P	12 30 03.5	-1.6
COLA				pmax	pmax		
	comp=Z,12nm,0.8s						
TOLK	Toolik Lake Re	24.33	37	eP	P	12 30 04.1	-1.6
	comp=Z,9.4nm,0.6s						
SCM	Sheep Creek Mo	24.39	53	eP	P	12 30 05.5	-0.8
	comp=Z,30nm,1.4s						
SCM	Sheep Creek Mo	24.39	53	eP	P	12 30 05.5	-0.8
SCM				pmax	pmax		
	comp=Z,30nm,1.4s						
TIXI	Tiksi	24.62	331	eP	P	12 30 07.9	-0.3
	comp=Z,8.7nm,0.8s						
TIXI	Tiksi	24.62	331⇑	eP	P	12 30 07.9	-0.3
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TIXI	Tiksi	24.62	331	P	P	12 30 07.7	-0.5
	comp=Z,9.5nm,0.7s,baz=115,slow=11,SNR=30						
HDA	Harding Lake	24.62	47	eP	P	12 30 06.8	-1.5
	comp=Z,3.0nm,0.7s						
ILAR	Eielson Array	24.68	46	eP	P	12 30 06.3	-2.5
ILAR	Eielson Array	24.68	46	eP	P	12 30 06.3	-2.5
ILAR	Eielson Array	24.68	46	P	P	12 30 06.5	-2.3
	comp=Z,3.1nm,0.7s,baz=254,slow=7.2,SNR=40						
ILAR				LR	LR	12 39 50.6	
	comp=Z,87nm,19.8s,baz=252,slow=37						
ILB	Eielson Array	24.68	46	eP	P	12 30 06.1	-2.7
	comp=Z,4.1nm,0.8s						
KLU	Klutina	25.07	54	eP	P	12 30 12.2	-0.3
	comp=Z,11nm,1.0s						
PRP	Porcupine Dome	25.32	45	eP	P	12 30 13.7	-1.1
	comp=Z,9.5nm,0.8s						
HARP	HAARP	25.39	52	eP	P	12 30 14.7	-0.7
	comp=Z,7.5nm,0.8s						
RIDG	Independent Ri	25.52	49	eP	P	12 30 14.8	-1.8
	comp=Z,7.2nm,0.9s						
FYU	Fort Yukon	25.55	42	eP	P	12 30 15.1	-1.5
	comp=Z,12nm,0.9s						
SCRK	Sand Creek	25.90	48	eP	P	12 30 17.3	-2.8
	comp=Z,6.1nm,1.1s						
BCAR	Beaver Creek A	26.91	50	eP	P	12 30 27.6	-1.5
BCAR				ePcP	PcP	12 33 50.9	+0.8
MJB9	Matsu-Tunnel	27.17	243	eP	P	12 30 31.9	+0.3
	comp=Z,9.2nm,0.6s						
MAJO	Matsushiro	27.17	243	eP	P	12 30 32.2	+0.6
	comp=Z,8.7nm,0.6s						
MAJO	Matsushiro	27.17	243	eP	P	12 30 32.2	+0.6
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
DAWY	Dawson	27.92	48	eP	P	12 30 36.0	-2.1
	comp=Z,4.4nm,0.9s						
EPYK	Eagle Plains	28.95	43	eP	P	12 30 45.5	-1.7
	comp=Z,10nm,0.7s						
INK	Inuvik	30.14	39	eP	P	12 30 56.3	-1.4
	comp=Z,2.6nm,0.8s						
INK				ePcP	PcP	12 33 57.5	-0.4
INK	Inuvik	30.14	39	eP	P	12 30 56.3	-1.4
INK				e		12 33 57.5	
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	Inuvik	30.14	39	P	P	12 30 56.5	-1.2
	comp=Z,1.6nm,0.5s,baz=268,slow=10,SNR=12						
DLBC	Dease Lake	33.50	57	eP	P	12 31 27.9	+0.5
	comp=Z,7.1nm,0.9s						
DLBC	Dease Lake	33.50	57	LR	LR	12 45 31.9	
	comp=Z,65nm,19.4s,baz=68,slow=37						
H11N2	WAKE ISLAND Hy	34.13	183	T	T	13 08 05.3	
	baz=2.2,slow=76,SNR=111						
H11N3	WAKE ISLAND Hy	34.14	183	T	T	13 08 07.4	
	baz=2.2,slow=76,SNR=103						
H11N1	WAKE ISLAND Hy	34.15	183	T	T	13 08 16.9	
	baz=2.2,slow=76,SNR=71						
H11S1	WAKE ISLAND Hy	35.35	183	T	T	13 10 01.4	
	baz=2.2,slow=76,SNR=61						
H11S3	WAKE ISLAND Hy	35.37	183	T	T	13 10 01.0	
	baz=2.2,slow=76,SNR=39						
H11S2	WAKE ISLAND Hy	35.37	183	T	T	13 09 42.6	
	baz=2.2,slow=76,SNR=108						
TLY	Talaya	38.02	294⇑	eP	P	12 32 06.9	+0.8
NRIK	Noril'sk	38.10	325	LR	LR	12 47 04.8	
	comp=Z,58nm,18.7s,baz=48,slow=35						
ULN	Ulaanbaatar	38.11	287⇓	eP	P	12 32 08.0	+1.0
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
SONA0	Songino Array	38.50	287	eP	P	12 32 11.7	+1.4
SONA0				ePcP	PcP	12 34 22.1	-0.4

KURK Kurchatov 51.43 306 *eP* **P 12 33 52.4 -0.4**
comp=Z,3.7nm,0.8s
KURK Kurchatov 51.43 306 *d iP* **P 12 33 51.8 -0.9**
KURK pmax pmax
comp=Z,3.0nm,1.0s
MK32 Makanchi Array 52.19 300 *eP* **P 12 33 57.5 -1.0**
MKAR Makanchi Array 52.19 300 P **P 12 33 57.5 -1.0**
comp=Z,1.1nm,0.6s,baz=46,slow=8.7,SNR=8.4
SUMG Summit 52.43 10 *eP* **P 12 33 59.4 -1.0**
comp=Z,7.7nm,1.2s
SUMG Summit 52.43 10 *eP* **P 12 33 59.4 -1.0**
SUMG pmax pmax
comp=Z,8.0nm,1.2s
BW06 Boulder Array 52.70 66 *eP* **P 12 34 01.7 -0.9**
comp=Z,1.7nm,0.8s
PD31 Pinedale Array 52.70 66 *eP* **P 12 34 01.6 -1.1**
comp=Z,1.6nm,0.8s
PDAR Pinedale Array 52.70 66 P **P 12 34 01.8 -0.9**
comp=Z,1.0nm,0.5s,baz=308,slow=4.9,SNR=7.8
ARA0 ARCESS Array S 53.94 345 *eP* **P 12 34 09.8 -1.3**
ARCES ARCESS Array B 53.94 345 P **P 12 34 09.8 -1.3**
comp=Z,2.7nm,0.9s,baz=34,slow=8.8,SNR=3.9
TMUT Trail Mountain 54.17 71 *eP* **P 12 34 13.3 -0.2**
comp=Z,2.4nm,0.7s
ULM Lac du Bonnet 54.52 52 P **P 12 34 14.1 -1.5**
comp=Z,2.7nm,0.7s,baz=322,slow=7.3,SNR=5.8
SRU San Rafael Swe 54.68 70 *eP* **P 12 34 16.8 -0.3**
comp=Z,4.9nm,0.7s
SRU San Rafael Swe 54.68 70 *eP* **P 12 34 16.8 -0.3**
SRU pmax pmax
comp=Z,5.0nm,0.7s
EYMN Ely 58.19 51 *eP* **P 12 34 40.9 -0.8**
comp=Z,3.8nm,0.8s
ECSD EROS Data Cent 58.78 58 *eP* **P 12 34 44.5 -1.4**
ANMO Albuquerque 59.93 71 *eP* **P 12 34 53.3 -0.9**
comp=Z,1.0nm,0.9s
ANMO Albuquerque 59.93 71 P **P 12 34 53.6 -0.6**
comp=Z,0.7nm,0.7s,baz=299,slow=18,SNR=3.5
KSH Kashi 60.58 297 P **P 12 35 01.9 +3.4**
FIA0 FINESS Array S 61.20 340 *eP* **P 12 35 00.8 -1.3**
FIA0 FINESS Array S 61.20 340 *eP* **P 12 35 00.9 -1.3**
FINES FINESS Array B 61.20 340 P **P 12 35 00.8 -1.3**
comp=Z,2.0nm,0.8s,baz=14,slow=9.8,SNR=6.0
MNTX Cornudas Mount 62.93 73 *eP* **P 12 35 14.0 -0.3**
comp=Z,2.6nm,0.8s
CHTO Chiang Mai 62.95 265 *eP* **P 12 35 15.9 +1.4**
comp=Z,6.4nm,0.8s
CHTO Chiang Mai 62.95 265 *eP* **P 12 35 15.9 +1.4**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CM31 Chiang Mai Arr 63.23 265 *eP* **P 12 35 17.9 +1.6**
comp=Z,4.6nm,0.6s
CMAR Chiang Mai Arr 63.23 265 *eP* **P 12 35 17.6 +1.2**
CMAR Chiang Mai Arr 63.23 265 P **P 12 35 18.2 +1.9**
comp=Z,3.4nm,0.6s,baz=25,slow=7.2,SNR=27
NB2 NORSAR Subarra 63.98 348 P **P 12 35 19.5 -1.3**
comp=Z,0.8nm,0.5s,baz=15,slow=6.9
NB200 NORSAR Array S 63.98 348 *eP* **P 12 35 19.8 -1.0**
NOA NORSAR Array B 63.98 348 P **P 12 35 19.8 -1.0**
comp=Z,1.7nm,0.7s,baz=16,slow=6.6,SNR=7.4
NOA LR LR 13 04 46.0
comp=Z,12nm,19.0s,baz=270,slow=38
RAMN Ramite 63.99 281 *eP* **P 12 35 21.9 +0.2**
comp=Z,40nm,0.4s
KKN Kakani 64.13 282 *eP* **P 12 35 23.4 +0.9**
PKI Pulchoki 64.22 282 *eP* **P 12 35 23.3 +0.1**
comp=Z,17nm,0.6s
PKIN Phulchoki 64.22 282 *eP* **P 12 35 23.3 +0.1**
comp=Z,16nm,0.5s
OBN Obninsk 64.35 332 *i P* **P 12 35 20.3 -2.9**
OBN *e* 12 35 57.5
OBN *e* 12 37 43.9
OBN pmax pmax
comp=Z,3.0nm,1.0s
DANN Dangsing 64.58 284 *eP* **P 12 35 25.7 +0.1**
comp=Z,16nm,0.6s
KOLN Koldanda 65.11 283 *eP* **P 12 35 28.8 -0.1**
comp=Z,9.7nm,0.7s
PYUN Piuthan 65.21 284 *eP* **P 12 35 29.6 0.0**
comp=Z,19nm,1.0s
TXAR Lajitas Array 65.68 73 P **P 12 35 32.0 -0.4**
comp=Z,1.5nm,0.6s,baz=303,slow=4.4,SNR=16
NIL Nilore 66.42 295 *eP* **P 12 35 36.9 -0.1**
comp=Z,7.7nm,0.9s
NIL Nilore 66.42 295 *eP* **P 12 35 36.9 -0.1**
NIL pmax pmax
comp=Z,8.0nm,0.9s
AKASG Malin Array Be 70.29 334 *ceP* **P 12 36 00.1 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 70.29 334 P **P 12 35 59.6 -1.2**
comp=Z,1.5nm,0.5s,baz=27,slow=6.5,SNR=5.0
AKBB Malin Array Si 70.29 334 *eP* **P 12 35 59.9 -1.0**
comp=Z,2.5nm,0.9s
AKBB Malin Array Si 70.29 334 *eP* **P 12 35 59.9 -1.0**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 73.16 344 *eP* **P 12 36 17.0 -1.1**
CLL Collm 73.16 344 *eP* **P 12 36 17.0 -1.1**
MORC Moravsky Berou 73.82 341 ⇑*iP* **P 12 36 22.1 0.0**
MORC Moravsky Berou 73.82 341 ⇑P **P 12 36 22.1 0.0**
BUR08 Bucovina Ar. S 74.14 335 *eP* **P 12 36 24.0 -0.1**
comp=Z,2.2nm,0.6s
BURAR Bucovina Array 74.16 335 *eP* **P 12 36 24.3 +0.1**
BURAR Bucovina Array 74.16 335 ⇑*iP* **P 12 36 24.3 +0.1**
BURAR Bucovina Array 74.16 335 ⇑P **P 12 36 24.3 +0.1**
TRPA Tarpa 74.32 337 ⇑*iP* **P 12 36 25.9 +0.9**
VRAC Vranov 74.45 341 ⇓*iP* **P 12 36 26.5 +0.7**
VRAC Vranov 74.45 341 ⇓P **P 12 36 26.5 +0.7**
VYHS Vyhne 74.79 340 *eP* **P 12 36 28.5 +0.8**
VYHS Vyhne 74.79 340 *eP* **P 12 36 28.5 +0.8**
KHC Kasperske Hory 75.17 343 *eP* **P 12 36 30.0 0.0**
KHC Kasperske Hory 75.17 343 *eP* **P 12 36 30.0 0.0**
GERES GERESS Array B 75.42 343 *eP* **P 12 36 31.0 -0.5**
GERES GERESS Array B 75.42 343 P **P 12 36 31.5 0.0**
comp=Z,1.7nm,0.5s,baz=54,slow=6.8,SNR=14
DRGR 75.54 336 ⇑*iP* **P 12 36 31.6 -0.6**
DRGR 75.54 336 ⇑P **P 12 36 31.6 -0.6**
CONA Conrad Observa 75.92 341 *eP* **P 12 36 35.3 +1.0**
comp=Z,8.0nm,1.3s
ARSA Arzberg 76.63 341 *eP* **P 12 36 39.3 +1.0**
comp=Z,1.6nm,0.6s
GZR Gura Zlata 76.83 336 ⇑*iP* **P 12 36 39.9 +0.4**
GZR Gura Zlata 76.83 336 ⇑P **P 12 36 39.9 +0.4**
BZS Buzias 76.90 337 ⇑*iP* **P 12 36 39.7 -0.1**
BZS Buzias 76.90 337 ⇑P **P 12 36 39.7 -0.1**
KBA Koelnbreinsper 77.19 343 *eP* **P 12 36 42.8 +1.1**
comp=Z,3.4nm,0.6s
WATA Walderstein 77.24 344 P **P 12 36 42.8 +0.9**
comp=Z,1.4nm,0.5s
SOKA Soboth 77.27 342 *eP* **P 12 36 43.0 +1.0**
comp=Z,2.8nm,0.6s
WTTA Wattenberg 77.30 344 *eP* **P 12 36 42.8 +0.6**
comp=Z,6.9nm,0.6s
MOTA Moosalm 77.31 344 *eP* **P 12 36 42.5 +0.3**
comp=Z,2.1nm,0.6s
SQTA Sankt Quirin 77.41 344 *eP* **P 12 36 43.4 +0.5**
comp=Z,3.4nm,0.6s
OBKA Obir 77.53 342 *eP* **P 12 36 44.4 +1.0**
comp=Z,6.3nm,0.6s
ABTA Abfaltersbach 77.66 343 *eP* **P 12 36 44.4 +0.3**
comp=Z,6.3nm,1.3s
FETA Feichten 77.68 345 *eP* **P 12 36 45.0 +0.7**
comp=Z,1.2nm,0.6s
BR101 Keskin Array S 78.95 326 *eP* **P 12 36 51.6 +0.1**
BRTR Keskin Array B 78.95 326 *eP* **P 12 36 51.3 -0.2**
BRTR Keskin Array B 78.95 326 P **P 12 36 51.6 +0.1**
comp=Z,1.3nm,0.7s,baz=49,slow=3.6,SNR=6.9
WRAB Tennant Creek 79.17 212 *ceP* **P 12 36 55.2 +2.6**
WRAB pmax pmax
comp=Z,7.0nm,1.7s
WR1 Warramunga Arr 79.18 212 *eP* **P 12 36 54.1 +1.5**
WRA Warramunga Arr 79.18 212 *i P* **P 12 36 54.5 +1.9**
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 79.18 212 P **P 12 36 54.1 +1.5**
comp=Z,1.8nm,0.8s,baz=46,slow=3.8,SNR=7.8
ASAR Alice Springs 82.81 212 *eP* **P 12 37 13.8 +1.9**
ASAR Alice Springs 82.81 212 P **P 12 37 13.9 +2.0**
comp=Z,3.5nm,0.8s,baz=23,slow=4.9,SNR=20
ESDC Sonseca Array 86.56 354 *eP* **P 12 37 30.1 -0.8**
ESDC Sonseca Array 86.56 354 P **P 12 37 30.5 -0.4**
comp=Z,0.5nm,0.5s,baz=355,slow=4.8,SNR=8.8
STKA Stephens Creek 88.53 203 *eP* **P 12 37 42.4 +2.3**
comp=Z,1.2nm,0.8s
STKA Stephens Creek 88.53 203 P **P 12 37 42.1 +2.1**
comp=Z,3.9nm,0.7s,baz=320,slow=8.1,SNR=7.6
PLCA Paso Flores 139.09 96 *ePKPdf* **PKPdf 12 44 13.6 -0.2**
PLCA Paso Flores 139.09 96 PKP **PKPdf 12 44 13.3 -0.5**
comp=Z,0.7nm,0.7s,baz=5.9,slow=4.3,SNR=3.3
MAW Mawson 143.65 219 *ePKPpre* PKPbc 12 44 19.6 +1.0
MAW Mawson 143.65 219 *ePKIKP* PKPbc 12 44 19.6 +1.0
MAW Mawson 143.65 219 PKP PKPbc 12 44 19.8 +1.2
comp=Z,3.2nm,0.8s,baz=83,slow=4.7,SNR=7.5
QSPA South Pole Qui 143.65 180 *ePKPpre* PKPbc 12 44 18.3 -0.5
SNAA Sanae 161.76 189 *ePKPab* **PKPab 12 45 33.7 +0.7**
SNAA Sanae 161.76 189 *ePKP2* **PKPab 12 45 33.7 +0.7**

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*NEIC **19** 12:29:41.6±2.9, 25°.76S×177°.13W, h94km±6km, mb4.4/21, Error ellipse: s-maj=22.0km s-min=8.2km az=110.0*
*ICSJB **19** 12:29:48.8±0.6, 25°.92S±0°.07×177°.4W±0°.1, h161km, mb4.2/15, Error ellipse: s-maj=12.8km s-min=10.3km az=165.9*
*IDC **19** 12:29:53.5±7.6, 26°.01S×177°.49W, h184km±60km, mb3.9/5, mb1 4.0/7, mb1mx3.5/42, mbtmp4.4/7, MS3.2/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=50.2km s-min=26.4km az=51.0*
ISC 19 12:29:50.2±0.6, 25°.93S±0°.10×177°.3W±0°.1, h161km, n58, σ1§29/55, mb4.3/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MXZ	**Matakaoa Point**	**12.18**	**197**	*eP*	n	**Pn**	**12 32 37.7**	**-0.7**
URZ	**Urewera**	**13.16**	**200**	*eP*		**Pn**	**12 32 52.5**	**+1.6**
URZ	**Urewera**	**13.16**	**200**	P		**Pn**	**12 32 51.2**	**+0.3**
	2.3nm,0.3s,baz=269,slow=3.3,SNR=14							
URZ				S		Sn	12 35 00.8	-16
	1.4nm,0.3s,baz=142,slow=17,SNR=7.1							
HIZ	**Hauiti**	**14.18**	**206**	*eP*		**P**	**12 33 07.3**	**+0.9**
BKZ	**Black Stump Fm**	**14.19**	**200**	*eP*		**Pn**	**12 33 03.9**	**0.0**
DZM	**Mont Dzumac**	**15.32**	**281**	*eP*		**Pn**	**12 33 17.7**	**-0.4**
	7.1nm,1.0s							
DZM	**Mont Dzumac**	**15.32**	**281**	P		**P**	**12 33 20.1**	**+0.8**
	0.1nm,0.3s,baz=76,slow=19,SNR=1.8							
BFZ	**Birch Farm**	**15.66**	**198**	*ePn*		**Pn**	**12 33 20.2**	**-1.9**
	51nm,1.5s							
RAR	**Rarotonga**	**16.76**	**77**	LR		LR	12 38 35.3	
	comp=Z,90nm,21.6s,baz=106,slow=31							
THZ	**Tophouse**	**17.74**	**205**	*eP*		**P**	**12 33 42.6**	**-3.1**
	22nm,1.3s							
KHZ	**Kahutara**	**18.08**	**202**	*eP*		**P**	**12 33 46.0**	**-3.3**
	44nm,1.5s							
OXZ	**Oxford**	**19.41**	**204**	*eP*		**P**	**12 34 01.7**	**-2.1**
	9.3nm,1.2s							
RPZ	**Rata Peaks**	**20.11**	**205**	*eP*		**P**	**12 34 09.9**	**-1.5**
	16nm,1.2s							
FOZ	**Fox Glacier**	**20.45**	**208**	*eP*		**P**	**12 34 15.5**	**+0.6**
	29nm,1.4s							
ODZ	**Otahua Downs**	**21.40**	**204**	*eP*		**P**	**12 34 25.1**	**0.0**
	21nm,1.1s							
CTA	**Charters Tower**	**33.95**	**272**	P		**P**	**12 36 19.3**	**+1.0**
	8.7nm,0.7s,baz=101,slow=11,SNR=12							
CTAO	**Charters Tower**	**33.95**	**272**	*eP*		**P**	**12 36 20.6**	**+2.3**
	8.8nm,0.7s							
STKA	**Stephens Creek**	**36.29**	**251**	*eP*		**P**	**12 36 39.1**	**+0.9**
	3.3nm,1.5s							
STKA	**Stephens Creek**	**36.29**	**251**	P		**P**	**12 36 38.2**	**-0.1**
	1.7nm,0.5s,baz=98,slow=10,SNR=6.1							
BBOO	**Buckleboo**	**40.94**	**249**	*eP*		**P**	**12 37 15.8**	**-1.2**
	22nm,1.4s							
AS31	**Alice Springs**	**44.13**	**262**	*eP*		**P**	**12 37 42.9**	**0.0**
	0.9nm,1.0s							
ASAR	**Alice Springs**	**44.13**	**262**	*eP*		**P**	**12 37 42.6**	**-0.3**
ASAR	**Alice Springs**	**44.13**	**262**	P		**P**	**12 37 42.0**	**-0.9**
	1.3nm,0.4s,baz=96,slow=7.4,SNR=30							
WB2	**Warramunga Arr**	**44.70**	**267**	*eP*		**P**	**12 37 46.5**	**-0.9**
	7.2nm,0.5s							
WRAB	**Tennant Creek**	**44.71**	**267**	*eP*		**P**	**12 37 48.0**	**+0.5**
	5.4nm,0.4s							
WR1	**Warramunga Arr**	**44.71**	**267**	*eP*		**P**	**12 37 46.4**	**-1.2**
WRA	**Warramunga Arr**	**44.71**	**267**	P		**P**	**12 37 46.4**	**-1.2**
	4.2nm,0.5s,baz=100,slow=7.4,SNR=44							
FORT	**Forrest**	**47.91**	**251**	*eP*		**P**	**12 38 10.6**	**-1.8**
	19nm,0.8s							
SBA	**Scott Base**	**52.53**	**184**	*eP*		**P**	**12 38 48.5**	**+2.2**
FITZ	**Fitzroy Crossi**	**53.10**	**266**	*eP*		**P**	**12 38 51.0**	**-0.4**
	5.5nm,1.0s							
MORW	**Morawa**	**58.48**	**251**	*eP*		**P**	**12 39 28.2**	**-1.4**
	8.8nm,1.1s							
QSPA	**South Pole Qui**	**64.17**	**180**	*eP*		**P**	**12 40 08.0**	**+0.7**
	2.7nm,0.9s							
MAW	**Mawson**	**76.69**	**200**	*eP*		**P**	**12 41 23.8**	**+0.8**
	0.7nm,0.7s							
MAW	**Mawson**	**76.69**	**200**	P		**P**	**12 41 23.6**	**+0.7**
	2.6nm,0.6s,baz=140,slow=8.1,SNR=11							
SNAA	**Sanae**	**82.59**	**178**	P		**P**	**12 41 54.6**	**-0.2**
SNAA	**Sanae**	**82.59**	**178**	*eP*		**P**	**12 41 54.7**	**-0.2**
	5.2nm,1.2s							
VNA3	**Neumayer Olymp**	**82.71**	**176**	P		**P**	**12 41 55.0**	**-0.4**
DREC	**Desert Rsrch C**	**82.94**	**48**	*eP*		**P**	**12 41 55.3**	**-1.8**
VNA2	**Neumayer--Watz**	**83.16**	**177**	P		**P**	**12 41 57.8**	**+0.1**
	baz=181,slow=3.4							
VNA1	**Neumayer--Stat**	**83.38**	**176**	P		**P**	**12 41 58.2**	**-0.5**
GHW	**Garrison Hill**	**87.97**	**34**	*eP*		**P**	**12 42 21.1**	**-0.5**
GLK	**Glacier Lake**	**87.98**	**35**	*eP*		**P**	**12 42 24.1**	**+2.2**
ARA0	**ARCESS Array S**	**134.34**	**349**	*ePKPdf*		**PKPdf**	**12 48 47.9**	**-0.2**
ARCES	**ARCESS Array B**	**134.34**	**349**	PKP		**PKPdf**	**12 48 47.9**	**-0.2**
	1.9nm,0.9s,baz=90,slow=1.8,SNR=4.0							
FIA0	**FINESS Array S**	**141.12**	**342**	*ePKPpre*		PKPpre	12 48 54.9	
FINES	**FINESS Array B**	**141.12**	**342**	PKhKP		PKPpre	12 48 54.9	
	1.4nm,0.9s,baz=345,slow=2.2,SNR=4.0							
NC303	**NORSAR Array S**	**144.22**	**353**	*ePKPdf*		**PKPdf**	**12 49 05.5**	**-0.8**
NC405	**NORSAR Array S**	**144.29**	**352**	*ePKPdf*		**PKPdf**	**12 49 05.9**	**-0.5**
NB201	**NORSAR Array S**	**144.40**	**353**	*ePKPdf*		**PKPdf**	**12 49 06.1**	**-0.5**
NB2	**NORSAR Subarra**	**144.42**	**353**	PKP		PKPbc	12 49 05.8	+0.3
	comp=Z,1.0nm,0.5s,baz=11,slow=3.5							
NB200	**NORSAR Array S**	**144.42**	**353**	*ePKPdf*		PKPbc	12 49 05.7	+0.1
NOA	**NORSAR Array B**	**144.42**	**353**	PKP		PKPbc	12 49 05.7	+0.1
	comp=Z,0.6nm,0.6s,baz=11,slow=2.3,SNR=7.8							
BR101	**Keskin Array S**	**150.73**	**306**	*ePKPbc*		**PKPbc**	**12 49 23.2**	**-0.3**
BR101				*ePKPab*		**PKPab**	**12 49 32.1**	**+1.0**
BRTR	**Keskin Array B**	**150.73**	**306**	*ePKPbc*		**PKPbc**	**12 49 23.7**	**+0.1**
BRTR	**Keskin Array B**	**150.73**	**306**	PKPbc		**PKPbc**	**12 49 23.2**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=106,slow=3.4,SNR=5.3							
BRTR				PKPab		**PKPab**	**12 49 32.1**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=120,slow=3.3,SNR=5.3							
BURAR	**Bucovina Array**	**151.99**	**326**	*ePKPbc*		**PKPbc**	**12 49 28.4**	**+2.2**
CSS	**Mathiatis**	**152.16**	**296**	*ePKPbc*		**PKPbc**	**12 49 25.5**	**-1.4**
CSS				*ePKPab*		**PKPab**	**12 49 34.7**	**-2.4**
CLL	**Collm**	**153.46**	**345**	*ePKPbc*		**PKPbc**	**12 49 30.0**	**+0.9**

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*IDC **19** 12:35:35.0±1.5, 37°.47N×143°.66E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.5/58, mbtmp3.9/7, ML3.7/3, Error ellipse: s-maj=36.9km s-min=21.3km az=78.0*
*ICSJB **19** 12:35:37.3±1.0, 37°.5N±0°.1×143°.62E±0°.10, h33km, mb3.8/4, Error ellipse: s-maj=15.3km s-min=10.3km az=154.5*
ISC 19 12:35:37.7±1.2, 37°.50N±0°.08×143°.8E±0°.1, h35km, n8, σ2§76/12, mb3.8/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**4.58**	**260**		Pn	**Pn**	**12 36 44.9**	**+0.5**
	2.0nm,0.3s,baz=88,slow=14,SNR=154							
MJAR					Sn	**Sn**	**12 37 35.2**	**-1.1**
	0.3nm,0.3s,baz=301,slow=34,SNR=3.1							
MAT	**Matsushiro**	**4.58**	**260**		P	**Pn**	**12 36 45.2**	**+0.8**
MAT					S	**Sn**	**12 37 34.1**	**-2.3**
JHJ	**Hachijo jima 2**	**5.47**	**218**		Pn	**Pn**	**12 36 55.0**	**-1.7**
	20nm,0.3s,baz=282,slow=17,SNR=24							
JHJ					Sn	**Sn**	**12 37 53.3**	**-5.0**
	17nm,0.3s,baz=71,slow=23,SNR=6.6							
ASAJ	**Asahikawa**	**6.67**	**353**		Pn	**Pn**	**12 37 13.2**	**+0.1**
	1.2nm,0.3s,baz=207,slow=16,SNR=12							
ASAJ					Sn	**Sn**	**12 38 24.1**	**-3.8**
	0.4nm,0.3s,baz=252,slow=20,SNR=2.8							
ZALV	**Zalesovo Beam**	**43.01**	**312**		P	**P**	**12 43 35.6**	**+2.1**
	0.4nm,0.4s,baz=94,slow=7.8,SNR=2.1							
KURBB	**Kurchatov Arra**	**47.22**	**308**		P	**P**	**12 44 08.7**	**+1.8**
	0.6nm,0.4s,baz=80,slow=7.9,SNR=5.8							
WRA	**Warramunga Arr**	**57.83**	**191**		P	**P**	**12 45 27.6**	**+1.9**
	1.3nm,0.7s,baz=7.8,slow=7.7,SNR=15							
ASAR	**Alice Springs**	**61.55**	**190**		P	**P**	**12 45 54.0**	**+2.8**
	0.5nm,0.8s,baz=5.5,slow=7.7,SNR=5.9							

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*IDC **19** 12:47:49.8±3.9, 4°.14N×128°.33E, h25km±26km, mb4.0/19, mb1 4.1/20, mb1mx3.9/49, mbtmp4.2/20, ML4.1/1, MS3.4/9, Ms1 3.5/9, ms1mx3.2/31, Error ellipse: s-maj=26.4km s-min=11.5km az=82.0*
*MAN **19** 12:47:49.8, 3°.30N×127°.72E, h187km, mb5.4, ML4.4, MS4.6*
*ISCJB **19** 12:47:51.0±0.2, 4°.18N±0°.03×128°.39E±0°.04, h46km, mb4.5/59, Error ellipse: s-maj=5.3km s-min=4.3km az=166.8*
*NEIC **19** 12:47:56.3±3.0, 4°.11N×128°.31E, h81km±6km, mb4.6/42, Error ellipse: s-maj=17.7km s-min=11.7km az=72.0*
*DJA **19** 12:48:01.0±0.5, 4°.N±5°.×12°.8E±°, h10km, M4.6/9, mb4.8/9, mB5.0/7, MLv4.8/9, Mw(mB)4.3/7*
ISC 19 12:47:52.9±0.4, 4°.18N±0°.05×128°.38E±0°.07, h46km, n134, σ1§70/123, mb4.5/59, 4C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SGSI	**Sangihe**	**2.89**	**260**		P	**Pn**	**12 48 35.7**	**-0.8**
DDMP	**Don Marcelino,**	**3.27**	**306**		*eP*	**Pn**	**12 48 44.2**	**+2.5**
DDMP					*eS*	Sn	12 49 28.0	+9.2
MATI	**Mati**	**3.46**	**322**		*eP*	Pn	12 48 49.9	+5.5
MATI					*eS*	Sn	12 49 38.0	+14
TNTI	**Ternate**	**3.54**	**197**		*ePn*	**Pn**	**12 48 47.8**	**+2.4**
TNTI	**Ternate**	**3.54**	**197**		P	**Pn**	**12 48 47.1**	**+1.7**
DAV	**Davao City (W)**	**4.00**	**316**		*ePn*	Pn	12 48 59.0	+7.3
DAV	**Davao City (W)**	**4.00**	**316**		Pn	**Pn**	**12 48 52.9**	**+1.1**
	baz=57,slow=17,SNR=1.5							
DAV					LR	LR	12 50 55.5	
	comp=Z,841nm,18.9s,baz=22,slow=46							
DMPH	**Davao City--Mi**	**4.06**	**315**	⇑*eP*		Pn	12 48 58.6	+6.1
DMPH					*eS*	**Sn**	**12 49 44.5**	**+5.7**
SKMP	**Bagumbayan, Su**	**4.47**	**301**		*eP*	**Pn**	**12 48 59.1**	**+0.9**
SKMP					*eS*	**Sn**	**12 49 50.6**	**+1.5**
CTBH	**Cotabato--PC H**	**5.10**	**306**	⇑*iP*		**Pn**	**12 49 07.8**	**+0.9**
KMSI	**Cibinong**	**5.67**	**231**		P	**Pn**	**12 49 15.2**	**+0.5**
PAGZ	**Pagadian**	**6.16**	**306**		*eP*	**Pn**	**12 49 21.1**	**-0.4**
SANI	**Sanana**	**6.64**	**201**		P	**Pn**	**12 49 26.5**	**-1.5**
	47nm,1.0s,641nm							
IPIL	**Ipil**	**6.80**	**302**		*eP*	**Pn**	**12 49 31.3**	**+1.2**
IPIL					*eS*	**Sn**	**12 50 40.1**	**-6.2**
MSLP	**Maasin**	**6.87**	**330**		*eP*	**Pn**	**12 49 35.5**	**+4.4**
MSLP					*eS*	Sn	12 50 57.3	+9.3
MRSI	**Marisa**	**7.41**	**240**		P	**Pn**	**12 49 39.0**	**+0.4**
	152nm,0.7s,3μm							
LUWI	**Luwuk**	**7.64**	**227**		*ePn*	**Pn**	**12 49 46.2**	**+4.5**
LUWI	**Luwuk**	**7.64**	**227**		P	**Pn**	**12 49 43.1**	**+1.4**
FAKI	**Fak Fak**	**8.04**	**151**		*ePn*	**Pn**	**12 49 48.0**	**+0.7**
APSI	**Ampana**	**8.42**	**233**		P	**Pn**	**12 49 53.6**	**+1.2**
	94nm,0.6s,1μm							
MPSI	**Mapaga**	**9.30**	**246**		P	**Pn**	**12 50 06.9**	**+2.4**
	15nm,1.1s,604nm							
TTSI	**Tana Toraja**	**11.17**	**230**		P	Pn	12 50 37.1	+7.0
SPSI	**Sidrap Palu**	**11.81**	**227**		P	Pn	**12 50 43.5**	**+4.6**
BKSI	**Bulukumba**	**12.54**	**221**		P	**P**	**12 50 57.5**	**-1.8**
KAPI	**Kappang**	**12.56**	**223**		Pn	**Pn**	**12 50 47.8**	**-1.4**
	1.1nm,0.3s,baz=102,slow=4.3,SNR=6.7							
BSSI	**Bau Bau, Buton**	**12.94**	**218**		P	P	12 51 08.9	+5.2
GENI	**Genyem**	**13.57**	**120**		P	P	12 51 18.2	+7.4
JAY	**Jayapura**	**14.00**	**118**		LR	LR	12 56 13.2	
	comp=Z,168nm,19.2s,slow=36							
MMRI	**Maumere**	**14.13**	**206**		*eP*	**P**	**12 51 20.0**	**+2.9**
SOEI	**Soe**	**14.44**	**196**		*eP*	**P**	**12 51 21.0**	**+0.4**
SBUM	**Sibu**	**16.23**	**264**		*ePn*	**Pn**	**12 51 37.0**	**-0.9**
	13nm,1.0s							
PLAI	**Plampang**	**16.70**	**219**		P	**P**	**12 51 46.7**	**+1.1**
KSM	**Kuching**	**18.25**	**262**		*eP*	**P**	**12 52 01.9**	**-0.8**
	15nm,0.8s							
PWJI	**Pagerwojo**	**20.51**	**234**		P	**P**	**12 52 27.1**	**-0.3**
PCJI	**Pacitan**	**21.11**	**234**		P	**P**	**12 52 37.4**	**+3.5**
DLV	**T Lat**	**21.14**	**293**		*eP*	**P**	**12 52 34.2**	**-0.2**
	34nm,1.1s							
YHNB	**Yeheng**	**21.45**	**342**		*eP*	**P**	**12 52 37.1**	**-0.5**
	23nm,0.9s							
FITZ	**Fitzroy Crossi**	**22.31**	**187**		*eP*	**P**	**12 52 44.6**	**-2.0**
	5.4nm,0.9s							
FITZ	**Fitzroy Crossi**	**22.31**	**187**		P	**P**	**12 52 44.8**	**-1.9**
	1.8nm,0.5s,baz=3.6,slow=11,SNR=7.4							
FITZ					LR	LR	13 02 06.0	
	comp=Z,42nm,19.2s,baz=7.5,slow=38							
COEN	**Coen**	**23.24**	**141**		*eP*	**P**	**12 52 58.7**	**+2.3**
	9.7nm,1.1s							
CISI	**Cisompet, Garu**	**23.60**	**240**		*eP*	**P**	**12 53 01.0**	**+1.0**
	207nm,1.5s							
WRAB	**Tennant Creek**	**24.67**	**166**		*eP*	**P**	**12 53 09.4**	**-0.3**
	9.7nm,0.9s							
WR1	**Warramunga Arr**	**24.68**	**166**		*eP*	**P**	**12 53 08.5**	**-1.2**
WRA	**Warramunga Arr**	**24.68**	**166**		P	**P**	**12 53 08.5**	**-1.2**
	1.5nm,0.5s,baz=342,slow=11,SNR=26							
WB2	**Warramunga Arr**	**24.68**	**166**		*eP*	**P**	**12 53 08.1**	**-1.7**
	7.7nm,0.6s							
PSA00	**Pilbara Seismi**	**26.93**	**198**		*eP*	**P**	**12 53 30.9**	**+0.8**
	29nm,1.4s							
SKNT	**Sakolnakorn**	**27.10**	**300**		P	**P**	**12 53 31.0**	**-0.7**
KHON	**Khomkaen**	**27.85**	**298**		P	**P**	**12 53 39.5**	**+1.1**
AS31	**Alice Springs**	**28.20**	**169**		*eP*	**P**	**12 53 41.3**	**-

SONM LR LR 13 20 14.2
comp=Z,24nm,18.0s,baz=160,slow=41
PETK Petropavlovsk- 54.40 21 eP P 12 57 16.9 +1.6
PETK Petropavlovsk- 54.40 21 P P 12 57 16.2 +1.0
4.4nm,0.8s,baz=197,slow=4.6,SNR=5.2
PEA1 Petropavlovsk- 54.41 21 eP P 12 57 16.2 +1.0
MK31 Makanchi Array 58.14 324 eP P 12 57 41.5 -0.6
3.0nm,0.7s
MK32 Makanchi Array 58.14 324 eP P 12 57 41.8 -0.3
MKAR Makanchi Array 58.14 324 eP P 12 57 41.3 -0.7
MKAR Makanchi Array 58.14 324 P P 12 57 41.8 -0.3
5.3nm,0.7s,baz=116,slow=7.9,SNR=28
MAKZ Makanchi 58.33 324 eP P 12 57 42.9 -0.4
5.5nm,0.9s
NIL Nilore 58.96 307 eP P 12 57 47.6 -0.4
12nm,1.1s
ZAA0 Zalesovo Array 60.94 332 eP P 12 57 59.7 -1.5
3.3nm,0.8s
ZALV Zalesovo Beam 60.94 332 eP P 12 57 59.7 -1.5
ZALV Zalesovo Beam 60.94 332 P P 12 58 00.1 -1.1
2.9nm,0.7s,baz=117,slow=8.5,SNR=15
ZAA1 Zalesovo Array 60.95 332 eP P 12 58 00.1 -1.1
WHZ Wether Hill Ro 60.98 149 eP P 12 58 01.9 +0.3
38nm,1.5s
LBZ Lake Benmore 61.15 147 eP P 12 58 03.1 +0.4
32nm,1.3s
RPZ Rata Peaks 61.20 146 LR LR 13 24 40.1
comp=Z,59nm,18.6s,baz=137,slow=36
SEY Seymchan 61.23 12 P P 12 58 03.5 +0.5
0.5nm,0.5s,baz=72,slow=20,SNR=2.8
KURK Kurchatov 62.26 327 eP P 12 58 09.7 -0.3
7.8nm,0.6s
GAR Garm 62.84 312 eP P 12 58 13.9 -0.5
12nm,0.6s
KK31 Karatay Array 64.03 316 eP P 12 58 21.2 -0.9
6.5nm,1.3s
KKAR Karatay Array 64.03 316 eP P 12 58 21.1 -1.0
TIXI Tiksi 67.38 0 eP P 12 58 42.3 -0.8
3.8nm,0.8s
BRVK Borovoye 67.92 326 eP P 12 58 46.5 -0.3
8.2nm,0.9s
NRIK Noril'sk 70.39 346 P P 12 59 00.7 -1.1
2.3nm,0.6s,baz=143,slow=6.7,SNR=4.9
GEYT Alibeck 71.90 308 P P 12 59 11.4 -0.2
2.0nm,0.7s,baz=167,slow=13,SNR=3.7
ABKAR Abkulak array 72.85 320 eP P 12 59 16.2 -0.8
RAR Rarotonga 74.70 113 LR LR 13 25 30.3
comp=Z,132nm,21.1s,baz=234,slow=30
IMAR Indian Mountai 81.26 24 eP P 13 00 05.5 +1.5
CAST Castle Rocks 81.59 27 eP P 13 00 09.0 +3.2
3.6nm,0.9s
BRLK Bradley Lake 81.73 30 eP P 13 00 07.6 +1.0
23nm,1.4s
SUA Susitna One 81.98 29 eP P 13 00 09.5 +1.5
24nm,1.3s
BPAW Bear Paw Mtn. 82.16 26 eP P 13 00 09.5 +0.8
9.8nm,1.3s
MLY Manley 82.37 25 eP P 13 00 11.6 +1.7
5.8nm,1.1s
SML Sawmill 83.16 28 eP P 13 00 15.7 +1.7
18nm,1.2s
TOLK Toolik Lake Re 83.22 21 eP P 13 00 15.9 +1.7
4.7nm,0.8s
WRH Wood River Hil 83.45 26 eP P 13 00 14.3 -1.1
6.2nm,1.1s
CCB Clear Creek Bu 83.59 26 eP P 13 00 14.1 -1.9
4.9nm,1.0s
VNDA Vanda 83.67 173 eP P 13 00 16.2 0.0
VNDA Vanda 83.67 173 P P 13 00 15.7 -0.5
1.3nm,1.0s,baz=347,slow=5.2,SNR=5.8
KLU Klutina 84.29 29 eP P 13 00 21.8 +1.9
7.8nm,1.0s
BCAR Beaver Creek A 86.22 27 eP P 13 00 30.5 +1.1
ARA0 ARCESS Array S 90.59 340 eP P 13 00 48.4 -1.6
ARCES ARCESS Array B 90.59 340 P P 13 00 48.4 -1.6
2.7nm,0.8s,baz=73,slow=4.1,SNR=6.3
FIA0 FINESS Array S 92.21 332 eP P 13 00 55.8 -1.9
FINES FINESS Array B 92.21 332 P P 13 00 55.8 -1.9
0.8nm,0.8s,baz=282,slow=6.7,SNR=2.4
YKA Yellowknife Ar 98.40 25 P P 13 01 25.8 0.0
0.4nm,0.6s,baz=298,slow=4.4,SNR=8.9
YKB5 Yellowknife Ar 98.40 25 eP P 13 01 25.8 0.0
TORD Torodi Ar. Bea 124.34 289 PKP PKPdf 13 06 46.6 -1.3
0.7nm,0.7s,baz=72,slow=3.6,SNR=4.6
TOA1 Torodi Ar. Sit 124.34 289 ePKPdf PKPdf 13 06 46.6 -1.3
PCDR Punta Cana, DR 152.04 36 ePKPbc PKPbc 13 07 40.8 -3.4
EMPR Esperanza - Ma 153.11 33 ePKPdf PKPdf 13 07 36.1 -3.0

*IDC **19** 12:48:28.0±11.0, 17°.02S×174°.70W, h399km±123km, mb3.2/8, mb1 3.5/8, mb1mx3.1/47, mbtmp3.9/8, Error ellipse: s-maj=75.2km s-min=28.2km az=150.0*

ISC 19 12:48:04.6±2.1, 16°.9S±0°.5×174°.5W±0°.4, h172km, n9, σ1§57/9, mb3.6/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.49	258	P	P	12 56 31.1	+0.8
0.3nm,0.4s,baz=96,slow=7.1,SNR=5.5							
ASAR	Alice Springs	48.66	253	P	P	12 56 32.1	+0.5
2.7nm,0.5s,baz=88,slow=8.4,SNR=46							
PETK	Petropavlovsk-	73.72	343	P	P	12 59 20.0	+0.6
2.1nm,0.8s,baz=117,slow=9.1,SNR=4.2							
NVAR	Mina Array Bea	76.13	42	P	P	12 59 34.9	+1.1
0.2nm,0.4s,baz=223,slow=11,SNR=5.6							
PDAR	Pinedale Array	84.06	42	P	P	13 00 16.9	+0.6
0.6nm,0.6s,baz=177,slow=2.8,SNR=4.9							
ILAR	Eielson Array	84.09	12	P	P	13 00 15.7	+0.1
0.6nm,0.6s,baz=230,slow=6.3,SNR=13							
INK	Inuvik	89.95	14	P	P	13 00 42.4	-1.3
0.7nm,0.7s,baz=130,slow=1.1,SNR=3.0							
YKA	Yellowknife Ar	91.87	24	P	P	13 00 53.0	+0.3
0.2nm,0.9s,baz=238,slow=4.7,SNR=4.6							
BRTR	Keskin Array B	146.60	319	PKPbc	PKPbc	13 07 23.1	-3.2
0.2nm,0.4s,baz=148,slow=1.4,SNR=2.3							

*NEIC **19** 12:54:15.0±0.0, 39°.20S×175°.22E, h5km, ML3.7(WEL), After WEL.*
NEIC Felt at Taumarunui.

WEL 19 12:54:15.2, 39°S±4°×17°5E±°, h5km, ML3.9/42, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	Pokaka	0.14	141	P	Pg	12 54 18.9	+0.7
PKVZ				S	Sg	12 54 21.3	+1.2
TWVZ	Taurewa	0.19	57	P	Pg	12 54 20.6	+1.6
FWVZ	Far West T-bar	0.26	107	P	Pg	12 54 21.4	+1.0
DRZ	Dome Shelter	0.28	111	P	Pg	12 54 21.7	+1.0
DRZ				S	Sb	12 54 26.6	-1.4
MTVZ	Mangateitei	0.28	138	P	Pg	12 54 21.0	+0.3
WTVZ	West Tongariro	0.29	78	P	Pb	12 54 22.1	-0.7
NGZ	Ngauruhoe	0.29	90	P	Pb	12 54 22.0	-0.9
WHVZ	Whangaehu Hut	0.30	111	P	Pg	12 54 21.8	+0.7
KRVZ	Karewarewa	0.33	76	P	Pb	12 54 22.9	-0.7
KRVZ				S	Sb	12 54 28.7	-0.5
TUVZ	Tukino	0.34	106	P	Pb	12 54 22.9	-0.9
VRZ	Vera Road	0.37	278	P	Pb	12 54 23.4	-0.7
VRZ				S	Sb	12 54 29.8	-0.5
KATZ	Kakaramea	0.41	61	P	Pb	12 54 24.6	-0.4
MOVZ	Moawhango	0.47	120	P	Pg	12 54 24.6	+0.4
RATZ	Rangitukua	0.52	54	P	Pb	12 54 26.7	-0.1
RITZ	Rihia Road	0.53	68	P	Pb	12 54 26.8	-0.1
WAZ	Wanganui	0.61	198	P	Pg	12 54 26.9	0.0
WATZ	Wairara	0.61	40	P	Pb	12 54 28.3	0.0
LREZ	Lake Rotokare	0.70	246	P	Pg	12 54 29.2	+0.6
MHEZ	Mangahewa	0.71	278	P	Pb	12 54 30.2	+0.1
BHHZ	Black Hill Sta	0.72	116	P	Pg	12 54 29.3	+0.3
HIZ	Hauiti	0.72	336	ePg	Pb	12 54 30.3	+0.1
HIZ	Hauiti	0.72	336	P	Pb	12 54 30.3	+0.1
HATZ	Hinemaiaia	0.73	67	P	Pb	12 54 30.2	-0.1
WHTZ	Whakaora	0.76	48	P	Pb	12 54 31.6	+0.6
DREZ	Durham Road	0.80	269	P	Pb	12 54 31.4	-0.1
KUTZ	Kaahu Road	0.83	34	P	Pb	12 54 32.0	-0.1
PREZ	Palmer Road	0.85	258	P	Pb	12 54 32.4	+0.1
TLZ	Tolley Road	0.88	16	P	Pg	12 54 32.3	+0.3
KHEZ	Kahui Hut	0.95	263	P	Pb	12 54 34.2	+0.1
KWHZ	Kaweka Forest	0.96	105	P	Pb	12 54 34.5	+0.2
PKE	Pukeiti	0.97	269	P	Pb	12 54 34.3	-0.1
WPRZ	Whakapapatarin	0.98	48	P	Pn	12 54 35.3	-0.2
BKZ	Black Stump Fm	0.98	90	ePg	Pb	12 54 34.7	0.0
BKZ				eSg	Sb	12 54 47.6	-0.4
BKZ	Black Stump Fm	0.98	90	P	Pb	12 54 34.7	+0.1
MRHZ	Matea Rd	0.99	70	P	Pb	12 54 34.7	-0.1
KRHZ	Kereru	1.00	118	P	Pb	12 54 34.8	-0.2
OHWZ	Ohakea	1.03	176	P	Pg	12 54 34.5	-0.4
TSZ	Takapari Road	1.05	148	P	Pg	12 54 35.2	0.0
PNHZ	Pukenui	1.05	135	P	Pg	12 54 35.4	+0.1
NBEZ	Newall Road No	1.06	265	P	Pb	12 54 36.0	0.0
ALRZ	Allen Road	1.06	55	P	Pb	12 54 36.3	+0.3
GRRZ	Galatos Road	1.07	40	P	Pn	12 54 36.7	-0.2
NMEZ	Namu Road	1.07	257	P	Pb	12 54 36.0	-0.2
PRRZ	Plateau Road	1.13	54	P	Pn	12 54 37.5	-0.2
HRRZ	Handcock Road	1.14	47	P	Pn	12 54 38.0	+0.2
MCHZ	McNeill Hill	1.17	104	P	Pn	12 54 39.5	+1.3
HSRZ	Hossack Road	1.17	43	P	Pn	12 54 38.7	+0.5
NMHZ	Naumai	1.23	87	P	Pn	12 54 40.3	+1.3
UTU	Utuhina	1.25	37	P	Pn	12 54 39.5	+0.2
HLRZ	Highlands Stat	1.27	44	P	Pb	12 54 40.7	+1.1
POWZ	Post Office Ro	1.28	161	P	Pn	12 54 39.3	-0.4
WPHZ	Waipukurau	1.29	134	P	Pb	12 54 40.7	+0.8
MTHZ	Maungataniwha	1.30	76	P	Pb	12 54 40.1	+0.1
RRRZ	Republican Roa	1.31	51	P	Pn	12 54 40.0	0.0
NGRZ	Ngongotaha	1.31	35	P	Pg	12 54 41.1	+0.8
DVHZ	Dannevirke	1.33	147	P	Pg	12 54 40.9	+0.1
TARZ	Mount Tarawera	1.37	47	P	Pg	12 54 41.7	+0.2
ARHZ	Aropaoanui	1.38	94	P	Pg	12 54 42.8	+1.3
MUGZ	Murupara	1.39	60	P	Pn	12 54 41.4	+0.1
OMRZ	Omania	1.39	40	P	Pg	12 54 42.5	+0.6
KARZ	Kaharoa	1.40	35	P	Pg	12 54 42.5	+0.5
KAHZ	Kahuranaki	1.42	116	P	Pg	12 54 43.7	+1.4
KMRZ	Kaimai	1.44	23	P	Pn	12 54 41.6	-0.3
TOZ	Tahuroa Road	1.46	9	P	Pn	12 54 41.9	-0.2
RAHZ	Arahi	1.47	80	P	Pb	12 54 42.9	0.0
RTZ	Ruatahuna	1.48	68	P	Pn	12 54 42.6	+0.2
PRWZ	Pori Road	1.49	158	P	Pg	12 54 43.8	0.0
MRZ	Mangatainoka R	1.51	170	P	Pn	12 54 43.2	+0.4
CKHZ	Cape Kidnapper	1.51	109	P	Pg	12 54 46.0	+1.9
PXZ	Pawanui	1.52	125	P	Pg	12 54 45.2	+0.8
PRHZ	Porangahau	1.54	136	P	Pg	12 54 45.0	+0.4
ANWZ	Angora Road	1.60	144	P	Pg	12 54 45.8	0.0
OGWZ	Otaki Gorge	1.64	182	P	Pn	12 54 44.9	+0.3
TGRZ	Tauranga	1.66	30	P	Pb	12 54 45.7	-0.5
TIWZ	Tintock	1.68	163	P	Pb	12 54 46.6	+0.1
OPRZ	Ohinepanea	1.69	38	P	Pn	12 54 45.5	+0.2
SNGZ	Shannon Statio	1.69	77	P	Pb	12 54 47.1	+0.3
BFZ	Birch Farm	1.69	153	ePn	Pb	12 54 47.2	+0.4
BFZ	Birch Farm	1.69	153	P	Pb	12 54 46.9	+0.1
KIW	Kapiti Island	1.70	188	P	Pn	12 54 45.4	-0.1
HOWZ	Holdsworth Sta	1.73	173	P	Pb	12 54 47.1	-0.4
URZ	Urewera	1.73	59	ePn	Pn	12 54 46.1	+0.3
URZ	Urewera	1.73	59	P	Pn	12 54 46.1	+0.2
RAGZ	Rawiri	1.84	69	P	Pb	12 54 48.9	-0.4
CPWZ	Castlepoint	1.89	157	P	Pg	12 54 51.0	-0.3
KNZ	Kokohu	1.91	86	P	Pb	12 54 50.9	+0.5
DUWZ	D'Urville Isla	1.91	211	P	Pn	12 54 48.4	0.0
CAW	Cannon Point	1.93	184	P	Pn	12 54 49.5	+0.8
MWZ	Matawai	1.98	66	P	Pn	12 54 49.7	+0.3
MTW	Mount Morrison	1.99	174	P	Pn	12 54 50.3	+0.8
TMWZ	Te Maipa	1.99	165	P	Pn	12 54 50.3	+0.8
RIGZ	Rimuhau	2.03	77	P	Pb	12 54 52.7	+0.1
MKAZ	Moumakai	2.07	358	P	Pn	12 54 50.4	-0.1
PRGZ	Paritu Road	2.08	84	P	Pb	12 54 52.9	-0.5
KBAZ	Karaka Road Bo	2.10	353	P	Pn	12 54 51.3	+0.4
AWAZ	Awhitu Peninsu	2.16	347	P	Pn	12 54 52.6	+0.8
TCW	Tory Channel	2.16	199	P	Pn	12 54 51.9	+0.1
SNZO	South Karori	2.17	190	ePn	Pn	12 54 52.2	+0.3
TKGZ	Te Karaka	2.17	71	P	Pb	12 54 55.6	+0.6
PAWZ	Paruwai Farm	2.21	176	P	Pn	12 54 52.7	+0.2
ETAZ	East Tamaki Re	2.23	354	P	Pn	12 54 52.7	0.0
MSWZ	Moikau Station	2.24	180	P	Pn	12 54 53.9	+1.0
BHW	Baring Head	2.25	187	P	Pn	12 54 52.8	-0.1
TRWZ	Traveller	2.25	171	P	Pn	12 54 54.0	+1.0
WTAZ	Waiatarua	2.30	347	P	Pn	12 54 54.6	+0.9
EPAZ	Eden Park BICE	2.33	350	P	Pn	12 54 54.6	+0.5
HBAZ	Herne Bay Bore	2.35	350	P	Pn	12 54 55.4	+1.0
TWGZ	Tauwhareparae	2.37	66	P	Pb	12 54 57.0	-1.4
WIAZ	Waiheke Island	2.38	358	P	Pn	12 54 55.0	+0.2
PLWZ	Palliser	2.39	180	P	Pn	12 54 55.4	+0.4
MBAZ	Motutapu North	2.42	354	P	Pn	12 54 55.2	-0.1
TUWZ	Tuamarina	2.46	203	P	Pn	12 54 56.1	+0.2
RVAZ	Riverhead Bore	2.46	348	P	Pn	12 54 56.5	+0.7
KUZ	Kuaotunu	2.46	9	P	Pn	12 54 55.4	-0.5
NNZ	Nelson	2.48	214	P	Pn	12 54 57.2	+1.0
ABAZ	Army Bay	2.59	353	P	Pn	12 54 58.1	+0.4
QRZ	Quartz Range	2.65	231	P	Pn	12 54 58.0	-0.5
BSWZ	Blackbirch Sta	2.74	202	P	Pn	12 55 00.7	+0.9
GRZ	Great Barrier	2.93	4	P	Pn	12 55 02.3	0.0
THZ	Tophouse	3.13	214	ePn	Pn	12 55 06.1	+0.9
THZ	Tophouse	3.13	214	P	Pn	12 55 06.6	+1.4
WCZ	Waipu Caves	3.31	347	P	Pn	12 55 08.2	+0.7
KHZ	Kahutara	3.48	201	ePn	Pn	12 55 09.8	-0.1
KHZ	Kahutara	3.48	201	P	Pn	12 55 09.7	-0.2
DSZ	Denniston Nort	3.66	224	P	Pn	12 55 12.3	-0.2
OUZ	Omahuta	4.16	341	ePn	Pn	12 55 20.0	+0.8
OUZ	Omahuta	4.16	341	P	Pn	12 55 19.8	+0.5
LTZ	Lake Taylor	4.24	211	ePn	Pn	12 55 19.7	-0.7
LTZ	Lake Taylor	4.24	211	P	Pn	12 55 20.3	-0.1
INZ	Inchbonnie	4.56	218	P	Pn	12 55 24.7	0.0
OXZ	Oxford	4.79	209	ePn	Pn	12 55 26.2	-1.7
OXZ				eSn	Sn	12 56 20.7	-3.2
OXZ	Oxford	4.79	209	P	Pn	12 55 26.2	-1.7
CRLZ	Canterbury Las	4.81	203	ePn	Pn	12 55 29.2	+1.0
CRLZ				eSn	Sn	12 56 21.8	-2.4
OKCZ	Okains Bay	4.83	199	P	Pn	12 55 27.8	-0.7
MQZ	McQueen's Vall	4.92	202	ePn	Pn	12 55 27.3	-2.4
MQZ				eSn	Sn	12 56 22.1	-4.5
MQZ	McQueen's Vall	4.92	202	P	Pn	12 55 27.6	-2.1
WVZ	Waitaha Valley	5.16	220	P	Pn	12 55 33.2	+0.2
RPZ	Rata Peaks	5.51	213	ePn	Pn	12 55 38.1	+0.2
FOZ	Fox Glacier	5.96	221	ePn	Pn	12 55 43.3	-0.6
FOZ	Fox Glacier	5.96	221	P	Pn	12 55 43.4	-0.6
LBZ	Lake Benmore	6.43	214	ePn	Pn	12 55 51.5	+1.1
ODZ	Otahua Downs	6.78	209	ePn	Pn	12 55 54.6	-0.7
ODZ				eSn	Sn	12 57 09.4	-3.4
ODZ	Otahua Downs	6.78	209	P	Pn	12 55 53.8	-1.4
JCZ	Jackson Bay	6.87	223	P	Pn	12 55 55.9	-0.7
WKZ	Wanaka	7.30	217	ePn	Pn	12 56 04.2	+1.8
MSZ	Milford Sound	7.73	222	P	Pn	12 56 08.0	-0.3
MLZ	Mavora Lakes	8.12	218	ePn	Pn	12 56 16.5	+2.7
WHZ	Wether Hill Ro	8.60	216	ePn	Pn	12 56 21.7	+1.6
DCZ	Deep Cove	8.67	221	ePn	Pn	12 56 21.8	+0.6

*IDC **19** 12:58:51.2±0.4, 19°.04N×66°.90W, h0km, mb4.4/29, mb1 4.5/33, mb1mx4.5/41, mbtmp4.4/33, ML2.5/2, MS3.8/18, Ms1 3.8/18, ms1mx3.7/27, Error ellipse: s-maj=11.5km s-min=9.9km az=66.0*
*ISCJB **19** 12:58:52.7±0.5, 19°.13N±0°.01×66°.84W±0°.02, h18km±4km, mb4.5/70, MS3.9/20, Error ellipse: s-maj=2.9km s-min=1.8km az=135.4*
*NEIC **19** 12:58:56.4±0.0, 19°.11N×66°.73W, h37km, mb4.6/54, MD4.1(RSPR), After RSPR.*
NEIC Felt at Adjuntas, Aguas Buenas, Bayamon, Dorado, Naranjito, San Juan and San Sebastian.
*RSPR **19** 12:58:56.4, 19°.11N×66°.73W, h37km±6km, MD4.1/16*
*GCMT **19** 12:58:58.4±0.4, 19°.25N±0°.03×66°.69W±0°.03, h30km±3km, MW4.9/69, Moment Tensor Solution. s19,c23; s69,c94; Duration: 1s0 Moment tensor: Scale 1016Nm; Mrr=0.19±.18; Mθθ=0.90±.12; Mφφ=1.09±.13; Mrθ=0.68±.19; Mrφ=1.12±.10; Mθφ=2.02±.31; Best double couple: M=2.60900×1016 NP1:φ=162.00000°, δ=87.00000°, λ=-125.00000°. NP2:φ=68.00000°, δ=35.00000°, λ=-4.00000°. Principal axes: T 2.6480, Plg33.0000°, Azm281.0000°; N -0.0810, Plg35.0000°, Azm164.0000°; P -2.5700, Plg38.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 12:58:54.0±0.4, 19°.03N±0°.03×66°.83W±0°.02, h19km±4km, n736, σ1§26/742, mb4.6/71, MS3.9/21, 17C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.62	205	eS	Sn	12 59 18.9	+1.5
AGPR	Aguadilla, PR	0.62	205	‖eP	Pn	12 59 07.9	0.0
EMPR	Esperanza - Ma	0.62	153	eS	Sn	12 59 17.9	+0.5
EMPR	Esperanza - Ma	0.62	153	‖eP	Pn	12 59 08.3	+0.5
EMPR	Esperanza - Ma	0.62	153	ePn	Pn	12 59 07.8	0.0
AOPR	Arecibo Observ	0.69	174	eS	Sn	12 59 18.7	-0.2
AOPR	Arecibo Observ	0.69	174	‖eP	Pn	12 59 09.0	+0.2
AOPR	Arecibo Observ	0.69	174	ePn	Pn	12 59 08.6	-0.2
AOPR				eSn	Sn	12 59 19.5	+0.5
AGP	Aguadilla	0.69	205	ePn	Pg	12 59 07.6	0.0
AGP				eSn	Sn	12 59 18.9	-0.1
MPR	Mayaguez	0.87	200	ePn	Pn	12 59 11.4	+0.1
LSP	Las Mesas	0.89	196	‖eP	Pn	12 59 12.0	+0.4
LSP	Las Mesas	0.89	196	ePn	Pn	12 59 12.0	+0.4
IDE	Isla Desecheo	0.89	224	‖eP	Pn	12 59 12.1	+0.6
IDE	Isla Desecheo	0.89	224	ePn	Pn	12 59 12.1	+0.6
CELP	Cerrillos	0.98	166	‖eP	Pg	12 59 13.3	+0.2
CELP	Cerrillos	0.98	166	ePn	Pg	12 59 13.3	+0.2
OBIP	Obispado Ponce	1.01	168	‖eP	Pg	12 59 13.8	+0.2
OBIP	Obispado Ponce	1.01	168	eS	Sg	12 59 27.0	+0.1
OBIP	Obispado Ponce	1.01	168	ePn	Pg	12 59 13.5	-0.1
OBIP				eSn	Sg	12 59 28.5	+1.6
SJG	San Juan	1.12	145	‖eP	Pn	12 59 14.7	-0.1
SJG	San Juan	1.12	145	eS	Sb	12 59 28.7	-0.4
SJG	San Juan	1.12	145	ePn	Pn	12 59 14.3	-0.5
SJG	San Juan	1.12	145	Pn	Pn	12 59 14.6	-0.1
273nm,0.3s,baz=321,slow=12,SNR=243							
SJG				Sn	Sb	12 59 28.7	-0.4
620nm,0.3s,baz=66,slow=20,SNR=38							
SJG				LR	LR	12 59 42.2	
comp=Z,1μm,18.3s,baz=310,slow=44							
ICMP	Isla Caja de M	1.18	166	‖eP	Pg	12 59 16.5	-0.3
ICMP	Isla Caja de M	1.18	166	eS	Sg	12 59 31.8	-0.5
ICMP	Isla Caja de M	1.18	166	ePn	Pg	12 59 16.5	-0.3
ICMP				eSn	Sb	12 59 30.8	+0.1
CBYP	Canovanas	1.19	129	‖eP	Pn	12 59 15.3	-0.5
CBYP	Canovanas	1.19	129	eS	Sb	12 59 29.7	-1.5
CBYP	Canovanas	1.19	129	ePn	Pn	12 59 15.3	-0.5
CBYP				eSn	Sb	12 59 30.7	-0.6
HUMP	Col San Antoni	1.28	133	ePn	Pn	12 59 16.4	-0.6
HUMP				eSn	Sn	12 59 31.5	-2.2
MTP	Monte Pirata	1.53	127	‖eP	Pn	12 59 20.1	-0.3
MTP	Monte Pirata	1.53	127	ePn	Pn	12 59 19.7	-0.7
PCDR	Punta Cana, DR	1.56	251	‖eP	Pb	12 59 22.6	+0.3
PCDR	Punta Cana, DR	1.56	251	eS	Sb	12 59 41.9	+0.3
PCDR	Punta Cana, DR	1.56	251	ePn	Pb	12 59 22.9	+0.6
PCDR				eSn	Sb	12 59 42.9	+1.3
CUPR	Culebra, Puert	1.64	116	‖eP	Pn	12 59 20.7	-1.2
CUPR	Culebra, Puert	1.64	116	eS	Sn	12 59 39.6	-2.8
CUPR	Culebra, Puert	1.64	116	ePn	Pn	12 59 20.6	-1.2
CUPR				eSn	Sn	12 59 39.6	-2.8
STVI	Saint Thomas	1.90	111	‖eP	Pn	12 59 24.7	-0.8
STVI	Saint Thomas	1.90	111	eS	Sn	12 59 46.4	-2.6
STVI	Saint Thomas	1.90	111	ePn	Pn	12 59 24.7	-0.8
STVI				eSn	Sn	12 59 45.7	-3.3
CDVI	St. Croix	2.34	123	ePn	Pn	12 59 32.4	+0.9
ABVI	Anegada Island	2.38	97	ePn	Pn	12 59 31.1	-1.0
ABV	Anegada	2.38	97	‖eP	Pn	12 59 30.8	-1.3
DR12	Loma Pena Alta	2.43	265	‖eP	Pn	12 59 34.4	+1.6
SDD	Santo Domingo	2.98	259	ePn	Pn	12 59 42.5	+2.2
BANI	BANI	3.40	260	ePn	Pn	12 59 49.0	+2.7
SEUS	St. Eustatius	3.96	112	ePn	Pn	12 59 54.5	+0.6
SEUS	St. Eustatius	3.96	112	eP	Pn	12 59 54.9	+1.0
SEUS	St. Eustatius	3.96	112	eS	Sn	13 00 42.0	+2.1
SDDR	Presa de Saban	4.22	270	ePn	Pn	13 00 00.0	+2.6
SKI	Saint Kitts	4.24	113	ePn	Pn	12 59 59.2	+1.5
NVDO	Nevis, Disaste	4.43	115	eP	Pn	13 00 02.5	+2.1
NVDO	Nevis, Disaste	4.43	115	eS	Sn	13 00 55.1	+3.6
NVBH	Bath Hotel, Ne	4.44	115	eS	Sb	13 01 00.7	-4.0
NEV	Hard Times	4.47	114	eP	Pn	13 00 02.5	+1.6
NEV	Hard Times	4.47	114	eS	Sn	13 00 54.2	+1.8
GRTK	Grand Turk	4.73	302	ePn	Pn	13 00 04.0	-0.5
ANWB	Willy Bob	4.98	105	ePn	Pn	13 00 07.9	+0.1
ANWB	Willy Bob	4.98	105	eP	Pn	13 00 08.6	+0.8
ANWB	Willy Bob	4.98	105	eP	Pn	13 00 08.9	+1.1
ANWB	Willy Bob	4.98	105	eS	Sn	13 01 06.6	+1.7
MLYT	Lee's Yard	4.98	117	eP	Pn	13 00 08.8	+0.9
MLYT	Lee's Yard	4.98	117	eS	Sn	13 01 04.9	-0.1
BPA	Boggy Peak	5.13	112	eP	Pn	13 00 11.1	+1.1
BPA	Boggy Peak	5.13	112	eS	Sn	13 01 08.9	+0.2
LGNH	Logne	5.50	266	ePn	Pn	13 00 20.2	+5.2
ABD	La Joyeuse, An	5.69	116	eP	Pn	13 00 20.9	+3.3
CBE	Ff, Capester	5.79	120	eP	Pn	13 00 23.4	+4.3
TDBA	Terre de Bas,	5.88	122	eP	Pn	13 00 21.8	+1.6
MAGL	Barre de l'ile	6.12	119	eP	Pn	13 00 28.4	+4.9
DEG	La Desirade	6.13	115	eS	Sn	13 01 14.5	-19
MDPV	Dominica, Penn	6.18	122	eP	Pn	13 00 23.2	-1.2
MDPO	Dominica; Chan	6.18	123	eP	Pn	13

859A	Kempfer Cattle	15.71 307	P	Pn	13 02 31.6	-2.9
	baz=122					
CHIC	Chingaza	15.82 206	eP	P	13 02 38.5	-1.6
CHIC	Chingaza	15.82 206	eP	P	13 02 38.5	-1.6
ROSC	El Rosal	15.89 208	ePn	P	13 02 39.1	-1.7
	37nm,0.9s					
ROSC	El Rosal	15.89 208	Pn	Pn	13 02 36.8	-0.4
	0.6nm,0.3s,baz=211,slow=19,SNR=3.3					
ROSC			Sn	Sn	13 05 34.9	+1.8
	0.5nm,0.3s,baz=189,slow=19,SNR=2.0					
ROSC			LR	LR	13 09 18.8	
	comp=Z,289nm,19.2s,baz=66,slow=40					
058A	Arcadia	15.92 303	P	Pn	13 02 34.5	-2.6
	baz=117					
BCIP	Isla Barro Col	15.97 234	ePn	Pn	13 02 37.8	-0.1
	43nm,1.0s					
BCIP	Isla Barro Col	15.97 234	eP	Pn	13 02 36.4	-1.5
BCIP	Isla Barro Col	15.97 234	eP	Pn	13 02 36.4	-1.5
GUY2C	Guyana, Caldas	16.05 212	eP	P	13 02 43.0	+0.3
GUY2C	Guyana, Caldas	16.05 212	eP	P	13 02 43.0	+0.3
958A	Wauchula	16.12 305	P	Pn	13 02 37.2	-2.6
	baz=118					
858A	St. Cloud	16.14 307	P	Pn	13 02 38.0	-1.9
	baz=121					
DWPF	Disney Wildern	16.14 307	P	Pn	13 02 38.4	-1.6
	baz=121					
SOLC	Bahia Solano	16.37 220	eP	P	13 02 45.5	-0.3
SOLC	Bahia Solano	16.37 220	eP	P	13 02 45.5	-0.3
758A	Lake Helen	16.42 310	P	Pn	13 02 42.4	-1.1
	baz=124					
957A	Wimauma	16.54 304	P	Pn	13 02 43.3	-1.8
	baz=118					
658A	Bunnell	16.72 311	P	Pn	13 02 46.6	-0.8
	baz=125					
PLMC	San Jos del P	16.80 214	eP	P	13 02 50.2	-0.3
PLMC	San Jos del P	16.80 214	eP	P	13 02 50.2	-0.3
857A	Zephyrhills	16.82 306	P	Pn	13 02 47.8	-0.9
	baz=120					
757A	Oxford	17.05 308	P	Pn	13 02 49.6	-1.9
	baz=122					
PRAC	Prado	17.14 208	eP	P	13 02 54.2	-0.1
PRAC	Prado	17.14 208	eP	P	13 02 54.2	-0.1
657A	Interlachen	17.25 310	P	Pn	13 02 52.9	-1.1
	baz=124,SNR=5.6					
557A	Orange Park	17.40 312	P	Pn	13 02 54.5	-1.3
	baz=125					
YOTC	Yotoco, Valle	17.61 213	eP	P	13 03 00.1	+0.5
YOTC	Yotoco, Valle	17.61 213	eP	P	13 03 00.1	+0.5
656A	Willston	17.62 309	P	Pn	13 02 57.2	-1.4
	baz=122,SNR=8.4					
457A	Yulee	17.64 314	P	Pn	13 02 57.5	-1.3
	baz=127					
556A	Lake Butler	17.87 311	P	Pn	13 03 01.2	-0.5
	baz=124					
Z59A	Georgetown, SC	18.01 324	P	Pn	13 03 02.6	-0.7
	baz=138					
456A	Hilliard	18.02 313	P	P	13 03 03.9	0.0
	baz=126,SNR=7.0					
Y60A	Bolivia	18.04 328	P	Pn	13 03 02.6	-1.1
	baz=143					
357A	Townsend	18.09 316	P	Pn	13 03 03.4	-1.0
	baz=129					
257A	Skidaway Islan	18.15 318	P	Pn	13 03 05.0	0.0
	baz=132					
158A	Hollywood	18.16 321	P	Pn	13 03 04.9	-0.4
	baz=135,SNR=7.2					
655A	Horseshoe Beac	18.23 308	P	Pn	13 03 05.1	-0.9
	baz=121					
V62A	Hyde County Ai	18.34 336	P	P	13 03 06.3	-1.0
	baz=151					
555A	McAlpin	18.34 310	P	Pn	13 03 07.7	+0.3
	baz=123,SNR=6.0					
Z58A	St. Stephen	18.38 323	P	Pn	13 03 07.9	+0.1
	baz=137,SNR=12					
X60A	Albert Glenn T	18.38 330	P	P	13 03 06.3	-1.6
	baz=144,SNR=11					
MARP	Paez Belalcaza	18.40 210	eP	Pn	13 03 10.6	+2.1
MARP	Paez Belalcaza	18.40 210	eP	Pn	13 03 10.6	+2.1
NHSC	New Hope	18.42 322	P	P	13 03 07.0	-1.3
	baz=136					
W61A	Ground Anchor	18.43 333	P	P	13 03 07.7	-0.7
	baz=148					
356A	Blackshear	18.45 314	P	P	13 03 07.5	-1.1
	baz=128					
157A	Early Branch	18.61 320	P	P	13 03 09.8	-0.6
	baz=133,SNR=5.8					
W60A	Pink Hill	18.65 331	P	Pn	13 03 11.2	0.0
	baz=146,SNR=6.9					
X59A	McDuffie Farm,	18.68 328	P	P	13 03 10.7	-0.4
	baz=143					
256A	Glennville	18.70 316	P	P	13 03 10.6	-0.8
	baz=130					
Y58A	Scranton	18.72 325	P	P	13 03 10.8	-0.8
	baz=139					
455A	Stateville	18.73 312	P	P	13 03 10.9	-0.8
	baz=124					
V61A	Roper	18.78 335	P	P	13 03 12.4	+0.1
	baz=150,SNR=9.9					
554A	Perry	18.84 309	P	P	13 03 12.5	-0.5
	baz=122					
Z57A	Bowman	18.86 322	P	P	13 03 12.7	-0.5
	baz=135					
CNNC	Cliffs of the	18.88 331	P	P	13 03 13.4	0.0
	baz=146					
156A	Sylvania	18.90 319	P	P	13 03 13.8	+0.2
	baz=132,SNR=8.0					
355A	Pearson	18.96 313	P	P	13 03 13.3	-0.9
	baz=126					
POPC	Popayan, Colom	19.01 212	eP	Pn	13 03 16.1	+0.1
POPC	Popayan, Colom	19.01 212	eP	Pn	13 03 16.1	+0.1
X58A	Rowland	19.04 327	P	Pn	13 03 15.9	0.0
	baz=141					
V60A	Jim Taylor Roa	19.05 333	P	P	13 03 15.5	+0.3
	baz=148,SNR=6.7					
255A	Hazlehurst	19.06 315	P	P	13 03 15.3	0.0
	baz=128,SNR=16					
PCON	Cinco Dias	19.06 211	eP	Pn	13 03 20.0	+3.2
PCON	Cinco Dias	19.06 211	eP	Pn	13 03 20.0	+3.2
W59A	Clinton	19.08 330	P	Pn	13 03 16.1	-0.3
	baz=144					
454A	Quitman	19.14 311	P	P	13 03 15.8	-0.5
	baz=123					
U61A	Possum Corner	19.20 336	P	P	13 03 17.0	+0.1
	baz=151,SNR=13					
Y57A	Sumter	19.20 324	P	P	13 03 17.4	+0.5
	baz=137					
Z56A	Williston	19.28 320	P	P	13 03 18.0	+0.3
	baz=134					
SOTA	Rioblanco	19.33 211	eP	Pn	13 03 22.1	+2.1
SOTA	Rioblanco	19.33 211	eP	Pn	13 03 22.1	+2.1
W58A	Raeford	19.35 328	P	Pn	13 03 19.6	-0.1
	baz=142					
X57A	Johnson Farm,	19.37 325	Pb	Pn	13 03 24.9	+4.9
	baz=139,SNR=6.2					
FLOC	Florencia	19.38 208	eP	Pn	13 03 23.0	+2.8
FLOC	Florencia	19.38 208	eP	Pn	13 03 23.0	+2.8
V59A	Middlesex	19.48 331	P	Pn	13 03 20.9	-0.2
	baz=146					
155A	Kite	19.49 317	P	Pn	13 03 20.8	-0.5
	baz=130,SNR=9.9					
TIGA	Tifton	19.52 312	P	P	13 03 20.8	+0.3
	baz=125					
JTS	Las Juntas de	19.55 246	eP	Pn	13 03 21.8	-0.5
	33nm,1.0s					
JTS	Las Juntas de	19.55 246	P	P	13 03 21.4	+0.5
	0.7nm,0.3s,baz=102,slow=9.2,SNR=14					
Y56A	Pelion	19.57 322	Pb	Pn	13 03 27.2	+5.0
	baz=135,SNR=11					
MDP	Montagnes des	19.58 133	P	Pn	13 03 21.9	-0.6
	0.9nm,0.3s,baz=318,slow=8.9,SNR=8.8					
U60A	Pendleton	19.61 334	P	P	13 03 21.4	+0.2
	baz=149					
254A	Abbeville	19.62 314	P	P	13 03 22.0	+0.6
	baz=127					
Z55A	Blythe	19.68 319	Pb	Pn	13 03 28.2	+4.6
	baz=132,SNR=6.5					
453A	Whigham	19.72 310	P	Pn	13 03 23.6	-0.5
	baz=122					
BBAC	Balboa, Cauca	19.75 212	eP	P	13 03 23.7	+0.5
BBAC	Balboa, Cauca	19.75 212	eP	P	13 03 23.7	+0.5
U59A	Littleton	19.77 333	Pb	Pn	13 03 29.8	+5.2
	baz=148,SNR=9.3					
W57A	Gilead	19.84 327	Pb	Pn	13 03 30.9	+5.4
	baz=140,SNR=6.4					
154A	Montrose	19.90 316	P	P	13 03 25.1	+0.6
	baz=129,SNR=15					
V58A	Windy Hill, Pi	19.91 329	P	Pn	13 03 25.5	-0.8
	baz=144,SNR=6.3					
X56A	White Oak	19.91 323	Pb	Pn	13 03 31.1	+4.7
	baz=137,SNR=15					
353A	Camilla	19.91 311	P	P	13 03 24.8	+0.1
	baz=124					
Y55A	Saluda	20.00 321	P	P	13 03 25.2	-0.3
	baz=134					
T60A	Surry	20.02 336	P	P	13 03 26.5	+0.7
	baz=151,SNR=11					
Z54A	Sparta	20.13 318	P	P	13 03 27.3	+0.3
	baz=130,SNR=7.2					
U58A	Oxford	20.14 332	P	P	13 03 27.6	+0.5
	baz=146					
W56A	Indian Trail	20.14 326	P	P	13 03 28.0	+0.8
	baz=139					
T59A	Double "B" Far	20.20 334	P	P	13 03 27.9	+0.2
	baz=149,SNR=8.5					
TEIG	Tepich	20.24 277	eP	Pn	13 03 29.6	-0.6
	45nm,1.2s					
X55A	Gracelyn & Ava	20.24 322	P	P	13 03 28.5	+0.3
	baz=135,SNR=6.7					
253A	Americus	20.26 313	P	P	13 03 27.9	-0.6
	baz=126					
V57A	Coltrane Farms	20.31 328	P	P	13 03 29.7	+0.8
	baz=142,SNR=8.7					
452A	Marianna	20.35 309	P	P	13 03 29.7	+0.3
	baz=121					
Y54A	Tignall	20.45 319	P	P	13 03 30.3	-0.2
	baz=132,SNR=7.8					
S60A	Water View	20.49 337	P	P	13 03 28.1	-2.8
	baz=152					
352A	Blakely	20.49 311	P	P	13 03 30.9	-0.1
	baz=123					
U57A	Blanch	20.53 330	P	P	13 03 31.1	-0.3
	baz=144					
KMSC	Kings Mountain	20.56 324	P	P	13 03 31.8	+0.1
	baz=137,SNR=8.8					
T58A	Grand View Acr	20.59 332	P	P	13 03 31.7	-0.3
	baz=147					
V56A	Mocksville	20.61 327	eP	P	13 03 32.8	+0.5
	14nm,1.0s					
V56A	Mocksville	20.61 327	P	P	13 03 32.2	-0.1
	baz=140,SNR=5.5					
Z53A	Monticello	20.63 317	P	P	13 03 32.4	-0.1
	baz=129,SNR=8.6					
GOGA	Godfrey	20.64 317	eP	P	13 03 32.9	+0.2
	27nm,1.2s					
GOGA	Godfrey	20.64 317	P	P	13 03 32.8	+0.2
	baz=130					
252A	Lumpkin	20.64 312	P	P	13 03 33.2	+0.6
	baz=124					
X54A	Belton	20.73 321	P	P	13 03 33.6	+0.1
	baz=134,SNR=6.9					
PTGA	Pitinga	20.76 160	eP	P	13 03 34.5	+0.4
	13nm,0.8s					
PTGA	Pitinga	20.76 160	P	P	13 03 34.8	+0.8
	11nm,0.5s,baz=351,slow=12,SNR=23					
351A	Pinckard	20.88 309	P	P	13 03 34.3	-0.8
	baz=121					
S58A	Poland Farm, P	20.95 334	eP	P	13 03 35.6	-0.2
	14nm,0.9s					
S58A	Poland Farm, P	20.95 334	P	P	13 03 35.5	-0.4
	baz=149,SNR=5.3					
T57A	Hurt	20.95 331	P	P	13 03 35.1	-0.9
	baz=145,SNR=7.1					
U56A	King	20.97 328	P	P	13 03 34.9	-1.3
	baz=142					
W54A	Cherokee Point	21.00 323	P	P	13 03 35.6	-0.8
	baz=135					
Y53A	Monroe	21.00 318	P	P	13 03 36.7	+0.2
	baz=130					
152A	Waverly Hall	21.02 314	eP	P	13 03 37.4	+0.8
	20nm,0.8s					
152A	Waverly Hall	21.02 314	P	P	13 03 36.9	+0.2
	baz=126,SNR=11					
V55A	Taylorsville	21.02 326	P	P	13 03 37.1	+0.5
	baz=139					
R59A	King George, V	21.10 337	P	P	13 03 36.8	-0.7
	baz=152,SNR=7.8					
Z52A	Williamson	21.12 315	P	P	13 03 37.9	+0.1
	baz=127,SNR=5.3					
251A	Mieway	21.17 312	P	P	13 03 38.4	+0.1
	baz=123,SNR=18					
R58B	Mineral	21.18 335	eP	P	13 03 38.6	+0.2
	24nm,0.8s					
R58B	Mineral	21.18 335	P	P	13 03 38.2	-0.2
	baz=150,SNR=11					
CBN	Corbin Frederi	21.20 337	eP	P	13 03 38.7	+0.2
	22nm,0.8s					
CBN	Corbin Frederi	21.20 337	P	P	13 03 37.5	-1.1
	baz=151,SNR=8.6					
X53A	Estanollee	21.25 320	P	P	13 03 39.4	+0.2
	baz=132					
Y52A	Lilburn	21.31 317	P	P	13 03 40.1	+0.3
	baz=129,SNR=14					
T56A	Rocky Mt	21.34 330	P	P	13 03 39.6	-0.5
	baz=143					
151A	Opelika	21.36 313	P	P	13 03 40.3	-0.1
	baz=124,SNR=7.4					
V54A	Nebo	21.36 324	P	P	13 03 40.3	-0.1
	baz=137					
450A	Crestview	21.37 307	P	P	13 03 39.1	-1.4
	baz=118					
U55A	TA2, Sparta	21.43 327	P	P	13 03 41.3	+0.2
	baz=140,SNR=7.4					
S57A	Dark Hollow, R	21.45 333	P	P	13 03 41.1	-0.3
	baz=147,SNR=6.2					
350A	Dozier	21.49 309	P	P	13 03 41.5	-0.2
	baz=120					
R58A	Rapidan	21.52 335	P	P	13 03 41.7	-0.3
	baz=150,SNR=9.4					
W53A	Cullowhee	21.62 321	P	P	13 03 43.2	-0.1
	baz=134					
S56A	Natural Bridge	21.65 332	P	P	13 03 43.8	+0.3
	baz=145,SNR=11					
BLA	Blacksburg	21.67 329	P	P	13 03 43.5	-0.2
	baz=143,SNR=5.4					
X52A	Dahlonega	21.68 319	P	P	13 03 43.6	-0.3
	baz=131,SNR=5.8					
250A	Grady	21.73 310	eP	P	13 03 45.1	+0.8
	35nm,0.8s					
250A	Grady	21.73 310	P	P	13 03 44.4	+0.1
	baz=122					
R57A	Stanardsville	21.73 334	P	P	13 03 44.5	+0.2
	baz=149,SNR=11					
V53A	Saluda	21.77 323	P	P	13 03 44.5	-0.3
	baz=135					
T55A	Pulaski	21.78 329	P	P	13 03 44.7	-0.1
	baz=142					
449A	Pace	21.83 306	P	P	13 03 45.7	+0.3
	baz=117					
U54A	Nelsons Funny	21.85 326	P	P	13 03 44.9	-0.7
	baz=139					
OTAV	Otavalo	21.88 213	eP	P	13 03 48.9	+2.3
OTAV	Otavalo	21.88 213	eP	P	13 03 48.9	+2.3
150A	Eclectic	21.89 312	P	P	13 03 45.7	-0.3
	baz=123					
BRAL	Brenton	21.90 307	P	P	13 03 45.7	-0.5
	baz=118					
Y51A	Rockmart	21.98 316	P	P	13 03 46.8	-0.3
	baz=128,SNR=5.8					
W52A	Murphy	22.03 320	P	P	13 03 47.5	0.0
	baz=132					
P60A	Greenville	22.06 342	P	P	13 03 47.9	+0.1
	baz=157					
349A	Repton	22.09 308	P	P	13 03 48.3	+0.1
	baz=119					
P59A	Jarrettsville	22.12 340	P	P	13 03 48.9	+0.4
	baz=155					
T54A	Tazewell	22.13 327	P	P	13 03 48.7	+0.1
	baz=140					
U53A	Fall Branch	22.14 324	P	P	13 03 48.6	-0.1
	baz=137					
S55A	Lewisburg	22.16 330	P	P	13 03 48.7	-0.2
	baz=143					
Z50A	Ashland	22.18 313	P	P	13 03 49.0	-0.2
	baz=125,SNR=12					
Q57A	Strasburg	22.32 336	P	P	13 03 50.9	+0.3
	baz=150,SNR=12					
V52A	Sevierville	22.34 322	P	P	13 03 49.7	-1.2
	baz=134					
249A	Camden	22.35 309	P	P	13 03 50.9	0.0
	baz=120					
R55A	Marlinton	22.40 332	P	P	13 03 51.4	-0.2
	baz=145,SNR=9.1					
Y50A	Piedmont	22.43 315	P	P	13 03 51.6	-0.2
	baz=126,SNR=6.3					
149A	Jones	22.43 311	P	P	13 03 50.1	-1.8
	baz=122					
O60A	Telford	22.46 343	P	P	13 03 49.7	-2.3
	baz=158					
Z49A	Columbiana	22.57 313	P	P	13 03 53.3	0.0
	baz=124,SNR=7.6					
T53A	Wise	22.57 326	P	P	13 03 52.1	-1.3
	baz=138					
W51A	Cleveland	22.59 319	P	P	13 03 52.7	-0.8
	baz=130,SNR=5.4					
U52A	Thorn Hill	22.60 323	P	P	13 03 53.6	-0.1
	baz=135					
O59A	Robesonia	22.68 341	P	P	13 03 54.1	-0.4
	baz=156					
X50B	Fort Payne	22.71 316	P	P	13 03 54.5	-0.4
	baz=128,SNR=6.0					
R54A	Victor	22.72 330	P	P	13 03 54.7	-0.2
	baz=143					
PAL	Palisades	22.73 346	P	P	13 03 54.2	-0.7
	baz=162					
V51A	Loudon	22.76 321	P	P	13 03 54.9	-0.5
	baz=132					
LRAL	Lakeview Retre	22.81 312	eP	P	13 03 56.2	+0.4
	12nm,0.9s					
LRAL	Lakeview Retre	22.81 312	P	P	13 03 55.2	-0.6
	baz=122,SNR=8.2					
TZTN	Tazewell	22.81 323	P	P	13 03 55.8	0.0
	baz=135					
Y49A	Blount Mountai	22.86 314	P	P	13 03 56.6	+0.2
	baz=125					
S53A	Williamson	22.89 327	P	P	13 03 55.7	-0.9
	baz=140					
T52A	Hallie	22.91 325	P	P	13 03 56.5	-0.3
	baz=137					
APG	El Apazote	22.94 264	P	P	13 03 57.8	+0.1
	24nm,0.9s,baz=68,slow=5.1,SNR=16					
W50A	Signal Mountai	22.96 318	P	P	13 03 57.0	-0.4
	baz=130,SNR=5.4					
U51A	La Follette	22.96 322	P	P	13 03 56.6	-0.8
	baz=134					
Q55A	Buckhannon	22.97 333	P	P	13 03 57.0	-0.6
	baz=146					
148A	Greensboro	23.01 310	P	P	13 03 57.4	-0.6
	baz=121					
N59A	State Game Lan	23.12 343	P	P	13 03 59.0	0.0
	baz=158,SNR=9.2					
V50A	Pikevile	23.13 319	P	P	13 03 57.9	-1.3
	baz=131					
X49A	Woodville	23.19 316	P	P	13 03 58.7	-1.1
	baz=126					
P55A	Reedsville	23.29 334	P	P	13 04 00.2	-0.6
	baz=147					
Q54A	Coxs Mills	23.30 332	P	P	13 04 00.6	-0.2
	baz=144					
R53A	Hurricane	23.30 329	P	P	13 04 00.0	-0.9
	baz=141					
T51A	Gray	23.33 323	P	P	13 04 00.1	-1.1
	baz=135					
S52A	Salyersville	23.38 326	P	P	13 04 00.5	-1.2
	baz=138					
Y48A	Jasper	23.41 313	P	P	13 04 01.2	-0.8
	baz=124					
MCWV	Mont Chateau	23.43 334	P	P	13 04 02.0	-0.1
	baz=147					
O56A	Blue Knob Stat	23.45 337	P	P	13 04 02.3	-0.1
	baz=151,SNR=5.3					
U50A	Jamestown	23.47 321	P	P	13 04 02.4	-0.2
	baz=133					
Q53A	Leroy	23.51 330	P	P	13 04 02.7	-0.3
	baz=143					
W49A	Belvidere	23.52 317	P	P	13 04 02.6	-0.4
	baz=128					
SSPA	Standing Stone	23.53 339	P	P	13 04 02.9	-0.2
	baz=153					
S51A	Beattyville	23.62 325	P	P	13 04 04.4	+0.3
	baz=137,SNR=5.5					
X48A	Hartselle	23.63 315	P	P	13 04 03.7	-0.5
	baz=125					
P54A	Burton	23.65 333	P	P	13 04 04.2	-0.1
	baz=146					
R52A	Catlettsburg	23.65 328	P	P	13 04 03.6	-0.7
	baz=140					
O55A	Ligonier	23.68 336	P	P	13 04 04.3	-0.2
	baz=149					
V49A	McMinnville	23.69 319	P	P	13 04 05.0	+0.3
	baz=130					
HRV	Adam Dziewonsk	23.74 351	P	P	13 04 05.6	+0.5
	baz=169					
T50A	Nancy	23.88 322	P	P	13 04 06.5	-0.1
	baz=134,SNR=8.6					
Q52A	Bidwell	23.95 329	P	P	13 04 07.2	+0.1
	baz=142					
P53A	Whipple	23.95 331	P	P	13 04 07.5	+0.3
	baz=144					
W48A	Pulaski	23.96 316	P	P	13 04 07.0	-0.3
	baz=127					
N55A	Marion Center	24.05 337	P	P	13 04 08.1	0.0
	baz=150					
O54A	Avella	24.09 334	P	P	13 04 08.4	0.0
	baz=147					
S50A	Richmond	24.09 324	P	P	13 04 08.3	-0.2
	baz=135					
U49A	Red Boiling Sp	24.10 320	P	P	13 04 08.4	-0.2
	baz=131					
R51A	Hillsboro	24.11 326	P	P	13 04 09.1	+0.5
	baz=138					
X47A	Russelville	24.22 314	P	P	13 04 09.6	-0.2
	baz=124,SNR=23					
V48A	Smith Brothers	24.25 317	P	P	13 04 11.4	+1.4
	baz=128					
CCIG	Comitan	24.26 268	eP	P	13 04 10.6	+0.1
	39nm,0.8s					
T49A	Edmonton	24.34 322	P	P	13 04 10.3	-0.6
	baz=132					
BINY	Binghamton	24.37 343	P	P	13 04 10.3	-0.7
	baz=158					
P52A	Corning	24.41 330	P	P	13 04 11.0	-0.4
	baz=143					
W47A	Westpoint	24.46 316	P	P	13 04 12.1	+0.2
	baz=126,SNR=5.8					
R50A	Paris	24.49 325	P	P	13 04 11.6	-0.5
	baz=136					
O53A	New Philadelph	24.50 333	P	P	13 04 11.8	-0.4
	baz=145					
Q51A	Peebles	24.53 328	eP	P	13 04 12.0	-0.5
	12nm,1.2s					
Q51A	Peebles	24.53 328	P	P	13 04 12.1	-0.5
	baz=139					
U48A	Cassie Pea, Po	24.56 319	P	P	13 04 12.9	+0.1
	baz=130					
M55A	Ridgway	24.57 338	P	P	13 04 13.2	+0.3
	baz=152,SNR=6.0					
N54A	Moraine State	24.59 336	P	P	13 04 13.5	+0.4
	baz=149,SNR=5.7					
O52A	Adamsville	24.66 332	P	P	13 04 13.3	-0.4
	baz=144					
S49A	Springfield	24.67 323	P	P	13 04 14.1	+0.4
	baz=134					
X46A	Booneville	24.74 313	P	P	13 04 14.5	0.0
	baz=123					
V47A	Nunnelly	24.76 317	P	P	13 04 14.8	+0.2
	baz=127					
N53A	Lisbon	24.80 334	P	P	13 04 15.2	+0.2
	baz=147,SNR=7.1					
T48A	Bowling Green	24.86 320	P	P	13 04 15.5	0.0
	baz=131					
W46A	Michie	24.92 314	P	P	13 04 16.2	+0.1
	baz=124					
M54A	Oil Creek Stat	24.94 337	P	P	13 04 15.6	-0.6
	baz=150					
R49A	Shelbyville	24.96 324	P	P	13 04 15.4	-1.0
	baz=135					
U47A	Clarksville	24.98 318	P	P	13 04 16.2	-0.4
	baz=128					
S48A	Wiedeman Farm,	25.02 322	P	P	13 04 17.7	+0.7
	baz=132					
L55A	Hinsdale	25.10 339	P	P	13 04 17.7	+0.1
	baz=153					
V46A	Holladay	25.13 316	P	P	13 04 17.9	-0.1
	baz=126					
WVT	Waverly	25.14 317	eP	P	13 04 19.3	+1.2
	7.0nm,0.8s					
WVT	Waverly	25.14 317	P	P	13 04 18.4	+0.4
	baz=127					
N52A	McGinn's Farm,	25.17 333	P	P	13 04 18.1	-0.1
	baz=145					
P50A	Jamestown	25.20 328	P	P	13 04 18.3	-0.2
	baz=139					
M53A	WI Miller and	25.27 335	P	P	13 04 18.9	-0.2
	baz=148					

ACSO	Alum Creek Sta baz=142	25.29 330	P	P	13 04 19.7 +0.3
OXF	Oxford baz=122	25.29 312	P	P	13 04 19.1 -0.3
Q49A	Aurora baz=136	25.32 326	P	P	13 04 20.0 +0.3
R48A	Northridge Ran baz=134	25.43 323	P	P	13 04 20.7 +0.1
L54A	Sinclairville baz=151	25.44 338	P	P	13 04 21.2 +0.5
K55A	Perry baz=154	25.47 340	P	P	13 04 21.3 +0.4
O50A	Cable baz=140	25.52 329	P	P	13 04 22.3 +0.8
L53A	Girard baz=149	25.55 336	P	P	13 04 21.8 +0.1
WCI	Wyandotte Cave 13nm,0.8s	25.55 323	eP	P	13 04 22.4 +0.6
WCI	Wyandotte Cave baz=133	25.55 323	P	P	13 04 21.8 +0.1
N51A	Ashland baz=144	25.55 332	P	P	13 04 22.0 +0.2
ERPA	Erie baz=150	25.59 337	P	P	13 04 21.9 -0.1
P49A	Miami Univ. Ec baz=138	25.61 327	P	P	13 04 22.5 +0.2
M52A	Chesterland baz=147	25.63 334	P	P	13 04 22.8 +0.3
Q48A	North Vernon baz=135	25.72 324	P	P	13 04 23.4 +0.1
R47A	Wooly Knot Far baz=133	25.73 322	P	P	13 04 23.4 +0.1
T46A	Princeton baz=128	25.74 319	P	P	13 04 23.6 +0.2
N50A	Nevada baz=142	25.79 331	P	P	13 04 24.6 +0.7
J55A	Hilton baz=155	25.88 341	P	P	13 04 24.0 -0.6
O49A	Covington baz=139	25.91 328	P	P	13 04 24.6 -0.4
LONY	Lake Ozonia baz=163	26.32 347	P	P	13 04 28.6 -0.1
O48A	Farmland baz=138	26.38 327	P	P	13 04 28.5 -0.7
S45A	Carrier Mills baz=128	26.56 319	P	P	13 04 30.2 -0.7
WLVO	Wesleyville baz=155	26.65 341	P	P	13 04 31.3 -0.3
H56A	Elgin baz=160	26.68 345	P	P	13 04 31.2 -0.6
I55A	Frankford baz=156	26.70 342	P	P	13 04 31.4 -0.7
DRWO	Darlington Wes baz=154	26.71 341	P	P	13 04 32.2 +0.1
CMIG	Matias Romero 4.6nm,0.9s,baz=91,slow=7.2,SNR=3.5	26.73 270	P	P	13 04 32.1 -0.5
J52A	Paris baz=150	26.74 337	P	P	13 04 31.3 -1.1
N48A	Decatur baz=139	26.76 328	P	P	13 04 32.4 -0.2
R45A	Skylar, Fairfi baz=130	26.77 320	P	P	13 04 32.9 +0.2
H55A	Tweed baz=158	26.88 343	P	P	13 04 32.8 -0.8
O47A	Sheridan baz=136	26.89 326	P	P	13 04 34.3 +0.4
PKRO	Pickering baz=154	26.90 340	P	P	13 04 33.7 -0.2
ACTO	Acton baz=151	26.91 338	P	P	13 04 34.3 +0.3
I53A	Kortright Cn E baz=152	26.94 339	P	P	13 04 34.7 +0.4
DELO	Deloro Mine baz=157	26.96 343	P	P	13 04 34.4 0.0
S44A	Carbondale baz=127	26.99 318	P	P	13 04 34.7 -0.1
P46A	Rosedale baz=133	27.02 324	P	P	13 04 35.2 +0.2
Q45A	Warren Harvey, baz=131	27.08 321	P	P	13 04 36.1 +0.5
N47A	Urbana baz=138,SNR=5.0	27.11 327	P	P	13 04 35.5 -0.3
AAM	Ann Arbor baz=143	27.24 332	P	P	13 04 37.8 +0.8
P45A	Graceland, Par baz=132,SNR=5.2	27.26 323	P	P	13 04 37.1 -0.1
PLVO	Plevna baz=158	27.30 344	P	P	13 04 37.9 +0.4
L48A	N Adams baz=141	27.31 331	P	P	13 04 38.2 +0.6
ORIO	Orleans, Innes baz=162	27.31 347	P	P	13 04 37.8 +0.2
ORHO	Orleans, Herit baz=162	27.32 347	P	P	13 04 38.4 +0.8
ALFO	Alfred baz=163	27.35 348	P	P	13 04 38.2 +0.3
G55A	Calabogie baz=159	27.41 345	P	P	13 04 39.0 +0.5
I51A	Listowel baz=150	27.43 337	P	P	13 04 39.0 +0.4
SFIN	Lafayette baz=135	27.49 325	P	P	13 04 39.4 +0.2
BANO	Bancroft baz=157	27.51 343	P	P	13 04 39.6 +0.2
K49A	Clarkson baz=144	27.54 333	P	P	13 04 39.4 -0.2
W41B	Gary Mavity, V baz=119,SNR=7.6	27.64 311	P	P	13 04 40.7 +0.1
SADO	Sadowa 3.6nm,0.8s	27.64 341	eP	P	13 04 40.0 -0.6
SADO	Sadowa 2.4nm,0.7s,baz=271,slow=22,SNR=3.6	27.64 341	P	P	13 04 40.1 -0.4
SADO			LR	LR	13 15 50.3
	comp=Z,169nm,20.8s,baz=174,slow=37				
N46A	Monticello baz=136	27.66 326	P	P	13 04 40.9 +0.1
BWLO	Walkerton baz=150	27.74 338	P	P	13 04 41.8 +0.4
X40A	Basin Creek Fa baz=117,SNR=6.6	27.75 309	P	P	13 04 41.5 -0.1
K48A	Perry baz=143	27.84 332	P	P	13 04 42.4 0.0
J49A	Marlette baz=145	27.88 334	P	P	13 04 43.1 +0.5
PEMO	Pembroke baz=158	27.94 344	P	P	13 04 43.1 0.0
U41A	Viola baz=121	28.00 313	P	P	13 04 43.8 0.0
N45A	Kentland baz=135	28.04 325	P	P	13 04 44.3 +0.1
NATX	Nacogdoches baz=110,SNR=5.1	28.06 302	P	P	13 04 44.5 0.0
K47A	Vermontville baz=141	28.14 331	P	P	13 04 45.0 0.0
MIAR	Mount Ida baz=116	28.32 308	P	P	13 04 46.4 -0.4
BUKO	Buck Lake baz=154	28.33 341	P	P	13 04 46.2 -0.5
N44A	Piper City baz=134	28.34 324	P	P	13 04 46.7 -0.1
P43A	Skaggs, Pawnee baz=130	28.37 321	P	P	13 04 47.3 +0.2
ATAH	Atahualpa 14nm,1.0s,baz=65,slow=4.4,SNR=6.8	28.39 205	P	P	13 04 47.5 -0.5
ALGO	Algonquin Park baz=157	28.41 343	P	P	13 04 47.0 -0.4
CCM	Cathedral Cave 14nm,1.3s	28.48 317	eP	P	13 04 47.5 -0.6
CCM	Cathedral Cave baz=125	28.48 317	P	P	13 04 47.9 -0.2
K46A	Dorr baz=140	28.52 330	P	P	13 04 48.8 +0.5
Q42A	Golden Eagle baz=127	28.53 319	P	P	13 04 48.4 -0.2
S41A	Jillco Farms, baz=123,SNR=14	28.54 316	P	P	13 04 48.3 -0.4
E54A	Lac Daplat, Po baz=159	28.63 345	P	P	13 04 49.9 +0.5
U40A	Yellville baz=120	28.65 312	P	P	13 04 49.8 +0.1
E53A	Dumoine, Ponti baz=158	28.70 344	P	P	13 04 50.1 +0.2
R41A	Rosebud baz=125	28.70 317	P	P	13 04 50.0 -0.1
M44A	Midewin, Midew baz=134	28.71 325	P	P	13 04 49.9 -0.1
W39A	Magazine baz=117	28.76 310	P	P	13 04 51.0 +0.3
I48A	Sherman Twp baz=145	28.79 334	P	P	13 04 50.7 -0.1
F51A	Arnstein baz=154	28.92 341	P	P	13 04 50.3 -1.6
D54A	Lac Fusel, La baz=160	29.18 346	P	P	13 04 54.6 +0.4
M43A	Waltham Townsh baz=133	29.24 325	P	P	13 04 54.5 -0.2
E51A	G1948 Merrick baz=155	29.34 342	P	P	13 04 55.0 -0.6
D53A	Lac Vacive, Po 9.7nm,0.7s	29.36 345	eP	P	13 04 56.0 +0.2
D53A	Lac Vacive, Po baz=158,SNR=6.4	29.36 345	P	P	13 04 55.6 -0.2
HHAR	Hobbs 11nm,0.7s	29.38 311	eP	P	13 04 56.5 +0.3
D52A	ZEK Kipawa Sen baz=157	29.45 344	P	P	13 04 55.9 -0.7
F49A	Sandfield baz=150	29.48 338	P	P	13 04 55.9 -1.0
E50A	Wahnapitae baz=152	29.62 340	P	P	13 04 57.8 -0.4
L43A	Garden Prairie baz=134	29.64 326	P	P	13 04 58.6 +0.3
G47A	Hillman baz=146	29.66 335	P	P	13 04 58.8 +0.3
H46A	Fife Lake baz=143	29.70 333	P	P	13 04 59.3 +0.4
E48A	Lockeyer baz=150	30.15 339	P	P	13 05 03.0 +0.2
TLIG	Tlapa 17nm,0.8s	30.15 272	eP	P	13 05 04.5 +1.2
435B	Jarrell baz=106,SNR=6.5	30.15 299	P	P	13 05 03.8 +0.7
J43A	Natural Harves baz=136	30.32 328	P	P	13 05 04.4 0.0
K42A	Prairie Point, baz=134	30.37 326	P	P	13 05 04.8 0.0
N40A	Mertquake, Sal baz=128	30.38 321	P	P	13 05 04.5 -0.4
WHTX	Lake Whitney, baz=108	30.39 301	P	P	13 05 05.8 +0.7
TUL1	Leonard baz=116	30.55 309	P	P	13 05 06.8 +0.3
I43A	Langenfeld Bro baz=137	30.55 329	P	P	13 05 06.7 +0.2
D49A	Beulah Townshi baz=152	30.57 340	P	P	13 05 06.4 -0.2
D48A	Paudash Townsh baz=151	30.63 340	P	P	13 05 07.2 +0.2
J42A	Columbus baz=135	30.64 327	P	P	13 05 06.8 -0.4
F45A	CMU Biological baz=144	30.75 334	P	P	13 05 08.4 +0.3
H43A	Windswept, Lux baz=139	30.81 330	P	P	13 05 08.9 +0.2
E46A	Sault Ste Mari baz=146	30.83 336	P	P	13 05 09.3 +0.5
L40A	Anamosa baz=130	30.92 323	P	P	13 05 09.1 -0.5
I42A	Draeger Farm, baz=136	30.94 328	P	P	13 05 10.3 +0.4
JFWS	Jewell Farm baz=133	30.95 325	P	P	13 05 09.3 -0.6
D47A	Chapleau baz=149	30.97 338	P	P	13 05 09.3 -0.8
LSQQ	Lebel-sur-Quev baz=161	31.05 347	P	P	13 05 10.4 -0.4
J41A	Loganville baz=134	31.13 326	P	P	13 05 10.9 -0.6
833A	Chaparral WMA, baz=100	31.14 293	P	P	13 05 10.8 -1.0
K40A	Colesburg baz=131	31.29 324	P	P	13 05 12.4 -0.5
G43A	Wallace baz=140	31.37 331	P	P	13 05 13.2 -0.3
F44A	Big Bay de Noc baz=142	31.37 333	P	P	13 05 13.2 -0.3
CHGQ	Chibougamau baz=166	31.39 351	P	P	13 05 13.3 -0.5
L39A	Vinton baz=129	31.40 323	P	P	13 05 13.0 -0.9
J40A	Soldiers Grove baz=133	31.54 326	P	P	13 05 14.3 -0.9
F43A	Flat Rock, Esc baz=141	31.58 332	P	P	13 05 14.9 -0.6
G42A	Mountain baz=138	31.70 330	P	P	13 05 16.2 -0.2
K39A	Oelwein baz=130	31.71 324	P	P	13 05 16.1 -0.5
I40A	Norwalk baz=134	31.81 326	P	P	13 05 17.8 +0.3
H41A	Junction City baz=136	31.83 328	P	P	13 05 17.9 +0.2
MATQ	Matagami baz=160	31.86 347	P	P	13 05 17.8 0.0
JCT	Junction City baz=103,SNR=11	31.93 297	P	P	13 05 18.8 0.0
J39A	Decorah baz=131	32.02 325	P	P	13 05 19.6 +0.3
H40A	Chili baz=135	32.20 328	P	P	13 05 21.7 +0.7
WMOK	Wichita Mounta baz=110,SNR=8.3	32.34 305	P	P	13 05 21.8 -0.5
ABTX	Abilene, Hawle baz=106,SNR=19	32.34 301	P	P	13 05 22.6 +0.2
F41A	Three Lakes baz=138	32.39 330	P	P	13 05 22.6 +0.1
G40A	Rib Lake baz=136	32.57 329	P	P	13 05 24.0 -0.2
KSU1	Kansas State U baz=119	32.59 314	P	P	13 05 24.1 -0.4
H39A	Augusta baz=133	32.70 327	P	P	13 05 25.5 +0.2
E41A	Kenton baz=139	32.86 331	P	P	13 05 27.2 +0.5
F40A	Park Falls baz=136	33.00 330	P	P	13 05 28.2 +0.3
G39A	Hoombe baz=134,SNR=5.0	33.06 328	P	P	13 05 28.4 -0.1
D41A	Chassel baz=140	33.14 332	P	P	13 05 28.9 -0.3
H38A	Maiden Rock baz=132	33.22 326	P	P	13 05 29.9 0.0
E40A	Wakefield baz=137,SNR=13	33.28 330	P	P	13 05 30.7 +0.3
G38A	Ridgeland baz=133	33.33 327	P	P	13 05 30.9 0.0
F39A	Loretta baz=135,SNR=9.0	33.38 329	P	P	13 05 31.4 +0.1
E39A	Mellen baz=136,SNR=10	33.54 330	P	P	13 05 32.9 +0.3
SPMN	Marine on St. baz=132	33.86 326	P	P	13 05 35.9 +0.5
F38A	Pierce - Schro baz=134,SNR=5.4	33.89 328	P	P	13 05 35.7 0.0
C40A	Isle Royale Na baz=140	34.05 333	P	P	13 05 37.1 +0.1
E38A	The Farm, Brul baz=135	34.19 329	P	P	13 05 38.1 -0.1
CBKS	Cedar Bluff baz=115	34.63 312	P	P	13 05 42.4 +0.1
AMTX	Amarillo baz=108	34.64 304	P	P	13 05 42.0 -0.4
BGNE	Belgrade baz=120	34.77 317	P	P	13 05 43.0 -0.4
TXAR	Lajitas Array	35.01 294	eP	P	13 05 46.7 +1.1
TXAR	Lajitas Array 11nm,0.7s,baz=112,slow=9.8,SNR=122	35.01 294	P	P	13 05 45.7 0.0
TXAR			PcP	PcP	13 08 18.4 +0.6
	2.2nm,0.7s,baz=130,slow=5.3,SNR=5.7				
TXAR			ScP	ScP	13 12 02.4 -0.2
	1.0nm,1.1s,baz=122,slow=6.1,SNR=4.5				
ECSD	EROS Data Cent baz=125,SNR=8.9	35.07 321	P	P	13 05 45.6 -0.4
EYMN	Ely baz=137	35.12 331	P	P	13 05 46.6 +0.2
LPAZ	La Paz 6.0nm,1.1s	35.12 182	eP	P	13 05 45.8 -1.5
LPAZ	La Paz 1.5nm,0.6s,baz=1.7,slow=14,SNR=6.1	35.12 182	P	P	13 05 47.5 +0.3
MSTX	Muleshoe baz=106	35.23 302	P	P	13 05 48.1 +0.5
SCHQ	Schefferville 6.0nm,0.9s	35.74 360	eP	P	13 05 50.2 -1.4
SCHQ	Schefferville 4.3nm,0.7s,baz=170,slow=6.5,SNR=5.0	35.74 360	P	P	13 05 50.7 -0.8
SCHQ			LR	LR	13 19 36.6
	comp=Z,71nm,21.4s,baz=144,slow=35				
MNTX	Cornudas Mount baz=100,SNR=20	36.86 298	P	P	13 06 01.4 -0.1
T25A	Trinidad baz=108,SNR=6.1	37.44 307	P	P	13 06 06.7 +0.1
MNMC	Minye Minye 20nm,1.0s	38.02 184	eP	P	13 06 08.6 -3.0
ANMO	Albuquerque 5.8nm,1.0s	38.43 303	eP	P	13 06 14.8 -0.1
ANMO	Albuquerque baz=104	38.43 303	P	P	13 06 15.2 +0.3
TASM	ASL Pad, Albuq baz=104,SNR=9.2	38.43 303	P	P	13 06 15.1 +0.2
TASM	ASL Pad, Albuq baz=104,SNR=9.2	38.43 303	P	P	13 06 15.1 +0.2
SDCO	Great Sand Dun baz=108,SNR=21	38.45 307	P	P	13 06 15.4 +0.2
Q24A	Divide baz=110	38.59 309	P	P	13 06 16.0 -0.4
LENM	Lemitar	38.66 301	eP	P	13 06 17.5 +0.6
ULM	Lac du Bonnet 3.7nm,0.8s,baz=116,slow=9.6,SNR=5.9	38.79 330	P	P	13 06 16.2 -1.2
ULM			LR	LR	13 21 52.9
	comp=Z,178nm,20.5s,baz=107,slow=36				
BDFB	Brasilia 2.9nm,0.5s,baz=87,slow=19,SNR=2.3	39.12 150	P	P	13 06 20.1 -0.5
BDFB			LR	LR	13 22 50.3
	comp=Z,164nm,21.3s,baz=308,slow=37				
ISCO	Idaho Springs baz=110,SNR=14	39.22 310	P	P	13 06 21.8 +0.2
S22A	4UR Ranch, Cre baz=107,SNR=5.4	39.46 307	P	P	13 06 23.5 -0.2
N23A	Red Feather La baz=111	39.84 312	P	P	13 06 26.5 -0.2
RSSD	Black Hills 3.4nm,0.8s	39.87 317	eP	P	13 06 26.4 -0.5
RSSD	Black Hills baz=117	39.87 317	P	P	13 06 26.8 0.0
MVCO	Mesa Verde baz=105	40.59 305	P	P	13 06 33.1 +0.1
K22A	Casper baz=112,SNR=9.6	40.90 314	P	P	13 06 35.2 -0.2
O20A	White River Ci baz=108	41.23 310	P	P	13 06 38.7 +0.5
PV09	Paradox Valley	41.41 307	eP	P	13 06 39.9 +0.1
LVC	Limon Verde 9.9nm,0.8s	41.44 183	eP	P	13 06 37.5 -2.5
TUC	Tucson 4.7nm,1.2s	41.49 297	eP	P	13 06 41.5 +1.2
TUC	Tucson baz=98	41.49 297	P	P	13 06 41.4 +1.2
LAO	LASA Array baz=117	42.41 320	P	P	13 06 46.5 -1.0
WUAZ	Wupatki 22nm,1.0s	42.48 302	eP	P	13 06 49.3 +0.9
WUAZ	Wupatki baz=101,SNR=15	42.48 302	P	P	13 06 48.5 +0.1
PDAR	Pinedale Array	43.03 313	eP	P	13 06 52.0 -0.8
PDAR	Pinedale Array 3.7nm,0.8s,baz=120,slow=9.0,SNR=20	43.03 313	P	P	13 06 52.6 -0.2
PDAR			PcP	PcP	13 08 42.5 -0.4
	0.6nm,0.5s,baz=102,slow=6.2,SNR=3.8				
BW06	Boulder Array baz=110,SNR=6.8	43.03 313	P	P	13 06 52.6 -0.2
214A	Organ Pipe Nat baz=96	43.15 297	P	P	13 06 53.9 +0.2
RLMT	Red Lodge baz=112,SNR=32	43.68 316	P	P	13 06 58.3 +0.2
CTU	Camp Tracy 4.7nm,0.9s	43.96 309	eP	P	13 07 00.0 -0.2
H17A	Grant Village baz=110	44.28 315	P	P	13 07 02.8 -0.1
FCC	Fort Churchill 11nm,0.6s	44.36 340	eP	P	13 07 01.6 -1.4
PDMCI	Parker Dam,Lak baz=97	44.54 300	P	P	13 07 05.0 +0.2
FFC	Flin Flon 2.4nm,0.7s	44.54 332	eP	P	13 07 03.9 -0.6
DUG	Dugway, Tooele baz=104	44.61 308	P	P	13 07 05.5 +0.1
Y12C	Blythe baz=97	44.78 299	P	P	13 07 07.2 +0.4
GLA	Glamis baz=96	44.96 298	P	P	13 07 08.7 +0.5
EGMT	Eagleton baz=115,SNR=8.2	45.15 320	P	P	13 07 10.1 +0.6
IRM	Iron Mountain baz=97,SNR=6.5	45.34 299	P	P	13 07 12.5 +1.2
BOZ	Bozeman (W) baz=110,SNR=26	45.40 316	P	P	13 07 12.1 +0.4
BC3	Big Chuckawall baz=96	45.54 299	P	P	13 07 13.5 +0.5
SWSC	Sam W. Stewart baz=95	45.76 298	P	P	13 07 15.5 +1.0
GMRC	Granite Mounta baz=97,SNR=7.1	45.84 300	P	P	13 07 16.1 +0.8
LRM	Limekiln Ridge	46.02 316	eP	P	13 07 17.0 +0.3
CPUP	Villa Florida 4.3nm,0.7s	46.03 168	eP	P	13 07 14.0 -2.5
CPUP	Villa Florida 3.4nm,0.7s,baz=350,slow=7.7,SNR=10.0	46.03 168	P	P	13 07 13.5 -3.1
CPUP			LR	LR	13 27 26.5
	comp=Z,76nm,18.2s,baz=352,slow=37				
TUQ	Turquoise Moun baz=97,SNR=9.5	46.13 301	P	P	13 07 18.9 +1.3
MONP2	Monument Peak baz=94,SNR=5.8	46.28 298	P	P	13 07 20.2 +1.3
R11A	Troy Canyon, C baz=100,SNR=5.8	46.32 305	P	P	13 07 19.6 +0.6
PFO	Pinyon Flats O baz=95	46.37 299	P	P	13 07 20.6 +1.1
HEC	Hector,Ludlow baz=96	46.40 300	P	P	13 07 20.4 +0.8
SHOC	Shoshone, Teco baz=98	46.48 302	P	P	13 07 21.3 +1.1
TPNV	Topopah Spring baz=98	46.61 303	P	P	13 07 22.4 +1.0
HLID	Hailey baz=106,SNR=15	46.65 312	P	P	13 07 21.8 +0.2
GSC	Goldstone, Bar baz=96	46.83 301	P	P	13 07 24.3 +1.2
MURC	Murrieta baz=95	46.98 298	P	P	13 07 24.6 +0.4
FURC	Furnace Creek, baz=98	47.03 302	P	P	13 07 25.1 +0.7
MSO	Missoula baz=109,SNR=5.9	47.33 317	P	P	13 07 26.7 -0.2
BFSC	Mount Baldy Ra baz=95	47.42 299	P	P	13 07 27.9 +0.1
MPMC	Manual Prospec baz=97	47.48 302	P	P	13 07 28.5 +0.3
GRAC	Grapevine Rang baz=98,SNR=5.4	47.50 303	P	P	13 07 29.3 +1.1
EDW2	Edwards Air Fo baz=95	47.76 300	P	P	13 07 30.7 +0.4
FMP	Fort Macarthur baz=94	47.91 299	P	P	13 07 32.9 +1.6
CIS	Catalina Islan baz=94	47.98 298	P	P	13 07 33.9 +2.0
CWC	Cottonwood Cre baz=97	48.00 302	P	P	13 07 33.4 +1.2
NV01	Mina Array Sit	48.44 305	eP	P	13 07 35.9 +0.2
NVAR	Mina Array Bea 5.0nm,0.9s,baz=105,slow=6.3,SNR=21	48.44 305	P	P	13 07 35.9 +0.2
NVAR			LR	LR	13 28 58.5
	comp=Z,134nm,21.8s,baz=102,slow=37				
ARVC	Arvin baz=95	48.47 300	P	P	13 07 35.8 +0.2
VES	Vestal, Richgr baz=96	48.74 301	P	P	13 07 38.6 +0.9
MLAC	Mammoth, Mammo baz=97	48.74 304	P	P	13 07 38.4 +0.3
SMMC	Simmler baz=94	49.43 300	P	P	13 07 43.5 +0.5
NEW	Newport baz=108,SNR=17	49.84 318	P	P	13 07 45.8 -0.2
G05D	Wamic, OR baz=102	51.86 313	P	P	13 08 01.2 -0.1
L04D	Klamath Falls baz=98	52.03 309	P	P	13 08 02.6 -0.1
J04D	Umpqua Nationa baz=99	52.05 310	P	P	13 08 03.0 +0.2
F05D	White Salmon baz=102	52.09 314	P	P	13 08 03.2 +0.3
B05A	Bryant baz=103	53.03 317	P	P	13 08 07.8 -2.0
YKA	Yellowknife Ar	54.39 335	eP	P	13 08 18.4 -1.2
YKA	Yellowknife Ar	54.39 335	P	P	13 08 18.5 -1.0

5.7nm,0.6s,baz=112,slow=7.6,SNR=91
YKA LR LR 13 31 34.6
comp=Z,15nm,20.7s,baz=116,slow=36
YKB5 Yellowknife Ar 54.39 335 *eP* **P 13 08 18.6 -1.0**
SUMG Summit 55.95 10 *eP* **P 13 08 31.7 +0.5**
6.8nm,0.7s
SUMG Summit 55.95 10 *i P* **P 13 08 31.6 +0.4**
17nm,0.7s
ESDC Sonseca Array 57.38 55 *eP* **P 13 08 42.8 +1.4**
ESDC Sonseca Array 57.38 55 P P 13 08 42.1 +0.7
6.0nm,0.9s,baz=274,slow=7.0,SNR=34
ESDC LR LR 13 29 10.7
comp=Z,141nm,21.6s,baz=265,slow=32
ESLA Sonseca Array 57.38 55 *eP* **P 13 08 43.1 +1.7**
7.0nm,0.9s
RES Resolute Bay 57.70 351 *eP* **P 13 08 43.0 0.0**
1.2nm,0.8s
RES Resolute Bay 57.70 351 P P 13 08 42.6 -0.4
1.2nm,0.8s,baz=163,slow=7.8,SNR=6.1
GO06 Curarrehue 58.47 184 *eP* **P 13 08 48.8 -0.1**
4.2nm,1.1s
PLCA Paso Flores 59.56 183 *eP* **P 13 08 56.6 +0.2**
6.8nm,1.5s
PLCA Paso Flores 59.56 183 P P 13 08 55.8 -0.6
1.2nm,0.6s,baz=0.0,slow=6.4,SNR=7.5
PLCA LR LR 13 38 10.0
comp=Z,51nm,18.8s,baz=19,slow=40
ESK Eskdalemuir 59.59 36 *eP* **P 13 08 57.1 +0.7**
8.4nm,1.0s
DLBC Dease Lake 60.00 327 *eP* **P 13 08 60.0 +0.6**
11nm,0.9s
DLBC Dease Lake 60.00 327 P P 13 08 59.7 +0.3
9.1nm,0.8s,baz=93,slow=6.1,SNR=15
DBIC Dimbokro 61.38 93 P P 13 09 10.7 +1.2
4.1nm,0.7s,baz=267,slow=5.9,SNR=7.5
DBIC LR LR 13 31 11.7
comp=Z,143nm,21.3s,baz=264,slow=32
DAG Danmarks Havn 62.57 11 *i P* **P 13 09 16.0 -0.4**
INK Inuvik 63.89 338 P P 13 09 24.6 -0.6
4.6nm,0.7s,baz=91,slow=6.1,SNR=15
EPYK Eagle Plains 64.67 335 P P 13 09 28.9 -1.6
baz=100
TOA1 Torodi Ar. Sit 65.75 84 *eP* **P 13 09 38.2 -0.1**
TOA0 Torodi Ar. Sit 65.76 84 *eP* **P 13 09 38.9 +0.6**
6.0nm,0.9s
TORD Torodi Ar. Bea 65.76 84 P P 13 09 38.2 -0.1
1.9nm,0.6s,baz=294,slow=7.9,SNR=20
TORD LR LR 13 34 44.9
comp=Z,163nm,21.1s,baz=310,slow=33
BCAR Beaver Creek A 66.40 331 *eP* **P 13 09 42.5 +0.8**
DAVA Damuels 67.33 46 P P 13 09 50.4 +2.3
7.1nm,1.0s
NB2 NORSAR Subarra 67.76 31 P P 13 09 51.1 +0.7
comp=Z,1.1nm,0.7s,baz=269,slow=6.5
NB200 NORSAR Array S 67.76 31 *eP* **P 13 09 51.4 +1.0**
NOA NORSAR Array B 67.76 31 P P 13 09 51.4 +1.0
comp=Z,2.1nm,0.8s,baz=269,slow=6.3,SNR=7.9
NOA LR LR 13 36 13.2
comp=Z,54nm,20.4s,baz=275,slow=33
RETA Reutte 67.91 46 P P 13 09 52.6 +1.0
comp=Z,5.8nm,0.8s
FETA Feichten 67.92 46 P P 13 09 53.2 +1.3
comp=Z,8.4nm,1.0s
KEST Kesra 68.14 58 *eP* **P 13 09 54.9 +1.6**
comp=Z,18nm,1.4s
KEST Kesra 68.14 58 P P 13 09 54.5 +1.2
comp=Z,4.5nm,0.8s,baz=201,slow=2.4,SNR=3.1
MOTA Moosalm 68.15 46 *eP* **P 13 09 54.5 +1.3**
comp=Z,5.6nm,0.9s
SQTA Sankt Quirin 68.23 46 *eP* **P 13 09 54.4 +0.6**
comp=Z,12nm,1.1s
WATA Walderalm 68.47 46 P P 13 09 57.4 +2.2
comp=Z,2.4nm,0.8s
WTTA Wattenberg 68.52 46 *eP* **P 13 09 55.0 -0.6**
comp=Z,4.7nm,0.8s
ILAR Eielson Array 68.72 333 P P 13 09 55.7 -0.6
comp=Z,5.8nm,0.8s,baz=105,slow=4.4,SNR=46
ILAR LR LR 13 40 29.3
comp=Z,175nm,20.8s,baz=114,slow=36
ILB Eielson Array 68.72 333 *eP* **P 13 09 55.6 -0.7**
comp=Z,6.6nm,0.8s
HDA Harding Lake 68.75 333 P P 13 09 55.8 -0.7
baz=90
NKC Novy Kostel 68.81 43 AMS AMS 13 36 20.0
comp=Z,200nm,21.9s
CLL Collm 69.08 41 *eP* **P 13 09 59.0 +0.3**
CLL Lm MLR 13 36 00.0
comp=Z,100nm,21.1s
COLA College 69.14 333 *eP* **P 13 09 58.5 -0.4**
comp=Z,9.4nm,0.8s
TCOL CIGO, UAF Yank 69.14 333 P P 13 09 58.1 -0.8
baz=90
ABTA Abfaltersbach 69.17 46 *eP* **P 13 09 60.0 +0.5**
comp=Z,6.8nm,1.2s
KHC Kasperske Hory 69.64 44 *eP* **P 13 10 02.9 +0.6**
KBA Koelnbreinsper 69.70 46 P P 13 10 04.4 +1.5
comp=Z,4.6nm,0.7s
BRG Berggiesshubel 69.70 42 *eP* **P 13 10 03.2 +0.6**
comp=Z,6.1nm,1.2s
GERES GERESS Array B 69.75 44 *eP* **P 13 10 02.9 -0.1**
GERES GERESS Array B 69.75 44 P P 13 10 03.5 +0.4
comp=Z,0.8nm,0.8s,baz=256,slow=5.4,SNR=7.0
GERES LR LR 13 41 15.0
comp=Z,56nm,18.0s,baz=284,slow=36
TOLK Toolik Lake Re 69.79 337 P P 13 10 02.0 -0.9
baz=89
BWN Browne 69.85 332 *eP* **P 13 10 02.7 -0.6**
comp=Z,12nm,0.8s
PRU Pruhonice 70.17 43 *eP* **P 13 10 07.9 +2.4**
PRU AMS AMS 13 36 20.0
comp=Z,200nm,21.0s
MOA Molln 70.23 45 *eP* **P 13 10 07.7 +1.7**
comp=Z,4.5nm,1.1s
OBKA Obir 70.59 46 P P 13 10 10.3 +2.1
comp=Z,10nm,1.0s
UPC Upice 71.05 42 *eP* **P 13 10 13.5 +2.6**
UPC AMS AMS 13 37 10.0
comp=Z,200nm,18.4s
DPC Dobruska-Polom 71.27 42 *eP* **P 13 10 12.9 +0.6**
DPC AMS AMS 13 37 00.0
comp=Z,200nm,22.9s
IMAR Indian Mountai 71.55 334 *eP* **P 13 10 13.0 -0.6**
VRAC Vranov 71.58 43 *i P* **P 13 10 09.4 -4.7**
MORC Moravsky Berou 72.13 43 *i P* **P 13 10 18.6 +1.2**
MODS Modra-Piesok 72.16 44 *eP* **P 13 10 17.7 0.0**
ARA0 ARCESS Array S 73.15 22 *eP* **P 13 10 23.8 +0.7**
ARCES ARCESS Array B 73.15 22 P P 13 10 23.8 +0.7
comp=Z,3.9nm,0.6s,baz=284,slow=4.3,SNR=36
VYHS Vyhne 73.17 44 *eP* **P 13 10 24.7 +1.1**
FIA0 FINESS Array S 74.86 30 *eP* **P 13 10 34.0 +0.8**
FINES FINESS Array B 74.86 30 P P 13 10 34.0 +0.8
comp=Z,2.1nm,0.7s,baz=276,slow=4.3,SNR=10
FINES LR LR 13 40 05.8
comp=Z,59nm,21.4s,baz=226,slow=33
BZS Buzias 75.59 46 *i P* **P 13 10 39.2 +1.5**
TRPA Tarpa 75.66 44 *i P* **P 13 10 39.7 +1.6**
DRGR 76.07 45 *i P* **P 13 10 40.2 -0.4**
BURAR Bucovina Array 77.54 44 *i P* **P 13 10 50.0 +1.1**
DOPR Dopca 78.07 45 *i P* **P 13 10 52.8 +1.0**
BIZ Bicaz 78.29 44 *i P* **P 13 10 55.1 +2.1**
AKASG Malin Array Be 79.24 40 P P 13 10 58.5 +0.4
comp=Z,0.8nm,0.6s,baz=283,slow=4.1,SNR=4.2
BR101 Keskin Array S 85.77 50 *eP* **P 13 11 33.5 +1.0**
BRTR Keskin Array B 85.77 50 *eP* **P 13 11 32.8 +0.2**
BRTR Keskin Array B 85.77 50 P P 13 11 33.5 +1.0
comp=Z,0.3nm,0.6s,baz=213,slow=40,SNR=5.4
TIXI Tiksi 88.91 355 *eP* **P 13 11 46.2 -0.6**
comp=Z,2.5nm,0.8s
NRIK Noril'sk 89.98 9 LR LR 13 51 07.8
comp=Z,40nm,21.8s,baz=28,slow=35
SEY Seymchan 92.70 343 P P 13 12 05.6 +1.0
comp=Z,2.9nm,0.8s,baz=98,slow=5.1,SNR=12
KSAR Wonju Array Be 122.14 346 *e*PKPdf **PKPdf 13 17 47.5 -0.4**
CD2 Chengdu 129.53 10 PKP **PKPdf 13 18 01.8 -0.6**
CM31 Chiang Mai Arr 140.21 21 *e*PKPdf **PKPdf 13 18 22.9 +0.4**
CMAR Chiang Mai Arr 140.21 21 PKP **PKPdf 13 18 22.5 0.0**
comp=Z,1.0nm,0.6s,baz=319,slow=2.6,SNR=8.7
COEN Coen 150.81 275 *e*PKPdf **PKPdf 13 18 39.6 -1.0**
COEN *e*PKPbc **PKPbc 13 18 46.2 0.0**
STKA Stephens Creek 151.42 238 *e*PKPbc **PKPbc 13 18 46.8 -0.4**
STKA Stephens Creek 151.42 238 PKPbc **PKPbc 13 18 46.5 -0.7**
comp=Z,6.1nm,0.7s,baz=173,slow=2.5,SNR=16
KULM Kulim 152.87 28 *e*PKPbc **PKPbc 13 18 51.0 0.0**
BBOO Buckleboo 155.33 232 *e*PKPbc PKPbc 13 18 54.9
WRA Warramunga Arr 160.02 264 PKP **PKPdf 13 18 52.4 -0.5**
comp=Z,1.7nm,1.1s,baz=49,slow=2.2,SNR=4.1
WRA PKPab **PKPab 13 19 31.7 -0.9**
comp=Z,1.9nm,0.9s,baz=98,slow=4.0,SNR=3.8
ASAR Alice Springs 160.15 253 *e*PKPdf **PKPdf 13 18 51.4 -1.6**
ASAR *e*PKPab **PKPab 13 19 32.0 -1.2**
ASAR Alice Springs 160.15 253 PKP **PKPdf 13 18 52.5 -0.6**
comp=Z,0.4nm,0.8s,baz=91,slow=1.3,SNR=6.0
ASAR PKPab **PKPab 13 19 31.9 -1.2**
comp=Z,1.3nm,0.7s,baz=102,slow=4.6,SNR=14

*NEIC **19** 13:17:02.2±0.0, 19°.14N×66°.86W, h38km, MD2.6(RSPR), After RSPR.*
RSPR 19 13:17:02.2, 19°.14N×66°.86W, h38km±8km, MD2.6/11, 18C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.71**	**200**	*e*P	Pn	13 17 14.7	-1.0
AGPR	**Aguadilla, PR**	**0.71**	**200**	*e*P	Pn	13 17 14.7	-1.0
EMPR	**Esperanza - Ma**	**0.73**	**155**	*e*P	Pn	13 17 14.3	-1.6
EMPR	**Esperanza - Ma**	**0.73**	**155**	*e*S	Sn	13 17 24.6	-1.2
EMPR	**Esperanza - Ma**	**0.73**	**155**	*e*P	Pn	13 17 14.3	-1.6
EMPR				*e*S	Sn	13 17 24.6	-1.2
AGP	**Aguadilla**	**0.77**	**200**	*e*Pn	Pn	13 17 14.7	-1.9
AOPR	**Arecibo Observ**	**0.79**	**173**	*e*P	Pn	13 17 16.3	-0.6
AOPR	**Arecibo Observ**	**0.79**	**173**	*e*S	Sn	13 17 26.4	-1.1
AOPR	**Arecibo Observ**	**0.79**	**173**	*e*P	Pn	13 17 16.3	-0.6
AOPR				*e*S	Sn	13 17 26.4	-1.1
IDE	**Isla Desecheo**	**0.95**	**218**	*e*P	Pn	13 17 18.0	-1.0
IDE	**Isla Desecheo**	**0.95**	**218**	*e*P	Pn	13 17 18.0	-1.0
LSP	**Las Mesas**	**0.98**	**193**	*e*P	Pn	13 17 18.1	-1.4
LSP	**Las Mesas**	**0.98**	**193**	*e*S	Sn	13 17 31.4	-0.7
LSP	**Las Mesas**	**0.98**	**193**	*e*P	Pn	13 17 18.1	-1.4
LSP				*e*S	Sn	13 17 31.4	-0.7
CELP	**Cerrillos**	**1.09**	**166**	*e*P	Pn	13 17 19.5	-1.4
CELP				*e*S	Sn	13 17 33.6	-1.2
CELP	**Cerrillos**	**1.09**	**166**	*e*P	Pn	13 17 19.5	-1.4
CELP				*e*S	Sn	13 17 33.6	-1.2
OBIP	**Obispado Ponce**	**1.11**	**168**	*e*P	Pn	13 17 20.0	-1.2
OBIP	**Obispado Ponce**	**1.11**	**168**	*e*S	Sn	13 17 33.8	-1.6
OBIP	**Obispado Ponce**	**1.11**	**168**	*e*P	Pn	13 17 20.0	-1.2
OBIP				*e*S	Sn	13 17 33.8	-1.6
CBYP	**Canovanas**	**1.28**	**132**	*e*P	Pn	13 17 22.1	-1.5
CBYP	**Canovanas**	**1.28**	**132**	*e*S	Sn	13 17 37.9	-1.7
CBYP	**Canovanas**	**1.28**	**132**	*e*P	Pn	13 17 22.1	-1.5
CBYP				*e*S	Sn	13 17 37.9	-1.7
MTP	**Monte Pirata**	**1.61**	**130**	*e*P	Pn	13 17 27.1	-1.0
MTP	**Monte Pirata**	**1.61**	**130**	*e*S	Sn	13 17 47.1	-0.6
MTP	**Monte Pirata**	**1.61**	**130**	*e*P	Pn	13 17 27.1	-1.0
MTP				*e*S	Sn	13 17 47.1	-0.6
CUPR	**Culebra, Puert**	**1.71**	**119**	*e*P	Pn	13 17 28.8	-0.6
CUPR	**Culebra, Puert**	**1.71**	**119**	*e*P	Pn	13 17 28.8	-0.6

*ISCJB **19** 13:17:04.3±0.8, 19°.6S±0°.2×177°.2W±0°.1, h351km, mb3.6/8, Error ellipse: s-maj=26.0km s-min=14.6km az=145.2*
*IDC **19** 13:17:06.2±2.7, 19°.66S×177°.18W, h363km±29km, mb3.4/8, mb1 3.7/10, mb1mx3.4/24, mbtmp4.2/10, Error ellipse: s-maj=27.0km s-min=14.2km az=145.0*
ISC 19 13:17:05.2±0.9, 19°.6S±0°.2×177°.2W±0°.2, h351km, n11, σ0°.75/12, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.47**	**258**	P	Pn	13 20 27.7	0.0
	0.4nm,0.3s,baz=81,slow=18,SNR=8.4						
URZ	**Urewera**	**19.24**	**194**	P	P	13 21 04.7	-0.5
	3.0nm,0.3s,baz=329,slow=2.2,SNR=19						
STKA	**Stephens Creek**	**38.84**	**243**	P	P	13 23 58.5	+0.6
	3.9nm,0.8s,baz=82,slow=6.6,SNR=7.5						
ASAR	**Alice Springs**	**45.45**	**255**	P	P	13 24 50.8	0.0
	10nm,0.6s,baz=91,slow=8.4,SNR=245						
ASAR				S	S	13 31 05.4	0.0
	0.9nm,0.8s,baz=94,slow=16,SNR=7.8						
WRA	**Warramunga Arr**	**45.46**	**261**	P	P	13 24 50.1	-0.8
	2.6nm,0.7s,baz=96,slow=7.0,SNR=61						
MJAR	**Matsushiro Arr**	**69.93**	**323**	P	P	13 27 39.3	+0.1
	0.5nm,0.6s,baz=145,slow=8.6,SNR=4.0						
NVAR	**Mina Array Bea**	**79.87**	**43**	P	P	13 28 36.5	+0.6
	0.7nm,0.7s,baz=227,slow=10.0,SNR=4.1						
TXAR	**Lajitas Array**	**85.95**	**57**	P	P	13 29 07.4	+0.4
	0.5nm,0.9s,baz=224,slow=8.8,SNR=5.4						
ILAR	**Eielson Array**	**87.28**	**13**	P	P	13 29 11.2	-1.1
	0.3nm,0.4s,baz=216,slow=5.3,SNR=8.8						
CMAR	**Chiang Mai Arr**	**90.51**	**289**	P	P	13 29 29.4	+1.0
	0.9nm,0.9s,baz=53,slow=3.5,SNR=5.5						
BRTR	**Keskin Array B**	**146.76**	**314**	PKPbc	**PKPbc**	13 36 05.7	-1.0
	0.5nm,0.6s,baz=74,slow=2.1,SNR=3.3						

*IDC **19** 13:17:55.8±0.8, 19°.20N×66°.76W, h0km, mb3.7/9, mb1 4.0/11, mb1mx3.8/33, mbtmp3.8/11, ML3.0/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/30, Error ellipse: s-maj=22.4km s-min=15.4km az=50.0*
*ISCJB **19** 13:17:59.8±0.4, 19°.06N±0°.03×66°.77W±0°.03, h35km±7km, mb3.8/9, MS3.4/4, Error ellipse: s-maj=4.5km s-min=3.9km az=26.3*
*RSPR **19** 13:17:59.6, 19°.19N×66°.78W, h40km±8km, MD3.7/18*
*NEIC **19** 13:17:59.6±0.0, 19°.19N×66°.78W, h40km, mb4.3/2, ML4.1(RSPR), After RSPR.*
NEIC Felt [III] at Morovis. Also felt at Bayamon.
ISC 19 13:17:58.8±1.1, 19°.08N±0°.03×66°.75W±0°.03, h20km±5km, n173, σ1$49/156, mb3.8/9, MS3.4/4, 24C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.63**	**161**	*e*P	Pn	13 18 12.7	0.0
EMPR	**Esperanza - Ma**	**0.63**	**161**	*e*S	Sn	13 18 22.2	+0.1
EMPR	**Esperanza - Ma**	**0.63**	**161**	*e*P	Pn	13 18 12.7	0.0
EMPR				*e*S	Sn	13 18 22.2	+0.1
AGPR	**Aguadilla, PR**	**0.69**	**210**	*e*P	Pb	13 18 12.4	+0.1
AGPR	**Aguadilla, PR**	**0.69**	**210**	*e*S	Sg	13 18 22.2	+0.3
AGPR	**Aguadilla, PR**	**0.69**	**210**	*e*P	Pb	13 18 12.4	+0.1
AGPR				*e*S	Sg	13 18 22.2	+0.3
AOPR	**Arecibo Observ**	**0.72**	**180**	*e*P	Pg	13 18 13.3	+0.2
AOPR	**Arecibo Observ**	**0.72**	**180**	*e*P	Pg	13 18 13.4	+0.2
AOPR	**Arecibo Observ**	**0.72**	**180**	*e*S	Sn	13 18 24.1	-0.4
AOPR	**Arecibo Observ**	**0.72**	**180**	*e*Pn	Pg	13 18 13.3	+0.2
AOPR				*e*Sn	Sn	13 18 24.1	-0.4
AGP	**Aguadilla**	**0.76**	**209**	*e*Pn	Pb	13 18 12.1	-1.3
AGP				*e*Sn	Sb	13 18 22.2	-1.1
MPR	**Mayaguez**	**0.94**	**203**	*e*P	Pb	13 18 16.0	-0.4
MPR	**Mayaguez**	**0.94**	**203**	*e*S	Sg	13 18 29.6	+0.1
MPR	**Mayaguez**	**0.94**	**203**	*e*P	Pb	13 18 16.0	-0.4
MPR				*e*S	Sg	13 18 29.6	+0.1
LSP	**Las Mesas**	**0.95**	**200**	*e*P	Pb	13 18 16.4	-0.3
LSP	**Las Mesas**	**0.95**	**200**	*e*Pn	Pb	13 18 16.4	-0.3
IDE	**Isla Desecheo**	**0.97**	**225**	*e*P	Pb	13 18 16.5	-0.5
IDE	**Isla Desecheo**	**0.97**	**225**	*e*S	Sb	13 18 29.6	+0.2
IDE	**Isla Desecheo**	**0.97**	**225**	*e*Pn	Pb	13 18 16.5	-0.5
IDE				*e*Sn	Sb	13 18 29.6	+0.2
CELP	**Cerrillos**	**1.01**	**171**	*e*P	Pb	13 18 17.8	+0.1
CELP	**Cerrillos**	**1.01**	**171**	*e*Pn	Pb	13 18 17.8	+0.1
OBIP	**Obispado Ponce**	**1.04**	**172**	*e*P	Pb	13 18 18.2	0.0
OBIP	**Obispado Ponce**	**1.04**	**172**	*e*S	Sg	13 18 32.3	-0.4
OBIP	**Obispado Ponce**	**1.04**	**172**	*e*P	Pb	13 18 18.2	0.0
OBIP				*e*S	Sg	13 18 32.3	-0.4
GBPR	**Guanica, Bosqu**	**1.10**	**186**	*e*P	Pn	13 18 19.3	+0.1
GBPR	**Guanica, Bosqu**	**1.10**	**186**	*e*S	Sb	13 18 33.5	+0.4
GBPR	**Guanica, Bosqu**	**1.10**	**186**	*e*Pn	Pn	13 18 19.3	+0.1
GBPR				*e*Sn	Sb	13 18 33.5	+0.4
SJG	**San Juan**	**1.11**	**149**	*e*P	Pn	13 18 19.2	-0.1
SJG	**San Juan**	**1.11**	**149**	*e*S	Sb	13 18 34.0	+0.4
SJG	**San Juan**	**1.11**	**149**	Pn	Pn	13 18 19.0	-0.3
	64nm,0.3s,baz=326,slow=14,SNR=57						
SJG				Sn	Sg	13 18 35.1	-0.1
	313nm,0.3s,baz=232,slow=19,SNR=26						
SJG				LR	LR	13 18 46.7	
	comp=Z,213nm,18.4s,baz=304,slow=42						
CBYP	**Canovanas**	**1.17**	**133**	*e*P	Pn	13 18 19.7	-0.4
CBYP	**Canovanas**	**1.17**	**133**	*e*P	Pn	13 18 19.9	-0.2
CBYP				*e*S	Sb	13 18 34.9	-0.2
CBYP	**Canovanas**	**1.17**	**133**	*e*Pn	Pn	13 18 19.6	-0.4
CBYP				*e*S	Sb	13 18 34.9	-0.2
ICMP	**Isla Caja de M**	**1.20**	**170**	*e*Pn	Pn	13 18 19.4	-1.1
HUMP	**Col San Antoni**	**1.26**	**137**	*e*P	Pn	13 18 21.5	+0.2
HUMP	**Col San Antoni**	**1.26**	**137**	*e*S	Sb	13 18 36.9	-0.9
HUMP	**Col San Antoni**	**1.26**	**137**	*e*P	Pn	13 18 21.1	-0.3
HUMP				*e*S	Sb	13 18 37.8	0.0
HUMP	**Col San Antoni**	**1.26**	**137**	*e*P	Pn	13 18 21.1	-0.3
HUMP				*e*Sn	Sb	13 18 37.8	0.0
MTP	**Monte Pirata**	**1.50**	**130**	*e*P	Pn	13 18 24.4	-0.2
MTP	**Monte Pirata**	**1.50**	**130**	*e*S	Sn	13 18 43.3	-0.2
MTP	**Monte Pirata**	**1.50**	**130**	*e*P	Pn	13 18 24.4	-0.2
MTP				*e*S	Sn	13 18 43.3	-0.2
CUPR	**Culebra, Puert**	**1.59**	**119**	*e*P	Pn	13 18 25.0	-0.8
CUPR	**Culebra, Puert**	**1.59**	**119**	*e*S	Sn	13 18 44.6	-1.2
CUPR	**Culebra, Puert**	**1.59**	**119**	*e*Pn	Pn	13 18 25.2	-0.7
CUPR				*e*S	Sn	13 18 44.6	-1.2
PCDR	**Punta Cana, DR**	**1.64**	**250**	*e*Pn	Pn	13 18 27.1	+0.4
STVI	**Saint Thomas**	**1.85**	**113**	*e*P	Pn	13 18 28.9	-0.6
STVI				*e*S	Sn	13 18 51.3	-0.9
STVI	**Saint Thomas**	**1.85**	**113**	*e*P	Pn	13 18 29.4	0.0
STVI	**Saint Thomas**	**1.85**	**113**	*e*P	Pn	13 18 28.9	-0.6
STVI				*e*S	Sn	13 18 51.3	-0.9
CDVI	**St. Croix**	**2.30**	**125**	*e*P	Pn	13 18 35.6	-0.1
CDVI	**St. Croix**	**2.30**	**125**	*e*Pn	Pn	13 18 35.6	-0.1
ABVI	**Anegada Island**	**2.31**	**98**	*e*Pn	Pn	13 18 37.0	+1.2
SDD	**Santo Domingo**	**3.06**	**259**	*e*Pn	Pn	13 18 45.5	-0.6
BANI	**BANI**	**3.49**	**259**	*e*Pn	Pn	13 18 53.2	+1.1
SKI	**Saint Kitts**	**4.19**	**114**	*e*Pn	Pn	13 19 02.4	+0.7
SDDR	**Presa de Saban**	**4.29**	**269**	*e*Pn	Pn	13 19 03.7	+0.5
GRTK	**Grand Turk**	**4.77**	**301**	*e*Pn	Pn	13 19 07.6	-2.1
SDV	**Santo Domingo**	**10.81**	**201**	*e*Pn	Pn	13 20 30.7	-2.0
SDV				Sn	Sn	13 22 35.2	+1.9
SDV	**Santo Domingo**	**10.81**	**201**	Pn	Pn	13 20 34.2	+1.5
	0.7nm,0.3s,baz=153,slow=4.5,SNR=4.2						
SDV				Sn	Sn	13 22 35.2	+1.9
	0.4nm,0.3s,baz=275,slow=14,SNR=3.1						
SDV				LR	LR	13 25 04.9	
	comp=Z,102nm,18.5s,baz=66,slow=39						
SMLC	**San Martn de**	**12.44**	**216**	*e*P	Pn	13 20 54.2	-0.7
SMLC	**San Martn de**	**12.44**	**216**	*e*P	Pn	13 20 54.2	-0.7
BARC	**Barichara**	**13.90**	**208**	*e*P	Pn	13 21 13.2	-1.9
BARC	**Barichara**	**13.90**	**208**	*e*P	Pn	13 21 13.2	-1.9
RUSC	**La Rusia**	**14.48**	**206**	*e*P	Pn	13 21 23.4	+0.1
RUSC	**La Rusia**	**14.48**	**206**	*e*P	Pn	13 21 23.4	+0.1
PTBC	**PUERTO BERRIO,**	**14.54**	**212**	*e*P	Pn	13 21 23.1	-0.6
PTBC	**PUERTO BERRIO,**	**14.54**	**212**	*e*P	Pn	13 21 23.1	-0.6
059A	**Moore Haven**	**15.39**	**303**	P	Pn	13 21 33.2	-1.8
baz=118							
HELC	**Santa Helena**	**15.40**	**215**	*e*P	Pn	13 21 36.3	+0.9
HELC	**Santa Helena**	**15.40**	**215**	*e*P	Pn	13 21 36.3	+0.9
NORC	**Norcasia**	**15.59**	**212**	*e*P	Pn	13 21 38.9	+1.2
NORC	**Norcasia**	**15.59**	**212**	*e*P	Pn	13 21 38.9	+1.2
CHIC	**Chingaza**	**15.89**	**206**	*e*P	Pn	13 21 42.9	+1.0
CHIC	**Chingaza**	**15.89**	**206**	*e*P	Pn	13 21 42.9	+1.0
ROSC	**El Rosal**	**15.96**	**209**	Pn	P	13 21 45.0	-1.3
	1.5nm,0.3s,baz=5.5,slow=15,SNR=5.2						
GUY2C	**Guyana, Caldas**	**16.13**	**212**	*e*P	P	13 21 47.0	-1.2
GUY2C	**Guyana, Caldas**	**16.13**	**212**	*e*P	P	13 21 47.0	-1.2
757A	**Oxford**	**17.08**	**308**	P	Pn	13 21 55.5	-1.1
baz=122							
PRAC	**Prado**	**17.21**	**209**	*e*P	Pn	13 21 57.7	-0.7
PRAC	**Prado**	**17.21**	**209**	*e*P	Pn	13 21 57.7	-0.7
657A	**Interlachen**	**17.28**	**310**	P	Pn	13 21 58.7	-0.3
baz=124							
557A	**Orange Park**	**17.43**	**312**	P	Pn	13 22 00.6	-0.3
baz=125							
656A	**Willston**	**17.65**	**308**	P	Pn	13 22 03.8	+0.1
baz=122							
556A	**Lake Butler**	**17.90**	**310**	P	P	13 22 07.4	+0.1
baz=124							
Z59A	**Georgetown, SC**	**18.02**	**324**	P	P	13 22 09.4	+0.9
baz=138							
456A	**Hilliard**	**18.04**	**313**	P	P	13 22 09.0	+0.2
baz=126							
357A	**Townsend**	**18.11**	**316**	P	P	13 22 09.8	+0.3
baz=129							
555A	**McAlpin**	**18.37**	**310**	P	Pn	13 22 13.4	+0.9
baz=123							
X60A	**Albert Glenn T**	**18.38**	**329**	P	Pn	13 22 12.9	+0.3
baz=144							
Z58A	**St. Stephen**	**18.39**	**323**	P	Pn	13 22 15.2	+2.6
baz=137							
W61A	**Ground Anchor**	**18.43**	**333**	P	Pn	13 22 14.1	+1.0
baz=148							
NHSC	**New Hope**	**18.43**	**322**	*e*P	Pn	13 22 15.8	+2.6
50nm,1.2s							
NHSC	**New Hope**	**18.43**	**322**	P	P	13 22 12.4	-0.7
baz=136							
256A	**Glennville**	**18.73**	**316**	P	Pn	13 22 17.3	+0.5
baz=130							
Y58A	**Scranton**	**18.73**	**325**	P	Pn	13 22 17.7	+0.9
baz=139							
V61A	**Roper**	**18.78**	**334**	P	Pn	13 22 19.4	+2.1
baz=150							
Z57A	**Bowman**	**18.88**	**321**	P	Pn	13 22 20.3	+1.7
baz=135							
554A	**Perry**	**18.88**	**309**	P	Pn	13 22 18.9	+0.3
baz=122							
156A	**Sylvania**	**18.91**	**319**	P	Pn	13 22 22.0	+2.9
baz=132							
355A	**Pearson**	**18.98**	**313**	P	Pn	13 22 21.8	+1.9
baz=126							
X58A	**Rowland**	**19.05**	**327**	P	Pn	13 22 23.9	+3.2
baz=141							
255A	**Hazlehurst**	**19.08**	**315**	P	Pn	13 22 23.2	+2.1
baz=128							
POPC	**Popayan, Colom**	**19.09**	**212**	*e*P	P	13 22 20.1	-0.6
POPC	**Popayan, Colom**	**19.09**	**212**	*e*P	P	13 22 20.1	-0.6
PCON	**Cinco Dias**	**19.14**	**211**	*e*P	Pn	13 22 24.5	+2.1
PCON	**Cinco Dias**	**19.14**	**211**	*e*P	Pn	13 22 24.5	+2.1
U61A	**Possum Corner**	**19.19**	**336**	P

	baz=130				
V55A	Taylorsville	21.03 326	pP	pP	13 22 51.8 +6.7
	baz=139				
R59A	King George, V	21.09 337	pP	pP	13 22 52.2 +6.6
	baz=152				
R58B	Mineral	21.18 335	pP	pP	13 22 53.2 +6.6
	baz=150				
CBN	Corbin Frederi	21.19 336	pP	pP	13 22 53.2 +6.5
	baz=151				
X53A	Estanollee	21.27 320	pP	pP	13 22 53.7 +5.8
	baz=132				
Y52A	Lilburn	21.33 317	pP	pP	13 22 54.2 +5.7
	baz=129,SNR=8.4				
T56A	Rocky Mt	21.34 330	pP	pP	13 22 55.0 +6.6
	baz=143				
U55A	TA2, Sparta	21.43 327	pP	pP	13 22 57.0 +7.5
	baz=140				
S57A	Dark Hollow, R	21.45 333	pP	pP	13 22 56.7 +7.1
	baz=147,SNR=6.2				
R58A	Rapidan	21.51 335	pP	pP	13 22 57.1 +6.9
	baz=150				
W53A	Cullowhee	21.64 321	pP	pP	13 22 58.6 +6.9
	baz=134				
S56A	Natural Bridge	21.65 332	pP	pP	13 22 59.3 +7.5
	baz=145,SNR=6.6				
X52A	Dahlonega	21.70 319	pP	pP	13 22 59.2 +6.7
	baz=131				
R57A	Stanardsville	21.72 334	pP	pP	13 23 00.2 +7.7
	baz=149,SNR=6.1				
V53A	Saluda	21.78 323	pP	pP	13 23 01.6 +8.4
	baz=135				
OTAV	Otavalo	21.96 213	eP	P	13 22 52.5 +0.4
OTAV	Otavalo	21.96 213	eP	P	13 22 52.5 +0.4
Y51A	Rockmart	22.01 316	pP	pP	13 23 03.7 +7.6
	baz=128				
P59A	Jarrettsville	22.11 340	pP	pP	13 23 06.0 +9.4
	baz=155				
U53A	Fall Branch	22.15 324	pP	pP	13 23 06.0 +8.9
	baz=137				
149A	Jones	22.46 311	pP	pP	13 23 08.4 +7.5
	baz=122				
LRAL	Lakeview Retre	22.84 311	eP	P	13 23 00.4 -0.4
APG	El Apazote	23.02 264	P	P	13 23 03.3 +0.2
	7.7nm,1.1s,baz=319,slow=11,SNR=4.0				
TXAR	Lajitas Array	35.06 294	P	P	13 24 50.7 0.0
	2.0nm,0.8s,baz=111,slow=10.0,SNR=27				
TXAR			PcP	PcP	13 27 22.2 -0.3
	0.5nm,0.8s,baz=117,slow=3.2,SNR=4.7				
BDFB	Brasilia	39.12 151	LR	LR	13 41 19.9
	comp=Z,62nm,18.8s,baz=79,slow=36				
WUAZ	Wupatki	42.52 302	eP	P	13 25 53.4 0.0
	4.4nm,1.1s				
PDAR	Pinedale Array	43.05 313	P	P	13 25 56.9 -0.8
	0.3nm,0.5s,baz=127,slow=9.5,SNR=4.6				
NVAR	Mina Array Bea	48.48 305	P	P	13 26 39.6 -1.0
	0.2nm,0.3s,baz=90,slow=6.3,SNR=3.4				
YKA	Yellowknife Ar	54.38 335	P	P	13 27 23.0 -1.1
	0.4nm,0.4s,baz=112,slow=7.2,SNR=12				
ESDC	Sonseca Array	57.29 55	P	P	13 27 46.6 +1.1
	0.4nm,0.6s,baz=266,slow=6.5,SNR=4.5				
TORD	Torodi Ar. Bea	65.68 84	P	P	13 28 42.4 -0.1
	0.7nm,1.1s,baz=282,slow=7.2,SNR=2.8				
TORD			LR	LR	13 53 59.3
	comp=Z,37nm,21.4s,baz=300,slow=33				
NOA	NORSAR Array B	67.68 31	LR	LR	13 55 56.2
	comp=Z,14nm,19.3s,baz=355,slow=34				
ILAR	Eielson Array	68.72 333	P	P	13 28 59.5 -1.4
	0.9nm,0.8s,baz=108,slow=4.2,SNR=7.2				
GERES	GERESS Array B	69.66 44	LR	LR	14 00 29.0
	comp=Z,16nm,18.0s,baz=284,slow=37				

*ISCJB **19** 13:52:44.8±1.1, 5°.75S±0°.08×146°.6E±0°.1, h100km, mb3.6/5, Error ellipse: s-maj=19.0km s-min=7.8km az=149.9*
*IDC **19** 13:52:45.7±2.3, 5°.75S×146°.64E, h96km±20km, mb3.5/5, mb1 3.7/8, mb1mx3.4/32, mbtmp3.8/8, Error ellipse: s-maj=27.3km s-min=13.0km az=58.0*

ISC 19 13:52:46.2±1.1, 5°.7S±0°.1×146°.7E±0°.1, h100km, n9, σ1°.02/11, mb3.9/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.68	172	P	Pn	13 53 41.9	+0.8
	12nm,0.3s,baz=56,slow=5.6,SNR=26						
PMG				S	Sn	13 54 22.6	-1.0
	32nm,0.3s,baz=180,slow=21,SNR=29						
JAY	Jayapura	6.73	298	P	Pn	13 54 23.7	+1.2
JAY				S	Sn	13 55 37.5	-0.2
WRA	Warramunga Arr	18.51	219	P	P	13 56 54.3	-0.5
	0.2nm,0.3s,baz=44,slow=11,SNR=12						
WRA				PcP	PcP	14 01 21.8	+1.0
	0.1nm,0.3s,baz=48,slow=1.4,SNR=7.9						
ASAR	Alice Springs	21.64	213	P	P	13 57 28.7	+0.1
	0.4nm,0.3s,baz=52,slow=8.6,SNR=32						
FITZ	Fitzroy Crossi	23.91	237	P	P	13 57 51.2	+0.3
	4.0nm,0.6s,baz=49,slow=7.2,SNR=7.2						
CMAR	Chiang Mai Arr	52.81	298	P	P	14 01 49.8	-2.0
	0.4nm,0.3s,baz=142,slow=5.4,SNR=4.7						
MKAR	Makanchi Array	77.07	321	P	P	14 04 28.7	+0.2
	0.3nm,0.5s,baz=106,slow=8.5,SNR=3.6						
ILAR	Eielson Array	85.38	23	P	P	14 05 11.8	-0.2
	1.3nm,0.7s,baz=257,slow=5.1,SNR=14						
TORD	Torodi Ar. Bea	144.68	285	PKP	PKPbc	14 12 11.3	0.0
	0.9nm,0.6s,baz=83,slow=3.1,SNR=6.6						

KRSC 19 13:58:37.7±10.0, 51°.99N×160°.85E, h40km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.22	336	eP	Pn	13 58 59.3	+1.0
SPN				S	Sn	13 59 13.9	+0.3
NLC	Nalytchevo	1.50	323	P	Pn	13 59 04.5	+2.4
NLC				S	Sn	13 59 23.3	+2.9
RUS	Russkaya	1.50	288	eP	Pn	13 59 03.5	+1.4
RUS				S	Sn	13 59 21.9	+1.4
DALK	Dalny	1.65	310	eP	Pn	13 59 05.8	+1.6
DALK				eS	Sn	13 59 25.5	+1.4
MTVR	Mutnovka	1.71	288	eP	Pn	13 59 07.0	+1.8
MTVR				eS	Sn	13 59 27.8	+1.9
KDTR	Khodutka, Kamc	1.73	265	P	Pn	13 59 07.1	+1.9
KDTR				S	Sn	13 59 26.5	+0.5
UGLR	Uglovaya	1.74	316	eP	Pn	13 59 07.7	+2.2
UGLR				eS	Sn	13 59 29.0	+2.5
SDLR	Sedlovina	1.76	318	eP	Pn	13 59 07.9	+2.1
SDLR				S	Sn	13 59 29.7	+2.6
AVH	Avacha	1.81	316	P	Pn	13 59 09.0	+2.5
AVH				S	Sn	13 59 31.5	+3.2
KRER	Koryakskii	1.84	317	P	Pn	13 59 09.6	+2.7
KRER				eS	Sn	13 59 32.4	+3.4
ASAK	Asacha	1.86	283	eP	Pn	13 59 09.5	+2.4
ASAK				eS	Sn	13 59 33.3	+3.9
KRMR	Karymshinskiy	1.87	298	eP	Pn	13 59 08.7	+1.6
KRMR				eS	Sn	13 59 32.8	+3.4
KOK	Koryaka	1.88	315	P	Pn	13 59 08.3	+0.9
KRX	Arik	1.92	317	eP	Pn	13 59 10.3	+2.3
APC	Apacha	2.44	294	P	Pn	13 59 18.1	+3.0
APC				eS	Sn	13 59 49.4	+5.7
MKZ	Mys Kozlova	2.63	11	eP	Pn	13 59 20.7	+3.1
MKZ				eS	Sn	13 59 50.4	+2.2
KZV	Kizimen	3.15	354	P	Pn	13 59 30.6	+5.7
KBTR	Krutoberegovo	4.38	15	P	Pn	13 59 45.0	+3.3

*IDC **19** 14:03:15.0±3.3, 26°.39N×57°.49E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/30, mbtmp3.5/5, MS2.0/1, Ms1 2.0/1, ms1mx2.0/33, Error ellipse: s-maj=70.2km s-min=32.7km az=149.0*
*TEH **19** 14:03:15.5, 26°.72N×57°.98E, h36km, ML3.9*
*DSN **19** 14:03:15.3±3.3, 26°.67N×57°.90E, h10km, ML3.7/7, Error ellipse: s-maj=48.5km s-min=12.9km az=2.0*
*OMAN **19** 14:03:17.1±0.9, 26°.70N×57°.99E, h31km±29km, Error ellipse: s-maj=39.5km s-min=6.8km az=32.0*

ISC 19 14:03:17.1±0.8, 26°.54N±0°.03×57°.59E±0°.06, h10km, n54, σ1°.68/57, mb3.4/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	Jask	0.91	170	ePg	Pn	14 03 36.7	+0.7
NIAN	Nian	1.22	327	ePg	Pb	14 03 39.6	-0.7
NIAN				IAMB	IAmb	14 04 03.3	
	comp=Z,0.0nm,0.3s						
SHME	Shamm	1.39	250	eP	Pg	14 03 44.8	+0.9
	SNR=44						
SHME				S	Sn	14 04 07.5	+6.4
KHNJ	Kahnooj	1.41	4	ePg	Pn	14 03 38.7	-4.1
GENO	Geno	1.53	304	ePn	Pg	14 03 45.5	-1.0
GENO				IAMB	IAmb	14 04 18.3	
	comp=Z,0.0nm,0.3s						
MSFE	Esma-Masafi	1.75	228	eP	Pb	14 03 47.8	-1.4
	SNR=10						
MSFE	Esma-Masafi	1.75	228	ePn	Pb	14 03 47.9	-1.4
HATD	Hatta, Dubai	2.16	218	eP	Pn	14 03 53.9	+0.7
	SNR=11						
HATD	Hatta, Dubai	2.16	218	P	Pn	14 03 53.0	-0.2
	SNR=11						
HATD				S	Sg	14 04 26.3	-0.2
HATD	Hatta, Dubai	2.16	218	ePn	Pn	14 03 53.6	+0.4
ASHO	Ashiyiah	2.31	217	eP	Pb	14 03 57.3	-1.7
	SNR=7.4						
ASHO	Ashiyiah	2.31	217	P	Pb	14 03 57.8	-1.1
	SNR=7.5						
ASHO				S	Sg	14 04 33.7	+2.3
ASHO	Ashiyiah	2.31	217	ePn	Pn	14 03 55.4	+0.1
NAZ	Nazwa, Dubai	2.33	229	P	Pb	14 03 57.6	-1.6
NAZ	Nazwa, Dubai	2.33	229	P	Pg	14 04 01.0	-0.8
	SNR=7.5						
NAZ	Nazwa, Dubai	2.33	229	ePn	Pn	14 03 53.8	-1.7
FAQ	Al Faqa, Dubai	2.54	226	P	Pb	14 04 01.5	-1.4
FAQ	Al Faqa, Dubai	2.54	226	P	Pb	14 04 01.9	-0.9
	SNR=9.8						
FAQ	Al Faqa, Dubai	2.54	226	ePn	Pb	14 04 01.6	-1.2
SOHO	SOHO	2.58	202	P	Pn	14 03 58.1	-0.9
	SNR=5.7						
CHBR	Chabahar	2.77	109	ePn	Pn	14 04 03.5	+2.0
ASUD	Al Ashush, Dub	2.79	227	P	Pb	14 04 04.9	-2.3
ASUD	Al Ashush, Dub	2.79	227	ePn	Pb	14 04 05.2	-2.0
HOQ	Hoqain	2.96	185	P	Pn	14 04 04.3	+0.1
	SNR=7.5						
HOQ				S	Sn	14 04 42.2	+2.4
HOQ	Hoqain	2.96	185	ePn	Pn	14 04 04.2	+0.1
ALNE	Al Ain	2.98	214	ePn	Pn	14 04 05.5	+1.0
BIDO	Bidbid	3.05	171	P	Pn	14 04 04.3	-1.0
	SNR=5.3						
BIDO	Bidbid	3.05	171	ePn	Pn	14 04 04.1	-1.3
NGRK	Negar Kerman	3.18	346	ePn	Pn	14 04 04.1	-3.5
NGRK				IAMB	IAmb	14 04 57.2	
	comp=Z,0.0nm,0.6s						
CHMN	Cheshme madani	3.31	359	ePn	Pn	14 04 11.0	+1.7
WSAR	Wadi Sarin	3.42	164	P	Pn	14 04 09.7	-0.8
	SNR=214						
SMDO	Samad	3.49	173	P	Pn	14 04 11.6	0.0
	SNR=19						
SMDO				S	Sn	14 04 54.0	+1.0
KRBR	Kerman	3.51	348	ePn	Pn	14 04 12.9	+0.9
TVBK	TV Kerman	3.51	348	ePn	Pn	14 04 11.5	-0.6
TVBK				IAMB	IAmb	14 04 20.7	
	comp=Z,0.0nm,0.2s						
BSY	Bisya	3.80	185	P	Pn	14 04 18.6	+2.9
	SNR=8.9						
KHGB	Koh Gabri	3.94	346	ePn	Pn	14 04 14.7	-3.3
KHGB				IAMB	IAmb	14 05 29.9	
	comp=Z,0.0nm,0.7s						
ZHSF	Zahedan	4.16	42	ePn	Pn	14 04 22.9	+2.1
GHIR	Ghir-Karzin	4.45	294	ePn	Pn	14 04 24.1	-0.7
IPAR	Pars	5.19	310	ePn	Pn	14 04 36.7	+1.6
IMEH	Mehriz	5.49	332	ePn	Pn	14 04 38.3	-0.9
IKOO	Kooshah	5.99	12	ePn	Pn	14 04 44.5	-1.6
IKAZ	Kazeroun	6.02	304	ePn	Pn	14 04 45.8	-0.7
ISAD	Sadrabad	6.35	328	ePn	Pn	14 04 50.7	-0.3
TPRV	Parvadeh(Tabas	6.51	353	ePn	Pn	14 04 51.0	-2.1
KLNJ	Kolanjah	6.89	312	ePn	Pn	14 04 58.7	+0.1
IRAM	Ramesheh	6.95	320	ePn	Pn	14 04 57.9	-1.3
TABS	Tabas	7.10	357	ePn	Pn	14 05 02.5	+1.4
KHMZ	Khomeyn	9.75	319	ePn	Pn	14 05 38.3	+0.6
GEYT	Alibeck	11.36	2	LR	LR	14 11 46.1	
	comp=Z,8.8nm,21.4s,baz=340,slow=44						
BRTR	Keskin Array B	23.90	309	P	P	14 08 31.4	+0.3
	comp=Z,0.9nm,0.7s,baz=128,slow=10.0,SNR=5.9						
ZALV	Zalesovo Beam	33.97	29	P	P	14 10 01.5	+0.9
	comp=Z,0.5nm,0.3s,baz=227,slow=5.9,SNR=3.3						
GERES	GERESS Array B	40.52	315	P	P	14 10 55.1	-1.3
	comp=Z,0.4nm,0.6s,baz=120,slow=7.9,SNR=4.2						
FINES	FINESS Array B	40.82	337	P	P	14 10 59.0	+0.4
	comp=Z,0.3nm,0.4s,baz=145,slow=7.0,SNR=5.6						
TORD	Torodi Ar. Bea	53.86	267	P	P	14 12 39.5	-1.3
	comp=Z,0.3nm,0.5s,baz=85,slow=8.1,SNR=3.0						

*IDC **19** 14:26:04.6±0.6, 8°.30S×126°.75E, h0km, mb4.0/11, mb1 4.1/14, mb1mx3.9/32, mbtmp4.0/14, ML4.3/3, MS2.5/1, Ms1 2.5/1, ms1mx2.2/36, Error ellipse: s-maj=34.6km s-min=13.7km az=78.0*
*ISCJB **19** 14:26:07.1±0.3, 8°.39S±0°.04×126°.93E±0°.04, h33km, mb3.9/12, Error ellipse: s-maj=6.2km s-min=4.7km az=42.5*
*DJA **19** 14:26:10.9±1.8, 9°.S±6°.×12°.7E±°., h15km±12km, M4.4/8, mB5.0/6, mb4.6/8, MLv4.4/4, Mw(mB)4.3/6*
*NEIC **19** 14:26:12.8±0.7, 8°.49S×126°.65E, h70km±9km, mb4.0/5, Error ellipse: s-maj=8.8km s-min=7.6km az=210.0*

ISC 19 14:26:09.0±0.5, 8°.59S±0°.05×126°.88E±0°.06, h35km, n61, σ2°.35/61, mb3.9/12, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.83	246	ePn	Pn	14 26 54.3	+2.5
SOEI	Soe	2.83	246	P	Pn	14 26 54.7	+2.8
SOEI				S	Sn	14 27 26.9	+2.1
SAUI	Saumlaki	4.41	82	ePn	Pn	14 27 21.1	+7.6
SAUI	Saumlaki	4.41	82	P	Pn	14 27 19.4	+5.8
SAUI				S	Sn	14 28 13.4	+10
MMRI	Maumere	4.59	269	ePn	Pn	14 27 17.0	+1.0
MMRI	Maumere	4.59	269	P	Pn	14 27 17.4	+1.3
BNDI	Bandanaira	5.04	37	P	Pn	14 27 27.3	+5.1
	76nm,0.6s,2μm						
BBSI	Bau Bau	5.28	306	P	Pn	14 27 27.4	+1.9
	31nm,0.7s						
MTN	Manton Dam	5.94	136	ePn	Pn	14 27 42.1	+7.5
SANI	Sanana	6.56	352	P	Pn	14 27 46.8	+3.7
	18nm,0.7s						
BSSI	Bau Bau, Buton	6.79	291	P	Pn	14 27 48.0	+1.7
	59nm,0.7s,1μm						
BKSI	Bulukumba	7.46	295	P	Pn	14 27 56.7	+1.3
	17nm,0.5s						
FAKI	Fak Fak	7.76	44	ePn	Pn	14 28 05.5	+5.9
FAKI	Fak Fak	7.76	44	P	Pn	14 28 05.6	+6.0
BNSI	Bone	7.92	301	P	Pn	14 28 03.6	+1.9
	79nm,0.8s,750nm						
KAPI	Kappang	7.92	296	Pn	Pn	14 28 03.2	+1.3
	3.0nm,0.3s,baz=129,slow=8.8,SNR=13						
KAPI				Sn	Sn	14 29 30.8	+0.5
	0.3nm,0.3s,baz=233,slow=20,SNR=2.5						
KAPI				LR	LR	14 32 21.1	
	comp=Z,32nm,18.4s,baz=102,slow=49						
SPSI	Sidrap Palu	8.43	303	P	Pn	14 28 10.9	+2.1
	15nm,0.6s						
PLAI	Plampang	9.01	268	P	Pn	14 28 17.8	+1.1
APSI	Ampana	9.24	325	P	Pn	14 28 22.5	+2.6
FITZ	Fitzroy Crossi	9.52	187	Pn	Pn	14 28 26.6	+2.8
	2.6nm,0.3s,baz=10,slow=11,SNR=64						
FITZ				Sn	Sn	14 30 06.5	-3.1
	4.1nm,0.3s,baz=187,slow=19,SNR=8.7						
JAGI	Jajag, Banyuwa	12.59	270	ePn	Pn	14 29 01.7	-4.1
WRAB	Tennant Creek	13.39	148	ePn	Pn	14 29 19.1	+2.4
WR1	Warramunga Arr	13.39	148	ePn	Pn	14 29 18.8	+2.0
WRA	Warramunga Arr	13.39	148	Pn	Pn	14 29 18.8	+2.0
	1.8nm,0.3s,baz=323,slow=14,SNR=93						
WRA				Sn	Sn	14 31 39.7	-4.8
	6.7nm,0.3s,baz=333,slow=22,SNR=15						
WB2	Warramunga Arr	13.40	148	ePn	Pn	14 29 18.8	+1.9
PSA00	Pilbara Seismi	14.58	207	ePn	Pn	14 29 33.6	+0.8
UGM	Wanagama	16.20	271	eP	Pn	14 29 54.1	-0.2
	60nm,1.2s						
AS31	Alice Springs	16.43	157	ePn	P	14 30 00.2	+0.7
	4.9nm,0.6s						
ASAR	Alice Springs	16.43	157	ePn	P	14 30 00.3	+0.9
ASAR				Sn	Sn	14 32 52.9	-5.4
ASAR	Alice Springs	16.43	157	Pn	P	14 29 59.1	-0.3
	0.6nm,0.3s,baz=329,slow=9.5,SNR=82						
ASAR				Sn	Sn	14 32 52.9	-5.4
	1.5nm,0.3s,baz=323,slow=22,SNR=11						
COEN	Coen	16.84	110	ePn	P	14 30 05.7	+1.6
	23nm,1.1s						
CISI	Cisompet, Garu	18.91	272	eP	P	14 30 24.6	-2.4
	139nm,1.5s						
STKA	Stephens Creek	26.90	151	eP	P	14 31 50.8	+3.8
	5.0nm,1.8s						
STKA	Stephens Creek	26.90	151	P	P	14 31 50.6	+3.7
	1.2nm,0.5s,baz=339,slow=9.0,SNR=7.7						
CMAR	Chiang Mai Arr	38.51	314	P	P	14 33 26.9	-1.4
	0.9nm,0.6s,baz=140,slow=7.1,SNR=9.4						
WHN	Wuhan	40.73	343	P	P	14 33 45.8	-0.8
KSAR	Wonju Array Be	45.80	1	P	P	14 34 26.4	-1.0
KSRS	Korea Array	45.82	1	P	P	14 34 26.4	-1.1
	1.5nm,0.9s,baz=172,slow=12,SNR=5.8						
MAJO	Matsushiro	46.14	13	eP	P	14 34 28.9	-1.3
MJAR	Matsushiro Arr	46.14	13	P	P	14 34 28.9	-1.3
	0.8nm,0.6s,baz=196,slow=9.6,SNR=4.1						
RAMN	Ramite	52.66	313	eP	P	14 35 19.6	-0.9
	9.0nm,0.6s						
PKI	Pulchoki	53.88	313	eP	P	14 35 27.4	-2.1
	4.6nm,0.4s						
PKIN	Phulchoki	53.90	313	eP	P	14 35 27.5	-2.1
	4.6nm,0.4s						
KOLN	Koldanda	55.31	312	eP	P	14 35 37.9	-1.9
	5.0nm,0.3s						
PYUN	Piuthan	55.94	312	eP	P	14 35 42.8	-1.5
	6.8nm,0.5s						
SONA0	Songino Array	59.04	344	eP	P	14 36 04.8	-0.8
SONM	Songino Array	59.04	344	P	P	14 36 04.8	-0.8
	0.3nm,0.4s,baz=160,slow=4.6,SNR=3.4						
PETK	Petropavlovsk-	66.82	20	P	P	14 36 56.8	-0.3
	1.4nm,0.8s,baz=185,slow=5.4,SNR=4.6						
PEA1	Petropavlovsk-	66.83	20	eP	P	14 36 56.8	-0.3
MK31	Makanchi Array	67.92	329	eP	P	14 37 02.1	-2.1
	1.1nm,0.8s						
MK32	Makanchi Array	67.92	329	eP	P	14 37 02.6	-1.6
MKAR	Makanchi Array	67.92	329	eP	P	14 37 01.8	-2.4
MKAR	Makanchi Array	67.92	329	P	P	14 37 02.6	-1.6
	1.7nm,0.5s,baz=126,slow=7.5,SNR=40						
VNDA	Vanda	71.27	172	eP	P	14 37 26.9	+2.6
VNDA	Vanda	71.27	172	P	P	14 37 27.3	+2.9
	0.5nm,0.5s,baz=313,slow=7.9,SNR=14						
ZALV	Zalesovo Beam	71.69	335	P	P	14 37 24.8	-2.4
	1.1nm,0.4s,baz=163,slow=3.3,SNR=6.8						
ZAA1	Zalesovo Array	71.69	335	eP	P	14 37 24.8	-2.4
MAW	Mawson	72.35	201	P	P	14 37 33.7	+2.7
	1.6nm,0.9s,baz=52,slow=10,SNR=3.3						
SEY	Seymchan	73.96	12	P	P	14 37 39.5	-1.0
	0.4nm,0.4s,baz=98,slow=15,SNR=4.5						
LPAZ	La Paz	151.16	149	ePKPbc	PKPbc	14 46 02.4	+2.0
LPAZ	La Paz	151.16	149	PKPbc	PKPbc	14 46 03.2	+2.8
	1.4nm,0.4s,baz=24,slow=2.0,SNR=9.5						

*ATH **19** 14:30:45.8, 38°.97N×26°.03E, h19km±4km, ML2.0/3, Error ellipse: s-maj=4.1km s-min=1.3km az=72.0*
*DDA **19** 14:30:45.1, 38°.94N×25°.94E, h7km±4km, ML2.5*
*ISCJB **19** 14:30:46.2±0.6, 38°.98N±0°.03×26°.04E±0°.06, h8km±6km, Error ellipse: s-maj=7.6km s-min=5.0km az=14.9*
*THE **19** 14:30:46.2, 39°.00N×26°.02E, h16km±1km, ML2.0/3, Error ellipse: s-maj=1.6km s-min=0.6km az=270.0*

ISC 19 14:30:45.8±0.9, 38°.97N±0°.03×26°.02E±0°.04, h17km±7km, n15, σ0°.36/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.27	332	P	Pg	14 30 51.7	0.0
SIGR				S	Sg	14 30 55.8	0.0
SIGR	SIGRI	0.27	332	P	Pg	14 30 51.6	-0.1
SIGR				S	Sb	14 30 56.2	-0.2
SIGR				AML	AML	14 30 56.8	
	comp=N,1104μm,0.4s						
SIGR				AML	AML	14 30 57.1	
	comp=E,1402μm,0.5s						
PRK	Paraskevi	0.34	36	P	Pg	14 30 52.9	0.0
PRK				S	Sg	14 30 57.7	-0.1
PRK	Paraskevi	0.34	36	P	Pg	14 30 53.1	+0.2
PRK				S	Sg	14 30 57.7	-0.1
PRK				AML	AML	14 30 58.3	
	comp=N,894μm,0.4s						
PRK				AML	AML	14 31 00.2	
	comp=E,590μm,0.4s						
PSRA	Psara	0.56	220	P	Pb	14 30 57.5	+0.5
CHOS	Chios island	0.59	177	P	Pg	14 30 57.4	0.0
CHOS				S	Sn	14 31 07.6	-0.9
CHOS	Chios island	0.59	177	P	Pg	14 30 57.0	-0.4
CHOS				S	Sb	14 31 05.9	+0.3
CHOS				AML	AML	14 31 09.4	
	comp=N,166μm,0.5s						
CHOS				AML	AML	14 31 10.8	
	comp=E,332μm,0.3s						
AYVA	Ayvalik	0.62	57	iP	Pn	14 31 00.3	+0.6
AYVA				iS	Sg	14 31 05.9	-0.5
URLA	Izmir	0.76	143	IAML_P			
	comp=Z,493nm,0.2s						
URLA				iP	Pg	14 31 00.4	-0.2
ZEDA	zmir-Bergama	0.83	90	IAML_P			
	comp=Z,630nm,0.1s						
ZEDA				iP	Pg	14 31 02.2	+0.3
BOZC	Bozcaada	0.87	2	IAML_P			
	comp=Z,782nm,0.2s						
BOZC				iP	Pb	14 31 02.1	-0.2
BOZC				iS	Sn	14 31 15.0	-0.4
BAYC	CANAKKALE_Bayr	0.87	28	IAML_P			
	comp=Z,580nm,0.1s						
BAYC				iP	Pn	14 31 03.6	+0.4
BAYC				iS	Sg	14 31 14.4	+0.1
EZN	Ezine	0.89	16	P	Pb	14 31 02.3	-0.3
EZN				S	Sb	14 31 14.3	+0.2
LIA	Limnos Island	1.13	325	P	Pg	14 31 07.7	+0.1
SMTH	Samothraki Isl	1.54	346	P	Pb	14 31 13.8	0.0

TEH 19 14:39:22.5, 26°.79N×58°.02E, h24km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	Jask	1.16	191	ePg	Pb	14 39 44.7	+0.8
KHNJ	Kahnooj	1.19	347	ePg	Pn	14 39 43.6	-0.1
NIAN	Nian	1.30	307	ePg	Pb	14 39 47.1	+0.8
NIAN				IAMB	IAmb	14 40 11.4	
	comp=Z,0.0nm,0.4s						
GENO	Geno	1.75

PRK	Paraskevi	0.32	35	P	Pb	14 42 27.7	-0.4
PRK				S	Sg	14 42 32.3	+0.5
PRK				AML	AML	14 42 33.1	
	comp=N,3054μm,0.4s						
PRK				AML	AML	14 42 35.4	
	comp=E,1892μm,0.7s						
KRBN	Karaburun	0.56	134	PG	Pg	14 42 31.4	-0.5
KRBN				SG	Sb	14 42 40.5	+0.1
PSRA	Psara	0.58	220	P	Pb	14 42 33.0	+0.2
AYVA	Ayvalik	0.60	58	*i* P	Pg	14 42 32.3	-0.3
AYVA				*i* S	Sg	14 42 40.2	-0.4
CHOS	Chios island	0.60	179	PG	Pg	14 42 32.2	-0.5
CHOS				SG	Sb	14 42 42.3	+0.8
CHOS	Chios island	0.60	179	P	Pg	14 42 32.0	-0.7
CHOS				S	Sb	14 42 42.3	+0.8
CHOS	Chios island	0.60	179	P	Pg	14 42 31.9	-0.7
CHOS				AML	AML	14 42 44.2	
	comp=N,595μm,0.5s						
CHOS				AML	AML	14 42 45.3	
	comp=E,1130μm,0.4s						
URLA	Izmir	0.77	145	PG	Pg	14 42 34.8	-0.9
URLA				SG	Sb	14 42 46.9	+0.7
URLA	Izmir	0.77	145	IAML_P			
	comp=Z,3μm,0.1s						
URLA				*i* P	Pg	14 42 35.1	-0.6
URLA				*i* S	Sn	14 42 47.8	-0.7
ZEDA	zmir-Bergama	0.81	91	*i* P	Pg	14 42 36.2	-0.4
ZEDA				*i* S	Sb	14 42 48.2	+0.8
BAYC	CANAKKALE_Bayr	0.85	28	*i* P	Pn	14 42 38.1	-0.3
BAYC				*i* S	Sn	14 42 50.8	+0.2
BOZC	Bozcaada	0.85	1	PG	Pg	14 42 36.9	-0.5
BOZC				SG	Sb	14 42 49.2	+0.6
BOZC	Bozcaada	0.85	1	*i* P	Pg	14 42 37.2	-0.1
BOZC				*i* S	Sb	14 42 49.6	+1.0
EZN	Ezine	0.86	15	PG	Pg	14 42 37.2	-0.4
EZN				SG	Sb	14 42 49.4	+0.4
EZN	Ezine	0.86	15	P	Pg	14 42 37.2	-0.4
EZN				S	Sb	14 42 49.1	+0.1
LIA	Limnos Island	1.12	324	P	Pg	14 42 42.5	0.0
LIA	Limnos Island	1.12	324	P	Pg	14 42 42.4	0.0
LIA				S	Sn	14 42 57.8	+0.5
LIA				AML	AML	14 43 00.1	
	comp=E,228μm,0.3s						
LIA				AML	AML	14 43 04.7	
	comp=N,170μm,0.4s						
STEP	BALIKESIR_Sava	1.36	73	IAML_P			
	comp=Z,680nm,0.2s						
STEP				*i* P	Pb	14 42 46.2	+0.1
STEP				*i* S	Sg	14 43 04.0	-0.8
AKHS	Akhisar	1.39	94	IAML_P			
	comp=Z,968nm,0.2s						
AKHS				*i* P	Pg	14 42 48.0	+0.4
SMG	Samos	1.43	154	P	Pn	14 42 46.6	+0.3
SMG	Samos	1.43	154	P	Pb	14 42 47.0	-0.1
GELI	Tayfur-Gelibol	1.45	13	PN	Pb	14 42 47.6	+0.1
GELI				SN	Sg	14 43 07.8	+0.3
LPK	Lapseki	1.49	22	PN	Pb	14 42 47.9	-0.4
LPK				SN	Sg	14 43 08.7	-0.2
GOMA	Golmarmara-Man	1.50	100	PN	Pb	14 42 48.1	-0.2
SMTH	Samothraki Isl	1.53	345	P	Pn	14 42 48.2	+0.5
SMTH	Samothraki Isl	1.53	345	P	Pn	14 42 48.1	+0.3
BALB	Balikesir	1.57	65	PN	Pn	14 42 48.7	+0.5
ERIK	Erikli-Kesan	1.72	12	PN	Pb	14 42 51.5	-0.7
AYDB	Zeytinkoy-Aydi	1.79	125	PN	Pn	14 42 52.4	+1.0
DION	Dionisos Attik	1.88	242	P	Pn	14 42 52.3	-0.3
ALN	Alexandroupoli	1.91	0	P	Pb	14 42 54.2	-1.1
KCTX	Karacabey (Bur	2.20	54	PN	Pn	14 42 57.1	+0.2

ISK 19 14:42:52.7,36°.83N×27°.48E,h6km,ML2.6/12,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	Datca	0.12	140	PG	Pg	14 42 55.6	+0.2
DAT				SG	Sg	14 42 57.8	+0.6
DATC	Datca-Mugla	0.16	114	PG	Pg	14 42 56.1	+0.1
BODT	Bodrum	0.27	330	PG	Pg	14 42 58.3	+0.2
BODT				SG	Sg	14 43 02.8	+1.1
ARG	Arkhangelos	0.80	139	PG	Pb	14 43 08.9	-0.1
ARG				SG	Sb	14 43 20.7	+0.6
AYDN	Tasoluk	0.89	21	*i* P	Pg	14 43 09.6	-0.3
GCAM	G?zelcaml?	0.90	347	PG	Pb	14 43 10.6	0.0
GCAM				SG	Sb	14 43 23.6	+0.8
GCAM	G?zelcaml?	0.90	347	*i* P	Pb	14 43 10.9	+0.3
TURN	Turunc	0.90	87	PG	Pg	14 43 05.1	-4.9
DALY	Dalyan (Mula)	0.94	90	PG	Pb	14 43 11.4	0.0
AYDB	Zeytinkoy-Aydi	1.17	16	PN	Pb	14 43 15.4	+0.1
KARP	Karpathos	1.30	191	PN	Pb	14 43 17.5	-0.1
FETY	Fethiye	1.30	98	PN	Pg	14 43 18.2	+0.5
APE	Apeiranthos	1.58	279	PN	Pb	14 43 22.4	+0.1
AKAS	Kas	1.81	108	PN	Pn	14 43 24.1	-0.4

IDC 19 14:43:22.1±2.5,15°.06S×174°.44W,h0km,mb3.6/3,
mb1 3.9/3,mb1mx3.6/27,mbtmp3.6/3,Error ellipse:
s-maj=63.6km s-min=46.0km az=44.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.94	257	P	P	14 52 10.8	+0.2
	0.4nm,0.7s,baz=91,slow=7.4,SNR=10						
ASAR	Alice Springs	49.26	252	P	P	14 52 12.6	-0.4
	0.8nm,0.7s,baz=91,slow=7.6,SNR=20						
VNDA	Vanda	63.61	186	P	P	14 53 54.4	0.0
	0.4nm,0.7s,baz=43,slow=9.0,SNR=7.1						
BRTR	Keskin Array B	145.26	320	PKPbc	PKPbc	15 03 01.1	-0.9
	0.7nm,0.7s,baz=56,slow=4.9,SNR=4.7						

*KRSC **19** 14:45:24.3±10.0, 52°.08N×160°.66E, h58km±10km, ML4.5*
*IDC **19** 14:45:24.5±0.7, 52°.45N×160°.13E, h0km, mb3.9/23,*
mb1 4.1/26, mb1mx4.0/42, mbtmp3.9/26, ML3.7/2, MS3.7/13,
Ms1 3.7/13, ms1mx3.3/43, Error ellipse: s-maj=16.3km
s-min=12.4km az=156.0
*ISCJB **19** 14:45:27.5±0.6, 52°.15N±0°.03×160°.51E±0°.05, h49km±4km,*
mb4.3/61, MS3.7/13, Error ellipse: s-maj=6.5km
s-min=3.6km az=138.2
*MOS **19** 14:45:27.5±1.1, 52°.17N×160°.41E, h47km, mb4.7/29, Error*
ellipse: s-maj=6.8km s-min=3.6km az=101.5
*NEIC **19** 14:45:28.4±0.5, 52°.25N×160°.35E, h35km, mb4.5/26, Error*
ellipse: s-maj=10.3km s-min=7.0km az=146.0
ISC 19 14:45:27.5±1.3,52°.16N±0°.04×160°.53E±0°.04,h32km±8km,
n251,σ1=40/279,mb4.4/61,MS3.7/13,23C-7D,Off east
coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.99	342	*e*P	Pn	14 45 44.2	-0.9
SPN				S	Sn	14 45 57.1	-0.9
SPN	Mys Shipunski	0.99	342	PN	Pn	14 45 44.2	-0.9
SPN				S	Sn	14 45 57.1	-0.9
NLC	Nalytchevo	1.25	325	*e*P	Pn	14 45 48.7	+0.1
NLC				S	Sb	14 46 06.5	+0.4
NLC	Nalytchevo	1.25	325	PN	Pn	14 45 48.7	+0.1
NLC				S	Sb	14 46 06.5	+0.4
RUS	Russkaya	1.27	283	*e*P	Pn	14 45 48.5	-0.4
RUS				S	Sn	14 46 05.7	+0.9
RUS	Russkaya	1.27	283	PN	Pn	14 45 48.5	-0.4
RUS				S	Sn	14 46 05.7	+0.9
DALK	Dalny	1.39	310	*e*P	Pn	14 45 50.5	-0.1
DALK				S	Sb	14 46 09.8	-0.5
DALK	Dalny	1.39	310	PN	Pn	14 45 50.5	-0.1
DALK				S	Sb	14 46 09.8	-0.5
PET	Petropavlovsk	1.44	308	*e*Pn	Pn	14 45 51.1	-0.2
PET	Petropavlovsk	1.44	308	⇑*i*PN	Pn	14 45 51.2	0.0
PET				*e*S	Sb	14 46 11.2	-0.4
PET				pmax	pmax		
	comp=Z,993nm,0.6s						
PET				smax	smax		
	comp=N,1μm,0.6s						
PET				smax	smax		
	comp=E,2μm,0.9s						
MTVR	Mutnovka	1.48	284	*e*P	Pn	14 45 51.9	0.0
MTVR				S	Sn	14 46 11.7	+1.5
MTVR	Mutnovka	1.48	284	PN	Pn	14 45 51.9	0.0
MTVR				S	Sn	14 46 11.7	+1.5
UGLR	Uglovaya	1.48	316	P	Pn	14 45 52.8	+0.9
UGLR				S	Sb	14 46 12.9	0.0
UGLR	Uglovaya	1.48	316	PN	Pn	14 45 52.8	+0.9
UGLR				S	Sb	14 46 12.9	0.0
SDLR	Sedlovina	1.50	319	*e*P	Pn	14 45 52.4	+0.1
SDLR				S	Sn	14 46 12.4	+1.5
SDLR	Sedlovina	1.50	319	PN	Pn	14 45 52.4	+0.1
SDLR				S	Sn	14 46 12.4	+1.5
SMAR	Somma	1.53	317	*e*P	Pn	14 45 52.6	-0.1
SMAR	Somma	1.53	317	PN	Pn	14 45 52.6	-0.1
AVH	Avacha	1.56	316	*e*P	Pn	14 45 53.9	+0.9
AVH				S	Sb	14 46 14.4	-0.7
AVH	Avacha	1.56	316	PN	Pn	14 45 53.9	+0.9
AVH				S	Sb	14 46 14.4	-0.7
KDTR	Khodutka, Kamc	1.56	258	P	Pn	14 45 52.4	-0.5
KDTR				S	Sn	14 46 11.3	-0.6
KDTR	Khodutka, Kamc	1.56	258	PN	Pn	14 45 52.4	-0.5
KDTR				S	Sn	14 46 11.3	-0.6
GRL	Gorelyy	1.56	286	*e*P	Pb	14 45 54.7	-1.1
GRL				S	Sb	14 46 16.8	+1.6
GRL	Gorelyy	1.56	286	PN	Pb	14 45 54.7	-1.1
KRER	Koryakskii	1.58	317	*e*P	Pn	14 45 53.3	-0.1
KRER				S	Sn	14 46 14.2	+1.4
KRER	Koryakskii	1.58	317	PN	Pn	14 45 53.3	-0.1
KRER				S	Sn	14 46 14.2	+1.4
KRMR	Karymshinskiy	1.61	296	*e*P	Pn	14 45 53.8	+0.1
KRMR				S	Sn	14 46 14.7	+1.3
KRMR	Karymshinskiy	1.61	296	PN	Pn	14 45 53.8	+0.1
KRMR				S	Sn	14 46 14.7	+1.3
KOK	Koryaka	1.62	315	*e*P	Pn	14 45 54.7	+0.9
KOK	Koryaka	1.62	315	PN	Pn	14 45 54.7	+0.9
KRX	Arik	1.66	317	*e*P	Pn	14 45 54.7	+0.2
KRX	Arik	1.66	317	PN	Pn	14 45 54.7	+0.2
PEA0B	Petropavlovsk-	1.97	300	*e*Pn	Pn	14 45 59.1	+0.5
PEA0B	Petropavlovsk-	1.97	300	*e*PN	Pn	14 45 59.1	+0.5
PETK	Petropavlovsk-	1.97	300	*e*Pn	Pn	14 45 58.9	+0.3
PETK	Petropavlovsk-	1.97	300	Pn	Pn	14 45 59.2	+0.5
	comp=E,20nm,0.3s,baz=261,slow=24,SNR=322						
PETK				Sn	Sb	14 46 27.6	+0.8
	comp=E,72nm,0.3s,baz=102,slow=32,SNR=11						
PETK				LR	LR	14 46 57.1	
	comp=E,2μm,18.3s,baz=40,slow=57						
PEA1	Petropavlovsk-	1.97	300	*e*Pn	Pn	14 45 59.2	+0.5
PEA1				*e*Sn	Sb	14 46 27.6	+0.7
APC	Apacha	2.20	292	*e*P	Pn	14 46 03.0	+1.3
APC				S	Sn	14 46 29.3	+1.6
APC	Apacha	2.20	292	PN	Pn	14 46 03.0	+1.3
APC				S	Sn	14 46 29.3	+1.6
PAU	Pauzhetka	2.41	255	P	Pn	14 46 04.1	-0.5
PAU	Pauzhetka	2.41	255	PN	Pn	14 46 04.1	-0.5
MKZ	Mys Kozlova	2.51	16	*e*P	Pn	14 46 05.5	-0.4
MKZ				S	Sn	14 46 34.3	-1.1
MKZ	Mys Kozlova	2.51	16	PN	Pn	14 46 05.5	-0.4
MKZ				S	Sn	14 46 34.3	-1.1
KZV	Kizimen	2.96	357	*e*P	Pn	14 46 13.2	+0.8
KZV	Kizimen	2.96	357	PN	Pn	14 46 13.2	+0.8
TUMD	Tumrok D	3.05	359	P	Pn	14 46 14.0	+0.5
TUMD				S	Sn	14 46 50.0	+1.1
SKR	Severo-Kuril's	3.13	244	*e*PN	Pn	14 46 13.2	-1.3
SKR				*e*S	Sn	14 46 48.8	-2.0
SKR				pmax	pmax		
	comp=Z,189nm,1.0s						
SKR				smax	smax		
	comp=E,450nm,0.7s						
SKR				smax	smax		
	comp=N,860nm,0.9s						
TUMR	Tumrok	3.14	356	PN	Pn	14 46 14.0	-0.8
TUMR				S	Sn	14 46 50.0	-1.2
ALID	Alaid	3.37	249	*e*P	Pn	14 46 19.2	+1.3
ALID	Alaid	3.37	249	PN	Pn	14 46 19.2	+1.3
BZGR	Bezymyannyi-Gr	3.79	1	P	Pn	14 46 24.4	+0.7
BZGR	Bezymyannyi-Gr	3.79	1	PN	Pn	14 46 24.4	+0.7
ESO	Esso	3.93	345	P	Pn	14 46 26.7	+1.2
ESO	Esso	3.93	345	PN	Pn	14 46 26.7	+1.2
LGNR	Loginova	3.94	1	P	Pn	14 46 26.9	+1.1
LGNR	Loginova	3.94	1	PN	Pn	14 46 26.9	+1.1
KRSR	Krestovskiy	4.07	0	P	Pn	14 46 29.1	+1.6
KRSR	Krestovskiy	4.07	0	PN	Pn	14 46 29.1	+1.6
KLY	Klyuchi	4.17	1	*e*P	Pn	14 46 30.9	+2.2
KLY	Klyuchi	4.17	1	PN	Pn	14 46 30.9	+2.2
SRDR	Sredinnyy	4.20	354	P	Pn	14 46 32.5	+3.3
SRDR	Sredinnyy	4.20	354	PN	Pn	14 46 32.5	+3.3
KBTR	Krutoberegovo	4.28	17	*e*P	Pn	14 46 30.3	+0.1
KBTR	Krutoberegovo	4.28	17	PN	Pn	14 46 30.3	+0.1
BDR	Baidarnaya	4.44	5	*e*P	Pn	14 46 35.4	+2.9
BDR	Baidarnaya	4.44	5	PN	Pn	14 46 35.4	+2.9
BKI	Bering	4.45	45	*e*P	Pn	14 46 33.1	+0.5
BKI				S	Sn	14 47 20.4	-2.7
BKI	Bering	4.45	45	PN	Pn	14 46 33.1	+0.5
SMKR	Semkarok	4.47	7	*e*P	Pn	14 46 34.2	+1.2
SMKR	Semkarok	4.47	7	PN	Pn	14 46 34.2	+1.2
SRKR	Sorokina	4.52	4	P	Pn	14 46 36.3	+2.6
SRKR	Sorokina	4.52	4	PN	Pn	14 46 36.3	+2.6
OSSR	Ossora	7.25	10	P	Pn	14 47 12.2	+1.2
OSSR	Ossora	7.25	10	PN	Pn	14 47 12.2	+1.2
MA2	Magadan	9.23	327	Pn	Pn	14 47 36.2	-2.0
	baz=105,slow=16,SNR=2.4						
MA2				LR	LR	14 51 47.2	
	comp=N,328nm,19.4s,baz=138,slow=43						
SEY	Seymchan	11.64	341	⇑*e*PN	Pn	14 48 12.8	+1.7
SEY	Seymchan	11.64	341	Pn	Pn	14 48 12.6	+1.4
	comp=N,0.1nm,0.3s,baz=136,slow=12,SNR=3.4						
YSS	Yuzh-Sakhalins	12.65	253	*e*PN	Pn	14 48 25.8	+0.8
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ASAJ	Asahikawa	14.40	243	Pn	Pn	14 48 48.5	-0.4
	comp=Z,0.6nm,0.3s,baz=69,slow=16,SNR=7.6						
GRNR	Gornyy	15.08	274	*e*P	P	14 49 04.9	+2.0
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
ERM	Erimo	15.55	236	*e*Pn	P	14 49 07.1	-1.0
	comp=Z,27nm,1.1s						
ERM	Erimo	15.55	236	*e*P	P	14 49 07.1	-1.0
ERM				pmax	pmax		
	comp=Z,27nm,1.1s						
BILL	Bilibino	16.18	8	*e*Pn	Pn	14 49 13.3	+1.3
	comp=Z,8.6nm,0.8s						
BILL	Bilibino	16.18	8	⇑*e*P	Pn	14 49 12.6	+0.6
BILL				pmax	pmax		
	comp=Z,13nm,1.0s						
BILL				MLR	MLR		
	comp=Z,195nm,18.0s						
TEY	Ternei	17.31	255	⇑*e*P	P	14 49 27.4	-0.1
TEY				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KLR	Kul'dur	18.41	272	⇑*e*P	P	14 49 38.9	-0.9
KLR	Kul'dur	18.41	272	P	P	14 49 38.7	-1.1
	comp=Z,0.1nm,0.3s,baz=63,slow=11,SNR=14						
YAK	Yakutsk	19.26	313	*e*P	P	14 49 46.2	-2.7
YAK				*e*S	Sn	14 53 13.2	-12
YAK				pmax	pmax		
	comp=Z,225nm,1.0s						
YAK				pmax	pmax		
	comp=E,96nm,1.0s						
YAK				pmax	pmax		
	comp=N,57nm,1.0s						
YAK				smax	smax		
	comp=E,414nm,5.1s						
YAK				smax	smax		
	comp=N,292nm,4.3s						
YAK				MLR	MLR		
	comp=Z,611nm,14.0s						
YAK				MLR	MLR		
	comp=E,617nm,15.0s						
YAK				MLR	MLR		
	comp=N,320nm,15.0s						
ZEA	Zeya	20.02	288	*e*P	P	14 49 55.9	-1.3
ZEA				MLR	MLR		
	comp=Z,400nm,14.0s						
ZEA				MLR	MLR		
	comp=E,300nm,15.0s						
USRK	Ussuriysk Ar.	20.53	259	P	P	14 50 01.2	-1.6
	comp=E,7.7nm,1.0s,baz=52,slow=11,SNR=7.9						
USRK				LR	LR	14 58 50.7	
	comp=E,132nm,18.7s,baz=64,slow=40						
MJB9	Matsu-Tunnel	22.19	234	*e*P	P	14 50 21.9	+1.0
	comp=E,13nm,1.0s						
MAJO	Matsushiro	22.19	234	*e*P	P	14 50 21.9	+1.0
	comp=E,13nm,1.0s						
MAJO	Matsushiro	22.19	234	⇑*e*P	P	14 50 22.1	+1.3
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s						
MAT	Matsushiro	22.19	234	P	P	14 50 21.8	+1.0
MAT				S	S	14 54 05.4	-18
MJAR	Matsushiro Arr	22.19	234	*e*P	P	14 50 21.4	+0.6
MJAR	Matsushiro Arr	22.19	234	*e*P	P	14 50 21.4	+0.6
MJAR	Matsushiro Arr	22.19	234	P	P	14 50 22.3	+1.5
	comp=Z,5.8nm,0.9s,baz=18,slow=9.3,SNR=16						
MJAR				LR	LR	14 59 29.7	
	comp=Z,182nm,20.6s,baz=65,slow=38						
TIXI	Tiksi	24.05	336	⇑*e*P	P	14 50 38.2	-1.0
	comp=Z,0.8nm,0.9s						
TIXI	Tiksi	24.05	336	⇑*e*P	P	14 50 38.3	-0.8
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TIXI	Tiksi	24.05	336	P	P	14 50 38.2	-1.0
	comp=Z,9.2nm,0.8s,baz=124,slow=9.1,SNR=43						
BOD	Bodaibo	26.84	301	*e*P	P	14 51 02.7	-1.9
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s						
KSRS	Korea Array	27.13	250	P	P	14 51 08.7	+1.3
	comp=Z,1.9nm,0.9s,baz=44,slow=9.7,SNR=6.1						
KSRS				LR	LR	15 02 46.2	
	comp=Z,107nm,18.9s,baz=65,slow=38						
KS15	Wonju Array Si	27.16	250	*e*P	P	14 51 08.7	+1.0
	comp=Z,92nm,1.8s						
ILAR	Eielson Array	29.30	44	P	P	14 51 28.2	+1.8
	comp=Z,0.4nm,0.8s,baz=265,slow=7.7,SNR=4.1						
ILB	Eielson Array	29.30	44	*e*P	P	14 51 28.2	+1.8
	comp=Z,14nm,1.9s						
H11N2	WAKE ISLAND Hy	32.74	169	T	T	15 26 43.9	
	baz=353						
H11N3	WAKE ISLAND Hy	32.76	169	T	T	15 26 42.9	
	baz=353						
H11N1	WAKE ISLAND Hy	32.76	169	T	T	15 26 45.5	
	baz=353						
H11S1	WAKE ISLAND Hy	33.93	169	T	T	15 28 11.3	
	baz=352						
H11S3	WAKE ISLAND Hy	33.94	169	T	T	15 28 11.1	
	baz=352						
H11S2	WAKE ISLAND Hy	33.95	169	T	T	15 28 11.1	
	baz=352						
ULN	Ulaanbaatar	33.98	284	*de*P	P	14 52 06.6	-1.4
ULN				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONA0	Songino Array	34.39	285	*e*P	P	14 52 10.3	-1.2
SONM	Songino Array	34.39	285	P	P	14 52 10.3	-1.2
	comp=Z,0.5nm,0.5s,baz=64,slow=6.6,SNR=2.8						
SONM				LR	LR	15 07 39.3	
	comp=Z,308nm,18.5s,baz=68,slow=39						
INK	Inuvik	34.45	37	*e*P	P	14 52 13.1	+1.5
	comp=Z,11nm,1.9s						
INK	Inuvik	34.45	37	*e*P	P	14 52 13.1	+1.5
INK				pmax	pmax		
	comp=Z,11nm,1.9s						
INK	Inuvik	34.45	37	P	P	14 52 13.1	+1.5
	comp=Z,0.7nm,0.5s,baz=247,slow=7.0,SNR=4.3						
HHC	Hu-ho-hao-te	34.91	271	*e*P	P	14 52 14.8	-1.2
HHC				sP	pwP	14 52 40.8	+12
NJ2	Nanjing	36.22	253	*e*P	P	14 52 26.8	-0.4
NRIK	Noril'sk	36.83	326	P	P	14 52 30.6	-1.4
	comp=Z,1.8nm,0.7s,baz=109,slow=8.9,SNR=4.4						
NRIK				LR	LR	15 08 10.5	
	comp=Z,86nm,21.0s,baz=54,slow=38						
WHN	Wuhan	39.98	256	P	P	14 53 00.8	+2.0
LZH	Lanzhou	42.61	271	*e*P	P	14 53 21.9	+1.3
LZH				pP	pwP	14 53 38.5	+5.2
LZH				sP	sP	14 53 46.5	+14
ZAA1	Zalesovo Array	43.51	304	*e*P	P	14 53 26.1	-1.3
ZALV	Zalesovo Beam	43.51	304	P	P	14 53 26.1	-1.4
	comp=Z,0.6nm,0.5s,baz=64,slow=6.8,SNR=5.7						
ZALV				LR	LR	15 12 59.5	
	comp=Z,113nm,18.9s,baz=70,slow=38						
YKA	Yellowknife Ar	43.68	42	P	P	14 53 29.7	+1.0
	comp=Z,0.2nm,0.4s,baz=297,slow=8.0,SNR=4.0						
YKB5	Yellowknife Ar	43.68	42	*e*P	P	14 53 29.7	+1.0
NVS	Novosibirsk	43.87	305	*e*P	P	14 53 28.7	-1.6
DGZ	Jazzator, Alta	44.33	297	*c i*P	P	14 53 33.2	-1.1
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CD2	Chengdu	46.15	266	*e*P	P	14 53 46.5	-2.3
WMQ	Urumqi	47.54	290	*e*P	P	14 54 00.8	+1.2
SPA0	Spitsbergen Ar	48.10	351	*e*P	P	14 54 02.4	-1.1
	comp=Z,29nm,1.1s						
KURK	Kurchatov	48.46	303	*e*P	P	14 54 04.4	-2.1
	comp=Z,9.4nm,1.0s						
KURK	Kurchatov	48.46	303	*c i*P	P	14 54 04.2	-2.3
KURK				pmax	pmax		
	comp=Z,12nm,1.3s						
GLK	Glacier Lake	48.73	64	*e*P	P	14 54 07.5	-1.3
MK31	Makanchi Array	48.81	297	*e*P	P	14 54 07.0	-2.2
	comp=Z,3.0nm,1.3s						
MK31	Makanchi Array	48.81	297	*e*P	P	14 54 07.0	-2.2
MK31				pmax	pmax		
	comp=Z,3.0nm,1.3s						
MK32	Makanchi Array	48.81	297	*e*P	P	14 54 07.6	-1.7
MKAR	Makanchi Array	48.81	297	*e*P	P	14 54 07.2	-2.1
MKAR	Makanchi Array	48.81	297	P	P	14 54 07.6	-1.7
	comp=Z,1.1nm,0.6s,baz=58,slow=7.3,SNR=14						
MKAR				LR	LR	15 16 00.5	
	comp=Z,97nm,20.1s,baz=44,slow=38						
MAKZ	Makanchi	48.97	297	*e*P	P	14 54 07.8	-2.7
	comp=Z,3.3nm,0.9s						
MAKZ	Makanchi	48.97	297	*e*P	P	14 54 07.8	-2.7
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YBH	Yreka Blue Hor	51.10	69	LR	LR	15 15 18.6	
	comp=Z,44nm,18.2s,baz=314,slow=35						
BRVK	Borovoye	51.21	309	*e*P	P	14 54 25.8	-1.6
	comp=Z,6.5nm,1.0s						
BRVK	Borovoye	51.21	309	*d i*P	P	14 54 26.1	-1.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OTUK	Ortayu	53.21	303	P	P	14 54 41.7	-0.6
OTUK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ARA0	ARCESS Array S	54.26	342	*e*P	P	14 54 49.3	-0.3
ARCES	ARCESS Array B	54.26	342	P	P	14 54 49.3	-0.3
	comp=Z,5.1nm,0.9s

CM31	Chiang Mai Arr	58.26 259	eP	P	14 55 18.8	0.0
CMAR	Chiang Mai Arr	58.26 259	eP	P	14 55 18.4	-0.4
CMAR	Chiang Mai Arr	58.26 259	eP	P	14 55 18.4	-0.4
CMAR	Chiang Mai Arr	58.26 259	P	P	14 55 20.3	+1.5
	comp=Z,2.4nm,0.8s,baz=22,slow=7.0,SNR=18					
CMAR			LR	LR	15 22 43.8	
	comp=Z,64nm,18.2s,baz=35,slow=39					
JOF	Joensuu	58.53 335	P	P	14 55 21.4	+1.3
JOF			pmax	pmax		
	comp=Z,13nm,1.5s					
ABKAR	Akbulak array	58.61 311	eP	P	14 55 19.4	-1.4
JIRN	Jiri	59.25 276	eP	P	14 55 25.7	-0.4
RAMN	Ramite	59.52 276	eP	P	14 55 27.4	-0.4
	comp=Z,15nm,0.5s					
KKN	Kakani	59.72 277	eP	P	14 55 28.9	-0.2
	comp=Z,10nm,0.7s					
PKI	Pulchoki	59.80 277	eP	P	14 55 29.3	-0.5
	comp=Z,8.2nm,0.8s					
PKIN	Phulchoki	59.80 277	eP	P	14 55 29.3	-0.5
	comp=Z,6.5nm,0.7s					
DMN	Daman	59.95 277	eP	P	14 55 30.8	0.0
	comp=Z,11nm,0.7s					
SUF	Sumiainen	59.97 338	P	P	14 55 31.1	+1.1
SUF			pmax	pmax		
	comp=Z,13nm,1.0s					
DANN	Dangsing	60.24 279	eP	P	14 55 32.6	-0.2
	comp=Z,15nm,0.7s					
VAF	Ylistaro	60.47 339	P	P	14 55 36.5	+3.1
VAF			pmax	pmax		
	comp=Z,13nm,1.9s					
GAR	Garm	60.53 296	eP	P	14 55 31.7	-2.8
	comp=Z,8.0nm,1.0s					
GAR	Garm	60.53 296	eP	P	14 55 31.7	-2.8
GAR			pmax	pmax		
	comp=Z,8.0nm,1.0s					
KOLN	Koldanda	60.76 278	eP	P	14 55 35.8	-0.4
	comp=Z,7.6nm,0.7s					
PYUN	Piuthan	60.89 279	eP	P	14 55 36.7	-0.4
	comp=Z,9.2nm,0.7s					
FIA1	FINESS Array S	61.09 337	eP	P	14 55 37.5	-0.2
	comp=Z,12nm,1.0s					
FIA0	FINESS Array S	61.09 337	eP	P	14 55 38.3	+0.6
FIA0	FINESS Array S	61.09 337	eP	P	14 55 38.3	+0.6
FINES	FINESS Array B	61.09 337	eP	P	14 55 37.5	-0.2
FINES	FINESS Array B	61.09 337	P	P	14 55 38.3	+0.6
	comp=Z,5.8nm,0.8s,baz=32,slow=8.2,SNR=34					
FINES			LR	LR	15 25 38.0	
	comp=Z,54nm,19.0s,baz=22,slow=40					
NIL	Nilore	62.69 290	eP	P	14 55 47.9	-1.1
	comp=Z,6.5nm,0.8s					
NIL	Nilore	62.69 290	eP	P	14 55 47.9	-1.1
NIL			pmax	pmax		
	comp=Z,7.0nm,0.8s					
OBN	Obninsk	63.45 328	eP	P	14 55 53.0	-0.6
OBN			e		14 56 29.8	
OBN			e		14 58 17.1	
OBN			pmax	pmax		
	comp=Z,4.0nm,0.4s					
NB2	NORSAR Subarra	64.52 344	P	P	14 56 00.3	-0.3
	comp=Z,1.4nm,0.7s,baz=22,slow=6.9					
NB200	NORSAR Array S	64.52 344	eP	P	14 56 00.6	0.0
NOA	NORSAR Array B	64.52 344	P	P	14 56 00.6	0.0
	comp=Z,1.5nm,0.7s,baz=22,slow=6.7,SNR=9.4					
NOA			LR	LR	15 27 35.4	
	comp=Z,23nm,19.3s,baz=125,slow=39					
GEYT	Alibeck	67.83 303	LR	LR	15 28 29.6	
	comp=Z,94nm,18.0s,baz=35,slow=38					
AKASG	Malin Array Be	69.56 329	eP	P	14 56 31.4	-1.3
AKASG	Malin Array Be	69.56 329	ceP	P	14 56 32.7	0.0
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.4s					
AKASG	Malin Array Be	69.56 329	P	P	14 56 32.4	-0.3
	comp=Z,0.6nm,0.4s,baz=31,slow=6.6,SNR=11					
AKBB	Malin Array Si	69.56 329	eP	P	14 56 31.7	-1.0
	comp=Z,6.6nm,1.2s					
AKBB	Malin Array Si	69.56 329	eP	P	14 56 31.7	-1.0
AKBB			pmax	pmax		
	comp=Z,7.0nm,1.2s					
KIEV	Kiev	69.57 329	eP	P	14 56 31.8	-1.0
	comp=Z,6.5nm,1.2s					
KIEV	Kiev	69.57 329⇑	iP	P	14 56 32.5	-0.2
KIEV	Kiev	69.57 329⇑	eP	P	14 56 32.2	-0.5
KIEV			pmax	pmax		
	comp=Z,6.0nm,1.2s					
KBZ	Khabaz	70.40 317	P	P	14 56 38.8	+0.9
	comp=Z,2.8nm,0.8s,baz=62,slow=4.4,SNR=5.8					
TXAR	Lajitas Array	70.76 67	P	P	14 56 42.4	+1.9
	comp=Z,0.3nm,0.6s,baz=299,slow=5.4,SNR=7.1					
KOLS	Kolonicke sedl	73.20 333	eP	P	14 56 56.1	+1.3
KOLS	Kolonicke sedl	73.20 333	eP	P	14 56 56.1	+1.3
CLL	Collm	73.33 339	eP	P	14 56 52.0	-3.4
CLL	Collm	73.33 339	iP	P	14 56 56.2	+0.8
	comp=Z,4.0nm,0.8s					
DPC	Dobruska-Polom	73.46 337	P	P	14 57 00.1	+3.8
BUR08	Bucovina Ar. S	73.50 330	eP	P	14 56 56.3	-0.3
	comp=Z,3.4nm,0.9s					
BURAR	Bucovina Array	73.52 330	eP	P	14 56 56.6	-0.2
BURAR	Bucovina Array	73.52 330⇓	iP	P	14 56 57.7	+0.9
BURAR	Bucovina Array	73.52 330⇓	P	P	14 56 57.7	+0.9
MORC	Moravsky Berou	73.69 336	eP	P	14 56 57.7	0.0
	comp=Z,5.2nm,1.0s					
MORC	Moravsky Berou	73.69 336⇑	iP	P	14 56 59.6	+1.9
MORC	Moravsky Berou	73.69 336	eP	P	14 56 57.7	0.0
MORC			pmax	pmax		
	comp=Z,5.0nm,1.0s					
TRPA	Tarpa	73.85 332⇑	iP	P	14 56 59.7	+1.2
TESR	Tescani	74.05 329⇑	iP	P	14 56 59.0	-0.8
VRAC	Vranov	74.36 336⇓	iP	P	14 57 03.1	+1.6
VRAC	Vranov	74.36 336⇓	P	P	14 57 03.1	+1.6
VYHS	Vyhne	74.54 335	eP	P	14 57 03.8	+1.2
VYHS	Vyhne	74.54 335	eP	P	14 57 03.8	+1.2
MODS	Modra-Piesok	75.06 336	eP	P	14 57 07.0	+1.4
MODS	Modra-Piesok	75.06 336	eP	P	14 57 07.0	+1.4
MLR	Muntele Rosu	75.19 329⇑	iP	P	14 57 07.7	+1.2
MLR	Muntele Rosu	75.19 329⇑	P	P	14 57 07.7	+1.2
GEC2	GERESS Array S	75.48 338	eP	P	14 57 07.3	-0.8
	comp=Z,19nm,1.9s					
GEC2	GERESS Array S	75.48 338	eP	P	14 57 07.3	-0.8
GEC2			pmax	pmax		
	comp=Z,19nm,1.9s					
GERES	GERESS Array B	75.48 338	P	P	14 57 09.0	+0.9
	comp=Z,75nm,0.3s,baz=52,slow=5.2,SNR=3.7					
GZR	Gura Zlata	76.26 331⇑	iP	P	14 57 13.3	+0.7
GZR	Gura Zlata	76.26 331⇑	P	P	14 57 13.3	+0.7
BZS	Buzias	76.40 332⇑	iP	P	14 57 14.3	+1.0
BZS	Buzias	76.40 332⇑	P	P	14 57 14.3	+1.0
KBA	Koelnbreinsper	77.22 338	P	P	14 57 20.6	+2.5
KBA			pmax	pmax		
	comp=Z,10.0nm,1.6s					
BR101	Keskin Array S	77.51 321	eP	P	14 57 18.6	-1.3
BRTR	Keskin Array B	77.52 321	eP	P	14 57 19.8	0.0
BRTR	Keskin Array B	77.52 321	ceP	P	14 57 20.1	+0.2
BRTR			pmax	pmax		
	comp=Z,1.0nm,0.9s					
BRTR	Keskin Array B	77.52 321	P	P	14 57 18.6	-1.3
	comp=Z,1.4nm,0.9s,baz=33,slow=2.9,SNR=6.8					
AS31	Alice Springs	79.01 205	eP	P	14 57 28.9	+0.9
	comp=Z,4.4nm,1.9s					
ASAR	Alice Springs	79.02 205	P	P	14 57 30.0	+2.0
ASAR	Alice Springs	79.02 205	P	P	14 57 29.9	+2.0
	comp=Z,0.3nm,0.5s,baz=18,slow=5.2,SNR=9.4					
ESDC	Sonseca Array	87.55 348	eP	P	14 58 12.2	+0.2
ESDC	Sonseca Array	87.55 348	P	P	14 58 12.4	+0.4
	comp=Z,0.2nm,0.5s,baz=356,slow=3.9,SNR=4.1					

KRSC 19 14:50:05.0±10.0, 52°.03N×160°.74E, h41km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.16	338	P	Pn	14 50 25.6	+0.9
SPN				S	Sn	14 50 40.1	+0.8
RUS	Russkaya	1.43	287	P	Pn	14 50 29.5	+1.0
RUS				S	Sn	14 50 45.9	-0.1
DALK	Dalny	1.58	310	P	Pn	14 50 32.0	+1.5
DALK				S	Sn	14 50 51.2	+1.6
MTVR	Mutnovka	1.64	287	P	Pn	14 50 33.2	+1.7
MTVR				S	Sn	14 50 52.9	+1.5
UGLR	Uglovaya	1.66	316	P	Pn	14 50 33.9	+2.1
UGLR				S	Sn	14 50 54.8	+2.8
KDTR	Khodutka, Kamc	1.67	263	P	Pn	14 50 33.6	+1.9
KDTR				S	Sn	14 50 52.3	+0.5
SDLR	Sedlovina	1.69	319	P	Pn	14 50 33.9	+1.8
SDLR				S	Sn	14 50 54.2	+1.6
SMAR	Somma	1.71	317	P	Pn	14 50 34.9	+2.4
SMAR				S	Sn	14 50 55.9	+2.6
AVH	Avacha	1.74	316	P	Pn	14 50 35.3	+2.5
AVH				S	Sn	14 50 57.0	+3.2
KRER	Koryakskii	1.76	317	P	Pn	14 50 36.1	+2.9
KRER				S	Sn	14 50 57.5	+3.0
ASAK	Asacha	1.79	283	P	Pn	14 50 35.8	+2.4
ASAK				S	Sn	14 50 58.3	+3.4
KRMR	Karymshinskiy	1.79	298	P	Pn	14 50 35.1	+1.7
KRMR				S	Sn	14 50 57.9	+3.0
KOK	Koryaka	1.80	315	P	Pn	14 50 36.3	+2.6
KOK				S	Sn	14 50 58.9	+3.5
KRX	Arik	1.84	317	P	Pn	14 50 36.6	+2.3
KRX				S	Sn	14 50 59.2	+2.8
APC	Apacha	2.37	294	P	Pn	14 50 44.3	+3.0
APC				S	Sn	14 51 13.0	+3.9
MKZ	Mys Kozlova	2.60	13	P	Pn	14 50 46.7	+2.2
KZV	Kizimen	3.10	355	P	Pn	14 50 55.7	+4.1
KBTR	Krutoberegovo	4.36	15	P	Pn	14 51 12.3	+3.6

KRSC 19 14:53:27.4±10.0, 52°.11N×160°.67E, h18km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.06	338	P	Pb	14 53 47.3	0.0
SPN				S	Sb	14 54 00.6	-0.3
NLC	Nalytchevo	1.33	323	P	Pb	14 53 52.3	+0.4
RUS	Russkaya	1.36	284	P	Pn	14 53 51.9	+0.3
RUS				S	Sn	14 54 07.4	-1.8
DALK	Dalny	1.49	309	P	Pn	14 53 53.8	+0.5
DALK				S	Sn	14 54 12.1	-0.2
PET	Petropavlovsk	1.53	307	P	Pb	14 53 54.7	-0.6
PET				S	Sb	14 54 14.7	+0.3
MTVR	Mutnovka	1.57	285	P	Pn	14 53 55.1	+0.5
MTVR				S	Sn	14 54 14.5	-0.1
UGLR	Uglovaya	1.57	315	P	Pb	14 53 55.7	-0.4
UGLR				S	Sb	14 54 16.7	+1.0
SDLR	Sedlovina	1.60	318	P	Pb	14 53 56.0	-0.5
SDLR				S	Sb	14 54 16.6	+0.3
SMAR	Somma	1.62	316	P	Pg	14 53 58.0	-0.6
KDTR	Khodutka, Kamc	1.63	260	P	Pb	14 53 56.3	-0.7
KDTR				S	Sn	14 54 14.7	-1.1
AVH	Avacha	1.65	315	P	Pb	14 53 57.3	0.0
AVH				S	Sb	14 54 18.5	+0.7
KRER	Koryakskii	1.67	316	P	Pb	14 53 57.6	-0.2
KRER				S	Sb	14 54 19.2	+0.6
KOK	Koryaka	1.71	314	P	Pb	14 53 58.4	0.0
KOK				S	Sb	14 54 20.2	+0.6
KRMR	Karymshinskiy	1.71	296	P	Pn	14 53 57.1	+0.7
KRMR				S	Sb	14 54 18.7	-0.8
ASAK	Asacha	1.73	280	P	Pb	14 53 57.8	-0.8
ASAK				S	Sb	14 54 20.2	+0.2
KRX	Arik	1.75	316	P	Pb	14 53 58.9	-0.2
KRX				S	Sb	14 54 21.2	+0.3
APC	Apacha	2.29	292	P	Pb	14 54 07.0	-1.3
APC				S	Sb	14 54 36.2	-0.1
MKZ	Mys Kozlova	2.53	14	P	Pn	14 54 08.5	+0.9
MKZ				S	Sn	14 54 38.2	+0.3

*IDC **19** 15:07:34.7±3.7, 18°.80N×66°.45W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.4/41, mbtmp3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/27, Error ellipse: s-maj=89.0km s-min=57.5km az=110.0*
*ISCJB **19** 15:07:40.0±0.4, 19°.16N±0°.03×66°.75W±0°.03, h29km, mb3.7/4, Error ellipse: s-maj=4.4km s-min=3.2km az=43.9*
*NEIC **19** 15:07:43.0±0.0, 19°.11N×66°.75W, h38km, mb4.3/2, ML3.7(RSPR), After RSPR.*
*RSPR **19** 15:07:43.0, 19°.11N×66°.75W, h38km±8km, MD3.6/16*

ISC 19 15:07:41.0±0.7, 19°.09N±0°.04×66°.76W±0°.03, h29km, n63, σ0s95/67, mb3.6/4, 9C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	0.65	161⇑	eP	Pn	15 07 55.0	+0.8
EMPR	Esperanza - Ma	0.65	161	eS	Sn	15 08 04.5	+1.0
EMPR	Esperanza - Ma	0.65	161	ePn	Pn	15 07 55.0	+0.8
AGPR	Aguadilla, PR	0.70	208⇓	eP	Pb	15 07 54.6	-0.2
AGPR	Aguadilla, PR	0.70	208	eS	Sb	15 08 04.5	+0.4
AOPR	Arecibo Observ	0.74	180⇓	eP	Pb	15 07 55.7	+0.3
AOPR	Arecibo Observ	0.74	180	eS	Sn	15 08 05.9	0.0
AOPR	Arecibo Observ	0.74	180	ePn	Pb	15 07 55.5	+0.1
AOPR				eSn	Sn	15 08 05.9	0.0
AGP	Aguadilla	0.77	208	ePn	Pb	15 07 54.4	-1.5
AGP				eSn	Sb	15 08 04.5	-1.5
MPR	Mayaguez	0.95	203	ePn	Pn	15 07 57.9	-0.4
LSP	Las Mesas	0.96	199⇑	eP	Pn	15 07 58.7	+0.1
LSP	Las Mesas	0.96	199	ePn	Pn	15 07 58.7	+0.1
IDE	Isla Desecheo	0.98	224⇑	eP	Pn	15 07 58.8	+0.1
IDE	Isla Desecheo	0.98	224	eS	Sn	15 08 11.3	-0.3
IDE	Isla Desecheo	0.98	224	ePn	Pn	15 07 58.8	+0.1
IDE				eSn	Sn	15 08 11.3	-0.3
CELP	Cerrillos	1.02	170⇓	eP	Pn	15 08 00.0	+0.6
CELP	Cerrillos	1.02	170	ePn	Pn	15 08 00.0	+0.6
OBIP	Obispado Ponce	1.05	172⇓	eP	Pn	15 08 00.5	+0.6
OBIP	Obispado Ponce	1.05	172	eS	Sn	15 08 13.7	+0.2
OBIP	Obispado Ponce	1.05	172	ePn	Pn	15 08 00.4	+0.6
OBIP				eSn	Sn	15 08 13.7	+0.2
SJG	San Juan	1.13	149⇑	eP	Pn	15 08 01.4	+0.4
SJG	San Juan	1.13	149	eS	Sn	15 08 15.7	+0.2
SJG	San Juan	1.13	149	ePn	Pn	15 08 01.3	+0.4
CBYP	Canovanas	1.18	134⇑	eP	Pn	15 08 02.2	+0.6
CBYP	Canovanas	1.18	134	ePn	Pn	15 08 01.9	+0.3
ICMP	Isla Caja de M	1.22	170⇓	eP	Pn	15 08 01.9	-0.2
ICMP	Isla Caja de M	1.22	170	eS	Sb	15 08 18.5	-0.3
ICMP	Isla Caja de M	1.22	170	ePn	Pn	15 08 03.1	+1.0
ICMP				eSn	Sb	15 08 18.5	-0.3
HUMP	Col San Antoni	1.28	138	eS	Sn	15 08 19.5	+0.4
HUMP	Col San Antoni	1.28	138⇑	eP	Pn	15 08 03.5	+0.6
HUMP	Col San Antoni	1.28	138	ePn	Pn	15 08 03.5	+0.6
MTP	Monte Pirata	1.51	131⇑	eP	Pn	15 08 06.7	+0.6
MTP	Monte Pirata	1.51	131	eS	Sn	15 08 24.9	+0.1
MTP	Monte Pirata	1.51	131	ePn	Pn	15 08 06.6	+0.5
CUPR	Culebra, Puert	1.60	119⇑	eP	Pn	15 08 07.8	+0.4
CUPR	Culebra, Puert	1.60	119	eS	Sn	15 08 26.3	-0.8
CUPR	Culebra, Puert	1.60	119	ePn	Pn	15 08 07.7	+0.4
PCDR	Punta Cana, DR	1.64	250	ePn	Pn	15 08 09.4	+1.5
STVI	Saint Thomas	1.86	113⇑	eP	Pn	15 08 11.4	+0.5
STVI	Saint Thomas	1.86	113	eS	Sn	15 08 32.9	-0.6
STVI	Saint Thomas	1.86	113	ePn	Pn	15 08 11.0	+0.1
CDVI	St. Croix	2.31	125	ePn	Pn	15 08 19.1	+1.9
ABVI	Anegada Island	2.32	99	ePn	Pn	15 08 18.5	+1.2
DR12	Loma Pena Alta	2.50	263⇓	eP	Pn	15 08 21.2	+1.4
SDD	Santo Domingo	3.06	259	ePn	Pn	15 08 28.1	+0.8
BANI	BANI	3.48	259	ePn	Pn	15 08 35.4	+2.0
SKI	Saint Kitts	4.20	114	ePn	Pn	15 08 44.4	+1.2
SDDR	Presa de Saban	4.29	269⇓	eP	Pn	15 08 47.4	+3.0
SDDR	Presa de Saban	4.29	269	ePn	Pn	15 08 46.3	+1.9
GRTK	Grand Turk	4.76	301	ePn	Pn	15 08 49.9	-0.9
ANWB	Willy Bob	4.93	106	ePn	Pn	15 08 53.4	+0.3
SDV	Santo Domingo	10.82	201	LR	LR	15 14 27.6	
	comp=Z,32nm,21.4s,baz=240,slow=39						
BBSR	BB Station	13.35	8	ePn	Pn	15 10 46.5	-2.1
061Z	Ochoppi	14.71	300	ePn	Pn	15 11 05.6	-1.5
656A	Willston	17.64	308	ePn	Pn	15 11 44.2	-0.4
	32nm,1.1s						
257A	Skidaway Islan	18.15	318	ePn	Pn	15 11 50.0	-1.0
	478nm,1.9s						
RGRS	Roger Stewart	18.28	321	eP	Pn	15 11 53.5	+1.0
	375nm,0.3s						
TXAR	Lajitas Array	35.04	294	P	P	15 14 32.7	+1.1
	0.7nm,0.6s,baz=107,slow=9.9,SNR=11						
TX31	Lajitas Ar. Si	35.05	294	eP	P	15 14 32.5	+0.9
	8.3nm,1.8s						
YKA	Yellowknife Ar	54.37	335	P	P	15 17 05.5	+0.7
	0.2nm,0.4s,baz=107,slow=7.1,SNR=5.3						
YKB5	Yellowknife Ar	54.37	335	eP	P	15 17 05.5	+0.7
ILAR	Eielson Array	68.70	333	P	P	15 18 42.6	+1.0
	0.3nm,0.7s,baz=96,slow=3.4,SNR=5.0						
ASAR	Alice Springs	160.23	253	PKPab	PKPab	15 28 17.8	-1.2
	0.4nm,1.0s,baz=107,slow=3.9,SNR=5.6						

IDC 19 15:42:36.5±1.9, 2°.39N×128°.48E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.4/60, mbtmp3.8/4, Error ellipse: s-maj=139.8km s-min=22.0km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.93	166	P	P	15 47 42.8	+0.4
	1.4nm,0.4s,baz=345,slow=10,SNR=34						
ASAR	Alice Springs	26.43	169	P	P	15 48 15.0	-0.2
	0.5nm,0.5s,baz=351,slow=7.7,SNR=24						
STKA	Stephens Creek	36.28	161	P	P	15 49 41.1	-0.7
	0.6nm,0.3s,baz=352,slow=9.7,SNR=8.0						
MKAR	Makanchi Array	59.65	325	P	P	15 52 42.9	+0.3
	0.7nm,0.3s,baz=112,slow=8.0,SNR=12						

*SOME **19** 15:43:04.8, 42°.02N×73°.87E, h20km*
*KRNET **19** 15:43:05.7±0.1, 42°.08N×73°.97E, h14km, mb2.6*
*NNC **19** 15:43:06.7±1.1, 42°.19N×73°.94E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=10.8km s-min=3.2km az=7.0*

ISC 19 15:43:04.9±1.2, 42°.05N±0°.04×73°.91E±0°.02, h4km±15km, n29, σ0s97/50, 12C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	Aral	0.36	122⇓	iP	Pg	15 43 12.6	+0.6
	baz=28						
ARLS				iS	Sg	15 43 17.3	+0.6
	baz=28						
MRKS	Merke	0.86	324	P	Pg	15 43 21.0	-0.4
	15nm,0.1s						
MRKS				S	Sg	15 43 32.5	-0.1
	96nm,0.2s						
MRKS	Merke	0.86	324	eP	Pg	15 43 21.0	-0.4
	15nm,0.1s						
MRKS				eS	Sg	15 43 32.4	-0.1
	96nm,0.2s						
FRU1	Bishkek	0.93	35⇑	iP	Pg	15 43 22.3	-0.4
	baz=34						
FRU1			⇑	iS	Sg	15 43 34.8	+0.1
	baz=34						
ARK	Arkit	1.48	261⇑	iP	Pg	15 43 33.7	+0.5
	baz=59						
ARK			⇑	iS	Sg	15 43 54.2	+1.8
	baz=59						
BOOM	Boomskoye usch	1.57	73⇑	iP	Pb	15 43 33.7	-0.9
	baz=74						
BOOM			⇑	iS	Sb	15 43 54.1	-0.8
	baz=74						
NRN	Naryn	1.68	111⇑	iP	Pb	15 43 36.2	-0.5
	baz=13						
NRN			⇑	iS	Sg	15 43 58.5	-0.5
	baz=13						
KST	Kastek	1.81	56	P	Pb	15 43 38.4	-0.3
	4.3nm,0.1s						
KST				S	Sb	15 44 02.0	+0.1
	10nm,0.4s						
KST	Kastek	1.81	56	eP	Pb	15 43 38.5	-0.3
	4.3nm,0.1s						
KST				eS	Sb	15 44 02.0	+0.1
	10nm,0.4s						
DGS	Degeres	1.82	49	P	Pb	15 43 38.0	-0.8
	2.6nm,0.2s						
DGS				S	Sb	15 44 02.1	+0.1
	8.8nm,0.3s						
DGS	Degeres	1.82	49	eP	Pb	15 43 38.2	-0.6
	13nm,0.2s						
DGS				eS	Sb	15 44 02.3	+0.3
	8.8nm,0.3s						
KDJ	Kajisay	2.43	87⇑	iP	Pb	15 43 47.3	-2.1
	baz=88						
KDJ			⇑	iS	Sb	15 44 17.3	-2.6
	baz=88						
TNSS	Tian-Shan	2.45	65	Pg	Pb	15 43 50.4	+0.6
	27nm,0.4s						
TNSS				Lg	Lg	15 44 22.7	
	9.3nm,0.4s						
TNSS	Tian-Shan	2.45	65	eP	Pb	15 43 50.4	+0.6
	27nm,0.4s						
TNSS				eS	Sg	15 44 22.7	-1.0
	9.3nm,0.4s						
KUU	Kurty	2.56	43	eP	Pb	15 43 51.3	-0.1
	7.4nm,0.2s						
KUU				eS	Sb	15 44 24.6	+1.3
	7.3nm,0.4s						
MDOK	Medeo	2.57	63	⇓Pg	Pb	15 43 52.0	+0.3
	8.0nm,0.7s						
MDOK				Lg	Lg	15 44 25.4	
	4.9nm,0.5s						
MDOK	Medeo	2.57	63	Pg	Pb	15 43 52.2	+0.5
	8.4nm,0.5s						
MDOK				Lg	Lg	15 44 26.0	
	11nm,0.3s						
MDOK	Medeo	2.57	63	eP	Pb	15 43 52.1	+0.5
	8.4nm,0.5s						
MDOK				eS	Sg	15 44 27.3	-0.1
	11nm,0.3s						
KTBS	Karatobe	2.63	50	Pg	Pb	15 43 52.3	-0.3
	7.2nm,0.2s						
KTBS				Lg	Lg	15 44 26.5	
	19nm,0.3s						
KTBS	Karatobe	2.63	50	eP	Pb	15 43 52.4	-0.2
	7.2nm,0.2s						
KTBS				eS	Sb	15 44 26.8	+1.6
	19nm,0.3s						
KOTS	Kotyrbulak	2.64	62	Pg	Pb	15 43 53.0	0.0
	4.1nm,0.3s						
KOTS				Lg	Lg	15 44 27.7	
	25nm,0.6s						
KOTS	Kotyrbulak	2.64	62	eP	Pb	15 43 53.1	+0.2
	5.7nm,0.3s						
KOTS				eS	Sg	15 44 28.6	-1.2
	25nm,0.6s						
KK31	Karatay Array	2.72	294	Pn	Pb	15 43 53.7	-0.5
	0.7nm,0.3s,baz=118,slow=14,SNR=16						
KK31				Lg	Lg	15 44 30.3	
	1.7nm,0.4s,baz=109,slow=29,SNR=8.7						
CHKK	Chushkaly	2.89	50	eP	Pb	15 43 57.1	0.0
	1.8nm,0.2s						
CHKK				eS	Sb	15 44 34.5	+1.8
	18nm,0.5s						
IUG	Iuzhnay	2.89	273	eP	Pb	15 43 55.5	-1.6
	8.4nm,0.3s						
IUG				eS	Sb	15 44 32.9	+0.1
	17nm,0.5s						
TARG	Taragay, Kyrgy	2.92	95⇑	iP	Pb	15 43 57.4	-0.5
	baz=96						
TARG			⇑	iS	Sb	15 44 35.4	+1.2

baz=290
IKP In-Ko-Pah, Jac 0.72 220 P Pg 15 44 56.8 -0.2
baz=37,SNR=67
IKP S Sg 15 45 07.0 +0.4
baz=37
MONP2 Monument Peak 0.79 247 P Pg 15 44 57.8 -0.6
baz=63,SNR=64
MONP2 S Sg 15 45 08.9 +0.1
baz=63
PFO Pinyon Flats O 0.85 299 *e*Pg **Pg 15 44 58.5 -1.0**
PFO Pinyon Flats O 0.85 299 P **Pg 15 44 58.6 -1.0**
baz=114,SNR=47
PFO S Sg 15 45 10.6 -0.2
baz=114
BELC Belle Mtn. Jos 0.87 335 Pn **Pg 15 44 59.6 -0.4**
baz=153,SNR=23
BELC S Sg 15 45 11.1 -0.4
baz=153
FRD Ford Ranch, An 0.92 289 *e*Sg **Sg 15 45 13.2 +0.4**
IRM Iron Mountain 1.01 20 *e*Pg **Pb 15 45 02.8 +0.5**
IRM *e*Sn **Sb 15 45 17.0 +1.6**
IRM Iron Mountain 1.01 20 P **Pg 15 45 01.6 -1.0**
baz=201,SNR=56
IRM S Sg 15 45 15.2 -0.6
baz=201
BLYC Blythe 1.02 58 *e*Pg **Pg 15 45 02.8 0.0**
BLYC *e*Sn **Sb 15 45 16.8 +1.0**
Y12C Blythe 1.02 58 *e*Pg **Pg 15 45 01.6 -1.2**
Y12C *e*Sn **Sg 15 45 16.0 -0.1**
Y12C Blythe 1.02 58 P **Pg 15 45 01.4 -1.3**
baz=241,SNR=155
Y12C S Sg 15 45 15.7 -0.5
baz=241
BAR Barrett 1.07 241 *e*Pg **Pg 15 45 01.9 -1.7**
BAR *e*Sg **Sg 15 45 16.3 -1.4**
BAR *e*Sn **Sb 15 45 16.5 -0.6**
HMTC Hemet 1.31 293 *e*Pg **Pg 15 45 07.5 -0.6**
109C Camp Elliot, M 1.33 257 P **Pg 15 45 06.0 -2.7**
baz=73,SNR=23
109C S Sg 15 45 23.4 -2.7
baz=73
CPE Camp Elliot 1.33 257 *e*Pg **Pg 15 45 05.8 -2.9**
CPE *e*Sg **Sg 15 45 23.7 -2.4**
MURC Murrieta 1.42 287 Sb **Sg 15 45 27.0 -1.8**
baz=103
113A Mohawk Valley, 1.57 106 *e*Pn **Pn 15 45 10.0 -0.4**
113A *e*Sn **Sn 15 45 31.8 +1.3**
GMRC Granite Mounta 1.58 357 Pg **Pb 15 45 12.5 +0.5**
baz=176,SNR=37
GMRC S Sn 15 45 29.3 -1.6
baz=176
PDMCI Parker Dam,Lak 1.61 47 S **Sn 15 45 31.1 -0.4**
baz=229
HEC Hector,Ludlow 1.74 339 Pg **Pb 15 45 15.6 +0.8**
baz=157
NEE2 Needles Airpor 1.74 26 S **Sn 15 45 34.0 -0.8**
baz=207
LDFC Landfair 1.91 11 *e*Pn **Pb 15 45 18.5 +1.0**
SPX San Pedro Mart 2.16 178 *e*Sn **Sn 15 45 48.4 +3.0**
TUQ Turquoise Moun 2.25 352 S **Sn 15 45 45.1 -2.3**
baz=172
Y14A Wickenburg 2.26 70 *e*Pn **Pn 15 45 19.6 -0.3**
MWC Mount Wilson 2.32 297 *e*Pn **Pn 15 45 21.6 +0.7**
GSC Goldstone, Bar 2.33 334 *e*Pn **Pb 15 45 26.7 +1.9**
GSC Goldstone, Bar 2.33 334 Pg **Pb 15 45 26.8 +1.9**
baz=153
W13A Hualapai Mount 2.34 36 *e*Pn **Pn 15 45 21.7 +0.4**
PASC Pasadena Art C 2.39 294 *e*Pn **Pn 15 45 23.2 +1.5**
DECC Green Verdugo 2.54 295 *e*Sn **Sn 15 45 57.2 +2.8**
SBI Santa Barbara 2.92 276 *e*Pn **Pn 15 45 29.4 +0.5**
SHPR Sheep Range 3.31 6 *e*Pn **Pn 15 45 33.9 -0.6**
ISA Isabella, Lake 3.44 316 *e*Pg **Pg 15 45 47.2 -1.7**
X16A Lo Mia Camp, P 3.64 69 *e*Pn **Pn 15 45 39.5 +0.5**
TPNV Topopah Spring 3.78 352 *e*Pn **Pn 15 45 41.9 +1.0**
TUC Tucson 4.12 101 *e*Pn **Pn 15 45 43.9 -1.7**
WUAZ Wupatki 4.16 55 *e*Pg **Pg 15 46 01.0 -1.7**
LCMT Little Creek M 4.25 26 *e*Pn **Pn 15 45 47.7 +0.3**
KNB Kanab 4.42 30 *e*Pn **Pn 15 45 50.5 +0.8**
X18A Snowflake 4.85 73 *e*Pn **Pn 15 45 55.7 0.0**
MDPB Devils Postpil 5.27 328 *e*Pn **Pn 15 46 01.6 +0.1**
MTPU Mount Pierson 5.55 29 *e*Pn **Pn 15 46 05.3 -0.2**

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*KRSC **19** 15:45:17.2±10.0, 52°.09N×160°.77E, h63km±10km, ML4.9*
*IDC **19** 15:45:17.9±0.6, 52°.33N×160°.22E, h0km, mb4.4/42,*
mb1 4.5/46, mb1mx4.4/73, mbtmp4.4/46, ML4.1/3, MS3.7/4,
Ms1 3.7/4, ms1mx3.2/41, Error ellipse: s-maj=13.8km
s-min=10.8km az=133.0
*ISCJB **19** 15:45:20.9±0.5, 52°.18N±0°.03×160°.57E±0°.04, h40km±3km,*
mb4.8/158, MS4.3/11, Error ellipse: s-maj=5.8km
s-min=3.0km az=135.2
*MOS **19** 15:45:21.4±1.2, 52°.24N×160°.41E, h42km, mb4.9/72, Error*
ellipse: s-maj=6.1km s-min=3.0km az=101.2
*NEIC **19** 15:45:22.7±0.3, 52°.30N×160°.24E, h35km, mb4.7/52, Error*
ellipse: s-maj=6.6km s-min=4.8km az=153.0
*BJI **19** 15:45:23.3±0.0, 52°.55N×159°.86E, h46km, mb4.7/32,*
mB4.9/23, Ms4.5/21, Ms7 4.3/19
ISC 19 15:45:21.4±0.8, 52°21N±0°.04×160°50E±0°.03, h31km±4km,
n420, σ1°33/470, mb4.7/161, MS4.3/11, 21C-14D, Off east
coast of Kamchatka Peninsula

Code	Station Name	Δ° AZ°	Phase Op	ID	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.94 342**	*e*P	**Pn**	**15 45 37.7**	**-0.7**
SPN			S	**Sb**	**15 45 52.2**	**+0.9**
SPN	**Mys Shipunski**	**0.94 342**	PN	**Pn**	**15 45 37.7**	**-0.7**
SPN			S	**Sb**	**15 45 52.2**	**+0.9**
NLC	**Nalytchevo**	**1.20 324**	*e*P	**Pn**	**15 45 42.2**	**+0.3**
NLC			S	**Sb**	**15 46 00.4**	**+1.9**
NLC	**Nalytchevo**	**1.20 324**	PN	**Pn**	**15 45 42.2**	**+0.3**
NLC			S	**Sb**	**15 46 00.4**	**+1.9**
RUS	**Russkaya**	**1.24 281**	*e*P	**Pn**	**15 45 42.3**	**-0.3**
RUS			S	**Sb**	**15 46 00.3**	**+0.4**
RUS	**Russkaya**	**1.24 281**	PN	**Pn**	**15 45 42.3**	**-0.3**
RUS			S	**Sb**	**15 46 00.3**	**+0.4**
DALK	**Dalny**	**1.35 308**	*e*P	**Pn**	**15 45 44.2**	**+0.2**
DALK			*e*S	**Sb**	**15 46 03.5**	**+0.6**
DALK	**Dalny**	**1.35 308**	PN	**Pn**	**15 45 44.2**	**+0.2**
DALK			S	**Sb**	**15 46 03.5**	**+0.6**
PET	**Petropavlovsk**	**1.39 307**	*e*Pn	**Pn**	**15 45 44.8**	**+0.1**
PET	**Petropavlovsk**	**1.39 307**	⇑*i*PN	**Pn**	**15 45 44.9**	**+0.3**
PET			*e*S	**Sn**	**15 46 02.3**	**+0.4**
PET			pmax	pmax		
	comp=Z,2μm,0.4s					
PET			smax	smax		
	comp=E,5μm,0.7s					
PET			smax	smax		
	comp=N,4μm,0.4s					
UGLR	**Uglovaya**	**1.43 315**	*e*P	**Pn**	**15 45 46.0**	**+0.7**
UGLR			*e*S	**Sb**	**15 46 06.1**	**+0.7**
UGLR	**Uglovaya**	**1.43 315**	PN	**Pn**	**15 45 46.0**	**+0.7**
UGLR			S	**Sb**	**15 46 06.1**	**+0.7**
MTVR	**Mutnovka**	**1.45 282**	*e*P	**Pn**	**15 45 45.8**	**+0.2**
MTVR			*e*S	**Sb**	**15 46 05.7**	**-0.3**
MTVR	**Mutnovka**	**1.45 282**	PN	**Pn**	**15 45 45.8**	**+0.2**
MTVR			S	**Sb**	**15 46 05.7**	**-0.3**
SDLR	**Sedlovina**	**1.46 318**	*e*P	**Pn**	**15 45 46.3**	**+0.7**
SDLR	**Sedlovina**	**1.46 318**	PN	**Pn**	**15 45 46.3**	**+0.7**
SMAR	**Somma**	**1.48 316**	*e*P	**Pn**	**15 45 46.4**	**+0.4**
SMAR	**Somma**	**1.48 316**	PN	**Pn**	**15 45 46.4**	**+0.4**
AVH	**Avacha**	**1.51 315**	*e*P	**Pn**	**15 45 47.1**	**+0.8**
AVH			*e*S	**Sb**	**15 46 08.2**	**+0.6**
AVH	**Avacha**	**1.51 315**	PN	**Pn**	**15 45 47.1**	**+0.8**
AVH			S	**Sb**	**15 46 08.2**	**+0.6**
GRL	**Gorelyy**	**1.53 284**	*e*P	**Pb**	**15 45 48.2**	**-1.0**
GRL			*e*S	**Sb**	**15 46 09.6**	**+1.4**
GRL	**Gorelyy**	**1.53 284**	PN	**Pb**	**15 45 48.2**	**-1.0**
GRL			S	**Sb**	**15 46 09.6**	**+1.4**
KRER	**Koryakskii**	**1.53 317**	*e*P	**Pn**	**15 45 47.7**	**+1.0**
KRER	**Koryakskii**	**1.53 317**	PN	**Pn**	**15 45 47.7**	**+1.0**
KDTR	**Khodutka, Kamc**	**1.55 256**	*e*P	**Pn**	**15 45 46.3**	**-0.5**
KDTR			*e*S	**Sn**	**15 46 04.7**	**-1.1**
KDTR	**Khodutka, Kamc**	**1.55 256**	PN	**Pn**	**15 45 46.3**	**-0.5**
KDTR			S	**Sn**	**15 46 04.7**	**-1.1**
KOK	**Koryaka**	**1.57 314**	*e*P	**Pn**	**15 45 48.4**	**+1.2**
KOK			*e*S	**Sb**	**15 46 10.5**	**+1.1**
KOK	**Koryaka**	**1.57 314**	PN	**Pn**	**15 45 48.4**	**+1.2**
KOK			S	**Sb**	**15 46 10.5**	**+1.1**
KRMR	**Karymshinskiy**	**1.58 294**	*e*P	**Pn**	**15 45 47.6**	**+0.4**
KRMR			*e*S	**Sb**	**15 46 10.5**	**+1.0**
KRMR	**Karymshinskiy**	**1.58 294**	PN	**Pn**	**15 45 47.6**	**+0.4**
KRMR			S	**Sb**	**15 46 10.5**	**+1.0**
ASAK	**Asacha**	**1.61 277**	*e*P	**Pn**	**15 45 48.2**	**+0.5**
ASAK			*e*S	**Sb**	**15 46 09.7**	**-0.7**
ASAK	**Asacha**	**1.61 277**	PN	**Pn**	**15 45 48.2**	**+0.5**
ASAK			S	**Sb**	**15 46 09.7**	**-0.7**
KRX	**Arik**	**1.61 316**	*e*P	**Pn**	**15 45 48.5**	**+0.7**
KRX			*e*S	**Sb**	**15 46 10.9**	**+0.3**
KRX	**Arik**	**1.61 316**	PN	**Pn**	**15 45 48.5**	**+0.7**
KRX			S	**Sb**	**15 46 10.9**	**+0.3**
PEA0B	**Petropavlovsk-**	**1.93 299**	*e*Pn	**Pn**	**15 45 52.9**	**+0.8**
PEA0B	**Petropavlovsk-**	**1.93 299**	*e*PN	**Pn**	**15 45 52.9**	**+0.8**
PETK	**Petropavlovsk-**	**1.93 299**	*e*Pn	**Pn**	**15 45 52.6**	**+0.5**
PETK	**Petropavlovsk-**	**1.93 299**	*e*PN	**Pn**	**15 45 52.6**	**+0.5**
PETK	**Petropavlovsk-**	**1.93 299**	Pn	**Pn**	**15 45 53.0**	**+0.9**
	comp=N,78nm,0.3s,baz=108,slow=18,SNR=515					
PETK			Sn	**Sb**	**15 46 19.5**	**-0.1**
	comp=N,130nm,0.3s,baz=106,slow=15,SNR=9.5					
PETK			LR	LR	15 46 51.3	
	comp=N,2μm,18.7s,baz=47,slow=54					
PEA1	**Petropavlovsk-**	**1.93 299**	*e*Pn	**Pn**	**15 45 53.0**	**+0.8**
PEA1			*e*Sn	**Sb**	**15 46 19.5**	**-0.2**
APC	**Apacha**	**2.16 291**	*e*P	**Pn**	**15 45 56.9**	**+1.7**
APC			*e*S	**Sb**	**15 46 24.4**	**-1.8**
APC	**Apacha**	**2.16 291**	PN	**Pn**	**15 45 56.9**	**+1.7**
APC			S	**Sb**	**15 46 24.4**	**-1.8**
PAU	**Pauzhetka**	**2.41 253**	*e*P	**Pn**	**15 45 59.3**	**+0.7**
PAU			*e*S	**Sn**	**15 46 29.0**	**+2.0**
PAU	**Pauzhetka**	**2.41 253**	PN	**Pn**	**15 45 59.3**	**+0.7**
PAU			S	**Sn**	**15 46 29.0**	**+2.0**
MKZ	**Mys Kozlova**	**2.46 17**	*e*P	**Pn**	**15 45 58.7**	**-0.7**
MKZ			*e*S	**Sn**	**15 46 27.5**	**-0.8**
MKZ	**Mys Kozlova**	**2.46 17**	PN	**Pn**	**15 45 58.7**	**-0.7**
MKZ			S	**Sn**	**15 46 27.5**	**-0.8**
KZV	**Kizimen**	**2.91 358**	*e*P	**Pn**	**15 46 06.9**	**+1.2**
KZV			*e*S	**Sn**	**15 46 41.6**	**+1.9**
KZV	**Kizimen**	**2.91 358**	PN	**Pn**	**15 46 06.9**	**+1.2**
KZV			S	**Sn**	**15 46 41.6**	**+1.9**
TUMD	**Tumrok D**	**3.00 359**	*e*P	**Pn**	**15 46 07.3**	**+0.5**
TUMD			*e*S	**Sn**	**15 46 42.1**	**+0.4**
TUMR	**Tumrok**	**3.09 356**	PN	**Pn**	**15 46 07.3**	**-0.8**
TUMR			S	**Sn**	**15 46 42.1**	**-1.8**
SKR	**Severo-Kuril's**	**3.14 243**	*e*PN	**Pn**	**15 46 08.3**	**-0.3**
SKR			pmax	pmax		
	comp=Z,102nm,0.5s					
SKR			MLR	MLR		
	comp=Z,800nm,14.0s					
SKR			MLR	MLR		
	comp=Z,2μm,14.0s					
ALID	**Alaid**	**3.37 249**	P	**Pn**	**15 46 11.6**	**-0.4**
ALID	**Alaid**	**3.37 249**	PN	**Pn**	**15 46 11.6**	**-0.4**
KIRR	**Kirishev**	**3.75 359**	*e*P	**Pn**	**15 46 17.5**	**+0.3**
KIRR			*e*S	**Sn**	**15 47 00.1**	**-0.3**
KIRR	**Kirishev**	**3.75 359**	PN	**Pn**	**15 46 17.5**	**+0.3**
KIRR			S	**Sn**	**15 47 00.1**	**-0.3**
KPT	**Kopyto**	**3.77 358**	P	**Pn**	**15 46 17.7**	**+0.3**
KPT	**Kopyto**	**3.77 358**	PN	**Pn**	**15 46 17.7**	**+0.3**
ESO	**Esso**	**3.87 345**	*e*P	**Pn**	**15 46 20.3**	**+1.6**
ESO	**Esso**	**3.87 345**	PN	**Pn**	**15 46 20.3**	**+1.6**
KOZ	**Kozyrevsk**	**3.88 355**	*e*P	**Pn**	**15 46 18.0**	**-0.8**
KOZ	**Kozyrevsk**	**3.88 355**	PN	**Pn**	**15 46 18.0**	**-0.8**
LGNR	**Loginova**	**3.88 2**	P	**Pn**	**15 46 20.3**	**+1.2**
LGNR			S	**Sn**	**15 47 04.6**	**+0.8**
LGNR	**Loginova**	**3.88 2**	PN	**Pn**	**15 46 20.3**	**+1.2**
LGNR			S	**Sn**	**15 47 04.6**	**+0.8**
CIRR	**Tsirk**	**3.92 2**	*e*P	**Pn**	**15 46 18.8**	**-0.7**
CIRR	**Tsirk**	**3.92 2**	PN	**Pn**	**15 46 18.8**	**-0.7**
KRSR	**Krestovskiy**	**4.02 0**	P	**Pn**	**15 46 22.1**	**+1.3**
KRSR	**Krestovskiy**	**4.02 0**	PN	**Pn**	**15 46 22.1**	**+1.3**
KLY	**Klyuchi**	**4.11 1**	*e*P	**Pn**	**15 46 24.1**	**+2.1**
KLY	**Klyuchi**	**4.11 1**	PN	**Pn**	**15 46 24.1**	**+2.1**
SRDR	**Sredinnyy**	**4.14 354**	*e*P	**Pn**	**15 46 22.6**	**+0.1**
SRDR	**Sredinnyy**	**4.14 354**	PN	**Pn**	**15 46 22.6**	**+0.1**
KBTR	**Krutoberegovo**	**4.23 18**	*e*P	**Pn**	**15 46 23.6**	**0.0**
KBTR	**Krutoberegovo**	**4.23 18**	PN	**Pn**	**15 46 23.6**	**0.0**
KBG	**Krutoberegovo**	**4.26 17**	P	**Pn**	**15 46 21.7**	**-2.2**
KBG	**Krutoberegovo**	**4.26 17**	PN	**Pn**	**15 46 21.7**	**-2.2**
BDR	**Baidarnaya**	**4.39 5**	*e*P	**Pn**	**15 46 26.7**	**+0.8**
BDR	**Baidarnaya**	**4.39 5**	PN	**Pn**	**15 46 26.7**	**+0.8**
SMKR	**Semkarok**	**4.42 7**	P	**Pn**	**15 46 27.9**	**+1.6**
SMKR	**Semkarok**	**4.42 7**	PN	**Pn**	**15 46 27.9**	**+1.6**
BKI	**Bering**	**4.42 45**	*e*P	**Pn**	**15 46 24.8**	**-1.4**
BKI			*e*S	**Sn**	**15 47 11.4**	**-5.2**
BKI	**Bering**	**4.42 45**	PN	**Pn**	**15 46 24.8**	**-1.4**
SRKR	**Sorokina**	**4.47 5**	P	**Pn**	**15 46 28.6**	**+1.6**
SRKR	**Sorokina**	**4.47 5**	PN	**Pn**	**15 46 28.6**	**+1.6**
OSSR	**Ossora**	**7.20 11**	*e*P	**Pn**	**15 47 05.2**	**+0.8**
OSSR	**Ossora**	**7.20 11**	PN	**Pn**	**15 47 05.2**	**+0.8**
MA2	**Magadan**	**9.18 327**	*e*Pn	**Pn**	**15 47 31.0**	**-0.5**
MA2	**Magadan**	**9.18 327**	Pn	**Pn**	**15 47 32.6**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=118,slow=12,SNR=5.2					
MA2			LR	LR	15 51 40.8	
	comp=Z,431nm,19.4s,baz=144,slow=43					
KUR	**Kuril'sk**	**10.87 235**	PN	**Pn**	**15 47 58.4**	**+3.7**
KUR			MLR	MLR		
	comp=Z,646nm,19.0s					
KUR			MLR	MLR		
	comp=N,1μm,18.0s					
SEY	**Seymchan**	**11.59 341**	⇓*e*PN	**Pn**	**15 48 05.2**	**+0.8**
SEY	**Seymchan**	**11.59 341**	Pn	**Pn**	**15 48 04.7**	**+0.3**
baz=146,slow=13,SNR=4.6						
YSS	**Yuzh-Sakhalins**	**12.65 252**	*e*PN	**Pn**	**15 48 20.8**	**+1.8**
YSS			pmax	pmax		
	comp=Z,10.0nm,1.0s					
YSS			MLR	MLR		
	comp=Z,300nm,13.0s					
YUK	**Yuzh-Kuril'sk**	**12.73 236**	*e*PN	**Pn**	**15 48 18.0**	**-2.1**
YUK			MLR	MLR		
	comp=Z,548nm,19.0s					
ASAJ	**Asahikawa**	**14.40 243**	Pn	**Pn**	**15 48 42.8**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=68,slow=11,SNR=20					
ASAJ			LR	LR	15 55 02.1	
	comp=Z,266nm,18.7s,baz=38,slow=41					
GRNR	**Gornyy**	**15.05 274**	*e*P	**P**	**15 48 55.2**	**-1.5**
GRNR			pmax	pmax		
	comp=Z,13nm,1.0s					
ERM	**Erimo**	**15.56 236**	*e*Pn	**Pn**	**15 48 54.3**	**-4.0**
	comp=Z,32nm,1.1s					
ERM	**Erimo**	**15.56 236**	*e*P	**Pn**	**15 48 54.3**	**-4.0**
ERM			pmax	pmax		
	comp=Z,32nm,1.1s					
BILL	**Bilibino**	**16.13 8**	*e*Pn	**Pn**	**15 49 04.2**	**-1.3**
	comp=Z,20nm,0.7s					
BILL	**Bilibino**	**16.13 8**	*e*P	**P**	**15 49 07.5**	**-0.9**
BILL			pmax	pmax		
	comp=Z,27nm,1.0s					
BILL			MLR	MLR		
	comp=Z,272nm,18.0s					
TEY	**Ternei**	**17.30 255**	⇑*e*P	**P**	**15 49 21.2**	**-0.3**
TEY			pmax	pmax		
	comp=E,30nm,0.7s					
TEY			pmax	pmax		
	comp=N,10.0nm,0.5s					
TEY			pmax	pmax		
	comp=Z,30nm,0.6s					
KLR	**Kul'dur**	**18.39 272**	*d i*P	**Pn**	**15 49 34.1**	**+0.3**
KLR			pmax	pmax		
	comp=Z,8.0nm,0.8s					
KLR	**Kul'dur**	**18.39 272**	P	**P**	**15 49 32.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=57,slow=11,SNR=30					
KLR			LR	LR	15 57 23.9	
	comp=Z,266nm,19.4s,baz=73,slow=40					
YAK	**Yakutsk**	**19.22 313**	*c i*P	**P**	**15 49 40.1**	**-2.4**
YAK			*e**SS	**Sn**	**15 53 11.9**	**-5.8**
YAK			pmax	pmax		
	comp=Z,424nm,0.9s					
YAK			pmax	pmax		
	comp=E,153nm,1.0s					
YAK			pmax	pmax		
	comp=N,89nm,1.1s					
YAK			MLR	MLR		
	comp=Z,874nm,15.0s					
YAK			MLR	MLR		
	comp=E,582nm,14.0s					
YAK			MLR	MLR		
	comp=N,811nm,16.0s					
ZEA	**Zeya**	**19.98 288**	*e*P	**P**	**15 49 49.0**	**-1.9**
ZEA			pmax	pmax		
	comp=Z,12nm,1.0s					
ZEA			MLR	MLR		
	comp=Z,500nm,14.0s					
ZEA			MLR	MLR		
	comp=E,300nm,15.0s					
ZEA			MLR	MLR		
	comp=N,300nm,14.0s					
USRK	**Ussuriysk Ar.**	**20.52 258**	P	**P**	**15 49 55.4**	**-1.4**
	comp=N,13nm,1.0s,baz=53,slow=11,SNR=24					
MJB9	**Matsu-Tunnel**	**22.21 234**	*e*P	**P**	**15 50 15.8**	**+0.8**
	comp=N,20nm,0.8s					
MAJO	**Matsushiro**	**22.21 234**	*e*P	**P**	**15 50 15.8**	**+0.7**
	comp=N,20nm,0.8s					
MAJO	**Matsushiro**	**22.21 234**	*c i*P	**P**	**15 50 15.7**	**+0.7**
MAJO			pmax	pmax		
	comp=Z,21nm,1.1s					
MAT	**Matsushiro**	**22.21 234**	P	**P**	**15 50 15.7**	**+0.6**
MAT			S	**S**	**15 54 20.6**	**+2.9**
MJAR	**Matsushiro Arr**	**22.21 234**	*e*P	**P**	**15 50 15.6**	**+0.6**
MJAR	**Matsushiro Arr**	**22.21 234**	*e*P	**P**	**15 50 15.6**	**+0.6**
MJAR	**Matsushiro Arr**	**22.21 234**	P	**P**	**15 50 15.4**	**+0.4**
	comp=Z,9.4nm,0.7s,baz=17,slow=10,SNR=39					
MJAR			LR	LR	15 59 23.8	
	comp=Z,252nm,21.4s,baz=45,slow=38					
INU	**Inuyama**	**23.74 234**	*e*P	**P**	**15 50 31.6**	**+0.9**
	comp=Z,15nm,0.7s					
TIXI	**Tiksi**	**23.99 336**	*e*P	**P**	**15 50 31.7**	**-1.0**
	comp=Z,2.1nm,0.6s					
TIXI	**Tiksi**	**23.99 336**	P	**P**	**15 50 31.7**	**-1.0**
	comp=Z,17nm,0.7s,baz=129,slow=8.7,SNR=101					
HIA	**Hailar**	**25.72 280**	*e*P	**P**	**15 50 46.7**	**-2.0**
	comp=Z,26nm,0.9s					
HIA	**Hailar**	**25.72 280**	*e*P	**P**	**15 50 46.7**	**-2.0**
HIA			pmax	pmax		
	comp=Z,26nm,0.9s					
IMAR	**Indian Mountai**	**26.50 41**	*e*P	**P**	**15 50 56.3**	**+0.8**
BOD	**Bodaibo**	**26.80 301**	*e*P	**P**	**15 50 55.9**	**-2.4**
BOD			pmax	pmax		
	comp=Z,7.0nm,1.3s					
KSRS	**Korea Array**	**27.13 250**	P	**P**	**15 51 02.4**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=45,slow=9.3,SNR=15					
JNU	**Nakatsue**	**28.65 240**	P	**P**	**15 51 16.9**	**+1.8**
	comp=Z,11nm,0.8s,baz=20,slow=9.7,SNR=3.8					
ILAR	**Eielson Array**	**29.27 44**	P	**P**	**15 51 21.6**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=267,slow=7.1,SNR=4.2					
BCAR	**Beaver Creek A**	**31.63 47**	*e*P	**P**	**15 51 43.5**	**+2.4**
H11N2	**WAKE ISLAND Hy**	**32.80 169**	T	T	16 27 44.1	
baz=352,slow=76,SNR=93						
H11N3	**WAKE ISLAND Hy**	**32.81 169**	T	T	16 27 49.2	
baz=352,slow=76,SNR=38						
H11N1	**WAKE ISLAND Hy**	**32.81 169**	T	T	16 27 45.3	
baz=352,slow=76,SNR=50						
ULN	**Ulaanbaatar**	**33.95 284**	*i* P	**P**	**15 52 00.5**	**-1.3**
TLY	**Talaya**	**34.28 292**	*e*P	**P**	**15 52 02.3**	**-2.1**
	comp=Z,9.8nm,1.0s					
TLY	**Talaya**	**34.28 292**	*i* P	**P**	**15 52 03.9**	**-0.5**
SONA0	**Songino Array**	**34.36 285**	*e*P	**P**	**15 52 04.4**	**-0.8**
SONA0			*e*PcP	**PcP**	**15 54 40.9**	**+0.4**
SONM	**Songino Array**	**34.36 285**	*e*P	**P**	**15 52 03.3**	**-2.0**
SONM	**Songino Array**	**34.36 285**	*e*P	**P**	**15 52 03.3**	**-2.0**
SONM	**Songino Array**	**34.36 285**	P	**P**	**15 52 04.4**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=62,slow=7.0,SNR=6.8					
SONM			PcP	**PcP**	**15 54 40.9**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=49,slow=2.7,SNR=3.6					
INK	**Inuvik**	**34.42 37**	*e*P	**P**	**15 52 06.2**	**+0.8**
	comp=Z,8.2nm,1.6s					
INK	**Inuvik**	**34.42 37**	*e*P	**P**	**15 52 06.2**	**+0.8**
INK			pmax	pmax		
	comp=Z,8.0nm,1.6s					
INK	**Inuvik**	**34.42 37**	P	**P**	**15 52 06.0**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=304,slow=7.7,SNR=5.0					
HHC	**Hu-ho-hao-te**	**34.89 271**	*e*P	**P**	**15 52 09.8**	**-0.1**
HHC			S	**S**	**15 57 37.9**	**-1.2**
HHC			pmax	pmax		
	comp=Z,71nm,0.8s					
HHC			pmax	pmax		
	comp=Z,240nm,4.3s					
HHC			LR	LR		
	comp=Z,780nm,12.1s					
HHC			LR	LR		
	comp=Z,530nm,12.5s					
HHC			LR	LR		
	comp=Z,800nm,13.1s					
ZAK	**Zakamensk**	**35.03 290**	*e*P	**P**	**15 52 09.3**	**-1.7**
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.1s					
MOY	**Mondy**	**35.79 293**	*e*P	**P**	**15 52 16.7**	**-0.8**
MOY			pmax	pmax		
	comp=Z,11nm,1.5s					
NJ2	**Nanjing**	**36.22 253**	*e*P	**P**	**15 52 20.8**	**-0.4**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
NRIK	**Noril'sk**	**36.78 325**	P	**P**	**15 52 24.9**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=96,slow=7.8,SNR=8.8					
WHN	**Wuhan**	**39.97 256**	P	**P**	**15 52 50.0**	**-2.8**
WHN			S	**S**	**15 58 56.6**	**+0.5**
WHN			LR	LR		
	comp=Z,400nm,12.7s					
LZH	**Lanzhou**	**42.59 271**	*e*P	**P**	**15 53 14.5**	**0.0**
LZH			pP	pwP	15 53 25.9	-0.2
LZH			sP	sP	15 53 30.3	+3.6
LZH			pmax	pmax		
	comp=Z,23nm,1.2s					
LZH			pmax	pmax		
	comp=Z,89nm,4.3s					
LZH			LR	LR		
	comp=Z,300nm,16.5s					
LZH			LR	LR		
	comp=Z,270nm,16.8s					
LZH			LR	LR		
	comp=Z,310nm,17.1s					
ZAA1	**Zalesovo Array**	**43.47 304**	*e*P	**P**	**15 53 18.7**	**-2.5**
ZALV	**Zalesovo Beam**	**43.47 304**	*e*P	**P**	**15 53 18.2**	**-3.0**
ZALV	**Zalesovo Beam**	**43.47 304**	P	**P**	**15 53 18.7**	**-2.5**
	comp=Z,2.0nm,0.5s,baz=58,slow=6.9,SNR=11					
YKA	**Yellowknife Ar**	**43.65 42**	P	**P**	**15 53 23.4**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=302,slow=7.5,SNR=4.7					
NVS	**Novosibirsk**	**43.83 305**	⇑*i*P	**P**	**15 53 21.9**	**-2.1**
NVS			*e*		15 53 31.7	
NVS			pmax	pmax		
	comp=E,11nm,1.1s					
NVS			pmax	pmax		
	comp=Z,21nm,1.1s					
RES	**Resolute Bay**	**44.05 22**	*e*P	**P**	**15 53 26.1**	**+0.5**
	comp=Z,3.0nm,0.9s					
RES	**Resolute B

BRVK	Borovoye	51.17	309	eP	P	15 54 19.3	-1.8
	comp=Z,14nm,0.9s						
BRVK	Borovoye	51.17	309	i P	P	15 54 19.8	-1.3
DAG	Danmarks Havn	51.29	360	i P	P	15 54 21.9	+0.2
DAG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DAG	Danmarks Havn	51.29	360	i P	P	15 54 21.9	+0.2
	comp=Z,5.1nm,1.0s						
PDGK	Podgornoye	52.48	295	P	P	15 54 30.3	-0.9
PDGK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SLVN	Son La	53.06	257	eP	P	15 54 35.6	0.0
	comp=Z,11nm,1.1s						
OTUK	Ortayu	53.17	303	P	P	15 54 35.2	-0.9
OTUK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LVZ	Lovozero	53.61	338	eP	P	15 54 38.6	-0.5
	comp=Z,16nm,0.8s						
LVZ	Lovozero	53.61	338	deP	P	15 54 39.4	+0.3
LVZ				pmax	pmax		
	comp=Z,11nm,1.0s						
AASM	Arroyo Seco	54.18	72	eP	P	15 54 44.8	+1.2
ARA0	ARCESS Array S	54.21	342	eP	P	15 54 42.9	-0.5
ARCES	ARCESS Array B	54.21	342	P	P	15 54 42.9	-0.5
	comp=Z,7.2nm,0.8s,baz=34,slow=8.8,SNR=12						
ARU	Arti	54.22	318	eP	P	15 54 42.5	-1.1
	comp=Z,10nm,0.6s						
ARU	Arti	54.22	318	d i P	P	15 54 43.0	-0.6
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARU	Arti	54.22	318	P	P	15 54 42.7	-0.9
	comp=Z,5.1nm,0.6s,baz=65,slow=4.4,SNR=19						
LSA	Lhasa	54.73	274	eP	P	15 54 47.9	-0.4
	comp=Z,5.2nm,0.8s						
LSA	Lhasa	54.73	274	eP	P	15 54 47.9	-0.4
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SUMG	Summit	54.81	7	eP	P	15 54 48.7	+0.5
	comp=Z,9.6nm,0.8s						
SUMG	Summit	54.81	7	eP	P	15 54 48.7	+0.5
SUMG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SUMG	Summit	54.81	7	i P	P	15 54 48.9	+0.8
	comp=Z,22nm,0.9s						
PRGR	Permogore	55.32	328	eP	P	15 54 50.9	-0.6
PRGR				pmax	pmax		
	comp=Z,17nm,0.6s						
TMCR	Tamitsa	55.68	333	eP	P	15 54 53.9	-0.1
TMCR				pmax	pmax		
	comp=Z,30nm,0.9s						
AAK	Ala-Archa	55.70	297	eP	P	15 54 53.3	-1.4
	comp=Z,5.0nm,0.9s						
AAK	Ala-Archa	55.70	297	c i P	P	15 54 53.0	-1.7
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NV01	Mina Array Sit	55.81	70	eP	P	15 54 58.5	+2.8
NVAR	Mina Array Bea	55.81	70	P	P	15 54 58.5	+2.8
	comp=Z,0.5nm,0.6s,baz=294,slow=8.4,SNR=3.7						
PANO	Nakornpanom	55.88	253	P	P	15 54 59.4	+3.3
	comp=Z,0.4nm,1.6s						
KIRV	Kirov	56.26	324	P	P	15 54 58.7	+0.5
	comp=Z,19nm,0.5s,baz=17,slow=2.1,SNR=6.8						
SKNT	Sakolnakorn	56.39	253	P	P	15 55 01.3	+1.6
MSF	Maaselka	56.53	338	P	P	15 55 00.8	+0.7
MSF				pmax	pmax		
	comp=Z,36nm,1.8s						
KSH	Kashi	56.98	293	P	P	15 55 07.8	+4.0
KSH				pP	sP	15 55 20.9	+5.0
KSH				PP	PP	15 57 17.8	+7.5
KSH				S	S	16 02 56.8	+0.9
KSH				SS	SS	16 06 47.4	+3.4
KSH				pmax	pmax		
	comp=Z,200nm,5.5s						
KSH				LR	LR		
	comp=Z,170nm,9.2s						
KSH				LR	LR		
	comp=Z,180nm,8.7s						
PAYA	Payao	57.00	259	P	P	15 55 05.8	+1.8
	comp=Z,26μm,0.8s						
SHL	Shillong	57.25	270	P	P	15 55 06.1	+0.1
SHL				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PHRA	Phrae	57.44	258	P	P	15 55 08.8	+1.6
	comp=Z,2.3nm,1.0s,comp=Z,66nm						
KK31	Karatay Array	57.54	300	eP	P	15 55 06.1	-1.5
	comp=Z,5.8nm,1.1s						
KK31	Karatay Array	57.54	300	eP	P	15 55 06.1	-1.5
KK31				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KKAR	Karatay Array	57.54	300	eP	P	15 55 06.1	-1.5
KKAR	Karatay Array	57.54	300	eP	P	15 55 06.1	-1.5
BW06	Boulder Array	57.74	61	epP	pP	15 55 22.5	+5.0
PD31	Pinedale Array	57.74	61	eP	P	15 55 10.4	+1.1
PD31				epP	pwP	15 55 22.6	-0.4
PDAR	Pinedale Array	57.74	61	eP	P	15 55 10.9	+1.6
PDAR	Pinedale Array	57.74	61	P	P	15 55 12.1	+2.8
	comp=Z,0.8nm,0.9s,baz=321,slow=1.9,SNR=5.1						
LAMP	Lampang	57.78	258	P	P	15 55 11.7	+2.1
	comp=Z,24μm,0.8s						
UTTA	Uttaradit	57.83	257	P	P	15 55 11.5	+1.6
	comp=Z,21μm,0.9s						
KLMR	Klimovskoe	57.84	330	eP	P	15 55 08.5	-0.9
KLMR				pmax	pmax		
	comp=Z,17nm,0.9s						
OUL	Oulu	57.93	339	P	P	15 55 10.4	+0.5
OUL				pmax	pmax		
	comp=Z,27nm,1.7s						
CMMT	Chiang Mai	57.97	259	P	P	15 55 11.8	+0.9
	comp=Z,9.2nm,1.1s						
CHTO	Chiang Mai	57.98	259	eP	P	15 55 11.6	+0.7
	comp=Z,11nm,0.8s						
CHTO	Chiang Mai	57.98	259	eP	P	15 55 11.6	+0.7
CHTO				pmax	pmax		
	comp=Z,11nm,0.8s						
CM31	Chiang Mai Arr	58.25	259	eP	P	15 55 13.0	+0.2
	comp=Z,8.3nm,0.8s						
CMAR	Chiang Mai Arr	58.25	259	eP	P	15 55 13.4	+0.5
CMAR	Chiang Mai Arr	58.25	259	P	P	15 55 14.1	+1.3
	comp=Z,6.4nm,0.8s,baz=26,slow=7.1,SNR=50						
CHAI	Chaiyaphum	58.41	254	P	P	15 55 15.8	+1.9
	comp=Z,14μm,0.9s						
JOF	Joensuu	58.48	335	P	P	15 55 14.2	+0.4
JOF				pmax	pmax		
	comp=Z,29nm,1.0s						
ABKAR	Akbulak array	58.56	311	eP	P	15 55 13.4	-1.2
	comp=Z,6.1nm,0.9s						
AKTO	Aktyubinsk	58.61	313	P	P	15 55 14.0	-0.9
	comp=Z,2.0nm,0.5s,baz=75,slow=8.1,SNR=10.0						
ODAN	Odare	59.07	275	eP	P	15 55 18.9	+0.1
JIRN	Jiri	59.23	276	eP	P	15 55 19.4	-0.6
	comp=Z,23nm,0.7s						
RAMN	Ramite	59.49	275	eP	P	15 55 21.1	-0.6
	comp=Z,43nm,0.5s						
RSSD	Black Hills	59.69	56	eP	P	15 55 24.5	+1.7
	comp=Z,7.4nm,0.9s						
RSSD	Black Hills	59.69	56	eP	P	15 55 24.5	+1.7
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KKN	Kakani	59.69	277	eP	P	15 55 22.6	-0.4
	comp=Z,31nm,0.6s						
PKI	Pulchoki	59.77	277	eP	P	15 55 23.0	-0.7
	comp=Z,18nm,0.7s						
PKIN	Phulchoki	59.78	277	eP	P	15 55 23.1	-0.6
	comp=Z,18nm,0.7s						
SUF	Sumiainen	59.91	338	P	P	15 55 24.5	+0.8
SUF				pmax	pmax		
	comp=Z,44nm,0.8s						
DMN	Daman	59.93	277	eP	P	15 55 24.5	-0.2
	comp=Z,32nm,0.7s						
GKN	Gorkha	59.93	278	eP	P	15 55 23.9	-0.7
	comp=Z,24nm,0.7s						
UMPA	Umpang Tak	60.04	257	P	P	15 55 28.9	+3.7
	comp=Z,23μm,0.8s,comp=Z,292μm						
DANN	Dangsing	60.22	279	eP	P	15 55 26.2	-0.5
	comp=Z,34nm,0.7s						
VAF	Ylistaro	60.41	339	P	P	15 55 28.9	+1.8
VAF				pmax	pmax		
	comp=Z,31nm,1.2s						
GAR	Garm	60.50	296	eP	P	15 55 26.8	-1.5
	comp=Z,11nm,0.8s						
GAR	Garm	60.50	296	eP	P	15 55 26.8	-1.5
GAR				pmax	pmax		
	comp=Z,11nm,0.8s						
KOLN	Koldanda	60.73	278	eP	P	15 55 29.3	-0.8
	comp=Z,21nm,0.6s						
PYUN	Piuthan	60.86	279	eP	P	15 55 30.3	-0.7
	comp=Z,23nm,0.7s						
FIA1	FINESS Array S	61.03	337	eP	P	15 55 31.0	-0.4
	comp=Z,17nm,0.6s						
FIA0	FINESS Array S	61.03	337	eP	P	15 55 32.0	+0.6
FIA0	FINESS Array S	61.03	337	eP	P	15 55 32.0	+0.6
FINES	FINESS Array B	61.03	337	eP	P	15 55 31.3	-0.1
FINES	FINESS Array B	61.03	337	i P	P	15 55 32.0	+0.6
FINES				pmax	pmax		
	comp=Z,14nm,0.5s						
FINES	FINESS Array B	61.03	337	P	P	15 55 32.0	+0.6
	comp=Z,14nm,0.5s,baz=31,slow=8.6,SNR=89						
PHET	Kaeng Krachan	62.16	254	P	P	15 55 42.9	+3.3
	comp=Z,37μm,0.8s						
MOS	Moscow	62.54	328	eP	P	15 55 40.8	-0.8
MOS				pmax	pmax		
	comp=Z,46nm,0.7s						
NIL	Nilore	62.65	290	eP	P	15 55 41.8	-1.0
	comp=Z,12nm,0.8s						
NIL	Nilore	62.65	290	eP	P	15 55 41.8	-1.0
NIL				pmax	pmax		
	comp=Z,11nm,0.8s						
OBN	Obninsk	63.40	328	eP	P	15 55 45.8	-1.5
OBN				e		15 56 24.8	
OBN				eP	PP	15 59 42.5	
OBN				pmax	pmax		
	comp=Z,30nm,2.5s						
VSU	Vasula	63.46	335	d i P	P	15 55 48.3	+0.6
VSU				pmax	pmax		
	comp=Z,24nm,0.6s						
VSU	Vasula	63.46	335	eP	P	15 55 47.9	+0.3
VSU				IAmb	IAmb	15 55 48.7	
	comp=Z,43nm,0.7s						
NC405	NORSAR Array S	64.31	344	eP	P	15 55 53.5	+0.3
	comp=Z,91nm,1.9s						
NC204	NORSAR Array S	64.32	344	eP	P	15 55 53.4	0.0
	comp=Z,29nm,1.1s						
NB201	NORSAR Array S	64.44	344	eP	P	15 55 53.9	-0.3
	comp=Z,18nm,0.8s						
NB2	NORSAR Subarra	64.46	344	P	P	15 55 54.3	0.0
	comp=Z,3.8nm,0.7s,baz=22,slow=6.9						
NB2	NORSAR Subarra	64.46	344	P	P	15 55 53.2	-1.1
NB2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NB200	NORSAR Array S	64.46	344	eP	P	15 55 54.7	+0.4
NOA	NORSAR Array B	64.46	344	P	P	15 55 54.7	+0.4
	comp=Z,4.5nm,0.7s,baz=21,slow=6.6,SNR=24						
HFS	Hagfors	64.87	342	P	P	15 55 56.9	0.0
	comp=Z,4.2nm,0.5s,baz=46,slow=4.3,SNR=27						
IDID	Didziasalis	66.21	333	eP	P	15 56 06.2	+0.6
IDID				IAmb	IAmb	15 56 07.4	
	comp=Z,7.5nm,0.9s						
IIGN	Ignalina	66.32	333	eP	P	15 56 07.1	+0.8
IIGN				IAmb	IAmb	15 56 08.2	
	comp=Z,9.6nm,0.6s						
PABE	Paberze	66.79	335	eP	P	15 56 09.7	+0.4
PABE				IAmb	IAmb	15 56 11.0	
	comp=Z,24nm,0.8s						
GEYT	Alibeck	67.78	303	P	P	15 56 15.8	-0.1
	comp=Z,4.1nm,0.7s,baz=32,slow=3.7,SNR=7.7						
AKASG	Malin Array Be	69.50	329	eP	P	15 56 25.6	-0.8
AKASG	Malin Array Be	69.50	329	P	P	15 56 26.1	-0.4
	comp=Z,4.1nm,0.5s,baz=30,slow=6.4,SNR=22						
AKBB	Malin Array Si	69.50	329	eP	P	15 56 25.7	-0.7
	comp=Z,8.8nm,0.9s						
KIEV	Kiev	69.51	329	eP	P	15 56 25.5	-1.0
	comp=Z,8.6nm,0.9s						
KIEV	Kiev	69.51	329	⇓ i P	P	15 56 26.0	-0.5
KIEV	Kiev	69.51	329	c eP	P	15 56 25.7	-0.8
KIEV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV	Kislovodsk	70.25	317	eP	P	15 56 33.1	+1.8
KIV				pmax	pmax		
	comp=Z,14nm,0.9s						
KIV				MLR	MLR		
	comp=Z,155nm,17.0s						
KBZ	Khabaz	70.35	317	P	P	15 56 32.6	+0.9
	comp=Z,5.9nm,0.8s,baz=46,slow=4.7,SNR=16						
ZEI	Tsey	70.69	316	eP	P	15 56 33.0	-1.1
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TX31	Lajitas Ar. Si	70.75	67	eP	P	15 56 36.7	+2.1
	comp=Z,4.3nm,1.0s						
TXAR	Lajitas Array	70.75	67	eP	P	15 56 36.5	+1.9
TXAR	Lajitas Array	70.75	67	P	P	15 56 35.5	+0.9
	comp=Z,1.0nm,1.0s,baz=304,slow=5.1,SNR=6.4						
HYB	Hyderabad	71.53	275	i P	P	15 56 39.0	-0.3
EKA	Eskdalemuir Ar	71.97	350	P	P	15 56 41.6	+0.2
	comp=Z,1.7nm,0.6s,baz=17,slow=4.9,SNR=16						
AKH	Akhalkalaki	71.99	315	⇑ i P	P	15 56 42.9	+0.9
AKH	Akhalkalaki	71.99	315	P	P	15 56 42.8	+0.8
GNI	Garni	72.47	314	P	P	15 56 45.4	+0.6
	comp=Z,3.1nm,0.4s,baz=30,slow=8.4,SNR=3.0						
OJC	Ojcow	72.65	335	eP	P	15 56 46.5	+1.0
OJC	Ojcow	72.65	335	eP	P	15 56 44.5	-1.0
	comp=Z,5.2nm,0.8s						
OJC	Ojcow	72.65	335	eP	P	15 56 44.5	-1.0
OJC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSP	Ksiaz	72.96	337	eP	P	15 56 48.2	+0.9
KSP	Ksiaz	72.96	337	eP	P	15 56 48.2	+0.9
KOLS	Kolonicke sedl	73.15	333	eP	P	15 56 49.4	+0.9
KOLS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KOLS	Kolonicke sedl	73.15	333	eP	P	15 56 49.4	+0.9
NIE	Niedzica	73.25	334	eP	P	15 56 50.4	+1.3
NIE	Niedzica	73.25	334	eP	P	15 56 50.4	+1.3
CLL	Collm	73.27	339	eP	P	15 56 48.9	-0.2
	comp=Z,8.2nm,0.9s						
CLL	Collm	73.27	339	eP	P	15 56 48.9	-0.2
CLL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CLL	Collm	73.27	339	⇓ i P	P	15 56 49.9	+0.7
	comp=Z,9.0nm,0.9s						
CLL				es P	sP	15 57 03.0	+1.5
CLL				Lm	MLR	16 45 00.0	
	comp=Z,100nm,19.6s						
UPC	Upice	73.33	337	AMS	AMS	16 35 20.0	
	comp=Z,100nm,21.0s						
DPC	Dobruska-Polom	73.41	337	eP	P	15 56 51.5	+1.4
DPC				e		15 57 03.9	
DPC	Dobruska-Polom	73.41	337	eP	P	15 56 51.5	+1.4
DPC				ex	x	15 57 03.9	
OKC	Ostrava-Krasne	73.43	336	eP	P	15 56 51.3	+1.2
OKC	Ostrava-Krasne	73.43	336	eP	P	15 56 51.3	+1.2
BUR08	Bucovina Ar. S	73.45	330	eP	P	15 56 50.2	-0.2
	comp=Z,6.3nm,0.8s						
BURAR	Bucovina Array	73.47	330	eP	P	15 56 50.5	-0.1
BURAR	Bucovina Array	73.47	330	⇓ i P	P	15 56 51.0	+0.5
BURAR	Bucovina Array	73.47	330	P	P	15 56 51.0	+0.5
BRG	Berggiesshubel	73.47	339	e(P)	P	15 56 50.9	+0.5
	comp=Z,3.9nm,1.1s						
BRG	Berggiesshubel	73.47	339	eP	P	15 56 50.9	+0.5
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MORC	Moravsky Berou	73.64	336	eP	P	15 56 52.1	+0.7
	comp=Z,5.5nm,0.8s						
MORC	Moravsky Berou	73.64	336	⇑ i P	P	15 56 52.6	+1.2
MORC	Moravsky Berou	73.64	336	eP	P	15 56 52.1	+0.7
MORC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MORC	Moravsky Berou	73.64	336	eP	P	15 56 52.2	+0.7
LANS	Liptovska Anna	73.72	335	eP	P	15 56 54.0	+2.1
LANS	Liptovska Anna	73.72	335	eP	P	15 56 54.0	+2.1
TRPA	Tarpa	73.80	332	⇓ i P	P	15 56 53.5	+1.2
TESR	Tescani	74.00	329	⇑ i P	P	15 56 53.5	-0.1
PRU	Pruhonice	74.16	338	eP	P	15 56 55.5	+1.1
PRU				MLR	MLR		
	comp=Z,100nm,16.0s						
PRU	Pruhonice	74.16	338	eP	P	15 56 55.5	+1.1
PRU				AMS	AMS	16 34 50.0	
	comp=Z,100nm,16.0s						
MOX	Moxa	74.19	340	P	P	15 56 57.6	+3.0
MOX				pmax	pmax		
	comp=Z,5.0nm,1.3s						
VRAC	Vranov	74.31	336	⇑ i P	P	15 56 56.1	+0.8
VRAC	Vranov	74.31	336	eP	P	15 56 56.0	+0.8
VRAC	Vranov	74.31	336	P	P	15 56 56.6	+1.3
	comp=Z,4.9nm,0.8s,baz=18,slow=6.7,SNR=8.4						
NKC	Novy Kostel	74.40	339	eP	P	15 56 57.1	+1.2
NKC	Novy Kostel	74.40	339	eP	P	15 56 57.1	+1.2
JAVC	Velka Javorina	74.45	336	eP	P	15 56 58.2	+2.0
VYHS	Vyhne	74.49	335	eP	P	15 56 57.4	+1.0
VYHS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VYHS	Vyhne	74.49	335	eP	P	15 56 57.4	+1.0
VRI	Vrincioaia	74.55	328	⇑ i P	P	15 56 56.6	-0.2
VRI	Vrincioaia	74.55	328	P	P	15 56 56.6	-0.2
KRUC	Moravsky	74.58	336	eP	P	15 56 57.7	+0.8
CFR	Carcaliu	74.70	327	⇑ i P	P	15 56 57.8	+0.2
CFR	Carcaliu	74.70	327	P	P	15 56 57.7	+0.2
PSZ	Piszkesteto	74.73	334	eP	P	15 56 58.8	+0.9
	comp=Z,4.4nm,0.9s						
PSZ	Piszkesteto	74.73	334	eP	P	15 56 58.8	+0.9
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DRGR		74.96	331	⇓ i P	P	15 56 59.9	+0.7
DRGR		74.96	331	P	P	15 56 59.9	+0.7
MODS	Modra-Piesok	75.00	336	eP	P	15 56 59.9	+0.6
MODS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MODS	Modra-Piesok	75.00	336	eP	P	15 56 59.9	+0.6
MLR	Muntele Rosu	75.13	329	eP	P	15 57 01.0	+0.7
	comp=Z,8.9nm,0.6s						
MLR	Muntele Rosu	75.13	329	⇑ i P	P	15 57 01.8	+1.5
MLR	Muntele Rosu	75.13	329	P	P	15 57 01.7	+1.5
	comp=Z,8.3nm,0.6s,baz=168,slow=2.9,SNR=24						
DIKM	Dikmen	75.18	321	⇓ i P	P	15 57 01.4	+0.9
KHC	Kasperske Hory	75.19	338	eP	P	15 57 00.8	+0.3
	comp=Z,2.1nm,1.0s						
KHC	Kasperske Hory	75.19	338	eP	P	15 57 00.8	+0.3
KHC				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KHC	Kasperske Hory	75.19	338	eP	P	15 57 01.5	+1.1
KHC				ex	x	15 57 13.9	
KHC				AMS	AMS	16 35 20.0	
	comp=Z,100nm,14.1s						
TLB	Topalu	75.25	327	⇑ i P	P	15 57 01.2	+0.4
TLB	Topalu	75.25	327	P	P	15 57 01.1	+0.3
WET	Wettzell	75.33	339	P	P	15 57 03.5	+2.2
WET				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WR1	Warramunga Arr	75.38	205	eP	P	15 57 01.8	+0.1
WRA	Warramunga Arr	75.38	205	i P	P	15 57 02.4	+0.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	75.38	205	P	P	15 57 01.8	+0.1
	comp=Z,0.9nm,0.7s,baz=23,slow=5.1,SNR=8.0						
GEC2	GERESS Array S	75.43	338	eP	P	15 57 02.1	+0.2
	comp=Z,14nm,1.9s						
GEC2	GERESS Array S	75.43	338	eP	P	15 57 02.1	+0.2
GEC2				pmax	pmax		
	comp=Z,14nm,1.9s						
GERES	GERESS Array B	75.43	338	P	P	15 57 02.4	+0.5
	comp=Z,1.7nm,0.7s,baz=62,slow=6.2,SNR=5.0						
VOIR		75.47	329	⇑ i P	P	15 57 03.1	+1.0
VOIR		75.47	329	P	P	15 57 03.1	+1.0
ARR	Arges	75.66	330	⇓ i P	P	15 57 04.8	+1.6
SIRR	Siria	75.74	332	⇑ i P	P	15 57 04.5	+0.9
ICOR	Ion Corvin	75.75	327	⇑ i P	P	15 57 04.8	+1.2
CONA	Conrad Observa	75.77	336	eP	P	15 57 05.3	+1.5
	comp=Z,3.1nm,0.8s						
GIVF	Givet	76.00	344	eP	P	15 57 07.3	+2.3
GIVF				pmax	pmax		
	comp=Z,11nm,1.0s						
BAIF	Baives	76.14	345	eP	P	15 57 06.3	+0.5
BAIF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GZR	Gura Zlata	76.20	331	⇑ i P	P	15 57 06.7	+0.4
MOA	Molln	76.23	337	eP	P	15 57 07.4	+1.0
	comp=Z,2.4nm,0.9s						
BZS	Buzias	76.34	332	⇑ i P	P	15 57 07.1	+0.1
BZS	Buzias	76.34	332	P	P	15 57 07.1	+0.1
ARSA	Arzberg	76.48	336	eP	P	15 57 08.9	+1.0
	comp=Z,2.8nm,0.7s						
SOKA	Soboth	77.14	336	eP	P	15 57 12.6	+1.0
	comp=Z,3.1nm,0.6s						
KBA	Koelnbreinsper	77.17	338	eP	P	15 57 13.7	+1.8
	comp=Z,15nm,0.8s						
KBA	Koelnbreinsper	77.17	338	P	P	15 57 14.5	+2.6
KBA				pmax	pmax		
	comp=Z,21nm,0.8s						
CDF	Champ du Feu	77.19	342	eP	P	15 57 12.3	+0.4
CDF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WATA	Walderalm	77.33	339	eP	P	15 57 14.8	+2.0
	comp=Z,2.7nm,0.9s						
WTTA	Wattenberg	77.38	339	eP	P	15 57 15.2	+2.1
	comp=Z,12nm,1.4s						
ECH	Echery	77.40	342	eP	P	15 57 13.1	+0.1
	comp=Z,5.5nm,0.9s						
ECH	Echery	77.40	342	eP	P	15 57 13.1	+0.1
ECH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MOTA	Moosalm	77.42	339	eP	P	15 57 14.6	+1.3
	comp=Z,3.5nm,0.7s						
BR101	Keskin Array S	77.46	321	eP	P	15 57 14.2	+0.5
BR131	Keskin Array S	77.46	321	eP	P	15 57 12.5	-1.1
	comp=Z,4.6nm,1.0s						
BR131	Keskin Array S	77.46	321	eP	P	15 57 12.5	-1.1
BR131				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRTR	Keskin Array B	77.46	321	eP	P	15 57 13.2	-0.5
BRTR	Keskin Array B	77.46	321	P	P	15 57 14.2	+0.5
	comp=Z,6.6nm,0.8s,baz=41,slow=3.9,SNR=15						
SQTA	Sankt Quirin	77.52	339	eP	P	15 57 15.1	+1.3
	comp=Z,6.7nm,0.8s						
ABTA	Abfaltersbach	77.67	338	eP	P	15 57 15.5	+0.9
	comp=Z,5.9nm,1.0s						
DAVA	Damuels	77.74	340	eP	P	15 57 15.9	+0.8
	comp=Z,6.8nm,1.2s						
MDUB	Mudurnu	77.75	323	eP	P	15 57 14.8	-0.3
	comp=Z,43nm,0.8s						
HAU	Haudompre	77.75	343	eP	P	15 57 15.4	+0.5
HAU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FETA	Feichten	77.81	339	eP	P	15 57 17.1	+1.6
	comp=Z,4.0nm,0.9s						
HINF	Hinteralfeld	77.84	342	eP	P	15 57 15.6	+0.1
HINF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FLN	La Foliniere	78.11	347	eP	P	15 57 17.6	+0.7
FLN				pmax	pmax		
	comp=Z,25nm,1.4s						
DAVOX	Davos/Dischmat	78.22	340	P	P	15 57 19.0	+1.2
	comp=Z,3.6nm,0.6s,baz=1.0,slow=5.9,SNR=8.5						
FUORN	Ofenpass-Fuorn	78.29	340	eP	P	15 57 18.5	+0.2

MFF pmax pmax
comp=Z,76nm,1.9s
ORIF Oris-en-Rattie 80.81 342 *e*P **P 15 57 33.2 +1.4**
ORIF pmax pmax
comp=Z,7.0nm,0.7s
LIT Litokhoron 81.09 329 *e*P **P 15 57 32.9 -0.4**
comp=Z,5.5nm,1.0s
LIT Litokhoron 81.09 329 *e*P **P 15 57 32.9 -0.4**
LIT pmax pmax
comp=Z,6.0nm,1.0s
VIVF Saint-Julien-l 81.10 343 *e*P **P 15 57 34.5 +1.3**
VIVF pmax pmax
comp=Z,14nm,1.2s
CAF Calviac 81.48 345 *e*P **P 15 57 36.6 +1.4**
CAF pmax pmax
comp=Z,10.0nm,0.9s
MMAI Mount Meron Ar 82.52 316 P **P 15 57 41.9 +0.9**
comp=Z,6.9nm,0.6s,baz=39,slow=6.8,SNR=24
ASF Jabal al Asfar 82.60 315 P **P 15 57 41.9 +0.5**
comp=Z,3.7nm,0.9s,baz=346,slow=5.8,SNR=7.3
MTLF Montolieu 82.99 344 *e*P **P 15 57 44.6 +1.4**
MTLF pmax pmax
comp=Z,8.0nm,1.0s
SJPF Ste Jean 83.75 347 *e*P **P 15 57 49.7 +2.6**
SJPF pmax pmax
comp=Z,28nm,1.2s
ETSF Etsaut 83.86 346 *e*P **P 15 57 49.3 +1.6**
ETSF pmax pmax
comp=Z,23nm,1.4s
ITM Ithomi 83.93 328 *e*P **P 15 57 47.0 -1.1**
comp=Z,6.2nm,0.8s
IDI Anoyia 84.63 325 P **P 15 57 50.2 -1.6**
comp=Z,2.4nm,0.5s,baz=6.3,slow=7.4,SNR=7.4
ESDC Sonseca Array 87.50 348 *e*P **P 15 58 05.8 0.0**
ESDC Sonseca Array 87.50 348 P **P 15 58 06.5 +0.7**
comp=Z,1.2nm,0.6s,baz=360,slow=4.8,SNR=9.2

WEL 19 15:48:24.4,38°S±10°×18°0W±°,h33km,ML3.9/18,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.47 268**		P	Pn	15 48 49.2	+0.7
WMGZ				S	Sn	15 49 07.4	+0.8
MXZ	**Matakaoa Point**	**1.57 278**		P	Pn	15 48 50.1	+0.1
MXZ				S	Sn	15 49 08.9	-0.2
PUZ	**Puketiti**	**1.61 259**		P	Pn	15 48 51.4	+0.8
PKGZ	**Pakihiroa**	**1.73 266**		P	Pn	15 48 52.7	+0.4
PKGZ				S	Sn	15 49 13.1	-0.2
CNGZ	**Carnagh Statio**	**1.77 246**		P	Pb	15 48 54.9	-1.3
TWGZ	**Tauwhareparae**	**1.85 257**		P	Pn	15 48 55.3	+1.4
TWGZ				S	Sn	15 49 18.1	+2.1
HAZ	**Te Kaha**	**1.97 270**		P	Pn	15 48 56.4	+1.0
TKGZ	**Te Karaka**	**2.01 250**		P	Pn	15 48 57.4	+1.4
RUGZ	**Raukumara Rang**	**2.06 264**		P	Pn	15 48 57.5	+0.7
RIGZ	**Rimuhau**	**2.17 244**		P	Pn	15 48 59.9	+1.6
PRGZ	**Paritu Road**	**2.19 238**		P	Pn	15 49 00.2	+1.7
MWZ	**Matawai**	**2.23 255**		P	Pn	15 48 59.8	+0.7
MHGZ	**Mahia Peninsul**	**2.30 233**		P	Pn	15 49 01.5	+1.5
RAGZ	**Rawiri**	**2.35 252**		P	Pn	15 49 03.0	+2.1
KNZ	**Kokohu**	**2.38 238**		P	Pn	15 49 02.4	+1.3
SNGZ	**Shannon Statio**	**2.51 246**		P	Pn	15 49 04.3	+1.4
URZ	**Urewera**	**2.54 258**		P	Pn	15 49 04.7	+1.5
WHHZ	**Waihua**	**2.71 241**		P	Pn	15 49 07.2	+1.6
RAHZ	**Arahi**	**2.74 245**		P	Pn	15 49 07.4	+1.3
MUGZ	**Murupara**	**2.84 255**		P	Pn	15 49 08.9	+1.4
ARHZ	**Aropaoanui**	**2.96 239**		P	Pn	15 49 10.8	+1.7
MRHZ	**Matea Rd**	**3.20 250**		P	Pn	15 49 13.7	+1.2

KRSC 19 15:55:36.5±10.0,52°.01N×160°.82E,h59km±10km,ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.19 336**		P	Pn	15 55 57.8	+0.8
SPN				S	Sn	15 56 12.9	+0.6
NLC	**Nalytchevo**	**1.47 323**		P	Pn	15 56 01.8	+1.1
NLC				S	Sn	15 56 20.4	+1.5
RUS	**Russkaya**	**1.48 287**		P	Pn	15 56 02.7	+1.9
RUS				S	Sn	15 56 21.6	+2.4
DALK	**Dalny**	**1.62 310**		P	Pn	15 56 04.2	+1.4
DALK				S	Sn	15 56 24.5	+1.9
MTVR	**Mutnovka**	**1.69 287**		P	Pn	15 56 06.0	+2.2
MTVR				S	Sn	15 56 27.3	+2.9
UGLR	**Uglovaya**	**1.71 315**		P	Pn	15 56 06.3	+2.3
KDTR	**Khodutka, Kamc**	**1.71 264**		P	Pn	15 56 05.0	+1.1
KDTR				S	Sn	15 56 25.8	+1.1
SDLR	**Sedlovina**	**1.73 318**		P	Pn	15 56 06.3	+1.9
SDLR				S	Sn	15 56 27.8	+2.3
SMAR	**Somma**	**1.76 316**		P	Pn	15 56 07.1	+2.3
AVH	**Avacha**	**1.79 315**		P	Pn	15 56 07.7	+2.7
KRER	**Koryakskii**	**1.81 317**		P	Pn	15 56 07.9	+2.4
ASAK	**Asacha**	**1.84 283**		P	Pn	15 56 08.6	+2.9
ASAK				S	Sn	15 56 32.0	+4.1
KRMR	**Karymshinskiy**	**1.84 297**		P	Pn	15 56 07.7	+2.0
KRMR				S	Sn	15 56 30.4	+2.5
KOK	**Koryaka**	**1.85 315**		P	Pn	15 56 08.4	+2.5
KRX	**Arik**	**1.89 316**		P	Pn	15 56 08.7	+2.2
APC	**Apacha**	**2.42 294**		P	Pn	15 56 17.3	+3.7
APC				S	Sn	15 56 47.3	+5.3
MKZ	**Mys Kozlova**	**2.61 12**		P	Pn	15 56 19.0	+2.9
MKZ				S	Sn	15 56 48.2	+1.7
KZV	**Kizimen**	**3.12 354**		P	Pn	15 56 28.1	+4.8
TUMD	**Tumrok D**	**3.21 356**		S	Sn	15 57 02.6	+1.3

IDC ***19*** *15:58:36.8±0.6,52°.35N×160°.21E,h0km,mb4.1/30, mb1 4.2/34,mb1mx4.2/46,mbtmp4.1/34,ML3.9/3,MS4.0/25, Ms1 4.0/25,ms1mx3.8/39,Error ellipse: s-maj=14.5km s-min=11.1km az=137.0*
KRSC ***19*** *15:58:37.1±10.0,52°.10N×160°.68E,h60km±10km,ML4.8*
ISCJB ***19*** *15:58:41.6±0.5,52°.25N±0°.03×160°.38E±0°.05,h54km±3km, mb4.5/93,MS4.1/28,Error ellipse: s-maj=6.7km s-min=3.2km az=42.3*
NEIC ***19*** *15:58:41.6±0.3,52°.34N×160°.29E,h35km,mb4.7/43,Error ellipse: s-maj=7.6km s-min=5.3km az=146.0*
MOS ***19*** *15:58:42.2±1.0,52°.30N×160°.22E,h57km,mb4.7/41,Error ellipse: s-maj=6.4km s-min=3.3km az=99.8*
ISC 19 15:58:42.2±0.7,52°.22N±0°.04×160°.43E±0°.04,h47km±6km, n331,σ1°49/361,mb4.5/97,MS4.1/28,13C-14D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.91 344**		*e*P	**Pn**	**15 58 56.7**	**-1.9**
SPN				S	**Sn**	**15 59 09.5**	**-1.2**
SPN	**Mys Shipunski**	**0.91 344**		PN	**Pn**	**15 58 56.7**	**-1.9**
SPN				S	**Sn**	**15 59 09.5**	**-1.2**
NLC	**Nalytchevo**	**1.16 326**		*e*P	**Pn**	**15 59 00.8**	**-1.1**
NLC	**Nalytchevo**	**1.16 326**		PN	**Pn**	**15 59 00.8**	**-1.1**
RUS	**Russkaya**	**1.20 281**		*e*P	**Pn**	**15 59 01.4**	**-1.1**
RUS				*e*S	**Sn**	**15 59 17.8**	**+0.3**
RUS	**Russkaya**	**1.20 281**		PN	**Pn**	**15 59 01.4**	**-1.1**
RUS				S	**Sn**	**15 59 17.8**	**+0.3**
DALK	**Dalny**	**1.30 309**		*e*P	**Pn**	**15 59 03.3**	**-0.6**
DALK				*e*S	**Sn**	**15 59 22.8**	**+2.6**
DALK	**Dalny**	**1.30 309**		PN	**Pn**	**15 59 03.3**	**-0.6**
PET	**Petropavlovsk**	**1.35 307**		*e*Pn	**Pn**	**15 59 03.8**	**-0.7**
PET	**Petropavlovsk**	**1.35 307**		*e*P	**Pn**	**15 59 03.9**	**-0.7**
PET				*e*S	**Sn**	**15 59 23.9**	**+2.6**
PET	**Petropavlovsk**	**1.35 307**		⇑*i*PN	**Pn**	**15 59 04.0**	**-0.5**
PET				*e*S	**Sn**	**15 59 22.6**	**+1.3**
PET				pmax	pmax		
comp=Z,2μm,0.4s
PET smax smax
comp=E,10.0nm,1.7s
PET smax smax
comp=E,3μm,2.6s
PET smax smax
comp=E,7μm,0.7s
PET smax smax
comp=N,6μm,0.5s
UGLR Uglovaya 1.39 316 *e*P **Pn 15 59 04.8 -0.4**
UGLR *e*S **Sn 15 59 24.1 +1.6**
UGLR Uglovaya 1.39 316 PN **Pn 15 59 04.8 -0.4**
UGLR S **Sn 15 59 24.1 +1.6**
MTVR Mutnovka 1.40 282 *e*P **Pn 15 59 04.6 -0.8**
MTVR *e*S **Sn 15 59 24.3 +1.5**
MTVR Mutnovka 1.40 282 PN **Pn 15 59 04.6 -0.8**
MTVR S **Sn 15 59 24.3 +1.5**
SDLR Sedlovina 1.42 319 *e*P **Pn 15 59 05.4 -0.2**
SDLR *e*S **Sn 15 59 25.3 +2.2**
SDLR Sedlovina 1.42 319 PN **Pn 15 59 05.4 -0.2**
SDLR S **Sn 15 59 25.3 +2.2**
SMAR Somma 1.44 317 *e*P **Pn 15 59 05.5 -0.5**
SMAR *e*S **Sn 15 59 24.5 +0.7**
SMAR Somma 1.44 317 PN **Pn 15 59 05.5 -0.5**
SMAR S **Sn 15 59 24.5 +0.7**
AVH Avacha 1.47 316 *e*P **Pn 15 59 06.1 -0.1**
AVH *e*S **Sn 15 59 27.9 +3.6**
AVH Avacha 1.47 316 PN **Pn 15 59 06.1 -0.1**
GRL Gorelyy 1.48 284 *e*P **Pn 15 59 07.2 +0.7**
GRL *e*S **Sn 15 59 29.5 +4.8**
GRL Gorelyy 1.48 284 PN **Pn 15 59 07.2 +0.7**
KRER Koryakskii 1.49 317 *e*P **Pn 15 59 06.7 0.0**
KRER *e*S **Sn 15 59 28.6 +3.6**
KRER Koryakskii 1.49 317 PN **Pn 15 59 06.7 0.0**
KDTR Khodutka, Kamc 1.51 255 *e*P **Pn 15 59 05.3 -1.5**
KDTR *e*S **Sn 15 59 24.3 -1.0**
KDTR Khodutka, Kamc 1.51 255 PN **Pn 15 59 05.3 -1.5**
KDTR S **Sn 15 59 24.3 -1.0**
KOK Koryaka 1.53 315 *e*P **Pn 15 59 07.1 0.0**
KOK Koryaka 1.53 315 PN **Pn 15 59 07.1 0.0**
KRMR Karymshinskiy 1.53 294 *e*P **Pn 15 59 06.6 -0.4**
KRMR *e*S **Sn 15 59 29.2 +3.4**
KRMR Karymshinskiy 1.53 294 PN **Pn 15 59 06.6 -0.4**
ASAK Asacha 1.56 277 *e*P **Pn 15 59 07.3 -0.3**
ASAK *e*S **Sn 15 59 28.6 +1.9**
ASAK Asacha 1.56 277 PN **Pn 15 59 07.3 -0.3**
ASAK S **Sn 15 59 28.6 +1.9**
KRX Arik 1.57 317 *e*P **Pn 15 59 07.6 -0.1**
KRX *e*S **Sn 15 59 30.0 +3.0**
KRX Arik 1.57 317 PN **Pn 15 59 07.6 -0.1**
PEA0B Petropavlovsk- 1.89 299 *e*Pn **Pn 15 59 11.9 0.0**
PEA0B Petropavlovsk- 1.89 299 *e*PN **Pn 15 59 11.9 0.0**
PETK Petropavlovsk- 1.89 299 *e*Pn **Pn 15 59 11.7 -0.2**
PETK Petropavlovsk- 1.89 299 *e*PN **Pn 15 59 11.7 -0.2**
PETK Petropavlovsk- 1.89 299 Pn **Pn 15 59 11.4 -0.5**
comp=N,69nm,0.3s,baz=104,slow=17,SNR=142
PETK Sn **Sn 15 59 38.7 +4.2**
comp=N,69nm,0.3s,baz=111,slow=21,SNR=8.3
PETK LR LR 16 00 10.3
comp=N,4μm,18.2s,baz=45,slow=55
PEA1 Petropavlovsk- 1.89 299 *e*Pn **Pn 15 59 11.4 -0.5**
PEA1 *e*Sn **Sn 15 59 38.7 +4.1**
APC Apacha 2.12 291 P **Pn 15 59 15.2 +0.1**
APC S **Sn 15 59 46.3 +6.2**
APC Apacha 2.12 291 PN **Pn 15 59 15.2 +0.1**
PAU Pauzhetka 2.37 253 P **Pn 15 59 19.0 +0.5**
PAU Pauzhetka 2.37 253 PN **Pn 15 59 19.0 +0.5**
MKZ Mys Kozlova 2.46 18 *e*P **Pn 15 59 17.8 -2.0**
MKZ *e*S **Sn 15 59 47.3 -1.3**
MKZ Mys Kozlova 2.46 18 PN **Pn 15 59 17.8 -2.0**
MKZ S **Sn 15 59 47.3 -1.3**
KZV Kizimen 2.90 358 *e*P **Pn 15 59 25.6 -0.3**
KZV *e*S **Sn 16 00 00.1 +0.6**
KZV Kizimen 2.90 358 PN **Pn 15 59 25.6 -0.3**
KZV S **Sn 16 00 00.1 +0.6**
TUMD Tumrok D 2.99 360 *e*P **Pn 15 59 25.8 -1.2**
TUMD *e*S **Sn 16 00 00.6 -1.0**
TUMR Tumrok 3.07 357 PN **Pn 15 59 25.8 -2.5**
TUMR S **Sn 16 00 00.6 -3.2**
SKR Severo-Kuril's 3.11 242 *e*PN **Pn 15 59 29.6 +1.0**
SKR *e*S **Sn 16 00 03.3 -1.2**
SKR pmax pmax
comp=Z,132nm,0.7s
SKR smax smax
comp=N,881nm,0.6s
SKR smax smax
comp=E,866nm,0.5s
SKR MLR MLR
comp=Z,2μm,16.0s
ALID Alaid 3.33 248 *e*P **Pn 15 59 31.3 -0.6**
ALID *e*S **Sn 16 00 08.6 -1.7**
ALID Alaid 3.33 248 PN **Pn 15 59 31.3 -0.6**
ALID S **Sn 16 00 08.6 -1.7**
KIRR Kirishev 3.74 359 *e*P **Pn 15 59 41.5 +4.1**
KIRR Kirishev 3.74 359 PN **Pn 15 59 41.5 +4.1**
ESO Esso 3.85 345 *e*P **Pn 15 59 38.8 0.0**
ESO S **Sn 16 00 22.8 +0.1**
ESO Esso 3.85 345 PN **Pn 15 59 38.8 0.0**
ESO S **Sn 16 00 22.8 +0.1**
KOZ Kozyrevsk 3.86 355 *e*P **Pn 15 59 39.8 +0.9**
KOZ Kozyrevsk 3.86 355 PN **Pn 15 59 39.8 +0.9**
LGNR Loginova 3.87 2 *e*P **Pn 15 59 40.4 +1.0**
LGNR Loginova 3.87 2 PN **Pn 15 59 40.4 +1.0**
CIRR Tsirk 3.91 3 *e*P **Pn 15 59 42.0 +2.3**
CIRR Tsirk 3.91 3 PN **Pn 15 59 42.0 +2.3**
KRSR Krestovskiy 4.00 1 *e*P **Pn 15 59 42.0 +1.0**
KRSR Krestovskiy 4.00 1 PN **Pn 15 59 42.0 +1.0**
KLY Klyuchi 4.10 2 *e*P **Pn 15 59 42.9 +0.7**
KLY Klyuchi 4.10 2 PN **Pn 15 59 42.9 +0.7**
SRDR Sredinnyy 4.12 354 *e*P **Pn 15 59 43.4 +0.8**
SRDR Sredinnyy 4.12 354 PN **Pn 15 59 43.4 +0.8**
KBTR Krutoberegovo 4.23 18 *e*P **Pn 15 59 43.6 -0.4**
KBTR Krutoberegovo 4.23 18 PN **Pn 15 59 43.6 -0.4**
KBG Krutoberegovo 4.25 17 *e*P **Pn 15 59 44.4 +0.1**
KBG Krutoberegovo 4.25 17 PN **Pn 15 59 44.4 +0.1**
BDR Baidarnaya 4.38 6 *e*P **Pn 15 59 46.9 +0.8**
BDR Baidarnaya 4.38 6 PN **Pn 15 59 46.9 +0.8**
SMKR Semkarok 4.41 7 *e*P **Pn 15 59 47.4 +0.8**
SMKR Semkarok 4.41 7 PN **Pn 15 59 47.4 +0.8**
BKI Bering 4.44 46 P Pn 15 59 39.6 -7.3
BKI Bering 4.44 46 PN Pn 15 59 39.6 -7.3
SRKR Sorokina 4.46 5 *e*P **Pn 15 59 48.5 +1.2**
SRKR Sorokina 4.46 5 PN **Pn 15 59 48.5 +1.2**
PALN Palana 6.89 358 P **Pn 16 00 22.6 +2.2**
PALN Palana 6.89 358 PN **Pn 16 00 22.6 +2.2**
OSSR Ossora 7.20 11 *e*P **Pn 16 00 25.1 +0.4**
OSSR Ossora 7.20 11 PN **Pn 16 00 25.1 +0.4**
MA2 Magadan 9.14 327 Pn **Pn 16 00 51.7 +0.3**
comp=Z,0.1nm,0.3s,baz=140,slow=6.1,SNR=4.1
MA2 LR LR 16 04 59.8
comp=Z,876nm,19.1s,baz=142,slow=43
OKH Okha 10.66 284 *de*PN **Pn 16 01 10.9 -1.1**
OKH MLR MLR
comp=Z,1μm,14.0s
KUR Kuril'sk 10.84 235 PN **Pn 16 01 16.5 +1.9**
KUR MLR MLR
comp=N,2μm,15.0s
KUR MLR MLR
comp=E,591nm,15.0s
KUR MLR MLR
comp=Z,947nm,15.0s
SEY Seymchan 11.56 341 ⇑*e*PN **Pn 16 01 20.8 -3.5**
SEY Seymchan 11.56 341 Pn **Pn 16 01 23.1 -1.3**
comp=Z,0.0nm,0.3s,baz=164,slow=18,SNR=1.5
YUK Yuzh-Kuril'sk 12.70 236 *e*PN **Pn 16 01 36.9 -3.1**
YUK MLR MLR
comp=Z,830nm,17.0s
ASAJ Asahikawa 14.37 243 Pn **Pn 16 02 02.1 -0.5**
comp=Z,0.8nm,0.3s,baz=82,slow=15,SNR=15
ASAJ LR LR 16 08 21.6
comp=Z,523nm,18.4s,baz=30,slow=41
GRNR Gornyy 15.01 274 *e*P **P 16 02 18.1 +2.4**
GRNR pmax pmax
comp=Z,26nm,0.9s
ERM Erimo 15.53 236 *e*Pn **Pn 16 02 14.0 -3.8**
comp=Z,37nm,1.3s
ERM Erimo 15.53 236 *e*P **Pn 16 02 14.0 -3.8**
ERM pmax pmax
comp=Z,37nm,1.3s
BILL Bilibino 16.12 8 *e*Pn **Pn 16 02 21.9 -3.2**
comp=Z,13nm,0.6s
BILL Bilibino 16.12 8 *e*P **Pn 16 02 24.2 -1.0**
BILL pmax pmax
comp=Z,2.0nm,1.0s
TEY Ternei 17.26 255 ⇑*e*P **Pn 16 02 40.3 +0.7**
TEY pmax pmax
comp=Z,10.0nm,0.9s
KLR Kul'dur 18.35 272 ‖*e*P **Pn 16 02 52.9 0.0**
KLR Kul'dur 18.35 272 P **P 16 02 52.4 -0.2**
comp=Z,0.3nm,0.3s,baz=54,slow=9.7,SNR=21
KLR LR LR 16 10 52.2
comp=Z,577nm,18.3s,baz=74,slow=40
YAK Yakutsk 19.17 313 *c i*P **P 16 02 59.0 -2.5**
YAK *e*S **S 16 06 36.5 +0.5**
YAK pmax pmax
comp=Z,191nm,0.9s
YAK pmax pmax
comp=N,38nm,1.1s
YAK pmax pmax
comp=E,80nm,1.1s
YAK smax smax
comp=N,168nm,2.7s
YAK smax smax
comp=E,131nm,2.1s
YAK MLR MLR
comp=Z,2μm,15.0s
YAK MLR MLR
comp=E,2μm,14.0s
YAK MLR MLR
comp=N,2μm,15.0s
ZEA Zeya 19.94 288 *e*P **P 16 03 08.4 -1.5**
ZEA pmax pmax
comp=Z,9.0nm,1.0s
ZEA MLR MLR
comp=E,700nm,15.0s
ZEA MLR MLR
comp=Z,700nm,15.0s
USRK Ussuriysk Ar. 20.48 258 P **P 16 03 14.1 -1.7**
comp=Z,5.7nm,0.8s,baz=60,slow=11,SNR=11
USRK LR LR 16 11 05.5
comp=Z,328nm,21.3s,baz=61,slow=37
MJB9 Matsu-Tunnel 22.18 234 *e*P **P 16 03 34.7 +0.5**
comp=Z,14nm,0.7s
MAJO Matsushiro 22.18 234 *e*P **P 16 03 34.5 +0.3**
comp=Z,14nm,0.8s
MAJO Matsushiro 22.18 234 *d i*P **P 16 03 35.2 +1.0**
MAJO pmax pmax
comp=Z,13nm,0.8s
MAT Matsushiro 22.18 234 P **P 16 03 34.9 +0.7**
MAT S Sn 16 07 48.6 -0.4
MJAR Matsushiro Arr 22.18 234 *e*P **P 16 03 34.9 +0.7**
MJAR Matsushiro Arr 22.18 234 *e*P **P 16 03 34.9 +0.7**
MJAR Matsushiro Arr 22.18 234 P **P 16 03 35.5 +1.3**
comp=Z,4.7nm,0.7s,baz=16,slow=10,SNR=28
MJAR LR LR 16 12 43.3
comp=Z,489nm,20.7s,baz=50,slow=38
INU Inuyama 23.71 234 *e*P **P 16 03 51.0 +1.3**
comp=Z,16nm,0.9s
TIXI Tiksi 23.96 336 *e*P **P 16 03 50.7 -0.9**
comp=Z,1.3nm,0.6s
TIXI Tiksi 23.96 336 ‖*e*P **P 16 03 50.7 -0.9**
TIXI pmax pmax
comp=Z,11nm,0.7s
TIXI Tiksi 23.96 336 P **P 16 03 50.7 -0.9**
comp=Z,13nm,0.7s,baz=129,slow=8.6,SNR=65
HIA Hailar 25.68 280 *e*P **P 16 04 05.7 -1.8**
comp=Z,18nm,0.7s
HIA Hailar 25.68 280 *e*P **P 16 04 05.7 -1.8**
HIA pmax pmax
comp=Z,18nm,0.7s
BOD Bodaibo 26.76 301 *e*P **P 16 04 15.7 -1.4**
BOD pmax pmax
comp=Z,7.0nm,1.6s
KSRS Korea Array 27.09 250 P **P 16 04 21.3 +1.0**
comp=Z,2.0nm,0.8s,baz=48,slow=8.9,SNR=11
KSRS LR LR 16 16 08.7
comp=Z,228nm,18.9s,baz=59,slow=39
KS15 Wonju Array Si 27.12 250 *e*P **P 16 04 21.3 +0.7**
comp=Z,87nm,2.0s
JNU Nakatsue 28.62 240 *e*P **P 16 04 35.0 +1.0**
comp=Z,100nm,1.9s
JNU Nakatsue 28.62 240 P **P 16 04 35.0 +1.0**
comp=Z,4.5nm,0.9s,baz=121,slow=12,SNR=3.0
JNU LR LR 16 17 16.0
comp=Z,173nm,19.1s,baz=40,slow=39
ILAR Eielson Array 29.29 44 P **P 16 04 40.0 +0.4**
comp=Z,0.4nm,0.8s,baz=264,slow=8.1,SNR=3.6
ILAR LR LR 16 17 55.1
comp=Z,114nm,19.2s,baz=279,slow=40
ILB Eielson Array 29.29 44 *e*P **P 16 04 40.0 +0.4**
BCAR Beaver Creek A 31.65 47 *e*P **P 16 05 01.1 +0.5**
H11N2 WAKE ISLAND Hy 32.82 169 T T 16 41 10.9
baz=352,slow=76,SNR=74
H11N3 WAKE ISLAND Hy 32.83 169 T T 16 41 03.1
baz=352,slow=76,SNR=41
H11N1 WAKE ISLAND Hy 32.84 169 T T 16 41 13.4
baz=352,slow=76,SNR=56
BCPM Bancas Point 33.24 53 *e*P **P 16 05 14.5 +0.1**
comp=Z,48nm,1.1s
ULN Ulaanbaatar 33.90 284 ‖*e*P **P 16 05 19.3 -1.2**
ULN pmax pmax
comp=Z,4.0nm,1.7s
H11S1 WAKE ISLAND Hy 34.00 169 T T 16 42 44.6
baz=352,slow=76,SNR=5.5
H11S3 WAKE ISLAND Hy 34.01 169 T T 16 42 45.5
baz=352,slow=76,SNR=9.0
H11S2 WAKE ISLAND Hy 34.02 169 T T 16 42 46.1
baz=352,slow=76,SNR=3.9
TLY Talaya 34.23 292 ‖*e*P **P 16 05 22.7 -0.5**
SONA0 Songino Array 34.31 285 *e*P **P 16 05 23.1 -0.9**
SONA0 *e*PcP **PcP 16 07 59.7 +0.6**
SONM Songino Array 34.31 285 P **P 16 05 23.1 -0.9**
comp=Z,0.6nm,0.5s,baz=47,slow=7.9,SNR=4.8
SONM PcP **PcP 16 07 59.7 +0.6**
comp=Z,0.3nm,0.5s,baz=74,slow=1.4,SNR=3.7
SONM LR LR 16 20 52.5
comp=Z,814nm,18.4s,baz=61,slow=39
INK Inuvik 34.44 37 *e*P **P 16 05 25.6 +0.9**
comp=Z,3.4nm,1.1s
INK Inuvik 34.44 37 *e*P **P 16 05 25.6 +0.9**
INK pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 34.44 37 P **P 16 05 25.6 +0.9**
comp=Z,0.8nm,0.6s,baz=306,slow=10,SNR=4.9
HHC Hu-ho-hao-te 34.85 271 *e*P **P 16 05 28.4 -0.3**
HHC pP pwP 16 05 42.0 -1.4
HHC S S **16 10 51.1 -5.2**
HHC sS sS 16 11 19.5 +4.1
HHC Hu-ho-hao-te 34.85 271 ScS ScS 16 15 44.3 -1.3
NJ2 Nanjing 36.18 253 *e*P **P 16 05 39.6 -0.5**
NRIK Noril'sk 36.74 325 P **P 16 05 43.1 -1.3**
comp=Z,1.8nm,0.7s,baz=96,slow=12,SNR=5.9
NRIK LR LR 16 22 18.2
comp=Z,773nm,18.2s,baz=50,slow=39
WHN Wuhan 39.93 256 P **P 16 06 13.3 +1.7**
LZH Lanzhou 42.55 271 *e*P P 16 06 38.4 +5.1
LZH pP sP 16 06 53.8 +3.4
LZH sP pwP 16 06 58.3 +10
GTA Gaotai 42.92 278 *e*P **P 16 06 35.8 -0.4**
GTA pP pP 16 06 40.6 -7.5
GTA sP pwP 16 06 43.0 -8.3
ZAA1 Zalesovo Array 43.42 304 *e*P **P 16 06 37.8 -2.1**
ZALV Zalesovo Beam 43.43 304 *e*P **P 16 06 37.0 -2.9**
ZALV Zalesovo Beam 43.43 304 *e*P **P 16 06 37.0 -2.9**
ZALV Zalesovo Beam 43.43 304 P **P 16 06 37.8 -2.2**
comp=Z,1.2nm,0.6s,baz=63,slow=5.1,SNR=5.0
ZALV LR LR 16 26 12.5
comp=Z,302nm,18.1s,baz=70,slow=38
YKA Yellowknife Ar 43.67 42 P **P 16 06 43.0 +1.2**
YKA Yellowknife Ar 43.67 42 P **P 16 06 43.0 +1.2**
comp=Z,0.2nm,0.6s,baz=297,slow=7.5,SNR=4.5
YKB5 Yellowknife Ar 43.67 42 *e*P **P 16 06 43.0 +1.2**
NVS Novosibirsk 43.78 305 *e*P **P 16 06 41.2 -1.6**
NVS *e* 16 07 01.6
NVS pmax pmax
comp=Z,15nm,1.3s
NVS pmax pmax
comp=E,12nm,1.4s
RES Resolute Bay 44.06 22 *e*P **P 16 06 45.7 +1.0**
comp=E,13nm,1.8s
RES Resolute Bay 44.06 22 *e*P **P 16 06 45.7 +1.0**
RES pmax pmax
comp=Z,13nm,1.8s
RES Resolute Bay 44.06 22 P **P 16 06 45.7 +1.0**
comp=Z,1.4nm,0.8s,baz=309,slow=7.8,SNR=8.0
DGZ Jazzator, Alta 44.24 297 *d i*P **P 16 06 46.4 -0.4**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
CD2 Chengdu 46.09 265 *e*P **P 16 06 59.5 -2.0**
LPH Laupahoehoe 46.92 116 *e*P **P 16 07 10.9 +2.9**
LPH *e*pP **pwP 16 07 27.3 +2.0**
WMQ Urumqi 47.46 290 *e*P **P 16 07 12.0 -0.1**
SPA0 Spitsbergen Ar 48.03 351 *e*P **P 16 07 16.6 +0.6**
comp=Z,29nm,1.1s
SPITS Spitsbergen Ar 48.03 351 P **P 16 07 16.6 +0.6**
comp=Z,3.1nm,0.4s,baz=56,slow=9.1,SNR=28
KURK Kurchatov 48.37 303 *e*P **P 16 07 16.7 -2.2**
comp=Z,11nm,1.0s
KURK Kurchatov 48.37 303 *c i*P **P 16 07 17.1 -1.8**
KURK pmax pmax
comp=Z,21nm,1.7s
WPW White Pass 48.71 64 *e*P P 16 07 27.8 +6.0
MK31 Makanchi Array 48.72 297 *e*P **P 16 07 19.8 -2.0**
comp=Z,1.9nm,0.6s

MK31	**Makanchi Array**	**48.72 297**	*e*P	**P**	**16 07 19.8**	**-2.0**
MK31			pmax	pmax		
comp=Z,2.0nm,0.6s						
MK32	**Makanchi Array**	**48.72 297**	*e*P	**P**	**16 07 20.4**	**-1.4**
MKAR	**Makanchi Array**	**48.72 297**	*e*P	**P**	**16 07 19.8**	**-1.9**
MKAR	**Makanchi Array**	**48.72 297**	P	**P**	**16 07 20.4**	**-1.4**
comp=Z,1.9nm,0.6s,baz=56,slow=7.1,SNR=30						
MKAR			LR	LR	16 29 13.2	
comp=Z,214nm,19.5s,baz=41,slow=38						
MAKZ	**Makanchi**	**48.89 297**	*e*P	**P**	**16 07 21.1**	**-1.9**
comp=Z,3.3nm,0.8s						
MAKZ	**Makanchi**	**48.89 297**	*e*P	**P**	**16 07 21.1**	**-1.9**
MAKZ			pmax	pmax		
comp=Z,3.0nm,0.8s						
KMI	**Kunming**	**50.88 261**	P	**P**	**16 07 41.3**	**+2.7**
BVAR	**Borovoye Array**	**51.09 309**	P	**P**	**16 07 38.1**	**-1.5**
comp=Z,5.0nm,0.6s,baz=60,slow=8.8,SNR=33						
BRVK	**Borovoye**	**51.12 309**	*e*P	**P**	**16 07 37.9**	**-1.9**
comp=Z,7.6nm,0.8s						
BRVK	**Borovoye**	**51.12 309**	*d i*P	**P**	**16 07 38.9**	**-0.9**
BRVK			pmax	pmax		
comp=Z,6.0nm,0.8s						
OTUK	**Ortayu**	**53.13 303**	P	**P**	**16 07 54.5**	**-0.3**
OTUK			pmax	pmax		
comp=Z,5.0nm,1.2s						
ARA0	**ARCESS Array S**	**54.18 342**	*e*P	**P**	**16 08 00.7**	**-1.5**
ARCES	**ARCESS Array B**	**54.18 342**	P	**P**	**16 08 00.7**	**-1.5**
comp=Z,4.1nm,0.8s,baz=34,slow=8.8,SNR=6.3						
ARU	**Arti**	**54.18 318**	*e*P	**P**	**16 08 01.4**	**-0.9**
comp=Z,9.2nm,0.6s						
ARU	**Arti**	**54.18 318**	*d i*P	**P**	**16 08 01.9**	**-0.4**
ARU			pmax	pmax		
comp=Z,4.0nm,0.6s						
SUMG	**Summit**	**54.80 7**	*e*P	**P**	**16 08 07.6**	**+0.5**
comp=Z,10nm,1.0s						
SUMG	**Summit**	**54.80 7**	*e*P	**P**	**16 08 07.6**	**+0.5**
SUMG			pmax	pmax		
comp=Z,10.0nm,1.0s						
PRGR	**Permogore**	**55.29 328**	*e*P	**P**	**16 08 09.8**	**-0.4**
PRGR			pmax	pmax		
comp=Z,11nm,0.6s						
TMCR	**Tamitsa**	**55.65 333**	*e*P	**P**	**16 08 12.9**	**+0.1**
TMCR			pmax	pmax		
comp=Z,17nm,0.8s						
AAK	**Ala-Archa**	**55.65 297**	*e*P	**P**	**16 08 12.4**	**-1.0**
comp=Z,3.9nm,1.0s						
AAK	**Ala-Archa**	**55.65 297**⇓	*e*P	**P**	**16 08 13.0**	**-0.4**
AAK			pmax	pmax		
comp=Z,3.0nm,1.3s						
NV01	**Mina Array Sit**	**55.85 70**	*e*P	**P**	**16 08 16.8**	**+1.9**
NVAR	**Mina Array Bea**	**55.85 70**	P	**P**	**16 08 16.8**	**+1.9**
comp=Z,0.7nm,0.7s,baz=275,slow=6.8,SNR=4.7						
MSF	**Maaselka**	**56.50 338**	P	**P**	**16 08 20.3**	**+1.4**
MSF			pmax	pmax		
comp=Z,19nm,1.2s						
KSH	**Kashi**	**56.93 293**	P	**P**	**16 08 23.9**	**+1.4**
KSH			sP	sP	16 08 47.9	+7.8
KSH			PP	**PP**	**16 10 32.9**	**+3.9**
KSH			S	**S**	**16 16 08.8**	**-4.2**
KSH	**Kashi**	**56.93 293**	SS	**SS**	**16 20 00.8**	**-0.5**
PAYA	**Payao**	**56.96 259**	P	**P**	**16 08 25.0**	**+2.2**
comp=Z,19μm,0.7s						
PHRA	**Phrae**	**57.40 258**	P	**P**	**16 08 28.0**	**+2.1**
comp=Z,1.7nm,1.2s						
KK31	**Karatay Array**	**57.49 300**	*e*P	**P**	**16 08 25.4**	**-0.9**
comp=Z,2.6nm,1.1s						
KK31	**Karatay Array**	**57.49 300**	*e*P	**P**	**16 08 25.4**	**-0.9**
KK31			pmax	pmax		
comp=Z,3.0nm,1.1s						
KKAR	**Karatay Array**	**57.49 300**	*e*P	**P**	**16 08 25.5**	**-0.8**
KKAR	**Karatay Array**	**57.49 300**	*e*P	**P**	**16 08 25.5**	**-0.8**
PD31	**Pinedale Array**	**57.77 61**	*e*P	**P**	**16 08 28.9**	**+0.4**
comp=Z,10nm,1.8s						
PDAR	**Pinedale Array**	**57.77 61**	P	**P**	**16 08 29.3**	**+0.8**
comp=Z,0.7nm,0.7s,baz=264,slow=1.0,SNR=5.5						
PDAR			LR	LR	16 31 37.5	
comp=Z,38nm,20.0s,baz=312,slow=34						
UTTA	**Uttaradit**	**57.79 257**	P	**P**	**16 08 31.5**	**+2.9**
comp=Z,10μm,0.8s						
KLMR	**Klimovskoe**	**57.81 330**	*e*P	**P**	**16 08 25.1**	**-3.1**
KLMR			pmax	pmax		
comp=Z,9.0nm,0.9s						
CMMT	**Chiang Mai**	**57.93 259**	P	**P**	**16 08 31.1**	**+1.4**
comp=Z,5.6nm,0.8s						
CHTO	**Chiang Mai**	**57.94 259**	*e*P	**P**	**16 08 30.2**	**+0.6**
comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**57.94 259**	*e*P	**P**	**16 08 30.2**	**+0.6**
CHTO			pmax	pmax		
comp=Z,6.0nm,0.8s						
CM31	**Chiang Mai Arr**	**58.21 259**	*e*P	**P**	**16 08 31.7**	**+0.2**
comp=Z,9.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**58.21 259**	*i*P	**P**	**16 08 31.6**	**0.0**
CMAR			pmax	pmax		
comp=Z,4.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**58.21 259**	P	**P**	**16 08 31.6**	**0.0**
comp=Z,2.8nm,0.4s,baz=27,slow=6.8,SNR=28						
CMAR			LR	LR	16 36 06.9	
comp=Z,135nm,18.8s,baz=49,slow=39						
JOF	**Joensuu**	**58.44 335**	P	**P**	**16 08 33.3**	**+0.7**
JOF			pmax	pmax		
comp=Z,14nm,1.1s						
ABKAR	**Akbulak array**	**58.52 311**	*e*P	**P**	**16 08 32.6**	**-0.7**
JIRN	**Jiri**	**59.19 276**	*e*P	**P**	**16 08 38.8**	**+0.1**
comp=Z,20nm,0.7s						
RAMN	**Ramite**	**59.45 275**	*e*P	**P**	**16 08 40.1**	**-0.3**
comp=Z,40nm,0.6s						
KKN	**Kakani**	**59.65 277**	*e*P	**P**	**16 08 41.6**	**-0.1**
comp=Z,22nm,0.6s						
PKI	**Pulchoki**	**59.73 277**	*e*P	**P**	**16 08 42.1**	**-0.3**
comp=Z,13nm,0.6s						
PKIN	**Phulchoki**	**59.73 277**	*e*P	**P**	**16 08 42.0**	**-0.4**
comp=Z,12nm,0.7s						
SUF	**Sumiainen**	**59.88 338**	P	**P**	**16 08 43.6**	**+1.1**
SUF			pmax	pmax		
comp=Z,27nm,0.7s						
DMN	**Daman**	**59.88 277**	*e*P	**P**	**16 08 43.5**	**+0.1**
comp=Z,23nm,0.7s						
GKN	**Gorkha**	**59.89 278**	*e*P	**P**	**16 08 43.3**	**0.0**
DANN	**Dangsing**	**60.17 279**	*e*P	**P**	**16 08 45.3**	**-0.1**
comp=Z,26nm,0.7s						
VAF	**Ylistaro**	**60.38 339**	P	**P**	**16 08 49.2**	**+3.3**
VAF			pmax	pmax		
comp=Z,18nm,1.2s						
KOLN	**Koldanda**	**60.69 278**	*e*P	**P**	**16 08 48.5**	**-0.3**
comp=Z,14nm,0.6s						
PYUN	**Piuthan**	**60.82 279**	*e*P	**P**	**16 08 49.5**	**-0.2**
comp=Z,18nm,0.7s						
FIA1	**FINESS Array S**	**61.00 337**	*e*P	**P**	**16 08 50.2**	**+0.1**
comp=Z,12nm,0.8s						
FIA0	**FINESS Array S**	**61.00 337**	*e*P	**P**	**16 08 51.0**	**+0.8**
FIA0	**FINESS Array S**	**61.00 337**	*e*P	**P**	**16 08 51.0**	**+0.8**
FINES	**FINESS Array B**	**61.00 337**	*e*P	**P**	**16 08 50.3**	**+0.1**
FINES	**FINESS Array B**	**61.00 337**	*i*P	**P**	**16 08 51.0**	**+0.8**
FINES			pmax	pmax		
comp=Z,9.0nm,0.5s						
FINES	**FINESS Array B**	**61.00 337**	P	**P**	**16 08 51.0**	**+0.8**
comp=Z,8.7nm,0.5s,baz=36,slow=7.7,SNR=62						
FINES			LR	LR	16 38 58.8	
comp=Z,106nm,18.9s,baz=26,slow=40						
NIL	**Nilore**	**62.61 290**	*e*P	**P**	**16 09 01.1**	**-0.4**
comp=Z,8.2nm,0.8s						
NIL	**Nilore**	**62.61 290**	*e*P	**P**	**16 09 01.1**	**-0.4**
NIL			pmax	pmax		
comp=Z,8.0nm,0.8s						
OBN	**Obninsk**	**63.36 328**	*e*P	**P**	**16 09 05.4**	**-0.6**
OBN			*e*		16 11 27.0	
OBN			pmax	pmax		
comp=Z,4.0nm,0.8s						
VSU	**Vasula**	**63.43 335**	*e*P	**P**	**16 09 07.0**	**+0.6**
VSU			IAmb	IAmb	16 09 08.3	
comp=Z,21nm,0.6s						
NC405	**NORSAR Array S**	**64.28 344**	*e*P	**P**	**16 09 12.4**	**+0.3**
comp=Z,61nm,1.7s						
NC204	**NORSAR Array S**	**64.29 344**	*e*P	**P**	**16 09 11.8**	**-0.4**
comp=Z,15nm,0.9s						
NB201	**NORSAR Array S**	**64.42 344**	*e*P	**P**	**16 09 13.0**	**0.0**
comp=Z,111nm,2.0s						
NB2	**NORSAR Subarra**	**64.44 344**	P	**P**	**16 09 13.3**	**+0.2**
comp=Z,2.8nm,0.6s,baz=23,slow=6.9						
NB200	**NORSAR Array S**	**64.44 344**	*e*P	**P**	**16 09 13.4**	**+0.2**
NOA	**NORSAR Array B**	**64.44 344**	P	**P**	**16 09 13.4**	**+0.2**
comp=Z,3.0nm,0.7s,baz=21,slow=6.6,SNR=21						
NOA			LR	LR	16 40 57.6	
comp=Z,60nm,18.8s,baz=55,slow=40						
NORES	**NORESS Array B**	**64.67 344**	P	**P**	**16 09 15.7**	**+1.1**
IDID	**Didziasalis**	**66.17 333**	*e*P	**P**	**16 09 24.6**	**+0.2**
IDID			IAmb	IAmb	16 09 26.4	
comp=Z,5.5nm,1.0s						
IIGN	**Ignalina**	**66.29 333**	*e*P	**P**	**16 09 25.8**	**+0.7**
IIGN			IAmb	IAmb	16 09 27.1	
comp=Z,6.3nm,0.6s						
SCHQ	**Schefferville**	**66.33 28**	LR	LR	16 42 18.0	
comp=Z,45nm,18.7s,baz=96,slow=40						
PABE	**Paberze**	**66.75 335**	*e*P	**P**	**16 09 28.2**	**+0.1**
PABE			IAmb	IAmb	16 09 30.0	
comp=Z,15nm,0.7s						
GEYT	**Alibeck**	**67.74 303**	P	**P**	**16 09 35.4**	**+0.7**
comp=Z,1.8nm,0.6s,baz=77,slow=6.5,SNR=5.1						
GEYT			LR	LR	16 41 42.6	
comp=Z,186nm,18.5s,baz=35,slow=38						
AKASG	**Malin Array Be**	**69.47 329**	*e*P	**P**	**16 09 45.0**	**-0.2**
AKASG	**Malin Array Be**	**69.47 329**	P	**P**	**16 09 45.4**	**+0.2**
comp=Z,1.0nm,0.3s,baz=29,slow=6.2,SNR=13						
AKASG			LR	LR	16 45 38.7	
comp=Z,164nm,18.2s,baz=20,slow=41						
AKBB	**Malin Array Si**	**69.47 329**	*e*P	**P**	**16 09 44.8**	**-0.4**
comp=Z,5.7nm,0.8s						
KIEV	**Kiev**	**69.48 329**	*e*P	**P**	**16 09 44.7**	**-0.5**
comp=Z,5.2nm,0.8s						
KIEV	**Kiev**	**69.48 329**⇑	*i*P	**P**	**16 09 45.0**	**-0.3**
KIEV	**Kiev**	**69.48 329**	*c i*P	**P**	**16 09 44.9**	**-0.3**
KIEV			pmax	pmax		
comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**70.31 317**	P	**P**	**16 09 50.5**	**+0.1**
comp=Z,3.4nm,0.8s,baz=1.2,slow=4.1,SNR=9.4						
ZEI	**Tsey**	**70.65 316**	*e*P	**P**	**16 09 49.7**	**-3.1**
ZEI			pmax	pmax		
comp=Z,2.0nm,0.5s						
TXAR	**Lajitas Array**	**70.79 67**	P	**P**	**16 09 55.4**	**+1.6**
comp=Z,0.5nm,0.8s,baz=306,slow=4.3,SNR=4.6						
TXAR			LR	LR	16 40 18.3	
comp=Z,33nm,18.7s,baz=0.0,slow=35						
HYB	**Hyderabad**	**71.49 275**	*i*P	**P**	**16 09 58.0**	**0.0**
EKA	**Eskdalemuir Ar**	**71.95 350**	P	**P**	**16 10 00.6**	**+0.4**
EKA			pmax	pmax		
comp=Z,1.0nm,0.3s						
GNI	**Garni**	**72.43 314**	LR	LR	16 46 41.1	
comp=Z,110nm,18.9s,baz=34,slow=40						
KOLS	**Kolonicke sedl**	**73.11 333**	*e*P	**P**	**16 10 08.3**	**+1.1**
KOLS			pmax	pmax		
comp=Z,4.0nm,1.1s						
KOLS	**Kolonicke sedl**	**73.11 333**	*e*P	**P**	**16 10 08.3**	**+1.1**
CLL	**Collm**	**73.24 339**	*e*P	**P**	**16 10 08.0**	**+0.1**
comp=Z,7.6nm,1.1s						
CLL	**Collm**	**73.24 339**	*e*P	**P**	**16 10 08.0**	**+0.1**
CLL			pmax	pmax		
comp=Z,8.0nm,1.1s						
CLL	**Collm**	**73.24 339**	*i*P	**P**	**16 10 08.6**	**+0.7**
comp=Z,5.0nm,0.9s						
CLL			*i* sP	**pwP**	**16 10 22.9**	**-0.8**
CLL			*e*		16 10 29.0	
UPC	**Upice**	**73.30 337**	AMS	AMS	16 48 50.0	
comp=Z,200nm,15.3s						
DPC	**Dobruska-Polom**	**73.38 337**	*e*P	**P**	**16 10 10.3**	**+1.5**
DPC			*e*		16 10 24.2	
DPC			MLR	MLR		
comp=Z,200nm,13.9s						
DPC	**Dobruska-Polom**	**73.38 337**	*e*P	**P**	**16 10 10.3**	**+1.5**
DPC			*ex*	x	16 10 24.2	
DPC			AMS	AMS	16 48 50.0	
comp=Z,200nm,13.9s						
OKC	**Ostrava-Krasne**	**73.40 336**	AMS	AMS	16 46 00.0	
comp=Z,200nm,18.6s						
BUR08	**Bucovina Ar. S**	**73.41 330**	*e*P	**P**	**16 10 09.7**	**+0.5**
comp=Z,3.8nm,0.8s						
BURAR	**Bucovina Array**	**73.43 330**	*e*P	**P**	**16 10 09.6**	**+0.3**
BURAR	**Bucovina Array**	**73.43 330**⇓	*i*P	**P**	**16 10 10.3**	**+1.0**
BURAR	**Bucovina Array**	**73.43 330**	P	**P**	**16 10 10.2**	**+1.0**
MORC	**Moravsky Berou**	**73.61 336**	*e*P	**P**	**16 10 10.5**	**+0.4**
comp=Z,3.7nm,0.8s						
MORC	**Moravsky Berou**	**73.61 336**⇓	*i*P	**P**	**16 10 11.0**	**+0.8**
MORC	**Moravsky Berou**	**73.61 336**	*e*P	**P**	**16 10 10.5**	**+0.4**
MORC			pmax	pmax		
comp=Z,4.0nm,0.8s						
PVCC	**Panska Ves**	**73.62 338**	AMS	AMS	16 47 50.0	
comp=Z,200nm,14.4s						
LANS	**Liptovska Anna**	**73.69 334**	*e*P	**P**	**16 10 13.0**	**+2.4**
LANS	**Liptovska Anna**	**73.69 334**	*e*P	**P**	**16 10 13.0**	**+2.4**
TRPA	**Tarpa**	**73.77 332**⇑	*i*P	**P**	**16 10 12.3**	**+1.3**
TESR	**Tescani**	**73.97 329**⇑	*i*P	**P**	**16 10 13.0**	**+0.7**
PRU	**Pruhonice**	**74.13 338**	*e*P	**P**	**16 10 14.0**	**+0.8**
PRU			MLR	MLR		
comp=Z,100nm,13.8s						
PRU	**Pruhonice**	**74.13 338**	*e*P	**P**	**16 10 14.0**	**+0.8**
PRU			AMS	AMS	16 48 50.0	
comp=Z,100nm,13.8s						
GOPC	**GO Pecny, Ondr**	**74.15 338**	*e*P	**P**	**16 10 15.9**	**+2.6**
GOPC	**GO Pecny, Ondr**	**74.15 338**	*e*P	**P**	**16 10 15.9**	**+2.6**
VYHS	**Vyhne**	**74.45 335**	*e*P	**P**	**16 10 16.1**	**+1.0**
VYHS			pmax	pmax		
comp=Z,12nm,2.3s						
VYHS	**Vyhne**	**74.45 335**	*e*P	**P**	**16 10 16.0**	**+1.0**
CFR	**Carcaliu**	**74.66 327**⇓	*i*P	**P**	**16 10 17.1**	**+0.8**
CFR	**Carcaliu**	**74.66 327**	P	**P**	**16 10 17.1**	**+0.8**
DRGR		**74.92 331**⇑	*i*P	**P**	**16 10 18.7**	**+0.8**
DRGR		**74.92 331**	P	**P**	**16 10 18.6**	**+0.7**
MODS	**Modra-Piesok**	**74.97 336**	*e*P	**P**	**16 10 19.4**	**+1.3**
MODS			pmax	pmax		
comp=Z,5.0nm,0.9s						
MODS	**Modra-Piesok**	**74.97 336**	*e*P	**P**	**16 10 19.4**	**+1.3**
MLR	**Muntele Rosu**	**75.10 329**	*e*P	**P**	**16 10 20.1**	**+1.1**
comp=Z,5.8nm,0.8s						
MLR	**Muntele Rosu**	**75.10 329**⇓	*i*P	**P**	**16 10 20.9**	**+1.9**
MLR	**Muntele Rosu**	**75.10 329**	P	**P**	**16 10 21.0**	**+1.9**
MLR			pmax	pmax		
comp=Z,8.0nm,0.9s						
KHC	**Kasperske Hory**	**75.16 338**	*e*P	**P**	**16 10 19.5**	**+0.3**
comp=Z,1.6nm,0.9s						
KHC	**Kasperske Hory**	**75.16 338**	*e*P	**P**	**16 10 19.5**	**+0.3**
KHC			pmax	pmax		
comp=Z,2.0nm,0.9s						
KHC	**Kasperske Hory**	**75.16 338**	*e*P	**P**	**16 10 20.8**	**+1.6**
KHC			*ep*P	**PcP**	**16 10 33.1**	**+0.6**
KHC			AMS	AMS	16 49 00.0	
comp=Z,200nm,14.9s						
WR1	**Warramunga Arr**	**75.38 205**	*e*P	**P**	**16 10 21.1**	**+0.4**
WRA	**Warramunga Arr**	**75.38 205**	P	**P**	**16 10 21.1**	**+0.4**
comp=Z,0.7nm,0.8s,baz=20,slow=6.0,SNR=4.5						
GEC2	**GERESS Array S**	**75.40 338**	*e*P	**P**	**16 10 20.4**	**-0.3**
comp=Z,22nm,1.9s						
GEC2	**GERESS Array S**	**75.40 338**	*e*P	**P**	**16 10 20.4**	**-0.3**
GEC2			pmax	pmax		
comp=Z,22nm,1.9s						
GERES	**GERESS Array B**	**75.40 338**	P	**P**	**16 10 21.8**	**+1.1**
comp=Z,1.4nm,0.8s,baz=69,slow=4.4,SNR=3.7						
GERES			LR	LR	16 47 48.9	
comp=Z,58nm,19.1s,baz=62,slow=39						
VOIR		**75.43 329**⇑	*i*P	**P**	**16 10 22.3**	**+1.4**
VOIR		**75.43 329**	P	**P**	**16 10 22.3**	**+1.4**
CONA	**Conrad Observa**	**75.74 336**	*e*P	**P**	**16 10 24.3**	**+1.7**
comp=Z,2.1nm,0.7s						
BZS	**Buzias**	**76.31 332**⇑	*i*P	**P**	**16 10 26.7**	**+0.9**
BZS	**Buzias**	**76.31 332**	P	**P**	**16 10 26.6**	**+0.8**
SOKA	**Soboth**	**77.11 336**	*e*P	**P**	**16 10 31.8**	**+1.5**
comp=Z,5.7nm,1.2s						
KBA	**Koelnbreinsper**	**77.14 338**	*e*P	**P**	**16 10 32.7**	**+2.1**
comp=Z,9.9nm,0.8s						
KBA	**Koelnbreinsper**	**77.14 338**	P	**P**	**16 10 32.9**	**+2.2**
KBA			pmax	pmax		
comp=Z,12nm,0.8s						
WATA	**Walderalm**	**77.30 339**	*e*P	**P**	**16 10 33.7**	**+2.2**
comp=Z,4.2nm,1.0s						
WTTA	**Wattenberg**	**77.36 339**	*e*P	**P**	**16 10 33.3**	**+1.5**
comp=Z,3.2nm,0.8s						
ECH	**Echery**	**77.37 342**	*e*P	**P**	**16 10 31.2**	**-0.5**
comp=Z,33nm,2.0s						
ECH	**Echery**	**77.37 342**	*e*P	**P**	**16 10 31.2**	**-0.5**
ECH			pmax	pmax		
comp=Z,33nm,2.0s						
MOTA	**Moosalm**	**77.40 339**	*e*P	**P**	**16 10 33.0**	**+0.9**
comp=Z,3.0nm,0.8s						
BR101	**Keskin Array S**	**77.42 321**	*e*P	**P**	**16 10 32.7**	**+0.4**
BRTR	**Keskin Array B**	**77.42 321**	*e*P	**P**	**16 10 31.7**	**-0.7**
BRTR	**Keskin Array B**	**77.42 321**	P	**P**	**16 10 32.7**	**+0.4**
comp=Z,1.1nm,0.6s,baz=45,slow=3.8,SNR=9.2						
BRTR			LR	LR	16 50 06.1	
comp=Z,70nm,20.6s,baz=34,slow=40						
SQTA	**Sankt Quirin**	**77.49 339**	*e*P	**P**	**16 10 34.3**	**+1.8**
comp=Z,3.1nm,0.8s						
ABTA	**Abfaltersbach**	**77.64 338**	*e*P	**P**	**16 10 34.7**	**+1.3**
comp=Z,6.3nm,1.1s						
FETA	**Feichten**	**77.78 339**	*e*P	**P**	**16 10 35.9**	**+1.6**
comp=Z,2.0nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**78.27 340**	*e*P	**P**	**16 10 37.4**	**+0.4**
comp=Z,38nm,2.0s						
VTS	**Vitosha**	**78.54 329**	*e*P	**P**	**16 10 38.6**	**+0.1**
comp=Z,3.2nm,0.7s						
VTS	**Vitosha**	**78.54 329**⇑	*i*P	**P**	**16 10 39.0**	**+0.5**
VTS	**Vitosha**	**78.54 329**	*e*P	**P**	**16 10 38.6**	**+0.1**
VTS			pmax	pmax		
comp=Z,3.0nm,0.7s						
TUE	**Stuetta**	**78.60 340**	*e*P	**P**	**16 10 38.5**	**-0.3**
comp=Z,6.2nm,0.7s						
AS31	**Alice Springs**	**79.05 205**	*e*P	**P**	**16 10 42.8**	**+1.6**
comp=Z,2.1nm,1.5s						
ASAR	**Alice Springs**	**79.05 205**	P	**P**	**16 10 42.8**	**+1.6**
comp=Z,0.5nm,0.6s,baz=15,slow=5.2,SNR=13						
ASAR			LR	LR	16 44 07.0	
comp=Z,16nm,21.6s,baz=75,slow=34						
PPT	**Papeete**	**81.91 132**	LR	LR	16 45 43.4	
comp=Z,89nm,18.8s,baz=342,slow=34						
ITM	**Ithomi**	**83.89 328**	*e*P	**P**	**16 11 06.0**	**-0.8**
comp=Z,8.8nm,1.0s						
ESDC	**Sonseca Array**	**87.48 348**	*e*P	**P**	**16 11 24.2**	**-0.4**
ESDC	**Sonseca Array**	**87.48 348**	P	**P**	**16 11 26.0**	**+1.4**
comp=Z,0.7nm,0.6s,baz=358,slow=4.6,SNR=5.2						

DDA 19 16:08:29.0, 37°.05N×28°.37E, h7km±1km, ML2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.26**	**134**	IAML_P			
comp=Z,1μm,0.1s							
TURN				*i* P	Pb	16 08 35.2	-0.8
TURN				*i* S	Sb	16 08 40.5	-0.1
DALY	**Dalyan (Mula)**	**0.33**	**136**	IAML_P			
comp=Z,540nm,0.1s							
DALY				*i* P	Pb	16 08 37.0	-0.2
TAVA	**DENIZLI_Tavas**	**0.60**	**46**	IAML_P			
comp=Z,160nm,0.1s							
TAVA				*i* P	Pb	16 08 41.9	+0.1
TAVA				*i* S	Sb	16 08 49.7	-0.8

KRSC 19 16:14:36.8±10.0, 53°.56N×162°.11E, h60km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.02**	**348**	P	Pn	16 14 56.6	+1.5
MKZ				*e*S	Sn	16 15 09.9	+1.3
SPN	**Mys Shipunski**	**1.33**	**250**	*e*P	Pn	16 15 00.7	+1.5
SPN				*e*S	Sn	16 15 17.5	+1.6
NLC	**Nalytchevo**	**1.70**	**258**	*e*P	Pn	16 15 06.5	+2.4
NLC				S	Sn	16 15 26.5	+1.7
KZV	**Kizimen**	**1.88**	**326**	*e*P	Pn	16 15 09.4	+2.6
KZV				*e*S	Sn	16 15 32.4	+2.9
TUMD	**Tumrok D**	**1.93**	**329**	*e*P	Pn	16 15 09.5	+2.3
TUMD				*e*S	Sn	16 15 32.7	+2.4
SDLR	**Sedlovina**	**1.95**	**263**	*e*P	Pn	16 15 09.6	+2.0
UGLR	**Uglovaya**	**2.00**	**261**	*e*P	Pn	16 15 10.7	+2.4
SMAR	**Somma**	**2.00**	**263**	*e*P	Pn	16 15 10.5	+2.1
KRER	**Koryakskii**	**2.02**	**264**	*e*P	Pn	16 15 11.2	+2.5
KRER				*e*S	Sn	16 15 35.5	+2.5
AVH	**Avacha**	**2.04**	**263**	P	Pn	16 15 11.2	+2.4
KRX	**Arik**	**2.08**	**266**	*e*P	Pn	16 15 11.6	+2.2
KRX				S	Sn	16 15 35.9	+1.7
DALK	**Dalny**	**2.08**	**257**	*e*P	Pn	16 15 11.3	+2.0
KOK	**Koryaka**	**2.09**	**264**	P	Pn	16 15 11.8	+2.2
RUS	**Russkaya**	**2.45**	**244**	S	Sn	16 15 44.9	+1.9
KRMR	**Karymshinskiy**	**2.50**	**255**	P	Pn	16 15 17.8	+2.8
KRMR				S	Sn	16 15 46.4	+2.1
MTVR	**Mutnovka**	**2.60**	**247**	*e*P	Pn	16 15 19.2	+2.6
MTVR				*e*S	Sn	16 15 49.6	+2.5
KBTR	**Krutoberegovo**	**2.69**	**9**	P	Pn	16 15 20.3	+2.8
BKI	**Bering**	**2.80**	**52**	S	Sn	16 15 53.0	+1.5
ASAK	**Asacha**	**2.80**	**247**	P	Pn	16 15 22.8	+3.6
APC	**Apacha**	**3.04**	**260**	P	Pn	16 15 26.2	+3.8
ESO	**Esso**	**3.08**	**322**	P	Pn	16 15 26.2	+3.2

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*IDC **19** 16:17:01.5±3.8, 51°.87N×160°.60E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.3/39, mbtmp3.7/4, ML2.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/37, Error ellipse: s-maj=85.8km s-min=45.2km az=17.0*

*KRSC **19** 16:17:05.2±10.0, 52°.10N×160°.68E, h60km±10km, ML4.0*

ISC 19 16:17:03.6±2.0, 52°.09N±0°.06×160°.65E±0°.06, h7km±11km, n28, σ1°31/39, mb3.8/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.08**	**340**	*e*P	**Pn**	**16 17 25.0**	**-0.2**
SPN				S	**Sg**	**16 17 37.8**	**-0.6**
NLC	**Nalytchevo**	**1.34**	**324**	*e*P	**Pg**	**16 17 29.5**	**+0.1**
RUS	**Russkaya**	**1.36**	**286**	P	**Pg**	**16 17 29.8**	**+0.2**
RUS				S	**Sb**	**16 17 46.0**	**-0.8**
DALK

n38,σ1°52/47,7C,Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.32**	**30**	*i* Pg	**Pb**	**16 32 52.7**	**-0.6**
EDRB	**Edirne**	**0.44**	**141**	PG	**Pn**	**16 32 55.5**	**-2.1**
EDRB				SG	**Sn**	**16 33 02.1**	**-3.2**
DIM	**Dimitrovgrad**	**0.64**	**258**	*i* Pg	**Pg**	**16 32 56.7**	**-1.6**
KIRK	**Kırklareli**	**0.68**	**127**	*i* P	**Pn**	**16 33 00.3**	**-0.6**
KIRK				*i* S	**Sn**	**16 33 09.3**	**-1.8**
KDZ	**Kurdzhali**	**0.89**	**233**	PG	**Pn**	**16 33 06.5**	**+2.7**
KDZ				SG	**Sn**	**16 33 18.8**	**+2.3**
KDZ	**Kurdzhali**	**0.89**	**233**	*i* Pg	**Pn**	**16 33 07.2**	**+3.4**
PHSR	**Pinarhisar**	**1.03**	**123**	PG	**Pn**	**16 33 07.7**	**+2.0**
PHSR				SG	**Sn**	**16 33 20.5**	**+0.7**
SZH	**Strazhica**	**1.12**	**344**	*i* P	**Pg**	**16 33 07.4**	**-0.1**
ROIA	**ROIAK**	**1.17**	**39**	*i* P	**Pg**	**16 33 09.3**	**+0.9**
RDO	**Rodhopi**	**1.21**	**211**	PG	**Pg**	**16 33 09.4**	**+0.2**
RDO				SG	**Sg**	**16 33 25.3**	**+0.3**
PRD	**Provadia**	**1.27**	**37**	*i* P	**Pg**	**16 33 09.8**	**-0.4**
ALN	**Alexandroupoli**	**1.31**	**191**	PN	**Pg**	**16 33 11.1**	**0.0**
ALN				SN	**Sg**	**16 33 27.6**	**-0.6**
RZN	**Rozhen**	**1.33**	**248**	P	**Pn**	**16 33 09.6**	**-0.4**
KESN	**Edirne-Kesan** comp=Z,436nm,0.3s	**1.38**	**170**	IAML_P			
KESN				*i* P	**Pg**	**16 33 12.9**	**+0.5**
KESN				*i* S	**Sg**	**16 33 31.4**	**+1.0**
ENEZ	**Enez**	**1.46**	**186**	PN	**Pg**	**16 33 13.9**	**0.0**
ERIK	**Erikli-Kesan**	**1.52**	**176**	PN	**Pg**	**16 33 14.8**	**-0.2**
ERIK				SN	**Sg**	**16 33 34.2**	**-0.6**
CTYL	**Yalikoy Yolu**	**1.60**	**116**	PN	**Pg**	**16 33 17.8**	**+1.2**
CTYL				SN	**Sg**	**16 33 39.2**	**+1.8**
CTYL	**Yalikoy Yolu**	**1.60**	**116⇑**	*i* P	**Pg**	**16 33 15.9**	**-0.7**
CTYL	**Yalikoy Yolu**	**1.60**	**116**	S	**Sg**	**16 33 39.1**	**+1.7**
SLVT	**Silivri**	**1.68**	**124**	PN	**Pg**	**16 33 18.5**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.79**	**177**	PN	**Pg**	**16 33 18.8**	**-1.4**
CTKS	**Kestanelik-??a**	**1.86**	**120**	PN	**Pg**	**16 33 21.3**	**-0.3**
ELBA	**Catalca** comp=Z,635nm,0.1s	**1.86**	**123**	IAML_P			
ELBA				*i* P	**Pg**	**16 33 20.9**	**-0.7**
PSN	**Preselentsi**	**2.00**	**41**	PN	**Pg**	**16 33 26.0**	**+1.8**
KLYT	**Kilyos**	**2.21**	**114**	PN	**Pg**	**16 33 26.5**	**-1.7**
KLYT	**Kilyos**	**2.21**	**114⇑**	*i* P	**Pn**	**16 33 22.2**	**+0.3**
KLYT	**Kilyos**	**2.21**	**114**	S	**Sg**	**16 33 58.1**	**+1.3**
ISK	**Istanbul-Kandi**	**2.31**	**118**	PN	**Pg**	**16 33 27.7**	**-2.4**
VTS	**Vitosha**	**2.36**	**282⇑**	*i* P	**Pn**	**16 33 24.4**	**+0.2**
VTS	**Vitosha**	**2.36**	**282**	S	**Sn**	**16 33 53.0**	**+0.1**
OUR	**Ouranopolis**	**2.58**	**225**	PN	**Pb**	**16 33 30.9**	**-0.9**
TLB	**Topalu**	**2.69**	**26⇑**	*i* P	**Pg**	**16 33 36.6**	**-0.8**
TLB	**Topalu**	**2.69**	**26**	S	**Sg**	**16 34 12.7**	**+0.5**
CFR	**Carcaliu**	**3.25**	**23⇑**	*i* P	**Pb**	**16 33 45.0**	**+1.8**
CFR	**Carcaliu**	**3.25**	**23**	S	**Sg**	**16 34 28.9**	**-1.3**
MLR	**Muntele Rosu**	**3.32**	**355⇑**	*i* P	**Pb**	**16 33 45.3**	**+0.9**
MLR	**Muntele Rosu**	**3.32**	**355**	S	**Sg**	**16 34 28.6**	**-3.7**
VOIR		**3.38**	**344⇑**	*i* P	**Pb**	**16 33 44.8**	**-0.7**

*ISCJB **19** 16:33:53.9±0.4,36°.84N±0°.04×5°.21E±0°.04,h13km, Error ellipse: s-maj=6.5km s-min=3.4km az=37.8*
*CRAAG **19** 16:33:54.5,36°.57N×5°.21E,MI3.0*
*MDD **19** 16:33:56.0±1.2,36°.69N×5°.29E,h12km±15km,mb4.3/8, Error ellipse: s-maj=9.1km s-min=6.1km az=179.0, PRXIMO*

ISC 19 16:33:54.5±0.9,36°.77N±0°.05×5°.28E±0°.03,h13km,n38, σ1°66/49,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.53**	**115**	P	**Pg**	**16 34 05.5**	**+0.6**
DFRA	**Djebel Bou Aff**	**0.53**	**115**	P	**Pg**	**16 34 05.5**	**+0.6**
SET	**Setif**	**0.58**	**170**	P	**Pb**	**16 34 05.0**	**-1.5**
SET	**Setif**	**0.58**	**170**	P	**Pb**	**16 34 05.0**	**-1.5**
CKHR	**Kef el Ahmar**	**0.78**	**166**	P	**Pb**	**16 34 08.5**	**-1.4**
CKHR	**Kef el Ahmar**	**0.78**	**166**	P	**Pb**	**16 34 08.5**	**-1.4**
CASM	**Ain Smara**	**1.10**	**117**	P	**Pb**	**16 34 15.5**	**+0.1**
CASM	**Ain Smara**	**1.10**	**117**	P	**Pb**	**16 34 15.5**	**+0.1**
CTEI	**Djebel Teioual**	**1.15**	**128**	P	**Pb**	**16 34 16.1**	**-0.2**
CTEI	**Djebel Teioual**	**1.15**	**128**	P	**Pb**	**16 34 16.1**	**-0.2**
CKFL	**Kef-Lekhel**	**1.22**	**107**	P	**Pn**	**16 34 17.7**	**+0.4**
CKFL	**Kef-Lekhel**	**1.22**	**107**	P	**Pn**	**16 34 17.7**	**+0.4**
CAEH	**'Ain El Ouahch**	**1.26**	**89**	P	**Pn**	**16 34 18.0**	**+0.2**
CAEH	**'Ain El Ouahch**	**1.26**	**89**	P	**Pn**	**16 34 18.0**	**+0.2**
AKET	**Djebel Ketaf**	**1.34**	**238**	P	**Pb**	**16 34 19.1**	**-0.4**
AKET	**Djebel Ketaf**	**1.34**	**238**	P	**Pb**	**16 34 19.1**	**-0.4**
CMAH	**Djebel Manchou**	**1.73**	**94**	P	**Pn**	**16 34 24.3**	**+0.1**
CMAH	**Djebel Manchou**	**1.73**	**94**	P	**Pn**	**16 34 24.3**	**+0.1**
ABA	**Alger-Bouzarea**	**1.80**	**272**	P	**Pb**	**16 34 27.0**	**-0.3**
ABA	**Alger-Bouzarea**	**1.80**	**272**	P	**Pb**	**16 34 27.0**	**-0.3**
ABSA	**Djebel Ababsia**	**1.84**	**105**	P	**Pg**	**16 34 31.9**	**+2.2**
CABS	**Djebel Ababsia**	**1.84**	**105**	P	**Pg**	**16 34 31.9**	**+2.2**
ETOS	**Mallorca** 3.5nm,0.1s,SNR=40	**3.57**	**328**	P	**Pn**	**16 34 50.7**	**+1.2**
ETOS				S	**Sn**	**16 35 29.5**	**-2.0**
EIBI	**Ibiza** 1.1nm,0.1s 8.3nm,0.1s,SNR=17	**3.84**	**307**	P	**Pn**	**16 34 55.0**	**+1.7**
EIBI				S	**Sn**	**16 35 37.9**	**-0.4**
EMUR	**La Murta** 0.3nm,0.1s 0.2nm,0.2s,SNR=6.0	**5.31**	**284**	P	**Pn**	**16 35 14.3**	**+0.9**
EMUR				S	**Sn**	**16 36 12.6**	**-1.9**
CFON	**Fontmartina** 0.2nm,0.0s 2.0nm,0.2s,SNR=7.0	**5.45**	**337**	P	**Pn**	**16 35 16.0**	**+0.5**
CFON				S	**Sn**	**16 36 15.2**	**-2.9**
EPOB	**Poblet** 0.3nm,0.1s,SNR=7.9 1.4nm,0.1s,SNR=18	**5.62**	**326**	P	**Pn**	**16 35 18.9**	**+1.1**
EPOB				S	**Sn**	**16 36 19.3**	**-3.0**
ECHE	**Chera** 0.2nm,0.1s 4.4nm,0.4s,SNR=7.9	**5.67**	**302**	P	**Pn**	**16 35 20.4**	**+1.9**
ETOB	**Tobarra** 0.3nm,0.1s,SNR=10	**5.73**	**291**	P	**Pn**	**16 35 21.0**	**+1.7**
ETOB				S	**Sn**	**16 36 23.1**	**-1.8**
EMOS	**Mosqueruela** 0.1nm,0.1s 0.5nm,0.1s,SNR=8.5	**5.76**	**310**	P	**Pn**	**16 35 21.1**	**+1.3**
EMOS				S	**Sn**	**16 36 23.7**	**-2.2**
EMIR	**Miracle** 0.0nm,0.1s,SNR=7.9 3.1nm,0.1s,SNR=13	**5.90**	**332**	P	**Pn**	**16 35 23.5**	**+1.8**
EMIR				S	**Sn**	**16 36 26.9**	**-2.2**
EJON	**La Jonquera** 1.1nm,0.1s,SNR=7.9 1.4nm,0.2s,SNR=7.9	**5.96**	**343**	P	**Pn**	**16 35 22.5**	**+0.1**
SJAF	**Saint Jean de** 0.4nm,0.1s,SNR=7.9	**6.00**	**343**	P	**Pn**	**16 35 23.0**	**+0.1**
SJAF				S	**Sn**	**16 36 26.7**	**-4.7**
CLLI	**Llivia** 0.3nm,0.1s,SNR=7.9 0.8nm,0.1s,SNR=7.9	**6.25**	**337**	P	**Pn**	**16 35 29.1**	**+2.7**
CSOR	**Sort** 1.6nm,0.2s,SNR=13	**6.45**	**332**	P	**Pn**	**16 35 31.6**	**+2.4**
CSOR				S	**Sn**	**16 36 40.4**	**-2.3**
EBER	**Berja** 0.3nm,0.2s,SNR=7.9 1.9nm,0.3s,SNR=7.9	**6.55**	**274**	P	**Pn**	**16 35 30.9**	**+0.2**
EQES	**Quesada** 0.2nm,0.1s,SNR=7.9	**6.74**	**281**	P	**Pn**	**16 35 35.2**	**+2.0**
EQES				S	**Sn**	**16 36 49.9**	**0.0**
EALK	**Alkurruntz** 0.9nm,0.2s,SNR=8.0	**8.28**	**323**	P	**Pn**	**16 35 56.8**	**+2.5**

MEX 19 16:37:29.6±0.5,19°.61N×103°.86W,h5km,MD3.5,Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.27**	**118**	*e*P	Pg	16 37 34.8	-0.2
EZ5V				*e*S	Sg	16 37 39.1	+0.4

WEL 19 16:41:54.9±1.2,34°S±7'×17°9E±°,h33km,ML4.2/18, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRZ	**Great Barrier**	**4.05**	**229**	P	Pn	16 42 54.4	-0.2
GRZ				S	Sn	16 43 42.3	+1.5
WMGZ	**Waiomatatini S**	**4.23**	**189**	P	Pn	16 42 56.3	-0.6
KUZ	**Kuaotunu**	**4.23**	**222**	P	Pn	16 42 57.6	+0.6
HAZ	**Te Kaha**	**4.28**	**196**	P	Pn	16 42 59.3	+1.7
PKGZ	**Pakihiroa**	**4.34**	**192**	P	Pn	16 42 58.7	0.0
PUZ	**Puketiti**	**4.50**	**190**	P	Pn	16 42 59.8	-0.9
PUZ				S	Sn	16 43 51.7	-0.1
RUGZ	**Raukumara Rang**	**4.50**	**196**	P	Pn	16 43 01.0	+0.2
WCZ	**Waipu Caves**	**4.63**	**239**	P	Pn	16 43 02.7	+0.1
WCZ				S	Sn	16 43 56.2	+1.0
TWGZ	**Tauwhareparae**	**4.64**	**192**	P	Pn	16 43 02.6	-0.1
OPRZ	**Ohinepanea**	**4.73**	**207**	P	Pn	16 43 05.3	+1.5
MKAZ	**Moumakai**	**4.80**	**223**	P	Pn	16 43 06.0	+1.1
MWZ	**Matawai**	**4.89**	**196**	P	Pn	16 43 05.8	-0.2
MWZ				S	Sn	16 44 02.8	+1.3
CNGZ	**Carnagh Statio**	**4.91**	**189**	P	Pn	16 43 05.8	-0.5
CNGZ				S	Sn	16 44 03.2	+1.2
OUZ	**Omahuta**	**4.92**	**250**	P	Pn	16 43 06.2	-0.3
OUZ				S	Sn	16 44 01.4	-0.9
URZ	**Urewera**	**4.92**	**200**	P	Pn	16 43 06.6	0.0
RAGZ	**Rawiri**	**5.07**	**196**	P	Pn	16 43 09.3	+0.8
TOZ	**Tahuroa Road**	**5.09**	**216**	P	Pn	16 43 10.9	+2.1
RRRZ	**Republican Roa**	**5.18**	**204**	P	Pn	16 43 14.4	+4.2
RIGZ	**Rimuhau**	**5.20**	**193**	P	Pn	16 43 09.1	-1.3
RIGZ				S	Sn	16 44 09.6	+0.5
RTZ	**Ruatahuna**	**5.29**	**200**	P	Pn	16 43 11.6	0.0
SNGZ	**Shannon Statio**	**5.36**	**196**	P	Pn	16 43 12.8	+0.3
RAHZ	**Arahi**	**5.55**	**198**	P	Pn	16 43 14.9	-0.2
MTHZ	**Maungataniwha**	**5.55**	**200**	P	Pn	16 43 15.4	+0.2
MTHZ				S	Sn	16 44 23.5	+5.6
BKZ	**Black Stump Fm**	**5.94**	**201**	P	Pn	16 43 19.9	-0.7
KAHZ	**Kahuranaki**	**6.43**	**196**	P	Pn	16 43 25.5	-1.8

TEH 19 16:50:16.4,26°.72N×57°.91E,h30km,ML3.6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.09**	**187**	*e*Pg	Pb	16 50 37.5	+0.9
KHNJ	**Kahnooj**	**1.24**	**351**	*e*Pg	Pb	16 50 38.8	-0.4
KHNJ				IAMB	IAmb	16 51 02.8	
NIAN	**Nian** comp=Z,0.0nm,0.7s	**1.27**	**311**	*e*Pg	Pb	16 50 40.6	+0.8
NIAN				IAMB	IAmb	16 51 04.7	
GENO	**Geno** comp=Z,0.0nm,0.6s	**1.69**	**294**	*e*Pn	Pb	16 50 46.8	-0.2
GENO				*e*Sg	Sb	16 51 10.1	+2.1
SHME	**Shamm**	**1.73**	**248**	*e*Pn	Pn	16 50 45.9	+1.5
MSFE	**Esma-Masafi**	**2.08**	**230**	*e*Pn	Pn	16 50 50.4	+1.1
ASHO	**Ashiyiah**	**2.63**	**220**	*e*Pn	Pb	16 51 00.3	-2.6
NAZ	**Nazwa, Dubai**	**2.66**	**230**	*e*Pn	Pb	16 51 01.3	-2.1
FAQ	**Al Faqa, Dubai**	**2.87**	**227**	*e*Pn	Pb	16 51 05.4	-1.6
NGRK	**Negar Kerman**	**3.09**	**341**	*e*Pn	Pb	16 51 08.5	-2.5
NGRK				IAMB	IAmb	16 52 02.3	
CHMN	**Cheshme madani** comp=Z,0.0nm,0.4s	**3.15**	**354**	*e*Pn	Pb	16 51 10.0	-1.8
CHMN				IAMB	IAmb	16 52 12.8	
HOQ	**Hoqain** comp=Z,0.0nm,0.6s	**3.17**	**190**	*e*Pn	Pn	16 51 05.2	+0.9
BIDO	**Bidbid**	**3.19**	**176**	*e*Pn	Pn	16 51 05.4	+0.8
ALNE	**Al Ain**	**3.30**	**217**	*e*Pn	Pb	16 51 12.4	-1.8
TVBK	**TV Kerman**	**3.41**	**343**	*e*Pn	Pb	16 51 12.5	-3.8
TVBK				IAMB	IAmb	16 52 30.0	
KHGB	**Koh Gabri** comp=Z,0.0nm,0.6s	**3.85**	**341**	*e*Pn	Pb	16 51 19.1	-4.7
KHGB				IAMB	IAmb	16 52 37.0	
IKOO	**Kooshah** comp=Z,0.0nm,0.8s	**5.76**	**9**	*e*Pn	Pn	16 51 44.4	+4.3
IKAZ	**Kazeroun**	**6.16**	**301**	*e*Pn	Pn	16 51 46.3	+0.6
ITEG	**Tejag**	**6.20**	**7**	*e*Pn	Pn	16 51 51.0	+5.0
TPRV	**Parvadeh(Tabas**	**6.38**	**351**	*e*Pn	Pn	16 51 53.3	+4.9
KLNJ	**Kolanjah**	**7.00**	**309**	*e*Pn	Pn	16 51 59.6	+2.4
IRAM	**Ramesheh**	**7.00**	**318**	*e*Pn	Pn	16 52 00.1	+3.0

IDC 19 17:03:58.0±9.0,2°.66S×138°.63E,h0km,mb3.1/2, mb1 3.4/3,mb1mx3.2/22,mbtmp3.2/3,ML3.1/1,MS3.3/1, Ms1 3.3/1,ms1mx2.5/12,Error ellipse: s-maj=385.4km s-min=29.8km az=85.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=12,slow=12,SNR=6.8	**17.68**	**193**	P	Pn	17 08 05.8	-0.1
ASAR	**Alice Springs** 0.3nm,0.6s,baz=17,slow=11,SNR=6.9	**21.38**	**192**	P	P	17 08 47.4	0.0
DZM	**Mont Dzumac** comp=Z,42nm,18.0s,baz=36,slow=34	**33.20**	**128**	LR	LR	17 22 39.7	
MKAR	**Makanchi Array** 0.4nm,0.9s,baz=107,slow=9.2,SNR=3.1	**69.70**	**322**	P	P	17 15 09.8	0.0

IDC 19 17:16:22.0±8.0,32°.39S×179°.83E,h403km±95km,mb2.7/2, mb1 3.0/3,mb1mx2.8/30,mbtmp3.6/3,Error ellipse: s-maj=109.9km s-min=39.5km az=4.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 2.5nm,0.3s,baz=266,slow=4.7,SNR=27	**6.26**	**200**	P	P	17 17 58.0	+0.9
URZ				S	S	17 19 15.0	-0.3
ASAR	**Alice Springs** 3.8nm,0.3s,baz=66,slow=23,SNR=16	**41.20**	**270**	P	P	17 23 29.8	+0.2
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=107,slow=7.0,SNR=18	**42.38**	**276**	P	P	17 23 38.6	-0.5
FINES	**FINESS Array B** 0.4nm,0.4s,baz=112,slow=8.1,SNR=12 1.4nm,0.7s,baz=33,slow=3.3,SNR=8.6	**146.32**	**337**	PKPbc	PKPbc	17 35 14.6	-0.8

*CRAAG **19** 17:21:10.0,36°.65N×5°.24E,MI3.0*
*ISCJB **19** 17:21:11.1±0.4,36°.83N±0°.04×5°.22E±0°.04,h19km, Error ellipse: s-maj=7.0km s-min=3.5km az=38.7*
*MDD **19** 17:21:12.2±1.1,36°.71N×5°.26E,h5km±13km,mb4.1/4, Error ellipse: s-maj=10.0km s-min=6.2km az=179.0, PRXIMO*

ISC 19 17:21:12.0±0.9,36°.73N±0°.04×5°.29E±0°.03,h19km,n34, σ1°55/44,1C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.50**	**111**	P	**Pb**	**17 21 21.7**	**-0.6**
DFRA	**Djebel Bou Aff**	**0.50**	**111**	P	**Pb**	**17 21 21.7**	**-0.6**
SET	**Setif**	**0.53**	**171**	P	**Pb**	**17 21 23.0**	**+0.2**
SET	**Setif**	**0.53**	**171**	P	**Pb**	**17 21 23.0**	**+0.2**
CKHR	**Kef el Ahmar**	**0.73**	**166**	P	**Pb**	**17 21 24.6**	**-1.6**
CKHR	**Kef el Ahmar**	**0.73**	**166**	P	**Pb**	**17 21 24.6**	**-1.6**
CASM	**Ain Smara**	**1.07**	**115**	P	**Pb**	**17 21 32.0**	**0.0**
CASM	**Ain Smara**	**1.07**	**115**	P	**Pb**	**17 21 32.0**	**0.0**
CTEI	**Djebel Teioual**	**1.12**	**126**	P	**Pn**	**17 21 32.1**	**-0.7**
CTEI	**Djebel Teioual**	**1.12**	**126**	P	**Pn**	**17 21 32.1**	**-0.7**
CKFL	**Kef-Lekhel**	**1.19**	**105**	P	**Pn**	**17 21 35.0**	**+1.2**
CKFL	**Kef-Lekhel**	**1.19**	**105**	P	**Pn**	**17 21 35.0**	**+1.2**
CAEH	**'Ain El Ouahch**	**1.25**	**87**	P	**Pn**	**17 21 36.0**	**+1.5**
CAEH	**'Ain El Ouahch**	**1.25**	**87**	P	**Pn**	**17 21 36.0**	**+1.5**
AKET	**Djebel Ketaf**	**1.33**	**240**	P	**Pn**	**17 21 35.0**	**-0.7**
AKET	**Djebel Ketaf**	**1.33**	**240**	P	**Pn**	**17 21 35.0**	**-0.7**
CMAH	**Djebel Manchou**	**1.71**	**93**	P	**Pn**	**17 21 41.5**	**+0.6**
CMAH	**Djebel Manchou**	**1.71**	**93**	P	**Pn**	**17 21 41.5**	**+0.6**
ABA	**Alger-Bouzarea**	**1.81**	**273**	P	**Pb**	**17 21 45.0**	**+0.4**
ABA	**Alger-Bouzarea**	**1.81**	**273**	P	**Pb**	**17 21 45.0**	**+0.4**
ABSA	**Djebel Ababsia**	**1.82**	**104**	P	**Pg**	**17 21 48.8**	**+1.8**
CABS	**Djebel Ababsia**	**1.82**	**104**	P	**Pg**	**17 21 48.8**	**+1.8**
ETOS	**Mallorca** 2.7nm,0.1s,SNR=24	**3.61**	**328**	P	**Pn**	**17 22 07.2**	**+0.2**
ETOS				S	**Sn**	**17 22 46.9**	**-2.2**
EIBI	**Ibiza** 2.0nm,0.1s,SNR=7.9 5.0nm,0.1s,SNR=18	**3.88**	**307**	⇑P	**Pn**	**17 22 11.4**	**+0.8**
EIBI				S	**Sn**	**17 22 54.0**	**-1.6**
EMUR	**La Murta** 2.9nm,0.1s,SNR=7.9 1.3nm,0.3s,SNR=7.9	**5.33**	**284**	P	**Pn**	**17 22 30.6**	**+0.1**
EMUR				S	**Sn**	**17 23 30.4**	**-1.1**
CFON	**Fontmartina** 0.3nm,0.2s,SNR=7.9 0.7nm,0.1s,SNR=7.9	**5.50**	**337**	P	**Pn**	**17 22 32.7**	**-0.2**
CFON				S	**Sn**	**17 23 32.0**	**-3.6**
EPOB	**Poblet** 1.5nm,0.1s,SNR=7.9 0.7nm,0.1s,SNR=11	**5.67**	**326**	P	**Pn**	**17 22 35.7**	**+0.5**
EPOB				S	**Sn**	**17 23 36.4**	**-3.4**
ETOB	**Tobarra** 0.9nm,0.1s,SNR=7.9 0.5nm,0.1s,SNR=6.3	**5.75**	**291**	P	**Pn**	**17 22 38.1**	**+1.6**
ETOB	1.0nm,0.2s,SNR=7.9			S	**Sn**	**17 23 41.2**	**-0.8**
EMOS	**Mosqueruela** 0.7nm,0.2s,SNR=11	**5.80**	**311**	P	**Pn**	**17 22 37.9**	**+0.7**
EMOS	0.4nm,0.2s,SNR=7.9			S	**Sn**	**17 23 40.4**	**-2.8**
SJAF	**Saint Jean de** 0.1nm,0.1s,SNR=7.9	**6.04**	**343**	P	**Pn**	**17 22 40.7**	**+0.4**
SJAF	0.1nm,0.1s,SNR=7.9			S	**Sn**	**17 23 45.6**	**-3.4**
CLLI	**Llivia** 0.1nm,0.1s,SNR=7.9	**6.29**	**337**	P	**Pn**	**17 22 44.9**	**+1.0**
CLLI	0.6nm,0.3s,SNR=7.9			S	**Sn**	**17 23 52.6**	**-2.7**
CSOR	**Sort** 0.5nm,0.2s,SNR=7.9	**6.49**	**332**	P	**Pn**	**17 22 48.3**	**+1.7**
EQES	**Quesada** 0.3nm,0.1s,SNR=7.9	**6.76**	**282**	P	**Pn**	**17 22 52.6**	**+2.3**
EQES	0.2nm,0.2s,SNR=7.9			S	**Sn**	**17 24 07.0**	**+0.3**
EALK	**Alkurruntz** 2.0nm,0.3s,SNR=7.9	**8.32**	**323**	P	**Pn**	**17 23 13.3**	**+1.6**

*JMA **19** 17:37:13.2±0.1,24°.09N×121°.65E,h30km±1km,M2.6*
*ISCJB **19** 17:37:14.3±0.2,24°.132N±0°.010×121°.73E±0°.01, h25km±1km,Error ellipse: s-maj=2.2km s-min=1.4km az=33.2*
*TAP **19** 17:37:14.0,24°.15N×121°.67E,h28km,ML3.4,B*

ISC 19 17:37:13.3±0.9,24°.10N±0°.01×121°.79E±0°.02,h30km±5km, n112,σ1°17/218,2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=235	**0.17**	**264**	*i* P	**Pb**	**17 37 19.3**	**+0.1**
TWD	baz=235			*i* S	**Sb**	**17 37 23.0**	**-0.2**
NACB	**Ninganchiao** baz=278	**0.19**	**293**	*e*P	**Pb**	**17 37 19.1**	**-0.3**
NACB	baz=278			*e*S	**Sb**	**17 37 22.9**	**-0.7**
HWA	**Hwalien** baz=206	**0.20**	**234**	P	**Pn**	**17 37 20.4**	**+0.1**
HWA	baz=206			*e*S	**Sb**	**17 37 23.9**	**+0.1**
ENLB	**Shoufeng** baz=192	**0.26**	**221**	*e*P	**Pn**	**17 37 21.1**	**0.0**
ENLB	baz=192			*e*S	**Sn**	**17 37 26.6**	**+0.6**
ETLH	**Xiulin Townshi** baz=281	**0.30**	**291**	*e*P	**Pb**	**17 37 20.0**	**-0.8**
ETLH	baz=281			*e*S	**Sb**	**17 37 24.1**	**-1.8**
NANB	**Nanao** baz=8.0	**0.33**	**354**	*e*P	**Pb**	**17 37 21.1**	**-0.1**
NANB	baz=8.0			*e*S	**Sb**	**17 37 26.5**	**+0.1**
ENA	**Nanau** baz=8.0	**0.33**	**353**	*i* P	**Pb**	**17 37 21.1**	**-0.1**
ENA	baz=8.0			S	**Sb**	**17 37 26.6**	**+0.1**
ESL	**Shilin** baz=223	**0.43**	**229**	P	**Pb**	**17 37 22.6**	**-0.1**
ESL	baz=223			S	**Sb**	**17 37 28.4**	**-0.5**
WHF	**Hehuan Shan** baz=269	**0.48**	**276⇓**	*i* P	**Pb**	**17 37 22.7**	**-1.0**
WHF	baz=269			*i* S	**Sb**	**17 37 28.9**	**-1.9**
NNSB	**Datong** baz=315	**0.49**	**312**	*e*P	**Pb**	**17 37 22.8**	**-0.9**
NNSB	baz=315			*e*S	**Sb**	**17 37 28.9**	**-1.9**
NNS	**Nan Shan** baz=316	**0.51**	**312**	*i* P	**Pb**	**17 37 23.0**	**-0.9**
NNS	baz=316			*i* S	**Sb**	**17 37 29.3**	**-1.9**
TWC	**Suao** baz=15	**0.51**	**7**	P	**Pb**	**17 37 24.4**	**+0.5**
TWC	baz=15			S	**Sb**	**17 37 31.6**	**+0.4**
EGFH	**Guangfu** baz=216	**0.54**	**217**	*e*P	**Pb**	**17 37 24.3**	**-0.1**
EGFH	baz=216			*e*S	**Sb**	**17 37 31.8**	**-0.1**
EOS1	**EOS1** baz=46	**0.55**	**35**	*e*P	**Pn**	**17 37 26.8**	**+1.8**
EOS1	baz=46			*e*S	**Sn**	**17 37 33.7**	**+0.5**
CHGB	**Renai** baz=255	**0.56**	**266**	*e*P	**Pb**	**17 37 24.2**	**-0.6**
CHGB	baz=255			*e*S	**Sb**	**17 37 30.8**	**-2.0**
NDT	**Datong Townshi** baz=340	**0.56**	**334**	P	**Pb**	**17 37 24.2**	**-0.5**
NDT	baz=340			S	**Sb**	**17 37 31.0**	**-1.5**
ENTT	**Nioudou** baz=347	**0.57**	**340**	*i* P	**Pb**	**17 37 24.5**	**-0.5**
ENTT	baz=347			*i* S	**Sb**	**17 37 32.0**	**-0.9**
OWD	**Renai** baz=249	**0.57**	**256**	P	**Pb**	**17 37 24.4**	**-0.6**
OWD	baz=249			*e*S	**Sb**	**17 37 31.1**	**-2.0**
TWT	**Tachien** baz=282	**0.58**	**286**	*e*P	**Pb**	**17 37 24.3**	**-0.8**
TWT	baz=282			*i* S	**Sb**	**17 37 31.6**	**-1.6**
TDCB	**Techi** baz=283	**0.59**	**285**	*e*P	**Pb**	**17 37 24.4**	**-0.9**
TDCB	baz=283			*e*S	**Sb**	**17 37 31.8**	**-1.8**
TWE	**Neicheng** baz=355	**0.63**	**350**	P	**Pb**	**17 37 25.5**	**-0.3**
TWE	baz=355			S	**Sb**	**17 37 33.9**	**-0.5**
ILA	**Ilan**	**0.67**	**357**	*e*P	**Pb**	**17 37 26.8**	**+0.4**
ILA				*e*S	**Sb**	**17 37 34.5**	**-0.9**
YHNB	**Yeheng** baz=322	**0.68**	**327**	*e*P	**Pb**	**17 37 25.8**	**-1.0**
YHNB	baz=322			*e*S	**Sb**	**17 37 33.8**	**-2.1**
VWDT	**VWDT** baz=228	**0.68**	**240**	*e*P	**Pb**	**17 37 26.5**	**-0.2**
VWDT	baz=228			*e*S

TIPB	Shuangxi	0.87	2	eP	Pn	17 37 30.3	+0.8
	baz=357						
TIPB				eS	Sn	17 37 41.9	+0.7
	baz=357						
TYC	Yuchr	0.87	257	P	Pb	17 37 29.3	-0.6
	baz=249						
TYC				S	Sb	17 37 39.9	-1.3
	baz=249						
LIOB	Emei	0.89	308	P	Pb	17 37 29.8	-0.4
	baz=309						
LIOB				S	Sb	17 37 40.6	-1.1
	baz=309						
NSTT	Nanjuang	0.89	307	i P	Pb	17 37 29.7	-0.5
	baz=307						
NSTT				i S	Sb	17 37 40.1	-1.7
	baz=307						
NHDH	Xindian Distri	0.89	345	eP	Pb	17 37 30.2	0.0
	baz=348						
NHDH				eS	Sb	17 37 41.5	-0.3
	baz=348						
WLTB	Daxi	0.89	327	eP	Pb	17 37 30.3	0.0
	baz=326						
WLTB				eS	Sb	17 37 40.7	-1.1
	baz=326						
TWA	Mucha	0.90	348	P	Pb	17 37 30.3	0.0
	baz=353						
TWA				S	Sb	17 37 41.6	-0.4
	baz=353						
TATO	Taipei	0.91	343	eP	Pn	17 37 30.5	+0.4
	baz=347						
TATO				eS	Sb	17 37 42.0	-0.5
	baz=347						
TWB1	Santiao Chiao	0.92	11	eP	Pn	17 37 31.6	+1.4
	baz=17						
TWB1				eS	Sn	17 37 43.7	+1.2
	baz=17						
WHYT	Xinyi Township	0.94	245	eP	Pn	17 37 30.8	+0.3
	baz=242						
WHYT				eS	Sb	17 37 43.2	-0.1
	baz=242						
TWQ1	Liyutan	0.96	285	P	Pn	17 37 31.3	+0.7
	baz=284						
TWQ1				i S	Sb	17 37 43.3	-0.4
	baz=284						
TAP	Taipei	0.97	345	eP	Pb	17 37 31.9	+0.4
	baz=348						
TAP				eS	Sb	17 37 43.6	-0.4
	baz=348						
YUS	Yu-Shan	0.97	232	P	Pn	17 37 31.6	+0.2
	baz=219						
YUS				eS	Sb	17 37 43.5	-1.2
	baz=219						
NSY	Sanyi	0.99	289	i P	Pb	17 37 32.3	+0.4
	baz=287						
NSY				i S	Sb	17 37 44.8	+0.2
	baz=287						
SBCB	Hsinchu	1.00	314	eP	Pn	17 37 32.3	+0.9
	baz=314						
SBCB				eS	Sb	17 37 44.4	-0.6
	baz=314						
NMLH	Miaoli	1.01	296	eP	Pn	17 37 32.4	+1.0
	baz=295						
NMLH				eS	Sb	17 37 45.3	+0.3
	baz=295						
TCU	Taichung	1.01	273	P	Pb	17 37 32.8	+0.5
	baz=270						
TCU				eS	Sb	17 37 45.0	-0.3
	baz=270						
HSN	Hsinchu	1.02	313	P	Pn	17 37 32.5	+0.9
	baz=317						
HSN				S	Sb	17 37 44.9	-0.6
	baz=317						
NCU	National Centr	1.02	328	P	Pn	17 37 32.5	+0.9
	baz=340						
NCU				S	Sn	17 37 46.3	+1.3
	baz=340						
NCUH	Zhongli	1.02	328	P	Pn	17 37 32.5	+0.9
	baz=340						
NCUH				eS	Sb	17 37 46.3	+0.7
	baz=340						
WNT	Mingjian	1.03	258	P	Pb	17 37 32.9	+0.3
	baz=255						
WNT				eS	Sb	17 37 46.1	+0.4
	baz=255						
TWS1	Kuangyinshan	1.05	342	P	Pb	17 37 33.1	+0.2
	baz=354						
TWS1				S	Sb	17 37 46.2	-0.1
	baz=354						
YM01	YM01	1.06	349	eP	Pb	17 37 33.3	+0.2
	baz=352						
YM01				eS	Sb	17 37 46.3	-0.4
	baz=352						
CHKT	Chengkung	1.07	201	eP	Pb	17 37 34.5	+1.4
	baz=212						
CHKT				eS	Sn	17 37 48.5	+2.5
	baz=212						
ALS	Alishan	1.07	237	eP	Pn	17 37 33.2	+0.6
	baz=224						
ALS				eS	Sb	17 37 47.0	-0.2
	baz=224						
YM10	YM10	1.07	349	eP	Pn	17 37 32.9	+0.6
	baz=351						
YM10				eS	Sb	17 37 46.2	-0.8
	baz=351						
WDJ	Dajia District	1.07	284	eP	Pn	17 37 33.1	+0.8
	baz=282						
WDJ				eS	Sn	17 37 46.0	-0.2
	baz=282						
YM11	YM11	1.08	350	eP	Pn	17 37 33.1	+0.6
	baz=341						
YM11				eS	Sn	17 37 47.0	+0.5
	baz=341						
YM07	YM07	1.08	352	eP	Pn	17 37 32.7	+0.2
	baz=344						
YM07				eS	Sn	17 37 47.2	+0.7
	baz=344						
YM08	YM08	1.10	351	eP	Pb	17 37 33.9	+0.2
	baz=354						
NTST	Danshui	1.10	344	eP	Pb	17 37 34.2	+0.4
	baz=356						
NTST				eS	Sb	17 37 48.2	+0.4
	baz=356						
ANP	Anpu	1.11	347	eP	Pb	17 37 34.1	+0.1
	baz=350						
ANP				eS	Sn	17 37 47.0	-0.2
	baz=350						
JYNG	Yonagunijimaku	1.11	71	P	Pb	17 37 35.2	+1.2
JYNG				eS	Sn	17 37 50.3	+3.1
WCHH	Zhanghua	1.12	269	eP	Pb	17 37 34.4	+0.4
	baz=267						
WCHH				eS	Sn	17 37 47.6	+0.3
	baz=267						
CHN5	Tsauling	1.13	244	eP	Pb	17 37 34.4	+0.1
	baz=230						
CHN5				eS	Sn	17 37 48.8	+1.1
	baz=230						
ELDTW	Lidau	1.15	218	eP	Pn	17 37 33.8	+0.4
	baz=216						
ELDTW				eS	Sb	17 37 49.7	+0.5
	baz=216						
YOJ	Yonaguni jima	1.18	72	eP	Pb	17 37 35.9	+0.9
	baz=87						
YOJ				eS	Sb	17 37 52.9	+3.0
	baz=87						
YOJ	Yonaguni jima	1.18	72	P	Pb	17 37 35.9	+0.9
YOJ				S	Sb	17 37 52.5	+2.6
TWY	Chenhua	1.18	352	eP	Pb	17 37 35.7	+0.6
	baz=345						
TWY				eS	Sn	17 37 50.1	+1.2
	baz=345						
WGK	Gukeng	1.19	250	P	Pb	17 37 35.6	+0.3
	baz=248						
WGK				S	Sb	17 37 50.8	+0.5
	baz=248						
WDLH	Douliu	1.21	251	eP	Pb	17 37 36.1	+0.4
	baz=248						
WDLH				eS	Sn	17 37 50.9	+1.3
	baz=248						
RLNB	Erlin	1.32	261	eP	Pn	17 37 36.9	+1.3
	baz=259						
RLNB				eS	Sn	17 37 53.5	+1.3
	baz=259						
CHN4	Tsaushan	1.32	236	eP	Pb	17 37 38.0	+0.5
	baz=235						
CHN4				eS	Sb	17 37 54.3	+0.3
	baz=235						
CHN2	Minshiung	1.33	245	eP	Pb	17 37 37.8	+0.2
	baz=244						
CHN2				eS	Sb	17 37 55.4	+1.3
	baz=244						
STYT	Tauyuan	1.33	226	eP	Pb	17 37 37.5	-0.1
	baz=222						
WTP	Ta-pu	1.37	232	P	Pb	17 37 37.9	-0.4
	baz=230						
WTP				eS	Sb	17 37 55.5	0.0
	baz=230						
CHY	Chiayi	1.38	245	eP	Pb	17 37 38.7	+0.2
	baz=243						
CHY				eS	Sn	17 37 55.4	+1.6
	baz=243						
WTCT	Ta-ch'eng	1.40	261	eP	Pn	17 37 37.8	+1.1
	baz=259						
WTCT				eS	Sn	17 37 55.0	+0.9
	baz=259						
TWGBT	Beinan	1.43	207	eP	Pb	17 37 39.2	-0.1
	baz=198						
TWGBT				eS	Sb	17 37 57.9	+0.7
	baz=198						
TWG	Pinlang	1.43	207	eP	Pb	17 37 39.4	+0.1
	baz=198						
TWG				eS	Sb	17 37 57.7	+0.5
	baz=198						
CHN1	Nanshi	1.47	232	P	Pb	17 37 39.9	-0.1
	baz=230						
CHN1				eS	Sb	17 37 58.1	-0.2
	baz=230						
SNST	Tainan City	1.47	234	eP	Pb	17 37 40.0	+0.1
	baz=234						
SNST				eS	Sb	17 37 57.9	-0.4
	baz=234						
WLGB	Puzi	1.50	246	eP	Pn	17 37 39.6	+1.6
	baz=245						
WLGB				eS	Sn	17 37 58.5	+2.0
	baz=245						
SGST	Jiashian	1.50	228	eP	Pb	17 37 40.6	+0.1
	baz=220						
SGST				eS	Sb	17 37 58.9	-0.2
	baz=220						
WSF	Szhu	1.50	253	eP	Pn	17 37 39.6	+1.5
	baz=251						
WSF				eS	Sb	17 37 59.1	-0.1
	baz=251						
SLGT	Liugui	1.52	224	eP	Pb	17 37 40.5	-0.3
	baz=224						
SLGT				eS	Sb	17 38 01.3	+1.7
	baz=224						
CHN8	Yiju	1.63	243	P	Pn	17 37 41.5	+1.7
	baz=231						
CHN8				eS	Sn	17 38 00.9	+1.1
	baz=231						
ECL	Taimali	1.68	207	eP	Pb	17 37 42.8	-0.8
	baz=195						
SSD	Sandimen	1.71	218	eP	Pb	17 37 43.5	-0.6
	baz=209						
SSD				eS	Sb	17 38 04.6	-0.7
	baz=209						
IRIF	Iriomote-Funau	1.79	82	P	Pb	17 37 44.3	-1.1
IRIF				eS	Sb	17 38 06.7	-0.8
MASBT	Mashibuluo	1.82	216	eP	Pb	17 37 45.0	-1.0
	baz=220						
MASBT				eS	Sb	17 38 08.0	-0.4
	baz=220						
HATJ	Hateruma jima	1.85	91	eS	Sb	17 38 09.1	0.0
TAW	Tawu	1.92	205	eP	Pb	17 37 46.4	-1.2
	baz=193						
SSPT	Xinbi	1.96	215	eP	Pb	17 37 47.7	-0.6
	baz=220						
SSPT				eS	Sb	17 38 11.3	-1.0
	baz=220						
SCZT	Fangliau	2.03	212	eP	Pb	17 37 48.3	-1.1
	baz=217						
SCZT				eS	Sb	17 38 12.5	-1.7
	baz=217						
JKRS	Kuro-shima	2.04	86	P	Pb	17 37 48.6	-1.0
JKRS				eS	Sb	17 38 13.3	-1.2
LAY	Lan-yu	2.06	186	eP	Pb	17 37 49.1	-1.0
	baz=172						
LAY				eS	Sb	17 38 13.5	-1.8
	baz=172						
PHUB	P'eng-hu	2.11	254	eP	Pn	17 37 47.0	+0.4
	baz=253						
PHUB				eS	Sn	17 38 11.9	+0.2
	baz=253						
PNG	Penghu	2.11	256	eP	Pn	17 37 46.9	+0.3
	baz=255						
PNG				S	Sn	17 38 11.9	+0.2
	baz=255						
WDGT	Dungji	2.12	247	eP	Pn	17 37 47.8	+1.1
	baz=248						
WDGT				eS	Sn	17 38 12.8	+0.8
	baz=248						
JIJ	Ishigaki jima	2.17	83	P	Pb	17 37 49.6	-2.3
JIJ				S	Sb	17 38 16.1	-2.2
HEN	Hengchun	2.30	205	eP	Pb	17 37 53.7	-0.3
	baz=196						
HEN				eS	Sb	17 38 19.6	-2.4
	baz=196						
VWUC	VWUC	2.31	293	eP	Pn	17 37 48.8	-0.4
	baz=291						
VWUC				eS	Sn	17 38 14.1	-2.5
	baz=291						
TWKBT	Hengchun	2.33	203	eP	Pb	17 37 53.3	-1.3
	baz=200						
TWKBT				eS	Sb	17 38 20.9	-2.0
	baz=200						
VCHM	Qimei	2.33	248	eP	Pn	17 37 50.4	+0.8
	baz=237						
VCHM				eS	Sn	17 38 17.6	+0.3
	baz=237						
JISG	Ishigakijimahi	2.35	78	P	Pb	17 37 52.4	-2.6
JISG				eS	Sb	17 38 20.0	-3.7
JTJ	Tarama	2.71	78	P	Pb	17 37 57.9	-3.2
JTJ				S	Sb	17 38 30.4	-3.6
JIRB	Irabujima	3.17	76	eS	Sb	17 38 41.9	-5.2

*ISCJB **19** 17:41:37.4±0.5, 1°.20N±0°.07×100°.09E±0°.06, h200km, mb3.5/10, Error ellipse: s-maj=11.0km s-min=6.9km az=34.2*
*IDC **19** 17:41:38.4±0.8, 1°.20N×100°.16E, h200km±7km, mb3.4/10, mb1 3.4/11, mb1mx3.2/57, mbtmp3.9/11, Error ellipse: s-maj=19.6km s-min=11.3km az=50.0*
*DJA **19** 17:41:39.0±0.8, 1°N±8°×10°0E±°, h201km±8km, M3.9/4, MLv3.9/4*
ISC 19 17:41:38.3±0.7,**1°.11N**±0°.08×**100°.06E**±0°.06,**h200**km,**n17,** σ1§**45**/24,**mb3.6**/10,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	Bangkinang	1.25	128	P	Pn	17 42 11.6	+1.7
BKNI				S	Sn	17 42 36.0	+1.5
PSI	Prapat	2.03	326	P	Pn	17 42 17.6	+0.3
	12nm,0.3s,baz=147,slow=8.7,SNR=27						
PSI				S	Sn	17 42 46.0	-1.6
	1.3nm,0.3s,baz=356,slow=19,SNR=13						
GSI	Gunungsitoli	2.49	275	P	Pn	17 42 23.0	+0.9
GSI				S	Sn	17 42 55.6	-0.6
SISI	Saibi	2.60	202	P	Pn	17 42 23.0	-0.4
TPTI		3.58	307	P	Pn	17 42 35.4	+0.4
TPTI				S	Pn	17 42 39.7	+4.7
TPRI	Tanjung Pinang	4.47	92	P	Pn	17 42 47.0	+0.9
CMAR	Chiang Mai Arr	17.28	356	P	P	17 45 26.5	+0.1
	0.1nm,0.3s,baz=186,slow=13,SNR=3.3						
FITZ	Fitzroy Crossi	31.59	128	P	P	17 47 42.2	-0.3
	1.4nm,0.8s,baz=278,slow=15,SNR=3.0						
WRA	Warramunga Arr	39.59	124	P	P	17 48 50.3	-0.3
	2.9nm,0.4s,baz=317,slow=9.6,SNR=53						
WRA				PcP	PcP	17 50 54.0	+0.2
	0.3nm,0.5s,baz=320,slow=2.5,SNR=5.1						
ASAR	Alice Springs	41.09	129	P	P	17 49 02.2	-0.6
	0.4nm,0.4s,baz=300,slow=7.7,SNR=34						
ASAR				PcP	PcP	17 50 59.0	+0.4
	0.3nm,0.5s,baz=313,slow=2.7,SNR=5.4						
ASAR				ScP	ScP	17 54 27.4	-2.1
	0.5nm,0.8s,baz=310,slow=4.1,SNR=5.5						
KSRS	Korea Array	44.36	32	P	P	17 49 27.9	-0.9
	0.3nm,0.5s,baz=224,slow=6.6,SNR=3.2						
MKAR	Makanchi Array	48.08	344	P	P	17 49 57.7	0.0
	1.1nm,0.5s,baz=158,slow=8.2,SNR=20						
ZALV	Zalesovo Beam	54.15	349	P	P	17 50 42.0	-0.7
	0.6nm,0.3s,baz=165,slow=6.0,SNR=3.2						
BRTR	Keskin Array B	71.30	312	P	P	17 52 35.7	-0.7
	0.5nm,0.6s,baz=104,slow=5.2,SNR=5.1						
MATP	Matopo	73.14	248	P	P	17 52 49.6	+1.9
	0.8nm,0.4s,baz=98,slow=6.6,SNR=4.4						
BOSA	Boshof	77.21	240	P	P	17 53 11.8	+1.0
	0.5nm,0.4s,baz=166,slow=4.2,SNR=3.0						
ARCES	ARCESS Array B	83.59	340	P	P	17 53 43.3	-0.5
	1.7nm,0.9s,baz=48,slow=1.8,SNR=3.5						

*KRSC **19** 17:42:19.5±10.0, 52°.08N×160°.83E, h44km±10km, ML4.1*
*ISCJB **19** 17:42:22.5±1.0, 52°.17N±0°.06×160°.74E±0°.08, h37km±8km, mb4.0/15, Error ellipse: s-maj=11.0km s-min=5.6km az=141.4*
*IDC **19** 17:42:22.1±1.3, 52°.54N×160°.01E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.6/62, mbtmp3.8/11, ML3.3/1, Error ellipse: s-maj=31.9km s-min=21.1km az=150.0*
*NEIC **19** 17:42:26.6±0.9, 52°.41N×160°.25E, h35km, mb4.1/7, Error ellipse: s-maj=18.2km s-min=12.6km az=155.0*
ISC 19 17:42:24.2±2.0,**52°.26N**±0°.07×**160°.51E**±0°.06,**h25**km±13km, **n49,** σ1§**47**/60,**mb4.0**/15,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.89	341	eP	Pb	17 42 40.1	-0.9
SPN				eS	Sn	17 42 53.2	+0.1
NLC	Nalytchevo	1.15	323	P	Pn	17 42 44.3	-0.4
RUS	Russkaya	1.23	279	eP	Pn	17 42 45.0	-0.8
RUS				eS	Sn	17 43 01.4	-0.2
DALK	Dalny	1.32	307	eP	Pn	17 42 46.8	-0.1
DALK				eS	Sb	17 43 06.2	+1.5
PET	Petropavlovsk	1.36	305	ePn	Pn	17 42 47.5	-0.1
UGLR	Uglovaya	1.40	314	P	Pb	17 42 49.0	-0.6
SDLR	Sedlovina	1.42	317	eP	Pn	17 42 48.7	+0.2
MTVR	Mutnovka	1.44	280	eP	Pn	17 42 48.4	-0.4
MTVR				S	Sn	17 43 07.7	+0.8
SMAR	Somma	1.44	315	eP	Pb	17 42 50.3	-0.2
AVH	Avacha	1.47	314	eP	Pn	17 42 49.8	+0.6
KRER	Koryakskii	1.49	315	P	Pn	17 42 50.2	+0.6
KOK	Koryaka	1.54	313	P	Pb	17 42 50.9	-1.1
KRMR	Karymshinskiy	1.56	292	eP	Pn	17 42 50.2	0.0
KRMR				S	Sb	17 43 12.7	+1.1
KDTR	Khodutka, Kamc	1.57	254	P	Pn	17 42 47.5	-2.8
KDTR				S	Sn	17 43 07.7	-2.1
KRX	Arik	1.57	315	P	Pn	17 42 51.2	+0.6
ASAK	Asacha	1.60	275	P	Pn	17 42 51.1	+0.1
ASAK				S	Sb	17 43 14.1	+1.1
PEA0B	Petropavlovsk-	1.91	298	ePn	Pn	17 42 55.7	+0.6
PETK	Petropavlovsk-	1.91	298	Pn	Pn	17 42 55.6	+0.5
	12nm,0.3s,baz=106,slow=18,SNR=91						
PETK				Sn	Sb	17 43 22.9	+1.2
	16nm,0.3s,baz=115,slow=39,SNR=9.3						
PEA1	Petropavlovsk-	1.91	298	ePn	Pn	17 42 55.6	+0.5
PEA1				eSn	Sb	17 43 22.9	+1.2
APC	Apacha	2.15	289	eP	Pn	17 42 59.1	+0.8
APC				S	Sb	17 43 30.8	+2.3
MKZ	Mys Kozlova	2.42	17	P	Pn	17 43 00.5	-1.5
MKZ				S	Sn	17 43 29.9	-0.8
KZV	Kizimen	2.86	358	P	Pn	17 43 10.0	+1.7
TUMD	Tumrok D	2.95	359	P	Pn	17 43 10.0	+0.6
TUMD				S	Sn	17 43 45.1	+1.1
KBTR	Krutoberegovo	4.18	18	P	Pn	17 43 27.1	+0.8
BKI	Bering	4.39	46	S	Sn	17 44 15.2	-4.1
BILL	Bilibino	16.08	8	ePn	Pn	17 46 05.4	-2.7
	2.8nm,0.8s						
KLR	Kul'dur	18.39	272	P	P	17 46 35.5	-1.6
	0.1nm,0.3s,baz=297,slow=2.3,SNR=2.9						
MJAR	Matsushiro Arr	22.24	234	P	P	17 47 19.2	+0.3
	0.9nm,0.5s,baz=23,slow=9.5,SNR=4.5						
MAJO	Matsushiro	22.24	234	eP	P	17 47 19.2	+0.3
TIXI	Tiksi	23.95	336	eP	P	17 47 34.2	-1.6
TIXI	Tiksi	23.95	336	P	P	17 47 33.3	-2.5
	1.9nm,0.7s,baz=128,slow=9.2,SNR=10						
JHJ2	Mitsune	24.29	226	eP	P	17 47 39.7	+0.4
	175nm,1.1s						
SML	Sawmill	28.69	50	eP	P	17 48 20.5	+1.8
	4.3nm,1.0s						
SPA0	Spitsbergen Ar	48.00	351	eP	P	17 50 59.8	-0.5
	3.4nm,0.8s						
SPITS	Spitsbergen Ar	48.00	351	P	P	17 50 59.8	-0.5
	2.0nm,0.7s,baz=27,slow=6.6,SNR=8.0						
MK32	Makanchi Array	48.75	297	eP	P	17 51 04.1	-2.4
MKAR	Makanchi Array	48.75	297	P	P	17 51 04.1	-2.4
	0.4nm,0.6s,baz=54,slow=7.5,SNR=4.0						
YBH	Yreka Blue Hor	51.08	69	P	P	17 51 26.9	+2.6
	1.8nm,1.0s,baz=307,slow=10,SNR=3.1						
WVOR	Wild Horse Val	52.95	66	eP	P	17 51 42.2	+3.9
	1.0nm,0.6s						
CM31	Chiang Mai Arr	58.26	259	eP	P	17 52 17.0	+0.5
	2.3nm,1.0s						
CMAR	Chiang Mai Arr	58.26	259	P	P	17 52 17.0	+0.5
	0.8nm,0.8s,baz=25,slow=7.0,SNR=7.1						
FIA0	FINESS Array S	60.99	337	eP	P	17 52 34.1	-0.6
FINES	FINESS Array B	60.99	337	P	P	17 52 34.1	-0.6
	1.4nm,0.4s,baz=39,slow=7.7,SNR=12						
NB200	NORSAR Array S	64.41	344	eP	P	17 52 57.9	+0.3
NOA	NORSAR Array B	64.41	344	P	P	17 52 57.9	+0.3
	0.7nm,0.7s,baz=22,slow=6.7,SNR=3.6						
AKASG	Malin Array Be	69.46	329	P	P	17 53 28.6	-1.2
	0.3nm,0.3s,baz=28,slow=6.6,SNR=2.7						
AKBB	Malin Array Si	69.46	329	eP	P	17 53 28.6	-1.2
	2.3nm,1.0s						
SADO	Sadowa	70.59	41	eP	P	17 53 39.4	+2.5
	2.7nm,0.8s						
SADO	Sadowa	70.59	41	P	P	17 53 39.4	+2.5
	2.0nm,0.7s,baz=277,slow=9.7,SNR=3.1						

*IDC **19** 17:44:39.2±0.4, 52°.34N×160°.19E, h0km, mb4.7/46, mb1 4.8/50, mb1mx4.7/65, mbtmp4.7/50, ML4.5/4, MS4.6/20, Ms1 4.5/20, ms1mx4.4/35, Error ellipse: s-maj=11.1km s-min=8.7km az=149.0*
*KRSC **19** 17:44:39.1±10.0, 52°.09N×160°.72E, h46km±10km, ML5.3*
*MOS **19** 17:44:43.5±1.1, 52°.22N×160°.35E, h42km, mb5.3/90, MS4.9/31, Error ellipse: s-maj=5.6km s-min=2.7km az=99.2*
*ISCJB **19** 17:44:44.0±0.4, 52°.23N±0°.02×160°.36E±0°.03, h45km±2km, mb5.1/194, MS4.8/55, Error ellipse: s-maj=4.5km s-min=2.5km az=142.0*
*NEIC **19** 17:44:44.4±0.4, 52°.26N×160°.31E, h35km, mb5.1/36, Error ellipse: s-maj=9.3km s-min=6.5km az=143.0*
*BJI **19** 17:44:45.1±0.0, 52°.76N×159°.69E, h38km, mb5.0/57, mB4.9/41, Ms5.1/56, Ms7 5.0/53*
*GCMT **19** 17:44:47.4±0.3, 52°.19N±0°.02×160°.71E±0°.03, h27km, MW5.0/80, Moment Tensor Solution. s63,c88; s80,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.70±.15; $M_{\theta\theta}$-1.80±.10; $M_{\phi\phi}$-1.91±.10; $M_{r\theta}$1.90±.19; $M_{\theta\phi}$-1.69±.06; $M_{r\phi}$1.13±.16; Best double couple: $M_0$4.24200×10^{16} NP1:φ=52.00000°,δ61.00000°,λ97.00000°. NP2: φ=217.00000°,δ30.00000°,λ78.00000°. Principal axes: T 4.3510, Plg73.0000°, Azm339.0000°; N -0.2270, Plg6.0000°, Azm228.0000°; P -4.1330, Plg15.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 17:44:41.0±1.0,**52°.22N**±0°.03×**160°.42E**±0°.03,**h12**km±5km, **n692,** σ1§**57**/745,**mb5.1**/202,**MS5.0**/56,**51C-27D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.91	345	i P	Pn	17 44 59.1	-0.5
SPN				eS	Sn	17 45 13.0	+0.4
SPN	Mys Shipunski	0.91	345	PN	Pn	17 44 59.1	-0.5
SPN				S	Sn	17 45 13.0	+0.4
NLC	Nalytchevo	1.15	326	eP	Pn	17 45 03.5	+0.6
NLC				eS	Sn	17 45 21.1	+2.5
NLC	Nalytchevo	1.15	326	PN	Pn	17 45 03.5	+0.6
NLC				S	Sn	17 45 21.1	+2.5
RUS	Russkaya	1.19	281	eP	Pn	17 45 03.7	+0.3
RUS	Russkaya	1.19	281	PN	Pn	17 45 03.7	+0.3
DALK	Dalny	1.30	309	eP	Pb	17 45 05.1	-0.2
DALK				eS	Sn	17 45 24.0	+1.8
DALK	Dalny	1.30	309	PN	Pb	17 45 05.1	-0.2
DALK				S	Sn	17 45 24.0	+1.8
PET	Petropavlovsk	1.34	307	ePn	Pg	17 45 07.1	+0.3
PET	Petropavlovsk	1.34	307	α iPN	Pg	17 45 06.2	-0.6
PET				eS	Sg	17 45 26.2	+1.9
PET				pmax	pmax		
	comp=Z,6μm,0.5s						
PET				smax	smax		

comp=E,11μm,0.7s
PET smax smax
comp=N,12μm,0.6s
PET smax smax
comp=E,35μm,2.0s
PET smax smax
comp=N,24μm,2.0s
UGLR Uglovaya 1.39 316 *e*P **Pg 17 45 07.3 -0.3**
UGLR Uglovaya 1.39 316 PN **Pg 17 45 07.3 -0.3**
MTVR Mutnovka 1.40 282 *e*P **Pb 17 45 07.0 -0.1**
MTVR Mutnovka 1.40 282 PN **Pb 17 45 07.0 -0.1**
SDLR Sedlovina 1.41 319 *e*P **Pg 17 45 07.4 -0.7**
SDLR Sedlovina 1.41 319 PN **Pg 17 45 07.4 -0.7**
SMAR Somma 1.44 317 *e*P **Pg 17 45 08.1 -0.5**
SMAR Somma 1.44 317 PN **Pg 17 45 08.1 -0.5**
AVH Avacha 1.46 316 *e*P **Pg 17 45 08.8 -0.3**
AVH Avacha 1.46 316 PN **Pg 17 45 08.8 -0.3**
GRL Gorelyy 1.48 284 *e*P **Pg 17 45 09.4 0.0**
GRL Gorelyy 1.48 284 PN **Pg 17 45 09.4 0.0**
KRER Koryakskii 1.49 317 *e*P **Pg 17 45 09.0 -0.5**
KRER Koryakskii 1.49 317 PN **Pg 17 45 09.0 -0.5**
KDTR Khodutka, Kamc 1.51 255 *e*P **Pn 17 45 07.5 -0.3**
KDTR *e*S **Sn 17 45 27.6 +0.3**
KDTR Khodutka, Kamc 1.51 255 PN **Pn 17 45 07.5 -0.3**
KDTR S **Sn 17 45 27.6 +0.3**
KOK Koryaka 1.52 315 *e*P **Pb 17 45 09.3 +0.1**
KOK Koryaka 1.52 315 PN **Pb 17 45 09.3 +0.1**
KRMR Karymshinskiy 1.53 294 *e*P **Pb 17 45 08.9 -0.3**
KRMR *e*S **Sg 17 45 30.1 0.0**
KRMR Karymshinskiy 1.53 294 PN **Pb 17 45 08.9 -0.3**
KRMR S **Sg 17 45 30.1 0.0**
ASAK Asacha 1.56 277 *e*P **Pb 17 45 09.5 -0.3**
ASAK Asacha 1.56 277 PN **Pb 17 45 09.5 -0.3**
KRX Arik 1.57 317 *e*P **Pb 17 45 09.7 -0.3**
KRX Arik 1.57 317 PN **Pb 17 45 09.7 -0.3**
PEA0B Petropavlovsk- 1.88 299 *e*Pn **Pg 17 45 15.8 -1.2**
PEA0B Petropavlovsk- 1.88 299 *e*PN **Pg 17 45 15.9 -1.2**
PETK Petropavlovsk- 1.88 299 *e*Pn **Pb 17 45 15.8 +0.5**
PETK Petropavlovsk- 1.88 299 Pn **Pb 17 45 14.3 -1.0**
comp=N,205nm,0.3s,baz=100,slow=18,SNR=100
PETK Sn **Sg 17 45 42.5 +1.1**
comp=N,398nm,0.3s,baz=120,slow=21,SNR=9.9
PETK LR LR 17 46 13.4
comp=N,17μm,18.3s,baz=49,slow=56
PEA1 Petropavlovsk- 1.88 299 *e*Pn **Pb 17 45 14.3 -1.0**
PEA1 *e*Sn **Sg 17 45 42.5 +1.0**
APC Apacha 2.11 291 *e*P **Pb 17 45 18.4 -0.8**
APC *e*S **Sb 17 45 46.3 +1.0**
APC Apacha 2.11 291 PN **Pb 17 45 18.4 -0.8**
APC S **Sb 17 45 46.3 +1.0**
PAU Pauzhetka 2.37 253 *e*P **Pn 17 45 21.1 +1.6**
PAU Pauzhetka 2.37 253 PN **Pn 17 45 21.1 +1.6**
MKZ Mys Kozlova 2.46 18 *e*P **Pn 17 45 20.4 -0.5**
MKZ *e*S **Sn 17 45 49.4 -1.5**
MKZ Mys Kozlova 2.46 18 PN **Pn 17 45 20.4 -0.5**
MKZ S **Sn 17 45 49.4 -1.5**
KZV Kizimen 2.90 359 *e*P **Pn 17 45 28.8 +1.8**
KZV *e*S **Sn 17 46 04.3 +2.5**
KZV Kizimen 2.90 359 PN **Pn 17 45 28.8 +1.8**
KZV S **Sn 17 46 04.3 +2.5**
TUMD Tumrok D 2.99 360 *e*P **Pn 17 45 29.1 +1.0**
TUMD *e*S **Sn 17 46 04.6 +0.8**
TUMR Tumrok 3.07 357 PN **Pn 17 45 29.1 -0.3**
TUMR S **Sn 17 46 04.6 -1.4**
SKR Severo-Kuril's 3.10 242 *e*P **Pn 17 45 30.8 +1.1**
SKR *e*S **Sn 17 46 06.3 -0.3**
SKR Severo-Kuril's 3.10 242 *e*PN **Pn 17 45 30.6 +0.9**
SKR pmax pmax
comp=Z,458nm,0.6s
ALID Alaid 3.33 248 *e*P **Pn 17 45 34.0 +1.0**
ALID Alaid 3.33 248 PN **Pn 17 45 34.0 +1.0**
KMNR Kamenistaya 3.54 358 *e*S **Sn 17 46 19.8 +2.2**
BZMR Bezymyannaya 3.72 1 *e*P **Pn 17 45 40.4 +2.1**
BZMR Bezymyannaya 3.72 1 PN **Pn 17 45 40.4 +2.1**
BZGR Bezymyannyi-Gr 3.73 2 *e*P **Pn 17 45 40.6 +2.2**
BZGR Bezymyannyi-Gr 3.73 2 PN **Pn 17 45 40.6 +2.2**
KIRR Kirishev 3.74 359 *e*P **Pn 17 45 41.2 +2.7**
KIRR *e*S **Sn 17 46 25.7 +3.2**
KIRR Kirishev 3.74 359 PN **Pn 17 45 41.2 +2.7**
KIRR S **Sn 17 46 25.7 +3.2**
BZWR Bezymyannyi-We 3.75 1 *e*P **Pn 17 45 41.8 +3.1**
BZWR Bezymyannyi-We 3.75 1 PN **Pn 17 45 41.8 +3.1**
KPT Kopyto 3.75 358 *e*P **Pn 17 45 39.5 +0.8**
KPT Kopyto 3.75 358 PN **Pn 17 45 39.5 +0.8**
ESO Esso 3.85 345 *e*P **Pn 17 45 41.4 +1.5**
ESO *e*S **Sn 17 46 27.4 +2.4**
ESO Esso 3.85 345 PN **Pn 17 45 41.4 +1.5**
ESO S **Sn 17 46 27.4 +2.4**
KOZ Kozyrevsk 3.86 355 *e*P **Pn 17 45 42.4 +2.3**
KOZ Kozyrevsk 3.86 355 PN **Pn 17 45 42.4 +2.3**
LGNR Loginova 3.87 2 *e*P **Pn 17 45 43.2 +2.7**
LGNR Loginova 3.87 2 PN **Pn 17 45 43.2 +2.7**
CIRR Tsirk 3.91 3 *e*P **Pn 17 45 44.1 +3.3**
CIRR Tsirk 3.91 3 PN **Pn 17 45 44.1 +3.3**
KLY Klyuchi 4.10 2 *e*P **Pn 17 45 45.5 +2.1**
KLY *e*S **Sn 17 46 33.7 +2.5**
KLY Klyuchi 4.10 2 PN **Pn 17 45 45.5 +2.1**
KLY S **Sn 17 46 33.7 +2.5**
SRDR Sredinnyy 4.12 355 *e*P **Pn 17 45 45.8 +2.0**
SRDR Sredinnyy 4.12 355 PN **Pn 17 45 45.8 +2.0**
KBG Krutoberegovo 4.25 17 *e*P **Pn 17 45 47.7 +2.2**
KBG *e*S **Sn 17 46 36.9 +1.9**
KBG Krutoberegovo 4.25 17 PN **Pn 17 45 47.7 +2.2**
KBG S **Sn 17 46 36.9 +1.9**
BDR Baidarnaya 4.38 6 *e*P **Pn 17 45 50.7 +3.4**
BDR Baidarnaya 4.38 6 PN **Pn 17 45 50.7 +3.4**
SMKR Semkarok 4.41 8 *e*P **Pn 17 45 50.2 +2.5**
SMKR Semkarok 4.41 8 PN **Pn 17 45 50.2 +2.5**
BKI Bering 4.45 46 *e*P **Pn 17 45 47.5 -0.6**
BKI *e*S **Sn 17 46 33.9 -5.8**
BKI Bering 4.45 46 PN **Pn 17 45 47.5 -0.6**
SRKR Sorokina 4.46 5 *e*P **Pn 17 45 51.5 +3.1**
SRKR Sorokina 4.46 5 PN **Pn 17 45 51.5 +3.1**
PALN Palana 6.89 358 *e*P **Pn 17 46 23.0 +1.4**
PALN Palana 6.89 358 PN **Pn 17 46 23.0 +1.4**
OSSR Ossora 7.20 11 *e*P **Pn 17 46 27.1 +1.2**
OSSR Ossora 7.20 11 PN **Pn 17 46 27.1 +1.2**
TILK Tilichiki 8.83 19 *e*P **Pn 17 46 49.1 +0.9**
TILK Tilichiki 8.83 19 PN **Pn 17 46 49.1 +0.9**
MA2 Magadan 9.14 327 *e*Pn **Pn 17 46 54.6 +2.1**
MA2 Magadan 9.14 327 *e*PN **Pn 17 46 54.6 +2.1**
MA2 Magadan 9.14 327 Pn **Pn 17 46 52.6 +0.1**
comp=Z,0.5nm,0.3s,baz=151,slow=8.3,SNR=14
MA2 LR LR 17 51 02.7
comp=Z,4μm,19.2s,baz=144,slow=43
OKH Okha 10.65 284*c i*PN **Pn 17 47 16.1 +2.9**
OKH pmax pmax
comp=Z,400nm,8.9s
OKH MLR MLR
comp=Z,6μm,14.0s
KMSK Kamenskaya 10.73 15 *e*P **Pn 17 47 15.7 +1.5**
KMSK Kamenskaya 10.73 15 PN **Pn 17 47 15.7 +1.5**
KUR Kuril'sk 10.84 235 *e*PN **Pn 17 47 17.9 +2.1**
KUR pmax pmax
comp=Z,46nm,0.6s
KUR pmax pmax
comp=E,11nm,0.4s
KUR pmax pmax
comp=N,11nm,0.3s
KUR MLR MLR
comp=Z,4μm,16.0s
KUR MLR MLR
comp=N,7μm,17.0s
KUR MLR MLR
comp=E,2μm,13.0s
TYV Tymovskoe 11.15 270 *e*PN Pn 17 47 24.9 +4.9
TYV *e*S **Sn 17 49 31.8 +7.3**
TYV pmax pmax
comp=Z,10.0nm,0.8s
TYV pmax pmax
comp=Z,400nm,3.7s
TYV smax smax
comp=E,10.0nm,1.2s
TYV smax smax
comp=E,200nm,4.1s
TYV MLR MLR
comp=N,4μm,16.0s
TYV MLR MLR
comp=Z,6μm,16.0s
SEY Seymchan 11.56 341⇑*e*PN **Pn 17 47 28.0 +2.4**
SEY Seymchan 11.56 341 Pn **Pn 17 47 25.9 +0.4**
comp=Z,0.9nm,0.3s,baz=142,slow=8.1,SNR=12
NKL Nikolayevsk 12.02 282 *e*PN **Pn 17 47 36.0 +4.2**
NKL pmax pmax
comp=Z,500nm,9.0s
NKL MLR MLR
comp=N,1μm,14.0s
NKL MLR MLR
comp=E,4μm,14.0s
NKL MLR MLR
comp=Z,9μm,14.0s
UGL Uglegorsk 12.07 262 *e*PN **Pn 17 47 36.3 +3.7**
UGL pmax pmax
comp=Z,700nm,3.6s
UGL pmax pmax
comp=Z,55nm,1.1s
UGL MLR MLR
comp=Z,4μm,15.0s
UGL MLR MLR
comp=N,4μm,16.0s
UGL MLR MLR
comp=E,3μm,16.0s
YSS Yuzh-Sakhalins 12.61 252 *e*PN **Pn 17 47 41.4 +1.4**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=E,20nm,0.9s
YSS MLR MLR
comp=Z,3μm,14.0s
YSS MLR MLR
comp=E,2μm,15.0s
YUK Yuzh-Kuril'sk 12.70 236 *e*PN Pn 17 47 50.1 +8.9
YUK MLR MLR
comp=Z,4μm,18.0s
YUK MLR MLR
comp=E,6μm,19.0s
ASAJ Asahikawa 14.37 243 Pn **Pn 17 48 04.0 0.0**
comp=E,4.1nm,0.3s,baz=75,slow=15,SNR=53
ASAJ LR LR 17 54 24.2
comp=E,2μm,18.7s,baz=46,slow=41
GRNR Gornyy 15.01 274 *e*P **P 17 48 17.1 -1.0**
GRNR pmax pmax
comp=Z,13nm,1.0s
ERM Erimo 15.53 236 *e*Pn **Pn 17 48 17.1 -2.5**
comp=Z,35nm,0.5s
ERM Erimo 15.53 236 *e*P **Pn 17 48 17.1 -2.5**
ERM pmax pmax
comp=Z,35nm,0.5s
BILL Bilibino 16.12 8 *e*Pn **P 17 48 29.1 -1.2**
comp=Z,65nm,0.8s
BILL Bilibino 16.12 8*c i*P **Pn 17 48 27.7 +0.7**
TEY Ternei 17.26 255⇓*e*P **P 17 48 43.1 0.0**
TEY pmax pmax
comp=E,30nm,0.9s
TEY pmax pmax
comp=Z,40nm,0.8s
KLR Kul'dur 18.34 272*c i*P **P 17 48 55.8 +0.8**
KLR Kul'dur 18.34 272 P **P 17 48 55.0 -0.1**
comp=Z,1.6nm,0.3s,baz=64,slow=9.6,SNR=48
KLR LR LR 17 56 54.9
comp=Z,3μm,18.2s,baz=74,slow=40
YAK Yakutsk 19.17 313 *e*P **P 17 49 01.2 -2.8**
YAK *e*S **Sn 17 52 30.0 -9.3**
YAK pmax pmax
comp=Z,1μm,0.9s
YAK pmax pmax
comp=N,231nm,0.9s
YAK pmax pmax
comp=E,503nm,1.0s
YAK pmax pmax
comp=Z,405nm,0.9s
YAK smax smax
comp=N,531nm,3.5s
YAK smax smax
comp=E,172nm,2.5s
ZEA Zeya 19.93 288 *e*P **P 17 49 10.6 -1.8**
ZEA *e*S **S 17 52 56.0 -0.2**
ZEA pmax pmax
comp=Z,26nm,0.8s
ZEA smax smax
comp=E,300nm,8.0s
ZEA MLR MLR
comp=E,3μm,15.0s
ZEA MLR MLR
comp=Z,3μm,15.0s
ZEA MLR MLR
comp=N,2μm,14.0s
USRK Ussuriysk Ar. 20.48 258 P **P 17 49 16.9 -1.5**
comp=N,38nm,1.0s,baz=59,slow=10,SNR=27
USRK LR LR 17 57 18.3
comp=N,1μm,20.2s,baz=59,slow=37
VLA Vladivostok 21.15 256*de*P **P 17 49 24.4 -1.2**
MDJ Mudanjiang 21.71 262 P **P 17 49 30.8 -0.8**
MDJ pP pwP 17 49 40.8 +3.4
MDJ sP sP 17 49 46.3 +11
MDJ SS Sn 17 53 58.9 +18
MDJ pmax pmax
comp=N,32nm,0.8s
MDJ pmax pmax
comp=N,140nm,3.6s
MDJ LR LR
comp=N,3μm,21.1s
MDJ LR LR
comp=N,1μm,20.9s
MDJ LR LR
comp=N,1μm,21.3s
MDJ Mudanjiang 21.71 262 *e*P **P 17 49 29.7 -1.9**
comp=N,24nm,0.8s
MJB9 Matsu-Tunnel 22.18 234 *e*P **P 17 49 38.3 +1.5**
comp=N,64nm,0.8s
MAJO Matsushiro 22.18 234 *e*P **P 17 49 38.4 +1.7**
comp=N,63nm,0.8s
MAJO Matsushiro 22.18 234*d i*P **P 17 49 37.8 +1.0**
MAJO pmax pmax
comp=Z,45nm,1.0s
MAT Matsushiro 22.18 234 P **P 17 49 37.6 +0.8**
MAT S **S 17 53 41.2 +0.5**
MJAR Matsushiro Arr 22.18 234 *e*P **P 17 49 38.0 +1.2**
MJAR Matsushiro Arr 22.18 234 *e*P **P 17 49 38.0 +1.2**
MJAR Matsushiro Arr 22.18 234 P **P 17 49 37.5 +0.7**
comp=Z,23nm,0.8s,baz=17,slow=10,SNR=81
MJAR LR LR 17 58 45.9
comp=Z,2μm,21.3s,baz=50,slow=38
INU Inuyama 23.71 234 *e*P **P 17 49 54.2 +1.6**
comp=Z,40nm,0.8s
TIXI Tiksi 23.96 336 *e*P **P 17 49 53.3 -1.3**
TIXI Tiksi 23.96 336*ce*P **P 17 49 53.5 -1.1**
TIXI pmax pmax
comp=Z,54nm,0.8s
TIXI Tiksi 23.96 336 P **P 17 49 53.0 -1.6**
comp=Z,43nm,0.6s,baz=124,slow=9.5,SNR=131
JHJ Hachijo jima 2 24.24 226 LR LR 18 02 21.3
comp=Z,231nm,19.2s,baz=86,slow=44
CN2 Changchun 24.67 264 *e*P **P 17 49 59.8 -1.6**
CN2 *e*S S 17 54 04.0 -18
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,1μm,4.0s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,3μm,15.0s
HIA Hailar 25.67 280 *e*P **P 17 50 08.3 -2.2**
comp=Z,71nm,0.8s
HIA Hailar 25.67 280 *e*P **P 17 50 08.3 -2.2**
HIA pmax pmax
comp=Z,71nm,0.8s
IMAR Indian Mountai 26.52 41 *e*P **P 17 50 18.1 +0.2**
BOD Bodaibo 26.75 301 *e*P **P 17 50 18.1 -2.0**
BOD pmax pmax
comp=Z,19nm,1.2s
KDAK Kodiak Island 27.06 59 *e*P **P 17 50 22.8 -0.1**
comp=Z,30nm,1.0s
KDAK Kodiak Island 27.06 59 *i*P **P 17 50 26.2 +3.3**
KDAK Kodiak Island 27.06 59 P **P 17 50 22.8 -0.1**
comp=Z,5.4nm,0.6s,baz=265,slow=5.4,SNR=8.6
KSRS Korea Array 27.09 250 P **P 17 50 23.8 +0.5**
comp=Z,9.3nm,0.8s,baz=43,slow=9.5,SNR=40
KSRS LR LR 18 02 11.4
comp=Z,1μm,18.8s,baz=58,slow=39
KSAR Wonju Array Be 27.12 250 *e*P **P 17 50 24.7 +1.1**
TOLK Toolik Lake Re 28.55 36 P **P 17 50 36.6 +0.4**
baz=261
JNU Nakatsue 28.61 240 *e*P **P 17 50 38.1 +1.1**
comp=Z,61nm,1.1s
JNU Nakatsue 28.61 240 P **P 17 50 36.9 -0.1**
comp=Z,32nm,0.8s,baz=30,slow=4.6,SNR=16
JNU LR LR 18 03 18.7
comp=Z,791nm,19.1s,baz=40,slow=39
SML Sawmill 28.75 50 *e*P **P 17 50 38.0 0.0**
comp=Z,38nm,1.2s
SML Sawmill 28.75 50 *e*P **P 17 50 38.0 0.0**
SML pmax pmax
comp=Z,38nm,1.2s
COLA College 28.88 44⇓*e*P **P 17 50 41.0 +2.0**
COLA pmax pmax
comp=Z,3.0nm,1.0s
HDA Harding Lake 29.27 45 P **P 17 50 43.0 +0.5**
baz=271
ILAR Eielson Array 29.29 44 *e*P **P 17 50 42.3 -0.4**
ILAR Eielson Array 29.29 44 *e*P **P 17 50 42.3 -0.4**
ILAR Eielson Array 29.29 44 P **P 17 50 42.5 -0.2**
comp=Z,1.7nm,0.8s,baz=264,slow=8.6,SNR=11
ILAR LR LR 18 04 17.0
comp=Z,644nm,18.7s,baz=278,slow=40
DL2 Dalian 29.86 259 P **P 17 50 44.1 -3.9**
DL2 *e*S **S 17 55 39.3 -5.3**
H11N2 WAKE ISLAND Hy 32.82 169 T T 18 27 01.5
baz=39,slow=74,SNR=119
H11N1 WAKE ISLAND Hy 32.84 169 T T 18 26 48.6
baz=355,slow=74,SNR=92
EPYK Eagle Plains 33.42 41 P **P 17 51 19.9 +0.8**
baz=277
ULN Ulaanbaatar 33.90 284⇓*e*P **P 17 51 21.9 -1.7**
ULN pmax pmax
comp=Z,9.0nm,0.8s
H11S1 WAKE ISLAND Hy 34.00 169 T T 18 28 44.4
SNR=11
H11S3 WAKE ISLAND Hy 34.02 169 T T 18 28 11.3
baz=351,slow=74,SNR=14
H11S2 WAKE ISLAND Hy 34.02 169 T T 18 28 28.6
baz=218,slow=74,SNR=4.6
TLY Talaya 34.23 292⇑*e*P **P 17 51 25.8 -0.4**
SONA0 Songino Array 34.31 285 *e*P **P 17 51 24.3 -2.8**
SONA0 *e*PcP **PcP 17 54 02.6 -0.3**
SONM Songino Array 34.31 285 *e*P **P 17 51 24.8 -2.3**
SONM Songino Array 34.31 285 *e*P **P 17 51 24.8 -2.3**
SONM Songino Array 34.31 285 P **P 17 51 24.3 -2.8**
comp=Z,2.8nm,0.5s,baz=66,slow=8.7,SNR=24
SONM PcP **PcP 17 54 02.6 -0.3**
comp=Z,1.9nm,0.8s,baz=66,slow=2.6,SNR=4.4
SONM LR LR 18 07 04.5
comp=Z,4μm,18.3s,baz=63,slow=39
TIA Tai'an 34.33 260 P **P 17 51 28.1 +0.8**
TIA pmax pmax
comp=Z,35nm,0.8s
INK Inuvik 34.44 37 *e*P **P 17 51 27.4 -0.4**
comp=Z,5.4nm,0.8s
INK Inuvik 34.44 37 P **P 17 51 26.5 -1.3**
comp=Z,4.7nm,0.9s,baz=291,slow=7.3,SNR=11
HHC Hu-ho-hao-te 34.84 271 *e*P **P 17 51 32.8 +1.0**
HHC S S 17 56 46.3 -16
HHC pmax pmax
comp=Z,110nm,0.8s
HHC pmax pmax
comp=Z,310nm,4.3s
HHC LR LR
comp=Z,1μm,12.5s
HHC LR LR
comp=Z,1μm,11.3s
HHC LR LR
comp=Z,1μm,12.7s
ZAK Zakamensk 34.98 290 *e*P **P 17 51 31.1 -1.8**
ZAK pmax pmax
comp=Z,16nm,1.0s
MOY Mondy 35.74 293 *e*P **P 17 51 38.3 -1.1**
MOY *e* 18 00 00.5
MOY pmax pmax
comp=Z,16nm,1.5s
NJ2 Nanjing 36.18 253 *e*P **P 17 51 42.9 -0.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NRIK Noril'sk 36.74 325 P **P 17 51 45.2 -2.3**
comp=Z,12nm,0.9s,baz=96,slow=12,SNR=15
NRIK LR LR 18 08 21.2
comp=Z,3μm,18.1s,baz=72,slow=39
DLBC Dease Lake 38.41 52 P **P 17 52 01.9 0.0**
comp=Z,2.8nm,0.9s,baz=266,slow=8.9,SNR=4.9
WHN Wuhan 39.93 255 P **P 17 52 16.6 +1.8**
WHN S **S 17 58 22.9 +3.4**
WHN pmax pmax
comp=Z,64nm,1.1s
WHN LR LR
comp=Z,2μm,15.9s
WHN LR LR
comp=Z,3μm,17.1s
WHN LR LR
comp=Z,2μm,15.4s
QZH Quanzhou 41.69 246 *e*P **P 17 52 31.8 +2.4**
QZH S **S 17 58 49.8 +4.0**
QZH LR LR
comp=Z,560nm,21.6s
QZH LR LR
comp=Z,570nm,18.2s
QZH LR LR
comp=Z,560nm,18.5s
LZH Lanzhou 42.54 271 *e*P **P 17 52 33.4 -3.1**
LZH pP pwP 17 52 46.4 +3.2
LZH sP sP 17 52 51.4 +11
LZH SS SS 18 01 50.0 -18
LZH pmax pmax
comp=Z,10.0nm,1.3s
LZH LR LR
comp=Z,2μm,17.6s
LZH LR LR
comp=Z,2μm,17.1s
LZH LR LR
comp=Z,2μm,17.9s
GTA Gaotai 42.91 278 *e*P **PcP 17 54 30.6 +0.6**
GTA Gaotai 42.91 278 ⇑P **P 17 52 37.6 -1.8**
GTA pP pwP 17 52 49.6 +3.5
GTA sP sP 17 52 55.3 +12
GTA PcP **PcP 17 54 30.5 +0.6**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,94nm,6.2s
GTA LR LR
comp=Z,2μm,15.6s
GTA LR LR
comp=Z,2μm,15.9s
GTA LR LR
comp=Z,2μm,17.8s
ZALV Zalesovo Beam 43.42 304 *e*P **P 17 52 40.1 -3.0**
ZALV Zalesovo Beam 43.42 304 *e*P **P 17 52 40.1 -3.0**
ZALV Zalesovo Beam 43.42 304 P **P 17 52 40.7 -2.5**
comp=Z,4.8nm,0.5s,baz=59,slow=7.0,SNR=28
ZALV LR LR 18 12 15.3
comp=Z,1μm,18.3s,baz=70,slow=38
YKA Yellowknife Ar 43.67 42 P **P 17 52 44.7 -0.3**
comp=Z,0.9nm,0.6s,baz=298,slow=8.0,SNR=14
YKB5 Yellowknife Ar 43.67 42 *e*P **P 17 52 44.7 -0.3**
NVS Novosibirsk 43.78 305⇑*i*P **P 17 52 44.0 -2.0**
NVS pmax pmax
comp=N,9.0nm,0.9s
NVS pmax pmax
comp=E,19nm,0.9s
NVS pmax pmax
comp=Z,43nm,0.9s
RES Resolute Bay 44.06 22 P **P 17 52 48.0 0.0**
comp=Z,7.2nm,0.8s,baz=300,slow=8.9,SNR=29
DGZ Jazzator, Alta 44.24 297*d i*P **P 17 52 48.6 -1.4**
DGZ pmax pmax
comp=Z,16nm,0.8s
CD2 Chengdu 46.09 265 *e*P **P 17 53 01.5 -3.3**
CD2 Chengdu 46.09 265 P **P 17 53 05.3 +0.5**
CD2 S **S 17 59 49.9 -0.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,150nm,6.7s
CD2 LR LR
comp=Z,2μm,21.4s
CD2 LR LR
comp=Z,2μm,19.4s
CD2 LR LR
comp=Z,1μm,15.9s
WMQ Urumqi 47.45 290 *e*P **P 17 53 15.3 0.0**
WMQ pmax pmax
comp=Z,54nm,1.1s
WMQ pmax pmax
comp=Z,150nm,4.3s

WMQ LR LR
comp=Z,4μm,14.5s
WMQ LR LR
comp=Z,5μm,17.3s
WMQ LR LR
comp=Z,6μm,15.5s
GYA Guiyang 47.52 259⇑ *i*P P 17 53 17.3 +1.3
GYA pP pwP 17 53 27.3 +4.6
GYA S **S 18 00 06.8 -3.9**
GYA SS SS 18 03 24.9 -13
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.5s
GYA LR LR
comp=Z,1μm,19.3s
GYA LR LR
comp=Z,610nm,19.0s
GYA LR LR
comp=Z,1μm,15.9s
KBS Kingsbay 47.77 352*ce*P P 17 53 18.7 +1.5
KBS pmax pmax
comp=Z,132nm,1.0s
KBS Kingsbay 47.77 352 *e*P P 17 53 18.6 +1.4
SPA0 Spitsbergen Ar 48.03 351 *e*P P 17 53 19.0 -0.2
comp=Z,108nm,1.2s
SPA0 Spitsbergen Ar 48.03 351 *e*P P 17 53 19.6 +0.4
SPITS Spitsbergen Ar 48.03 351 P P 17 53 19.5 +0.2
comp=Z,19nm,0.4s,baz=61,slow=8.7,SNR=158
KURK Kurchatov 48.37 303 *e*P P 17 53 20.0 -2.2
comp=Z,46nm,0.9s
KURK Kurchatov 48.37 303*ce*P P 17 53 19.5 -2.7
KURK pmax pmax
comp=Z,62nm,1.3s
KURK Kurchatov 48.37 303 P P 17 53 19.9 -2.2
SNR=19
MK31 Makanchi Array 48.72 297 *e*P P 17 53 22.7 -2.3
comp=Z,8.8nm,0.6s
MK31 Makanchi Array 48.72 297 *e*P P 17 53 22.7 -2.3
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 48.72 297 *e*P P 17 53 22.4 -2.7
MKAR Makanchi Array 48.72 297 P P 17 53 22.6 -2.4
comp=Z,9.0nm,0.5s,baz=56,slow=6.4,SNR=122
MKAR LR LR 18 15 16.3
comp=Z,986nm,19.7s,baz=43,slow=38
MAKZ Makanchi 48.88 297 *e*P P 17 53 23.9 -2.4
comp=Z,15nm,0.8s
MAKZ Makanchi 48.88 297 *e*P P 17 53 23.9 -2.4
MAKZ pmax pmax
comp=Z,15nm,0.8s
HSPB Hornsund (broa 49.15 350 *e*P P 17 53 26.5 -1.4
KMI Kunming 50.88 261 P P 17 53 42.8 +0.9
KMI pP pwP 17 53 48.3 -0.3
KMI sP sP 17 53 53.1 +6.9
KMI S **S 18 00 54.3 -3.8**
KMI sS sS 18 01 05.9 +2.8
KMI pmax pmax
comp=Z,14nm,1.0s
KMI pmax pmax
comp=Z,79nm,7.6s
KMI LR LR
comp=Z,1μm,17.9s
KMI LR LR
comp=Z,1μm,18.3s
KMI LR LR
comp=Z,660nm,19.7s
J05D Fort Rock, OR 50.99 67 P P 17 53 44.2 +1.7
baz=310
L04D Klamath Falls 51.06 69 P P 17 53 44.7 +1.7
baz=310
BRVK Borovoye 51.12 309 *e*P P 17 53 41.2 -1.9
comp=Z,44nm,0.9s
BRVK Borovoye 51.12 309*d i*P P 17 53 41.2 -1.9
BRVK pmax pmax
comp=Z,32nm,0.8s
BRVK Borovoye 51.12 309 P P 17 53 41.6 -1.5
SNR=14
YBH Yreka Blue Hor 51.14 69 P P 17 53 44.8 +1.2
comp=Z,1.9nm,0.8s,baz=241,slow=3.0,SNR=4.8
DAG Danmarks Havn 51.28 360 *i* P P 17 53 43.3 -0.7
DAG pmax pmax
comp=Z,18nm,1.0s
DAG Danmarks Havn 51.28 360 *i* P P 17 53 43.3 -0.7
comp=Z,18nm,1.0s
M04C Macdoel 51.60 69 P P 17 53 48.5 +1.4
baz=310
PDGK Podgornoye 52.42 295 P P 17 53 51.6 -1.6
PDGK pmax pmax
comp=Z,16nm,1.0s
SVE Sverdlovsk 53.05 317 *e*P P 17 53 57.2 -0.2
SVE *e*S **S 18 01 27.5 +0.8**
SVE pmax pmax
comp=Z,21nm,0.9s
SVE MLR MLR
comp=Z,1μm,16.0s
OTUK Ortayu 53.12 303 P P 17 53 55.7 -2.4
OTUK pmax pmax
comp=Z,21nm,0.8s
FFC Flin Flon 53.49 46 *i* P P 17 54 03.2 +2.6
LVZ Lovozero 53.58 338 *e*P P 17 54 00.7 -0.5
comp=Z,51nm,0.9s
LVZ Lovozero 53.58 338*de*P P 17 54 00.2 -1.0
LVZ pmax pmax
comp=Z,41nm,0.8s
KEV Kevo 53.71 342 *e*P P 17 54 01.1 -0.9
comp=Z,14nm,0.8s
KEV Kevo 53.71 342 *e*P P 17 54 01.1 -0.9
KEV pmax pmax
comp=Z,14nm,0.8s
APA Apatity 54.13 338⇑ *i*P P 17 54 04.3 -0.9
APA pmax pmax
comp=Z,22nm,0.8s
ARU Arti 54.18 318 *e*P P 17 54 04.6 -1.0
comp=Z,42nm,0.5s
ARU Arti 54.18 318*c i*P P 17 54 05.1 -0.6
ARU pmax pmax
comp=Z,44nm,0.8s
ARCES ARCESS Array B 54.18 342 *e*P P 17 54 04.8 -0.7
ARCES ARCESS Array B 54.18 342 *e*P P 17 54 04.8 -0.7
ARCES ARCESS Array B 54.18 342 P P 17 54 05.0 -0.6
comp=Z,26nm,0.9s,baz=35,slow=7.7,SNR=33
ARE0 ARCESS Array S 54.18 342 *e*P P 17 54 04.5 -1.0
comp=Z,2.0nm,1.1s
ARE0 ARCESS Array S 54.18 342 *e*P P 17 54 05.3 -0.2
KDJ Kajisay 54.50 295 *e*P P 17 54 06.7 -1.8
comp=Z,18nm,1.0s
KDJ Kajisay 54.50 295 *e*P P 17 54 06.7 -1.8
KDJ pmax pmax
comp=Z,18nm,1.0s
LSA Lhasa 54.69 274 *e*P P 17 54 08.7 -1.6
comp=Z,14nm,0.7s
LSA Lhasa 54.69 274 *i* P P 17 54 10.4 +0.1
SNR=14
LSA Lhasa 54.69 274 *e*P P 17 54 08.7 -1.6
LSA pmax pmax
comp=Z,14nm,0.7s
BOZ Bozeman (W) 54.77 59 P P 17 54 11.4 +1.1
baz=312
SUMG Summit 54.80 7⇑ *i*P P 17 54 10.6 +0.1
SUMG pmax pmax
comp=Z,81nm,0.9s
SUMG Summit 54.80 7⇑ *i*P P 17 54 10.6 +0.1
comp=Z,81nm,0.9s
KTK1 Kautokeino 55.05 343 *e*P P 17 54 11.5 -0.4
PRGR Permogore 55.28 328⇓ *i*P P 17 54 14.2 +0.6
PRGR pmax pmax
comp=Z,40nm,0.6s
AAK Ala-Archa 55.65 297 *i* P P 17 54 15.4 -1.4
SNR=17
AAK Ala-Archa 55.65 297*c i*P P 17 54 14.9 -1.8
AAK pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 55.65 297 P P 17 54 15.3 -1.4
SNR=7.4
TMCR Tamitsa 55.65 333 *e*P P 17 54 15.7 -0.4
TMCR pmax pmax
comp=Z,107nm,1.0s
SGF Sodankyl 55.75 340 P P 17 54 17.6 +0.7
SGF pmax pmax
comp=Z,35nm,1.4s
PANO Nakornpanom 55.84 253 P P 17 54 20.3 +2.1
comp=Z,0.6nm,1.1s,comp=Z,68nm
NV01 Mina Array Sit 55.85 70 *e*P P 17 54 20.1 +1.7
NVAR Mina Array Bea 55.85 70 P P 17 54 20.1 +1.7
comp=Z,2.5nm,0.8s,baz=293,slow=7.7,SNR=7.7

NVAR LR LR 18 17 26.1
comp=Z,107nm,19.2s,baz=295,slow=35
SKNT Sakolnakorn 56.35 253 P P 17 54 22.9 +1.1
comp=Z,32nm,1.2s
MSF Maaselka 56.49 338 P P 17 54 22.4 +0.2
MSF pmax pmax
comp=Z,95nm,1.0s
KSH Kashi 56.93 293 P P 17 54 28.5 +2.6
KSH pP pwP 17 54 40.3 +7.6
KSH PP **PP 17 56 36.8 +4.7**
KSH S **S 18 02 16.5 -3.0**
KSH SS **SS 18 06 06.8 -0.4**
KSH pmax pmax
comp=Z,21nm,1.1s
KSH pmax pmax
comp=Z,200nm,6.0s
KSH LR LR
comp=Z,300nm,8.6s
KSH LR LR
comp=Z,410nm,9.7s
KSH LR LR
comp=Z,1μm,14.3s
PAYA Payao 56.95 259 P P 17 54 27.6 +1.5
comp=Z,74μm,0.7s,comp=Z,629μm
SHL Shillong 57.20 270 P P 17 54 27.3 -0.7
SHL pmax pmax
comp=Z,28nm,0.9s
SHL Shillong 57.20 270 *e*P P 17 54 29.0 +1.0
PHRA Phrae 57.40 258 P P 17 54 30.4 +1.2
comp=Z,5.7nm,0.9s
LOF Lofoten 57.45 346 *e*P P 17 54 28.3 -0.7
R11A Troy Canyon, C 57.47 68 P P 17 54 31.0 +1.2
baz=314
KK31 Karatay Array 57.49 300 *i* P P 17 54 27.3 -2.3
KK31 pmax pmax
comp=Z,18nm,1.2s
KKAR Karatay Array 57.49 300 *e*P P 17 54 28.6 -1.1
KKAR Karatay Array 57.49 300 *e*P P 17 54 28.6 -1.1
KHON Khomkaen 57.53 254 P P 17 54 32.0 +1.8
comp=Z,41μm,0.9s
SCO Scoresbysund 57.59 1 *i* P P 17 54 30.0 +0.1
SCO Scoresbysund 57.59 1 *i* P P 17 54 30.0 +0.1
LAMP Lampang 57.74 258 P P 17 54 33.1 +1.4
comp=Z,57μm,0.8s,comp=Z,495μm
PDAR Pinedale Array 57.77 61 P P 17 54 32.4 +0.4
comp=Z,3.2nm,0.8s,baz=309,slow=2.4,SNR=20
UTTA Uttaradit 57.78 257 P P 17 54 33.1 +1.1
comp=Z,55μm,0.9s,comp=Z,382μm
KLMR Klimovskoe 57.80 330⇑ *i*P P 17 54 30.6 -0.9
KLMR pmax pmax
comp=Z,28nm,0.6s
OUL Oulu 57.90 339 P P 17 54 31.9 -0.2
OUL pmax pmax
comp=Z,52nm,1.0s
CMMT Chiang Mai 57.93 259 P P 17 54 33.6 +0.6
comp=Z,22nm,0.8s,comp=Z,183nm
CHTO Chiang Mai 57.93 259 *e*P P 17 54 33.3 +0.3
comp=Z,25nm,0.7s
CHTO Chiang Mai 57.93 259 *e*P P 17 54 33.3 +0.3
CHTO pmax pmax
comp=Z,25nm,0.7s
CHTO Chiang Mai 57.93 259 P P 17 54 33.5 +0.5
SNR=8.2
WBSM Bird Springs 57.93 72 *e*P P 17 54 34.4 +1.3
MPMC Manual Prospec 57.95 71 P P 17 54 34.7 +1.5
baz=314
FURC Furnace Creek, 58.03 70 P P 17 54 35.1 +1.6
baz=314
TPNV Topopah Spring 58.05 70 P P 17 54 35.4 +1.6
baz=314
CM31 Chiang Mai Arr 58.20 259 *e*P P 17 54 36.3 +1.4
comp=Z,21nm,0.7s
CM31 Chiang Mai Arr 58.20 259 P P 17 54 36.1 +1.2
SNR=7.9
CMAR Chiang Mai Arr 58.20 259 *e*P P 17 54 36.1 +1.1
CMAR Chiang Mai Arr 58.20 259 P P 17 54 35.5 +0.5
comp=Z,17nm,0.7s,baz=27,slow=6.9,SNR=138
FRB Frobisher Bay 58.23 23 P P 17 54 34.2 -0.3
comp=Z,14nm,1.0s,baz=1.5,slow=7.2,SNR=5.2
JOF Joensuu 58.44 335 P P 17 54 35.8 -0.2
JOF pmax pmax
comp=Z,63nm,1.0s
PBKT Sadao Pong 58.45 256 P P 17 54 37.9 +1.3
comp=Z,6.2nm,1.0s
AB31 Akbulak array 58.51 311 *i* P P 17 54 35.8 -0.9
AB31 pmax pmax
comp=Z,14nm,0.7s
ABKAR Akbulak array 58.51 311 *e*P P 17 54 35.8 -0.9
comp=Z,16nm,0.7s
SFJD Kangerlussuaq 58.81 14 P P 17 54 37.2 -1.2
comp=Z,7.9nm,0.7s,baz=336,slow=4.2,SNR=3.9
SFJD Kangerlussuaq 58.81 14 *i* P P 17 54 35.5 -3.0
ODAN Odare 59.02 275 *e*P P 17 54 40.6 -0.3
comp=Z,47nm,0.6s
JIRN Jiri 59.18 276 *e*P P 17 54 41.8 -0.3
comp=Z,58nm,0.7s
ULM Lac du Bonnet 59.27 47 P P 17 54 42.2 +0.3
comp=Z,2.6nm,0.6s,baz=352,slow=8.8,SNR=3.4
RAMN Ramite 59.44 275 *e*P P 17 54 43.2 -0.6
comp=Z,133nm,0.5s
KKN Kakani 59.64 277 *e*P P 17 54 44.4 -0.7
comp=Z,81nm,0.6s
RSSD Black Hills 59.72 56 P P 17 54 45.8 +0.4
baz=315
PKI Pulchoki 59.72 277 *e*P P 17 54 44.5 -1.3
comp=Z,45nm,0.6s
PKIN Phulchoki 59.73 277 *e*P P 17 54 44.4 -1.3
comp=Z,46nm,0.7s
DMN Daman 59.88 277 *e*P P 17 54 45.8 -1.0
comp=Z,80nm,0.6s
GKN Gorkha 59.88 278 *e*P P 17 54 45.5 -1.2
comp=Z,64nm,0.6s
UMPA Umpang Tak 59.99 257 P P 17 54 50.1 +2.7
comp=Z,80μm,0.8s,comp=Z,585μm
DANN Dangsing 60.17 279 *e*P P 17 54 48.2 -0.6
comp=Z,95nm,0.7s
O20A White River Ci 60.32 62 P P 17 54 51.5 +2.0
baz=315
KOLN Koldanda 60.68 278 *e*P P 17 54 51.2 -1.0
comp=Z,60nm,0.6s
PYUN Piuthan 60.81 279 *e*P P 17 54 51.9 -1.2
comp=Z,62nm,0.7s
FINES FINESS Array B 61.00 337 *e*P P 17 54 53.6 0.0
FINES FINESS Array B 61.00 337 P P 17 54 53.3 -0.3
comp=Z,36nm,0.5s,baz=35,slow=8.5,SNR=264
N23A Red Feather La 61.01 60 P P 17 54 56.0 +1.6
baz=316
NSS Namsos 61.04 345 *e*P P 17 54 54.8 +1.0
ISCO Idaho Springs 61.97 61 P P 17 55 02.0 +1.1
baz=316
PHET Kaeng Krachan 62.12 254 P P 17 55 04.0 +2.3
comp=Z,103μm,0.8s,comp=Z,877μm
MOS Moscow 62.50 328 *e*P P 17 55 01.6 -2.2
MOS pmax pmax
comp=Z,45nm,0.6s
S22A 4UR Ranch, Cre 62.79 63 P P 17 55 09.9 +3.5
baz=317
OBN Obninsk 63.36 328⇑ *i*P P 17 55 08.2 -1.2
OBN Obninsk 63.36 328*ce*P P 17 55 08.3 -1.2
OBN *e* 17 55 17.4
OBN *e* 17 55 47.4
OBN pmax pmax
comp=Z,55nm,1.7s
VSU Vasula 63.42 335*de*P P 17 55 09.8 -0.1
VSU pmax pmax
comp=Z,128nm,0.7s
VSU Vasula 63.42 335 *e*P P 17 55 09.7 -0.1
VSU IAmb IAmb 17 55 11.1
comp=Z,94nm,0.7s
ECSD EROS Data Cent 63.70 52 P P 17 55 11.5 -0.5
baz=318
SBUM Sibu 63.70 236 *e*P P 17 55 13.4 +1.2
comp=Z,3.4nm,0.8s
DOMB Dombas 63.84 345 *e*P P 17 55 13.0 +0.4
AKN Aaknes 64.02 346 *e*P P 17 55 14.1 +0.3
F38A Pierce - Schro 64.25 48 P P 17 55 15.1 -0.4
baz=320
NB2 NORSAR Subarra 64.44 344 P P 17 55 16.1 -0.5
comp=Z,11nm,0.7s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.44 344 P P 17 55 16.1 -0.5
baz=22,slow=6.9
NOA NORSAR Array B 64.44 344 P P 17 55 16.1 -0.5
comp=Z,15nm,0.8s,baz=22,slow=6.6,SNR=53
E39A Mellen 64.53 46 P P 17 55 17.5 +0.1
baz=320
LPSR Galich'ya Gora 64.61 325 *e*P P 17 55 16.6 -1.2

LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR MLR MLR
comp=Z,810nm,20.0s
NORES NORESS Array B 64.67 344 P P 17 55 19.0 +1.0
NORES pmax pmax
comp=Z,4.0nm,0.5s
NAO01 NORSAR Array S 64.67 344 *e*P P 17 55 18.2 +0.2
F39A Loretta 64.72 47 P P 17 55 19.4 +0.7
baz=320
VRH Novokhopyorsk 64.72 322 *e*P P 17 55 16.9 -1.6
VRH pmax pmax
comp=Z,40nm,0.6s
VRH MLR MLR
comp=Z,2μm,18.0s
E40A Wakefield 64.77 46 P P 17 55 19.6 +0.6
baz=320
TASM ASL Pad, Albuq 65.03 65 P P 17 55 22.8 +1.7
baz=318
ANMO Albuquerque 65.03 65 P P 17 55 22.0 +0.9
comp=Z,1.5nm,0.9s,baz=306,slow=5.6,SNR=3.7
HYA Hoyanger 65.10 347 *e*P P 17 55 21.1 +0.3
E41A Kenton 65.16 45 P P 17 55 21.3 -0.2
baz=321
SKAR Skarslia 65.25 345 *e*P P 17 55 22.7 +0.8
SLIT Slitere, Latvi 65.28 337 *e*P P 17 55 21.4 -0.6
SLIT IAmb IAmb 17 55 23.8
comp=Z,428nm,0.6s
G40A Rib Lake 65.54 47 P P 17 55 24.5 +0.6
baz=321
OSL Oslo 65.56 344 *e*P P 17 55 24.3 +0.5
VSR Storozhevoye 65.66 324 *e*P P 17 55 22.4 -2.2
VSR pmax pmax
comp=Z,20nm,0.9s
VSR MLR MLR
comp=Z,1μm,16.0s
F41A Three Lakes 65.66 46 P P 17 55 25.2 +0.4
baz=321
BER Bergen 65.97 347 *e*P P 17 55 26.2 -0.3
KONO Kongsberg 66.02 344⇑ *e*P P 17 55 27.1 +0.3
KONO pmax pmax
comp=Z,6.0nm,0.7s
KONO Kongsberg 66.02 344 *e*P P 17 55 27.6 +0.8
ISAL Salakas 66.12 334 *e*P P 17 55 27.7 +0.2
ISAL IAmb IAmb 17 55 29.4
comp=Z,7.3nm,0.7s
IDID Didziasalis 66.17 333 *e*P P 17 55 27.7 -0.1
IDID IAmb IAmb 17 55 29.8
comp=Z,15nm,0.8s
IIGN Ignalina 66.28 333 *e*P P 17 55 28.5 -0.1
IIGN IAmb IAmb 17 55 30.5
comp=Z,30nm,0.6s
SCHQ Schefferville 66.33 28 P P 17 55 29.6 +0.7
comp=Z,12nm,0.8s,baz=348,slow=5.0,SNR=6.6
SCHQ LR LR 18 28 58.9
comp=Z,179nm,18.8s,baz=356,slow=40
MICGM Minsk 66.56 332 *e* P 17 55 29.0 -1.3
MICGM *e*LR LR 18 27 28.0
MNK Minsk 66.56 332 *e*P P 17 55 29.0 -1.3
BLS5 Blasjo 66.73 346 *e*P P 17 55 32.0 +0.6
PABE Paberze 66.75 335 *e*P P 17 55 31.0 -0.5
PABE IAmb IAmb 17 55 33.4
comp=Z,71nm,0.7s
PBUR Paburg 66.81 336 *e*P P 17 55 30.7 -1.2
PBUR IAmb IAmb 17 55 33.8
comp=Z,44nm,0.7s
D46A Sault St. Mari 66.93 42 P P 17 55 32.3 -0.6
baz=323
GEYT Alibeck 67.73 303 P P 17 55 38.1 -0.1
comp=Z,10.0nm,0.8s,baz=14,slow=6.7,SNR=20
GEYT LR LR 18 27 45.4
comp=Z,1μm,18.4s,baz=35,slow=38
MAK Makhachkala 68.93 314 *e*P P 17 55 44.5 -1.0
MAK *e* 17 58 18.6
MAK *e*S **S 18 04 45.6 -3.7**
MAK *e*SS **SS 18 09 15.5 +1.7**
MAK pmax pmax
comp=Z,55nm,1.3s
MAK MLR MLR
comp=Z,506nm,15.0s
E51A G1948 Merrick 69.05 40 P P 17 55 45.5 -0.7
baz=326
MUD Monsted U'grnd 69.12 343 *e*P P 17 55 46.9 +0.5
MUD Monsted U'grnd 69.12 343 *i* P P 17 55 46.9 +0.5
COP Copenhagen 69.24 341⇑ *i*P P 17 55 48.0 +0.8
COP pmax pmax
comp=Z,26nm,0.7s
COP Copenhagen 69.24 341⇑ *i*P P 17 55 48.0 +0.8
comp=Z,26nm,0.7s
BSD Bornholm Skovb 69.27 340 *e*P P 17 55 48.7 +1.4
BSD Bornholm Skovb 69.27 340 *i* P P 17 55 48.7 +1.4
D53A Lac Vacive, Po 69.30 38 P P 17 55 45.7 -2.0
baz=326
WMOK Wichita Mounta 69.37 60 P P 17 55 49.2 +0.8
baz=320
AKASG Malin Array Be 69.46 329 *e*P P 17 55 48.5 -0.2
AKASG Malin Array Be 69.46 329 P P 17 55 47.8 -0.9
comp=Z,11nm,0.5s,baz=30,slow=6.3,SNR=47
AKBB Malin Array Si 69.46 329 *e*P P 17 55 47.7 -1.0
comp=Z,25nm,0.8s
AKBB Malin Array Si 69.46 329 *e*P P 17 55 47.7 -1.0
AKBB pmax pmax
comp=Z,25nm,0.8s
KIEV Kiev 69.47 329 *e*P P 17 55 47.7 -1.0
comp=Z,26nm,0.9s
KIEV Kiev 69.47 329⇑ *i*P P 17 55 47.3 -1.4
KIEV Kiev 69.47 329 *i* P P 17 55 48.7 0.0
SNR=6.0
KIEV Kiev 69.47 329*ce*P P 17 55 47.3 -1.4
KIEV pmax pmax
comp=Z,23nm,0.9s
D54A Lac Fusel, La 69.63 38 P P 17 55 49.5 -0.3
baz=327
F52A Sundridge 69.73 40 P P 17 55 50.1 -0.3
baz=326
KLBO Killbear Provi 69.73 41 P P 17 55 50.4 0.0
baz=325
KVAR Kislovodsk Arr 70.21 317 P P 17 55 53.0 -0.5
comp=Z,3.7nm,0.5s,baz=106,slow=17,SNR=7.2
KIV Kislovodsk 70.21 317 ||*i*P P 17 55 54.2 +0.7
KIV Kislovodsk 70.21 317 *i* P P 17 55 54.5 +1.0
SNR=5.1
KIV Kislovodsk 70.21 317 *e*P P 17 55 53.6 +0.1
KIV pmax pmax
comp=Z,41nm,1.1s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 70.21 317 P P 17 55 53.0 -0.5
SNR=5.6
KBZ Khabaz 70.31 317 P P 17 55 54.0 +0.1
comp=Z,18nm,0.8s,baz=57,slow=2.8,SNR=45
K49A Clarkson 70.48 45 P P 17 55 55.4 +0.3
baz=324
ZEI Tsey 70.65 316 *e*P P 17 55 51.1 -5.2
ZEI pmax pmax
comp=Z,10.0nm,0.7s
LTX Lajitas 70.79 67 *e*P P 17 55 58.5 +1.2
LTX Lajitas 70.79 67 *e*P P 17 55 58.5 +1.2
TX31 Lajitas Ar. Si 70.79 67 *e*P P 17 55 58.5 +1.2
comp=Z,8.6nm,0.9s
TXAR Lajitas Array 70.79 67 P P 17 55 58.5 +1.2
comp=Z,2.0nm,0.8s,baz=298,slow=5.0,SNR=13
BEL Belsk 70.89 335 *e*P P 17 55 58.6 +1.3
BEL LMZ LR 18 30 29.5
comp=Z,900nm,18.2s
BEL Belsk 70.89 335 *e*P P 17 55 58.6 +1.3
BEL MLR MLR
comp=Z,900nm,18.2s
U40A Yellville 71.19 55 P P 17 55 58.9 -0.6
baz=322
N48A Decatur 71.34 47 P P 17 55 59.8 -0.5
baz=324
HYB Hyderabad 71.48 275 *i* P P 17 56 00.5 -1.0
comp=Z,58nm,0.8s
ANN Anapa 71.63 321 *e*P P 17 56 01.3 -0.6
ANN *e*PP **PcP 17 56 18.4 -2.7**
ANN *e* 17 58 40.0
ANN *e*S **S 18 05 18.8 -2.0**
ANN pmax pmax
comp=Z,13nm,0.7s
ANN MLR MLR
comp=N,922nm,17.0s
ANN MLR MLR
comp=Z,466nm,17.0s
ANN MLR MLR
comp=E,370nm,17.0s

SOC Sochi 71.74 319 *e*P **P** **17 55 59.4 -3.2**
SOC *e*S S 18 05 12.8 -9.4
SOC *e*SS **SS** **18 10 02.6 +5.7**
SOC pmax pmax
comp=Z,16nm,0.7s
SOC MLR MLR
comp=Z,943nm,16.0s
LVV L'vov 71.81 332 *e*P **P** **17 56 03.7 +0.7**
AKH Akhalkalaki 71.94 315⇓*i*P **P** **17 56 04.8 +0.6**
AKH Akhalkalaki 71.94 315 P **P** **17 56 04.7 +0.6**
EKA Eskdalemuir Ar 71.95 350 P **P** **17 56 03.1 -0.6**
EKA pmax pmax
comp=Z,5.0nm,0.4s
ESK Eskdalemuir 71.97 350 *e*P **P** **17 56 04.2 +0.4**
comp=Z,24nm,1.2s
ESK Eskdalemuir 71.97 350 *e*P **P** **17 56 04.2 +0.4**
ESK pmax pmax
comp=Z,24nm,1.2s
RUE Ruedersdorf 71.97 339 *e*P **P** **17 56 03.6 -0.3**
RUE IAmb IAmb 17 56 06.0
comp=Z,27nm,0.6s
KWP Kalwaria Pacla 72.36 333 *e*P **P** **17 56 06.6 +0.3**
KWP *e*PP **PP** **17 58 48.1 +1.7**
KWP LMZ LR 18 31 37.0
comp=Z,1μm,18.9s
KWP Kalwaria Pacla 72.36 333 *e*P **P** **17 56 06.6 +0.3**
KWP *e* 17 58 48.1
KWP MLR MLR
comp=Z,1μm,18.9s
GNI Garni 72.42 314 P **P** **17 56 08.0 +1.0**
GNI Garni 72.42 314⇑*e*P **P** **17 56 07.1 0.0**
GNI pmax pmax
comp=Z,36nm,1.0s
GNI Garni 72.42 314 P **P** **17 56 07.0 0.0**
comp=Z,8.0nm,0.7s,baz=342,slow=5.2,SNR=8.2
P49A Miami Univ. Ec 72.55 47 P **P** **17 56 07.8 +0.2**
baz=324
OJC Ojcow 72.62 335 *e*P **P** **17 56 08.2 +0.4**
OJC LMZ LR 18 31 43.9
comp=Z,900nm,17.4s
OJC Ojcow 72.62 335 *e*P **P** **17 56 08.2 +0.4**
OJC MLR MLR
comp=Z,900nm,17.4s
BCA Borcka 72.72 316⇑*i*P **P** **17 56 08.3 -0.3**
SIM Simferopol' 72.75 323 *e*P **P** **17 56 08.4 -0.3**
SIM *e* 17 58 57.0
SIM pmax pmax
comp=Z,8.0nm,0.9s
SIM MLR MLR
comp=N,900nm,16.0s
KIS Kishinev 72.83 328 *e*P **P** **17 56 08.0 -1.1**
KIS LRM MLR 18 32 06.0
comp=N,1μm,16.0s
KIS Kishinev 72.83 328 *e*P **P** **17 56 08.0 -1.1**
KIS *e* 17 56 20.0
KIS *e* 17 56 30.0
KSP Ksiaz 72.92 337 *e*P **P** **17 56 09.9 +0.3**
KSP *e*PP **PP** **17 58 51.3 +0.1**
KSP LMZ LR 18 34 41.5
comp=N,1μm,16.8s
KSP Ksiaz 72.92 337 *e*P **P** **17 56 09.9 +0.3**
KSP *e* 17 58 51.3
KSP MLR MLR
comp=Z,1μm,16.8s
T46A Princeton 73.08 51 P **P** **17 56 12.3 +1.6**
baz=324
KOLS Kolonicke sedl 73.11 333 *e*P **P** **17 56 11.6 +0.8**
KOLS pmax pmax
comp=Z,22nm,1.5s
KOLS Kolonicke sedl 73.11 333 *e*P **P** **17 56 11.6 +0.8**
NIE Niedzica 73.22 334 *e*P **P** **17 56 12.0 +0.6**
NIE *e*PP **PP** **17 58 53.2 -0.6**
NIE LMZ LR 18 32 03.8
comp=Z,400nm,18.4s
NIE Niedzica 73.22 334 *e*P **P** **17 56 12.0 +0.6**
NIE *e* 17 58 53.2
NIE MLR MLR
comp=Z,400nm,18.4s
N53A Lisbon 73.22 44 P **P** **17 56 11.6 0.0**
baz=326
CLL Collm 73.24 339 *e*P **P** **17 56 11.0 -0.5**
CLL *e**PP **PcP** **17 56 25.0 -2.9**
CLL *e*S **SKiKP** **18 05 42.0 -0.4**
CLL pmax pmax
comp=Z,29nm,1.0s
CLL Collm 73.24 339 *e*P **P** **17 56 11.0 -0.5**
comp=Z,29nm,1.0s
CLL *e*sP **PcP** **17 56 25.0 -2.9**
CLL *e* 17 56 33.0
CLL *e*PP **PP** **17 58 54.0 +0.2**
CLL *e*S **SKiKP** **18 05 42.0 -0.4**
CLL *e*PS **PnS** **18 06 21.0 +11**
CLL *e*SS **SS** **18 10 18.0 -1.3**
CLL *e*SSS SSS 18 13 48.0
CLL LmH 18 31 00.0
comp=N,300nm,18.3s
CLL LmH 18 31 00.0
comp=E,400nm,18.0s
UPC Upice 73.30 337 *e*P **P** **17 56 12.1 +0.2**
UPC MLR MLR
comp=Z,1μm,14.4s
UPC Upice 73.30 337 *e*P **P** **17 56 12.1 +0.2**
UPC *e*S **SKiKP** **18 05 53.3 +11**
UPC AMS AMS 18 35 00.0
comp=Z,1μm,14.4s
O52A Adamsville 73.36 45 P **P** **17 56 12.3 -0.1**
baz=326
DPC Dobruska-Polom 73.37 337 *e*P **P** **17 56 12.8 +0.5**
DPC *e* 17 56 25.5
DPC MLR MLR
comp=Z,900nm,15.1s
DPC Dobruska-Polom 73.37 337 *e*P **P** **17 56 12.8 +0.5**
DPC *e*pP **PcP** **17 56 25.5 -3.1**
DPC AMS AMS 18 34 50.0
comp=Z,900nm,15.1s
UZH Uzhgorod 73.38 332 *e*P **P** **17 56 12.7 +0.4**
UZH *e* 17 56 21.1
UZH *e* 17 56 34.7
OKC Ostrava-Krasne 73.39 336 *e*P **P** **17 56 12.8 +0.4**
OKC MLR MLR
comp=Z,600nm,17.3s
OKC Ostrava-Krasne 73.39 336 *e*P **P** **17 56 12.8 +0.4**
OKC AMS AMS 18 32 10.0
comp=Z,600nm,17.3s
BURAR Bucovina Array 73.43 330 *e*P **P** **17 56 12.9 +0.2**
BURAR Bucovina Array 73.43 330⇓*i*P **P** **17 56 12.5 -0.3**
BURAR Bucovina Array 73.43 330 P **P** **17 56 13.0 +0.2**
BRG Berggiesshubel 73.44 339 *e*P **P** **17 56 12.2 -0.4**
comp=Z,8.6nm,1.0s
BRG PP **PP** **17 58 53.7 -1.8**
comp=Z,3.7nm,0.8s
BRG S **SKiKP** **18 05 53.0 +10**
BRG Berggiesshubel 73.44 339 *e*P **P** **17 56 12.2 -0.4**
BRG 17 58 53.7
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG MLR MLR
comp=N,267nm,15.3s
BRG MLR MLR
comp=E,372nm,15.2s
BRG MLR MLR
comp=Z,550nm,18.7s
N54A Moraine State 73.45 43 P **P** **17 56 13.4 +0.5**
baz=326
S48A Wiedeman Farm, 73.45 49 P **P** **17 56 13.0 +0.1**
baz=324
T47A Sharon Grove 73.50 51 P **P** **17 56 13.8 +0.6**
baz=324
KRLC Kraliky 73.52 337 *e*P **P** **17 56 13.8 +0.6**
KRLC Kraliky 73.52 337 *e*P **P** **17 56 13.8 +0.6**
O53A New Philadelph 73.52 45 P **P** **17 56 13.6 +0.3**
baz=326
MORC Moravsky Berou 73.60 336 *e*P **P** **17 56 13.8 +0.1**
PVCC Panska Ves 73.62 338 *e*P **P** **17 56 14.4 +0.7**
PVCC MLR MLR
comp=Z,700nm,15.9s
PVCC Panska Ves 73.62 338 *e*P **P** **17 56 14.4 +0.7**
PVCC AMS AMS 18 34 10.0
comp=Z,700nm,15.9s
P52A Corning 73.62 46 P **P** **17 56 14.3 +0.4**
baz=326
LANS Liptovska Anna 73.68 334 *e*P **P** **17 56 15.2 +1.0**
LANS Liptovska Anna 73.68 334 *e*P **P** **17 56 15.2 +1.0**
R50A Paris 73.75 48 P **P** **17 56 15.5 +0.8**
baz=325
BIZ Bicaz 73.76 329⇑*i*P **P** **17 56 14.0 -0.6**
TRPA Tarpa 73.76 332⇑*e*P **P** **17 56 15.0 +0.5**
WTSB Winterswijk 73.83 343 *e*P **P** **17 56 14.6 -0.3**
comp=Z,29nm,0.8s
WVT Waverly 73.84 52 P **P** **17 56 15.5 +0.3**
baz=324
U47A Clarksville 73.85 51 P **P** **17 56 16.6 +1.4**
baz=324
TESR Tescani 73.96 329⇓*i*P **P** **17 56 14.8 -1.0**
KECS Kecovo 74.02 334 *e*P **P** **17 56 17.0 +0.9**
KECS pmax pmax
comp=Z,41nm,0.9s
KECS Kecovo 74.02 334 *e*P **P** **17 56 17.0 +0.9**
N55A Marion Center 74.02 43 P **P** **17 56 15.8 -0.5**
baz=327
P53A Whipple 74.07 45 P **P** **17 56 17.3 +0.8**
baz=326
PRU Pruhonice 74.13 338 *e*P **P** **17 56 17.2 +0.5**
PRU *e* 17 56 30.6
PRU MLR MLR
comp=Z,600nm,13.2s
PRU Pruhonice 74.13 338 *e*P **P** **17 56 17.2 +0.5**
PRU *e*pP **PcP** **17 56 30.6 -1.2**
PRU *e*S S 18 06 02.4 +13
PRU AMS AMS 18 34 50.0
comp=Z,600nm,13.2s
GOPC GO Pecny, Ondr 74.14 338 *e*P **P** **17 56 16.8 0.0**
GOPC *e* 17 56 29.9
GOPC MLR MLR
comp=Z,500nm,14.1s
GOPC GO Pecny, Ondr 74.14 338 *e*P **P** **17 56 16.8 0.0**
GOPC *e*pP **PcP** **17 56 29.9 -2.0**
GOPC *e*S S 18 06 05.2 +16
GOPC AMS AMS 18 34 50.0
comp=Z,500nm,14.1s
T49A Edmonton 74.14 49 P **P** **17 56 16.7 -0.3**
baz=325
U48A Cassie Pea, Po 74.15 50 P **P** **17 56 18.1 +1.0**
baz=324
DZM Mont Dzumac 74.16 174 LR LR 18 25 13.6
comp=Z,189nm,20.1s,baz=16,slow=33
ARCR ARCALIA 74.17 330⇓*i*P **P** **17 56 16.8 -0.2**
S50A Richmond 74.20 48 P **P** **17 56 18.3 +0.9**
baz=325
V47A Nunnelly 74.23 52 P **P** **17 56 18.2 +0.6**
baz=324
VRAC Vranov 74.27 336⇓*i*P **P** **17 56 17.8 +0.2**
VRAC Vranov 74.27 336 P **P** **17 56 17.7 +0.2**
VRAC Vranov 74.27 336 *e*P **P** **17 56 18.1 +0.5**
VRAC Vranov 74.27 336 LR LR 18 33 18.2
comp=Z,727nm,18.4s,baz=22,slow=39
O55A Ligonier 74.37 43 P **P** **17 56 18.5 +0.2**
baz=327
P54A Burton 74.37 45 P **P** **17 56 17.4 -0.9**
baz=326
NKC Novy Kostel 74.37 339 *e*P **P** **17 56 18.4 +0.2**
NKC MLR MLR
comp=Z,400nm,16.0s
NKC Novy Kostel 74.37 339 *e*P **P** **17 56 18.4 +0.2**
NKC AMS AMS 18 35 50.0
comp=Z,400nm,16.0s
JAVC Velka Javorina 74.42 335 *e*P **P** **17 56 19.7 +1.2**
TLCR 74.42 327⇓*i*P **P** **17 56 19.1 +0.6**
TLCR 74.42 327 P **P** **17 56 19.1 +0.6**
VYHS Vyhne 74.45 335 *e*P **P** **17 56 19.2 +0.6**
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 74.45 335 *e*P **P** **17 56 19.2 +0.6**
U49A Red Boiling Sp 74.51 50 P **P** **17 56 19.3 +0.2**
baz=325
VRI Vrincioaia 74.51 328⇑*i*P **P** **17 56 19.7 +0.7**
VRI Vrincioaia 74.51 328 P **P** **17 56 19.7 +0.7**
Q53A Leroy 74.53 46 P **P** **17 56 19.4 +0.1**
baz=326
PLOR Plostina 74.55 328⇑*i*P **P** **17 56 19.5 +0.2**
PLOR Plostina 74.55 328 P **P** **17 56 19.5 +0.2**
KRUC Moravsky 74.55 336 *e*P **P** **17 56 19.2 0.0**
TREC Trest 74.56 337 *e*P **P** **17 56 19.5 +0.3**
TREC MLR MLR
comp=Z,1μm,15.3s
TREC Trest 74.56 337 *e*P **P** **17 56 19.5 +0.3**
TREC AMS AMS 18 35 30.0
comp=Z,1μm,15.3s
MCWV Mont Chateau 74.59 44 P **P** **17 56 19.7 +0.1**
baz=327
SSPA Standing Stone 74.60 42 P **P** **17 56 19.4 -0.2**
baz=327
LTVH Ltavrtes, Hu 74.62 332 *e*P **P** **17 56 20.0 +0.5**
O56A Blue Knob Stat 74.63 43 P **P** **17 56 19.0 -0.9**
baz=327
CFR Carcaliu 74.66 327⇑*i*P **P** **17 56 19.3 -0.5**
CFR Carcaliu 74.66 327 P **P** **17 56 19.3 -0.5**
PSZ Piszkesteto 74.69 334 P **P** **17 56 21.3 +1.2**
PSZ Piszkesteto 74.69 334⇑*e*P **P** **17 56 21.0 +0.9**
P55A Reedsville 74.73 44 P **P** **17 56 20.8 +0.3**
baz=327
CJR Cluj-Napoca 74.73 331⇓*i*P **P** **17 56 19.5 -0.9**
CJR Cluj-Napoca 74.73 331 P **P** **17 56 19.4 -0.9**
SMOL Smolenice 74.80 335 *e*P **P** **17 56 22.3 +1.7**
SMOL Smolenice 74.80 335 *e*P **P** **17 56 22.3 +1.7**
S52A Salyersville 74.80 47 P **P** **17 56 21.0 +0.1**
baz=326
DOPR Dopca 74.85 329⇓*i*P **P** **17 56 20.6 -0.4**
DRGR 74.92 331⇑*i*P **P** **17 56 21.1 -0.4**
DRGR 74.92 331 P **P** **17 56 21.0 -0.4**
MODS Modra-Piesok 74.97 336 *e*P **P** **17 56 22.2 +0.6**
MODS pmax pmax
comp=Z,16nm,1.0s
MODS Modra-Piesok 74.97 336 *e*P **P** **17 56 22.2 +0.6**
U50A Jamestown 75.03 49 P **P** **17 56 23.1 +0.9**
baz=325
W48A Pulaski 75.07 52 P **P** **17 56 23.4 +1.0**
baz=324
MLR Muntele Rosu 75.10 329⇑*i*P **P** **17 56 22.8 +0.2**
DIKM Dikmen 75.14 321⇓*i*P **P** **17 56 22.9 +0.2**
HGN Heimansgroeve 75.14 344 *e*P **P** **17 56 22.4 -0.2**
comp=Z,68nm,1.5s
GRF Grafenberg Arr 75.14 340 P **P** **17 56 24.0 +1.4**
GRFO Grafenberg 75.15 340 P **P** **17 56 24.2 +1.6**
KHC Kasperske Hory 75.16 338 *e*P **P** **17 56 22.8 +0.1**
KHC *e* 17 56 36.5
KHC MLR MLR
comp=Z,700nm,13.7s
KHC Kasperske Hory 75.16 338 *e*P **P** **17 56 22.8 +0.1**
KHC *e*pP **PcP** **17 56 36.5 +0.2**
KHC *e*S S 18 06 12.9 +12
KHC AMS AMS 18 36 10.0
comp=Z,700nm,13.7s
HARR Harsova 75.16 327⇑*i*P **P** **17 56 22.8 +0.1**
HARR Harsova 75.16 327 P **P** **17 56 22.8 +0.1**
ZST Bratislava 75.18 336 *e*P **P** **17 56 22.9 +0.1**
ZST Bratislava 75.18 336 *e*P **P** **17 56 22.9 +0.1**
TLB Topalu 75.21 327⇑*i*P **P** **17 56 23.1 +0.1**
TLB Topalu 75.21 327 P **P** **17 56 23.1 +0.1**
N59A State Game Lan 75.22 41 P **P** **17 56 23.1 -0.1**
baz=328
MEM Membach 75.28 343⇑P **P** **17 56 22.7 -0.7**
comp=Z,39nm,1.0s
WET Wettzell 75.30 339 P **P** **17 56 24.3 +0.7**
T52A Hallie 75.31 48 P **P** **17 56 24.8 +1.0**
baz=326
WR1 Warramunga Arr 75.38 205 *e*P **P** **17 56 23.9 -0.2**
WRA Warramunga Arr 75.38 205 *i*P **P** **17 56 23.8 -0.4**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 75.38 205 P **P** **17 56 23.9 -0.2**
comp=Z,1.6nm,0.7s,baz=22,slow=5.5,SNR=19
GERES GERESS Array B 75.39 338 *e*P **P** **17 56 24.1 0.0**
GERES GERESS Array B 75.39 338 P **P** **17 56 24.0 -0.2**
GERES GERESS Array B 75.39 338 P **P** **17 56 24.0 -0.2**
comp=Z,5.0nm,0.7s,baz=35,slow=5.0,SNR=35
W49A Belvidere 75.41 51 P **P** **17 56 25.4 +1.0**
baz=325
VOIR 75.43 329⇑*i*P **P** **17 56 24.5 0.0**
VOIR 75.43 329 P **P** **17 56 24.4 0.0**
MFTR Murfatlar 75.44 326⇓*i*P **P** **17 56 24.9 +0.5**
TZTN Tazewell 75.52 48 P **P** **17 56 25.2 +0.1**
baz=326
R55A Marlinton 75.62 45 P **P** **17 56 26.1 +0.5**
baz=327
ARR Arges 75.62 330⇑*i*P **P** **17 56 26.0 +0.5**
CSKK Cskako 75.64 335 *e*P **P** **17 56 27.1 +1.6**
ICOR Ion Corvin 75.71 327⇓*i*P **P** **17 56 26.5 +0.6**
SULR 75.72 328⇑*i*P **P** **17 56 26.3 +0.3**
CONA Conrad Observa 75.74 336 *e*P **P** **17 56 27.1 +1.0**
comp=Z,9.3nm,0.7s,SNR=9.6
V51A Loudon 75.75 49 P **P** **17 56 26.3 0.0**
baz=325
SOP Sopron 75.79 336 P **P** **17 56 28.0 +1.7**
SOP Sopron 75.79 336⇑*e*P **P** **17 56 27.1 +0.7**
W50A Signal Mountai 75.79 50 P **P** **17 56 25.3 -1.3**
baz=325
X49A Woodville 75.87 51 P **P** **17 56 28.4 +1.4**
baz=325
GIVF Givet 75.97 344 *e*P **P** **17 56 27.1 -0.2**
GIVF pmax pmax
comp=Z,11nm,0.8s
DOU Dourbes 76.01 344⇑P **P** **17 56 28.1 +0.6**
P59A Jarrettsville 76.06 42 P **P** **17 56 28.1 0.0**
baz=328
U53A Fall Branch 76.11 48 P **P** **17 56 28.8 +0.4**
baz=326
BAIF Baives 76.11 344 *e*P **P** **17 56 28.0 -0.1**
BAIF pmax pmax
comp=Z,13nm,0.8s
GZR Gura Zlata 76.17 331⇑*i*P **P** **17 56 28.2 -0.4**
TIH Tihany 76.17 335 *e*P **P** **17 56 28.1 -0.4**
MOA Molln 76.20 337 *e*P **P** **17 56 29.5 +0.8**
comp=Z,5.4nm,0.7s
FITZ Fitzroy Crossi 76.28 214 *e*P **P** **17 56 28.9 -0.4**
comp=Z,6.9nm,1.0s
FITZ Fitzroy Crossi 76.28 214 P **P** **17 56 28.9 -0.4**
comp=Z,3.6nm,0.7s,baz=14,slow=6.8,SNR=8.6
R57A Stanardsville 76.30 44 P **P** **17 56 29.8 +0.4**
baz=328
BZS Buzias 76.31 332⇑*i*P **P** **17 56 28.7 -0.6**
BZS Buzias 76.31 332 P **P** **17 56 28.6 -0.7**
STU Stuttgart 76.44 341 P **P** **17 56 31.9 +1.9**
ARSA Arzberg 76.45 336 *e*P **P** **17 56 31.5 +1.4**
comp=Z,6.8nm,0.7s
R58A Rapidan 76.52 44 P **P** **17 56 30.1 -0.6**
baz=328
U55A TA2, Sparta 76.69 47 P **P** **17 56 31.7 -0.1**
baz=327
HERR Herculane 76.74 331⇓*i*P **P** **17 56 31.3 -0.5**
BEHE Becsehely 76.86 335 *e*P P 17 56 26.0 -6.4
BEHE *e*S S 18 06 29.1 +10
BFO Black Forest 77.03 341 *e*P **P** **17 56 34.5 +1.1**
comp=Z,9.4nm,0.8s
BFO Black Forest 77.03 341 *i*P **P** **17 56 34.0 +0.6**
Z50A Ashland 77.09 52 P **P** **17 56 34.4 +0.5**
baz=325
SOKA Soboth 77.11 336 *e*P **P** **17 56 35.1 +1.2**
comp=Z,7.7nm,0.6s,SNR=6.2
PUNG Punghina 77.13 330⇑*i*P **P** **17 56 34.2 +0.2**
KBA Koelnbreinsper 77.14 338 *e*P **P** **17 56 35.1 +0.9**
comp=Z,40nm,0.8s,SNR=20
KBA Koelnbreinsper 77.14 338 P **P** **17 56 35.1 +0.9**
CDF Champ du Feu 77.16 342 *e*P **P** **17 56 34.1 -0.1**
CDF pmax pmax
comp=Z,15nm,0.8s
GROS Grobnik 77.19 336 *e*P **P** **17 56 34.3 -0.1**
WATA Walderalm 77.30 339 *e*P **P** **17 56 36.8 +1.7**
comp=Z,5.9nm,0.7s
X53A Estanollee 77.31 49 P **P** **17 56 35.6 +0.4**
baz=326
RETA Reutte 77.33 339 *e*P **P** **17 56 35.7 +0.5**
comp=Z,7.2nm,0.8s
WTTA Wattenberg 77.35 339 *e*P **P** **17 56 34.6 -0.9**
comp=Z,14nm,1.0s,SNR=6.8
ECH Echery 77.37 342 *e*P **P** **17 56 36.0 +0.7**
comp=Z,25nm,1.3s
ECH Echery 77.37 342 *e*P **P** **17 56 36.0 +0.7**
ECH pmax pmax
comp=Z,25nm,1.3s
OBKA Obir 77.38 337 *e*P **P** **17 56 34.1 -1.4**
comp=Z,7.0nm,0.7s
MOTA Moosalm 77.39 339 *e*P **P** **17 56 35.9 +0.3**
comp=Z,8.9nm,0.7s,SNR=11
BR131 Keskin Array S 77.42 321 *e*P **P** **17 56 35.4 -0.5**
comp=Z,15nm,1.1s
BR131 Keskin Array S 77.42 321 *e*P **P** **17 56 35.4 -0.5**
BR131 pmax pmax
comp=Z,15nm,1.1s
BR131 Keskin Array S 77.42 321 P **P** **17 56 35.8 -0.1**
SNR=12
BRTR Keskin Array B 77.42 321 *e*P **P** **17 56 35.8 -0.1**
BRTR Keskin Array B 77.42 321 *i*P **P** **17 56 35.7 -0.2**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 77.42 321 P **P** **17 56 34.9 -1.0**
comp=Z,7.8nm,0.9s,baz=40,slow=3.7,SNR=43
MYKA Terra Mystica 77.49 337 *e*P **P** **17 56 35.3 -0.7**
comp=Z,7.3nm,1.0s
SQTA Sankt Quirin 77.49 339 *e*P **P** **17 56 37.1 +1.0**
comp=Z,15nm,0.8s,SNR=6.6
ABTA Abfaltersbach 77.64 338 *e*P **P** **17 56 38.0 +1.1**
comp=Z,10nm,0.9s,SNR=6.7
X54A Belton 77.70 49 P **P** **17 56 37.8 +0.4**
baz=326
DAVA Damuels 77.71 340 *e*P **P** **17 56 38.4 +1.0**
comp=Z,8.7nm,1.0s
HAU Haudompre 77.72 343 *e*P **P** **17 56 37.1 -0.2**
HAU pmax pmax
comp=Z,10.0nm,0.6s
FETA Feichten 77.78 339 *e*P **P** **17 56 38.1 +0.3**
comp=Z,14nm,1.0s
HINF Hinteralfeld 77.81 342 *e*P **P** **17 56 37.3 -0.5**
HINF pmax pmax
comp=Z,5.0nm,0.6s
PALK Pallekele 77.99 266 *e*P **P** **17 56 38.8 -0.5**
comp=Z,14nm,0.9s
PALK Pallekele 77.99 266 *e*P **P** **17 56 38.8 -0.5**
PALK pmax pmax
comp=Z,14nm,0.9s
PALK Pallekele 77.99 266 P **P** **17 56 38.8 -0.5**
comp=Z,9.8nm,0.7s,baz=107,slow=1.6,SNR=5.4
PHSR Pinarhisar 78.00 326⇓*i*P **P** **17 56 39.0 +0.1**
FLN La Foliniere 78.08 347 *e*P **P** **17 56 38.8 -0.4**
FLN pmax pmax
comp=Z,17nm,0.9s
Y54A Tignall 78.12 49 P **P** **17 56 39.9 +0.2**
baz=326
V58A Windy Hill, Pi 78.14 46 P **P** **17 56 39.9 +0.2**
baz=328
LDF La Druitiere 78.20 347 *e*P **P** **17 56 39.4 -0.5**
LDF pmax pmax
comp=Z,20nm,1.2s
GBRS Gornja Briga 78.23 336 *i*P **P** **17 56 39.8 -0.4**
251A Midway 78.28 52 P **P** **17 56 41.6 +1.0**
baz=325
X56A White Oak 78.37 48 P **P** **17 56 40.7 -0.3**
baz=327
GRR Gorron 78.50 347 *e*P **P** **17 56 41.3 -0.2**
GRR pmax pmax
comp=Z,17nm,0.7s
PLD Plovdiv 78.53 328 P **P** **17 56 42.6 +0.8**
VTS Vitosha 78.53 329⇑*i*P **P** **17 56 41.7 -0.3**
MSFE Esma-Masafi 78.54 297 P **P** **17 56 41.8 -0.4**
W58A Raeford 78.73 46 P **P** **17 56 43.5 +0.4**
baz=328
WSAR Wadi Sarin 78.83 293 P **P** **17 56 41.8 -2.0**
comp=Z,14nm,0.8s,baz=314,slow=11,SNR=10
SGMF Saint Gilles 78.85 348 *e*P **P** **17 56 43.3 -0.2**
SGMF pmax pmax
comp=Z,18nm,0.7s
ROSF Rostrenen 78.86 349 *e*P **P** **17 56 43.4 -0.1**
ROSF pmax pmax
comp=Z,27nm,0.9s
LOR Lormes 78.88 344 *e*P **P** **17 56 43.5 -0.2**
LOR pmax pmax
comp=Z,11nm,0.8s
UDBI Udbina 78.93 335 P **P** **17 56 44.2 +0.2**
HATD Hatta, Dubai 78.98 296 *i*P **P** **17 56 45.0 +0.4**
SNR=6.9
PLE Pljevlja 79.04 332 P **P** **17 56 48.3 +3.5**
ASAR Alice Springs 79.05 205 P **P** **17 56 44.1 -0.6**
comp=Z,2.0nm,0.6s,baz=16,slow=5.1,SNR=49
CABF La Chapelle 79.11 342 *e*P **P** **17 56 45.3 +0.2**
CABF pmax pmax
comp=Z,21nm,1.1s
NVLJ Novalja 79.12 336 P **P** **17 56 44.8 -0.2**
TAOE Nuku Hiva Isla 79.13 120 *e*LR LR 18 21 26.7
comp=Z,256nm,22.2s
SSF Saint Saulge 79.14 344 *e*P **P** **17 56 44.9 -0.2**
SSF pmax pmax
comp=Z,16nm,1.0s

QUIF	**Quistinic**	79.26	349	*e*P	**P**	17 56 45.5 -0.2
QUIF				pmax	pmax	
comp=Z,33nm,1.0s						
FAQ	**Al Faqa, Dubai**	79.34	297	P	**P**	17 56 46.3 -0.3
AVF	**Avril sur Loir**	79.42	344	*e*P	**P**	17 56 46.6 0.0
AVF				pmax	pmax	
comp=Z,22nm,0.8s						
SMF	**Signal de Mont**	79.48	344	*e*P	**P**	17 56 47.0 0.0
SMF				pmax	pmax	
comp=Z,15nm,1.0s						
ASUD	**Al Ashush, Dub**	79.58	297	P	**P**	17 56 47.6 -0.2
SKO	**Skopje**	79.68	330	*i* P	**P**	17 56 48.7 +0.6
STIP	**Stip**	79.70	330	*i* P	**P**	17 56 46.7 -1.6
SRS	**Serrai**	79.78	328	P	**P**	17 56 48.6 -0.1
ALNE	**Al Ain**	79.80	296	P	**P**	17 56 48.5 -0.5
VAY	**Valandovo**	79.92	329	*i* P	**P**	17 56 49.2 -0.3
LPL	**La Plagne**	80.04	342	*e*P	**P**	17 56 51.1 +0.8
LPL				pmax	pmax	
comp=Z,18nm,0.6s						
LPG	**La Plagne**	80.06	342	*e*P	**P**	17 56 51.3 +0.8
LPG				pmax	pmax	
comp=Z,19nm,0.6s						
TCF	**Toulx Ste Croi**	80.10	345	*e*P	**P**	17 56 50.5 +0.1
TCF				pmax	pmax	
comp=Z,15nm,0.9s						
MFF	**Saint Martin d**	80.15	347	*e*P	**P**	17 56 50.8 +0.2
MFF				pmax	pmax	
comp=Z,16nm,1.0s						
ISP	**Isparta**	80.27	322⇓	*i* P	**P**	17 56 51.7 +0.1
ISP	**Isparta**	80.27	322	P	**P**	17 56 51.6 0.0
KRUS	**Krusevo**	80.29	330	*i* P	**P**	17 56 48.8 -2.8
OHR	**Ohrid**	80.66	330	*i* P	**P**	17 56 52.5 -1.0
TIR	**Tirane**	80.72	331⇑	*i* P	**P**	17 56 54.2 +0.4
TIR	**Tirane**	80.72	331	P	**P**	17 56 54.2 +0.4
FNA	**Florina**	80.78	330	P	**P**	17 56 54.4 +0.2
ORIF	**Oris-en-Rattie**	80.78	342	*e*P	**P**	17 56 54.9 +0.8
ORIF				pmax	pmax	
comp=Z,23nm,0.9s						
MBDF	**Montbardon**	80.79	341	*e*P	**P**	17 56 56.6 +2.3
MBDF				pmax	pmax	
comp=Z,7.0nm,0.5s						
RAR	**Rarotonga**	80.95	143	LR	LR	18 25 35.2
comp=Z,81nm,21.8s,baz=295,slow=30						
MHTO	**MHTO**	80.98	292	P	**P**	17 56 56.0 +0.5
SNR=6.8						
VIVF	**Saint-Julien-l**	81.07	343	*e*P	**P**	17 56 56.2 +0.6
VIVF				pmax	pmax	
comp=Z,15nm,0.9s						
RJF	**Les Rejaudoux**	81.17	345	*e*P	**P**	17 56 56.5 +0.4
RJF				pmax	pmax	
comp=Z,17nm,1.2s						
CAF	**Calviac**	81.45	345	*e*P	**P**	17 56 58.4 +0.8
CAF				pmax	pmax	
comp=Z,13nm,0.8s						
LFF	**La Frestale**	81.64	346	*e*P	**P**	17 56 59.2 +0.6
LFF				pmax	pmax	
comp=Z,17nm,0.8s						
CSS	**Mathiatis**	81.66	319	*e*P	**P**	17 56 58.0 -0.9
comp=Z,28nm,0.7s						
PPT2	**Papeete2**	81.93	132	*e*LR	LR	18 22 51.9
comp=Z,456nm,24.5s						
LMR	**La Mourre**	82.19	341	*e*P	**P**	17 57 02.5 +1.0
LMR				pmax	pmax	
comp=Z,64nm,1.6s						
IGT	**Igoumenitsa**	82.25	330	P	**P**	17 57 01.8 -0.1
PGF	**Pioggiola**	82.42	339	*e*P	**P**	17 57 06.6 +3.8
PGF				pmax	pmax	
comp=Z,99nm,1.6s						
ASF	**Jabal al Asfar**	82.55	315	P	**P**	17 57 03.0 -0.7
comp=Z,13nm,0.9s,baz=349,slow=2.8,SNR=24						
MTLF	**Montolieu**	82.97	344	*e*P	**P**	17 57 06.3 +0.7
MTLF				pmax	pmax	
comp=Z,13nm,0.9s						
EPF	**Esparros**	83.57	345	*e*P	**P**	17 57 09.7 +1.0
EPF				pmax	pmax	
comp=Z,15nm,1.0s						
TIP	**Timpagrande**	83.63	332⇑	*i* P	**P**	17 57 09.6 +0.5
SJPF	**Ste Jean**	83.72	347	*e*P	**P**	17 57 10.7 +1.2
SJPF				pmax	pmax	
comp=Z,30nm,1.4s						
ETSF	**Etsaut**	83.84	346	*e*P	**P**	17 57 11.0 +0.9
ETSF				pmax	pmax	
comp=Z,17nm,0.7s						
IDI	**Anoyia**	84.59	325	P	**P**	17 57 12.1 -2.0
comp=Z,6.9nm,0.6s,baz=31,slow=10.0,SNR=13						
STKA	**Stephens Creek**	85.35	196	*e*P	**P**	17 57 18.0 +0.5
comp=Z,0.8nm,1.0s						
STKA	**Stephens Creek**	85.35	196	*e*P	**P**	17 57 18.0 +0.5
STKA	**Stephens Creek**	85.35	196	P	**P**	17 57 18.0 +0.5
comp=Z,2.0nm,0.8s,baz=357,slow=23,SNR=4.4						
STKA				LR	LR	18 35 18.2
comp=Z,108nm,19.8s,baz=20,slow=36						
PBRG	**Braganca**	85.69	350	*e*P	**P**	17 57 21.0 +1.5
POLO	**Lamas de Olo**	86.22	351	*e*P	**P**	17 57 23.4 +1.2
comp=Z,17nm,1.9s						
PVRL	**Vila Real**	86.31	351	*e*P	**P**	17 57 24.4 +1.9
comp=Z,34nm,1.3s						
MVO	**Moncorvo**	86.35	351	*e*P	**P**	17 57 24.3 +1.5
comp=Z,20nm,3.0s						
PVIS	**Viseu**	86.88	351	*e*P	**P**	17 57 26.3 +0.9
TBI	**Tubuai**	87.03	135	*e*S	**S**	18 08 05.4 +1.0
comp=Z,166nm,31.2s						
TBI	**Tubuai**	87.03	135	*e*LR	LR	18 25 14.9
comp=Z,426nm,25.5s						
MTE	**Manteigas**	87.16	351	*e*P	**P**	17 57 28.4 +1.7
ESDC	**Sonseca Array**	87.47	348	P	**P**	17 57 28.4 +0.2
comp=Z,4.3nm,0.7s,baz=3.1,slow=4.8,SNR=21						
PCAS	**Casmilo, Conde**	87.59	352	*e*P	**P**	17 57 30.8 +2.0
PCBR	**Castelo Branco**	87.71	351	*e*P	**P**	17 57 31.3 +2.0
KEST	**Kesra**	88.84	337	P	**P**	17 57 35.0 +0.2
comp=Z,9.4nm,0.9s,baz=314,slow=5.0,SNR=7.1						
PBDV	**Barranco-do-Ve**	90.33	351	*e*P	**P**	17 57 44.0 +2.3
PLCA	**Paso Flores**	143.79	92	PKP	**PKPdf**	18 04 14.8 -0.5
comp=Z,2.6nm,1.1s,baz=332,slow=3.7,SNR=3.5						
SYO	**Syowa Base**	148.11	216⇑	*e*PKPdf	**PKPdf**	18 04 22.6 +1.0
SYO	**Syowa Base**	148.11	216⇓	*e*PKiKP	**PKPab**	18 04 29.0 +1.2
SYO	**Syowa Base**	148.11	216⇓	*e*pPKPbc	PKPab	18 04 38.6 +11

KRSC ***19*** *17:47:20.0±10.0, 52.°04N×160.°66E, h23km±10km, ML5.0*
IDC ***19*** *17:47:21.0±0.7, 52.°41N×160.°10E, h0km, mb4.5/27, mb1 4.6/29, mb1mx4.4/60, mbtmp4.5/29, ML4.0/2, MS4.4/2, Ms1 4.3/2, ms1mx3.5/42, Error ellipse: s-maj=19.5km s-min=13.9km az=144.0*
ISCJB ***19*** *17:47:25.5±0.7, 52.°14N±0.°03×160.°31E±0.°07, h51km±4km, mb4.7/90, MS4.9/7, Error ellipse: s-maj=8.0km s-min=3.8km az=37.3*
MOS ***19*** *17:47:25.6±1.2, 52.°24N×160.°25E, h49km, mb5.0/48, Error ellipse: s-maj=7.6km s-min=3.9km az=105.0*
NEIC ***19*** *17:47:26.3±0.6, 52.°32N×160.°31E, h35km, mb4.9/16, Error ellipse: s-maj=12.2km s-min=9.9km az=143.0*
BJI ***19*** *17:47:28.7±0.0, 52.°85N×159.°53E, h54km, mb4.7/39, mB5.0/19, Ms5.1/11, Ms7 5.0/10*

ISC 19 17:47:26.0±0.9, 52.°16N±0.°04×160.°41E±0.°04, h43km±7km, n256, σ1§65/282, mb4.7/90, MS4.7/7, 37C-17D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	0.97	346	*e*P	**Pn**	17 47 40.6	-2.5
SPN				*e*S	**Sn**	17 47 54.4	-1.3
SPN	**Mys Shipunski**	0.97	346	PN	**Pn**	17 47 40.6	-2.5
SPN				S	**Sn**	17 47 54.4	-1.3
RUS	**Russkaya**	1.20	284	*e*P	**Pn**	17 47 44.6	-1.7
RUS				*e*S	**Sn**	17 48 01.5	+0.2
RUS	**Russkaya**	1.20	284	PN	**Pn**	17 47 44.6	-1.7
RUS				S	**Sn**	17 48 01.5	+0.2
NLC	**Nalytchevo**	1.20	328	*e*P	**Pn**	17 47 45.2	-1.1
NLC				*e*S	**Sn**	17 48 02.5	+1.1
NLC	**Nalytchevo**	1.20	328	PN	**Pn**	17 47 45.2	-1.1
NLC				S	**Sn**	17 48 02.5	+1.1
DALK	**Dalny**	1.34	311	*e*P	**Pn**	17 47 47.6	-0.5
DALK				*e*S	**Sn**	17 48 06.8	+2.1
DALK	**Dalny**	1.34	311	PN	**Pn**	17 47 47.6	-0.5
DALK				S	**Sn**	17 48 06.8	+2.1
PET	**Petropavlovsk**	1.38	310	*e*Pn	**Pn**	17 47 48.2	-0.5
PET	**Petropavlovsk**	1.38	310	*e*PN	**Pn**	17 47 47.8	-0.9
PET				*e*S	**Sn**	17 48 07.4	+1.7
PET				pmax	pmax	
comp=Z,3μm,0.5s						
PET				smax	smax	
comp=E,5μm,0.7s						
PET				smax	smax	
comp=N,5μm,0.5s						
MTVR	**Mutnovka**	1.41	284	*e*P	**Pn**	17 47 48.7 -0.6
MTVR				*e*S	**Sn**	17 48 08.8 +2.1
MTVR	**Mutnovka**	1.41	284	PN	**Pn**	17 47 48.7 -0.6
MTVR				S	**Sn**	17 48 08.8 +2.1
UGLR	**Uglovaya**	1.43	318	*e*P	**Pn**	17 47 47.7 -1.8
UGLR	**Uglovaya**	1.43	318	PN	**Pn**	17 47 47.7 -1.8
SDLR	**Sedlovina**	1.46	321	*e*P	**Pn**	17 47 49.3 -0.6
SDLR	**Sedlovina**	1.46	321	PN	**Pn**	17 47 49.3 -0.6
SMAR	**Somma**	1.48	319	*e*P	**Pn**	17 47 48.9 -1.4
SMAR	**Somma**	1.48	319	PN	**Pn**	17 47 48.9 -1.4
KDTR	**Khodutka, Kamc**	1.49	257	*e*P	**Pn**	17 47 48.6 -1.6
KDTR	**Khodutka, Kamc**	1.49	257	PN	**Pn**	17 47 48.6 -1.6
GRL	**Gorelyy**	1.49	286	*e*P	**Pn**	17 47 50.1 -0.3
GRL	**Gorelyy**	1.49	286	PN	**Pn**	17 47 50.1 -0.3
KRER	**Koryakskii**	1.53	319	*e*P	**Pn**	17 47 50.6 -0.4
KRER	**Koryakskii**	1.53	319	PN	**Pn**	17 47 50.6 -0.4
KRMR	**Karymshinskiy**	1.55	297	*e*P	**Pn**	17 47 50.4 -0.7
KRMR				*e*S	**Sn**	17 48 11.7 +1.8
KRMR	**Karymshinskiy**	1.55	297	PN	**Pn**	17 47 50.4 -0.7
KRMR				S	**Sn**	17 48 11.7 +1.8
ASAK	**Asacha**	1.56	279	*e*P	**Pn**	17 47 50.9 -0.4
ASAK	**Asacha**	1.56	279	PN	**Pn**	17 47 50.9 -0.4
KOK	**Koryaka**	1.57	317	*e*P	**Pn**	17 47 51.4 0.0
KOK	**Koryaka**	1.57	317	PN	**Pn**	17 47 51.4 0.0
KRX	**Arik**	1.61	319	*e*P	**Pn**	17 47 51.2 -0.8
KRX	**Arik**	1.61	319	PN	**Pn**	17 47 51.2 -0.8
PEA0B	**Petropavlovsk-**	1.91	301	*e*Pn	**Pn**	17 47 55.5 -0.5
PEA0B	**Petropavlovsk-**	1.91	301	*e*PN	**Pn**	17 47 55.5 -0.5
PETK	**Petropavlovsk-**	1.91	301	*e*Pn	**Pn**	17 47 57.0 +1.0
PETK	**Petropavlovsk-**	1.91	301	Pn	**Pn**	17 47 56.3 +0.3
comp=N,97nm,0.3s,baz=103,slow=19,SNR=9.0						
PETK				Sn	**Sn**	17 48 24.1 +5.3
comp=N,177nm,0.3s,baz=92,slow=21,SNR=6.4						
PEA1	**Petropavlovsk-**	1.91	301	*e*Pn	**Pn**	17 47 56.4 +0.3
PEA1				*e*Sn	**Sn**	17 48 24.1 +5.2
APC	**Apacha**	2.13	292	*e*P	**Pn**	17 47 59.7 +0.7
APC				*e*S	**Sn**	17 48 28.9 +4.7
APC	**Apacha**	2.13	292	PN	**Pn**	17 47 59.7 +0.7
PAU	**Pauzhetka**	2.34	254	*e*P	**Pn**	17 47 59.1 -2.8
PAU	**Pauzhetka**	2.34	254	PN	**Pn**	17 47 59.1 -2.8
MKZ	**Mys Kozlova**	2.53	18	*e*P	**Pn**	17 48 01.6 -2.8
MKZ				*e*S	**Sn**	17 48 31.5 -2.5
MKZ	**Mys Kozlova**	2.53	18	PN	**Pn**	17 48 01.6 -2.8
MKZ				S	**Sn**	17 48 31.5 -2.5
KZV	**Kizimen**	2.96	359	*e*P	**Pn**	17 48 09.8 -0.8
KZV	**Kizimen**	2.96	359	PN	**Pn**	17 48 09.8 -0.8
TUMD	**Tumrok D**	3.05	360	*e*P	**Pn**	17 48 10.7 -1.0
TUMD				*e*S	**Sn**	17 48 49.6 +2.7
SKR	**Severo-Kuril's**	3.07	243	*e*P	**Pn**	17 48 11.1 -0.8
SKR				*e*S	**Sn**	17 48 47.4 +0.1
SKR	**Severo-Kuril's**	3.07	243	*e*PN	**Pn**	17 48 11.5 -0.4
SKR				*e*S	**Sn**	17 48 46.4 -0.9
SKR				pmax	pmax	
comp=Z,174nm,0.6s						
SKR				smax	smax	
comp=N,2μm,0.9s						
SKR				smax	smax	
comp=E,2μm,0.7s						
TUMR	**Tumrok**	3.13	357	PN	**Pn**	17 48 10.7 -2.2
TUMR				S	**Sn**	17 48 49.6 +0.5
ALID	**Alaid**	3.30	249	*e*P	**Pn**	17 48 16.7 +1.4
ALID	**Alaid**	3.30	249	PN	**Pn**	17 48 16.7 +1.4
KIRR	**Kirishev**	3.80	359	*e*S	**Sn**	17 49 09.5 +3.9
ESO	**Esso**	3.91	346	*e*P	**Pn**	17 48 24.7 +1.3
ESO	**Esso**	3.91	346	PN	**Pn**	17 48 24.7 +1.3
LGNR	**Loginova**	3.93	2	*e*P	**Pn**	17 48 25.4 +1.3
LGNR	**Loginova**	3.93	2	PN	**Pn**	17 48 25.4 +1.3
KLY	**Klyuchi**	4.16	2	*e*P	**Pn**	17 48 29.1 +2.2
KLY	**Klyuchi**	4.16	2	PN	**Pn**	17 48 29.1 +2.2
KBTR	**Krutoberegovo**	4.29	18	*e*P	**Pn**	17 48 27.5 -1.2
KBTR	**Krutoberegovo**	4.29	18	PN	**Pn**	17 48 27.5 -1.2
BDR	**Baidarnaya**	4.44	6	*e*S	**Sn**	17 49 25.8 +4.6
SMKR	**Semkarok**	4.47	7	*e*S	**Sn**	17 49 26.5 +4.5
BKI	**Bering**	4.50	45	*e*P	**Pn**	17 48 31.9 +0.4
BKI	**Bering**	4.50	45	PN	**Pn**	17 48 31.9 +0.4
SRKR	**Sorokina**	4.53	5	*e*S	**Sn**	17 49 26.7 +3.4
YSS	**Yuzh-Sakhalins**	12.58	253	*e*PN	Pn	17 50 12.5 -10
ASAJ	**Asahikawa**	14.34	243	Pn	**Pn**	17 50 44.8 -1.3
comp=E,1.5nm,0.3s,baz=67,slow=11,SNR=5.0						
BILL	**Bilibino**	16.18	8	*e*P	**P**	17 51 11.9 -0.7
BILL				pmax	pmax	
comp=Z,26nm,0.9s						
KLR	**Kul'dur**	18.34	272⇑	*e*P	**Pn**	17 51 38.0 +1.1
KLR	**Kul'dur**	18.34	272	P	**P**	17 51 35.1 -1.5
comp=Z,0.3nm,0.3s,baz=40,slow=10,SNR=3.6						
YAK	**Yakutsk**	19.21	313	*e*P	**P**	17 51 42.2 -3.8
YAK				pmax	pmax	
comp=N,114nm,1.0s						
YAK				pmax	pmax	
comp=Z,557nm,1.0s						
YAK				pmax	pmax	
comp=E,274nm,1.3s						
USRK	**Ussuriysk Ar.**	20.46	258	P	**P**	17 51 57.8 -1.9
comp=E,14nm,0.9s,baz=60,slow=11,SNR=6.7						
MJAR	**Matsushiro Arr**	22.14	234	*e*P	**P**	17 52 20.1 +2.3
MJAR	**Matsushiro Arr**	22.14	234	*e*P	**P**	17 52 20.1 +2.3
MJAR	**Matsushiro Arr**	22.14	234	P	**P**	17 52 18.5 +0.7
comp=E,14nm,0.9s,baz=40,slow=8.0,SNR=6.2						
MJB9	**Matsu-Tunnel**	22.14	234	*e*P	**P**	17 52 19.8 +2.0
comp=E,21nm,0.8s						
MAJO	**Matsushiro**	22.14	234	*e*P	**P**	17 52 19.4 +1.6
comp=E,20nm,0.8s						
MAJO	**Matsushiro**	22.14	234	*e*P	**P**	17 52 19.4 +1.6
MAJO				pmax	pmax	
comp=Z,21nm,0.8s						
MAT	**Matsushiro**	22.14	234	P	**P**	17 52 18.6 +0.8
TIXI	**Tiksi**	24.01	336	*e*P	**P**	17 52 34.6 -1.7
comp=Z,2.2nm,0.7s						
TIXI	**Tiksi**	24.01	336	P	**P**	17 52 34.6 -1.7
comp=Z,22nm,0.7s,baz=128,slow=9.1,SNR=11						
HIA	**Hailar**	25.68	280	*e*P	**P**	17 52 50.2 -1.4
comp=Z,27nm,0.8s						
HIA	**Hailar**	25.68	280⇓	*e*P	**P**	17 52 49.5 -2.2
HIA				pmax	pmax	
comp=Z,180nm,0.8s						
KSRS	**Korea Array**	27.06	250	P	**P**	17 53 04.5 +0.3
comp=Z,3.0nm,0.8s,baz=45,slow=9.0,SNR=5.8						
KS15	**Wonju Array Si**	27.09	250	*e*P	**P**	17 53 04.5 +0.1
comp=Z,75nm,1.8s						
JNU	**Nakatsue**	28.58	240	P	**P**	17 53 19.0 +1.2
comp=Z,12nm,0.8s,baz=32,slow=19,SNR=3.3						
ULN	**Ulaanbaatar**	33.91	284⇓	*e*P	**P**	17 54 01.0 -3.8
ULN				pmax	pmax	
comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	34.32	285	PcP	**PcP**	17 56 43.7 +0.3
comp=Z,0.9nm,0.8s,baz=101,slow=4.6,SNR=3.0						
HHC	**Hu-ho-hao-te**	34.84	271	*e*P	**P**	17 54 12.8 0.0
HHC				S	**S**	17 59 37.5 -3.2
HHC				pmax	pmax	
comp=Z,71nm,0.9s						
HHC				pmax	pmax	
comp=Z,270nm,4.7s						
HHC				LR	LR	
comp=Z,800nm,13.7s						
HHC				LR	LR	
comp=Z,600nm,11.9s						
HHC				LR	LR	
comp=Z,760nm,12.5s						
ZAK	**Zakamensk**	35.00	290	*e*P	**P**	17 54 12.3 -1.8
ZAK				*e*		17 59 37.1
ZAK				pmax	pmax	
comp=Z,6.0nm,1.0s						
NJ2	**Nanjing**	36.15	253	P	**P**	17 54 25.4 +1.4
NJ2				pmax	pmax	
comp=Z,11nm,0.6s						
WHN	**Wuhan**	39.91	256	⇑P	**P**	17 54 57.1 +1.5
LZH	**Lanzhou**	42.54	271	*e*P	**P**	17 55 16.3 -1.1
LZH				pP	pwP	17 55 32.0 -0.1
LZH				sP	sP	17 55 36.5 +3.5
LZH				SS	SS	18 04 33.1 -14
LZH				pmax	pmax	
comp=Z,23nm,1.1s						
LZH				LR	LR	
comp=Z,2μm,17.6s						
LZH				LR	LR	
comp=Z,2μm,17.1s						
LZH				LR	LR	
comp=Z,2μm,17.9s						
GTA	**Gaotai**	42.91	278	*e*P	**P**	17 55 19.4 -1.0
GTA				pmax	pmax	
comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	43.45	304	P	**P**	17 55 21.6 -2.7
comp=Z,3.4nm,0.7s,baz=50,slow=7.9,SNR=3.8						
NVS	**Novosibirsk**	43.81	305	*e*P	**P**	17 55 25.4 -1.8
NVS				pmax	pmax	
comp=E,16nm,1.1s						
NVS				pmax	pmax	
comp=Z,26nm,1.1s						
NVS				pmax	pmax	
comp=N,7.0nm,1.2s						
DGZ	**Jazzator, Alta**	44.26	297	*d* iP	**P**	17 55 30.0 -1.1
DGZ				pmax	pmax	
comp=Z,6.0nm,0.8s						
CD2	**Chengdu**	46.08	265	*e*P	**P**	17 55 44.3 -1.3
CD2				pmax	pmax	
comp=Z,20nm,0.5s						
WMQ	**Urumqi**	47.47	290	*e*P	**P**	17 55 56.3 -0.1
WMQ				pmax	pmax	
comp=Z,27nm,1.1s						
WMQ				pmax	pmax	
comp=Z,370nm,3.7s						
WMQ				LR	LR	
comp=Z,3μm,16.5s						
WMQ				LR	LR	
comp=Z,4μm,13.5s						
SPA0	**Spitsbergen Ar**	48.09	351	*e*P	**P**	17 56 01.0 +0.3
comp=Z,56nm,1.2s						
SPITS	**Spitsbergen Ar**	48.09	351	P	**P**	17 56 00.4 -0.2
comp=Z,6.1nm,0.4s,baz=39,slow=15,SNR=28						
KURK	**Kurchatov**	48.40	303	*c* iP	**P**	17 56 00.9 -2.5
KURK				pmax	pmax	
comp=Z,20nm,1.0s						
MKAR	**Makanchi Array**	48.74	297	P	**P**	17 56 04.3 -1.8
comp=Z,3.3nm,0.6s,baz=51,slow=6.7,SNR=5.1						
KMI	**Kunming**	50.86	261	P	**P**	17 56 24.9 +2.2
KMI				pmax	pmax	
comp=Z,16nm,1.1s						
BRVK	**Borovoye**	51.16	309	*d* iP	**P**	17 56 22.3 -2.0
BRVK				pmax	pmax	
comp=Z,14nm,0.9s						
LVZ	**Lovozero**	53.64	338	*e*P	**P**	17 56 42.2 -0.3
comp=Z,25nm,0.9s						
LVZ	**Lovozero**	53.64	338	*d* iP	**P**	17 56 41.5 -1.0
LVZ				pmax	pmax	
comp=Z,20nm,0.9s						
ARU	**Arti**	54.22	318	*e*P	**P**	17 56 46.0 -0.8
comp=Z,11nm,0.6s						
ARU	**Arti**	54.22	318	*ce*P	**P**	17 56 45.5 -1.4
ARU				pmax	pmax	
comp=Z,7.0nm,0.7s						
ARA0	**ARCESS Array S**	54.24	342	*e*P	**P**	17 56 45.5 -1.3
ARCES	**ARCESS Array B**	54.24	342	P	**P**	17 56 45.5 -1.3
comp=Z,6.1nm,0.8s,baz=36,slow=9.0,SNR=6.9						
SUMG	**Summit**	54.87	7	*e*P	**P**	17 56 52.1 +0.3
comp=Z,11nm,0.9s						
BOOM	**Boomskoye usch**	54.97	296	*e*P	**P**	17 56 49.7 -3.0
comp=Z,5.5nm,0.9s						
BOOM	**Boomskoye usch**	54.97	296	*e*P	**P**	17 56 49.7 -3.0
BOOM				pmax	pmax	
comp=Z,6.0nm,0.9s						
PRGR	**Permogore**	55.34	328	*e*P	**P**	17 56 53.0 -1.8
PRGR				pmax	pmax	
comp=Z,17nm,0.6s						
AAK	**Ala-Archa**	55.67	297	*ce*P	**P**	17 56 56.3 -1.5
AAK				pmax	pmax	
comp=Z,6.0nm,1.0s						
NV01	**Mina Array Sit**	55.88	70	*e*P	**P**	17 57 00.8 +1.4
NVAR	**Mina Array Bea**	55.88	70	P	**P**	17 57 00.8 +1.4
comp=Z,1.1nm,0.8s,baz=297,slow=6.0,SNR=2.9						
KSH	**Kashi**	56.95	293	P	**P**	17 57 10.0 +3.1
KSH				sP	sP	17 57 33.3 +10
KSH				PP	**PP**	17 59 18.0 +4.6
KSH				S	**S**	18 04 53.9 -3.9
KSH				SS	**SS**	18 08 42.3 -3.7
KSH				pmax	pmax	
comp=Z,26nm,1.2s						
KSH				pmax	pmax	
comp=Z,110nm,3.0s						
KSH				LR	LR	
comp=Z,300nm,8.6s						
KSH				LR	LR	
comp=Z,410nm,9.7s						
KSH				LR	LR	
comp=Z,1μm,13.7s						
PD31	**Pinedale Array**	57.81	60	*e*P	**P**	17 57 14.9 +1.9
comp=Z,3.3nm,1.1s						
PDAR	**Pinedale Array**	57.81	60	P	**P**	17 57 14.9 +1.9
comp=Z,1.3nm,0.6s,baz=336,slow=2.0,SNR=4.7						
KLMR	**Klimovskoe**	57.86	330	*e*P	**P**	17 57 11.6 -1.1
KLMR				pmax	pmax	
comp=Z,20nm,0.9s						
CHTO	**Chiang Mai**	57.91	259	*e*P	**P**	17 57 14.4 +0.6
comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	57.91	259	*e*P	**P**	17 57 14.4 +0.6
CHTO				pmax	pmax	
comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	58.19	259	P	**P**	17 57 17.1 +1.4
comp=Z,6.1nm,0.8s,baz=32,slow=6.6,SNR=11						
ABKAR	**Akbulak array**	58.55	311	*e*P	**P**	17 57 17.3 -0.5
comp=Z,7.1nm,0.8s						
JIRN	**Jiri**	59.18	276	*e*P	**P**	17 57 22.5 -0.4
comp=Z,21nm,0.7s						
ULM	**Lac du Bonnet**	59.32	46	LR	LR	18 23 37.3
comp=Z,254nm,19.4s,baz=1.0,slow=37						
RAMN	**Ramite**	59.44	275	*e*P	**P**	17 57 24.0 -0.6
comp=Z,42nm,0.6s						
KKN	**Kakani**	59.65	277	*e*P	**P**	17 57 25.6 -0.4
comp=Z,27nm,0.6s						
PKI	**Pulchoki**	59.72	277	*e*P	**P**	17 57 25.9 -0.7
comp=Z,14nm,0.6s						
PKIN	**Phulchoki**	59.73	277	*e*P	**P**	17 57 25.8 -0.8
comp=Z,14nm,0.6s						
DMN	**Daman**	59.88	277

comp=Z,3.0nm,0.9s
LTX Lajitas 70.82 67 eP P 17 58 40.5 +2.3
LTX Lajitas 70.82 67 eP P 17 58 40.5 +2.3
TXAR Lajitas Array 70.82 67 P P 17 58 40.5 +2.3
comp=Z,0.9nm,0.7s,baz=343,slow=2.8,SNR=3.3
HYB Hyderabad 71.48 275 iP P 17 58 42.0 -0.2
AKH Akhalkalaki 71.98 315⇑iP P 17 58 45.5 +0.4
EKA Eskdalemuir Ar 72.01 350 P P 17 58 43.8 -1.0
EKA pmax pmax
comp=Z,2.0nm,0.4s
GNI Garni 72.46 314⇑eP P 17 58 47.7 -0.3
GNI pmax pmax
comp=Z,36nm,1.2s
GNI Garni 72.46 314 P P 17 58 45.6 -2.4
comp=Z,4.2nm,0.7s,baz=167,slow=4.5,SNR=1.8
KOLS Kolonicke sedl 73.17 333 eP P 17 58 52.3 +0.5
CLL Collm 73.30 339 iP P 17 58 52.4 -0.1
CLL e*SP PcP 17 59 14.0 +5.3
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 73.30 339 iP P 17 58 52.4 -0.1
comp=Z,9.0nm,0.9s
DPC Dobruska-Polom 73.43 337 eP P 17 58 54.5 +1.1
DPC Dobruska-Polom 73.43 337 eP P 17 58 54.5 +1.1
BURAR Bucovina Array 73.48 330⇓iP P 17 58 54.2 +0.4
BURAR Bucovina Array 73.48 330⇓P P 17 58 54.2 +0.4
MORC Moravsky Berou 73.66 336 eP P 17 58 54.7 0.0
comp=Z,7.7nm,0.8s
MORC Moravsky Berou 73.66 336⇑iP P 17 58 55.2 +0.5
MORC Moravsky Berou 73.66 336 eP P 17 58 54.7 0.0
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 73.66 336 eP P 17 58 55.2 +0.5
LANS Liptovska Anna 73.74 334 eP P 17 58 57.1 +1.9
LANS Liptovska Anna 73.74 334 eP P 17 58 57.1 +1.9
BIZ Bicaz 73.81 329⇑iP P 17 58 54.3 -1.3
TRPA Tarpa 73.81 332⇓iP P 17 58 56.0 +0.4
TESR Tescani 74.01 329⇑iP P 17 58 56.9 +0.1
PRU Pruhonice 74.19 338 eP P 17 58 57.9 +0.1
PRU e 17 59 10.5
PRU Pruhonice 74.19 338 eP P 17 58 57.9 +0.1
PRU epP pP 17 59 10.5 +0.7
VRAC Vranov 74.33 336⇑iP P 17 58 59.6 +1.0
VRAC Vranov 74.33 336⇑P P 17 58 59.6 +1.0
VRAC Vranov 74.33 336 eP P 17 58 59.2 +0.6
JAVC Velka Javorina 74.47 335 eP P 17 59 01.3 +1.8
VYHS Vyhne 74.51 335 eP P 17 59 00.4 +0.7
VYHS Vyhne 74.51 335 eP P 17 59 00.4 +0.7
KRUC Moravsky 74.61 336 eP P 17 59 00.5 +0.3
OZUR 74.66 329⇓iP P 17 59 03.2 +2.6
CFR Carcaliu 74.71 327⇓iP P 17 59 00.1 -0.7
CFR Carcaliu 74.71 327⇓P P 17 59 00.1 -0.7
PSZ Piszkesteto 74.75 334⇑iP P 17 59 02.5 +1.3
PSZ Piszkesteto 74.75 334⇑P P 17 59 02.5 +1.3
DOPR Dopca 74.90 329⇑iP P 17 59 04.2 +2.2
DRGR 74.97 331⇑iP P 17 59 01.4 -1.1
DRGR 74.97 331⇑P P 17 59 01.4 -1.1
MODS Modra-Piesok 75.02 336 eP P 17 59 03.5 +0.8
MODS pmax pmax
comp=Z,6.0nm,0.9s
MODS Modra-Piesok 75.02 336 eP P 17 59 03.5 +0.8
MLR Muntele Rosu 75.15 329⇑iP P 17 59 02.6 -1.0
MLR Muntele Rosu 75.15 329⇑P P 17 59 02.6 -1.0
DIKM Dikmen 75.19 321⇑iP P 17 59 04.4 +0.7
HARR Harsova 75.21 327⇓iP P 17 59 03.8 +0.1
HARR Harsova 75.21 327⇓P P 17 59 03.8 +0.1
KHC Kasperske Hory 75.21 338 eP P 17 59 04.2 +0.4
KHC e 17 59 18.4
KHC Kasperske Hory 75.21 338 eP P 17 59 04.2 +0.4
KHC ex x 17 59 18.4
TLB Topalu 75.26 327⇑iP P 17 59 04.2 +0.2
TLB Topalu 75.26 327⇑P P 17 59 04.2 +0.2
WRAB Tennant Creek 75.31 205 eP P 17 59 09.2 +4.7
comp=Z,10nm,0.4s
WRAB Tennant Creek 75.31 205 eP P 17 59 09.2 +4.7
WRAB pmax pmax
comp=Z,10.0nm,0.4s
GERES GERESS Array B 75.45 338 P P 17 59 04.5 -0.7
comp=Z,1.8nm,0.7s,baz=34,slow=5.0,SNR=6.4
VOIR 75.48 329⇑iP P 17 59 05.9 +0.5
VOIR 75.48 329⇑P P 17 59 05.9 +0.5
ARR Arges 75.67 330⇓iP P 17 59 08.0 +1.5
ICOR Ion Corvin 75.76 327⇑iP P 17 59 07.6 +0.7
CONA Conrad Observa 75.79 336 eP P 17 59 08.6 +1.4
comp=Z,6.7nm,1.0s
GIVF Givet 76.03 344 eP P 17 59 08.8 +0.4
GIVF pmax pmax
comp=Z,3.0nm,0.7s
BAIF Baives 76.17 344 eP P 17 59 09.1 -0.1
BAIF pmax pmax
comp=Z,5.0nm,0.9s
GZR Gura Zlata 76.22 331⇑iP P 17 59 07.9 -1.7
GZR Gura Zlata 76.22 331⇑P P 17 59 07.9 -1.7
HUMR Humele 76.31 329⇓iP P 17 59 10.4 +0.3
BZS Buzias 76.36 332⇑iP P 17 59 09.9 -0.4
BZS Buzias 76.36 332⇑P P 17 59 09.9 -0.4
ARSA Arzberg 76.51 336 eP P 17 59 12.2 +1.1
comp=Z,2.9nm,0.8s
HERR Herculane 76.79 331⇑iP P 17 59 13.0 +0.2
MDVR Moldovita 77.09 331⇓iP P 17 59 03.3 -11
CDF Champ du Feu 77.22 342 eP P 17 59 15.1 -0.1
CDF pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 77.47 321 iP P 17 59 16.8 0.0
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 77.47 321 P P 17 59 15.8 -1.0
comp=Z,2.8nm,0.8s,baz=41,slow=3.9,SNR=7.6
HAU Haudompre 77.78 343 eP P 17 59 18.2 -0.1
HAU pmax pmax
comp=Z,13nm,1.2s
KLYT Kilyos 77.85 325⇑iP P 17 59 18.8 +0.1
HINF Hinteralfeld 77.87 342 eP P 17 59 20.0 +1.2
HINF pmax pmax
comp=Z,3.0nm,0.8s
FLN La Foliniere 78.14 347 eP P 17 59 19.8 -0.4
FLN pmax pmax
comp=Z,55nm,1.8s
LDF La Druitiere 78.26 347 eP P 17 59 21.4 +0.5
LDF pmax pmax
comp=Z,34nm,1.8s
GRR Gorron 78.56 347 eP P 17 59 22.4 -0.1
GRR pmax pmax
comp=Z,44nm,1.8s
VTS Vitosha 78.59 329⇑iP P 17 59 23.7 +0.7
VTS Vitosha 78.59 329⇑P P 17 59 23.7 +0.7
SGMF Saint Gilles 78.91 348 eP P 17 59 24.4 -0.1
SGMF pmax pmax
comp=Z,14nm,0.9s
LOR Lormes 78.94 344 eP P 17 59 24.5 -0.2
LOR pmax pmax
comp=Z,5.0nm,0.8s
AS31 Alice Springs 78.99 205 eP P 17 59 26.1 +1.1
comp=Z,1.0nm,1.0s
ASAR Alice Springs 78.99 205 P P 17 59 26.3 +1.2
comp=Z,1.0nm,0.7s,baz=26,slow=6.6,SNR=5.7
AVF Avril sur Loir 79.48 344 eP P 17 59 27.7 +0.1
AVF pmax pmax
comp=Z,9.0nm,0.9s
SMF Signal de Mont 79.54 344 eP P 17 59 28.0 0.0
SMF pmax pmax
comp=Z,7.0nm,1.0s
LPL La Plagne 80.10 342 eP P 17 59 32.1 +0.8
LPL pmax pmax
comp=Z,15nm,1.1s
LPG La Plagne 80.11 342 eP P 17 59 32.4 +0.9
LPG pmax pmax
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 80.16 345 eP P 17 59 31.5 +0.1
TCF pmax pmax
comp=Z,4.0nm,0.7s
ISP Isparta 80.32 322⇑eP P 17 59 31.5 -1.0
ISP pmax pmax
comp=Z,4.0nm,0.8s
ORIF Oris-en-Rattie 80.84 342 eP P 17 59 36.7 +1.6
ORIF pmax pmax
comp=Z,9.0nm,0.8s
VIVF Saint-Julien-l 81.13 343 eP P 17 59 37.3 +0.7
VIVF pmax pmax
comp=Z,8.0nm,1.0s
CAF Calviac 81.51 345 eP P 17 59 39.5 +0.9
CAF pmax pmax
comp=Z,10.0nm,1.0s
PGF Pioggiola 82.47 339 eP P 17 59 46.0 +2.2
PGF pmax pmax
comp=Z,43nm,1.3s
MMAI Mount Meron Ar 82.52 316 P P 17 59 44.5 +0.3
comp=Z,10.0nm,0.7s,baz=36,slow=7.5,SNR=14
ASF Jabal al Asfar 82.59 315 P P 17 59 45.1 +0.5
comp=Z,5.0nm,0.8s,baz=89,slow=1.2,SNR=6.1
MTLF Montolieu 83.03 344 eP P 17 59 47.4 +0.9
MTLF pmax pmax
comp=Z,8.0nm,1.0s
ETSF Etsaut 83.90 346 eP P 17 59 52.1 +1.0
ETSF pmax pmax
comp=Z,52nm,1.7s
IDI Anoyia 84.64 325 P P 17 59 53.6 -1.4
comp=Z,1.9nm,0.5s,baz=32,slow=12,SNR=5.4
EIL Elat 85.59 315 P P 17 59 58.5 -1.2
comp=Z,5.0nm,0.9s,baz=343,slow=2.3,SNR=4.5
ESDC Sonseca Array 87.53 348 P P 18 00 09.2 +0.1
comp=Z,1.7nm,0.8s,baz=1.4,slow=4.8,SNR=5.6

MEX 19 18:06:36.0±0.6, 17°.15N×100°.56W, h10km±3km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.29	111	eP	Pg	18 06 41.7	-0.2
CAIG				eS	Sg	18 06 45.7	-0.2
ACP2	Acapulco	0.70	113	eP	Pg	18 06 47.7	-1.8
ACP2				eS	Sg	18 06 56.9	-1.8
ZIIG	Zihuatanejo	0.98	298	eP	Pg	18 06 51.9	-2.9
ZIIG				iS	Sg	18 07 04.5	-3.1
ARIG	Puente Sto Nin	1.14	10	eP	Pb	18 06 53.8	-4.0
ARIG				eS	Sg	18 07 08.3	-4.4
MEIG	Mezcala	1.18	49	eP	Pb	18 06 54.5	-4.1
MEIG				eS	Sb	18 07 09.2	-4.7
PLIG	Platanillo	1.59	39	eP	Pn	18 07 00.7	-3.7
PLIG				eS	Sn	18 07 20.7	-4.3
TLIG	Tlapa	1.94	78	eP	Pn	18 07 06.6	-2.6
TLIG				iS	Sn	18 07 29.0	-4.9
PNIG	Pinotepa	2.45	108	eP	Pn	18 07 12.9	-3.2
PNIG				iS	Sn	18 07 42.8	-3.4

*IDC **19** 18:14:27.4±0.6, 18°.35S×174°.18W, h0km, mb4.2/18, mb1 4.4/19, mb1mx4.2/35, mbtmp4.2/19, ML3.8/1, Error ellipse: s-maj=23.0km s-min=15.8km az=124.0*
*NEIC **19** 18:14:28.7±0.4, 18°.32S×174°.10W, h10km, mb4.6/15, Error ellipse: s-maj=10.7km s-min=9.1km az=156.0*
ISC 19 18:14:33.4±0.5, 18°.55S±0°.07×174°.1W±0°.1, h43km, n79, σ2.38/75, mb4.3/27, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	3.99	98	ePn	Pn	18 15 29.2	-2.8
GLKZ	Green Lake	11.22	197	P	Pn	18 17 13.5	+2.3
GLKZ				S	Sn	18 19 11.1	-4.0
RAR	Rarotonga	13.74	103	ePn	Pn	18 17 42.7	-2.9
RAR	Rarotonga	13.74	103	Pn	Pn	18 17 43.4	-2.2
4.1nm,0.3s,baz=285,slow=6.4,SNR=6.1							
GRZ	Great Barrier	19.89	206	P	Pn	18 19 05.0	+1.9
KUZ	Kuaotunu	20.22	204	P	Pn	18 19 08.5	+1.7
WMGZ	Waiomatatini S	20.28	197	P	P	18 19 07.2	+1.8
WMGZ				S	S	18 22 45.3	-5.2
HAZ	Te Kaha	20.41	199	P	P	18 19 09.0	+2.2
HAZ				S	S	18 22 39.4	-14
PKGZ	Pakihiroa	20.44	198	P	P	18 19 09.4	+2.1
WIAZ	Waiheke Island	20.49	205	P	Pn	18 19 11.3	+1.2
PUZ	Puketiti	20.56	197	P	P	18 19 11.3	+2.8
MBAZ	Motutapu North	20.57	206	P	P	18 19 11.2	+2.7
RUGZ	Raukumara Rang	20.63	199	P	P	18 19 12.8	+3.4
ETAZ	East Tamaki Re	20.71	206	P	P	18 19 13.0	+2.9
TWGZ	Tauwhareparae	20.74	198	P	Pn	18 19 14.4	+1.3
MKAZ	Moumakai	20.75	205	P	P	18 19 13.8	+3.4
OPRZ	Ohinepanea	20.89	201	P	P	18 19 16.0	+4.1
MWZ	Matawai	21.02	199	P	P	18 19 16.5	+3.0
URZ	Urewera	21.08	200	eP	P	18 19 15.9	+1.9
26nm,0.6s							
URZ	Urewera	21.08	200	P	P	18 19 15.1	+1.1
20nm,0.4s,baz=341,slow=2.9,SNR=33							
URZ				S	S	18 22 59.8	-6.5
7.9nm,1.0s,baz=344,slow=23,SNR=2.3							
URZ	Urewera	21.08	200	P	P	18 19 15.7	+1.7
KMRZ	Kaimai	21.10	202	P	P	18 19 18.8	+4.5
TOZ	Tahuroa Road	21.16	203	P	P	18 19 18.5	+3.6
RAGZ	Rawiri	21.20	199	P	P	18 19 19.0	+3.6
NGRZ	Ngongotaha	21.24	202	P	P	18 19 15.5	-0.4
RTZ	Ruatahuna	21.45	199	P	P	18 19 18.8	+0.8
RAHZ	Arahi	21.69	199	P	P	18 19 23.9	+3.4
MTHZ	Maungataniwha	21.71	199	P	P	18 19 23.5	+2.7
NMHZ	Naumai	21.94	199	P	P	18 19 26.0	+2.6
HIZ	Hauiti	22.09	204	P	P	18 19 28.1	+3.2
BKZ	Black Stump Fm	22.10	200	eP	P	18 19 26.9	+1.9
9.7nm,0.8s							
BKZ	Black Stump Fm	22.10	200	P	P	18 19 24.2	-0.8
BHHZ	Black Hill Sta	22.54	200	P	P	18 19 30.5	+0.7
KAHZ	Kahuranaki	22.56	198	P	P	18 19 33.9	+4.0
PXZ	Pawanui	22.78	198	P	P	18 19 34.1	+1.9
BFZ	Birch Farm	23.56	199	P	P	18 19 40.9	+0.9
MRZ	Mangatainoka R	23.75	200	P	P	18 19 42.1	+0.4
HOWZ	Holdsworth Sta	23.99	200	P	P	18 19 47.1	+3.2
LTZ	Lake Taylor	26.77	203	eP	P	18 20 15.7	+6.5
25nm,0.6s							
OXZ	Oxford	27.33	202	eP	P	18 20 17.5	+3.3
26nm,0.9s							
RPZ	Rata Peaks	28.03	203	P	P	18 20 21.0	+0.6
2.7nm,0.6s,baz=35,slow=16,SNR=3.5							
STKA	Stephens Creek	41.94	243	eP	P	18 22 20.0	-0.2
1.0nm,1.1s							
STKA	Stephens Creek	41.94	243	P	P	18 22 20.0	-0.2
2.2nm,0.8s,baz=90,slow=12,SNR=3.7							
WB2	Warramunga Arr	48.53	259	eP	P	18 23 11.6	-1.0
6.9nm,0.5s							
WR1	Warramunga Arr	48.54	259	eP	P	18 23 11.5	-1.2
WRA	Warramunga Arr	48.54	259	P	P	18 23 11.5	-1.2
4.3nm,0.5s,baz=100,slow=6.2,SNR=69							
AS31	Alice Springs	48.56	255	eP	P	18 23 12.3	-0.6
1.9nm,0.7s							
ASAR	Alice Springs	48.56	255	P	P	18 23 12.2	-0.6
7.2nm,0.7s,baz=88,slow=8.4,SNR=99							
MTN	Manton Dam	52.87	268	eP	P	18 23 43.7	-1.6
8.2nm,0.7s							
SBA	Scott Base	60.07	185	eP	P	18 24 37.8	+2.2
6.3nm,0.8s							
VNDA	Vanda	60.19	186	eP	P	18 24 38.9	+2.5
3.2nm,0.9s							
VNDA	Vanda	60.19	186	P	P	18 24 39.4	+3.0
2.2nm,0.9s,baz=9.9,slow=6.9,SNR=10							
MJAR	Matsushiro Arr	70.93	321	P	P	18 25 47.0	+0.7
0.8nm,0.7s,baz=163,slow=4.9,SNR=3.2							
MAJO	Matsushiro	70.93	321	eP	P	18 25 47.0	+0.7
QSPA	South Pole Qui	71.51	180	eP	P	18 25 51.6	+2.0
7.7nm,1.0s							
PETK	Petropavlovsk-	75.42	343	P	P	18 26 12.4	-0.1
4.5nm,1.1s,baz=110,slow=8.0,SNR=3.4							
PEA1	Petropavlovsk-	75.42	343	eP	P	18 26 12.4	-0.1
NV01	Mina Array Sit	77.11	42	eP	P	18 26 22.8	+0.1
NVAR	Mina Array Bea	77.11	42	P	P	18 26 22.8	+0.1
1.2nm,0.6s,baz=221,slow=10,SNR=5.4							
LTX	Lajitas	82.92	56	eP	P	18 26 54.9	+0.7
TXAR	Lajitas Array	82.92	56	P	P	18 26 54.9	+0.7
1.3nm,1.0s,baz=218,slow=7.8,SNR=7.2							
MAW	Mawson	84.61	199	P	P	18 27 03.1	+1.2
2.6nm,0.8s,baz=155,slow=13,SNR=2.9							
PD31	Pinedale Array	85.05	42	eP	P	18 27 04.1	-0.8
1.0nm,0.9s							
PDAR	Pinedale Array	85.05	42	P	P	18 27 04.1	-0.8
0.4nm,0.6s,baz=198,slow=0.9,SNR=3.5							
SEY	Seymchan	85.38	345	P	P	18 27 04.1	-1.6
1.1nm,0.8s,baz=212,slow=8.5,SNR=4.3							
ILAR	Eielson Array	85.65	11	P	P	18 27 06.0	-1.1
0.4nm,0.6s,baz=240,slow=6.2,SNR=7.9							
ILB	Eielson Array	85.65	11	eP	P	18 27 06.0	-1.1
3.8nm,1.1s							
PLCA	Paso Flores	87.90	132	P	P	18 27 19.6	+0.8
1.0nm,0.9s,baz=216,slow=8.9,SNR=3.7							
INK	Inuvik	91.47	14	P	P	18 27 33.6	-1.0
1.0nm,0.9s,baz=198,slow=3.2,SNR=2.6							
CM31	Chiang Mai Arr	92.96	288	eP	P	18 27 41.7	-1.0
3.1nm,1.1s							
CMAR	Chiang Mai Arr	92.96	288	P	P	18 27 41.7	-1.0
0.3nm,0.7s,baz=219,slow=34,SNR=3.5							
YKA	Yellowknife Ar	93.24	24	P	P	18 27 42.3	-0.6
0.2nm,0.8s,baz=231,slow=4.6,SNR=3.0							
YKB5	Yellowknife Ar	93.24	24	eP	P	18 27 42.3	-0.6
CLL	Collm	146.84	352	ePKPbc	PKPab	18 34 11.0	-1.1
CLL	Collm	146.84	352	iPKPbc	PKPbc	18 34 31.5	+21
comp=Z,7.0nm,1.1s							
BR101	Keskin Array S	148.09	317	ePKPbc	PKPbc	18 34 15.0	+0.2
BRTR	Keskin Array B	148.09	317	PKPbc	PKPbc	18 34 15.0	+0.2
comp=Z,0.6nm,0.6s,baz=121,slow=2.5,SNR=6.7							
GERES	GERESS Array B	149.13	350	PKPbc	PKPbc	18 34 17.6	+0.4
comp=Z,0.5nm,0.8s,baz=40,slow=2.3,SNR=3.7							
MMAI	Mount Meron Ar	149.91	304	PKPbc	PKPbc	18 34 20.7	+1.2
comp=Z,0.3nm,0.4s,baz=89,slow=6.2,SNR=2.4							

*KRSC **19** 18:15:23.2±10.0, 52°.04N×160°.86E, h65km±10km, ML4.4*
*IDC **19** 18:15:25.9±1.2, 52°.45N×160°.02E, h0km, mb3.8/20, mb1 3.9/22, mb1mx3.8/55, mbtmp3.8/22, ML3.4/2, Error ellipse: s-maj=31.9km s-min=15.9km az=126.0*
*NEIC **19** 18:15:29.5±0.5, 52°.31N×160°.38E, h35km, mb4.3/8, Error ellipse: s-maj=10.6km s-min=7.1km az=126.0*
ISC 19 18:15:23.3±1.9, 52°.15N±0°.05×160°.73E±0°.04, h3km±10km, n76, σ1.18/93, mb4.0/27, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.05	336	P	Pn	18 15 44.4	-0.4
SPN				S	Sn	18 15 58.7	-1.2
NLC	Nalytchevo	1.33	321	P	Pg	18 15 49.2	+0.5
NLC				S	Sn	18 16 08.2	+1.4
RUS	Russkaya	1.39	283	P	Pn	18 15 49.5	0.0
RUS				S	Sb	18 16 07.9	0.0
DALK	Dalny	1.50	307	P	Pn	18 15 51.1	+0.2
DALK				S	Sb	18 16 10.9	-0.1
PET	Petropavlovsk	1.54	306	ePn	Pn	18 15 51.5	-0.1
PET	Petropavlovsk	1.54	306	P	Pn	18 15 51.8	+0.2
PET				S	Sg	18 16 12.8	0.0
UGLR	Uglovaya	1.57	313	P	Pb	18 15 53.0	-0.1
UGLR				S	Sg	18 16 14.4	+0.6
SDLR	Sedlovina	1.59	316	P	Pb	18 15 53.1	-0.3
SDLR				S	Sg	18 16 14.1	-0.4
MTVR	Mutnovka	1.60	283	P	Pn	18 15 52.8	+0.3
MTVR				S	Sn	18 16 12.5	-1.2
SMAR	Somma	1.62	314	P	Pb	18 15 53.7	-0.2
AVH	Avacha	1.65	314	P	Pg	18 15 54.8	-0.1
AVH				S	Sg	18 16 16.0	-0.3
KRER	Koryakskii	1.67	315	P	Pb	18 15 54.6	-0.2
KDTR	Khodutka, Kamc	1.67	259	P	Pn	18 15 53.3	-0.1
KDTR				S	Sn	18 16 13.2	-2.1
GRL	Gorelyy	1.68	285	P	Pn	18 15 54.6	+1.0
GRL				S	Sb	18 16 17.2	+0.8
KOK	Koryaka	1.71	313	P	Pb	18 15 55.0	-0.4
KRMR	Karymshinskiy	1.73	294	P	Pn	18 15 54.4	+0.2
KRMR				S	Sb	18 16 17.8	+0.1
KRX	Arik	1.75	315	P	Pb	18 15 55.7	-0.4
ASAK	Asacha	1.75	279	P	Pn	18 15 55.2	+0.6
ASAK				S	Sb	18 16 19.2	+0.7
PEA0B	Petropavlovsk-	2.08	299	ePn	Pn	18 16 00.0	+1.0
PETK	Petropavlovsk-	2.08	299	Pn	Pn	18 15 59.8	+0.8
28nm,0.3s,baz=105,slow=18,SNR=272							
PETK				Sn	Sb	18 16 27.5	-0.4
41nm,0.3s,baz=83,slow=17,SNR=10							
PEA1	Petropavlovsk-	2.08	299	ePn	Pn	18 15 59.8	+0.8
PEA1				eSn	Sb	18 16 27.5	-0.5
APC	Apacha	2.32	291	P	Pn	18 16 03.7	+1.5
APC				S	Sb	18 16 35.1	+0.5
MKZ	Mys Kozlova	2.49	14	P	Pb	18 16 05.8	-2.7
MKZ				S	Sn	18 16 34.8	-0.6
PAU	Pauzhetka	2.52	256	P	Pn	18 16 06.0	+0.9
KZV	Kizimen	2.98	355	S	Sn	18 16 48.1	+0.2
TUMD	Tumrok D	3.07	356	P	Pn	18 16 13.9	+1.3
TUMD				S	Sn	18 16 49.3	-0.5
SKR	Severo-Kuril's	3.24	245	P	Pn	18 16 14.6	-0.3
SKR				S	Sn	18 16 51.7	-2.1
ESO	Esso	3.97	343	P	Pn	18 16 25.7	+0.7
KBTR	Krutoberegovo	4.25	16	P	Pn	18 16 30.4	+1.6
BKI	Bering	4.37	43	S	Sn	18 17 19.1	-2.7
SRKR	Sorokina	4.53	3	P	Pn	18 16 35.2	+2.6
ASAJ	Asahikawa	14.50	244	Pn	Pn	18 18 49.5	+0.3
0.3nm,0.3s,baz=59,slow=20,SNR=3.6							
BILL	Bilibino	16.17	7	ePn	P	18 19 13.1	-1.3
5.2nm,0.8s							
KLR	Kul'dur	18.54	272	P	P	18 19 40.0	-0.6
0.1nm,0.3s,baz=50,slow=11,SNR=5.8							
MAJO	Matsushiro	22.28	234	eP	P	18 20 23.2	+1.8
MJAR	Matsushiro Arr	22.28	234	P	P	18 20 23.2	+1.8
1.4nm,0.8s,baz=16,slow=10,SNR=7.2							
TIXI	Tiksi	24.11	336	P	P	18 20 38.1	-1.5
3.1nm,0.7s,baz=126,slow=8.8,SNR=23							
KSRS	Korea Array	27.24	250	P	P	18 21 09.5	+1.2
0.7nm,0.7s,baz=40,slow=9.2,SNR=3.4							
KS15	Wonju Array Si	27.27	250	eP	P	18 21 09.5	+0.9
KSAR	Wonju Array Be	27.27	250	P	P	18 21 09.5	+0.9
JNU	Nakatsue	28.74	240	eP	P	18 21 22.7	+1.0
JNU	Nakatsue	28.74	240	P	P	18 21 23.9	+2.2
4.9nm,1.0s,baz=93,slow=12,SNR=1.7							
SONA0	Songino Array	34.51	285	eP	P	18 22 11.4	-1.0
SONM	Songino Array	34.51	285	P	P	18 22 11.5	-1.0
0.2nm,0.4s,baz=99,slow=35,SNR=3.3							
YKA	Yellowknife Ar	43.60	42	eP	P	18 23 30.0	+1.9
YKA	Yellowknife Ar	43.60	42	P	P	18 23 33.6	+5.4
0.1nm,0.5s,baz=263,slow=6.4,SNR=3.5							
YKB5	Yellowknife Ar	43.60	42	eP	P	18 23 33.6	+5.4
ZAA1	Zalesovo Array	43.62	304	eP	P	18 23 26.4	-2.0
ZALV	Zalesovo Beam	43.62	304	P	P	18 23 26.3	-2.1
0.4nm,0.5s,baz=224,slow=32,SNR=2.8							
RES	Resolute Bay	44.06	22	P	P	18 23 33.3	+1.6
0.6nm,0.8s,baz=337,slow=8.4,SNR=3.1							
KURK	Kurchatov	48.57	303	eP	P	18 24 05.3	-2.1
3.4nm,0.9s							
MK32	Makanchi Array	48.92	297	eP	P	18 24 08.2	-2.0
MKAR	Makanchi Array	48.92	297	P	P	18 24 08.2	-2.0
0.6nm,0.5s,baz=56,slow=7.9,SNR=9.2							
BRVW	Black Rock Val	49.57	63	eP	P	18 24 14.0	-1.3
BRVK	Borovoye	51.31	309	eP	P	18 24 26.5	-1.8
4.6nm,0.8s							
ARU	Arti	54.36	318	eP	P	18 24 49.1	-1.6
3.2nm,0.7s							
CMAR	Chiang Mai Arr	58.37	259	P	P	18 25 20.8	+0.9
1.0nm,0.7s,baz=26,slow=6.7,SNR=10							
CM31	Chiang Mai Arr	58.37	259	eP	P	18 25 20.8	+0.9
ABKAR	Akbulak array	58.71	311	eP	P	18 25 20.5	-1.2
1.3nm,0.8s							
FINES	FINESS Array B	61.14	337	P	P	18 25 38.8	+0.5
3.9nm,0.7s,baz=31,slow=9.1,SNR=26							
NOA	NORSAR Array B	64.56	344	P	P	18 26 00.8	-0.3
0.7nm,0.8s,baz=22,slow=6.4,SNR=4.1							
HFS	Hagfors	64.97	343	P	P	18 26 04.4	+0.7
0.9nm,0.5s,baz=353,slow=6.3,SNR=6.9							
AKASG	Malin Array Be	69.63	329	P	P	18 26 32.7	-0.7
0.9nm,0.5s,baz=30,slow=6.3,SNR=4.9							
AKBB	Malin Array Si	69.63	329	eP	P	18 26 32.6	-0.8
2.6nm,0.8s							
KIEV	Kiev	69.64	329	eP	P	18 26 33.2	-0.2
2.6nm,0.8s							
KBZ	Khabaz	70.49	317	P	P	18 26 39.6	+0.8
1.5nm,0.7s,baz=9.8,slow=5.1,SNR=4.1							
EKA	Eskdalemuir Ar	72.06	350	P	P	18 26 48.9	+0.8
0.4nm,0.6s,baz=19,slow=5.6,SNR=3.7							
CLL	Collm	73.38	340	eP	P	18 26 57.0	+1.0
GEC2	GERESS Array S	75.54	338	eP	P	18 27 09.2	+0.5
GER

Error ellipse: s-maj=19.2km s-min=14.9km az=167.0

ISC 19 18:15:51.7±0.6, 52°.3N×0°.1×160°.67E±0°.06, h24km, n39, σ1§42/40, mb4.1/25, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	Petropavlovsk	1.44	302	*e*Pn	Pn	18 16 15.2	-1.0
PEA0B	Petropavlovsk-	1.99	296	*e*Pn	Pb	18 16 25.7	-1.4
PETK	Petropavlovsk-	1.99	296	Sn	Sb	18 16 53.3	+1.9
	23nm,0.3s,baz=6.2,slow=15,SNR=4.4						
PEA1	Petropavlovsk-	1.99	296	*e*Sn	Sb	18 16 53.3	+1.8
GSTR	Great Sitkin T	14.27	82	*e*Pn	Pn	18 19 12.4	+0.5
ASAJ	Asahikawa	14.53	243	Pn	Pn	18 19 15.0	-0.6
	0.4nm,0.3s,baz=58,slow=15,SNR=5.1						
ERM	Erimo	15.69	236	*e*Pn	Pn	18 19 29.6	-1.4
	24nm,0.9s						
KLR	Kul'dur	18.50	272	P	Pn	18 20 08.0	+1.9
	0.1nm,0.3s,baz=58,slow=10,SNR=4.7						
MAJO	Matsushiro	22.34	234	*e*P	P	18 20 49.3	+1.7
MJAR	Matsushiro Arr	22.34	234	P	P	18 20 49.3	+1.7
	1.4nm,0.7s,baz=15,slow=11,SNR=4.9						
TIXI	Tiksi	23.96	336	*e*P	P	18 21 02.6	-1.1
	3.4nm,0.7s						
KDAK	Kodiak Island	26.90	60	*e*P	P	18 21 28.9	-1.5
	4.6nm,0.9s						
KSRS	Korea Array	27.25	250	P	P	18 21 34.1	+0.3
	1.0nm,0.8s,baz=48,slow=10,SNR=4.5						
KS15	Wonju Array Si	27.28	250	*e*P	P	18 21 34.0	0.0
BJT	Baijiatuan	32.66	266	*e*P	P	18 22 22.4	+0.7
	5.7nm,0.4s						
SPA0	Spitsbergen Ar	47.99	351	*e*P	P	18 24 29.2	+1.3
	12nm,1.1s						
KURK	Kurchatov	48.46	303	*e*P	P	18 24 30.4	-1.5
	5.1nm,1.0s						
MK31	Makanchi Array	48.83	297	*e*P	P	18 24 33.2	-1.5
	0.7nm,0.6s						
MK32	Makanchi Array	48.83	297	*e*P	P	18 24 33.5	-1.2
MKAR	Makanchi Array	48.83	297	*e*P	P	18 24 33.2	-1.5
MKAR	Makanchi Array	48.83	297	P	P	18 24 33.5	-1.2
	0.7nm,0.6s,baz=46,slow=7.0,SNR=6.0						
MAKZ	Makanchi	48.99	297	*e*P	P	18 24 32.5	-3.5
	1.1nm,0.9s						
KEBM	Edson Butte	49.32	69	*e*P	P	18 24 39.7	+1.1
	22nm,1.1s						
BRVK	Borovoye	51.20	309	*e*P	P	18 24 49.9	-2.7
	2.5nm,0.7s						
ARU	Arti	54.23	318	*e*P	P	18 25 14.3	-0.7
	3.9nm,1.0s						
CM31	Chiang Mai Arr	58.37	259	*e*P	P	18 25 46.0	+1.0
	2.1nm,0.9s						
CMAR	Chiang Mai Arr	58.37	259	P	P	18 25 46.0	+1.0
	1.1nm,0.8s,baz=23,slow=7.1,SNR=7.5						
ABKAR	Akbulak array	58.59	311	*e*P	P	18 25 45.0	-1.1
	1.5nm,0.8s						
ABKAR				*e*P	P	18 25 45.4	-0.7
FIA0	FINESS Array S	61.00	337	*e*P	P	18 26 03.5	+1.0
FINES	FINESS Array B	61.00	337	P	P	18 26 03.5	+1.0
	2.6nm,0.6s,baz=31,slow=8.4,SNR=9.1						
NOA	NORSAR Array B	64.42	344	P	P	18 26 27.7	+2.4
	1.0nm,0.7s,baz=21,slow=6.6,SNR=5.3						
HFS	Hagfors	64.83	342	P	P	18 26 28.9	+1.0
	1.5nm,0.7s,baz=347,slow=4.6,SNR=4.9						
AKASG	Malin Array Be	69.49	329	P	P	18 26 58.0	+0.4
	0.3nm,0.3s,baz=30,slow=6.5,SNR=3.2						
AKBB	Malin Array Si	69.49	329	*e*P	P	18 26 57.6	0.0
	1.3nm,0.6s						
BR101	Keskin Array S	77.47	321	*e*P	P	18 27 44.6	-0.4
BRTR	Keskin Array B	77.47	321	P	P	18 27 44.6	-0.4
	0.5nm,0.8s,baz=40,slow=2.9,SNR=3.4						
AS31	Alice Springs	79.17	205	*e*P	P	18 27 53.1	-1.1
	0.8nm,1.1s						
ASAR	Alice Springs	79.17	205	P	P	18 27 53.1	-1.1
	0.2nm,0.6s,baz=21,slow=5.2,SNR=4.3						
MMAI	Mount Meron Ar	82.54	316	P	P	18 28 12.8	+0.4
	0.4nm,0.4s,baz=7.6,slow=2.5,SNR=4.0						

*IDC **19** 18:28:31.7±0.8, 52°.30N×160°.07E, h0km, mb3.7/23, mb1 3.9/24, mb1mx3.8/45, mbtmp3.7/24, ML4.1/1, Error ellipse: s-maj=20.3km s-min=14.9km az=150.0*

*KRSC **19** 18:28:31.4±10.0, 52°.05N×160°.71E, h63km±10km, ML4.4*

*ISCJB **19** 18:28:32.7±1.1, 52°.05N±0°.03×160°.67E±0°.04, h28km±8km, mb4.0/34, Error ellipse: s-maj=5.2km s-min=4.2km az=3.6*

*NEIC **19** 18:28:36.0±0.4, 52°.07N×160°.33E, h35km, mb4.0/14, Error ellipse: s-maj=9.0km s-min=7.6km az=161.0*

ISC 19 18:28:35.6±1.7, 52°.15N±0°.05×160°.43E±0°.06, h32km±11km, n92, σ1§18/111, mb4.1/34, 4C-5D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.98	346	P	Pn	18 28 51.9	-1.2
SPN				S	Sn	18 29 06.6	+0.7
RUS	Russkaya	1.21	284	P	Pn	18 28 56.3	+0.1
RUS				S	Sb	18 29 13.3	+0.2
NLC	Nalytchevo	1.22	328	P	Pn	18 28 56.7	+0.4
NLC				S	Sb	18 29 14.9	+1.6
DALK	Dalny	1.35	311	P	Pn	18 28 58.4	+0.3
DALK				S	Sb	18 29 17.8	+0.7
PET	Petropavlovsk	1.39	310	*e*Pn	Pn	18 28 59.0	+0.2
MTVR	Mutnovka	1.42	284	P	Pn	18 28 59.5	+0.3
MTVR				S	Sb	18 29 19.5	+0.3
UGLR	Uglovaya	1.44	318	P	Pb	18 29 00.8	-1.1
UGLR				S	Sb	18 29 21.9	+2.0
SDLR	Sedlovina	1.47	321	P	Pn	18 29 00.5	+0.6
SDLR				S	Sb	18 29 21.1	+0.4
SMAR	Somma	1.49	319	P	Pn	18 29 00.8	+0.5
KDTR	Khodutka, Kamc	1.49	258	P	Pn	18 29 00.0	-0.1
KDTR				S	Sn	18 29 18.9	+0.4
GRL	Gorelyy	1.50	286	P	Pb	18 29 02.3	-0.5
GRL				S	Sb	18 29 24.8	+3.3
AVH	Avacha	1.52	318	P	Pb	18 29 01.8	-1.3
AVH				S	Sb	18 29 23.3	+1.3
KRER	Koryakskii	1.54	319	P	Pb	18 29 02.0	-1.6
KRER				S	Sb	18 29 23.6	+0.8
KRMR	Karymshinskiy	1.56	297	P	Pn	18 29 01.4	+0.4
KRMR				S	Sb	18 29 23.2	+0.1
ASAK	Asacha	1.57	279	P	Pn	18 29 02.0	+0.7
ASAK				S	Sb	18 29 23.6	+0.1
KOK	Koryaka	1.58	317	P	Pn	18 29 01.8	+0.4
KOK				S	Sb	18 29 23.9	+0.1
KRX	Arik	1.62	319	P	Pn	18 29 02.6	+0.5
PEA0B	Petropavlovsk-	1.92	301	*e*Pn	Pn	18 29 07.0	+1.0
PETK	Petropavlovsk-	1.92	301	Pn	Pn	18 29 06.9	+0.9
	22nm,0.3s,baz=112,slow=19,SNR=206						
PETK				Sn	Sb	18 29 34.3	+0.8
	40nm,0.3s,baz=213,slow=21,SNR=15						
PEA1	Petropavlovsk-	1.92	301	*e*Pn	Pn	18 29 06.9	+0.9
PEA1				*e*Sn	Sb	18 29 34.3	+0.7
APC	Apacha	2.14	292	P	Pn	18 29 10.3	+1.3
APC				S	Sb	18 29 38.3	-1.5
PAU	Pauzhetka	2.35	254	P	Pn	18 29 12.3	+0.4
MKZ	Mys Kozlova	2.53	17	P	Pn	18 29 13.6	-0.8
MKZ				S	Sn	18 29 43.1	-1.0
KZV	Kizimen	2.97	359	P	Pn	18 29 20.7	+0.1
TUMD	Tumrok D	3.06	360	P	Pn	18 29 21.3	-0.4
TUMD				S	Sn	18 29 56.8	-0.3
ESO	Esso	3.92	346	P	Pn	18 29 33.2	-0.2
KLY	Klyuchi	4.17	2	P	Pn	18 29 37.6	+0.7
KBTR	Krutoberegovo	4.30	18	P	Pn	18 29 38.5	-0.2
BDR	Baidarnaya	4.45	6	P	Pn	18 29 40.4	-0.4
SMKR	Semkarok	4.48	7	P	Pn	18 29 42.4	+1.1
SRKR	Sorokina	4.53	5	P	Pn	18 29 42.8	+0.8
MA2	Magadan	9.20	328	Pn	Pn	18 30 47.3	+1.4
	0.2nm,0.3s,baz=178,slow=9.5,SNR=2.8						
SEY	Seymchan	11.63	341	Pn	Pn	18 31 20.9	+1.8
	0.1nm,0.3s,baz=62,slow=20,SNR=2.4						
BILL	Bilibino	16.19	8	*e*Pn	Pn	18 32 21.5	+1.2
	6.5nm,0.9s						
KLR	Kul'dur	18.35	272	P	Pn	18 32 49.0	+1.6
	0.1nm,0.3s,baz=51,slow=10,SNR=7.5						
USRK	Ussuriysk Ar.	20.46	258	P	P	18 33 09.2	-1.1
	3.2nm,1.0s,baz=58,slow=14,SNR=3.4						
MJAR	Matsushiro Arr	22.14	234	P	P	18 33 29.3	+0.9
	0.6nm,0.6s,baz=34,slow=10.0,SNR=3.8						
MAJO	Matsushiro	22.14	234	*e*P	P	18 33 29.3	+0.9
TIXI	Tiksi	24.02	336	*e*P	P	18 33 46.0	-1.1
TIXI	Tiksi	24.02	336	P	P	18 33 45.4	-1.7
	5.5nm,0.7s,baz=132,slow=8.6,SNR=45						
CAST	Castle Rocks	27.04	47	*e*P	P	18 34 15.2	+0.7
	2.6nm,1.2s						
GHO	Glory Hole Cre	28.52	50	*e*P	P	18 34 30.3	+2.5
	6.9nm,1.1s						
ILAR	Eielson Array	29.34	44	P	P	18 34 37.8	+2.8
	0.4nm,0.8s,baz=262,slow=9.2,SNR=4.7						
ILB	Eielson Array	29.34	44	*e*P	P	18 34 37.8	+2.8
	1.7nm,1.0s						
BCAR	Beaver Creek A	31.70	47	*e*P	P	18 34 55.9	0.0
WAKE	Wake Island	33.16	169	*e*P	P	18 35 08.6	-0.3
	100nm,1.0s						
SONA0	Songino Array	34.33	285	*e*P	P	18 35 18.0	-1.1
SONM	Songino Array	34.33	285	P	P	18 35 18.0	-1.1
	0.2nm,0.3s,baz=77,slow=3.2,SNR=3.6						
INK	Inuvik	34.50	37	P	P	18 35 21.0	+0.9
	1.1nm,0.8s,baz=272,slow=8.8,SNR=3.8						
ANA2	Anatahan	37.59	204	*e*P	P	18 35 45.4	-1.7
	44nm,0.5s						
YOJ	Yonaguni jima	39.62	240	*e*P	P	18 36 03.2	-0.8
	62nm,1.1s						
GUMO	Guam	40.44	204	P	P	18 36 13.3	+2.4
	12nm,0.5s,baz=21,slow=20,SNR=3.6						
ZALV	Zalesovo Beam	43.46	304	P	P	18 36 32.8	-2.4
	0.4nm,0.4s,baz=88,slow=9.2,SNR=4.1						
YKA	Yellowknife Ar	43.72	42	P	P	18 36 38.2	+1.0
	0.2nm,0.7s,baz=313,slow=3.5,SNR=3.0						
YKB5	Yellowknife Ar	43.72	42	*e*P	P	18 36 38.2	+1.0
RES	Resolute Bay	44.12	22	*e*P	P	18 36 40.9	+0.6
	0.8nm,0.7s						
RES	Resolute Bay	44.12	22	P	P	18 36 40.9	+0.6
	0.4nm,0.6s,baz=270,slow=11,SNR=4.5						
KURK	Kurchatov	48.41	303	*e*P	P	18 37 12.2	-2.0
	3.4nm,0.9s						
MKAR	Makanchi Array	48.75	297	P	P	18 37 15.1	-1.9
	0.7nm,0.5s,baz=58,slow=7.8,SNR=12						
BRVK	Borovoye	51.17	309	*e*P	P	18 37 34.3	-0.9
	2.3nm,0.7s						
ARA0	ARCESS Array S	54.25	342	*e*P	P	18 37 56.9	-0.9
ARCES	ARCESS Array B	54.25	342	P	P	18 37 56.9	-0.9
	2.9nm,0.9s,baz=31,slow=9.9,SNR=4.7						
PD31	Pinedale Array	57.81	60	*e*P	P	18 38 24.9	+1.0
	0.7nm,0.9s						
PDAR	Pinedale Array	57.81	60	P	P	18 38 24.9	+1.0
	0.1nm,0.3s,baz=248,slow=30,SNR=2.2						
CM31	Chiang Mai Arr	58.19	259	*e*P	P	18 38 24.9	-1.6
	2.5nm,0.9s						
CMAR	Chiang Mai Arr	58.19	259	P	P	18 38 24.4	-2.1
	0.8nm,0.7s,baz=27,slow=7.3,SNR=7.7						
ABKAR	Akbulak array	58.56	311	*e*P	P	18 38 28.2	-0.5
	2.1nm,0.9s						
FINES	FINESS Array B	61.07	337	P	P	18 38 45.2	-0.5
	2.7nm,0.5s,baz=30,slow=8.6,SNR=33						
NB2	NORSAR Subarra	64.50	344	P	P	18 39 08.7	0.0
	comp=Z,1.6nm,0.7s,baz=22,slow=6.9						
NOA	NORSAR Array B	64.50	344	P	P	18 39 08.5	-0.2
	comp=Z,1.5nm,0.7s,baz=22,slow=6.6,SNR=9.0						
GEYT	Alibeck	67.77	303	P	P	18 39 29.8	-0.2
	comp=Z,1.2nm,0.7s,baz=9.5,slow=4.4,SNR=3.2						
AKASG	Malin Array Be	69.53	329	P	P	18 39 39.8	-0.8
	comp=Z,0.4nm,0.2s,baz=29,slow=6.5,SNR=5.7						
KBZ	Khabaz	70.36	317	P	P	18 39 46.0	+0.1
	comp=Z,1.7nm,0.9s,baz=283,slow=4.8,SNR=3.4						
LTX	Lajitas	70.82	67	*e*P	P	18 39 49.8	+0.7
TXAR	Lajitas Array	70.82	67	P	P	18 39 49.8	+0.7
	comp=Z,0.2nm,0.7s,baz=302,slow=5.2,SNR=3.2						
CLL	Collm	73.31	339	*e*P	P	18 40 04.0	+0.5
BUR08	Bucovina Ar. S	73.47	330	*e*P	P	18 40 04.7	0.0
	comp=Z,2.5nm,1.0s						
BURAR	Bucovina Array	73.49	330	⇑*i*P	P	18 40 05.3	+0.5
MORC	Moravsky Berou	73.67	336	⇑*i*P	P	18 40 07.0	+1.3
TRPA	Tarpa	73.83	332	⇑*i*P	P	18 40 07.9	+1.4
TESR	Tescani	74.03	329	⇓*i*P	P	18 40 08.0	+0.2
MLR	Muntele Rosu	75.16	329	*e*P	P	18 40 15.1	+0.6
	comp=Z,2.6nm,0.7s						
MLR	Muntele Rosu	75.16	329	⇑*i*P	P	18 40 14.8	+0.3
GEC2	GERESS Array S	75.46	338	*e*P	P	18 40 15.9	-0.3
	comp=Z,1.9nm,1.0s						
GERES	GERESS Array B	75.46	338	P	P	18 40 15.9	-0.3
	comp=Z,0.3nm,0.4s,baz=35,slow=11,SNR=2.5						
VOIR		75.49	329	⇓*i*P	P	18 40 17.4	+1.0
GZR	Gura Zlata	76.23	331	⇓*i*P	P	18 40 20.5	-0.1
SGRR	Singureni	76.28	328	⇓*i*P	P	18 40 16.5	-4.2
BRTR	Keskin Array B	77.48	321	P	P	18 40 27.9	+0.1
	comp=Z,0.3nm,0.5s,baz=20,slow=3.9,SNR=3.3						
VTS	Vitosha	78.60	329	⇓*i*P	P	18 40 33.9	-0.1
MMAI	Mount Meron Ar	82.53	316	P	P	18 40 55.7	+0.6
	comp=Z,1.3nm,0.5s,baz=41,slow=7.7,SNR=6.8						
ESDC	Sonseca Array	87.54	348	P	P	18 41 20.9	+0.8
	comp=Z,0.2nm,0.5s,baz=354,slow=2.7,SNR=2.9						

*KRSC **19** 18:32:51.4±10.0, 52°.02N×160°.89E, h56km±10km, ML4.9*

*IDC **19** 18:32:53.3±0.6, 52°.30N×160°.21E, h0km, mb4.4/29, mb1 4.5/32, mb1mx4.4/42, mbtmp4.3/32, ML3.9/3, MS4.5/1, Ms1 4.5/1, ms1mx3.6/58, Error ellipse: s-maj=14.1km s-min=11.0km az=143.0*

*BJI **19** 18:32:56.4±0.0, 52°.62N×160°.04E, h32km, mb4.8/42, mB5.0/31, Ms5.0/16, Ms7 4.9/14*

*MOS **19** 18:32:57.1±1.2, 52°.20N×160°.38E, h41km, mb5.1/70, Error ellipse: s-maj=6.4km s-min=3.2km az=103.4*

*ISCJB **19** 18:32:57.3±0.6, 52°.20N±0°.03×160°.42E±0°.06, h43km±3km, mb4.9/136, MS4.9/2, Error ellipse: s-maj=7.5km s-min=3.2km az=39.0*

*NEIC **19** 18:32:58.3±2.5, 52°.28N×160°.22E, h35km, mb4.7/33, Error ellipse: s-maj=18.5km s-min=3.8km az=118.0*

ISC 19 18:32:57.8±0.7, 52°.21N±0°.04×160°.44E±0°.03, h35km±2km, n386, σ1§49/426, mb4.8/136, 19C-23D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.92	344	P	Pn	18 33 13.3	-1.0
SPN				S	Sn	18 33 26.6	+0.3
SPN	Mys Shipunski	0.92	344	PN	Pn	18 33 13.3	-1.0
SPN				S	Sn	18 33 26.6	+0.3
NLC	Nalytchevo	1.17	326	P	Pn	18 33 17.9	+0.2
NLC				S	Sb	18 33 35.9	+1.5
NLC	Nalytchevo	1.17	326	PN	Pn	18 33 17.9	+0.2
NLC				S	Sb	18 33 35.9	+1.5
RUS	Russkaya	1.20	281	P	Pn	18 33 17.7	-0.4
RUS				S	Sb	18 33 35.3	0.0
RUS	Russkaya	1.20	281	PN	Pn	18 33 17.7	-0.4
RUS				S	Sb	18 33 35.3	0.0
DALK	Dalny	1.31	309	P	Pn	18 33 20.4	+0.7
DALK				S	Sb	18 33 40.6	+2.1
DALK	Dalny	1.31	309	PN	Pn	18 33 20.4	+0.7
DALK				S	Sb	18 33 40.6	+2.1
PET	Petropavlovsk	1.36	308	*e*Pn	Pn	18 33 20.3	0.0
PET	Petropavlovsk	1.36	308	⇑*i*PN	Pn	18 33 19.7	-0.6
PET				*e*S	Sb	18 33 39.9	+0.1
PET				pmax	pmax		
	comp=Z,1μm,0.7s						
PET				smax	smax		
	comp=E,5μm,0.7s						
PET				smax	smax		
	comp=N,3μm,0.7s						
UGLR	Uglovaya	1.40	316	P	Pn	18 33 21.6	+0.6
UGLR	Uglovaya	1.40	316	PN	Pn	18 33 21.6	+0.6
MTVR	Mutnovka	1.41	282	P	Pn	18 33 21.1	0.0
MTVR				S	Sb	18 33 41.5	+0.1
MTVR	Mutnovka	1.41	282	PN	Pn	18 33 21.1	0.0
MTVR				S	Sb	18 33 41.5	+0.1
SDLR	Sedlovina	1.43	319	P	Pn	18 33 21.6	+0.3
SDLR	Sedlovina	1.43	319	PN	Pn	18 33 21.6	+0.3
SMAR	Somma	1.45	317	P	Pn	18 33 22.2	+0.5
SMAR	Somma	1.45	317	PN	Pn	18 33 22.2	+0.5
AVH	Avacha	1.48	316	P	Pb	18 33 23.4	-1.4
AVH				S	Sb	18 33 46.4	+3.2
AVH	Avacha	1.48	316	PN	Pb	18 33 23.4	-1.4
GRL	Gorelyy	1.49	284	P	Pn	18 33 22.7	+0.5
GRL	Gorelyy	1.49	284	PN	Pn	18 33 22.7	+0.5
KRER	Koryakskii	1.50	318	P	Pb	18 33 23.6	-1.6
KRER	Koryakskii	1.50	318	PN	Pb	18 33 23.6	-1.6
KDTR	Khodutka, Kamc	1.51	255	P	Pn	18 33 21.6	-0.8
KDTR				S	Sn	18 33 41.0	+0.1
KDTR	Khodutka, Kamc	1.51	255	PN	Pn	18 33 21.6	-0.8
KDTR				S	Sn	18 33 41.0	+0.1
KOK	Koryaka	1.54	315	P	Pn	18 33 23.7	+0.8
KOK	Koryaka	1.54	315	PN	Pn	18 33 23.7	+0.8
KRMR	Karymshinskiy	1.54	295	P	Pn	18 33 23.1	+0.3
KRMR				S	Sb	18 33 46.1	+1.2
KRMR	Karymshinskiy	1.54	295	PN	Pn	18 33 23.1	+0.3
KRMR				S	Sb	18 33 46.1	+1.2
ASAK	Asacha	1.57	277	P	Pn	18 33 23.6	+0.4
ASAK	Asacha	1.57	277	PN	Pn	18 33 23.6	+0.4
KRX	Arik	1.58	317	P	Pn	18 33 24.4	+0.9
KRX	Arik	1.58	317	PN	Pn	18 33 24.4	+0.9
PEA0B	Petropavlovsk-	1.89	299	*e*Pn	Pn	18 33 28.8	+1.1
PEA0B				*e*Sn	Sn	18 33 41.9	-8.4
PEA0B	Petropavlovsk-	1.89	299	*e*PN	Pn	18 33 28.8	+1.1
PETK	Petropavlovsk-	1.89	299	*e*Pn	Pn	18 33 28.5	+0.8
PETK				*e*Sn	Sn	18 33 42.1	-8.2
PETK	Petropavlovsk-	1.89	299	*e*PN	Pn	18 33 28.5	+0.8
PETK	Petropavlovsk-	1.89	299	Pn	Pn	18 33 28.2	+0.6
	comp=N,94nm,0.3s,baz=101,slow=15,SNR=151						
PETK				Sn	Sb	18 33 56.2	+1.2
	comp=N,100nm,0.3s,baz=107,slow=20,SNR=11						
PETK				LR	LR	18 34 00.9	
	comp=N,3μm,20.1s,baz=46,slow=39						
PEA1	Petropavlovsk-	1.90	300	*e*Pn	Pn	18 33 28.2	+0.5
PEA1				*e*Sn	Sb	18 33 56.2	+1.1
APC	Apacha	2.12	291	P	Pn	18 33 32.1	+1.3
APC				S	Sb	18 34 01.6	0.0
APC	Apacha	2.12	291	PN	Pn	18 33 32.1	+1.3
APC				S	Sb	18 34 01.6	0.0
PAU	Pauzhetka	2.37	253	P	Pn	18 33 33.7	-0.5
PAU	Pauzhetka	2.37	253	PN	Pn	18 33 33.7	-0.5
MKZ	Mys Kozlova	2.47	18	P	Pn	18 33 33.9	-1.7
MKZ				S	Sn	18 34 02.3	-2.2
MKZ	Mys Kozlova	2.47	18	PN	Pn	18 33 33.9	-1.7
MKZ				S	Sn	18 34 02.3	-2.2
KZV	Kizimen	2.91	358	P	Pn	18 33 42.0	+0.3
KZV				S	Sn	18 34 17.6	+2.1
KZV	Kizimen	2.91	358	PN	Pn	18 33 42.0	+0.3
KZV				S	Sn	18 34 17.6	+2.1
TUMD	Tumrok D	3.00	360	P	Pn	18 33 42.8	0.0
TUMD				S	Sn	18 34 18.6	+1.1
TUMR	Tumrok	3.08	357	PN	Pn	18 33 42.8	-1.3
TUMR				S	Sn	18 34 18.6	-1.2
SKR	Severo-Kuril's	3.11	242	P	Pn	18 33 43.7	-0.6
SKR				S	Sn	18 34 20.8	+0.7
SKR	Severo-Kuril's	3.11	242	*e*PN	Pn	18 33 43.6	-0.7
SKR				*e*S	Sn	18 34 19.6	-0.5
SKR				pmax	pmax		
	comp=Z,303nm,1.1s						
SKR				smax	smax		
	comp=E,1μm,0.6s						
SKR				smax	smax		
	comp=N,3μm,0.9s						
SKR				MLR	MLR		
	comp=Z,4μm,13.0s						
SKR				MLR	MLR		
	comp=Z,5μm,10.0s						
ALID	Alaid	3.33	248	P	Pn	18 33 47.8	+0.2
ALID	Alaid	3.33	248	PN	Pn	18 33 47.8	+0.2
BZGR	Bezymyannyi-Gr	3.74	2	P	Pn	18 33 54.3	+1.2
BZGR	Bezymyannyi-Gr	3.74	2	PN	Pn	18 33 54.3	+1.2
KIRR	Kirishev	3.75	359	P	Pn	18 33 54.0	+0.7
KIRR	Kirishev	3.75	359	PN	Pn	18 33 54.0	+0.7
ESO	Esso	3.86	345	P	Pn	18 33 55.8	+1.1
ESO	Esso	3.86	345	PN	Pn	18 33 55.8	+1.1
KOZ	Kozyrevsk	3.87	355	P	Pn	18 33 54.2	-0.6
KOZ	Kozyrevsk	3.87	355	PN	Pn	18 33 54.2	-0.6
CIRR	Tsirk	3.92	3	P	Pn	18 33 56.3	+0.7
CIRR	Tsirk	3.92	3	PN	Pn	18 33 56.3	+0.7
KRSR	Krestovskiy	4.01	1	P	Pn	18 33 58.3	+1.4
KRSR	Krestovskiy	4.01	1	PN	Pn	18 33 58.3	+1.4
KLY	Klyuchi	4.11	2	P	Pn	18 33 59.3	+1.2
KLY				S	Sn	18 34 48.6	+3.7
KLY	Klyuchi	4.11	2	PN	Pn	18 33 59.3	+1.2
KLY				S	Sn	18 34 48.6	+3.7
SRDR	Sredinnyy	4.14	354	P	Pn	18 33 58.8	+0.3
SRDR	Sredinnyy	4.14	354	PN	Pn	18 33 58.8	+0.3
KBTR	Krutoberegovo	4.24	18	P	Pn	18 33 59.2	-0.7
KBTR				S	Sn	18 34 48.1	0.0
KBTR	Krutoberegovo	4.24	18	PN	Pn	18 33 59.2	-0.7
BKI	Bering	4.45	45	P	Pn	18 33 57.4	-5.3
BKI				S	Sn	18 34 46.8	-6.4
BKI	Bering	4.45	45	PN	Pn	18 33 57.4	-5.3
SRKR	Sorokina	4.47	5	P	Pn	18 34 04.5	+1.4
SRKR	Sorokina	4.47	5	PN	Pn	18 34 04.5	+1.4
OSSR	Ossora	7.21	11	P	Pn	18 34 39.0	-1.6
OSSR	Ossora	7.21	11	PN	Pn	18 34 39.0	-1.6
TILK	Tilichiki	8.84	19	P	Pn	18 35 00.5	-2.4
TILK	Tilichiki	8.84	19	PN	Pn	18 35 00.5	-2.4
MA2	Magadan	9.15	328	Pn	Pn	18 35 08.7	+1.4

MAJO pmax pmax
comp=Z,37nm,1.1s
MAT Matsushiro 22.18 234 P **P 18 37 50.8 +0.1**
MAT S **S 18 41 55.0 +2.1**
MJAR Matsushiro Arr 22.18 234 P **P 18 37 51.3 +0.6**
comp=Z,25nm,1.1s,baz=22,slow=9.1,SNR=38
MJB9 Matsu-Tunnel 22.18 234 *eP* **P 18 37 51.7 +0.9**
comp=Z,47nm,1.2s
INU Inuyama 23.71 234 *eP* **P 18 38 07.1 +0.8**
comp=Z,22nm,0.9s
TIXI Tiksi 23.97 336 *eP* **P 18 38 06.5 -2.0**
comp=Z,27nm,1.1s
TIXI Tiksi 23.97 336⇓*eP* **P 18 38 06.7 -1.8**
TIXI pmax pmax
comp=Z,31nm,1.3s
TIXI Tiksi 23.97 336 P **P 18 38 06.5 -2.0**
comp=Z,7.9nm,0.4s,baz=123,slow=9.7,SNR=53
CN2 Changchun 24.67 264 *eP* **P 18 38 18.3 +3.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 25.68 280 *eP* **P 18 38 21.8 -2.5**
comp=Z,27nm,0.9s
HIA Hailar 25.68 280*ceP* **P 18 38 22.3 -2.0**
HIA pmax pmax
comp=Z,158nm,0.9s
BOD Bodaibo 26.77 301 *eP* **P 18 38 31.5 -2.5**
BOD pmax pmax
comp=Z,21nm,1.5s
KDAK Kodiak Island 27.06 59 *eP* **P 18 38 38.8 +2.2**
comp=Z,13nm,0.9s
KDAK Kodiak Island 27.06 59 *eP* **P 18 38 38.8 +2.2**
KDAK pmax pmax
comp=Z,13nm,0.9s
KDAK Kodiak Island 27.06 59 P **P 18 38 38.8 +2.2**
comp=Z,8.1nm,1.0s,baz=231,slow=7.3,SNR=4.8
KSRS Korea Array 27.09 250 P **P 18 38 37.3 +0.2**
comp=Z,6.1nm,1.0s,baz=42,slow=9.7,SNR=17
KS15 Wonju Array Si 27.12 250 *eP* **P 18 38 37.3 -0.1**
KSAR Wonju Array Be 27.12 250 *eP* **P 18 38 37.5 +0.2**
KSAR Wonju Array Be 27.12 250 *eP* **P 18 38 37.5 +0.2**
JNU Nakatsue 28.61 240 *eP* **P 18 38 51.9 +1.1**
comp=Z,35nm,1.1s
JNU Nakatsue 28.61 240 P **P 18 38 51.9 +1.1**
comp=Z,13nm,0.8s,baz=130,slow=9.6,SNR=5.2
H11N2 WAKE ISLAND Hy 32.81 169 T T 19 14 14.3
baz=352,slow=76,SNR=5.8
H11N3 WAKE ISLAND Hy 32.82 169 T T 19 14 08.6
baz=352,slow=76,SNR=6.5
H11N1 WAKE ISLAND Hy 32.82 169 T T 19 14 08.5
baz=352,slow=76,SNR=8.3
ULN Ulaanbaatar 33.91 284*d iP* **P 18 39 36.3 -1.1**
ULN pmax pmax
comp=Z,9.0nm,1.7s
H11S1 WAKE ISLAND Hy 33.99 169 T T 19 15 37.4
baz=351
H11S3 WAKE ISLAND Hy 34.00 169 T T 19 15 39.7
baz=351
H11S2 WAKE ISLAND Hy 34.01 169 T T 19 15 38.7
baz=351
SONA0 Songino Array 34.32 285 *eP* **P 18 39 39.9 -1.0**
SONA0 *e*PcP **PcP 18 42 16.7 +0.4**
SONM Songino Array 34.32 285 P **P 18 39 39.9 -1.0**
comp=Z,1.1nm,0.3s,baz=64,slow=8.6,SNR=15
SONM PcP **PcP 18 42 16.7 +0.4**
comp=Z,0.8nm,0.9s,baz=66,slow=4.9,SNR=2.8
INK Inuvik 34.45 37 *eP* **P 18 39 41.2 -0.3**
comp=Z,4.1nm,0.9s
INK Inuvik 34.45 37 *eP* **P 18 39 41.3 -0.3**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 34.45 37 P **P 18 39 42.0 +0.4**
comp=Z,1.6nm,0.7s,baz=275,slow=2.1,SNR=5.9
HHC Hu-ho-hao-te 34.85 271 *eP* **P 18 39 45.3 -0.2**
HHC S **S 18 45 11.8 -2.3**
HHC SS **SnSn 18 47 25.3 -4.3**
HHC pmax pmax
comp=Z,88nm,0.9s
HHC pmax pmax
comp=Z,340nm,4.4s
HHC LR LR
comp=Z,970nm,12.3s
HHC LR LR
comp=Z,690nm,11.7s
HHC LR LR
comp=Z,810nm,12.4s
MOY Mondy 35.75 293 *eP* **P 18 39 52.6 -0.6**
MOY pmax pmax
comp=Z,28nm,1.3s
NJ2 Nanjing 36.18 253 *eP* **P 18 39 56.4 -0.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NRIK Noril'sk 36.75 325 P **P 18 40 00.6 -0.8**
comp=Z,7.4nm,1.0s,baz=93,slow=7.8,SNR=11
LZH Lanzhou 42.55 271 *eP* **P 18 40 50.5 +0.3**
LZH pP sP 18 41 04.8 +1.9
LZH sP pwP 18 41 11.3 +8.8
LZH Lanzhou 42.55 271 *eP* **P 18 40 49.1 -1.1**
LZH pP pP 18 40 57.3 -2.4
LZH sP pwP 18 41 00.5 -2.0
LZH pmax pmax
comp=Z,25nm,1.0s
GTA Gaotai 42.92 278 ⇑P **P 18 40 52.1 -1.0**
GTA pP pP 18 41 00.6 -2.0
GTA sP sP 18 41 05.0 -0.9
GTA PcP **PcP 18 42 44.3 +1.0**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,160nm,7.1s
GTA LR LR
comp=Z,1μm,17.8s
GTA LR LR
comp=Z,2μm,17.1s
GTA LR LR
comp=Z,1μm,17.1s
ZAA0 Zalesovo Array 43.43 304 *eP* **P 18 40 53.9 -3.0**
comp=Z,4.9nm,1.1s
ZALV Zalesovo Beam 43.43 304 *eP* **P 18 40 53.8 -3.1**
ZALV Zalesovo Beam 43.43 304 *i* P **P 18 40 54.7 -2.2**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 43.43 304 P **P 18 40 55.0 -1.9**
comp=Z,1.7nm,0.5s,baz=64,slow=6.8,SNR=12
YKA Yellowknife Ar 43.67 42 P **P 18 40 59.2 +0.6**
comp=Z,0.3nm,0.6s,baz=300,slow=7.6,SNR=6.4
YKB5 Yellowknife Ar 43.67 42 *eP* **P 18 40 59.2 +0.5**
NVS Novosibirsk 43.79 305 *eP* **P 18 40 58.4 -1.3**
NVS *e* 18 41 10.3
NVS pmax pmax
comp=Z,50nm,1.4s
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=E,33nm,1.3s
RES Resolute Bay 44.07 22 P **P 18 41 02.2 +0.5**
comp=E,2.6nm,0.9s,baz=341,slow=11,SNR=9.9
DGZ Jazzator, Alta 44.25 297*ceP* **P 18 41 02.6 -1.1**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
CD2 Chengdu 46.10 265 *eP* **P 18 41 16.8 -1.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
WMQ Urumqi 47.47 290 *eP* **P 18 41 28.6 -0.4**
WMQ pP sP 18 41 39.5 -2.4
WMQ pmax pmax
comp=Z,52nm,0.9s
WMQ pmax pmax
comp=Z,430nm,4.5s
GYA Guiyang 47.52 259 P **P 18 41 29.3 -0.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
SPA0 Spitsbergen Ar 48.04 351 *eP* **P 18 41 33.3 +0.4**
SPITS Spitsbergen Ar 48.04 351 P **P 18 41 33.2 +0.2**
SPITS pmax pmax
comp=Z,7.0nm,0.4s
KURK Kurchatov 48.38 303 *eP* **P 18 41 34.0 -1.9**
comp=Z,38nm,1.1s
KURK Kurchatov 48.38 303*c iP* **P 18 41 33.8 -2.1**
KURK pmax pmax
comp=Z,45nm,1.3s
KURK Kurchatov 48.38 303 P **P 18 41 33.9 -1.9**
SNR=17
MKAR Makanchi Array 48.73 297 *eP* **P 18 41 36.8 -1.9**
MKAR Makanchi Array 48.73 297 *eP* **P 18 41 36.8 -1.9**
MKAR Makanchi Array 48.73 297 P **P 18 41 36.9 -1.8**
comp=Z,1.4nm,0.4s,baz=52,slow=6.8,SNR=44
MAKZ Makanchi 48.90 297 *eP* **P 18 41 38.3 -1.7**
comp=Z,7.9nm,1.0s
MAKZ Makanchi 48.90 297 *eP* **P 18 41 38.3 -1.7**
MAKZ pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 51.13 309 *eP* **P 18 41 54.8 -2.0**
comp=Z,20nm,1.0s
BRVK Borovoye 51.13 309*d iP* **P 18 41 55.7 -1.1**
BRVK pmax pmax
comp=Z,18nm,1.0s
BRVK Borovoye 51.13 309 P **P 18 41 55.4 -1.4**
SNR=13
DAG Danmarks Havn 51.29 360⇑*iP* **P 18 41 57.4 -0.2**
DAG pmax pmax
comp=Z,8.0nm,1.0s
DAG Danmarks Havn 51.29 360⇑*iP* **P 18 41 57.4 -0.2**
comp=Z,7.7nm,1.0s
PDGK Podgornoye 52.44 295 P **P 18 42 06.2 -0.6**
PDGK pmax pmax
comp=Z,8.0nm,1.1s
SVE Sverdlovsk 53.07 317 *eP* **P 18 42 11.2 +0.1**
OTUK Ortayu 53.13 303 P **P 18 42 10.8 -1.0**
OTUK pmax pmax
comp=Z,14nm,1.2s
LVZ Lovozero 53.59 338*ceP* **P 18 42 14.2 -0.7**
LVZ pmax pmax
comp=Z,19nm,1.3s
ARU Arti 54.19 318 *eP* **P 18 42 18.2 -1.1**
comp=Z,11nm,0.5s
ARU Arti 54.19 318*ceP* **P 18 42 18.3 -1.1**
ARU pmax pmax
comp=Z,20nm,1.3s
ARA0 ARCESS Array S 54.19 342 *eP* **P 18 42 19.0 -0.2**
ARCES ARCESS Array B 54.19 342 *eP* **P 18 42 18.2 -1.0**
ARCES ARCESS Array B 54.19 342 P **P 18 42 19.0 -0.2**
comp=Z,7.4nm,0.8s,baz=45,slow=9.5,SNR=17
SUMG Summit 54.81 7 *i* P **P 18 42 25.3 +1.2**
SUMG pmax pmax
comp=Z,31nm,1.0s
SUMG Summit 54.81 7 *i* P **P 18 42 25.3 +1.2**
comp=Z,31nm,1.0s
BOOM Boomskoye usch 54.96 296 *eP* **P 18 42 24.9 -0.5**
comp=Z,9.5nm,1.1s
BOOM Boomskoye usch 54.96 296 *eP* **P 18 42 24.9 -0.5**
BOOM pmax pmax
comp=Z,10.0nm,1.1s
AAK Ala-Archa 55.66 297 *eP* **P 18 42 28.4 -2.0**
comp=Z,9.3nm,1.0s
AAK Ala-Archa 55.66 297⇓*eP* **P 18 42 29.5 -0.9**
AAK pmax pmax
comp=Z,12nm,1.3s
AAK Ala-Archa 55.66 297 P **P 18 42 29.9 -0.5**
SNR=6.1
TMCR Tamitsa 55.66 333 *eP* **P 18 42 29.4 -0.4**
TMCR pmax pmax
comp=Z,60nm,1.1s
PANO Nakornpanom 55.84 253 P **P 18 42 33.9 +2.2**
comp=Z,0.7nm,1.4s,comp=Z,42nm
NVAR Mina Array Bea 55.85 70 P **P 18 42 33.4 +1.5**
comp=Z,1.4nm,0.8s,baz=298,slow=7.7,SNR=5.6
SKNT Sakolnakorn 56.35 253 P **P 18 42 37.0 +1.6**
comp=Z,30nm,1.5s
MSF Maaselka 56.51 338 P **P 18 42 36.6 +0.7**
MSF pmax pmax
comp=Z,58nm,1.2s
KSH Kashi 56.94 293 P **P 18 42 42.0 +2.5**
KSH PP **PP 18 44 49.8 +3.9**
KSH S **S 18 50 28.0 -3.1**
KSH pmax pmax
comp=Z,280nm,5.2s
KSH LR LR
comp=Z,610nm,6.6s
KSH LR LR
comp=Z,710nm,6.0s
PAYA Payao 56.96 259 P **P 18 42 41.5 +1.8**
comp=Z,31μm,0.9s,comp=Z,292μm
SHL Shillong 57.21 270 P **P 18 42 42.4 +0.7**
SHL pmax pmax
comp=Z,12nm,0.9s
PHRA Phrae 57.40 258 P **P 18 42 44.3 +1.5**
comp=Z,3.9nm,1.2s,comp=Z,59nm
KK31 Karatay Array 57.50 300 *eP* **P 18 42 40.6 -2.6**
KKAR Karatay Array 57.50 300 *eP* **P 18 42 40.6 -2.7**
comp=Z,8.0nm,1.1s
KKAR *eP* **P 18 42 41.6 -1.7**
KKAR Karatay Array 57.50 300 *eP* **P 18 42 40.6 -2.7**
KKAR pmax pmax
comp=Z,8.0nm,1.1s
KHON Khomkaen 57.53 254 P **P 18 42 46.2 +2.5**
LAMP Lampang 57.74 258 P **P 18 42 47.2 +2.0**
comp=Z,24μm,1.1s,comp=Z,225μm
PD31 Pinedale Array 57.77 61 *eP* **P 18 42 46.8 +1.3**
comp=Z,4.8nm,1.0s
PDAR Pinedale Array 57.77 61 *eP* **P 18 42 46.1 +0.6**
PDAR Pinedale Array 57.77 61 P **P 18 42 46.8 +1.3**
comp=Z,0.9nm,0.7s,baz=316,slow=3.4,SNR=8.6
UTTA Uttaradit 57.79 257 P **P 18 42 47.1 +1.6**
comp=Z,27μm,1.0s,comp=Z,247μm
KLMR Klimovskoe 57.82 330⇑*iP* **P 18 42 45.0 -0.2**
KLMR pmax pmax
comp=Z,40nm,1.4s
OUL Oulu 57.91 339 P **P 18 42 46.3 +0.6**
OUL pmax pmax
comp=Z,31nm,1.4s
CMMT Chiang Mai 57.94 259 P **P 18 42 47.5 +0.9**
comp=Z,13nm,1.1s,comp=Z,164nm
CHTO Chiang Mai 57.94 259 *eP* **P 18 42 47.4 +0.7**
comp=Z,26nm,1.1s
CHTO Chiang Mai 57.94 259 *eP* **P 18 42 47.3 +0.7**
CHTO pmax pmax
comp=Z,26nm,1.1s
CHTO Chiang Mai 57.94 259 P **P 18 42 47.5 +0.9**
SNR=10
CM31 Chiang Mai Arr 58.21 259 P **P 18 42 50.4 +1.9**
SNR=6.7
CMAR Chiang Mai Arr 58.21 259 P **P 18 42 49.3 +0.8**
comp=Z,7.2nm,0.9s,baz=22,slow=7.3,SNR=53
CHAI Chaiyaphum 58.37 254 P **P 18 42 51.3 +1.7**
comp=Z,19μm,1.0s
PBKT Sadao Pong 58.45 256 P **P 18 42 51.9 +1.7**
comp=Z,4.6nm,1.2s
JOF Joensuu 58.46 335 P **P 18 42 49.9 +0.3**
JOF pmax pmax
comp=Z,42nm,1.3s
ABKAR Akbulak array 58.53 311 *eP* **P 18 42 48.5 -1.8**
JIRN Jiri 59.19 276 *eP* **P 18 42 55.0 -0.7**
comp=Z,14nm,0.6s
RAMN Ramite 59.45 275 *eP* **P 18 42 56.6 -0.8**
comp=Z,19nm,0.3s
KKN Kakani 59.65 277 *eP* **P 18 42 58.0 -0.7**
comp=Z,22nm,0.6s
PKI Pulchoki 59.73 277 *eP* **P 18 42 58.5 -0.9**
comp=Z,16nm,0.7s
PKIN Phulchoki 59.74 277 *eP* **P 18 42 58.0 -1.3**
comp=Z,6.4nm,0.4s
DMN Daman 59.89 277 *eP* **P 18 42 59.6 -0.8**
comp=Z,28nm,0.7s
GKN Gorkha 59.89 278 *eP* **P 18 42 59.3 -1.0**
SUF Sumiainen 59.89 338 P **P 18 43 00.2 +0.7**
SUF pmax pmax
comp=Z,52nm,1.5s
UMPA Umpang Tak 60.00 257 P **P 18 43 04.2 +3.3**
comp=Z,35μm,1.1s,comp=Z,405μm
DANN Dangsing 60.17 279 *eP* **P 18 43 01.7 -0.7**
comp=Z,27nm,0.7s
VAF Ylistaro 60.40 339 P **P 18 43 04.4 +1.4**
VAF pmax pmax
comp=Z,38nm,1.4s
GAR Garm 60.46 296 *eP* **P 18 43 02.0 -2.0**
comp=Z,13nm,0.8s
GAR Garm 60.46 296 *eP* **P 18 43 02.0 -2.0**
GAR pmax pmax
comp=Z,13nm,0.8s
KOLN Koldanda 60.69 278 *eP* **P 18 43 05.0 -0.8**
comp=Z,12nm,0.5s
PYUN Piuthan 60.82 279 *eP* **P 18 43 06.3 -0.4**
comp=Z,12nm,0.4s
FIA0 FINESS Array S 61.01 337 *eP* **P 18 43 07.5 +0.3**
FINES FINESS Array B 61.01 337 P **P 18 43 07.5 +0.3**
comp=Z,11nm,0.4s,baz=35,slow=8.4,SNR=184
PHET Kaeng Krachan 62.12 254 P **P 18 43 18.4 +3.1**
comp=Z,33μm,0.9s
MOS Moscow 62.52 328 *eP* **P 18 43 14.6 -2.8**
MOS *e* 18 43 29.6
MOS pmax pmax
comp=Z,35nm,0.9s
OBN Obninsk 63.37 328 *eP* **P 18 43 22.8 -0.3**
OBN *e* 18 43 32.5
OBN *e* 18 45 47.9
OBN *e*PPP PPP 18 47 14.1
OBN pmax pmax
comp=Z,63nm,2.5s
VSU Vasula 63.44 335*d iP* **P 18 43 24.0 +0.5**
VSU pmax pmax
comp=Z,68nm,0.9s
NC405 NORSAR Array S 64.29 344 *eP* **P 18 43 28.9 -0.2**
comp=Z,12nm,1.0s
NB201 NORSAR Array S 64.43 344 *eP* **P 18 43 30.2 +0.3**
comp=Z,2.1nm,0.8s
NB2 NORSAR Subarra 64.45 344 P **P 18 43 29.6 -0.6**
comp=Z,1.8nm,0.6s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.45 344 P **P 18 43 28.5 -1.7**
NB2 pmax pmax
comp=Z,2.0nm,0.5s
NOA NORSAR Array B 64.45 344 P **P 18 43 30.3 +0.1**
comp=Z,2.9nm,0.7s,baz=23,slow=6.6,SNR=14
LPSR Galich'ya Gora 64.63 325 *eP* **P 18 43 30.5 -0.9**
LPSR pmax pmax
comp=Z,20nm,1.0s
NORES NORESS Array B 64.68 344 P **P 18 43 34.0 +2.4**
VRH Novokhopyorsk 64.74 322 *eP* **P 18 43 30.3 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 65.67 324*deP* **P 18 43 37.1 -1.1**
VSR pmax pmax
comp=Z,20nm,1.1s
SCHQ Schefferville 66.33 28 *eP* **P 18 43 43.5 +1.1**
comp=Z,9.9nm,1.1s
SCHQ Schefferville 66.33 28 P **P 18 43 43.5 +1.1**
comp=Z,3.9nm,0.7s,baz=221,slow=15,SNR=2.8
GEYT Alibeck 67.75 303 *eP* **P 18 43 51.7 0.0**
GEYT Alibeck 67.75 303 P **P 18 43 51.1 -0.6**
comp=Z,4.6nm,0.9s,baz=18,slow=5.3,SNR=11
GYA0B ALIBECK ARRAY 67.75 303 *eP* **P 18 43 51.2 -0.5**
comp=Z,6.9nm,1.0s
AKASG Malin Array Be 69.48 329 P **P 18 44 01.6 -0.6**
comp=Z,3.0nm,0.4s,baz=31,slow=6.5,SNR=44
KIEV Kiev 69.49 329⇓*iP* **P 18 44 02.2 -0.1**
KIEV Kiev 69.49 329*c iP* **P 18 44 01.6 -0.7**
KIEV pmax pmax
comp=Z,19nm,1.1s
KIV Kislovodsk 70.23 317 *eP* **P 18 44 07.1 0.0**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 70.23 317 P **P 18 44 08.0 +0.9**
SNR=5.3
KBZ Khabaz 70.32 317 P **P 18 44 07.9 +0.4**
comp=Z,7.2nm,0.9s,baz=57,slow=2.1,SNR=14
ZEI Tsey 70.66 316 *eP* **P 18 44 08.5 -1.4**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
TX31 Lajitas Ar. Si 70.79 67 *eP* **P 18 44 11.3 +0.5**
TXAR Lajitas Array 70.79 67 *eP* **P 18 44 11.4 +0.7**
TXAR Lajitas Array 70.79 67 P **P 18 44 11.8 +1.0**
comp=Z,1.2nm,0.7s,baz=300,slow=4.3,SNR=14
HYB Hyderabad 71.49 275 *i* P **P 18 44 15.0 0.0**
AKH Akhalkalaki 71.96 315⇓*iP* **P 18 44 18.7 +1.0**
AKH Akhalkalaki 71.96 315 P **P 18 44 18.7 +1.0**
GNI Garni 72.44 314*ceP* **P 18 44 21.0 +0.4**
GNI pmax pmax
comp=Z,29nm,1.2s
KIS Kishinev 72.84 328 *eP* **P 18 44 21.0 -1.6**
KIS Kishinev 72.84 328 *eP* **P 18 44 21.0 -1.6**
KIS *e* 18 44 32.0
KIS *e* 18 44 41.0
KOLS Kolonicke sedl 73.13 333 *eP* **P 18 44 24.8 +0.5**
KOLS pmax pmax
comp=Z,11nm,1.3s
KOLS Kolonicke sedl 73.13 333 *eP* **P 18 44 24.8 +0.5**
CLL Collm 73.25 339 *eP* **P 18 44 25.0 0.0**
CLL *e* 18 44 38.0
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 73.25 339 *eP* **P 18 44 25.0 0.0**
comp=Z,13nm,1.1s
CLL *e*(sP) **sP 18 44 38.0 -0.5**
UPC Upice 73.32 337 *eP* **P 18 44 26.7 +1.3**
UPC Upice 73.32 337 *eP* **P 18 44 26.7 +1.3**
DPC Dobruska-Polom 73.39 337 *eP* **P 18 44 26.7 +0.8**
DPC *e* 18 44 39.6
DPC Dobruska-Polom 73.39 337 *eP* **P 18 44 26.7 +0.8**
DPC *ep*P **sP 18 44 39.6 +0.2**
UZH Uzhgorod 73.39 332 *eP* **P 18 44 25.0 -0.9**
UZH *e* 18 44 32.0
UZH *e* 18 44 40.3
OKC Ostrava-Krasne 73.41 336 *eP* **P 18 44 27.0 +1.1**
OKC *e* 18 44 38.9
OKC Ostrava-Krasne 73.41 336 *eP* **P 18 44 27.0 +1.1**
OKC *ep*P **sP 18 44 38.9 -0.6**
BURAR Bucovina Array 73.44 330 *eP* **P 18 44 26.2 -0.1**
BURAR Bucovina Array 73.44 330⇓*iP* **P 18 44 26.5 +0.2**
BURAR Bucovina Array 73.44 330 P **P 18 44 26.2 -0.1**
BRG Berggiesshubel 73.45 339 *eP* **P 18 44 26.4 +0.2**
comp=Z,9.8nm,1.4s
BRG Berggiesshubel 73.45 339 *eP* **P 18 44 26.4 +0.2**
BRG pmax pmax
comp=Z,10.0nm,1.5s
MORC Moravsky Berou 73.62 336⇓*iP* **P 18 44 28.2 +1.0**
MORC Moravsky Berou 73.62 336 P **P 18 44 28.2 +1.0**
MORC Moravsky Berou 73.62 336 *eP* **P 18 44 27.8 +0.6**
LANS Liptovska Anna 73.70 334 *eP* **P 18 44 29.7 +2.0**
LANS Liptovska Anna 73.70 334 *eP* **P 18 44 29.7 +2.0**
BIZ Bicaz 73.77 329⇑*iP* **P 18 44 28.8 +0.7**
TRPA Tarpa 73.78 332⇓*iP* **P 18 44 29.4 +1.3**
TRPA Tarpa 73.78 332 *eP* **P 18 44 28.1 0.0**
TESR Tescani 73.98 329⇓*iP* **P 18 44 29.2 -0.2**
PRU Pruhonice 74.14 338 *eP* **P 18 44 31.0 +0.7**
PRU *e* 18 44 44.1
PRU Pruhonice 74.14 338 *eP* **P 18 44 31.0 +0.7**
PRU *ep*P **PcP 18 44 44.1 -1.1**
MOX Moxa 74.17 340 P **P 18 44 32.9 +2.5**
MOX pmax pmax
comp=Z,5.0nm,1.1s
VRAC Vranov 74.29 336⇓*iP* **P 18 44 32.5 +1.4**
VRAC Vranov 74.29 336 *eP* **P 18 44 31.8 +0.7**
NKC Novy Kostel 74.39 339 *eP* **P 18 44 33.4 +1.7**
NKC Novy Kostel 74.39 339 *eP* **P 18 44 33.4 +1.7**
JAVC Velka Javorina 74.43 335 *eP* **P 18 44 33.6 +1.6**
VYHS Vyhne 74.47 335 *eP* **P 18 44 33.1 +0.9**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 74.47 335 *eP* **P 18 44 33.1 +0.9**
VRI Vrincioaia 74.53 328⇑*iP* **P 18 44 32.8 +0.2**
VRI Vrincioaia 74.53 328 P **P 18 44 32.8 +0.2**
PLOR Plostina 74.56 328⇑*iP* **P 18 44 32.9 +0.1**
PLOR Plostina 74.56 328 P **P 18 44 32.9 +0.1**
KRUC Moravsky 74.56 336 *eP* **P 18 44 33.0 +0.3**
CFR Carcaliu 74.67 327⇓*iP* **P 18 44 33.0 -0.4**
CFR Carcaliu 74.67 327 P **P 18 44 33.0 -0.4**
PSZ Piszkesteto 74.71 334⇓*iP* **P 18 44 35.2 +1.5**
PSZ Piszkesteto 74.71 334 P **P 18 44 36.0 +2.3**
PSZ pmax pmax
comp=Z,16nm,2.2s
PSZ Piszkesteto 74.71 334 *eP* **P 18 44 33.1 -0.6**
DRGR 74.94 331⇓*iP* **P 18 44 35.6 +0.6**
DRGR 74.94 331 P **P 18 44 35.6 +0.6**
MODS Modra-Piesok 74.98 336 *eP* **P 18 44 36.0 +0.8**
MODS pmax pmax
comp=Z,12nm,1.3s
MODS Modra-Piesok 74.98 336 *eP* **P 18 44 36.0 +0.8**
MLR Muntele Rosu 75.11 329 *eP* **P 18 44 36.2 +0.1**
comp=Z,10nm,1.0s
MLR Muntele Rosu 75.11 329⇓*iP* **P 18 44 37.0 +0.9**
MLR Muntele Rosu 75.11 329 *eP* **P 18 44 36.2 +0.1**
MLR pmax pmax
comp=Z,10.0nm,1.0s
GRF Grafenberg Arr 75.16 340 P **P 18 44 38.7 +2.5**
GRFO Grafenberg 75.16 340 P **P 18 44 38.8 +2.6**
KHC Kasperske Hory 75.17 338 *eP* **P 18 44 37.3 +1.0**
KHC *e* 18 44 50.0
KHC Kasperske Hory 75.17 338 *eP* **P 18 44 37.3 +1.0**
KHC *ep*P **PcP 18 44 50.0 +0.3**
TLB Topalu 75.23 327⇓*iP* **P 18 44 36.6 0.0**
TLB Topalu 75.23 327 P **P 18 44 36.5 0.0**
WET Wettzell 75.32 339 P **P 18 44 39.3 +2.2**
WET pmax pmax
comp=Z,7.0nm,1.2s
WR1 Warramunga Arr 75.37 205 *eP* **P 18 44 37.1 -0.4**
WRA Warramunga Arr 75.37 205 P **P 18 44 37.1 -0.4**

comp=Z,2.6nm,1.1s,baz=20,slow=6.1,SNR=7.4
GERES **GERESS Array B** 75.41 338 *e*P P 18 44 37.1 -0.7
GERES **GERESS Array B** 75.41 338 P P 18 44 38.0 +0.3
GERES **GERESS Array B** 75.41 338 P P 18 44 38.0 +0.3
comp=Z,0.8nm,0.5s,baz=46,slow=3.9,SNR=9.2
VOIR 75.44 329 ⇑*i*P P 18 44 38.9 +1.0
VOIR 75.44 329 P P 18 44 38.9 +1.0
ARR **Arges** 75.63 330 ⇓*i*P P 18 44 40.4 +1.4
CSKK **Cskako** 75.66 335 *e*P P 18 44 44.1 +5.0
CONA **Conrad Observa** 75.75 336 *e*P P 18 44 40.9 +1.3
comp=Z,7.1nm,1.1s,SNR=5.3
SOP **Sopron** 75.80 336 P P 18 44 45.2 +5.3
SOP pmax pmax
comp=Z,13nm,1.3s
SOP **Sopron** 75.80 336 *e*P P 18 44 41.1 +1.2
BAIF **Baives** 76.13 344 *e*P P 18 44 41.7 0.0
BAIF pmax pmax
comp=Z,10.0nm,1.3s
GZR **Gura Zlata** 76.18 331 ⇓*i*P P 18 44 42.7 +0.6
MOA **Molln** 76.21 337 *e*P P 18 44 42.9 +0.7
comp=Z,5.3nm,1.2s
BZS **Buzias** 76.32 332 ⇓*i*P P 18 44 43.1 +0.3
BZS **Buzias** 76.32 332 P P 18 44 43.1 +0.3
ARSA **Arzberg** 76.47 336 *e*P P 18 44 44.0 +0.4
comp=Z,8.0nm,1.2s
SOKA **Soboth** 77.12 336 P P 18 44 47.7 +0.2
comp=Z,5.1nm,0.7s
KBA **Koelnbreinsper** 77.15 338 *e*P P 18 44 49.0 +1.3
comp=Z,19nm,0.9s,SNR=7.6
KBA **Koelnbreinsper** 77.15 338 P P 18 44 50.3 +2.6
KBA pmax pmax
comp=Z,31nm,1.2s
CDF **Champ du Feu** 77.17 342 *e*P P 18 44 47.8 +0.1
CDF pmax pmax
comp=Z,17nm,1.2s
WATA **Walderalm** 77.31 339 *e*P P 18 44 50.3 +1.7
comp=Z,4.1nm,1.0s
WTTA **Wattenberg** 77.37 339 *e*P P 18 44 50.0 +1.1
comp=Z,16nm,1.3s
ECH **Echery** 77.38 342 P P 18 44 50.3 +1.5
ECH pmax pmax
comp=Z,12nm,1.4s
OBKA **Obir** 77.40 337 *e*P P 18 44 50.5 +1.5
comp=Z,17nm,1.5s
MOTA **Moosalm** 77.41 339 *e*P P 18 44 50.4 +1.3
comp=Z,3.2nm,0.8s,SNR=6.3
BR101 **Keskin Array S** 77.44 321 *e*P P 18 44 49.5 +0.1
BR131 **Keskin Array S** 77.44 321 P P 18 44 49.8 +0.4
SNR=8.3
BRTR **Keskin Array B** 77.44 321 P P 18 44 49.5 +0.1
comp=Z,5.2nm,0.9s,baz=46,slow=3.6,SNR=28
BRTR PP PP 18 47 41.8 -1.6
comp=Z,0.6nm,0.9s,baz=25,slow=3.8,SNR=3.4
MYKA **Terra Mystica** 77.50 337 *e*P P 18 44 51.0 +1.5
comp=Z,8.9nm,1.2s
SQTA **Sankt Quirin** 77.50 339 *e*P P 18 44 50.9 +1.3
comp=Z,17nm,1.2s
ABTA **Abfaltersbach** 77.66 338 *e*P P 18 44 51.2 +0.7
comp=Z,16nm,1.2s
DAVA **Damuels** 77.72 340 *e*P P 18 44 52.1 +1.1
comp=Z,7.9nm,1.6s
HAU **Haudompre** 77.74 343 *e*P P 18 44 50.8 0.0
HAU pmax pmax
comp=Z,26nm,1.3s
FETA **Feichten** 77.80 339 *e*P P 18 44 52.3 +0.9
comp=Z,4.6nm,0.8s
FLN **La Foliniere** 78.10 347 *e*P P 18 44 52.4 -0.3
FLN pmax pmax
comp=Z,24nm,1.3s
GRR **Gorron** 78.51 347 *e*P P 18 44 55.0 0.0
GRR pmax pmax
comp=Z,31nm,1.4s
PLD **Plovdiv** 78.54 328 P P 18 44 56.5 +1.2
VTS **Vitosha** 78.55 329 ⇑*i*P P 18 44 55.2 -0.4
SGMF **Saint Gilles** 78.86 349 *e*P P 18 44 57.1 +0.1
SGMF pmax pmax
comp=Z,88nm,1.8s
LOR **Lormes** 78.89 344 *e*P P 18 44 57.2 0.0
LOR pmax pmax
comp=Z,18nm,1.2s
ASAR **Alice Springs** 79.04 205 *e*P P 18 44 58.2 +0.1
ASAR **Alice Springs** 79.04 205 P P 18 44 58.8 +0.6
comp=Z,1.2nm,0.7s,baz=16,slow=5.2,SNR=17
CABF **La Chapelle** 79.13 342 *e*P P 18 44 59.0 +0.4
CABF pmax pmax
comp=Z,8.0nm,0.9s
ALN **Alexandroupoli** 79.18 327 P P 18 45 00.8 +2.0
AVF **Avril sur Loir** 79.44 344 *e*P P 18 45 00.4 +0.3
AVF pmax pmax
comp=Z,21nm,1.3s
SRS **Serrai** 79.79 328 P P 18 45 03.5 +1.3
KNT **Kendrikon** 79.97 329 P P 18 45 04.8 +1.6
LPL **La Plagne** 80.06 342 *e*P P 18 45 04.8 +1.0
LPL pmax pmax
comp=Z,22nm,1.1s
LPG **La Plagne** 80.07 342 *e*P P 18 45 05.0 +1.0
LPG pmax pmax
comp=Z,39nm,1.4s
TCF **Toulx Ste Croi** 80.11 345 *e*P P 18 45 04.1 +0.2
TCF pmax pmax
comp=Z,18nm,1.4s
GRG **Griva** 80.32 329 *e*P P 18 45 06.7 +1.6
SSB **Saint Sauveur** 80.69 343 *e*P P 18 45 09.5 +2.5
SSB pmax pmax
comp=Z,18nm,1.7s
ORIF **Oris-en-Rattie** 80.80 342 *e*P P 18 45 08.6 +1.0
ORIF pmax pmax
comp=Z,10.0nm,0.9s
VIVF **Saint-Julien-l** 81.08 343 *e*P P 18 45 09.9 +0.8
VIVF pmax pmax
comp=Z,17nm,1.3s
CAF **Calviac** 81.46 345 *e*P P 18 45 12.1 +1.0
CAF pmax pmax
comp=Z,24nm,1.2s
MTLF **Montolieu** 82.98 344 *e*P P 18 45 20.1 +1.1
MTLF pmax pmax
comp=Z,6.0nm,1.0s
EPF **Esparros** 83.58 345 *e*P P 18 45 27.5 +5.3
EPF pmax pmax
comp=Z,15nm,1.2s
ETSF **Etsaut** 83.85 346 *e*P P 18 45 24.7 +1.1
ETSF pmax pmax
comp=Z,16nm,1.2s
ESDC **Sonseca Array** 87.49 348 *e*P P 18 45 41.4 -0.3
comp=Z,3.7nm,1.0s
ESDC **Sonseca Array** 87.49 348 P P 18 45 41.9 +0.2
comp=Z,2.0nm,0.9s,baz=5.6,slow=5.1,SNR=11
TORD **Torodi Ar. Bea** 112.36 338 PP PP 18 52 14.2 -0.6
comp=Z,1.3nm,0.9s,baz=16,slow=6.6,SNR=8.9

IDC ***19*** *18:41:09.7±0.5, 52°.27N×160°.12E, h0km, mb4.5/35, mb1 4.6/37, mb1mx4.5/47, mbtmp4.5/37, ML3.8/2, Error ellipse: s-maj=12.4km s-min=10.0km az=146.0*
KRSC ***19*** *18:41:09.7±10.0, 52.05N×160.63E, h55km±10km, ML5.4*
BJI ***19*** *18:41:13.5±0.0, 52°.40N×160°.10E, h44km, mb4.9/54, mB4.9/26, Ms5.4/9, Ms7 5.1/11*
ISCJB ***19*** *18:41:14.0±0.5, 52°.18N±0°.03×160°.34E±0°.04, h45km±3km, mb5.0/154, MS4.9/1, Error ellipse: s-maj=6.1km s-min=3.1km az=139.7*
MOS ***19*** *18:41:14.6±1.1, 52°.23N×160°.21E, h47km, mb5.2/69, Error ellipse: s-maj=6.2km s-min=2.9km az=98.4*
NEIC ***19*** *18:41:14.7±0.4, 52°.18N×160°.23E, h35km, mb5.0/33, Error ellipse: s-maj=9.2km s-min=6.2km az=153.0*
ISC 19 18:41:14.5±0.5, 52°.17N±0°.05×160°.43E±0°.04, h37km±1km, n477,σ1$40/495, mb4.9/154, 25C-12D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.96**	**345**	*e*P	**Pn**	**18 41 30.1**	**-1.3**
SPN				*e*S	**Sn**	**18 41 44.1**	**+0.3**
SPN	**Mys Shipunski**	**0.96**	**345**	PN	**Pn**	**18 41 30.1**	**-1.3**
SPN				S	**Sn**	**18 41 44.1**	**+0.3**
NLC	**Nalytchevo**	**1.20**	**327**	*e*P	**Pn**	**18 41 34.5**	**-0.1**
NLC				*e*S	**Sn**	**18 41 51.4**	**+1.8**
NLC	**Nalytchevo**	**1.20**	**327**	PN	**Pn**	**18 41 34.5**	**-0.1**
NLC				S	**Sn**	**18 41 51.4**	**+1.8**
RUS	**Russkaya**	**1.20**	**283**	*e*P	**Pn**	**18 41 33.9**	**-0.8**
RUS	**Russkaya**	**1.20**	**283**	PN	**Pn**	**18 41 33.9**	**-0.8**
DALK	**Dalny**	**1.33**	**311**	*e*P	**Pn**	**18 41 36.1**	**-0.4**
DALK				*e*S	**Sn**	**18 41 54.8**	**+1.8**
DALK	**Dalny**	**1.33**	**311**	PN	**Pn**	**18 41 36.1**	**-0.4**
DALK				S	**Sn**	**18 41 54.8**	**+1.8**
PET	**Petropavlovsk**	**1.38**	**309**	*e*Pn	**Pn**	**18 41 37.0**	**-0.1**
PET	**Petropavlovsk**	**1.38**	**309**	α *i*PN	**Pn**	**18 41 37.0**	**-0.1**
PET				*e*S	**Sn**	**18 41 56.5**	**+2.5**
PET				pmax	pmax		
	comp=Z,3μm,0.7s						
PET				smax	smax		
	comp=N,15μm,0.6s						
PET				smax	smax		
	comp=E,18μm,0.7s						
PET				smax	smax		
	comp=E,18μm,0.6s						
MTVR	**Mutnovka**	**1.41**	**284**	*e*P	**Pn**	**18 41 37.3**	**-0.4**
MTVR	**Mutnovka**	**1.41**	**284**	PN	**Pn**	**18 41 37.3**	**-0.4**
UGLR	**Uglovaya**	**1.43**	**317**	*e*P	**Pn**	**18 41 37.9**	**0.0**
UGLR	**Uglovaya**	**1.43**	**317**	PN	**Pn**	**18 41 37.9**	**0.0**
SDLR	**Sedlovina**	**1.45**	**320**	*e*P	**Pn**	**18 41 37.9**	**-0.3**
SDLR	**Sedlovina**	**1.45**	**320**	PN	**Pn**	**18 41 37.9**	**-0.3**
SMAR	**Somma**	**1.47**	**319**	*e*P	**Pn**	**18 41 38.3**	**-0.3**
SMAR	**Somma**	**1.47**	**319**	PN	**Pn**	**18 41 38.3**	**-0.3**
GRL	**Gorelyy**	**1.49**	**286**	*e*P	**Pn**	**18 41 39.6**	**+0.8**
GRL	**Gorelyy**	**1.49**	**286**	PN	**Pn**	**18 41 39.6**	**+0.8**
KDTR	**Khodutka, Kamc**	**1.50**	**257**	*e*P	**Pn**	**18 41 37.4**	**-1.3**
KDTR				*e*S	**Sn**	**18 41 56.0**	**-0.9**
KDTR	**Khodutka, Kamc**	**1.50**	**257**	PN	**Pn**	**18 41 37.4**	**-1.3**
KDTR				S	**Sn**	**18 41 56.0**	**-0.9**
AVH	**Avacha**	**1.50**	**318**	*e*P	**Pn**	**18 41 38.9**	**0.0**
AVH	**Avacha**	**1.50**	**318**	PN	**Pn**	**18 41 38.9**	**0.0**
KRER	**Koryakskii**	**1.53**	**319**	*e*P	**Pn**	**18 41 39.7**	**+0.4**
KRER	**Koryakskii**	**1.53**	**319**	PN	**Pn**	**18 41 39.7**	**+0.4**
KRMR	**Karymshinskiy**	**1.55**	**296**	*e*P	**Pn**	**18 41 39.4**	**-0.1**
KRMR				*e*S	**Sn**	**18 42 00.0**	**+1.7**
KRMR	**Karymshinskiy**	**1.55**	**296**	PN	**Pn**	**18 41 39.4**	**-0.1**
KRMR				S	**Sn**	**18 42 00.0**	**+1.7**
KOK	**Koryaka**	**1.56**	**317**	*e*P	**Pn**	**18 41 39.9**	**+0.1**
KOK	**Koryaka**	**1.56**	**317**	PN	**Pn**	**18 41 39.9**	**+0.1**
ASAK	**Asacha**	**1.57**	**279**	*e*P	**Pn**	**18 41 39.7**	**-0.1**
ASAK	**Asacha**	**1.57**	**279**	PN	**Pn**	**18 41 39.7**	**-0.1**
KRX	**Arik**	**1.61**	**318**	*e*P	**Pn**	**18 41 40.4**	**0.0**
KRX	**Arik**	**1.61**	**318**	PN	**Pn**	**18 41 40.4**	**0.0**
PEA0B	**Petropavlovsk-**	**1.91**	**301**	*e*Pn	**Pn**	**18 41 44.8**	**+0.4**
PEA0B	**Petropavlovsk-**	**1.91**	**301**	*e*PN	**Pn**	**18 41 44.8**	**+0.4**
PETK	**Petropavlovsk-**	**1.91**	**301**	Pn	**Pn**	**18 41 44.8**	**+0.4**
	comp=E,60nm,0.3s,baz=111,slow=21,SNR=540						
PETK				Sn	**Sn**	**18 42 13.0**	**+5.8**
	comp=E,464nm,0.3s,baz=86,slow=40,SNR=27						
PEA1	**Petropavlovsk-**	**1.91**	**301**	*e*Pn	**Pn**	**18 41 44.8**	**+0.4**
APC	**Apacha**	**2.13**	**292**	*e*P	**Pn**	**18 41 48.6**	**+1.1**
APC				*e*S	**Sn**	**18 42 16.0**	**+3.3**
APC	**Apacha**	**2.13**	**292**	PN	**Pn**	**18 41 48.6**	**+1.1**
APC				S	**Sn**	**18 42 16.0**	**+3.3**
PAU	**Pauzhetka**	**2.35**	**254**	*e*P	**Pn**	**18 41 49.4**	**-1.1**
PAU	**Pauzhetka**	**2.35**	**254**	PN	**Pn**	**18 41 49.4**	**-1.1**
MKZ	**Mys Kozlova**	**2.51**	**18**	*e*P	**Pn**	**18 41 51.3**	**-1.4**
MKZ				*e*S	**Sn**	**18 42 20.1**	**-1.9**
MKZ	**Mys Kozlova**	**2.51**	**18**	PN	**Pn**	**18 41 51.3**	**-1.4**
MKZ				S	**Sn**	**18 42 20.1**	**-1.9**
KZV	**Kizimen**	**2.95**	**359**	*e*P	**Pn**	**18 41 59.2**	**+0.4**
KZV	**Kizimen**	**2.95**	**359**	PN	**Pn**	**18 41 59.2**	**+0.4**
TUMD	**Tumrok D**	**3.04**	**360**	*e*P	**Pn**	**18 41 59.5**	**-0.4**
SKR	**Severo-Kuril's**	**3.08**	**243**	*e*P	**Pn**	**18 41 59.7**	**-0.8**
SKR				*e*S	**Sn**	**18 42 36.0**	**0.0**
SKR	**Severo-Kuril's**	**3.08**	**243**	*e*PN	**Pn**	**18 41 59.9**	**-0.6**
SKR				*e*S	**Sn**	**18 42 42.0**	**+6.0**
SKR				pmax	pmax		
	comp=Z,560nm,0.9s						
SKR				smax	smax		
	comp=N,4μm,0.7s						
SKR				smax	smax		
	comp=E,2μm,0.7s						
TUMR	**Tumrok**	**3.12**	**357**	PN	**Pn**	**18 41 59.5**	**-1.7**
ALID	**Alaid**	**3.31**	**249**	*e*P	**Pn**	**18 42 03.1**	**-0.7**
ALID	**Alaid**	**3.31**	**249**	PN	**Pn**	**18 42 03.1**	**-0.7**
BZMR	**Bezymyannaya**	**3.77**	**1**	*e*P	**Pn**	**18 42 11.4**	**+1.3**
BZMR	**Bezymyannaya**	**3.77**	**1**	PN	**Pn**	**18 42 11.4**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**3.78**	**2**	*e*P	**Pn**	**18 42 11.3**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**3.78**	**2**	PN	**Pn**	**18 42 11.3**	**+1.1**
BZWR	**Bezymyannyi-We**	**3.80**	**1**	*e*P	**Pn**	**18 42 12.5**	**+2.0**
BZWR	**Bezymyannyi-We**	**3.80**	**1**	PN	**Pn**	**18 42 12.5**	**+2.0**
KPT	**Kopyto**	**3.81**	**358**	*e*P	**Pn**	**18 42 11.9**	**+1.4**
KPT	**Kopyto**	**3.81**	**358**	PN	**Pn**	**18 42 11.9**	**+1.4**
ESO	**Esso**	**3.90**	**346**	*e*P	**Pn**	**18 42 12.8**	**+1.1**
ESO	**Esso**	**3.90**	**346**	PN	**Pn**	**18 42 12.8**	**+1.1**
KOZ	**Kozyrevsk**	**3.91**	**355**	*e*P	**Pn**	**18 42 13.0**	**+1.1**
KOZ	**Kozyrevsk**	**3.91**	**355**	PN	**Pn**	**18 42 13.0**	**+1.1**
LGNR	**Loginova**	**3.92**	**2**	*e*P	**Pn**	**18 42 13.4**	**+1.1**
LGNR	**Loginova**	**3.92**	**2**	PN	**Pn**	**18 42 13.4**	**+1.1**
CIRR	**Tsirk**	**3.96**	**3**	*e*P	**Pn**	**18 42 12.9**	**+0.2**
CIRR	**Tsirk**	**3.96**	**3**	PN	**Pn**	**18 42 12.9**	**+0.2**
KRSR	**Krestovskiy**	**4.05**	**1**	*e*P	**Pn**	**18 42 15.1**	**+1.1**
KRSR	**Krestovskiy**	**4.05**	**1**	PN	**Pn**	**18 42 15.1**	**+1.1**
KLY	**Klyuchi**	**4.15**	**2**	*e*P	**Pn**	**18 42 16.6**	**+1.4**
KLY	**Klyuchi**	**4.15**	**2**	PN	**Pn**	**18 42 16.6**	**+1.4**
SRDR	**Sredinnyy**	**4.17**	**355**	*e*P	**Pn**	**18 42 17.7**	**+2.1**
SRDR	**Sredinnyy**	**4.17**	**355**	PN	**Pn**	**18 42 17.7**	**+2.1**
KBTR	**Krutoberegovo**	**4.28**	**18**	*e*P	**Pn**	**18 42 16.6**	**-0.4**
KBTR	**Krutoberegovo**	**4.28**	**18**	PN	**Pn**	**18 42 16.6**	**-0.4**
KBG	**Krutoberegovo**	**4.30**	**17**	*e*P	**Pn**	**18 42 18.0**	**+0.7**
KBG	**Krutoberegovo**	**4.30**	**17**	PN	**Pn**	**18 42 18.0**	**+0.7**
BDR	**Baidarnaya**	**4.43**	**6**	*e*P	**Pn**	**18 42 20.6**	**+1.5**
BDR	**Baidarnaya**	**4.43**	**6**	PN	**Pn**	**18 42 20.6**	**+1.5**
SMKR	**Semkarok**	**4.46**	**7**	*e*P	**Pn**	**18 42 19.5**	**0.0**
SMKR	**Semkarok**	**4.46**	**7**	PN	**Pn**	**18 42 19.5**	**0.0**
BKI	**Bering**	**4.48**	**45**	*e*P	**Pn**	**18 42 16.5**	**-3.2**
BKI	**Bering**	**4.48**	**45**	PN	**Pn**	**18 42 16.5**	**-3.2**
SRKR	**Sorokina**	**4.51**	**5**	*e*P	**Pn**	**18 42 21.4**	**+1.2**
SRKR	**Sorokina**	**4.51**	**5**	PN	**Pn**	**18 42 21.4**	**+1.2**
PALN	**Palana**	**6.94**	**358**	*e*P	**Pn**	**18 42 55.2**	**+1.8**
PALN	**Palana**	**6.94**	**358**	PN	**Pn**	**18 42 55.2**	**+1.8**
TILK	**Tilichiki**	**8.88**	**19**	*e*P	**Pn**	**18 43 20.0**	**0.0**
TILK	**Tilichiki**	**8.88**	**19**	PN	**Pn**	**18 43 20.0**	**0.0**
MA2	**Magadan**	**9.19**	**328**	*e*Pn	**Pn**	**18 43 25.4**	**+1.3**
MA2	**Magadan**	**9.19**	**328**	*e*PN	**Pn**	**18 43 25.5**	**+1.3**
MA2	**Magadan**	**9.19**	**328**	Pn	**Pn**	**18 43 25.0**	**+0.8**
	comp=E,0.2nm,0.3s,baz=126,slow=9.0,SNR=7.9						
KUR	**Kuril'sk**	**10.81**	**235**	PN	**Pn**	**18 43 49.6**	**+3.1**
KUR				pmax	pmax		
	comp=E,7.0nm,0.9s						
KUR				pmax	pmax		
	comp=Z,25nm,0.9s						
KUR				pmax	pmax		
	comp=N,8.0nm,0.5s						
SEY	**Seymchan**	**11.61**	**341**	Pn	**Pn**	**18 43 58.5**	**+1.2**
	comp=N,0.1nm,0.3s,baz=149,slow=11,SNR=8.3						
NKL	**Nikolayevsk**	**12.03**	**282**	*e*PN	Pn	18 44 13.5	+10
YSS	**Yuzh-Sakhalins**	**12.59**	**253**	*e*PN	**Pn**	**18 44 12.4**	**+1.6**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ASAJ	**Asahikawa**	**14.35**	**243**	Pn	**Pn**	**18 44 34.6**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=77,slow=14,SNR=15						
GRNR	**Gornyy**	**15.01**	**274**	*e*P	**P**	**18 44 46.5**	**-2.1**
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
BILL	**Bilibino**	**16.17**	**8**	*e*Pn	**Pn**	**18 44 59.2**	**+0.6**
	comp=Z,26nm,0.7s						
BILL	**Bilibino**	**16.17**	**8**	*e*P	**Pn**	**18 44 57.2**	**-1.3**
BILL				pmax	pmax		
	comp=Z,29nm,1.0s						
TEY	**Ternei**	**17.25**	**255**	⇓*e*P	**Pn**	**18 45 12.4**	**+0.2**
TEY				pmax	pmax		
	comp=E,40nm,0.9s						
TEY				pmax	pmax		
	comp=N,10.0nm,0.8s						
TEY				pmax	pmax		
	comp=Z,50nm,0.6s						
KLR	**Kul'dur**	**18.35**	**272**	P	**Pn**	**18 45 25.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=57,slow=12,SNR=40						
YAK	**Yakutsk**	**19.21**	**313**	*e*P	**P**	**18 45 31.6**	**-3.2**
YAK				pmax	pmax		
	comp=Z,850nm,0.9s						
YAK				pmax	pmax		
	comp=E,456nm,1.3s						
YAK				pmax	pmax		
	comp=N,224nm,1.1s						
ZEA	**Zeya**	**19.95**	**288**	*e*P	**P**	**18 45 40.6**	**-2.4**
ZEA				pmax	pmax		
	comp=N,12nm,1.0s						
ZEA				pmax	pmax		
	comp=E,18nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,23nm,1.0s						
USRK	**Ussuriysk Ar.**	**20.47**	**258**	P	**P**	**18 45 46.6**	**-2.0**
	comp=Z,35nm,1.0s,baz=58,slow=10,SNR=32						
MDJ	**Mudanjiang**	**21.70**	**262**	P	**P**	**18 46 00.1**	**-1.8**
MDJ				pmax	pmax		
	comp=Z,24nm,0.9s						
MDJ	**Mudanjiang**	**21.70**	**262**	*e*P	**P**	**18 45 59.8**	**-2.1**
	comp=Z,18nm,0.8s						
MJB9	**Matsu-Tunnel**	**22.15**	**234**	*e*P	**P**	**18 46 07.5**	**+0.7**
	comp=Z,84nm,1.0s						
MAJO	**Matsushiro**	**22.15**	**234**	*e*P	**P**	**18 46 07.5**	**+0.6**
	comp=Z,82nm,1.0s						
MAJO	**Matsushiro**	**22.15**	**234**	*e*P	**P**	**18 46 07.5**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,82nm,1.0s						
MAT	**Matsushiro**	**22.15**	**234**	P	**P**	**18 46 06.8**	**0.0**
MJAR	**Matsushiro Arr**	**22.15**	**234**	P	**P**	**18 46 06.9**	**0.0**
	comp=Z,27nm,1.0s,baz=24,slow=9.4,SNR=66						
TIXI	**Tiksi**	**24.01**	**336**	*e*P	**P**	**18 46 24.0**	**-1.2**
TIXI	**Tiksi**	**24.01**	**336**	P	**P**	**18 46 23.9**	**-1.2**
	comp=Z,35nm,0.8s,baz=128,slow=8.8,SNR=157						
CN2	**Changchun**	**24.66**	**264**	⇓P	**P**	**18 46 28.9**	**-2.6**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
HIA	**Hailar**	**25.68**	**280**	*e*P	**P**	**18 46 38.7**	**-2.0**
	comp=Z,43nm,0.8s						
HIA	**Hailar**	**25.68**	**280**	*e*P	**P**	**18 46 38.7**	**-2.0**
HIA				pmax	pmax		
	comp=Z,43nm,0.8s						
BOD	**Bodaibo**	**26.78**	**301**	*e*P	**P**	**18 46 48.3**	**-2.2**
BOD				pmax	pmax		
	comp=Z,16nm,1.5s						
SNY	**Shenyang**	**26.90**	**262**	⇑P	**P**	**18 46 52.9**	**+1.2**
KSRS	**Korea Array**	**27.07**	**250**	P	**P**	**18 46 53.2**	**0.0**
	comp=Z,8.9nm,0.9s,baz=43,slow=9.1,SNR=26						
KDAK	**Kodiak Island**	**27.09**	**59**	*e*P	**P**	**18 46 54.9**	**+1.6**
	comp=Z,39nm,1.4s						
KDAK	**Kodiak Island**	**27.09**	**59**	*e*P	**P**	**18 46 54.9**	**+1.6**
KDAK				pmax	pmax		
	comp=Z,39nm,1.4s						
KDAK	**Kodiak Island**	**27.09**	**59**	P	**P**	**18 46 54.9**	**+1.6**
	comp=Z,3.7nm,0.8s,baz=247,slow=3.2,SNR=3.5						
KS15	**Wonju Array Si**	**27.10**	**250**	*e*P	**P**	**18 46 53.2**	**-0.3**
	comp=Z,9.3nm,1.1s						
MLY	**Manley**	**27.70**	**43**	*e*P	**P**	**18 47 05.3**	**+6.6**
	comp=Z,46nm,0.4s						
JNU	**Nakatsue**	**28.59**	**240**	P	**P**	**18 47 07.5**	**+0.5**
	comp=Z,22nm,0.8s,baz=23,slow=8.5,SNR=10						
ILAR	**Eielson Array**	**29.33**	**44**	*e*P	**P**	**18 47 14.2**	**+1.0**
ILAR	**Eielson Array**	**29.33**	**44**	*e*P	**P**	**18 47 14.2**	**+1.0**
ILB	**Eielson Array**	**29.33**	**44**	*e*P	**P**	**18 47 15.8**	**+2.6**
	comp=Z,64nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**32.77**	**169**	T	T	19 22 26.7	
	baz=356						
H11N3	**WAKE ISLAND Hy**	**32.78**	**169**	T	T	19 22 30.4	
	baz=356						
H11N1	**WAKE ISLAND Hy**	**32.78**	**169**	T	T	19 22 30.3	
	baz=356						
H11S1	**WAKE ISLAND Hy**	**33.95**	**169**	T	T	19 23 59.2	
	baz=356						
H11S3	**WAKE ISLAND Hy**	**33.96**	**169**	T	T	19 24 03.2	
	baz=356						
H11S2	**WAKE ISLAND Hy**	**33.97**	**169**	T	T	19 23 59.2	
	baz=356						
TLY	**Talaya**	**34.25**	**292**	P	**P**	**18 47 56.1**	**-0.4**
	SNR=5.6						
SONA0	**Songino Array**	**34.32**	**285**	*e*P	**P**	**18 47 55.8**	**-1.5**
SONM	**Songino Array**	**34.32**	**285**	P	**P**	**18 47 55.8**	**-1.5**
	comp=Z,3.3nm,0.8s,baz=71,slow=6.7,SNR=17						
INK	**Inuvik**	**34.48**	**37**	P	**P**	**18 47 58.8**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=267,slow=9.0,SNR=8.5						
HHC	**Hu-ho-hao-te**	**34.85**	**271**	*e*P	**P**	**18 48 01.9**	**0.0**
HHC				S	**S**	**18 53 31.8**	**+1.6**
HHC				SS	**SnSn**	**18 55 34.9**	**-11**
HHC				pmax	pmax		
	comp=Z,110nm,0.8s						
HHC				pmax	pmax		
	comp=Z,340nm,4.4s						
HHC				LR	LR		
	comp=Z,1μm,12.3s						
HHC				LR	LR		
	comp=Z,890nm,11.7s						
HHC				LR	LR		
	comp=Z,1μm,12.4s						
ZAK	**Zakamensk**	**35.00**	**290**	*e*P	**P**	**18 48 01.1**	**-2.0**
ZAK				pmax	pmax		
	comp=Z,14nm,1.0s						
MOY	**Mondy**	**35.76**	**293**	*e*P	**P**	**18 48 08.0**	**-1.6**
MOY				pmax	pmax		
	comp=Z,18nm,1.3s						
NJ2	**Nanjing**	**36.16**	**253**	*e*P	**P**	**18 48 12.9**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,2μm,15.2s						
NJ2				LR	LR		
	comp=Z,630nm,15.7s						
NJ2				LR	LR		
	comp=Z,1μm,16.8s						
NRIK	**Noril'sk**	**36.78**	**325**	P	**P**	**18 48 16.9**	**-1.0**
	comp=Z,6.4nm,0.6s,baz=92,slow=8.8,SNR=12						
DLBC	**Dease Lake**	**38.44**	**52**	P	**P**	**18 48 33.6**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=310,slow=12,SNR=3.6						
WHN	**Wuhan**	**39.92**	**256**	⇑*i*P	**P**	**18 48 46.0**	**+1.3**
WHN				pmax	pmax		
	comp=Z,36nm,0.7s						
LZH	**Lanzhou**	**42.54**	**271**	*e*P	**P**	**18 49 06.3**	**-0.2**
LZH				pP	pP	18 49 16.4	-0.1
LZH				sP	sP	18 49 20.9	+0.6
LZH				pmax	pmax		
	comp=Z,35nm,1.2s						
GTA	**Gaotai**	**42.92**	**278**	P	**P**	**18 49 08.3**	**-1.2**
GTA				pP	pP	18 49 18.9	-0.6
GTA				sP	sP	18 49 23.6	+0.3
GTA				PcP	**PcP**	**18 50 59.3**	**-0.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,32nm,5.4s						
GTA				LR	LR		
	comp=Z,4μm,18.4s						
GTA				LR	LR		
	comp=Z,4μm,16.8s						
GTA				LR	LR		
	comp=Z,4μm,18.4s						
ENH	**Enshi**	**43.04**	**260**	*e*P	**P**	**18 49 09.3**	**-1.0**
	com

comp=Z,610nm,18.0s
GYA LR LR

KBS Kingsbay 47.82 352 *e*P P 18 49 48.5 +0.9
SPA0 Spitsbergen Ar 48.08 351 *e*P P 18 49 49.9 +0.2
comp=Z,61nm,1.0s
SPA0 Spitsbergen Ar 48.08 351 *e*P P 18 49 49.9 +0.2
SPITS Spitsbergen Ar 48.08 351 P P 18 49 49.7 +0.1
SPITS pmax pmax
comp=Z,5.0nm,0.4s
KURK Kurchatov 48.40 303 *e*P P 18 49 50.1 -2.3
comp=Z,44nm,1.0s
KURK Kurchatov 48.40 303 *e*P P 18 49 50.1 -2.3
KURK pmax pmax
comp=Z,44nm,1.0s
KURK Kurchatov 48.40 303 P P 18 49 50.3 -2.1
SNR=15
HOPEN Hopen 48.48 347 *e*P P 18 49 53.5 +0.8
MK31 Makanchi Array 48.74 297 *e*P P 18 49 52.9 -2.3
comp=Z,5.7nm,0.8s
MK31 Makanchi Array 48.74 297 *e*P P 18 49 52.9 -2.3
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 48.74 297 P P 18 49 53.2 -2.0
comp=Z,5.0nm,0.6s,baz=56,slow=7.0,SNR=60
MAKZ Makanchi 48.91 297 *e*P P 18 49 53.9 -2.5
comp=Z,13nm,0.9s
MAKZ Makanchi 48.91 297 *e*P P 18 49 53.9 -2.5
MAKZ pmax pmax
comp=Z,13nm,0.9s
HSPB Hornsund (broa 49.20 350 *e*P P 18 49 58.6 +0.4
TGY Tagaytay City 49.31 234 P P 18 49 59.4 -0.5
comp=Z,299nm,0.5s,baz=105,slow=3.7,SNR=5.4
KMI Kunming 50.87 261 P P 18 50 14.4 +2.6
KMI pP sP 18 50 24.3 -1.4
KMI pmax pmax
comp=Z,15nm,0.6s
YBH Yreka Blue Hor 51.15 69 P P 18 50 15.5 +1.9
comp=Z,1.9nm,1.0s,baz=287,slow=12,SNR=2.2
BRVK Borovoye 51.16 309 *e*P P 18 50 11.5 -1.8
comp=Z,23nm,0.8s
BRVK Borovoye 51.16 309 *e*P P 18 50 11.5 -1.8
BRVK pmax pmax
comp=Z,23nm,0.8s
BRVK Borovoye 51.16 309 P P 18 50 12.0 -1.3
SNR=9.9
DAG Danmarks Havn 51.33 360 P P 18 50 15.1 +0.8
DAG pmax pmax
comp=Z,12nm,1.0s
PDGK Podgornoye 52.45 295 P P 18 50 21.8 -1.5
PDGK pmax pmax
comp=Z,14nm,1.0s
OTUK Ortayu 53.15 303 P P 18 50 26.8 -1.5
OTUK pmax pmax
comp=Z,17nm,1.0s
HAMF Hammerfest 53.62 344 *e*P P 18 50 31.7 +0.5
FCC Fort Churchill 54.08 38 *e*P P 18 50 35.5 +0.7
comp=Z,7.4nm,0.9s
FCC Fort Churchill 54.08 38 *e*P P 18 50 35.5 +0.7
FCC pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 54.22 318 *e*P P 18 50 33.9 -2.0
comp=Z,12nm,0.7s
ARU Arti 54.22 318 *e*P P 18 50 33.9 -2.0
ARU pmax pmax
comp=Z,12nm,0.7s
ARA0 ARCESS Array S 54.23 342 *e*P P 18 50 35.3 -0.5
ARCES ARCESS Array B 54.23 342 P P 18 50 35.3 -0.5
comp=Z,21nm,1.0s,baz=34,slow=8.8,SNR=19
ARE0 ARCESS Array S 54.23 342 *e*P P 18 50 35.6 -0.3
LSA Lhasa 54.69 274 *e*P P 18 50 40.6 +0.3
comp=Z,9.4nm,0.8s
LSA Lhasa 54.69 274 *e*P P 18 50 40.6 +0.3
LSA pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 54.85 7 *e*P P 18 50 41.3 +0.5
comp=Z,22nm,0.9s
SUMG Summit 54.85 7 *e*P P 18 50 41.3 +0.5
SUMG pmax pmax
comp=Z,22nm,0.9s
KTK1 Kautokeino 55.10 343 *e*P P 18 50 42.0 -0.1
TRO Tromso 55.30 345 *e*P P 18 50 44.3 +0.8
PRGR Permogore 55.33 328 *e*P P 18 50 42.0 -1.8
PRGR pmax pmax
comp=Z,28nm,0.8s
AAK Ala-Archa 55.67 297 P P 18 50 45.7 -1.2
SNR=7.5
AAK Ala-Archa 55.67 297 P P 18 50 45.5 -1.3
comp=Z,12nm,0.9s
SGF Sodankyl 55.80 340 P P 18 50 47.8 +0.7
SGF pmax pmax
comp=Z,32nm,1.3s
PANO Nakornpanom 55.83 253 P P 18 50 50.2 +2.2
comp=Z,0.6nm,1.2s
NVAR Mina Array Bea 55.87 70 *e*P P 18 50 50.5 +2.1
NVAR Mina Array Bea 55.87 70 P P 18 50 50.3 +2.0
comp=Z,0.4nm,0.3s,baz=286,slow=6.9,SNR=4.2
SKNT Sakolnakorn 56.33 253 P P 18 50 52.9 +1.3
comp=Z,35nm,0.9s
MSF Maaselka 56.54 338 P P 18 50 52.6 +0.1
MSF pmax pmax
comp=Z,79nm,1.1s
PAYA Payao 56.95 259 P P 18 50 57.4 +1.4
comp=Z,36μm,0.8s,comp=Z,337μm
KSH Kashi 56.95 293 P P 18 50 58.8 +2.9
KSH pP sP 18 51 10.3 -0.2
KSH PP **PP 18 53 05.9 +3.5**
KSH S **S 18 58 46.8 -0.6**
KSH pmax pmax
comp=Z,18nm,0.9s
KSH pmax pmax
comp=Z,220nm,4.7s
PHRA Phrae 57.39 258 P P 18 51 00.4 +1.3
comp=Z,4.6nm,1.2s
STEI Steigen 57.43 345 *e*P P 18 50 59.3 +0.6
LOF Lofoten 57.51 346 *e*P P 18 50 59.4 +0.1
KKAR Karatay Array 57.51 300 *e*P P 18 50 58.0 -1.8
comp=Z,9.4nm,0.9s
KKAR Karatay Array 57.51 300 *e*P P 18 50 58.0 -1.8
KKAR pmax pmax
comp=Z,9.0nm,0.9s
KHON Khomkaen 57.52 254 P P 18 51 02.1 +2.1
comp=Z,36μm,1.1s
LAMP Lampang 57.73 258 P P 18 51 02.8 +1.3
comp=Z,98μm,0.9s,comp=Z,337μm
UTTA Uttaradit 57.77 257 P P 18 51 03.1 +1.3
comp=Z,37μm,0.9s,comp=Z,270μm
PD31 Pinedale Array 57.80 60 *e*P P 18 51 04.1 +2.0
comp=Z,4.8nm,1.0s
PDAR Pinedale Array 57.80 60 P P 18 51 04.0 +2.0
comp=Z,1.4nm,0.7s,baz=311,slow=2.8,SNR=12
KLMR Klimovskoe 57.85 330⇑*i*P P 18 51 01.2 -0.6
KLMR pmax pmax
comp=Z,32nm,0.9s
CMMT Chiang Mai 57.92 259 P P 18 51 03.5 +0.6
comp=Z,14nm,1.0s
CHTO Chiang Mai 57.92 259 *e*P P 18 51 03.6 +0.7
comp=Z,20nm,0.9s
CHTO Chiang Mai 57.92 259 *e*P P 18 51 03.6 +0.7
CHTO pmax pmax
comp=Z,20nm,0.9s
CHTO Chiang Mai 57.92 259 P P 18 51 03.8 +1.0
SNR=5.1
OUL Oulu 57.95 339 P P 18 51 02.2 -0.2
OUL pmax pmax
comp=Z,47nm,1.1s
CM31 Chiang Mai Arr 58.20 259 *e*P P 18 51 05.8 +1.0
comp=Z,17nm,0.9s
CM31 Chiang Mai Arr 58.20 259 P P 18 51 06.1 +1.4
SNR=6.3
CMAR Chiang Mai Arr 58.20 259 P P 18 51 05.8 +1.0
comp=Z,10nm,0.8s,baz=25,slow=7.1,SNR=88
CHAI Chaiyaphum 58.35 254 P P 18 51 07.0 +1.1
comp=Z,24μm,0.9s,comp=Z,270μm
PBKT Sadao Pong 58.44 256 P P 18 51 07.8 +1.4
comp=Z,6.2nm,1.2s
JOF Joensuu 58.49 335 P P 18 51 06.0 -0.2
JOF pmax pmax
comp=Z,41nm,1.0s
KONS Konsvik 59.08 345 *e*P P 18 51 10.9 +0.7
MOR8 Moi Rana 59.17 345 *e*P P 18 51 09.9 -1.1
JIRN Jiri 59.19 276 *e*P P 18 51 11.2 -0.8
comp=Z,42nm,0.8s
ULM Lac du Bonnet 59.31 46 P P 18 51 14.0 +1.9
ULM Lac du Bonnet 59.31 46 P P 18 51 14.0 +1.9
comp=Z,2.0nm,0.5s,baz=316,slow=6.2,SNR=3.1

RAMN Ramite 59.45 275 *e*P P 18 51 12.9 -0.8
comp=Z,62nm,0.7s
KKN Kakani 59.65 277 *e*P P 18 51 14.4 -0.6
comp=Z,36nm,0.7s
PKI Pulchoki 59.73 277 *e*P P 18 51 14.8 -0.9
comp=Z,31nm,0.7s
PKIN Phulchoki 59.73 277 *e*P P 18 51 14.8 -0.9
comp=Z,24nm,0.7s
RSSD Black Hills 59.75 56 *e*P P 18 51 17.3 +1.8
comp=Z,8.6nm,0.8s
RSSD Black Hills 59.75 56 *e*P P 18 51 17.3 +1.8
RSSD pmax pmax
comp=Z,9.0nm,0.8s
RSSD Black Hills 59.75 56 P P 18 51 17.2 +1.7
baz=315
DMN Daman 59.89 277 *e*P P 18 51 16.2 -0.5
comp=Z,51nm,0.7s
GKN Gorkha 59.89 278 *e*P P 18 51 15.8 -0.8
comp=Z,46nm,0.7s
SUF Sumiainen 59.93 338 P P 18 51 16.3 +0.2
SUF pmax pmax
comp=Z,71nm,1.1s
UMPA Umpang Tak 59.98 257 P P 18 51 20.2 +3.0
comp=Z,52μm,0.9s,comp=Z,405μm
DANN Dangsing 60.17 279 *e*P P 18 51 18.1 -0.6
comp=Z,61nm,0.7s
VAF Ylistaro 60.43 339 P P 18 51 20.1 +0.5
VAF pmax pmax
comp=Z,51nm,1.4s
KOLN Koldanda 60.69 278 *e*P P 18 51 21.2 -1.0
comp=Z,34nm,0.7s
PYUN Piuthan 60.82 279 *e*P P 18 51 21.8 -1.3
comp=Z,52nm,0.8s
FINES FINESS Array B 61.05 337 P P 18 51 23.7 -0.1
comp=Z,19nm,0.7s,baz=33,slow=7.7,SNR=94
NSS Namsos 61.09 345 *e*P P 18 51 24.7 +0.7
PHET Kaeng Krachan 62.10 254 P P 18 51 33.9 +2.4
comp=Z,66μm,0.8s
MOS Moscow 62.55 328 *e*P P 18 51 32.4 -1.5
MOS pmax pmax
comp=Z,43nm,1.2s
NIL Nilore 62.62 290 *e*P P 18 51 34.2 -0.7
comp=Z,29nm,0.8s
NIL Nilore 62.62 290 *e*P P 18 51 34.2 -0.7
NIL pmax pmax
comp=Z,29nm,0.8s
Q24A Divide 62.85 61 P P 18 51 34.9 -1.8
baz=317
MOL Molde 63.61 346 *e*P P 18 51 41.7 +0.8
DOMB Dombas 63.89 345 *e*P P 18 51 42.7 -0.1
AKN Aaknes 64.07 347 *e*P P 18 51 43.8 -0.2
F38A Pierce - Schro 64.28 48 P P 18 51 46.6 +1.0
baz=320
NC303 NORSAR Array S 64.28 344 *e*P P 18 51 45.0 -0.4
comp=Z,15nm,0.8s
NC405 NORSAR Array S 64.33 344 *e*P P 18 51 45.5 -0.2
comp=Z,20nm,0.8s
NC204 NORSAR Array S 64.34 344 *e*P P 18 51 45.7 -0.1
comp=Z,28nm,0.8s
NB2 NORSAR Subarra 64.48 344 P P 18 51 46.5 -0.2
comp=Z,15nm,0.9s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.48 344 P P 18 51 43.2 -3.6
NB2 pmax pmax
comp=Z,15nm,1.0s
NOA NORSAR Array B 64.48 344 P P 18 51 46.5 -0.2
comp=Z,9.8nm,0.8s,baz=21,slow=6.6,SNR=44
LPSR Galich'ya Gora 64.66 325 *e*P P 18 51 46.4 -1.5
LPSR pmax pmax
comp=Z,20nm,0.8s
NORES NORESS Array B 64.72 344 P P 18 51 48.2 0.0
NORES pmax pmax
comp=Z,3.0nm,0.5s
NC602 NORSAR Array S 64.72 344 *e*P P 18 51 48.9 +0.7
VRH Novokhopyorsk 64.77 322 *e*P P 18 51 46.7 -2.0
VRH pmax pmax
comp=Z,10.0nm,0.6s
HYA Hoyanger 65.15 347 *e*P P 18 51 51.5 +0.5
SKAR Skarslia 65.30 345 *e*P P 18 51 52.4 +0.3
VSR Storozhevoye 65.70 324 *e*P P 18 51 52.8 -1.9
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 65.86 324 *e*P P 18 51 54.6 -1.1
VORD pmax pmax
comp=Z,20nm,1.1s
BER Bergen 66.03 347 *e*P P 18 51 57.5 +0.9
KONO Kongsberg 66.07 344 *e*P P 18 51 56.1 -0.9
SCHQ Schefferville 66.37 28 P P 18 51 59.2 +0.2
comp=Z,5.8nm,0.6s,baz=0.2,slow=7.8,SNR=4.0
K39A Oelwein 66.77 50 P P 18 52 00.2 -1.5
baz=321
BLS5 Blasjo 66.78 346 *e*P P 18 52 02.2 +0.6
KMY Karmoy 67.17 346 *e*P P 18 52 04.8 +0.9
JFWS Jewell Farm 67.37 49 P P 18 52 02.9 -2.6
baz=321
HOMB Homborsund 67.56 344 *e*P P 18 52 07.2 +0.8
D48A Paudash Townsh 67.65 41 P P 18 52 06.8 -0.5
baz=324
GEYT Alibeck 67.76 303 *e*P P 18 52 07.3 -0.9
GEYT Alibeck 67.76 303 P P 18 52 07.5 -0.7
comp=Z,8.0nm,0.7s,baz=15,slow=6.2,SNR=20
LSQG Lebel-sur-Quev 67.97 37 P P 18 52 08.2 -1.0
baz=326
CHGQ Chibougamau 68.19 35 P P 18 52 10.9 +0.3
baz=328
WMOK Wichita Mounta 69.40 60 P P 18 52 19.9 +1.5
baz=320
AKASG Malin Array Be 69.51 329 P P 18 52 18.0 -0.7
comp=Z,8.5nm,0.7s,baz=31,slow=6.4,SNR=39
KIV Kislovodsk 70.25 317 *e*P P 18 52 23.4 -0.2
KIV pmax pmax
comp=Z,16nm,0.9s
BASO Ashfield 70.27 43 P P 18 52 23.9 +0.3
baz=325
KBZ Khabaz 70.35 317 P P 18 52 24.4 +0.5
comp=Z,9.1nm,0.8s,baz=57,slow=4.3,SNR=27
G53A Haliburton 70.60 40 P P 18 52 25.3 -0.3
baz=326
ZEI Tsey 70.69 316 *e*P P 18 52 18.3 -8.1
ZEI pmax pmax
comp=Z,5.0nm,0.6s
S41A Jillco Farms, 70.81 53 P P 18 52 28.1 +1.1
baz=322
LTX Lajitas 70.81 67 *e*P P 18 52 28.9 +1.6
LTX Lajitas 70.81 67 *e*P P 18 52 28.9 +1.6
TXAR Lajitas Array 70.81 67 P P 18 52 28.9 +1.6
comp=Z,1.4nm,0.6s,baz=300,slow=4.7,SNR=18
U40A Yellville 71.22 55 P P 18 52 30.1 +0.6
baz=322
L50A Kingsville 71.39 45 P P 18 52 31.1 +0.7
baz=325
HYB Hyderabad 71.49 275⇑*i*P P 18 52 31.0 -0.4
comp=Z,38nm,0.8s
AKH Akhalkalaki 71.98 315⇓*i*P P 18 52 35.3 +1.1
EKA Eskdalemuir Ar 72.00 350 P P 18 52 32.5 -1.3
EKA pmax pmax
comp=Z,4.0nm,0.6s
KWP Kalwaria Pacla 72.41 333 P P 18 52 37.0 +0.6
W41B Gary Mavity, V 72.45 55 P P 18 52 37.9 +1.1
baz=322
P49A Miami Univ. Ec 72.59 47 P P 18 52 38.2 +0.6
baz=324
OJC Ojcow 72.67 335 P P 18 52 38.5 +0.6
M53A Wl Miller and 72.80 44 P P 18 52 39.7 +0.8
baz=326
K55A Perry 72.81 41 P P 18 52 39.6 +0.7
baz=327
KIS Kishinev 72.88 328 *e*P P 18 52 38.0 -1.2
KIS Kishinev 72.88 328 *e*P P 18 52 38.0 -1.2
KIS *e* 18 52 49.0
KSP Ksiaz 72.97 337 P P 18 52 40.3 +0.6
KOLS Kolonicke sedl 73.16 333 *e*P P 18 52 41.3 +0.4
KOLS pmax pmax
comp=Z,9.0nm,1.0s
KOLS Kolonicke sedl 73.16 333 *e*P P 18 52 41.3 +0.4
M54A Oil Creek Stat 73.17 43 P P 18 52 42.0 +0.9
baz=326
N53A Lisbon 73.25 44 P P 18 52 42.5 +0.9
baz=326
CLL Collm 73.29 339 *e*P P 18 52 42.0 +0.5
CLL pmax pmax
comp=Z,16nm,0.9s
CLL Collm 73.29 339 *e*P P 18 52 42.0 +0.5
comp=Z,16nm,0.9s
CLL *e* 18 52 48.0
UPC Upice 73.35 337 *e*P P 18 52 42.7 +0.8
UPC Upice 73.35 337 *e*P P 18 52 42.7 +0.8

PRAR RASCA 73.39 329⇑*i*P P 18 52 44.4 +2.2
O52A Adamsville 73.39 45 *e*P P 18 52 43.8 +1.4
comp=Z,17nm,1.1s
O52A Adamsville 73.39 45 P P 18 52 43.4 +1.0
baz=326
DPC Dobruska-Polom 73.42 337 *e*P P 18 52 43.2 +0.8
DPC Dobruska-Polom 73.42 337 *e*P P 18 52 43.2 +0.8
DPC *ex* x 18 52 50.1
UZH Uzhgorod 73.43 332 *e*P P 18 52 42.4 0.0
UZH *e* 18 52 54.3
OKC Ostrava-Krasne 73.44 336 *e*P P 18 52 42.9 +0.4
OKC Ostrava-Krasne 73.44 336 *e*P P 18 52 42.9 +0.4
OKC *ex* x 18 52 49.6
BURAR Bucovina Array 73.47 330⇑*i*P P 18 52 42.8 -0.1
BURAR Bucovina Array 73.47 330 P P 18 52 42.7 -0.1
N54A Moraine State 73.49 43 P P 18 52 43.6 +0.7
baz=326
BRG Berggiesshubel 73.49 339 *e*P P 18 52 42.9 +0.1
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 73.49 339 *e*P P 18 52 42.9 +0.1
O53A New Philadelph 73.55 45 P P 18 52 43.7 +0.3
baz=326
M55A Ridgway 73.58 42 P P 18 52 44.2 +0.7
baz=327
MORC Moravsky Berou 73.65 336⇑*i*P P 18 52 44.5 +0.7
MORC Moravsky Berou 73.65 336 P P 18 52 44.4 +0.7
MORC Moravsky Berou 73.65 336 *e*P P 18 52 44.2 +0.4
PVCC Panska Ves 73.67 338 *e*P P 18 52 44.7 +0.9
PVCC Panska Ves 73.67 338 *e*P P 18 52 44.7 +0.9
LANS Liptovska Anna 73.73 334 *e*P P 18 52 46.1 +1.8
LANS Liptovska Anna 73.73 334 *e*P P 18 52 46.0 +1.8
BIZ Bicaz 73.80 329⇓*i*P P 18 52 45.1 +0.4
TRPA Tarpa 73.81 332⇓*i*P P 18 52 45.3 +0.7
TESR Tescani 74.01 329⇑*i*P P 18 52 45.9 0.0
N55A Marion Center 74.06 43 P P 18 52 46.5 +0.2
baz=327
Q52A Bidwell 74.15 46 P P 18 52 48.0 +1.2
baz=326
PRU Pruhonice 74.18 338 *e*P P 18 52 47.3 +0.5
PRU Pruhonice 74.18 338 *e*P P 18 52 47.3 +0.5
GOPC GO Pecny, Ondr 74.19 338 *e*P P 18 52 47.0 +0.1
GOPC GO Pecny, Ondr 74.19 338 *e*P P 18 52 47.0 +0.1
ARCR ARCALIA 74.21 330⇑*i*P P 18 52 47.7 +0.6
VRAC Vranov 74.32 336⇓*i*P P 18 52 48.8 +1.1
VRAC Vranov 74.32 336 P P 18 52 48.8 +1.1
VRAC Vranov 74.32 336 *e*P P 18 52 48.2 +0.5
O55A Ligonier 74.40 43 P P 18 52 48.1 -0.2
baz=327
P54A Burton 74.41 44 P P 18 52 48.8 +0.5
baz=326
NKC Novy Kostel 74.42 339 *e*P P 18 52 48.7 +0.5
NKC Novy Kostel 74.42 339 *e*P P 18 52 48.7 +0.5
JAVC Velka Javorina 74.47 335 *e*P P 18 52 50.1 +1.5
TLCR 74.47 327⇑*i*P P 18 52 48.5 -0.1
TLCR 74.47 327 P P 18 52 48.4 -0.1
VYHS Vyhne 74.50 335 *e*P P 18 52 49.4 +0.7
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 74.50 335 *e*P P 18 52 49.4 +0.7
ODBI Odobesti 74.54 328⇑*i*P P 18 52 50.1 +1.1
Q53A Leroy 74.56 46 P P 18 52 50.1 +0.8
baz=326
PLOR Plostina 74.59 328⇑*i*P P 18 52 49.2 -0.1
PLOR Plostina 74.59 328 P P 18 52 49.2 -0.1
KRUC Moravsky 74.60 336 *e*P P 18 52 49.7 +0.4
SSPA Standing Stone 74.64 42 P P 18 52 50.2 +0.5
baz=327
O56A Blue Knob Stat 74.66 43 P P 18 52 50.0 +0.2
baz=327
CFR Carcaliu 74.70 327⇑*i*P P 18 52 49.7 -0.2
CFR Carcaliu 74.70 327 P P 18 52 49.6 -0.3
PSZ Piszkesteto 74.74 334⇑*i*P P 18 52 51.0 +0.8
PSZ Piszkesteto 74.74 334 P P 18 52 51.0 +0.8
P55A Reedsville 74.76 44 P P 18 52 50.9 +0.5
baz=327
BISRR Bisoca 74.84 328⇑*i*P P 18 52 50.0 -0.8
SMOL Smolenice 74.85 336 *e*P P 18 52 52.6 +1.9
SMOL Smolenice 74.85 336 *e*P P 18 52 52.6 +1.9
DOPR Dopca 74.89 329⇑*i*P P 18 52 52.2 +1.2
DRGR 74.97 331⇑*i*P P 18 52 51.5 0.0
DRGR 74.97 331 P P 18 52 51.5 0.0
MODS Modra-Piesok 75.02 336 *e*P P 18 52 52.1 +0.4
MODS pmax pmax
comp=Z,9.0nm,0.9s
MODS Modra-Piesok 75.02 336 *e*P P 18 52 52.1 +0.4
MLR Muntele Rosu 75.14 329⇑*i*P P 18 52 53.4 +0.8
MLR Muntele Rosu 75.14 329 P P 18 52 53.4 +0.8
KHC Kasperske Hory 75.20 338 *e*P P 18 52 53.7 +0.9
KHC *e* 18 53 15.0
KHC Kasperske Hory 75.20 338 *e*P P 18 52 53.7 +0.9
KHC *ex* x 18 53 15.0
TLB Topalu 75.25 327⇓*i*P P 18 52 53.3 +0.2
TLB Topalu 75.25 327 P P 18 52 53.3 +0.2
WR1 Warramunga Arr 75.33 205 *e*P P 18 52 53.8 +0.1
WRA Warramunga Arr 75.33 205 P P 18 52 53.8 +0.1
comp=Z,2.1nm,0.9s,baz=0.0,slow=4.8,SNR=9.0
R54A Victor 75.36 46 P P 18 52 54.7 +0.8
baz=326
GERES GERESS Array B 75.44 338 P P 18 52 53.9 -0.4
comp=Z,2.7nm,0.8s,baz=46,slow=3.9,SNR=17
VOIR 75.47 329⇓*i*P P 18 52 55.4 +0.9
VOIR 75.47 329 P P 18 52 55.3 +0.8
MFTR Murfatlar 75.49 326⇓*i*P P 18 52 55.1 +0.7
ARR Arges 75.67 330⇑*i*P P 18 52 56.5 +0.9
ICOR Ion Corvin 75.75 327⇑*i*P P 18 52 56.5 +0.6
SULR 75.76 328⇓*i*P P 18 52 56.6 +0.6
CONA Conrad Observa 75.78 336 *e*P P 18 52 57.2 +1.0
comp=Z,5.8nm,0.9s,SNR=6.0
SOP Sopron 75.84 336 P P 18 52 58.4 +2.0
GIVF Givet 76.02 344 *e*P P 18 52 57.3 -0.1
GIVF pmax pmax
comp=Z,10.0nm,0.8s
T54A Tazewell 76.03 47 P P 18 52 58.5 +0.7
baz=326
P59A Jarrettsville 76.10 42 P P 18 52 58.7 +0.7
baz=328
BAIF Baives 76.17 344 *e*P P 18 52 58.3 +0.1
BAIF pmax pmax
comp=Z,8.0nm,0.9s
GZR Gura Zlata 76.21 331⇑*i*P P 18 52 58.5 -0.2
MOA Molln 76.25 337 *e*P P 18 52 59.3 +0.6
comp=Z,5.2nm,0.8s
BZS Buzias 76.35 332⇓*i*P P 18 52 59.6 +0.2
BZS Buzias 76.35 332 P P 18 52 59.6 +0.2
ARSA Arzberg 76.50 336 *e*P P 18 53 00.2 0.0
comp=Z,7.5nm,1.0s
R58A Rapidan 76.55 44 P P 18 53 01.5 +0.9
baz=328
HERR Herculane 76.78 331⇓*i*P P 18 53 01.8 0.0
SOKA Soboth 77.15 336 *e*P P 18 53 04.7 +0.7
comp=Z,14nm,1.1s
PERS Pernice 77.17 336 *i*P P 18 53 04.9 +0.8
KBA Koelnbreinsper 77.19 338 *e*P P 18 53 05.7 +1.4
comp=Z,27nm,0.8s,SNR=11
KBA Koelnbreinsper 77.19 338 P P 18 53 05.8 +1.5
CDF Champ du Feu 77.21 342 *e*P P 18 53 04.3 0.0
CDF pmax pmax
comp=Z,11nm,0.9s
WATA Walderalm 77.35 339 *e*P P 18 53 06.1 +1.0
comp=Z,5.4nm,0.8s
RETA Reutte 77.38 339 *e*P P 18 53 06.0 +0.8
comp=Z,6.9nm,0.9s
WTTA Wattenberg 77.40 339 *e*P P 18 53 06.5 +1.0
comp=Z,18nm,1.1s,SNR=6.2
MOTA Moosalm 77.44 339 *e*P P 18 53 06.7 +1.0
comp=Z,9.4nm,0.9s,SNR=7.4
BR131 Keskin Array S 77.46 321 P P 18 53 06.1 +0.2
SNR=8.3
BRTR Keskin Array B 77.46 321 P P 18 53 05.8 -0.1
comp=Z,4.9nm,0.9s,baz=41,slow=3.9,SNR=31
SQTA Sankt Quirin 77.54 339 *e*P P 18 53 07.3 +1.1
comp=Z,15nm,0.9s,SNR=6.1
ABTA Abfaltersbach 77.69 338 *e*P P 18 53 07.4 +0.4
comp=Z,10.0nm,0.9s,SNR=5.1
DAVA Damuels 77.76 340 *e*P P 18 53 08.7 +1.3
comp=Z,5.1nm,0.8s
HAU Haudompre 77.77 343 *e*P P 18 53 07.4 +0.1
HAU pmax pmax
comp=Z,13nm,1.0s
FETA Feichten 77.83 339 *e*P P 18 53 08.9 +1.1
comp=Z,9.6nm,0.9s
CRES Cresnjev 77.84 336 *e*P P 18 53 07.8 0.0
HINF Hinteralfeld 77.86 342 *e*P P 18 53 07.5 -0.4
HINF pmax pmax

comp=Z,7.0nm,1.0s
FLN La Foliniere 78.13 347 *e*P P 18 53 09.1 -0.2
FLN pmax pmax
comp=Z,10.0nm,0.9s
Y54A Tignall 78.16 49 P P 18 53 10.1 +0.5
baz=326
V58A Windy Hill, Pi 78.17 46 P P 18 53 10.6 +0.9
baz=328
X56A White Oak 78.40 48 P P 18 53 12.2 +1.2
baz=327
GRR Gorron 78.55 347 *e*P P 18 53 11.6 0.0
GRR pmax pmax
comp=Z,15nm,1.0s
PLD Plovdiv 78.57 328 P P 18 53 12.0 +0.2
VTS Vitosha 78.58 329 *e*P P 18 53 11.7 -0.4
comp=Z,9.6nm,0.8s
VTS Vitosha 78.58 329 ⇑*i*P P 18 53 12.4 +0.3
VTS Vitosha 78.58 329 *e*P P 18 53 11.7 -0.4
VTS pmax pmax
comp=Z,10.0nm,0.8s
TUE Stuetta 78.65 340 *e*P P 18 53 10.9 -1.5
comp=Z,14nm,0.9s
SGMF Saint Gilles 78.90 349 *e*P P 18 53 13.6 +0.1
SGMF pmax pmax
comp=Z,19nm,0.9s
ROSF Rostrenen 78.91 349 *e*P P 18 53 13.7 +0.1
ROSF pmax pmax
comp=Z,21nm,1.0s
LOR Lormes 78.93 344 *e*P P 18 53 13.7 0.0
LOR pmax pmax
comp=Z,14nm,1.0s
ASAR Alice Springs 79.00 205 P P 18 53 15.2 +0.9
comp=Z,1.0nm,0.7s,baz=17,slow=5.3,SNR=14
PLE Pljevlja 79.09 332 P P 18 53 16.2 +1.4
CABF La Chapelle 79.16 342 *e*P P 18 53 15.5 +0.4
CABF pmax pmax
comp=Z,15nm,1.2s
SSF Saint Saulge 79.19 344 *e*P P 18 53 16.0 +0.9
SSF pmax pmax
comp=Z,7.0nm,0.8s
AVF Avril sur Loir 79.47 344 *e*P P 18 53 16.9 +0.2
AVF pmax pmax
comp=Z,13nm,0.8s
SMF Signal de Mont 79.53 344 *e*P P 18 53 17.2 +0.2
SMF pmax pmax
comp=Z,15nm,1.1s
SRS Serrai 79.82 328 P P 18 53 18.7 0.0
PDG Podgorica 79.96 332 ⇑*i*P P 18 53 18.4 -1.0
LPL La Plagne 80.09 342 *e*P P 18 53 21.3 +0.9
LPL pmax pmax
comp=Z,14nm,0.9s
LPG La Plagne 80.11 342 *e*P P 18 53 21.5 +1.0
LPG pmax pmax
comp=Z,22nm,1.0s
TCF Toulx Ste Croi 80.15 345 *e*P P 18 53 20.7 +0.3
TCF pmax pmax
comp=Z,11nm,1.0s
ISP Isparta 80.31 322 P P 18 53 22.4 +0.9
FNA Florina 80.83 330 P P 18 53 26.5 +2.3
ORIF Oris-en-Rattie 80.83 342 *e*P P 18 53 25.2 +1.0
ORIF pmax pmax
comp=Z,19nm,1.1s
MBDF Montbardon 80.84 341 *e*P P 18 53 27.7 +3.4
MBDF pmax pmax
comp=Z,25nm,1.4s
VIVF Saint-Julien-l 81.12 343 *e*P P 18 53 26.5 +0.9
VIVF pmax pmax
comp=Z,11nm,0.9s
RJF Les Rejaudoux 81.22 345 *e*P P 18 53 26.8 +0.7
RJF pmax pmax
comp=Z,8.0nm,1.0s
CAF Calviac 81.50 345 *e*P P 18 53 28.6 +1.0
CAF pmax pmax
comp=Z,11nm,0.9s
LFF La Frestale 81.70 346 *e*P P 18 53 29.5 +0.9
LFF pmax pmax
comp=Z,39nm,1.4s
IGT Igoumenitsa 82.29 330 P P 18 53 33.0 +1.1
MTLF Montolieu 83.02 344 *e*P P 18 53 36.6 +1.0
MTLF pmax pmax
comp=Z,11nm,1.0s
EPF Esparros 83.62 345 *e*P P 18 53 39.1 +0.3
EPF pmax pmax
comp=Z,12nm,1.0s
ETSF Etsaut 83.89 346 *e*P P 18 53 41.3 +1.2
ETSF pmax pmax
comp=Z,14nm,0.9s
STKA Stephens Creek 85.30 196 P P 18 53 48.2 +1.2
comp=Z,1.8nm,1.0s,baz=4.4,slow=13,SNR=2.0
POLO Lamas de Olo 86.27 351 *e*P P 18 53 52.4 +0.3
MVO Moncorvo 86.41 351 *e*P P 18 53 54.5 +1.7
MTE Manteigas 87.21 351 *e*P P 18 53 58.0 +1.3
ESDC Sonseca Array 87.53 348 *e*P P 18 53 57.7 -0.6
comp=Z,4.4nm,1.0s
ESDC Sonseca Array 87.53 348 P P 18 53 58.2 -0.1
comp=Z,1.7nm,0.7s,baz=5.0,slow=4.7,SNR=12
PCAS Casmilo, Conde 87.65 352 *e*P P 18 54 00.5 +1.8
KEST Kesra 88.89 337 P P 18 54 04.5 -0.3
comp=Z,7.2nm,1.1s,baz=293,slow=11,SNR=3.7
TORD Torodi Ar. Bea 112.40 338 PP PP 19 00 30.6 -0.8
comp=Z,2.1nm,1.0s,baz=12,slow=7.0,SNR=5.9
PLCA Paso Flores 143.78 92 PKP PKPdf 19 00 44.9 0.0
comp=Z,1.3nm,0.9s,baz=256,slow=4.2,SNR=3.5

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*KRSC **19** 18:43:05.2±10.0, 52.°08N×160.°60E, h18km±10km, ML5.3*
*IDC **19** 18:43:05.7±0.6, 52.°35N×160.°01E, h0km, mb4.6/36, mb1 4.7/39, mb1mx4.6/50, mbtmp4.6/39, ML4.2/3, MS4.9/2, Ms1 4.9/2, ms1mx4.6/24, Error ellipse: s-maj=15.4km s-min=10.2km az=158.0*
*MOS **19** 18:43:09.8±1.2, 52.°20N×160.°23E, h48km, mb5.2/62, Error ellipse: s-maj=7.8km s-min=3.9km az=110.7*
*NEIC **19** 18:43:10.1±0.3, 52.°22N×160.°18E, h35km, mb4.9/51, Error ellipse: s-maj=8.8km s-min=5.3km az=164.0*
*ISCJB **19** 18:43:11.1±0.6, 52.°23N±0.°04×160.°16E±0.°06, h57km±4km, mb4.8/134, MS4.9/2, Error ellipse: s-maj=7.9km s-min=4.4km az=143.1*
*BJI **19** 18:43:12.0±0.0, 53.°60N×158.°60E, h10km, mb4.9/24, mB4.9/6, Ms5.3/1, Ms7 5.1/1*
ISC 19 18:43:10.6±1.0, 52.°19N±0.°06×160.°36E±0.°05, h43km±7km, n341, σ1$31/349, mb4.9/134, 27C-15D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.94 348**	*e*P	**Pn**	**18 43 25.2**	**-2.1**
SPN			*e*S	**Sn**	**18 43 38.8**	**-0.7**
SPN	**Mys Shipunski**	**0.94 348**	PN	**Pn**	**18 43 25.2**	**-2.1**
SPN			S	**Sn**	**18 43 38.8**	**-0.7**
RUS	**Russkaya**	**1.16 283**	*e*P	**Pn**	**18 43 29.3**	**-1.0**
RUS			*e*S	**Sn**	**18 43 45.6**	**+0.6**
RUS	**Russkaya**	**1.16 283**	PN	**Pn**	**18 43 29.3**	**-1.0**
RUS			S	**Sn**	**18 43 45.6**	**+0.6**
NLC	**Nalytchevo**	**1.16 328**	*e*P	**Pn**	**18 43 29.8**	**-0.6**
NLC			*e*S	**Sn**	**18 43 47.4**	**+2.3**
NLC	**Nalytchevo**	**1.16 328**	PN	**Pn**	**18 43 29.8**	**-0.6**
NLC			S	**Sn**	**18 43 47.4**	**+2.3**
PET	**Petropavlovsk**	**1.34 310**	*e*Pn	**Pn**	**18 43 32.5**	**-0.2**
PET	**Petropavlovsk**	**1.34 310**	⇑*i*PN	**Pn**	**18 43 32.3**	**-0.4**
PET			*e*S	**Sn**	**18 43 52.2**	**+2.9**
PET			pmax	pmax		
	comp=Z,3μm,0.7s					
PET			smax	smax		
	comp=N,9μm,0.7s					
PET			smax	smax		
	comp=E,12μm,0.8s					
PET			smax	smax		
	comp=E,12μm,0.8s					
MTVR	**Mutnovka**	**1.37 283**	*e*P	**Pn**	**18 43 32.8**	**-0.5**
MTVR			S	**Sn**	**18 43 52.4**	**+2.1**
MTVR	**Mutnovka**	**1.37 283**	PN	**Pn**	**18 43 32.8**	**-0.5**
MTVR			S	**Sn**	**18 43 52.4**	**+2.1**
UGLR	**Uglovaya**	**1.39 318**	*e*P	**Pn**	**18 43 33.3**	**-0.3**
UGLR	**Uglovaya**	**1.39 318**	PN	**Pn**	**18 43 33.3**	**-0.3**
SDLR	**Sedlovina**	**1.42 321**	*e*P	**Pn**	**18 43 34.2**	**+0.2**
SDLR	**Sedlovina**	**1.42 321**	PN	**Pn**	**18 43 34.2**	**+0.2**
SMAR	**Somma**	**1.44 319**	*e*P	**Pn**	**18 43 34.6**	**+0.3**
SMAR	**Somma**	**1.44 319**	PN	**Pn**	**18 43 34.6**	**+0.3**
GRL	**Gorelyy**	**1.45 286**	*e*P	**Pn**	**18 43 34.7**	**+0.3**
GRL	**Gorelyy**	**1.45 286**	PN	**Pn**	**18 43 34.7**	**+0.3**
KDTR	**Khodutka, Kamc**	**1.46 256**	P	**Pn**	**18 43 32.2**	**-2.2**
KDTR			*e*S	**Sn**	**18 43 51.4**	**-0.9**
AVH	**Avacha**	**1.46 318**	*e*P	**Pn**	**18 43 35.2**	**+0.6**
AVH			*e*S	**Sn**	**18 43 56.5**	**+3.9**
AVH	**Avacha**	**1.46 318**	PN	**Pn**	**18 43 35.2**	**+0.6**
KRER	**Koryakskii**	**1.49 320**	P	**Pn**	**18 43 35.0**	**0.0**
KRER	**Koryakskii**	**1.49 320**	PN	**Pn**	**18 43 35.0**	**0.0**
KRMR	**Karymshinskiy**	**1.51 296**	*e*P	**Pn**	**18 43 34.6**	**-0.5**
KRMR	**Karymshinskiy**	**1.51 296**	PN	**Pn**	**18 43 34.6**	**-0.5**
ASAK	**Asacha**	**1.52 278**	*e*P	**Pn**	**18 43 35.3**	**-0.1**
ASAK	**Asacha**	**1.52 278**	PN	**Pn**	**18 43 35.3**	**-0.1**
KOK	**Koryaka**	**1.52 317**	*e*P	**Pn**	**18 43 34.1**	**-1.3**
KOK	**Koryaka**	**1.52 317**	PN	**Pn**	**18 43 34.1**	**-1.3**
KRX	**Arik**	**1.57 319**	P	**Pn**	**18 43 37.1**	**+1.0**
KRX	**Arik**	**1.57 319**	PN	**Pn**	**18 43 37.1**	**+1.0**
PEA0B	**Petropavlovsk-**	**1.86 301**	*e*Pn	**Pn**	**18 43 41.1**	**+1.1**
PEA0B	**Petropavlovsk-**	**1.86 301**	*e*PN	**Pn**	**18 43 41.1**	**+1.1**
PETK	**Petropavlovsk-**	**1.86 301**	Pn	**Pn**	**18 43 40.3**	**+0.3**
	comp=E,157nm,0.3s,baz=112,slow=19,SNR=5.8					
PETK			Sn	**Sn**	**18 44 07.7**	**+5.3**
	comp=E,350nm,0.3s,baz=216,slow=22,SNR=8.0					
PEA1	**Petropavlovsk-**	**1.87 301**	*e*Pn	**Pn**	**18 43 40.3**	**+0.3**
PEA1			*e*Sn	**Sn**	**18 44 07.7**	**+5.3**
APC	**Apacha**	**2.09 292**	P	**Pn**	**18 43 44.3**	**+1.2**
APC	**Apacha**	**2.09 292**	PN	**Pn**	**18 43 44.3**	**+1.2**
MKZ	**Mys Kozlova**	**2.51 19**	*e*P	**Pn**	**18 43 46.9**	**-2.0**
MKZ	**Mys Kozlova**	**2.51 19**	PN	**Pn**	**18 43 46.9**	**-2.0**
KZV	**Kizimen**	**2.93 359**	P	**Pn**	**18 43 54.9**	**+0.1**
MA2	**Magadan**	**9.15 328**	*e*Pn	**Pn**	**18 45 19.9**	**+0.1**
MA2	**Magadan**	**9.15 328**	Pn	**Pn**	**18 45 19.9**	**+0.1**
	comp=E,0.4nm,0.3s,baz=156,slow=9.3,SNR=2.0					
MA2	**Magadan**	**9.15 328**	*e*	**Pn**	**18 45 19.9**	**+0.1**
MA2	**Magadan**	**9.15 328**	*e*Sn	**Pn**	**18 45 19.9**	**+0.1**
SEY	**Seymchan**	**11.58 342**	*e*Pn	**Pn**	**18 45 53.8**	**+0.7**
SEY	**Seymchan**	**11.58 342**	Pn	**Pn**	**18 45 53.8**	**+0.7**
	comp=E,0.1nm,0.3s,baz=170,slow=14,SNR=2.9					
ASAJ	**Asahikawa**	**14.32 243**	*e*Pn	**Pn**	**18 46 29.9**	**-0.5**
ASAJ	**Asahikawa**	**14.32 243**	Pn	**Pn**	**18 46 29.9**	**-0.5**
	comp=E,1.3nm,0.3s,baz=79,slow=14,SNR=4.3					
BILL	**Bilibino**	**16.16 8**	*e*Pn	**P**	**18 46 56.1**	**-0.9**
	comp=E,34nm,0.7s					
BILL	**Bilibino**	**16.16 8**	*e*P	**Pn**	**18 46 54.6**	**+0.3**
BILL			pmax	pmax		
	comp=Z,27nm,0.8s					
TEY	**Ternei**	**17.21 255**	⇓*e*P	**Pn**	**18 47 07.6**	**0.0**
TEY			pmax	pmax		
	comp=E,20nm,0.9s					
TEY			pmax	pmax		
	comp=Z,30nm,0.9s					
TEY			pmax	pmax		
	comp=N,10.0nm,0.6s					
KLR	**Kul'dur**	**18.31 272**	*e*P	**P**	**18 47 20.1**	**-0.7**
KLR	**Kul'dur**	**18.31 272**	P	**P**	**18 47 20.1**	**-0.7**
	comp=N,0.6nm,0.3s,baz=53,slow=11,SNR=7.7					
YAK	**Yakutsk**	**19.17 313**	*e*P	**P**	**18 47 26.4**	**-3.7**
YAK			pmax	pmax		
	comp=Z,1μm,1.4s					
YAK			pmax	pmax		
	comp=N,153nm,1.0s					
YAK			pmax	pmax		
	comp=E,346nm,1.2s					
ZEA	**Zeya**	**19.91 288**	*e*P	**P**	**18 47 36.2**	**-2.0**
ZEA			pmax	pmax		
	comp=N,12nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,20nm,1.0s					
USRK	**Ussuriysk Ar.**	**20.43 258**	P	**P**	**18 47 42.6**	**-1.4**
	comp=Z,32nm,1.0s,baz=59,slow=10,SNR=10.0					
MJB9	**Matsu-Tunnel**	**22.12 234**	*e*P	**P**	**18 48 02.9**	**+0.6**
	comp=Z,50nm,0.8s					
MAJO	**Matsushiro**	**22.12 234**	*e*P	**P**	**18 48 02.7**	**+0.5**
MAJO	**Matsushiro**	**22.12 234**	*e*P	**P**	**18 48 02.7**	**+0.5**
MAT	**Matsushiro**	**22.12 234**	P	**P**	**18 48 02.0**	**-0.3**
MJAR	**Matsushiro Arr**	**22.12 234**	P	**P**	**18 48 02.7**	**+0.5**
	comp=Z,18nm,0.9s,baz=16,slow=11,SNR=8.0					
INU	**Inuyama**	**23.66 234**	*e*P	**P**	**18 48 19.1**	**+1.2**
	comp=Z,33nm,0.9s					
TIXI	**Tiksi**	**23.98 336**	*e*P	**P**	**18 48 19.2**	**-1.3**
TIXI	**Tiksi**	**23.98 336**	P	**P**	**18 48 19.1**	**-1.3**
	comp=Z,38nm,0.6s,baz=122,slow=10,SNR=23					
HIA	**Hailar**	**25.64 280**	*e*P	**P**	**18 48 34.5**	**-1.4**
	comp=Z,44nm,0.9s					
HIA	**Hailar**	**25.64 280**	*e*P	**P**	**18 48 34.5**	**-1.4**
HIA			pmax	pmax		
	comp=Z,44nm,0.9s					
SNY	**Shenyang**	**26.86 262**	⇑P	**P**	**18 48 48.0**	**+1.1**
SNY			pmax	pmax		
	comp=Z,15nm,0.8s					
KSRS	**Korea Array**	**27.04 250**	P	**P**	**18 48 49.5**	**+0.9**
	comp=Z,7.0nm,0.8s,baz=43,slow=9.4,SNR=8.7					
KDAK	**Kodiak Island**	**27.12 59**	*e*P	**P**	**18 48 49.5**	**+0.4**
KDAK	**Kodiak Island**	**27.12 59**	*e*P	**P**	**18 48 49.5**	**+0.4**
KDAK	**Kodiak Island**	**27.12 59**	P	**P**	**18 48 51.9**	**+2.9**
	comp=Z,3.7nm,0.5s,baz=282,slow=8.9,SNR=5.0					
JNU	**Nakatsue**	**28.56 240**	*e*P	**P**	**18 49 05.2**	**+3.0**
	comp=Z,34nm,1.0s					
JNU	**Nakatsue**	**28.56 240**	P	**P**	**18 49 03.3**	**+1.0**
	comp=Z,21nm,0.8s,baz=44,slow=8.7,SNR=4.3					
SML	**Sawmill**	**28.81 50**	*e*P	**P**	**18 49 04.6**	**+0.4**
	comp=Z,14nm,0.6s					
SML	**Sawmill**	**28.81 50**	*e*P	**P**	**18 49 04.6**	**+0.4**
SML			pmax	pmax		
	comp=Z,14nm,0.6s					
SCM	**Sheep Creek Mo**	**29.28 50**	*e*P	**P**	**18 49 08.0**	**-0.4**
	comp=Z,30nm,1.5s					
SCM	**Sheep Creek Mo**	**29.28 50**	*e*P	**P**	**18 49 08.0**	**-0.4**
SCM			pmax	pmax		
	comp=Z,30nm,1.5s					
ILAR	**Eielson Array**	**29.35 44**	*e*P	**P**	**18 49 10.1**	**+1.2**
ILAR	**Eielson Array**	**29.35 44**	*e*P	**P**	**18 49 10.1**	**+1.2**
ILAR	**Eielson Array**	**29.35 44**	P	**P**	**18 49 09.9**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=258,slow=6.9,SNR=2.9					
ILB	**Eielson Array**	**29.35 44**	*e*P	**P**	**18 49 08.5**	**-0.4**
	comp=Z,2.8nm,0.8s					
FYU	**Fort Yukon**	**30.06 40**	*e*P	**P**	**18 49 16.9**	**+1.8**
	comp=Z,13nm,1.1s					
HARP	**HAARP**	**30.24 49**	*e*P	**P**	**18 49 17.2**	**+0.4**
	comp=Z,17nm,1.1s					
TGL	**Tana Glacier**	**31.58 52**	*e*P	**P**	**18 49 29.7**	**+1.0**
	comp=Z,7.4nm,0.9s					
BALM	**Baldy**	**31.76 51**	*e*P	**P**	**18 49 31.7**	**+1.3**
	comp=Z,13nm,1.4s					
BALM	**Baldy**	**31.76 51**	*e*P	**P**	**18 49 31.7**	**+1.3**
BALM			pmax	pmax		
	comp=Z,13nm,1.4s					
CTGM	**Chitina Glacie**	**32.26 51**	*e*P	**P**	**18 49 35.5**	**+0.7**
	comp=Z,27nm,1.4s					
H11N2	**WAKE ISLAND Hy**	**32.79 169**	T	T	19 23 40.3	
	baz=351					
H11N3	**WAKE ISLAND Hy**	**32.81 169**	T	T	19 23 41.5	
	baz=351					
H11N1	**WAKE ISLAND Hy**	**32.81 169**	T	T	19 23 41.6	
	baz=351					
ULN	**Ulaanbaatar**	**33.87 284**	*e*P	**P**	**18 49 47.7**	**-1.3**
	comp=Z,4.6nm,0.8s					
ULN	**Ulaanbaatar**	**33.87 284**	*e*P	**P**	**18 49 47.7**	**-1.3**
ULN			pmax	pmax		
	comp=Z,5.0nm,0.8s					
H11S1	**WAKE ISLAND Hy**	**33.98 169**	T	T	19 25 17.9	
	baz=351					
H11S3	**WAKE ISLAND Hy**	**33.99 169**	T	T	19 25 18.8	
	baz=351					
H11S2	**WAKE ISLAND Hy**	**33.99 169**	T	T	19 25 19.8	
	baz=351					
SONA0	**Songino Array**	**34.28 285**	*e*P	**P**	**18 49 51.3**	**-1.1**
SONM	**Songino Array**	**34.28 285**	P	**P**	**18 49 51.3**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=61,slow=8.1,SNR=9.9					
TIA	**Tai'an**	**34.28 260**	P	**P**	**18 49 53.0**	**+0.5**
TIA			pmax	pmax		
	comp=Z,24nm,0.8s					
INK	**Inuvik**	**34.49 37**	*e*P	**P**	**18 49 54.3**	**+0.4**
	comp=Z,4.3nm,0.8s					
INK	**Inuvik**	**34.49 37**	*e*P	**P**	**18 49 54.3**	**+0.4**
INK			pmax	pmax		
	comp=Z,4.0nm,0.8s					
INK	**Inuvik**	**34.49 37**	P	**P**	**18 49 54.4**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=0.5,slow=1.4,SNR=5.1					
ZAK	**Zakamensk**	**34.96 290**	*e*P	**P**	**18 49 56.8**	**-1.5**
ZAK			pmax	pmax		
	comp=Z,11nm,1.0s					
MOY	**Mondy**	**35.72 293**	*e*P	**P**	**18 50 03.3**	**-1.5**
MOY			pmax	pmax		
	comp=Z,19nm,1.6s					
NRIK	**Noril'sk**	**36.74 325**	P	**P**	**18 50 11.8**	**-1.4**
	comp=Z,10nm,0.8s,baz=85,slow=8.7,SNR=5.1					
DLBC	**Dease Lake**	**38.47 52**	*e*P	**P**	**18 50 30.6**	**+2.6**
	comp=Z,9.3nm,1.1s					
DLBC	**Dease Lake**	**38.47 52**	P	**P**	**18 50 30.6**	**+2.6**
	comp=Z,2.7nm,0.8s,baz=278,slow=12,SNR=3.4					
WHN	**Wuhan**	**39.88 255**	⇑*i*P	**P**	**18 50 41.1**	**+1.1**
ZAA0	**Zalesovo Array**	**43.41 304**	*e*P	**P**	**18 51 04.4**	**-4.2**
	comp=Z,5.2nm,0.7s					
ZALV	**Zalesovo Beam**	**43.41 304**	*e*P	**P**	**18 51 05.7**	**-2.9**
ZALV	**Zalesovo Beam**	**43.41 304**	*e*P	**P**	**18 51 05.7**	**-2.9**
ZALV	**Zalesovo Beam**	**43.41 304**	P	**P**	**18 51 06.3**	**-2.2**
	comp=Z,5.1nm,0.7s,baz=62,slow=7.8,SNR=9.8					
YKA	**Yellowknife Ar**	**43.73 42**	P	**P**	**18 51 12.0**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=300,slow=7.8,SNR=4.3					
NVS	**Novosibirsk**	**43.77 305**	*e*P	**P**	**18 51 09.6**	**-1.9**
NVS			*e*		18 51 19.7	
NVS			pmax	pmax		
	comp=Z,41nm,0.9s					
NVS			pmax	pmax		
	comp=N,6.0nm,0.8s					
NVS			pmax	pmax		
	comp=E,22nm,0.8s					
RES	**Resolute Bay**	**44.11 22**	*e*P	**P**	**18 51 14.7**	**+0.8**
	comp=E,7.3nm,0.8s					
RES	**Resolute Bay**	**44.11 22**	*e*P	**P**	**18 51 14.7**	**+0.8**
RES			pmax	pmax		
	comp=Z,7.0nm,0.8s					
RES	**Resolute Bay**	**44.11 22**	P	**P**	**18 51 15.0**	**+1.1**
	comp=Z,6.2nm,0.8s,baz=314,slow=7.7,SNR=8.4					
SPA0	**Spitsbergen Ar**	**48.06 351**	*e*P	**P**	**18 51 45.2**	**+0.2**
	comp=Z,54nm,0.9s					
SPITS	**Spitsbergen Ar**	**48.06 351**	P	**P**	**18 51 45.1**	**+0.1**
SPITS			pmax	pmax		
	comp=Z,12nm,0.4s					
KURK	**Kurchatov**	**48.35 303**	*e*P	**P**	**18 51 45.7**	**-1.9**
	comp=Z,43nm,1.0s					
KURK	**Kurchatov**	**48.35 303**	*e*P	**P**	**18 51 45.7**	**-1.9**
KURK			pmax	pmax		
	comp=Z,43nm,1.0s					
KURBB	**Kurchatov Arra**	**48.45 303**	P	**P**	**18 51 46.3**	**-2.1**
	comp=Z,20nm,0.8s					
MKAR	**Makanchi Array**	**48.70 297**	*e*P	**P**	**18 51 48.7**	**-1.7**
MKAR	**Makanchi Array**	**48.70 297**	*e*P	**P**	**18 51 48.7**	**-1.7**
MKAR	**Makanchi Array**	**48.70 297**	P	**P**	**18 51 48.5**	**-1.9**
	comp=Z,6.7nm,0.5s,baz=58,slow=7.0,SNR=28					
MAKZ	**Makanchi**	**48.86 297**	*e*P	**P**	**18 51 49.7**	**-1.9**
	comp=Z,11nm,0.8s					
MAKZ	**Makanchi**	**48.86 297**	*e*P	**P**	**18 51 49.7**	**-1.9**
MAKZ			pmax	pmax		
	comp=Z,11nm,0.8s					
BVAR	**Borovoye Array**	**51.08 309**	LR	LR	19 17 01.9	
	comp=Z,1μm,19.5s,baz=170,slow=40					
BRVK	**Borovoye**	**51.11 309**	*e*P	**P**	**18 52 07.1**	**-1.5**
	comp=Z,22nm,0.7s					
BRVK	**Borovoye**	**51.11 309**	*e*P	**P**	**18 52 07.1**	**-1.5**
BRVK			pmax	pmax		
	comp=Z,22nm,0.7s					
YBH	**Yreka Blue Hor**	**51.19 69**	P	**P**	**18 52 12.0**	**+2.6**
	comp=Z,2.5nm,0.9s,baz=324,slow=6.2,SNR=3.1					
YBH			LR	LR	19 11 37.8	
	comp=Z,2μm,21.9s,baz=299,slow=33					
DAG	**Danmarks Havn**	**51.31 360**	P	**P**	**18 52 10.1**	**+0.4**
DAG			pmax	pmax		
	comp=Z,13nm,0.9s					
PDGK	**Podgornoye**	**52.40 295**	P	**P**	**18 52 17.5**	**-1.0**
PDGK			pmax	pmax		
	comp=Z,13nm,1.0s					
OTUK	**Ortayu**	**53.11 303**	P	**P**	**18 52 22.5**	**-1.0**
OTUK			pmax	pmax		
	comp=Z,13nm,0.9s					
LVZ	**Lovozero**	**53.60 338**	*e*P	**P**	**18 52 26.2**	**-0.6**
	comp=Z,37nm,0.9s					
KEV	**Kevo**	**53.73 342**	*e*P	**P**	**18 52 26.1**	**-1.5**
	comp=Z,16nm,1.0s					
KEV	**Kevo**	**53.73 342**	*e*P	**P**	**18 52 26.1**	**-1.5**
KEV			pmax	pmax		
	comp=Z,16nm,1.0s					
FCC	**Fort Churchill**	**54.09 38**	*e*P	**P**	**18 52 30.7**	**+0.3**
	comp=Z,6.8nm,0.8s					
ARU	**Arti**	**54.18 318**	*e*P	**P**	**18 52 30.1**	**-0.9**
	comp=Z,21nm,0.5s					
ARU	**Arti**	**54.18 318**	*e*P	**P**	**18 52 30.2**	**-0.9**
ARU			pmax	pmax		
	comp=Z,21nm,0.5s					
ARCES	**ARCESS Array B**	**54.20 342**	*e*P	**P**	**18 52 30.5**	**-0.6**
ARCES	**ARCESS Array B**	**54.20 342**	*e*P	**P**	**18 52 30.5**	**-0.6**
ARCES	**ARCESS Array B**	**54.20 342**	P	**P**	**18 52 30.8**	**-0.3**
	comp=Z,15nm,0.8s,baz=34,slow=8.8,SNR=12					
PNTR	**Pine Nut**	**54.71 70**	*e*P	**P**	**18 52 38.2**	**+2.6**
	comp=Z,12nm,0.9s					
BOZ	**Bozeman (W)**	**54.82 59**	*e*P	**P**	**18 52 37.4**	**+1.2**
	comp=Z,2.9nm,0.9s					
BOZ	**Bozeman (W)**	**54.82 59**	*e*P	**P**	**18 52 37.4**	**+1.2**
BOZ			pmax	pmax		
	comp=Z,3.0nm,0.9s					
SUMG	**Summit**	**54.84 7**	*e*P	**P**	**18 52 36.6**	**+0.4**
	comp=Z,24nm,0.9s					
SUMG	**Summit**	**54.84 7**	*e*P	**P**	**18 52 36.6**	**+0.4**
SUMG			pmax	pmax		
	comp=Z,24nm,0.9s					
PRGR	**Permogore**	**55.30 328**	*e*P	**P**	**18 52 38.2**	**-0.9**
PRGR			pmax	pmax		
	comp=Z,26nm,0.6s					
KVN	**Kaiserville**	**55.60 69**	*e*P	**P**	**18 52 43.8**	**+1.9**
	comp=Z,8.3nm,1.1s					
KVN	**Kaiserville**	**55.60 69**	*e*P	**P**	**18 52 43.8**	**+1.9**
KVN			pmax	pmax		
	comp=Z,8.0nm,1.1s					
AAK	**Ala-Archa**	**55.63 297**	*e*P	**P**	**18 52 40.7**	**-1.3**
	comp=Z,15nm,1.1s					
AAK	**Ala-Archa**	**55.63 297**	*e*P	**P**	**18 52 40.7**	**-1.3**
AAK			pmax	pmax		
	comp=Z,15nm,1.1s					
AAK	**Ala-Archa**	**55.63 297**	P	**P**	**18 52 40.7**	**-1.3**
	comp=Z,9.4nm,0.9s,baz=80,slow=3.9,SNR=7.0					
YHH	**Holmes Hill**	**55.77 59**	*e*P	**P**	**18 52 45.3**	**+2.1**
	comp=Z,3.3nm,1.0s					
SGF	**Sodankyl**	**55.77 340**	P	**P**	**18 52 43.3**	**+0.8**
SGF			pmax	pmax		
	comp=Z,30nm,1.1s					
NVAR	**Mina Array Bea**	**55.90 70**	*e*P	**P**	**18 52 45.4**	**+1.3**
NVAR	**Mina Array Bea**	**55.90 70**	P	**P**	**18 52 46.6**	**+2.5**
	comp=Z,1.3nm,0.6s,baz=301,slow=8.3,SNR=3.7					
MSF	**Maaselka**	**56.51 338**	P	**P**	**18 52 48.2**	**+0.4**
MSF			pmax	pmax		
	comp=Z,65nm,0.9s					
KK31	**Karatay Array**	**57.47 300**	*e*P	**P**	**18 52 52.4**	**-2.5**
	comp=Z,7.2nm,0.8s					
KK31	**Karatay Array**	**57.47 300**	*e*P	**P**	**18 52 52.4**	**-2.5**
KK31			pmax	pmax		
	comp=Z,7.0nm,0.8s					
KKAR	**Karatay Array**	**57.47 300**	*e*P	**P**	**18 52 52.3**	**-2.6**
	comp=Z,7.2nm,0.8s					
KKAR	**Karatay Array**	**57.47 300**	*e*P	**P**	**18 52 52.3**	**-2.6**
KKAR	

PKI	Pulchoki	59.69 277	eP	P	18 53 10.2	-0.7
	comp=Z,35nm,0.7s					
PKIN	Phulchoki	59.69 277	eP	P	18 53 10.1	-0.8
	comp=Z,29nm,0.7s					
DMN	Daman	59.84 277	eP	P	18 53 11.5	-0.4
	comp=Z,53nm,0.7s					
GKN	Gorkha	59.85 278	eP	P	18 53 11.1	-0.7
	comp=Z,51nm,0.8s					
SUF	Sumiainen	59.90 338	P	P	18 53 11.9	+0.5
SUF			pmax	pmax		
	comp=Z,88nm,0.8s					
DANN	Dangsing	60.13 279	eP	P	18 53 13.4	-0.5
	comp=Z,72nm,0.7s					
VAF	Ylistaro	60.40 339	P	P	18 53 16.2	+1.3
VAF			pmax	pmax		
	comp=Z,47nm,0.8s					
GAR	Garm	60.43 296	eP	P	18 53 14.6	-1.0
	comp=Z,27nm,0.8s					
GAR	Garm	60.43 296	eP	P	18 53 14.6	-1.0
GAR			pmax	pmax		
	comp=Z,27nm,0.8s					
KOLN	Koldanda	60.65 278	eP	P	18 53 16.7	-0.7
	comp=Z,40nm,0.7s					
PYUN	Piuthan	60.78 279	eP	P	18 53 17.5	-0.8
	comp=Z,49nm,0.7s					
FIA1	FINESS Array S	61.02 337	eP	P	18 53 18.8	-0.3
	comp=Z,28nm,0.6s					
FINES	FINESS Array B	61.02 337	eP	P	18 53 19.3	+0.2
FINES	FINESS Array B	61.02 337	P	P	18 53 19.2	+0.2
	comp=Z,21nm,0.5s,baz=33,slow=8.2,SNR=44					
MOS	Moscow	62.51 328	eP	P	18 53 27.7	-1.5
MOS			pmax	pmax		
	comp=Z,41nm,1.1s					
NIL	Nilore	62.58 290	eP	P	18 53 28.6	-1.5
	comp=Z,30nm,0.8s					
NIL	Nilore	62.58 290	eP	P	18 53 28.6	-1.5
NIL			pmax	pmax		
	comp=Z,30nm,0.8s					
KBL	Kabul	64.34 294	eP	P	18 53 39.4	-2.5
	comp=Z,10nm,0.8s					
KBL	Kabul	64.34 294	eP	P	18 53 39.4	-2.5
KBL			pmax	pmax		
	comp=Z,10.0nm,0.8s					
NB2	NORSAR Subarra	64.46 344	P	P	18 53 41.8	-0.3
	comp=Z,13nm,0.8s,baz=21,slow=6.9					
NOA	NORSAR Array B	64.46 344	P	P	18 53 42.1	0.0
	comp=Z,12nm,0.7s,baz=21,slow=6.6,SNR=24					
NBO00	NORSAR Array S	64.54 344	eP	P	18 53 42.7	+0.1
	comp=Z,45nm,1.4s					
LPSR	Galich'ya Gora	64.62 325	eP	P	18 53 42.3	-0.9
LPSR			pmax	pmax		
	comp=Z,20nm,0.6s					
NAO01	NORSAR Array S	64.70 344	eP	P	18 53 41.5	-2.1
	comp=Z,14nm,0.8s					
VRH	Novokhopyorsk	64.73 322	eP	P	18 53 42.6	-1.3
VRH			pmax	pmax		
	comp=Z,20nm,0.6s					
VSR	Storozhevoye	65.66 324	eP	P	18 53 48.4	-1.6
VSR			pmax	pmax		
	comp=Z,20nm,0.9s					
VORD	Divnogorie	65.82 324	eP	P	18 53 48.8	-2.2
VORD			pmax	pmax		
	comp=Z,10.0nm,0.8s					
BER	Bergen	66.00 347	P	P	18 53 53.7	+1.7
BER			pmax	pmax		
	comp=Z,39nm,0.9s					
SCHQ	Schefferville	66.38 28	P	P	18 53 55.6	+1.1
	comp=Z,12nm,0.7s,baz=356,slow=5.5,SNR=4.7					
GEYT	Alibeck	67.72 303	eP	P	18 54 02.7	-0.7
GEYT	Alibeck	67.72 303	P	P	18 54 03.4	0.0
	comp=Z,8.9nm,0.7s,baz=27,slow=3.6,SNR=12					
AKASG	Malin Array Be	69.48 329	P	P	18 54 13.5	-0.5
	comp=Z,7.5nm,0.5s,baz=30,slow=6.6,SNR=12					
KIEV	Kiev	69.49 329	eP	P	18 54 13.3	-0.8
	comp=Z,16nm,0.9s					
KIEV	Kiev	69.49 329	eP	P	18 54 13.3	-0.8
KIEV			pmax	pmax		
	comp=Z,16nm,0.9s					
KBZ	Khabaz	70.31 317	eP	P	18 54 19.3	0.0
KBZ	Khabaz	70.31 317	P	P	18 54 19.3	0.0
	comp=Z,10nm,0.8s,baz=57,slow=4.3,SNR=13					
ZEI	Tsey	70.64 316	eP	P	18 54 20.2	-1.4
ZEI			pmax	pmax		
	comp=Z,6.0nm,0.8s					
TX31	Lajitas Ar. Si	70.84 67	eP	P	18 54 23.8	+0.9
	comp=Z,4.1nm,1.0s					
TXAR	Lajitas Array	70.85 67	eP	P	18 54 24.3	+1.4
TXAR	Lajitas Array	70.85 67	P	P	18 54 24.2	+1.4
	comp=Z,2.5nm,0.8s,baz=292,slow=4.4,SNR=5.3					
HYB	Hyderabad	71.44 275	⇑iP	P	18 54 26.0	-0.6
AKH	Akhalkalaki	71.94 315	⇑iP	P	18 54 30.0	+0.6
AKH	Akhalkalaki	71.94 315	P	P	18 54 30.0	+0.6
EKA	Eskdalemuir Ar	71.98 350	P	P	18 54 28.8	-0.4
EKA			pmax	pmax		
	comp=Z,6.0nm,0.5s					
ESK	Eskdalemuir	72.00 350	eP	P	18 54 29.4	+0.1
	comp=Z,12nm,1.0s					
ESK	Eskdalemuir	72.00 350	eP	P	18 54 29.4	+0.1
ESK			pmax	pmax		
	comp=Z,12nm,1.0s					
BATM	Batumi	72.56 316	⇑iP	P	18 54 32.5	-0.4
KIS	Kishinev	72.84 328	eP	P	18 54 33.0	-1.4
KIS	Kishinev	72.84 328	eP	P	18 54 33.0	-1.4
KIS			e		18 54 44.0	
KIS			e		18 54 52.0	
KOLS	Kolonicke sedl	73.13 333	eP	P	18 54 36.5	+0.4
KOLS			pmax	pmax		
	comp=Z,8.0nm,0.8s					
KOLS	Kolonicke sedl	73.13 333	eP	P	18 54 36.5	+0.4
CLL	Collm	73.26 339	⇑iP	P	18 54 37.0	+0.1
CLL			e		18 54 50.0	
CLL			pmax	pmax		
	comp=Z,18nm,0.9s					
CLL	Collm	73.26 339	⇑iP	P	18 54 37.0	+0.1
	comp=Z,18nm,0.9s					
CLL			epP	pP	18 54 50.0	+1.1
BURAR	Bucovina Array	73.44 330	⇓iP	P	18 54 38.3	+0.2
BURAR	Bucovina Array	73.44 330	P	P	18 54 38.3	+0.2
BRG	Berggiesshubel	73.46 339	eP	P	18 54 38.2	+0.2
	comp=Z,5.3nm,0.9s					
BRG	Berggiesshubel	73.46 339	eP	P	18 54 38.2	+0.2
BRG			pmax	pmax		
	comp=Z,5.0nm,0.9s					
LEOM	Leova	73.49 328	⇑iP	P	18 54 37.9	-0.4
LEOM	Leova	73.49 328	P	P	18 54 37.9	-0.4
MORC	Moravsky Berou	73.62 336	⇓iP	P	18 54 40.0	+0.9
MORC	Moravsky Berou	73.62 336	P	P	18 54 40.0	+0.9
MORC			pmax	pmax		
	comp=Z,17nm,0.9s					
MORC	Moravsky Berou	73.62 336	eP	P	18 54 39.6	+0.5
LANS	Liptovska Anna	73.70 334	eP	P	18 54 41.0	+1.5
LANS	Liptovska Anna	73.70 334	eP	P	18 54 41.0	+1.5
BIZ	Bicaz	73.77 329	⇑iP	P	18 54 40.4	+0.5
TRPA	Tarpa	73.78 332	⇑iP	P	18 54 40.9	+1.0
TESR	Tescani	73.97 329	⇓iP	P	18 54 41.3	+0.1
ARCR	ARCALIA	74.18 330	⇓iP	P	18 54 43.8	+1.5
MOX	Moxa	74.18 340	P	P	18 54 43.7	+1.4
MOX			pmax	pmax		
	comp=Z,7.0nm,1.6s					
VRAC	Vranov	74.29 336	⇑iP	P	18 54 43.9	+0.9
VRAC	Vranov	74.29 336	P	P	18 54 44.1	+1.1
VRAC			pmax	pmax		
	comp=Z,20nm,1.3s					
VRAC	Vranov	74.29 336	eP	P	18 54 43.8	+0.8
TLCR		74.43 327	⇓iP	P	18 54 43.1	-0.7
TLCR		74.43 327	P	P	18 54 43.1	-0.7
JAVC	Velka Javorina	74.44 335	eP	P	18 54 45.4	+1.5
VYHS	Vyhne	74.47 335	eP	P	18 54 44.7	+0.7
VYHS			pmax	pmax		
	comp=Z,6.0nm,0.9s					
VYHS	Vyhne	74.47 335	eP	P	18 54 44.7	+0.7
ODBI	Odobesti	74.51 328	⇑iP	P	18 54 45.8	+1.6
KRUC	Moravsky	74.57 336	P	P	18 54 46.0	+1.4
KRUC			pmax	pmax		
	comp=Z,12nm,0.9s					
KRUC	Moravsky	74.57 336	eP	P	18 54 45.1	+0.5
TREC	Trest	74.57 337	P	P	18 54 46.4	+1.8
TREC			pmax	pmax		
	comp=Z,4.0nm,0.9s					
CFR	Carcaliu	74.67 327	⇑iP	P	18 54 45.2	0.0
CFR	Carcaliu	74.67 327	P	P	18 54 45.6	+0.4
CFR			pmax	pmax		
	comp=Z,13nm,0.8s					
O56A	Blue Knob Stat	74.68 43	eP	P	18 54 45.5	+0.1
	comp=Z,9.1nm,0.8s					
PSZ	Piszkesteto	74.71 334	⇓iP	P	18 54 47.0	+1.5
PSZ	Piszkesteto	74.71 334	P	P	18 54 47.1	+1.5
PSZ			pmax	pmax		
	comp=Z,17nm,1.0s					
SMOL	Smolenice	74.82 335	P	P	18 54 48.6	+2.6
SMOL			pmax	pmax		
	comp=Z,59nm,0.8s					
DOPR	Dopca	74.86 329	⇑iP	P	18 54 47.1	+0.8
DRGR		74.94 331	⇓iP	P	18 54 47.2	+0.4
DRGR		74.94 331	P	P	18 54 47.5	+0.7
DRGR			pmax	pmax		
	comp=Z,25nm,1.1s					
MODS	Modra-Piesok	74.98 336	eP	P	18 54 47.4	+0.4
MODS			pmax	pmax		
	comp=Z,11nm,1.0s					
MODS	Modra-Piesok	74.98 336	eP	P	18 54 47.3	+0.3
MLR	Muntele Rosu	75.11 329	⇑iP	P	18 54 48.6	+0.7
MLR	Muntele Rosu	75.11 329	P	P	18 54 49.2	+1.3
MLR			pmax	pmax		
	comp=Z,28nm,0.8s					
DIKM	Dikmen	75.14 321	⇓iP	P	18 54 48.8	+0.8
HARR	Harsova	75.17 327	⇓iP	P	18 54 48.3	+0.2
HARR	Harsova	75.17 327	P	P	18 54 48.3	+0.2
KHC	Kasperske Hory	75.17 338	eP	P	18 54 48.5	+0.4
KHC			e		18 55 00.0	
KHC	Kasperske Hory	75.17 338	eP	P	18 54 48.5	+0.4
KHC			epP	pP	18 55 00.0	-0.2
TLB	Topalu	75.22 327	⇑iP	P	18 54 48.9	+0.5
TLB	Topalu	75.22 327	P	P	18 54 48.9	+0.5
MEM	Membach	75.30 343	P	P	18 54 50.0	+1.3
MEM			pmax	pmax		
	comp=Z,45nm,0.9s					
WET	Wettzell	75.32 339	P	P	18 54 50.5	+1.6
WET			pmax	pmax		
	comp=Z,13nm,1.1s					
WR1	Warramunga Arr	75.33 205	eP	P	18 54 49.3	+0.2
WRA	Warramunga Arr	75.33 205	P	P	18 54 49.3	+0.2
	comp=Z,1.8nm,0.9s,baz=23,slow=6.1,SNR=3.7					
GEC2	GERESS Array S	75.42 338	eP	P	18 54 50.0	+0.4
	comp=Z,4.9nm,0.8s					
GEC2	GERESS Array S	75.42 338	eP	P	18 54 50.0	+0.4
GEC2			pmax	pmax		
	comp=Z,5.0nm,0.8s					
GERES	GERESS Array B	75.42 338	P	P	18 54 50.0	+0.4
GERES	GERESS Array B	75.42 338	P	P	18 54 50.0	+0.4
	comp=Z,5.0nm,0.9s,baz=32,slow=5.3,SNR=11					
VOIR		75.44 329	⇑iP	P	18 54 50.3	+0.6
VOIR		75.44 329	P	P	18 54 50.7	+1.0
VOIR			pmax	pmax		
	comp=Z,20nm,0.8s					
MFTR	Murfatlar	75.45 326	⇑iP	P	18 54 50.4	+0.7
MTUR	Matau	75.62 329	⇑iP	P	18 54 52.0	+1.2
ARR	Arges	75.63 329	⇓iP	P	18 54 51.4	+0.6
ICOR	Ion Corvin	75.72 327	⇓iP	P	18 54 52.2	+1.0
SIRR	Siria	75.72 332	⇑iP	P	18 54 51.8	+0.6
SULR		75.73 328	⇑iP	P	18 54 51.4	+0.1
CONA	Conrad Observa	75.75 336	eP	P	18 54 52.7	+1.1
	comp=Z,6.0nm,0.7s,SNR=5.5					
SOP	Sopron	75.81 336	P	P	18 54 53.7	+2.0
SOP			pmax	pmax		
	comp=Z,16nm,1.1s					
GZR	Gura Zlata	76.18 331	⇑iP	P	18 54 54.1	+0.1
MOA	Molln	76.22 337	eP	P	18 54 54.8	+0.7
	comp=Z,4.9nm,0.8s					
BZS	Buzias	76.32 332	⇑iP	P	18 54 54.8	+0.1
BZS	Buzias	76.32 332	P	P	18 54 54.9	+0.2
BZS			pmax	pmax		
	comp=Z,13nm,1.3s					
ARSA	Arzberg	76.47 336	eP	P	18 54 55.7	+0.2
	comp=Z,3.6nm,0.7s					
HERR	Herculane	76.75 331	⇑iP	P	18 54 56.1	-1.0
MDVR	Moldovita	77.05 331	⇓iP	P	18 54 58.8	-0.1
SOKA	Soboth	77.12 336	eP	P	18 55 00.1	+0.8
	comp=Z,4.0nm,0.6s					
PERS	Pernice	77.14 336	iP	P	18 55 00.1	+0.7
KBA	Koelnbreinsper	77.16 338	eP	P	18 55 00.9	+1.3
	comp=Z,28nm,0.7s,SNR=12					
KBA	Koelnbreinsper	77.16 338	P	P	18 55 01.5	+1.9
KBA			pmax	pmax		
	comp=Z,47nm,0.8s					
WATA	Walderalm	77.32 339	eP	P	18 55 01.6	+1.1
	comp=Z,11nm,1.1s					
RETA	Reutte	77.35 339	eP	P	18 55 01.4	+0.9
	comp=Z,6.2nm,0.8s					
WTTA	Wattenberg	77.37 339	eP	P	18 55 02.0	+1.2
	comp=Z,6.3nm,0.8s					
ECH	Echery	77.39 342	eP	P	18 55 01.2	+0.5
	comp=Z,10nm,0.9s					
ECH	Echery	77.39 342	eP	P	18 55 01.2	+0.5
ECH			pmax	pmax		
	comp=Z,10.0nm,0.9s					
OBKA	Obir	77.40 337	eP	P	18 55 01.7	+0.9
	comp=Z,3.9nm,0.6s					
MOTA	Moosalm	77.41 339	eP	P	18 55 02.0	+1.0
	comp=Z,9.0nm,0.8s,SNR=7.6					
BR131	Keskin Array S	77.42 321	eP	P	18 55 01.3	+0.1
	comp=Z,8.7nm,1.0s					
BR131	Keskin Array S	77.42 321	eP	P	18 55 01.3	+0.1
BR131			pmax	pmax		
	comp=Z,9.0nm,1.0s					
BRTR	Keskin Array B	77.42 321	P	P	18 55 01.4	+0.2
	comp=Z,5.5nm,0.9s,baz=34,slow=4.3,SNR=12					
SQTA	Sankt Quirin	77.51 339	eP	P	18 55 02.5	+1.1
	comp=Z,14nm,0.8s,SNR=6.0					
ABTA	Abfaltersbach	77.66 338	eP	P	18 55 03.2	+0.9
	comp=Z,9.3nm,0.8s					
DAVA	Damuels	77.73 340	eP	P	18 55 03.5	+0.7
	comp=Z,6.9nm,0.8s					
FETA	Feichten	77.80 339	iP	P	18 55 04.2	+1.0
	comp=Z,7.0nm,0.9s					
KLYT	Kilyos	77.81 325	⇓iP	P	18 55 03.3	+0.2
CRES	Cresnjev	77.81 336	iP	P	18 55 03.3	+0.2
CTYL	Yalikoy Yolu	77.88 325	⇑iP	P	18 55 03.8	+0.3
VTS	Vitosha	78.55 329	⇑iP	P	18 55 07.7	+0.4
VTS	Vitosha	78.55 329	P	P	18 55 07.6	+0.3
VTS			pmax	pmax		
	comp=Z,20nm,0.7s					
TUE	Stuetta	78.62 340	eP	P	18 55 07.8	0.0
	comp=Z,15nm,0.8s					
ASAR	Alice Springs	79.00 205	eP	P	18 55 10.5	+0.8
ASAR	Alice Springs	79.00 205	eP	P	18 55 10.5	+0.8
ASAR	Alice Springs	79.00 205	P	P	18 55 10.7	+1.0
	comp=Z,1.0nm,0.6s,baz=18,slow=5.4,SNR=4.6					
PDG	Podgorica	79.92 332	⇓iP	P	18 55 14.3	-0.3
ISP	Isparta	80.28 322	P	P	18 55 18.0	+1.2
ISP			pmax	pmax		
	comp=Z,12nm,0.8s					
PBRG	Braganca	85.72 350	eP	P	18 55 47.2	+2.4
POLO	Lamas de Olo	86.25 351	eP	P	18 55 49.0	+1.5
MVO	Moncorvo	86.38 350	eP	P	18 55 49.8	+1.7
PVIS	Viseu	86.91 351	eP	P	18 55 51.9	+1.2
MTE	Manteigas	87.19 351	eP	P	18 55 54.3	+2.2
ESDC	Sonseca Array	87.50 348	P	P	18 55 53.2	-0.3
	comp=Z,2.3nm,0.7s,baz=3.5,slow=4.3,SNR=8.7					
KEST	Kesra	88.86 337	P	P	18 56 00.2	+0.1
	comp=Z,3.1nm,0.6s,baz=128,slow=0.9,SNR=3.7					
TORD	Torodi Ar. Bea	112.37 337	PP	PP	19 02 22.0	-4.8
	comp=Z,1.3nm,1.0s,baz=20,slow=4.7,SNR=4.5					
PLCA	Paso Flores	143.82 92	PKP	PKPdf	19 02 41.9	+1.5
	comp=Z,0.6nm,0.7s,baz=287,slow=3.9,SNR=2.7					

DJA 19 18:43:34.7±0.7, 6°S±8°×10°6E±°, h119km±7km, M3.6/7, MLv3.6/7, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.27	243	P	Pn	18 43 52.6	+1.2
CGJI				S	Sn	18 44 06.2	+2.2
SKJI	Sukabumi	0.80	130	P	Pn	18 43 56.1	+1.3
SKJI				S	Sn	18 44 11.0	+1.1
LEM	Lembang	1.70	101	P	Pn	18 44 07.4	+2.8
LEM				S	Sn	18 44 28.0	+0.7
CISI	Cisompet, Garu	2.14	120	P	Pn	18 44 09.9	0.0
CISI				S	Sn	18 44 36.8	-0.1
MNAI	Manna	3.65	305	P	Pn	18 44 29.3	-0.3
TPI	Tanjungpandan	4.08	25	P	Pn	18 44 35.2	-0.2

*KRSC **19** 18:44:07.3±10.0, 52°.01N×160°.69E, h50km±10km, ML6.1, FELT [IV] at river Karimshina (stationary KF GS); [III-IV] at Petropavlovsk, Viluchinsk, Institute, Pionersky, MGeoES-I, Elizovo; [III] at Ribachiy, Nikolaevka, Paratunka, Vulkanniy, state-farm Termalniy; [II] at GMS Kronoki.*

*BJI **19** 18:44:08.8±0.0, 52°.25N×160°.00E, h20km, mb5.6/75, mB6.0/67, Ms6.4/87, Ms7 6.4/81*

*IDC **19** 18:44:08.4±0.3, 52°.32N×160°.10E, h0km, mb5.4/44, mb1 5.5/46, mb1mx5.4/48, mbtmp5.4/46, ML5.2/2, MS6.0/15, Ms1 6.0/15, ms1mx5.7/28, Error ellipse: s-maj=10.8km s-min=7.8km az=148.0*

*ISCJB **19** 18:44:10.5±0.5, 52°.15N±0°.01×160°.39E±0°.02, h32km±3km, mb5.9/324, MS6.0/779, Error ellipse: s-maj=2.4km s-min=1.6km az=161.6*

*NEIC **19** 18:44:10.8±0.0, 52°.13N×160°.88E, h17km, Moment Tensor Solution. s27 Moment tensor: Scale 10^{18}Nm; M_{rr}0.56; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-0.47; $M_{r\theta}$0.73; $M_{\theta\phi}$-0.24; $M_{\phi r}$1.12; Best double couple: $M_0$1.50000×10^{18} NP1:ϕ_s33.00000°, δ78.00000°, λ93.00000°. NP2:ϕ_s200.00000°, δ12.00000°, λ77.00000°. Principal axes: T 1.4500, Plg56.0000°, Azm306.0000°; N 0.0100, Plg2.0000°, Azm212.0000°; P -1.4700, Plg33.0000°, Azm120.0000°;*

*NEIC **19** 18:44:10.9±0.2, 52°.34N×160°.07E, h18km, mb5.9/74, ME6.1, MS5.8/298, MW5.9, MW6.1 Error ellipse: s-maj=5.7km s-min=3.5km az=151.0, Moment Tensor Solution. s122 Moment tensor: Scale 10^{17}Nm; M_{rr}4.71; $M_{\theta\theta}$-1.26; $M_{\phi\phi}$-3.45; $M_{r\theta}$3.68; $M_{\theta\phi}$-2.54; $M_{\phi r}$5.43; Best double couple: $M_0$8.20000×10^{17} NP1:ϕ_s212.00000°, δ18.00000°, λ89.00000°. NP2:ϕ_s34.00000°, δ72.00000°, λ90.00000°. Principal axes: T 7.9900, Plg63.0000°, Azm305.0000°; N 0.4100, Plg0.0000°, Azm214.0000°; P -8.4000, Plg27.0000°, Azm124.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s205.00000°, δ15.00000°, λ90.00000°. NP2:ϕ_s25.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm295.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm115.0000°; Complex event, with at least one event occurring about 6 seconds after the onset observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms based on first event. Apparent Stress 0.80 MPa. Energy computed from BB mechanism.*

*GCMT **19** 18:44:13.9±0.1, 52°.16N×160°.61E, h21km, MW5.9/135, Moment Tensor Solution. s125,c271; s135,c439; Duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.75±.01; $M_{\theta\theta}$-0.26±.01; $M_{\phi\phi}$-0.49±.01; $M_{r\theta}$0.47±.01; $M_{\theta\phi}$-0.35±.00; $M_{\phi r}$0.52±.01; Best double couple: $M_0$1.02400×10^{18} NP1:ϕ_s40.00000°, δ67.00000°, λ93.00000°. NP2:ϕ_s212.00000°, δ24.00000°, λ82.00000°. Principal axes: T 1.0280, Plg68.0000°, Azm317.0000°; N -0.0080, Plg3.0000°, Azm219.0000°; P -1.0210, Plg21.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*MOS **19** 18:44:13.6±1.0, 52°.31N×160°.10E, h57km, mb6.1/144, MS6.2/80 Error ellipse: s-maj=5.5km s-min=3.0km az=94.0 Broadband fault plane solution: P waves. $M_0$3.00000×10^{18} NP1:ϕ_s28.00000°, δ71.00000°, λ95.00000°. NP2:ϕ_s193.00000°, δ20.00000°, λ76.00000°. Principal axes: T Plg64.0000°, Azm306.0000°; N Plg5.0000°, Azm207.0000°; P Plg26.0000°, Azm114.0000°;*

MOS Felt (III-IV) at Petropavlovsk-Kamchatskiy. Fault plane solution: P-wave C167, D35 . .

ISC 19 18:44:11.5±0.4, 52°.19N±0°.03×160°.36E±0°.02, h26km±2km, h26km: pP-P, n2578, σ1932/2135, mb5.9/376, MS6.0/822, 262C-31D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.93	348	iP	Pn	18 44 28.5	-0.4
SPN				eS	Sn	18 44 42.4	+1.0
SPN	Mys Shipunski	0.93	348	PN	Pn	18 44 28.5	-0.4
SPN				S	Sn	18 44 42.4	+1.0
RUS	Russkaya	1.16	283	eP	Pn	18 44 32.1	+0.1
RUS	Russkaya	1.16	283	PN	Pn	18 44 32.1	+0.1
NLC	Nalytchevo	1.16	328	eP	Pb	18 44 33.1	+0.2
NLC				eS	Sb	18 44 50.3	+2.9
NLC	Nalytchevo	1.16	328	PN	Pb	18 44 33.1	+0.2
DALK	Dalny	1.29	311	eP	Pn	18 44 33.6	-0.2
DALK				eS	Sb	18 44 53.5	+2.3
DALK	Dalny	1.29	311	PN	Pn	18 44 33.6	-0.2
PET	Petropavlovsk	1.33	309	ePn	Pb	18 44 35.5	-0.3
PET	Petropavlovsk	1.33	309	α iPN	Pb	18 44 35.5	-0.3
PET				pmax	pmax		
	comp=Z,222μm,2.5s						
PET				pmax	pmax		
	comp=Z,23μm,0.7s						
MTVR	Mutnovka	1.36	283	eP	Pn	18 44 35.5	+0.5
MTVR	Mutnovka	1.36	283	PN	Pn	18 44 35.5	+0.5
SMAR	Somma	1.43	319	eP	Pn	18 44 36.1	+0.1
SMAR	Somma	1.43	319	PN	Pn	18 44 36.1	+0.1
GRL	Gorelyy	1.45	285	eP	Pb	18 44 37.2	-0.6
GRL	Gorelyy	1.45	285	PN	Pb	18 44 37.2	-0.6
KDTR	Khodutka, Kamc	1.46	256	eP	Pn	18 44 35.8	-0.3
KDTR				eS	Sn	18 44 54.9	+0.5
KDTR	Khodutka, Kamc	1.46	256	PN	Pn	18 44 35.8	-0.3
KDTR				S	Sn	18 44 54.9	+0.5
KRMR	Karymshinskiy	1.50	296	eP	Pb	18 44 38.0	-0.7
KRMR				eS	Sb	18 45 00.2	+2.9
KRMR	Karymshinskiy	1.50	296	PN	Pb	18 44 38.0	-0.7
KRX	Arik	1.56	319	eP	Pb	18 44 39.5	-0.3
KRX	Arik	1.56	319	PN	Pb	18 44 39.5	-0.3
I44RU	PETROPAVLOVSK-	1.85	301	Pn	Pn	18 44 42.9	+1.3
	baz=115,slow=19,SNR=2.9						
I44RU				Sn	Sb	18 45 08.9	+1.5
	baz=98,slow=34						
PEA0B	Petropavlovsk-	1.86	301	ePn	Pb	18 44 43.3	-1.5
PEA0B	Petropavlovsk-	1.86	301	ePN	Pb	18 44 43.3	-1.5
PETK	Petropavlovsk-	1.86	301	ePn	Pn	18 44 43.2	+1.5
PETK	Petropavlovsk-	1.86	301	ePN	Pn	18 44 43.2	+1.5
PETK	Petropavlovsk-	1.86	301	Pn	Pb	18 44 45.1	+0.3
	comp=Z,1μm,0.3s,baz=104,slow=19,SNR=24						
PETK				Sn	Sb	18 45 07.2	-0.5
	comp=Z,931nm,0.3s,baz=91,slow=12,SNR=6.9						
PEA1	Petropavlovsk-	1.86	301	ePn	Pb	18 44 45.1	+0.3
PEA1				eSn	Sb	18 45 07.2	-0.6
APC	Apacha	2.08	292	eP	Pn	18 44 46.4	+1.7
APC				eS	Sb	18 45 15.3	+1.2
APC	Apacha	2.08	292	PN	Pn	18 44 46.4	+1.7
PAU	Pauzhetka	2.31	253	eP	Pn	18 44 47.6	-0.3
PAU				eS	Sn	18 45 17.2	+1.7
PAU	Pauzhetka	2.31	253	PN	Pn	18 44 47.6	-0.3
PAU				S	Sn	18 45 17.2	+1.7
MKZ	Mys Kozlova	2.51	19	eP	Pn	18 44 50.3	-0.2
MKZ	Mys Kozlova	2.51	19	PN	Pn	18 44 50.3	-0.2
KZV	Kizimen	2.93	359	eP	Pn	18 44 57.4	+0.9
KZV	Kizimen	2.93	359	PN	Pn	18 44 57.4	+0.9
TUMD	Tumrok D	3.02	0	eP	Pn	18 44 58.0	+0.4
TUMD				eS

BZWR	**Bezymyannyi-We**	**3.78**	**1**	PN	**Pn**	**18 45 09.9 +1.7**
KPT	**Kopyto**	**3.78**	**359**	*e*P	**Pn**	**18 45 10.5 +2.3**
KPT	**Kopyto**	**3.78**	**359**	PN	**Pn**	**18 45 10.5 +2.3**
ESO	**Esso**	**3.87**	**346**	*e*P	**Pn**	**18 45 10.2 +1.0**
ESO				*e*S	**Sn**	**18 45 58.8 +5.0**
ESO	**Esso**	**3.87**	**346**	PN	**Pn**	**18 45 10.2 +1.0**
ESO				S	**Sn**	**18 45 58.8 +5.0**
KOZ	**Kozyrevsk**	**3.88**	**356**	*e*P	**Pn**	**18 45 11.0 +1.5**
KOZ	**Kozyrevsk**	**3.88**	**356**	PN	**Pn**	**18 45 11.0 +1.5**
LGNR	**Loginova**	**3.91**	**3**	*e*P	**Pn**	**18 45 10.9 +0.9**
LGNR	**Loginova**	**3.91**	**3**	PN	**Pn**	**18 45 10.9 +0.9**
CIRR	**Tsirk**	**3.94**	**3**	*e*P	**Pn**	**18 45 12.3 +1.9**
CIRR	**Tsirk**	**3.94**	**3**	PN	**Pn**	**18 45 12.3 +1.9**
KLY	**Klyuchi**	**4.13**	**2**	*e*P	**Pn**	**18 45 15.1 +2.2**
KLY	**Klyuchi**	**4.13**	**2**	PN	**Pn**	**18 45 15.1 +2.2**
SRDR	**Sredinnyy**	**4.15**	**355**	*e*P	**Pn**	**18 45 14.8 +1.6**
SRDR	**Sredinnyy**	**4.15**	**355**	PN	**Pn**	**18 45 14.8 +1.6**
KBTR	**Krutoberegovo**	**4.28**	**19**	*e*P	**Pn**	**18 45 16.7 +1.9**
KBTR				*e*S	**Sn**	**18 46 06.0 +2.2**
KBTR	**Krutoberegovo**	**4.28**	**19**	PN	**Pn**	**18 45 16.7 +1.9**
KBTR				S	**Sn**	**18 46 06.0 +2.2**
KBG	**Krutoberegovo**	**4.30**	**18**	*e*P	**Pn**	**18 45 15.9 +0.8**
KBG				*e*S	**Sn**	**18 46 05.4 +1.0**
KBG	**Krutoberegovo**	**4.30**	**18**	PN	**Pn**	**18 45 15.9 +0.8**
KBG				S	**Sn**	**18 46 05.4 +1.0**
BDR	**Baidarnaya**	**4.42**	**6**	*e*P	**Pn**	**18 45 17.9 +1.1**
BDR	**Baidarnaya**	**4.42**	**6**	PN	**Pn**	**18 45 17.9 +1.1**
SMKR	**Semkarok**	**4.45**	**8**	*e*P	**Pn**	**18 45 19.0 +1.7**
SMKR	**Semkarok**	**4.45**	**8**	PN	**Pn**	**18 45 19.0 +1.7**
SRKR	**Sorokina**	**4.50**	**6**	*e*P	**Pn**	**18 45 18.1 +0.1**
SRKR	**Sorokina**	**4.50**	**6**	PN	**Pn**	**18 45 18.1 +0.1**
BKI	**Bering**	**4.50**	**46**	*e*P	**Pn**	**18 45 16.7 -1.2**
BKI				*e*S	**Sn**	**18 46 06.2 -3.1**
BKI	**Bering**	**4.50**	**46**	PN	**Pn**	**18 45 16.7 -1.2**
PALN	**Palana**	**6.92**	**358**	*e*P	**Pn**	**18 45 53.5 +2.4**
PALN				*e*S	**Sn**	**18 47 11.2 +2.4**
PALN	**Palana**	**6.92**	**358**	PN	**Pn**	**18 45 53.5 +2.4**
PALN				S	**Sn**	**18 47 11.2 +2.4**
OSSR	**Ossora**	**7.24**	**11**	*e*P	**Pn**	**18 45 57.2 +1.8**
OSSR	**Ossora**	**7.24**	**11**	PN	**Pn**	**18 45 57.2 +1.8**
TILK	**Tilichiki**	**8.88**	**19**	*e*P	**Pn**	**18 46 19.7 +1.8**
TILK				*e*S	**Sn**	**18 47 56.9 +0.1**
TILK	**Tilichiki**	**8.88**	**19**	PN	**Pn**	**18 46 19.7 +1.8**
MA2	**Magadan**	**9.14**	**328**	Pn	**Pn**	**18 46 24.3 +2.7**
	comp=Z,1.7nm,0.3s,baz=140,slow=12,SNR=8.1					
MA2				LR	LR	18 50 32.9
	comp=Z,115μm,19.6s,baz=142,slow=43					
OKH	**Okha**	**10.62**	**284***c*	*i*PN	**Pn**	**18 46 43.4 +1.6**
OKH				*i* S	**Sn**	**18 48 42.2 +2.5**
OKH				pmax	pmax	
	comp=Z,8μm,11.1s					
OKH				MLR	MLR	
	comp=Z,185μm,14.0s					
KMSK	**Kamenskaya**	**10.77**	**15**	*e*P	**Pn**	**18 46 44.5 +0.7**
KMSK	**Kamenskaya**	**10.77**	**15**	PN	**Pn**	**18 46 44.5 +0.7**
KUR	**Kuril'sk**	**10.79**	**235**	*e*PN	**Pn**	**18 46 45.9 +1.8**
KUR				pmax	pmax	
	comp=Z,258nm,0.8s					
KUR				pmax	pmax	
	comp=E,50nm,0.4s					
KUR				pmax	pmax	
	comp=N,71nm,0.9s					
KUR				pmax	pmax	
	comp=Z,9μm,7.3s					
KUR				MLR	MLR	
	comp=N,178μm,18.0s					
KUR				MLR	MLR	
	comp=Z,95μm,18.0s					
KUR				MLR	MLR	
	comp=E,88μm,16.0s					
TYV	**Tymovskoe**	**11.11**	**270**	*e*PN	**Pn**	**18 46 52.3 +3.8**
TYV				*e*S	**Sn**	**18 49 00.1 +8.4**
TYV				pmax	pmax	
	comp=Z,146nm,1.1s					
TYV				pmax	pmax	
	comp=Z,10μm,5.3s					
TYV				smax	smax	
	comp=E,84nm,1.6s					
TYV				smax	smax	
	comp=E,2μm,3.8s					
TYV				MLR	MLR	
	comp=N,121μm,16.0s					
TYV				MLR	MLR	
	comp=Z,180μm,16.0s					
SEY	**Seymchan**	**11.58**	**342**⇑	*e*PN	**Pn**	**18 46 57.0 +2.2**
SEY	**Seymchan**	**11.58**	**342**	Pn	**Pn**	**18 46 57.5 +2.7**
	comp=Z,0.2nm,0.3s,baz=143,slow=12,SNR=25					
NKL	**Nikolayevsk**	**11.98**	**282**	*i* PN	**Pn**	**18 47 04.0 +3.6**
NKL				pmax	pmax	
	comp=E,1μm,2.0s					
NKL				pmax	pmax	
	comp=Z,1μm,2.0s					
NKL				pmax	pmax	
	comp=N,2μm,10.0s					
NKL				pmax	pmax	
	comp=E,18μm,10.0s					
NKL				pmax	pmax	
	comp=Z,15μm,10.0s					
NKL				MLR	MLR	
	comp=N,47μm,14.0s					
NKL				MLR	MLR	
	comp=E,107μm,14.0s					
NKL				MLR	MLR	
	comp=Z,250μm,14.0s					
UGL	**Uglegorsk**	**12.02**	**262***c*	*i*PN	**Pn**	**18 47 03.9 +2.9**
UGL				*e*S	**Sn**	**18 49 22.4 +8.4**
UGL				pmax	pmax	
	comp=Z,19μm,4.2s					
UGL				pmax	pmax	
	comp=E,17μm,4.3s					
UGL				pmax	pmax	
	comp=Z,673nm,1.1s					
UGL				smax	smax	
	comp=E,14μm,8.1s					
UGL				MLR	MLR	
	comp=Z,93μm,13.0s					
UGL				MLR	MLR	
	comp=E,120μm,13.0s					
YSS	**Yuzh-Sakhalins**	**12.56**	**252**	*e*Pn	**Pn**	**18 47 10.2 +1.9**
YSS	**Yuzh-Sakhalins**	**12.56**	**252**α	*i*PN	**Pn**	**18 47 10.0 +1.7**
YSS				pmax	pmax	
	comp=Z,6μm,6.4s					
YSS				pmax	pmax	
	comp=N,4μm,5.5s					
YSS				pmax	pmax	
	comp=E,5μm,5.7s					
YSS				pmax	pmax	
	comp=Z,440nm,1.4s					
YSS				MLR	MLR	
	comp=Z,73μm,14.0s					
YSS				MLR	MLR	
	comp=E,58μm,15.0s					
YUK	**Yuzh-Kuril'sk**	**12.65**	**236***c*	*i*PN	**Pn**	**18 47 08.3 -1.2**
YUK				S	**Sn**	**18 49 36.4 +7.0**
YUK				pmax	pmax	
	comp=Z,440nm,0.5s					
YUK				pmax	pmax	
	comp=N,66nm,0.6s					
YUK				pmax	pmax	
	comp=E,203nm,0.5s					
YUK				pmax	pmax	
	comp=Z,2μm,4.0s					
YUK				MLR	MLR	
	comp=Z,99μm,19.0s					
YUK				MLR	MLR	
	comp=E,130μm,17.0s					
ADK	**Adak**	**14.13**	**82**	*e*Pn	**Pn**	**18 47 29.7 0.0**
ADK	**Adak**	**14.13**	**82**	*e*P	**Pn**	**18 47 29.7 0.0**
ASAJ	**Asahikawa**	**14.32**	**243**	Pn	**Pn**	**18 47 32.7 +0.4**
	comp=E,20nm,0.3s,baz=62,slow=14,SNR=33					
ASAJ				LR	LR	18 53 51.7
	comp=E,67μm,18.5s,baz=50,slow=41					
GSTR	**Great Sitkin T**	**14.47**	**81**	*e*Pn	**Pn**	**18 47 32.7 -1.7**
ERM	**Erimo**	**15.47**	**236***c*	*e*P	**Pn**	**18 47 42.6 -5.2**
BILL	**Bilibino**	**16.16**	**8***c*	*i*P	**Pn**	**18 47 56.8 +0.4**
BILL				pmax	pmax	
	comp=Z,653nm,1.5s					
BILL				MLR	MLR	
	comp=Z,69μm,19.0s					
TEY	**Ternei**	**17.21**	**255**⇑	*e*P	**Pn**	**18 48 10.2 +0.3**
TEY				*e*S	**Sn**	**18 51 17.0 -3.3**
TEY				pmax	pmax	
	comp=E,330nm,1.9s					
TEY				pmax	pmax	
	comp=N,100nm,3.0s					
TEY				pmax	pmax	
	comp=Z,370nm,2.0s					
KLR	**Kul'dur**	**18.30**	**272***c*	*i*P	**Pn**	**18 48 23.8 +0.5**
KLR	**Kul'dur**	**18.30**	**272**	P	**Pn**	**18 48 23.9 +0.6**
	comp=Z,2.4nm,0.3s,baz=73,slow=11,SNR=32					
YAK	**Yakutsk**	**19.16**	**313***c*	*i*P	**P**	**18 48 30.5 -2.1**
YAK				*e*S	**Sn**	**18 52 03.5 -3.8**
YAK				pmax	pmax	
	comp=Z,3μm,1.1s					
YAK				pmax	pmax	
	comp=N,968nm,1.0s					
YAK				pmax	pmax	
	comp=E,2μm,1.1s					
YAK				smax	smax	
	comp=E,14μm,4.4s					
YAK				smax	smax	
	comp=N,11μm,3.8s					
YAK				MLR	MLR	
	comp=Z,264μm,16.0s					
YAK				MLR	MLR	
	comp=E,206μm,15.0s					
YAK				MLR	MLR	
	comp=N,234μm,14.0s					
ZEA	**Zeya**	**19.90**	**288***c*	*e*P	**P**	**18 48 39.2 -1.6**
ZEA				pmax	pmax	
	comp=E,240nm,1.6s					
ZEA				pmax	pmax	
	comp=Z,420nm,1.6s					
ZEA				pmax	pmax	
	comp=E,5μm,12.0s					
ZEA				pmax	pmax	
	comp=Z,5μm,12.0s					
ZEA				pmax	pmax	
	comp=N,3μm,11.0s					
ZEA				MLR	MLR	
	comp=Z,110μm,15.0s					
ZEA				MLR	MLR	
	comp=N,51μm,14.0s					
USRK	**Ussuriysk Ar.**	**20.43**	**258**	P	**P**	**18 48 44.3 -2.2**
	comp=N,219nm,1.0s,baz=60,slow=9.0,SNR=56					
VLA	**Vladivostok**	**21.10**	**256***c*	*e*P	**P**	**18 48 50.3 -3.5**
VLA				pmax	pmax	
	comp=Z,142nm,1.0s					
VLA				MLR	MLR	
	comp=Z,39μm,19.0s					
ANM	**Nome**	**21.49**	**42**	PFAKE		18 49 10.0 +12
ANM				LR	LR	
	comp=Z,29μm,19.0s					
MDJ	**Mudanjiang**	**21.66**	**262**	P	**P**	**18 48 58.3 -1.5**
MDJ				pP	pP	18 49 02.9 -3.2
MDJ				sP	sP	18 49 05.3 -4.2
MDJ				S	**S**	**18 52 58.9 +0.7**
MDJ				sS	Sn	18 53 07.4 -0.2
MDJ				SS	**SnSn**	**18 53 25.9 +3.2**
MDJ				pmax	pmax	
	comp=Z,190nm,1.2s					
MDJ				pmax	pmax	
	comp=Z,3μm,3.0s					
MDJ				LR	LR	
	comp=Z,104μm,19.9s					
MDJ				LR	LR	
	comp=Z,46μm,20.7s					
MDJ				LR	LR	
	comp=Z,39μm,21.9s					
MDJ	**Mudanjiang**	**21.66**	**262**	*e*P	**P**	**18 48 57.9 -1.9**
	comp=Z,612nm,1.4s					
MDJ				LR	LR	
	comp=Z,51μm,19.0s					
MSHR	**Mys Shultsa**	**21.85**	**256**⇓	*e*P	**P**	**18 49 01.5 -0.3**
MJB9	**Matsu-Tunnel**	**22.12**	**234**	PFAKE		18 49 20.0 +15
MJB9				LR	LR	
	comp=Z,66μm,21.0s					
MAJO	**Matsushiro**	**22.12**	**234**	*e*P	**P**	**18 49 05.9 +1.1**
MAJO				LR	LR	
	comp=Z,62μm,21.0s					
MAJO	**Matsushiro**	**22.12**	**234***c*	*i*P	**P**	**18 49 05.0 +0.1**
MAJO				pmax	pmax	
	comp=Z,548nm,1.1s					
MAJO				MLR	MLR	
	comp=Z,62μm,21.0s					
MAT	**Matsushiro**	**22.12**	**234**	P	**P**	**18 49 04.7 -0.2**
MAT				S	**S**	**18 53 11.0 +3.8**
MJAR	**Matsushiro Arr**	**22.12**	**234**	*e*P	**P**	**18 49 05.2 +0.3**
MJAR	**Matsushiro Arr**	**22.12**	**234**	P	**P**	**18 49 05.9 +1.1**
	comp=Z,311nm,1.0s,baz=22,slow=8.7,SNR=37					
MJAR				LR	LR	18 58 13.6
	comp=Z,62μm,21.1s,baz=55,slow=38					
INU	**Inuyama**	**23.66**	**234**	*e*P	**P**	**18 49 20.3 -0.3**
	comp=Z,368nm,0.9s					
INU				LR	LR	
	comp=Z,45μm,21.0s					
RDOG	**Red Dog Mine**	**23.69**	**34**	*e*P	**P**	**18 49 21.1 +0.4**
	comp=Z,674nm,1.4s					
RDOG				LR	LR	
	comp=Z,13μm,21.0s					
TIXI	**Tiksi**	**23.97**	**336**	*e*P	**P**	**18 49 21.2 -2.1**
	comp=Z,820nm,1.5s					
TIXI				LR	LR	
	comp=Z,49μm,19.0s					
TIXI	**Tiksi**	**23.97**	**336***c*	*i*P	**P**	**18 49 21.1 -2.2**
TIXI				pmax	pmax	
	comp=Z,490nm,1.3s					
TIXI				MLR	MLR	
	comp=Z,46μm,17.0s					
TIXI	**Tiksi**	**23.97**	**336**	P	**P**	**18 49 22.3 -0.9**
	comp=Z,111nm,0.6s,baz=125,slow=11,SNR=58					
JHJ	**Hachijo jima 2**	**24.18**	**226**	P	**P**	**18 49 26.8 +1.2**
	comp=Z,258nm,1.0s,baz=85,slow=2.7,SNR=4.9					
JHJ				LR	LR	19 02 25.6
	comp=Z,14μm,18.5s,baz=64,slow=45					
CN2	**Changchun**	**24.62**	**264**	⇓P	**P**	**18 49 27.3 -2.2**
CN2				*e*S	**S**	**18 53 45.1 -3.9**
CN2				pmax	pmax	
	comp=Z,100nm,1.2s					
CN2				pmax	pmax	
	comp=Z,2μm,6.0s					
CN2				LR	LR	
	comp=Z,46μm,14.0s					
CN2				LR	LR	
	comp=Z,88μm,15.0s					
HIA	**Hailar**	**25.64**	**280**	*e*P	**P**	**18 49 36.6 -2.1**
	comp=Z,344nm,1.1s					
HIA				LR	LR	
	comp=Z,93μm,18.0s					
HIA	**Hailar**	**25.64**	**280***c*	*i*P	**P**	**18 49 36.3 -2.4**
HIA				pmax	pmax	
	comp=Z,2μm,0.9s					
HIA				MLR	MLR	
	comp=Z,641μm,15.0s					
SII	**Sitkinak Islan**	**26.45**	**62**	PFAKE		18 50 00.0 +14
SII				LR	LR	
	comp=Z,27μm,19.0s					
BOD	**Bodaibo**	**26.73**	**301**	*e*P	**P**	**18 49 46.6 -1.9**
BOD				pmax	pmax	
	comp=Z,304nm,1.9s					
RSO	**Redoubt South**	**26.75**	**53**	*e*P	**P**	**18 49 51.8 +2.9**
SNY	**Shenyang**	**26.86**	**262**	⇑P	**P**	**18 49 48.1 -1.7**
SNY				S	**S**	**18 54 24.8 +0.3**
SNY				pmax	pmax	
	comp=Z,230nm,2.0s					
SNY				pmax	pmax	
	comp=Z,4μm,10.1s					
SNY				LR	LR	
	comp=Z,72μm,20.4s					
SNY				LR	LR	
	comp=Z,45μm,21.0s					
KSRS	**Korea Array**	**27.04**	**250**	P	**P**	**18 49 52.4 +1.0**
	comp=Z,60nm,1.0s,baz=45,slow=7.8,SNR=39					
KSRS				PcP	**PcP**	**18 53 13.0 +1.0**
	comp=Z,5.1nm,0.7s,baz=351,slow=3.3,SNR=7.1					
KSRS				LR	LR	19 01 38.4
	comp=Z,34μm,18.6s,baz=58,slow=39					
CAST	**Castle Rocks**	**27.04**	**47**	*e*P	**P**	**18 49 52.4 +1.1**
	comp=Z,250nm,1.6s					
CAST				LR	LR	
	comp=Z,21μm,19.0s					
KS15	**Wonju Array Si**	**27.07**	**250**	*e*P	**P**	**18 49 52.2 +0.5**
	comp=Z,200nm,1.3s					
KDAK	**Kodiak Island**	**27.11**	**59**	*e*P	**P**	**18 49 51.5 -0.4**
	comp=Z,192nm,0.9s					
KDAK				LR	LR	
	comp=Z,23μm,19.0s					
KDAK	**Kodiak Island**	**27.11**	**59***c*	*e*P	**P**	**18 49 51.8 -0.1**
KDAK	**Kodiak Island**	**27.11**	**59**	P	**P**	**18 49 52.0 +0.1**
	comp=Z,54nm,0.9s,baz=351,slow=3.3,SNR=20					
BPAW	**Bear Paw Mtn.**	**27.55**	**45**	*e*P	**P**	**18 49 57.2 +1.3**
	comp=Z,115nm,1.3s					
BPAW				LR	LR	
	comp=Z,14μm,18.0s					
MLY	**Manley**	**27.71**	**43**	*e*P	**P**	**18 49 58.0 +0.7**
	comp=Z,222nm,1.7s					
MLY				LR	LR	
	comp=Z,21μm,18.0s					
BRLK	**Bradley Lake**	**27.74**	**55**	*e*P	**P**	**18 49 58.1 +0.6**
	comp=Z,495nm,2.0s					
BRLK				LR	LR	
	comp=Z,12μm,19.0s					
TJN	**Taejon**	**28.11**	**249***c*	*i*P	**P**	**18 50 01.0 0.0**
RC01	**Rabbit Creek A**	**28.19**	**52**	*e*P	**P**	**18 50 02.5 +1.0**
	comp=Z,188nm,1.5s					
RC01				LR	LR	
	comp=Z,12μm,18.0s					
BWN	**Browne**	**28.22**	**45**	PFAKE		18 50 10.0 +8.2
BWN				LR	LR	
	comp=Z,14μm,18.0s					
CIT	**Chita**	**28.36**	**288**	*e*P	**P**	**18 50 01.6 -1.6**
CIT				*e*		18 50 11.7
CIT				*e*		18 51 07.1
CIT				*e*		18 54 43.9
CIT				pmax	pmax	
	comp=Z,435nm,1.6s					
MCK	**McKinley**	**28.45**	**46**	*e*P	**P**	**18 50 05.1 +1.2**
	comp=Z,126nm,1.2s					
MCK				LR	LR	
	comp=Z,18μm,18.0s					
MCK	**McKinley**	**28.45**	**46**	*e*P	**P**	**18 50 05.1 +1.2**
MCK				pmax	pmax	
	comp=Z,126nm,1.2s					
MCK				MLR	MLR	
	comp=Z,18μm,18.0s					
GHO	**Glory Hole Cre**	**28.53**	**50**	PFAKE		18 50 20.0 +15
GHO				LR	LR	
	comp=Z,12μm,19.0s					
JNU	**Nakatsue**	**28.56**	**240**	PFAKE		18 50 20.0 +15
JNU				LR	LR	
	comp=Z,24μm,19.0s					
JNU	**Nakatsue**	**28.56**	**240**	P	**P**	**18 50 05.7 +0.6**
	comp=Z,130nm,1.1s,baz=53,slow=6.0,SNR=17					
JNU				LR	LR	19 02 46.0
	comp=Z,22μm,19.1s,baz=41,slow=39					
TOLK	**Toolik Lake Re**	**28.60**	**36**	*e*P	**P**	**18 50 06.0 +0.9**
	comp=Z,288nm,1.8s					
TOLK				LR	LR	
	comp=Z,21μm,18.0s					
TOLK	**Toolik Lake Re**	**28.60**	**36**	P	**P**	**18 50 05.1 0.0**
	baz=261,SNR=6.4					
MDM	**Murphy Dome**	**28.77**	**44**	*e*P	**P**	**18 50 07.9 +1.2**
	comp=Z,73nm,1.1s					
MDM				LR	LR	
	comp=Z,22μm,18.0s					
KNK	**Knik Glacier**	**28.78**	**51**	PFAKE		18 50 20.0 +13
KNK				LR	LR	
	comp=Z,16μm,19.0s					
SML	**Sawmill**	**28.81**	**50**	PFAKE		18 50 20.0 +13
SML				LR	LR	
	comp=Z,13μm,20.0s					
WRH	**Wood River Hil**	**28.83**	**45**	PFAKE		18 50 20.0 +13
WRH				LR	LR	
	comp=Z,16μm,19.0s					
TCOL	**CIGO, UAF Yank**	**28.93**	**44**	P	**P**	**18 50 08.6 +0.6**
	baz=269					
COLA	**College**	**28.93**	**44**	PFAKE		18 50 20.0 +12
COLA				LR	LR	
	comp=Z,19μm,18.0s					
COLA	**College**	**28.93**	**44***c*	*i*P	**P**	**18 50 08.2 +0.2**
COLA				pmax	pmax	
	comp=Z,35nm,1.8s					
COLA				MLR	MLR	
	comp=Z,19μm,18.0s					
CCB	**Clear Creek Bu**	**28.95**	**44**	PFAKE		18 50 20.0 +12
CCB				LR	LR	
	comp=Z,17μm,18.0s					
MIDW	**Midway**	**29.15**	**137**	PFAKE		18 50 20.0 +10
MIDW				LR	LR	
	comp=Z,22μm,20.0s					
SCM	**Sheep Creek Mo**	**29.28**	**50**	*e*P	**P**	**18 50 12.2 +0.9**
	comp=Z,156nm,1.0s					
SCM				LR	LR	
	comp=Z,13μm,19.0s					
SCM	**Sheep Creek Mo**	**29.28**	**50**	*e*P	**P**	**18 50 12.2 +0.9**
SCM				pmax	pmax	
	comp=Z,156nm,1.0s					
SCM				MLR	MLR	
	comp=Z,13μm,19.0s					
HDA	**Harding Lake**	**29.32**	**45**	*e*P	**P**	**18 50 12.3 +0.7**
	comp=Z,149nm,1.6s					
HDA				LR	LR	
	comp=Z,14μm,18.0s					
HDA	**Harding Lake**	**29.32**	**45**	P	**P**	**18 50 11.1 -0.5**
	baz=271					
ILAR	**Eielson Array**	**29.35**	**44**	P	**P**	**18 50 12.6 +0.8**
	comp=Z,10nm,0.7s,baz=243,slow=8.3,SNR=16					
ILAR				PcP	**PcP**	**18 53 17.4 0.0**
	comp=Z,4.4nm,0.7s,baz=283,slow=3.2,SNR=5.5					
ILAR				PKiKP	**PKiKP**	**19 00 50.4 +0.2**
	comp=Z,0.9nm,0.9s,baz=300,slow=4.2,SNR=4.1					
ILAR				LR	LR	19 03 38.0
	comp=Z,16μm,19.0s,baz=276,slow=40					
ILAR				P3KPbc		19 22 18.9
	comp=Z,0.8nm,0.8s,baz=99,slow=3.7,SNR=6.9					
ILB	**Eielson Array**	**29.35**	**44**	*e*P	**P**	**18 50 12.8 +1.0**
	comp=Z,156nm,1.5s					
GLI	**Glacier Island**	**29.49**	**52**	*e*P	**P**	**18 50 13.7 +0.6**
	comp=Z,195nm,1.5s					
GLI				LR	LR	
	comp=Z,12μm,20.0s					
DL2	**Dalian**	**29.82**	**259**	P	**P**	**18 50 14.0 -2.1**
DL2				S	**S**	**18 55 09.3 -1.8**
DL2				pmax	pmax	
	comp=Z,140nm,1.3s					
DL2				pmax	pmax	
	comp=Z,2μm,10.1s					
DL2				LR	LR	
	comp=Z,25μm,14.5s					
DL2				LR	LR	
	comp=Z,26μm,18.0s					
DL2				LR	LR	
	comp=Z,37μm,21.4s					
PRP	**Porcupine Dome**	**29.92**	**43**	PFAKE		18 50 30.0 +13
PRP				LR	LR	
	comp=Z,13μm,18.0s					
KLU	**Klutina**	**29.98**	**51**	PFAKE		18 50 30.0 +13
KLU				LR	LR	
	comp=Z,14μm,22.0s					
FYU	**Fort Yukon**	**30.05**	**41**	PFAKE		18 50 30.0 +12
FYU				LR	LR	
	comp=Z,11μm,18.0s					
HARP	**HAARP**	**30.24**	**49**	PFAKE		18 50 30.0 +10
HARP				LR	LR	
	comp=Z,8μm,19.0s					
RIDG	**Independent Ri**	**30.27**	**46**	PFAKE		18 50 30.0 +10
RIDG				LR	LR	
	comp=Z,14μm,18.0s					
SCRK	**Sand Creek**	**30.64**	**46**	PFAKE		18 50 40.0 +17
SCRK				LR	LR	
	comp=Z,17μm,18.0s					
HMT	**Hamilton**	**30.95**	**53**	PFAKE		18 50 40.0 +14
HMT				LR	LR	
	comp=Z,16μm,19.0s					
TGL	**Tana Glacier**	**31.57**	**52**	PFAKE		18 50 40.0 +8.4
TGL				LR	LR	
	comp=Z,18μm,21.0s					
BALM	**Baldy**	**31.76**	**51**	*e*P	**P**	**18 50 34.8 +1.6**
	comp=Z,208nm,1.6s					
BALM				LR	LR	
	comp=Z,12μm,20.0s					
BALM	**Baldy**	**31.76**	**51**	*e*P	**P**	**18 50 34.8 +1.6**
BALM				pmax	pmax	
	comp=Z,208nm,1.6s					
BALM				MLR	MLR	
	comp=Z,12μm,20.0s					
EGAK	**Eagle**	**31.80**	**44**	PFAKE		18 50 50.0 +17
EGAK				LR	LR	
	comp=Z,18μm,18.0s					
CTGM	**Chitina Glacie**	**32.26**	**51**	PFAKE		18 50 50.0 +12
CTGM				LR	LR	
	comp=Z,16μm,19.0s					
BJI	**Beijing**	**32.44**	**266**⇑	*i*P	**P**	**18 50 37.5 -1.8**
BJI				S	**S**	**18 55 52.1 0.0**
BJI	**Beijing**	**32.44**	**266**	P	**P**	**18 50 38.6 -0.7**
BJI				pmax	pmax	
	comp=Z,79nm,1.4s					
BJT	**Baijiatuau**	**32.46**	**266**	*e*P	**P**	**18 50 38.6 -0.9**
	comp=Z,79nm,1.4s					

BJT				LR	LR		
	comp=Z,46μm,20.0s						
BJT	**Baijiatuau**	**32.46**	**266**	*e*P	**P**	**18 50 38.6**	**-0.9**
BJT				pmax	pmax		
	comp=Z,79nm,1.4s						
BJT				MLR	MLR		
	comp=Z,46μm,20.0s						
DAWY	**Dawson**	**32.64**	**45**	PFAKE		18 50 50.0	+9.2
DAWY				LR	LR		
	comp=Z,16μm,20.0s						
H11N2	**WAKE ISLAND Hy**	**32.80**	**169**	T	T	19 25 26.7	
	baz=352,slow=75,SNR=402						
H11N3	**WAKE ISLAND Hy**	**32.81**	**169**	T	T	19 25 28.2	
	baz=352,slow=75,SNR=376						
H11N1	**WAKE ISLAND Hy**	**32.81**	**169**	T	T	19 25 29.6	
	baz=352,slow=75,SNR=346						
WAKE	**Wake Island**	**33.21**	**169**	PFAKE		18 51 00.0	+14
WAKE				LR	LR		
	comp=Z,19μm,18.0s						
BCPM	**Bancas Point**	**33.30**	**53**	*e*P	**P**	**18 50 47.5**	**+1.0**
	comp=Z,186nm,1.0s						
BCPM				LR	LR		
	comp=Z,16μm,19.0s						
EPYK	**Eagle Plains**	**33.47**	**41**	PFAKE		18 51 00.0	+12
EPYK				LR	LR		
	comp=Z,12μm,18.0s						
EPYK	**Eagle Plains**	**33.47**	**41**	P	**P**	**18 50 48.1**	**+0.1**
	baz=277,SNR=8.3						
IRK	**Irkutsk**	**33.62**	**293**	*e*P	**P**	**18 50 47.8**	**-1.7**
IRK				*e*		18 52 03.0	
IRK				*e*		19 01 10.4	
IRK				pmax	pmax		
	comp=Z,410nm,1.9s						
ULN	**Ulaanbaatar**	**33.87**	**284**	*e*P	**P**	**18 50 50.4**	**-1.5**
	comp=Z,146nm,1.4s						
ULN				LR	LR		
	comp=Z,94μm,18.0s						
ULN	**Ulaanbaatar**	**33.87**	**284***c*	*i*P	**P**	**18 50 50.0**	**-1.8**
ULN				pmax	pmax		
	comp=Z,144nm,1.7s						
ULN				MLR	MLR		
	comp=Z,123μm,15.0s						
H11S1	**WAKE ISLAND Hy**	**33.98**	**169**	T	T	19 27 01.4	
	baz=351						
H11S3	**WAKE ISLAND Hy**	**33.99**	**169**	T	T	19 27 04.2	
	baz=351,slow=74						
H11S2	**WAKE ISLAND Hy**	**34.00**	**169**	T	T	19 26 59.3	
	baz=351,slow=74						
TLY	**Talaya**	**34.20**	**292**	PFAKE		18 51 10.0	+15
TLY				LR	LR		
	comp=Z,47μm,18.0s						
TLY	**Talaya**	**34.20**	**292***c*	*i*P	**P**	**18 50 53.3**	**-1.2**
SONA0	**Songino Array**	**34.27**	**285**	*e*P	**P**	**18 50 54.6**	**-0.7**
SONM	**Songino Array**	**34.27**	**285**	P	**P**	**18 50 54.6**	**-0.7**
	comp=Z,15nm,0.6s,baz=65,slow=8.1,SNR=31						
SONM				LR	LR	19 06 24.1	
	comp=Z,114μm,18.4s,baz=63,slow=39						
TIA	**Tai'an**	**34.28**	**260**	P	**P**	**18 50 53.9**	**-1.5**
TIA				pmax	pmax		
	comp=Z,140nm,1.2s						
TIA				LR	LR		
	comp=Z,12μm,18.1s						
TIA				LR	LR		
	comp=Z,27μm,21.1s						
TIA				LR	LR		
	comp=Z,25μm,23.5s						
INK	**Inuvik**	**34.49**	**37**	*e*P	**P**	**18 50 58.0**	**+1.2**
	comp=Z,132nm,1.2s						
INK				*e*PcP	**PcP**	**18 53 32.8**	**+1.7**
INK				LR	LR		
	comp=Z,10μm,21.0s						
INK	**Inuvik**	**34.49**	**37**	*e*P	**P**	**18 50 58.0**	**+1.2**
INK				*e*		18 53 32.8	
INK				pmax	pmax		
	comp=Z,132nm,1.2s						
INK				MLR	MLR		
	comp=Z,10μm,21.0s						
INK	**Inuvik**	**34.49**	**37**	P	**P**	**18 50 58.2**	**+1.4**
	comp=Z,14nm,0.6s,baz=294,slow=7.2,SNR=14						
INK				PcP	**PcP**	**18 53 32.9**	**+1.7**
	comp=Z,16nm,0.7s,baz=334,slow=5.7,SNR=4.0						
INK				PKiKP	**PKiKP**	**19 00 53.8**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=359,slow=1.9,SNR=4.0						
HHC	**Hu-ho-hao-te**	**34.80**	**271**	*e*P	**P**	**18 50 58.4**	**-1.5**
HHC				sP	pP	18 51 07.8	+0.7
HHC				PP	**PP**	**18 52 19.3**	**+0.4**
HHC				S	**S**	**18 56 31.1**	**+2.2**
HHC				pmax	pmax		
	comp=Z,760nm,0.9s						
HHC				pmax	pmax		
	comp=Z,3μm,4.5s						
HHC				LR	LR		
	comp=Z,8μm,12.9s						
HHC				LR	LR		
	comp=Z,11μm,11.9s						
HHC				LR	LR		
	comp=Z,11μm,13.5s						
JOW	**Kunigami**	**34.93**	**236**	PFAKE		18 51 10.0	+9.0
JOW				LR	LR		
	comp=Z,9μm,19.0s						
JOW	**Kunigami**	**34.93**	**236**	P	**P**	**18 51 02.1**	**+1.2**
	comp=Z,8.5nm,0.6s,baz=134,slow=13,SNR=18						
ZAK	**Zakamensk**	**34.95**	**290**	*e*P	**P**	**18 50 59.3**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,139nm,1.4s						
WHY	**Whitehorse**	**35.40**	**50**	PFAKE		18 51 20.0	+15
WHY				LR	LR		
	comp=Z,10μm,20.0s						
SSE	**Sheshan**	**35.47**	**249**	P	**P**	**18 51 05.8**	**+0.2**
SSE				S	**S**	**18 56 39.0**	**0.0**
SSE				pmax	pmax		
	comp=Z,1μm,4.6s						
SSE				LR	LR		
	comp=Z,9μm,19.0s						
SSE				LR	LR		
	comp=Z,9μm,22.2s						
SSE	**Sheshan**	**35.47**	**249**	PFAKE		18 51 20.0	+14
SSE				LR	LR		
	comp=Z,23μm,20.0s						
MOY	**Mondy**	**35.71**	**293**	*e*P	**P**	**18 51 06.6**	**-1.1**
MOY				pmax	pmax		
	comp=Z,416nm,3.2s						
BTO	**Baotou**	**35.90**	**272**	*e*P	**P**	**18 51 07.4**	**-1.9**
NJ2	**Nanjing**	**36.13**	**253**	⇑*i*P	**P**	**18 51 10.8**	**-0.4**
NJ2				sP	**sP**	**18 51 19.8**	**-1.2**
NJ2				S	**S**	**18 56 53.5**	**+4.4**
NJ2				pmax	pmax		
	comp=Z,140nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,2μm,5.3s						
NJ2				LR	LR		
	comp=Z,20μm,21.1s						
NJ2				LR	LR		
	comp=Z,29μm,13.6s						
NJ2				LR	LR		
	comp=Z,35μm,18.2s						
TIY	**Taiyuan**	**36.17**	**266**	*e*P	**P**	**18 51 10.8**	**-0.9**
TIY				PP	**PP**	**18 52 36.1**	**+2.1**
TIY				S	**S**	**18 56 55.8**	**+5.8**
TIY				pmax	pmax		
	comp=Z,42nm,1.0s						
TIY				pmax	pmax		
	comp=Z,1μm,7.2s						
TIY				LR	LR		
	comp=Z,27μm,12.9s						
TIY				LR	LR		
	comp=Z,38μm,14.4s						
JIS	**Juneau Island**	**36.37**	**54**	PFAKE		18 51 30.0	+17
JIS				LR	LR		
	comp=Z,6μm,20.0s						
NRIK	**Noril'sk**	**36.74**	**325**	P	**P**	**18 51 14.9**	**-1.1**
	comp=Z,66nm,0.9s,baz=90,slow=8.4,SNR=65						
ANA2	**Anatahan**	**37.61**	**203**	PFAKE		18 51 40.0	+16
ANA2				LR	LR		
	comp=Z,6μm,21.0s						
WRAK	**Wrangell Islan**	**38.08**	**56**	PFAKE		18 51 40.0	+13
WRAK				LR	LR		
	comp=Z,10μm,18.0s						
DLBC	**Dease Lake**	**38.46**	**52**	PFAKE		18 51 40.0	+9.1
DLBC				LR	LR		
	comp=Z,10μm,19.0s						
DLBC	**Dease Lake**	**38.46**	**52**	P	**P**	**18 51 33.3**	**+2.4**
	comp=Z,17nm,0.7s,baz=295,slow=6.2,SNR=22						
DIB	**Dawson Inlet,**	**39.36**	**61**	PFAKE		18 51 50.0	+12
DIB				LR	LR		
	comp=Z,10μm,21.0s						
YOJ	**Yonaguni jima**	**39.60**	**240**	*e*P	**P**	**18 51 39.2**	**-1.4**
	comp=Z,467nm,1.6s						
YOJ				LR	LR		
	comp=Z,20μm,22.0s						
YOJ	**Yonaguni jima**	**39.60**	**240**	*e*P	**P**	**18 51 39.2**	**-1.4**
YOJ				pmax	pmax		
	comp=Z,467nm,1.6s						
YOJ				MLR	MLR		
	comp=Z,20μm,22.0s						
WHN	**Wuhan**	**39.88**	**255**	⇓*i*P	**P**	**18 51 42.3**	**-0.6**
WHN				sP	**pwP**	**18 51 54.5**	**+0.7**
WHN				PP	**PnPn**	**18 53 17.3**	**-0.7**
WHN				S	**S**	**18 57 52.1**	**+6.2**
WHN				pmax	pmax		
	comp=Z,530nm,1.4s						
WHN				pmax	pmax		
	comp=Z,5μm,9.3s						
WHN				LR	LR		
	comp=Z,84μm,18.2s						
WHN				LR	LR		
	comp=Z,81μm,16.9s						
WHN				LR	LR		
	comp=Z,58μm,14.4s						
TATO	**Taipei**	**40.01**	**242**	PFAKE		18 52 00.0	+16
TATO				LR	LR		
	comp=Z,31μm,19.0s						
YHNB	**Yeheng**	**40.32**	**242**	PFAKE		18 52 00.0	+13
YHNB				LR	LR		
	comp=Z,37μm,19.0s						
GUMO	**Guam**	**40.46**	**204**	PFAKE		18 52 00.0	+12
GUMO				LR	LR		
	comp=Z,7μm,20.0s						
NACB	**Ninganchiao**	**40.59**	**241**	PFAKE		18 52 00.0	+11
NACB				LR	LR		
	comp=Z,27μm,19.0s						
XAN	**Xi'an**	**40.73**	**264**	P	**P**	**18 51 48.3**	**-1.7**
XAN				pP	pP	18 51 58.4	+1.1
XAN				pmax	pmax		
	comp=Z,2μm,8.3s						
XAN				LR	LR		
	comp=Z,51μm,20.1s						
XAN				LR	LR		
	comp=Z,45μm,21.1s						
XAN				LR	LR		
	comp=Z,35μm,16.3s						
XAN	**Xi'an**	**40.73**	**264**	PFAKE		18 52 00.0	+10
XAN				LR	LR		
	comp=Z,35μm,20.0s						
SSLB	**Suanglung**	**41.25**	**242**	PFAKE		18 52 10.0	+16
SSLB				LR	LR		
	comp=Z,30μm,19.0s						
YULB	**Yu-li**	**41.38**	**241**	PFAKE		18 52 10.0	+15
YULB				LR	LR		
	comp=Z,13μm,22.0s						
QZH	**Quanzhou**	**41.64**	**246**	⇑*i*P	**P**	**18 51 58.0**	**+0.6**
QZH				S	**S**	**18 58 15.5**	**+3.3**
QZH				pmax	pmax		
	comp=Z,3μm,9.0s						
QZH				LR	LR		
	comp=Z,14μm,21.6s						
QZH				LR	LR		
	comp=Z,7μm,19.7s						
QZH				LR	LR		
	comp=Z,14μm,18.9s						
TWG	**Pinlang**	**41.97**	**241**	PFAKE		18 52 10.0	+10
TWG				LR	LR		
	comp=Z,47μm,19.0s						
KNMB	**Chin-men Tao**	**42.13**	**245**	PFAKE		18 52 10.0	+8.6
KNMB				LR	LR		
	comp=Z,13μm,18.0s						
BBB	**Bella Bella**	**42.18**	**60**	PFAKE		18 52 10.0	+8.4
BBB				LR	LR		
	comp=Z,8μm,22.0s						
LZH	**Lanzhou**	**42.50**	**271**	*e*P	**P**	**18 52 04.0**	**-0.6**
LZH				pP	pP	18 52 09.3	-2.6
LZH				sP	pwP	18 52 11.5	-3.0
LZH				PP	**PP**	**18 53 48.1**	**+5.0**
LZH				*e*S	**S**	**18 58 23.0**	**-2.1**
LZH				SS	**SS**	**19 01 29.6**	**-5.1**
LZH				pmax	pmax		
	comp=Z,440nm,1.5s						
LZH				pmax	pmax		
	comp=Z,2μm,6.2s						
LZH				LR	LR		
	comp=Z,50μm,17.6s						
LZH				LR	LR		
	comp=Z,45μm,17.6s						
LZH				LR	LR		
	comp=Z,49μm,17.8s						
JOHN	**Johnston Islan**	**42.63**	**135**	PFAKE		18 52 20.0	+14
JOHN				LR	LR		
	comp=Z,20μm,19.0s						
GTA	**Gaotai**	**42.87**	**278**	⇑P	**P**	**18 52 06.0**	**-1.6**
GTA				pP	pwP	18 52 17.1	-0.5
GTA				sP	sP	18 52 21.8	+4.0
GTA				PP	**PP**	**18 53 47.5**	**+0.4**
GTA				PcP	**PcP**	**18 53 58.8**	**+0.7**
GTA				S	**S**	**18 58 28.4**	**-2.1**
GTA				ScS	**ScS**	**19 02 05.8**	**-0.7**
GTA				pmax	pmax		
	comp=Z,86nm,1.5s						
GTA				pmax	pmax		
	comp=Z,2μm,6.8s						
GTA				LR	LR		
	comp=Z,58μm,16.2s						
GTA				LR	LR		
	comp=Z,49μm,16.2s						
GTA				LR	LR		
	comp=Z,73μm,17.8s						
KEKH	**Kekaha**	**42.99**	**119**	PFAKE		18 52 20.0	+11
KEKH				LR	LR		
	comp=Z,9μm,19.0s						
ENH	**Enshi**	**43.00**	**260**	PFAKE		18 52 20.0	+11
ENH				LR	LR		
	comp=Z,24μm,21.0s						
ZAA0	**Zalesovo Array**	**43.40**	**304**	PFAKE		18 52 20.0	+8.5
ZAA0				LR	LR		
	comp=Z,47μm,19.0s						
ZALV	**Zalesovo Beam**	**43.40**	**304**	*e*P	**P**	**18 52 08.3**	**-3.2**
ZALV	**Zalesovo Beam**	**43.40**	**304**	*e*P	**P**	**18 52 08.3**	**-3.2**
ZALV	**Zalesovo Beam**	**43.40**	**304**	P	**P**	**18 52 09.2**	**-2.3**
	comp=Z,11nm,0.6s,baz=63,slow=6.8,SNR=21						
ZALV				PcP	**PcP**	**18 53 59.4**	**-0.1**
	comp=Z,12nm,0.7s,baz=64,slow=3.4,SNR=5.2						
BBP	**Basco**	**43.44**	**238**	*e*P	**P**	**18 52 12.4**	**+0.3**
KWAJ	**Kwajalein Atol**	**43.67**	**170**	PFAKE		18 52 30.0	+16
KWAJ				LR	LR		
	comp=Z,13μm,19.0s						
YKA	**Yellowknife Ar**	**43.72**	**42**	*e*P	**P**	**18 52 14.3**	**+0.4**
YKA	**Yellowknife Ar**	**43.72**	**42**	*e*P	**P**	**18 52 14.3**	**+0.4**
YKA	**Yellowknife Ar**	**43.72**	**42**	P	**P**	**18 52 15.1**	**+1.2**
	comp=Z,6.5nm,0.7s,baz=297,slow=7.6,SNR=18						
NVS	**Novosibirsk**	**43.76**	**305**	⇓*i*P	**P**	**18 52 12.9**	**-1.4**
NVS				*i*		18 52 24.2	
NVS				*e*		18 53 54.6	
NVS				*i*S	**S**	**18 58 38.1**	**-4.7**
NVS				pmax	pmax		
	comp=Z,1μm,1.9s						
NVS				pmax	pmax		
	comp=N,311nm,1.7s						
NVS				pmax	pmax		
	comp=E,531nm,1.5s						
NVS				pmax	pmax		
	comp=Z,233nm,1.7s						
NVS				pmax	pmax		
	comp=E,109nm,1.6s						
NVS				smax	smax		
	comp=N,180nm,2.0s						
RES	**Resolute Bay**	**44.10**	**22**	PFAKE		18 52 30.0	+13
RES				LR	LR		
	comp=Z,7μm,20.0s						
RES	**Resolute Bay**	**44.10**	**22**	P	**P**	**18 52 17.7**	**+0.8**
	comp=Z,27nm,0.9s,baz=297,slow=8.5,SNR=31						
RES				PcP	**PcP**	**18 54 02.9**	**+1.4**
	comp=Z,10nm,0.8s,baz=321,slow=3.3,SNR=4.1						
OPA	**Opana**	**44.16**	**117**	PFAKE		18 52 30.0	+12
OPA				LR	LR		
	comp=Z,13μm,19.0s						
DGZ	**Jazzator, Alta**	**44.22**	**297***c*	*i*P	**P**	**18 52 17.2**	**-1.1**
DGZ				pmax	pmax		
	comp=Z,52nm,1.1s						
DGZ				MLR	MLR		
	comp=Z,22μm,16.0s						
KIP	**Kipapa**	**44.37**	**118**	PFAKE		18 52 30.0	+10
KIP				LR	LR		
	comp=Z,11μm,21.0s						
KIP	**Kipapa**	**44.37**	**118**	⇑*e*P	**P**	**18 52 21.3**	**+1.8**
KIP				pmax	pmax		
	comp=Z,167nm,1.7s						
KIP				MLR	MLR		
	comp=Z,8μm,20.0s						
HON	**Honolulu**	**44.45**	**118**	PFAKE		18 52 30.0	+10
HON				LR	LR		
	comp=Z,12μm,21.0s						
SGCP	**Mt. Cagua**	**45.23**	**236**	*e*P	**P**	**18 52 26.4**	**0.0**
PATS	**Pohnpei**	**45.24**	**183**	PFAKE		18 52 40.0	+13
PATS				LR	LR		
	comp=Z,12μm,21.0s						
KHLH	**Kahului Airpor**	**45.66**	**116**	PFAKE		18 52 40.0	+10
KHLH				LR	LR		
	comp=Z,11μm,20.0s						
HLK	**Haleakala**	**45.87**	**116**	PFAKE		18 52 50.0	+18
HLK				LR	LR		
	comp=Z,10μm,20.0s						
APYP	**Conner**	**45.96**	**237**	*e*P	**P**	**18 52 30.7**	**-1.5**
CD2	**Chengdu**	**46.04**	**265**	⇑*i*P	**P**	**18 52 31.9**	**-1.0**
CD2				sP	pP	18 52 39.3	-1.0
CD2				PcP	**PcP**	**18 54 07.3**	**-1.7**
CD2				S	**S**	**18 59 18.8**	**+2.2**
CD2				sS	sS	18 59 29.3	+0.7
CD2				pmax	pmax		
	comp=Z,100nm,1.2s						
CD2				pmax	pmax		
	comp=Z,3μm,10.1s						
CD2				LR	LR		
	comp=Z,65μm,20.8s						
CD2				LR	LR		
	comp=Z,60μm,20.0s						
CD2				LR	LR		
	comp=Z,44μm,17.1s						
HKPS	**Hong Kong Po S**	**46.24**	**248**	PFAKE		18 52 50.0	+16
HKPS				LR	LR		
	comp=Z,22μm,18.0s						
LLLB	**Lillooet**	**46.33**	**59**	PFAKE		18 52 50.0	+15
LLLB				LR	LR		
	comp=Z,10μm,21.0s						
ABRA	**Dolores**	**46.41**	**237**	*e*P	**P**	**18 52 37.6**	**+1.9**
HPAH	**Hawaii Prepara**	**46.76**	**116**	PFAKE		18 52 50.0	+11
HPAH				LR	LR		
	comp=Z,8μm,20.0s						
ZSN	**Zaisan**	**46.89**	**296***c*	*i*P	**P**	**18 52 37.2**	**-2.1**
ZSN				pmax	pmax		
	comp=Z,115nm,3.1s						
ZSN				MLR	MLR		
	comp=Z,7μm,16.0s						
ZSN	**Zaisan**	**46.89**	**296**	⇑*i*P	**P**	**18 52 37.2**	**-2.1**
	comp=Z,115nm,3.1s						
ZSN				*e*LR	LR	19 13 01.4	
	comp=Z,7μm,15.8s						
A04D	**Lummi Island**	**46.95**	**62**	P	**P**	**18 52 40.1**	**+0.4**
	baz=305						
HUH	**Hualalai**	**46.96**	**117**	PFAKE		18 52 50.0	+10
HUH				LR	LR		
	comp=Z,13μm,19.0s						
KHLU	**Kahalu`u**	**47.01**	**117**	PFAKE		18 52 50.0	+9.4
KHLU				LR	LR		
	comp=Z,12μm,19.0s						
POHA	**Pohakuloa**	**47.07**	**116**	PFAKE		18 53 00.0	+19
POHA				LR	LR		
	comp=Z,10μm,19.0s						
NLWA	**Neilton Lookou**	**47.08**	**64**	PFAKE		18 52 50.0	+9.2
NLWA				LR	LR		
	comp=Z,9μm,22.0s						
HMH	**Humu'ula Sheep**	**47.22**	**117**	PFAKE		18 53 00.0	+18
HMH				LR	LR		
	comp=Z,13μm,19.0s						
MLOA	**Mauna Loa Obse**	**47.23**	**117**	PFAKE		18 53 00.0	+17
MLOA				LR	LR		
	comp=Z,12μm,20.0s						
MWH	**Moku'aweowe**	**47.26**	**117**	PFAKE		18 53 00.0	+17
MWH				LR	LR		
	comp=Z,12μm,19.0s						
MLH	**Mauna Loa**	**47.36**	**116**	PFAKE		18 53 00.0	+16
MLH				LR	LR		
	comp=Z,12μm,20.0s						
AIN	**Ainahou**	**47.42**	**117**	PFAKE		18 53 00.0	+16
AIN				LR	LR		
	comp=Z,14μm,19.0s						
WMQ	**Urumqi**	**47.42**	**290**	*e*P	**P**	**18 52 43.0**	**-0.6**
WMQ				sP	pwP	18 52 54.3	+0.5
WMQ				PP	**PP**	**18 54 30.0**	**-4.7**
WMQ				S	**S**	**18 59 42.6**	**+6.5**
WMQ				sS	sS	18 59 49.5	+1.5
WMQ				pmax	pmax		
	comp=Z,540nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,6μm,3.6s						
WMQ				LR	LR		
	comp=Z,51μm,17.1s						
WMQ	**Urumqi**	**47.42**	**290**	PFAKE		18 52 50.0	+6.4
WMQ				LR	LR		
	comp=Z,55μm,18.0s						
D03D	**Eldon**	**47.43**	**64**	P	**P**	**18 52 44.2**	**+0.8**
	baz=306,SNR=12						
KHU	**Kahuku**	**47.44**	**117**	PFAKE		18 53 00.0	+16
KHU				LR	LR		
	comp=Z,12μm,19.0s						
GYA	**Guiyang**	**47.47**	**259**	⇑*i*P	**P**	**18 52 43.8**	**-0.3**
GYA				pP	pP	18 52 48.9	-2.7
GYA				PP	**PP**	**18 54 33.9**	**-1.6**
GYA				S	**S**	**18 59 28.3**	**-8.8**
GYA				pmax	pmax		
	comp=Z,80nm,1.6s						
GYA				pmax	pmax		
	comp=Z,2μm,7.6s						
GYA				LR	LR		
	comp=Z,25μm,19.3s						
GYA				LR	LR		
	comp=Z,13μm,16.8s						
GYA				LR	LR		
	comp=Z,8μm,17.4s						
UWE	**Uwekahuna**	**47.47**	**116**	PFAKE		18 53 00.0	+16
UWE				LR	LR		
	comp=Z,11μm,19.0s						
UWB	**Uwekahuna B**	**47.48**	**116**	PFAKE		18 53 00.0	+16
UWB				LR	LR		
	comp=Z,14μm,20.0s						
OBL	**Observatory Le**	**47.48**	**116**	PFAKE		18 53 00.0	+16
OBL				LR	LR		
	comp=Z,11μm,20.0s						
WRMHI	**West Rim**	**47.48**	**116**	PFAKE		18 53 00.0	+16
WRMHI				LR	LR		
	comp=Z,10μm,19.0s						
NPH	**North Pit**	**47.49**	**116**	PFAKE		18 53 00.0	+16
NPH				LR	LR		
	comp=Z,12μm,19.0s						
HATHI	**Halema'uma'u T**	**47.49**	**116**	PFAKE		18 53 00.0	+16
HATHI				LR	LR		
	comp=Z,11μm,20.0s						
SDHHI	**Sand Hill**	**47.50**	**116**	PFAKE		18 53 00.0	+16
SDHHI				LR	LR		
	comp=Z,12μm,19.0s						
BYL	**Byron's Ledge**	**47.50**	**116**	PFAKE		18 53 00.0	+16
BYL				LR	LR		
	comp=Z,11μm,19.0s						
RIM	**Rim**	**47.51**	**116**	PFAKE		18 53 00.0	+16
RIM				LR	LR		
	comp=Z,11μm,19.0s						
KKO	**Keanakako`i**	**47.51**	**116**	PFAKE		18 53 00.0	+16
KKO				LR	LR		
	comp=Z,11μm,19.0s						
B05A	**Bryant**	**47.55**	**62**	P	**P**	**18 52 45.3**	**+1.0**
	baz=306,SNR=7.3						
PUH	**Pauahi**	**47.55**	**116**	PFAKE		18 53 00.0	+15
PUH				LR	LR		
	comp=Z,10μm,19.0s						
HLP	**Hilina Pali**	**47.57**	**117**	PFAKE		18 53 00.0	+15
HLP				LR	LR		
	comp=Z,12μm,19.0s						
BALP	**Baler**	**47.58**	**235**	*e*P	**P**	**18 52 45.6**	**+0.8**
STCH	**Steam Cracks**	**47.60**	**116**	PFAKE		18 53 00.0	+15
STCH				LR	LR		
	comp=Z,10μm,20.0s						
NPOC	**North of Pu'u**	**47.60**	**116**	PFAKE		18 53 00.0	+15
NPOC				LR	LR		
	comp=Z,11μm,20.0s						
JCUZ	**Jacuzzi**	**47.61**	**116**	PFAKE		18 53 00.0	+15
JCUZ				LR	LR		
	comp=Z,10μm,19.0s						
SMPP	**San Manuel, Pa**	**47.69**	**236**	*e*P	**P**	**18 52 43.6**	**-2.2**
B06A	**Marblemount**	**47.73**	**62**	PFAKE		18 53 00.0	+14

B06A LR LR
comp=Z,8μm,22.0s
KBS Kingsbay 47.79 352 *e*P **P 18 52 46.7 +0.8**
KBS comp=Z,600nm,1.4s LR LR
comp=Z,16μm,19.0s
KBS Kingsbay 47.79 352*c i*P **P 18 52 46.7 +0.8**
KBS pmax pmax
comp=Z,4μm,2.5s
KBS MLR MLR
comp=Z,60μm,19.0s
KBS Kingsbay 47.79 352⇑*i*P **P 18 52 46.5 +0.6**
KBS IVmB_BB 18 52 47.5
comp=Z,6μm,2.1s
KBS *e*S **S 18 59 41.3 +1.0**
D04E Lakebay 47.81 64 P **P 18 52 46.6 +0.2**
baz=306
SPA0 Spitsbergen Ar 48.05 351 *e*P **P 18 52 48.3 +0.4**
comp=Z,2μm,1.5s
SPA0 Spitsbergen Ar 48.05 351⇑*i*P **P 18 52 48.0 0.0**
SPA0 *e*S **S 18 59 43.8 -0.3**
SPITS Spitsbergen Ar 48.05 351 P **P 18 52 48.7 +0.8**
SPITS pmax pmax
comp=Z,27nm,0.4s
F03A Seaside 48.11 66 PFAKE 18 53 00.0 +11
F03A LR LR
comp=Z,6μm,20.0s
PVCP Virac 48.16 230 *e*P **P 18 52 50.2 +0.8**
D05A Enumclaw 48.24 63 PFAKE 18 53 00.0 +10
D05A LR LR
comp=Z,6μm,22.0s
POLP Polilio Island 48.26 234 *e*P **P 18 52 51.7 +1.6**
E04D Cinebar 48.29 64 P **P 18 52 50.2 +0.1**
baz=307
F04D Rainier, OR 48.33 65 P **P 18 52 50.0 -0.4**
baz=307
KURK Kurchatov 48.35 303 PFAKE 18 53 00.0 +9.5
KURK LR LR
comp=Z,58μm,19.0s
KURK Kurchatov 48.35 303*c i*P **P 18 52 48.6 -1.9**
KURK pmax pmax
comp=Z,684nm,1.7s
KURK MLR MLR
comp=Z,53μm,16.0s
SCZP Santa Cruz 48.39 237 *e*P **P 18 52 51.8 +0.6**
C06D Leavenworth 48.40 62 P **P 18 52 50.1 -0.9**
baz=306
KURBB Kurchatov Arra 48.45 303 P **P 18 52 49.3 -2.0**
comp=Z,143nm,1.1s,baz=60,slow=7.9,SNR=85
KURBB PcP **PcP 18 54 18.5 +1.3**
comp=Z,8.4nm,0.7s,baz=64,slow=2.9,SNR=2.8
HOPEN Hopen 48.45 347 *e*P **P 18 52 50.6 -0.3**
HOPEN IVmB_BB 18 52 51.5
comp=Z,5μm,2.6s
HOPEN *e*S **S 18 59 48.5 -1.2**
HOPEN IVMs_BB IVMs_BB 19 16 04.0
comp=Z,6μm,19.1s
LON Longmire 48.59 64 PFAKE 18 53 10.0 +17
LON LR LR
comp=Z,5μm,18.0s
MKAR Makanchi Array 48.70 297 P **P 18 52 51.3 -2.0**
comp=Z,15nm,0.5s,baz=57,slow=7.7,SNR=34
G03D McMinnville, O 48.71 66 P **P 18 52 51.9 -1.4**
baz=308
G03D S **S 18 59 56.7 +2.7**
baz=308
MAKZ Makanchi 48.86 297 *e*P **P 18 52 52.6 -1.9**
comp=Z,108nm,1.1s
MAKZ LR LR
comp=Z,44μm,18.0s
MAKZ Makanchi 48.86 297 *e*P **P 18 52 52.6 -1.9**
MAKZ pmax pmax
comp=Z,108nm,1.1s
MAKZ MLR MLR
comp=Z,44μm,18.0s
CNP Catarman 48.86 229 *e*P **P 18 52 56.7 +1.9**
LTY Liberty 48.92 62 PFAKE 18 53 10.0 +15
LTY LR LR
comp=Z,9μm,22.0s
B08A Colville Reser 48.98 61 PFAKE 18 53 10.0 +14
B08A LR LR
comp=Z,7μm,21.0s
I02D Swisshome 49.05 68 P **P 18 52 55.4 -0.6**
baz=308
COR Corvallis 49.07 67 *e*P **P 18 52 59.1 +3.0**
comp=Z,264nm,1.5s
COR LR LR
comp=Z,7μm,19.0s
COR Corvallis 49.07 67 *e*P **P 18 52 59.1 +3.0**
COR pmax pmax
comp=Z,264nm,1.5s
COR MLR MLR
comp=Z,7μm,19.0s
HSPB Hornsund (broa 49.18 350 *e*P **P 18 52 56.7 +0.2**
HSPB *e*S **S 18 59 58.6 -1.3**
HSPB MLR MLR
comp=Z,96μm,21.2s
HSPB Hornsund (broa 49.18 350⇑*i*P **P 18 52 56.8 +0.2**
HSPB IVmB_BB 18 52 57.7
comp=Z,8μm,2.0s
HSPB *e*S **S 18 59 59.8 0.0**
HSPB IVMs_BB IVMs_BB 19 13 19.8
comp=Z,6μm,22.1s
TGY Tagaytay City 49.29 234 P **P 18 53 00.0 +1.9**
comp=Z,103nm,0.4s,baz=243,slow=2.0,SNR=6.5
BESP Borongan 49.30 228 *e*P **P 18 53 00.7 +2.5**
F05D White Salmon 49.31 64 P **P 18 52 57.6 -0.4**
baz=308
BOAC Boac 49.39 233 *e*P P 18 53 06.5 +7.7
H04D Lebanon 49.42 67 P **P 18 52 58.5 -0.4**
baz=308
KEBM Edson Butte 49.53 69 PFAKE 18 53 10.0 +10
KEBM LR LR
comp=Z,5μm,18.0s
J01E Myrtle Point 49.59 69 P **P 18 53 01.1 +1.0**
baz=309
I03D Drain, OR 49.59 68 P **P 18 53 00.1 0.0**
baz=308
H04A Detroit Lake 49.64 66 PFAKE 18 53 10.0 +9.5
H04A LR LR
comp=Z,5μm,20.0s
G05D Wamic, OR 49.78 65 P **P 18 53 01.2 -0.4**
baz=308
E07A Sunnyside 49.78 63 PFAKE 18 53 10.0 +8.4
E07A LR LR
comp=Z,6μm,21.0s
C09A Chrisman Ranch 49.89 61 PFAKE 18 53 20.0 +18
C09A LR LR
comp=Z,7μm,18.0s
PLP Palo 49.90 228⇑*e*P **P 18 53 02.7 0.0**
LUBP Lubang 49.95 235 *e*P **P 18 53 01.7 -1.5**
D08A Wollman Farm, 49.99 62 PFAKE 18 53 20.0 +17
D08A LR LR
comp=Z,5μm,21.0s
K02D Willamette Mer 50.03 69 P **P 18 53 03.8 +0.2**
baz=309,SNR=5.5
I04A Tendick Farm, 50.06 67 P **P 18 53 03.3 -0.5**
baz=309,SNR=12
HAWA Hanford 50.06 63 PFAKE 18 53 20.0 +16
HAWA LR LR
comp=Z,7μm,21.0s
F07A Phinny Hill Vi 50.15 64 PFAKE 18 53 20.0 +16
F07A LR LR
comp=Z,7μm,22.0s
G06A Carlson Farm, 50.16 65 PFAKE 18 53 20.0 +15
G06A LR LR
comp=Z,7μm,22.0s
OCLP Ormoc 50.17 228 *e*P **P 18 53 05.7 +1.0**
NEW Newport 50.22 60 PFAKE 18 53 20.0 +15
NEW LR LR
comp=Z,8μm,22.0s
NEW Newport 50.22 60 P **P 18 53 04.1 -0.8**
baz=308
NEW Newport 50.22 60 P **P 18 53 06.6 +1.7**
comp=Z,2.9nm,0.6s,baz=316,slow=6.1,SNR=7.9
NEW LR LR 19 14 58.0
comp=Z,3μm,18.7s,baz=312,slow=37
OTRP Odiongan 50.25 232 *e*P **P 18 53 07.1 +1.7**
E08A Dider Farm, El 50.26 62 PFAKE 18 53 20.0 +15
E08A LR LR
comp=Z,7μm,22.0s
I05D Terrebonne, OR 50.33 66 P **P 18 53 06.0 +0.2**
baz=309
L02E Cave Junction 50.40 69 P **P 18 53 07.4 +1.0**
baz=309,SNR=5.9
HUMO Hull Mountain 50.49 69 PFAKE 18 53 20.0 +13
HUMO LR LR
comp=Z,4μm,21.0s
J04D Umpqua Nationa 50.58 67 P **P 18 53 07.6 -0.3**
baz=309,SNR=9.0
SJMP San Jose 50.60 233 *e*P **P 18 53 08.9 +0.9**
E09A Wood Farm, Sta 50.74 62 PFAKE 18 53 20.0 +11
E09A LR LR
comp=Z,7μm,22.0s
KMI Kunming 50.83 261 PFAKE 18 53 20.0 +10
KMI LR LR
comp=Z,19μm,21.0s
MSLP Maasin 50.86 227 *e*P **P 18 53 10.9 +0.9**
PINE Pine Mountain 50.89 66 PFAKE 18 53 20.0 +10
PINE LR LR
comp=Z,7μm,19.0s
BJO Bjornoya 50.94 347⇑*i*P **P 18 53 10.0 +0.1**
BJO IVmB_BB 18 53 10.8
comp=Z,7μm,1.7s
BJO *e*S **S 19 00 25.2 +0.8**
BJO IVMs_BB IVMs_BB 19 21 46.1
comp=Z,7μm,12.8s
JCC Jacoby Creek, 51.01 71 PFAKE 18 53 20.0 +9.1
JCC LR LR
comp=Z,4μm,18.0s
KULLO Kullorsuaq 51.04 12⇑*i*P **P 18 53 10.9 +0.3**
KULLO Kullorsuaq 51.04 12⇑*i*P **P 18 53 10.9 +0.3**
J05D Fort Rock, OR 51.05 67 P **P 18 53 11.9 +0.5**
baz=309,SNR=16
G08A Pilot Rock 51.06 64 PFAKE 18 53 20.0 +8.6
G08A LR LR
comp=Z,5μm,22.0s
BRVK Borovoye 51.11 309 *e*P **P 18 53 09.8 -1.7**
comp=Z,509nm,1.5s
BRVK LR LR
comp=Z,50μm,18.0s
BRVK Borovoye 51.11 309*c i*P **P 18 53 09.3 -2.2**
BRVK pmax pmax
comp=Z,168nm,1.3s
BRVK MLR MLR
comp=Z,51μm,16.0s
L04D Klamath Falls 51.11 69 P **P 18 53 12.3 +0.5**
baz=310,SNR=13
KHMM Horse Mountain 51.15 71 PFAKE 18 53 30.0 +18
KHMM LR LR
comp=Z,6μm,19.0s
K04D Chiloquin, OR 51.17 68 P **P 18 53 12.7 +0.5**
baz=310
YBH Yreka Blue Hor 51.19 69 PFAKE 18 53 30.0 +18
YBH LR LR
comp=Z,6μm,20.0s
YBH Yreka Blue Hor 51.19 69 P **P 18 53 14.8 +2.5**
comp=Z,24nm,0.9s,baz=352,slow=5.2,SNR=23
QIZ Qiongzhong 51.26 249 P **P 18 53 14.8 +1.8**
QIZ S **S 19 00 33.6 +3.4**
QIZ pmax pmax
comp=Z,140nm,1.6s
QIZ pmax pmax
comp=Z,3μm,4.2s
QIZ LR LR
comp=Z,11μm,17.7s
QIZ LR LR
comp=Z,15μm,15.7s
QIZ LR LR
comp=Z,13μm,18.6s
QIZ Qiongzhong 51.26 249 PFAKE 18 53 20.0 +7.0
QIZ LR LR
comp=Z,16μm,20.0s
DAG Danmarks Havn 51.31 360 P **P 18 53 12.7 +0.1**
DAG pmax pmax
comp=Z,119nm,0.9s
DAG Danmarks Havn 51.31 360⇑*i*P **P 18 53 12.7 +0.1**
comp=Z,159nm,1.3s
M02C Callahan 51.32 70 P **P 18 53 14.3 +0.9**
baz=310,SNR=8.1
BUSP Coron 51.45 234 *e*P **P 18 53 15.4 +1.0**
GUIM Jordan 51.48 230 *e*P **P 18 53 15.1 +0.4**
I07A Izee 51.52 65 PFAKE 18 53 30.0 +15
I07A LR LR
comp=Z,4μm,19.0s
BUTP Butuan 51.55 226 *e*P **P 18 53 15.9 +0.7**
F10A Beach Ranch, E 51.58 62 PFAKE 18 53 30.0 +15
F10A LR LR
comp=Z,6μm,22.0s
KMRM Mail Ridge 51.58 71 PFAKE 18 53 30.0 +15
KMRM LR LR
comp=Z,6μm,21.0s
K05A Summer Lake 51.59 67 PFAKE 18 53 30.0 +14
K05A LR LR
comp=Z,6μm,19.0s
M04C Macdoel 51.66 69 P **P 18 53 16.5 +0.6**
baz=310,SNR=9.4
N02D Trinity Center 51.68 70 P **P 18 53 16.5 +0.5**
baz=310,SNR=9.6
TARA Tarawa 51.74 164 PFAKE 18 53 30.0 +13
TARA LR LR
comp=Z,15μm,21.0s
BRZS Berezniki 51.83 305*c i*P **P 18 53 14.0 -2.9**
BRZS pmax pmax
comp=Z,396nm,1.8s
BRZS MLR MLR
comp=Z,17μm,14.0s
BRZS Berezniki 51.83 305⇑*i*P **P 18 53 14.1 -2.9**
comp=Z,396nm,1.8s
BRZS *e*LR LR 19 15 58.6
comp=Z,17μm,14.4s
TDK Taldyqorghan 51.94 297 *i* P **P 18 53 16.3 -1.5**
TDK *e*S **S 19 00 36.2 -2.8**
TDK pmax pmax
comp=Z,684nm,2.3s
TDK MLR MLR
comp=Z,42μm,16.0s
TDK Taldyqorghan 51.94 297 *i* P **P 18 53 16.3 -1.5**
comp=Z,684nm,2.2s
TDK *e*S **S 19 00 36.2 -2.8**
TDK *e*LR LR 19 16 14.9
comp=Z,42μm,16.3s
KCPM Cahto Peak 52.00 72 PFAKE 18 53 30.0 +12
KCPM LR LR
comp=Z,7μm,21.0s
WDC Whiskeytown Da 52.03 70 PFAKE 18 53 30.0 +11
WDC LR LR
comp=Z,3μm,19.0s
CUYO Cuyo Island 52.04 232 *e*P **P 18 53 20.0 +1.1**
O02D Mt. Diablo Mer 52.15 71 P **P 18 53 20.4 +0.9**
baz=311
BMO Blue Mountains 52.24 63 PFAKE 18 53 30.0 +10
BMO LR LR
comp=Z,5μm,21.0s
PDGK Podgornoye 52.40 295 P **P 18 53 19.7 -1.7**
PDGK pmax pmax
comp=Z,165nm,1.3s
MOD Modoc Plateau 52.46 68 PFAKE 18 53 40.0 +18
MOD LR LR
comp=Z,5μm,20.0s
ENPP El Nido 52.52 234 *e*P **P 18 53 21.5 -0.9**
SHLS Shalkode 52.53 294*c i*P **P 18 53 18.7 -3.6**
SHLS *e*S **S 19 00 46.9 -0.4**
SHLS pmax pmax
comp=Z,261nm,2.1s
SHLS MLR MLR
comp=Z,6μm,17.0s
SHLS Shalkode 52.53 294⇑*i*P **P 18 53 18.8 -3.6**
comp=Z,261nm,2.1s
SHLS *e*S **S 19 00 46.9 -0.4**
SHLS *e*LR LR 19 16 24.2
comp=Z,6μm,16.6s
J08A Circle Bar Ran 52.55 65 PFAKE 18 53 40.0 +17
J08A LR LR
comp=Z,4μm,21.0s
O03E Paynes Creek 52.64 70 P **P 18 53 23.4 +0.2**
baz=311,SNR=13
HOPS Hopland Field 52.75 72 PFAKE 18 53 40.0 +16
HOPS LR LR
comp=Z,9μm,21.0s
KPKS Kokpek 52.76 295*c i*P **P 18 53 22.4 -1.6**
KPKS pmax pmax
comp=Z,297nm,2.8s
KPKS MLR MLR
comp=Z,22μm,17.0s
KPKS Kokpek 52.76 295⇑*i*P **P 18 53 22.5 -1.6**
comp=Z,297nm,2.8s
KPKS *e*LR LR 19 16 48.0
comp=Z,22μm,16.7s
BUKP Musuan 52.76 226 *e*P **P 18 53 25.2 +0.9**
MSO Missoula 52.80 59 PFAKE 18 53 40.0 +16
MSO LR LR
comp=Z,5μm,18.0s
MSO Missoula 52.80 59 P **P 18 53 24.3 0.0**
baz=310,SNR=8.0
PLID Pearl Lake 52.81 62 PFAKE 18 53 40.0 +15
PLID LR LR
comp=Z,8μm,22.0s
SLVN Son La 52.97 257 *e*P **P 18 53 26.6 +0.8**
comp=Z,290nm,1.4s
SLVN LR LR
comp=Z,16μm,20.0s
GDXM Geysers 53.04 72 PFAKE 18 53 40.0 +14
GDXM LR LR
comp=Z,8μm,22.0s
SVE Sverdlovsk 53.05 317*d i*P **P 18 53 24.9 -0.9**
SVE *e* 18 55 30.4
SVE *e*S **S 19 00 47.0 -6.8**
SVE *e* 19 04 20.8
SVE pmax pmax
comp=Z,138nm,1.8s
SVE MLR MLR
comp=N,23μm,15.0s
SVE MLR MLR
comp=Z,43μm,16.0s
SVE MLR MLR
comp=E,17μm,16.0s
WVOR Wild Horse Val 53.06 66 PFAKE 18 53 40.0 +14
WVOR LR LR
comp=Z,6μm,19.0s
MATI Mati 53.08 224 *e*P **P 18 53 24.7 -1.8**
OTUK Ortayu 53.10 303 P **P 18 53 24.2 -2.2**
OTUK pmax pmax
comp=Z,282nm,1.5s
SATY Saty 53.18 295*c i*P **P 18 53 25.7 -1.5**
SATY pmax pmax
comp=Z,207nm,1.6s
SATY MLR MLR
comp=Z,11μm,15.0s
SATY Saty 53.18 295⇑*i*P **P 18 53 25.8 -1.5**
comp=Z,207nm,1.6s
SATY *e*LR LR 19 17 02.4
comp=Z,11μm,15.5s
DAV Davao City (W) 53.26 225 PFAKE 18 53 40.0 +12
DAV LR LR
comp=Z,6μm,20.0s
DAV Davao City (W) 53.26 225⇑*i*P **P 18 53 27.4 -0.5**
ORV Oroville 53.30 71 PFAKE 18 53 40.0 +12
ORV LR LR
comp=Z,4μm,20.0s
MCCM Marconi Confer 53.43 73 PFAKE 18 53 40.0 +11
MCCM LR LR
comp=Z,7μm,22.0s
FFC Flin Flon 53.54 46 *e*P **P 18 53 30.6 +1.2**
comp=Z,189nm,1.8s
FFC LR LR
comp=Z,6μm,19.0s
FFC Flin Flon 53.54 46*c e*P **P 18 53 31.1 +1.6**
HAMF Hammerfest 53.58 343⇑*i*P **P 18 53 29.0 -0.5**
HAMF IVmB_BB 18 53 29.5
comp=Z,4μm,1.9s
HAMF *e*pP **pP 18 53 35.2 -1.9**
HAMF *e*S **S 19 01 01.5 +0.8**
HAMF IVMs_BB IVMs_BB 19 22 59.4
comp=Z,8μm,17.4s
LVZ Lovozero 53.59 338 *e*P **P 18 53 28.9 -0.8**
comp=Z,422nm,1.3s
LVZ LR LR
comp=Z,13μm,18.0s
LVZ Lovozero 53.59 338*c i*P **P 18 53 28.9 -0.8**
LVZ pmax pmax
comp=Z,312nm,1.3s
CTBH Cotabato--PC H 53.71 227⇑*i*P **P 18 53 32.5 +1.3**
KEV Kevo 53.72 342 PFAKE 18 53 40.0 +9.4
KEV LR LR
comp=Z,6μm,20.0s
KEV Kevo 53.72 342 P **P 18 53 30.2 -0.4**
KEV pmax pmax
comp=Z,53nm,2.1s
BEKR Beckworth 53.76 70 PFAKE 18 53 50.0 +18
BEKR LR LR
comp=Z,4μm,19.0s
KUU Kurty 53.78 297 *e*P **P 18 53 28.8 -2.7**
KUU pmax pmax
comp=Z,334nm,2.5s
KUU MLR MLR
comp=Z,34μm,16.0s
KUU Kurty 53.78 297 *e*P **P 18 53 28.9 -2.6**
comp=Z,334nm,2.5s
KUU *e*LR LR 19 17 07.7
comp=Z,34μm,16.1s
MDOK Medeo 53.87 296 *e*P **P 18 53 30.2 -2.0**
comp=Z,1μm,3.0s
MDOK *e*LR LR 19 16 42.8
comp=Z,27μm,17.7s
AAA Alma-Ata 53.91 296 *i* P **P 18 53 31.2 -1.3**
AAA *i* S S 19 00 51.2 -15
AAA pmax pmax
comp=Z,900nm,6.6s
AAA MLR MLR
comp=Z,34μm,16.0s
AAA Alma-Ata 53.91 296 *e*P **P 18 53 28.8 -3.6**
comp=Z,459nm,3.5s
AAA *e*LR LR 19 16 49.7
comp=Z,27μm,16.8s
AFDM Forest Hills D 54.01 71 PFAKE 18 53 50.0 +17
AFDM LR LR
comp=Z,7μm,22.0s
DDMP Don Marcelino, 54.06 224 *e*P **P 18 53 32.8 -0.9**
FCC Fort Churchill 54.09 38 PFAKE 18 53 50.0 +17
FCC LR LR
comp=Z,11μm,20.0s
APA Apatity 54.15 338⇓*i*P **P 18 53 31.9 -1.8**
APA *i* S **S 19 01 04.0 -4.4**
APA *i* 19 03 20.0
APA pmax pmax
comp=Z,78nm,1.1s
ARU Arti 54.17 318 PFAKE 18 53 50.0 +16
ARU LR LR
comp=Z,28μm,18.0s
ARU Arti 54.17 318*c i*P **P 18 53 32.3 -1.8**
ARU pmax pmax
comp=Z,187nm,1.7s
ARU MLR MLR
comp=Z,27μm,16.0s
ARU Arti 54.17 318 LR LR 19 19 29.4
comp=Z,37μm,20.6s,baz=37,slow=39
ARCES ARCESS Array B 54.20 342 *e*P **P 18 53 33.3 -0.8**
ARCES ARCESS Array B 54.20 342 *e*P **P 18 53 33.3 -0.8**
ARCES ARCESS Array B 54.20 342 P **P 18 53 33.7 -0.4**
comp=Z,103nm,1.0s,baz=28,slow=5.9,SNR=52
ARE0 ARCESS Array S 54.20 342 PFAKE 18 53 50.0 +16
ARE0 LR LR
comp=Z,300nm,18.0s
ARE0 ARCESS Array S 54.20 342⇑*i*P **P 18 53 33.8 -0.3**
ARE0 IVmB_BB 18 53 34.5
comp=Z,5μm,1.7s
ARE0 *e*S **S 19 01 10.0 +0.9**
ARE0 IVMs_BB IVMs_BB 19 25 31.8
comp=Z,5μm,17.2s
SKMP Bagumbayan, Su 54.20 226 *e*P **P 18 53 34.8 0.0**
EGMT Eagleton 54.20 56 PFAKE 18 53 50.0 +15
EGMT LR LR
comp=Z,8μm,20.0s
EGMT Eagleton 54.20 56 P **P 18 53 34.7 +0.1**
baz=311,SNR=11
TARG Taragay, Kyrgy 54.39 294 PFAKE 18 53 50.0 +14
TARG LR LR
comp=Z,21μm,18.0s
RUBR Rubicon Trail 54.41 70 PFAKE 18 53 50.0 +14
RUBR LR LR
comp=Z,6μm,22.0s
DLMT Dillon 54.46 60 PFAKE 18 53 50.0 +13
DLMT LR LR
comp=Z,6μm,18.0s
KDJ Kajisay 54.47 295 PFAKE 18 53 50.0 +13
KDJ LR LR
comp=Z,23μm,18.0s
VCNR Virginia City 54.54 70 PFAKE 18 53 50.0 +13
VCNR LR LR
comp=Z,4μm,20.0s
LSA Lhasa 54.65 274 *e*P **P 18 53 38.4 -0.1**
comp=Z,48nm,0.9s
LSA LR LR
comp=Z,28μm,18.0s
LSA Lhasa 54.65 274 *i* P **P 18 53 38.2 -0.2**
SNR=24
LSA Lhasa 54.65 274 *e*P **P 18 53 38.4 -0.1**

LSA pmax pmax
comp=Z,48nm,0.9s
LSA MLR MLR
comp=Z,28µm,18.0s
HLID Hailey 54.66 63 PFAKE 18 53 50.0 +12
HLID LR LR
comp=Z,6µm,22.0s
HLID Hailey 54.66 63 P **P 18 53 38.4 +0.3**
baz=312,SNR=9.9
PNTR Pine Nut 54.71 70 PFAKE 18 53 50.0 +11
PNTR LR LR
comp=Z,4µm,19.0s
BOZ Bozeman (W) 54.82 59 PFAKE 18 53 50.0 +11
BOZ LR LR
comp=Z,6µm,18.0s
BOZ Bozeman (W) 54.82 59 P **P 18 53 40.0 +0.8**
baz=311,SNR=36
SUMG Summit 54.84 7 *e*P **P 18 53 39.6 +0.4**
comp=Z,223nm,1.0s
SUMG LR LR
comp=Z,15µm,19.0s
SUMG Summit 54.84 7 *e*P **P 18 53 39.6 +0.4**
SUMG pmax pmax
comp=Z,223nm,1.0s
SUMG MLR MLR
comp=Z,15µm,19.0s
SUMG Summit 54.84 7⇑ *i*P **P 18 53 40.0 +0.8**
comp=Z,609nm,1.1s
SUMG *i* 18 53 50.4
BOOM Boomskoye usch 54.92 296 PFAKE 18 53 50.0 +10
BOOM LR LR
comp=Z,56µm,18.0s
CMB Columbia Colle 54.96 71 PFAKE 18 53 50.0 +10
CMB LR LR
comp=Z,8µm,22.0s
YERR Yerington 54.99 70 PFAKE 18 53 50.0 +9.5
YERR LR LR
comp=Z,5µm,20.0s
KTK1 Kautokeino 55.07 343⇑ *i*P **P 18 53 40.2 -0.2**
KTK1 *e*PP **PP 18 55 42.9 -0.3**
KTK1 *e*S **S 19 01 20.9 +0.2**
MANU Manus Island 55.14 196 PFAKE 18 54 00.0 +18
MANU LR LR
comp=Z,9µm,20.0s
BMN Battle Mountai 55.18 67 PFAKE 18 54 00.0 +18
BMN LR LR
comp=Z,6µm,18.0s
SAO San Andreas Ge 55.20 73 PFAKE 18 54 00.0 +18
SAO LR LR
comp=Z,6µm,21.0s
WAKR Walker 55.20 70 PFAKE 18 54 00.0 +18
WAKR LR LR
comp=Z,9µm,22.0s
TRO Tromso 55.27 345⇑ *i*P **P 18 53 41.7 -0.1**
TRO IVmB_BB 18 53 42.6
comp=Z,6µm,2.0s
TRO *e*S **S 19 01 21.9 -1.5**
TRO IVMs_BB IVMs_BB 19 26 31.1
comp=Z,5µm,15.5s
PRGR Permogore 55.29 328⇑ *i*P **P 18 53 42.0 -0.1**
PRGR *e*S **S 19 01 20.2 -3.6**
PRGR pmax pmax
comp=Z,294nm,1.5s
BATP Bataraza 55.39 234 *e*P **P 18 53 44.7 +1.3**
FRU1 Bishkek 55.43 297 PFAKE 18 53 50.0 +6.5
FRU1 LR LR
comp=Z,31µm,21.0s
NRN Naryn 55.59 295 PFAKE 18 54 00.0 +15
NRN LR LR
comp=Z,27µm,20.0s
KVN Kaiserville 55.60 69 PFAKE 18 54 00.0 +15
KVN LR LR
comp=Z,5µm,18.0s
AAK Ala-Archa 55.62 297 *e*P **P 18 53 43.9 -1.1**
comp=Z,139nm,1.1s
AAK LR LR
comp=Z,38µm,18.0s
AAK Ala-Archa 55.62 297 *i* P **P 18 53 43.7 -1.3**
SNR=40
AAK Ala-Archa 55.62 297 *c i*P **P 18 53 43.7 -1.3**
AAK pmax pmax
comp=Z,162nm,1.3s
AAK MLR MLR
comp=Z,37µm,16.0s
AAK Ala-Archa 55.62 297 P **P 18 53 43.9 -1.1**
comp=Z,85nm,1.1s,baz=75,slow=5.3,SNR=62
RYN Ryan 55.64 70 PFAKE 18 54 00.0 +15
RYN LR LR
comp=Z,4µm,19.0s
TMCR Tamitsa 55.66 333 *e*P **P 18 53 44.8 +0.2**
TMCR *e*S **S 19 01 29.1 +0.5**
TMCR pmax pmax
comp=Z,888nm,1.4s
SGF Sodankyl 55.77 340 P **P 18 53 45.6 +0.2**
SGF pmax pmax
comp=Z,327nm,1.7s
PANO Nakornpanom 55.79 253 P **P 18 53 48.2 +2.0**
comp=Z,4.8nm,1.0s,comp=Z,129nm
NVAR Mina Array Bea 55.90 70 *e*P **P 18 53 48.6 +1.5**
NVAR Mina Array Bea 55.90 70 P **P 18 53 49.5 +2.4**
comp=Z,17nm,0.6s,baz=300,slow=7.3,SNR=27
MDPB Devils Postpil 55.99 71 PFAKE 18 54 00.0 +12
MDPB LR LR
comp=Z,4µm,19.0s
OMMB Old Mammoth Mi 56.05 71 PFAKE 18 54 00.0 +12
OMMB LR LR
comp=Z,5µm,19.0s
ELK Elko 56.09 66 PFAKE 18 54 00.0 +12
ELK LR LR
comp=Z,5µm,20.0s
MLAC Mammoth, Mammo 56.14 71 P **P 18 53 48.4 -0.5**
baz=313
LKWY Lake 56.16 59 PFAKE 18 54 00.0 +11
LKWY LR LR
comp=Z,10µm,18.0s
H17A Grant Village 56.18 60 PFAKE 18 54 00.0 +11
H17A LR LR
comp=Z,8µm,20.0s
H17A Grant Village 56.18 60 P **P 18 53 49.7 +0.6**
baz=312,SNR=12
SKNT Sakolnakorn 56.30 253 P **P 18 53 51.2 +1.3**
comp=Z,288nm,1.8s,comp=Z,7µm
FLWY Flagg Ranch 56.32 60 PFAKE 18 54 00.0 +10
FLWY LR LR
comp=Z,3µm,20.0s
RLMT Red Lodge 56.38 58 PFAKE 18 54 00.0 +10
RLMT LR LR
comp=Z,5µm,18.0s
RLMT Red Lodge 56.38 58 P **P 18 53 50.5 0.0**
baz=313,SNR=21
MSF Maaselka 56.51 338 P **P 18 53 51.0 +0.2**
MSF pmax pmax
comp=Z,723nm,1.9s
MOOW Moose Ponds 56.52 60 PFAKE 18 54 10.0 +18
MOOW LR LR
comp=Z,4µm,19.0s
TPAW Teton Pass 56.59 61 PFAKE 18 54 10.0 +18
TPAW LR LR
comp=Z,4µm,19.0s
RABL Rabaul 56.60 190 *e*P **P 18 53 53.1 +1.1**
comp=Z,261nm,1.1s
RABL LR LR
comp=Z,8µm,22.0s
PAGB Antelope Grade 56.61 73 PFAKE 18 54 10.0 +18
PAGB LR LR
comp=Z,4µm,20.0s
DGMT Dagmar 56.68 52 PFAKE 18 54 10.0 +18
DGMT LR LR
comp=Z,10µm,18.0s
DGMT Dagmar 56.68 52 P **P 18 53 52.9 +0.6**
baz=313
LOHW Long Hollow 56.69 60 PFAKE 18 54 10.0 +17
LOHW LR LR
comp=Z,5µm,19.0s
SNOW Snow King Moun 56.71 61 PFAKE 18 54 10.0 +17
SNOW LR LR
comp=Z,5µm,20.0s
VOG Valley Oaks Go 56.71 72 P **P 18 53 53.2 +0.6**
baz=314
ILULI Ilulissat 56.72 13 PFAKE 18 54 00.0 +7.8
ILULI LR LR
comp=Z,13µm,20.0s
ILULI Ilulissat 56.72 13⇑ *i*P **P 18 53 51.7 -0.5**
ILULI pmax pmax
comp=Z,63nm,0.9s
ILULI Ilulissat 56.72 13⇑ *i*P **P 18 53 51.7 -0.5**
comp=Z,63nm,0.9s
REDW Red Top Meadow 56.73 61 PFAKE 18 54 10.0 +17
REDW LR LR
comp=Z,5µm,20.0s
JMIC Jan Mayen 56.87 356 *e*P **P 18 53 53.3 0.0**
TIN Tinemaha, Big 56.88 71 P **P 18 53 54.5 +0.5**
baz=314
LAO LASA Array 56.89 55 PFAKE 18 54 10.0 +16
LAO LR LR
comp=Z,6µm,20.0s
LAO LASA Array 56.89 55 P **P 18 53 52.7 -1.2**
baz=313,SNR=5.6
KSH Kashi 56.90 293 P **P 18 53 56.9 +2.8**
KSH sP pwP 18 54 06.1 +1.6
KSH PP **PP 18 56 03.3 +2.9**
KSH S **S 19 01 47.9 +1.7**
KSH SS **SS 19 05 36.8 +2.7**
KSH pmax pmax
comp=Z,160nm,1.4s
KSH pmax pmax
comp=Z,3µm,5.8s
KSH LR LR
comp=Z,19µm,15.3s
KSH LR LR
comp=Z,14µm,11.6s
KSH LR LR
comp=Z,16µm,14.0s
PAYA Payao 56.91 259 P **P 18 53 55.9 +1.7**
comp=Z,274µm,0.8s
AHID Auburn Hatcher 57.00 61 PFAKE 18 54 10.0 +15
AHID LR LR
comp=Z,5µm,20.0s
SMMC Simmler 57.05 73 P **P 18 53 55.3 +0.2**
baz=314
SHL Shillong 57.16 270 *e*P **P 18 53 55.3 -0.9**
SHL *e*S **S 19 01 49.0 -1.0**
VES Vestal, Richgr 57.22 72 P **P 18 53 56.5 +0.2**
baz=314
PHRA Phrae 57.35 258 P **P 18 53 58.8 +1.5**
comp=Z,54nm,1.7s,comp=Z,979nm
CWC Cottonwood Cre 57.39 71 P **P 18 53 58.0 +0.3**
baz=314
STEI Steigen 57.40 345⇑ *i*P **P 18 53 56.9 -0.1**
STEI IVmB_BB 18 53 57.6
comp=Z,5µm,2.2s
STEI *e*S **S 19 01 51.9 +0.3**
STEI IVMs_BB IVMs_BB 19 26 22.5
comp=Z,6µm,13.6s
GRAC Grapevine Rang 57.42 70 P **P 18 53 58.7 +1.0**
baz=314
PKM Mcpherson Peak 57.45 74 P **P 18 53 58.8 +0.7**
baz=314
KKAR Karatay Array 57.47 300 *e*P **P 18 53 55.7 -2.2**
KKAR Karatay Array 57.47 300 *e*P **P 18 53 55.7 -2.2**
LOF Lofoten 57.48 346⇑ *i*P **P 18 53 57.5 0.0**
LOF IVmB_BB 18 53 58.1
comp=Z,7µm,2.4s
LOF *e*PP **PP 18 56 04.3 -0.3**
LOF *e*S **S 19 01 53.0 +0.3**
LOF *e*ScS **ScS 19 03 46.5 +2.1**
LOF IVMs_BB IVMs_BB 19 27 11.8
comp=Z,4µm,15.2s
KHON Khomkaen 57.48 254 P **P 18 54 00.0 +1.7**
comp=Z,275µm,1.2s
R11A Troy Canyon, C 57.52 68 P **P 18 53 58.8 +0.3**
baz=314,SNR=23
SCO Scoresbysund 57.62 1 *e*P **P 18 53 59.4 +0.9**
comp=Z,129nm,1.6s
SCO LR LR
comp=Z,12µm,18.0s
SCO Scoresbysund 57.62 1 *e*P **P 18 53 59.4 +0.9**
SCO pmax pmax
comp=Z,129nm,1.6s
SCO MLR MLR
comp=Z,12µm,18.0s
SCO Scoresbysund 57.62 1⇑ *i*P **P 18 53 59.2 +0.7**
LAMP Lampang 57.69 258 P **P 18 54 01.4 +1.7**
comp=Z,250µm,0.9s
ISA Isabella, Lake 57.70 72 PFAKE 18 54 10.0 +10
ISA LR LR
comp=Z,6µm,21.0s
ISA Isabella, Lake 57.70 72 P **P 18 53 59.7 0.0**
baz=314
DLV T Lat 57.72 246 PFAKE 18 54 10.0 +10
DLV LR LR
comp=Z,9µm,19.0s
UTTA Uttaradit 57.74 257 P **P 18 54 01.5 +1.5**
comp=Z,183µm,1.4s
KLMR Klimovskoe 57.81 330⇑ *i*P **P 18 53 59.7 -0.3**
KLMR pmax pmax
comp=Z,857nm,1.9s
DUG Dugway, Tooele 57.81 65 P **P 18 54 04.6 +4.0**
DUG pmax pmax
comp=Z,137nm,1.5s
DUG Dugway, Tooele 57.81 65 P **P 18 54 01.2 +0.7**
baz=314
SBC Santa Barbara 57.82 74 P **P 18 54 01.3 +0.9**
baz=314
BW06 Boulder Array 57.83 60 PFAKE 18 54 10.0 +9.3
BW06 LR LR
comp=Z,6µm,21.0s
BW06 Boulder Array 57.83 60 P **P 18 54 00.3 -0.4**
baz=314,SNR=16
PDAR Pinedale Array 57.83 60 P **P 18 54 02.2 +1.5**
comp=Z,17nm,0.6s,baz=308,slow=2.2,SNR=24
ARVC Arvin 57.86 73 P **P 18 54 00.6 -0.2**
baz=314
CMMT Chiang Mai 57.88 259 P **P 18 54 02.0 +0.9**
comp=Z,128nm,1.6s,comp=Z,3µm
CHTO Chiang Mai 57.88 259 *e*P **P 18 54 01.8 +0.7**
comp=Z,454nm,1.4s
CHTO LR LR
comp=Z,13µm,19.0s
CHTO Chiang Mai 57.88 259 *e*P **P 18 54 01.8 +0.7**
CHTO pmax pmax
comp=Z,454nm,1.4s
CHTO MLR MLR
comp=Z,13µm,19.0s
CHTO Chiang Mai 57.88 259 P **P 18 54 02.1 +1.0**
SNR=54
OUL Oulu 57.91 339 P **P 18 54 00.6 0.0**
OUL pmax pmax
comp=Z,561nm,1.6s
JBG Jabagly 57.91 299 *c i*P **P 18 53 59.6 -1.6**
JBG pmax pmax
comp=Z,151nm,1.4s
JBG MLR MLR
comp=Z,9µm,15.0s
MPMC Manual Prospec 58.00 71 P **P 18 54 02.8 +0.8**
baz=314,SNR=18
FURC Furnace Creek, 58.08 70 P **P 18 54 02.9 +0.6**
baz=314,SNR=11
TPNV Topopah Spring 58.10 70 PFAKE 18 54 20.0 +17
TPNV LR LR
comp=Z,8µm,22.0s
TPNV Topopah Spring 58.10 70 P **P 18 54 02.8 +0.1**
baz=314,SNR=12
CM31 Chiang Mai Arr 58.16 259 P **P 18 54 04.3 +1.3**
SNR=38
CMAR Chiang Mai Arr 58.16 259 *e*P **P 18 54 03.5 +0.5**
CMAR Chiang Mai Arr 58.16 259 *ce*P **P 18 54 04.1 +1.1**
CMAR pmax pmax
comp=Z,43nm,0.8s
CMAR Chiang Mai Arr 58.16 259 P **P 18 54 04.2 +1.1**
comp=Z,42nm,0.8s,baz=25,slow=7.4,SNR=55
SCZ2 Santa Cruz Isl 58.18 74 P **P 18 54 03.6 +0.6**
baz=315
TNTI Ternate 58.21 220 PFAKE 18 54 20.0 +17
TNTI LR LR
comp=Z,4µm,21.0s
TNTI Ternate 58.21 220 P **P 18 54 04.2 +0.9**
comp=Z,88nm,1.7s,comp=Z,2µm
FRB Frobisher Bay 58.27 23 P **P 18 54 03.4 +0.2**
FRB pmax pmax
comp=Z,97nm,1.3s
FRB Frobisher Bay 58.27 23 LR LR 19 23 47.7
comp=Z,11µm,18.4s,baz=348,slow=41
OSI Osito Audit: C 58.28 73 PFAKE 18 54 20.0 +16
OSI LR LR
comp=Z,5µm,22.0s
OSI Osito Audit: C 58.28 73 P **P 18 54 04.6 +0.7**
baz=315
LRMC Laurel Mtn Rad 58.29 72 P **P 18 54 04.4 +0.5**
baz=314,SNR=20
CHAI Chaiyaphum 58.32 254 P **P 18 54 05.4 +1.3**
comp=Z,211µm,1.2s
IUG Iuzhnay 58.38 299 *c i*P **P 18 54 03.2 -1.3**
IUG pmax pmax
comp=Z,118nm,1.1s
IUG MLR MLR
comp=Z,9µm,17.0s
IUG Iuzhnay 58.38 299⇑ *i*P **P 18 54 03.2 -1.3**
comp=Z,118nm,1.1s
IUG *e*LR LR 19 20 09.5
comp=Z,9µm,16.8s
PBKT Sadao Pong 58.40 256 P **P 18 54 06.0 +1.3**
comp=Z,45nm,1.5s,comp=Z,2µm
BLG Laguna Peak, P 58.43 74 P **P 18 54 05.1 +0.3**
baz=315
JOF Joensuu 58.45 335 P **P 18 54 04.2 -0.3**
JOF pmax pmax
comp=Z,486nm,1.6s
CHM Chimkent 58.49 300 *e*LR LR 19 19 55.5
comp=Z,5µm,15.3s
AB31 Akbulak array 58.50 311⇑ *e*P **P 18 54 03.2 -1.8**
AB31 pmax pmax
comp=Z,48nm,0.8s
ABKAR Akbulak array 58.50 311 *e*P **P 18 54 03.4 -1.7**
EDW2 Edwards Air Fo 58.53 73 P **P 18 54 06.2 +0.7**
baz=315,SNR=8.2
AKTO Aktyubinsk 58.55 313 P **P 18 54 04.4 -1.0**
AKTO pmax pmax
comp=Z,17nm,0.8s
MNI Manado 58.62 223 P **P 18 54 07.2 +0.9**
MNI pmax pmax
comp=Z,83nm,1.0s
DECC Green Verdugo 58.77 73 P **P 18 54 07.6 +0.4**
baz=315
SNCC San Nicolas Is 58.77 75 PFAKE 18 54 20.0 +13
SNCC LR LR
comp=Z,5µm,22.0s
SNCC San Nicolas Is 58.77 75 P **P 18 54 07.0 -0.1**
baz=315
SHOC Shoshone, Teco 58.82 71 P **P 18 54 07.4 -0.1**
baz=315
SFJD Kangerlussuaq 58.85 14 *e*P **P 18 54 07.0 -0.2**
comp=Z,148nm,1.3s
SFJD LR LR
comp=Z,12µm,20.0s
SFJD Kangerlussuaq 58.85 14 *e*P **P 18 54 07.0 -0.2**
SFJD pmax pmax
comp=Z,148nm,1.3s
SFJD MLR MLR
comp=Z,12µm,20.0s
SFJD Kangerlussuaq 58.85 14⇑ *i*P **P 18 54 06.9 -0.2**
PASC Pasadena Art C 58.91 73 PFAKE 18 54 20.0 +12
PASC LR LR
comp=Z,4µm,21.0s
GSC Goldstone, Bar 58.93 71 P **P 18 54 08.7 +0.4**
baz=315,SNR=12
MWC Mount Wilson 58.95 73 PFAKE 18 54 20.0 +11
MWC LR LR
comp=Z,5µm,22.0s
ODAN Odare 58.98 275 *e*P **P 18 54 07.5 -1.5**
SHPR Sheep Range 59.04 69 PFAKE 18 54 20.0 +11
SHPR LR LR
comp=Z,6µm,22.0s
KONS Konsvik 59.05 345 *e*P **P 18 54 08.4 -0.1**
RRX Edison Barstow 59.11 72 P **P 18 54 10.1 +0.5**
baz=315
JIRN Jiri 59.14 276 *e*P **P 18 54 09.5 -0.8**
comp=Z,279nm,0.8s
FMP Fort Macarthur 59.17 74 P **P 18 54 09.8 0.0**
baz=315
BFSC Mount Baldy Ra 59.17 73 P **P 18 54 10.6 +0.5**
baz=315
STOK Stokkvaagen 59.22 345 *e*P **P 18 54 09.7 0.0**
STOK *e*pP **pP 18 54 15.4 -1.9**
STOK *e*S **S 19 02 16.1 +0.8**
CIS Catalina Islan 59.31 74 P **P 18 54 11.3 +0.4**
baz=315
MDND Maddock 59.33 50 PFAKE 18 54 20.0 +9.2
MDND LR LR
comp=Z,10µm,20.0s
MDND Maddock 59.33 50 P **P 18 54 10.2 -0.6**
baz=315
ULM Lac du Bonnet 59.33 46 P **P 18 54 11.9 +1.1**
comp=Z,11nm,0.6s,baz=314,slow=7.9,SNR=10.0
TUQ Turquoise Moun 59.35 71 P **P 18 54 11.4 +0.1**
baz=315
TAS Tashkent 59.35 299 P **P 18 54 10.8 -0.3**
TAS pmax pmax
comp=Z,146nm,1.4s
BTK Batken 59.40 297 PFAKE 18 54 20.0 +8.4
BTK LR LR
comp=Z,56µm,18.0s
RAMN Ramite 59.40 275 *e*P **P 18 54 11.0 -0.9**
comp=Z,291nm,0.5s
BRDH Bariadhala 59.44 268 P **P 18 54 12.7 +0.8**
comp=Z,81nm,0.3s,baz=64,slow=8.0,SNR=12
K22A Casper 59.52 59 P **P 18 54 11.8 -0.7**
baz=315
HEC Hector,Ludlow 59.53 71 P **P 18 54 12.9 +0.4**
baz=315,SNR=12
SCI2 San Clemente I 59.53 74 P **P 18 54 12.4 0.0**
baz=315
BBRC Big Bear Solar 59.59 72 P **P 18 54 12.2 -0.9**
baz=315
KKN Kakani 59.60 277 *e*P **P 18 54 12.5 -0.8**
comp=Z,266nm,0.7s
KNTN Kanton 59.64 147 PFAKE 18 54 30.0 +17
KNTN LR LR
comp=Z,10µm,20.0s
PKI Pulchoki 59.68 277 *e*P **P 18 54 13.1 -0.9**
comp=Z,304nm,0.9s
PKIN Phulchoki 59.69 277 *e*P **P 18 54 13.0 -0.9**
comp=Z,197nm,0.8s
KMSI Cibinong 59.77 223 P **P 18 54 16.7 +2.5**
RSSD Black Hills 59.77 56 *e*P **P 18 54 15.6 +1.4**
comp=Z,146nm,0.8s
RSSD LR LR
comp=Z,5µm,21.0s
RSSD Black Hills 59.77 56 *e*P **P 18 54 15.6 +1.4**
RSSD pmax pmax
comp=Z,146nm,0.8s
RSSD MLR MLR
comp=Z,5µm,21.0s
RSSD Black Hills 59.77 56 P **P 18 54 14.2 0.0**
baz=315
FAKI Fak Fak 59.84 213 *e*P **P 18 54 15.2 +0.5**
comp=Z,337nm,1.9s
FAKI LR LR
comp=Z,7µm,22.0s
FAKI Fak Fak 59.84 213 P **P 18 54 14.5 -0.1**
comp=Z,71nm,1.4s,comp=Z,2µm
DMN Daman 59.84 277 *e*P **P 18 54 14.4 -0.6**
comp=Z,391nm,0.8s
GKN Gorkha 59.84 278 *e*P **P 18 54 14.0 -0.8**
comp=Z,269nm,0.8s
SUF Sumiainen 59.89 338 P **P 18 54 14.8 +0.4**
SUF pmax pmax
comp=Z,694nm,1.6s
MURC Murrieta 59.90 73 P **P 18 54 15.4 +0.4**
baz=315
UMPA Umpang Tak 59.94 257 P **P 18 54 18.2 +2.7**
comp=Z,349µm,0.9s
GMRC Granite Mounta 59.96 71 P **P 18 54 16.0 +0.5**
baz=315,SNR=9.8
LDFC Landfair 60.07 70 PFAKE 18 54 30.0 +14
LDFC LR LR
comp=Z,3µm,20.0s
DANN Dangsing 60.13 279 *e*P **P 18 54 16.3 -0.7**
comp=Z,375nm,0.7s
BELC Belle Mtn. Jos 60.31 72 P **P 18 54 17.9 -0.1**
baz=316
PFO Pinyon Flats O 60.32 73 *e*P **P 18 54 19.6 +1.6**
comp=Z,153nm,1.7s
PFO LR LR
comp=Z,7µm,22.0s
PFO Pinyon Flats O 60.32 73 *e*P **P 18 54 19.6 +1.6**
PFO pmax pmax
comp=Z,153nm,1.7s
PFO MLR MLR
comp=Z,7µm,22.0s
PFO Pinyon Flats O 60.32 73 P **P 18 54 18.5 +0.5**
baz=316,SNR=8.8
O20A White River Ci 60.37 62 PFAKE 18 54 30.0 +12
O20A LR LR
comp=Z,4µm,20.0s
O20A White River Ci 60.37 62 P **P 18 54 17.8 -0.5**
baz=315
VAF Ylistaro 60.40 339 P **P 18 54 18.4 +0.5**
VAF pmax pmax

		comp=Z,678nm,1.6s						
GAR	**Garm**		**60.42**	**296**	PFAKE		18 54 30.0	+11
GAR					LR	LR		
		comp=Z,70µm,18.0s						
109C	**Camp Elliot, M**		**60.45**	**74**	P	**P**	**18 54 19.3**	**+0.5**
		baz=316						
CPE	**Camp Elliot**		**60.45**	**74**	PFAKE		18 54 30.0	+11
CPE					LR	LR		
		comp=Z,2µm,19.0s						
NEE2	**Needles Airpor**		**60.58**	**70**	P	**P**	**18 54 20.3**	**+0.7**
		baz=316						
KOLN	**Koldanda**		**60.64**	**278**	*e*P	**P**	**18 54 19.5**	**-0.9**
		comp=Z,206nm,0.7s						
IRM	**Iron Mountain**		**60.70**	**71**	P	**P**	**18 54 20.9**	**+0.5**
		baz=316,SNR=11						
U15A	**North Rim**		**60.73**	**67**	PFAKE		18 54 30.0	+9.0
U15A					LR	LR		
		comp=Z,5µm,18.0s						
AGMN	**Agassiz Nation**		**60.75**	**48**	PFAKE		18 54 30.0	+9.5
AGMN					LR	LR		
		comp=Z,7µm,21.0s						
AGMN	**Agassiz Nation**		**60.75**	**48**	P	**P**	**18 54 20.3**	**-0.2**
		baz=317						
W13A	**Hualapai Mount**		**60.76**	**70**	PFAKE		18 54 30.0	+8.9
W13A					LR	LR		
		comp=Z,4µm,19.0s						
PYUN	**Piuthan**		**60.78**	**279**	*e*P	**P**	**18 54 20.4**	**-0.9**
		comp=Z,257nm,0.8s						
MONP2	**Monument Peak**		**60.85**	**73**	P	**P**	**18 54 21.2**	**-0.6**
		baz=316						
BAR	**Barrett**		**60.86**	**73**	PFAKE		18 54 40.0	+18
BAR					LR	LR		
		comp=Z,2µm,20.0s						
BC3	**Big Chuckawall**		**60.88**	**72**	P	**P**	**18 54 22.3**	**+0.5**
		baz=316,SNR=9.7						
FINES	**FINESS Array B**		**61.01**	**337**	*e*P	**P**	**18 54 21.7**	**-0.4**
FINES	**FINESS Array B**		**61.01**	**337**	P	**P**	**18 54 22.1**	**+0.1**
		comp=Z,43nm,0.5s,baz=43,slow=8.6,SNR=54						
NSS	**Namsos**		**61.06**	**345**	⇑*i*P	**P**	**18 54 22.3**	**-0.1**
NSS					IVmB_BB		18 54 23.0	
		comp=Z,4µm,2.8s						
NSS					*e*S	**S**	**19 02 39.8**	**+0.8**
NSS					IVMs_BB	IVMs_BB	19 28 19.8	
		comp=Z,5µm,15.5s						
N23A	**Red Feather La**		**61.06**	**60**	PFAKE		18 54 40.0	+17
N23A					LR	LR		
		comp=Z,4µm,22.0s						
N23A	**Red Feather La**		**61.06**	**60**	P	**P**	**18 54 21.6**	**-1.6**
		baz=316						
XMAS	**Kiritimati**		**61.07**	**130**	PFAKE		18 54 40.0	+17
XMAS					LR	LR		
		comp=Z,8µm,20.0s						
PV23	**Carpenter Ridg**		**61.14**	**64**	PFAKE		18 54 40.0	+16
PV23					LR	LR		
		comp=Z,6µm,19.0s						
PDMCI	**Parker Dam,Lak**		**61.18**	**70**	P	**P**	**18 54 22.8**	**-0.8**
		baz=316						
SWSC	**Sam W. Stewart**		**61.18**	**73**	P	**P**	**18 54 23.2**	**-0.5**
		baz=316						
PV14	**Lion Creek, Pa**		**61.19**	**64**	PFAKE		18 54 40.0	+16
PV14					LR	LR		
		comp=Z,6µm,19.0s						
IKP	**In-Ko-Pah, Jac**		**61.21**	**73**	P	**P**	**18 54 24.3**	**+0.3**
		baz=316						
SRDT	**SRDT**		**61.24**	**256**	P	**P**	**18 54 25.8**	**+1.6**
		comp=Z,81nm,1.7s,comp=Z,3µm						
PV19	**Morning Glory**		**61.26**	**64**	PFAKE		18 54 40.0	+16
PV19					LR	LR		
		comp=Z,4µm,19.0s						
CHGR	**Chuyangaron**		**61.30**	**297**	PFAKE		18 54 40.0	+15
CHGR					LR	LR		
		comp=Z,48µm,19.0s						
PV11	**David Mesa, Pa**		**61.32**	**64**	PFAKE		18 54 40.0	+15
PV11					LR	LR		
		comp=Z,5µm,19.0s						
SANI	**Sanana**		**61.33**	**220**	P	**P**	**18 54 24.4**	**-0.4**
		comp=Z,111nm,1.3s,comp=Z,2µm						
PV18	**Skein Mesa, Pa**		**61.34**	**64**	PFAKE		18 54 40.0	+15
PV18					LR	LR		
		comp=Z,4µm,21.0s						
PV12	**Saucer Basin,**		**61.35**	**64**	PFAKE		18 54 40.0	+15
PV12					LR	LR		
		comp=Z,6µm,19.0s						
Y12C	**Blythe**		**61.35**	**71**	PFAKE		18 54 40.0	+15
Y12C					LR	LR		
		comp=Z,3µm,21.0s						
Y12C	**Blythe**		**61.35**	**71**	P	**P**	**18 54 25.4**	**+0.5**
		baz=316,SNR=9.6						
PUL	**Pulkovo**		**61.35**	**334**	*c i*P	**P**	**18 54 24.4**	**0.0**
PUL					pmax	pmax		
		comp=Z,440nm,1.3s						
PUL					MLR	MLR		
		comp=Z,39µm,17.0s						
PUL	**Pulkovo**		**61.35**	**334**	*e*P	**P**	**18 54 24.4**	**0.0**
PUL					IAmb	IAmb	18 54 25.4	
		comp=Z,209nm,0.6s						
PV05	**Paradox Valley**		**61.36**	**64**	PFAKE		18 54 40.0	+15
PV05					LR	LR		
		comp=Z,4µm,19.0s						
HNR	**Honiara**		**61.38**	**180**	PFAKE		18 54 40.0	+15
HNR					LR	LR		
		comp=Z,8µm,21.0s						
PV13	**Radium Mtn., P**		**61.45**	**64**	PFAKE		18 54 40.0	+14
PV13					LR	LR		
		comp=Z,5µm,22.0s						
PV02	**Paradox Valley**		**61.46**	**64**	PFAKE		18 54 40.0	+14
PV02					LR	LR		
		comp=Z,6µm,21.0s						
PV01	**Paradox Valley**		**61.61**	**64**	PFAKE		18 54 40.0	+13
PV01					LR	LR		
		comp=Z,4µm,22.0s						
GLA	**Glamis**		**61.67**	**72**	PFAKE		18 54 40.0	+13
GLA					LR	LR		
		comp=Z,6µm,22.0s						
GLA	**Glamis**		**61.67**	**72**	P	**P**	**18 54 27.5**	**+0.4**
		baz=316						
ANGG	**Ammassalik, Gr**		**61.72**	**8**	PFAKE		18 54 40.0	+13
ANGG					LR	LR		
		comp=Z,13µm,20.0s						
LUWI	**Luwuk**		**61.74**	**224**	PFAKE		18 54 40.0	+12
LUWI					LR	LR		
		comp=Z,3µm,20.0s						
LUWI	**Luwuk**		**61.74**	**224**	P	**P**	**18 54 27.0**	**-0.6**
		comp=Z,224nm,1.3s,comp=Z,3µm						
SMCO	**Snowmass**		**61.74**	**62**	PFAKE		18 54 40.0	+12
SMCO					LR	LR		
		comp=Z,6µm,22.0s						
MPSI	**Mapaga**		**61.77**	**227**	P	**P**	**18 54 28.4**	**+0.6**
		comp=Z,34nm,1.9s,comp=Z,1µm						
DHRM	**DHARAMSHALA**		**61.80**	**287**	*e*P	**P**	**18 54 24.8**	**-3.4**
DHRM					IAms_20	IAms_20	20 02 03.1	
		comp=Z,5µm,10.2s						
WUAZ	**Wupatki**		**61.91**	**68**	PFAKE		18 54 40.0	+11
WUAZ					LR	LR		
		comp=Z,5µm,19.0s						
WUAZ	**Wupatki**		**61.91**	**68**	P	**P**	**18 54 28.6**	**-0.2**
		baz=316,SNR=15						
ISCO	**Idaho Springs**		**62.02**	**60**	PFAKE		18 54 40.0	+10
ISCO					LR	LR		
		comp=Z,6µm,21.0s						
ISCO	**Idaho Springs**		**62.02**	**60**	P	**P**	**18 54 32.0**	**+2.3**
ISCO					pmax	pmax		
		comp=Z,122nm,1.8s						
ISCO	**Idaho Springs**		**62.02**	**60**	P	**P**	**18 54 29.8**	**+0.1**
		baz=316,SNR=22						
PHET	**Kaeng Krachan**		**62.06**	**254**	P	**P**	**18 54 32.1**	**+2.3**
		comp=Z,367µm,0.9s						
SUSD	**Miller**		**62.09**	**53**	P	**P**	**18 54 28.9**	**-0.8**
		baz=317						
SMLA	**Simla**		**62.09**	**286**	*e*P	**P**	**18 54 27.9**	**-2.0**
APSI	**Ampana**		**62.10**	**225**	P	**P**	**18 54 29.6**	**-0.4**
		comp=Z,131nm,1.2s,comp=Z,2µm						
DDI	**Dehra Dun**		**62.15**	**284**	*e*P	**P**	**18 54 28.2**	**-2.2**
DDI					IAMs_20	IAMs_20	19 26 53.9	
		comp=Z,16µm,9.4s						
BOK	**Bokaro**		**62.15**	**273**	*e*P	**P**	**18 54 28.8**	**-1.5**
BOK					IAMs_20	IAMs_20	20 01 40.2	
		comp=Z,6µm,10.2s						
MVCO	**Mesa Verde**		**62.31**	**64**	PFAKE		18 54 50.0	+18
MVCO					LR	LR		
		comp=Z,4µm,21.0s						
MVCO	**Mesa Verde**		**62.31**	**64**	P	**P**	**18 54 31.2**	**-0.4**
		baz=316,SNR=7.8						
PMG	**Port Moresby**		**62.39**	**195**	PFAKE		18 54 50.0	+18
PMG					LR	LR		
		comp=Z,4µm,20.0s						
PMG	**Port Moresby**		**62.39**	**195**	*de*P	**P**	**18 54 32.2**	**+0.3**
PMG					pmax	pmax		
		comp=Z,305nm,1.3s						
PMG					MLR	MLR		
		comp=Z,14µm,19.0s						
113A	**Mohawk Valley,**		**62.50**	**71**	PFAKE		18 54 50.0	+17
113A					LR	LR		
		comp=Z,5µm,22.0s						
MOS	**Moscow**		**62.51**	**328**	*e*P	**P**	**18 54 30.2**	**-2.0**
MOS					*e**PP	**pP**	**18 54 40.8**	**+1.0**
MOS					*e*		18 56 47.6	
MOS					*e*S	**S**	**19 02 55.0**	**-2.6**
MOS					*e**SS	**sS**	**19 03 10.8**	**+0.7**
MOS					*e*		19 04 20.3	
MOS					pmax	pmax		
		comp=Z,4µm,3.0s						
MOS					pmax	pmax		
		comp=N,2µm,2.9s						
MOS					pmax	pmax		
		comp=E,1µm,3.8s						
MOS					pmax	pmax		
		comp=N,370nm,1.7s						
MOS					pmax	pmax		
		comp=Z,790nm,1.7s						
MOS					pmax	pmax		
		comp=E,124nm,1.6s						
MOS					smax	smax		
		comp=N,800nm,4.0s						
MOS					smax	smax		
		comp=E,2µm,4.0s						
NIL	**Nilore**		**62.57**	**290**	*e*P	**P**	**18 54 32.7**	**-0.4**
		comp=E,310nm,1.2s						
NIL					LR	LR		
		comp=Z,35µm,19.0s						
NIL	**Nilore**		**62.57**	**290**	*e*P	**P**	**18 54 32.7**	**-0.4**
NIL					pmax	pmax		
		comp=Z,310nm,1.2s						
NIL					MLR	MLR		
		comp=Z,35µm,19.0s						
X16A	**Lo Mia Camp, P**		**62.66**	**68**	PFAKE		18 54 50.0	+16
X16A					LR	LR		
		comp=Z,5µm,22.0s						
S22A	**4UR Ranch, Cre**		**62.84**	**63**	P	**P**	**18 54 35.1**	**-0.1**
		baz=317,SNR=13						
Q24A	**Divide**		**62.88**	**61**	PFAKE		18 54 50.0	+15
Q24A					LR	LR		
		comp=Z,6µm,22.0s						
Q24A	**Divide**		**62.88**	**61**	P	**P**	**18 54 35.3**	**-0.1**
		baz=317,SNR=5.9						
EYMN	**Ely**		**62.97**	**46**	PFAKE		18 54 50.0	+14
EYMN					LR	LR		
		comp=Z,10µm,20.0s						
EYMN	**Ely**		**62.97**	**46**	P	**P**	**18 54 35.0**	**-0.5**
		baz=319						
OGNE	**Ogallala**		**63.08**	**57**	PFAKE		18 54 50.0	+14
OGNE					LR	LR		
		comp=Z,5µm,21.0s						
OGNE	**Ogallala**		**63.08**	**57**	P	**P**	**18 54 35.6**	**-0.8**
		baz=317						
W18A	**Petrified Fore**		**63.12**	**67**	PFAKE		18 54 50.0	+13
W18A					LR	LR		
		comp=Z,7µm,22.0s						
W18A	**Petrified Fore**		**63.12**	**67**	P	**P**	**18 54 36.2**	**-0.7**
		baz=317						
OBN	**Obninsk**		**63.36**	**328**	*e*P	**P**	**18 54 37.2**	**-0.7**
		comp=Z,1µm,1.7s						
OBN					LR	LR		
		comp=Z,16µm,20.0s						
OBN	**Obninsk**		**63.36**	**328**	*c i*P	**P**	**18 54 37.2**	**-0.7**
OBN					*e*		18 55 12.1	
OBN					*e*		18 56 57.1	
OBN					*e*PPP	PPP	18 58 29.2	
OBN					*i* S	**S**	**19 03 06.3**	**-2.0**
OBN					*e*SS	**SS**	**19 07 14.4**	**+0.3**
OBN					pmax	pmax		
		comp=Z,783nm,1.7s						
OBN					MLR	MLR		
		comp=Z,16µm,21.0s						
OBN	**Obninsk**		**63.36**	**328**	LR	LR	19 24 23.0	
		comp=Z,4µm,21.4s,baz=24,slow=38						
BORG	**Borgarnes**		**63.39**	**1**	PFAKE		18 54 50.0	+12
BORG					LR	LR		
		comp=Z,5µm,20.0s						
X18A	**Snowflake**		**63.42**	**67**	PFAKE		18 54 50.0	+11
X18A					LR	LR		
		comp=Z,7µm,22.0s						
VSU	**Vasula**		**63.44**	**335**	*c i*P	**P**	**18 54 38.4**	**0.0**
VSU					pmax	pmax		
		comp=Z,2µm,1.7s						
VSU					MLR	MLR		
		comp=Z,64µm,17.0s						
VSU	**Vasula**		**63.44**	**335**	*e*P	**P**	**18 54 38.5**	**+0.2**
VSU					IAmb	IAmb	18 54 39.6	
		comp=Z,968nm,1.2s						
SDCO	**Great Sand Dun**		**63.57**	**62**	PFAKE		18 54 50.0	+10
SDCO					LR	LR		
		comp=Z,4µm,18.0s						
SDCO	**Great Sand Dun**		**63.57**	**62**	P	**P**	**18 54 40.0**	**0.0**
		baz=317,SNR=11						
MOL	**Molde**		**63.58**	**346**	⇑*i*P	**P**	**18 54 39.2**	**0.0**
MOL					IVmB_BB		18 54 40.3	
		comp=Z,3µm,3.4s						
MOL					*e*S	**S**	**19 03 11.6**	**+0.8**
MOL					IVMs_BB	IVMs_BB	19 28 49.1	
		comp=Z,4µm,15.4s						
SGKI	**Sangatta, Kali**		**63.59**	**229**	P	**P**	**18 54 36.5**	**-3.5**
214A	**Organ Pipe Nat**		**63.64**	**71**	P	**P**	**18 54 40.7**	**+0.5**
		baz=317,SNR=13						
SBUM	**Sibu**		**63.65**	**236**	PFAKE		18 54 50.0	+10
SBUM					LR	LR		
		comp=Z,5µm,20.0s						
SBUM	**Sibu**		**63.65**	**236**	P	**P**	**18 54 43.0**	**+2.7**
ECSD	**EROS Data Cent**		**63.75**	**52**	PFAKE		18 54 50.0	+9.2
ECSD					LR	LR		
		comp=Z,9µm,18.0s						
ECSD	**EROS Data Cent**		**63.75**	**52**	P	**P**	**18 54 40.3**	**-0.5**
		baz=318,SNR=16						
DOMB	**Dombas**		**63.86**	**345**	⇑*i*P	**P**	**18 54 41.0**	**-0.2**
DOMB					IVmB_BB		18 54 41.9	
		comp=Z,4µm,3.5s						
DOMB					*e*PP	**PP**	**18 57 00.8**	**-0.3**
DOMB					*e*S	**S**	**19 03 14.7**	**+0.3**
DOMB					IVMs_BB	IVMs_BB	19 29 36.0	
		comp=Z,5µm,13.4s						
E38A	**The Farm, Brul**		**63.96**	**47**	PFAKE		18 55 00.0	+18
E38A					LR	LR		
		comp=Z,10µm,20.0s						
E38A	**The Farm, Brul**		**63.96**	**47**	P	**P**	**18 54 41.2**	**-0.8**
		baz=320						
C40A	**Isle Royale Na**		**64.02**	**45**	PFAKE		18 55 00.0	+18
C40A					LR	LR		
		comp=Z,10µm,19.0s						
C40A	**Isle Royale Na**		**64.02**	**45**	P	**P**	**18 54 41.7**	**-0.7**
		baz=320						
AKN	**Aaknes**		**64.04**	**346**	⇑*i*P	**P**	**18 54 42.6**	**+0.3**
AKN					IVmB_BB		18 54 43.6	
		comp=Z,3µm,3.2s						
AKN					*e*pP	**pP**	**18 54 48.1**	**-1.9**
AKN					*e*sP	**pwP**	**18 54 50.5**	**-1.9**
AKN					*e*PP	**PP**	**18 57 02.4**	**-0.3**
AKN					*e*S	**S**	**19 03 17.3**	**+0.7**
AKN					IVMs_BB	IVMs_BB	19 30 16.4	
		comp=Z,5µm,15.2s						
F37A	**Hinrichs Farm,**		**64.14**	**48**	P	**P**	**18 54 43.2**	**-0.1**
		baz=319						
KSCO	**Kaye Shedlock'**		**64.19**	**59**	PFAKE		18 55 00.0	+16
KSCO					LR	LR		
		comp=Z,6µm,22.0s						
KSCO	**Kaye Shedlock'**		**64.19**	**59**	P	**P**	**18 54 43.4**	**-0.4**
		baz=318,SNR=5.2						
F38A	**Pierce - Schro**		**64.30**	**47**	P	**P**	**18 54 44.6**	**+0.2**
		baz=320,SNR=10						
KBL	**Kabul**		**64.33**	**294**	*e*P	**P**	**18 54 42.7**	**-2.2**
		comp=Z,159nm,1.5s						
KBL					LR	LR		
		comp=Z,19µm,20.0s						
KBL	**Kabul**		**64.33**	**294**	*e*P	**P**	**18 54 42.7**	**-2.2**
KBL					pmax	pmax		
		comp=Z,159nm,1.5s						
KBL					MLR	MLR		
		comp=Z,19µm,20.0s						
KDI	**Kendari**		**64.43**	**223**	P	**P**	**18 54 46.3**	**+0.9**
		comp=Z,46nm,0.9s,comp=Z,2µm						
SPMN	**Marine on St.**		**64.44**	**49**	PFAKE		18 55 00.0	+15
SPMN					LR	LR		
		comp=Z,9µm,19.0s						
SPMN	**Marine on St.**		**64.44**	**49**	P	**P**	**18 54 45.5**	**+0.3**
		baz=320,SNR=6.2						
NB2	**NORSAR Subarra**		**64.45**	**344**	P	**P**	**18 54 44.7**	**-0.4**
		comp=Z,2µm,3.3s,baz=21,slow=6.9						
NB2	**NORSAR Subarra**		**64.45**	**344**	P	**P**	**18 54 44.7**	**-0.4**
		baz=21,slow=6.9						
NOA	**NORSAR Array B**		**64.45**	**344**	P	**P**	**18 54 45.0**	**-0.1**
NOA	**NORSAR Array B**		**64.45**	**344**	P	**P**	**18 54 45.0**	**-0.1**
		comp=Z,34nm,0.7s,baz=21,slow=6.6,SNR=29						
TUC	**Tucson**		**64.56**	**70**	PFAKE		18 55 00.0	+14
TUC					LR	LR		
		comp=Z,2µm,18.0s						
TUC	**Tucson**		**64.56**	**70**	P	**P**	**18 54 47.0**	**+0.6**
		baz=317						
E39A	**Mellen**		**64.58**	**46**	P	**P**	**18 54 45.4**	**-0.7**
		baz=320						
T25A	**Trinidad**		**64.60**	**62**	P	**P**	**18 54 46.9**	**+0.2**
		baz=318,SNR=14						
LPSR	**Galich'ya Gora**		**64.61**	**325**	*e*P	**P**	**18 54 45.1**	**-1.1**
LPSR					*e*S	**S**	**19 03 17.3**	**-6.6**
LPSR					pmax	pmax		
		comp=Z,520nm,1.8s						
LPSR					smax	smax		
		comp=N,680nm,12.9s						
LPSR					MLR	MLR		
		comp=Z,26µm,18.0s						
IVI	**Ivigtut**		**64.68**	**15**	PFAKE		18 55 00.0	+14
IVI					LR	LR		
		comp=Z,12µm,20.0s						
NC602	**NORSAR Array S**		**64.68**	**344**	⇑*i*P	**P**	**18 54 46.5**	**0.0**
NC602					IVmB_BB		18 54 47.2	
		comp=Z,3µm,3.1s						
NC602					*e*S	**S**	**19 03 25.1**	**+0.5**
NC602					IVMs_BB	IVMs_BB	19 29 00.5	
		comp=Z,8µm,17.1s						
BGNE	**Belgrade**		**64.72**	**55**	PFAKE		18 55 00.0	+13
BGNE					LR	LR		
		comp=Z,11µm,18.0s						
BGNE	**Belgrade**		**64.72**	**55**	P	**P**	**18 54 47.4**	**+0.2**
		baz=318,SNR=8.7						
VRH	**Novokhopyorsk**		**64.72**	**322**	*e*P	**P**	**18 54 45.3**	**-1.6**
VRH					*e*S	S	19 03 16.3	-9.0
VRH					pmax	pmax		
		comp=Z,440nm,1.7s						
VRH					smax	smax		
		comp=N,1µm,9.4s						
VRH					MLR	MLR		
		comp=Z,50µm,18.0s						
F39A	**Loretta**		**64.77**	**47**	P	**P**	**18 54 47.2**	**-0.1**
		baz=320,SNR=10						
BWNR	**Bhubaneshwar**		**64.81**	**271**	*ex*	P	18 54 42.5	-5.4
TTSI	**Tana Toraja**		**64.81**	**226**	P	**P**	**18 54 48.0**	**+0.1**
		comp=Z,46nm,1.2s,comp=Z,1µm						
E40A	**Wakefield**		**64.82**	**46**	P	**P**	**18 54 48.0**	**+0.3**
		baz=320,SNR=8.1						
SAUI	**Saumlaki**		**64.90**	**212**	P	**P**	**18 54 49.8**	**+1.4**
		comp=Z,296nm,1.5s,comp=Z,6µm						
G38A	**Ridgeland**		**64.92**	**48**	P	**P**	**18 54 47.8**	**-0.6**
		baz=320,SNR=7.3						
D41A	**Chassel**		**64.93**	**45**	PFAKE		18 55 00.0	+12
D41A					LR	LR		
		comp=Z,10µm,18.0s						
D41A	**Chassel**		**64.93**	**45**	P	**P**	**18 54 48.7**	**+0.3**
		baz=321						
TASM	**ASL Pad, Albuq**		**65.09**	**65**	P	**P**	**18 54 50.3**	**+0.4**
		baz=318,SNR=9.5						
TASM	**ASL Pad, Albuq**		**65.09**	**65**	P	**P**	**18 54 50.7**	**+0.9**
		baz=318,SNR=11						
ANMO	**Albuquerque**		**65.09**	**65**	*e*P	**P**	**18 54 51.4**	**+1.5**
		comp=Z,68nm,1.4s						
ANMO					LR	LR		
		comp=Z,4µm,19.0s						
ANMO	**Albuquerque**		**65.09**	**65**	*e*P	**P**	**18 54 51.4**	**+1.5**
ANMO					pmax	pmax		
		comp=Z,68nm,1.4s						
ANMO					MLR	MLR		
		comp=Z,4µm,19.0s						
ANMO	**Albuquerque**		**65.09**	**65**	P	**P**	**18 54 49.9**	**+0.1**
		baz=318						
H38A	**Maiden Rock**		**65.09**	**49**	P	**P**	**18 54 49.6**	**+0.1**
		baz=320						
HYA	**Hoyanger**		**65.12**	**347**	*e*P	**P**	**18 54 49.6**	**+0.3**
F40A	**Park Falls**		**65.12**	**46**	P	**P**	**18 54 49.6**	**-0.1**
		baz=320						
G39A	**Holcombe**		**65.14**	**48**	P	**P**	**18 54 49.7**	**-0.1**
		baz=320						
NRS	**Narsarsuaq**		**65.14**	**13**	PFAKE		18 55 00.0	+11
NRS					LR	LR		
		comp=Z,20µm,18.0s						
NRS	**Narsarsuaq**		**65.14**	**13**	P	**P**	**18 54 50.6**	**+1.2**
NRS					pmax	pmax		
		comp=Z,60nm,1.4s						
E41A	**Kenton**		**65.22**	**45**	P	**P**	**18 54 49.9**	**-0.4**
		baz=321,SNR=9.2						
SKAR	**Skarslia**		**65.27**	**345**	⇑*i*P	**P**	**18 54 50.5**	**+0.1**
SKAR					IVmB_BB		18 54 51.6	
		comp=Z,3µm,3.4s						
SKAR					*e*S	**S**	**19 03 32.7**	**+0.8**
SKAR					IVMs_BB	IVMs_BB	19 28 37.2	
		comp=Z,6µm,17.3s						
VORR	**Voronezh**		**65.27**	**324**	*e*P	**P**	**18 54 48.0**	**-2.5**
VORR					pmax	pmax		
		comp=Z,750nm,1.6s						
SLIT	**Slitere, Latvi**		**65.30**	**337**	*e*P	**P**	**18 54 50.2**	**-0.3**
SLIT					IAmb	IAmb	18 54 51.4	
		comp=Z,4µm,1.4s						
COWI	**Conover**		**65.42**	**46**	PFAKE		18 55 00.0	+8.4
COWI					LR	LR		
		comp=Z,11µm,20.0s						
SUE	**Sulen**		**65.43**	**347**	⇑*i*P	**P**	**18 54 51.4**	**+0.1**
SUE					IVmB_BB		18 54 52.4	
		comp=Z,4µm,4.0s						
SUE					*e*S	**S**	**19 03 34.8**	**+1.2**
SUE					IVMs_BB	IVMs_BB	19 29 11.8	
		comp=Z,3µm,20.2s						
KSM	**Kuching**		**65.46**	**237**	PFAKE		18 55 00.0	+7.8
KSM					LR	LR		
		comp=Z,3µm,21.0s						
KSM	**Kuching**		**65.46**	**237**	P	**P**	**18 54 55.0**	**+2.8**
Y22D	**IRIS PASSCAL I**		**65.47**	**66**	PFAKE		18 55 10.0	+18
Y22D					LR	LR		
		comp=Z,5µm,20.0s						
Y22D	**IRIS PASSCAL I**		**65.47**	**66**	P	**P**	**18 54 52.1**	**-0.1**
		baz=318						
H39A	**Augusta**		**65.55**	**48**	P	**P**	**18 54 51.9**	**-0.5**
		baz=320						
OSL	**Oslo**		**65.58**	**344**	*e*P	**P**	**18 54 50.0**	**-2.3**
G40A	**Rib Lake**		**65.59**	**47**	PFAKE		18 55 10.0	+17
G40A					LR	LR		
		comp=Z,10µm,20.0s						
G40A	**Rib Lake**		**65.59**	**47**	P	**P**	**18 54 52.5**	**-0.2**
		baz=321						
SPSI	**Sidrap Palu**		**65.65**	**225**	P	**P**	**18 54 53.2**	**-0.2**
		comp=Z,69nm,1.8s,comp=Z,2µm						
VSR	**Storozhevoye**		**65.66**	**324**	*e*P	**P**	**18 54 51.5**	**-1.5**
VSR					*e*S	**S**	**19 03 28.7**	**-8.1**
VSR					pmax	pmax		
		comp=Z,510nm,1.7s						
VSR					smax	smax		
		comp=N,1µm,9.7s						
VSR					MLR	MLR		
		comp=Z,36µm,18.0s						
E42A	**Champion**		**65.70**	**45**	P	**P**	**18 54 53.2**	**-0.2**
		baz=321,SNR=8.5						

IZAR IAmb IAmb 18 54 57.1
comp=Z,230nm,1.6s
BER Bergen 66.00 347 P **P 18 54 56.1 +1.1**
BER pmax pmax
comp=Z,102nm,1.0s
BER Bergen 66.00 347⇑ *i*P **P 18 54 55.2 +0.2**
BER IVmB_BB 18 54 56.1
comp=Z,3μm,4.1s
BER *e*pP **pP 18 55 00.8 -1.8**
BER *e*PP **PP 18 57 19.4 -0.3**
BER *e*S **S 19 03 41.8 +1.3**
BER IVMs_BB IVMs_BB 19 31 03.0
comp=Z,4μm,12.6s
H40A Chili 66.00 48 P **P 18 54 55.4 0.0**
baz=321
KONO Kongsberg 66.04 344 *e*P **P 18 54 55.7 +0.4**
comp=Z,429nm,1.8s
KONO LR LR
comp=Z,8μm,20.0s
KONO Kongsberg 66.04 344*c i*P **P 18 54 55.5 +0.2**
KONO pmax pmax
comp=Z,185nm,2.5s
KONO MLR MLR
comp=Z,9μm,17.0s
KONO Kongsberg 66.04 344⇑ *i*P **P 18 54 55.7 +0.4**
KONO IVmB_BB 18 54 56.6
comp=Z,3μm,3.6s
KONO *e*S **S 19 03 42.4 +1.2**
KONO IVMs_BB IVMs_BB 19 30 03.2
comp=Z,5μm,14.0s
KRAB Krabi 66.05 252 P **P 18 54 59.4 +3.4**
comp=Z,641μm,0.8s
SKLT Songkhla 66.07 250 P **P 18 54 58.7 +2.6**
comp=Z,85nm,1.6s,comp=Z,2μm
TRTT Trang 66.07 251 P **P 18 54 57.9 +1.7**
comp=Z,136nm,1.3s,comp=Z,4μm
I39A Houston 66.07 49 PFAKE 18 55 10.0 +14
I39A LR LR
comp=Z,10μm,18.0s
I39A Houston 66.07 49 P **P 18 54 55.2 -0.6**
baz=320
319A Douglas 66.11 69 PFAKE 18 55 10.0 +14
319A LR LR
comp=Z,3μm,18.0s
121A Cookes Peak, D 66.11 67 P **P 18 54 56.7 +0.2**
baz=318,SNR=5.6
ISAL Salakas 66.13 334 *e*P **P 18 54 55.9 0.0**
ISAL IAmb IAmb 18 54 58.5
comp=Z,311nm,1.7s
F42A Maple Grove Fa 66.13 45 P **P 18 54 56.1 0.0**
baz=322
E43A Lone Tree Farm 66.14 44 PFAKE 18 55 10.0 +14
E43A LR LR
comp=Z,9μm,18.0s
E43A Lone Tree Farm 66.14 44 P **P 18 54 55.8 -0.4**
baz=322
IDID Didziasalis 66.18 333 *e*P **P 18 54 56.5 +0.2**
IDID IAmb IAmb 18 54 58.7
comp=Z,220nm,1.5s
JBP Jabalpur 66.23 278 *e*P **P 18 54 56.6 -0.5**
JBP AMB AMB 18 54 57.5
comp=Z,167nm,2.0s
JBP *e*S **S 19 03 46.0 +1.5**
ODD1 Odda 66.26 346 *e*P **P 18 54 56.7 -0.1**
IIGN Ignalina 66.29 333 *e*P **P 18 54 57.2 +0.2**
IIGN IAmb IAmb 18 54 59.4
comp=Z,126nm,1.1s
H41A Junction City 66.34 47 PFAKE 18 55 10.0 +12
H41A LR LR
comp=Z,10μm,20.0s
H41A Junction City 66.34 47 P **P 18 54 57.8 +0.2**
baz=321
SCHQ Schefferville 66.38 28 P **P 18 54 57.8 +0.2**
comp=Z,56nm,0.7s,baz=350,slow=7.0,SNR=23
J39A Decorah 66.39 49 P **P 18 54 57.1 -0.7**
baz=320
G42A Mountain 66.40 46 PFAKE 18 55 10.0 +12
G42A LR LR
comp=Z,10μm,20.0s
G42A Mountain 66.40 46 P **P 18 54 57.3 -0.6**
baz=322,SNR=9.8
E44A Grand Marais A 66.41 44 PFAKE 18 55 10.0 +12
E44A LR LR
comp=Z,7μm,20.0s
E44A Grand Marais A 66.41 44 P **P 18 54 57.5 -0.4**
baz=322
I40A Norwalk 66.46 48 P **P 18 54 58.1 -0.2**
baz=321
F43A Flat Rock, Esc 66.49 45 P **P 18 54 58.4 0.0**
baz=322,SNR=7.5
NACGM Naroch 66.53 333 *e*P **P 18 54 57.0 -1.5**
NACGM *e*P **P 18 54 58.0 -0.5**
NACGM PM 18 54 59.0
comp=Z,0.5nm,1.0s
NACGM *e*PP PP 18 57 38.0 +13
NACGM *e*PPP PPP 18 59 10.0
NACGM *e*S **S 19 03 48.0 +0.7**
NACGM *e*PS 19 04 02.0
NACGM *e*SS SS 19 07 43.0 -20
NACGM *e*SSS SSS 19 11 32.0
NACGM *e*LQ LQ 19 18 22.0
NACGM *e*LR LR 19 21 09.0
NACGM LRM MLR 19 27 22.0
comp=Z,49nm,20.0s
MICGM Minsk 66.57 332⇑ *i*P **P 18 54 59.0 +0.2**
MICGM ⇑*i*P **P 18 54 59.0 +0.2**
MICGM PM 18 55 00.0
comp=Z,2.5nm,1.5s
MICGM PM 18 55 00.0
comp=Z,9.0nm,4.0s
MICGM PM 18 55 01.0
comp=N,2.2nm,2.0s
MICGM PM 18 55 01.0
comp=E,1.5nm,2.0s
MICGM *e*PcP **sP 18 55 12.0 +3.0**
MICGM *e*PP PP 18 57 14.0 -11
MICGM *e*PPP PPP 18 59 00.0
MICGM *e*S **S 19 03 46.0 -1.7**
MICGM *e*PS **PnS 19 04 02.0 -8.0**
MICGM *e*SS **SS 19 08 08.0 +4.0**
MICGM *e*SSS SSS 19 10 34.0
MICGM *e*LQ LQ 19 18 08.0
MICGM LQM 19 21 16.0
comp=E,16nm,24.0s
MICGM LQM 19 21 18.0
comp=N,14nm,24.0s
MICGM *e*LR LR 19 22 36.0
MICGM LRM MLR 19 28 00.0
comp=E,15nm,18.0s
MICGM LRM MLR 19 28 08.0
comp=Z,59nm,16.0s
MICGM LRM MLR 19 28 12.0
comp=N,28nm,16.0s
MICGM LRM MLR 19 28 12.0
comp=Z,69nm,16.0s
MNK Minsk 66.57 332α *i*P **P 18 54 59.0 +0.2**
MNK *e* 18 55 12.0
MNK *e*PPP PPP 18 59 00.0
MNK *e*S **S 19 03 46.0 -1.7**
MNK *e*PS 19 04 02.0
MNK *e*SS **SS 19 08 08.0 +4.0**
MNK pmax pmax
comp=Z,3μm,1.5s
MNK pmax pmax
comp=Z,9μm,4.0s
MNK pmax pmax
comp=N,2μm,2.0s
MNK pmax pmax
comp=E,2μm,2.0s
MNK MLR MLR
comp=N,28μm,16.0s
MNK MLR MLR
comp=Z,59μm,16.0s
MNK MLR MLR
comp=Z,69μm,16.0s
KAPI Kappang 66.60 225 *e*P **P 18 54 59.9 +0.5**
comp=Z,138nm,1.2s
KAPI Kappang 66.60 225 *e*P **P 18 54 59.9 +0.5**
KAPI pmax pmax
comp=Z,138nm,1.2s
KAPI Kappang 66.60 225 P **P 18 55 00.3 +0.9**
comp=Z,32nm,1.1s,baz=24,slow=3.1,SNR=27
I41A Arkdale 66.67 48 PFAKE 18 55 10.0 +10
I41A LR LR
comp=Z,9μm,20.0s
I41A Arkdale 66.67 48 P **P 18 54 59.3 -0.4**
baz=321
F44A Big Bay de Noc 66.70 44 P **P 18 54 59.7 -0.1**
baz=322,SNR=9.0
BKSI Bulukumba 66.71 224 P **P 18 55 00.3 +0.2**
comp=Z,32nm,1.0s,comp=Z,1μm
G43A Wallace 66.72 45 PFAKE 18 55 10.0 +10
G43A LR LR
comp=Z,9μm,19.0s
G43A Wallace 66.72 45 P **P 18 54 59.9 0.0**
baz=322,SNR=9.7
BLS5 Blasjo 66.75 346⇑ *i*P **P 18 55 00.2 +0.2**
BLS5 IVmB_BB 18 55 01.1
comp=Z,2μm,4.2s
BLS5 *e*pP **pP 18 55 05.9 -1.7**
BLS5 *e*S **S 19 03 50.5 +0.6**
BLS5 IVMs_BB IVMs_BB 19 29 35.5
comp=Z,6μm,16.8s
PABE Paberze 66.76 335 *e*P **P 18 55 00.0 0.0**
PABE IAmb IAmb 18 55 02.2
comp=Z,798nm,1.3s
SCIA State Center 66.77 51 PFAKE 18 55 10.0 +10
SCIA LR LR
comp=Z,10μm,21.0s
SCIA State Center 66.77 51 P **P 18 55 00.9 +0.6**
baz=320,SNR=8.4
K39A Oelwein 66.79 50 P **P 18 54 59.6 -0.8**
baz=321
J40A Soldiers Grove 66.79 49 P **P 18 54 59.8 -0.6**
baz=321
PBUR Paburg 66.82 336 *e*P **P 18 55 00.3 0.0**
PBUR IAmb IAmb 18 55 02.8
comp=Z,1μm,1.7s
HSIG 66.88 72 PFAKE 18 55 10.0 +8.8
HSIG LR LR
comp=Z,3μm,18.0s
H42A Shiocton 66.93 47 PFAKE 18 55 10.0 +8.7
H42A LR LR
comp=Z,9μm,20.0s
H42A Shiocton 66.93 47 P **P 18 55 00.8 -0.4**
baz=322
E45A Wooded Hills, 66.93 43 P **P 18 55 00.5 -0.8**
baz=323
D46A Sault St. Mari 66.98 42 P **P 18 55 00.8 -0.8**
baz=323
LRW Lerwick 67.04 350⇑ *e*P **P 18 55 01.9 +0.2**
LRW IAmb IAmb 18 55 02.5
comp=Z,224nm,1.6s
LRW IAMs_20 IAMs_20 19 26 26.7
comp=Z,6μm,19.2s
KMY Karmoy 67.14 346⇑ *i*P **P 18 55 02.6 +0.3**
KMY *e*S **S 19 03 55.5 +1.1**
K40A Colesburg 67.14 49 P **P 18 55 02.5 -0.1**
baz=321,SNR=9.5
J41A Loganville 67.15 48 P **P 18 55 02.6 -0.1**
baz=321,SNR=9.2
MATQ Matagami 67.15 37 P **P 18 55 02.2 -0.4**
baz=326,SNR=14
PBA Port Blair 67.18 259 *e*P P 18 55 01.7 -1.5
L39A Vinton 67.18 50 P **P 18 55 02.3 -0.6**
baz=321,SNR=8.3
D47A Chapleau 67.23 42 P **P 18 55 02.3 -0.9**
baz=324,SNR=14
KSU1 Kansas State U 67.23 55 PFAKE 18 55 20.0 +17
KSU1 LR LR
comp=Z,7μm,20.0s
KSU1 Kansas State U 67.23 55 P **P 18 55 02.8 -0.5**
baz=320
I42A Draeger Farm, 67.24 47 PFAKE 18 55 20.0 +17
I42A LR LR
comp=Z,8μm,20.0s
I42A Draeger Farm, 67.24 47 P **P 18 55 03.3 0.0**
baz=322
E46A Sault Ste Mari 67.29 43 PFAKE 18 55 20.0 +16
E46A LR LR
comp=Z,7μm,18.0s
E46A Sault Ste Mari 67.29 43 P **P 18 55 03.1 -0.5**
baz=323,SNR=11
BSSI Bau Bau, Buton 67.29 224 P **P 18 55 03.8 0.0**
comp=Z,163nm,1.4s,comp=Z,3μm
H43A Windswept, Lux 67.30 46 PFAKE 18 55 20.0 +16
H43A LR LR
comp=Z,8μm,20.0s
H43A Windswept, Lux 67.30 46 P **P 18 55 03.3 -0.3**
baz=322
F45A CMU Biological 67.32 44 P **P 18 55 03.7 -0.1**
baz=323,SNR=6.5
SRIG Santa Rosalia 67.38 74 PFAKE 18 55 20.0 +16
SRIG LR LR
comp=Z,4μm,19.0s
JFWS Jewell Farm 67.39 49 PFAKE 18 55 20.0 +16
JFWS LR LR
comp=Z,8μm,19.0s
JFWS Jewell Farm 67.39 49 P **P 18 55 03.6 -0.6**
baz=321
EPT El Paso 67.41 67 PFAKE 18 55 20.0 +15
EPT LR LR
comp=Z,3μm,20.0s
HOMB Homborsund 67.53 344⇑ *i*P **P 18 55 05.2 +0.4**
HOMB IVmB_BB 18 55 05.9
comp=Z,3μm,4.0s
HOMB IVMs_BB IVMs_BB 19 30 55.5
comp=Z,6μm,14.4s
COEN Coen 67.54 198 PFAKE 18 55 20.0 +15
COEN LR LR
comp=Z,4μm,22.0s
COEN Coen 67.54 198 P **P 18 55 06.2 +0.9**
baz=68,SNR=20
F46A Macinaw City C 67.57 43 P **P 18 55 05.0 -0.3**
baz=323,SNR=5.1
KULM Kulim 67.58 248 *e*P **P 18 55 06.8 +1.1**
comp=Z,433nm,1.7s
KULM LR LR
comp=Z,9μm,22.0s
KULM Kulim 67.58 248 P **P 18 55 08.0 +2.3**
I43A Langenfeld Bro 67.59 47 P **P 18 55 04.7 -0.8**
baz=322
J42A Columbus 67.59 48 P **P 18 55 05.5 0.0**
baz=322,SNR=8.4
L40A Anamosa 67.60 50 PFAKE 18 55 20.0 +14
L40A LR LR
comp=Z,11μm,18.0s
L40A Anamosa 67.60 50 P **P 18 55 05.2 -0.4**
baz=321,SNR=8.4
E47A Iron Bridge 67.64 42 P **P 18 55 05.2 -0.6**
baz=324,SNR=13
D48A Paudash Townsh 67.66 41 P **P 18 55 05.0 -0.9**
baz=324,SNR=16
GEYT Alibeck 67.72 303 P **P 18 55 05.8 -0.6**
comp=Z,28nm,0.7s,baz=38,slow=2.6,SNR=32
GEYT LR LR 19 27 14.9
comp=Z,32μm,18.4s,baz=25,slow=38
BHPL Bhopal 67.73 279 *e*P **P 18 55 05.4 -1.4**
AMTX Amarillo 67.76 62 PFAKE 18 55 20.0 +13
AMTX LR LR
comp=Z,3μm,20.0s
AMTX Amarillo 67.76 62 P **P 18 55 07.4 +0.6**
baz=319
D49A Beulah Townshi 67.76 40 P **P 18 55 05.8 -0.8**
baz=324,SNR=13
G45A Suttons Bay 67.77 44 PFAKE 18 55 20.0 +13
G45A LR LR
comp=Z,8μm,18.0s
G45A Suttons Bay 67.77 44 P **P 18 55 06.4 -0.2**
baz=323
MSTX Muleshoe 67.85 63 PFAKE 18 55 20.0 +13
MSTX LR LR
comp=Z,6μm,19.0s
MSTX Muleshoe 67.85 63 P **P 18 55 06.9 -0.5**
baz=319,SNR=9.0
J43A Natural Harves 67.86 47 P **P 18 55 07.1 -0.1**
baz=322
G46A Petoskey 67.89 44 P **P 18 55 07.2 -0.2**
baz=323
K42A Prairie Point, 67.91 48 P **P 18 55 07.1 -0.4**
baz=322,SNR=8.0
H45A Beulah 67.93 45 P **P 18 55 06.8 -0.8**
baz=323
LSQQ Lebel-sur-Quev 67.98 37 P **P 18 55 06.9 -0.9**
baz=326
IPM Ipoh 68.02 248 *e*P **P 18 55 09.1 +0.5**
comp=Z,200nm,1.4s
IPM LR LR
comp=Z,9μm,20.0s
IPM Ipoh 68.02 248 P **P 18 55 10.0 +1.4**
U32A Winter Ranch, 68.06 59 PFAKE 18 55 20.0 +11
U32A LR LR
comp=Z,4μm,20.0s
E48A Lockeyer 68.08 41 P **P 18 55 07.7 -0.8**
baz=324,SNR=14
MNTX Cornudas Mount 68.09 66 PFAKE 18 55 20.0 +11
MNTX LR LR
comp=Z,5μm,21.0s
MNTX Cornudas Mount 68.09 66 P **P 18 55 09.7 +0.9**
baz=319,SNR=19
CHGQ Chibougamau 68.20 35 P **P 18 55 08.5 -0.7**
baz=327,SNR=18
NGP Nagpur 68.31 277⇑ *i*P **P 18 55 08.3 -2.0**
NGP *e*S **S 19 04 08.4 -1.3**
I45A Fountain 68.32 45 PFAKE 18 55 20.0 +10
I45A LR LR
comp=Z,9μm,19.0s
I45A Fountain 68.32 45 P **P 18 55 09.8 -0.2**
baz=323
N40A Mertquake, Sal 68.34 51 P **P 18 55 10.5 +0.3**
baz=321,SNR=13
H46A Fife Lake 68.36 44 P **P 18 55 09.8 -0.5**
baz=323
L42A Oliver, Polo 68.37 49 PFAKE 18 55 20.0 +10
L42A LR LR
comp=Z,10μm,18.0s
L42A Oliver, Polo 68.37 49 P **P 18 55 09.9 -0.5**
baz=322,SNR=7.6
GLMI Grayling 68.39 44 PFAKE 18 55 20.0 +10
GLMI LR LR
comp=Z,7μm,18.0s
GLMI Grayling 68.39 44 P **P 18 55 10.5 0.0**
baz=323
F48A Evansville 68.42 42 P **P 18 55 10.0 -0.7**
baz=324,SNR=8.5
G47A Hillman 68.43 43 P **P 18 55 10.1 -0.6**
baz=324
K43A Burlington 68.43 48 PFAKE 18 55 20.0 +9.2
K43A LR LR
comp=Z,8μm,20.0s
K43A Burlington 68.43 48 P **P 18 55 10.2 -0.6**
baz=322
M41A Milan 68.45 50 P **P 18 55 10.6 -0.3**
baz=322
VLDQ Val d'Or 68.58 38 PFAKE 18 55 20.0 +8.4
VLDQ LR LR
comp=Z,7μm,20.0s
MYKOM Kota Tinggi 68.65 243 PFAKE 18 55 20.0 +7.5
MYKOM LR LR
comp=Z,6μm,18.0s
MYKOM Kota Tinggi 68.65 243 P **P 18 55 15.0 +2.5**
L43A Garden Prairie 68.66 48 P **P 18 55 11.6 -0.6**
baz=322
D51A Lot 18 Range I 68.69 39 P **P 18 55 11.5 -0.9**
baz=325,SNR=6.2
E50A Wahnapitae 68.70 41 P **P 18 55 11.8 -0.6**
baz=325,SNR=16
F49A Sandfield 68.71 42 P **P 18 55 12.0 -0.5**
baz=324,SNR=11
J45A Montague 68.73 46 PFAKE 18 55 30.0 +17
J45A LR LR
comp=Z,9μm,21.0s
J45A Montague 68.73 46 P **P 18 55 12.4 -0.2**
baz=323
I46A Reed City 68.74 45 P **P 18 55 13.0 +0.3**
baz=323
H47A Mio 68.74 44 P **P 18 55 12.6 -0.1**
baz=324
MMRI Maumere 68.82 221 P **P 18 55 13.4 0.0**
comp=Z,175nm,1.6s,comp=Z,3μm,comp=Z,5μm
N41A Harden Midland 68.82 51 PFAKE 18 55 30.0 +17
N41A LR LR
comp=Z,8μm,19.0s
N41A Harden Midland 68.82 51 P **P 18 55 13.4 +0.2**
baz=322
MAK Makhachkala 68.92 314 *e*P **P 18 55 09.9 -3.9**
MAK *e* 18 57 44.7
MAK *e*PPP PPP 18 59 24.7
MAK *e*S **S 19 04 11.3 -4.9**
MAK *e*SS **SS 19 08 42.7 +1.8**
MAK pmax pmax
comp=Z,308nm,2.1s
MAK MLR MLR
comp=Z,17μm,15.0s
KDU Kakadu 68.96 209 P **P 18 55 14.6 +0.4**
baz=69,SNR=11
H48A Harrisville 69.04 43 PFAKE 18 55 30.0 +15
H48A LR LR
comp=Z,6μm,19.0s
H48A Harrisville 69.04 43 P **P 18 55 14.4 -0.1**
baz=324
L44A Lake County Fo 69.04 48 P **P 18 55 14.2 -0.4**
baz=322
SOEI Soe 69.04 218 PFAKE 18 55 30.0 +15
SOEI LR LR
comp=Z,3μm,21.0s
SOEI Soe 69.04 218 P **P 18 55 14.5 -0.4**
comp=Z,90nm,1.0s,comp=Z,3μm
I47A Gladwin 69.08 44 PFAKE 18 55 30.0 +15
I47A LR LR
comp=Z,8μm,19.0s
I47A Gladwin 69.08 44 P **P 18 55 14.8 0.0**
baz=324
E51A G1948 Merrick 69.11 40 P **P 18 55 14.0 -0.9**
baz=326,SNR=17
J46A Howard City 69.12 46 P **P 18 55 15.1 0.0**
baz=323
M43A Waltham Townsh 69.14 49 P **P 18 55 14.6 -0.6**
baz=322
MUD Monsted U'grnd 69.14 343 *i* P **P 18 55 15.6 +0.7**
MUD Monsted U'grnd 69.14 343 *i* P **P 18 55 15.6 +0.7**
D52A ZEK Kipawa Sen 69.16 39 P **P 18 55 14.7 -0.6**
baz=326,SNR=19
COP Copenhagen 69.26 341⇑ *i*P **P 18 55 16.4 +0.7**
COP Copenhagen 69.26 341⇑ *i*P **P 18 55 16.4 +0.7**
BSD Bornholm Skovb 69.28 340⇑ *i*P **P 18 55 16.0 +0.2**
BSD Bornholm Skovb 69.28 340⇑ *i*P **P 18 55 16.0 +0.2**
I48A Sherman Twp 69.29 44 P **P 18 55 16.0 0.0**
baz=324
D53A Lac Vacive, Po 69.35 38 PFAKE 18 55 30.0 +14
D53A LR LR
comp=Z,8μm,19.0s
D53A Lac Vacive, Po 69.35 38 P **P 18 55 15.7 -0.7**
baz=326,SNR=24
TOBO Tobermory, Bru 69.36 42 P **P 18 55 15.8 -0.7**
baz=325,SNR=5.6
WMOK Wichita Mounta 69.42 60 PFAKE 18 55 30.0 +13
WMOK LR LR
comp=Z,5μm,22.0s
WMOK Wichita Mounta 69.42 60 P **P 18 55 17.2 +0.1**
baz=320,SNR=22
N43A Stutzman Famil 69.43 49 P **P 18 55 16.8 -0.2**
baz=322
F51A Arnstein 69.44 40 P **P 18 55 15.4 -1.5**
baz=325,SNR=7.4
AKASG Malin Array Be 69.47 329 *e*P **P 18 55 16.7 -0.4**
AKASG Malin Array Be 69.47 329*c e*P **P 18 55 16.2 -0.8**
AKASG pmax pmax
comp=Z,28nm,0.6s
AKASG Malin Array Be 69.47 329 P **P 18 55 16.2 -0.8**
comp=Z,28nm,0.6s,baz=33,slow=6.8,SNR=93
AKBB Malin Array Si 69.47 329 PFAKE 18 55 30.0 +13
AKBB LR LR
comp=Z,20μm,19.0s
KIEV Kiev 69.48 329 *e*P **P 18 55 16.5 -0.6**
comp=Z,757nm,1.6s
KIEV LR LR
comp=Z,20μm,19.0s
KIEV Kiev 69.48 329 *i* P **P 18 55 16.5 -0.6**
SNR=53
KIEV Kiev 69.48 329*c i*P **P 18 55 16.1 -1.0**
KIEV pmax pmax
comp=Z,217nm,1.4s
KIEV MLR MLR
comp=Z,19μm,18.0s
GROC Groznyy 69.48 315 *e*P **P 18 55 15.4 -1.9**
GROC *e* 18 55 39.8
GROC *e* 18 57 49.5
GROC *e*S **S 19 04 21.1 -1.8**
GROC pmax pmax
comp=Z,161nm,1.6s
MTN Manton Dam 69.52 211 P **P 18 55 18.5 +0.8**
baz=70,SNR=15
OK023 East Waterloo 69.52 58 PFAKE 18 55 30.0 +12
OK023 LR LR
comp=Z,5μm,18.0s
J47A Sunmer 69.57 45 PFAKE 18 55 30.0 +12
J47A LR LR
comp=Z,8μm,21.0s

J47A	Sunmer	69.57	45	P	P	18 55 18.1	+0.2
	baz=324						
OK024	West corner E0	69.58	58	PFAKE		18 55 30.0	+12
OK024				LR	LR		
	comp=Z,6μm,18.0s						
K46A	Dorr	69.59	46	P	P	18 55 17.8	-0.2
	baz=323						
M44A	Midewin, Midew	69.60	48	PFAKE		18 55 30.0	+12
M44A				LR	LR		
	comp=Z,8μm,19.0s						
M44A	Midewin, Midew	69.60	48	P	P	18 55 17.8	-0.2
	baz=323						
E52A	Mattawa	69.64	39	P	P	18 55 17.4	-0.8
	baz=326,SNR=7.8						
HDIL	Hopedale	69.68	50	PFAKE		18 55 30.0	+11
HDIL				LR	LR		
	comp=Z,10μm,20.0s						
HDIL	Hopedale	69.68	50	P	P	18 55 18.6	0.0
	baz=322						
D54A	Lac Fusel, La	69.68	38	P	P	18 55 17.8	-0.7
	baz=327,SNR=15						
BATI	Baumata	69.69	219	P	P	18 55 18.8	0.0
RRR	Rubha Reidh	69.73	352⇑	eP	P	18 55 18.1	-0.4
RRH	Rhenigidale	69.74	353⇑	eP	P	18 55 18.6	0.0
LHMI	Lhok Sumawe	69.77	252	PFAKE		18 55 30.0	+11
LHMI				LR	LR		
	comp=Z,13μm,19.0s						
LHMI	Lhok Sumawe	69.77	252	P	P	18 55 19.5	+0.1
	comp=Z,474nm,1.7s,comp=Z,8μm						
F52A	Sundridge	69.78	40	P	P	18 55 18.3	-0.8
	baz=326,SNR=15						
KLBO	Killbear Provi	69.78	41	P	P	18 55 18.4	-0.7
	baz=325,SNR=20						
I49A	Point Hope	69.86	43	PFAKE		18 55 30.0	+10
I49A				LR	LR		
	comp=Z,8μm,18.0s						
I49A	Point Hope	69.86	43	P	P	18 55 19.4	-0.2
	baz=324,SNR=6.3						
L46A	Eue Claire	69.90	47	PFAKE		18 55 30.0	+10
L46A				LR	LR		
	comp=Z,8μm,20.0s						
L46A	Eue Claire	69.90	47	P	P	18 55 20.1	+0.2
	baz=323						
E53A	Dumoine, Ponti	69.94	39	P	P	18 55 19.3	-0.8
	baz=326,SNR=13						
K47A	Vermontville	69.95	46	P	P	18 55 20.3	+0.1
	baz=324						
M45A	Boilermakers S	69.97	48	P	P	18 55 19.6	-0.7
	baz=323						
J48A	Bridge Port	69.97	44	PFAKE		18 55 40.0	+20
J48A				LR	LR		
	comp=Z,8μm,19.0s						
J48A	Bridge Port	69.97	44	P	P	18 55 21.2	+0.9
	baz=324						
BMRO	Meriville Lake	70.00	42	P	P	18 55 19.6	-0.9
	baz=325						
N44A	Piper City	70.03	49	P	P	18 55 21.0	+0.3
	baz=323						
BUKO	Buck Lake	70.04	40	P	P	18 55 20.2	-0.5
	baz=326						
KAC	Achnashellach	70.04	352⇑	eP	P	18 55 20.4	-0.1
E54A	Lac Daplat, Po	70.08	38	P	P	18 55 20.4	-0.6
	baz=327,SNR=18						
TUL1	Leonard	70.09	57	PFAKE		18 55 30.0	+8.8
TUL1				LR	LR		
	comp=Z,5μm,20.0s						
TUL1	Leonard	70.09	57	P	P	18 55 21.2	0.0
	baz=321,SNR=11						
DSRI	Dabo	70.14	242	P	P	18 55 22.6	+0.9
	comp=Z,7.1nm,0.5s,comp=Z,1μm						
ALGO	Algonquin Park	70.15	39	P	P	18 55 20.6	-0.7
	baz=326						
RGN	Rugen	70.15	340	PFAKE		18 55 30.0	+8.9
RGN				LR	LR		
	comp=Z,12μm,19.0s						
BRCO	Bruce Peninsul	70.19	42	P	P	18 55 21.3	-0.3
	baz=325						
J49A	Marlette	70.20	44	P	P	18 55 21.8	+0.1
	baz=324						
KIV	Kislovodsk	70.21	317	eP	P	18 55 21.8	-0.1
KIV	comp=Z,764nm,2.0s			LR	LR		
	comp=Z,17μm,20.0s						
KIV	Kislovodsk	70.21	317	i P	P	18 55 21.8	-0.1
	SNR=66						
KIV	Kislovodsk	70.21	317	eP	P	18 55 21.5	-0.4
KIV				e		18 57 57.1	
KIV				e		19 04 31.6	
KIV				pmax	pmax		
	comp=Z,156nm,1.1s						
KIV				MLR	MLR		
	comp=Z,43μm,17.0s						
KIV	Kislovodsk	70.21	317	P	P	18 55 21.7	-0.1
	SNR=41						
K48A	Perry	70.23	45	P	P	18 55 21.7	-0.1
	baz=324,SNR=7.8						
KPL	Plockton	70.23	352⇑	iP	P	18 55 21.6	0.0
KPL				IAmb	IAmb	18 55 22.4	
	comp=Z,187nm,1.7s						
KPL				IAMs_20	IAMs_20	19 35 45.2	
	comp=Z,4μm,15.8s						
N45A	Kentland	70.28	48	P	P	18 55 22.0	-0.2
	baz=323						
BASO	Ashfield	70.29	43	P	P	18 55 22.4	+0.2
	baz=325						
P43A	Skaggs, Pawnee	70.29	50	P	P	18 55 22.2	-0.2
	baz=322						
KBZ	Khabaz	70.30	317	P	P	18 55 22.5	+0.2
	comp=Z,30nm,0.8s,baz=53,slow=6.0,SNR=61						
DRUM	Mains of Drumt	70.35	350⇑	eP	P	18 55 21.6	-0.8
DRUM				IAmb	IAmb	18 55 23.1	
	comp=Z,117nm,1.2s						
DRUM				IAMs_20	IAMs_20	19 33 55.8	
	comp=Z,7μm,17.6s						
M46A	Old House Fiel	70.36	47	PFAKE		18 55 40.0	+17
M46A				LR	LR		
	comp=Z,8μm,19.0s						
M46A	Old House Fiel	70.36	47	P	P	18 55 22.1	-0.6
	baz=323						
ZKTA	Zakatala	70.37	313	P	P	18 55 23.2	+0.4
Q42A	Golden Eagle	70.38	51	P	P	18 55 23.0	+0.1
	baz=322,SNR=13						
O44A	Mansfield	70.39	49	P	P	18 55 23.0	+0.1
	baz=323						
L47A	Sherwood	70.42	46	P	P	18 55 23.0	-0.1
	baz=324						
BWLO	Walkerton	70.42	42	P	P	18 55 22.7	-0.3
	baz=325						
TPI	Tanjungpandan	70.43	237	P	P	18 55 23.8	+0.4
	comp=Z,59nm,1.5s,comp=Z,2μm						
R41A	Rosebud	70.45	52	P	P	18 55 23.1	-0.3
	baz=322,SNR=8.6						
SEKA	Sheki	70.45	313	P	P	18 55 23.5	+0.1
GKP	Gorka Klasztor	70.47	338	eP	P	18 55 23.5	+0.4
GKP				eS	S	19 04 34.6	+0.5
GKP				LMZ	LR	19 30 59.6	
	comp=Z,32μm,17.0s						
GKP	Gorka Klasztor	70.47	338	eP	P	18 55 23.5	+0.4
GKP				eS	S	19 04 34.6	+0.5
GKP				MLR	MLR		
	comp=Z,32μm,17.0s						
H52A	Wyevale	70.50	41	P	P	18 55 22.6	-0.9
	baz=326,SNR=5.2						
K49A	Clarkson	70.53	44	P	P	18 55 23.9	+0.2
	baz=324,SNR=9.9						
ABTX	Abilene, Hawle	70.57	62	PFAKE		18 55 40.0	+16
ABTX				LR	LR		
	comp=Z,4μm,20.0s						
ABTX	Abilene, Hawle	70.57	62	P	P	18 55 24.6	+0.4
	baz=320,SNR=14						
PSI	Prapat	70.59	248	eP	P	18 55 25.1	+0.5
	comp=Z,340nm,2.0s						
PSI				LR	LR		
	comp=Z,10μm,19.0s						
PSI	Prapat	70.59	248	eP	P	18 55 25.1	+0.5
PSI				pmax	pmax		
	comp=Z,340nm,2.0s						
PSI				MLR	MLR		
	comp=Z,10μm,19.0s						
PSI	Prapat	70.59	248	P	P	18 55 24.9	+0.3
	comp=Z,10nm,0.8s,baz=16,slow=6.2,SNR=13						
N46A	Monticello	70.59	48	P	P	18 55 23.1	-1.0
	baz=323						
G53A	Haliburton	70.61	40	P	P	18 55 23.6	-0.6
	baz=326,SNR=22						
ZEI	Tsey	70.64	316	eP	P	18 55 19.0	-5.7
ZEI				pmax	pmax		
	comp=Z,133nm,1.6s						
O45A	Potomac	70.65	49	P	P	18 55 24.5	0.0
	baz=323						
PEMO	Pembroke	70.69	39	P	P	18 55 23.2	-1.4
	baz=327,SNR=12						
SADO	Sadowa	70.70	41	PFAKE		18 55 40.0	+15
SADO				LR	LR		
	comp=Z,8μm,19.0s						
CCM	Cathedral Cave	70.71	53	eP	P	18 55 25.3	+0.4
	comp=Z,52nm,0.9s						
CCM				LR	LR		
	comp=Z,10μm,19.0s						
CCM	Cathedral Cave	70.71	53	eP	P	18 55 25.3	+0.4
CCM				pmax	pmax		
	comp=Z,52nm,0.9s						
CCM				MLR	MLR		
	comp=Z,10μm,19.0s						
CCM	Cathedral Cave	70.71	53	P	P	18 55 25.1	+0.2
	baz=322						
M47A	Cromwell	70.72	47	P	P	18 55 23.8	-1.2
	baz=324						
I51A	Listowel	70.73	42	P	P	18 55 24.6	-0.3
	baz=325,SNR=10						
SLM	Saint Louis	70.74	51	PFAKE		18 55 40.0	+15
SLM				LR	LR		
	comp=Z,11μm,20.0s						
HHAR	Hobbs	70.75	55	PFAKE		18 55 40.0	+15
HHAR				LR	LR		
	comp=Z,8μm,20.0s						
EDU	Dundee	70.76	350	eP	P	18 55 24.9	0.0
NEY	Neytrino	70.77	317	ceP	P	18 55 25.4	0.0
NEY				MLR	MLR		
	comp=Z,10μm,18.0s						
L48A	N Adams	70.78	46	P	P	18 55 25.2	-0.1
	baz=324						
S41A	Jillco Farms,	70.83	53	P	P	18 55 25.5	-0.1
	baz=322,SNR=9.7						
AAM	Ann Arbor	70.83	45	PFAKE		18 55 40.0	+14
AAM				LR	LR		
	comp=Z,7μm,21.0s						
AAM	Ann Arbor	70.83	45	P	P	18 55 25.1	-0.4
	baz=324						
SFIN	Lafayette	70.84	48	PFAKE		18 55 40.0	+14
SFIN				LR	LR		
	comp=Z,7μm,20.0s						
SFIN	Lafayette	70.84	48	P	P	18 55 25.0	-0.7
	baz=323						
TXAR	Lajitas Array	70.85	67	P	P	18 55 27.1	+1.1
	comp=Z,27nm,0.8s,baz=299,slow=4.2,SNR=31						
MNGR	Mingechevir, A	70.86	312	P	P	18 55 26.3	+0.6
I52A	Shelburne	70.86	42	P	P	18 55 25.1	-0.6
	baz=326,SNR=5.9						
PLAI	Plampang	70.86	225	P	P	18 55 24.7	-1.3
	comp=Z,112nm,1.0s,comp=Z,2μm,comp=Z,5μm						
K50A	Casco	70.89	44	PFAKE		18 55 40.0	+14
K50A				LR	LR		
	comp=Z,11μm,18.0s						
K50A	Casco	70.89	44	P	P	18 55 25.4	-0.6
	baz=325						
BEL	Belsk	70.90	335	eP	P	18 55 26.5	+0.7
BEL				eS	S	19 04 40.5	+1.4
BEL				LMZ	LR	19 30 00.5	
	comp=Z,31μm,16.7s						
BEL	Belsk	70.90	335	P	P	18 55 26.7	+0.9
BEL				pmax	pmax		
	comp=Z,417nm,1.5s						
F55A	Otter Lake	70.90	38	P	P	18 55 25.2	-0.8
	baz=327,SNR=5.4						
LATQ	La Tuque	70.90	35	P	P	18 55 25.8	-0.1
	baz=329						
BASI	Baing, Sumba	70.92	222	P	P	18 55 26.3	0.0
	comp=Z,516nm,1.4s,comp=Z,7μm						
L49A	Milan	70.94	45	P	P	18 55 25.9	-0.3
	baz=324						
BANO	Bancroft	70.97	40	P	P	18 55 25.9	-0.5
	baz=327						
INVG	Invergeldie, C	70.98	351⇑	iP	P	18 55 26.1	-0.1
INVG				IAmb	IAmb	18 55 26.7	
	comp=Z,131nm,1.6s						
INVG				IAMs_20	IAMs_20	19 37 58.2	
	comp=Z,6μm,18.2s						
KMMI	Kalianget	71.01	229	P	P	18 55 27.5	+0.6
	comp=Z,93nm,1.1s,comp=Z,1μm						
M48A	Edgerton	71.03	46	PFAKE		18 55 40.0	+13
M48A				LR	LR		
	comp=Z,8μm,20.0s						
M48A	Edgerton	71.03	46	P	P	18 55 25.9	-0.9
	baz=324						
N47A	Urbana	71.08	47	P	P	18 55 26.2	-0.8
	baz=324						
FVM	French Village	71.17	52	PFAKE		18 55 40.0	+12
FVM				LR	LR		
	comp=Z,9μm,19.0s						
P45A	Graceland, Par	71.22	49	PFAKE		18 55 40.0	+12
P45A				LR	LR		
	comp=Z,9μm,20.0s						
P45A	Graceland, Par	71.22	49	P	P	18 55 27.8	-0.2
	baz=323						
U40A	Yellville	71.24	55	P	P	18 55 28.0	-0.2
	baz=322,SNR=16						
G55A	Calabogie	71.25	39	P	P	18 55 27.3	-0.8
	baz=327,SNR=9.4						
TRQ	Mont Tremblant	71.25	37	eP	P	18 55 27.7	-0.5
EAB	Aberfoyle	71.25	351⇑	iP	P	18 55 28.0	+0.2
LAWE	Loch Awe, Argy	71.28	352⇑	eP	P	18 55 27.9	-0.1
LAWE				IAmb	IAmb	18 55 28.7	
	comp=Z,252nm,1.6s						
LAWE				IAMs_20	IAMs_20	19 33 21.6	
	comp=Z,5μm,17.7s						
ACTO	Acton	71.28	42	P	P	18 55 28.1	-0.2
	baz=326						
PLVO	Plevna	71.29	39	PFAKE		18 55 40.0	+12
PLVO				LR	LR		
	comp=Z,8μm,21.0s						
PLVO	Plevna	71.29	39	P	P	18 55 27.7	-0.6
	baz=327,SNR=11						
I53A	Kortright Cn E	71.30	41	P	P	18 55 28.4	0.0
	baz=326						
GANJ	Ganja	71.30	313	P	P	18 55 28.4	-0.1
X37A	Clayton	71.33	58	PFAKE		18 55 40.0	+11
X37A				LR	LR		
	comp=Z,5μm,20.0s						
ESY	Stoneypath	71.34	350⇑	eP	P	18 55 28.4	0.0
SRBI	Singaraja	71.35	228	P	P	18 55 29.3	+0.4
	comp=Z,59nm,1.8s,comp=Z,3μm						
M49A	Liberty Center	71.36	46	P	P	18 55 28.6	-0.2
	baz=324						
O47A	Sheridan	71.38	48	P	P	18 55 28.6	-0.4
	baz=324						
N48A	Decatur	71.39	47	P	P	18 55 28.4	-0.7
	baz=324,SNR=9.2						
PKRO	Pickering	71.39	41	P	P	18 55 28.6	-0.3
	baz=326,SNR=6.2						
EDI	Edinburgh	71.39	350⇑	iP	P	18 55 28.6	-0.1
EDI				IAmb	IAmb	18 55 29.4	
	comp=Z,128nm,1.4s						
EDI				IAMs_20	IAMs_20	19 34 45.9	
	comp=Z,5μm,17.2s						
P46A	Rosedale	71.40	49	P	P	18 55 28.7	-0.3
	baz=323						
L50A	Kingsville	71.41	45	P	P	18 55 28.7	-0.3
	baz=325						
K51A	Iona Station	71.41	43	P	P	18 55 28.9	-0.1
	baz=325						
J52A	Paris	71.42	42	P	P	18 55 29.0	-0.1
	baz=326,SNR=7.1						
BKNI	Bangkinang	71.42	245	PFAKE		18 55 40.0	+11
BKNI				LR	LR		
	comp=Z,8μm,20.0s						
HYB	Hyderabad	71.44	275⇑	iP	P	18 55 29.5	-0.2
	comp=Z,370nm,1.0s						
SLBS	Sierra La Lagu	71.47	75	PFAKE		18 55 40.0	+10
SLBS				LR	LR		
	comp=Z,3μm,18.0s						
EAU	Auchinoon	71.50	350⇑	iP	P	18 55 29.7	+0.3
DELO	Deloro Mine	71.51	40	P	P	18 55 29.3	-0.4
	baz=327,SNR=11						
EBL	Broad Law	71.53	350⇑	eP	P	18 55 29.5	-0.1
Q45A	Warren Harvey,	71.53	50	P	P	18 55 29.5	-0.3
	baz=323,SNR=6.8						
ORIO	Orleans, Innes	71.54	38	P	P	18 55 29.1	-0.6
	baz=328,SNR=11						
TORO	Toronto--Lesli	71.57	41	P	P	18 55 29.4	-0.6
	baz=326						
DRWO	Darlington Wes	71.61	41	P	P	18 55 29.8	-0.4
	baz=326,SNR=6.7						
DRCO	St. Marys Ceme	71.61	41	P	P	18 55 30.0	-0.3
	baz=326						
ANN	Anapa	71.63	321c	iP	P	18 55 29.1	-1.2
ANN				e		18 55 48.4	
ANN				i		18 58 07.6	
ANN				ePPP	PPP	18 59 58.8	
ANN				eS	S	19 04 46.2	-1.6
ANN				eSS	SS	19 09 15.5	-6.8
ANN				eSSS	SSS	19 12 33.2	
ANN				pmax	pmax		
	comp=N,49nm,2.0s						
ANN				pmax	pmax		
	comp=Z,470nm,2.0s						
ANN				pmax	pmax		
	comp=E,89nm,2.0s						
ANN				pmax	pmax		
	comp=Z,1μm,4.7s						
ANN				pmax	pmax		
	comp=E,244nm,4.7s						
ANN				pmax	pmax		
	comp=N,490nm,4.7s						
ANN				MLR	MLR		
	comp=N,40μm,19.0s						
ANN				MLR	MLR		
	comp=Z,16μm,19.0s						
ANN				MLR	MLR		
	comp=E,12μm,19.0s						
ALFO	Alfred	71.63	37	P	P	18 55 29.7	-0.6
	baz=328						
PGBU	Glenifferbraes	71.64	351⇑	iP	P	18 55 30.6	+0.4
PGBU				IAmb	IAmb	18 55 31.9	
	comp=Z,330nm,1.3s						
PGBU				IAMs_20	IAMs_20	19 30 11.6	
	comp=Z,4μm,16.9s						
H55A	Tweed	71.66	39	P	P	18 55 29.5	-1.0
	baz=327,SNR=15						
W39A	Magazine	71.68	56	PFAKE		18 55 40.0	+9.2
W39A				LR	LR		
	comp=Z,8μm,19.0s						
W39A	Magazine	71.68	56	P	P	18 55 30.9	+0.1
	baz=322,SNR=12						
OLIL	Olney	71.68	50	PFAKE		18 55 40.0	+9.2
OLIL				LR	LR		
	comp=Z,9μm,20.0s						
K52A	Tillsonburg	71.70	43	P	P	18 55 30.9	+0.1
	baz=326						
WLVO	Wesleyville	71.70	41	P	P	18 55 30.7	-0.1
	baz=327,SNR=11						
LKRN	Lenkeran, Azer	71.72	310	P	P	18 55 30.9	-0.1
U41A	Viola	71.72	54	P	P	18 55 30.9	-0.2
	baz=322,SNR=17						
N49A	Columbus Grove	71.72	46	PFAKE		18 55 40.0	+9.0
N49A				LR	LR		
	comp=Z,8μm,20.0s						
N49A	Columbus Grove	71.72	46	P	P	18 55 30.9	-0.1
	baz=324						
PLIO	Pelee Island,	71.73	45	P	P	18 55 31.1	+0.1
	baz=325						
I55A	Frankford	71.74	40	P	P	18 55 30.4	-0.6
	baz=327,SNR=10						
TYNO	Tyneside	71.79	42	P	P	18 55 31.2	-0.1
	baz=326,SNR=5.4						
Q46A	CEJHS Indians,	71.80	49	P	P	18 55 31.4	-0.1
	baz=323						
LVV	L'vov	71.82	332	eP	P	18 55 30.0	-1.4
LVV				eS	S	19 04 48.0	-1.9
LVV				pmax	pmax		
	comp=Z,1μm,2.0s						
LVV				MLR	MLR		
	comp=Z,24μm,17.0s						
O48A	Farmland	71.82	47	P	P	18 55 31.0	-0.6
	baz=324						
M50A	Fremont	71.83	45	PFAKE		18 55 40.0	+8.4
M50A				LR	LR		
	comp=Z,7μm,20.0s						
M50A	Fremont	71.83	45	P	P	18 55 31.4	-0.2
	baz=325						
P47A	Martinsville	71.93	48	P	P	18 55 31.5	-0.8
	baz=324						
AKH	Akhalkalaki	71.94	315	PFAKE		18 55 40.0	+7.5
AKH				LR	LR		
	comp=Z,16μm,21.0s						
AKH	Akhalkalaki	71.94	315⇑	iP	P	18 55 33.3	+0.8
AKH	Akhalkalaki	71.94	315	P	P	18 55 33.1	+0.6
R45A	Skylar, Fairfi	71.95	50	P	P	18 55 32.3	0.0
	baz=323						
S44A	Carbondale	71.96	51	P	P	18 55 32.5	+0.1
	baz=323,SNR=10						
SIUC	Southern Illin	71.96	51	PFAKE		18 55 50.0	+18
SIUC				LR	LR		
	comp=Z,9μm,20.0s						
EKA	Eskdalemuir Ar	71.97	350	LR	LR	19 26 00.9	
	comp=Z,3μm,20.5s,baz=10.0,slow=35						
STCO	Saint Catharin	71.98	42	P	P	18 55 31.9	-0.5
	baz=326						
H56A	Elgin	71.98	39	P	P	18 55 31.7	-0.7
	baz=328,SNR=12						
RUE	Ruedersdorf	71.99	339	eP	P	18 55 33.0	+0.7
RUE				IAmb	IAmb	18 55 33.7	
	comp=Z,503nm,1.5s						
ESK	Eskdalemuir	72.00	350	eP	P	18 55 32.6	+0.2
	comp=Z,112nm,1.2s						
ESK				LR	LR		
	comp=Z,4μm,21.0s						
ESK	Eskdalemuir	72.00	350⇑	eP	P	18 55 32.6	+0.2
ESK				IAmb	IAmb	18 55 33.2	
	comp=Z,185nm,1.4s						
ESK				IAMs_20	IAMs_20	19 35 03.5	
	comp=Z,24μm,14.5s						
ESK	Eskdalemuir	72.00	350c	eP	P	18 55 33.1	+0.7
BLO	Bloomington	72.07	49	PFAKE		18 55 50.0	+17
BLO				LR	LR		
	comp=Z,8μm,20.0s						
PBMO	Poplar Bluff	72.11	53	PFAKE		18 55 50.0	+17
PBMO				LR	LR		
	comp=Z,8μm,18.0s						
JCT	Junction City	72.13	63	PFAKE		18 55 50.0	+16
JCT				LR	LR		
	comp=Z,4μm,18.0s						
JCT	Junction City	72.13	63	P	P	18 55 33.3	-0.4
	baz=321,SNR=12						
J54A	Appleton	72.14	41	PFAKE		18 55 50.0	+17
J54A				LR	LR		
	comp=Z,8μm,19.0s						
J54A	Appleton	72.14	41	P	P	18 55 33.3	-0.1
	baz=327,SNR=6.4						
JAGI	Jajag, Banyuwa	72.17	229	PFAKE		18 55 50.0	+16
JAGI				LR	LR		
	comp=Z,3μm,21.0s						
EPOS	Posof	72.19	316	i P	P	18 55 35.6	+1.6
BHH	Howats Hill	72.22	350⇑	iP	P	18 55 34.0	+0.3
WHTX	Lake Whitney,	72.24	61	PFAKE		18 55 50.0	+16
WHTX				LR	LR		
	comp=Z,4μm,19.0s						
WHTX	Lake Whitney,	72.24	61	P	P	18 55 34.6	+0.4
	baz=321						
O49A	Covington	72.25	47	PFAKE		18 55 50.0	+16
O49A				LR	LR		
	comp=Z,8μm,19.0s						
O49A	Covington	72.25	47	P	P	18 55 34.1	-0.1
	baz=324						
PECO	Prince Edward	72.25	40	P	P	18 55 33.3	-0.7
	baz=327,SNR=10						
M51A	Elyria	72.26	45	P	P	18 55 34.2	0.0
	baz=325						
MIAR	Mount Ida	72.29	56	PFAKE		18 55 50.0	+16
MIAR				LR	LR		
	comp=Z,7μm,18.0s						
MIAR	Mount Ida	72.29	56	P	P	18 55 34.5	0.0
	baz=322,SNR=11						
S45A	Carrier Mills	72.30	51	P	P	18 55 34.3	-0.1
	baz=323,SNR=10.0						
N50A	Nevada	72.30	46	P	P	18 55 34.8	+0.4
	baz=325,SNR=7.1						
Q47A	Bedord North L	72.30	49	P	P	18 55 34.3	-0.2
	baz=324,SNR=6.4						
MEDO	Medina	72.31	41	PFAKE		18 55 50.0	+16
MEDO				LR	LR		
	comp=Z,7μm,20.0s						
MEDO	Medina	72.31	41	P	P	18 55 34.1	-0.3
	baz=327,SNR=7.6						
EDMD	Edmundbyers	72.34	349⇑	eP	P	18 55 34.4	0.0
EDMD				IAmb	IAmb	18 55 35.9	
	comp=Z,221nm,1.6s						
EDMD				IAMs_20	IAMs_20	19 34 28.7	
	comp=Z,11μm,17.9s						
P48A	Milroy	72.34	48	P	P	18 55 34.0	-0.7
	baz=324						

WHAR	**Wooly Hollow**	**72.36**	**55**	PFAKE		18 55 50.0	+15
WHAR				LR	LR		
	comp=Z,6µm,19.0s						
KWP	**Kalwaria Pacla**	**72.37**	**333**	*e*P	**P**	**18 55 35.4**	**+0.6**
KWP				*e*S	**S**	**19 04 57.2**	**+1.0**
KWP				LMZ	LR	19 30 57.5	
	comp=Z,32µm,18.5s						
KWP	**Kalwaria Pacla**	**72.37**	**333**	PFAKE		18 55 50.0	+15
KWP				LR	LR		
	comp=Z,253µm,18.0s						
KWP	**Kalwaria Pacla**	**72.37**	**333**	*e*P	**P**	**18 55 35.3**	**+0.6**
KWP				*e*S	**S**	**19 04 57.3**	**+1.0**
R46A	**Gibon Southern**	**72.38**	**50**	P	**P**	**18 55 35.3**	**+0.4**
	baz=324						
BHJ	**Bhuj**	**72.39**	**285**	*e*P	**P**	**18 55 32.9**	**-2.4**
GNI	**Garni**	**72.41**	**314**	*e*P	**P**	**18 55 36.3**	**+1.0**
	comp=Z,1µm,1.9s						
GNI				LR	LR		
	comp=Z,18µm,19.0s						
GNI	**Garni**	**72.41**	**314**	*i* P	**P**	**18 55 36.1**	**+0.7**
	SNR=26						
GNI	**Garni**	**72.41**	**314**	*c i*P	**P**	**18 55 36.0**	**+0.7**
GNI				pmax	pmax		
	comp=Z,3µm,1.7s						
GNI				MLR	MLR		
	comp=Z,51µm,18.0s						
GNI	**Garni**	**72.41**	**314**	P	**P**	**18 55 36.7**	**+1.3**
	SNR=42						
M52A	**Chesterland**	**72.44**	**44**	PFAKE		18 55 50.0	+15
M52A				LR	LR		
	comp=Z,10µm,18.0s						
M52A	**Chesterland**	**72.44**	**44**	P	**P**	**18 55 35.1**	**-0.2**
	baz=326,SNR=9.4						
W41B	**Gary Mavity, V**	**72.47**	**55**	PFAKE		18 55 50.0	+14
W41B				LR	LR		
	comp=Z,6µm,22.0s						
W41B	**Gary Mavity, V**	**72.47**	**55**	P	**P**	**18 55 35.5**	**0.0**
	baz=322,SNR=11						
J55A	**Hilton**	**72.48**	**41**	PFAKE		18 55 50.0	+15
J55A				LR	LR		
	comp=Z,8µm,19.0s						
J55A	**Hilton**	**72.48**	**41**	P	**P**	**18 55 35.1**	**-0.3**
	baz=327,SNR=8.4						
USIN	**University of**	**72.50**	**50**	PFAKE		18 55 50.0	+14
USIN				LR	LR		
	comp=Z,8µm,20.0s						
CLGH	**Cloghs, Cushen**	**72.50**	**352⇑**	*e*P	**P**	**18 55 35.5**	**+0.1**
CLGH				IAmb	IAmb	18 55 37.0	
	comp=Z,191nm,1.4s						
CLGH				IAMs_20	IAMs_20	19 34 16.7	
	comp=Z,6µm,19.0s						
N51A	**Ashland**	**72.52**	**45**	PFAKE		18 55 50.0	+14
N51A				LR	LR		
	comp=Z,8µm,19.0s						
N51A	**Ashland**	**72.52**	**45**	P	**P**	**18 55 35.7**	**0.0**
	baz=325,SNR=11						
PARMO	**Parma**	**72.54**	**52**	PFAKE		18 55 50.0	+14
PARMO				LR	LR		
	comp=Z,10µm,19.0s						
ERPA	**Erie**	**72.55**	**43**	PFAKE		18 55 50.0	+14
ERPA				LR	LR		
	comp=Z,7µm,19.0s						
ERPA	**Erie**	**72.55**	**43**	P	**P**	**18 55 36.2**	**+0.3**
	baz=326,SNR=9.3						
BATM	**Batumi**	**72.55**	**316⇑**	*i*P	**P**	**18 55 36.0**	**+0.1**
L53A	**Girard**	**72.57**	**43**	P	**P**	**18 55 36.2**	**+0.2**
	baz=326,SNR=16						
GSI	**Gunungsitoli**	**72.58**	**249**	PFAKE		18 55 50.0	+14
GSI				LR	LR		
	comp=Z,12µm,19.0s						
GSI	**Gunungsitoli**	**72.58**	**249**	P	**P**	**18 55 36.3**	**-0.1**
	comp=Z,297nm,1.7s,comp=Z,5µm						
GAL1	**Galloway**	**72.59**	**351⇑**	*e*P	**P**	**18 55 35.9**	**0.0**
GAL1				IAmb	IAmb	18 55 37.4	
	comp=Z,98nm,1.5s						
GAL1				IAMs_20	IAMs_20	19 35 37.5	
	comp=Z,2µm,16.4s						
LONY	**Lake Ozonia**	**72.60**	**38**	PFAKE		18 55 50.0	+14
LONY				LR	LR		
	comp=Z,5µm,21.0s						
LONY	**Lake Ozonia**	**72.60**	**38**	P	**P**	**18 55 35.0**	**-1.2**
	baz=328,SNR=12						
O50A	**Cable**	**72.60**	**46**	P	**P**	**18 55 35.6**	**-0.7**
	baz=325						
GDLE	**Glaisdale, N Y**	**72.60**	**349⇑**	*e*P	**P**	**18 55 36.1**	**+0.1**
P49A	**Miami Univ. Ec**	**72.61**	**47**	P	**P**	**18 55 36.0**	**-0.3**
	baz=324,SNR=7.5						
IDGL	**Inch Island, C**	**72.63**	**353**	*i* P	**P**	**18 55 36.5**	**+0.4**
IDGL				*e*S	**S**	**19 05 01.9**	**+2.9**
IDGL	**Inch Island, C**	**72.63**	**353⇑**	*e*P	**P**	**18 55 35.4**	**-0.7**
IDGL				IAMs_20	IAMs_20	19 34 18.1	
	comp=Z,6µm,15.1s						
OJC	**Ojcow**	**72.63**	**335**	*e*P	**P**	**18 55 37.0**	**+0.7**
OJC				*e*S	**S**	**19 04 58.8**	**-0.4**
OJC				LMZ	LR	19 31 16.7	
	comp=Z,27µm,16.8s						
OJC	**Ojcow**	**72.63**	**335**	*e*P	**P**	**18 55 37.0**	**+0.7**
OJC				*e*S	**S**	**19 04 58.8**	**-0.4**
Q48A	**North Vernon**	**72.63**	**48**	P	**P**	**18 55 36.2**	**-0.2**
	baz=324						
SMRI	**Semarang**	**72.70**	**233**	PFAKE		18 55 50.0	+13
SMRI				LR	LR		
	comp=Z,4µm,20.0s						
SMRI	**Semarang**	**72.70**	**233**	P	**P**	**18 55 37.5**	**+0.4**
	comp=Z,161nm,1.4s,comp=Z,5µm						
KESW	**Keswick, Cumbr**	**72.70**	**350⇑**	*e*P	**P**	**18 55 37.0**	**+0.4**
KESW				IAmb	IAmb	18 55 38.4	
	comp=Z,193nm,1.1s						
KESW				IAMs_20	IAMs_20	19 34 45.4	
	comp=Z,9µm,16.2s						
S46A	**Don Dixon Farm**	**72.70**	**50**	P	**P**	**18 55 36.7**	**-0.1**
	baz=324						
BCA	**Borcka**	**72.71**	**316**	*i* P	**P**	**18 55 36.6**	**-0.3**
BCA	**Borcka**	**72.71**	**316⇑**	*i*P	**P**	**18 55 36.6**	**-0.3**
X40A	**Basin Creek Fa**	**72.72**	**56**	PFAKE		18 55 50.0	+13
X40A				LR	LR		
	comp=Z,9µm,19.0s						
X40A	**Basin Creek Fa**	**72.72**	**56**	P	**P**	**18 55 37.3**	**+0.2**
	baz=322,SNR=11						
L54A	**Sinclairville**	**72.73**	**42**	P	**P**	**18 55 36.9**	**-0.1**
	baz=326,SNR=7.9						
UALR	**University of**	**72.74**	**55**	PFAKE		18 55 50.0	+13
UALR				LR	LR		
	comp=Z,7µm,18.0s						
SIM	**Simferopol'**	**72.75**	**323**	*c i*P	**P**	**18 55 36.7**	**-0.4**
SIM				pmax	pmax		
	comp=Z,80nm,1.3s						
KARS	**Kars**	**72.76**	**315**	*i* P	**P**	**18 55 38.4**	**+1.0**
PVMO	**Portageville**	**72.76**	**53**	PFAKE		18 55 50.0	+13
PVMO				LR	LR		
	comp=Z,12µm,19.0s						
PDSI	**Padang**	**72.77**	**245**	P	**P**	**18 55 37.0**	**-0.5**
	comp=Z,56nm,1.4s,comp=Z,1µm						
R47A	**Wooly Knot Far**	**72.77**	**49**	P	**P**	**18 55 37.0**	**-0.3**
	baz=324						
TASB	**TASBURUN-IGDIR**	**72.77**	**314**	*i* P	**P**	**18 55 38.2**	**+0.8**
FRNY	**Flat Rock**	**72.78**	**37**	PFAKE		18 55 50.0	+13
FRNY				LR	LR		
	comp=Z,9µm,20.0s						
T45A	**Paducah**	**72.79**	**51**	PFAKE		18 55 50.0	+13
T45A				LR	LR		
	comp=Z,9µm,20.0s						
T45A	**Paducah**	**72.79**	**51**	P	**P**	**18 55 37.3**	**-0.1**
	baz=323						
ACSO	**Alum Creek Sta**	**72.81**	**46**	PFAKE		18 55 50.0	+12
ACSO				LR	LR		
	comp=Z,8µm,20.0s						
ACSO	**Alum Creek Sta**	**72.81**	**46**	P	**P**	**18 55 37.8**	**+0.2**
	baz=325,SNR=6.5						
M53A	**WI Miller and**	**72.82**	**44**	P	**P**	**18 55 37.4**	**-0.2**
	baz=326,SNR=18						
K55A	**Perry**	**72.83**	**41**	P	**P**	**18 55 37.3**	**-0.3**
	baz=327,SNR=17						
KIS	**Kishinev**	**72.83**	**328⇑**	*i*P	**P**	**18 55 36.0**	**-1.5**
	comp=Z,1µm,2.0s						
KIS	**Kishinev**	**72.83**	**328**	*i* PcP	**PcP**	**18 55 47.0**	**-7.6**
KIS	**Kishinev**	**72.83**	**328**	*e*PP	PP	18 58 20.0	+1.0
KIS	**Kishinev**	**72.83**	**328⇑**	*i*P	**P**	**18 55 36.0**	**-1.5**
KIS				*i*		18 55 47.0	
KIS				*e*		18 58 20.0	
KIS				*e*S	**S**	**19 04 56.0**	**-5.6**
KIS				*e*PS	PnS	19 05 55.0	+21
KIS				pmax	pmax		
	comp=Z,1µm,2.0s						
KIS				pmax	pmax		
	comp=Z,2µm,10.0s						
KIS				MLR	MLR		
	comp=Z,30µm,16.0s						
KIS				MLR	MLR		
	comp=N,21µm,16.0s						
NAX	**Nakhchivan**	**72.86**	**312**	P	**P**	**18 55 37.8**	**-0.2**
ALLY	**Alegheny Colle**	**72.87**	**43**	PFAKE		18 55 50.0	+12
ALLY				LR	LR		
	comp=Z,7µm,19.0s						
PWJI	**Pagerwojo**	**72.88**	**231**	P	**P**	**18 55 37.4**	**-0.7**
	comp=Z,258nm,1.4s,comp=Z,3µm						
MMNY	**Mt. Morris Dam**	**72.89**	**41**	PFAKE		18 55 50.0	+12
MMNY				LR	LR		
	comp=Z,6µm,20.0s						
N52A	**McGinn's Farm,**	**72.90**	**45**	P	**P**	**18 55 37.9**	**-0.1**
	baz=326,SNR=7.9						
KNRA	**Kununurra**	**72.93**	**212**	P	**P**	**18 55 39.2**	**+0.9**
	baz=73,SNR=6.6						
WCI	**Wyandotte Cave**	**72.94**	**49**	*e*P	**P**	**18 55 39.1**	**+0.8**
	comp=Z,198nm,1.5s						
WCI				LR	LR		
	comp=Z,7µm,20.0s						
WCI	**Wyandotte Cave**	**72.94**	**49**	*e*P	**P**	**18 55 39.1**	**+0.8**
WCI				pmax	pmax		
	comp=Z,198nm,1.5s						
WCI				MLR	MLR		
	comp=Z,7µm,20.0s						
WCI	**Wyandotte Cave**	**72.94**	**49**	P	**P**	**18 55 38.4**	**+0.2**
	baz=324						
KSP	**Ksiaz**	**72.94**	**337**	*e*P	**P**	**18 55 38.5**	**+0.4**
KSP				*e*S	**S**	**19 05 03.8**	**+1.1**
KSP				LMZ	LR	19 34 02.0	
	comp=Z,32µm,16.8s						
KSP	**Ksiaz**	**72.94**	**337**	*e*P	**P**	**18 55 38.5**	**+0.4**
KSP				*e*S	**S**	**19 05 03.8**	**+1.1**
Q49A	**Aurora**	**72.95**	**48**	P	**P**	**18 55 38.5**	**+0.1**
	baz=324						
P50A	**Jamestown**	**72.96**	**47**	P	**P**	**18 55 38.2**	**-0.2**
	baz=325						
GNAR	**Gosnell**	**72.96**	**53**	PFAKE		18 55 50.0	+12
GNAR				LR	LR		
	comp=Z,6µm,19.0s						
HBAR	**Harrisburg**	**72.97**	**54**	PFAKE		18 55 50.0	+12
HBAR				LR	LR		
	comp=Z,7µm,18.0s						
STHS	**Stebnicka Huta**	**72.97**	**333**	*e*P	**P**	**18 55 38.3**	**0.0**
R48A	**Northridge Ran**	**72.99**	**49**	P	**P**	**18 55 39.0**	**+0.4**
	baz=324						
CTAO	**Charters Tower**	**73.02**	**194**	*e*P	**P**	**18 55 39.4**	**+0.6**
	comp=Z,152nm,1.6s						
CTAO				LR	LR		
	comp=Z,3µm,20.0s						
CTAO	**Charters Tower**	**73.02**	**194**	*e*P	**P**	**18 55 39.4**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,152nm,1.6s						
CTAO				MLR	MLR		
	comp=Z,3µm,20.0s						
WIT	**Witteveen**	**73.06**	**344**	P	**P**	**18 55 41.1**	**+2.4**
GLAT	**Glass**	**73.08**	**52**	PFAKE		18 55 50.0	+11
GLAT				LR	LR		
	comp=Z,11µm,18.0s						
435B	**Jarrell**	**73.11**	**62**	PFAKE		18 55 50.0	+11
435B				LR	LR		
	comp=Z,4µm,20.0s						
435B	**Jarrell**	**73.11**	**62**	P	**P**	**18 55 40.3**	**+0.9**
	baz=321						
KOLS	**Kolonicke sedl**	**73.12**	**333**	*e*P	**P**	**18 55 39.4**	**+0.2**
KOLS				*e*S	**S**	**19 05 03.8**	**-1.1**
KOLS				*e*L	L	19 31 47.5	
SENK	**Senkaya-Erzuru**	**73.13**	**315**	*i* P	**P**	**18 55 40.7**	**+1.1**
L55A	**Hinsdale**	**73.13**	**42**	P	**P**	**18 55 39.3**	**-0.2**
	baz=327,SNR=10						
T46A	**Princeton**	**73.13**	**51**	P	**P**	**18 55 40.0**	**+0.5**
	baz=324,SNR=16						
WOJI	**Wonogiri, Jawa**	**73.15**	**232**	P	**P**	**18 55 38.3**	**-1.4**
	comp=Z,115nm,1.7s,comp=Z,3µm						
PQI	**Presque Isle**	**73.15**	**33**	PFAKE		18 55 50.0	+11
PQI				LR	LR		
	comp=Z,11µm,19.0s						
HPK	**Haverah Park**	**73.16**	**349⇑**	*i*P	**P**	**18 55 39.7**	**+0.4**
HPK				IAmb	IAmb	18 55 41.0	
	comp=Z,173nm,1.1s						
HPK				IAMs_20	IAMs_20	19 35 08.7	
	comp=Z,11µm,17.9s						
S47A	**Hartford**	**73.17**	**50**	P	**P**	**18 55 39.7**	**0.0**
	baz=324,SNR=14						
IOMK	**Kirk Michael**	**73.17**	**351⇑**	*i*P	**P**	**18 55 39.1**	**-0.2**
IOMK				IAmb	IAmb	18 55 40.1	
	comp=Z,379nm,1.5s						
IOMK				IAMs_20	IAMs_20	19 33 18.5	
	comp=Z,11µm,17.9s						
M54A	**Oil Creek Stat**	**73.19**	**43**	PFAKE		18 55 50.0	+10
M54A				LR	LR		
	comp=Z,8µm,19.0s						
M54A	**Oil Creek Stat**	**73.19**	**43**	P	**P**	**18 55 39.9**	**+0.1**
	baz=326,SNR=20						
WLAR	**White Oak Lake**	**73.20**	**57**	PFAKE		18 55 50.0	+10
WLAR				LR	LR		
	comp=Z,6µm,19.0s						
NIE	**Niedzica**	**73.23**	**334**	*e*P	**P**	**18 55 40.7**	**+0.8**
NIE				*e*S	**S**	**19 05 04.7**	**-1.4**
NIE				LMZ	LR	19 31 48.1	
	comp=Z,16µm,16.9s						
NIE	**Niedzica**	**73.23**	**334**	*e*P	**P**	**18 55 40.7**	**+0.8**
NIE				*e*S	**S**	**19 05 04.7**	**-1.4**
BATG	**Bathurst New B**	**73.25**	**31**	PFAKE		18 55 50.0	+10
BATG				LR	LR		
	comp=Z,7µm,19.0s						
CLL	**Collm**	**73.25**	**339**	PFAKE		18 55 50.0	+10
CLL				LR	LR		
	comp=Z,6µm,18.0s						
CLL	**Collm**	**73.25**	**339⇑**	*i*P	**P**	**18 55 40.0**	**+0.1**
CLL				*e*S	**S**	**19 05 07.0**	**+0.8**
CLL				pmax	pmax		
	comp=Z,286nm,1.5s						
CLL				MLR	MLR		
	comp=Z,11µm,17.1s						
N53A	**Lisbon**	**73.27**	**44**	PFAKE		18 55 50.0	+10
N53A				LR	LR		
	comp=Z,8µm,18.0s						
N53A	**Lisbon**	**73.27**	**44**	P	**P**	**18 55 40.1**	**-0.2**
	baz=326,SNR=18						
NCB	**Newcomb**	**73.28**	**38**	PFAKE		18 55 50.0	+10
NCB				LR	LR		
	comp=Z,4µm,20.0s						
WIM	**Isle of Man**	**73.30**	**351⇑**	*e*P	**P**	**18 55 40.2**	**+0.1**
UPC	**Upice**	**73.31**	**337**	*e*P	**P**	**18 55 40.9**	**+0.6**
UPC				*e*S	**SKiKP**	**19 05 08.4**	**-0.9**
UPC				MLR	MLR		
	comp=Z,29µm,15.4s						
UPC	**Upice**	**73.31**	**337**	*e*P	**P**	**18 55 40.9**	**+0.6**
UPC				*ep*P	**pP**	**18 55 48.7**	**+0.7**
UPC				*e*S	**SKiKP**	**19 05 08.4**	**-0.9**
UPC				AMS	AMS	19 34 20.0	
	comp=Z,29µm,15.4s						
GMM	**Mts of Mourne**	**73.33**	**352**	*e*P	**P**	**18 55 40.2**	**-0.1**
HALT	**Halls**	**73.34**	**53**	PFAKE		18 55 50.0	+9.3
HALT				LR	LR		
	comp=Z,10µm,18.0s						
PRAR	**RASCA**	**73.35**	**329⇑**	*i*P	**P**	**18 55 41.3**	**+0.7**
DPC	**Dobruska-Polom**	**73.39**	**337**	*e*P	**P**	**18 55 41.6**	**+0.8**
DPC				*e*S	**SKiKP**	**19 05 09.9**	**+0.4**
DPC				MLR	MLR		
	comp=Z,23µm,15.7s						
DPC	**Dobruska-Polom**	**73.39**	**337**	*e*P	**P**	**18 55 41.6**	**+0.8**
DPC				*e*S	**SKiKP**	**19 05 09.9**	**+0.4**
DPC				AMS	AMS	19 34 20.0	
	comp=Z,23µm,15.7s						
UZH	**Uzhgorod**	**73.39**	**332**	*e*P	**P**	**18 55 39.5**	**-1.2**
UZH				*e*		18 55 59.1	
UZH				*e*PPP	PPP	18 58 19.5	
UZH				*e*S	**S**	**19 05 03.5**	**-4.3**
UZH				*e*SS	**SS**	**19 09 52.0**	**+3.1**
UZH				MLR	MLR		
	comp=N,4µm,16.0s						
UZH				MLR	MLR		
	comp=E,4µm,16.0s						
UZH				MLR	MLR		
	comp=Z,7µm,16.0s						
P51A	**Williamsport**	**73.39**	**46**	PFAKE		18 55 50.0	+9.1
P51A				LR	LR		
	comp=Z,8µm,20.0s						
P51A	**Williamsport**	**73.39**	**46**	P	**P**	**18 55 40.7**	**-0.3**
	baz=325						
R49A	**Shelbyville**	**73.40**	**48**	P	**P**	**18 55 41.6**	**+0.6**
	baz=324						
UGM	**Wanagama**	**73.41**	**232**	PFAKE		18 55 50.0	+8.7
UGM				LR	LR		
	comp=Z,4µm,22.0s						
UGM	**Wanagama**	**73.41**	**232**	P	**P**	**18 55 40.9**	**-0.4**
	comp=Z,260nm,1.6s						
OKC	**Ostrava-Krasne**	**73.41**	**336**	*e*P	**P**	**18 55 41.5**	**+0.7**
OKC				MLR	MLR		
	comp=Z,20µm,15.8s						
OKC	**Ostrava-Krasne**	**73.41**	**336**	*e*P	**P**	**18 55 41.5**	**+0.7**
OKC				*e*S	**SKiKP**	**19 05 16.4**	**+7.0**
OKC				AMS	AMS	19 31 50.0	
	comp=Z,20µm,15.8s						
O52A	**Adamsville**	**73.41**	**45**	PFAKE		18 55 50.0	+8.9
O52A				LR	LR		
	comp=Z,8µm,19.0s						
O52A	**Adamsville**	**73.41**	**45**	P	**P**	**18 55 40.8**	**-0.2**
	baz=326,SNR=15						
BURAR	**Bucovina Array**	**73.44**	**330**	*e*P	**P**	**18 55 40.7**	**-0.5**
BURAR	**Bucovina Array**	**73.44**	**330⇓**	*i*P	**P**	**18 55 41.4**	**+0.2**
BURAR	**Bucovina Array**	**73.44**	**330**	P	**P**	**18 55 41.3**	**+0.1**
BRG	**Berggiesshubel**	**73.45**	**339⇑**	*i*P	**P**	**18 55 41.3**	**+0.2**
	comp=Z,185nm,1.6s						
BRG				PP	PP	18 58 16.0	-8.2
BRG				S	**S**	**19 05 07.0**	**-1.5**
BRG				SS	**SS**	**19 09 54.0**	**+4.1**
BRG				*e*PKPPKP	**P'P'df**	**19 23 17.6**	**-7.0**
	comp=Z,4.8nm,1.2s						
BRG	**Berggiesshubel**	**73.45**	**339⇑**	*i*P	**P**	**18 55 41.3**	**+0.2**
BRG				S	**S**	**19 05 07.0**	**-1.5**
BRG				SS	**SS**	**19 09 54.0**	**+4.1**
BRG				pmax	pmax		
	comp=Z,185nm,1.6s						
BRG				MLR	MLR		
	comp=N,7µm,15.5s						
BRG				MLR	MLR		
	comp=E,10µm,14.6s						
BRG				MLR	MLR		
	comp=Z,16µm,15.7s						
POO	**Poona**	**73.47**	**279**	*e*P	**P**	**18 55 40.9**	**-0.8**
LEOM	**Leova**	**73.48**	**328⇑**	*i*P	**P**	**18 55 41.4**	**+0.1**
LEOM	**Leova**	**73.48**	**328**	P	**P**	**18 55 41.4**	**+0.1**
N54A	**Moraine State**	**73.50**	**43**	PFAKE		18 55 50.0	+8.4
N54A				LR	LR		
	comp=Z,6µm,19.0s						
N54A	**Moraine State**	**73.50**	**43**	P	**P**	**18 55 41.7**	**0.0**
	baz=326,SNR=21						
S48A	**Wiedeman Farm,**	**73.51**	**49**	P	**P**	**18 55 41.8**	**+0.1**
	baz=324,SNR=13						
VT1	**Waterbury**	**73.53**	**37**	PFAKE		18 55 50.0	+8.3
VT1				LR	LR		
	comp=Z,6µm,20.0s						
KRLC	**Kraliky**	**73.53**	**336**	*e*P	**P**	**18 55 42.3**	**+0.7**
KRLC	**Kraliky**	**73.53**	**336**	*e*P	**P**	**18 55 42.3**	**+0.7**
U46A	**Springville**	**73.54**	**52**	P	**P**	**18 55 42.1**	**+0.2**
	baz=324						
T47A	**Sharon Grove**	**73.55**	**50**	PFAKE		18 55 50.0	+8.1
T47A				LR	LR		
	comp=Z,8µm,20.0s						
T47A	**Sharon Grove**	**73.55**	**50**	P	**P**	**18 55 42.6**	**+0.6**
	baz=324,SNR=11						
O53A	**New Philadelph**	**73.57**	**45**	P	**P**	**18 55 41.5**	**-0.5**
	baz=326,SNR=15						
M55A	**Ridgway**	**73.59**	**42**	P	**P**	**18 55 41.6**	**-0.6**
	baz=327,SNR=27						
CLDR	**Caldiran**	**73.60**	**313**	*i* P	**P**	**18 55 43.4**	**+0.9**
MORC	**Moravsky Berou**	**73.62**	**336**	PFAKE		18 55 50.0	+7.8
MORC				LR	LR		
	comp=Z,22µm,19.0s						
MORC	**Moravsky Berou**	**73.62**	**336⇓**	*i*P	**P**	**18 55 42.8**	**+0.6**
MORC	**Moravsky Berou**	**73.62**	**336**	P	**P**	**18 55 43.0**	**+0.8**
MORC				pmax	pmax		
	comp=Z,116nm,1.2s						
MORC	**Moravsky Berou**	**73.62**	**336⇑**	*i*P	**P**	**18 55 42.9**	**+0.8**
PVCC	**Panska Ves**	**73.63**	**338**	*e*P	**P**	**18 55 43.1**	**+0.9**
PVCC				MLR	MLR		
	comp=Z,20µm,15.0s						
PVCC	**Panska Ves**	**73.63**	**338**	*e*P	**P**	**18 55 43.1**	**+0.9**
PVCC				AMS	AMS	19 33 40.0	
	comp=Z,20µm,15.0s						
Q51A	**Peebles**	**73.64**	**47**	PFAKE		18 55 50.0	+7.6
Q51A				LR	LR		
	comp=Z,7µm,20.0s						
Q51A	**Peebles**	**73.64**	**47**	P	**P**	**18 55 42.6**	**+0.2**
	baz=325,SNR=8.0						
AGRB	**Hanur-Agry**	**73.66**	**314**	*i* P	**P**	**18 55 43.8**	**+1.0**
MARNC	**Mare, Loyalty**	**73.66**	**173**	PFAKE		18 56 00.0	+18
MARNC				LR	LR		
	comp=Z,9µm,20.0s						
MET	**Memphis--Engin**	**73.67**	**54**	PFAKE		18 56 00.0	+17
MET				LR	LR		
	comp=Z,7µm,22.0s						
P52A	**Corning**	**73.68**	**46**	P	**P**	**18 55 42.5**	**-0.1**
	baz=326,SNR=8.0						
X43A	**Marvell**	**73.68**	**55**	PFAKE		18 56 00.0	+17
X43A				LR	LR		
	comp=Z,8µm,18.0s						
X43A	**Marvell**	**73.68**	**55**	P	**P**	**18 55 42.6**	**-0.1**
	baz=323						
LANS	**Liptovska Anna**	**73.69**	**334**	*e*P	**P**	**18 55 44.1**	**+1.5**
LANS	**Liptovska Anna**	**73.69**	**334**	*e*P	**P**	**18 55 44.1**	**+1.5**
Z41A	**Richland Creek**	**73.70**	**57**	PFAKE		18 56 00.0	+17
Z41A				LR	LR		
	comp=Z,8µm,19.0s						
Z41A	**Richland Creek**	**73.70**	**57**	P	**P**	**18 55 42.7**	**-0.1**
	baz=322						
CCAR	**Cane Creek**	**73.70**	**56**	PFAKE		18 56 00.0	+17
CCAR				LR	LR		
	comp=Z,7µm,20.0s						
LBWR	**Ladybower, Pea**	**73.71**	**349⇑**	*e*P	**P**	**18 55 42.0**	**-0.6**
LBWR				IAmb	IAmb	18 55 44.2	
	comp=Z,182nm,1.2s						
LBWR				IAMs_20	IAMs_20	19 37 10.6	
	comp=Z,11µm,15.6s						
MDRS	**Chennai**	**73.73**	**270**	*e*P	**P**	**18 55 41.9**	**-1.4**
MDRS				IAmb	IAmb	18 55 46.6	
	comp=Z,274nm,1.4s						
MDRS				IAMs_20	IAMs_20	19 36 09.5	
	comp=Z,11µm,23.8s						
S49A	**Springfield**	**73.76**	**49**	P	**P**	**18 55 43.6**	**+0.5**
	baz=324,SNR=9.1						
BIZ	**Bicaz**	**73.76**	**329⇑**	*i*P	**P**	**18 55 43.2**	**+0.2**
TRPA	**Tarpa**	**73.77**	**332⇓**	*i*P	**P**	**18 55 43.7**	**+0.7**
TRPA	**Tarpa**	**73.77**	**332⇑**	*i*P	**P**	**18 55 43.0**	**0.0**
TRPA				*e*S	**S**	**19 05 14.0**	**+1.9**
T48A	**Bowling Green**	**73.79**	**50**	P	**P**	**18 55 43.2**	**-0.2**
	baz=324						
R50A	**Paris**	**73.80**	**48**	P	**P**	**18 55 43.4**	**0.0**
	baz=325						
KOPR	**Koprukoy-ERZUR**	**73.81**	**315**	*i* P	**P**	**18 55 44.6**	**+1.0**
WTSB	**Winterswijk**	**73.85**	**343**	*e*P	**P**	**18 55 43.8**	**+0.4**
	comp=Z,336nm,1.1s						
WTSB				*ep*P	**PcP**	**18 55 56.8**	**-2.0**
KTUT	**Trabzon**	**73.87**	**317**	*i* P	**P**	**18 55 43.3**	**-0.4**
KTUT	**Trabzon**	**73.87**	**317

comp=Z,8μm,20.0s
PKME Peaks-Kenny Pk 73.95 34 P **P** 18 55 44.8 +0.7
baz=331,SNR=7.7
TESR Tescani 73.97 329⇑ *i*P **P** 18 55 44.3 +0.1
O54A Avella 73.98 44 P **P** 18 55 44.6 +0.2
baz=326,SNR=13
ACCN Adirondack Com 74.00 38 PFAKE 18 56 00.0 +16
ACCN LR LR
comp=Z,6μm,20.0s
WME Myndd Eilian 74.00 351⇑ *e*P **P** 18 55 44.1 -0.2
833A Chaparral WMA, 74.02 64 PFAKE 18 56 00.0 +15
833A LR LR
comp=Z,4μm,19.0s
833A Chaparral WMA, 74.02 64 P **P** 18 55 44.2 -0.6
baz=321
WPS Cemaes, Angles 74.02 351⇑ *e*P **P** 18 55 43.9 -0.4
WPS IAmb IAmb 18 55 44.8
comp=Z,135nm,1.5s
WPS IAMs_20 IAMs_20 19 35 38.1
comp=Z,7μm,17.1s
V46A Holladay 74.02 52 P **P** 18 55 45.1 +0.5
baz=324,SNR=13
KECS Kecovo 74.03 334 *e*P **P** 18 55 45.2 +0.7
KECS pmax pmax
comp=Z,229nm,1.1s
KECS Kecovo 74.03 334 *e*P **P** 18 55 45.2 +0.7
N55A Marion Center 74.08 43 PFAKE 18 56 00.0 +15
N55A LR LR
comp=Z,8μm,19.0s
N55A Marion Center 74.08 43 P **P** 18 55 44.8 -0.2
baz=327,SNR=20
STNC Stoke 74.08 349⇑ *i*P **P** 18 55 45.3 +0.6
STNC IAmb IAmb 18 55 45.9
comp=Z,169nm,1.4s
STNC IAMs_20 IAMs_20 19 37 31.1
comp=Z,8μm,15.7s
WACR West Acre 74.08 347⇑ *e*P **P** 18 55 44.7 0.0
WACR IAmb IAmb 18 55 46.3
comp=Z,287nm,1.2s
WACR IAMs_20 IAMs_20 19 35 57.8
comp=Z,9μm,16.3s
BINY Binghamton 74.11 40 PFAKE 18 56 00.0 +15
BINY LR LR
comp=Z,8μm,20.0s
BINY Binghamton 74.11 40 P **P** 18 55 44.6 -0.5
baz=328,SNR=8.5
WLF1 Llynfaes 74.12 351⇑ *e*P **P** 18 55 44.7 -0.2
WLF1 IAmb IAmb 18 55 46.3
comp=Z,339nm,1.6s
WLF1 IAMs_20 IAMs_20 19 35 40.1
comp=Z,13μm,17.6s
R51A Hillsboro 74.12 47 P **P** 18 55 45.5 +0.2
baz=325
P53A Whipple 74.12 45 PFAKE 18 56 00.0 +15
P53A LR LR
comp=Z,8μm,19.0s
P53A Whipple 74.12 45 P **P** 18 55 45.0 -0.2
baz=326,SNR=6.1
DZM Mont Dzumac 74.13 174 *e*P **P** 18 55 46.8 +1.4
comp=Z,184nm,1.4s
DZM *e*S **S** 19 05 16.8 +0.1
comp=Z,6μm,26.2s
DZM *e*SS **SS** 19 10 00.7 -2.2
comp=Z,4μm,32.9s
DZM *e*LQ LQ 19 15 19.2
comp=Z,5μm,26.9s
DZM *e*LR LR 19 18 34.4
comp=Z,9μm,22.1s
DZM Mont Dzumac 74.13 174 PFAKE 18 56 00.0 +15
DZM LR LR
comp=Z,6μm,21.0s
PRU Pruhonice 74.14 338 *e*P **P** 18 55 45.7 +0.5
PRU *e*S **S** 19 05 17.5 +1.2
PRU MLR MLR
comp=Z,19μm,14.0s
PRU Pruhonice 74.14 338 *e*P **P** 18 55 45.7 +0.5
PRU *e*S **S** 19 05 17.5 +1.2
PRU AMS AMS 19 34 50.0
comp=Z,19μm,14.0s
GOPC GO Pecny, Ondr 74.16 338 *e*P **P** 18 55 45.8 +0.5
GOPC *e*S **S** 19 05 19.4 +2.9
GOPC MLR MLR
comp=Z,17μm,16.1s
GOPC GO Pecny, Ondr 74.16 338 *e*P **P** 18 55 45.8 +0.5
GOPC *e*S **S** 19 05 19.4 +2.9
GOPC AMS AMS 19 32 40.0
comp=Z,17μm,16.1s
Q52A Bidwell 74.17 46 P **P** 18 55 45.3 -0.2
baz=326,SNR=7.6
ARCR ARCALIA 74.17 330⇑ *i*P **P** 18 55 46.6 +1.2
YRC Rhoscolyn 74.17 351⇑ *i*P **P** 18 55 44.8 -0.5
MOX Moxa 74.18 340 P **P** 18 55 46.1 +0.7
MOX pmax pmax
comp=Z,108nm,3.0s
T49A Edmonton 74.20 49 PFAKE 18 56 00.0 +14
T49A LR LR
comp=Z,9μm,20.0s
T49A Edmonton 74.20 49 P **P** 18 55 46.0 +0.2
baz=324,SNR=12
U48A Cassie Pea, Po 74.20 50 P **P** 18 55 45.8 +0.1
baz=324,SNR=11
MLAZ Malazgirt-MUS 74.21 314 *i*P **P** 18 55 47.3 +1.3
BAYT Aydıntepe-Bayb 74.21 317 *i*P **P** 18 55 46.7 +0.7
HNH Hanover 74.24 37 PFAKE 18 56 00.0 +14
HNH LR LR
comp=Z,7μm,18.0s
YLL Llanberis 74.24 350⇑ *e*P **P** 18 55 45.5 -0.1
S50A Richmond 74.25 48 P **P** 18 55 46.3 +0.2
baz=325
MNAI Manna 74.26 241 PFAKE 18 56 00.0 +14
MNAI LR LR
comp=Z,5μm,19.0s
BUG Bochum--Univer 74.27 343 P **P** 18 55 46.5 +0.6
BUG pmax pmax
comp=Z,161nm,1.8s
V47A Nunnelly 74.29 51 P **P** 18 55 46.6 +0.3
baz=324,SNR=8.3
VANB Van 74.29 313 *i*P **P** 18 55 47.5 +1.1
VRAC Vranov 74.29 336⇓ *i*P **P** 18 55 46.8 +0.8
VRAC Vranov 74.29 336 P **P** 18 55 47.0 +1.0
VRAC pmax pmax
comp=Z,177nm,1.5s
VRAC Vranov 74.29 336⇑ *i*P **P** 18 55 47.0 +1.0
VRAC *e*S **S** 19 05 20.1 +2.1
CWF Charnwood Fore 74.31 349⇑ *i*P **P** 18 55 46.1 0.0
CWF IAmb IAmb 18 55 47.8
comp=Z,328nm,1.4s
DSB Dublin 74.35 352 *i*P **P** 18 55 46.5 +0.2
DSB *e*S **S** 19 05 21.9 +3.4
DSB Dublin 74.35 352 PFAKE 18 56 00.0 +14
DSB LR LR
comp=Z,4μm,22.0s
ONTNC Ouen Toro 74.37 174 PFAKE 18 56 00.0 +13
ONTNC LR LR
comp=Z,4μm,19.0s
FOEL Foel Wylfa 74.39 350⇑ *e*P **P** 18 55 46.9 +0.3
FOEL IAmb IAmb 18 55 48.3
comp=Z,203nm,1.2s
FOEL IAMs_20 IAMs_20 19 35 41.4
comp=Z,9μm,19.7s
NKC Novy Kostel 74.39 339 *e*P **P** 18 55 47.2 +0.6
NKC *e* 18 55 54.5
NKC *e*S **S** 19 05 19.5 +0.4
NKC MLR MLR
comp=Z,12μm,14.7s
NKC Novy Kostel 74.39 339 *e*P **P** 18 55 47.2 +0.6
NKC *e*x x 18 55 54.5
NKC *e*S **S** 19 05 19.5 +0.4
NKC AMS AMS 19 35 20.0
comp=Z,12μm,14.7s
IGLA Glengowla, Co 74.41 354 *i*P **P** 18 55 46.7 +0.1
IGLA *e*S **S** 19 05 22.3 +3.2
OXF Oxford 74.42 54 PFAKE 18 56 00.0 +13
OXF LR LR
comp=Z,6μm,20.0s
OXF Oxford 74.42 54 P **P** 18 55 47.3 +0.3
baz=323
O55A Ligonier 74.42 43 P **P** 18 55 46.8 -0.2
baz=327,SNR=17
P54A Burton 74.42 44 P **P** 18 55 46.8 -0.2
baz=326,SNR=19
TLCR 74.43 327⇓ *i*P **P** 18 55 47.2 +0.3
TLCR 74.43 327 P **P** 18 55 47.1 +0.2
W46A Michie 74.43 52 P **P** 18 55 47.2 +0.2
baz=324

JAVC Velka Javorina 74.43 335⇑ *i*P **P** 18 55 48.6 +1.7
JAVC *e*S **S** 19 05 24.2 +4.5
WVL Waterville 74.44 35 PFAKE 18 56 00.0 +13
WVL LR LR
comp=Z,9μm,19.0s
CISI Cisompet, Garu 74.44 235 PFAKE 18 56 00.0 +13
CISI LR LR
comp=Z,4μm,20.0s
VYHS Vyhne 74.46 335 *e*P **P** 18 55 47.8 +0.7
VYHS pmax pmax
comp=Z,134nm,1.5s
VYHS Vyhne 74.46 335 *e*P **P** 18 55 47.8 +0.7
VYHS *e*S **S** 19 05 18.4 -1.6
VYHS *e*L L 19 32 42.9
LLW Llanuwychllyn 74.48 350⇑ *e*P **P** 18 55 46.5 -0.5
PETR Petresti 74.48 328⇑ *i*P **P** 18 55 48.4 +1.2
ODBI Odobesti 74.50 328⇑ *i*P **P** 18 55 48.8 +1.5
R52A Catlettsburg 74.51 47 P **P** 18 55 47.5 -0.1
baz=326,SNR=5.8
VRI Vrincioaia 74.52 328⇓ *i*P **P** 18 55 48.1 +0.7
VRI Vrincioaia 74.52 328 P **P** 18 55 48.1 +0.7
VRI pmax pmax
comp=Z,98nm,1.7s
PLOR Plostina 74.55 328⇑ *i*P **P** 18 55 48.8 +1.1
PLOR Plostina 74.55 328 P **P** 18 55 48.8 +1.1
TRY Troy 74.55 38 PFAKE 18 56 00.0 +12
TRY LR LR
comp=Z,6μm,20.0s
U49A Red Boiling Sp 74.56 50 P **P** 18 55 48.5 +0.6
baz=324,SNR=9.6
KRUC Moravsky 74.56 336 P **P** 18 55 48.6 +0.9
KRUC pmax pmax
comp=Z,178nm,2.4s
KRUC Moravsky 74.56 336⇑ *i*P **P** 18 55 48.5 +0.9
KRUC *e*S **S** 19 05 22.2 +1.1
TREC Trest 74.57 337 *e*P **P** 18 55 48.3 +0.6
TREC *e*S **S** 19 05 21.7 +0.5
TREC MLR MLR
comp=Z,27μm,16.0s
TREC Trest 74.57 337 *e*P **P** 18 55 48.3 +0.6
TREC *e*S **S** 19 05 21.7 +0.5
TREC AMS AMS 19 35 00.0
comp=Z,27μm,16.0s
Q53A Leroy 74.58 46 P **P** 18 55 47.9 0.0
baz=326,SNR=12
T50A Nancy 74.59 49 P **P** 18 55 48.1 +0.1
baz=325,SNR=9.5
OZUR 74.61 329⇑ *i*P **P** 18 55 49.5 +1.5
LTVH Ltavrtes, Hu 74.63 332⇑ *i*P **P** 18 55 48.1 +0.1
LTVH *e*S **S** 19 05 24.1 +2.3
CLTN Cedars of Leba 74.64 50 PFAKE 18 56 00.0 +12
CLTN LR LR
comp=Z,5μm,19.0s
MCWV Mont Chateau 74.65 44 PFAKE 18 56 00.0 +12
MCWV LR LR
comp=Z,4μm,20.0s
MCWV Mont Chateau 74.65 44 P **P** 18 55 48.4 +0.1
baz=327,SNR=12
SSPA Standing Stone 74.65 42 *e*P **P** 18 55 49.0 +0.7
comp=Z,345nm,1.6s
SSPA LR LR
comp=Z,7μm,18.0s
SSPA Standing Stone 74.65 42 P **P** 18 55 48.4 +0.1
baz=327
S51A Beattyville 74.66 48 PFAKE 18 56 00.0 +12
S51A LR LR
comp=Z,9μm,19.0s
S51A Beattyville 74.66 48 P **P** 18 55 48.7 +0.3
baz=325
CFR Carcaliu 74.66 327⇑ *i*P **P** 18 55 48.3 0.0
CFR Carcaliu 74.66 327 P **P** 18 55 48.2 0.0
CFR pmax pmax
comp=Z,180nm,2.0s
QIS Mount Isa 74.67 200 P **P** 18 55 48.5 0.0
baz=75,SNR=8.9
VRTB Varto-Mus 74.67 315 *i*P **P** 18 55 50.6 +2.0
O56A Blue Knob Stat 74.68 43 PFAKE 18 56 00.0 +11
O56A LR LR
comp=Z,9μm,19.0s
O56A Blue Knob Stat 74.68 43 P **P** 18 55 48.5 0.0
baz=327,SNR=24
AKDM Akdamar-Van 74.69 314 *i*P **P** 18 55 49.3 +0.5
V48A Smith Brothers 74.69 51 PFAKE 18 56 00.0 +11
V48A LR LR
comp=Z,9μm,21.0s
V48A Smith Brothers 74.69 51 P **P** 18 55 48.8 +0.2
baz=324,SNR=12
PLAL Pickwick Lake 74.70 52 PFAKE 18 56 00.0 +11
PLAL LR LR
comp=Z,9μm,18.0s
HKT Hockley 74.70 61 *e*P **P** 18 55 51.0 +2.4
comp=Z,55nm,1.4s
HKT LR LR
comp=Z,7μm,22.0s
HKT Hockley 74.70 61 *e*P **P** 18 55 51.0 +2.4
HKT pmax pmax
comp=Z,55nm,1.4s
HKT MLR MLR
comp=Z,7μm,22.0s
PSZ Piszkesteto 74.71 334 PFAKE 18 56 00.0 +11
PSZ LR LR
comp=Z,31μm,18.0s
PSZ Piszkesteto 74.71 334 P **P** 18 55 49.6 +1.0
PSZ pmax pmax
comp=Z,183nm,2.5s
PSZ Piszkesteto 74.71 334⇑ *i*P **P** 18 55 48.1 -0.5
PSZ *e*S S 19 05 33.0 +10
W47A Westpoint 74.71 52 P **P** 18 55 49.2 +0.5
baz=324,SNR=7.6
HLM1 Long Mynd 74.72 349⇑ *i*P **P** 18 55 47.8 -0.7
HLM1 IAmb IAmb 18 55 49.2
comp=Z,208nm,1.3s
HLM1 IAMs_20 IAMs_20 19 36 07.1
comp=Z,10μm,17.4s
CGJI Cibinong 74.72 237 P **P** 18 55 46.6 -2.3
comp=Z,103nm,1.3s,comp=Z,2μm
KARO Karliova-Bingo 74.72 315 *i*P **P** 18 55 49.6 +0.6
CJR Cluj-Napoca 74.74 331⇑ *i*P **P** 18 55 49.8 +1.0
CJR Cluj-Napoca 74.74 331 P **P** 18 55 49.7 +1.0
KSPA Keystone Colle 74.74 40 PFAKE 18 56 00.0 +11
KSPA LR LR
comp=Z,10μm,20.0s
PINNC Pines Island, 74.74 173 PFAKE 18 56 00.0 +11
PINNC LR LR
comp=Z,8μm,20.0s
P55A Reedsville 74.78 44 P **P** 18 55 49.0 -0.1
baz=327,SNR=21
Q54A Coxs Mills 74.78 45 PFAKE 18 56 00.0 +11
Q54A LR LR
comp=Z,7μm,19.0s
Q54A Coxs Mills 74.78 45 P **P** 18 55 48.7 -0.3
baz=326,SNR=11
X46A Booneville 74.79 53 P **P** 18 55 49.1 0.0
baz=324
BISRR Bisoca 74.80 328⇓ *i*P **P** 18 55 50.5 +1.3
SMOL Smolenice 74.81 335 *e*P **P** 18 55 51.0 +1.9
SMOL Smolenice 74.81 335 *e*P **P** 18 55 51.0 +1.9
R53A Hurricane 74.83 46 PFAKE 18 56 00.0 +11
R53A LR LR
comp=Z,8μm,20.0s
R53A Hurricane 74.83 46 P **P** 18 55 49.2 -0.2
baz=326,SNR=11
YEDI Yedisu-Bingol 74.83 316 *i*P **P** 18 55 50.3 +0.7
SNOP Sinop 74.84 321 *i*P **P** 18 55 49.2 -0.2
SNOP Sinop 74.84 321 PFAKE 18 56 00.0 +11
SNOP LR LR
comp=Z,8μm,19.0s
DOPR Dopca 74.85 329⇑ *i*P **P** 18 55 50.3 +0.9
S52A Salyersville 74.86 47 P **P** 18 55 49.9 +0.3
baz=326,SNR=7.4
GRER 74.87 328⇑ *i*P **P** 18 55 51.0 +1.6
GGN Saint George 74.91 33 PFAKE 18 56 00.0 +10
GGN LR LR
comp=Z,8μm,19.0s
LMN Caledonia Moun 74.92 31 PFAKE 18 56 00.0 +10
LMN LR LR
comp=Z,7μm,21.0s
DRGR 74.93 331⇑ *i*P **P** 18 55 50.1 +0.2
DRGR 74.93 331 P **P** 18 55 50.1 +0.2
DRGR pmax pmax
comp=Z,194nm,1.4s
BNGL BINGOL 74.98 315 *i*P **P** 18 55 52.9 +2.4
MODS Modra-Piesok 74.98 335 *e*P **P** 18 55 50.3 +0.2
MODS pmax pmax
comp=Z,3μm,3.7s

MODS Modra-Piesok 74.98 335 *e*P **P** 18 55 50.3 +0.2
MODS *e*S **S** 19 05 27.1 +1.3
MODS *e*L L 19 32 49.7
T51A Gray 75.05 48 P **P** 18 55 50.8 +0.1
baz=325
ERZN Erzincan 75.06 317 *i*P **P** 18 55 51.8 +1.0
EMMW East Machias 75.06 33 PFAKE 18 56 00.0 +9.4
EMMW LR LR
comp=Z,12μm,19.0s
U50A Jamestown 75.08 49 P **P** 18 55 51.1 +0.2
baz=325,SNR=11
Q55A Buckhannon 75.10 45 P **P** 18 55 51.4 +0.4
baz=327,SNR=11
MLR Muntele Rosu 75.10 329 PFAKE 18 56 00.0 +9.0
MLR LR LR
comp=Z,24μm,18.0s
MLR Muntele Rosu 75.10 329⇓ *i*P **P** 18 55 52.0 +1.0
MLR Muntele Rosu 75.10 329 P **P** 18 55 51.7 +0.7
MLR pmax pmax
comp=Z,181nm,1.3s
V49A McMinnville 75.11 50 P **P** 18 55 51.1 +0.1
baz=325,SNR=8.1
W48A Pulaski 75.12 51 P **P** 18 55 51.3 +0.2
baz=324,SNR=13
DIKM Dikmen 75.14 321 *i*P **P** 18 55 51.8 +0.7
DIKM Dikmen 75.14 321⇑ *i*P **P** 18 55 51.4 +0.3
BNGB Bingl 75.15 316 *i*P **P** 18 55 52.2 +0.9
HARR Harsova 75.16 327⇓ *i*P **P** 18 55 51.5 +0.4
HARR Harsova 75.16 327 P **P** 18 55 51.5 +0.4
GRA1 Grafenberg Arr 75.16 340 PFAKE 18 56 00.0 +8.9
GRA1 LR LR
comp=Z,9μm,19.0s
GRF Grafenberg Arr 75.16 340 P **P** 18 55 52.1 +1.0
HGN Heimansgroeve 75.16 344 *e*P **P** 18 55 51.7 +0.6
comp=Z,742nm,1.5s
HGN *e*pP **PcP** 18 56 04.5 +0.1
HGN *e*PP **PP** 18 58 37.3 -1.3
HGN *e*S **S** 19 05 22.0 -5.6
HGN *e*SS **SS** 19 10 21.3 +5.6
GRFO Grafenberg 75.16 340 *e*P **P** 18 55 52.0 +0.9
comp=Z,312nm,1.4s
GRFO LR LR
comp=Z,8μm,19.0s
GRFO Grafenberg 75.16 340 *e*P **P** 18 55 52.0 +0.9
GRFO pmax pmax
comp=Z,311nm,1.4s
GRFO MLR MLR
comp=Z,8μm,19.0s
KHC Kasperske Hory 75.17 338 PFAKE 18 56 00.0 +8.8
KHC LR LR
comp=Z,5μm,22.0s
KHC Kasperske Hory 75.17 338 *e*P **P** 18 55 51.9 +0.7
KHC *e* 18 55 59.7
KHC *e* 18 56 15.0
KHC *e*S **S** 19 05 30.4 +2.5
KHC MLR MLR
comp=Z,21μm,15.9s
KHC Kasperske Hory 75.17 338 *e*P **P** 18 55 51.9 +0.7
KHC *e*pP **pP** 18 55 59.7 +0.8
KHC *e*x x 18 56 15.0
KHC *e*S **S** 19 05 30.4 +2.5
KHC AMS AMS 19 34 20.0
comp=Z,21μm,15.9s
BEBN Eben Emael 75.17 344 ⇑P **P** 18 55 51.7 +0.6
X47A Russelville 75.18 52 P **P** 18 55 51.4 0.0
baz=324,SNR=9.2
TLB Topalu 75.22 327⇓ *i*P **P** 18 55 51.8 +0.4
TLB Topalu 75.22 327 P **P** 18 55 51.8 +0.4
TNS Taunus Mts 75.22 342 P **P** 18 55 52.4 +0.9
SRO Srobarova 75.23 335 *e*P **P** 18 55 52.8 +1.3
ISR Istrita 75.24 328⇑ *i*P **P** 18 55 52.4 +0.7
ISR Istrita 75.24 328 P **P** 18 55 53.0 +1.3
ISR pmax pmax
comp=Z,324nm,1.7s
MCH1 Michaelchurch 75.24 349⇑ *i*P **P** 18 55 51.6 +0.2
MCH1 IAmb IAmb 18 55 52.3
comp=Z,232nm,1.6s
MCH1 IAMs_20 IAMs_20 19 36 23.9
comp=Z,8μm,16.6s
IWEX Carrickbyrne, 75.25 352 *i*P **P** 18 55 52.1 +0.6
IWEX *e*S **S** 19 05 32.2 +3.7
IWEX Carrickbyrne, 75.25 352⇑ *e*P **P** 18 55 51.9 +0.4
IWEX IAMs_20 IAMs_20 19 32 20.4
comp=Z,6μm,18.3s
SRO2 Moca 75.25 335 *e*P **P** 18 55 51.8 +0.2
N59A State Game Lan 75.28 41 PFAKE 18 56 00.0 +8.1
N59A LR LR
comp=Z,8μm,19.0s
N59A State Game Lan 75.28 41 P **P** 18 55 51.9 0.0
baz=328,SNR=19
S53A Williamson 75.28 47 P **P** 18 55 51.8 -0.2
baz=326,SNR=8.9
CUKT Cukurca 75.29 313 *i*P **P** 18 55 52.5 +0.3
MEM Membach 75.30 343 P **P** 18 55 52.7 +0.9
MEM pmax pmax
comp=Z,325nm,1.2s
MEM Membach 75.30 343 ⇑P **P** 18 55 52.6 +0.7
comp=Z,220nm,1.4s
KVT Kavak 75.31 320 *i*P **P** 18 55 53.1 +0.9
WET Wettzell 75.32 339 P **P** 18 55 53.1 +1.1
WRAB Tennant Creek 75.32 205 *e*P **P** 18 55 52.8 +0.6
comp=Z,132nm,1.3s
WRAB LR LR
comp=Z,4μm,22.0s
WRAB Tennant Creek 75.32 205*c* *i*P **P** 18 55 52.0 -0.2
WRAB pmax pmax
comp=Z,127nm,1.7s
WB2 Warramunga Arr 75.33 205 *e*P **P** 18 55 52.9 +0.7
comp=Z,185nm,1.4s
WRA Warramunga Arr 75.33 205*ce*P **P** 18 55 52.2 -0.1
WRA pmax pmax
comp=Z,22nm,0.8s
WRA Warramunga Arr 75.33 205 P **P** 18 55 52.8 +0.5
comp=Z,22nm,0.8s,baz=24,slow=5.4,SNR=40
BZK Bozkurt 75.36 322 *i*P **P** 18 55 52.5 +0.2
BZK Bozkurt 75.36 322⇓ *i*P **P** 18 55 52.8 +0.5
STRD Stroud 75.36 349⇑ *i*P **P** 18 55 52.5 +0.3
STRD IAmb IAmb 18 55 53.9
comp=Z,566nm,1.5s
T52A Hallie 75.37 48 PFAKE 18 56 10.0 +17
T52A LR LR
comp=Z,10μm,19.0s
T52A Hallie 75.37 48 P **P** 18 55 53.3 +0.8
baz=326
MONM Monmouth 75.38 349⇑ *i*P **P** 18 55 52.7 +0.5
MONM IAmb IAmb 18 55 54.0
comp=Z,767nm,1.9s
MONM IAMs_20 IAMs_20 19 38 12.5
comp=Z,8μm,15.6s
RSDY Resadiye-TOKAT 75.38 319 *i*P **P** 18 55 53.2 +0.7
R54A Victor 75.38 46 P **P** 18 55 53.0 +0.5
baz=326,SNR=10
UCC Uccle 75.39 345 PFAKE 18 56 00.0 +7.6
UCC LR LR
comp=Z,12μm,19.0s
UCC Uccle 75.39 345 ⇑P **P** 18 55 52.0 -0.3
GEC2 GERESS Array S 75.41 338 PFAKE 18 56 00.0 +7.4
GEC2 LR LR
comp=Z,13μm,22.0s
GERES GERESS Array B 75.41 338 *e*P **P** 18 55 52.7 0.0
GERES GERESS Array B 75.41 338 *e*P **P** 18 55 52.7 0.0
GERES GERESS Array B 75.41 338 P **P** 18 55 53.1 +0.5
comp=Z,35nm,1.1s,baz=36,slow=5.0,SNR=35
VOIR 75.43 329⇑ *i*P **P** 18 55 53.7 +0.9
VOIR 75.43 329 P **P** 18 55 53.5 +0.7
VOIR pmax pmax
comp=Z,98nm,1.0s
QUA2 Belchertown 75.44 38 PFAKE 18 56 10.0 +17
QUA2 LR LR
comp=Z,7μm,18.0s
MFTR Murfatlar 75.45 326⇓ *i*P **P** 18 55 52.9 +0.1
W49A Belvidere 75.46 51 P **P** 18 55 53.4 +0.3
baz=324
SECR 75.47 328⇑ *i*P **P** 18 55 54.0 +1.1
RSBS Rosebush, Pemb 75.47 351⇑ *i*P **P** 18 55 52.8 -0.1
RSBS IAmb IAmb 18 55 54.4
comp=Z,111nm,1.5s
RSBS IAMs_20 IAMs_20 19 36 39.4
comp=Z,5μm,17.1s
PAGS Pennsylvania G 75.48 42 PFAKE 18 56 10.0 +17
PAGS LR LR
comp=Z,7μm,19.0s
KSCT Kent School, K 75.48 39 PFAKE 18 56 10.0 +17
KSCT LR LR
comp=Z,7μm,18.0s

U51A	La Follette	75.49	49	P	P	18 55 53.5	+0.2
	baz=325						
OLDB	Oldbury-Upon-S	75.52	349⇑	iP	P	18 55 53.2	+0.2
OLDB				IAmb	IAmb	18 55 54.7	
	comp=Z,313nm,1.7s						
OLDB				IAMs_20	IAMs_20	19 38 23.3	
	comp=Z,8μm,15.9s						
HRV	Adam Dziewonsk	75.54	37	eP	P	18 55 53.9	+0.5
	comp=Z,93nm,1.1s						
HRV				LR	LR		
	comp=Z,8μm,22.0s						
HRV	Adam Dziewonsk	75.54	37	P	P	18 55 53.9	+0.5
HRV				pmax	pmax		
	comp=Z,93nm,1.1s						
HRV	Adam Dziewonsk	75.54	37	P	P	18 55 53.5	+0.2
	baz=330						
SWET	Sewanee	75.54	51	PFAKE		18 56 10.0	+16
SWET				LR	LR		
	comp=Z,8μm,20.0s						
NIUE	Niue	75.55	151	PFAKE		18 56 10.0	+17
NIUE				LR	LR		
	comp=Z,10μm,20.0s						
ELSH	Elham, Standar	75.55	347⇑	eP	P	18 55 53.5	+0.3
ELSH				IAmb	IAmb	18 55 55.2	
	comp=Z,310nm,1.3s						
ELSH				IAMs_20	IAMs_20	19 36 13.1	
	comp=Z,12μm,15.7s						
V50A	Pikevile	75.56	50	P	P	18 55 53.7	+0.1
	baz=325,SNR=11						
TZTN	Tazewell	75.57	48	PFAKE		18 56 10.0	+16
TZTN				LR	LR		
	comp=Z,8μm,18.0s						
TZTN	Tazewell	75.57	48	P	P	18 55 53.6	-0.1
	baz=325						
SWN1	Swindon	75.58	349⇑	iP	P	18 55 54.1	+0.7
SWN1				IAmb	IAmb	18 55 55.4	
	comp=Z,521nm,1.2s						
SWN1				IAMs_20	IAMs_20	19 37 58.6	
	comp=Z,7μm,14.2s						
ODNJ	Ogdensburg	75.60	40	PFAKE		18 56 10.0	+16
ODNJ				LR	LR		
	comp=Z,7μm,20.0s						
BCLA	Clavier	75.60	344	⇑P	P	18 55 54.0	+0.5
	comp=Z,126nm,1.7s						
SVAN	Silvan-Diyarba	75.62	315	iP	P	18 55 54.9	+0.9
O59A	Robesonia	75.62	41	P	P	18 55 53.9	0.0
	baz=328,SNR=14						
X48A	Hartselle	75.62	52	PFAKE		18 56 10.0	+16
X48A				LR	LR		
	comp=Z,7μm,19.0s						
X48A	Hartselle	75.62	52	P	P	18 55 53.8	-0.2
	baz=324,SNR=6.1						
ARR	Arges	75.63	329⇓	iP	P	18 55 54.4	+0.5
CSKK	Cskako	75.66	334⇑	iP	P	18 55 54.1	+0.1
CSKK	Cskako	75.66	334	eS	S	19 05 36.1	+2.8
R55A	Marlinton	75.67	45	PFAKE		18 56 10.0	+16
R55A				LR	LR		
	comp=Z,8μm,18.0s						
R55A	Marlinton	75.67	45	P	P	18 55 54.7	+0.4
	baz=327,SNR=8.2						
T53A	Wise	75.68	47	P	P	18 55 54.5	+0.1
	baz=326,SNR=9.7						
SNF	Seneffe	75.69	344	⇓P	P	18 55 54.3	+0.3
VBMS	Vicksburg	75.69	56	PFAKE		18 56 10.0	+16
VBMS				LR	LR		
	comp=Z,6μm,19.0s						
VBMS	Vicksburg	75.69	56	P	P	18 55 55.4	+1.0
	baz=323						
DEV	Deva	75.69	331	P	P	18 55 55.3	+1.1
DEV				pmax	pmax		
	comp=Z,70nm,1.3s						
WOL	Wolverton	75.70	348⇑	iP	P	18 55 54.2	+0.1
WOL				IAmb	IAmb	18 55 55.6	
	comp=Z,210nm,1.1s						
WOL				IAMs_20	IAMs_20	19 35 25.7	
	comp=Z,7μm,18.5s						
LUPA	Lehigh Univers	75.71	40	PFAKE		18 56 10.0	+16
LUPA				LR	LR		
	comp=Z,800nm,20.0s						
ICOR	Ion Corvin	75.71	327⇑	iP	P	18 55 55.1	+0.8
SIRR	Siria	75.71	332⇑	iP	P	18 55 55.2	+0.9
LEHL	Lehliu	75.72	328⇑	iP	P	18 55 54.8	+0.5
SULR		75.72	328⇑	iP	P	18 55 54.8	+0.4
WES	Weston	75.73	37	PFAKE		18 56 10.0	+16
WES				LR	LR		
	comp=Z,8μm,21.0s						
CONA	Conrad Observa	75.75	336	epP	P	18 55 55.9	+1.3
	comp=Z,120nm,1.2s,SNR=40						
TOKT	Tokat	75.76	319	iP	P	18 55 55.5	+0.8
Q57A	Strasburg	75.78	43	P	P	18 55 54.9	+0.1
	baz=327,SNR=6.5						
U52A	Thorn Hill	75.78	48	P	P	18 55 55.2	+0.3
	baz=326						
SOP	Sopron	75.80	336	P	P	18 55 56.2	+1.4
SOP				pmax	pmax		
	comp=Z,155nm,1.6s						
SOP	Sopron	75.80	336⇑	iP	P	18 55 55.1	+0.3
V51A	Loudon	75.81	49	PFAKE		18 56 10.0	+15
V51A				LR	LR		
	comp=Z,9μm,19.0s						
V51A	Loudon	75.81	49	P	P	18 55 55.3	+0.3
	baz=325,SNR=6.3						
GOA	Goa	75.81	277	eP	P	18 55 54.1	-1.2
MVL	Millersville	75.82	41	PFAKE		18 56 10.0	+15
MVL				LR	LR		
	comp=Z,8μm,20.0s						
LOT	Lotru	75.82	330⇓	iP	P	18 55 55.4	+0.3
BCX	Boston College	75.83	37	PFAKE		18 56 10.0	+15
BCX				LR	LR		
	comp=Z,8μm,20.0s						
W50A	Signal Mountai	75.85	50	PFAKE		18 56 10.0	+15
W50A				LR	LR		
	comp=Z,8μm,20.0s						
W50A	Signal Mountai	75.85	50	P	P	18 55 55.6	+0.3
	baz=325,SNR=11						
SVSK	Karacayir	75.92	319	iP	P	18 55 56.3	+0.8
X49A	Woodville	75.92	51	P	P	18 55 55.6	-0.1
	baz=325,SNR=9.3						
S55A	Lewisburg	75.93	46	P	P	18 55 55.9	+0.1
	baz=327						
KURC	Kurucasile-Bar	75.93	322	iP	P	18 55 55.2	-0.4
O60A	Telford	75.93	41	P	P	18 55 55.5	-0.2
	baz=329						
HMNX	Herstmonceux	75.93	347⇑	eP	P	18 55 56.5	+1.1
HMNX				IAmb	IAmb	18 55 57.7	
	comp=Z,650nm,1.8s						
HMNX				IAMs_20	IAMs_20	19 36 37.7	
	comp=Z,11μm,15.7s						
PAL	Palisades	75.94	39	PFAKE		18 56 10.0	+14
PAL				LR	LR		
	comp=Z,7μm,19.0s						
PAL	Palisades	75.94	39	P	P	18 55 55.7	0.0
	baz=329,SNR=13						
VAL	Valentia	75.94	354	iP	P	18 55 56.2	+0.8
VAL				eS	S	19 05 39.9	+3.7
BRNJ	Basking Ridge	75.96	40	PFAKE		18 56 10.0	+14
BRNJ				LR	LR		
	comp=Z,8μm,20.0s						
PSN	Preselentsi	75.96	326	iP	P	18 55 56.3	+0.5
GIVF	Givet	75.99	344	eP	P	18 55 55.7	-0.1
GIVF				pmax	pmax		
	comp=Z,182nm,1.4s						
Y48A	Jasper	76.00	52	P	P	18 55 55.8	-0.3
	baz=324,SNR=7.0						
CPCT	Cooper Cave	76.02	50	PFAKE		18 56 10.0	+14
CPCT				LR	LR		
	comp=Z,8μm,20.0s						
DOU	Dourbes	76.03	344	P	P	18 55 56.9	+0.9
DOU				pmax	pmax		
	comp=Z,83nm,1.8s						
DOU	Dourbes	76.03	344	⇑P	P	18 55 56.6	+0.5
T54A	Tazewell	76.04	47	P	P	18 55 56.4	0.0
	baz=326,SNR=12						
YLE	Yale	76.05	38	PFAKE		18 56 10.0	+14
YLE				LR	LR		
	comp=Z,8μm,20.0s						
BRYW	Bryant College	76.06	37	PFAKE		18 56 10.0	+14
BRYW				LR	LR		
	comp=Z,8μm,19.0s						
P59A	Jarrettsville	76.12	42	P	P	18 55 56.5	-0.2
	baz=328,SNR=14						
SDMD	Soldier's Deli	76.12	42	PFAKE		18 56 10.0	+13
SDMD				LR	LR		
	comp=Z,3μm,19.0s						
V52A	Sevierville	76.13	49	PFAKE		18 56 10.0	+13
V52A				LR	LR		
	comp=Z,7μm,20.0s						
V52A	Sevierville	76.13	49	P	P	18 55 57.1	+0.2
	baz=326,SNR=7.6						
BAIF	Baives	76.13	344	eP	P	18 55 56.8	+0.2
BAIF				pmax	pmax		
	comp=Z,154nm,1.3s						
W51A	Cleveland	76.14	50	P	P	18 55 56.8	-0.2
	baz=325,SNR=5.7						
U53A	Fall Branch	76.17	48	P	P	18 55 57.5	+0.4
	baz=326,SNR=10						
GZR	Gura Zlata	76.17	331⇑	iP	P	18 55 57.3	+0.3
TIH	Tihany	76.18	335⇑	iP	P	18 55 57.1	+0.1
TIH				eS	S	19 05 40.1	+1.1
WLF	Walferdange	76.18	343	PFAKE		18 56 10.0	+13
WLF				LR	LR		
	comp=Z,75μm,18.0s						
WLF	Walferdange	76.18	343	P	P	18 55 58.2	+1.3
WLF				pmax	pmax		
	comp=Z,98nm,1.9s						
WLF	Walferdange	76.18	343	⇓P	P	18 55 57.8	+0.9
	comp=Z,130nm,2.3s						
MOA	Molln	76.21	337	eP	P	18 55 57.9	+0.8
	comp=Z,57nm,1.1s,SNR=22						
SGRR	Singureni	76.22	328⇓	iP	P	18 55 58.8	+1.6
FITZ	Fitzroy Crossi	76.23	214	P	P	18 55 58.2	+0.8
	baz=76,SNR=24						
PSUB	Penn St. - Bra	76.25	41	PFAKE		18 56 10.0	+13
PSUB				LR	LR		
	comp=Z,9μm,20.0s						
ILGA	Ilgaz	76.25	321	PFAKE		18 56 10.0	+12
ILGA				LR	LR		
	comp=Z,12μm,20.0s						
SVRC	Sivrice-ELAZID	76.25	316	iP	P	18 55 59.0	+1.3
HUMR	Humele	76.27	329⇑	iP	P	18 55 57.7	+0.2
P60A	Greenville	76.27	41	P	P	18 55 57.2	-0.4
	baz=329,SNR=6.8						
X50B	Fort Payne	76.29	51	P	P	18 55 58.0	+0.2
	baz=325,SNR=6.8						
BZS	Buzias	76.32	332⇑	iP	P	18 55 57.9	+0.2
BZS	Buzias	76.32	332	P	P	18 55 57.8	+0.1
BZS				pmax	pmax		
	comp=Z,166nm,2.6s						
GBN	Guysborough	76.33	29	PFAKE		18 56 10.0	+12
GBN				LR	LR		
	comp=Z,10μm,20.0s						
R57A	Stanardsville	76.35	44	P	P	18 55 58.6	+0.6
	baz=327,SNR=13						
T55A	Pulaski	76.35	46	P	P	18 55 58.3	+0.1
	baz=327,SNR=6.3						
U54A	Nelsons Funny	76.38	47	PFAKE		18 56 10.0	+12
U54A				LR	LR		
	comp=Z,8μm,18.0s						
U54A	Nelsons Funny	76.38	47	P	P	18 55 58.7	+0.4
	baz=326,SNR=5.6						
HAL	Halifax	76.39	31	PFAKE		18 56 10.0	+12
HAL				LR	LR		
	comp=Z,10μm,19.0s						
Y49A	Blount Mountai	76.41	52	PFAKE		18 56 10.0	+11
Y49A				LR	LR		
	comp=Z,8μm,19.0s						
Y49A	Blount Mountai	76.41	52	P	P	18 55 58.3	-0.2
	baz=325,SNR=7.6						
S56A	Natural Bridge	76.42	45	P	P	18 55 58.4	-0.1
	baz=327						
BLA	Blacksburg	76.43	46	PFAKE		18 56 10.0	+11
BLA				LR	LR		
	comp=Z,7μm,18.0s						
BLA	Blacksburg	76.43	46	P	P	18 55 57.6	-1.0
	baz=327						
STU	Stuttgart	76.45	341	PFAKE		18 56 10.0	+12
STU				LR	LR		
	comp=Z,10μm,18.0s						
STU	Stuttgart	76.45	341	P	P	18 55 59.4	+0.9
STU				pmax	pmax		
	comp=Z,126nm,1.6s						
ARSA	Arzberg	76.46	336	eP	P	18 55 58.9	+0.3
	comp=Z,156nm,1.6s,SNR=36						
ZAIG	Zacatecas	76.51	70	PFAKE		18 56 10.0	+10
ZAIG				LR	LR		
	comp=Z,3μm,20.0s						
R58A	Rapidan	76.57	44	P	P	18 55 59.4	+0.1
	baz=328,SNR=15						
X51A	Calhoun	76.58	50	PFAKE		18 56 10.0	+11
X51A				LR	LR		
	comp=Z,8μm,20.0s						
X51A	Calhoun	76.58	50	P	P	18 55 59.7	+0.2
	baz=325						
W52A	Murphy	76.59	49	PFAKE		18 56 10.0	+10
W52A				LR	LR		
	comp=Z,8μm,20.0s						
W52A	Murphy	76.59	49	P	P	18 55 59.9	+0.4
	baz=326						
FUR	Furstenfeldbru	76.59	339	P	P	18 56 00.8	+1.5
S57A	Dark Hollow, R	76.61	44	PFAKE		18 56 10.0	+10
S57A				LR	LR		
	comp=Z,10μm,18.0s						
S57A	Dark Hollow, R	76.61	44	P	P	18 56 00.3	+0.7
	baz=327,SNR=12						
V53A	Saluda	76.63	48	PFAKE		18 56 10.0	+10
V53A				LR	LR		
	comp=Z,8μm,20.0s						
V53A	Saluda	76.63	48	P	P	18 56 00.2	+0.4
	baz=326,SNR=7.8						
LNIG	Linares	76.64	67	PFAKE		18 56 10.0	+10
LNIG				LR	LR		
	comp=Z,3μm,20.0s						
CORM	Corum	76.64	320	iP	P	18 56 01.1	+1.2
Q59A	Harwood	76.66	42	P	P	18 55 60.0	+0.2
	baz=328,SNR=5.2						
PRD	Provadia	76.66	327	iP	P	18 56 00.1	+0.4
CANT	Cankiri	76.67	321	iP	P	18 56 01.1	+1.2
M65A	Busby, Falmout	76.69	37	P	P	18 55 59.6	-0.4
	baz=331						
Y50A	Piedmont	76.71	51	P	P	18 55 59.5	-0.7
	baz=325,SNR=5.7						
U55A	TA2, Sparta	76.74	47	P	P	18 56 00.9	+0.5
	baz=326,SNR=8.0						
HERR	Herculane	76.75	331⇑	iP	P	18 56 00.1	-0.1
T56A	Rocky Mt	76.76	46	P	P	18 56 00.5	+0.1
	baz=327						
LRAL	Lakeview Retre	76.79	53	PFAKE		18 56 10.0	+9.4
LRAL				LR	LR		
	comp=Z,7μm,18.0s						
LRAL	Lakeview Retre	76.79	53	P	P	18 56 00.5	-0.2
	baz=325,SNR=9.2						
148A	Greensboro	76.83	53	P	P	18 56 00.7	-0.1
	baz=324						
YOZ	Yozgat	76.83	320	iP	P	18 56 01.4	+0.5
DARE	Darende-Malaty	76.86	317	iP	P	18 56 02.1	+1.0
BEHE	Becsehely	76.87	335⇑	iP	P	18 56 01.8	+0.9
BEHE	Becsehely	76.87	335⇑	iP	P	18 56 01.0	+0.1
BEHE				eS	S	19 05 54.0	+7.4
W53A	Cullowhee	76.88	49	P	P	18 56 01.7	+0.5
	baz=326						
Z49A	Columbiana	76.89	52	P	P	18 56 01.1	-0.1
	baz=325,SNR=9.1						
R58B	Mineral	76.90	44	PFAKE		18 56 10.0	+8.8
R58B				LR	LR		
	comp=Z,9μm,20.0s						
R58B	Mineral	76.90	44	P	P	18 56 01.5	+0.4
	baz=328,SNR=9.0						
CBN	Corbin Frederi	76.91	43	PFAKE		18 56 10.0	+8.8
CBN				LR	LR		
	comp=Z,8μm,19.0s						
CBN	Corbin Frederi	76.91	43	P	P	18 56 01.6	+0.4
	baz=328						
VLAD	Vladila	76.93	329⇓	iP	P	18 56 01.8	+0.6
V54A	Nebo	76.94	48	P	P	18 56 01.7	+0.2
	baz=326,SNR=10.0						
X52A	Dahlonega	77.00	50	P	P	18 56 01.9	+0.1
	baz=326						
KOGS	Kog	77.03	335⇑	iP	P	18 56 02.2	+0.5
KOGS				eS	S	19 05 49.7	+1.4
R59A	King George, V	77.03	43	P	P	18 56 02.6	+0.7
	baz=328,SNR=9.3						
Y51A	Rockmart	77.03	51	P	P	18 56 02.1	+0.1
	baz=325,SNR=8.7						
MDVR	Moldovita	77.05	331⇑	iP	P	18 56 01.8	-0.2
BFO	Black Forest	77.05	341	eP	P	18 56 02.4	+0.5
	comp=Z,165nm,1.3s						
BFO				LR	LR		
	comp=Z,8μm,19.0s						
BFO	Black Forest	77.05	341	ceP	P	18 56 02.4	+0.5
SZH	Strazhica	77.09	328	iP	P	18 56 01.8	-0.3
SOKA	Soboth	77.12	336	epP	P	18 56 03.3	+0.9
	comp=Z,133nm,1.2s,SNR=53						
T57A	Hurt	77.12	45	PFAKE		18 56 10.0	+7.6
T57A				LR	LR		
	comp=Z,8μm,19.0s						
T57A	Hurt	77.12	45	P	P	18 56 02.0	-0.4
	baz=327,SNR=7.6						
S58A	Poland Farm, P	77.12	44	PFAKE		18 56 10.0	+7.6
S58A				LR	LR		
	comp=Z,7μm,20.0s						
S58A	Poland Farm, P	77.12	44	P	P	18 56 02.3	-0.2
	baz=328						
BG3	Lake Jocassee	77.13	49	PFAKE		18 56 10.0	+7.4
BG3				LR	LR		
	comp=Z,7μm,20.0s						
PUNG	Punghina	77.13	330⇑	iP	P	18 56 03.2	+0.8
PERS	Pernice	77.14	336⇑	iP	P	18 56 03.2	+0.8
PERS				eS	S	19 05 51.5	+1.8
PERS				e		19 06 04.8	
Z50A	Ashland	77.14	52	PFAKE		18 56 20.0	+17
Z50A				LR	LR		
	comp=Z,7μm,19.0s						
Z50A	Ashland	77.14	52	P	P	18 56 02.5	-0.1
	baz=325,SNR=20						
KBA	Koelnbreinsper	77.15	338	epP	P	18 56 04.0	+1.4
	comp=Z,274nm,1.0s,SNR=52						
KBA	Koelnbreinsper	77.15	338	P	P	18 56 04.4	+1.7
KBA				pmax	pmax		
	comp=Z,349nm,1.0s						
U56A	King	77.17	46	P	P	18 56 02.7	0.0
	baz=327						
CDF	Champ du Feu	77.17	342	eP	P	18 56 02.8	+0.1
CDF				pmax	pmax		
	comp=Z,280nm,1.4s						
R60A	Leonardtown, M	77.19	43	P	P	18 56 03.2	+0.4
	baz=328						
V55A	Taylorsville	77.21	47	P	P	18 56 03.2	+0.2
	baz=326						
URFA	Urfa	77.24	316	iP	P	18 56 04.6	+1.4
149A	Jones	77.25	53	P	P	18 56 03.4	+0.2
	baz=325,SNR=6.2						
FRGS	Fruska Gora	77.26	333⇑	iP	P	18 56 03.3	+0.2
CCA1	Carnmenellis	77.27	351⇑	eP	P	18 56 03.1	+0.1
CCA1				IAmb	IAmb	18 56 04.8	
	comp=Z,256nm,1.3s						
CCA1				IAMs_20	IAMs_20	19 37 51.5	
	comp=Z,10μm,16.9s						
BNN	Bunyan	77.29	319	iP	P	18 56 04.1	+0.6
WATA	Walderalm	77.31	339	epP	P	18 56 04.4	+0.9
	comp=Z,213nm,1.5s,SNR=34						
S59A	Mechanicsville	77.32	43	P	P	18 56 04.0	+0.5
	baz=328,SNR=9.1						
PVL	Pavlikeni	77.33	328	iP	P	18 56 04.0	+0.5
RETA	Reutte	77.35	339	epP	P	18 56 04.5	+0.9
	comp=Z,70nm,1.1s,SNR=20						
X53A	Estanollee	77.36	49	P	P	18 56 04.3	+0.4
	baz=326						
WTTA	Wattenberg	77.37	339	epP	P	18 56 05.0	+1.1
	comp=Z,172nm,1.2s,SNR=59						
BEO	Beograd	77.39	332	P	P	18 56 03.1	-0.7
ECH	Echery	77.39	342	PFAKE		18 56 10.0	+6.2
ECH				LR	LR		
	comp=Z,6μm,20.0s						
ECH	Echery	77.39	342	P	P	18 56 04.6	+0.8
OBKA	Obir	77.39	337	eP	P	18 56 04.7	+0.7
	comp=Z,114nm,1.2s,SNR=34						
W54A	Cherokee Point	77.40	48	P	P	18 56 04.4	+0.4
	baz=326,SNR=9.9						
MOTA	Moosalm	77.41	339	epP	P	18 56 04.8	+0.7
	comp=Z,84nm,1.0s,SNR=30						
BRTR	Keskin Array B	77.42	321	ceP	P	18 56 04.3	0.0
BRTR				pmax	pmax		
	comp=Z,69nm,1.2s						
BRTR	Keskin Array B	77.42	321	P	P	18 56 04.2	0.0
	comp=Z,65nm,1.2s,baz=52,slow=2.0,SNR=50						
Z51A	Franklin	77.45	51	P	P	18 56 04.3	-0.1
	baz=325						
T58A	Grand View Acr	77.48	45	P	P	18 56 04.6	+0.2
	baz=328,SNR=11						
MYKA	Terra Mystica	77.50	337	iP	P	18 56 05.1	+0.6
	comp=Z,88nm,1.5s,SNR=32						
SQTA	Sankt Quirin	77.50	339	epP	P	18 56 05.6	+1.0
	comp=Z,322nm,1.8s,SNR=55						
Y52A	Lilburn	77.53	50	PFAKE		18 56 20.0	+15
Y52A				LR	LR		
	comp=Z,10μm,19.0s						
Y52A	Lilburn	77.53	50	P	P	18 56 05.1	+0.3
	baz=326						
SLE	Schleitheim	77.56	341	P	P	18 56 05.3	+0.5
U57A	Blanch	77.56	45	P	P	18 56 05.1	+0.2
	baz=327,SNR=12						
V56A	Mocksville	77.56	47	PFAKE		18 56 20.0	+15
V56A				LR	LR		
	comp=Z,7μm,20.0s						
V56A	Mocksville	77.56	47	P	P	18 56 04.9	0.0
	baz=327,SNR=6.6						
JMB	Yambol	77.58	327	iP	P	18 56 04.9	0.0
249A	Camden	77.59	53	P	P	18 56 05.9	+0.8
	baz=325,SNR=11						
LOD	Lodumlu	77.62	321	iP	P	18 56 05.9	+0.6
150A	Eclectic	77.62	52	P	P	18 56 05.5	+0.2
	baz=325						
ANTO	Ankara	77.62	321	eP	P	18 56 05.9	+0.6
ANTO	comp=Z,711nm,1.8s						
				LR	LR		
	comp=Z,12μm,21.0s						
ANTO	Ankara	77.62	321	eP	P	18 56 05.9	+0.6
ANTO				pmax	pmax		
	comp=Z,711nm,1.8s						
ANTO				MLR	MLR		
	comp=Z,12μm,21.0s						
S60A	Water View	77.64	43	P	P	18 56 05.9	+0.6
	baz=328						
EIDS	Eidsvold	77.65	189	eP	P	18 56 06.7	+1.4
	comp=Z,141nm,1.6s						
EIDS				LR	LR		
	comp=Z,4μm,20.0s						
EIDS	Eidsvold	77.65	189	P	P	18 56 06.6	+1.4
	baz=78,SNR=5.8						
ABTA	Abfaltersbach	77.66	338	eP	P	18 56 06.0	+0.6
	comp=Z,165nm,1.3s,SNR=33						
ZAG	Zagreb	77.67	335	P	P	18 56 07.1	+1.8
ZAG				pmax	pmax		
	comp=Z,323nm,0.7s						
ZAG	Zagreb	77.67	335⇑	iP	P	18 56 06.3	+1.0
MDUB	Mudurnu	77.70	323	iP	P	18 56 06.3	+0.5
MDUB	Mudurnu	77.70	323	PFAKE		18 56 20.0	+14
MDUB				LR	LR		
	comp=Z,65μm,19.0s						
DAVA	Damuels	77.73	340	epP	P	18 56 06.6	+0.7
	comp=Z,91nm,1.3s,SNR=19						
HAU	Haudompre	77.74	342	eP	P	18 56 05.8	0.0
HAU				pmax	pmax		
	comp=Z,239nm,1.4s						
KMSC	Kings Mountain	77.74	48	PFAKE		18 56 20.0	+14
KMSC				LR	LR		
	comp=Z,9μm,18.0s						
KMSC	Kings Mountain	77.74	48	P	P	18 56 06.3	+0.4
	baz=327,SNR=9.7						
X54A	Belton	77.76	49	P	P	18 56 06.3	+0.3
	baz=326,SNR=10.0						
Y53A	Monroe	77.77	50	P	P	18 56 05.7	-0.3
	baz=326						
PAULI	Pauline	77.79	48	PFAKE		18 56 20.0	+14
PAULI				LR	LR		
	comp=Z,9μm,20.0s						
SAUV	Serdivan-Sakar	77.79	323	iP	P	18 56 06.5	+0.4
FETA	Feichten	77.80	339	epP	P	18 56 07.4	+1.1
	comp=Z,107nm,1.2s,SNR=37						
KLYT	Kilyos	77.81	325	iP	P	18 56 06.2	0.0
KLYT	Kilyos	77.81	325⇑	iP	P	18 56 05.5	-0.7
CRES	Cresnjev	77.81	336⇑	iP	P	18 56 06.4	+0.3
CRES				i		18 56 17.0	
CRES				e		19 01 09.5	
CRES	Cresnjev	77.81	336⇑	iP	P	18 56 06.4	+0.3
V57A	Coltrane Farms	77.82	46	P	P	18 56 06.6	+0.2
	baz=327,SNR=5.9						
HINF	Hinteralfeld	77.83	342	eP	P	18 56 06.1	-0.2
HINF				pmax	pmax		
	comp=Z,172nm,1.4s						
LJU	Ljubljana	77.84	336⇑	iP	P	18 56 06.5	+0.1
LJU				e		18 56 16.8	
LJU				eS	S	19 05 57.3	+0.1
LJU	Ljubljana	77.84	336⇑	iP	P	18 56 06.4	+0.1
SPNC	Sapanca-Adapaz	77.84

T59A	Double "B" Far	77.88	44	PFAKE		18 56 20.0	+13
T59A				LR	LR		
	comp=Z,9µm,18.0s						
T59A	Double "B" Far	77.88	44	P	P	18 56 06.8	+0.2
	baz=328,SNR=8.6						
AFSR	Afar-Bala (An	77.88	321	*i* P	P	18 56 07.3	+0.5
JRS	Jersey	77.89	348	*eP*	P	18 56 06.6	+0.1
TEKS	Tekeris	77.89	332	*eP*	P	18 56 04.9	-1.8
JSA	Saint Aubin	77.91	348⇑	*eP*	P	18 56 06.9	+0.3
JSA				IAmb	IAmb	18 56 08.4	
	comp=Z,196nm,1.1s						
JSA				IAMs_20	IAMs_20	19 39 01.4	
	comp=Z,10µm,16.4s						
Z52A	Williamson	77.92	51	P	P	18 56 07.1	+0.1
	baz=326,SNR=6.7						
U58A	Oxford	77.94	45	P	P	18 56 07.2	+0.2
	baz=328,SNR=11						
PALK	Pallekele	77.95	266	*eP*	P	18 56 07.1	-0.2
	comp=Z,188nm,1.0s						
PALK				LR	LR		
	comp=Z,10µm,20.0s						
PALK	Pallekele	77.95	266	*i* P	P	18 56 07.2	-0.2
	SNR=7.7						
PALK	Pallekele	77.95	266	*eP*	P	18 56 07.1	-0.2
PALK				pmax	pmax		
	comp=Z,188nm,1.0s						
PALK				MLR	MLR		
	comp=Z,10µm,20.0s						
HRT	Hereke	77.96	324	*i* P	P	18 56 07.4	+0.3
BGKT	Bogazkoy	77.96	325	*i* P	P	18 56 07.2	+0.2
ISK	Istanbul-Kandi	77.96	324	*i* P	P	18 56 06.9	-0.2
ISK	Istanbul-Kandi	77.96	324	P	P	18 56 06.8	-0.3
KAVV	Kandilli-Istan	77.97	324	*i* P	P	18 56 06.7	-0.4
SHME	Shamm	77.98	297	*i* P	P	18 56 06.8	-0.7
	SNR=16						
GULT	Gulveren	77.99	323	*i* P	P	18 56 07.8	+0.5
OZLJ	Ozalj	78.00	336	P	P	18 56 07.9	+0.7
KMRS	Kahramanmaras	78.00	317	*i* P	P	18 56 08.1	+0.7
PHSR	Pinarhisar	78.00	326	*i* P	P	18 56 07.9	+0.6
PHSR	Pinarhisar	78.00	326⇑	*iP*	P	18 56 07.8	+0.5
250A	Grady	78.01	53	PFAKE		18 56 20.0	+13
250A				LR	LR		
	comp=Z,7µm,18.0s						
250A	Grady	78.01	53	P	P	18 56 07.9	+0.4
	baz=325						
CTKS	Kestanelik-??a	78.01	325	*i* P	P	18 56 07.4	+0.1
151A	Opelika	78.02	52	P	P	18 56 07.3	-0.3
	baz=325						
YAYX	Yaylak	78.03	320	*i* P	P	18 56 07.9	+0.3
349A	Repton	78.06	54	P	P	18 56 08.4	+0.6
	baz=325						
HODGE	Hodges	78.07	49	PFAKE		18 56 20.0	+12
HODGE				LR	LR		
	comp=Z,7µm,20.0s						
EDRB	Edirne	78.08	326	*i* P	P	18 56 07.9	+0.2
EDRB	Edirne	78.08	326	P	P	18 56 07.7	0.0
T60A	Surry	78.08	43	PFAKE		18 56 20.0	+12
T60A				LR	LR		
	comp=Z,8µm,18.0s						
T60A	Surry	78.08	43	P	P	18 56 07.4	-0.4
	baz=328						
W56A	Indian Trail	78.09	47	P	P	18 56 07.9	0.0
	baz=327,SNR=5.7						
FLN	La Foliniere	78.11	347	*eP*	P	18 56 07.5	-0.2
FLN				pmax	pmax		
	comp=Z,298nm,1.4s						
SERE	Sereflikochisa	78.12	320	*i* P	P	18 56 08.6	+0.5
SLVT	Silivri	78.12	325	*i* P	P	18 56 08.3	+0.4
CEY	Cerknica	78.15	336⇑	*iP*	P	18 56 08.0	-0.1
GAZ	Gaziantep	78.15	317	*i* P	P	18 56 09.1	+0.8
BOJS	Bojanci	78.16	336⇑	*iP*	P	18 56 08.5	+0.4
BOJS				*eS*	S	19 06 00.7	+0.1
BOJS				*e*		19 06 14.2	
X55A	Gracelyn & Ava	78.16	48	P	P	18 56 08.7	+0.4
	baz=326,SNR=6.5						
DIVS	Divibare	78.17	332⇑	*iP*	P	18 56 08.1	-0.2
Y54A	Tignall	78.18	49	P	P	18 56 08.9	+0.5
	baz=326,SNR=12						
GOGA	Godfrey	78.19	50	PFAKE		18 56 20.0	+12
GOGA				LR	LR		
	comp=Z,8µm,20.0s						
GOGA	Godfrey	78.19	50	P	P	18 56 07.8	-0.7
	baz=326						
V58A	Windy Hill, Pi	78.19	46	P	P	18 56 08.9	+0.4
	baz=327,SNR=13						
152A	Waverly Hall	78.20	51	PFAKE		18 56 20.0	+11
152A				LR	LR		
	comp=Z,8µm,20.0s						
152A	Waverly Hall	78.20	51	P	P	18 56 08.4	-0.1
	baz=326						
LDF	La Druitiere	78.22	347	*eP*	P	18 56 08.0	-0.4
LDF				pmax	pmax		
	comp=Z,183nm,1.4s						
Z53A	Monticello	78.24	50	P	P	18 56 09.2	+0.5
	baz=326,SNR=7.7						
KULU	Kulu	78.26	321	*i* P	P	18 56 09.8	+0.9
ADVT	Abdulvahap	78.28	324	*i* P	P	18 56 08.9	+0.1
FUORN	Ofenpass-Fuorn	78.28	339	PFAKE		18 56 20.0	+11
FUORN				LR	LR		
	comp=Z,9µm,18.0s						
BRAL	Brewton	78.28	54	PFAKE		18 56 20.0	+11
BRAL				LR	LR		
	comp=Z,6µm,19.0s						
BRAL	Brewton	78.28	54	P	P	18 56 10.0	+1.1
	baz=325						
SRCK	Saricakaya, Es	78.29	323	*i* P	P	18 56 08.9	0.0
U59A	Littleton	78.30	44	PFAKE		18 56 20.0	+11
U59A				LR	LR		
	comp=Z,8µm,18.0s						
U59A	Littleton	78.30	44	P	P	18 56 09.3	+0.3
	baz=328,SNR=6.8						
PGB	Panagyurishte	78.31	329	*i* P	P	18 56 09.4	+0.4
251A	Midway	78.33	52	P	P	18 56 09.4	+0.1
	baz=325						
TRI	Trieste	78.34	337	PFAKE		18 56 20.0	+11
TRI				LR	LR		
	comp=Z,12µm,18.0s						
W57A	Gilead	78.34	47	PFAKE		18 56 20.0	+11
W57A				LR	LR		
	comp=Z,7µm,20.0s						
W57A	Gilead	78.34	47	P	P	18 56 09.2	0.0
	baz=327,SNR=8.8						
BLY	Banja Luka	78.36	334	PFAKE		18 56 20.0	+11
BLY				LR	LR		
	comp=Z,23µm,18.0s						
BLY	Banja Luka	78.36	334⇑	*iP*	P	18 56 09.4	+0.2
BLY	Banja Luka	78.36	334⇑	*iP*	P	18 56 09.0	-0.2
CRLT	Corlu	78.38	325	*i* P	P	18 56 10.5	+1.1
X56A	White Oak	78.42	48	P	P	18 56 10.0	+0.3
	baz=327,SNR=8.2						
CLF	Chambon-Foret	78.42	345	PFAKE		18 56 20.0	+11
CLF				LR	LR		
	comp=Z,15µm,18.0s						
350A	Dozier	78.43	53	P	P	18 56 10.2	+0.4
	baz=325						
CAVI	Cavuskoy	78.44	324	*i* P	P	18 56 10.3	+0.5
KOZT	Kozan	78.47	318	*i* P	P	18 56 10.5	+0.5
U60A	Pendleton	78.47	44	P	P	18 56 10.4	+0.5
	baz=328,SNR=6.7						
GEMT	Gemlik	78.47	324	*i* P	P	18 56 10.1	+0.2
SVRH	Sivrihisar-ESK	78.47	322	*i* P	P	18 56 09.9	-0.2
ARMT	Armutlu	78.47	324	*i* P	P	18 56 09.7	-0.2
HAPS	Han Pijesak,BI	78.48	333	*eP*	P	18 56 09.1	-0.9
JSC	Jenkinsville	78.49	48	PFAKE		18 56 20.0	+10
JSC				LR	LR		
	comp=Z,8µm,20.0s						
Y55A	Saluda	78.50	49	P	P	18 56 10.8	+0.6
	baz=326,SNR=9.5						
MSFE	Esma-Masafi	78.52	296	*i* P	P	18 56 09.9	-0.5
	SNR=18						
RIY	Rijeka	78.52	336⇑	*iP*	P	18 56 09.9	-0.2
GRR	Gorron	78.52	347	*eP*	P	18 56 10.0	0.0
GRR				pmax	pmax		
	comp=Z,384nm,1.5s						
449A	Pace	78.53	54	P	P	18 56 10.6	+0.3
	baz=325						
PLD	Plovdiv	78.53	328	*i* P	P	18 56 10.4	+0.2
VTS	Vitosha	78.54	329	*eP*	P	18 56 10.5	+0.1
VTS				LR	LR		
	comp=Z,23µm,19.0s						
VTS	Vitosha	78.54	329	P	P	18 56 10.5	+0.1
VTS	Vitosha	78.54	329⇓	*iP*	P	18 56 10.5	+0.1
VTS	Vitosha	78.54	329	*eP*	P	18 56 10.5	+0.1
VTS				MLR	MLR		
	comp=Z,23µm,19.0s						
VTS	Vitosha	78.54	329	*i* P	P	18 56 10.6	+0.1
BIRD	Birdtown, Kers	78.55	47	PFAKE		18 56 20.0	+10
BIRD				LR	LR		
	comp=Z,7µm,20.0s						
BBLS	Lazići	78.56	332⇑	*iP*	P	18 56 11.0	+0.6
V59A	Middlesex	78.60	45	P	P	18 56 11.3	+0.7
	baz=328,SNR=16						
TUE	Stuetta	78.61	340	PFAKE		18 56 20.0	+9.1
TUE				LR	LR		
	comp=Z,9µm,18.0s						
Z54A	Sparta	78.62	50	P	P	18 56 10.7	-0.1
	baz=326						
153A	Fort Valley	78.64	51	P	P	18 56 10.9	-0.1
	baz=326						
MDNY	Mudanya-Bursa	78.64	324	*i* P	P	18 56 11.1	+0.3
UMQ	Umm Al-Quwin	78.66	297	*i* P	P	18 56 11.4	+0.3
	SNR=8.1						
UMQ	Umm Al-Quwin	78.66	297	P	P	18 56 11.6	+0.5
	SNR=11						
CHBY	Cihanbeyli	78.70	321	*i* P	P	18 56 11.5	+0.2
KDZ	Kurdzhali	78.70	327	*i* P	P	18 56 15.1	+3.9
CIFT	Cifteler, Eski	78.72	322	*i* P	P	18 56 11.3	-0.1
252A	Lumpkin	78.74	52	P	P	18 56 10.9	-0.6
	baz=326						
SULT	Sultanhani-AKS	78.78	320	*i* P	P	18 56 12.1	+0.3
W58A	Raeford	78.79	46	P	P	18 56 11.8	+0.1
	baz=328,SNR=16						
WSAR	Wadi Sarin	78.81	293	P	P	18 56 12.3	+0.3
	SNR=23						
450A	Crestview	78.81	54	P	P	18 56 12.4	+0.5
	baz=325						
BIDO	Bidbid	78.87	294	P	P	18 56 12.3	-0.1
	SNR=17						
X57A	Johnson Farm,	78.87	47	P	P	18 56 12.6	+0.4
	baz=327						
SGMF	Saint Gilles	78.87	348	*eP*	P	18 56 12.0	0.0
SGMF				pmax	pmax		
	comp=Z,177nm,1.2s						
Y56A	Pelion	78.88	48	P	P	18 56 12.4	+0.2
	baz=327						
U61A	Possum Corner	78.89	44	PFAKE		18 56 20.0	+7.8
U61A				LR	LR		
	comp=Z,9µm,18.0s						
U61A	Possum Corner	78.89	44	P	P	18 56 12.8	+0.5
	baz=329						
LOR	Lormes	78.89	344	*eP*	P	18 56 12.2	+0.1
LOR				pmax	pmax		
	comp=Z,293nm,1.4s						
RZN	Rozhen	78.90	328	*i* P	P	18 56 12.8	+0.3
CEYT	Ceyhan	78.90	318	*i* P	P	18 56 13.3	+1.0
351A	Pinckard	78.91	53	P	P	18 56 13.1	+0.7
	baz=325						
KCTX	Karacabey (Bur	78.92	325	*i* P	P	18 56 12.8	+0.4
UDBI	Udbina	78.94	335	P	P	18 56 12.3	-0.1
HATD	Hatta, Dubai	78.95	296	*i* P	P	18 56 12.4	-0.4
	SNR=49						
HATD	Hatta, Dubai	78.95	296	P	P	18 56 12.4	-0.4
	SNR=44						
Z55A	Blythe	78.97	49	P	P	18 56 13.4	+0.7
	baz=326						
KARA	Karaisali	78.97	318	*i* P	P	18 56 13.4	+0.7
253A	Americus	78.98	51	PFAKE		18 56 30.0	+17
253A				LR	LR		
	comp=Z,8µm,21.0s						
253A	Americus	78.98	51	P	P	18 56 13.1	+0.3
	baz=326						
RMQ	Roma	79.00	191	P	P	18 56 14.5	+1.8
	baz=79,SNR=17						
ASAR	Alice Springs	79.00	205	*eP*	P	18 56 12.8	0.0
ASAR	Alice Springs	79.00	205	*eP*	P	18 56 12.8	0.0
ASAR	Alice Springs	79.00	205	P	P	18 56 14.0	+1.1
	comp=Z,20nm,0.6s,baz=16,slow=5.3,SNR=48						
ASAR				PKKPbc	PKKPbc	19 15 06.0	+1.3
	comp=Z,0.5nm,0.7s,baz=198,slow=1.8,SNR=7.2						
ASAR				PKPPKP	P'P'df	19 23 04.0	+0.8
	comp=Z,1.1nm,1.1s,baz=174,slow=2.3,SNR=4.1						
154A	Montrose	79.01	50	PFAKE		18 56 30.0	+17
154A				LR	LR		
	comp=Z,8µm,19.0s						
154A	Montrose	79.01	50	P	P	18 56 13.0	0.0
	baz=326						
W59A	Clinton	79.01	46	P	P	18 56 13.5	+0.6
	baz=328						
V60A	Jim Taylor Roa	79.02	44	PFAKE		18 56 30.0	+17
V60A				LR	LR		
	comp=Z,8µm,19.0s						
V60A	Jim Taylor Roa	79.02	44	P	P	18 56 13.1	+0.1
	baz=328						
EDC	Edincik	79.02	325	*i* P	P	18 56 13.3	+0.4
PLE	Pljevlja	79.05	332⇑	*iP*	P	18 56 12.6	-0.6
352A	Blakely	79.07	52	PFAKE		18 56 30.0	+17
352A				LR	LR		
	comp=Z,9µm,19.0s						
352A	Blakely	79.07	52	P	P	18 56 13.4	+0.1
	baz=326						
NAZ	Nazwa, Dubai	79.08	297	*i* P	P	18 56 12.7	-0.8
	SNR=27						
NAZ	Nazwa, Dubai	79.08	297	P	P	18 56 12.9	-0.6
	SNR=27						
ASHO	Ashiyiah	79.11	296	*i* P	P	18 56 13.0	-0.6
	SNR=45						
ASHO	Ashiyiah	79.11	296	P	P	18 56 13.1	-0.6
	SNR=38						
WBK	Wadi Bani Khal	79.11	293	P	P	18 56 14.5	+0.8
	SNR=9.4						
Y57A	Sumter	79.11	48	PFAKE		18 56 30.0	+17
Y57A				LR	LR		
	comp=Z,7µm,20.0s						
Y57A	Sumter	79.11	48	P	P	18 56 13.5	+0.1
	baz=327						
YURE	YUREGIR	79.11	318	*i* P	P	18 56 14.7	+1.2
RDO	Rodhopi	79.11	327	*eP*	P	18 56 13.8	+0.4
RDO	Rodhopi	79.11	327	P	P	18 56 13.8	+0.4
CABF	La Chapelle	79.13	342	*eP*	P	18 56 13.9	+0.4
CABF				pmax	pmax		
	comp=Z,289nm,1.5s						
X58A	Rowland	79.13	47	PFAKE		18 56 30.0	+16
X58A				LR	LR		
	comp=Z,7µm,19.0s						
X58A	Rowland	79.13	47	P	P	18 56 14.0	+0.4
	baz=328,SNR=7.2						
NVLJ	Novalja	79.13	336	P	P	18 56 08.3	-5.2
SENIN	Lac Senin/Sane	79.14	341	PFAKE		18 56 20.0	+6.3
SENIN				LR	LR		
	comp=Z,9µm,19.0s						
TAOE	Nuku Hiva Isla	79.15	120	*e*LR	LR	19 20 51.6	
	comp=Z,3µm,25.1s						
TAOE	Nuku Hiva Isla	79.15	120	PFAKE		18 56 30.0	+16
TAOE				LR	LR		
	comp=Z,5µm,21.0s						
SSF	Saint Saulge	79.16	344	*eP*	P	18 56 13.7	+0.2
SSF				pmax	pmax		
	comp=Z,204nm,1.4s						
ALN	Alexandroupoli	79.17	326	*eP*	P	18 56 13.4	-0.3
ALN				LR	LR		
	comp=Z,8µm,19.0s						
ALN	Alexandroupoli	79.17	326	P	P	18 56 13.4	-0.3
ALN	Alexandroupoli	79.17	326	P	P	18 56 13.8	+0.1
ALN				pmax	pmax		
	comp=Z,120nm,1.5s						
CNNC	Cliffs of the	79.19	45	PFAKE		18 56 30.0	+16
CNNC				LR	LR		
	comp=Z,8µm,19.0s						
CNNC	Cliffs of the	79.19	45	P	P	18 56 13.8	-0.1
	baz=328						
ERIK	Erikli-Kesan	79.21	326	*i* P	P	18 56 14.3	+0.4
JLN	Jalan Bani Buh	79.22	292	P	P	18 56 14.5	+0.2
	SNR=28						
LADK	Ladik-KONYA	79.23	321	*i* P	P	18 56 14.2	-0.1
Z56A	Williston	79.24	49	PFAKE		18 56 30.0	+16
Z56A				LR	LR		
	comp=Z,7µm,19.0s						
Z56A	Williston	79.24	49	P	P	18 56 14.3	+0.1
	baz=327						
TVSB	Tavsanli	79.24	323	*i* P	P	18 56 14.4	+0.1
TAHT	Tahtakopru-Hat	79.26	317	*i* P	P	18 56 15.1	+0.8
KKB	Krupnik	79.27	329	*i* P	P	18 56 14.9	+0.6
ENEZ	Enez	79.27	326	*i* P	P	18 56 14.6	+0.3
SMDO	Samad	79.28	294	P	P	18 56 14.6	-0.1
	SNR=14						
SOHO	SOHO	79.28	295	P	P	18 56 13.4	-1.2
	SNR=37						
HOQ	Hoqain	79.28	295	P	P	18 56 14.4	-0.2
	SNR=15						
QUIF	Quistinic	79.28	349	*eP*	P	18 56 14.2	0.0
QUIF				pmax	pmax		
	comp=Z,143nm,1.3s						
TRD	Trivandrum	79.29	270	*eP*	P	18 56 12.8	-1.9
V61A	Roper	79.29	44	PFAKE		18 56 30.0	+16
V61A				LR	LR		
	comp=Z,9µm,18.0s						
V61A	Roper	79.29	44	P	P	18 56 14.9	+0.4
	baz=329						
155A	Kite	79.31	50	P	P	18 56 15.1	+0.5
	baz=326						
UPM	Unac-Piva	79.31	332⇑	*iP*	P	18 56 14.2	-0.5
UPM	Unac-Piva	79.31	332	*eP*	P	18 56 14.2	-0.5
MMB	Musomiste	79.31	328	*i* P	P	18 56 19.9	+5.4
FAQ	Al Faqa, Dubai	79.31	297	*i* P	P	18 56 14.0	-0.7
	SNR=21						
FAQ	Al Faqa, Dubai	79.31	297	P	P	18 56 13.7	-1.0
	SNR=19						
IVA	Berane	79.33	332⇑	*iP*	P	18 56 14.8	+0.1
451A	Vernon	79.38	53	PFAKE		18 56 30.0	+15
451A				LR	LR		
	comp=Z,7µm,19.0s						
451A	Vernon	79.38	53	P	P	18 56 15.9	+0.9
	baz=325						
LPK	Lapseki	79.39	326	*i* P	P	18 56 15.5	+0.6
W60A	Pink Hill	79.43	45	P	P	18 56 15.2	0.0
	baz=328						
KRTS	Karatas	79.43	318	*i* P	P	18 56 16.8	+1.6
AVF	Avril sur Loir	79.44	344	*eP*	P	18 56 15.3	+0.2
AVF				pmax	pmax		
	comp=Z,273nm,1.4s						
X59A	McDuffie Farm,	79.44	46	P	P	18 56 15.4	+0.1
	baz=328						
KOME	Kolasin	79.46	332⇑	*iP*	P	18 56 15.2	-0.2
KONT	Konya--Tatoy	79.46	321	*i* P	P	18 56 15.5	+0.1
452A	Marianna	79.46	53	P	P	18 56 16.2	+0.7
	baz=326						
GELI	Tayfur-Gelibol	79.46	326	*i* P	P	18 56 15.5	+0.2
254A	Abbeville	79.48	51	P	P	18 56 16.0	+0.5
	baz=326						
NVR	Nevrokopi	79.48	328	P	P	18 56 15.3	-0.2
SMF	Signal de Mont	79.50	344	*eP*	P	18 56 15.7	+0.2
SMF				pmax	pmax		
	comp=Z,394nm,1.6s						
353A	Camilla	79.53	52	P	P	18 56 16.5	+0.7
	baz=326						
MERS	Mersin	79.53	319	*i* P	P	18 56 15.7	-0.1
Y58A	Scranton	79.53	47	PFAKE		18 56 30.0	+14
Y58A				LR	LR		
	comp=Z,8µm,19.0s						
Y58A	Scranton	79.53	47	P	P	18 56 15.8	+0.1
	baz=327						
ASUD	Al Ashush, Dub	79.55	297	*i* P	P	18 56 15.5	-0.5
	SNR=17						
ASUD	Al Ashush, Dub	79.55	297	P	P	18 56 15.6	-0.4
	SNR=15						
PVY	Plav	79.56	331⇑	*iP*	P	18 56 15.9	-0.1
Z57A	Bowman	79.57	48	P	P	18 56 16.3	+0.3
	baz=327						
KAVA	Kavala	79.59	328	*eP*	P	18 56 15.8	-0.2
KAVA	Kavala	79.59	328	P	P	18 56 15.8	-0.2
GEDZ	Gediz	79.62	323	*i* P	P	18 56 16.4	+0.1
SHUT	Suhut-Afyon	79.62	322	*i* P	P	18 56 16.9	+0.5
W61A	Ground Anchor	79.64	45	P	P	18 56 16.7	+0.3
	baz=328						
NKY	Niksic	79.64	332⇑	*iP*	P	18 56 15.8	-0.6
BALB	Balikesir	79.64	325	*i* P	P	18 56 16.5	+0.2
BALB	Balikesir	79.64	325	PFAKE		18 56 30.0	+14
BALB				LR	LR		
	comp=Z,27µm,18.0s						
SKO	Skopje	79.69	330	*i* P	P	18 56 16.8	+0.3
BRY	Bratogost	79.69	333⇑	*iP*	P	18 56 16.0	-0.7
BRY	Bratogost	79.69	333⇑	*iP*	P	18 56 16.0	-0.7
NKME	Niksic	79.70	332⇑	*iP*	P	18 56 16.0	-0.6
STIP	Stip	79.71	329	*i* P	P	18 56 15.9	-0.7
X60A	Albert Glenn T	79.72	46	P	P	18 56 17.2	+0.5
	baz=328						
MOIG	Morelia	79.72	71	PFAKE		18 56 30.0	+13
MOIG				LR	LR		
	comp=Z,3µm,19.0s						
SMTH	Samothraki Isl	79.72	327	*eP*	P	18 56 16.2	-0.6
SMTH	Samothraki Isl	79.72	327	P	P	18 56 16.2	-0.6
156A	Sylvania	79.74	49	P	P	18 56 17.7	+0.8
	baz=327						
TIGA	Tifton	79.75	51	PFAKE		18 56 30.0	+13
TIGA				LR	LR		
	comp=Z,8µm,20.0s						
TIGA	Tifton	79.75	51	P	P	18 56 17.8	+0.8
	baz=326						
BGF	Bois d'Agland	79.75	344	*eP*	P	18 56 17.1	+0.3
BGF				pmax	pmax		
	comp=Z,182nm,1.5s						
V62A	Hyde County Ai	79.75	44	PFAKE		18 56 30.0	+13
V62A				LR	LR		
	comp=Z,8µm,19.0s						
V62A	Hyde County Ai	79.75	44	P	P	18 56 17.3	+0.3
	baz=329						
ALNE	Al Ain	79.77	296	*i* P	P	18 56 16.8	-0.5
	SNR=30						
SRS	Serrai	79.78	328	P	P	18 56 16.6	-0.5
JMDO	Jabal Madar	79.79	293	P	P	18 56 18.3	+0.9
	SNR=16						
AJN	Ajban	79.79	297	*i* P	P	18 56 16.5	-0.8
	SNR=9.8						
AJN	Ajban	79.79	297	P	P	18 56 16.6	-0.8
	SNR=10						
THAS	Thassos island	79.87	327	P	P	18 56 17.3	-0.2
255A	Hazlehurst	79.88	50	PFAKE		18 56 30.0	+12
255A				LR	LR		
	comp=Z,8µm,20.0s						
255A	Hazlehurst	79.88	50	P	P	18 56 18.7	+1.0
	baz=326						
453A	Whigham	79.88	52	PFAKE		18 56 30.0	+12
453A				LR	LR		
	comp=Z,10µm,20.0s						
453A	Whigham	79.88	52	P	P	18 56 18.3	+0.6
	baz=326						
CEME	Cevo	79.91	332⇑	*iP*	P	18 56 16.8	-1.0
ARQ	Araqi	79.91	295	P	P	18 56 18.5	+0.5
	SNR=15						
TREB	Trebinje	79.91	333	*eP*	P	18 56 17.1	-0.6
PDG	Podgorica	79.92	332⇓	*iP*	P	18 56 17.4	-0.3
PDG	Podgorica	79.92	332⇑	*iP*	P	18 56 17.5	-0.2
TTG	Podgorica	79.92	332⇑	*iP*	P	18 56 17.6	-0.2
TTG	Podgorica	79.92	332	PFAKE		18 56 30.0	+12
TTG				LR	LR		
	comp=Z,27µm,18.0s						
VAY	Valandovo	79.92	329	*i* P	P	18 56 18.3	+0.5
Z58A	St. Stephen	79.94	48	P	P	18 56 18.0	0.0
	baz=327						
157A	Early Branch	79.95	49	P	P	18 56 19.0	+0.9
	baz=327						
STON	Ston	79.95	333	P	P	18 56 16.7	-1.1
STON	Ston	79.95	333⇑	*eP*	P	18 56 16.8	-1.1
KNT	Kendrikon	79.96	329	P	P	18 56 18.3	+0.2
NHSC	New Hope	79.97	48	PFAKE		18 56 30.0	+12
NHSC				LR	LR		
	comp=Z,8µm,19.0s						
NHSC	New Hope	79.97	48	P	P	18 56 18.2	+0.1
	baz=327						
552A	Lynn Haven	80.00	53	P	P	18 56 18.5	+0.1
	baz=326						
BSY	Bisya	80.00	294	P	P	18 56 19.8	+1.2
	SNR=12						
KIZK	Mersin	80.02	319	*i* P	P	18 56 18.0	-0.4
EZN	Ezine	80.03	326	*i* P	P	18 56 18.2	-0.2
EZ

HCY	Herceg Novi	80.12	332⇑	*i*P	P	18 56 18.0	-0.9
HCY	Herceg Novi	80.12	332	*e*P	P	18 56 17.8	-1.1
BUM	Brajici-Budva	80.14	332⇑	*i*P	P	18 56 18.6	-0.5
DRME	Dracevica, Mon	80.16	332⇑	*i*P	P	18 56 18.5	-0.6
DRME	Dracevica, Mon	80.16	332⇑	*i*P	P	18 56 19.1	0.0
MFF	Saint Martin d	80.17	346	*e*P	P	18 56 19.5	+0.4
MFF				pmax	pmax		
	comp=Z,226nm,1.5s						
355A	Pearson	80.18	51	P	P	18 56 20.3	+1.0
	baz=326						
SILI	Silifke-Mersin	80.20	319	*i*P	P	18 56 19.0	-0.4
KEBE	Keben-Mersin	80.22	319	*i*P	P	18 56 19.6	0.0
PHP	Peshkopia	80.25	331	P	P	18 56 19.3	-0.4
Z59A	Georgetown, SC	80.26	47	P	P	18 56 20.0	+0.3
	baz=328						
158A	Hollywood	80.27	48	P	P	18 56 20.0	+0.2
	baz=327						
ISP	Isparta	80.27	322	*e*P	P	18 56 19.4	-0.5
ISP				LR	LR		
	comp=Z,15μm,20.0s						
ISP	Isparta	80.27	322	P	P	18 56 19.4	-0.5
ISP	Isparta	80.27	322⇓	*i*P	P	18 56 19.3	-0.6
ISP	Isparta	80.27	322	*e*P	P	18 56 19.4	-0.5
ISP				MLR	MLR		
	comp=Z,15μm,20.0s						
KRUS	Krusevo	80.29	330	*i*P	P	18 56 19.8	-0.1
GRG	Griva	80.31	329	P	P	18 56 20.0	+0.1
454A	Quitman	80.33	52	P	P	18 56 20.8	+0.7
	baz=326						
TEVE	Tevekalti-Mers	80.34	319	*i*P	P	18 56 19.6	-0.6
ULC	Ulcinj	80.35	332⇑	*i*P	P	18 56 19.7	-0.4
LIA	Limnos Island	80.35	327	P	P	18 56 20.1	0.0
KULA	Kula-Manisa	80.36	324	*i*P	P	18 56 20.3	0.0
KULA	Kula-Manisa	80.36	324	P	P	18 56 20.7	+0.4
OUR	Ouranopolis	80.36	328	*e*P	P	18 56 19.9	-0.3
OUR	Ouranopolis	80.36	328	P	P	18 56 19.9	-0.3
OUR	Ouranopolis	80.36	328	*e*P	P	18 56 19.9	-0.3
IKL	Isikli	80.41	319	*i*P	P	18 56 19.9	-0.6
HORT	Hortiatis	80.41	328	P	P	18 56 19.9	-0.7
MANT	Manisa	80.42	324	PFAKE		18 56 30.0	+9.2
MANT				LR	LR		
	comp=Z,41μm,18.0s						
PMOR	Pomariorio Ree	80.47	130	*e*T	T	20 24 28.0	
	comp=Z,7.0nm,0.2s						
PLG	Polygyros	80.50	328	P	P	18 56 20.5	-0.5
BERE	Bereket-Mersin	80.50	319	*i*P	P	18 56 20.6	-0.6
BNI	Bardonecchia	80.52	341	PFAKE		18 56 30.0	+8.9
BNI				LR	LR		
	comp=Z,8μm,21.0s						
BNI	Bardonecchia	80.52	341	P	P	18 56 22.7	+1.6
257A	Skidaway Islan	80.52	49	PFAKE		18 56 30.0	+8.8
257A				LR	LR		
	comp=Z,8μm,20.0s						
257A	Skidaway Islan	80.52	49	P	P	18 56 21.9	+0.7
	baz=327						
AKKU	Akkuyu-Mersin	80.53	319	*i*P	P	18 56 20.6	-0.6
356A	Blackshear	80.54	50	P	P	18 56 21.8	+0.5
	baz=327						
PRK	Paraskevi	80.56	326	P	P	18 56 21.8	+0.5
BCK	Bucak	80.56	322	*i*P	P	18 56 21.1	-0.3
BIA	Bitola	80.59	330	*i*P	P	18 56 21.6	+0.1
VLC	Villacollemand	80.59	339	PFAKE		18 56 30.0	+8.6
VLC				LR	LR		
	comp=Z,15μm,19.0s						
455A	Stateville	80.60	51	P	P	18 56 22.6	+1.0
	baz=326,SNR=7.2						
OHR	Ohrid	80.67	330	*i*P	P	18 56 21.7	-0.2
SSB	Saint Sauveur	80.70	343	PFAKE		18 56 30.0	+8.0
SSB				LR	LR		
	comp=Z,9μm,19.0s						
TEKE	Tekeli-Mersin	80.72	319	*i*P	P	18 56 21.4	-0.8
TIR	Tirane	80.73	331	PFAKE		18 56 30.0	+7.8
TIR				LR	LR		
	comp=Z,23μm,19.0s						
TIR	Tirane	80.73	331⇑	*i*P	P	18 56 21.5	-0.7
TIR	Tirane	80.73	331	P	P	18 56 21.4	-0.7
SIGR	SIGRI	80.74	326	P	P	18 56 21.6	-0.6
357A	Townsend	80.76	50	P	P	18 56 23.1	+0.6
	baz=327						
FNA	Florina	80.79	330	*e*P	P	18 56 22.3	-0.3
FNA				LR	LR		
	comp=Z,17μm,21.0s						
FNA	Florina	80.79	330	P	P	18 56 22.3	-0.3
FNA	Florina	80.79	330	*e*P	P	18 56 22.3	-0.3
FNA				MLR	MLR		
	comp=Z,17μm,21.0s						
ORIF	Oris-en-Rattie	80.80	342	*e*P	P	18 56 23.6	+1.0
ORIF				pmax	pmax		
	comp=Z,283nm,1.4s						
MBDF	Montbardon	80.81	341	*e*P	P	18 56 23.1	+0.4
MBDF				pmax	pmax		
	comp=Z,165nm,1.6s						
EREN	Erenkoy	80.82	318	*i*P	P	18 56 22.9	+0.2
554A	Perry	80.82	52	P	P	18 56 23.5	+0.7
	baz=326						
PAIG	Paliouri	80.83	328	P	P	18 56 21.9	-0.8
MHTO	MHTO	80.96	292	P	P	18 56 23.6	-0.1
	SNR=69						
LIT	Litokhoron	81.06	329	PFAKE		18 56 30.0	+6.0
LIT				LR	LR		
	comp=Z,15μm,18.0s						
KORT	Korkueli	81.06	322	*i*P	P	18 56 23.4	-0.8
VIVF	Saint-Julien-l	81.08	343	*e*P	P	18 56 24.8	+0.8
VIVF				pmax	pmax		
	comp=Z,262nm,1.6s						
456A	Hilliard	81.09	51	PFAKE		18 56 40.0	+16
456A				LR	LR		
	comp=Z,8μm,20.0s						
456A	Hilliard	81.09	51	P	P	18 56 25.0	+0.7
	baz=327						
555A	McAlpin	81.14	52	PFAKE		18 56 40.0	+15
555A				LR	LR		
	comp=Z,6μm,18.0s						
555A	McAlpin	81.14	52	P	P	18 56 25.7	+1.2
	baz=326,SNR=6.9						
AYDB	Zeytinkoy-Aydi	81.14	324	*i*P	P	18 56 24.4	-0.2
MBWA	Marble Bar	81.18	218	PFAKE		18 56 40.0	+15
MBWA				LR	LR		
	comp=Z,2μm,20.0s						
RJF	Les Rejaudoux	81.19	345	*e*P	P	18 56 25.1	+0.6
RJF				pmax	pmax		
	comp=Z,297nm,1.6s						
NEST	Nestorio	81.22	330	P	P	18 56 24.7	-0.2
URLA	Izmir	81.24	325	*i*P	P	18 56 24.5	-0.5
PENT	Pentalofos	81.40	330	P	P	18 56 25.4	-0.5
457A	Yulee	81.40	50	P	P	18 56 25.8	-0.1
	baz=327						
CHOS	Chios island	81.40	325	P	P	18 56 25.4	-0.5
ELL	Elmali	81.45	322	*i*P	P	18 56 26.3	+0.1
CAF	Calviac	81.47	345	*e*P	P	18 56 25.9	-0.2
CAF				pmax	pmax		
	comp=Z,270nm,1.4s						
XOR	Xorichti	81.50	328	P	P	18 56 25.1	-1.2
655A	Horseshoe Beac	81.51	52	P	P	18 56 27.2	+0.8
	baz=326						
SBF	Sospel	81.51	341	*e*P	P	18 56 27.6	+1.3
SBF				pmax	pmax		
	comp=Z,284nm,1.5s						
556A	Lake Butler	81.51	51	P	P	18 56 27.9	+1.5
	baz=327,SNR=6.8						
MAMC	Mammari	81.52	319	P	P	18 56 25.4	-1.1
FYTO	Fytoko, Volos	81.54	328	*e*P	P	18 56 26.8	+0.3
FYTO	Fytoko, Volos	81.54	328	P	P	18 56 26.8	+0.3
KPRO	Kipourio	81.55	329	P	P	18 56 25.8	-0.8
AQU	L'Aquila	81.58	336	PFAKE		18 56 40.0	+13
AQU				LR	LR		
	comp=Z,19μm,18.0s						
AQU	L'Aquila	81.58	336	P	P	18 56 27.6	+0.9
AQU	L'Aquila	81.58	336⇑	*i*P	P	18 56 27.7	+1.0
GCAM	G?zelcaml?	81.60	324	*i*P	P	18 56 26.6	-0.2
BHL	Bhannes	81.60	316	*e*P	P	18 56 26.8	-0.3
QASN	Qassioun	81.65	316	*e*P	P	18 56 21.6	-5.7
CSS	Mathiatis	81.66	318	*e*P	P	18 56 27.1	-0.1
CSS				LR	LR		
	comp=Z,996nm,1.8s						
CSS	Mathiatis	81.66	318	P	P	18 56 27.1	-0.1
LFF	La Frestale	81.67	346	*e*P	P	18 56 27.8	+0.8
LFF				pmax	pmax		
	comp=Z,307nm,1.6s						
THL	Klokotos Trika	81.70	329	P	P	18 56 25.5	-1.8
TOTH	TOTAH	81.73	315	*e*P	P	18 56 27.8	+0.1
ALFC	Alefka	81.79	319	P	P	18 56 27.3	-0.6
557A	Orange Park	81.82	51	P	P	18 56 28.7	+0.6
	baz=327						
TURN	Turunc	81.83	323	*i*P	P	18 56 29.4	+1.4
DALY	Dalyan (Mula)	81.86	323	*i*P	P	18 56 28.5	+0.3
FETY	Fethiye	81.86	322	*i*P	P	18 56 28.1	-0.2
FETY	Fethiye	81.86	322	*e*P	P	18 56 27.7	-0.6
FETY	Fethiye	81.86	322	P	P	18 56 27.7	-0.6
WRKA	Warakurna	81.86	209	P	P	18 56 29.0	+0.8
	baz=82,SNR=26						
MNCY	Minicoy	81.89	273	*e*P	P	18 56 28.8	+0.1
QRWL	Qaraoun	81.89	316	*e*P	P	18 56 28.5	-0.1
BRBR	Barbar	81.90	316	*e*P	P	18 56 28.1	-0.7
PPT	Papeete	81.92	132	*e*P	P	18 56 31.0	+2.4
PPT	Papeete	81.92	132	P	P	18 56 31.0	+2.4
PPT	Papeete	81.92	132	P	P	18 56 31.0	+2.4
	comp=Z,28nm,0.6s,baz=274,slow=23,SNR=2.8						
SMIA	Simia	81.93	328	P	P	18 56 28.9	+0.3
PPT2	Papeete2	81.94	132	*e*S	S	19 06 37.7	-3.2
	comp=Z,5μm,29.8s						
PPT2	Papeete2	81.94	132	*e*LR	LR	19 22 05.2	
	comp=Z,12μm,23.2s,baz=330						
PPTF	Pamatai, Papee	81.95	132	PFAKE		18 56 40.0	+11
PPTF				LR	LR		
	comp=Z,9μm,22.0s						
FRF	La Foret Royal	81.96	341	*e*P	P	18 56 28.6	0.0
FRF				pmax	pmax		
	comp=Z,155nm,1.5s						
MRKA	Markates	81.96	327	P	P	18 56 28.8	0.0
656A	Willston	81.97	52	PFAKE		18 56 40.0	+11
656A				LR	LR		
	comp=Z,7μm,18.0s						
656A	Willston	81.97	52	P	P	18 56 29.1	+0.2
	baz=327,SNR=6.4						
JAN	Janina	81.98	330	*e*P	P	18 56 29.1	+0.2
JAN	Janina	81.98	330	P	P	18 56 29.1	+0.2
JAN	Janina	81.98	330	*e*P	P	18 56 29.1	+0.2
AKAS	Kas	82.02	322	*i*P	P	18 56 28.5	-0.7
SZAC	Souni	82.02	319	P	P	18 56 28.8	-0.4
DQM	DQM	82.04	292	P	P	18 56 28.7	-0.7
	SNR=19						
SRN	Sarande	82.04	330	P	P	18 56 28.8	-0.3
SHBL	Chebaa	82.04	316	*e*P	P	18 56 29.5	+0.1
CGL1	Ceglie Messapi	82.07	332	*e*P	P	18 56 28.9	-0.4
KSL	Kastellorizon	82.10	322	P	P	18 56 28.5	-1.0
EREA	Eretria	82.10	327	P	P	18 56 28.8	-0.7
657A	Interlachen	82.11	51	P	P	18 56 29.9	+0.2
	baz=327						
PPCY	Paphos	82.12	319	P	P	18 56 28.9	-0.7
BODT	Bodrum	82.14	324	*i*P	P	18 56 29.5	-0.2
ATAL	Atalanti	82.16	328	*e*P	P	18 56 28.5	-1.3
ATAL	Atalanti	82.16	328	P	P	18 56 28.5	-1.3
MASS	Massafra	82.18	333	*e*P	P	18 56 29.8	-0.1
LMR	La Mourre	82.20	341	*e*P	P	18 56 30.2	+0.3
LMR				pmax	pmax		
	comp=Z,324nm,1.6s						
LKR	Lokris	82.21	328	P	P	18 56 28.4	-1.6
TAR1	Taranto	82.24	332	*e*P	P	18 56 29.7	-0.4
KEK	Kerkira	82.25	330	*e*P	P	18 56 29.8	-0.4
KEK	Kerkira	82.25	330	P	P	18 56 29.8	-0.4
IGT	Igoumenitsa	82.25	330	*e*P	P	18 56 29.9	-0.4
IGT	Igoumenitsa	82.25	330	P	P	18 56 29.9	-0.4
IGT	Igoumenitsa	82.25	330	*e*P	P	18 56 29.9	-0.4
MATE	Matera	82.29	333⇑	*i*P	P	18 56 28.6	-1.8
DAT	Datca	82.34	323	*i*P	P	18 56 29.8	-1.1
EVR	Evrytania	82.35	329	P	P	18 56 30.0	-0.9
DION	Dionisos Attik	82.41	327	P	P	18 56 29.7	-1.4
PGF	Pioggiola	82.43	339	*e*P	P	18 56 32.3	+1.0
PGF				pmax	pmax		
	comp=Z,205nm,1.5s						
LVIG	Laguna Verde	82.43	68	PFAKE		18 56 40.0	+8.6
LVIG				LR	LR		
	comp=Z,2μm,19.0s						
PTL	Penteli	82.46	327	*e*P	P	18 56 30.0	-1.4
PTL	Penteli	82.46	327	P	P	18 56 30.0	-1.4
658A	Bunnell	82.54	51	PFAKE		18 56 40.0	+8.1
658A				LR	LR		
	comp=Z,8μm,20.0s						
658A	Bunnell	82.54	51	P	P	18 56 32.4	+0.5
	baz=327						
VILL	Villia	82.54	327	P	P	18 56 30.4	-1.4
757A	Oxford	82.55	52	P	P	18 56 32.9	+0.9
	baz=327						
ATHU	Athens Univers	82.56	327	*e*P	P	18 56 30.4	-1.5
ATHU	Athens Univers	82.56	327	P	P	18 56 30.4	-1.5
ANX	Ano Chora	82.61	328	P	P	18 56 31.2	-1.1
ARMA	Armidale	82.61	188	P	P	18 56 33.7	+1.6
	baz=83,SNR=6.4						
VLY	Voula,Athens	82.66	327	*e*P	P	18 56 30.6	-1.8
VLY	Voula,Athens	82.66	327	P	P	18 56 30.6	-1.8
PVO	Paravola	82.72	329	P	P	18 56 32.3	-0.4
KALE	Kalithea	82.72	328	*e*P	P	18 56 31.3	-1.5
KALE	Kalithea	82.72	328	P	P	18 56 31.3	-1.5
SERG	Sergoula	82.73	328	P	P	18 56 31.3	-1.5
EFP	Efpalio	82.77	328	P	P	18 56 32.1	-0.8
APE	Apeiranthos	82.77	325	*e*P	P	18 56 30.8	-2.2
APE	Apeiranthos	82.77	325	P	P	18 56 30.8	-2.2
APE	Apeiranthos	82.77	325⇑	*i*P	P	18 56 29.2	-3.8
APE	Apeiranthos	82.77	325*c*	*i*P	P	18 56 30.6	-2.4
APE				pmax	pmax		
	comp=Z,35nm,1.1s						
LTK	Loutraki	82.78	327	*e*P	P	18 56 31.0	-2.1
LTK	Loutraki	82.78	327	P	P	18 56 31.0	-2.1
LOUT	Loutraki	82.81	327	P	P	18 56 31.0	-2.2
LKD2	Lefkada island	82.83	329	P	P	18 56 32.8	-0.5
AMGA	Amorgos Island	82.85	325	P	P	18 56 31.4	-2.0
TLIG	Tlapa	82.91	71	PFAKE		18 56 50.0	+16
TLIG				LR	LR		
	comp=Z,3μm,19.0s						
LAKA	Lakka	82.91	328	*e*P	P	18 56 32.6	-1.1
LAKA	Lakka	82.91	328	P	P	18 56 32.6	-1.1
758A	Lake Helen	82.95	51	P	P	18 56 35.3	+1.2
	baz=327						
MTLF	Montolieu	82.98	344	*e*P	P	18 56 35.0	+1.0
MTLF				pmax	pmax		
	comp=Z,239nm,1.5s						
KLV	Kalavryta, Ach	83.03	328	P	P	18 56 32.6	-1.8
857A	Zephyrhills	83.04	52	P	P	18 56 35.2	+0.7
	baz=327						
GUR	Goura	83.07	328	*e*P	P	18 56 32.9	-1.8
GUR	Goura	83.07	328	P	P	18 56 32.9	-1.8
DID	Didima	83.16	327	*e*P	P	18 56 32.4	-2.7
DID	Didima	83.16	327	P	P	18 56 32.4	-2.7
RLS	Riolos of Patr	83.24	328	P	P	18 56 35.3	-0.1
DRO	Drossia	83.26	328	P	P	18 56 35.3	-0.2
RAO	Raoul Island	83.30	161	PFAKE		18 56 50.0	+14
RAO				LR	LR		
	comp=Z,2μm,20.0s						
LHI	Lord Howe Isla	83.36	181	PFAKE		18 56 50.0	+14
LHI				LR	LR		
	comp=Z,3μm,21.0s						
KFL	Anninata	83.41	329	P	P	18 56 35.8	-0.5
VLS	Valsamata	83.41	329	P	P	18 56 35.7	-0.6
858A	St. Cloud	83.50	51	P	P	18 56 37.0	+0.1
	baz=327						
MHLO	Agia Marina, M	83.50	326	P	P	18 56 35.1	-1.7
957A	Wimauma	83.53	52	PFAKE		18 56 50.0	+13
957A				LR	LR		
	comp=Z,9μm,20.0s						
957A	Wimauma	83.53	52	P	P	18 56 36.7	-0.3
	baz=327						
DWPF	Disney Wildern	83.55	52	PFAKE		18 56 50.0	+13
DWPF				LR	LR		
	comp=Z,5μm,19.0s						
DWPF	Disney Wildern	83.55	52	P	P	18 56 36.2	-0.9
	baz=327						
VLX	Vlachokerasia	83.57	328	*e*P	P	18 56 35.8	-1.4
VLX	Vlachokerasia	83.57	328	P	P	18 56 35.8	-1.4
TIP	Timpagrande	83.64	332	PFAKE		18 56 50.0	+12
TIP				LR	LR		
	comp=Z,9μm,20.0s						
TIP	Timpagrande	83.64	332	P	P	18 56 38.1	+0.6
TIP	Timpagrande	83.64	332⇓	*i*P	P	18 56 38.3	+0.8
AMT	Artemida-Makis	83.64	328	P	P	18 56 36.6	-0.9
SJPF	Ste Jean	83.75	347	*e*P	P	18 56 39.7	+1.8
SJPF				pmax	pmax		
	comp=Z,563nm,2.2s						
958A	Wauchula	83.83	52	P	P	18 56 38.9	+0.4
	baz=327						
859A	Kempfer Cattle	83.85	51	P	P	18 56 39.2	+0.6
	baz=327						
ITM	Ithomi	83.89	328	*e*P	P	18 56 37.5	-1.3
ITM				LR	LR		
	comp=Z,11μm,20.0s						
ITM	Ithomi	83.89	328	P	P	18 56 37.5	-1.3
VLI	Veliai	83.98	327	*e*P	P	18 56 36.4	-2.8
VLI	Veliai	83.98	327	P	P	18 56 36.4	-2.8
PYL	PYLOS	84.21	328	*e*P	P	18 56 38.8	-1.6
PYL	PYLOS	84.21	328	P	P	18 56 38.8	-1.6
058A	Arcadia	84.25	52	P	P	18 56 41.2	+0.5
	baz=327						
ZKR	Zakros	84.27	324	*e*P	P	18 56 39.8	-0.9
ZKR	Zakros	84.27	324	P	P	18 56 39.8	-0.9
959A	Okeechobee	84.31	51	P	P	18 56 41.0	0.0
	baz=327						
CMSA	Cobar Meteorol	84.36	193	P	P	18 56 42.2	+1.4
	baz=84,SNR=7.1						
NPS	Neapolis	84.36	324	P	P	18 56 39.1	-2.1
LAST	Lasithi	84.50	324	*e*P	P	18 56 40.4	-1.6
LAST	Lasithi	84.50	324	P	P	18 56 40.4	-1.6
IDI	Anoyia	84.59	325	*e*P	P	18 56 39.3	-3.1
IDI	Anoyia	84.59	325	P	P	18 56 39.3	-3.1
ANKY	Antikythira Is	84.62	326	*e*P	P	18 56 40.9	-1.6
ANKY	Antikythira Is	84.62	326	P	P	18 56 40.9	-1.6
059A	Moore Haven	84.65	52	PFAKE		18 56 50.0	+7.3
059A				LR	LR		
	comp=Z,7μm,19.0s						
059A	Moore Haven	84.65	52	P	P	18 56 42.6	-0.1
	baz=327						
VAM	Vamos	84.73	325	P	P	18 56 41.3	-1.7
CEL	Celeste	84.74	333	PFAKE		18 56 50.0	+6.9
CEL				LR	LR		
	comp=Z,19μm,18.0s						
IMMV	Iera Moni Meta	84.76	326	P	P	18 56 41.6	-1.6
SIVA	Sivas	84.86	325	P	P	18 56 43.0	-0.7
060A	Indiantown	84.97	51	PFAKE		18 57 00.0	+16
060A				LR	LR		
	comp=Z,8μm,20.0s						
060A	Indiantown	84.97	51	P	P	18 56 44.4	+0.1
	baz=328						
059Z	Ave Maria	85.03	53	P	P	18 56 45.6	+0.9
	baz=327						
STKA	Stephens Creek	85.31	196	*e*P	P	18 56 46.5	+0.9
	comp=Z,41nm,1.9s						
STKA				LR	LR		
	comp=Z,800nm,20.0s						
STKA	Stephens Creek	85.31	196	P	P	18 56 46.7	+1.0
	baz=85,SNR=15						
STKA	Stephens Creek	85.31	196	*e*P	P	18 56 46.5	+0.9
STKA				pmax	pmax		
	comp=Z,41nm,1.9s						
STKA	Stephens Creek	85.31	196	P	P	18 56 46.6	+0.9
	comp=Z,16nm,0.8s,baz=337,slow=6.2,SNR=22						
060Z	West Palm Beac	85.40	52	P	P	18 56 47.3	+0.8
	baz=328						
061Z	Ochoppi	85.68	52	PFAKE		18 57 00.0	+12
061Z				LR	LR		
	comp=Z,9μm,19.0s						
061Z	Ochoppi	85.68	52	P	P	18 56 48.8	+0.8
	baz=328						
PGAV	Gavieira, Arco	85.70	352	*e*P	P	18 56 48.3	+0.4
	comp=Z,209nm,1.8s						
PGAV	Gavieira, Arco	85.70	352	*e*S	S	19 07 20.6	+2.0
PBRG	Braganca	85.71	350	*e*P	P	18 56 48.0	+0.1
	comp=Z,224nm,1.7s						
PBRG	Braganca	85.71	350	*e*S	S	19 07 20.3	+1.7
PCAB	Cabril	85.93	351	*e*P	P	18 56 49.4	+0.4
	comp=Z,210nm,1.8s						
CLTB	Caltabellotta	86.12	334	PFAKE		18 57 00.0	+10
CLTB				LR	LR		
	comp=Z,30μm,18.0s						
POLO	Lamas de Olo	86.25	351	*e*P	P	18 56 50.9	+0.3
	comp=Z,74nm,1.7s						
POLO	Lamas de Olo	86.25	351	*e*S	S	19 07 26.2	+2.3
PVRL	Vila Real	86.34	351	*e*P	P	18 56 52.6	+1.6
	comp=Z,254nm,1.4s						
MVO	Moncorvo	86.38	350	*e*P	P	18 56 51.2	0.0
	comp=Z,161nm,1.6s						
MVO	Moncorvo	86.38	350	*e*S	S	19 07 27.5	+2.4
TEIG	Tepich	86.55	61	PFAKE		18 57 00.0	+7.7
TEIG				LR	LR		
	comp=Z,4μm,20.0s						
PTO	Porto	86.55	352	*e*P	P	18 56 54.3	+2.3
	comp=Z,158nm,1.9s						
062Z	Marathon	86.57	53	P	P	18 56 53.4	+1.1
	baz=328						
GUD	Guadarrama	86.57	348	P	P	18 56 52.0	-0.3
MEEK	Meekatharra	86.58	217	P	P	18 56 52.2	+0.1
	baz=87,SNR=18						
PVIS	Viseu	86.91	351	*e*P	P	18 56 53.9	+0.1
	comp=Z,140nm,1.5s						
BBSR	BB Station	87.03	37	*e*P	P	18 56 55.9	+1.5
	comp=Z,170nm,1.4s						
TBI	Tubuai	87.04	135	*e*S	S	19 07 27.7	-3.7
	comp=Z,3μm,25.8s						
TBI	Tubuai	87.04	135	*e*LR	LR	19 24 26.9	
	comp=Z,9μm,23.8s,baz=334						
MTE	Manteigas	87.19	351	*e*P	P	18 56 55.7	+0.5
	comp=Z,118nm,1.8s						
MTE	Manteigas	87.19	351	*e*S	S	19 07 33.5	+0.5
MTE	Manteigas	87.19	351	PFAKE		18 57 10.0	+15
MTE				LR	LR		
	comp=Z,8μm,19.0s						
BBOO	Buckleboo	87.28	200	PFAKE		18 57 10.0	+15
BBOO				LR	LR		
	comp=Z,3μm,22.0s						
BBOO	Buckleboo	87.28	200	P	P	18 56 55.8	+0.5
	baz=87,SNR=6.1						
HTT	Hallett	87.30	198	P	P	18 56 56.7	+1.2
	baz=87,SNR=5.3						
FORT	Forrest	87.33	207	PFAKE		18 57 10.0	+14
FORT				LR	LR		
	comp=Z,4μm,21.0s						
FORT	Forrest	87.33	207	P	P	18 56 56.4	+0.8
	baz=87,SNR=11						
WDD	Wied Dalam	87.39	333	PFAKE		18 57 10.0	+14
WDD				LR	LR		
	comp=Z,5μm,18.0s						
COI	Coimbra	87.46	351	*e*P	P	18 56 56.4	0.0
	comp=Z,175nm,1.6s						
COI	Coimbra	87.46	351	*e*S	S	19 07 40.1	+4.7
COI	Coimbra	87.46	351	PFAKE		18 57 10.0	+14
COI				LR	LR		
	comp=Z,7μm,20.0s						
ESDC	Sonseca Array	87.50	348	P	P	18 56 56.6	0.0
	comp=Z,12nm,0.7s,baz=5.0,slow=4.2,SNR=31						
ESDC				PP	PP	19 00 20.0	-0.6
	comp=Z,4.0nm,1.1s,baz=11,slow=7.8,SNR=4.4						
ESDC				LR	LR	19 41 22.7	
	comp=Z,4μm,18.1s,baz=40,slow

comp=Z,46nm,1.1s,baz=256,slow=1.4,SNR=14
PGRA Graciosa 88.86 6 eLR LR 19 27 21.1
comp=Z,2μm,15.6s
LIS Lisbon 89.00 352 eP **P 18 57 03.6 -0.2**
LIS AMS AMS 19 42 06.0
comp=N,8μm,19.5s
LIS Lisbon 89.00 352 eP **P 18 57 03.5 -0.2**
EVO Evora 89.08 351 eP **P 18 57 03.0 -1.1**
comp=N,96nm,1.6s
CART Cartagena 89.12 345 PFAKE 18 57 20.0 +16
CART LR LR
comp=Z,6μm,20.0s
ROSA Rosais 89.15 7 eLR LR 19 27 23.6
comp=Z,582nm,13.1s
PNCL Nicolau / Gran 89.55 351 eP **P 18 57 06.4 +0.1**
comp=Z,56nm,1.8s
PNCL Nicolau / Gran 89.55 351 eS **S 19 07 56.5 +1.2**
PBEJ Beja 89.57 351 eP **P 18 57 07.5 +1.1**
comp=Z,97nm,1.5s
MESJ Messejana 89.79 351 eP **P 18 57 07.5 0.0**
MESJ ePP **PP 19 00 39.6 +0.8**
MESJ eSKSac **SKSac 19 07 37.4 +1.2**
MESJ AMS AMS 19 41 58.8
comp=N,5μm,22.3s
MESJ Messejana 89.79 351 eP **P 18 57 07.5 0.0**
comp=N,57nm,1.6s
MESJ Messejana 89.79 351 eP **P 18 57 07.4 0.0**
MESJ e 19 00 39.6
MESJ e 19 07 37.3
PCVE Castro Verde 89.98 351 eP **P 18 57 08.6 +0.2**
comp=N,113nm,1.5s
PCVE Castro Verde 89.98 351 eS **S 19 08 00.3 +1.0**
PVAQ Vaqueiros 90.17 351 eS **S 19 07 59.5 -1.6**
PSET Sete Cidades 90.20 5 eLR LR 19 26 23.5
comp=N,407nm,14.3s
CMLA Cha da Macela 90.27 5 PFAKE 18 57 20.0 +10
CMLA LR LR
comp=Z,3μm,19.0s
TOO Toolangi 90.33 192 eP **P 18 57 11.5 +1.9**
comp=Z,87nm,1.5s
TOO LR LR
comp=Z,3μm,18.0s
TOO Toolangi 90.33 192 eP **P 18 57 11.5 +1.9**
TOO pmax pmax
comp=Z,87nm,1.5s
TOO MLR MLR
comp=Z,3μm,18.0s
PBDV Barranco-do-Ve 90.35 351 eP **P 18 57 10.6 +0.5**
comp=Z,87nm,1.7s
PBDV Barranco-do-Ve 90.35 351 eS **S 19 08 04.4 +1.6**
MORF Marmelete 90.36 351 eP **P 18 57 09.9 -0.3**
comp=Z,112nm,1.7s
MORF Marmelete 90.36 351 eS **S 19 08 06.8 +3.9**
PFVI Vila Bisbo 90.55 351 eP **P 18 57 10.9 -0.1**
comp=Z,137nm,1.8s
PFVI Vila Bisbo 90.55 351 eS **S 19 08 04.7 +0.2**
MXZ Matakaoa Point 90.75 166 PFAKE 18 57 20.0 +8.5
MXZ LR LR
comp=Z,8μm,18.0s
SFS San Fernando 90.94 349 PFAKE 18 57 20.0 +7.2
SFS LR LR
comp=Z,6μm,19.0s
PSMN Pico do Norte, 91.05 4 eLR LR 19 26 35.0
comp=Z,418nm,17.6s
HIZ Hauiti 91.21 169 PFAKE 18 57 30.0 +16
HIZ LR LR
comp=Z,6μm,22.0s
URZ Urewera 91.26 167 PFAKE 18 57 30.0 +16
URZ LR LR
comp=Z,4μm,18.0s
BKZ Black Stump Fm 92.06 168 PFAKE 18 57 30.0 +12
BKZ LR LR
comp=Z,4μm,19.0s
TGUH Tegucigalpa,Un 92.13 64 PFAKE 18 57 30.0 +11
TGUH LR LR
comp=Z,2μm,21.0s
NWAO Narrogin (SRO) 92.78 215 PFAKE 18 57 30.0 +8.9
NWAO LR LR
comp=Z,2μm,22.0s
ESTN Estel 93.41 64 PFAKE 18 57 40.0 +15
ESTN LR LR
comp=Z,2μm,21.0s
RTC Rabat Centre 93.46 349 PFAKE 18 57 40.0 +15
RTC LR LR
comp=Z,21μm,19.0s
GTBY Guantanamo Bay 93.52 51 PFAKE 18 57 40.0 +15
GTBY LR LR
comp=Z,4μm,21.0s
BFZ Birch Farm 93.52 168 PFAKE 18 57 40.0 +16
BFZ LR LR
comp=Z,7μm,20.0s
DAMY Dhamar 93.66 299 PFAKE 18 57 40.0 +14
DAMY LR LR
comp=Z,24μm,20.0s
RKT Rikitea 93.74 123 eSKSac **SKSac 19 07 57.3 -1.0**
comp=Z,2μm,24.0s
RKT eSP SP 19 09 44.0 -3.2
comp=Z,4μm,24.8s
RKT Rikitea 93.74 123 eLR LR 19 27 38.0
comp=Z,6μm,25.0s
MTDJ Mount Denham 93.79 54 PFAKE 18 57 40.0 +14
MTDJ LR LR
comp=Z,6μm,19.0s
SNZO South Karori 93.95 169 PFAKE 18 57 40.0 +14
SNZO LR LR
comp=Z,6μm,20.0s
GRTK Grand Turk 93.99 47 PFAKE 18 57 40.0 +13
GRTK LR LR
comp=Z,5μm,19.0s
THZ Tophouse 94.21 171 PFAKE 18 57 40.0 +13
THZ LR LR
comp=Z,4μm,19.0s
DGAR Diego Garcia 94.51 264 PFAKE 18 57 40.0 +10
DGAR LR LR
comp=Z,7μm,19.0s
KHZ Kahutara 94.92 170 PFAKE 18 57 40.0 +9.4
KHZ LR LR
comp=Z,7μm,19.0s
ACON Acoyapa 95.00 63 PFAKE 18 57 40.0 +8.1
ACON LR LR
comp=Z,2μm,21.0s
LTZ Lake Taylor 95.16 171 PFAKE 18 57 40.0 +8.2
LTZ LR LR
comp=Z,4μm,20.0s
ESPN Las Esperanzas 95.29 63 PFAKE 18 57 50.0 +17
ESPN LR LR
comp=Z,1μm,22.0s
PMOZ Porto Moniz, M 95.32 358 eS S 19 08 58.3 +11
TAU Tasmania Unive 95.39 190 PFAKE 18 57 50.0 +17
TAU LR LR
comp=Z,3μm,19.0s
OXZ Oxford 95.67 171 PFAKE 18 57 50.0 +16
OXZ LR LR
comp=Z,4μm,20.0s
FOZ Fox Glacier 95.69 173 PFAKE 18 57 50.0 +16
FOZ LR LR
comp=Z,5μm,20.0s
RPZ Rata Peaks 95.97 172 PFAKE 18 57 50.0 +15
RPZ LR LR
comp=Z,6μm,19.0s
MQZ McQueen's Vall 96.11 171 PFAKE 18 57 50.0 +14
MQZ LR LR
comp=Z,4μm,20.0s
SDDR Presa de Saban 96.12 48 PFAKE 18 57 50.0 +13
SDDR LR LR
comp=Z,5μm,21.0s
JTS Las Juntas de 96.50 64 PFAKE 18 57 50.0 +11
JTS LR LR
comp=Z,2μm,19.0s
LBZ Lake Benmore 96.57 173 PFAKE 18 57 50.0 +12
LBZ LR LR
comp=Z,6μm,21.0s
WKZ Wanaka 96.93 174 PFAKE 18 57 50.0 +10
WKZ LR LR
comp=Z,5μm,19.0s
ATD Arta Tunnel 97.02 299 PFAKE 18 57 50.0 +8.8
ATD LR LR
comp=Z,17μm,18.0s
HDC Heredia 97.20 64 PFAKE 18 57 50.0 +7.9
HDC LR LR
comp=Z,2μm,20.0s
SDD Santo Domingo 97.21 47 PFAKE 18 57 50.0 +8.1
SDD LR LR
comp=Z,6μm,21.0s
ODZ Otahua Downs 97.26 173 PFAKE 18 57 50.0 +8.7
ODZ LR LR
comp=Z,5μm,18.0s
MLZ Mavora Lakes 97.41 174 PFAKE 18 57 50.0 +8.0
MLZ LR LR
comp=Z,7μm,22.0s
DCZ Deep Cove 97.45 175 PFAKE 18 57 50.0 +7.9
DCZ LR LR
comp=Z,5μm,22.0s
WHZ Wether Hill Ro 97.92 175 PFAKE 18 58 00.0 +16
WHZ LR LR
comp=Z,7μm,22.0s
MPR Mayaguez 98.66 45 PFAKE 18 58 00.0 +12
MPR LR LR
comp=Z,3μm,21.0s
EMPR Esperanza - Ma 98.69 44 PFAKE 18 58 00.0 +11
EMPR LR LR
comp=Z,5μm,21.0s
AOPR Arecibo Observ 98.71 45 PFAKE 18 58 00.0 +11
AOPR LR LR
comp=Z,5μm,22.0s
OBIP Obispado Ponce 99.04 45 PFAKE 18 58 00.0 +10
OBIP LR LR
comp=Z,5μm,22.0s
CBYP Canovanas 99.16 44 PFAKE 18 58 00.0 +9.3
CBYP LR LR
comp=Z,2μm,20.0s
SJG San Juan 99.18 44 PFAKE 18 58 00.0 +9.3
SJG LR LR
comp=Z,3μm,20.0s
CUPR Culebra, Puert 99.37 44 PFAKE 18 58 00.0 +8.4
CUPR LR LR
comp=Z,4μm,20.0s
ABVI Anegada Island 99.39 42 PFAKE 18 58 00.0 +8.4
ABVI LR LR
comp=Z,3μm,19.0s
MTP Monte Pirata 99.44 44 PFAKE 18 58 00.0 +8.1
MTP LR LR
comp=Z,3μm,19.0s
STVI Saint Thomas 99.47 43 PFAKE 18 58 00.0 +8.0
STVI LR LR
comp=Z,3μm,22.0s
BCIP Isla Barro Col 100.22 61 PFAKE 18 58 10.0 +15
BCIP LR LR
comp=Z,3μm,20.0s
SKI Saint Kitts 101.30 42 PFAKE 18 58 10.0 +10
SKI LR LR
comp=Z,6μm,21.0s
ANWB Willy Bob 101.39 41 PFAKE 18 58 10.0 +9.5
ANWB LR LR
comp=Z,3μm,20.0s
FURI Furi 101.44 301 PFAKE 18 58 10.0 +8.8
FURI LR LR
comp=Z,9μm,19.0s
TAM Tamanrasset 102.16 336 PFAKE 18 58 20.0 +16
TAM LR LR
comp=Z,5μm,21.0s
PAYG Puerto Ayora 102.31 75 PFAKE 18 58 20.0 +15
PAYG LR LR
comp=Z,2μm,21.0s
MSEY Mahe Island 102.79 279 PFAKE 18 58 20.0 +13
MSEY LR LR
comp=Z,8μm,19.0s
FDF Fort de France 104.29 41 PFAKE 18 58 30.0 +16
FDF LR LR
comp=Z,4μm,20.0s
SDV Santo Domingo 105.19 53 PFAKE 19 02 40.0 +8.0
SDV LR LR
comp=Z,4μm,19.0s
SVB Belmont 105.57 42 PFAKE 19 02 40.0 +7.6
SVB LR LR
comp=Z,4μm,21.0s
MCQ Macquarie Isla 106.33 181 PFAKE 19 02 40.0 +7.6
MCQ LR LR
comp=Z,5μm,19.0s
BBGH Gun Hill 106.37 41 PFAKE 19 02 50.0 +16
BBGH LR LR
comp=Z,6μm,22.0s
GRGR Grenville 106.42 43 PFAKE 19 02 50.0 +16
GRGR LR LR
comp=Z,3μm,20.0s
OTAV Otavalo 108.40 64 PFAKE 19 02 50.0 +12
OTAV LR LR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 110.58 297 PFAKE 19 02 50.0 +7.9
KMBO LR LR
comp=Z,9μm,20.0s
NAI Nairobi 110.95 297 PFAKE 19 02 50.0 +7.3
NAI LR LR
comp=Z,12μm,18.0s
TOC1 Torodi Ar. Sit 112.34 337 PFAKE 19 03 00.0 +15
TOC1 LR LR
comp=Z,8μm,18.0s
TOC2 Torodi Ar. Sit 112.35 337 PFAKE 19 03 00.0 +15
TOC2 LR LR
comp=Z,6μm,18.0s
TOC7 Torodi Ar. Sit 112.35 337 PFAKE 19 03 00.0 +15
TOC7 LR LR
comp=Z,6μm,19.0s
TOB2 Torodi Ar. Sit 112.35 337 PFAKE 19 03 00.0 +15
TOB2 LR LR
comp=Z,11μm,18.0s
TOA1 Torodi Ar. Sit 112.36 337 ePdif **Pdif 18 58 52.8 +3.4**
TOB5 Torodi Ar. Sit 112.36 337 PFAKE 19 03 00.0 +15
TOB5 LR LR
comp=Z,7μm,18.0s
TOA2 Torodi Ar. Sit 112.36 337 PFAKE 19 03 00.0 +15
TOA2 LR LR
comp=Z,6μm,19.0s
TOA0 Torodi Ar. Sit 112.36 337 PFAKE 19 03 00.0 +15
TOA0 LR LR
comp=Z,7μm,18.0s
TORD Torodi Ar. Bea 112.36 337 Pdiff **Pdif 18 58 52.8 +3.4**
comp=Z,0.7nm,0.9s,baz=217,slow=22,SNR=3.6
TORD PKiKP **PKiKP 19 02 44.0 -1.1**
comp=Z,1.6nm,0.7s,baz=23,slow=2.1,SNR=5.3
TORD PP **PP 19 03 26.4 -3.4**
comp=Z,12nm,1.2s,baz=40,slow=4.1,SNR=8.6
TOC3 Torodi Ar. Sit 112.36 337 PFAKE 19 03 00.0 +15
TOC3 LR LR
comp=Z,6μm,18.0s
TOA3 Torodi Ar. Sit 112.37 337 PFAKE 19 03 00.0 +15
TOA3 LR LR
comp=Z,6μm,18.0s
TOB3 Torodi Ar. Sit 112.37 337 PFAKE 19 03 00.0 +15
TOB3 LR LR
comp=Z,6μm,18.0s
TOB4 Torodi Ar. Sit 112.37 337 PFAKE 19 03 00.0 +15
TOB4 LR LR
comp=Z,6μm,18.0s
TOC5 Torodi Ar. Sit 112.38 337 PFAKE 19 03 00.0 +15
TOC5 LR LR
comp=Z,7μm,18.0s
TOC4 Torodi Ar. Sit 112.39 337 PFAKE 19 03 00.0 +15
TOC4 LR LR
comp=Z,6μm,18.0s
MBAR Mbarara 113.62 303 PFAKE 19 03 00.0 +12
MBAR LR LR
comp=Z,400nm,21.0s
PTGA Pitinga 118.64 47 PFAKE 19 03 10.0 +13
PTGA LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 118.95 276 PFAKE 19 03 10.0 +12
ABPO LR LR
comp=Z,5μm,19.0s
DBIC Dimbokro 120.02 343 PKP **PKiKP 19 03 00.4 +0.5**
comp=Z,10nm,0.7s,baz=358,slow=1.9,SNR=14
DBIC PP **PP 19 04 19.2 -4.2**
comp=Z,9.4nm,1.0s,baz=348,slow=6.9,SNR=6.4
TIC Toumodi 120.07 343 ePKiKP **PKiKP 19 03 01.0 +0.9**
KIC Kosan Boka 120.30 343 ePKiKP **PKiKP 19 03 01.2 +0.7**
comp=Z,19nm,0.7s
LIC Lamto 120.49 343 ePKiKP **PKiKP 19 03 01.7 +0.8**
comp=Z,51nm,1.2s
CASY Casey 124.06 202 PFAKE 19 03 20.0 +14
CASY LR LR
comp=Z,2μm,19.0s
LSZ Lusaka 127.24 296 PFAKE 19 03 30.0 +16
LSZ LR LR
comp=Z,10μm,18.0s
LPAZ La Paz 127.70 65 PKP **PKiKP 19 03 15.6 -0.2**
comp=Z,3.8nm,0.8s,baz=353,slow=3.8,SNR=12
LPAZ La Paz 127.70 65 eP **PKPdf 19 03 14.1 -1.1**
MNMC Minye Minye 129.14 69 ePKPdf **PKiKP 19 03 18.8 +0.7**
MNMC LR LR
comp=Z,2μm,19.0s
VNDA Vanda 129.44 180 PKP **PKiKP 19 03 16.6 -0.1**
comp=Z,1.2nm,0.8s,baz=322,slow=4.3,SNR=11
CLDB Colider 129.49 49 eP **PKiKP 19 03 18.5 -0.2**
PB11 IPOC Station P 129.60 69 PFAKE 19 03 30.0 +11
PB11 LR LR
comp=Z,2μm,20.0s
GO01 Chusmiza 129.79 69 PFAKE 19 03 30.0 +10
GO01 LR LR
comp=Z,2μm,20.0s
SBA Scott Base 129.84 178 ePKPdf **PKiKP 19 03 17.9 +0.4**
SBA LR LR
comp=Z,3μm,20.0s
SBA Scott Base 129.84 178 ePKIKP **PKiKP 19 03 17.9 +0.4**
SBA MLR MLR
comp=Z,3μm,20.0s
PB01 IPOC Station P 130.71 70 ePKPdf **PKPdf 19 03 20.6 +0.4**
PB01 LR LR
comp=Z,2μm,20.0s
RCBR Riachuelo 131.87 22 PFAKE 19 03 30.0 +6.4
RCBR LR LR
comp=Z,3μm,20.0s
RCBR Riachuelo 131.87 22 eP **PKPdf 19 03 22.7 +0.1**
PB10 IPOC Station P 131.99 73 PFAKE 19 03 30.0 +6.6
PB10 LR LR
comp=Z,2μm,21.0s
LVC Limon Verde 132.26 71 ePKPdf **PKiKP 19 03 24.6 +0.1**
LVC LR LR
comp=Z,2μm,19.0s
LVC Limon Verde 132.26 71 ePKIKP **PKiKP 19 03 24.6 +0.1**
LVC MLR MLR
comp=Z,2μm,19.0s
LVC Limon Verde 132.26 71 eP **PKiKP 19 03 24.1 -0.3**
GO02 Mina Guanaco 133.81 74 PFAKE 19 03 40.0 +13
GO02 LR LR
comp=Z,2μm,21.0s
GO03 Copiap 135.23 77 PFAKE 19 03 40.0 +10
GO03 LR LR
comp=Z,2μm,20.0s
LCO Las Campanas 135.99 79 eP **PKiKP 19 03 31.0 -0.7**
TSUM Tsumeb 136.13 304 PFAKE 19 03 40.0 +7.9
TSUM LR LR
comp=Z,5μm,20.0s
LBTB Lobatse 136.44 291 ePKPdf **PKiKP 19 03 32.5 -0.1**
GO04 Tololo Observa 136.76 80 PFAKE 19 03 40.0 +6.8
GO04 LR LR
comp=Z,2μm,19.0s
BDFB Brasilia 137.14 42 PKP **PKiKP 19 03 33.9 -0.3**
comp=Z,4.4nm,0.7s,baz=176,slow=5.4,SNR=5.4
AQDB Aquidauana 137.79 55 eP **PKPdf 19 03 33.0 -0.3**
JANB Januaria 138.07 37 eP **PKPdf 19 03 33.6 -0.4**
PEL Peldehue 138.90 83 PFAKE 19 03 50.0 +13
PEL LR LR
comp=Z,2μm,19.0s
MAW Mawson 139.34 216 PKhKP PKPpre 19 03 27.3
comp=Z,2.7nm,0.8s,baz=35,slow=4.3,SNR=3.0
MAW PKP **PKPdf 19 03 35.3 +0.7**
comp=Z,12nm,1.0s,baz=100,slow=3.3,SNR=11
BOSA Boshof 139.36 288 PKhKP PKPpre 19 03 31.6
comp=Z,2.6nm,0.7s,baz=43,slow=0.7,SNR=5.3
BOSA PKP **PKPdf 19 03 37.0 +0.9**
comp=Z,4.9nm,0.6s,baz=33,slow=2.7,SNR=6.6
GO05 Huala 139.40 86 PFAKE 19 03 50.0 +12
GO05 LR LR
comp=Z,2μm,20.0s
MCI8 Montes Claros 139.68 38 eP **PKPdf 19 03 37.8 +0.8**
MCI9 Montes Claros 139.73 38 eP **PKPdf 19 03 38.1 +1.1**
MCI6 Montes Claros 139.82 38 eP **PKPdf 19 03 37.8 +0.6**
TRCB Terra Rica 141.27 53 eP **PKPdf 19 03 39.9 +0.2**
CPUP Villa Florida 141.71 62 PKhKP PKPpre 19 03 36.4
comp=Z,4.4nm,0.9s,baz=301,slow=7.5,SNR=3.3
CPUP PKP **PKPdf 19 03 41.2 +0.9**
comp=Z,16nm,1.2s,baz=2.1,slow=1.6,SNR=8.0
CPUP Villa Florida 141.71 62 eP **PKPdf 19 03 41.3 +1.1**
QSPA South Pole Qui 141.93 180 PFAKE 19 03 50.0 +7.6
QSPA LR LR
comp=Z,3μm,20.0s
SHEL Horse Pasture 142.20 338 PFAKE 19 03 50.0 +5.5
SHEL LR LR
comp=Z,3μm,21.0s
SJMB Sao Joao De Ma 142.55 35 eP **PKPdf 19 03 43.4 +1.4**
GO06 Curarrehue 142.58 91 PFAKE 19 03 50.0 +5.3
GO06 LR LR
comp=Z,2μm,20.0s
PTGB Pitanga 143.16 54 eP **PKPdf 19 03 43.4 +0.4**
FRTB Fartura 143.22 50 eP **PKPdf 19 03 43.7 +0.6**
BSCB Bom Sucesso 143.28 42 eP **PKPdf 19 03 43.7 +0.4**
GO07 Milladeo Hill, 143.28 98 PFAKE 19 04 00.0 +14
GO07 LR LR
comp=Z,6μm,19.0s
RCLB Rio Claro- Sao 143.35 46 eP **PKPdf 19 03 43.7 +0.3**
RIB01 Linhares ES 143.40 34 eP **PKPdf 19 03 44.9 +1.4**
PLCA Paso Flores 143.83 92 ePKPdf PKPbc 19 03 42.1 +0.7
PLCA Paso Flores 143.83 92 ePKIKP PKPbc 19 03 42.1 +0.6
PLCA Paso Flores 143.83 92 PKP **PKPdf 19 03 43.2 -0.5**
comp=Z,22nm,1.2s,baz=326,slow=3.6,SNR=10
PLCA Paso Flores 143.83 92 eP **PKPdf 19 03 43.6 0.0**
SPB Sao Paulo 144.41 47 ePKPdf **PKPdf 19 03 44.9 -0.2**
SPB LR LR
comp=Z,2μm,20.0s
SPB Sao Paulo 144.41 47 eP **PKPdf 19 03 45.2 +0.1**
ALF01 Guarapari-ES 144.48 35 eP **PKPdf 19 03 45.5 +0.2**
SUR Sutherland 144.72 288 ePKPdf **PKPdf 19 03 45.8 +0.1**
SUR LR LR
comp=Z,6μm,18.0s
VAS01 Vassouras-RJ 144.96 41 eP PKPbc 19 03 45.5 +0.1
TIJ01 Guaruva-PR 145.16 51 eP **PKPbc 19 03 45.8 -0.3**
ITAB Concordia 145.19 57 eP **PKPab 19 03 46.1 0.0**
DUB01 Friburgo-RJ 145.20 39 eP **PKPbc 19 03 46.1 -0.2**
ESAR Angra dos Reis 145.22 43 eP **PKPbc 19 03 45.8 -0.4**
TRQA Tornquist 147.46 81 ePKPdf **PKPbc 19 03 51.3 -1.2**
TRQA LR LR
comp=Z,3μm,19.0s
TRQA Tornquist 147.46 81 ePKP2 **PKPbc 19 03 51.3 -1.2**
TRQA MLR MLR
comp=Z,3μm,19.0s
TRQA Tornquist 147.46 81 eP **PKPdf 19 03 50.2 +0.3**
CNLB Canela 147.53 57 eP **PKPbc 19 03 52.0 -1.0**
TER01 Tubaro-SC 147.78 54 eP **PKPdf 19 03 52.2 +1.4**
SYO Syowa Base 148.06 216 ⇑i/PKPdf **PKPbc 19 03 51.8 -1.2**
SYO Syowa Base 148.06 216 ⇑i/PKPbc **PKiKP 19 03 55.0 +0.2**
SYO Syowa Base 148.06 216 ⇑i/PKiKP **PKPab 19 03 56.4 +0.4**
EFI East Falkland 156.49 104 PFAKE 19 04 10.0 +7.2
EFI LR LR
comp=Z,7μm,20.0s
SNAA Sanae 159.07 195 P **PKPab 19 04 41.5 -1.0**
SNAA Sanae 159.07 195 ePKPdf **PKPdf 19 04 04.9 -0.7**
SNAA LR LR
comp=Z,4μm,21.0s
VNA3 Neumayer Olymp 160.36 190 P **PKPab 19 04 48.1 0.0**
VNA2 Neumayer--Watz 160.40 192 P **PKPab 19 04 48.1 -0.2**
VNA1 Neumayer--Stat 160.76 192 P **PKPab 19 04 49.5 -0.2**

KRSC 19 18:48:06.5±10.0, 52°.04N×160°.66E, h64km±10km, ML4.5,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.13**	**340**	P	Pn	18 48 27.2	+0.8
SPN				S	Sn	18 48 40.7	-0.5
RUS	**Russkaya**	**1.38**	**287**	P	Pn	18 48 30.9	+1.3
RUS				S	Sn	18 48 47.6	+0.6
NLC	**Nalytchevo**	**1.39**	**325**	P	Pn	18 48 31.6	+1.8
NLC				S	Sn	18 48 50.0	+2.8
DALK	**Dalny**	**1.53**	**311**	P	Pn	18 48 33.3	+1.6
DALK				S	Sn	18 48 53.0	+2.4
MTVR	**Mutnovka**	**1.59**	**287**	P	Pn	18 48 34.9	+2.3
MTVR				S	Sn	18 48 54.6	+2.4
KDTR	**Khodutka, Kamc**	**1.62**	**263**	P	Pn	18 48 35.2	+2.4
KDTR				S	Sn	18 48 53.9	+1.2
UGLR	**Uglovaya**	**1.62**	**317**	P	Pn	18 48 35.9	+2.9
SDLR	**Sedlovina**	**1.65**	**320**	P	Pn	18 48 35.9	+2.5
GRL	**Gorelyy**	**1.67**	**289**	P	Pn	18 48 36.4	+2.7
AVH	**Avacha**	**1.70**	**317**	P	Pn	18 48 36.3	+2.3
ASAK	**Asacha**	**1.73**	**282**	P	Pn	18 48 36.0	+1.5
KRMR	**Karymshinskiy**	**1.74**	**298**	P	Pn	18 48 36.5	+2.0
KRMR				S	Sn	18 48 58.8	+3.1
KOK	**Koryaka**	**1.76**	**316**	P	Pn	18 48 38.3	+3.4
KRX	**Arik**	**1.80**	**318**	P	Pn	18 48 38.7	+3.2
APC	**Apacha**	**2.32**	**294**	S	Sn	18 49 13.1	+3.4
MKZ	**Mys Kozlova**	**2.60**	**14**	S	Sn	18 49 18.2	+1.7
KZV	**Kizimen**	**3.09**	**356**	P	Pn	18 48 55.7	+2.8
TUMD	**Tumrok D**	**3.17**	**357**	S	Sn	18 49 33.8	+3.2

KBTR	Krutoberegovo	4.36	16	P	Pn	18 49 13.2	+3.0
KBTR				S	Sn	18 50 02.5	+2.8

KRSC 19 18:51:09.3±10.0, 52°.13N×160°.69E, h38km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.05 337		P	Pn	18 51 29.2	+1.8
SPN				S	Sn	18 51 41.8	+1.0
NLC	Nalytchevo	1.32 322		P	Pn	18 51 34.4	+3.2
NLC				S	Sn	18 51 50.4	+2.8
RUS	Russkaya	1.37 284		P	Pn	18 51 32.6	+0.8
RUS				S	Sn	18 51 49.0	+0.3
DALK	Dalny	1.49 308		P	Pn	18 51 35.3	+1.9
DALK				S	Sn	18 51 52.9	+1.3
MTVR	Mutnovka	1.58 284		P	Pn	18 51 36.1	+1.2
MTVR				S	Sn	18 51 55.3	+1.2
KDTR	Khodutka, Kamc	1.65 260		S	Sn	18 51 59.8	+4.2
KRMR	Karymshinskiy	1.71 295		S	Sn	18 52 01.2	+4.0
MKZ	Mys Kozlova	2.51	14	S	Sn	18 52 18.9	+2.2

*IDC **19** 18:52:11.5±33.0, 51°.98N×159°.89E, h0km, mb4.1/6, mb1 4.1/6, mb1mx3.6/52, mbtmp4.1/6, Error ellipse: s-maj=697.7km s-min=54.5km az=146.0*
*KRSC **19** 18:52:12.8±10.0, 51°.98N×160°.51E, h18km±10km, ML4.2*
ISC 19 18:52:12.2±2.2, 52°.00N±0°.07×160°.42E±0°.07, h9km±10km, n25, σ0°89/39, mb4.1/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.13 348		P	Pg	18 52 33.8	-0.1
SPN				S	Sg	18 52 48.3	-0.3
RUS	Russkaya	1.25 291		P	Pn	18 52 36.9	+1.0
RUS				S	Sn	18 52 53.9	+1.1
NLC	Nalytchevo	1.35 331		P	Pb	18 52 38.0	+0.4
NLC				S	Sn	18 52 55.3	+0.1
DALK	Dalny	1.45 316		P	Pn	18 52 39.1	+0.5
DALK				S	Sg	18 52 57.8	-1.1
MTVR	Mutnovka	1.46 290		P	Pg	18 52 40.3	+0.2
MTVR				S	Sn	18 52 59.7	+1.5
KDTR	Khodutka, Kamc	1.46 264		P	Pg	18 52 40.3	+0.1
KDTR				S	Sg	18 52 59.2	+0.1
GRL	Gorelyy	1.54 292		P	Pg	18 52 41.9	+0.1
GRL				S	Sg	18 53 03.4	+1.6
UGLR	Uglovaya	1.56 322		P	Pb	18 52 41.4	+0.2
UGLR				S	Sg	18 53 02.5	+0.3
SDLR	Sedlovina	1.59 325		P	Pb	18 52 41.9	+0.1
SDLR				S	Sg	18 53 02.8	-0.4
ASAK	Asacha	1.60 285		P	Pg	18 52 42.7	-0.1
ASAK				S	Sg	18 53 04.4	+0.9
SMAR	Somma	1.61 323		P	Pg	18 52 42.7	-0.3
KRMR	Karymshinskiy	1.63 302		P	Pb	18 52 42.3	-0.1
KRMR				S	Sg	18 53 03.4	-1.2
AVH	Avacha	1.63 322		P	Pg	18 52 43.0	-0.5
AVH				S	Sg	18 53 04.8	+0.2
KRER	Koryakskii	1.66 323		P	Pg	18 52 43.7	-0.3
KOK	Koryaka	1.69 321		P	Pb	18 52 43.9	+0.3
KRX	Arik	1.74 322		P	Pn	18 52 43.5	+0.8
PETK	Petropavlovsk-	2.00 305		Pn	Pb	18 52 48.7	0.0
PETK	13nm,0.3s,baz=107,slow=21,SNR=8.4			Sn	Sg	18 53 15.2	-1.2
	28nm,0.3s,baz=109,slow=20,SNR=9.8						
APC	Apacha	2.20 296		P	Pb	18 52 51.3	-0.8
APC				S	Sb	18 53 19.6	+0.1
KZV	Kizimen	3.12 359		P	Pn	18 53 04.3	+2.5
SPITS	Spitsbergen Ar	48.25 351		P	P	19 00 52.8	0.0
	8.5nm,1.0s,baz=42,slow=7.8,SNR=7.7						
KURBB	Kurchatov Arra	48.59 303		P	P	19 00 53.9	-1.8
	1.2nm,0.7s,baz=62,slow=7.7,SNR=4.4						
MKAR	Makanchi Array	48.82 297		P	P	19 00 55.9	-1.7
	0.9nm,0.8s,baz=69,slow=9.4,SNR=4.1						
BVAR	Borovoye Array	51.23 309		P	P	19 01 14.9	-0.8
	1.8nm,0.7s,baz=60,slow=7.4,SNR=4.3						
ARCES	ARCESS Array B	54.39 342		P	P	19 01 38.8	-0.1
	2.3nm,0.8s,baz=40,slow=8.6,SNR=3.2						
FINES	FINESS Array B	61.21 337		P	P	19 02 27.0	+0.2
	1.1nm,0.6s,baz=35,slow=8.4,SNR=6.8						

IDC 19 18:52:38.0±1.8, 52°.00N×160°.03E, h0km, mb4.0/8, mb1 4.0/8, mb1mx3.6/53, mbtmp4.0/8, Error ellipse: s-maj=59.7km s-min=27.8km az=89.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	1.81 309		Sn	Sg	18 53 44.7	+8.7
	24nm,0.3s,baz=109,slow=11,SNR=4.5						
H11N2	WAKE ISLAND Hy	32.65 168		T	T	19 34 03.6	
	baz=0.2,slow=76						
H11N3	WAKE ISLAND Hy	32.66 168		T	T	19 33 57.7	
	baz=0.2,slow=76						
H11N1	WAKE ISLAND Hy	32.67 168		T	T	19 33 57.6	
	baz=0.2,slow=76						
H11S1	WAKE ISLAND Hy	33.83 169		T	T	19 35 55.8	
	baz=343						
H11S3	WAKE ISLAND Hy	33.84 169		T	T	19 35 35.4	
	baz=343						
H11S2	WAKE ISLAND Hy	33.85 169		T	T	19 35 57.0	
	baz=343						
SPITS	Spitsbergen Ar	48.21 351		P	P	19 01 19.5	-0.1
	1.2nm,0.4s,baz=38,slow=7.3,SNR=9.1						
KURBB	Kurchatov Arra	48.38 303		P	P	19 01 21.1	-0.1
	1.2nm,0.8s,baz=61,slow=7.9,SNR=4.0						
MKAR	Makanchi Array	48.60 296		P	P	19 01 22.6	-0.4
	1.1nm,0.8s,baz=54,slow=6.1,SNR=4.9						
BVAR	Borovoye Array	51.04 309		P	P	19 01 41.6	+0.1
	1.5nm,0.7s,baz=60,slow=7.8,SNR=5.4						
ARCES	ARCESS Array B	54.32 342		P	P	19 02 05.1	-0.4
	1.6nm,0.8s,baz=42,slow=7.3,SNR=2.8						
FINES	FINESS Array B	61.11 337		P	P	19 02 53.2	-0.1
	3.8nm,0.7s,baz=33,slow=9.2,SNR=9.7						
BRTR	Keskin Array B	77.44 321		P	P	19 04 35.5	+0.4
	0.4nm,0.7s,baz=34,slow=4.2,SNR=2.1						
ASAR	Alice Springs	78.74 204		P	P	19 04 42.1	0.0
	0.6nm,0.9s,baz=354,slow=5.8,SNR=10.0						

*IDC **19** 18:56:35.1±1.8, 52°.28N×160°.09E, h0km, mb3.7/12, mb1 3.8/12, mb1mx3.5/53, mbtmp3.7/12, Error ellipse: s-maj=50.8km s-min=23.4km az=108.0*
*KRSC **19** 18:56:36.0±10.0, 52°.07N×160°.54E, h58km±10km, ML4.0*
*ISCJB **19** 18:56:37.4±0.9, 52°.06N±0°.05×160°.58E±0°.07, h41km±7km, mb3.8/11, Error ellipse: s-maj=8.7km s-min=5.8km az=140.1*
ISC 19 18:56:38.0±3.2, 52°.08N±0°.07×160°.51E±0°.06, h28km±21km, n34, σ0°92/53, mb3.7/11, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.06 344		P	Pn	18 56 56.0	-1.0
SPN				S	Sn	18 57 09.9	-0.9
RUS	Russkaya	1.28 287		P	Pn	18 56 59.2	-0.7
RUS				S	Sn	18 57 15.4	-0.6
NLC	Nalytchevo	1.30 328		P	Pn	18 56 59.9	-0.4
NLC				S	Sn	18 57 16.7	0.0
DALK	Dalny	1.43 312		P	Pn	18 57 01.5	-0.5
DALK				S	Sn	18 57 19.5	-0.4
MTVR	Mutnovka	1.48 287		P	Pn	18 57 02.7	-0.2
MTVR				S	Sn	18 57 21.1	-0.3
KDTR	Khodutka, Kamc	1.53 261		P	Pn	18 57 02.7	-0.6
KDTR				S	Sn	18 57 21.4	-0.8
UGLR	Uglovaya	1.53 319		P	Pn	18 57 03.8	+0.3
UGLR				S	Sn	18 57 23.4	+1.0
SDLR	Sedlovina	1.56 321		P	Pn	18 57 03.8	-0.1
SDLR				S	Sn	18 57 23.8	+0.6
GRL	Gorelyy	1.57 289		P	Pn	18 57 04.8	+0.8
GRL				S	Sn	18 57 24.6	+1.2
SMAR	Somma	1.58 320		P	Pn	18 57 04.0	-0.2
SMAR				S	Sn	18 57 23.7	-0.1
AVH	Avacha	1.60 319		P	Pn	18 57 05.0	+0.5
AVH				S	Sn	18 57 25.3	+1.0
KRER	Koryakskii	1.63 320		P	Pn	18 57 05.2	+0.3
KRER				S	Sn	18 57 25.8	+0.7
ASAK	Asacha	1.63 282		P	Pn	18 57 05.2	+0.3
ASAK				S	Sn	18 57 25.8	+0.8
KRMR	Karymshinskiy	1.64 298		P	Pn	18 57 04.6	-0.2
KRMR				S	Sn	18 57 24.9	-0.1
KOK	Koryaka	1.67 318		P	Pn	18 57 04.6	-0.8
KRX	Arik	1.71 319		P	Pn	18 57 06.2	+0.2
KRX				S	Sn	18 57 27.6	+0.6
PETK	Petropavlovsk-	2.00 302		Pn	Pn	18 57 10.0	+0.1
	7.3nm,0.3s,baz=112,slow=19,SNR=22						
PETK				Sn	Sb	18 57 37.7	-0.4
	25nm,0.3s,baz=104,slow=14,SNR=7.5						
APC	Apacha	2.22 294		P	Pn	18 57 13.6	+0.8
APC				S	Sn	18 57 40.2	+1.0
MKZ	Mys Kozlova	2.59	16	P	Pn	18 57 17.5	-0.4
MKZ				S	Sn	18 57 47.3	-1.1
KZV	Kizimen	3.04 358		P	Pn	18 57 25.8	+1.5
KZV				S	Sn	18 58 01.1	+1.2
ESO	Esso	4.00 345		P	Pn	18 57 39.0	+1.7
KBTR	Krutoberegovo	4.36	17	P	Pn	18 57 42.7	+0.5
MJAR	Matsushiro Arr	22.13 234		P	P	19 01 32.7	+1.5
	0.8nm,0.5s,baz=17,slow=11,SNR=5.1						
SPITS	Spitsbergen Ar	48.18 351		P	P	19 05 15.7	+0.6
	4.4nm,0.9s,baz=80,slow=10,SNR=5.5						
KURBB	Kurchatov Arra	48.59 303		P	P	19 05 16.2	-2.3
	1.1nm,0.9s,baz=66,slow=7.4,SNR=4.3						
MKAR	Makanchi Array	48.83 297		P	P	19 05 18.4	-2.1
	0.3nm,0.5s,baz=56,slow=6.2,SNR=5.0						
BVAR	Borovoye Array	51.22 309		P	P	19 05 36.7	-1.8
	0.8nm,0.6s,baz=62,slow=6.5,SNR=4.6						
ARCES	ARCESS Array B	54.33 342		P	P	19 06 00.3	-0.9
	3.0nm,0.9s,baz=39,slow=12,SNR=2.9						
CMAR	Chiang Mai Arr	58.23 259		P	P	19 06 31.0	+1.4
	0.3nm,0.6s,baz=40,slow=7.2,SNR=3.4						
FINES	FINESS Array B	61.15 337		P	P	19 06 49.3	+0.1
	1.2nm,0.9s,baz=32,slow=8.2,SNR=10						
NOA	NORSAR Array B	64.59 344		P	P	19 07 12.5	+0.3
	0.4nm,0.8s,baz=13,slow=5.1,SNR=3.0						
AKASG	Malin Array Be	69.62 329		P	P	19 07 43.7	-0.4
	0.2nm,0.3s,baz=31,slow=7.0,SNR=2.3						
ASAR	Alice Springs	78.94 205		P	P	19 08 39.6	+1.0
	0.3nm,0.8s,baz=18,slow=5.7,SNR=4.3						
ESDC	Sonseca Array	87.63 348		P	P	19 09 23.6	+0.1
	0.0nm,0.2s,baz=61,slow=7.9,SNR=2.6						

*IDC **19** 19:01:23.3±3.1, 51°.57N×160°.26E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.2/64, mbtmp3.5/5, ML2.4/1, Error ellipse: s-maj=72.1km s-min=49.3km az=43.0*
*KRSC **19** 19:01:29.2±10.0, 52°.08N×160°.51E, h18km±10km, ML3.7*
ISC 19 19:01:27.1±2.3, 52°.03N±0°.07×160°.49E±0°.08, h7km±11km, n22, σ0°96/36, mb3.5/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.11 345		P	Pg	19 01 48.4	0.0
SPN				S	Sg	19 02 01.6	-1.2
RUS	Russkaya	1.28 289		P	Pb	19 01 52.2	+0.6
RUS				S	Sb	19 02 08.4	+0.2
NLC	Nalytchevo	1.34 329		P	Pg	19 01 52.9	+0.1
NLC				S	Sb	19 02 09.9	0.0
DALK	Dalny	1.46 314		P	Pn	19 01 54.5	+0.6
DALK				S	Sn	19 02 12.7	-0.5
MTVR	Mutnovka	1.49 289		P	Pb	19 01 55.7	+0.5
MTVR				S	Sn	19 02 14.8	+0.6
KDTR	Khodutka, Kamc	1.51 263		P	Pb	19 01 56.0	+0.6
KDTR				S	Sn	19 02 15.1	+0.7
UGLR	Uglovaya	1.56 320		P	Pb	19 01 56.8	+0.4
UGLR				S	Sb	19 02 16.7	+0.4
SDLR	Sedlovina	1.59 323		P	Pb	19 01 57.2	+0.3
SDLR				S	Sb	19 02 17.4	+0.2
SMAR	Somma	1.61 321		P	Pb	19 01 57.0	-0.3
ASAK	Asacha	1.63 284		P	Pb	19 01 58.3	+0.7
ASAK				S	Sb	19 02 19.3	+0.9
AVH	Avacha	1.64 320		P	Pb	19 01 57.8	+0.2
AVH				S	Sb	19 02 18.6	+0.1
KRMR	Karymshinskiy	1.65 300		P	Pb	19 01 57.7	-0.2
KRER	Koryakskii	1.66 321		P	Pb	19 01 58.6	+0.5
KRER				S	Sb	19 02 19.9	+0.6
KOK	Koryaka	1.70 319		P	Pb	19 01 58.9	+0.2
KRX	Arik	1.74 321		P	Pb	19 01 59.5	0.0
PETK	Petropavlovsk-	2.02 303		Pn	Pn	19 02 03.0	+1.5
	5.5nm,0.3s,baz=102,slow=16,SNR=14						
PETK				Sn	Sn	19 02 28.3	+1.3
	10nm,0.3s,baz=94,slow=20,SNR=6.9						
APC	Apacha	2.23 295		P	Pb	19 02 07.3	-0.4
APC				S	Sb	19 02 34.8	-0.6
KZV	Kizimen	3.09 358		P	Pn	19 02 19.0	+2.5
KZV				S	Sn	19 02 54.6	+0.9
TIXI	Tiksi	24.15 336		P	P	19 06 42.3	-1.0
	0.4nm,0.4s,baz=133,slow=4.3,SNR=3.8						
KURBB	Kurchatov Arra	48.61 303		P	P	19 10 08.8	-2.2
	0.5nm,0.8s,baz=68,slow=8.0,SNR=3.9						
MKAR	Makanchi Array	48.84 297		P	P	19 10 10.6	-2.3
	0.1nm,0.5s,baz=47,slow=6.3,SNR=3.7						
FINES	FINESS Array B	61.20 337		P	P	19 11 42.5	+0.6
	0.9nm,0.7s,baz=46,slow=11,SNR=4.8						

*KRSC **19** 19:05:54.2±10.0, 52°.10N×160°.63E, h61km±10km, ML4.6*
*IDC **19** 19:05:54.0±0.6, 52°.27N×160°.20E, h0km, mb4.1/33, mb1 4.2/37, mb1mx4.1/69, mbtmp4.1/37, ML3.9/3, Error ellipse: s-maj=14.0km s-min=11.8km az=136.0*
*ISCJB **19** 19:05:57.6±0.6, 52°.17N±0°.03×160°.44E±0°.05, h43km±4km, mb4.2/71, Error ellipse: s-maj=6.7km s-min=3.6km az=138.2*
*MOS **19** 19:05:57.4±1.2, 52°.18N×160°.43E, h44km, mb4.6/26, Error ellipse: s-maj=6.7km s-min=3.4km az=100.3*
*NEIC **19** 19:05:58.5±0.4, 52°.13N×160°.29E, h35km, mb4.4/22, Error ellipse: s-maj=8.7km s-min=6.3km az=162.0*
ISC 19 19:05:57.6±1.2, 52°.14N±0°.04×160°.54E±0°.04, h31km±8km, n258, σ1°26/281, mb4.3/72, 20C-17D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.01 342		eP	Pn	19 06 14.2	-1.4
SPN				eS	Sn	19 06 27.7	-1.1
SPN	Mys Shipunski	1.01 342		PN	Pn	19 06 14.2	-1.4
SPN				S	Sn	19 06 27.7	-1.1
NLC	Nalytchevo	1.26 325		eP	Pn	19 06 18.8	-0.3
NLC				eS	Sb	19 06 36.1	-0.5
NLC	Nalytchevo	1.26 325		PN	Pn	19 06 18.8	-0.3
NLC				S	Sb	19 06 36.1	-0.5
RUS	Russkaya	1.28 284		eP	Pn	19 06 18.0	-1.4
RUS				eS	Sn	19 06 34.5	-0.9
RUS	Russkaya	1.28 284		PN	Pn	19 06 18.0	-1.4
RUS				S	Sn	19 06 34.5	-0.9
DALK	Dalny	1.41 310		eP	Pn	19 06 20.2	-0.9
DALK				eS	Sn	19 06 38.2	-0.4
DALK	Dalny	1.41 310		PN	Pn	19 06 20.2	-0.9
DALK				S	Sn	19 06 38.2	-0.4
PET	Petropavlovsk	1.45 308		ePn	Pn	19 06 21.1	-0.7
PET	Petropavlovsk	1.45 308		i/PN	Pn	19 06 21.0	-0.7
PET				eS	Sn	19 06 40.0	+0.3
PET				pmax	pmax		
	comp=Z,984nm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.7s						
PET				smax	smax		
	comp=N,2μm,0.7s						
MTVR	Mutnovka	1.49 284		eP	Pn	19 06 21.4	-1.0
MTVR				eS	Sn	19 06 40.7	-0.1
MTVR	Mutnovka	1.49 284		PN	Pn	19 06 21.4	-1.0
MTVR				S	Sn	19 06 40.7	-0.1
UGLR	Uglovaya	1.49 316		eP	Pn	19 06 22.5	+0.1
UGLR	Uglovaya	1.49 316		PN	Pn	19 06 22.5	+0.1
SDLR	Sedlovina	1.52 319		eP	Pn	19 06 22.5	-0.3
SDLR	Sedlovina	1.52 319		PN	Pn	19 06 22.5	-0.3
SMAR	Somma	1.54 317		eP	Pn	19 06 22.5	-0.7
SMAR	Somma	1.54 317		PN	Pn	19 06 22.5	-0.7
KDTR	Khodutka, Kamc	1.56 259		eP	Pn	19 06 21.9	-1.3
KDTR				eS	Sn	19 06 40.8	-1.6
KDTR	Khodutka, Kamc	1.56 259		PN	Pn	19 06 21.9	-1.3
KDTR				S	Sn	19 06 40.8	-1.6
GRL	Gorelyy	1.57 286		eP	Pn	19 06 23.4	-0.1
GRL	Gorelyy	1.57 286		PN	Pn	19 06 23.4	-0.1
AVH	Avacha	1.57 316		eP	Pn	19 06 23.8	+0.3
AVH	Avacha	1.57 316		PN	Pn	19 06 23.8	+0.3
KRER	Koryakskii	1.59 318		eP	Pn	19 06 24.1	+0.2
KRER	Koryakskii	1.59 318		PN	Pn	19 06 24.1	+0.2
KRMR	Karymshinskiy	1.63 296		eP	Pn	19 06 23.5	-0.6
KRMR				eS	Sn	19 06 43.3	-0.7
KRMR	Karymshinskiy	1.63 296		PN	Pn	19 06 23.5	-0.6
KRMR				S	Sn	19 06 43.3	-0.7
KOK	Koryaka	1.63 316		eP	Pn	19 06 24.0	-0.3
KOK	Koryaka	1.63 316		PN	Pn	19 06 24.0	-0.3
ASAK	Asacha	1.64 279		eP	Pn	19 06 24.2	-0.2
ASAK	Asacha	1.64 279		PN	Pn	19 06 24.2	-0.2
KRX	Arik	1.68 317		eP	Pn	19 06 24.4	-0.6
KRX	Arik	1.68 317		PN	Pn	19 06 24.4	-0.6
PEA0B	Petropavlovsk-	1.98 300		ePn	Pn	19 06 29.3	+0.2
PEA0B	Petropavlovsk-	1.98 300		ePN	Pn	19 06 29.3	+0.2
PETK	Petropavlovsk-	1.98 300		ePn	Pn	19 06 29.0	-0.1
PETK	Petropavlovsk-	1.98 300		ePN	Pn	19 06 29.0	-0.1
PETK	Petropavlovsk-	1.98 300		Pn	Pn	19 06 28.7	-0.3
	comp=N,37nm,0.3s,baz=109,slow=18,SNR=137						
PETK				Sn	Sb	19 06 58.3	+1.0
	comp=N,77nm,0.3s,baz=274,slow=22,SNR=12						
PEA1	Petropavlovsk-	1.99 300		ePn	Pn	19 06 28.7	-0.4
PEA1				eSn	Sb	19 06 58.3	+0.9
APC	Apacha	2.21 292		eP	Pn	19 06 33.0	+0.9
APC				eS	Sn	19 06 59.7	+1.3
APC	Apacha	2.21 292		PN	Pn	19 06 33.0	+0.9
APC				S	Sn	19 06 59.7	+1.3
PAU	Pauzhetka	2.41 255		eP	Pn	19 06 34.6	-0.3
PAU	Pauzhetka	2.41 255		PN	Pn	19 06 34.6	-0.3
MKZ	Mys Kozlova	2.52	16	eP	Pn	19 06 35.6	-0.8
MKZ	Mys Kozlova	2.52	16	PN	Pn	19 06 35.6	-0.8
KZV	Kizimen	2.98 357		eP	Pn	19 06 43.2	+0.3
KZV				eS	Sn	19 07 16.6	-1.0
KZV	Kizimen	2.98 357		PN	Pn	19 06 43.2	+0.3
KZV				S	Sn	19 07 16.6	-1.0
TUMD	Tumrok D	3.07 358		eP	Pn	19 06 44.1	+0.1
TUMD				eS	Sn	19 07 19.0	-0.6
SKR	Severo-Kuril's	3.13 244		eP	Pn	19 06 44.3	-0.5
SKR				eS	Sn	19 07 18.7	-2.4
SKR	Severo-Kuril's	3.13 244		ePN	Pn	19 06 44.3	-0.5
SKR				pmax	pmax		
	comp=Z,96nm,1.3s						
TUMR	Tumrok	3.15 356		PN	Pn	19 06 44.1	-1.2
TUMR				S	Sn	19 07 19.0	-2.9
ALID	Alaid	3.37 250		eP	Pn	19 06 49.2	+1.0
ALID	Alaid	3.37 250		PN	Pn	19 06 49.2	+1.0
ESO	Esso	3.94 345		eP	Pn	19 06 58.2	+2.2
ESO	Esso	3.94 345		PN	Pn	19 06 58.2	+2.2
KOZ	Kozyrevsk	3.94 355		eP	Pn	19 06 57.3	+1.3
KOZ	Kozyrevsk	3.94 355		PN	Pn	19 06 57.3	+1.3
LGNR	Loginova	3.95	1	eP	Pn	19 06 56.7	+0.4
LGNR	Loginova	3.95	1	PN	Pn	19 06 56.7	+0.4
CIRR	Tsirk	3.98	2	eP	Pn	19 06 57.0	+0.4
CIRR	Tsirk	3.98	2	PN	Pn	19 06 57.0	+0.4
KLY	Klyuchi	4.18	1	eP	Pn	19 07 00.2	+1.0
KLY	Klyuchi	4.18	1	PN	Pn	19 07 00.2	+1.0
SRDR	Sredinnyy	4.21 354		eP	Pn	19 07 00.9	+1.2
SRDR	Sredinnyy	4.21 354		PN	Pn	19 07 00.9	+1.2
KBTR	Krutoberegovo	4.29	17	eP	Pn	19 07 00.3	-0.4
KBTR	Krutoberegovo	4.29	17	PN	Pn	19 07 00.3	-0.4
BDR	Baidarnaya	4.45	5	eP	Pn	19 07 03.2	+0.2
BDR	Baidarnaya	4.45	5	PN	Pn	19 07 03.2	+0.2
BKI	Bering	4.45	44	eP	Pn	19 07 01.7	-1.2
BKI				eS	Sn	19 07 49.2	-4.4
BKI	Bering	4.45	44	PN	Pn	19 07 01.7	-1.2
SMKR	Semkarok	4.48	7	eP	Pn	19 07 04.3	+0.9
SMKR	Semkarok	4.48	7	PN	Pn	19 07 04.3	+0.9
SRKR	Sorokina	4.54	4	eP	Pn	19 07 05.5	+1.3
SRKR	Sorokina	4.54	4	PN	Pn	19 07 05.5	+1.3
PALN	Palana	6.97 358		eP	Pn	19 07 38.5	+1.0
PALN	Palana	6.97 358		PN	Pn	19 07 38.5	+1.0
OSSR	Ossora	7.26	10	eP	Pn	19 07 41.5	0.0
OSSR	Ossora	7.26	10	PN	Pn	19 07 41.5	0.0
TILK	Tilichiki	8.88	18	eP	Pn	19 08 03.3	-0.4
TILK	Tilichiki	8.88	18	PN	Pn	19 08 03.3	-0.4
MA2	Magadan	9.25 327		Pn	Pn	19 08 09.5	+0.8
	comp=Z,0.3nm,0.3s,baz=139,slow=19,SNR=3.0						
SEY	Seymchan	11.66 341		Pn	Pn	19 08 42.6	+1.0
	comp=Z,0.0nm,0.3s,baz=18,slow=20,SNR=2.4						
ASAJ	Asahikawa	14.40 243		Pn	Pn	19 09 18.8	-0.4
	comp=Z,0.6nm,0.3s,baz=63,slow=15,SNR=5.2						
GRNR	Gornyy	15.08 274		eP	P	19 09 34.6	+1.3
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
BILL	Bilibino	16.19	8	eP	Pn	19 09 41.8	-0.7
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TEY	Ternei	17.31 255		eP	P	19 09 57.6	-0.3
KLR	Kul'dur	18.42 272	‖	eP	P	19 10 10.1	-0.1
KLR	Kul'dur	18.42 272		P	P	19 10 09.8	-0.4
	comp=Z,0.2nm,0.3s,baz=53,slow=13,SNR=15						
YAK	Yakutsk	19.28 313		eP	P	19 10 16.6	-2.8
YAK				pmax	pmax		
	comp=N,30nm,0.9s						
YAK				pmax	pmax		
	comp=Z,210nm,0.9s						
YAK				pmax	pmax		
	comp=E,95nm,1.0s						
ZEA	Zeya	20.03 288		eP	P	19 10 25.4	-2.3
ZEA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
USRK	Ussuriysk Ar.	20.53 259		P	P	19 10 31.2	-2.1
	comp=Z,3.9nm,0.8s,baz=64,slow=8.8,SNR=5.8						
MJB9	Matsu-Tunnel	22.19 234		eP	P	19 10 48.4	-2.8
	comp=Z,10nm,0.8s						
MAJO	Matsushiro	22.19 234		eP	P	19 10 48.0	-3.2
	comp=Z,9.9nm,0.8s						
MAJO	Matsushiro	22.19 234		eP	P	19 10 48.0	-3.2
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MAT	Matsushiro	22.19 234		P	P	19 10 52.4	+1.2
MJAR	Matsushiro Arr	22.19 234

NVS pmax pmax
comp=E,5.0nm,1.0s
RES Resolute Bay 44.10 22 P P 19 14 03.2 +0.8
comp=E,0.5nm,0.7s,baz=249,slow=14,SNR=3.7
DGZ Jazzator, Alta 44.34 297⇓ *eP* **P 19 14 02.8 -2.0**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
CD2 Chengdu 46.16 266 *eP* **P 19 14 18.3 -1.0**
WMQ Urumqi 47.55 290 *eP* **P 19 14 32.1 +2.1**
SPA0 Spitsbergen Ar 48.12 351 *eP* **P 19 14 34.1 +0.2**
comp=Z,25nm,1.1s
SPITS Spitsbergen Ar 48.12 351 P P 19 14 34.1 +0.2
comp=Z,4.5nm,0.4s,baz=57,slow=10
KURK Kurchatov 48.47 303 *eP* **P 19 14 34.2 -2.7**
comp=Z,11nm,1.0s
KURK Kurchatov 48.47 303⇓ *eP* **P 19 14 34.6 -2.4**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURBB Kurchatov Arra 48.57 303 P P 19 14 35.5 -2.3
comp=Z,4.5nm,0.8s,baz=60,slow=7.8,SNR=30
MK31 Makanchi Array 48.82 297 *eP* **P 19 14 37.9 -1.8**
MK31 Makanchi Array 48.82 297 *eP* **P 19 14 37.9 -1.8**
MKAR Makanchi Array 48.82 297 P P 19 14 37.6 -2.1
comp=Z,2.2nm,0.7s,baz=57,slow=6.8,SNR=33
MAKZ Makanchi 48.98 297 *eP* **P 19 14 38.2 -2.8**
comp=Z,0.3nm,0.5s
MAKZ Makanchi 48.98 297 *eP* **P 19 14 38.2 -2.8**
BVAR Borovoye Array 51.20 309 P P 19 14 55.4 -2.2
comp=Z,3.9nm,0.6s,baz=55,slow=7.8,SNR=36
BRVK Borovoye 51.23 309 *eP* **P 19 14 56.5 -1.4**
comp=Z,5.7nm,0.6s
BRVK Borovoye 51.23 309⇓ *eP* **P 19 14 55.5 -2.4**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 51.36 360 *i* P P 19 14 45.5 -13
ARA0 ARCESS Array S 54.28 342 *eP* **P 19 15 19.2 -1.0**
ARCES ARCESS Array B 54.28 342 *eP* **P 19 15 20.1 -0.1**
ARCES ARCESS Array B 54.28 342 P P 19 15 19.2 -1.0
comp=Z,5.0nm,0.9s,baz=39,slow=8.8,SNR=8.5
ARE0 ARCESS Array S 54.28 342 *eP* **P 19 15 20.0 -0.2**
comp=Z,0.5nm,1.1s
ARU Arti 54.28 318 *eP* **P 19 15 19.3 -1.0**
comp=Z,6.3nm,0.5s
ARU Arti 54.28 318⇑ *eP* **P 19 15 19.6 -0.8**
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 54.28 318 P P 19 15 19.4 -1.0
comp=Z,2.1nm,0.4s,baz=69,slow=4.6,SNR=17
HLID Hailey 54.58 63 *eP* **P 19 15 25.1 +2.1**
comp=Z,1.6nm,0.9s
KDJ Kajisay 54.60 295 *eP* **P 19 15 22.1 -1.0**
comp=Z,5.8nm,1.1s
KDJ Kajisay 54.60 295 *eP* **P 19 15 22.1 -1.0**
KDJ pmax pmax
comp=Z,6.0nm,1.1s
SUMG Summit 54.87 7 *i* P **P 19 15 25.4 +0.5**
SUMG pmax pmax
comp=Z,10.0nm,0.7s
SUMG Summit 54.87 7 *i* P **P 19 15 25.4 +0.5**
comp=Z,10nm,0.7s
PRGR Permogore 55.39 328 *eP* **P 19 15 24.0 -4.3**
PRGR pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 55.75 297⇑ *eP* **P 19 15 29.7 -1.7**
AAK pmax pmax
comp=Z,2.0nm,1.0s
NV01 Mina Array Sit 55.81 70 *eP* **P 19 15 34.6 +2.7**
NVAR Mina Array Bea 55.81 70 P P 19 15 34.6 +2.6
comp=Z,0.4nm,0.6s,baz=292,slow=6.4,SNR=3.6
KSH Kashi 57.03 293 P P 19 15 43.3 +2.8
PD31 Pinedale Array 57.75 61 *eP* **P 19 15 47.2 +1.5**
PDAR Pinedale Array 57.75 61 P P 19 15 47.2 +1.5
comp=Z,0.5nm,0.6s,baz=338,slow=3.2,SNR=5.0
KLMR Klimovskoe 57.91 330 *eP* **P 19 15 44.5 -1.7**
KLMR pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 57.99 259 *eP* **P 19 15 48.2 +0.9**
comp=Z,6.8nm,1.1s
CHTO Chiang Mai 57.99 259 *eP* **P 19 15 48.2 +0.9**
CHTO pmax pmax
comp=Z,7.0nm,1.1s
CMAR Chiang Mai Arr 58.26 259 P P 19 15 50.5 +1.3
comp=Z,2.2nm,0.8s,baz=26,slow=6.9,SNR=19
ABKAR Akbulak array 58.62 311 *eP* **P 19 15 50.5 -0.9**
comp=Z,3.6nm,0.8s
JIRN Jiri 59.26 276 *eP* **P 19 15 55.9 -0.7**
comp=Z,13nm,0.7s
RAMN Ramite 59.52 276 *eP* **P 19 15 57.5 -0.7**
comp=Z,23nm,0.5s
KKN Kakani 59.73 277 *eP* **P 19 15 59.0 -0.6**
comp=Z,13nm,0.6s
PKI Pulchoki 59.80 277 *eP* **P 19 15 59.3 -1.0**
comp=Z,5.0nm,0.4s
PKIN Phulchoki 59.81 277 *eP* **P 19 15 59.4 -0.8**
comp=Z,6.9nm,0.7s
DMN Daman 59.96 277 *eP* **P 19 16 00.8 -0.5**
comp=Z,17nm,0.7s
GKN Gorkha 59.96 278 *eP* **P 19 16 00.3 -0.8**
comp=Z,9.4nm,0.6s
DANN Dangsing 60.25 279 *eP* **P 19 16 02.6 -0.7**
comp=Z,14nm,0.6s
KOLN Koldanda 60.77 278 *eP* **P 19 16 05.9 -0.8**
comp=Z,8.6nm,0.7s
PYUN Piuthan 60.90 279 *eP* **P 19 16 06.8 -0.8**
comp=Z,16nm,0.7s
FINES FINESS Array B 61.10 337 P P 19 16 08.4 +0.3
comp=Z,6.7nm,0.5s,baz=30,slow=8.5,SNR=81
FINES PP **PP 19 18 26.1 +3.8**
comp=Z,0.8nm,0.7s,baz=34,slow=8.6,SNR=3.8
OBN Obninsk 63.47 328 *eP* **P 19 16 22.0 -2.1**
OBN *e* 19 18 43.7
OBN pmax pmax
comp=Z,4.0nm,1.0s
NB2 NORSAR Subarra 64.53 344 P P 19 16 31.0 -0.1
comp=Z,2.3nm,0.7s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.53 344 P P 19 16 30.9 -0.1
NB2 pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 64.53 344 P P 19 16 31.1 -0.1
comp=Z,3.7nm,0.8s,baz=22,slow=6.6,SNR=16
VSR Storozhevoye 65.76 324⇓ *eP* **P 19 16 37.4 -1.8**
VSR pmax pmax
comp=Z,4.0nm,0.8s
GEYT Alibeck 67.84 304 P P 19 16 52.4 -0.3
comp=Z,2.2nm,0.6s,baz=48,slow=2.2,SNR=6.0
AKASG Malin Array Be 69.57 329 P P 19 17 02.4 -0.8
comp=Z,1.9nm,0.5s,baz=30,slow=6.5,SNR=10
AKBB Malin Array Si 69.57 329 *eP* **P 19 17 02.4 -0.8**
comp=Z,3.9nm,0.6s
AKBB Malin Array Si 69.57 329 *eP* **P 19 17 02.4 -0.8**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 69.58 329⇑ *iP* **P 19 17 01.8 -1.4**
KIEV Kiev 69.58 329⇑ *eP* **P 19 17 02.2 -1.0**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
KBZ Khabaz 70.42 317 P P 19 17 08.8 +0.4
comp=Z,2.9nm,0.7s,baz=97,slow=5.6,SNR=8.6
LTX Lajitas 70.76 67 *eP* **P 19 17 12.3 +1.4**
LTX Lajitas 70.76 67 *eP* **P 19 17 12.3 +1.4**
TXAR Lajitas Array 70.76 67 P P 19 17 12.3 +1.3
comp=Z,1.2nm,1.0s,baz=297,slow=4.6,SNR=6.5
HYB Hyderabad 71.56 275 *i* P **P 19 17 16.0 +0.2**
EKA Eskdalemuir Ar 72.04 350 P P 19 17 18.0 -0.1
EKA pmax pmax
comp=Z,1.0nm,0.4s
EKA Eskdalemuir Ar 72.04 350 P P 19 17 18.6 +0.5
comp=Z,0.6nm,0.4s,baz=16,slow=5.1,SNR=13
KOLS Kolonicke sedl 73.22 333 *eP* **P 19 17 26.0 +0.8**
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 73.22 333 *eP* **P 19 17 26.0 +0.8**
CLL Collm 73.34 339 *i* P **P 19 17 25.7 -0.2**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 73.34 339 *i* P **P 19 17 25.7 -0.2**
comp=Z,4.0nm,0.8s
DPC Dobruska-Polom 73.47 337 *eP* **P 19 17 27.6 +0.8**
DPC *e* 19 17 40.0
DPC Dobruska-Polom 73.47 337 *eP* **P 19 17 27.6 +0.8**
DPC *ep*P **pwP 19 17 40.0 +0.6**
BUR08 Bucovina Ar. S 73.51 330 *eP* **P 19 17 27.4 +0.2**
comp=Z,2.9nm,0.7s
BURAR Bucovina Array 73.53 330⇑ *iP* **P 19 17 27.7 +0.4**
BURAR Bucovina Array 73.53 330⇑ *iP* **P 19 17 27.7 +0.4**
MORC Moravsky Berou 73.71 336⇓ *iP* **P 19 17 29.2 +1.0**
MORC Moravsky Berou 73.71 336⇓ *P* **P 19 17 29.2 +1.0**
LANS Liptovska Anna 73.79 335 *eP* **P 19 17 30.4 +1.8**
LANS Liptovska Anna 73.79 335 *eP* **P 19 17 30.4 +1.8**
BIZ Bicaz 73.86 329⇑ *iP* **P 19 17 29.4 +0.3**
TRPA Tarpa 73.87 332⇓ *iP* **P 19 17 29.6 +0.6**
TESR Tescani 74.07 329⇑ *iP* **P 19 17 29.9 -0.4**
PRU Pruhonice 74.23 338 *eP* **P 19 17 31.6 +0.5**
PRU Pruhonice 74.23 338 *eP* **P 19 17 31.6 +0.5**
VRAC Vranov 74.38 336⇑ *iP* **P 19 17 33.4 +1.4**
VRAC Vranov 74.38 336⇑ *P* **P 19 17 33.4 +1.4**
VRAC Vranov 74.38 336 P **P 19 17 33.1 +1.0**
comp=Z,1.4nm,0.4s,baz=9.4,slow=3.9,SNR=4.5
VYHS Vyhne 74.56 335 *eP* **P 19 17 33.8 +0.7**
VYHS Vyhne 74.56 335 *eP* **P 19 17 33.8 +0.7**
VRI Vrincioaia 74.62 328⇑ *iP* **P 19 17 34.1 +0.6**
VRI Vrincioaia 74.62 328⇑ *P* **P 19 17 34.1 +0.6**
CFR Carcaliu 74.76 327⇑ *iP* **P 19 17 34.7 +0.4**
CFR Carcaliu 74.76 327⇑ *P* **P 19 17 34.7 +0.4**
MLR Muntele Rosu 75.20 329⇓ *iP* **P 19 17 38.1 +1.1**
MLR Muntele Rosu 75.20 329⇓ *P* **P 19 17 38.1 +1.1**
KHC Kasperske Hory 75.26 338 *eP* **P 19 17 38.0 +0.8**
KHC *e* 19 17 49.8
KHC Kasperske Hory 75.26 338 *eP* **P 19 17 38.0 +0.8**
KHC *ex* x 19 17 49.8
TLB Topalu 75.32 327⇑ *iP* **P 19 17 37.8 +0.3**
TLB Topalu 75.32 327⇑ *P* **P 19 17 37.8 +0.3**
WR1 Warramunga Arr 75.34 205 *eP* **P 19 17 38.1 +0.4**
WRA Warramunga Arr 75.34 205 P P 19 17 38.1 +0.4
comp=Z,0.7nm,0.8s,baz=24,slow=5.8,SNR=4.6
GERES GERESS Array B 75.50 338 P P 19 17 38.9 +0.3
comp=Z,0.6nm,0.5s,baz=43,slow=5.4,SNR=6.7
VOIR 75.53 329⇓ *iP* **P 19 17 39.7 +0.8**
VOIR 75.53 329⇓ *P* **P 19 17 39.7 +0.8**
ARR Arges 75.73 330⇓ *iP* **P 19 17 41.0 +1.1**
CONA Conrad Observa 75.84 336 P P 19 17 41.6 +1.1
comp=Z,0.8nm,0.6s
GZR Gura Zlata 76.27 331⇓ *iP* **P 19 17 43.3 +0.2**
GZR Gura Zlata 76.27 331⇓ *P* **P 19 17 43.3 +0.2**
MOA Molln 76.30 337 *epP* P 19 17 49.4 +6.3
comp=Z,4.3nm,1.3s
BZS Buzias 76.41 332⇓ *iP* **P 19 17 43.9 +0.2**
BZS Buzias 76.41 332⇓ *P* **P 19 17 43.9 +0.2**
ARSA Arzberg 76.55 336 *eP* **P 19 17 43.0 -1.5**
comp=Z,5.5nm,1.6s
SOKA Soboth 77.21 336 *eP* **P 19 17 49.4 +1.1**
comp=Z,1.5nm,0.6s
KBA Koelnbreinsper 77.24 338 *eP* **P 19 17 50.2 +1.6**
comp=Z,5.5nm,0.7s
MOTA Moosalm 77.49 339 P P 19 17 51.3 +1.3
comp=Z,2.3nm,0.8s
BRTR Keskin Array B 77.53 321 P P 19 17 50.5 +0.1
comp=Z,1.3nm,0.8s,baz=43,slow=4.0,SNR=7.0
SQTA Sankt Quirin 77.59 339 *i* P **P 19 17 51.4 +0.9**
comp=Z,3.5nm,1.0s
FETA Feichten 77.88 339 *eP* **P 19 17 52.7 +0.5**
comp=Z,3.0nm,0.9s
DAVOX Davos/Dischmat 78.29 340 P P 19 17 55.6 +1.1
comp=Z,1.6nm,0.5s,baz=148,slow=6.2,SNR=3.3
VTS Vitosha 78.64 329 *eP* **P 19 17 56.5 +0.1**
comp=Z,3.2nm,0.6s
VTS Vitosha 78.64 329⇑ *iP* **P 19 17 56.8 +0.3**
VTS Vitosha 78.64 329 *eP* **P 19 17 56.5 +0.1**
VTS pmax pmax
comp=Z,3.0nm,0.6s
AS31 Alice Springs 79.00 205 *eP* **P 19 17 59.3 +1.0**
comp=Z,0.5nm,0.9s
ASAR Alice Springs 79.01 205 P P 19 17 59.3 +1.0
comp=Z,0.5nm,0.5s,baz=18,slow=5.3,SNR=13
MMAI Mount Meron Ar 82.58 316 P P 19 18 17.8 +0.2
comp=Z,3.2nm,0.6s,baz=41,slow=6.6,SNR=12
ASF Jabal al Asfar 82.66 315 P P 19 18 17.6 -0.5
comp=Z,2.2nm,0.8s,baz=339,slow=20,SNR=5.5
ESDC Sonseca Array 87.57 348 P P 19 18 43.9 +1.4
comp=Z,0.5nm,0.6s,baz=4.0,slow=5.2,SNR=3.4

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*IDC **19** 19:06:22.7±3.4, 5.°05S×152.°04E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/42, mbtmp3.8/3, Error ellipse: s-maj=125.4km s-min=45.8km az=122.0*
*ISCJB **19** 19:06:38.6±0.6, 5.°82S±0.°05×151.°01E±0.°07, h43km, mb3.7/7, Error ellipse: s-maj=9.7km s-min=7.2km az=17.4*
*NEIC **19** 19:06:40.4±2.8, 5.°82S×151.°04E, h50km±24km, mb4.1/7, Error ellipse: s-maj=30.3km s-min=17.9km az=184.0*
ISC 19 19:06:39.9±0.9, 5.°84S±0.°09×151.°02E±0.°08, h43km, n15, σ1§28/15, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.99**	**35**	*ePn*	**Pn**	**19 07 12.5**	**+1.4**
RABL				*eSn*	**Sn**	**19 07 33.3**	**-1.6**
MANU	**Manus Island**	**5.24**	**316**	*ePn*	**Pn**	**19 07 55.3**	**-0.5**
MANU				*eSn*	**Sn**	**19 08 56.3**	**+1.4**
MTN	**Manton Dam**	**20.81**	**249**	*eP*	Pn	19 11 19.9	-0.7
	14nm,1.3s						
WRAB	**Tennant Creek**	**21.42**	**228**	*eP*	**P**	**19 11 24.9**	**+0.4**
	6.6nm,1.3s						
WB2	**Warramunga Arr**	**21.43**	**228**	*eP*	**P**	**19 11 23.2**	**-1.2**
	7.7nm,1.4s						
WR1	**Warramunga Arr**	**21.43**	**228**	*eP*	**P**	**19 11 26.7**	**+2.1**
WRA	**Warramunga Arr**	**21.44**	**228**	P	**P**	**19 11 26.7**	**+2.1**
	1.3nm,0.7s,baz=54,slow=9.5,SNR=12						
DZM	**Mont Dzumac**	**21.98**	**139**	*eP*	**P**	**19 11 30.4**	**0.0**
AS31	**Alice Springs**	**24.20**	**221**	*eP*	**P**	**19 11 52.8**	**+0.2**
	1.0nm,1.1s						
ASAR	**Alice Springs**	**24.20**	**221**	P	**P**	**19 11 52.8**	**+0.2**
	0.5nm,0.4s,baz=55,slow=9.2,SNR=22						
ARMA	**Armidale**	**24.46**	**179**	*eP*	**P**	**19 11 54.8**	**-0.2**
	16nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.61**	**242**	*eP*	**P**	**19 12 22.4**	**-1.1**
	7.1nm,1.3s						
FITZ	**Fitzroy Crossi**	**27.61**	**242**	P	**P**	**19 12 22.4**	**-1.1**
	1.3nm,0.6s,baz=56,slow=10,SNR=8.9						
CAN	**Canberra**	**29.40**	**183**	*eP*	**P**	**19 12 39.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**148.91**	**286**	PKPbc	PKPbc	19 26 15.5	-8.7
	0.2nm,0.6s,baz=70,slow=3.1,SNR=2.5						

KRSC 19 19:08:12.0±10.0, 52.°05N×160.°64E, h56km±10km, ML4.1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.11**	**341**	P	Pn	19 08 31.8	+0.4
SPN				S	Sn	19 08 44.6	-1.2
RUS	**Russkaya**	**1.36**	**287**	P	Pn	19 08 36.4	+1.7
RUS				S	Sn	19 08 52.9	+1.2
NLC	**Nalytchevo**	**1.37**	**325**	*eP*	Pn	19 08 36.4	+1.5
NLC				*eS*	Sn	19 08 53.7	+1.7
DALK	**Dalny**	**1.51**	**311**	*eP*	Pn	19 08 38.5	+1.7
DALK				*eS*	Sn	19 08 57.3	+1.9
MTVR	**Mutnovka**	**1.57**	**287**	*eP*	Pn	19 08 39.9	+2.2
MTVR				*eS*	Sn	19 08 59.3	+2.3
UGLR	**Uglovaya**	**1.60**	**317**	P	Pn	19 08 40.3	+2.2
KDTR	**Khodutka, Kamc**	**1.60**	**262**	*eP*	Pn	19 08 40.0	+2.0
KDTR				*eS*	Sn	19 08 59.7	+2.1
SDLR	**Sedlovina**	**1.63**	**320**	P	Pn	19 08 40.9	+2.4
SMAR	**Somma**	**1.65**	**318**	P	Pn	19 08 40.7	+1.8
GRL	**Gorelyy**	**1.65**	**289**	S	Sn	19 09 01.0	+2.0
AVH	**Avacha**	**1.68**	**317**	P	Pn	19 08 41.8	+2.7
AVH				S	Sn	19 09 03.2	+3.6
ASAK	**Asacha**	**1.72**	**282**	*eP*	Pn	19 08 42.0	+2.4
ASAK				*eS*	Sn	19 09 02.9	+2.4
KRMR	**Karymshinskiy**	**1.72**	**298**	*eP*	Pn	19 08 41.9	+2.3
KRMR				*eS*	Sn	19 09 02.6	+2.1
KOK	**Koryaka**	**1.74**	**316**	P	Pn	19 08 43.1	+3.1
KRX	**Arik**	**1.79**	**318**	P	Pn	19 08 42.9	+2.3
APC	**Apacha**	**2.30**	**294**	P	Pn	19 08 51.2	+3.7
APC				S	Sn	19 09 19.1	+4.5
MKZ	**Mys Kozlova**	**2.59**	**14**	*eS*	Sn	19 09 22.2	+0.4
KZV	**Kizimen**	**3.08**	**356**	*eP*	Pn	19 09 02.9	+4.7
SKR	**Severo-Kuril's**	**3.15**	**246**	S	Sn	19 09 38.1	+2.8
KBTR	**Krutoberegovo**	**4.36**	**16**	*eP*	Pn	19 09 19.3	+3.7

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*KRSC **19** 19:11:13.8±10.0, 51.°99N×160.°67E, h34km±10km, ML4.8*
*IDC **19** 19:11:14.8±0.6, 52.°36N×160.°10E, h0km, mb4.0/34, mb1 4.1/37, mb1mx4.0/75, mbtmp4.0/37, ML3.9/3, Error ellipse: s-maj=14.6km s-min=11.0km az=157.0*
*MOS **19** 19:11:19.4±1.2, 52.°22N×160.°21E, h52km, mb4.5/17, Error ellipse: s-maj=7.0km s-min=3.7km az=95.6*
*NEIC **19** 19:11:19.7±0.3, 52.°26N×160.°19E, h35km, mb4.3/18, Error ellipse: s-maj=7.9km s-min=5.1km az=160.0*
*ISCJB **19** 19:11:20.1±0.6, 52.°22N±0.°04×160.°21E±0.°06, h58km±4km, mb4.1/52, Error ellipse: s-maj=8.2km s-min=4.0km az=136.3*
ISC 19 19:11:20.4±1.2, 52.°16N±0.°05×160.°38E±0.°05, h48km±10km, n213, σ1§56/220, mb4.2/52, 8C-7D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.96**	**347**	*eP*	**Pn**	**19 11 34.9**	**-2.6**
SPN				*eS*	**Sn**	**19 11 49.6**	**-0.5**
SPN	**Mys Shipunski**	**0.96**	**347**	PN	**Pn**	**19 11 34.9**	**-2.6**
SPN				S	**Sn**	**19 11 49.6**	**-0.5**
RUS	**Russkaya**	**1.18**	**284**	*eP*	**Pn**	**19 11 38.3**	**-2.1**
RUS	**Russkaya**	**1.18**	**284**	PN	**Pn**	**19 11 38.3**	**-2.1**
NLC	**Nalytchevo**	**1.19**	**329**	*eP*	**Pn**	**19 11 39.1**	**-1.5**
NLC				*eS*	**Sn**	**19 11 57.2**	**+1.6**
NLC	**Nalytchevo**	**1.19**	**329**	PN	**Pn**	**19 11 39.1**	**-1.5**
NLC				S	**Sn**	**19 11 57.2**	**+1.6**
DALK	**Dalny**	**1.32**	**312**	*eP*	**Pn**	**19 11 40.8**	**-1.5**
DALK				*eS*	**Sn**	**19 11 59.7**	**+1.0**
DALK	**Dalny**	**1.32**	**312**	PN	**Pn**	**19 11 40.8**	**-1.5**
DALK				S	**Sn**	**19 11 59.7**	**+1.0**
PET	**Petropavlovsk**	**1.36**	**310**	*ePn*	**Pn**	**19 11 41.5**	**-1.3**
PET	**Petropavlovsk**	**1.36**	**310⇑**	*iPN*	**Pn**	**19 11 41.6**	**-1.3**
PET				*eS*	**Sn**	**19 11 59.8**	**+0.1**
PET				pmax	pmax		
	comp=Z,1μm,0.4s						
PET				smax	smax		
	comp=N,2μm,0.4s						
PET				smax	smax		
	comp=E,3μm,0.5s						
MTVR	**Mutnovka**	**1.38**	**284**	*eP*	**Pn**	**19 11 41.8**	**-1.5**
MTVR	**Mutnovka**	**1.38**	**284**	PN	**Pn**	**19 11 41.8**	**-1.5**
UGLR	**Uglovaya**	**1.41**	**319**	*eP*	**Pn**	**19 11 42.8**	**-0.9**
UGLR	**Uglovaya**	**1.41**	**319**	PN	**Pn**	**19 11 42.8**	**-0.9**
SDLR	**Sedlovina**	**1.44**	**322**	*eP*	**Pn**	**19 11 42.9**	**-1.2**
SDLR	**Sedlovina**	**1.44**	**322**	PN	**Pn**	**19 11 42.9**	**-1.2**
SMAR	**Somma**	**1.46**	**320**	*eP*	**Pn**	**19 11 43.3**	**-1.2**
SMAR	**Somma**	**1.46**	**320**	PN	**Pn**	**19 11 43.3**	**-1.2**
KDTR	**Khodutka, Kamc**	**1.46**	**257**	*eP*	**Pn**	**19 11 42.2**	**-2.1**
KDTR				*eS*	**Sn**	**19 12 02.5**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.46**	**257**	PN	**Pn**	**19 11 42.2**	**-2.1**
KDTR				S	**Sn**	**19 12 02.5**	**+0.2**
AVH	**Avacha**	**1.49**	**319**	*eP*	**Pn**	**19 11 43.9**	**-0.8**
AVH	**Avacha**	**1.49**	**319**	PN	**Pn**	**19 11 43.9**	**-0.8**
KRER	**Koryakskii**	**1.51**	**320**	*eP*	**Pn**	**19 11 44.2**	**-1.0**
KRER	**Koryakskii**	**1.51**	**320**	PN	**Pn**	**19 11 44.2**	**-1.0**
KRMR	**Karymshinskiy**	**1.53**	**297**	*eP*	**Pn**	**19 11 44.0**	**-1.2**
KRMR				*eS*	**Sn**	**19 12 06.2**	**+2.4**
KRMR	**Karymshinskiy**	**1.53**	**297**	PN	**Pn**	**19 11 44.0**	**-1.2**
ASAK	**Asacha**	**1.54**	**279**	*eP*	**Pn**	**19 11 44.3**	**-1.1**
ASAK	**Asacha**	**1.54**	**279**	PN	**Pn**	**19 11 44.3**	**-1.1**
KOK	**Koryaka**	**1.55**	**318**	*eP*	**Pn**	**19 11 44.7**	**-0.9**
KRX	**Arik**	**1.59**	**320**	*eP*	**Pn**	**19 11 45.2**	**-1.0**
KRX	**Arik**	**1.59**	**320**	PN	**Pn**	**19 11 45.2**	**-1.0**
PEA0B	**Petropavlovsk-**	**1.89**	**301**	*ePn*	**Pn**	**19 11 49.5**	**-0.6**
PEA0B	**Petropavlovsk-**	**1.89**	**301**	*ePN*	**Pn**	**19 11 49.5**	**-0.6**
PETK	**Petropavlovsk-**	**1.89**	**301**	Pn	**Pn**	**19 11 49.5**	**-0.7**
	comp=E,140nm,0.3s,baz=111,slow=18,SNR=109						
PETK				Sn	**Sn**	**19 12 15.4**	**+2.7**
	comp=E,197nm,0.3s,baz=114,slow=16,SNR=14						
PEA1	**Petropavlovsk-**	**1.89**	**301**	*ePn*	**Pn**	**19 11 49.5**	**-0.7**
PEA1				*eSn*	**Sn**	**19 12 15.4**	**+2.6**
APC	**Apacha**	**2.11**	**293**	*eP*	**Pn**	**19 11 53.0**	**-0.1**
APC				*eS*	**Sn**	**19 12 21.9**	**+3.8**
APC	**Apacha**	**2.11**	**293**	PN	**Pn**	**19 11 53.0**	**-0.1**
PAU	**Pauzhetka**	**2.32**	**254**	*eP*	**Pn**	**19 11 54.5**	**-1.5**
PAU	**Pauzhetka**	**2.32**	**254**	PN	**Pn**	**19 11 54.5**	**-1.5**
MKZ	**Mys Kozlova**	**2.53**	**18**	*eP*	**Pn**	**19 11 56.5**	**-2.4**
MKZ	**Mys Kozlova**	**2.53**	**18**	PN	**Pn**	**19 11 56.5**	**-2.4**
KZV	**Kizimen**	**2.96**	**359**	*eP*	**Pn**	**19 12 05.7**	**+0.8**
KZV	**Kizimen**	**2.96**	**359**	PN	**Pn**	**19 12 05.7**	**+0.8**
TUMD	**Tumrok D**	**3.05**	**0**	*eP*	**Pn**	**19 12 04.7**	**-1.3**
SKR	**Severo-Kuril's**	**3.05**	**243**	*eP*	**Pn**	**19 12 03.8**	**-2.2**
SKR				*eS*	**Sn**	**19 12 41.1**	**-0.1**
SKR	**Severo-Kuril's**	**3.05**	**243**	*ePN*	**Pn**	**19 12 04.5**	**-1.5**
SKR				*eS*	**Sn**	**19 12 46.6**	**+5.4**
SKR				pmax	pmax		
	comp=Z,171nm,0.6s						
SKR				smax	smax		
	comp=E,1μm,0.4s						
SKR				smax	smax		
	comp=N,2μm,0.7s						
TUMR	**Tumrok**	**3.13**	**358**	PN	**Pn**	**19 12 04.7**	**-2.5**
ALID	**Alaid**	**3.28**	**249**	*eP*	**Pn**	**19 12 07.7**	**-1.6**
ALID	**Alaid**	**3.28**	**249**	PN	**Pn**	**19 12 07.7**	**-1.6**
KPT	**Kopyto**	**3.81**	**359**	*eP*	**Pn**	**19 12 17.6**	**+1.0**
KPT	**Kopyto**	**3.81**	**359**	PN	**Pn**	**19 12 17.6**	**+1.0**
ESO	**Esso**	**3.90**	**346**	*eP*	**Pn**	**19 12 17.8**	**+0.1**
ESO	**Esso**	**3.90**	**346**	PN	**Pn**	**19 12 17.8**	**+0.1**
KOZ	**Kozyrevsk**	**3.92**	**356**	*eP*	**Pn**	**19 12 18.1**	**+0.2**
KOZ	**Kozyrevsk**	**3.92**	**356**	PN	**Pn**	**19 12 18.1**	**+0.2**
LGNR	**Loginova**	**3.93**	**3**	*eP*	**Pn**	**19 12 18.5**	**+0.1**
LGNR	**Loginova**	**3.93**	**3**	PN	**Pn**	**19 12 18.5**	**+0.1**
CIRR	**Tsirk**	**3.97**	**3**	*eP*	**Pn**	**19 12 20.3**	**+1.6**
CIRR	**Tsirk**	**3.97**	**3**	PN	**Pn**	**19 12 20.3**	**+1.6**
KLY	**Klyuchi**	**4.16**	**2**	P	**Pn**	**19 12 22.2**	**+0.9**
KLY	**Klyuchi**	**4.16**	**2**	PN	**Pn**	**19 12 22.2**	**+0.9**
SRDR	**Sredinnyy**	**4.18**	**355**	*eP*	**Pn**	**19 12 22.9**	**+1.3**
SRDR	**Sredinnyy**	**4.18**	**355**	PN	**Pn**	**19 12 22.9**	**+1.3**
KBTR	**Krutoberegovo**	**4.30**	**19**	*eP*	**Pn**	**19 12 21.7**	**-1.5**
KBTR	**Krutoberegovo**	**4.30**	**19**	PN	**Pn**	**19 12 21.7**	**-1.5**
BDR	**Baidarnaya**	**4.44**	**6**	*eP*	**Pn**	**19 12 27.2**	**+2.0**
BDR	**Baidarnaya**	**4.44**	**6**	PN	**Pn**	**19 12 27.2**	**+2.0**
SMKR	**Semkarok**	**4.48**	**8**	*eP*	**Pn**	**19 12 27.1**	**+1.5**
SMKR	**Semkarok**	**4.48**	**8**	PN	**Pn**	**19 12 27.1**	**+1.5**
BKI	**Bering**	**4.51**	**45**	*eP*	**Pn**	**19 12 23.4**	**-2.6**
BKI	**Bering**	**4.51**	**45**	PN	**Pn**	**19 12 23.4**	**-2.6**
SRKR	**Sorokina**	**4.53**	**6**	*eP*	**Pn**	**19 12 27.6**	**+1.3**
SRKR	**Sorokina**	**4.53**	**6**	PN	**Pn**	**19 12 27.6**	**+1.3**
TILK	**Tilichiki**	**8.90**	**19**	*eP*	**Pn**	**19 13 25.4**	**-0.7**
TILK	**Tilichiki**	**8.90**	**19**	PN	**Pn**	**19 13 25.4**	**-0.7**
MA2	**Magadan**	**9.18**	**328**	Pn	**Pn**	**19 13 29.7**	**-0.3**
	comp=N,0.3nm,0.3s,

KSRS Korea Array 27.04 250 P P 19 16 59.8 +1.8
comp=Z,1.0nm,0.7s,baz=57,slow=9.1,SNR=5.2
KS15 Wonju Array Si 27.07 250 eP P 19 16 59.8 +1.5
KSAR Wonju Array Be 27.07 250 P P 19 16 59.8 +1.6
KSAR Wonju Array Be 27.07 250 P P 19 16 59.8 +1.6
KDAK Kodiak Island 27.12 59 iP P 19 17 02.3 +3.9
KDAK Kodiak Island 27.12 59 P P 19 17 00.5 +2.1
comp=Z,5.5nm,0.9s,baz=281,slow=16,SNR=6.5
BPAW Bear Paw Mtn. 27.57 45 eP P 19 17 03.3 +0.8
comp=Z,2.1nm,0.9s
BWN Browne 28.23 45 eP P 19 17 09.4 +1.0
comp=Z,8.9nm,0.9s
KNK Knik Glacier 28.79 51 eP P 19 17 14.8 +1.4
comp=Z,7.4nm,1.2s
ILAR Eielson Array 29.36 44 P P 19 17 19.2 +0.9
comp=Z,0.3nm,0.8s,baz=251,slow=8.3,SNR=3.3
ILB Eielson Array 29.36 44 eP P 19 17 19.2 +0.9
comp=Z,1.3nm,0.9s
BCAR Beaver Creek A 31.72 47 eP P 19 17 39.1 -0.1
H11N2 WAKE ISLAND Hy 32.77 169 T T 19 53 51.2
baz=352,slow=76,SNR=58
H11N3 WAKE ISLAND Hy 32.78 169 T T 19 54 12.6
baz=352,slow=76,SNR=46
H11N1 WAKE ISLAND Hy 32.78 169 T T 19 53 48.7
baz=352,slow=76,SNR=68
ULN Ulaanbaatar 33.88 284 iP P 19 17 55.7 -2.8
ULN pmax pmax
comp=Z,1.0nm,1.1s
H11S1 WAKE ISLAND Hy 33.95 169 T T 19 55 08.8
baz=351,slow=74,SNR=10.0
H11S3 WAKE ISLAND Hy 33.96 169 T T 19 55 11.8
baz=351,slow=74,SNR=15
H11S2 WAKE ISLAND Hy 33.97 169 T T 19 55 18.5
baz=351
TLY Talaya 34.23 292 iP P 19 17 58.8 -2.4
SONA0 Songino Array 34.29 285 eP P 19 18 01.0 -0.9
SONM Songino Array 34.29 285 eP P 19 18 00.8 -1.1
SONM pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 34.29 285 P P 19 18 01.0 -0.9
comp=Z,0.7nm,0.4s,baz=64,slow=8.0,SNR=11
INK Inuvik 34.51 37 P P 19 18 04.1 +0.7
comp=Z,0.6nm,0.7s,baz=270,slow=4.0,SNR=2.7
ZALV Zalesovo Beam 43.43 304 P P 19 19 15.7 -2.3
comp=Z,0.4nm,0.3s,baz=70,slow=4.9,SNR=4.7
YKA Yellowknife Ar 43.74 42 P P 19 19 20.8 +0.4
comp=Z,0.2nm,0.6s,baz=295,slow=7.8,SNR=4.1
NVS Novosibirsk 43.79 305 eP P 19 19 19.4 -1.5
RES Resolute Bay 44.13 22 P P 19 19 24.6 +1.3
comp=Z,1.1nm,1.0s,baz=321,slow=13,SNR=4.2
DGZ Jazzator, Alta 44.24 297 iP P 19 19 22.9 -1.9
DGZ pmax pmax
comp=Z,2.0nm,0.9s
SPA0 Spitsbergen Ar 48.08 351 eP P 19 19 54.7 +0.2
comp=Z,14nm,0.9s
SPITS Spitsbergen Ar 48.08 351 P P 19 19 54.7 +0.2
comp=Z,1.7nm,0.4s,baz=58,slow=7.9,SNR=24
KURK Kurchatov 48.38 303 eP P 19 19 54.8 -2.3
comp=Z,6.5nm,0.9s
KURK Kurchatov 48.38 303 iP P 19 19 53.3 -3.8
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURBB Kurchatov Arra 48.48 303 P P 19 19 56.0 -1.8
comp=Z,2.8nm,0.7s,baz=61,slow=7.6,SNR=20
MK31 Makanchi Array 48.72 297 eP P 19 19 57.9 -1.9
comp=Z,1.6nm,0.6s
MK31 Makanchi Array 48.72 297 eP P 19 19 57.9 -1.9
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 48.72 297 eP P 19 19 57.5 -2.3
MKAR Makanchi Array 48.72 297 P P 19 19 57.8 -2.0
comp=Z,1.3nm,0.4s,baz=55,slow=6.5,SNR=34
GLK Glacier Lake 48.82 64 eP P 19 20 01.8 +1.1
MAKZ Makanchi 48.88 297 eP P 19 19 59.0 -2.1
comp=Z,2.5nm,0.6s
MAKZ Makanchi 48.88 297 eP P 19 19 59.0 -2.1
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 51.11 309 P P 19 20 16.2 -1.6
comp=Z,2.1nm,0.4s,baz=65,slow=7.3,SNR=24
BRVK Borovoye 51.14 309 eP P 19 20 16.5 -1.5
comp=Z,4.1nm,0.6s
BRVK Borovoye 51.14 309 iP P 19 20 15.5 -2.5
BRVK pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 51.34 360 eP P 19 20 18.7 -0.5
DAG Danmarks Havn 51.34 360 iP P 19 20 18.7 -0.5
DAG i 19 20 48.9
ARU Arti 54.20 318 iP P 19 20 39.5 -1.1
ARU pmax pmax
comp=Z,2.0nm,0.9s
ARU Arti 54.20 318 P P 19 20 38.9 -1.7
comp=Z,1.6nm,0.4s,baz=70,slow=5.6,SNR=10
ARA0 ARCESS Array S 54.23 342 eP P 19 20 39.9 -0.7
ARCES ARCESS Array B 54.23 342 eP P 19 20 40.2 -0.4
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 54.23 342 P P 19 20 39.9 -0.7
comp=Z,5.4nm,1.0s,baz=52,slow=8.0,SNR=8.2
SUMG Summit 54.87 7 eP P 19 20 46.7 +1.0
SUMG Summit 54.87 7 iP P 19 20 46.7 +1.0
SUMG i 19 21 15.6
PRGR Permogore 55.32 328 eP P 19 20 47.3 -1.3
PRGR pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 55.65 297 iP P 19 20 47.5 -3.9
AAK pmax pmax
comp=Z,3.0nm,1.1s
AAK Ala-Archa 55.65 297 P P 19 20 50.0 -1.4
comp=Z,2.2nm,0.8s,baz=37,slow=3.1,SNR=6.5
NV01 Mina Array Sit 55.90 70 eP P 19 20 54.1 +0.7
NVAR Mina Array Bea 55.90 70 P P 19 20 54.1 +0.7
comp=Z,0.7nm,0.6s,baz=294,slow=6.8,SNR=2.5
PD31 Pinedale Array 57.83 60 eP P 19 21 08.3 +1.3
comp=Z,1.0nm,0.9s
PDAR Pinedale Array 57.83 60 P P 19 21 08.3 +1.3
comp=Z,0.5nm,0.6s,baz=274,slow=4.3,SNR=5.2
KLMR Klimovskoe 57.84 330 eP P 19 21 05.3 -1.2
KLMR pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 57.89 259 eP P 19 21 08.0 +0.6
comp=Z,2.3nm,0.6s
CHTO Chiang Mai 57.89 259 eP P 19 21 08.0 +0.6
CHTO pmax pmax
comp=Z,2.0nm,0.6s
CM31 Chiang Mai Arr 58.16 259 eP P 19 21 10.6 +1.2
comp=Z,2.6nm,0.8s
CMAR Chiang Mai Arr 58.16 259 P P 19 21 10.6 +1.2
comp=Z,1.5nm,0.6s,baz=30,slow=7.6,SNR=15
ABKAR Akbulak array 58.53 311 eP P 19 21 10.1 -1.4
AKTO Aktyubinsk 58.58 313 P P 19 21 10.5 -1.4
comp=Z,1.3nm,0.5s,baz=72,slow=9.0,SNR=8.7
JIRN Jiri 59.16 276 eP P 19 21 16.0 -0.6
comp=Z,7.3nm,0.5s
RAMN Ramite 59.42 275 eP P 19 21 17.5 -0.8
comp=Z,13nm,0.4s
KKN Kakani 59.62 277 eP P 19 21 19.2 -0.4
PKI Pulchoki 59.70 277 eP P 19 21 19.5 -0.8
comp=Z,7.0nm,0.5s
PKIN Phulchoki 59.70 277 eP P 19 21 19.5 -0.8
comp=Z,3.8nm,0.4s
DMN Daman 59.86 277 eP P 19 21 20.8 -0.5
comp=Z,12nm,0.7s
DANN Dangsing 60.15 279 eP P 19 21 22.1 -1.2
comp=Z,11nm,0.6s
KOLN Koldanda 60.66 278 eP P 19 21 25.9 -0.8
comp=Z,7.6nm,0.7s
PYUN Piuthan 60.79 279 eP P 19 21 26.9 -0.7
comp=Z,11nm,0.5s
FINES FINESS Array B 61.05 337 P P 19 21 28.4 -0.1
comp=Z,3.2nm,0.4s,baz=36,slow=7.6,SNR=50
OBN Obninsk 63.40 328 eP P 19 21 42.8 -1.5
OBN pmax pmax
comp=Z,3.0nm,0.9s
NB2 NORSAR Subarra 64.49 344 P P 19 21 51.6 +0.1
comp=Z,0.5nm,0.4s,baz=20,slow=6.9
NOA NORSAR Array B 64.49 344 P P 19 21 52.0 +0.5
NOA NORSAR Array B 64.49 344 P P 19 21 52.0 +0.5
comp=Z,0.6nm,0.4s,baz=28,slow=6.0,SNR=8.6
AKASG Malin Array Be 69.50 329 P P 19 22 22.7 -0.7
comp=Z,2.2nm,0.4s,baz=30,slow=6.8,SNR=9.3
KIEV Kiev 69.51 329 iP P 19 22 22.1 -1.4
KIEV pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 70.33 317 P P 19 22 28.5 -0.1
comp=Z,1.1nm,0.6s,baz=188,slow=5.5,SNR=3.7

LTX Lajitas 70.85 67 eP P 19 22 33.4 +1.2
LTX Lajitas 70.85 67 eP P 19 22 33.4 +1.2
TXAR Lajitas Array 70.85 67 P P 19 22 33.4 +1.2
comp=Z,0.5nm,0.7s,baz=293,slow=3.9,SNR=7.2
EKA Eskdalemuir Ar 72.00 350 P P 19 22 39.1 +0.5
comp=Z,0.3nm,0.4s,baz=15,slow=5.5,SNR=7.1
CLL Collm 73.29 339 eP P 19 22 46.0 -0.3
CLL Collm 73.29 339 eP P 19 22 46.0 -0.3
BUR08 Bucovina Ar. S 73.45 330 eP P 19 22 48.1 +0.6
comp=Z,2.1nm,0.6s
BURAR Bucovina Array 73.47 330 eP P 19 22 48.4 +0.9
BURAR Bucovina Array 73.47 330 ||iP P 19 22 47.4 -0.1
BURAR Bucovina Array 73.47 330 eP P 19 22 48.4 +0.9
BIZ Bicaz 73.79 329 ||iP P 19 23 01.1 +12
TRPA Tarpa 73.80 332 ||iP P 19 22 50.6 +1.3
VRAC Vranov 74.32 336 ||iP P 19 22 53.0 +0.6
VRI Vrincioaia 74.55 328 ||iP P 19 22 55.2 +1.4
MLR Muntele Rosu 75.13 329 ||iP P 19 22 57.5 +0.2
TLB Topalu 75.25 327 ||iP P 19 22 59.9 +2.1
WR1 Warramunga Arr 75.31 205 eP P 19 22 59.9 +1.6
WRA Warramunga Arr 75.31 205 eP P 19 23 00.4 +2.1
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 75.31 205 P P 19 22 59.9 +1.6
comp=Z,0.5nm,0.8s,baz=20,slow=5.9,SNR=5.6
GERES GERESS Array B 75.44 338 eP P 19 23 00.2 +1.2
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 75.44 338 P P 19 22 58.4 -0.6
comp=Z,0.5nm,0.6s,baz=34,slow=5.2,SNR=5.2
VOIR 75.47 329 ||iP P 19 23 00.2 +1.1
ARR Arges 75.66 329 ||iP P 19 23 01.3 +1.1
GZR Gura Zlata 76.20 331 ||iP P 19 23 03.9 +0.6
BZS Buzias 76.35 332 ||iP P 19 23 04.3 +0.2
BRTR Keskin Array B 77.45 321 P P 19 23 10.8 +0.2
comp=Z,0.8nm,0.8s,baz=76,slow=1.5,SNR=4.9
AS31 Alice Springs 78.98 205 eP P 19 23 21.1 +2.3
comp=Z,0.9nm,1.1s
ASAR Alice Springs 78.98 205 P P 19 23 21.1 +2.3
comp=Z,0.6nm,0.9s,baz=14,slow=5.2,SNR=7.5
IDI Anoyia 84.62 325 P P 19 23 47.2 -1.5
comp=Z,1.7nm,0.5s,baz=14,slow=12,SNR=6.8
ESDC Sonseca Array 87.53 348 P P 19 24 02.2 -0.7
comp=Z,0.3nm,0.6s,baz=0.1,slow=5.0,SNR=3.2

KRSC ***19*** *19:11:44.3±10.0, 52°.09N×160°.69E, h25km±10km, ML5.3*
MOS ***19*** *19:11:45.5±2.1, 52°.11N×160°.60E, h37km, mb5.1/48, Error ellipse: s-maj=8.6km s-min=4.6km az=108.1*
IDC ***19*** *19:11:45.1±0.7, 52°.36N×159°.95E, h0km, mb4.4/33, mb1 4.5/34, mb1mx4.3/70, mbtmp4.4/34, ML4.2/1, Error ellipse: s-maj=17.6km s-min=13.2km az=145.0*
ISCJB ***19*** *19:11:47.6±0.3, 52°.28N±0°.04×160°.09E±0°.07, h30km, mb4.8/112, MS6.6/1, Error ellipse: s-maj=7.4km s-min=4.8km az=138.2*
NEIC ***19*** *19:11:49.3±2.0, 52°.31N×160°.22E, h35km, mb4.7/32, Error ellipse: s-maj=15.1km s-min=7.7km az=73.0*
BJI ***19*** *19:11:55.0±0.0, 53°.00N×158°.90E, h49km, mb4.7/18, mB5.1/1*
ISC 19 19:11:48.8±0.5, 52°.23N±0°.05×160°.29E±0°.05, h30km, n234, σ1$51/236, mb4.7/123, 10C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.89	350	eS	Sb	19 12 18.8	+1.7
SPN	Mys Shipunski	0.89	350	PN	Pn	19 11 58.0	-7.2
SPN				S	Sb	19 12 18.3	+1.2
NLC	Nalytchevo	1.11	329	eP	Pb	19 12 09.0	-0.3
NLC				eS	Sb	19 12 27.3	+4.0
NLC	Nalytchevo	1.11	329	PN	Pb	19 12 09.0	-0.3
NLC				S	Sb	19 12 27.3	+4.0
RUS	Russkaya	1.11	281	P	Pb	19 12 08.9	-0.4
RUS				eS	Sb	19 12 27.5	+4.1
RUS	Russkaya	1.11	281	PN	Pb	19 12 08.9	-0.4
RUS				S	Sb	19 12 27.5	+4.1
DALK	Dalny	1.23	311	eS	Sb	19 12 29.8	+2.8
PET	Petropavlovsk	1.28	309	ePn	Pb	19 12 12.2	0.0
PET	Petropavlovsk	1.28	309	ePN	Pn	19 12 11.2	+0.7
PET				eS	Sb	19 12 31.0	+2.8
PET				pmax	pmax		
	comp=Z,1μm,0.4s						
PET				smax	smax		
	comp=N,11μm,0.5s						
PET				smax	smax		
	comp=E,8μm,0.6s						
KDTR	Khodutka, Kamc	1.43	254	eS	Sb	19 12 34.0	+1.5
KRMR	Karymshinskiy	1.45	295	eS	Sb	19 12 36.6	+3.5
PEA0B	Petropavlovsk-	1.81	300	ePn	Pn	19 12 16.7	-1.2
PEA0B	Petropavlovsk-	1.81	300	ePN	Pn	19 12 16.7	-1.2
PETK	Petropavlovsk-	1.81	300	ePn	Pn	19 12 16.8	-1.0
PETK	Petropavlovsk-	1.81	300	ePN	Pn	19 12 16.8	-1.0
PETK	Petropavlovsk-	1.81	300	Sn	Sb	19 12 46.6	+3.3
	comp=E,464nm,0.3s,baz=38,slow=26,SNR=14						
PEA1	Petropavlovsk-	1.81	300	eSn	Sb	19 12 46.6	+3.2
SKR	Severo-Kuril's	3.03	241	cePN	Pb	19 12 42.2	+0.2
SEY	Seymchan	11.53	342	iPN	Pn	19 14 24.9	-6.2
NKL	Nikolayevsk	11.93	282	ePN	Pn	19 14 49.0	+12
ASAJ	Asahikawa	14.30	242	ePn	Pn	19 15 08.5	-0.5
ASAJ	Asahikawa	14.30	242	Pn	Pn	19 15 08.5	-0.5
	comp=E,1.7nm,0.3s,baz=68,slow=11,SNR=7.9						
ERM	Erimo	15.46	235	iP	P	19 15 31.6	+2.9
BILL	Bilibino	16.13	8	eP	Pn	19 15 33.4	+0.5
BILL				pmax	pmax		
	comp=Z,17nm,1.0s						
KLR	Kul'dur	18.26	272	eP	Pn	19 16 00.1	+0.5
KLR	Kul'dur	18.26	272	iP	P	19 15 59.3	-0.3
KLR	Kul'dur	18.26	272	P	Pn	19 16 00.1	+0.5
	comp=Z,0.4nm,0.3s,baz=50,slow=11,SNR=11						
USRK	Ussuriysk Ar.	20.39	258	P	P	19 16 21.0	-2.0
USRK	Ussuriysk Ar.	20.39	258	P	P	19 16 20.9	-2.0
	comp=Z,15nm,0.9s,baz=49,slow=10,SNR=11						
MDJ	Mudanjiang	21.62	262	eP	P	19 16 35.5	-0.7
	comp=Z,8.5nm,0.8s						
MJB9	Matsu-Tunnel	22.11	234	eP	P	19 16 41.0	-0.6
	comp=Z,42nm,1.0s						
MAJO	Matsushiro	22.11	234	eP	P	19 16 41.1	-0.4
	comp=Z,41nm,1.0s						
MAJO	Matsushiro	22.11	234	eP	P	19 16 41.1	-0.4
MAJO				pmax	pmax		
	comp=Z,41nm,1.0s						
MJAR	Matsushiro Arr	22.11	234	P	P	19 16 41.4	-0.2
	comp=Z,26nm,1.1s,baz=17,slow=10,SNR=10.0						
INU	Inuyama	23.65	234	eP	P	19 16 59.1	+1.8
	comp=Z,16nm,0.7s						
TIXI	Tiksi	23.92	336	eP	P	19 16 58.7	-0.9
	comp=Z,22nm,0.9s						
TIXI	Tiksi	23.92	336	cePP	P	19 16 58.2	-1.4
TIXI				pmax	pmax		
	comp=Z,17nm,0.7s						
TIXI	Tiksi	23.92	336	P	P	19 16 58.7	-0.9
	comp=Z,19nm,0.8s,baz=138,slow=9.3,SNR=14						
JHJ2	Mitsune	24.17	226	eP	P	19 17 02.4	+0.1
	comp=Z,235nm,1.1s						
BOD	Bodaibo	26.68	301	eP	P	19 17 20.5	-4.2
BOD				pmax	pmax		
	comp=Z,12nm,1.7s						
KSRS	Korea Array	27.01	250	P	P	19 17 30.4	+2.5
	comp=Z,3.3nm,0.8s,baz=46,slow=9.3,SNR=8.9						
KS15	Wonju Array Si	27.04	250	eP	P	19 17 27.7	-0.5
	comp=Z,32nm,1.4s						
KSAR	Wonju Array Be	27.04	250	eP	P	19 17 26.0	-2.2
KSAR	Wonju Array Be	27.04	250	eP	P	19 17 26.0	-2.2
KDAK	Kodiak Island	27.13	59	eP	P	19 17 28.9	+0.1
	comp=Z,16nm,1.0s						
KDAK	Kodiak Island	27.13	59	eP	P	19 17 28.9	+0.1
KDAK				pmax	pmax		
	comp=Z,17nm,1.0s						
CCB	Clear Creek Bu	28.95	44	eP	P	19 17 43.9	-1.0
	comp=Z,3.7nm,1.2s						
ILAR	Eielson Array	29.35	44	eP	P	19 17 50.0	+1.5
ILAR	Eielson Array	29.35	44	eP	P	19 17 50.0	+1.5
BCPM	Bancas Point	33.31	53	eP	P	19 18 23.3	-0.1
	comp=Z,38nm,0.5s						
ULN	Ulaanbaatar	33.82	284	cePP	P	19 18 26.7	-1.4
ULN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TLY	Talaya	34.15	292	iP	P	19 18 30.1	-0.7
TLY				pmax	pmax		
	comp=Z,30nm,1.2s						
SONA0	Songino Array	34.22	285	eP	P	19 18 30.4	-1.2
SONM	Songino Array	34.22	285	P	P	19 18 30.4	-1.2
	comp=Z,0.9nm,0.3s,baz=66,slow=8.3,SNR=6.8						

INK Inuvik 34.49 37 eP P 19 18 34.2 +0.7
comp=Z,2.3nm,0.8s
INK Inuvik 34.49 37 P P 19 18 34.2 +0.7
comp=Z,1.9nm,0.8s,baz=292,slow=4.1,SNR=5.3
ZAK Zakamensk 34.90 290 eP P 19 18 36.0 -1.4
ZAK pmax pmax
comp=Z,8.0nm,1.2s
MOY Mondy 35.66 293 eP P 19 18 41.7 -2.3
MOY pmax pmax
comp=Z,17nm,1.3s
NRIK Noril'sk 36.69 325 P P 19 18 49.2 -3.2
comp=Z,7.0nm,0.7s,baz=95,slow=9.3,SNR=7.9
WHN Wuhan 39.85 255 P P 19 19 21.1 +1.7
NACB Ninganchiao 40.58 241 eP P 19 19 24.9 -0.6
comp=Z,40nm,1.4s
GTA Gaotai 42.83 277 eP P 19 19 42.8 -1.1
GTA pP pP 19 19 51.3 -0.8
GTA PcP PcP 19 21 35.4 +0.8
GTA pmax pmax
comp=Z,5.0nm,1.3s
ZAA1 Zalesovo Array 43.35 304 eP P 19 19 45.4 -2.4
ZAA0 Zalesovo Array 43.35 304 eP P 19 19 45.5 -2.3
comp=Z,2.2nm,0.8s
ZALV Zalesovo Beam 43.35 304 eP P 19 19 45.0 -2.8
ZALV Zalesovo Beam 43.35 304 eP P 19 19 45.0 -2.8
ZALV Zalesovo Beam 43.35 304 P P 19 19 45.4 -2.4
comp=Z,2.9nm,0.7s,baz=58,slow=6.3,SNR=10
NVS Novosibirsk 43.71 305 ||iP P 19 19 49.4 -1.2
NVS e 19 26 24.3
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,18nm,1.0s
NVS pmax pmax
comp=Z,34nm,1.0s
YKA Yellowknife Ar 43.72 42 P P 19 19 51.3 +0.6
comp=Z,0.5nm,0.6s,baz=297,slow=7.0,SNR=4.4
YKB5 Yellowknife Ar 43.72 42 eP P 19 19 51.3 +0.6
RES Resolute Bay 44.09 22 eP P 19 19 52.6 -0.8
comp=Z,3.1nm,0.8s
RES Resolute Bay 44.09 22 P P 19 19 53.5 +0.1
comp=Z,1.6nm,0.7s,baz=299,slow=9.6,SNR=6.1
DGZ Jazzator, Alta 44.16 297 iP P 19 19 53.6 -1.0
DGZ pmax pmax
comp=Z,7.0nm,0.8s
SPA0 Spitsbergen Ar 48.01 351 eP P 19 20 24.7 +0.4
comp=Z,62nm,1.2s
SPITS Spitsbergen Ar 48.01 351 P P 19 20 24.7 +0.4
comp=Z,12nm,0.7s,baz=58,slow=9.2,SNR=6.6
KURK Kurchatov 48.30 303 eP P 19 20 25.3 -1.6
comp=Z,30nm,1.1s
KURK Kurchatov 48.30 303 cePP P 19 20 25.1 -1.7
KURK pmax pmax
comp=Z,30nm,1.1s
KURBB Kurchatov Arra 48.40 303 P P 19 20 26.2 -1.4
comp=Z,13nm,1.0s,baz=60,slow=7.5,SNR=22
MK31 Makanchi Array 48.64 296 eP P 19 20 27.3 -2.3
comp=Z,3.4nm,0.8s
MK31 Makanchi Array 48.64 296 eP P 19 20 27.3 -2.3
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK32 Makanchi Array 48.64 296 eP P 19 20 27.5 -2.1
MKAR Makanchi Array 48.64 296 eP P 19 20 28.1 -1.5
MKAR Makanchi Array 48.64 296 cePP P 19 20 32.2 +2.6
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 48.64 296 P P 19 20 27.5 -2.1
comp=Z,3.2nm,0.7s,baz=57,slow=7.4,SNR=11
MAKZ Makanchi 48.80 297 eP P 19 20 28.6 -2.3
comp=Z,6.6nm,0.9s
MAKZ Makanchi 48.80 297 eP P 19 20 28.6 -2.3
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
BVAR Borovoye Array 51.02 309 P P 19 20 47.2 -0.4
comp=Z,5.6nm,0.6s,baz=59,slow=8.8,SNR=16
BRVK Borovoye 51.05 309 eP P 19 20 46.1 -1.7
comp=Z,11nm,0.8s
BRVK Borovoye 51.05 309 iP P 19 20 46.5 -1.3
DAG Danmarks Havn 51.27 360 P P 19 20 50.5 +1.4
DAG pmax pmax
comp=Z,8.0nm,0.8s
PDGK Podgornoye 52.35 295 P P 19 20 57.0 -0.8
OTUK Ortayu 53.05 303 P P 19 21 01.6 -1.1
OTUK pmax pmax
comp=Z,9.0nm,1.9s
LVZ Lovozero 53.55 338 eP P 19 21 05.3 -0.8
comp=Z,25nm,0.9s
LVZ Lovozero 53.55 338 cePP P 19 21 06.4 +0.3
LVZ pmax pmax
comp=Z,33nm,1.7s
FCC Fort Churchill 54.09 38 eP P 19 21 10.7 +0.6
comp=Z,2.4nm,0.8s
FCC Fort Churchill 54.09 38 eP P 19 21 10.7 +0.6
FCC pmax pmax
comp=Z,2.0nm,0.8s
ARU Arti 54.12 318 eP P 19 21 09.1 -1.3
comp=Z,15nm,1.2s
ARU Arti 54.12 318 cePP P 19 21 09.3 -1.1
ARU pmax pmax
comp=Z,16nm,1.7s
ARU Arti 54.12 318 P P 19 21 09.1 -1.3
comp=Z,2.4nm,0.4s,baz=57,slow=10,SNR=7.9
ARCES ARCESS Array B 54.15 342 eP P 19 21 08.9 -1.6
ARCES ARCESS Array B 54.15 342 eP P 19 21 08.9 -1.6
ARE0 ARCESS Array S 54.15 342 eP P 19 21 09.1 -1.3
comp=Z,0.5nm,0.9s
LSA Lhasa 54.60 274 eP P 19 21 14.6 -0.2
comp=Z,4.5nm,0.8s
LSA Lhasa 54.60 274 eP P 19 21 14.6 -0.2
LSA pmax pmax
comp=Z,4.0nm,0.8s
PRGR Permogore 55.24 328 eP P 19 21 16.5 -1.9
PRGR e*PP pP 19 21 28.3 +1.3
PRGR pmax pmax
comp=Z,18nm,0.8s
AAK Ala-Archa 55.57 297 cePP P 19 21 20.3 -1.0
AAK pmax pmax
comp=Z,12nm,1.3s
AAK Ala-Archa 55.57 297 P P 19 21 20.6 -0.8
comp=Z,5.4nm,0.8s,baz=110,slow=3.5,SNR=10
TMCR Tamitsa 55.60 333 eP P 19 21 20.1 -0.9
TMCR pmax pmax
comp=Z,57nm,1.0s
SGF Sodankyl 55.72 340 P P 19 21 27.9 +6.1
SGF pmax pmax
comp=Z,42nm,1.1s
PANO Nakornpanom 55.76 253 P P 19 21 28.0 +5.3
comp=Z,0.4nm,1.2s
NV01 Mina Array Sit 55.93 70 eP P 19 21 25.8 +1.8
NVAR Mina Array Bea 55.93 70 P P 19 21 25.8 +1.8
comp=Z,0.6nm,0.6s,baz=305,slow=6.4,SNR=3.0
ELK Elko 56.11 66 P P 19 21 27.4 +2.1
comp=Z,0.9nm,0.7s,baz=296,slow=10,SNR=4.0
KIRV Kirov 56.16 324 P P 19 21 23.9 -1.2
comp=Z,13nm,0.5s,baz=40,slow=8.9,SNR=7.3
PAYA Payao 56.87 259 P P 19 21 32.6 +1.9
comp=Z,23μm,0.9s
SHL Shillong 57.12 270 P P 19 21 33.6 +1.0
PHRA Phrae 57.32 258 P P 19 21 35.4 +1.6
comp=Z,3.5nm,2.8s
KKAR Karatay Array 57.41 300 eP P 19 21 32.4 -1.9
KKAR Karatay Array 57.41 300 eP P 19 21 32.4 -1.9
LAMP Lampang 57.66 258 P P 19 21 38.9 +2.7
comp=Z,18μm,1.1s
UTTA Uttaradit 57.70 257 P P 19 21 38.2 +1.7
comp=Z,18μm,0.9s
KLMR Klimovskoe 57.76 330 eP P 19 21 33.9 -2.5
KLMR pmax pmax
comp=Z,24nm,1.0s
PDAR Pinedale Array 57.84 60 PP PP 19 23 45.2 -0.3
comp=Z,0.7nm,0.8s,baz=347,slow=2.8,SNR=2.3
CMMT Chiang Mai 57.85 259 P P 19 21 38.6 +1.0
comp=Z,8.6nm,1.1s
OUL Oulu 57.86 339 P P 19 21 37.6 +0.6
OUL pmax pmax
comp=Z,24nm,1.8s
CM31 Chiang Mai Arr 58.12 259 eP P 19 21 40.6 +1.1
comp=Z,7.6nm,0.8s
CMAR Chiang Mai Arr 58.12 259 P P 19 21 40.6 +1.1
comp=Z,4.9nm,0.7s,baz=29,slow=6.8,SNR=16
JOF Joensuu 58.40 335 P P 19 21 41.0 +0.2
JOF pmax pmax
comp=Z,24nm,1.2s
AKTO Aktyubinsk 58.50 313 P P 19 21 40.2 -1.5
comp=Z,2.5nm,0.5s,baz=75,slow=9.8,SNR=7.5
SUF Sumiainen 59.84 338 P P 19 21 51.3 +0.5

SUF pmax pmax
comp=Z,40nm,1.4s
UMPA Umpang Tak 59.91 257 P **P** **19 21 56.1 +4.2**
comp=Z,25μm,1.0s,comp=Z,427μm
VAF Ylistaro 60.35 339 P **P** **19 21 55.5 +1.3**
VAF pmax pmax
comp=Z,29nm,1.1s
GAR Garm 60.37 296 *e*P **P** **19 21 54.0 -1.0**
comp=Z,24nm,1.1s
GAR Garm 60.37 296 *e*P **P** **19 21 54.0 -1.0**
GAR pmax pmax
comp=Z,24nm,1.1s
FIA0 FINESS Array S 60.96 337 *e*P **P** **19 21 58.2 -0.2**
FINES FINESS Array B 60.96 337 P **P** **19 21 58.2 -0.2**
comp=Z,5.6nm,0.4s,baz=44,slow=8.5,SNR=12
CHGR Chuyangaron 61.25 297 *e*P **P** **19 22 01.7 +0.8**
comp=Z,18nm,1.1s
MOS Moscow 62.45 328 *e*P **P** **19 22 06.7 -1.9**
MOS *e* 19 22 23.5
OBN Obninsk 63.31 328 *e*P **P** **19 22 12.7 -1.6**
OBN pmax pmax
comp=Z,53nm,2.5s
VSU Vasula 63.39 335 *c*e**P** **P** **19 22 15.5 +0.8**
VSU pmax pmax
comp=Z,30nm,1.0s
NOA NORSAR Array B 64.41 344 P **P** **19 22 22.1 +0.6**
comp=Z,3.6nm,0.7s,baz=21,slow=6.6,SNR=12
LPSR Galich'ya Gora 64.56 325 *e*P **P** **19 22 20.9 -1.6**
LPSR pmax pmax
comp=Z,20nm,0.8s
VRH Novokhopyorsk 64.67 322 *e*P **P** **19 22 20.9 -2.4**
VRH pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 65.60 324 *i* P **P** **19 22 27.6 -1.8**
VSR pmax pmax
comp=Z,9.0nm,0.6s
VORD Divnogorie 65.76 324 *e*P **P** **19 22 27.9 -2.5**
VORD pmax pmax
comp=Z,10.0nm,1.3s
IDID Didziasalis 66.13 333 *e*P **P** **19 22 32.9 +0.2**
IIGN Ignalina 66.24 333 *e*P **P** **19 22 33.5 +0.1**
PABE Paberze 66.71 335 *e*P **P** **19 22 35.0 -1.4**
GEYT Alibeck 67.66 303 P **P** **19 22 43.0 +0.2**
comp=Z,3.7nm,0.7s,baz=18,slow=6.2,SNR=3.8
AKASG Malin Array Be 69.42 329 P **P** **19 22 52.7 -0.8**
comp=Z,1.6nm,0.3s,baz=32,slow=6.7,SNR=17
AKBB Malin Array Si 69.42 329 *e*P **P** **19 22 53.0 -0.5**
comp=Z,22nm,1.3s
KIEV Kiev 69.43 329 *i* P **P** **19 22 52.9 -0.6**
KIEV pmax pmax
comp=Z,19nm,1.3s
KBZ Khabaz 70.25 317 *e*P **P** **19 22 59.5 +0.8**
KBZ Khabaz 70.25 317 P **P** **19 22 59.5 +0.8**
comp=Z,3.0nm,0.8s,baz=64,slow=8.3,SNR=6.1
BEL Belsk 70.85 335 *e*P **P** **19 23 03.4 +1.3**
HYB Hyderabad 71.40 275 *i* P **P** **19 23 06.0 -0.1**
EKA Eskdalemuir Ar 71.93 350 P **P** **19 23 09.2 +0.6**
comp=Z,0.7nm,0.4s,baz=28,slow=5.7,SNR=5.6
KWP Kalwaria Pacla 72.32 333 *e*P **P** **19 23 11.9 +0.8**
KWP Kalwaria Pacla 72.32 333 *e*P **P** **19 23 11.9 +0.8**
KWP MLR MLR
comp=Z,32μm,18.5s
OJC Ojcow 72.58 335 *e*P **P** **19 23 12.8 +0.1**
OJC Ojcow 72.58 335 *e*P **P** **19 23 12.8 +0.1**
OJC MLR MLR
comp=Z,27μm,16.8s
KSP Ksiaz 72.89 337 *e*P **P** **19 23 14.7 +0.2**
KSP Ksiaz 72.89 337 *e*P **P** **19 23 14.7 +0.2**
KOLS Kolonicke sedl 73.07 333 *e*P **P** **19 23 15.8 +0.2**
KOLS Kolonicke sedl 73.07 333 *e*P **P** **19 23 15.8 +0.2**
NIE Niedzica 73.17 334 *e*P **P** **19 23 16.4 +0.2**
NIE Niedzica 73.17 334 *e*P **P** **19 23 16.4 +0.2**
NIE MLR MLR
comp=Z,16μm,16.9s
CLL Collm 73.21 339 *i* P **P** **19 23 16.7 +0.4**
CLL *i* 19 23 28.4
CLL Collm 73.21 339 *i* P **P** **19 23 16.7 +0.4**
comp=Z,6.0nm,0.8s
CLL *i* pP **sP** **19 23 28.4 0.0**
UPC Upice 73.27 337 *e*P **P** **19 23 17.5 +0.8**
UPC Upice 73.27 337 *e*P **P** **19 23 17.5 +0.8**
DPC Dobruska-Polom 73.34 337 *e*P **P** **19 23 18.5 +1.3**
DPC Dobruska-Polom 73.34 337 *e*P **P** **19 23 18.5 +1.3**
OKC Ostrava-Krasne 73.36 335 *e*P **P** **19 23 18.4 +1.2**
OKC Ostrava-Krasne 73.36 335 *e*P **P** **19 23 18.4 +1.2**
MORC Moravsky Berou 73.56 336 P **P** **19 23 19.9 +1.4**
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 73.56 336 *e*P **P** **19 23 19.7 +1.2**
LANS Liptovska Anna 73.64 334 *e*P **P** **19 23 20.0 +1.0**
LANS Liptovska Anna 73.64 334 *e*P **P** **19 23 20.0 +1.0**
PRU Pruhonice 74.09 338 *e*P **P** **19 23 22.0 +0.4**
PRU *e* 19 23 28.4
PRU Pruhonice 74.09 338 *e*P **P** **19 23 22.0 +0.4**
PRU *ex* x 19 23 28.4
VRAC Vranov 74.24 336 *e*P **P** **19 23 23.8 +1.4**
VRAC Vranov 74.24 336 P **P** **19 23 22.4 0.0**
comp=Z,4.0nm,0.9s,baz=14,slow=8.4,SNR=5.2
NKC Novy Kostel 74.34 339 *e*P **P** **19 23 23.4 +0.4**
NKC Novy Kostel 74.34 339 *e*P **P** **19 23 23.4 +0.4**
JAVC Velka Javorina 74.38 335 *e*P **P** **19 23 25.5 +2.2**
VYHS Vyhne 74.41 335 *e*P **P** **19 23 24.6 +1.1**
VYHS Vyhne 74.41 335 *e*P **P** **19 23 24.6 +1.1**
KRUC Moravsky 74.51 336 *e*P **P** **19 23 25.3 +1.3**
CFR Carcaliu 74.61 327 P **P** **19 23 25.1 +0.5**
CFR pmax pmax
comp=Z,8.0nm,1.6s
KHC Kasperske Hory 75.12 338 *e*P **P** **19 23 28.3 +0.7**
KHC *e* 19 23 33.6
KHC Kasperske Hory 75.12 338 *e*P **P** **19 23 28.3 +0.7**
KHC *ex* x 19 23 33.6
MEM Membach 75.25 343 P **P** **19 23 30.0 +1.8**
MEM pmax pmax
comp=Z,15nm,0.8s
WB2 Warramunga Arr 75.34 205 *e*P **P** **19 23 29.1 +0.1**
comp=Z,13nm,1.5s
WR1 Warramunga Arr 75.34 205 *e*P **P** **19 23 29.4 +0.3**
WRA Warramunga Arr 75.34 205 P **P** **19 23 29.4 +0.3**
comp=Z,1.8nm,0.7s,baz=26,slow=4.0,SNR=6.0
GERES GERESS Array B 75.36 338 P **P** **19 23 29.4 +0.3**
comp=Z,1.5nm,0.8s,baz=46,slow=4.2,SNR=7.1
CONA Conrad Observa 75.70 336 *e*PKiKP **P** **19 23 31.3 +0.3**
comp=Z,4.7nm,1.1s
GIVF Givet 75.94 344 *e*P **P** **19 23 35.9 +3.7**
GIVF pmax pmax
comp=Z,17nm,1.3s
BAIF Baives 76.09 344 *e*P **P** **19 23 33.3 +0.3**
BAIF pmax pmax
comp=Z,5.0nm,0.9s
MOA Molln 76.16 337 *e*pPKiKP **P** **19 23 34.5 +0.9**
comp=Z,6.3nm,1.3s
ARSA Arzberg 76.41 336 *e*pPKiKP **P** **19 23 34.9 -0.1**
comp=Z,5.8nm,1.1s
BFO Black Forest 77.00 341 *i* P **P** **19 23 39.3 +1.0**
SOKA Soboth 77.07 336 *e*pPKiKP **P** **19 23 40.1 +1.3**
comp=Z,9.6nm,1.2s
KBA Koelnbreinsper 77.10 338 *e*pPKiKP **P** **19 23 40.7 +1.6**
comp=Z,15nm,1.1s
CDF Champ du Feu 77.13 342 *e*P **P** **19 23 39.4 +0.3**
CDF pmax pmax
comp=Z,14nm,1.3s
WATA Walderalm 77.26 339 pPKiKP **P** **19 23 41.4 +1.5**
comp=Z,0.9nm,0.5s
RETA Reutte 77.30 339 *e*pPKiKP **P** **19 23 41.3 +1.3**
comp=Z,2.4nm,0.8s
WTTA Wattenberg 77.32 339 *e*pPKiKP **P** **19 23 42.1 +1.8**
comp=Z,13nm,1.2s
OBKA Obir 77.34 337 *e*pPKiKP **P** **19 23 39.4 -1.0**
comp=Z,11nm,1.6s
MOTA Moosalm 77.36 339 *e*pPKiKP **P** **19 23 41.8 +1.3**
comp=Z,2.3nm,0.7s
BR101 Keskin Array S 77.36 321 *e*P **P** **19 23 40.5 -0.1**
BRTR Keskin Array B 77.36 321 P **P** **19 23 40.5 -0.1**
comp=Z,2.5nm,1.0s,baz=90,slow=1.2,SNR=4.0
SQTA Sankt Quirin 77.45 339 *e*pPKiKP **P** **19 23 42.7 +1.7**
comp=Z,12nm,1.2s
HAU Haudompre 77.69 342 *e*P **P** **19 23 42.4 +0.2**
HAU pmax pmax
comp=Z,22nm,1.4s
FETA Feichten 77.75 339 P **P** **19 23 44.3 +1.6**
comp=Z,7.0nm,1.2s
HINF Hinteralfeld 77.78 342 *e*P **P** **19 23 42.5 -0.2**
HINF pmax pmax
comp=Z,13nm,1.5s
PALK Pallekele 77.91 266 *i* P P 19 23 49.8 +5.9

DAVOX Davos/Dischmat 78.16 340 P **P** **19 23 44.6 -0.4**
comp=Z,3.3nm,0.8s,baz=40,slow=7.7,SNR=4.3
LOR Lormes 78.85 344 *e*P **P** **19 23 48.7 +0.1**
LOR pmax pmax
comp=Z,20nm,1.4s
AS31 Alice Springs 79.02 205 *e*P **P** **19 23 50.7 +1.1**
comp=Z,0.9nm,0.9s
ASAR Alice Springs 79.02 205 P **P** **19 23 50.7 +1.1**
comp=Z,1.6nm,0.7s,baz=18,slow=5.9,SNR=8.3
SSF Saint Saulge 79.11 344 *e*P **P** **19 23 50.2 +0.2**
SSF pmax pmax
comp=Z,8.0nm,1.0s
SMF Signal de Mont 79.45 344 *e*P **P** **19 23 52.3 +0.4**
SMF pmax pmax
comp=Z,37nm,1.6s
LPL La Plagne 80.01 341 *e*P **P** **19 23 53.9 -1.3**
LPL pmax pmax
comp=Z,9.0nm,0.9s
LPG La Plagne 80.03 341 *e*P **P** **19 23 55.1 -0.3**
LPG pmax pmax
comp=Z,26nm,1.3s
TCF Toulx Ste Croi 80.07 345 *e*P **P** **19 23 55.8 +0.5**
TCF pmax pmax
comp=Z,21nm,1.5s
VIVF Saint-Julien-l 81.04 343 *e*P **P** **19 24 01.5 +1.0**
VIVF pmax pmax
comp=Z,8.0nm,1.0s
CAF Calviac 81.42 345 *e*P **P** **19 24 02.9 +0.4**
CAF pmax pmax
comp=Z,5.0nm,0.8s
LFF La Frestale 81.62 345 *e*P **P** **19 24 07.6 +4.1**
LFF pmax pmax
comp=Z,30nm,1.6s
MTLF Montolieu 82.94 344 *e*P **P** **19 24 11.6 +1.2**
MTLF pmax pmax
comp=Z,28nm,1.8s
SJPF Ste Jean 83.70 346 *e*P **P** **19 24 16.3 +1.9**
SJPF pmax pmax
comp=Z,69nm,1.7s
ETSF Etsaut 83.81 346 *e*P **P** **19 24 17.1 +2.1**
ETSF pmax pmax
comp=Z,77nm,2.2s
ESDC Sonseca Array 87.45 348 P **P** **19 24 33.7 +0.6**
comp=Z,1.8nm,0.8s,baz=9.6,slow=4.4,SNR=6.4

KRSC ***19*** *19:14:41.5±10.0, 52°.04N×160°.72E, h62km±10km, ML4.3*
IDC ***19*** *19:14:41.4±0.9, 52°.19N×160°.13E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.6/69, mbtmp3.9/10, Error ellipse: s-maj=31.1km s-min=21.0km az=82.0*
NEIC ***19*** *19:14:45.3±0.6, 52°.24N×160°.76E, h35km, mb4.0/14, Error ellipse: s-maj=12.5km s-min=10.6km az=178.0*
ISC 19 19:14:41.7±1.8, 52°.11N±0°.05×160°.66E±0°.04, h11km±10km, n60, σ1$28/76, mb4.1/25, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.07 339**		P	**Pg**	**19 15 03.1**	**+0.9**
SPN				S	**Sg**	**19 15 15.6**	**-0.5**
NLC	**Nalytchevo**	**1.33 324**		P	**Pb**	**19 15 06.9**	**+0.2**
NLC				S	**Sg**	**19 15 24.6**	**0.0**
RUS	**Russkaya**	**1.36 285**		P	**Pn**	**19 15 05.5**	**-1.1**
RUS				S	**Sn**	**19 15 22.8**	**-1.7**
DALK	**Dalny**	**1.49 309**		P	**Pn**	**19 15 08.6**	**+0.3**
DALK				S	**Sb**	**19 15 28.7**	**+0.6**
PET	**Petropavlovsk**	**1.53 308**		*e*Pn	**Pb**	**19 15 09.7**	**-0.4**
MTVR	**Mutnovka**	**1.57 285**		P	**Pn**	**19 15 09.6**	**0.0**
MTVR				S	**Sn**	**19 15 29.9**	**0.0**
UGLR	**Uglovaya**	**1.57 315**		P	**Pg**	**19 15 11.6**	**-0.2**
UGLR				S	**Sg**	**19 15 32.6**	**+0.4**
SDLR	**Sedlovina**	**1.59 318**		P	**Pb**	**19 15 11.2**	**0.0**
SMAR	**Somma**	**1.62 316**		P	**Pn**	**19 15 10.1**	**-0.2**
KDTR	**Khodutka, Kamc**	**1.63 260**		P	**Pn**	**19 15 10.0**	**-0.2**
KDTR				S	**Sn**	**19 15 30.8**	**-0.3**
AVH	**Avacha**	**1.65 315**		P	**Pb**	**19 15 12.0**	**-0.1**
AVH				S	**Sg**	**19 15 33.7**	**-1.0**
GRL	**Gorelyy**	**1.65 287**		P	**Pb**	**19 15 12.0**	**-0.1**
GRL				S	**Sb**	**19 15 33.1**	**+0.1**
KRMR	**Karymshinskiy**	**1.71 296**		P	**Pn**	**19 15 11.6**	**+0.2**
KRMR				S	**Sn**	**19 15 33.6**	**+0.4**
KOK	**Koryaka**	**1.71 315**		P	**Pn**	**19 15 11.9**	**+0.4**
ASAK	**Asacha**	**1.72 280**		P	**Pn**	**19 15 12.3**	**+0.7**
ASAK				S	**Sn**	**19 15 34.3**	**+0.7**
KRX	**Arik**	**1.75 316**		P	**Pb**	**19 15 13.5**	**-0.4**
PEA0B	**Petropavlovsk-**	**2.07 300**		*e*Pn	**Pb**	**19 15 18.9**	**-0.3**
PETK	**Petropavlovsk-**	**2.07 300**		*e*Pn	**Pb**	**19 15 18.8**	**-0.3**
PETK	**Petropavlovsk-**	**2.07 300**		Pn	**Pb**	**19 15 18.4**	**-0.8**
	18nm,0.3s,baz=106,slow=21,SNR=18						
PETK				Sn	**Sb**	**19 15 44.1**	**-0.7**
	19nm,0.3s,baz=74,slow=21,SNR=6.0						
PEA1	**Petropavlovsk-**	**2.07 300**		*e*Pn	**Pb**	**19 15 18.4**	**-0.8**
PEA1				*e*Sn	**Sb**	**19 15 44.1**	**-0.8**
APC	**Apacha**	**2.29 292**		P	**Pn**	**19 15 20.9**	**+1.5**
APC				S	**Sb**	**19 15 50.7**	**-0.6**
MKZ	**Mys Kozlova**	**2.54 14**		P	**Pn**	**19 15 23.6**	**+0.9**
MKZ				S	**Sb**	**19 15 54.1**	**-4.2**
KZV	**Kizimen**	**3.02 356**		P	**Pn**	**19 15 30.4**	**+0.9**
KZV				S	**Sn**	**19 16 06.3**	**+0.6**
TUMD	**Tumrok D**	**3.10 357**		S	**Sn**	**19 16 07.7**	**+0.1**
SKR	**Severo-Kuril's**	**3.18 245**		S	**Sn**	**19 16 06.4**	**-3.1**
KBTR	**Krutoberegovo**	**4.30 16**		P	**Pn**	**19 15 48.6**	**+1.7**
KBTR				S	**Sn**	**19 16 37.5**	**+0.5**
MJB9	**Matsu-Tunnel**	**22.23 234**		*e*P	**P**	**19 19 40.9**	**+2.7**
	6.0nm,0.8s						
MAJO	**Matsushiro**	**22.23 234**		*e*P	**P**	**19 19 41.0**	**+2.8**
	5.9nm,0.8s						
TIXI	**Tiksi**	**24.12 336**		P	**P**	**19 19 56.1**	**-0.9**
	4.1nm,0.6s,baz=125,slow=6.2,SNR=5.8						
JNU	**Nakatsue**	**28.68 240**		*e*P	**P**	**19 20 40.1**	**+1.6**
	8.2nm,1.0s						
SML	**Sawmill**	**28.71 50**		*e*P	**P**	**19 20 38.4**	**-0.2**
	7.7nm,1.2s						
CCB	**Clear Creek Bu**	**28.88 44**		*e*P	**P**	**19 20 40.1**	**+0.2**
	1.0nm,0.9s						
NPH	**North Pit**	**47.28 117**		*e*P	**P**	**19 23 14.4**	**-0.7**
	148nm,1.1s						
SPA0	**Spitsbergen Ar**	**48.16 351**		*e*P	**P**	**19 23 22.0**	**+0.8**
SPITS	**Spitsbergen Ar**	**48.16 351**		P	**P**	**19 23 22.0**	**+0.8**
	1.1nm,0.5s,baz=52,slow=9.5,SNR=5.0						
KURK	**Kurchatov**	**48.55 303**		*e*P	**P**	**19 23 23.2**	**-1.3**
	2.2nm,0.8s						
GLK	**Glacier Lake**	**48.68 64**		*e*P	P	19 23 21.0	-4.7
MK31	**Makanchi Array**	**48.90 297**		*e*P	**P**	**19 23 24.8**	**-2.5**
	0.4nm,0.8s						
MK32	**Makanchi Array**	**48.90 297**		*e*P	**P**	**19 23 25.6**	**-1.7**
MKAR	**Makanchi Array**	**48.90 297**		P	**P**	**19 23 25.6**	**-1.7**
	0.3nm,0.5s,baz=56,slow=7.1,SNR=4.3						
MAKZ	**Makanchi**	**49.06 297**		*e*P	**P**	**19 23 25.9**	**-2.6**
	1.2nm,0.9s						
BVAR	**Borovoye Array**	**51.28 309**		P	**P**	**19 23 44.3**	**-0.9**
	1.0nm,0.7s,baz=51,slow=7.6,SNR=3.4						
BRVK	**Borovoye**	**51.31 309**		*e*P	**P**	**19 23 43.8**	**-1.6**
	2.2nm,1.0s						
J08A	**Circle Bar Ran**	**52.41 65**		*e*P	**P**	**19 23 52.7**	**-1.3**
	3.6nm,1.1s						
ARA0	**ARCESS Array S**	**54.33 342**		*e*P	**P**	**19 24 07.8**	**+0.3**
ARCES	**ARCESS Array B**	**54.33 342**		*e*P	**P**	**19 24 07.1**	**-0.4**
ARCES	**ARCESS Array B**	**54.33 342**		P	**P**	**19 24 07.8**	**+0.3**
	3.1nm,0.9s,baz=57,slow=6.6,SNR=2.9						
ARE0	**ARCESS Array S**	**54.33 342**		*e*P	**P**	**19 24 07.0**	**-0.5**
	0.3nm,1.0s						
ARU	**Arti**	**54.36 318**		*e*P	**P**	**19 24 06.8**	**-1.1**
	1.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.33 259**		*e*P	**P**	**19 24 38.2**	**+1.6**
ABKAR	**Akbulak array**	**58.70 311**		*e*P	**P**	**19 24 40.1**	**+1.2**
FIA0	**FINESS Array S**	**61.16 337**		*e*P	**P**	**19 24 56.5**	**+1.0**
FINES	**FINESS Array B**	**61.16 337**		P	**P**	**19 24 56.5**	**+1.0**
	1.4nm,0.5s,baz=33,slow=7.7,SNR=5.3						
AKASG	**Malin Array Be**	**69.64 329**		P	**P**	**19 25 50.0**	**-0.6**
	0.6nm,0.5s,baz=27,slow=6.3,SNR=3.0						
AKBB	**Malin Array Si**	**69.64 329**		*e*P	**P**	**19 25 50.0**	**-0.5**
	1.2nm,0.8s						
TXAR	**Lajitas Array**	**70.70 67**		P	**P**	**19 26 00.5**	**+2.9**
	0.3nm,0.5s,baz=309,slow=5.7,SNR=4.4						
WR1	**Warramunga Arr**	**75.34 206**		*e*P	**P**	**19 26 25.8**	**+0.9**
WRA	**Warramunga Arr**	**75.34 206**		P	**P**	**19 26 25.8**	**+0.9**
	0.7nm,0.9s,baz=18,slow=6.0,SNR=2.7						
AS31	**Alice Springs**	**79.00 205**		*e*P	**P**	**19 26 47.2**	**+1.8**
	0.3nm,0.6s						
ASAR	**Alice Springs**	**79.00 205**		P	**P**	**19 26 47.2**	**+1.8**
	0.3nm,0.6s,baz=23,slow=5.0,SNR=4.2						

IDC ***19*** *19:21:20.5±0.4, 52°.35N×160°.10E, h0km, mb4.8/47, mb1 4.8/50, mb1mx4.8/62, mbtmp4.8/50, ML4.5/3, MS5.2/28, Ms1 5.2/28, ms1mx5.0/45, Error ellipse: s-maj=11.5km s-min=8.5km az=166.0*
KRSC ***19*** *19:21:3.3±10.0, 52°.14N×160°.59E, h60km±10km, ML5.5, FELT [II-III] at Elizovo, Vulkanniy, Petropavlovsk.*
MOS ***19*** *19:21:24.6±1.2, 52°.25N×160°.30E, h42km, mb5.3/118, Error ellipse: s-maj=5.4km s-min=2.6km az=99.1*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
ISCJB ***19*** *19:21:25.8±0.3, 52°.28N±0°.02×160°.24E±0°.03, h50km±2km, mb5.1/257, MS5.4/46, Error ellipse: s-maj=4.0km s-min=2.3km az=151.6*
NEIC ***19*** *19:21:25.8±0.2, 52°.28N×160°.18E, h35km, mb5.0/81, Error ellipse: s-maj=6.7km s-min=3.7km az=163.0*
GCMT ***19*** *19:21:27.8±0.2, 52°.15N±0°.01×160°.69E±0°.02, h28km, MW5.4/116, Moment Tensor Solution. s83,c158; s116,c226; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr1.26±.03; Mθθ-0.46±.02; Mφφ-0.79±.02; Mrθ0.66±.04; Mθφ-0.63±.01; Mφr0.66±.04; Best double couple: M0=1.57700×10^17 NP1:φs42.00000°, δ63.00000°, λ94.00000°. NP2:φs213.00000°, δ27.00000°, λ82.00000°. Principal axes: T 1.5680, Plg72.0000°, Azm321.0000°; N 0.0190, Plg4.0000°, Azm220.0000°; P -1.5860, Plg18.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***19*** *19:21:28.4±0.0, 52°.68N×159°.42E, h54km, mb5.0/61, mB5.3/7, Ms5.7/18, Ms7 5.5/22*
ISC 19 19:21:25.5±0.3, 52°.22N±0°.04×160°.42E±0°.03, h39km±2km, n835, σ1$36/872, mb5.1/264, MS5.4/46, 61C-22D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.91 345**		*i* P	**Pn**	**19 21 40.6**	**-1.2**
SPN				*i* S	**Sn**	**19 21 53.2**	**-0.5**
SPN	**Mys Shipunski**	**0.91 345**		PN	**Pn**	**19 21 40.6**	**-1.2**
SPN				S	**Sn**	**19 21 53.2**	**-0.5**
NLC	**Nalytchevo**	**1.16 326**		*e*P	**Pn**	**19 21 44.7**	**-0.4**
NLC				*e*S	**Sn**	**19 22 00.6**	**+1.0**
NLC	**Nalytchevo**	**1.16 326**		PN	**Pn**	**19 21 44.7**	**-0.4**
NLC				S	**Sn**	**19 22 00.6**	**+1.0**
RUS	**Russkaya**	**1.19 281**		*e*P	**Pn**	**19 21 44.9**	**-0.6**
RUS	**Russkaya**	**1.19 281**		PN	**Pn**	**19 21 44.9**	**-0.6**
DALK	**Dalny**	**1.30 309**		*e*P	**Pn**	**19 21 46.6**	**-0.4**
DALK				*e*S	**Sn**	**19 22 05.0**	**+1.8**
DALK	**Dalny**	**1.30 309**		PN	**Pn**	**19 21 46.6**	**-0.4**
DALK				S	**Sn**	**19 22 05.0**	**+1.8**
PET	**Petropavlovsk**	**1.34 308**		*e*Pn	**Pn**	**19 21 47.6**	**0.0**
PET				*e*Sn	**Sn**	**19 22 02.6**	**-1.6**
PET	**Petropavlovsk**	**1.34 308**		*i* P	**Pn**	**19 21 47.6**	**0.0**
PET	**Petropavlovsk**	**1.34 308**	α	*i* PN	**Pn**	**19 21 47.6**	**0.0**
PET				*e*S	**Sn**	**19 22 07.3**	**+3.1**
PET				pmax	pmax		
	comp=Z,11μm,0.6s						
PET				smax	smax		
	comp=E,16μm,0.6s						
PET				smax	smax		
	comp=N,20μm,0.6s						
PET				smax	smax		
	comp=E,128μm,2.3s						
UGLR	**Uglovaya**	**1.39 316**		*i* P	**Pn**	**19 21 48.7**	**+0.3**
UGLR	**Uglovaya**	**1.39 316**		PN	**Pn**	**19 21 48.7**	**+0.3**
MTVR	**Mutnovka**	**1.39 282**		*e*P	**Pn**	**19 21 48.4**	**-0.1**
MTVR	**Mutnovka**	**1.39 282**		PN	**Pn**	**19 21 48.4**	**-0.1**
SDLR	**Sedlovina**	**1.41 319**		*e*P	**Pn**	**19 21 48.7**	**0.0**
SDLR	**Sedlovina**	**1.41 319**		PN	**Pn**	**19 21 48.7**	**0.0**
SMAR	**Somma**	**1.44 317**		*e*P	**Pn**	**19 21 49.1**	**0.0**
SMAR	**Somma**	**1.44 317**		PN	**Pn**	**19 21 49.1**	**0.0**
AVH	**Avacha**	**1.46 316**		*e*P	**Pn**	**19 21 49.7**	**+0.3**
AVH	**Avacha**	**1.46 316**		PN	**Pn**	**19 21 49.7**	**+0.3**
GRL	**Gorelyy**	**1.47 284**		*e*P	**Pn**	**19 21 50.3**	**+0.7**
GRL	**Gorelyy**	**1.47 284**		PN	**Pn**	**19 21 50.3**	**+0.7**
KRER	**Koryakskii**	**1.49 318**		*e*P	**Pn**	**19 21 50.4**	**+0.6**
KRER	**Koryakskii**	**1.49 318**		PN	**Pn**	**19 21 50.4**	**+0.6**
KDTR	**Khodutka, Kamc**	**1.50 255**		*e*P	**Pn**	**19 21 49.0**	**-0.8**
KDTR				*e*S	**Sn**	**19 22 07.6**	**-0.5**
KDTR	**Khodutka, Kamc**	**1.50 255**		PN	**Pn**	**19 21 49.0**	**-0.8**
KDTR				S	**Sn**	**19 22 07.6**	**-0.5**
KOK	**Koryaka**	**1.52 316**		*e*P	**Pn**	**19 21 50.6**	**+0.3**
KOK	**Koryaka**	**1.52 316**		PN	**Pn**	**19 21 50.6**	**+0.3**
KRMR	**Karymshinskiy**	**1.52 295**		*i* P	**Pn**	**19 21 50.3**	**+0.2**
KRMR				*e*S	**Sn**	**19 22 10.4**	**+1.7**
KRMR	**Karymshinskiy**	**1.52 295**		PN	**Pn**	**19 21 50.3**	**+0.2**
KRMR				S	**Sn**	**19 22 10.4**	**+1.7**
ASAK	**Asacha**	**1.55 277**		*e*P	**Pn**	**19 21 50.8**	**+0.2**
ASAK	**Asacha**	**1.55 277**		PN	**Pn**	**19 21 50.8**	**+0.2**
KRX	**Arik**	**1.57 318**		*e*P	**Pn**	**19 21 51.2**	**+0.3**
KRX	**Arik**	**1.57 318**		PN	**Pn**	**19 21 51.2**	**+0.3**
I44RU	**PETROPAVLOVSK-**	**1.87 299**		Pn	**Pn**	**19 21 56.3**	**+1.4**
	baz=113,slow=86						
I44RU				Sn	**Sn**	**19 22 22.0**	**+4.8**
	baz=108,slow=35,SNR=5.2						
PEA0B	**Petropavlovsk-**	**1.88 299**		*e*Pn	**Pn**	**19 21 55.7**	**+0.7**
PEA0B	**Petropavlovsk-**	**1.88 299**		*e*PN	**Pn**	**19 21 55.7**	**+0.7**
PETK	**Petropavlovsk-**	**1.88 299**		Pn	**Pn**	**19 21 55.6**	**+0.6**
	comp=E,244nm,0.3s,baz=102,slow=17,SNR=757						
PETK				Sn	**Sn**	**19 22 21.6**	**+4.1**
	comp=E,545nm,0.3s,baz=113,slow=22,SNR=11						
PETK				LR	LR	19 22 54.4	
	comp=E,81μm,18.5s,baz=43,slow=57						
PEA1	**Petropavlovsk-**	**1.88 300**		*e*Pn	**Pn**	**19 21 55.6**	**+0.5**
PEA1				*e*Sn	**Sn**	**19 22 21.6**	**+4.1**
APC	**Apacha**	**2.11 291**		*e*P	**Pn**	**19 21 58.9**	**+0.7**
APC				*e*S	**Sn**	**19 22 25.6**	**+2.5**
APC	**Apacha**	**2.11 291**		PN	**Pn**	**19 21 58.9**	**+0.7**
APC				S	**Sn**	**19 22 25.6**	**+2.5**
PAU	**Pauzhetka**	**2.36 253**		*e*P	**Pn**	**19 22 01.3**	**-0.3**
PAU				*e*S	**Sn**	**19 22 29.2**	**0.0**
PAU	**Pauzhetka**	**2.36 253**		PN	**Pn**	**19 22 01.3**	**-0.3**
PAU				S	**Sn**	**19 22 29.2**	**0.0**
MKZ	**Mys Kozlova**	**2.47 18**		*e*P	**Pn**	**19 22 01.8**	**-1.3**
MKZ				*e*S	**Sn**	**19 22 30.2**	**-1.8**
MKZ	**Mys Kozlova**	**2.47 18**		PN	**Pn**	**19 22 01.8**	**-1.3**
MKZ				S	**Sn**	**19 22 30.2**	**-1.8**
KZV	**Kizimen**	**2.90 359**		*e*P	**Pn**	**19 22 09.5**	**+0.3**
KZV	**Kizimen**	**2.90 359**		PN	**Pn**	**19 22 09.5**	**+0.3**
TUMD	**Tumrok D**	**2.99 360**		*e*P	**Pn**	**19 22 10.1**	**-0.2**
TUMD				*e*S	**Sn**	**19 22 44.8**	**-0.1**
TUMR	**Tumrok**	**3.08 357**		PN	**Pn**	**19 22 10.1**	**-1.5**
TUMR				S	**Sn**	**19 22 44.8**	**-2.3**
SKR	**Severo-Kuril's**	**3.10 242**		*e*P	**Pn**	**19 22 11.0**	**-0.7**
SKR				*e*S	**Sn**	**19 22 46.4**	**-1.0**
SKR	**Severo

SRDR	**Sredinnyy**	**4.13**	**355**	*e*P		**Pn**	**19 22 26.3**	**+0.4**
SRDR	**Sredinnyy**	**4.13**	**355**	PN		**Pn**	**19 22 26.3**	**+0.4**
KBTR	**Krutoberegovo**	**4.24**	**18**	*e*P		**Pn**	**19 22 27.0**	**-0.4**
KBTR	**Krutoberegovo**	**4.24**	**18**	PN		**Pn**	**19 22 27.0**	**-0.4**
KBG	**Krutoberegovo**	**4.26**	**17**	*e*P		**Pn**	**19 22 28.9**	**+1.2**
KBG				*e*S		**Sn**	**19 23 17.6**	**+1.5**
KBG	**Krutoberegovo**	**4.26**	**17**	PN		**Pn**	**19 22 28.9**	**+1.2**
KBG				S		**Sn**	**19 23 17.6**	**+1.5**
BDR	**Baidarnaya**	**4.38**	**6**	*e*P		**Pn**	**19 22 31.3**	**+1.8**
BDR	**Baidarnaya**	**4.38**	**6**	PN		**Pn**	**19 22 31.3**	**+1.8**
SMKR	**Semkarok**	**4.42**	**8**	*e*P		**Pn**	**19 22 30.4**	**+0.5**
SMKR	**Semkarok**	**4.42**	**8**	PN		**Pn**	**19 22 30.4**	**+0.5**
BKI	**Bering**	**4.46**	**46**	*e*P		**Pn**	**19 22 28.9**	**-1.4**
BKI				*e*S		**Sn**	**19 23 15.0**	**-5.8**
BKI	**Bering**	**4.46**	**46**	PN		**Pn**	**19 22 28.9**	**-1.4**
SRKR	**Sorokina**	**4.47**	**5**	*e*P		**Pn**	**19 22 32.3**	**+1.7**
SRKR	**Sorokina**	**4.47**	**5**	PN		**Pn**	**19 22 32.3**	**+1.7**
PALN	**Palana**	**6.89**	**358**	*e*P		**Pn**	**19 23 04.3**	**+0.5**
PALN	**Palana**	**6.89**	**358**	PN		**Pn**	**19 23 04.3**	**+0.5**
OSSR	**Ossora**	**7.21**	**11**	*e*P		**Pn**	**19 23 07.6**	**-0.4**
OSSR	**Ossora**	**7.21**	**11**	PN		**Pn**	**19 23 07.6**	**-0.4**
TILK	**Tilichiki**	**8.84**	**19**	*e*P		**Pn**	**19 23 30.3**	**-0.1**
TILK	**Tilichiki**	**8.84**	**19**	PN		**Pn**	**19 23 30.3**	**-0.1**
MA2	**Magadan**	**9.14**	**328**	*e*Pn		**Pn**	**19 23 35.1**	**+0.6**
MA2	**Magadan**	**9.14**	**328**	*e*PN		**Pn**	**19 23 35.2**	**+0.6**
MA2	**Magadan**	**9.14**	**328**	Pn		**Pn**	**19 23 35.6**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=128,slow=8.6,SNR=14							
MA2				LR		LR	19 27 53.2	
	comp=Z,20µm,18.4s,baz=146,slow=44							
KUR	**Kuril'sk**	**10.83**	**235**	*e*PN		**Pn**	**19 24 01.3**	**+3.5**
KUR				pmax		pmax		
	comp=Z,54nm,0.7s							
KUR				pmax		pmax		
	comp=E,21nm,0.9s							
KUR				pmax		pmax		
	comp=N,16nm,0.6s							
KUR				MLR		MLR		
	comp=E,13µm,18.0s							
KUR				MLR		MLR		
	comp=Z,17µm,18.0s							
KUR				MLR		MLR		
	comp=N,27µm,17.0s							
TYV	**Tymovskoe**	**11.14**	**270**	*e*PN		**Pn**	**19 24 05.8**	**+3.8**
TYV				*e*S		Sn	19 26 15.7	+11
TYV				pmax		pmax		
	comp=Z,26nm,1.2s							
TYV				smax		smax		
	comp=E,16nm,1.2s							
TYV				MLR		MLR		
	comp=E,36µm,14.0s							
TYV				MLR		MLR		
	comp=Z,33µm,14.0s							
SEY	**Seymchan**	**11.56**	**341⇓**	*e*PN		**Pn**	**19 24 09.0**	**+1.3**
SEY	**Seymchan**	**11.56**	**341**	Pn		**Pn**	**19 24 09.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=140,slow=12,SNR=11							
NKL	**Nikolayevsk**	**12.01**	**282**	*e*PN		**Pn**	**19 24 17.0**	**+3.1**
UGL	**Uglegorsk**	**12.06**	**262**	*e*PN		**Pn**	**19 24 18.2**	**+3.7**
UGL				pmax		pmax		
	comp=Z,85nm,0.8s							
UGL				MLR		MLR		
	comp=E,22µm,12.0s							
UGL				MLR		MLR		
	comp=Z,18µm,13.0s							
YSS	**Yuzh-Sakhalins**	**12.60**	**252**	*e*Pn		**Pn**	**19 24 23.1**	**+1.1**
YSS	**Yuzh-Sakhalins**	**12.60**	**252⇑**	*e*PN		**Pn**	**19 24 23.0**	**+1.1**
YSS				pmax		pmax		
	comp=Z,40nm,0.8s							
ASAJ	**Asahikawa**	**14.36**	**243**	Pn		**Pn**	**19 24 44.9**	**-1.1**
	comp=Z,3.9nm,0.3s,baz=75,slow=11,SNR=58							
ASAJ				LR		LR	19 31 15.8	
	comp=Z,11µm,18.9s,baz=50,slow=42							
GRNR	**Gornyy**	**15.00**	**274**	*e*P		**P**	**19 24 57.2**	**-2.2**
GRNR				pmax		pmax		
	comp=Z,13nm,1.0s							
ERM	**Erimo**	**15.52**	**236**	*e*Pn		**Pn**	**19 24 57.3**	**-4.0**
	comp=Z,44nm,0.7s							
ERM	**Erimo**	**15.52**	**236⇑**	*e*P		**Pn**	**19 24 58.9**	**-2.4**
BILL	**Bilibino**	**16.12**	**8**	*e*Pn		**P**	**19 25 10.6**	**-1.1**
	comp=Z,54nm,0.6s							
BILL	**Bilibino**	**16.12**	**8**	*e*P		**Pn**	**19 25 07.6**	**-1.3**
BILL				*e*S		**Sn**	**19 28 09.7**	**+3.4**
BILL				pmax		pmax		
	comp=Z,125nm,1.7s							
BILL				MLR		MLR		
	comp=Z,11µm,17.0s							
TEY	**Ternei**	**17.25**	**255⇑**	*e*P		**Pn**	**19 25 22.8**	**-0.4**
TEY				*e*S		**Sn**	**19 28 31.1**	**-2.8**
TEY				pmax		pmax		
	comp=N,20nm,1.1s							
TEY				pmax		pmax		
	comp=Z,70nm,0.7s							
TEY				pmax		pmax		
	comp=E,60nm,0.6s							
TEY				MLR		MLR		
	comp=E,7µm,15.0s							
TEY				MLR		MLR		
	comp=N,6µm,13.0s							
TEY				MLR		MLR		
	comp=Z,12µm,14.0s							
KLR	**Kul'dur**	**18.34**	**272⇑**	*e*P		**P**	**19 25 36.1**	**-0.2**
KLR	**Kul'dur**	**18.34**	**272**	P		**P**	**19 25 35.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=62,slow=11,SNR=35							
KLR				LR		LR	19 33 45.3	
	comp=Z,12µm,18.2s,baz=76,slow=41							
YAK	**Yakutsk**	**19.17**	**313**	*e*P		**P**	**19 25 42.1**	**-3.2**
YAK				*e*S		**Sn**	**19 29 13.3**	**-6.6**
YAK				smax		smax		
	comp=E,13µm,9.8s							
YAK				smax		smax		
	comp=N,8µm,8.3s							
ZEA	**Zeya**	**19.93**	**288**	*e*P		**P**	**19 25 51.8**	**-1.9**
ZEA				pmax		pmax		
	comp=Z,31nm,0.8s							
ZEA				MLR		MLR		
	comp=E,11µm,16.0s							
USRK	**Ussuriysk Ar.**	**20.47**	**258**	P		**P**	**19 25 57.2**	**-2.4**
	comp=E,43nm,0.8s,baz=60,slow=11,SNR=39							
USRK				LR		LR	19 34 09.7	
	comp=E,7µm,19.1s,baz=62,slow=38							
MDJ	**Mudanjiang**	**21.70**	**262**	P		**P**	**19 26 10.9**	**-1.9**
MDJ				pmax		pmax		
	comp=E,36nm,0.9s							
MDJ				pmax		pmax		
	comp=E,700nm,4.3s							
MDJ	**Mudanjiang**	**21.70**	**262**	*e*P		**P**	**19 26 10.7**	**-2.1**
	comp=E,50nm,1.0s							
MJB9	**Matsu-Tunnel**	**22.17**	**234**	*e*P		**P**	**19 26 18.8**	**+0.8**
	comp=E,131nm,1.0s							
MAJO	**Matsushiro**	**22.17**	**234**	*e*P		**P**	**19 26 18.8**	**+0.9**
	comp=E,123nm,0.9s							
MAJO	**Matsushiro**	**22.17**	**234**	*c e*P		**P**	**19 26 18.6**	**+0.7**
MAJO				pmax		pmax		
	comp=Z,134nm,1.0s							
MAT	**Matsushiro**	**22.17**	**234**	P		**P**	**19 26 17.5**	**-0.4**
MJAR	**Matsushiro Arr**	**22.17**	**234**	*e*P		**P**	**19 26 18.2**	**+0.2**
MJAR	**Matsushiro Arr**	**22.17**	**234**	P		**P**	**19 26 17.8**	**-0.2**
	comp=Z,67nm,1.0s,baz=18,slow=9.8,SNR=106							
MJAR				LR		LR	19 35 16.6	
	comp=Z,10µm,20.4s,baz=45,slow=38							
RDOG	**Red Dog Mine**	**23.65**	**34**	*e*P		**P**	**19 26 33.7**	**+0.9**
	comp=Z,48nm,1.2s							
INU	**Inuyama**	**23.70**	**234**	*e*P		**P**	**19 26 33.4**	**-0.2**
	comp=Z,85nm,0.9s							
TIXI	**Tiksi**	**23.96**	**336⇑**	*e*P		**P**	**19 26 33.4**	**-2.2**
TIXI				pmax		pmax		
	comp=Z,70nm,0.8s							
TIXI	**Tiksi**	**23.96**	**336**	P		**P**	**19 26 33.5**	**-2.1**
	comp=Z,65nm,0.7s,baz=125,slow=8.9,SNR=186							
JHJ	**Hachijo jima 2**	**24.23**	**226**	LR		LR	19 39 11.8	
	comp=Z,2µm,18.2s,baz=98,slow=44							
CN2	**Changchun**	**24.66**	**264**	*e*P		**P**	**19 26 43.1**	**+0.8**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
HIA	**Hailar**	**25.67**	**280**	*e*P		**P**	**19 26 49.3**	**-2.1**
	comp=Z,82nm,0.8s							
HIA	**Hailar**	**25.67**	**280⇓**	*e*P		**P**	**19 26 49.5**	**-1.9**
HIA				pmax		pmax		
	comp=Z,492nm,0.9s							
IMAR	**Indian Mountai**	**26.53**	**41**	*e*P		**P**	**19 26 59.6**	**+0.6**
RSO	**Redoubt South**	**26.71**	**54**	*e*P		**P**	**19 27 02.4**	**+1.5**
BOD	**Bodaibo**	**26.75**	**301**	*e*P		**P**	**19 26 58.6**	**-2.5**
BOD				pmax		pmax		
	comp=Z,27nm,1.4s							
SNY	**Shenyang**	**26.90**	**262**	⇓P		**P**	**19 27 02.4**	**-0.1**
SNY				S		S	19 31 23.5	-13
SNY				pmax		pmax		
	comp=Z,28nm,0.7s							
SNY				LR		LR		
	comp=Z,14µm,19.0s							
SNY				LR		LR		
	comp=Z,10µm,18.4s							
SNY				LR		LR		
	comp=Z,9µm,18.0s							
CAST	**Castle Rocks**	**26.99**	**47**	*e*P		**P**	**19 27 05.4**	**+2.2**
	comp=Z,18nm,1.2s							
KDAK	**Kodiak Island**	**27.07**	**59**	*e*P		**P**	**19 27 06.7**	**+2.8**
	comp=Z,58nm,1.2s							
KDAK	**Kodiak Island**	**27.07**	**59**	*i* P		**P**	**19 27 04.3**	**+0.4**
KDAK	**Kodiak Island**	**27.07**	**59**	P		**P**	**19 27 03.8**	**-0.1**
	comp=Z,7.6nm,0.5s,baz=270,slow=3.5,SNR=20							
KSRS	**Korea Array**	**27.08**	**250**	P		**P**	**19 27 05.5**	**+1.3**
	comp=Z,10nm,0.7s,baz=45,slow=9.5,SNR=34							
KSRS				LR		LR	19 38 52.8	
	comp=Z,5µm,18.9s,baz=42,slow=39							
KS15	**Wonju Array Si**	**27.11**	**250**	*e*P		**P**	**19 27 04.0**	**-0.4**
	comp=Z,18nm,0.9s							
KSAR	**Wonju Array Be**	**27.11**	**250**	*e*P		**P**	**19 27 04.6**	**+0.1**
KSAR	**Wonju Array Be**	**27.11**	**250**	*e*P		**P**	**19 27 04.6**	**+0.1**
BPAW	**Bear Paw Mtn.**	**27.51**	**45**	*e*P		**P**	**19 27 09.6**	**+1.7**
	comp=Z,12nm,1.1s							
CIT	**Chita**	**28.39**	**288**	*e*P		**P**	**19 27 13.3**	**-2.5**
CIT				*e*			19 27 22.6	
GHO	**Glory Hole Cre**	**28.48**	**50**	*e*P		**P**	**19 27 15.6**	**-1.0**
	comp=Z,11nm,0.8s							
TOLK	**Toolik Lake Re**	**28.55**	**36**	*e*P		**P**	**19 27 18.4**	**+1.2**
	comp=Z,22nm,1.4s							
TOLK	**Toolik Lake Re**	**28.55**	**36**	P		**P**	**19 27 18.2**	**+1.1**
	baz=261							
JNU	**Nakatsue**	**28.61**	**240**	P		**P**	**19 27 17.4**	**-0.5**
	comp=Z,18nm,0.8s,baz=21,slow=5.6,SNR=5.5							
JNU				LR		LR	19 40 31.5	
	comp=Z,4µm,19.6s,baz=42,slow=40							
COLA	**College**	**28.89**	**44⇑**	*e*P		**P**	**19 27 21.3**	**+1.3**
COLA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
HDA	**Harding Lake**	**29.28**	**45**	P		**P**	**19 27 24.6**	**+1.0**
	baz=271							
ILAR	**Eielson Array**	**29.30**	**44**	P		**P**	**19 27 24.7**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=261,slow=8.0,SNR=19							
ILAR				PcP		**PcP**	**19 30 29.4**	**0.0**
	comp=Z,1.1nm,0.9s,baz=285,slow=3.8,SNR=4.1							
ILAR				LR		LR	19 41 08.9	
	comp=Z,3µm,18.5s,baz=277,slow=40							
DL2	**Dalian**	**29.86**	**259**	P		**P**	**19 27 28.6**	**-0.3**
DL2				*e*S		**S**	**19 32 23.4**	**+0.3**
DL2				pmax		pmax		
	comp=Z,31nm,0.9s							
DL2				LR		LR		
	comp=Z,4µm,15.1s							
DL2				LR		LR		
	comp=Z,4µm,14.7s							
DL2				LR		LR		
	comp=Z,5µm,14.6s							
PRP	**Porcupine Dome**	**29.88**	**43**	*e*P		**P**	**19 27 29.4**	**+0.4**
	comp=Z,9.9nm,1.0s							
KLU	**Klutina**	**29.93**	**51**	*e*P		**P**	**19 27 31.5**	**+2.0**
	comp=Z,26nm,1.1s							
HARP	**HAARP**	**30.20**	**49**	*e*P		**P**	**19 27 32.2**	**+0.5**
	comp=Z,9.3nm,0.7s							
BCAR	**Beaver Creek A**	**31.66**	**47**	*e*P		**P**	**19 27 45.3**	**+0.7**
BJI	**Beijing**	**32.48**	**266**	*e*P		**P**	**19 27 51.0**	**-1.0**
BJI				pmax		pmax		
	comp=Z,5.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**32.82**	**169**	T		T	20 03 45.6	
	baz=352,slow=76,SNR=43							
H11N3	**WAKE ISLAND Hy**	**32.83**	**169**	T		T	20 03 46.6	
	baz=352,slow=76,SNR=52							
H11N1	**WAKE ISLAND Hy**	**32.83**	**169**	T		T	20 04 11.1	
	baz=352,slow=76,SNR=71							
EPYK	**Eagle Plains**	**33.43**	**41**	P		**P**	**19 28 01.7**	**+1.7**
	baz=277							
IRK	**Irkutsk**	**33.65**	**293**	*e*P		**P**	**19 27 57.3**	**-4.8**
IRK				*e*			19 29 13.9	
IRK				*e*			19 38 25.5	
IRK				pmax		pmax		
	comp=Z,54nm,2.8s							
ULN	**Ulaanbaatar**	**33.90**	**284**	*e*P		**P**	**19 28 02.7**	**-1.8**
	comp=Z,11nm,0.9s							
ULN	**Ulaanbaatar**	**33.90**	**284⇑**	*e*P		**P**	**19 28 02.7**	**-1.8**
ULN				pmax		pmax		
	comp=Z,16nm,1.3s							
ULN	**Ulaanbaatar**	**33.90**	**284**	P		**P**	**19 28 03.2**	**-1.2**
	SNR=6.6							
H11S1	**WAKE ISLAND Hy**	**34.00**	**169**	T		T	20 04 46.2	
	baz=352,slow=76,SNR=8.7							
H11S3	**WAKE ISLAND Hy**	**34.01**	**169**	T		T	20 04 51.0	
	baz=352,slow=76,SNR=23							
H11S2	**WAKE ISLAND Hy**	**34.02**	**169**	T		T	20 04 55.8	
	baz=352,slow=76,SNR=8.7							
TLY	**Talaya**	**34.23**	**292**	*e*P		**P**	**19 28 05.8**	**-1.3**
	comp=Z,21nm,1.0s							
TLY	**Talaya**	**34.23**	**292⇑**	*e*P		**P**	**19 28 05.8**	**-1.3**
TLY	**Talaya**	**34.23**	**292**	P		**P**	**19 28 06.2**	**-0.9**
	SNR=6.2							
SONA0	**Songino Array**	**34.30**	**285**	*e*P		**P**	**19 28 06.3**	**-1.7**
SONA0				*e*PcP		**PcP**	**19 30 44.3**	**+1.0**
SONM	**Songino Array**	**34.30**	**285**	P		**P**	**19 28 06.3**	**-1.7**
	comp=Z,3.5nm,0.5s,baz=63,slow=7.4,SNR=19							
SONM				PcP		**PcP**	**19 30 44.3**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=67,slow=3.3,SNR=2.6							
SONM				LR		LR	19 43 45.7	
	comp=Z,17µm,18.1s,baz=73,slow=40							
TIA	**Tai'an**	**34.33**	**260**	P		**P**	**19 28 08.1**	**0.0**
TIA				pmax		pmax		
	comp=Z,39nm,0.8s							
INK	**Inuvik**	**34.45**	**37**	P		**P**	**19 28 09.4**	**+0.6**
	comp=Z,3.8nm,0.5s,baz=285,slow=7.1,SNR=26							
INK				PcP		**PcP**	**19 30 44.3**	**+1.1**
	comp=Z,2.2nm,0.5s,baz=326,slow=2.5,SNR=4.0							
INK				LR		LR	19 44 40.3	
	comp=Z,2µm,18.1s,baz=260,slow=41							
HHC	**Hu-ho-hao-te**	**34.84**	**271**	*e*P		**P**	**19 28 12.6**	**0.0**
HHC				S		**S**	**19 33 42.3**	**+1.5**
HHC				pmax		pmax		
	comp=Z,120nm,0.9s							
HHC				pmax		pmax		
	comp=Z,370nm,4.6s							
HHC				LR		LR		
	comp=Z,1µm,12.7s							
HHC				LR		LR		
	comp=Z,880nm,13.2s							
HHC				LR		LR		
	comp=Z,1µm,12.4s							
ZAK	**Zakamensk**	**34.98**	**290**	*e*P		**P**	**19 28 11.6**	**-2.1**
ZAK				pmax		pmax		
	comp=Z,21nm,1.0s							
WHY	**Whitehorse**	**35.35**	**50**	*e*P		**P**	**19 28 18.9**	**+2.1**
	comp=Z,29nm,1.4s							
MOY	**Mondy**	**35.74**	**293**	*e*P		**P**	**19 28 18.9**	**-1.3**
MOY				pmax		pmax		
	comp=Z,37nm,1.5s							
NJ2	**Nanjing**	**36.17**	**253**	*e*P		**P**	**19 28 24.0**	**0.0**
NJ2				pmax		pmax		
	comp=Z,20nm,0.7s							
NJ2				LR		LR		
	comp=Z,9µm,14.1s							
NJ2				LR		LR		
	comp=Z,3µm,12.5s							
NJ2				LR		LR		
	comp=Z,7µm,15.2s							
NRIK	**Noril'sk**	**36.74**	**325**	P		**P**	**19 28 27.0**	**-1.4**
	comp=Z,15nm,0.8s,baz=86,slow=8.8,SNR=16							
NRIK				LR		LR	19 45 02.8	
	comp=Z,14µm,18.6s,baz=74,slow=39							
SARN	**Sarigan**	**37.29**	**204**	*e*P		**P**	**19 28 32.9**	**-0.7**
	comp=Z,21nm,1.0s							
DLBC	**Dease Lake**	**38.42**	**52**	*e*P		**P**	**19 28 44.9**	**+2.1**
	comp=Z,20nm,1.0s							
DLBC	**Dease Lake**	**38.42**	**52**	P		**P**	**19 28 44.5**	**+1.7**
	comp=Z,3.2nm,0.5s,baz=294,slow=10,SNR=8.8							
DLBC				LR		LR	19 46 23.8	
	comp=Z,3µm,18.1s,baz=316,slow=39							
WHN	**Wuhan**	**39.92**	**255⇑**	*i* P		**P**	**19 28 56.9**	**+1.3**
WHN				pmax		pmax		
	comp=Z,42nm,0.9s							
LZH	**Lanzhou**	**42.54**	**271**	*e*P		**P**	**19 29 16.4**	**-0.8**
LZH				pP		pwP	19 29 30.5	-0.2
LZH				sP		sP	19 29 37.1	+5.6
LZH				pmax		pmax		
	comp=Z,38nm,1.0s							
GTA	**Gaotai**	**42.91**	**278**	⇑P		**P**	**19 29 19.1**	**-1.1**
GTA				pP		pP	19 29 28.4	-2.1
GTA				sP		pwP	19 29 33.3	-0.4
GTA				pmax		pmax		
	comp=Z,10.0nm,1.4s							
GTA				LR		LR		
	comp=Z,6µm,15.2s							
GTA				LR		LR		
	comp=Z,8µm,15.2s							
GTA				LR		LR		
	comp=Z,10µm,16.8s							
ENH	**Enshi**	**43.04**	**260**	*e*P		**P**	**19 29 20.3**	**-0.9**
	comp=Z,17nm,0.9s							
ZALV	**Zalesovo Beam**	**43.42**	**304**	*i* P		**P**	**19 29 21.2**	**-2.7**
ZALV				pmax		pmax		
	comp=Z,6.0nm,0.6s							
ZALV	**Zalesovo Beam**	**43.42**	**304**	P		**P**	**19 29 20.9**	**-3.0**
	comp=Z,5.5nm,0.6s,baz=59,slow=7.0,SNR=35							
ZALV				LR		LR	19 48 17.3	
	comp=Z,5µm,19.8s,baz=68,slow=37							
YKA	**Yellowknife Ar**	**43.68**	**42**	*e*P		**P**	**19 29 26.0**	**+0.1**
YKA	**Yellowknife Ar**	**43.68**	**42**	*e*P		**P**	**19 29 26.0**	**+0.1**
YKA	**Yellowknife Ar**	**43.68**	**42**	P		**P**	**19 29 26.2**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=299,slow=7.9,SNR=16							
NVS	**Novosibirsk**	**43.78**	**305**	*e*P		**P**	**19 29 24.8**	**-2.0**
NVS				*e*S		**S**	**19 35 51.8**	**-2.5**
NVS				pmax		pmax		
	comp=E,54nm,1.3s							
NVS				pmax		pmax		
	comp=Z,90nm,1.3s							
NVS				pmax		pmax		
	comp=N,20nm,1.4s							
NVS				smax		smax		
	comp=E,23nm,1.6s							
RES	**Resolute Bay**	**44.06**	**22**	*e*P		**P**	**19 29 29.7**	**+0.8**
	comp=E,14nm,1.2s							
RES	**Resolute Bay**	**44.06**	**22**	*e*P		**P**	**19 29 29.7**	**+0.8**
RES				pmax		pmax		
	comp=Z,14nm,1.2s							
RES	**Resolute Bay**	**44.06**	**22**	P		**P**	**19 29 30.1**	**+1.2**
	comp=Z,4.7nm,0.8s,baz=302,slow=8.1,SNR=22							
RES				LR		LR	19 49 21.7	
	comp=Z,2µm,19.0s,baz=327,slow=38							
DGZ	**Jazzator, Alta**	**44.24**	**297**	*c i* P		**P**	**19 29 29.6**	**-1.2**
DGZ				pmax		pmax		
	comp=Z,15nm,0.8s							
CD2	**Chengdu**	**46.08**	**265**	P		**P**	**19 29 44.3**	**-1.2**
CD2				pmax		pmax		
	comp=Z,40nm,0.5s							
LPH	**Laupahoehoe**	**46.93**	**116**	*e*P		P	19 29 57.5	+5.4
D03D	**Eldon**	**47.38**	**64**	P		**P**	**19 29 57.3**	**+1.9**
	baz=306							
WMQ	**Urumqi**	**47.45**	**290**	*e*P		**P**	**19 29 55.1**	**-1.0**
WMQ				pP		sP	19 30 13.4	+2.8
WMQ				pmax		pmax		
	comp=Z,110nm,0.9s							
WMQ	**Urumqi**	**47.45**	**290**	*e*P		**P**	**19 29 54.8**	**-1.3**
	comp=Z,29nm,0.8s							
WMQ	**Urumqi**	**47.45**	**290**	*e*P		**P**	**19 29 54.8**	**-1.3**
WMQ				pmax		pmax		
	comp=Z,29nm,0.8s							
B05A	**Bryant**	**47.50**	**62**	P		**P**	**19 29 57.7**	**+1.4**
	baz=306							
GYA	**Guiyang**	**47.51**	**259⇓**	*i* P		**P**	**19 29 57.3**	**+0.5**
GYA				pP		sP	19 30 12.8	+1.5
GYA				sP		pwP	19 30 20.0	+10
GYA				PP		**PP**	**19 31 47.4**	**-0.9**
GYA				S		**S**	**19 36 43.4**	**-5.5**
GYA				sS		sS	19 37 09.3	+4.7
GYA				SS		SS	19 40 03.8	-13
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,4.9s							
GYA				LR		LR		
	comp=Z,540nm,18.3s							
GYA				LR		LR		
	comp=Z,510nm,18.0s							
GYA				LR		LR		
	comp=Z,550nm,17.9s							
KBS	**Kingsbay**	**47.77**	**352**	*e*P		**P**	**19 29 58.6**	**+0.6**
	comp=Z,31nm,0.8s							
KBS	**Kingsbay**	**47.77**	**352⇓**	*e*P		**P**	**19 29 59.3**	**+1.3**
KBS				pmax		pmax		
	comp=Z,117nm,0.9s							
SPA0	**Spitsbergen Ar**	**48.03**	**351**	*e*P		**P**	**19 30 00.4**	**+0.3**
SPITS	**Spitsbergen Ar**	**48.03**	**351**	P		**P**	**19 29 59.9**	**-0.2**
	comp=Z,22nm,0.5s,baz=64,slow=7.5,SNR=89							
KURK	**Kurchatov**	**48.37**	**303**	*e*P		**P**	**19 30 01.0**	**-2.0**
	comp=Z,68nm,1.1s							
KURK	**Kurchatov**	**48.37**	**303**	*c i* P		**P**	**19 30 00.8**	**-2.2**
KURK				pmax		pmax		
	comp=Z,83nm,1.3s							
KURK	**Kurchatov**	**48.37**	**303**	P		**P**	**19 30 01.2**	**-1.7**
	SNR=29							
KURBB	**Kurchatov Arra**	**48.47**	**303**	P		**P**	**19 30 01.6**	**-2.1**
	comp=Z,29nm,0.8s,baz=59,slow=7.9,SNR=118							
MK31	**Makanchi Array**	**48.72**	**297**	*e*P		**P**	**19 30 03.7**	**-2.1**
	comp=Z,10nm,0.8s							
MK31	**Makanchi Array**	**48.72**	**297**	*e*P		**P**	**19 30 03.7**	**-2.1**
MK31				pmax		pmax		
	comp=Z,10.0nm,0.8s							
MKAR	**Makanchi Array**	**48.72**	**297**	*i* P		**P**	**19 30 03.5**	**-2.3**
MKAR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
MKAR	**Makanchi Array**	**48.72**	**297**	P		**P**	**19 30 03.6**	**-2.1**
	comp=Z,9.5nm,0.6s,baz=57,slow=7.3,SNR=150							
MKAR				LR		LR	19 51 46.0	
	comp=Z,4µm,18.1s,baz=20,slow=38							
MAKZ	**Makanchi**	**48.88**	**297**	*e*P		**P**	**19 30 04.8**	**-2.2**
	comp=Z,16nm,0.8s							
MAKZ	**Makanchi**	**48.88**	**297**	*e*P		**P**	**19 30 04.8**	**-2.2**
MAKZ				p

PDGK Podgornoye 52.42 295 P P 19 30 32.0 -1.9
PDGK pmax pmax
comp=Z,22nm,1.0s
OTUK Ortayu 53.12 303 P P 19 30 37.0 -1.8
OTUK pmax pmax
comp=Z,24nm,0.9s
FFC Flin Flon 53.49 46 *i* P P 19 30 44.3 +2.8
HAMF Hammerfest 53.57 343 *e*P P 19 30 40.8 -1.0
LVZ Lovozero 53.58 338 *e*P P 19 30 41.8 -0.2
comp=Z,43nm,0.8s
LVZ Lovozero 53.58 338⇓ *e*P P 19 30 41.8 -0.2
LVZ pmax pmax
comp=Z,75nm,1.7s
KEV Kevo 53.71 342 *e*P P 19 30 42.3 -0.5
comp=Z,13nm,0.8s
KEV Kevo 53.71 342 *e*P P 19 30 42.3 -0.5
KEV pmax pmax
comp=Z,13nm,0.8s
BEKR Beckworth 53.71 70 *e*P P 19 30 45.2 +1.7
comp=Z,20nm,1.1s
FCC Fort Churchill 54.05 38 *e*P P 19 30 46.0 +0.6
comp=Z,7.8nm,0.8s
APA Apatity 54.14 338⇓ *i*P P 19 30 44.0 -1.9
APA pmax pmax
comp=Z,20nm,0.8s
APA MLR MLR
comp=Z,4μm,16.0s
EGMT Eagleton 54.16 56 P P 19 30 48.0 +1.5
baz=311
ARU Arti 54.18 318 *e*P P 19 30 45.6 -0.9
comp=Z,29nm,0.7s
ARU Arti 54.18 318⇑ *e*P P 19 30 45.5 -0.9
ARU pmax pmax
comp=Z,24nm,0.6s
ARU Arti 54.18 318 P P 19 30 45.3 -1.1
comp=Z,11nm,0.6s,baz=50,slow=3.3,SNR=77
ARCES ARCESS Array B 54.18 342 *e*P P 19 30 45.5 -0.8
ARCES ARCESS Array B 54.18 342 P P 19 30 46.0 -0.3
comp=Z,23nm,0.8s,baz=34,slow=8.8,SNR=31
ARE0 ARCESS Array S 54.18 342 *e*P P 19 30 45.9 -0.4
comp=Z,1.6nm,0.9s
ARE0 ARCESS Array S 54.18 342 *e*P P 19 30 46.0 -0.2
PAHR Pah Rah Range 54.38 69 *e*P P 19 30 49.5 +1.2
comp=Z,20nm,1.1s
TARG Taragay, Kyrgy 54.41 294 *e*P P 19 30 47.4 -1.5
comp=Z,5.7nm,0.8s
KDJ Kajisay 54.49 295 *e*P P 19 30 48.3 -0.9
comp=Z,18nm,0.8s
KDJ Kajisay 54.49 295 *e*P P 19 30 48.3 -0.9
KDJ pmax pmax
comp=Z,18nm,0.8s
LSA Lhasa 54.68 274 *e*P P 19 30 51.5 +0.5
comp=Z,18nm,0.8s
LSA Lhasa 54.68 274 P P 19 30 51.2 +0.2
LSA Lhasa 54.68 274 *e*P P 19 30 51.5 +0.5
LSA pmax pmax
comp=Z,17nm,0.8s
BOZ Bozeman (W) 54.78 59 *e*P P 19 30 52.4 +1.2
comp=Z,5.3nm,0.9s
BOZ Bozeman (W) 54.78 59 *e*P P 19 30 52.4 +1.2
BOZ pmax pmax
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 54.78 59 P P 19 30 52.7 +1.5
baz=312
SUMG Summit 54.81 7 *e*P P 19 30 51.9 +0.7
comp=Z,38nm,1.1s
SUMG Summit 54.81 7 *e*P P 19 30 51.9 +0.7
SUMG pmax pmax
comp=Z,38nm,1.1s
SUMG Summit 54.81 7⇑ *i*P P 19 30 51.9 +0.7
comp=Z,111nm,1.1s
YERR Yerington 54.94 70 *e*P P 19 30 54.4 +1.9
comp=Z,21nm,0.9s
KTK1 Kautokeino 55.05 343 *e*P P 19 30 52.8 +0.2
BMN Battle Mountai 55.13 67 *e*P P 19 30 54.4 +0.6
comp=Z,24nm,1.1s
BMN Battle Mountai 55.13 67 *e*P P 19 30 54.4 +0.6
BMN pmax pmax
comp=Z,24nm,1.1s
PRGR Permogore 55.29 328⇑ *i*P P 19 30 54.0 -0.3
PRGR pmax pmax
comp=Z,52nm,0.6s
RYN Ryan 55.60 70 *e*P P 19 30 58.4 +1.3
comp=Z,11nm,0.9s
AAK Ala-Archa 55.64 297 *e*P P 19 30 56.2 -1.2
comp=Z,16nm,0.9s
AAK Ala-Archa 55.64 297 *i* P P 19 30 56.2 -1.2
SNR=23
AAK Ala-Archa 55.64 297⇑ *e*P P 19 30 56.0 -1.4
AAK pmax pmax
comp=Z,24nm,1.3s
AAK Ala-Archa 55.64 297 P P 19 30 56.2 -1.2
SNR=11
AAK Ala-Archa 55.64 297 P P 19 30 56.3 -1.2
comp=Z,13nm,0.8s,baz=86,slow=4.4,SNR=42
TMCR Tamitsa 55.65 333 *e*P P 19 30 55.3 -1.6
TMCR pmax pmax
comp=Z,114nm,1.0s
SGF Sodankyl 55.75 340 P P 19 30 57.7 +0.1
SGF pmax pmax
comp=Z,40nm,1.4s
PANO Nakornpanom 55.83 253 P P 19 31 00.5 +1.7
comp=Z,0.7nm,1.1s
NVAR Mina Array Bea 55.86 70 *e*P P 19 31 01.3 +2.2
NVAR Mina Array Bea 55.86 70 P P 19 31 01.1 +2.0
comp=Z,3.8nm,0.7s,baz=298,slow=7.5,SNR=20
NVAR LR LR 19 52 35.0
comp=Z,670nm,19.4s,baz=316,slow=33
ELK Elko 56.04 66 *e*P P 19 31 02.6 +2.2
comp=Z,6.6nm,0.9s
ELK Elko 56.04 66 *e*P P 19 31 02.6 +2.2
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 56.04 66 P P 19 31 02.4 +2.0
comp=Z,1.9nm,0.8s,baz=310,slow=8.8,SNR=9.4
KIRV Kirov 56.22 324 P P 19 31 00.3 -0.7
comp=Z,55nm,0.5s,baz=44,slow=3.5,SNR=28
RLMT Red Lodge 56.33 58 P P 19 31 04.9 +2.5
baz=313
SKNT Sakolnakorn 56.34 253 P P 19 31 03.6 +1.1
comp=Z,51nm,1.0s
MSF Maaselka 56.50 338 P P 19 31 03.2 +0.2
MSF pmax pmax
comp=Z,124nm,1.2s
LAO LASA Array 56.84 55 P P 19 31 08.1 +2.3
baz=313
KSH Kashi 56.93 293 P P 19 31 09.6 +3.0
KSH pP sP 19 31 25.3 +4.1
KSH PP **PP** 19 33 17.8 +4.8
KSH S **S** 19 38 55.6 -2.1
KSH SS **SS** 19 42 46.9 +1.1
KSH pmax pmax
comp=Z,26nm,1.0s
KSH LR LR
comp=Z,2μm,12.4s
PAYA Payao 56.95 259 P P 19 31 08.2 +1.4
comp=Z,72μm,0.7s,comp=Z,629μm
VES Vestal, Richgr 57.17 72 P P 19 31 10.0 +1.8
baz=314
SHL Shillong 57.20 270 *e*P P 19 31 10.0 +1.3
PHRA Phrae 57.39 258 P P 19 31 11.2 +1.3
comp=Z,8.0nm,1.2s
LOF Lofoten 57.46 346 *e*P P 19 31 10.1 +0.4
R11A Troy Canyon, C 57.48 68 P P 19 31 12.4 +1.8
baz=314
KK31 Karatay Array 57.48 300 *e*P P 19 31 08.9 -1.4
comp=Z,12nm,0.8s
KK31 Karatay Array 57.48 300 *e*P P 19 31 09.0 -1.4
KK31 pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 57.48 300 *e*P P 19 31 09.0 -1.3
KKAR Karatay Array 57.48 300 *e*P P 19 31 09.0 -1.3
KHON Khomkaen 57.52 254 P P 19 31 12.4 +1.6
comp=Z,66μm,0.9s
SCO Scoresbysund 57.59 1 *e*P P 19 31 10.4 -0.2
SCO Scoresbysund 57.59 1 *i* P P 19 31 10.4 -0.2
LAMP Lampang 57.73 258 P P 19 31 13.6 +1.3
comp=Z,59μm,0.9s,comp=Z,517μm
DUG Dugway, Tooele 57.77 65 *e*P P 19 31 14.5 +2.0
comp=Z,14nm,1.1s
DUG Dugway, Tooele 57.77 65 *e*P P 19 31 14.5 +2.0
DUG pmax pmax
comp=Z,14nm,1.1s
DUG Dugway, Tooele 57.77 65 P P 19 31 14.7 +2.2
baz=314
UTTA Uttaradit 57.78 257 P P 19 31 13.7 +1.1
comp=Z,63μm,0.8s,comp=Z,427μm
BW06 Boulder Array 57.78 61 P P 19 31 14.7 +2.0
baz=314
PD31 Pinedale Array 57.78 61 *e*P P 19 31 14.6 +1.9
comp=Z,13nm,1.0s
PDAR Pinedale Array 57.78 61 *e*P P 19 31 14.7 +2.0
PDAR Pinedale Array 57.78 61 P P 19 31 14.4 +1.8
comp=Z,2.5nm,0.7s,baz=309,slow=3.1,SNR=22
KLMR Klimovskoe 57.81 330⇑ *i*P P 19 31 12.0 -0.3
KLMR pmax pmax
comp=Z,49nm,0.8s
OUL Oulu 57.90 339 P P 19 31 12.8 0.0
OUL pmax pmax
comp=Z,72nm,1.8s
CMMT Chiang Mai 57.92 259 P P 19 31 14.4 +0.7
comp=Z,24nm,1.2s
CHTO Chiang Mai 57.92 259 *e*P P 19 31 15.0 +1.3
comp=Z,28nm,0.8s
CHTO Chiang Mai 57.92 259 P P 19 31 14.5 +0.8
CHTO pmax pmax
comp=Z,51nm,1.2s
CHTO Chiang Mai 57.92 259 P P 19 31 14.7 +1.0
SNR=15
MPMC Manual Prospec 57.96 71 P P 19 31 15.8 +1.9
baz=314
FURC Furnace Creek, 58.04 70 P P 19 31 16.3 +2.0
baz=314
TPNV Topopah Spring 58.06 70 P P 19 31 16.9 +2.3
baz=314
CM31 Chiang Mai Arr 58.20 259 *e*P P 19 31 16.9 +1.3
comp=Z,25nm,0.8s
CM31 Chiang Mai Arr 58.20 259 P P 19 31 17.1 +1.5
SNR=14
CMAR Chiang Mai Arr 58.20 259 *e*P P 19 31 16.9 +1.3
CMAR Chiang Mai Arr 58.20 259 P P 19 31 16.8 +1.2
comp=Z,16nm,0.7s,baz=28,slow=6.6,SNR=140
CMAR LR LR 19 58 50.8
comp=Z,2μm,19.2s,baz=44,slow=39
FRB Frobisher Bay 58.23 23 P P 19 31 14.8 -0.3
comp=Z,7.0nm,0.8s,baz=344,slow=10,SNR=3.7
NLU North Lily Min 58.34 64 *e*P P 19 31 19.7 +3.1
comp=Z,8.2nm,1.0s
CHAI Chaiyaphum 58.36 254 P P 19 31 17.9 +1.2
comp=Z,29μm,0.9s,comp=Z,315μm
BLG Laguna Peak, P 58.39 74 P P 19 31 18.3 +1.5
baz=315
PBKT Sadao Pong 58.44 256 P P 19 31 18.5 +1.2
comp=Z,6.5nm,0.8s
JOF Joensuu 58.44 335 P P 19 31 16.5 -0.2
AB31 Akbulak array 58.51 311 P P 19 31 15.7 -1.7
AB31 pmax pmax
comp=Z,12nm,0.7s
ABKAR Akbulak array 58.51 311 *e*P P 19 31 16.4 -1.0
AKTO Aktyubinsk 58.56 313 P P 19 31 16.2 -1.5
comp=Z,6.7nm,0.5s,baz=71,slow=7.8,SNR=40
SFJD Kangerlussuaq 58.82 14 *e*P P 19 31 19.4 +0.1
comp=Z,17nm,1.0s
SFJD Kangerlussuaq 58.82 14 P P 19 31 18.9 -0.3
comp=Z,7.0nm,0.7s,baz=352,slow=3.4,SNR=6.1
SFJD Kangerlussuaq 58.82 14 *i* P P 19 31 19.3 +0.1
GSC Goldstone, Bar 58.88 71 P P 19 31 22.0 +1.7
baz=315
ODAN Odare 59.02 275 *e*P P 19 31 20.9 -0.6
comp=Z,28nm,0.6s
KONS Konsvik 59.03 345 *e*P P 19 31 21.3 +0.6
JIRN Jiri 59.18 276 *e*P P 19 31 22.0 -0.8
comp=Z,57nm,0.7s
ULM Lac du Bonnet 59.28 47 P P 19 31 24.3 +1.6
comp=Z,2.3nm,0.4s,baz=328,slow=10,SNR=5.5
ULM LR LR 19 59 03.6
comp=Z,2μm,18.2s,baz=336,slow=38
RAMN Ramite 59.44 275 *e*P P 19 31 23.8 -0.6
comp=Z,140nm,0.6s
KKN Kakani 59.64 277 *e*P P 19 31 25.3 -0.5
comp=Z,86nm,0.7s
PKI Pulchoki 59.72 277 *e*P P 19 31 25.7 -0.8
comp=Z,54nm,0.7s
PKIN Phulchoki 59.72 277 *e*P P 19 31 25.6 -0.8
comp=Z,42nm,0.6s
RSSD Black Hills 59.73 56 *e*P P 19 31 28.0 +1.8
comp=Z,20nm,0.8s
RSSD Black Hills 59.73 56 *e*P P 19 31 28.0 +1.8
RSSD pmax pmax
comp=Z,20nm,0.8s
RSSD Black Hills 59.73 56 P P 19 31 28.2 +2.1
baz=315
DMN Daman 59.88 277 *e*P P 19 31 27.1 -0.3
comp=Z,93nm,0.7s
GKN Gorkha 59.88 278 *e*P P 19 31 26.7 -0.6
comp=Z,59nm,0.7s
SUF Sumiainen 59.88 338 P P 19 31 26.9 +0.3
SUF pmax pmax
comp=Z,132nm,0.8s
GMRC Granite Mounta 59.91 71 P P 19 31 28.7 +1.2
baz=315
UMPA Umpang Tak 59.99 257 P P 19 31 30.8 +2.8
comp=Z,80μm,1.0s,comp=Z,719μm
DANN Dangsing 60.16 279 *e*P P 19 31 29.0 -0.4
comp=Z,83nm,0.7s
PFO Pinyon Flats O 60.28 73 P P 19 31 29.7 -0.3
baz=316
O20A White River Ci 60.32 62 P P 19 31 31.6 +1.3
baz=315
VAF Ylistaro 60.38 339 P P 19 31 30.5 +0.5
VAF pmax pmax
comp=Z,91nm,1.2s
IRM Iron Mountain 60.66 71 P P 19 31 34.5 +2.1
baz=316
KOLN Koldanda 60.68 278 *e*P P 19 31 32.1 -0.8
comp=Z,52nm,0.6s
AGMN Agassiz Nation 60.70 48 P P 19 31 33.3 +0.8
baz=317
PYUN Piuthan 60.81 279 *e*P P 19 31 33.0 -0.8
comp=Z,51nm,0.7s
PHWY Pilot Hill 60.99 59 *e*P P 19 31 36.9 +2.0
comp=Z,38nm,1.0s
FIA1 FINESS Array S 61.00 337 *e*P P 19 31 34.6 +0.3
comp=Z,47nm,0.7s
FINES FINESS Array B 61.00 337 *e*P P 19 31 34.8 +0.5
FINES FINESS Array B 61.00 337 P P 19 31 34.3 0.0
comp=Z,36nm,0.7s,baz=36,slow=8.4,SNR=223
N23A Red Feather La 61.02 60 P P 19 31 37.3 +2.2
baz=316
NSS Namsos 61.04 345 *e*P P 19 31 34.6 0.0
SRDT SRDT 61.28 256 P P 19 31 38.4 +1.6
comp=Z,11nm,1.2s
PV05 Paradox Valley 61.31 64 *e*P P 19 31 39.3 +2.2
comp=Z,19nm,0.9s
CHGR Chuyangaron 61.32 297 *e*P P 19 31 37.4 +0.5
comp=Z,22nm,0.9s
WUAZ Wupatki 61.86 68 *e*P P 19 31 43.8 +3.0
comp=Z,43nm,1.4s
WUAZ Wupatki 61.86 68 P P 19 31 45.0 +4.2
baz=316
ISCO Idaho Springs 61.98 61 *e*P P 19 31 44.5 +2.8
comp=Z,22nm,1.5s
ISCO Idaho Springs 61.98 61 *e*P P 19 31 44.5 +2.8
ISCO pmax pmax
comp=Z,22nm,1.5s
ISCO Idaho Springs 61.98 61 P P 19 31 44.2 +2.5
baz=316
PHET Kaeng Krachan 62.11 254 P P 19 31 44.5 +2.1
comp=Z,133μm,0.8s
MOS Moscow 62.50 328 *e*P P 19 31 42.3 -2.2
MOS *e* 19 32 18.0
MOS *e*S **S** 19 40 13.5 +4.8
MOS *e* 19 40 20.0
MOS pmax pmax
comp=Z,69nm,1.1s
NIL Nilore 62.60 290 P P 19 31 44.9 -0.6
NIL pmax pmax
comp=Z,45nm,0.8s
S22A 4UR Ranch, Cre 62.80 63 P P 19 31 49.4 +2.3
baz=317
EYMN Ely 62.92 46 *e*P P 19 31 49.0 +1.5
comp=Z,11nm,0.9s
EYMN Ely 62.92 46 P P 19 31 48.8 +1.4
baz=319
OBN Obninsk 63.36 328 *e*P P 19 31 49.5 -0.6
comp=Z,27nm,0.8s
OBN Obninsk 63.36 328 *e*P P 19 31 49.4 -0.7
OBN *e* 19 31 58.0
OBN *e* 19 32 23.0
OBN *e* 19 34 08.0
OBN pmax pmax
comp=Z,39nm,1.3s
OBN Obninsk 63.36 328 P P 19 31 49.5 -0.6
comp=Z,4.6nm,0.7s,baz=21,slow=2.1,SNR=17
VSU Vasula 63.43 335⇑ *e*P P 19 31 50.5 0.0
VSU pmax pmax
comp=Z,128nm,0.9s
VSU Vasula 63.43 335 *e*P P 19 31 50.6 0.0
VSU IAmb IAmb 19 31 51.5
comp=Z,104nm,0.8s
SDCO Great Sand Dun 63.52 62 P P 19 31 54.2 +2.3
baz=317
MOL Molde 63.57 346 *e*P P 19 31 52.7 +1.3
SBUM Sibu 63.69 236 *e*P P 19 31 54.8 +1.9
comp=Z,8.4nm,1.0s
ECSD EROS Data Cent 63.71 52 P P 19 31 54.0 +1.3
baz=318
DOMB Dombas 63.84 345 *e*P P 19 31 53.4 0.0
AKN Aaknes 64.02 346 *e*P P 19 31 54.9 +0.4
F38A Pierce - Schro 64.26 48 P P 19 31 57.2 +1.0
baz=320
KBL Kabul 64.36 294 *e*P P 19 31 55.0 -2.3
comp=Z,9.7nm,0.7s
KBL Kabul 64.36 294 *e*P P 19 31 55.0 -2.3
KBL pmax pmax
comp=Z,10.0nm,0.7s
NB2 NORSAR Subarra 64.44 344 P P 19 31 57.2 -0.1
comp=Z,251nm,2.5s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.44 344 P P 19 31 57.2 -0.1
baz=22,slow=6.9
NOA NORSAR Array B 64.44 344 P P 19 31 57.0 -0.3
NOA NORSAR Array B 64.44 344 P P 19 31 57.0 -0.3
comp=Z,13nm,0.7s,baz=21,slow=6.7,SNR=63
NOA LR LR 20 01 49.5
comp=Z,1μm,20.5s,baz=145,slow=38
TUC Tucson 64.52 70 P P 19 32 01.7 +3.5
baz=317
NBO00 NORSAR Array S 64.52 344 *e*P P 19 31 57.9 +0.2
comp=Z,22nm,0.8s
E39A Mellen 64.53 46 P P 19 31 58.6 +0.6
baz=320
T25A Trinidad 64.56 62 P P 19 32 01.7 +3.1
baz=318
LPSR Galich'ya Gora 64.61 325 *e*P P 19 31 57.7 -0.7
LPSR pmax pmax
comp=Z,40nm,0.8s
NC602 NORSAR Array S 64.67 344 *e*P P 19 31 58.8 +0.1
NORES NORESS Array B 64.67 344 P P 19 31 59.0 +0.3
NORES pmax pmax
comp=Z,2.0nm,0.4s
F39A Loretta 64.72 47 P P 19 32 00.5 +1.2
baz=320
VRH Novokhopyorsk 64.73 322 *e*P P 19 31 57.9 -1.3
VRH pmax pmax
comp=Z,50nm,0.6s
E40A Wakefield 64.77 46 P P 19 32 01.0 +1.4
baz=320
G38A Ridgeland 64.87 48 P P 19 32 00.6 +0.3
baz=320
ANMO Albuquerque 65.04 65 P P 19 32 03.3 +1.5
comp=Z,0.5nm,0.3s,baz=302,slow=8.1,SNR=3.3
G39A Holcombe 65.09 48 P P 19 32 01.7 -0.1
baz=320
HYA Hoyanger 65.11 347 *e*P P 19 32 02.1 +0.7
E41A Kenton 65.17 45 P P 19 32 03.1 +0.9
baz=321
SKAR Skarslia 65.25 345 *e*P P 19 32 02.3 -0.3
SLIT Slitere, Latvi 65.28 337 *e*P P 19 32 02.4 -0.3
SLIT IAmb IAmb 19 32 03.6
comp=Z,349nm,0.7s
VSR Storozhevoye 65.66 324⇑ *e*P P 19 32 04.0 -1.2
VSR pmax pmax
comp=Z,41nm,1.1s
F41A Three Lakes 65.67 46 P P 19 32 06.2 +0.7
baz=321
VORD Divnogorie 65.82 324 *e*P P 19 32 05.3 -1.0
VORD pmax pmax
comp=Z,10.0nm,0.7s
IZAR Zarasai 65.93 334 *e*P P 19 32 07.1 +0.2
IZAR IAmb IAmb 19 32 08.5
comp=Z,8.8nm,0.5s
BER Bergen 65.98 347 P P 19 32 09.5 +2.4
BER pmax pmax
comp=Z,44nm,0.7s
BER Bergen 65.98 347 *e*P P 19 32 07.8 +0.7
KONO Kongsberg 66.02 344⇓ *e*P P 19 32 08.3 +0.8
KONO pmax pmax
comp=Z,12nm,0.8s
KONO Kongsberg 66.02 344 *e*P P 19 32 08.4 +1.0
KRAB Krabi 66.10 252 P P 19 32 24.8 +16
ISAL Salakas 66.12 334 *e*P P 19 32 08.5 +0.3
ISAL IAmb IAmb 19 32 11.4
comp=Z,12nm,1.0s
IDID Didziasalis 66.17 333 *e*P P 19 32 08.6 +0.1
IDID IAmb IAmb 19 32 09.3
comp=Z,18nm,1.1s
IIGN Ignalina 66.29 333 *e*P P 19 32 09.4 +0.2
IIGN IAmb IAmb 19 32 11.0
comp=Z,22nm,0.7s
SCHQ Schefferville 66.33 28 *e*P P 19 32 10.0 +0.4
comp=Z,24nm,1.3s
SCHQ Schefferville 66.33 28 P P 19 32 10.0 +0.4
comp=Z,7.9nm,0.6s,baz=356,slow=10.0,SNR=3.0
SCHQ LR LR 20 06 00.5
comp=Z,1μm,18.3s,baz=20,slow=40
J39A Decorah 66.34 49 P P 19 32 10.1 +0.3
baz=321
F43A Flat Rock, Esc 66.45 45 P P 19 32 10.7 +0.3
baz=322
NACGM Naroch 66.52 333 *e* P 19 32 10.0 -0.7
MICGM Minsk 66.56 332 *e* P 19 32 11.0 0.0
MNK Minsk 66.56 332 *e*P P 19 32 11.0 0.0
G43A Wallace 66.67 46 P P 19 32 12.7 +0.8
baz=322
BLS5 Blasjo 66.74 346 *e*P P 19 32 12.4 +0.3
PABE Paberze 66.75 335 *e*P P 19 32 11.8 -0.4
PABE IAmb IAmb 19 32 13.8
comp=Z,66nm,0.7s
PBUR Paburg 66.81 336 *e*P P 19 32 11.8 -0.8
PBUR IAmb IAmb 19 32 14.2
comp=Z,46nm,0.7s
D46A Sault St. Mari 66.94 42 P P 19 32 13.6 +0.1
baz=323
MATQ Matagami 67.11 37 P P 19 32 13.2 -1.4
baz=326
D47A Chapleau 67.19 42 P P 19 32 15.3 +0.1
baz=324
E46A Sault Ste Mari 67.24 43 P P 19 32 15.7 +0.2
baz=323
J42A Columbus 67.55 48 P P 19 32 18.2 +0.7
baz=322
L40A Anamosa 67.55 50 P P 19 32 18.0 +0.5
baz=321
D48A Paudash Townsh 67.62 41 P P 19 32 17.8 0.0
baz=324
D49A Beulah Townshi 67.72 40 P P 19 32 18.6 +0.1
baz=324
GEYT Alibeck 67.73 303 P P 19 32 18.3 -0.5
comp=Z,8.9nm,0.7s,baz=17,slow=1.5,SNR=17
GEYT LR LR 20 04 35.9
comp=Z,5μm,18.2s,baz=40,slow=38
GYA0B ALIBECK ARRAY 67.73 303 *e*P P 19 32 18.6 -0.2
comp=Z,12nm,0.7s
MSTX Muleshoe 67.80 63 P P 19 32 22.1 +2.7
baz=319
LSQQ Lebel-sur-Quev 67.93 37 P P 19 32 19.9 +0.1
baz=326
CHGQ Chibougamau 68.16 35 P P 19 32 20.8 -0.4
baz=328
E50A Wahnapitae 68.66 41 P P 19 32 24.6 +0.3
baz=325
N41A Harden Midland 68.78 51 P P 19 32 26.2 +1.0
baz=322
MUD Monsted U'grnd 69.13 343 *i* P P 19 32 27.9 +0.8
MUD Monsted U'grnd 69.13 343 *i* P P 19 32 27.9 +0.8
COP Copenhagen 69.25 341 *e*P P 19 32 28.7 +0.9
COP Copenhagen 69.25 341 *i* P P 19 32 28.7 +0.9
BSD Bornholm Skovb 69.27 340 *e*P P 19 32 29.3 +1.3
BSD pmax pmax
comp=Z,19nm,0.5s
BSD Bornholm Skovb 69.27 340 *i* P P 19 32 29.3 +1.3
comp=Z,19nm,0.5s
WMOK Wichita Mounta 69.38 60 P P 19 32 30.6 +1.5
baz=320
AKASG Malin Array Be 69.47 329 P P 19 32 28.7 -0.6
comp=Z,8.9nm,0.6s,baz=31,slow=6.5,SNR=63
AKASG LR LR 20 08 13.6
comp=Z,4μm,18.3s,baz=5.0,slow=41
KIEV Kiev 69.48 329 *e*P P 19 32 28.7 -0.7

comp=Z,34nm,1.1s
KIEV Kiev 69.48 329 *i* P **P 19 32 28.7 -0.7**
SNR=9.2
KIEV Kiev 69.48 329⇑ *eP* **P 19 32 28.6 -0.7**
KIEV pmax pmax
comp=Z,37nm,1.1s
GROC Groznyy 69.49 315 *eP* **P 19 32 27.6 -2.0**
GROC *e* 19 32 49.6
GROC *e* 19 35 04.1
GROC *eS* **S 19 41 33.8 -0.3**
GROC pmax pmax
comp=Z,8.0nm,0.5s
KLBO Killbear Provi 69.74 41 P **P 19 32 31.8 +0.8**
baz=326
E54A Lac Daplat, Po 70.04 38 P **P 19 32 33.0 +0.1**
baz=327
KIV Kislovodsk 70.21 317 *i* P **P 19 32 34.6 +0.5**
SNR=11
KIV Kislovodsk 70.21 317 *eP* **P 19 32 34.8 +0.7**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV Kislovodsk 70.21 317 P **P 19 32 34.5 +0.4**
SNR=8.0
BASO Ashfield 70.24 43 P **P 19 32 35.0 +0.8**
baz=325
KBZ Khabaz 70.31 317 P **P 19 32 34.8 +0.3**
comp=Z,12nm,0.8s,baz=54,slow=3.3,SNR=29
Q42A Golden Eagle 70.34 52 P **P 19 32 36.0 +1.2**
baz=322
L47A Sherwood 70.37 46 P **P 19 32 35.8 +0.8**
baz=324
R41A Rosebud 70.41 53 P **P 19 32 35.8 +0.5**
baz=322
GKP Gorka Klasztor 70.46 338 *eP* **P 19 32 36.1 +0.8**
GKP Gorka Klasztor 70.46 338 *eP* **P 19 32 36.1 +0.8**
ABTX Abilene, Hawle 70.53 62 P **P 19 32 38.5 +2.3**
baz=320
G53A Haliburton 70.57 40 P **P 19 32 36.0 -0.2**
baz=326
ZEI Tsey 70.65 316 *eP* **P 19 32 33.9 -3.0**
ZEI pmax pmax
comp=Z,11nm,0.9s
NEY Neytrino 70.77 317⇑ *eP* **P 19 32 37.2 -0.5**
TX31 Lajitas Ar. Si 70.80 67 *eP* **P 19 32 39.0 +1.1**
comp=Z,7.7nm,0.8s
TXAR Lajitas Array 70.80 67 P **P 19 32 39.4 +1.4**
comp=Z,1.7nm,0.6s,baz=299,slow=4.6,SNR=28
BEL Belsk 70.89 335 *eP* **P 19 32 39.0 +1.0**
BEL Belsk 70.89 335 *eP* **P 19 32 39.0 +1.0**
LPIG La Paz 70.90 75 LR LR 19 58 46.7
comp=Z,501nm,22.0s,baz=312,slow=32
BANO Bancroft 70.93 40 P **P 19 32 38.6 +0.2**
baz=327
U40A Yellville 71.20 55 P **P 19 32 40.5 +0.4**
baz=322
N48A Decatur 71.35 47 P **P 19 32 41.4 +0.4**
baz=324
HYB Hyderabad 71.48 275⇑ *iP* **P 19 32 41.5 -0.6**
ANN Anapa 71.63 321 *eP* **P 19 32 41.7 -0.8**
ANN *e* 19 33 05.6
ANN *e* 19 35 20.0
ANN *eS* **S 19 42 00.2 +1.3**
ANN pmax pmax
comp=Z,41nm,2.3s
SOC Sochi 71.74 319 *eP* **P 19 32 41.7 -1.6**
SOC pmax pmax
comp=Z,20nm,0.8s
LVV L'vov 71.81 332 *eP* **P 19 32 43.4 -0.2**
AKH Akhalkalaki 71.94 315⇓ *iP* **P 19 32 45.7 +0.9**
AKH Akhalkalaki 71.94 315 P **P 19 32 45.6 +0.8**
EKA Eskdalemuir Ar 71.95 350 P **P 19 32 44.2 -0.1**
EKA pmax pmax
comp=Z,3.0nm,0.4s
ESK Eskdalemuir 71.97 350 *eP* **P 19 32 44.7 +0.2**
comp=Z,20nm,1.1s
ESK Eskdalemuir 71.97 350 *iP* **P 19 32 45.6 +1.1**
MEDO Medina 72.26 41 P **P 19 32 46.8 +0.4**
baz=327
KWP Kalwaria Pacla 72.36 333 *eP* **P 19 32 47.5 +0.6**
KWP Kalwaria Pacla 72.36 333 *eP* **P 19 32 47.5 +0.6**
M52A Chesterland 72.40 44 P **P 19 32 49.0 +1.7**
baz=326
GNI Garni 72.42 314 *iP* **P 19 32 49.0 +1.4**
SNR=9.0
GNI Garni 72.42 314 P **P 19 32 48.9 +1.2**
SNR=7.5
W41B Gary Mavity, V 72.43 55 P **P 19 32 48.6 +1.1**
baz=322
N51A Ashland 72.47 45 P **P 19 32 48.3 +0.6**
baz=325
IDGL Inch Island, C 72.61 353 *iP* **P 19 32 48.8 +0.6**
OJC Ojcow 72.62 335 *eP* **P 19 32 49.0 +0.6**
M53A Wi Miller and 72.77 44 P **P 19 32 49.9 +0.4**
baz=326
KIS Kishinev 72.83 328 *eP* **P 19 32 48.0 -1.7**
KIS Kishinev 72.83 328 *eP* **P 19 32 48.0 -1.7**
KIS *e* 19 33 06.0
WCI Wyandotte Cave 72.89 49 P **P 19 32 50.9 +0.6**
baz=324
P50A Jamestown 72.91 47 P **P 19 32 50.8 +0.4**
baz=325
KSP Ksiaz 72.93 337 *eP* **P 19 32 50.9 +0.7**
KSP Ksiaz 72.93 337 *eP* **P 19 32 50.9 +0.7**
KSP MLR MLR
comp=Z,32µm,16.8s
T46A Princeton 73.09 51 P **P 19 32 52.5 +1.1**
baz=324
KOLS Kolonicke sedl 73.11 333 *eP* **P 19 32 52.0 +0.6**
KOLS pmax pmax
comp=Z,12nm,0.9s
KOLS Kolonicke sedl 73.11 333 *eP* **P 19 32 52.0 +0.6**
S47A Hartford 73.13 50 P **P 19 32 52.3 +0.7**
baz=324
NIE Niedzica 73.22 334 *eP* **P 19 32 52.9 +0.9**
NIE Niedzica 73.22 334 *eP* **P 19 32 52.9 +0.9**
N53A Lisbon 73.23 44 P **P 19 32 53.3 +1.1**
baz=326
CLL Collm 73.24 339⇑ *iP* **P 19 32 52.2 +0.1**
CLL *i* *PP **pP 19 32 59.6 -3.4**
CLL pmax pmax
comp=Z,25nm,1.0s
CLL Collm 73.24 339⇑ *iP* **P 19 32 52.2 +0.1**
comp=Z,25nm,1.0s
CLL *i* 19 32 59.6
CLL *e*pP **pP 19 33 02.0 -1.0**
UPC Upice 73.30 337 *eP* **P 19 32 53.1 +0.6**
UPC MLR MLR
comp=Z,4µm,15.5s
UPC Upice 73.30 337 *eP* **P 19 32 53.1 +0.6**
UPC AMS AMS 20 11 20.0
comp=Z,4µm,15.5s
PRAR RASCA 73.34 329⇓ *iP* **P 19 32 53.7 +0.9**
O52A Adamsville 73.36 45 P **P 19 32 53.6 +0.6**
baz=326
DPC Dobruska-Polom 73.38 337 *eP* **P 19 32 53.7 +0.7**
DPC MLR MLR
comp=Z,4µm,16.4s
DPC Dobruska-Polom 73.38 337 *eP* **P 19 32 53.7 +0.7**
DPC AMS AMS 20 11 20.0
comp=Z,4µm,16.4s
UZH Uzhgorod 73.38 332 *eP* **P 19 32 55.1 +2.2**
UZH *e* 19 33 04.3
OKC Ostrava-Krasne 73.40 336 *eP* **P 19 32 54.1 +1.1**
OKC *e* 19 33 05.7
OKC MLR MLR
comp=Z,3µm,17.9s
OKC Ostrava-Krasne 73.40 336 *eP* **P 19 32 54.1 +1.1**
OKC *e*pP **pwP 19 33 05.7 -1.5**
OKC AMS AMS 20 08 20.0
comp=Z,3µm,17.9s
BURAR Bucovina Array 73.43 330⇑ *iP* **P 19 32 53.9 +0.5**
BURAR Bucovina Array 73.43 330 P **P 19 32 53.5 +0.1**
BRG Berggiesshubel 73.44 339 *eP* **P 19 32 53.6 +0.3**
comp=Z,15nm,1.2s
BRG Berggiesshubel 73.44 339 *eP* **P 19 32 53.6 +0.3**
BRG pmax pmax
comp=Z,15nm,1.2s
N54A Moraine State 73.46 43 P **P 19 32 54.8 +1.2**
baz=326
S48A Wiedeman Farm, 73.46 49 P **P 19 32 54.7 +1.1**
baz=324
T47A Sharon Grove 73.51 50 P **P 19 32 55.3 +1.4**
baz=324
KRLC Kraliky 73.52 337 *eP* **P 19 32 54.8 +1.0**
KRLC Kraliky 73.52 337 *eP* **P 19 32 54.8 +1.0**

O53A New Philadelph 73.52 45 P **P 19 32 54.2 +0.2**
baz=326
MORC Moravsky Berou 73.61 336⇑ *iP* **P 19 32 55.3 +1.0**
MORC Moravsky Berou 73.61 336 P **P 19 32 55.0 +0.7**
MORC pmax pmax
comp=Z,29nm,1.1s
MORC Moravsky Berou 73.61 336 *eP* **P 19 32 55.0 +0.7**
PVCC Panska Ves 73.62 338 *eP* **P 19 32 55.1 +0.8**
PVCC MLR MLR
comp=Z,3µm,13.9s
PVCC Panska Ves 73.62 338 *eP* **P 19 32 55.1 +0.8**
PVCC AMS AMS 20 11 30.0
comp=Z,3µm,13.9s
LANS Liptovska Anna 73.69 334 *eP* **P 19 32 56.4 +1.6**
LANS Liptovska Anna 73.69 334 *eP* **P 19 32 56.4 +1.6**
BIZ Bicaz 73.76 329⇑ *iP* **P 19 32 55.7 +0.5**
TRPA Tarpa 73.76 332⇑ *iP* **P 19 32 56.2 +1.0**
TRPA Tarpa 73.76 332 *eP* **P 19 32 56.0 +0.9**
WTSB Winterswijk 73.84 343 *eP* **P 19 32 56.2 +0.7**
comp=Z,23nm,0.7s
WVT Waverly 73.85 52 P **P 19 32 57.1 +1.2**
WVT pmax pmax
comp=Z,12nm,0.8s
WVT Waverly 73.85 52 P **P 19 32 57.0 +1.1**
baz=324
TESR Tescani 73.97 329⇑ *iP* **P 19 32 56.3 -0.1**
V46A Holladay 73.97 52 P **P 19 32 57.3 +0.6**
baz=324
N55A Marion Center 74.03 43 P **P 19 32 57.7 +0.8**
baz=327
R51A Hillsboro 74.08 47 P **P 19 32 57.9 +0.7**
baz=325
PRU Pruhonice 74.13 338 *eP* **P 19 32 58.0 +0.7**
PRU MLR MLR
comp=Z,3µm,14.2s
PRU Pruhonice 74.13 338 *eP* **P 19 32 58.0 +0.7**
PRU AMS AMS 20 12 00.0
comp=Z,3µm,14.2s
GOPC GO Pecny, Ondr 74.15 338 *eP* **P 19 32 58.3 +0.9**
GOPC GO Pecny, Ondr 74.15 338 *eP* **P 19 32 58.3 +0.9**
T49A Edmonton 74.15 49 P **P 19 32 58.7 +1.1**
baz=325
DZM Mont Dzumac 74.16 174 *e*LR LR 19 55 58.8
comp=Z,1µm,21.4s
U48A Cassie Pea, Po 74.16 50 P **P 19 32 58.6 +0.9**
baz=324
MOX Moxa 74.16 340 P **P 19 32 58.1 +0.6**
MOX pmax pmax
comp=Z,16nm,0.9s
V47A Nunnelly 74.24 51 P **P 19 32 59.5 +1.3**
baz=324
BUG Bochum--Univer 74.26 343 P **P 19 32 59.1 +1.1**
BUG pmax pmax
comp=Z,25nm,1.1s
VRAC Vranov 74.28 336⇑ *iP* **P 19 32 59.3 +1.1**
VRAC Vranov 74.28 336 P **P 19 32 59.1 +0.9**
VRAC pmax pmax
comp=Z,29nm,2.3s
VRAC Vranov 74.28 336 *eP* **P 19 32 59.0 +0.9**
DSB Dublin 74.33 352 *iP* **P 19 32 58.8 +0.4**
NKC Novy Kostel 74.37 339 *eP* **P 19 32 59.5 +0.7**
NKC Novy Kostel 74.37 339 *eP* **P 19 32 59.5 +0.7**
O55A Ligonier 74.38 43 P **P 19 33 00.1 +1.2**
baz=327
P54A Burton 74.38 45 P **P 19 33 00.1 +1.1**
baz=326
IGLA Glengowla, Co 74.39 354 *iP* **P 19 32 58.8 +0.1**
JAVC Velka Javorina 74.42 335 *eP* **P 19 33 00.9 +1.8**
TLCR 74.42 327⇓ *iP* **P 19 32 59.3 +0.2**
TLCR 74.42 327 P **P 19 32 59.3 +0.2**
VYHS Vyhne 74.45 335 *eP* **P 19 33 00.0 +0.8**
VYHS pmax pmax
comp=Z,9.0nm,1.0s
VYHS Vyhne 74.45 335 *eP* **P 19 33 00.0 +0.8**
R52A Catlettsburg 74.47 47 P **P 19 33 00.3 +0.8**
baz=326
PETR Petresti 74.48 328⇓ *iP* **P 19 33 00.9 +1.5**
ODBI Odobesti 74.50 328⇑ *iP* **P 19 33 00.6 +1.1**
VRI Vrincioaia 74.51 328⇑ *iP* **P 19 32 59.9 +0.3**
VRI Vrincioaia 74.51 328 P **P 19 32 59.9 +0.3**
U49A Red Boiling Sp 74.52 50 P **P 19 33 00.3 +0.5**
baz=325
Q53A Leroy 74.53 46 P **P 19 33 01.0 +1.2**
baz=326
T50A Nancy 74.54 49 P **P 19 33 00.7 +0.7**
baz=325
PLOR Plostina 74.55 328⇓ *iP* **P 19 33 00.5 +0.6**
PLOR Plostina 74.55 328 P **P 19 33 00.5 +0.6**
KRUC Moravsky 74.55 336 P **P 19 33 00.7 +0.9**
KRUC pmax pmax
comp=Z,35nm,2.7s
KRUC Moravsky 74.55 336 *eP* **P 19 33 00.5 +0.7**
TREC Trest 74.56 337 *eP* **P 19 32 55.6 -4.2**
TREC MLR MLR
comp=Z,4µm,15.1s
TREC Trest 74.56 337 *eP* **P 19 32 55.6 -4.2**
TREC AMS AMS 20 12 00.0
comp=Z,4µm,15.1s
OZUR 74.61 329⇑ *iP* **P 19 33 01.2 +1.0**
O56A Blue Knob Stat 74.63 43 P **P 19 33 01.9 +1.4**
baz=327
V48A Smith Brothers 74.65 51 P **P 19 33 01.4 +0.8**
baz=324
CFR Carcaliu 74.66 327⇑ *iP* **P 19 33 00.5 +0.1**
CFR Carcaliu 74.66 327 P **P 19 33 00.5 +0.1**
CFR pmax pmax
comp=Z,21nm,0.9s
W47A Westpoint 74.67 52 P **P 19 33 01.9 +1.2**
baz=324
PSZ Piszkesteto 74.70 334 *eP* **P 19 33 01.1 +0.3**
CJR Cluj-Napoca 74.73 331⇓ *iP* **P 19 33 02.1 +1.2**
CJR Cluj-Napoca 74.73 331 P **P 19 33 02.1 +1.2**
P55A Reedsville 74.73 44 P **P 19 33 02.4 +1.3**
baz=327
SMOL Smolenice 74.80 335 *eP* **P 19 33 02.5 +1.3**
SMOL Smolenice 74.80 335 *eP* **P 19 33 02.5 +1.3**
S52A Salyersville 74.81 47 P **P 19 33 02.7 +1.2**
baz=326
DOPR Dopca 74.85 329⇑ *iP* **P 19 33 02.6 +1.0**
DRGR 74.92 331⇑ *iP* **P 19 33 02.5 +0.4**
DRGR 74.92 331 P **P 19 33 02.4 +0.4**
MODS Modra-Piesok 74.97 336 *eP* **P 19 33 02.4 +0.2**
MODS pmax pmax
comp=Z,22nm,1.1s
MODS Modra-Piesok 74.97 336 *eP* **P 19 33 02.4 +0.2**
U50A Jamestown 75.03 49 P **P 19 33 04.2 +1.4**
baz=325
W48A Pulaski 75.08 52 P **P 19 33 03.7 +0.7**
baz=324
MLR Muntele Rosu 75.10 329⇓ *iP* **P 19 33 03.8 +0.6**
MLR Muntele Rosu 75.10 329 P **P 19 33 04.2 +1.0**
MLR pmax pmax
comp=Z,31nm,1.3s
HGN Heimansgroeve 75.14 344 *eP* **P 19 33 03.8 +0.6**
comp=Z,145nm,2.0s
HGN *e*L L 19 34 41.7
comp=Z,17µm,19.8s
GRF Grafenberg Arr 75.15 340 P **P 19 33 04.7 +1.5**
GRF pmax pmax
comp=Z,32nm,1.0s
HARR Harsova 75.16 327⇑ *iP* **P 19 33 03.4 +0.1**
HARR Harsova 75.16 327 P **P 19 33 03.4 +0.1**
KHC Kasperske Hory 75.16 338 *eP* **P 19 33 04.3 +1.0**
KHC *e* 19 33 17.0
KHC MLR MLR
comp=Z,3µm,13.9s
KHC Kasperske Hory 75.16 338 *eP* **P 19 33 04.3 +1.0**
KHC *e*pP **PcP 19 33 17.0 +0.3**
KHC AMS AMS 20 12 30.0
comp=Z,3µm,13.9s
TNS Taunus Mts 75.20 342 P **P 19 33 04.8 +1.2**
TNS pmax pmax
comp=Z,19nm,0.9s
TLB Topalu 75.21 327⇑ *iP* **P 19 33 03.8 +0.2**
TLB Topalu 75.21 327 P **P 19 33 03.8 +0.2**
IWEX Carrickbyrne, 75.22 352 *iP* **P 19 33 04.2 +0.6**
MEM Membach 75.28 343 P **P 19 33 04.8 +0.9**
MEM pmax pmax
comp=Z,59nm,0.9s
MEM Membach 75.28 343⇑ P **P 19 33 04.8 +0.9**
comp=Z,39nm,0.9s
WET Wettzell 75.31 339 P **P 19 33 05.1 +0.9**
WET pmax pmax
comp=Z,19nm,2.9s

WRAB Tennant Creek 75.36 205⇑ *eP* **P 19 33 04.5 -0.1**
WRAB pmax pmax
comp=Z,17nm,1.2s
WRA Warramunga Arr 75.37 205 P **P 19 33 04.9 +0.2**
comp=Z,9.6nm,1.1s,baz=22,slow=5.9,SNR=14
GERES GERESS Array B 75.40 338 P **P 19 33 05.0 +0.3**
comp=Z,3.7nm,0.7s,baz=37,slow=5.2,SNR=30
GERES LR LR 20 10 32.1
comp=Z,2µm,18.9s,baz=52,slow=39
VOIR 75.43 329⇓ *iP* **P 19 33 05.8 +0.8**
VOIR 75.43 329 P **P 19 33 05.6 +0.6**
VOIR pmax pmax
comp=Z,25nm,0.8s
MFTR Murfatlar 75.44 326⇑ *iP* **P 19 33 05.1 +0.1**
TZTN Tazewell 75.53 48 P **P 19 33 07.4 +1.8**
baz=326
ARR Arges 75.62 330⇑ *iP* **P 19 33 07.3 +1.2**
CSKK Cskako 75.65 334⇑ *eP* **P 19 33 07.0 +0.9**
SNF Seneffe 75.67 345 ⇑P **P 19 33 06.6 +0.4**
comp=Z,14nm,0.8s
DEV Deva 75.69 331 P **P 19 33 06.4 0.0**
SIRR Siria 75.71 332⇑ *iP* **P 19 33 07.8 +1.3**
ICOR Ion Corvin 75.71 327⇑ *iP* **P 19 33 07.3 +0.8**
SULR 75.72 328⇓ *iP* **P 19 33 07.1 +0.6**
CONA Conrad Observa 75.74 336 *eP* **P 19 33 08.2 +1.4**
comp=Z,8.9nm,0.8s,SNR=9.8
V51A Loudon 75.76 49 P **P 19 33 07.9 +0.9**
baz=325
SOP Sopron 75.79 336 P **P 19 33 08.4 +1.5**
SOP pmax pmax
comp=Z,24nm,1.1s
SOP Sopron 75.79 336 *eP* **P 19 33 08.0 +1.1**
W50A Signal Mountai 75.80 50 P **P 19 33 07.1 -0.2**
baz=325
LOT Lotru 75.82 330⇑ *iP* **P 19 33 06.9 -0.4**
X49A Woodville 75.88 51 P **P 19 33 08.8 +1.2**
baz=325
GIVF Givet 75.97 344 *eP* **P 19 33 07.9 0.0**
GIVF pmax pmax
comp=Z,18nm,1.0s
T54A Tazewell 76.00 47 P **P 19 33 09.9 +1.5**
baz=326
DOU Dourbes 76.02 344 P **P 19 33 10.5 +2.3**
DOU pmax pmax
comp=Z,12nm,1.2s
V52A Sevierville 76.08 49 P **P 19 33 10.0 +1.2**
baz=326
W51A Cleveland 76.10 50 P **P 19 33 09.6 +0.7**
baz=325
BAIF Baives 76.12 344 *eP* **P 19 33 08.9 +0.2**
BAIF pmax pmax
comp=Z,9.0nm,0.7s
U53A Fall Branch 76.12 48 P **P 19 33 10.5 +1.4**
baz=326
GZR Gura Zlata 76.17 331⇑ *iP* **P 19 33 09.4 +0.2**
TIH Tihany 76.17 335 *eP* **P 19 33 10.0 +0.9**
MOA Molln 76.20 337 *eP* **P 19 33 10.4 +1.1**
comp=Z,5.6nm,0.8s
FITZ Fitzroy Crossi 76.28 214 *eP* **P 19 33 10.9 +1.0**
comp=Z,13nm,1.0s
R57A Stanardsville 76.30 44 P **P 19 33 10.5 +0.5**
baz=328
BZS Buzias 76.31 332⇓ *iP* **P 19 33 09.9 0.0**
BZS Buzias 76.31 332 P **P 19 33 09.9 0.0**
BZS pmax pmax
comp=Z,23nm,1.2s
STU Stuttgart 76.44 341 P **P 19 33 12.3 +1.7**
STU pmax pmax
comp=Z,12nm,1.1s
ARSA Arzberg 76.45 336 *eP* **P 19 33 11.2 +0.4**
comp=Z,20nm,1.3s,SNR=6.1
U55A TA2, Sparta 76.70 47 P **P 19 33 13.4 +1.0**
baz=327
HERR Herculane 76.74 331⇑ *iP* **P 19 33 12.4 0.0**
LRAL Lakeview Retre 76.75 53 P **P 19 33 13.2 +0.6**
baz=325
W53A Cullowhee 76.83 49 P **P 19 33 14.3 +1.1**
baz=326
V54A Nebo 76.89 48 P **P 19 33 13.8 +0.4**
baz=326
BFO Black Forest 77.04 341 *eP* **P 19 33 14.4 +0.4**
comp=Z,17nm,1.2s
BFO Black Forest 77.04 341 *iP* **P 19 33 14.9 +0.9**
MDVR Moldovita 77.04 331⇑ *iP* **P 19 33 13.9 -0.2**
Z50A Ashland 77.09 52 P **P 19 33 15.5 +0.9**
baz=325
SOKA Soboth 77.11 336 *eP* **P 19 33 15.6 +1.1**
comp=Z,17nm,1.1s,SNR=10.0
PUNG Punghina 77.13 330⇓ *iP* **P 19 33 14.4 -0.1**
KBA Koelnbreinsper 77.14 338 *eP* **P 19 33 16.4 +1.6**
comp=Z,42nm,0.8s,SNR=33
KBA Koelnbreinsper 77.14 338 P **P 19 33 16.1 +1.3**
KBA pmax pmax
comp=Z,62nm,1.2s
CDF Champ du Feu 77.16 342 *eP* **P 19 33 14.9 +0.1**
CDF pmax pmax
comp=Z,17nm,0.8s
V55A Taylorsville 77.16 47 P **P 19 33 15.8 +0.9**
baz=327
WATA Walderalm 77.30 339 *eP* **P 19 33 16.9 +1.2**
comp=Z,5.6nm,0.7s,SNR=12
RETA Reutte 77.34 339 *eP* **P 19 33 16.7 +1.0**
comp=Z,5.9nm,0.8s
WTTA Wattenberg 77.36 339 *eP* **P 19 33 17.4 +1.3**
comp=Z,34nm,1.4s,SNR=9.2
OBKA Obir 77.39 337 *eP* **P 19 33 17.2 +1.1**
comp=Z,14nm,0.8s
MOTA Moosalm 77.40 339 *eP* **P 19 33 17.3 +1.0**
comp=Z,9.1nm,0.7s,SNR=14
BR101 Keskin Array S 77.42 321 *eP* **P 19 33 16.4 -0.1**
BR131 Keskin Array S 77.42 321 P **P 19 33 16.9 +0.4**
SNR=15
BRTR Keskin Array B 77.42 321 *iP* **P 19 33 16.6 +0.1**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 77.42 321 P **P 19 33 16.4 -0.1**
comp=Z,5.7nm,0.9s,baz=46,slow=3.6,SNR=35
BRTR LR LR 20 13 00.5
comp=Z,2µm,19.1s,baz=11,slow=40
MYKA Terra Mystica 77.49 337 *eP* **P 19 33 17.5 +0.8**
comp=Z,5.8nm,0.8s
SQTA Sankt Quirin 77.49 339 *eP* **P 19 33 18.1 +1.4**
comp=Z,12nm,0.8s,SNR=7.2
V56A Mocksville 77.52 47 P **P 19 33 18.2 +1.3**
baz=327
SLE Schleitheim 77.54 341 P **P 19 33 17.6 +0.7**
SLE pmax pmax
comp=Z,15nm,0.8s
ANTO Ankara 77.62 321 P **P 19 33 18.8 +1.3**
ANTO pmax pmax
comp=Z,19nm,1.5s
ANTO Ankara 77.62 321 P **P 19 33 18.4 +0.9**
SNR=8.8
ABTA Abfaltersbach 77.64 338 *eP* **P 19 33 18.3 +0.8**
comp=Z,15nm,0.8s,SNR=6.8
DAVA Damuels 77.71 340 *eP* **P 19 33 18.9 +0.9**
comp=Z,15nm,1.1s
HAU Haudompre 77.73 343 *eP* **P 19 33 17.9 0.0**
HAU pmax pmax
comp=Z,38nm,1.3s
FETA Feichten 77.78 339 *eP* **P 19 33 19.8 +1.4**
comp=Z,7.2nm,0.7s,SNR=8.2
HINF Hinteralfeld 77.81 342 *eP* **P 19 33 18.2 -0.2**
HINF pmax pmax
comp=Z,6.0nm,0.7s
PALK Pallekele 77.99 266 P **P 19 33 19.1 -0.7**
SHME Shamm 78.00 297 P **P 19 33 19.2 -0.5**
EDRB Edirne 78.08 326 P **P 19 33 20.0 +0.1**
FLN La Foliniere 78.09 347 *eP* **P 19 33 18.7 -1.1**
FLN pmax pmax
comp=Z,39nm,1.2s
LDF La Druitiere 78.20 347 *eP* **P 19 33 21.9 +1.4**
LDF pmax pmax
comp=Z,50nm,1.9s
Y55A Saluda 78.46 49 P **P 19 33 23.6 +1.5**
baz=327
GRR Gorron 78.50 347 *eP* **P 19 33 22.2 +0.1**
GRR pmax pmax
comp=Z,28nm,1.0s
PLD Plovdiv 78.53 328 P **P 19 33 23.0 +0.6**
PLD pmax pmax
comp=Z,3.0nm,0.9s
VTS Vitosha 78.54 329 *eP* **P 19 33 22.8 +0.2**
VTS Vitosha 78.54 329 P **P 19 33 22.8 +0.2**
VTS Vitosha 78.54 329⇓ *iP* **P 19 33 22.9 +0.3**
VTS Vitosha 78.54 329 *eP* **P 19 33 22.8 +0.2**

MSFE Esma-Masafi 78.54 297 P **P 19 33 21.0 -1.8**
Z54A Sparta 78.58 50 P **P 19 33 24.5 +1.7**
baz=326
UMQ Umm Al-Quwin 78.68 297 P **P 19 33 22.7 -0.8**
W58A Raeford 78.74 46 P **P 19 33 24.8 +1.2**
baz=328
SGMF Saint Gilles 78.86 348 *e*P **P 19 33 24.2 +0.1**
SGMF pmax pmax
comp=Z,18nm,0.7s
ROSF Rostrenen 78.86 349 *e*P **P 19 33 24.3 +0.2**
ROSF pmax pmax
comp=Z,42nm,1.1s
LOR Lormes 78.88 344 *e*P **P 19 33 24.3 0.0**
LOR pmax pmax
comp=Z,23nm,1.0s
HATD Hatta, Dubai 78.97 296 *i* P **P 19 33 25.0 -0.1**
SNR=6.0
HATD Hatta, Dubai 78.97 296 P **P 19 33 23.7 -1.4**
AS31 Alice Springs 79.04 205 *e*P **P 19 33 26.6 +1.3**
comp=Z,1.8nm,0.8s
ASAR Alice Springs 79.04 205 P **P 19 33 26.1 +0.9**
comp=Z,4.1nm,0.9s,baz=16,slow=5.2,SNR=29
RDO Rodhopi 79.11 327 *e*P **P 19 33 25.9 +0.3**
RDO Rodhopi 79.11 327 P **P 19 33 25.9 +0.3**
CABF La Chapelle 79.12 342 *e*P **P 19 33 26.1 +0.4**
CABF pmax pmax
comp=Z,19nm,1.0s
ASHO Ashiyiah 79.13 296 *i* P **P 19 33 25.4 -0.6**
SNR=7.1
ASHO Ashiyiah 79.13 296 P **P 19 33 24.6 -1.4**
SSF Saint Saulge 79.14 344 *e*P **P 19 33 25.8 +0.1**
SSF pmax pmax
comp=Z,13nm,0.8s
ALN Alexandroupoli 79.16 327 *e*P **P 19 33 24.8 -1.1**
ALN Alexandroupoli 79.16 327 P **P 19 33 24.8 -1.1**
ALN Alexandroupoli 79.16 327 *e*P **P 19 33 24.8 -1.1**
QUIF Quistinic 79.26 349 *e*P **P 19 33 26.3 0.0**
QUIF pmax pmax
comp=Z,35nm,1.2s
FAQ Al Faqa, Dubai 79.33 297 P **P 19 33 26.3 -0.7**
FAQ Al Faqa, Dubai 79.33 297 P **P 19 33 25.7 -1.4**
AVF Avril sur Loir 79.43 344 *e*P **P 19 33 27.5 +0.3**
AVF pmax pmax
comp=Z,24nm,1.0s
NVR Nevrokopi 79.48 328 P **P 19 33 27.9 +0.2**
SMF Signal de Mont 79.49 344 *e*P **P 19 33 27.9 +0.3**
SMF pmax pmax
comp=Z,25nm,1.2s
ASUD Al Ashush, Dub 79.58 297 P **P 19 33 27.7 -0.7**
ASUD Al Ashush, Dub 79.58 297 P **P 19 33 27.6 -0.8**
SKO Skopje 79.68 330 *i* P **P 19 33 31.8 +3.1**
STIP Stip 79.70 330 *i* P **P 19 33 28.0 -0.8**
BGF Bois d'Agland 79.74 344 *e*P **P 19 33 29.2 +0.3**
BGF pmax pmax
comp=Z,13nm,1.0s
SRS Serrai 79.78 328 P **P 19 33 29.2 0.0**
SRS Serrai 79.78 328 P **P 19 33 29.3 0.0**
SRS pmax pmax
comp=Z,34nm,1.0s
ALNE Al Ain 79.79 296 *i* P **P 19 33 29.3 -0.3**
SNR=6.7
PDG Podgorica 79.91 332⇑ *i* P **P 19 33 30.0 +0.1**
VAY Valandovo 79.92 329 *i* P **P 19 33 30.5 +0.5**
VAY Valandovo 79.92 329 P **P 19 33 32.3 +2.3**
KNT Kendrikon 79.96 329 P **P 19 33 30.6 +0.4**
KNT Kendrikon 79.96 329 P **P 19 33 30.6 +0.4**
KNT pmax pmax
comp=Z,29nm,1.2s
EZN Ezine 80.02 326⇑ *i* P **P 19 33 30.5 0.0**
LPL La Plagne 80.05 342 *e*P **P 19 33 31.9 +1.0**
LPL pmax pmax
comp=Z,23nm,0.8s
LPG La Plagne 80.06 342 *e*P **P 19 33 32.1 +1.0**
LPG pmax pmax
comp=Z,26nm,0.7s
SOH Sokhos 80.12 328 P **P 19 33 32.0 +0.8**
SOH pmax pmax
comp=Z,11nm,1.2s
ISP Isparta 80.27 322⇓ *i* P **P 19 33 32.1 -0.1**
ISP Isparta 80.27 322 P **P 19 33 32.0 -0.1**
KRUS Krusevo 80.29 330 *i* P **P 19 33 32.2 +0.1**
GRG Griva 80.30 329 P **P 19 33 31.8 -0.3**
GRG Griva 80.30 329 P **P 19 33 32.9 +0.8**
GRG pmax pmax
comp=Z,36nm,1.2s
LIA Limnos Island 80.35 327 P **P 19 33 32.1 -0.2**
KULA Kula-Manisa 80.36 324 P **P 19 33 32.5 0.0**
BNI Bardonecchia 80.50 341 P **P 19 33 37.0 +3.7**
BNI pmax pmax
comp=Z,18nm,2.3s
OHR Ohrid 80.66 330 *i* P **P 19 33 36.2 +2.1**
SIGR SIGRI 80.73 326 P **P 19 33 33.2 -1.2**
FNA Florina 80.78 330 P **P 19 33 34.8 +0.1**
FNA pmax pmax
comp=Z,20nm,1.7s
ORIF Oris-en-Rattie 80.79 342 *e*P **P 19 33 35.8 +1.1**
ORIF pmax pmax
comp=Z,30nm,1.0s
MBDF Montbardon 80.80 341 *e*P **P 19 33 36.5 +1.6**
MBDF pmax pmax
comp=Z,13nm,0.9s
PAIG Paliouri 80.82 328 P **P 19 33 34.6 -0.3**
PAIG pmax pmax
comp=Z,34nm,0.9s
MHTO MHTO 80.98 292 P **P 19 33 36.1 +0.1**
SNR=9.2
LIT Litokhoron 81.05 329 P **P 19 33 39.0 +2.9**
LIT pmax pmax
comp=Z,18nm,1.0s
VIVF Saint-Julien-l 81.07 343 *e*P **P 19 33 37.1 +0.9**
VIVF pmax pmax
comp=Z,12nm,0.8s
RJF Les Rejaudoux 81.17 345 *e*P **P 19 33 37.4 +0.7**
RJF pmax pmax
comp=Z,8.0nm,0.8s
CHOS Chios Island 81.40 325 P **P 19 33 37.5 -0.6**
CAF Calviac 81.45 345 *e*P **P 19 33 39.3 +1.1**
CAF pmax pmax
comp=Z,21nm,1.0s
XOR Xorichti 81.49 328 P **P 19 33 37.5 -1.0**
CSS Mathiatis 81.66 319 *e*P **P 19 33 39.3 -0.1**
comp=Z,29nm,0.8s
CSS Mathiatis 81.66 319 P **P 19 33 39.3 -0.1**
PPT Papeete 81.91 132 LR LR 20 03 58.3
comp=Z,808nm,19.3s,baz=314,slow=31
PPT2 Papeete2 81.93 132 *e*LR LR 19 59 30.1
comp=Z,2μm,23.5s
IGT Igoumenitsa 82.25 330 P **P 19 33 42.1 -0.3**
VILL Villia 82.54 327 P **P 19 33 42.2 -1.8**
ARG Arkhangelos 82.59 323 P **P 19 33 45.2 +1.0**
ARG pmax pmax
comp=Z,68nm,1.2s
MTLF Montolieu 82.97 344 *e*P **P 19 33 47.2 +1.1**
MTLF pmax pmax
comp=Z,31nm,1.3s
KLV Kalavryta, Ach 83.03 328 P **P 19 33 48.0 +1.4**
DID Didima 83.16 327 *e*P **P 19 33 44.4 -2.8**
DID Didima 83.16 327 P **P 19 33 44.4 -2.8**
DRO Drossia 83.26 328 P **P 19 33 47.4 -0.3**
VLS Valsamata 83.41 329 P **P 19 33 47.9 -0.6**
ETSF Etsaut 83.84 346 *e*P **P 19 33 51.9 +1.2**
ETSF pmax pmax
comp=Z,16nm,0.8s
ITM Ithomi 83.89 328 *e*P **P 19 33 49.2 -1.8**
ITM Ithomi 83.89 328 P **P 19 33 49.2 -1.8**
PYL PYLOS 84.21 328 *e*P **P 19 33 51.0 -1.6**
PYL PYLOS 84.21 328 P **P 19 33 51.0 -1.6**
LAST Lasithi 84.50 324 *e*P **P 19 33 53.7 -0.5**
LAST Lasithi 84.50 324 P **P 19 33 53.7 -0.5**
STKA Stephens Creek 85.35 196 *e*P **P 19 33 59.3 +1.3**
comp=Z,1.2nm,1.0s
STKA Stephens Creek 85.35 196 *e*P **P 19 33 59.3 +1.3**
STKA pmax pmax
comp=Z,1.0nm,1.0s
STKA Stephens Creek 85.35 196 P **P 19 33 59.3 +1.3**
comp=Z,2.9nm,0.9s,baz=0.7,slow=9.0,SNR=4.1
PBRG Braganca 85.69 350 *e*P **P 19 34 01.0 +1.0**
comp=Z,36nm,1.5s
POLO Lamas de Olo 86.22 351 *e*P **P 19 34 02.9 +0.2**
PVRL Vila Real 86.31 351 *e*P **P 19 34 03.4 +0.3**
MVO Moncorvo 86.36 351 *e*P **P 19 34 04.5 +1.2**
comp=Z,20nm,1.2s
PVIS Viseu 86.89 351 *e*P **P 19 34 07.4 +1.5**
TBI Tubuai 87.03 135 *e*LR LR 20 01 49.7
comp=Z,2μm,23.5s
MTE Manteigas 87.17 351 *e*P **P 19 34 07.9 +0.6**
comp=Z,34nm,1.6s
ESDC Sonseca Array 87.48 348 P **P 19 34 09.1 +0.3**
comp=Z,3.5nm,0.6s,baz=1.9,slow=4.6,SNR=24
PCAS Casmilo, Conde 87.60 352 *e*P **P 19 34 10.6 +1.3**
PCBR Castelo Branco 87.71 351 *e*P **P 19 34 09.5 -0.3**
KEST Kesra 88.84 337 P **P 19 34 15.9 +0.6**
comp=Z,14nm,1.1s,baz=292,slow=6.7,SNR=6.2
KEST LR LR 20 19 28.7
comp=Z,2μm,19.2s,baz=13,slow=39
RKT Rikitea 93.72 124 *e*LR LR 20 04 56.8
comp=Z,2μm,26.2s
TORD Torodi Ar. Bea 112.35 338 PP **PP 19 40 40.7 -1.3**
comp=Z,3.3nm,0.9s,baz=354,slow=9.5,SNR=9.6
DBIC Dimbokro 120.00 343 PKP **PKiKP 19 40 12.4 +0.3**
comp=Z,8.7nm,1.1s,baz=27,slow=3.4,SNR=4.6
VNDA Vanda 129.47 180 PKP **PKiKP 19 40 29.9 +1.1**
comp=Z,0.8nm,1.0s,baz=279,slow=3.8,SNR=3.6
CPUP Villa Florida 141.66 62 PKP **PKPdf 19 40 53.1 +0.8**
comp=Z,0.9nm,0.5s,baz=211,slow=5.9,SNR=2.5
PLCA Paso Flores 143.79 92 PKP **PKPdf 19 40 55.9 +0.2**
comp=Z,2.2nm,0.9s,baz=321,slow=5.2,SNR=4.1
SYO Syowa Base 148.10 216⇑ *e*PKPdf **PKPbc 19 41 04.2 -1.1**
SYO Syowa Base 148.10 216⇑ *e*PKPab **PKPab 19 41 10.8 +2.5**

*KRSC **19** 19:26:53.6±10.0, 52.°09N×160.°65E, h62km±10km, ML4.5*
*IDC **19** 19:26:54.3±1.7, 52.°41N×160.°19E, h0km, mb4.0/15, mb1 4.1/16, mb1mx3.8/48, mbtmp4.0/16, ML3.7/1, Error ellipse: s-maj=43.0km s-min=18.0km az=114.0*
*NEIC **19** 19:26:57.8±0.7, 52.°25N×160.°41E, h35km, mb4.3/17, Error ellipse: s-maj=13.1km s-min=10.1km az=133.0*
ISC 19 19:26:54.9±1.7, 52.°19N±0.°05×160.°46E±0.°05, h14km±9km, n77, σ1§30/100, mb4.2/31, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.95**	**344**	P	**Pn**	**19 27 13.7**	**-0.1**
SPN				S	**Sn**	**19 27 26.4**	**-0.7**
NLC	**Nalytchevo**	**1.20**	**326**	P	**Pg**	**19 27 18.2**	**+0.3**
NLC				S	**Sn**	**19 27 35.3**	**+2.1**
RUS	**Russkaya**	**1.22**	**282**	P	**Pb**	**19 27 18.1**	**+0.4**
RUS				S	**Sn**	**19 27 34.1**	**+0.4**
DALK	**Dalny**	**1.34**	**310**	P	**Pg**	**19 27 20.1**	**-0.6**
DALK				S	**Sg**	**19 27 37.5**	**-0.6**
PET	**Petropavlovsk**	**1.38**	**308**	*e*Pn	**Pg**	**19 27 20.8**	**-0.7**
PET				*e*Sn	**Sg**	**19 27 41.5**	**+2.0**
MTVR	**Mutnovka**	**1.43**	**283**	P	**Pb**	**19 27 21.7**	**+0.4**
MTVR				S	**Sg**	**19 27 41.1**	**+0.2**
UGLR	**Uglovaya**	**1.43**	**316**	P	**Pg**	**19 27 22.0**	**-0.3**
UGLR				S	**Sg**	**19 27 41.2**	**+0.3**
SDLR	**Sedlovina**	**1.45**	**319**	P	**Pg**	**19 27 22.2**	**-0.6**
SMAR	**Somma**	**1.48**	**318**	P	**Pg**	**19 27 22.6**	**-0.7**
AVH	**Avacha**	**1.50**	**317**	P	**Pg**	**19 27 23.3**	**-0.5**
AVH				S	**Sg**	**19 27 43.6**	**+0.3**
GRL	**Gorelyy**	**1.51**	**285**	P	**Pg**	**19 27 23.7**	**-0.2**
GRL				S	**Sg**	**19 27 43.9**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.52**	**257**	P	**Pn**	**19 27 21.6**	**0.0**
KDTR				S	**Sn**	**19 27 40.0**	**-1.1**
KRER	**Koryakskii**	**1.53**	**318**	P	**Pg**	**19 27 24.5**	**+0.3**
KRER				S	**Sg**	**19 27 45.5**	**+1.4**
KRMR	**Karymshinskiy**	**1.56**	**295**	P	**Pb**	**19 27 23.4**	**-0.1**
KRMR				S	**Sg**	**19 27 43.6**	**-1.6**
KOK	**Koryaka**	**1.57**	**316**	P	**Pg**	**19 27 24.4**	**-0.6**
KOK				S	**Sg**	**19 27 45.5**	**+0.2**
ASAK	**Asacha**	**1.58**	**278**	P	**Pb**	**19 27 23.9**	**-0.1**
KRX	**Arik**	**1.61**	**318**	P	**Pb**	**19 27 24.4**	**0.0**
KRX				S	**Sg**	**19 27 45.4**	**-1.3**
PEA0B	**Petropavlovsk-**	**1.92**	**300**	*e*Pn	**Pb**	**19 27 28.5**	**-1.1**
PEA0B				*e*Sn	**Sg**	**19 27 56.7**	**+0.2**
PETK	**Petropavlovsk-**	**1.92**	**300**	*e*Pn	**Pb**	**19 27 29.2**	**-0.4**
PETK				*e*Sn	**Sg**	**19 27 56.4**	**-0.2**
PETK	**Petropavlovsk-**	**1.92**	**300**	Pn	**Pb**	**19 27 28.8**	**-0.8**
	39nm,0.3s,baz=105,slow=20,SNR=21						
PETK				Sn	**Sg**	**19 27 55.6**	**-1.0**
	78nm,0.3s,baz=102,slow=14,SNR=9.7						
PEA1	**Petropavlovsk-**	**1.92**	**300**	*e*Pn	**Pb**	**19 27 28.8**	**-0.8**
PEA1				*e*Sn	**Sg**	**19 27 55.6**	**-1.1**
APC	**Apacha**	**2.15**	**291**	P	**Pn**	**19 27 32.1**	**+1.9**
APC				S	**Sb**	**19 27 58.6**	**-1.3**
PAU	**Pauzhetka**	**2.38**	**254**	P	**Pn**	**19 27 34.1**	**+0.7**
MKZ	**Mys Kozlova**	**2.49**	**17**	P	**Pn**	**19 27 35.1**	**+0.2**
MKZ				S	**Sn**	**19 28 04.1**	**-1.0**
KZV	**Kizimen**	**2.93**	**358**	P	**Pn**	**19 27 43.6**	**+2.4**
KZV				S	**Sn**	**19 28 17.4**	**+1.1**
TUMD	**Tumrok D**	**3.02**	**359**	P	**Pn**	**19 27 43.9**	**+1.6**
TUMD				S	**Sn**	**19 28 18.4**	**+0.1**
SKR	**Severo-Kuril's**	**3.11**	**243**	S	**Sn**	**19 28 18.7**	**-1.6**
ALID	**Alaid**	**3.34**	**249**	P	**Pn**	**19 27 48.7**	**+2.0**
ESO	**Esso**	**3.89**	**345**	P	**Pn**	**19 27 57.1**	**+3.0**
KBTR	**Krutoberegovo**	**4.26**	**18**	P	**Pn**	**19 28 00.9**	**+1.7**
KBTR				S	**Sn**	**19 28 48.8**	**+0.1**
BKI	**Bering**	**4.46**	**45**	S	**Sn**	**19 28 49.5**	**-4.0**
ASAJ	**Asahikawa**	**14.37**	**243**	Pn	**Pn**	**19 30 18.8**	**+1.0**
	0.6nm,0.3s,baz=49,slow=9.3,SNR=4.2						
MJB9	**Matsu-Tunnel**	**22.17**	**234**	*e*P	**P**	**19 31 50.6**	**+0.2**
	11nm,1.0s						
MAJO	**Matsushiro**	**22.17**	**234**	*e*P	**P**	**19 31 49.8**	**-0.6**
	10nm,1.0s						
MJAR	**Matsushiro Arr**	**22.17**	**234**	P	**P**	**19 31 52.6**	**+2.2**
	2.8nm,0.6s,baz=16,slow=11,SNR=8.6						
RDOG	**Red Dog Mine**	**23.66**	**34**	*e*P	**P**	**19 32 03.3**	**-2.2**
	3.6nm,0.9s						
TIXI	**Tiksi**	**24.00**	**336**	*e*P	**P**	**19 32 07.9**	**-0.7**
	0.7nm,0.7s						
TIXI	**Tiksi**	**24.00**	**336**	P	**P**	**19 32 07.9**	**-0.7**
	6.7nm,0.6s,baz=125,slow=8.3,SNR=11						
KSRS	**Korea Array**	**27.10**	**250**	P	**P**	**19 32 39.7**	**+2.7**
	1.3nm,0.9s,baz=55,slow=11,SNR=3.4						
KS15	**Wonju Array Si**	**27.13**	**250**	*e*P	**P**	**19 32 39.7**	**+2.4**
	5.8nm,1.1s						
KSAR	**Wonju Array Be**	**27.13**	**250**	*e*P	**P**	**19 32 38.5**	**+1.3**
SML	**Sawmill**	**28.76**	**50**	*e*P	**P**	**19 32 53.3**	**+1.6**
	12nm,1.2s						
SONA0	**Songino Array**	**34.34**	**285**	*e*P	**P**	**19 33 40.4**	**-0.5**
SONM	**Songino Array**	**34.34**	**285**	P	**P**	**19 33 40.4**	**-0.5**
	0.4nm,0.4s,baz=61,slow=6.5,SNR=3.5						
JOW	**Kunigami**	**34.98**	**236**	*e*P	**P**	**19 33 44.8**	**-1.7**
	9.9nm,0.9s						
SARN	**Sarigan**	**37.27**	**204**	*e*P	**P**	**19 34 06.6**	**+0.4**
	15nm,1.1s						
BBB	**Bella Bella**	**42.12**	**60**	*e*P	**P**	**19 34 48.1**	**+1.9**
	8.2nm,0.8s						
ZAA1	**Zalesovo Array**	**43.46**	**304**	*e*P	**P**	**19 34 54.8**	**-2.2**
ZALV	**Zalesovo Beam**	**43.46**	**304**	P	**P**	**19 34 54.8**	**-2.2**
	0.6nm,0.4s,baz=55,slow=7.1,SNR=2.6						
SPA0	**Spitsbergen Ar**	**48.07**	**351**	*e*P	**P**	**19 35 33.5**	**+0.3**
	12nm,1.0s						
SPITS	**Spitsbergen Ar**	**48.07**	**351**	P	**P**	**19 35 33.5**	**+0.3**
	1.5nm,0.4s,baz=61,slow=8.7,SNR=12						
KURK	**Kurchatov**	**48.41**	**303**	*e*P	**P**	**19 35 34.4**	**-1.7**
	6.3nm,1.0s						
MK31	**Makanchi Array**	**48.75**	**297**	*e*P	**P**	**19 35 37.4**	**-1.5**
	1.4nm,0.6s						
MK32	**Makanchi Array**	**48.75**	**297**	*e*P	**P**	**19 35 37.1**	**-1.8**
MKAR	**Makanchi Array**	**48.75**	**297**	*e*P	**P**	**19 35 37.4**	**-1.5**
MKAR	**Makanchi Array**	**48.75**	**297**	P	**P**	**19 35 37.1**	**-1.8**
	1.2nm,0.5s,baz=51,slow=6.7,SNR=12						
MAKZ	**Makanchi**	**48.92**	**297**	*e*P	**P**	**19 35 38.3**	**-1.8**
	2.5nm,1.0s						
BRVK	**Borovoye**	**51.16**	**309**	*e*P	**P**	**19 35 54.5**	**-2.6**
	3.0nm,0.8s						
ARU	**Arti**	**54.22**	**318**	*e*P	**P**	**19 36 18.6**	**-0.9**
	3.6nm,0.9s						
ARA0	**ARCESS Array S**	**54.22**	**342**	*e*P	**P**	**19 36 19.3**	**-0.1**
ARCES	**ARCESS Array B**	**54.22**	**342**	*e*P	**P**	**19 36 17.3**	**-2.1**
ARCES	**ARCESS Array B**	**54.22**	**342**	P	**P**	**19 36 19.3**	**-0.1**
	3.1nm,0.9s,baz=34,slow=11,SNR=3.5						
ARE0	**ARCESS Array S**	**54.22**	**342**	*e*P	**P**	**19 36 18.6**	**-0.9**
	0.3nm,1.1s						
KDJ	**Kajisay**	**54.53**	**295**	*e*P	**P**	**19 36 21.2**	**-1.1**
	3.1nm,0.9s						
CM31	**Chiang Mai Arr**	**58.22**	**259**	*e*P	**P**	**19 36 49.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**58.22**	**259**	P	**P**	**19 36 49.9**	**+1.2**
	1.4nm,0.8s,baz=27,slow=6.9,SNR=9.7						
FIA0	**FINESS Array S**	**61.04**	**337**	*e*P	**P**	**19 37 07.9**	**+0.5**
FINES	**FINESS Array B**	**61.04**	**337**	P	**P**	**19 37 07.9**	**+0.5**
	3.0nm,0.5s,baz=29,slow=8.8,SNR=28						
NB2	**NORSAR Subarra**	**64.48**	**344**	P	**P**	**19 37 30.6**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=22,slow=6.9						
NB200	**NORSAR Array S**	**64.48**	**344**	*e*P	**P**	**19 37 31.0**	**+0.6**
NOA	**NORSAR Array B**	**64.48**	**344**	P	**P**	**19 37 31.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=23,slow=6.7,SNR=4.9						
GEYT	**Alibeck**	**67.77**	**303**	P	**P**	**19 37 52.7**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=2.5,slow=10,SNR=2.8						
AKASG	**Malin Array Be**	**69.51**	**329**	P	**P**	**19 38 01.6**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=29,slow=6.4,SNR=3.7						
CLL	**Collm**	**73.28**	**339**	*e*P	**P**	**19 38 25.0**	**-0.3**
GERES	**GERESS Array B**	**75.44**	**338**	P	**P**	**19 38 38.1**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=64,slow=6.7,SNR=3.0						
AS31	**Alice Springs**	**79.02**	**205**	*e*P	**P**	**19 38 59.5**	**+1.3**
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**79.02**	**205**	P	**P**	**19 38 59.5**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=20,slow=5.9,SNR=4.1						

TEH 19 19:27:07.0, 26.°76N×58.°11E, h28km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.16**	**195**	*e*Pg	Pb	19 27 30.6	+2.3
KHNJ	**Kahnooj**	**1.24**	**343**	*e*Pg	Pb	19 27 32.3	+2.5
NIAN	**Nian**	**1.39**	**305**	*e*Pg	Pb	19 27 33.5	+1.2
NIAN				IAMB	IAmb	19 27 55.2	
	comp=Z,0.0nm,0.3s						
GENO	**Geno**	**1.84**	**291**	*e*Pn	Pb	19 27 39.7	-0.4
GENO				IAMB	IAmb	19 28 08.8	
	comp=Z,0.0nm,0.3s						
SHME	**Shamm**	**1.90**	**249**	*e*Pn	Pb	19 27 40.3	-0.7
MSFE	**Esma-Masafi**	**2.24**	**232**	*e*Pn	Pn	19 27 42.5	+0.2
HATD	**Hatta, Dubai**	**2.62**	**223**	*e*Pn	Pn	19 27 48.9	+1.4
ASHO	**Ashiyiah**	**2.77**	**222**	*e*Pn	Pn	19 27 50.8	+1.2
NAZ	**Nazwa, Dubai**	**2.82**	**232**	*e*Pn	Pn	19 27 53.3	+3.1
FAQ	**Al Faqa, Dubai**	**3.03**	**229**	*e*Pn	Pn	19 27 56.1	+3.0
NGRK	**Negar Kerman**	**3.12**	**337**	IAMB	IAmb	19 28 51.1	
	comp=Z,0.0nm,0.4s						
HOQ	**Hoqain**	**3.24**	**193**	*e*Pn	Pn	19 27 57.5	+1.4
ASUD	**Al Ashush, Dub**	**3.28**	**230**	*e*Pn	Pn	19 27 59.8	+3.2
ALNE	**Al Ain**	**3.43**	**219**	*e*Pn	Pn	19 28 00.9	+2.2
KHGB	**Koh Gabri**	**3.88**	**339**	*e*Pn	Pb	19 28 11.9	-3.0
KHGB				IAMB	IAmb	19 29 23.0	
	comp=Z,0.0nm,0.8s						
IKOO	**Kooshah**	**5.70**	**8**	*e*Pn	Pn	19 28 37.8	+7.7
ITEG	**Tejag**	**6.14**	**5**	*e*Pn	Pb	19 28 45.5	-7.9
IKAZ	**Kazeroun**	**6.29**	**300**	*e*Pn	Pn	19 28 39.9	+1.6
ISAD	**Sadrabad**	**6.43**	**324**	*e*Pn	Pn	19 28 44.7	+4.6
IRAM	**Ramesheh**	**7.09**	**317**	*e*Pn	Pn	19 28 53.4	+4.2
KLNJ	**Kolanjah**	**7.11**	**308**	*e*Pn	Pn	19 28 50.9	+1.4

KRSC 19 19:29:22.2±10.0, 52.°20N×160.°42E, h42km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.93**	**345**	P	Pn	19 29 39.4	+0.6
SPN				S	Sn	19 29 51.6	+0.7
NLC	**Nalytchevo**	**1.17**	**326**	P	Pn	19 29 43.6	+1.6
NLC				S	Sn	19 29 58.9	+2.1
RUS	**Russkaya**	**1.19**	**282**	P	Pn	19 29 43.5	+1.2
RUS				S	Sn	19 29 58.8	+1.5
DALK	**Dalny**	**1.31**	**310**	P	Pn	19 29 45.5	+1.5
DALK				S	Sn	19 30 02.3	+2.1
UGLR	**Uglovaya**	**1.40**	**317**	P	Pn	19 29 46.5	+1.2
MTVR	**Mutnovka**	**1.40**	**282**	P	Pn	19 29 46.9	+1.6
MTVR				S	Sn	19 30 04.7	+2.0
SDLR	**Sedlovina**	**1.42**	**320**	P	Pn	19 29 47.7	+2.0
AVH	**Avacha**	**1.48**	**317**	P	Pn	19 29 48.3	+2.0
KDTR	**Khodutka, Kamc**	**1.50**	**256**	S	Sn	19 30 05.3	+0.4
KRMR	**Karymshinskiy**	**1.53**	**295**	P	Pn	19 29 48.7	+1.7
KRMR				S	Sn	19 30 08.0	+2.3
KOK	**Koryaka**	**1.54**	**316**	P	Pn	19 29 49.4	+2.2
ASAK	**Asacha**	**1.56**	**278**	P	Pn	19 29 49.5	+2.1
KZV	**Kizimen**	**2.92**	**359**	P	Pn	19 30 10.4	+4.2
TUMD	**Tumrok D**	**3.01**	**360**	S	Sn	19 30 43.8	+1.8

IDC 19 19:31:28.0±4.1, 52.°57N×159.°12E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.2/34, mbtmp3.5/3, Error ellipse: s-maj=65.0km s-min=41.3km az=141.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.02**	**303**	Pn	Pn	19 31 49.3	-0.3
	0.4nm,0.3s,baz=120,slow=19,SNR=5.8						
TIXI	**Tiksi**	**23.32**	**336**	P	P	19 36 37.7	+0.5
	0.9nm,0.5s,baz=122,slow=7.6,SNR=4.6						
MKAR	**Makanchi Array**	**47.85**	**296**	P	P	19 40 07.3	0.0
	0.1nm,0.5s,baz=67,slow=5.8,SNR=4.1						
FINES	**FINESS Array B**	**60.37**	**336**	P	P	19 41 38.0	-0.3
	0.5nm,0.5s,baz=23,slow=9.4,SNR=7.0						

*KRSC **19** 19:31:25.6±10.0, 52.°12N×160.°48E, h20km±10km, ML3.7*
*ISCJB **19** 19:31:30.9±0.5, 52.°36N±0.°04×160.°02E±0.°06, h10km, mb4.2/21, Error ellipse: s-maj=6.3km s-min=4.9km az=139.6*
*IDC **19** 19:31:34.3±2.4, 52.°61N×159.°64E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/37, mbtmp3.9/8, ML3.4/2, Error ellipse: s-maj=46.0km s-min=24.5km az=119.0*
*NEIC **19** 19:31:37.9±0.5, 52.°53N×159.°70E, h35km, mb4.3/16, Error ellipse: s-maj=12.3km s-min=7.7km az=158.0*
ISC 19 19:31:33.0±0.6, 52.°37N±0.°05×159.°97E±0.°04, h10km, n60, σ1§89/67, mb4.2/21, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.73**	**2**	P	**Pg**	**19 31 44.3**	**-2.9**
SPN				S	**Sb**	**19 31 58.0**	**0.0**
NLC	**Nalytchevo**	**0.89**	**335**	P	**Pg**	**19 31 48.3**	**-1.9**
RUS	**Russkaya**	**0.90**	**275**	P	**Pg**	**19 31 48.1**	**-2.2**
RUS				S	**Sn**	**19 32 04.1**	**-0.6**
DALK	**Dalny**	**1.00**	**312**	P	**Pg**	**19 31 50.1**	**-2.1**
PET	**Petropavlovsk**	**1.04**	**310**	*e*Pg	**Pg**	**19 31 50.6**	**-2.4**
PET	**Petropavlovsk**	**1.04**	**310**	P	**Pg**	**19 31 51.4**	**-1.6**
PET				S	**Sn**	**19 32 10.2**	**+2.0**
UGLR	**Uglovaya**	**1.10**	**321**	P	**Pg**	**19 31 52.1**	**-2.0**
MTVR	**Mutnovka**	**1.10**	**277**	P	**Pg**	**19 31 51.6**	**-2.6**
SDLR	**Sedlovina**	**1.13**	**325**	P	**Pb**	**19 31 52.7**	**-2.0**
SMAR	**Somma**	**1.15**	**322**	P	**Pb**	**19 31 53.0**	**-2.1**
AVH	**Avacha**	**1.17**	**321**	P	**Pb**	**19 31 53.2**	**-2.2**
KRER	**Koryakskii**	**1.20**	**322**	P	**Pb**	**19 31 53.9**	**-2.1**
KRMR	**Karymshinskiy**	**

ZAA0	Zalesovo Array	43.11 303	*e*P		P	19 39 33.1	+0.1
	1.6nm,1.0s						
ZALV	Zalesovo Beam	43.11 303	*e*P		P	19 39 33.3	+0.3
NLWA	Neilton Lookou	47.21 64	*e*P		P	19 40 08.7	+2.9
	11nm,1.1s						
SPA0	Spitsbergen Ar	47.84 350	*e*P		P	19 40 11.8	+1.5
	11nm,1.1s						
KURK	Kurchatov	48.06 302	*e*P		P	19 40 10.7	-1.5
	4.4nm,1.1s						
MK31	Makanchi Array	48.41 296	*e*P		P	19 40 14.1	-0.9
	0.8nm,0.6s						
MKAR	Makanchi Array	48.41 296	*e*P		P	19 40 14.6	-0.4
MKAR	Makanchi Array	48.41 296	P		P	19 40 14.8	-0.3
	0.5nm,0.5s,baz=54,slow=6.1,SNR=11						
ARU	Arti	53.88 318	*e*P		P	19 40 56.2	+0.2
	2.8nm,1.1s						
ARCES	ARCESS Array B	53.96 342	*e*P		P	19 40 55.9	-0.5
ARE0	ARCESS Array S	53.96 342	*e*P		P	19 40 55.4	-1.0
	0.4nm,1.0s						
KDJ	Kajisay	54.19 294	*e*P		P	19 40 58.1	-0.5
	2.2nm,0.9s						
LRM	Limekiln Ridge	54.35 59	*e*P		P	19 40 57.7	-2.1
LAO	LASA Array	56.98 55	*e*P		P	19 41 18.2	-0.3
	7.8nm,0.8s						
LAO			*e*PcP		PcP	19 42 18.3	+4.7
ARSB	Arslanbob	57.05 296	*e*P		P	19 41 19.5	+0.3
	2.2nm,0.6s						
KKAR	Karatay Array	57.18 299	*e*P		P	19 41 19.9	0.0
PDAR	Pinedale Array	57.95 60	*e*P		P	19 41 29.2	+3.7
CMAR	Chiang Mai Arr	57.96 258	*e*P		P	19 41 26.9	+1.3
CMAR	Chiang Mai Arr	57.96 258	P		P	19 41 27.9	+2.3
	0.8nm,0.7s,baz=27,slow=6.2,SNR=6.7						
ABKAR	Akbulak array	58.21 311	*e*P		P	19 41 27.4	+0.4
FIA0	FINESS Array S	60.76 337	*e*P		P	19 41 45.1	+0.7
FINES	FINESS Array B	60.76 337	P		P	19 41 45.1	+0.7
	2.8nm,0.7s,baz=33,slow=8.6,SNR=19						
NB200	NORSAR Array S	64.22 344	*e*P		P	19 42 08.2	+0.6
NOA	NORSAR Array B	64.22 344	P		P	19 42 08.2	+0.6
	0.4nm,0.5s,baz=24,slow=6.6,SNR=3.3						

KRSC 19 19:33:00.6±10.0, 52°.13N×160°.49E, h18km±10km, ML3.9,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.01	344	P	Pb	19 33 19.1	-0.4
SPN				S	Sb	19 33 31.8	-0.7
RUS	Russkaya	1.25	285	P	Pb	19 33 23.5	-0.1
RUS				S	Sb	19 33 39.2	-0.2
NLC	Nalytchevo	1.25	327	P	Pb	19 33 23.5	-0.2
NLC				S	Sb	19 33 39.5	0.0
DALK	Dalny	1.39	311	P	Pb	19 33 25.8	-0.2
DALK				S	Sb	19 33 43.5	+0.1
PET	Petropavlovsk	1.43	309	P	Pb	19 33 26.3	-0.5
PET				S	Sb	19 33 44.6	0.0
MTVR	Mutnovka	1.46	285	P	Pb	19 33 27.0	-0.3
MTVR				S	Sb	19 33 45.8	+0.3
KDTR	Khodutka, Kamc	1.53	259	P	Pn	19 33 27.4	+0.4
KDTR				S	Sn	19 33 46.3	0.0
KRMR	Karymshinskiy	1.60	297	P	Pn	19 33 28.8	+0.8
KRMR				S	Sb	19 33 49.9	+0.4
ASAK	Asacha	1.61	280	P	Pb	19 33 29.7	-0.2

KRSC 19 19:33:47.1±10.0, 52°.14N×160°.37E, h18km±10km, ML4.1,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.99	348	P	Pb	19 34 05.2	-0.4
SPN				S	Sb	19 34 17.6	-0.7
RUS	Russkaya	1.18	285	P	Pn	19 34 08.7	+0.1
RUS				S	Sn	19 34 24.1	-0.1
NLC	Nalytchevo	1.21	329	P	Pn	19 34 09.1	0.0
NLC				S	Sb	19 34 24.8	+0.1
DALK	Dalny	1.33	313	P	Pb	19 34 11.2	-0.3
DALK				S	Sb	19 34 28.4	+0.2
PET	Petropavlovsk	1.37	311	P	Pb	19 34 11.8	-0.4
PET				S	Sb	19 34 29.6	+0.2
MTVR	Mutnovka	1.39	285	P	Pb	19 34 12.4	-0.1
MTVR				S	Sb	19 34 30.8	+0.8
KDTR	Khodutka, Kamc	1.46	258	P	Pn	19 34 12.5	0.0
KDTR				S	Sn	19 34 31.2	+0.1
AVH	Avacha	1.50	319	P	Pb	19 34 14.6	+0.1
KRMR	Karymshinskiy	1.54	298	P	Pn	19 34 13.9	+0.3
KRMR				S	Sn	19 34 33.3	+0.3
ASAK	Asacha	1.54	280	P	Pb	19 34 14.9	-0.2
ASAK				S	Sb	19 34 34.8	+0.5
APC	Apacha	2.12	293	P	Pb	19 34 23.4	-1.5

IDC ***19*** *19:37:23.7±0.5, 52°.40N×160°.20E, h0km, mb4.5/32, mb1 4.6/35, mb1mx4.6/41, mbtmp4.5/35, ML4.2/3, Error ellipse: s-maj=13.8km s-min=9.7km az=154.0*
KRSC ***19*** *19:37:23.9±10.0, 52°.13N×160°.64E, h60km±10km, ML5.2*
ISCJB ***19*** *19:37:27.6±0.5, 52°.24N±0°.03×160°.39E±0°.05, h42km±3km, mb5.0/155, Error ellipse: s-maj=6.6km s-min=3.2km az=136.0*
MOS ***19*** *19:37:27.3±1.0, 52°.24N×160°.37E, h41km, mb5.1/76, Error ellipse: s-maj=6.1km s-min=2.8km az=100.0*
NEIC ***19*** *19:37:28.4±0.4, 52°.24N×160°.32E, h35km, mb4.9/27, Error ellipse: s-maj=8.9km s-min=6.6km az=152.0*
BJI ***19*** *19:37:29.3±0.0, 52°.83N×159°.80E, h46km, mb4.8/47, mB5.2/3, Ms5.3/9, Ms7 5.1/10*

ISC 19 19:37:27.9±0.7, 52°.21N±0°.04×160°.49E±0°.03, h34km±2km, h34km:pP-P, n445, σ1§16/475, mb4.9/162, 36C-25D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.94	343	*i* P	Pn	19 37 43.1	-1.5
SPN				*i* S	Sn	19 37 56.1	-0.7
SPN	Mys Shipunski	0.94	343	PN	Pn	19 37 43.1	-1.5
SPN				S	Sn	19 37 56.1	-0.7
NLC	Nalytchevo	1.19	325	*e*P	Pn	19 37 47.5	-0.5
NLC				*e*S	Sn	19 38 04.1	+1.1
NLC	Nalytchevo	1.19	325	PN	Pn	19 37 47.5	-0.5
NLC				S	Sn	19 38 04.1	+1.1
RUS	Russkaya	1.23	281	*e*P	Pn	19 37 47.8	-0.8
RUS	Russkaya	1.23	281	PN	Pn	19 37 47.8	-0.8
DALK	Dalny	1.34	309	*e*P	Pn	19 37 49.7	-0.4
DALK				*e*S	Sn	19 38 08.1	+1.4
DALK	Dalny	1.34	309	PN	Pn	19 37 49.7	-0.4
DALK				S	Sn	19 38 08.1	+1.4
PET	Petropavlovsk	1.39	307	*e*Pn	Pn	19 37 50.4	-0.2
PET	Petropavlovsk	1.39	307	*i* P	Pn	19 37 50.5	-0.2
PET	Petropavlovsk	1.39	307	α *i* PN	Pn	19 37 50.2	-0.5
PET				*e*S	Sb	19 38 10.0	-0.6
PET				pmax	pmax		
	comp=Z,5μm,1.0s						
PET				pmax	pmax		
	comp=Z,5μm,0.8s						
PET				smax	smax		
	comp=N,12μm,1.3s						
PET				smax	smax		
	comp=N,10μm,0.7s						
PET				smax	smax		
	comp=E,8μm,0.7s						
UGLR	Uglovaya	1.43	315	*i* P	Pn	19 37 51.2	-0.2
UGLR	Uglovaya	1.43	315	PN	Pn	19 37 51.2	-0.2
MTVR	Mutnovka	1.44	282	*e*P	Pn	19 37 51.2	-0.4
MTVR	Mutnovka	1.44	282	PN	Pn	19 37 51.2	-0.4
SDLR	Sedlovina	1.45	318	*e*P	Pn	19 37 51.5	-0.2
SDLR	Sedlovina	1.45	318	PN	Pn	19 37 51.5	-0.2
SMAR	Somma	1.48	317	*e*P	Pn	19 37 51.6	-0.5
SMAR	Somma	1.48	317	PN	Pn	19 37 51.6	-0.5
AVH	Avacha	1.50	316	*e*P	Pn	19 37 52.8	+0.4
AVH	Avacha	1.50	316	PN	Pn	19 37 52.8	+0.4
GRL	Gorelyy	1.52	284	*e*P	Pn	19 37 53.2	+0.5
GRL	Gorelyy	1.52	284	PN	Pn	19 37 53.2	+0.5
KRER	Koryakskii	1.53	317	*e*P	Pn	19 37 52.9	+0.1
KRER	Koryakskii	1.53	317	PN	Pn	19 37 52.9	+0.1
KDTR	Khodutka, Kamc	1.54	256	*e*P	Pn	19 37 51.8	-1.0
KDTR				*e*S	Sn	19 38 10.9	-0.7
KDTR	Khodutka, Kamc	1.54	256	PN	Pn	19 37 51.8	-1.0
KDTR				S	Sn	19 38 10.9	-0.7
KOK	Koryaka	1.57	315	*e*P	Pn	19 37 53.2	-0.1
KOK	Koryaka	1.57	315	PN	Pn	19 37 53.2	-0.1
KRMR	Karymshinskiy	1.57	294	*i* P	Pn	19 37 53.2	0.0
KRMR				*e*S	Sn	19 38 13.4	+1.0
KRMR	Karymshinskiy	1.57	294	PN	Pn	19 37 53.2	0.0
KRMR				S	Sn	19 38 13.4	+1.0
ASAK	Asacha	1.60	277	*e*P	Pn	19 37 53.7	0.0
ASAK	Asacha	1.60	277	PN	Pn	19 37 53.7	0.0
KRX	Arik	1.61	317	*e*P	Pn	19 37 54.2	+0.3
KRX	Arik	1.61	317	PN	Pn	19 37 54.2	+0.3
PEA0B	Petropavlovsk-	1.92	299	*e*Pn	Pn	19 37 59.0	+0.9
PEA0B	Petropavlovsk-	1.92	299	*e*PN	Pn	19 37 59.0	+0.9
PETK	Petropavlovsk-	1.92	299	*e*Pn	Pn	19 37 58.4	+0.2
PETK	Petropavlovsk-	1.92	299	Pn	Pn	19 37 58.5	+0.3
	comp=E,128nm,0.3s,baz=105,slow=18,SNR=142						
PETK				Sn	Sb	19 38 25.4	-0.6
	comp=E,174nm,0.3s,baz=84,slow=15,SNR=11						
PEA1	Petropavlovsk-	1.93	299	*e*Pn	Pn	19 37 58.5	+0.3
PEA1				*e*Sn	Sb	19 38 25.4	-0.6
APC	Apacha	2.16	291	*e*P	Pn	19 38 02.5	+1.2
APC				*e*S	Sb	19 38 30.9	-1.6
APC	Apacha	2.16	291	PN	Pn	19 38 02.5	+1.2
APC				S	Sb	19 38 30.9	-1.6
PAU	Pauzhetka	2.40	253	*e*P	Pn	19 38 05.2	+0.6
PAU	Pauzhetka	2.40	253	PN	Pn	19 38 05.2	+0.6
MKZ	Mys Kozlova	2.47	17	*e*P	Pn	19 38 04.5	-1.1
MKZ				*e*S	Sn	19 38 33.0	-1.5
MKZ	Mys Kozlova	2.47	17	PN	Pn	19 38 04.5	-1.1
MKZ				S	Sn	19 38 33.0	-1.5
KZV	Kizimen	2.92	358	*e*P	Pn	19 38 12.3	+0.4
KZV	Kizimen	2.92	358	PN	Pn	19 38 12.3	+0.4
TUMD	Tumrok D	3.00	359	*e*P	Pn	19 38 12.9	-0.1
TUMD				*e*S	Sn	19 38 47.5	-0.3
TUMR	Tumrok	3.09	356	PN	Pn	19 38 12.9	-1.4
TUMR				S	Sn	19 38 47.5	-2.5
SKR	Severo-Kuril's	3.13	243	*e*P	Pn	19 38 14.3	-0.4
SKR				*e*S	Sn	19 38 49.2	-1.6
SKR	Severo-Kuril's	3.13	243	*e*PN	Pn	19 38 14.3	-0.4
SKR				*e*S	Sn	19 38 48.4	-2.4
SKR				pmax	pmax		
	comp=Z,404nm,0.7s						
SKR				smax	smax		
	comp=E,1μm,1.1s						
SKR				smax	smax		
	comp=N,3μm,0.7s						
SKR				MLR	MLR		
	comp=Z,7μm,12.0s						
SKR				MLR	MLR		
	comp=Z,9μm,14.0s						
ALID	Alaid	3.36	248	*e*P	Pn	19 38 17.9	-0.1
ALID	Alaid	3.36	248	PN	Pn	19 38 17.9	-0.1
BZMR	Bezymyannaya	3.74	0	*e*P	Pn	19 38 24.3	+1.1
BZMR	Bezymyannaya	3.74	0	PN	Pn	19 38 24.3	+1.1
BZGR	Bezymyannyi-Gr	3.75	2	*e*P	Pn	19 38 25.0	+1.8
BZGR	Bezymyannyi-Gr	3.75	2	PN	Pn	19 38 25.0	+1.8
BZWR	Bezymyannyi-We	3.77	0	*e*P	Pn	19 38 24.6	+1.0
BZWR	Bezymyannyi-We	3.77	0	PN	Pn	19 38 24.6	+1.0
KPT	Kopyto	3.77	358	*e*P	Pn	19 38 25.2	+1.6
KPT	Kopyto	3.77	358	PN	Pn	19 38 25.2	+1.6
ESO	Esso	3.87	345	*e*P	Pn	19 38 25.1	+0.2
ESO	Esso	3.87	345	PN	Pn	19 38 25.1	+0.2
KOZ	Kozyrevsk	3.88	355	*e*P	Pn	19 38 25.8	+0.8
KOZ	Kozyrevsk	3.88	355	PN	Pn	19 38 25.8	+0.8
LGNR	Loginova	3.89	2	*e*P	Pn	19 38 26.2	+0.8
LGNR	Loginova	3.89	2	PN	Pn	19 38 26.2	+0.8
CIRR	Tsirk	3.92	2	*e*P	Pn	19 38 27.3	+1.6
CIRR	Tsirk	3.92	2	PN	Pn	19 38 27.3	+1.6
KLY	Klyuchi	4.12	1	*e*P	Pn	19 38 29.8	+1.6
KLY	Klyuchi	4.12	1	PN	Pn	19 38 29.8	+1.6
SRDR	Sredinnyy	4.14	354	*e*P	Pn	19 38 29.5	+0.8
SRDR	Sredinnyy	4.14	354	PN	Pn	19 38 29.5	+0.8
KBTR	Krutoberegovo	4.24	18	*e*P	Pn	19 38 29.5	-0.4
KBTR	Krutoberegovo	4.24	18	PN	Pn	19 38 29.5	-0.4
KBG	Krutoberegovo	4.26	17	*e*P	Pn	19 38 30.0	-0.2
KBG	Krutoberegovo	4.26	17	PN	Pn	19 38 30.0	-0.2
BDR	Baidarnaya	4.39	5	*e*P	Pn	19 38 33.4	+1.3
BDR	Baidarnaya	4.39	5	PN	Pn	19 38 33.4	+1.3
SMKR	Semkarok	4.42	7	*e*P	Pn	19 38 33.4	+0.9
SMKR	Semkarok	4.42	7	PN	Pn	19 38 33.4	+0.9
BKI	Bering	4.43	45	*e*P	Pn	19 38 31.7	-0.8
BKI				*e*S	Sn	19 39 18.0	-4.8
BKI	Bering	4.43	45	PN	Pn	19 38 31.7	-0.8
SRKR	Sorokina	4.48	5	*e*P	Pn	19 38 34.2	+1.0
SRKR	Sorokina	4.48	5	PN	Pn	19 38 34.2	+1.0
PALN	Palana	6.91	358	*e*P	Pn	19 39 07.4	+0.9
PALN	Palana	6.91	358	PN	Pn	19 39 07.4	+0.9
TILK	Tilichiki	8.84	19	*e*P	Pn	19 39 32.9	0.0
TILK	Tilichiki	8.84	19	PN	Pn	19 39 32.9	0.0
MA2	Magadan	9.18	327	*e*Pn	Pn	19 39 38.4	+0.8
MA2	Magadan	9.18	327	Pn	Pn	19 39 37.3	-0.3
	comp=Z,0.2nm,0.3s,baz=133,slow=9.5,SNR=6.2						
TYV	Tymovskoe	11.19	270	*e*PN	Pn	19 40 04.3	-0.9
TYV				pmax	pmax		
	comp=Z,10.0nm,1.2s						
SEY	Seymchan	11.59	341	⇓*e*PN	Pn	19 40 12.0	+1.4
SEY	Seymchan	11.59	341	Pn	Pn	19 40 11.8	+1.2
	comp=Z,0.1nm,0.3s,baz=144,slow=15,SNR=6.3						
YSS	Yuzh-Sakhalins	12.64	252	*e*PN	Pn	19 40 26.4	+1.4
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
ASAJ	Asahikawa	14.39	243	Pn	Pn	19 40 48.2	-0.7
	comp=Z,2.0nm,0.3s,baz=74,slow=12,SNR=31						
BILL	Bilibino	16.13	8	*e*P	Pn	19 41 11.8	+0.2
BILL				pmax	pmax		
	comp=Z,55nm,1.0s						
TEY	Ternei	17.29	255	⇓*e*P	Pn	19 41 26.5	+0.2
TEY				pmax	pmax		
	comp=Z,30nm,0.5s						
TEY				pmax	pmax		
	comp=E,30nm,0.7s						
KLR	Kul'dur	18.39	272	⇓*e*P	P	19 41 39.8	+0.2
KLR	Kul'dur	18.39	272	P	P	19 41 39.4	-0.2
	comp=E,0.4nm,0.3s,baz=58,slow=11,SNR=26						
ZEA	Zeya	19.98	288	*e*P	P	19 41 54.8	-2.1
ZEA				pmax	pmax		
	comp=Z,17nm,1.0s						
USRK	Ussuriysk Ar.	20.51	258	P	P	19 42 00.1	-2.6
	comp=Z,18nm,0.9s,baz=53,slow=11,SNR=21						
MDJ	Mudanjiang	21.74	262	*e*P	P	19 42 12.7	-3.3
	comp=Z,18nm,1.0s						
MJAR	Matsushiro Arr	22.20	234	*e*P	P	19 42 21.2	+0.2
MJAR	Matsushiro Arr	22.20	234	*e*P	P	19 42 21.2	+0.2
MJAR	Matsushiro Arr	22.20	234	P	P	19 42 21.3	+0.3
	comp=Z,24nm,1.0s,baz=20,slow=9.2,SNR=51						
MJB9	Matsu-Tunnel	22.20	234	*e*P	P	19 42 21.0	-0.1
	comp=Z,30nm,0.8s						
MAJO	Matsushiro	22.20	234	*e*P	P	19 42 20.8	-0.2
	comp=Z,29nm,0.8s						
MAJO	Matsushiro	22.20	234	⇑*e*P	P	19 42 21.7	+0.7
MAJO				pmax	pmax		
	comp=Z,45nm,1.1s						
TIXI	Tiksi	23.99	336	*e*P	P	19 42 36.7	-2.0
	comp=Z,3.3nm,0.7s						
TIXI	Tiksi	23.99	336	*d i* P	P	19 42 37.0	-1.7
TIXI				pmax	pmax		
	comp=Z,31nm,0.7s						
TIXI	Tiksi	23.99	336	P	P	19 42 36.7	-2.0
	comp=Z,32nm,0.7s,baz=125,slow=9.0,SNR=143						
HIA	Hailar	25.71	280	*e*P	P	19 42 52.4	-2.2
	comp=Z,45nm,0.8s						
HIA	Hailar	25.71	280	⇓*e*P	P	19 42 52.3	-2.4
HIA				pmax	pmax		
	comp=Z,266nm,0.8s						
BOD	Bodaibo	26.80	301	*e*P	P	19 43 02.3	-2.0
BOD				pmax	pmax		
	comp=Z,17nm,1.3s						
KDAK	Kodiak Island	27.04	59	P	P	19 43 08.9	+2.5
	comp=Z,9.1nm,1.0s,baz=342,slow=3.2,SNR=3.6						
KSRS	Korea Array	27.12	250	P	P	19 43 09.4	+2.1
	comp=Z,4.3nm,0.8s,baz=47,slow=9.5,SNR=16						
KS15	Wonju Array Si	27.15	250	*e*P	P	19 43 09.4	+1.8
JNU	Nakatsue	28.64	240	*e*P	P	19 43 22.5	+1.4
	comp=Z,26nm,1.0s						
JNU	Nakatsue	28.64	240	P	P	19 43 22.0	+1.0
	comp=Z,13nm,0.8s,baz=328,slow=9.5,SNR=3.5						
SCM	Sheep Creek Mo	29.21	50	*e*P	P	19 43 26.4	+0.5
	comp=Z,6.3nm,0.7s						
SCM	Sheep Creek Mo	29.21	50	*e*P	P	19 43 26.4	+0.5
SCM				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ILAR	Eielson Array	29.28	44	P	P	19 43 26.4	-0.1
	comp=Z,0.9nm,0.8s,baz=252,slow=8.2,SNR=8.6						
BCAR	Beaver Creek A	31.64	47	*e*P	P	19 43 48.2	+0.9
H11N2	WAKE ISLAND Hy	32.80	169	T	T	20 19 47.5	
	baz=352,slow=76,SNR=145						
H11N3	WAKE ISLAND Hy	32.81	169	T	T	20 19 43.1	
	baz=352,slow=76,SNR=91						
H11N1	WAKE ISLAND Hy	32.81	169	T	T	20 19 43.2	
	baz=352,slow=76,SNR=128						
ULN	Ulaanbaatar	33.94	284	⇓*e*P	P	19 44 06.1	-1.6
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
H11S1	WAKE ISLAND Hy	33.98	169	T	T	20 21 11.8	
	baz=352,SNR=12						
H11S3	WAKE ISLAND Hy	33.99	169	T	T	20 21 18.2	
	baz=352,slow=74,SNR=20						
H11S2	WAKE ISLAND Hy	34.00	169	T	T	20 21 15.3	
	baz=352,slow=74,SNR=9.6						
TLY	Talaya	34.27	292	⇓*e*P	P	19 44 09.3	-1.1
SONA0	Songino Array	34.35	285	*e*P	P	19 44 09.5	-1.7
SONM	Songino Array	34.35	285	*e*P	P	19 44 10.2	-1.0
SONM	Songino Array	34.35	285	*e*P	P	19 44 10.2	-1.0
SONM	Songino Array	34.35	285	P	P	19 44 09.5	-1.7
	comp=Z,1.7nm,0.6s,baz=70,slow=6.7,SNR=10.0						
TIA	Tai'an	34.37	260	P	P	19 44 11.8	+0.5
TIA				pmax	pmax		
	comp=Z,16nm,0.6s						
INK	Inuvik	34.43	37	*e*P	P	19 44 12.4	+1.0
	comp=Z,3.8nm,0.8s						
INK				*e*PcP	PcP	19 46 46.8	+0.7
INK	Inuvik	34.43	37	*e*P	P	19 44 12.5	+1.0
INK				*e*		19 46 46.8	
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	Inuvik	34.43	37	P	P	19 44 11.8	+0.3
	comp=Z,2.6nm,0.6s,baz=286,slow=8.0,SNR=11						
INK				PcP	PcP	19 46 46.8	+0.7
	comp=Z,2.5nm,0.7s,baz=239,slow=1.3,SNR=3.1						
HHC	Hu-ho-hao-te	34.88	271	*e*P	P	19 44 16.8	+0.9
HHC				S	S	19 49 45.6	+0.9
HHC				pmax	pmax		
	comp=Z,270nm,4.6s						
HHC				LR	LR		
	comp=Z,1μm,12.7s						
HHC				LR	LR		
	comp=Z,880nm,13.2s						
HHC				LR	LR		
	comp=Z,1μm,12.4s						
ZAK	Zakamensk	35.03	290	*e*P	P	19 44 15.6	-1.4
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MOY	Mondy	35.78	293	*e*P	P	19 44 21.9	-1.6
MOY				pmax	pmax		
	comp=Z,19nm,1.4s						
NJ2	Nanjing	36.21	253	*e*P	P	19 44 27.0	-0.2
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NRIK	Noril'sk	36.77	325	P	P	19 44 30.1	-1.5
	comp=Z,4.9nm,0.5s,baz=91,slow=8.3,SNR=6.9						
DLBC	Dease Lake	38.39	52	P	P	19 44 46.2	+0.8
	comp=Z,2.2nm,0.7s,baz=333,slow=2.3,SNR=2.4						
WHN	Wuhan	39.96	256	⇑ *i* P	P	19 44 59.8	+1.0
WHN				pmax	pmax		
	comp=Z,26nm,0.9s						
LZH	Lanzhou	42.58	271	*e*P	P	19 45 19.9	-0.6
LZH				pP	pwP	19 45 32.6	-0.3
LZH				sP	sP	19 45 37.4	+4.4
LZH				pmax	pmax		
	comp=Z,43nm,1.1s						
GTA	Gaotai	42.95	278	⇓P	P	19 45 22.4	-1.0
GTA				pP	pwP	19 45 35.0	-1.0
GTA				sP	sP	19 45 39.0	+3.0
GTA				PcP	PcP	19 47 13.6	+0.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				LR	LR		
	comp=Z,2μm,16.5s						
GTA				LR	LR		
	comp=Z,2μm,14.9s						
GTA				LR	LR		
	comp=Z,2μm,17.8s						
ZALV	Zalesovo Beam	43.46	304	P	P	19 45 24.6	-2.6
	comp=Z,3.6nm,0.7s,baz=60,slow=8.0,SNR=20						
ZALV				PP	PP	19 47 09.2	+0.9
	comp=Z,1.7nm,0.8s,baz=56,slow=13,SNR=2.5						
YKA	Yellowknife Ar	43.66	42	P	P	19 45 29.4	+0.8
	comp=Z,0.7nm,0.7s,baz=299,slow=8.6,SNR=8.1						
NVS	Novosibirsk	43.82	305	⇑ *i* P	P	19 45 28.4	-1.6
NVS				*e*		19 47 09.0	
NVS				pmax	pmax		
	comp=Z,42nm,1.0s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,26nm,1.1s						
RES	Resolute Bay	44.06	22	P	P	19 45 32.6	+0.9
	comp=E,4.7nm,0.8s,baz=310,slow=8.9,SNR=6.6						
DGZ	Jazzator, Alta	44.28	297	*c i* P	P	19 45 32.5	-1.5
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CD2	Chengdu	46.13	265	*e*P	P	19 45 47.3	-1.4
WMQ	Urumqi	47.50	290	*e*P	P	19 45 58.8	-0.5
WMQ				pP	pwP	19 46 14.0	+2.5
WMQ				pmax	pmax		
	comp=Z,45nm,1.1s						
WMQ				LR	LR		
	comp=Z,6μm,16.7s						
GYA	Guiyang	47.55	259	P	P	19 46 00.5	+0.5
GYA				pP	sP	19 46 12.8	+0.2
GYA				sP	pwP	19 46 17.6	+5.3
GYA				PP	PP	19 47 50.5	-1.1
GYA				S	S	19 52 50.1	-2.7
GYA				sS	sS	19 53 07.6	-0.3
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				L

ARCES **ARCESS Array B** 54.21 342 *eP* **P** 19 46 48.6 -0.7
ARCES **ARCESS Array B** 54.21 342 *eP* **P** 19 46 48.7 -0.7
ARCES **ARCESS Array B** 54.21 342 P **P** 19 46 49.3 -0.1
comp=Z,14nm,0.9s,baz=32,slow=7.1,SNR=21
ARU **Arti** 54.22 318 *eP* **P** 19 46 47.5 -2.0
comp=Z,21nm,0.7s
ARU **Arti** 54.22 318⇑ *eP* **P** 19 46 48.4 -1.2
ARU pmax pmax
comp=Z,17nm,0.6s
LSA **Lhasa** 54.73 274 *eP* **P** 19 46 54.4 +0.2
comp=Z,7.7nm,0.8s
LSA **Lhasa** 54.73 274 *eP* **P** 19 46 54.4 +0.2
LSA pmax pmax
comp=Z,8.0nm,0.8s
SUMG **Summit** 54.81 7 *eP* **P** 19 46 54.6 +0.4
comp=Z,15nm,0.9s
SUMG **Summit** 54.81 7⇑ *iP* **P** 19 46 54.7 +0.5
SUMG pmax pmax
comp=Z,36nm,0.9s
SUMG **Summit** 54.81 7⇑ *iP* **P** 19 46 54.7 +0.5
comp=Z,36nm,0.9s
BOOM **Boomskoye usch** 54.99 296 *eP* **P** 19 46 55.2 -0.4
comp=Z,8.1nm,0.9s
BOOM **Boomskoye usch** 54.99 296 *eP* **P** 19 46 55.2 -0.4
BOOM pmax pmax
comp=Z,8.0nm,0.9s
PRGR **Permogore** 55.32 328⇑ *iP* **P** 19 46 56.7 -0.8
PRGR pmax pmax
comp=Z,36nm,0.6s
TMCR **Tamitsa** 55.68 333 *eP* **P** 19 46 59.3 -0.7
TMCR pmax pmax
comp=Z,55nm,0.8s
AAK **Ala-Archa** 55.69 297⇓ *eP* **P** 19 46 59.4 -1.3
AAK pmax pmax
comp=Z,10.0nm,0.8s
SGF **Sodankyl** 55.78 340 P **P** 19 47 00.7 0.0
SGF pmax pmax
comp=Z,20nm,1.2s
NVAR **Mina Array Bea** 55.82 70 P **P** 19 47 04.2 +2.4
comp=Z,0.7nm,0.5s,baz=295,slow=6.9,SNR=5.6
PANO **Nakornpanom** 55.87 253 P **P** 19 47 05.0 +3.0
comp=Z,0.4nm,0.9s,comp=Z,135nm
SKNT **Sakolnakorn** 56.38 253 P **P** 19 47 07.0 +1.4
comp=Z,14nm,1.1s
MSF **Maaselka** 56.53 338 P **P** 19 47 06.2 +0.1
MSF pmax pmax
comp=Z,68nm,1.1s
KSH **Kashi** 56.97 293 P **P** 19 47 12.6 +2.8
KSH pP pwP 19 47 24.4 +2.3
KSH PP **PP** 19 49 20.1 +3.9
KSH S **S** 19 55 00.8 -0.8
KSH SS **SS** 19 58 51.8 +2.1
KSH pmax pmax
comp=Z,13nm,0.3s
PAYA **Payao** 56.99 259 P **P** 19 47 11.5 +1.5
comp=Z,36µm,0.8s,comp=Z,292µm
SHL **Shillong** 57.24 270 P **P** 19 47 11.2 -0.7
SHL pmax pmax
comp=Z,11nm,0.7s
PHRA **Phrae** 57.43 258 P **P** 19 47 14.3 +1.2
comp=Z,3.6nm,1.0s,comp=Z,224nm
KHON **Khomkaen** 57.56 254 P **P** 19 47 16.2 +2.2
comp=Z,39µm,1.0s
PDAR **Pinedale Array** 57.75 61 *eP* **P** 19 47 16.7 +1.3
PDAR **Pinedale Array** 57.75 61 P **P** 19 47 17.1 +1.8
comp=Z,1.3nm,0.7s,baz=304,slow=2.8,SNR=13
LAMP **Lampang** 57.77 258 P **P** 19 47 17.1 +1.6
comp=Z,32µm,0.9s,comp=Z,292µm
UTTA **Uttaradit** 57.82 257 P **P** 19 47 17.0 +1.2
comp=Z,30µm,0.9s,comp=Z,225µm
KLMR **Klimovskoe** 57.84 330⇑ *iP* **P** 19 47 14.8 -0.6
KLMR pmax pmax
comp=Z,31nm,0.8s
OUL **Oulu** 57.93 339 P **P** 19 47 15.9 0.0
OUL pmax pmax
comp=Z,43nm,1.1s
CMMT **Chiang Mai** 57.96 259 P **P** 19 47 17.6 +0.7
comp=Z,13nm,1.1s
CHTO **Chiang Mai** 57.97 259 *eP* **P** 19 47 17.7 +0.8
comp=Z,18nm,0.9s
CHTO **Chiang Mai** 57.97 259 *eP* **P** 19 47 17.7 +0.8
CHTO pmax pmax
comp=Z,18nm,0.9s
CM31 **Chiang Mai Arr** 58.24 259 *eP* **P** 19 47 19.9 +1.1
comp=Z,12nm,0.8s
CMAR **Chiang Mai Arr** 58.24 259 P **P** 19 47 19.7 +0.9
comp=Z,9.6nm,0.9s,baz=25,slow=7.0,SNR=66
CHAI **Chaiyaphum** 58.40 254 P **P** 19 47 21.3 +1.4
comp=Z,19µm,1.0s
JOF **Joensuu** 58.47 335 P **P** 19 47 19.5 -0.3
JOF pmax pmax
comp=Z,45nm,1.0s
ABKAR **Akbulak array** 58.56 311 *eP* **P** 19 47 19.1 -1.5
ODAN **Odare** 59.06 275 *eP* **P** 19 47 23.8 -0.9
JIRN **Jiri** 59.22 276 *eP* **P** 19 47 25.1 -0.9
comp=Z,29nm,0.7s
ULM **Lac du Bonnet** 59.26 47 P **P** 19 47 25.7 +0.2
comp=Z,3.6nm,0.9s,baz=297,slow=6.8,SNR=3.2
RAMN **Ramite** 59.48 275 *eP* **P** 19 47 26.7 -1.0
comp=Z,62nm,0.7s
KKN **Kakani** 59.68 277 *eP* **P** 19 47 28.0 -1.0
comp=Z,30nm,0.6s
RSSD **Black Hills** 59.70 56 P **P** 19 47 30.7 +1.8
RSSD pmax pmax
comp=Z,11nm,1.0s
PKI **Pulchoki** 59.76 277 *eP* **P** 19 47 28.5 -1.2
comp=Z,24nm,0.7s
PKIN **Phulchoki** 59.77 277 *eP* **P** 19 47 28.5 -1.1
comp=Z,18nm,0.6s
SUF **Sumiainen** 59.91 338 P **P** 19 47 29.8 +0.1
SUF pmax pmax
comp=Z,70nm,1.1s
DMN **Daman** 59.92 277 *eP* **P** 19 47 30.0 -0.7
comp=Z,42nm,0.7s
UMPA **Umpang Tak** 60.03 257 P **P** 19 47 34.2 +3.0
comp=Z,41µm,0.9s,comp=Z,360µm
DANN **Dangsing** 60.21 279 *eP* **P** 19 47 32.0 -0.7
comp=Z,48nm,0.7s
VAF **Ylistaro** 60.41 339 P **P** 19 47 34.1 +1.0
VAF pmax pmax
comp=Z,38nm,1.1s
KOLN **Koldanda** 60.72 278 *eP* **P** 19 47 35.1 -1.0
comp=Z,28nm,0.7s
PYUN **Piuthan** 60.86 279 *eP* **P** 19 47 35.9 -1.1
comp=Z,33nm,0.8s
FINES **FINESS Array B** 61.03 337 P **P** 19 47 37.5 +0.1
comp=Z,20nm,0.5s,baz=36,slow=7.7,SNR=120
PHET **Kaeng Krachan** 62.15 254 P **P** 19 47 47.8 +2.3
comp=Z,56µm,0.8s
MOS **Moscow** 62.54 328 *eP* **P** 19 47 46.0 -1.6
MOS pmax pmax
comp=Z,43nm,1.2s
OBN **Obninsk** 63.40 328 *deP* **P** 19 47 52.5 -0.8
OBN *e* 19 48 27.3
OBN *e* 19 50 11.5
OBN pmax pmax
comp=Z,50nm,1.7s
VSU **Vasula** 63.46 335⇑ *eP* **P** 19 47 53.5 -0.2
VSU pmax pmax
comp=Z,62nm,0.7s
VSU **Vasula** 63.46 335 *eP* **P** 19 47 53.1 -0.6
VSU IAmb IAmb 19 47 54.2
comp=Z,57nm,0.7s
NB2 **NORSAR Subarra** 64.46 344 P **P** 19 47 59.9 -0.4
comp=Z,5.2nm,0.6s,baz=22,slow=6.9
NB2 **NORSAR Subarra** 64.46 344 P **P** 19 47 57.0 -3.3
NB2 pmax pmax
comp=Z,6.0nm,0.6s
NOA **NORSAR Array B** 64.46 344 P **P** 19 48 00.0 -0.4
NOA **NORSAR Array B** 64.46 344 P **P** 19 47 60.0 -0.4
comp=Z,7.2nm,0.7s,baz=21,slow=6.6,SNR=36
LPSR **Galich'ya Gora** 64.65 325 *eP* **P** 19 48 00.7 -0.9
LPSR pmax pmax
comp=Z,30nm,0.8s
NORES **NORESS Array B** 64.69 344 P **P** 19 48 02.2 +0.4
VRH **Novokhopyorsk** 64.76 322 *eP* **P** 19 48 00.8 -1.5
VRH pmax pmax
comp=Z,20nm,0.7s
SLIT **Slitere, Latvi** 65.31 337 *eP* **P** 19 48 05.6 -0.2
SLIT IAmb IAmb 19 48 07.0
comp=Z,297nm,0.7s
VSR **Storozhevoye** 65.69 324⇓ *eP* **P** 19 48 06.9 -1.5
VSR pmax pmax
comp=Z,24nm,0.8s
VORD **Divnogorie** 65.85 324 *eP* **P** 19 48 08.0 -1.4
VORD pmax pmax
comp=Z,20nm,1.0s
IZAR **Zarasai** 65.96 334 *eP* **P** 19 48 09.8 -0.3
IZAR IAmb IAmb 19 48 11.3
comp=Z,8.7nm,0.7s
ISAL **Salakas** 66.15 334 *eP* **P** 19 48 11.0 -0.2
ISAL IAmb IAmb 19 48 11.7
comp=Z,11nm,1.1s
IDID **Didziasalis** 66.20 333 *eP* **P** 19 48 11.2 -0.4
IDID IAmb IAmb 19 48 13.0
comp=Z,10nm,0.9s
IIGN **Ignalina** 66.32 333 *eP* **P** 19 48 12.4 +0.1
IIGN IAmb IAmb 19 48 13.8
comp=Z,17nm,0.6s
SCHQ **Schefferville** 66.33 28 P **P** 19 48 12.7 +0.2
comp=Z,10nm,0.8s,baz=330,slow=5.4,SNR=5.0
MICGM **Minsk** 66.59 332 *e* **P** 19 48 13.0 -1.1
MNK **Minsk** 66.59 332 *eP* **P** 19 48 13.0 -1.1
PABE **Paberze** 66.78 335 *eP* **P** 19 48 15.3 0.0
PABE IAmb IAmb 19 48 16.6
comp=Z,53nm,0.7s
PBUR **Paburg** 66.84 336 *eP* **P** 19 48 15.6 0.0
PBUR IAmb IAmb 19 48 17.0
comp=Z,27nm,0.7s
GEYT **Alibeck** 67.78 303 P **P** 19 48 21.5 -0.4
comp=Z,6.6nm,0.8s,baz=0.0,slow=3.7,SNR=14
AKASG **Malin Array Be** 69.50 329 P **P** 19 48 31.5 -0.9
comp=Z,6.1nm,0.5s,baz=30,slow=6.4,SNR=40
KIEV **Kiev** 69.51 329 *eP* **P** 19 48 31.8 -0.7
comp=Z,16nm,0.8s
KIEV **Kiev** 69.51 329⇓ *iP* **P** 19 48 31.9 -0.5
KIEV **Kiev** 69.51 329⇓ *eP* **P** 19 48 32.0 -0.5
KIEV pmax pmax
comp=Z,18nm,1.0s
KIV **Kislovodsk** 70.25 317⇑ *iP* **P** 19 48 37.9 +0.6
KIV **Kislovodsk** 70.25 317 *eP* **P** 19 48 37.1 -0.2
KIV pmax pmax
comp=Z,21nm,1.0s
KBZ **Khabaz** 70.35 317 P **P** 19 48 38.1 +0.4
comp=Z,10.0nm,0.8s,baz=52,slow=3.8,SNR=17
GKP **Gorka Klasztor** 70.49 338 *eP* **P** 19 48 41.3 +2.9
GKP **Gorka Klasztor** 70.49 338 *eP* **P** 19 48 41.3 +2.9
ZEI **Tsey** 70.69 316 *eP* **P** 19 48 38.5 -1.6
ZEI pmax pmax
comp=Z,7.0nm,0.8s
TX31 **Lajitas Ar. Si** 70.76 67 *eP* **P** 19 48 42.0 +1.4
comp=Z,1.6nm,0.6s
LTX **Lajitas** 70.77 67 *eP* **P** 19 48 41.8 +1.2
LTX **Lajitas** 70.77 67 *eP* **P** 19 48 41.8 +1.2
TXAR **Lajitas Array** 70.77 67 P **P** 19 48 41.8 +1.2
comp=Z,0.9nm,0.7s,baz=296,slow=4.2,SNR=13
BEL **Belsk** 70.92 335 *eP* **P** 19 48 42.1 +1.0
BEL **Belsk** 70.92 335 *eP* **P** 19 48 42.1 +1.0
HYB **Hyderabad** 71.52 275⇑ *iP* **P** 19 48 45.0 -0.3
comp=Z,35nm,0.8s
EKA **Eskdalemuir Ar** 71.97 350 P **P** 19 48 46.9 -0.5
EKA pmax pmax
comp=Z,2.0nm,0.4s
AKH **Akhalkalaki** 71.98 315⇑ *iP* **P** 19 48 48.5 +0.6
AKH **Akhalkalaki** 71.98 315 P **P** 19 48 48.5 +0.6
KWP **Kalwaria Pacla** 72.39 333 *eP* **P** 19 48 50.2 +0.2
KWP **Kalwaria Pacla** 72.39 333 *eP* **P** 19 48 50.2 +0.2
GNI **Garni** 72.46 314⇓ *eP* **P** 19 48 51.9 +1.1
GNI pmax pmax
comp=Z,83nm,1.3s
OJC **Ojcow** 72.65 335 *eP* **P** 19 48 51.7 +0.2
OJC **Ojcow** 72.65 335 *eP* **P** 19 48 51.7 +0.2
KSP **Ksiaz** 72.95 337 *eP* **P** 19 48 53.6 +0.3
KSP **Ksiaz** 72.95 337 *eP* **P** 19 48 53.6 +0.3
KOLS **Kolonicke sedl** 73.15 333 *eP* **P** 19 48 54.7 +0.2
KOLS pmax pmax
comp=Z,8.0nm,1.1s
KOLS **Kolonicke sedl** 73.15 333 *eP* **P** 19 48 54.7 +0.2
NIE **Niedzica** 73.25 334 *eP* **P** 19 48 55.8 +0.7
NIE **Niedzica** 73.25 334 *eP* **P** 19 48 55.8 +0.7
CLL **Collm** 73.27 339⇑ *iP* **P** 19 48 54.9 -0.3
CLL *e* 19 49 10.0
CLL pmax pmax
comp=Z,14nm,0.8s
CLL **Collm** 73.27 339⇑ *iP* **P** 19 48 54.9 -0.3
comp=Z,14nm,0.8s
CLL *es*P **pwP** 19 49 10.0 +1.2
UPC **Upice** 73.33 337 *eP* **P** 19 48 56.3 +0.7
UPC **Upice** 73.33 337 *eP* **P** 19 48 56.3 +0.7
DPC **Dobruska-Polom** 73.41 337 *eP* **P** 19 48 57.0 +1.0
DPC *e* 19 49 07.7
DPC **Dobruska-Polom** 73.41 337 *eP* **P** 19 48 57.0 +1.0
DPC *ep*P **sP** 19 49 07.7 -1.3
OKC **Ostrava-Krasne** 73.43 336 *eP* **P** 19 48 56.5 +0.4
OKC **Ostrava-Krasne** 73.43 336 *eP* **P** 19 48 56.5 +0.4
BURAR **Bucovina Array** 73.47 330⇑ *iP* **P** 19 48 56.5 -0.1
BURAR **Bucovina Array** 73.47 330 P **P** 19 48 56.4 -0.1
BRG **Berggiesshubel** 73.47 339 *eP* **P** 19 48 56.3 0.0
comp=Z,6.0nm,1.0s
BRG **Berggiesshubel** 73.47 339 *eP* **P** 19 48 56.3 0.0
BRG pmax pmax
comp=Z,6.0nm,1.0s
MORC **Moravsky Berou** 73.64 336⇑ *iP* **P** 19 48 58.2 +0.8
MORC **Moravsky Berou** 73.64 336 P **P** 19 48 58.1 +0.7
MORC **Moravsky Berou** 73.64 336 *eP* **P** 19 48 58.1 +0.7
PVCC **Panska Ves** 73.65 338 *eP* **P** 19 48 58.3 +0.9
PVCC **Panska Ves** 73.65 338 *eP* **P** 19 48 58.3 +0.9
LANS **Liptovska Anna** 73.72 335 *eP* **P** 19 48 59.3 +1.4
LANS **Liptovska Anna** 73.72 335 *eP* **P** 19 48 59.3 +1.4
BIZ **Bicaz** 73.79 329⇑ *iP* **P** 19 48 58.3 0.0
TRPA **Tarpa** 73.80 332⇑ *iP* **P** 19 48 58.9 +0.6
TRPA **Tarpa** 73.80 332 *eP* **P** 19 48 59.1 +0.8
WTSB **Winterswijk** 73.86 343 *eP* **P** 19 48 59.2 +0.6
comp=Z,13nm,0.6s
TESR **Tescani** 74.00 329⇓ *iP* **P** 19 48 59.4 -0.1
PRU **Pruhonice** 74.16 338 *eP* **P** 19 49 01.1 +0.7
PRU *e* 19 49 13.0
PRU **Pruhonice** 74.16 338 *eP* **P** 19 49 01.1 +0.7
PRU *ep*P **sP** 19 49 13.0 -0.4
GOPC **GO Pecny, Ondr** 74.17 338 *eP* **P** 19 49 00.9 +0.4
GOPC *e* 19 49 13.0
GOPC **GO Pecny, Ondr** 74.17 338 *eP* **P** 19 49 00.9 +0.4
GOPC *ep*P **sP** 19 49 13.0 -0.5
VRAC **Vranov** 74.31 336⇓ *iP* **P** 19 49 02.4 +1.1
VRAC **Vranov** 74.31 336 P **P** 19 49 02.4 +1.1
VRAC **Vranov** 74.31 336 *eP* **P** 19 49 02.0 +0.7
NKC **Novy Kostel** 74.40 339 *eP* **P** 19 49 02.3 +0.4
NKC **Novy Kostel** 74.40 339 *eP* **P** 19 49 02.3 +0.4
JAVC **Velka Javorina** 74.45 336 *eP* **P** 19 49 03.6 +1.4
VYHS **Vyhne** 74.48 335 *eP* **P** 19 49 03.0 +0.6
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS **Vyhne** 74.48 335 *eP* **P** 19 49 03.0 +0.6
VRI **Vrincioaia** 74.55 328⇓ *iP* **P** 19 49 03.2 +0.4
VRI **Vrincioaia** 74.55 328 P **P** 19 49 03.2 +0.4
KRUC **Moravsky** 74.58 336 *eP* **P** 19 49 03.4 +0.5
PLOR **Plostina** 74.58 328⇑ *iP* **P** 19 49 03.2 +0.2
PLOR **Plostina** 74.58 328 P **P** 19 49 03.2 +0.2
TREC **Trest** 74.59 337 *eP* **P** 19 49 03.3 +0.4
TREC **Trest** 74.59 337 *eP* **P** 19 49 03.3 +0.4
LTVH **Ltavrtes, Hu** 74.65 332 *eP* **P** 19 49 06.1 +2.8
CFR **Carcaliu** 74.69 327⇓ *iP* **P** 19 49 03.5 -0.1
CFR **Carcaliu** 74.69 327 P **P** 19 49 03.5 -0.1
PSZ **Piszkesteto** 74.73 334⇑ *iP* **P** 19 49 05.3 +1.4
PSZ **Piszkesteto** 74.73 334 P **P** 19 49 05.2 +1.4
SMOL **Smolenice** 74.83 336 *eP* **P** 19 49 06.0 +1.7
SMOL **Smolenice** 74.83 336 *eP* **P** 19 49 06.0 +1.7
DOPR **Dopca** 74.88 329⇑ *iP* **P** 19 49 05.5 +0.8
DRGR 74.96 331⇓ *iP* **P** 19 49 05.6 +0.4
DRGR 74.96 331 P **P** 19 49 05.5 +0.4
MODS **Modra-Piesok** 75.00 336 *eP* **P** 19 49 06.0 +0.7
MODS pmax pmax
comp=Z,7.0nm,0.9s
MODS **Modra-Piesok** 75.00 336 *eP* **P** 19 49 06.0 +0.7
MLR **Muntele Rosu** 75.13 329⇑ *iP* **P** 19 49 07.0 +0.7
MLR **Muntele Rosu** 75.13 329 P **P** 19 49 07.0 +0.7
HGN **Heimansgroeve** 75.17 344 *eP* **P** 19 49 07.0 +0.7
comp=Z,13nm,0.1s
GRF **Grafenberg Arr** 75.18 340 P **P** 19 49 07.9 +1.6
DIKM **Dikmen** 75.18 321⇑ *iP* **P** 19 49 07.0 +0.5
KHC **Kasperske Hory** 75.19 338 *eP* **P** 19 49 07.2 +0.8
KHC *e* 19 49 19.3
KHC **Kasperske Hory** 75.19 338 *eP* **P** 19 49 07.2 +0.8
KHC *ep*P **sP** 19 49 19.3 -0.1
HARR **Harsova** 75.19 327⇑ *iP* **P** 19 49 06.8 +0.3
HARR **Harsova** 75.19 327 P **P** 19 49 06.7 +0.3
TLB **Topalu** 75.25 327⇑ *iP* **P** 19 49 07.3 +0.5
TLB **Topalu** 75.25 327 P **P** 19 49 07.3 +0.5
WR1 **Warramunga Arr** 75.38 205 *eP* **P** 19 49 08.6 +0.9
WRA **Warramunga Arr** 75.38 205 P **P** 19 49 08.6 +0.9
comp=Z,2.7nm,0.9s,baz=2.3,slow=5.1,SNR=12
GERES **GERESS Array B** 75.43 338 P **P** 19 49 08.2 +0.3
comp=Z,3.0nm,0.8s,baz=44,slow=5.9,SNR=22
VOIR 75.46 329⇓ *iP* **P** 19 49 08.8 +0.6
VOIR 75.46 329 P **P** 19 49 08.7 +0.6
ARR **Arges** 75.66 330⇓ *iP* **P** 19 49 10.5 +1.3
CSKK **Cskako** 75.68 335 *eP* **P** 19 49 11.1 +1.8
ICOR **Ion Corvin** 75.74 327⇑ *iP* **P** 19 49 10.4 +0.8
SOP **Sopron** 75.82 336 P **P** 19 49 11.9 +1.9
GIVF **Givet** 76.00 344 *eP* **P** 19 49 11.0 0.0
GIVF pmax pmax
comp=Z,6.0nm,0.8s
BAIF **Baives** 76.14 345 *eP* **P** 19 49 12.0 +0.2
BAIF pmax pmax
comp=Z,8.0nm,0.8s
GZR **Gura Zlata** 76.20 331⇓ *iP* **P** 19 49 12.4 +0.1
MOA **Molln** 76.23 337 *eP* **P** 19 49 13.2 +0.8
comp=Z,4.4nm,0.9s
BZS **Buzias** 76.34 332⇑ *iP* **P** 19 49 12.8 -0.3
BZS **Buzias** 76.34 332 P **P** 19 49 12.7 -0.3
STU **Stuttgart** 76.47 341 P **P** 19 49 17.5 +3.8
ARSA **Arzberg** 76.48 336 *eP* **P** 19 49 14.1 +0.2
comp=Z,7.2nm,0.9s
HERR **Herculane** 76.77 331⇓ *iP* **P** 19 49 15.4 -0.1
BFO **Black Forest** 77.06 341 *eP* **P** 19 49 16.6 -0.5
comp=Z,5.1nm,1.0s
BFO **Black Forest** 77.06 341 *eP* **P** 19 49 16.6 -0.5
BFO pmax pmax
comp=Z,5.0nm,1.0s
SOKA **Soboth** 77.14 336 *eP* **P** 19 49 18.4 +0.8
comp=Z,11nm,1.0s,SNR=5.6
PUNG **Punghina** 77.16 330⇓ *iP* **P** 19 49 17.4 -0.3
KBA **Koelnbreinsper** 77.17 338 *eP* **P** 19 49 19.3 +1.3
comp=Z,24nm,0.8s,SNR=12
KBA **Koelnbreinsper** 77.17 338 P **P** 19 49 19.2 +1.3
CDF **Champ du Feu** 77.19 342 *eP* **P** 19 49 18.0 +0.1
CDF pmax pmax
comp=Z,9.0nm,0.8s
WATA **Walderalm** 77.33 339 *eP* **P** 19 49 19.7 +1.0
comp=Z,3.7nm,0.8s
RETA **Reutte** 77.36 339 *eP* **P** 19 49 19.4 +0.6
comp=Z,5.3nm,0.9s
WTTA **Wattenberg** 77.38 339 *eP* **P** 19 49 20.3 +1.2
comp=Z,12nm,1.0s
OBKA **Obir** 77.42 337 *eP* **P** 19 49 20.0 +0.8
comp=Z,12nm,1.0s
MOTA **Moosalm** 77.42 339 *i* P **P** 19 49 20.1 +0.8
comp=Z,8.6nm,0.9s,SNR=9.5
BRTR **Keskin Array B** 77.46 321 P **P** 19 49 19.8 +0.1
comp=Z,4.0nm,0.9s,baz=44,slow=3.8,SNR=29
SQTA **Sankt Quirin** 77.52 339 *eP* **P** 19 49 20.9 +1.1
comp=Z,11nm,0.8s,SNR=5.0
MYKA **Terra Mystica** 77.52 337 *eP* **P** 19 49 21.4 +1.6
comp=Z,2.0nm,0.5s
ABTA **Abfaltersbach** 77.67 338 *eP* **P** 19 49 21.1 +0.5
comp=Z,7.1nm,0.7s
DAVA **Damuels** 77.74 340 *i* P **P** 19 49 21.8 +0.7
comp=Z,13nm,1.2s
HAU **Haudompre** 77.75 343 *eP* **P** 19 49 21.0 +0.1
HAU pmax pmax
comp=Z,6.0nm,0.7s
FETA **Feichten** 77.81 339 *eP* **P** 19 49 22.5 +1.1
comp=Z,8.7nm,0.9s
HINF **Hinteralfeld** 77.84 342 *eP* **P** 19 49 21.3 -0.2
HINF pmax pmax
comp=Z,9.0nm,1.2s
FLN **La Foliniere** 78.11 347 *eP* **P** 19 49 22.8 -0.1
FLN pmax pmax
comp=Z,23nm,1.3s
LDF **La Druitiere** 78.23 347 *eP* **P** 19 49 22.5 -1.0
LDF pmax pmax
comp=Z,16nm,1.3s
FUORN **Ofenpass-Fuorn** 78.29 340 *eP* **P** 19 49 25.7 +1.4
comp=Z,7.8nm,0.8s
GRR **Gorron** 78.53 347 *eP* **P** 19 49 25.3 +0.1
GRR pmax pmax
comp=Z,14nm,0.9s
PLD **Plovdiv** 78.56 328 *eP* **P** 19 49 26.2 +0.7
VTS **Vitosha** 78.57 329⇑ *iP* **P** 19 49 25.8 0.0
VTS **Vitosha** 78.57 329 P **P** 19 49 25.7 0.0
SGMF **Saint Gilles** 78.88 349 *eP* **P** 19 49 27.3 +0.2
SGMF pmax pmax
comp=Z,20nm,0.8s
ROSF **Rostrenen** 78.88 349 *eP* **P** 19 49 27.4 +0.3
ROSF pmax pmax
comp=Z,16nm,0.9s
LOR **Lormes** 78.90 344 *eP* **P** 19 49 27.4 +0.1
LOR pmax pmax
comp=Z,10.0nm,0.9s
AS31 **Alice Springs** 79.05 205 *eP* **P** 19 49 29.4 +1.2
comp=Z,0.8nm,0.7s
ASAR **Alice Springs** 79.05 205 P **P** 19 49 29.4 +1.2
comp=Z,1.5nm,0.6s,baz=16,slow=5.7,SNR=30
CABF **La Chapelle** 79.14 342 *eP* **P** 19 49 29.2 +0.5
CABF pmax pmax
comp=Z,10.0nm,1.0s
SSF **Saint Saulge** 79.16 344 *eP* **P** 19 49 28.9 +0.2
SSF pmax pmax
comp=Z,5.0nm,0.7s
AVF **Avril sur Loir** 79.45 344 *eP* **P** 19 49 30.6 +0.3
AVF pmax pmax
comp=Z,12nm,0.8s
SMF **Signal de Mont** 79.51 344 *eP* **P** 19 49 30.9 +0.3
SMF pmax pmax
comp=Z,11nm,1.1s
STIP **Stip** 79.73 330 *i* P **P** 19 49 30.7 -1.2
BGF **Bois d'Agland** 79.76 345 *eP* **P** 19 49 32.3 +0.3
BGF pmax pmax
comp=Z,7.0nm,0.8s
SRS **Serrai** 79.81 328 P **P** 19 49 32.3 -0.1
VAY **Valandovo** 79.95 329 *i* P **P** 19 49 33.2 +0.1
LPL **La Plagne** 80.07 342 *eP* **P** 19 49 35.0 +1.0
LPL pmax pmax
comp=Z,12nm,0.7s
LPG **La Plagne** 80.09 342 *eP* **P** 19 49 35.3 +1.2
LPG pmax pmax
comp=Z,17nm,0.8s
TCF **Toulx Ste Croi** 80.13 345 *eP* **P** 19 49 34.4 +0.4
TCF pmax pmax
comp=Z,10.0nm,0.9s
MFF **Saint Martin d** 80.18 347 *eP* **P** 19 49 34.7 +0.5
MFF pmax pmax
comp=Z,8.0nm,0.8s
ORIF **Oris-en-Rattie** 80.81 342 *eP* **P** 19 49 38.9 +1.1
ORIF pmax pmax
comp=Z,16nm,0.9s
FNA **Florina** 80.82 330 P **P** 19 49 40.4 +2.6
VIVF **Saint-Julien-l** 81.10 343 *eP* **P** 19 49 40.1 +0.9
VIVF pmax pmax
comp=Z,11nm,0.9s
CAF **Calviac** 81.48 345 *eP* **P** 19 49 42.3 +1.1
CAF pmax pmax
comp=Z,8.0nm,0.8s
SBF **Sospel** 81.52 341 *eP* **P** 19 49 43.9 +2.4
SBF pmax pmax
comp=Z,23nm,1.0s
LFF **La Frestale** 81.67 346 *eP* **P** 19 49 43.2 +1.0
LFF pmax pmax
comp=Z,23nm,1.3s
CSS **Mathiatis** 81.70 319 *eP* **P** 19 49 42.5 0.0
comp=Z,20nm,0.8s
IGT **Igoumenitsa** 82.28 330 P **P** 19 49 45.8 +0.3
MTLF **Montolieu** 82.99 344 *eP* **P** 19 49 50.3 +1.1
MTLF pmax pmax
comp=Z,11nm,1.0s
EPF **Esparros** 83.60 345 *eP* **P** 19 49 52.8 +0.4
EPF pmax pmax
comp=Z,10.0nm,1.0s
SJPF **Ste Jean** 83.75 347 *eP* **P** 19 49 55.2 +2.1
SJPF pmax pmax
comp=Z,68nm,1.8s
ETSF **Etsaut** 83.86 346 *eP* **P** 19 49 55.0 +1.3
ETSF pmax pmax
comp=Z,12nm,0.7s
PGAV **Gavieira, Arco** 85.70 352 *eP* **P** 19 50 02.9 -0.1
PBRG **Braganca** 85.71 350 *eP* **P** 19 50 04.2 +1.2
POLO **Lamas de Olo** 86.24 351 *eP* **P** 19 50 06.6 +0.9
PVRL **Vila Real** 86.33 351 *eP* **P** 19 50 07.6 +1.5
MVO **Moncorvo** 86.38 351 *eP* **P** 19 50 07.7 +1.3
PVIS **Viseu** 86.91 351 *eP* **P** 19 50 10.5 +1.6
MTE **Manteigas** 87.19 351 *eP* **P** 19 50 12.5 +2.2
ESDC **Sonseca Array** 87.50 348 P **P** 19 50 11.9 +0.1
comp=Z,2.7nm,0.7s,baz=4.2,slow=4.5,SNR=16

PCAS	Casmilo, Conde	87.62 352	*e*P		P	19 50 13.9	+1.6
PCBR	Castelo Branco	87.73 351	*e*P		P	19 50 09.9	-2.9
TORD	Torodi Ar. Bea	112.38 338	PP		PP	19 56 42.7	-2.4
	comp=Z,1.4nm,0.7s,baz=0.6,slow=9.3,SNR=8.3						
PLCA	Paso Flores	143.75 92	PKP		PKPdf	19 56 58.0	-0.6
	comp=Z,0.9nm,0.9s,baz=310,slow=7.9,SNR=2.6						
SYO	Syowa Base	148.12 216⇑	*e*P		PKPbc	19 57 07.0	-1.3
SYO	Syowa Base	148.12 216⇓	*e*P		PKPab	19 57 14.2	+2.9

*IDC **19** 19:38:24.3±1.6,52°.26N×160°.59E,h0km,mb4.3/15, mb1 4.4/16,mb1mx4.2/39,mbtmp4.3/16,ML4.0/1,Error ellipse: s-maj=35.1km s-min=19.6km az=130.0*
*ISCJB **19** 19:38:25.2±0.4,52°.15N±0°.06×160°.77E±0°.06,h24km, mb4.5/34,Error ellipse: s-maj=8.7km s-min=5.6km az=6.3*
*NEIC **19** 19:38:29.3±0.5,52°.34N×160°.59E,h35km,mb4.6/21,Error ellipse: s-maj=11.4km s-min=7.2km az=162.0*
ISC 19 19:38:27.6±0.6,52°.22N±0°.09×160°.58E±0°.06,h24km,n58, σ1$25/61,mb4.5/34,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	Petropavlovsk	1.43	305	*e*Pn	Pb	19 38 53.6	+0.2
PET				*e*Sn	Sb	19 39 12.9	+1.8
PETK	Petropavlovsk-	1.97	298	Pn	Pb	19 39 00.7	-2.0
	35nm,0.3s,baz=144,slow=13,SNR=3.7						
PETK				Sn	Sb	19 39 26.9	+0.1
	122nm,0.3s,baz=259,slow=16,SNR=2.9						
PEA1	Petropavlovsk-	1.97	298	*e*Pn	Pb	19 39 00.7	-2.1
PEA1				*e*Sn	Sb	19 39 26.9	0.0
GSTR	Great Sitkin T	14.33	81	*e*Pn	Pn	19 41 48.2	-0.5
ERM	Erimo	15.61	236	*e*Pn	Pn	19 42 03.2	-2.6
	26nm,1.0s						
KLR	Kul'dur	18.44	272	P	Pn	19 42 42.2	+0.9
	0.5nm,0.3s,baz=92,slow=9.3,SNR=3.7						
USRK	Ussuriysk Ar.	20.57	258	P	P	19 43 03.9	-0.5
	8.0nm,0.9s,baz=46,slow=8.3,SNR=3.7						
MJB9	Matsu-Tunnel	22.25	234	*e*P	P	19 43 25.4	+2.9
	42nm,1.0s						
MAJO	Matsushiro	22.25	234	*e*P	P	19 43 23.3	+0.7
MJAR	Matsushiro Arr	22.25	234	*e*P	P	19 43 25.5	+2.9
MJAR	Matsushiro Arr	22.25	234	P	P	19 43 23.3	+0.7
	17nm,0.9s,baz=18,slow=11,SNR=3.1						
TIXI	Tiksi	24.00	336	*e*P	P	19 43 39.8	-0.1
	1.2nm,0.6s						
TIXI	Tiksi	24.00	336	P	P	19 43 39.8	-0.1
	8.4nm,0.5s,baz=117,slow=11,SNR=7.6						
JHJ2	Mitsune	24.30	226	*e*P	P	19 43 43.4	+0.4
	95nm,0.9s						
CAST	Castle Rocks	26.92	47	*e*P	P	19 44 06.4	-0.1
	7.7nm,1.2s						
KSRS	Korea Array	27.18	250	P	P	19 44 10.3	+1.3
	2.9nm,0.9s,baz=42,slow=9.1,SNR=3.1						
KS15	Wonju Array Si	27.21	250	*e*P	P	19 44 10.3	+1.0
SONA0	Songino Array	34.40	285	*e*P	P	19 45 12.2	-0.6
SONM	Songino Array	34.40	285	*e*P	P	19 45 12.5	-0.3
SONM	Songino Array	34.40	285	P	P	19 45 12.2	-0.6
	1.0nm,0.4s,baz=58,slow=8.0,SNR=5.4						
YULB	Yu-li	41.52	241	*e*P	P	19 46 14.4	+1.6
	55nm,0.3s						
ZAA1	Zalesovo Array	43.50	304	*e*P	P	19 46 27.2	-1.4
ZAA0	Zalesovo Array	43.50	304	*e*P	P	19 46 26.3	-2.3
	2.2nm,0.8s						
ZALV	Zalesovo Beam	43.50	304	P	P	19 46 27.2	-1.5
	1.1nm,0.5s,baz=56,slow=6.9,SNR=2.8						
YKW3	Yellowknife Ar	43.57	42	*e*P	P	19 46 27.8	-1.3
	1.6nm,0.8s						
F03A	Seaside	47.97	66	*e*P	P	19 47 03.7	-0.3
	34nm,1.1s						
SPA0	Spitsbergen Ar	48.05	351	*e*P	P	19 47 06.3	+2.0
	58nm,1.2s						
KURK	Kurchatov	48.45	303	*e*P	P	19 47 06.7	-1.0
	6.0nm,0.9s						
MK31	Makanchi Array	48.81	297	*e*P	P	19 47 08.8	-1.7
	2.2nm,0.5s						
MK32	Makanchi Array	48.81	297	*e*P	P	19 47 08.8	-1.7
MKAR	Makanchi Array	48.81	297	*e*P	P	19 47 09.1	-1.4
MKAR	Makanchi Array	48.81	297	P	P	19 47 08.8	-1.7
	2.7nm,0.5s,baz=53,slow=6.6,SNR=11						
MAKZ	Makanchi	48.97	297	*e*P	P	19 47 10.3	-1.5
	3.9nm,0.9s						
BRVK	Borovoye	51.20	309	*e*P	P	19 47 27.5	-1.0
	4.1nm,0.7s						
LVZ	Lovozero	53.62	338	*e*P	P	19 47 45.5	-0.8
	16nm,1.1s						
EGMT	Eagleton	54.07	56	*e*P	P	19 47 49.3	-0.6
	4.4nm,0.6s						
ARA0	ARCESS Array S	54.21	342	*e*P	P	19 47 50.5	-0.1
ARCES	ARCESS Array B	54.21	342	*e*P	P	19 47 49.5	-1.1
ARCES	ARCESS Array B	54.21	342	P	P	19 47 50.5	-0.1
	3.3nm,0.8s,baz=34,slow=9.8,SNR=4.4						
ARE0	ARCESS Array S	54.21	342	*e*P	P	19 47 49.4	-1.2
	0.7nm,1.1s						
ARU	Arti	54.24	318	*e*P	P	19 47 50.6	-0.4
	6.6nm,0.5s						
MNHB	New Hogan Dam	54.50	72	*e*P	P	19 47 54.2	+1.1
KDJ	Kajisay	54.59	295	*e*P	P	19 47 53.4	-0.5
	3.6nm,0.9s						
CM31	Chiang Mai Arr	58.30	259	*e*P	P	19 48 20.0	-0.4
	3.4nm,0.8s						
CMAR	Chiang Mai Arr	58.30	259	P	P	19 48 21.8	+1.4
	2.0nm,0.7s,baz=37,slow=7.2,SNR=6.1						
DANC	Danby, Needles	60.08	71	*e*P	P	19 48 32.4	-0.2
FIA0	FINESS Array S	61.04	337	*e*P	P	19 48 39.5	+0.8
FINES	FINESS Array B	61.04	337	P	P	19 48 39.5	+0.8
	8.3nm,0.5s,baz=32,slow=9.1,SNR=16						
NB2	NORSAR Subarra	64.47	344	P	P	19 49 02.7	+1.1
	comp=Z,2.2nm,0.6s,baz=22,slow=6.9						
NB200	NORSAR Array S	64.47	344	*e*P	P	19 49 03.0	+1.4
NOA	NORSAR Array B	64.47	344	P	P	19 49 03.0	+1.4
	comp=Z,1.6nm,0.5s,baz=23,slow=6.7,SNR=5.2						
AKASG	Malin Array Be	69.52	329	P	P	19 49 33.9	+0.1
	comp=Z,3.2nm,0.4s,baz=31,slow=6.9,SNR=7.4						
AKBB	Malin Array Si	69.52	329	*e*P	P	19 49 33.9	+0.1
	comp=Z,8.6nm,0.9s						
CLL	Collm	73.28	339	*e*P	P	19 49 57.0	+0.6
BUR08	Bucovina Ar. S	73.46	330	*e*P	P	19 49 58.2	+0.5
	comp=Z,3.8nm,0.6s						
GERES	GERESS Array B	75.43	338	P	P	19 50 10.2	+1.1
	comp=Z,2.7nm,1.1s,baz=39,slow=6.3,SNR=4.1						
BRTR	Keskin Array B	77.48	321	P	P	19 50 21.4	+0.4
	comp=Z,2.0nm,0.9s,baz=32,slow=5.8,SNR=4.3						
ESDC	Sonseca Array	87.50	348	P	P	19 51 12.8	-0.2
	comp=Z,1.2nm,0.7s,baz=358,slow=6.5,SNR=4.1						

*IDC **19** 19:42:33.0±1.0,52°.24N×160°.53E,h0km,mb3.6/9, mb1 3.8/10,mb1mx3.5/43,mbtmp3.7/10,ML3.5/1,Error ellipse: s-maj=25.2km s-min=21.2km az=123.0*
*ISCJB **19** 19:42:35.7±1.0,52°.2N±0°.1×160°.5E±0°.2,h30km,mb3.6/9, Error ellipse: s-maj=21.1km s-min=15.7km az=34.4*
ISC 19 19:42:38.0±1.0,52°.3N±0°.1×160°.3E±0°.1,h30km,n11, σ1$00/11,mb3.7/9,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	1.75	299	Pn	Pb	19 43 09.2	-0.3
	23nm,0.3s,baz=106,slow=20,SNR=10						
ASAJ	Asahikawa	14.31	242	Pn	Pn	19 45 57.5	-0.9
	0.4nm,0.3s,baz=59,slow=12,SNR=3.7						
MJAR	Matsushiro Arr	22.14	233	P	P	19 47 32.1	+1.1
	1.7nm,1.0s,baz=16,slow=13,SNR=4.7						
TIXI	Tiksi	23.84	336	P	P	19 47 47.4	-0.7
	0.8nm,0.4s,baz=123,slow=8.6,SNR=5.2						
MKAR	Makanchi Array	48.59	296	P	P	19 51 17.6	-0.8
	0.4nm,0.5s,baz=61,slow=6.6,SNR=6.5						
CMAR	Chiang Mai Arr	58.12	259	P	P	19 52 30.1	+1.5
	0.6nm,0.7s,baz=36,slow=6.7,SNR=4.8						
FINES	FINESS Array B	60.89	337	P	P	19 52 48.2	+1.1
	1.7nm,0.5s,baz=34,slow=7.8,SNR=11						
NOA	NORSAR Array B	64.33	344	P	P	19 53 11.0	+0.8
	0.5nm,0.7s,baz=18,slow=6.8,SNR=3.2						
AKASG	Malin Array Be	69.34	329	P	P	19 53 42.3	+0.1
	0.4nm,0.4s,baz=30,slow=6.6,SNR=3.1						
TXAR	Lajitas Array	70.86	67	P	P	19 53 51.5	-0.5
	0.1nm,0.5s,baz=294,slow=6.8,SNR=3.3						
ASAR	Alice Springs	79.07	204	P	P	19 54 38.4	-0.7
	0.4nm,0.8s,baz=16,slow=7.0,SNR=4.0						

*KRSC **19** 19:43:14.8±10.0,52°.09N×160°.65E,h53km±10km,ML5.3, FELT [II-III] at Elizovo.*

*IDC **19** 19:43:15.2±0.5,52°.34N×160°.16E,h0km,mb4.5/36, mb1 4.7/40,mb1mx4.6/47,mbtmp4.5/40,ML4.4/3,MS4.5/1, Ms1 4.5/1,ms1mx3.7/41,Error ellipse: s-maj=12.3km s-min=9.3km az=155.0*
*MOS **19** 19:43:19.8±1.0,52°.27N×160°.22E,h45km,mb5.3/85,Error ellipse: s-maj=5.9km s-min=2.8km az=98.9*
*ISCJB **19** 19:43:19.2±0.4,52°.23N±0°.03×160°.33E±0°.03,h43km±2km, mb5.0/170,Error ellipse: s-maj=4.6km s-min=2.6km az=151.0*
*NEIC **19** 19:43:20.3±0.2,52°.32N×160°.26E,h35km,mb4.9/50,Error ellipse: s-maj=7.0km s-min=4.1km az=162.0*
*BJI **19** 19:43:21.5±0.0,52°.75N×159°.69E,h50km,mb4.9/51, mB5.4/7,Ms5.4/11,Ms7 5.2/11*
*GCMT **19** 19:43:22.3±0.5,52°.12N±0°.04×160°.61E±0°.06,h29km±1km, MW5.1/55,Moment Tensor Solution. s26,c37; s55,c79; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.55±.37; $M_{\theta\theta}$-2.83±.25; $M_{\phi\phi}$-1.72±.22; $M_{r\theta}$2.27±.37; $M_{\theta\phi}$-1.89±.12; $M_{\phi r}$1.51±.28; Best double couple: $M_0$5.17400×10^{16} NP1:ϕ$_b$55.00000°,δ61.00000°,λ91.00000°. NP2: ϕ$_b$232.00000°,δ29.00000°,λ87.00000°. Principal axes: T 5.3280, Plg74.0000°, Azm329.0000°; N -0.3090, Plg1.0000°, Azm234.0000°; P -5.0200, Plg16.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 19:43:20.2±0.4,52°.22N±0°.04×160°.39E±0°.03,h39km±4km, h40km:pP-P,n686,σ1$19/715,mb5.0/188,41C-33D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.91	346	*e*P	Pn	19 43 35.0	-1.4
SPN				*e*S	Sn	19 43 47.7	-0.6
SPN	Mys Shipunski	0.91	346	PN	Pn	19 43 35.0	-1.4
SPN				S	Sn	19 43 47.7	-0.6
NLC	Nalytchevo	1.15	327	*e*P	Pn	19 43 39.3	-0.4
NLC				*e*S	Sn	19 43 55.7	+1.6
NLC	Nalytchevo	1.15	327	PN	Pn	19 43 39.3	-0.4
NLC				S	Sn	19 43 55.7	+1.6
RUS	Russkaya	1.17	281	*e*P	Pn	19 43 39.0	-1.0
RUS	Russkaya	1.17	281	PN	Pn	19 43 39.0	-1.0
DALK	Dalny	1.29	310	*e*P	Pn	19 43 40.9	-0.7
DALK				*e*S	Sn	19 43 59.5	+1.9
DALK	Dalny	1.29	310	PN	Pn	19 43 40.9	-0.7
DALK				S	Sn	19 43 59.5	+1.9
PET	Petropavlovsk	1.33	308	*e*Pn	Pn	19 43 41.8	-0.4
PET	Petropavlovsk	1.33	308	α*e*PN	Pn	19 43 41.6	-0.6
PET				*e*S	Sn	19 44 00.9	+2.2
PET				pmax	pmax		
	comp=Z,8μm,1.2s						
PET				pmax	pmax		
	comp=Z,6μm,0.8s						
PET				smax	smax		
	comp=N,7μm,0.4s						
PET				smax	smax		
	comp=E,5μm,0.5s						
UGLR	Uglovaya	1.38	317	*e*P	Pn	19 43 41.9	-1.0
UGLR	Uglovaya	1.38	317	PN	Pn	19 43 41.9	-1.0
MTVR	Mutnovka	1.38	282	*e*P	Pn	19 43 42.6	-0.4
MTVR	Mutnovka	1.38	282	PN	Pn	19 43 42.6	-0.4
SDLR	Sedlovina	1.40	320	*e*P	Pn	19 43 42.5	-0.8
SDLR	Sedlovina	1.40	320	PN	Pn	19 43 42.5	-0.8
SMAR	Somma	1.42	318	*e*P	Pn	19 43 42.1	-1.6
SMAR	Somma	1.42	318	PN	Pn	19 43 42.1	-1.6
AVH	Avacha	1.45	317	*e*P	Pn	19 43 43.9	0.0
AVH	Avacha	1.45	317	PN	Pn	19 43 43.9	0.0
GRL	Gorelyy	1.46	284	*e*P	Pn	19 43 44.6	+0.5
GRL	Gorelyy	1.46	284	PN	Pn	19 43 44.6	+0.5
KRER	Koryakskii	1.48	318	*e*P	Pn	19 43 44.5	+0.1
KRER	Koryakskii	1.48	318	PN	Pn	19 43 44.5	+0.1
KDTR	Khodutka, Kamc	1.49	255	*e*P	Pn	19 43 43.0	-1.3
KDTR				*e*S	Sn	19 44 02.2	-0.3
KDTR	Khodutka, Kamc	1.49	255	PN	Pn	19 43 43.0	-1.3
KDTR				S	Sn	19 44 02.2	-0.3
KRMR	Karymshinskiy	1.51	295	*e*P	Pn	19 43 44.3	-0.4
KRMR				*e*S	Sn	19 44 04.9	+1.8
KRMR	Karymshinskiy	1.51	295	PN	Pn	19 43 44.3	-0.4
KRMR				S	Sn	19 44 04.9	+1.8
KOK	Koryaka	1.51	316	*e*P	Pn	19 43 45.0	+0.2
KOK	Koryaka	1.51	316	PN	Pn	19 43 45.0	+0.2
ASAK	Asacha	1.54	277	*e*P	Pn	19 43 44.5	-0.6
ASAK	Asacha	1.54	277	PN	Pn	19 43 44.5	-0.6
KRX	Arik	1.56	318	*e*P	Pn	19 43 45.3	-0.1
KRX	Arik	1.56	318	PN	Pn	19 43 45.3	-0.1
PEA0B	Petropavlovsk-	1.87	300	*e*Pn	Pn	19 43 50.5	+0.9
PEA0B	Petropavlovsk-	1.87	300	*e*PN	Pn	19 43 50.5	+0.9
PETK	Petropavlovsk-	1.87	300	*e*Pn	Pn	19 43 50.5	+0.9
PETK	Petropavlovsk-	1.87	300	Pn	Pn	19 43 48.9	-0.6
	comp=E,81nm,0.3s,baz=256,slow=32,SNR=4.1						
PETK				Sn	Sn	19 44 16.3	+4.4
	comp=E,268nm,0.3s,baz=111,slow=14,SNR=10						
PEA1	Petropavlovsk-	1.87	300	*e*Pn	Pn	19 43 48.9	-0.7
PEA1				*e*Sn	Sn	19 44 16.3	+4.4
APC	Apacha	2.10	291	*e*P	Pn	19 43 53.5	+0.8
APC				*e*S	Sn	19 44 20.4	+2.9
APC	Apacha	2.10	291	PN	Pn	19 43 53.5	+0.8
APC				S	Sn	19 44 20.4	+2.9
PAU	Pauzhetka	2.34	253	*e*P	Pn	19 43 55.0	-1.1
PAU	Pauzhetka	2.34	253	PN	Pn	19 43 55.0	-1.1
MKZ	Mys Kozlova	2.48	18	*e*P	Pn	19 43 55.9	-2.0
MKZ				*e*S	Sn	19 44 26.0	-0.8
MKZ	Mys Kozlova	2.48	18	PN	Pn	19 43 55.9	-2.0
MKZ				S	Sn	19 44 26.0	-0.8
KZV	Kizimen	2.90	359	*e*P	Pn	19 44 03.7	-0.2
KZV	Kizimen	2.90	359	PN	Pn	19 44 03.7	-0.2
TUMD	Tumrok D	2.99	0	*e*P	Pn	19 44 05.4	+0.4
TUMD				*e*S	Sn	19 44 40.0	+0.4
TUMR	Tumrok	3.07	357	PN	Pn	19 44 05.4	-0.8
TUMR				S	Sn	19 44 40.0	-1.8
SKR	Severo-Kuril's	3.08	242	*e*P	Pn	19 44 40.8	-2.3
SKR				*e*S	Sn	19 44 40.8	-1.1
SKR	Severo-Kuril's	3.08	242	*e*PN	Pn	19 44 05.5	-0.8
SKR				*e*S	Sn	19 44 39.1	-2.8
SKR				pmax	pmax		
	comp=Z,800nm,0.8s						
SKR				smax	smax		
	comp=E,1μm,0.7s						
SKR				smax	smax		
	comp=N,3μm,0.9s						
ALID	Alaid	3.31	248	*e*P	Pn	19 44 08.7	-0.8
ALID	Alaid	3.31	248	PN	Pn	19 44 08.7	-0.8
BZMR	Bezymyannaya	3.72	1	*e*P	Pn	19 44 16.8	+1.6
BZMR	Bezymyannaya	3.72	1	PN	Pn	19 44 16.8	+1.6
BZGR	Bezymyannyi-Gr	3.73	3	*e*P	Pn	19 44 16.3	+1.0
BZGR	Bezymyannyi-Gr	3.73	3	PN	Pn	19 44 16.3	+1.0
BZWR	Bezymyannyi-We	3.75	1	*e*P	Pn	19 44 16.9	+1.3
BZWR	Bezymyannyi-We	3.75	1	PN	Pn	19 44 16.9	+1.3
KPT	Kopyto	3.76	359	*e*P	Pn	19 44 15.7	+0.1
KPT	Kopyto	3.76	359	PN	Pn	19 44 15.7	+0.1
ESO	Esso	3.84	346	*e*P	Pn	19 44 18.6	+1.9
ESO	Esso	3.84	346	PN	Pn	19 44 18.6	+1.9
KOZ	Kozyrevsk	3.86	356	*e*P	Pn	19 44 17.9	+1.0
KOZ	Kozyrevsk	3.86	356	PN	Pn	19 44 17.9	+1.0
LGNR	Loginova	3.88	2	*e*P	Pn	19 44 16.2	-1.2
LGNR	Loginova	3.88	2	PN	Pn	19 44 16.2	-1.2
CIRR	Tsirk	3.91	3	*e*P	Pn	19 44 18.7	+1.0
CIRR	Tsirk	3.91	3	PN	Pn	19 44 18.7	+1.0
KLY	Klyuchi	4.11	2	*e*P	Pn	19 44 21.2	+0.9
KLY	Klyuchi	4.11	2	PN	Pn	19 44 21.2	+0.9
SRDR	Sredinnyy	4.12	355	*e*P	Pn	19 44 20.9	+0.3
SRDR	Sredinnyy	4.12	355	PN	Pn	19 44 20.9	+0.3
KBTR	Krutoberegovo	4.24	19	*e*P	Pn	19 44 22.2	0.0
KBTR	Krutoberegovo	4.24	19	PN	Pn	19 44 22.2	0.0
KBG	Krutoberegovo	4.27	18	*e*P	Pn	19 44 22.7	+0.2
KBG	Krutoberegovo	4.27	18	PN	Pn	19 44 22.7	+0.2
BDR	Baidarnaya	4.38	6	*e*P	Pn	19 44 24.8	+0.6
BDR	Baidarnaya	4.38	6	PN	Pn	19 44 24.8	+0.6
SMKR	Semkarok	4.42	8	*e*P	Pn	19 44 25.4	+0.8
SMKR	Semkarok	4.42	8	PN	Pn	19 44 25.4	+0.8
BKI	Bering	4.46	46	*e*S	Sn	19 45 09.8	-6.0
SRKR	Sorokina	4.47	6	*e*P	Pn	19 44 26.0	+0.7
SRKR	Sorokina	4.47	6	PN	Pn	19 44 26.0	+0.7
PALN	Palana	6.89	358	*e*P	Pn	19 44 58.6	+0.1
PALN	Palana	6.89	358	PN	Pn	19 44 58.6	+0.1
OSSR	Ossora	7.21	11	*e*P	Pn	19 45 04.6	+1.8
OSSR	Ossora	7.21	11	PN	Pn	19 45 04.6	+1.8
TILK	Tilichiki	8.84	19	*e*P	Pn	19 45 24.0	-1.2
TILK	Tilichiki	8.84	19	PN	Pn	19 45 24.0	-1.2
MA2	Magadan	9.13	328	Pn	Pn	19 45 29.0	-0.2
	comp=N,0.5nm,0.3s,baz=117,slow=9.8,SNR=4.7						
MA2				LR	LR	19 49 28.7	
	comp=N,3μm,19.6s,baz=144,slow=42						
KMSK	Kamenskaya	10.74	15	*e*P	Pn	19 45 51.4	+0.3
KMSK	Kamenskaya	10.74	15	PN	Pn	19 45 51.4	+0.3
TYV	Tymovskoe	11.13	270	*e*PN	Pn	19 45 57.1	+0.5
TYV				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SEY	Seymchan	11.56	341⇑	*e*PN	Pn	19 46 01.4	-0.9
SEY	Seymchan	11.56	341	Pn	Pn	19 46 00.5	-1.8
	comp=Z,0.1nm,0.3s,baz=343,slow=19,SNR=1.8						
NKL	Nikolayevsk	12.00	282	*e*PN		19 46 20.0	
YSS	Yuzh-Sakhalins	12.59	252	*e*Pn	Pn	19 46 18.2	+1.8
YSS	Yuzh-Sakhalins	12.59	252⇓	*e*PN	Pn	19 46 18.0	+1.5
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
ADK	Adak	14.10	82	*e*Pn	Pn	19 46 37.0	-0.1
ADK	Adak	14.10	82	*e*P	Pn	19 46 37.0	-0.1
ASAJ	Asahikawa	14.35	243	Pn	Pn	19 46 39.9	-0.6
	comp=Z,2.3nm,0.3s,baz=75,slow=13,SNR=22						
GSTR	Great Sitkin T	14.45	81	*e*Pn	Pn	19 46 42.2	+0.5
GRNR	Gornyy	14.99	274	*e*P	P	19 46 52.0	-1.9
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
ERM	Erimo	15.51	236	*e*Pn	Pn	19 46 54.2	-1.6
	comp=Z,86nm,1.4s						
ERM	Erimo	15.51	236	*e*P	Pn	19 46 54.2	-1.6
ERM				pmax	pmax		
	comp=Z,87nm,1.4s						
BILL	Bilibino	16.12	8	*e*P	Pn	19 47 04.1	+0.5
BILL				pmax	pmax		
	comp=Z,41nm,0.9s						
TEY	Ternei	17.24	255⇑	*e*P	Pn	19 47 17.1	-0.6
TEY				pmax	pmax		
	comp=Z,20nm,0.8s						
TEY				pmax	pmax		
	comp=N,20nm,0.7s						
TEY				pmax	pmax		
	comp=E,50nm,0.7s						
KLR	Kul'dur	18.32	272⇓	*e*P	Pn	19 47 31.0	0.0
KLR	Kul'dur	18.32	272	P	P	19 47 30.7	-0.1
	comp=E,0.6nm,0.3s,baz=56,slow=9.7,SNR=26						
USRK	Ussuriysk Ar.	20.45	258	P	P	19 47 51.8	-2.3
	comp=E,28nm,0.9s,baz=61,slow=11,SNR=27						
MDJ	Mudanjiang	21.68	262	P	P	19 48 05.6	-1.7
MDJ				pmax	pmax		
	comp=E,28nm,1.0s						
MDJ				pmax	pmax		
	comp=E,2μm,9.9s						
MDJ	Mudanjiang	21.68	262	*e*P	P	19 48 05.4	-1.9
	comp=E,29nm,1.0s						
MJB9	Matsu-Tunnel	22.16	234	*e*P	P	19 48 13.3	+0.8
	comp=E,58nm,0.8s						
MAJO	Matsushiro	22.16	234	*e*P	P	19 48 13.3	+0.8
	comp=E,56nm,0.8s						
MAJO	Matsushiro	22.16	234⇑	*e*P	P	19 48 12.9	+0.4
MAJO				pmax	pmax		
	comp=Z,77nm,1.1s						
MJAR	Matsushiro Arr	22.16	234	*e*P	P	19 48 13.8	+1.4
MJAR	Matsushiro Arr	22.16	234	P	P	19 48 12.8	+0.3
	comp=Z,34nm,1.0s,baz=20,slow=9.7,SNR=44						
RDOG	Red Dog Mine	23.66	34	*e*P	P	19 48 27.1	-0.4
	comp=Z,30nm,1.0s						
INU	Inuyama	23.69	234	*e*P	P	19 48 28.6	+0.5
	comp=Z,40nm,0.9s						
TIXI	Tiksi	23.95	336	*e*P	P	19 48 29.1	-1.1
	comp=Z,3.9nm,0.8s						
TIXI				*e*PcP	PcP	19 52 12.4	+1.2
TIXI	Tiksi	23.95	336	*d*iP	P	19 48 28.7	-1.5
TIXI				pmax	pmax		
	comp=Z,51nm,0.9s						
TIXI	Tiksi	23.95	336	P	P	19 48 29.1	-1.1
	comp=Z,42nm,0.8s,baz=125,slow=8.8,SNR=75						
JHJ2	Mitsune	24.21	226	*e*P	P	19 48 32.0	-0.9
	comp=Z,745nm,1.7s						
JHJ2				*e*PcP	PcP	19 52 13.6	+1.2
HIA	Hailar	25.65	280	*e*P	P	19 48 43.7	-2.2
	comp=Z,58nm,0.9s						
HIA	Hailar	25.65	280	*e*P	P	19 48 43.7	-2.2
HIA				pmax	pmax		
	comp=Z,58nm,0.9s						
IMAR	Indian Mountai	26.54	41	*e*P	P	19 48 53.2	-0.5
RSO	Redoubt South	26.72	54	*e*P	P	19 48 54.3	-1.4
BOD	Bodaibo	26.74	301	*e*P	P	19 48 53.7	-1.9
BOD				pmax	pmax		
	comp=Z,24nm,1.4s						
SNY	Shenyang	26.89	262	⇑P	P	19 48 57.3	+0.2
SNY			

INK	**Inuvik**	**34.46**	**37**	*eP*	**P**	**19 50 04.4 +0.9**
INK				*e*		19 52 38.8
INK				pmax	pmax	
comp=Z,10.0nm,1.1s						
INK	**Inuvik**	**34.46**	**37**	P	**P**	**19 50 04.0 +0.5**
comp=Z,3.6nm,0.7s,baz=278,slow=8.2,SNR=15						
INK				PcP	**PcP**	**19 52 39.1 +1.3**
comp=Z,2.3nm,0.8s,baz=301,slow=4.4,SNR=4.2						
HHC	**Hu-ho-hao-te**	**34.82**	**271**	*eP*	**P**	**19 50 05.9 -1.3**
HHC				S	**S**	**19 55 28.8 -6.4**
HHC				pmax	pmax	
comp=Z,330nm,4.6s						
HHC				LR	LR	
comp=Z,1μm,12.7s						
HHC				LR	LR	
comp=Z,880nm,13.2s						
HHC				LR	LR	
comp=Z,1μm,12.4s						
ZAK	**Zakamensk**	**34.97**	**290**	*eP*	**P**	**19 50 06.5 -1.8**
ZAK				pmax	pmax	
comp=Z,14nm,1.1s						
MOY	**Mondy**	**35.72**	**293**	*eP*	**P**	**19 50 13.6 -1.2**
MOY				pmax	pmax	
comp=Z,20nm,1.4s						
NJ2	**Nanjing**	**36.16**	**253**	*eP*	**P**	**19 50 19.1 +0.6**
NJ2				pmax	pmax	
comp=Z,16nm,0.7s						
NRIK	**Noril'sk**	**36.73**	**325**	P	**P**	**19 50 22.0 -1.0**
NRIK	**Noril'sk**	**36.73**	**325**	P	**P**	**19 50 22.0 -1.0**
comp=Z,9.7nm,0.8s,baz=86,slow=8.9,SNR=17						
DLBC	**Dease Lake**	**38.43**	**52**	*eP*	**P**	**19 50 38.5 +0.9**
comp=Z,37nm,1.8s						
DLBC	**Dease Lake**	**38.43**	**52**	P	**P**	**19 50 39.1 +1.5**
comp=Z,4.6nm,0.8s,baz=287,slow=11,SNR=6.6						
WHN	**Wuhan**	**39.91**	**255⇑**	*iP*	**P**	**19 50 51.5 +1.4**
WHN				pmax	pmax	
comp=Z,36nm,0.8s						
XAN	**Xi'an**	**40.76**	**264**	P	P	19 51 02.3 +5.1
XAN				pP	pwP	19 51 10.0 -0.7
LZH	**Lanzhou**	**42.52**	**271**	*eP*	**P**	**19 51 11.5 -0.3**
LZH				pP	pP	19 51 22.8 +0.6
LZH				sP	sP	19 51 27.3 +0.8
LZH				pmax	pmax	
comp=Z,29nm,1.2s						
GTA	**Gaotai**	**42.89**	**278⇑**	P	**P**	**19 51 13.5 -1.2**
GTA				pP	pP	19 51 24.6 -0.5
GTA				sP	sP	19 51 28.5 -0.8
GTA				PcP	**PcP**	**19 53 05.3 +0.4**
GTA				pmax	pmax	
comp=Z,7.0nm,1.3s						
GTA				LR	LR	
comp=Z,1μm,15.9s						
GTA				LR	LR	
comp=Z,2μm,14.9s						
GTA				LR	LR	
comp=Z,2μm,15.6s						
ZAA0	**Zalesovo Array**	**43.41**	**304**	*eP*	**P**	**19 51 16.0 -2.5**
comp=Z,5.9nm,0.8s						
ZALV	**Zalesovo Beam**	**43.41**	**304**	*eP*	**P**	**19 51 15.9 -2.6**
ZALV	**Zalesovo Beam**	**43.41**	**304**	P	**P**	**19 51 16.4 -2.1**
comp=Z,4.8nm,0.7s,baz=53,slow=7.0,SNR=20						
ZALV				PcP	**PcP**	**19 53 06.2 0.0**
comp=Z,2.5nm,0.7s,baz=58,slow=5.4,SNR=4.2						
YKA	**Yellowknife Ar**	**43.69**	**42**	P	**P**	**19 51 20.9 +0.3**
comp=Z,2.3nm,0.9s,baz=299,slow=8.2,SNR=14						
NVS	**Novosibirsk**	**43.76**	**305⇑**	*iP*	**P**	**19 51 20.1 -1.2**
NVS				*e*		19 52 59.9
NVS				*e*S	**S**	**19 57 45.5 -3.2**
NVS				pmax	pmax	
comp=N,13nm,1.1s						
NVS				pmax	pmax	
comp=E,40nm,1.1s						
NVS				pmax	pmax	
comp=Z,69nm,1.1s						
NVS				smax	smax	
comp=N,11nm,1.6s						
RES	**Resolute Bay**	**44.07**	**22**	*eP*	**P**	**19 51 24.5 +1.0**
comp=N,8.1nm,0.8s						
RES	**Resolute Bay**	**44.07**	**22**	*eP*	**P**	**19 51 24.5 +1.0**
RES				pmax	pmax	
comp=Z,8.0nm,0.8s						
RES	**Resolute Bay**	**44.07**	**22**	P	**P**	**19 51 24.6 +1.0**
comp=Z,6.6nm,0.8s,baz=298,slow=8.5,SNR=23						
DGZ	**Jazzator, Alta**	**44.22**	**297***d*	*iP*	**P**	**19 51 24.2 -1.1**
DGZ				pmax	pmax	
comp=Z,12nm,0.9s						
CD2	**Chengdu**	**46.07**	**265**	*eP*	**P**	**19 51 38.4 -1.6**
CD2				pmax	pmax	
comp=Z,30nm,0.5s						
WMQ	**Urumqi**	**47.44**	**290**	*eP*	**P**	**19 51 50.3 -0.3**
WMQ				pP	pP	19 51 58.8 -2.5
WMQ				pmax	pmax	
comp=Z,84nm,1.1s						
GYA	**Guiyang**	**47.49**	**259**	P	**P**	**19 51 51.8 +0.5**
GYA				pP	pwP	19 52 03.8 -0.8
GYA				sP	sP	19 52 09.4 +3.3
GYA				PP	**PP**	**19 53 41.8 -1.1**
GYA				S	**S**	**19 58 41.8 -1.5**
GYA				sS	sS	19 58 59.3 -0.4
GYA				SS	SS	20 01 59.8 -11
GYA				pmax	pmax	
comp=Z,20nm,1.0s						
GYA				pmax	pmax	
comp=Z,120nm,5.4s						
GYA				LR	LR	
comp=Z,520nm,18.1s						
GYA				LR	LR	
comp=Z,480nm,18.3s						
GYA				LR	LR	
comp=Z,510nm,18.5s						
KBS	**Kingsbay**	**47.77**	**352**	*eP*	**P**	**19 51 53.7 +1.0**
comp=Z,40nm,1.0s						
KBS	**Kingsbay**	**47.77**	**352**	*eP*	**P**	**19 51 53.7 +1.0**
KBS				pmax	pmax	
comp=Z,40nm,1.0s						
SPA0	**Spitsbergen Ar**	**48.03**	**351**	*eP*	**P**	**19 51 55.0 +0.4**
comp=Z,119nm,1.1s						
SPITS	**Spitsbergen Ar**	**48.03**	**351**	P	**P**	**19 51 55.1 +0.4**
SPITS				pmax	pmax	
comp=Z,40nm,0.7s						
D05A	**Enumclaw**	**48.20**	**63**	*eP*	**P**	**19 51 55.6 -0.8**
comp=Z,33nm,1.4s						
KURK	**Kurchatov**	**48.35**	**303**	*eP*	**P**	**19 51 55.3 -2.2**
comp=Z,47nm,1.0s						
KURK	**Kurchatov**	**48.35**	**303***d*	*iP*	**P**	**19 51 55.5 -2.0**
KURK				pmax	pmax	
comp=Z,44nm,1.0s						
KURK	**Kurchatov**	**48.35**	**303**	P	**P**	**19 51 56.0 -1.5**
SNR=20						
MKAR	**Makanchi Array**	**48.70**	**297**	*eP*	**P**	**19 51 58.5 -1.8**
MKAR	**Makanchi Array**	**48.70**	**297**	*eP*	**P**	**19 51 58.5 -1.8**
MKAR	**Makanchi Array**	**48.70**	**297**	P	**P**	**19 51 58.3 -2.0**
comp=Z,5.6nm,0.6s,baz=54,slow=6.9,SNR=37						
GLK	**Glacier Lake**	**48.78**	**64**	*eP*	**P**	**19 52 02.5 +1.4**
MAKZ	**Makanchi**	**48.87**	**297**	*eP*	**P**	**19 51 59.6 -2.0**
comp=Z,13nm,0.9s						
MAKZ	**Makanchi**	**48.87**	**297**	*eP*	**P**	**19 51 59.6 -2.0**
MAKZ				pmax	pmax	
comp=Z,13nm,0.9s						
KMI	**Kunming**	**50.86**	**261**	P	**P**	**19 52 14.4 -2.8**
KMI				pmax	pmax	
comp=Z,12nm,1.3s						
J05D	**Fort Rock, OR**	**51.01**	**67**	P	**P**	**19 52 19.8 +1.7**
baz=309						
L04D	**Klamath Falls**	**51.08**	**69**	P	**P**	**19 52 19.7 +1.1**
baz=310						
BRVK	**Borovoye**	**51.11**	**309**	*eP*	**P**	**19 52 17.4 -1.0**
comp=Z,24nm,0.8s						
BRVK	**Borovoye**	**51.11**	**309***d*	*iP*	**P**	**19 52 16.5 -1.9**
BRVK				pmax	pmax	
comp=Z,27nm,1.0s						
BRVK	**Borovoye**	**51.11**	**309**	P	**P**	**19 52 17.1 -1.3**
SNR=9.3						
YBH	**Yreka Blue Hor**	**51.16**	**69**	P	**P**	**19 52 19.5 +0.4**
comp=Z,3.3nm,1.0s,baz=32,slow=2.6,SNR=4.0						
DAG	**Danmarks Havn**	**51.28**	**360**	*iP*	**P**	**19 52 19.3 -0.1**
DAG				pmax	pmax	
comp=Z,12nm,1.0s						
DAG	**Danmarks Havn**	**51.28**	**360**	*iP*	**P**	**19 52 19.3 -0.1**
comp=Z,12nm,1.0s						
PDGK	**Podgornoye**	**52.41**	**295**	P	**P**	**19 52 27.2 -1.2**
PDGK				pmax	pmax	
comp=Z,15nm,1.0s						
MSO	**Missoula**	**52.77**	**59**	P	**P**	**19 52 31.9 +0.9**
baz=310						
SVE	**Sverdlovsk**	**53.04**	**317**	*eP*	**P**	**19 52 32.8 +0.1**
SVE				pmax	pmax	
comp=Z,13nm,1.0s						
OTUK	**Ortayu**	**53.11**	**303**	P	**P**	**19 52 32.3 -1.1**
OTUK				pmax	pmax	
comp=Z,18nm,1.1s						
FFC	**Flin Flon**	**53.50**	**46**	*iP*	**P**	**19 52 38.4 +2.2**
LVZ	**Lovozero**	**53.58**	**338**	*eP*	**P**	**19 52 36.4 -0.2**
comp=Z,58nm,1.0s						
LVZ	**Lovozero**	**53.58**	**338***d*	*iP*	**P**	**19 52 35.6 -1.0**
LVZ				pmax	pmax	
comp=Z,39nm,0.9s						
FCC	**Fort Churchill**	**54.05**	**38**	*eP*	**P**	**19 52 40.9 +0.8**
comp=Z,9.3nm,1.0s						
ARU	**Arti**	**54.16**	**318**	*eP*	**P**	**19 52 39.4 -1.6**
comp=Z,15nm,0.8s						
ARU	**Arti**	**54.16**	**318⇓**	*eP*	**P**	**19 52 39.7 -1.3**
ARU				pmax	pmax	
comp=Z,15nm,0.9s						
ARCES	**ARCESS Array B**	**54.17**	**342**	*eP*	**P**	**19 52 40.8 -0.1**
ARCES	**ARCESS Array B**	**54.17**	**342**	*eP*	**P**	**19 52 40.8 -0.1**
ARCES	**ARCESS Array B**	**54.17**	**342**	P	**P**	**19 52 41.0 +0.1**
comp=Z,21nm,0.9s,baz=27,slow=8.2,SNR=28						
ARE0	**ARCESS Array S**	**54.18**	**342**	*eP*	**P**	**19 52 40.9 0.0**
comp=Z,1.6nm,1.0s						
KDJ	**Kajisay**	**54.48**	**295**	*eP*	**P**	**19 52 42.9 -0.8**
comp=Z,14nm,0.9s						
KDJ	**Kajisay**	**54.48**	**295**	*eP*	**P**	**19 52 42.9 -0.8**
KDJ				pmax	pmax	
comp=Z,14nm,0.9s						
LSA	**Lhasa**	**54.67**	**274**	*eP*	**P**	**19 52 46.0 +0.4**
comp=Z,10nm,0.8s						
LSA	**Lhasa**	**54.67**	**274**	*eP*	**P**	**19 52 46.0 +0.4**
LSA				pmax	pmax	
comp=Z,10.0nm,0.8s						
PNTR	**Pine Nut**	**54.68**	**70**	*eP*	**P**	**19 52 47.8 +2.6**
comp=Z,11nm,0.7s						
BOZ	**Bozeman (W)**	**54.79**	**59**	*eP*	**P**	**19 52 47.3 +1.4**
comp=Z,18nm,1.6s						
BOZ	**Bozeman (W)**	**54.79**	**59**	*eP*	**P**	**19 52 47.3 +1.4**
BOZ				pmax	pmax	
comp=Z,18nm,1.6s						
BOZ	**Bozeman (W)**	**54.79**	**59**	P	**P**	**19 52 47.2 +1.4**
baz=311						
SUMG	**Summit**	**54.81**	**7**	*eP*	**P**	**19 52 46.8 +0.9**
comp=Z,34nm,1.0s						
SUMG	**Summit**	**54.81**	**7⇑**	*iP*	**P**	**19 52 46.5 +0.6**
SUMG				pmax	pmax	
comp=Z,86nm,1.0s						
SUMG	**Summit**	**54.81**	**7⇑**	*iP*	**P**	**19 52 46.5 +0.6**
comp=Z,86nm,1.0s						
BMN	**Battle Mountai**	**55.15**	**67**	*eP*	**P**	**19 52 51.3 +2.8**
comp=Z,10nm,1.0s						
BMN	**Battle Mountai**	**55.15**	**67**	*eP*	**P**	**19 52 51.3 +2.8**
BMN				pmax	pmax	
comp=Z,10.0nm,1.0s						
PRGR	**Permogore**	**55.28**	**328⇓**	*iP*	**P**	**19 52 48.6 -0.3**
PRGR				pmax	pmax	
comp=Z,42nm,0.8s						
KVN	**Kaiserville**	**55.57**	**69**	*eP*	**P**	**19 52 54.3 +2.7**
comp=Z,15nm,1.2s						
KVN	**Kaiserville**	**55.57**	**69**	*eP*	**P**	**19 52 54.3 +2.7**
KVN				pmax	pmax	
comp=Z,15nm,1.2s						
AAK	**Ala-Archa**	**55.63**	**297⇑**	*eP*	**P**	**19 52 50.1 -1.9**
AAK				pmax	pmax	
comp=Z,17nm,1.0s						
AAK	**Ala-Archa**	**55.63**	**297**	P	**P**	**19 52 51.2 -0.8**
SNR=7.2						
TMCR	**Tamitsa**	**55.64**	**333**	*eP*	**P**	**19 52 50.2 -1.3**
TMCR				pmax	pmax	
comp=Z,88nm,0.9s						
SGF	**Sodankyl**	**55.75**	**340**	P	**P**	**19 52 52.7 +0.5**
SGF				pmax	pmax	
comp=Z,41nm,1.3s						
PANO	**Nakornpanom**	**55.82**	**253**	P	**P**	**19 52 55.3 +1.9**
comp=Z,0.9nm,1.1s						
NVAR	**Mina Array Bea**	**55.87**	**70**	*eP*	**P**	**19 52 54.7 +0.9**
NVAR	**Mina Array Bea**	**55.87**	**70**	P	**P**	**19 52 56.0 +2.1**
comp=Z,2.3nm,0.7s,baz=296,slow=7.4,SNR=10.0						
NV11	**Mina Array Sit**	**55.96**	**70**	*eP*	**P**	**19 52 55.6 +1.3**
comp=Z,0.9nm,1.3s						
ELK	**Elko**	**56.05**	**66**	P	**P**	**19 52 57.1 +2.0**
comp=Z,1.3nm,0.7s,baz=270,slow=6.7,SNR=4.3						
SKNT	**Sakolnakorn**	**56.33**	**253**	P	**P**	**19 52 58.5 +1.5**
comp=Z,38nm,1.3s						
KSH	**Kashi**	**56.91**	**293**	P	**P**	**19 53 03.5 +2.4**
KSH				sP	sP	19 53 21.5 +5.4
KSH				PP	**PP**	**19 55 11.4 +3.9**
KSH				S	**S**	**20 00 49.1 -3.0**
KSH				SS	**SS**	**20 04 40.5 +0.3**
KSH				pmax	pmax	
comp=Z,21nm,1.0s						
KSH				LR	LR	
comp=Z,890nm,9.0s						
KSH				LR	LR	
comp=Z,690nm,8.7s						
KSH				LR	LR	
comp=Z,2μm,10.8s						
PAYA	**Payao**	**56.93**	**259**	P	**P**	**19 53 02.8 +1.5**
comp=Z,49μm,0.9s,comp=Z,405μm						
SHL	**Shillong**	**57.18**	**270**	P	**P**	**19 53 02.6 -0.7**
SHL				pmax	pmax	
comp=Z,19nm,1.0s						
CWC	**Cottonwood Cre**	**57.36**	**71**	P	**P**	**19 53 06.2 +1.8**
baz=314						
PHRA	**Phrae**	**57.38**	**258**	P	**P**	**19 53 05.9 +1.4**
comp=Z,5.2nm,1.1s						
KKAR	**Karatay Array**	**57.47**	**300**	*eP*	**P**	**19 53 04.1 -0.8**
KKAR	**Karatay Array**	**57.47**	**300**	*eP*	**P**	**19 53 04.1 -0.8**
KHON	**Khomkaen**	**57.51**	**254**	P	**P**	**19 53 07.6 +2.2**
SCO	**Scoresbysund**	**57.59**	**1**	*eP*	**P**	**19 53 03.4 -1.9**
SCO	**Scoresbysund**	**57.59**	**1**	*iP*	**P**	**19 53 03.4 -1.9**
LAMP	**Lampang**	**57.72**	**258**	P	**P**	**19 53 08.3 +1.4**
comp=Z,39μm,0.9s,comp=Z,315μm						
UTTA	**Uttaradit**	**57.76**	**257**	P	**P**	**19 53 08.6 +1.4**
comp=Z,36μm,0.9s,comp=Z,292μm						
DUG	**Dugway, Tooele**	**57.78**	**65**	P	**P**	**19 53 09.6 +2.3**
baz=314						
BW06	**Boulder Array**	**57.79**	**60**	P	**P**	**19 53 08.3 +0.9**
baz=314						
PDAR	**Pinedale Array**	**57.79**	**60**	P	**P**	**19 53 09.1 +1.7**
comp=Z,2.0nm,0.7s,baz=310,slow=3.4,SNR=13						
KLMR	**Klimovskoe**	**57.80**	**330⇓**	*iP*	**P**	**19 53 06.9 +0.1**
KLMR				pmax	pmax	
comp=Z,49nm,0.9s						
CMMT	**Chiang Mai**	**57.91**	**259**	P	**P**	**19 53 09.1 +0.9**
comp=Z,16nm,1.2s						
CHTO	**Chiang Mai**	**57.91**	**259**	*eP*	**P**	**19 53 09.0 +0.8**
comp=Z,25nm,0.9s						
CHTO	**Chiang Mai**	**57.91**	**259**	*eP*	**P**	**19 53 09.0 +0.8**
CHTO				pmax	pmax	
comp=Z,25nm,0.9s						
CHTO	**Chiang Mai**	**57.91**	**259**	P	**P**	**19 53 09.8 +1.6**
SNR=8.3						
MPMC	**Manual Prospec**	**57.97**	**71**	P	**P**	**19 53 10.3 +1.5**
baz=314						
TPNV	**Topopah Spring**	**58.07**	**70**	P	**P**	**19 53 11.2 +1.8**
baz=314						
CM31	**Chiang Mai Arr**	**58.18**	**259**	*eP*	**P**	**19 53 11.1 +0.9**
comp=Z,17nm,0.8s						
CM31	**Chiang Mai Arr**	**58.18**	**259**	P	**P**	**19 53 12.0 +1.8**
SNR=5.3						
CMAR	**Chiang Mai Arr**	**58.18**	**259**	P	**P**	**19 53 11.3 +1.2**
comp=Z,9.8nm,0.8s,baz=26,slow=6.9,SNR=64						
CHAI	**Chaiyaphum**	**58.34**	**254**	P	**P**	**19 53 12.8 +1.5**
comp=Z,25μm,1.0s,comp=Z,247μm						
PBKT	**Sadao Pong**	**58.43**	**256**	P	**P**	**19 53 13.3 +1.5**
comp=Z,6.5nm,1.2s						
ABKAR	**Akbulak array**	**58.50**	**311**	*eP*	**P**	**19 53 11.2 -0.7**
ODAN	**Odare**	**59.01**	**275**	*eP*	**P**	**19 53 15.4 -0.7**
JIRN	**Jiri**	**59.16**	**276**	*eP*	**P**	**19 53 16.7 -0.6**
comp=Z,36nm,0.7s						
ULM	**Lac du Bonnet**	**59.29**	**46**	P	**P**	**19 53 17.6 +0.2**
comp=Z,4.2nm,0.8s,baz=301,slow=7.3,SNR=3.4						
RAMN	**Ramite**	**59.42**	**275**	*eP*	**P**	**19 53 18.3 -0.7**
comp=Z,62nm,0.7s						
KKN	**Kakani**	**59.62**	**277**	*eP*	**P**	**19 53 19.8 -0.5**
comp=Z,43nm,0.7s						
PKI	**Pulchoki**	**59.70**	**277**	*eP*	**P**	**19 53 20.3 -0.7**
comp=Z,33nm,0.7s						
PKIN	**Phulchoki**	**59.71**	**277**	*eP*	**P**	**19 53 20.2 -0.7**
comp=Z,32nm,0.7s						
RSSD	**Black Hills**	**59.74**	**56**	*eP*	**P**	**19 53 22.3 +1.4**
comp=Z,26nm,1.3s						
RSSD	**Black Hills**	**59.74**	**56**	*eP*	**P**	**19 53 22.3 +1.4**
RSSD				pmax	pmax	
comp=Z,26nm,1.3s						
RSSD	**Black Hills**	**59.74**	**56**	P	**P**	**19 53 22.2 +1.4**
baz=315						
DMN	**Daman**	**59.86**	**277**	*eP*	**P**	**19 53 21.6 -0.4**
comp=Z,53nm,0.7s						
GKN	**Gorkha**	**59.86**	**278**	*eP*	**P**	**19 53 21.2 -0.7**
comp=Z,40nm,0.7s						
MURC	**Murrieta**	**59.87**	**73**	P	**P**	**19 53 23.2 +1.5**
baz=315						
GMRC	**Granite Mounta**	**59.93**	**71**	P	**P**	**19 53 24.0 +1.8**
baz=315						
UMPA	**Umpang Tak**	**59.97**	**257**	P	**P**	**19 53 25.3 +2.7**
comp=Z,60μm,0.9s,comp=Z,540μm						
DANN	**Dangsing**	**60.15**	**279**	*eP*	**P**	**19 53 23.6 -0.4**
comp=Z,56nm,0.7s						
GAR	**Garm**	**60.43**	**296**	*eP*	**P**	**19 53 24.7 -0.9**
comp=Z,30nm,0.9s						
GAR	**Garm**	**60.43**	**296**	*eP*	**P**	**19 53 24.7 -0.9**
GAR				pmax	pmax	
comp=Z,31nm,0.9s						
KOLN	**Koldanda**	**60.66**	**278**	*eP*	**P**	**19 53 26.7 -0.7**
comp=Z,32nm,0.7s						
PYUN	**Piuthan**	**60.80**	**279**	*eP*	**P**	**19 53 27.7 -0.6**
comp=Z,41nm,0.7s						
FINES	**FINESS Array B**	**61.00**	**337**	*eP*	**P**	**19 53 28.9 0.0**
FINES	**FINESS Array B**	**61.00**	**337**	*eP*	**P**	**19 53 28.9 0.0**
FINES	**FINESS Array B**	**61.00**	**337**	P	**P**	**19 53 29.0 +0.1**
comp=Z,25nm,0.8s,baz=38,slow=9.6,SNR=53						
N23A	**Red Feather La**	**61.03**	**60**	P	**P**	**19 53 30.7 +0.9**
baz=316						
PHET	**Kaeng Krachan**	**62.09**	**254**	P	**P**	**19 53 39.4 +2.5**
comp=Z,73μm,0.8s,comp=Z,697μm						
MOS	**Moscow**	**62.49**	**328**	*eP*	**P**	**19 53 37.1 -1.9**
MOS				pmax	pmax	
comp=Z,49nm,0.8s						
S22A	**4UR Ranch, Cre**	**62.81**	**63**	P	**P**	**19 53 43.9 +2.0**
baz=317						
OBN	**Obninsk**	**63.35**	**328**	*eP*	**P**	**19 53 43.6 -1.1**
OBN				*e*		19 53 51.8
OBN				pmax	pmax	
comp=Z,34nm,1.2s						
VSU	**Vasula**	**63.42**	**335⇓**	*eP*	**P**	**19 53 45.6 +0.5**
VSU				pmax	pmax	
comp=Z,91nm,1.0s						
VSU	**Vasula**	**63.42**	**335**	*eP*	**P**	**19 53 44.9 -0.2**
VSU				IAmb	IAmb	19 53 46.0
comp=Z,51nm,0.8s						
SBUM	**Sibu**	**63.68**	**236**	*eP*	**P**	**19 53 49.7 +2.2**
comp=Z,6.3nm,1.1s						
ECSD	**EROS Data Cent**	**63.72**	**52**	P	**P**	**19 53 47.5 +0.1**
baz=318						
F38A	**Pierce - Schro**	**64.27**	**48**	P	**P**	**19 53 51.7 +0.8**
baz=320						
NB2	**NORSAR Subarra**	**64.43**	**344**	P	**P**	**19 53 51.7 -0.2**
comp=Z,6.9nm,0.7s,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**64.43**	**344**	P	**P**	**19 53 52.1 +0.2**
comp=Z,8.8nm,0.7s,baz=21,slow=6.6,SNR=38						
LPSR	**Galich'ya Gora**	**64.60**	**325**	*eP*	**P**	**19 53 52.0 -1.0**
LPSR				pmax	pmax	
comp=Z,40nm,0.9s						
VRH	**Novokhopyorsk**	**64.72**	**322**	*eP*	**P**	**19 53 52.5 -1.3**
VRH				pmax	pmax	
comp=Z,20nm,0.6s						
F39A	**Loretta**	**64.73**	**47**	P	**P**	**19 53 54.5 +0.4**
baz=320						
E40A	**Wakefield**	**64.78**	**46**	P	**P**	**19 53 55.0 +0.6**
baz=320						
E41A	**Kenton**	**65.18**	**45**	P	**P**	**19 53 57.2 +0.3**
baz=321						
SLIT	**Slitere, Latvi**	**65.28**	**337**	*eP*	**P**	**19 53 56.9 -0.4**
SLIT				IAmb	IAmb	19 53 58.8
comp=Z,262nm,0.8s						
VSR	**Storozhevoye**	**65.65**	**324***c*	*iP*	**P**	**19 53 57.7 -2.1**
VSR				pmax	pmax	
comp=Z,31nm,1.0s						
F41A	**Three Lakes**	**65.68**	**46**	P	**P**	**19 54 00.3 +0.1**
baz=321						
VORD	**Divnogorie**	**65.81**	**324**	*eP*	**P**	**19 53 59.8 -1.0**
VORD				pmax	pmax	
comp=Z,40nm,1.7s						
IZAR	**Zarasai**	**65.92**	**334**	*eP*	**P**	**19 54 02.3 +0.8**
IZAR				IAmb	IAmb	19 54 03.2
comp=Z,8.3nm,0.7s						
ISAL	**Salakas**	**66.11**	**334**	*eP*	**P**	**19 54 02.8 +0.1**
ISAL				IAmb	IAmb	19 54 03.5
comp=Z,6.9nm,0.8s						
IDID	**Didziasalis**	**66.17**	**333**	*eP*	**P**	**19 54 03.3 +0.2**
IDID				IAmb	IAmb	19 54 04.8
comp=Z,11nm,1.0s						
IIGN	**Ignalina**	**66.28**	**333**	*eP*	**P**	**19 54 04.1 +0.3**
IIGN				IAmb	IAmb	19 54 05.5
comp=Z,16nm,0.9s						
H41A	**Junction City**	**66.31**	**47**	P	**P**	**19 54 04.5 +0.3**
baz=321						
SCHQ	**Schefferville**	**66.34**	**28**	P	**P**	**19 54 04.2 0.0**
comp=Z,11nm,0.7s,baz=3.2,slow=5.9,SNR=6.0						
I40A	**Norwalk**	**66.43**	**48**	P	**P**	**19 54 05.4 +0.4**
baz=321						
F43A	**Flat Rock, Esc**	**66.46**	**45**	P	**P**	**19 54 04.9 -0.2**
baz=322						
MICGM	**Minsk**	**66.55**	**332**	*e*	**P**	**19 54 06.0 +0.4**
MNK	**Minsk**	**66.55**	**332**	*eP*	**P**	**19 54 06.0 +0.4**
PABE	**Paberze**	**66.75**	**335**	*eP*	**P**	**19 54 06.5 -0.3**
PABE				IAmb	IAmb	19 54 08.4
comp=Z,57nm,0.9s						
PBUR	**Paburg**	**66.81**	**336**	*eP*	**P**	**19 54 07.0 -0.2**
PBUR				IAmb	IAmb	19 54 08.8
comp=Z,47nm,0.9s						
MATQ	**Matagami**	**67.12**	**37**	P	**P**	**19 54 09.5 +0.2**
baz=326						
L39A	**Vinton**	**67.15**	**50**	P	**P**	**19 54 09.7 +0.1**
baz=321						
J42A	**Columbus**	**67.56**	**48**	P	**P**	**19 54 12.2 0.0**
baz=322						
L40A	**Anamosa**	**67.56**	**50**	P	**P**	**19 54 13.0 +0.8**
baz=321						
D48A	**Paudash Townsh**	**67.63**	**41**	P	**P**	**19 54 11.5 -1.1**
baz=324						
GEYT	**Alibeck**	**67.72**	**303**	P	**P**	**19 54 13.4 +0.1**
comp=Z,6.9nm,0.7s,baz=28,slow=6.7,SNR=12						
GYA0B	**ALIBECK ARRAY**	**67.72**	**303**	*eP*	**P**	**19 54 13.2 -0.1**
comp=Z,9.4nm,0.8s						
CHGQ	**Chibougamau**	**68.16**	**35**	P	**P**	**19 54 15.6 -0.2**
baz=327						
N40A	**Mertquake, Sal**	**68.30**	**51**	P	**P**	**19 54 17.4 +0.5**
baz=321						
E51A	**G1948 Merrick**	**69.07**	**40**	P	**P**	**19 54 20.8 -0.8**
baz=326						
D53A	**Lac Vacive, Po**	**69.31**	**38**	P	**P**	**19 54 24.0 +0.9**
baz=326						
WMOK	**Wichita Mounta**	**69.39**	**60**	P	**P**	**19 54 24.6 +0.9**
baz=320						
AKASG	**Malin Array Be**	**69.46**	**329**	P	**P**	**19 54 23.2 -0.6**

U40A	Yellville	71.21	55	P		P		19 54 35.0	+0.2
	baz=322								
HYB	Hyderabad	71.46	275	⇑	iP	P		19 54 36.5	-0.1
	comp=Z,38nm,0.8s								
ANN	Anapa	71.62	321		eP	P		19 54 35.1	-2.0
ANN				pmax		pmax			
	comp=Z,21nm,1.1s								
U41A	Viola	71.68	54	P		P		19 54 37.7	0.0
	baz=322								
LVV	L'vov	71.81	332		eP	P		19 54 38.8	+0.6
AKH	Akhalkalaki	71.93	315	⇑	iP	P		19 54 40.1	+0.8
AKH	Akhalkalaki	71.93	315	P		P		19 54 40.1	+0.8
RUE	Ruedersdorf	71.97	339		eP	P		19 54 39.3	+0.3
ESK	Eskdalemuir	71.97	350		iP	P		19 54 40.5	+1.4
MIAR	Mount Ida	72.26	56	P		P		19 54 42.1	+1.0
	baz=322								
KWP	Kalwaria Pacla	72.35	333		eP	P		19 54 42.7	+1.2
KWP	Kalwaria Pacla	72.35	333		eP	P		19 54 42.7	+1.2
GNI	Garni	72.41	314	⇓	eP	P		19 54 42.9	+0.7
GNI				pmax		pmax			
	comp=Z,96nm,1.8s								
W41B	Gary Mavity, V	72.44	55	P		P		19 54 42.7	+0.5
	baz=322								
P49A	Miami Univ. Ec	72.57	47	P		P		19 54 42.9	0.0
	baz=324								
OJC	Ojcow	72.61	335		eP	P		19 54 43.4	+0.4
OJC	Ojcow	72.61	335		eP	P		19 54 43.4	+0.4
KSP	Ksiaz	72.92	337		eP	P		19 54 45.5	+0.7
KSP	Ksiaz	72.92	337		eP	P		19 54 45.5	+0.7
KOLS	Kolonicke sedl	73.11	333		eP	P		19 54 46.7	+0.7
KOLS				pmax		pmax			
	comp=Z,12nm,1.1s								
KOLS	Kolonicke sedl	73.11	333		eP	P		19 54 46.7	+0.7
S47A	Hartford	73.14	50	P		P		19 54 46.8	+0.5
	baz=324								
NIE	Niedzica	73.21	334		eP	P		19 54 47.8	+1.2
NIE	Niedzica	73.21	334		eP	P		19 54 47.8	+1.2
CLL	Collm	73.24	339	⇓	iP	P		19 54 47.2	+0.5
CLL					e			19 54 58.0	
CLL				pmax		pmax			
	comp=Z,23nm,1.0s								
CLL	Collm	73.24	339	⇓	iP	P		19 54 47.2	+0.5
	comp=Z,23nm,1.0s								
CLL					epP	pP		19 54 58.0	+0.2
UPC	Upice	73.30	337		eP	P		19 54 48.0	+0.9
UPC	Upice	73.30	337		eP	P		19 54 48.0	+0.9
PRAR	RASCA	73.33	329	⇑	iP	P		19 54 47.8	+0.4
DPC	Dobruska-Polom	73.37	337		eP	P		19 54 48.7	+1.2
DPC					e			19 55 00.9	
DPC	Dobruska-Polom	73.37	337		eP	P		19 54 48.7	+1.2
DPC					epP	pwP		19 55 00.9	-0.8
O52A	Adamsville	73.37	45	P		P		19 54 47.6	-0.1
	baz=326								
UZH	Uzhgorod	73.37	332		eP	P		19 54 47.9	+0.4
UZH					e			19 54 56.9	
UZH					e			19 55 10.7	
OKC	Ostrava-Krasne	73.39	336		eP	P		19 54 48.6	+1.0
OKC					e			19 55 00.8	
OKC	Ostrava-Krasne	73.39	336		eP	P		19 54 48.6	+1.0
OKC					epP	pwP		19 55 00.8	-1.0
BURAR	Bucovina Array	73.42	330	⇑	iP	P		19 54 48.4	+0.4
BURAR	Bucovina Array	73.42	330	P		P		19 54 48.3	+0.3
BRG	Berggiesshubel	73.44	339		eP	P		19 54 47.6	-0.2
	comp=Z,16nm,1.4s								
BRG	Berggiesshubel	73.44	339		eP	P		19 54 47.6	-0.2
BRG				pmax		pmax			
	comp=Z,16nm,1.5s								
S48A	Wiedeman Farm,	73.47	49	P		P		19 54 48.6	+0.3
	baz=324								
KRLC	Kraliky	73.51	337		eP	P		19 54 49.4	+1.0
KRLC	Kraliky	73.51	337		eP	P		19 54 49.4	+1.0
T47A	Sharon Grove	73.52	50	P		P		19 54 49.4	+0.9
	baz=324								
O53A	New Philadelph	73.53	45	P		P		19 54 48.9	+0.2
	baz=326								
M55A	Ridgway	73.56	42	P		P		19 54 49.1	+0.4
	baz=327								
MORC	Moravsky Berou	73.60	336	⇑	iP	P		19 54 50.0	+1.1
MORC	Moravsky Berou	73.60	336	P		P		19 54 50.0	+1.1
MORC	Moravsky Berou	73.60	336		eP	P		19 54 49.7	+0.8
PVCC	Panska Ves	73.62	338		eP	P		19 54 49.9	+1.0
PVCC	Panska Ves	73.62	338		eP	P		19 54 49.9	+1.0
P52A	Corning	73.64	46	P		P		19 54 49.6	+0.3
	baz=326								
LANS	Liptovska Anna	73.68	334		eP	P		19 54 51.3	+1.9
LANS	Liptovska Anna	73.68	334		eP	P		19 54 51.2	+1.9
S49A	Springfield	73.72	49	P		P		19 54 50.4	+0.6
	baz=324								
BIZ	Bicaz	73.75	329	⇑	iP	P		19 54 50.3	+0.5
TRPA	Tarpa	73.75	332	⇑	iP	P		19 54 50.8	+1.0
TRPA	Tarpa	73.75	332		eP	P		19 54 50.0	+0.3
WVT	Waverly	73.86	52	P		P		19 54 51.1	+0.5
	baz=324								
TESR	Tescani	73.96	329	⇓	iP	P		19 54 51.4	+0.4
N55A	Marion Center	74.04	43	P		P		19 54 51.7	+0.1
	baz=327								
PRU	Pruhonice	74.13	338		eP	P		19 54 52.9	+1.0
PRU					e			19 55 05.0	
PRU	Pruhonice	74.13	338		eP	P		19 54 52.9	+1.0
PRU					epP	pwP		19 55 05.0	-1.1
GOPC	GO Pecny, Ondr	74.14	338		eP	P		19 54 52.7	+0.7
GOPC	GO Pecny, Ondr	74.14	338		eP	P		19 54 52.7	+0.7
ARCR	ARCALIA	74.16	330	⇓	iP	P		19 54 53.5	+1.3
U48A	Cassie Pea, Po	74.17	50	P		P		19 54 53.0	+0.6
	baz=324								
V47A	Nunnelly	74.25	51	P		P		19 54 54.3	+1.4
	baz=324								
VRAC	Vranov	74.27	336	⇓	iP	P		19 54 54.3	+1.5
VRAC	Vranov	74.27	336	P		P		19 54 54.2	+1.5
VRAC	Vranov	74.27	336		eP	P		19 54 54.0	+1.2
NKC	Novy Kostel	74.37	339		eP	P		19 54 54.4	+1.0
NKC	Novy Kostel	74.37	339		eP	P		19 54 54.4	+1.0
O55A	Ligonier	74.38	43	P		P		19 54 53.7	+0.1
	baz=327								
P54A	Burton	74.39	44	P		P		19 54 54.1	+0.4
	baz=326								
JAVC	Velka Javorina	74.41	335		eP	P		19 54 55.8	+2.1
TLCR		74.41	327	⇓	iP	P		19 54 54.0	+0.4
TLCR		74.41	327	P		P		19 54 54.0	+0.4
VYHS	Vyhne	74.45	335		eP	P		19 54 54.8	+1.0
VYHS				pmax		pmax			
	comp=Z,7.0nm,0.9s								
VYHS	Vyhne	74.45	335		eP	P		19 54 54.8	+1.0
R52A	Catlettsburg	74.48	47	P		P		19 54 55.4	+1.2
	baz=326								
VRI	Vrincioaia	74.50	328	⇑	iP	P		19 54 55.3	+1.0
VRI	Vrincioaia	74.50	328	P		P		19 54 55.2	+1.0
U49A	Red Boiling Sp	74.53	50	P		P		19 54 55.1	+0.7
	baz=324								
PLOR	Plostina	74.54	328	⇑	iP	P		19 54 54.9	+0.4
PLOR	Plostina	74.54	328	P		P		19 54 54.9	+0.4
Q53A	Leroy	74.55	46	P		P		19 54 55.3	+0.7
	baz=326								
KRUC	Moravsky	74.55	336		eP	P		19 54 55.5	+1.1
TREC	Trest	74.55	337		eP	P		19 54 55.4	+1.0
TREC					e			19 55 07.2	
TREC	Trest	74.55	337		eP	P		19 54 55.4	+1.0
TREC					epP	pwP		19 55 07.2	-1.0
T50A	Nancy	74.55	49	P		P		19 54 55.3	+0.7
	baz=325								
MCWV	Mont Chateau	74.61	44	P		P		19 54 56.0	+1.1
	baz=327								
O56A	Blue Knob Stat	74.64	43	P		P		19 54 55.1	-0.1
	baz=327								
CFR	Carcaliu	74.65	327	⇑	iP	P		19 54 55.1	0.0
CFR	Carcaliu	74.65	327	P		P		19 54 55.0	0.0
PSZ	Piszkesteto	74.69	334	⇑	iP	P		19 54 56.3	+1.0
PSZ	Piszkesteto	74.69	334		eP	P		19 54 55.0	-0.3
P55A	Reedsville	74.74	44	P		P		19 54 56.5	+0.8
	baz=327								
S52A	Salyersville	74.82	47	P		P		19 54 56.5	+0.3
	baz=326								
DRGR		74.92	331	⇑	iP	P		19 54 57.2	+0.5
DRGR		74.92	331	P		P		19 54 57.2	+0.5
MODS	Modra-Piesok	74.96	336		eP	P		19 54 57.3	+0.5
MODS				pmax		pmax			
	comp=Z,12nm,1.0s								
MODS	Modra-Piesok	74.96	336		eP	P		19 54 57.3	+0.5
U50A	Jamestown	75.04	49	P		P		19 54 57.8	+0.3
	baz=325								
Q55A	Buckhannon	75.06	45	P		P		19 54 57.6	0.0
	baz=327								
MLR	Muntele Rosu	75.09	329		eP	P		19 54 58.2	+0.5
	comp=Z,16nm,0.8s								
MLR	Muntele Rosu	75.09	329	⇑	iP	P		19 54 58.8	+1.0
MLR	Muntele Rosu	75.09	329		eP	P		19 54 58.2	+0.5
MLR				pmax		pmax			
	comp=Z,16nm,0.8s								
GRF	Grafenberg Arr	75.14	340	P		P		19 54 59.4	+1.6
GRFO	Grafenberg	75.14	340		eP	P		19 54 59.4	+1.6
	comp=Z,20nm,1.0s								
GRFO	Grafenberg	75.14	340		eP	P		19 54 59.4	+1.6
GRFO				pmax		pmax			
	comp=Z,20nm,1.0s								
HARR	Harsova	75.15	327	⇑	iP	P		19 54 58.0	0.0
HARR	Harsova	75.15	327	P		P		19 54 57.9	0.0
KHC	Kasperske Hory	75.15	338		eP	P		19 54 59.0	+1.1
KHC					ex	x		19 55 11.5	
TLB	Topalu	75.20	327	⇑	iP	P		19 54 59.0	+0.8
TLB	Topalu	75.20	327	P		P		19 54 59.0	+0.8
MEM	Membach	75.28	343	⇓	iP	P		19 54 59.7	+1.1
	comp=Z,33nm,1.1s								
WRAB	Tennant Creek	75.35	205	⇑	eP	P		19 54 57.1	-2.1
WRAB				pmax		pmax			
	comp=Z,13nm,1.7s								
WRA	Warramunga Arr	75.36	205	P		P		19 55 00.2	+0.9
	comp=Z,4.8nm,1.1s,baz=26,slow=4.3,SNR=9.0								
GERES	GERESS Array B	75.39	338	P		P		19 54 59.9	+0.5
	comp=Z,3.2nm,0.8s,baz=35,slow=4.9,SNR=25								
VOIR		75.42	329	⇓	iP	P		19 55 00.7	+1.1
VOIR		75.42	329	P		P		19 55 00.7	+1.1
BCLA	Clavier	75.58	344	⇓	iP	P		19 55 01.1	+0.8
	comp=Z,15nm,1.5s								
MTUR	Matau	75.61	329	⇓	iP	P		19 55 02.0	+1.3
ARR	Arges	75.61	329	⇓	iP	P		19 55 02.1	+1.4
CSKK	Cskako	75.64	334		eP	P		19 55 01.1	+0.4
ICOR	Ion Corvin	75.70	327	⇓	iP	P		19 55 02.2	+1.1
SULR		75.71	328	⇓	iP	P		19 55 01.6	+0.5
U52A	Thorn Hill	75.75	48	P		P		19 55 02.0	+0.4
	baz=326								
SOP	Sopron	75.78	336	P		P		19 55 03.3	+1.8
SOP	Sopron	75.78	336		eP	P		19 55 02.1	+0.5
W50A	Signal Mountai	75.81	50	P		P		19 55 02.0	0.0
	baz=325								
X49A	Woodville	75.89	51	P		P		19 55 02.4	+0.1
	baz=325								
GIVF	Givet	75.97	344		eP	P		19 55 02.3	-0.2
GIVF				pmax		pmax			
	comp=Z,9.0nm,0.9s								
T54A	Tazewell	76.01	47	P		P		19 55 03.3	+0.2
	baz=326								
DOU	Dourbes	76.01	344	⇑	P	P		19 55 03.3	+0.5
	comp=Z,5.5nm,0.9s								
P59A	Jarrettsville	76.08	42	P		P		19 55 02.9	-0.4
	baz=328								
BAIF	Baives	76.11	344		eP	P		19 55 03.3	0.0
BAIF				pmax		pmax			
	comp=Z,14nm,1.0s								
GZR	Gura Zlata	76.16	331	⇑	iP	P		19 55 04.3	+0.5
GZR	Gura Zlata	76.16	331	P		P		19 55 04.2	+0.5
MOA	Molln	76.19	337		epPKiKP	P		19 55 04.8	+0.9
	comp=Z,7.7nm,1.1s								
FITZ	Fitzroy Crossi	76.27	214		eP	P		19 55 06.3	+1.8
	comp=Z,20nm,1.2s								
BZS	Buzias	76.30	332	⇑	iP	P		19 55 04.9	+0.4
BZS	Buzias	76.30	332	P		P		19 55 04.6	+0.1
R57A	Stanardsville	76.31	44	P		P		19 55 05.8	+1.1
	baz=327								
STU	Stuttgart	76.44	341	P		P		19 55 07.3	+2.1
ARSA	Arzberg	76.45	336		epPKiKP	P		19 55 05.8	+0.5
	comp=Z,11nm,1.1s,SNR=5.1								
HERR	Herculane	76.73	331	⇑	iP	P		19 55 06.8	-0.1
W53A	Cullowhee	76.84	49	P		P		19 55 09.0	+1.1
	baz=326								
V54A	Nebo	76.90	48	P		P		19 55 08.7	+0.6
	baz=326								
VLAD	Vladila	76.91	329	⇓	iP	P		19 55 08.1	+0.1
BFO	Black Forest	77.03	341		iP	P		19 55 09.5	+0.9
SOKA	Soboth	77.10	336		epPKiKP	P		19 55 10.3	+1.2
	comp=Z,14nm,1.1s,SNR=5.3								
Z50A	Ashland	77.10	52	P		P		19 55 09.3	0.0
	baz=325								
PUNG	Punghina	77.12	330	⇑	iP	P		19 55 09.4	+0.3
KBA	Koelnbreinsper	77.13	338		iPKiKP	P		19 55 11.1	+1.6
	comp=Z,30nm,0.8s,SNR=18								
KBA	Koelnbreinsper	77.13	338	P		P		19 55 11.0	+1.6
CDF	Champ du Feu	77.16	342		eP	P		19 55 09.4	0.0
CDF				pmax		pmax			
	comp=Z,11nm,0.8s								
WATA	Walderalm	77.29	339		epPKiKP	P		19 55 11.8	+1.5
	comp=Z,13nm,1.1s,SNR=8.2								
RETA	Reutte	77.33	339		epPKiKP	P		19 55 11.7	+1.3
	comp=Z,8.0nm,0.8s								
X53A	Estanollee	77.33	49	P		P		19 55 10.7	+0.2
	baz=326								
WTTA	Wattenberg	77.35	339		epPKiKP	P		19 55 11.9	+1.3
	comp=Z,16nm,1.0s,SNR=8.5								
OBKA	Obir	77.38	337		iPKiKP	P		19 55 11.8	+1.1
	comp=Z,22nm,1.7s								
MOTA	Moosalm	77.39	339		epPKiKP	P		19 55 11.7	+0.8
	comp=Z,5.9nm,0.8s,SNR=9.1								
BR131	Keskin Array S	77.41	321	P		P		19 55 11.8	+0.7
	SNR=11								
BRTR	Keskin Array B	77.41	321	P		P		19 55 11.2	+0.2
	comp=Z,5.3nm,0.9s,baz=46,slow=3.6,SNR=28								
BRTR					PP	PP		19 58 03.6	-1.5
	comp=Z,1.1nm,0.8s,baz=50,slow=5.9,SNR=3.5								
MYKA	Terra Mystica	77.48	337		epPKiKP	P		19 55 11.9	+0.7
	comp=Z,0.1nm,0.2s								
SQTA	Sankt Quirin	77.48	339		iPKiKP	P		19 55 12.6	+1.3
	comp=Z,17nm,0.9s,SNR=9.0								
ANTO	Ankara	77.61	321	P		P		19 55 13.0	+0.9
	SNR=6.7								
ABTA	Abfaltersbach	77.64	338		eP	P		19 55 13.4	+1.2
	comp=Z,17nm,1.0s,SNR=6.0								
DAVA	Damuels	77.71	340		iP	P		19 55 13.9	+1.3
	comp=Z,16nm,1.1s,SNR=5.2								
HAU	Haudompre	77.72	342		eP	P		19 55 12.4	-0.1
HAU				pmax		pmax			
	comp=Z,17nm,1.0s								
X54A	Belton	77.72	49	P		P		19 55 13.4	+0.7
	baz=326								
Y53A	Monroe	77.73	50	P		P		19 55 13.6	+0.9
	baz=326								
FETA	Feichten	77.78	339		eP	P		19 55 14.0	+1.0
	comp=Z,14nm,1.0s,SNR=5.5								
HINF	Hinteralfeld	77.81	342		eP	P		19 55 12.6	-0.4
HINF				pmax		pmax			
	comp=Z,22nm,1.5s								
PHSR	Pinarhisar	77.99	326	⇑	iP	P		19 55 14.6	+0.5
EDRB	Edirne	78.07	326	P		P		19 55 14.3	-0.2
FLN	La Foliniere	78.08	347		eP	P		19 55 14.1	-0.3
FLN				pmax		pmax			
	comp=Z,21nm,1.0s								
Y54A	Tignall	78.14	49	P		P		19 55 15.8	+0.8
	baz=326								
V58A	Windy Hill, Pi	78.16	46	P		P		19 55 16.3	+1.2
	baz=328								
LDF	La Druitiere	78.20	347		eP	P		19 55 14.7	-0.4
LDF				pmax		pmax			
	comp=Z,24nm,1.4s								
X56A	White Oak	78.39	48	P		P		19 55 16.5	+0.2
	baz=327								
GRR	Gorron	78.50	347		eP	P		19 55 16.6	-0.1
GRR				pmax		pmax			
	comp=Z,22nm,1.0s								
PLD	Plovdiv	78.52	328	P		P		19 55 17.9	+0.9
VTS	Vitosha	78.53	329		eP	P		19 55 17.1	-0.1
	comp=Z,12nm,0.8s								
VTS	Vitosha	78.53	329	P		P		19 55 17.4	+0.2
VTS	Vitosha	78.53	329	⇓	iP	P		19 55 17.9	+0.7
VTS	Vitosha	78.53	329		eP	P		19 55 17.1	-0.1
VTS				pmax		pmax			
	comp=Z,12nm,0.8s								
Z54A	Sparta	78.59	50	P		P		19 55 18.8	+1.3
	baz=326								
SGMF	Saint Gilles	78.85	348		eP	P		19 55 18.6	-0.1
SGMF				pmax		pmax			
	comp=Z,35nm,1.0s								
ROSF	Rostrenen	78.86	349		eP	P		19 55 18.7	0.0
ROSF				pmax		pmax			
	comp=Z,46nm,1.1s								
LOR	Lormes	78.87	344		eP	P		19 55 18.8	-0.1
LOR				pmax		pmax			
	comp=Z,19nm,1.0s								
HATD	Hatta, Dubai	78.96	296	P		P		19 55 18.6	-1.1
AS31	Alice Springs	79.03	205		eP	P		19 55 21.0	+1.1
ASAR	Alice Springs	79.04	205	P		P		19 55 21.0	+1.1
	comp=Z,2.0nm,0.8s,baz=11,slow=5.2,SNR=17								
RDO	Rodhopi	79.10	327		eP	P		19 55 20.3	+0.1
RDO	Rodhopi	79.10	327	P		P		19 55 20.3	+0.1
CABF	La Chapelle	79.11	342		eP	P		19 55 20.6	+0.3
CABF				pmax		pmax			
	comp=Z,34nm,1.2s								
ASHO	Ashiyiah	79.11	296	P		P		19 55 19.6	-0.9
SSF	Saint Saulge	79.13	344		eP	P		19 55 20.2	-0.1
SSF				pmax		pmax			
	comp=Z,8.0nm,0.8s								
ALN	Alexandroupoli	79.15	326		eP	P		19 55 19.9	-0.5
ALN	Alexandroupoli	79.15	326	P		P		19 55 19.9	-0.5
ALN	Alexandroupoli	79.15	326		eP	P		19 55 19.9	-0.5
QUIF	Quistinic	79.26	349		eP	P		19 55 20.8	-0.1
QUIF				pmax		pmax			
	comp=Z,13nm,0.9s								
SOHO	SOHO	79.28	295	P		P		19 55 20.7	-0.8
AVF	Avril sur Loir	79.42	344		eP	P		19 55 21.9	+0.1
AVF				pmax		pmax			
	comp=Z,17nm,0.9s								
NVR	Nevrokopi	79.47	328	P		P		19 55 22.2	-0.1
SMF	Signal de Mont	79.48	344		eP	P		19 55 23.0	+0.8
SMF				pmax		pmax			
	comp=Z,31nm,1.4s								
SKO	Skopje	79.67	330		iP	P		19 55 23.5	+0.2
STIP	Stip	79.69	330		iP	P		19 55 22.7	-0.7
SRS	Serrai	79.77	328	P		P		19 55 23.8	0.0
SRS	Serrai	79.77	328	P		P		19 55 24.1	+0.3
PDG	Podgorica	79.90	332	⇓	iP	P		19 55 24.8	+0.3
VAY	Valandovo	79.91	329		iP	P		19 55 25.0	+0.4
KNT	Kendrikon	79.95	329	P		P		19 55 25.2	+0.4
LPL	La Plagne	80.04	342		eP	P		19 55 26.4	+0.9
LPL				pmax		pmax			
	comp=Z,21nm,0.9s								
LPG	La Plagne	80.05	342		eP	P		19 55 26.6	+0.9
LPG				pmax		pmax			
	comp=Z,24nm,0.9s								
TCF	Toulx Ste Croi	80.10	345		eP	P		19 55 25.8	+0.2
TCF				pmax		pmax			
	comp=Z,13nm,1.0s								
SOH	Sokhos	80.11	328	P		P		19 55 25.9	+0.1
MFF	Saint Martin d	80.15	347		eP	P		19 55 26.0	+0.2
MFF				pmax		pmax			
	comp=Z,12nm,1.0s								
PHP	Peshkopia	80.24	331	P		P		19 55 25.7	-0.7
ISP	Isparta	80.26	322	⇓	eP	P		19 55 26.1	-0.6
ISP				pmax		pmax			
	comp=Z,10.0nm,1.0s								
KRUS	Krusevo	80.28	330		iP	P		19 55 25.3	-1.4
GRG	Griva	80.30	329	P		P		19 55 27.2	+0.5
LIA	Limnos Island	80.34	327	P		P		19 55 26.7	-0.2
KULA	Kula-Manisa	80.35	324	P		P		19 55 27.5	+0.4
OUR	Ouranopolis	80.35	328		eP	P		19 55 26.9	0.0
OUR	Ouranopolis	80.35	328	P		P		19 55 26.9	0.0
OUR	Ouranopolis	80.35	328		eP	P		19 55 26.9	0.0
PLG	Polygyros	80.49	328	P		P		19 55 27.6	-0.2
PRK	Paraskevi	80.55	326	P		P		19 55 28.1	+0.1
SIGR	SIGRI	80.73	326	P		P		19 55 28.6	-0.4
FNA	Florina	80.77	330	P		P		19 55 28.9	-0.4
FNA	Florina	80.77	330	P		P		19 55 31.7	+2.4
ORIF	Oris-en-Rattie	80.78	342		eP	P		19 55 30.2	+0.9
ORIF				pmax		pmax			
	comp=Z,19nm,1.0s								
PAIG	Paliouri	80.81	328	P		P		19 55 27.7	-1.7
MHTO	MHTO	80.97	292	P		P		19 55 31.0	+0.5
	SNR=8.2								
LIT	Litokhoron	81.04	329	P		P		19 55 30.1	-0.6
VIVF	Saint-Julien-l	81.06	343		eP	P		19 55 31.5	+0.7
VIVF				pmax		pmax			
	comp=Z,15nm,1.0s								
KZN	Kozani	81.08	329	P		P		19 55 30.8	-0.2
NEST	Nestorio	81.21	330	P		P		19 55 31.6	-0.1
CHOS	Chios island	81.39	325	P		P		19 55 32.5	-0.2
CAF	Calviac	81.45	345		eP	P		19 55 33.7	+0.9
CAF				pmax		pmax			
	comp=Z,28nm,1.1s								
SKY	Skiros Island	81.47	327		eP	P		19 55 32.8	-0.2
SKY	Skiros Island	81.47	327	P		P		19 55 32.8	-0.2
XOR	Xorichti	81.48	328	P		P		19 55 32.6	-0.5
NEO	Neokhori	81.53	328	P		P		19 55 30.6	-2.7
KPRO	Kipourio	81.53	329	P		P		19 55 33.4	0.0
LFF	La Frestale	81.64	346		eP	P		19 55 31.8	-2.0
LFF				pmax		pmax			
	comp=Z,21nm,1.0s								
CSS	Mathiatis	81.65	319	P		P		19 55 34.1	+0.1
MEV	Metsovon	81.73	329		eP	P		19 55 36.0	+1.5
MEV	Metsovon	81.73	329	P		P		19 55 36.0	+1.5
JAN	Janina	81.97	330		eP	P		19 55 36.1	+0.5
JAN	Janina	81.97	330	P		P		19 55 36.1	+0.5
JAN	Janina	81.97	330		eP	P		19 55 36.1	+0.5
EREA	Eretria	82.09	327	P		P		19 55 35.7	-0.6
IGT	Igoumenitsa	82.24	330		eP	P		19 55 36.8	-0.2
IGT	Igoumenitsa	82.24	330	P		P		19 55 36.8	-0.2
IGT	Igoumenitsa	82.24

*TIF **19** 19:45:37.9, 42.°01N×41.°08E, h29km±1km*
*ISK **19** 19:45:38.0, 42.°00N×41.°02E, h8km, ML2.4/2*
*DDA **19** 19:45:42.3, 41.°66N×41.°03E, h8km±3km, ML2.7*
ISC 19 19:45:37.0±1.3, 42.°05N±0.°02×41.°07E±0.°04, h4km±11km, n23, σ0.°87/41, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.64**	**133**	PG	**Pb**	**19 45 51.1**	**+0.3**
BATM				SG	**Sb**	**19 46 00.7**	**+0.6**
BATM	**Batumi**	**0.64**	**133**	P	**Pb**	**19 45 50.9**	**+0.2**
BATM				S	**Sb**	**19 46 00.2**	**+0.2**
BCA	**Borcka**	**0.73**	**145**	PG	**Pb**	**19 45 52.0**	**-0.2**
BCA				SG	**Sb**	**19 46 02.2**	**-0.4**
DBOC	**Borcka**	**0.83**	**147**	IAML_P			
	comp=Z,860nm,0.1s						
DBOC				*i* P	**Pb**	**19 45 54.0**	**0.0**
DBOC				*i* S	**Sg**	**19 46 04.7**	**+1.0**
DBAD	**Bademkaya**	**1.13**	**155**	IAML_P			
	comp=Z,646nm,0.1s						
DBAD				*i* P	**Pn**	**19 45 59.5**	**-0.1**
DBAD				*i* S	**Sg**	**19 46 12.7**	**-0.6**
DAGI	**Agillar**	**1.16**	**146**	*i* P	**Pg**	**19 45 59.4**	**+0.2**
DAGI				*i* S	**Sg**	**19 46 13.0**	**-1.1**
DDEM	**Demirkent**	**1.26**	**156**	IAML_P			
	comp=Z,509nm,0.1s						
DDEM				*i* P	**Pg**	**19 46 01.3**	**+0.2**
DOMR	**Dombai**	**1.31**	**18**	*e*Pg	**Pn**	**19 46 00.1**	**-2.2**
DOMR				*e*Sg	**Sg**	**19 46 17.3**	**-1.9**
EPOS	**Posof**	**1.35**	**113**	*i* P	**Pn**	**19 46 01.3**	**-1.5**
TKB	**Tkibuli**	**1.47**	**77**	P	**Pn**	**19 46 03.9**	**-0.3**
TKB				S	**Sn**	**19 46 22.9**	**-0.9**
MACK	**Trabzon**	**1.47**	**222**	*i* P	**Pg**	**19 46 05.5**	**+0.4**
ARXR	**Arkhyz**	**1.52**	**6**	*e*Pg	**Pg**	**19 46 06.9**	**+0.7**
ARXR				*e*Sg	**Sb**	**19 46 25.9**	**+0.3**
KRIK	**Erzurum-spir**	**1.71**	**184**	*i* P	**Pb**	**19 46 08.7**	**-0.4**
NEY	**Neytrino**	**1.71**	**45**	*e*Pg	**Pb**	**19 46 09.2**	**+0.1**
NEY				*e*Sg	**Sb**	**19 46 31.3**	**+0.2**
SRKG	**Sareki**	**1.72**	**80**	P	**Sn**	**19 46 28.7**	**-1.4**
BAYT	**Aydıntepe-Bayb**	**1.79**	**203**	PN	**Pn**	**19 46 09.4**	**+0.6**
BAYT				SN	**Sn**	**19 46 32.2**	**+0.1**
ONI	**Oni**	**1.85**	**72**	PN	**Pb**	**19 46 11.4**	**0.0**
ONI				SN	**Sb**	**19 46 35.7**	**+0.8**
ONI	**Oni**	**1.85**	**72**	P	**Pn**	**19 46 10.8**	**+1.2**
ONI				S	**Sb**	**19 46 34.8**	**-0.1**
DIGR	**Digorskoe uzhe**	**2.05**	**64**	*e*Pg	**Pn**	**19 46 12.6**	**+0.2**
DIGR				*i* Sg	**Sn**	**19 46 39.2**	**+0.8**
SHA1	**Shidzhatmaz**	**2.06**	**34**	*e*Pg	**Pb**	**19 46 15.5**	**+0.5**
SHA1				*e*Sg	**Sb**	**19 46 42.4**	**+1.4**
ZEI	**Tsey**	**2.23**	**70**	*e*Pg	**Pn**	**19 46 15.9**	**+1.1**
ZEI				*e*Sg	**Sb**	**19 46 46.1**	**+0.2**
LSNR	**Lesken**	**2.38**	**58**	*e*Pg	**Pn**	**19 46 18.7**	**+1.9**
LSNR				*e*Sg	**Sb**	**19 46 50.0**	**-0.1**
LACR	**Lac**	**2.52**	**71**	*e*Pn	**Pb**	**19 46 22.8**	**0.0**
LACR				*i* Sn	**Sb**	**19 46 53.7**	**-0.4**

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*IDC **19** 19:48:00.8±0.6, 52.°37N×160.°16E, h0km, mb4.2/29, mb1 4.4/31, mb1mx4.3/47, mbtmp4.2/31, ML3.8/2, Error ellipse: s-maj=17.0km s-min=11.3km az=145.0*
*KRSC **19** 19:48:01.4±10.0, 52.°15N×160.°55E, h61km±10km, ML5.0*
*ISCJB **19** 19:48:04.9±0.6, 52.°23N±0.°04×160.°34E±0.°06, h48km±3km, mb4.5/81, MS5.3/1, Error ellipse: s-maj=7.5km s-min=3.7km az=44.2*
*BJI **19** 19:48:04.5±0.0, 52.°83N×160.°00E, h39km, mb4.6/23, mB5.2/2, Ms5.4/1, Ms7 5.3/1*
*MOS **19** 19:48:05.6±1.1, 52.°30N×160.°24E, h52km, mb5.0/27, Error ellipse: s-maj=7.0km s-min=3.5km az=99.6*
*NEIC **19** 19:48:05.5±2.4, 52.°35N×160.°08E, h35km, mb4.6/25, Error ellipse: s-maj=18.0km s-min=16.3km az=188.0*
ISC 19 19:48:04.6±0.7, 52.°24N±0.°04×160.°37E±0.°04, h32km±4km, n270, σ1.°30/294, mb4.5/81, 25C-20D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.88**	**346**	*e*P	**Pn**	**19 48 20.3**	**-0.5**
SPN				*e*S	**Sb**	**19 48 32.9**	**-0.1**
SPN	**Mys Shipunski**	**0.88**	**346**	PN	**Pn**	**19 48 20.3**	**-0.5**
SPN				S	**Sb**	**19 48 32.9**	**-0.1**
NLC	**Nalytchevo**	**1.12**	**327**	*e*P	**Pb**	**19 48 24.7**	**-0.7**
NLC				*e*S	**Sb**	**19 48 40.5**	**+0.8**
NLC	**Nalytchevo**	**1.12**	**327**	PN	**Pb**	**19 48 24.7**	**-0.7**
NLC				S	**Sb**	**19 48 40.5**	**+0.8**
RUS	**Russkaya**	**1.15**	**280**	*e*P	**Pn**	**19 48 24.2**	**-0.3**
RUS	**Russkaya**	**1.15**	**280**	PN	**Pn**	**19 48 24.2**	**-0.3**
DALK	**Dalny**	**1.26**	**309**	*e*P	**Pn**	**19 48 26.6**	**+0.6**
DALK				*e*S	**Sb**	**19 48 44.3**	**+0.6**
DALK	**Dalny**	**1.26**	**309**	PN	**Pn**	**19 48 26.6**	**+0.6**
DALK				S	**Sb**	**19 48 44.3**	**+0.6**
PET	**Petropavlovsk**	**1.31**	**308**	*e*Pn	**Pb**	**19 48 27.4**	**-1.1**
PET				*e*Sn	**Sb**	**19 48 45.8**	**+0.8**
PET	**Petropavlovsk**	**1.31**	**308**	α *i* PN	**Pb**	**19 48 27.4**	**-1.1**
PET				*e*S	**Sb**	**19 48 46.6**	**+1.7**
PET				pmax	pmax		
	comp=Z,3μm,0.6s						
PET				pmax	pmax		
	comp=Z,4μm,0.6s						
PET				smax	smax		
	comp=N,8μm,1.1s						
PET				smax	smax		
	comp=N,9μm,0.4s						
PET				smax	smax		
	comp=E,12μm,0.6s						
UGLR	**Uglovaya**	**1.35**	**317**	*e*P	**Pb**	**19 48 28.6**	**-0.8**
UGLR	**Uglovaya**	**1.35**	**317**	PN	**Pb**	**19 48 28.6**	**-0.8**
MTVR	**Mutnovka**	**1.36**	**281**	*e*P	**Pn**	**19 48 28.2**	**+0.7**
MTVR	**Mutnovka**	**1.36**	**281**	PN	**Pn**	**19 48 28.2**	**+0.7**
SDLR	**Sedlovina**	**1.38**	**320**	*e*P	**Pb**	**19 48 28.9**	**-0.9**
SDLR	**Sedlovina**	**1.38**	**320**	PN	**Pb**	**19 48 28.9**	**-0.9**
SMAR	**Somma**	**1.40**	**318**	*e*P	**Pn**	**19 48 28.1**	**0.0**
SMAR	**Somma**	**1.40**	**318**	PN	**Pn**	**19 48 28.1**	**0.0**
AVH	**Avacha**	**1.43**	**317**	*e*P	**Pb**	**19 48 29.5**	**-1.1**
AVH	**Avacha**	**1.43**	**317**	PN	**Pb**	**19 48 29.5**	**-1.1**
GRL	**Gorelyy**	**1.44**	**283**	*e*P	**Pb**	**19 48 30.2**	**-0.7**
GRL	**Gorelyy**	**1.44**	**283**	PN	**Pb**	**19 48 30.2**	**-0.7**
KRER	**Koryakskii**	**1.45**	**318**	*e*P	**Pb**	**19 48 30.1**	**-1.0**
KRER	**Koryakskii**	**1.45**	**318**	PN	**Pb**	**19 48 30.1**	**-1.0**
KDTR	**Khodutka, Kamc**	**1.48**	**254**	*e*P	**Pn**	**19 48 28.5**	**-0.5**
KDTR				*e*S	**Sn**	**19 48 47.1**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.48**	**254**	PN	**Pn**	**19 48 28.5**	**-0.5**
KDTR				S	**Sn**	**19 48 47.1**	**-0.1**
KOK	**Koryaka**	**1.49**	**316**	*e*P	**Pn**	**19 48 30.3**	**+1.1**
KOK	**Koryaka**	**1.49**	**316**	PN	**Pn**	**19 48 30.3**	**+1.1**
KRMR	**Karymshinskiy**	**1.49**	**294**	*e*P	**Pn**	**19 48 30.0**	**+0.9**
KRMR				*e*S	**Sb**	**19 48 50.2**	**+0.1**
KRMR	**Karymshinskiy**	**1.49**	**294**	PN	**Pn**	**19 48 30.0**	**+0.9**
KRMR				S	**Sb**	**19 48 50.2**	**+0.1**
ASAK	**Asacha**	**1.52**	**276**	*e*P	**Pn**	**19 48 30.5**	**+0.9**
ASAK	**Asacha**	**1.52**	**276**	PN	**Pn**	**19 48 30.5**	**+0.9**
KRX	**Arik**	**1.53**	**318**	*e*P	**Pn**	**19 48 31.0**	**+1.2**
KRX	**Arik**	**1.53**	**318**	PN	**Pn**	**19 48 31.0**	**+1.2**
PEA0B	**Petropavlovsk-**	**1.84**	**299**	*e*Pn	**Pb**	**19 48 40.0**	**+2.4**
PEA0B				*e*Sn	**Sb**	**19 49 04.0**	**+3.7**
PEA0B	**Petropavlovsk-**	**1.84**	**299**	*e*PN	**Pb**	**19 48 40.0**	**+2.4**
PETK	**Petropavlovsk-**	**1.84**	**299**	Pn	**Pn**	**19 48 35.5**	**+1.5**
	comp=E,116nm,0.3s,baz=104,slow=19,SNR=46						
PETK				Sn	**Sb**	**19 49 00.9**	**+0.6**
	comp=E,300nm,0.3s,baz=210,slow=17,SNR=14						
PEA1	**Petropavlovsk-**	**1.84**	**299**	*e*Pn	**Pn**	**19 48 35.5**	**+1.4**
PEA1				*e*Sn	**Sb**	**19 49 00.9**	**+0.5**
APC	**Apacha**	**2.07**	**291**	*e*P	**Pn**	**19 48 39.0**	**+1.9**
APC				*e*S	**Sb**	**19 49 05.6**	**-1.3**
APC	**Apacha**	**2.07**	**291**	PN	**Pn**	**19 48 39.0**	**+1.9**
APC				S	**Sb**	**19 49 05.6**	**-1.3**
PAU	**Pauzhetka**	**2.34**	**252**	*e*P	**Pn**	**19 48 42.3**	**+1.5**
PAU	**Pauzhetka**	**2.34**	**252**	PN	**Pn**	**19 48 42.3**	**+1.5**
MKZ	**Mys Kozlova**	**2.46**	**19**	*e*P	**Pn**	**19 48 41.9**	**-0.5**
MKZ				*e*S	**Sn**	**19 49 10.6**	**-0.7**
MKZ	**Mys Kozlova**	**2.46**	**19**	PN	**Pn**	**19 48 41.9**	**-0.5**
MKZ				S	**Sn**	**19 49 10.6**	**-0.7**
KZV	**Kizimen**	**2.88**	**359**	*e*P	**Pn**	**19 48 50.5**	**+2.1**
KZV	**Kizimen**	**2.88**	**359**	PN	**Pn**	**19 48 50.5**	**+2.1**
TUMD	**Tumrok D**	**2.97**	**0**	*e*P	**Pn**	**19 48 50.0**	**+0.5**
TUMD				*e*S	**Sn**	**19 49 24.1**	**+0.1**
TUMR	**Tumrok**	**3.05**	**358**	PN	**Pn**	**19 48 50.0**	**-0.7**
TUMR				S	**Sn**	**19 49 24.1**	**-2.0**
SKR	**Severo-Kuril's**	**3.08**	**241**	*e*P	**Pn**	**19 48 51.3**	**+0.3**
SKR				*e*S	**Sn**	**19 49 25.9**	**-0.8**
SKR	**Severo-Kuril's**	**3.08**	**241**	*e*PN	**Pn**	**19 48 52.2**	**+1.2**
SKR				*e*S	**Sn**	**19 49 26.2**	**-0.5**
SKR				pmax	pmax		
	comp=Z,291nm,0.8s						
SKR				smax	smax		
	comp=E,732nm,0.6s						
SKR				smax	smax		
	comp=N,1μm,0.9s						
ALID	**Alaid**	**3.31**	**247**	*e*P	**Pn**	**19 48 54.3**	**+0.1**
ALID	**Alaid**	**3.31**	**247**	PN	**Pn**	**19 48 54.3**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**3.71**	**3**	*e*P	**Pn**	**19 49 02.2**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**3.71**	**3**	PN	**Pn**	**19 49 02.2**	**+2.4**
BZWR	**Bezymyannyi-We**	**3.73**	**1**	*e*P	**Pn**	**19 49 01.7**	**+1.6**
BZWR	**Bezymyannyi-We**	**3.73**	**1**	PN	**Pn**	**19 49 01.7**	**+1.6**
ESO	**Esso**	**3.82**	**346**	*e*P	**Pn**	**19 49 03.4**	**+2.2**
ESO	**Esso**	**3.82**	**346**	PN	**Pn**	**19 49 03.4**	**+2.2**
LGNR	**Loginova**	**3.85**	**3**	*e*P	**Pn**	**19 49 04.0**	**+2.1**
LGNR	**Loginova**	**3.85**	**3**	PN	**Pn**	**19 49 04.0**	**+2.1**
CIRR	**Tsirk**	**3.89**	**3**	*e*P	**Pn**	**19 49 03.7**	**+1.5**
CIRR	**Tsirk**	**3.89**	**3**	PN	**Pn**	**19 49 03.7**	**+1.5**
KLY	**Klyuchi**	**4.08**	**2**	*e*P	**Pn**	**19 49 06.4**	**+1.7**
KLY	**Klyuchi**	**4.08**	**2**	PN	**Pn**	**19 49 06.4**	**+1.7**
SRDR	**Sredinnyy**	**4.10**	**355**	*e*P	**Pn**	**19 49 06.9**	**+1.8**
SRDR	**Sredinnyy**	**4.10**	**355**	PN	**Pn**	**19 49 06.9**	**+1.8**
KBTR	**Krutoberegovo**	**4.23**	**19**	*e*P	**Pn**	**19 49 06.8**	**+0.1**
KBTR	**Krutoberegovo**	**4.23**	**19**	PN	**Pn**	**19 49 06.8**	**+0.1**
BDR	**Baidarnaya**	**4.36**	**6**	*e*P	**Pn**	**19 49 10.7**	**+2.0**
BDR	**Baidarnaya**	**4.36**	**6**	PN	**Pn**	**19 49 10.7**	**+2.0**
SMKR	**Semkarok**	**4.40**	**8**	*e*P	**Pn**	**19 49 08.6**	**-0.5**
SMKR	**Semkarok**	**4.40**	**8**	PN	**Pn**	**19 49 08.6**	**-0.5**
SRKR	**Sorokina**	**4.45**	**6**	*e*P	**Pn**	**19 49 11.7**	**+1.9**
SRKR	**Sorokina**	**4.45**	**6**	PN	**Pn**	**19 49 11.7**	**+1.9**
BKI	**Bering**	**4.46**	**46**	*e*S	**Sn**	**19 49 56.7**	**-3.9**
TILK	**Tilichiki**	**8.82**	**19**	*e*P	**Pn**	**19 50 10.6**	**+0.9**
TILK	**Tilichiki**	**8.82**	**19**	PN	**Pn**	**19 50 10.6**	**+0.9**
ASAJ	**Asahikawa**	**14.35**	**243**	P	**Pn**	**19 51 25.0**	**-0.3**
ASAJ	**Asahikawa**	**14.35**	**243**	Pn	**Pn**	**19 51 25.0**	**-0.3**
	comp=N,0.7nm,0.3s,baz=91,slow=15,SNR=8.0						
GRNR	**Gornyy**	**14.97**	**274**	*e*P	**P**	**19 51 41.3**	**+2.5**
GRNR				pmax	pmax		
	comp=Z,40nm,1.0s						
ERM	**Erimo**	**15.51**	**236**	*e*Pn	**Pn**	**19 51 37.4**	**-3.4**
	comp=Z,31nm,1.1s						
ERM	**Erimo**	**15.51**	**236**	*e*P	**Pn**	**19 51 37.4**	**-3.4**
ERM				pmax	pmax		
	comp=Z,31nm,1.1s						
BILL	**Bilibino**	**16.11**	**8**	*e*P	**Pn**	**19 51 49.5**	**+1.2**
BILL				pmax	pmax		
	comp=Z,15nm,0.9s						
TEY	**Ternei**	**17.23**	**255**	⇑*e*P	**P**	**19 52 03.8**	**-0.1**
TEY				pmax	pmax		
	comp=Z,20nm,0.8s						
TEY				pmax	pmax		
	comp=E,20nm,0.7s						
KLR	**Kul'dur**	**18.31**	**272**	P	**Pn**	**19 52 16.1**	**+0.2**
	comp=E,0.3nm,0.3s,baz=60,slow=11,SNR=11						
ZEA	**Zeya**	**19.89**	**287**	*e*P	**P**	**19 52 31.4**	**-1.7**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
USRK	**Ussuriysk Ar.**	**20.45**	**258**	P	**P**	**19 52 36.9**	**-2.3**
	comp=Z,9.1nm,0.9s,baz=60,slow=11,SNR=7.8						
MJB9	**Matsu-Tunnel**	**22.16**	**234**	*e*P	**P**	**19 52 59.0**	**+1.3**
MAJO	**Matsushiro**	**22.16**	**234**	*e*P	**P**	**19 52 58.0**	**+0.3**
	comp=Z,23nm,1.0s						
MAJO	**Matsushiro**	**22.16**	**234**	⇑*e*P	**P**	**19 52 58.3**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,27nm,1.0s						
MAT	**Matsushiro**	**22.16**	**234**	P	**P**	**19 52 58.2**	**+0.5**
MJAR	**Matsushiro Arr**	**22.16**	**234**	*e*P	**P**	**19 52 55.3**	**-2.4**
MJAR	**Matsushiro Arr**	**22.16**	**234**	P	**P**	**19 52 58.6**	**+0.9**
	comp=Z,12nm,1.0s,baz=20,slow=9.7,SNR=14						
TIXI	**Tiksi**	**23.93**	**336**	*e*P	**P**	**19 53 14.4**	**-0.8**
	comp=Z,23nm,0.7s						
TIXI	**Tiksi**	**23.93**	**336**	*de*P	**P**	**19 53 14.2**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,22nm,0.8s						
TIXI	**Tiksi**	**23.93**	**336**	P	**P**	**19 53 14.1**	**-1.1**
	comp=Z,23nm,0.7s,baz=124,slow=8.9,SNR=28						
HIA	**Hailar**	**25.64**	**280**	⇓*e*P	**P**	**19 53 29.2**	**-1.8**
HIA				pmax	pmax		
	comp=Z,146nm,0.8s						
IMAR	**Indian Mountai**	**26.53**	**41**	*e*P	**P**	**19 53 39.1**	**+0.2**
BOD	**Bodaibo**	**26.71**	**301**	*e*P	**P**	**19 53 38.9**	**-1.7**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.7s						
SNY	**Shenyang**	**26.88**	**262**	⇑P	**P**	**19 53 43.8**	**+1.6**
SNY				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSRS	**Korea Array**	**27.06**	**250**	P	**P**	**19 53 45.6**	**+1.7**
	comp=Z,3.2nm,0.9s,baz=47,slow=9.3,SNR=7.0						
JNU	**Nakatsue**	**28.59**	**240**	*e*P	**P**	**19 53 56.0**	**-1.7**
	comp=Z,15nm,0.9s						
JNU	**Nakatsue**	**28.59**	**240**	P	**P**	**19 53 58.6**	**+0.9**
	comp=Z,8.5nm,0.8s,baz=283,slow=2.8,SNR=4.1						
ILAR	**Eielson Array**	**29.30**	**44**	P	**P**	**19 54 04.6**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=258,slow=8.4,SNR=4.2						
ILB	**Eielson Array**	**29.30**	**44**	*e*P	**P**	**19 54 04.6**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**32.84**	**169**	T	T	20 30 42.6	
	baz=352,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**32.86**	**169**	T	T	20 30 24.8	
	baz=352,slow=76,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**32.86**	**169**	T	T	20 30 42.7	
	baz=352,slow=76,SNR=17						
ULN	**Ulaanbaatar**	**33.86**	**284**	⇑*e*P	**P**	**19 54 43.4**	**-0.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONA0	**Songino Array**	**34.27**	**285**	*e*P	**P**	**19 54 46.2**	**-1.4**
SONM	**Songino Array**	**34.27**	**285**	P	**P**	**19 54 46.2**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=77,slow=8.3,SNR=4.2						
INK	**Inuvik**	**34.45**	**37**	*e*P	**P**	**19 54 49.1**	**+0.4**
	comp=Z,2.7nm,0.9s						
INK	**Inuvik**	**34.45**	**37**	P	**P**	**19 54 49.1**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=295,slow=7.0,SNR=3.9						
ZAK	**Zakamensk**	**34.94**	**290**	*e*P	**P**	**19 54 52.0**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NRIK	**Noril'sk**	**36.70**	**325**	P	**P**	**19 55 06.6**	**-1.5**
	comp=Z,2.8nm,0.6s,baz=69,slow=5.7,SNR=3.8						
WHN	**Wuhan**	**39.90**	**255**	P	**P**	**19 55 36.5**	**+1.1**
GTA	**Gaotai**	**42.88**	**277**	⇑P	**P**	**19 55 59.0**	**-0.9**
GTA				pP	sP	19 56 12.0	-0.4
GTA				sP	pwP	19 56 16.9	+5.4
GTA				PcP	**PcP**	**19 57 51.8**	**+1.5**
GTA				LR	LR		
	comp=Z,2μm,14.3s						
GTA				LR	LR		
	comp=Z,2μm,14.9s						
GTA				LR	LR		
	comp=Z,3μm,14.6s						
ZALV	**Zalesovo Beam**	**43.38**	**304**	*e*P	**P**	**19 55 59.9**	**-3.7**
ZALV	**Zalesovo Beam**	**43.38**	**304**	P	**P**	**19 56 01.6**	**-2.0**
	comp=Z,2.4nm,0.7s,baz=55,slow=7.5,SNR=7.1						
YKA	**Yellowknife Ar**	**43.68**	**42**	P	**P**	**19 56 06.9**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=300,slow=8.3,SNR=4.0						
YKB5	**Yellowknife Ar**	**43.68**	**42**	*e*P	**P**	**19 56 06.9**	**+1.0**
NVS	**Novosibirsk**	**43.74**	**305**	⇑*i*P	**P**	**19 56 05.4**	**-1.1**
NVS				pmax	pmax		
	comp=Z,24nm,1.1s						
NVS				pmax	pmax		
	comp=E,15nm,1.2s						
RES	**Resolute Bay**	**44.05**	**22**	*e*P	**P**	**19 56 10.4**	**+1.7**
	comp=E,2.5nm,1.1s						
RES	**Resolute Bay**	**44.05**	**22**	P	**P**	**19 56 09.4**	**+0.7**
	comp=E,2.2nm,0.8s,baz=304,slow=9.2,SNR=5.0						
DGZ	**Jazzator, Alta**	**44.20**	**297**	*ce*P	**P**	**19 56 09.3**	**-1.2**
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SPA0	**Spitsbergen Ar**	**48.00**	**351**	*e*P	**P**	**19 56 40.3**	**+0.4**
SPITS	**Spitsbergen Ar**	**48.00**	**351**	P	**P**	**19 56 40.2**	**+0.4**
	comp=Z,22nm,0.8s,baz=62,slow=7.9,SNR=27						
KURK	**Kurchatov**	**48.33**	**303**	*e*P	**P**	**19 56 40.8**	**-1.9**
	comp=Z,14nm,0.8s						
KURK	**Kurchatov**	**48.33**	**303**	*de*P	**P**	**19 56 41.2**	**-1.5**
KURK				pmax	pmax		
	comp=Z,17nm,1.0s						
MK31	**Makanchi Array**	**48.68**	**296**	*e*P	**P**	**19 56 43.9**	**-1.6**
	comp=Z,2.6nm,0.6s						
MKAR	**Makanchi Array**	**48.68**	**296**	*e*P	**P**	**19 56 43.5**	**-1.9**
MKAR	**Makanchi Array**	**48.68**	**296**	P	**P**	**19 56 43.8**	**-1.7**
	comp=Z,2.6nm,0.6s,baz=55,slow=6.6,SNR=22						
MAKZ	**Makanchi**	**48.84**	**297**	*e*P	**P**	**19 56 45.1**	**-1.6**
	comp=Z,4.9nm,0.8s						
BRVK	**Borovoye**	**51.08**	**309**	*e*P	**P**	**19 57 02.5**	**-1.1**
	comp=Z,13nm,1.0s						
BRVK	**Borovoye**	**51.08**	**309**	*de*P	**P**	**19 57 02.0**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,12nm,0.9s						
FFC	**Flin Flon**	**53.50**	**46**	*i* P	**P**	**19 57 23.9**	**+2.4**
LVZ	**Lovozero**	**53.55**	**338**	*e*P	**P**	**19 57 21.8**	**+0.1**
	comp=Z,34nm,1.1s						
LVZ	**Lovozero**	**53.55**	**338**	*ce*P	**P**	**19 57 20.8**	**-0.9**
LVZ				pmax	pmax		
	comp=Z,16nm,0.9s						
ARU	**Arti**	**54.14**	**318**	*e*P	**P**	**19 57 22.8**	**-3.4**
	comp=Z,8.7nm,0.7s						
ARU	**Arti**	**54.14**	**318**	⇑*e*P	**P**	**19 57 25.8**	**-0.3**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARCES	**ARCESS Array B**	**54.15**	**342**	*e*P	**P**	**19 57 25.2**	**-0.8**
ARCES	**ARCESS Array B**	**54.15**	**342**	*e*P	**P**	**19 57 25.2**	**-0.8**
ARCES	**ARCESS Array B**	**54.15**	**342**	P	**P**	**19 57 26.1**	**0.0**
	comp=Z,10nm,0.9s,baz=34,slow=8.8,SNR=13						
ARE0	**ARCESS Array S**	**54.15**	**342**	*e*P	**P**	**19 57 24.5**	**-1.6**
	comp=Z,0.5nm,0.9s						
KDJ	**Kajisay**	**54.46**	**295**	*e*P	**P**	**19 57 27.1**	**-1.8**
	comp=Z,5.9nm,0.8s						
SUMG	**Summit**	**54.79**	**7**	*i* P	**P**	**19 57 31.6**	**+0.5**
SUMG				pmax	pmax		
	comp=Z,29nm,1.0s						
SUMG	**Summit**	**54.79**	**7**	*i* P	**P**	**19 57 31.6**	**+0.5**
	comp=Z,29nm,1.0s						
PRGR	**Permogore**	**55.25**	**328**	*e*P	**P**	**19 57 32.5**	**-1.6**
PRGR				pmax	pmax		
	comp=Z,18nm,0.7s						
AAK	**Ala-Archa**	**55.61**	**297**	⇓*e*P	**P**	**19 57 36.4**	**-0.8**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TMCR	**Tamitsa**	**55.61**	**333**	*e*P	**P**	**19 57 36.9**	**+0.3**
TMCR				pmax	pmax		
	comp=Z,37nm,0.9s						
SGF	**Sodankyl**	**55.72**	**340**	P	**P**	**19 57 39.9**	**+2.5**
SGF				pmax	pmax		
	comp=Z,49nm,0.6s						
NV01	**Mina Array Sit**	**55.88**	**70**	*e*P	**P**	**19 57 40.8**	**+1.5**
NVAR	**Mina Array Bea**	**55.88**	**70**	P	**P**	**19 57 40.8**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=290,slow=6.6,SNR=2.6						
MSF	**Maaselka**	**56.47**	**338**	P	**P**	**19 57 44.4**	**+1.7**
MSF				pmax	pmax		
	comp=Z,41nm,1.1s						
KKAR	**Karatay Array**	**57.45**	**300**	*e*P	**P**	**19 57 49.1**	**-0.9**
	comp=Z,4.7nm,0.9s						
KLMR	**Klimovskoe**	**57.77**	**330**	*e*P	**P**	**19 57 49.8**	**-2.2**
KLMR				pmax	pmax		
	comp=Z,21nm,0.9s						
PDAR	**Pinedale Array**	**57.80**	**60**	P	**P**	**19 57 54.3**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=343,slow=2.8,SNR=4.4						
OUL	**Oulu**	**57.87**	**339**	P	**P**	**19 57 54.3**	**+1.7**
OUL				pmax	pmax		
	comp=Z,33nm,1.4s						
CHTO	**Chiang Mai**	**57.90**	**259**	*e*P	**P**	**19 57 54.0**	**+0.5**
	comp=Z,7.6nm,0.9s						
CM31	**Chiang Mai Arr**	**58.17**	**259**	*e*P	**P**	**19 57 55.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**58.17**	**259**	*e*P	**P**	**19 57 56.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**58.17**	**259**	P	**P**	**19 57 56.6**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=28,slow=7.0,SNR=20						
ABKAR	**Akbulak array**	**58.48**	**311**	*e*P	**P**	**19 57 55.8**	**-1.4**
ABKAR				*e*P	**P**	**19 57 56.5**	**-0.7**
JIRN	**Jiri**	**59.14**	**276**

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LANS  Liptovska Anna   73.65 334 eP          P     19 59 36.5 +1.9
LANS  Liptovska Anna   73.65 334 eP          P     19 59 36.5 +1.9
TRPA  Tarpa            73.73 332⇓iP          P     19 59 36.2 +1.2
TESR  Tescani          73.93 329⇑iP          P     19 59 36.9 +0.7
PRU   Pruhonice        74.10 338 eP          P     19 59 38.0 +0.8
PRU                              e                  19 59 50.0
PRU   Pruhonice        74.10 338 eP          P     19 59 38.0 +0.8
PRU                              epP          sP    19 59 50.0 -0.1
VRAC  Vranov           74.24 336⇑iP          P     19 59 39.5 +1.4
VRAC  Vranov           74.24 336 ⇑P          P     19 59 39.5 +1.4
VRAC  Vranov           74.24 336 eP          P     19 59 39.4 +1.4
JAVC  Velka Javorina   74.39 335 eP          P     19 59 40.7 +1.8
VYHS  Vyhne            74.42 335 eP          P     19 59 40.0 +0.9
VYHS                             pmax       pmax
      comp=Z,2.0nm,0.8s
VYHS  Vyhne            74.42 335 eP          P     19 59 40.0 +0.9
VRI   Vrincioaia       74.48 328⇓iP          P     19 59 40.0 +0.5
VRI   Vrincioaia       74.48 328 ⇓P          P     19 59 40.0 +0.5
KRUC  Moravsky         74.52 336 eP          P     19 59 40.2 +0.6
TREC  Trest            74.53 337 eP          P     19 59 41.0 +1.3
TREC  Trest            74.53 337 eP          P     19 59 41.0 +1.3
CFR   Carcaliu         74.62 327⇑iP          P     19 59 40.6 +0.3
CFR   Carcaliu         74.62 327 ⇑P          P     19 59 40.6 +0.3
CJR   Cluj-Napoca      74.69 331⇑iP          P     19 59 41.6 +0.8
CJR   Cluj-Napoca      74.69 331 ⇑P          P     19 59 41.6 +0.8
DRGR                   74.89 331⇓iP          P     19 59 42.6 +0.7
DRGR                   74.89 331 ⇓P          P     19 59 42.6 +0.7
MLR   Muntele Rosu     75.06 329⇑iP          P     19 59 44.7 +1.7
MLR   Muntele Rosu     75.06 329 ⇑P          P     19 59 44.7 +1.7
KHC   Kasperske Hory   75.13 338 eP          P     19 59 44.2 +1.0
KHC                              e                  19 59 56.0
KHC   Kasperske Hory   75.13 338 eP          P     19 59 44.2 +1.0
KHC                              epP          sP    19 59 56.0 -0.1
GERES GERESS Array B   75.37 338 eP          P     19 59 45.1 +0.5
GERES GERESS Array B   75.37 338 P           P     19 59 45.3 +0.6
      comp=Z,1.5nm,0.8s,baz=40,slow=4.4,SNR=8.4
WR1   Warramunga Arr   75.38 205 eP          P     19 59 45.6 +0.8
WRA   Warramunga Arr   75.38 205 P           P     19 59 45.6 +0.8
      comp=Z,0.7nm,0.7s,baz=26,slow=5.2,SNR=5.3
VOIR                   75.39 329⇓iP          P     19 59 46.0 +1.2
VOIR                   75.39 329 ⇓P          P     19 59 46.1 +1.2
ARR   Arges            75.59 329⇓iP          P     19 59 47.5 +1.6
ICOR  Ion Corvin       75.67 327⇓iP          P     19 59 47.8 +1.5
CONA  Conrad Observa   75.70 336 eP          P     19 59 48.1 +1.5
      comp=Z,4.7nm,1.0s
GZR   Gura Zlata       76.13 331⇓iP          P     19 59 49.5 +0.4
GZR   Gura Zlata       76.13 331 ⇓P          P     19 59 49.5 +0.4
MOA   Molln            76.17 337 eP          P     19 59 48.5 -0.6
      comp=Z,3.3nm,1.1s
BZS   Buzias           76.28 332⇑iP          P     19 59 49.7 -0.1
BZS   Buzias           76.28 332 ⇑P          P     19 59 49.7 -0.1
ARSA  Arzberg          76.42 336 eP          P     19 59 51.9 +1.3
      comp=Z,4.5nm,1.3s
HERR  Herculane        76.71 331⇑iP          P     19 59 52.2  0.0
SOKA  Soboth           77.08 336 eP          P     19 59 56.2 +1.8
      comp=Z,5.8nm,1.2s
KBA   Koelnbreinsper   77.11 338 eP          P     19 59 56.4 +1.7
      comp=Z,12nm,0.8s
WATA  Walderalm        77.27 339 eP          P     19 59 57.3 +1.8
      comp=Z,6.0nm,1.2s
WTTA  Wattenberg       77.32 339 eP          P     19 59 57.4 +1.5
      comp=Z,6.5nm,1.1s
MOTA  Moosalm          77.36 339 eP          P     19 59 57.6 +1.5
      comp=Z,3.2nm,0.9s
BRTR  Keskin Array B   77.39 321 iP          P     19 59 56.4 +0.1
BRTR                             pmax       pmax
      comp=Z,2.0nm,0.9s
BRTR  Keskin Array B   77.39 321 P           P     19 59 56.0 -0.3
      comp=Z,1.9nm,0.9s,baz=48,slow=3.7,SNR=6.9
SQTA  Sankt Quirin     77.46 339 eP          P     19 59 58.0 +1.4
      comp=Z,6.4nm,1.0s
ABTA  Abfaltersbach    77.61 338 eP          P     19 59 58.3 +0.9
      comp=Z,4.1nm,0.8s
FETA  Feichten         77.75 339 eP          P     19 59 59.7 +1.5
      comp=Z,3.6nm,0.9s
VTS   Vitosha          78.50 329 P           P     20 00 04.3 +1.8
VTS                              pmax       pmax
      comp=Z,7.0nm,0.9s
AS31  Alice Springs    79.05 205 eP          P     20 00 06.7 +1.4
      comp=Z,1.0nm,1.1s
ASAR  Alice Springs    79.05 205 P           P     20 00 06.7 +1.3
      comp=Z,0.6nm,0.6s,baz=15,slow=5.6,SNR=12
ESDC  Sonseca Array    87.45 348 P           P     20 00 49.1 +0.4
      comp=Z,1.3nm,0.7s,baz=61,slow=4.6,SNR=6.8
TORD  Torodi Ar. Bea   112.32 337 PP          PP    20 07 19.5 -2.2
      comp=Z,1.6nm,1.0s,baz=350,slow=6.6,SNR=5.4
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IDC ***19*** *19:51:20.8±0.5,52°.33N×160°.19E,h0km,mb4.6/41,*
mb1 4.7/44,mb1mx4.6/53,mbtmp4.6/44,ML4.2/2,MS4.7/1,
Ms1 4.7/1,ms1mx3.6/39,Error ellipse: s-maj=12.5km
s-min=9.2km az=161.0
KRSC ***19*** *19:51:21.0±10.0,52°.12N×160°.67E,h61km±10km,ML5.1*
ISCJB ***19*** *19:51:24.8±0.5,52°.22N±0°.03×160°.44E±0°.04,h41km±3km,*
mb5.0/207,MS4.7/1,Error ellipse: s-maj=5.5km
s-min=2.9km az=138.7
MOS ***19*** *19:51:25.6±1.1,52°.29N×160°.33E,h45km,mb5.2/108,*
Error ellipse: s-maj=5.8km s-min=2.9km az=101.0
NEIC ***19*** *19:51:25.9±0.3,52°.26N×160°.28E,h35km,mb5.0/34,Error*
ellipse: s-maj=7.7km s-min=5.5km az=158.0
BJI ***19*** *19:51:26.7±0.0,52°.75N×159°.77E,h44km,mb4.9/41,*
mB5.5/9,Ms5.4/15,Ms7 5.3/16

ISC 19 19:51:25.9±0.4,52°.24N±0°.05×160°.51E±0°.04,h37km±1km,
n519,σ1$28/551,mb4.9/214,37C-33D,Off east coast of
Kamchatka Peninsula

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Code  Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
SPN   Mys Shipunski    0.92 341 eP    Pn          19 51 40.4 -1.8
SPN                             eS    Sn          19 51 54.4 +0.3
SPN   Mys Shipunski    0.92 341 PN    Pn          19 51 40.4 -1.8
SPN                             S     Sn          19 51 54.4 +0.3
NLC   Nalytchevo       1.18 323 eP    Pn          19 51 45.0 -0.7
NLC                             eS    Sn          19 52 01.9 +1.4
NLC   Nalytchevo       1.18 323 PN    Pn          19 51 45.0 -0.7
NLC                             S     Sn          19 52 01.9 +1.4
RUS   Russkaya         1.24 280 eP    Pn          19 51 45.2 -1.4
RUS   Russkaya         1.24 280 PN    Pn          19 51 45.2 -1.4
DALK  Dalny            1.34 307 eP    Pn          19 51 47.5 -0.4
DALK                            eS    Sn          19 52 05.8 +1.4
DALK  Dalny            1.34 307 PN    Pn          19 51 47.5 -0.4
DALK                            S     Sn          19 52 05.8 +1.4
PET   Petropavlovsk    1.38 306 ePn   Pn          19 51 48.0 -0.6
PET   Petropavlovsk    1.38 306α iPN  Pn          19 51 47.8 -0.8
PET                             eS    Sn          19 52 07.4 +1.8
PET                             pmax       pmax
      comp=Z,4μm,0.6s
PET                             smax       smax
      comp=N,13μm,0.7s
PET                             smax       smax
      comp=E,11μm,0.7s
UGLR  Uglovaya         1.42 314 eP    Pn          19 51 48.8 -0.4
UGLR  Uglovaya         1.42 314 PN    Pn          19 51 48.8 -0.4
SDLR  Sedlovina        1.44 317 eP    Pn          19 51 49.0 -0.5
SDLR  Sedlovina        1.44 317 PN    Pn          19 51 49.0 -0.5
MTVR  Mutnovka         1.45 281 eP    Pn          19 51 48.5 -1.2
MTVR  Mutnovka         1.45 281 PN    Pn          19 51 48.5 -1.2
SMAR  Somma            1.46 315 eP    Pn          19 51 49.3 -0.6
SMAR  Somma            1.46 315 PN    Pn          19 51 49.3 -0.6
AVH   Avacha           1.49 314 eP    Pn          19 51 49.9 -0.3
AVH   Avacha           1.49 314 PN    Pn          19 51 49.9 -0.3
KRER  Koryakskii       1.52 316 eP    Pn          19 51 50.4 -0.2
KRER  Koryakskii       1.52 316 PN    Pn          19 51 50.4 -0.2
GRL   Gorelyy          1.53 283 eP    Pn          19 51 50.5 -0.2
GRL   Gorelyy          1.53 283 PN    Pn          19 51 50.5 -0.2
KOK   Koryaka          1.56 314 eP    Pn          19 51 50.5 -0.6
KOK   Koryaka          1.56 314 PN    Pn          19 51 50.5 -0.6
KDTR  Khodutka, Kamc   1.56 255 eP    Pn          19 51 49.2 -1.9
KDTR                            eS    Sn          19 52 08.7 -1.3
KDTR  Khodutka, Kamc   1.56 255 PN    Pn          19 51 49.2 -1.9
KDTR                            S     Sn          19 52 08.7 -1.3
KRMR  Karymshinskiy    1.57 293 eP    Pn          19 51 50.6 -0.6
KRMR                            eS    Sn          19 52 11.0 +0.7
KRMR  Karymshinskiy    1.57 293 PN    Pn          19 51 50.6 -0.6
KRMR                            S     Sn          19 52 11.0 +0.7
KRX   Arik             1.60 316 eP    Pn          19 51 52.7 +1.0
KRX   Arik             1.60 316 PN    Pn          19 51 52.7 +1.0
ASAK  Asacha           1.61 276 eP    Pn          19 51 51.2 -0.6
ASAK  Asacha           1.61 276 PN    Pn          19 51 51.2 -0.6
PEA0B Petropavlovsk-   1.92 298 ePn   Pn          19 51 56.3 +0.3
PEA0B Petropavlovsk-   1.92 298 ePN   Pn          19 51 56.3 +0.3
PETK  Petropavlovsk-   1.92 298 ePn   Pn          19 51 56.0  0.0
PETK  Petropavlovsk-   1.92 298 ePN   Pn          19 51 56.1  0.0
PETK  Petropavlovsk-   1.92 298 Pn     Pn          19 51 55.6 -0.4
      comp=E,179nm,0.3s,baz=99,slow=17,SNR=19
PETK                            Sn     Sn          19 52 22.3 +3.4
      comp=E,161nm,0.3s,baz=92,slow=19,SNR=6.8
PEA1  Petropavlovsk-   1.93 298 ePn   Pn          19 51 55.6 -0.4
PEA1                            eSn    Sn          19 52 22.3 +3.3
APC   Apacha           2.16 290 eP    Pn          19 51 59.6 +0.3
APC                             eS    Sn          19 52 26.0 +1.3
APC   Apacha           2.16 290 PN    Pn          19 51 59.6 +0.3
APC                             S     Sn          19 52 26.0 +1.3
PAU   Pauzhetka        2.42 253 eP    Pn          19 52 03.1 +0.3
PAU                             eS    Sn          19 52 31.0 -0.2
PAU   Pauzhetka        2.42 253 PN    Pn          19 52 03.1 +0.3
PAU                             S     Sn          19 52 31.0 -0.2
MKZ   Mys Kozlova      2.44  17 eP    Pn          19 52 01.9 -1.1
MKZ                             eS    Sn          19 52 30.5 -1.0
MKZ   Mys Kozlova      2.44  17 PN    Pn          19 52 01.9 -1.1
MKZ                             S     Sn          19 52 30.5 -1.0
TUMD  Tumrok D         2.98 359 eP    Pn          19 52 10.2 -0.3
TUMD                            eS    Sn          19 52 45.3 +0.4
TUMR  Tumrok           3.06 356 PN    Pn          19 52 10.2 -1.6
TUMR                            S     Sn          19 52 45.3 -1.9
SKR   Severo-Kuril's   3.16 242 eP    Pn          19 52 11.3 -1.7
SKR                             eS    Sn          19 52 47.6 -1.7
SKR   Severo-Kuril's   3.16 242 ePN   Pn          19 52 11.6 -1.4
SKR                             eS    Sn          19 52 47.1 -2.2
SKR                             pmax       pmax
      comp=Z,590nm,0.8s
SKR                             smax       smax
      comp=E,2μm,0.7s
SKR                             smax       smax
      comp=N,2μm,0.7s
SKR                             MLR        MLR
      comp=Z,5μm,18.0s
ALID  Alaid            3.39 248 eP    Pn          19 52 15.4 -0.9
ALID  Alaid            3.39 248 PN    Pn          19 52 15.4 -0.9
ESO   Esso             3.85 345 eP    Pn          19 52 24.7 +2.2
ESO   Esso             3.85 345 PN    Pn          19 52 24.7 +2.2
LGNR  Loginova         3.86   1 eP    Pn          19 52 23.6 +0.8
LGNR  Loginova         3.86   1 PN    Pn          19 52 23.6 +0.8
KLY   Klyuchi          4.09   1 eP    Pn          19 52 26.4 +0.7
KLY   Klyuchi          4.09   1 PN    Pn          19 52 26.4 +0.7
KBTR  Krutoberegovo    4.21  18 eP    Pn          19 52 26.9 -0.4
KBTR  Krutoberegovo    4.21  18 PN    Pn          19 52 26.9 -0.4
KBG   Krutoberegovo    4.23  17 eP    Pn          19 52 28.3 +0.7
KBG   Krutoberegovo    4.23  17 PN    Pn          19 52 28.3 +0.7
BDR   Baidarnaya       4.36   5 eP    Pn          19 52 30.8 +1.2
BDR   Baidarnaya       4.36   5 PN    Pn          19 52 30.8 +1.2
SMKR  Semkarok         4.39   7 eP    Pn          19 52 31.2 +1.2
SMKR  Semkarok         4.39   7 PN    Pn          19 52 31.2 +1.2
BKI   Bering           4.40  45 eP    Pn          19 52 29.1 -0.9
BKI                             eS    Sn          19 53 15.1 -4.8
BKI   Bering           4.40  45 PN    Pn          19 52 29.1 -0.9
SRKR  Sorokina         4.45   5 eP    Pn          19 52 32.5 +1.8
SRKR  Sorokina         4.45   5 PN    Pn          19 52 32.5 +1.8
PALN  Palana           6.88 358 eP    Pn          19 53 04.4 +0.4
PALN  Palana           6.88 358 PN    Pn          19 53 04.4 +0.4
OSSR  Ossora           7.18  11 eP    Pn          19 53 09.5 +1.4
OSSR  Ossora           7.18  11 PN    Pn          19 53 09.5 +1.4
TILK  Tilichiki        8.80  19 eP    Pn          19 53 30.0 -0.3
TILK  Tilichiki        8.80  19 PN    Pn          19 53 30.0 -0.3
MA2   Magadan          9.16 327 ePn   Pn          19 53 35.1 -0.1
MA2   Magadan          9.16 327 Pn    Pn          19 53 35.1 -0.1
      comp=Z,0.2nm,0.3s,baz=97,slow=15,SNR=4.1
KUR   Kuril'sk        10.89 235 ePN   Pn          19 54 01.8 +2.8
KUR                             pmax       pmax
      comp=Z,26nm,0.6s
KUR                             pmax       pmax
      comp=N,20nm,0.7s
KUR                             pmax       pmax
      comp=E,14nm,0.7s
KUR                             MLR        MLR
      comp=Z,2μm,14.0s
KUR                             MLR        MLR
      comp=N,4μm,13.0s
KUR                             MLR        MLR
      comp=E,3μm,16.0s
TYV   Tymovskoe       11.21 270 ePN   Pn          19 54 05.5 +2.2
TYV                             eS    Sn          19 56 11.0 +3.9
TYV                             pmax       pmax
      comp=Z,10.0nm,0.9s
TYV                             smax       smax
      comp=N,21nm,1.3s
SEY   Seymchan        11.57 341⇓ePN   Pn          19 54 09.0 +0.8
SEY   Seymchan        11.57 341 Pn    Pn          19 54 08.6 +0.5
      comp=N,0.1nm,0.3s,baz=144,slow=19,SNR=3.1
YSS   Yuzh-Sakhalins  12.66 252⇓ePN   Pn          19 54 24.0 +0.8
YSS                             pmax       pmax
      comp=Z,20nm,1.0s
ASAJ  Asahikawa       14.42 243 Pn    Pn          19 54 45.8 -1.5
      comp=Z,2.3nm,0.3s,baz=69,slow=16,SNR=15
GRNR  Gornyy          15.06 274 eP    Pn          19 54 57.9 +2.2
GRNR                            pmax       pmax
      comp=Z,13nm,1.0s
BILL  Bilibino        16.10   8 ePn   Pn          19 55 09.5 +0.4
      comp=Z,43nm,0.8s
BILL  Bilibino        16.10   8 eP    Pn          19 55 09.2 +0.1
BILL                            pmax       pmax
      comp=Z,31nm,0.8s
TEY   Ternei          17.32 255⇓eP    Pn          19 55 24.1 -0.4
TEY                             pmax       pmax
      comp=Z,40nm,0.8s
TEY                             pmax       pmax
      comp=E,30nm,0.9s
KLR   Kul'dur         18.40 272 eP    Pn          19 55 36.4 -1.1
KLR   Kul'dur         18.40 272 P     P           19 55 37.1 -0.4
      comp=E,0.6nm,0.3s,baz=66,slow=12,SNR=21
ZEA   Zeya            19.98 288 eP    P           19 55 52.2 -2.6
ZEA                             pmax       pmax
      comp=Z,23nm,1.0s
USRK  Ussuriysk Ar.   20.53 258 P     P           19 55 57.6 -3.2
      comp=Z,36nm,1.0s,baz=59,slow=10,SNR=24
MDJ   Mudanjiang      21.76 262 P     P           19 56 11.6 -2.4
MDJ                             pmax       pmax
      comp=Z,2μm,10.4s
MDJ   Mudanjiang      21.76 262 eP    P           19 56 10.0 -4.1
      comp=Z,33nm,1.2s
MJB9  Matsu-Tunnel    22.23 234 eP    P           19 56 18.4 -0.7
      comp=Z,46nm,0.9s
MAJO  Matsushiro      22.23 234 eP    P           19 56 18.6 -0.6
      comp=Z,47nm,0.9s
MAJO  Matsushiro      22.23 234d iP   P           19 56 19.4 +0.3
MAJO                            pmax       pmax
      comp=Z,59nm,1.1s
MAT   Matsushiro      22.23 234 P     P           19 56 19.1  0.0
MJAR  Matsushiro Arr  22.23 234 P     P           19 56 18.3 -0.9
      comp=Z,24nm,0.8s,baz=22,slow=8.8,SNR=36
INU   Inuyama         23.76 234 eP    P           19 56 35.0 +0.3
      comp=Z,35nm,0.9s
TIXI  Tiksi           23.97 336 eP    P           19 56 34.4 -1.9
      comp=Z,2.5nm,0.8s
TIXI  Tiksi           23.97 336de P   P           19 56 34.5 -1.8
TIXI                            pmax       pmax
      comp=Z,36nm,1.1s
TIXI  Tiksi           23.97 336 P     P           19 56 34.4 -1.9
      comp=Z,30nm,0.8s,baz=122,slow=10,SNR=30
HIA   Hailar          25.72 280 eP    P           19 56 49.9 -2.6
      comp=Z,46nm,0.8s
HIA   Hailar          25.72 280ce P   P           19 56 50.2 -2.3
HIA                             pmax       pmax
      comp=Z,304nm,0.9s
IMAR  Indian Mountai  26.47  41 eP    P           19 56 59.4 +0.3
BOD   Bodaibo         26.80 301 eP    P           19 56 59.8 -2.3
BOD                             pmax       pmax
      comp=Z,19nm,1.2s
KDAK  Kodiak Island   27.01  59 eP    P           19 57 04.9 +0.9
      comp=Z,30nm,1.0s
KDAK  Kodiak Island   27.01  59 eP    P           19 57 04.9 +0.9
KDAK                            pmax       pmax
      comp=Z,30nm,1.0s
KDAK  Kodiak Island   27.01  59 P     P           19 57 04.9 +0.9
      comp=Z,5.2nm,0.5s,baz=255,slow=8.2,SNR=8.6
KSRS  Korea Array     27.14 250 P     P           19 57 05.8 +0.4
      comp=Z,9.0nm,0.9s,baz=44,slow=9.5,SNR=21
KS15  Wonju Array Si  27.18 250 eP    P           19 57 02.5 -3.2
      comp=Z,71nm,1.8s
TOLK  Toolik Lake Re  28.50  36 eP    P           19 57 16.5 -0.8
      comp=Z,11nm,1.3s
JNU   Nakatsue        28.67 240 eP    P           19 57 19.3 +0.3
      comp=Z,62nm,1.2s
JNU   Nakatsue        28.67 240 P     P           19 57 18.6 -0.4
      comp=Z,12nm,1.0s,baz=62,slow=11,SNR=7.6
SML   Sawmill         28.70  50 eP    P           19 57 19.5 +0.4
      comp=Z,19nm,0.9s
SML                             ePcP       PcP         20 00 31.0 +2.4
SML   Sawmill         28.70  50 eP    P           19 57 19.5 +0.4
SML                             e                  20 00 31.0
SML                             pmax       pmax
      comp=Z,19nm,0.9s
COLA  College         28.84  44⇓eP    P           19 57 22.1 +1.9
COLA                            pmax       pmax
      comp=Z,4.0nm,0.9s
ILAR  Eielson Array   29.25  44 P     P           19 57 24.4 +0.6
      comp=Z,1.5nm,1.0s,baz=262,slow=7.9,SNR=6.6
BCAR  Beaver Creek A  31.61  47 eP    P           19 57 46.0 +1.3
ULN   Ulaanbaatar     33.95 284⇑eP    P           19 58 03.9 -1.6
ULN                             pmax       pmax
      comp=Z,7.0nm,1.1s
TLY   Talaya          34.28 292ceP    P           19 58 06.3 -1.9
SONA0 Songino Array   34.35 285 eP    P           19 58 07.2 -1.9
SONM  Songino Array   34.35 285 P     P           19 58 07.2 -1.9
      comp=Z,0.9nm,0.4s,baz=62,slow=7.9,SNR=9.9
TIA   Tai'an          34.39 260 P     P           19 58 09.3  0.0
TIA                             pmax       pmax
      comp=Z,21nm,1.0s
INK   Inuvik          34.40  37 eP    P           19 58 09.6 +0.6
      comp=Z,4.9nm,0.8s
INK   Inuvik          34.40  37 eP    P           19 58 09.6 +0.6
INK                             pmax       pmax
      comp=Z,5.0nm,0.8s
INK   Inuvik          34.40  37 P     P           19 58 09.3 +0.4
      comp=Z,2.7nm,0.6s,baz=273,slow=8.9,SNR=6.9
HHC   Hu-ho-hao-te    34.90 271 eP    P           19 58 13.3 -0.5
HHC                             SS         SS          20 05 45.6 -29
HHC                             pmax       pmax
      comp=Z,110nm,0.9s
HHC                             pmax       pmax
      comp=Z,330nm,4.6s
HHC                             LR         LR
      comp=Z,1μm,12.7s
HHC                             LR         LR
      comp=Z,1μm,13.2s
HHC                             LR         LR
      comp=Z,1μm,12.4s
ZAK   Zakamensk       35.03 290 eP    P           19 58 12.6 -2.2
ZAK                             pmax       pmax
      comp=Z,12nm,1.1s
NJ2   Nanjing         36.23 253 eP    P           19 58 26.0 +0.9
NJ2                             pmax       pmax
      comp=Z,25nm,0.6s
NRIK  Noril'sk        36.76 325 P     P           19 58 26.9 -2.3
      comp=Z,7.3nm,0.8s,baz=82,slow=11,SNR=7.3
DLBC  Dease Lake      38.36  53 P     P           19 58 44.7 +1.7
      comp=Z,2.7nm,0.7s,baz=301,slow=9.1,SNR=5.6
WHN   Wuhan           39.98 256⇑iP    P           19 58 57.5 +0.8
WHN                             pmax       pmax
      comp=Z,26nm,0.9s
LZH   Lanzhou         42.60 271 eP    P           19 59 17.8 -0.6
LZH                             pP         pwP         19 59 31.1 -0.3
LZH                             sP         sP          19 59 35.4 +3.3
LZH                             pmax       pmax
      comp=Z,33nm,1.3s
KEKH  Kekaha          42.93 119 eP    P           19 59 24.3 +3.4
      comp=Z,174nm,0.5s
GTA   Gaotai          42.96 278 ⇑P    P           19 59 19.1 -2.2
GTA                             pP         pP          19 59 27.1 -4.2
GTA                             LR         LR
      comp=Z,2μm,14.9s
GTA                             LR         LR
      comp=Z,2μm,15.6s
GTA                             LR         LR
      comp=Z,3μm,14.9s
ENH   Enshi           43.10 260 eP    P           19 59 21.8 -0.6
      comp=Z,10nm,0.9s
ZALV  Zalesovo Beam   43.46 304 eP    P           19 59 23.2 -1.7
ZALV  Zalesovo Beam   43.46 304 eP    P           19 59 23.2 -1.7
ZALV  Zalesovo Beam   43.46 304 P     P           19 59 21.5 -3.4
      comp=Z,2.8nm,0.6s,baz=70,slow=6.5,SNR=12
ZALV                            LR         LR          20 19 32.2
      comp=Z,898nm,18.9s,baz=67,slow=39
YKA   Yellowknife Ar  43.63  42 P     P           19 59 26.5 +0.4
      comp=Z,0.6nm,0.6s,baz=298,slow=8.2,SNR=8.4
NVS   Novosibirsk     43.82 305⇑iP    P           19 59 25.9 -1.8
NVS                             pmax       pmax
      comp=Z,53nm,1.0s
NVS                             pmax       pmax
      comp=N,11nm,1.1s
NVS                             pmax       pmax
      comp=E,35nm,1.2s
RES   Resolute Bay    44.03  22 eP    P           19 59 28.3 -0.9
      comp=E,6.3nm,0.9s
RES   Resolute Bay    44.03  22 eP    P           19 59 28.3 -0.9
RES                             pmax       pmax
      comp=Z,6.0nm,0.9s
RES   Resolute Bay    44.03  22 P     P           19 59 29.3 +0.1
      comp=Z,5.9nm,1.0s,baz=310,slow=9.5,SNR=12
DGZ   Jazzator, Alta  44.28 297c iP    P           19 59 29.9 -1.9
DGZ                             pmax       pmax
      comp=Z,10.0nm,0.9s
CD2   Chengdu         46.15 265 eP    P           19 59 44.4 -2.2
CD2                             pmax       pmax
      comp=Z,10.0nm,0.5s
WMQ   Urumqi          47.50 290 eP    P           19 59 55.8 -1.3
WMQ                             pmax       pmax
      comp=Z,38nm,1.1s
WMQ                             LR         LR
      comp=Z,5μm,12.5s
WMQ                             LR         LR
      comp=Z,7μm,17.1s
WMQ                             LR         LR
      comp=Z,7μm,21.7s
GYA   Guiyang         47.57 259 P     P           19 59 58.1 +0.2
GYA                             pP         pwP         20 00 10.4 -0.3
GYA                             sP         sP          20 00 16.0 +4.4
GYA                             PP         PP          20 01 48.1 -1.4
GYA                             S          S           20 06 48.5 -2.1
GYA                             sS         sS          20 07 05.8 +0.1
GYA                             SS         SS          20 10 06.3 -12
GYA                             pmax       pmax
      comp=Z,20nm,1.0s
GYA                             pmax       pmax
      comp=Z,120nm,5.4s
GYA                             LR         LR
      comp=Z,550nm,18.2s
GYA                             LR         LR
      comp=Z,530nm,18.5s
GYA                             LR         LR
      comp=Z,510nm,18.7s
KBS   Kingsbay        47.76 352de P   P           19 59 59.4 +0.8
KBS                             pmax       pmax
      comp=Z,124nm,1.0s
SPA0  Spitsbergen Ar  48.02 351 eP    P           20 00 00.8 +0.1
      comp=Z,203nm,1.2s
SPITS Spitsbergen Ar  48.02 351 P     P           20 00 00.1 -0.5
      comp=Z,28nm,0.7s,baz=64,slow=8.4,SNR=47
KURK  Kurchatov       48.41 303 eP    P           20 00 01.4 -2.5
      comp=Z,102nm,0.9s
KURK  Kurchatov       48.41 303de P   P           20 00 01.6 -2.3
KURK                            pmax       pmax
      comp=Z,51nm,1.1s
KURK  Kurchatov       48.41 303 P     P           20 00 02.2 -1.7
      SNR=18
KURBB Kurchatov Arra  48.51 303 P     P           20 00 02.3 -2.4
      comp=Z,26nm,1.0s,baz=62,slow=7.9,SNR=40
MK31  Makanchi Array  48.76 297 eP    P           20 00 04.7 -2.0
      comp=Z,17nm,0.9s
MK31  Makanchi Array  48.76 297 eP    P           20 00 04.7 -2.0
MK31                            pmax       pmax
      comp=Z,17nm,0.9s
MKAR  Makanchi Array  48.76 297 eP    P           20 00 04.9 -1.9
MKAR  Makanchi Array  48.76 297 eP    P           20 00 04.9 -1.9
MKAR  Makanchi Array  48.76 297 P     P           20 00 04.3 -2.4
      comp=Z,4.2nm,0.6s,baz=58,slow=7.0,SNR=24
MAKZ  Makanchi        48.93 297 eP    P           20 00 05.6 -2.4
      comp=Z,34nm,0.9s
MAKZ  Makanchi        48.93 297 eP    P           20 00 05.6 -2.4
MAKZ                            pmax       pmax
      comp=Z,34nm,0.9s
KMI   Kunming         50.93 261 P     P           20 00 22.9 -0.8
KMI                             pP         sP          20 00 38.8 +1.3
KMI                             sP         pwP         20 00 45.6 +8.9
KMI                             pmax       pmax
      comp=Z,15nm,1.0s
KMI                             pmax       pmax
      comp=Z,220nm,3.2s
KMI                             LR         LR
      comp=Z,2μm,14.7s
KMI                             LR         LR
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	comp=Z,2μm,20.1s						
KMI				LR	LR		
	comp=Z,1μm,18.7s						
YBH	**Yreka Blue Hor**	**51.08**	**69**	P	**P**	**20 00 25.5**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=25,slow=3.7,SNR=6.6						
BVAR	**Borovoye Array**	**51.13**	**309**	P	**P**	**20 00 22.9**	**-1.6**
	comp=Z,22nm,0.8s,baz=60,slow=8.8,SNR=36						
BRVK	**Borovoye**	**51.16**	**309**	*e*P	**P**	**20 00 23.3**	**-1.5**
	comp=Z,52nm,0.8s						
BRVK	**Borovoye**	**51.16**	**309**	*d i*P	**P**	**20 00 22.6**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,25nm,0.9s						
BRVK	**Borovoye**	**51.16**	**309**	P	**P**	**20 00 23.2**	**-1.6**
	SNR=13						
PDGK	**Podgornoye**	**52.47**	**295**	P	**P**	**20 00 33.5**	**-1.4**
PDGK				pmax	pmax		
	comp=Z,13nm,1.0s						
SVE	**Sverdlovsk**	**53.08**	**317**	⇓*e*P	**P**	**20 00 38.8**	**-0.2**
SVE				pmax	pmax		
	comp=Z,17nm,1.1s						
OTUK	**Ortayu**	**53.16**	**303**	P	**P**	**20 00 38.5**	**-1.3**
OTUK				pmax	pmax		
	comp=Z,19nm,1.0s						
LVZ	**Lovozero**	**53.59**	**338**	*e*P	**P**	**20 00 42.0**	**-0.7**
	comp=Z,89nm,0.9s						
LVZ	**Lovozero**	**53.59**	**338**	*d i*P	**P**	**20 00 41.8**	**-0.9**
LVZ				pmax	pmax		
	comp=Z,37nm,1.1s						
FCC	**Fort Churchill**	**53.99**	**38**	*e*P	**P**	**20 00 46.3**	**+0.7**
	comp=Z,8.2nm,0.8s						
ARCES	**ARCESS Array B**	**54.18**	**342**	*e*P	**P**	**20 00 46.1**	**-0.8**
ARCES	**ARCESS Array B**	**54.18**	**342**	*e*P	**P**	**20 00 46.1**	**-0.8**
ARCES	**ARCESS Array B**	**54.18**	**342**	P	**P**	**20 00 46.7**	**-0.3**
	comp=Z,21nm,1.0s,baz=33,slow=7.7,SNR=17						
ARE0	**ARCESS Array S**	**54.18**	**342**	*e*P	**P**	**20 00 46.5**	**-0.4**
	comp=Z,2.5nm,0.9s						
ARU	**Arti**	**54.20**	**318**	*e*P	**P**	**20 00 46.2**	**-1.0**
	comp=Z,30nm,0.8s						
ARU	**Arti**	**54.20**	**318**	*d i*P	**P**	**20 00 46.0**	**-1.2**
ARU				pmax	pmax		
	comp=Z,21nm,0.9s						
ARU	**Arti**	**54.20**	**318**	P	**P**	**20 00 46.2**	**-1.0**
	comp=Z,6.0nm,0.6s,baz=48,slow=4.2,SNR=28						
LSA	**Lhasa**	**54.74**	**274**	*e*P	**P**	**20 00 51.9**	**-0.1**
	comp=Z,22nm,0.8s						
LSA	**Lhasa**	**54.74**	**274**	P	**P**	**20 00 52.1**	**0.0**
LSA				pmax	pmax		
	comp=Z,79nm,0.9s						
SUMG	**Summit**	**54.78**	**7**	*e*P	**P**	**20 00 51.7**	**0.0**
	comp=Z,41nm,0.9s						
SUMG	**Summit**	**54.78**	**7**	*e*P	**P**	**20 00 51.7**	**0.0**
SUMG				pmax	pmax		
	comp=Z,41nm,0.9s						
BMN	**Battle Mountai**	**55.07**	**67**	*e*P	**P**	**20 00 56.2**	**+2.3**
	comp=Z,6.5nm,0.8s						
BMN	**Battle Mountai**	**55.07**	**67**	*e*P	**P**	**20 00 56.2**	**+2.3**
BMN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PRGR	**Permogore**	**55.30**	**328**	⇓*i*P	**P**	**20 00 54.7**	**-0.4**
PRGR				pmax	pmax		
	comp=Z,26nm,0.6s						
KVN	**Kaiserville**	**55.49**	**69**	*e*P	**P**	**20 00 58.8**	**+1.7**
	comp=Z,9.9nm,1.1s						
KVN	**Kaiserville**	**55.49**	**69**	P	**P**	**20 00 59.2**	**+2.1**
KVN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TMCR	**Tamitsa**	**55.66**	**333**	*e*P	**P**	**20 00 56.9**	**-0.7**
TMCR				pmax	pmax		
	comp=Z,88nm,1.1s						
YHH	**Holmes Hill**	**55.66**	**60**	*e*P	**P**	**20 01 00.0**	**+1.7**
	comp=Z,4.1nm,1.0s						
AAK	**Ala-Archa**	**55.69**	**297**	⇑*e*P	**P**	**20 00 56.5**	**-1.9**
AAK				pmax	pmax		
	comp=Z,15nm,1.1s						
AAK	**Ala-Archa**	**55.69**	**297**	P	**P**	**20 00 57.0**	**-1.4**
	SNR=7.2						
AAK	**Ala-Archa**	**55.69**	**297**	P	**P**	**20 00 57.3**	**-1.1**
	comp=Z,14nm,1.0s,baz=76,slow=3.5,SNR=16						
SGF	**Sodankyl**	**55.76**	**340**	P	**P**	**20 00 58.9**	**+0.6**
SGF				pmax	pmax		
	comp=Z,22nm,1.4s						
NVAR	**Mina Array Bea**	**55.80**	**70**	P	**P**	**20 01 00.7**	**+1.4**
	comp=Z,2.4nm,0.7s,baz=295,slow=7.3,SNR=7.6						
PANO	**Nakornpanom**	**55.90**	**253**	P	**P**	**20 01 01.9**	**+2.0**
	comp=Z,0.4nm,0.9s						
ELK	**Elko**	**55.98**	**66**	P	**P**	**20 01 02.4**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=316,slow=6.8,SNR=6.9						
KIRV	**Kirov**	**56.24**	**324**	P	**P**	**20 01 01.9**	**+0.1**
	comp=Z,32nm,0.7s,baz=83,slow=5.8,SNR=12						
SKNT	**Sakolnakorn**	**56.40**	**253**	P	**P**	**20 01 04.9**	**+1.3**
	comp=Z,16nm,1.1s						
MSF	**Maaselka**	**56.50**	**338**	P	**P**	**20 01 03.9**	**+0.2**
MSF				pmax	pmax		
	comp=Z,88nm,1.1s						
KSH	**Kashi**	**56.98**	**293**	P	**P**	**20 01 10.4**	**+2.8**
KSH				PP	**PP**	**20 03 19.3**	**+5.3**
KSH				S	**S**	**20 08 58.6**	**-0.5**
KSH				pmax	pmax		
	comp=Z,12nm,0.6s						
KSH				LR	LR		
	comp=Z,650nm,9.8s						
KSH				LR	LR		
	comp=Z,900nm,8.8s						
KSH				LR	LR		
	comp=Z,2μm,7.7s						
PAYA	**Payao**	**57.01**	**259**	P	**P**	**20 01 09.0**	**+1.1**
	comp=Z,33μm,0.8s,comp=Z,270μm						
SHL	**Shillong**	**57.26**	**270**	P	**P**	**20 01 09.5**	**-0.3**
SHL	**Shillong**	**57.26**	**270**	*e*P	**P**	**20 01 10.0**	**+0.2**
PHRA	**Phrae**	**57.45**	**258**	P	**P**	**20 01 11.8**	**+0.8**
	comp=Z,4.9nm,1.0s						
KHON	**Khomkaen**	**57.59**	**254**	P	**P**	**20 01 13.4**	**+1.5**
	comp=Z,56μm,1.0s						
DUG	**Dugway, Tooele**	**57.71**	**65**	P	**P**	**20 01 14.1**	**+1.4**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.2s						
PDAR	**Pinedale Array**	**57.72**	**61**	P	**P**	**20 01 14.6**	**+1.6**
	comp=Z,7.7nm,0.8s,baz=71,slow=11,SNR=11						
LAMP	**Lampang**	**57.80**	**258**	P	**P**	**20 01 14.7**	**+1.3**
	comp=Z,45μm,1.0s,comp=Z,450μm						
KLMR	**Klimovskoe**	**57.82**	**330**	*e*P	**P**	**20 01 11.3**	**-1.7**
KLMR				pmax	pmax		
	comp=Z,42nm,0.9s						
UTTA	**Uttaradit**	**57.84**	**257**	P	**P**	**20 01 14.8**	**+1.1**
	comp=Z,40μm,0.9s,comp=Z,292μm						
OUL	**Oulu**	**57.91**	**339**	P	**P**	**20 01 13.6**	**+0.1**
OUL				pmax	pmax		
	comp=Z,51nm,1.1s						
CMMT	**Chiang Mai**	**57.98**	**259**	P	**P**	**20 01 15.0**	**+0.3**
	comp=Z,1.3nm,0.9s						
CHTO	**Chiang Mai**	**57.99**	**259**	*e*P	**P**	**20 01 15.0**	**+0.2**
	comp=Z,47nm,0.9s						
CHTO	**Chiang Mai**	**57.99**	**259**	*e*P	**P**	**20 01 15.0**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,47nm,0.9s						
CHTO	**Chiang Mai**	**57.99**	**259**	P	**P**	**20 01 15.4**	**+0.7**
	SNR=7.0						
CM31	**Chiang Mai Arr**	**58.26**	**259**	P	**P**	**20 01 17.6**	**+0.9**
	SNR=6.4						
CMAR	**Chiang Mai Arr**	**58.26**	**259**	P	**P**	**20 01 17.0**	**+0.3**
	comp=Z,14nm,0.9s,baz=25,slow=7.0,SNR=53						
CHAI	**Chaiyaphum**	**58.42**	**254**	P	**P**	**20 01 18.8**	**+1.0**
	comp=Z,29μm,1.0s						
JOF	**Joensuu**	**58.45**	**335**	P	**P**	**20 01 17.3**	**-0.1**
JOF				pmax	pmax		
	comp=Z,47nm,1.0s						
PBKT	**Sadao Pong**	**58.50**	**256**	P	**P**	**20 01 19.8**	**+1.5**
	comp=Z,5.2nm,1.0s						
ODAN	**Odare**	**59.08**	**275**	*e*P	**P**	**20 01 20.7**	**-1.9**
ULM	**Lac du Bonnet**	**59.23**	**47**	P	**P**	**20 01 23.6**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=321,slow=7.5,SNR=3.2						
ULM				PP	**PP**	**20 03 32.2**	**-1.3**
	comp=Z,7.0nm,0.9s,baz=302,slow=8.0,SNR=4.2						
JIRN	**Jiri**	**59.23**	**276**	*e*P	**P**	**20 01 22.5**	**-1.3**
	comp=Z,34nm,0.7s						
RAMN	**Ramite**	**59.50**	**275**	*e*P	**P**	**20 01 24.1**	**-1.4**
	comp=Z,50nm,0.6s						
KKN	**Kakani**	**59.70**	**277**	*e*P	**P**	**20 01 25.4**	**-1.4**
	comp=Z,27nm,0.6s						
PKI	**Pulchoki**	**59.78**	**277**	*e*P	**P**	**20 01 26.0**	**-1.5**
	comp=Z,17nm,0.5s						
PKIN	**Phulchoki**	**59.78**	**277**	*e*P	**P**	**20 01 25.9**	**-1.5**
	comp=Z,24nm,0.8s						
SUF	**Sumiainen**	**59.89**	**338**	P	**P**	**20 01 27.5**	**+0.2**
SUF				pmax	pmax		
	comp=Z,82nm,1.0s						
DMN	**Daman**	**59.93**	**277**	*e*P	**P**	**20 01 27.3**	**-1.2**
	comp=Z,39nm,0.8s						
GKN	**Gorkha**	**59.94**	**278**	*e*P	**P**	**20 01 27.1**	**-1.3**
	comp=Z,29nm,0.7s						
UMPA	**Umpang Tak**	**60.05**	**257**	P	**P**	**20 01 31.8**	**+2.7**
	comp=Z,63μm,0.9s,comp=Z,427μm						
DANN	**Dangsing**	**60.22**	**279**	*e*P	**P**	**20 01 29.4**	**-1.1**
	comp=Z,36nm,0.6s						
VAF	**Ylistaro**	**60.39**	**339**	P	**P**	**20 01 31.7**	**+1.0**
VAF				pmax	pmax		
	comp=Z,46nm,1.3s						
KOLN	**Koldanda**	**60.73**	**278**	*e*P	**P**	**20 01 32.8**	**-1.1**
	comp=Z,26nm,0.7s						
PYUN	**Piuthan**	**60.87**	**279**	*e*P	**P**	**20 01 33.5**	**-1.3**
	comp=Z,28nm,0.7s						
FINES	**FINESS Array B**	**61.01**	**337**	P	**P**	**20 01 34.9**	**-0.1**
	comp=Z,16nm,0.6s,baz=39,slow=7.7,SNR=62						
ISCO	**Idaho Springs**	**61.92**	**61**	P	**P**	**20 01 44.6**	**+2.7**
ISCO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PHET	**Kaeng Krachan**	**62.17**	**254**	P	**P**	**20 01 45.7**	**+2.3**
	comp=Z,78μm,0.9s,comp=Z,652μm						
MOS	**Moscow**	**62.52**	**328**	*e*P	**P**	**20 01 43.7**	**-1.5**
MOS				pmax	pmax		
	comp=Z,43nm,1.0s						
NIL	**Nilore**	**62.65**	**290**	P	**P**	**20 01 46.2**	**-0.3**
NIL				pmax	pmax		
	comp=Z,24nm,0.8s						
OBN	**Obninsk**	**63.38**	**328**	*e*P	**P**	**20 01 49.7**	**-1.2**
OBN				pmax	pmax		
	comp=Z,25nm,0.9s						
VSU	**Vasula**	**63.44**	**335**	*ce*P	**P**	**20 01 51.1**	**-0.2**
VSU				pmax	pmax		
	comp=Z,91nm,1.0s						
VSU	**Vasula**	**63.44**	**335**	*e*P	**P**	**20 01 50.3**	**-0.9**
VSU				IAmb	IAmb	20 01 53.7	
	comp=Z,77nm,0.9s						
KBL	**Kabul**	**64.40**	**294**	P	**P**	**20 01 56.7**	**-1.6**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NB2	**NORSAR Subarra**	**64.44**	**344**	P	**P**	**20 01 57.3**	**-0.6**
	comp=Z,6.6nm,0.7s,baz=22,slow=6.9						
NB2	**NORSAR Subarra**	**64.44**	**344**	P	**P**	**20 01 56.5**	**-1.4**
NB2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NOA	**NORSAR Array B**	**64.44**	**344**	P	**P**	**20 01 57.5**	**-0.4**
	comp=Z,7.9nm,0.7s,baz=21,slow=6.6,SNR=29						
LPSR	**Galich'ya Gora**	**64.63**	**325**	*e*P	**P**	**20 01 58.1**	**-1.1**
LPSR				pmax	pmax		
	comp=Z,30nm,0.8s						
NORES	**NORESS Array B**	**64.67**	**344**	P	**P**	**20 02 00.6**	**+1.3**
NORES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
VRH	**Novokhopyorsk**	**64.75**	**322**	*e*P	**P**	**20 01 58.4**	**-1.6**
VRH				pmax	pmax		
	comp=Z,30nm,0.6s						
SLIT	**Slitere, Latvi**	**65.29**	**337**	*e*P	**P**	**20 02 03.0**	**-0.3**
SLIT				IAmb	IAmb	20 02 05.6	
	comp=Z,244nm,0.8s						
VSR	**Storozhevoye**	**65.68**	**324**	*de*P	**P**	**20 02 04.4**	**-1.6**
VSR				pmax	pmax		
	comp=Z,27nm,1.0s						
VORD	**Divnogorie**	**65.84**	**324**	*e*P	**P**	**20 02 05.9**	**-1.1**
VORD				pmax	pmax		
	comp=Z,30nm,1.4s						
IZAR	**Zarasai**	**65.94**	**334**	*e*P	**P**	**20 02 07.3**	**-0.3**
IZAR				IAmb	IAmb	20 02 09.9	
	comp=Z,6.3nm,0.7s						
BER	**Bergen**	**65.97**	**347**	P	**P**	**20 02 10.9**	**+3.2**
BER				pmax	pmax		
	comp=Z,41nm,0.9s						
ISAL	**Salakas**	**66.13**	**334**	*e*P	**P**	**20 02 08.8**	**-0.1**
ISAL				IAmb	IAmb	20 02 10.4	
	comp=Z,11nm,1.0s						
IDID	**Didziasalis**	**66.19**	**333**	*e*P	**P**	**20 02 09.0**	**-0.2**
IDID				IAmb	IAmb	20 02 10.5	
	comp=Z,10nm,1.0s						
SCHQ	**Schefferville**	**66.29**	**28**	P	**P**	**20 02 10.2**	**+0.3**
	comp=Z,8.7nm,0.7s,baz=9.8,slow=4.7,SNR=4.6						
IIGN	**Ignalina**	**66.30**	**333**	*e*P	**P**	**20 02 09.9**	**-0.1**
IIGN				IAmb	IAmb	20 02 12.3	
	comp=Z,17nm,0.4s						
MICGM	**Minsk**	**66.57**	**332**	*e*	**P**	**20 02 11.0**	**-0.7**
MNK	**Minsk**	**66.57**	**332**	*e*P	**P**	**20 02 11.0**	**-0.7**
PABE	**Paberze**	**66.77**	**335**	*e*P	**P**	**20 02 12.1**	**-0.8**
PABE				IAmb	IAmb	20 02 14.1	
	comp=Z,110nm,1.3s						
PBUR	**Paburg**	**66.82**	**336**	*e*P	**P**	**20 02 11.8**	**-1.5**
PBUR				IAmb	IAmb	20 02 13.4	
	comp=Z,71nm,1.2s						
GEYT	**Alibeck**	**67.77**	**303**	P	**P**	**20 02 19.1**	**-0.6**
	comp=Z,8.6nm,0.9s,baz=14,slow=8.3,SNR=14						
WMOK	**Wichita Mounta**	**69.32**	**60**	P	**P**	**20 02 30.0**	**+0.7**
WMOK				pmax	pmax		
	comp=Z,12nm,0.9s						
AKASG	**Malin Array Be**	**69.48**	**329**	P	**P**	**20 02 28.5**	**-1.5**
	comp=Z,4.6nm,0.5s,baz=31,slow=6.5,SNR=38						
KIEV	**Kiev**	**69.49**	**329**	*e*P	**P**	**20 02 29.0**	**-1.1**
	comp=Z,83nm,1.4s						
KIEV	**Kiev**	**69.49**	**329**	⇓*i*P	**P**	**20 02 29.7**	**-0.4**
KIEV	**Kiev**	**69.49**	**329**	*c i*P	**P**	**20 02 28.8**	**-1.3**
KIEV				pmax	pmax		
	comp=Z,24nm,1.1s						
KIV	**Kislovodsk**	**70.24**	**317**	⇑*i*P	**P**	**20 02 37.4**	**+2.5**
KIV	**Kislovodsk**	**70.24**	**317**	*e*P	**P**	**20 02 34.5**	**-0.4**
KIV				pmax	pmax		
	comp=Z,28nm,0.9s						
KBZ	**Khabaz**	**70.34**	**317**	P	**P**	**20 02 34.7**	**-0.7**
	comp=Z,12nm,0.9s,baz=104,slow=0.6,SNR=19						
ZEI	**Tsey**	**70.68**	**316**	*e*P	**P**	**20 02 34.5**	**-3.3**
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TX31	**Lajitas Ar. Si**	**70.74**	**67**	*e*P	**P**	**20 02 39.5**	**+1.3**
	comp=Z,8.7nm,0.9s						
LTX	**Lajitas**	**70.74**	**67**	*e*P	**P**	**20 02 39.1**	**+1.0**
LTX	**Lajitas**	**70.74**	**67**	*e*P	**P**	**20 02 39.2**	**+1.0**
TXAR	**Lajitas Array**	**70.74**	**67**	P	**P**	**20 02 39.1**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=290,slow=4.3,SNR=10						
BEL	**Belsk**	**70.90**	**335**	*e*P	**P**	**20 02 39.6**	**+0.9**
BEL	**Belsk**	**70.90**	**335**	*e*P	**P**	**20 02 39.6**	**+0.9**
HYB	**Hyderabad**	**71.54**	**275**	*i* P	**P**	**20 02 42.0**	**-1.1**
LVV	**L'vov**	**71.83**	**332**	*e*P	**P**	**20 02 44.0**	**-0.3**
EKA	**Eskdalemuir Ar**	**71.95**	**350**	P	**P**	**20 02 44.7**	**-0.2**
EKA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKH	**Akhalkalaki**	**71.97**	**315**	⇓*i*P	**P**	**20 02 46.4**	**+0.8**
AKH	**Akhalkalaki**	**71.97**	**315**	P	**P**	**20 02 46.4**	**+0.8**
MIAR	**Mount Ida**	**72.19**	**56**	P	**P**	**20 02 45.9**	**-0.8**
MIAR				pmax	pmax		
	comp=Z,8.0nm,1.7s						
KWP	**Kalwaria Pacla**	**72.37**	**333**	*e*P	**P**	**20 02 48.1**	**+0.6**
KWP	**Kalwaria Pacla**	**72.37**	**333**	*e*P	**P**	**20 02 48.2**	**+0.6**
GNI	**Garni**	**72.45**	**314**	*ce*P	**P**	**20 02 48.8**	**+0.3**
GNI				pmax	pmax		
	comp=Z,34nm,1.1s						
BATM	**Batumi**	**72.59**	**316**	⇑*i*P	**P**	**20 02 49.7**	**+0.7**
OJC	**Ojcow**	**72.63**	**335**	*e*P	**P**	**20 02 49.8**	**+0.7**
OJC	**Ojcow**	**72.63**	**335**	*e*P	**P**	**20 02 49.8**	**+0.7**
KIS	**Kishinev**	**72.85**	**328**	*e*P	**P**	**20 02 49.0**	**-1.5**
KIS	**Kishinev**	**72.85**	**328**	*e*P	**P**	**20 02 49.0**	**-1.5**
KSP	**Ksiaz**	**72.93**	**337**	*e*P	**P**	**20 02 51.1**	**+0.2**
KSP	**Ksiaz**	**72.93**	**337**	*e*P	**P**	**20 02 51.1**	**+0.2**
KOLS	**Kolonicke sedl**	**73.13**	**333**	*e*P	**P**	**20 02 52.3**	**+0.2**
KOLS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KOLS	**Kolonicke sedl**	**73.13**	**333**	*e*P	**P**	**20 02 52.3**	**+0.2**
NIE	**Niedzica**	**73.23**	**334**	*e*P	**P**	**20 02 53.2**	**+0.5**
NIE	**Niedzica**	**73.23**	**334**	*e*P	**P**	**20 02 53.2**	**+0.5**
CLL	**Collm**	**73.25**	**339**	*i* P	**P**	**20 02 52.7**	**0.0**
CLL				pmax	pmax		
	comp=Z,15nm,0.9s						
CLL	**Collm**	**73.25**	**339**	*i* P	**P**	**20 02 52.7**	**0.0**
	comp=Z,15nm,0.9s						
CLL				*e*		20 02 56.0	
CLL				*es*P	**sP**	**20 03 08.0**	**+0.1**
UPC	**Upice**	**73.31**	**337**	*e*P	**P**	**20 02 53.6**	**+0.4**
UPC	**Upice**	**73.31**	**337**	*e*P	**P**	**20 02 53.6**	**+0.4**
DPC	**Dobruska-Polom**	**73.38**	**337**	*e*P	**P**	**20 02 54.0**	**+0.4**
DPC				*e*		20 03 07.5	
DPC	**Dobruska-Polom**	**73.38**	**337**	*e*P	**P**	**20 02 54.0**	**+0.4**
DPC				*ep*P	**pwP**	**20 03 07.5**	**-0.4**
UZH	**Uzhgorod**	**73.39**	**333**	*e*P	**P**	**20 02 50.5**	**-3.1**
UZH				*e*		20 03 04.7	
UZH				*e*		20 03 14.9	
OKC	**Ostrava-Krasne**	**73.41**	**336**	*e*P	**P**	**20 02 54.3**	**+0.6**
OKC	**Ostrava-Krasne**	**73.41**	**336**	*e*P	**P**	**20 02 54.3**	**+0.6**
BURAR	**Bucovina Array**	**73.45**	**330**	⇓*i*P	**P**	**20 02 54.3**	**+0.1**
BURAR	**Bucovina Array**	**73.45**	**330**	P	**P**	**20 02 54.2**	**+0.1**
BRG	**Berggiesshubel**	**73.45**	**339**	*e*P	**P**	**20 02 53.9**	**0.0**
	comp=Z,5.9nm,1.1s						
BRG	**Berggiesshubel**	**73.45**	**339**	*e*P	**P**	**20 02 53.9**	**0.0**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KRLC	**Kraliky**	**73.53**	**337**	*e*P	**P**	**20 02 55.1**	**+0.6**
KRLC	**Kraliky**	**73.53**	**337**	*e*P	**P**	**20 02 55.1**	**+0.6**
MORC	**Moravsky Berou**	**73.61**	**336**	⇑*i*P	**P**	**20 02 55.6**	**+0.6**
MORC	**Moravsky Berou**	**73.61**	**336**	P	**P**	**20 02 55.7**	**+0.7**
MORC				pmax	pmax		
	comp=Z,13nm,0.9s						
MORC	**Moravsky Berou**	**73.61**	**336**	*e*P	**P**	**20 02 55.1**	**+0.1**
LANS	**Liptovska Anna**	**73.70**	**335**	*e*P	**P**	**20 02 57.1**	**+1.6**
LANS	**Liptovska Anna**	**73.70**	**335**	*e*P	**P**	**20 02 57.1**	**+1.6**
BIZ	**Bicaz**	**73.77**	**329**	⇓*i*P	**P**	**20 02 56.0**	**+0.1**
TRPA	**Tarpa**	**73.78**	**332**	⇓*i*P	**P**	**20 02 56.6**	**+0.7**
TRPA	**Tarpa**	**73.78**	**332**	*e*P	P	20 03 01.1	+5.2
WTSB	**Winterswijk**	**73.84**	**343**	*e*P	**P**	**20 02 56.7**	**+0.5**
	comp=Z,18nm,0.6s						
TESR	**Tescani**	**73.98**	**329**	⇓*i*P	**P**	**20 02 57.1**	**-0.1**
PRU	**Pruhonice**	**74.14**	**338**	*e*P	**P**	**20 02 58.7**	**+0.7**
PRU				*e*		20 03 12.2	
PRU	**Pruhonice**	**74.14**	**338**	*e*P	**P**	**20 02 58.7**	**+0.7**
PRU				*ep*P	**pwP**	**20 03 12.2**	**0.0**
GOPC	**GO Pecny, Ondr**	**74.15**	**338**	*e*P	**P**	**20 02 59.3**	**+1.2**
GOPC	**GO Pecny, Ondr**	**74.15**	**338**	*e*P	**P**	**20 02 59.3**	**+1.2**
MOX	**Moxa**	**74.17**	**340**	P	**P**	**20 02 59.3**	**+1.1**
MOX				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BUG	**Bochum--Univer**	**74.26**	**343**	P	**P**	**20 03 00.3**	**+1.7**
BUG				pmax	pmax		
	comp=Z,15nm,1.1s						
VRAC	**Vranov**	**74.28**	**336**	⇑*i*P	**P**	**20 02 59.8**	**+0.9**
VRAC	**Vranov**	**74.28**	**336**	P	**P**	**20 02 59.9**	**+1.0**
VRAC				pmax	pmax		
	comp=Z,13nm,0.8s						
VRAC	**Vranov**	**74.28**	**336**	*e*P	**P**	**20 02 59.5**	**+0.6**
NKC	**Novy Kostel**	**74.38**	**339**	*e*P	**P**	**20 03 00.1**	**+0.7**
NKC	**Novy Kostel**	**74.38**	**339**	*e*P	**P**	**20 03 00.1**	**+0.7**
JAVC	**Velka Javorina**	**74.43**	**336**	*e*P	**P**	**20 03 01.3**	**+1.5**
TLCR		**74.44**	**327**	⇑*i*P	**P**	**20 03 01.1**	**+1.2**
TLCR		**74.44**	**327**	P	**P**	**20 03 01.0**	**+1.2**
VYHS	**Vyhne**	**74.47**	**335**	*e*P	**P**	**20 03 00.5**	**+0.5**
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VYHS	**Vyhne**	**74.47**	**335**	*e*P	**P**	**20 03 00.5**	**+0.5**
ODBI	**Odobesti**	**74.52**	**328**	⇓*i*P	**P**	**20 03 01.1**	**+0.9**
VRI	**Vrincioaia**	**74.53**	**328**	⇑*i*P	**P**	**20 03 00.9**	**+0.5**
VRI	**Vrincioaia**	**74.53**	**328**	P	**P**	**20 03 03.9**	**+3.5**
VRI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KRUC	**Moravsky**	**74.56**	**336**	P	**P**	**20 03 01.5**	**+1.0**
KRUC				pmax	pmax		
	comp=Z,12nm,1.0s						
KRUC	**Moravsky**	**74.56**	**336**	*e*P	**P**	**20 03 00.9**	**+0.4**
TREC	**Trest**	**74.57**	**337**	*e*P	**P**	**20 03 01.2**	**+0.7**
TREC	**Trest**	**74.57**	**337**	*e*P	**P**	**20 03 01.2**	**+0.7**
OZUR		**74.62**	**329**	⇓*i*P	**P**	**20 03 01.5**	**+0.5**
CFR	**Carcaliu**	**74.68**	**327**	⇑*i*P	**P**	**20 03 00.6**	**-0.6**
CFR	**Carcaliu**	**74.68**	**327**	P	**P**	**20 03 01.2**	**0.0**
CFR				pmax	pmax		
	comp=Z,9.0nm,1.7s						
PSZ	**Piszkesteto**	**74.71**	**334**	⇓*i*P	**P**	**20 03 02.7**	**+1.2**
PSZ	**Piszkesteto**	**74.71**	**334**	P	**P**	**20 03 02.6**	**+1.1**
PSZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PSZ	**Piszkesteto**	**74.71**	**334**	*e*P	**P**	**20 03 06.0**	**+4.5**
CJR	**Cluj-Napoca**	**74.75**	**331**	⇑*i*P	**P**	**20 03 03.0**	**+1.3**
CJR	**Cluj-Napoca**	**74.75**	**331**	P	**P**	**20 03 02.9**	**+1.3**
SMOL	**Smolenice**	**74.81**	**336**	P	**P**	**20 03 05.3**	**+3.4**
BISRR	**Bisoca**	**74.82**	**328**	⇑*i*P	**P**	**20 03 03.2**	**+1.1**
DOPR	**Dopca**	**74.86**	**329**	⇑*i*P	**P**	**20 03 02.4**	**+0.1**
DRGR		**74.94**	**331**	⇓*i*P	**P**	**20 03 03.1**	**+0.3**
DRGR		**74.94**	**331**	P	**P**	**20 03 03.1**	**+0.3**
DRGR				pmax	pmax		
	comp=Z,25nm,0.9s						
MODS	**Modra-Piesok**	**74

comp=Z,14nm,1.0s
STU Stuttgart 76.44 341 P P 20 03 13.6 +2.3
STU pmax pmax
comp=Z,15nm,1.0s
ARSA Arzberg 76.46 336 *eP* **P 20 03 11.4 -0.1**
comp=Z,8.7nm,1.0s
HERR Herculane 76.75 331 ⇓ *iP* **P 20 03 12.4 -0.7**
BEHE Becsehely 76.87 335 *eP* **P 20 03 15.0 +1.3**
VLAD Vladila 76.94 329 ⇑ *iP* **P 20 03 14.5 +0.4**
BFO Black Forest 77.04 341 P **P 20 03 15.9 +1.2**
BFO pmax pmax
comp=Z,9.0nm,1.1s
SOKA Soboth 77.12 336 *eP* **P 20 03 15.9 +0.6**
comp=Z,13nm,1.1s
PUNG Punghina 77.14 330 ⇓ *iP* **P 20 03 15.0 -0.3**
KBA Koelnbreinsper 77.15 338 *eP* **P 20 03 16.6 +1.1**
comp=Z,37nm,0.8s,SNR=20
KBA Koelnbreinsper 77.15 338 P **P 20 03 16.9 +1.4**
KBA pmax pmax
comp=Z,50nm,0.9s
CDF Champ du Feu 77.16 342 *eP* **P 20 03 14.9 -0.6**
CDF pmax pmax
comp=Z,12nm,0.8s
WATA Walderalm 77.31 339 *eP* **P 20 03 17.2 +0.8**
comp=Z,8.9nm,1.0s,SNR=7.0
RETA Reutte 77.34 340 *eP* **P 20 03 17.2 +0.8**
comp=Z,6.8nm,1.0s
WTTA Wattenberg 77.36 339 *eP* **P 20 03 17.6 +0.9**
comp=Z,17nm,1.0s,SNR=5.2
OBKA Obir 77.39 337 *eP* **P 20 03 17.5 +0.7**
comp=Z,4.9nm,0.8s
MOTA Moosalm 77.40 339 *eP* **P 20 03 17.9 +1.0**
comp=Z,12nm,0.8s,SNR=9.5
BR131 Keskin Array S 77.45 321 P **P 20 03 17.6 +0.3**
SNR=8.8
BRTR Keskin Array B 77.45 321 P **P 20 03 17.0 -0.3**
BRTR Keskin Array B 77.45 321 P **P 20 03 16.9 -0.3**
comp=Z,6.7nm,0.9s,baz=46,slow=3.6,SNR=27
SQTA Sankt Quirin 77.50 339 *eP* **P 20 03 18.7 +1.3**
comp=Z,9.1nm,0.9s,SNR=6.9
ANTO Ankara 77.65 321 P **P 20 03 20.0 +1.7**
ANTO pmax pmax
comp=Z,16nm,1.1s
ABTA Abfaltersbach 77.65 338 *eP* **P 20 03 19.1 +0.9**
comp=Z,18nm,0.9s,SNR=5.7
DAVA Damuels 77.72 340 *eP* **P 20 03 20.1 +1.5**
comp=Z,13nm,1.0s
HAU Haudompre 77.73 343 *eP* **P 20 03 17.9 -0.6**
HAU pmax pmax
comp=Z,17nm,1.0s
FETA Feichten 77.79 339 *eP* **P 20 03 20.1 +1.1**
comp=Z,13nm,1.2s,SNR=6.4
HINF Hinteralfeld 77.81 342 *eP* **P 20 03 19.1 +0.1**
HINF pmax pmax
comp=Z,5.0nm,0.7s
PHSR Pinarhisar 78.02 326 ⇓ *iP* **P 20 03 20.6 +0.4**
PALK Pallekele 78.05 266 P **P 20 03 20.0 -0.8**
SNR=11
FLN La Foliniere 78.08 347 *eP* **P 20 03 20.7 +0.3**
FLN pmax pmax
comp=Z,7.0nm,0.7s
EDRB Edirne 78.10 327 P **P 20 03 20.5 -0.1**
LDF La Druitiere 78.20 347 *eP* **P 20 03 21.3 +0.2**
LDF pmax pmax
comp=Z,22nm,1.2s
GRR Gorron 78.50 347 *eP* **P 20 03 22.1 -0.7**
GRR pmax pmax
comp=Z,20nm,1.0s
PLD Plovdiv 78.55 328 P **P 20 03 23.8 +0.7**
PLD pmax pmax
comp=Z,2.0nm,0.9s
VTS Vitosha 78.55 329 *eP* **P 20 03 23.1 -0.3**
VTS Vitosha 78.55 329 P **P 20 03 23.1 -0.3**
VTS Vitosha 78.55 329 ⇑ *iP* **P 20 03 23.4 0.0**
VTS Vitosha 78.55 329 *eP* **P 20 03 23.1 -0.3**
SGMF Saint Gilles 78.85 349 *eP* **P 20 03 24.1 -0.6**
SGMF pmax pmax
comp=Z,18nm,0.8s
ROSF Rostrenen 78.86 349 *eP* **P 20 03 24.2 -0.5**
ROSF pmax pmax
comp=Z,23nm,0.9s
LOR Lormes 78.88 344 *eP* **P 20 03 24.3 -0.6**
LOR pmax pmax
comp=Z,11nm,0.9s
AS31 Alice Springs 79.08 205 *eP* **P 20 03 26.8 +0.6**
comp=Z,1.9nm,0.7s
ASAR Alice Springs 79.08 205 P **P 20 03 26.6 +0.5**
comp=Z,2.5nm,0.9s,baz=16,slow=5.3,SNR=18
CABF La Chapelle 79.12 342 *eP* **P 20 03 26.1 -0.2**
CABF pmax pmax
comp=Z,14nm,1.0s
RDO Rodhopi 79.13 327 *eP* **P 20 03 26.2 -0.1**
RDO Rodhopi 79.13 327 P **P 20 03 26.2 -0.1**
ALN Alexandroupoli 79.18 327 P **P 20 03 26.4 -0.2**
ALN Alexandroupoli 79.18 327 P **P 20 03 27.3 +0.7**
ALN pmax pmax
comp=Z,13nm,1.0s
AVF Avril sur Loir 79.43 344 *eP* **P 20 03 27.5 -0.4**
AVF pmax pmax
comp=Z,13nm,0.8s
SMF Signal de Mont 79.49 344 *eP* **P 20 03 27.8 -0.4**
SMF pmax pmax
comp=Z,8.0nm,0.8s
NVR Nevrokopi 79.50 328 P **P 20 03 28.3 -0.1**
STIP Stip 79.72 330 *i P* **P 20 03 28.4 -1.1**
BGF Bois d'Agland 79.74 345 *eP* **P 20 03 30.2 +0.6**
BGF pmax pmax
comp=Z,11nm,1.0s
SRS Serrai 79.80 328 P **P 20 03 30.2 +0.2**
SRS Serrai 79.80 328 P **P 20 03 30.0 0.0**
SRS pmax pmax
comp=Z,19nm,1.1s
PDG Podgorica 79.92 332 ⇓ *iP* **P 20 03 30.5 -0.1**
VAY Valandovo 79.94 329 *i P* **P 20 03 30.8 0.0**
KNT Kendrikon 79.98 329 P **P 20 03 31.0 0.0**
KNT Kendrikon 79.98 329 P **P 20 03 31.3 +0.3**
KNT pmax pmax
comp=Z,20nm,1.0s
EZN Ezine 80.04 326 P P 20 03 18.7 -13
EZN Ezine 80.04 326 ⇓ *iP* **P 20 03 31.3 0.0**
EZN Ezine 80.04 326 P **P 20 03 31.3 0.0**
LPL La Plagne 80.05 342 *eP* **P 20 03 31.9 +0.3**
LPL pmax pmax
comp=Z,15nm,0.9s
LPG La Plagne 80.06 342 *eP* **P 20 03 32.1 +0.4**
LPG pmax pmax
comp=Z,23nm,0.9s
TCF Toulx Ste Croi 80.10 345 *eP* **P 20 03 31.3 -0.3**
TCF pmax pmax
comp=Z,10.0nm,0.9s
SOH Sokhos 80.14 328 P **P 20 03 33.4 +1.5**
SOH pmax pmax
comp=Z,5.0nm,1.6s
MFF Saint Martin d 80.15 347 *eP* **P 20 03 29.6 -2.2**
MFF pmax pmax
comp=Z,12nm,1.1s
KRUS Krusevo 80.30 330 *i P* **P 20 03 31.6 -1.3**
GRG Griva 80.32 329 P **P 20 03 33.5 +0.6**
GRG Griva 80.32 329 *eP* **P 20 03 33.8 +0.9**
GRG pmax pmax
comp=Z,18nm,1.2s
LIA Limnos Island 80.37 327 P **P 20 03 32.6 -0.5**
KULA Kula-Manisa 80.38 324 P **P 20 03 33.0 -0.3**
PLG Polygyros 80.52 328 P **P 20 03 33.2 -0.7**
ORIF Oris-en-Rattie 80.79 342 *eP* **P 20 03 35.7 +0.3**
ORIF pmax pmax
comp=Z,11nm,0.8s
FNA Florina 80.80 330 P **P 20 03 36.2 +0.7**
FNA pmax pmax
comp=Z,11nm,1.1s
PAIG Paliouri 80.84 328 P **P 20 03 36.2 +0.6**
PAIG pmax pmax
comp=Z,20nm,1.0s
MHTO MHTO 81.03 293 P **P 20 03 37.0 +0.1**
SNR=5.4
VIVF Saint-Julien-l 81.07 343 *eP* **P 20 03 38.1 +1.3**
VIVF pmax pmax
comp=Z,11nm,1.0s
RJF Les Rejaudoux 81.17 345 *eP* **P 20 03 38.3 +1.0**
RJF pmax pmax
comp=Z,9.0nm,1.1s
CHOS Chios island 81.42 325 P **P 20 03 38.1 -0.7**
CAF Calviac 81.45 345 *eP* **P 20 03 39.2 +0.4**
CAF pmax pmax
comp=Z,18nm,1.0s
LFF La Frestale 81.65 346 *eP* **P 20 03 39.9 +0.1**
LFF pmax pmax
comp=Z,16nm,1.0s
CSS Mathiatis 81.69 319 *eP* **P 20 03 39.9 -0.3**
comp=Z,36nm,0.9s
CSS Mathiatis 81.69 319 P **P 20 03 39.9 -0.3**
IGT Igoumenitsa 82.26 330 P **P 20 03 43.6 +0.4**
PTL Penteli 82.48 327 *eP* **P 20 03 42.6 -1.7**
PTL Penteli 82.48 327 P **P 20 03 42.6 -1.7**
ANX Ano Chora 82.62 328 P **P 20 03 44.4 -0.8**
MTLF Montolieu 82.97 344 *eP* **P 20 03 47.1 +0.3**
MTLF pmax pmax
comp=Z,7.0nm,0.8s
EPF Esparros 83.57 346 *eP* **P 20 03 50.6 +0.7**
EPF pmax pmax
comp=Z,10.0nm,1.0s
SJPF Ste Jean 83.72 347 *eP* **P 20 03 52.5 +1.8**
SJPF pmax pmax
comp=Z,29nm,1.2s
ETSF Etsaut 83.84 346 *eP* **P 20 03 51.8 +0.5**
ETSF pmax pmax
comp=Z,11nm,0.8s
LAST Lasithi 84.52 324 *eP* **P 20 03 55.1 +0.2**
LAST Lasithi 84.52 324 P **P 20 03 55.1 +0.2**
PGAV Gavieira, Arco 85.67 352 *eP* **P 20 04 03.3 +2.7**
PBRG Braganca 85.69 350 *eP* **P 20 04 01.3 +0.7**
POLO Lamas de Olo 86.22 351 *eP* **P 20 04 04.4 +1.1**
PVRL Vila Real 86.31 351 *eP* **P 20 04 06.6 +2.9**
MVO Moncorvo 86.35 351 *eP* **P 20 04 05.1 +1.2**
PVIS Viseu 86.88 351 *eP* **P 20 04 08.0 +1.5**
MTE Manteigas 87.16 351 *eP* **P 20 04 09.4 +1.5**
ESDC Sonseca Array 87.47 348 P **P 20 04 09.7 +0.3**
comp=Z,4.7nm,0.8s,baz=3.7,slow=4.7,SNR=19
PCAS Casmilo, Conde 87.59 352 *eP* **P 20 04 11.1 +1.2**
PCBR Castelo Branco 87.71 351 *eP* **P 20 04 11.3 +0.9**
PTOM Tomar 88.02 351 *eP* **P 20 04 12.8 +0.9**
KEST Kesra 88.85 337 P **P 20 04 16.5 +0.4**
comp=Z,8.6nm,1.0s,baz=259,slow=4.9,SNR=5.5
PLCA Paso Flores 143.73 92 PKP **PKPdf 20 10 57.1 +0.9**
comp=Z,1.2nm,0.8s,baz=16,slow=7.7,SNR=2.9
SYO Syowa Base 148.15 216 ⇓ *e*PKPdf **PKPdf 20 11 04.0 +1.3**
SYO Syowa Base 148.15 216 ⇑ *e*PKPbc **PKiKP 20 11 08.0 +0.2**
SYO Syowa Base 148.15 216 ⇑ *e*PKPab **PKPab 20 11 12.0 +2.9**

IDC ***19*** *19:53:03.1±0.5, 52°.29N×160°.06E, h0km, mb4.8/38, mb1 4.9/40, mb1mx4.8/51, mbtmp4.8/40, ML4.4/2, MS4.7/6, Ms1 4.7/6, ms1mx4.2/38, Error ellipse: s-maj=13.0km s-min=10.5km az=148.0*

KRSC ***19*** *19:53:03.3±10.0, 52°.10N×160°.67E, h46km±10km, ML5.8, FELT [II-III] at Petropavlovsk, Pionersky, Vulkanniy, Elizovo; [II] at Ribachiy.*

ISCJB ***19*** *19:53:08.9±0.4, 52°.24N±0°.03×160°.13E±0°.04, h56km±3km, mb5.2/211, Error ellipse: s-maj=5.3km s-min=2.9km az=150.0*

MOS ***19*** *19:53:08.7±1.2, 52°.28N×160°.11E, h54km, mb5.5/83, Error ellipse: s-maj=6.3km s-min=3.3km az=107.2*

MOS Felt (II) at Petropavlovsk-Kamchatskiy.

NEIC ***19*** *19:53:09.5±0.4, 52°.46N×159°.64E, h35km, mb5.2/92, Error ellipse: s-maj=10.1km s-min=4.7km az=136.0*

GCMT ***19*** *19:53:12.5±0.4, 52°.24N±0°.03×160°.61E±0°.05, h33km±1km, MW5.2/65, Moment Tensor Solution. s26,c30; s65,c83; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr7.01±.54; Mθθ-2.96±.30; Mφφ-4.05±.30; Mrθ1.63±.30; Mφθ-2.41±.13; Mφr2.42±.27; Best double couple: M0 7.11800×10^16 NP1:φs37.00000°, δ57.00000°, λ88.00000°. NP2: φs220.00000°, δ33.00000°, λ93.00000°. Principal axes: T 7.6380, Plg78.0000°, Azm301.0000°; N -1.0400, Plg1.0000°, Azm38.0000°; P -6.5980, Plg12.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***19*** *19:53:14.7±0.0, 52°.68N×159°.15E, h82km, mb5.2/58, mbB5.6/17, Ms5.3/23, Ms7 5.1/22*

ISC 19 19:53:09.4±0.7, 52°.21N±0°.04×160°.34E±0°.04, h52km±5km, h52km:pP-P, n728, σ19=48/744, mb5.2/218, 60C-31D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.91**	**348**	*e*P			**Pn**	**19 53 23.3**	**-2.7**
SPN				*e*S			**Sn**	**19 53 37.4**	**-0.7**
SPN	**Mys Shipunski**	**0.91**	**348**	PN			**Pn**	**19 53 23.3**	**-2.7**
SPN				S			**Sn**	**19 53 37.4**	**-0.7**
NLC	**Nalytchevo**	**1.14**	**328**	*e*P			**Pn**	**19 53 27.6**	**-1.4**
NLC				*e*S			**Sn**	**19 53 44.9**	**+1.4**
NLC	**Nalytchevo**	**1.14**	**328**	PN			**Pn**	**19 53 27.6**	**-1.4**
NLC				S			**Sn**	**19 53 44.9**	**+1.4**
RUS	**Russkaya**	**1.14**	**282**	*e*P			**Pn**	**19 53 26.9**	**-2.2**
RUS	**Russkaya**	**1.14**	**282**	PN			**Pn**	**19 53 26.9**	**-2.2**
DALK	**Dalny**	**1.27**	**311**	*e*P			**Pn**	**19 53 29.2**	**-1.6**
DALK				*e*S			**Sn**	**19 53 47.2**	**+0.5**
DALK	**Dalny**	**1.27**	**311**	PN			**Pn**	**19 53 29.2**	**-1.6**
DALK				S			**Sn**	**19 53 47.2**	**+0.5**
PET	**Petropavlovsk**	**1.31**	**309**	*e*Pn			**Pn**	**19 53 29.9**	**-1.4**
PET	**Petropavlovsk**	**1.31**	**309**	*e*PN			**Pn**	**19 53 30.1**	**-1.3**
PET				*e*S			**Sn**	**19 53 48.4**	**+0.6**
PET				pmax	pmax				
	comp=Z,20μm,1.0s								
PET				pmax	pmax				
	comp=Z,13μm,0.8s								
PET				smax	smax				
	comp=E,70μm,2.0s								
PET				smax	smax				
	comp=E,17μm,3.5s								
PET				smax	smax				
	comp=E,35μm,0.5s								
PET				smax	smax				
	comp=N,35μm,0.5s								
MTVR	**Mutnovka**	**1.35**	**283**	*e*P			**Pn**	**19 53 30.5**	**-1.5**
MTVR	**Mutnovka**	**1.35**	**283**	PN			**Pn**	**19 53 30.5**	**-1.5**
UGLR	**Uglovaya**	**1.36**	**318**	*e*P			**Pn**	**19 53 30.9**	**-1.2**
UGLR	**Uglovaya**	**1.36**	**318**	PN			**Pn**	**19 53 30.9**	**-1.2**
SDLR	**Sedlovina**	**1.39**	**321**	*e*P			**Pn**	**19 53 31.6**	**-0.9**
SDLR	**Sedlovina**	**1.39**	**321**	PN			**Pn**	**19 53 31.6**	**-0.9**
SMAR	**Somma**	**1.41**	**319**	*e*P			**Pn**	**19 53 31.9**	**-1.0**
SMAR	**Somma**	**1.41**	**319**	PN			**Pn**	**19 53 31.9**	**-1.0**
GRL	**Gorelyy**	**1.43**	**285**	*e*P			**Pn**	**19 53 32.0**	**-1.1**
GRL	**Gorelyy**	**1.43**	**285**	PN			**Pn**	**19 53 32.0**	**-1.1**
AVH	**Avacha**	**1.44**	**318**	*e*P			**Pn**	**19 53 32.4**	**-0.7**
AVH				*e*S			**Sn**	**19 53 53.3**	**+2.4**
AVH	**Avacha**	**1.44**	**318**	PN			**Pn**	**19 53 32.4**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.46**	**255**	*e*P			**Pn**	**19 53 31.0**	**-2.3**
KDTR				*e*S			**Sn**	**19 53 49.8**	**-1.4**
KDTR	**Khodutka, Kamc**	**1.46**	**255**	PN			**Pn**	**19 53 31.0**	**-2.3**
KDTR				S			**Sn**	**19 53 49.8**	**-1.4**
KRER	**Koryakskii**	**1.46**	**319**	*e*P			**Pn**	**19 53 32.4**	**-1.2**
KRER	**Koryakskii**	**1.46**	**319**	PN			**Pn**	**19 53 32.4**	**-1.2**
KRMR	**Karymshinskiy**	**1.49**	**296**	*e*P			**Pn**	**19 53 32.5**	**-1.2**
KRMR				*e*S			**Sn**	**19 53 53.3**	**+1.3**
KRMR	**Karymshinskiy**	**1.49**	**296**	PN			**Pn**	**19 53 32.5**	**-1.2**
KRMR				S			**Sn**	**19 53 53.3**	**+1.3**
KOK	**Koryaka**	**1.50**	**317**	*e*P			**Pn**	**19 53 33.4**	**-0.6**
KOK	**Koryaka**	**1.50**	**317**	PN			**Pn**	**19 53 33.4**	**-0.6**
ASAK	**Asacha**	**1.51**	**278**	*e*P			**Pn**	**19 53 32.6**	**-1.5**
ASAK	**Asacha**	**1.51**	**278**	PN			**Pn**	**19 53 32.6**	**-1.5**
KRX	**Arik**	**1.54**	**319**	*e*P			**Pn**	**19 53 33.9**	**-0.7**
KRX	**Arik**	**1.54**	**319**	PN			**Pn**	**19 53 33.9**	**-0.7**
I44RU	**PETROPAVLOVSK-**	**1.83**	**300**	Pn			**Pn**	**19 53 38.6**	**+0.2**
	baz=113,slow=352								
I44RU				Sn			**Sn**	**19 54 05.0**	**+4.5**
	baz=118,slow=31,SNR=8.2								
PETK	**Petropavlovsk-**	**1.84**	**300**	Pn			**Pn**	**19 53 37.6**	**-1.0**
	comp=N,233nm,0.3s,baz=96,slow=18,SNR=20								
PETK				Sn			**Sn**	**19 54 04.2**	**+3.4**
	comp=N,1μm,0.3s,baz=214,slow=10,SNR=14								
PETK				LR			LR	19 54 09.1	
	comp=N,6μm,18.5s,baz=176,slow=40								
PEA1	**Petropavlovsk-**	**1.84**	**300**	*e*Pn			**Pn**	**19 53 37.6**	**-1.0**
PEA1				*e*Sn			**Sn**	**19 54 04.2**	**+3.4**
APC	**Apacha**	**2.07**	**291**	*e*P			**Pn**	**19 53 42.3**	**+0.6**
APC				*e*S			**Sn**	**19 54 10.4**	**+4.2**
APC	**Apacha**	**2.07**	**291**	PN			**Pn**	**19 53 42.3**	**+0.6**
PAU	**Pauzhetka**	**2.31**	**253**	*e*P			**Pn**	**19 53 43.5**	**-1.5**
PAU	**Pauzhetka**	**2.31**	**253**	PN			**Pn**	**19 53 43.5**	**-1.5**
MKZ	**Mys Kozlova**	**2.49**	**19**	*e*P			**Pn**	**19 53 43.8**	**-3.6**
MKZ	**Mys Kozlova**	**2.49**	**19**	PN			**Pn**	**19 53 43.8**	**-3.6**
TUMD	**Tumrok D**	**3.00**	**1**	*e*P			**Pn**	**19 53 54.2**	**-0.2**
SKR	**Severo-Kuril's**	**3.05**	**242**	*e*PN			**Pn**	**19 53 58.5**	**+3.4**
SKR				*e*S			**Sn**	**19 54 33.2**	**+2.8**
SKR				pmax	pmax				
	comp=Z,2μm,0.9s								
SKR				smax	smax				
	comp=N,14μm,0.7s								
SKR				smax	smax				
	comp=E,4μm,0.9s								
SKR				MLR	MLR				
	comp=Z,13μm,16.0s								
SKR				MLR	MLR				
	comp=Z,8μm,13.0s								
TUMR	**Tumrok**	**3.08**	**358**	PN			**Pn**	**19 53 54.2**	**-1.4**
ALID	**Alaid**	**3.28**	**248**	*e*P			**Pn**	**19 53 57.1**	**-1.3**
ALID	**Alaid**	**3.28**	**248**	PN			**Pn**	**19 53 57.1**	**-1.3**
KLY	**Klyuchi**	**4.12**	**2**	*e*S			**Sn**	**19 54 57.9**	**+1.5**
KBTR	**Krutoberegovo**	**4.26**	**19**	*e*P			**Pn**	**19 54 11.0**	**-0.7**
KBTR	**Krutoberegovo**	**4.26**	**19**	PN			**Pn**	**19 54 11.0**	**-0.7**
KBG	**Krutoberegovo**	**4.28**	**18**	*e*S			**Sn**	**19 55 00.4**	**-0.2**
BKI	**Bering**	**4.49**	**46**	*e*S			**Sn**	**19 54 59.1**	**-6.6**
PALN	**Palana**	**6.90**	**358**	*e*P			**Pn**	**19 54 48.5**	**+0.7**
PALN	**Palana**	**6.90**	**358**	PN			**Pn**	**19 54 48.5**	**+0.7**
MA2	**Magadan**	**9.12**	**328**	Pn			**Pn**	**19 55 19.6**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=143,slow=18,SNR=1.9								
MA2				LR			LR	19 59 16.7	
	comp=Z,6μm,18.3s,baz=149,slow=42								
MA2	**Magadan**	**9.12**	**328**	*e*Sn			**Pn**	**19 55 19.6**	**+1.3**
KUR	**Kuril'sk**	**10.79**	**235**	PN			**Pn**	**19 55 42.6**	**+1.5**
KUR				pmax	pmax				
	comp=Z,56nm,0.7s								
KUR				pmax	pmax				
	comp=N,30nm,0.6s								
KUR				pmax	pmax				
	comp=E,17nm,0.6s								
KUR				MLR	MLR				
	comp=N,4μm,15.0s								
KUR				MLR	MLR				
	comp=Z,3μm,15.0s								
KUR				MLR	MLR				
	comp=E,2μm,11.0s								
TYV	**Tymovskoe**	**11.10**	**270**	*e*PN			**Pn**	**19 55 45.0**	**-0.2**
TYV				*e*S			**Sn**	**19 57 48.9**	**+1.2**
TYV				pmax	pmax				
	comp=Z,29nm,1.4s								
TYV				smax	smax				
	comp=E,11nm,1.2s								
SEY	**Seymchan**	**11.55**	**342**	⇓ *e*PN			**Pn**	**19 55 51.3**	**-0.1**
SEY	**Seymchan**	**11.55**	**342**	Pn			**Pn**	**19 55 53.0**	**+1.5**
	comp=E,0.1nm,0.3s,baz=138,slow=11,SNR=4.8								
NKL	**Nikolayevsk**	**11.97**	**282**	*e*PN			**Pn**	**19 55 59.0**	**+1.9**
UGL	**Uglegorsk**	**12.01**	**262**	*e*PN			**Pn**	**19 55 59.8**	**+2.1**
UGL				pmax	pmax				
	comp=Z,115nm,1.1s								
UGL				MLR	MLR				
	comp=Z,4μm,14.0s								
UGL				MLR	MLR				
	comp=E,6μm,11.0s								
YSS	**Yuzh-Sakhalins**	**12.55**	**252**	*e*Pn			**Pn**	**19 56 04.5**	**-0.7**
YSS	**Yuzh-Sakhalins**	**12.55**	**252**	⇑ *e*PN			**Pn**	**19 56 05.2**	**+0.1**
YSS				pmax	pmax				
	comp=Z,30nm,1.0s								
ASAJ	**Asahikawa**	**14.32**	**243**	P			**Pn**	**19 56 27.0**	**-2.1**
ASAJ	**Asahikawa**	**14.32**	**243**	Pn			**Pn**	**19 56 26.9**	**-2.1**
	comp=Z,2.3nm,0.3s,baz=86,slow=14,SNR=7.6								
ASAJ				LR			LR	20 02 16.3	
	comp=Z,2μm,19.4s,baz=58,slow=39								
ERM	**Erimo**	**15.48**	**236**	⇓ *e*P			**Pn**	**19 56 38.7**	**-5.4**
BILL	**Bilibino**	**16.14**	**8**	*e*Pn			**Pn**	**19 56 52.2**	**-0.1**
	comp=Z,74nm,1.1s								
BILL	**Bilibino**	**16.14**	**8**	*e*P			**Pn**	**19 56 52.1**	**-0.3**
BILL				pmax	pmax				
	comp=Z,56nm,1.0s								
TEY	**Ternei**	**17.21**	**255**	⇓ *e*P			**Pn**	**19 57 05.9**	**0.0**
TEY				pmax	pmax				
	comp=Z,70nm,0.8s								
TEY				pmax	pmax				
	comp=N,20nm,0.8s								
TEY				pmax	pmax				
	comp=E,60nm,0.8s								
KLR	**Kul'dur**	**18.29**	**272**	*ce*P			**P**	**19 57 18.5**	**-0.3**
KLR	**Kul'dur**	**18.29**	**272**	Pn			**Pn**	**19 57 19.1**	**-0.1**
	comp=E,0.7nm,0.3s,baz=54,slow=11,SNR=14								
KLR				LR			LR	20 03 43.5	
	comp=E,3μm,18.6s,baz=109,slow=35								
ZEA	**Zeya**	**19.89**	**288**	*e*P			**P**	**19 57 34.4**	**-1.7**
ZEA				pmax	pmax				
	comp=Z,46nm,1.0s								
USRK	**Ussuriysk Ar.**	**20.42**	**258**	P			**P**	**19 57 39.3**	**-2.7**
	comp=Z,69nm,0.9s,baz=59,slow=11,SNR=20								
USRK				LR			LR	20 05 06.9	
	comp=Z,3μm,19.3s,baz=51,slow=36								
VLA	**Vladivostok**	**21.09**	**256**	⇑ *e*P			**P**	**19 57 45.8**	**-3.4**
MDJ	**Mudanjiang**	**21.65**	**262**	P			**P**	**19 57 53.1**	**-2.1**
MDJ				pmax	pmax				
	comp=Z,53nm,0.8s								
MDJ				pmax	pmax				
	comp=Z,5μm,13.2s								
MDJ	**Mudanjiang**	**21.65**	**262**	*e*P			**P**	**19 57 52.6**	**-2.6**
	comp=Z,38nm,0.9s								
MJAR	**Matsushiro Arr**	**22.13**	**234**	*e*P			**P**	**19 58 00.6**	**+0.2**
MJAR	**Matsushiro Arr**	**22.13**	**234**	*e*P			**P**	**19 58 00.6**	**+0.2**
MJAR	**Matsushiro Arr**	**22.13**	**234**	P			**P**	**19 58 00.5**	**0.0**
	comp=Z,65nm,1.0s,baz=24,slow=9.6,SNR=14								
MJAR				LR			LR	20 07 06.7	
	comp=Z,2μm,18.8s,baz=35,slow=38								
MAJO	**Matsushiro**	**22.13**	**234**	*e*P			**P**	**19 58 00.5**	**0.0**
MAJO	**Matsushiro**	**22.13**	**234**	*ce*P			**P**	**19 58 00.8**	**+0.4**
MAJO				pmax	pmax				
	comp=Z,141nm,1.1s								
MAT	**Matsushiro**	**22.13**	**234**	P			**P**	**19 58 00.3**	**-0.1**
INU	**Inuyama**	**23.66**	**234**	*e*P			**P**	**19 58 16.3**	**+0.4**
	comp=Z,67nm,0.9s								
TIXI	**Tiksi**	**23.95**	**336**	*d iP*			**P**	**19 58 16.8**	**-1.4**
TIXI				pmax	pmax				
	comp=Z,97nm,0.9s								
TIXI	**Tiksi**	**23.95**	**336**	P			**P**	**19 58 17.1**	**-1.1**
	comp=Z,86nm,0.8s,baz=127,slow=8.9,SNR=29								
HIA	**Hailar**	**25.62**	**280**	*e*P			**P**	**19 58 29.8**	**-4.0**
	comp=Z,115nm,0.8s								
HIA	**Hailar**	**25.62**	**280**	*ce*P			**P**	**19 58 31.1**	**-2.6**
HIA				pmax	pmax				
	comp=Z,721nm,0.9s								
BOD	**Bodaibo**	**26.71**	**301**	*e*P			**P**	**19 58 41.8**	**-1.6**
BOD				pmax	pmax				
	comp=Z,44nm,1.3s								
SNY	**Shenyang**	**26.86**	**262**	⇓ P			**P**	**19 58 44.4**	**-0.4**
SNY				pmax	pmax				
	comp=Z,41nm,0.9s								
KSRS	**Korea Array**	**27.04**	**250**	P			**P**	**19 58 46.0**	**-0.5**
KSRS	**Korea Array**	**27.04**	**250**	P			**P**	**19 58 46.0**	**-0.5**
	comp=Z,21nm,0.9s,baz=43,slow=9.3,SNR=18								
KS15	**Wonju Array Si**	**27.07**	**250**	*e*P			**P**	**19 58 44.8**	**-2.0**
	comp=Z,26nm,1.0s								
KSAR	**Wonju Array Be**	**27.07**	**250**	*e*P			**P**	**19 58 45.4**	**-1.4**
KSAR	**Wonju Array Be**	**27.07**	**250**	*e*P			**P**	**19 58 45.4**	**-1.4**
KDAK	**Kodiak Island**	**27.11**	**59**	*i P*			**P**	**19 58 50.6**	**+3.6**
JNU	**Nakatsue**	**28.56**	**240**	*e*P			**P**	**19 59 01.0**	**+0.8**
	comp=Z,87nm,1.0s								
JNU	**Nakatsue**	**28.56**	**240**	P			**P**	**19 59 01.2**	**+1.0**
	comp=Z,41nm,0.8s,baz=49,slow=8.1,SNR=9.5								
ILAR	**Eielson Array**	**29.34**	**44**	P			**P**	**19 59 08.0**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=278,slow=7.3,SNR=3.1								
ILAR				LR			LR	20 12 51.9	
	comp=Z,1μm,18.0s,baz=298,slow=40								
ILB	**Eielson Array**	**29.34**	**44**	*e*P

H11S2 **WAKE ISLAND Hy** 34.02 169 T T 20 36 27.4
baz=351,slow=76,SNR=4.5
TLY **Talaya** 34.19 292 *e*P **P** 19 59 47.9 -1.5
comp=Z,40nm,1.1s
TLY **Talaya** 34.19 292 *ce*P **P** 19 59 48.4 -1.1
SONM **Songino Array** 34.26 285 *e*P **P** 19 59 47.8 -2.4
SONM **Songino Array** 34.26 285 P **P** 19 59 48.4 -1.8
comp=Z,8.3nm,0.9s,baz=71,slow=7.0,SNR=12
TIA **Tai'an** 34.28 259 P **P** 19 59 49.3 -1.1
TIA pmax pmax
comp=Z,53nm,0.9s
INK **Inuvik** 34.48 37 *e*P **PcP** 20 02 26.2 +0.6
comp=Z,4.1nm,0.9s
INK **Inuvik** 34.48 37 P **P** 19 59 51.6 -0.1
comp=Z,3.6nm,0.7s,baz=306,slow=7.4,SNR=4.5
INK PcP **PcP** 20 02 26.2 +0.6
comp=Z,3.6nm,0.9s,baz=340,slow=4.3,SNR=4.8
HHC **Hu-ho-hao-te** 34.79 271 *e*P **P** 19 59 52.8 -2.1
HHC S S 20 05 02.8 -19
HHC sS sS 20 05 43.4 +0.3
HHC pmax pmax
comp=Z,120nm,0.8s
HHC pmax pmax
comp=Z,360nm,4.6s
HHC LR LR
comp=Z,3μm,12.8s
HHC LR LR
comp=Z,2μm,11.7s
HHC LR LR
comp=Z,2μm,12.4s
ZAK **Zakamensk** 34.94 290 *e*P **P** 19 59 54.3 -1.8
ZAK pmax pmax
comp=Z,33nm,1.0s
MOY **Mondy** 35.70 293 *e*P **P** 20 00 01.3 -1.3
MOY pmax pmax
comp=Z,13nm,1.2s
NJ2 **Nanjing** 36.12 253 *e*P **P** 20 00 05.3 -0.9
NJ2 pmax pmax
comp=Z,31nm,0.6s
NJ2 LR LR
comp=Z,2μm,13.0s
NJ2 LR LR
comp=Z,2μm,16.8s
NJ2 LR LR
comp=Z,1μm,13.0s
NRIK **Noril'sk** 36.72 325 P **P** 20 00 10.1 -0.8
comp=Z,25nm,0.9s,baz=87,slow=9.4,SNR=13
DLBC **Dease Lake** 38.46 52 P **P** 20 00 27.0 +1.2
comp=Z,3.8nm,0.9s,baz=315,slow=17,SNR=3.0
WHN **Wuhan** 39.88 255⇑ *i*P **P** 20 00 39.0 +1.2
WHN pmax pmax
comp=Z,90nm,1.0s
LZH **Lanzhou** 42.49 271 *e*P **P** 20 00 58.9 -0.6
LZH pP sP 20 01 19.1 +0.8
LZH sP pwP 20 01 31.8 +16
LZH pmax pmax
comp=Z,42nm,1.2s
GTA **Gaotai** 42.86 277 ⇑P **P** 20 01 01.1 -1.3
GTA PcP **PcP** 20 02 52.3 -0.2
GTA pmax pmax
comp=Z,17nm,1.4s
GTA LR LR
comp=Z,2μm,16.2s
GTA LR LR
comp=Z,2μm,15.5s
GTA LR LR
comp=Z,2μm,16.8s
ENH **Enshi** 42.99 260 *e*P **P** 20 01 02.0 -1.4
comp=Z,38nm,1.1s
ZAA0 **Zalesovo Array** 43.38 304 *e*P **P** 20 01 02.9 -3.3
comp=Z,14nm,0.8s
ZALV **Zalesovo Beam** 43.38 304 *e*P **P** 20 01 03.1 -3.2
ZALV **Zalesovo Beam** 43.38 304 *i* P **P** 20 01 03.9 -2.4
ZALV pmax pmax
comp=Z,14nm,0.8s
ZALV **Zalesovo Beam** 43.38 304 P **P** 20 01 03.3 -3.0
comp=Z,14nm,0.8s,baz=56,slow=6.7,SNR=22
ZALV PcP **PcP** 20 02 55.1 +1.3
comp=Z,7.2nm,1.0s,baz=56,slow=3.6,SNR=4.1
YKA **Yellowknife Ar** 43.72 42 P **P** 20 01 09.1 +0.3
comp=Z,1.7nm,0.9s,baz=297,slow=7.7,SNR=2.6
NVS **Novosibirsk** 43.74 305⇑ *i*P **P** 20 01 08.0 -1.1
NVS *e*S **S** 20 07 29.5 -5.9
NVS pmax pmax
comp=N,28nm,0.9s
NVS pmax pmax
comp=E,86nm,0.9s
NVS pmax pmax
comp=Z,132nm,0.9s
NVS smax smax
comp=N,11nm,1.2s
RES **Resolute Bay** 44.09 22 *e*P P 20 01 19.1 +7.4
comp=N,7.0nm,0.8s
RES **Resolute Bay** 44.09 22 P **P** 20 01 11.9 +0.3
comp=N,3.6nm,0.8s,baz=296,slow=11,SNR=3.9
DGZ **Jazzator, Alta** 44.20 297 *c i*P **P** 20 01 11.7 -1.4
DGZ pmax pmax
comp=Z,33nm,0.9s
CD2 **Chengdu** 46.04 265 *e*P **P** 20 01 24.5 -3.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
WMQ **Urumqi** 47.41 290 *e*P **P** 20 01 37.8 -0.6
WMQ sP sP 20 02 05.1 +7.8
WMQ pmax pmax
comp=Z,160nm,0.9s
WMQ LR LR
comp=Z,5μm,16.1s
WMQ LR LR
comp=Z,7μm,16.1s
WMQ LR LR
comp=Z,8μm,16.1s
GYA **Guiyang** 47.46 259⇓ *i*P **P** 20 01 38.8 -0.2
GYA pP sP 20 02 01.6 +3.8
GYA sP pwP 20 02 12.4 +17
GYA PP **PP** 20 03 28.8 -1.8
GYA S **S** 20 08 29.5 -0.3
GYA sS sS 20 08 55.8 +4.0
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,120nm,5.3s
GYA LR LR
comp=Z,570nm,18.0s
GYA LR LR
comp=Z,530nm,18.0s
GYA LR LR
comp=Z,510nm,18.7s
KBS **Kingsbay** 47.77 352 *e*P **P** 20 01 40.9 +0.3
comp=Z,68nm,1.0s
KBS **Kingsbay** 47.77 352 *ce*P **P** 20 01 40.8 +0.2
KBS pmax pmax
comp=Z,222nm,1.0s
SPA0 **Spitsbergen Ar** 48.03 351 *e*P **P** 20 01 42.6 0.0
comp=Z,203nm,1.2s
SPITS **Spitsbergen Ar** 48.03 351 P **P** 20 01 42.6 0.0
comp=Z,97nm,1.0s,baz=59,slow=7.1,SNR=17
KURK **Kurchatov** 48.33 303 *c i*P **P** 20 01 43.0 -2.3
KURK pmax pmax
comp=Z,111nm,1.0s
KURBB **Kurchatov Arra** 48.43 303 P **P** 20 01 44.0 -2.0
comp=Z,60nm,0.9s,baz=60,slow=7.7,SNR=37
KURBB PcP **PcP** 20 03 12.5 +0.9
comp=Z,7.2nm,0.9s,baz=54,slow=4.0,SNR=4.9
MK31 **Makanchi Array** 48.68 296 *e*P **P** 20 01 44.9 -3.2
comp=Z,17nm,0.9s
MK31 **Makanchi Array** 48.68 296 *e*P **P** 20 01 44.9 -3.2
MK31 pmax pmax
comp=Z,17nm,0.9s
MKAR **Makanchi Array** 48.68 296 *e*P **P** 20 01 45.6 -2.5
MKAR **Makanchi Array** 48.68 296 P **P** 20 01 46.0 -2.0
comp=Z,15nm,0.8s,baz=54,slow=6.6,SNR=21
MAKZ **Makanchi** 48.84 297 *e*P **P** 20 01 47.0 -2.3
comp=Z,34nm,0.9s
MAKZ **Makanchi** 48.84 297 *e*P **P** 20 01 47.0 -2.3
MAKZ pmax pmax
comp=Z,34nm,0.9s
KMI **Kunming** 50.82 261 P **P** 20 02 04.5 -0.3
KMI pmax pmax
comp=Z,16nm,1.3s
KULLO **Kullorsuaq** 51.02 12 *i* P **P** 20 02 08.3 +2.9
KULLO pmax pmax
comp=Z,44nm,1.1s
KULLO **Kullorsuaq** 51.02 12 *i* P **P** 20 02 08.3 +2.9
comp=Z,44nm,1.1s
BVAR **Borovoye Array** 51.06 309 P **P** 20 02 04.4 -1.6
comp=Z,36nm,0.8s,baz=56,slow=8.0,SNR=26
BRVK **Borovoye** 51.09 309 *e*P **P** 20 02 04.2 -2.0
comp=Z,52nm,0.8s
BRVK **Borovoye** 51.09 309 *c i*P **P** 20 02 04.0 -2.2
BRVK pmax pmax
comp=Z,56nm,0.9s
DAG **Danmarks Havn** 51.29 360 *i*P **P** 20 02 07.4 0.0
DAG pmax pmax
comp=Z,120nm,1.4s
DAG **Danmarks Havn** 51.29 360⇑ *i*P **P** 20 02 07.4 0.0
comp=Z,52nm,1.4s
PDGK **Podgornoye** 52.38 295 P **P** 20 02 15.1 -1.1
PDGK pmax pmax
comp=Z,35nm,1.0s
SLVN **Son La** 52.97 257 *e*P **P** 20 02 19.5 -1.1
comp=Z,26nm,1.0s
SVE **Sverdlovsk** 53.03 317 *e*P **P** 20 02 20.1 -0.4
SVE pmax pmax
comp=Z,26nm,1.2s
OTUK **Ortayu** 53.09 303 P **P** 20 02 20.1 -1.0
OTUK pmax pmax
comp=Z,40nm,1.0s
LVZ **Lovozero** 53.57 338 *e*P **P** 20 02 23.7 -0.8
comp=Z,89nm,0.9s
LVZ **Lovozero** 53.57 338 *c i*P **P** 20 02 23.6 -0.8
LVZ pmax pmax
comp=Z,76nm,0.9s
KEV **Kevo** 53.70 342 *e*P **P** 20 02 24.4 -0.9
comp=Z,29nm,0.9s
KEV **Kevo** 53.70 342 *e*P **P** 20 02 24.4 -0.9
KEV pmax pmax
comp=Z,29nm,0.9s
ARU **Arti** 54.15 318 *e*P **P** 20 02 26.8 -2.0
comp=Z,30nm,0.8s
ARU **Arti** 54.15 318 *ce*P **P** 20 02 27.1 -1.7
ARU pmax pmax
comp=Z,28nm,0.8s
ARU **Arti** 54.15 318 P **P** 20 02 27.7 -1.1
comp=Z,9.2nm,0.6s,baz=26,slow=4.0,SNR=14
ARCES **ARCESS Array B** 54.17 342 *e*P **P** 20 02 28.0 -0.8
ARCES **ARCESS Array B** 54.17 342 *e*P **P** 20 02 28.0 -0.8
ARCES **ARCESS Array B** 54.17 342 P **P** 20 02 28.7 -0.1
comp=Z,54nm,0.9s,baz=27,slow=8.2,SNR=26
ARE0 **ARCESS Array S** 54.17 342 *e*P **P** 20 02 28.0 -0.8
TARG **Taragay, Kyrgy** 54.37 294 *e*P **P** 20 02 28.0 -3.1
comp=Z,9.0nm,0.9s
KDJ **Kajisay** 54.45 295 *e*P **P** 20 02 29.6 -1.8
comp=Z,34nm,0.8s
KDJ **Kajisay** 54.45 295 *e*P **P** 20 02 29.7 -1.8
KDJ pmax pmax
comp=Z,34nm,0.8s
LSA **Lhasa** 54.63 274 *e*P **P** 20 02 32.1 -1.1
comp=Z,22nm,0.8s
LSA **Lhasa** 54.63 274 P **P** 20 02 33.7 +0.5
LSA **Lhasa** 54.63 274 *e*P **P** 20 02 32.1 -1.1
LSA pmax pmax
comp=Z,22nm,0.8s
SUMG **Summit** 54.82 7 *e*P **P** 20 02 34.3 +0.4
comp=Z,41nm,0.9s
SUMG **Summit** 54.82 7 *e*P **P** 20 02 34.3 +0.4
SUMG pmax pmax
comp=Z,41nm,0.9s
SUMG **Summit** 54.82 7⇑ *i*P **P** 20 02 34.7 +0.8
comp=Z,112nm,1.1s
BOOM **Boomskoye usch** 54.91 296 *e*P **P** 20 02 33.6 -1.1
comp=Z,34nm,1.0s
BOOM **Boomskoye usch** 54.91 296 *e*P **P** 20 02 33.6 -1.1
BOOM pmax pmax
comp=Z,34nm,1.0s
BMN **Battle Mountai** 55.18 67 *e*P P 20 02 46.3 +10
comp=Z,9.1nm,0.9s
BMN **Battle Mountai** 55.18 67 *e*P P 20 02 46.3 +10
BMN pmax pmax
comp=Z,9.0nm,0.9s
PRGR **Permogore** 55.27 328⇑ *i*P **P** 20 02 36.4 -0.3
PRGR pmax pmax
comp=Z,79nm,0.9s
FRU1 **Bishkek** 55.42 297 *e*P **P** 20 02 36.7 -1.5
comp=Z,61nm,0.9s
FRU1 **Bishkek** 55.42 297 *e*P **P** 20 02 36.7 -1.5
FRU1 pmax pmax
comp=Z,61nm,0.9s
AAK **Ala-Archa** 55.60 297 *e*P **P** 20 02 37.7 -2.0
comp=Z,39nm,1.0s
AAK **Ala-Archa** 55.60 297 *i* P **P** 20 02 38.8 -1.0
SNR=23
AAK **Ala-Archa** 55.60 297 *ce*P **P** 20 02 38.2 -1.5
AAK pmax pmax
comp=Z,41nm,1.0s
AAK **Ala-Archa** 55.60 297 P **P** 20 02 38.7 -1.0
comp=Z,34nm,0.9s,baz=104,slow=4.8,SNR=23
TMCR **Tamitsa** 55.63 333 *e*P **P** 20 02 38.2 -1.1
TMCR pmax pmax
comp=Z,209nm,1.0s
SGF **Sodankyl** 55.74 340 P **P** 20 02 40.6 +0.5
SGF pmax pmax
comp=Z,69nm,1.1s
PANO **Nakornpanom** 55.79 253 P **P** 20 02 44.5 +3.5
comp=Z,1.4nm,1.1s
NVAR **Mina Array Bea** 55.91 70 *e*P P 20 02 51.9 +10
NVAR **Mina Array Bea** 55.91 70 P **P** 20 02 44.2 +2.3
comp=Z,1.0nm,0.6s,baz=297,slow=8.0,SNR=2.3
ELK **Elko** 56.09 66 *e*P P 20 02 53.4 +10
comp=Z,3.4nm,0.8s
ELK **Elko** 56.09 66 *e*P P 20 02 53.4 +10
ELK pmax pmax
comp=Z,3.0nm,0.8s
KIRV **Kirov** 56.19 324 P **P** 20 02 43.5 +0.1
comp=Z,45nm,0.7s,baz=50,slow=3.6,SNR=16
SKNT **Sakolnakorn** 56.29 253 P **P** 20 02 46.4 +1.7
comp=Z,63nm,0.8s
MSF **Maaselka** 56.49 338 P **P** 20 02 46.9 +1.5
MSF pmax pmax
comp=Z,198nm,1.0s
ILULI **Ilulissat** 56.71 13 *e*P **P** 20 02 50.6 +3.7
comp=Z,18nm,0.7s
KSH **Kashi** 56.89 293 P **P** 20 02 52.1 +3.3
KSH PP **PP** 20 05 00.1 +4.8
KSH S **S** 20 10 32.6 -6.0
KSH SS **SS** 20 14 20.1 -6.7
KSH pmax pmax
comp=Z,43nm,1.0s
KSH LR LR
comp=Z,710nm,8.6s
KSH LR LR
comp=Z,700nm,10.6s
KSH LR LR
comp=Z,1μm,10.0s
PAYA **Payao** 56.90 259 P **P** 20 02 50.7 +1.7
comp=Z,81μm,0.8s,comp=Z,629μm
ARSB **Arslanbob** 57.32 297 *e*P **P** 20 02 49.9 -2.0
comp=Z,27nm,0.9s
PHRA **Phrae** 57.34 258 P **P** 20 02 54.0 +1.9
comp=Z,9.7nm,1.4s
KK31 **Karatay Array** 57.45 300 *e*P **P** 20 02 50.0 -2.6
comp=Z,26nm,0.9s
KK31 **Karatay Array** 57.45 300 *e*P **P** 20 02 50.0 -2.6
KK31 pmax pmax
comp=Z,27nm,0.9s
KKAR **Karatay Array** 57.45 300 *e*P **P** 20 02 50.4 -2.2
comp=Z,26nm,0.9s
KKAR **Karatay Array** 57.45 300 *e*P **P** 20 02 50.4 -2.2
KKAR pmax pmax
comp=Z,27nm,0.9s
KHON **Khomkaen** 57.48 254 P **P** 20 02 55.2 +2.2
comp=Z,65μm,1.0s
SCO **Scoresbysund** 57.60 1 *i* P **P** 20 02 53.8 +0.6
SCO pmax pmax
comp=Z,5.0nm,0.9s
SCO **Scoresbysund** 57.60 1 *i* P **P** 20 02 53.8 +0.6
comp=Z,4.5nm,0.9s
KLMR **Klimovskoe** 57.79 330 *c i*P **P** 20 02 54.3 -0.4
KLMR pmax pmax
comp=Z,91nm,0.9s
BW06 **Boulder Array** 57.83 60 *e*P **P** 20 02 58.4 +2.9
comp=Z,6.2nm,0.6s
BW06 **Boulder Array** 57.83 60 P **P** 20 02 58.6 +3.1
baz=314
PD31 **Pinedale Array** 57.83 60 *e*P **P** 20 02 58.7 +3.1
comp=Z,5.4nm,0.6s
PDAR **Pinedale Array** 57.83 60 P **P** 20 02 57.0 +1.5
comp=Z,2.0nm,0.6s,baz=303,slow=5.0,SNR=3.3
CMMT **Chiang Mai** 57.88 259 P **P** 20 02 57.0 +1.1
comp=Z,30nm,1.0s
CHTO **Chiang Mai** 57.88 259 *e*P **P** 20 02 56.0 +0.1
comp=Z,47nm,0.9s
CHTO **Chiang Mai** 57.88 259 *e*P **P** 20 02 56.0 +0.1
CHTO pmax pmax
comp=Z,47nm,0.9s
OUL **Oulu** 57.89 339 P **P** 20 02 55.7 +0.4
OUL pmax pmax
comp=Z,144nm,1.0s
TPNV **Topopah Spring** 58.10 70 *e*P P 20 03 07.6 +10
comp=Z,11nm,1.1s
CM31 **Chiang Mai Arr** 58.15 259 *e*P **P** 20 02 57.4 -0.4
comp=Z,31nm,0.9s
CMAR **Chiang Mai Arr** 58.15 259 *e*P **P** 20 02 58.4 +0.6
CMAR **Chiang Mai Arr** 58.15 259 *e*P **P** 20 02 58.4 +0.6
CMAR **Chiang Mai Arr** 58.15 259 P **P** 20 02 59.0 +1.3
comp=Z,19nm,0.8s,baz=25,slow=7.0,SNR=24
CHAI **Chaiyaphum** 58.31 254 P **P** 20 03 00.6 +1.7
comp=Z,43μm,1.0s,comp=Z,405μm
PBKT **Sadao Pong** 58.39 256 P **P** 20 03 01.6 +2.2
comp=Z,14nm,1.4s
JOF **Joensuu** 58.43 335 P **P** 20 02 59.4 +0.3
JOF pmax pmax
comp=Z,105nm,1.1s
SFJD **Kangerlussuaq** 58.84 14 P **P** 20 03 03.6 +1.8
comp=Z,8.4nm,0.8s,baz=3.8,slow=4.8,SNR=4.3
ODAN **Odare** 58.97 275 *e*P **P** 20 03 03.3 -0.4
comp=Z,42nm,0.8s
JIRN **Jiri** 59.13 276 *e*P **P** 20 03 04.4 -0.6
comp=Z,89nm,0.8s
TAS **Tashkent** 59.33 299 P **P** 20 03 05.8 +0.1
RAMN **Ramite** 59.39 275 *e*P **P** 20 03 06.1 -0.5
comp=Z,161nm,0.8s
KKN **Kakani** 59.59 277 *e*P **P** 20 03 07.5 -0.5
comp=Z,70nm,0.7s
PKI **Pulchoki** 59.67 277 *e*P **P** 20 03 08.1 -0.6
comp=Z,74nm,0.8s
PKIN **Phulchoki** 59.68 277 *e*P **P** 20 03 07.9 -0.7
comp=Z,54nm,0.8s
RSSD **Black Hills** 59.77 56 *e*P **P** 20 03 12.1 +3.1
comp=Z,14nm,0.8s
RSSD **Black Hills** 59.77 56 *e*P **P** 20 03 12.1 +3.1
RSSD pmax pmax
comp=Z,14nm,0.8s
RSSD **Black Hills** 59.77 56 P **P** 20 03 11.8 +2.8
baz=316
LCMT **Little Creek M** 59.78 68 *e*P P 20 03 18.8 +10
comp=Z,9.3nm,1.1s
DMN **Daman** 59.83 277 *e*P **P** 20 03 09.3 -0.4
comp=Z,108nm,0.7s
GKN **Gorkha** 59.83 278 *e*P **P** 20 03 09.1 -0.4
SUF **Sumiainen** 59.87 338 P **P** 20 03 09.7 +0.6
SUF pmax pmax
comp=Z,147nm,1.3s
UMPA **Umpang Tak** 59.94 257 P **P** 20 03 13.5 +3.3
comp=Z,96μm,0.9s
DANN **Dangsing** 60.12 279 *e*P **P** 20 03 11.3 -0.3
comp=Z,126nm,0.8s
VAF **Ylistaro** 60.38 339 P **P** 20 03 13.6 +1.1
VAF pmax pmax
comp=Z,105nm,1.3s
GAR **Garm** 60.41 296 *e*P **P** 20 03 11.7 -1.6
comp=Z,90nm,0.9s
GAR **Garm** 60.41 296 *e*P **P** 20 03 11.7 -1.6
GAR pmax pmax
comp=Z,90nm,0.9s
KOLN **Koldanda** 60.63 278 *e*P **P** 20 03 14.4 -0.7
comp=Z,58nm,0.7s
PYUN **Piuthan** 60.77 279 *e*P **P** 20 03 15.4 -0.6
comp=Z,135nm,0.8s
FINES **FINESS Array B** 60.99 337 *i* P **P** 20 03 16.8 +0.1
FINES pmax pmax
comp=Z,37nm,0.8s
FINES **FINESS Array B** 60.99 337 P **P** 20 03 16.9 +0.2
comp=Z,37nm,0.8s,baz=43,slow=8.6,SNR=24
SRDT **SRDT** 61.23 256 P **P** 20 03 22.9 +3.9
comp=Z,12nm,1.4s
CHGR **Chuyangaron** 61.29 297 *e*P **P** 20 03 19.1 -0.2
comp=Z,36nm,0.9s
ISCO **Idaho Springs** 62.02 60 P **P** 20 03 28.1 +3.6
baz=317
PHET **Kaeng Krachan** 62.06 254 P **P** 20 03 27.2 +2.6
comp=Z,130μm,0.9s
MOS **Moscow** 62.48 328 *e*P **P** 20 03 24.5 -2.3
MOS pmax pmax
comp=Z,88nm,1.2s
NIL **Nilore** 62.56 290 *e*P **P** 20 03 26.4 -1.3
comp=Z,78nm,0.8s
NIL **Nilore** 62.56 290 P **P** 20 03 26.5 -1.3
NIL pmax pmax
comp=Z,78nm,0.8s
S22A **4UR Ranch, Cre** 62.84 63 P **P** 20 03 33.6 +3.7
baz=317
OBN **Obninsk** 63.34 328⇓ *i*P **P** 20 03 32.4 -0.1
OBN **Obninsk** 63.34 328 *e*P **P** 20 03 31.5 -1.0
OBN *e* 20 04 06.8
OBN *e* 20 05 50.3
OBN *e*PPP PPP 20 07 19.7
OBN pmax pmax
comp=Z,53nm,1.1s
VSU **Vasula** 63.41 335 *ce*P **P** 20 03 33.0 0.0
VSU pmax pmax
comp=Z,185nm,1.1s
VSU **Vasula** 63.41 335 *e*P **P** 20 03 32.9 0.0
VSU IAmb IAmb 20 03 33.9
comp=Z,172nm,1.0s
SDCO **Great Sand Dun** 63.57 62 P **P** 20 03 37.9 +3.2
baz=317
SBUM **Sibu** 63.65 236 *e*P **P** 20 03 36.5 +1.5
comp=Z,5.0nm,1.0s
ECSD **EROS Data Cent** 63.75 52 P **P** 20 03 36.9 +1.5
baz=319
NC303 **NORSAR Array S** 64.23 344 *e*P **P** 20 03 37.8 -0.5
comp=Z,32nm,0.9s
NC405 **NORSAR Array S** 64.28 344 *e*P **P** 20 03 38.2 -0.5
comp=Z,30nm,0.8s
NC204 **NORSAR Array S** 64.29 344 *e*P **P** 20 03 38.4 -0.3
comp=Z,76nm,1.1s
F38A **Pierce - Schro** 64.30 47 P **P** 20 03 40.5 +1.5
baz=320
KBL **Kabul** 64.32 294 *e*P **P** 20 03 36.0 -3.6
comp=Z,21nm,0.8s
KBL **Kabul** 64.32 294 *e*P **P** 20 03 36.0 -3.6
KBL pmax pmax
comp=Z,21nm,0.8s
NB201 **NORSAR Array S** 64.41 344 *e*P **P** 20 03 39.3 -0.2
comp=Z,43nm,0.9s
SPMN **Marine on St.** 64.43 49 P **P** 20 03 41.1 +1.2
baz=320
NB2 **NORSAR Subarra** 64.43 344 P **P** 20 03 39.8 +0.1
comp=Z,26nm,0.9s,baz=23,slow=6.9
NB2 **NORSAR Subarra** 64.43 344 P **P** 20 03 37.2 -2.5
NB2 pmax pmax
comp=Z,10.0nm,0.7s
NB2 **NORSAR Subarra** 64.43 344 P **P** 20 03 39.8 +0.1
baz=23,slow=6.9
NOA **NORSAR Array B** 64.43 344 P **P** 20 03 39.7 0.0
comp=Z,13nm,0.8s,baz=22,slow=6.7,SNR=22
NBO00 **NORSAR Array S** 64.52 344 *e*P **P** 20 03 39.4 -0.9
comp=Z,28nm,0.9s
LPSR **Galich'ya Gora** 64.59 325 *e*P **P** 20 03 39.9 -0.9
LPSR pmax pmax
comp=Z,70nm,0.9s
T25A **Trinidad** 64.60 62 P **P** 20 03 43.1 +1.7
baz=318
NAO01 **NORSAR Array S** 64.67 344 *e*P **P** 20 03 40.3 -0.9
comp=Z,30nm,0.9s
VRH **Novokhopyorsk** 64.70 322 *e*P **P** 20 03 40.1 -1.4
VRH pmax pmax
comp=Z,50nm,0.8s
F39A **Loretta** 64.76 47 P **P** 20 03 43.2 +1.1
baz=321
E40A **Wakefield** 64.81 46 P **P** 20 03 43.7 +1.3
baz=321
G38A **Ridgeland** 64.91 48 P **P** 20 03 43.8 +0.8
baz=320
F40A **Park Falls** 65.12 46 P **P** 20 03 45.9 +1.5
baz=321
E41A **Kenton** 65.21 45 P **P** 20 03 45.9 +1.0
baz=321
SLIT **Slitere, Latvi** 65.27 337 *e*P **P** 20 03 45.2 +0.1
SLIT IAmb IAmb 20 03 46.9
comp=Z,398nm,1.0s
VSR **Storozhevoye** 65.64 324⇑ *e*P **P** 20 03 46.2 -1.4
VSR pmax pmax
comp=Z,43nm,0.9s
E42A **Champion** 65.69 45 P **P** 20 03 49.2 +1.1
baz=322
F41A **Three Lakes** 65.71 46 P **P** 20 03 48.2 0.0
baz=322
VORD **Divnogorie** 65.80 324 *e*P **P** 20 03 47.8 -0.8

VORD pmax pmax
comp=Z,40nm,1.1s
IZAR Zarasai 65.92 334 *e*P **P 20 03 49.6 +0.3**
IZAR IAmb IAmb 20 03 51.4
comp=Z,15nm,1.0s
BER Bergen 65.97 347 P **P 20 03 51.7 +2.1**
BER pmax pmax
comp=Z,58nm,0.9s
KONO Kongsberg 66.02 344⇑*e*P **P 20 03 50.4 +0.5**
KONO pmax pmax
comp=Z,8.0nm,0.9s
KRAB Krabi 66.05 252 P P 20 04 01.9 +11
TRTT Trang 66.07 251 P P 20 04 03.3 +12
ISAL Salakas 66.10 334 *e*P **P 20 03 50.7 +0.2**
ISAL IAmb IAmb 20 03 52.6
comp=Z,27nm,1.3s
IDID Didziasalis 66.16 333 *e*P **P 20 03 50.9 +0.1**
IDID IAmb IAmb 20 03 52.9
comp=Z,26nm,1.2s
IIGN Ignalina 66.27 333 *e*P **P 20 03 51.8 +0.2**
IIGN IAmb IAmb 20 03 53.5
comp=Z,21nm,0.9s
H41A Junction City 66.33 47 P **P 20 03 52.9 +0.7**
baz=322
E44A Grand Marais A 66.40 44 P **P 20 03 54.0 +1.4**
baz=323
NACGM Naroch 66.51 333 *e* **P 20 03 52.0 -1.1**
MICGM Minsk 66.55 332 *e* **P 20 03 53.0 -0.4**
MNK Minsk 66.55 332 *e*P **P 20 03 53.0 -0.4**
F44A Big Bay de Noc 66.69 44 P **P 20 03 55.4 +0.9**
baz=323
PABE Paberze 66.74 335 *e*P **P 20 03 54.1 -0.5**
PABE IAmb IAmb 20 03 56.4
comp=Z,96nm,1.0s
PBUR Paburg 66.80 336 *e*P **P 20 03 54.3 -0.7**
PBUR IAmb IAmb 20 03 56.9
comp=Z,90nm,1.1s
MATQ Matagami 67.14 37 P **P 20 03 57.0 -0.3**
baz=326
D47A Chapleau 67.22 42 P **P 20 03 58.0 +0.1**
baz=324
F45A CMU Biological 67.31 44 P **P 20 03 59.3 +0.9**
baz=323
E47A Iron Bridge 67.64 42 P **P 20 04 01.0 +0.6**
baz=324
D48A Paudash Townsh 67.65 41 P **P 20 04 00.8 +0.2**
baz=325
GEYT Alibeck 67.70 303 P **P 20 03 59.6 -1.4**
comp=Z,14nm,0.7s,baz=11,slow=3.0,SNR=14
D49A Beulah Townshi 67.75 40 P **P 20 04 01.5 +0.3**
baz=325
LSQQ Lebel-sur-Quev 67.97 37 P **P 20 04 02.5 +0.1**
baz=327
IPM Ipoh 68.02 248 *e*P **P 20 04 01.9 -1.3**
comp=Z,11nm,0.9s
E48A Lockeyer 68.07 41 P **P 20 04 03.6 +0.5**
baz=325
CHGQ Chibougamau 68.19 35 P **P 20 04 03.8 -0.1**
baz=328
L42A Oliver, Polo 68.36 49 P **P 20 04 05.1 0.0**
baz=322
E50A Wahnapitae 68.69 41 P **P 20 04 07.5 +0.4**
baz=325
MAK Makhachkala 68.90 314 *e*P **P 20 04 12.1 +3.7**
MAK *e* 20 06 40.3
MAK *e*S **S 20 13 13.3 +4.9**
MAK pmax pmax
comp=Z,60nm,1.3s
MAK MLR MLR
comp=Z,863nm,14.0s
E51A G1948 Merrick 69.10 40 P **P 20 04 09.6 0.0**
baz=326
MUD Monsted U'grnd 69.12 343 *e*P **P 20 04 10.1 +0.6**
MUD Monsted U'grnd 69.12 343 *i* P **P 20 04 10.1 +0.6**
D53A Lac Vacive, Po 69.34 38 P **P 20 04 11.0 0.0**
baz=327
WMOK Wichita Mounta 69.42 60 P **P 20 04 14.2 +2.4**
baz=320
AKASG Malin Array Be 69.45 329 *e*P **P 20 04 10.3 -1.3**
AKASG Malin Array Be 69.45 329 P **P 20 04 11.0 -0.6**
comp=Z,9.2nm,0.6s,baz=32,slow=6.7,SNR=22
AKBB Malin Array Si 69.45 329 *e*P **P 20 04 10.9 -0.8**
comp=Z,28nm,1.0s
KIEV Kiev 69.46 329 *e*P **P 20 04 10.9 -0.8**
comp=Z,26nm,1.0s
KIEV Kiev 69.46 329⇑*i*P **P 20 04 11.5 -0.2**
KIEV Kiev 69.46 329 *i* P **P 20 04 11.3 -0.4**
SNR=5.5
KIEV Kiev 69.46 329*c i*P **P 20 04 10.9 -0.8**
KIEV pmax pmax
comp=Z,39nm,1.2s
D54A Lac Fusel, La 69.67 38 P **P 20 04 13.4 +0.3**
baz=327
F52A Sundridge 69.77 40 P **P 20 04 13.7 -0.1**
baz=326
KLBO Killbear Provi 69.78 41 P **P 20 04 13.0 -0.7**
baz=326
I49A Point Hope 69.85 43 P **P 20 04 15.5 +1.2**
baz=325
E53A Dumoine, Ponti 69.94 39 P **P 20 04 14.4 -0.4**
baz=327
BMRO Meriville Lake 69.99 42 P **P 20 04 16.4 +1.3**
baz=326
BUKO Buck Lake 70.03 40 P **P 20 04 16.0 +0.6**
baz=326
E54A Lac Daplat, Po 70.07 38 P **P 20 04 15.8 +0.2**
baz=327
TUL1 Leonard 70.09 57 P **P 20 04 17.4 +1.6**
baz=321
KIV Kislovodsk 70.19 317 *e*P **P 20 04 13.8 -2.6**
comp=Z,9.7nm,0.7s
KIV Kislovodsk 70.19 317⇑*i*P **P 20 04 17.5 +1.1**
KIV Kislovodsk 70.19 317 *i* P **P 20 04 17.0 +0.6**
SNR=7.2
KIV Kislovodsk 70.19 317 *e*P **P 20 04 13.5 -2.9**
KIV pmax pmax
comp=Z,38nm,0.9s
K48A Perry 70.22 45 P **P 20 04 18.4 +1.9**
baz=324
KBZ Khabaz 70.28 317 P **P 20 04 17.5 +0.6**
comp=Z,16nm,0.8s,baz=25,slow=3.8,SNR=12
GKP Gorka Klasztor 70.45 338 *e*P **P 20 04 18.6 +0.9**
GKP Gorka Klasztor 70.45 338 *e*P **P 20 04 18.6 +0.9**
ABTX Abilene, Hawle 70.57 62 P **P 20 04 21.6 +2.8**
baz=321
G53A Haliburton 70.60 40 P **P 20 04 19.5 +0.6**
baz=327
ZEI Tsey 70.62 316 *e*P **P 20 04 16.6 -2.6**
ZEI pmax pmax
comp=Z,10.0nm,0.8s
PEMO Pembroke 70.68 39 P **P 20 04 19.5 +0.2**
baz=327
CCM Cathedral Cave 70.70 53 P **P 20 04 21.3 +1.7**
baz=322
I51A Listowel 70.72 42 P **P 20 04 20.5 +0.9**
baz=326
TXAR Lajitas Array 70.85 67 P **P 20 04 22.6 +1.9**
comp=Z,2.1nm,0.7s,baz=300,slow=4.7,SNR=3.5
BEL Belsk 70.88 335 *e*P **P 20 04 21.7 +1.4**
BEL Belsk 70.88 335 *e*P **P 20 04 21.7 +1.4**
TBLG Delisi 71.11 314 *e*P **P 20 04 20.8 -1.2**
comp=Z,19nm,0.8s
TBLG Delisi 71.11 314 *e*P **P 20 04 20.8 -1.2**
TBLG pmax pmax
comp=Z,19nm,0.8s
PLVO Plevna 71.28 39 P **P 20 04 23.4 +0.5**
baz=328
M49A Liberty Center 71.36 46 P **P 20 04 25.1 +1.6**
baz=325
N48A Decatur 71.39 47 P **P 20 04 23.6 0.0**
baz=324
P46A Rosedale 71.39 49 P **P 20 04 24.7 +1.0**
baz=324
J52A Paris 71.41 42 P **P 20 04 25.2 +1.4**
baz=326
HYB Hyderabad 71.43 275⇑*i*P **P 20 04 24.5 +0.2**
comp=Z,77nm,0.8s
DELO Deloro Mine 71.50 40 P **P 20 04 24.6 +0.3**
baz=327
ORIO Orleans, Innes 71.53 38 P **P 20 04 24.8 +0.3**
baz=328
ANN Anapa 71.61 321 *e*P **P 20 04 24.3 -0.6**
ANN *e**PP **pwP 20 04 41.5 -0.5**
ANN *e* 20 07 02.4
ANN *e*S **S 20 13 39.3 -0.6**
ANN pmax pmax
comp=Z,21nm,0.9s

ALFO Alfred 71.62 37 P **P 20 04 25.0 +0.1**
baz=328
H55A Tweed 71.65 39 P **P 20 04 25.5 +0.4**
baz=328
SOC Sochi 71.72 319 *e*P **P 20 04 24.0 -1.6**
SOC pmax pmax
comp=Z,11nm,0.5s
I55A Frankford 71.73 40 P **P 20 04 26.0 +0.4**
baz=327
LVV L'vov 71.80 332 *e*P **P 20 04 26.2 +0.2**
AKH Akhalkalaki 71.92 315 *e*P **P 20 04 26.5 -0.6**
comp=Z,22nm,0.9s
AKH Akhalkalaki 71.92 315⇓*i*P **P 20 04 28.2 +1.1**
AKH Akhalkalaki 71.92 315 *e*P **P 20 04 26.5 -0.6**
AKH pmax pmax
comp=Z,23nm,0.9s
EKA Eskdalemuir Ar 71.95 350 P **P 20 04 26.8 0.0**
EKA pmax pmax
comp=Z,4.0nm,0.5s
ESK Eskdalemuir 71.97 350 *i* P **P 20 04 28.3 +1.4**
N50A Nevada 72.29 46 P **P 20 04 31.0 +1.9**
baz=325
Q47A Bedord North L 72.30 49 P **P 20 04 30.4 +1.3**
baz=324
KWP Kalwaria Pacla 72.35 333 *e*P **P 20 04 30.0 +0.8**
KWP Kalwaria Pacla 72.35 333 *e*P **P 20 04 29.8 +0.5**
comp=Z,750nm,1.0s
KWP Kalwaria Pacla 72.35 333 *e*P **P 20 04 29.8 +0.5**
GNI Garni 72.39 314 *i* P **P 20 04 31.1 +1.2**
SNR=6.9
M52A Chesterland 72.44 44 P **P 20 04 31.7 +1.8**
baz=326
W41B Gary Mavity, V 72.47 55 P **P 20 04 32.5 +2.3**
baz=323
N51A Ashland 72.51 45 P **P 20 04 31.3 +0.9**
baz=326
BATM Batumi 72.53 316⇑*i*P **P 20 04 31.2 +0.7**
L53A Girard 72.56 43 P **P 20 04 31.8 +1.2**
baz=326
OJC Ojcow 72.61 335 *e*P **P 20 04 31.6 +0.8**
OJC Ojcow 72.61 335 *e*P **P 20 04 31.1 +0.3**
comp=Z,31nm,1.1s
OJC Ojcow 72.61 335 *e*P **P 20 04 31.1 +0.3**
OJC pmax pmax
comp=Z,31nm,1.1s
IDGL Inch Island, C 72.61 353 *e*P P 20 04 21.9 -8.8
BCA Borcka 72.69 316⇓*i*P **P 20 04 31.6 +0.1**
SIM Simferopol' 72.73 323 *i* P **P 20 04 31.6 0.0**
SIM pmax pmax
comp=Z,23nm,1.0s
KIS Kishinev 72.81 328 *e*P **P 20 04 31.0 -1.1**
KIS Kishinev 72.81 328 *e*P **P 20 04 31.0 -1.1**
KIS *e* 20 04 55.0
KSP Ksiaz 72.92 337 *e*P **P 20 04 33.5 +0.9**
KSP Ksiaz 72.92 337 *e*P **P 20 04 33.5 +0.9**
WCI Wyandotte Cave 72.93 49 P **P 20 04 33.9 +1.0**
baz=324
IAS Iasi 73.05 328 P **P 20 04 35.6 +2.1**
KOLS Kolonicke sedl 73.10 333 *e*P **P 20 04 34.3 +0.5**
KOLS pmax pmax
comp=Z,16nm,0.9s
KOLS Kolonicke sedl 73.10 333 *e*P **P 20 04 34.3 +0.5**
NIE Niedzica 73.20 334 *e*P **P 20 04 35.1 +0.7**
NIE Niedzica 73.20 334 *e*P **P 20 04 35.1 +0.7**
CLL Collm 73.23 339 *e*P **P 20 04 34.5 0.0**
comp=Z,28nm,0.9s
CLL Collm 73.23 339⇑*i*P **P 20 04 34.6 +0.1**
CLL *i* 20 04 47.3
CLL pmax pmax
comp=Z,35nm,1.0s
CLL Collm 73.23 339⇑*i*P **P 20 04 34.6 +0.1**
comp=Z,35nm,1.0s
CLL *i* 20 04 40.1
CLL *i* pP **pP 20 04 47.3 -1.2**
N53A Lisbon 73.26 44 P **P 20 04 36.0 +1.1**
baz=326
UPC Upice 73.29 337 *e*P **P 20 04 36.0 +1.1**
UPC Upice 73.29 337 *e*P **P 20 04 36.0 +1.1**
PRAR RASCA 73.33 329⇓*i*P **P 20 04 36.7 +1.6**
DPC Dobruska-Polom 73.36 337 *e*P **P 20 04 36.8 +1.5**
DPC Dobruska-Polom 73.36 337 *e*P **P 20 04 36.8 +1.5**
UZH Uzhgorod 73.37 332 *e*P **P 20 04 34.9 -0.4**
UZH *e* 20 04 52.3
OKC Ostrava-Krasne 73.39 336 *e*P **P 20 04 36.4 +1.0**
OKC Ostrava-Krasne 73.39 336 *e*P **P 20 04 36.4 +1.0**
BUR08 Bucovina Ar. S 73.39 330 *e*P **P 20 04 35.3 -0.4**
comp=Z,21nm,0.8s
O52A Adamsville 73.40 45 P **P 20 04 36.8 +1.1**
baz=326
BURAR Bucovina Array 73.42 330 *e*P **P 20 04 35.6 -0.1**
BURAR Bucovina Array 73.42 330⇑*i*P **P 20 04 36.0 +0.3**
BURAR Bucovina Array 73.42 330 P **P 20 04 36.0 +0.3**
BRG Berggiesshubel 73.43 339 *e*P **P 20 04 36.0 +0.3**
comp=Z,15nm,1.1s
BRG Berggiesshubel 73.43 339 *e*P **P 20 04 36.0 +0.3**
BRG pmax pmax
comp=Z,15nm,1.1s
N54A Moraine State 73.50 43 P **P 20 04 37.5 +1.2**
baz=327
S48A Wiedeman Farm, 73.50 49 P **P 20 04 37.3 +1.1**
baz=325
KRLC Kraliky 73.51 336 *e*P **P 20 04 37.5 +1.3**
KRLC Kraliky 73.51 336 *e*P **P 20 04 37.5 +1.3**
T47A Sharon Grove 73.55 50 P **P 20 04 37.9 +1.4**
baz=324
O53A New Philadelph 73.56 45 P **P 20 04 37.6 +1.0**
baz=326
M55A Ridgway 73.59 42 P **P 20 04 38.1 +1.4**
baz=327
MORC Moravsky Berou 73.59 336 *e*P **P 20 04 37.3 +0.6**
comp=Z,28nm,1.0s
MORC Moravsky Berou 73.59 336⇑*i*P **P 20 04 37.8 +1.1**
MORC Moravsky Berou 73.59 336 *e*P **P 20 04 37.3 +0.6**
MORC pmax pmax
comp=Z,28nm,1.0s
MORC Moravsky Berou 73.59 336 *e*P **P 20 04 37.6 +0.9**
PVCC Panska Ves 73.61 338 *e*P **P 20 04 37.5 +0.8**
PVCC Panska Ves 73.61 338 *e*P **P 20 04 37.5 +0.8**
P52A Corning 73.67 46 P **P 20 04 37.9 +0.6**
baz=326
LANS Liptovska Anna 73.67 334 *e*P **P 20 04 39.3 +2.1**
LANS Liptovska Anna 73.67 334 *e*P **P 20 04 39.2 +2.1**
BIZ Bicaz 73.74 329⇑*i*P **P 20 04 38.3 +0.7**
TRPA Tarpa 73.75 332⇓*i*P **P 20 04 39.1 +1.6**
TRPA Tarpa 73.75 332⇓*e*P **P 20 04 38.0 +0.5**
S49A Springfield 73.75 49 P **P 20 04 39.7 +2.0**
baz=325
T48A Bowling Green 73.78 50 P **P 20 04 39.5 +1.6**
baz=325
R50A Paris 73.79 48 P **P 20 04 39.5 +1.6**
baz=325
WTSB Winterswijk 73.83 343 *e*P **P 20 04 38.7 +0.7**
comp=Z,51nm,1.1s
BMR Baia Mare 73.88 331⇓*i*P **P 20 04 39.7 +1.4**
BMR Baia Mare 73.88 331 P **P 20 04 39.7 +1.4**
WVT Waverly 73.89 51 P **P 20 04 39.3 +0.7**
baz=324
U47A Clarksville 73.90 51 P **P 20 04 40.0 +1.4**
baz=324
O54A Avella 73.98 44 P **P 20 04 40.4 +1.4**
baz=327
ACCN Adirondack Com 73.98 38 *e*P **P 20 04 40.2 +1.2**
comp=Z,11nm,1.1s
KECS Kecovo 74.01 333 *e*P **P 20 04 40.1 +1.0**
KECS pmax pmax
comp=Z,54nm,0.9s
KECS Kecovo 74.01 333 *e*P **P 20 04 40.1 +1.0**
N55A Marion Center 74.07 43 P **P 20 04 40.8 +1.2**
baz=327
PRU Pruhonice 74.12 338 *e*P **P 20 04 40.5 +0.8**
PRU *e* 20 04 53.4
PRU Pruhonice 74.12 338 *e*P **P 20 04 40.5 +0.8**
PRU *e*pP **pP 20 04 53.4 -0.4**
GOPC GO Pecny, Ondr 74.14 338 *e*P **P 20 04 40.8 +1.0**
GOPC GO Pecny, Ondr 74.14 338 *e*P **P 20 04 40.8 +1.0**
ARCR ARCALIA 74.15 330⇓*i*P **P 20 04 41.7 +1.8**
MOX Moxa 74.16 340 P **P 20 04 41.3 +1.4**
MOX pmax pmax
comp=Z,18nm,1.5s
Q52A Bidwell 74.16 46 P **P 20 04 41.0 +0.8**
baz=326
U48A Cassie Pea, Po 74.20 50 P **P 20 04 41.1 +0.7**
baz=325
BUG Bochum--Univer 74.25 343 P **P 20 04 42.1 +1.7**
BUG pmax pmax

comp=Z,23nm,0.9s
VRAC Vranov 74.26 336⇑*i*P **P 20 04 42.0 +1.4**
VRAC Vranov 74.26 336 P **P 20 04 41.9 +1.4**
VRAC Vranov 74.26 336 *e*P **P 20 04 41.6 +1.0**
DSB Dublin 74.33 352 *e*P P 20 04 31.6 -9.2
NKC Novy Kostel 74.36 339 *e*P **P 20 04 42.3 +1.1**
NKC Novy Kostel 74.36 339 *e*P **P 20 04 42.3 +1.1**
TLCR 74.40 327⇓*i*P **P 20 04 43.4 +2.0**
JAVC Velka Javorina 74.41 335 *e*P **P 20 04 43.3 +1.8**
O55A Ligonier 74.41 43 P **P 20 04 41.9 +0.3**
baz=327
P54A Burton 74.41 44 P **P 20 04 42.5 +0.9**
baz=327
VYHS Vyhne 74.44 335 *e*P **P 20 04 42.7 +1.1**
VYHS pmax pmax
comp=Z,10.0nm,1.0s
VYHS Vyhne 74.44 335 *e*P **P 20 04 42.7 +1.1**
VRI Vrincioaia 74.49 328⇓*i*P **P 20 04 42.7 +0.7**
VRI Vrincioaia 74.49 328 P **P 20 04 42.7 +0.7**
R52A Catlettsburg 74.51 47 P **P 20 04 43.4 +1.2**
baz=326
PLOR Plostina 74.53 328⇓*i*P **P 20 04 41.7 -0.5**
PLOR Plostina 74.53 328 P **P 20 04 41.6 -0.6**
KRUC Moravsky 74.54 336 *e*P **P 20 04 43.2 +1.0**
TREC Trest 74.55 337 *e*P **P 20 04 43.4 +1.2**
TREC *e* 20 04 55.9
TREC Trest 74.55 337 *e*P **P 20 04 43.4 +1.2**
TREC *e*pP **pP 20 04 55.9 -0.4**
U49A Red Boiling Sp 74.56 50 P **P 20 04 42.8 +0.4**
baz=325
Q53A Leroy 74.57 46 P **P 20 04 43.6 +1.1**
baz=326
T50A Nancy 74.58 49 P **P 20 04 43.3 +0.7**
baz=325
OZUR 74.59 329⇓*i*P **P 20 04 44.1 +1.5**
LTVH Ltavrtes, Hu 74.61 332⇑*e*P **P 20 04 43.1 +0.5**
LTVH Ltavrtes, Hu 74.61 332⇑*e*P **P 20 04 44.0 +1.5**
MCWV Mont Chateau 74.64 44 P **P 20 04 44.6 +1.8**
baz=327
CFR Carcaliu 74.64 327⇑*i*P **P 20 04 42.8 0.0**
CFR Carcaliu 74.64 327 P **P 20 04 42.7 0.0**
SSPA Standing Stone 74.64 42 *e*P **P 20 04 44.5 +1.6**
comp=Z,16nm,1.1s
SSPA Standing Stone 74.64 42 P **P 20 04 43.8 +0.9**
baz=328
O56A Blue Knob Stat 74.67 43 P **P 20 04 44.1 +1.0**
baz=328
PSZ Piszkesteto 74.68 334 *e*P **P 20 04 43.7 +0.6**
comp=Z,22nm,1.0s
PSZ Piszkesteto 74.68 334⇓*i*P **P 20 04 44.8 +1.7**
PSZ Piszkesteto 74.68 334 *e*P **P 20 04 43.7 +0.6**
PSZ pmax pmax
comp=Z,23nm,1.0s
PSZ Piszkesteto 74.68 334⇑*e*P **P 20 04 44.0 +0.9**
CJR Cluj-Napoca 74.71 331⇓*i*P **P 20 04 44.4 +1.1**
CJR Cluj-Napoca 74.71 331 P **P 20 04 44.4 +1.1**
P55A Reedsville 74.77 44 P **P 20 04 45.2 +1.5**
baz=327
Q54A Coxs Mills 74.77 45 P **P 20 04 44.7 +1.1**
baz=327
SMOL Smolenice 74.79 335 P **P 20 04 46.0 +2.4**
SMOL Smolenice 74.79 335 *e*P **P 20 04 45.7 +2.1**
R53A Hurricane 74.82 46 P **P 20 04 45.0 +1.0**
baz=326
DOPR Dopca 74.83 329⇓*i*P **P 20 04 45.3 +1.4**
S52A Salyersville 74.85 47 P **P 20 04 45.1 +0.9**
baz=326
DRGR 74.91 331⇑*i*P **P 20 04 45.0 +0.5**
DRGR 74.91 331 P **P 20 04 44.9 +0.5**
MODS Modra-Piesok 74.96 335 *e*P **P 20 04 45.3 +0.7**
MODS pmax pmax
comp=Z,25nm,1.0s
MODS Modra-Piesok 74.96 335 *e*P **P 20 04 45.3 +0.7**
MDB Medias 74.99 330⇑*i*P **P 20 04 46.4 +1.6**
U50A Jamestown 75.07 49 P **P 20 04 47.0 +1.5**
baz=325
MLR Muntele Rosu 75.08 329 *e*P **P 20 04 45.2 -0.3**
comp=Z,27nm,0.7s
MLR Muntele Rosu 75.08 329⇑*i*P **P 20 04 46.1 +0.6**
MLR Muntele Rosu 75.08 329 *e*P **P 20 04 45.2 -0.3**
MLR pmax pmax
comp=Z,27nm,0.7s
GRA1 Grafenberg Arr 75.14 340 *e*P **P 20 04 46.6 +1.0**
comp=Z,36nm,1.0s
GRF Grafenberg Arr 75.14 340 P **P 20 04 46.6 +1.0**
GRF pmax pmax
comp=Z,36nm,1.0s
HARR Harsova 75.14 327⇑*i*P **P 20 04 46.7 +1.0**
HARR Harsova 75.14 327 P **P 20 04 46.6 +0.9**
HGN Heimansgroeve 75.14 344 *e*P **P 20 04 46.4 +0.9**
comp=Z,80nm,1.2s
GRFO Grafenberg 75.14 340 *e*P **P 20 04 46.7 +1.1**
comp=Z,32nm,1.0s
GRFO Grafenberg 75.14 340 P **P 20 04 46.7 +1.1**
GRFO pmax pmax
comp=Z,32nm,1.0s
KHC Kasperske Hory 75.15 338 *e*P **P 20 04 46.5 +0.8**
comp=Z,10nm,1.0s
KHC Kasperske Hory 75.15 338 *e*P **P 20 04 46.5 +0.8**
KHC pmax pmax
comp=Z,10.0nm,1.0s
KHC Kasperske Hory 75.15 338 *e*P **P 20 04 46.8 +1.1**
KHC *e*pP **pP 20 04 59.8 0.0**
ZST Bratislava 75.17 336 *e*P **P 20 04 46.4 +0.6**
ZST Bratislava 75.17 336 *e*P **P 20 04 46.4 +0.6**
TLB Topalu 75.19 327⇑*i*P **P 20 04 46.9 +0.9**
TLB Topalu 75.19 327 P **P 20 04 46.9 +0.9**
N59A State Game Lan 75.27 41 P **P 20 04 47.2 +0.7**
baz=329
MEM Membach 75.28 343⇑P **P 20 04 47.0 +0.7**
comp=Z,44nm,1.1s
WRAB Tennant Creek 75.33 205⇓*e*P **P 20 04 47.3 +0.4**
WRAB pmax pmax
comp=Z,19nm,1.5s
WRA Warramunga Arr 75.34 205 P **P 20 04 47.5 +0.5**
comp=Z,3.6nm,0.9s,baz=23,slow=5.6,SNR=6.7
R54A Victor 75.37 46 P **P 20 04 48.6 +1.5**
baz=327
GEC2 GERESS Array S 75.39 338 *e*P **P 20 04 47.6 +0.4**
comp=Z,15nm,1.1s
GEC2 GERESS Array S 75.39 338 *e*P **P 20 04 47.6 +0.4**
GEC2 pmax pmax
comp=Z,15nm,1.1s
GERES GERESS Array B 75.39 338 *e*P **P 20 04 47.5 +0.4**
GERES GERESS Array B 75.39 338 *e*P **P 20 04 47.5 +0.4**
GERES GERESS Array B 75.39 338 P **P 20 04 47.9 +0.7**
comp=Z,6.8nm,0.9s,baz=35,slow=4.9,SNR=15
VOIR 75.41 329⇓*i*P **P 20 04 48.6 +1.2**
VOIR 75.41 329 P **P 20 04 48.5 +1.2**
MFTR Murfatlar 75.42 326⇑*i*P **P 20 04 48.5 +1.2**
SWET Sewanee 75.53 51 *e*P P 20 04 54.4 +6.2
comp=Z,10nm,0.8s
TZTN Tazewell 75.57 48 P **P 20 04 49.7 +1.4**
baz=326
BCLA Clavier 75.58 344⇑P **P 20 04 48.6 +0.5**
comp=Z,18nm,1.4s
MTUR Matau 75.60 329⇑*i*P **P 20 04 49.8 +1.4**
ARR Arges 75.61 329⇑*i*P **P 20 04 49.7 +1.3**
CSKK Cskako 75.63 334 *e*P **P 20 04 49.1 +0.6**
SNF Seneffe 75.67 344⇑P **P 20 04 49.3 +0.7**
ICOR Ion Corvin 75.69 327⇓*i*P **P 20 04 50.1 +1.3**
SULR 75.70 328⇓*i*P **P 20 04 49.7 +0.8**
CONA Conrad Observa 75.73 336 *e*P **P 20 04 50.6 +1.5**
comp=Z,21nm,1.0s,SNR=12
U52A Thorn Hill 75.78 48 P **P 20 04 50.7 +1.2**
baz=326
SOP Sopron 75.78 336 P **P 20 04 51.3 +2.0**
SOP Sopron 75.78 336⇑*e*P **P 20 04 50.0 +0.8**
W50A Signal Mountai 75.84 50 P **P 20 04 50.9 +0.9**
baz=325
PSN Preselentsi 75.94 326 *i* P **P 20 04 51.7 +1.4**
DOU Dourbes 76.01 344⇑P **P 20 04 51.1 +0.5**
T54A Tazewell 76.04 47 P **P 20 04 52.6 +1.5**
baz=327
V52A Sevierville 76.12 49 P **P 20 04 52.7 +1.2**
baz=326
GZR Gura Zlata 76.15 331⇓*i*P **P 20 04 52.0 +0.4**
GZR Gura Zlata 76.15 331 P **P 20 04 52.0 +0.4**
TIH Tihany 76.16 335 *e*P **P 20 04 52.0 +0.6**
U53A Fall Branch 76.16 48 P **P 20 04 53.4 +1.6**
baz=326
MOA Molln 76.19 337 *e*P **P 20 04 52.8 +1.2**
comp=Z,12nm,1.0s
SGRR Singureni 76.20 328⇓*i*P **P 20 04 52.9 +1.2**

BZS	Buzias	76.29 332⇑	iP	P	20 04 52.7 +0.4
BZS	Buzias	76.29 332	P	P	20 04 52.6 +0.3
R57A	Stanardsville	76.34 44	P	P	20 04 53.4 +0.8
	baz=328				
BLA	Blacksburg	76.42 46	P	P	20 04 54.4 +1.2
	baz=327				
STU	Stuttgart	76.43 341	eP	P	20 04 53.1 +0.1
	comp=Z,22nm,1.1s				
STU	Stuttgart	76.43 341	eP	P	20 04 53.1 +0.1
STU			pmax	pmax	
	comp=Z,22nm,1.1s				
ARSA	Arzberg	76.44 336	eP	P	20 04 53.8 +0.7
	comp=Z,19nm,1.1s,SNR=6.8				
S57A	Dark Hollow, R	76.61 44	P	P	20 04 56.0 +1.8
	baz=328				
HERR	Herculane	76.72 331⇑	iP	P	20 04 54.5 -0.2
U55A	TA2, Sparta	76.74 47	P	P	20 04 56.7 +1.7
	baz=327				
R58B	Mineral	76.89 44	P	P	20 04 57.1 +1.4
	baz=328				
VLAD	Vladila	76.91 329⇑	iP	P	20 04 56.0 +0.3
R59A	King George, V	77.02 43	P	P	20 04 59.0 +2.5
	baz=328				
MDVR	Moldovita	77.02 331⇑	iP	P	20 04 48.3 -8.2
BFO	Black Forest	77.03 341	eP	P	20 04 56.2 -0.2
	comp=Z,15nm,1.1s				
BFO	Black Forest	77.03 341	iP	P	20 04 57.5 +1.1
SZH	Strazhica	77.07 328	iP	P	20 04 56.8 +0.1
SOKA	Soboth	77.10 336	eP	P	20 04 58.2 +1.3
	comp=Z,22nm,1.0s,SNR=11				
PUNG	Punghina	77.11 330	‖iP	P	20 04 57.2 +0.3
T57A	Hurt	77.11 45	P	P	20 04 57.7 +0.7
	baz=328				
PERS	Pernice	77.11 336	eP	P	20 04 58.0 +1.1
KBA	Koelnbreinsper	77.13 338	eP	P	20 04 58.9 +1.7
	comp=Z,55nm,0.9s,SNR=22				
KBA	Koelnbreinsper	77.13 338	P	P	20 04 58.7 +1.5
U56A	King	77.16 46	P	P	20 04 58.3 +1.0
	baz=327				
WATA	Walderalm	77.29 339	eP	P	20 04 59.5 +1.4
	comp=Z,16nm,1.0s,SNR=10				
RETA	Reutte	77.33 339	eP	P	20 04 59.5 +1.3
	comp=Z,11nm,1.0s				
WTTA	Wattenberg	77.35 339	eP	P	20 04 59.9 +1.5
	comp=Z,38nm,1.1s,SNR=8.8				
X53A	Estanollee	77.36 49	P	P	20 05 00.1 +1.6
	baz=326				
ECH	Echery	77.36 342	eP	P	20 04 58.6 +0.3
	comp=Z,27nm,1.1s				
ECH	Echery	77.36 342	eP	P	20 04 58.6 +0.3
ECH			pmax	pmax	
	comp=Z,27nm,1.1s				
OBKA	Obir	77.37 337	eP	P	20 04 59.8 +1.4
	comp=Z,31nm,1.4s				
MOTA	Moosalm	77.39 339	eP	P	20 05 00.1 +1.5
	comp=Z,20nm,1.0s,SNR=13				
W54A	Cherokee Point	77.39 48	P	P	20 04 59.7 +1.0
	baz=327				
BR131	Keskin Array S	77.40 321	eP	P	20 04 57.7 -1.1
	comp=Z,17nm,1.1s				
BR131	Keskin Array S	77.40 321	eP	P	20 04 57.7 -1.1
BR131			pmax	pmax	
	comp=Z,17nm,1.1s				
BRTR	Keskin Array B	77.40 321	eP	P	20 04 57.7 -1.1
BRTR	Keskin Array B	77.40 321	iP	P	20 04 59.0 +0.2
BRTR			pmax	pmax	
	comp=Z,8.0nm,0.9s				
BRTR	Keskin Array B	77.40 321	P	P	20 04 58.9 +0.1
	comp=Z,7.7nm,0.9s,baz=56,slow=3.1,SNR=15				
BRTR			PP	PP	20 07 51.0 -2.0
	comp=Z,1.7nm,0.8s,baz=32,slow=6.2,SNR=5.6				
T58A	Grand View Acr	77.47 45	P	P	20 04 59.9 +0.8
	baz=328				
MYKA	Terra Mystica	77.48 337	eP	P	20 04 59.9 +0.9
	comp=Z,14nm,1.2s				
SQTA	Sankt Quirin	77.48 339	eP	P	20 05 00.5 +1.4
	comp=Z,27nm,1.0s,SNR=9.4				
ABTA	Abfaltersbach	77.63 338	eP	P	20 05 01.3 +1.4
	comp=Z,32nm,1.1s,SNR=8.9				
MDUB	Mudurnu	77.68 323	eP	P	20 04 60.0 -0.3
	comp=Z,144nm,0.9s				
MPEP	Malo Peshtene	77.69 329	P	P	20 04 59.0 -1.2
DAVA	Damuels	77.70 340	eP	P	20 05 01.6 +1.3
	comp=Z,18nm,1.1s				
KMSC	Kings Mountain	77.74 48	P	P	20 05 01.6 +1.1
	baz=327				
X54A	Belton	77.75 49	P	P	20 05 02.0 +1.4
	baz=327				
FETA	Feichten	77.78 339	eP	P	20 05 02.2 +1.5
	comp=Z,17nm,1.0s,SNR=6.2				
CTYL	Yalikoy Yolu	77.86 325	‖iP	P	20 05 01.9 +0.8
U58A	Oxford	77.93 45	P	P	20 05 03.4 +1.9
	baz=328				
SHME	Shamm	77.97 297	iP	P	20 05 01.8 -0.2
	SNR=6.4				
PHSR	Pinarhisar	77.98 326⇑	iP	P	20 05 02.7 +0.9
EDRB	Edirne	78.06 326	P	P	20 05 02.6 +0.4
Y54A	Tignall	78.17 49	P	P	20 05 04.2 +1.2
	baz=327				
GBRS	Gornja Briga	78.22 336	eP	P	20 05 03.7 +0.6
FUORN	Ofenpass-Fuorn	78.26 339	eP	P	20 05 04.4 +0.8
	comp=Z,20nm,0.9s				
W57A	Gilead	78.33 47	P	P	20 05 05.2 +1.4
	baz=328				
CLF	Chambon-Foret	78.40 345	eP	P	20 05 04.9 +1.0
	comp=Z,28nm,1.1s				
X56A	White Oak	78.41 48	P	P	20 05 05.4 +1.1
	baz=327				
MSFE	Esma-Masafi	78.50 296	P	P	20 05 04.9 -0.1
PLD	Plovdiv	78.51 328	P	P	20 05 05.8 +1.1
VTS	Vitosha	78.52 329	eP	P	20 05 04.9 -0.1
	comp=Z,19nm,0.9s				
VTS	Vitosha	78.52 329	P	P	20 05 05.3 +0.3
VTS	Vitosha	78.52 329⇑	iP	P	20 05 05.7 +0.7
VTS	Vitosha	78.52 329	eP	P	20 05 04.9 -0.1
VTS			pmax	pmax	
	comp=Z,19nm,0.9s				
VTS	Vitosha	78.52 329	iP	P	20 05 05.4 +0.4
V59A	Middlesex	78.59 45	P	P	20 05 06.6 +1.3
	baz=328				
TUE	Stuetta	78.59 340	eP	P	20 05 06.0 +0.6
	comp=Z,24nm,0.9s				
W58A	Raeford	78.78 46	P	P	20 05 07.3 +1.0
	baz=328				
RZN	Rozhen	78.88 328	iP	P	20 05 07.4 +0.4
HATD	Hatta, Dubai	78.94 296	iP	P	20 05 07.6 +0.2
	SNR=11				
ASAR	Alice Springs	79.02 205	P	P	20 05 08.6 +1.0
	comp=Z,2.0nm,0.5s,baz=16,slow=5.0,SNR=10				
NAZ	Nazwa, Dubai	79.07 297	iP	P	20 05 07.8 -0.2
	SNR=6.3				
ASHO	Ashiyiah	79.09 296	iP	P	20 05 07.9 -0.3
	SNR=11				
RDO	Rodhopi	79.09 327	eP	P	20 05 08.6 +0.7
RDO	Rodhopi	79.09 327	P	P	20 05 08.6 +0.7
SENIN	Lac Senin/Sane	79.11 341	eP	P	20 05 08.7 +0.5
	comp=Z,8.2nm,0.8s				
ALN	Alexandroupoli	79.14 326	eP	P	20 05 08.1 -0.1
	comp=Z,21nm,1.0s				
ALN	Alexandroupoli	79.14 326	P	P	20 05 08.5 +0.3
ALN	Alexandroupoli	79.14 326	eP	P	20 05 08.1 -0.1
ALN			pmax	pmax	
	comp=Z,21nm,1.0s				
KKB	Krupnik	79.25 329	iP	P	20 05 09.6 +0.8
MMB	Musomiste	79.29 328	iP	P	20 05 09.8 +0.7
FAQ	Al Faqa, Dubai	79.30 297	iP	P	20 05 08.9 -0.4
	SNR=7.8				
NVR	Nevrokopi	79.46 328	P	P	20 05 10.5 +0.5
ASUD	Al Ashush, Dub	79.54 297	iP	P	20 05 10.8 +0.2
	SNR=7.1				
BALB	Balikesir	79.62 325	eP	P	20 05 10.5 -0.3
	comp=Z,151nm,1.0s				
SKO	Skopje	79.66 330	iP	P	20 05 11.6 +0.6
STIP	Stip	79.69 329	iP	P	20 05 10.6 -0.5
ALNE	Al Ain	79.76 296	iP	P	20 05 11.8 0.0
	SNR=7.2				
SRS	Serrai	79.76 328	P	P	20 05 11.7 +0.1
SRS	Serrai	79.76 328	P	P	20 05 12.1 +0.5
PDG	Podgorica	79.90 332	‖iP	P	20 05 12.6 +0.4
TTG	Podgorica	79.90 332	eP	P	20 05 10.6 -1.6
	comp=Z,33nm,0.9s				
TTG	Podgorica	79.90 332	eP	P	20 05 10.6 -1.6
TTG			pmax	pmax	
	comp=Z,33nm,0.9s				
VAY	Valandovo	79.90 329	iP	P	20 05 13.1 +0.8
VAY	Valandovo	79.90 329	P	P	20 05 13.7 +1.4
KNT	Kendrikon	79.94 329	P	P	20 05 12.9 +0.3
EZN	Ezine	80.00 326	‖iP	P	20 05 13.4 +0.5
EZN	Ezine	80.00 326	P	P	20 05 13.3 +0.4
ISP	Isparta	80.25 322	eP	P	20 05 12.3 -2.1
	comp=Z,22nm,0.9s				
ISP	Isparta	80.25 322	eP	P	20 05 12.3 -2.1
ISP			pmax	pmax	
	comp=Z,22nm,0.9s				
KRUS	Krusevo	80.27 330	iP	P	20 05 14.7 +0.2
GRG	Griva	80.29 329	P	P	20 05 14.9 +0.5
LIA	Limnos Island	80.33 327	P	P	20 05 14.6 0.0
KULA	Kula-Manisa	80.34 324	P	P	20 05 15.1 +0.3
MANT	Manisa	80.39 324	eP	P	20 05 14.6 -0.8
	comp=Z,89nm,0.9s				
PLG	Polygyros	80.48 328	P	P	20 05 15.4 -0.1
BNI	Bardonecchia	80.50 341	eP	P	20 05 16.7 +1.1
	comp=Z,18nm,1.0s				
BNI	Bardonecchia	80.50 341	P	P	20 05 16.7 +1.1
BNI			pmax	pmax	
	comp=Z,28nm,1.1s				
OHR	Ohrid	80.64 330	iP	P	20 05 16.3 -0.1
SSB	Saint Sauveur	80.68 343	eP	P	20 05 17.5 +1.0
	comp=Z,13nm,0.8s				
SSB	Saint Sauveur	80.68 343	P	P	20 05 17.5 +1.0
SSB			pmax	pmax	
	comp=Z,13nm,0.8s				
FNA	Florina	80.77 330	eP	P	20 05 16.6 -0.5
	comp=Z,16nm,0.9s				
FNA	Florina	80.77 330	eP	P	20 05 16.6 -0.5
FNA			pmax	pmax	
	comp=Z,16nm,0.9s				
CHOS	Chios Island	81.38 325	P	P	20 05 20.3 -0.1
CSS	Mathiatis	81.64 318	eP	P	20 05 21.5 -0.2
	comp=Z,36nm,0.9s				
CSS	Mathiatis	81.64 318	P	P	20 05 21.5 -0.2
MRKA	Markates	81.94 327	P	P	20 05 25.5 +2.2
MRKA	Markates	81.94 327	P	P	20 05 25.5 +2.2
IGT	Igoumenitsa	82.23 330	P	P	20 05 25.3 +0.6
PTL	Penteli	82.44 327	eP	P	20 05 25.2 -0.7
PTL	Penteli	82.44 327	P	P	20 05 25.2 -0.7
ANX	Ano Chora	82.59 328	P	P	20 05 26.7 0.0
DRO	Drossia	83.24 328	P	P	20 05 30.3 +0.3
AMT	Artemida-Makis	83.62 328	P	P	20 05 31.3 -0.7
ITM	Ithomi	83.87 328	eP	P	20 05 32.2 -1.1
	comp=Z,29nm,1.0s				
ITM	Ithomi	83.87 328	P	P	20 05 32.4 -0.9
LAST	Lasithi	84.47 324	eP	P	20 05 35.8 -0.7
LAST	Lasithi	84.47 324	P	P	20 05 35.8 -0.7
STKA	Stephens Creek	85.33 196	P	P	20 05 41.1 +0.8
	comp=Z,3.4nm,1.0s,baz=358,slow=5.9,SNR=3.3				
PGAV	Gavieira, Arco	85.68 352	eP	P	20 05 43.5 +1.1
PBRG	Braganca	85.69 350	eP	P	20 05 44.0 +1.6
	comp=Z,27nm,1.6s				
POLO	Lamas de Olo	86.22 351	eP	P	20 05 46.9 +1.8
PVRL	Vila Real	86.31 351	eP	P	20 05 47.8 +2.3
MVO	Moncorvo	86.36 350	eP	P	20 05 47.2 +1.5
	comp=Z,32nm,1.9s				
MTE	Manteigas	87.17 351	eP	P	20 05 51.2 +1.5
ESDC	Sonseca Array	87.47 348	eP	P	20 05 50.5 -0.6
	comp=Z,6.9nm,1.0s				
ESDC	Sonseca Array	87.47 348	P	P	20 05 52.0 +0.8
	comp=Z,9.2nm,1.0s,baz=5.7,slow=4.9,SNR=11				
ESLA	Sonseca Array	87.47 348	eP	P	20 05 50.4 -0.8
	comp=Z,14nm,1.1s				
PCAS	Casmilo, Conde	87.60 351	eP	P	20 05 53.4 +1.7
PCBR	Castelo Branco	87.71 351	eP	P	20 05 54.3 +2.1
PTOM	Tomar	88.02 351	eP	P	20 05 55.4 +1.7
PMRV	Marv??o	88.11 351	eP	P	20 05 56.5 +2.3
KEST	Kesra	88.83 337	P	P	20 05 58.6 +1.0
	comp=Z,13nm,1.0s,baz=252,slow=5.2,SNR=4.7				
TORD	Torodi Ar. Bea	112.34 337	PP	PP	20 12 21.9 -2.5
	comp=Z,4.4nm,1.0s,baz=360,slow=7.8,SNR=9.9				
PLCA	Paso Flores	143.84 92	PKP	PKPdf	20 12 38.5 +0.4
	comp=Z,3.8nm,1.1s,baz=206,slow=2.6,SNR=2.8				
SYO	Syowa Base	148.07 216⇑	eX	PKPbc	20 12 46.6 -0.9

*IDC **19** 19:55:37.7±1.4, 52°.34N×160°.13E, h0km, mb4.1/15, mb1 4.2/15, mb1mx3.9/46, mbtmp4.1/15, Error ellipse: s-maj=37.2km s-min=20.2km az=112.0*
*KRSC **19** 19:55:37.6±10.0, 52°.12N×160°.69E, h59km±10km, ML4.6*
*ISCJB **19** 19:55:40.8±0.9, 52°.22N±0°.04×160°.62E±0°.08, h48km±6km, mb4.2/26, Error ellipse: s-maj=10.1km s-min=5.4km az=37.5*
*NEIC **19** 19:55:42.3±0.8, 52°.31N×160°.40E, h35km, mb4.3/16, Error ellipse: s-maj=16.5km s-min=12.2km az=147.0*

ISC 19 19:55:41.7±2.1, 52°.25N±0°.07×160°.40E±0°.08, h31km±12km, n60, σ1§22/72, mb4.3/26, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.88	345	P	Pb	19 55 57.2	-1.3
SPN				S	Sn	19 56 09.7	+0.1
NLC	Nalytchevo	1.12	325	P	Pb	19 56 01.5	-1.0
NLC				S	Sb	19 56 18.0	+1.2
RUS	Russkaya	1.17	280	P	Pn	19 56 02.1	+0.2
RUS				S	Sb	19 56 18.3	+0.1
DALK	Dalny	1.27	309	P	Pb	19 56 03.8	-1.2
DALK				S	Sb	19 56 22.5	+1.5
PET	Petropavlovsk	1.32	307	ePn	Pb	19 56 04.7	-1.1
UGLR	Uglovaya	1.36	316	P	Pb	19 56 05.5	-1.1
MTVR	Mutnovka	1.38	281	P	Pn	19 56 05.7	+0.8
MTVR				S	Sb	19 56 25.6	+1.3
SMAR	Somma	1.41	317	P	Pb	19 56 06.5	-0.9
AVH	Avacha	1.43	316	P	Pb	19 56 06.8	-1.0
GRL	Gorelyy	1.46	283	P	Pb	19 56 07.7	-0.6
KDTR	Khodutka, Kamc	1.50	254	P	Pn	19 56 06.2	-0.2
KDTR				S	Sn	19 56 25.9	+1.0
KRMR	Karymshinskiy	1.50	294	P	Pn	19 56 07.0	+0.6
KRMR				S	Sb	19 56 28.3	+0.7
KRX	Arik	1.54	317	P	Pb	19 56 08.2	-1.4
ASAK	Asacha	1.54	276	P	Pn	19 56 08.2	+1.2
ASAK				S	Sb	19 56 30.7	+1.9
PETK	Petropavlovsk-	1.86	299	ePn	Pb	19 56 14.0	-1.0
PETK	Petropavlovsk-	1.86	299	Pn	Pn	19 56 12.8	+1.5
	38nm,0.3s,baz=112,slow=19,SNR=6.1						
PETK				Sn	Sb	19 56 37.6	-0.2
	50nm,0.3s,baz=90,slow=16,SNR=4.6						
PEA1	Petropavlovsk-	1.86	299	ePn	Pn	19 56 12.8	+1.4
PEA1				eSn	Sb	19 56 37.6	-0.2
APC	Apacha	2.09	290	P	Pb	19 56 16.6	-2.3
APC				S	Sb	19 56 45.1	+0.7
MKZ	Mys Kozlova	2.44	18	S	Sn	19 56 47.2	-0.8
KZV	Kizimen	2.87	359	P	Pn	19 56 26.8	+1.5
KZV				S	Sn	19 57 01.6	+2.8
TUMD	Tumrok D	2.96	360	S	Sn	19 57 01.8	+1.0
ALID	Alaid	3.33	247	P	Pn	19 56 33.3	+1.6
MJB9	Matsu-Tunnel	22.18	234	eP	P	20 00 37.0	+1.9
	7.4nm,0.8s						
MAJO	Matsushiro	22.18	234	eP	P	20 00 35.9	+0.8
MJAR	Matsushiro Arr	22.18	234	P	P	20 00 35.9	+0.8
	4.3nm,0.6s,baz=15,slow=11,SNR=5.5						
TIXI	Tiksi	23.93	336	eP	P	20 00 51.3	-1.0
	6.3nm,0.7s						
BPAW	Bear Paw Mtn.	27.49	46	eP	P	20 01 25.6	+0.8
	3.8nm,1.1s						
SPA0	Spitsbergen Ar	48.00	351	eP	P	20 04 17.3	+0.3
	18nm,1.0s						
SPITS	Spitsbergen Ar	48.00	351	P	P	20 04 17.3	+0.3
	1.5nm,0.4s,baz=50,slow=9.0,SNR=6.9						
KURK	Kurchatov	48.34	303	eP	P	20 04 18.3	-1.6
	8.4nm,0.9s						
KURBB	Kurchatov Arra	48.44	303	P	P	20 04 18.9	-1.7
	1.1nm,0.3s,baz=60,slow=7.5,SNR=7.1						
MK31	Makanchi Array	48.69	296	eP	P	20 04 20.9	-1.8
	2.1nm,0.9s						
MK32	Makanchi Array	48.69	296	eP	P	20 04 21.2	-1.6
MKAR	Makanchi Array	48.70	296	eP	P	20 04 20.8	-1.9
MKAR	Makanchi Array	48.70	296	P	P	20 04 21.2	-1.6
	1.1nm,0.5s,baz=59,slow=7.3,SNR=5.3						
MAKZ	Makanchi	48.86	297	eP	P	20 04 21.8	-2.2
	3.8nm,0.9s						
BVAR	Borovoye Array	51.06	309	P	P	20 04 38.5	-2.1
	2.8nm,0.4s,baz=57,slow=7.6,SNR=4.3						
BRVK	Borovoye	51.09	309	eP	P	20 04 39.5	-1.3
	4.4nm,1.0s						
ARU	Arti	54.15	318	eP	P	20 05 02.3	-1.0
	5.0nm,0.5s						
ARU	Arti	54.15	318	P	P	20 05 02.3	-1.0
	1.8nm,0.5s,baz=108,slow=3.2,SNR=4.4						
ARA0	ARCESS Array S	54.15	342	eP	P	20 05 02.7	-0.5
ARCES	ARCESS Array B	54.15	342	eP	P	20 05 01.4	-1.8
ARCES	ARCESS Array B	54.15	342	P	P	20 05 02.7	-0.5
	3.9nm,0.9s,baz=38,slow=10,SNR=3.8						
ARE0	ARCESS Array S	54.15	342	eP	P	20 05 01.8	-1.4
	0.6nm,1.1s						
CM31	Chiang Mai Arr	58.20	259	eP	P	20 05 33.8	+1.1
	3.3nm,0.8s						
CMAR	Chiang Mai Arr	58.20	259	P	P	20 05 33.8	+1.1
	1.2nm,0.7s,baz=31,slow=6.8,SNR=4.2						
FIA0	FINESS Array S	60.97	337	eP	P	20 05 51.5	+0.3
FINES	FINESS Array B	60.97	337	P	P	20 05 51.5	+0.3
	4.2nm,0.5s,baz=38,slow=8.7,SNR=6.9						
NB200	NORSAR Array S	64.41	344	eP	P	20 06 14.6	+0.4
NOA	NORSAR Array B	64.41	344	P	P	20 06 14.6	+0.4
	0.6nm,0.5s,baz=32,slow=7.6,SNR=3.5						
SCHQ	Schefferville	66.31	28	eP	P	20 06 27.6	+1.1
	5.5nm,0.6s						
SCHQ	Schefferville	66.31	28	P	P	20 06 27.6	+1.1
	3.1nm,0.5s,baz=241,slow=16,SNR=3.6						
AKASG	Malin Array Be	69.43	329	P	P	20 06 45.1	-1.1
	1.3nm,0.4s,baz=31,slow=7.2,SNR=5.0						
AKBB	Malin Array Si	69.43	329	eP	P	20 06 45.1	-1.1
	3.8nm,1.0s						
GEC2	GERESS Array S	75.36	338	eP	P	20 07 22.5	+0.7
	2.7nm,1.1s						
GERES	GERESS Array B	75.36	338	P	P	20 07 22.5	+0.7
	0.4nm,0.5s,baz=29,slow=4.9,SNR=4.0						
BR101	Keskin Array S	77.39	321	eP	P	20 07 34.0	+0.5
BRTR	Keskin Array B	77.39	321	P	P	20 07 34.0	+0.5
	0.9nm,0.9s,baz=21,slow=4.5,SNR=2.6						
AS31	Alice Springs	79.07	205	eP	P	20 07 42.4	-0.2
	1.0nm,1.0s						
ASAR	Alice Springs	79.07	205	P	P	20 07 42.4	-0.2
	0.5nm,0.8s,baz=358,slow=6.6,SNR=2.8						

*IDC **19** 19:58:03.7±1.9, 52°.35N×160°.57E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.6/43, mbtmp3.9/10, Error ellipse: s-maj=38.9km s-min=26.0km az=128.0*
*KRSC **19** 19:58:04.0±10.0, 52°.12N×160°.72E, h60km±10km, ML4.4*
*ISCJB **19** 19:58:06.9±0.8, 52°.19N±0°.05×160°.69E±0°.06, h46km±6km, mb4.2/26, Error ellipse: s-maj=9.0km s-min=5.3km az=147.1*
*NEIC **19** 19:58:08.8±0.9, 52°.35N×160°.55E, h35km, mb4.3/17, Error ellipse: s-maj=23.7km s-min=9.8km az=174.0*

ISC 19 19:58:07.6±1.8, 52°.23N±0°.06×160°.50E±0°.05, h29km±11km, n60, σ1§36/78, mb4.2/26, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.92	342	eP	Pb	19 58 24.0	-0.9
SPN				eS	Sn	19 58 36.6	-0.1
NLC	Nalytchevo	1.18	324	eP	Pb	19 58 28.4	-0.8
NLC				eS	Sn	19 58 45.8	+2.8
RUS	Russkaya	1.24	280	eP	Pn	19 58 28.8	0.0
RUS				S	Sb	19 58 46.3	+0.5
DALK	Dalny	1.33	308	eP	Pn	19 58 30.6	+0.4
DALK				eS	Sb	19 58 49.1	+0.5
PET	Petropavlovsk	1.38	306	ePn	Pn	19 58 31.4	+0.7
PET				eSn	Sb	19 58 53.1	+3.2
UGLR	Uglovaya	1.42	315	eP	Pb	19 58 32.8	-0.6
UGLR				eS	Sb	19 58 52.7	+1.7
SDLR	Sedlovina	1.44	318	eP	Pb	19 58 32.6	-1.2
SDLR				S	Sb	19 58 53.3	+1.6
MTVR	Mutnovka	1.44	281	P	Pn	19 58 32.3	+0.5
MTVR				eS	Sb	19 58 52.0	+0.1
SMAR	Somma	1.46	316	P	Pn	19 58 32.5	+0.3
AVH	Avacha	1.49	315	P	Pn	19 58 33.0	+0.6
KRER	Koryakskii	1.51	316	P	Pn	19 58 33.5	+0.6
GRL	Gorelyy	1.52	283	eP	Pb	19 58 35.0	-0.2
KOK	Koryaka	1.55	314	P	Pn	19 58 33.9	+0.6
KDTR	Khodutka, Kamc	1.56	255	eP	Pn	19 58 33.0	-0.2
KDTR				eS	Sn	19 58 52.3	-0.1
KRMR	Karymshinskiy	1.57	293	eP	Pn	19 58 34.0	+0.6
KRMR				S	Sb	19 58 54.9	-0.4
KRX	Arik	1.59	316	P	Pb	19 58 35.3	-1.1
ASAK	Asacha	1.60	277	P	Pn	19 58 34.9	+0.9
ASAK				S	Sb	19 58 57.6	+1.2
PEA0B	Petropavlovsk-	1.92	298	ePn	Pn	19 58 39.5	+1.2
PEA0B				eSn	Sn	19 59 00.9	-0.5
PETK	Petropavlovsk-	1.92	298	ePn	Pb	19 58 40.1	-1.8
PETK				eSn	Sn	19 58 57.3	-4.1
PETK	Petropavlovsk-	1.92	298	Pn	Pn	19 58 39.4	+1.1
	24nm,0.3s,baz=108,slow=20,SNR=5.3						
PETK				Sn	Sb	19 59 04.3	-1.1
	32nm,0.3s,baz=122,slow=16,SNR=10						
PEA1	Petropavlovsk-	1.92	299	ePn	Pn	19 58 39.4	+1.1
PEA1				eSn	Sb	19 59 04.3	-1.2
APC	Apacha	2.15	290	eP	Pn	19 58 43.0	+1.5
APC				eS	Sb	19 59 12.3	+0.2
MKZ	Mys Kozlova	2.44	17	eP	Pn	19 58 45.2	-0.2
MKZ				S	Sn	19 59 13.7	-0.6
KZV	Kizimen	2.89	358	P	Pn	19 58 52.6	+0.8
TUMD	Tumrok D	2.98	359	P	Pn	19 58 53.4	+0.6
TUMD				S	Sn	19 59 27.5	-0.1
KBTR	Krutoberegovo	4.21	18	P	Pn	19 59 11.1	+1.4
ANM	Nome	21.40	42	eP	P	20 02 49.0	-3.6
	23nm,1.0s						
MAJO	Matsushiro	22.22	234	eP	P	20 03 03.6	+2.0
MJAR	Matsushiro Arr	22.22	234	P	P	20 03 03.6	+2.0
	0.8nm,0.6s,baz=9.5,slow=12,SNR=4.7						
TIXI	Tiksi	23.97	336	eP	P	20 03 18.1	-0.8
	3.5nm,0.7s						
SPU	Mount Spurr	26.96	52	eP	P	20 03 47.6	+1.4
KDAK	Kodiak Island	27.02	59	eP	P	20 03 49.0	+2.3
	10.0nm,1.1s						
KNK	Knik Glacier	28.68	51	eP	P	20 03 58.2	-3.3
	7.1nm,0.8s						
HYT	Haines Junctio	34.02	51	eP	P	20 04 47.6	-1.1
	4.3nm,1.0s						
SPA0	Spitsbergen Ar	48.03	351	eP	P	20 06 44.5	+1.1
	21nm,1.1s						
KURK	Kurchatov	48.40	303	eP	P	20 06 45.3	-1.2
	3.8nm,0.9s						
KURBB	Kurchatov Arra	48.51	303	P	P	20 06 45.6	-1.7
	0.7nm,0.4s,baz=60,slow=7.6,SNR=4.8						
MK31	Makanchi Array	48.76	297	eP	P	20 06 47.9	-1.5
	1.0nm,0.8s						
MK32	Makanchi Array	48.76	297	eP	P	20 06 48.0	-1.4
MKAR	Makanchi Array	48.76	297	eP	P	20 06 48.2	-1.

SPN	**Mys Shipunski**	**1.04**	**336**	*eP*	Pn	20 00 54.6	+1.2
SPN				S	Sn	20 01 07.2	+0.4
NLC	**Nalytchevo**	**1.33**	**321**	P	Pn	20 00 59.0	+1.7
RUS	**Russkaya**	**1.39**	**283**	*eP*	Pn	20 00 59.4	+1.2
RUS				*eS*	Sn	20 01 15.6	+0.2
DALK	**Dalny**	**1.50**	**307**	*eP*	Pn	20 01 01.3	+1.7
DALK				*eS*	Sn	20 01 19.6	+1.7
UGLR	**Uglovaya**	**1.57**	**313**	P	Pn	20 01 03.2	+2.4
UGLR				S	Sn	20 01 23.2	+3.2
SDLR	**Sedlovina**	**1.59**	**316**	P	Pn	20 01 03.2	+2.1
MTVR	**Mutnovka**	**1.60**	**283**	*eP*	Pn	20 01 02.8	+1.6
MTVR				*eS*	Sn	20 01 22.7	+2.0
KOK	**Koryaka**	**1.71**	**313**	P	Pn	20 01 05.7	+3.0
KRMR	**Karymshinskiy**	**1.73**	**294**	*eP*	Pn	20 01 04.4	+1.6
KRMR				*eS*	Sn	20 01 26.4	+2.7
ASAK	**Asacha**	**1.76**	**279**	P	Pn	20 01 04.9	+1.6
MKZ	**Mys Kozlova**	**2.48**	**14**	P	Pn	20 01 15.8	+2.7
MKZ				S	Sn	20 01 44.6	+2.5

RSNC 19 20:01:21.4±1.0, 6°.82N×73°.14W, h154km±3km, ML3.2, Mw3.5, 2C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**190**	⇑*iP*	Pn	20 01 42.0	-0.6
BARC				*eS*	Sn	20 01 57.4	-1.3
BARC				*i*		20 01 58.2	
	comp=Z,217nm,0.3s						
GIRC	**Giron, Santand**	**0.26**	**349**	*eP*	Pn	20 01 42.1	-0.4
GIRC				*eS*	Sn	20 01 58.4	-0.3
BRRC	**Barranca, Sant**	**0.63**	**297**	⇓*iP*	Pn	20 01 43.9	0.0
BRRC				*eS*	Sn	20 02 01.1	0.0
BRRC				*i*		20 02 05.0	
	comp=Z,159nm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**40**	⇑*eP*	Pn	20 01 44.9	+0.1
PAMC				*eS*	Sn	20 02 02.2	-0.4
PAMC				*i*		20 02 04.2	
	comp=Z,414nm,0.6s						
RUSC	**La Rusia**	**0.92**	**176**	⇓*eP*	Pn	20 01 45.9	-0.7
RUSC				*eS*	Sn	20 02 04.9	-0.8
RUSC				*i*		20 02 05.6	
	comp=Z,132nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	*eP*	Pn	20 01 48.6	-1.0
PTBC				*eS*	Sn	20 02 10.4	-0.8
PTBC				*i* Sg	Sn	20 02 10.4	-0.8
PTBC				*i*		20 02 15.9	
	comp=Z,194nm,0.2s						
TAMC	**Tame, Arauca**	**1.40**	**106**	⇓*iP*	Pn	20 01 50.2	-0.1
TAMC				*i*		20 01 50.2	
	comp=Z,391nm,0.3s						
TAMC				*eS*	Sn	20 02 11.9	-0.4
OCAC	**Ocana**	**1.42**	**353**	*eP*	Pn	20 01 50.1	-0.6
OCAC				*eS*	Sn	20 02 12.2	-0.9
OCAC				*i*		20 02 16.9	
	comp=Z,170nm,0.5s						
YOPC	**Yopal, Colombi**	**1.62**	**154**	*eP*	Pn	20 01 52.5	-0.2
YOPC				*eS*	Sn	20 02 16.6	-0.2
NORC	**Norcasia**	**2.12**	**234**	*eP*	Pn	20 01 58.0	-0.3
NORC				*eS*	Sn	20 02 26.2	-0.4
NORC				*i*		20 02 28.6	
	comp=Z,106nm,0.2s						
SMLC	**San Martn de**	**2.17**	**335**	*eP*	Pn	20 01 58.2	-0.6
SMLC				*eS*	Sn	20 02 27.1	-0.6
SMLC				*i*		20 02 29.8	
	comp=Z,235nm,0.1s						
CHIC	**Chingaza**	**2.25**	**195**	*eP*	Pn	20 02 00.2	0.0
CHIC				*eS*	Sn	20 02 29.4	-0.7
CHIC				*i*		20 02 33.2	
	comp=Z,61nm,0.6s						
HELC	**Santa Helena**	**2.45**	**255**	*eS*	Sn	20 02 34.9	+0.8
HELC				*i*		20 02 41.4	
	comp=Z,65nm,0.7s						
UREC	**San Jos de Ur**	**2.54**	**291**	*eP*	Pn	20 02 01.9	-1.4
CODC	**Agustn Codazz**	**3.11**	**355**	*eP*	Pn	20 02 09.1	-1.2
CODC				*eS*	Sn	20 02 48.1	-0.2
CODC				*i*		20 02 52.7	
	comp=Z,28nm,0.3s						
SDV	**Santo Domingo**	**3.23**	**50**	*eP*	Pn	20 02 11.2	-0.8
SDV				*i*		20 02 12.2	
	comp=Z,36nm,0.3s						
PRAC	**Prado**	**3.54**	**209**	*eP*	Pn	20 02 15.5	-0.4
PRAC				*eS*	Sn	20 02 58.0	-0.2
PRAC				*i*		20 03 03.8	
	comp=Z,63nm,0.4s						
SJCC	**San Jacinto, C**	**3.66**	**327**	*eP*	Pn	20 02 16.3	-1.2
SJCC				*i*		20 03 01.7	
	comp=Z,32nm,0.4s						
YOTC	**Yotoco, Valle**	**4.25**	**229**	*eP*	Pn	20 02 24.5	-0.7
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*	Pn	20 02 26.7	-0.9

*IDC **19** 20:01:54.1±0.8, 52°.27N×160°.49E, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.7/43, mbtmp3.8/13, ML3.3/1, Error ellipse: s-maj=21.6km s-min=19.0km az=114.0*
*KRSC **19** 20:01:54.4±10.0, 52°.06N×160°.69E, h51km±10km, ML4.3*
*ISCJB **19** 20:01:57.1±0.8, 52°.11N±0°.04×160°.64E±0°.06, h38km±6km, mb3.9/25, Error ellipse: s-maj=7.6km s-min=5.2km az=152.7*
*NEIC **19** 20:01:59.2±0.5, 52°.29N×160°.43E, h35km, mb4.0/13, Error ellipse: s-maj=12.1km s-min=8.8km az=142.0*

ISC 19 20:01:57.2±2.1, 52°.16N±0°.07×160°.50E±0°.05, h23km±14km, n62, σ1§22/80, mb3.8/25, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.99**	**343**	*eP*	**Pn**	**20 02 15.1**	**-0.6**
SPN				*eS*	**Sb**	**20 02 28.5**	**+0.2**
NLC	**Nalytchevo**	**1.24**	**326**	*eP*	**Pb**	**20 02 19.3**	**-0.6**
NLC				*eS*	**Sb**	**20 02 37.1**	**+1.7**
RUS	**Russkaya**	**1.25**	**284**	*eP*	**Pn**	**20 02 18.6**	**-0.7**
RUS				*eS*	**Sn**	**20 02 34.5**	**-1.0**
DALK	**Dalny**	**1.38**	**310**	*eP*	**Pn**	**20 02 20.9**	**-0.2**
DALK				*eS*	**Sb**	**20 02 39.2**	**-0.3**
PET	**Petropavlovsk**	**1.42**	**308**	*ePn*	**Pn**	**20 02 21.8**	**0.0**
PET				*eSn*	**Sb**	**20 02 41.9**	**+1.1**
MTVR	**Mutnovka**	**1.46**	**284**	*eP*	**Pn**	**20 02 22.0**	**-0.4**
MTVR				*eS*	**Sn**	**20 02 40.6**	**-0.3**
UGLR	**Uglovaya**	**1.47**	**317**	*eP*	**Pb**	**20 02 23.1**	**-0.8**
UGLR				*eS*	**Sb**	**20 02 43.5**	**+1.3**
SDLR	**Sedlovina**	**1.49**	**319**	*eP*	**Pn**	**20 02 23.3**	**+0.5**
SDLR				*eS*	**Sb**	**20 02 44.1**	**+1.2**
SMAR	**Somma**	**1.52**	**318**	*eP*	**Pb**	**20 02 24.1**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.54**	**258**	*eP*	**Pn**	**20 02 22.4**	**-0.9**
KDTR				*eS*	**Sn**	**20 02 40.8**	**-1.7**
GRL	**Gorelyy**	**1.54**	**286**	*eP*	**Pn**	**20 02 25.1**	**+1.6**
AVH	**Avacha**	**1.54**	**317**	*eP*	**Pb**	**20 02 24.3**	**-0.9**
AVH				S	**Sb**	**20 02 45.2**	**+0.9**
KRER	**Koryakskii**	**1.57**	**318**	*eP*	**Pb**	**20 02 24.8**	**-0.9**
KRER				S	**Sb**	**20 02 46.5**	**+1.4**
KRMR	**Karymshinskiy**	**1.60**	**296**	*eP*	**Pn**	**20 02 24.1**	**0.0**
KRMR				S	**Sb**	**20 02 45.4**	**-0.4**
KOK	**Koryaka**	**1.61**	**316**	P	**Pn**	**20 02 24.8**	**+0.5**
ASAK	**Asacha**	**1.61**	**279**	P	**Pn**	**20 02 24.6**	**+0.2**
ASAK				S	**Sn**	**20 02 45.2**	**+0.6**
KRX	**Arik**	**1.65**	**318**	*eP*	**Pn**	**20 02 25.6**	**+0.6**
PETK	**Petropavlovsk-**	**1.96**	**300**	Pn	**Pn**	**20 02 29.6**	**+0.6**
	33nm,0.3s,baz=104,slow=19,SNR=27						
PETK				Sn	**Sb**	**20 02 55.6**	**-0.5**
	51nm,0.3s,baz=121,slow=19,SNR=13						
PEA1	**Petropavlovsk-**	**1.96**	**300**	*ePn*	**Pn**	**20 02 29.6**	**+0.6**
PEA1				*eSn*	**Sb**	**20 02 55.6**	**-0.6**
APC	**Apacha**	**2.18**	**292**	*eP*	**Pn**	**20 02 33.1**	**+1.0**
APC				S	**Sb**	**20 03 01.5**	**-1.1**
MKZ	**Mys Kozlova**	**2.52**	**17**	P	**Pn**	**20 02 36.6**	**-0.1**
MKZ				*eS*	**Sn**	**20 03 05.6**	**-1.0**
KZV	**Kizimen**	**2.97**	**358**	P	**Pn**	**20 02 44.4**	**+1.3**
ESO	**Esso**	**3.92**	**345**	P	**Pn**	**20 02 57.8**	**+1.7**
KBTR	**Krutoberegovo**	**4.28**	**18**	P	**Pn**	**20 03 02.6**	**+1.6**
BKI	**Bering**	**4.46**	**45**	P	**Pn**	**20 03 03.1**	**-0.3**
BKI				S	**Sn**	**20 03 51.1**	**-3.4**
KLR	**Kul'dur**	**18.40**	**272**	P	**Pn**	**20 06 11.7**	**+1.1**
	0.1nm,0.3s,baz=52,slow=12,SNR=2.8						
MJAR	**Matsushiro Arr**	**22.18**	**234**	*eP*	**P**	**20 06 53.1**	**+1.5**
MJAR	**Matsushiro Arr**	**22.18**	**234**	P	**P**	**20 06 52.5**	**+0.9**
	1.4nm,0.7s,baz=17,slow=11,SNR=6.4						
MJB9	**Matsu-Tunnel**	**22.18**	**234**	*eP*	**P**	**20 06 52.5**	**+0.9**
	4.0nm,0.7s						
MAJO	**Matsushiro**	**22.18**	**234**	*eP*	**P**	**20 06 52.4**	**+0.8**
TIXI	**Tiksi**	**24.04**	**336**	P	**P**	**20 07 08.7**	**-1.4**
	3.2nm,0.6s,baz=121,slow=11,SNR=7.8						
JNU	**Nakatsue**	**28.62**	**240**	*eP*	**P**	**20 07 52.6**	**+0.7**
	7.4nm,1.0s						
PCA	**Pinnacle**	**32.91**	**52**	*eP*	**P**	**20 08 33.2**	**+3.7**
BCPM	**Bancas Point**	**33.24**	**53**	*eP*	**P**	**20 08 34.1**	**+1.8**
	26nm,0.6s						
INK	**Inuvik**	**34.47**	**37**	*eP*	**P**	**20 08 42.2**	**-0.6**
	1.4nm,1.0s						
YHNB	**Yeheng**	**40.38**	**242**	*eP*	**P**	**20 09 33.9**	**+0.5**
	6.9nm,1.0s						
SPA0	**Spitsbergen Ar**	**48.10**	**351**	*eP*	**P**	**20 10 35.0**	**+0.5**
	11nm,1.1s						
KURK	**Kurchatov**	**48.45**	**303**	*eP*	**P**	**20 10 35.4**	**-2.1**
	2.2nm,0.9s						
MK31	**Makanchi Array**	**48.79**	**297**	*eP*	**P**	**20 10 38.0**	**-2.3**
	0.9nm,0.9s						
MK32	**Makanchi Array**	**48.79**	**297**	*eP*	**P**	**20 10 38.2**	**-2.1**
MKAR	**Makanchi Array**	**48.79**	**297**	*eP*	**P**	**20 10 38.3**	**-2.0**
MKAR	**Makanchi Array**	**48.79**	**297**	P	**P**	**20 10 38.2**	**-2.1**
	0.4nm,0.5s,baz=52,slow=6.3,SNR=8.6						
MAKZ	**Makanchi**	**48.96**	**297**	*eP*	**P**	**20 10 39.9**	**-1.6**
	0.9nm,1.0s						
BMO	**Blue Mountains**	**52.18**	**63**	*eP*	**P**	**20 11 04.2**	**-1.8**
	1.0nm,0.8s						
ARA0	**ARCESS Array S**	**54.26**	**342**	*eP*	**P**	**20 11 20.2**	**-0.5**
ARCES	**ARCESS Array B**	**54.26**	**342**	P	**P**	**20 11 20.2**	**-0.5**
	3.4nm,1.0s,baz=33,slow=7.2,SNR=3.7						
PD31	**Pinedale Array**	**57.77**	**61**	*eP*	**P**	**20 11 46.7**	**+0.2**
	0.6nm,0.9s						
PDAR	**Pinedale Array**	**57.77**	**61**	P	**P**	**20 11 46.7**	**+0.2**
	0.2nm,0.4s,baz=303,slow=5.0,SNR=2.4						
CM31	**Chiang Mai Arr**	**58.24**	**259**	*eP*	**P**	**20 11 50.8**	**+1.0**
	1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.24**	**259**	P	**P**	**20 11 50.8**	**+1.0**
	0.5nm,0.7s,baz=22,slow=6.3,SNR=4.4						
FIA0	**FINESS Array S**	**61.08**	**337**	*eP*	**P**	**20 12 09.1**	**+0.3**
FINES	**FINESS Array B**	**61.08**	**337**	P	**P**	**20 12 09.1**	**+0.3**
	1.2nm,0.4s,baz=40,slow=7.9,SNR=17						
NB2	**NORSAR Subarra**	**64.51**	**344**	P	**P**	**20 12 31.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=20,slow=6.9						
NB200	**NORSAR Array S**	**64.51**	**344**	*eP*	**P**	**20 12 31.9**	**+0.1**
NOA	**NORSAR Array B**	**64.51**	**344**	P	**P**	**20 12 31.9**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=21,slow=6.6,SNR=4.2						
AKASG	**Malin Array Be**	**69.55**	**329**	P	**P**	**20 13 02.3**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=31,slow=6.6,SNR=3.1						
AKBB	**Malin Array Si**	**69.55**	**329**	*eP*	**P**	**20 13 02.4**	**-1.4**
	comp=Z,1.7nm,0.8s						
TXAR	**Lajitas Array**	**70.78**	**67**	P	**P**	**20 13 12.8**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=305,slow=4.8,SNR=4.5						
WR1	**Warramunga Arr**	**75.34**	**205**	*eP*	**P**	**20 13 39.3**	**+0.8**
WRA	**Warramunga Arr**	**75.34**	**205**	P	**P**	**20 13 39.3**	**+0.8**
	comp=Z,1.1nm,1.1s,baz=20,slow=6.8,SNR=3.7						
AS31	**Alice Springs**	**79.00**	**205**	*eP*	**P**	**20 14 00.3**	**+1.2**
	comp=Z,0.5nm,0.9s						
ASAR	**Alice Springs**	**79.01**	**205**	P	**P**	**20 14 00.3**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=16,slow=5.0,SNR=7.1						

*ISCJB **19** 20:02:21.3±0.4, 60°.36S±0°.07×32°.7W±0°.2, h10km, mb4.6/21, Error ellipse: s-maj=14.8km s-min=6.8km az=148.2*
*IDC **19** 20:02:21.4±0.5, 60°.32S×32°.99W, h0km, mb4.5/13, mb1 4.6/14, mb1mx4.5/18, mbtmp4.5/14, ML4.6/1, MS4.8/1, Ms1 4.8/1, ms1mx4.1/20, Error ellipse: s-maj=23.5km s-min=15.1km az=59.0*
*NEIC **19** 20:02:25.1±3.4, 60°.27S×32°.73W, h21km±24km, mb4.6/17, Error ellipse: s-maj=16.0km s-min=8.3km az=58.0*

ISC 19 20:02:22.9±0.4, 60°.34S±0°.08×32°.9W±0°.1, h10km, n61, σ1§27/56, mb4.5/20, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.39**	**340**	*ePn*	**Pn**	**20 03 57.2**	**+0.3**
VNA3	**Neumayer Olymp**	**14.35**	**149**	P	**Pn**	**20 05 42.9**	**-2.8**
VNA3	**Neumayer Olymp**	**14.35**	**149**	S	Sn	20 08 13.9	-11
VNA1	**Neumayer--Stat**	**14.37**	**146**	P	**Pn**	**20 05 43.7**	**-2.3**
VNA2	**Neumayer--Watz**	**14.77**	**146**	P	**Pn**	**20 05 49.0**	**-2.4**
	baz=309,slow=16						
SNAA	**Sanae**	**16.41**	**146**	P	**Pn**	**20 06 12.8**	**-0.1**
SNAA	**Sanae**	**16.41**	**146**	*ePn*	**Pn**	**20 06 12.4**	**-0.6**
	17nm,0.6s						
SNAA	**Sanae**	**16.41**	**146**	Pn	**Pn**	**20 06 12.7**	**-0.3**
	2.0nm,0.3s,baz=303,slow=15,SNR=91						
SNAA				Sn	Sn	20 09 03.1	-12
	0.1nm,0.3s,baz=198,slow=20,SNR=3.6						
SNAA				LR	LR	20 11 30.1	
	comp=Z,3μm,21.4s,baz=172,slow=33						
EFI	**East Falkland**	**16.46**	**291**	*ePn*	**P**	**20 06 17.2**	**+0.9**
	33nm,0.8s						
QSPA	**South Pole Qui**	**29.89**	**180**	*eP*	**P**	**20 08 32.8**	**+2.3**
	35nm,1.1s						
PLCA	**Paso Flores**	**30.35**	**293**	*eP*	**P**	**20 08 33.7**	**-0.8**
	3.3nm,0.9s						
PLCA	**Paso Flores**	**30.35**	**293**	P	**P**	**20 08 33.7**	**-0.8**
	2.4nm,0.8s,baz=214,slow=2.3,SNR=5.9						
CPUP	**Villa Florida**	**37.92**	**323**	*eP*	**P**	**20 09 39.4**	**-0.7**
	6.9nm,0.8s						
CPUP	**Villa Florida**	**37.92**	**323**	P	**P**	**20 09 39.1**	**-1.0**
	7.0nm,0.8s,baz=166,slow=7.7,SNR=19						
MAW	**Mawson**	**38.52**	**142**	*eP*	**P**	**20 09 44.5**	**-0.2**
	2.5nm,0.9s						
MAW	**Mawson**	**38.52**	**142**	P	**P**	**20 09 45.6**	**+0.9**
	8.4nm,0.8s,baz=232,slow=10.0,SNR=14						
GO04	**Tololo Observa**	**39.34**	**303**	*eP*	**P**	**20 09 51.1**	**-1.2**
	13nm,0.9s						
SBA	**Scott Base**	**41.53**	**186**	*eP*	**P**	**20 10 11.8**	**+2.2**
	7.8nm,1.0s						
VNDA	**Vanda**	**42.09**	**185**	*eP*	**P**	**20 10 16.6**	**+2.4**
	7.7nm,0.8s						
VNDA	**Vanda**	**42.09**	**185**	P	**P**	**20 10 15.5**	**+1.3**
	6.7nm,0.8s,baz=199,slow=6.0,SNR=44						
GO02	**Mina Guanaco**	**43.28**	**308**	*eP*	**P**	**20 10 25.2**	**+0.4**
	21nm,0.8s						
BDFB	**Brasilia**	**45.98**	**339**	P	**P**	**20 10 46.2**	**0.0**
	2.3nm,0.8s,baz=154,slow=4.4,SNR=3.8						
GO01	**Chusmiza**	**48.11**	**311**	*eP*	**P**	**20 11 03.9**	**+0.7**
	19nm,1.1s						
MNMC	**Minye Minye**	**48.75**	**311**	*eP*	**P**	**20 11 08.9**	**+1.0**
	24nm,0.8s						
BOSA	**Boshof**	**49.88**	**77**	*eP*	**P**	**20 11 17.1**	**+0.8**
	6.2nm,1.0s						
BOSA	**Boshof**	**49.88**	**77**	P	**P**	**20 11 16.6**	**+0.3**
	1.7nm,0.6s,baz=211,slow=5.9,SNR=2.2						
CASY	**Casey**	**50.81**	**162**	*eP*	**P**	**20 11 24.6**	**+2.0**
	14nm,0.8s						
LPAZ	**La Paz**	**50.83**	**314**	*eP*	**P**	**20 11 24.3**	**+0.2**
	8.2nm,0.9s						
LPAZ	**La Paz**	**50.83**	**314**	P	**P**	**20 11 24.3**	**+0.2**
	3.9nm,0.8s,baz=154,slow=6.0,SNR=16						
H10S2	**ASCENSION HYDR**	**53.06**	**23**	T	T	21 09 14.1	
	baz=191,slow=75						
H10S3	**ASCENSION HYDR**	**53.06**	**23**	T	T	21 09 13.7	
	baz=191,slow=75						
H10S1	**ASCENSION HYDR**	**53.08**	**23**	T	T	21 09 14.6	
	baz=191,slow=75						
H10N1	**ASCENSION HYDR**	**54.18**	**23**	T	T	21 10 38.0	
	baz=190,slow=75						
H10N3	**ASCENSION HYDR**	**54.18**	**23**	T	T	21 10 40.4	
	baz=190,slow=75						
H10N2	**ASCENSION HYDR**	**54.19**	**23**	T	T	21 10 41.2	
	baz=190,slow=75						
DBIC	**Dimbokro**	**70.36**	**30**	P	**P**	**20 13 37.1**	**+0.5**
	3.7nm,0.9s,baz=192,slow=6.3,SNR=3.8						
TOA0	**Torodi Ar. Sit**	**78.29**	**34**	*eP*	**P**	**20 14 24.1**	**+1.3**
	16nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.29**	**34**	P	**P**	**20 14 23.7**	**+0.9**
	4.4nm,0.6s,baz=208,slow=5.0,SNR=20						
TOA1	**Torodi Ar. Sit**	**78.29**	**34**	*eP*	**P**	**20 14 23.7**	**+0.9**
STKA	**Stephens Creek**	**88.00**	**175**	*eP*	**P**	**20 15 09.3**	**-3.6**
	0.8nm,1.0s						
STKA	**Stephens Creek**	**88.00**	**175**	P	**P**	**20 15 13.0**	**0.0**
	2.3nm,0.8s,baz=181,slow=8.3,SNR=5.7						
ASAR	**Alice Springs**	**95.60**	**168**	*eP*	**P**	**20 15 45.1**	**-3.2**
ASAR	**Alice Springs**	**95.60**	**168**	P	**P**	**20 15 48.0**	**-0.3**
	1.4nm,0.8s,baz=178,slow=4.1,SNR=15						
MDT	**Midelt**	**95.68**	**24**	P	**P**	**20 15 48.9**	**+0.6**
	2.5nm,0.8s,baz=229,slow=5.1,SNR=2.8						
WR1	**Warramunga Arr**	**99.33**	**168**	*eP*	**Pdif**	**20 16 04.0**	**-1.1**
WRA	**Warramunga Arr**	**99.33**	**168**	P	**Pdif**	**20 16 04.0**	**-1.1**
	0.8nm,0.8s,baz=189,slow=5.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**125.99**	**119**	PKP	**PKiKP**	**20 21 25.6**	**+0.3**
	0.8nm,0.8s,baz=234,slow=3.5,SNR=6.3						
BKCOR	**Black Crater**	**126.63**	**297**	*ePKPdf*	**PKPdf**	**20 21 25.6**	**+0.1**
FIA0	**FINESS Array S**	**129.61**	**32**	*ePKPdf*	**PKPdf**	**20 21 29.4**	**-0.9**
FINES	**FINESS Array B**	**129.61**	**32**	PKP	**PKPdf**	**20 21 29.4**	**-0.9**
	1.8nm,0.9s,baz=191,slow=1.4,SNR=2.7						
YKA	**Yellowknife Ar**	**137.33**	**317**	PKP	**PKPdf**	**20 21 44.7**	**-0.2**
	1.1nm,0.8s,baz=130,slow=2.7,SNR=11						
YKA				PP	**PP**	**20 24 29.7**	**-1.4**
	0.3nm,0.8s,baz=123,slow=6.0,SNR=5.3						
YKB5	**Yellowknife Ar**	**137.33**	**317**	*ePKPdf*	**PKPdf**	**20 21 44.7**	**-0.2**
HYT	**Haines Junctio**	**144.88**	**305**	*ePKPdf*	**PKPdf**	**20 21 59.0**	**+0.4**
ZALV	**Zalesovo Beam**	**146.75**	**73**	PKPbc	**PKPbc**	**20 22 02.9**	**-0.7**
	1.0nm,0.5s,baz=218,slow=3.6,SNR=4.8						
ZAA1	**Zalesovo Array**	**146.75**	**73**	*ePKPdf*	**PKPbc**	**20 22 02.9**	**-0.8**
INK	**Inuvik**	**147.10**	**318**	*ePKPdf*	**PKPbc**	**20 22 04.0**	**-0.2**
INK	**Inuvik**	**147.10**	**318**	PKPbc	**PKPdf**	**20 22 02.6**	**+0.6**
	8.9nm,0.9s,baz=95,slow=4.7,SNR=21						
ILAR	**Eielson Array**	**150.54**	**307**	PKPbc	**PKPbc**	**20 22 13.2**	**0.0**
	1.5nm,1.0s,baz=149,slow=1.7,SNR=5.4						
ILAR				PKPab	**PKPab**	**20 22 19.4**	**-0.6**
	7.1nm,0.9s,baz=125,slow=1.4,SNR=16						
BPAW	**Bear Paw Mtn.**	**151.94**	**305**	*ePKPbc*	**PKPbc**	**20 22 16.7**	**+0.3**
SONA0	**Songino Array**	**153.50**	**100**	*ePKPbc*	**PKPbc**	**20 22 20.5**	**0.0**
SONM	**Songino Array**	**153.50**	**100**	PKPbc	**PKPbc**	**20 22 20.5**	**0.0**
	0.5nm,0.7s,baz=204,slow=3.2,SNR=3.3						

ATH 19 20:03:13.1, 36°.05N×21°.67E, h18km±3km, ML2.2/2, Error ellipse: s-maj=10.9km s-min=2.2km az=45.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MES2	**Methoni**	**0.78**	**2**	P	Pg	20 03 28.4	+0.1
PYL	**PYLOS**	**0.85**	**4**	P	Pb	20 03 29.4	0.0
KYTH	**Kithira**	**1.13**	**78**	P	Pg	20 03 35.3	+0.2
ITM	**Ithomi**	**1.15**	**10**	P	Pn	20 03 34.2	-0.2
ITM	**Ithomi**	**1.15**	**10**	P	Pb	20 03 34.5	-0.1
ITM				AML	AML	20 03 58.2	
	comp=E,185μm,0.6s						
ITM				AML	AML	20 03 59.6	
	comp=N,212μm,0.3s						
VLI	**Veliai**	**1.22**	**56**	P	Pg	20 03 36.7	0.0
VLI	**Veliai**	**1.22**	**56**	P	Pb	20 03 36.2	+0.4
VLI				AML	AML	20 04 04.5	
	comp=N,228μm,0.4s						
VLI				AML	AML	20 04 06.0	
	comp=E,243μm,0.9s						
ANKY	**Antikythira Is**	**1.33**	**97**	P	Pb	20 03 37.9	+0.2
VLX	**Vlachokerasia**	**1.44**	**23**	P	Pb	20 03 40.0	+0.4
AMT	**Artemida-Makis**	**1.48**	**1**	P	Pg	20 03 41.2	-0.5
AMT	**Artemida-Makis**	**1.48**	**1**	P	Pg	20 03 41.3	-0.4
TRIP	**Tripoli**	**1.56**	**18**	P	Pb	20 03 42.2	+0.7
DRO	**Drossia**	**1.90**	**1**	P	Pb	20 03 48.5	+1.1
DRO	**Drossia**	**1.90**	**1**	P	Pb	20 03 47.0	-0.4

KRSC 19 20:03:30.5±10.0, 50°.86N×157°.95E, h43km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.94**	**311**	*eP*	Pn	20 03 49.3	+2.0
PAU				S	Sn	20 04 01.5	+2.0
SKR	**Severo-Kuril's**	**1.17**	**262**	*eP*	Pn	20 03 51.9	+1.5
SKR				*eS*	Sn	20 04 06.1	+0.9
ALID	**Alaid**	**1.52**	**271**	*eP*	Pn	20 03 57.5	+2.2
ALID				S	Sn	20 04 15.9	+2.0
RUS	**Russkaya**	**1.62**	**12**	P	Pn	20 03 58.2	+1.7
RUS				S	Sn	20 04 17.5	+1.4

*KRSC **19** 20:06:47.0±10.0, 52°.09N×160°.70E, h42km±10km, ML4.9*
*IDC **19** 20:06:46.9±0.6, 52°.34N×160°.24E, h0km, mb4.3/29, mb1 4.4/32, mb1mx4.3/48, mbtmp4.3/32, ML4.3/3, MS4.5/1, Ms1 4.5/1, ms1mx3.6/43, Error ellipse: s-maj=15.7km s-min=11.6km az=148.0*
*MOS **19** 20:06:49.6±1.0, 52°.11N×160°.54E, h40km, mb4.7/64, Error ellipse: s-maj=7.4km s-min=4.0km az=99.0*
*ISCJB **19** 20:06:51.2±0.6, 52°.17N±0°.04×160°.40E±0°.05, h47km±3km,

KZV Kizimen 2.91 358 PN Pn 20 07 35.9 +1.4
TUMD Tumrok D 3.00 359 eP Pn 20 07 36.7 +1.1
TUMR Tumrok 3.08 357 PN Pn 20 07 36.7 -0.2
SKR Severo-Kuril's 3.11 242 eP Pn 20 07 37.6 +0.5
SKR Severo-Kuril's 3.11 242 ePN Pn 20 07 37.7 +0.6
SKR pmax pmax
comp=Z,245nm,0.6s
ALID Alaid 3.34 248 eP Pn 20 07 41.4 +1.0
ALID Alaid 3.34 248 PN Pn 20 07 41.4 +1.0
BZGR Bezymyannyi-Gr 3.74 2 P Pn 20 07 49.9 +4.0
BZGR Bezymyannyi-Gr 3.74 2 PN Pn 20 07 49.9 +4.0
ESO Esso 3.86 345 eP Pn 20 07 49.5 +2.0
ESO Esso 3.86 345 PN Pn 20 07 49.5 +2.0
KOZ Kozyrevsk 3.87 355 eP Pn 20 07 49.7 +2.1
KOZ Kozyrevsk 3.87 355 PN Pn 20 07 49.7 +2.1
LGNR Loginova 3.88 2 eP Pn 20 07 51.2 +3.2
LGNR Loginova 3.88 2 PN Pn 20 07 51.2 +3.2
CIRR Tsirk 3.92 2 P Pn 20 07 51.8 +3.4
CIRR Tsirk 3.92 2 PN Pn 20 07 51.8 +3.4
KRSR Krestovskiy 4.01 1 eP Pn 20 07 53.6 +3.9
KRSR Krestovskiy 4.01 1 PN Pn 20 07 53.6 +3.9
KLY Klyuchi 4.11 2 eP Pn 20 07 54.3 +3.4
KLY Klyuchi 4.11 2 PN Pn 20 07 54.3 +3.4
SRDR Sredinnyy 4.14 354 eP Pn 20 07 53.8 +2.5
SRDR Sredinnyy 4.14 354 PN Pn 20 07 53.8 +2.5
KBTR Krutoberegovo 4.24 18 eP Pn 20 07 53.8 +1.1
KBTR Krutoberegovo 4.24 18 PN Pn 20 07 53.8 +1.1
BDR Baidarnaya 4.39 6 eP Pn 20 07 57.8 +3.0
BDR Baidarnaya 4.39 6 PN Pn 20 07 57.8 +3.0
SMKR Semkarok 4.42 7 eP Pn 20 07 58.3 +3.1
SMKR Semkarok 4.42 7 PN Pn 20 07 58.3 +3.1
BKI Bering 4.45 45 eS Sn 20 08 41.4 -5.3
SRKR Sorokina 4.47 5 eP Pn 20 07 58.5 +2.6
SRKR Sorokina 4.47 5 PN Pn 20 07 58.5 +2.6
TILK Tilichiki 8.84 19 eP Pn 20 08 57.2 +1.5
TILK Tilichiki 8.84 19 PN Pn 20 08 57.2 +1.5
MA2 Magadan 9.16 327 Pn Pn 20 09 02.2 +2.1
comp=Z,0.5nm,0.3s,baz=135,slow=9.1,SNR=3.8
SEY Seymchan 11.58 341⇑ ePN Pn 20 09 31.5 -1.6
SEY Seymchan 11.58 341 Pn Pn 20 09 36.4 +3.3
comp=Z,0.1nm,0.3s,baz=144,slow=9.5,SNR=7.6
YSS Yuzh-Sakhalins 12.62 252 ePN Pn 20 09 48.9 +1.5
ASAJ Asahikawa 14.37 243 Pn Pn 20 10 11.3 -0.1
comp=Z,1.5nm,0.3s,baz=60,slow=14,SNR=9.5
GRNR Gornyy 15.02 274 eP P 20 10 28.0 +2.5
GRNR pmax pmax
comp=Z,29nm,1.0s
ERM Erimo 15.53 236 ePn Pn 20 10 23.6 -3.3
comp=Z,27nm,0.9s
ERM Erimo 15.53 236 eP Pn 20 10 23.6 -3.3
ERM pmax pmax
comp=Z,27nm,0.9s
BILL Bilibino 16.13 8 ePn P 20 10 37.7 0.0
comp=Z,22nm,0.8s
BILL Bilibino 16.13 8 eP P 20 10 37.4 -0.3
BILL pmax pmax
comp=Z,18nm,0.9s
TEY Ternei 17.27 255⇓ eP P 20 10 50.9 +0.5
TEY pmax pmax
comp=Z,20nm,0.7s
TEY pmax pmax
comp=E,20nm,0.6s
TEY pmax pmax
comp=N,10.0nm,0.8s
KLR Kul'dur 18.36 272 P P 20 11 02.4 0.0
comp=N,0.3nm,0.3s,baz=61,slow=12,SNR=19
ZEA Zeya 19.95 288 eP P 20 11 18.2 -1.6
ZEA pmax pmax
comp=Z,12nm,1.0s
USRK Ussuriysk Ar. 20.49 258 P P 20 11 24.3 -1.4
comp=Z,9.5nm,0.9s,baz=57,slow=9.6,SNR=12
MJAR Matsushiro Arr 22.18 234 P P 20 11 45.3 +1.3
comp=Z,8.0nm,0.8s,baz=13,slow=9.8,SNR=5.8
MJB9 Matsu-Tunnel 22.18 234 eP P 20 11 45.1 +1.1
comp=Z,24nm,1.0s
MAJO Matsushiro 22.18 234 eP P 20 11 45.1 +1.1
comp=Z,22nm,0.9s
MAJO Matsushiro 22.18 234⇑ eP P 20 11 45.2 +1.1
MAJO pmax pmax
comp=Z,26nm,1.0s
MAT Matsushiro 22.18 234 P P 20 11 45.1 +1.1
RDOG Red Dog Mine 23.65 34 eP P 20 11 59.3 +0.4
comp=Z,6.0nm,1.0s
TIXI Tiksi 23.98 336 eP P 20 12 01.1 -0.9
TIXI Tiksi 23.98 336 ceP P 20 12 01.1 -0.9
TIXI pmax pmax
comp=Z,23nm,0.9s
TIXI Tiksi 23.98 336 P P 20 12 00.7 -1.2
comp=Z,26nm,0.8s,baz=126,slow=8.8,SNR=77
HIA Hailar 25.69 280 eP P 20 12 16.2 -1.6
comp=Z,24nm,0.9s
HIA Hailar 25.69 280 eP P 20 12 16.2 -1.6
HIA pmax pmax
comp=Z,24nm,0.9s
BOD Bodaibo 26.77 301 eP P 20 12 25.5 -2.0
BOD pmax pmax
comp=Z,5.0nm,1.2s
KDAK Kodiak Island 27.06 59 eP P 20 12 30.8 +0.7
comp=Z,162nm,2.0s
KDAK Kodiak Island 27.06 59 i P P 20 12 33.5 +3.5
KDAK Kodiak Island 27.06 59 P P 20 12 31.0 +1.0
comp=Z,3.7nm,0.7s,baz=259,slow=7.0,SNR=4.3
KSRS Korea Array 27.10 250 P P 20 12 31.8 +1.2
comp=Z,3.5nm,1.0s,baz=43,slow=9.3,SNR=9.0
KS15 Wonju Array Si 27.13 250 eP P 20 12 30.9 0.0
comp=Z,50nm,1.8s
KSAR Wonju Array Be 27.13 250 eP P 20 12 31.9 +1.1
BPAW Bear Paw Mtn. 27.50 45 eP P 20 12 36.2 +2.2
comp=Z,4.0nm,1.1s
TOLK Toolik Lake Re 28.55 36 eP P 20 12 44.1 +0.8
comp=Z,24nm,2.0s
SML Sawmill 28.75 50 eP P 20 12 45.7 +0.5
comp=Z,60nm,1.9s
SML Sawmill 28.75 50 eP P 20 12 45.7 +0.5
SML pmax pmax
comp=Z,60nm,1.9s
SCM Sheep Creek Mo 29.22 50 eP P 20 12 49.1 -0.3
comp=Z,62nm,1.9s
SCM Sheep Creek Mo 29.22 50 eP P 20 12 49.1 -0.3
SCM pmax pmax
comp=Z,62nm,1.9s
ILAR Eielson Array 29.29 44 P P 20 12 50.4 +0.5
comp=Z,0.6nm,0.8s,baz=272,slow=8.4,SNR=7.1
ILAR PcP PcP 20 15 55.2 -0.8
comp=Z,0.4nm,0.5s,baz=283,slow=2.7,SNR=4.8
CTGM Chitina Glacie 32.20 51 eP P 20 13 16.1 +0.3
comp=Z,19nm,1.3s
H11N2 WAKE ISLAND Hy 32.80 169 T T 20 48 02.6
baz=352,slow=76,SNR=57
H11N3 WAKE ISLAND Hy 32.82 169 T T 20 48 02.6
baz=352,slow=76,SNR=48
H11N1 WAKE ISLAND Hy 32.82 169 T T 20 48 02.6
baz=352,slow=76,SNR=56
ULN Ulaanbaatar 33.91 284⇓ eP P 20 13 29.3 -1.6
ULN pmax pmax
comp=Z,3.0nm,0.9s
H11S1 WAKE ISLAND Hy 33.99 169 T T 20 49 32.1
baz=352,slow=74
H11S3 WAKE ISLAND Hy 34.00 169 T T 20 49 32.6
baz=352,slow=74
H11S2 WAKE ISLAND Hy 34.01 169 T T 20 49 38.0
baz=352
SONA0 Songino Array 34.32 285 eP P 20 13 33.1 -1.2
SONM Songino Array 34.32 285 eP P 20 13 32.9 -1.5
SONM Songino Array 34.32 285 P P 20 13 33.2 -1.2
comp=Z,0.7nm,0.3s,baz=70,slow=8.9,SNR=8.9
INK Inuvik 34.44 37 P P 20 13 35.2 +0.2
comp=Z,1.6nm,0.5s,baz=280,slow=4.9,SNR=8.6
INK PcP PcP 20 16 09.2 -0.7
comp=Z,0.7nm,0.5s,baz=310,slow=3.2,SNR=5.5
HHC Hu-ho-hao-te 34.86 271 eP P 20 13 38.5 -0.6
ZAK Zakamensk 35.00 290 eP P 20 13 38.6 -1.6
ZAK pmax pmax
comp=Z,6.0nm,1.0s
NJ2 Nanjing 36.19 253 eP P 20 13 51.8 +1.4
NRIK Noril'sk 36.76 325 P P 20 13 54.0 -0.9
NRIK Noril'sk 36.76 325 P P 20 13 54.0 -0.9
comp=Z,5.1nm,0.8s,baz=101,slow=7.4,SNR=6.1
WHN Wuhan 39.94 256 eP P 20 14 20.5 -1.5
LZH Lanzhou 42.55 271 eP P 20 14 42.5 -1.2
LZH pP pwP 20 15 03.9 +13
LZH sP sP 20 15 14.0 +24
GTA Gaotai 42.93 278 eP P 20 14 45.8 -0.9
GTA pP sP 20 14 52.4 -0.8
GTA sP pwP 20 14 55.6 +1.2
GTA PcP PcP 20 16 37.8 +0.7
ZALV Zalesovo Beam 43.44 304 i P P 20 14 48.2 -2.2
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 43.44 304 P P 20 14 48.2 -2.2
comp=Z,2.3nm,0.8s,baz=54,slow=7.5,SNR=10
YKA Yellowknife Ar 43.67 42 P P 20 14 52.4 +0.1
comp=Z,0.4nm,0.5s,baz=298,slow=8.2,SNR=5.8
YKB5 Yellowknife Ar 43.67 42 eP P 20 14 52.4 +0.1
NVS Novosibirsk 43.80 305 eP P 20 14 51.7 -1.6
NVS e 20 16 36.4
NVS pmax pmax
comp=E,12nm,1.0s
NVS pmax pmax
comp=Z,17nm,1.0s
NVS pmax pmax
comp=N,4.0nm,0.9s
RES Resolute Bay 44.06 22 eP P 20 14 56.8 +1.6
comp=N,2.7nm,0.8s
RES Resolute Bay 44.06 22 P P 20 14 55.9 +0.7
comp=N,3.2nm,0.9s,baz=301,slow=7.2,SNR=14
DGZ Jazzator, Alta 44.26 297 d i P P 20 14 56.4 -0.9
DGZ pmax pmax
comp=Z,5.0nm,0.9s
CD2 Chengdu 46.10 265 eP P 20 15 11.0 -1.0
WMQ Urumqi 47.47 290 eP P 20 15 22.3 -0.3
WMQ pP pwP 20 15 47.1 +16
WMQ sP sP 20 15 55.9 +27
SPITS Spitsbergen Ar 48.04 351 P P 20 15 26.7 +0.2
SPITS pmax pmax
comp=Z,2.0nm,0.3s
KURK Kurchatov 48.39 303 eP P 20 15 27.5 -2.0
comp=Z,14nm,0.9s
KURK ePcP PcP 20 16 55.5 -0.2
KURK Kurchatov 48.39 303 deP P 20 15 27.5 -2.0
KURK pmax pmax
comp=Z,14nm,0.9s
MK31 Makanchi Array 48.73 297 eP P 20 15 30.6 -1.7
comp=Z,2.5nm,0.6s
MK31 Makanchi Array 48.73 297 eP P 20 15 30.6 -1.7
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 48.73 297 P P 20 15 30.5 -1.8
comp=Z,2.2nm,0.5s,baz=54,slow=6.7,SNR=44
MAKZ Makanchi 48.90 297 eP P 20 15 31.6 -1.9
comp=Z,6.1nm,1.0s
MAKZ Makanchi 48.90 297 eP P 20 15 31.6 -1.9
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
MOON Moon Mountain 50.26 66 eP P 20 15 46.6 +2.7
BRVK Borovoye 51.14 309 eP P 20 15 49.0 -1.4
comp=Z,11nm,0.7s
BRVK Borovoye 51.14 309 deP P 20 15 48.7 -1.7
BRVK pmax pmax
comp=Z,12nm,0.9s
DAG Danmarks Havn 51.29 360 i P P 20 15 50.6 -0.6
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 51.29 360 i P P 20 15 50.6 -0.6
comp=Z,4.7nm,0.9s
PDGK Podgornoye 52.44 295 P P 20 15 59.5 -0.9
PDGK pmax pmax
comp=Z,5.0nm,0.9s
OTUK Ortayu 53.14 303 P P 20 16 04.5 -0.9
OTUK pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 53.49 46 i P P 20 16 10.9 +3.1
LVZ Lovozero 53.60 338 eP P 20 16 08.0 -0.5
LVZ ePcP PcP 20 17 12.5 -2.3
LVZ Lovozero 53.60 338⇑ eP P 20 16 08.6 +0.1
KEV Kevo 53.72 342 eP P 20 16 07.9 -1.4
comp=Z,71nm,1.8s
KEV Kevo 53.72 342 eP P 20 16 07.9 -1.4
KEV pmax pmax
comp=Z,71nm,1.8s
FCC Fort Churchill 54.04 38 eP P 20 16 12.5 +0.8
comp=Z,3.0nm,0.6s
ARA0 ARCESS Array S 54.19 342 eP P 20 16 12.6 -0.2
ARCES ARCESS Array B 54.19 342 eP P 20 16 12.7 -0.1
ARCES ARCESS Array B 54.19 342 eP P 20 16 12.7 -0.1
ARCES ARCESS Array B 54.19 342 P P 20 16 12.6 -0.2
comp=Z,8.9nm,0.8s,baz=34,slow=9.0,SNR=14
ARE0 ARCESS Array S 54.19 342 eP P 20 16 12.8 0.0
comp=Z,4.1nm,1.8s
ARU Arti 54.19 318 eP P 20 16 11.6 -1.4
comp=Z,7.4nm,0.6s
ARU Arti 54.19 318 deP P 20 16 12.0 -0.9
ARU pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 54.70 274 eP P 20 16 15.1 -2.5
LSA Lhasa 54.70 274 eP P 20 16 15.1 -2.5
SUMG Summit 54.81 7 i P P 20 16 18.3 +0.6
SUMG pmax pmax
comp=Z,24nm,0.9s
SUMG Summit 54.81 7 i P P 20 16 18.3 +0.6
comp=Z,24nm,0.9s
BOOM Boomskoye usch 54.97 296 P P 20 16 18.2 -0.8
BOOM pmax pmax
comp=Z,5.0nm,1.0s
PRGR Permogore 55.30 328 ⇑ i P P 20 16 20.5 -0.4
PRGR e 20 17 19.1
PRGR pmax pmax
comp=Z,15nm,0.6s
AAK Ala-Archa 55.66 297 eP P 20 16 23.1 -1.0
comp=Z,4.2nm,0.8s
AAK Ala-Archa 55.66 297⇓ eP P 20 16 23.0 -1.0
AAK pmax pmax
comp=Z,5.0nm,0.9s
TMCR Tamitsa 55.66 333 eP P 20 16 23.4 0.0
NVAR Mina Array Bea 55.84 70 P P 20 16 27.1 +1.7
comp=Z,0.5nm,0.5s,baz=304,slow=7.0,SNR=3.3
MSF Maaselka 56.51 338 P P 20 16 30.1 +0.6
MSF pmax pmax
comp=Z,36nm,1.0s
KSH Kashi 56.95 293 P P 20 16 32.5 -0.6
KHON Khomkaen 57.54 254 P P 20 16 41.9 +4.5
LAMP Lampang 57.75 258 P P 20 16 41.3 +2.4
comp=Z,15um,1.0s
PD31 Pinedale Array 57.77 61 eP P 20 16 40.6 +1.5
comp=Z,4.8nm,0.8s
PDAR Pinedale Array 57.77 61 P P 20 16 40.6 +1.5
comp=Z,0.6nm,0.7s,baz=299,slow=1.5,SNR=6.1
KLMR Klimovskoe 57.82 330 eP P 20 16 37.9 -0.9
KLMR pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 57.94 259 eP P 20 16 41.2 +1.0
comp=Z,9.3nm,1.1s
CHTO Chiang Mai 57.94 259 eP P 20 16 41.2 +1.0
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CM31 Chiang Mai Arr 58.22 259 eP P 20 16 42.8 +0.7
comp=Z,5.6nm,0.9s
CMAR Chiang Mai Arr 58.22 259 i P P 20 16 43.4 +1.2
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 58.22 259 P P 20 16 42.8 +0.7
comp=Z,3.4nm,0.8s,baz=24,slow=7.1,SNR=28
JOF Joensuu 58.46 335 P P 20 16 43.4 +0.2
JOF pmax pmax
comp=Z,22nm,1.3s
JIRN Jiri 59.20 276 eP P 20 16 48.8 -0.5
comp=Z,18nm,0.9s
RAMN Ramite 59.46 275 eP P 20 16 50.4 -0.6
comp=Z,34nm,0.6s
KKN Kakani 59.66 277 eP P 20 16 51.8 -0.6
comp=Z,8.7nm,0.4s
PKI Pulchoki 59.74 277 eP P 20 16 52.2 -0.8
comp=Z,17nm,0.8s
PKIN Phulchoki 59.74 277 eP P 20 16 51.9 -1.1
comp=Z,12nm,0.8s
DMN Daman 59.89 277 eP P 20 16 53.7 -0.3
SUF Sumiainen 59.90 338 P P 20 16 53.4 +0.2
SUF pmax pmax
comp=Z,35nm,0.9s
GKN Gorkha 59.90 278 eP P 20 16 53.3 -0.6
DANN Dangsing 60.18 279 eP P 20 16 55.6 -0.4
comp=Z,24nm,0.8s
DNR Dunn Ranch,Anz 60.19 73 eP P 20 17 01.4 +5.5
KOLN Koldanda 60.70 278 eP P 20 16 58.5 -1.0
comp=Z,16nm,0.8s
PYUN Piuthan 60.83 279 eP P 20 16 59.5 -0.9
comp=Z,25nm,0.8s
FINES FINESS Array B 61.02 337 P P 20 17 01.1 +0.3
comp=Z,8.6nm,0.5s,baz=32,slow=8.9,SNR=101
PHET Kaeng Krachan 62.12 254 P P 20 17 12.3 +3.4
OBN Obninsk 63.38 328 eP P 20 17 16.1 -0.6
OBN pmax pmax
comp=Z,10.0nm,0.9s
VSU Vasula 63.44 335 eP P 20 17 16.8 -0.3
VSU IAmb IAmb 20 17 17.8
comp=Z,35nm,0.8s
NB2 NORSAR Subarra 64.45 344 P P 20 17 23.4 -0.4
comp=Z,2.6nm,0.5s,baz=23,slow=6.9
NB2 NORSAR Subarra 64.45 344 P P 20 17 21.5 -2.3
NB2 pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 64.45 344 P P 20 17 23.6 -0.3
comp=Z,3.1nm,0.6s,baz=23,slow=6.7,SNR=19
NORES NORESS Array B 64.68 344 P P 20 17 27.2 +1.9
SLIT Slitere, Latvi 65.30 337 eP P 20 17 29.1 -0.2
SLIT IAmb IAmb 20 17 30.6
comp=Z,158nm,0.7s
VSR Storozhevoye 65.67 324⇑ eP P 20 17 29.9 -1.9
VSR pmax pmax
comp=Z,10.0nm,0.9s
IZAR Zarasai 65.94 334 eP P 20 17 33.0 -0.5
IZAR IAmb IAmb 20 17 35.6
comp=Z,6.4nm,0.5s
ISAL Salakas 66.13 334 eP P 20 17 34.8 +0.1
ISAL IAmb IAmb 20 17 36.1
comp=Z,3.6nm,0.7s
IDID Didziasalis 66.19 333 eP P 20 17 35.4 +0.3
IDID IAmb IAmb 20 17 36.5
comp=Z,3.6nm,0.7s
IIGN Ignalina 66.30 333 eP P 20 17 36.2 +0.4
IIGN IAmb IAmb 20 17 37.3
comp=Z,8.1nm,0.6s
PABE Paberze 66.77 335 eP P 20 17 38.9 +0.2
PABE IAmb IAmb 20 17 40.2
comp=Z,32nm,1.0s
AKASG Malin Array Be 69.48 329 i P P 20 17 55.0 -0.9
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 69.48 329 P P 20 17 55.0 -0.9
comp=Z,3.0nm,0.5s,baz=29,slow=6.2,SNR=18
KIEV Kiev 69.49 329⇓ eP P 20 17 55.4 -0.5
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 70.23 317 i P P 20 18 04.1 +3.4
KIV pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 70.33 317 P P 20 18 01.4 +0.3
comp=Z,5.1nm,0.9s,baz=77,slow=5.9,SNR=12
HYB Hyderabad 71.50 275 ⇑ i P P 20 18 08.0 -0.7
EKA Eskdalemuir Ar 71.96 350 P P 20 18 10.6 -0.3
EKA pmax pmax
comp=Z,2.0nm,0.4s
KWP Kalwaria Pacla 72.38 333 eP P 20 18 14.4 +0.9
KWP Kalwaria Pacla 72.38 333 eP P 20 18 14.4 +0.9
KOLS Kolonicke sedl 73.13 333 eP P 20 18 18.9 +0.9
KOLS pmax pmax
comp=Z,5.0nm,1.2s
KOLS Kolonicke sedl 73.13 333 eP P 20 18 18.9 +0.9
CLL Collm 73.26 339 eP P 20 18 19.0 +0.3
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 73.26 339 eP P 20 18 19.0 +0.3
comp=Z,10.0nm,1.0s
DPC Dobruska-Polom 73.39 337 eP P 20 18 20.5 +0.9
DPC Dobruska-Polom 73.39 337 eP P 20 18 20.5 +0.9
BURAR Bucovina Array 73.45 330 ⇓ i P P 20 18 20.3 +0.2
BURAR Bucovina Array 73.45 330 P P 20 18 20.2 +0.2
BRG Berggiesshubel 73.46 339 eP P 20 18 20.2 +0.3
comp=Z,5.4nm,1.3s
BRG Berggiesshubel 73.46 339 eP P 20 18 20.2 +0.3
BRG pmax pmax
comp=Z,5.0nm,1.3s
MORC Moravsky Berou 73.62 336 eP P 20 18 21.4 +0.5
comp=Z,5.9nm,0.9s
MORC Moravsky Berou 73.62 336 ⇑ i P P 20 18 21.5 +0.5
MORC Moravsky Berou 73.62 336 eP P 20 18 21.4 +0.5
MORC pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 73.62 336 eP P 20 18 21.4 +0.5
LANS Liptovska Anna 73.70 334 eP P 20 18 23.1 +1.7
LANS Liptovska Anna 73.70 334 eP P 20 18 23.1 +1.7
BIZ Bicaz 73.77 329 ⇓ i P P 20 18 22.3 +0.5
TRPA Tarpa 73.78 332 ⇑ i P P 20 18 22.5 +0.7
TESR Tescani 73.98 329 ⇓ i P P 20 18 23.0 0.0
PRU Pruhonice 74.15 338 eP P 20 18 24.8 +0.9
PRU Pruhonice 74.15 338 eP P 20 18 24.8 +0.9
DZM Mont Dzumac 74.15 174 LR LR 20 44 51.7
comp=Z,312nm,20.1s,baz=206,slow=31
MOX Moxa 74.18 340 P P 20 18 25.7 +1.6
MOX pmax pmax
comp=Z,6.0nm,1.0s
VRAC Vranov 74.29 336 ⇑ i P P 20 18 26.5 +1.7
VRAC Vranov 74.29 336 P P 20 18 26.5 +1.7
VRAC Vranov 74.29 336 eP P 20 18 26.0 +1.2
JAVC Velka Javorina 74.44 335 eP P 20 18 27.6 +1.9
VYHS Vyhne 74.47 335 eP P 20 18 26.6 +0.7
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 74.47 335 eP P 20 18 26.6 +0.7
VRI Vrincioaia 74.53 328 ⇑ i P P 20 18 25.3 -1.0
VRI Vrincioaia 74.53 328 P P 20 18 25.3 -1.0
KRUC Moravsky 74.57 336 eP P 20 18 27.2 +0.8
CFR Carcaliu 74.67 327 ⇑ i P P 20 18 26.8 -0.3
CFR Carcaliu 74.67 327 P P 20 18 26.8 -0.3
DRGR 74.94 331 P P 20 18 29.1 +0.4
MODS Modra-Piesok 74.98 336 eP P 20 18 29.3 +0.4
MODS pmax pmax
comp=Z,8.0nm,1.3s
MODS Modra-Piesok 74.98 336 eP P 20 18 29.3 +0.4
MLR Muntele Rosu 75.11 329 ⇓ i P P 20 18 30.9 +1.1
MLR Muntele Rosu 75.11 329 P P 20 18 30.9 +1.1
GRF Grafenberg Arr 75.16 340 P P 20 18 32.6 +2.7
KHC Kasperske Hory 75.17 338 eP P 20 18 30.7 +0.7
KHC Kasperske Hory 75.17 338 eP P 20 18 30.7 +0.7
KHC ex x 20 19 00.0
TLB Topalu 75.23 327 ⇑ i P P 20 18 31.6 +1.3
TLB Topalu 75.23 327 P P 20 18 31.5 +1.3
WR1 Warramunga Arr 75.37 205 eP P 20 18 31.7 +0.5
WRA Warramunga Arr 75.37 205 i P P 20 18 32.5 +1.2
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 75.37 205 P P 20 18 31.7 +0.5
comp=Z,0.9nm,0.8s,baz=21,slow=5.8,SNR=5.1
GERES GERESS Array B 75.41 338 P P 20 18 31.5 0.0
comp=Z,2.0nm,0.8s,baz=42,slow=4.2,SNR=11
VOIR 75.44 329 ⇑ i P P 20 18 32.4 +0.8
VOIR 75.44 329 P P 20 18 32.4 +0.8
ARR Arges 75.64 330 ⇓ i P P 20 18 34.0 +1.3
CONA Conrad Observa 75.75 336 eP P 20 18 34.6 +1.3
comp=Z,6.1nm,0.9s
GIVF Givet 75.99 344 eP P 20 18 34.6 +0.1
GIVF pmax pmax
comp=Z,5.0nm,0.8s
BAIF Baives 76.13 344 eP P 20 18 35.6 +0.3
BAIF pmax pmax
comp=Z,5.0nm,1.0s
GZR Gura Zlata 76.18 331 ⇓ i P P 20 18 36.3 +0.4
GZR Gura Zlata 76.18 331 P P 20 18 36.2 +0.4
MOA Molln 76.21 337 eP P 20 18 36.5 +0.6
comp=Z,3.8nm,0.9s
BZS Buzias 76.33 332 ⇑ i P P 20 18 36.4 -0.1
BZS Buzias 76.33 332 P P 20 18 36.3 -0.2
ARSA Arzberg 76.47 336 eP P 20 18 37.8 +0.4
comp=Z,4.2nm,0.9s,SNR=4.2
SOKA Soboth 77.12 336 eP P 20 18 42.1 +1.0
comp=Z,8.7nm,1.1s
PUNG Punghina 77.14 330 ⇓ i P P 20 18 41.2 0.0
KBA Koelnbreinsper 77.15 338 eP P 20 18 43.0 +1.5
comp=Z,12nm,0.8s
CDF Champ du Feu 77.17 342 eP P 20 18 41.6 +0.2
CDF pmax pmax
comp=Z,7.0nm,0.9s
RETA Reutte 77.35 339 eP P 20 18 43.9 +1.5
comp=Z,3.2nm,1.1s
WTTA Wattenberg 77.37 339 eP P 20 18 43.9 +1.2
comp=Z,5.0nm,0.9s
MOTA Moosalm 77.41 339 eP P 20 18 43.8 +0.9
comp=Z,3.0nm,0.8s
BR101 Keskin Array S 77.44 321 eP P 20 18 42.8 -0.3
BR131 Keskin Array S 77.44 321 eP P 20 18 43.4 +0.3
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 77.44 321 eP P 20 18 43.4 +0.3
BR131 pmax pmax
comp=Z,3.0nm,0.9s

BRTR	**Keskin Array B**	**77.44 321**	*i* P	**P**	**20 18 43.4**	**+0.3**
BRTR			pmax	pmax		
	comp=Z,2.0nm,0.8s					
BRTR	**Keskin Array B**	**77.44 321**	P	**P**	**20 18 42.8**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=46,slow=3.6,SNR=14					
SQTA	**Sankt Quirin**	**77.50 339**	*e*P	**P**	**20 18 44.5**	**+1.1**
	comp=Z,5.7nm,0.9s					
ABTA	**Abfaltersbach**	**77.66 338**	*e*P	**P**	**20 18 45.5**	**+1.3**
	comp=Z,8.1nm,1.1s					
DAVA	**Damuels**	**77.73 340**	*e*P	**P**	**20 18 46.2**	**+1.6**
	comp=Z,7.8nm,1.2s					
HAU	**Haudompre**	**77.74 343**	*e*P	**P**	**20 18 44.7**	**+0.2**
HAU			pmax	pmax		
	comp=Z,4.0nm,0.6s					
FETA	**Feichten**	**77.80 339**	*e*P	**P**	**20 18 46.8**	**+1.7**
	comp=Z,6.6nm,1.1s					
HINF	**Hinteralfeld**	**77.83 342**	*e*P	**P**	**20 18 45.2**	**+0.2**
HINF			pmax	pmax		
	comp=Z,8.0nm,1.3s					
FLN	**La Foliniere**	**78.10 347**	*e*P	**P**	**20 18 46.4**	**0.0**
FLN			pmax	pmax		
	comp=Z,19nm,1.1s					
DAVOX	**Davos/Dischmat**	**78.21 340**	P	**P**	**20 18 47.7**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=336,slow=3.3,SNR=7.4					
LDF	**La Druitiere**	**78.21 347**	*e*P	**P**	**20 18 47.7**	**+0.6**
LDF			pmax	pmax		
	comp=Z,10.0nm,1.2s					
GRR	**Gorron**	**78.52 347**	*e*P	**P**	**20 18 48.9**	**+0.2**
GRR			pmax	pmax		
	comp=Z,68nm,2.1s					
VTS	**Vitosha**	**78.55 329** ‖	*i*P	**P**	**20 18 49.8**	**+0.5**
VTS	**Vitosha**	**78.55 329**	P	**P**	**20 18 49.7**	**+0.5**
LOR	**Lormes**	**78.89 344**	*e*P	**P**	**20 18 51.0**	**+0.1**
LOR			pmax	pmax		
	comp=Z,14nm,1.3s					
ASAR	**Alice Springs**	**79.04 205**	P	**P**	**20 18 52.9**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=18,slow=5.5,SNR=13					
CABF	**La Chapelle**	**79.13 342**	*e*P	**P**	**20 18 52.8**	**+0.5**
CABF			pmax	pmax		
	comp=Z,10.0nm,1.2s					
SSF	**Saint Saulge**	**79.15 344**	*e*P	**P**	**20 18 53.2**	**+0.9**
SSF			pmax	pmax		
	comp=Z,5.0nm,0.9s					
AVF	**Avril sur Loir**	**79.44 344**	*e*P	**P**	**20 18 54.2**	**+0.4**
AVF			pmax	pmax		
	comp=Z,7.0nm,0.9s					
SMF	**Signal de Mont**	**79.50 344**	*e*P	**P**	**20 18 54.5**	**+0.3**
SMF			pmax	pmax		
	comp=Z,23nm,1.6s					
PDG	**Podgorica**	**79.93 332** ⇑	*i*P	**P**	**20 18 56.2**	**-0.3**
LPL	**La Plagne**	**80.06 342**	*e*P	**P**	**20 18 58.6**	**+1.1**
LPL			pmax	pmax		
	comp=Z,15nm,1.1s					
LPG	**La Plagne**	**80.07 342**	*e*P	**P**	**20 18 58.9**	**+1.2**
LPG			pmax	pmax		
	comp=Z,10.0nm,0.8s					
TCF	**Toulx Ste Croi**	**80.11 345**	*e*P	**P**	**20 19 02.0**	**+4.4**
TCF			pmax	pmax		
	comp=Z,8.0nm,1.0s					
MFF	**Saint Martin d**	**80.17 347**	*e*P	**P**	**20 19 01.7**	**+3.9**
MFF			pmax	pmax		
	comp=Z,29nm,1.6s					
ORIF	**Oris-en-Rattie**	**80.80 342**	*e*P	**P**	**20 18 59.1**	**-2.3**
ORIF			pmax	pmax		
	comp=Z,7.0nm,0.8s					
VIVF	**Saint-Julien-l**	**81.08 343**	*e*P	**P**	**20 19 03.7**	**+0.9**
VIVF			pmax	pmax		
	comp=Z,7.0nm,1.1s					
RJF	**Les Rejaudoux**	**81.18 345**	*e*P	**P**	**20 19 05.4**	**+2.1**
RJF			pmax	pmax		
	comp=Z,16nm,1.4s					
IGT	**Igoumenitsa**	**82.26 330**	P	**P**	**20 19 11.3**	**+2.2**
MMAI	**Mount Meron Ar**	**82.49 316**	P	**P**	**20 19 10.5**	**0.0**
	comp=Z,3.4nm,0.5s,baz=33,slow=6.9,SNR=11					
MTLF	**Montolieu**	**82.98 344**	*e*P	**P**	**20 19 13.8**	**+1.0**
MTLF			pmax	pmax		
	comp=Z,13nm,1.4s					
EPF	**Esparros**	**83.59 345**	*e*P	**P**	**20 19 16.3**	**+0.4**
EPF			pmax	pmax		
	comp=Z,21nm,1.3s					
ETSF	**Etsaut**	**83.85 346**	*e*P	**P**	**20 19 18.5**	**+1.2**
ETSF			pmax	pmax		
	comp=Z,11nm,1.0s					
IDI	**Anoyia**	**84.61 325**	P	**P**	**20 19 20.5**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=28,slow=8.5,SNR=5.4					
ESDC	**Sonseca Array**	**87.49 348**	P	**P**	**20 19 35.5**	**0.0**
	comp=Z,2.0nm,0.8s,baz=356,slow=5.6,SNR=10.0					

*IDC **19** 20:11:53.1±0.7,52°.39N×160°.22E,h0km,mb4.1/24,*
mb1 4.2/26,mb1mx4.1/48,mbtmp4.1/26,ML3.7/2,Error
ellipse: s-maj=19.2km s-min=13.3km az=129.0
*KRSC **19** 20:11:54.7±10.0,52°.15N×160°.48E,h60km±10km,ML4.7*
*MOS **19** 20:11:57.4±1.0,52°.25N×160°.40E,h52km,mb4.6/6,Error*
ellipse: s-maj=7.9km s-min=4.9km az=108.0
*NEIC **19** 20:11:57.4±0.8,52°.20N×160°.30E,h35km,mb4.4/9,Error*
ellipse: s-maj=16.0km s-min=13.7km az=147.0

ISC 19 20:11:54.4±1.7,52°.14N±0°.04×160°.43E±0°.04,h17km±9km,
n135,σ1§24/155,mb4.3/34,4C-5D,Off east coast of
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.00 346**		*e*P	**Pb**	**20 12 13.2**	**0.0**
SPN				*e*S	**Sb**	**20 12 25.4**	**-0.6**
SPN	**Mys Shipunski**	**1.00 346**		PN	**Pb**	**20 12 13.2**	**0.0**
SPN				S	**Sb**	**20 12 25.4**	**-0.6**
RUS	**Russkaya**	**1.22 285**		*e*P	**Pb**	**20 12 17.2**	**+0.3**
RUS				*e*S	**Sn**	**20 12 33.1**	**+0.4**
RUS	**Russkaya**	**1.22 285**		PN	**Pb**	**20 12 17.2**	**+0.3**
RUS				S	**Sn**	**20 12 33.1**	**+0.4**
NLC	**Nalytchevo**	**1.23 328**		*e*P	**Pb**	**20 12 17.4**	**+0.2**
NLC				*e*S	**Sn**	**20 12 33.9**	**+0.9**
NLC	**Nalytchevo**	**1.23 328**		PN	**Pb**	**20 12 17.4**	**+0.2**
NLC				S	**Sn**	**20 12 33.9**	**+0.9**
DALK	**Dalny**	**1.36 312**		*e*P	**Pb**	**20 12 19.3**	**-0.1**
DALK				*e*S	**Sn**	**20 12 36.4**	**+0.1**
DALK	**Dalny**	**1.36 312**		PN	**Pb**	**20 12 19.3**	**-0.1**
DALK				S	**Sn**	**20 12 36.4**	**+0.1**
PET	**Petropavlovsk**	**1.41 310**		*e*Pn	**Pb**	**20 12 19.9**	**-0.2**
PET	**Petropavlovsk**	**1.41 310**		*e*P	**Pb**	**20 12 20.2**	**+0.1**
PET	**Petropavlovsk**	**1.41 310**		⇑ *i*PN	**Pn**	**20 12 19.8**	**+0.6**
PET				*e*S	**Sg**	**20 12 39.3**	**-0.4**
PET				pmax	pmax		
	comp=Z,2μm,0.6s						
PET				smax	smax		
	comp=E,4μm,0.5s						
PET				smax	smax		
	comp=N,3μm,0.4s						
MTVR	**Mutnovka**	**1.43 285**		*e*P	**Pb**	**20 12 20.7**	**+0.1**
MTVR				*e*S	**Sb**	**20 12 39.5**	**+1.0**
MTVR	**Mutnovka**	**1.43 285**		PN	**Pb**	**20 12 20.7**	**+0.1**
MTVR				S	**Sb**	**20 12 39.5**	**+1.0**
UGLR	**Uglovaya**	**1.46 318**		*e*P	**Pb**	**20 12 21.2**	**+0.1**
UGLR	**Uglovaya**	**1.46 318**		PN	**Pb**	**20 12 21.2**	**+0.1**
SDLR	**Sedlovina**	**1.48 321**		*e*P	**Pb**	**20 12 21.4**	**-0.1**
SDLR	**Sedlovina**	**1.48 321**		PN	**Pb**	**20 12 21.4**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.49 258**		*e*P	**Pb**	**20 12 21.3**	**-0.3**
KDTR				*e*S	**Sn**	**20 12 39.5**	**0.0**
KDTR	**Khodutka, Kamc**	**1.49 258**		PN	**Pb**	**20 12 21.3**	**-0.3**
KDTR				S	**Sn**	**20 12 39.5**	**0.0**
SMAR	**Somma**	**1.50 319**		*e*P	**Pb**	**20 12 21.8**	**-0.2**
SMAR	**Somma**	**1.50 319**		PN	**Pb**	**20 12 21.8**	**-0.2**
GRL	**Gorelyy**	**1.51 287**		*e*P	**Pg**	**20 12 23.2**	**-0.2**
GRL	**Gorelyy**	**1.51 287**		PN	**Pg**	**20 12 23.2**	**-0.2**
AVH	**Avacha**	**1.53 318**		*e*P	**Pb**	**20 12 22.3**	**0.0**
AVH	**Avacha**	**1.53 318**		PN	**Pb**	**20 12 22.3**	**0.0**
KRER	**Koryakskii**	**1.56 319**		*e*P	**Pb**	**20 12 23.1**	**+0.3**
KRER	**Koryakskii**	**1.56 319**		PN	**Pb**	**20 12 23.1**	**+0.3**
KRMR	**Karymshinskiy**	**1.57 297**		*e*P	**Pb**	**20 12 22.7**	**-0.3**
KRMR				*e*S	**Sb**	**20 12 42.8**	**+0.3**
KRMR	**Karymshinskiy**	**1.57 297**		PN	**Pb**	**20 12 22.7**	**-0.3**
KRMR				S	**Sb**	**20 12 42.8**	**+0.3**
ASAK	**Asacha**	**1.58 280**		*e*P	**Pb**	**20 12 23.2**	**+0.1**
ASAK	**Asacha**	**1.58 280**		PN	**Pb**	**20 12 23.2**	**+0.1**
KOK	**Koryaka**	**1.59 317**		*e*P	**Pb**	**20 12 23.4**	**0.0**
KOK	**Koryaka**	**1.59 317**		PN	**Pb**	**20 12 23.4**	**0.0**
KRX	**Arik**	**1.64 319**		*e*P	**Pb**	**20 12 24.5**	**+0.3**
KRX	**Arik**	**1.64 319**		PN	**Pb**	**20 12 24.5**	**+0.3**
PEA0B	**Petropavlovsk-**	**1.93 301**		*e*Pn	**Pb**	**20 12 28.1**	**-1.0**
PEA0B	**Petropavlovsk-**	**1.93 301**		*e*PN	**Pb**	**20 12 28.1**	**-1.0**
PETK	**Petropavlovsk-**	**1.93 301**		Pn	**Pn**	**20 12 27.9**	**+1.5**
	comp=N,54nm,0.3s,baz=107,slow=18,SNR=121						
PETK				Sn	**Sb**	**20 12 54.4**	**+1.4**
	comp=N,170nm,0.3s,baz=112,slow=19,SNR=20						
PEA1	**Petropavlovsk-**	**1.93 302**		*e*Pn	**Pn**	**20 12 27.9**	**+1.5**
PEA1				*e*Sn	**Sb**	**20 12 54.4**	**+1.4**
APC	**Apacha**	**2.15 293**		*e*P	**Pb**	**20 12 31.7**	**-1.1**
APC				*e*S	**Sb**	**20 12 58.5**	**-0.7**
APC	**Apacha**	**2.15 293**		PN	**Pb**	**20 12 31.7**	**-1.1**
APC				S	**Sb**	**20 12 58.5**	**-0.7**
PAU	**Pauzhetka**	**2.35 255**		*e*P	**Pb**	**20 12 35.2**	**-1.0**
PAU	**Pauzhetka**	**2.35 255**		PN	**Pb**	**20 12 35.2**	**-1.0**
MKZ	**Mys Kozlova**	**2.55 17**		*e*P	**Pn**	**20 12 35.0**	**+0.2**
MKZ				*e*S	**Sn**	**20 13 04.2**	**-1.2**
MKZ	**Mys Kozlova**	**2.55 17**		PN	**Pn**	**20 12 35.0**	**+0.2**
MKZ				S	**Sn**	**20 13 04.2**	**-1.2**
KZV	**Kizimen**	**2.98 358**		*e*P	**Pn**	**20 12 42.8**	**+1.8**
KZV				*e*S	**Sn**	**20 13 17.0**	**+0.5**
KZV	**Kizimen**	**2.98 358**		PN	**Pn**	**20 12 42.8**	**+1.8**
KZV				S	**Sn**	**20 13 17.0**	**+0.5**
SKR	**Severo-Kuril's**	**3.07 243**		*e*S	**Sn**	**20 13 16.9**	**-1.4**
SKR	**Severo-Kuril's**	**3.07 243**		*e*PN	**Pb**	**20 12 47.5**	**-1.0**
SKR				*e*S	**Sb**	**20 13 24.1**	**-1.5**
SKR				pmax	pmax		
	comp=Z,232nm,0.7s						
SKR				smax	smax		
	comp=E,860nm,0.5s						
SKR				smax	smax		
	comp=N,2μm,0.9s						
TUMD	**Tumrok D**	**3.07 360**		*e*P	**Pn**	**20 12 43.1**	**+1.0**
TUMR	**Tumrok**	**3.16 357**		PN	**Pn**	**20 12 43.1**	**-0.3**
ALID	**Alaid**	**3.31 249**		*e*P	**Pn**	**20 12 47.5**	**+2.1**
ALID	**Alaid**	**3.31 249**		PN	**Pn**	**20 12 47.5**	**+2.1**
ESO	**Esso**	**3.93 346**		*e*P	**Pn**	**20 12 57.0**	**+3.1**
ESO	**Esso**	**3.93 346**		PN	**Pn**	**20 12 57.0**	**+3.1**
KBTR	**Krutoberegovo**	**4.32 18**		*e*P	**Pn**	**20 13 00.1**	**+1.0**
KBTR	**Krutoberegovo**	**4.32 18**		PN	**Pn**	**20 13 00.1**	**+1.0**
BDR	**Baidarnaya**	**4.46 6**		*e*P	**Pn**	**20 13 04.4**	**+3.1**
BDR	**Baidarnaya**	**4.46 6**		PN	**Pn**	**20 13 04.4**	**+3.1**
YSS	**Yuzh-Sakhalins**	**12.59 253**		*e*PN	Pn	20 14 58.2	+5.7
ASAJ	**Asahikawa**	**14.33 243**		Pn	**Pn**	**20 15 17.7**	**+1.3**
	comp=N,0.6nm,0.3s,baz=63,slow=17,SNR=6.2						
GRNR	**Gornyy**	**15.02 274**		*e*P	**P**	**20 15 34.0**	**+3.0**
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
BILL	**Bilibino**	**16.20 8**		*e*P	**P**	**20 15 43.2**	**-0.8**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TEY	**Ternei**	**17.24 255** ‖		*e*P	**P**	**20 15 56.7**	**+1.1**
TEY				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KLR	**Kul'dur**	**18.36 272**		P	**P**	**20 16 07.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=53,slow=10.0,SNR=12						
ZEA	**Zeya**	**19.97 288**		*e*P	**P**	**20 16 24.0**	**-1.5**
ZEA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**20.46 258**		P	**P**	**20 16 30.1**	**-0.8**
	comp=Z,7.2nm,0.9s,baz=57,slow=11,SNR=8.5						
MAT	**Matsushiro**	**22.13 234**		P	**P**	**20 16 51.1**	**+2.1**
MJAR	**Matsushiro Arr**	**22.13 234**		P	**P**	**20 16 51.1**	**+2.2**
	comp=Z,8.4nm,1.0s,baz=21,slow=9.7,SNR=13						
TIXI	**Tiksi**	**24.04 336**		P	**P**	**20 17 06.8**	**-1.3**
	comp=Z,11nm,0.8s,baz=128,slow=8.8,SNR=34						
KSRS	**Korea Array**	**27.07 250**		P	**P**	**20 17 38.2**	**+2.5**
	comp=Z,2.7nm,1.0s,baz=35,slow=8.6,SNR=5.7						
JNU	**Nakatsue**	**28.57 240**		P	**P**	**20 17 52.5**	**+3.1**
	comp=Z,5.9nm,0.8s,baz=17,slow=3.8,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**32.73 169**		T	T	20 53 12.4	
	baz=353						
H11N3	**WAKE ISLAND Hy**	**32.75 169**		T	T	20 53 07.5	
	baz=353						
H11N1	**WAKE ISLAND Hy**	**32.75 169**		T	T	20 53 13.0	
	baz=353						
SONA0	**Songino Array**	**34.33 285**		*e*P	**P**	**20 18 38.7**	**-1.3**
SONM	**Songino Array**	**34.33 285**		P	**P**	**20 18 38.7**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=66,slow=8.2,SNR=4.5						
ZAK	**Zakamensk**	**35.02 290**		*e*P	**P**	**20 18 44.9**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NRIK	**Noril'sk**	**36.81 326**		P	**P**	**20 18 59.1**	**-1.7**
	comp=Z,5.6nm,1.0s,baz=104,slow=9.4,SNR=4.2						
ZAA1	**Zalesovo Array**	**43.47 304**		*e*P	**P**	**20 19 53.7**	**-2.6**
ZALV	**Zalesovo Beam**	**43.48 304**		P	**P**	**20 19 53.7**	**-2.6**
	comp=Z,1.5nm,0.7s,baz=64,slow=6.8,SNR=5.9						
YKA	**Yevuknife Ar**	**43.73 42**		P	**P**	**20 19 57.5**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=291,slow=7.7,SNR=2.4						
NVS	**Novosibirsk**	**43.84 305** ⇑		*i*P	**P**	**20 19 58.0**	**-1.1**
NVS				pmax	pmax		
	comp=Z,15nm,1.0s						
SPA0	**Spitsbergen Ar**	**48.12 351**		*e*P	**P**	**20 20 32.8**	**+0.2**
	comp=Z,20nm,1.1s						
SPITS	**Spitsbergen Ar**	**48.12 351**		P	**P**	**20 20 32.8**	**+0.2**
	comp=Z,7.7nm,0.7s,baz=63,slow=7.6,SNR=14						
MK32	**Makanchi Array**	**48.76 297**		*e*P	**P**	**20 20 36.4**	**-1.6**
MKAR	**Makanchi Array**	**48.76 297**		P	**P**	**20 20 36.4**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=57,slow=6.8,SNR=25						
BRVK	**Borovoye**	**51.18 309**		*e*P	**P**	**20 20 54.6**	**-1.6**
	comp=Z,5.2nm,0.8s						
BRVK	**Borovoye**	**51.18 309**		*e*P	**P**	**20 20 54.7**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARA0	**ARCESS Array S**	**54.26 342**		*e*P	**P**	**20 21 18.6**	**-0.2**
ARCES	**ARCESS Array B**	**54.26 342**		P	**P**	**20 21 18.6**	**-0.2**
	comp=Z,5.8nm,0.9s,baz=35,slow=11,SNR=7.6						
PRGR	**Permogore**	**55.36 328**		*e*P	**P**	**20 21 25.7**	**-1.1**
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KKAR	**Karatay Array**	**57.54 300**		*e*P	**P**	**20 21 39.1**	**-3.6**
	comp=Z,4.4nm,1.1s						
KKAR	**Karatay Array**	**57.54 300**		*e*P	**P**	**20 21 39.1**	**-3.6**
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PD31	**Pinedale Array**	**57.81 60**		*e*P	**P**	**20 21 47.0**	**+2.2**
	comp=Z,1.6nm,1.1s						
PDAR	**Pinedale Array**	**57.81 60**		P	**P**	**20 21 47.0**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=336,slow=3.3,SNR=4.2						
KLMR	**Klimovskoe**	**57.88 330**		*e*P	**P**	**20 21 44.0**	**-0.7**
KLMR				pmax	pmax		
	comp=Z,19nm,1.1s						
CHTO	**Chiang Mai**	**57.92 259**		*e*P	**P**	**20 21 44.1**	**-1.5**
	comp=Z,4.9nm,1.0s						
CHTO	**Chiang Mai**	**57.92 259**		*e*P	**P**	**20 21 44.1**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CM31	**Chiang Mai Arr**	**58.19 259**		*e*P	**P**	**20 21 48.0**	**+0.5**
	comp=Z,6.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**58.19 259**		P	**P**	**20 21 49.2**	**+1.7**
	comp=Z,2.3nm,0.8s,baz=31,slow=7.0,SNR=15						
JIRN	**Jiri**	**59.20 276**		*e*P	**P**	**20 21 54.8**	**-0.1**
	comp=Z,22nm,1.0s						
RAMN	**Ramite**	**59.46 275**		*e*P	**P**	**20 21 56.4**	**-0.1**
KKN	**Kakani**	**59.66 277**		*e*P	**P**	**20 21 57.9**	**0.0**
	comp=Z,8.7nm,0.6s						
PKI	**Pulchoki**	**59.74 277**		*e*P	**P**	**20 21 58.3**	**-0.3**
	comp=Z,8.2nm,0.8s						
PKIN	**Phulchoki**	**59.74 277**		*e*P	**P**	**20 21 58.3**	**-0.2**
	comp=Z,7.4nm,0.8s						
DMN	**Daman**	**59.90 277**		*e*P	**P**	**20 21 59.8**	**+0.2**
	comp=Z,13nm,0.7s						
GKN	**Gorkha**	**59.90 278**		*e*P	**P**	**20 21 59.4**	**0.0**
DANN	**Dangsing**	**60.19 279**		*e*P	**P**	**20 22 01.6**	**0.0**
	comp=Z,16nm,0.8s						
KOLN	**Koldanda**	**60.70 278**		*e*P	**P**	**20 22 04.8**	**-0.2**
	comp=Z,7.1nm,0.7s						
PYUN	**Piuthan**	**60.83 279**		*e*P	**P**	**20 22 05.9**	**0.0**
	comp=Z,12nm,0.7s						
FINES	**FINESS Array B**	**61.08 337**		P	**P**	**20 22 07.2**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=36,slow=8.7,SNR=21						
NB2	**NORSAR Subarra**	**64.52 344**		P	**P**	**20 22 30.1**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**64.52 344**		P	**P**	**20 22 30.6**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=22,slow=6.7,SNR=9.5						
GEYT	**Alibeck**	**67.79 303**		P	**P**	**20 22 50.1**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=27,slow=7.0,SNR=3.1						
AKASG	**Malin Array Be**	**69.54 329**		P	**P**	**20 23 01.2**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=31,slow=6.7,SNR=8.9						
AKBB	**Malin Array Si**	**69.54 329**		*e*P	**P**	**20 23 01.2**	**-0.5**
	comp=Z,2.7nm,0.7s						
KBZ	**Khabaz**	**70.38 317**		P	**P**	**20 23 06.9**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=66,slow=6.3,SNR=3.8						
TXAR	**Lajitas Array**	**70.82 67**		P	**P**	**20 23 11.4**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=293,slow=4.6,SNR=4.4						
CLL	**Collm**	**73.33 339**		*e*P	**P**	**20 23 26.0**	**+1.4**
BUR08	**Bucovina Ar. S**	**73.49 330**		*e*P	**P**	**20 23 26.2**	**+0.5**
	comp=Z,2.7nm,0.9s						
BURAR	**Bucovina Array**	**73.51 330** ‖		*i*P	**P**	**20 23 26.4**	**+0.5**
TRPA	**Tarpa**	**73.84 332** ‖		*i*P	**P**	**20 23 28.9**	**+1.2**
VRAC	**Vranov**	**74.36 336** ⇑		*i*P	**P**	**20 23 32.4**	**+1.7**
WR1	**Warramunga Arr**	**75.30 205**		*e*P	**P**	**20 23 37.9**	**+1.6**
WRA	**Warramunga Arr**	**75.30 205**		P	**P**	**20 23 37.9**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=24,slow=6.4,SNR=3.8						
GEC2	**GERESS Array S**	**75.48 338**		*e*P	**P**	**20 23 37.2**	**-0.1**
	comp=Z,2.8nm,1.1s						
GEC2	**GERESS Array S**	**75.48 338**		*e*P	**P**	**20 23 37.2**	**-0.1**
GERES	**GERESS Array B**	**75.48 338**		P	**P**	**20 23 37.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=58,slow=5.3,SNR=4.5						
VOIR		**75.51 329** ‖		*i*P	**P**	**20 23 38.7**	**+1.2**
ARR	**Arges**	**75.70 330** ‖		*i*P	**P**	**20 23 40.3**	**+1.7**
BZS	**Buzias**	**76.39 332** ‖		*i*P	**P**	**20 23 42.9**	**+0.5**
BRTR	**Keskin Array B**	**77.49 321**		P	**P**	**20 23 48.4**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=56,slow=3.3,SNR=6.1						
ASAR	**Alice Springs**	**78.97 205**		P	**P**	**20 23 59.1**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=18,slow=5.8,SNR=8.7						
ESDC	**Sonseca Array**	**87.56 348**		P	**P**	**20 24 41.9**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=20,slow=4.1,SNR=3.5						

KRSC 19 20:13:33.3±10.0,52°.12N×160°.60E,h41km±10km,ML3.9,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.04 340**		*e*P	Pn	20 13 52.7	+1.3
SPN				*e*S	Sn	20 14 05.5	+0.7
NLC	**Nalytchevo**	**1.30 325**		*e*P	Pn	20 13 57.0	+2.0
NLC				*e*S	Sn	20 14 13.5	+2.4
RUS	**Russkaya**	**1.32 285**		*e*P	Pn	20 13 56.9	+1.7
RUS				*e*S	Sn	20 14 12.8	+1.2
DALK	**Dalny**	**1.45 310**		P	Pn	20 13 59.0	+2.0
DALK				S	Sn	20 14 17.4	+2.6
UGLR	**Uglovaya**	**1.54 316**		P	Pn	20 14 00.9	+2.6
KDTR	**Khodutka, Kamc**	**1.59 260**		P	Pn	20 14 00.6	+1.6
KDTR				S	Sn	20 14 19.4	+1.1
KRMR	**Karymshinskiy**	**1.67 296**		*e*P	Pn	20 14 02.0	+2.0
KRMR				*e*S	Sn	20 14 22.5	+2.3
KRX	**Arik**	**1.72 317**		P	Pn	20 14 03.1	+2.3
MKZ	**Mys Kozlova**	**2.53 15**		P	Pn	20 14 14.8	+2.9
MKZ				S	Sn	20 14 43.7	+2.3

*BJI **19** 20:15:47.8±0.0,52°.62N×160°.23E,h7km,mb4.7/22,*
mB5.1/3,Ms4.8/1
*IDC **19** 20:15:49.7±0.6,52°.28N×160°.16E,h0km,mb4.3/29,*
mb1 4.4/33,mb1mx4.3/48,mbtmp4.3/33,ML4.2/4,Error
ellipse: s-maj=13.9km s-min=11.2km az=130.0
*KRSC **19** 20:15:49.8±10.0,52°.03N×160°.61E,h68km±10km,ML4.9,*
FELT [II-III] at Petropavlovsk.
*MOS **19** 20:15:53.5±1.1,52°.12N×160°.40E,h43km,mb4.9/42,Error*
ellipse: s-maj=7.3km s-min=3.9km az=104.0
*ISCJB **19** 20:15:53.5±0.6,52°.09N±0°.03×160°.43E±0°.06,h43km±4km,*
mb4.7/99,Error ellipse: s-maj=7.1km s-min=4.0km
az=43.3
*NEIC **19** 20:15:54.5±0.5,52°.25N×160°.28E,h35km,mb4.8/17,Error*
ellipse: s-maj=9.5km s-min=7.3km az=136.0

ISC 19 20:15:52.5±0.8,52°.09N±0°.04×160°.53E±0°.04,h26km±4km,
n294,σ1§24/321,mb4.7/105,25C-16D,Off east coast of
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.06 343**		*e*P	**Pn**	**20 16 10.5**	**-1.1**
SPN				*e*S	**Sb**	**20 16 24.2**	**-1.4**
SPN	**Mys Shipunski**	**1.06 343**		PN	**Pn**	**20 16 10.5**	**-1.1**
SPN				S	**Sb**	**20 16 24.2**	**-1.4**
RUS	**Russkaya**	**1.29 286**		*e*P	**Pn**	**20 16 14.2**	**-0.6**
RUS				*e*S	**Sn**	**20 16 31.3**	**+0.1**
RUS	**Russkaya**	**1.29 286**		PN	**Pn**	**20 16 14.2**	**-0.6**

GRNR	Gornyy	15.08	275	eP	P	20 19 26.3	-2.4
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
ERM	Erimo	15.51	236⇑	eP	Pn	20 19 24.7	-4.6
BILL	Biiibino	16.24	8	eP	P	20 19 41.8	+0.4
BILL				pmax	pmax		
	comp=Z,11nm,0.9s						
TEY	Ternei	17.29	255⇓	eP	P	20 19 52.5	-0.6
TEY				pmax	pmax		
	comp=E,30nm,0.8s						
TEY				pmax	pmax		
	comp=Z,20nm,0.7s						
KLR	Kul'dur	18.42	273⇓	eP	P	20 20 04.8	-0.8
KLR	Kul'dur	18.42	273	P	P	20 20 05.0	-0.6
	comp=Z,0.7nm,0.3s,baz=71,slow=10,SNR=19						
ZEA	Zeya	20.04	288	eP	P	20 20 20.6	-2.7
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
USRK	Ussuriysk Ar.	20.52	259	P	P	20 20 26.6	-1.9
	comp=Z,9.9nm,0.6s,baz=65,slow=9.0,SNR=14						
MJB9	Matsu-Tunnel	22.15	234	eP	P	20 20 47.1	+0.9
	comp=Z,25nm,0.6s						
MAJO	Matsushiro	22.15	234	eP	P	20 20 47.2	+1.0
	comp=Z,24nm,0.6s						
MAJO	Matsushiro	22.15	234	eP	P	20 20 47.2	+1.0
MAJO				pmax	pmax		
	comp=Z,25nm,0.6s						
MAT	Matsushiro	22.15	234	P	P	20 20 46.2	0.0
MJAR	Matsushiro Arr	22.15	234	eP	P	20 20 47.4	+1.2
MJAR	Matsushiro Arr	22.15	234	P	P	20 20 47.2	+1.0
	comp=Z,8.9nm,0.7s,baz=18,slow=11,SNR=29						
INU	Inuyama	23.69	234	eP	P	20 21 03.7	+1.7
	comp=Z,21nm,1.0s						
TIXI	Tiksi	24.11	336	eP	P	20 21 04.2	-1.4
	comp=Z,1.4nm,0.7s						
TIXI	Tiksi	24.11	336	deP	P	20 21 04.3	-1.3
TIXI				pmax	pmax		
	comp=Z,14nm,0.9s						
TIXI	Tiksi	24.11	336	P	P	20 21 04.1	-1.4
	comp=Z,13nm,0.6s,baz=122,slow=10,SNR=41						
BOD	Bodaibo	26.88	301	eP	P	20 21 27.8	-3.0
BOD				pmax	pmax		
	comp=Z,8.0nm,2.1s						
SNY	Shenyang	26.96	262	⇓P	P	20 21 32.4	+0.8
SNY				pmax	pmax		
	comp=Z,17nm,0.8s						
KSRS	Korea Array	27.11	250	P	P	20 21 33.9	+0.9
	comp=Z,3.3nm,0.6s,baz=42,slow=9.2,SNR=14						
JNU	Nakatsue	28.61	240	eP	P	20 21 47.1	+0.6
	comp=Z,18nm,1.0s						
JNU	Nakatsue	28.61	240	P	P	20 21 46.8	+0.2
	comp=Z,6.2nm,0.7s,baz=32,slow=13,SNR=6.1						
SML	Sawmill	28.79	50	eP	P	20 21 49.2	+1.3
	comp=Z,7.4nm,0.6s						
SML	Sawmill	28.79	50	eP	P	20 21 49.2	+1.3
SML				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ILAR	Eielson Array	29.34	44	P	P	20 21 54.1	+1.4
	comp=Z,0.6nm,0.8s,baz=268,slow=7.8,SNR=6.5						
BJT	Baijiatuau	32.56	266	eP	P	20 22 22.5	+1.2
BJT	Baijiatuau	32.56	266	eP	P	20 22 22.5	+1.2
ULN	Ulaanbaatar	34.00	285⇑	eP	P	20 22 32.9	-1.1
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONA0	Songino Array	34.41	285	eP	P	20 22 36.4	-1.0
SONA0				ePcP	PcP	20 25 12.5	-0.1
SONM	Songino Array	34.41	285	P	P	20 22 36.4	-1.0
	comp=Z,1.2nm,0.4s,baz=61,slow=8.1,SNR=14						
SONM				PcP	PcP	20 25 12.5	-0.1
	comp=Z,0.7nm,0.6s,baz=78,slow=1.8,SNR=3.5						
ZAK	Zakamensk	35.09	291	eP	P	20 22 36.1	-7.2
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
NRIK	Noril'sk	36.89	326	P	P	20 22 57.1	-1.2
	comp=Z,2.2nm,0.5s,baz=85,slow=8.0,SNR=4.9						
WHN	Wuhan	39.96	256	P	P	20 23 25.8	+1.2
ZAA0	Zalesovo Array	43.55	304	eP	P	20 23 52.0	-1.7
	comp=Z,2.7nm,1.0s						
ZALV	Zalesovo Beam	43.55	304	eP	P	20 23 50.3	-3.4
ZALV	Zalesovo Beam	43.55	304	P	P	20 23 51.3	-2.4
	comp=Z,2.5nm,0.7s,baz=64,slow=7.7,SNR=8.1						
YKA	Yellowknife Ar	43.73	42	P	P	20 23 55.8	+0.8
	comp=Z,0.4nm,0.7s,baz=298,slow=7.9,SNR=3.8						
YKB5	Yellowknife Ar	43.73	42	eP	P	20 23 55.8	+0.8
NVS	Novosibirsk	43.91	306	eP	P	20 23 54.2	-2.3
NVS				pmax	pmax		
	comp=Z,19nm,1.0s						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
RES	Resolute Bay	44.16	22	P	P	20 23 59.3	+1.0
	comp=E,1.9nm,0.7s,baz=317,slow=8.8,SNR=9.1						
RES				PcP	PcP	20 25 44.0	+1.3
	comp=E,1.9nm,0.8s,baz=316,slow=5.6,SNR=4.5						
DGZ	Jazzator, Alta	44.36	297	ceP	P	20 23 58.6	-1.8
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SPA0	Spitsbergen Ar	48.17	351	eP	P	20 24 30.1	+0.2
	comp=Z,18nm,0.7s						
SPITS	Spitsbergen Ar	48.17	351	P	P	20 24 30.2	+0.4
	comp=Z,8.1nm,0.4s,baz=60,slow=9.0,SNR=72						
KURK	Kurchatov	48.50	303	eP	P	20 24 30.1	-2.6
	comp=Z,15nm,0.8s						
KURK	Kurchatov	48.50	303	deP	P	20 24 30.6	-2.1
KURK				pmax	pmax		
	comp=Z,15nm,1.0s						
MK31	Makanchi Array	48.84	297	eP	P	20 24 33.6	-1.8
	comp=Z,4.3nm,0.6s						
MK31	Makanchi Array	48.84	297	eP	P	20 24 33.6	-1.8
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	48.84	297	eP	P	20 24 33.0	-2.4
MKAR	Makanchi Array	48.84	297	P	P	20 24 33.4	-2.0
	comp=Z,4.0nm,0.5s,baz=57,slow=6.8,SNR=81						
MAKZ	Makanchi	49.00	297	eP	P	20 24 34.5	-2.2
	comp=Z,4.7nm,0.7s						
MAKZ	Makanchi	49.00	297	eP	P	20 24 34.5	-2.2
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	Borovoye	51.26	309	eP	P	20 24 51.3	-2.3
	comp=Z,16nm,0.6s						
BRVK	Borovoye	51.26	309	deP	P	20 24 52.1	-1.5
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
DAG	Danmarks Havn	51.41	360	eP	P	20 24 54.0	-0.4
DAG	Danmarks Havn	51.41	360	i P	P	20 24 54.0	-0.4
ARU	Arti	54.32	318	eP	P	20 25 14.3	-1.8
	comp=Z,11nm,0.6s						
ARU	Arti	54.32	318	ceP	P	20 25 14.8	-1.4
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ARA0	ARCESS Array S	54.33	342	eP	P	20 25 15.5	-0.6
ARCES	ARCESS Array B	54.33	342	P	P	20 25 15.5	-0.6
	comp=Z,5.5nm,0.9s,baz=38,slow=9.4,SNR=16						
SUMG	Summit	54.93	7	eP	P	20 25 21.1	+0.3
SUMG	Summit	54.93	7	i P	P	20 25 21.1	+0.3
PRGR	Permogore	55.43	328	eP	P	20 25 23.2	-0.9
PRGR				e*PP	sP	20 25 32.3	-1.4
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AAK	Ala-Archa	55.77	297⇑	eP	P	20 25 25.3	-1.7
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NV01	Mina Array Sit	55.84	70	eP	P	20 25 29.9	+2.2
NVAR	Mina Array Bea	55.84	70	P	P	20 25 29.9	+2.2
	comp=Z,0.9nm,0.7s,baz=315,slow=4.3,SNR=4.1						
PANO	Nakornpanom	55.87	253	P	P	20 25 32.6	+4.8
	comp=Z,0.2nm,0.9s						
SKNT	Sakolnakorn	56.37	254	P	P	20 25 32.9	+1.5
	comp=Z,17nm,0.8s						
PAYA	Payao	56.99	259	P	P	20 25 37.5	+1.6
	comp=Z,33μm,0.7s,comp=Z,382μm						
PHRA	Phrae	57.44	258	P	P	20 25 40.5	+1.6
	comp=Z,2.2nm,1.0s						
KHON	Khomkaen	57.56	254	P	P	20 25 42.5	+2.7
	comp=Z,16μm,0.6s						
LAMP	Lampang	57.78	259	P	P	20 25 43.0	+1.6
	comp=Z,25μm,0.8s,comp=Z,247μm						
PDAR	Pinedale Array	57.78	61	P	P	20 25 43.7	+2.2
	comp=Z,0.5nm,0.6s,baz=216,slow=1.3,SNR=3.9						
UTTA	Uttaradit	57.82	257	P	P	20 25 43.3	+1.7
	comp=Z,18μm,0.8s						
KLMR	Klimovskoe	57.95	330	eP	P	20 25 39.5	-2.5
KLMR				pmax	pmax		
	comp=Z,12nm,1.0s						
CMMT	Chiang Mai	57.97	259	P	P	20 25 43.6	+0.9
	comp=Z,9.0nm,0.9s						
CHTO	Chiang Mai	57.97	259	eP	P	20 25 43.0	+0.3
	comp=Z,11nm,0.8s						
CHTO	Chiang Mai	57.97	259	eP	P	20 25 43.0	+0.3
CHTO				pmax	pmax		
	comp=Z,11nm,0.8s						
CM31	Chiang Mai Arr	58.24	259	eP	P	20 25 45.1	+0.4
	comp=Z,8.2nm,0.7s						
CMAR	Chiang Mai Arr	58.24	259	P	P	20 25 45.5	+0.9
	comp=Z,6.3nm,0.7s,baz=26,slow=6.8,SNR=46						
CHAI	Chaiyaphum	58.40	255	P	P	20 25 47.6	+1.9
	comp=Z,15μm,0.9s						
ODAN	Odare	59.10	275	eP	P	20 25 51.2	+0.4
JIRN	Jiri	59.26	276	eP	P	20 25 51.4	-0.7
	comp=Z,24nm,0.9s						
RAMN	Ramite	59.52	276	eP	P	20 25 53.0	-0.8
	comp=Z,34nm,0.5s						
KKN	Kakani	59.73	277	eP	P	20 25 54.5	-0.6
	comp=Z,27nm,0.5s						
PKI	Pulchoki	59.81	277	eP	P	20 25 55.0	-0.8
	comp=Z,15nm,0.7s						
PKIN	Phulchoki	59.81	277	eP	P	20 25 54.9	-0.8
	comp=Z,12nm,0.6s						
DMN	Daman	59.96	277	eP	P	20 25 56.3	-0.5
	comp=Z,22nm,0.6s						
LDFC	Landfair	60.00	70	eP	P	20 25 58.2	+1.4
SUF	Sumiainen	60.03	338	P	P	20 25 56.9	+0.5
SUF				pmax	pmax		
	comp=Z,40nm,0.7s						
UMPA	Umpang Tak	60.03	257	P	P	20 26 00.6	+3.6
	comp=Z,27μm,1.0s,comp=Z,292μm						
DANN	Dangsing	60.25	279	eP	P	20 25 58.2	-0.6
	comp=Z,30nm,0.7s						
KOLN	Koldanda	60.77	278	eP	P	20 26 01.5	-0.7
	comp=Z,22nm,0.6s						
PYUN	Piuthan	60.90	279	eP	P	20 26 02.3	-0.8
	comp=Z,26nm,0.7s						
FINES	FINESS Array B	61.15	337	P	P	20 26 04.3	+0.3
	comp=Z,12nm,0.6s,baz=34,slow=8.3,SNR=71						
MOS	Moscow	62.65	328	eP	P	20 26 12.9	-1.3
NIL	Nilore	62.71	290	P	P	20 26 14.7	-0.3
NIL				pmax	pmax		
	comp=Z,23nm,0.8s						
VSU	Vasula	63.58	335	eP	P	20 26 19.7	-0.6
VSU				IAmb	IAmb	20 26 20.9	
	comp=Z,33nm,0.8s						
KBL	Kabul	64.47	294	P	P	20 26 26.0	-0.9
KBL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NB2	NORSAR Subarra	64.58	344	P	P	20 26 26.7	-0.2
	comp=Z,8.9nm,1.0s,baz=23,slow=6.9						
NB2	NORSAR Subarra	64.58	344	P	P	20 26 26.5	-0.4
NB2				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NOA	NORSAR Array B	64.58	344	P	P	20 26 26.9	-0.1
	comp=Z,4.5nm,0.8s,baz=21,slow=6.6,SNR=21						
NORES	NORESS Array B	64.81	344	P	P	20 26 30.6	+2.2
SLIT	Slitere, Latvi	65.43	337	eP	P	20 26 32.3	-0.1
SLIT				IAmb	IAmb	20 26 33.6	
	comp=Z,79nm,0.6s						
VSR	Storozhevoye	65.81	324⇓	eP	P	20 26 33.6	-1.4
VSR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ISAL	Salakas	66.27	334	eP	P	20 26 37.9	+0.1
ISAL				IAmb	IAmb	20 26 39.5	
	comp=Z,15nm,1.6s						
IDID	Didziasalis	66.32	333	eP	P	20 26 37.5	-0.7
IDID				IAmb	IAmb	20 26 39.7	
	comp=Z,6.4nm,1.1s						
IIGN	Ignalina	66.43	334	eP	P	20 26 39.2	+0.2
IIGN				IAmb	IAmb	20 26 40.4	
	comp=Z,5.8nm,1.0s						
PABE	Paberze	66.90	335	eP	P	20 26 41.3	-0.5
PABE				IAmb	IAmb	20 26 43.1	
	comp=Z,19nm,0.8s						
GEYT	Alibeck	67.86	304	eP	P	20 26 47.6	-0.8
GEYT	Alibeck	67.86	304	P	P	20 26 47.8	-0.6
	comp=Z,5.6nm,0.8s,baz=29,slow=3.4,SNR=9.7						
AKASG	Malin Array Be	69.61	329	eP	P	20 26 57.7	-1.2
AKASG	Malin Array Be	69.61	329	eP	P	20 26 57.7	-1.2
AKASG	Malin Array Be	69.61	329	P	P	20 26 58.3	-0.6
	comp=Z,3.7nm,0.5s,baz=30,slow=6.3,SNR=20						
AKBB	Malin Array Si	69.61	329	eP	P	20 26 58.0	-0.9
	comp=Z,8.0nm,0.8s						
KIEV	Kiev	69.62	329	eP	P	20 26 57.9	-1.1
	comp=Z,7.6nm,0.8s						
KIEV	Kiev	69.62	329	ceP	P	20 26 58.1	-0.9
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBZ	Khabaz	70.45	317	P	P	20 27 04.5	+0.4
	comp=Z,4.5nm,0.7s,baz=83,slow=5.3,SNR=13						
LTX	Lajitas	70.78	67	eP	P	20 27 08.3	+1.7
LTX	Lajitas	70.78	67	eP	P	20 27 08.3	+1.7
TXAR	Lajitas Array	70.78	67	P	P	20 27 08.3	+1.7
	comp=Z,0.6nm,0.7s,baz=302,slow=3.9,SNR=8.0						
ZEI	Tsey	70.79	316	eP	P	20 27 04.9	-1.7
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HYB	Hyderabad	71.56	275	⇑iP	P	20 27 11.0	-0.4
AKH	Akhalkalaki	72.09	315	⇓iP	P	20 27 15.3	+0.8
AKH	Akhalkalaki	72.09	315	P	P	20 27 15.2	+0.8
EKA	Eskdalemuir Ar	72.09	350	P	P	20 27 14.1	+0.2
EKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KWP	Kalwaria Pacla	72.51	333	eP	P	20 27 17.7	+1.1
KWP	Kalwaria Pacla	72.51	333	eP	P	20 27 17.7	+1.1
KSP	Ksiaz	73.07	337	eP	P	20 27 20.5	+0.6
KSP	Ksiaz	73.07	337	eP	P	20 27 20.5	+0.6
KOLS	Kolonicke sedl	73.26	333	eP	P	20 27 21.5	+0.5
KOLS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KOLS	Kolonicke sedl	73.26	333	eP	P	20 27 21.5	+0.5
NIE	Niedzica	73.37	334	eP	P	20 27 22.5	+0.8
NIE	Niedzica	73.37	334	eP	P	20 27 22.5	+0.8
CLL	Collm	73.39	339	i P	P	20 27 21.6	-0.1
CLL				i		20 27 34.4	
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CLL	Collm	73.39	339	i P	P	20 27 21.6	-0.1
	comp=Z,7.0nm,0.9s						
CLL				i pP	pwP	20 27 34.4	+0.7
CLL				epPcP		20 27 49.0	
DPC	Dobruska-Polom	73.52	337	eP	P	20 27 23.6	+1.0
DPC				e		20 27 36.0	
DPC	Dobruska-Polom	73.52	337	eP	P	20 27 23.6	+1.0
DPC				epP	pwP	20 27 36.0	+1.4
BURAR	Bucovina Array	73.58	330	⇑iP	P	20 27 23.1	+0.1
BURAR	Bucovina Array	73.58	330	P	P	20 27 23.1	+0.1
BRG	Berggiesshubel	73.59	339	eP	P	20 27 23.1	+0.2
	comp=Z,3.1nm,1.1s						
BRG	Berggiesshubel	73.59	339	eP	P	20 27 23.1	+0.2
BRG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MORC	Moravsky Berou	73.75	336	⇓iP	P	20 27 24.8	+0.8
MORC	Moravsky Berou	73.75	336	P	P	20 27 24.9	+0.9
MORC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MORC	Moravsky Berou	73.75	336	eP	P	20 27 24.5	+0.5
LANS	Liptovska Anna	73.83	335	eP	P	20 27 25.9	+1.5
LANS	Liptovska Anna	73.83	335	eP	P	20 27 25.9	+1.5
BIZ	Bicaz	73.91	329	⇑iP	P	20 27 25.2	+0.3
TRPA	Tarpa	73.91	332	⇑iP	P	20 27 25.8	+1.0
TESR	Tescani	74.11	329	⇓iP	P	20 27 26.0	-0.1
PRU	Pruhonice	74.28	338	eP	P	20 27 27.7	+0.7
PRU	Pruhonice	74.28	338	eP	P	20 27 27.7	+0.7
VRAC	Vranov	74.42	336	⇑iP	P	20 27 29.1	+1.3
VRAC	Vranov	74.42	336	P	P	20 27 29.1	+1.3
VRAC	Vranov	74.42	336	eP	P	20 27 29.1	+1.3
JAVC	Velka Javorina	74.57	336	eP	P	20 27 30.4	+1.7
VYHS	Vyhne	74.60	335	eP	P	20 27 29.8	+0.9
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VYHS	Vyhne	74.60	335	eP	P	20 27 29.8	+0.9
PLOR	Plostina	74.70	329	⇑iP	P	20 27 29.6	+0.1
PLOR	Plostina	74.70	329	P	P	20 27 29.6	+0.1
KRUC	Moravsky	74.70	336	eP	P	20 27 30.2	+0.8
TREC	Trest	74.70	337	eP	P	20 27 30.3	+0.8
TREC	Trest	74.70	337	eP	P	20 27 30.3	+0.8
OZUR		74.76	329	⇑iP	P	20 27 30.7	+0.8
CFR	Carcaliu	74.81	327	⇑iP	P	20 27 30.1	0.0
CFR	Carcaliu	74.81	327	P	P	20 27 30.0	0.0
CJR	Cluj-Napoca	74.88	331	⇓iP	P	20 27 31.4	+0.8
CJR	Cluj-Napoca	74.88	331	P	P	20 27 31.3	+0.7
DOPR	Dopca	75.00	329	⇑iP	P	20 27 31.5	+0.3
DRGR		75.07	331	⇑iP	P	20 27 32.1	+0.4
DRGR		75.07	331	P	P	20 27 32.1	+0.4
MODS	Modra-Piesok	75.12	336	eP	P	20 27 32.8	+0.9
MODS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MODS	Modra-Piesok	75.12	336	eP	P	20 27 32.8	+0.9
MLR	Muntele Rosu	75.25	329	⇑iP	P	20 27 33.9	+1.1
MLR	Muntele Rosu	75.25	329	P	P	20 27 33.8	+1.0
WR1	Warramunga Arr	75.28	205	eP	P	20 27 33.6	+0.6
WRA	Warramunga Arr	75.28	205	P	P	20 27 33.6	+0.6
	comp=Z,1.4nm,0.8s,baz=24,slow=5.0,SNR=8.4						
DIKM	Dikmen	75.29	321	⇓iP	P	20 27 33.7	+0.8
KHC	Kasperske Hory	75.31	338	eP	P	20 27 33.9	+0.9
KHC				e		20 27 45.3	
KHC	Kasperske Hory	75.31	338	eP	P	20 27 33.9	+0.9
KHC				epP	pwP	20 27 45.3	+0.3
TLB	Topalu	75.36	327	⇑iP	P	20 27 33.9	+0.6
TLB	Topalu	75.36	327	P	P	20 27 33.9	+0.6
WET	Wettzell	75.45	339	P	P	20 27 35.0	+1.2
GERES	GERESS Array B	75.55	338	P	P	20 27 34.5	+0.1
	comp=Z,1.3nm,0.6s,baz=48,slow=4.0,SNR=10						
VOIR		75.58	329	⇑iP	P	20 27 35.5	+0.8
VOIR		75.58	329	P	P	20 27 35.4	+0.8
MFTR	Murfatlar	75.59	327	⇑iP	P	20 27 35.6	+1.0
ARR	Arges	75.77	330	⇓iP	P	20 27 36.8	+1.1
ICOR	Ion Corvin	75.86	327	⇑iP	P	20 27 37.2	+1.1
CONA	Conrad Observa	75.89	336	eP	P	20 27 37.4	+1.0
	comp=Z,1.9nm,0.6s,SNR=6.1						
GIVF	Givet	76.12	344	eP	P	20 27 37.7	+0.2
GIVF				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BAIF	Baives	76.26	345	eP	P	20 27 38.6	+0.3
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GZR	Gura Zlata	76.32	331	⇓iP	P	20 27 39.1	+0.3
GZR	Gura Zlata	76.32	331	P	P	20 27 39.1	+0.3
MOA	Molln	76.35	337	eP	P	20 27 39.9	+0.9
	comp=Z,2.4nm,0.8s						
BZS	Buzias	76.46	332	⇓iP	P	20 27 39.8	+0.3
BZS	Buzias	76.46	332	P	P	20 27 39.8	+0.3
ARSA	Arzberg	76.60	336	eP	P	20 27 40.7	+0.3
	comp=Z,1.5nm,0.7s						
VLAD	Vladila	77.07	329	⇑iP	P	20 27 43.5	+0.5
SOKA	Soboth	77.26	336	eP	P	20 27 45.1	+1.0
	comp=Z,1.7nm,0.5s						
PUNG	Punghina	77.28	330	⇑iP	P	20 27 44.1	-0.1
KBA	Koelnbreinsper	77.29	338	eP	P	20 27 45.8	+1.4
	comp=Z,12nm,0.7s						
KBA				eP	P	20 27 46.7	+2.3
	SNR=6.1						
KBA	Koelnbreinsper	77.29	338	P	P	20 27 46.1	+1.7
KBA				pmax	pmax		
	comp=Z,20nm,0.8s						
CDF	Champ du Feu	77.31	342	eP	P	20 27 44.6	+0.2
CDF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WATA	Walderalm	77.45	339	eP	P	20 27 46.8	+1.6
	comp=Z,4.6nm,1.1s						
WTTA	Wattenberg	77.50	339	eP	P	20 27 46.8	+1.2
	comp=Z,5.8nm,1.0s						
MOTA	Moosalm	77.54	339	eP	P	20 27 46.9	+1.1
	comp=Z,5.2nm,1.0s						
BR131	Keskin Array S	77.57	321	eP	P	20 27 46.4	+0.3
	comp=Z,3.3nm,0.9s						
BR131	Keskin Array S	77.57	321	eP	P	20 27 46.4	+0.3
BR131				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	Keskin Array B	77.57	321	P	P	20 27 46.0	-0.1
	comp=Z,2.7nm,0.8s,baz=36,slow=3.9,SNR=16						
SQTA	Sankt Quirin	77.64	339	eP	P	20 27 47.8	+1.4
	comp=Z,4.4nm,0.8s						
ABTA	Abfaltersbach	77.79	338	eP	P	20 27 48.2	+1.0
	comp=Z,5.6nm,1.0s						
HAU	Haudompre	77.87	343	eP	P	20 27 47.6	+0.1
HAU				pmax	pmax		
	comp=Z,42nm,1.9s						
FETA	Feichten	77.93	339	eP	P	20 27 49.4	+1.4
	comp=Z,3.8nm,0.9s,SNR=4.6						
PHSR	Pinarhisar	78.15	326	⇑iP	P	20 27 49.5	+0.4
VTS	Vitosha	78.68	329	⇑iP	P	20 27 52.4	+0.2
VTS	Vitosha	78.68	329	P	P	20 27 52.5	+0.2
VTS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ASAR	Alice Springs	78.95	205	P	P	20 27 54.9	+1.3
	comp=Z,1.3nm,0.7s,baz=14,slow=5.3,SNR=17						
SGMF	Saint Gilles	79.00	349	eP	P	20 27 54.8	+1.2
SGMF				pmax	pmax		
	comp=Z,18nm,1.2s						
LOR	Lormes	79.02	344	eP	P	20 27 54.0	+0.2
LOR				pmax	pmax		
	comp=Z,11nm,1.2s						
CABF	La Chapelle	79.26	342	eP	P	20 27 55.8	+0.6
CABF				pmax	pmax		
	comp=Z,66nm,2.1s						
SSF	Saint Saulge	79.28	344	eP	P	20 27 55.5	+0.3
SSF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AVF	Avril sur Loir	79.57	344	eP	P	20 27 57.2	+0.4
AVF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SMF	Signal de Mont	79.63	344	eP	P	20 27 57.5	+0.3
SMF				pmax	pmax		
	comp=Z,11nm,1.3s						
SRS	Serrai	79.93	328	P	P	20 27 59.3	+0.4
PDG	Podgorica	80.06	332	⇓iP	P	20 27 59.6	+0.1
LPL	La Plagne	80.19	342	eP	P	20 28 01.6	+1.1
LPL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LPG	La Plagne	80.20

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.06**	**337**	P	Pn	20 18 59.6	+1.0
SPN				S	Sn	20 19 12.9	+0.7
NLC	**Nalytchevo**	**1.34**	**322**	P	Pn	20 19 04.5	+2.1
NLC				S	Sn	20 19 21.9	+3.0
RUS	**Russkaya**	**1.38**	**284**	P	Pn	20 19 03.9	+0.9
RUS				S	Sn	20 19 20.7	+0.7
DALK	**Dalny**	**1.50**	**308**	P	Pn	20 19 06.0	+1.4
DALK				S	Sn	20 19 24.9	+2.0
UGLR	**Uglovaya**	**1.58**	**314**	P	Pn	20 19 08.7	+2.9
MTVR	**Mutnovka**	**1.59**	**284**	P	Pn	20 19 07.3	+1.3
MTVR				S	Sn	20 19 27.1	+1.7
SDLR	**Sedlovina**	**1.60**	**317**	P	Pn	20 19 09.1	+3.0
SMAR	**Somma**	**1.63**	**315**	P	Pn	20 19 09.4	+2.8
KDTR	**Khodutka, Kamc**	**1.66**	**260**	S	Sn	20 19 27.6	+0.8
KRMR	**Karymshinskiy**	**1.73**	**295**	*e*P	Pn	20 19 09.9	+2.2
KRMR				S	Sn	20 19 31.3	+2.8
ASAK	**Asacha**	**1.75**	**280**	P	Pn	20 19 10.6	+2.5
MKZ	**Mys Kozlova**	**2.51**	**14**	*e*P	Pn	20 19 20.6	+2.1
MKZ				*e*S	Sn	20 19 50.2	+2.3
KBTR	**Krutoberegovo**	**4.28**	**16**	P	Pn	20 19 47.3	+4.6

IDC ***19*** *20:20:06.3±0.5, 52°.35N×160°.05E, h0km, mb4.7/36, mb1 4.8/39, mb1mx4.7/45, mbtmp4.7/39, ML4.6/3, MS4.9/18, Ms1 4.9/18, ms1mx4.5/44, Error ellipse: s-maj=12.7km s-min=9.5km az=153.0*

KRSC ***19*** *20:20:06.4±10.0, 52°.07N×160°.61E, h52km±10km, ML5.6, FELT [III] at Petropavlovsk, river Karimshina (stationary KF GS); [II-III] at Pionersky, Vulkanniy, Elizovo; [II] at Ribachiy.*

MOS ***19*** *20:20:10.7±1.1, 52°.23N×160°.21E, h46km, mb5.4/79, MS5.1/20, Error ellipse: s-maj=6.3km s-min=2.9km az=101.1*

MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.

NEIC ***19*** *20:20:10.9±0.3, 52°.26N×160°.22E, h35km, mb5.0/47, Error ellipse: s-maj=8.6km s-min=5.2km az=156.0*

BJI ***19*** *20:20:11.9±0.0, 52°.71N×159°.59E, h42km, mb5.1/63, mB5.4/26, Ms5.3/46, Ms7 5.2/45*

ISCJB ***19*** *20:20:11.3±0.4, 52°.24N±0°.03×160°.20E±0°.04, h51km±2km, mb5.1/190, MS5.1/39, Error ellipse: s-maj=5.2km s-min=2.8km az=145.9*

GCMT ***19*** *20:20:12.9±0.4, 52°.23N±0°.02×160°.62E±0°.04, h23km±1km, MW5.2/67, Moment Tensor Solution. s36,c52; s67,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.86±.37; Mθθ-2.35±.21; Mφφ-2.51±.24; Mrθ3.19±.34; Mrφ-2.80±.14; Mθφ2.82±.34; Best double couple: M0=6.60300×10^16 NP1:φs=47.00000°, δ65.00000°, λ93.00000°. NP2: φs=221.00000°, δ25.00000°, λ84.00000°. Principal axes: T 6.4240, Plg70.0000°, Azm322.0000°; N 0.3580, Plg2.0000°, Azm226.0000°; P -6.7810, Plg20.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 20:20:10.8±0.4, 52°.19N±0°.04×160°.38E±0°.04, h39km±3km, n678, σ1$32/703, mb5.1/198, MS5.1/40, 72C-23D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.94**	**347**	*e*P	**Pn**	**20 20 26.0**	**-1.5**
SPN				*e*S	**Sn**	**20 20 38.4**	**-1.3**
SPN	**Mys Shipunski**	**0.94**	**347**	PN	**Pn**	**20 20 26.0**	**-1.5**
SPN				S	**Sn**	**20 20 38.4**	**-1.3**
NLC	**Nalytchevo**	**1.17**	**328**	*e*P	**Pn**	**20 20 30.3**	**-0.4**
NLC				*e*S	**Sn**	**20 20 47.7**	**+2.3**
NLC	**Nalytchevo**	**1.17**	**328**	PN	**Pn**	**20 20 30.3**	**-0.4**
NLC				S	**Sn**	**20 20 47.7**	**+2.3**
RUS	**Russkaya**	**1.17**	**283**	*e*P	**Pn**	**20 20 30.3**	**-0.4**
RUS				*e*S	**Sn**	**20 20 46.1**	**+0.7**
RUS	**Russkaya**	**1.17**	**283**	PN	**Pn**	**20 20 30.3**	**-0.4**
RUS				S	**Sn**	**20 20 46.1**	**+0.7**
DALK	**Dalny**	**1.30**	**311**	*e*P	**Pn**	**20 20 32.2**	**-0.3**
DALK				*e*S	**Sn**	**20 20 50.0**	**+1.4**
DALK	**Dalny**	**1.30**	**311**	PN	**Pn**	**20 20 32.2**	**-0.3**
DALK				S	**Sn**	**20 20 50.0**	**+1.4**
PET	**Petropavlovsk**	**1.34**	**309**	*e*Pn	**Pn**	**20 20 32.8**	**-0.3**
PET	**Petropavlovsk**	**1.34**	**309**	⇑*i*PN	**Pn**	**20 20 32.9**	**-0.2**
PET				*e*S	**Sn**	**20 20 52.7**	**+3.0**
PET				pmax	pmax		
	comp=Z,16μm,0.5s						
PET				smax	smax		
	comp=N,26μm,0.4s						
PET				smax	smax		
	comp=E,33μm,0.5s						
MTVR	**Mutnovka**	**1.38**	**283**	*e*P	**Pn**	**20 20 33.7**	**0.0**
MTVR	**Mutnovka**	**1.38**	**283**	PN	**Pn**	**20 20 33.7**	**0.0**
UGLR	**Uglovaya**	**1.39**	**318**	*e*P	**Pn**	**20 20 33.9**	**0.0**
UGLR	**Uglovaya**	**1.39**	**318**	PN	**Pn**	**20 20 33.9**	**0.0**
SDLR	**Sedlovina**	**1.42**	**321**	*e*P	**Pn**	**20 20 34.1**	**-0.2**
SDLR	**Sedlovina**	**1.42**	**321**	PN	**Pn**	**20 20 34.1**	**-0.2**
SMAR	**Somma**	**1.44**	**319**	*e*P	**Pn**	**20 20 34.4**	**-0.2**
SMAR	**Somma**	**1.44**	**319**	PN	**Pn**	**20 20 34.4**	**-0.2**
GRL	**Gorelyy**	**1.46**	**285**	*i*P	**Pn**	**20 20 35.8**	**+1.0**
GRL	**Gorelyy**	**1.46**	**285**	PN	**Pn**	**20 20 35.8**	**+1.0**
AVH	**Avacha**	**1.47**	**318**	*e*P	**Pn**	**20 20 35.0**	**+0.1**
AVH	**Avacha**	**1.47**	**318**	PN	**Pn**	**20 20 35.0**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.47**	**256**	*e*P	**Pn**	**20 20 34.2**	**-0.6**
KDTR				*e*S	**Sn**	**20 20 52.7**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.47**	**256**	PN	**Pn**	**20 20 34.2**	**-0.6**
KDTR				S	**Sn**	**20 20 52.7**	**-0.1**
KRER	**Koryakskii**	**1.49**	**319**	*e*P	**Pn**	**20 20 36.2**	**+0.9**
KRER	**Koryakskii**	**1.49**	**319**	PN	**Pn**	**20 20 36.2**	**+0.9**
KRMR	**Karymshinskiy**	**1.52**	**296**	*e*P	**Pn**	**20 20 35.6**	**+0.2**
KRMR				*e*S	**Sn**	**20 20 56.9**	**+3.0**
KRMR	**Karymshinskiy**	**1.52**	**296**	PN	**Pn**	**20 20 35.6**	**+0.2**
KRMR				S	**Sn**	**20 20 56.9**	**+3.0**
KOK	**Koryaka**	**1.53**	**317**	*e*P	**Pn**	**20 20 36.0**	**+0.3**
KOK	**Koryaka**	**1.53**	**317**	PN	**Pn**	**20 20 36.0**	**+0.3**
ASAK	**Asacha**	**1.54**	**278**	*e*P	**Pn**	**20 20 36.1**	**+0.3**
ASAK	**Asacha**	**1.54**	**278**	PN	**Pn**	**20 20 36.1**	**+0.3**
KRX	**Arik**	**1.58**	**319**	*i*P	**Pn**	**20 20 37.1**	**+0.7**
KRX	**Arik**	**1.58**	**319**	PN	**Pn**	**20 20 37.1**	**+0.7**
PEA0B	**Petropavlovsk-**	**1.88**	**301**	*e*Pn	**Pn**	**20 20 40.9**	**+0.5**
PEA0B	**Petropavlovsk-**	**1.88**	**301**	*e*PN	**Pn**	**20 20 40.9**	**+0.5**
PETK	**Petropavlovsk-**	**1.88**	**301**	*e*Pn	**Pn**	**20 20 40.7**	**+0.4**
PETK	**Petropavlovsk-**	**1.88**	**301**	Pn	**Pn**	**20 20 40.9**	**+0.5**
	comp=E,620nm,0.3s,baz=103,slow=17,SNR=144						
PETK				Sn	**Sn**	**20 21 07.1**	**+4.3**
	comp=E,1μm,0.3s,baz=88,slow=39,SNR=15						
PETK				LR	LR	20 21 38.0	
	comp=E,30μm,18.7s,baz=42,slow=57						
PEA1	**Petropavlovsk-**	**1.88**	**301**	*e*Pn	**Pn**	**20 20 40.9**	**+0.4**
PEA1				*e*Sn	**Sn**	**20 21 07.1**	**+4.2**
APC	**Apacha**	**2.10**	**292**	*e*P	**Pn**	**20 20 44.8**	**+1.4**
APC	**Apacha**	**2.10**	**292**	PN	**Pn**	**20 20 44.8**	**+1.4**
PAU	**Pauzhetka**	**2.33**	**253**	*e*P	**Pn**	**20 20 48.4**	**+1.8**
PAU	**Pauzhetka**	**2.33**	**253**	PN	**Pn**	**20 20 48.4**	**+1.8**
MKZ	**Mys Kozlova**	**2.51**	**18**	*e*P	**Pn**	**20 20 47.8**	**-1.2**
MKZ	**Mys Kozlova**	**2.51**	**18**	PN	**Pn**	**20 20 47.8**	**-1.2**
KZV	**Kizimen**	**2.93**	**359**	*e*P	**Pn**	**20 20 55.3**	**+0.3**
KZV	**Kizimen**	**2.93**	**359**	PN	**Pn**	**20 20 55.3**	**+0.3**
TUMD	**Tumrok D**	**3.02**	**0**	*e*P	**Pn**	**20 20 56.0**	**-0.1**
SKR	**Severo-Kuril's**	**3.06**	**242**	*e*P	**Pn**	**20 20 56.8**	**+0.2**
SKR				*e*S	**Sn**	**20 21 31.5**	**-0.5**
SKR	**Severo-Kuril's**	**3.06**	**242**	*e*PN	**Pn**	**20 20 57.0**	**+0.4**
SKR				*e*S	**Sn**	**20 21 31.1**	**-0.9**
SKR				pmax	pmax		
	comp=Z,1μm,0.7s						
SKR				smax	smax		
	comp=E,3μm,0.7s						
SKR				smax	smax		
	comp=N,10μm,0.9s						
TUMR	**Tumrok**	**3.11**	**358**	**Pn**	**Pn**	**20 20 56.0**	**-1.4**
ALID	**Alaid**	**3.29**	**248**	*e*P	**Pn**	**20 21 00.1**	**+0.2**
ALID	**Alaid**	**3.29**	**248**	PN	**Pn**	**20 21 00.1**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**3.77**	**3**	*e*P	**Pn**	**20 21 07.5**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**3.77**	**3**	PN	**Pn**	**20 21 07.5**	**+1.1**
KIRR	**Kirishev**	**3.77**	**360**	*e*P	**Pn**	**20 21 08.7**	**+2.1**
KIRR	**Kirishev**	**3.77**	**360**	PN	**Pn**	**20 21 08.7**	**+2.1**
KPT	**Kopyto**	**3.79**	**359**	*e*P	**Pn**	**20 21 08.8**	**+2.1**
KPT	**Kopyto**	**3.79**	**359**	PN	**Pn**	**20 21 08.8**	**+2.1**
ESO	**Esso**	**3.87**	**346**	*e*P	**Pn**	**20 21 08.4**	**+0.6**
ESO	**Esso**	**3.87**	**346**	PN	**Pn**	**20 21 08.4**	**+0.6**
KOZ	**Kozyrevsk**	**3.89**	**356**	*e*P	**Pn**	**20 21 09.1**	**+1.1**
KOZ	**Kozyrevsk**	**3.89**	**356**	PN	**Pn**	**20 21 09.1**	**+1.1**
LGNR	**Loginova**	**3.91**	**3**	*i*P	**Pn**	**20 21 10.8**	**+2.3**
LGNR	**Loginova**	**3.91**	**3**	PN	**Pn**	**20 21 10.8**	**+2.3**
CIRR	**Tsirk**	**3.94**	**3**	*e*P	**Pn**	**20 21 11.5**	**+2.6**
CIRR	**Tsirk**	**3.94**	**3**	PN	**Pn**	**20 21 11.5**	**+2.6**
KRSR	**Krestovskiy**	**4.04**	**1**	*e*P	**Pn**	**20 21 10.9**	**+0.7**
KRSR	**Krestovskiy**	**4.04**	**1**	PN	**Pn**	**20 21 10.9**	**+0.7**
KLY	**Klyuchi**	**4.14**	**2**	*e*P	**Pn**	**20 21 12.6**	**+1.2**
KLY	**Klyuchi**	**4.14**	**2**	PN	**Pn**	**20 21 12.6**	**+1.2**
SRDR	**Sredinnyy**	**4.16**	**355**	*e*P	**Pn**	**20 21 13.1**	**+1.4**
SRDR	**Sredinnyy**	**4.16**	**355**	PN	**Pn**	**20 21 13.1**	**+1.4**
KBTR	**Krutoberegovo**	**4.28**	**19**	*e*P	**Pn**	**20 21 13.4**	**+0.1**
KBTR	**Krutoberegovo**	**4.28**	**19**	PN	**Pn**	**20 21 13.4**	**+0.1**
BKI	**Bering**	**4.49**	**46**	*e*S	**Sn**	**20 22 01.1**	**-6.1**
PALN	**Palana**	**6.92**	**358**	*e*P	**Pn**	**20 21 52.5**	**+2.9**
PALN	**Palana**	**6.92**	**358**	PN	**Pn**	**20 21 52.5**	**+2.9**
TILK	**Tilichiki**	**8.87**	**19**	*e*P	**Pn**	**20 22 16.8**	**+0.5**
TILK	**Tilichiki**	**8.87**	**19**	PN	**Pn**	**20 22 16.8**	**+0.5**
MA2	**Magadan**	**9.16**	**328**	*e*Pn	**Pn**	**20 22 20.9**	**+0.7**
MA2	**Magadan**	**9.16**	**328**	*e*PN	**Pn**	**20 22 20.9**	**+0.7**
MA2	**Magadan**	**9.16**	**328**	Pn	**Pn**	**20 22 20.7**	**+0.5**
	comp=N,1.0nm,0.3s,baz=150,slow=9.3,SNR=7.6						
MA2				LR	LR	20 26 28.2	
	comp=N,7μm,18.8s,baz=146,slow=43						
OKH	**Okha**	**10.64**	**284**	*de*PN	Pn	20 22 46.9	+6.5
OKH				pmax	pmax		
	comp=Z,1μm,11.5s						
OKH				MLR	MLR		
	comp=Z,9μm,15.0s						
KUR	**Kuril'sk**	**10.80**	**235**	⇓*e*PN	**Pn**	**20 22 43.3**	**+0.6**
SEY	**Seymchan**	**11.59**	**342**	⇓*e*PN	**Pn**	**20 22 55.4**	**+2.0**
SEY	**Seymchan**	**11.59**	**342**	Pn	**Pn**	**20 22 54.3**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=137,slow=6.6,SNR=8.7						
SEY				LR	LR	20 27 56.7	
	comp=Z,4μm,18.6s,baz=148,slow=41						
YSS	**Yuzh-Sakhalins**	**12.57**	**252**	*e*Pn	**Pn**	**20 23 08.4**	**+1.5**
YSS	**Yuzh-Sakhalins**	**12.57**	**252**	*e*PN	**Pn**	**20 23 08.6**	**+1.7**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,3μm,16.0s						
ASAJ	**Asahikawa**	**14.33**	**243**	Pn	**Pn**	**20 23 30.4**	**-0.5**
	comp=Z,3.5nm,0.3s,baz=73,slow=13,SNR=36						
ASAJ				LR	LR	20 29 50.3	
	comp=Z,3μm,18.5s,baz=37,slow=41						
GRNR	**Gornyy**	**14.98**	**274**	*e*P	**P**	**20 23 43.0**	**-1.5**
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
ERM	**Erimo**	**15.48**	**236**	*e*Pn	**Pn**	**20 23 41.5**	**-4.7**
	comp=Z,59nm,1.0s						
ERM	**Erimo**	**15.48**	**236**	⇓*e*P	**Pn**	**20 23 43.0**	**-3.2**
BILL	**Bilibino**	**16.16**	**8**	*ce*P	**Pn**	**20 23 54.5**	**-0.2**
BILL				*e*S	**Sn**	**20 26 55.1**	**+2.6**
BILL				pmax	pmax		
	comp=Z,34nm,0.9s						
BILL				MLR	MLR		
	comp=Z,3μm,20.0s						
TEY	**Ternei**	**17.22**	**255**	⇓*e*P	**P**	**20 24 09.1**	**-0.2**
TEY				*e*S	**Sn**	**20 27 16.2**	**-2.3**
TEY				pmax	pmax		
	comp=E,70nm,0.8s						
TEY				pmax	pmax		
	comp=N,20nm,0.7s						
TEY				pmax	pmax		
	comp=Z,80nm,0.7s						
TEY				MLR	MLR		
	comp=E,2μm,17.0s						
TEY				MLR	MLR		
	comp=Z,4μm,16.0s						
KLR	**Kul'dur**	**18.32**	**272**	*c i*P	**P**	**20 24 21.0**	**-0.4**
KLR	**Kul'dur**	**18.32**	**272**	P	**P**	**20 24 20.9**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=62,slow=11,SNR=46						
KLR				LR	LR	20 32 11.5	
	comp=Z,4μm,18.7s,baz=74,slow=40						
ZEA	**Zeya**	**19.92**	**288**	*e*P	**P**	**20 24 37.2**	**-1.7**
ZEA				pmax	pmax		
	comp=N,21nm,0.8s						
ZEA				pmax	pmax		
	comp=E,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,35nm,1.0s						
ZEA				MLR	MLR		
	comp=E,4μm,14.0s						
ZEA				MLR	MLR		
	comp=Z,5μm,14.0s						
USRK	**Ussuriysk Ar.**	**20.44**	**258**	P	**P**	**20 24 42.7**	**-1.9**
	comp=Z,43nm,0.9s,baz=60,slow=11,SNR=39						
USRK				LR	LR	20 32 12.7	
	comp=Z,3μm,18.8s,baz=61,slow=36						
MDJ	**Mudanjiang**	**21.67**	**262**	P	**P**	**20 24 56.6**	**-1.3**
MDJ				pmax	pmax		
	comp=Z,37nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,670nm,8.1s						
MDJ	**Mudanjiang**	**21.67**	**262**	*e*P	**P**	**20 24 55.9**	**-2.0**
	comp=Z,28nm,0.9s						
MAJO	**Matsushiro**	**22.13**	**234**	*e*P	**P**	**20 25 03.1**	**+0.2**
	comp=Z,74nm,0.8s						
MAJO	**Matsushiro**	**22.13**	**234**	*e*P	**P**	**20 25 03.1**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,74nm,0.8s						
MAT	**Matsushiro**	**22.13**	**234**	P	**P**	**20 25 03.0**	**+0.1**
MJAR	**Matsushiro Arr**	**22.13**	**234**	*e*P	**P**	**20 25 03.8**	**+0.9**
MJAR	**Matsushiro Arr**	**22.13**	**234**	*e*P	**P**	**20 25 03.8**	**+0.9**
MJAR	**Matsushiro Arr**	**22.13**	**234**	P	**P**	**20 25 03.6**	**+0.7**
	comp=Z,40nm,0.8s,baz=20,slow=9.3,SNR=70						
MJAR				LR	LR	20 34 22.6	
	comp=Z,3μm,19.7s,baz=40,slow=39						
MJB9	**Matsu-Tunnel**	**22.13**	**234**	*e*P	**P**	**20 25 03.4**	**+0.5**
	comp=Z,73nm,0.8s						
INU	**Inuyama**	**23.67**	**234**	*e*P	**P**	**20 25 18.8**	**+0.2**
	comp=Z,54nm,0.9s						
RDOG	**Red Dog Mine**	**23.69**	**34**	*e*P	**P**	**20 25 18.5**	**0.0**
	comp=Z,15nm,1.0s						
TIXI	**Tiksi**	**23.98**	**336**	*e*P	**P**	**20 25 20.0**	**-1.2**
	comp=Z,8.1nm,0.7s						
TIXI	**Tiksi**	**23.98**	**336**	*ce*P	**P**	**20 25 19.2**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,68nm,0.8s						
TIXI	**Tiksi**	**23.98**	**336**	P	**P**	**20 25 20.0**	**-1.2**
	comp=Z,89nm,0.7s,baz=128,slow=8.6,SNR=127						
IMAR	**Indian Mountai**	**26.57**	**41**	*e*P	**P**	**20 25 45.4**	**+0.7**
BOD	**Bodaibo**	**26.75**	**301**	*e*P	**P**	**20 25 44.6**	**-1.8**
BOD				pmax	pmax		
	comp=Z,29nm,1.3s						
SNY	**Shenyang**	**26.88**	**262**	⇓P	**P**	**20 25 47.3**	**-0.3**
SNY				pmax	pmax		
	comp=Z,28nm,1.0s						
SNY				pmax	pmax		
	comp=Z,740nm,12.0s						
SNY				LR	LR		
	comp=Z,4μm,20.1s						
SNY				LR	LR		
	comp=Z,4μm,18.7s						
SNY				LR	LR		
	comp=Z,3μm,20.2s						
KSRS	**Korea Array**	**27.05**	**250**	P	**P**	**20 25 50.0**	**+0.8**
	comp=Z,11nm,0.9s,baz=44,slow=9.0,SNR=34						
KSRS				LR	LR	20 37 28.2	
	comp=Z,2μm,18.4s,baz=205,slow=39						
KSAR	**Wonju Array Be**	**27.08**	**250**	*e*P	**P**	**20 25 48.9**	**-0.7**
KSAR	**Wonju Array Be**	**27.08**	**250**	*e*P	**P**	**20 25 48.9**	**-0.7**
KDAK	**Kodiak Island**	**27.11**	**59**	*e*P	**P**	**20 25 50.9**	**+1.4**
	comp=Z,13nm,1.0s						
KDAK	**Kodiak Island**	**27.11**	**59**	*e*P	**P**	**20 25 50.9**	**+1.4**
KDAK				pmax	pmax		
	comp=Z,13nm,1.0s						
KDAK	**Kodiak Island**	**27.11**	**59**	P	**P**	**20 25 50.9**	**+1.4**
	comp=Z,5.5nm,0.5s,baz=250,slow=4.4,SNR=7.0						
BPAW	**Bear Paw Mtn.**	**27.55**	**45**	*e*P	**P**	**20 25 54.7**	**+1.2**
	comp=Z,4.3nm,0.8s						
JNU	**Nakatsue**	**28.57**	**240**	P	**P**	**20 26 02.8**	**-0.2**
	comp=Z,32nm,0.8s,baz=40,slow=7.5,SNR=15						
SML	**Sawmill**	**28.80**	**50**	*e*P	**P**	**20 26 05.8**	**+1.1**
	comp=Z,8.7nm,0.6s						
SML	**Sawmill**	**28.80**	**50**	*e*P	**P**	**20 26 05.8**	**+1.1**
SML				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WRH	**Wood River Hil**	**28.82**	**45**	*e*P	**P**	**20 26 05.9**	**+1.0**
	comp=Z,9.7nm,1.1s						
ILAR	**Eielson Array**	**29.34**	**44**	P	**P**	**20 26 10.3**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=267,slow=8.3,SNR=10						
ILAR				LR	LR	20 39 46.0	
	comp=Z,1μm,18.3s,baz=295,slow=40						
ILB	**Eielson Array**	**29.34**	**44**	*e*P	**P**	**20 26 10.5**	**+1.1**
	comp=Z,4.2nm,0.7s						
DL2	**Dalian**	**29.83**	**259**	P	**P**	**20 26 12.8**	**-1.2**
DL2				*e*S	**S**	**20 31 06.9**	**-1.0**
DL2				pmax	pmax		
	comp=Z,39nm,0.9s						
DL2				LR	LR		
	comp=Z,1μm,18.6s						
DL2				LR	LR		
	comp=Z,1μm,17.7s						
DL2				LR	LR		
	comp=Z,2μm,21.6s						
BCAR	**Beaver Creek A**	**31.70**	**47**	*e*P	**P**	**20 26 30.8**	**+0.5**
EGAK	**Eagle**	**31.79**	**44**	*e*P	**P**	**20 26 30.8**	**-0.3**
	comp=Z,5.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**32.79**	**169**	T	T	21 01 22.7	
	baz=352,slow=76						
H11N3	**WAKE ISLAND Hy**	**32.80**	**169**	T	T	21 01 25.8	
	baz=352,slow=76						
H11N1	**WAKE ISLAND Hy**	**32.81**	**169**	T	T	21 01 24.3	
	baz=352,slow=76						
IRK	**Irkutsk**	**33.64**	**293**	*e*P	**P**	**20 26 45.7**	**-1.7**
IRK				*e*		20 28 00.0	
IRK				*e*		20 37 05.6	
IRK				pmax	pmax		
	comp=Z,41nm,2.6s						
ULN	**Ulaanbaatar**	**33.88**	**284**	*c i*P	**P**	**20 26 47.7**	**-2.0**
ULN				pmax	pmax		
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**33.88**	**284**	P	**P**	**20 26 48.7**	**-1.0**
	SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**33.97**	**169**	T	T	21 03 15.9	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**33.98**	**169**	T	T	21 03 16.5	
	baz=352,slow=74						
H11S2	**WAKE ISLAND Hy**	**33.99**	**169**	T	T	21 03 16.5	
	baz=352,slow=74						
TLY	**Talaya**	**34.22**	**292**	*ce*P	**P**	**20 26 51.0**	**-1.4**
TLY	**Talaya**	**34.22**	**292**	P	**P**	**20 26 52.1**	**-0.3**
	SNR=6.4						
SONA0	**Songino Array**	**34.29**	**285**	*e*P	**P**	**20 26 52.1**	**-1.1**
SONM	**Songino Array**	**34.29**	**285**	*e*P	**P**	**20 26 51.4**	**-1.8**
SONM	**Songino Array**	**34.29**	**285**	*e*P	**P**	**20 26 51.4**	**-1.8**
SONM	**Songino Array**	**34.29**	**285**	P	**P**	**20 26 52.1**	**-1.1**
	comp=Z,3.8nm,0.6s,baz=64,slow=8.1,SNR=19						
SONM				LR	LR	20 42 29.7	
	comp=Z,6μm,18.0s,baz=57,slow=40						
TIA	**Tai'an**	**34.30**	**260**	P	**P**	**20 26 52.4**	**-0.8**
TIA				pmax	pmax		
	comp=Z,38nm,0.8s						
INK	**Inuvik**	**34.49**	**37**	*e*P	**P**	**20 26 55.0**	**+0.5**
	comp=Z,5.5nm,0.8s						
INK	**Inuvik**	**34.49**	**37**	*e*P	**P**	**20 26 55.0**	**+0.5**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
INK	**Inuvik**	**34.49**	**37**	P	**P**	**20 26 55.0**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=254,slow=4.9,SNR=10						
HHC	**Hu-ho-hao-te**	**34.82**	**271**	*e*P	**P**	**20 26 57.8**	**0.0**
HHC				S	S	20 32 14.9	-11
HHC				sS	sS	20 32 45.4	+4.2
HHC				pmax	pmax		
	comp=Z,110nm,0.9s						
HHC				pmax	pmax		
	comp=Z,310nm,4.3s						
HHC				LR	LR		
	comp=Z,3μm,12.2s						
HHC				LR	LR		
	comp=Z,2μm,11.7s						
HHC				LR	LR		
	comp=Z,3μm,12.7s						
ZAK	**Zakamensk**	**34.97**	**290**	*e*P	**P**	**20 26 57.4**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,19nm,1.0s						
MOY	**Mondy**	**35.73**	**293**	*e*P	**P**	**20 27 04.2**	**-1.3**
MOY				pmax	pmax		
	comp=Z,34nm,1.7s						
NJ2	**Nanjing**	**36.14**	**253**	*e*P	**P**	**20 27 08.8**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=Z,3μm,15.6s						
NJ2				LR	LR		
	comp=Z,1μm,15.6s						
NJ2				LR	LR		
	comp=Z,2μm,18.8s						
NRIK	**Noril'sk**	**36.75**	**325**	P	**P**	**20 27 12.6**	**-1.3**
	comp=Z,17nm,0.9s,baz=94,slow=9.3,SNR=25						
NRIK				LR	LR	20 42 52.3	
	comp=Z,2μm,21.2s,baz=73,slow=37						
DLBC	**Dease Lake**	**38.45**	**52**	P	**P**	**20 27 30.2**	**+1.7**
	comp=Z,1.4nm,0.5s,baz=9.6,slow=22,SNR=3.5						
WHN	**Wuhan**	**39.89**	**255**	⇑*i*P	**P**	**20 27 42.3**	**+1.6**
WHN				S	**S**	**20 33 48.6**	**+5.9**
WHN				pmax	pmax		
	comp=Z,56nm,0.9s						
WHN				LR	LR		
	comp=Z,2μm,11.8s						
WHN				LR	LR		
	comp=Z,3μm,14.7s						
WHN				LR	LR		
	comp=Z,2μm,18.0s						
**LZH

GYA PP **PP** **20 30 32.0 -1.4**
GYA S **S** **20 35 30.3 -3.6**
GYA sS sS 20 35 49.9 -0.1
GYA SS SS 20 38 49.6 -12
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,1µm,19.0s
GYA LR LR
comp=Z,630nm,18.0s
GYA LR LR
comp=Z,310nm,17.7s
SPA0 Spitsbergen Ar 48.06 351 *e*P **P** **20 28 45.2 -0.5**
comp=Z,108nm,1.0s
SPITS Spitsbergen Ar 48.06 351 P **P** **20 28 45.3 -0.4**
comp=Z,19nm,0.5s,baz=61,slow=8.7,SNR=77
KURK Kurchatov 48.36 303 *e*P **P** **20 28 46.2 -2.1**
comp=Z,77nm,1.0s
KURK Kurchatov 48.36 303*c i*P **P** **20 28 46.0 -2.3**
KURK pmax pmax
comp=Z,68nm,1.0s
KURK Kurchatov 48.36 303 P **P** **20 28 46.8 -1.5**
SNR=25
MK31 Makanchi Array 48.71 297 *e*P **P** **20 28 48.9 -2.2**
comp=Z,13nm,0.6s
MK31 Makanchi Array 48.71 297 *e*P **P** **20 28 48.9 -2.2**
MK31 pmax pmax
comp=Z,13nm,0.6s
MKAR Makanchi Array 48.71 297 *e*P **P** **20 28 48.2 -2.8**
MKAR Makanchi Array 48.71 297 P **P** **20 28 49.0 -2.0**
comp=Z,13nm,0.6s,baz=55,slow=6.7,SNR=156
MKAR LR LR 20 50 41.6
comp=Z,2µm,19.4s,baz=44,slow=38
MAKZ Makanchi 48.87 297 *e*P **P** **20 28 49.9 -2.4**
comp=Z,20nm,0.8s
MAKZ Makanchi 48.87 297 *e*P **P** **20 28 49.9 -2.4**
MAKZ pmax pmax
comp=Z,21nm,0.8s
HSPB Hornsund (broa 49.19 350 *e*P **P** **20 28 52.8 -1.4**
HSPB Hornsund (broa 49.19 350 *e*P **P** **20 28 54.7 +0.4**
KMI Kunming 50.84 261 P **P** **20 29 07.8 0.0**
KMI pP pwP 20 29 20.1 -1.9
KMI sP sP 20 29 25.3 +2.7
KMI pmax pmax
comp=Z,17nm,1.4s
KMI pmax pmax
comp=Z,270nm,8.8s
KMI LR LR
comp=Z,2µm,18.9s
KMI LR LR
comp=Z,2µm,18.0s
KMI LR LR
comp=Z,960nm,18.6s
J05D Fort Rock, OR 51.03 67 P **P** **20 29 12.2 +3.2**
baz=310
KULLO Kullorsuaq 51.04 12 *e*P **P** **20 29 06.3 -2.0**
KULLO pmax pmax
comp=Z,39nm,0.8s
KULLO Kullorsuaq 51.04 12 *i* P **P** **20 29 06.3 -2.0**
comp=Z,39nm,0.8s
BRVK Borovoye 51.12 309 *e*P **P** **20 29 07.3 -1.9**
comp=Z,36nm,0.9s
BRVK Borovoye 51.12 309*c i*P **P** **20 29 06.6 -2.6**
BRVK pmax pmax
comp=Z,36nm,0.9s
BRVK Borovoye 51.12 309 P **P** **20 29 07.7 -1.6**
SNR=20
YBH Yreka Blue Hor 51.18 69 P **P** **20 29 12.5 +2.6**
comp=Z,1.6nm,0.9s,baz=270,slow=10,SNR=2.8
DAG Danmarks Havn 51.31 360⇑ *i*P **P** **20 29 10.2 -0.1**
DAG pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 51.31 360⇑ *i*P **P** **20 29 10.2 -0.1**
comp=Z,9.3nm,0.7s
PDGK Podgornoye 52.41 295 P **P** **20 29 17.7 -1.5**
PDGK pmax pmax
comp=Z,25nm,0.9s
PLID Pearl Lake 52.80 62 *e*P **P** **20 29 23.6 +1.5**
comp=Z,3.8nm,0.8s
SLVN Son La 52.98 257 *e*P **P** **20 29 22.9 -0.7**
comp=Z,13nm,0.8s
SVE Sverdlovsk 53.06 317 *e*P **P** **20 29 23.1 -0.5**
SVE pmax pmax
comp=Z,29nm,1.0s
SVE MLR MLR
comp=Z,2µm,16.0s
OTUK Ortayu 53.12 303 P **P** **20 29 22.7 -1.5**
OTUK pmax pmax
comp=Z,24nm,1.4s
LVZ Lovozero 53.60 338 *e*P **P** **20 29 26.2 -1.2**
comp=Z,59nm,0.8s
LVZ Lovozero 53.60 338*ce*P **P** **20 29 26.3 -1.2**
LVZ pmax pmax
comp=Z,50nm,0.8s
KEV Kevo 53.73 342 *e*P **P** **20 29 26.9 -1.4**
comp=Z,21nm,0.8s
KEV Kevo 53.73 342 *e*P **P** **20 29 26.9 -1.4**
KEV pmax pmax
comp=Z,21nm,0.8s
FCC Fort Churchill 54.08 38 *e*P **P** **20 29 31.9 +0.9**
comp=Z,6.6nm,0.9s
ARU Arti 54.18 318 *e*P **P** **20 29 29.4 -2.4**
comp=Z,31nm,0.6s
ARU Arti 54.18 318*ce*P **P** **20 29 29.8 -2.0**
ARU pmax pmax
comp=Z,25nm,0.8s
ARCES ARCESS Array B 54.20 342 *e*P **P** **20 29 31.0 -0.8**
ARCES ARCESS Array B 54.20 342 *e*P **P** **20 29 31.0 -0.8**
ARCES ARCESS Array B 54.20 342 P **P** **20 29 31.7 -0.1**
comp=Z,31nm,0.8s,baz=34,slow=8.8,SNR=48
ARE0 ARCESS Array S 54.20 342 *e*P **P** **20 29 31.8 0.0**
BOZ Bozeman (W) 54.81 59 P **P** **20 29 38.6 +1.9**
baz=312
SUMG Summit 54.84 7 *e*P **P** **20 29 37.5 +0.7**
comp=Z,31nm,1.0s
SUMG Summit 54.84 7⇑ *i*P **P** **20 29 37.6 +0.7**
SUMG pmax pmax
comp=Z,76nm,1.0s
SUMG Summit 54.84 7⇑ *i*P **P** **20 29 37.6 +0.7**
comp=Z,76nm,1.0s
KTK1 Kautokeino 55.08 343 *e*P **P** **20 29 38.5 +0.4**
TRO Tromso 55.28 345 *e*P **P** **20 29 39.6 +0.1**
PRGR Permogore 55.30 328⇑ *i*P **P** **20 29 39.3 -0.5**
PRGR *e**SP **sP** **20 29 58.2 +3.5**
PRGR pmax pmax
comp=Z,63nm,0.7s
AAK Ala-Archa 55.64 297 *e*P **P** **20 29 41.7 -1.1**
comp=Z,24nm,0.8s
AAK Ala-Archa 55.64 297 *i* P **P** **20 29 41.5 -1.3**
SNR=27
AAK Ala-Archa 55.64 297*ce*P **P** **20 29 41.4 -1.3**
AAK pmax pmax
comp=Z,29nm,0.9s
AAK Ala-Archa 55.64 297 P **P** **20 29 41.9 -0.8**
SNR=10
TMCR Tamitsa 55.67 333 *e*P **P** **20 29 42.1 -0.3**
TMCR pmax pmax
comp=Z,113nm,0.9s
SGF Sodankyl 55.77 340 P **P** **20 29 43.5 +0.4**
SGF pmax pmax
comp=Z,54nm,2.1s
PANO Nakornpanom 55.80 253 P **P** **20 29 46.3 +2.3**
comp=Z,1.1nm,1.1s
NVAR Mina Array Bea 55.89 70 P **P** **20 29 47.7 +3.0**
comp=Z,1.1nm,0.6s,baz=294,slow=7.8,SNR=5.8
NVAR LR LR 20 52 51.2
comp=Z,327nm,18.9s,baz=360,slow=35
SKNT Sakolnakorn 56.31 253 P **P** **20 29 49.2 +1.6**
comp=Z,56nm,1.1s
MSF Maaselka 56.52 338 P **P** **20 29 48.7 +0.2**
MSF pmax pmax
comp=Z,153nm,0.9s
KSH Kashi 56.92 293 P **P** **20 29 54.8 +2.9**
KSH pP sP 20 30 08.0 +1.1
KSH PP **PP** **20 32 03.3 +5.0**
KSH S **S** **20 37 41.5 -1.4**
KSH pmax pmax
comp=Z,21nm,0.6s
KSH pmax pmax
comp=Z,1µm,7.6s
KSH LR LR
comp=Z,200nm,6.0s
KSH LR LR
comp=Z,350nm,6.9s
KSH LR LR
comp=Z,1µm,10.4s
PAYA Payao 56.92 259 P **P** **20 29 53.7 +1.8**
comp=Z,73µm,0.8s,comp=Z,585µm
SHL Shillong 57.18 270 P **P** **20 29 53.3 -0.6**
SHL pmax pmax
comp=Z,32nm,0.8s
PHRA Phrae 57.36 258 P **P** **20 29 56.7 +1.6**
comp=Z,7.6nm,1.2s
LOF Lofoten 57.48 346 *e*P **P** **20 29 55.0 -0.2**
KHON Khomkaen 57.49 254 P **P** **20 29 58.2 +2.2**
comp=Z,59µm,0.9s
SCO Scoresbysund 57.63 1 *e*P **P** **20 29 57.2 +1.0**
SCO Scoresbysund 57.63 1 *i* P **P** **20 29 57.2 +1.0**
LAMP Lampang 57.70 258 P **P** **20 29 59.2 +1.7**
comp=Z,56µm,0.9s,comp=Z,540µm
UTTA Uttaradit 57.75 257 P **P** **20 29 59.4 +1.6**
comp=Z,50µm,0.8s,comp=Z,405µm
DUG Dugway, Tooele 57.80 65 P **P** **20 30 01.7 +3.6**
baz=314
BW06 Boulder Array 57.82 60 P **P** **20 30 00.7 +2.4**
baz=314
PD31 Pinedale Array 57.82 60 *e*P **P** **20 29 59.7 +1.4**
comp=Z,6.9nm,1.1s
PDAR Pinedale Array 57.82 60 P **P** **20 30 00.2 +2.0**
comp=Z,2.3nm,0.8s,baz=308,slow=4.8,SNR=14
PDAR LR LR 20 52 25.1
comp=Z,352nm,21.2s,baz=358,slow=34
KLMR Klimovskoe 57.82 330⇑ *i*P **P** **20 29 57.2 -0.5**
KLMR pmax pmax
comp=Z,69nm,0.8s
CMMT Chiang Mai 57.89 259 P **P** **20 29 59.9 +1.1**
comp=Z,26nm,1.3s,comp=Z,431nm
CHTO Chiang Mai 57.90 259 *e*P **P** **20 30 00.1 +1.3**
comp=Z,35nm,0.9s
CHTO Chiang Mai 57.90 259 *e*P **P** **20 30 00.1 +1.3**
CHTO pmax pmax
comp=Z,35nm,0.9s
CHTO Chiang Mai 57.90 259 P **P** **20 30 00.4 +1.6**
SNR=12
OUL Oulu 57.92 339 P **P** **20 29 58.3 0.0**
OUL pmax pmax
comp=Z,95nm,0.9s
CM31 Chiang Mai Arr 58.17 259 *e*P **P** **20 30 01.7 +1.0**
comp=Z,20nm,0.8s
CM31 Chiang Mai Arr 58.17 259 P **P** **20 30 02.5 +1.8**
SNR=9.5
CMAR Chiang Mai Arr 58.17 259 P **P** **20 30 02.1 +1.4**
comp=Z,15nm,0.8s,baz=26,slow=6.9,SNR=102
CHAI Chaiyaphum 58.33 254 P **P** **20 30 03.3 +1.5**
comp=Z,37µm,0.9s,comp=Z,292µm
NLU North Lily Min 58.38 64 *e*P **P** **20 30 04.8 +2.6**
comp=Z,3.3nm,0.8s
PBKT Sadao Pong 58.41 256 P **P** **20 30 04.3 +1.9**
comp=Z,8.2nm,1.2s,comp=Z,244nm
EDW2 Edwards Air Fo 58.51 73 P **P** **20 30 06.0 +2.9**
baz=315
ODAN Odare 59.00 275 *e*P **P** **20 30 06.1 -0.6**
comp=Z,45nm,0.8s
KONS Konsvik 59.05 345 *e*P **P** **20 30 06.5 +0.3**
JIRN Jiri 59.16 276 *e*P **P** **20 30 07.5 -0.5**
comp=Z,66nm,0.7s
ULM Lac du Bonnet 59.32 46 P **P** **20 30 10.5 +2.2**
comp=Z,3.3nm,0.8s,baz=53,slow=4.7,SNR=3.7
RAMN Ramite 59.42 275 *e*P **P** **20 30 09.1 -0.5**
comp=Z,206nm,0.8s
KKN Kakani 59.62 277 *e*P **P** **20 30 10.6 -0.4**
comp=Z,86nm,0.8s
PKI Pulchoki 59.70 277 *e*P **P** **20 30 11.1 -0.6**
comp=Z,70nm,0.8s
PKIN Phulchoki 59.70 277 *e*P **P** **20 30 11.0 -0.6**
comp=Z,52nm,0.7s
SRU San Rafael Swe 59.83 64 *e*P **P** **20 30 13.8 +1.6**
comp=Z,5.2nm,0.7s
SRU San Rafael Swe 59.83 64 *e*P **P** **20 30 13.8 +1.6**
SRU pmax pmax
comp=Z,5.0nm,0.7s
DMN Daman 59.86 277 *e*P **P** **20 30 12.5 -0.2**
comp=Z,102nm,0.7s
GKN Gorkha 59.86 278 *e*P **P** **20 30 12.1 -0.5**
comp=Z,112nm,0.8s
UMPA Umpang Tak 59.96 257 P **P** **20 30 16.4 +3.2**
comp=Z,71µm,0.9s,comp=Z,607µm
DANN Dangsing 60.14 279 *e*P **P** **20 30 14.4 -0.3**
comp=Z,109nm,0.7s
KOLN Koldanda 60.66 278 *e*P **P** **20 30 17.6 -0.5**
comp=Z,66nm,0.7s
PYUN Piuthan 60.79 279 *e*P **P** **20 30 18.4 -0.6**
comp=Z,116nm,0.9s
FINES FINESS Array B 61.02 337 *i* P **P** **20 30 19.7 -0.1**
FINES pmax pmax
comp=Z,33nm,0.6s
FINES FINESS Array B 61.02 337 P **P** **20 30 19.8 +0.1**
comp=Z,33nm,0.6s,baz=31,slow=8.0,SNR=130
FINES LR LR 21 00 17.8
comp=Z,882nm,19.0s,baz=24,slow=40
NSS Namsos 61.07 345 *e*P **P** **20 30 19.8 -0.2**
CHGR Chuyangaron 61.32 297 *e*P **P** **20 30 23.3 +1.0**
comp=Z,25nm,0.8s
ISCO Idaho Springs 62.01 60 P **P** **20 30 31.4 +4.1**
baz=316
PHET Kaeng Krachan 62.08 254 P **P** **20 30 30.0 +2.5**
comp=Z,124µm,0.8s,comp=Z,899µm
MOS Moscow 62.52 328 *e*P **P** **20 30 27.4 -2.5**
MOS *e* 20 31 06.3
MOS pmax pmax
comp=Z,85nm,1.3s
NIL Nilore 62.59 290 *e*P **P** **20 30 30.5 -0.3**
comp=Z,51nm,0.8s
NIL Nilore 62.59 290 *e*P **P** **20 30 30.5 -0.3**
NIL pmax pmax
comp=Z,51nm,0.8s
OBN Obninsk 63.38 328 *e*P **P** **20 30 34.5 -1.0**
comp=Z,58nm,1.1s
OBN Obninsk 63.38 328*c i*P **P** **20 30 34.6 -1.0**
OBN *e* 20 31 10.6
OBN *e* 20 32 56.9
OBN *e*PPP PPP 20 34 31.9
OBN *e*S **S** **20 39 04.8 -0.1**
OBN *e*SS **SS** **20 43 07.6 -3.4**
OBN pmax pmax
comp=Z,41nm,1.1s
VSU Vasula 63.45 335*c i*P **P** **20 30 36.2 +0.2**
VSU pmax pmax
comp=Z,133nm,0.9s
VSU Vasula 63.45 335 *e*P **P** **20 30 34.7 -1.3**
VSU IAmb IAmb 20 30 36.9
comp=Z,141nm,0.9s
MOL Molde 63.59 346 *e*P **P** **20 30 38.4 +1.5**
ECSD EROS Data Cent 63.74 52 P **P** **20 30 39.3 +1.0**
baz=318
DOMB Dombas 63.87 345 *e*P **P** **20 30 39.4 +0.6**
AKN Aaknes 64.05 346 *e*P **P** **20 30 41.0 +1.0**
F38A Pierce - Schro 64.30 48 P **P** **20 30 42.7 +0.8**
baz=320
NB2 NORSAR Subarra 64.46 344 P **P** **20 30 42.6 -0.2**
comp=Z,27nm,0.8s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.46 344 P **P** **20 30 39.5 -3.3**
NB2 pmax pmax
comp=Z,27nm,0.8s
NB2 NORSAR Subarra 64.46 344 P **P** **20 30 42.6 -0.2**
baz=22,slow=6.9
NOA NORSAR Array B 64.46 344 P **P** **20 30 42.6 -0.2**
comp=Z,14nm,0.7s,baz=22,slow=6.7,SNR=65
E39A Mellen 64.57 46 P **P** **20 30 44.1 +0.4**
baz=320
LPSR Galich'ya Gora 64.62 325 *e*P **P** **20 30 43.1 -0.8**
LPSR pmax pmax
comp=Z,50nm,0.7s
NC602 NORSAR Array S 64.69 344 *e*P **P** **20 30 43.9 -0.3**
NORES NORESS Array B 64.69 344 P **P** **20 30 45.3 +1.1**
VRH Novokhopyorsk 64.74 322 *e*P **P** **20 30 43.2 -1.4**
VRH pmax pmax
comp=Z,110nm,1.5s
E40A Wakefield 64.81 46 P **P** **20 30 46.6 +1.3**
baz=320
G38A Ridgeland 64.91 48 P **P** **20 30 46.7 +0.9**
baz=320
F40A Park Falls 65.12 46 P **P** **20 30 48.4 +1.1**
baz=321
HYA Hoyanger 65.13 347 *e*P **P** **20 30 48.3 +1.3**
E41A Kenton 65.21 45 P **P** **20 30 48.4 +0.6**
baz=321
SKAR Skarslia 65.28 345 *e*P **P** **20 30 47.8 -0.2**
SLIT Slitere, Latvi 65.31 337 *e*P **P** **20 30 46.0 -2.2**
SLIT IAmb IAmb 20 30 49.8
comp=Z,326nm,0.8s
VSR Storozhevoye 65.67 324*c i*P **P** **20 30 49.0 -1.7**
VSR pmax pmax
comp=Z,38nm,0.9s
F41A Three Lakes 65.71 46 P **P** **20 30 52.3 +1.2**
baz=321
VORD Divnogorie 65.83 324 *e*P **P** **20 30 50.9 -0.8**
VORD pmax pmax
comp=Z,20nm,0.8s
IZAR Zarasai 65.95 334 *e*P **P** **20 30 51.2 -1.2**
IZAR IAmb IAmb 20 30 54.1
comp=Z,11nm,0.8s
BER Bergen 66.00 347 *e*P **P** **20 30 53.3 +0.7**
KONO Kongsberg 66.05 344⇓ *e*P **P** **20 30 53.7 +0.7**
KONO pmax pmax
comp=Z,11nm,0.8s
KONO Kongsberg 66.05 344 *e*P **P** **20 30 54.0 +1.0**
ISAL Salakas 66.14 334 *e*P **P** **20 30 54.3 +0.7**
ISAL IAmb IAmb 20 30 55.5
comp=Z,15nm,1.1s
IDID Didziasalis 66.19 333 *e*P **P** **20 30 53.7 -0.3**
IDID IAmb IAmb 20 30 55.8
comp=Z,14nm,0.9s
IIGN Ignalina 66.30 333 *e*P **P** **20 30 55.0 +0.3**
IIGN IAmb IAmb 20 30 56.5
comp=Z,21nm,0.9s
NACGM Naroch 66.54 333 *e* **P** **20 30 55.0 -1.2**
MICGM Minsk 66.58 332 *e* **P** **20 30 56.0 -0.4**
MICGM *e*LR LR 21 01 32.0
MICGM LRM MLR 21 03 58.0
comp=Z,1.8nm,18.0s
MNK Minsk 66.58 332 *e*P **P** **20 30 56.0 -0.4**
MNK MLR MLR
comp=Z,2µm,16.0s
G43A Wallace 66.71 46 P **P** **20 30 58.4 +1.0**
baz=322
BLS5 Blasjo 66.76 346 *e*P **P** **20 30 58.1 +0.6**
PABE Paberze 66.77 335 *e*P **P** **20 30 56.3 -1.3**
PABE IAmb IAmb 20 30 59.4
comp=Z,76nm,0.9s
PBUR Paburg 66.83 336 *e*P **P** **20 30 57.2 -0.8**
PBUR IAmb IAmb 20 30 59.7
comp=Z,55nm,0.9s
J41A Loganville 67.14 48 P **P** **20 31 00.8 +0.6**
baz=321
MATQ Matagami 67.15 37 P **P** **20 31 00.3 +0.1**
baz=326
GEYT Alibeck 67.73 303 P **P** **20 31 03.9 -0.2**
comp=Z,13nm,0.7s,baz=29,slow=3.4,SNR=21
GYA0B ALIBECK ARRAY 67.73 303 *e*P **P** **20 31 03.3 -0.8**
comp=Z,16nm,0.7s
CHGQ Chibougamau 68.19 35 P **P** **20 31 06.9 +0.1**
baz=328
MUD Monsted U'grnd 69.15 343 *e*P **P** **20 31 13.4 +0.8**
MUD Monsted U'grnd 69.15 343 *i* P **P** **20 31 13.4 +0.8**
COP Copenhagen 69.27 341 *i* P **P** **20 31 14.6 +1.3**
COP pmax pmax
comp=Z,36nm,0.8s
COP Copenhagen 69.27 341 *i* P **P** **20 31 14.6 +1.3**
comp=Z,36nm,0.8s
BSD Bornholm Skovb 69.29 340 *i* P **P** **20 31 13.3 -0.2**
BSD pmax pmax
comp=Z,15nm,0.6s
BSD Bornholm Skovb 69.29 340 *i* P **P** **20 31 13.3 -0.2**
comp=Z,15nm,0.6s
D53A Lac Vacive, Po 69.34 38 P **P** **20 31 14.0 +0.1**
baz=326
WMOK Wichita Mounta 69.41 60 *e*P **P** **20 31 16.3 +1.7**
comp=Z,5.6nm,0.6s
WMOK Wichita Mounta 69.41 60 *e*P **P** **20 31 16.3 +1.7**
WMOK pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 69.48 329 P **P** **20 31 14.2 -0.5**
comp=Z,7.8nm,0.4s,baz=30,slow=6.4,SNR=68
AKASG LR LR 21 06 59.0
comp=Z,1µm,18.6s,baz=15,slow=41
KIEV Kiev 69.49 329 *e*P **P** **20 31 14.1 -0.6**
comp=Z,22nm,0.9s
KIEV Kiev 69.49 329⇑ *i*P **P** **20 31 14.4 -0.4**
KIEV Kiev 69.49 329 *i* P **P** **20 31 14.3 -0.5**
SNR=9.2
KIEV Kiev 69.49 329*c i*P **P** **20 31 13.9 -0.9**
KIEV pmax pmax
comp=Z,27nm,1.1s
F52A Sundridge 69.77 40 P **P** **20 31 17.1 +0.4**
baz=326
E54A Lac Daplat, Po 70.08 38 P **P** **20 31 18.6 +0.2**
baz=327
KIV Kislovodsk 70.22 317 *e*P **P** **20 31 19.4 -0.1**
comp=Z,8.0nm,0.7s
KIV Kislovodsk 70.22 317⇓ *i*P **P** **20 31 19.8 +0.3**
KIV Kislovodsk 70.22 317 *i* P **P** **20 31 19.7 +0.2**
SNR=7.3
KIV Kislovodsk 70.22 317 *e*P **P** **20 31 19.2 -0.3**
KIV pmax pmax
comp=Z,26nm,0.9s
KIV Kislovodsk 70.22 317 P **P** **20 31 20.0 +0.4**
SNR=6.9
KBZ Khabaz 70.31 317 P **P** **20 31 20.1 +0.2**
comp=Z,13nm,0.8s,baz=53,slow=3.5,SNR=28
R41A Rosebud 70.44 52 P **P** **20 31 22.5 +1.7**
baz=322
G53A Haliburton 70.61 40 P **P** **20 31 22.1 +0.4**
baz=326
ZEI Tsey 70.65 316 *e*P **P** **20 31 21.0 -1.3**
ZEI pmax pmax
comp=Z,8.0nm,0.7s
S41A Jillco Farms, 70.82 53 P **P** **20 31 24.5 +1.3**
baz=322
TX31 Lajitas Ar. Si 70.83 67 *e*P **P** **20 31 25.1 +1.6**
comp=Z,3.4nm,0.6s
TXAR Lajitas Array 70.83 67 P **P** **20 31 25.5 +2.0**
comp=Z,2.1nm,0.9s,baz=299,slow=4.4,SNR=15
BEL Belsk 70.91 335 *e*P **P** **20 31 24.6 +1.2**
BEL Belsk 70.91 335 *e*P **P** **20 31 24.6 +1.2**
U40A Yellville 71.23 55 P **P** **20 31 26.1 +0.4**
baz=322
TRQ Mont Tremblant 71.24 37 *e*P **P** **20 31 25.1 -0.6**
HYB Hyderabad 71.46 275⇑ *i*P **P** **20 31 27.0 -0.3**
comp=Z,62nm,0.8s
DELO Deloro Mine 71.51 40 P **P** **20 31 27.7 +0.5**
baz=327
ANN Anapa 71.64 321 *e*P **P** **20 31 27.0 -0.9**
ANN *e**PP **pwP** **20 31 41.5 -0.1**
ANN *e* 20 34 02.9
ANN *e*S **S** **20 40 43.8 -0.5**
ANN pmax pmax
comp=Z,32nm,1.5s
ANN MLR MLR
comp=N,1µm,17.0s
ANN MLR MLR
comp=Z,742nm,17.0s
ANN MLR MLR
comp=E,549nm,17.0s
W39A Magazine 71.67 56 P **P** **20 31 29.8 +1.5**
baz=322
WLVO Wesleyville 71.69 41 P **P** **20 31 29.1 +0.8**
baz=327
SOC Sochi 71.75 319 *e*P **P** **20 31 27.0 -1.6**
SOC *e*S **S** **20 40 43.8 -1.8**
SOC pmax pmax
comp=Z,19nm,0.6s
SOC MLR MLR
comp=Z,1µm,16.0s
LVV L'vov 71.83 332 *e*P **P** **20 31 28.0 -1.1**
AKH Akhalkalaki 71.95 315⇑ *i*P **P** **20 31 30.8 +0.6**
AKH Akhalkalaki 71.95 315 P **P** **20 31 30.7 +0.6**
EKA Eskdalemuir Ar 71.98 350 P **P** **20 31 30.0 +0.2**
EKA pmax pmax
comp=Z,2.0nm,0.4s
RUE Ruedersdorf 72.00 339 *e*P **P** **20 31 30.9 +1.0**
RUE IAmb IAmb 20 31 31.3
comp=Z,28nm,0.8s
ESK Eskdalemuir 72.00 350 *i* P **P** **20 31 30.6 +0.6**
N50A Nevada 72.29 46 P **P** **20 31 34.4 +2.4**
baz=325
Q47A Bedord North L 72.30 49 P **P** **20 31 32.9 +0.9**
baz=324
KWP Kalwaria Pacla 72.38 333 *e*P **P** **20 31 33.1 +0.8**
KWP Kalwaria Pacla 72.38 333 *e*P **P** **20 31 33.1 +0.8**
GNI Garni 72.43 314 *i* P **P** **20 31 34.1 +1.1**
SNR=8.7
GNI Garni 72.43 314*c i*P **P** **20 31 33.7 +0.7**
GNI pmax pmax
comp=Z,44nm,0.9s
GNI Garni 72.43 314 P **P** **20 31 33.8 +0.8**
SNR=7.6

W41B **Gary Mavity, V** 72.47 55 P P 20 31 33.9 +0.8
baz=322
N51A **Ashland** 72.51 45 P P 20 31 34.6 +1.3
baz=325
BATM **Batumi** 72.56 316⇑ *i* P P 20 31 30.7 -2.9
OJC **Ojcow** 72.64 335 *e* P P 20 31 34.5 +0.6
OJC **Ojcow** 72.64 335 *e* P P 20 31 34.5 +0.6
BCA **Borcka** 72.73 316⇑ *i* P P 20 31 34.2 -0.4
KIS **Kishinev** 72.85 328 *e* P P 20 31 34.0 -1.1
KIS **Kishinev** 72.85 328 *e* P P 20 31 34.0 -1.1
KSP **Ksiaz** 72.95 337 *e* P P 20 31 36.3 +0.6
KSP **Ksiaz** 72.95 337 *e* P P 20 31 36.3 +0.6
IAS **Iasi** 73.08 328 P P P 20 31 38.0 +1.5
T46A **Princeton** 73.12 51 P P 20 31 39.2 +2.2
baz=324
L55A **Hinsdale** 73.13 42 P P 20 31 38.0 +1.0
baz=327
KOLS **Kolonicke sedl** 73.13 333 *e* P P 20 31 37.4 +0.6
KOLS pmax pmax
comp=Z,14nm,1.1s
KOLS **Kolonicke sedl** 73.13 333 *e* P P 20 31 37.4 +0.6
NIE **Niedzica** 73.24 334 *e* P P 20 31 38.5 +1.0
NIE **Niedzica** 73.24 334 *e* P P 20 31 38.5 +1.0
CLL **Collm** 73.26 339 *e* P P 20 31 37.1 -0.5
comp=Z,18nm,0.8s
CLL **Collm** 73.26 339⇑ *i* P P P 20 31 37.7 +0.2
CLL *e* 20 31 49.0
CLL pmax pmax
comp=Z,20nm,1.0s
CLL MLR MLR
comp=Z,500nm,18.8s
CLL **Collm** 73.26 339⇑ *i* P P 20 31 37.7 +0.2
comp=Z,20nm,1.0s
CLL *e* P P P 20 31 49.0 +0.2
CLL LmV 21 11 00.0
comp=Z,500nm,18.8s
N53A **Lisbon** 73.26 44 P P 20 31 39.0 +1.2
baz=326
UPC **Upice** 73.32 337 *e* P P 20 31 38.8 +0.9
UPC MLR MLR
comp=Z,1μm,16.2s
UPC **Upice** 73.32 337 *e* P P 20 31 38.8 +0.9
UPC AMS AMS 21 10 00.0
comp=Z,1μm,16.2s
PRAR **RASCA** 73.36 329⇓ *i* P P P 20 31 38.5 +0.3
DPC **Dobruska-Polom** 73.40 337 *e* P P 20 31 39.2 +0.8
DPC MLR MLR
comp=Z,1μm,18.0s
DPC **Dobruska-Polom** 73.40 337 *e* P P 20 31 39.2 +0.8
DPC AMS AMS 21 10 00.0
comp=Z,1μm,18.0s
UZH **Uzhgorod** 73.40 332 *e* P P 20 31 38.1 -0.3
UZH *e* 20 31 47.1
UZH *e* 20 31 55.3
UZH *e* 20 32 01.1
O52A **Adamsville** 73.40 45 P P P 20 31 38.9 +0.3
baz=326
OKC **Ostrava-Krasne** 73.42 336 *e* P P 20 31 39.7 +1.2
OKC MLR MLR
comp=Z,1μm,16.9s
OKC **Ostrava-Krasne** 73.42 336 *e* P P 20 31 39.7 +1.2
OKC AMS AMS 21 07 40.0
comp=Z,1μm,16.9s
BURAR **Bucovina Array** 73.45 330⇓ *i* P P P 20 31 39.3 +0.5
BURAR **Bucovina Array** 73.45 330 P P P 20 31 39.3 +0.5
BRG **Berggiesshubel** 73.46 339 *e* P P 20 31 39.0 +0.3
comp=Z,14nm,1.1s
BRG **Berggiesshubel** 73.46 339 *e* P P 20 31 39.0 +0.3
BRG pmax pmax
comp=Z,14nm,1.1s
BRG MLR MLR
comp=N,503nm,15.1s
BRG MLR MLR
comp=E,425nm,16.2s
BRG MLR MLR
comp=Z,426nm,16.2s
KRLC **Kraliky** 73.54 337 *e* P P 20 31 40.4 +1.1
KRLC **Kraliky** 73.54 337 *e* P P 20 31 40.4 +1.1
T47A **Sharon Grove** 73.54 50 P P 20 31 40.8 +1.4
baz=324
O53A **New Philadelph** 73.56 45 P P 20 31 40.5 +0.9
baz=326
M55A **Ridgway** 73.59 42 P P 20 31 40.4 +0.8
baz=327
MORC **Moravsky Berou** 73.62 336⇑ *i* P P 20 31 40.8 +1.0
MORC **Moravsky Berou** 73.62 336 P P 20 31 40.7 +1.0
MORC **Moravsky Berou** 73.62 336 *e* P P 20 31 40.5 +0.7
PVCC **Panska Ves** 73.64 338 *e* P P 20 31 40.7 +0.9
PVCC MLR MLR
comp=Z,1μm,16.2s
PVCC **Panska Ves** 73.64 338 *e* P P 20 31 40.7 +0.9
PVCC AMS AMS 21 08 10.0
comp=Z,1μm,16.2s
LANS **Liptovska Anna** 73.70 334 *e* P P 20 31 41.8 +1.6
LANS **Liptovska Anna** 73.70 334 *e* P P 20 31 41.8 +1.6
BIZ **Bicaz** 73.77 329⇑ *i* P P 20 31 41.1 +0.5
TRPA **Tarpa** 73.78 332⇓ *i* P P 20 31 41.8 +1.2
TRPA **Tarpa** 73.78 332⇓ *e* P P 20 31 41.1 +0.5
WTSB **Winterswijk** 73.86 343 *e* P P 20 31 41.6 +0.6
comp=Z,22nm,0.8s
WVT **Waverly** 73.89 51 P P P 20 31 41.7 +0.3
baz=324
U47A **Clarksville** 73.89 51 P P P 20 31 43.1 +1.6
baz=324
O54A **Avella** 73.98 44 P P P 20 31 42.9 +0.9
baz=326
TESR **Tescani** 73.98 329⇑ *i* P P 20 31 42.1 +0.3
V46A **Holladay** 74.01 52 P P P 20 31 43.4 +1.2
baz=324
KECS **Kecovo** 74.04 334 *e* P P 20 31 41.9 -0.2
KECS pmax pmax
comp=Z,35nm,1.0s
KECS **Kecovo** 74.04 334 *e* P P 20 31 41.9 -0.2
N55A **Marion Center** 74.07 43 P P P 20 31 43.6 +1.1
baz=327
PRU **Pruhonice** 74.15 338 *e* P P 20 31 43.3 +0.5
PRU MLR MLR
comp=Z,1μm,16.0s
PRU **Pruhonice** 74.15 338 *e* P P 20 31 43.3 +0.5
PRU AMS AMS 21 08 40.0
comp=Z,1μm,16.0s
GOPC **GO Pecny, Ondr** 74.17 338 *e* P P 20 31 43.3 +0.4
GOPC MLR MLR
comp=Z,1μm,17.7s
GOPC **GO Pecny, Ondr** 74.17 338 *e* P P 20 31 43.3 +0.4
GOPC AMS AMS 21 08 20.0
comp=Z,1μm,17.7s
ARCR **ARCALIA** 74.18 330⇑ *i* P P P 20 31 44.4 +1.4
T49A **Edmonton** 74.19 49 P P P 20 31 44.0 +0.8
baz=325
VRAC **Vranov** 74.30 336⇓ *i* P P P 20 31 45.1 +1.4
VRAC **Vranov** 74.30 336 P P P 20 31 45.1 +1.4
VRAC **Vranov** 74.30 336 *e* P P 20 31 44.5 +0.8
NKC **Novy Kostel** 74.40 339 *e* P P 20 31 44.8 +0.6
NKC **Novy Kostel** 74.40 339 *e* P P 20 31 44.8 +0.6
O55A **Ligonier** 74.41 43 P P P 20 31 45.5 +1.0
baz=327
P54A **Burton** 74.41 44 P P P 20 31 45.5 +1.0
baz=326
TLCR 74.44 327⇑ *i* P P 20 31 45.1 +0.6
TLCR 74.44 327 P P P 20 31 45.1 +0.6
JAVC **Velka Javorina** 74.44 335 *e* P P 20 31 46.2 +1.6
VYHS **Vyhne** 74.47 335 *e* P P 20 31 45.7 +1.0
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS **Vyhne** 74.47 335 *e* P P 20 31 45.7 +1.0
PETR **Petresti** 74.49 328⇑ *i* P P 20 31 44.6 -0.2
KOLL **Kolacno** 74.51 335 *e* P P 20 31 46.5 +1.6
ODBI **Odobesti** 74.51 328⇓ *i* P P 20 31 46.8 +1.9
VRI **Vrincioaia** 74.53 328⇑ *i* P P 20 31 45.4 +0.3
VRI **Vrincioaia** 74.53 328 P P P 20 31 45.4 +0.3
U49A **Red Boiling Sp** 74.55 50 P P P 20 31 46.6 +1.3
baz=325
PLOR **Plostina** 74.56 328⇓ *i* P P P 20 31 45.9 +0.6
PLOR **Plostina** 74.56 328 P P P 20 31 45.9 +0.6
KRUC **Moravsky** 74.57 336 *e* P P 20 31 46.1 +0.9
Q53A **Leroy** 74.57 46 P P P 20 31 46.3 +0.8
baz=326
TREC **Trest** 74.58 337 *e* P P 20 31 46.4 +1.1
TREC *e* 20 31 58.9
TREC MLR MLR
comp=Z,2μm,15.4s
TREC **Trest** 74.58 337 *e* P P 20 31 46.4 +1.1
TREC *ex* x 20 31 58.9
TREC AMS AMS 21 10 50.0
comp=Z,2μm,15.4s
T50A **Nancy** 74.58 49 P P P 20 31 46.9 +1.4
baz=325
OZUR 74.62 329⇑ *i* P P P 20 31 46.7 +1.0
LTVH **Ltavrtes, Hu** 74.64 332 *e* P P 20 31 47.0 +1.4
O56A **Blue Knob Stat** 74.67 43 P P P 20 31 47.2 +1.2
baz=327
CFR **Carcaliu** 74.67 327⇑ *i* P P 20 31 45.8 0.0
CFR **Carcaliu** 74.67 327 P P P 20 31 45.8 0.0
V48A **Smith Brothers** 74.68 51 P P P 20 31 47.2 +1.0
baz=324
PSZ **Piszkesteto** 74.72 334⇓ *i* P P P 20 31 47.3 +1.1
PSZ **Piszkesteto** 74.72 334 P P P 20 31 47.2 +1.1
PSZ **Piszkesteto** 74.72 334 *e* P P 20 31 47.0 +0.8
CJR **Cluj-Napoca** 74.75 331 P P P 20 31 47.8 +1.4
P55A **Reedsville** 74.77 44 P P P 20 31 47.9 +1.3
baz=327
SMOL **Smolenice** 74.82 335 P P P 20 31 49.0 +2.3
DOPR **Dopca** 74.86 329⇓ *i* P P P 20 31 48.2 +1.2
DRGR 74.94 331⇑ *i* P P P 20 31 47.9 +0.4
DRGR 74.94 331 P P P 20 31 47.8 +0.3
MODS **Modra-Piesok** 74.99 336 *e* P P 20 31 48.1 +0.4
MODS pmax pmax
comp=Z,20nm,1.1s
MODS **Modra-Piesok** 74.99 336 *e* P P 20 31 48.1 +0.4
MDB **Medias** 75.02 330⇑ *i* P P P 20 31 50.0 +2.1
U50A **Jamestown** 75.07 49 P P P 20 31 49.8 +1.4
baz=325
MLR **Muntele Rosu** 75.11 329⇑ *i* P P 20 31 50.4 +1.8
MLR **Muntele Rosu** 75.11 329 P P P 20 31 50.2 +1.6
HGN **Heimansgroeve** 75.17 344 *e* P P 20 31 49.2 +0.5
comp=Z,54nm,1.1s
GRA1 **Grafenberg Arr** 75.17 340 *e* P P 20 31 49.5 +0.8
comp=Z,27nm,1.0s
GRF **Grafenberg Arr** 75.17 340 *e* P P 20 31 49.5 +0.8
GRF pmax pmax
comp=Z,27nm,1.0s
GRFO **Grafenberg** 75.17 340 *e* P P 20 31 49.7 +1.0
comp=Z,25nm,1.0s
GRFO **Grafenberg** 75.17 340 *e* P P 20 31 49.7 +1.0
GRFO pmax pmax
comp=Z,25nm,1.0s
HARR **Harsova** 75.17 327⇑ *i* P P 20 31 47.0 -1.7
KHC **Kasperske Hory** 75.18 338 *e* P P 20 31 49.8 +1.0
KHC *e* 20 32 02.3
KHC MLR MLR
comp=Z,1μm,16.1s
KHC **Kasperske Hory** 75.18 338 *e* P P 20 31 49.8 +1.0
KHC *e* P P pwP 20 32 02.3 -0.2
KHC AMS AMS 21 10 10.0
comp=Z,1μm,16.1s
TLB **Topalu** 75.23 327⇑ *i* P P 20 31 49.5 +0.4
TLB **Topalu** 75.23 327 P P 20 31 49.5 +0.4
MEM **Membach** 75.31 343 ⇑ P P 20 31 50.2 +0.8
comp=Z,37nm,1.1s
WRAB **Tennant Creek** 75.32 205⇑ *e* P P 20 31 44.6 -5.2
WRAB pmax pmax
comp=Z,4.0nm,1.1s
WR1 **Warramunga Arr** 75.33 205 *e* P P 20 31 51.0 +1.1
WRA **Warramunga Arr** 75.33 205 P P P 20 31 51.0 +1.1
WRA **Warramunga Arr** 75.33 205 P P P 20 31 51.0 +1.1
comp=Z,2.5nm,0.9s,baz=24,slow=5.7,SNR=15
BZK **Bozkurt** 75.37 322⇑ *i* P P 20 31 49.2 -0.7
R54A **Victor** 75.37 46 P P P 20 31 51.6 +1.6
baz=326
GERES **GERESS Array B** 75.42 338 P P P 20 31 50.8 +0.6
comp=Z,3.4nm,0.7s,baz=33,slow=5.1,SNR=19
VOIR 75.44 329⇓ *i* P P 20 31 51.7 +1.3
VOIR 75.44 329 P P P 20 31 51.6 +1.2
MFTR **Murfatlar** 75.46 326⇑ *i* P P 20 31 51.3 +0.9
V50A **Pikevile** 75.56 50 P P P 20 31 52.3 +1.1
baz=325
BCLA **Clavier** 75.61 344 ⇑ P P 20 31 51.7 +0.6
comp=Z,14nm,1.4s
MTUR **Matau** 75.63 329⇑ *i* P P 20 31 52.7 +1.2
ARR **Arges** 75.64 329⇓ *i* P P 20 31 53.1 +1.6
CSKK **Cskako** 75.67 334⇑ *e* P P 20 31 52.1 +0.5
T53A **Wise** 75.67 47 P P P 20 31 54.0 +2.1
baz=326
ICOR **Ion Corvin** 75.72 327⇓ *i* P P 20 31 53.0 +1.1
SULR 75.73 328⇑ *i* P P 20 31 52.0 0.0
CONA **Conrad Observa** 75.76 336 *e* P P 20 31 53.5 +1.3
comp=Z,16nm,1.0s,SNR=10
SOP **Sopron** 75.81 336 P P P 20 31 54.2 +1.8
SOP **Sopron** 75.81 336 *e* P P 20 31 53.1 +0.7
W50A **Signal Mountai** 75.84 50 P P P 20 31 54.2 +1.3
baz=325
GIVF **Givet** 76.00 344 *e* P P 20 31 53.5 +0.1
GIVF pmax pmax
comp=Z,19nm,1.2s
T54A **Tazewell** 76.04 47 P P P 20 31 54.7 +0.7
baz=326
DOU **Dourbes** 76.04 344 ⇑ P P 20 31 54.0 +0.4
comp=Z,6.4nm,1.0s
BAIF **Baives** 76.14 344 *e* P P 20 31 54.5 +0.3
BAIF pmax pmax
comp=Z,14nm,1.0s
GZR **Gura Zlata** 76.18 331⇑ *i* P P 20 31 54.8 +0.2
TIH **Tihany** 76.19 335 *e* P P 20 31 55.0 +0.5
MOA **Molln** 76.22 337 *e* P P 20 31 55.8 +1.1
comp=Z,7.1nm,0.9s
SGRR **Singureni** 76.23 328⇑ *i* P P 20 31 54.4 -0.4
HUMR **Humele** 76.28 329⇑ *i* P P 20 31 52.1 -3.0
X50B **Fort Payne** 76.28 51 P P P 20 31 56.8 +1.5
baz=325
BZS **Buzias** 76.33 332⇓ *i* P P 20 31 55.8 +0.5
BZS **Buzias** 76.33 332 P P P 20 31 55.8 +0.5
R57A **Stanardsville** 76.34 44 P P P 20 31 56.8 +1.2
baz=328
ARSA **Arzberg** 76.47 336 *e* P P 20 31 56.7 +0.5
comp=Z,7.5nm,0.8s
HERR **Herculane** 76.76 331⇑ *i* P P 20 31 58.1 +0.3
VLAD **Vladila** 76.94 329⇑ *i* P P 20 31 58.9 +0.1
MDVR **Moldovita** 77.06 331⇑ *i* P P 20 31 59.6 0.0
BFO **Black Forest** 77.06 341 *i* P P 20 32 00.4 +0.9
SOKA **Soboth** 77.13 336 *i* P P 20 32 01.2 +1.3
comp=Z,7.9nm,0.8s,SNR=6.2
Z50A **Ashland** 77.13 52 P P P 20 32 01.0 +0.9
baz=325
KBA **Koelnbreinsper** 77.16 338 *i* P P 20 32 01.9 +1.7
comp=Z,40nm,0.8s,SNR=18
KBA **Koelnbreinsper** 77.16 338 P P P 20 32 01.9 +1.7
CDF **Champ du Feu** 77.18 342 *e* P P 20 32 00.5 +0.2
CDF pmax pmax
comp=Z,20nm,1.0s
GROS **Grobnik** 77.21 336 *i* P P 20 32 01.2 +0.7
WATA **Walderalm** 77.32 339 *e* P P 20 32 02.2 +1.1
comp=Z,4.7nm,0.7s,SNR=7.1
RETA **Reutte** 77.36 339 *e* P P 20 32 02.2 +0.9
comp=Z,8.9nm,0.9s
WTTA **Wattenberg** 77.38 339 *e* P P 20 32 02.9 +1.4
comp=Z,14nm,1.0s,SNR=7.0
OBKA **Obir** 77.41 337 *e* P P 20 32 02.3 +0.8
comp=Z,17nm,1.6s
MOTA **Moosalm** 77.42 339 *e* P P 20 32 02.7 +1.0
comp=Z,14nm,0.9s,SNR=13
BR131 **Keskin Array S** 77.43 321 P P P 20 32 02.4 +0.5
SNR=13
BRTR **Keskin Array B** 77.43 321 *i* P P 20 32 02.0 +0.1
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR **Keskin Array B** 77.43 321 P P P 20 32 01.9 +0.1
comp=Z,5.6nm,0.9s,baz=46,slow=3.6,SNR=34
MYKA **Terra Mystica** 77.51 337 *e* P P 20 32 03.2 +1.1
comp=Z,6.4nm,1.0s
SQTA **Sankt Quirin** 77.51 339 *e* P P 20 32 03.6 +1.4
comp=Z,21nm,0.9s,SNR=9.4
ANTO **Ankara** 77.64 321 P P P 20 32 03.8 +0.9
SNR=7.2
ABTA **Abfaltersbach** 77.67 338 *e* P P 20 32 03.9 +0.9
comp=Z,17nm,0.9s,SNR=6.7
DAVA **Damuels** 77.74 340 *e* P P 20 32 04.5 +1.0
comp=Z,13nm,1.1s
HAU **Haudompre** 77.75 342 *e* P P 20 32 03.6 +0.3
HAU pmax pmax
comp=Z,22nm,1.1s
FETA **Feichten** 77.81 339 *e* P P 20 32 05.4 +1.5
comp=Z,13nm,0.9s
CRES **Cresnjev** 77.82 336 *e* P P 20 32 04.3 +0.5
KLYT **Kilyos** 77.82 325⇑ *i* P P 20 32 00.6 -3.2
HINF **Hinteralfeld** 77.84 342 *e* P P 20 32 03.8 -0.1
HINF pmax pmax
comp=Z,8.0nm,0.8s
CTYL **Yalikoy Yolu** 77.89 325⇑ *i* P P 20 32 04.4 +0.2
PALK **Pallekele** 77.96 266 P P 20 32 05.4 +0.4
SHME **Shamm** 78.00 297 P P 20 32 04.7 -0.4
PHSR **Pinarhisar** 78.02 326⇑ *i* P P 20 32 05.6 +0.7
EDRB **Edirne** 78.09 326 P P 20 32 05.6 +0.3
FLN **La Foliniere** 78.11 347 *e* P P 20 32 05.3 0.0
FLN pmax pmax
comp=Z,24nm,1.1s
Y54A **Tignall** 78.17 49 P P 20 32 06.8 +0.9
baz=326
V58A **Windy Hill, Pi** 78.18 46 P P 20 32 07.4 +1.5
baz=328
LDF **La Druitiere** 78.23 347 *e* P P 20 32 07.8 +1.9
LDF pmax pmax
comp=Z,43nm,1.7s
CLF **Chambon-Foret** 78.43 345 *e* P P 20 32 07.7 +0.6
comp=Z,17nm,1.0s
GRR **Gorron** 78.53 347 *e* P P 20 32 07.8 +0.2
GRR pmax pmax
comp=Z,28nm,1.0s
MSFE **Esma-Masafi** 78.53 297 P P 20 32 08.3 +0.2
PLD **Plovdiv** 78.54 328 P P 20 32 08.3 +0.5
VTS **Vitosha** 78.55 329 *e* P P 20 32 08.2 +0.2
VTS **Vitosha** 78.55 329 P P 20 32 08.2 +0.2
VTS **Vitosha** 78.55 329⇑ *i* P P 20 32 08.3 +0.2
VTS **Vitosha** 78.55 329 *e* P P 20 32 08.2 +0.2
V59A **Middlesex** 78.59 45 P P P 20 32 09.8 +1.7
baz=328
W58A **Raeford** 78.78 46 P P 20 32 10.0 +0.8
baz=328
WSAR **Wadi Sarin** 78.82 293 P P 20 32 10.4 +0.7
SGMF **Saint Gilles** 78.88 348 *e* P P 20 32 09.8 +0.3
SGMF pmax pmax
comp=Z,19nm,0.8s
ROSF **Rostrenen** 78.89 349 *e* P P 20 32 09.9 +0.3
ROSF pmax pmax
comp=Z,35nm,1.0s
LOR **Lormes** 78.90 344 *e* P P 20 32 09.9 +0.2
LOR pmax pmax
comp=Z,9.0nm,0.6s
UDBI **Udbina** 78.95 335 P P 20 32 10.3 +0.2
HATD **Hatta, Dubai** 78.97 296 P P 20 32 10.3 -0.1
HATD **Hatta, Dubai** 78.97 296 P P 20 32 10.3 -0.1
AS31 **Alice Springs** 79.00 205 *e* P P 20 32 12.2 +1.9
comp=Z,1.0nm,0.6s
ASAR **Alice Springs** 79.00 205 P P 20 32 12.2 +1.9
comp=Z,1.5nm,0.6s,baz=16,slow=5.4,SNR=30
NAZ **Nazwa, Dubai** 79.10 297 P P 20 32 10.9 -0.2
NAZ **Nazwa, Dubai** 79.10 297 P P 20 32 11.1 0.0
ASHO **Ashiyiah** 79.12 296 P P 20 32 11.2 -0.1
ASHO **Ashiyiah** 79.12 296 P P 20 32 11.2 -0.1
RDO **Rodhopi** 79.12 327 *e* P P 20 32 11.6 +0.6
RDO **Rodhopi** 79.12 327 P P 20 32 11.6 +0.6
CABF **La Chapelle** 79.14 342 *e* P P 20 32 11.7 +0.6
CABF pmax pmax
comp=Z,10.0nm,0.7s
SSF **Saint Saulge** 79.16 344 *e* P P 20 32 11.4 +0.3
SSF pmax pmax
comp=Z,9.0nm,0.6s
ALN **Alexandroupoli** 79.18 326 P P 20 32 11.3 0.0
QUIF **Quistinic** 79.29 349 *e* P P 20 32 12.0 +0.2
QUIF pmax pmax
comp=Z,21nm,1.0s
SOHO **SOHO** 79.29 295 P P 20 32 11.7 -0.4
FAQ **Al Faqa, Dubai** 79.33 297 P P 20 32 12.0 -0.4
AVF **Avril sur Loir** 79.45 344 *e* P P 20 32 13.1 +0.4
AVF pmax pmax
comp=Z,21nm,0.9s
NVR **Nevrokopi** 79.50 328 P P 20 32 13.4 +0.3
SMF **Signal de Mont** 79.51 344 *e* P P 20 32 13.4 +0.4
SMF pmax pmax
comp=Z,25nm,1.2s
ASUD **Al Ashush, Dub** 79.57 297 P P 20 32 13.7 0.0
SKO **Skopje** 79.70 330 *i* P P 20 32 14.5 +0.4
STIP **Stip** 79.72 330 *i* P P 20 32 13.5 -0.7
BGF **Bois d'Agland** 79.76 344 *e* P P 20 32 14.8 +0.4
BGF pmax pmax
comp=Z,8.0nm,0.8s
ALNE **Al Ain** 79.79 296 P P 20 32 15.0 +0.1
SRS **Serrai** 79.79 328 P P 20 32 14.8 +0.1
SRS **Serrai** 79.79 328 P P 20 32 14.7 +0.1
PDG **Podgorica** 79.93 332⇑ *i* P P 20 32 15.2 -0.1
VAY **Valandovo** 79.94 329 *i* P P 20 32 15.8 +0.4
STON **Ston** 79.96 333 P P 20 32 14.6 -0.9
KNT **Kendrikon** 79.97 329 P P 20 32 16.1 +0.4
BSY **Bisya** 80.02 294 P P 20 32 17.4 +1.2
EZN **Ezine** 80.04 326⇑ *i* P P 20 32 15.4 -0.6
EZN **Ezine** 80.04 326 P P 20 32 15.4 -0.6
LPL **La Plagne** 80.07 342 *e* P P 20 32 17.5 +1.1
LPL pmax pmax
comp=Z,23nm,0.9s
LPG **La Plagne** 80.08 342 *e* P P 20 32 17.7 +1.2
LPG pmax pmax
comp=Z,21nm,0.7s
TCF **Toulx Ste Croi** 80.13 345 *e* P P 20 32 16.9 +0.5
TCF pmax pmax
comp=Z,12nm,0.9s
MFF **Saint Martin d** 80.18 347 *e* P P 20 32 17.2 +0.6
MFF pmax pmax
comp=Z,32nm,1.2s
ISP **Isparta** 80.28 322⇑ *i* P P 20 32 17.1 -0.5
ISP **Isparta** 80.28 322 *e* P P 20 32 17.0 -0.5
ISP pmax pmax
comp=Z,18nm,1.0s
KRUS **Krusevo** 80.30 330 *i* P P 20 32 16.6 -1.0
LIA **Limnos Island** 80.36 327 P P 20 32 17.6 -0.1
KULA **Kula-Manisa** 80.37 324 P P 20 32 19.2 +1.3
PLG **Polygyros** 80.51 328 P P 20 32 18.3 -0.3
BIA **Bitola** 80.60 330 *i* P P 20 32 18.9 -0.2
OHR **Ohrid** 80.68 330 *i* P P 20 32 19.1 -0.4
TIR **Tirane** 80.74 331⇓ *i* P P 20 32 20.7 +0.9
TIR **Tirane** 80.74 331 P P 20 32 20.7 +0.9
SIGR **SIGRI** 80.75 326 P P 20 32 19.5 -0.3
FNA **Florina** 80.80 330 P P 20 32 20.4 +0.3
ORIF **Oris-en-Rattie** 80.81 342 *e* P P 20 32 22.2 +2.0
ORIF pmax pmax
comp=Z,16nm,0.8s
MHTO **MHTO** 80.97 292 P P 20 32 21.7 +0.4
SNR=9.3
RJF **Les Rejaudoux** 81.20 345 *e* P P 20 32 23.0 +0.9
RJF pmax pmax
comp=Z,19nm,1.2s
CAF **Calviac** 81.48 345 *e* P P 20 32 24.9 +1.2
CAF pmax pmax
comp=Z,18nm,1.0s
CSS **Mathiatis** 81.67 319 *e* P P 20 32 24.8 0.0
comp=Z,28nm,0.8s
CSS **Mathiatis** 81.67 319 P P 20 32 24.8 0.0
LFF **La Frestale** 81.67 346 *e* P P 20 32 26.5 +1.9
LFF pmax pmax
comp=Z,15nm,1.0s
PPT **Papeete** 81.91 132 LR LR 21 03 33.3
comp=Z,212nm,18.4s,baz=236,slow=32
FRF **La Foret Royal** 81.97 341 *e* P P 20 32 30.4 +4.2
FRF pmax pmax
comp=Z,11nm,0.9s
MRKA **Markates** 81.97 327 P P 20 32 28.4 +2.1
IGT **Igoumenitsa** 82.26 330 P P 20 32 27.8 0.0
MTLF **Montolieu** 82.99 344 *e* P P 20 32 32.8 +1.2
MTLF pmax pmax
comp=Z,14nm,1.0s
KLV **Kalavryta, Ach** 83.05 328 P P 20 32 31.1 -0.9
DID **Didima** 83.17 327 *e* P P 20 32 30.5 -2.1
DID **Didima** 83.17 327 P P 20 32 30.5 -2.1
DRO **Drossia** 83.27 328 P P 20 32 33.1 0.0
VLS **Valsamata** 83.42 329 P P 20 32 33.4 -0.5
EPF **Esparros** 83.60 345 *e* P P 20 32 35.3 +0.5
EPF pmax pmax
comp=Z,22nm,1.1s
TIP **Timpagrande** 83.65 332⇓ *i* P P 20 32 36.2 +1.1
AMT **Artemida-Makis** 83.66 328 P P 20 32 33.6 -1.5
SJPF **Ste Jean** 83.75 347 *e* P P 20 32 37.0 +1.5
SJPF pmax pmax
comp=Z,45nm,1.4s
ETSF **Etsaut** 83.86 346 *e* P P 20 32 37.5 +1.3
ETSF pmax pmax
comp=Z,14nm,0.8s
PYL **PYLOS** 84.22 328 *e* P P 20 32 36.8 -1.2
PYL **PYLOS** 84.22 328 P P 20 32 36.8 -1.2
LAST **Lasithi** 84.51 324 *e* P P 20 32 38.6 -1.0
LAST **Lasithi** 84.51 324 P P 20 32 38.6 -1.0
IDI **Anoyia** 84.61 325 P P 20 32 38.3 -1.7
comp=Z,8.7nm,0.6s,baz=21,slow=11,SNR=21
STKA **Stephens Creek** 85.31 196 P P 20 32 44.4 +1.3

comp=Z,2.3nm,1.0s,baz=333,slow=13,SNR=3.6
PGAV Gavieira, Arco 85.71 352 *eP* **P 20 32 47.5 +2.0**
PBRG Braganca 85.72 350 *eP* **P 20 32 48.0 +2.5**
VAE Valguarnera 85.90 333 LR LR 21 18 11.3
comp=Z,1μm,18.7s,baz=195,slow=41
PCAB Cabril 85.94 351 *eP* **P 20 32 48.6 +2.1**
POLO Lamas de Olo 86.25 351 *eP* **P 20 32 49.9 +1.7**
PVRL Vila Real 86.34 351 *eP* **P 20 32 48.8 +0.2**
comp=Z,39nm,1.4s
MVO Moncorvo 86.38 351 *eP* **P 20 32 49.2 +0.4**
comp=Z,35nm,2.1s
PVIS Viseu 86.91 351 *eP* **P 20 32 52.2 +0.8**
MTE Manteigas 87.19 351 *eP* **P 20 32 51.3 -1.4**
ESDC Sonseca Array 87.50 348 P **P 20 32 54.5 +0.3**
comp=Z,4.0nm,0.9s,baz=7.8,slow=5.0,SNR=16
PCAS Casmilo, Conde 87.63 351 *eP* **P 20 32 55.6 +0.8**
PCBR Castelo Branco 87.74 351 *eP* **P 20 32 57.7 +2.4**
KEST Kesra 88.86 337 P **P 20 33 01.1 +0.3**
comp=Z,8.4nm,0.7s,baz=309,slow=5.2,SNR=7.6
PLCA Paso Flores 143.81 92 PKP **PKPdf 20 39 43.2 +2.1**
comp=Z,2.6nm,1.0s,baz=258,slow=3.1,SNR=3.1
SYO Syowa Base 148.06 216⇑ *e*PKPdf **PKPbc 20 39 50.0 -0.5**
SYO Syowa Base 148.06 216⇑ *ep*PKPdf pPKPdf 20 40 03.4 +4.8

KRSC ***19*** *20:22:41.5±10.0, 52°.06N×160°.64E, h60km±10km, ML4.9*
IDC ***19*** *20:22:41.2±0.9, 52°.33N×160°.32E, h0km, mb4.3/19, mb1 4.5/21, mb1mx4.2/43, mbtmp4.3/21, ML3.9/2, MS4.9/2, Ms1 4.8/2, ms1mx3.9/41, Error ellipse: s-maj=23.7km s-min=15.8km az=120.0*
ISCJB ***19*** *20:22:44.3±0.7, 52°.10N±0°.03×160°.54E±0°.06, h40km±5km, mb4.5/50, MS5.0/2, Error ellipse: s-maj=7.1km s-min=4.5km az=40.1*
MOS ***19*** *20:22:44.5±1.1, 52°.15N×160°.48E, h41km, mb4.9/13, Error ellipse: s-maj=8.6km s-min=5.2km az=117.6*
NEIC ***19*** *20:22:46.3±0.4, 52°.30N×160°.36E, h35km, mb4.7/23, Error ellipse: s-maj=10.2km s-min=6.9km az=160.0*
ISC 19 20:22:45.0±1.0, 52°.18N±0°.04×160°.43E±0°.05, h29km±6km, n182, σ1§18/207, mb4.5/50, 15C-5D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.96**	**345**	*eP*	**Pn**	**20 22 59.7**	**-2.7**
SPN				*eS*	**Sb**	20 23 14.2	-1.1
SPN	**Mys Shipunski**	**0.96**	**345**	PN	**Pn**	**20 22 59.7**	**-2.7**
SPN				S	**Sb**	20 23 14.2	-1.1
NLC	**Nalytchevo**	**1.20**	**327**	*eP*	**Pn**	**20 23 05.9**	**+0.2**
NLC				*eS*	**Sb**	20 23 24.1	+2.0
NLC	**Nalytchevo**	**1.20**	**327**	PN	**Pn**	**20 23 05.9**	**+0.2**
NLC				S	**Sb**	20 23 24.1	+2.0
RUS	**Russkaya**	**1.21**	**283**	*eP*	**Pn**	**20 23 05.1**	**-0.7**
RUS				*eS*	**Sn**	20 23 21.9	+0.8
RUS	**Russkaya**	**1.21**	**283**	PN	**Pn**	**20 23 05.1**	**-0.7**
RUS				S	**Sn**	20 23 21.9	+0.8
DALK	**Dalny**	**1.33**	**311**	*eP*	**Pn**	**20 23 07.9**	**+0.3**
DALK				*eS*	**Sb**	20 23 26.8	+0.8
DALK	**Dalny**	**1.33**	**311**	PN	**Pn**	**20 23 07.9**	**+0.3**
DALK				S	**Sb**	20 23 26.8	+0.8
PET	**Petropavlovsk**	**1.38**	**309**	*e*Pn	**Pn**	**20 23 08.8**	**+0.6**
PET	**Petropavlovsk**	**1.38**	**309**	*eP*	**Pn**	**20 23 08.5**	**+0.4**
PET				*eS*	**Sb**	20 23 28.2	+1.0
PET	**Petropavlovsk**	**1.38**	**309**	PN	**Pn**	**20 23 08.5**	**+0.4**
PET				S	**Sb**	20 23 28.2	+1.0
MTVR	**Mutnovka**	**1.41**	**283**	*eP*	**Pn**	**20 23 09.3**	**+0.5**
MTVR				*eS*	**Sb**	20 23 28.1	-0.3
MTVR	**Mutnovka**	**1.41**	**283**	PN	**Pn**	**20 23 09.3**	**+0.5**
MTVR				S	**Sb**	20 23 28.1	-0.3
UGLR	**Uglovaya**	**1.42**	**317**	*eP*	**Pn**	**20 23 09.9**	**+1.0**
UGLR				*eS*	**Sb**	20 23 30.1	+1.4
UGLR	**Uglovaya**	**1.42**	**317**	PN	**Pn**	**20 23 09.9**	**+1.0**
UGLR				S	**Sb**	20 23 30.1	+1.4
SDLR	**Sedlovina**	**1.45**	**320**	*eP*	**Pn**	**20 23 10.0**	**+0.7**
SDLR				*eS*	**Sb**	20 23 30.1	+0.6
SDLR	**Sedlovina**	**1.45**	**320**	PN	**Pn**	**20 23 10.0**	**+0.7**
SDLR				S	**Sb**	20 23 30.1	+0.6
SMAR	**Somma**	**1.47**	**318**	*eP*	**Pb**	**20 23 11.2**	**-0.6**
SMAR	**Somma**	**1.47**	**318**	PN	**Pb**	**20 23 11.2**	**-0.6**
GRL	**Gorelyy**	**1.49**	**286**	*eP*	**Pb**	**20 23 11.9**	**-0.2**
GRL	**Gorelyy**	**1.49**	**286**	PN	**Pb**	**20 23 11.9**	**-0.2**
AVH	**Avacha**	**1.50**	**317**	*eP*	**Pb**	**20 23 11.5**	**-0.7**
AVH	**Avacha**	**1.50**	**317**	PN	**Pb**	**20 23 11.5**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.50**	**257**	*eP*	**Pn**	**20 23 09.8**	**0.0**
KDTR				*eS*	**Sn**	20 23 29.0	+0.6
KDTR	**Khodutka, Kamc**	**1.50**	**257**	PN	**Pn**	**20 23 09.8**	**0.0**
KDTR				S	**Sn**	20 23 29.0	+0.6
KRER	**Koryakskii**	**1.52**	**319**	*eP*	**Pb**	**20 23 12.0**	**-0.7**
KRER	**Koryakskii**	**1.52**	**319**	PN	**Pb**	**20 23 12.0**	**-0.7**
KRMR	**Karymshinskiy**	**1.55**	**296**	*eP*	**Pn**	**20 23 11.2**	**+0.7**
KRMR				*eS*	**Sb**	20 23 32.9	+0.7
KRMR	**Karymshinskiy**	**1.55**	**296**	PN	**Pn**	**20 23 11.2**	**+0.7**
KRMR				S	**Sb**	20 23 32.9	+0.7
KOK	**Koryaka**	**1.56**	**316**	*eP*	**Pb**	**20 23 12.2**	**-1.1**
KOK	**Koryaka**	**1.56**	**316**	PN	**Pb**	**20 23 12.2**	**-1.1**
ASAK	**Asacha**	**1.57**	**279**	*eP*	**Pn**	**20 23 11.3**	**+0.4**
ASAK	**Asacha**	**1.57**	**279**	PN	**Pn**	**20 23 11.3**	**+0.4**
KRX	**Arik**	**1.60**	**318**	*eP*	**Pn**	**20 23 12.7**	**+1.3**
KRX	**Arik**	**1.60**	**318**	PN	**Pn**	**20 23 12.7**	**+1.3**
PEA0B	**Petropavlovsk-**	**1.91**	**300**	*e*Pn	**Pn**	**20 23 17.3**	**+1.8**
PEA0B				*e*Sn	**Sb**	20 23 43.0	+0.5
PEA0B	**Petropavlovsk-**	**1.91**	**300**	*e*PN	**Pn**	**20 23 17.3**	**+1.8**
PEA0B				*e*		20 23 43.0	
PETK	**Petropavlovsk-**	**1.91**	**300**	*e*Pn	**Pn**	**20 23 17.2**	**+1.8**
PETK				*e*Sn	**Sb**	20 23 43.3	+0.8
PETK	**Petropavlovsk-**	**1.91**	**300**	Pn	**Pn**	**20 23 16.7**	**+1.2**
	100nm,0.3s,baz=106,slow=18,SNR=16						
PETK				Sn	**Sb**	**20 23 42.4**	**-0.1**
	140nm,0.3s,baz=214,slow=20,SNR=13						
PEA1	**Petropavlovsk-**	**1.91**	**301**	*e*Pn	**Pn**	**20 23 16.7**	**+1.2**
PEA1				*e*Sn	**Sb**	20 23 42.4	-0.1
APC	**Apacha**	**2.13**	**292**	*eP*	**Pn**	**20 23 19.3**	**+0.8**
APC				*eS*	**Sb**	20 23 46.9	-2.0
APC	**Apacha**	**2.13**	**292**	PN	**Pn**	**20 23 19.3**	**+0.8**
APC				S	**Sb**	20 23 46.9	-2.0
PAU	**Pauzhetka**	**2.35**	**254**	*eP*	**Pn**	**20 23 21.0**	**-0.6**
PAU	**Pauzhetka**	**2.35**	**254**	PN	**Pn**	**20 23 21.0**	**-0.6**
MKZ	**Mys Kozlova**	**2.51**	**18**	*eS*	**Sn**	**20 23 52.7**	**-0.6**
KZV	**Kizimen**	**2.94**	**358**	*eP*	**Pn**	**20 23 31.0**	**+1.2**
KZV	**Kizimen**	**2.94**	**358**	PN	**Pn**	**20 23 31.0**	**+1.2**
TUMD	**Tumrok D**	**3.03**	**360**	*eP*	**Pn**	**20 23 31.2**	**+0.2**
TUMD				*eS*	**Sn**	20 24 07.3	+1.0
SKR	**Severo-Kuril's**	**3.08**	**243**	*eP*	**Pn**	**20 23 29.9**	**-1.7**
SKR				*eS*	**Sn**	20 24 06.9	-0.6
SKR	**Severo-Kuril's**	**3.08**	**243**	*e*PN	**Pn**	**20 23 31.6**	**0.0**
TUMR	**Tumrok**	**3.12**	**357**	PN	**Pn**	**20 23 31.2**	**-1.0**
TUMR				S	**Sn**	20 24 07.3	-1.2
YSS	**Yuzh-Sakhalins**	**12.60**	**252**	*e*PN	**Pn**	**20 25 41.5**	**-0.5**
ASAJ	**Asahikawa**	**14.35**	**243**	Pn	**Pn**	**20 26 05.8**	**-0.2**
	1.1nm,0.3s,baz=52,slow=12,SNR=5.4						
KLR	**Kul'dur**	**18.35**	**272**	P	**P**	**20 26 57.2**	**+0.3**
	0.3nm,0.3s,baz=51,slow=12,SNR=3.4						
USRK	**Ussuriysk Ar.**	**20.47**	**258**	P	**P**	**20 27 18.8**	**-1.3**
	11nm,0.9s,baz=60,slow=9.6,SNR=4.5						
MJB9	**Matsu-Tunnel**	**22.15**	**234**	*eP*	**P**	**20 27 40.5**	**+2.2**
	20nm,0.8s						
MAJO	**Matsushiro**	**22.15**	**234**	*eP*	**P**	**20 27 40.1**	**+1.9**
	19nm,0.8s						
MAJO	**Matsushiro**	**22.15**	**234**	*eP*	**P**	**20 27 40.1**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,19nm,0.8s						
MAT	**Matsushiro**	**22.15**	**234**	P	**P**	**20 27 39.7**	**+1.5**
MJAR	**Matsushiro Arr**	**22.15**	**234**	*eP*	**P**	**20 27 39.4**	**+1.2**
MJAR	**Matsushiro Arr**	**22.15**	**234**	P	**P**	**20 27 40.0**	**+1.8**
	comp=Z,8.8nm,0.8s,baz=18,slow=11,SNR=6.1						
TIXI	**Tiksi**	**24.00**	**336**	*eP*	**P**	**20 27 55.9**	**-0.7**
TIXI	**Tiksi**	**24.00**	**336**	*eP*	**P**	**20 27 55.9**	**-0.7**
TIXI	**Tiksi**	**24.00**	**336**	P	**P**	**20 27 55.6**	**-0.9**
	comp=Z,20nm,0.8s,baz=133,slow=9.3,SNR=7.8						
KSRS	**Korea Array**	**27.08**	**250**	P	**P**	**20 28 26.3**	**+1.5**
	comp=Z,3.6nm,0.9s,baz=43,slow=8.8,SNR=4.4						
KS15	**Wonju Array Si**	**27.11**	**250**	*eP*	**P**	**20 28 25.6**	**+0.6**
	comp=Z,7.4nm,1.1s						
ILAR	**Eielson Array**	**29.32**	**44**	*eP*	**P**	**20 28 44.4**	**-0.2**
ILAR	**Eielson Array**	**29.32**	**44**	*eP*	**P**	**20 28 44.4**	**-0.2**
ILB	**Eieson Array**	**29.32**	**44**	*eP*	**P**	**20 28 44.8**	**+0.2**
	comp=Z,3.0nm,0.8s						
SONA0	**Songino Array**	**34.32**	**285**	*eP*	**P**	**20 29 28.3**	**-0.4**
SONM	**Songino Array**	**34.32**	**285**	P	**P**	**20 29 28.3**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=79,slow=5.2,SNR=4.3						
INK	**Inuvik**	**34.48**	**37**	*eP*	**P**	**20 29 29.2**	**-0.5**
	comp=Z,3.4nm,0.8s						
INK	**Inuvik**	**34.48**	**37**	*eP*	**P**	**20 29 29.2**	**-0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAK	**Zakamensk**	**35.00**	**290**	*eP*	P	20 29 30.3	-4.3
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ENH	**Enshi**	**43.04**	**260**	*eP*	**P**	**20 30 38.8**	**-3.1**
SPA0	**Spitsbergen Ar**	**48.08**	**351**	*eP*	**P**	**20 31 21.7**	**+0.6**
	comp=Z,58nm,1.2s						
SPITS	**Spitsbergen Ar**	**48.08**	**351**	P	**P**	**20 31 21.0**	**-0.1**
SPITS	**Spitsbergen Ar**	**48.08**	**351**	P	**P**	**20 31 21.0**	**-0.1**
	comp=Z,16nm,0.8s,baz=59,slow=9.8,SNR=5.6						
KURK	**Kurchatov**	**48.40**	**303**	*eP*	**P**	**20 31 21.7**	**-2.2**
	comp=Z,19nm,1.0s						
KURK	**Kurchatov**	**48.40**	**303**	*eP*	**P**	**20 31 21.7**	**-2.2**
KURK				pmax	pmax		
	comp=Z,19nm,1.0s						
MK31	**Makanchi Array**	**48.74**	**297**	*eP*	**P**	**20 31 25.1**	**-1.5**
	comp=Z,3.3nm,0.6s						
MK32	**Makanchi Array**	**48.74**	**297**	*eP*	**P**	**20 31 24.9**	**-1.7**
MKAR	**Makanchi Array**	**48.74**	**297**	*eP*	**P**	**20 31 24.6**	**-2.0**
MKAR	**Makanchi Array**	**48.74**	**297**	P	**P**	**20 31 25.0**	**-1.7**
MKAR	**Makanchi Array**	**48.74**	**297**	P	**P**	**20 31 24.9**	**-1.7**
	comp=Z,3.0nm,0.5s,baz=55,slow=6.7,SNR=6.0						
MAKZ	**Makanchi**	**48.91**	**297**	*eP*	**P**	**20 31 24.8**	**-3.1**
	comp=Z,6.7nm,0.9s						
MAKZ	**Makanchi**	**48.91**	**297**	*eP*	**P**	**20 31 24.8**	**-3.1**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LVZ	**Lovozero**	**53.63**	**338**	*eP*	**P**	**20 32 02.8**	**-0.2**
	comp=Z,21nm,0.9s						
LVZ	**Lovozero**	**53.63**	**338**	*eP*	**P**	**20 32 02.8**	**-0.2**
LVZ				pmax	pmax		
	comp=Z,21nm,0.9s						
LRM	**Limekiln Ridge**	**54.21**	**59**	*eP*	P	20 32 02.1	-5.7
ARU	**Arti**	**54.21**	**318**	*eP*	**P**	**20 32 06.4**	**-1.0**
	comp=Z,6.6nm,0.6s						
ARU	**Arti**	**54.21**	**318**	*eP*	**P**	**20 32 06.4**	**-1.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARA0	**ARCESS Array S**	**54.23**	**342**	*eP*	**P**	**20 32 06.5**	**-0.8**
ARCES	**ARCESS Array B**	**54.23**	**342**	*eP*	**P**	**20 32 07.2**	**-0.1**
ARCES	**ARCESS Array B**	**54.23**	**342**	P	**P**	**20 32 06.5**	**-0.8**
	comp=Z,6.9nm,0.8s,baz=39,slow=8.5,SNR=5.0						
JFP	**Foothills Park**	**54.32**	**73**	*eP*	**P**	**20 32 10.1**	**+1.7**
KDJ	**Kajisay**	**54.52**	**295**	*eP*	**P**	**20 32 09.4**	**-0.6**
	comp=Z,6.9nm,0.8s						
KDJ	**Kajisay**	**54.52**	**295**	*eP*	**P**	**20 32 09.4**	**-0.6**
KDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LSA	**Lhasa**	**54.69**	**274**	*eP*	**P**	**20 32 12.1**	**+0.3**
LSA	**Lhasa**	**54.69**	**274**	*eP*	**P**	**20 32 12.1**	**+0.3**
AAK	**Ala-Archa**	**55.67**	**297**	*eP*	**P**	**20 32 17.8**	**-0.5**
	comp=Z,6.4nm,1.0s						
AAK	**Ala-Archa**	**55.67**	**297**	*eP*	**P**	**20 32 17.8**	**-0.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIRV	**Kirov**	**56.26**	**324**	LR	LR	20 57 03.8	
	comp=Z,2μm,18.2s,baz=28,slow=37						
CARC	**Carrizo Plain**	**57.10**	**73**	*eP*	**P**	**20 32 28.7**	**+0.2**
ARSB	**Arslanbob**	**57.39**	**297**	*eP*	**P**	**20 32 30.1**	**-0.5**
	comp=Z,4.8nm,0.9s						
KK31	**Karatay Array**	**57.51**	**300**	*eP*	**P**	**20 32 30.2**	**-1.0**
	comp=Z,6.0nm,1.1s						
KKAR	**Karatay Array**	**57.51**	**300**	*eP*	**P**	**20 32 30.1**	**-1.2**
	comp=Z,6.0nm,1.1s						
KKAR	**Karatay Array**	**57.51**	**300**	*eP*	**P**	**20 32 30.1**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PDAR	**Pinedale Array**	**57.80**	**60**	*eP*	**P**	**20 32 34.9**	**+1.4**
CHTO	**Chiang Mai**	**57.92**	**259**	*eP*	**P**	**20 32 35.8**	**+1.4**
	comp=Z,7.4nm,0.9s						
CHTO	**Chiang Mai**	**57.92**	**259**	*eP*	**P**	**20 32 35.8**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CM31	**Chiang Mai Arr**	**58.20**	**259**	*eP*	**P**	**20 32 37.9**	**+1.5**
	comp=Z,4.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.20**	**259**	P	**P**	**20 32 37.9**	**+1.5**
	comp=Z,3.5nm,0.7s,baz=29,slow=6.4,SNR=7.4						
ODAN	**Odare**	**59.03**	**275**	*eP*	**P**	**20 32 41.1**	**-1.2**
JIRN	**Jiri**	**59.19**	**276**	*eP*	**P**	**20 32 43.2**	**-0.4**
RAMN	**Ramite**	**59.45**	**275**	*eP*	**P**	**20 32 44.7**	**-0.5**
	comp=Z,39nm,0.7s						
BTK	**Batken**	**59.45**	**297**	*eP*	**P**	**20 32 44.6**	**-0.3**
	comp=Z,7.2nm,0.8s						
BTK	**Batken**	**59.45**	**297**	*eP*	**P**	**20 32 44.6**	**-0.3**
BTK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KKN	**Kakani**	**59.65**	**277**	*eP*	**P**	**20 32 46.2**	**-0.4**
	comp=Z,15nm,0.6s						
PKI	**Pulchoki**	**59.73**	**277**	*eP*	**P**	**20 32 46.8**	**-0.5**
	comp=Z,21nm,0.8s						
PKIN	**Phulchoki**	**59.73**	**277**	*eP*	**P**	**20 32 46.5**	**-0.7**
	comp=Z,14nm,0.7s						
DMN	**Daman**	**59.89**	**277**	*eP*	**P**	**20 32 48.1**	**-0.2**
	comp=Z,27nm,0.8s						
GKN	**Gorkha**	**59.89**	**278**	*eP*	**P**	**20 32 47.7**	**-0.4**
	comp=Z,20nm,0.7s						
DANN	**Dangsing**	**60.18**	**279**	*eP*	**P**	**20 32 49.9**	**-0.4**
	comp=Z,27nm,0.7s						
KOLN	**Koldanda**	**60.69**	**278**	*eP*	**P**	**20 32 53.0**	**-0.7**
	comp=Z,15nm,0.7s						
PYUN	**Piuthan**	**60.83**	**279**	*eP*	**P**	**20 32 54.1**	**-0.5**
	comp=Z,20nm,0.8s						
FIA0	**FINESS Array S**	**61.05**	**337**	*eP*	**P**	**20 32 55.8**	**+0.5**
FIA0	**FINESS Array S**	**61.05**	**337**	*eP*	**P**	**20 32 55.8**	**+0.5**
FINES	**FINESS Array B**	**61.05**	**337**	P	**P**	**20 32 55.8**	**+0.5**
	comp=Z,6.3nm,0.5s,baz=30,slow=8.5,SNR=9.8						
NIL	**Nilore**	**62.62**	**290**	*eP*	**P**	**20 33 06.5**	**+0.1**
	comp=Z,11nm,0.8s						
NIL	**Nilore**	**62.62**	**290**	*eP*	**P**	**20 33 06.5**	**+0.1**
NIL				pmax	pmax		
	comp=Z,11nm,0.8s						
NB2	**NORSAR Subarra**	**64.48**	**344**	P	**P**	**20 33 18.1**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=22,slow=6.9						
NB200	**NORSAR Array S**	**64.48**	**344**	*eP*	**P**	**20 33 18.7**	**+0.4**
NOA	**NORSAR Array B**	**64.48**	**344**	P	**P**	**20 33 18.7**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=22,slow=6.7,SNR=6.4						
AKASG	**Malin Array Be**	**69.51**	**329**	P	**P**	**20 33 49.9**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=31,slow=6.9,SNR=5.1						
AKBB	**Malin Array Si**	**69.51**	**329**	*eP*	**P**	**20 33 49.9**	**-0.4**
KIV	**Kislovodsk**	**70.25**	**317**	*eP*	P	20 33 41.1	-14
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KBZ	**Khabaz**	**70.34**	**317**	P	**P**	**20 33 53.9**	**-1.6**
	comp=Z,5.1nm,0.8s,baz=327,slow=3.8,SNR=4.6						
KBZ				LR	LR	21 10 55.1	
	comp=Z,387nm,18.1s,baz=310,slow=41						
LTX	**Lajitas**	**70.81**	**67**	*eP*	**P**	**20 34 00.2**	**+1.4**
LTX	**Lajitas**	**70.81**	**67**	*eP*	**P**	**20 34 00.2**	**+1.4**
TXAR	**Lajitas Array**	**70.81**	**67**	P	**P**	**20 34 00.2**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=297,slow=4.0,SNR=3.1						
HYB	**Hyderabad**	**71.49**	**275**	*i P*	**P**	**20 34 03.0**	**+0.1**
AKH	**Akhalkalaki**	**71.98**	**315**	⇑*i P*	P	20 33 57.5	-8.2
CLL	**Collm**	**73.29**	**339**	*eP*	**P**	**20 34 14.0**	**+0.9**
CLL				*e*		20 34 25.0	
CLL	**Collm**	**73.29**	**339**	*eP*	**P**	**20 34 14.0**	**+0.9**
CLL				*ep*P	**sP**	**20 34 25.0**	**+0.1**
BURAR	**Bucovina Array**	**73.47**	**330**	⇑*i P*	**P**	**20 34 15.1**	**+0.7**
BURAR	**Bucovina Array**	**73.47**	**330**	⇑P	**P**	**20 34 15.1**	**+0.7**
TRPA	**Tarpa**	**73.81**	**332**	⇑*i P*	**P**	**20 34 16.9**	**+0.7**
OZUR		**74.65**	**329**	⇓*i P*	**P**	**20 34 23.7**	**+2.5**
CFR	**Carcaliu**	**74.70**	**327**	⇑*i P*	**P**	**20 34 18.1**	**-3.3**
CFR	**Carcaliu**	**74.70**	**327**	⇑P	**P**	**20 34 18.1**	**-3.3**
MLR	**Muntele Rosu**	**75.14**	**329**	⇓*i P*	**P**	**20 34 25.3**	**+1.1**
MLR	**Muntele Rosu**	**75.14**	**329**	⇓P	**P**	**20 34 25.3**	**+1.1**
TLB	**Topalu**	**75.25**	**327**	⇑*i P*	**P**	**20 34 25.8**	**+1.2**
TLB	**Topalu**	**75.25**	**327**	⇑P	**P**	**20 34 25.8**	**+1.2**
WR1	**Warramunga Arr**	**75.33**	**205**	*eP*	**P**	**20 34 25.8**	**+0.5**
WRA	**Warramunga Arr**	**75.33**	**205**	P	**P**	**20 34 25.8**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=26,slow=6.0,SNR=4.0						
GERES	**GERESS Array B**	**75.44**	**338**	P	**P**	**20 34 26.2**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=44,slow=6.0,SNR=4.0						
VOIR		**75.47**	**329**	⇓*i P*	**P**	**20 34 27.2**	**+1.2**
VOIR		**75.47**	**329**	⇓P	**P**	**20 34 27.2**	**+1.2**
ARR	**Arges**	**75.66**	**330**	⇑*i P*	**P**	**20 34 27.5**	**+0.4**
W50A	**Signal Mountai**	**75.82**	**50**	*eP*	**P**	**20 34 27.1**	**-1.0**
	comp=Z,8.5nm,0.9s						
GZR	**Gura Zlata**	**76.21**	**331**	⇑*i P*	**P**	**20 34 30.5**	**+0.3**
GZR	**Gura Zlata**	**76.21**	**331**	⇑P	**P**	**20 34 30.5**	**+0.3**
SGRR	**Singureni**	**76.26**	**328**	⇑*i P*	**P**	**20 34 31.9**	**+1.5**
U54A	**Nelsons Funny**	**76.36**	**47**	*eP*	**P**	**20 34 33.2**	**+2.0**
	comp=Z,21nm,0.4s						
SOKA	**Soboth**	**77.15**	**336**	*eP*	**P**	**20 34 36.3**	**+0.8**
	comp=Z,5.0nm,1.0s						
KBA	**Koelnbreinsper**	**77.18**	**338**	*eP*	**P**	**20 34 37.8**	**+2.0**
	comp=Z,7.8nm,0.8s						
WATA	**Walderalm**	**77.34**	**339**	*eP*	**P**	**20 34 38.5**	**+1.8**
	comp=Z,4.1nm,1.0s						
RETA	**Reutte**	**77.38**	**339**	*eP*	**P**	**20 34 37.3**	**+0.5**
	comp=Z,5.5nm,1.5s						
WTTA	**Wattenberg**	**77.40**	**339**	*eP*	**P**	**20 34 39.5**	**+2.4**
	comp=Z,6.3nm,1.1s						
MOTA	**Moosalm**	**77.44**	**339**	*eP*	**P**	**20 34 39.0**	**+1.8**
	comp=Z,3.6nm,0.9s						
BRTR	**Keskin Array B**	**77.46**	**321**	P	**P**	**20 34 38.0**	**+0.5**
BRTR	**Keskin Array B**	**77.46**	**321**	P	**P**	**20 34 38.0**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=29,slow=2.8,SNR=3.9						
ABTA	**Abfaltersbach**	**77.69**	**338**	*eP*	**P**	**20 34 40.4**	**+1.9**
	comp=Z,7.2nm,1.4s						
DAVA	**Damuels**	**77.76**	**340**	*eP*	**P**	**20 34 40.2**	**+1.2**
	comp=Z,6.6nm,1.1s						
PHSR	**Pinarhisar**	**78.04**	**326**	⇑*i P*	**P**	**20 34 41.7**	**+1.2**
VTS	**Vitosha**	**78.58**	**329**	⇑*i P*	**P**	**20 34 44.3**	**+0.7**
VTS	**Vitosha**	**78.58**	**329**	⇑P	**P**	**20 34 44.3**	**+0.7**
AS31	**Alice Springs**	**79.00**	**205**	*eP*	**P**	**20 34 47.6**	**+1.8**
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**79.01**	**205**	P	**P**	**20 34 47.6**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=14,slow=5.6,SNR=4.7						
ESDC	**Sonseca Array**	**87.52**	**348**	P	**P**	**20 35 28.7**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=13,slow=4.3,SNR=4.6						

KRSC 19 20:25:52.9±10.0, 52°.16N×160°.72E, h42km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.04**	**336**	*eP*	Pn	20 26 12.1	+1.2
SPN				*eS*	Sn	20 26 24.5	+0.3
NLC	**Nalytchevo**	**1.32**	**321**	*eP*	Pn	20 26 16.5	+1.7
NLC				S	Sn	20 26 33.1	+2.0
RUS	**Russkaya**	**1.39**	**282**	*eP*	Pn	20 26 16.9	+1.2
RUS				*eS*	Sn	20 26 33.1	+0.3
DALK	**Dalny**	**1.49**	**307**	*eP*	Pn	20 26 18.3	+1.2
DALK				*eS*	Sn	20 26 36.9	+1.6
UGLR	**Uglovaya**	**1.57**	**313**	*eP*	Pn	20 26 20.7	+2.4
SDLR	**Sedlovina**	**1.59**	**316**	*eP*	Pn	20 26 20.8	+2.2
MTVR	**Mutnovka**	**1.59**	**283**	*eP*	Pn	20 26 20.4	+1.7
MTVR				*eS*	Sn	20 26 39.9	+1.8
SMAR	**Somma**	**1.61**	**314**	P	Pn	20 26 22.2	+3.2
KDTR	**Khodutka, Kamc**	**1.67**	**259**	P	Pn	20 26 21.0	+1.4
KDTR				S	Sn	20 26 41.7	+1.9

KDTR	Khodutka, Kamc	1.48 258	eP	Pb	20 30 50.7	-0.5
KDTR			eS	Sg	20 31 11.0	-1.0
SMAR	Somma	1.49 319	P	Pn	20 30 51.2	+0.9
GRL	Gorelyy	1.49 287	P	Pg	20 30 52.5	-0.4
KRER	Koryakskii	1.54 320	eP	Pb	20 30 52.1	-0.2
KRMR	Karymshinskiy	1.55 297	eP	Pb	20 30 52.2	-0.2
KRMR			eS	Sg	20 31 13.9	-0.4
ASAK	Asacha	1.56 280	P	Pb	20 30 52.8	+0.2
ASAK			S	Sg	20 31 15.3	+0.8
KRX	Arik	1.62 319	P	Pb	20 30 53.3	-0.4
PEA0B	Petropavlovsk-	1.91 301	eSn	Sn	20 31 19.9	+0.3
PETK	Petropavlovsk-	1.91 301	eSn	Sg	20 31 25.1	-0.7
PETK	Petropavlovsk-	1.91 301	Pn	Pb	20 30 58.3	-0.3
	24nm,0.3s,baz=106,slow=20,SNR=11					
PETK			Sn	Sb	20 31 23.7	+1.6
	86nm,0.3s,baz=249,slow=19,SNR=13					
PEA1	Petropavlovsk-	1.92 301	ePn	Pb	20 30 58.3	-0.3
PEA1			eSn	Sb	20 31 23.7	+1.5
APC	Apacha	2.13 293	P	Pb	20 31 01.1	-1.2
APC			S	Sb	20 31 28.8	+0.3
MKZ	Mys Kozlova	2.54 18	P	Pn	20 31 03.8	-0.7
MKZ			S	Sn	20 31 32.8	-2.3
KZV	Kizimen	2.98 359	P	Pn	20 31 12.8	+2.1
SKR	Severo-Kuril's	3.06 243	S	Sn	20 31 47.3	-0.5
KBTR	Krutoberegovo	4.31 18	P	Pn	20 31 29.3	+0.5
ASAJ	Asahikawa	14.32 243	Pn	Pn	20 33 47.5	+1.4
	0.3nm,0.3s,baz=71,slow=8.8,SNR=5.5					
KLR	Kul'dur	18.34 272	Pn	P	20 34 38.1	+0.6
	0.1nm,0.3s,baz=60,slow=11,SNR=6.0					
MAJO	Matsushiro	22.12 234	eP	P	20 35 17.5	-1.2
MJAR	Matsushiro Arr	22.12 234	P	P	20 35 20.7	+2.0
	2.5nm,0.7s,baz=15,slow=9.8,SNR=10					
MJB9	Matsu-Tunnel	22.12 234	eP	P	20 35 17.6	-1.1
	6.2nm,0.9s					
TIXI	Tiksi	24.03 336	P	P	20 35 36.0	-1.7
	5.2nm,0.8s,baz=130,slow=8.7,SNR=13					
KSAR	Wonju Array Be	27.09 250	eP	P	20 36 03.4	-2.3
BCAR	Beaver Creek A	31.71 47	eP	P	20 36 46.8	+0.1
SONA0	Songino Array	34.32 285	eP	P	20 37 08.3	-1.3
SONM	Songino Array	34.32 285	P	P	20 37 08.3	-1.3
	0.3nm,0.5s,baz=68,slow=7.5,SNR=3.1					
ZAA1	Zalesovo Array	43.45 304	eP	P	20 38 23.4	-2.4
ZALV	Zalesovo Beam	43.46 304	P	P	20 38 23.4	-2.4
	0.4nm,0.3s,baz=60,slow=10,SNR=2.5					
STCH	Steam Cracks	47.55 116	eP	P	20 39 00.1	+1.4
	167nm,0.6s					
SPA0	Spitsbergen Ar	48.10 351	eP	P	20 39 02.4	+0.2
	16nm,1.0s					
MK31	Makanchi Array	48.75 297	eP	P	20 39 06.1	-1.5
	0.7nm,0.8s					
MK32	Makanchi Array	48.75 297	eP	P	20 39 05.8	-1.8
MKAR	Makanchi Array	48.75 297	P	P	20 39 05.8	-1.8
	0.5nm,0.5s,baz=55,slow=6.4,SNR=11					
MAKZ	Makanchi	48.91 297	eP	P	20 39 06.6	-2.2
	1.2nm,0.8s					
J08A	Circle Bar Ran	52.54 65	eP	P	20 39 37.1	+0.7
	3.4nm,0.4s					
ARCES	ARCESS Array B	54.25 342	eP	P	20 39 48.4	-0.1
ARE0	ARCESS Array S	54.25 342	eP	P	20 39 48.5	0.0
	0.3nm,1.1s					
KK31	Karatay Array	57.52 300	eP	P	20 40 11.0	-1.3
	1.4nm,1.0s					
KKAR	Karatay Array	57.52 300	eP	P	20 40 11.0	-1.3
CMAR	Chiang Mai Arr	58.18 259	P	P	20 40 18.9	+1.7
	1.0nm,0.7s,baz=22,slow=6.4,SNR=7.6					
FIA0	FINESS Array S	61.07 337	eP	P	20 40 36.5	+0.1
FINES	FINESS Array B	61.07 337	P	P	20 40 36.5	+0.1
	1.9nm,0.5s,baz=33,slow=8.9,SNR=20					
NB2	NORSAR Subarra	64.51 344	P	P	20 41 00.3	+0.9
	comp=Z,1.1nm,0.8s,baz=23,slow=6.9					
NB200	NORSAR Array S	64.51 344	eP	P	20 41 00.5	+1.0
NOA	NORSAR Array B	64.51 344	P	P	20 41 00.5	+1.0
	comp=Z,1.1nm,0.8s,baz=22,slow=6.6,SNR=5.5					
AKASG	Malin Array Be	69.53 329	P	P	20 41 30.3	-1.1
	comp=Z,0.3nm,0.4s,baz=28,slow=5.7,SNR=3.3					
TXAR	Lajitas Array	70.83 67	P	P	20 41 41.4	+1.5
	comp=Z,0.3nm,0.8s,baz=316,slow=2.5,SNR=2.9					

KRSC 19 20:31:57.2±10.0, 52°.12N×160°.66E, h41km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.05	339	eP		Pn	20 32 16.5	+1.0
SPN				eS		Sn	20 32 29.1	+0.1
NLC	Nalytchevo	1.32	323	eP		Pn	20 32 21.0	+1.8
NLC				S		Sn	20 32 37.9	+2.3
RUS	Russkaya	1.35	284	eP		Pn	20 32 20.9	+1.3
RUS				S		Sn	20 32 37.2	+0.8
DALK	Dalny	1.48	309	eP		Pn	20 32 22.9	+1.6
DALK				eS		Sn	20 32 41.3	+1.9
UGLR	Uglovaya	1.56	315	eP		Pn	20 32 25.1	+2.5
MTVR	Mutnovka	1.56	284	eP		Pn	20 32 24.5	+1.9
MTVR				eS		Sn	20 32 43.6	+1.9
SDLR	Sedlovina	1.58	318	P		Pn	20 32 25.3	+2.4
KDTR	Khodutka, Kamc	1.63	260	P		Pn	20 32 24.7	+1.3
KDTR				eS		Sn	20 32 43.7	+0.6
KRMR	Karymshinskiy	1.70	296	eP		Pn	20 32 26.3	+1.9
KRMR				eS		Sn	20 32 47.9	+3.0
ASAK	Asacha	1.72	280	P		Pn	20 32 26.7	+2.0
ASAK				S		Sn	20 32 49.4	+4.0
MKZ	Mys Kozlova	2.52	14	P		Pn	20 32 38.2	+2.5
MKZ				S		Sn	20 33 07.1	+2.0
KZV	Kizimen	3.01	356	P		Pn	20 32 46.6	+4.1

*IDC **19** 20:32:56.9±2.1, 52°.29N×160°.67E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.5/43, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=40.1km s-min=26.8km az=136.0*
*KRSC **19** 20:32:57.6±10.0, 52°.06N×160°.67E, h60km±10km, ML4.2*
*NEIC **19** 20:32:59.6±1.1, 51°.97N×160°.66E, h35km, mb4.1/10, Error ellipse: s-maj=19.6km s-min=12.6km az=113.0*

ISC 19 20:32:56.1±2.0, 52°.17N±0°.06×160°.68E±0°.05, h5km±11km, n54, σ1°38/71, mb4.0/17, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.01	337	eP		Pn	20 33 18.2	+1.3
SPN				eS		Sn	20 33 31.2	-0.2
NLC	Nalytchevo	1.29	321	eP		Pg	20 33 22.5	+1.7
NLC				eS		Sn	20 33 39.4	+1.1
RUS	Russkaya	1.36	282	eP		Pb	20 33 22.0	+0.1
RUS				eS		Sb	20 33 38.1	-1.4
DALK	Dalny	1.46	307	eP		Pg	20 33 24.2	+0.2
DALK				eS		Sg	20 33 42.4	-0.4
PET	Petropavlovsk	1.50	305	ePn		Pg	20 33 24.9	+0.1
PET				eSn		Sg	20 33 44.5	+0.2
UGLR	Uglovaya	1.53	313	eP		Pg	20 33 26.4	+0.9
UGLR				eS		Sg	20 33 46.4	+1.1
SDLR	Sedlovina	1.56	316	eP		Pg	20 33 26.5	+0.6
SDLR				eS		Sg	20 33 46.2	+0.2
MTVR	Mutnovka	1.56	282	eP		Pb	20 33 25.6	+0.1
MTVR				eS		Sb	20 33 44.8	-0.8
SMAR	Somma	1.58	314	P		Pg	20 33 27.1	+0.7
AVH	Avacha	1.61	314	eP		Pg	20 33 27.7	+0.8
KRER	Koryakskii	1.63	315	P		Pg	20 33 27.6	+0.3
KRER				S		Sg	20 33 48.9	+0.4
GRL	Gorelyy	1.64	284	eP		Pg	20 33 28.1	+0.6
GRL				S		Sg	20 33 49.0	+0.2
KDTR	Khodutka, Kamc	1.65	258	eP		Pn	20 33 26.2	+0.6
KDTR				eS		Sn	20 33 45.0	-2.2
KOK	Koryaka	1.67	313	eP		Pg	20 33 28.6	+0.5
KRMR	Karymshinskiy	1.69	294	eP		Pb	20 33 27.4	-0.2
KRMR				eS		Sb	20 33 48.6	-0.6
KRX	Arik	1.71	315	eP		Pg	20 33 29.1	+0.2
ASAK	Asacha	1.72	278	eP		Pb	20 33 28.1	-0.1
ASAK				eS		Sb	20 33 50.2	+0.1
PEA0B	Petropavlovsk-	2.04	298	ePn		Pb	20 33 33.6	0.0
PEA0B				eSn		Sg	20 33 59.4	-2.3
PETK	Petropavlovsk-	2.04	298	ePn		Pb	20 33 33.8	+0.1
PETK	Petropavlovsk-	2.04	298	Pn		Pb	20 33 33.0	-0.7
	21nm,0.3s,baz=101,slow=18,SNR=7.4							
PETK				Sn		Sg	20 33 59.5	-2.2
	71nm,0.3s,baz=100,slow=20,SNR=9.2							
PEA1	Petropavlovsk-	2.05	299	ePn		Pb	20 33 33.0	-0.7
PEA1				eSn		Sg	20 33 59.5	-2.3
APC	Apacha	2.28	291	eP		Pb	20 33 36.5	-1.1
APC				eS		Sb	20 34 05.7	-0.4
MKZ	Mys Kozlova	2.47	14	P		Pb	20 33 39.8	-1.1
MKZ				S		Sb	20 34 09.2	-2.3

KZV	Kizimen	2.96	356	P	Pb	20 33 48.1	-1.1
TUMD	Tumrok D	3.04	357	S	Sb	20 34 23.7	-4.3
SKR	Severo-Kuril's	3.22	244	S	Sn	20 34 23.2	-2.7
KBTR	Krutoberegovo	4.23	16	eP	Pb	20 34 05.4	-5.5
BKI	Bering	4.37	44	S	Sn	20 34 53.8	-0.4
KLR	Kul'dur	18.50	272	P	Pn	20 37 14.5	+1.6
	0.1nm,0.3s,baz=7.1,slow=5.6,SNR=4.5						
MJB9	Matsu-Tunnel	22.27	234	eP	P	20 37 52.4	-1.5
	7.3nm,1.2s						
MAJO	Matsushiro	22.28	234	eP	P	20 37 52.2	-1.7
	5.8nm,1.1s						
MJAR	Matsushiro Arr	22.28	234	eP	P	20 37 51.8	-2.1
MJAR	Matsushiro Arr	22.28	234	P	P	20 37 56.6	+2.7
	1.0nm,0.6s,baz=20,slow=11,SNR=4.3						
TIXI	Tiksi	24.07	336	eP	P	20 38 12.0	+0.3
TIXI	Tiksi	24.07	336	P	P	20 38 11.2	-0.6
	2.5nm,0.6s,baz=127,slow=9.0,SNR=13						
ENH	Enshi	43.19	260	eP	P	20 40 57.8	0.0
	2.3nm,0.5s						
SPA0	Spitsbergen Ar	48.10	351	eP	P	20 41 38.4	+2.4
	7.7nm,0.9s						
KURK	Kurchatov	48.53	303	eP	P	20 41 38.2	-1.4
	2.1nm,0.9s						
MK31	Makanchi Array	48.88	297	eP	P	20 41 41.3	-1.2
	1.2nm,1.0s						
MK32	Makanchi Array	48.88	297	eP	P	20 41 41.5	-0.9
MKAR	Makanchi Array	48.88	297	eP	P	20 41 41.4	-1.1
MKAR	Makanchi Array	48.88	297	P	P	20 41 41.5	-0.9
	0.4nm,0.5s,baz=57,slow=6.3,SNR=8.5						
MAKZ	Makanchi	49.05	297	eP	P	20 41 41.7	-2.0
	1.3nm,1.1s						
ARA0	ARCESS Array S	54.27	342	eP	P	20 42 22.9	+0.5
ARCES	ARCESS Array B	54.27	342	eP	P	20 42 24.1	+1.7
ARCES	ARCESS Array B	54.27	342	P	P	20 42 23.0	+0.5
	1.0nm,0.7s,baz=50,slow=8.4,SNR=3.2						
ARE0	ARCESS Array S	54.27	342	eP	P	20 42 20.9	-1.5
	0.3nm,1.0s						
ARU	Arti	54.32	318	eP	P	20 42 21.6	-1.3
	1.8nm,0.6s						
FIA0	FINESS Array S	61.11	337	eP	P	20 43 12.1	+1.6
FINES	FINESS Array B	61.11	337	P	P	20 43 12.1	+1.6
	1.1nm,0.5s,baz=32,slow=7.7,SNR=16						
NB200	NORSAR Array S	64.53	344	eP	P	20 43 35.2	+1.9
NOA	NORSAR Array B	64.53	344	P	P	20 43 35.2	+1.9
	0.4nm,0.6s,baz=27,slow=8.4,SNR=2.6						
AKASG	Malin Array Be	69.59	329	P	P	20 44 06.5	+0.8
	0.6nm,0.4s,baz=30,slow=6.9,SNR=4.5						
AKBB	Malin Array Si	69.59	329	eP	P	20 44 06.5	+0.8
	1.3nm,0.6s						

KRSC 19 20:33:41.2±10.0, 52°.70N×159°.60E, h44km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.47	33	eP		Pn	20 33 52.2	+0.4
SPN				eS		Sn	20 33 59.8	+0.5
NLC	Nalytchevo	0.49	342	eP		Pn	20 33 52.7	+0.7
NLC				eS		Sn	20 34 01.4	+1.7
DALK	Dalny	0.61	303	P		Pn	20 33 53.8	+0.3
DALK				S		Sn	20 34 03.2	+0.9
PET	Petropavlovsk	0.66	300	eP		Pn	20 33 54.8	+0.7
PET				eS		Sn	20 34 04.4	+1.0
RUS	Russkaya	0.71	248	eP		Pn	20 33 55.5	+0.6
RUS				eS		Sn	20 34 06.4	+1.7
KRER	Koryakskii	0.79	320	S		Sn	20 34 08.7	+1.7
MTVR	Mutnovka	0.89	256	eP		Pn	20 33 58.3	+0.9
MTVR				eS		Sn	20 34 10.9	+1.7
KRMR	Karymshinskiy	0.90	279	S		Sn	20 34 10.0	+0.8
KDTR	Khodutka, Kamc	1.29	227	P		Pn	20 34 03.7	+1.0
KDTR				S		Sn	20 34 21.0	+2.2

*IDC **19** 20:35:36.6±3.4, 51°.41N×160°.43E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.3/36, mbtmp3.6/3, ML2.6/1, Error ellipse: s-maj=101.5km s-min=50.8km az=39.0*
*KRSC **19** 20:35:40.0±10.0, 52°.02N×161°.01E, h50km±10km, ML3.8*

ISC 19 20:35:40.1±2.3, 52°.05N±0°.07×160°.76E±0°.07, h8km±11km, n23, σ0°79/40, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.14	337	P		Pb	20 36 02.1	0.0
SPN				S		Sg	20 36 16.0	-0.8
NLC	Nalytchevo	1.42	323	P		Pg	20 36 07.2	-0.1
NLC				S		Sg	20 36 26.9	+1.3
RUS	Russkaya	1.43	286	P		Pn	20 36 06.9	+0.6
RUS				S		Sn	20 36 24.0	-1.3
DALK	Dalny	1.57	309	P		Pn	20 36 08.7	+0.5
DALK				S		Sb	20 36 30.0	+0.7
MTVR	Mutnovka	1.64	286	P		Pn	20 36 10.2	+0.8
MTVR				S		Sb	20 36 32.3	+0.7
UGLR	Uglovaya	1.66	315	P		Pb	20 36 11.1	+0.2
UGLR				S		Sg	20 36 33.3	0.0
SDLR	Sedlovina	1.68	318	P		Pb	20 36 10.9	-0.4
SDLR				S		Sg	20 36 33.9	-0.2
KDTR	Khodutka, Kamc	1.68	263	P		Pb	20 36 11.1	-0.1
KDTR				S		Sg	20 36 34.1	0.0
SMAR	Somma	1.70	316	P		Pg	20 36 12.9	+0.1
AVH	Avacha	1.73	315	P		Pb	20 36 12.0	-0.2
AVH				S		Sg	20 36 35.3	-0.4
KRER	Koryakskii	1.75	316	P		Pb	20 36 12.4	-0.2
KRMR	Karymshinskiy	1.79	297	P		Pn	20 36 12.1	+0.9
KRMR				S		Sb	20 36 36.3	+0.7
ASAK	Asacha	1.79	282	P		Pb	20 36 12.8	-0.4
ASAK				S		Sb	20 36 36.9	+1.1
KOK	Koryaka	1.79	315	P		Pg	20 36 13.9	-0.6
KRX	Arik	1.83	316	P		Pb	20 36 14.1	+0.1
KRX				S		Sg	20 36 38.7	-0.4
PETK	Petropavlovsk-	2.15	301	Pn		Pb	20 36 18.3	-0.9
	7.8nm,0.3s,baz=99,slow=18,SNR=5.0							
PETK				Sn		Sb	20 36 46.4	+0.4
	8.7nm,0.3s,baz=104,slow=20,SNR=8.3							
APC	Apacha	2.37	293	P		Pn	20 36 20.9	+1.7
APC				S		Sb	20 36 51.4	-0.9
MKZ	Mys Kozlova	2.58	13	P		Pn	20 36 22.5	+0.5
MKZ				S		Sn	20 36 52.5	-1.0
KZV	Kizimen	3.08	355	P		Pn	20 36 29.3	+0.2
KZV				S		Sn	20 37 06.5	+0.3
TUMD	Tumrok D	3.17	356	P		Pn	20 36 31.6	+1.4
TUMD				S		Sn	20 37 07.5	-0.6
KBTR	Krutoberegovo	4.34	15	P		Pn	20 36 46.9	+0.7
MKAR	Makanchi Array	48.98	297	P		P	20 44 25.2	-1.6
	0.2nm,0.6s,baz=56,slow=8.3,SNR=3.5							
FINES	FINESS Array B	61.24	337	P		P	20 45 56.1	+1.2
	1.4nm,0.7s,baz=38,slow=9.6,SNR=8.5							

*IDC **19** 20:38:48.6±2.6, 20°.73S×177°.57W, h331km±25km, mb4.2/25, mb1 4.3/26, mb1mx4.3/32, mbtmp4.8/26, Error ellipse: s-maj=14.0km s-min=10.9km az=95.0*
*ISCJB **19** 20:38:49.6±0.1, 20°.79S±0°.02×177°.65W±0°.04, h350km, mb4.5/53, Error ellipse: s-maj=6.0km s-min=2.4km az=22.0*
*NEIC **19** 20:38:50.4±1.0, 20°.87S×177°.47W, h353km±11km, mb4.7/34, Error ellipse: s-maj=10.4km s-min=7.1km az=121.0*

ISC 19 20:38:50.1±0.3, 20°.84S±0°.05×177°.53W±0°.07, h350km, n330, σ1°36/343, mb4.6/53, 37C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.36	78	ePn		Pn	20 40 36.1	-0.7
RIZ	Raoul Island	8.38	182	P		Pn	20 40 49.9	+1.2
GLKZ	Green Lake	8.40	182	P		Pn	20 40 48.1	-0.9
GLKZ				S		S	20 42 24.1	-1.8
FUNA	Funafuti	12.64	345	eP		P	20 41 39.0	0.0
MARNC	Mare, Loyalty	13.49	265	eP		Pn	20 41 49.9	+0.4
PINNC	Pines Island,	14.08	260	eP		Pn	20 41 56.9	+0.5
OUENC	Ouen Island, N	14.62	261	eP		Pn	20 42 03.6	+0.9
DZM	Mont Dzumac	14.97	262	eP		Pn	20 42 07.2	+0.3
DZM	Mont Dzumac	14.97	262	P		Pn	20 42 06.9	0.0
	16nm,0.3s,baz=86,slow=20,SNR=170							
OUZ	Omahuta	16.32	207	P		Pn	20 42 21.2	-1.0
GRZ	Great Barrier	16.54	200	P		P	20 42 22.6	+1.3
WCZ	Waipu Caves	16.65	204	P		Pn	20 42 24.7	-1.3
KUZ	Kuaotunu	16.91	199	P		P	20 42 27.0	+1.6
MXZ	Matakaoa Point	17.06	191	P		P	20 42 27.9	+1.0
WIAZ	Waiheke Island	17.14	200	P		P	20 42 29.4	+1.6
MBAZ	Motutapu North	17.20	201	P		P	20 42 29.9	+1.6
WMGZ	Waiomatatini S	17.29	191	P		P	20 42 29.3	0.0

HAZ	Te Kaha	17.34	193	P	P	20 42 30.2	+0.2
ETAZ	East Tamaki Re	17.35	201	P	P	20 42 32.1	+2.0
MKAZ	Moumakai	17.41	200	P	P	20 42 31.9	+1.1
PKGZ	Pakihiroa	17.41	192	P	P	20 42 30.7	-0.1
WTAZ	Waiatarua	17.45	202	P	P	20 42 32.5	+1.3
PUZ	Puketiti	17.56	191	P	P	20 42 31.8	-0.6
OPRZ	Ohinepanea	17.71	196	P	P	20 42 35.0	+1.1
TOZ	Tahuroa Road	17.89	198	P	P	20 42 39.3	+3.5
KARZ	Kaharoa	17.95	196	P	P	20 42 38.3	+1.8
MWZ	Matawai	17.95	193	P	P	20 42 36.4	-0.2
URZ	Urewera	17.97	194	eP	P	20 42 34.6	-2.0
	48nm,0.7s						
URZ	Urewera	17.97	194	P	P	20 42 35.3	-1.4
	21nm,0.3s,baz=267,slow=2.3,SNR=29						
URZ				S	S	20 45 44.8	+0.4
	13nm,0.3s,baz=253,slow=23,SNR=12						
OMRZ	Omania	18.00	196	P	P	20 42 41.0	+4.0
MKRZ	Makatiti	18.01	195	P	P	20 42 40.9	+3.7
TARZ	Mount Tarawera	18.09	195	P	P	20 42 40.2	+2.1
HLRZ	Highlands Stat	18.14	196	P	P	20 42 40.6	+2.1
RRRZ	Republican Roa	18.19	195	P	P	20 42 41.9	+2.8
HSRZ	Hossack Road	18.23	196	P	P	20 42 42.5	+3.0
MUGZ	Murupara	18.26	194	P	P	20 42 40.3	+0.6
RIGZ	Rimuhau	18.27	192	P	P	20 42 40.3	+0.5
RIGZ				S	S	20 45 45.6	-4.8
HRRZ	Handcock Road	18.29	196	P	P	20 42 42.5	+2.3
GRRZ	Galatos Road	18.30	196	P	P	20 42 42.8	+2.6
PRRZ	Plateau Road	18.37	195	P	P	20 42 42.8	+1.9
SNGZ	Shannon Statio	18.42	193	P	P	20 42 40.8	-0.7
SNGZ				S	S	20 45 55.9	+2.4
TLZ	Tolley Road	18.43	197	P	P	20 42 44.0	+2.3
ALRZ	Allen Road	18.44	195	P	P	20 42 43.2	+1.5
PRGZ	Paritu Road	18.45	191	P	P	20 42 42.3	+0.5
KUTZ	Kaahu Road	18.51	197	P	P	20 42 44.8	+2.4
KNZ	Kokohu	18.59	192	P	P	20 42 43.6	+0.4
MTHZ	Maungataniwha	18.60	194	P	P	20 42 43.6	+0.3
MTHZ				S	S	20 45 56.9	0.0
RAHZ	Arahi	18.61	193	P	P	20 42 43.8	+0.4
RAHZ				S	S	20 46 03.9	+6.9
MHGZ	Mahia Peninsul	18.67	191	P	P	20 42 47.4	+3.3
MRHZ	Matea Rd	18.68	195	P	P	20 42 44.5	+0.2
WATZ	Wairara	18.73	197	P	P	20 42 46.3	+1.5
HIZ	Hauiti	18.80	199	P	P	20 42 48.3	+2.8
KNTN	Kanton	18.82	18	eP	P	20 42 45.1	-0.8
	145nm,0.8s						
NMHZ	Naumai	18.84	194	P	P	20 42 45.6	-0.4
RATZ	Rangitukua	18.87	196	P	P	20 42 47.3	+1.0
RITZ	Rihia Road	18.96	196	P	P	20 42 47.6	+0.5
ARHZ	Aropaoanui	18.96	193	P	P	20 42 47.7	+0.6
BKZ	Black Stump Fm	18.98	194	eP	P	20 42 46.2	-1.2
	45nm,1.0s						
BKZ	Black Stump Fm	18.98	194	P	P	20 42 46.3	-1.1
KATZ	Kakaramea	19.00	196	P	P	20 42 49.0	+1.3
KRVZ	Karewarewa	19.12	196	P	P	20 42 48.9	-0.1
TWVZ	Taurewa	19.16	197	P	P	20 42 49.4	0.0
WTVZ	West Tongariro	19.16	197	P	P	20 42 48.4	-1.0
MCHZ	McNeill Hill	19.20	194	P	P	20 42 48.6	-1.1
NGZ	Ngauruhoe	19.21	196	P	P	20 42 49.2	-0.8
KWHZ	Kaweka Forest	19.24	194	P	P	20 42 49.9	-0.3
TUVZ	Tukino	19.28	196	P	P	20 42 49.3	-1.5
WHVZ	Whangaehu Hut	19.31	196	P	P	20 42 50.1	-1.0
CKHZ	Cape Kidnapper	19.32	193	P	P	20 42 51.5	+0.5
PKVZ	Pokaka	19.38	197	P	P	20 42 51.9	+0.1
BHHZ	Black Hill Sta	19.39	195	P	P	20 42 49.8	-2.0
MOVZ	Moawhango	19.39	196	P	P	20 42 50.9	-0.9
VRZ	Vera Road	19.40	198	P	P	20 42 52.9	+1.1
KRHZ	Kereru	19.46	194	P	P	20 42 51.7	-0.8
KAHZ	Kahuranaki	19.50	193	P	P	20 42 53.0	+0.1
PKE	Pukeiti	19.70	200	P	P	20 42 58.2	+3.2
PXZ	Pawanui	19.73	193	P	P	20 42 54.1	-1.1
PNHZ	Pukenui	19.76	194	P	P	20 42 54.9	-0.7
KHEZ	Kahui Hut	19.78	200	P	P	20 42 59.1	+3.2
NBEZ	Newall Road No	19.80	200	P	P	20 42 58.1	+2.1
LREZ	Lake Rotokare	19.81	199	P	P	20 42 56.9	+0.8
NMEZ	Namu Road	19.93	200	P	P	20 42 59.9	+2.6
TSZ	Takapari Road	19.95	195	P	P	20 42 57.1	-0.5
PRHZ	Porangahau	20.00	193	P	P	20 42 57.3	-0.7
DVHZ	Danneviirke	20.13	194	P	P	20 42 58.4	-0.9
ANWZ	Angora Road	20.22	193	P	P	20 43 00.0	0.0
POWZ	Post Office Ro	20.32	195	P	P	20 43 00.6	-0.3
BFZ	Birch Farm	20.48	194	eP	P	20 43 01.3	-1.1
	70nm,0.7s						
SNZO	South

O02D	Mt. Diablo Mer baz=231	79.25	40	P	P	20 50 19.0 +1.5
ISA	Isabella, Lake baz=235,SNR=5.8	79.25	45	P	P	20 50 18.8 +1.2
PFO	Pinyon Flats O baz=236	79.47	48	P	P	20 50 20.0 +1.1
USRK	Ussuriysk Ar. 9.7nm,0.8s,baz=148,slow=3.9,SNR=17	79.49	326	P	P	20 50 19.6 +1.1
SWSC	Sam W. Stewart baz=237	79.56	49	P	P	20 50 20.4 +1.2
LRMC	Laurel Mtn Rad baz=235	79.68	46	P	P	20 50 20.8 +0.9
N02D	Trinity Center baz=231	79.80	39	P	P	20 50 21.2 +0.8
O03E	Paynes Creek baz=232	79.92	40	P	P	20 50 21.7 +0.7
CWC	Cottonwood Cre baz=235	79.96	45	P	P	20 50 22.2 +0.8
M02C	Callahan baz=231	79.98	39	P	P	20 50 22.7 +1.4
BELC	Belle Mtn. Jos baz=236,SNR=11	80.00	48	P	P	20 50 22.8 +1.1
L02E	Cave Junction baz=230	80.03	38	P	P	20 50 23.3 +1.8
MPMC	Manual Prospec baz=235,SNR=6.6	80.14	45	P	P	20 50 23.4 +1.0
MLAC	Mammoth, Mammo baz=234	80.16	44	P	P	20 50 23.7 +1.1
GSC	Goldstone, Bar baz=236	80.17	46	P	P	20 50 23.6 +1.2
BC3	Big Chuckawall baz=237,SNR=6.4	80.19	48	P	P	20 50 24.1 +1.4
HEC	Hector,Ludlow baz=236,SNR=8.2	80.23	47	P	P	20 50 23.7 +0.9
YBH	Yreka Blue Hor 8.6nm,0.7s	80.28	38	eP	P	20 50 23.9 +1.0
WAKR	Walker 14nm,1.0s	80.29	43	eP	P	20 50 24.3 +1.1
GLA	Glamis baz=237	80.31	49	P	P	20 50 24.8 +1.7
K02D	Willamette Mer baz=230	80.34	37	P	P	20 50 24.2 +1.0
NJ2	Nanjing	80.43	310	eP	P	20 50 24.3 +0.5
J01E	Myrtle Point baz=230	80.49	37	P	P	20 50 25.2 +1.4
PNTR	Pine Nut 22nm,0.8s	80.53	42	eP	P	20 50 25.5 +1.0
GMRC	Granite Mounta baz=236,SNR=5.6	80.67	47	P	P	20 50 26.1 +0.9
IRM	Iron Mountain baz=237,SNR=5.7	80.68	48	P	P	20 50 26.6 +1.5
YERR	Yerington 11nm,0.7s	80.70	42	eP	P	20 50 26.3 +1.0
GRAC	Grapevine Rang baz=235	80.75	45	P	P	20 50 26.8 +1.4
FURC	Furnace Creek, baz=236	80.78	45	P	P	20 50 26.5 +1.0
M04C	Macdoel baz=231	80.82	39	P	P	20 50 26.8 +1.0
L04D	Klamath Falls baz=231	80.82	38	P	P	20 50 26.6 +0.8
TUQ	Turquoise Moun baz=236,SNR=6.9	80.84	47	P	P	20 50 27.0 +0.9
Y12C	Blythe baz=237,SNR=6.2	80.90	49	P	P	20 50 27.5 +1.3
NVAR	Mina Array Bea 6.5nm,0.8s,baz=223,slow=8.2,SNR=34	80.97	43	P	P	20 50 27.6 +0.8
KDAK	Kodiak Island 8.4nm,1.0s,baz=63,slow=19,SNR=4.6	81.04	13	P	P	20 50 25.7 -0.6
I03D	Drain, OR baz=230	81.16	37	P	P	20 50 28.3 +0.9
214A	Organ Pipe Nat baz=239,SNR=5.3	81.18	51	P	P	20 50 29.3 +1.5
MAW	Mawson 2.3nm,0.6s,baz=178,slow=9.6,SNR=7.1	81.40	200	P	P	20 50 28.9 +0.7
PDMCI	Parker Dam,Lak baz=238,SNR=6.7	81.46	48	P	P	20 50 30.5 +1.4
TPNV	Topopah Spring baz=236,SNR=6.2	81.46	45	P	P	20 50 30.2 +0.9
J04D	Umpqua Nationa baz=231,SNR=5.6	81.57	37	P	P	20 50 30.8 +1.1
I04A	Tendick Farm, baz=231	81.75	37	P	P	20 50 31.2 +0.7
H04D	Lebanon baz=230	82.03	36	P	P	20 50 32.6 +0.8
J05D	Fort Rock, OR baz=232,SNR=23	82.10	38	P	P	20 50 33.6 +1.2
G03D	McMinnville, O baz=230	82.18	35	P	P	20 50 33.7 +1.1
R11A	Troy Canyon, C baz=236,SNR=9.0	82.68	44	P	P	20 50 36.3 +0.7
I05D	Terrebonne, OR baz=231,SNR=5.8	82.69	37	P	P	20 50 36.2 +0.9
TUC	Tucson 14nm,1.0s	82.84	52	eP	P	20 50 38.4 +2.0
TUC	Tucson baz=240	82.84	52	P	P	20 50 38.3 +2.0
F04D	Rainier, OR baz=230	82.88	35	P	P	20 50 37.4 +1.3
WHN	Wuhan	83.00	306	⇑P	P	20 50 40.9 +3.8
KLR	Kul'dur 4.2nm,0.9s,baz=118,slow=4.1,SNR=12	83.04	329	P	P	20 50 36.3 -0.6
E04D	Cinebar baz=230	83.42	35	P	P	20 50 40.0 +1.1
D04E	Lakebay baz=230	83.70	34	P	P	20 50 41.9 +1.7
PSUT	Pine Spring 4.9nm,0.7s	83.92	45	eP	P	20 50 42.6 +0.8
WUAZ	Wupatki baz=239	84.03	49	P	P	20 50 43.7 +1.3
G08A	Pilot Rock 9.3nm,0.9s	84.61	37	eP	P	20 50 45.4 +0.3
A04D	Lummi Island baz=230	84.73	33	P	P	20 50 46.3 +1.0
B05A	Bryant baz=230	84.75	34	P	P	20 50 46.5 +1.1
MTPU	Mount Pierson 8.0nm,0.9s	84.77	46	eP	P	20 50 47.5 +1.2
121A	Cookes Peak, D baz=242	85.16	53	P	P	20 50 49.5 +1.3
BMO	Blue Mountains 3.6nm,0.8s	85.30	38	eP	P	20 50 48.0 -0.5
DUG	Dugway, Tooele baz=238	85.49	44	P	P	20 50 50.0 +0.5
HLID	Hailey baz=237	86.29	41	P	P	20 50 54.1 +0.7
SYO	Syowa Base	86.50	193	⇑eX	P	20 50 50.0 -3.7
MNTX	Cornudas Mount baz=243	86.59	54	P	P	20 50 55.9 +1.1
SEY	Seymchan 3.7nm,0.5s,baz=157,slow=6.4,SNR=15	86.80	347	P	P	20 50 54.4 -0.7
TXAR	Lajitas Array 3.3nm,0.8s,baz=220,slow=6.0,SNR=40	86.87	57	P	P	20 50 57.8 +1.4
TASM	ASL Pad, Albuq baz=242	87.27	51	P	P	20 50 58.9 +0.6
TASM	ASL Pad, Albuq baz=242	87.27	51	P	P	20 50 59.1 +0.8
ANMO	Albuquerque baz=242	87.27	51	P	P	20 50 59.0 +0.7
NEW	Newport baz=234	87.39	36	P	P	20 50 58.3 0.0
NEW	Newport 2.1nm,0.7s,baz=219,slow=4.8,SNR=4.6	87.39	36	P	P	20 50 58.3 0.0
SNAA	Sanae	87.66	178	P	P	20 50 59.2 -0.1
SNAA	Sanae 3.2nm,1.1s	87.66	178	eP	P	20 50 59.3 -0.1
VNA3	Neumayer Olymp	87.78	176	P	P	20 51 00.1 +0.3
DLBC	Dease Lake 2.8nm,0.7s,baz=175,slow=6.2,SNR=4.8	88.19	23	P	P	20 51 01.3 -0.5
HDA	Harding Lake baz=208	88.21	13	P	P	20 51 00.5 -1.2
VNA2	Neumayer--Watz baz=190,slow=3.6	88.22	177	P	P	20 51 02.4 +0.5
S22A	4UR Ranch, Cre baz=242	88.31	48	P	P	20 51 03.8 +0.6
DLMT	Dillon 6.5nm,0.8s	88.36	40	eP	P	20 51 03.5 +0.4
MSO	Missoula baz=237	88.36	38	P	P	20 51 03.6 +0.6
VNA1	Neumayer--Stat	88.45	176	P	P	20 51 03.5 +0.5
ILAR	Eielson Array 2.4nm,0.6s,baz=222,slow=5.5,SNR=26	88.54	13	P	P	20 51 01.8 -1.5
ILAR				PP	PP	20 54 39.8 +2.2
	1.5nm,0.9s,baz=224,slow=7.4,SNR=6.9					
BW06	Boulder Array baz=240	88.90	43	P	P	20 51 06.0 +0.2
PDAR	Pinedale Array 2.7nm,0.7s,baz=207,slow=3.3,SNR=16	88.90	43	P	P	20 51 06.2 +0.3
BOZ	Bozeman (W) baz=238	89.06	40	P	P	20 51 07.1 +0.8
H17A	Grant Village baz=239	89.08	41	P	P	20 51 08.4 +1.8
SDCO	Great Sand Dun baz=243	89.24	49	P	P	20 51 08.1 +0.6
MSTX	Muleshoe baz=244	89.56	53	P	P	20 51 09.3 +0.3
HHC	Hu-ho-hao-te	89.90	314	eP	P	20 51 10.4 +0.1
Q24A	Divide baz=243	90.04	48	P	P	20 51 11.8 +0.5
RLMT	Red Lodge baz=240	90.26	41	P	P	20 51 12.5 +0.5
JCT	Junction City baz=246	90.39	58	P	P	20 51 13.0 +0.3
CMAR	Chiang Mai Arr 1.9nm,0.9s,baz=123,slow=3.0,SNR=14	90.64	289	P	P	20 51 15.8 +1.7
AMTX	Amarillo baz=245	90.76	53	P	P	20 51 14.9 +0.4
CD2	Chengdu	91.34	303	eP	P	20 51 16.9 -0.3
EGMT	Eagleton baz=240	91.41	38	P	P	20 51 17.8 +0.7
TOLK	Toolik Lake Re baz=206	91.51	10	P	P	20 51 18.0 +1.0
KSCO	Kaye Shedlock' baz=244	91.83	49	P	P	20 51 18.4 -0.9
EPYK	Eagle Plains baz=218	92.19	15	P	P	20 51 20.3 +0.1
RSSD	Black Hills baz=244	93.09	44	P	P	20 51 25.1 -0.1
INK	Inuvik 1.5nm,0.6s,baz=222,slow=3.5,SNR=8.6	94.48	15	P	P	20 51 29.5 -1.1
SONA0	Songino Array	96.30	319	eP	P	20 51 38.3 -1.2
SONM	Songino Array 0.6nm,0.7s,baz=130,slow=3.3,SNR=4.1	96.30	319	P	P	20 51 38.3 -1.2
YKA	Yellowknife Ar 0.3nm,0.6s,baz=240,slow=4.2,SNR=4.9	96.63	25	P	P	20 51 39.1 -1.4
ZALV	Zalesovo Beam 0.6nm,0.3s,baz=171,slow=1.8,SNR=5.4	111.03	321	PKiKP	PKiKP	20 56 40.5 -1.5
MKAR	Makanchi Array 1.1nm,0.6s,baz=321,slow=1.6,SNR=14	111.75	313	PKiKP	PKiKP	20 56 42.5 -1.2
KSH	Kashi	115.44	305	PKP	PKPdf	20 56 48.8 -2.3
KSH				PP	PP	20 58 03.4 +4.7
KSH				sPKP		20 58 51.1
KSH				SKS	SKSdf	21 03 26.1 -3.3
KSH	Kashi	115.44	305	SS	SS	21 13 29.6 -0.3
ARU	Arti 1.6nm,0.4s,baz=84,slow=5.4,SNR=8.4	125.73	325	PKP	PKPdf	20 57 09.4 -0.7
AKTO	Aktyubinsk 1.8nm,0.7s,baz=39,slow=0.9,SNR=9.7	127.61	318	PKP	PKPdf	20 57 13.9 0.0
ARA0	ARCESS Array S	129.33	350	ePKPdf	PKPdf	20 57 16.3 -0.4
ARCES	ARCESS Array B 1.0nm,0.4s,baz=46,slow=1.3,SNR=11	129.33	350	PKP	PKPdf	20 57 16.3 -0.4
GEYT	Alibeck 1.4nm,0.5s,baz=212,slow=28,SNR=3.9	129.34	302	PKP	PKPdf	20 57 18.1 +0.5
FIA0	FINESS Array S	136.22	344	ePKPdf	PKPdf	20 57 26.6 -3.2
FINES	FINESS Array B 1.3nm,0.5s,baz=108,slow=3.5,SNR=10	136.22	344	PKhKP	PKPpre	20 57 26.6
FINES				SKPbc	SKPbc	21 00 28.1 -0.2
	1.4nm,0.5s,baz=42,slow=3.1,SNR=9.9					
NB2	NORSAR Subarra comp=Z,2.4nm,1.1s,baz=17,slow=2.6	139.36	353	PKP	PKPdf	20 57 28.8 -6.9
NOA	NORSAR Array B comp=Z,0.8nm,0.6s,baz=18,slow=2.4,SNR=4.5	139.36	353	PKhKP	PKPpre	20 57 29.9
HFS	Hagfors comp=Z,3.7nm,0.5s,baz=64,slow=3.4,SNR=17	139.94	351	PKhKP	PKPpre	20 57 27.9
HFS				SKPbc	SKPbc	21 00 39.8 +1.0
	comp=Z,1.5nm,0.7s,baz=276,slow=1.3,SNR=4.7					
AKASG	Malin Array Be comp=Z,4.2nm,0.3s,baz=42,slow=4.6,SNR=40	143.52	331	PKhKP	PKPpre	20 57 39.9
AKASG				SKP		21 00 45.5
	comp=Z,0.3nm,0.3s,baz=42,slow=3.2,SNR=4.7					
AKBB	Malin Array Si	143.52	331	ePKPpre	PKPpre	20 57 40.5
KIEV	Kiev	143.53	331	⇑iP	PKPab	20 57 40.1 -0.7
EKA	Eskdalemuir Ar comp=Z,0.2nm,0.5s,baz=7.0,slow=9.6,SNR=3.5	145.29	6	SKPbc	SKiKP	21 00 53.9 +1.3
GKP	Gorka Klasztor	145.69	344	ePKP	PKPbc	20 57 48.7 +0.6
BEL	Belsk	145.92	340	ePKP	PKPab	20 57 50.0 0.0
LEOM	Leova	146.90	327	⇑iP	PKPbc	20 57 50.9 -0.8
KWP	Kalwaria Pacla	147.07	336	ePKP	PKPbc	20 57 52.6 +0.4
PRAR	RASCA	147.28	330	⇑iP	PKPbc	20 57 53.2 +0.4
BR101	Keskin Array S	147.39	312	ePKPbc	PKPbc	20 57 52.8 -0.7
BRTR	Keskin Array B comp=Z,4.7nm,0.6s,baz=131,slow=4.3,SNR=41	147.39	312	PKPbc	PKPbc	20 57 52.8 -0.7
BRTR				PP	PP	21 01 24.1 +1.5
	comp=Z,1.4nm,0.9s,baz=84,slow=5.1,SNR=7.4					
TLCR		147.44	324	⇑iP	PKPbc	20 57 53.5 +0.3
BUR08	Bucovina Ar. S	147.56	331	ePKPbc	PKPbc	20 57 53.5 -0.1
BURAR	Bucovina Array	147.57	331	⇑iP	PKPbc	20 57 53.8 +0.2
OJC	Ojcow	147.63	339	ePKP	PKPbc	20 57 54.1 +0.5
BIZ	Bicaz	147.64	329	⇑iP	PKPbc	20 57 54.1 +0.4
TESR	Tescani	147.68	328	⇑iP	PKPbc	20 57 53.5 -0.3
KOLS	Kolonicke sedl	147.80	335	ePKP	PKPbc	20 57 54.8 +0.7
CFR	Carcaliu	147.81	325	⇓iP	PKPbc	20 57 53.3 -0.9
ODBI	Odobesti	147.99	327	⇓iP	PKiKP	20 57 56.1 -0.1
VRI	Vrincioaia	148.09	327	⇑iP	PKPbc	20 57 55.0 +0.1
KSP	Ksiaz	148.14	343	ePKP	PKPbc	20 57 55.1 +0.2
NIE	Niedzica	148.14	338	ePKP	PKiKP	20 57 56.1 -0.3
PLOR	Plostina	148.14	327	⇑iP	PKPbc	20 57 55.1 0.0
TLB	Topalu	148.24	324	⇑iP	PKPbc	20 57 55.2 -0.1
MFTR	Murfatlar	148.29	323	⇓iP	PKPbc	20 57 56.1 +0.6
BISRR	Bisoca	148.31	327	⇑iP	PKPbc	20 57 54.9 -0.7
TRPA	Tarpa	148.33	334	⇑iP	PKPbc	20 57 55.1 -0.3
ARCR	ARCALIA	148.35	331	⇑iP	PKiKP	20 57 57.2 +0.3
CLL	Collm	148.49	347	ePKPbc	PKPbc	20 57 55.3 -0.4
CLL	Collm comp=Z,24nm,0.7s	148.49	347	⇓iPKPbc	PKPbc	20 57 55.3 -0.4
CLL				ePKPab	PKPab	20 58 00.0 -0.2
	comp=Z,7.0nm,0.8s					
OKC	Ostrava-Krasne	148.50	340	⇑ePKP	PKPbc	20 57 56.1 +0.3
OKC				ePKPAB	PKPab	20 58 01.2 +0.8
UPC	Upice	148.52	343	⇑ePKP	PKPbc	20 57 56.5 +0.6
DPC	Dobruska-Polom	148.58	343	⇑ePKP	PKPbc	20 57 55.9 -0.2
DPC				ePKPAB	PKPab	20 58 01.0 +0.3
LANS	Liptovska Anna	148.66	338	ePKP	PKPbc	20 57 57.0 +0.7
DOPR	Dopca	148.69	328	⇓iP	PKPbc	20 57 56.9 +0.5
BRG	Berggiesshubel comp=Z,12nm,0.8s	148.69	346	iPKP	PKPbc	20 57 55.8 -0.4
KRLC	Kraliky	148.69	342	⇑ePKP	PKPbc	20 57 56.6 +0.2
MORC	Moravsky Berou	148.74	341	⇑iP	PKPbc	20 57 57.2 +0.7
MORC	Moravsky Berou	148.74	341	ePKP	PKPbc	20 57 57.1 +0.6
MLR	Muntele Rosu	148.74	327	⇑iP	PKPbc	20 57 56.2 -0.6
MLR	Muntele Rosu comp=Z,6.4nm,0.6s,baz=355,slow=8.0,SNR=31	148.74	327	PKPbc	PKPbc	20 57 56.5 -0.3
PVCC	Panska Ves	148.87	345	⇑ePKP	PKPbc	20 57 57.6 +0.9
CJR	Cluj-Napoca	148.98	331	⇓iP	PKPbc	20 57 58.1 +0.9
SECR		149.00	327	⇑iP	PKPbc	20 57 57.7 +0.5
VOIR		149.23	328	⇓iP	PKPbc	20 57 58.5 +0.6
DRGR		149.31	332	⇑iP	PKPbc	20 57 56.7 -1.3
PRU	Pruhonice	149.37	345	⇑ePKP	PKPbc	20 57 57.7 -0.3
GOPC	GO Pecny, Ondr	149.38	344	⇑ePKP	PKPbc	20 57 57.6 -0.4
VYHS	Vyhne	149.43	338	ePKP	PKPbc	20 57 58.0 -0.2
VRAC	Vranov	149.44	342	ePKP	PKPbc	20 57 58.5 +0.3
VRAC	Vranov comp=Z,1.8nm,0.5s,baz=16,slow=7.3,SNR=4.0	149.44	342	PKPbc	PKPbc	20 57 58.8 +0.6
ARR	Arges	149.48	328	⇑iP	PKPbc	20 57 59.0 +0.5
JAVC	Velka Javorina	149.50	340	ePKP	PKiKP	20 58 00.1 +0.8
PSZ	Piszkesteto	149.54	337	⇓iP	PKiKP	20 57 59.6 +0.2
NKC	Novy Kostel	149.62	347	⇑ePKP	PKiKP	20 57 59.4 -0.1
KRUC	Moravsky	149.72	342	ePKP	PKPbc	20 57 58.6 -0.2
TREC	Trest	149.76	343	⇑ePKP	PKPbc	20 57 58.6 -0.4
LOT	Lotru	149.84	329	⇑iP	PKPbc	20 57 58.6 -0.8
HUMR	Humele	149.91	327	⇑iP	PKPbc	20 57 59.2 -0.2
CTYL	Yalikoy Yolu	150.00	319	⇑iP	PKPab	20 58 07.4 +0.6
MODS	Modra-Piesok	150.06	340	ePKP	PKPbc	20 57 59.8 +0.1
GZR	Gura Zlata	150.35	330	⇓iP	PKPbc	20 58 00.2 -0.3
PHSR	Pinarhisar	150.38	320	⇓iP	PKPbc	20 58 01.0 +0.4
KHC	Kasperske Hory	150.40	345	⇑ePKP	PKPbc	20 58 00.1 -0.4
KHC				ePKPAB	PKPab	20 58 08.0 -0.3
VLAD	Vladila	150.57	327	⇓iP	PKPbc	20 58 01.5 +0.5
GERES	GERESS Array B comp=Z,3.6nm,0.8s,baz=45,slow=2.1,SNR=26	150.64	345	PKPbc	PKPbc	20 58 01.1 -0.1
GERES				PKPab	PKPab	20 58 08.8 -0.5
	comp=Z,0.4nm,0.4s,baz=31,slow=4.6,SNR=6.4					
BZS	Buzias	150.70	332	⇑iP	PKPbc	20 58 00.6 -0.7
CONA	Conrad Observa comp=Z,4.9nm,0.6s	150.89	341	ePKPbc	PKPbc	20 58 01.7 -0.1
HERR	Herculane	150.90	330	⇑iP	PKPbc	20 58 01.0 -0.8
MOA	Molln comp=Z,1.6nm,0.5s	151.41	343	ePKiKP	PKPbc	20 58 03.0 +0.2
VTS	Vitosha	152.15	326	⇑iP	PKPbc	20 58 04.5 -0.4
EZN	Ezine	152.18	318	⇑iP	PKPbc	20 58 04.6 -0.2
SOKA	Soboth comp=Z,3.5nm,0.8s	152.26	341	ePKPbc	PKPbc	20 58 04.5 -0.3
KBA	Koelnbreinsper comp=Z,1.1nm,0.5s	152.37	344	iPKiKP	PKPbc	20 58 05.3 0.0
WATA	Walderalm comp=Z,6.7nm,1.1s	152.55	346	ePKiKP	PKPbc	20 58 05.8 +0.2
WTTA	Wattenberg comp=Z,3.2nm,0.4s	152.61	346	ePKiKP	PKPbc	20 58 06.0 +0.2
MOTA	Moosalm comp=Z,1.2nm,0.5s	152.64	347	PKiKP	PKPbc	20 58 06.0 +0.2
MYKA	Terra Mystica comp=Z,1.3nm,0.4s	152.70	343	ePKPbc	PKPbc	20 58 05.7 -0.2
ABTA	Abfaltersbach comp=Z,3.4nm,0.5s	152.89	345	ePKPbc	PKPbc	20 58 06.1 -0.2
ESDC	Sonseca Array comp=Z,0.4nm,0.6s,baz=331,slow=3.8,SNR=3.8	160.43	15	PKPab	PKPab	20 58 50.1 -1.5
TORD	Torodi Ar. Bea comp=Z,0.5nm,0.6s,baz=197,slow=3.0,SNR=3.7	172.32	174	PKPab	PKPab	20 59 44.8 +0.4
TOA1	Torodi Ar. Sit	172.32	174	ePKPab	PKPab	20 59 44.8 +0.4

*IDC **19** 20:44:29.6±2.2, 52°.29N×160°.83E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.4/42, mbtmp3.7/8, ML3.0/2, Error ellipse: s-maj=44.2km s-min=30.5km az=150.0*
*KRSC **19** 20:44:31.4±10.0, 52°.08N×160°.67E, h61km±10km, ML4.3*

ISC 19 20:44:30.0±2.0, 52°.12N±0°.05×160°.65E±0°.06, h5km±10km, n35, σ1°.916/51, mb3.8/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.05	339	P	Pn	20 44 51.4	0.0
SPN				S	Sg	20 45 03.8	+0.1
NLC	Nalytchevo	1.32	323	P	Pg	20 44 55.9	+0.7
NLC				S	Sb	20 45 13.0	+0.6
RUS	Russkaya	1.35	284	P	Pg	20 44 56.1	+0.3
RUS				S	Sn	20 45 12.7	-1.1
DALK	Dalny	1.47	309	P	Pg	20 44 58.0	-0.2
DALK				S	Sb	20 45 16.9	0.0
UGLR	Uglovaya	1.56	315	P	Pg	20 44 59.8	0.0
UGLR				S	Sb	20 45 19.9	+0.5
MTVR	Mutnovka	1.56	284	P	Pg	20 44 59.6	-0.2
MTVR				S	Sn	20 45 19.0	-0.2
SDLR	Sedlovina	1.58	318	P	Pb	20 44 59.9	+0.1
SDLR				S	Sb	20 45 20.3	+0.2
SMAR	Somma	1.60	316	P	Pb	20 45 00.4	+0.2
KDTR	Khodutka, Kamc	1.62	260	P	Pb	20 44 59.6	-0.8
KDTR				S	Sn	20 45 19.5	-1.0
AVH	Avacha	1.63	315	P	Pg	20 45 01.1	-0.2
AVH				S	Sg	20 45 23.0	+0.6
GRL	Gorelyy	1.64	286	P	Pg	20 45 01.8	+0.4
GRL				S	Sb	20 45 22.9	+1.1
KRER	Koryakskii	1.66	316	P	Pb	20 45 01.1	0.0
KOK	Koryaka	1.70	314	P	Pg	20 45 02.1	-0.4
KRMR	Karymshinskiy	1.70	296	P	Pb	20 45 01.2	-0.5
KRMR				S	Sn	20 45 22.4	+0.2
ASAK	Asacha	1.71	280	P	Pb	20 45 01.5	-0.5
ASAK				S	Sb	20 45 23.8	0.0
KRX	Arik	1.74	316	P	Pb	20 45 01.9	-0.6
KRX				S	Sb	20 45 24.1	-0.5
PETK	Petropavlovsk- 21nm,0.3s,baz=103,slow=18,SNR=62	2.05	300	Pn	Pb	20 45 06.7	-1.1
PETK				Sn	Sb	20 45 32.6	-1.0
	44nm,0.3s,baz=102,slow=25,SNR=12						
APC	Apacha	2.28	292	P	Pb	20 45 10.3	-1.3
APC				S	Sb	20 45 38.9	-1.2
MKZ	Mys Kozlova	2.52	14	P	Pn	20 45 12.2	+0.6
MKZ				S	Sn	20 45 41.3	-1.4
KZV	Kizimen	3.00	356	P	Pb	20 45 22.0	-2.0
KZV				S	Sn	20 45 55.7	+0.8
TUMD	Tumrok D	3.09	357	P	Pb	20 45 21.4	-4.0
TUMD				S	Sn	20 45 56.1	-0.7
SKR	Severo-Kuril's	3.19	245	S	Sn	20 45 57.4	-1.6
ALID	Alaid	3.43	251	P	Pn	20 45 24.4	+0.2
KBTR	Krutoberegovo	4.29	16	P	Pn	20 45 38.2	+2.3
KBTR				S	Sn	20 46 28.6	+2.4
KLR	Kul'dur 0.1nm,0.3s,baz=11,slow=10.0,SNR=3.5	18.49	272	P	Pn	20 48 48.5	+1.8
MAT	Matsushiro	22.23	234	P	P	20 49 28.6	+1.2
TIXI	Tiksi 3.4nm,0.8s,baz=124,slow=8.4,SNR=14	24.11	336	P	P	20 49 45.3	-0.8
H11N2	WAKE ISLAND Hy baz=352,slow=76	32.69	169	T	T	21 25 50.9	
H11N3	WAKE ISLAND Hy baz=352,slow=76	32.71	169	T	T	21 25 53.4	
H11N1	WAKE ISLAND Hy baz=352,slow=76	32.71	169	T	T	21 25 53.7	
MKAR	Makanchi Array 0.4nm,0.5s,baz=58,slow=6.6,SNR=7.0	48.89	297	P	P	20 53 15.1	-1.4
CMAR	Chiang Mai Arr 0.3nm,0.6s,baz=34,slow=7.5,SNR=2.9	58.32	259	P	P	20 54 27.6	+1.6
FINES	FINESS Array B 1.3nm,0.5s,baz=44,slow=8.1,SNR=13	61.15	337	P	P	20 54 45.7	+0.9
NOA	NORSAR Array B 0.2nm,0.4s,baz=14,slow=5.5,SNR=2.6	64.57	344	P	P	20 55 06.5	-1.2
AKASG	Malin Array Be 0.3nm,0.3s,baz=29,slow=7.0,SNR=3.8	69.62	329	P	P	20 55 39.4	-0.5

KRSC 19 20:50:59.5±10.0, 52°.06N×160°.44E, h17km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.07	346	P	Pb	20 51 18.4	-1.2
SPN				S	Sb	20 51 32.1	-1.3
RUS	Russkaya	1.24	288	P	Pn	20 51 21.7	-0.4
RUS				S	Sb	20 51 37.9	-0.3
NLC	Nalytchevo	1.30	330	P	Pb	20 51 23.2	-0.3
NLC				S	Sb	20 51 40.3	+0.4
DALK	Dalny	1.42	314	P	Pb	20 51 25.0	-0.5
DALK				S	Sb	20 51 43.3	0.0
MTVR	Mutnovka	1.45	288	P	Pn	20 51 25.2	+0.1
MTVR				S	Sn	20 51 43.7	-0.1
UGLR	Uglovaya	1.52	320	P	Pb	20 51 27.0	-0.3
UGLR				S	Sb	20 51 46.7	+0.5
SDLR	Sedlovina	1.55	323	P	Pb	20 51 27.5	-0.3
SDLR				S	Sb

*MOS **19** 21:02:20.7±1.0, 42°.77N×48°.63E, h8km, mb4.0/1, Error ellipse: s-maj=7.0km s-min=5.6km az=171.2*
*ISCJB **19** 21:02:21.8±0.6, 42°.74N±0°.02×48°.42E±0°.03, h2km±3km, mb3.4/6, Error ellipse: s-maj=4.3km s-min=2.5km az=143.1*
*NORS **19** 21:02:22.1±0.0, 42°.60N×48°.21E, h2km, MPVA4.1*
*DRS **19** 21:02:23.2±0.0, 42°.75N×48°.60E, h18km, ML3.5/3*
*AZER **19** 21:02:23.7±0.3, 42°.54N×48°.36E, h16km±1km, ml3.2/25, Error ellipse: s-maj=5.9km s-min=3.0km az=8.0*
ISC 19 21:02:22.4±1.2, 42°.73N±0°.03×48°.44E±0°.03, h15km±8km, n96, σ1°58/147, mb3.5/6, 3C-8D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.71**	**187**	⇓*e*PG		**Pb**	**21 02 36.7**	**+0.3**
DRN				*i*			21 02 46.7	
DRN				pmax		pmax		
	comp=Z,400nm,0.7s							
DRN				smax		smax		
	comp=N,2μm,0.7s							
DRN	**Derbent**	**0.71**	**187**	*e*Pg		**Pb**	**21 02 36.4**	**0.0**
	comp=N,372nm,0.7s							
DRN				⇑*i*Sg		**Sb**	**21 02 46.8**	**+0.8**
	comp=N,2μm,0.3s							
MAK	**Makhachkala**	**0.72**	**289**	⇓*i*PG		**Pn**	**21 02 38.5**	**+0.4**
MAK				*e*			21 02 49.5	
MAK				pmax		pmax		
	comp=Z,162nm,0.3s							
MAK				smax		smax		
	comp=N,2μm,0.4s							
MAK				smax		smax		
	comp=N,2μm,0.4s							
MAK	**Makhachkala**	**0.72**	**289**	*e*Pg		**Pn**	**21 02 38.7**	**+0.6**
MAK				*e*Sg		**Sn**	**21 02 49.1**	**+0.1**
URKR	**Urkarakh**	**0.82**	**227**	⇑*e*PG		**Pb**	**21 02 38.6**	**+0.1**
URKR				*i*			21 02 49.3	
URKR	**Urkarakh**	**0.82**	**227**	*e*Pg		**Pb**	**21 02 38.6**	**+0.1**
URKR				*e*Sg		**Sg**	**21 02 49.4**	**+0.2**
BUJR	**Buynaksk**	**0.98**	**276**	⇓*i*PG		**Pn**	**21 02 42.0**	**+0.3**
BUJR				*e*S		**Sn**	**21 02 56.0**	**+0.6**
BUJR				pmax		pmax		
	comp=Z,95nm,0.2s							
BUJR	**Buynaksk**	**0.98**	**276**	*i* Pg		**Pn**	**21 02 42.0**	**+0.3**
	comp=Z,95nm,0.2s							
BUJR				*e*Sg		**Sn**	**21 02 56.0**	**+0.6**
	comp=Z,743nm,0.0s							
ARKR	**Arakani**	**1.07**	**264**	*i* PG		**Pn**	**21 02 43.5**	**+0.5**
ARKR				*e*S		**Sn**	**21 02 58.0**	**+0.3**
ARKR				pmax		pmax		
	comp=Z,96nm,0.3s							
ARKR	**Arakani**	**1.07**	**264**	*i* Pg		**Pn**	**21 02 43.5**	**+0.5**
	comp=Z,96nm,0.3s							
ARKR				*e*Sg		**Sn**	**21 02 58.0**	**+0.3**
	comp=Z,404nm,0.3s							
KSMR	**Kasumkent**	**1.15**	**192**	*i* PG		**Pb**	**21 02 44.2**	**+0.1**
KSMR				*e*S		**Sn**	**21 03 00.0**	**+0.3**
KSMR				pmax		pmax		
	comp=Z,503nm,0.2s							
KSMR	**Kasumkent**	**1.15**	**192**	*i* Pg		**Pb**	**21 02 44.2**	**+0.1**
KSMR				*e*Sg		**Sn**	**21 03 00.0**	**+0.3**
DBC	**Dubki**	**1.22**	**284**	⇓*i*PG		**Pg**	**21 02 45.8**	**-0.1**
DBC				*e*			21 03 02.5	
DBC	**Dubki**	**1.22**	**284**	*e*Pg		**Pg**	**21 02 45.8**	**-0.1**
DBC				*i* Pg		**Pg**	**21 02 45.8**	**-0.1**
DBC				*e*Sg		**Sg**	**21 03 02.1**	**+0.4**
DBC				*e*Sg		**Sn**	**21 03 02.6**	**+1.4**
QSAR	**Qusar**	**1.22**	**186**	P		**Pb**	**21 02 45.3**	**0.0**
	SNR=14							
QSAR				S		**Sn**	**21 03 01.6**	**+0.2**
XNZR	**Khunzakh**	**1.29**	**262**	⇑*e*PG		**Pb**	**21 02 47.0**	**+0.4**
XNZR				*e*			21 03 05.3	
XNZR	**Khunzakh**	**1.29**	**262**	*e*Pg		**Pg**	**21 02 47.2**	**-0.2**
XNZR				*e*Sg		**Sg**	**21 03 05.1**	**+0.9**
AKT	**Akhty**	**1.36**	**203**	⇓*e*PG		**Pn**	**21 02 47.4**	**+0.4**
AKT				pmax		pmax		
	comp=Z,365nm,0.3s							
AKT	**Akhty**	**1.36**	**203**	*i* Pg		**Pn**	**21 02 47.1**	**+0.1**
	comp=Z,213nm,0.3s							
AKT				⇓*e*Sg		**Sb**	**21 03 04.3**	**-0.5**
	comp=Z,2μm,0.3s							
QUBA	**Quba, Azerbaij**	**1.38**	**178**	P		**Pb**	**21 02 47.8**	**-0.1**
	SNR=30							
QUBA				S		**Sb**	**21 03 05.9**	**+0.6**
XNQ	**Khinaliq**	**1.58**	**188**	P		**Pb**	**21 02 51.0**	**-0.4**
	SNR=43							
XNQ				S		**Sb**	**21 03 11.9**	**+0.7**
BTLR	**Botlikh**	**1.64**	**268**	⇓*i*PN		**Pb**	**21 02 52.9**	**+0.6**
BTLR				pmax		pmax		
	comp=Z,157nm,0.5s							
BTLR	**Botlikh**	**1.64**	**268**	*i* Pg		**Pb**	**21 02 52.8**	**+0.5**
	comp=Z,157nm,0.6s							
BTLR				⇓*e*Sg		**Sg**	**21 03 14.5**	**-0.6**
	comp=Z,404nm,0.3s							
SIZA	**Siyzn**	**1.69**	**168**	P		**Pb**	**21 02 53.5**	**+0.2**
	SNR=16							
SIZA				S		**Sb**	**21 03 14.8**	**+0.4**
DVE	**Vedeno**	**1.71**	**278**	*e*PN		**Pb**	**21 02 53.6**	**-0.1**
DVE				pmax		pmax		
	comp=Z,52nm,0.2s							
DVE	**Vedeno**	**1.71**	**278**	*e*Pg		**Pb**	**21 02 53.5**	**-0.1**
DVE				*e*Sg		**Sb**	**21 03 16.6**	**+1.5**
ZKTA	**Zakatala**	**1.74**	**232**	PN		**Pb**	**21 02 53.5**	**-0.6**
ZKTA	**Zakatala**	**1.74**	**232**	P		**Pn**	**21 02 51.7**	**-0.4**
	SNR=72							
ZKTA				S		**Sb**	**21 03 16.5**	**+0.8**
SEKA	**Sheki**	**1.78**	**212**	PN		**Pb**	**21 02 54.1**	**-0.7**
SEKA	**Sheki**	**1.78**	**212**	P		**Pn**	**21 02 53.1**	**+0.3**
	SNR=66							
SEKA				S		**Sn**	**21 03 15.6**	**+0.5**
QBL	**Gabala**	**1.84**	**194**	P		**Pb**	**21 02 56.2**	**+0.4**
	SNR=18							
QBL				S		**Sb**	**21 03 19.9**	**+1.1**
ATGJ	**Altiaghaj**	**1.91**	**169**	P		**Pb**	**21 02 57.0**	**0.0**
	SNR=11							
ATGJ				S		**Sb**	**21 03 22.2**	**+1.5**
PQL	**Pirkuli**	**1.95**	**177**	P		**Pb**	**21 02 57.7**	**0.0**
	SNR=22							
PQL				S		**Sg**	**21 03 23.5**	**-1.6**
IML	**Ismayilli**	**1.95**	**186**	P		**Pb**	**21 02 57.1**	**-0.5**
	SNR=9.6							
IML				S		**Sg**	**21 03 24.2**	**-0.9**
GROC	**Groznyy**	**2.00**	**285**	*e*PN		**Pb**	**21 02 58.4**	**0.0**
GROC				*e*			21 03 24.5	
GROC				pmax		pmax		
	comp=Z,33nm,1.0s							
GROC				smax		smax		
	comp=N,201nm,1.2s							
GROC				smax		smax		
	comp=E,209nm,1.1s							
GROC				smax		smax		
	comp=N,115nm,0.4s							
GROC	**Groznyy**	**2.00**	**285**	*e*Pg		**Pb**	**21 02 58.6**	**+0.2**
GROC				*e*Sg		**Sg**	**21 03 25.6**	**-1.0**
MNGR	**Mingechevir, A**	**2.21**	**208**	P		**Pb**	**21 03 01.3**	**-0.6**
MNGR				S		**Sn**	**21 03 27.3**	**+1.8**
GBS	**Qobustan**	**2.23**	**170**	P		**Pb**	**21 03 02.0**	**-0.4**
	SNR=15							
GBS				S		**Sb**	**21 03 28.4**	**-1.5**
KDMR	**Kurdemir**	**2.36**	**185**	P		**Pb**	**21 03 03.0**	**-1.6**
KDMR				S		**Sn**	**21 03 31.4**	**+2.0**
NDR	**Nardaran**	**2.44**	**151**	S		**Sb**	**21 03 34.5**	**-1.4**
ZRD	**Zardab**	**2.52**	**193**	P		**Pb**	**21 03 06.7**	**-0.6**
ZRD				S		**Sb**	**21 03 36.5**	**-1.5**
GOBA	**Gobu**	**2.52**	**157**	S		**Sb**	**21 03 36.5**	**-1.8**
GANJ	**Ganja**	**2.62**	**218**	PN		**Pn**	**21 03 05.9**	**+1.7**
GANJ	**Ganja**	**2.62**	**218**	P		**Pn**	**21 03 06.0**	**+1.7**
	SNR=32							
GANJ				S		**Sn**	**21 03 37.7**	**+2.0**
BRDA	**Brd**	**2.64**	**201**	S		**Sn**	**21 03 38.5**	**+2.2**
KMGR	**Komgaron**	**2.64**	**278**	*e*PN		**Pb**	**21 03 07.6**	**-2.0**
KMGR				*e*S		**Sb**	**21 03 42.2**	**+0.4**
KMGR	**Komgaron**	**2.64**	**278**	*e*Pn		**Pb**	**21 03 07.6**	**-2.0**
VLKR	**Vladikavkaz**	**2.78**	**278**	*e*Pn		**Pg**	**21 03 18.2**	**+2.5**
VLKR				*i* Sn		**Sg**	**21 03 51.8**	**+0.1**
QZX	**Qazax, Azerbai**	**2.83**	**235**	P		**Pn**	**21 03 09.1**	**+1.9**
QZX				S		**Sn**	**21 03 43.8**	**+2.7**
GDB	**GEDABAY**	**2.84**	**226**	P		**Pn**	**21 03 06.7**	**-0.7**
	SNR=15							
GDB				S		**Sn**	**21 03 42.8**	**+1.3**
BTKR	**Batakoyurt**	**2.93**	**284**	*e*PN		**Pb**	**21 03 12.5**	**-1.8**
BTKR				*e*S		**Sb**	**21 03 49.3**	**-0.6**
BTKR	**Batakoyurt**	**2.93**	**284**	*e*Pn		**Pb**	**21 03 12.5**	**-1.8**
LACR	**Lac**	**3.05**	**273**	*e*PN		**Pb**	**21 03 13.7**	**-2.8**
LACR				*e*S		**Sb**	**21 03 51.1**	**-2.5**
LACR	**Lac**	**3.05**	**273**	*e*Pn		**Pn**	**21 03 12.6**	**+2.3**
ARNR	**Ardon**	**3.08**	**280**	*e*Pn		**Pn**	**21 03 11.5**	**+0.9**
ARNR				*e*Sn		**Sn**	**21 03 49.9**	**+2.8**
PRTR	**Priterechnaya**	**3.20**	**290**	*e*PN		**Pn**	**21 03 13.5**	**+1.3**
PRTR				*e*S		**Sn**	**21 03 52.3**	**+2.2**
KORR	**Kora**	**3.23**	**278**	*e*PN		**Pb**	**21 03 17.0**	**-2.5**
KORR				*e*S		**Sb**	**21 03 56.9**	**-1.8**
KORR	**Kora**	**3.23**	**278**	*e*Pn		**Pb**	**21 03 17.0**	**-2.5**
ZEI	**Tsey**	**3.34**	**272**	*e*PN		**Pb**	**21 03 20.2**	**-1.3**
ZEI				pmax		pmax		
	comp=Z,8.0nm,0.6s							
LSNR	**Lesken**	**3.43**	**281**	*e*PN		**Pn**	**21 03 18.4**	**+3.1**
LSNR				*e*S		**Sb**	**21 04 00.7**	**-3.6**
LSNR	**Lesken**	**3.43**	**281**	*e*Pn		**Pn**	**21 03 18.2**	**+2.8**
GLBA	**Clilabad**	**3.49**	**181**	P		**Pn**	**21 03 17.0**	**+0.8**
	SNR=4.8							
GLBA				S		**Sn**	**21 03 57.1**	**0.0**
DIGR	**Digorskoe uzhe**	**3.58**	**274**	*i* Pn		**Pn**	**21 03 19.8**	**+2.2**
NCK	**Nalchik**	**3.63**	**284**	*i* PN		**Pn**	**21 03 20.5**	**+2.4**
NCK	**Nalchik**	**3.63**	**284**	*e*Pn		**Pn**	**21 03 21.2**	**+3.1**
GNI	**Garni**	**3.79**	**228**	*i* PN		**Pn**	**21 03 22.7**	**+2.2**
GNI	**Garni**	**3.79**	**228**	Pn		**Pn**	**21 03 17.8**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=322,slow=19,SNR=2.5							
GNI				Pg		Pb	21 03 23.7	-5.5
	comp=Z,0.9nm,0.3s,baz=326,slow=7.9,SNR=5.8							
GNI				Lg		Lg	21 04 08.2	
	comp=Z,1.6nm,0.3s,baz=90,slow=20,SNR=3.0							
LKRN	**Lenkeran, Azer**	**4.03**	**176**	S		**Sn**	**21 04 09.4**	**-1.0**
LRK	**Lerik**	**4.09**	**181**	P		**Pn**	**21 03 24.7**	**+0.1**
	SNR=5.8							
LRK				S		**Sn**	**21 04 11.6**	**-0.6**
PYA1	**Pyatigorsk**	**4.11**	**291**	*e*PN		**Pn**	**21 03 27.1**	**+2.3**
PYA1	**Pyatigorsk**	**4.11**	**291**	*i* Pn		**Pn**	**21 03 26.7**	**+1.9**
PYA1				*e*Sn		**Sn**	**21 04 12.9**	**+0.2**
KBZ	**Khabaz**	**4.17**	**286**	Pn		**Pn**	**21 03 25.2**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=137,slow=4.9,SNR=20							
KBZ				Sn		**Sn**	**21 04 11.5**	**-2.4**
	comp=Z,1.8nm,0.3s,baz=45,slow=5.7,SNR=3.5							
KBZ				Lg		Lg	21 04 34.0	
	comp=Z,3.1nm,0.3s,baz=175,slow=12,SNR=4.2							
ASTR	**Astara**	**4.18**	**176**	P		**Pn**	**21 03 25.3**	**-0.3**
ASTR				S		**Sn**	**21 04 13.4**	**-0.8**
NEY	**Neytrino**	**4.22**	**279**	*i* PN		**Pn**	**21 03 28.8**	**+2.4**
NEY	**Neytrino**	**4.22**	**279**	*i* Pn		**Pn**	**21 03 28.7**	**+2.2**
NEY				*i* Sn		**Sn**	**21 04 18.1**	**+2.5**
ORD	**Ordubad**	**4.23**	**207**	P		**Pn**	**21 03 28.1**	**+1.6**
	SNR=5.0							
ORD				S		**Sn**	**21 04 18.1**	**+2.5**
SHA1	**Shidzhatmaz**	**4.34**	**285**	*e*PN		**Pn**	**21 03 30.2**	**+2.1**
SHA1				*e*S		**Sn**	**21 04 20.1**	**+1.5**
SHA1	**Shidzhatmaz**	**4.34**	**285**	*e*Pn		**Pn**	**21 03 30.2**	**+2.1**
SHA1				*e*Sn		**Sn**	**21 04 20.1**	**+1.5**
KVAR	**Kislovodsk Arr**	**4.36**	**288**	Pn		**Pn**	**21 03 28.4**	**+0.1**
	baz=107,slow=19,SNR=10.0							
KVAR				Sn		**Sn**	**21 04 16.9**	**-2.1**
	baz=189,slow=13,SNR=5.0							
KVAR				Lg		Lg	21 04 38.0	
	baz=191,slow=10,SNR=4.1							
KIV	**Kislovodsk**	**4.37**	**288**	*e*PN		**Pn**	**21 03 29.5**	**+1.2**
KIV				*e*			21 04 21.5	
KIV				pmax		pmax		
	comp=Z,28nm,1.0s							
KIV				MLR		MLR		
	comp=Z,414nm,8.0s							
GEYT	**Alibeck**	**8.81**	**120**	Pn		**Pn**	**21 04 25.7**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=298,slow=17,SNR=2.2							
AKTO	**Aktyubinsk**	**10.13**	**37**	P		**Pn**	**21 04 48.0**	**+0.7**
AKTO	**Aktyubinsk**	**10.13**	**37**	Pn		**Pn**	**21 04 48.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=214,slow=13,SNR=5.5							
OBN	**Obninsk**	**14.61**	**332**	*e*P		**Pn**	**21 05 51.5**	**+3.0**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.4s							
AKASG	**Malin Array Be**	**15.37**	**308**	Pn		**Pn**	**21 05 54.1**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=116,slow=11,SNR=2.0							
KIEV	**Kiev**	**15.38**	**308**	*i* P		**Pn**	**21 05 59.5**	**+0.8**
BVAR	**Borovoye Array**	**17.89**	**47**	Pn		**Pn**	**21 06 29.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=262,slow=14,SNR=2.8							
AAK	**Ala-Archa**	**19.14**	**81**	*i* P		**Pn**	**21 06 49.9**	**+3.9**
AAK				pmax		pmax		
	comp=Z,1.0nm,1.2s							
FINES	**FINESS Array B**	**23.02**	**332**	P		**P**	**21 07 25.3**	**-1.3**
	comp=Z,1.8nm,1.0s,baz=133,slow=11,SNR=5.8							
MKAR	**Makanchi Array**	**24.26**	**69**	P		**P**	**21 07 37.8**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=270,slow=7.3,SNR=3.7							
HFS	**Hagfors**	**27.33**	**322**	P		**P**	**21 08 06.0**	**-0.5**
HFS	**Hagfors**	**27.33**	**322**	P		**P**	**21 08 06.0**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=119,slow=8.4,SNR=4.7							
DGZ	**Jazzator, Alta**	**27.62**	**62**	*i* P		**P**	**21 08 12.7**	**+3.4**
KEST	**Kesra**	**30.87**	**270**	P		**P**	**21 08 35.1**	**-3.1**
	comp=Z,2.2nm,1.0s,baz=51,slow=13,SNR=3.3							
EKA	**Eskdalemuir Ar**	**35.27**	**309**	P		**P**	**21 09 15.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=101,slow=9.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**49.86**	**248**	P		P	21 11 10.3	-4.9
	comp=Z,0.3nm,0.6s,baz=38,slow=7.3,SNR=3.5							

*KRSC **19** 21:05:10.5±10.0, 52°.04N×160°.68E, h40km±10km, ML5.4*
*IDC **19** 21:05:10.7±0.4, 52°.29N×160°.15E, h0km, mb5.1/51, mb1 5.1/55, mb1mx5.0/68, mbtmp5.1/55, ML4.7/3, MS4.8/35, Ms1 4.8/35, ms1mx4.6/49, Error ellipse: s-maj=10.4km s-min=8.5km az=143.0*
*ISCJB **19** 21:05:15.9±0.3, 52°.26N±0°.02×160°.26E±0°.02, h50km±2km, mb5.2/459, MS5.0/70, Error ellipse: s-maj=3.6km s-min=1.9km az=163.5*
*MOS **19** 21:05:15.4±1.1, 52°.23N×160°.22E, h44km, mb5.5/95, MS5.1/21, Error ellipse: s-maj=5.1km s-min=2.7km az=99.0*
*BJI **19** 21:05:16.3±0.0, 52°.61N×159°.65E, h42km, mb5.2/69, mB5.2/42, Ms5.3/71, Ms7 5.2/68*
*NEIC **19** 21:05:16.4±0.1, 52°.30N×160°.13E, h35km, mb5.0/297, Error ellipse: s-maj=3.9km s-min=2.0km az=169.0*
*GCMT **19** 21:05:18.4±0.3, 52°.14N±0°.02×160°.60E±0°.03, h27km, MW5.1/96, Moment Tensor Solution. s61,c89; s96,c162; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.54±.20; $M_{\theta\theta}$-2.59±.13; $M_{\phi\phi}$-2.95±. 12; $M_{r\theta}$2.44±.23; $M_{\theta\phi}$-2.47±.08; $M_{\phi r}$1.91±.20; Best double couple: $M_0$6.21900×10^{16} NP1:ϕs219.00000°, δ30.00000°, λ83.00000°. Principal axes: T 6.3810, Plg75.0000°, Azm328.0000°; N -0.3240, Plg4.0000°, Azm225.0000°; P -6.0570, Plg15.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 21:05:15.9±0.3, 52°.22N±0°.04×160°.38E±0°.03, h39km±2km, n1500, σ1°26/1548, mb5.1/467, MS5.0/72, 95C-32D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.91**	**346**	*e*P		**Pn**	**21 05 30.9**	**-1.2**
SPN				*e*S		**Sn**	**21 05 43.8**	**-0.2**
SPN	**Mys Shipunski**	**0.91**	**346**	PN		**Pn**	**21 05 30.9**	**-1.2**
SPN				S		**Sn**	**21 05 43.8**	**-0.2**
NLC	**Nalytchevo**	**1.14**	**327**	*e*P		**Pn**	**21 05 35.2**	**-0.1**
NLC				*e*S		**Sn**	**21 05 53.8**	**+4.1**
NLC	**Nalytchevo**	**1.14**	**327**	PN		**Pn**	**21 05 35.2**	**-0.1**
NLC				S		**Sn**	**21 05 53.8**	**+4.1**
RUS	**Russkaya**	**1.17**	**281**	*e*P		**Pn**	**21 05 35.0**	**-0.6**
RUS				*e*S		**Sn**	**21 05 51.3**	**+1.0**
RUS	**Russkaya**	**1.17**	**281**	PN		**Pn**	**21 05 35.0**	**-0.6**
RUS				S		**Sn**	**21 05 51.3**	**+1.0**
DALK	**Dalny**	**1.28**	**310**	*e*P		**Pn**	**21 05 37.1**	**-0.1**
DALK				*e*S		**Sn**	**21 05 55.4**	**+2.3**
DALK	**Dalny**	**1.28**	**310**	PN		**Pn**	**21 05 37.1**	**-0.1**
DALK				S		**Sn**	**21 05 55.4**	**+2.3**
PET	**Petropavlovsk**	**1.33**	**308**	*e*Pn		**Pn**	**21 05 37.4**	**-0.5**
PET				*e*Sn		**Sn**	**21 05 51.7**	**-2.6**
PET	**Petropavlovsk**	**1.33**	**308**	⇑*i*PN		**Pn**	**21 05 37.7**	**-0.1**
PET				*e*S		**Sn**	**21 05 57.8**	**+3.6**
PET				pmax		pmax		
	comp=Z,10μm,0.7s							
PET				smax		smax		
	comp=N,26μm,0.8s							
PET				smax		smax		
	comp=E,35μm,0.9s							
PET				MLR		MLR		
	comp=Z,8μm,15.0s							
UGLR	**Uglovaya**	**1.37**	**317**	*e*P		**Pn**	**21 05 39.0**	**+0.4**
UGLR	**Uglovaya**	**1.37**	**317**	PN		**Pn**	**21 05 39.0**	**+0.4**
MTVR	**Mutnovka**	**1.37**	**282**	*e*P		**Pn**	**21 05 38.5**	**-0.1**
MTVR	**Mutnovka**	**1.37**	**282**	PN		**Pn**	**21 05 38.5**	**-0.1**
SDLR	**Sedlovina**	**1.40**	**320**	*i* P		**Pn**	**21 05 39.1**	**+0.2**
SDLR	**Sedlovina**	**1.40**	**320**	PN		**Pn**	**21 05 39.1**	**+0.2**
SMAR	**Somma**	**1.42**	**318**	*i* P		**Pn**	**21 05 39.4**	**+0.1**
SMAR	**Somma**	**1.42**	**318**	PN		**Pn**	**21 05 39.4**	**+0.1**
AVH	**Avacha**	**1.45**	**317**	*e*P		**Pn**	**21 05 40.0**	**+0.4**
AVH	**Avacha**	**1.45**	**317**	PN		**Pn**	**21 05 40.0**	**+0.4**
GRL	**Gorelyy**	**1.45**	**284**	*i* P		**Pn**	**21 05 40.7**	**+1.0**
GRL	**Gorelyy**	**1.45**	**284**	PN		**Pn**	**21 05 40.7**	**+1.0**
KRER	**Koryakskii**	**1.47**	**318**	*e*P		**Pn**	**21 05 41.2**	**+1.2**
KRER	**Koryakskii**	**1.47**	**318**	PN		**Pn**	**21 05 41.2**	**+1.2**
KDTR	**Khodutka, Kamc**	**1.48**	**255**	*e*P		**Pn**	**21 05 39.1**	**-0.8**
KDTR				*e*S		**Sn**	**21 05 57.8**	**-0.2**
KDTR	**Khodutka, Kamc**	**1.48**	**255**	PN		**Pn**	**21 05 39.1**	**-0.8**
KDTR				S		**Sn**	**21 05 57.8**	**-0.2**
KRMR	**Karymshinskiy**	**1.50**	**295**	*e*P		**Pn**	**21 05 40.5**	**+0.2**
KRMR				*e*S		**Sn**	**21 06 02.3**	**+3.7**
KRMR	**Karymshinskiy**	**1.50**	**295**	PN		**Pn**	**21 05 40.5**	**+0.2**
KRMR				S		**Sn**	**21 06 02.3**	**+3.7**
KOK	**Koryaka**	**1.51**	**316**	*e*P		**Pn**	**21 05 40.9**	**+0.5**
KOK	**Koryaka**	**1.51**	**316**	PN		**Pn**	**21 05 40.9**	**+0.5**
ASAK	**Asacha**	**1.53**	**277**	*e*P		**Pn**	**21 05 41.1**	**+0.4**
ASAK	**Asacha**	**1.53**	**277**	PN		**Pn**	**21 05 41.1**	**+0.4**
KRX	**Arik**	**1.55**	**318**	*i* P		**Pn**	**21 05 42.1**	**+1.0**
KRX	**Arik**	**1.55**	**318**	PN		**Pn**	**21 05 42.1**	**+1.0**
I44RU	**PETROPAVLOVSK-**	**1.85**	**300**	Pn		**Pn**	**21 05 46.2**	**+1.1**
	baz=113,slow=26,SNR=1.4							
I44RU				Sn		**Sn**	**21 06 12.9**	**+5.8**
	baz=108,slow=27							
PEA0B	**Petropavlovsk-**	**1.86**	**300**	*e*Pn		**Pn**	**21 05 45.8**	**+0.6**
PEA0B				*e*Sn		**Sn**	**21 06 06.0**	**-1.4**
PEA0B	**Petropavlovsk-**	**1.86**	**300**	*e*PN		**Pn**	**21 05 45.8**	**+0.6**
PEA0B				*e*			21 06 06.0	
PETK	**Petropavlovsk-**	**1.86**	**300**	Pn		**Pn**	**21 05 45.9**	**+0.8**
	comp=Z,304nm,0.3s,baz=108,slow=19,SNR=746							
PETK				Sn		**Sn**	**21 06 10.0**	**+2.6**
	comp=Z,519nm,0.3s,baz=116,slow=19,SNR=9.1							
PETK				LR		LR	21 06 43.2	
	comp=Z,30μm,18.7s,baz=59,slow=54							
PEA1	**Petropavlovsk-**	**1.86**	**300**	*e*Pn		**Pn**	**21 05 46.0**	**+0.7**
PEA1				*e*Sn		**Sn**	**21 06 10.0**	**+2.5**
APC	**Apacha**	**2.09**	**291**	*e*P		**Pn**	**21 05 49.6**	**+1.3**
APC	**Apacha**	**2.09**	**291**	PN		**Pn**	**21 05 49.6**	**+1.3**
PAU	**Pauzhetka**	**2.34**	**253**	*e*P		**Pn**	**21 05 51.7**	**0.0**
PAU	**Pauzhetka**	**2.34**	**253**	PN		**Pn**	**21 05 51.7**	**0.0**
MKZ	**Mys Kozlova**	**2.48**	**19**	*i* P		**Pn**	**21 05 52.5**	**-1.1**
MKZ				*e*S		**Sn**	**21 06 21.5**	**-1.1**
MKZ	**Mys Kozlova**	**2.48**	**19**	PN		**Pn**	**21 05 52.5**	**-1.1**
MKZ				S		**Sn**	**21 06 21.5**	**-1.1**
KZV	**Kizimen**	**2.90**	**359**	*i* P		**Pn**	**21 06 00.6**	**+1.0**
KZV	**Kizimen**	**2.90**	**359**	PN		**Pn**	**21 06 00.6**	**+1.0**
TUMD	**Tumrok D**	**2.99**	**0**	*e*P		**Pn**	**21 06 00.9**	**+0.2**
TUMR	**Tumrok**	**3.07**	**358**	PN		**Pn**	**21 06 00.9**	**-1.0**
SKR	**Severo-Kuril's**	**3.08**	**242**	*e*P		**Pn**	**21 06 01.1**	**-0.8**
SKR	**Severo-Kuril's**	**3.08**	**242**	*e*PN		**Pn**	**21 06 01.2**	**-0.7**
SKR				*e*S		**Sn**	**21 06 35.5**	**-1.9**
SKR				pmax		pmax		
	comp=Z,3μm,1.0s							
SKR				smax		smax		
	comp=E,8μm,0.7s							
SKR				smax		smax		
	comp=N,13μm,0.8s							
SKR				MLR		MLR		
	comp=Z,14μm,15.0s							
SKR				MLR		MLR		
	comp=Z,9μm,14.0s							
ALID	**Alaid**	**3.30**	**248**	*i* P		**Pn**	**21 06 05.2**	**+0.1**
ALID	**Alaid**	**3.30**	**248**	PN		**Pn**	**21 06 05.2**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**3.73**	**3**	*e*P		**Pn**	**21 06 12.9**	**+1.9**
**B

YSS MLR MLR
comp=E,4μm,15.0s
YUK Yuzh-Kuril'sk 12.67 235 *e*PN **P 21 08 20.1 -3.8**
YUK MLR MLR
comp=Z,5μm,18.0s
YUK MLR MLR
comp=E,8μm,18.0s
ASAJ Asahikawa 14.34 243 Pn **Pn 21 08 35.2 -0.9**
comp=E,4.0nm,0.3s,baz=74,slow=13,SNR=58
ASAJ LR LR 21 14 55.0
comp=E,3μm,19.1s,baz=56,slow=41
GRNR Gornyy 14.98 274 *e*P **P 21 08 48.3 -1.2**
GRNR pmax pmax
comp=Z,32nm,1.0s
ERM Erimo 15.50 236 *e*Pn **Pn 21 08 47.9 -3.6**
comp=Z,52nm,0.8s
ERM Erimo 15.50 236 *de*P **Pn 21 08 52.8 +1.3**
BILL Bilibino 16.13 8 *e*Pn **Pn 21 08 59.3 0.0**
comp=Z,105nm,1.0s
BILL *e*Sn **Sn 21 11 49.3 -7.5**
BILL Bilibino 16.13 8 *ce*P **Pn 21 08 57.3 -2.0**
BILL *e*S **Sn 21 11 56.7 -0.1**
BILL pmax pmax
comp=Z,95nm,1.0s
BILL MLR MLR
comp=Z,3μm,18.0s
TEY Ternei 17.23 255⇓*e*P **P 21 09 13.8 -0.7**
TEY pmax pmax
comp=N,30nm,0.8s
TEY pmax pmax
comp=E,80nm,0.8s
TEY pmax pmax
comp=Z,100nm,0.8s
KLR Kul'dur 18.32 272 *c i*P **Pn 21 09 26.3 -0.4**
KLR Kul'dur 18.32 272 P **Pn 21 09 26.1 -0.5**
comp=Z,1.2nm,0.3s,baz=56,slow=11,SNR=71
KLR LR LR 21 17 25.0
comp=Z,4μm,18.5s,baz=74,slow=40
ZEA Zeya 19.91 288 *e*P **P 21 09 41.8 -2.0**
ZEA pmax pmax
comp=N,21nm,0.8s
ZEA pmax pmax
comp=E,47nm,1.0s
ZEA pmax pmax
comp=Z,64nm,1.0s
ZEA MLR MLR
comp=Z,5μm,15.0s
ZEA MLR MLR
comp=E,5μm,14.0s
USRK Ussuriysk Ar. 20.45 258 P **P 21 09 47.0 -2.7**
comp=E,106nm,1.0s,baz=60,slow=11,SNR=79
USRK LR LR 21 17 38.2
comp=E,2μm,20.5s,baz=57,slow=37
MDJ Mudanjiang 21.68 262 P **P 21 10 01.4 -1.6**
MDJ pP pP 21 10 11.6 -0.6
MDJ sP sP 21 10 17.1 +0.6
MDJ SS Sn 21 14 29.6 +19
MDJ pmax pmax
comp=E,88nm,0.9s
MDJ pmax pmax
comp=E,270nm,4.6s
MDJ LR LR
comp=E,2μm,16.3s
MDJ LR LR
comp=E,2μm,18.3s
MDJ LR LR
comp=E,5μm,16.6s
MDJ Mudanjiang 21.68 262 *e*P **P 21 10 00.4 -2.5**
comp=E,65nm,0.9s
MSHR Mys Shultsa 21.87 255⇓*e*P **P 21 10 06.6 +1.6**
MAJO Matsushiro 22.15 234 *e*P **P 21 10 08.2 +0.1**
comp=E,213nm,1.0s
MAJO Matsushiro 22.15 234 *ce*P **P 21 10 07.7 -0.5**
MAJO pmax pmax
comp=Z,213nm,1.0s
MAT Matsushiro 22.15 234 P **P 21 10 07.7 -0.5**
MAT S **S 21 14 12.0 +2.2**
MJAR Matsushiro Arr 22.15 234 P **P 21 10 07.9 -0.3**
comp=Z,86nm,0.8s,baz=22,slow=9.3,SNR=176
MJAR LR LR 21 19 16.4
comp=Z,3μm,21.2s,baz=50,slow=38
MJB9 Matsu-Tunnel 22.15 234 *e*P **P 21 10 08.3 +0.2**
comp=Z,217nm,1.0s
RDOG Red Dog Mine 23.66 34 *e*P **P 21 10 24.0 +0.7**
comp=Z,25nm,0.9s
INU Inuyama 23.69 234 *e*P **P 21 10 24.6 +0.8**
comp=Z,112nm,0.8s
TIXI Tiksi 23.95 336 *c i*P **P 21 10 24.0 -1.9**
TIXI pmax pmax
comp=Z,127nm,0.9s
TIXI Tiksi 23.95 336 P **P 21 10 23.9 -2.1**
comp=Z,107nm,0.8s,baz=127,slow=8.8,SNR=318
JHJ Hachijo jima 2 24.21 226 LR LR 21 23 28.3
comp=Z,713nm,18.4s,baz=98,slow=46
CN2 Changchun 24.64 264⇓P **P 21 10 30.1 -2.4**
CN2 *e*S **S 21 14 47.9 -3.2**
CN2 pmax pmax
comp=Z,70nm,1.0s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,2μm,13.0s
CN2 LR LR
comp=Z,3μm,13.0s
CN2 LR LR
comp=Z,5μm,15.0s
HIA Hailar 25.65 280 *e*P **P 21 10 39.7 -1.9**
comp=Z,176nm,0.9s
HIA Hailar 25.65 280 *c i*P **P 21 10 39.2 -2.4**
SII Sitkinak Islan 26.43 62 *e*P **P 21 10 51.1 +2.5**
comp=Z,69nm,1.1s
RSO Redoubt South 26.72 54 *e*P **P 21 10 53.0 +1.6**
BOD Bodaibo 26.73 301 *e*P **P 21 10 48.9 -2.4**
BOD pmax pmax
comp=Z,62nm,1.2s
SNY Shenyang 26.88 262⇓P **P 21 10 51.3 -1.4**
SNY pmax pmax
comp=Z,53nm,0.9s
SNY pmax pmax
comp=Z,250nm,4.7s
SNY LR LR
comp=Z,5μm,20.0s
SNY LR LR
comp=Z,4μm,20.0s
SNY LR LR
comp=Z,2μm,19.1s
CAST Castle Rocks 27.01 47 *e*P **P 21 10 55.5 +1.7**
comp=Z,17nm,1.4s
KSRS Korea Array 27.06 250 P **P 21 10 54.8 +0.4**
comp=Z,32nm,0.9s,baz=44,slow=8.7,SNR=67
KSRS PcP **PcP 21 14 15.4 +0.8**
comp=Z,3.0nm,0.8s,baz=350,slow=2.0,SNR=5.2
KSRS LR LR 21 22 31.9
comp=Z,2μm,18.7s,baz=60,slow=39
KDAK Kodiak Island 27.09 59 *e*P **P 21 10 53.7 -0.8**
comp=Z,25nm,1.2s
KDAK Kodiak Island 27.09 59 *i*P **P 21 10 57.2 +2.7**
KDAK Kodiak Island 27.09 59 P **P 21 10 53.7 -0.8**
comp=Z,7.7nm,0.8s,baz=249,slow=7.3,SNR=6.6
KS15 Wonju Array Si 27.09 250 *e*P **P 21 10 53.8 -0.9**
comp=Z,41nm,1.0s
KS15 *e*PcP **PcP 21 14 15.4 +0.7**
BPAW Bear Paw Mtn. 27.52 46 *e*P **P 21 10 59.8 +1.4**
comp=Z,8.4nm,1.0s
SUA Susitna One 27.65 51 *e*PcP **PcP 21 14 17.5 +1.7**
MLY Manley 27.68 43 *e*P **P 21 11 00.0 +0.2**
comp=Z,6.6nm,1.0s
MLY *e*PcP **PcP 21 14 17.4 +1.6**
TJN Taejon 28.13 249⇑*e*P **P 21 11 05.9 +1.9**
BWN Browne 28.19 45 *e*P **P 21 11 07.5 +3.1**
comp=Z,107nm,1.5s
MCK McKinley 28.42 46 *e*P **P 21 11 07.5 +1.1**
comp=Z,20nm,1.3s
MCK McKinley 28.42 46 *e*P **P 21 11 07.5 +1.1**
MCK pmax pmax
comp=Z,20nm,1.3s
TOLK Toolik Lake Re 28.57 36 *e*P **P 21 11 08.3 +0.6**
comp=Z,16nm,1.3s
TOLK Toolik Lake Re 28.57 36 P **P 21 11 07.8 +0.2**
baz=261
JNU Nakatsue 28.59 240 *e*P **P 21 11 09.2 +1.0**
comp=Z,144nm,1.0s
JNU Nakatsue 28.59 240 P **P 21 11 08.1 0.0**
comp=Z,47nm,0.8s,baz=59,slow=7.2,SNR=14
MDM Murphy Dome 28.74 44 *e*P **P 21 11 10.5 +1.2**
comp=Z,9.8nm,1.2s
KNK Knik Glacier 28.75 51 *e*P **P 21 11 10.1 +0.8**
comp=Z,28nm,1.2s
SML Sawmill 28.78 50 *e*P **P 21 11 10.2 +0.6**
comp=Z,21nm,0.9s
SML Sawmill 28.78 50 *e*P **P 21 11 10.2 +0.6**
SML pmax pmax
comp=Z,21nm,0.9s
WRH Wood River Hil 28.80 45 *e*P **P 21 11 10.9 +1.2**
comp=Z,14nm,1.1s
TCOL CIGO, UAF Yank 28.90 44 P **P 21 11 11.2 +0.6**
baz=270
COLA College 28.90 44⇓*e*P **P 21 11 11.0 +0.4**
CCB Clear Creek Bu 28.92 44 *e*P **P 21 11 11.8 +1.0**
comp=Z,18nm,1.3s
SCM Sheep Creek Mo 29.25 50 *e*P **P 21 11 13.6 -0.2**
comp=Z,22nm,1.1s
SCM Sheep Creek Mo 29.25 50 *e*P **P 21 11 13.6 -0.2**
SCM pmax pmax
comp=Z,22nm,1.1s
HDA Harding Lake 29.29 45 P **P 21 11 14.8 +0.7**
baz=271
ILAR Eielson Array 29.32 44 P **P 21 11 15.1 +0.8**
comp=Z,3.6nm,0.9s,baz=266,slow=8.5,SNR=27
ILAR PcP **PcP 21 14 19.3 -0.5**
comp=Z,3.4nm,0.9s,baz=269,slow=3.6,SNR=6.7
ILAR LR LR 21 24 49.9
comp=Z,981nm,18.6s,baz=276,slow=40
ILB Eielson Array 29.32 44 *e*P **P 21 11 15.4 +1.1**
comp=Z,7.6nm,0.9s
ILB *e*PcP **PcP 21 14 19.3 -0.5**
DL2 Dalian 29.84 259 P **P 21 11 17.6 -1.5**
DL2 S **S 21 16 12.0 -1.1**
DL2 pmax pmax
comp=Z,80nm,1.0s
DL2 pmax pmax
comp=Z,410nm,11.7s
DL2 LR LR
comp=Z,1μm,14.1s
DL2 LR LR
comp=Z,1μm,15.7s
DL2 LR LR
comp=Z,2μm,21.8s
PRP Porcupine Dome 29.89 43 *e*P **P 21 11 20.6 +1.0**
comp=Z,10nm,0.8s
KLU Klutina 29.95 51 *e*P **P 21 11 21.8 +1.7**
comp=Z,16nm,1.3s
HARP HAARP 30.21 49 *e*P **P 21 11 23.4 +1.1**
comp=Z,21nm,1.3s
RIDG Independent Ri 30.24 46 *e*P **P 21 11 23.4 +0.8**
comp=Z,12nm,1.3s
BJI Beijing 32.46 266 *e*P **P 21 11 39.1 -3.1**
BJI S **S 21 16 53.4 -0.7**
BJI pmax pmax
comp=Z,5.0nm,1.2s
BJI LR LR
comp=Z,2μm,16.8s
BJI LR LR
comp=Z,2μm,17.3s
BJI LR LR
comp=Z,2μm,19.2s
DAWY Dawson 32.61 45 *e*P **P 21 11 43.9 +0.5**
comp=Z,8.2nm,1.4s
H11N2 WAKE ISLAND Hy 32.82 169 T T 21 47 07.3
baz=352,SNR=449
H11N3 WAKE ISLAND Hy 32.84 169 T T 21 47 08.2
baz=352,slow=74,SNR=421
H11N1 WAKE ISLAND Hy 32.84 169 T T 21 47 08.2
baz=352,slow=74,SNR=300
EPYK Eagle Plains 33.44 41 *e*P **P 21 11 51.5 +0.9**
comp=Z,15nm,1.1s
EPYK Eagle Plains 33.44 41 P **P 21 11 51.3 +0.7**
baz=277
IRK Irkutsk 33.63 293 *e*P **P 21 11 49.7 -2.6**
IRK pmax pmax
comp=Z,63nm,2.4s
ULN Ulaanbaatar 33.87 284 *e*P **P 21 11 53.0 -1.7**
comp=Z,26nm,1.0s
ULN Ulaanbaatar 33.87 284 *c i*P **P 21 11 52.6 -2.1**
ULN pmax pmax
comp=Z,24nm,1.0s
ULN Ulaanbaatar 33.87 284 P **P 21 11 53.4 -1.3**
SNR=14
H11S1 WAKE ISLAND Hy 34.00 169 T T 21 49 05.6
baz=352,slow=76,SNR=17
H11S3 WAKE ISLAND Hy 34.02 169 T T 21 49 09.7
baz=352,slow=76,SNR=28
H11S2 WAKE ISLAND Hy 34.02 169 T T 21 49 06.1
baz=352,slow=76,SNR=11
TLY Talaya 34.21 292 *e*P **P 21 11 56.6 -0.7**
comp=Z,48nm,1.0s
TLY Talaya 34.21 292 *c i*P **P 21 11 56.1 -1.3**
TLY Talaya 34.21 292 P **P 21 11 56.6 -0.7**
SNR=12
SONA0 Songino Array 34.28 285 *e*P **P 21 11 57.0 -1.2**
SONA0 *e*PcP **PcP 21 14 34.0 +0.4**
SONA0 *e*ScP **ScP 21 18 19.9 +4.6**
SONM Songino Array 34.28 285 P **P 21 11 57.0 -1.2**
comp=Z,8.7nm,0.8s,baz=65,slow=6.9,SNR=33
SONM PcP **PcP 21 14 34.0 +0.4**
comp=Z,4.3nm,0.9s,baz=76,slow=1.7,SNR=4.6
SONM ScP **ScP 21 18 19.9 +4.6**
comp=Z,1.1nm,1.0s,baz=70,slow=4.9,SNR=4.2
SONM LR LR 21 27 34.4
comp=Z,6μm,18.0s,baz=64,slow=39
TIA Tai'an 34.30 260 P **P 21 11 57.6 -0.7**
TIA pmax pmax
comp=Z,74nm,0.9s
TIA LR LR
comp=Z,1μm,14.9s
TIA LR LR
comp=Z,650nm,12.4s
TIA LR LR
comp=Z,2μm,14.9s
INK Inuvik 34.46 37 *e*P **P 21 11 60.0 +0.7**
comp=Z,10nm,1.0s
INK *e*PcP **PcP 21 14 34.4 +0.8**
INK Inuvik 34.46 37 P **P 21 11 59.7 +0.4**
comp=Z,6.3nm,0.8s,baz=266,slow=8.0,SNR=26
INK PcP **PcP 21 14 34.4 +0.8**
comp=Z,4.9nm,0.8s,baz=320,slow=4.6,SNR=4.9
HHC Hu-ho-hao-te 34.82 271 *e*P **P 21 12 03.1 +0.3**
HHC SS SS 21 19 32.9 -30
HHC pmax pmax
comp=Z,110nm,0.8s
HHC pmax pmax
comp=Z,360nm,4.6s
HHC LR LR
comp=Z,3μm,12.7s
HHC LR LR
comp=Z,2μm,12.5s
HHC LR LR
comp=Z,3μm,13.9s
ZAK Zakamensk 34.96 290 *e*P **P 21 12 02.1 -1.9**
ZAK pmax pmax
comp=Z,46nm,1.1s
WHY Whitehorse 35.37 50 *e*P **P 21 12 09.3 +1.9**
comp=Z,15nm,1.1s
MOY Mondy 35.72 293 *e*P **P 21 12 09.4 -1.1**
MOY pmax pmax
comp=Z,68nm,1.3s
BTO Baotou 35.91 272 *e*P **P 21 12 08.6 -3.6**
BTO S **S 21 17 50.8 +3.2**
NJ2 Nanjing 36.15 253 *e*P **P 21 12 13.8 -0.4**
NJ2 pmax pmax
comp=Z,57nm,0.9s
NJ2 LR LR
comp=Z,3μm,16.3s
NJ2 LR LR
comp=Z,1μm,13.6s
NJ2 LR LR
comp=Z,2μm,18.4s
NRIK Noril'sk 36.73 325 P **P 21 12 17.7 -1.0**
comp=Z,34nm,0.9s,baz=86,slow=8.9,SNR=55
NRIK LR LR 21 27 57.1
comp=Z,2μm,21.5s,baz=70,slow=37
SARN Sarigan 37.28 204 *e*P **P 21 12 24.0 0.0**
comp=Z,22nm,1.1s
DLBC Dease Lake 38.44 52 P **P 21 12 35.8 +2.4**
comp=Z,5.4nm,0.7s,baz=291,slow=12,SNR=8.6
WHN Wuhan 39.90 255⇑*i*P **P 21 12 47.1 +1.3**
WHN pmax pmax
comp=Z,120nm,1.0s
WHN pmax pmax
comp=Z,450nm,5.2s
WHN LR LR
comp=Z,4μm,17.3s
WHN LR LR
comp=Z,3μm,14.7s
WHN LR LR
comp=Z,3μm,14.2s
SSLB Suanglung 41.28 242 *e*P **P 21 12 57.8 +0.5**
comp=Z,29nm,1.1s
YULB Yu-li 41.41 241 *e*P **P 21 12 58.7 +0.3**
comp=Z,37nm,1.2s
TWG Pinlang 41.99 241 *e*P **P 21 13 02.8 -0.4**
comp=Z,149nm,0.9s
LZH Lanzhou 42.52 271 *e*P **P 21 13 07.3 -0.2**
LZH pP pP 21 13 17.4 -0.4
LZH sP pwP 21 13 20.9 0.0
LZH SS SS 21 22 27.8 -9.4
LZH pmax pmax
comp=Z,71nm,1.3s
LZH LR LR
comp=Z,3μm,18.4s
LZH LR LR
comp=Z,2μm,17.4s
LZH LR LR
comp=Z,3μm,17.1s
GTA Gaotai 42.88 278⇑P **P 21 13 09.3 -1.1**
GTA pP pP 21 13 20.1 -0.7
GTA sP pwP 21 13 23.9 0.0
GTA PcP **PcP 21 15 00.5 -0.2**
GTA pmax pmax
comp=Z,24nm,1.1s
GTA pmax pmax
comp=Z,370nm,5.7s
GTA LR LR
comp=Z,2μm,16.2s
GTA LR LR
comp=Z,2μm,16.8s
GTA LR LR
comp=Z,4μm,17.8s
ENH Enshi 43.02 260 *e*P **P 21 13 10.4 -1.0**
comp=Z,59nm,1.1s
ZAA1 Zalesovo Array 43.40 304 *e*P **P 21 13 11.6 -2.6**
ZAA1 *e*PP **PcP 21 14 59.5 -2.5**
ZAA0 Zalesovo Array 43.40 304 *e*P **P 21 13 11.8 -2.4**
comp=Z,18nm,0.8s
ZALV Zalesovo Beam 43.40 304 P **P 21 13 11.6 -2.6**
comp=Z,19nm,0.8s,baz=55,slow=6.7,SNR=76
ZALV PP **PcP 21 14 59.5 -2.5**
comp=Z,10.0nm,0.9s,baz=64,slow=6.6,SNR=6.4
ZALV LR LR 21 32 45.1
comp=Z,2μm,18.7s,baz=68,slow=38
YKW3 Yellowknife Ar 43.66 42 *e*P **P 21 13 16.6 +0.4**
comp=Z,5.2nm,0.9s
YKA Yellowknife Ar 43.69 42 P **P 21 13 17.1 +0.7**
comp=Z,4.6nm,0.9s,baz=298,slow=8.1,SNR=34
YKA PcP **PcP 21 15 04.1 +1.3**
comp=Z,2.1nm,0.9s,baz=312,slow=3.5,SNR=5.8
YKB5 Yellowknife Ar 43.69 42 *e*P **P 21 13 17.1 +0.7**
YKB5 *e*PcP **PcP 21 15 04.1 +1.3**
NVS Novosibirsk 43.76 305⇓*i*P **P 21 13 15.5 -1.6**
NVS *e*S **S 21 19 39.7 -4.7**
NVS pmax pmax
comp=N,39nm,1.0s
NVS pmax pmax
comp=Z,182nm,1.0s
NVS pmax pmax
comp=E,140nm,1.2s
NVS smax smax
comp=N,19nm,1.6s
RES Resolute Bay 44.07 22 *e*P **P 21 13 20.0 +0.7**
comp=N,18nm,0.9s
RES *e*PP **PcP 21 15 04.5 +0.6**
RES Resolute Bay 44.07 22 *e*P **P 21 13 20.0 +0.7**
RES *e* 21 15 04.5
RES pmax pmax
comp=Z,18nm,0.9s
RES Resolute Bay 44.07 22 P **P 21 13 20.1 +0.8**
comp=Z,14nm,0.9s,baz=300,slow=7.7,SNR=34
RES PcP **PcP 21 15 04.5 +0.6**
comp=Z,8.2nm,0.9s,baz=293,slow=6.5,SNR=4.4
DGZ Jazzator, Alta 44.22 297 *c i*P **P 21 13 19.3 -1.7**
DGZ pmax pmax
comp=Z,42nm,0.9s
CD2 Chengdu 46.06 265 P **P 21 13 35.1 -0.6**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,350nm,11.8s
CD2 LR LR
comp=Z,2μm,23.5s
CD2 LR LR
comp=Z,3μm,19.8s
CD2 LR LR
comp=Z,2μm,14.9s
WMQ Urumqi 47.43 290 P **P 21 13 45.8 -0.5**
WMQ PcP **PcP 21 15 14.1 -2.2**
WMQ pmax pmax
comp=Z,250nm,1.1s
WMQ pmax pmax
comp=Z,250nm,3.7s
WMQ LR LR
comp=Z,4μm,18.5s
WMQ LR LR
comp=Z,7μm,14.9s
WMQ LR LR
comp=Z,10μm,17.3s
WMQ Urumqi 47.43 290 *e*P **P 21 13 46.0 -0.3**
comp=Z,84nm,0.9s
WMQ Urumqi 47.43 290 *e*P **P 21 13 46.0 -0.3**
WMQ pmax pmax
comp=Z,84nm,0.9s
GYA Guiyang 47.49 259⇑*i*P **P 21 13 46.5 -0.5**
GYA sP sP 21 14 04.3 +2.8
GYA PP **PP 21 15 36.5 -2.0**
GYA S **S 21 20 31.3 -7.7**
GYA sS sS 21 20 54.0 -0.8
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.7s
GYA LR LR
comp=Z,1μm,19.6s
GYA LR LR
comp=Z,630nm,16.5s
GYA LR LR
comp=Z,310nm,17.7s
KBS Kingsbay 47.77 352 *e*P **P 21 13 48.5 +0.1**
comp=Z,107nm,1.0s
KBS Kingsbay 47.77 352 *c i*P **P 21 13 48.7 +0.3**
KBS pmax pmax
comp=Z,352nm,1.0s
KBS Kingsbay 47.77 352 *e*P **P 21 13 49.1 +0.7**
SPA0 Spitsbergen Ar 48.03 351 *e*P **P 21 13 51.1 +0.6**
SPITS Spitsbergen Ar 48.03 351 P **P 21 13 50.6 +0.1**
comp=Z,104nm,0.9s,baz=57,slow=9.1,SNR=51
KURK Kurchatov 48.35 303 *e*P **P 21 13 51.1 -2.1**
comp=Z,146nm,1.0s
KURK Kurchatov 48.35 303 *c i*P **P 21 13 50.9 -2.3**
KURK pmax pmax
comp=Z,143nm,1.0s
KURK Kurchatov 48.35 303 P **P 21 13 51.5 -1.7**
SNR=71
KURK P **P 21 13 51.5 -1.7**
SNR=71
HOPEN Hopen 48.43 347 *e*P **P 21 13 53.9 +0.4**
KURBB Kurchatov Arra 48.45 303 P **P 21 13 52.1 -1.9**
comp=Z,72nm,0.9s,baz=60,slow=7.7,SNR=275
KURBB PcP **PcP 21 15 19.9 +0.3**
comp=Z,9.8nm,0.9s,baz=58,slow=4.0,SNR=4.0
MK32 Makanchi Array 48.70 297 *e*P **P 21 13 54.1 -1.9**
MKAR Makanchi Array 48.70 297 P **P 21 13 54.1 -1.9**
comp=Z,18nm,0.7s,baz=54,slow=7.0,SNR=179
MKAR LR LR 21 35 46.7
comp=Z,2μm,19.9s,baz=36,slow=38
MAKZ Makanchi 48.86 297 *e*P **P 21 13 55.0 -2.3**
comp=Z,40nm,0.9s
MAKZ Makanchi 48.86 297 *e*P **P 21 13 55.0 -2.3**
MAKZ pmax pmax
comp=Z,40nm,0.9s
B08A Colville Reser 48.96 61 *e*P **P 21 13 59.1 +1.1**
comp=Z,7.1nm,1.0s
HSPB Hornsund (broa 49.15 350 *e*P **P 21 13 59.5 +0.4**
HSPB Hornsund (broa 49.15 350 *e*P **P 21 13 59.8 +0.7**
I03D Drain, OR 49.56 68 P **P 21 14 04.4 +1.8**
baz=309
G05D Wamic, OR 49.76 65 P **P 21 14 05.5 +1.4**
baz=308
I04A Tendick Farm, 50.04 67 P **P 21 14 07.9 +1.6**
baz=309
NEW Newport 50.19 60 *e*P **P 21 14 08.5 +1.1**
comp=Z,7.6nm,1.1s

NEW	Newport	50.19	60	eP	P	21 14 08.5	+1.1
NEW				pmax	pmax		
comp=Z,8.0nm,1.1s							
NEW	Newport	50.19	60	P	P	21 14 08.7	+1.3
baz=308							
I05D	Terrebonne, OR	50.30	66	P	P	21 14 09.8	+1.5
baz=309							
L02E	Cave Junction	50.38	69	P	P	21 14 10.6	+1.7
baz=310							
KMI	Kunming	50.85	261	P	P	21 14 12.8	-0.1
KMI				pP	pwP	21 14 26.4	+0.3
KMI				sP	sP	21 14 30.4	+3.0
KMI				S	S	21 21 25.3	-1.1
KMI				sS	sS	21 21 43.8	+1.7
KMI				SS	SS	21 24 56.4	-4.7
KMI				pmax	pmax		
comp=Z,25nm,1.3s							
KMI				pmax	pmax		
comp=Z,220nm,3.2s							
KMI				LR	LR		
comp=Z,2μm,19.9s							
KMI				LR	LR		
comp=Z,1μm,20.7s							
KMI				LR	LR		
comp=Z,880nm,21.1s							
BJO	Bjornoya	50.92	347	eP	P	21 14 12.9	+0.5
KULLO	Kullorsuaq	51.01	12	i P	P	21 14 14.0	+0.9
KULLO	Kullorsuaq	51.01	12	i P	P	21 14 14.0	+0.9
J05D	Fort Rock, OR	51.02	67	P	P	21 14 15.3	+1.4
baz=310							
BVAR	Borovoye Array	51.07	309	P	P	21 14 12.3	-1.6
comp=Z,56nm,0.9s,baz=55,slow=7.8,SNR=193							
L04D	Klamath Falls	51.09	69	P	P	21 14 15.9	+1.6
baz=310							
BRVK	Borovoye	51.10	309	eP	P	21 14 12.6	-1.5
comp=Z,67nm,0.8s							
BRVK	Borovoye	51.10	309	c i P	P	21 14 12.0	-2.1
BRVK				pmax	pmax		
comp=Z,80nm,1.0s							
BRVK	Borovoye	51.10	309	P	P	21 14 12.5	-1.6
SNR=32							
BRVK				P	P	21 14 12.5	-1.6
SNR=32							
YBH	Yreka Blue Hor	51.16	69	eP	P	21 14 17.3	+2.4
comp=Z,11nm,1.1s							
YBH	Yreka Blue Hor	51.16	69	eP	P	21 14 17.3	+2.4
YBH				pmax	pmax		
comp=Z,11nm,1.1s							
DAG	Danmarks Havn	51.28	360⇑	i P	P	21 14 15.1	-0.1
DAG				pmax	pmax		
comp=Z,30nm,1.0s							
DAG	Danmarks Havn	51.28	360⇑	i P	P	21 14 15.1	-0.1
comp=Z,30nm,1.0s							
QIZ	Qiongzhong	51.29	249	P	P	21 14 17.4	+1.5
QIZ				S	S	21 21 35.4	+3.3
QIZ				pmax	pmax		
comp=Z,30nm,0.9s							
QIZ				LR	LR		
comp=Z,730nm,16.7s							
QIZ				LR	LR		
comp=Z,770nm,17.6s							
QIZ				LR	LR		
comp=Z,830nm,13.7s							
QIZ	Qiongzhong	51.29	249	eP	P	21 14 18.4	+2.5
comp=Z,63nm,1.1s							
M02C	Callahan	51.30	70	P	P	21 14 17.8	+1.9
baz=310							
M04C	Macdoel	51.63	69	P	P	21 14 20.3	+1.8
baz=310							
N02D	Trinity Center	51.65	70	P	P	21 14 20.3	+1.7
baz=310							
WDC	Whiskeytown Da	52.00	70	eP	P	21 14 23.2	+2.1
comp=Z,14nm,1.3s							
WDC	Whiskeytown Da	52.00	70	eP	P	21 14 23.2	+2.1
WDC				pmax	pmax		
comp=Z,14nm,1.3s							
O02D	Mt. Diablo Mer	52.12	71	P	P	21 14 23.8	+1.8
baz=311							
BMO	Blue Mountains	52.22	63	eP	P	21 14 24.1	+1.4
comp=Z,9.0nm,1.3s							
BMO	Blue Mountains	52.22	63	eP	P	21 14 24.1	+1.4
BMO				pmax	pmax		
comp=Z,9.0nm,1.3s							
PDGK	Podgornoye	52.40	295	i P	P	21 14 22.6	-1.5
PDGK				pmax	pmax		
comp=Z,54nm,1.0s							
MOD	Modoc Plateau	52.43	68	eP	P	21 14 26.9	+2.4
comp=Z,9.3nm,1.0s							
O03E	Paynes Creek	52.62	70	P	P	21 14 26.7	+1.0
baz=311							
MSO	Missoula	52.77	59	eP	P	21 14 28.0	+1.1
comp=Z,24nm,1.5s							
MSO	Missoula	52.77	59	P	P	21 14 27.5	+0.7
baz=310							
PLID	Pearl Lake	52.78	62	eP	P	21 14 28.2	+1.2
comp=Z,7.0nm,1.0s							
SLVN	Son La	52.99	257	eP	P	21 14 29.5	+0.9
comp=Z,34nm,0.9s							
WVOR	Wild Horse Val	53.03	66	eP	P	21 14 30.8	+2.0
comp=Z,9.9nm,1.1s							
WVOR	Wild Horse Val	53.03	66	eP	P	21 14 30.8	+2.0
WVOR				pmax	pmax		
comp=Z,10.0nm,1.1s							
SVE	Sverdlovsk	53.04	317	de P	P	21 14 27.4	-1.1
SVE				pmax	pmax		
comp=Z,41nm,1.5s							
SVE				MLR	MLR		
comp=Z,2μm,16.0s							
OTUK	Ortayu	53.10	303	i P	P	21 14 27.1	-2.0
OTUK				pmax	pmax		
comp=Z,64nm,1.0s							
FFC	Flin Flon	53.51	46	eP	P	21 14 32.8	+0.8
comp=Z,6.9nm,0.9s							
FFC	Flin Flon	53.51	46	i P	P	21 14 33.1	+1.1
HAMF	Hammerfest	53.56	343	eP	P	21 14 30.6	-1.5
LVZ	Lovozero	53.58	338	eP	P	21 14 31.1	-1.2
comp=Z,118nm,0.9s							
LVZ	Lovozero	53.58	338	c i P	P	21 14 31.1	-1.2
LVZ				pmax	pmax		
comp=Z,102nm,0.9s							
KEV	Kevo	53.70	342	eP	P	21 14 32.8	-0.3
comp=Z,34nm,0.9s							
KEV	Kevo	53.70	342	eP	P	21 14 32.8	-0.3
KEV				pmax	pmax		
comp=Z,34nm,0.9s							
BEKR	Beckworth	53.73	70	eP	P	21 14 35.9	+1.9
comp=Z,14nm,1.3s							
HRY	Holter Researc	53.96	58	eP	P	21 14 37.1	+1.6
FCC	Fort Churchill	54.06	38	eP	P	21 14 36.4	+0.5
comp=Z,15nm,0.9s							
ARU	Arti	54.16	318	eP	P	21 14 35.4	-1.3
comp=Z,39nm,0.8s							
ARU	Arti	54.16	318	c i P	P	21 14 34.7	-2.0
ARU				pmax	pmax		
comp=Z,42nm,0.9s							
ARU	Arti	54.16	318	P	P	21 14 35.4	-1.3
comp=Z,10nm,0.4s,baz=46,slow=3.2,SNR=65							
ARU				LR	LR	21 40 38.3	
comp=Z,2μm,18.1s,baz=37,slow=39							
ARA0	ARCESS Array S	54.17	342	eP	P	21 14 36.0	-0.6
ARCES	ARCESS Array B	54.17	342	eP	P	21 14 36.0	-0.6
ARCES	ARCESS Array B	54.17	342	P	P	21 14 36.0	-0.6
comp=Z,63nm,0.9s,baz=32,slow=7.1,SNR=60							
ARCES				LR	LR	21 41 56.4	
comp=Z,555nm,18.4s,baz=24,slow=41							
ARE0	ARCESS Array S	54.17	342	eP	P	21 14 36.6	0.0
comp=Z,4.1nm,1.0s							
ARE0	ARCESS Array S	54.17	342	eP	P	21 14 36.7	0.0
EGMT	Eagleton	54.18	56	P	P	21 14 38.6	+1.5
baz=311							
TARG	Taragay, Kyrgy	54.39	294	eP	P	21 14 38.7	-0.4
comp=Z,12nm,0.9s							
PAHR	Pah Rah Range	54.40	69	eP	P	21 14 41.3	+2.4
comp=Z,18nm,1.3s							
HLID	Hailey	54.64	63	eP	P	21 14 42.2	+1.6
comp=Z,3.9nm,1.3s							
HLID	Hailey	54.64	63	P	P	21 14 41.5	+0.9
baz=312							
LSA	Lhasa	54.66	274	eP	P	21 14 41.4	+0.1
comp=Z,28nm,0.8s							
LSA	Lhasa	54.66	274	P	P	21 14 41.3	+0.1
LSA	Lhasa	54.66	274	eP	P	21 14 41.4	+0.1
LSA				pmax	pmax		
comp=Z,28nm,0.8s							
PNTR	Pine Nut	54.69	70	eP	P	21 14 44.2	+3.2
comp=Z,12nm,0.8s							
BOZ	Bozeman (W)	54.80	59	eP	P	21 14 43.1	+1.4
comp=Z,7.7nm,1.0s							
BOZ	Bozeman (W)	54.80	59	eP	P	21 14 43.1	+1.4
BOZ				pmax	pmax		
comp=Z,8.0nm,1.0s							
BOZ	Bozeman (W)	54.80	59	P	P	21 14 42.7	+1.0
baz=312,SNR=9.0							
SUMG	Summit	54.81	7	eP	P	21 14 42.3	+0.7
comp=Z,82nm,1.0s							
SUMG	Summit	54.81	7⇑	i P	P	21 14 42.4	+0.7
SUMG				pmax	pmax		
comp=Z,210nm,1.0s							
SUMG	Summit	54.81	7⇑	i P	P	21 14 42.4	+0.7
comp=Z,207nm,1.0s							
BOOM	Boomskoye usch	54.92	296	eP	P	21 14 41.8	-0.9
comp=Z,46nm,1.0s							
BOOM	Boomskoye usch	54.92	296	eP	P	21 14 41.8	-0.9
BOOM				pmax	pmax		
comp=Z,46nm,1.0s							
CMB	Columbia Colle	54.94	71	eP	P	21 14 45.1	+2.4
comp=Z,13nm,1.2s							
CMB	Columbia Colle	54.94	71	eP	P	21 14 45.1	+2.4
CMB				pmax	pmax		
comp=Z,13nm,1.2s							
YERR	Yerington	54.97	70	eP	P	21 14 44.4	+1.4
comp=Z,14nm,1.1s							
KTK1	Kautokeino	55.05	343	eP	P	21 14 42.7	-0.2
BMN	Battle Mountai	55.15	67	eP	P	21 14 46.6	+2.3
comp=Z,16nm,1.0s							
WAKR	Walker	55.17	70	eP	P	21 14 45.9	+1.4
comp=Z,12nm,1.1s							
SAO	San Andreas Ge	55.18	73	eP	P	21 14 46.7	+2.3
comp=Z,34nm,1.3s							
TRO	Tromso	55.25	345	eP	P	21 14 44.5	+0.1
PRGR	Permogore	55.27	328⇑	i P	P	21 14 44.2	-0.4
PRGR				e*SP	sP	21 15 01.0	+1.5
PRGR				pmax	pmax		
comp=Z,100nm,0.8s							
QLMT	Earthquake Lak	55.41	60	eP	P	21 14 48.0	+1.8
FRU1	Bishkek	55.43	297	eP	P	21 14 45.7	-0.5
comp=Z,90nm,1.0s							
FRU1	Bishkek	55.43	297	eP	P	21 14 45.7	-0.5
FRU1				pmax	pmax		
comp=Z,90nm,1.0s							
KVN	Kaiserville	55.58	69	eP	P	21 14 49.8	+2.4
comp=Z,14nm,1.0s							
KVN	Kaiserville	55.58	69	eP	P	21 14 49.8	+2.4
KVN				pmax	pmax		
comp=Z,14nm,1.0s							
NRN	Naryn	55.60	295	eP	P	21 14 47.0	-0.8
comp=Z,10nm,1.0s							
RYN	Ryan	55.62	70	eP	P	21 14 50.4	+2.7
comp=Z,13nm,1.4s							
AAK	Ala-Archa	55.62	297	eP	P	21 14 46.4	-1.3
comp=Z,46nm,0.9s							
AAK	Ala-Archa	55.62	297	i P	P	21 14 46.4	-1.3
SNR=59							
AAK	Ala-Archa	55.62	297	c i P	P	21 14 45.9	-1.8
AAK				pmax	pmax		
comp=Z,52nm,1.0s							
AAK	Ala-Archa	55.62	297	P	P	21 14 46.8	-0.9
SNR=29							
AAK	Ala-Archa	55.62	297	P	P	21 14 46.5	-1.1
comp=Z,45nm,1.0s,baz=84,slow=4.3,SNR=97							
AAK				LR	LR	21 39 59.7	
comp=Z,2μm,18.7s,baz=25,slow=38							
TMCR	Tamitsa	55.64	333	eP	P	21 14 46.1	-1.1
TMCR				pmax	pmax		
comp=Z,305nm,1.1s							
GCMT	Greycliff	55.70	58	eP	P	21 14 50.3	+2.2
YHH	Holmes Hill	55.74	59	eP	P	21 14 50.3	+1.6
comp=Z,6.4nm,1.0s							
SGF	Sodankyl	55.75	340	P	P	21 14 48.3	+0.3
SGF				pmax	pmax		
comp=Z,89nm,1.1s							
PANO	Nakornpanom	55.81	253	P	P	21 14 50.7	+1.6
comp=Z,2.5nm,1.1s,comp=Z,120nm							
NV01	Mina Array Sit	55.88	70	eP	P	21 14 51.6	+1.9
NVAR	Mina Array Bea	55.88	70	P	P	21 14 51.6	+1.9
comp=Z,5.2nm,1.0s,baz=291,slow=7.2,SNR=15							
NVAR				LR	LR	21 36 30.4	
comp=Z,386nm,19.5s,baz=272,slow=34							
OMMB	Old Mammoth Mi	56.03	71	eP	P	21 14 52.4	+1.6
comp=Z,11nm,1.3s							
ELK	Elko	56.06	66	eP	P	21 14 53.2	+2.3
comp=Z,4.1nm,1.0s							
ELK	Elko	56.06	66	eP	P	21 14 53.2	+2.3
ELK				pmax	pmax		
comp=Z,4.0nm,1.0s							
YPP	Pitchstone Pla	56.11	60	eP	P	21 14 53.4	+2.0
comp=Z,14nm,1.3s							
KIRV	Kirov	56.20	324	P	P	21 14 51.2	-0.1
comp=Z,55nm,0.5s,baz=49,slow=2.5,SNR=31							
KIRV				LR	LR	21 42 08.2	
comp=Z,2μm,18.9s,baz=16,slow=40							
IMW	Indian Meadow	56.29	60	eP	P	21 14 55.0	+2.4
comp=Z,7.8nm,1.0s							
FLWY	Flagg Ranch	56.30	60	eP	P	21 14 54.7	+2.1
comp=Z,23nm,1.4s							
SKNT	Sakolnakorn	56.32	253	P	P	21 14 53.9	+1.2
comp=Z,102nm,1.0s							
RLMT	Red Lodge	56.35	58	eP	P	21 14 55.0	+2.0
comp=Z,16nm,1.1s							
RLMT	Red Lodge	56.35	58	P	P	21 14 54.6	+1.6
baz=313,SNR=9.7							
FXWY	Fox Creek	56.42	61	eP	P	21 14 55.6	+2.1
comp=Z,6.3nm,1.1s							
MSF	Maaselka	56.49	338	P	P	21 14 54.4	+1.1
MOOW	Moose Ponds	56.50	60	eP	P	21 14 56.2	+2.2
comp=Z,7.7nm,1.2s							
TPAW	Teton Pass	56.56	61	eP	P	21 14 56.9	+2.4
comp=Z,17nm,1.4s							
DGMT	Dagmar	56.65	52	P	P	21 14 56.2	+1.4
baz=313							
LOHW	Long Hollow	56.66	60	eP	P	21 14 56.7	+1.5
comp=Z,15nm,1.4s							
ILULI	Ilulissat	56.69	13	eP	P	21 14 54.6	-0.1
comp=Z,30nm,0.8s							
ILULI	Ilulissat	56.69	13	eP	P	21 14 54.6	-0.1
ILULI				pmax	pmax		
comp=Z,31nm,0.8s							
REDW	Red Top Meadow	56.70	61	eP	P	21 14 56.9	+1.5
comp=Z,14nm,1.3s							
HVU	Hansel Valley	56.73	63	eP	P	21 14 57.0	+1.4
comp=Z,7.1nm,0.9s							
HVU	Hansel Valley	56.73	63	eP	P	21 14 57.0	+1.4
HVU				pmax	pmax		
comp=Z,7.0nm,0.9s							
LAO	LASA Array	56.86	55	P	P	21 14 56.9	+0.6
baz=313							
KSH	Kashi	56.91	293	P	P	21 14 59.3	+2.5
KSH				PP	PP	21 17 06.4	+3.2
KSH				S	S	21 22 45.1	-2.7
KSH				SS	SS	21 26 34.3	-1.6
KSH				pmax	pmax		
comp=Z,55nm,1.0s							
KSH				pmax	pmax		
comp=Z,350nm,3.3s							
KSH				LR	LR		
comp=Z,380nm,7.7s							
KSH				LR	LR		
comp=Z,390nm,8.7s							
KSH				LR	LR		
comp=Z,630nm,10.2s							
PAYA	Payao	56.92	259	P	P	21 14 58.4	+1.3
comp=Z,133μm,0.8s,comp=Z,989μm							
AHID	Auburn Hatcher	56.97	61	eP	P	21 14 59.9	+2.5
SMMC	Simmler	57.02	74	P	P	21 14 59.0	+1.4
baz=314							
BGU	Big Grassy Mou	57.17	64	eP	P	21 14 59.8	+1.1
comp=Z,7.7nm,1.3s							
SHL	Shillong	57.18	270	P	P	21 14 58.0	-1.0
SHL				pmax	pmax		
comp=Z,52nm,1.0s							
SHL	Shillong	57.18	270	eP	P	21 14 59.5	+0.5
VES	Vestal, Richgr	57.20	72	P	P	21 15 00.3	+1.6
baz=314							
ARSB	Arslanbob	57.34	297	eP	P	21 14 58.9	-1.0
comp=Z,34nm,0.9s							
PHRA	Phrae	57.37	258	P	P	21 15 01.4	+1.2
comp=Z,16nm,1.1s,comp=Z,163nm							
CWC	Cottonwood Cre	57.37	71	P	P	21 15 01.6	+1.4
baz=314							
STEI	Steigen	57.38	345	eP	P	21 14 59.5	0.0
GRAC	Grapevine Rang	57.40	70	P	P	21 15 02.2	+2.0
baz=314							
PKM	Mcpherson Peak	57.43	74	P	P	21 15 01.6	+0.9
baz=314							
LOF	Lofoten	57.45	346	eP	P	21 14 59.8	-0.3
KK31	Karatay Array	57.47	300	eP	P	21 14 59.0	-1.6
comp=Z,35nm,0.9s							
KK31	Karatay Array	57.47	300	eP	P	21 14 59.0	-1.6
KK31				pmax	pmax		
comp=Z,35nm,0.9s							
KKAR	Karatay Array	57.47	300	eP	P	21 14 59.0	-1.6
comp=Z,35nm,0.9s							
KKAR	Karatay Array	57.47	300	eP	P	21 14 59.0	-1.6
KKAR				pmax	pmax		
comp=Z,35nm,0.9s							
R11A	Troy Canyon, C	57.49	68	eP	P	21 15 02.8	+1.7
comp=Z,6.0nm,1.1s							
R11A	Troy Canyon, C	57.49	68	P	P	21 15 02.3	+1.3
baz=314							
KHON	Khomkaen	57.50	254	P	P	21 15 02.6	+1.5
comp=Z,122μm,1.0s							
HWUT	Hardware Ranch	57.51	63	eP	P	21 15 03.2	+2.1
comp=Z,5.7nm,1.0s							
SCO	Scoresbysund	57.59	1	eP	P	21 15 01.2	+0.2
comp=Z,13nm,1.0s							
SCO	Scoresbysund	57.59	1	eP	P	21 15 01.2	+0.2
SCO				pmax	pmax		
comp=Z,13nm,1.0s							
SCO	Scoresbysund	57.59	1	i P	P	21 15 01.5	+0.5
comp=Z,12nm,1.0s							
LAMP	Lampang	57.71	258	P	P	21 15 04.0	+1.4
comp=Z,123μm,0.9s,comp=Z,989μm							
DLV	T Lat	57.75	246	eP	P	21 15 03.3	+0.3
comp=Z,34nm,1.1s							
UTTA	Uttaradit	57.76	257	P	P	21 15 04.0	+1.1
comp=Z,112μm,0.9s,comp=Z,787μm							
DUG	Dugway, Tooele	57.79	65	eP	P	21 15 05.2	+2.1
comp=Z,9.3nm,1.0s							
DUG	Dugway, Tooele	57.79	65	P	P	21 15 04.4	+1.3
baz=314							
KLMR	Klimovskoe	57.80	330⇑	i P	P	21 15 02.1	-0.5
KLMR				pmax	pmax		
comp=Z,133nm,0.9s							
BW06	Boulder Array	57.80	60	eP	P	21 15 05.0	+1.7
BW06	Boulder Array	57.80	60	P	P	21 15 04.5	+1.3
baz=314,SNR=10							
PD31	Pinedale Array	57.80	60	eP	P	21 15 04.9	+1.7
comp=Z,8.7nm,1.0s							
PDAR	Pinedale Array	57.80	60	P	P	21 15 04.6	+1.4
comp=Z,3.7nm,0.9s,baz=311,slow=3.2,SNR=22							
PDAR				LR	LR	21 38 34.2	
comp=Z,198nm,19.5s,baz=286,slow=35							
OUL	Oulu	57.89	339	P	P	21 15 04.0	+0.8
CMMT	Chiang Mai	57.90	259	P	P	21 15 04.6	+0.7
comp=Z,48nm,1.0s,comp=Z,529nm							
CHTO	Chiang Mai	57.90	259	eP	P	21 15 04.7	+0.8
comp=Z,70nm,0.9s							
CHTO	Chiang Mai	57.90	259	eP	P	21 15 04.7	+0.8
CHTO				pmax	pmax		
comp=Z,70nm,0.9s							
CHTO	Chiang Mai	57.90	259	P	P	21 15 05.1	+1.2
SNR=24							
CHTO				P	P	21 15 05.1	+1.2
SNR=24							
MPMC	Manual Prospec	57.98	71	P	P	21 15 05.9	+1.4
baz=314							
FURC	Furnace Creek,	58.06	70	P	P	21 15 06.3	+1.5
baz=314							
TPNV	Topopah Spring	58.08	70	eP	P	21 15 07.2	+2.0
comp=Z,6.0nm,0.9s							
TPNV	Topopah Spring	58.08	70	eP	P	21 15 07.2	+2.0
TPNV				pmax	pmax		
comp=Z,6.0nm,0.9s							
TPNV	Topopah Spring	58.08	70	P	P	21 15 06.7	+1.6
baz=314							
CM31	Chiang Mai Arr	58.18	259	eP	P	21 15 07.1	+1.3
comp=Z,50nm,0.8s							
CM31	Chiang Mai Arr	58.18	259	P	P	21 15 07.1	+1.3
SNR=17							
CMAR	Chiang Mai Arr	58.18	259	P	P	21 15 06.9	+1.1
comp=Z,31nm,0.8s,baz=25,slow=7.0,SNR=197							
CMAR				LR	LR	21 42 39.8	
comp=Z,871nm,19.8s,baz=53,slow=39							
FRB	Frobisher Bay	58.24	23	P	P	21 15 04.7	-0.9
LRMC	Laurel Mtn Rad	58.27	72	P	P	21 15 07.9	+1.5
baz=315							
CHAI	Chaiyaphum	58.34	254	P	P	21 15 08.1	+1.1
comp=Z,78μm,1.0s,comp=Z,674μm							
PSUT	Pine Spring	58.35	67	eP	P	21 15 13.4	+6.3
comp=Z,5.4nm,1.1s							
NLU	North Lily Min	58.37	64	eP	P	21 15 11.6	+4.4
comp=Z,5.0nm,0.9s							
PBKT	Sadao Pong	58.42	256	P	P	21 15 08.6	+1.1
comp=Z,18nm,1.1s,comp=Z,325nm							
EDW2	Edwards Air Fo	58.50	73	P	P	21 15 10.0	+1.9
baz=315							
AKTO	Aktyubinsk	58.54	313	i P	P	21 15 06.4	-1.6
AKTO				pmax	pmax		
comp=Z,23nm,0.9s							
AKTO	Aktyubinsk	58.54	313	LR	LR	21 43 08.1	
comp=Z,2μm,18.1s,baz=41,slow=39							
MPU	Maple Canyon	58.57	64	eP	P	21 15 11.3	+2.7
comp=Z,5.1nm,0.9s							
SFJD	Kangerlussuaq	58.83	14	eP	P	21 15 09.5	-0.2
comp=Z,22nm,1.0s							
SFJD	Kangerlussuaq	58.83	14	eP	P	21 15 09.5	-0.2
SFJD				pmax	pmax		
comp=Z,23nm,1.0s							
SFJD	Kangerlussuaq	58.83	14	i P	P	21 15 09.3	-0.4
comp=Z,18nm,1.0s							
GSC	Goldstone, Bar	58.90	71	P	P	21 15 12.6	+1.7
baz=315							
ODAN	Odare	59.00	275	eP	P	21 15 11.1	-0.7
comp=Z,42nm,0.7s							
SHPR	Sheep Range	59.02	69	eP	P	21 15 13.3	+1.6
comp=Z,11nm,1.4s							
KONS	Konsvik	59.02	345	eP	P	21 15 11.8	+0.8
BFSC	Mount Baldy Ra	59.15	73	P	P	21 15 14.1	+1.5
baz=315							
JIRN	Jiri	59.15	276	eP	P	21 15 12.4	-0.6
comp=Z,119nm,0.8s							
CIS	Catalina Islan	59.29	74	P	P	21 15 14.3	+0.8
baz=315							
ULM	Lac du Bonnet	59.30	46	eP	P	21 15 14.2	+1.0
comp=Z,8.0nm,0.9s							
ULM	Lac du Bonnet	59.30	46	eP	P	21 15 14.2	+1.0
ULM				pmax	pmax		
comp=Z,8.0nm,0.9s							
ULM	Lac du Bonnet	59.30	46	P	P	21 15 13.7	+0.5
comp=Z,7.5nm,0.9s,baz=307,slow=8.0,SNR=7.5							
TMUT	Trail Mountain	59.30	64	eP	P	21 15 16.0	+2.1
comp=Z,9.4nm,0.9s							
MSU	Marysvale	59.31	66	eP	P	21 15 16.8	+3.0
MSU	Marysvale	59.31	66	eP	P	21 15 16.8	+3.0
BTK	Batken	59.40	297	eP	P	21 15 12.7	-1.6
comp=Z,67nm,0.9s							
BTK	Batken	59.40	297	eP	P	21 15 12.7	-1.6
BTK				pmax	pmax		
comp=Z,67nm,0.9s							
RAMN	Ramite	59.42	275	eP	P	21 15 13.9	-0.8
comp=Z,245nm,0.8s							
P17A	Butcher Ranch,	59.44	64	eP	P	21 15 16.8	+2.2
comp=Z,7.7nm,1.1s							
BRDH	Bariadhala	59.45	268	LR	LR	21 41 45.5	
comp=Z,1μm,18.0s,baz=65,slow=37							
K22A	Casper	59.49	59	P	P	21 15 15.3	+0.3
baz=315							
HEC	Hector,Ludlow	59.51	71	P	P	21 15 16.3	+1.3
baz=315							
Q16A	Castle Valley	59.59	65	eP	P	21 15 18.3	+2.6
comp=Z,10nm,1.3s							
KKN	Kakani	59.62	277	eP	P	21 15 15.5	-0.5
comp=Z,106nm,0.7s							
MTPU	Mount Pierson	59.63	66	eP	P	21 15 19.1	+2.9
comp=Z,12nm,1.5s							
PKI	Pulchoki	59.70	277	eP	P

DMN	Daman	59.85	277	eP	P	21 15 17.3	-0.4
	comp=Z,158nm,0.7s						
GKN	Gorkha	59.85	278	eP	P	21 15 16.9	-0.7
	comp=Z,137nm,0.8s						
SUF	Sumiainen	59.87	338	P	P	21 15 18.1	+1.1
MURC	Murrieta	59.87	73	P	P	21 15 18.9	+1.4
	baz=316						
GMRC	Granite Mounta	59.94	71	P	P	21 15 19.6	+1.6
	baz=315						
UMPA	Umpang Tak	59.97	257	P	P	21 15 21.1	+2.8
	comp=Z,173µm,0.9s						
KNB	Kanab	59.99	67	eP	P	21 15 20.2	+1.7
	comp=Z,21nm,1.3s						
KNB	Kanab	59.99	67	P	P	21 15 20.2	+1.7
KNB				pmax	pmax		
	comp=Z,35nm,1.3s						
DANN	Dangsing	60.14	279	eP	P	21 15 19.2	-0.5
	comp=Z,186nm,0.8s						
BELC	Belle Mtn. Jos	60.29	72	P	P	21 15 21.6	+1.1
	baz=316						
PFO	Pinyon Flats O	60.30	73	P	P	21 15 21.9	+1.4
	baz=316						
O20A	White River Ci	60.34	62	eP	P	21 15 22.6	+1.8
	comp=Z,17nm,1.4s						
O20A	White River Ci	60.34	62	P	P	21 15 21.9	+1.1
	baz=315						
VAF	Ylistaro	60.38	339	P	P	21 15 21.7	+1.3
GAR	Garm	60.42	296	eP	P	21 15 20.1	-1.2
	comp=Z,105nm,0.9s						
GAR	Garm	60.42	296	eP	P	21 15 20.1	-1.2
GAR				pmax	pmax		
	comp=Z,105nm,0.9s						
KOLN	Koldanda	60.66	278	eP	P	21 15 22.3	-0.8
	comp=Z,103nm,0.7s						
IRM	Iron Mountain	60.68	71	P	P	21 15 24.6	+1.6
	baz=316						
AGMN	Agassiz Nation	60.72	48	eP	P	21 15 24.0	+1.0
	comp=Z,8.4nm,0.8s						
AGMN	Agassiz Nation	60.72	48	P	P	21 15 24.0	+1.0
	baz=317						
W13A	Hualapai Mount	60.74	70	eP	P	21 15 27.3	+3.7
	comp=Z,11nm,1.4s						
MRSI	Marisa	60.77	225	P	P	21 15 24.4	+0.8
PYUN	Piuthan	60.79	279	eP	P	21 15 23.3	-0.7
	comp=Z,160nm,0.8s						
BC3	Big Chuckawall	60.86	72	P	P	21 15 26.1	+1.8
	baz=316						
FIA1	FINESS Array S	60.99	337	eP	P	21 15 24.7	+0.1
	comp=Z,121nm,1.0s						
FIA0	FINESS Array S	60.99	337	eP	P	21 15 24.7	+0.1
FIA0	FINESS Array S	60.99	337	eP	P	21 15 24.7	+0.1
FINES	FINESS Array B	60.99	337	P	P	21 15 24.7	+0.1
	comp=Z,72nm,0.9s,baz=32,slow=8.6,SNR=218						
FINES				LR	LR	21 45 33.5	
	comp=Z,872nm,18.7s,baz=12,slow=40						
PV09	Paradox Valley	61.01	64	eP	P	21 15 28.7	+3.1
NSS	Namsos	61.04	345	eP	P	21 15 25.8	+0.9
N23A	Red Feather La	61.04	60	eP	P	21 15 28.6	+3.0
	comp=Z,7.7nm,0.9s						
N23A	Red Feather La	61.04	60	P	P	21 15 27.0	+1.4
	baz=316						
PV23	Carpenter Ridg	61.11	64	eP	P	21 15 28.5	+2.3
	comp=Z,13nm,1.1s						
PV10	Paradox Valley	61.15	64	eP	P	21 15 31.8	+5.3
	comp=Z,30nm,1.3s						
PDMCI	Parker Dam,Lak	61.16	70	P	P	21 15 28.2	+2.1
	baz=316						
PV14	Lion Creek, Pa	61.16	64	eP	P	21 15 28.7	+2.2
	comp=Z,9.5nm,1.1s						
PV22	Blue Mesa, Par	61.18	64	eP	P	21 15 28.4	+1.8
	comp=Z,8.9nm,1.1s						
PV04	Paradox Valley	61.21	64	eP	P	21 15 29.0	+2.2
	comp=Z,17nm,1.2s						
PV20	West Nyswonger	61.22	64	eP	P	21 15 28.9	+2.2
	comp=Z,13nm,1.1s						
SRDT	SRDT	61.26	256	P	P	21 15 28.8	+1.8
	comp=Z,18nm,1.4s						
PV17	East Wray Mesa	61.26	64	eP	P	21 15 29.4	+2.3
	comp=Z,16nm,1.0s						
PV16	Nyswonger Mesa	61.27	64	eP	P	21 15 29.3	+2.2
	comp=Z,18nm,1.2s						
PV11	David Mesa, Pa	61.30	64	eP	P	21 15 29.6	+2.3
	comp=Z,20nm,1.1s						
CHGR	Chuyangaron	61.30	297	eP	P	21 15 28.6	+1.4
	comp=Z,43nm,0.9s						
PV18	Skein Mesa, Pa	61.32	64	eP	P	21 15 29.2	+1.7
	comp=Z,17nm,1.1s						
PV07	Paradox Valley	61.32	64	eP	P	21 15 29.7	+2.2
	comp=Z,13nm,1.2s						
PV12	Saucer Basin,	61.32	64	eP	P	21 15 29.9	+2.4
	comp=Z,24nm,1.3s						
Y12C	Blythe	61.33	71	P	P	21 15 29.7	+2.3
	baz=316						
PV05	Paradox Valley	61.33	64	eP	P	21 15 29.9	+2.3
	comp=Z,14nm,1.0s						
PV03	Paradox Valley	61.34	64	eP	P	21 15 29.4	+1.8
	comp=Z,18nm,1.3s						
SANI	Sanana	61.36	220	P	P	21 15 27.3	-0.3
PV13	Radium Mtn., P	61.43	64	eP	P	21 15 30.4	+2.1
	comp=Z,16nm,1.0s						
PV02	Paradox Valley	61.44	64	eP	P	21 15 30.7	+2.3
	comp=Z,9.7nm,1.0s						
PV01	Paradox Valley	61.58	64	eP	P	21 15 35.0	+5.7
	comp=Z,14nm,1.3s						
GLA	Glamis	61.65	72	P	P	21 15 32.0	+2.4
	baz=316						
SMCO	Snowmass	61.71	62	eP	P	21 15 32.0	+1.6
	comp=Z,6.9nm,1.1s						
LUWI	Luwuk	61.77	224	eP	P	21 15 29.8	-0.6
	comp=Z,53nm,1.1s						
MPSI	Mapaga	61.80	227	P	P	21 15 30.8	+0.1
	comp=Z,11nm,1.2s						
ISCO	Idaho Springs	62.00	61	eP	P	21 15 34.4	+2.2
	comp=Z,9.7nm,1.1s						
ISCO	Idaho Springs	62.00	61	eP	P	21 15 34.4	+2.2
ISCO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ISCO	Idaho Springs	62.00	61	P	P	21 15 33.7	+1.5
	baz=316,SNR=11						
PHET	Kaeng Krachan	62.09	254	P	P	21 15 34.7	+2.1
	comp=Z,249µm,0.8s						
APSI	Ampana	62.13	225	P	P	21 15 34.2	+1.3
	comp=Z,36nm,1.0s						
MVCO	Mesa Verde	62.28	64	eP	P	21 15 36.2	+2.2
	comp=Z,5.3nm,0.9s						
MVCO	Mesa Verde	62.28	64	P	P	21 15 35.6	+1.6
	baz=316						
MOS	Moscow	62.49	328	eP	P	21 15 32.9	-1.9
MOS				e		21 15 49.8	
MOS				pmax	pmax		
	comp=Z,300nm,1.7s						
MOS				pmax	pmax		
	comp=Z,129nm,1.3s						
MOS				pmax	pmax		
	comp=N,95nm,1.1s						
MOS				MLR	MLR		
	comp=Z,800nm,18.0s						
NIL	Nilore	62.58	290	eP	P	21 15 35.3	-0.5
	comp=Z,96nm,0.8s						
NIL	Nilore	62.58	290	eP	P	21 15 35.3	-0.5
NIL				pmax	pmax		
	comp=Z,96nm,0.8s						
X16A	Lo Mia Camp, P	62.63	69	eP	P	21 15 38.8	+2.5
	comp=Z,4.6nm,1.0s						
S22A	4UR Ranch, Cre	62.82	63	eP	P	21 15 39.5	+1.9
	comp=Z,12nm,1.3s						
S22A	4UR Ranch, Cre	62.82	63	P	P	21 15 39.0	+1.4
	baz=317,SNR=6.9						
Q24A	Divide	62.85	61	P	P	21 15 39.4	+1.5
	baz=317						
EYMN	Ely	62.94	46	P	P	21 15 38.3	+0.3
	baz=319						
OGNE	Ogallala	63.06	57	P	P	21 15 40.6	+1.6
	baz=317						
OBN	Obninsk	63.35	328	eP	P	21 15 40.0	-0.5
	comp=Z,105nm,1.1s						
OBN	Obninsk	63.35	328	c iP	P	21 15 39.5	-1.0
OBN				e		21 16 16.3	
OBN				ePPP	PPP	21 19 29.2	
OBN				pmax	pmax		
	comp=Z,90nm,1.2s						
OBN				MLR	MLR		
	comp=Z,878nm,22.0s						
OBN	Obninsk	63.35	328	P	P	21 15 39.9	-0.5
	comp=Z,15nm,1.1s,baz=61,slow=0.6,SNR=36						
VSU	Vasula	63.42	335	c iP	P	21 15 40.5	-0.4
VSU				pmax	pmax		
	comp=Z,248nm,1.0s						
VSU	Vasula	63.42	335	eP	P	21 15 40.9	+0.1
VSU				IAmb	IAmb	21 15 41.9	
	comp=Z,122nm,1.0s						
SDCO	Great Sand Dun	63.54	62	eP	P	21 15 44.3	+1.8
	comp=Z,11nm,1.4s						
SDCO	Great Sand Dun	63.54	62	P	P	21 15 43.8	+1.3
	baz=317,SNR=10.0						
MOL	Molde	63.56	346	eP	P	21 15 43.0	+1.2
214A	Organ Pipe Nat	63.62	71	P	P	21 15 44.3	+1.6
	baz=317						
SBUM	Sibu	63.67	236	eP	P	21 15 44.7	+1.5
	comp=Z,6.3nm,0.9s						
SBUM	Sibu	63.67	236	P	P	21 15 46.0	+2.9
ECSD	EROS Data Cent	63.72	52	eP	P	21 15 44.0	+0.8
	comp=Z,9.8nm,1.0s						
ECSD	EROS Data Cent	63.72	52	P	P	21 15 43.6	+0.4
	baz=318,SNR=12						
DOMB	Dombas	63.84	345	eP	P	21 15 43.9	+0.2
E38A	The Farm, Brul	63.93	47	eP	P	21 15 45.9	+1.4
	comp=Z,20nm,0.9s						
E38A	The Farm, Brul	63.93	47	P	P	21 15 45.2	+0.7
	baz=320						
AKN	Aaknes	64.02	346	eP	P	21 15 45.6	+0.7
NC303	NORSAR Array S	64.23	344	eP	P	21 15 46.7	+0.5
	comp=Z,54nm,1.0s						
F38A	Pierce - Schro	64.27	48	P	P	21 15 47.0	+0.2
	baz=320,SNR=11						
NC405	NORSAR Array S	64.28	344	eP	P	21 15 47.0	+0.5
	comp=Z,48nm,0.8s						
NC204	NORSAR Array S	64.29	344	eP	P	21 15 46.8	+0.1
	comp=Z,66nm,0.9s						
SPMN	Marine on St.	64.41	49	eP	P	21 15 48.5	+0.9
	comp=Z,11nm,0.9s						
SPMN	Marine on St.	64.41	49	P	P	21 15 47.9	+0.2
	baz=320						
NB201	NORSAR Array S	64.41	344	eP	P	21 15 47.8	+0.4
	comp=Z,79nm,1.1s						
NB2	NORSAR Subarra	64.43	344	P	P	21 15 47.4	-0.2
	comp=Z,168nm,2.0s,baz=21,slow=6.9						
NB2	NORSAR Subarra	64.43	344	P	P	21 15 47.4	-0.2
	baz=21,slow=6.9						
NB200	NORSAR Array S	64.43	344	eP	P	21 15 47.5	-0.2
NOA	NORSAR Array B	64.43	344	P	P	21 15 47.5	-0.2
	comp=Z,18nm,0.7s,baz=22,slow=6.6,SNR=75						
NOA				LR	LR	21 47 32.2	
	comp=Z,390nm,19.1s,baz=15,slow=40						
NBO00	NORSAR Array S	64.51	344	eP	P	21 15 48.4	+0.3
	comp=Z,72nm,1.4s						
TUC	Tucson	64.54	70	eP	P	21 15 50.5	+1.7
	comp=Z,5.3nm,1.3s						
TUC	Tucson	64.54	70	eP	P	21 15 50.5	+1.7
TUC				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TUC	Tucson	64.54	70	P	P	21 15 49.4	+0.6
	baz=317						
E39A	Mellen	64.55	46	P	P	21 15 48.5	-0.1
	baz=320						
T25A	Trinidad	64.58	62	eP	P	21 15 50.5	+1.3
	comp=Z,12nm,1.1s						
T25A	Trinidad	64.58	62	P	P	21 15 49.9	+0.8
	baz=318						
LPSR	Galich'ya Gora	64.60	325	eP	P	21 15 47.5	-1.2
LPSR				pmax	pmax		
	comp=Z,90nm,0.8s						
NC602	NORSAR Array S	64.66	344	eP	P	21 15 49.1	+0.1
	comp=Z,28nm,1.1s						
NC602	NORSAR Array S	64.66	344	eP	P	21 15 49.7	+0.7
NORES	NORESS Array B	64.66	344	P	P	21 15 48.7	-0.3
NAO01	NORSAR Array S	64.67	344	eP	P	21 15 49.2	+0.1
	comp=Z,32nm,0.9s						
VRH	Novokhopyorsk	64.71	322	eP	P	21 15 48.1	-1.4
VRH				pmax	pmax		
	comp=Z,50nm,0.6s						
F39A	Loretta	64.74	47	P	P	21 15 49.8	-0.1
	baz=320						
E40A	Wakefield	64.79	46	P	P	21 15 49.3	-0.8
	baz=320,SNR=10.0						
HFS	Hagfors	64.84	342	P	P	21 15 50.3	+0.1
	comp=Z,13nm,0.6s,baz=45,slow=6.5,SNR=37						
G38A	Ridgeland	64.89	48	P	P	21 15 50.7	-0.1
	baz=320,SNR=6.3						
TASM	ASL Pad, Albuq	65.06	65	P	P	21 15 52.9	+0.6
	baz=318						
TASM	ASL Pad, Albuq	65.06	65	P	P	21 15 53.1	+0.8
	baz=318						
ANMO	Albuquerque	65.06	65	eP	P	21 15 54.1	+1.7
	comp=Z,8.8nm,1.4s						
ANMO	Albuquerque	65.06	65	cePP	P	21 15 53.2	+0.8
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ANMO	Albuquerque	65.06	65	P	P	21 15 53.1	+0.8
	baz=318						
H38A	Maiden Rock	65.07	49	P	P	21 15 52.0	+0.1
	baz=320						
F40A	Park Falls	65.09	47	P	P	21 15 51.3	-0.8
	baz=321						
HYA	Hoyanger	65.10	347	eP	P	21 15 52.5	+0.7
G39A	Holcombe	65.11	48	P	P	21 15 52.3	+0.1
	baz=320						
E41A	Kenton	65.19	45	P	P	21 15 52.5	-0.2
	baz=321,SNR=7.0						
SKAR	Skarslia	65.25	345	eP	P	21 15 53.3	+0.4
SLIT	Slitere, Latvi	65.28	337	eP	P	21 15 52.5	-0.6
SLIT				IAmb	IAmb	21 15 54.8	
	comp=Z,782nm,0.9s						
COWI	Conover	65.39	46	eP	P	21 15 54.6	+0.5
	comp=Z,8.4nm,0.8s						
SUE	Sulen	65.40	347	eP	P	21 15 54.6	+0.8
KSM	Kuching	65.49	237	eP	P	21 15 57.1	+2.1
	comp=Z,34nm,1.1s						
KSM	Kuching	65.49	237	P	P	21 15 57.0	+2.0
H39A	Augusta	65.52	48	P	P	21 15 55.2	+0.3
	baz=320						
BNM	Barren Site	65.55	65	eP	P	21 15 58.3	+2.8
BNM				ePcP	PcP	21 16 20.3	-6.8
OSL	Oslo	65.55	344	eP	P	21 15 55.1	+0.3
G40A	Rib Lake	65.56	47	P	P	21 15 55.8	+0.6
	baz=321						
VSR	Storozhevoye	65.64	324	c iP	P	21 15 53.6	-2.0
VSR				pmax	pmax		
	comp=Z,78nm,1.0s						
E42A	Champion	65.67	45	P	P	21 15 55.8	0.0
	baz=321						
SPSI	Sidrap Palu	65.68	225	P	P	21 15 57.1	+0.9
	comp=Z,18nm,1.1s,comp=Z,238nm						
F41A	Three Lakes	65.69	46	eP	P	21 15 56.8	+0.8
	comp=Z,11nm,1.0s						
F41A	The Lakes	65.69	46	P	P	21 15 55.9	-0.1
	baz=321						
IZAR	Zarasai	65.92	334	eP	P	21 15 57.3	0.0
IZAR				IAmb	IAmb	21 15 59.1	
	comp=Z,27nm,1.1s						
BNSI	Bone	65.92	225	P	P	21 15 59.2	+1.4
BER	Bergen	65.97	347	eP	P	21 15 57.9	+0.4
KONO	Kongsberg	66.02	344	eP	P	21 15 58.7	+0.9
	comp=Z,18nm,0.9s						
KONO	Kongsberg	66.02	344	⇓eP	P	21 15 58.4	+0.6
KONO				pmax	pmax		
	comp=Z,55nm,2.3s						
KONO	Kongsberg	66.02	344	eP	P	21 15 58.7	+0.9
I39A	Houston	66.05	49	P	P	21 15 58.6	+0.3
	baz=320						
KRAB	Krabi	66.08	252	P	P	21 16 05.3	+6.5
319A	Douglas	66.09	69	eP	P	21 16 01.4	+2.5
	comp=Z,25nm,1.3s						
121A	Cookes Peak, D	66.09	67	P	P	21 16 00.3	+1.3
	baz=318						
TRTT	Trang	66.10	251	P	P	21 16 11.4	+12
ISAL	Salakas	66.11	334	eP	P	21 15 58.3	-0.2
ISAL				IAmb	IAmb	21 16 00.4	
	comp=Z,24nm,1.0s						
E43A	Lone Tree Farm	66.11	44	P	P	21 15 58.6	0.0
	baz=322						
KTGM	Kuala Trenggan	66.16	246	P	P	21 16 02.0	+2.6
IDID	Didziasalis	66.16	333	eP	P	21 15 58.9	+0.1
IDID				IAmb	IAmb	21 16 00.7	
	comp=Z,33nm,1.0s						
ODD1	Odda	66.24	346	eP	P	21 16 00.3	+1.0
IIGN	Ignalina	66.28	333	eP	P	21 15 59.7	+0.2
IIGN				IAmb	IAmb	21 16 01.5	
	comp=Z,54nm,1.1s						
H41A	Junction City	66.31	47	P	P	21 16 00.7	+0.7
	baz=321						
SCHQ	Schefferville	66.34	28	eP	P	21 16 00.5	+0.4
	comp=Z,27nm,0.8s						
SCHQ	Schefferville	66.34	28	P	P	21 16 00.4	+0.4
	comp=Z,22nm,0.8s,baz=337,slow=5.8,SNR=12						
SCHQ				LR	LR	21 49 03.0	
	comp=Z,270nm,18.3s,baz=30,slow=40						
J39A	Decorah	66.36	49	P	P	21 16 00.9	+0.6
	baz=321						
G42A	Mountain	66.37	46	P	P	21 16 00.7	+0.4
	baz=322						
E44A	Grand Marais A	66.38	44	P	P	21 16 00.8	+0.4
	baz=322						
I40A	Norwalk	66.43	48	P	P	21 16 00.7	0.0
	baz=321						
F43A	Flat Rock, Esc	66.46	45	P	P	21 16 01.0	+0.1
	baz=322						
NACGM	Naroch	66.51	333	e	P	21 16 01.0	-0.1
NACGM				eLQ	LQ	21 44 44.0	
NACGM				eLR	LR	21 47 10.0	
NACGM				LRM	MLR	21 48 40.0	
	comp=Z,3.6nm,16.0s						
MICGM	Minsk	66.55	332	eP	P	21 16 01.0	-0.3
MICGM				PM		21 16 02.0	
	comp=Z,0.4nm,1.4s						
MICGM				eLR	LR	21 46 22.0	
MICGM				LRM	MLR	21 49 04.0	
	comp=Z,1.8nm,16.0s						
MNK	Minsk	66.55	332⇑	eP	P	21 16 01.0	-0.3
MNK				pmax	pmax		
	comp=Z,380nm,1.4s						
MNK				MLR	MLR		
	comp=Z,2µm,16.0s						
KAPI	Kappang	66.63	225	eP	P	21 16 03.1	+0.9
	comp=Z,29nm,1.4s						
KAPI	Kappang	66.63	225	eP	P	21 16 03.2	+0.9
KAPI				pmax	pmax		
	comp=Z,29nm,1.4s						
KAPI	Kappang	66.63	225	P	P	21 16 03.7	+1.4
	SNR=5.0						
KAPI	Kappang	66.63	225	P	P	21 16 03.1	+0.9
	comp=Z,2.9nm,0.4s,baz=312,slow=0.8,SNR=9.8						
I41A	Arkdale	66.64	48	P	P	21 16 02.5	+0.4
	baz=321						
F44A	Big Bay de Noc	66.67	44	P	P	21 16 02.6	+0.3
	baz=322						
G43A	Wallace	66.69	46	eP	P	21 16 03.5	+1.1
	comp=Z,12nm,0.8s						
G43A	Wallace	66.69	46	P	P	21 16 02.8	+0.5
	baz=322						
BLS5	Blasjo	66.73	346	eP	P	21 16 03.1	+0.6
BKSI	Bulukumba	66.74	224	P	P	21 16 03.2	+0.2
SCIA	State Center	66.74	51	eP	P	21 16 03.8	+1.0
	comp=Z,144nm,1.3s						
SCIA	State Center	66.74	51	P	P	21 16 03.4	+0.7
	baz=320						
PABE	Paberze	66.75	335	eP	P	21 16 02.5	0.0
PABE				IAmb	IAmb	21 16 04.3	
	comp=Z,186nm,1.1s						
K39A	Oelwein	66.76	50	P	P	21 16 02.9	0.0
	baz=321						
J40A	Soldiers Grove	66.76	49	P	P	21 16 03.2	+0.3
	baz=321						
PBUR	Paburg	66.80	336	eP	P	21 16 02.2	-0.7
PBUR				IAmb	IAmb	21 16 04.7	
	comp=Z,163nm,1.1s						
D46A	Sault St. Mari	66.95	42	P	P	21 16 03.6	-0.4
	baz=323						
KMY	Karmoy	67.11	346	eP	P	21 16 05.6	+0.8
K40A	Colesburg	67.11	49	P	P	21 16 05.0	-0.1
	baz=321						
J41A	Loganville	67.12	48	P	P	21 16 05.4	+0.2
	baz=321						
MATQ	Matagami	67.12	37	P	P	21 16 04.8	-0.3
	baz=326						
L39A	Vinton	67.15	50	P	P	21 16 05.0	-0.4
	baz=321,SNR=7.0						
D47A	Chapleau	67.20	42	P	P	21 16 05.5	-0.1
	baz=324						
I42A	Draeger Farm,	67.21	47	P	P	21 16 05.8	+0.1
	baz=322						
E46A	Sault Ste Mari	67.26	43	ePcP	PcP	21 16 30.9	-2.7
E46A	Sault Ste Mari	67.26	43	P	P	21 16 05.3	-0.6
	baz=323						
F45A	CMU Biological	67.29	44	P	P	21 16 06.2	0.0
	baz=323						
BSSI	Bau Bau, Buton	67.32	224	P	P	21 16 07.2	+0.5
	comp=Z,47nm,1.0s,comp=Z,715nmcomp=Z,181µm						
HOMB	Homborsund	67.51	344	eP	P	21 16 08.3	+1.0
F46A	Macinaw City C	67.54	43	P	P	21 16 07.8	+0.1
	baz=323						
I43A	Langenfeld Bro	67.56	47	P	P	21 16 07.9	-0.1
	baz=322						
J42A	Columbus	67.56	48	P	P	21 16 07.1	-0.9
	baz=322,SNR=5.4						
L40A	Anamosa	67.57	50	eP	P	21 16 08.1	+0.1
	comp=Z,12nm,0.9s						
L40A	Anamosa	67.57	50	P	P	21 16 08.2	+0.1
	baz=321						
KULM	Kulim	67.60	248	P	P	21 16 11.0	+2.5
E47A	Iron Bridge	67.61	42	P	P	21 16 08.0	-0.2
	baz=324						
D48A	Paudash Townsh	67.63	41	P	P	21 16 07.2	-1.2
	baz=324,SNR=5.8						
GEYT	Alibeck	67.71	303	P	P	21 16 08.8	-0.3
	comp=Z,20nm,0.8s,baz=20,slow=4.7,SNR=34						
GEYT				LR	LR	21 48 15.5	
	comp=Z,2µm,18.6s,baz=35,slow=38						
GYA0B	ALIBECK ARRAY	67.71	303	eP	P	21 16 09.0	-0.1
	comp=Z,25nm,0.8s						
AMTX	Amarillo	67.73	62	eP	P	21 16 12.8	+3.5
	comp=Z,6.0nm,0.8s						
AMTX	Amarillo	67.73	62	P	P	21 16 10.4	+1.2
	baz=319						
D49A	Beulah Townshi	67.73	40	P	P	21 16 08.3	-0.6
	baz=324						
G45A	Suttons Bay	67.74	44	P	P	21 16 09.5	+0.4
	baz=323						
MSTX	Muleshoe	67.82	63	eP	P	21 16 11.6	+1.7
	comp=Z,17nm,1.1s						
MSTX	Muleshoe	67.82	63	P	P	21 16 11.0	+1.1
	baz=319						
K42A	Prairie Point,	67.88	48	P	P	21 16 09.4	-0.6
	baz=322,SNR=5.3						
LSQQ	Lebel-sur-Quev	67.94	37	P	P	21 16 10.6	+0.3
	baz=326						
E48A	Lockeyer	68.05	41	P	P	21 16 10.2	-0.7
	baz=324,SNR=6.7						
IPM	Ipoh	68.05	248	eP	P	21 16 12.1	+0.7
	comp=Z,24nm,1.1s						
IPM	Ipoh	68.05	248	P	P	21 16 12.0	+0.6
MNTX	Cornudas Mount	68.07	66	eP	P	21 16 13.7	+2.3
	comp=Z,7.2nm,1.0s						
MNTX	Cornudas Mount	68.07	66	P	P	21 16 12.4	+1.0
	baz=319						
CHGQ	Chibougamau	68.17	35	P	P	21 16 10.9	-0.8
	baz=328,SNR=7.0						
N40A	Mertquake, Sal	68.31	51	P	P	21 16 12.9	+0.2
	baz=321						
H46A	Fife Lake	68.33	44	P	P	21 16 12.9	+0.1
	baz=323						
L42A	Oliver, Polo	68.34	49	P	P	21 16 11.8	-1.0
	baz=322						
F48A	Evansville	68.39	42	P	P	21 16 13.1	0.0
	baz=324						
G47A	Hillman	68.40	43	P	P	21 16 12.9	-0.3
	baz=324						
K43A	Burlington	68.40	48	eP	P	21 16 13.2	0.0
	comp=Z,21nm,0.9s						
K43A	Burlington	68.40	48	P	P	21 16 13.1	-0.1
	baz=322						
M41A	Milan	68.42	50	P	P	21 16 13.3	0.0
	baz=322						
E50A	Wahnapitae	68.67	41	P	P	21 16 14.8	0.0

baz=326
MUD Monsted U'grnd 69.12 343 *i* P **P 21 16 18.3 +0.9**
MUD pmax pmax
comp=Z,28nm,1.0s
MUD Monsted U'grnd 69.12 343 *i* P **P 21 16 18.3 +0.9**
comp=Z,28nm,1.0s
D52A ZEK Kipawa Sen 69.13 39 P **P 21 16 17.6 -0.1**
baz=326
COP Copenhagen 69.24 341⇑ *i*P **P 21 16 18.9 +0.7**
COP pmax pmax
comp=Z,37nm,0.8s
COP Copenhagen 69.24 341⇑ *i*P **P 21 16 18.9 +0.7**
comp=Z,37nm,0.8s
BSD Bornholm Skovb 69.26 340 *i* P **P 21 16 19.3 +1.0**
D53A Lac Vacive, Po 69.32 38 *e*P **P 21 16 18.9 +0.1**
comp=Z,14nm,1.0s
D53A Lac Vacive, Po 69.32 38 P **P 21 16 18.0 -0.8**
baz=326,SNR=8.0
TOBO Tobermory, Bru 69.33 42 P **P 21 16 18.7 -0.2**
baz=325
WMOK Wichita Mounta 69.40 60 *e*P **P 21 16 20.5 +0.9**
comp=Z,7.9nm,0.9s
WMOK Wichita Mounta 69.40 60 *e*P **P 21 16 20.5 +0.9**
WMOK pmax pmax
comp=Z,8.0nm,0.9s
WMOK Wichita Mounta 69.40 60 P **P 21 16 19.9 +0.3**
baz=320,SNR=5.4
F51A Arnstein 69.40 40 P **P 21 16 19.0 -0.4**
baz=326
AKASG Malin Array Be 69.45 329 P **P 21 16 19.0 -0.6**
comp=Z,5.9nm,0.4s,baz=31,slow=6.4,SNR=127
AKASG LR LR 21 52 03.8
comp=Z,1μm,18.6s,baz=25,slow=41
AKBB Malin Array Si 69.45 329 *e*P **P 21 16 19.1 -0.6**
comp=Z,105nm,1.3s
KIEV Kiev 69.47 329 *e*P **P 21 16 18.4 -1.3**
comp=Z,113nm,1.3s
KIEV Kiev 69.47 329 *i* P **P 21 16 18.9 -0.8**
SNR=15
KIEV Kiev 69.47 329*c i*P **P 21 16 18.7 -1.0**
KIEV pmax pmax
comp=Z,61nm,1.1s
GROC Groznyy 69.47 315 *e*P **P 21 16 17.4 -2.5**
GROC *e* 21 16 39.9
GROC *e* 21 18 51.8
GROC *e*S **S 21 25 22.8 -1.5**
GROC pmax pmax
comp=Z,20nm,1.0s
J47A Sunmer 69.54 45 *e*P **P 21 16 21.7 +1.4**
comp=Z,19nm,0.8s
J47A Sunmer 69.54 45 P **P 21 16 20.4 +0.1**
baz=324
K46A Dorr 69.56 46 P **P 21 16 20.8 +0.4**
baz=323
M44A Midewin, Midew 69.57 48 *e*P **P 21 16 20.9 +0.3**
comp=Z,19nm,1.1s
M44A Midewin, Midew 69.57 48 P **P 21 16 21.0 +0.5**
baz=323
E52A Mattawa 69.61 39 P **P 21 16 20.7 +0.1**
baz=326
HDIL Hopedale 69.65 50 P **P 21 16 20.9 -0.1**
baz=322
D54A Lac Fusel, La 69.65 38 P **P 21 16 20.4 -0.6**
baz=327,SNR=6.0
F52A Sundridge 69.75 40 P **P 21 16 21.5 -0.1**
baz=326
KLBO Killbear Provi 69.75 41 P **P 21 16 20.9 -0.7**
baz=326,SNR=5.0
I49A Point Hope 69.83 43 P **P 21 16 22.3 +0.2**
baz=324
E53A Dumoine, Ponti 69.91 39 P **P 21 16 22.0 -0.6**
baz=326
K47A Vermontville 69.92 46 P **P 21 16 23.1 +0.5**
baz=324
J48A Bridge Port 69.94 44 P **P 21 16 25.0 +2.3**
baz=324
BMRO Meriville Lake 69.97 42 P **P 21 16 22.3 -0.5**
baz=325
N44A Piper City 70.00 49 P **P 21 16 23.4 +0.3**
baz=323
BUKO Buck Lake 70.01 40 P **P 21 16 22.2 -1.0**
baz=326
E54A Lac Daplat, Po 70.05 38 P **P 21 16 22.6 -0.8**
baz=327,SNR=5.5
TUL1 Leonard 70.06 57 P **P 21 16 23.9 +0.2**
baz=321
ALGO Algonquin Park 70.12 39 P **P 21 16 23.3 -0.5**
baz=326
RGN Rugen 70.13 340 *e*P **P 21 16 25.4 +1.7**
comp=Z,130nm,1.0s
KIV Kislovodsk 70.20 317 *e*P **P 21 16 24.4 0.0**
comp=Z,12nm,0.8s
KIV Kislovodsk 70.20 317 *i* P **P 21 16 24.4 0.0**
SNR=7.7
KIV Kislovodsk 70.20 317 *e*P **P 21 16 24.2 -0.2**
KIV pmax pmax
comp=Z,52nm,1.1s
KIV MLR MLR
comp=Z,μm,17.0s
KIV Kislovodsk 70.20 317 P **P 21 16 24.8 +0.3**
SNR=12
K48A Perry 70.20 45 P **P 21 16 24.9 +0.6**
baz=324
N45A Kentland 70.25 48 P **P 21 16 25.1 +0.5**
baz=323
BASO Ashfield 70.26 43 P **P 21 16 25.0 +0.3**
baz=325
P43A Skaggs, Pawnee 70.26 50 P **P 21 16 25.0 +0.2**
baz=322
KBZ Khabaz 70.29 317 P **P 21 16 25.0 +0.2**
comp=Z,28nm,0.9s,baz=37,slow=4.0,SNR=55
KBZ LR LR 21 52 12.5
comp=Z,856nm,18.6s,baz=10.0,slow=40
Q42A Golden Eagle 70.35 52 P **P 21 16 26.0 +0.7**
baz=322
R41A Rosebud 70.43 52 P **P 21 16 25.7 -0.1**
baz=322,SNR=6.2
GKP Gorka Klasztor 70.45 338 *e*P **P 21 16 26.3 +0.6**
GKP Gorka Klasztor 70.45 338 *e*P **P 21 16 26.3 +0.6**
K49A Clarkson 70.50 45 P **P 21 16 26.6 +0.4**
baz=324
G53A Haliburton 70.58 40 P **P 21 16 26.2 -0.5**
baz=326,SNR=5.1
PSI Prapat 70.61 248 *e*P **P 21 16 27.5 +0.1**
comp=Z,15nm,1.1s
PSI Prapat 70.61 248 P **P 21 16 27.5 +0.1**
comp=Z,3.8nm,0.4s,baz=311,slow=5.0,SNR=6.6
O45A Potomac 70.62 49 P **P 21 16 27.5 +0.5**
baz=323
PEMO Pembroke 70.66 39 P **P 21 16 27.5 +0.4**
baz=327
CCM Cathedral Cave 70.68 53 *e*P **P 21 16 28.2 +0.9**
comp=Z,8.4nm,1.1s
CCM Cathedral Cave 70.68 53 P **P 21 16 28.1 +0.7**
baz=322
I51A Listowel 70.70 42 P **P 21 16 28.3 +0.9**
baz=325
HHAR Hobbs 70.72 56 *e*P **P 21 16 28.4 +0.7**
comp=Z,9.5nm,0.9s
L48A N Adams 70.75 46 P **P 21 16 28.3 +0.6**
baz=324
NEY Neytrino 70.76 317⇓ *e*P **P 21 16 28.8 +0.8**
NEY pmax pmax
comp=Z,2.0nm,0.8s
S41A Jillco Farms, 70.80 53 P **P 21 16 27.8 -0.4**
baz=322,SNR=6.4
AAM Ann Arbor 70.80 45 *e*P **P 21 16 30.2 +2.2**
comp=Z,22nm,0.8s
AAM Ann Arbor 70.80 45 P **P 21 16 28.8 +0.8**
baz=324
SFIN Lafayette 70.81 48 P **P 21 16 28.7 +0.6**
baz=323
LTX Lajitas 70.82 67 *e*P **P 21 16 29.5 +1.0**
LTX Lajitas 70.82 67 *e*P **P 21 16 29.5 +1.0**
TXAR Lajitas Array 70.82 67 P **P 21 16 29.5 +1.1**
comp=Z,2.7nm,0.7s,baz=298,slow=4.4,SNR=30
I52A Shelburne 70.83 42 P **P 21 16 28.2 0.0**
baz=326
F55A Otter Lake 70.87 38 P **P 21 16 27.9 -0.4**
baz=327
LATQ La Tuque 70.87 35 P **P 21 16 28.2 -0.2**
baz=329
BEL Belsk 70.88 335 *e*P **P 21 16 29.2 +1.0**
BEL Belsk 70.88 335 *e*P **P 21 16 29.3 +1.0**
PLAI Plampang 70.89 225 P **P 21 16 26.8 -2.0**
BANO Bancroft 70.94 40 P **P 21 16 28.1 -0.8**
baz=327,SNR=5.8

TBLG Delisi 71.12 315 *e*P **P 21 16 30.6 +0.6**
comp=Z,42nm,1.1s
TBLG Delisi 71.12 315 *e*P **P 21 16 30.6 +0.6**
TBLG pmax pmax
comp=Z,42nm,1.1s
FVM French Village 71.14 52 *e*P **P 21 16 30.8 +0.6**
comp=Z,19nm,1.4s
FVM French Village 71.14 52 *e*P **P 21 16 30.8 +0.6**
FVM pmax pmax
comp=Z,19nm,1.4s
U40A Yellville 71.21 55 P **P 21 16 30.3 -0.3**
baz=322,SNR=9.8
G55A Calabogie 71.22 39 P **P 21 16 30.3 -0.2**
baz=327
TRQ Mont Tremblant 71.22 37 *e*P **P 21 16 30.6 0.0**
ACTO Acton 71.25 42 P **P 21 16 30.8 0.0**
baz=326
PLVO Plevna 71.26 39 *e*P **P 21 16 31.4 +0.7**
comp=Z,15nm,1.2s
PLVO Plevna 71.26 39 P **P 21 16 30.7 -0.1**
baz=327
N48A Decatur 71.36 47 P **P 21 16 30.9 -0.6**
baz=324,SNR=7.7
P46A Rosedale 71.37 49 P **P 21 16 31.9 +0.4**
baz=323
L50A Kingsville 71.38 45 P **P 21 16 31.8 +0.2**
baz=325
J52A Paris 71.39 42 P **P 21 16 31.2 -0.3**
baz=326
HYB Hyderabad 71.45 275⇑ *i*P **P 21 16 32.0 -0.4**
comp=Z,131nm,0.8s
DELO Deloro Mine 71.48 40 P **P 21 16 32.4 +0.3**
baz=327
Q45A Warren Harvey, 71.50 50 P **P 21 16 32.1 -0.1**
baz=323
ORIO Orleans, Innes 71.51 38 P **P 21 16 32.3 0.0**
baz=328
DRWO Darlington Wes 71.58 41 P **P 21 16 32.7 0.0**
baz=326
ALFO Alfred 71.60 37 P **P 21 16 32.7 -0.1**
baz=328
ANN Anapa 71.61 321 *e*P **P 21 16 32.0 -0.9**
ANN *e* 21 19 09.3
ANN pmax pmax
comp=Z,56nm,1.4s
ANN MLR MLR
comp=N,2μm,20.0s
ANN MLR MLR
comp=Z,821nm,20.0s
ANN MLR MLR
comp=E,635nm,20.0s
H55A Tweed 71.63 39 P **P 21 16 32.7 -0.3**
baz=327
W39A Magazine 71.65 56 *e*P **P 21 16 34.3 +1.1**
comp=E,9.7nm,1.3s
W39A Magazine 71.65 56 P **P 21 16 34.1 +0.9**
baz=322
WLVO Wesleyville 71.67 41 P **P 21 16 33.0 -0.2**
baz=327
N49A Columbus Grove 71.69 46 *e*P **P 21 16 35.1 +1.7**
N49A Columbus Grove 71.69 46 P **P 21 16 33.5 +0.1**
baz=324
U41A Viola 71.69 54 P **P 21 16 34.0 +0.5**
baz=322
I55A Frankford 71.71 40 P **P 21 16 33.1 -0.4**
baz=327
SOC Sochi 71.72 319 *e*P **P 21 16 32.7 -0.9**
SOC *e*S **S 21 25 53.2 +2.7**
SOC pmax pmax
comp=Z,37nm,1.0s
SOC MLR MLR
comp=Z,2μm,16.0s
TYNO Tyneside 71.76 42 P **P 21 16 33.9 +0.2**
baz=326
O48A Farmland 71.79 47 P **P 21 16 34.1 +0.1**
baz=324
M50A Fremont 71.80 45 P **P 21 16 34.5 +0.5**
baz=325
LVV L'vov 71.80 332⇓ *i*P **P 21 16 34.1 +0.2**
P47A Martinsville 71.91 48 P **P 21 16 34.7 0.0**
baz=324
R45A Skylar, Fairfi 71.92 50 P **P 21 16 35.2 +0.3**
baz=323
AKH Akhalkalaki 71.93 315 *e*P **P 21 16 35.7 +0.7**
comp=Z,37nm,0.9s
AKH Akhalkalaki 71.93 315⇑ *i*P **P 21 16 35.8 +0.7**
AKH Akhalkalaki 71.93 315 P **P 21 16 35.8 +0.7**
S44A Carbondale 71.93 51 P **P 21 16 35.7 +0.8**
baz=323
EKA Eskdalemuir Ar 71.95 350 P **P 21 16 34.5 -0.2**
EKA pmax pmax
comp=Z,2.0nm,0.4s
H56A Elgin 71.95 39 P **P 21 16 34.7 -0.2**
baz=328
RUE Ruedersdorf 71.97 339 *e*P **P 21 16 34.8 0.0**
RUE lAmb lAmb 21 16 37.1
comp=Z,66nm,0.9s
ESK Eskdalemuir 71.97 350 *e*P **P 21 16 35.6 +0.8**
comp=Z,31nm,1.0s
ESK Eskdalemuir 71.97 350 *i* P **P 21 16 36.0 +1.2**
BLO Bloomington 72.04 49 *e*P **P 21 16 36.9 +1.4**
comp=Z,11nm,0.9s
BLO Bloomington 72.04 49 *e*P **P 21 16 36.9 +1.4**
BLO pmax pmax
comp=Z,11nm,0.9s
PBMO Poplar Bluff 72.09 53 *e*P **P 21 16 36.9 +1.1**
comp=Z,22nm,1.0s
JCT Junction City 72.10 63 *e*P **P 21 16 39.3 +3.2**
comp=Z,8.2nm,0.9s
JCT Junction City 72.10 63 P **P 21 16 37.1 +1.0**
baz=321
J54A Appleton 72.11 41 P **P 21 16 36.4 +0.5**
baz=327
PECO Prince Edward 72.22 40 P **P 21 16 36.8 +0.3**
baz=327
O49A Covington 72.22 47 *e*P **P 21 16 37.5 +0.9**
comp=Z,17nm,1.1s
O49A Covington 72.22 47 P **P 21 16 36.3 -0.3**
baz=325
M51A Elyria 72.23 45 P **P 21 16 37.1 +0.5**
baz=325
MIAR Mount Ida 72.26 56 *e*P **P 21 16 38.2 +1.2**
comp=Z,5.8nm,0.8s
MIAR Mount Ida 72.26 56 *e*P **P 21 16 38.2 +1.2**
MIAR pmax pmax
comp=Z,6.0nm,0.8s
MIAR Mount Ida 72.26 56 P **P 21 16 37.8 +0.9**
baz=322
N50A Nevada 72.27 46 P **P 21 16 37.2 +0.3**
baz=325
Q47A Bedord North L 72.28 49 P **P 21 16 37.6 +0.6**
baz=324
MEDO Medina 72.28 41 P **P 21 16 37.1 +0.2**
baz=327
P48A Milroy 72.31 48 P **P 21 16 37.2 0.0**
baz=324
WHAR Wooly Hollow 72.33 55 *e*P **P 21 16 38.2 +0.9**
comp=Z,12nm,1.1s
R46A Gibon Southern 72.35 50 P **P 21 16 37.5 +0.1**
baz=324
KWP Kalwaria Pacla 72.35 333 *e*P **P 21 16 37.9 +0.7**
KWP Kalwaria Pacla 72.35 333 *e*P **P 21 16 37.7 +0.5**
comp=Z,1μm,1.0s
KWP Kalwaria Pacla 72.35 333 *e*P **P 21 16 37.9 +0.7**
GNI Garni 72.41 314 *e*P **P 21 16 39.3 +1.4**
comp=Z,32nm,0.9s
GNI Garni 72.41 314 *i* P **P 21 16 38.9 +1.0**
SNR=15
GNI Garni 72.41 314*c i*P **P 21 16 38.3 +0.4**
GNI pmax pmax
comp=Z,97nm,1.1s
GNI Garni 72.41 314 P **P 21 16 39.3 +1.4**
SNR=14
GNI Garni 72.41 314 LR LR 21 53 14.8
comp=Z,944nm,18.6s,baz=32,slow=40
M52A Chesterland 72.42 44 P **P 21 16 37.4 -0.4**
baz=326
W41B Gary Mavity, V 72.45 55 *e*P **P 21 16 39.0 +0.9**
comp=Z,9.7nm,1.0s
W41B Gary Mavity, V 72.45 55 P **P 21 16 37.9 -0.1**
baz=322,SNR=6.9
J55A Hilton 72.45 41 P **P 21 16 37.7 -0.2**
baz=327
N51A Ashland 72.49 45 *e*P **P 21 16 38.6 +0.5**
comp=Z,35nm,0.9s
N51A Ashland 72.49 45 P **P 21 16 38.0 -0.2**
baz=325,SNR=6.9

L53A Girard 72.54 43 P **P 21 16 38.2 -0.3**
baz=326,SNR=5.4
BATM Batumi 72.54 316⇑ *i*P **P 21 16 39.1 +0.6**
LONY Lake Ozonia 72.57 38 P **P 21 16 38.5 -0.1**
baz=328
P49A Miami Univ. Ec 72.58 47 P **P 21 16 38.2 -0.6**
baz=324,SNR=5.7
Q48A North Vernon 72.60 48 P **P 21 16 39.6 +0.7**
baz=324
IDGL Inch Island, C 72.60 353 *i* P **P 21 16 39.1 +0.5**
GSI Gunungsitoli 72.61 249 *e*P **P 21 16 40.2 +1.0**
comp=Z,29nm,1.0s
GSI Gunungsitoli 72.61 249 P **P 21 16 40.8 +1.6**
comp=Z,40nm,1.1s
OJC Ojcow 72.61 335 *e*P **P 21 16 39.6 +0.9**
OJC Ojcow 72.61 335 *e*P **P 21 16 38.5 -0.2**
comp=Z,45nm,1.0s
S46A Don Dixon Farm 72.67 50 P **P 21 16 39.4 +0.1**
baz=324
X40A Basin Creek Fa 72.69 56 *e*P **P 21 16 40.6 +1.1**
comp=Z,5.7nm,1.1s
X40A Basin Creek Fa 72.69 56 P **P 21 16 39.9 +0.4**
baz=322
L54A Sinclairville 72.70 42 P **P 21 16 39.3 -0.1**
baz=326
SIM Simferopol' 72.74 323 *i* P **P 21 16 39.8 +0.2**
SIM pmax pmax
comp=Z,23nm,1.0s
R47A Wooly Knot Far 72.74 49 P **P 21 16 39.7 -0.1**
baz=324
ACSO Alum Creek Sta 72.78 46 *e*P **P 21 16 40.5 +0.6**
comp=Z,17nm,1.0s
ACSO Alum Creek Sta 72.78 46 P **P 21 16 40.0 0.0**
baz=325
M53A WI Miller and 72.79 44 P **P 21 16 40.0 0.0**
baz=326,SNR=7.8
K55A Perry 72.80 41 P **P 21 16 39.7 -0.4**
baz=327
KIS Kishinev 72.82 328 *e*P **P 21 16 38.5 -1.5**
comp=Z,180nm,1.5s
KIS LRM MLR 21 52 28.0
comp=Z,2μm,18.0s
KIS Kishinev 72.82 328 *e*P **P 21 16 38.5 -1.5**
KIS *e* 21 16 49.5
KIS pmax pmax
comp=Z,180nm,1.5s
KIS MLR MLR
comp=Z,2μm,18.0s
MOQ Mont Orford 72.83 36 *e*P **P 21 16 41.1 +0.8**
ALLY Alegheny Colle 72.84 43 *e*P **P 21 16 41.0 +0.7**
comp=Z,22nm,1.0s
MMNY Mt. Morris Dam 72.86 41 *e*P **P 21 16 41.2 +0.9**
comp=Z,22nm,1.0s
N52A McGinn's Farm, 72.87 45 P **P 21 16 40.1 -0.4**
baz=326
WCI Wyandotte Cave 72.91 49 *e*P **P 21 16 41.4 +0.7**
comp=Z,15nm,0.9s
WCI Wyandotte Cave 72.91 49 *e*P **P 21 16 41.4 +0.7**
WCI pmax pmax
comp=Z,15nm,0.9s
WCI Wyandotte Cave 72.91 49 P **P 21 16 41.3 +0.7**
baz=324
PWJI Pagerwojo 72.91 231 P **P 21 16 39.5 -1.4**
comp=Z,82nm,1.1s
KSP Ksiaz 72.92 337 *e*P **P 21 16 41.2 +0.7**
KSP Ksiaz 72.92 337 *e*P **P 21 16 41.2 +0.7**
KSP *e* 21 16 49.5
KSP MLR MLR
comp=Z,2μm,18.0s
Q49A Aurora 72.92 48 P **P 21 16 41.3 +0.5**
baz=324
P50A Jamestown 72.93 47 P **P 21 16 41.4 +0.5**
baz=325
R48A Northridge Ran 72.96 49 P **P 21 16 41.7 +0.6**
baz=324
IAS Iasi 73.06 328⇓ *i*P **P 21 16 41.6 +0.1**
IAS Iasi 73.06 328 P **P 21 16 41.5 +0.1**
435B Jarrell 73.08 62 P **P 21 16 43.3 +1.4**
baz=321
KOLS Kolonicke sedl 73.10 333 *e*P **P 21 16 42.3 +0.5**
KOLS pmax pmax
comp=Z,28nm,1.0s
KOLS Kolonicke sedl 73.10 333 *e*P **P 21 16 42.2 +0.5**
L55A Hinsdale 73.10 42 P **P 21 16 42.4 +0.5**
baz=327
T46A Princeton 73.10 51 P **P 21 16 42.0 +0.1**
baz=324,SNR=6.3
S47A Hartford 73.14 50 P **P 21 16 43.0 +0.9**
baz=324
M54A Oil Creek Stat 73.16 43 *e*P **P 21 16 42.6 +0.4**
comp=Z,26nm,1.1s
M54A Oil Creek Stat 73.16 43 P **P 21 16 42.3 +0.1**
baz=326,SNR=6.2
NIE Niedzica 73.21 334 *e*P **P 21 16 43.3 +0.9**
NIE Niedzica 73.21 334 *e*P **P 21 16 43.3 +0.9**
BATG Bathurst New B 73.22 31 *e*P **P 21 16 43.6 +1.1**
comp=Z,24nm,0.9s
CLL Collm 73.23 339 *e*P **P 21 16 42.7 +0.3**
comp=Z,54nm,1.0s
CLL Collm 73.23 339 *e*P **P 21 16 42.7 +0.3**
CLL pmax pmax
comp=Z,54nm,1.0s
CLL Collm 73.23 339⇑ *i*P **P 21 16 42.7 +0.3**
comp=Z,57nm,1.0s
CLL *e*pP **pP 21 16 54.0 +0.4**
CLL *e* 21 17 06.0
N53A Lisbon 73.24 44 *e*P **P 21 16 44.4 +1.7**
comp=Z,22nm,0.9s
N53A Lisbon 73.24 44 P **P 21 16 43.3 +0.7**
baz=326
UPC Upice 73.30 337 *e*P **P 21 16 43.9 +1.1**
UPC MLR MLR
comp=Z,2μm,16.9s
UPC Upice 73.30 337 *e*P **P 21 16 43.9 +1.1**
UPC AMS AMS 21 55 10.0
comp=Z,2μm,16.9s
PRAR RASCA 73.33 329⇑ *i*P **P 21 16 43.5 +0.4**
DPC Dobruska-Polom 73.37 337 *e*P **P 21 16 44.3 +1.0**
DPC *e* 21 16 56.4
DPC MLR MLR
comp=Z,1μm,15.9s
DPC Dobruska-Polom 73.37 337 *e*P **P 21 16 44.3 +1.0**
DPC *e*pP **pwP 21 16 56.4 -0.5**
DPC AMS AMS 21 55 10.0
comp=Z,1μm,15.9s
UZH Uzhgorod 73.37 332 *e*P **P 21 16 42.5 -0.8**
UZH *e* 21 16 52.9
UZH *e* 21 17 01.5
R49A Shelbyville 73.37 48 P **P 21 16 43.6 +0.1**
baz=324
O52A Adamsville 73.38 45 *e*P **P 21 16 43.9 +0.4**
comp=Z,36nm,0.9s
O52A Adamsville 73.38 45 P **P 21 16 43.4 -0.1**
baz=326,SNR=10
OKC Ostrava-Krasne 73.39 336 *e*P **P 21 16 44.2 +0.8**
OKC MLR MLR
comp=Z,1μm,16.7s
OKC Ostrava-Krasne 73.39 336 *e*P **P 21 16 44.2 +0.8**
OKC AMS AMS 21 52 40.0
comp=Z,1μm,16.7s
BUR08 Bucovina Ar. S 73.40 330 *e*P **P 21 16 43.9 +0.2**
comp=Z,38nm,0.9s
BURAR Bucovina Array 73.42 330⇑ *i*P **P 21 16 44.0 +0.2**
BURAR Bucovina Array 73.42 330 P **P 21 16 43.9 +0.2**
BRG Berggiesshubel 73.43 339 *i* P **P 21 16 44.7 +1.1**
comp=Z,22nm,1.1s
BRG *i* 21 16 55.6
comp=Z,20nm,1.2s
BRG Berggiesshubel 73.43 339 *i* P **P 21 16 44.7 +1.1**
BRG *i* 21 16 55.6
BRG pmax pmax
comp=Z,23nm,1.1s
Q50A Georgetown 73.47 47 P **P 21 16 44.7 +0.7**
baz=325
N54A Moraine State 73.47 43 *e*P **P 21 16 45.7 +1.7**
comp=Z,24nm,1.0s
N54A Moraine State 73.47 43 P **P 21 16 43.8 -0.2**
baz=326,SNR=8.6
S48A Wiedeman Farm, 73.48 49 P **P 21 16 44.0 -0.1**
baz=324,SNR=6.6
KRLC Kraliky 73.51 336 *e*P **P 21 16 45.2 +1.1**
KRLC Kraliky 73.51 336 *e*P **P 21 16 45.2 +1.1**
T47A Sharon Grove 73.52 50 *e*P **P 21 16 45.5 +1.1**
comp=Z,18nm,1.0s
T47A Sharon Grove 73.52 50 P **P 21 16 44.8 +0.5**
baz=324,SNR=7.2

O53A New Philadelph 73.54 45 P P 21 16 44.4 -0.1
baz=326,SNR=7.9
M55A Ridgway 73.56 42 P P 21 16 44.8 +0.2
baz=327,SNR=10
MORC Moravsky Berou 73.60 336 eP P 21 16 45.3 +0.7
comp=Z,40nm,0.9s
MORC Moravsky Berou 73.60 336⇑iP P 21 16 45.8 +1.1
MORC Moravsky Berou 73.60 336 eP P 21 16 45.3 +0.7
MORC pmax pmax
comp=Z,40nm,0.9s
MORC Moravsky Berou 73.60 336 eP P 21 16 45.3 +0.7
Q51A Peebles 73.61 47 eP P 21 16 46.4 +1.5
comp=Z,11nm,0.8s
Q51A Peebles 73.61 47 P P 21 16 44.8 -0.1
baz=325
PVCC Panska Ves 73.61 338 eP P 21 16 45.7 +1.0
PVCC MLR MLR
comp=Z,1μm,16.0s
PVCC Panska Ves 73.61 338 eP P 21 16 45.7 +1.0
PVCC AMS AMS 21 54 20.0
comp=Z,1μm,16.0s
P52A Corning 73.65 46 P P 21 16 44.8 -0.3
baz=326,SNR=5.9
LANS Liptovska Anna 73.67 334 eP P 21 16 47.0 +1.9
LANS Liptovska Anna 73.67 334 eP P 21 16 47.0 +1.9
S49A Springfield 73.73 49 P P 21 16 45.9 +0.3
baz=325,SNR=5.6
BIZ Bicaz 73.75 329⇑iP P 21 16 46.2 +0.7
TRPA Tarpa 73.75 332⇑iP P 21 16 46.3 +0.8
TRPA Tarpa 73.75 332⇑eP P 21 16 46.0 +0.5
T48A Bowling Green 73.76 50 P P 21 16 46.3 +0.5
baz=324
R50A Paris 73.77 48 P P 21 16 46.7 +0.9
baz=325
WTSB Winterswijk 73.83 343 eP P 21 16 46.5 +0.6
comp=Z,67nm,1.0s
WVT Waverly 73.87 51 eP P 21 16 47.2 +0.8
comp=Z,7.2nm,0.9s
WVT Waverly 73.87 51 P P 21 16 47.2 +0.8
WVT pmax pmax
comp=Z,8.0nm,1.0s
WVT Waverly 73.87 51 P P 21 16 46.7 +0.3
baz=324
U47A Clarksville 73.88 51 P P 21 16 47.3 +0.8
baz=324
LBNH Lisbon 73.88 36 eP P 21 16 47.1 +0.8
comp=Z,18nm,1.1s
LBNH Lisbon 73.88 36 eP P 21 16 47.2 +0.8
LBNH pmax pmax
comp=Z,18nm,1.1s
LBNH Lisbon 73.88 36 P P 21 16 46.3 0.0
baz=330
PKME Peaks-Kenny Pk 73.92 34 eP P 21 16 47.6 +1.1
comp=Z,22nm,1.0s
PKME Peaks-Kenny Pk 73.92 34 P P 21 16 47.0 +0.5
baz=331
TESR Tescani 73.95 329⇑iP P 21 16 47.0 +0.2
O54A Avella 73.95 44 P P 21 16 47.0 +0.1
baz=326,SNR=5.6
ACCN Adirondack Com 73.96 38 eP P 21 16 47.1 +0.2
comp=Z,25nm,1.3s
V46A Holladay 73.99 52 P P 21 16 47.1 -0.1
baz=324,SNR=7.0
833A Chaparral WMA, 73.99 65 P P 21 16 48.2 +1.0
baz=321
KECS Kecovo 74.01 334 eP P 21 16 48.0 +1.0
KECS pmax pmax
comp=Z,79nm,1.0s
KECS Kecovo 74.01 334 eP P 21 16 48.0 +1.0
N55A Marion Center 74.05 43 eP P 21 16 47.9 +0.4
comp=Z,29nm,0.9s
N55A Marion Center 74.05 43 P P 21 16 47.5 +0.1
baz=327,SNR=9.6
BINY Binghamton 74.08 40 P P 21 16 47.7 +0.2
baz=328
P53A Whipple 74.09 45 eP P 21 16 49.4 +1.7
comp=Z,16nm,1.1s
P53A Whipple 74.09 45 P P 21 16 48.0 +0.4
baz=326
R51A Hillsboro 74.09 47 P P 21 16 48.1 +0.5
baz=325
PRU Pruhonice 74.12 338 eP P 21 16 48.4 +0.7
PRU MLR MLR
comp=Z,1μm,14.2s
PRU Pruhonice 74.12 338 eP P 21 16 48.4 +0.7
PRU AMS AMS 21 55 50.0
comp=Z,1μm,14.2s
GOPC GO Pecny, Ondr 74.14 338 eP P 21 16 48.3 +0.5
GOPC e 21 17 00.4
GOPC MLR MLR
comp=Z,1μm,15.7s
GOPC GO Pecny, Ondr 74.14 338 eP P 21 16 48.3 +0.5
GOPC epP pwP 21 17 00.4 -1.0
GOPC AMS AMS 21 53 40.0
comp=Z,1μm,15.7s
Q52A Bidwell 74.14 46 P P 21 16 48.2 +0.3
baz=326
ARCR ARCALIA 74.16 330⇓iP P 21 16 49.6 +1.7
MOX Moxa 74.16 340 P P 21 16 49.4 +1.5
MOX pmax pmax
comp=Z,32nm,1.5s
DZM Mont Dzumac 74.16 174 eLR LR 21 39 33.2
comp=Z,507nm,22.6s
T49A Edmonton 74.17 49 eP P 21 16 49.5 +1.3
comp=Z,11nm,1.0s
T49A Edmonton 74.17 49 P P 21 16 48.7 +0.5
baz=325
U48A Cassie Pea, Po 74.17 50 P P 21 16 48.2 0.0
baz=324,SNR=5.5
HNH Hanover 74.20 37 eP P 21 16 49.4 +1.1
comp=Z,14nm,1.0s
S50A Richmond 74.23 48 P P 21 16 48.7 +0.3
baz=325
BUG Bochum--Univer 74.25 343 P P 21 16 50.1 +1.8
BUG pmax pmax
comp=Z,52nm,1.2s
V47A Nunnelly 74.26 51 P P 21 16 48.8 +0.1
baz=324
VRAC Vranov 74.27 336⇑iP P 21 16 49.6 +1.1
VRAC Vranov 74.27 336 eP P 21 16 49.4 +0.9
VRAC Vranov 74.27 336 P P 21 16 49.6 +1.1
comp=Z,31nm,0.9s,baz=28,slow=6.1,SNR=45
DSB Dublin 74.32 352 iP P 21 16 49.1 +0.3
DSB Dublin 74.32 352 eP P 21 16 47.8 -0.9
comp=Z,21nm,1.0s
NKC Novy Kostel 74.37 339 eP P 21 16 50.1 +1.0
NKC MLR MLR
comp=Z,600nm,16.6s
NKC Novy Kostel 74.37 339 eP P 21 16 50.1 +1.0
NKC AMS AMS 21 54 10.0
comp=Z,600nm,16.6s
IGLA Glengowla, Co 74.38 354 eP P 21 16 49.3 +0.2
OXF Oxford 74.39 54 P P 21 16 49.5 0.0
baz=324
O55A Ligonier 74.39 43 P P 21 16 49.5 +0.1
baz=327,SNR=9.4
P54A Burton 74.39 44 P P 21 16 49.4 -0.1
baz=326,SNR=10.0
WVL Waterville 74.40 35 eP P 21 16 50.5 +1.1
comp=Z,37nm,1.1s
JAVC Velka Javorina 74.41 335 eP P 21 16 51.1 +1.7
TLCR 74.41 327⇑iP P 21 16 50.0 +0.6
TLCR 74.41 327 P P 21 16 49.9 +0.6
VYHS Vyhne 74.44 335 eP P 21 16 50.6 +1.0
VYHS pmax pmax
comp=Z,19nm,1.1s
VYHS Vyhne 74.44 335 eP P 21 16 50.6 +1.0
PETR Petresti 74.46 328⇑iP P 21 16 48.9 -0.8
R52A Catlettsburg 74.48 47 P P 21 16 49.8 -0.2
baz=326
ODBI Odobesti 74.48 328⇑iP P 21 16 51.4 +1.6
VRI Vrincioaia 74.50 328⇓iP P 21 16 50.6 +0.6
VRI Vrincioaia 74.50 328 P P 21 16 50.5 +0.6
U49A Red Boiling Sp 74.53 50 P P 21 16 50.4 +0.1
baz=325,SNR=6.8
PLOR Plostina 74.54 328⇓iP P 21 16 50.7 +0.5
PLOR Plostina 74.54 328 P P 21 16 50.6 +0.4
KRUC Moravsky 74.54 336 eP P 21 16 50.9 +0.8
TREC Trest 74.55 337 eP P 21 16 51.0 +0.8
TREC MLR MLR
comp=Z,2μm,15.4s
TREC Trest 74.55 337 eP P 21 16 51.0 +0.8
TREC AMS AMS 21 56 00.0
comp=Z,2μm,15.4s
Q53A Leroy 74.55 46 P P 21 16 50.3 0.0
baz=326,SNR=12

T50A Nancy 74.56 49 P P 21 16 50.6 +0.2
baz=325,SNR=7.6
OZUR 74.60 329⇑iP P 21 16 51.4 +0.8
LTVH Ltavrtes, Hu 74.61 332⇑eP P 21 16 51.1 +0.5
CLTN Cedars of Leba 74.61 50 eP P 21 16 51.8 +1.1
comp=Z,7.5nm,0.9s
MCWV Mont Chateau 74.62 44 eP P 21 16 52.2 +1.4
comp=Z,13nm,0.8s
MCWV Mont Chateau 74.62 44 P P 21 16 50.5 -0.2
baz=327,SNR=6.8
SSPA Standing Stone 74.62 42 eP P 21 16 51.2 +0.5
comp=Z,23nm,1.0s
SSPA Standing Stone 74.62 42 P P 21 16 51.0 +0.3
baz=327
S51A Beattyville 74.63 48 P P 21 16 51.2 +0.3
baz=325
CFR Carcaliu 74.65 327⇑iP P 21 16 50.9 +0.1
CFR Carcaliu 74.65 327 P P 21 16 50.9 +0.1
O56A Blue Knob Stat 74.65 43 eP P 21 16 51.5 +0.5
comp=Z,25nm,0.9s
O56A Blue Knob Stat 74.65 43 P P 21 16 50.8 -0.2
baz=327,SNR=9.0
V48A Smith Brothers 74.66 51 eP P 21 16 51.7 +0.7
comp=Z,8.8nm,0.8s
V48A Smith Brothers 74.66 51 P P 21 16 51.5 +0.5
baz=324,SNR=6.6
PLAL Pickwick Lake 74.67 52 eP P 21 16 51.7 +0.6
PLAL epP PcP 21 17 05.6 +0.4
W47A Westpoint 74.69 52 P P 21 16 51.0 -0.2
baz=324
PSZ Piszkesteto 74.69 334 eP P 21 16 51.7 +0.6
comp=Z,38nm,1.0s
PSZ Piszkesteto 74.69 334⇓iP P 21 16 52.6 +1.5
PSZ Piszkesteto 74.69 334 eP P 21 16 51.7 +0.6
PSZ pmax pmax
comp=Z,38nm,1.0s
PSZ Piszkesteto 74.69 334⇑eP P 21 16 52.0 +0.9
KSPA Keystone Colle 74.70 40 eP P 21 16 52.2 +1.0
comp=Z,15nm,1.2s
CJR Cluj-Napoca 74.72 331⇑iP P 21 16 52.4 +1.1
CJR Cluj-Napoca 74.72 331 P P 21 16 52.3 +1.0
P55A Reedsville 74.75 44 P P 21 16 51.7 +0.2
baz=327,SNR=14
Q54A Coxs Mills 74.75 45 eP P 21 16 53.9 +2.4
comp=Z,12nm,1.1s
Q54A Coxs Mills 74.75 45 P P 21 16 52.6 +1.1
baz=326
BISRR Bisoca 74.79 328⇓iP P 21 16 52.9 +1.2
SMOL Smolenice 74.79 335 eP P 21 16 53.5 +1.9
SMOL Smolenice 74.79 335 eP P 21 16 53.5 +1.9
R53A Hurricane 74.80 46 eP P 21 16 53.0 +1.2
comp=Z,19nm,0.8s
R53A Hurricane 74.80 46 P P 21 16 51.9 +0.1
baz=326,SNR=5.6
S52A Salyersville 74.83 47 P P 21 16 51.9 -0.1
baz=326,SNR=6.6
DOPR Dopca 74.84 329⇑iP P 21 16 52.9 +1.0
GRER 74.85 328⇑iP P 21 16 53.3 +1.3
LMN Caledonia Moun 74.89 31 eP P 21 16 52.9 +0.7
comp=Z,29nm,0.9s
DRGR 74.91 331⇑iP P 21 16 53.0 +0.5
DRGR 74.91 331 P P 21 16 52.9 +0.5
MODS Modra-Piesok 74.96 336 eP P 21 16 52.9 +0.3
MODS pmax pmax
comp=Z,37nm,1.0s
MODS Modra-Piesok 74.96 336 eP P 21 16 52.9 +0.3
T51A Gray 75.02 48 P P 21 16 53.7 +0.6
baz=325
EMMW East Machias 75.03 33 eP P 21 16 54.1 +1.1
comp=Z,28nm,0.9s
U50A Jamestown 75.05 49 P P 21 16 53.5 +0.2
baz=325,SNR=7.2
Q55A Buckhannon 75.07 45 P P 21 16 53.8 +0.4
baz=327
V49A McMinnville 75.08 50 P P 21 16 52.8 -0.7
baz=325
MLR Muntele Rosu 75.08 329 eP P 21 16 53.6 +0.1
comp=Z,41nm,0.8s
MLR Muntele Rosu 75.08 329⇓iP P 21 16 54.0 +0.5
MLR Muntele Rosu 75.08 329 eP P 21 16 53.6 +0.1
MLR pmax pmax
comp=Z,41nm,0.8s
MLR Muntele Rosu 75.08 329 P P 21 16 53.9 +0.5
comp=Z,35nm,0.8s,baz=181,slow=5.6,SNR=114
W48A Pulaski 75.09 51 P P 21 16 53.8 +0.3
baz=324,SNR=6.1
HGN Heimansgroeve 75.14 344 eP P 21 16 54.2 +0.7
comp=Z,113nm,1.2s
GRA1 Grafenberg Arr 75.14 340 eP P 21 16 55.0 +1.4
comp=Z,60nm,1.0s
GRF Grafenberg Arr 75.14 340 eP P 21 16 55.0 +1.4
GRF pmax pmax
comp=Z,60nm,1.0s
GRFO Grafenberg 75.14 340 eP P 21 16 55.0 +1.5
comp=Z,55nm,1.0s
GRFO Grafenberg 75.14 340 eP P 21 16 55.1 +1.5
GRFO pmax pmax
comp=Z,55nm,1.0s
HARR Harsova 75.14 327⇑iP P 21 16 54.6 +0.9
HARR Harsova 75.14 327 P P 21 16 54.6 +0.9
X47A Russelville 75.15 53 P P 21 16 54.3 +0.4
baz=324
KHC Kasperske Hory 75.15 338 eP P 21 16 54.7 +1.0
comp=Z,20nm,1.1s
KHC Kasperske Hory 75.15 338 eP P 21 16 54.7 +1.0
KHC pmax pmax
comp=Z,21nm,1.1s
KHC Kasperske Hory 75.15 338 eP P 21 16 54.6 +0.9
KHC epP PcP 21 17 07.2 +0.1
KHC AMS AMS 21 55 10.0
comp=Z,1μm,16.6s
BEBN Eben Emael 75.15 344 ⇑P P 21 16 54.3 +0.7
ZST Bratislava 75.17 336 eP P 21 16 54.5 +0.8
ZST Bratislava 75.17 336 eP P 21 16 54.5 +0.8
TNS Taunus Mts 75.20 342 P P 21 16 55.8 +1.8
TNS pmax pmax
comp=Z,37nm,1.1s
TLB Topalu 75.20 327⇓iP P 21 16 54.2 +0.2
TLB Topalu 75.20 327 P P 21 16 54.1 +0.1
IWEX Carrickbyrne, 75.22 352 iP P 21 16 54.5 +0.5
N59A State Game Lan 75.25 41 eP P 21 16 55.5 +1.1
comp=Z,13nm,0.9s
N59A State Game Lan 75.25 41 P P 21 16 54.6 +0.2
baz=328
S53A Williamson 75.25 47 P P 21 16 54.7 +0.2
baz=326
MEM Membach 75.28 343 P P 21 16 55.3 +1.0
MEM Membach 75.28 343 ⇑P P 21 16 55.1 +0.8
comp=Z,82nm,1.1s
WET Wettzell 75.30 339 P P 21 16 56.4 +1.9
T52A Hallie 75.34 48 eP P 21 16 56.2 +1.2
comp=Z,18nm,1.0s
T52A Hallie 75.34 48 P P 21 16 55.6 +0.6
baz=326,SNR=6.1
R54A Victor 75.35 46 P P 21 16 54.9 -0.1
baz=326
WRAB Tennant Creek 75.35 205 eP P 21 16 55.6 +0.6
comp=Z,18nm,1.0s
WRAB Tennant Creek 75.35 205 ceP P 21 16 55.1 +0.1
WRAB pmax pmax
comp=Z,22nm,1.1s
WB2 Warramunga Arr 75.36 205 eP P 21 16 55.4 +0.3
comp=Z,18nm,1.0s
WR1 Warramunga Arr 75.36 205 eP P 21 16 55.1 +0.1
WRA Warramunga Arr 75.36 205 P P 21 16 55.1 +0.1
comp=Z,8.8nm,0.8s,baz=14,slow=4.7,SNR=27
GEC2 GERESS Array S 75.39 338 eP P 21 16 55.7 +0.6
comp=Z,24nm,1.0s
GERES GERESS Array B 75.39 338 P P 21 16 55.2 +0.1
comp=Z,10nm,0.9s,baz=35,slow=4.9,SNR=48
GERES LR LR 21 53 37.5
comp=Z,405nm,21.1s,baz=31,slow=39
VOIR 75.42 329⇑iP P 21 16 56.1 +0.8
VOIR 75.42 329 P P 21 16 56.1 +0.8
MFTR Murfatlar 75.43 326⇑iP P 21 16 56.2 +0.9
W49A Belvidere 75.43 51 P P 21 16 56.1 +0.6
baz=325
PAGS Pennsylvania G 75.44 42 eP P 21 16 56.6 +1.1
comp=Z,16nm,1.0s
SECR 75.45 328⇑iP P 21 16 57.0 +1.5
U51A La Follette 75.46 49 P P 21 16 56.2 +0.5
baz=325
HRV Adam Dziewonsk 75.51 37 P P 21 16 55.9 +0.1
baz=330
SWET Sewanee 75.51 51 eP P 21 16 56.8 +0.8
comp=Z,17nm,0.9s

V50A Pikevile 75.54 50 P P 21 16 56.2 +0.1
baz=325,SNR=6.8
TZTN Tazewell 75.54 48 eP P 21 16 57.5 +1.4
TZTN Tazewell 75.54 48 P P 21 16 56.5 +0.4
baz=326
BCLA Clavier 75.58 344 ⇑P P 21 16 56.6 +0.5
comp=Z,29nm,1.3s
O59A Robesonia 75.59 41 P P 21 16 56.5 +0.1
baz=328
X48A Hartselle 75.60 52 P P 21 16 57.1 +0.6
baz=324
MTUR Matau 75.60 329⇓iP P 21 16 57.9 +1.5
ARR Arges 75.61 329⇑iP P 21 16 57.7 +1.3
CSKK Cskako 75.64 334⇑eP P 21 16 57.0 +0.6
R55A Marlinton 75.64 45 P P 21 16 56.9 +0.1
baz=327,SNR=5.8
T53A Wise 75.65 47 P P 21 16 57.2 +0.4
baz=326,SNR=6.5
SNF Seneffe 75.66 345 ⇑P P 21 16 57.0 +0.4
comp=Z,24nm,0.9s
LUPA Lehigh Univers 75.68 41 eP P 21 16 58.5 +1.7
comp=Z,1.9nm,1.2s
ICOR Ion Corvin 75.69 327⇓iP P 21 16 58.0 +1.2
LEHL Lehliu 75.71 328⇓iP P 21 17 57.6 +0.7
SULR 75.71 328⇑iP P 21 16 57.9 +1.0
CONA Conrad Observa 75.73 336 eP P 21 16 58.4 +1.3
comp=Z,35nm,1.0s,SNR=27
Q57A Strasburg 75.75 43 P P 21 16 57.9 +0.7
baz=327
U52A Thorn Hill 75.75 48 P P 21 16 57.9 +0.6
baz=326
V51A Loudon 75.78 49 eP P 21 16 58.1 +0.7
comp=Z,13nm,0.8s
V51A Loudon 75.78 49 P P 21 16 57.2 -0.3
baz=325
SOP Sopron 75.78 336 P P 21 16 59.5 +2.2
SOP pmax pmax
comp=Z,42nm,1.1s
SOP Sopron 75.78 336⇑eP P 21 16 58.1 +0.8
MVL Millersville 75.79 41 eP P 21 16 59.3 +1.9
comp=Z,15nm,1.2s
W50A Signal Mountai 75.82 50 eP P 21 16 58.4 +0.6
comp=Z,12nm,0.8s
W50A Signal Mountai 75.82 50 P P 21 16 57.5 -0.3
baz=325,SNR=5.8
X49A Woodville 75.89 51 P P 21 16 58.4 +0.3
baz=325
O60A Telford 75.90 41 P P 21 16 57.9 -0.2
baz=329
PAL Palisades 75.91 39 P P 21 16 57.9 -0.2
baz=329
VAL Valentia 75.92 354 iP P 21 16 58.6 +0.7
PSN Preselentsi 75.95 326 iP P 21 16 58.6 +0.3
CPCT Cooper Cave 75.99 50 eP P 21 16 59.3 +0.7
comp=Z,11nm,0.9s
DOU Dourbes 76.01 344 P P 21 17 00.3 +1.8
DOU Dourbes 76.01 344 ⇑P P 21 16 59.0 +0.5
comp=Z,18nm,1.1s
T54A Tazewell 76.01 47 P P 21 16 59.2 +0.3
baz=326,SNR=7.1
CPNY Central Park 76.07 39 eP P 21 17 00.4 +1.4
comp=Z,32nm,1.0s
P59A Jarrettsville 76.09 42 P P 21 16 59.4 +0.3
baz=328
SDMD Soldier's Deli 76.09 42 eP P 21 17 00.4 +1.2
comp=Z,6.0nm,0.8s
V52A Sevierville 76.10 49 eP P 21 17 00.1 +0.7
comp=Z,7.7nm,0.8s
V52A Sevierville 76.10 49 P P 21 16 59.5 +0.2
baz=326
W51A Cleveland 76.11 50 P P 21 16 59.6 +0.2
baz=325
KTD Kalmit 76.13 342 P P 21 17 00.7 +1.4
U53A Fall Branch 76.14 48 P P 21 16 59.4 -0.1
baz=326
GZR Gura Zlata 76.16 331⇑iP P 21 16 59.8 +0.3
WLF Walferdange 76.16 343 eP P 21 17 00.8 +1.4
comp=Z,82nm,1.1s
WLF Walferdange 76.16 343 eP P 21 17 00.8 +1.4
WLF pmax pmax
comp=Z,83nm,1.1s
WLF Walferdange 76.16 343 ⇑P P 21 16 59.7 +0.3
TIH Tihany 76.16 335 eP P 21 17 00.1 +0.7
MOA Molln 76.19 337 eP P 21 17 00.5 +0.8
comp=Z,18nm,0.9s,SNR=10
SGRR Singureni 76.21 328⇑iP P 21 17 00.8 +1.1
ILGA Ilgaz 76.23 321 eP P 21 17 01.9 +1.6
comp=Z,87nm,1.0s
P60A Greenville 76.24 41 P P 21 16 60.0 0.0
baz=329
HUMR Humele 76.25 329⇑iP P 21 16 59.3 -0.7
X50B Fort Payne 76.26 51 P P 21 17 00.4 +0.1
baz=325
FITZ Fitzroy Crossi 76.26 214 eP P 21 17 01.5 +1.3
comp=Z,24nm,1.0s
FITZ Fitzroy Crossi 76.26 214 P P 21 17 00.8 +0.6
comp=Z,19nm,1.0s,baz=35,slow=7.4,SNR=9.0
BZS Buzias 76.30 332⇑iP P 21 17 00.5 +0.2
BZS Buzias 76.30 332 P P 21 17 00.4 +0.2
R57A Stanardsville 76.32 44 P P 21 17 00.7 +0.2
baz=328
T55A Pulaski 76.32 46 P P 21 17 00.8 +0.3
baz=327
U54A Nelsons Funny 76.35 47 P P 21 17 01.2 +0.4
baz=326
HAL Halifax 76.35 31 eP P 21 17 02.3 +1.8
comp=Z,30nm,0.9s
HAL Halifax 76.35 31 eP P 21 17 02.3 +1.8
HAL pmax pmax
comp=Z,30nm,0.9s
Y49A Blount Mountai 76.38 52 P P 21 17 00.7 -0.3
baz=325
S56A Natural Bridge 76.39 45 P P 21 17 01.5 +0.6
baz=327
BLA Blacksburg 76.40 46 eP P 21 17 02.9 +1.9
comp=Z,17nm,0.9s
BLA Blacksburg 76.40 46 eP P 21 17 02.9 +1.9
BLA pmax pmax
comp=Z,17nm,0.9s
BLA Blacksburg 76.40 46 P P 21 17 01.1 0.0
baz=327
147A Livingston 76.43 54 P P 21 17 01.1 0.0
baz=324
STU Stuttgart 76.43 341 eP P 21 17 01.5 +0.5
comp=Z,60nm,1.4s
STU Stuttgart 76.43 341 eP P 21 17 01.5 +0.5
STU pmax pmax
comp=Z,60nm,1.4s
ARSA Arzberg 76.44 336 eP P 21 17 01.4 +0.3
comp=Z,27nm,1.0s,SNR=16
R58A Rapidan 76.54 44 P P 21 17 01.5 -0.2
baz=328
W52A Murphy 76.56 49 eP P 21 17 02.8 +0.9
comp=Z,7.6nm,0.9s
W52A Murphy 76.56 49 P P 21 17 02.8 +0.9
baz=326
FUR Furstenfeldbru 76.57 339 P P 21 17 03.9 +2.1
FUR pmax pmax
comp=Z,40nm,1.1s
S57A Dark Hollow, R 76.58 44 P P 21 17 02.3 +0.3
baz=327
V53A Saluda 76.60 48 eP P 21 17 03.5 +1.3
comp=Z,10nm,1.0s
V53A Saluda 76.60 48 P P 21 17 02.4 +0.2
baz=326
Q59A Harwood 76.63 42 P P 21 17 02.8 +0.6
baz=328
PRD Provadia 76.64 327 iP P 21 17 02.8 +0.6
Y50A Piedmont 76.68 51 P P 21 17 02.6 -0.1
baz=325
SRE Strehaia 76.69 330⇓iP P 21 17 03.1 +0.6
SRE Strehaia 76.69 330 P P 21 17 03.0 +0.6
U55A TA2, Sparta 76.71 47 P P 21 17 03.1 +0.2
baz=327
T56A Rocky Mt 76.73 46 P P 21 17 02.6 -0.3
baz=327
HERR Herculane 76.73 331⇑iP P 21 17 02.5 -0.2
LRAL Lakeview Retre 76.77 53 P P 21 17 03.1 0.0
baz=325
W53A Cullowhee 76.85 49 P P 21 17 03.9 +0.2
baz=326,SNR=5.4
Z49A Columbiana 76.86 52 P P 21 17 04.3 +0.7
baz=325
R58B Mineral 76.87 44 eP P 21 17 05.5 +1.9
comp=Z,12nm,1.0s
R58B Mineral 76.87 44 P P 21 17 04.2 +0.6
baz=328

CBN Corbin Frederi 76.88 43 P P 21 17 04.0 +0.4
baz=328
V54A Nebo 76.91 48 P P 21 17 04.1 +0.2
baz=326,SNR=6.0
VLAD Vladila 76.91 329⇑ iP P 21 17 04.2 +0.5
X52A Dahlonega 76.98 50 P P 21 17 04.8 +0.5
baz=326
R59A King George, V 77.00 43 P P 21 17 04.2 -0.1
baz=328
Y51A Rockmart 77.00 51 P P 21 17 05.2 +0.8
baz=325
BFO Black Forest 77.03 341 eP P 21 17 04.8 +0.4
comp=Z,32nm,1.2s
BFO Black Forest 77.03 341 i P P 21 17 05.3 +0.9
MDVR Moldovita 77.03 331⇑ iP P 21 17 04.0 -0.5
T57A Hurt 77.09 45 eP P 21 17 06.5 +1.6
comp=Z,10.0nm,0.9s
T57A Hurt 77.09 45 P P 21 17 05.0 +0.1
baz=327
S58A Poland Farm, P 77.09 44 P P 21 17 05.6 +0.7
baz=328
SOKA Soboth 77.10 336 eP P 21 17 05.8 +0.9
comp=Z,35nm,1.0s,SNR=19
Z50A Ashland 77.11 52 eP P 21 17 05.4 +0.3
comp=Z,11nm,0.9s
Z50A Ashland 77.11 52 P P 21 17 05.4 +0.3
baz=325
PUNG Punghina 77.12 330⇑ iP P 21 17 04.8 -0.1
KBA Koelnbreinsper 77.13 338 eP P 21 17 06.6 +1.4
comp=Z,114nm,0.9s,SNR=38
KBA Koelnbreinsper 77.13 338 P P 21 17 06.7 +1.5
V55A Taylorsville 77.18 47 P P 21 17 06.2 +0.8
baz=327
GROS Grobnik 77.19 336 eP P 21 17 05.9 +0.6
FRGS Fruska Gora 77.24 333⇑ iP P 21 17 05.7 +0.1
S59A Mechanicsville 77.29 43 P P 21 17 07.8 +1.9
baz=328
WATA Walderalm 77.29 339 eP P 21 17 07.1 +1.0
comp=Z,31nm,1.1s,SNR=18
RETA Reutte 77.33 339 eP P 21 17 07.1 +0.9
comp=Z,22nm,1.0s,SNR=5.4
X53A Estanollee 77.33 49 P P 21 17 06.9 +0.6
baz=326,SNR=6.0
WTTA Wattenberg 77.35 339 eP P 21 17 07.7 +1.3
comp=Z,49nm,1.1s,SNR=25
ECH Echery 77.36 342 eP P 21 17 06.9 +0.6
comp=Z,38nm,1.0s
ECH Echery 77.36 342 eP P 21 17 06.9 +0.6
ECH pmax pmax
comp=Z,38nm,1.0s
BEO Beograd 77.37 332 P P 21 17 07.4 +1.1
W54A Cherokee Point 77.37 48 P P 21 17 06.9 +0.4
baz=326
OBKA Obir 77.38 337 eP P 21 17 07.3 +0.9
comp=Z,27nm,1.0s,SNR=9.7
MOTA Moosalm 77.39 339 eP P 21 17 07.4 +0.9
comp=Z,32nm,0.9s,SNR=29
BR101 Keskin Array S 77.41 321 eP P 21 17 06.8 +0.1
BR101 ePP PP 21 19 49.2 -12
BR131 Keskin Array S 77.41 321 eP P 21 17 06.9 +0.1
comp=Z,43nm,1.3s
BR131 Keskin Array S 77.41 321 eP P 21 17 06.9 +0.1
BR131 pmax pmax
comp=Z,43nm,1.3s
BR131 Keskin Array S 77.41 321 P P 21 17 07.2 +0.4
SNR=30
BRTR Keskin Array B 77.41 321 P P 21 17 06.8 +0.1
comp=Z,15nm,1.0s,baz=46,slow=3.6,SNR=96
BRTR PP PP 21 19 49.2 -12
comp=Z,2.0nm,0.9s,baz=46,slow=5.3,SNR=5.0
BRTR LR LR 21 56 39.9
comp=Z,560nm,20.5s,baz=12,slow=40
T58A Grand View Acr 77.45 45 P P 21 17 07.3 +0.4
baz=328
MYKA Terra Mystica 77.48 337 eP P 21 17 07.6 +0.6
comp=Z,15nm,1.3s,SNR=5.3
SQTA Sankt Quirin 77.48 339 eP P 21 17 08.3 +1.2
comp=Z,43nm,0.9s,SNR=19
Y52A Lilburn 77.50 50 eP P 21 17 08.6 +1.4
comp=Z,10nm,1.1s
Y52A Lilburn 77.50 50 P P 21 17 07.6 +0.4
baz=326
U57A Blanch 77.53 45 P P 21 17 07.2 -0.1
baz=327
SLE Schleitheim 77.54 341 P P 21 17 08.2 +1.0
V56A Mocksville 77.54 47 eP P 21 17 08.6 +1.2
comp=Z,14nm,0.9s
V56A Mocksville 77.54 47 P P 21 17 07.7 +0.3
baz=327
JMB Yambol 77.57 327 i P P 21 17 07.9 +0.5
S60A Water View 77.61 43 P P 21 17 09.5 +1.7
baz=328
ANTO Ankara 77.61 321 eP P 21 17 08.9 +1.0
comp=Z,72nm,1.3s
ANTO Ankara 77.61 321⇓ iP P 21 17 08.8 +1.0
ANTO Ankara 77.61 321 eP P 21 17 08.9 +1.0
ANTO pmax pmax
comp=Z,72nm,1.3s
ANTO Ankara 77.61 321 P P 21 17 08.8 +1.0
SNR=20
ABTA Abfaltersbach 77.64 338 eP P 21 17 08.5 +0.7
comp=Z,52nm,1.1s,SNR=20
MDUB Mudurnu 77.69 323 eP P 21 17 09.2 +0.9
comp=Z,265nm,1.0s
MPEP Malo Peshtene 77.70 329 P P 21 17 06.0 -2.2
DAVA Damuels 77.71 340 i P P 21 17 09.4 +1.0
comp=Z,29nm,1.0s,SNR=9.5
KMSC Kings Mountain 77.71 48 eP P 21 17 09.3 +0.9
comp=Z,12nm,0.9s
KMSC Kings Mountain 77.71 48 P P 21 17 09.0 +0.6
baz=327
X54A Belton 77.73 49 P P 21 17 09.0 +0.5
baz=326
Y53A Monroe 77.74 50 P P 21 17 09.4 +0.9
baz=326
PAULI Pauline 77.76 48 eP P 21 17 10.4 +1.7
comp=Z,7.8nm,0.9s
FETA Feichten 77.78 339 eP P 21 17 09.9 +1.1
comp=Z,38nm,1.0s,SNR=14
CRES Cresnjev 77.79 336 eP P 21 17 08.9 +0.3
CRES Cresnjev 77.79 336⇑ iP P 21 17 08.5 -0.1
KLYT Kilyos 77.79 325⇓ iP P 21 17 09.1 +0.4
V57A Coltrane Farms 77.79 46 P P 21 17 09.4 +0.6
baz=327
LJU Ljubljana 77.82 336 i P P 21 17 09.2 +0.4
LJU Ljubljana 77.82 336 eP P 21 17 08.7 -0.1
T59A Double "B" Far 77.85 44 P P 21 17 09.8 +0.7
baz=328
Z52A Williamson 77.89 51 P P 21 17 10.0 +0.6
baz=326
U58A Oxford 77.91 45 P P 21 17 10.6 +1.2
baz=328
ISK Istanbul-Kandi 77.95 325 P P 21 17 09.1 -0.5
PALK Pallekele 77.96 266 P P 21 17 09.8 -0.3
OZLJ Ozalj 77.98 336 P P 21 17 10.2 +0.6
SHME Shamm 77.98 297 i P P 21 17 09.5 -0.5
SNR=12
HODGE Hodges 78.04 49 eP P 21 17 11.5 +1.3
comp=Z,10nm,0.9s
W56A Indian Trail 78.06 47 P P 21 17 10.3 0.0
baz=327
EDRB Edirne 78.07 326 P P 21 17 09.9 -0.3
CEY Cerknica 78.13 336⇑ iP P 21 17 10.6 0.0
X55A Gracelyn & Ava 78.13 48 P P 21 17 11.6 +0.9
baz=327
Y54A Tignall 78.15 49 P P 21 17 11.5 +0.7
baz=326
DIVS Divibare 78.16 332⇑ iP P 21 17 10.7 -0.1
V58A Windy Hill, Pi 78.16 46 P P 21 17 11.2 +0.3
baz=328
152A Waverly Hall 78.17 51 P P 21 17 11.4 +0.4
baz=326
DAVOX Davos/Dischmat 78.19 340 P P 21 17 12.4 +1.4
comp=Z,15nm,0.8s,baz=6.0,slow=3.0,SNR=23
Z53A Monticello 78.22 50 P P 21 17 11.9 +0.7
baz=326
FUORN Ofenpass-Fuorn 78.26 339 eP P 21 17 13.0 +1.4
comp=Z,26nm,0.9s
U59A Littleton 78.27 44 P P 21 17 12.4 +1.0
baz=329
W57A Gilead 78.31 47 P P 21 17 12.8 +1.2
baz=327
BLY Banja Luka 78.34 334 eP P 21 17 11.9 +0.3
comp=Z,16nm,1.0s
BLY Banja Luka 78.34 334⇑ iP P 21 17 12.0 +0.3
BLY Banja Luka 78.34 334 eP P 21 17 12.4 +0.7
X56A White Oak 78.39 48 P P 21 17 12.4 +0.3
baz=327
CLF Chambon-Foret 78.40 345 eP P 21 17 13.5 +1.6
comp=Z,94nm,1.3s
HAPS Han Pijesak,Bl 78.47 333 eP P 21 17 11.8 -0.8
Y55A Saluda 78.47 49 P P 21 17 13.3 +0.7
baz=327
PLD Plovdiv 78.52 328 P P 21 17 12.8 +0.1
MSFE Esma-Masafi 78.52 296 P P 21 17 12.4 -0.6
BIRD Birdtown, Kers 78.52 47 eP P 21 17 13.9 +1.1
comp=Z,12nm,0.9s
VTS Vitosha 78.52 329 eP P 21 17 13.1 +0.1
comp=Z,29nm,0.8s
VTS Vitosha 78.52 329 P P 21 17 12.8 -0.2
VTS Vitosha 78.52 329⇑ iP P 21 17 13.2 +0.2
VTS Vitosha 78.52 329 eP P 21 17 13.1 +0.1
VTS pmax pmax
comp=Z,29nm,0.8s
VTS Vitosha 78.52 329 i P P 21 17 13.4 +0.4
BBLS Lazići 78.54 332⇑ iP P 21 17 13.3 +0.4
V59A Middlesex 78.57 45 P P 21 17 13.6 +0.6
baz=329
TUE Stuetta 78.59 340 eP P 21 17 14.6 +1.2
comp=Z,32nm,0.8s
Z54A Sparta 78.59 50 P P 21 17 14.3 +1.0
baz=326
W58A Raeford 78.76 46 P P 21 17 14.8 +0.7
baz=328
WSAR Wadi Sarin 78.81 293 P P 21 17 14.5 -0.1
comp=Z,40nm,0.9s,baz=71,slow=6.9,SNR=27
U61A Possum Corner 78.86 44 P P 21 17 15.3 +0.6
baz=329
RZN Rozhen 78.89 328 i P P 21 17 16.6 +1.6
UDBI Udbina 78.92 335 P P 21 17 15.2 +0.2
HATD Hatta, Dubai 78.95 296 i P P 21 17 15.0 -0.4
SNR=16
HATD Hatta, Dubai 78.95 296 P P 21 17 16.0 +0.6
SNR=9.9
AS31 Alice Springs 79.03 205 eP P 21 17 16.8 +1.2
comp=Z,2.2nm,0.8s
ASAR Alice Springs 79.03 205 P P 21 17 16.5 +0.9
comp=Z,6.2nm,0.8s,baz=16,slow=5.4,SNR=43
NAZ Nazwa, Dubai 79.08 297 i P P 21 17 15.5 -0.6
SNR=9.9
RDO Rodhopi 79.10 327 P P 21 17 16.2 +0.3
X58A Rowland 79.10 47 P P 21 17 16.4 +0.4
baz=328
ASHO Ashiyiah 79.11 296 i P P 21 17 15.9 -0.4
SNR=14
ASHO Ashiyiah 79.11 296 P P 21 17 16.7 +0.4
SNR=9.2
SENIN Lac Senin/Sane 79.11 341 eP P 21 17 17.6 +1.4
comp=Z,19nm,1.0s
NVLJ Novalja 79.11 336 P P 21 17 15.8 -0.1
ALN Alexandroupoli 79.15 326 eP P 21 17 16.6 +0.4
comp=Z,34nm,1.0s
ALN Alexandroupoli 79.15 326 P P 21 17 15.9 -0.3
ALN Alexandroupoli 79.15 326 eP P 21 17 16.6 +0.4
ALN pmax pmax
comp=Z,34nm,1.0s
JLN Jalan Bani Buh 79.22 292 P P 21 17 18.1 +1.2
SNR=6.0
KKB Krupnik 79.25 329 i P P 21 17 17.7 +0.9
SOHO SOHO 79.28 295 P P 21 17 17.1 -0.1
SNR=14
UPM Unac-Piva 79.29 332 eP P 21 17 17.3 +0.1
MMB Musomiste 79.30 328 i P P 21 17 17.3 +0.2
FAQ Al Faqa, Dubai 79.31 297 i P P 21 17 16.5 -0.8
SNR=9.8
FAQ Al Faqa, Dubai 79.31 297 P P 21 17 18.0 +0.6
SNR=5.9
NVR Nevrokopi 79.47 328 P P 21 17 17.7 -0.3
Z57A Bowman 79.54 48 P P 21 17 18.4 0.0
baz=327
ASUD Al Ashush, Dub 79.56 297 i P P 21 17 18.3 -0.4
SNR=8.0
KAVA Kavala 79.57 328 P P 21 17 19.0 +0.5
BALB Balikesir 79.63 325 eP P 21 17 19.1 +0.2
comp=Z,258nm,1.0s
SKO Skopje 79.67 330 i P P 21 17 19.3 +0.2
BRY Bratogost 79.67 333 eP P 21 17 18.2 -1.0
STIP Stip 79.69 330 i P P 21 17 18.4 -0.7
SMTH Samothraki Isl 79.71 327 P P 21 17 19.0 -0.3
SRS Serrai 79.77 328 P P 21 17 18.8 -0.8
SRS Serrai 79.77 328 P P 21 17 20.4 +0.8
ALNE Al Ain 79.77 296 i P P 21 17 19.5 -0.4
SNR=16
255A Hazlehurst 79.85 50 P P 21 17 20.9 +0.7
baz=326
453A Whigham 79.85 52 P P 21 17 21.5 +1.4
baz=326
THAS Thassos island 79.86 327 P P 21 17 19.3 -0.7
TREB Trebinje 79.90 333 eP P 21 17 19.7 -0.5
PDG Podgorica 79.90 332⇑ iP P 21 17 20.3 +0.1
PDG Podgorica 79.90 332⇑ iP P 21 17 19.7 -0.5
TTG Podgorica 79.90 332 eP P 21 17 20.2 -0.1
comp=Z,49nm,0.9s
TTG Podgorica 79.90 332 eP P 21 17 20.2 -0.1
TTG pmax pmax
comp=Z,49nm,0.9s
VAY Valandovo 79.91 329 P P 21 17 20.9 +0.6
VAY Valandovo 79.91 329 i P P 21 17 20.8 +0.6
VAY Valandovo 79.91 329 P P 21 17 21.1 +0.8
Z58A St. Stephen 79.91 48 P P 21 17 21.2 +0.8
baz=328
STON Ston 79.94 333 eP P 21 17 18.7 -1.7
NHSC New Hope 79.94 48 P P 21 17 21.2 +0.7
baz=327
KNT Kendrikon 79.95 329 P P 21 17 20.6 0.0
KNT Kendrikon 79.95 329 P P 21 17 21.8 +1.2
BSY Bisya 80.00 294 P P 21 17 24.0 +2.8
SNR=8.9
EZN Ezine 80.01 326 P P 21 17 20.1 -0.8
HCY Herceg Novi 80.10 332 eP P 21 17 20.4 -1.0
SOH Sokhos 80.11 328 P P 21 17 22.5 +1.0
DRME Dracevica, Mon 80.14 332 eP P 21 17 20.7 -0.9
ISP Isparta 80.26 322 eP P 21 17 22.0 -0.4
comp=Z,27nm,0.9s
ISP Isparta 80.26 322 P P 21 17 21.9 -0.5
ISP Isparta 80.26 322⇓ iP P 21 17 22.3 -0.1
ISP Isparta 80.26 322 eP P 21 17 22.0 -0.4
ISP pmax pmax
comp=Z,27nm,0.9s
KRUS Krusevo 80.28 330 i P P 21 17 22.5 +0.1
GRG Griva 80.29 329 P P 21 17 22.4 -0.1
GRG Griva 80.29 329 P P 21 17 23.6 +1.1
LIA Limnos Island 80.34 327 P P 21 17 22.2 -0.4
MANT Manisa 80.40 324 eP P 21 17 23.6 +0.3
comp=Z,173nm,1.0s
THE Thessaloniki 80.41 329 P P 21 17 24.2 +1.2
BNI Bardonecchia 80.50 341 eP P 21 17 25.4 +1.7
comp=Z,46nm,1.3s
BNI Bardonecchia 80.50 341 P P 21 17 26.6 +3.0
BNI pmax pmax
comp=Z,26nm,1.0s
PRK Paraskevi 80.55 326 P P 21 17 23.7 -0.1
BIA Bitola 80.57 330 i P P 21 17 24.4 +0.4
OHR Ohrid 80.65 330 i P P 21 17 24.3 -0.1
SSB Saint Sauveur 80.68 343 eP P 21 17 25.8 +1.3
comp=Z,31nm,0.9s
SSB Saint Sauveur 80.68 343 P P 21 17 26.0 +1.5
TIR Tirane 80.72 331 eP P 21 17 24.8 +0.2
comp=Z,46nm,0.8s
TIR Tirane 80.72 331⇑ iP P 21 17 24.9 +0.2
TIR Tirane 80.72 331 eP P 21 17 24.8 +0.2
TIR pmax pmax
comp=Z,46nm,0.8s
SIGR SIGRI 80.72 326 P P 21 17 23.7 -1.0
FNA Florina 80.77 330 eP P 21 17 25.2 +0.1
comp=Z,25nm,1.0s
FNA Florina 80.77 330 P P 21 17 24.5 -0.6
FNA Florina 80.77 330 eP P 21 17 25.2 +0.1
FNA pmax pmax
comp=Z,25nm,1.0s
PAIG Paliouri 80.81 328 P P 21 17 24.8 -0.4
PAIG Paliouri 80.81 328 P P 21 17 26.0 +0.8
MHTO MHTO 80.96 292 P P 21 17 27.0 +0.7
SNR=27
LIT Litokhoron 81.04 329 eP P 21 17 26.2 -0.3
comp=Z,21nm,0.9s
LIT Litokhoron 81.04 329 P P 21 17 25.4 -1.1
LIT Litokhoron 81.04 329 eP P 21 17 26.2 -0.3
LIT pmax pmax
comp=Z,21nm,0.9s
555A McAlpin 81.11 52 P P 21 17 27.5 +0.6
baz=326
CHOS Chios island 81.39 325 P P 21 17 27.7 -0.7
655A Horseshoe Beac 81.48 52 P P 21 17 29.5 +0.6
baz=326
XOR Xorichti 81.48 328 P P 21 17 27.4 -1.4
556A Lake Butler 81.48 51 P P 21 17 29.3 +0.4
baz=327
MAMC Mammari 81.51 319 P P 21 17 28.7 -0.3
AQU L'Aquila 81.56 336 eP P 21 17 30.6 +1.4
comp=Z,101nm,1.3s
AQU L'Aquila 81.56 336 eP P 21 17 30.6 +1.4
AQU pmax pmax
comp=Z,101nm,1.3s
BHL Bhannes 81.59 316 eP P 21 17 29.4 -0.2
CSS Mathiatis 81.65 319 eP P 21 17 29.1 -0.6
comp=Z,56nm,0.8s
CSS Mathiatis 81.65 319 P P 21 17 29.5 -0.3
ALFC Alefka 81.78 319 P P 21 17 30.0 -0.5
FETY Fethiye 81.85 322 P P 21 17 30.3 -0.5
QRWL Qaraoun 81.88 316 eP P 21 17 31.1 0.0
PPT Papeete 81.93 132 LR LR 21 48 19.8
comp=Z,338nm,20.8s,baz=325,slow=32
656A Willston 81.94 52 P P 21 17 32.0 +0.7
baz=327
PPT2 Papeete2 81.95 132 eLR LR 21 43 12.0
comp=Z,640nm,23.5s,baz=322
JAN Janina 81.96 330 P P 21 17 32.0 +0.6
SZAC Souni 82.01 319 P P 21 17 30.8 -0.9
KSL Kastellorizon 82.09 322 P P 21 17 30.8 -1.2
EREA Eretria 82.09 327 P P 21 17 30.8 -1.2
PPCY Paphos 82.11 319 P P 21 17 30.8 -1.4
ATAL Atalanti 82.14 328 P P 21 17 30.5 -1.8
LKR Lokris 82.19 328 P P 21 17 30.5 -2.0
IGT Igoumenitsa 82.24 330 P P 21 17 32.6 -0.2
IGT Igoumenitsa 82.24 330 P P 21 17 32.6 -0.2
MATE Matera 82.27 333⇑ iP P 21 17 33.2 +0.3
DION Dionisos Attik 82.40 327 P P 21 17 31.6 -2.0
PTL Penteli 82.45 327 P P 21 17 32.4 -1.5
VILL Villia 82.53 327 P P 21 17 32.6 -1.8
ATHU Athens Univers 82.55 327 P P 21 17 33.4 -1.0
ARG Arkhangelos 82.58 323 P P 21 17 36.4 +1.8
ANX Ano Chora 82.59 328 P P 21 17 33.7 -1.1
VLY Voula,Athens 82.65 327 P P 21 17 32.6 -2.3
APE Apeiranthos 82.75 325⇑ iP P 21 17 34.0 -1.6
APE Apeiranthos 82.75 325c iP P 21 17 33.2 -2.4
APE pmax pmax
comp=Z,14nm,0.9s
AMGA Amorgos Island 82.84 325 P P 21 17 33.5 -2.4
KLV Kalavryta, Ach 83.02 328 P P 21 17 35.6 -1.3
GUR Goura 83.05 328 P P 21 17 35.8 -1.4
DID Didima 83.15 327 P P 21 17 34.7 -2.9
RLS Riolos of Patr 83.23 329 P P 21 17 37.6 -0.3
DRO Drossia 83.25 328 P P 21 17 37.9 -0.1
KFL Anninata 83.40 329 P P 21 17 38.1 -0.7
VLS Valsamata 83.40 329 P P 21 17 38.1 -0.7
KARP Karpathos 83.53 323 eP P 21 17 38.4 -1.2
comp=Z,53nm,0.9s
TIP Timpagrande 83.62 332 eP P 21 17 41.0 +1.0
comp=Z,38nm,1.1s
TIP Timpagrande 83.62 332⇓ iP P 21 17 41.0 +1.0
AMT Artemida-Makis 83.63 328 P P 21 17 39.2 -0.8
ITM Ithomi 83.88 328 eP P 21 17 40.7 -0.6
comp=Z,32nm,0.9s
ITM Ithomi 83.88 328 P P 21 17 38.9 -2.4
PYL PYLOS 84.20 328 P P 21 17 41.2 -1.7
ZKR Zakros 84.26 324 P P 21 17 42.3 -1.0
LAST Lasithi 84.48 324 P P 21 17 43.6 -0.9
IDI Anoyia 84.58 325 P P 21 17 43.3 -1.7
comp=Z,15nm,0.8s,baz=35,slow=11,SNR=16
ANKY Antikythira Is 84.61 326 P P 21 17 43.6 -1.4
IMMV Iera Moni Meta 84.74 326 P P 21 17 44.4 -1.3
STKA Stephens Creek 85.34 196 eP P 21 17 48.6 +0.2
comp=Z,2.1nm,1.1s
STKA Stephens Creek 85.34 196 eP P 21 17 48.6 +0.2
STKA pmax pmax
comp=Z,2.0nm,1.1s
STKA Stephens Creek 85.34 196 P P 21 17 48.6 +0.2
comp=Z,3.1nm,0.9s,baz=1.5,slow=4.3,SNR=4.7
STKA LR LR 21 53 43.5
comp=Z,200nm,20.3s,baz=19,slow=34
EIL Elat 85.53 315 P P 21 17 49.9 +0.1
comp=Z,41nm,1.0s,baz=356,slow=3.0,SNR=30
061Z Ochoppi 85.66 52 P P 21 17 51.5 +1.2
baz=328
PGAV Gavieira, Arco 85.68 352 eP P 21 17 52.4 +2.0
comp=Z,64nm,1.5s
PBRG Braganca 85.69 350 eP P 21 17 51.2 +0.8
comp=Z,38nm,1.4s
PCAB Cabril 85.91 351 eP P 21 17 52.4 +0.9
comp=Z,59nm,1.8s
POLO Lamas de Olo 86.22 351 eP P 21 17 54.4 +1.3
comp=Z,16nm,1.9s
PVRL Vila Real 86.31 351 eP P 21 17 55.3 +1.8
comp=Z,52nm,1.5s
MVO Moncorvo 86.35 351 eP P 21 17 54.7 +1.0
comp=Z,45nm,1.5s
PVIS Viseu 86.88 351 eP P 21 17 57.2 +0.9
comp=Z,32nm,1.3s
TBI Tubuai 87.05 135 eLR LR 21 45 37.9
comp=Z,578nm,24.5s,baz=328
MTE Manteigas 87.16 351 eP P 21 17 58.2 +0.5
comp=Z,46nm,1.3s
MTE Manteigas 87.16 351 eP P 21 17 57.8 +0.1
comp=Z,32nm,1.0s
COI Coimbra 87.44 351 eP P 21 18 00.2 +1.4
comp=Z,31nm,1.0s
COI Coimbra 87.44 351 eP P 21 18 00.2 +1.4
COI pmax pmax
comp=Z,31nm,1.0s
ESDC Sonseca Array 87.47 348 P P 21 17 59.4 +0.2
comp=Z,15nm,1.0s,baz=5.0,slow=4.9,SNR=38
ESDC LR LR 22 02 32.9
comp=Z,120nm,18.3s,baz=110,slow=39
ESLA Sonseca Array 87.47 348 eP P 21 17 59.4 +0.3
comp=Z,18nm,1.1s
PCAS Casmilo, Conde 87.60 351 eP P 21 18 00.6 +0.9
comp=Z,62nm,1.3s
PAB San Pablo 87.65 348 eP P 21 18 01.1 +1.1
comp=Z,13nm,1.1s
PAB San Pablo 87.65 348 eP P 21 18 01.1 +1.1
PAB pmax pmax
comp=Z,13nm,1.1s
PCBR Castelo Branco 87.71 351 eP P 21 18 01.3 +1.1
comp=Z,27nm,1.5s
PTOM Tomar 88.02 351 eP P 21 18 04.1 +2.4
PMRV Marv??o 88.11 351 eP P 21 18 03.0 +0.9
comp=Z,29nm,1.7s
PMTG Montargil 88.55 351 eP P 21 18 04.6 +0.4
KEST Kesra 88.83 337 eP P 21 18 05.8 +0.2
comp=Z,21nm,1.0s
KEST Kesra 88.83 337 P P 21 18 05.8 +0.2
comp=Z,18nm,1.0s,baz=341,slow=2.2,SNR=13
KEST LR LR 22 03 45.7
comp=Z,648nm,18.3s,baz=350,slow=40
TOA1 Torodi Ar. Sit 112.34 337 ePKiKP PKiKP 21 23 47.1 -0.5
TOA1 ePP PP 21 24 29.5 -2.7
TORD Torodi Ar. Bea 112.34 337 PKiKP PKiKP 21 23 47.1 -0.5
comp=Z,1.0nm,0.9s,baz=28,slow=3.8,SNR=4.2
TORD PP PP 21 24 29.5 -2.8
comp=Z,7.9nm,1.1s,baz=357,slow=5.5,SNR=16
DBIC Dimbokro 120.00 343 PKP PKPdf 21 24 01.4 -1.0
comp=Z,4.1nm,0.7s,baz=42,slow=3.5,SNR=4.5
LPAZ La Paz 127.67 65 PKP PKiKP 21 24 18.6 +0.4
comp=Z,1.2nm,0.8s,baz=31,slow=6.0,SNR=5.1
MNMC Minye Minye 129.12 69 ePKPdf PKPdf 21 24 19.5 -0.4
BDFB Brasilia 137.11 42 PKhKP PKPpre 21 24 31.2
comp=Z,4.3nm,1.0s,baz=182,slow=8.6,SNR=3.1
BOSA Boshof 139.37 288 PP PP 21 27 28.6 -4.6
comp=Z,2.5nm,0.8s,baz=138,slow=15,SNR=3.2
CPUP Villa Florida 141.68 62 PKP PKPdf 21 24 42.4 -0.3
comp=Z,2.0nm,0.8s,baz=344,slow=5.1,SNR=4.3
PLCA Paso Flores 143.81 92 ePKPdf PKPdf 21 24 45.8 -0.4
PLCA Paso Flores 143.81 92 PKP PKPbc 21 24 45.6 +1.6
comp=Z,5.1nm,1.1s,baz=340,slow=5.0,SNR=7.0
TRQA Tornquist 147.44 81 ePKPbc PKPbc 21 24 56.1 +1.2
TRQA Tornquist 147.44 81 ePKP2 PKPbc 21 24 56.1 +1.2
SYO Syowa Base 148.09 216⇓ ePKPdf PKPdf 21 24 54.0 +1.6
SYO Syowa Base 148.09 216⇓ ePKPbc PKPbc 21 24 56.8 +1.2
SYO Syowa Base 148.09 216⇓ ePKiKP PKPab 21 25 00.2 +1.6
SYO Syowa Base 148.09 216⇓ ePKPab PKPab 21 25 01.8 +3.2
SNAA Sanae 159.10 195 Pdiff PKPdf 21 25 07.2 -0.9
VNA3 Neumayer Olymp 160.39 190 Pdiff PKPdf 21 25 08.5 -1.1
VNA2 Neumayer--Watz 160.43 192 Pdiff PKPdf 21 25 09.7 +0.1
VNA1 Neumayer--Stat 160.79 192 Pdiff PKPdf 21 25 10.6 +0.7

KRSC 19 21:07:59.1±10.0, 52°.14N×160°.58E, h21km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.02**	**341**	*eP*	Pb	21 08 17.7	-0.3
SPN				*eS*	Sb	21 08 30.4	-0.4
NLC	**Nalytchevo**	**1.28**	**324**	*eP*	Pn	21 08 22.0	+0.4
NLC				*eS*	Sb	21 08 39.8	+1.5
RUS	**Russkaya**	**1.30**	**284**	*eP*	Pn	21 08 22.3	+0.3
RUS				*eS*	Sn	21 08 38.7	0.0
DALK	**Dalny**	**1.43**	**309**	*eP*	Pn	21 08 24.3	+0.6
MTVR	**Mutnovka**	**1.51**	**284**	*eP*	Pn	21 08 25.3	+0.3
MTVR				*eS*	Sb	21 08 44.9	-0.3
UGLR	**Uglovaya**	**1.51**	**316**	P	Pb	21 08 26.2	-0.3
SDLR	**Sedlovina**	**1.54**	**318**	*eP*	Pb	21 08 26.9	0.0
KDTR	**Khodutka, Kamc**	**1.58**	**259**	S	Sb	21 08 47.5	+0.4
KRMR	**Karymshinskiy**	**1.65**	**296**	P	Pn	21 08 27.7	+0.9
KRMR				S	Sb	21 08 48.6	-0.4
ASAK	**Asacha**	**1.66**	**279**	P	Pb	21 08 28.4	-0.7
KRX	**Arik**	**1.69**	**317**	P	Pb	21 08 30.5	+0.9
APC	**Apacha**	**2.23**	**292**	P	Pb	21 08 37.8	-0.9
KZV	**Kizimen**	**2.98**	**357**	P	Pb	21 08 48.5	-3.0
KZV				S	Sn	21 09 21.9	+1.5

DJA 19 21:11:39.8±1.5, 7°.5±10°.×10°.5E±°., h12km±9km, M4.3/5, mb4.5/1, MLv4.3/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.65**	**44**	P	Pb	21 11 53.7	+0.6
CGJI				S	Sb	21 12 02.6	+0.4
SKJI	**Sukabumi**	**1.31**	**86**	P	Pn	21 12 02.7	-1.2
SKJI				S	Sn	21 12 21.4	0.0
LEM	**Lembang**	**2.38**	**84**	P	Pb	21 12 21.6	-1.0
CISI	**Cisompet, Garu**	**2.60**	**100**	P	Pn	21 12 21.6	-0.1
CISI				S	Sn	21 12 54.3	+1.1
MNAI	**Manna**	**3.54**	**320**	P	Pn	21 12 34.6	0.0
PCJI	**Pacitan**	**5.99**	**101**	P	Pn	21 13 08.9	+0.6

*KRSC **19** 21:12:46.9±10.0, 52°.01N×160°.74E, h41km±10km, ML4.8*
*IDC **19** 21:12:48.5±0.6, 52°.52N×160°.05E, h0km, mb4.2/28, mb1 4.4/31, mb1mx4.3/49, mbtmp4.3/31, ML3.6/3, Error ellipse: s-maj=16.0km s-min=10.9km az=153.0*
*MOS **19** 21:12:51.9±1.1, 52°.19N×160°.27E, h44km, mb4.9/70, Error ellipse: s-maj=6.3km s-min=3.2km az=100.5*
*ISCJB **19** 21:12:53.0±0.5, 52°.22N±0°.03×160°.24E±0°.04, h52km±3km, mb4.7/156, MS5.2/1, Error ellipse: s-maj=6.2km s-min=3.3km az=144.3*
*NEIC **19** 21:12:53.1±0.3, 52°.33N×160°.12E, h35km, mb4.7/72, Error ellipse: s-maj=8.6km s-min=4.4km az=165.0*
*BJI **19** 21:12:54.8±0.0, 52°.74N×159°.73E, h60km, mb4.7/36, mB5.1/19, Ms5.2/7, Ms7 5.2/6*

ISC 19 21:12:52.2±0.7, 52°.21N±0°.04×160°.34E±0°.03, h34km±2km, n417, σ1§43/448, mb4.7/160, 26C-18D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.91**	**348**	P	**Pn**	**21 13 07.8**	**-0.8**
SPN				S	**Sb**	**21 13 22.2**	**+0.9**
SPN	**Mys Shipunski**	**0.91**	**348**	PN	**Pn**	**21 13 07.8**	**-0.8**
SPN				S	**Sb**	**21 13 22.2**	**+0.9**
NLC	**Nalytchevo**	**1.14**	**328**	P	**Pb**	**21 13 12.4**	**-0.9**
NLC				S	**Sb**	**21 13 30.1**	**+2.3**
NLC	**Nalytchevo**	**1.14**	**328**	PN	**Pb**	**21 13 12.4**	**-0.9**
NLC				S	**Sb**	**21 13 30.1**	**+2.3**
RUS	**Russkaya**	**1.14**	**282**	P	**Pn**	**21 13 11.5**	**-0.3**
RUS				S	**Sb**	**21 13 28.2**	**+0.3**
RUS	**Russkaya**	**1.14**	**282**	PN	**Pn**	**21 13 11.5**	**-0.3**
RUS				S	**Sb**	**21 13 28.2**	**+0.3**
DALK	**Dalny**	**1.27**	**311**	P	**Pn**	**21 13 13.9**	**+0.4**
DALK				S	**Sb**	**21 13 33.1**	**+1.6**
PET	**Petropavlovsk**	**1.31**	**309**	*e*Pn	**Pb**	**21 13 14.7**	**-1.6**
PET				*e*Sn	**Sn**	**21 13 29.2**	**-1.2**
PET	**Petropavlovsk**	**1.31**	**309**	P	**Pb**	**21 13 14.6**	**-1.6**
PET				S	**Sb**	**21 13 33.3**	**+0.6**
PET	**Petropavlovsk**	**1.31**	**309**	⇑*i*PN	**Pn**	**21 13 14.5**	**+0.4**
PET				*e*S	**Sb**	**21 13 34.1**	**+1.4**
PET				pmax	pmax		
	comp=Z,1μm,0.8s						
PET				smax	smax		
	comp=N,3μm,0.9s						
PET				smax	smax		
	comp=E,4μm,0.6s						
MTVR	**Mutnovka**	**1.35**	**283**	P	**Pn**	**21 13 15.2**	**+0.4**
MTVR				S	**Sb**	**21 13 34.7**	**+0.7**
MTVR	**Mutnovka**	**1.35**	**283**	PN	**Pn**	**21 13 15.2**	**+0.4**
MTVR				S	**Sb**	**21 13 34.7**	**+0.7**
UGLR	**Uglovaya**	**1.36**	**318**	P	**Pb**	**21 13 15.9**	**-1.2**
UGLR				S	**Sb**	**21 13 37.1**	**+2.8**
UGLR	**Uglovaya**	**1.36**	**318**	PN	**Pb**	**21 13 15.9**	**-1.2**
UGLR				S	**Sb**	**21 13 37.1**	**+2.8**
SDLR	**Sedlovina**	**1.39**	**321**	P	**Pb**	**21 13 16.1**	**-1.5**
SDLR	**Sedlovina**	**1.39**	**321**	PN	**Pb**	**21 13 16.1**	**-1.5**
SMAR	**Somma**	**1.41**	**319**	P	**Pb**	**21 13 16.6**	**-1.4**
SMAR	**Somma**	**1.41**	**319**	PN	**Pb**	**21 13 16.6**	**-1.4**
GRL	**Gorelyy**	**1.43**	**285**	P	**Pb**	**21 13 17.9**	**-0.4**
GRL				S	**Sb**	**21 13 39.8**	**+3.5**
GRL	**Gorelyy**	**1.43**	**285**	PN	**Pb**	**21 13 17.9**	**-0.4**
AVH	**Avacha**	**1.44**	**318**	P	**Pb**	**21 13 17.4**	**-1.0**
AVH				S	**Sb**	**21 13 38.4**	**+2.0**
AVH	**Avacha**	**1.44**	**318**	PN	**Pb**	**21 13 17.4**	**-1.0**
AVH				S	**Sb**	**21 13 38.4**	**+2.0**
KDTR	**Khodutka, Kamc**	**1.46**	**255**	P	**Pn**	**21 13 15.6**	**-0.4**
KDTR				S	**Sb**	**21 13 36.5**	**-0.3**
KDTR	**Khodutka, Kamc**	**1.46**	**255**	PN	**Pn**	**21 13 15.6**	**-0.4**
KDTR				S	**Sb**	**21 13 36.5**	**-0.3**
KRER	**Koryakskii**	**1.46**	**319**	P	**Pb**	**21 13 17.7**	**-1.2**
KRER	**Koryakskii**	**1.46**	**319**	PN	**Pb**	**21 13 17.7**	**-1.2**
KRMR	**Karymshinskiy**	**1.49**	**296**	P	**Pb**	**21 13 17.3**	**-1.9**
KRMR				S	**Sb**	**21 13 40.2**	**+2.5**
KRMR	**Karymshinskiy**	**1.49**	**296**	PN	**Pb**	**21 13 17.3**	**-1.9**
KRMR				S	**Sb**	**21 13 40.2**	**+2.5**
KOK	**Koryaka**	**1.50**	**317**	P	**Pb**	**21 13 17.9**	**-1.6**
KOK				S	**Sb**	**21 13 40.4**	**+2.2**
KOK	**Koryaka**	**1.50**	**317**	PN	**Pb**	**21 13 17.9**	**-1.6**
KOK				S	**Sb**	**21 13 40.4**	**+2.2**
ASAK	**Asacha**	**1.51**	**278**	P	**Pn**	**21 13 17.2**	**+0.3**
ASAK	**Asacha**	**1.51**	**278**	PN	**Pn**	**21 13 17.2**	**+0.3**
KRX	**Arik**	**1.54**	**319**	P	**Pb**	**21 13 18.4**	**-1.8**
KRX	**Arik**	**1.54**	**319**	PN	**Pb**	**21 13 18.4**	**-1.8**
PEA0B	**Petropavlovsk-**	**1.84**	**300**	*e*Pn	**Pb**	**21 13 22.7**	**-2.5**
PEA0B				*e*Sn	**Sn**	**21 13 42.1**	**-1.5**
PEA0B	**Petropavlovsk-**	**1.84**	**300**	*e*PN	**Pb**	**21 13 22.7**	**-2.5**
PEA0B				*e*		21 13 42.1	
PETK	**Petropavlovsk-**	**1.84**	**300**	*e*Pn	**Pn**	**21 13 22.3**	**+0.9**
PETK				*e*Sn	**Sn**	**21 13 44.1**	**+0.5**
PETK	**Petropavlovsk-**	**1.84**	**300**	*e*PN	**Pn**	**21 13 22.3**	**+0.9**
PETK				*e*		21 13 44.1	
PETK	**Petropavlovsk-**	**1.84**	**300**	Pn	**Pn**	**21 13 22.5**	**+1.1**
	comp=E,73nm,0.3s,baz=104,slow=18,SNR=350						
PETK				Sn	**Sb**	**21 13 46.6**	**-1.3**
	comp=E,62nm,0.3s,baz=114,slow=18,SNR=6.1						
PEA1	**Petropavlovsk-**	**1.85**	**300**	*e*Pn	**Pn**	**21 13 22.5**	**+1.1**
PEA1				*e*Sn	**Sb**	**21 13 46.6**	**-1.4**
APC	**Apacha**	**2.07**	**291**	P	**Pb**	**21 13 26.4**	**-2.6**
APC				S	**Sb**	**21 13 54.8**	**+0.4**
APC	**Apacha**	**2.07**	**291**	PN	**Pb**	**21 13 26.4**	**-2.6**
APC				S	**Sb**	**21 13 54.8**	**+0.4**
PAU	**Pauzhetka**	**2.31**	**253**	P	**Pn**	**21 13 28.2**	**+0.4**
PAU	**Pauzhetka**	**2.31**	**253**	PN	**Pn**	**21 13 28.2**	**+0.4**
MKZ	**Mys Kozlova**	**2.49**	**19**	P	**Pn**	**21 13 29.7**	**-0.6**
MKZ				S	**Sn**	**21 13 59.0**	**-0.5**
MKZ	**Mys Kozlova**	**2.49**	**19**	PN	**Pn**	**21 13 29.7**	**-0.6**
MKZ				S	**Sn**	**21 13 59.0**	**-0.5**
KZV	**Kizimen**	**2.91**	**359**	P	**Pn**	**21 13 37.1**	**+0.9**
KZV	**Kizimen**	**2.91**	**359**	PN	**Pn**	**21 13 37.1**	**+0.9**
TUMD	**Tumrok D**	**3.00**	**1**	P	**Pn**	**21 13 38.1**	**+0.8**
SKR	**Severo-Kuril's**	**3.05**	**242**	*e*PN	**Pn**	**21 13 38.9**	**+0.9**
SKR				*e*S	**Sn**	**21 14 12.7**	**-0.6**
SKR				pmax	pmax		
	comp=Z,275nm,0.9s						
SKR				smax	smax		
	comp=E,1μm,0.8s						
SKR				smax	smax		
	comp=N,3μm,0.8s						
TUMR	**Tumrok**	**3.08**	**358**	PN	**Pn**	**21 13 38.1**	**-0.4**
ALID	**Alaid**	**3.28**	**248**	P	**Pn**	**21 13 41.6**	**+0.4**
ALID	**Alaid**	**3.28**	**248**	PN	**Pn**	**21 13 41.6**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**3.74**	**3**	P	**Pn**	**21 13 51.0**	**+3.4**
BZGR	**Bezymyannyi-Gr**	**3.74**	**3**	PN	**Pn**	**21 13 51.0**	**+3.4**
ESO	**Esso**	**3.85**	**346**	P	**Pn**	**21 13 50.6**	**+1.7**
ESO	**Esso**	**3.85**	**346**	PN	**Pn**	**21 13 50.6**	**+1.7**
KOZ	**Kozyrevsk**	**3.87**	**356**	P	**Pn**	**21 13 51.2**	**+2.0**
KOZ	**Kozyrevsk**	**3.87**	**356**	PN	**Pn**	**21 13 51.2**	**+2.0**
LGNR	**Loginova**	**3.89**	**3**	P	**Pn**	**21 13 51.3**	**+1.6**
LGNR	**Loginova**	**3.89**	**3**	PN	**Pn**	**21 13 51.3**	**+1.6**
CIRR	**Tsirk**	**3.92**	**3**	P	**Pn**	**21 13 51.6**	**+1.5**
CIRR	**Tsirk**	**3.92**	**3**	PN	**Pn**	**21 13 51.6**	**+1.5**
KRSR	**Krestovskiy**	**4.02**	**2**	P	**Pn**	**21 13 53.6**	**+2.3**
KRSR	**Krestovskiy**	**4.02**	**2**	PN	**Pn**	**21 13 53.6**	**+2.3**
SRDR	**Sredinnyy**	**4.13**	**355**	P	**Pn**	**21 13 53.2**	**+0.3**
SRDR	**Sredinnyy**	**4.13**	**355**	PN	**Pn**	**21 13 53.2**	**+0.3**
KBTR	**Krutoberegovo**	**4.26**	**19**	P	**Pn**	**21 13 55.2**	**+0.6**
KBTR	**Krutoberegovo**	**4.26**	**19**	PN	**Pn**	**21 13 55.2**	**+0.6**
BDR	**Baidarnaya**	**4.40**	**6**	P	**Pn**	**21 13 59.2**	**+2.7**
BDR	**Baidarnaya**	**4.40**	**6**	PN	**Pn**	**21 13 59.2**	**+2.7**
SRKR	**Sorokina**	**4.48**	**6**	P	**Pn**	**21 14 00.5**	**+2.8**
SRKR	**Sorokina**	**4.48**	**6**	PN	**Pn**	**21 14 00.5**	**+2.8**
BKI	**Bering**	**4.49**	**46**	P	**Pn**	**21 13 56.2**	**-1.5**
BKI				S	**Sn**	**21 14 44.7**	**-4.1**
BKI	**Bering**	**4.49**	**46**	PN	**Pn**	**21 13 56.2**	**-1.5**
TILK	**Tilichiki**	**8.86**	**19**	P	**Pn**	**21 14 58.2**	**+0.6**
TILK	**Tilichiki**	**8.86**	**19**	PN	**Pn**	**21 14 58.2**	**+0.6**
SEY	**Seymchan**	**11.56**	**342**	‖*e*PN	**Pn**	**21 15 36.1**	**+1.6**
SEY	**Seymchan**	**11.56**	**342**	Pn	**Pn**	**21 15 31.4**	**-3.2**
	comp=N,0.2nm,0.3s,baz=128,slow=19,SNR=1.7						
YSS	**Yuzh-Sakhalins**	**12.55**	**252**	*e*PN	**Pn**	**21 15 50.7**	**+2.5**
ASAJ	**Asahikawa**	**14.32**	**243**	Pn	**Pn**	**21 16 11.9**	**-0.4**
	comp=N,0.6nm,0.3s,baz=65,slow=14,SNR=8.9						
GSTR	**Great Sitkin T**	**14.48**	**81**	*e*Pn	**P**	**21 16 18.7**	**-2.0**
GRNR	**Gornyy**	**14.96**	**274**	*e*P	**P**	**21 16 28.3**	**+2.2**
GRNR				pmax	pmax		
	comp=Z,32nm,1.0s						
BILL	**Bilibino**	**16.14**	**8**	*e*P	**P**	**21 16 39.7**	**+0.6**
	comp=Z,16nm,0.9s						
BILL	**Bilibino**	**16.14**	**8**	*e*P	**P**	**21 16 39.5**	**+0.5**
BILL				pmax	pmax		
	comp=Z,17nm,1.0s						
TEY	**Ternei**	**17.21**	**255**	⇑*e*P	**P**	**21 16 51.1**	**+0.1**
TEY				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KLR	**Kul'dur**	**18.30**	**272**	P	**P**	**21 17 01.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=66,slow=11,SNR=11						
ZEA	**Zeya**	**19.89**	**288**	*e*P	**P**	**21 17 18.6**	**-1.8**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
USRK	**Ussuriysk Ar.**	**20.42**	**258**	P	**P**	**21 17 24.0**	**-2.2**
	comp=Z,18nm,1.0s,baz=59,slow=10.0,SNR=16						
MDJ	**Mudanjiang**	**21.65**	**262**	*e*P	**P**	**21 17 36.3**	**-3.2**
	comp=Z,16nm,1.2s						
MJB9	**Matsu-Tunnel**	**22.13**	**234**	*e*P	**P**	**21 17 45.6**	**+0.9**
	comp=Z,44nm,0.9s						
MAJO	**Matsushiro**	**22.13**	**234**	*e*P	**P**	**21 17 45.5**	**+0.9**
	comp=Z,43nm,0.9s						
MAJO	**Matsushiro**	**22.13**	**234**	*ce*P	**P**	**21 17 44.2**	**-0.5**
MAT	**Matsushiro**	**22.13**	**234**	P	**P**	**21 17 44.6**	**-0.1**
MJAR	**Matsushiro Arr**	**22.13**	**234**	*e*P	**P**	**21 17 46.7**	**+2.0**
MJAR	**Matsushiro Arr**	**22.13**	**234**	P	**P**	**21 17 45.5**	**+0.9**
	comp=Z,11nm,0.9s,baz=24,slow=9.1,SNR=20						
INU	**Inuyama**	**23.66**	**234**	*e*P	**P**	**21 18 00.2**	**-0.2**
	comp=Z,20nm,0.9s						
RDOG	**Red Dog Mine**	**23.68**	**34**	*e*P	**P**	**21 18 00.6**	**+0.3**
	comp=Z,9.1nm,0.7s						
TIXI	**Tiksi**	**23.95**	**336**	*e*P	**P**	**21 18 01.6**	**-1.2**
TIXI	**Tiksi**	**23.95**	**336**	‖*e*P	**P**	**21 18 01.5**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,20nm,0.8s						
TIXI	**Tiksi**	**23.95**	**336**	P	**P**	**21 18 00.5**	**-2.2**
	comp=Z,20nm,0.9s,baz=125,slow=8.8,SNR=24						
HIA	**Hailar**	**25.62**	**280**	*e*P	**P**	**21 18 17.0**	**-1.3**
	comp=Z,18nm,0.8s						
HIA	**Hailar**	**25.62**	**280**	⇑*e*P	**P**	**21 18 16.9**	**-1.3**
KSRS	**Korea Array**	**27.04**	**250**	P	**P**	**21 18 33.1**	**+2.1**
	comp=Z,4.7nm,1.0s,baz=44,slow=9.1,SNR=11						
KS15	**Wonju Array Si**	**27.07**	**250**	*e*P	**P**	**21 18 33.1**	**+1.8**
	comp=Z,26nm,1.4s						
KSAR	**Wonju Array Be**	**27.07**	**250**	*e*P	**P**	**21 18 30.7**	**-0.6**
KSAR	**Wonju Array Be**	**27.07**	**250**	*e*P	**P**	**21 18 30.7**	**-0.6**
KDAK	**Kodiak Island**	**27.11**	**59**	*e*P	**P**	**21 18 31.3**	**-0.2**
	comp=Z,87nm,1.5s						
KDAK	**Kodiak Island**	**27.11**	**59**	*e*P	**P**	**21 18 31.3**	**-0.2**
KDAK				pmax	pmax		
	comp=Z,87nm,1.5s						
KDAK	**Kodiak Island**	**27.11**	**59**	P	**P**	**21 18 31.3**	**-0.2**
	comp=Z,10.0nm,1.0s,baz=249,slow=18,SNR=5.6						
BWN	**Browne**	**28.22**	**45**	*e*P	**P**	**21 18 42.4**	**+1.1**
	comp=Z,20nm,1.0s						
JNU	**Nakatsue**	**28.56**	**240**	*e*P	**P**	**21 18 46.1**	**+1.3**
	comp=Z,32nm,1.1s						
JNU	**Nakatsue**	**28.56**	**240**	P	**P**	**21 18 46.1**	**+1.3**
	comp=Z,8.6nm,0.8s,baz=55,slow=6.2,SNR=5.5						
COLA	**College**	**28.93**	**44**	*e*P	**P**	**21 18 48.0**	**+0.4**
	comp=Z,38nm,0.3s						
COLA	**College**	**28.93**	**44**	*e*P	**P**	**21 18 48.0**	**+0.4**
COLA				pmax	pmax		
	comp=Z,38nm,0.3s						
CCB	**Clear Creek Bu**	**28.94**	**44**	*e*P	**P**	**21 18 47.3**	**-0.5**
	comp=Z,5.1nm,1.4s						
ILAR	**Eielson Array**	**29.34**	**44**	P	**P**	**21 18 51.7**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=256,slow=7.2,SNR=4.2						
ILAR				PcP	**PcP**	**21 21 55.8**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=293,slow=4.6,SNR=3.0						
ILB	**Eielson Array**	**29.34**	**44**	*e*P	**P**	**21 18 51.6**	**+0.3**
	comp=Z,3.3nm,1.1s						
ILB				*e*PcP	**PcP**	**21 21 55.8**	**-1.0**
PRP	**Porcupine Dome**	**29.91**	**43**	*e*P	**P**	**21 18 55.0**	**-1.6**
	comp=Z,2.6nm,0.8s						
FYU	**Fort Yukon**	**30.04**	**41**	*e*P	**P**	**21 18 56.0**	**-1.5**
	comp=Z,20nm,1.0s						
SCRK	**Sand Creek**	**30.63**	**46**	*e*P	**P**	**21 19 00.9**	**-2.0**
	comp=Z,6.5nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**32.82**	**169**	T	T	21 54 47.0	
	baz=352,slow=76,SNR=46						
H11N3	**WAKE ISLAND Hy**	**32.83**	**169**	T	T	21 54 48.7	
	baz=352,slow=76,SNR=43						
H11N1	**WAKE ISLAND Hy**	**32.83**	**169**	T	T	21 54 50.9	
	baz=352,slow=76,SNR=44						
ULN	**Ulaanbaatar**	**33.85**	**284**	*e*P	**P**	**21 19 28.3**	**-3.1**
	comp=Z,4.8nm,1.1s						
ULN	**Ulaanbaatar**	**33.85**	**284**	‖*e*P	**P**	**21 19 30.1**	**-1.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**34.00**	**169**	T	T	21 56 42.8	
	baz=350						
H11S3	**WAKE ISLAND Hy**	**34.01**	**169**	T	T	21 56 46.2	
	baz=350						
H11S2	**WAKE ISLAND Hy**	**34.02**	**169**	T	T	21 56 44.5	
	baz=350						
TLY	**Talaya**	**34.19**	**292**	*e*P	**P**	**21 19 32.7**	**-1.4**
	comp=Z,9.0nm,0.7s						
TLY	**Talaya**	**34.19**	**292**	⇑*e*P	**P**	**21 19 34.1**	**0.0**
SONA0	**Songino Array**	**34.26**	**285**	*e*P	**P**	**21 19 33.5**	**-1.4**
SONM	**Songino Array**	**34.26**	**285**	*e*P	**P**	**21 19 34.3**	**-0.5**
SONM	**Songino Array**	**34.26**	**285**	P	**P**	**21 19 33.5**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=63,slow=8.2,SNR=5.0						
INK	**Inuvik**	**34.48**	**37**	*e*P	**P**	**21 19 36.8**	**+0.4**
	comp=Z,2.3nm,0.8s						
INK	**Inuvik**	**34.48**	**37**	*e*P	**P**	**21 19 36.8**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**34.48**	**37**	P	**P**	**21 19 36.8**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=305,slow=7.0,SNR=5.7						
HHC	**Hu-ho-hao-te**	**34.79**	**271**	*e*P	**P**	**21 19 39.3**	**-0.2**
HHC				pmax	pmax		
	comp=Z,84nm,0.9s						
HHC				pmax	pmax		
	comp=Z,270nm,4.5s						
ZAK	**Zakamensk**	**34.94**	**290**	*e*P	**P**	**21 19 38.8**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WHY	**Whitehorse**	**35.40**	**50**	*e*P	**P**	**21 19 44.4**	**-0.1**
	comp=Z,12nm,1.4s						
MOY	**Mondy**	**35.70**	**293**	*e*P	**P**	**21 19 46.2**	**-1.0**
MOY				pmax	pmax		
	comp=Z,12nm,2.5s						
NJ2	**Nanjing**	**36.12**	**253**	*e*P	**P**	**21 19 50.3**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NRIK	**Noril'sk**	**36.72**	**325**	P	**P**	**21 19 53.0**	**-2.6**
NRIK	**Noril'sk**	**36.72**	**325**	P	**P**	**21 19 53.0**	**-2.6**
	comp=Z,4.8nm,0.8s,baz=91,slow=10,SNR=4.6						
WHN	**Wuhan**	**39.88**	**255**	⇑P	**P**	**21 20 23.6**	**+1.1**
WHN				pmax	pmax		
	comp=Z,26nm,0.9s						
KNMB	**Chin-men Tao**	**42.13**	**245**	*e*P	**P**	**21 20 40.6**	**-0.5**
	comp=Z,34nm,0.8s						
LZH	**Lanzhou**	**42.49**	**271**	*e*P	**P**	**21 20 46.9**	**+2.7**
LZH				pP	sP	21 21 00.4	+4.0
LZH				sP	pwP	21 21 06.9	+11
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
GTA	**Gaotai**	**42.86**	**277**	*e*P	**P**	**21 20 46.3**	**-0.8**
GTA				pP	pP	21 20 56.3	0.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,130nm,4.9s						
GTA				LR	LR		
	comp=Z,1μm,14.9s						
GTA				LR	LR		
	comp=Z,1μm,14.6s						
GTA				LR	LR		
	comp=Z,3μm,14.6s						
ENH	**Enshi**	**42.99**	**260**	*e*P	**P**	**21 20 45.4**	**-2.7**
	comp=Z,6.3nm,0.9s						
ZAA1	**Zalesovo Array**	**43.38**	**304**	*e*P	**P**	**21 20 48.9**	**-2.1**
ZALV	**Zalesovo Beam**	**43.39**	**304**	*e*P	**P**	**21 20 48.3**	**-2.7**
ZALV	**Zalesovo Beam**	**43.39**	**304**	*i* P	**P**	**21 20 48.9**	**-2.1**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**43.39**	**304**	P	**P**	**21 20 48.9**	**-2.1**
	comp=Z,3.5nm,0.8s,baz=71,slow=6.4,SNR=7.4						
YKA	**Yellowknife Ar**	**43.72**	**42**	*e*P	**P**	**21 20 55.0**	**+1.5**
YKA	**Yellowknife Ar**	**43.72**	**42**	*e*P	**P**	**21 20 55.0**	**+1.5**
YKA	**Yellowknife Ar**	**43.72**	**42**	P	**P**	**21 20 54.8**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=298,slow=8.0,SNR=5.7						
YKB5	**Yellowknife Ar**	**43.72**	**42**	*e*P	**P**	**21 20 54.8**	**+1.3**
NVS	**Novosibirsk**	**43.74**	**305**	⇑*i*P	**P**	**21 20 52.5**	**-1.3**
NVS				pmax	pmax		
	comp=Z,27nm,1.0s						
NVS				pmax	pmax		
	comp=E,13nm,1.0s						
RES	**Resolute Bay**	**44.09**	**22**	*e*P	**P**	**21 20 57.5**	**+1.2**
	comp=E,2.9nm,0.9s						
RES	**Resolute Bay**	**44.09**	**22**	*e*P	**P**	**21 20 57.6**	**+1.2**
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RES	**Resolute Bay**	**44.09**	**22**	P	**P**	**21 20 56.8**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=298,slow=8.3,SNR=7.6						
DGZ	**Jazzator, Alta**	**44.20**	**297**	*d i* P	**P**	**21 20 56.9**	**-0.9**
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CD2	**Chengdu**	**46.04**	**265**	*e*P	**P**	**21 21 10.3**	**-2.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
WMQ	**Urumqi**	**47.41**	**290**	*e*P	**P**	**21 21 23.1**	**0.0**
WMQ				pP	pP	21 21 31.9	-0.5
WMQ				pmax	pmax		
	comp=Z,43nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,500nm,10.7s						
SPA0	**Spitsbergen Ar**	**48.03**	**351**	*e*P	**P**	**21 21 28.2**	**+0.8**
	comp=Z,48nm,1.1s						
SPITS	**Spitsbergen Ar**	**48.03**	**351**	P	**P**	**21 21 27.3**	**-0.1**
SPITS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**48.33**	**303**	*e*P	**P**	**21 21 28.4**	**-1.6**
	comp=Z,20nm,0.9s						
KURK	**Kurchatov**	**48.33**	**303**	‖*e*P	**P**	**21 21 28.2**	**-1.8**
KURK				pmax	pmax		
	comp=Z,19nm,0.8s						
MK32	**Makanchi Array**	**48.68**	**296**	*e*P	**P**	**21 21 30.9**	**-1.9**
MKAR	**Makanchi Array**	**48.68**	**296**	P	**P**	**21 21 30.9**	**-1.9**
	comp=Z,2.3nm,0.6s,baz=59,slow=7.3,SNR=16						
MAKZ	**Makanchi**	**

comp=Z,5.2nm,1.0s
KK31 Karatay Array 57.45 300 *eP* **P 21 22 36.4 -1.0**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 57.45 300 *eP* **P 21 22 36.4 -1.0**
comp=Z,5.2nm,1.0s
KKAR Karatay Array 57.45 300 *eP* **P 21 22 36.4 -1.0**
KKAR pmax pmax
comp=Z,5.0nm,1.0s
SCO Scoresbysund 57.60 1 *i P* **P 21 22 41.5 +3.5**
SCO pmax pmax
comp=Z,6.0nm,1.0s
SCO Scoresbysund 57.60 1 *i P* **P 21 22 41.5 +3.5**
comp=Z,5.6nm,1.0s
LAMP Lampang 57.69 258 P **P 21 22 41.6 +2.3**
comp=Z,17µm,1.0s,comp=Z,247µm
UTTA Uttaradit 57.73 257 P **P 21 22 41.6 +2.0**
comp=Z,15µm,0.9s,comp=Z,157µm
KLMR Klimovskoe 57.79 330 *eP* **P 21 22 36.2 -3.3**
KLMR pmax pmax
comp=Z,16nm,0.9s
PD31 Pinedale Array 57.83 60 *eP* **P 21 22 42.2 +1.8**
comp=Z,3.7nm,1.1s
PDAR Pinedale Array 57.83 60 P **P 21 22 41.6 +1.3**
comp=Z,1.2nm,0.7s,baz=328,slow=3.5,SNR=10
CMMT Chiang Mai 57.88 259 P **P 21 22 41.8 +1.1**
comp=Z,6.9nm,1.3s
CHTO Chiang Mai 57.88 259 *eP* **P 21 22 41.1 +0.4**
comp=Z,13nm,1.1s
CHTO Chiang Mai 57.88 259 *eP* **P 21 22 41.1 +0.4**
CHTO pmax pmax
comp=Z,13nm,1.1s
OUL Oulu 57.89 339 P **P 21 22 40.7 +0.6**
OUL pmax pmax
comp=Z,28nm,1.0s
CM31 Chiang Mai Arr 58.15 259 *eP* **P 21 22 43.2 +0.6**
comp=Z,7.1nm,0.9s
CMAR Chiang Mai Arr 58.15 259 P **P 21 22 43.6 +1.0**
comp=Z,3.6nm,0.8s,baz=25,slow=7.1,SNR=24
JOF Joensuu 58.43 335 P **P 21 22 44.4 +0.5**
JOF pmax pmax
comp=Z,26nm,1.1s
JIRN Jiri 59.13 276 *eP* **P 21 22 49.2 -0.6**
comp=Z,22nm,0.7s
BTK Batken 59.39 297 *eP* **P 21 22 50.2 -0.8**
comp=Z,11nm,1.0s
BTK Batken 59.39 297 *eP* **P 21 22 50.2 -0.8**
BTK pmax pmax
comp=Z,11nm,1.0s
RAMN Ramite 59.39 275 *eP* **P 21 22 50.7 -0.7**
comp=Z,33nm,0.6s
KKN Kakani 59.59 277 *eP* **P 21 22 52.2 -0.6**
comp=Z,17nm,0.6s
PKI Pulchoki 59.67 277 *eP* **P 21 22 52.7 -0.8**
comp=Z,22nm,1.0s
PKIN Phulchoki 59.68 277 *eP* **P 21 22 52.6 -0.8**
comp=Z,12nm,0.6s
RSSD Black Hills 59.77 56 *eP* **P 21 22 54.9 +1.1**
comp=Z,8.9nm,1.1s
RSSD Black Hills 59.77 56 *eP* **P 21 22 54.9 +1.1**
RSSD pmax pmax
comp=Z,9.0nm,1.1s
DMN Daman 59.83 277 *eP* **P 21 22 54.1 -0.4**
comp=Z,26nm,0.7s
GKN Gorkha 59.83 278 *eP* **P 21 22 53.6 -0.8**
SRU San Rafael Swe 59.84 64 *eP* **P 21 22 56.4 +2.1**
comp=Z,4.2nm,0.8s
SRU San Rafael Swe 59.84 64 *eP* **P 21 22 56.4 +2.1**
SRU pmax pmax
comp=Z,4.0nm,0.8s
SUF Sumiainen 59.87 338 P **P 21 22 54.6 +0.7**
SUF pmax pmax
comp=Z,38nm,1.4s
DANN Dangsing 60.12 279 *eP* **P 21 22 56.0 -0.5**
comp=Z,23nm,0.7s
VAF Ylistaro 60.38 339 P **P 21 22 58.9 +1.6**
VAF pmax pmax
comp=Z,21nm,1.1s
GAR Garm 60.41 296 *eP* **P 21 22 56.5 -1.6**
comp=Z,26nm,1.1s
GAR Garm 60.41 296 *eP* **P 21 22 56.5 -1.6**
GAR pmax pmax
comp=Z,26nm,1.1s
KOLN Koldanda 60.63 278 *eP* **P 21 22 59.1 -0.8**
comp=Z,19nm,0.7s
PYUN Piuthan 60.77 279 *eP* **P 21 23 00.1 -0.7**
comp=Z,19nm,0.7s
FIA1 FINESS Array S 60.99 337 *eP* **P 21 23 02.0 +0.4**
comp=Z,27nm,1.2s
FIA0 FINESS Array S 60.99 337 *eP* **P 21 23 01.8 +0.3**
FIA0 FINESS Array S 60.99 337 *eP* **P 21 23 01.8 +0.3**
FINES FINESS Array B 60.99 337 *i P* **P 21 23 01.7 +0.2**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 60.99 337 P **P 21 23 01.8 +0.3**
comp=Z,5.8nm,0.6s,baz=38,slow=7.6,SNR=43
PV17 East Wray Mesa 61.29 64 *eP* **P 21 23 06.3 +2.1**
comp=Z,12nm,1.1s
ISCO Idaho Springs 62.02 60 *eP* **P 21 23 11.5 +2.2**
comp=Z,9.5nm,1.5s
ISCO Idaho Springs 62.02 60 *eP* **P 21 23 11.5 +2.2**
ISCO pmax pmax
comp=Z,9.0nm,1.5s
PHET Kaeng Krachan 62.06 254 P **P 21 23 12.6 +3.2**
NIL Nilore 62.56 290 *eP* **P 21 23 12.3 -0.3**
comp=Z,15nm,0.9s
NIL Nilore 62.56 290 *eP* **P 21 23 12.3 -0.3**
NIL pmax pmax
comp=Z,15nm,0.9s
OBN Obninsk 63.34 328 *eP* **P 21 23 16.3 -1.1**
OBN *e* 21 23 53.2
OBN *e* 21 25 37.4
OBN pmax pmax
comp=Z,8.0nm,0.5s
VSU Vasula 63.41 335 *ceP* **P 21 23 17.8 0.0**
VSU pmax pmax
comp=Z,50nm,1.3s
VSU Vasula 63.41 335 *eP* **P 21 23 16.4 -1.4**
VSU IAmb IAmb 21 23 18.6
comp=Z,54nm,1.0s
NC405 NORSAR Array S 64.28 344 *eP* **P 21 23 24.1 +0.6**
comp=Z,26nm,1.4s
NC204 NORSAR Array S 64.29 344 *eP* **P 21 23 23.1 -0.5**
comp=Z,39nm,1.4s
KBL Kabul 64.32 294 *eP* **P 21 23 21.9 -2.5**
comp=Z,3.6nm,0.8s
KBL Kabul 64.32 294 *eP* **P 21 23 21.9 -2.5**
KBL pmax pmax
comp=Z,4.0nm,0.8s
NB201 NORSAR Array S 64.41 344 *eP* **P 21 23 24.6 +0.2**
comp=Z,25nm,1.2s
NB2 NORSAR Subarra 64.43 344 P **P 21 23 24.4 -0.2**
comp=Z,2.5nm,0.8s,baz=20,slow=6.9
NB2 NORSAR Subarra 64.43 344 P **P 21 23 25.0 +0.4**
NB2 pmax pmax
comp=Z,2.0nm,0.8s
NB200 NORSAR Array S 64.43 344 *eP* **P 21 23 23.9 -0.7**
NOA NORSAR Array B 64.43 344 P **P 21 23 23.9 -0.7**
comp=Z,3.3nm,0.8s,baz=22,slow=6.6,SNR=13
NORES NORESS Array B 64.66 344 P **P 21 23 30.2 +4.2**
ISAL Salakas 66.11 334 *eP* **P 21 23 34.8 -0.6**
ISAL IAmb IAmb 21 23 39.5
comp=Z,5.8nm,0.8s
IDID Didziasalis 66.16 333 *eP* **P 21 23 34.9 -0.8**
IDID IAmb IAmb 21 23 37.5
comp=Z,8.6nm,1.2s
IIGN Ignalina 66.27 333 *eP* **P 21 23 35.6 -0.8**
IIGN IAmb IAmb 21 23 38.2
comp=Z,3.5nm,0.9s
PABE Paberze 66.74 335 *eP* **P 21 23 36.0 -3.5**
PABE IAmb IAmb 21 23 41.0
comp=Z,18nm,0.9s
GEYT Alibeck 67.70 303 P **P 21 23 45.2 -0.7**
comp=Z,1.8nm,0.6s,baz=29,slow=3.4,SNR=4.1
MSTX Muleshoe 67.85 63 *eP* **P 21 23 47.9 +0.9**
comp=Z,18nm,1.3s
CPRX Cap Rock 67.95 64 *eP* **P 21 23 48.2 +0.6**
WMOK Wichita Mounta 69.42 60 *eP* **P 21 23 58.6 +1.9**
comp=Z,9.5nm,1.2s
WMOK Wichita Mounta 69.42 60 *eP* **P 21 23 58.6 +1.9**
WMOK pmax pmax
comp=Z,10.0nm,1.2s
AKASG Malin Array Be 69.45 329 P **P 21 23 55.4 -1.1**
comp=Z,2.1nm,0.5s,baz=32,slow=6.4,SNR=16
AKBB Malin Array Si 69.45 329 *eP* **P 21 23 55.8 -0.7**
comp=Z,14nm,1.1s

KIEV Kiev 69.46 329 *eP* **P 21 23 55.8 -0.8**
KIEV Kiev 69.46 329⇑ *iP* **P 21 23 55.8 -0.8**
KIEV Kiev 69.46 329 *c iP* **P 21 23 55.7 -0.9**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 70.28 317 P **P 21 24 00.4 -1.3**
comp=Z,3.2nm,0.9s,baz=334,slow=2.3,SNR=6.5
TX31 Lajitas Ar. Si 70.84 67 *eP* **P 21 24 06.7 +1.1**
comp=Z,2.4nm,0.8s
LTX Lajitas 70.85 67 *eP* **P 21 24 06.6 +1.0**
LTX Lajitas 70.85 67 *eP* **P 21 24 06.6 +1.0**
TXAR Lajitas Array 70.85 67 P **P 21 24 06.6 +1.0**
comp=Z,2.1nm,0.8s,baz=299,slow=4.6,SNR=16
TRQ Mont Tremblant 71.24 37 *eP* **P 21 24 07.9 +0.2**
HYB Hyderabad 71.43 275 *i P* **P 21 24 08.5 -0.7**
EKA Eskdalemuir Ar 71.95 350 P **P 21 24 11.8 +0.1**
ESK Eskdalemuir 71.97 350 *i P* **P 21 24 12.5 +0.7**
KWP Kalwaria Pacla 72.35 333 *eP* **P 21 24 15.3 +1.1**
KWP Kalwaria Pacla 72.35 333 *eP* **P 21 24 14.4 +0.3**
comp=Z,207nm,1.0s
KWP Kalwaria Pacla 72.35 333 *eP* **P 21 24 15.3 +1.1**
GNI Garni 72.39 314⇓ *iP* **P 21 24 14.3 -0.5**
OJC Ojcow 72.61 335 *eP* **P 21 24 16.4 +0.7**
OJC Ojcow 72.61 335 *eP* **P 21 24 16.4 +0.7**
comp=Z,9.8nm,1.2s
OJC Ojcow 72.61 335 *eP* **P 21 24 16.4 +0.7**
OJC pmax pmax
comp=Z,10.0nm,1.2s
KSP Ksiaz 72.92 337 *eP* **P 21 24 18.4 +1.0**
KSP Ksiaz 72.92 337 *eP* **P 21 24 18.5 +1.0**
CTA Charters Tower 73.03 194 P **P 21 24 22.7 +4.3**
comp=Z,2.0nm,0.6s,baz=24,slow=12,SNR=2.3
KOLS Kolonicke sedl 73.10 333 *eP* **P 21 24 19.1 +0.4**
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 73.10 333 *eP* **P 21 24 19.1 +0.4**
NIE Niedzica 73.21 334 *eP* **P 21 24 20.6 +1.3**
NIE Niedzica 73.21 334 *eP* **P 21 24 20.6 +1.3**
CLL Collm 73.23 339 *eP* **P 21 24 19.9 +0.6**
comp=Z,6.5nm,0.8s
CLL Collm 73.23 339 *i P* **P 21 24 19.4 0.0**
CLL *e* 21 24 33.0
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 73.23 339 *i P* **P 21 24 19.4 0.0**
comp=Z,11nm,1.1s
CLL *es*P **sP 21 24 33.0 +0.5**
UPC Upice 73.29 337 *eP* **P 21 24 20.6 +0.8**
UPC Upice 73.29 337 *eP* **P 21 24 20.6 +0.8**
DPC Dobruska-Polom 73.36 337 *eP* **P 21 24 21.4 +1.2**
DPC Dobruska-Polom 73.36 337 *eP* **P 21 24 21.4 +1.2**
OKC Ostrava-Krasne 73.39 336 *eP* **P 21 24 21.0 +0.7**
OKC Ostrava-Krasne 73.39 336 *eP* **P 21 24 21.0 +0.7**
BUR08 Bucovina Ar. S 73.39 330 *eP* **P 21 24 21.0 +0.5**
comp=Z,4.9nm,0.8s
BURAR Bucovina Array 73.42 330⇓ *iP* **P 21 24 20.9 +0.2**
BURAR Bucovina Array 73.42 330 P **P 21 24 20.9 +0.2**
BRG Berggiesshubel 73.43 339 *eP* **P 21 24 20.7 +0.1**
comp=Z,5.2nm,1.3s
BRG Berggiesshubel 73.43 339 *eP* **P 21 24 20.7 +0.1**
BRG pmax pmax
comp=Z,5.0nm,1.3s
MORC Moravsky Berou 73.59 336 *eP* **P 21 24 21.8 +0.2**
comp=Z,5.7nm,0.9s
MORC Moravsky Berou 73.59 336⇓ *iP* **P 21 24 22.1 +0.5**
MORC Moravsky Berou 73.59 336 *eP* **P 21 24 21.8 +0.2**
MORC pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 73.59 336 *eP* **P 21 24 22.2 +0.6**
TRPA Tarpa 73.75 332⇑ *iP* **P 21 24 23.2 +0.8**
TESR Tescani 73.95 329⇑ *iP* **P 21 24 23.6 -0.1**
PRU Pruhonice 74.12 338 *eP* **P 21 24 26.0 +1.4**
PRU *e* 21 24 36.7
PRU Pruhonice 74.12 338 *eP* **P 21 24 26.0 +1.4**
PRU *ep*P **pwP 21 24 36.7 -0.3**
VRAC Vranov 74.27 336⇓ *iP* **P 21 24 26.8 +1.3**
VRAC Vranov 74.27 336 P **P 21 24 27.3 +1.8**
VRAC pmax pmax
comp=Z,9.0nm,1.0s
VRAC Vranov 74.27 336 *eP* **P 21 24 26.4 +0.9**
NKC Novy Kostel 74.37 339 *eP* **P 21 24 28.0 +1.9**
NKC Novy Kostel 74.37 339 *eP* **P 21 24 28.0 +1.9**
JAVC Velka Javorina 74.41 335 *eP* **P 21 24 27.7 +1.3**
VYHS Vyhne 74.44 335 *eP* **P 21 24 26.8 +0.3**
VYHS pmax pmax
comp=Z,4.0nm,1.1s
VYHS Vyhne 74.44 335 *eP* **P 21 24 26.8 +0.3**
VRI Vrincioaia 74.50 328⇑ *iP* **P 21 24 25.8 -1.1**
VRI Vrincioaia 74.50 328 P **P 21 24 25.7 -1.1**
KRUC Moravsky 74.54 336 P **P 21 24 28.8 +1.7**
KRUC pmax pmax
comp=Z,6.0nm,1.0s
KRUC Moravsky 74.54 336 *eP* **P 21 24 27.7 +0.6**
TREC Trest 74.55 337 *eP* **P 21 24 28.0 +0.9**
TREC Trest 74.55 337 *eP* **P 21 24 28.0 +0.9**
CFR Carcaliu 74.64 327⇓ *iP* **P 21 24 27.8 +0.1**
CFR Carcaliu 74.64 327 P **P 21 24 27.8 +0.1**
PSZ Piszkesteto 74.69 334 *eP* **P 21 24 28.5 +0.5**
comp=Z,4.9nm,0.9s
PSZ Piszkesteto 74.69 334⇓ *iP* **P 21 24 27.9 -0.1**
PSZ Piszkesteto 74.69 334 *eP* **P 21 24 28.5 +0.5**
PSZ pmax pmax
comp=Z,5.0nm,0.9s
CJR Cluj-Napoca 74.72 331⇑ *iP* **P 21 24 27.7 -0.5**
CJR Cluj-Napoca 74.72 331 P **P 21 24 27.6 -0.6**
SMOL Smolenice 74.79 335 P **P 21 24 31.5 +3.0**
SMOL pmax pmax
comp=Z,15nm,0.9s
DOPR Dopca 74.83 329⇑ *iP* **P 21 24 28.3 -0.5**
DRGR 74.91 331⇑ *iP* **P 21 24 29.7 +0.4**
DRGR 74.91 331 P **P 21 24 29.6 +0.3**
MODS Modra-Piesok 74.96 335 *eP* **P 21 24 29.6 +0.1**
MODS Modra-Piesok 74.96 335 *eP* **P 21 24 29.6 +0.1**
MLR Muntele Rosu 75.08 329 *eP* **P 21 24 30.9 +0.5**
comp=Z,8.6nm,0.8s
MLR Muntele Rosu 75.08 329⇑ *iP* **P 21 24 32.0 +1.6**
MLR Muntele Rosu 75.08 329 *eP* **P 21 24 30.9 +0.5**
MLR pmax pmax
comp=Z,9.0nm,0.8s
KHC Kasperske Hory 75.15 338 *eP* **P 21 24 31.9 +1.3**
comp=Z,2.2nm,0.9s
KHC Kasperske Hory 75.15 338 *eP* **P 21 24 31.9 +1.3**
KHC pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 75.15 338 *eP* **P 21 24 31.8 +1.2**
KHC *ep*P **pwP 21 24 42.1 -0.9**
TLB Topalu 75.19 327⇑ *iP* **P 21 24 31.8 +0.9**
MEM Membach 75.28 343 P **P 21 24 32.8 +1.5**
MEM pmax pmax
comp=Z,21nm,1.2s
WET Wettzell 75.30 339 P **P 21 24 34.2 +2.7**
WET pmax pmax
comp=Z,6.0nm,2.2s
GEC2 GERESS Array S 75.39 338 *eP* **P 21 24 32.1 0.0**
comp=Z,5.8nm,1.2s
GEC2 GERESS Array S 75.39 338 *eP* **P 21 24 32.1 0.0**
GEC2 pmax pmax
comp=Z,6.0nm,1.2s
GERES GERESS Array B 75.39 338 P **P 21 24 32.1 0.0**
comp=Z,1.6nm,0.9s,baz=326,slow=1.9,SNR=8.7
VOIR 75.41 329⇑ *iP* **P 21 24 32.8 +0.5**
VOIR 75.41 329 P **P 21 24 32.8 +0.5**
EFOR EFORIE 75.44 326⇑ *iP* P 21 24 41.8 +10
ARR Arges 75.61 329⇑ *iP* **P 21 24 34.4 +1.0**
ICOR Ion Corvin 75.69 327⇑ *iP* **P 21 24 33.3 -0.4**
CONA Conrad Observa 75.73 336 *eP* **P 21 24 35.5 +1.5**
comp=Z,6.5nm,1.1s,SNR=7.0
SOP Sopron 75.78 336 P **P 21 24 38.5 +4.3**
SOP pmax pmax
comp=Z,7.0nm,1.1s
LOTU Lotru 75.80 330⇑ *iP* **P 21 24 33.9 -0.6**
BAIF Baives 76.11 344 *eP* **P 21 24 36.3 +0.2**
BAIF pmax pmax
comp=Z,12nm,1.5s
GZR Gura Zlata 76.15 331⇑ *iP* **P 21 24 36.4 -0.1**
MOA Molln 76.19 337 *eP* **P 21 24 38.3 +1.7**
comp=Z,2.8nm,1.0s
BZS Buzias 76.30 332⇓ *iP* **P 21 24 37.2 0.0**
BZS Buzias 76.30 332 P **P 21 24 37.2 0.0**
ARSA Arzberg 76.44 336 *eP* **P 21 24 39.2 +1.2**
comp=Z,3.8nm,0.8s
HERR Herculane 76.72 331⇓ *iP* **P 21 24 40.0 +0.4**
BFO Black Forest 77.03 341 *i P* **P 21 24 43.4 +2.1**

SOKA Soboth 77.10 336 *eP* **P 21 24 43.2 +1.4**
comp=Z,6.2nm,1.0s
PUNG Punghina 77.11 330⇑ *iP* **P 21 24 42.0 +0.2**
KBA Koelnbreinsper 77.13 338 *eP* **P 21 24 43.6 +1.5**
comp=Z,11nm,0.8s
MOTA Moosalm 77.39 339 *eP* **P 21 24 45.1 +1.5**
comp=Z,5.1nm,1.0s,SNR=4.9
BR101 Keskin Array S 77.40 321 *eP* **P 21 24 43.9 +0.1**
BR131 Keskin Array S 77.40 321 *eP* **P 21 24 44.0 +0.3**
comp=Z,4.6nm,1.1s
BR131 Keskin Array S 77.40 321 *eP* **P 21 24 44.0 +0.3**
BR131 pmax pmax
comp=Z,5.0nm,1.1s
BRTR Keskin Array B 77.40 321 P **P 21 24 43.9 +0.1**
comp=Z,2.1nm,0.9s,baz=64,slow=2.9,SNR=12
SQTA Sankt Quirin 77.48 339 *eP* **P 21 24 45.7 +1.7**
comp=Z,4.8nm,0.8s
ABTA Abfaltersbach 77.64 338 *eP* **P 21 24 46.1 +1.3**
comp=Z,4.4nm,0.9s
MDUB Mudurnu 77.68 323 *eP* **P 21 24 46.2 +1.0**
comp=Z,62nm,1.1s
HAU Haudompre 77.72 342 *eP* **P 21 24 45.4 +0.2**
HAU pmax pmax
comp=Z,5.0nm,0.9s
FETA Feichten 77.78 339 *i P* **P 21 24 46.9 +1.2**
comp=Z,5.4nm,1.0s
PHSR Pinarhisar 77.98 326⇑ *iP* **P 21 24 46.8 +0.1**
GRR Gorron 78.50 347 *eP* **P 21 24 49.6 +0.1**
GRR pmax pmax
comp=Z,14nm,1.1s
VTS Vitosha 78.52 329⇓ *iP* **P 21 24 50.3 +0.4**
LOR Lormes 78.87 344 *eP* **P 21 24 51.8 +0.2**
LOR pmax pmax
comp=Z,10.0nm,1.2s
CABF La Chapelle 79.11 342 *eP* **P 21 24 53.6 +0.6**
CABF pmax pmax
comp=Z,9.0nm,1.1s
SSF Saint Saulge 79.14 344 *eP* **P 21 24 53.6 +0.6**
SSF pmax pmax
comp=Z,6.0nm,1.0s
ALN Alexandroupoli 79.14 326 *eP* **P 21 24 55.4 +2.3**
ALN pmax pmax
comp=Z,5.0nm,1.0s
AVF Avril sur Loir 79.42 344 *eP* **P 21 24 54.9 +0.4**
AVF pmax pmax
comp=Z,8.0nm,1.0s
SMF Signal de Mont 79.48 344 *eP* **P 21 24 58.1 +3.2**
SMF pmax pmax
comp=Z,19nm,1.6s
BALB Balikesir 79.62 325 *eP* **P 21 24 56.6 +0.9**
comp=Z,36nm,0.9s
SRS Serrai 79.76 328 P **P 21 24 57.9 +1.4**
SRS pmax pmax
comp=Z,12nm,1.0s
LPL La Plagne 80.04 342 *eP* **P 21 24 59.3 +1.1**
LPL pmax pmax
comp=Z,9.0nm,1.0s
LPG La Plagne 80.05 341 *eP* **P 21 24 59.6 +1.2**
LPG pmax pmax
comp=Z,54nm,1.9s
VIVF Saint-Julien-l 81.06 343 *eP* **P 21 25 04.5 +1.0**
VIVF pmax pmax
comp=Z,5.0nm,0.9s
CAF Calviac 81.45 345 *eP* **P 21 25 06.7 +1.2**
CAF pmax pmax
comp=Z,7.0nm,1.0s
LFF La Frestale 81.64 346 *eP* **P 21 25 07.5 +1.0**
LFF pmax pmax
comp=Z,9.0nm,1.0s
LMR La Mourre 82.18 341 *eP* **P 21 25 13.1 +3.8**
LMR pmax pmax
comp=Z,34nm,1.4s
MTLF Montolieu 82.97 344 *eP* **P 21 25 14.6 +1.2**
MTLF pmax pmax
comp=Z,9.0nm,1.2s
ESDC Sonseca Array 87.48 348 P **P 21 25 36.2 +0.1**
comp=Z,0.6nm,0.6s,baz=355,slow=4.9,SNR=5.2

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*IDC **19** 21:20:07.3±5.9, 6°.82S×129°.43E, h157km±58km, mb3.7/9, mb1 3.9/11, mb1mx3.5/41, mbtmp4.3/11, Error ellipse: s-maj=53.8km s-min=17.9km az=50.0*
*DJA **19** 21:20:07.6±0.3, 7°S±3°×13°0E±°, h175km±9km, M4.7/11, mB5.1/8, mb4.6/11, MLv4.9/9, Mw(mB)4.4/8*
ISC 19 21:20:06.8±0.6, **6°.95S**±0°.06×**129°.54E**±0°.07, **h150**km, **n27**, σ2s**31**/29, **mb3.8**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.02**	**121**	P	**Pn**	**21 20 45.4**	**+3.2**
BNDI	**Bandanaira**	**2.44**	**9**	P	**Pn**	**21 20 48.4**	**+1.2**
FAKI	**Fak Fak**	**4.83**	**34**	P	**Pn**	**21 21 15.4**	**-2.6**
SOEI	**Soe**	**5.92**	**242**	P	**Pn**	**21 21 36.2**	**+3.7**
177nm,0.9s,2µm0.8nm							
SANI	**Sanana**	**6.02**	**324**	P	**Pn**	**21 21 35.1**	**+1.3**
92nm,0.9s,782nm0.3nm							
SWI	**Sorong**	**6.28**	**16**	P	**Pn**	**21 21 34.8**	**-2.5**
83nm,0.4s,3µm							
MMRI	**Maumere**	**7.43**	**256**	P	**Pn**	**21 21 55.0**	**+2.4**
40nm,0.9s,0.2nm							
TNTI	**Ternate**	**7.97**	**344**	P	**Pn**	**21 21 59.9**	**0.0**
61nm,0.7s,0.2nm							
BSSI	**Bau Bau, Buton**	**9.03**	**275**	P	**Pn**	**21 22 17.4**	**+3.4**
BKSI	**Bulukumba**	**9.50**	**279**	P	**Pn**	**21 22 23.1**	**+2.8**
13nm,0.5s,376nm							
MRSI	**Marisa**	**10.58**	**314**	P	**Pn**	**21 22 37.3**	**+2.8**
25nm,0.8s,246nm							
GENI	**Genyem**	**11.44**	**68**	P	**P**	**21 22 54.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.72**	**199**	P	**Pn**	**21 22 49.6**	**+0.2**
4.9nm,0.3s,baz=18,slow=9.7,SNR=141							
FITZ				S	**Sn**	**21 24 53.2**	**-5.8**
5.4nm,0.3s,baz=82,slow=15,SNR=8.0							
WRA	**Warramunga Arr**	**13.73**	**161**	P	**Pn**	**21 23 14.5**	**-0.9**
4.2nm,0.3s,baz=338,slow=14,SNR=168							
WRA				S	Sn	21 25 42.1	-5.4
5.5nm,0.3s,baz=321,slow=21,SNR=5.9							
ASAR	**Alice Springs**	**17.14**	**166**	P	**P**	**21 23 59.0**	**+2.2**
6.6nm,0.3s,baz=345,slow=9.2,SNR=444							
ASAR				S	**S**	**21 27 06.2**	**-1.7**
1.4nm,0.3s,baz=346,slow=23,SNR=8.0							
CTA	**Charters Tower**	**20.82**	**130**	P	**P**	**21 24 38.7**	**+2.1**
5.9nm,0.9s,baz=309,slow=11,SNR=5.1							
CISI	**Cisompet, Garu**	**21.56**	**267**	P	**P**	**21 24 46.1**	**+1.4**
STKA	**Stephens Creek**	**27.23**	**157**	P	**P**	**21 25 38.4**	**+1.5**
5.2nm,0.4s,baz=343,slow=8.3,SNR=23							
CMAR	**Chiang Mai Arr**	**39.35**	**310**	P	**P**	**21 27 21.1**	**-0.7**
1.2nm,0.6s,baz=135,slow=7.5,SNR=11							
NJ2	**Nanjing**	**40.10**	**346**	*eP*	**P**	**21 27 28.5**	**+0.7**
MKAR	**Makanchi Array**	**67.93**	**327**	P	**P**	**21 30 48.6**	**-0.8**
1.5nm,0.5s,baz=115,slow=8.2,SNR=45							
ZALV	**Zalesovo Beam**	**71.34**	**334**	P	**P**	**21 31 07.8**	**-2.2**
0.9nm,0.6s,baz=138,slow=5.4,SNR=4.0							
KURBB	**Kurchatov Arra**	**72.23**	**329**	P	**P**	**21 31 14.2**	**-1.2**
1.2nm,0.7s,baz=131,slow=5.0,SNR=11							
BVAR	**Borovoye Array**	**77.78**	**328**	P	**P**	**21 31 46.3**	**-1.0**
0.6nm,0.7s,baz=167,slow=4.6,SNR=3.5							
AKTO	**Aktyubinsk**	**83.75**	**322**	P	**P**	**21 32 17.6**	**-1.5**
0.6nm,0.5s,baz=117,slow=4.5,SNR=3.4							
ARU	**Arti**	**85.42**	**328**	P	**P**	**21 32 25.6**	**-1.6**
0.6nm,0.4s,baz=107,slow=19,SNR=3.4							
TORD	**Torodi Ar. Bea**	**128.35**	**281**	PKP	**PKPdf**	**21 38 55.9**	**-0.8**
0.6nm,0.7s,baz=52,slow=3.2,SNR=5.7							

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*ISCJB **19** 21:24:47.3±0.9, 37°.44N±0°.04×141°.99E±0°.07, h52km±7km, mb3.7/10, Error ellipse: s-maj=10.2km s-min=5.8km az=24.7*
*JMA **19** 21:24:48.5±0.1, 37°.47N×141°.90E, h44km±2km, M3.9*
JMA Felt I J1.
*IDC **19** 21:24:49.4±2.4, 37°.48N×141°.85E, h53km±22km, mb3.5/10, mb1 3.6/14, mb1mx3.4/44, mbtmp3.7/14, ML3.3/3, Error ellipse: s-maj=23.1km s-min=19.0km az=116.0*
ISC 19 21:24:48.4±1.8, **37°.47N**±0°.05×**141°.93E**±0°.10, **h45**km±15km, **n33**, σ1s**59**/43, **mb3.7**/10, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.85**	**264**	P	**Pn**	**21 25 03.9**	**-0.1**
JFK				S	**Sn**	**21 25 14.5**	**-0.9**
JIKH	**Ishinomakikobu**	**0.92**	**336**	P	**Pn**	**21 25 05.1**	**+0.2**
JIKH				S	**Sn**	**21 25 16.6**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.97**	**249**	P	**Pn**	**21 25 05.6**	**-0.1**
ONAJ				S	**Sn**	**21 25 17.9**	**-0.5**

JMM	**Marumori**	**0.99 294**	P	**Pn**	**21 25 05.9**	**+0.1**
JMM			S	**Sn**	**21 25 18.7**	**0.0**
JIO	**Ouri**	**1.09 335**	P	**Pn**	**21 25 07.5**	**+0.3**
JIO			S	**Sn**	**21 25 21.0**	**-0.2**
JFT	**Otama**	**1.27 273**	P	**Pn**	**21 25 10.5**	**+0.8**
JFT			S	**Sn**	**21 25 26.2**	**+0.6**
JOU	**Okura**	**1.35 312**	P	**Pn**	**21 25 11.3**	**+0.5**
JOU			*e*S	**Sn**	**21 25 28.2**	**+0.7**
JMK	**Ichinoseki**	**1.59 339**	P	**Pn**	**21 25 14.9**	**+0.9**
JMK			*e*S	**Sn**	**21 25 34.5**	**+1.2**
JYS	**Shiratake**	**1.66 298**	P	**Pn**	**21 25 16.1**	**+1.1**
JYS			*e*S	**Sn**	**21 25 37.0**	**+1.8**
JFY	**Yanaizu**	**1.77 269**	P	**Pn**	**21 25 17.4**	**+0.8**
JFY			*e*S	**Sn**	**21 25 38.4**	**+0.4**
JYK	**Kaneyama**	**1.91 320**	P	**Pn**	**21 25 19.4**	**+1.0**
JOM	**Ohasama**	**2.07 346**	P	**Pn**	**21 25 21.6**	**+1.0**
JOM			*e*S	**Sn**	**21 25 46.1**	**+0.9**
JYA	**Atsumi**	**2.08 303**	P	**Pn**	**21 25 21.9**	**+1.1**
JYA			*e*S	**Sn**	**21 25 47.6**	**+2.0**
MJAR	**Matsushiro Arr**	**3.12 254**	P	**Pn**	**21 25 36.2**	**+1.1**
	0.6nm,0.3s,baz=58,slow=13,SNR=29					
MJAR			S	**Sn**	**21 26 14.6**	**+3.5**
	1.1nm,0.3s,baz=58,slow=10,SNR=4.3					
JHJ	**Hachijo jima 2**	**4.68 203**	P	**Pn**	**21 25 55.8**	**-0.7**
	12nm,0.3s,baz=319,slow=21,SNR=14					
JHJ			S	**Sn**	**21 26 44.8**	**-4.7**
	20nm,0.3s,baz=104,slow=23,SNR=6.1					
ASAJ	**Asahikawa**	**6.66 4**	P	**Pn**	**21 26 24.1**	**+0.4**
	1.0nm,0.3s,baz=250,slow=10,SNR=3.6					
ASAJ			S	**Sn**	**21 27 32.7**	**-5.6**
	0.7nm,0.3s,baz=121,slow=18,SNR=2.0					
USRK	**Ussuriysk Ar.**	**10.10 315**	P	**Pn**	**21 27 10.9**	**+0.2**
	0.1nm,0.3s,baz=125,slow=15,SNR=3.6					
SEY	**Seymchan**	**26.29 11**	P	**P**	**21 30 18.4**	**-0.9**
	1.3nm,0.5s,baz=110,slow=5.5,SNR=5.4					
SONM	**Songino Array**	**27.89 303**	P	**P**	**21 30 32.6**	**-1.5**
	0.3nm,0.5s,baz=79,slow=7.5,SNR=2.9					
H11N2	**WAKE ISLAND Hy 28.02 122**		T	T	22 00 08.7	
	baz=315,slow=75,SNR=18					
H11N1	**WAKE ISLAND Hy 28.03 122**		T	T	22 00 11.2	
	baz=315,slow=75,SNR=19					
H11N3	**WAKE ISLAND Hy 28.04 122**		T	T	22 00 10.1	
	baz=315,slow=75,SNR=17					
H11S1	**WAKE ISLAND Hy 28.75 124**		T	T	22 01 05.4	
	baz=316,slow=76,SNR=21					
H11S3	**WAKE ISLAND Hy 28.75 124**		T	T	22 01 06.6	
	baz=316,slow=76,SNR=27					
H11S2	**WAKE ISLAND Hy 28.77 124**		T	T	22 01 05.4	
	baz=316,slow=76,SNR=17					
ZALV	**Zalesovo Beam**	**41.93 312**	P	**P**	**21 32 34.9**	**+0.4**
	0.6nm,0.5s,baz=76,slow=6.1,SNR=4.7					
ZALV			PcP	**PcP**	**21 34 26.5**	**-2.7**
	0.5nm,0.6s,baz=151,slow=3.3,SNR=3.2					
MKAR	**Makanchi Array**	**44.24 302**	P	**P**	**21 32 52.2**	**-1.0**
	1.0nm,0.8s,baz=93,slow=9.2,SNR=6.6					
KURBB	**Kurchatov Arra**	**46.06 308**	P	**P**	**21 33 07.8**	**+0.2**
	2.0nm,0.6s,baz=82,slow=7.9,SNR=18					
ILAR	**Eielson Array**	**48.91 33**	P	**P**	**21 33 30.0**	**+0.5**
	0.8nm,0.7s,baz=267,slow=6.3,SNR=9.0					
WRA	**Warramunga Arr**	**57.55 188**	P	**P**	**21 34 34.0**	**+0.6**
	0.4nm,0.8s,baz=7.5,slow=6.0,SNR=2.8					
YKA	**Yellowknife Ar**	**63.23 30**	P	**P**	**21 35 12.9**	**+1.2**
	0.3nm,0.7s,baz=300,slow=6.3,SNR=4.7					
FINES	**FINESS Array B**	**68.63 332**	P	**P**	**21 35 46.4**	**-0.1**
	1.0nm,0.8s,baz=19,slow=12,SNR=4.4					
TXAR	**Lajitas Array**	**89.53 53**	P	**P**	**21 37 41.5**	**+0.2**
	0.2nm,0.5s,baz=298,slow=3.5,SNR=3.6					

KRSC 19 21:27:07.8±10.0, 52°.13N×160°.55E, h41km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.02**	**342**	*e*P	Pn	21 27 26.1	+0.4
SPN				*e*S	Sn	21 27 38.7	-0.1
NLC	**Nalytchevo**	**1.28**	**325**	*e*P	Pn	21 27 30.4	+1.2
NLC				*e*S	Sn	21 27 47.1	+2.1
RUS	**Russkaya**	**1.29**	**284**	*e*P	Pn	21 27 30.3	+1.0
RUS				*e*S	Sn	21 27 46.1	+0.7
DALK	**Dalny**	**1.42**	**310**	*e*P	Pn	21 27 32.2	+1.1
DALK				*e*S	Sn	21 27 50.1	+1.5
MTVR	**Mutnovka**	**1.50**	**285**	*e*P	Pn	21 27 33.9	+1.6
MTVR				*e*S	Sn	21 27 52.3	+1.6
UGLR	**Uglovaya**	**1.51**	**316**	*e*P	Pn	21 27 34.3	+1.8
UGLR				*e*S	Sn	21 27 53.9	+2.9
SDLR	**Sedlovina**	**1.53**	**319**	*e*P	Pn	21 27 34.8	+2.0
SDLR				*e*S	Sn	21 27 53.9	+2.3
SMAR	**Somma**	**1.56**	**317**	*i* P	Pn	21 27 35.4	+2.2
KDTR	**Khodutka, Kamc**	**1.56**	**259**	*e*P	Pn	21 27 34.5	+1.4
KDTR				*e*S	Sn	21 27 54.2	+2.1
AVH	**Avacha**	**1.58**	**317**	*e*P	Pn	21 27 35.7	+2.2
AVH				*e*S	Sn	21 27 55.9	+3.1
KRER	**Koryakskii**	**1.61**	**318**	*e*P	Pn	21 27 36.1	+2.2
KRER				*e*S	Sn	21 27 56.9	+3.4
KRMR	**Karymshinskiy**	**1.64**	**296**	*e*P	Pn	21 27 35.8	+1.7
KRMR				*e*S	Sn	21 27 56.1	+2.1
KOK	**Koryaka**	**1.65**	**316**	*i* P	Pn	21 27 36.5	+2.1
ASAK	**Asacha**	**1.65**	**280**	*e*P	Pn	21 27 36.6	+2.2
APC	**Apacha**	**2.22**	**292**	*e*P	Pn	21 27 44.7	+2.6
KZV	**Kizimen**	**2.99**	**357**	*e*P	Pn	21 27 57.5	+4.6
TUMD	**Tumrok D**	**3.08**	**358**	*e*S	Sn	21 28 30.7	+1.2

*IDC **19** 21:33:37.8±0.7, 43°.52N×83°.72E, h0km, mb3.7/14, mb1 3.8/21, mb1mx3.7/49, mbtmp3.7/21, ML3.4/7, MS3.4/1, Ms1 3.4/1, ms1mx3.1/40, Error ellipse: s-maj=14.9km s-min=9.5km az=62.0*
*BJI **19** 21:33:39.8±0.0, 43°.62N×83°.99E, h9km, mb4.0/5, ML4.0/10*
*NNC **19** 21:33:42.5±3.6, 43°.84N×83°.72E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=36.2km s-min=15.2km az=121.0*
*SOME **19** 21:33:49.7, 43°.87N×83°.07E, h20km, MS3.3*

ISC 19 21:33:43.0±0.6, 43°.82N±0°.05×83°.84E±0°.04, h20km, n50, σ2°35/68, mb3.8/13, 8C-11D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.56**	**263**	*e*P	**Pb**	**21 34 28.7**	**+0.4**
	201nm,0.3s						
KTMS				*e*S	**Sb**	**21 34 59.4**	**0.0**
	676nm,0.4s						
WMQ	**Urumqi**	**2.79**	**89**	Pg	**Pn**	**21 34 27.6**	**+1.1**
WMQ				Sg	**Sn**	**21 35 01.1**	**+1.5**
WMQ				smax	smax		
	comp=N,3μm,0.7s						
WMQ				smax	smax		
	comp=E,2μm,0.7s						
DJR	**Jarkent**	**2.97**	**281**	*e*P	**Pb**	**21 34 35.5**	**+0.4**
	228nm,0.3s						
DJR				*e*S	**Sb**	**21 35 11.3**	**+0.3**
	537nm,0.5s						
MKAR	**Makanchi Array**	**3.17**	**340**	Pn	**Pn**	**21 34 34.2**	**+2.5**
	3.4nm,0.3s,baz=155,slow=14,SNR=94						
MKAR				Pg	**Pb**	**21 34 41.8**	**+3.2**
	27nm,0.3s,baz=162,slow=16,SNR=59						
MKAR				Sn	**Sb**	**21 35 15.6**	**-1.3**
	62nm,0.3s,baz=156,slow=25,SNR=16						
MKAR				Lg	Lg	21 35 24.6	
	164nm,0.3s,baz=159,slow=28,SNR=20						
PDGK	**Podgornoye**	**3.20**	**263**	⇓Pn	**Pn**	**21 34 33.0**	**+0.7**
	13nm,0.4s						
PDGK				⇓Pg	**Pb**	**21 34 37.7**	**-1.4**
	45nm,0.5s						
PDGK				⇑Lg	Lg	21 35 19.8	
	449nm,0.6s						
SHLS	**Shalkode**	**3.26**	**260**	*e*P	**Pn**	**21 34 34.5**	**+1.5**
	219nm,0.4s						
SHLS				*e*S	**Sn**	**21 35 11.9**	**+0.7**
	2μm,0.4s						
MAKZ	**Makanchi**	**3.27**	**337**	⇓Pn	**Pn**	**21 34 35.5**	**+2.4**
	8.9nm,0.6s						
MAKZ				⇑Pg	**Pb**	**21 34 43.3**	**+3.0**
	47nm,0.4s						
MAKZ				⇑Lg	Lg	21 35 27.7	
	251nm,0.7s						
KAPS	**Kapalarasan**	**3.53**	**296**	*e*P	**Pb**	**21 34 43.0**	**-1.7**
	79nm,0.3s						
KAPS				*e*S	**Sb**	**21 35 25.2**	**-1.9**
	330nm,0.4s						
ZSN	**Zaisan**	**3.71**	**11**	*e*P	Pb	21 34 56.1	+8.4
	25nm,0.5s						
ZSN				*e*S	Sb	21 35 49.1	+17
	399nm,0.7s						
KPKS	**Kokpek**	**3.76**	**266**	*e*P	**Pb**	**21 34 49.8**	**+1.1**
	224nm,0.6s						
KPKS				*e*S	**Sb**	**21 35 37.0**	**+3.1**
	682nm,0.5s						
MNBS	**Baschi**	**3.94**	**276**	*e*P	**Pb**	**21 34 47.5**	**-4.2**
	31nm,0.2s						
MNBS				*e*S	**Sb**	**21 35 33.6**	**-5.4**
	371nm,0.4s						
SATY	**Saty**	**4.03**	**261**	*e*P	**Pb**	**21 34 52.6**	**-0.7**
	67nm,0.2s						
SATY				*e*S	**Sb**	**21 35 44.1**	**+2.4**
	270nm,0.4s						
KURS	**Kuram**	**4.13**	**267**	*e*P	**Pb**	**21 34 56.5**	**+1.5**
	35nm,0.5s						
KURS				*e*S	**Sb**	**21 35 49.5**	**+5.1**
	183nm,0.5s						
KOTS	**Kotyrbulak**	**4.93**	**266**	*e*P	**Pb**	**21 35 09.3**	**+0.6**
	38nm,0.6s						
KOTS				*e*S	**Sb**	**21 36 13.1**	**+5.6**
	391nm,0.6s						
MDOK	**Medeo**	**4.99**	**265**	⇓Pn	**Pn**	**21 34 57.8**	**+1.0**
MDOK				⇓Lg	Lg	21 36 19.5	
MDOK	**Medeo**	**4.99**	**265**	*e*P	**Pb**	**21 35 07.5**	**-2.1**
	24nm,0.6s						
MDOK				*e*S	**Sb**	**21 36 10.9**	**+1.8**
	118nm,0.6s						
KNDC	**Almaty**	**5.04**	**266**	⇑Pn	**Pn**	**21 34 57.8**	**+0.3**
KNDC				⇓Lg	Lg	21 36 20.6	
TNSS	**Tian-Shan**	**5.08**	**264**	*e*P	**Pb**	**21 35 10.9**	**-0.5**
	30nm,0.4s						
TNSS				*e*S	**Sb**	**21 36 15.9**	**+3.7**
	34nm,0.4s						
KTBS	**Karatobe**	**5.19**	**271**	*e*P	**Pb**	**21 35 10.1**	**-2.9**
	19nm,0.6s						
KTBS				*e*S	**Sb**	**21 36 15.2**	**+0.3**
	227nm,0.6s						
KUU	**Kurty**	**5.43**	**273**	*e*P	**Pb**	**21 35 15.2**	**-1.9**
	26nm,0.4s						
KUU				*e*S	**Sb**	**21 36 24.0**	**+2.3**
	144nm,0.8s						
AAK	**Ala-Archa**	**6.93**	**263**	Pn	**Pn**	**21 35 23.1**	**-0.4**
	0.9nm,0.3s,baz=97,slow=6.5,SNR=13						
AAK				Lg	Lg	21 37 12.0	
	2.7nm,0.3s,baz=356,slow=19,SNR=2.9						
KSH	**Kashi**	**7.29**	**237**	Pn	Pb	21 35 42.3	-6.5
KSH				Sn	**Sn**	**21 36 58.6**	**+8.0**
KURBB	**Kurchatov Arra**	**7.71**	**334**	⇓Pn	**Pn**	**21 35 34.9**	**+0.9**
	3.6nm,0.6s						
KURBB				⇑Sn	**Sn**	**21 37 02.5**	**+1.9**
	42nm,0.7s						
KURBB				⇓Lg	Lg	21 37 50.4	
	208nm,0.6s						
KURBB	**Kurchatov Arra**	**7.71**	**334**	Pn	**Pn**	**21 35 34.9**	**+0.9**
	0.3nm,0.3s,baz=146,slow=13,SNR=14						
KURBB				Sn	**Sn**	**21 37 03.2**	**+2.6**
	0.8nm,0.3s,baz=139,slow=24,SNR=4.4						
KURBB				Lg	Lg	21 37 45.9	
	1.0nm,0.3s,baz=152,slow=24,SNR=5.3						
OTUK	**Ortayu**	**9.14**	**303**	⇓Pn	**Pn**	**21 35 54.3**	**+0.5**
	4.7nm,0.6s						
OTUK				⇓Lg	Lg	21 38 33.6	
	29nm,0.7s						
KK31	**Karatay Array**	**9.72**	**270**	⇑Pn	**Pn**	**21 36 03.3**	**+1.6**
	1.4nm,0.5s,baz=75,slow=14,SNR=21						
KK31				Lg	Lg	21 38 48.4	
	9.2nm,0.6s,baz=74,slow=28,SNR=4.5						
ZAA0	**Zalesovo Array**	**10.16**	**3**	⇑Pn	**Pn**	**21 36 07.2**	**-0.4**
	0.3nm,0.6s						
ZAA0				⇑Sn	**Sn**	**21 37 58.4**	**-2.4**
	1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**10.16**	**3**	Pn	**Pn**	**21 36 07.1**	**-0.5**
	0.8nm,0.3s,baz=184,slow=14,SNR=15						
ZALV				Sn	**Sn**	**21 37 58.4**	**-2.4**
	3.8nm,0.3s,baz=187,slow=22,SNR=14						
ZALV				Lg	Lg	21 39 05.7	
	1.0nm,0.3s,baz=186,slow=25,SNR=6.7						
GTA	**Gaotai**	**12.73**	**105**	*e*P	**Pn**	**21 36 41.6**	**-1.4**
GTA				pP	P	21 36 47.1	-6.9
GTA				sP		21 36 50.3	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
BVAR	**Borovoye Array**	**12.81**	**321**	Pn	**Pn**	**21 36 44.2**	**+0.3**
	0.5nm,0.3s,baz=69,slow=21,SNR=8.5						
BVAR				LR	LR	21 41 57.3	
	comp=Z,186nm,21.4s,baz=172,slow=38						
THW	**Thamme Wali**	**14.52**	**225**	P	Pn	21 37 02.1	-5.2
SONM	**Songino Array**	**16.21**	**68**	Pn	**Pn**	**21 37 30.7**	**+1.2**
	0.3nm,0.3s,baz=268,slow=11,SNR=13						
SONM				Lg	Lg	21 42 11.3	
	0.1nm,0.3s,baz=266,slow=18,SNR=2.4						
AKTO	**Aktyubinsk**	**18.72**	**300**	⇓Pn	**Pn**	**21 38 02.4**	**+1.8**
	2.0nm,0.7s						
AKTO	**Aktyubinsk**	**18.72**	**300**	P	**P**	**21 37 59.1**	**-1.0**
	0.1nm,0.3s,baz=112,slow=19,SNR=2.2						
ARU	**Arti**	**20.40**	**317**	P	Pn	21 38 19.6	-0.9
	1.5nm,0.5s,baz=126,slow=4.7,SNR=8.4						
NRIK	**Noril'sk**	**25.66**	**3**	P	**P**	**21 39 11.6**	**+0.6**
	2.4nm,0.4s,baz=198,slow=19,SNR=2.6						
WHN	**Wuhan**	**27.51**	**109**	P	**P**	**21 39 30.9**	**+2.9**
CMAR	**Chiang Mai Arr**	**28.30**	**149**	P	P	21 39 31.0	-4.1
	0.4nm,0.3s,baz=319,slow=12,SNR=4.0						
BRTR	**Keskin Array B**	**37.20**	**281**	P	**P**	**21 40 51.0**	**-1.9**
	0.6nm,0.8s,baz=123,slow=9.0,SNR=5.2						
FINES	**FINESS Array B**	**37.76**	**318**	P	**P**	**21 40 57.2**	**0.0**
	0.5nm,0.5s,baz=60,slow=8.2,SNR=4.4						
ARCES	**ARCESS Array B**	**38.79**	**331**	P	**P**	**21 41 06.2**	**+0.5**
	1.5nm,0.6s,baz=86,slow=7.9,SNR=9.6						
SEY	**Seymchan**	**42.72**	**39**	P	**P**	**21 41 38.1**	**-0.2**
	1.7nm,0.4s,baz=216,slow=5.3,SNR=4.4						
NB2	**NORSAR Subarra**	**44.94**	**319**	P	**P**	**21 41 55.1**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=78,slow=7.9						
NOA	**NORSAR Array B**	**44.94**	**319**	P	**P**	**21 41 55.2**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=78,slow=8.0,SNR=4.6						
ESDC	**Sonseca Array**	**62.61**	**300**	P	**P**	**21 44 03.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=52,slow=6.8,SNR=2.6						
ILAR	**Eielson Array**	**64.72**	**22**	P	**P**	**21 44 19.3**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=319,slow=3.7,SNR=3.1						
INK	**Inuvik**	**64.75**	**14**	P	**P**	**21 44 20.9**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=36,slow=14,SNR=3.1						
TORD	**Torodi Ar. Bea**	**75.39**	**274**	P	**P**	**21 45 21.8**	**-3.6**
	comp=Z,0.5nm,0.6s,baz=43,slow=5.0,SNR=8.3						
WRA	**Warramunga Arr**	**78.50**	**132**	P	**P**	**21 45 39.4**	**-3.3**
	comp=Z,0.5nm,0.5s,baz=342,slow=6.0,SNR=8.6						
ASAR	**Alice Springs**	**81.33**	**135**	P	**P**	**21 45 55.5**	**-2.4**
	comp=Z,0.4nm,0.7s,baz=323,slow=5.6,SNR=6.8						

*ISCJB **19** 21:36:06.9±1.4, 52°.07N±0°.06×160°.86E±0°.07, h18km±9km, mb3.5/3, Error ellipse: s-maj=9.8km s-min=6.9km az=168.7*
*KRSC **19** 21:36:06.6±10.0, 52°.06N×160°.89E, h38km±10km, ML3.9*
*IDC **19** 21:36:07.3±2.2, 52°.37N×160°.77E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.2/42, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=63.2km s-min=24.6km az=11.0*

ISC 19 21:36:06.0±3.0, 52°.14N±0°.07×160°.79E±0°.06, h2km±17km, n24, σ0°97/34, mb3.5/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.07**	**334**	P	**Pn**	**21 36 27.5**	**-0.5**
SPN				S	**Sb**	**21 36 42.0**	**+0.4**
NLC	**Nalytchevo**	**1.36**	**320**	P	**Pb**	**21 36 31.8**	**-0.3**
NLC				S	**Sg**	**21 36 51.0**	**+1.4**
RUS	**Russkaya**	**1.43**	**283**	P	**Pn**	**21 36 32.6**	**-0.3**
DALK	**Dalny**	**1.53**	**307**	P	**Pn**	**21 36 34.4**	**+0.1**
DALK				S	**Sn**	**21 36 54.0**	**-0.7**
UGLR	**Uglovaya**	**1.61**	**313**	P	**Pb**	**21 36 36.2**	**-0.2**
UGLR				S	**Sb**	**21 36 57.6**	**+0.4**
SDLR	**Sedlovina**	**1.63**	**315**	P	**Pb**	**21 36 36.3**	**-0.5**
SDLR				S	**Sb**	**21 36 58.1**	**+0.3**
MTVR	**Mutnovka**	**1.64**	**283**	P	**Pn**	**21 36 36.0**	**+0.1**
MTVR				S	**Sn**	**21 36 56.9**	**-0.7**
SMAR	**Somma**	**1.65**	**314**	P	**Pb**	**21 36 36.7**	**-0.6**
AVH	**Avacha**	**1.68**	**313**	P	**Pb**	**21 36 37.1**	**-0.6**
KRER	**Koryakskii**	**1.70**	**314**	P	**Pn**	**21 36 36.3**	**-0.6**
KDTR	**Khodutka, Kamc**	**1.71**	**260**	P	**Pn**	**21 36 36.2**	**-0.5**
KDTR				S	**Sn**	**21 36 58.0**	**-1.1**
KOK	**Koryaka**	**1.75**	**312**	P	**Pb**	**21 36 38.0**	**-0.8**
KRMR	**Karymshinskiy**	**1.77**	**294**	P	**Pn**	**21 36 37.5**	**0.0**
KRMR				S	**Sn**	**21 37 00.9**	**+0.3**
KRX	**Arik**	**1.79**	**314**	P	**Pn**	**21 36 38.1**	**+0.1**
ASAK	**Asacha**	**1.79**	**279**	S	**Sb**	**21 37 02.4**	**-0.1**
PETK	**Petropavlovsk-**	**2.12**	**299**	Pn	**Pn**	**21 36 43.0**	**+0.5**
	6.8nm,0.3s,baz=110,slow=18,SNR=128						
PETK				Sn	**Sn**	**21 37 09.2**	**-0.1**
	6.3nm,0.3s,baz=111,slow=19,SNR=6.1						
APC	**Apacha**	**2.35**	**291**	P	**Pn**	**21 36 46.3**	**+0.7**
APC				S	**Sb**	**21 37 17.7**	**-0.8**
MKZ	**Mys Kozlova**	**2.49**	**13**	S	**Sn**	**21 37 17.3**	**-1.0**
KZV	**Kizimen**	**3.00**	**355**	P	**Pb**	**21 36 57.1**	**-3.0**
TUMD	**Tumrok D**	**3.08**	**356**	P	**Pb**	**21 36 59.4**	**-2.1**
KBTR	**Krutoberegovo**	**4.25**	**16**	P	**Pn**	**21 37 13.3**	**+1.6**
FINES	**FINESS Array B**	**61.17**	**337**	P	**P**	**21 46 21.9**	**+0.5**
	0.7nm,0.5s,baz=38,slow=9.6,SNR=6.1						
AKASG	**Malin Array Be**	**69.65**	**330**	P	**P**	**21 47 16.1**	**-0.4**
	0.1nm,0.3s,baz=30,slow=6.6,SNR=2.6						
TXAR	**Lajitas Array**	**70.62**	**67**	P	**P**	**21 47 24.3**	**+1.3**
	0.1nm,0.3s,baz=318,slow=1.2,SNR=3.4						

*KRSC **19** 21:38:41.9±10.0, 52°.03N×160°.51E, h52km±10km, ML3.9*
*ISCJB **19** 21:38:42.0±1.2, 52°.04N±0°.05×160°.48E±0°.07, h15km±7km, mb3.6/2, Error ellipse: s-maj=8.5km s-min=7.5km az=155.3*
*IDC **19** 21:38:43.5±2.4, 52°.70N×160°.66E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.1/40, mbtmp3.6/2, Error ellipse: s-maj=60.2km s-min=25.7km az=3.0*

ISC 19 21:38:41.9±3.8, 52°.07N±0°.07×160°.39E±0°.07, h8km±24km, n27, σ0°77/33, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.06**	**348**	P	**Pb**	**21 39 01.9**	**-0.6**
SPN				S	**Sb**	**21 39 15.9**	**-0.6**
RUS	**Russkaya**	**1.21**	**288**	P	**Pn**	**21 39 04.9**	**-0.2**
NLC	**Nalytchevo**	**1.27**	**331**	P	**Pn**	**21 39 05.8**	**-0.2**
NLC				S	**Sn**	**21 39 23.2**	**-0.1**
DALK	**Dalny**	**1.39**	**315**	P	**Pn**	**21 39 07.3**	**-0.3**
DALK				S	**Sn**	**21 39 24.9**	**-1.2**
MTVR	**Mutnovka**	**1.42**	**288**	P	**Pn**	**21 39 08.4**	**+0.3**
MTVR				S	**Sn**	**21 39 27.3**	**+0.3**
KDTR	**Khodutka, Kamc**	**1.45**	**261**	P	**Pn**	**21 39 08.7**	**+0.2**
KDTR				S	**Sn**	**21 39 27.2**	**-0.5**
UGLR	**Uglovaya**	**1.49**	**321**	P	**Pn**	**21 39 09.9**	**+0.8**
UGLR				S	**Sb**	**21 39 29.9**	**+0.9**
SDLR	**Sedlovina**	**1.52**	**324**	P	**Pn**	**21 39 09.8**	**+0.3**
SDLR				S	**Sn**	**21 39 29.5**	**-0.1**
SMAR	**Somma**	**1.54**	**322**	P	**Pn**	**21 39 10.4**	**+0.5**
ASAK	**Asacha**	**1.56**	**283**	P	**Pn**	**21 39 10.9**	**+0.8**
AVH	**Avacha**	**1.56**	**321**	P	**Pn**	**21 39 10.4**	**+0.3**
AVH				S	**Sn**	**21 39 30.5**	**-0.1**
KRMR	**Karymshinskiy**	**1.58**	**300**	P	**Pn**	**21 39 10.1**	**-0.1**
KRMR				S	**Sn**	**21 39 30.1**	**-0.7**
KRER	**Koryakskii**	**1.59**	**322**	P	**Pn**	**21 39 11.0**	**+0.4**
KRER				S	**Sn**	**21 39 31.9**	**+0.5**
KOK	**Koryaka**	**1.62**	**320**	P	**Pn**	**21 39 11.7**	**+0.7**
KRX	**Arik**	**1.67**	**321**	P	**Pn**	**21 39 11.9**	**+0.3**
PETK	**Petropavlovsk-**	**1.94**	**304**	Pn	**Pn**	**21 39 16.6**	**+1.3**
	5.9nm,0.3s,baz=103,slow=19,SNR=17						
PETK				Sn	**Sn**	**21 39 40.5**	**+0.6**
	12nm,0.3s,baz=99,slow=18,SNR=8.3						
APC	**Apacha**	**2.15**	**295**	P	**Pn**	**21 39 20.2**	**+2.1**
APC				S	**Sb**	**21 39 47.7**	**-0.2**
TUMD	**Tumrok D**	**3.14**	**0**	P	**Pn**	**21 39 33.6**	**+1.9**
KBTR	**Krutoberegovo**	**4.39**	**18**	P	**Pn**	**21 39 48.9**	**+0.1**
H11N2	**WAKE ISLAND Hy 32.67 169**			T	T	22 21 08.4	
	baz=351						
H11N3	**WAKE ISLAND Hy 32.69 169**			T	T	22 21 11.3	
	baz=351						
H11N1	**WAKE ISLAND Hy 32.69 169**			T	T	22 21 12.2	
	baz=351						
H11S1	**WAKE ISLAND Hy 33.85 169**			T	T	22 22 41.0	
	baz=356						
H11S3	**WAKE ISLAND Hy 33.87 169**			T	T	22 22 40.9	
	baz=356						
H11S2	**WAKE ISLAND Hy 33.87 169**			T	T	22 22 41.3	
	baz=356						
FINES	**FINESS Array B**	**61.13**	**337**	P	**P**	**21 48 55.5**	**-0.6**
	1.6nm,1.0s,baz=9.2,slow=10,SNR=3.8						
TXAR	**Lajitas Array**	**70.88**	**67**	P	**P**	**21 49 59.8**	**+0.3**
	0.1nm,0.4s,baz=297,slow=5.9,SNR=2.7						

*IDC **19** 21:42:47.3±3.6, 52°.49N×160°.91E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.1/37, mbtmp3.4/3, ML2.3/1, Error ellipse: s-maj=64.7km s-min=40.2km az=167.0*
*KRSC **19** 21:42:50.3±10.0, 52°.17N×160°.70E, h42km±10km, ML3.7*

ISC 19 21:42:49.0±2.4, 52°.07N±0°.10×160°.52E±0°.08, h16km±13km, n14, σ0°94/20, Off east coast of Kamchatka Peninsula

| Code | Station Name | Δ° | AZ

CAVN					S	Sg	21 43 36.6	-0.2
	14nm,0.2s								
ECHE	**Chera**	**1.36**	**213**		Pg	Pg	21 43 19.9	-1.5
	0.3nm,0.1s,SNR=7.9								
ECHE					Lg	Lg	21 43 36.9		
	0.7nm,0.1s,SNR=7.9								
ECHE	**Chera**	**1.36**	**213**		Pg	Pg	21 43 21.2	-0.3
ETOR	**Torete**	**1.56**	**274**		Pg	Pn	21 43 24.0	-0.6
	2.2nm,0.5s,SNR=11								
ETOR					Lg	Lg	21 43 45.4		
	2.6nm,0.4s,SNR=5.6								
EMIR	**Miracle**	**1.65**	**44**		Pg	Pn	21 43 25.8	-0.1
	11nm,1.1s,SNR=5.6								
EMIR					Lg	Lg	21 43 47.1		
	3.3nm,0.3s,SNR=8.8								
EMIR	**Miracle**	**1.65**	**44**		Pg	Pn	21 43 25.8	-0.1
EMIR					Lg	Lg	21 43 47.4		
CTRE	**Tremp**	**1.70**	**20**		Pn	Pn	21 43 25.9	-0.6
CTRE					Sn	Sn	21 43 48.1	-0.9
	3.4nm,0.4s								
CTRE	**Tremp**	**1.70**	**20**		P	Pn	21 43 25.9	-0.5
CTRE					S	Sn	21 43 48.2	-0.8
	3.4nm,0.4s								
CSOR	**Sort**	**1.85**	**27**		Pg	Pn	21 43 28.6	0.0
	5.6nm,0.7s,SNR=6.2								
CSOR					Lg	Lg	21 43 52.8		
	2.2nm,0.2s,SNR=7.9								
CSOR	**Sort**	**1.85**	**27**		P	Pn	21 43 27.3	-1.3
CSOR					S	Sn	21 43 52.1	-0.8
	2.1nm,0.2s								
CORI	**Orista**	**1.98**	**51**		Pn	Pn	21 43 28.8	-1.5
CORI					Sn	Sn	21 43 54.1	-1.8
	4.7nm,0.2s								
CORI	**Orista**	**1.98**	**51**		P	Pn	21 43 28.9	-1.4
CORI					S	Sn	21 43 54.1	-1.8
	4.7nm,0.2s								
ARBS	**La Rabassa**	**2.07**	**34**		P	Pn	21 43 30.5	-1.3
ARBS					S	Sn	21 43 56.9	-1.5
	4.5nm,0.4s								
CFON	**Fontmartina**	**2.11**	**60**		Pg	Pb	21 43 33.9	-0.7
	1.0nm,0.2s,SNR=7.9								
CFON					Lg	Lg	21 44 01.7		
	3.1nm,0.3s,SNR=9.6								
ETSF	**Etsaut**	**2.21**	**349**		*e*Pn	Pn	21 43 30.4	-3.0
ETSF	**Etsaut**	**2.21**	**349**		*e*Pg	Pb	21 43 36.1	-0.2
ETSF					*e*Sg	Sb	21 44 05.1	+0.9
	0.7nm,0.2s								
ETSF	**Etsaut**	**2.21**	**349**		Pn	Pn	21 43 30.4	-3.0
ETSF					Pg	Pb	21 43 36.1	-0.2
ETSF					Lg	Lg	21 44 05.1	
	0.3nm,0.2s								
ETSF	**Etsaut**	**2.21**	**349**		*e*Sg	Pb	21 43 36.2	-0.1
	3.6nm,0.2s								
CBRU	**Bruguera**	**2.26**	**46**		Pn	Pn	21 43 32.8	-1.4
CBRU					Sn	Sn	21 44 01.3	-1.6
	1.6nm,0.3s								
CBRU	**Bruguera**	**2.26**	**46**		P	Pn	21 43 32.8	-1.4
CBRU					S	Sn	21 44 01.3	-1.5
	3.1nm,0.3s								
CLLI	**Llivia**	**2.29**	**40**		Lg	Lg	21 44 06.9	
	0.8nm,0.3s,SNR=7.9								
EPF	**Esparros**	**2.31**	**6**		*e*Sg	Sb	21 44 08.0	+0.8
	1.9nm,0.2s								
EPF	**Esparros**	**2.31**	**6**		Lg	Lg	21 44 08.0	
	0.9nm,0.2s								
ATE	**Arette**	**2.41**	**348**		Pn	Pn	21 43 33.5	-2.7
	0.3nm,0.1s,SNR=7.9								
ATE					Pg	Pb	21 43 39.5	-0.2
	1.0nm,0.1s,SNR=7.9								
ATE					Lg	Lg	21 44 11.6	
	1.1nm,0.2s,SNR=7.9								
SJPF	**Ste Jean**	**2.55**	**340**		*e*Pg	Pg	21 43 43.4	-0.9
SJPF					*e*Sg	Sg	21 44 15.9	-1.4
	0.7nm,0.2s								
SJAF	**Saint Jean de**	**2.79**	**50**		Lg	Lg	21 44 21.3	
	0.3nm,0.1s,SNR=7.9								
MTLF	**Montolieu**	**3.09**	**32**		*e*Pn	Pn	21 43 42.1	-3.4
MTLF	**Montolieu**	**3.09**	**32**		*e*Pg	Pb	21 43 52.5	+1.2
MTLF					*e*Sn	Sn	21 44 16.6	-6.6
MTLF					*e*Sg	Sb	21 44 31.7	+2.1
	0.9nm,0.3s								
MTLF	**Montolieu**	**3.09**	**32**		Pn	Pn	21 43 42.1	-3.4
MTLF					Pg	Pb	21 43 52.5	+1.2
MTLF					Sn	Sn	21 44 16.6	-6.6
MTLF					Lg	Lg	21 44 31.7	
	0.4nm,0.3s								

LDG 19 21:43:23.2±0.2, 42°.84N×0°.02W, h2km, Md1.1/2, Ml1.2/1, Error ellipse: s-maj=6.8km s-min=0.9km az=169.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.33**	**54**	*e*Pg	Pg	21 43 29.4	-0.1
EPF				*e*Sg	Sg	21 43 33.8	0.0
	2.6nm,0.2s						
ETSF	**Etsaut**	**0.40**	**279**	*e*Pg	Pg	21 43 31.0	+0.1
SJPF	**Ste Jean**	**0.93**	**288**	*e*Pg	Pg	21 43 40.7	-0.2
SJPF				*e*Sg	Sg	21 43 52.5	-0.5
	0.5nm,0.2s						
SJPF	**Ste Jean**	**0.93**	**288**	Pg	Pg	21 43 40.7	-0.2

MEX 19 21:55:13.1±0.6, 16°.28N×98°.05W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**326**	*e*P	Pg	21 55 15.4	-0.6
PNIG				*e*S	Sg	21 55 17.9	+0.1
TLIG	**Tlapa**	**1.37**	**339**	*e*P	Pn	21 55 35.1	-4.0
TLIG				*i* S	Sb	21 55 52.7	-4.7

KRSC ***19*** *22:18:20.6±10.0, 52°.06N×160°.63E, h53km±10km, ML4.6*
IDC ***19*** *22:18:20.3±0.8, 52°.28N×160°.09E, h0km, mb3.9/22, mb1 4.1/24, mb1mx3.9/51, mbtmp3.9/24, ML3.5/2, MS3.4/1, Ms1 3.4/1, ms1mx2.9/42, Error ellipse: s-maj=20.7km s-min=14.5km az=116.0*
MOS ***19*** *22:18:23.9±0.9, 52°.15N×160°.40E, h44km, mb4.7/9, Error ellipse: s-maj=8.8km s-min=4.6km az=108.1*
NEIC ***19*** *22:18:24.3±2.6, 52°.25N×160°.50E, h39km±7km, mb4.4/15, Error ellipse: s-maj=17.0km s-min=14.0km az=174.0*
ISC 19 22:18:22.1±0.6, 52°.12N±0°.05×160°.52E±0°.06, h21km±4km, n144, σ1§21/174, mb4.2/37, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.03**	**343**	P	**Pb**	**22 18 40.7**	**-0.4**
SPN				S	**Sn**	**22 18 54.3**	**-0.7**
SPN	**Mys Shipunski**	**1.03**	**343**	PN	**Pb**	**22 18 40.7**	**-0.4**
SPN				S	**Sn**	**22 18 54.3**	**-0.7**
RUS	**Russkaya**	**1.27**	**285**	P	**Pn**	**22 18 44.5**	**-0.1**
RUS				S	**Sn**	**22 19 01.1**	**+0.1**
RUS	**Russkaya**	**1.27**	**285**	PN	**Pn**	**22 18 44.5**	**-0.1**
RUS				S	**Sn**	**22 19 01.1**	**+0.1**
NLC	**Nalytchevo**	**1.27**	**326**	P	**Pn**	**22 18 45.0**	**+0.4**
NLC				S	**Sb**	**22 19 02.1**	**+0.8**
NLC	**Nalytchevo**	**1.27**	**326**	PN	**Pn**	**22 18 45.0**	**+0.4**
NLC				S	**Sb**	**22 19 02.1**	**+0.8**
DALK	**Dalny**	**1.41**	**311**	P	**Pn**	**22 18 46.6**	**+0.1**
DALK				S	**Sn**	**22 19 04.4**	**-0.1**
DALK	**Dalny**	**1.41**	**311**	PN	**Pn**	**22 18 46.6**	**+0.1**
DALK				S	**Sn**	**22 19 04.4**	**-0.1**
PET	**Petropavlovsk**	**1.46**	**309**	*e*Pn	**Pn**	**22 18 47.4**	**+0.2**
PET				*e*Sn	**Sn**	**22 19 04.0**	**-1.6**
PET	**Petropavlovsk**	**1.46**	**309**	P	**Pn**	**22 18 47.3**	**+0.2**
PET				S	**Sb**	**22 19 05.9**	**-0.6**
PET	**Petropavlovsk**	**1.46**	**309**	*i* PN	**Pn**	**22 18 47.3**	**+0.2**
PET				*e*S	**Sn**	**22 19 04.9**	**-0.6**
PET				pmax	pmax		
	comp=Z,1μm,0.4s						
PET				smax	smax		
	comp=N,2μm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.6s						
MTVR	**Mutnovka**	**1.48**	**285**	P	**Pn**	**22 18 47.9**	**+0.3**
MTVR				S	**Sn**	**22 19 06.6**	**+0.2**
MTVR	**Mutnovka**	**1.48**	**285**	PN	**Pn**	**22 18 47.9**	**+0.3**
MTVR				S	**Sn**	**22 19 06.6**	**+0.2**
UGLR	**Uglovaya**	**1.50**	**317**	P	**Pn**	**22 18 48.7**	**+0.8**
UGLR				S	**Sb**	**22 19 09.0**	**+1.0**
UGLR	**Uglovaya**	**1.50**	**317**	PN	**Pn**	**22 18 48.7**	**+0.8**
UGLR				S	**Sb**	**22 19 09.0**	**+1.0**
SDLR	**Sedlovina**	**1.53**	**320**	P	**Pn**	**22 18 48.7**	**+0.4**
SDLR				S	**Sb**	**22 19 09.8**	**+1.0**
SDLR	**Sedlovina**	**1.53**	**320**	PN	**Pn**	**22 18 48.7**	**+0.4**
SDLR				S	**Sb**	**22 19 09.8**	**+1.0**
KDTR	**Khodutka, Kamc**	**1.54**	**259**	P	**Pn**	**22 18 48.4**	**+0.1**
KDTR				S	**Sn**	**22 19 08.0**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.54**	**259**	PN	**Pn**	**22 18 48.4**	**+0.1**
KDTR				S	**Sn**	**22 19 08.0**	**+0.4**
SMAR	**Somma**	**1.55**	**318**	P	**Pn**	**22 18 48.9**	**+0.2**
SMAR	**Somma**	**1.55**	**318**	PN	**Pn**	**22 18 48.9**	**+0.2**
GRL	**Gorelyy**	**1.56**	**287**	P	**Pn**	**22 18 49.9**	**+1.2**
GRL				S	**Sb**	**22 19 11.1**	**+1.4**
GRL	**Gorelyy**	**1.56**	**287**	PN	**Pn**	**22 18 49.9**	**+1.2**
GRL				S	**Sb**	**22 19 11.1**	**+1.4**
AVH	**Avacha**	**1.58**	**317**	P	**Pn**	**22 18 49.9**	**+1.0**
AVH				S	**Sb**	**22 19 11.0**	**+0.9**
AVH	**Avacha**	**1.58**	**317**	PN	**Pn**	**22 18 49.9**	**+1.0**
AVH				S	**Sb**	**22 19 11.0**	**+0.9**
KRER	**Koryakskii**	**1.60**	**318**	P	**Pn**	**22 18 50.2**	**+0.9**
KRER				S	**Sb**	**22 19 11.1**	**+0.1**
KRER	**Koryakskii**	**1.60**	**318**	PN	**Pn**	**22 18 50.2**	**+0.9**
KRER				S	**Sb**	**22 19 11.1**	**+0.1**
KRMR	**Karymshinskiy**	**1.63**	**297**	P	**Pn**	**22 18 49.8**	**+0.4**
KRMR				S	**Sb**	**22 19 11.3**	**-0.1**
KRMR	**Karymshinskiy**	**1.63**	**297**	PN	**Pn**	**22 18 49.8**	**+0.4**
KRMR				S	**Sb**	**22 19 11.3**	**-0.1**
ASAK	**Asacha**	**1.63**	**280**	P	**Pn**	**22 18 50.3**	**+0.7**
ASAK				S	**Sn**	**22 19 11.8**	**+1.8**
ASAK	**Asacha**	**1.63**	**280**	PN	**Pn**	**22 18 50.3**	**+0.7**
ASAK				S	**Sn**	**22 19 11.8**	**+1.8**
KOK	**Koryaka**	**1.64**	**316**	P	**Pn**	**22 18 50.5**	**+0.7**
KOK				S	**Sb**	**22 19 11.8**	**-0.2**
KOK	**Koryaka**	**1.64**	**316**	PN	**Pn**	**22 18 50.5**	**+0.7**
KOK				S	**Sb**	**22 19 11.8**	**-0.2**
KRX	**Arik**	**1.69**	**318**	P	**Pn**	**22 18 51.0**	**+0.6**
KRX				S	**Sb**	**22 19 12.7**	**-0.5**
KRX	**Arik**	**1.69**	**318**	PN	**Pn**	**22 18 51.0**	**+0.6**
KRX				S	**Sb**	**22 19 12.7**	**-0.5**
PETK	**Petropavlovsk-**	**1.99**	**301**	Pn	**Pn**	**22 18 55.2**	**+0.8**
	comp=E,40nm,0.3s,baz=110,slow=19,SNR=288						
PETK				Sn	**Sb**	**22 19 20.7**	**-1.1**
	comp=E,117nm,0.3s,baz=118,slow=19,SNR=18						
PETK				LR	LR	22 19 24.8	
	comp=E,301nm,19.1s,baz=68,slow=38						
PEA1	**Petropavlovsk-**	**1.99**	**301**	*e*Pn	**Pn**	**22 18 55.2**	**+0.8**
PEA1				*e*Sn	**Sb**	**22 19 20.7**	**-1.1**
APC	**Apacha**	**2.21**	**293**	P	**Pn**	**22 18 58.8**	**+1.4**
APC				S	**Sb**	**22 19 27.5**	**-0.6**
APC	**Apacha**	**2.21**	**293**	PN	**Pn**	**22 18 58.8**	**+1.4**
APC				S	**Sb**	**22 19 27.5**	**-0.6**
PAU	**Pauzhetka**	**2.39**	**256**	P	**Pn**	**22 19 00.7**	**+0.7**
PAU	**Pauzhetka**	**2.39**	**256**	PN	**Pn**	**22 19 00.7**	**+0.7**
MKZ	**Mys Kozlova**	**2.55**	**16**	S	**Sn**	**22 19 32.1**	**-0.3**
KZV	**Kizimen**	**3.00**	**358**	P	**Pn**	**22 19 10.4**	**+1.9**
KZV	**Kizimen**	**3.00**	**358**	PN	**Pn**	**22 19 10.4**	**+1.9**
TUMD	**Tumrok D**	**3.09**	**359**	P	**Pn**	**22 19 10.5**	**+0.9**
TUMD				S	**Sn**	**22 19 46.4**	**+0.5**
SKR	**Severo-Kuril's**	**3.11**	**244**	*e*PN	**Pn**	**22 19 10.3**	**+0.5**
SKR				*e*S	**Sn**	**22 19 44.5**	**-1.8**
SKR				smax	smax		
	comp=N,881nm,0.7s						
SKR				smax	smax		
	comp=E,856nm,0.7s						
TUMR	**Tumrok**	**3.18**	**356**	P	**Pn**	**22 19 12.4**	**+1.5**
TUMR	**Tumrok**	**3.18**	**356**	PN	**Pn**	**22 19 12.4**	**+1.5**
ALID	**Alaid**	**3.35**	**250**	P	**Pn**	**22 19 13.6**	**+0.3**
ALID	**Alaid**	**3.35**	**250**	PN	**Pn**	**22 19 13.6**	**+0.3**
ESO	**Esso**	**3.96**	**345**	P	**Pn**	**22 19 24.4**	**+2.8**
ESO	**Esso**	**3.96**	**345**	PN	**Pn**	**22 19 24.4**	**+2.8**
KBTR	**Krutoberegovo**	**4.32**	**17**	P	**Pn**	**22 19 27.2**	**+0.8**
KBTR	**Krutoberegovo**	**4.32**	**17**	PN	**Pn**	**22 19 27.2**	**+0.8**
BDR	**Baidarnaya**	**4.48**	**5**	P	**Pn**	**22 19 29.7**	**+1.0**
BDR	**Baidarnaya**	**4.48**	**5**	PN	**Pn**	**22 19 29.7**	**+1.0**
SRKR	**Sorokina**	**4.56**	**5**	P	**Pn**	**22 19 32.7**	**+2.9**
SRKR	**Sorokina**	**4.56**	**5**	PN	**Pn**	**22 19 32.7**	**+2.9**
MA2	**Magadan**	**9.26**	**328**	LR	LR	22 24 31.3	
	comp=E,227nm,19.2s,baz=176,slow=41						
SEY	**Seymchan**	**11.68**	**341**	Pn	**Pn**	**22 21 08.0**	**+0.8**
	comp=E,0.2nm,0.3s,baz=131,slow=19,SNR=2.4						
ASAJ	**Asahikawa**	**14.37**	**243**	Pn	Pn	22 21 41.5	-2.7
	comp=E,0.4nm,0.3s,baz=70,slow=15,SNR=2.8						
BILL	**Bilibino**	**16.21**	**8**	*e*Pn	**Pn**	**22 22 07.5**	**-0.8**
	comp=E,4.2nm,0.8s						
BILL	**Bilibino**	**16.21**	**8**	*e*P	**P**	**22 22 10.9**	**-0.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KLR	**Kul'dur**	**18.41**	**272**	P	**P**	**22 22 35.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=52,slow=12,SNR=9.4						
USRK	**Ussuriysk Ar.**	**20.51**	**259**	P	**P**	**22 22 57.2**	**-1.4**
	comp=Z,4.5nm,1.0s,baz=91,slow=9.5,SNR=5.0						
MAJO	**Matsushiro**	**22.16**	**234**	*e*P	**P**	**22 23 17.4**	**+0.9**
MAJO	**Matsushiro**	**22.16**	**234**	*e*P	**P**	**22 23 17.4**	**+0.9**
MJAR	**Matsushiro Arr**	**22.16**	**234**	*e*P	**P**	**22 23 17.9**	**+1.5**
MJAR	**Matsushiro Arr**	**22.16**	**234**	*e*P	**P**	**22 23 17.9**	**+1.5**
MJAR	**Matsushiro Arr**	**22.16**	**234**	P	**P**	**22 23 17.4**	**+0.9**
	comp=Z,2.2nm,0.4s,baz=17,slow=9.8,SNR=8.8						
TIXI	**Tiksi**	**24.08**	**336**	*e*P	**P**	**22 23 34.4**	**-1.1**
	comp=Z,6.8nm,0.7s						
TIXI	**Tiksi**	**24.08**	**336**	P	**P**	**22 23 34.6**	**-0.9**
	comp=Z,6.3nm,0.5s,baz=125,slow=7.8,SNR=26						
HIA	**Hailar**	**25.75**	**280**	*e*P	**P**	**22 23 49.1**	**-1.8**
	comp=Z,8.4nm,0.7s						
CAST	**Castle Rocks**	**27.02**	**47**	*e*P	**P**	**22 24 00.1**	**-2.2**
KSRS	**Korea Array**	**27.11**	**250**	P	**P**	**22 24 04.4**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=35,slow=11,SNR=4.0						
KS15	**Wonju Array Si**	**27.14**	**250**	*e*P	**P**	**22 24 02.5**	**-1.0**
	comp=Z,15nm,1.3s						
MLY	**Manley**	**27.70**	**43**	*e*P	**P**	**22 24 06.9**	**-1.4**
	comp=Z,1.2nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**32.70**	**169**	T	T	23 00 44.4	
	baz=352,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**32.72**	**169**	T	T	23 00 58.9	
	baz=352,slow=76,SNR=59						
H11N1	**WAKE ISLAND Hy**	**32.72**	**169**	T	T	23 01 00.2	
	baz=352,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**33.89**	**169**	T	T	23 01 41.2	
	baz=350						
H11S3	**WAKE ISLAND Hy**	**33.90**	**169**	T	T	23 01 43.0	
	baz=350						
H11S2	**WAKE ISLAND Hy**	**33.91**	**169**	T	T	23 01 45.8	
	baz=350						
SONA0	**Songino Array**	**34.39**	**285**	*e*P	**P**	**22 25 06.8**	**-0.8**
SONM	**Songino Array**	**34.39**	**285**	P	**P**	**22 25 06.8**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=67,slow=7.5,SNR=6.8						
ZAA1	**Zalesovo Array**	**43.53**	**304**	*e*P	**P**	**22 26 20.8**	**-2.9**
ZALV	**Zalesovo Beam**	**43.53**	**304**	P	**P**	**22 26 20.8**	**-2.9**
	comp=Z,1.2nm,0.7s,baz=90,slow=7.4,SNR=4.3						
YKA	**Yellowknife Ar**	**43.71**	**42**	P	**P**	**22 26 25.8**	**+0.7**
	comp=Z,0.1nm,0.6s,baz=295,slow=12,SNR=3.0						
YKB5	**Yellowknife Ar**	**43.71**	**42**	*e*P	**P**	**22 26 25.8**	**+0.7**
NVS	**Novosibirsk**	**43.89**	**306**	*e*P	**P**	**22 26 24.5**	**-2.1**
GDR	**Gold River**	**44.49**	**62**	*e*P	**P**	**22 26 28.5**	**-3.0**
SPITS	**Spitsbergen Ar**	**48.14**	**351**	P	**P**	**22 27 00.5**	**+0.6**
KURK	**Kurchatov**	**48.48**	**303**	*e*P	**P**	**22 27 00.5**	**-2.2**
	comp=Z,5.7nm,0.9s						
KURK	**Kurchatov**	**48.48**	**303**	P	**P**	**22 27 01.5**	**-1.2**
KURBB	**Kurchatov Arra**	**48.58**	**303**	P	**P**	**22 27 01.5**	**-2.0**
	comp=Z,2.9nm,0.8s,baz=60,slow=7.7,SNR=18						
GLK	**Glacier Lake**	**48.76**	**64**	*e*P	P	22 27 01.0	-4.1
MK32	**Makanchi Array**	**48.82**	**297**	*e*P	**P**	**22 27 03.7**	**-1.8**
MKAR	**Makanchi Array**	**48.82**	**297**	P	**P**	**22 27 03.7**	**-1.8**
	comp=Z,1.1nm,0.5s,baz=56,slow=6.6,SNR=27						
MAKZ	**Makanchi**	**48.98**	**297**	*e*P	**P**	**22 27 04.9**	**-1.8**
	comp=Z,2.5nm,1.0s						
PDGK	**Podgornoye**	**52.52**	**295**	P	**P**	**22 27 33.8**	**+0.2**
PDGK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
OTUK	**Ortayu**	**53.23**	**303**	P	**P**	**22 27 37.9**	**-0.7**
OTUK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARA0	**ARCESS Array S**	**54.30**	**342**	*e*P	**P**	**22 27 45.8**	**-0.3**
ARCES	**ARCESS Array B**	**54.30**	**342**	P	**P**	**22 27 45.8**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=41,slow=8.3,SNR=6.5						
AAK	**Ala-Archa**	**55.75**	**297**	*e*P	**P**	**22 27 56.4**	**-0.8**
	comp=Z,2.2nm,0.9s						
AAK	**Ala-Archa**	**55.75**	**297**	P	**P**	**22 27 55.6**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=102,slow=2.7,SNR=5.5						
MSF	**Maaselka**	**56.61**	**338**	P	**P**	**22 28 04.3**	**+1.5**
MSF				pmax	pmax		
	comp=Z,18nm,1.4s						
CM31	**Chiang Mai Arr**	**58.24**	**259**	*e*P	**P**	**22 28 14.8**	**0.0**
	comp=Z,9.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**58.24**	**259**	P	**P**	**22 28 14.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=29,slow=6.5,SNR=6.6						
ABKAR	**Akbulak array**	**58.63**	**311**	*e*P	**P**	**22 28 16.1**	**-1.1**
RVR	**Riverside**	**59.44**	**73**	*e*P	**P**	**22 28 22.1**	**-0.9**
BTK	**Batken**	**59.53**	**297**	*e*P	**P**	**22 28 22.9**	**-0.9**
	comp=Z,5.1nm,1.0s						
BTK	**Batken**	**59.53**	**297**	*e*P	**P**	**22 28 22.8**	**-0.9**
BTK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SUF	**Sumiainen**	**60.00**	**338**	P	**P**	**22 28 28.0**	**+1.6**
SUF				pmax	pmax		
	comp=Z,13nm,1.9s						
GAR	**Garm**	**60.55**	**297**	*e*P	**P**	**22 28 29.9**	**-0.8**
	comp=Z,14nm,1.3s						
GAR	**Garm**	**60.55**	**297**	*e*P	**P**	**22 28 29.9**	**-0.8**
GAR				pmax	pmax		
	comp=Z,14nm,1.3s						
FIA0	**FINESS Array S**	**61.12**	**337**	*e*P	**P**	**22 28 34.5**	**+0.5**
FINES	**FINESS Array B**	**61.12**	**337**	P	**P**	**22 28 34.5**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=30,slow=8.4,SNR=33						
NIL	**Nilore**	**62.70**	**290**	*e*P	**P**	**22 28 45.6**	**+0.4**
	comp=Z,7.7nm,1.0s						
NIL	**Nilore**	**62.70**	**290**	*e*P	**P**	**22 28 45.6**	**+0.4**
NIL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NB2	**NORSAR Subarra**	**64.55**	**344**	P	**P**	**22 28 57.5**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=23,slow=6.9						
NB200	**NORSAR Array S**	**64.55**	**344**	*e*P	**P**	**22 28 57.7**	**+0.7**
NOA	**NORSAR Array B**	**64.55**	**344**	P	**P**	**22 28 57.7**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=23,slow=6.6,SNR=6.3						
NORES	**NORESS Array B**	**64.78**	**344**	P	**P**	**22 29 00.0**	**+1.5**
GEYT	**Alibeck**	**67.84**	**303**	P	**P**	**22 29 18.7**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=356,slow=1.9,SNR=4.5						
AKASG	**Malin Array Be**	**69.58**	**329**	P	**P**	**22 29 28.6**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=30,slow=6.9,SNR=13						
KBZ	**Khabaz**	**70.42**	**317**	P	**P**	**22 29 34.8**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=14,slow=4.2,SNR=4.2						
TXAR	**Lajitas Array**	**70.78**	**67**	P	**P**	**22 29 40.7**	**+3.8**
	comp=Z,0.2nm,0.6s,baz=306,slow=3.4,SNR=3.5						
KOLS	**Kolonicke sedl**	**73.23**	**333**	*e*P	**P**	**22 29 52.5**	**+1.3**
KOLS	**Kolonicke sedl**	**73.23**	**333**	*e*P	**P**	**22 29 52.5**	**+1.3**
CLL	**Collm**	**73.36**	**339**	*i* P	**P**	**22 29 52.8**	**+1.0**
CLL	**Collm**	**73.36**	**339**	*i* P	**P**	**22 29 52.8**	**+1.0**
VYHS	**Vyhne**	**74.57**	**335**	*e*P	**P**	**22 30 00.1**	**+1.1**
VYHS	**Vyhne**	**74.57**	**335**	*e*P	**P**	**22 30 00.1**	**+1.1**
WR1	**Warramunga Arr**	**75.31**	**205**	*e*P	**P**	**22 30 04.3**	**+0.9**
WRA	**Warramunga Arr**	**75.31**	**205**	P	**P**	**22 30 04.3**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=18,slow=6.7,SNR=3.6						
GEC2	**GERESS Array S**	**75.52**	**338**	*e*P	**P**	**22 30 04.9**	**+0.4**
	comp=Z,2.7nm,1.4s						
GEC2	**GERESS Array S**	**75.52**	**338**	*e*P	**P**	**22 30 04.9**	**+0.4**
GEC2				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GERES	**GERESS Array B**	**75.52**	**338**	P	**P**	**22 30 04.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=29,slow=9.1,SNR=4.1						
KBA	**Koelnbreinsper**	**77.26**	**338**	P	**P**	**22 30 19.1**	**+4.5**
KBA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BR101	**Keskin Array S**	**77.54**	**321**	*e*P	**P**	**22 30 16.3**	**0.0**
BRTR	**Keskin Array B**	**77.54**	**321**	P	**P**	**22 30 16.3**	**0.0**
	comp=Z,0.6nm,0.9s,baz=29,slow=2.8,SNR=4.7						
AS31	**Alice Springs**	**78.98**	**205**	*e*P	**P**	**22 30 26.3**	**+2.3**
	comp=Z,1.2nm,1.3s						
ASAR	**Alice Springs**	**78.98**	**205**	P	**P**	**22 30 26.3**	**+2.3**
	comp=Z,0.3nm,0.4s,baz=17,slow=5.1,SNR=5.3						
ESDC	**Sonseca Array**	**87.59**	**348**	P	**P**	**22 31 08.5**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=344,slow=4.2,SNR=4.0						

NLC	**Nalytchevo**	**1.33 325**	P	**Pb**	**22 28 44.0**	**0.0**
NLC			S	**Sg**	**22 29 03.7**	**+1.6**
NLC	**Nalytchevo**	**1.33 325**	PN	**Pb**	**22 28 44.0**	**0.0**
NLC			S	**Sg**	**22 29 03.7**	**+1.6**
RUS	**Russkaya**	**1.33 286**	P	**Pn**	**22 28 43.3**	**-0.2**
RUS			S	**Sb**	**22 29 01.1**	**+0.2**
RUS	**Russkaya**	**1.33 286**	PN	**Pn**	**22 28 43.3**	**-0.2**
RUS			S	**Sb**	**22 29 01.1**	**+0.2**
DALK	**Dalny**	**1.47 311**	P	**Pn**	**22 28 45.0**	**-0.4**
DALK			S	**Sg**	**22 29 05.8**	**-0.8**
DALK	**Dalny**	**1.47 311**	PN	**Pn**	**22 28 45.0**	**-0.4**
DALK			S	**Sg**	**22 29 05.8**	**-0.8**
PET	**Petropavlovsk**	**1.51 309**	P	**Pn**	**22 28 46.2**	**+0.2**
PET			S	**Sg**	**22 29 07.8**	**-0.2**
PET	**Petropavlovsk**	**1.51 309**	⇑*i*PN	**Pn**	**22 28 46.3**	**+0.2**
PET			*e*S	**Sn**	**22 29 05.9**	**+0.3**
PET	comp=Z,196nm,0.5s		pmax	pmax		
PET	comp=E,790nm,0.5s		smax	smax		
PET	comp=N,589nm,0.6s		smax	smax		
MTVR	**Mutnovka**	**1.54 286**	P	**Pn**	**22 28 46.8**	**+0.3**
MTVR			S	**Sb**	**22 29 07.3**	**+0.2**
MTVR	**Mutnovka**	**1.54 286**	PN	**Pn**	**22 28 46.8**	**+0.3**
MTVR			S	**Sb**	**22 29 07.3**	**+0.2**
UGLR	**Uglovaya**	**1.56 317**	P	**Pb**	**22 28 47.8**	**-0.3**
UGLR			S	**Sg**	**22 29 09.2**	**-0.3**
UGLR	**Uglovaya**	**1.56 317**	PN	**Pb**	**22 28 47.8**	**-0.3**
UGLR			S	**Sg**	**22 29 09.2**	**-0.3**
SDLR	**Sedlovina**	**1.58 319**	P	**Pn**	**22 28 47.9**	**+0.7**
SDLR			S	**Sb**	**22 29 09.3**	**+0.8**
SDLR	**Sedlovina**	**1.58 319**	PN	**Pn**	**22 28 47.9**	**+0.7**
SDLR			S	**Sb**	**22 29 09.3**	**+0.8**
KDTR	**Khodutka, Kamc**	**1.59 261**	P	**Pn**	**22 28 47.0**	**0.0**
KDTR			S	**Sn**	**22 29 07.6**	**+0.3**
KDTR	**Khodutka, Kamc**	**1.59 261**	PN	**Pn**	**22 28 47.0**	**0.0**
KDTR			S	**Sn**	**22 29 07.6**	**+0.3**
SMAR	**Somma**	**1.61 318**	P	**Pb**	**22 28 48.7**	**-0.2**
SMAR	**Somma**	**1.61 318**	PN	**Pb**	**22 28 48.7**	**-0.2**
GRL	**Gorelyy**	**1.62 288**	P	**Pg**	**22 28 49.9**	**-0.5**
GRL	**Gorelyy**	**1.62 288**	PN	**Pg**	**22 28 49.9**	**-0.5**
AVH	**Avacha**	**1.64 317**	P	**Pb**	**22 28 49.3**	**0.0**
AVH			S	**Sg**	**22 29 12.3**	**+0.4**
AVH	**Avacha**	**1.64 317**	PN	**Pb**	**22 28 49.3**	**0.0**
AVH			S	**Sg**	**22 29 12.3**	**+0.4**
KRER	**Koryakskii**	**1.66 318**	P	**Pn**	**22 28 48.9**	**+0.6**
KRER	**Koryakskii**	**1.66 318**	PN	**Pn**	**22 28 48.9**	**+0.6**
KRMR	**Karymshinskiy**	**1.68 297**	P	**Pn**	**22 28 48.7**	**+0.3**
KRMR			S	**Sg**	**22 29 12.8**	**-0.7**
KRMR	**Karymshinskiy**	**1.68 297**	PN	**Pn**	**22 28 48.7**	**+0.3**
KRMR			S	**Sg**	**22 29 12.8**	**-0.7**
ASAK	**Asacha**	**1.69 281**	P	**Pn**	**22 28 49.4**	**+0.9**
ASAK	**Asacha**	**1.69 281**	PN	**Pn**	**22 28 49.4**	**+0.9**
KOK	**Koryaka**	**1.70 316**	P	**Pb**	**22 28 50.3**	**-0.1**
KOK			S	**Sg**	**22 29 15.1**	**+1.2**
KOK	**Koryaka**	**1.70 316**	PN	**Pb**	**22 28 50.3**	**-0.1**
KOK			S	**Sg**	**22 29 15.1**	**+1.2**
KRX	**Arik**	**1.74 318**	P	**Pn**	**22 28 50.0**	**+0.7**
KRX			S	**Sg**	**22 29 14.6**	**-0.7**
KRX	**Arik**	**1.74 318**	PN	**Pn**	**22 28 50.0**	**+0.7**
KRX			S	**Sg**	**22 29 14.6**	**-0.7**
PETK	**Petropavlovsk-**	**2.04 301**	Pn	**Pn**	**22 28 54.2**	**+0.9**
	comp=N,21nm,0.3s,baz=104,slow=18,SNR=26					
PETK			Sn	**Sb**	**22 29 22.4**	**+0.9**
	comp=N,30nm,0.3s,baz=221,slow=18,SNR=14					
APC	**Apacha**	**2.26 293**	P	**Pn**	**22 28 57.9**	**+1.5**
APC			S	**Sb**	**22 29 28.9**	**+1.1**
APC	**Apacha**	**2.26 293**	PN	**Pn**	**22 28 57.9**	**+1.5**
APC			S	**Sb**	**22 29 28.9**	**+1.1**
MKZ	**Mys Kozlova**	**2.56 15**	P	**Pn**	**22 29 00.9**	**+0.4**
MKZ			S	**Sn**	**22 29 30.5**	**-0.9**
MKZ	**Mys Kozlova**	**2.56 15**	PN	**Pn**	**22 29 00.9**	**+0.4**
MKZ			S	**Sn**	**22 29 30.5**	**-0.9**
KZV	**Kizimen**	**3.04 357**	P	**Pn**	**22 29 08.2**	**+1.1**
KZV			S	**Sn**	**22 29 43.7**	**+0.3**
KZV	**Kizimen**	**3.04 357**	PN	**Pn**	**22 29 08.2**	**+1.1**
KZV			S	**Sn**	**22 29 43.7**	**+0.3**
TUMD	**Tumrok D**	**3.12 358**	P	**Pn**	**22 29 09.0**	**+0.8**
TUMD			S	**Sn**	**22 29 45.2**	**-0.1**
SKR	**Severo-Kuril's**	**3.14 245**	S	**Sn**	**22 29 44.4**	**-1.3**
SKR	**Severo-Kuril's**	**3.14 245**	*e*PN	**Pn**	**22 29 08.7**	**+0.3**
TUMR	**Tumrok**	**3.21 355**	P	**Pn**	**22 29 11.3**	**+1.8**
TUMR	**Tumrok**	**3.21 355**	PN	**Pn**	**22 29 09.0**	**-0.5**
TUMR			S	**Sn**	**22 29 45.2**	**-2.5**
ALID	**Alaid**	**3.38 251**	P	**Pn**	**22 29 12.5**	**+0.6**
ALID	**Alaid**	**3.38 251**	PN	**Pn**	**22 29 12.5**	**+0.6**
ESO	**Esso**	**4.00 345**	P	**Pn**	**22 29 21.3**	**+1.0**
ESO	**Esso**	**4.00 345**	PN	**Pn**	**22 29 21.3**	**+1.0**
KBTR	**Krutoberegovo**	**4.33 17**	P	**Pn**	**22 29 25.8**	**+1.1**
KBTR	**Krutoberegovo**	**4.33 17**	PN	**Pn**	**22 29 25.8**	**+1.1**
BDR	**Baidarnaya**	**4.50 4**	P	**Pn**	**22 29 27.9**	**+0.7**
BDR	**Baidarnaya**	**4.50 4**	PN	**Pn**	**22 29 27.9**	**+0.7**
ASAJ	**Asahikawa**	**14.40 243**	Pn	**Pn**	**22 31 44.1**	**+1.4**
	comp=N,0.3nm,0.3s,baz=132,slow=16,SNR=2.7					
BILL	**Bilibino**	**16.24 8**	*e*P	**P**	**22 32 09.1**	**-0.7**
BILL			pmax	pmax		
KLR	**Kul'dur**	**18.46 273**	P	**Pn**	**22 32 35.6**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=60,slow=11,SNR=3.7					
USRK	**Ussuriysk Ar.**	**20.55 259**	P	**P**	**22 32 56.9**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=64,slow=18,SNR=2.1					
MJAR	**Matsushiro Arr**	**22.19 234**	P	**P**	**22 33 17.2**	**+2.2**
	comp=Z,1.4nm,0.7s,baz=15,slow=9.6,SNR=3.8					
TIXI	**Tiksi**	**24.12 336**	P	**P**	**22 33 32.1**	**-2.2**
	comp=Z,2.2nm,0.4s,baz=126,slow=8.0,SNR=5.7					
KSRS	**Korea Array**	**27.15 250**	P	**P**	**22 34 04.0**	**+2.0**
KSRS	**Korea Array**	**27.15 250**	P	**P**	**22 34 04.0**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=30,slow=9.9,SNR=3.2					
H11N2	**WAKE ISLAND Hy**	**32.67 169**	T	T	23 10 51.0	
	baz=350					
H11N3	**WAKE ISLAND Hy**	**32.68 169**	T	T	23 10 50.6	
	baz=350,slow=74					
H11N1	**WAKE ISLAND Hy**	**32.68 169**	T	T	23 10 54.0	
	baz=350,slow=74					
H11S1	**WAKE ISLAND Hy**	**33.85 170**	T	T	23 11 56.4	
	baz=350					
H11S3	**WAKE ISLAND Hy**	**33.86 170**	T	T	23 12 24.8	
	baz=350					
H11S2	**WAKE ISLAND Hy**	**33.87 170**	T	T	23 12 23.6	
	baz=350					
SONM	**Songino Array**	**34.44 285**	P	**P**	**22 35 05.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=90,slow=7.2,SNR=3.6					
YKA	**Yellowknife Ar**	**43.70 42**	P	**P**	**22 36 22.4**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=301,slow=12,SNR=3.1					
MKAR	**Makanchi Array**	**48.88 297**	P	**P**	**22 37 02.4**	**-2.0**
	comp=Z,0.5nm,0.5s,baz=60,slow=6.6,SNR=14					
ARCES	**ARCESS Array B**	**54.34 342**	P	**P**	**22 37 43.7**	**-1.2**
	comp=Z,2.8nm,1.0s,baz=42,slow=9.6,SNR=3.4					
CMAR	**Chiang Mai Arr**	**58.28 259**	P	**P**	**22 38 15.2**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=24,slow=6.9,SNR=4.4					
ULM	**Lac du Bonnet**	**59.29 47**	P	**P**	**22 38 22.2**	**+2.0**
	comp=Z,1.2nm,0.8s,baz=232,slow=3.1,SNR=3.0					
FINES	**FINESS Array B**	**61.17 337**	P	**P**	**22 38 33.3**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=30,slow=8.4,SNR=31					
NB2	**NORSAR Subarra**	**64.59 344**	P	**P**	**22 38 56.2**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=22,slow=6.9					
NOA	**NORSAR Array B**	**64.59 344**	P	**P**	**22 38 54.2**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=21,slow=7.0,SNR=4.7					
AKASG	**Malin Array Be**	**69.64 329**	P	**P**	**22 39 27.0**	**-0.9**
AKASG	**Malin Array Be**	**69.64 329**	P	**P**	**22 39 27.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=29,slow=6.8,SNR=4.3					
TXAR	**Lajitas Array**	**70.75 67**	P	**P**	**22 39 36.4**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=316,slow=6.3,SNR=3.9					
GERES	**GERESS Array B**	**75.56 338**	P	**P**	**22 40 03.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=40,slow=7.7,SNR=3.1					
BRTR	**Keskin Array B**	**77.59 321**	P	**P**	**22 40 14.7**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=66,slow=3.6,SNR=3.0					

KRSC ***19*** *22:38:45.0±10.0, 52.°08N×160.°66E, h42km±10km, ML6.0*
IDC ***19*** *22:38:45.3±0.4, 52.°32N×160.°11E, h0km, mb5.1/54, mb1 5.1/56, mb1mx5.1/60, mbtmp5.1/56, ML4.7/2, MS5.2/7, Ms1 5.2/7, ms1mx4.8/22, Error ellipse: s-maj=11.2km s-min=8.8km az=159.0*
BJI ***19*** *22:38:48.9±0.0, 52.°47N×159.°86E, h41km, mb5.2/79, mB5.4/56, Ms5.6/51, Ms7 5.6/49*
ISCJB ***19*** *22:38:49.2±0.3, 52.°22N±0.°02×160.°37E±0.°02, h45km±2km, mb5.3/515, MS5.6/50, Error ellipse: s-maj=3.7km s-min=1.9km az=167.1*
GCMT ***19*** *22:38:50.7±0.2, 52.°18N±0.°01×160.°61E±0.°02, h31km, MW5.5/115, Moment Tensor Solution. s92,c167; s115,c214; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr1.98±.04; Mθθ-0.81±.03; Mφφ-1.17±.03; Mrθ0.76±.04; Mrφ-0.64±.02; Mθφ0.57±.04; Best double couple: M0=2.04600×10^17 NP1:φs=44.00000°, δ59.00000°, λ96.00000°. NP2:φs=213.00000°, δ32.00000°, λ81.00000°. Principal axes: T 2.2220, Plg76.0000°, Azm330.0000°; N -0.3540, Plg5.0000°, Azm221.0000°; P -1.8700, Plg13.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***19*** *22:38:50.4±1.1, 52.°31N×160.°12E, h49km, mb5.6/114, MS5.5/32 Error ellipse: s-maj=5.5km s-min=2.7km az=97.8*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
NEIC ***19*** *22:38:51.7±0.5, 52.°40N×160.°08E, h43km±4km, mb5.3/242, Error ellipse: s-maj=4.2km s-min=2.1km az=168.0*
ISC 19 22:38:50.7±0.5, 52.°25N±0.°04×160.°32E±0.°03, h41km±3km, h40km:pP-P, n1657, σ1944/1738, mb5.3/529, MS5.7/53, 151C-24D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.87**	**348**	*e*P	**Pn**	**22 39 04.9**	**-1.6**
SPN				*e*S	**Sn**	**22 39 17.6**	**-0.4**
SPN	**Mys Shipunski**	**0.87**	**348**	PN	**Pn**	**22 39 04.9**	**-1.6**
SPN				S	**Sn**	**22 39 17.6**	**-0.4**
NLC	**Nalytchevo**	**1.10**	**328**	*e*P	**Pn**	**22 39 09.7**	**+0.1**
NLC				*e*S	**Sn**	**22 39 26.3**	**+2.7**
NLC	**Nalytchevo**	**1.10**	**328**	PN	**Pn**	**22 39 09.7**	**+0.1**
NLC				S	**Sn**	**22 39 26.3**	**+2.7**
RUS	**Russkaya**	**1.12**	**280**	*e*P	**Pn**	**22 39 08.7**	**-1.2**
RUS				*e*S	**Sn**	**22 39 25.9**	**+1.8**
RUS	**Russkaya**	**1.12**	**280**	PN	**Pn**	**22 39 08.7**	**-1.2**
RUS				S	**Sn**	**22 39 25.9**	**+1.8**
DALK	**Dalny**	**1.24**	**310**	*e*P	**Pn**	**22 39 11.3**	**-0.2**
DALK				*e*S	**Sn**	**22 39 29.0**	**+2.1**
DALK	**Dalny**	**1.24**	**310**	PN	**Pn**	**22 39 11.3**	**-0.2**
DALK				S	**Sn**	**22 39 29.0**	**+2.1**
PET	**Petropavlovsk**	**1.28**	**308**	*e*Pn	**Pn**	**22 39 09.7**	**-2.4**
PET				*e*Sn	**Sn**	**22 39 24.4**	**-3.6**
PET	**Petropavlovsk**	**1.28**	**308**	α *i*PN	**Pn**	**22 39 09.4**	**-2.7**
PET				*e*S	**Sn**	**22 39 28.9**	**+0.9**
PET	comp=Z,65μm,1.9s			pmax	pmax		
PET	comp=Z,30μm,0.8s			pmax	pmax		
PET	comp=E,418μm,1.7s			smax	smax		
PET	comp=E,84μm,2.2s			smax	smax		
PET	comp=N,265μm,1.2s			smax	smax		
PET	comp=N,40μm,1.8s			smax	smax		
PET	comp=N,159μm,0.8s			smax	smax		
PET	comp=E,195μm,0.8s			smax	smax		
MTVR	**Mutnovka**	**1.33**	**281**	*e*P	**Pn**	**22 39 10.0**	**-2.9**
MTVR	**Mutnovka**	**1.33**	**281**	PN	**Pn**	**22 39 10.0**	**-2.9**
AVH	**Avacha**	**1.40**	**317**	*e*P	**Pn**	**22 39 14.4**	**+0.6**
AVH				*e*S	**Sn**	**22 39 34.6**	**+3.5**
AVH	**Avacha**	**1.40**	**317**	PN	**Pn**	**22 39 14.4**	**+0.6**
KRER	**Koryakskii**	**1.43**	**319**	*e*P	**Pn**	**22 39 15.4**	**+1.1**
KRER	**Koryakskii**	**1.43**	**319**	PN	**Pn**	**22 39 15.4**	**+1.1**
KDTR	**Khodutka, Kamc**	**1.45**	**253**	*e*P	**Pn**	**22 39 13.4**	**-1.0**
KDTR	**Khodutka, Kamc**	**1.45**	**253**	PN	**Pn**	**22 39 13.4**	**-1.0**
KRMR	**Karymshinskiy**	**1.46**	**295**	*e*P	**Pn**	**22 39 14.8**	**+0.3**
KRMR				*e*S	**Sn**	**22 39 34.8**	**+2.4**
KRMR	**Karymshinskiy**	**1.46**	**295**	PN	**Pn**	**22 39 14.8**	**+0.3**
KRMR				S	**Sn**	**22 39 34.8**	**+2.4**
ASAK	**Asacha**	**1.49**	**276**	*e*P	**Pn**	**22 39 12.4**	**-2.6**
ASAK	**Asacha**	**1.49**	**276**	PN	**Pn**	**22 39 12.4**	**-2.6**
I44RU	**PETROPAVLOVSK-**	**1.80**	**300**	Pn	**Pn**	**22 39 20.0**	**+0.7**
	baz=112,slow=19,SNR=2.1						
I44RU				Sn	**Sn**	**22 39 44.7**	**+3.7**
	baz=197,slow=26,SNR=4.4						
PEA0B	**Petropavlovsk-**	**1.81**	**300**	*e*Pn	**Pn**	**22 39 17.7**	**-1.7**
PEA0B				*e*Sn	**Sn**	**22 39 36.8**	**-4.4**
PEA0B	**Petropavlovsk-**	**1.81**	**300**	*e*PN	**Pn**	**22 39 17.7**	**-1.7**
PEA0B				*e*		22 39 36.8	
PETK	**Petropavlovsk-**	**1.81**	**300**	*e*Sn	**Sn**	**22 39 36.7**	**-4.5**
PETK	**Petropavlovsk-**	**1.81**	**300**	Pn	**Pn**	**22 39 18.6**	**-0.8**
	comp=E,130nm,0.3s,baz=102,slow=20,SNR=317						
PETK				Sn	**Sn**	**22 39 40.1**	**-1.0**
	comp=E,1μm,0.3s,baz=101,slow=21,SNR=10						
PEA1	**Petropavlovsk-**	**1.82**	**300**	*e*Pn	**Pn**	**22 39 18.6**	**-0.8**
PEA1				*e*Sn	**Sn**	**22 39 40.1**	**-1.1**
APC	**Apacha**	**2.04**	**291**	*e*P	**Pn**	**22 39 24.1**	**+1.6**
APC				*e*S	**Sn**	**22 39 51.6**	**+4.8**
APC	**Apacha**	**2.04**	**291**	PN	**Pn**	**22 39 24.1**	**+1.6**
PAU	**Pauzhetka**	**2.31**	**252**	*e*P	**Pn**	**22 39 26.3**	**+0.1**
PAU	**Pauzhetka**	**2.31**	**252**	PN	**Pn**	**22 39 26.3**	**+0.1**
KZV	**Kizimen**	**2.87**	**360**	*i* P	**Pn**	**22 39 33.8**	**-0.3**
KZV	**Kizimen**	**2.87**	**360**	PN	**Pn**	**22 39 33.8**	**-0.3**
TUMD	**Tumrok D**	**2.96**	**1**	*e*P	**Pn**	**22 39 35.7**	**+0.5**
TUMR	**Tumrok**	**3.05**	**358**	*e*P	**Pn**	**22 39 37.1**	**+0.7**
TUMR	**Tumrok**	**3.05**	**358**	PN	**Pn**	**22 39 37.1**	**+0.7**
SKR	**Severo-Kuril's**	**3.06**	**241**	*e*P	**Pn**	**22 39 35.7**	**-0.7**
SKR	**Severo-Kuril's**	**3.06**	**241**	*e*PN	**Pn**	**22 39 35.7**	**-0.7**
SKR				*e*S	**Sn**	**22 40 09.0**	**-2.7**
SKR	comp=Z,2μm,0.6s			pmax	pmax		
SKR	comp=E,25μm,0.6s			smax	smax		
SKR	comp=N,31μm,0.7s			smax	smax		
SKR	comp=Z,37μm,16.0s			MLR	MLR		
SKR	comp=Z,29μm,16.0s			MLR	MLR		
BZMR	**Bezymyannaya**	**3.70**	**2**	*e*P	**Pn**	**22 39 46.8**	**+1.4**
BZMR	**Bezymyannaya**	**3.70**	**2**	PN	**Pn**	**22 39 46.8**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**3.71**	**3**	*e*P	**Pn**	**22 39 46.3**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**3.71**	**3**	PN	**Pn**	**22 39 46.3**	**+0.8**
KIRR	**Kirishev**	**3.72**	**0**	*e*P	**Pn**	**22 39 45.8**	**+0.1**
KIRR	**Kirishev**	**3.72**	**0**	PN	**Pn**	**22 39 45.8**	**+0.1**
BZWR	**Bezymyannyi-We**	**3.73**	**2**	*e*P	**Pn**	**22 39 47.7**	**+1.9**
BZWR	**Bezymyannyi-We**	**3.73**	**2**	PN	**Pn**	**22 39 47.7**	**+1.9**
KPT	**Kopyto**	**3.73**	**359**	*e*P	**Pn**	**22 39 46.6**	**+0.8**
KPT	**Kopyto**	**3.73**	**359**	PN	**Pn**	**22 39 46.6**	**+0.8**
ESO	**Esso**	**3.81**	**346**	*e*P	**Pn**	**22 39 47.5**	**+0.7**
ESO	**Esso**	**3.81**	**346**	PN	**Pn**	**22 39 47.5**	**+0.7**
KOZ	**Kozyrevsk**	**3.83**	**356**	*e*P	**Pn**	**22 39 48.2**	**+1.1**
KOZ	**Kozyrevsk**	**3.83**	**356**	PN	**Pn**	**22 39 48.2**	**+1.1**
LGNR	**Loginova**	**3.85**	**3**	*i* P	**Pn**	**22 39 49.0**	**+1.4**
LGNR	**Loginova**	**3.85**	**3**	PN	**Pn**	**22 39 49.0**	**+1.4**
CIRR	**Tsirk**	**3.89**	**4**	*e*P	**Pn**	**22 39 50.4**	**+2.4**
CIRR	**Tsirk**	**3.89**	**4**	PN	**Pn**	**22 39 50.4**	**+2.4**
KRSR	**Krestovskiy**	**3.98**	**2**	*e*P	**Pn**	**22 39 49.7**	**+0.4**
KRSR	**Krestovskiy**	**3.98**	**2**	PN	**Pn**	**22 39 49.7**	**+0.4**
KLY	**Klyuchi**	**4.08**	**3**	*e*P	**Pn**	**22 39 50.8**	**+0.3**
KLY	**Klyuchi**	**4.08**	**3**	PN	**Pn**	**22 39 50.8**	**+0.3**
SRDR	**Sredinnyy**	**4.10**	**355**	*e*P	**Pn**	**22 39 51.3**	**+0.5**
SRDR	**Sredinnyy**	**4.10**	**355**	PN	**Pn**	**22 39 51.3**	**+0.5**
KBTR	**Krutoberegovo**	**4.23**	**19**	*e*P	**Pn**	**22 39 52.1**	**-0.5**
KBTR	**Krutoberegovo**	**4.23**	**19**	PN	**Pn**	**22 39 52.1**	**-0.5**
KBG	**Krutoberegovo**	**4.26**	**18**	*e*P	**Pn**	**22 39 52.9**	**0.0**
KBG	**Krutoberegovo**	**4.26**	**18**	PN	**Pn**	**22 39 52.9**	**0.0**
BDR	**Baidarnaya**	**4.36**	**6**	*e*P	**Pn**	**22 39 56.2**	**+1.7**
BDR	**Baidarnaya**	**4.36**	**6**	PN	**Pn**	**22 39 56.2**	**+1.7**
SMKR	**Semkarok**	**4.40**	**8**	*e*P	**Pn**	**22 39 55.3**	**+0.4**
SMKR	**Semkarok**	**4.40**	**8**	PN	**Pn**	**22 39 55.3**	**+0.4**
BKI	**Bering**	**4.48**	**46**	*e*S	**Sn**	**22 40 40.7**	**-6.0**
TILK	**Tilichiki**	**8.83**	**19**	*e*P	**Pn**	**22 40 55.7**	**+0.1**
TILK	**Tilichiki**	**8.83**	**19**	PN	**Pn**	**22 40 55.7**	**+0.1**
MA2	**Magadan**	**9.09**	**328**	*e*Pn	**Pn**	**22 40 59.8**	**+0.7**
MA2				*e*Sn	Sn	22 42 30.1	-10
MA2	**Magadan**	**9.09**	**328**	*e*PN	**Pn**	**22 40 59.8**	**+0.7**
MA2	**Magadan**	**9.09**	**328**	Pn	**Pn**	**22 41 00.1**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=134,slow=9.9,SNR=13						
MA2				LR	LR	22 45 07.0	
	comp=Z,26μm,18.5s,baz=142,slow=43						
OKH	**Okha**	**10.59**	**284**	*c i*PN	**Pn**	**22 41 22.4**	**+2.8**
OKH	comp=Z,1μm,11.6s			pmax	pmax		
OKH	comp=Z,38μm,13.0s			MLR	MLR		
KUR	**Kuril'sk**	**10.80**	**234**	*e*PN	**Pn**	**22 41 24.6**	**+2.0**
KUR				S	**Sn**	**22 43 26.0**	**+4.0**
KUR	comp=E,73nm,0.7s			pmax	pmax		
KUR	comp=Z,126nm,0.7s			pmax	pmax		
KUR	comp=N,23nm,0.3s			pmax	pmax		
KUR	comp=E,110nm,0.7s			smax	smax		
KUR	comp=N,94nm,0.9s			smax	smax		
KUR	comp=E,17μm,18.0s			MLR	MLR		
KUR	comp=Z,16μm,18.0s			MLR	MLR		
KUR	comp=N,35μm,19.0s			MLR	MLR		
TYV	**Tymovskoe**	**11.09**	**270**	*e*PN	**Pn**	**22 41 30.1**	**+3.6**
TYV				*e*S	**Sn**	**22 43 37.8**	**+8.8**
TYV	comp=Z,67nm,1.5s			pmax	pmax		
TYV	comp=Z,2μm,3.5s			pmax	pmax		
TYV	comp=E,49nm,1.3s			smax	smax		
TYV	comp=E,26μm,15.0s			MLR	MLR		
TYV	comp=Z,29μm,15.0s			MLR	MLR		
SEY	**Seymchan**	**11.52**	**342**	‖*e*PN	**Pn**	**22 41 32.5**	**+0.2**
SEY	**Seymchan**	**11.52**	**342**	Pn	**Pn**	**22 41 34.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=140,slow=12,SNR=26						
SEY				LR	LR	22 46 26.2	
	comp=Z,16μm,19.7s,baz=146,slow=40						
NKL	**Nikolayevsk**	**11.95**	**282**	*i* PN	**Pn**	**22 41 41.0**	**+2.8**
NKL	comp=E,550nm,1.7s			pmax	pmax		
NKL	comp=Z,220nm,1.7s			pmax	pmax		
NKL	comp=E,3μm,8.0s			pmax	pmax		
NKL	comp=Z,2μm,8.0s			pmax	pmax		
NKL	comp=N,8μm,15.0s			MLR	MLR		
NKL	comp=E,24μm,15.0s			MLR	MLR		
NKL	comp=Z,48μm,15.0s			MLR	MLR		
UGL	**Uglegorsk**	**12.00**	**262**	*c i*PN	**Pn**	**22 41 41.6**	**+2.6**
UGL				S	**Sn**	**22 43 57.9**	**+6.5**
UGL	comp=Z,3μm,3.7s			pmax	pmax		
UGL	comp=Z,367nm,1.3s			pmax	pmax		
UGL	comp=Z,20μm,16.0s			MLR	MLR		
UGL	comp=E,17μm,13.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**12.55**	**252**	*e*Pn	**Pn**	**22 41 47.9**	**+1.4**
YSS	**Yuzh-Sakhalins**	**12.55**	**252**	α *i*PN	**Pn**	**22 41 47.9**	**+1.4**
YSS	comp=Z,1μm,7.2s			pmax	pmax		
YSS	comp=Z,10.0nm,1.4s			pmax	pmax		
YSS	comp=Z,24μm,15.0s			MLR	MLR		
YSS	comp=N,15μm,16.0s			MLR	MLR		
YSS	comp=E,20μm,16.0s			MLR	MLR		
YUK	**Yuzh-Kuril'sk**	**12.66**	**235**	⇑*i*PN	**P**	**22 41 57.8**	**-0.7**
YUK				*e*S	Sn	22 44 18.3	+11
YUK	comp=Z,258nm,0.4s			pmax	pmax		
YUK	comp=N,76nm,0.3s			pmax	pmax		
YUK	comp=E,141nm,0.3s			pmax	pmax		
YUK	comp=Z,711nm,1.2s			pmax	pmax		
YUK	comp=Z,18μm,19.0s			MLR	MLR		
YUK	comp=E,20μm,18.0s			MLR	MLR		
ASAJ	**Asahikawa**	**14.32**	**242**	Pn	**Pn**	**22 42 09.3**	**-1.4**
	comp=E,6.1nm,0.3s,baz=69,slow=13,SNR=54						
GRNR	**Gornyy**	**14.94**	**274**	*e*P	**P**	**22 42 21.7**	**-2.1**
GRNR	comp=Z,38nm,1.0s			pmax	pmax		
ERM	**Erimo**	**15.49**	**235**	*e*Pn	**Pn**	**22 42 21.5**	**-4.5**
	comp=Z,81nm,0.5s						
ERM	**Erimo**	**15.49**	**235**	⇑*e*P	**Pn**	**22 42 20.4**	**-5.6**
BILL	**Bilibino**	**16.11**	**8**	*e*Pn	**Pn**	**22 42 32.5**	**-1.3**
	comp=Z,105nm,0.7s						
BILL				*e*Sn	**Sn**	**22 45 35.6**	**+4.5**
BILL	**Bilibino**	**16.11**	**8**	*c i*P	**Pn**	**22 42 32.8**	**-1.0**
BILL				*e*S	**Sn**	**22 45 34.0**	**+2.9**
BILL	comp=Z,112nm,1.0s			pmax	pmax		
BILL	comp=Z,12μm,19.0s			MLR	MLR		
TEY	**Ternei**	**17.20**	**255**	‖*e*P	**Pn**	**22 42 48.3**	**+0.6**
TEY				*e*S	**Sn**	**22 45 54.7**	**-3.1**
TEY	comp=Z,150nm,0.8s			pmax	pmax		
TEY	comp=E,140nm,0.8s			pmax	pmax		
TEY	comp=E,11μm,15.0s			MLR	MLR		
TEY	comp=N,8μm,21.0s			MLR	MLR		
TEY	comp=

MJAR	**Matsushiro Arr**	**22.14**	**234**	P	**P**		**22 43 42.4**	**-0.3**
	comp=Z,64nm,0.8s,baz=20,slow=9.7,SNR=146							
MJAR				LR	LR		22 52 51.8	
	comp=Z,13μm,21.4s,baz=50,slow=38							
RDOG	**Red Dog Mine**	**23.66**	**34**	*eP*	**P**		**22 43 58.0**	**0.0**
	comp=Z,163nm,1.3s							
INU	**Inuyama**	**23.67**	**234**	*eP*	**P**		**22 43 58.5**	**+0.1**
	comp=Z,179nm,1.0s							
TIXI	**Tiksi**	**23.91**	**336**	*eP*	**P**		**22 43 57.0**	**-3.3**
	comp=Z,169nm,0.7s							
TIXI				*eP*	**P**		**22 43 59.4**	**-0.9**
TIXI	**Tiksi**	**23.91**	**336**	*ceP*	**P**		**22 43 58.0**	**-2.2**
TIXI				pmax	pmax			
	comp=Z,189nm,0.8s							
TIXI	**Tiksi**	**23.91**	**336**	P	**P**		**22 43 59.4**	**-0.9**
	comp=Z,180nm,0.7s,baz=143,slow=9.2,SNR=282							
CN2	**Changchun**	**24.60**	**264**	⇓P	**P**		**22 44 04.5**	**-2.3**
CN2				*eS*	**S**		**22 48 16.5**	**-8.6**
CN2				pmax	pmax			
	comp=Z,50nm,0.9s							
CN2				pmax	pmax			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=Z,20μm,15.0s							
HIA	**Hailar**	**25.60**	**280**	*eP*	**P**		**22 44 13.8**	**-2.1**
	comp=Z,203nm,0.8s							
HIA	**Hailar**	**25.60**	**280**	*c iP*	**P**		**22 44 13.3**	**-2.6**
HIA				pmax	pmax			
	comp=Z,1μm,0.8s							
SII	**Sitkinak Islan**	**26.45**	**62**	*eP*	**P**		**22 44 25.4**	**+1.9**
	comp=Z,57nm,0.8s							
BOD	**Bodaibo**	**26.69**	**300**	*eP*	**P**		**22 44 23.3**	**-2.3**
BOD				pmax	pmax			
	comp=Z,117nm,1.7s							
RSO	**Redoubt South**	**26.74**	**54**	*eP*	**P**		**22 44 25.2**	**-1.1**
SNY	**Shenyang**	**26.84**	**262**	⇑P	**P**		**22 44 25.5**	**-1.6**
SNY				pmax	pmax			
	comp=Z,68nm,2.5s							
SNY				pmax	pmax			
	comp=Z,830nm,3.5s							
SNY				LR	LR			
	comp=Z,12μm,20.6s							
SNY				LR	LR			
	comp=Z,13μm,18.8s							
CAST	**Castle Rocks**	**27.02**	**47**	*eP*	**P**		**22 44 28.0**	**-0.5**
	comp=Z,104nm,0.4s							
KSRS	**Korea Array**	**27.04**	**250**	P	**P**		**22 44 28.8**	**-0.1**
	comp=Z,19nm,0.8s,baz=44,slow=9.0,SNR=53							
KS15	**Wonju Array Si**	**27.07**	**250**	*eP*	**P**		**22 44 31.6**	**+2.4**
	comp=Z,35nm,0.8s							
KDAK	**Kodiak Island**	**27.11**	**59**	*eP*	**P**		**22 44 30.1**	**+0.8**
	comp=Z,40nm,1.2s							
KDAK	**Kodiak Island**	**27.11**	**59**	*eP*	**P**		**22 44 30.1**	**+0.8**
KDAK				pmax	pmax			
	comp=Z,40nm,1.2s							
KDAK	**Kodiak Island**	**27.11**	**59**	P	**P**		**22 44 30.1**	**+0.8**
	comp=Z,10nm,0.8s,baz=301,slow=7.0,SNR=7.2							
BPAW	**Bear Paw Mtn.**	**27.53**	**46**	*eP*	**P**		**22 44 34.0**	**+0.8**
	comp=Z,20nm,0.8s							
MLY	**Manley**	**27.69**	**44**	*eP*	**P**		**22 44 34.8**	**+0.2**
	comp=Z,14nm,0.9s							
TJN	**Taejon**	**28.11**	**249**	⇑*eP*	**P**		**22 44 40.7**	**+2.2**
BWN	**Browne**	**28.20**	**45**	*eP*	**P**		**22 44 40.3**	**+1.2**
	comp=Z,96nm,1.3s							
CIT	**Chita**	**28.32**	**288**	*eP*	**P**		**22 44 38.9**	**-1.4**
CIT				pmax	pmax			
	comp=Z,140nm,1.5s							
MCK	**McKinley**	**28.43**	**46**	*eP*	**P**		**22 44 39.2**	**-2.0**
	comp=Z,24nm,1.2s							
MCK	**McKinley**	**28.43**	**46**	*eP*	**P**		**22 44 39.2**	**-2.0**
MCK				pmax	pmax			
	comp=Z,24nm,1.2s							
TOLK	**Toolik Lake Re**	**28.57**	**36**	*eP*	**P**		**22 44 42.5**	**+0.2**
	comp=Z,21nm,0.9s							
TOLK	**Toolik Lake Re**	**28.57**	**36**	P	**P**		**22 44 40.3**	**-2.1**
	baz=261							
JNU	**Nakatsue**	**28.57**	**240**	*eP*	**P**		**22 44 43.6**	**+1.0**
	comp=Z,87nm,0.7s							
JNU	**Nakatsue**	**28.57**	**240**	P	**P**		**22 44 43.0**	**+0.4**
	comp=Z,58nm,0.8s,baz=57,slow=5.2,SNR=13							
MDM	**Murphy Dome**	**28.75**	**44**	*eP*	**P**		**22 44 44.7**	**+0.7**
	comp=Z,10nm,1.0s							
KNK	**Knik Glacier**	**28.76**	**51**	*eP*	**P**		**22 44 43.6**	**-0.5**
	comp=Z,25nm,0.9s							
WRH	**Wood River Hil**	**28.80**	**45**	*eP*	**P**		**22 44 45.2**	**+0.7**
	comp=Z,38nm,1.2s							
TCOL	**CIGO, UAF Yank**	**28.91**	**44**	P	**P**		**22 44 43.6**	**-1.7**
	baz=270							
COLA	**College**	**28.91**	**44**	*eP*	**P**		**22 44 46.6**	**+1.2**
	comp=Z,25nm,1.0s							
COLA	**College**	**28.91**	**44**	*ceP*	**P**		**22 44 44.9**	**-0.4**
COLA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CCB	**Clear Creek Bu**	**28.93**	**44**	*eP*	**P**		**22 44 45.1**	**-0.4**
	comp=Z,21nm,1.0s							
HDA	**Harding Lake**	**29.30**	**45**	*eP*	**P**		**22 44 47.9**	**-1.0**
	comp=Z,9.2nm,0.7s							
HDA	**Harding Lake**	**29.30**	**45**	P	**P**		**22 44 47.4**	**-1.5**
	baz=271							
ILAR	**Eielson Array**	**29.32**	**44**	P	**P**		**22 44 48.1**	**-0.9**
	comp=Z,5.1nm,0.8s,baz=253,slow=7.6,SNR=32							
ILB	**Eielson Array**	**29.32**	**44**	*eP*	**P**		**22 44 48.6**	**-0.4**
	comp=Z,9.8nm,0.8s							
DL2	**Dalian**	**29.80**	**259**	P	**P**		**22 44 52.8**	**-0.7**
DL2				S	**S**		**22 49 47.9**	**+0.7**
DL2				pmax	pmax			
	comp=Z,51nm,0.9s							
DL2				pmax	pmax			
	comp=Z,400nm,9.4s							
DL2				LR	LR			
	comp=Z,7μm,17.6s							
DL2				LR	LR			
	comp=Z,6μm,13.1s							
DL2				LR	LR			
	comp=Z,10μm,15.5s							
PRP	**Porcupine Dome**	**29.90**	**43**	*eP*	**P**		**22 44 54.5**	**+0.3**
	comp=Z,19nm,0.8s							
RIDG	**Independent Ri**	**30.25**	**46**	*eP*	**P**		**22 44 56.8**	**-0.5**
	comp=Z,24nm,1.1s							
SCRK	**Sand Creek**	**30.61**	**46**	*eP*	**P**		**22 44 59.7**	**-0.9**
	comp=Z,27nm,1.3s							
BALM	**Baldy**	**31.74**	**51**	*eP*	**P**		**22 45 09.1**	**-1.4**
	comp=Z,9.7nm,0.8s							
BALM	**Baldy**	**31.74**	**51**	*eP*	**P**		**22 45 09.1**	**-1.4**
BALM				pmax	pmax			
	comp=Z,10.0nm,0.8s							
EGAK	**Eagle**	**31.77**	**44**	*eP*	**P**		**22 45 09.8**	**-0.8**
	comp=Z,15nm,0.8s							
CTGM	**Chitina Glacie**	**32.24**	**51**	*eP*	**P**		**22 45 18.5**	**+3.6**
	comp=Z,54nm,1.4s							
BJI	**Beijing**	**32.42**	**266**	⇑*iP*	**P**		**22 45 14.9**	**-1.7**
BJI				S	**S**		**22 50 28.9**	**+0.8**
BJI				pmax	pmax			
	comp=Z,11nm,2.0s							
BJI				pmax	pmax			
	comp=Z,210nm,3.2s							
BJI				LR	LR			
	comp=Z,4μm,17.4s							
BJI				LR	LR			
	comp=Z,9μm,14.5s							
BJI				LR	LR			
	comp=Z,8μm,18.0s							
DAWY	**Dawson**	**32.62**	**45**	*eP*	**P**		**22 45 17.8**	**-0.3**
	comp=Z,15nm,1.3s							
H11N2	**WAKE ISLAND Hy**	**32.85**	**169**	T	T		23 21 16.8	
	baz=354,slow=74							
H11N3	**WAKE ISLAND Hy**	**32.87**	**169**	T	T		23 21 31.0	
	baz=354,slow=74							
H11N1	**WAKE ISLAND Hy**	**32.87**	**169**	T	T		23 21 44.8	
	baz=354							
EPYK	**Eagle Plains**	**33.45**	**41**	*eP*	**P**		**22 45 25.6**	**+0.3**
	comp=Z,14nm,1.0s							
EPYK	**Eagle Plains**	**33.45**	**41**	P	**P**		**22 45 24.1**	**-1.2**
	baz=277,SNR=8.0							
IRK	**Irkutsk**	**33.58**	**293**	*eP*	**P**		**22 45 23.6**	**-3.0**
IRK				*e*			22 46 38.9	
IRK				pmax	pmax			
	comp=Z,90nm,1.9s							
ULN	**Ulaanbaatar**	**33.83**	**284**	*eP*	**P**		**22 45 27.4**	**-1.6**
	comp=Z,22nm,0.9s							
ULN	**Ulaanbaatar**	**33.83**	**284**	*ceP*	**P**		**22 45 27.1**	**-1.8**
ULN				pmax	pmax			
	comp=Z,60nm,1.7s							
ULN	**Ulaanbaatar**	**33.83**	**284**	P	**P**		**22 45 27.2**	**-1.8**
	SNR=21							
ULN				P	**P**		**22 45 27.2**	**-1.8**
	SNR=21							
H11S1	**WAKE ISLAND Hy**	**34.04**	**169**	T	T		23 22 11.7	
	baz=351							
H11S3	**WAKE ISLAND Hy**	**34.05**	**169**	T	T		23 22 41.2	
	baz=351,slow=74							
H11S2	**WAKE ISLAND Hy**	**34.06**	**169**	T	T		23 23 10.6	
	baz=351,slow=74							
HYT	**Haines Junctio**	**34.10**	**51**	*eP*	**P**		**22 45 32.5**	**+1.4**
	comp=Z,11nm,0.9s							
TLY	**Talaya**	**34.16**	**292**	*eP*	**P**		**22 45 31.2**	**-0.4**
	comp=Z,60nm,1.0s							
TLY	**Talaya**	**34.16**	**292**	*ceP*	**P**		**22 45 30.6**	**-1.0**
TLY	**Talaya**	**34.16**	**292**	P	**P**		**22 45 31.0**	**-0.7**
	SNR=13							
SONA0	**Songino Array**	**34.24**	**285**	*eP*	**P**		**22 45 30.8**	**-1.7**
SONM	**Songino Array**	**34.24**	**285**	P	**P**		**22 45 30.8**	**-1.7**
	comp=Z,7.7nm,0.6s,baz=70,slow=8.6,SNR=42							
TIA	**Tai'an**	**34.27**	**259**	P	**P**		**22 45 31.3**	**-1.4**
TIA				pmax	pmax			
	comp=Z,67nm,0.8s							
INK	**Inuvik**	**34.46**	**37**	*eP*	**P**		**22 45 34.3**	**+0.3**
	comp=Z,35nm,1.0s							
INK	**Inuvik**	**34.46**	**37**	*eP*	**P**		**22 45 34.3**	**+0.3**
INK				pmax	pmax			
	comp=Z,35nm,1.0s							
INK	**Inuvik**	**34.46**	**37**	P	**P**		**22 45 34.2**	**+0.3**
	comp=Z,8.3nm,0.8s,baz=277,slow=7.4,SNR=27							
HHC	**Hu-ho-hao-te**	**34.78**	**271**	*eP*	**P**		**22 45 35.4**	**-1.8**
HHC				pP	pP		22 45 42.8	-4.9
HHC				PP	**PnPn**		**22 46 53.8**	**-0.2**
HHC				S	**S**		**22 51 03.8**	**-1.0**
HHC				pmax	pmax			
	comp=Z,120nm,0.9s							
HHC				pmax	pmax			
	comp=Z,370nm,4.8s							
HHC				LR	LR			
	comp=Z,1μm,11.5s							
HHC				LR	LR			
	comp=Z,1μm,11.9s							
HHC				LR	LR			
	comp=Z,2μm,12.8s							
ZAK	**Zakamensk**	**34.91**	**290**	*eP*	**P**		**22 45 36.5**	**-1.8**
ZAK				*e*			22 47 11.5	
ZAK				pmax	pmax			
	comp=Z,51nm,1.3s							
WHY	**Whitehorse**	**35.38**	**50**	*eP*	**P**		**22 45 43.6**	**+1.4**
	comp=Z,21nm,1.1s							
SSE	**Sheshan**	**35.47**	**249**	P	**P**		**22 45 42.6**	**-0.4**
SSE				pmax	pmax			
	comp=Z,17nm,0.7s							
SSE				pmax	pmax			
	comp=Z,260nm,3.9s							
SSE				LR	LR			
	comp=Z,2μm,17.0s							
SSE				LR	LR			
	comp=Z,2μm,14.7s							
MOY	**Mondy**	**35.67**	**293**	*eP*	**P**		**22 45 42.6**	**-2.2**
MOY				*e*			22 47 09.8	
MOY				pmax	pmax			
	comp=Z,115nm,2.8s							
BTO	**Baotou**	**35.87**	**271**	*eP*	**P**		**22 45 44.8**	**-1.8**
NJ2	**Nanjing**	**36.12**	**253**	*eP*	**P**		**22 45 47.9**	**-0.7**
NJ2				pmax	pmax			
	comp=Z,53nm,0.7s							
NJ2				LR	LR			
	comp=Z,9μm,14.1s							
NJ2				LR	LR			
	comp=Z,8μm,14.1s							
NRIK	**Noril'sk**	**36.68**	**325**	P	**P**		**22 45 51.7**	**-1.3**
	comp=Z,36nm,1.0s,baz=89,slow=9.4,SNR=76							
DLBC	**Dease Lake**	**38.45**	**52**	*eP*	**P**		**22 46 10.4**	**+2.2**
	comp=Z,16nm,0.9s							
DLBC	**Dease Lake**	**38.45**	**52**	P	**P**		**22 46 09.9**	**+1.7**
	comp=Z,9.8nm,0.9s,baz=286,slow=9.9,SNR=15							
WHN	**Wuhan**	**39.87**	**255**	⇑*iP*	**P**		**22 46 18.8**	**-1.5**
WHN				PP	**PnPn**		**22 47 56.3**	**+0.5**
WHN				pmax	pmax			
	comp=Z,100nm,1.0s							
WHN				pmax	pmax			
	comp=Z,870nm,3.8s							
XAN	**Xi'an**	**40.71**	**264**	P	**P**		**22 46 25.9**	**-1.4**
XAN				pP	pP		22 46 32.9	-5.0
XAN				PP	**PnPn**		**22 48 05.0**	**-0.7**
XAN				pmax	pmax			
	comp=Z,9.0nm,1.6s							
XAN				pmax	pmax			
	comp=Z,320nm,7.8s							
XAN				LR	LR			
	comp=Z,11μm,18.2s							
XAN	**Xi'an**	**40.71**	**264**	*eP*	**P**		**22 46 27.4**	**+0.1**
	comp=Z,25nm,1.4s							
XAN	**Xi'an**	**40.71**	**264**	*eP*	**P**		**22 46 27.4**	**+0.1**
XAN				pmax	pmax			
	comp=Z,25nm,1.4s							
SSLB	**Suanglung**	**41.26**	**242**	*eP*	**P**		**22 46 32.0**	**+0.2**
	comp=Z,18nm,0.7s							
YULB	**Yu-li**	**41.39**	**241**	*eP*	**P**		**22 46 32.6**	**-0.3**
	comp=Z,24nm,0.9s							
QZH	**Quanzhou**	**41.64**	**245**	⇑*iP*	**P**		**22 46 35.3**	**+0.4**
QZH				PP	**PP**		**22 48 13.8**	**+2.3**
QZH				S	**S**		**22 52 51.5**	**+3.1**
QZH				pmax	pmax			
	comp=Z,500nm,6.1s							
QZH				LR	LR			
	comp=Z,3μm,21.3s							
QZH				LR	LR			
	comp=Z,3μm,17.6s							
QZH				LR	LR			
	comp=Z,4μm,17.1s							
TPUB	**Ta-pu**	**41.82**	**242**	*eP*	**P**		**22 46 36.9**	**+0.5**
	comp=Z,39nm,0.8s							
TWG	**Pinlang**	**41.97**	**241**	*eP*	**P**		**22 46 37.1**	**-0.5**
	comp=Z,173nm,0.7s							
LZH	**Lanzhou**	**42.48**	**271**	*eP*	**P**		**22 46 41.3**	**-0.5**
LZH				pP	pwP		22 46 54.3	-1.4
LZH				sP	sP		22 46 58.6	+1.6
LZH				PP	**PP**		**22 48 17.8**	**-2.8**
LZH				sS	sS		22 53 14.1	-4.6
LZH				pmax	pmax			
	comp=Z,53nm,1.1s							
LZH				pmax	pmax			
	comp=Z,430nm,4.1s							
LZH				LR	LR			
	comp=Z,4μm,15.7s							
GTA	**Gaotai**	**42.84**	**277**	⇑P	**P**		**22 46 43.8**	**-0.9**
GTA				pP	pP		22 46 54.9	-0.4
GTA				sP	sP		22 46 59.8	-0.2
GTA				PP	**PP**		**22 48 25.3**	**+0.9**
GTA				S	**S**		**22 53 06.3**	**0.0**
GTA				sS	sS		22 53 26.3	+2.3
GTA				pmax	pmax			
	comp=Z,32nm,1.6s							
GTA				pmax	pmax			
	comp=Z,430nm,5.4s							
ENH	**Enshi**	**42.98**	**260**	*eP*	**P**		**22 46 45.0**	**-0.9**
	comp=Z,48nm,0.8s							
ZAA1	**Zalesovo Array**	**43.35**	**304**	*eP*	**P**		**22 46 45.7**	**-2.8**
ZALV	**Zalesovo Beam**	**43.35**	**304**	P	**P**		**22 46 45.7**	**-2.8**
	comp=Z,14nm,0.6s,baz=58,slow=7.1,SNR=76							
YKA	**Yellowknife Ar**	**43.70**	**42**	P	**P**		**22 46 51.3**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=299,slow=8.1,SNR=45							
YKB5	**Yellowknife Ar**	**43.70**	**42**	*eP*	**P**		**22 46 51.4**	**+0.2**
NVS	**Novosibirsk**	**43.71**	**305**	⇓*iP*	**P**		**22 46 49.8**	**-1.6**
NVS				*eS*	**S**		**22 53 12.3**	**-6.0**
NVS				pmax	pmax			
	comp=N,128nm,1.6s							
NVS				pmax	pmax			
	comp=Z,416nm,1.6s							
NVS				pmax	pmax			
	comp=E,296nm,1.4s							
NVS				smax	smax			
	comp=N,54nm,1.9s							
RES	**Resolute Bay**	**44.06**	**22**	*eP*	**P**		**22 46 54.4**	**+0.5**
	comp=N,24nm,0.9s							
RES	**Resolute Bay**	**44.06**	**22**	*eP*	**P**		**22 46 54.4**	**+0.5**
RES				pmax	pmax			
	comp=Z,24nm,0.9s							
RES	**Resolute Bay**	**44.06**	**22**	P	**P**		**22 46 54.4**	**+0.5**
	comp=Z,15nm,0.8s,baz=336,slow=15,SNR=62							
DGZ	**Jazzator, Alta**	**44.17**	**297**	*c iP*	**P**		**22 46 54.1**	**-1.2**
DGZ				pmax	pmax			
	comp=Z,35nm,0.8s							
CD2	**Chengdu**	**46.02**	**265**	⇑*iP*	**P**		**22 47 09.0**	**-1.1**
CD2				pP	pP		22 47 19.9	-1.0
CD2				sP	pwP		22 47 23.8	-0.2
CD2				S	**S**		**22 53 56.0**	**+3.5**
CD2				sS	sS		22 54 11.8	+1.5
CD2				pmax	pmax			
	comp=Z,30nm,0.5s							
A04D	**Lummi Island**	**46.95**	**62**	P	**P**		**22 47 16.1**	**-0.9**
	baz=305							
WMQ	**Urumqi**	**47.38**	**290**	*eP*	**P**		**22 47 19.4**	**-1.3**
WMQ				pP	pwP		22 47 33.8	-0.6
WMQ				sS	sS		22 54 28.1	-1.5
WMQ	**Urumqi**	**47.38**	**290**	*eP*	**P**		**22 47 20.1**	**-0.6**
	comp=Z,80nm,0.9s							
WMQ	**Urumqi**	**47.38**	**290**	*eP*	**P**		**22 47 20.1**	**-0.6**
WMQ				pmax	pmax			
	comp=Z,80nm,0.9s							
D03D	**Eldon**	**47.42**	**64**	P	**P**		**22 47 19.3**	**-1.5**
	baz=306							
GYA	**Guiyang**	**47.45**	**259**	⇑*iP*	**P**		**22 47 20.8**	**-0.6**
GYA				pP	pP		22 47 32.9	+0.6
GYA				sP	sP		22 47 37.6	+0.8
GYA				PP	**PP**		**22 49 10.0**	**-2.9**
GYA				S	**S**		**22 54 09.6**	**-3.5**
GYA				sS	sS		22 54 26.8	-4.2
GYA				SS	SS		22 57 28.8	-12
GYA				pmax	pmax			
	comp=Z,20nm,1.1s							
GYA				pmax	pmax			
	comp=Z,230nm,4.8s							
GYA				LR	LR			
	comp=Z,4μm,18.9s							
GYA				LR	LR			
	comp=Z,3μm,18.7s							
GYA				LR	LR			
	comp=Z,7μm,17.4s							
KBS	**Kingsbay**	**47.74**	**352**	*eP*	**P**		**22 47 23.4**	**+0.6**
	comp=Z,114nm,1.0s							
KBS	**Kingsbay**	**47.74**	**352**	*ceP*	**P**		**22 47 23.2**	**+0.4**
KBS				pmax	pmax			
	comp=Z,967nm,2.1s							
KBS	**Kingsbay**	**47.74**	**352**	*eP*	**P**		**22 47 23.5**	**+0.6**
SPA0	**Spitsbergen Ar**	**48.00**	**351**	*eP*	**P**		**22 47 24.8**	**-0.1**
	comp=Z,305nm,1.1s							
SPA0	**Spitsbergen Ar**	**48.00**	**351**	*eP*	**P**		**22 47 24.8**	**-0.1**
SPITS	**Spitsbergen Ar**	**48.00**	**351**	P	**P**		**22 47 24.7**	**-0.2**
	comp=Z,58nm,0.6s,baz=69,slow=7.9,SNR=7.6							
E04D	**Cinebar**	**48.29**	**64**	P	**P**		**22 47 25.4**	**-2.1**
	baz=307							
KURK	**Kurchatov**	**48.30**	**303**	*eP*	P		22 47 22.7	-4.8
	comp=Z,246nm,1.3s							
KURK	**Kurchatov**	**48.30**	**303**	*c iP*	**P**		**22 47 25.2**	**-2.3**
KURK				pmax	pmax			
	comp=Z,141nm,1.1s							
KURK	**Kurchatov**	**48.30**	**303**	P	**P**		**22 47 25.6**	**-2.0**
	SNR=104							
KURK				P	**P**		**22 47 25.6**	**-2.0**
	SNR=104							
F04D	**Rainier, OR**	**48.33**	**65**	P	**P**		**22 47 25.7**	**-2.0**
	baz=307							
MK31	**Makanchi Array**	**48.65**	**296**	*eP*	**P**		**22 47 27.8**	**-2.6**
	comp=Z,34nm,1.0s							
MK31	**Makanchi Array**	**48.65**	**296**	*eP*	**P**		**22 47 27.8**	**-2.6**
MK31				pmax	pmax			
	comp=Z,34nm,1.0s							
MK32	**Makanchi Array**	**48.65**	**296**	*eP*	**P**		**22 47 28.2**	**-2.1**
MKAR	**Makanchi Array**	**48.65**	**296**	P	**P**		**22 47 28.2**	**-2.1**
	comp=Z,15nm,0.5s,baz=57,slow=4.5,SNR=258							
G03D	**McMinnville, O**	**48.71**	**66**	P	**P**		**22 47 28.4**	**-2.4**
	baz=308							
MAKZ	**Makanchi**	**48.81**	**297**	*eP*	**P**		**22 47 29.0**	**-2.6**
	comp=Z,37nm,0.8s							
MAKZ	**Makanchi**	**48.81**	**297**	*eP*	**P**		**22 47 29.0**	**-2.6**
MAKZ				pmax	pmax			
	comp=Z,37nm,0.8s							
B08A	**Colville Reser**	**48.98**	**61**	*eP*	**P**		**22 47 34.0**	**+1.2**
	comp=Z,13nm,0.9s							
HSPB	**Hornsund (broa**	**49.12**	**350**	*eP*	**P**		**22 47 33.4**	**-0.1**
HSPB	**Hornsund (broa**	**49.12**	**350**	*eP*	**P**		**22 47 33.4**	**-0.1**
TGY	**Tagaytay City**	**49.30**	**234**	P	**P**		**22 47 39.2**	**+3.5**
	comp=Z,174nm,0.3s,baz=150,slow=8.1,SNR=2.2							
H04D	**Lebanon**	**49.42**	**67**	P	**P**		**22 47 34.2**	**-2.0**
	baz=308							
J01E	**Myrtle Point**	**49.59**	**69**	P	**P**		**22 47 36.0**	**-1.5**
	baz=309							
I04A	**Tendick Farm,**	**50.06**	**67**	P	**P**		**22 47 38.9**	**-2.3**
	baz=309							
NEW	**Newport**	**50.21**	**60**	P	**P**		**22 47 40.9**	**-1.4**
	baz=308							
NEW	**Newport**	**50.21**	**60**	P	**P**		**22 47 43.1**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=276,slow=5.8,SNR=3.3							
KMI	**Kunming**	**50.81**	**261**	P	**P**		**22 47 47.1**	**-0.2**
KMI				pP	pP		22 47 56.4	-1.8
KMI				sP	pwP		22 48 01.3	+0.1
KMI				PP	**PP**		**22 49 36.6**	**-7.0**
KMI				S	**S**		**22 55 01.0**	**+0.5**
KMI				sS	sS		22 55 15.9	-2.6
KMI				SS	**SS**		**22 58 27.3**	**-7.8**
KMI				pmax	pmax			
	comp=Z,28nm,1.5s							
KMI				pmax	pmax			
	comp=Z,590nm,4.4s							
KMI				LR	LR			
	comp=Z,6μm,17.2s							
KMI				LR	LR			
	comp=Z,5μm,14.4s							
BJO	**Bjornoya**	**50.88**	**347**	*eP*	**P**		**22 47 46.7**	**-0.2**
KULLO	**Kullorsuaq**	**50.99**	**12**	⇑*iP*	**P**		**22 47 47.7**	**0.0**
KULLO				MLR	MLR			
	comp=Z,3μm,17.0s							
KULLO	**Kullorsuaq**	**50.99**	**12**	⇑*iP*	**P**		**22 47 47.7**	**0.0**
J05D	**Fort Rock, OR**	**51.05**	**67**	P	**P**		**22 47 47.5**	**-1.2**
	baz=310							
BRVK	**Borovoye**	**51.06**	**309**	*eP*	**P**		**22 47 47.1**	**-1.4**
	comp=Z,114nm,1.1s							
BRVK	**Borovoye**	**51.06**	**309**	*ceP*	**P**		**22 47 46.3**	**-2.2**
BRVK				pmax	pmax			
	comp=Z,82nm,1.0s							
BRVK	**Borovoye**	**51.06**	**309**	P	**P**		**22 47 46.7**	**-1.7**
	SNR=65							
BRVK				P	**P**		**22 47 46.7**	**-1.7**
	SNR=65							
L04D	**Klamath Falls**	**51.11**	**69**	P	**P**		**22 47 48.3**	**-0.9**
	baz=310							
K04D	**Chiloquin, OR**	**51.17**	**68**	P	**P**		**22 47 48.7**	**-0.9**
	baz=310							
YBH	**Yreka Blue Hor**	**51.19**	**69**	*eP*	**P**		**22 47 52.1**	**+2.4**
YBH	**Yreka Blue Hor**	**51.19**	**69**	P	**P**		**22 47 51.2**	**+1.5**
	comp=Z,3.5nm,0.9s,baz=284,slow=7.6,SNR=5.4							
DAG	**Danmarks Havn**	**51.26**	**360**	*i P*	**P**		**22 47 50.1**	**+0.5**
DAG				MLR	MLR			
	comp=Z,2μm,18.0s

WVOR pmax pmax
comp=Z,19nm,1.4s
FFC Flin Flon 53.52 46 *eP* **P 22 48 07.3 +0.7**
comp=Z,12nm,0.9s
FFC Flin Flon 53.52 46 *i P* **P 22 48 07.4 +0.7**
HAMF Hammerfest 53.53 343 *eP* **P 22 48 05.7 -0.8**
LVZ Lovozero 53.54 338 *eP* **P 22 48 06.2 -0.5**
comp=Z,138nm,0.9s
LVZ Lovozero 53.54 338 *c iP* **P 22 48 05.4 -1.3**
LVZ pmax pmax
comp=Z,109nm,0.7s
KEV Kevo 53.66 342 *eP* **P 22 48 07.2 -0.4**
comp=Z,38nm,0.8s
KEV Kevo 53.66 342 *eP* **P 22 48 07.2 -0.4**
KEV pmax pmax
comp=Z,38nm,0.8s
BEKR Beckworth 53.76 70 *eP* **P 22 48 10.2 +1.3**
comp=Z,22nm,1.0s
HRY Holter Researc 53.98 58 *eP* **P 22 48 11.6 +1.2**
FCC Fort Churchill 54.06 38 *eP* **P 22 48 10.8 +0.2**
comp=Z,18nm,0.8s
FCC Fort Churchill 54.06 38 *eP* **P 22 48 10.8 +0.2**
FCC pmax pmax
comp=Z,18nm,0.8s
ARU Arti 54.12 318 *eP* **P 22 48 09.0 -2.1**
comp=Z,58nm,0.7s
ARU Arti 54.12 318 *c eP* **P 22 48 09.2 -1.8**
ARU pmax pmax
comp=Z,63nm,0.7s
ARU Arti 54.12 318 P **P 22 48 09.3 -1.7**
comp=Z,27nm,0.7s,baz=51,slow=3.6,SNR=116
ARA0 ARCESS Array S 54.14 342 *eP* **P 22 48 10.4 -0.6**
ARCES ARCESS Array B 54.14 342 P **P 22 48 10.4 -0.6**
comp=Z,55nm,0.8s,baz=38,slow=8.1,SNR=111
ARE0 ARCESS Array S 54.14 342 *eP* **P 22 48 10.4 -0.7**
EGMT Eagleton 54.19 56 *eP* **P 22 48 12.4 +0.6**
comp=Z,25nm,1.1s
EGMT Eagleton 54.19 56 P **P 22 48 10.1 -1.8**
baz=311
LRM Limekiln Ridge 54.23 59 *eP* **P 22 48 13.2 +0.8**
PAHR Pah Rah Range 54.43 69 *eP* **P 22 48 10.5 -3.2**
comp=Z,12nm,0.9s
LSA Lhasa 54.62 274 *eP* **P 22 48 15.7 +0.1**
comp=Z,28nm,0.7s
LSA Lhasa 54.62 274 *i P* **P 22 48 15.6 0.0**
SNR=19
LSA Lhasa 54.62 274 *eP* **P 22 48 15.7 0.0**
LSA pmax pmax
comp=Z,28nm,0.7s
HLID Hailey 54.66 63 *eP* **P 22 48 16.4 +1.0**
comp=Z,6.1nm,1.1s
HLID Hailey 54.66 63 P **P 22 48 14.4 -1.0**
baz=312
MCMT McKenzie Canyo 54.67 61 *eP* **P 22 48 18.4 +2.8**
PNTR Pine Nut 54.72 70 *eP* **P 22 48 18.1 +2.1**
comp=Z,28nm,0.8s
SUMG Summit 54.79 7 *eP* **P 22 48 15.8 -0.4**
comp=Z,82nm,0.8s
SUMG Summit 54.79 7 *eP* **P 22 48 15.8 -0.4**
SUMG pmax pmax
comp=Z,82nm,0.8s
SUMG Summit 54.79 7 ⇑ *i P* **P 22 48 16.7 +0.5**
BOZ Bozeman (W) 54.81 59 *eP* **P 22 48 17.2 +0.7**
comp=Z,9.5nm,0.8s
BOZ Bozeman (W) 54.81 59 *eP* **P 22 48 17.2 +0.7**
BOZ pmax pmax
comp=Z,9.0nm,0.8s
BOZ Bozeman (W) 54.81 59 P **P 22 48 15.2 -1.3**
baz=312,SNR=16
BOOM Boomskoye usch 54.88 296 *eP* **P 22 48 16.5 -0.5**
comp=Z,41nm,1.0s
BOOM Boomskoye usch 54.88 296 *eP* **P 22 48 16.5 -0.5**
BOOM pmax pmax
comp=Z,41nm,1.0s
CMB Columbia Colle 54.97 71 *eP* **P 22 48 19.6 +2.1**
comp=Z,14nm,1.1s
YERR Yerington 54.99 70 *eP* **P 22 48 20.0 +2.1**
comp=Z,22nm,1.0s
KTK1 Kautokeino 55.01 343 *eP* **P 22 48 17.6 +0.2**
BMN Battle Mountai 55.18 67 *eP* **P 22 48 20.7 +1.5**
comp=Z,27nm,0.9s
BMN Battle Mountai 55.18 67 *eP* **P 22 48 20.7 +1.5**
BMN pmax pmax
comp=Z,27nm,0.9s
WAKR Walker 55.20 70 *eP* **P 22 48 21.3 +1.9**
comp=Z,16nm,0.8s
TRO Tromso 55.21 345 *eP* **P 22 48 18.6 -0.2**
PRGR Permogore 55.23 328 ⇑ *i P* **P 22 48 18.6 -0.4**
PRGR pmax pmax
comp=Z,141nm,0.8s
FRU1 Bishkek 55.39 297 *eP* **P 22 48 19.4 -1.1**
comp=Z,69nm,0.8s
FRU1 Bishkek 55.39 297 *eP* **P 22 48 19.4 -1.1**
FRU1 pmax pmax
comp=Z,69nm,0.8s
QLMT Earthquake Lak 55.43 60 *eP* **P 22 48 22.3 +1.4**
AAK Ala-Archa 55.58 297 *eP* **P 22 48 20.8 -1.2**
comp=Z,43nm,0.9s
AAK Ala-Archa 55.58 297 *i P* **P 22 48 20.8 -1.2**
SNR=14
AAK Ala-Archa 55.58 297 *c i P* **P 22 48 20.6 -1.4**
AAK pmax pmax
comp=Z,89nm,1.7s
AAK Ala-Archa 55.58 297 P **P 22 48 21.4 -0.7**
SNR=30
AAK P **P 22 48 21.4 -0.7**
SNR=30
TMCR Tamitsa 55.60 333 *eP* **P 22 48 21.4 -0.2**
TMCR pmax pmax
comp=Z,243nm,0.9s
KVN Kaiserville 55.60 69 *eP* **P 22 48 24.0 +1.7**
comp=Z,25nm,1.0s
KVN Kaiserville 55.60 69 *eP* **P 22 48 24.0 +1.7**
KVN pmax pmax
comp=Z,25nm,1.0s
YHB Horse Butte 55.60 60 *eP* **P 22 48 24.4 +2.1**
comp=Z,43nm,1.5s
RYN Ryan 55.65 70 *eP* **P 22 48 24.6 +2.0**
SGF Sodankyl 55.71 340 P **P 22 48 22.3 -0.1**
SGF pmax pmax
comp=Z,120nm,1.9s
GCMT Greycliff 55.71 58 *eP* **P 22 48 26.0 +3.1**
YHH Holmes Hill 55.76 59 *eP* **P 22 48 24.8 +1.3**
comp=Z,28nm,1.5s
PANO Nakornpanom 55.78 253 P **P 22 48 25.1 +1.6**
comp=Z,3.3nm,1.2s
NV01 Mina Array Sit 55.91 70 *eP* **P 22 48 26.2 +1.7**
NVAR Mina Array Bea 55.91 70 P **P 22 48 26.2 +1.7**
comp=Z,3.0nm,0.7s,baz=293,slow=7.3,SNR=12
NV11 Mina Array Sit 55.99 70 *eP* **P 22 48 26.6 +1.6**
comp=Z,1.7nm,1.3s
YFT Old Faithful 56.00 60 *eP* **P 22 48 28.2 +3.1**
comp=Z,20nm,1.1s
ELK Elko 56.08 66 *eP* **P 22 48 27.5 +1.7**
comp=Z,6.0nm,0.8s
ELK Elko 56.08 66 *eP* **P 22 48 27.5 +1.7**
ELK pmax pmax
comp=Z,6.0nm,0.8s
YPP Pitchstone Pla 56.13 60 *eP* **P 22 48 28.6 +2.4**
comp=Z,9.1nm,1.1s
KIRV Kirov 56.16 324 P **P 22 48 25.1 -0.6**
comp=Z,108nm,0.6s,baz=100,slow=0.5,SNR=58
SKNT Sakolnakorn 56.29 253 P **P 22 48 28.2 +1.0**
comp=Z,141nm,1.5s
IMW Indian Meadow 56.31 60 *eP* **P 22 48 29.3 +1.9**
comp=Z,8.5nm,0.8s
FLWY Flagg Ranch 56.32 60 *eP* **P 22 48 29.5 +2.2**
comp=Z,32nm,1.5s
RLMT Red Lodge 56.37 58 *eP* **P 22 48 29.4 +1.7**
comp=Z,33nm,1.3s
RLMT Red Lodge 56.37 58 P **P 22 48 26.9 -0.8**
baz=313,SNR=11
FXWY Fox Creek 56.44 61 *eP* **P 22 48 30.0 +1.7**
comp=Z,5.4nm,0.8s
MOOW Moose Ponds 56.52 60 *eP* **P 22 48 30.5 +1.7**
comp=Z,6.1nm,0.8s
TPAW Teton Pass 56.58 61 *eP* **P 22 48 33.7 +4.4**
comp=Z,42nm,1.4s
ILULI Ilulissat 56.68 13 *eP* **P 22 48 28.6 -0.6**
comp=Z,43nm,0.8s
ILULI Ilulissat 56.68 13 *eP* **P 22 48 28.6 -0.6**
ILULI pmax pmax
comp=Z,43nm,0.8s
ILULI Ilulissat 56.68 13 ⇑ *i P* **P 22 48 28.6 -0.6**
comp=Z,34nm,0.8s
LOHW Long Hollow 56.69 60 *eP* **P 22 48 31.9 +1.9**
comp=Z,12nm,1.0s
REDW Red Top Meadow 56.72 61 *eP* **P 22 48 32.2 +1.9**
comp=Z,30nm,1.3s
JMIC Jan Mayen 56.81 356 P **P 22 48 31.4 +1.2**
comp=Z,45nm,0.8s,baz=90,slow=7.1,SNR=2.2
KSH Kashi 56.86 293 P **P 22 48 33.8 +2.6**
KSH pP sP 22 48 48.4 +1.8
KSH PP **PP 22 50 43.8 +6.3**
KSH S **S 22 56 22.3 +0.6**
KSH SS **SS 23 00 12.8 +3.1**
KSH pmax pmax
comp=Z,52nm,0.9s
KSH pmax pmax
comp=Z,710nm,3.7s
AHID Auburn Hatcher 56.99 61 *eP* **P 22 48 34.2 +2.0**
comp=Z,12nm,0.8s
SHL Shillong 57.14 270 *eP* **P 22 48 32.5 -0.8**
SHL IAmb IAmb 22 48 34.9
comp=Z,28nm,0.7s
ARSB Arslanbob 57.30 297 *eP* **P 22 48 33.2 -1.0**
comp=Z,31nm,1.0s
PHRA Phrae 57.34 258 P **P 22 48 35.7 +1.1**
comp=Z,17nm,2.0s,comp=Z,306nm
STEI Steigen 57.34 345 *eP* **P 22 48 34.1 +0.2**
CWC Cottonwood Cre 57.40 71 P **P 22 48 34.9 -0.1**
baz=314
LOF Lofoten 57.42 346 *eP* **P 22 48 34.4 -0.1**
KK31 Karatay Array 57.42 300 *eP* **P 22 48 33.2 -1.7**
comp=Z,36nm,0.9s
KK31 Karatay Array 57.42 300 *eP* **P 22 48 33.3 -1.7**
KK31 pmax pmax
comp=Z,36nm,0.9s
KKAR Karatay Array 57.42 300 *eP* **P 22 48 33.2 -1.7**
comp=Z,36nm,0.9s
KKAR Karatay Array 57.42 300 *eP* **P 22 48 33.3 -1.7**
KKAR pmax pmax
comp=Z,36nm,0.9s
KHON Khomkaen 57.47 254 P **P 22 48 37.1 +1.6**
comp=Z,134μm,1.0s
R11A Troy Canyon, C 57.52 68 *eP* **P 22 48 37.1 +1.2**
comp=Z,8.7nm,0.9s
R11A Troy Canyon, C 57.52 68 P **P 22 48 35.7 -0.3**
baz=314
SCO Scoresbysund 57.57 1 *eP* **P 22 48 35.9 +0.4**
comp=Z,26nm,1.2s
SCO Scoresbysund 57.57 1 *eP* **P 22 48 35.9 +0.4**
SCO pmax pmax
comp=Z,26nm,1.2s
SCO Scoresbysund 57.57 1 *i P* **P 22 48 35.9 +0.4**
comp=Z,13nm,1.1s
LAMP Lampang 57.68 258 P **P 22 48 38.1 +1.1**
comp=Z,102μm,1.4s,comp=Z,989μm
DLV T Lat 57.72 246 *eP* **P 22 48 41.5 +4.0**
comp=Z,39nm,1.0s
UTTA Uttaradit 57.73 257 P **P 22 48 38.3 +1.0**
comp=Z,101μm,0.8s,comp=Z,809μm
KLMR Klimovskoe 57.75 330 ⇑ *iP* **P 22 48 36.6 -0.4**
KLMR pmax pmax
comp=Z,160nm,0.9s
DUG Dugway, Tooele 57.81 65 *eP* **P 22 48 39.6 +1.7**
comp=Z,39nm,1.4s
DUG Dugway, Tooele 57.81 65 *eP* **P 22 48 39.6 +1.7**
DUG pmax pmax
comp=Z,39nm,1.4s
DUG Dugway, Tooele 57.81 65 P **P 22 48 37.6 -0.3**
baz=314
BW06 Boulder Array 57.82 60 *eP* **P 22 48 39.0 +1.0**
comp=Z,56nm,1.5s
BW06 Boulder Array 57.82 60 P **P 22 48 37.0 -1.0**
baz=314,SNR=16
PD31 Pinedale Array 57.82 60 *eP* **P 22 48 39.0 +1.0**
PDAR Pinedale Array 57.82 60 P **P 22 48 39.0 +1.0**
comp=Z,7.3nm,0.8s,baz=310,slow=3.5,SNR=32
PDAR LR LR 23 15 25.0
comp=Z,443nm,18.3s,baz=334,slow=38
CMMT Chiang Mai 57.87 259 P **P 22 48 38.9 +0.5**
comp=Z,51nm,0.9s,comp=Z,754nm
CHTO Chiang Mai 57.87 259 *eP* **P 22 48 38.6 +0.2**
comp=Z,58nm,0.8s
CHTO Chiang Mai 57.87 259 *eP* **P 22 48 38.6 +0.2**
CHTO pmax pmax
comp=Z,58nm,0.8s
CHTO Chiang Mai 57.87 259 P **P 22 48 39.6 +1.3**
SNR=27
CHTO P **P 22 48 39.6 +1.3**
SNR=27
MPMC Manual Prospec 58.01 71 P **P 22 48 39.2 -0.2**
baz=314
FURC Furnace Creek, 58.09 70 P **P 22 48 40.0 +0.3**
baz=314
TPNV Topopah Spring 58.11 70 *eP* **P 22 48 41.4 +1.4**
comp=Z,32nm,1.4s
TPNV Topopah Spring 58.11 70 *eP* **P 22 48 41.4 +1.4**
TPNV pmax pmax
comp=Z,33nm,1.4s
TPNV Topopah Spring 58.11 70 P **P 22 48 40.1 0.0**
baz=314
CM31 Chiang Mai Arr 58.14 259 *eP* **P 22 48 41.9 +1.6**
comp=Z,50nm,0.9s
CM31 Chiang Mai Arr 58.14 259 P **P 22 48 41.8 +1.5**
SNR=17
CM31 P **P 22 48 41.8 +1.5**
SNR=17
CMAR Chiang Mai Arr 58.14 259 P **P 22 48 41.4 +1.1**
comp=Z,27nm,0.8s,baz=27,slow=6.8,SNR=126
LRMC Laurel Mtn Rad 58.30 72 P **P 22 48 40.1 -1.2**
baz=315
CHAI Chaiyaphum 58.31 254 P **P 22 48 42.2 +0.8**
comp=Z,66μm,0.9s,comp=Z,877μm
PSUT Pine Spring 58.38 67 *eP* **P 22 48 43.3 +1.4**
comp=Z,6.1nm,0.7s
PBKT Sadao Pong 58.39 256 P **P 22 48 43.0 +1.0**
comp=Z,12nm,0.7s,comp=Z,542nm
ABKAR Akbulak array 58.45 311 *eP* **P 22 48 39.5 -2.5**
comp=Z,50nm,0.8s
AKTO Aktyubinsk 58.50 313 P **P 22 48 40.5 -1.8**
comp=Z,29nm,0.8s,baz=69,slow=9.4,SNR=60
EDW2 Edwards Air Fo 58.53 73 P **P 22 48 42.9 +0.1**
baz=315
SFJD Kangerlussuaq 58.81 14 P **P 22 48 43.3 -0.9**
comp=Z,18nm,0.8s,baz=342,slow=6.9,SNR=6.2
SFJD Kangerlussuaq 58.81 14 *i P* **P 22 48 43.6 -0.6**
GSC Goldstone, Bar 58.93 71 *eP* **P 22 48 46.8 +1.1**
comp=Z,26nm,1.3s
GSC Goldstone, Bar 58.93 71 *eP* **P 22 48 46.8 +1.1**
GSC pmax pmax
comp=Z,26nm,1.3s
GSC Goldstone, Bar 58.93 71 P **P 22 48 45.9 +0.2**
baz=315
ODAN Odare 58.96 275 *eP* **P 22 48 45.5 -0.7**
comp=Z,78nm,0.7s
KONS Konsvik 58.99 345 *eP* **P 22 48 46.0 +0.5**
JIRN Jiri 59.11 276 *eP* **P 22 48 46.7 -0.7**
comp=Z,144nm,0.7s
ULM Lac du Bonnet 59.31 46 P **P 22 48 48.2 +0.3**
comp=Z,8.1nm,0.8s,baz=307,slow=6.7,SNR=12
TMUT Trail Mountain 59.33 64 *eP* **P 22 48 50.6 +1.9**
comp=Z,11nm,0.9s
MSU Marysvale 59.33 66 *eP* **P 22 48 50.5 +1.9**
MSU Marysvale 59.33 66 *eP* **P 22 48 50.5 +1.9**
TUQ Turquoise Moun 59.35 71 P **P 22 48 47.9 -0.8**
baz=315
BTK Batken 59.36 297 *eP* **P 22 48 47.0 -1.6**
comp=Z,65nm,0.8s
BTK Batken 59.36 297 *eP* **P 22 48 47.0 -1.6**
BTK pmax pmax
comp=Z,65nm,0.8s
RAMN Ramite 59.38 275 *eP* **P 22 48 48.4 -0.7**
comp=Z,274nm,0.7s
SZCU Shurtz Canyon 59.46 67 *eP* **P 22 48 46.4 -3.1**
comp=Z,8.6nm,1.2s
K22A Casper 59.51 59 *eP* **P 22 48 50.9 +1.1**
comp=Z,22nm,1.0s
K22A Casper 59.51 59 P **P 22 48 48.4 -1.3**
baz=315
RVR Riverside 59.52 73 *eP* P 22 48 54.8 +5.2
HEC Hector,Ludlow 59.54 71 P **P 22 48 50.0 +0.1**
baz=315
KKN Kakani 59.58 277 *eP* **P 22 48 49.7 -0.7**
comp=Z,160nm,0.7s
PKI Pulchoki 59.66 277 *eP* **P 22 48 50.2 -0.9**
comp=Z,99nm,0.7s
PKIN Phulchoki 59.66 277 *eP* **P 22 48 50.2 -0.8**
comp=Z,94nm,0.7s
MTPU Mount Pierson 59.66 66 *eP* **P 22 48 53.0 +1.9**
comp=Z,11nm,1.0s
RSSD Black Hills 59.77 56 *eP* **P 22 48 52.4 +1.9**
comp=Z,57nm,0.8s
RSSD Black Hills 59.77 56 *eP* **P 22 48 52.4 +0.9**
RSSD pmax pmax
comp=Z,57nm,0.8s
RSSD Black Hills 59.77 56 P **P 22 48 50.6 -0.9**
baz=315
LCMT Little Creek M 59.78 68 *eP* P 22 48 57.5 +5.9
comp=Z,30nm,1.0s
DMN Daman 59.81 277 *eP* **P 22 48 51.5 -0.6**
comp=Z,189nm,0.7s
GKN Gorkha 59.81 278 *eP* **P 22 48 51.3 -0.7**
comp=Z,166nm,0.8s
SRU San Rafael Swe 59.84 64 *eP* **P 22 48 53.5 +1.5**
comp=Z,25nm,0.9s
SRU San Rafael Swe 59.84 64 *eP* **P 22 48 53.5 +1.5**
SRU pmax pmax
comp=Z,25nm,0.9s
MURC Murrieta 59.90 73 P **P 22 48 52.1 -0.2**
baz=316
UMPA Umpang Tak 59.93 257 P **P 22 48 55.3 +2.6**
comp=Z,142μm,0.9s
GMRC Granite Mounta 59.96 71 P **P 22 48 52.0 -0.9**
baz=315
KNB Kanab 60.02 67 *eP* **P 22 48 55.6 +2.4**
comp=Z,28nm,1.1s
DANN Dangsing 60.10 279 *eP* **P 22 48 53.5 -0.6**
comp=Z,218nm,0.7s
BELC Belle Mtn. Jos 60.32 72 P **P 22 48 54.5 -0.8**
baz=316
PFO Pinyon Flats O 60.33 73 P **P 22 48 54.8 -0.6**
baz=316
O20A White River Ci 60.36 62 *eP* **P 22 48 57.3 +1.7**
comp=Z,18nm,1.1s
O20A White River Ci 60.36 62 P **P 22 48 54.6 -1.0**
baz=315
GAR Garm 60.38 296 *eP* **P 22 48 54.1 -1.5**
comp=Z,95nm,0.8s
GAR *eS* **S 22 57 05.9 -1.6**
GAR Garm 60.38 296 *eP* **P 22 48 54.1 -1.5**
GAR *eS* **S 22 57 05.9 -1.6**
GAR pmax pmax
comp=Z,95nm,0.8s
109C Camp Elliot, M 60.46 74 P **P 22 48 56.2 +0.1**
baz=316
KOLN Koldanda 60.61 278 *eP* **P 22 48 56.8 -0.7**
comp=Z,127nm,0.7s
IRM Iron Mountain 60.71 71 P **P 22 48 57.5 -0.4**
baz=316
AGMN Agassiz Nation 60.73 48 *eP* **P 22 48 57.8 +0.1**
comp=Z,13nm,0.8s
AGMN Agassiz Nation 60.73 48 P **P 22 48 57.1 -0.7**
baz=317
PYUN Piuthan 60.75 279 *eP* **P 22 48 57.7 -0.7**
comp=Z,153nm,0.8s
MONP2 Monument Peak 60.86 73 P **P 22 48 57.7 -1.4**
baz=316
BC3 Big Chuckawall 60.88 72 P **P 22 48 59.0 -0.1**
baz=316
FIA1 FINESS Array S 60.95 337 *eP* **P 22 48 58.6 -0.4**
comp=Z,129nm,0.8s
FIA0 FINESS Array S 60.95 337 *eP* **P 22 48 58.5 -0.5**
FIA0 FINESS Array S 60.95 337 *eP* **P 22 48 58.6 -0.5**
FINES FINESS Array B 60.95 337 P **P 22 48 58.5 -0.5**
comp=Z,74nm,0.7s,baz=35,slow=7.9,SNR=239
NSS Namsos 61.00 345 *eP* **P 22 48 59.9 +0.6**
PV09 Paradox Valley 61.03 64 *eP* **P 22 49 05.0 +4.6**
N23A Red Feather La 61.06 60 *eP* **P 22 49 02.0 +1.6**
comp=Z,25nm,1.0s
N23A Red Feather La 61.06 60 P **P 22 48 59.6 -0.8**
baz=316
PV23 Carpenter Ridg 61.14 64 *eP* **P 22 49 02.8 +1.8**
comp=Z,34nm,1.3s
PV10 Paradox Valley 61.17 64 *eP* **P 22 49 03.5 +2.2**
comp=Z,54nm,1.3s
PDMCI Parker Dam,Lak 61.19 70 P **P 22 49 00.8 -0.2**
baz=316
PV14 Lion Creek, Pa 61.19 64 *eP* **P 22 49 03.0 +1.7**
comp=Z,15nm,0.9s
PV22 Blue Mesa, Par 61.20 63 *eP* **P 22 49 02.7 +1.4**
comp=Z,15nm,1.0s
SRDT SRDT 61.23 256 P **P 22 49 05.4 +3.9**
comp=Z,21nm,1.0s
PV04 Paradox Valley 61.24 64 *eP* **P 22 49 03.3 +1.8**
comp=Z,17nm,1.1s
PV20 West Nyswonger 61.24 64 *eP* **P 22 49 03.2 +1.6**
comp=Z,12nm,0.8s
CHGR Chuyangaron 61.26 297 *eP* **P 22 49 02.6 +1.1**
comp=Z,39nm,0.7s
PV16 Nyswonger Mesa 61.29 64 *eP* **P 22 49 03.5 +1.5**
comp=Z,13nm,0.8s
PUL Pulkovo 61.30 334 *c eP* **P 22 49 01.3 0.0**
PUL pmax pmax
comp=Z,124nm,0.6s
PV11 David Mesa, Pa 61.32 64 *eP* **P 22 49 04.0 +1.8**
comp=Z,22nm,0.8s
PV18 Skein Mesa, Pa 61.34 64 *eP* **P 22 49 04.0 +1.7**
comp=Z,22nm,1.0s
PV07 Paradox Valley 61.35 63 *eP* **P 22 49 06.7 +4.3**
comp=Z,21nm,1.0s
PV12 Saucer Basin, 61.35 64 *eP* **P 22 49 04.2 +1.9**
comp=Z,24nm,1.0s
PV05 Paradox Valley 61.35 64 *eP* **P 22 49 03.9 +1.5**
comp=Z,27nm,0.8s
Y12C Blythe 61.36 71 P **P 22 49 00.9 -1.3**
baz=316
PV03 Paradox Valley 61.37 64 *eP* **P 22 49 03.8 +1.3**
comp=Z,18nm,0.9s
PV13 Radium Mtn., P 61.45 64 *eP* **P 22 49 04.5 +1.4**
comp=Z,21nm,0.9s
PV02 Paradox Valley 61.46 64 *eP* **P 22 49 04.5 +1.4**
comp=Z,35nm,1.4s
PV01 Paradox Valley 61.60 64 *eP* **P 22 49 05.9 +1.8**
comp=Z,20nm,1.3s
GLA Glamis 61.68 72 P **P 22 49 03.9 -0.6**
baz=316
SMCO Snowmass 61.73 62 *eP* **P 22 49 06.4 +1.2**
comp=Z,15nm,1.0s
DHRM DHARAMSHALA 61.76 287 *eP* **P 22 49 03.6 -1.6**
ISCO Idaho Springs 62.02 60 *eP* **P 22 49 08.4 +1.4**
comp=Z,30nm,1.1s
ISCO Idaho Springs 62.02 60 *eP* **P 22 49 08.4 +1.4**
ISCO pmax pmax
comp=Z,30nm,1.1s
ISCO Idaho Springs 62.02 60 P **P 22 49 06.7 -0.3**
baz=316
SMLA Simla 62.06 285 *eP* **P 22 49 05.4 -1.6**
Y14A Wickenburg 62.10 70 *eP* **P 22 49 09.1 +1.8**
comp=Z,19nm,1.3s
DDI Dehra Dun 62.11 284 *eP* **P 22 49 06.2 -1.2**
BOK Bokaro 62.12 273 *eP* **P 22 49 06.7 -0.8**
BOK IAmb IAmb 22 49 07.6
comp=Z,58nm,1.5s
MVCO Mesa Verde 62.31 64 *eP* **P 22 49 10.6 +1.7**
comp=Z,13nm,0.8s
MVCO Mesa Verde 62.31 64 P **P 22 49 08.7 -0.1**
baz=316
MOS Moscow 62.45 328 *eP* **P 22 49 07.5 -1.7**
MOS *e* 22 49 45.1
MOS *eS* **S 22 57 30.6 -2.3**
MOS *e* 22 57 53.5
MOS pmax pmax
comp=N,400nm,2.0s
MOS pmax pmax
comp=Z,800nm,2.0s
MOS pmax pmax
comp=Z,292nm,1.5s
MOS pmax pmax
comp=N,139nm,1.4s
MOS MLR MLR
comp=Z,4μm,16.0s
MOS MLR MLR
comp=N,4μm,16.0s
NIL Nilore 62.53 290 *eP* **P 22 49 09.8 -0.4**
comp=N,86nm,0.8s
NIL Nilore 62.53 290 *eP* **P 22 49 09.8 -0.4**
NIL pmax pmax
comp=Z,86nm,0.8s
X16A Lo Mia Camp, P 62.66 68 *eP* **P 22 49 12.7 +1.5**
comp=Z,11nm,0.8s
S22A 4UR Ranch, Cre 62.84 63 *eP* **P 22 49 14.4 +1.9**
comp=Z,40nm,1.4s
S22A 4UR Ranch, Cre 62.84 63 P **P 22 49 12.0 -0.5**
baz=317
Q24A Divide 62.87 61 P **P 22 49 14.4 +1.7**
baz=317
EYMN Ely 62.95 46 *eP* **P 22 49 13.3 +0.7**
comp=Z,18nm,0.9s
EYMN Ely 62.95 46 P **P 22 49 11.7 -0.9**

baz=319
OGNE Ogallala 63.07 57 P P 22 49 13.6 -0.2
baz=317
W18A Petrified Fore 63.12 67 eP P 22 49 15.9 +1.7
comp=Z,20nm,1.3s
W18A Petrified Fore 63.12 67 P P 22 49 14.2 0.0
baz=317
OBN Obninsk 63.30 328 eP P 22 49 14.2 -0.7
comp=Z,198nm,1.3s
OBN Obninsk 63.30 328c iP P 22 49 13.9 -0.9
OBN e 22 49 47.1
OBN eS S 22 57 43.8 +0.2
OBN eSS SS 23 01 49.9 +0.4
OBN pmax pmax
comp=Z,313nm,1.7s
OBN MLR MLR
comp=Z,4µm,21.0s
OBN Obninsk 63.30 328 P P 22 49 14.1 -0.7
comp=Z,14nm,0.9s,baz=36,slow=4.2,SNR=50
BORG Borgarnes 63.34 1 eP P 22 49 16.5 +1.6
comp=Z,65nm,1.0s
BORG Borgarnes 63.34 1 eP P 22 49 16.5 +1.6
BORG pmax pmax
comp=Z,65nm,1.0s
BORG Borgarnes 63.34 1 P P 22 49 16.5 +1.6
comp=Z,27nm,1.0s,baz=27,slow=5.8,SNR=4.3
VSU Vasula 63.38 335ceP P 22 49 15.2 -0.1
VSU pmax pmax
comp=Z,790nm,1.7s
VSU Vasula 63.38 335 eP P 22 49 14.9 -0.3
VSU IAmb IAmb 22 49 16.2
comp=Z,156nm,0.9s
MOL Molde 63.53 346 eP P 22 49 17.3 +1.1
SDCO Great Sand Dun 63.56 62 eP P 22 49 18.7 +1.5
comp=Z,22nm,1.4s
SDCO Great Sand Dun 63.56 62 P P 22 49 16.1 -1.2
baz=317
214A Organ Pipe Nat 63.65 71 P P 22 49 17.9 +0.3
baz=317
SBUM Sibu 63.66 236 eP P 22 49 19.7 +2.0
comp=Z,46nm,1.5s
ECSD EROS Data Cent 63.74 52 eP P 22 49 18.2 +0.2
comp=Z,34nm,1.3s
ECSD EROS Data Cent 63.74 52 P P 22 49 17.3 -0.7
baz=318,SNR=13
DOMB Dombas 63.80 345 eP P 22 49 18.0 -0.1
E38A The Farm, Brul 63.94 47 eP P 22 49 20.0 +0.7
comp=Z,29nm,1.0s
E38A The Farm, Brul 63.94 47 P P 22 49 18.3 -0.9
baz=320
AKN Aaknes 63.98 346 eP P 22 49 19.7 +0.4
NC303 NORSAR Array S 64.19 344 eP P 22 49 20.4 -0.2
comp=Z,172nm,1.4s
NC405 NORSAR Array S 64.24 344 eP P 22 49 20.9 -0.1
comp=Z,84nm,0.8s
NC204 NORSAR Array S 64.25 344 eP P 22 49 21.0 -0.1
comp=Z,167nm,1.1s
F38A Pierce - Schro 64.28 47 P P 22 49 20.7 -0.8
baz=320,SNR=16
KBL Kabul 64.29 294 eP P 22 49 19.6 -2.4
comp=Z,25nm,0.8s
KBL Kabul 64.29 294 eP P 22 49 19.6 -2.4
KBL pmax pmax
comp=Z,25nm,0.8s
NB201 NORSAR Array S 64.37 344 eP P 22 49 21.8 -0.1
comp=Z,158nm,1.2s
NB2 NORSAR Subarra 64.40 344 P P 22 49 21.7 -0.3
comp=Z,724nm,3.3s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.40 344 P P 22 49 21.7 -0.3
baz=22,slow=6.9
NB200 NORSAR Array S 64.40 344 eP P 22 49 21.8 -0.3
NOA NORSAR Array B 64.40 344 P P 22 49 21.8 -0.3
comp=Z,26nm,0.7s,baz=22,slow=6.7,SNR=126
NBO00 NORSAR Array S 64.48 344 eP P 22 49 22.7 +0.1
comp=Z,68nm,1.0s
LPSR Galich'ya Gora 64.56 325 eP P 22 49 22.2 -0.9
LPSR pmax pmax
comp=Z,310nm,1.9s
LPSR pmax pmax
comp=Z,390nm,1.7s
LPSR MLR MLR
comp=Z,5µm,18.0s
E39A Mellen 64.56 46 P P 22 49 22.4 -0.9
baz=320
TUC Tucson 64.56 70 eP P 22 49 25.0 +1.3
comp=Z,7.2nm,1.1s
TUC Tucson 64.56 70 eP P 22 49 25.0 +1.3
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 64.56 70 P P 22 49 23.3 -0.3
baz=317
T25A Trinidad 64.60 62 eP P 22 49 25.1 +1.1
comp=Z,35nm,1.4s
T25A Trinidad 64.60 62 P P 22 49 22.9 -1.1
baz=318
NC602 NORSAR Array S 64.63 344 eP P 22 49 23.7 +0.2
comp=Z,61nm,1.3s
NC602 NORSAR Array S 64.63 344 eP P 22 49 23.5 0.0
NORES NORESS Array B 64.63 344 P P 22 49 23.3 -0.2
NORES pmax pmax
comp=Z,7.0nm,0.4s
NAO01 NORSAR Array S 64.64 344 eP P 22 49 23.6 0.0
comp=Z,84nm,1.0s
VRH Novokhopyorsk 64.67 322 eP P 22 49 22.3 -1.6
VRH pmax pmax
comp=Z,290nm,1.6s
VRH MLR MLR
comp=Z,10µm,19.0s
F39A Loretta 64.75 47 P P 22 49 23.4 -1.1
baz=320,SNR=5.4
BWNR Bhubaneshwar 64.78 271 ex P 22 49 20.8 -4.2
BWNR IAmb IAmb 22 49 21.7
comp=Z,29nm,0.8s
E40A Wakefield 64.80 46 P P 22 49 23.2 -1.7
baz=321,SNR=9.0
HFS Hagfors 64.80 342 P P 22 49 24.4 -0.2
comp=Z,20nm,0.6s,baz=46,slow=5.5,SNR=74
G38A Ridgeland 64.90 48 P P 22 49 23.3 -2.2
baz=320,SNR=8.0
D41A Chassel 64.91 45 P P 22 49 23.7 -1.8
baz=321
HYA Hoyanger 65.06 347 eP P 22 49 27.1 +0.8
H38A Maiden Rock 65.08 49 P P 22 49 25.8 -0.8
baz=320
TASM ASL Pad, Albuq 65.08 65 P P 22 49 26.6 -0.5
baz=318
TASM ASL Pad, Albuq 65.08 65 P P 22 49 26.5 -0.6
baz=318
ANMO Albuquerque 65.08 65 eP P 22 49 28.5 +1.3
comp=Z,6.6nm,0.8s
ANMO Albuquerque 65.08 65⇓eP P 22 49 28.2 +1.1
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO Albuquerque 65.08 65 P P 22 49 26.1 -1.1
baz=318
LAZ Ladron 65.10 66 eP P 22 49 29.2 +1.9
F40A Park Falls 65.11 46 P P 22 49 25.7 -1.1
baz=321
G39A Holcombe 65.12 48 P P 22 49 26.2 -0.8
baz=320
E41A Kenton 65.19 45 P P 22 49 26.7 -0.7
baz=321,SNR=7.2
SKAR Skarslia 65.21 345 eP P 22 49 27.9 +0.5
VORR Voronezh 65.21 324 eP P 22 49 25.0 -2.4
VORR pmax pmax
comp=Z,300nm,1.6s
SLIT Slitere, Latvi 65.24 337 eP P 22 49 27.0 -0.5
SLIT IAmb IAmb 22 49 28.2
comp=Z,719nm,0.9s
LENM Lemitar 65.37 66 eP P 22 49 30.7 +1.7
COWI Conover 65.40 46 eP P 22 49 28.4 -0.4
comp=Z,17nm,0.9s
KSM Kuching 65.47 237 eP P 22 49 31.2 +1.7
comp=Z,39nm,1.0s
OSL Oslo 65.52 344 eP P 22 49 29.3 +0.1
H39A Augusta 65.53 48 P P 22 49 28.7 -1.0
baz=320
G40A Rib Lake 65.57 47 P P 22 49 28.7 -1.2
baz=321
BNM Barren Site 65.58 65 eP P 22 49 35.2 +4.8
VSR Storozhevoye 65.60 324 eP P 22 49 28.2 -1.7
VSR pmax pmax
comp=Z,260nm,1.8s
VSR pmax pmax
comp=Z,550nm,1.9s
VSR MLR MLR
comp=Z,8µm,18.0s

E42A Champion 65.68 45 P P 22 49 28.6 -2.0
baz=322
F41A Three Lakes 65.70 46 P P 22 49 29.2 -1.5
baz=321
DGPR DIGLIPUR 65.86 260 eP P 22 49 31.0 -1.1
IZAR Zarasai 65.88 334 eP P 22 49 31.8 +0.1
IZAR IAmb IAmb 22 49 33.4
comp=Z,29nm,1.0s
BER Bergen 65.94 347 eP P 22 49 32.3 +0.4
KONO Kongsberg 65.98 344 eP P 22 49 32.9 +0.7
comp=Z,84nm,1.4s
KONO Kongsberg 65.98 344ceP P 22 49 32.1 -0.2
KONO pmax pmax
comp=Z,14nm,0.8s
KONO Kongsberg 65.98 344 eP P 22 49 33.2 +0.9
H40A Chili 65.98 48 P P 22 49 31.1 -1.4
baz=321,SNR=6.7
KRAB Krabi 66.05 252 P P 22 49 39.2 +5.9
comp=Z,340µm,0.6s
I39A Houston 66.06 49 P P 22 49 31.9 -1.2
baz=321,SNR=6.4
ISAL Salakas 66.07 334 eP P 22 49 33.0 +0.1
ISAL IAmb IAmb 22 49 33.7
comp=Z,26nm,1.0s
SKLT Songkhla 66.07 250 P P 22 49 48.3 +15
TRTT Trang 66.07 251 P P 22 49 38.4 +5.0
319A Douglas 66.11 69 eP P 22 49 35.3 +1.5
comp=Z,25nm,1.2s
121A Cookes Peak, D 66.12 67 P P 22 49 32.5 -1.3
baz=318
E43A Lone Tree Farm 66.12 44 P P 22 49 32.0 -1.4
baz=322
IDID Didziasalis 66.12 333 eP P 22 49 33.3 +0.1
IDID IAmb IAmb 22 49 35.0
comp=Z,37nm,1.0s
ODD1 Odda 66.20 346 eP P 22 49 34.5 +0.8
IIGN Ignalina 66.23 333 eP P 22 49 34.2 +0.3
IIGN IAmb IAmb 22 49 35.8
comp=Z,43nm,0.9s
H41A Junction City 66.32 47 P P 22 49 33.4 -1.3
baz=321
SCHQ Schefferville 66.34 28 P P 22 49 34.7 0.0
comp=Z,22nm,0.8s,baz=356,slow=7.3,SNR=32
J39A Decorah 66.37 49 P P 22 49 33.9 -1.2
baz=321,SNR=10.0
G42A Mountain 66.38 46 P P 22 49 33.8 -1.3
baz=322
E44A Grand Marais A 66.38 44 eP P 22 49 36.5 +1.5
comp=Z,63nm,1.0s
E44A Grand Marais A 66.38 44 P P 22 49 33.6 -1.5
baz=322
I40A Norwalk 66.44 48 P P 22 49 34.2 -1.3
baz=321
F43A Flat Rock, Esc 66.47 45 P P 22 49 34.6 -1.0
baz=322
NACGM Naroch 66.47 333 e P 22 49 35.0 -0.5
MICGM Minsk 66.51 332⇑eP P 22 49 35.0 -0.7
MICGM ⇑eP P 22 49 35.0 -0.7
MICGM PM 22 49 36.0
comp=Z,0.8nm,1.5s
MICGM PM 22 49 36.0
comp=N,0.5nm,1.4s
MICGM PM 22 49 37.0
comp=E,0.5nm,2.0s
MICGM eS S 22 58 22.0 -1.0
MICGM eLR LR 23 16 36.0
MICGM LRM MLR 23 22 40.0
comp=Z,13nm,18.0s
MICGM LRM MLR 23 22 48.0
comp=Z,12nm,16.0s
MNK Minsk 66.51 332ceP P 22 49 35.0 -0.7
MNK eS S 22 58 22.0 -1.0
MNK pmax pmax
comp=Z,760nm,1.5s
MNK pmax pmax
comp=N,510nm,1.4s
MNK pmax pmax
comp=E,480nm,2.0s
MNK MLR MLR
comp=Z,13µm,18.0s
MNK MLR MLR
comp=Z,12µm,16.0s
I41A Arkdale 66.66 48 eP P 22 49 37.1 +0.3
comp=Z,12nm,0.9s
F44A Big Bay de Noc 66.68 44 P P 22 49 35.9 -1.0
baz=322
G43A Wallace 66.70 45 eP P 22 49 36.7 -0.4
comp=Z,20nm,0.9s
G43A Wallace 66.70 45 P P 22 49 35.4 -1.7
baz=322,SNR=6.6
BLS5 Blasjo 66.70 346 eP P 22 49 37.5 +0.6
PABE Paberze 66.70 335 eP P 22 49 36.9 0.0
PABE IAmb IAmb 22 49 38.6
comp=Z,201nm,1.0s
SCIA State Center 66.75 51 eP P 22 49 38.2 +0.7
comp=Z,68nm,0.7s
SCIA State Center 66.75 51 P P 22 49 36.3 -1.2
baz=320
PBUR Paburg 66.76 336 eP P 22 49 37.2 -0.1
PBUR IAmb IAmb 22 49 39.0
comp=Z,134nm,0.9s
J40A Soldiers Grove 66.77 49 P P 22 49 36.4 -1.2
baz=321
K39A Oelwein 66.77 50 P P 22 49 37.0 -0.6
baz=321
E45A Wooded Hills, 66.91 43 P P 22 49 36.7 -1.7
baz=323
D46A Sault St. Mari 66.96 42 P P 22 49 37.3 -1.4
baz=323
KMY Karmoy 67.08 346 eP P 22 49 39.9 +0.7
K40A Colesburg 67.12 49 P P 22 49 38.5 -1.4
baz=321
MATQ Matagami 67.12 37 P P 22 49 38.0 -1.8
baz=326,SNR=7.2
J41A Loganville 67.13 48 P P 22 49 38.9 -0.9
baz=321,SNR=5.2
L39A Vinton 67.17 50 P P 22 49 38.9 -1.2
baz=321,SNR=8.8
D47A Chapleau 67.21 42 P P 22 49 38.5 -1.8
baz=324,SNR=5.9
I42A Draeger Farm, 67.22 47 eP P 22 49 40.5 0.0
comp=Z,13nm,0.9s
I42A Draeger Farm, 67.22 47 P P 22 49 38.8 -1.6
baz=322
E46A Sault Ste Mari 67.26 43 eP P 22 49 40.2 -0.5
comp=Z,15nm,0.8s
E46A Sault Ste Mari 67.26 43 P P 22 49 38.6 -2.0
baz=323
F45A CMU Biological 67.30 44 P P 22 49 39.5 -1.4
baz=323
JFWS Jewell Farm 67.37 49 P P 22 49 39.5 -1.9
baz=321
F46A Macinaw City C 67.55 43 P P 22 49 41.0 -1.5
baz=323
I43A Langenfeld Bro 67.57 47 P P 22 49 40.7 -2.0
baz=322
J42A Columbus 67.57 48 P P 22 49 41.3 -1.4
baz=322,SNR=6.0
L40A Anamosa 67.58 50 eP P 22 49 42.5 -0.3
comp=Z,18nm,0.8s
L40A Anamosa 67.58 50 P P 22 49 41.3 -1.5
baz=321,SNR=7.7
E47A Iron Bridge 67.62 42 P P 22 49 41.8 -1.1
baz=324
D48A Paudash Townsh 67.64 41 P P 22 49 41.2 -1.8
baz=324,SNR=6.1
GEYT Alibeck 67.67 303 P P 22 49 42.7 -0.7
comp=Z,28nm,0.7s,baz=29,slow=3.4,SNR=91
GYA0B ALIBECK ARRAY 67.67 303 eP P 22 49 42.8 -0.6
comp=Z,41nm,0.8s
BHPL Bhopal 67.70 279 eP P 22 49 42.4 -1.4
BHPL IAmb IAmb 22 49 42.9
comp=Z,40nm,0.9s
D49A Beulah Townshi 67.74 40 P P 22 49 42.3 -1.4
baz=324,SNR=5.5
G45A Suttons Bay 67.75 44 P P 22 49 41.7 -2.0
baz=323
AMTX Amarillo 67.75 62 P P 22 49 42.0 -2.0
baz=319
J43A Natural Harves 67.84 47 P P 22 49 41.8 -2.6
baz=323
MSTX Muleshoe 67.84 63 eP P 22 49 47.7 +3.0
comp=Z,45nm,1.2s
MSTX Muleshoe 67.84 63 P P 22 49 44.4 -0.3
baz=319
K42A Prairie Point, 67.89 48 P P 22 49 43.5 -1.2
baz=322

LSQQ Lebel-sur-Quev 67.95 37 P P 22 49 43.4 -1.5
baz=326
IPM Ipoh 68.02 248 eP P 22 49 46.4 +0.5
comp=Z,40nm,1.0s
E48A Lockeyer 68.05 41 P P 22 49 44.1 -1.5
baz=324,SNR=6.0
MNTX Cornudas Mount 68.09 66 eP P 22 49 47.6 +1.4
comp=Z,19nm,1.3s
MNTX Cornudas Mount 68.09 66 P P 22 49 45.8 -0.4
baz=319
CHGQ Chibougamau 68.17 35 P P 22 49 45.0 -1.3
baz=328,SNR=10
NGP Nagpur 68.28 277 eP P 22 49 46.2 -1.2
NGP IAmb IAmb 22 49 46.9
comp=Z,28nm,0.9s
N40A Mertquake, Sal 68.32 51 P P 22 49 46.1 -1.3
baz=321,SNR=6.0
H46A Fife Lake 68.34 44 P P 22 49 45.8 -1.7
baz=323
L42A Oliver, Polo 68.35 49 eP P 22 49 47.5 -0.1
comp=Z,17nm,0.8s
L42A Oliver, Polo 68.35 49 P P 22 49 46.5 -1.1
baz=322,SNR=5.4
F48A Evansville 68.40 42 P P 22 49 45.9 -1.8
baz=324
G47A Hillman 68.41 43 P P 22 49 46.5 -1.3
baz=324
K43A Burlington 68.41 48 eP P 22 49 47.7 -0.3
comp=Z,21nm,0.9s
K43A Burlington 68.41 48 P P 22 49 45.8 -2.2
baz=322
M41A Milan 68.43 50 P P 22 49 46.7 -1.4
baz=322
VLDQ Val d'Or 68.56 38 eP P 22 49 47.5 -1.2
comp=Z,32nm,0.9s
MYKOM Kota Tinggi 68.66 243 eP P 22 49 51.3 +1.5
comp=Z,39nm,1.2s
E50A Wahnapitae 68.67 41 P P 22 49 47.4 -2.1
baz=325
F49A Sandfield 68.69 42 P P 22 49 47.3 -2.3
baz=324
I46A Reed City 68.72 45 P P 22 49 48.3 -1.6
baz=323
N41A Harden Midland 68.81 51 eP P 22 49 50.8 +0.3
comp=Z,77nm,1.1s
N41A Harden Midland 68.81 51 P P 22 49 48.6 -1.8
baz=322
MAK Makhachkala 68.87 313 eP P 22 49 49.8 -1.0
MAK eS S 22 58 49.3 -2.3
MAK pmax pmax
comp=Z,152nm,2.0s
MAK MLR MLR
comp=Z,4µm,16.0s
H48A Harrisville 69.01 43 P P 22 49 49.3 -2.4
baz=324
E51A G1948 Merrick 69.08 40 P P 22 49 50.4 -1.7
baz=326,SNR=6.9
MUD Monsted U'grnd 69.09 343⇑iP P 22 49 52.6 +0.7
MUD pmax pmax
comp=Z,30nm,1.0s
MUD MLR MLR
comp=Z,4µm,16.0s
MUD Monsted U'grnd 69.09 343⇑iP P 22 49 52.6 +0.7
comp=Z,30nm,1.0s
M43A Waltham Townsh 69.12 49 P P 22 49 50.1 -2.2
baz=322
D52A ZEK Kipawa Sen 69.13 39 P P 22 49 50.3 -2.1
baz=326
COP Copenhagen 69.20 341⇑iP P 22 49 53.0 +0.4
COP pmax pmax
comp=Z,78nm,0.8s
COP MLR MLR
comp=Z,2µm,16.0s
COP Copenhagen 69.20 341⇑iP P 22 49 53.0 +0.4
comp=Z,78nm,0.8s
BSD Bornholm Skovb 69.22 340⇑iP P 22 49 52.8 0.0
BSD MLR MLR
comp=Z,3µm,17.0s
BSD Bornholm Skovb 69.22 340⇑iP P 22 49 52.8 0.0
I48A Sherman Twp 69.27 44 P P 22 49 51.0 -2.3
baz=324
D53A Lac Vacive, Po 69.32 38 eP P 22 49 53.1 -0.4
comp=Z,15nm,1.0s
D53A Lac Vacive, Po 69.32 38 P P 22 49 51.8 -1.7
baz=326,SNR=7.0
TOBO Tobermory, Bru 69.33 42 P P 22 49 51.8 -1.8
baz=325
F51A Arnstein 69.41 40 P P 22 49 51.5 -2.6
baz=326
AKASG Malin Array Be 69.41 329 i P P 22 49 53.2 -0.8
AKASG pmax pmax
comp=Z,18nm,0.4s
AKASG Malin Array Be 69.41 329 P P 22 49 53.3 -0.7
comp=Z,18nm,0.4s,baz=31,slow=6.4,SNR=169
AKBB Malin Array Si 69.41 329 eP P 22 49 52.6 -1.4
comp=Z,83nm,1.0s
N43A Stutzman Famil 69.42 49 P P 22 49 51.7 -2.5
baz=322
WMOK Wichita Mounta 69.42 60 P P 22 49 53.1 -1.3
baz=320
KIEV Kiev 69.42 329 i P P 22 49 53.4 -0.6
SNR=72
KIEV Kiev 69.42 329c iP P 22 49 53.2 -0.9
KIEV pmax pmax
comp=Z,73nm,1.1s
GROC Groznyy 69.43 315 eP P 22 49 52.7 -1.6
GROC e 22 50 15.5
GROC e 22 52 25.8
GROC eS S 22 58 56.8 -1.5
GROC pmax pmax
comp=Z,35nm,0.8s
J47A Sunmer 69.55 45 eP P 22 49 55.2 +0.2
comp=Z,37nm,0.9s
J47A Sunmer 69.55 45 P P 22 49 53.1 -1.9
baz=324
K46A Dorr 69.57 46 P P 22 49 52.9 -2.3
baz=323
M44A Midewin, Midew 69.58 48 P P 22 49 53.7 -1.5
baz=323
E52A Mattawa 69.61 39 P P 22 49 52.5 -2.8
baz=326
D54A Lac Fusel, La 69.66 38 P P 22 49 54.3 -1.3
baz=327,SNR=8.2
HDIL Hopedale 69.66 50 eP P 22 49 55.7 -0.1
comp=Z,28nm,0.8s
KLBO Killbear Provi 69.76 41 P P 22 49 55.2 -1.1
baz=326
I49A Point Hope 69.84 43 eP P 22 49 57.4 +0.6
comp=Z,21nm,0.9s
I49A Point Hope 69.84 43 P P 22 49 55.8 -1.0
baz=325
L46A Eue Claire 69.88 47 P P 22 49 56.2 -0.9
baz=323
E53A Dumoine, Ponti 69.92 39 P P 22 49 56.1 -1.1
baz=327
J48A Bridge Port 69.95 44 eP P 22 50 05.2 +7.7
comp=Z,14nm,0.9s
J48A Bridge Port 69.95 44 P P 22 49 58.5 +1.1
baz=324
BMRO Meriville Lake 69.97 42 P P 22 49 56.4 -1.2
baz=325
N44A Piper City 70.01 49 P P 22 49 56.8 -1.1
baz=323
BUKO Buck Lake 70.02 40 P P 22 49 56.6 -1.2
baz=326
E54A Lac Daplat, Po 70.05 38 P P 22 49 56.5 -1.6
baz=327,SNR=6.5
TUL1 Leonard 70.08 57 eP P 22 49 58.7 +0.3
comp=Z,44nm,1.3s
TUL1 Leonard 70.08 57 P P 22 49 57.1 -1.3
baz=321
RGN Rugen 70.09 340 eP P 22 49 59.3 +1.3
comp=Z,449nm,1.3s
ALGO Algonquin Park 70.12 39 P P 22 49 57.4 -1.1
baz=326
KVAR Kislovodsk Arr 70.15 317 P P 22 49 59.0 +0.2
comp=Z,8.6nm,0.7s,baz=258,slow=19,SNR=25
KIV Kislovodsk 70.15 317 eP P 22 49 58.9 0.0
comp=Z,23nm,0.8s
KIV Kislovodsk 70.15 317⇑iP P 22 49 59.0 +0.2
KIV Kislovodsk 70.15 317 i P P 22 49 58.6 -0.2
SNR=16
KIV Kislovodsk 70.15 317 eP P 22 49 58.2 -0.6
KIV e 22 52 33.6
KIV e 22 59 07.2
KIV pmax pmax
comp=Z,90nm,1.1s

KIV				MLR	MLR		
	comp=Z,9μm,18.0s						
KIV	**Kislovodsk**	**70.15**	**317**	P	**P**	**22 49 59.1**	**+0.2**
	SNR=31						
KIV				P	**P**	**22 49 59.1**	**+0.2**
	SNR=31						
J49A	**Marlette**	**70.18**	**44**	P	**P**	**22 49 57.9**	**-1.0**
	baz=324						
K48A	**Perry**	**70.20**	**45**	P	**P**	**22 49 57.6**	**-1.4**
	baz=324						
KBZ	**Khabaz**	**70.25**	**317**	P	**P**	**22 49 59.4**	**+0.1**
	comp=Z,22nm,0.8s,baz=57,slow=4.2,SNR=58						
N45A	**Kentland**	**70.26**	**48**	P	**P**	**22 49 57.8**	**-1.6**
	baz=323						
BASO	**Ashfield**	**70.27**	**43**	P	**P**	**22 49 58.7**	**-0.7**
	baz=325						
P43A	**Skaggs, Pawnee**	**70.28**	**50**	P	**P**	**22 49 57.9**	**-1.6**
	baz=322						
Q42A	**Golden Eagle**	**70.37**	**51**	P	**P**	**22 49 59.7**	**-0.3**
	baz=322,SNR=8.3						
L47A	**Sherwood**	**70.40**	**46**	P	**P**	**22 49 58.3**	**-2.0**
	baz=324						
BWLO	**Walkerton**	**70.40**	**42**	P	**P**	**22 49 58.5**	**-1.7**
	baz=325						
GKP	**Gorka Klasztor**	**70.41**	**337**	*e*P	**P**	**22 50 00.4**	**+0.3**
GKP	**Gorka Klasztor**	**70.41**	**337**	*e*P	**P**	**22 50 00.4**	**+0.3**
R41A	**Rosebud**	**70.44**	**52**	P	**P**	**22 49 59.7**	**-0.9**
	baz=322,SNR=8.9						
K49A	**Clarkson**	**70.51**	**44**	P	**P**	**22 49 59.4**	**-1.4**
	baz=324						
ABTX	**Abilene, Hawle**	**70.57**	**62**	*e*P	**P**	**22 50 02.3**	**+0.8**
	comp=Z,43nm,1.2s						
ABTX	**Abilene, Hawle**	**70.57**	**62**	P	**P**	**22 50 00.7**	**-0.8**
	baz=320						
N46A	**Monticello**	**70.58**	**48**	P	**P**	**22 50 00.1**	**-1.2**
	baz=323						
ZEI	**Tsey**	**70.58**	**316**	*e*P	**P**	**22 49 57.6**	**-4.0**
ZEI				pmax	pmax		
	comp=Z,62nm,1.8s						
G53A	**Haliburton**	**70.59**	**40**	P	**P**	**22 49 59.3**	**-2.0**
	baz=326,SNR=7.2						
PSI	**Prapat**	**70.59**	**248**	*e*P	**P**	**22 50 02.4**	**+0.5**
	comp=Z,28nm,1.1s						
O45A	**Potomac**	**70.64**	**49**	P	**P**	**22 50 00.8**	**-0.9**
	baz=323						
PEMO	**Pembroke**	**70.66**	**39**	P	**P**	**22 49 59.9**	**-1.9**
	baz=327						
CCM	**Cathedral Cave**	**70.69**	**53**	*e*P	**P**	**22 50 02.0**	**-0.1**
	comp=Z,18nm,1.1s						
CCM	**Cathedral Cave**	**70.69**	**53**	*e*P	**P**	**22 50 02.0**	**-0.1**
CCM				pmax	pmax		
	comp=Z,18nm,1.1s						
CCM	**Cathedral Cave**	**70.69**	**53**	P	**P**	**22 50 01.2**	**-0.9**
	baz=322						
I51A	**Listowel**	**70.70**	**42**	P	**P**	**22 50 01.0**	**-1.0**
	baz=325						
NEY	**Neytrino**	**70.71**	**317**	*de*P	**P**	**22 50 03.2**	**+0.8**
HHAR	**Hobbs**	**70.74**	**55**	*e*P	**P**	**22 50 02.2**	**-0.3**
	comp=Z,28nm,1.0s						
L48A	**N Adams**	**70.76**	**46**	P	**P**	**22 50 01.2**	**-1.3**
	baz=324						
AAM	**Ann Arbor**	**70.81**	**45**	*e*P	**P**	**22 50 03.6**	**+0.9**
	comp=Z,30nm,0.9s						
AAM	**Ann Arbor**	**70.81**	**45**	*e*P	**P**	**22 50 03.7**	**+0.9**
AAM				pmax	pmax		
	comp=Z,30nm,0.9s						
AAM	**Ann Arbor**	**70.81**	**45**	P	**P**	**22 50 01.7**	**-1.1**
	baz=324						
S41A	**Jillco Farms,**	**70.82**	**53**	P	**P**	**22 50 00.7**	**-2.1**
	baz=322,SNR=12						
SFIN	**Lafayette**	**70.82**	**48**	P	**P**	**22 50 01.4**	**-1.4**
	baz=323						
I52A	**Shelburne**	**70.83**	**42**	P	**P**	**22 50 01.8**	**-1.1**
	baz=326						
BEL	**Belsk**	**70.84**	**335**	*e*P	**P**	**22 50 02.8**	**+0.1**
BEL	**Belsk**	**70.84**	**335**	*e*P	**P**	**22 50 02.8**	**+0.1**
TXAR	**Lajitas Array**	**70.85**	**67**	P	**P**	**22 50 03.7**	**+0.4**
	comp=Z,7.2nm,0.8s,baz=297,slow=4.4,SNR=58						
TXAR				LR	LR	23 21 19.0	
	comp=Z,435nm,19.6s,baz=0.0,slow=36						
LATQ	**La Tuque**	**70.87**	**35**	P	**P**	**22 50 02.2**	**-0.8**
	baz=329						
F55A	**Otter Lake**	**70.87**	**38**	P	**P**	**22 50 01.8**	**-1.2**
	baz=327						
L49A	**Milan**	**70.92**	**45**	P	**P**	**22 50 02.3**	**-1.1**
	baz=324						
BANO	**Bancroft**	**70.95**	**40**	P	**P**	**22 50 01.7**	**-1.8**
	baz=327,SNR=6.9						
M48A	**Edgerton**	**71.01**	**46**	*e*P	**P**	**22 50 04.1**	**+0.2**
	comp=Z,20nm,0.9s						
M48A	**Edgerton**	**71.01**	**46**	P	**P**	**22 50 02.0**	**-1.9**
	baz=324						
TBLG	**Delisi**	**71.08**	**314**	*e*P	**P**	**22 50 04.5**	**+0.1**
FVM	**French Village**	**71.15**	**52**	*e*P	**P**	**22 50 04.3**	**-0.5**
	comp=Z,22nm,1.0s						
FVM	**French Village**	**71.15**	**52**	*e*P	**P**	**22 50 04.4**	**-0.5**
FVM				pmax	pmax		
	comp=Z,22nm,1.0s						
TRQ	**Mont Tremblant**	**71.22**	**37**	*e*P	**P**	**22 50 04.8**	**-0.4**
G55A	**Calabogie**	**71.22**	**39**	P	**P**	**22 50 03.7**	**-1.4**
	baz=327,SNR=5.4						
U40A	**Yellville**	**71.23**	**55**	P	**P**	**22 50 04.2**	**-1.2**
	baz=322,SNR=14						
ACTO	**Acton**	**71.26**	**42**	P	**P**	**22 50 04.4**	**-1.1**
	baz=326						
PLVO	**Plevna**	**71.26**	**39**	*e*P	**P**	**22 50 05.3**	**-0.1**
	comp=Z,11nm,1.2s						
PLVO				*e*PcP	**sP**	**22 50 20.9**	**-0.1**
PLVO	**Plevna**	**71.26**	**39**	P	**P**	**22 50 04.7**	**-0.7**
	baz=327						
M49A	**Liberty Center**	**71.34**	**46**	P	**P**	**22 50 05.7**	**-0.2**
	baz=324						
O47A	**Sheridan**	**71.36**	**48**	P	**P**	**22 50 04.9**	**-1.2**
	baz=324						
PKRO	**Pickering**	**71.37**	**41**	P	**P**	**22 50 04.8**	**-1.3**
	baz=326						
N48A	**Decatur**	**71.37**	**47**	P	**P**	**22 50 05.1**	**-1.0**
	baz=324,SNR=7.8						
P46A	**Rosedale**	**71.38**	**49**	P	**P**	**22 50 05.6**	**-0.6**
	baz=324						
L50A	**Kingsville**	**71.39**	**45**	P	**P**	**22 50 04.8**	**-1.4**
	baz=325						
J52A	**Paris**	**71.39**	**42**	P	**P**	**22 50 04.8**	**-1.5**
	baz=326						
HYB	**Hyderabad**	**71.42**	**275**	*i* P	**P**	**22 50 06.5**	**-0.3**
	comp=Z,138nm,0.8s						
DELO	**Deloro Mine**	**71.49**	**40**	P	**P**	**22 50 05.5**	**-1.3**
	baz=327						
Q45A	**Warren Harvey,**	**71.51**	**50**	P	**P**	**22 50 06.4**	**-0.6**
	baz=323						
ORIO	**Orleans, Innes**	**71.51**	**38**	P	**P**	**22 50 06.2**	**-0.7**
	baz=328						
ANN	**Anapa**	**71.57**	**321**	*e*P	**P**	**22 50 06.2**	**-1.0**
ANN				*e**PP	**pP**	**22 50 18.7**	**+0.1**
ANN				*e*		22 50 25.1	
ANN				*e*		22 52 44.2	
ANN				*e*S	**S**	**22 59 23.0**	**-0.1**
ANN				pmax	pmax		
	comp=Z,125nm,1.7s						
ANN				MLR	MLR		
	comp=N,5μm,21.0s						
ANN				MLR	MLR		
	comp=Z,4μm,21.0s						
ANN				MLR	MLR		
	comp=E,5μm,21.0s						
DRWO	**Darlington Wes**	**71.58**	**41**	P	**P**	**22 50 06.4**	**-1.0**
	baz=326						
ALFO	**Alfred**	**71.60**	**37**	P	**P**	**22 50 06.1**	**-1.3**
	baz=328,SNR=5.7						
H55A	**Tweed**	**71.63**	**39**	P	**P**	**22 50 06.3**	**-1.3**
	baz=327						
W39A	**Magazine**	**71.67**	**56**	*e*P	**P**	**22 50 09.2**	**+1.2**
	comp=E,20nm,1.2s						
W39A	**Magazine**	**71.67**	**56**	P	**P**	**22 50 07.1**	**-0.9**
	baz=322						
WLVO	**Wesleyville**	**71.67**	**41**	P	**P**	**22 50 06.9**	**-1.0**
	baz=327						
SOC	**Sochi**	**71.68**	**319**	*i* P	**P**	**22 50 07.6**	**-0.4**
SOC				*e**PP	**pP**	**22 50 17.6**	**-1.7**
SOC				*e**SP	**pwP**	**22 50 22.5**	**+0.2**
SOC				*e*		22 52 44.5	
SOC				*e*PPP	PPP	22 54 23.6	
SOC				*e*S	**S**	**22 59 23.7**	**-0.8**
SOC				pmax	pmax		
	comp=Z,35nm,0.8s						
SOC				MLR	MLR		
	comp=Z,6μm,16.0s						
N49A	**Columbus Grove**	**71.70**	**46**	*e*P	**P**	**22 50 09.9**	**+1.8**
	comp=Z,20nm,1.0s						
N49A	**Columbus Grove**	**71.70**	**46**	P	**P**	**22 50 08.0**	**-0.1**
	baz=324						
PLIO	**Pelee Island,**	**71.70**	**45**	P	**P**	**22 50 07.9**	**-0.2**
	baz=325						
U41A	**Viola**	**71.71**	**54**	P	**P**	**22 50 07.3**	**-1.0**
	baz=322						
I55A	**Frankford**	**71.71**	**40**	P	**P**	**22 50 07.2**	**-0.9**
	baz=327						
LVV	**L'vov**	**71.76**	**332**	*e*P	**P**	**22 50 08.2**	**-0.2**
LVV				*e*		22 50 24.5	
LVV				*e*		22 52 54.8	
LVV				*e*S	**S**	**22 59 29.0**	**+3.8**
LVV				MLR	MLR		
	comp=Z,6μm,17.0s						
TYNO	**Tyneside**	**71.76**	**42**	P	**P**	**22 50 07.2**	**-1.2**
	baz=326						
Q46A	**CEJHS Indians,**	**71.78**	**49**	P	**P**	**22 50 08.5**	**-0.1**
	baz=324						
O48A	**Farmland**	**71.80**	**47**	P	**P**	**22 50 07.9**	**-0.9**
	baz=324						
M50A	**Fremont**	**71.81**	**45**	P	**P**	**22 50 07.5**	**-1.3**
	baz=325						
AKH	**Akhalkalaki**	**71.88**	**315**	*e*P	**P**	**22 50 10.0**	**+0.5**
	comp=Z,54nm,1.1s						
AKH	**Akhalkalaki**	**71.88**	**315⇑**	*i* P	**P**	**22 50 09.9**	**+0.5**
P47A	**Martinsville**	**71.92**	**48**	P	**P**	**22 50 08.7**	**-0.8**
	baz=324						
EKA	**Eskdalemuir Ar**	**71.92**	**350**	P	**P**	**22 50 09.3**	**+0.1**
	comp=Z,2.9nm,0.4s,baz=19,slow=5.4,SNR=39						
RUE	**Ruedersdorf**	**71.93**	**339**	*e*P	**P**	**22 50 09.7**	**+0.4**
RUE				IAmb	IAmb	22 50 12.0	
	comp=Z,71nm,0.8s						
R45A	**Skylar, Fairfi**	**71.93**	**50**	P	**P**	**22 50 08.8**	**-0.8**
	baz=323						
ESK	**Eskdalemuir**	**71.94**	**350**	*e*P	**P**	**22 50 09.9**	**+0.6**
	comp=Z,52nm,0.9s						
ESK	**Eskdalemuir**	**71.94**	**350**	*e*P	**P**	**22 50 09.9**	**+0.6**
ESK				pmax	pmax		
	comp=Z,52nm,0.9s						
S44A	**Carbondale**	**71.94**	**51**	P	**P**	**22 50 09.2**	**-0.4**
	baz=323						
SIUC	**Southern Illin**	**71.95**	**51**	*e*P	**P**	**22 50 09.9**	**+0.3**
	comp=Z,20nm,0.8s						
H56A	**Elgin**	**71.95**	**39**	P	**P**	**22 50 08.5**	**-1.0**
	baz=328						
BLO	**Bloomington**	**72.05**	**49**	*e*P	**P**	**22 50 10.3**	**0.0**
	comp=Z,14nm,0.9s						
BLO	**Bloomington**	**72.05**	**49**	*e*P	**P**	**22 50 10.3**	**0.0**
BLO				pmax	pmax		
	comp=Z,14nm,0.9s						
PBMO	**Poplar Bluff**	**72.10**	**53**	*e*P	**P**	**22 50 11.4**	**+0.8**
	comp=Z,26nm,1.1s						
J54A	**Appleton**	**72.12**	**41**	P	**P**	**22 50 10.6**	**0.0**
	baz=327						
JCT	**Junction City**	**72.12**	**63**	P	**P**	**22 50 10.8**	**-0.1**
	baz=321						
PECO	**Prince Edward**	**72.22**	**40**	P	**P**	**22 50 10.5**	**-0.7**
	baz=327						
O49A	**Covington**	**72.23**	**47**	*e*P	**P**	**22 50 12.3**	**+1.0**
	comp=Z,22nm,1.1s						
O49A	**Covington**	**72.23**	**47**	P	**P**	**22 50 11.1**	**-0.2**
	baz=325						
M51A	**Elyria**	**72.24**	**45**	P	**P**	**22 50 10.7**	**-0.6**
	baz=325						
N50A	**Nevada**	**72.28**	**46**	P	**P**	**22 50 10.3**	**-1.3**
	baz=325						
MIAR	**Mount Ida**	**72.28**	**56**	*e*P	**P**	**22 50 12.0**	**+0.3**
	comp=Z,34nm,1.4s						
MIAR	**Mount Ida**	**72.28**	**56**	*e*P	**P**	**22 50 12.0**	**+0.3**
MIAR				pmax	pmax		
	comp=Z,34nm,1.4s						
MIAR	**Mount Ida**	**72.28**	**56**	P	**P**	**22 50 11.4**	**-0.3**
	baz=322						
S45A	**Carrier Mills**	**72.28**	**51**	P	**P**	**22 50 11.3**	**-0.3**
	baz=323,SNR=6.1						
MEDO	**Medina**	**72.28**	**41**	*e*P	**P**	**22 50 12.8**	**+1.3**
	comp=Z,24nm,0.9s						
MEDO	**Medina**	**72.28**	**41**	P	**P**	**22 50 11.6**	**0.0**
	baz=327						
Q47A	**Bedord North L**	**72.29**	**49**	P	**P**	**22 50 10.9**	**-0.7**
	baz=324,SNR=6.8						
KWP	**Kalwaria Pacla**	**72.31**	**333**	*e*P	**P**	**22 50 12.1**	**+0.4**
KWP	**Kalwaria Pacla**	**72.31**	**333**	*e*P	**P**	**22 50 11.9**	**+0.3**
	comp=Z,2μm,1.2s						
KWP	**Kalwaria Pacla**	**72.31**	**333**	*e*P	**P**	**22 50 12.1**	**+0.4**
P48A	**Milroy**	**72.32**	**48**	P	**P**	**22 50 11.1**	**-0.8**
	baz=324,SNR=5.9						
WHAR	**Wooly Hollow**	**72.35**	**55**	*e*P	**P**	**22 50 11.9**	**-0.2**
	comp=Z,39nm,1.4s						
BHJ	**Bhuj**	**72.36**	**285**	*e*P	**P**	**22 50 12.0**	**-0.3**
BHJ				IAmb	IAmb	22 50 12.7	
	comp=Z,44nm,1.0s						
GNI	**Garni**	**72.36**	**313**	*e*P	**P**	**22 50 13.2**	**+0.9**
	comp=Z,64nm,0.9s						
GNI	**Garni**	**72.36**	**313**	*i* P	**P**	**22 50 13.0**	**+0.7**
	SNR=19						
GNI	**Garni**	**72.36**	**313**	*c i*P	**P**	**22 50 12.9**	**+0.6**
GNI				pmax	pmax		
	comp=Z,863nm,1.7s						
GNI	**Garni**	**72.36**	**313**	P	**P**	**22 50 13.5**	**+1.2**
	SNR=27						
GNI				P	**P**	**22 50 13.5**	**+1.2**
	SNR=27						
GNI	**Garni**	**72.36**	**313**	P	**P**	**22 50 13.2**	**+0.9**
	comp=Z,27nm,0.8s,baz=118,slow=0.9,SNR=36						
M52A	**Chesterland**	**72.42**	**44**	P	**P**	**22 50 11.5**	**-1.0**
	baz=326						
J55A	**Hilton**	**72.45**	**41**	P	**P**	**22 50 11.6**	**-1.0**
	baz=327						
W41B	**Gary Mavity, V**	**72.46**	**55**	*e*P	**P**	**22 50 12.9**	**+0.1**
	comp=Z,23nm,1.0s						
W41B	**Gary Mavity, V**	**72.46**	**55**	P	**P**	**22 50 12.0**	**-0.8**
	baz=322,SNR=9.4						
USIN	**University of**	**72.49**	**50**	*e*P	**P**	**22 50 13.5**	**+0.6**
	comp=Z,50nm,0.9s						
N51A	**Ashland**	**72.50**	**45**	*e*P	**P**	**22 50 13.0**	**+0.1**
	comp=Z,34nm,0.8s						
N51A	**Ashland**	**72.50**	**45**	P	**P**	**22 50 11.9**	**-1.0**
	baz=325,SNR=6.4						
BATM	**Batumi**	**72.50**	**316⇑**	*i* P	**P**	**22 50 12.3**	**-0.6**
L53A	**Girard**	**72.55**	**43**	P	**P**	**22 50 12.5**	**-0.6**
	baz=326						
LONY	**Lake Ozonia**	**72.57**	**38**	*e*P	**P**	**22 50 17.4**	**+4.1**
	comp=Z,11nm,1.0s						
LONY	**Lake Ozonia**	**72.57**	**38**	P	**P**	**22 50 12.3**	**-1.0**
	baz=328						
OJC	**Ojcow**	**72.57**	**335**	*e*P	**P**	**22 50 13.4**	**+0.3**
OJC	**Ojcow**	**72.57**	**335**	*e*P	**P**	**22 50 13.5**	**+0.3**
	comp=Z,62nm,1.1s						
OJC	**Ojcow**	**72.57**	**335**	*e*P	**P**	**22 50 13.5**	**+0.3**
OJC				pmax	pmax		
	comp=Z,62nm,1.1s						
IDGL	**Inch Island, C**	**72.57**	**353**	*e*P	**P**	**22 50 10.6**	**-2.5**
IDGL				*e*PP	**P**	**22 50 13.5**	**+0.4**
IDGL				*e*S	**S**	**22 59 30.8**	**-3.5**
O50A	**Cable**	**72.58**	**46**	P	**P**	**22 50 12.9**	**-0.6**
	baz=325						
GSI	**Gunungsitoli**	**72.58**	**249**	*e*P	**P**	**22 50 14.2**	**+0.5**
	comp=Z,84nm,1.3s						
P49A	**Miami Univ. Ec**	**72.58**	**47**	P	**P**	**22 50 12.6**	**-0.9**
	baz=325						
Q48A	**North Vernon**	**72.61**	**48**	P	**P**	**22 50 12.9**	**-0.7**
	baz=324						
BCA	**Borcka**	**72.66**	**316⇑**	*i*P	**P**	**22 50 13.5**	**-0.4**
S46A	**Don Dixon Farm**	**72.69**	**50**	P	**P**	**22 50 13.4**	**-0.7**
	baz=324						
SIM	**Simferopol'**	**72.70**	**323**	*e*P	**P**	**22 50 13.8**	**-0.2**
SIM				pmax	pmax		
	comp=Z,34nm,1.0s						
KARS	**Kars**	**72.70**	**315**	*e*P	**P**	**22 50 15.4**	**+1.2**
	comp=Z,144nm,1.2s						
KARS	**Kars**	**72.70**	**315**	*e*P	**P**	**22 50 15.5**	**+1.2**
KARS				pmax	pmax		
	comp=Z,144nm,1.2s						
L54A	**Sinclairville**	**72.70**	**42**	P	**P**	**22 50 13.1**	**-1.0**
	baz=327						
X40A	**Basin Creek Fa**	**72.70**	**56**	*e*P	**P**	**22 50 15.6**	**+1.3**
	comp=Z,17nm,1.2s						
X40A	**Basin Creek Fa**	**72.70**	**56**	P	**P**	**22 50 14.6**	**+0.4**
	baz=322						
R47A	**Wooly Knot Far**	**72.75**	**49**	P	**P**	**22 50 14.0**	**-0.5**
	baz=324						
FRNY	**Flat Rock**	**72.76**	**37**	*e*P	**P**	**22 50 14.2**	**-0.1**
	comp=Z,6.0nm,0.9s						
KIS	**Kishinev**	**72.78**	**328⇑**	*i*P	**P**	**22 50 13.0**	**-1.4**
	comp=Z,500nm,2.0s						
KIS				*e*S	**S**	**22 59 34.0**	**-2.9**
KIS				*e*L	L	23 15 36.0	
KIS				LRM	MLR	23 29 12.0	
	comp=Z,6μm,18.0s						
KIS	**Kishinev**	**72.78**	**328⇑**	*i*P	**P**	**22 50 13.0**	**-1.4**
KIS				*e*		22 50 37.0	
KIS				*e*S	**S**	**22 59 34.0**	**-2.9**
ACSO	**Alum Creek Sta**	**72.79**	**46**	*e*P	**P**	**22 50 16.1**	**+1.4**
	comp=Z,27nm,1.0s						
ACSO	**Alum Creek Sta**	**72.79**	**46**	P	**P**	**22 50 14.1**	**-0.6**
	baz=325						
M53A	**WI Miller and**	**72.80**	**43**	P	**P**	**22 50 13.9**	**-0.8**
	baz=326						
K55A	**Perry**	**72.80**	**41**	P	**P**	**22 50 13.8**	**-1.0**
	baz=327,SNR=6.8						
MOQ	**Mont Orford**	**72.83**	**36**	*e*P	**P**	**22 50 15.1**	**+0.1**
ALLY	**Alegheny Colle**	**72.84**	**43**	*e*P	**P**	**22 50 15.3**	**+0.3**
	comp=Z,28nm,0.9s						
MMNY	**Mt. Morris Dam**	**72.86**	**41**	*e*P	**P**	**22 50 14.8**	**-0.2**
	comp=Z,27nm,0.8s						
KSP	**Ksiaz**	**72.88**	**337**	*e*P	**P**	**22 50 15.4**	**+0.4**
KSP	**Ksiaz**	**72.88**	**337**	*e*P	**P**	**22 50 15.4**	**+0.4**
N52A	**McGinn's Farm,**	**72.88**	**45**	P	**P**	**22 50 14.3**	**-0.9**
	baz=326						
WCI	**Wyandotte Cave**	**72.92**	**49**	*e*P	**P**	**22 50 15.8**	**+0.3**
	comp=Z,19nm,0.8s						
WCI	**Wyandotte Cave**	**72.92**	**49**	P	**P**	**22 50 14.6**	**-0.8**
	baz=324						
Q49A	**Aurora**	**72.93**	**48**	P	**P**	**22 50 14.0**	**-1.5**
	baz=325						
P50A	**Jamestown**	**72.94**	**47**	P	**P**	**22 50 14.2**	**-1.4**
	baz=325						
R48A	**Northridge Ran**	**72.97**	**49**	P	**P**	**22 50 15.3**	**-0.5**
	baz=324						
IAS	**Iasi**	**73.02**	**328⇑**	*i*P	**P**	**22 50 15.6**	**-0.2**
IAS	**Iasi**	**73.02**	**328**	P	**P**	**22 50 15.6**	**-0.2**
KOLS	**Kolonicke sedl**	**73.06**	**333**	*e*P	**P**	**22 50 16.4**	**+0.3**
KOLS				pmax	pmax		
	comp=Z,311nm,2.5s						
KOLS	**Kolonicke sedl**	**73.06**	**333**	*e*P	**P**	**22 50 16.4**	**+0.3**
CTAO	**Charters Tower**	**73.06**	**194**	*e*P	**P**	**22 50 18.3**	**+2.0**
	comp=Z,24nm,1.1s						
435B	**Jarrell**	**73.10**	**62**	P	**P**	**22 50 16.9**	**+0.2**
	baz=321						
L55A	**Hinsdale**	**73.11**	**42**	P	**P**	**22 50 15.9**	**-0.6**
	baz=327						
RAC	**Raciborz**	**73.11**	**336**	*e*P	**P**	**22 50 17.4**	**+1.0**
RAC				MLR	MLR		
	comp=Z,5μm,18.7s						
T46A	**Princeton**	**73.12**	**51**	P	**P**	**22 50 16.2**	**-0.4**
	baz=324,SNR=12						
S47A	**Hartford**	**73.16**	**50**	P	**P**	**22 50 16.4**	**-0.5**
	baz=324,SNR=7.1						
M54A	**Oil Creek Stat**	**73.16**	**43**	*e*P	**P**	**22 50 17.0**	**+0.1**
	comp=Z,19nm,0.9s						
M54A	**Oil Creek Stat**	**73.16**	**43**	P	**P**	**22 50 16.2**	**-0.7**
	baz=326						
NIE	**Niedzica**	**73.17**	**334**	*e*P	**P**	**22 50 17.4**	**+0.6**
NIE	**Niedzica**	**73.17**	**334**	*e*P	**P**	**22 50 17.4**	**+0.6**
CLL	**Collm**	**73.20**	**339**	*e*P	**P**	**22 50 15.9**	**-1.0**
	comp=Z,83nm,0.9s						
CLL	**Collm**	**73.20**	**339⇑**	*i*P	**P**	**22 50 16.9**	**0.0**
CLL				*e*		22 50 29.0	
CLL				*e*S	**SKiKP**	**22 59 44.0**	**-0.7**
CLL				pmax	pmax		
	comp=Z,53nm,0.8s						
CLL	**Collm**	**73.20**	**339⇑**	*i*P	**P**	**22 50 16.9**	**0.0**
	comp=Z,53nm,0.8s						
CLL				*i*		22 50 21.9	
CLL				*e*pP	**pP**	**22 50 29.0**	**+0.7**
CLL				*e*S	**SKiKP**	**22 59 44.0**	**-0.7**
CLL				*e*pS	**pS**	**22 59 56.0**	**+0.5**
CLL				*e*PPS	PPS	23 00 24.0	
CLL				*e*SS	SS	23 04 54.0	+32
CLL				*e*SSS	SSS	23 08 06.0	
CLL				*e*SSSS		23 09 30.0	
BATG	**Bathurst New B**	**73.22**	**31**	*e*P	**P**	**22 50 17.8**	**+0.7**
	comp=Z,26nm,0.9s						
N53A	**Lisbon**	**73.25**	**44**	*e*P	**P**	**22 50 17.6**	**+0.2**
	comp=Z,21nm,0.9s						
N53A	**Lisbon**	**73.25**	**44**	P	**P**	**22 50 16.5**	**-0.9**
	baz=326,SNR=5.6						
UPC	**Upice**	**73.26**	**337**	*e*P	**P**	**22 50 17.8**	**+0.6**
UPC				MLR	MLR		
	comp=Z,6μm,16.2s						
UPC	**Upice**	**73.26**	**337**	*e*P	**P**	**22 50 17.8**	**+0.6**
UPC				*e*S	SKiKP	22 59 57.9	+13
UPC				AMS	AMS	23 30 10.0	
	comp=Z,6μm,16.2s						
PRAR	**RASCA**	**73.29**	**329⇑**	*i*P	**P**	**22 50 17.9**	**+0.4**
DPC	**Dobruska-Polom**	**73.33**	**337**	*e*P	**P**	**22 50 18.4**	**+0.7**
DPC				MLR	MLR		
	comp=Z,4μm,15.6s						
DPC	**Dobruska-Polom**	**73.33**	**337**	*e*P	**P**	**22 50 18.4**	**+0.7**
DPC				*ex*	x	22 50 24.0	
DPC				AMS	AMS	23 28 50.0	
	comp=Z,4μm,15.6s						
UZH	**Uzhgorod**	**73.33**	**332**	*e*P	**P**	**22 50 16.5**	**-1.2**
UZH				*e*		22 50 25.7	
UZH				*e*		22 50 33.9	
UZH				*e*		22 50 39.5	
UZH				*e*S	**S**	**22 59 39.5**	**-3.6**
UZH				*e*SSS	SSS	23 07 34.0	
UZH				MLR	MLR		
	comp=E,800nm,16.0s						
UZH				MLR	MLR		
	comp=Z,1μm,16.0s						
OKC	**Ostrava-Krasne**	**73.35**	**336**	*e*P	**P**	**22 50 18.3**	**+0.5**
OKC				MLR	MLR		
	comp=Z,5μm,15.6s						
OKC	**Ostrava-Krasne**	**73.35**	**336**	*e*P	**P**	**22 50 18.3**	**+0.5**
OKC				*e*S	SKiKP	23 00 02.8	+18
OKC				AMS	AMS	23 26 30.0	
	comp=Z,5μm,15.6s						
BUR08	**Bucovina Ar. S**	**73.36**	**330**	*e*P	**P**	**22 50 17.6**	**-0.4**
	comp=Z,50nm,1.0s						
P51A	**Williamsport**	**73.37**	**46**	*e*P	**P**	**22 50 18.0**	**-0.1**
	comp=Z,12nm,0.9s						
P51A	**Williamsport**	**73.37**	**46**	P	**P**	**22 50 17.1**	**-1.0**
	baz=325						
BURAR	**Bucovina Array**	**73.38**	**330⇓

MORC Moravsky Berou 73.56 336⇑*iP* P 22 50 19.8 +0.7
MORC Moravsky Berou 73.56 336 *eP* P 22 50 19.4 +0.3
MORC pmax pmax
comp=Z,72nm,1.3s
MORC Moravsky Berou 73.56 336⇑*iP* P 22 50 19.6 +0.5
M55A Ridgway 73.57 42 P P 22 50 17.7 -1.6
baz=327,SNR=7.7
PVCC Panska Ves 73.58 338 *eP* P 22 50 20.1 +1.0
PVCC MLR MLR
comp=Z,4μm,15.8s
PVCC Panska Ves 73.58 338 *eP* P 22 50 20.1 +1.0
PVCC AMS AMS 23 27 50.0
comp=Z,4μm,15.8s
Q51A Peebles 73.61 47 *eP* P 22 50 19.8 +0.2
comp=Z,37nm,1.4s
Q51A Peebles 73.61 47 P P 22 50 18.0 -1.6
baz=325
LANS Liptovska Anna 73.64 334 *eP* P 22 50 21.4 +1.9
LANS Liptovska Anna 73.64 334 *eP* P 22 50 21.4 +1.9
P52A Corning 73.66 46 P P 22 50 18.8 -0.9
baz=326,SNR=7.2
BIZ Bicaz 73.70 329⇓*iP* P 22 50 19.9 0.0
MDRS Chennai 73.71 270 *eP* P 22 50 19.9 -0.4
TRPA Tarpa 73.71 332⇑*iP* P 22 50 20.6 +0.7
TRPA Tarpa 73.71 332 *eP* P 22 50 20.1 +0.1
TRPA Tarpa 73.71 332 *eP* P 22 50 20.1 +0.1
S49A Springfield 73.74 49 P P 22 50 19.0 -1.3
baz=325,SNR=6.4
T48A Bowling Green 73.77 50 P P 22 50 19.4 -1.1
baz=324,SNR=5.3
R50A Paris 73.78 48 P P 22 50 19.0 -1.5
baz=325
WTSB Winterswijk 73.79 343 *eP* P 22 50 20.9 +0.5
comp=Z,314nm,2.1s
WTSB *eX* **pP 22 50 33.4 +1.6**
BMR Baia Mare 73.84 331⇓*iP* P 22 50 21.8 +1.1
LBNH Lisbon 73.88 36 *eP* P 22 50 21.6 +0.6
comp=Z,15nm,0.9s
LBNH Lisbon 73.88 36 P P 22 50 19.9 -1.1
baz=330
WVT Waverly 73.88 51 *eP* P 22 50 21.3 +0.2
comp=Z,15nm,1.0s
WVT Waverly 73.88 51 P P 22 50 20.7 -0.4
baz=324
U47A Clarksville 73.89 51 P P 22 50 20.4 -0.8
baz=324,SNR=6.4
TESR Tescani 73.91 329⇑*iP* P 22 50 20.9 -0.3
PKME Peaks-Kenny Pk 73.92 34 *eP* P 22 50 21.9 +0.7
comp=Z,15nm,0.9s
PKME Peaks-Kenny Pk 73.92 34 P P 22 50 19.9 -1.3
baz=331
O54A Avella 73.96 44 P P 22 50 20.9 -0.6
baz=326
ACCN Adirondack Com 73.97 38 *eP* P 22 50 21.6 0.0
comp=Z,14nm,1.0s
KECS Kecovo 73.97 333 *eP* P 22 50 22.2 +0.7
KECS pmax pmax
comp=Z,80nm,1.0s
KECS Kecovo 73.97 333 *eP* P 22 50 22.2 +0.7
V46A Holladay 74.00 52 P P 22 50 21.2 -0.6
baz=324,SNR=9.1
N55A Marion Center 74.05 43 *eP* P 22 50 22.2 +0.1
comp=Z,19nm,0.8s
N55A Marion Center 74.05 43 P P 22 50 21.3 -0.8
baz=327,SNR=8.1
BINY Binghamton 74.08 40 P P 22 50 21.5 -0.7
baz=328
PRU Pruhonice 74.09 338 *eP* P 22 50 22.7 +0.6
PRU *eS* **S 22 59 51.7 +0.1**
PRU MLR MLR
comp=Z,5μm,14.6s
PRU Pruhonice 74.09 338 *eP* P 22 50 22.7 +0.6
PRU *ex* x 22 50 28.1
PRU *eS* **S 22 59 51.7 +0.1**
PRU AMS AMS 23 30 40.0
comp=Z,5μm,14.6s
GOPC GO Pecny, Ondr 74.10 338 *eP* P 22 50 23.0 +0.8
GOPC MLR MLR
comp=Z,4μm,16.1s
GOPC GO Pecny, Ondr 74.10 338 *eP* P 22 50 23.0 +0.8
GOPC *ex* x 22 50 28.2
GOPC *eS* S 23 00 06.6 +15
GOPC AMS AMS 23 27 10.0
comp=Z,4μm,16.1s
P53A Whipple 74.10 45 *eP* P 22 50 23.2 +0.8
comp=Z,18nm,1.0s
P53A Whipple 74.10 45 P P 22 50 21.9 -0.5
baz=326
R51A Hillsboro 74.10 47 P P 22 50 21.8 -0.6
baz=325,SNR=5.5
ARCR ARCALIA 74.11 330⇑*iP* P 22 50 23.4 +1.1
MOX Moxa 74.12 340 P P 22 50 22.9 +0.6
Q52A Bidwell 74.15 46 P P 22 50 21.4 -1.2
baz=326
T49A Edmonton 74.18 49 *eP* P 22 50 23.4 +0.5
comp=Z,12nm,1.0s
T49A Edmonton 74.18 49 P P 22 50 22.5 -0.4
baz=325,SNR=6.1
U48A Cassie Pea, Po 74.19 50 P P 22 50 22.0 -0.9
baz=324,SNR=7.9
DZM Mont Dzumac 74.19 174 *eP* P 22 50 28.9 +5.9
comp=Z,56nm,1.3s
DZM Mont Dzumac 74.19 174 *e*LR LR 23 13 23.7
comp=Z,2μm,23.9s
HNH Hanover 74.21 37 *eP* P 22 50 24.5 +1.6
comp=Z,20nm,1.2s
VRAC Vranov 74.23 336⇑*iP* P 22 50 23.9 +0.9
VRAC Vranov 74.23 336⇑*iP* P 22 50 23.7 +0.7
VRAC Vranov 74.23 336 P P 22 50 23.6 +0.7
comp=Z,24nm,0.8s,baz=23,slow=6.8,SNR=56
S50A Richmond 74.24 48 P P 22 50 22.4 -0.8
baz=325
V47A Nunnelly 74.27 51 P P 22 50 23.4 -0.1
baz=324
DSB Dublin 74.29 352 *eP* P 22 50 20.6 -2.6
DSB *e*PP **P 22 50 23.6 +0.4**
DSB *eS* **SKiKP 22 59 48.8 +2.5**
DSB Dublin 74.29 352 *eP* P 22 50 23.4 +0.2
comp=Z,33nm,0.9s
NKC Novy Kostel 74.33 339 *eP* P 22 50 24.5 +0.9
NKC MLR MLR
comp=Z,2μm,17.5s
NKC Novy Kostel 74.33 339 *eP* P 22 50 24.5 +0.9
NKC *ex* x 22 50 30.5
NKC AMS AMS 23 27 30.0
comp=Z,2μm,17.5s
IGLA Glengowla, Co 74.35 354 *eP* P 22 50 19.8 -3.8
IGLA *e*PP **P 22 50 22.3 -1.3**
IGLA *eS* **S 22 59 51.4 -3.0**
TLCR 74.37 327⇑*iP* P 22 50 24.3 +0.5
TLCR 74.37 327 P P 22 50 24.2 +0.5
JAVC Velka Javorina 74.37 335⇑*iP* P 22 50 25.5 +1.6
O55A Ligonier 74.40 43 P P 22 50 23.0 -1.1
baz=327,SNR=6.3
P54A Burton 74.40 44 P P 22 50 23.5 -0.7
baz=326,SNR=11
OXF Oxford 74.40 54 *e*PcP PcP 22 50 40.3 +1.6
OXF Oxford 74.40 54 P P 22 50 23.6 -0.6
baz=324
VYHS Vyhne 74.40 335 *eP* P 22 50 24.7 +0.7
VYHS pmax pmax
comp=Z,259nm,2.9s
VYHS Vyhne 74.40 335 *eP* P 22 50 24.7 +0.7
WVL Waterville 74.40 35 *eP* P 22 50 24.7 +0.7
comp=Z,29nm,1.0s
PETR Petresti 74.42 328⇑*iP* P 22 50 25.3 +1.2
ODBI Odobesti 74.44 328⇑*iP* P 22 50 25.1 +0.9
VRI Vrincioaia 74.46 328⇑*iP* P 22 50 24.3 -0.1
VRI Vrincioaia 74.46 328 P P 22 50 24.3 -0.1
R52A Catlettsburg 74.49 47 P P 22 50 23.9 -0.8
baz=326
PLOR Plostina 74.50 328⇓*iP* P 22 50 25.1 +0.4
PLOR Plostina 74.50 328 P P 22 50 25.0 +0.4
KRUC Moravsky 74.50 336 P P 22 50 25.4 +0.8
KRUC Moravsky 74.50 336⇑*iP* P 22 50 25.2 +0.6
TREC Trest 74.51 337 *eP* P 22 50 25.6 +1.0
TREC MLR MLR
comp=Z,6μm,15.7s
TREC Trest 74.51 337 *eP* P 22 50 25.6 +1.0
TREC *ex* x 22 50 30.4
TREC AMS AMS 23 29 30.0
comp=Z,6μm,15.7s
U49A Red Boiling Sp 74.55 50 P P 22 50 24.3 -0.7
baz=325,SNR=10
OZUR 74.56 329⇑*iP* P 22 50 25.7 +0.7

Q53A Leroy 74.56 46 P P 22 50 24.7 -0.3
baz=326,SNR=14
LTVH Ltavrtes, Hu 74.57 332 *eP* P 22 50 24.1 -0.9
T50A Nancy 74.57 49 P P 22 50 24.0 -1.2
baz=325,SNR=6.6
CFR Carcaliu 74.60 327⇑*iP* P 22 50 25.1 -0.1
CFR Carcaliu 74.60 327 P P 22 50 25.1 -0.1
MCWV Mont Chateau 74.62 44 *eP* P 22 50 26.1 +0.6
comp=Z,13nm,0.8s
MCWV Mont Chateau 74.62 44 P P 22 50 24.1 -1.3
baz=327
CLTN Cedars of Leba 74.63 50 *eP* P 22 50 25.9 +0.4
comp=Z,14nm,0.9s
SSPA Standing Stone 74.63 42 *eP* P 22 50 25.3 -0.1
comp=Z,23nm,1.0s
SSPA Standing Stone 74.63 42 P P 22 50 24.8 -0.6
baz=328
S51A Beattyville 74.64 48 *eP* P 22 50 26.2 +0.6
comp=Z,14nm,1.0s
S51A Beattyville 74.64 48 P P 22 50 24.7 -0.8
baz=325
PSZ Piszkesteto 74.65 334 *eP* P 22 50 25.2 -0.3
comp=Z,47nm,1.1s
PSZ Piszkesteto 74.65 334⇑*iP* P 22 50 26.6 +1.1
PSZ Piszkesteto 74.65 334 *eP* P 22 50 25.2 -0.3
PSZ pmax pmax
comp=Z,47nm,1.1s
PSZ Piszkesteto 74.65 334⇑*eP* P 22 50 27.0 +1.5
PSZ Piszkesteto 74.65 334⇑*eP* P 22 50 27.0 +1.5
O56A Blue Knob Stat 74.66 43 *eP* P 22 50 25.8 +0.2
comp=Z,22nm,0.8s
O56A Blue Knob Stat 74.66 43 P P 22 50 24.7 -0.9
baz=327,SNR=8.1
V48A Smith Brothers 74.68 51 *eP* P 22 50 26.1 +0.3
comp=Z,14nm,0.9s
V48A Smith Brothers 74.68 51 P P 22 50 25.2 -0.5
baz=324,SNR=6.8
CJR Cluj-Napoca 74.68 331⇑*iP* P 22 50 26.6 +0.9
CJR Cluj-Napoca 74.68 331 P P 22 50 26.5 +0.9
PLAL Pickwick Lake 74.68 52 *eP* P 22 50 25.9 +0.1
comp=Z,20nm,1.0s
W47A Westpoint 74.70 52 P P 22 50 25.2 -0.7
baz=324
KSPA Keystone Colle 74.71 40 *eP* P 22 50 26.2 +0.3
comp=Z,12nm,0.9s
BISRR Bisoca 74.75 328⇑*iP* P 22 50 26.2 +0.1
SMOL Smolenice 74.75 335 *eP* P 22 50 27.8 +1.8
SMOL Smolenice 74.75 335 *eP* P 22 50 27.8 +1.8
P55A Reedsville 74.76 44 P P 22 50 25.1 -1.1
baz=327,SNR=11
Q54A Coxs Mills 74.76 45 *eP* P 22 50 28.6 +2.4
comp=Z,30nm,1.3s
Q54A Coxs Mills 74.76 45 P P 22 50 25.6 -0.6
baz=326
X46A Booneville 74.78 53 P P 22 50 25.6 -0.8
baz=324
DOPR Dopca 74.80 329⇑*iP* P 22 50 27.2 +0.9
R53A Hurricane 74.81 46 *eP* P 22 50 26.9 +0.4
comp=Z,18nm,0.8s
R53A Hurricane 74.81 46 P P 22 50 26.0 -0.5
baz=326
GRER 74.81 328⇑*iP* P 22 50 27.0 +0.6
S52A Salyersville 74.84 47 P P 22 50 26.3 -0.4
baz=326,SNR=6.3
DRGR 74.87 331⇑*iP* P 22 50 26.6 -0.2
GGN Saint George 74.88 33 *eP* P 22 50 26.8 0.0
comp=Z,30nm,0.9s
LMN Caledonia Moun 74.88 31 *eP* P 22 50 26.9 +0.1
comp=Z,29nm,0.9s
MODS Modra-Piesok 74.92 335 *eP* P 22 50 27.4 +0.4
MODS pmax pmax
comp=Z,49nm,1.1s
MODS Modra-Piesok 74.92 335 *eP* P 22 50 27.4 +0.4
MDB Medias 74.95 330⇑*iP* P 22 50 28.6 +1.4
T51A Gray 75.03 48 P P 22 50 27.0 -0.8
baz=325
EMMW East Machias 75.03 33 *eP* P 22 50 28.4 +0.8
comp=Z,28nm,0.8s
MLR Muntele Rosu 75.04 329 *eP* P 22 50 27.4 -0.5
comp=Z,79nm,0.8s
MLR Muntele Rosu 75.04 329⇑*iP* P 22 50 28.9 +1.0
MLR Muntele Rosu 75.04 329 *eP* P 22 50 27.4 -0.5
MLR pmax pmax
comp=Z,79nm,0.8s
MLR Muntele Rosu 75.04 329 P P 22 50 28.3 +0.4
comp=Z,52nm,0.7s,baz=155,slow=2.8,SNR=138
U50A Jamestown 75.06 49 P P 22 50 27.1 -1.0
baz=325,SNR=11
Q55A Buckhannon 75.08 45 P P 22 50 27.3 -0.8
baz=327
DIKM Dikmen 75.08 321⇑*iP* P 22 50 28.5 +0.5
V49A McMinnville 75.09 50 P P 22 50 27.1 -1.1
baz=325
HGN Heimansgroeve 75.10 343 *eP* P 22 50 28.4 +0.4
comp=Z,146nm,1.2s
HGN *eX* **PcP 22 50 41.0 -0.4**
GRA1 Grafenberg Arr 75.10 340 *eP* P 22 50 29.2 +1.1
comp=Z,72nm,0.9s
GRF Grafenberg Arr 75.10 340 P P 22 50 29.3 +1.3
GRFO Grafenberg 75.10 340 *eP* P 22 50 29.2 +1.2
comp=Z,74nm,1.0s
W48A Pulaski 75.11 51 P P 22 50 27.8 -0.5
baz=324,SNR=9.0
KHC Kasperske Hory 75.11 338 *eP* P 22 50 28.0 -0.1
comp=Z,22nm,1.0s
KHC Kasperske Hory 75.11 338 *eP* P 22 50 28.0 -0.1
KHC pmax pmax
comp=Z,22nm,1.0s
KHC Kasperske Hory 75.11 338 *eP* P 22 50 28.9 +0.8
KHC *ex* x 22 50 34.8
KHC *e*pP **pwP 22 50 42.5 0.0**
KHC *eS* **S 23 00 06.1 +2.9**
KHC AMS AMS 23 31 10.0
comp=Z,5μm,14.1s
BEBN Eben Emael 75.11 344 ⇑P P 22 50 28.6 +0.5
comp=Z,7.7nm,1.1s
ZST Bratislava 75.13 336 *eP* P 22 50 28.8 +0.6
ZST Bratislava 75.13 336 *eP* P 22 50 28.8 +0.6
TLB Topalu 75.16 327⇓*iP* P 22 50 28.7 +0.3
X47A Russelville 75.16 52 P P 22 50 28.3 -0.3
baz=324
SRO Srobarova 75.17 335 *eP* P 22 50 29.7 +1.3
SRO Srobarova 75.17 335 *eP* P 22 50 29.7 +1.3
IWEX Carrickbyrne, 75.19 352 *eP* P 22 50 26.1 -2.3
IWEX *e*PP **P 22 50 28.9 +0.5**
IWEX *eS* **S 22 59 59.5 -4.3**
SRO2 Moca 75.19 335 *eP* P 22 50 28.5 0.0
SRO2 Moca 75.19 335 *eP* P 22 50 28.5 0.0
MEM Membach 75.24 343 P P 22 50 29.9 +1.1
MEM Membach 75.24 343 ⇑P P 22 50 29.4 +0.7
comp=Z,127nm,1.0s
N59A State Game Lan 75.25 41 *eP* P 22 50 29.1 0.0
comp=Z,14nm,0.8s
N59A State Game Lan 75.25 41 P P 22 50 27.7 -1.4
baz=328,SNR=5.6
WET Wettzell 75.26 339 P P 22 50 29.9 +0.9
S53A Williamson 75.27 47 P P 22 50 28.5 -0.7
baz=326
BZK Bozkurt 75.30 322⇓*iP* P 22 50 29.6 +0.4
UCC Uccle 75.34 344 *eP* P 22 50 30.0 +0.7
comp=Z,31nm,1.0s
UCC Uccle 75.34 344 *eP* P 22 50 30.0 +0.7
UCC pmax pmax
comp=Z,31nm,1.0s
UCC Uccle 75.34 344 ⇑P P 22 50 29.7 +0.5
T52A Hallie 75.35 48 *eP* P 22 50 30.4 +0.7
comp=Z,33nm,1.0s
T52A Hallie 75.35 48 P P 22 50 28.5 -1.2
baz=326
GEC2 GERESS Array S 75.35 338 *eP* P 22 50 30.1 +0.5
comp=Z,36nm,1.2s
GEC2 GERESS Array S 75.35 338 *eP* P 22 50 30.1 +0.5
GEC2 pmax pmax
comp=Z,36nm,1.2s
GERES GERESS Array B 75.35 338 P P 22 50 29.9 +0.3
comp=Z,7.7nm,0.7s,baz=35,slow=4.9,SNR=68
R54A Victor 75.36 46 P P 22 50 28.7 -1.0
baz=326
WRAB Tennant Creek 75.36 205 *eP* P 22 50 30.1 +0.4
comp=Z,19nm,0.8s
WRAB Tennant Creek 75.36 205 *c*eP P 22 50 29.7 0.0
WRAB pmax pmax
comp=Z,21nm,1.3s
WB2 Warramunga Arr 75.36 205 *eP* P 22 50 30.0 +0.3
comp=Z,23nm,0.9s
WR1 Warramunga Arr 75.37 205 *eP* P 22 50 29.8 0.0

WRA Warramunga Arr 75.37 205 P P 22 50 29.8 0.0
comp=Z,6.1nm,0.8s,baz=24,slow=5.1,SNR=28
VOIR 75.38 329⇑*iP* P 22 50 30.3 +0.5
MFTR Murfatlar 75.39 326⇑*iP* P 22 50 30.5 +0.8
SECR 75.41 328⇑*iP* P 22 50 29.8 -0.1
W49A Belvidere 75.44 51 P P 22 50 29.5 -0.7
baz=325
PAGS Pennsylvania G 75.45 42 *eP* P 22 50 30.8 +0.7
comp=Z,19nm,0.9s
U51A La Follette 75.47 49 P P 22 50 30.3 -0.1
baz=325
HRV Adam Dziewonsk 75.51 37 P P 22 50 29.8 -0.7
baz=330
SWET Sewanee 75.52 51 *eP* P 22 50 30.7 0.0
comp=Z,23nm,0.8s
BCLA Clavier 75.54 344 ⇑P P 22 50 30.9 +0.4
comp=Z,50nm,1.1s
V50A Pikevile 75.55 50 P P 22 50 30.3 -0.6
baz=325,SNR=7.0
TZTN Tazewell 75.56 48 *eP* P 22 50 31.8 +0.9
comp=Z,11nm,0.9s
TZTN Tazewell 75.56 48 P P 22 50 30.4 -0.5
baz=326
MTUR Matau 75.56 329⇑*iP* P 22 50 31.4 +0.6
ARR Arges 75.57 329⇑*iP* P 22 50 32.0 +1.1
CSKK Cskako 75.60 334 *eP* P 22 50 31.1 +0.2
CSKK Cskako 75.60 334 *eP* P 22 50 31.1 +0.2
O59A Robesonia 75.60 41 P P 22 50 30.4 -0.6
baz=328
X48A Hartselle 75.61 52 *eP* P 22 50 31.1 -0.1
comp=Z,11nm,1.0s
X48A Hartselle 75.61 52 P P 22 50 29.8 -1.4
baz=324
SNF Seneffe 75.63 344 ⇑P P 22 50 30.5 -0.5
comp=Z,61nm,0.8s
DEV Deva 75.63 331⇑*iP* P 22 50 32.3 +1.2
R55A Marlinton 75.65 45 P P 22 50 30.8 -0.6
baz=327
ICOR Ion Corvin 75.65 327⇑*iP* P 22 50 32.0 +0.8
T53A Wise 75.66 47 P P 22 50 31.0 -0.5
baz=326,SNR=6.3
SULR 75.67 328⇑*iP* P 22 50 31.4 +0.1
LUPA Lehigh Univers 75.68 40 *eP* P 22 50 32.2 +0.7
comp=Z,1.6nm,1.1s
CONA Conrad Observa 75.69 336 *eP* P 22 50 32.6 +1.1
comp=Z,38nm,1.0s,SNR=21
SOP Sopron 75.74 336 *eP* P 22 50 31.1 -0.6
SOP Sopron 75.74 336 *eP* P 22 50 31.1 -0.6
Q57A Strasburg 75.75 43 P P 22 50 31.0 -0.9
baz=328
LOT Lotru 75.76 330⇓*iP* P 22 50 32.1 +0.1
U52A Thorn Hill 75.76 48 P P 22 50 31.3 -0.7
baz=326,SNR=5.7
GOA Goa 75.78 277 *eP* P 22 50 31.0 -1.4
V51A Loudon 75.79 49 *eP* P 22 50 32.5 +0.3
comp=Z,18nm,0.9s
V51A Loudon 75.79 49 P P 22 50 31.3 -0.9
baz=325,SNR=7.9
MVL Millersville 75.80 41 *eP* P 22 50 33.3 +1.2
comp=Z,9.9nm,0.8s
W50A Signal Mountai 75.83 50 *eP* P 22 50 32.8 +0.3
comp=Z,19nm,0.8s
W50A Signal Mountai 75.83 50 P P 22 50 31.8 -0.7
baz=325,SNR=10
VAL Valentia 75.89 354 *eP* P 22 50 30.4 -2.0
VAL *e*PP **P 22 50 32.7 +0.3**
VAL *eS* **S 23 00 07.8 -3.7**
O60A Telford 75.91 41 P P 22 50 31.7 -1.1
baz=329
X49A Woodville 75.91 51 P P 22 50 32.5 -0.4
baz=325,SNR=5.6
PAL Palisades 75.91 39 P P 22 50 31.8 -1.0
baz=329
DOU Dourbes 75.98 344 ⇑P P 22 50 33.1 +0.1
comp=Z,30nm,1.1s
Y48A Jasper 75.98 52 P P 22 50 32.5 -0.8
baz=324
CPCT Cooper Cave 76.00 50 *eP* P 22 50 33.7 +0.3
comp=Z,15nm,0.8s
T54A Tazewell 76.02 47 P P 22 50 32.8 -0.8
baz=326,SNR=7.1
BRYW Bryant College 76.03 37 *eP* P 22 50 33.9 +0.4
comp=Z,17nm,1.1s
P59A Jarrettsville 76.09 42 P P 22 50 33.6 -0.2
baz=328
SDMD Soldier's Deli 76.09 42 *eP* P 22 50 34.8 +1.0
comp=Z,9.1nm,0.9s
V52A Sevierville 76.11 49 *eP* P 22 50 34.4 +0.4
comp=Z,11nm,0.9s
V52A Sevierville 76.11 49 P P 22 50 33.9 -0.1
baz=326,SNR=5.8
GZR Gura Zlata 76.11 331⇑*iP* P 22 50 34.0 0.0
TIH Tihany 76.12 334 *eP* P 22 50 33.0 -0.9
WLF Walferdange 76.12 343 *eP* P 22 50 34.9 +1.1
comp=Z,226nm,1.2s
WLF Walferdange 76.12 343 *eP* P 22 50 34.9 +1.1
WLF pmax pmax
comp=Z,227nm,1.2s
WLF Walferdange 76.12 343 ⇓P P 22 50 34.7 +0.9
comp=Z,33nm,1.4s
W51A Cleveland 76.12 50 P P 22 50 33.0 -1.1
baz=325
U53A Fall Branch 76.15 48 P P 22 50 33.4 -0.8
baz=326
MOA Molln 76.15 337 *eP* P 22 50 34.9 +0.8
comp=Z,17nm,0.9s,SNR=16
SGRR Singureni 76.16 328⇑*iP* P 22 50 34.2 +0.1
ILGA Ilgaz 76.19 321 *eP* P 22 50 35.6 +1.0
comp=Z,78nm,1.0s
HUMR Humele 76.21 329⇑*iP* P 22 50 33.4 -1.0
PSUB Penn St. - Bra 76.22 41 *eP* P 22 50 35.1 +0.5
comp=Z,16nm,1.0s
P60A Greenville 76.25 41 P P 22 50 33.8 -0.8
baz=329
BZS Buzias 76.26 332⇑*iP* P 22 50 34.5 -0.2
FITZ Fitzroy Crossi 76.27 214 *eP* P 22 50 35.8 +1.0
comp=Z,29nm,1.1s
X50B Fort Payne 76.27 51 P P 22 50 34.2 -0.8
baz=325,SNR=7.1
R57A Stanardsville 76.33 44 P P 22 50 34.7 -0.5
baz=328
T55A Pulaski 76.33 46 P P 22 50 34.0 -1.3
baz=327
HAL Halifax 76.35 31 *eP* P 22 50 36.6 +1.5
comp=Z,27nm,0.9s
U54A Nelsons Funny 76.36 47 *eP* P 22 50 36.0 +0.5
comp=Z,31nm,1.2s
U54A Nelsons Funny 76.36 47 P P 22 50 34.5 -1.0
baz=326
STU Stuttgart 76.40 341 *eP* P 22 50 35.3 -0.1
comp=Z,69nm,1.1s
STU Stuttgart 76.40 341 *eP* P 22 50 35.3 -0.1
STU pmax pmax
comp=Z,69nm,1.1s
S56A Natural Bridge 76.40 45 P P 22 50 34.7 -0.9
baz=327
Y49A Blount Mountai 76.40 52 P P 22 50 35.3 -0.4
baz=325
ARSA Arzberg 76.40 336 *eP* P 22 50 35.8 +0.2
comp=Z,28nm,1.0s,SNR=20
BLA Blacksburg 76.41 46 *eP* P 22 50 36.5 +0.7
comp=Z,22nm,0.9s
BLA Blacksburg 76.41 46 *eP* P 22 50 36.5 +0.7
BLA pmax pmax
comp=Z,22nm,0.9s
BLA Blacksburg 76.41 46 P P 22 50 35.2 -0.6
baz=327
ZAIG Zacatecas 76.52 70 *eP* P 22 50 41.1 +4.3
comp=Z,12nm,1.0s
R58A Rapidan 76.55 44 P P 22 50 36.2 -0.2
baz=328
X51A Calhoun 76.56 50 *eP* P 22 50 37.9 +1.2
comp=Z,26nm,1.3s
X51A Calhoun 76.56 50 P P 22 50 36.3 -0.3
baz=325
W52A Murphy 76.57 49 *eP* P 22 50 37.6 +0.9
comp=Z,18nm,1.0s
W52A Murphy 76.57 49 P P 22 50 35.9 -0.8
baz=326
S57A Dark Hollow, R 76.59 44 *eP* P 22 50 37.4 +0.7
comp=Z,26nm,1.1s
S57A Dark Hollow, R 76.59 44 P P 22 50 36.2 -0.5
baz=327
BANR Banloc 76.61 332⇑*iP* P 22 50 37.6 +1.0
V53A Saluda 76.61 48 *eP* P 22 50 37.3 +0.3
comp=Z,17nm,1.1s
V53A Saluda 76.61 48 P P 22 50 36.8 -0.2

baz=326
Q59A Harwood 76.63 42 P P 22 50 36.9 0.0
baz=328
SRE Strehaia 76.64 330⇑ iP P 22 50 37.0 +0.1
HERR Herculane 76.69 331⇑ iP P 22 50 37.1 0.0
Y50A Piedmont 76.70 51 P P 22 50 36.2 -1.2
baz=325
U55A TA2, Sparta 76.72 47 P P 22 50 36.1 -1.5
baz=327
LRAL Lakeview Retre 76.78 53 eP P 22 50 37.5 -0.3
comp=Z,5.7nm,0.7s
LRAL Lakeview Retre 76.78 53 P P 22 50 37.1 -0.8
baz=325,SNR=5.6
BEHE Becsehely 76.81 335⇑ iP P 22 50 38.5 +0.7
BEHE Becsehely 76.81 335⇑ eP P 22 50 38.0 +0.2
W53A Cullowhee 76.86 49 P P 22 50 37.4 -1.1
baz=326,SNR=6.2
VLAD Vladila 76.87 329⇑ iP P 22 50 38.6 +0.5
R58B Mineral 76.88 44 eP P 22 50 39.8 +1.5
comp=Z,11nm,1.0s
R58B Mineral 76.88 44 P P 22 50 37.5 -0.8
baz=328
CBN Corbin Frederi 76.89 43 P P 22 50 37.2 -1.1
baz=328
V54A Nebo 76.92 48 P P 22 50 37.7 -1.0
baz=326,SNR=6.8
KOGS Kog 76.97 335 i P P 22 50 38.4 -0.3
MDVR Moldovita 76.99 331⇓ iP P 22 50 38.2 -0.7
X52A Dahlonega 76.99 50 P P 22 50 38.3 -0.7
baz=326
BFO Black Forest 76.99 341 eP P 22 50 39.0 +0.1
comp=Z,27nm,0.8s
BFO Black Forest 76.99 341 i P P 22 50 39.5 +0.7
R59A King George, V 77.00 43 P P 22 50 38.1 -0.9
baz=328
Y51A Rockmart 77.01 51 P P 22 50 38.0 -1.2
baz=325
SOKA Soboth 77.06 336 eP P 22 50 40.2 +0.9
comp=Z,40nm,1.1s,SNR=17
PUNG Punghina 77.08 330⇓ iP P 22 50 38.4 -0.9
KBA Koelnbreinsper 77.09 338 eP P 22 50 41.0 +1.3
comp=Z,100nm,0.8s,SNR=36
KBA Koelnbreinsper 77.09 338 P P 22 50 40.9 +1.3
T57A Hurt 77.10 45 eP P 22 50 39.8 +0.2
comp=Z,12nm,0.8s
T57A Hurt 77.10 45 P P 22 50 39.0 -0.5
baz=327
S58A Poland Farm, P 77.10 44 eP P 22 50 41.6 +2.0
comp=Z,14nm,0.9s
S58A Poland Farm, P 77.10 44 P P 22 50 39.0 -0.5
baz=328
Z50A Ashland 77.12 52 eP P 22 50 39.8 0.0
comp=Z,22nm,0.9s
Z50A Ashland 77.12 52 P P 22 50 39.2 -0.6
baz=325,SNR=9.5
GROS Grobnik 77.14 336 i P P 22 50 40.2 +0.4
U56A King 77.15 46 P P 22 50 39.1 -0.8
baz=327
R60A Leonardtown, M 77.17 43 P P 22 50 38.7 -1.2
baz=328
V55A Taylorsville 77.19 47 P P 22 50 38.6 -1.5
baz=327
FRGS Fruska Gora 77.20 333⇑ iP P 22 50 40.1 +0.1
149A Jones 77.23 53 P P 22 50 39.1 -1.3
baz=325
WATA Walderalm 77.25 339 eP P 22 50 41.2 +0.8
comp=Z,23nm,1.0s,SNR=20
RETA Reutte 77.29 339 eP P 22 50 41.4 +0.8
comp=Z,22nm,0.9s,SNR=8.7
S59A Mechanicsville 77.30 43 P P 22 50 41.7 +1.1
baz=328
WTTA Wattenberg 77.31 339 eP P 22 50 41.9 +1.1
comp=Z,49nm,1.1s,SNR=18
ECH Echery 77.33 342 eP P 22 50 40.8 +0.1
comp=Z,77nm,1.1s
ECH Echery 77.33 342 eP P 22 50 40.8 +0.1
ECH pmax pmax
comp=Z,77nm,1.1s
OBKA Obir 77.34 337 eP P 22 50 41.7 +0.8
comp=Z,94nm,1.2s,SNR=14
X53A Estanollee 77.35 49 P P 22 50 39.9 -1.1
baz=326,SNR=6.6
MOTA Moosalm 77.35 339 eP P 22 50 41.8 +0.8
comp=Z,21nm,0.8s,SNR=27
BR101 Keskin Array S 77.36 321 eP P 22 50 41.1 -0.1
BR101 ePP PP 22 53 33.9 -1.2
BR131 Keskin Array S 77.36 321 eP P 22 50 41.2 0.0
comp=Z,40nm,1.1s
BR131 Keskin Array S 77.36 321 eP P 22 50 41.2 0.0
BR131 pmax pmax
comp=Z,40nm,1.1s
BR131 Keskin Array S 77.36 321 P P 22 50 41.5 +0.3
SNR=47
BR131 P P 22 50 41.5 +0.3
SNR=47
BRTR Keskin Array B 77.36 321 P P 22 50 41.1 0.0
comp=Z,8.4nm,0.8s,baz=46,slow=3.6,SNR=85
BRTR PP PP 22 53 33.9 -1.2
comp=Z,5.0nm,0.7s,baz=29,slow=7.6,SNR=3.1
W54A Cherokee Point 77.38 48 P P 22 50 40.4 -0.8
baz=326,SNR=5.0
Z51A Franklin 77.43 51 P P 22 50 40.5 -1.0
baz=325
MYKA Terra Mystica 77.44 337 i P P 22 50 41.9 +0.5
comp=Z,33nm,1.5s,SNR=9.0
SQTA Sankt Quirin 77.44 339 i P P 22 50 42.6 +1.1
comp=Z,48nm,0.9s,SNR=20
T58A Grand View Acr 77.46 45 P P 22 50 39.4 -2.2
baz=328
SLE Schleitheim 77.50 341 P P 22 50 42.5 +0.8
Y52A Lilburn 77.52 50 eP P 22 50 42.5 +0.5
comp=Z,18nm,1.3s
Y52A Lilburn 77.52 50 P P 22 50 40.2 -1.7
baz=326
U57A Blanch 77.54 45 P P 22 50 40.5 -1.5
baz=327
V56A Mocksville 77.55 47 eP P 22 50 42.9 +0.8
comp=Z,21nm,1.2s
V56A Mocksville 77.55 47 P P 22 50 39.9 -2.2
baz=327
ANTO Ankara 77.57 321 eP P 22 50 42.9 +0.6
comp=Z,63nm,1.1s
ANTO Ankara 77.57 321⇑ iP P 22 50 42.9 +0.6
ANTO Ankara 77.57 321 eP P 22 50 42.9 +0.6
ANTO pmax pmax
comp=Z,63nm,1.1s
ANTO Ankara 77.57 321 P P 22 50 43.1 +0.9
SNR=33
ANTO P P 22 50 43.1 +0.9
SNR=33
249A Camden 77.58 53 P P 22 50 41.9 -0.4
baz=325
ABTA Abfaltersbach 77.60 338 eP P 22 50 42.9 +0.6
comp=Z,39nm,1.0s,SNR=19
ZAG Zagreb 77.61 335⇑ iP P 22 50 42.7 +0.4
MDUB Mudurnu 77.65 323 eP P 22 50 43.1 +0.4
comp=Z,345nm,1.0s
MPEP Malo Peshtene 77.66 329 P P 22 50 41.2 -1.4
DAVA Damuels 77.67 340 eP P 22 50 43.5 +0.7
comp=Z,27nm,1.1s,SNR=9.7
HAU Haudompre 77.68 342 eP P 22 50 42.5 -0.2
HAU pmax pmax
comp=Z,72nm,1.3s
KMSC Kings Mountain 77.72 48 eP P 22 50 43.2 +0.1
comp=Z,19nm,1.2s
KMSC Kings Mountain 77.72 48 P P 22 50 42.3 -0.8
baz=327
FETA Feichten 77.74 339 eP P 22 50 44.3 +1.1
comp=Z,33nm,0.9s,SNR=17
X54A Belton 77.74 49 P P 22 50 43.1 -0.1
baz=326
KLYT Kilyos 77.75 325⇓ iP P 22 50 43.4 +0.3
Y53A Monroe 77.75 50 P P 22 50 42.5 -0.7
baz=326
CRES Cresnjev 77.75 336 i P P 22 50 43.3 +0.2
CRES Cresnjev 77.75 336⇑ iP P 22 50 43.2 +0.1
HINF Hinteralfeld 77.77 342 eP P 22 50 42.7 -0.5
HINF pmax pmax
comp=Z,23nm,1.0s
PAULI Pauline 77.77 48 eP P 22 50 44.7 +1.4
comp=Z,8.8nm,0.9s
LJU Ljubljana 77.78 336⇑ iP P 22 50 43.1 -0.1
V57A Coltrane Farms 77.80 46 P P 22 50 42.0 -1.5
baz=327
CTYL Yalikoy Yolu 77.82 325⇑ iP P 22 50 43.3 -0.2
T59A Double "B" Far 77.86 44 P P 22 50 42.6 -1.2
baz=328

Z52A Williamson 77.90 51 P P 22 50 43.5 -0.6
baz=326
U58A Oxford 77.91 45 P P 22 50 44.3 +0.2
baz=328
PALK Pallekele 77.93 266 eP P 22 50 45.0 +0.5
comp=Z,42nm,0.8s
PALK Pallekele 77.93 266 eP P 22 50 45.0 +0.5
PALK pmax pmax
comp=Z,42nm,0.8s
SHME Shamm 77.94 297 i P P 22 50 43.8 -0.6
SNR=9.2
OZLJ Ozalj 77.94 336 P P 22 50 44.1 +0.1
PHSR Pinarhisar 77.95 326⇓ iP P 22 50 44.9 +0.7
151A Opelika 78.01 52 P P 22 50 44.1 -0.7
baz=325
EDRB Edirne 78.02 326 P P 22 50 44.6 0.0
FLN La Foliniere 78.05 347 eP P 22 50 44.2 -0.5
FLN pmax pmax
comp=Z,47nm,1.0s
HODGE Hodges 78.06 49 eP P 22 50 45.4 +0.5
comp=Z,12nm,0.8s
CEY Cerknica 78.09 336⇑ iP P 22 50 44.9 -0.1
DIVS Divibare 78.12 332⇑ iP P 22 50 45.0 -0.2
X55A Gracelyn & Ava 78.14 48 P P 22 50 44.7 -0.7
baz=327
DAVOX Davos/Dischmat 78.15 340 P P 22 50 46.6 +1.1
comp=Z,22nm,0.7s,baz=352,slow=3.9,SNR=30
Y54A Tignall 78.16 49 P P 22 50 45.5 0.0
baz=326
LDF La Druitiere 78.16 347 eP P 22 50 44.8 -0.5
LDF pmax pmax
comp=Z,31nm,1.2s
V58A Windy Hill, Pi 78.17 46 P P 22 50 44.8 -0.8
baz=328
152A Waverly Hall 78.18 51 eP P 22 50 45.7 0.0
comp=Z,17nm,1.3s
152A Waverly Hall 78.18 51 P P 22 50 44.7 -1.0
baz=326
FUORN Ofenpass-Fuorn 78.22 339 eP P 22 50 47.1 +1.1
comp=Z,82nm,1.1s
Z53A Monticello 78.23 50 P P 22 50 45.6 -0.3
baz=326
PGB Panagyurishte 78.25 328 i P P 22 50 46.1 +0.1
U59A Littleton 78.28 44 P P 22 50 46.3 +0.2
baz=328
BLY Banja Luka 78.30 334 eP P 22 50 46.1 0.0
comp=Z,16nm,0.9s
BLY Banja Luka 78.30 334⇑ iP P 22 50 46.2 0.0
BLY Banja Luka 78.30 334⇑ iP P 22 50 45.8 -0.3
W57A Gilead 78.32 47 eP P 22 50 46.6 +0.2
comp=Z,16nm,1.0s
W57A Gilead 78.32 47 P P 22 50 45.9 -0.4
baz=327
251A Midway 78.32 52 P P 22 50 46.5 0.0
baz=325
CLF Chambon-Foret 78.36 345 eP P 22 50 44.5 -1.9
comp=Z,160nm,1.4s
X56A White Oak 78.40 48 P P 22 50 46.4 -0.4
baz=327
HAPS Han Pijesak,Bl 78.42 333 eP P 22 50 46.2 -0.8
RIY Rijeka 78.46 336⇑ iP P 22 50 46.8 -0.2
GRR Gorron 78.47 347 eP P 22 50 46.7 -0.3
GRR pmax pmax
comp=Z,63nm,1.0s
MSFE Esma-Masafi 78.47 296 i P P 22 50 46.9 -0.6
SNR=7.1
JSC Jenkinsville 78.47 48 eP P 22 50 47.5 +0.2
comp=Z,15nm,1.1s
JSC Jenkinsville 78.47 48 eP P 22 50 47.5 +0.2
JSC pmax pmax
comp=Z,15nm,1.1s
VTS Vitosha 78.48 329 eP P 22 50 47.1 -0.3
comp=Z,34nm,0.9s
VTS Vitosha 78.48 329 P P 22 50 47.4 0.0
VTS Vitosha 78.48 329⇑ iP P 22 50 47.4 0.0
VTS Vitosha 78.48 329 eP P 22 50 47.1 -0.3
VTS pmax pmax
comp=Z,34nm,0.9s
VTS Vitosha 78.48 329 i P P 22 50 47.0 -0.3
Y55A Saluda 78.48 49 P P 22 50 46.3 -1.1
baz=327
BBLS Lazići 78.50 332⇑ iP P 22 50 47.7 +0.4
BIRD Birdtown, Kers 78.53 47 eP P 22 50 48.2 +0.7
comp=Z,10nm,0.9s
TUE Stuetta 78.56 340 eP P 22 50 48.9 +1.1
comp=Z,73nm,0.9s
V59A Middlesex 78.58 45 P P 22 50 47.0 -0.8
baz=328
Z54A Sparta 78.61 50 P P 22 50 47.5 -0.5
baz=326
WSAR Wadi Sarin 78.76 293 P P 22 50 49.8 +0.8
SNR=8.5
W58A Raeford 78.77 46 P P 22 50 47.8 -1.0
baz=328
BIDO Bidbid 78.83 294 P P 22 50 51.0 +1.6
SNR=6.8
BIDO P P 22 50 51.0 +1.6
SNR=6.8
LOR Lormes 78.84 344 eP P 22 50 48.8 -0.3
LOR pmax pmax
comp=Z,57nm,1.1s
RZN Rozhen 78.84 328 i P P 22 50 49.5 +0.1
UDBI Udbina 78.88 335 P P 22 50 49.1 -0.3
HATD Hatta, Dubai 78.91 296 i P P 22 50 49.3 -0.5
SNR=14
HATD Hatta, Dubai 78.91 296 P P 22 50 50.0 +0.1
SNR=13
HATD P P 22 50 50.0 +0.1
SNR=13
PLE Pljevlja 78.99 332⇑ iP P 22 50 50.4 +0.3
V60A Jim Taylor Roa 79.00 44 eP P 22 50 50.9 +0.8
comp=Z,26nm,0.8s
V60A Jim Taylor Roa 79.00 44 P P 22 50 50.0 -0.1
baz=328
AS31 Alice Springs 79.04 205 eP P 22 50 51.2 +0.9
comp=Z,4.2nm,0.7s
NAZ Nazwa, Dubai 79.04 297 i P P 22 50 50.0 -0.5
SNR=11
NAZ Nazwa, Dubai 79.04 297 P P 22 50 51.0 +0.5
SNR=9.0
NAZ P P 22 50 51.0 +0.5
SNR=9.0
ASAR Alice Springs 79.04 205 P P 22 50 51.0 +0.7
comp=Z,6.0nm,0.7s,baz=16,slow=5.3,SNR=62
RDO Rodhopi 79.06 327 eP P 22 50 50.5 +0.2
RDO Rodhopi 79.06 327 P P 22 50 50.5 +0.2
ASHO Ashiyiah 79.06 296 i P P 22 50 50.1 -0.5
SNR=15
ASHO Ashiyiah 79.06 296 P P 22 50 50.7 0.0
SNR=18
ASHO P P 22 50 50.7 0.0
SNR=18
NVLJ Novalja 79.08 336 P P 22 50 49.8 -0.5
SENIN Lac Senin/Sane 79.08 341 eP P 22 50 51.4 +0.8
comp=Z,21nm,1.0s
ALN Alexandroupoli 79.11 326 eP P 22 50 50.5 -0.1
comp=Z,26nm,1.0s
ALN Alexandroupoli 79.11 326 P P 22 50 50.5 -0.1
ALN Alexandroupoli 79.11 326 eP P 22 50 50.5 -0.1
ALN pmax pmax
comp=Z,28nm,1.0s
JLN Jalan Bani Buh 79.18 292 P P 22 50 53.0 +1.7
SNR=11
JLN P P 22 50 53.0 +1.7
SNR=11
TAOE Nuku Hiva Isla 79.19 120 eLR LR 23 15 27.5
comp=Z,2µm,23.8s
KKB Krupnik 79.21 329 i P P 22 50 51.7 +0.5
QUIF Quistinic 79.22 349 eP P 22 50 51.7 +0.6
QUIF pmax pmax
comp=Z,26nm,0.8s
SMDO Samad 79.23 294 P P 22 50 55.0 +3.3
SNR=6.5
SOHO SOHO 79.23 295 P P 22 50 51.0 -0.5
SNR=19
SOHO P P 22 50 51.0 -0.5
SNR=19
UPM Unac-Piva 79.25 332⇑ iP P 22 50 51.3 -0.3
UPM Unac-Piva 79.25 332 eP P 22 50 51.3 -0.3
TRD Trivandrum 79.27 270 eP P 22 50 52.1 +0.3
IVA Berane 79.27 332⇑ iP P 22 50 51.7 +0.1
FAQ Al Faqa, Dubai 79.27 296 i P P 22 50 50.8 -0.9
SNR=14
FAQ Al Faqa, Dubai 79.27 296 P P 22 50 52.0 +0.2
SNR=7.3
FAQ P P 22 50 52.0 +0.2
SNR=7.3
AVF Avril sur Loir 79.39 344 eP P 22 50 51.2 -0.8
AVF pmax pmax
comp=Z,49nm,1.0s
KOME Kolasin 79.40 332⇑ iP P 22 50 52.1 -0.2
NVR Nevrokopi 79.43 328 P P 22 50 52.7 +0.3
PVY Plav 79.50 331⇑ iP P 22 50 52.5 -0.4
ASUD Al Ashush, Dub 79.51 297 i P P 22 50 52.4 -0.7
SNR=5.8
353A Camilla 79.51 52 P P 22 50 52.4 -0.6
baz=326
KAVA Kavala 79.53 328 eP P 22 50 52.9 0.0
KAVA Kavala 79.53 328 P P 22 50 52.9 0.0
Z57A Bowman 79.55 48 P P 22 50 52.4 -0.7
baz=327
NKY Niksic 79.58 332⇑ iP P 22 50 53.2 -0.1
BALB Balikesir 79.59 325 eP P 22 50 53.2 0.0
comp=Z,224nm,1.0s
SKO Skopje 79.63 330 i P P 22 50 53.7 +0.2
BRY Bratogost 79.63 332⇑ iP P 22 50 53.0 -0.7
BRY Bratogost 79.63 332⇑ iP P 22 50 52.9 -0.7
NKME Niksic 79.64 332⇑ iP P 22 50 52.9 -0.7
STIP Stip 79.65 329 i P P 22 50 52.8 -0.8
SMTH Samothraki Isl 79.66 327 eP P 22 50 52.2 -1.5
SMTH Samothraki Isl 79.66 327 P P 22 50 52.2 -1.5
X60A Albert Glenn T 79.69 46 P P 22 50 52.5 -1.4
baz=328
SRS Serrai 79.72 328 P P 22 50 53.8 -0.2
ALNE Al Ain 79.73 296 i P P 22 50 53.8 -0.5
SNR=21
TIGA Tifton 79.74 51 eP P 22 50 55.1 +0.9
comp=Z,33nm,1.0s
TIGA Tifton 79.74 51 P P 22 50 53.1 -1.1
baz=326
JMDO Jabal Madar 79.75 293 P P 22 50 57.0 +2.6
SNR=6.9
AJN Ajban 79.75 297 i P P 22 50 53.4 -0.9
SNR=6.1
AJN Ajban 79.75 297 P P 22 50 54.8 +0.4
SNR=6.0
AJN P P 22 50 54.8 +0.4
SNR=6.0
CEME Cevo 79.85 332⇑ iP P 22 50 53.8 -0.9
TREB Trebinje 79.86 333 eP P 22 50 54.1 -0.6
PDG Podgorica 79.86 332⇑ iP P 22 50 54.3 -0.4
PDG Podgorica 79.86 332⇑ iP P 22 50 54.3 -0.4
TTG Podgorica 79.86 332⇑ iP P 22 50 54.3 -0.4
TTG Podgorica 79.86 332 eP P 22 50 53.9 -0.8
comp=Z,70nm,0.8s
TTG Podgorica 79.86 332 eP P 22 50 53.9 -0.8
TTG pmax pmax
comp=Z,70nm,0.8s
255A Hazlehurst 79.86 50 P P 22 50 54.2 -0.7
baz=327
VAY Valandovo 79.87 329 eP P 22 50 55.1 +0.4
VAY Valandovo 79.87 329 P P 22 50 55.1 +0.4
VAY Valandovo 79.87 329 i P P 22 50 55.2 +0.4
STON Ston 79.89 333 P P 22 50 53.1 -1.7
STON Ston 79.89 333⇑ iP P 22 50 53.4 -1.4
KNT Kendrikon 79.91 329 P P 22 50 55.3 +0.3
BSY Bisya 79.96 294 P P 22 50 57.0 +1.4
SNR=17
EZN Ezine 79.97 326 eP P 22 50 55.1 -0.2
EZN Ezine 79.97 326 P P 22 50 55.1 -0.2
EZN Ezine 79.97 326⇑ iP P 22 50 55.2 -0.1
EZN Ezine 79.97 326 eP P 22 50 55.1 -0.2
LPL La Plagne 80.00 341 eP P 22 50 56.5 +0.8
LPL pmax pmax
comp=Z,103nm,1.2s
LPG La Plagne 80.02 341 eP P 22 50 56.7 +0.8
LPG pmax pmax
comp=Z,66nm,0.8s
HCY Herceg Novi 80.06 332⇑ iP P 22 50 55.0 -0.9
HCY Herceg Novi 80.06 332 eP P 22 50 54.9 -0.9
BUM Brajici-Budva 80.08 332⇑ iP P 22 50 55.6 -0.4
DRME Dracevica, Mon 80.10 332⇑ iP P 22 50 56.0 0.0
DRME Dracevica, Mon 80.10 332⇑ iP P 22 50 55.8 -0.2
PHP Peshkopia 80.19 331 P P 22 50 56.2 -0.4
ISP Isparta 80.22 322 eP P 22 50 55.8 -1.0
comp=Z,56nm,1.0s
ISP Isparta 80.22 322⇑ iP P 22 50 56.2 -0.6
ISP Isparta 80.22 322 eP P 22 50 55.8 -1.0
ISP pmax pmax
comp=Z,56nm,1.0s
KRUS Krusevo 80.23 330 i P P 22 50 56.8 0.0
GRG Griva 80.25 329 P P 22 50 57.0 +0.1
ULC Ulcinj 80.29 332⇑ iP P 22 50 57.6 +0.5
LIA Limnos Island 80.29 327 P P 22 50 56.8 -0.3
KULA Kula-Manisa 80.30 324 P P 22 50 57.0 -0.3
OUR Ouranopolis 80.30 328 eP P 22 50 56.8 -0.3
OUR Ouranopolis 80.30 328 P P 22 50 56.8 -0.3
OUR Ouranopolis 80.30 328 eP P 22 50 56.8 -0.3
MANT Manisa 80.36 324 eP P 22 50 57.6 -0.1
comp=Z,161nm,1.0s
PLG Polygyros 80.44 328 P P 22 50 57.4 -0.5
BNI Bardonecchia 80.46 341 eP P 22 50 59.0 +0.9
comp=Z,68nm,1.2s
BNI Bardonecchia 80.46 341 eP P 22 50 59.0 +0.9
BNI pmax pmax
comp=Z,68nm,1.2s
PRK Paraskevi 80.50 326 P P 22 50 58.7 +0.5
PMOR Pomariorio Ree 80.52 130 eT T 00 19 32.0
comp=Z,4.8nm,0.2s
BIA Bitola 80.53 330 i P P 22 50 58.2 -0.2
VLC Villacollemand 80.53 339 eP P 22 51 00.4 +2.1
comp=Z,85nm,1.2s
OHR Ohrid 80.61 330 i P P 22 50 58.5 -0.4
SSB Saint Sauveur 80.64 343 eP P 22 50 59.6 +0.7
comp=Z,31nm,0.8s
TIR Tirane 80.67 331 eP P 22 50 59.2 +0.1
comp=Z,62nm,0.7s
SIGR SIGRI 80.68 326 P P 22 50 58.6 -0.5
FNA Florina 80.73 330 eP P 22 50 59.1 -0.4
comp=Z,29nm,0.9s
FNA Florina 80.73 330 P P 22 50 59.1 -0.4
FNA Florina 80.73 330 eP P 22 50 59.1 -0.4
FNA pmax pmax
comp=Z,29nm,0.9s
PAIG Paliouri 80.77 328 P P 22 50 59.0 -0.6
554A Perry 80.81 52 P P 22 50 59.1 -0.8
baz=326
MHTO MHTO 80.91 292 P P 22 51 01.0 +0.3
SNR=36
MHTO P P 22 51 01.0 +0.3
SNR=36
LIT Litokhoron 81.00 329 eP P 22 51 00.5 -0.4
comp=Z,27nm,0.8s
LIT Litokhoron 81.00 329 eP P 22 51 00.5 -0.4
LIT pmax pmax
comp=Z,27nm,0.8s
555A McAlpin 81.13 52 eP P 22 51 02.9 +1.2
comp=Z,31nm,0.8s
555A McAlpin 81.13 52 P P 22 51 01.7 +0.1
baz=327
RJF Les Rejaudoux 81.13 345 eP P 22 51 01.9 +0.4
RJF pmax pmax
comp=Z,59nm,1.4s
NEST Nestorio 81.17 330 P P 22 51 01.8 -0.1
PHNC Paralimni 81.28 318 P P 22 51 03.7 +1.3
CHOS Chios island 81.35 325 P P 22 51 02.3 -0.5
CAF Calviac 81.41 345 eP P 22 51 03.7 +0.7
CAF pmax pmax
comp=Z,40nm,0.9s
XOR Xorichti 81.44 328 P P 22 51 02.2 -1.0
MAMC Mammari 81.47 319 P P 22 51 03.1 -0.3
FYTO Fytoko, Volos 81.48 328 eP P 22 51 03.8 +0.4
FYTO Fytoko, Volos 81.48 328 P P 22 51 03.8 +0.4
556A Lake Butler 81.49 51 P P 22 51 03.0 -0.6
baz=327
AQU L'Aquila 81.52 336 eP P 22 51 04.9 +1.2
comp=Z,206nm,1.5s
AQU L'Aquila 81.52 336 eP P 22 51 04.9 +1.2
AQU pmax pmax
comp=Z,206nm,1.5s
AQU L'Aquila 81.52 336⇑ iP P 22 51 04.2 +0.5
BHL Bhannes 81.55 316 eP P 22 51 03.5 -0.5
QASN Qassioun 81.60 316 eP P 22 51 00.5 -3.8
CSS Mathiatis 81.60 318 eP P 22 51 04.0 -0.2
comp=Z,84nm,1.0s
CSS Mathiatis 81.60 318 P P 22 51 04.0 -0.2
TOTH TOTAH 81.68 315 eP P 22 51 04.0 -0.7
ALFC Alefka 81.73 319 P P 22 51 04.6 -0.3
DQRL Deir Qamar 81.75 316 eP P 22 51 05.2 +0.1
557A Orange Park 81.81 51 P P 22 51 03.8 -1.4

baz=327
QRWL Qaraoun 81.84 316 *e*P **P 22 51 05.4 -0.1**
BRBR Barbar 81.84 316 *e*P **P 22 51 05.2 -0.5**
MNCY Minicoy 81.87 273 *e*P **P 22 51 06.0 +0.2**
SMIA Simia 81.87 328 P **P 22 51 07.4 +1.9**
FRF La Foret Royal 81.90 341 *e*P **P 22 51 07.7 +2.1**
FRF pmax pmax
comp=Z,23nm,0.9s
MRKA Markates 81.90 327 P **P 22 51 05.6 -0.1**
JAN Janina 81.92 330 *e*P **P 22 51 06.1 +0.3**
JAN Janina 81.92 330 P **P 22 51 06.1 +0.3**
JAN Janina 81.92 330 *e*P **P 22 51 06.1 +0.3**
656A Willston 81.96 52 *e*P **P 22 51 07.2 +1.1**
comp=Z,55nm,1.3s
656A Willston 81.96 52 P **P 22 51 04.6 -1.5**
baz=327
SZAC Souni 81.96 319 P **P 22 51 05.2 -0.9**
SRN Sarande 81.98 330 P **P 22 51 05.8 -0.2**
SHBL Chebaa 81.98 316 *e*P **P 22 51 06.3 -0.1**
PPT2 Papeete2 82.00 132 *e*S **S 23 01 22.7 +5.3**
comp=Z,1µm,30.0s
PPT2 Papeete2 82.00 132 *e*LR LR 23 16 55.9
comp=Z,3µm,24.0s,baz=330
EREA Eretria 82.05 327 P **P 22 51 05.7 -0.8**
PPCY Paphos 82.07 319 P **P 22 51 06.2 -0.4**
ATAL Atalanti 82.10 328 *e*P **P 22 51 05.2 -1.5**
ATAL Atalanti 82.10 328 P **P 22 51 05.2 -1.5**
LMR La Mourre 82.14 341 *e*P **P 22 51 06.0 -0.8**
LMR pmax pmax
comp=Z,76nm,1.5s
LKR Lokris 82.15 328 P **P 22 51 05.5 -1.4**
IGT Igoumenitsa 82.19 330 *e*P **P 22 51 07.1 -0.1**
IGT Igoumenitsa 82.19 330 P **P 22 51 07.1 -0.1**
IGT Igoumenitsa 82.19 330 *e*P **P 22 51 07.1 -0.1**
DION Dionisos Attik 82.35 327 P **P 22 51 06.9 -1.2**
PTL Penteli 82.40 327 *e*P **P 22 51 07.0 -1.3**
PTL Penteli 82.40 327 P **P 22 51 07.0 -1.3**
MMAI Mount Meron Ar 82.42 316 P **P 22 51 08.8 +0.2**
comp=Z,38nm,0.7s,baz=32,slow=7.2,SNR=136
VILL Villia 82.48 327 P **P 22 51 07.4 -1.4**
ASF Jabal al Asfar 82.49 314 P **P 22 51 09.4 +0.4**
comp=Z,32nm,0.8s,baz=360,slow=2.2,SNR=70
ATHU Athens Univers 82.50 327 *e*P **P 22 51 07.4 -1.4**
ATHU Athens Univers 82.50 327 P **P 22 51 07.4 -1.4**
ANX Ano Chora 82.55 328 P **P 22 51 08.3 -0.9**
VLY Voula,Athens 82.60 327 *e*P **P 22 51 07.6 -1.8**
VLY Voula,Athens 82.60 327 P **P 22 51 07.6 -1.8**
APE Apeiranthos 82.71 325 *e*P **P 22 51 07.8 -2.2**
APE Apeiranthos 82.71 325 P **P 22 51 07.8 -2.2**
APE Apeiranthos 82.71 325 ‖ *i*P **P 22 51 08.3 -1.7**
APE Apeiranthos 82.71 325 *e*P **P 22 51 07.8 -2.2**
LTK Loutraki 82.73 327 *e*P **P 22 51 07.9 -2.1**
LTK Loutraki 82.73 327 P **P 22 51 07.9 -2.1**
LKD2 Lefkada island 82.78 329 P **P 22 51 09.5 -0.8**
MTLF Montolieu 82.93 344 *e*P **P 22 51 11.7 +0.8**
MTLF pmax pmax
comp=Z,40nm,1.0s
EVGI Lefkada island 82.93 329 P **P 22 51 10.6 -0.4**
KLV Kalavryta, Ach 82.98 328 P **P 22 51 09.9 -1.5**
GUR Goura 83.01 328 *e*P **P 22 51 10.2 -1.4**
GUR Goura 83.01 328 P **P 22 51 10.2 -1.4**
DID Didima 83.11 327 *e*P **P 22 51 09.3 -2.7**
DID Didima 83.11 327 P **P 22 51 09.3 -2.7**
RLS Riolos of Patr 83.19 328 P **P 22 51 12.1 -0.2**
DRO Drossia 83.20 328 P **P 22 51 12.3 -0.2**
VLS Valsamata 83.36 329 P **P 22 51 12.7 -0.6**
THR6 Thira Island, 83.40 325 *e*P **P 22 51 13.2 -0.3**
THR6 Thira Island, 83.40 325 P **P 22 51 13.2 -0.3**
VTN Vitineika 83.40 329 P **P 22 51 14.4 +0.9**
KARP Karpathos 83.48 323 *e*P **P 22 51 12.8 -1.2**
comp=Z,70nm,0.7s
VLX Vlachokerasia 83.51 328 *e*P **P 22 51 13.1 -1.1**
VLX Vlachokerasia 83.51 328 P **P 22 51 13.1 -1.1**
EPF Esparros 83.53 345 *e*P **P 22 51 14.2 +0.1**
EPF pmax pmax
comp=Z,41nm,1.0s
TIP Timpagrande 83.58 332 *e*P **P 22 51 14.3 -0.1**
comp=Z,102nm,1.3s
TIP Timpagrande 83.58 332 ‖ *i*P **P 22 51 14.4 -0.1**
AMT Artemida-Makis 83.59 328 P **P 22 51 13.5 -1.0**
SJPF Ste Jean 83.69 347 *e*P **P 22 51 15.9 +1.0**
SJPF pmax pmax
comp=Z,195nm,1.8s
ETSF Etsaut 83.80 346 *e*P **P 22 51 17.1 +1.6**
ETSF pmax pmax
comp=Z,39nm,0.9s
ITM Ithomi 83.84 328 *e*P **P 22 51 14.4 -1.3**
comp=Z,42nm,0.9s
ITM *e*S **S 23 01 40.0 +4.2**
ITM Ithomi 83.84 328 P **P 22 51 14.4 -1.3**
VLI Veliai 83.92 327 *e*P **P 22 51 14.1 -2.0**
VLI Veliai 83.92 327 P **P 22 51 14.1 -2.0**
PYL PYLOS 84.16 328 *e*P **P 22 51 15.8 -1.5**
PYL PYLOS 84.16 328 P **P 22 51 15.8 -1.5**
NPS Neapolis 84.30 324 P **P 22 51 16.0 -2.1**
LAST Lasithi 84.44 324 *e*P **P 22 51 17.5 -1.4**
LAST Lasithi 84.44 324 P **P 22 51 17.5 -1.4**
IDI Anoyia 84.54 325 *e*P **P 22 51 16.3 -3.1**
IDI Anoyia 84.54 325 P **P 22 51 16.3 -3.1**
IDI Anoyia 84.54 325 P **P 22 51 17.2 -2.2**
comp=Z,14nm,0.6s,baz=36,slow=10,SNR=35
ANKY Antikythira Is 84.57 326 *e*P **P 22 51 18.0 -1.4**
ANKY Antikythira Is 84.57 326 P **P 22 51 18.0 -1.4**
VAM Vamos 84.67 325 P **P 22 51 18.2 -1.8**
IMMV Iera Moni Meta 84.70 326 P **P 22 51 18.4 -1.7**
SIVA Sivas 84.81 325 P **P 22 51 20.1 -0.6**
STKA Stephens Creek 85.36 196 P **P 22 51 24.1 +1.0**
comp=Z,4.8nm,0.9s,baz=335,slow=8.0,SNR=7.1
EIL Elat 85.49 315 P **P 22 51 24.1 -0.1**
comp=Z,28nm,0.8s,baz=16,slow=2.7,SNR=31
PGAV Gavieira, Arco 85.65 351 *e*P **P 22 51 26.3 +1.4**
comp=Z,88nm,2.1s
PGAV Gavieira, Arco 85.65 351 *e*S S 23 02 16.9 +23
PGAV Gavieira, Arco 85.65 351 *e*LR LR 23 29 37.2
comp=Z,1µm,18.0s
PBRG Braganca 85.66 350 *e*P **P 22 51 25.9 +1.0**
comp=Z,73nm,2.0s
PCAB Cabril 85.88 351 *e*P **P 22 51 27.5 +1.6**
comp=Z,63nm,1.8s
POLO Lamas de Olo 86.19 351 *e*P **P 22 51 27.3 -0.3**
comp=Z,30nm,1.1s
PVRL Vila Real 86.28 351 *e*P **P 22 51 29.4 +1.5**
comp=Z,106nm,1.7s
MVO Moncorvo 86.32 350 *e*P **P 22 51 29.1 +0.9**
comp=Z,77nm,1.2s
MVO Moncorvo 86.32 350 *e*S S 23 02 11.7 +11
MVO Moncorvo 86.32 350 *e*LR LR 23 29 21.0
comp=Z,1µm,20.0s
PTO Porto 86.50 352 *e*P **P 22 51 30.8 +1.9**
comp=Z,84nm,1.6s
PVIS Viseu 86.85 351 *e*P **P 22 51 31.6 +0.8**
comp=Z,54nm,1.3s
TBI Tubuai 87.09 135 *e*S **S 23 02 08.2 +0.4**
comp=Z,863nm,26.2s
TBI Tubuai 87.09 135 *e*LR LR 23 19 17.7
comp=Z,2µm,24.5s,baz=331
TBI Tubuai 87.09 135 *e*T T 00 27 46.9
comp=Z,7.4nm,0.3s
MTE Manteigas 87.13 351 *e*P **P 22 51 32.9 +0.7**
comp=Z,53nm,1.2s
MTE Manteigas 87.13 351 *e*S **S 23 02 11.3 +3.0**
MTE Manteigas 87.13 351 *e*LR LR 23 30 40.4
comp=Z,2µm,18.0s
MTE Manteigas 87.13 351 *e*P **P 22 51 32.9 +0.7**
comp=Z,34nm,1.0s
COI Coimbra 87.40 351 *e*P **P 22 51 34.2 +0.8**
comp=Z,57nm,1.6s
COI Coimbra 87.40 351 *e*S **S 23 02 16.4 +5.6**
COI Coimbra 87.40 351 *e*P **P 22 51 34.6 +1.2**
comp=Z,24nm,0.8s
ESDC Sonseca Array 87.44 348 P **P 22 51 33.6 -0.1**
comp=Z,7.9nm,0.8s,baz=4.4,slow=4.5,SNR=46
ESLA Sonseca Array 87.44 348 *e*P **P 22 51 34.2 +0.6**
comp=Z,39nm,1.4s
PCAS Casmilo, Conde 87.56 351 *e*P **P 22 51 35.0 +0.8**
comp=Z,44nm,1.7s
PCAS Casmilo, Conde 87.56 351 *e*S **S 23 02 20.8 +8.4**
PAB San Pablo 87.61 348 *e*P **P 22 51 34.5 0.0**
comp=Z,34nm,1.5s
PAB San Pablo 87.61 348 *e*P **P 22 51 34.5 0.0**
PAB pmax pmax
comp=Z,34nm,1.5s
PCBR Castelo Branco 87.68 351 *e*P **P 22 51 36.4 +1.7**
comp=Z,34nm,1.4s

PTOM Tomar 87.99 351 *e*P **P 22 51 37.4 +1.2**
comp=Z,44nm,1.4s
PMRV Marv??o 88.08 351 *e*P **P 22 51 38.6 +2.0**
comp=Z,24nm,1.8s
PMRV Marv??o 88.08 351 *e*LR LR 23 31 27.7
comp=Z,2µm,18.0s
CMAH Djebel Manchou 88.39 338 P **P 22 51 39.2 +1.0**
PMTG Montargil 88.51 351 *e*P **P 22 51 41.4 +2.7**
comp=Z,34nm,1.5s
PMTG Montargil 88.51 351 *e*S S 23 02 40.8 +19
ABSA Djebel Ababsia 88.71 338 P **P 22 51 41.9 +2.1**
PMAFR Mafra 88.72 352 *e*S S 23 02 42.8 +19
CKFL Kef-Lekhel 88.76 339 P **P 22 51 43.0 +2.9**
KEST Kesra 88.79 337 *e*P **P 22 51 40.6 +0.4**
comp=Z,36nm,1.0s
KEST Kesra 88.79 337 P **P 22 51 40.3 +0.1**
comp=Z,16nm,0.9s,baz=329,slow=4.0,SNR=13
DFRA Djebel Bou Aff 88.80 340 P P 22 51 46.2 +5.9
CASM Ain Smara 88.94 339 P **P 22 51 44.6 +3.8**
LIS Lisbon 88.95 352 *e*P **P 22 51 39.7 -1.0**
LIS AMS AMS 23 42 38.3
comp=N,2µm,18.3s
SET Setif 89.24 340 P **P 22 51 44.0 +1.7**
CKHR Kef el Ahmar 89.39 340 P **P 22 51 47.2 +4.2**
PNCL Nicolau / Gran 89.49 351 *e*S **S 23 02 35.8 +5.2**
MESJ Messejana 89.73 351 *e*P **P 22 51 43.3 -1.1**
MESJ AMS AMS 23 41 05.3
comp=Z,2µm,17.5s
PVAQ Vaqueiros 90.11 350 *e*S **S 23 02 32.5 -3.9**
PBDV Barranco-do-Ve 90.30 351 *e*S **S 23 02 41.7 +3.6**
MORF Marmelete 90.30 351 *e*S **S 23 02 43.8 +5.5**
PFVI Vila Bisbo 90.49 351 *e*S **S 23 02 47.4 +7.5**
RKT Rikitea 93.79 123 *e*LR LR 23 22 18.3
comp=Z,2µm,24.5s
MDT Midelt 94.28 347 P **P 22 52 05.5 -0.1**
comp=Z,3.2nm,0.7s,baz=84,slow=3.8,SNR=6.2
TOA1 Torodi Ar. Sit 112.30 337 *e*PKiKP **PKiKP 22 57 23.1 +1.0**
TOA1 *e*PP **PP 22 58 05.0 -1.7**
TORD Torodi Ar. Bea 112.30 337 PKiKP **PKiKP 22 57 23.1 +1.0**
comp=Z,0.8nm,0.9s,baz=33,slow=3.4,SNR=2.8
TORD PP **PP 22 58 05.0 -1.7**
comp=Z,7.3nm,0.8s,baz=0.0,slow=12,SNR=20
DBIC Dimbokro 119.96 343 PKP **PKiKP 22 57 37.1 +0.1**
comp=Z,5.3nm,0.8s,baz=359,slow=1.9,SNR=6.1
LPAZ La Paz 127.70 65 *e*PKPdf **PKiKP 22 57 53.0 +0.2**
LPAZ La Paz 127.70 65 *e*PKIKP **PKiKP 22 57 53.1 +0.2**
LPAZ La Paz 127.70 65 PKP **PKiKP 22 57 52.9 0.0**
comp=Z,1.5nm,0.8s,baz=9.4,slow=7.4,SNR=5.3
VNDA Vanda 129.50 180 PKP **PKiKP 22 57 53.6 -0.3**
comp=Z,1.3nm,1.2s,baz=324,slow=3.5,SNR=3.3
BDFB Brasilia 137.12 42 PKP **PKPdf 22 58 09.9 +0.5**
comp=Z,1.6nm,0.5s,baz=13,slow=18,SNR=3.7
BOSA Boshof 139.32 288 PKP **PKPdf 22 58 12.6 -0.6**
comp=Z,1.4nm,0.7s,baz=16,slow=5.5,SNR=3.8
CPUP Villa Florida 141.71 62 PKP **PKPdf 22 58 17.0 -0.4**
comp=Z,2.0nm,0.8s,baz=336,slow=3.2,SNR=5.2
QSPA South Pole Qui 141.99 180 *e*PKPpre PKPpre 22 58 15.2
PLCA Paso Flores 143.85 92 PKhKP PKPpre 22 58 18.6
comp=Z,6.4nm,0.9s,baz=264,slow=4.1,SNR=8.3
TRQA Tornquist 147.47 81 *e*PKPdf **PKPbc 22 58 29.7 0.0**
TRQA Tornquist 147.47 81 *e*PKP2 **PKPbc 22 58 29.7 0.0**
SYO Syowa Base 148.09 216 ‖ *i*PKPdf **PKPbc 22 58 29.0 -1.3**
SYO Syowa Base 148.09 216 ‖ *e*PKPbc **PKPbc 22 58 31.4 +1.1**
SYO Syowa Base 148.09 216 ‖ *e*PKiKP **PKPab 22 58 34.2 +0.9**
SYO Syowa Base 148.09 216 ‖ *i*pPKiKP PKPab 22 58 46.0 +13
SNAA Sanae 159.12 195 Pdiff **PKPdf 22 58 46.4 +3.6**
SNAA Sanae 159.12 195 P **PKPab 22 59 25.9 +6.0**
VNA3 Neumayer Olymp 160.41 190 Pdiff **PKPdf 22 58 44.0 -0.2**
VNA3 Neumayer Olymp 160.41 190 P **PKPab 22 59 24.8 -0.7**
VNA2 Neumayer--Watz 160.44 192 Pdiff **PKPdf 22 58 44.2 0.0**
VNA2 Neumayer--Watz 160.44 192 P PKPab 22 59 35.6 +10
VNA1 Neumayer--Stat 160.81 192 P **PKPab 22 59 20.5 -6.7**

*IDC **19** 22:40:22.8±0.7, 52°.47N×159°.84E, h0km, mb5.1/45, mb1 5.2/45, mb1mx5.1/58, mbtmp5.1/45, MS5.2/5, Ms1 5.2/5, ms1mx4.8/19, Error ellipse: s-maj=17.6km s-min=12.2km az=152.0*
*KRSC **19** 22:40:22.1±10.0, 52°.18N×160°.67E, h40km±10km, ML6.0*
*BJI **19** 22:40:24.3±0.0, 52°.61N×160°.18E, h34km, mb5.4/15, mB5.2/11, Ms5.7/4, Ms7 5.6/3*
*MOS **19** 22:40:26.3±1.2, 52°.38N×159°.95E, h38km, mb5.9/44, Error ellipse: s-maj=10.0km s-min=4.4km az=105.3*
*NEIC **19** 22:40:27.4±0.4, 52°.31N×160°.07E, h35km, mb5.0/13, Error ellipse: s-maj=8.7km s-min=7.4km az=154.0*
*ISCJB **19** 22:40:28.4±0.6, 52°.33N±0°.03×160°.14E±0°.06, h61km±3km, mb5.4/128, Error ellipse: s-maj=6.7km s-min=3.9km az=35.5*
ISC 19 22:40:28.0±0.6, 52°.34N±0°.04×160°.27E±0°.04, h46km±5km, n350, σ1$47/368, mb5.4/136, 50C-21D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
SPN	**Mys Shipunski**	**0.77**	**349**	*e*P	**Pn**	**22 40 41.1**	**-1.5**	
SPN				*e*S	**Sn**	**22 40 53.4**	**+0.3**	
SPN	**Mys Shipunski**	**0.77**	**349**	PN	**Pn**	**22 40 41.1**	**-1.5**	
SPN				S	**Sn**	**22 40 53.4**	**+0.3**	
NLC	**Nalytchevo**	**1.00**	**326**	*e*P	**Pn**	**22 40 45.3**	**-0.4**	
NLC				*e*S	**Sn**	**22 41 01.4**	**+2.8**	
NLC	**Nalytchevo**	**1.00**	**326**	PN	**Pn**	**22 40 45.3**	**-0.4**	
DALK	**Dalny**	**1.15**	**307**	*e*P	**Pn**	**22 40 47.5**	**-0.2**	
DALK				*e*S	**Sn**	**22 41 04.6**	**+2.3**	
DALK	**Dalny**	**1.15**	**307**	PN	**Pn**	**22 40 47.5**	**-0.2**	
PET	**Petropavlovsk**	**1.20**	**305**	*e*Pn	**Pn**	**22 40 47.8**	**-0.5**	
PET				*e*Sn	**Sn**	**22 41 06.2**	**+2.8**	
PET	**Petropavlovsk**	**1.20**	**305**	*e*PN	**Pn**	**22 40 48.6**	**+0.3**	
PET				pmax	pmax			
comp=Z,36µm,0.6s								
MTVR	**Mutnovka**	**1.29**	**277**	*e*P	**Pn**	**22 40 48.9**	**-0.8**	
MTVR	**Mutnovka**	**1.29**	**277**	PN	**Pn**	**22 40 48.9**	**-0.8**	
AVH	**Avacha**	**1.31**	**315**	*e*S	**Sn**	**22 41 09.3**	**+3.0**	
KRMR	**Karymshinskiy**	**1.40**	**291**	*e*P	**Pn**	**22 40 51.0**	**0.0**	
KRMR				*e*S	**Sn**	**22 41 10.9**	**+2.6**	
KRMR	**Karymshinskiy**	**1.40**	**291**	PN	**Pn**	**22 40 51.0**	**0.0**	
KDTR	**Khodutka, Kamc**	**1.46**	**249**	*e*P	**Pn**	**22 40 50.2**	**-1.7**	
KDTR				*e*S	**Sn**	**22 41 09.4**	**-0.4**	
KDTR	**Khodutka, Kamc**	**1.46**	**249**	PN	**Pn**	**22 40 50.2**	**-1.7**	
KDTR				S	**Sn**	**22 41 09.4**	**-0.4**	
I44RU	**PETROPAVLOVSK-**	**1.73**	**297**	Pn	**Pn**	**22 40 55.6**	**0.0**	
baz=226,slow=427								
I44RU				Sn	**Sn**	**22 41 18.3**	**+1.7**	
baz=163,slow=372								
PEA0B	**Petropavlovsk-**	**1.74**	**297**	*e*Pn	**Pn**	**22 40 56.1**	**+0.4**	
PEA0B				*e*Sn	**Sn**	**22 41 13.1**	**-3.7**	
PEA0B	**Petropavlovsk-**	**1.74**	**297**	*e*PN	**Pn**	**22 40 56.2**	**+0.4**	
PEA0B				*e*		22 41 13.1		
PETK	**Petropavlovsk-**	**1.74**	**297**	*e*Pn	**Pn**	**22 40 56.1**	**+0.3**	
PETK				*e*Sn	**Sn**	**22 41 15.8**	**-1.1**	
PETK	**Petropavlovsk-**	**1.74**	**297**	Pn	**Pn**	**22 40 57.1**	**+1.3**	
comp=Z,1µm,0.3s,baz=116,slow=20,SNR=6.1								
PETK				Sn	**Sn**	**22 41 21.4**	**+4.5**	
comp=Z,3µm,0.3s,baz=227,slow=32,SNR=6.6								
PEA1	**Petropavlovsk-**	**1.75**	**297**	*e*Pn	**Pn**	**22 40 57.1**	**+1.3**	
PEA1				*e*Sn	**Sn**	**22 41 21.4**	**+4.5**	
APC	**Apacha**	**1.99**	**288**	*e*P	**Pn**	**22 41 00.4**	**+1.3**	
APC				*e*S	**Sn**	**22 41 29.2**	**+6.5**	
APC	**Apacha**	**1.99**	**288**	PN	**Pn**	**22 41 00.4**	**+1.3**	
PAU	**Pauzhetka**	**2.32**	**249**	*e*S	**Sn**	**22 41 33.9**	**+3.0**	
TUMD	**Tumrok D**	**2.87**	**1**	*e*S	**Sn**	**22 41 47.0**	**+2.6**	
TUMR	**Tumrok**	**2.95**	**359**	*e*P	**Pn**	**22 41 13.1**	**+0.7**	
TUMR	**Tumrok**	**2.95**	**359**	PN	**Pn**	**22 41 13.1**	**+0.7**	
SKR	**Severo-Kuril's**	**3.08**	**239**	*e*S	**Sn**	**22 41 52.2**	**+2.5**	
SKR	**Severo-Kuril's**	**3.08**	**239**	*e*PN	**Pn**	**22 41 16.4**	**+2.2**	
SKR				*e*S	**Sn**	**22 41 49.5**	**-0.2**	
SKR				pmax	pmax			
comp=Z,7µm,0.9s								
SKR				smax	smax			
comp=N,11µm,0.6s								
SKR				smax	smax			
comp=E,5µm,0.6s								
SKR				MLR	MLR			
comp=Z,33µm,13.0s								
SKR				MLR	MLR			
comp=Z,36µm,14.0s								
LGNR	**Loginova**	**3.75**	**4**	S	**Sn**	**22 42 10.5**	**+3.8**	
KBTR	**Krutoberegovo**	**4.15**	**20**	*e*S	**Sn**	**22 42 17.8**	**+1.9**	
KBG	**Krutoberegovo**	**4.17**	**19**	*e*S	**Sn**	**22 42 19.2**	**+2.8**	
BKI	**Bering**	**4.43**	**47**	*e*S	**Sn**	**22 42 17.1**	**-5.7**	
SEY	**Seymchan**	**11.41**	**341** ⇑	*e*PN	**Pn**	**22 43 06.9**	**-1.3**	
ASAJ	**Asahikawa**	**14.34**	**242**	Pn	**Pn**	**22 43 47.0**	**-1.1**	
comp=Z,4.3nm,0.3s,baz=78,slow=9.5,SNR=2.5								
BILL	**Bilibino**	**16.01**	**8**	*e*Pn	**P**	**22 44 12.3**	**-0.2**	
comp=Z,130nm,1.3s								
BILL	**Bilibino**	**16.01**	**8**	*e*P	**P**	**22 44 12.8**	**+0.3**	
BILL				pmax	pmax			
comp=Z,66nm,1.0s								
KLR	**Kul'dur**	**18.25**	**272**	P	**P**	**22 44 37.1**	**-0.3**	
comp=Z,2.2nm,0.3s,baz=68,slow=7.8,SNR=5.0								
YAK	**Yakutsk**	**19.02**	**313**	*e*P	**P**	**22 44 43.9**	**-1.8**	
YAK				*e*SS	Sn	22 48 02.2	-16	
YAK				pmax	pmax			
comp=Z,2µm,0.9s								
YAK				pmax	pmax			
comp=E,1µm,1.0s								
YAK				pmax	pmax			
comp=N,818nm,1.1s								
YAK				pmax	pmax			
comp=Z,1µm,0.8s								
YAK				pmax	pmax			
comp=N,2µm,1.6s								
YAK				pmax	pmax			
comp=E,2µm,1.1s								
YAK				MLR	MLR			
comp=Z,32µm,16.0s								
YAK				MLR	MLR			
comp=E,24µm,15.0s								
YAK				MLR	MLR			
comp=N,19µm,17.0s								
USRK	**Ussuriysk Ar.**	**20.41**	**258**	P	**P**	**22 44 58.7**	**-2.3**	
comp=N,57nm,1.0s,baz=42,slow=9.7,SNR=9.3								
MAJO	**Matsushiro**	**22.18**	**233**	*e*P	**P**	**22 45 19.1**	**-0.9**	
MAJO				*e*pP	**P**	**22 45 19.6**	**-0.4**	
MAJO	**Matsushiro**	**22.18**	**233**	*de*P	**P**	**22 45 19.7**	**-0.4**	
MAJO				pmax	pmax			
comp=Z,260nm,1.3s								
MAT	**Matsushiro**	**22.18**	**233**	P	**P**	**22 45 19.7**	**-0.3**	
MJAR	**Matsushiro Arr**	**22.18**	**233**	P	**P**	**22 45 19.6**	**-0.4**	
comp=Z,52nm,0.9s,baz=16,slow=8.9,SNR=3.2								
TIXI	**Tiksi**	**23.81**	**336**	*e*P	**P**	**22 45 35.1**	**-1.1**	
comp=Z,135nm,1.0s								
TIXI	**Tiksi**	**23.81**	**336**	*de*P	**P**	**22 45 35.6**	**-0.5**	
TIXI				pmax	pmax			
comp=Z,116nm,0.9s								
TIXI	**Tiksi**	**23.81**	**336**	P	**P**	**22 45 35.5**	**-0.7**	
comp=Z,106nm,0.8s,baz=124,slow=9.8,SNR=5.8								
JHJ	**Hachijo jima 2**	**24.26**	**226**	LR	LR	22 56 36.9		
comp=Z,3µm,18.9s,baz=80,slow=40								
HIA	**Hailar**	**25.56**	**279**	*e*P	**P**	**22 45 50.7**	**-1.7**	
comp=Z,132nm,0.8s								
HIA	**Hailar**	**25.56**	**279**	*ce*P	**P**	**22 45 50.1**	**-2.3**	
HIA				pmax	pmax			
comp=Z,1µm,0.9s								
KSRS	**Korea Array**	**27.05**	**249**	P	**P**	**22 46 06.2**	**+0.4**	
comp=Z,16nm,0.8s,baz=42,slow=9.6,SNR=4.3								
KS15	**Wonju Array Si**	**27.08**	**250**	*e*P	**P**	**22 46 06.2**	**+0.1**	
comp=Z,56nm,1.4s								
KSAR	**Wonju Array Be**	**27.08**	**250**	*e*P	**P**	**22 46 02.5**	**-3.6**	
KSAR	**Wonju Array Be**	**27.08**	**250**	*e*P	**P**	**22 46 02.5**	**-3.6**	
JNU	**Nakatsue**	**28.59**	**239**	*e*P	**P**	**22 46 20.3**	**+0.6**	
comp=Z,49nm,0.8s								
JNU	**Nakatsue**	**28.59**	**239**	P	**P**	**22 46 20.3**	**+0.6**	
comp=Z,43nm,0.8s,baz=63,slow=6.8,SNR=3.1								
MDM	**Murphy Dome**	**28.70**	**44**	*e*P	**P**	**22 46 18.4**	**-1.9**	
comp=Z,22nm,1.1s								
ILAR	**Eielson Array**	**29.27**	**44**	P	**P**	**22 46 28.4**	**+3.0**	
comp=Z,6.7nm,0.9s,baz=264,slow=8.0,SNR=1.9								
ILB	**Eielson Array**	**29.27**	**44**	*e*P	**P**	**22 46 28.4**	**+3.0**	
comp=Z,15nm,1.0s								
WAKE	**Wake Island**	**33.37**	**169**	*e*P	**P**	**22 47 02.2**	**+0.4**	
comp=Z,205nm,1.4s								
ULN	**Ulaanbaatar**	**33.78**	**284**	*e*P	**P**	**22 47 03.6**	**-1.7**	
comp=Z,20nm,0.9s								
ULN	**Ulaanbaatar**	**33.78**	**284**	*ce*P	**P**	**22 47 03.1**	**-2.3**	
ULN				pmax	pmax			
comp=Z,15nm,0.9s								
TLY	**Talaya**	**34.10**	**292**	*e*P	**P**	**22 47 06.0**	**-2.0**	
comp=Z,71nm,1.3s								
TLY	**Talaya**	**34.10**	**292**	*ce*P	**P**	**22 47 06.2**	**-1.7**	
SONA0	**Songino Array**	**34.19**	**284**	*e*P	**P**	**22 47 06.6**	**-2.3**	
SONM	**Songino Array**	**34.19**	**284**	*e*P	**P**	**22 47 05.8**	**-3.1**	
SONM	**Songino Array**	**34.19**	**284**	P	**P**	**22 47 06.6**	**-2.3**	
comp=Z,7.6nm,0.3s,baz=67,slow=8.5,SNR=32								
SONM				LR	LR	23 04 02.4		
comp=Z,18µm,18.1s,baz=64,slow=42								
TIA	**Tai'an**	**34.26**	**259**	P	**P**	**22 47 10.0**	**+0.5**	
TIA				pmax	pmax			
comp=Z,57nm,0.8s								
INK	**Inuvik**	**34.40**	**37**	*e*P	P	22 47 16.0	+5.7	
comp=Z,60nm,1.4s								
INK	**Inuvik**	**34.40**	**37**	*e*P	P	22 47 16.0	+5.7	
INK				pmax	pmax			
comp=Z,60nm,1.4s								
INK	**Inuvik**	**34.40**	**37**	P	P	22 47 16.0	+5.8	
comp=Z,9.5nm,0.8s,baz=284,slow=11,SNR=2.2								
INK				LR	LR	23 03 42.4		
comp=Z,4µm,19.3s,baz=261,slow=41								
JOW	**Kunigami**	**34.97**	**236**	*e*P	**P**	**22 47 16.2**	**+0.5**	
comp=Z,23nm,0.9s								
ANA2	**Anatahan**	**37.73**	**203**	*e*P	**P**	**22 47 41.1**	**+1.8**	
comp=Z,92nm,0.3s								
YULB	**Yu-li**	**41.41**	**241**	*e*P	**P**	**22 48 08.4**	**-1.5**	
comp=Z,49nm,1.5s								
TWG	**Pinlang**	**42.00**	**241**	*e*P	**P**	**22 48 13.0**	**-1.7**	
comp=Z,61nm,0.6s								
ZAA1	**Zalesovo Array**	**43.27**	**303**	*e*P	**P**	**22 48 22.6**	**-2.1**	
ZALV	**Zalesovo Beam**	**43.28**	**303**	P	**P**	**22 48 22.6**	**-2.1**	
comp=Z,17nm,0.7s,baz=57,slow=6.3,SNR=6.1								
NVS	**Novosibirsk**	**43.63**	**305** ⇑	*i*P	**P**	**22 48 26.0**	**-1.5**	
NVS				*e*		22 54 55.4		
NVS				pmax	pmax			
comp=Z,250nm,1.3s								
NVS				pmax	pmax			
comp=N,84nm,1.4s								
NVS				pmax	pmax			
comp=E,182nm,1.4s								
YKA	**Yellowknife Ar**	**43.64**	**42**	P	**P**	**22 48 28.3**	**+0.8**	
comp=E,1.8nm,0.7s,baz=298,slow=8.2,SNR=2.3								
YKB5	**Yellowknife Ar**	**43.64**	**42**	*e*P	**P**	**22 48 28.3**	**+0.8**	
RES	**Resolute Bay**	**43.98**	**22**	*e*P	**P**	**22 48 31.4**	**+1.4**	
comp=E,17nm,0.9s								
RES	**Resolute Bay**	**43.98**	**22**	*e*P	**P**	**22 48 31.4**	**+1.4**	
RES				pmax	pmax			
comp=Z,17nm,0.9s								
DGZ	**Jazzator, Alta**	**44.10**	**297**	*ce*P	**P**	**22 48 29.9**	**-1.7**	
DGZ				pmax	pmax			
comp=Z,31nm,0.9s								
KIP	**Kipapa**	**44.48**	**118**

comp=Z,56nm,1.3s
LVZ Lovozero 53.43 337 *e*P P 22 49 42.3 -0.5
comp=Z,123nm,1.0s
LVZ Lovozero 53.43 337*de*P P 22 49 42.2 -0.5
LVZ pmax pmax
comp=Z,97nm,1.0s
ARU Arti 54.02 318 *e*P P 22 49 45.8 -1.3
comp=Z,32nm,0.6s
ARU Arti 54.02 318*c i*P P 22 49 45.7 -1.4
ARU pmax pmax
comp=Z,40nm,1.0s
ARU Arti 54.02 318 P P 22 49 45.8 -1.3
comp=Z,11nm,0.5s,baz=63,slow=3.2,SNR=7.0
ARA0 ARCESS Array S 54.03 342 *e*P P 22 49 46.4 -0.6
ARCES ARCESS Array B 54.03 342 P P 22 49 46.4 -0.6
comp=Z,55nm,0.9s,baz=34,slow=8.8,SNR=9.4
LSA Lhasa 54.59 274 *e*P P 22 49 52.0 -0.2
comp=Z,28nm,0.7s
LSA Lhasa 54.59 274 *e*P P 22 49 52.0 -0.2
LSA pmax pmax
comp=Z,28nm,0.7s
PRGR Permogore 55.13 328⇑*i*P P 22 49 54.4 -0.7
PRGR pmax pmax
comp=Z,69nm,0.6s
TMCR Tamitsa 55.50 333 *e*P P 22 49 57.8 +0.2
TMCR pmax pmax
comp=Z,261nm,0.9s
AAK Ala-Archa 55.51 297*ce*P P 22 49 57.2 -1.1
AAK pmax pmax
comp=Z,48nm,1.1s
SGF Sodankyl 55.60 340 P P 22 49 59.6 +1.2
SGF pmax pmax
comp=Z,92nm,1.3s
NV01 Mina Array Sit 55.90 70 *e*P P 22 50 05.0 +3.8
NVAR Mina Array Bea 55.90 70 P P 22 50 05.0 +3.8
comp=Z,1.7nm,0.6s,baz=302,slow=7.1,SNR=2.1
KIRV Kirov 56.06 324 P P 22 50 01.8 +0.1
comp=Z,58nm,0.5s,baz=48,slow=3.1,SNR=11
MSF Maaselka 56.35 338 P P 22 50 04.8 +1.1
MSF pmax pmax
comp=Z,592nm,1.1s
JMIC Jan Mayen 56.71 356 P P 22 50 07.0 +0.7
comp=Z,93nm,1.0s,baz=198,slow=5.8,SNR=2.5
KLMR Klimovskoe 57.65 330 *e*P P 22 50 11.4 -1.6
KLMR pmax pmax
comp=Z,228nm,1.4s
OUL Oulu 57.75 339 P P 22 50 14.4 +0.8
OUL pmax pmax
comp=Z,216nm,1.2s
PD31 Pinedale Array 57.80 60 *e*P P 22 50 18.4 +3.8
PDAR Pinedale Array 57.80 60 P P 22 50 18.4 +3.8
comp=Z,10nm,1.0s,baz=328,slow=3.2,SNR=1.8
CHTO Chiang Mai 57.86 259 P P 22 50 16.7 +1.6
CHTO pmax pmax
comp=Z,82nm,0.9s
CMAR Chiang Mai Arr 58.14 259 P P 22 50 17.8 +0.7
comp=Z,26nm,0.9s,baz=27,slow=7.4,SNR=6.9
JOF Joensuu 58.29 335 P P 22 50 18.2 +0.7
JOF pmax pmax
comp=Z,189nm,0.9s
AKTO Aktyubinsk 58.41 313 P P 22 50 17.2 -1.3
comp=Z,23nm,0.6s,baz=64,slow=7.8,SNR=10
SFJD Kangerlussuaq 58.72 14 P P 22 50 19.9 -0.4
comp=Z,12nm,0.7s,baz=340,slow=5.1,SNR=3.3
ULM Lac du Bonnet 59.26 46 P P 22 50 25.1 +0.7
comp=Z,4.1nm,0.4s,baz=315,slow=9.3,SNR=4.1
SUF Sumiainen 59.73 337 P P 22 50 28.5 +1.1
SUF pmax pmax
comp=Z,302nm,1.1s
VAF Ylistaro 60.23 339 P P 22 50 32.8 +2.0
VAF pmax pmax
comp=Z,176nm,1.5s
FIA0 FINESS Array S 60.85 337 *e*P P 22 50 34.9 -0.2
FIA0 FINESS Array S 60.85 337 *e*P P 22 50 34.9 -0.2
FINES FINESS Array B 60.85 337 P P 22 50 34.9 -0.2
comp=Z,72nm,0.6s,baz=44,slow=8.5,SNR=14
PUL Pulkovo 61.20 334*de*P P 22 50 38.0 +0.5
PUL pmax pmax
comp=Z,125nm,0.9s
PUL Pulkovo 61.20 334 *e*P P 22 50 37.0 -0.5
Y14A Wickenburg 62.09 70 *e*P P 22 50 44.3 +0.3
comp=Z,11nm,1.1s
MOS Moscow 62.35 327 *e*P P 22 50 43.6 -1.6
MOS *e*S S 22 59 06.4 -1.6
MOS pmax pmax
comp=N,300nm,2.0s
MOS pmax pmax
comp=Z,500nm,2.0s
MOS pmax pmax
comp=Z,184nm,1.3s
MOS pmax pmax
comp=N,115nm,1.2s
OBN Obninsk 63.21 328 *e*P P 22 50 50.5 -0.5
comp=N,117nm,1.0s
OBN Obninsk 63.21 328*c i*P P 22 50 49.7 -1.2
OBN *e* 22 51 27.5
OBN pmax pmax
comp=Z,120nm,1.2s
OBN Obninsk 63.21 328 P P 22 50 50.0 -1.0
comp=Z,13nm,0.7s,baz=61,slow=2.5,SNR=8.5
VSU Vasula 63.28 335*ce*P P 22 50 51.0 -0.4
VSU pmax pmax
comp=Z,304nm,1.0s
VSU Vasula 63.28 335 *e*P P 22 50 51.0 -0.4
VSU IAmb IAmb 22 50 52.5
comp=Z,253nm,0.8s
NB2 NORSAR Subarra 64.29 344 P P 22 50 58.0 -0.1
comp=Z,10nm,0.5s,baz=23,slow=6.9
NB2 NORSAR Subarra 64.29 344 P P 22 50 58.0 -0.1
baz=23,slow=6.9
NB200 NORSAR Array S 64.29 344 *e*P P 22 50 58.9 +0.7
NOA NORSAR Array B 64.29 344 P P 22 50 58.9 +0.7
comp=Z,9.4nm,0.6s,baz=14,slow=5.6,SNR=9.4
LPSR Galich'ya Gora 64.46 325 *e*P P 22 50 57.8 -1.4
LPSR pmax pmax
comp=Z,100nm,0.9s
VRH Novokhopyorsk 64.57 322 *e*P P 22 50 58.7 -1.3
VRH pmax pmax
comp=Z,130nm,0.6s
HFS Hagfors 64.70 342 P P 22 51 01.6 +0.9
comp=Z,12nm,0.4s,baz=47,slow=5.9,SNR=7.5
SLIT Slitere, Latvi 65.13 337 *e*P P 22 51 03.1 -0.4
SLIT IAmb IAmb 22 51 05.4
comp=Z,976nm,1.0s
VSR Storozhevoye 65.50 324*c i*P P 22 51 04.0 -2.1
VSR pmax pmax
comp=Z,118nm,1.1s
VORD Divnogorie 65.66 323 *e*P P 22 51 06.3 -0.8
VORD pmax pmax
comp=Z,130nm,1.4s
IZAR Zarasai 65.78 334 *e*P P 22 51 07.7 -0.1
IZAR IAmb IAmb 22 51 09.7
comp=Z,35nm,1.1s
KONO Kongsberg 65.88 344⇑*e*P P 22 51 08.1 -0.2
KONO pmax pmax
comp=Z,17nm,1.4s
ISAL Salakas 65.97 333 *e*P P 22 51 09.0 0.0
ISAL IAmb IAmb 22 51 11.1
comp=Z,73nm,1.3s
IDID Didziasalis 66.02 333 *e*P P 22 51 09.3 0.0
IDID IAmb IAmb 22 51 11.3
comp=Z,50nm,1.1s
IIGN Ignalina 66.13 333 *e*P P 22 51 10.2 +0.1
IIGN IAmb IAmb 22 51 12.0
comp=Z,38nm,0.8s
SCHQ Schefferville 66.26 28 *e*P P 22 51 11.6 +0.6
comp=Z,14nm,0.8s
SCHQ Schefferville 66.26 28 P P 22 51 11.6 +0.6
comp=Z,6.7nm,0.6s,baz=353,slow=8.5,SNR=2.3
SCHQ LR LR 23 23 53.9
comp=Z,1μm,19.1s,baz=344,slow=39
NACGM Naroch 66.37 333 *e* P 22 51 12.0 +0.4
MICGM Minsk 66.41 332⇑*e*P P 22 51 12.0 +0.2
MICGM PM 22 51 13.0
comp=Z,0.7nm,1.2s
MICGM PM 22 51 14.0
comp=N,0.5nm,2.0s
MNK Minsk 66.41 332⇑*e*P P 22 51 12.0 +0.2
MNK pmax pmax
comp=Z,670nm,1.2s
MNK pmax pmax
comp=N,540nm,2.0s
PABE Paberze 66.60 335 *e*P P 22 51 12.4 -0.6
PABE IAmb IAmb 22 51 14.9
comp=Z,203nm,1.0s
PBUR Paburg 66.66 336 *e*P P 22 51 12.3 -1.1
PBUR IAmb IAmb 22 51 15.4
comp=Z,212nm,1.2s
GEYT Alibeck 67.59 303 P P 22 51 19.6 -0.1
comp=Z,18nm,0.6s,baz=21,slow=4.0,SNR=6.6
MAK Makhachkala 68.78 313*c i*P P 22 51 27.4 +0.5
MAK *e*S S 23 00 29.4 +2.5
MAK pmax pmax
comp=Z,38nm,0.8s
AKASG Malin Array Be 69.31 329 P P 22 51 29.6 -0.6
comp=Z,15nm,0.5s,baz=31,slow=6.6,SNR=12
AKBB Malin Array Si 69.31 329 *e*P P 22 51 29.6 -0.6
comp=Z,158nm,1.3s
KIEV Kiev 69.32 329*c i*P P 22 51 29.1 -1.1
KIEV pmax pmax
comp=Z,84nm,1.1s
KVAR Kislovodsk Arr 70.06 317 P P 22 51 34.5 -0.5
comp=Z,8.0nm,0.7s,baz=270,slow=20,SNR=3.5
KIV Kislovodsk 70.06 317 *e*P P 22 51 34.5 -0.5
comp=Z,20nm,0.7s
KIV Kislovodsk 70.06 317 *e*P P 22 51 34.1 -0.9
KIV pmax pmax
comp=Z,74nm,1.1s
KBZ Khabaz 70.16 317 P P 22 51 35.5 +0.1
comp=Z,19nm,0.9s,baz=27,slow=10,SNR=6.2
GKP Gorka Klasztor 70.31 337 *e*P P 22 51 36.5 +0.3
GKP Gorka Klasztor 70.31 337 *e*P P 22 51 36.5 +0.3
NEY Neytrino 70.62 317⇓*e*P P 22 51 34.7 -3.8
BEL Belsk 70.74 335 *e*P P 22 51 39.6 +0.8
BEL Belsk 70.74 335 *e*P P 22 51 39.6 +0.8
LTX Lajitas 70.83 67 *e*P P 22 51 40.7 +0.8
LTX Lajitas 70.83 67 *e*P P 22 51 40.7 +0.8
TXAR Lajitas Array 70.83 67 P P 22 51 40.7 +0.8
comp=Z,4.4nm,0.7s,baz=310,slow=4.5,SNR=2.2
HYB Hyderabad 71.38 274 *i* P P 22 51 42.0 -1.3
comp=Z,112nm,0.8s
ANN Anapa 71.48 321 *e*P P 22 51 42.0 -1.4
ANN *e**PP pP 22 51 56.4 +0.5
ANN *e* 22 52 01.6
ANN *e* 22 54 20.6
ANN *e*S S 23 00 56.8 -1.5
ANN pmax pmax
comp=Z,83nm,1.4s
ANN MLR MLR
comp=N,5μm,19.0s
ANN MLR MLR
comp=Z,4μm,19.0s
SOC Sochi 71.59 319*c i*P P 22 51 43.2 -0.9
SOC *e*S S 23 00 58.2 -1.5
SOC pmax pmax
comp=Z,37nm,0.8s
SOC MLR MLR
comp=Z,6μm,16.0s
AKH Akhalkalaki 71.79 315 *e*P P 22 51 45.7 0.0
comp=Z,40nm,1.0s
AKH Akhalkalaki 71.79 315⇑*i*P P 22 51 46.4 +0.7
AKH Akhalkalaki 71.79 315 *e*P P 22 51 45.7 0.0
AKH pmax pmax
comp=Z,40nm,1.0s
EKA Eskdalemuir Ar 71.81 350 P P 22 51 45.7 +0.5
comp=Z,5.0nm,0.5s,baz=17,slow=5.4,SNR=4.2
RUE Ruedersdorf 71.83 339 *e*P P 22 51 44.8 -0.6
RUE IAmb IAmb 22 51 47.8
comp=Z,39nm,0.9s
KWP Kalwaria Pacla 72.21 333 *e*P P 22 51 48.1 +0.3
KWP Kalwaria Pacla 72.21 333 *e*P P 22 51 48.1 +0.3
GNI Garni 72.27 313*ce*P P 22 51 48.8 +0.3
GNI pmax pmax
comp=Z,149nm,1.2s
GNI Garni 72.27 313 P P 22 51 48.5 0.0
comp=Z,21nm,0.8s,baz=193,slow=5.2,SNR=4.5
BATM Batumi 72.41 316⇑*i*P P 22 51 49.7 +0.6
BATM Batumi 72.41 316 P P 22 51 49.7 +0.6
OJC Ojcow 72.47 335 *e*P P 22 51 49.6 +0.3
OJC Ojcow 72.47 335 *e*P P 22 51 49.6 +0.3
BCA Borcka 72.57 316⇓*i*P P 22 51 50.4 +0.3
KIS Kishinev 72.68 327 *e*P P 22 51 49.0 -1.6
comp=Z,270nm,1.8s
KIS Kishinev 72.68 327 *e*P P 22 51 49.0 -1.6
KIS *e* 22 52 04.0
KIS pmax pmax
comp=Z,270nm,1.8s
KSP Ksiaz 72.78 337 *e*P P 22 51 51.5 +0.3
KSP Ksiaz 72.78 337 *e*P P 22 51 51.5 +0.3
IAS Iasi 72.92 328⇑*i*P P 22 51 52.0 0.0
IAS Iasi 72.92 328 P P 22 51 52.0 0.0
KOLS Kolonicke sedl 72.96 333 *e*P P 22 51 54.0 +1.7
KOLS Kolonicke sedl 72.96 333 *e*P P 22 51 54.0 +1.7
NIE Niedzica 73.07 334 *e*P P 22 51 53.4 +0.5
NIE Niedzica 73.07 334 *e*P P 22 51 53.4 +0.5
CLL Collm 73.09 339 *i* P P 22 51 54.0 +1.0
CLL *e* 22 52 04.0
CLL *e*S SKiKP 23 01 19.0 -1.7
CLL pmax pmax
comp=Z,36nm,0.9s
CLL Collm 73.09 339 *i* P P 22 51 54.0 +1.0
comp=Z,36nm,0.9s
CLL *i* 22 51 57.4
comp=Z,68nm,1.2s
CLL *e*pP pP 22 52 04.0 -1.5
CLL *e*S SKiKP 23 01 19.0 -1.7
CLL *e*pS sS 23 01 38.0 -0.3
PRAR RASCA 73.19 329⇓*i*P P 22 51 55.3 +1.6
DPC Dobruska-Polom 73.22 337 *e*P P 22 51 55.3 +1.4
DPC Dobruska-Polom 73.22 337 *e*P P 22 51 55.3 +1.4
BURAR Bucovina Array 73.28 330⇑*i*P P 22 51 55.4 +1.1
BURAR Bucovina Array 73.28 330 P P 22 51 55.4 +1.1
MORC Moravsky Berou 73.45 336⇑*i*P P 22 51 55.7 +0.5
MORC Moravsky Berou 73.45 336 P P 22 51 55.6 +0.4
MORC Moravsky Berou 73.45 336 *e*P P 22 51 56.2 +1.0
LANS Liptovska Anna 73.53 334 *e*P P 22 51 57.9 +2.2
LANS Liptovska Anna 73.53 334 *e*P P 22 51 57.9 +2.2
TRPA Tarpa 73.61 332⇑*i*P P 22 51 57.2 +1.1
WTSB Winterswijk 73.69 343 *e*P P 22 51 56.7 +0.2
comp=Z,101nm,1.4s
TESR Tescani 73.81 329⇑*i*P P 22 51 58.1 +0.8
PRU Pruhonice 73.98 338 *e*P P 22 51 58.0 -0.2
PRU Pruhonice 73.98 338 *e*P P 22 51 58.0 -0.2
GOPC GO Pecny, Ondr 74.00 338 *e*P P 22 51 59.2 +0.8
GOPC GO Pecny, Ondr 74.00 338 *e*P P 22 51 59.2 +0.8
ARCR ARCALIA 74.02 330⇑*i*P P 22 52 11.4 +13
VRAC Vranov 74.12 336⇑*i*P P 22 52 00.6 +1.4
VRAC Vranov 74.12 336 P P 22 52 01.7 +2.6
VRAC Vranov 74.12 336 *e*P P 22 52 00.5 +1.4
NKC Novy Kostel 74.22 339 *e*P P 22 52 04.8 +5.1
NKC Novy Kostel 74.22 339 *e*P P 22 52 04.8 +5.1
JAVC Velka Javorina 74.27 335 *e*P P 22 52 02.4 +2.4
TLCR 74.27 327⇓*i*P P 22 52 00.4 +0.4
TLCR 74.27 327 P P 22 52 01.8 +1.8
VYHS Vyhne 74.30 334 *e*P P 22 52 01.5 +1.3
VYHS pmax pmax
comp=Z,155nm,2.6s
VYHS Vyhne 74.30 334 *e*P P 22 52 01.5 +1.3
PETR Petresti 74.32 328⇑*i*P P 22 52 01.7 +1.4
ODBI Odobesti 74.34 328⇓*i*P P 22 52 01.1 +0.7
VRI Vrincioaia 74.36 328⇑*i*P P 22 51 59.9 -0.6
VRI Vrincioaia 74.36 328 P P 22 51 59.9 -0.6
PLOR Plostina 74.40 328⇑*i*P P 22 52 01.0 +0.2
PLOR Plostina 74.40 328 P P 22 52 01.0 +0.2
KRUC Moravsky 74.40 336 *e*P P 22 52 02.0 +1.3
OZUR 74.46 329⇑*i*P P 22 52 02.3 +1.2
CFR Carcaliu 74.50 327⇓*i*P P 22 52 02.2 +0.9
CFR Carcaliu 74.50 327 P P 22 52 03.5 +2.2
CJR Cluj-Napoca 74.58 331⇑*i*P P 22 52 03.6 +1.7
CJR Cluj-Napoca 74.58 331 P P 22 52 03.5 +1.7
SMOL Smolenice 74.65 335 *e*P P 22 52 03.9 +1.7
SMOL Smolenice 74.65 335 *e*P P 22 52 03.9 +1.7
DOPR Dopca 74.69 329⇑*i*P P 22 52 04.2 +1.7
DRGR 74.77 331⇓*i*P P 22 52 02.3 -0.7
DRGR 74.77 331 P P 22 52 02.3 -0.7
MODS Modra-Piesok 74.82 335 *e*P P 22 52 03.9 +0.7
MODS pmax pmax
comp=Z,296nm,2.7s
MODS Modra-Piesok 74.82 335 *e*P P 22 52 03.9 +0.7
MDB Medias 74.85 330⇓*i*P P 22 52 04.8 +1.4
MLR Muntele Rosu 74.94 329 *e*P P 22 52 05.3 +1.2
comp=Z,110nm,1.4s
MLR Muntele Rosu 74.94 329⇑*i*P P 22 52 04.3 +0.2
MLR Muntele Rosu 74.94 329 *e*P P 22 52 05.3 +1.2
MLR pmax pmax
comp=Z,110nm,1.4s
MLR Muntele Rosu 74.94 329 P P 22 52 05.3 +1.2
comp=Z,28nm,0.6s,baz=17,slow=2.4,SNR=13
HGN Heimansgroeve 75.00 343 *e*P P 22 52 04.5 +0.4
comp=Z,147nm,1.7s
KHC Kasperske Hory 75.01 338 *e*P P 22 52 05.9 +1.6
KHC Kasperske Hory 75.01 338 *e*P P 22 52 05.9 +1.6
ZST Bratislava 75.03 335 *e*P P 22 52 05.4 +1.1
ZST Bratislava 75.03 335 *e*P P 22 52 05.3 +1.0
TLB Topalu 75.06 327⇑*i*P P 22 52 04.9 +0.4
TLB Topalu 75.06 327 P P 22 52 04.9 +0.4
SRO2 Moca 75.09 334 *e*P P 22 52 05.6 +0.9
SRO2 Moca 75.09 334 *e*P P 22 52 05.6 +0.9
GEC2 GERESS Array S 75.25 338 *e*P P 22 52 06.5 +0.8
comp=Z,26nm,1.2s
GEC2 GERESS Array S 75.25 338 *e*P P 22 52 06.5 +0.8
GEC2 pmax pmax
comp=Z,26nm,1.2s
GERES GERESS Array B 75.25 338 P P 22 52 06.5 +0.8
comp=Z,5.8nm,0.6s,baz=40,slow=5.6,SNR=7.5
VOIR 75.28 329⇓*i*P P 22 52 06.9 +1.0
VOIR 75.28 329 P P 22 52 06.9 +1.0
MFTR Murfatlar 75.29 326⇓*i*P P 22 52 06.3 +0.4
WR1 Warramunga Arr 75.45 205 *e*P P 22 52 06.9 0.0
WRA Warramunga Arr 75.45 205 P P 22 52 06.9 0.0
comp=Z,4.5nm,0.7s,baz=24,slow=4.9,SNR=2.3
ARR Arges 75.47 329⇓*i*P P 22 52 08.1 +1.1
ICOR Ion Corvin 75.56 327⇑*i*P P 22 52 09.1 +1.7
SULR 75.57 328⇑*i*P P 22 52 08.0 +0.5
CONA Conrad Observa 75.59 336 *e*P P 22 52 08.8 +1.1
comp=Z,40nm,1.3s,SNR=5.4
GZR Gura Zlata 76.02 331⇓*i*P P 22 52 11.3 +1.1
GZR Gura Zlata 76.02 331 P P 22 52 11.2 +1.1
MOA Molln 76.05 337 *e*P P 22 52 10.7 +0.5
comp=Z,0.6nm,0.4s
SGRR Singureni 76.06 328⇓*i*P P 22 52 07.4 -2.9
BZS Buzias 76.16 331⇑*i*P P 22 52 11.9 +1.1
BZS Buzias 76.16 331 P P 22 52 11.9 +1.1
ARSA Arzberg 76.30 336 *e*P P 22 52 11.7 +0.1
comp=Z,28nm,1.5s,SNR=5.0
SRE Strehaia 76.55 330⇑*i*P P 22 52 17.1 +4.0
SRE Strehaia 76.55 330 ⇑P P 22 52 17.1 +4.0
VLAD Vladila 76.77 329⇑*i*P P 22 52 15.0 +0.7
KOGS Kog 76.87 335 *i* P P 22 52 15.1 +0.3
MDVR Moldovita 76.89 331⇑*i*P P 22 52 15.3 +0.2
SOKA Soboth 76.96 336 *e*P P 22 52 16.2 +0.7
comp=Z,43nm,1.2s,SNR=4.9
PUNG Punghina 76.98 330⇑*i*P P 22 52 15.4 -0.1
KBA Koelnbreinsper 76.99 337 *e*P P 22 52 16.8 +1.1
comp=Z,71nm,0.8s,SNR=9.1
GROS Grobnik 77.04 336 *i* P P 22 52 16.1 +0.1
WATA Walderalm 77.15 339 *e*P P 22 52 18.7 +2.1
comp=Z,9.2nm,0.6s
RETA Reutte 77.19 339 *e*P P 22 52 17.7 +1.0
comp=Z,18nm,1.0s
WTTA Wattenberg 77.21 339 *e*P P 22 52 17.8 +0.9
comp=Z,32nm,0.9s,SNR=4.4
OBKA Obir 77.23 336 *e*P P 22 52 17.5 +0.4
comp=Z,48nm,1.5s
MOTA Moosalm 77.25 339 *e*P P 22 52 18.8 +1.6
comp=Z,28nm,0.9s,SNR=4.4
BR101 Keskin Array S 77.27 321 *e*P P 22 52 17.4 0.0
BRTR Keskin Array B 77.27 321 P P 22 52 17.4 0.0
comp=Z,12nm,0.9s,baz=3.0,slow=5.9,SNR=6.2
SQTA Sankt Quirin 77.34 339 *e*P P 22 52 18.7 +1.0
comp=Z,56nm,1.1s,SNR=5.6
ANTO Ankara 77.47 321 *e*P P 22 52 19.7 +1.3
comp=Z,114nm,1.4s
ANTO Ankara 77.47 321 *e*P P 22 52 19.7 +1.3
ANTO pmax pmax
comp=Z,114nm,1.4s
ABTA Abfaltersbach 77.50 338 *e*P P 22 52 18.9 +0.4
comp=Z,60nm,0.9s
MDUB Mudurnu 77.55 323 *e*P P 22 52 20.4 +1.5
comp=Z,306nm,1.2s
DAVA Damuels 77.57 340 *e*P P 22 52 20.1 +1.2
comp=Z,23nm,1.1s
FETA Feichten 77.64 339 *e*P P 22 52 19.9 +0.6
comp=Z,20nm,0.8s
CRES Cresnjev 77.65 336 *i* P P 22 52 19.3 +0.1
CTYL Yalikoy Yolu 77.72 325⇓*i*P P 22 52 19.6 -0.1
PHSR Pinarhisar 77.85 326⇑*i*P P 22 52 20.6 +0.2
DAVOX Davos/Dischmat 78.05 340 P P 22 52 23.4 +1.7
comp=Z,20nm,0.7s,baz=323,slow=3.1,SNR=3.1
VTS Vitosha 78.38 329⇓*i*P P 22 52 23.3 -0.3
VTS Vitosha 78.38 329 P P 22 52 25.2 +1.6
AS31 Alice Springs 79.12 204 *e*P P 22 52 29.0 +1.5
comp=Z,3.3nm,1.1s
ASAR Alice Springs 79.12 205 P P 22 52 29.0 +1.5
ASAR Alice Springs 79.12 205 P P 22 52 29.0 +1.5
comp=Z,6.1nm,0.6s,baz=15,slow=5.6,SNR=2.6
BALB Balikesir 79.49 325 *e*P P 22 52 30.6 +1.2
comp=Z,215nm,1.0s
SKO Skopje 79.53 330 *i* P P 22 52 30.2 +0.6
STIP Stip 79.55 329 *i* P P 22 52 28.6 -1.2
PDG Podgorica 79.76 332⇑*i*P P 22 52 31.7 +0.8
TTG Podgorica 79.76 332 *e*P P 22 52 31.4 +0.6
comp=Z,82nm,1.2s
TTG Podgorica 79.76 332 *e*P P 22 52 31.4 +0.6
TTG pmax pmax
comp=Z,82nm,1.2s
VAY Valandovo 79.77 329 *i* P P 22 52 31.5 +0.6
EZN Ezine 79.87 326⇑*i*P P 22 52 32.5 +1.0
EZN Ezine 79.87 326 ⇑P P 22 52 32.5 +1.0
ISP Isparta 80.12 322 *e*P P 22 52 32.9 -0.2
comp=Z,57nm,1.2s
ISP Isparta 80.12 322 *e*P P 22 52 32.9 -0.2
ISP pmax pmax
comp=Z,57nm,1.2s
KRUS Krusevo 80.14 330 *i* P P 22 52 33.3 +0.3
MANT Manisa 80.26 324 *e*P P 22 52 34.9 +1.0
comp=Z,199nm,1.1s
OHR Ohrid 80.51 330 *i* P P 22 52 34.9 -0.1
CSS Mathiatis 81.51 318 *e*P P 22 52 40.3 -0.1
comp=Z,75nm,1.2s
MMAI Mount Meron Ar 82.33 316 P P 22 52 45.2 +0.4
comp=Z,30nm,0.6s,baz=40,slow=6.6,SNR=12
ASF Jabal al Asfar 82.40 314 P P 22 52 45.1 -0.1
comp=Z,24nm,0.9s,baz=4.1,slow=5.2,SNR=6.7
TIP Timpagrande 83.48 332 *e*P P 22 52 52.2 +1.6
comp=Z,91nm,1.4s
TIP Timpagrande 83.48 332⇓*i*P P 22 52 51.2 +0.5
IDI Anoyia 84.44 325 P P 22 52 54.4 -1.2
comp=Z,18nm,0.6s,baz=6.0,slow=8.9,SNR=4.7
EIL Elat 85.40 315 P P 22 52 59.0 -1.4
comp=Z,33nm,0.8s,baz=2.6,slow=5.1,SNR=5.3
ESDC Sonseca Array 87.34 348 P P 22 53 09.3 -0.5
comp=Z,8.7nm,0.8s,baz=4.3,slow=4.9,SNR=4.3
KEST Kesra 88.69 337 P P 22 53 16.1 -0.3
comp=Z,14nm,0.8s,baz=356,slow=0.7,SNR=3.5
TORD Torodi Ar. Bea 112.20 337 PP PP 22 59 41.3 -1.4
comp=Z,9.7nm,1.1s,baz=20,slow=2.3,SNR=8.1
BOSA Boshof 139.27 288 PKP PKPdf 22 59 49.0 -0.8
comp=Z,2.7nm,0.9s,baz=333,slow=2.3,SNR=1.8

IDC ***19*** *22:41:44.8±0.7, 52°.29N×160°.36E, h0km, mb4.9/43, mb1 5.0/45, mb1mx5.0/60, mbtmp4.9/45, ML4.5/2, Error ellipse: s-maj=17.9km s-min=11.8km az=160.0*
KRSC ***19*** *22:41:44.0±10.0, 52°.04N×160°.83E, h57km±10km, ML5.6*
ISCJB ***19*** *22:41:48.7±0.6, 52°.14N±0°.04×160°.57E±0°.05, h42km±4km, mb5.2/99, Error ellipse: s-maj=6.3km s-min=4.5km az=155.9*
MOS ***19*** *22:41:49.3±1.2, 52°.22N×160°.49E, h49km, mb5.8/21, Error ellipse: s-maj=8.6km s-min=5.1km az=108.1*
NEIC ***19*** *22:41:50.4±1.1, 52°.21N×160°.45E, h41km±10km, mb5.1/16, Error ellipse: s-maj=12.1km s-min=6.3km az=160.0*
GCMT ***19*** *22:41:51.4±0.2, 52°.15N±0°.01×160°.76E±0°.02, h28km, MW5.5/119, Moment Tensor Solution. s71,c105; s119,c227; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr1.73±.06; Mθθ-0.69±.03; Mφφ-1.04±.03; Mrθ0.76±.06; Mrφ-0.68±.02; Mθφ0.63±.05; Best double couple: M0=1.91900×10^17 NP1:φs=44.00000°, δ60.00000°, λ95.00000°. NP2:φs=213.00000°, δ30.00000°, λ80.00000°. Principal axes: T 2.0100, Plg74.0000°, Azm328.0000°; N -0.1820, Plg5.0000°, Azm221.0000°; P -1.8280, Plg15.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 22:41:48.6±0.7, 52°.19N±0°.04×160°.55E±0°.04, h31km±4km, n264, σ1§45/286, mb5.3/99, 24C-16D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97**	**341**	*e*P	**Pn**	**22 42 05.1**	**-0.9**

SPN				*e*S	Sn	22 42 18.5	-0.2
SPN	**Mys Shipunski**	**0.97**	**341**	PN	Pn	22 42 05.1	-0.9
SPN				S	Sn	22 42 18.5	-0.2
NLC	**Nalytchevo**	**1.23**	**324**	*e*P	Pn	22 42 09.8	+0.2
NLC				*e*S	Sb	22 42 27.3	+0.6
NLC	**Nalytchevo**	**1.23**	**324**	PN	Pn	22 42 09.8	+0.2
NLC				S	Sb	22 42 27.3	+0.6
DALK	**Dalny**	**1.39**	**308**	*e*P	Pn	22 42 12.2	+0.5
DALK				*e*S	Sb	22 42 31.3	+0.2
DALK	**Dalny**	**1.39**	**308**	PN	Pn	22 42 12.2	+0.5
DALK				S	Sb	22 42 31.3	+0.2
PET	**Petropavlovsk**	**1.43**	**307**	*e*Pn	Pn	22 42 07.2	-5.2
PET	**Petropavlovsk**	**1.43**	**307**	P	Pn	22 42 12.7	+0.4
PET	**Petropavlovsk**	**1.43**	**307**	*e*PN	Pb	22 42 14.1	-0.5
PET				*e*S	Sb	22 42 34.1	+1.7
PET				smax	smax		
	comp=E,34μm,0.6s						
PET				smax	smax		
	comp=N,29μm,0.6s						
MTVR	**Mutnovka**	**1.48**	**283**	*e*P	Pn	22 42 13.1	-0.1
MTVR	**Mutnovka**	**1.48**	**283**	PN	Pn	22 42 13.1	-0.1
AVH	**Avacha**	**1.54**	**315**	P	Pn	22 42 14.5	+0.5
AVH	**Avacha**	**1.54**	**315**	PN	Pn	22 42 14.5	+0.5
GRL	**Gorelyy**	**1.56**	**285**	*e*P	Pn	22 42 15.3	+1.0
GRL	**Gorelyy**	**1.56**	**285**	PN	Pn	22 42 15.3	+1.0
KDTR	**Khodutka, Kamc**	**1.57**	**257**	P	Pn	22 42 13.7	-0.6
KDTR				S	Sn	22 42 33.7	+0.1
KDTR	**Khodutka, Kamc**	**1.57**	**257**	PN	Pn	22 42 13.7	-0.6
KDTR				S	Sn	22 42 33.7	+0.1
KRMR	**Karymshinskiy**	**1.61**	**295**	*e*P	Pn	22 42 15.8	+0.9
KRMR				*e*S	Sb	22 42 38.2	+0.5
KRMR	**Karymshinskiy**	**1.61**	**295**	PN	Pn	22 42 15.8	+0.9
KRMR				S	Sb	22 42 38.2	+0.5
KRX	**Arik**	**1.65**	**316**	P	Pb	22 42 16.8	-1.6
KRX	**Arik**	**1.65**	**316**	PN	Pb	22 42 16.8	-1.6
PEA0B	**Petropavlovsk-**	**1.97**	**299**	*e*Pn	Pb	22 42 22.4	-1.3
PEA0B				*e*Sn	Sn	22 42 43.5	+0.1
PEA0B	**Petropavlovsk-**	**1.97**	**299**	*e*PN	Pb	22 42 22.4	-1.3
PEA0B				*e*		22 42 43.5	
PETK	**Petropavlovsk-**	**1.97**	**299**	Pn	Pb	22 42 23.0	-0.7
	baz=106,slow=18,SNR=2.6						
PETK				Sn	Sb	22 42 49.4	+1.5
	comp=N,346nm,0.3s,baz=94,slow=19,SNR=3.8						
PEA1	**Petropavlovsk-**	**1.97**	**299**	*e*Pn	Pb	22 42 23.0	-0.7
PEA1				*e*Sn	Sb	22 42 49.4	+1.5
APC	**Apacha**	**2.20**	**291**	P	Pn	22 42 24.4	+1.5
APC	**Apacha**	**2.20**	**291**	PN	Pn	22 42 24.4	+1.5
KZV	**Kizimen**	**2.94**	**357**	P	Pn	22 42 34.8	+1.6
KZV	**Kizimen**	**2.94**	**357**	PN	Pn	22 42 34.8	+1.6
TUMR	**Tumrok**	**3.11**	**356**	*e*P	Pn	22 42 37.4	+1.8
TUMR	**Tumrok**	**3.11**	**356**	PN	Pn	22 42 37.4	+1.8
SKR	**Severo-Kuril's**	**3.16**	**243**	*e*S	Sn	22 43 11.9	-0.7
SKR	**Severo-Kuril's**	**3.16**	**243**	*e*PN	Pb	22 42 40.7	-3.2
SKR				*e*S	Sn	22 43 13.7	+1.1
SKR				smax	smax		
	comp=E,4μm,0.7s						
SKR				smax	smax		
	comp=N,5μm,0.7s						
SKR				MLR	MLR		
	comp=Z,48μm,16.0s						
SKR				MLR	MLR		
	comp=Z,41μm,14.0s						
BKI	**Bering**	**4.42**	**45**	S	Sn	22 43 39.2	-4.5
KIWB	**Kanaga Island**	**13.73**	**83**	*e*Pn	Pn	22 45 02.3	+1.4
ADK	**Adak**	**14.01**	**82**	*e*Pn	Pn	22 45 03.0	-1.7
ADK	**Adak**	**14.01**	**82**	*e*P	Pn	22 45 03.0	-1.7
GSTR	**Great Sitkin T**	**14.35**	**81**	*e*Pn	Pn	22 45 08.2	-1.2
ASAJ	**Asahikawa**	**14.42**	**243**	Pn	Pn	22 45 10.3	-0.1
	comp=Z,3.4nm,0.3s,baz=81,slow=12,SNR=2.2						
ERM	**Erimo**	**15.57**	**236**	*e*Pn	Pn	22 45 25.8	+0.2
	comp=Z,104nm,0.8s						
ERM	**Erimo**	**15.57**	**236**	*e*P	Pn	22 45 25.8	+0.2
ERM				pmax	pmax		
	comp=Z,104nm,0.8s						
BILL	**Bilibino**	**16.15**	**8**	*e*Pn	Pn	22 45 31.2	-1.7
	comp=Z,128nm,1.0s						
BILL	**Bilibino**	**16.15**	**8**	*e*P	P	22 45 37.4	+1.6
BILL				pmax	pmax		
	comp=Z,74nm,1.0s						
KLR	**Kul'dur**	**18.42**	**272**	P	P	22 46 00.5	-0.7
	comp=Z,1.1nm,0.3s,baz=63,slow=13,SNR=2.4						
USRK	**Ussuriysk Ar.**	**20.55**	**258**	P	P	22 46 22.5	-1.8
	comp=Z,20nm,0.8s,baz=30,slow=5.0,SNR=5.5						
ANM	**Nome**	**21.42**	**42**	*e*P	P	22 46 33.6	+0.1
ANM				*ep*P	P	22 46 33.8	+0.3
ANM	**Nome**	**21.42**	**42**	*e*P	P	22 46 33.6	+0.1
MAJO	**Matsushiro**	**22.22**	**234**	*e*P	P	22 46 42.7	+0.3
	comp=Z,149nm,1.1s						
MAJO	**Matsushiro**	**22.22**	**234**	*e*P	P	22 46 42.7	+0.3
MAJO				pmax	pmax		
	comp=Z,149nm,1.1s						
MAT	**Matsushiro**	**22.22**	**234**	P	P	22 46 42.6	+0.2
MJAR	**Matsushiro Arr**	**22.22**	**234**	P	P	22 46 42.6	+0.3
	comp=Z,39nm,0.8s,baz=23,slow=9.1,SNR=3.2						
INU	**Inuyama**	**23.75**	**234**	*e*P	P	22 46 56.8	-1.2
	comp=Z,80nm,0.9s						
TIXI	**Tiksi**	**24.02**	**336**	*e*P	P	22 46 58.0	-2.2
	comp=Z,75nm,0.8s						
TIXI	**Tiksi**	**24.02**	**336**	P	P	22 46 59.2	-0.9
	comp=Z,50nm,0.6s,baz=126,slow=10,SNR=7.2						
HIA	**Hailar**	**25.76**	**280**	*e*P	P	22 47 13.7	-2.5
	comp=Z,70nm,0.8s						
HIA	**Hailar**	**25.76**	**280**	*e*P	P	22 47 13.7	-2.5
HIA				pmax	pmax		
	comp=Z,70nm,0.8s						
SII	**Sitkinak Islan**	**26.35**	**62**	*e*P	P	22 47 24.4	+2.9
SII				*es*P	pP	22 47 28.9	-0.2
KDAK	**Kodiak Island**	**27.02**	**59**	*e*P	P	22 47 26.7	-0.7
	comp=Z,91nm,1.2s						
KDAK	**Kodiak Island**	**27.02**	**59**	*e*P	P	22 47 26.7	-0.7
KDAK				pmax	pmax		
	comp=Z,91nm,1.2s						
KDAK	**Kodiak Island**	**27.02**	**59**	P	P	22 47 26.7	-0.7
	comp=Z,17nm,0.9s,baz=291,slow=5.5,SNR=2.1						
KSRS	**Korea Array**	**27.15**	**250**	P	P	22 47 31.1	+2.3
	comp=Z,9.6nm,0.7s,baz=43,slow=9.7,SNR=4.6						
KS15	**Wonju Array Si**	**27.18**	**250**	*e*P	P	22 47 31.1	+2.0
	comp=Z,69nm,1.5s						
MLY	**Manley**	**27.63**	**43**	*e*P	P	22 47 36.1	+3.2
	comp=Z,35nm,1.0s						
BWN	**Browne**	**28.14**	**45**	*e*P	P	22 47 41.9	+4.4
	comp=Z,597nm,1.8s						
MCK	**McKinley**	**28.37**	**46**	*e*P	P	22 47 40.4	+0.9
	comp=Z,76nm,1.3s						
MCK	**McKinley**	**28.37**	**46**	*e*P	P	22 47 40.4	+0.9
MCK				pmax	pmax		
	comp=Z,76nm,1.3s						
JNU	**Nakatsue**	**28.66**	**240**	*e*P	P	22 47 46.1	+3.7
	comp=Z,96nm,1.0s						
JNU	**Nakatsue**	**28.66**	**240**	P	P	22 47 46.1	+3.7
	comp=Z,25nm,0.7s,baz=27,slow=6.8,SNR=2.6						
KNK	**Knik Glacier**	**28.69**	**51**	*e*P	P	22 47 43.5	+1.1
	comp=Z,89nm,1.2s						
SML	**Sawmill**	**28.72**	**50**	*e*P	P	22 47 41.9	-0.7
	comp=Z,72nm,0.9s						
SML	**Sawmill**	**28.72**	**50**	*e*P	P	22 47 41.9	-0.7
SML				pmax	pmax		
	comp=Z,72nm,0.9s						
CCB	**Clear Creek Bu**	**28.87**	**44**	*e*P	P	22 47 44.5	+0.6
	comp=Z,79nm,1.3s						
ILAR	**Eielson Array**	**29.27**	**44**	P	P	22 47 48.0	+0.5
	comp=Z,4.9nm,1.0s,baz=278,slow=6.3,SNR=2.0						
ILB	**Eielson Array**	**29.27**	**44**	*e*P	P	22 47 48.0	+0.5
	comp=Z,19nm,0.9s						
PRP	**Porcupine Dome**	**29.84**	**43**	*e*P	P	22 47 55.4	+2.6
	comp=Z,30nm,1.0s						
KLU	**Klutina**	**29.89**	**51**	*e*P	P	22 47 54.1	+1.1
	comp=Z,36nm,1.1s						
RIDG	**Independent Ri**	**30.19**	**46**	*e*P	P	22 47 56.7	+1.0
	comp=Z,66nm,1.4s						
ULN	**Ulaanbaatar**	**33.98**	**284**	*e*P	P	22 48 27.5	-1.7
	comp=Z,22nm,0.9s						
ULN	**Ulaanbaatar**	**33.98**	**284**	*e*P	P	22 48 27.5	-1.7
ULN				pmax	pmax		
	comp=Z,22nm,0.9s						
HYT	**Haines Junctio**	**34.02**	**51**	*e*P	P	22 48 31.0	+1.6
	comp=Z,31nm,1.1s						
TLY	**Talaya**	**34.32**	**292**	*e*P	P	22 48 30.3	-1.6
	comp=Z,64nm,1.3s						
TLY	**Talaya**	**34.32**	**292**	*e*P	P	22 48 30.3	-1.6
TLY				pmax	pmax		
	comp=Z,64nm,1.3s						
JIS	**Juneau Island**	**36.28**	**54**	*e*P	P	22 48 51.5	+2.9
	comp=Z,69nm,1.3s						
ZAA1	**Zalesovo Array**	**43.51**	**304**	*e*P	P	22 49 47.0	-1.7
ZALV	**Zalesovo Beam**	**43.51**	**304**	P	P	22 49 47.0	-1.7
ZALV	**Zalesovo Beam**	**43.51**	**304**	P	P	22 49 47.0	-1.7
	comp=Z,6.7nm,0.7s,baz=55,slow=5.9,SNR=2.4						
YKA	**Yellowknife Ar**	**43.65**	**42**	P	P	22 49 50.3	+0.6
	comp=Z,3.3nm,0.8s,baz=299,slow=7.9,SNR=2.3						
YKB5	**Yellowknife Ar**	**43.65**	**42**	*e*P	P	22 49 50.3	+0.6
SPA0	**Spitsbergen Ar**	**48.08**	**351**	*e*P	P	22 50 25.7	+1.2
	comp=Z,161nm,1.0s						
SPITS	**Spitsbergen Ar**	**48.08**	**351**	P	P	22 50 24.9	+0.4
	comp=Z,19nm,0.5s,baz=59,slow=8.0,SNR=7.0						
GLK	**Glacier Lake**	**48.71**	**64**	*e*P	P	22 50 35.5	+5.6
MK32	**Makanchi Array**	**48.80**	**297**	*e*P	P	22 50 29.0	-1.5
MKAR	**Makanchi Array**	**48.80**	**297**	P	P	22 50 29.0	-1.5
MKAR	**Makanchi Array**	**48.80**	**297**	P	P	22 50 29.0	-1.5
	comp=Z,11nm,0.6s,baz=53,slow=6.4,SNR=4.7						
BKCOR	**Black Crater**	**50.04**	**66**	*e*P	P	22 50 37.6	-2.5
NEW	**Newport**	**50.12**	**60**	P	P	22 50 41.0	+0.5
	comp=Z,2.4nm,0.7s,baz=343,slow=14,SNR=2.3						
YBH	**Yreka Blue Hor**	**51.08**	**69**	P	P	22 50 50.0	+2.1
YBH	**Yreka Blue Hor**	**51.08**	**69**	P	P	22 50 50.0	+2.1
	comp=Z,4.2nm,0.8s,baz=267,slow=2.9,SNR=1.9						
I07A	**Izee**	**51.41**	**65**	*e*P	P	22 50 48.5	-1.9
	comp=Z,33nm,1.5s						
SLVN	**Son La**	**53.09**	**257**	*e*P	P	22 51 04.7	+1.6
	comp=Z,150nm,1.9s						
ARA0	**ARCESS Array S**	**54.24**	**342**	*e*P	P	22 51 10.9	+0.1
ARCES	**ARCESS Array B**	**54.24**	**342**	P	P	22 51 10.9	+0.1
	comp=Z,18nm,0.7s,baz=44,slow=8.8,SNR=6.0						
ARU	**Arti**	**54.26**	**318**	*e*P	P	22 51 10.4	-0.6
	comp=Z,60nm,0.5s						
ARU	**Arti**	**54.26**	**318**	*e*P	P	22 51 10.4	-0.6
ARU				pmax	pmax		
	comp=Z,61nm,0.5s						
ARU	**Arti**	**54.26**	**318**	P	P	22 51 10.4	-0.6
	comp=Z,24nm,0.5s,baz=41,slow=3.2,SNR=14						
LSA	**Lhasa**	**54.77**	**274**	*e*P	P	22 51 17.3	+1.6
	comp=Z,22nm,0.7s						
LSA	**Lhasa**	**54.77**	**274**	*e*P	P	22 51 17.3	+1.6
LSA				pmax	pmax		
	comp=Z,22nm,0.7s						
PRGR	**Permogore**	**55.36**	**328**	⇓*i*P	P	22 51 18.1	-0.8
PRGR				pmax	pmax		
	comp=Z,53nm,0.6s						
TMCR	**Tamitsa**	**55.72**	**333**	*e*P	P	22 51 21.6	+0.2
TMCR				pmax	pmax		
	comp=Z,170nm,1.2s						
NV01	**Mina Array Sit**	**55.79**	**70**	*e*P	P	22 51 25.6	+2.9
NVAR	**Mina Array Bea**	**55.79**	**70**	P	P	22 51 25.6	+2.9
	comp=Z,3.6nm,0.6s,baz=303,slow=7.4,SNR=2.7						
KIRV	**Kirov**	**56.29**	**324**	P	P	22 51 25.4	-0.3
	comp=Z,36nm,0.5s,baz=52,slow=3.0,SNR=6.1						
PDAR	**Pinedale Array**	**57.73**	**61**	P	P	22 51 38.6	+2.2
	comp=Z,6.5nm,0.8s,baz=316,slow=2.5,SNR=2.6						
KLMR	**Klimovskoe**	**57.88**	**330**	*e*P	P	22 51 35.2	-1.6
KLMR				pmax	pmax		
	comp=Z,60nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.27**	**259**	P	P	22 51 40.7	+0.5
	comp=Z,19nm,0.7s,baz=30,slow=6.7,SNR=9.4						
AKTO	**Aktyubinsk**	**58.64**	**313**	P	P	22 51 41.6	-0.8
	comp=Z,16nm,0.5s,baz=77,slow=9.5,SNR=7.8						
SFJD	**Kangerlussuaq**	**58.83**	**14**	P	P	22 51 43.1	-0.3
	comp=N,8.5nm,0.7s,baz=20,slow=6.5,SNR=5.6						
NB2	**NORSAR Subarra**	**64.49**	**344**	P	P	22 52 21.7	0.0
	comp=Z,371nm,3.3s,baz=20,slow=6.9						
NB2	**NORSAR Subarra**	**64.49**	**344**	P	P	22 52 21.7	0.0
	baz=20,slow=6.9						
NB200	**NORSAR Array S**	**64.49**	**344**	*e*P	P	22 52 21.8	0.0
NOA	**NORSAR Array B**	**64.49**	**344**	P	P	22 52 21.8	0.0
	comp=Z,8.3nm,0.6s,baz=20,slow=6.7,SNR=4.2						
LPSR	**Galich'ya Gora**	**64.69**	**325**	*e*P	P	22 52 22.5	-0.5
LPSR				pmax	pmax		
	comp=Z,210nm,1.8s						
VRH	**Novokhopyorsk**	**64.80**	**322**	*e*P	P	22 52 22.8	-1.0
VRH				pmax	pmax		
	comp=Z,90nm,0.6s						
HFS	**Hagfors**	**64.90**	**342**	P	P	22 52 24.8	+0.5
	comp=Z,14nm,0.6s,baz=34,slow=6.2,SNR=6.5						
VSR	**Storozhevoye**	**65.73**	**324**	*e*P	P	22 52 28.1	-1.7
VSR				pmax	pmax		
	comp=Z,140nm,1.7s						
VORD	**Divnogorie**	**65.89**	**324**	*e*P	P	22 52 30.5	-0.3
VORD				pmax	pmax		
	comp=Z,30nm,0.7s						
SCHQ	**Schefferville**	**66.33**	**28**	P	P	22 52 34.0	+0.4
	comp=Z,8.8nm,0.7s,baz=337,slow=6.8,SNR=3.6						
NACGM	**Naroch**	**66.59**	**333**	*e*	P	22 52 34.0	-1.3
GEYT	**Alibeck**	**67.82**	**303**	P	P	22 52 42.5	-0.9
	comp=Z,22nm,0.5s,baz=9.5,slow=4.5,SNR=4.3						
N41A	**Harden Midland**	**68.73**	**51**	*e*S	S	23 01 49.1	-1.0
AKASG	**Malin Array Be**	**69.54**	**329**	P	P	22 52 53.9	+0.1
	comp=Z,29nm,0.6s,baz=30,slow=6.5,SNR=7.0						
AKBB	**Malin Array Si**	**69.54**	**329**	*e*P	P	22 52 53.9	+0.1
	comp=Z,251nm,1.8s						
KBZ	**Khabaz**	**70.39**	**317**	P	P	22 52 59.6	+0.5
	comp=Z,23nm,0.9s,baz=44,slow=12,SNR=4.8						
LTX	**Lajitas**	**70.74**	**67**	*e*P	P	22 53 03.0	+1.3
LTX	**Lajitas**	**70.74**	**67**	*e*P	P	22 53 03.0	+1.3
TXAR	**Lajitas Array**	**70.74**	**67**	P	P	22 53 03.0	+1.3
TXAR	**Lajitas Array**	**70.74**	**67**	P	P	22 53 03.0	+1.3
	comp=Z,2.5nm,0.5s,baz=299,slow=3.7,SNR=3.0						
HYB	**Hyderabad**	**71.56**	**275**	*i* P	P	22 53 06.5	-0.2
	comp=Z,54nm,0.8s						
HYB				*e*		22 53 19.5	
ANN	**Anapa**	**71.71**	**321**	*e*P	P	22 53 06.4	-0.7
ANN				pmax	pmax		
	comp=Z,66nm,1.6s						
EKA	**Eskdalemuir Ar**	**72.00**	**350**	P	P	22 53 09.2	+0.5
	comp=Z,5.0nm,0.5s,baz=17,slow=5.2,SNR=3.9						
AKH	**Akhalkalaki**	**72.03**	**315**	*e*P	P	22 53 11.1	+1.7
	comp=Z,31nm,0.9s						
AKH	**Akhalkalaki**	**72.03**	**315**	⇓*i*P	P	22 53 10.7	+1.3
AKH	**Akhalkalaki**	**72.03**	**315**	*e*P	P	22 53 11.1	+1.7
AKH				pmax	pmax		
	comp=Z,31nm,0.9s						
GNI	**Garni**	**72.50**	**314**	P	P	22 53 13.4	+1.2
	comp=Z,10nm,0.7s,baz=134,slow=23,SNR=3.5						
IDGL	**Inch Island, C**	**72.65**	**353**	*e*P	P	22 53 09.2	-3.4
KIS	**Kishinev**	**72.91**	**328**	*i* P	P	22 53 13.0	-1.3
	comp=Z,290nm,2.0s						
KIS	**Kishinev**	**72.91**	**328**	*e*P	P	22 53 13.0	-1.3
KIS				*i*		22 53 24.0	
KIS				*e*		22 53 32.0	
KIS				pmax	pmax		
	comp=Z,290nm,2.0s						
KOLS	**Kolonicke sedl**	**73.18**	**333**	*e*P	P	22 53 17.4	+1.5
CLL	**Collm**	**73.30**	**339**	*i* P	P	22 53 17.1	+0.6
CLL				*e*		22 53 30.0	
CLL				*e*S	SKiKP	23 02 45.0	0.0
CLL				pmax	pmax		
	comp=Z,53nm,1.4s						
CLL	**Collm**	**73.30**	**339**	*i* P	P	22 53 17.1	+0.6
	comp=Z,53nm,1.4s						
CLL				*ep*P	pwP	22 53 30.0	+1.4
CLL				*e*S	SKiKP	23 02 45.0	0.0
CLL				*ep*S	sS	23 02 57.0	-0.3
UPC	**Upice**	**73.37**	**337**	*e*P	P	22 53 17.8	+0.8
UPC	**Upice**	**73.37**	**337**	*e*P	P	22 53 17.8	+0.8
DPC	**Dobruska-Polom**	**73.44**	**337**	*e*P	P	22 53 18.1	+0.7
DPC	**Dobruska-Polom**	**73.44**	**337**	*e*P	P	22 53 18.1	+0.7
MORC	**Moravsky Berou**	**73.67**	**336**	⇓*i*P	P	22 53 20.3	+1.5
MORC	**Moravsky Berou**	**73.67**	**336**	⇓P	P	22 53 20.3	+1.5
MORC	**Moravsky Berou**	**73.67**	**336**	*e*P	P	22 53 19.1	+0.3
LANS	**Liptovska Anna**	**73.75**	**335**	*e*P	P	22 53 21.5	+2.2
WTSB	**Winterswijk**	**73.89**	**343**	*e*P	P	22 53 20.8	+0.8
	comp=Z,43nm,0.7s						
TESR	**Tescani**	**74.04**	**329**	⇓*i*P	P	22 53 16.4	-4.6
PRU	**Pruhonice**	**74.20**	**338**	*e*P	P	22 53 22.5	+0.7
PRU				*e*		22 53 36.4	
PRU	**Pruhonice**	**74.20**	**338**	*e*P	P	22 53 22.5	+0.7
PRU				*ep*P	PcP	22 53 36.4	-0.3
GOPC	**GO Pecny, Ondr**	**74.21**	**338**	*e*P	P	22 53 22.8	+0.9
GOPC				*e*		22 53 34.2	
GOPC	**GO Pecny, Ondr**	**74.21**	**338**	*e*P	P	22 53 22.8	+0.9
GOPC				*ep*P	pwP	22 53 34.2	+0.2
ARCR	**ARCALIA**	**74.24**	**331**	⇑*i*P	P	22 53 23.7	+1.6
VRAC	**Vranov**	**74.34**	**336**	⇑*i*P	P	22 53 24.0	+1.4
VRAC	**Vranov**	**74.34**	**336**	⇑P	P	22 53 24.1	+1.4
VRAC	**Vranov**	**74.34**	**336**	*e*P	P	22 53 23.8	+1.1
DSB	**Dublin**	**74.37**	**352**	*e*P	P	22 53 19.1	-3.7
IGLA	**Glengowla, Co**	**74.43**	**354**	*e*P	P	22 53 19.0	-4.1
NKC	**Novy Kostel**	**74.44**	**339**	*e*P	P	22 53 23.8	+0.6
NKC	**Novy Kostel**	**74.44**	**339**	*e*P	P	22 53 23.8	+0.6
JAVC	**Velka Javorina**	**74.48**	**336**	*e*P	P	22 53 25.6	+2.0
TLCR		**74.50**	**327**	⇑*i*P	P	22 53 24.5	+0.9
TLCR		**74.50**	**327**	⇑P	P	22 53 24.5	+0.9
VYHS	**Vyhne**	**74.52**	**335**	*e*P	P	22 53 25.0	+1.3
ODBI	**Odobesti**	**74.57**	**328**	⇑*i*P	P	22 53 23.0	-1.0
KRUC	**Moravsky**	**74.62**	**336**	*e*P	P	22 53 25.2	+0.9
OZUR		**74.68**	**329**	⇑*i*P	P	22 53 25.4	+0.6
CFR	**Carcaliu**	**74.73**	**327**	⇓*i*P	P	22 53 25.0	0.0
CFR	**Carcaliu**	**74.73**	**327**	⇓P	P	22 53 25.0	0.0
CJR	**Cluj-Napoca**	**74.80**	**331**	⇑*i*P	P	22 53 27.0	+1.6
SMOL	**Smolenice**	**74.87**	**336**	*e*P	P	22 53 28.0	+2.3
DOPR	**Dopca**	**74.92**	**329**	⇓*i*P	P	22 53 27.6	+1.5
MODS	**Modra-Piesok**	**75.03**	**336**	*e*P	P	22 53 27.4	+0.7
MDB	**Medias**	**75.08**	**330**	⇓*i*P	P	22 53 30.2	+3.2
MDB	**Medias**	**75.08**	**330**	⇓P	P	22 53 30.2	+3.2
MLR	**Muntele Rosu**	**75.17**	**329**	*e*P	P	22 53 28.9	+1.2
	comp=Z,204nm,1.8s						
MLR	**Muntele Rosu**	**75.17**	**329**	⇑*i*P	P	22 53 29.1	+1.4
MLR	**Muntele Rosu**	**75.17**	**329**	*e*P	P	22 53 28.9	+1.2
MLR				pmax	pmax		
	comp=Z,204nm,1.8s						
MLR	**Muntele Rosu**	**75.17**	**329**	P	P	22 53 28.9	+1.2
	comp=Z,28nm,0.6s,baz=156,slow=3.7,SNR=8.6						
HGN	**Heimansgroeve**	**75.20**	**344**	*e*P	P	22 53 28.4	+0.8
	comp=Z,158nm,1.5s						
KHC	**Kasperske Hory**	**75.22**	**338**	*e*P	P	22 53 29.3	+1.5
KHC				*e*		22 53 44.4	
KHC	**Kasperske Hory**	**75.22**	**338**	*e*P	P	22 53 29.3	+1.5
KHC				*ex*	x	22 53 44.4	
TLB	**Topalu**	**75.29**	**327**	⇑*i*P	P	22 53 29.1	+0.9
TLB	**Topalu**	**75.29**	**327**	⇑P	P	22 53 29.1	+0.9
WR1	**Warramunga Arr**	**75.38**	**205**	*e*P	P	22 53 29.6	+0.7
WRA	**Warramunga Arr**	**75.38**	**205**	P	P	22 53 29.6	+0.7
	comp=Z,4.9nm,0.8s,baz=20,slow=5.6,SNR=2.5						
GEC2	**GERESS Array S**	**75.46**	**338**	*e*P	P	22 53 30.1	+0.8
	comp=Z,16nm,0.9s						
GEC2	**GERESS Array S**	**75.46**	**338**	*e*P	P	22 53 30.1	+0.8
GEC2				pmax	pmax		
	comp=Z,16nm,0.9s						
GERES	**GERESS Array B**	**75.46**	**338**	P	P	22 53 30.1	+0.8
	comp=Z,5.7nm,0.6s,baz=35,slow=5.5,SNR=6.5						
VOIR		**75.50**	**329**	⇑*i*P	P	22 53 31.4	+1.9
VOIR		**75.50**	**329**	⇑P	P	22 53 31.4	+1.9
MFTR	**Murfatlar**	**75.52**	**327**	⇓*i*P	P	22 53 30.2	+0.7
ARR	**Arges**	**75.69**	**330**	⇑*i*P	P	22 53 32.4	+1.8
ICOR	**Ion Corvin**	**75.78**	**327**	⇑*i*P	P	22 53 32.1	+1.1
SULR		**75.79**	**328**	⇑*i*P	P	22 53 31.8	+0.7
CONA	**Conrad Observa**	**75.80**	**336**	*e*P	P	22 53 33.0	+1.8
	comp=Z,14nm,0.8s						
GZR	**Gura Zlata**	**76.24**	**331**	⇓*i*P	P	22 53 34.6	+0.9
GZR	**Gura Zlata**	**76.24**	**331**	⇓P	P	22 53 34.6	+0.9
MOA	**Molin**	**76.26**	**337**	*i* P	P	22 53 35.0	+1.3
SGRR	**Singureni**	**76.29**	**328**	⇑*i*P	P	22 53 32.6	-1.3
ILGA	**Ilgaz**	**76.33**	**321**	*e*P	P	22 53 36.5	+2.0
	comp=Z,335nm,1.9s						
BZS	**Buzias**	**76.38**	**332**	⇓*i*P	P	22 53 36.6	+2.2
BZS	**Buzias**	**76.38**	**332**	⇓P	P	22 53 36.6	+2.2
ARSA	**Arzberg**	**76.52**	**336**	*e*P	P	22 53 35.5	+0.3
	comp=Z,12nm,0.8s						
HERR	**Herculane**	**76.81**	**331**	⇑*i*P	P	22 53 36.2	-0.7
VLAD	**Vladila**	**76.99

SPN	**Mys Shipunski**	**1.01 344**	P	Pn	22 46 21.0 -0.3
SPN			S	Sn	22 46 34.5 -0.2
RUS	**Russkaya**	**1.24 285**	P	Pb	22 46 25.2 -0.1
RUS			S	Sb	22 46 41.5 +0.6
DALK	**Dalny**	**1.38 311**	P	Pb	22 46 27.4 -0.4
DALK			S	Sb	22 46 45.5 +0.5
MTVR	**Mutnovka**	**1.45 285**	P	Pb	22 46 28.8 -0.2
MTVR			S	Sb	22 46 47.9 +0.9
UGLR	**Uglovaya**	**1.48 318**	P	Pb	22 46 29.1 -0.3
KDTR	**Khodutka, Kamc**	**1.52 259**	P	Pn	22 46 29.1 +0.9
KDTR			S	Sb	22 46 48.3 -0.5
KRMR	**Karymshinskiy**	**1.60 297**	P	Pb	22 46 30.5 -0.8
KRMR			S	Sb	22 46 50.7 -0.4

*KRSC **19** 22:47:19.4±10.0, 52°.06N×160°.54E, h25km±10km, ML5.0*
*IDC **19** 22:47:19.2±0.7, 52°.29N×160°.17E, h0km, mb4.2/35, mb1 4.3/36, mb1mx4.2/55, mbtmp4.2/36, ML4.0/1, Error ellipse: s-maj=19.5km s-min=12.8km az=136.0*
*ISCJB **19** 22:47:23.4±0.6, 52°.12N±0°.03×160°.40E±0°.05, h49km±4km, mb4.3/51, Error ellipse: s-maj=6.4km s-min=3.9km az=135.9*
*NEIC **19** 22:47:24.1±0.4, 52°.21N×160°.32E, h35km, mb4.6/17, Error ellipse: s-maj=10.1km s-min=6.4km az=156.0*
*MOS **19** 22:47:24.8±0.8, 52°.23N×160°.21E, h56km, mb5.1/4, Error ellipse: s-maj=7.9km s-min=4.1km az=100.2*

ISC 19 22:47:24.6±1.2, 52°.16N±0°.04×160°.35E±0°.05, h43km±11km, n168, σ1§41/212, mb4.5/51, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.96**	**348**	*eP*	**Pn**	**22 47 39.5**	**-2.1**
SPN				*eS*	**Sn**	**22 47 52.2**	**-2.0**
SPN	**Mys Shipunski**	**0.96**	**348**	PN	**Pn**	**22 47 39.5**	**-2.1**
SPN				S	**Sn**	**22 47 52.2**	**-2.0**
RUS	**Russkaya**	**1.16**	**284**	*eP*	**Pn**	**22 47 43.6**	**-0.7**
RUS				*eS*	**Sn**	**22 47 59.3**	**+0.3**
RUS	**Russkaya**	**1.16**	**284**	PN	**Pn**	**22 47 43.6**	**-0.7**
RUS				S	**Sn**	**22 47 59.3**	**+0.3**
NLC	**Nalytchevo**	**1.19**	**329**	*eP*	**Pn**	**22 47 43.5**	**-1.2**
NLC				*eS*	**Sn**	**22 48 00.5**	**+0.9**
NLC	**Nalytchevo**	**1.19**	**329**	PN	**Pn**	**22 47 43.5**	**-1.2**
NLC				S	**Sn**	**22 48 00.5**	**+0.9**
DALK	**Dalny**	**1.31**	**313**	*eP*	**Pn**	**22 47 45.5**	**-0.9**
DALK				*eS*	**Sn**	**22 48 03.6**	**+1.0**
DALK	**Dalny**	**1.31**	**313**	PN	**Pn**	**22 47 45.5**	**-0.9**
DALK				S	**Sn**	**22 48 03.6**	**+1.0**
PET	**Petropavlovsk**	**1.35**	**311**	*e*Pn	**Pn**	**22 47 46.4**	**-0.5**
PET				*e*Sn	**Sn**	**22 48 02.1**	**-1.6**
PET	**Petropavlovsk**	**1.35**	**311**	⇑*i*PN	**Pn**	**22 47 46.3**	**-0.6**
PET				*eS*	**Sn**	**22 48 03.8**	**+0.2**
PET				pmax	pmax		
	comp=Z,3μm,0.7s						
PET				smax	smax		
	comp=N,6μm,0.7s						
PET				smax	smax		
	comp=E,8μm,0.6s						
MTVR	**Mutnovka**	**1.37**	**285**	*eP*	**Pn**	**22 47 46.9**	**-0.4**
MTVR				*eS*	**Sn**	**22 48 05.4**	**+1.1**
MTVR	**Mutnovka**	**1.37**	**285**	PN	**Pn**	**22 47 46.9**	**-0.4**
MTVR				S	**Sn**	**22 48 05.4**	**+1.1**
INSR	**Institute**	**1.40**	**311**	*eP*	**Pn**	**22 47 46.7**	**-0.9**
INSR				*eS*	**Sn**	**22 48 06.3**	**+1.4**
INSR	**Institute**	**1.40**	**311**	PN	**Pn**	**22 47 46.7**	**-0.9**
INSR				S	**Sn**	**22 48 06.3**	**+1.4**
UGLR	**Uglovaya**	**1.41**	**319**	*eP*	**Pn**	**22 47 47.7**	**-0.1**
UGLR				*eS*	**Sn**	**22 48 07.0**	**+1.8**
UGLR	**Uglovaya**	**1.41**	**319**	PN	**Pn**	**22 47 47.7**	**-0.1**
UGLR				S	**Sn**	**22 48 07.0**	**+1.8**
SDLR	**Sedlovina**	**1.43**	**322**	*eP*	**Pn**	**22 47 47.5**	**-0.7**
SDLR				*eS*	**Sn**	**22 48 06.7**	**+0.8**
SDLR	**Sedlovina**	**1.43**	**322**	PN	**Pn**	**22 47 47.5**	**-0.7**
SDLR				S	**Sn**	**22 48 06.7**	**+0.8**
KDTR	**Khodutka, Kamc**	**1.45**	**257**	*eP*	**Pn**	**22 47 47.7**	**-0.6**
KDTR				*eS*	**Sn**	**22 48 07.2**	**+1.2**
KDTR	**Khodutka, Kamc**	**1.45**	**257**	PN	**Pn**	**22 47 47.7**	**-0.6**
KDTR				S	**Sn**	**22 48 07.2**	**+1.2**
GRL	**Gorelyy**	**1.45**	**287**	*eP*	**Pn**	**22 47 49.0**	**+0.6**
GRL	**Gorelyy**	**1.45**	**287**	PN	**Pn**	**22 47 49.0**	**+0.6**
SMAR	**Somma**	**1.46**	**320**	*eP*	**Pn**	**22 47 48.1**	**-0.5**
SMAR				*eS*	**Sn**	**22 48 08.0**	**+1.5**
SMAR	**Somma**	**1.46**	**320**	PN	**Pn**	**22 47 48.1**	**-0.5**
SMAR				S	**Sn**	**22 48 08.0**	**+1.5**
AVH	**Avacha**	**1.48**	**319**	*eP*	**Pn**	**22 47 48.8**	**0.0**
AVH				*eS*	**Sn**	**22 48 08.6**	**+1.6**
AVH	**Avacha**	**1.48**	**319**	PN	**Pn**	**22 47 48.8**	**0.0**
AVH				S	**Sn**	**22 48 08.6**	**+1.6**
KRER	**Koryakskii**	**1.51**	**320**	*eP*	**Pn**	**22 47 49.2**	**-0.1**
KRER				*eS*	**Sn**	**22 48 10.1**	**+2.3**
KRER	**Koryakskii**	**1.51**	**320**	PN	**Pn**	**22 47 49.2**	**-0.1**
KRER				S	**Sn**	**22 48 10.1**	**+2.3**
KRMR	**Karymshinskiy**	**1.52**	**297**	*eP*	**Pn**	**22 47 48.9**	**-0.3**
KRMR				*eS*	**Sn**	**22 48 10.1**	**+2.4**
KRMR	**Karymshinskiy**	**1.52**	**297**	PN	**Pn**	**22 47 48.9**	**-0.3**
KRMR				S	**Sn**	**22 48 10.1**	**+2.4**
ASAK	**Asacha**	**1.52**	**280**	*eP*	**Pn**	**22 47 48.2**	**-1.2**
ASAK				*eS*	**Sn**	**22 48 08.8**	**+0.8**
ASAK	**Asacha**	**1.52**	**280**	PN	**Pn**	**22 47 48.2**	**-1.2**
ASAK				S	**Sn**	**22 48 08.8**	**+0.8**
KOK	**Koryaka**	**1.54**	**318**	*eP*	**Pn**	**22 47 49.1**	**-0.6**
KOK	**Koryaka**	**1.54**	**318**	PN	**Pn**	**22 47 49.1**	**-0.6**
KRX	**Arik**	**1.59**	**320**	*eP*	**Pn**	**22 47 50.3**	**0.0**
KRX				*eS*	**Sn**	**22 48 12.2**	**+2.5**
KRX	**Arik**	**1.59**	**320**	PN	**Pn**	**22 47 50.3**	**0.0**
KRX				S	**Sn**	**22 48 12.2**	**+2.5**
PEA0B	**Petropavlovsk-**	**1.88**	**302**	*e*Pn	**Pn**	**22 47 54.3**	**+0.2**
PEA0B				*e*Sn	**Sn**	**22 48 15.3**	**-1.3**
PEA0B	**Petropavlovsk-**	**1.88**	**302**	*e*PN	**Pn**	**22 47 54.3**	**+0.2**
PEA0B				*e*		22 48 15.3	
PETK	**Petropavlovsk-**	**1.88**	**302**	*e*Pn	**Pn**	**22 47 54.8**	**+0.6**
PETK				*e*Sn	**Sn**	**22 48 16.0**	**-0.6**
PETK	**Petropavlovsk-**	**1.88**	**302**	Pn	**Pn**	**22 47 54.3**	**+0.2**
	comp=E,116nm,0.3s,baz=105,slow=19,SNR=30						
PETK				Sn	**Sn**	**22 48 20.1**	**+3.4**
	comp=E,183nm,0.3s,baz=266,slow=19,SNR=14						
PEA1	**Petropavlovsk-**	**1.88**	**302**	*e*Pn	**Pn**	**22 47 54.3**	**+0.1**
PEA1				*e*Sn	**Sn**	**22 48 20.1**	**+3.4**
APC	**Apacha**	**2.10**	**293**	*eP*	**Pn**	**22 47 57.9**	**+0.8**
APC				*eS*	**Sn**	**22 48 25.9**	**+3.9**
APC	**Apacha**	**2.10**	**293**	PN	**Pn**	**22 47 57.9**	**+0.8**
GNL	**Ganaly**	**2.12**	**318**	*eP*	**Pn**	**22 47 58.3**	**+0.7**
GNL				*eS*	**Sn**	**22 48 26.4**	**+3.6**
GNL	**Ganaly**	**2.12**	**318**	PN	**Pn**	**22 47 58.3**	**+0.7**
GNL				S	**Sn**	**22 48 26.4**	**+3.6**
PAU	**Pauzhetka**	**2.30**	**254**	*eP*	**Pn**	**22 48 00.7**	**+0.7**
PAU	**Pauzhetka**	**2.30**	**254**	PN	**Pn**	**22 48 00.7**	**+0.7**
MKZ	**Mys Kozlova**	**2.54**	**18**	S	**Sn**	**22 48 30.1**	**-2.8**
KZV	**Kizimen**	**2.96**	**359**	*eP*	**Pn**	**22 48 08.3**	**-0.9**
KZV	**Kizimen**	**2.96**	**359**	PN	**Pn**	**22 48 08.3**	**-0.9**
SKR	**Severo-Kuril's**	**3.03**	**243**	*eP*	**Pn**	**22 48 09.9**	**-0.1**
SKR				*eS*	**Sn**	**22 48 45.0**	**0.0**
SKR	**Severo-Kuril's**	**3.03**	**243**	*e*PN	**Pn**	**22 48 13.8**	**+3.8**
SKR				*eS*	**Sn**	**22 48 44.8**	**-0.2**
SKR				pmax	pmax		
	comp=Z,231nm,0.6s						
SKR				smax	smax		
	comp=N,973nm,0.7s						
SKR				smax	smax		
	comp=E,437nm,0.7s						
TUMD	**Tumrok D**	**3.05**	**1**	*eP*	**Pn**	**22 48 09.4**	**-0.9**
TUMD				*eS*	**Sn**	**22 48 45.6**	**0.0**
TUMR	**Tumrok**	**3.13**	**358**	*eP*	**Pn**	**22 48 11.4**	**-0.1**
TUMR	**Tumrok**	**3.13**	**358**	PN	**Pn**	**22 48 11.4**	**-0.1**
ALID	**Alaid**	**3.27**	**249**	*eP*	**Pn**	**22 48 12.6**	**-0.7**
ALID	**Alaid**	**3.27**	**249**	PN	**Pn**	**22 48 12.6**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**3.80**	**3**	*eP*	**Pn**	**22 48 22.8**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**3.80**	**3**	PN	**Pn**	**22 48 22.8**	**+2.2**
ESO	**Esso**	**3.90**	**346**	*eP*	**Pn**	**22 48 22.7**	**+0.8**
ESO	**Esso**	**3.90**	**346**	PN	**Pn**	**22 48 22.7**	**+0.8**
LGNR	**Loginova**	**3.94**	**3**	*eP*	**Pn**	**22 48 24.9**	**+2.2**
LGNR	**Loginova**	**3.94**	**3**	PN	**Pn**	**22 48 24.9**	**+2.2**
CIRR	**Tsirk**	**3.97**	**3**	*eP*	**Pn**	**22 48 25.9**	**+2.9**
CIRR				S	**Sn**	**22 49 12.5**	**+4.1**
CIRR	**Tsirk**	**3.97**	**3**	PN	**Pn**	**22 48 25.9**	**+2.9**
CIRR				S	**Sn**	**22 49 12.5**	**+4.1**
KBTR	**Krutoberegovo**	**4.31**	**19**	*eP*	**Pn**	**22 48 26.7**	**-0.8**
KBTR	**Krutoberegovo**	**4.31**	**19**	PN	**Pn**	**22 48 26.7**	**-0.8**
KBG	**Krutoberegovo**	**4.33**	**18**	*eP*	**Pn**	**22 48 29.5**	**+1.7**
KBG	**Krutoberegovo**	**4.33**	**18**	P	**Pn**	**22 48 29.5**	**+1.7**
BDR	**Baidarnaya**	**4.45**	**6**	P	**Pn**	**22 48 32.0**	**+2.5**
BDR	**Baidarnaya**	**4.45**	**6**	PN	**Pn**	**22 48 32.0**	**+2.5**
SMKR	**Semkarok**	**4.48**	**8**	*eP*	**Pn**	**22 48 32.9**	**+2.9**
SMKR	**Semkarok**	**4.48**	**8**	PN	**Pn**	**22 48 32.9**	**+2.9**
SRKR	**Sorokina**	**4.53**	**6**	*eP*	**Pn**	**22 48 33.2**	**+2.6**
SRKR	**Sorokina**	**4.53**	**6**	PN	**Pn**	**22 48 33.2**	**+2.6**
ASAJ	**Asahikawa**	**14.30**	**243**	Pn	**Pn**	**22 50 44.3**	**+0.2**
	comp=E,1.2nm,0.3s,baz=61,slow=16,SNR=4.5						
BILL	**Bilibino**	**16.19**	**8**	*e*Pn	**Pn**	**22 51 08.8**	**+0.2**
	comp=E,22nm,1.1s						
BILL	**Bilibino**	**16.19**	**8**	*eP*	**Pn**	**22 51 09.6**	**+0.9**
BILL				pmax	pmax		
	comp=Z,12nm,1.0s						
KLR	**Kul'dur**	**18.30**	**272**	P	**Pn**	**22 51 36.1**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=58,slow=7.5,SNR=4.6						
USRK	**Ussuriysk Ar.**	**20.42**	**258**	P	**P**	**22 51 56.2**	**-1.7**
	comp=Z,7.1nm,0.9s,baz=54,slow=9.8,SNR=5.1						
MAJO	**Matsushiro**	**22.10**	**234**	*eP*	**P**	**22 52 17.4**	**+1.4**
MAJO	**Matsushiro**	**22.10**	**234**	*eP*	**P**	**22 52 17.4**	**+1.4**
MJAR	**Matsushiro Arr**	**22.10**	**234**	P	**P**	**22 52 17.4**	**+1.4**
	comp=Z,13nm,1.1s,baz=14,slow=10,SNR=7.2						
TIXI	**Tiksi**	**24.00**	**336**	*eP*	**P**	**22 52 32.3**	**-2.4**
	comp=Z,24nm,0.9s						
TIXI	**Tiksi**	**24.00**	**336**	P	**P**	**22 52 33.3**	**-1.5**
	comp=Z,17nm,0.8s,baz=129,slow=8.6,SNR=9.2						
KSRS	**Korea Array**	**27.02**	**250**	P	**P**	**22 53 03.4**	**+0.9**
	comp=Z,2.6nm,0.9s,baz=32,slow=9.8,SNR=4.2						
KS15	**Wonju Array Si**	**27.05**	**250**	*eP*	**P**	**22 53 03.4**	**+0.6**
	comp=Z,16nm,1.3s						
CAST	**Castle Rocks**	**27.07**	**47**	*eP*	**P**	**22 53 00.4**	**-2.2**
	comp=Z,8.2nm,1.4s						
BPAW	**Bear Paw Mtn.**	**27.58**	**45**	*eP*	**P**	**22 53 07.5**	**+0.2**
	comp=Z,4.8nm,1.3s						
BWN	**Browne**	**28.25**	**45**	*eP*	**P**	**22 53 14.5**	**+1.4**
	comp=Z,31nm,1.0s						
JNU	**Nakatsue**	**28.54**	**240**	*eP*	**P**	**22 53 15.7**	**-0.4**
	comp=Z,15nm,1.1s						
JNU	**Nakatsue**	**28.54**	**240**	P	**P**	**22 53 15.7**	**-0.4**
	comp=Z,5.5nm,1.0s,baz=114,slow=18,SNR=1.7						
COLA	**College**	**28.96**	**44**	*eP*	**P**	**22 53 20.9**	**+1.5**
	comp=Z,9.8nm,0.3s						
COLA	**College**	**28.96**	**44**	*eP*	**P**	**22 53 20.9**	**+1.5**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ILAR	**Eielson Array**	**29.37**	**44**	P	**P**	**22 53 22.9**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=300,slow=7.2,SNR=2.8						
ILB	**Eielson Array**	**29.37**	**44**	*eP*	**P**	**22 53 22.9**	**-0.2**
	comp=Z,8.9nm,1.4s						
SONA0	**Songino Array**	**34.28**	**285**	*eP*	**P**	**22 54 05.7**	**-0.7**
SONM	**Songino Array**	**34.28**	**285**	*eP*	**P**	**22 54 05.5**	**-1.0**
SONM	**Songino Array**	**34.28**	**285**	P	**P**	**22 54 05.7**	**-0.7**
	comp=Z,3.2nm,1.0s,baz=72,slow=8.1,SNR=6.6						
INK	**Inuvik**	**34.52**	**37**	*eP*	**P**	**22 54 08.2**	**0.0**
	comp=Z,7.1nm,1.4s						
INK	**Inuvik**	**34.52**	**37**	*eP*	**P**	**22 54 08.2**	**0.0**
INK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
INK	**Inuvik**	**34.52**	**37**	P	**P**	**22 54 08.2**	**0.0**
	comp=Z,2.1nm,1.0s,baz=315,slow=1.4,SNR=2.9						
NRIK	**Noril'sk**	**36.77**	**325**	P	**P**	**22 54 26.1**	**-1.3**
	comp=Z,5.2nm,0.8s,baz=53,slow=10,SNR=2.6						
ZAA1	**Zalesovo Array**	**43.42**	**304**	*eP*	**P**	**22 55 20.6**	**-2.0**
ZALV	**Zalesovo Beam**	**43.42**	**304**	P	**P**	**22 55 20.6**	**-2.0**
	comp=Z,1.0nm,0.5s,baz=46,slow=10,SNR=2.7						
YKA	**Yellowknife Ar**	**43.75**	**42**	P	**P**	**22 55 25.5**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=296,slow=7.3,SNR=3.0						
YKB5	**Yellowknife Ar**	**43.75**	**42**	*eP*	**P**	**22 55 25.5**	**+0.3**
SPA0	**Spitsbergen Ar**	**48.09**	**351**	*eP*	**P**	**22 55 59.1**	**-0.1**
	comp=Z,61nm,1.2s						
SPITS	**Spitsbergen Ar**	**48.09**	**351**	P	**P**	**22 55 59.1**	**-0.1**
	comp=Z,14nm,0.8s,baz=62,slow=8.7,SNR=17						
MK32	**Makanchi Array**	**48.71**	**297**	*eP*	**P**	**22 56 02.4**	**-2.0**
MKAR	**Makanchi Array**	**48.71**	**297**	P	**P**	**22 56 02.4**	**-2.0**
	comp=Z,2.4nm,0.6s,baz=52,slow=6.7,SNR=16						
ARU	**Arti**	**54.20**	**318**	*eP*	**P**	**22 56 44.1**	**-1.1**
	comp=Z,12nm,1.4s						
ARU	**Arti**	**54.20**	**318**	*eP*	**P**	**22 56 44.1**	**-1.1**
ARU				pmax	pmax		
	comp=Z,13nm,1.4s						
ARU	**Arti**	**54.20**	**318**	P	**P**	**22 56 44.1**	**-1.1**
	comp=Z,1.8nm,0.4s,baz=76,slow=8.7,SNR=7.0						
ARA0	**ARCESS Array S**	**54.23**	**342**	*eP*	**P**	**22 56 44.7**	**-0.6**
ARCES	**ARCESS Array B**	**54.23**	**342**	P	**P**	**22 56 44.7**	**-0.6**
	comp=Z,8.5nm,0.8s,baz=40,slow=7.9,SNR=8.8						
SUMG	**Summit**	**54.87**	**7**	*i* P	**P**	**22 56 50.9**	**+0.5**
SUMG				pmax	pmax		
	comp=Z,31nm,1.1s						
SUMG	**Summit**	**54.87**	**7**	*i* P	**P**	**22 56 50.9**	**+0.5**
	comp=Z,31nm,1.1s						
KIRV	**Kirov**	**56.24**	**324**	P	**P**	**22 56 59.6**	**-0.3**
	comp=Z,9.5nm,0.5s,baz=124,slow=4.3,SNR=4.2						
PD31	**Pinedale Array**	**57.85**	**60**	*eP*	**P**	**22 57 13.6**	**+1.8**
PDAR	**Pinedale Array**	**57.85**	**60**	P	**P**	**22 57 13.6**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=202,slow=1.0,SNR=2.6						
CM31	**Chiang Mai Arr**	**58.15**	**259**	*eP*	**P**	**22 57 14.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**58.15**	**259**	P	**P**	**22 57 14.3**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=20,slow=6.7,SNR=6.0						
ABKAR	**Akbulak array**	**58.52**	**311**	*eP*	**P**	**22 57 15.3**	**-0.8**
	comp=Z,5.9nm,1.0s						
AKTO	**Aktyubinsk**	**58.57**	**313**	P	**P**	**22 57 15.8**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=64,slow=8.6,SNR=4.8						
SFJD	**Kangerlussuaq**	**58.89**	**14**	P	**P**	**22 57 16.6**	**-1.8**
	comp=Z,2.9nm,0.6s,baz=353,slow=8.1,SNR=3.1						
FIA1	**FINESS Array S**	**61.04**	**337**	*eP*	**P**	**22 57 33.5**	**+0.3**
	comp=Z,15nm,0.9s						
FIA0	**FINESS Array S**	**61.04**	**337**	*eP*	**P**	**22 57 33.4**	**+0.1**
FIA0	**FINESS Array S**	**61.04**	**337**	*eP*	**P**	**22 57 33.4**	**+0.1**
FINES	**FINESS Array B**	**61.04**	**337**	P	**P**	**22 57 33.4**	**+0.1**
	comp=Z,6.8nm,0.6s,baz=42,slow=7.3,SNR=21						
NB2	**NORSAR Subarra**	**64.49**	**344**	P	**P**	**22 57 56.3**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=23,slow=6.9						
NB200	**NORSAR Array S**	**64.49**	**344**	*eP*	**P**	**22 57 56.6**	**+0.4**
NOA	**NORSAR Array B**	**64.49**	**344**	P	**P**	**22 57 56.6**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=22,slow=6.7,SNR=8.7						
HFS	**Hagfors**	**64.89**	**342**	P	**P**	**22 57 59.0**	**+0.2**
	comp=Z,1.6nm,0.4s,baz=54,slow=7.3,SNR=12						
GEYT	**Alibeck**	**67.73**	**303**	P	**P**	**22 58 18.0**	**+0.6**
	comp=Z,113nm,0.7s,baz=243,slow=0.7,SNR=3.7						
AKASG	**Malin Array Be**	**69.50**	**329**	P	**P**	**22 58 27.5**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=31,slow=6.9,SNR=9.7						
AKBB	**Malin Array St**	**69.50**	**329**	*eP*	**P**	**22 58 27.5**	**-0.6**
KBZ	**Khabaz**	**70.33**	**317**	P	**P**	**22 58 34.2**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=35,slow=4.9,SNR=3.1						
LTX	**Lajitas**	**70.86**	**67**	*eP*	**P**	**22 58 38.2**	**+1.2**
LTX	**Lajitas**	**70.86**	**67**	*eP*	**P**	**22 58 38.2**	**+1.2**
TXAR	**Lajitas Array**	**70.86**	**67**	P	**P**	**22 58 38.2**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=305,slow=5.1,SNR=3.7						
EKA	**Eskdalemuir Ar**	**72.01**	**350**	P	**P**	**22 58 43.7**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=16,slow=5.2,SNR=9.6						
CLL	**Collm**	**73.29**	**339**	*eP*	**P**	**22 58 51.6**	**+0.6**
	comp=Z,6.9nm,1.0s						
CLL	**Collm**	**73.29**	**339**	*eP*	**P**	**22 58 51.0**	**0.0**
CLL	**Collm**	**73.29**	**339**	*eP*	**P**	**22 58 51.0**	**0.0**
	comp=Z,7.0nm,1.0s						
KHC	**Kasperske Hory**	**75.20**	**338**	*eP*	**P**	**22 59 03.5**	**+1.3**
KHC	**Kasperske Hory**	**75.20**	**338**	*eP*	**P**	**22 59 03.5**	**+1.3**
WR1	**Warramunga Arr**	**75.30**	**205**	*eP*	**P**	**22 59 03.4**	**+0.4**
WRA	**Warramunga Arr**	**75.30**	**205**	P	**P**	**22 59 03.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=23,slow=6.3,SNR=3.4						
GEC2	**GERESS Array S**	**75.44**	**338**	*eP*	**P**	**22 59 04.4**	**+0.7**
GEC2	**GERESS Array S**	**75.44**	**338**	*eP*	**P**	**22 59 04.4**	**+0.7**
GERES	**GERESS Array B**	**75.44**	**338**	P	**P**	**22 59 04.4**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=46,slow=7.6,SNR=5.2						
KBA	**Koelnbreinsper**	**77.18**	**338**	*eP*	**P**	**22 59 15.4**	**+1.7**
	comp=Z,13nm,1.0s						
WTTA	**Wattenberg**	**77.40**	**339**	P	**P**	**22 59 16.2**	**+1.3**
	comp=Z,6.2nm,1.1s						
MOTA	**Moosalm**	**77.44**	**339**	*eP*	**P**	**22 59 16.1**	**+1.0**
	comp=Z,5.3nm,0.9s						
BR101	**Keskin Array S**	**77.44**	**321**	*eP*	**P**	**22 59 14.8**	**-0.4**
BRTR	**Keskin Array B**	**77.44**	**321**	P	**P**	**22 59 14.8**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=20,slow=4.7,SNR=4.2						
SQTA	**Sault Quirin**	**77.53**	**339**	*eP*	**P**	**22 59 16.8**	**+1.2**
	comp=Z,4.2nm,1.0s						
FETA	**Feichten**	**77.83**	**339**	*eP*	**P**	**22 59 19.3**	**+2.0**
	comp=Z,7.7nm,1.2s						
VTS	**Vitosha**	**78.57**	**329**	*eP*	**P**	**22 59 21.1**	**-0.4**
	comp=Z,5.4nm,1.0s						
VTS	**Vitosha**	**78.57**	**329**	*eP*	**P**	**22 59 21.1**	**-0.4**
VTS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AS31	**Alice Springs**	**78.97**	**205**	*eP*	**P**	**22 59 24.6**	**+1.1**
	comp=Z,1.9nm,1.5s						
ASAR	**Alice Springs**	**78.97**	**205**	P	**P**	**22 59 24.6**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=15,slow=5.1,SNR=5.1						
MMAI	**Mount Meron Ar**	**82.49**	**316**	P	**P**	**22 59 43.1**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=29,slow=7.6,SNR=11						
ASF	**Jabal al Asfar**	**82.57**	**314**	P	**P**	**22 59 43.3**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=93,slow=4.9,SNR=5.9						
IDI	**Anoyia**	**84.62**	**325**	P	**P**	**22 59 52.6**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=47,slow=11,SNR=7.2						
ESDC	**Sonseca Array**	**87.53**	**348**	P	**P**	**23 00 08.2**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=1,3,slow=3.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**112.39**	**337**	PP	**PP**	**23 06 40.5**	**-0.5**
	comp=Z,1.2nm,1.0s,baz=352,slow=6.0,SNR=4.1						

MAN 19 22:47:34.9, 15°.88N×122°.18E, h5km, mb4.5, ML3.4, MS3.2, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**1.12**	**342**	*eP*	Pg	22 47 54.8	-1.6
CAUP				*eS*	Sg	22 48 09.1	-1.8
POLP	**Polilio Island**	**1.16**	**192**	*eP*	Pg	22 47 56.7	-0.5
POLP				*eS*	Sn	22 48 14.1	0.0
PALP	**Palanan**	**1.20**	**11**	*eP*	Pg	22 47 58.1	0.0
PALP				*eS*	Sn	22 48 14.8	-0.3
SMPP	**San Manuel, Pa**	**1.47**	**281**	*eP*	Pn	22 48 00.9	-1.3
SMPP				*eS*	Sn	22 48 16.4	-5.3
CVP	**Callao Caves**	**1.85**	**349**	⇓*i*P	Pn	22 48 06.7	-0.6
CVP				*i* S	Sn	22 48 29.9	-1.2
GQP	**Guinayangan**	**1.98**	**173**	⇓*e*P	Pb	22 48 10.4	-1.0
GQP				*eS*	Sn	22 48 34.8	+0.6
APYP	**Conner**	**2.17**	**336**	*eP*	Pn	22 48 10.4	-1.4
APYP				*eS*	Sn	22 48 38.1	-1.0
BOLP	**Bolinao**	**2.24**	**283**	*eP*	Pn	22 48 12.8	+0.1
BOLP				*eS*	Sb	22 48 42.4	-1.5
ABRA	**Dolores**	**2.26**	**322**	*eP*	Pn	22 48 13.3	+0.3
ABRA				*eS*	Sb	22 48 42.9	-1.6
SGCP	**Mt. Cagua**	**2.36**	**357**	*eP*	Pn	22 48 15.6	+1.3
SGCP				*eS*	Sb	22 48 48.7	+1.3

MEX 19 22:52:10.1±0.7, 16°.80N×96°.62W, h74km±12km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.14**	**154**	*eP*	Pn	22 52 29.6	-1.1
HUIG				*i* S	Sn	22 52 44.8	-1.1

SDLR eS Sn 22 57 07.3 +0.1
SDLR Sedlovina 1.61 319 PN Pn 22 56 47.1 +1.0
SDLR S Sn 22 57 07.3 +0.1
SMAR Somma 1.64 317 eP Pn 22 56 47.4 +0.9
SMAR eS Sn 22 57 06.9 -1.0
SMAR Somma 1.64 317 PN Sn 22 56 47.4 +0.9
SMAR S Sn 22 57 06.9 -1.0
GRL Gorelyy 1.65 288 eP Pn 22 56 49.0 +2.4
GRL eS Sn 22 57 09.4 +1.3
GRL Gorelyy 1.65 288 PN Pn 22 56 49.0 +2.4
GRL S Sn 22 57 09.4 +1.3
AVH Avacha 1.66 317 eP Pn 22 56 48.0 +1.3
AVH eS Sb 22 57 09.1 -0.2
AVH Avacha 1.66 317 PN Pn 22 56 48.0 +1.3
AVH S Sb 22 57 09.1 -0.2
KRER Koryakskii 1.69 318 eP Pn 22 56 48.3 +1.1
KRER eS Sn 22 57 09.1 0.0
KRER Koryakskii 1.69 318 PN Pn 22 56 48.3 +1.1
KRER S Sn 22 57 09.1 0.0
KRMR Karymshinskiy 1.71 297 eP Pn 22 56 48.1 +0.8
KRMR eS Sn 22 57 08.4 -1.1
KRMR Karymshinskiy 1.71 297 PN Pn 22 56 48.1 +0.8
KRMR S Sn 22 57 08.4 -1.1
ASAK Asacha 1.71 281 eP Pn 22 56 48.7 +1.2
ASAK eS Sn 22 57 10.9 +1.3
ASAK Asacha 1.71 281 PN Pn 22 56 48.7 +1.2
ASAK S Sn 22 57 10.9 +1.3
KOK Koryaka 1.73 316 eP Pn 22 56 48.9 +1.3
KOK eS Sn 22 57 10.8 +0.9
KOK Koryaka 1.73 316 PN Pn 22 56 48.9 +1.3
KOK S Sn 22 57 10.8 +0.9
KRX Arik 1.77 317 eP Pn 22 56 49.4 +1.2
KRX eS Sn 22 57 11.5 +0.5
KRX Arik 1.77 317 PN Pn 22 56 49.4 +1.2
KRX S Sn 22 57 11.5 +0.5
PEA0B Petropavlovsk- 2.07 301 ePn Pn 22 56 52.8 +0.5
PEA0B eSn Sn 22 57 18.5 +0.1
PEA0B Petropavlovsk- 2.07 301 ePN Pn 22 56 52.8 +0.5
PEA0B e 22 57 18.5
PETK Petropavlovsk- 2.07 301 ePn Pn 22 56 54.1 +1.8
PETK eSn Sn 22 57 17.5 -0.8
PETK Petropavlovsk- 2.07 301 ePN Pn 22 56 54.1 +1.8
PETK e 22 57 17.5
PETK Petropavlovsk- 2.07 301 Pn Pn 22 56 53.5 +1.2
comp=E,47nm,0.3s,baz=110,slow=20,SNR=54
PETK Sn Sn 22 57 20.0 +1.6
comp=E,102nm,0.3s,baz=222,slow=19,SNR=14
PEA1 Petropavlovsk- 2.08 301 ePn Pn 22 56 53.5 +1.2
PEA1 eSn Sn 22 57 20.0 +1.6
APC Apacha 2.29 293 eP Pn 22 56 57.3 +2.0
APC eS Sn 22 57 26.0 +2.2
APC Apacha 2.29 293 PN Pn 22 56 57.3 +2.0
APC S Sn 22 57 26.0 +2.2
PAU Pauzhetka 2.46 257 eP Pn 22 57 00.1 +2.5
PAU Pauzhetka 2.46 257 PN Pn 22 57 00.1 +2.5
MKZ Mys Kozlova 2.57 14 eS Sn 22 57 29.6 -1.0
TUMD Tumrok D 3.14 357 eP Pn 22 57 07.5 +0.6
TUMD eS Sn 22 57 42.7 -1.9
SKR Severo-Kuril's 3.16 246 eP Pn 22 57 08.6 +1.4
SKR eS Sn 22 57 43.1 -2.0
SKR Severo-Kuril's 3.16 246 ePN Pn 22 57 08.3 +1.1
SKR pmax pmax
comp=Z,95nm,1.2s
TUMR Tumrok 3.23 355 eP Pn 22 57 10.8 +2.5
TUMR Tumrok 3.23 355 PN Pn 22 57 10.8 +2.5
ESO Esso 4.03 344 eP Pn 22 57 22.7 +3.6
ESO Esso 4.03 344 PN Pn 22 57 22.7 +3.6
KBTR Krutoberegovo 4.33 16 eP Pn 22 57 25.5 +2.2
KBTR Krutoberegovo 4.33 16 PN Pn 22 57 25.5 +2.2
ASAJ Asahikawa 14.42 244 P Pn 22 59 42.0 +0.4
ASAJ Asahikawa 14.42 244 Pn Pn 22 59 42.0 +0.4
comp=Z,0.6nm,0.3s,baz=240,slow=20,SNR=2.9
BILL Bilibino 16.25 8 eP P 23 00 10.1 +1.5
BILL pmax pmax
comp=Z,4.0nm,0.9s
KLR Kul'dur 18.49 273 P P 23 00 33.5 +0.1
comp=Z,0.2nm,0.3s,baz=68,slow=11,SNR=6.3
USRK Ussuriysk Ar. 20.58 259 P P 23 00 56.3 0.0
comp=Z,3.4nm,1.0s,baz=59,slow=9.2,SNR=5.3
MAJO Matsushiro 22.20 234 eP P 23 01 14.5 +0.6
MAJO Matsushiro 22.20 234 eP P 23 01 14.5 +0.6
MJAR Matsushiro Arr 22.20 234 P P 23 01 14.5 +0.6
comp=Z,0.8nm,0.3s,baz=16,slow=9.8,SNR=8.5
TIXI Tiksi 24.15 336 eP P 23 01 31.9 -1.4
comp=Z,6.1nm,0.6s
TIXI Tiksi 24.15 336 P P 23 01 32.1 -1.2
comp=Z,5.5nm,0.7s,baz=124,slow=9.4,SNR=19
KSRS Korea Array 27.17 250 P P 23 02 04.0 +3.1
comp=Z,0.7nm,0.5s,baz=57,slow=9.2,SNR=3.1
KS15 Wonju Array Si 27.20 250 eP P 23 02 04.0 +2.8
TOLK Toolik Lake Re 28.59 36 eP P 23 02 12.1 -1.3
comp=Z,2.3nm,0.8s
PRP Porcupine Dome 29.89 42 eP P 23 02 25.4 +0.4
comp=Z,2.7nm,0.8s
FYU Fort Yukon 30.03 40 eP P 23 02 23.5 -2.6
comp=Z,5.7nm,0.9s
SONA0 Songino Array 34.47 285 eP P 23 03 04.1 -1.3
SONM Songino Array 34.47 285 P P 23 03 04.1 -1.3
comp=Z,0.4nm,0.3s,baz=67,slow=8.5,SNR=4.5
ZAA1 Zalesovo Array 43.61 304 eP P 23 04 19.8 -1.9
ZALV Zalesovo Beam 43.62 304 P P 23 04 19.8 -1.9
comp=Z,0.4nm,0.4s,baz=39,slow=7.6,SNR=3.6
NVS Novosibirsk 43.98 306 eP P 23 04 22.3 -2.2
SHUK Shuksan-Mt. Ba 47.33 61 eP P 23 04 51.0 -0.3
SPA0 Spitsbergen Ar 48.20 351 eP P 23 04 58.5 +1.0
SPITS Spitsbergen Ar 48.20 351 P P 23 04 58.5 +1.0
comp=Z,1.6nm,0.4s,baz=62,slow=9.5,SNR=15
STD Studebaker Rid 48.56 65 eP P 23 04 58.7 -2.2
MK32 Makanchi Array 48.91 297 eP P 23 05 01.9 -1.5
MKAR Makanchi Array 48.91 297 P P 23 05 01.9 -1.5
comp=Z,1.0nm,0.5s,baz=54,slow=6.9,SNR=19
ARA0 ARCESS Array S 54.36 342 eP P 23 05 43.4 -0.5
ARCES ARCESS Array B 54.36 342 eP P 23 05 42.8 -1.0
ARCES ARCESS Array B 54.36 342 P P 23 05 43.4 -0.5
comp=Z,5.1nm,1.0s,baz=30,slow=9.8,SNR=4.7
ARU Arti 54.38 318 eP P 23 05 43.5 -0.6
comp=Z,3.1nm,0.5s
ARU Arti 54.38 318 eP P 23 05 43.5 -0.6
ARU pmax pmax
comp=Z,3.0nm,0.5s
SAO San Andreas Ge 55.06 73 eP P 23 05 46.7 -2.6
comp=Z,31nm,1.3s
SAO San Andreas Ge 55.06 73 eP P 23 05 46.7 -2.6
SAO pmax pmax
comp=Z,31nm,1.3s
BPCNC Pine Canyon 55.08 74 eP P 23 05 52.0 +2.5
BSRM Salinas Radio 55.09 73 eP P 23 05 50.9 +1.3
BVYM Vineyard 55.09 73 eP P 23 05 50.5 +0.8
EKH Elkhorn Ranch 55.29 73 eP P 23 05 48.0 -3.0
CM31 Chiang Mai Arr 58.31 259 eP P 23 06 14.8 +2.2
comp=Z,4.5nm,0.9s
CMAR Chiang Mai Arr 58.31 259 P P 23 06 14.8 +2.2
comp=Z,0.8nm,0.4s,baz=28,slow=6.6,SNR=6.2
ABKAR Akbulak array 58.71 311 eP P 23 06 14.5 -0.6
FIA0 FINESS Array S 61.19 337 eP P 23 06 32.7 +0.8
FIA0 FINESS Array S 61.19 337 eP P 23 06 32.7 +0.8
FINES FINESS Array B 61.19 337 P P 23 06 32.7 +0.8
comp=Z,2.0nm,0.4s,baz=30,slow=8.7,SNR=43
NB2 NORSAR Subarra 64.61 344 P P 23 06 55.8 +1.1
comp=Z,0.7nm,0.6s,baz=21,slow=6.9
NB200 NORSAR Array S 64.61 344 eP P 23 06 55.9 +1.1
NOA NORSAR Array B 64.61 344 P P 23 06 55.9 +1.1
comp=Z,0.8nm,0.6s,baz=22,slow=6.7,SNR=7.6
GEYT Alibeck 67.93 304 P P 23 07 16.1 -0.2
comp=Z,63nm,0.4s,baz=250,slow=4.4,SNR=4.1
AKASG Malin Array Be 69.66 329 P P 23 07 26.8 -0.1
comp=Z,0.9nm,0.4s,baz=30,slow=6.8,SNR=5.3
AKBB Malin Array Si 69.66 329 eP P 23 07 26.8 -0.1
comp=Z,6.6nm,1.4s
LGD Lagodekhi 70.59 314 P P 23 07 16.4 -16
LGD S S 23 07 18.4 -568
CLL Collm 73.43 339 eP P 23 07 50.0 +0.5
GEC2 GERESS Array S 75.58 338 eP P 23 08 02.1 -0.2
comp=Z,5.2nm,1.4s
GEC2 GERESS Array S 75.58 338 eP P 23 08 02.1 -0.2
GEC2 pmax pmax
comp=Z,5.0nm,1.4s
GERES GERESS Array B 75.58 338 P P 23 08 02.1 -0.2
comp=Z,0.3nm,0.5s,baz=7.0,slow=8.9,SNR=5.6
BR101 Keskin Array S 77.62 321 eP P 23 08 14.4 +0.4
BRTR Keskin Array B 77.62 321 P P 23 08 14.4 +0.4
comp=Z,0.4nm,0.8s,baz=72,slow=4.7,SNR=3.1
AS31 Alice Springs 78.97 205 eP P 23 08 22.5 +1.2
comp=Z,1.0nm,1.1s
ASAR Alice Springs 78.97 205 P P 23 08 22.5 +1.2
comp=Z,0.3nm,0.6s,baz=46,slow=4.0,SNR=3.5
ESDC Sonseca Array 87.65 348 P P 23 09 06.3 +0.2
comp=Z,0.2nm,0.6s,baz=22,slow=4.7,SNR=2.9

*DJA **19** 22:57:54.8±1.8, 6°N±11°×12°6E±1°3, h115km±32km, M4.6/6, mb4.3/3, mB5.0/3, MLv4.7/6, Mw(mB)4.4/3*
*ISCJB **19** 22:57:55.3±0.5, 5°86N±0°04×125°67E±0°06, h70km±7km, mb3.5/3, Error ellipse: s-maj=10.5km s-min=7.3km az=170.2*
*MAN **19** 22:58:00.3, 6°26N×125°60E, h25km, mb4.4, ML3.3, MS3.1*
*IDC **19** 22:58:20.2±8.7, 2°35N×126°55E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/35, mbtmp3.6/3, Error ellipse: s-maj=190.0km s-min=135.3km az=74.0*

ISC 19 22:57:56.5±1.0, 5°90N±0°05×125°68E±0°06, h66km±9km, n16, σ1s45/21, mb3.5/3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.20**	**10**	eP	**Pn**	**22 58 06.7**	**-0.1**
DDMP				eS	**Sn**	**22 58 14.4**	**+0.3**
GSPH	**General Santos**	**0.75**	**284**	eP	**Pn**	**22 58 11.0**	**-0.8**
DMPH	**Davao City--Mi**	**1.19**	**352**	eP	**Pn**	**22 58 16.6**	**-0.7**
DMPH				eS	**Sn**	**22 58 34.0**	**+1.4**
MATI	**Mati**	**1.19**	**29**	eP	**Pn**	**22 58 16.1**	**-1.2**
MATI				eS	**Sn**	**22 58 30.7**	**-2.0**
SKMP	**Bagumbayan, Su**	**1.28**	**299**	eP	**Pn**	**22 58 18.8**	**+0.3**
SKMP				eS	**Sn**	**22 58 33.9**	**-1.1**
CTBH	**Cotabato--PC H**	**1.93**	**313**	iP	**Pn**	**22 58 26.3**	**-0.9**
CTBH				*i S*	**Sn**	**22 58 49.1**	**-1.4**
BUKP	**Musuan**	**2.06**	**343**	eP	**Pn**	**22 58 29.6**	**+0.7**
BUKP				eS	**Sn**	**22 58 56.2**	**+2.6**
SGSI	**Sangihe**	**2.21**	**184**	P	**Pn**	**22 58 31.5**	**+0.6**
CGP	**Cagayan de Oro**	**2.72**	**339**	eP	Pn	22 58 56.6	+19
BESP	**Borongan**	**5.67**	**358**	eP	**Pn**	**22 59 21.2**	**+3.0**
MRSI	**Marisa**	**6.55**	**215**	P	**Pn**	**22 59 29.6**	**-0.7**
	37nm,0.8s,1μm0.4nm						
LUWI	**Luwuk**	**7.48**	**203**	P	**Pn**	**22 59 45.2**	**+2.1**
SANI	**Sanana**	**7.91**	**178**	P	**Pn**	**22 59 48.0**	**-0.8**
WRA	**Warramunga Arr**	**27.06**	**162**	P	**P**	**23 03 32.2**	**-0.7**
	0.4nm,0.3s,baz=340,slow=11,SNR=12						
ASAR	**Alice Springs**	**30.47**	**165**	P	**P**	**23 04 03.1**	**-0.1**
	0.3nm,0.4s,baz=341,slow=7.3,SNR=5.0						
STKA	**Stephens Creek**	**40.52**	**159**	P	**P**	**23 05 29.4**	**+0.2**
	0.7nm,0.4s,baz=345,slow=12,SNR=3.6						

*IDC **19** 22:58:49.7±2.7, 51°78N×160°56E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/40, mbtmp3.7/8, ML3.0/1, Error ellipse: s-maj=63.2km s-min=39.4km az=7.0*

ISC 19 22:58:54.4±1.8, 51°8N±0°3×160°6E±0°2, h30km, n8, σ1s02/9, mb3.8/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**2.17**	**307**	Pn	**Pn**	**22 59 28.5**	**0.0**
	24nm,0.3s,baz=106,slow=20,SNR=9.4						
PETK				Sn	**Sn**	**22 59 54.4**	**0.0**
	59nm,0.3s,baz=144,slow=10,SNR=14						
SONM	**Songino Array**	**34.49**	**285**	P	**P**	**23 05 40.4**	**+0.8**
	0.2nm,0.4s,baz=67,slow=7.9,SNR=2.2						
MKAR	**Makanchi Array**	**48.98**	**297**	P	**P**	**23 07 36.9**	**-0.9**
	0.4nm,0.4s,baz=57,slow=7.3,SNR=8.9						
ARCES	**ARCESS Array B**	**54.58**	**342**	P	**P**	**23 08 18.7**	**-0.5**
	1.2nm,0.8s,baz=52,slow=10,SNR=1.7						
FINES	**FINESS Array B**	**61.40**	**337**	P	**P**	**23 09 07.7**	**+0.6**
	1.2nm,0.4s,baz=36,slow=8.6,SNR=11						
NOA	**NORSAR Array B**	**64.84**	**344**	P	**P**	**23 09 30.7**	**+0.7**
	0.4nm,0.5s,baz=23,slow=6.7,SNR=2.6						
AKASG	**Malin Array Be**	**69.85**	**329**	P	**P**	**23 10 03.0**	**+1.2**
	0.3nm,0.4s,baz=30,slow=6.8,SNR=2.3						
BRTR	**Keskin Array B**	**77.79**	**321**	P	**P**	**23 10 47.2**	**-1.4**
	0.4nm,0.8s,baz=32,slow=8.5,SNR=3.0						

*IDC **19** 23:00:19.0±3.5, 51°27N×160°05E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/40, mbtmp3.5/4, Error ellipse: s-maj=98.5km s-min=34.9km az=14.0*
*KRSC **19** 23:00:26.5±10.0, 52°10N×160°40E, h56km±10km, ML3.9*
*ISCJB **19** 23:00:27.8±1.2, 52°09N±0°07×160°4E±0°1, h54km±13km, mb3.7/3, Error ellipse: s-maj=13.8km s-min=9.7km az=42.3*

ISC 19 23:00:29.6±2.4, 52°11N±0°10×160°3E±0°1, h51km±21km, n22, σ1s08/28, mb3.9/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.15**	**287**	eP	**Pn**	**23 00 48.4**	**-0.8**
RUS				eS	**Sn**	**23 01 04.4**	**+0.5**
NLC	**Nalytchevo**	**1.21**	**331**	eP	**Pn**	**23 00 48.7**	**-1.4**
NLC				eS	**Sn**	**23 01 04.7**	**-0.7**
DALK	**Dalny**	**1.32**	**315**	eP	**Pn**	**23 00 50.5**	**-1.1**
DALK				eS	**Sn**	**23 01 07.8**	**-0.3**
MTVR	**Mutnovka**	**1.36**	**287**	eP	**Pn**	**23 00 51.7**	**-0.5**
MTVR				eS	**Sn**	**23 01 09.7**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.41**	**258**	eP	**Pn**	**23 00 52.6**	**-0.2**
KDTR				eS	**Sn**	**23 01 11.2**	**+0.9**
UGLR	**Uglovaya**	**1.42**	**321**	eP	**Pn**	**23 00 52.2**	**-0.9**
UGLR				eS	**Sn**	**23 01 10.9**	**+0.2**
SDLR	**Sedlovina**	**1.45**	**324**	eP	**Pn**	**23 00 53.3**	**-0.2**
SMAR	**Somma**	**1.47**	**322**	eP	**Pn**	**23 00 52.5**	**-1.4**
AVH	**Avacha**	**1.50**	**321**	eP	**Pn**	**23 00 54.1**	**0.0**
AVH				eS	**Sn**	**23 01 14.9**	**+2.4**
ASAK	**Asacha**	**1.50**	**281**	eP	**Pn**	**23 00 54.6**	**+0.4**
KRMR	**Karymshinskiy**	**1.51**	**299**	eP	**Pn**	**23 00 53.6**	**-0.6**
KRMR				eS	**Sn**	**23 01 13.2**	**+0.5**
KOK	**Koryaka**	**1.56**	**320**	P	**Pn**	**23 00 55.4**	**+0.5**
PETK	**Petropavlovsk-**	**1.88**	**303**	Pn	**Pn**	**23 00 59.5**	**+0.3**
	baz=100,slow=18,SNR=0.8						
PETK				Sn	**Sn**	**23 01 24.6**	**+2.9**
	11nm,0.3s,baz=116,slow=20,SNR=1.8						
APC	**Apacha**	**2.09**	**294**	eP	**Pn**	**23 01 01.4**	**-0.7**
KZV	**Kizimen**	**3.00**	**360**	P	**Pn**	**23 01 15.4**	**+0.6**
TUMR	**Tumrok**	**3.18**	**358**	eP	**Pn**	**23 01 17.0**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**32.73**	**168**	T	T	23 40 13.9	
	baz=353,slow=76						
H11N3	**WAKE ISLAND Hy**	**32.74**	**168**	T	T	23 40 10.9	
	baz=353,slow=76						
H11N1	**WAKE ISLAND Hy**	**32.74**	**168**	T	T	23 40 15.2	
	baz=353,slow=76						
MKAR	**Makanchi Array**	**48.70**	**297**	P	**P**	**23 09 06.8**	**-1.7**
	0.2nm,0.5s,baz=53,slow=7.9,SNR=2.1						
PDAR	**Pinedale Array**	**57.89**	**60**	P	**P**	**23 10 16.9**	**+0.6**
	0.3nm,0.3s,baz=290,slow=6.6,SNR=4.2						
FINES	**FINESS Array B**	**61.07**	**337**	P	**P**	**23 10 38.2**	**+0.6**
	0.8nm,0.7s,baz=20,slow=6.1,SNR=3.4						

KRSC 19 23:02:14.6±10.0, 52°13N×160°60E, h50km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.03**	**340**	S	Sn	23 02 46.6	+0.4
NLC	**Nalytchevo**	**1.30**	**324**	S	Sn	23 02 53.9	+1.4
RUS	**Russkaya**	**1.32**	**284**	eP	Pn	23 02 37.7	+1.1
RUS				eS	Sn	23 02 54.6	+1.6
MTVR	**Mutnovka**	**1.52**	**285**	eP	Pn	23 02 41.2	+1.6
MTVR				eS	Sn	23 03 00.7	+2.4
UGLR	**Uglovaya**	**1.53**	**316**	eP	Pn	23 02 42.0	+2.4
SDLR	**Sedlovina**	**1.56**	**319**	eP	Pn	23 02 41.7	+1.7
SMAR	**Somma**	**1.58**	**317**	eP	Pn	23 02 42.2	+1.8
KDTR	**Khodutka, Kamc**	**1.59**	**260**	eP	Pn	23 02 41.3	+1.0
KDTR				eS	Sn	23 03 00.7	+1.0
AVH	**Avacha**	**1.61**	**316**	eP	Pn	23 02 43.3	+2.6
KRER	**Koryakskii**	**1.63**	**317**	eP	Pn	23 02 43.8	+2.7
KRMR	**Karymshinskiy**	**1.67**	**296**	eP	Pn	23 02 42.9	+1.5
KRMR				eS	Sn	23 03 03.3	+1.7
KOK	**Koryaka**	**1.67**	**315**	eP	Pn	23 02 44.3	+2.8
ASAK	**Asacha**	**1.68**	**280**	eP	Pn	23 02 43.7	+2.1
KZV	**Kizimen**	**3.00**	**357**	eP	Pn	23 03 01.8	+2.0
TUMR	**Tumrok**	**3.17**	**355**	eP	Pn	23 03 04.7	+2.6

KRSC 19 23:04:46.6±10.0, 52°04N×160°55E, h17km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.11**	**343**	eP	Pb	23 05 06.5	-0.9
SPN				eS	Sb	23 05 20.8	-0.7
RUS	**Russkaya**	**1.31**	**288**	eP	Pn	23 05 10.4	+0.2
NLC	**Nalytchevo**	**1.35**	**328**	eP	Pn	23 05 11.0	+0.3
NLC				eS	Sn	23 05 28.3	+0.1
DALK	**Dalny**	**1.48**	**313**	eP	Pn	23 05 13.0	+0.5
DALK				eS	Sb	23 05 32.2	0.0
MTVR	**Mutnovka**	**1.52**	**288**	eP	Pb	23 05 14.0	-0.5
MTVR				eS	Sb	23 05 34.1	+0.6
PET	**Petropavlovsk**	**1.52**	**311**	eS	Sb	23 05 33.3	-0.1
KDTR	**Khodutka, Kamc**	**1.55**	**262**	P	Pn	23 05 13.7	+0.3
KDTR				S	Sn	23 05 33.1	+0.1
UGLR	**Uglovaya**	**1.58**	**319**	eP	Pb	23 05 15.1	-0.3
UGLR				eS	Sb	23 05 35.7	+0.7
SDLR	**Sedlovina**	**1.60**	**321**	eP	Pn	23 05 14.8	+0.5
SDLR				eS	Sb	23 05 35.3	-0.6
SMAR	**Somma**	**1.63**	**320**	eP	Pb	23 05 15.6	-0.7
AVH	**Avacha**	**1.65**	**319**	eP	Pb	23 05 15.9	-0.7
ASAK	**Asacha**	**1.67**	**283**	eP	Pb	23 05 16.4	-0.5
KRER	**Koryakskii**	**1.68**	**320**	eP	Pb	23 05 17.3	+0.2
KRER				eS	Sb	23 05 38.9	+0.9
KRMR	**Karymshinskiy**	**1.68**	**299**	eP	Pn	23 05 15.8	+0.6
KRMR				eS	Sn	23 05 36.5	+0.2
KOK	**Koryaka**	**1.71**	**318**	eP	Pb	23 05 17.9	+0.2
KRX	**Arik**	**1.76**	**320**	P	Pb	23 05 17.5	-1.0
APC	**Apacha**	**2.26**	**295**	P	Pn	23 05 24.8	+1.7
KZV	**Kizimen**	**3.09**	**357**	P	Pn	23 05 36.9	+2.2

*IDC **19** 23:09:18.8±2.6, 51°65N×160°59E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.4/37, mbtmp3.6/7, ML2.9/1, Error ellipse: s-maj=62.5km s-min=29.6km az=2.0*
*KRSC **19** 23:09:23.0±10.0, 52°04N×160°71E, h61km±10km, ML4.1*

ISC 19 23:09:21.8±2.0, 52°05N±0°06×160°60E±0°07, h5km±11km, n34, σ1s00/41, mb3.8/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.11**	**342**	eP	**Pn**	**23 09 43.4**	**-0.6**
SPN				eS	**Sg**	**23 09 56.9**	**-0.5**
RUS	**Russkaya**	**1.34**	**287**	eP	**Pg**	**23 09 47.9**	**+0.4**
NLC	**Nalytchevo**	**1.36**	**326**	eP	**Pg**	**23 09 48.1**	**+0.3**
NLC				eS	**Sn**	**23 10 06.7**	**+0.9**
DALK	**Dalny**	**1.50**	**312**	eP	**Pb**	**23 09 49.9**	**-0.2**
DALK				eS	**Sb**	**23 10 09.7**	**+0.4**
PET	**Petropavlovsk**	**1.54**	**310**	eP	**Pg**	**23 09 51.0**	**-0.3**
MTVR	**Mutnovka**	**1.55**	**287**	eP	**Pg**	**23 09 51.3**	**-0.2**
MTVR				eS	**Sb**	**23 10 11.1**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.58**	**262**	eP	**Pg**	**23 09 51.5**	**-0.6**
KDTR				eS	**Sn**	**23 10 11.1**	**-0.2**
SDLR	**Sedlovina**	**1.61**	**320**	eP	**Pb**	**23 09 52.0**	**-0.2**
SMAR	**Somma**	**1.64**	**319**	eP	**Pb**	**23 09 52.5**	**-0.1**
AVH	**Avacha**	**1.66**	**318**	eP	**Pb**	**23 09 53.1**	**+0.1**
AVH				eS	**Sb**	**23 10 14.9**	**+0.6**
KRER	**Koryakskii**	**1.69**	**319**	eP	**Pb**	**23 09 53.4**	**-0.1**
ASAK	**Asacha**	**1.69**	**282**	eP	**Pg**	**23 09 53.8**	**-0.5**
KRMR	**Karymshinskiy**	**1.70**	**298**	eP	**Pb**	**23 09 53.2**	**-0.4**
KRMR				eS	**Sn**	**23 10 14.9**	**+0.6**
KOK	**Koryaka**	**1.73**	**317**	eP	**Pb**	**23 09 54.1**	**0.0**
KRX	**Arik**	**1.77**	**319**	eP	**Pb**	**23 09 54.5**	**-0.3**
PETK	**Petropavlovsk-**	**2.06**	**302**	Pn	**Pb**	**23 09 58.6**	**-1.1**
	16nm,0.3s,baz=105,slow=18,SNR=72						
PETK				Sn	**Sb**	**23 10 26.1**	**+0.4**
	26nm,0.3s,baz=110,slow=24,SNR=11						
APC	**Apacha**	**2.28**	**294**	eP	**Pb**	**23 10 02.3**	**-1.1**
APC				eS	**Sb**	**23 10 31.2**	**-0.7**
KZV	**Kizimen**	**3.07**	**357**	eP	**Pn**	**23 10 12.9**	**+1.7**
KZV				eS	**Sn**	**23 10 47.0**	**-1.4**
SKR	**Severo-Kuril's**	**3.13**	**246**	eS	**Sn**	**23 10 48.4**	**-1.0**
TUMD	**Tumrok D**	**3.16**	**358**	P	**Pn**	**23 10 12.0**	**-0.2**
TUMR	**Tumrok**	**3.25**	**355**	eP	**Pn**	**23 10 15.3**	**+1.8**
ALID	**Alaid**	**3.37**	**251**	P	**Pn**	**23 10 17.5**	**+2.2**
KBTR	**Krutoberegovo**	**4.36**	**17**	eP	**Pn**	**23 10 30.2**	**+1.5**
KLR	**Kul'dur**	**18.46**	**273**	P	**Pn**	**23 13 41.3**	**+3.0**
	0.1nm,0.3s,baz=70,slow=9.0,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**32.63**	**169**	T	T	23 50 45.0	
	baz=353						
H11N3	**WAKE ISLAND Hy**	**32.65**	**169**	T	T	23 50 42.7	
	baz=353						
H11N1	**WAKE ISLAND Hy**	**32.65**	**169**	T	T	23 50 36.0	
	baz=353						
SONM	**Songino Array**	**34.46**	**285**	P	**P**	**23 16 09.3**	**-1.1**
	0.2nm,0.3s,baz=60,slow=8.3,SNR=3.2						
YKA	**Yellowknife Ar**	**43.73**	**42**	P	**P**	**23 17 27.2**	**-0.3**
	0.1nm,0.5s,baz=293,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**48.89**	**297**	P	**P**	**23 18 06.6**	**-1.7**
	0.5nm,0.5s,baz=53,slow=5.7,SNR=8.6						
FINES	**FINESS Array B**	**61.20**	**337**	P	**P**	**23 19 37.6**	**+0.6**
	2.2nm,0.5s,baz=32,slow=9.1,SNR=28						
NB2	**NORSAR Subarra**	**64.63**	**344**	P	**P**	**23 20 00.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**64.63**	**344**	P	**P**	**23 20 00.3**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=18,slow=6.9,SNR=3.8						
AKASG	**Malin Array Be**	**69.67**	**329**	P	**P**	**23 20 31.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=35,slow=5.1,SNR=3.4						

*IDC **19** 23:14:11.5±4.8, 51°35N×160°40E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.2/34, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=100.1km s-min=81.4km az=31.0*
*KRSC **19** 23:14:19.8±10.0, 52°17N×160°51E, h41km±10km, ML3.8*

ISC 19 23:14:17.8±2.4, 52°12N±0°07×160°48E±0°08, h11km±11km, n25, σ1s26/34, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.02**	**344**	eP	**Pg**	**23 14 37.6**	**+0.1**
SPN				eS	**Sg**	**23 14 49.9**	**-0.9**
RUS	**Russkaya**	**1.25**	**286**	eP	**Pn**	**23 14 41.6**	**+0.4**
NLC	**Nalytchevo**	**1.26**	**327**	eP	**Pn**	**23 14 41.7**	**+0.3**
NLC				eS	**Sb**	**23 14 58.0**	**+0.2**
DALK	**Dalny**	**1.40**	**312**	eP	**Pn**	**23 14 43.8**	**+0.6**
DALK				eS	**Sb**	**23 15 00.7**	**-1.0**
MTVR	**Mutnovka**	**1.46**	**286**	eP	**Pn**	**23 14 45.2**	**+1.0**

n94,σ0°61/181,3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIPB	**Shuangxi** baz=202	**0.05**	**188**	⇓*i*P	**Pn**	**23 17 36.3**	**-0.2**
TIPB	baz=202			S	**Sn**	**23 17 51.2**	**+0.4**
TWB1	**Santiao Chiao** baz=105	**0.14**	**96**	⇓*i*P	**Pn**	**23 17 36.4**	**0.0**
TWB1	baz=105			S	**Sn**	**23 17 50.4**	**-0.5**
NTC	**Toucheng** baz=187	**0.17**	**181**	*e*P	**Pn**	**23 17 37.4**	**+0.8**
NTC	baz=187			*e*S	**Sn**	**23 17 52.1**	**+1.1**
EGS	baz=158	**0.20**	**153**	P	**Pn**	**23 17 36.7**	**+0.1**
EGS	baz=158			*e*S	**Sn**	**23 17 51.7**	**+0.6**
YM07	**YM07** baz=301	**0.24**	**308**	*e*P	**Pn**	**23 17 36.7**	**0.0**
YM07	baz=301			*e*S	**Sn**	**23 17 51.0**	**-0.4**
ILA	**Ilan** baz=198	**0.27**	**197**	*e*P	**Pn**	**23 17 37.6**	**+0.8**
ILA	baz=198			*e*S	**Sn**	**23 17 51.7**	**+0.3**
YM01	**YM01** baz=291	**0.27**	**297**	*e*P	**Pn**	**23 17 36.8**	**0.0**
YM01	baz=291			*e*S	**Sn**	**23 17 51.7**	**+0.2**
YM11	**YM11** baz=295	**0.27**	**301**	*e*P	**Pn**	**23 17 37.0**	**+0.1**
YM11	baz=295			*e*S	**Sn**	**23 17 52.1**	**+0.4**
YM08	**YM08** baz=300	**0.28**	**307**	*e*P	**Pn**	**23 17 37.2**	**+0.4**
NHDH	**Xindian Distri** baz=255	**0.29**	**258**	*e*P	**Pn**	**23 17 37.0**	**+0.2**
NHDH	baz=255			*e*S	**Sn**	**23 17 51.3**	**-0.2**
TAP	**Taipei** baz=269	**0.30**	**273**	*e*P	**Pn**	**23 17 37.2**	**+0.4**
TAP	baz=269			*e*S	**Sn**	**23 17 51.3**	**-0.3**
TATO	**Taipei** baz=258	**0.32**	**261**	*e*P	**Pn**	**23 17 36.9**	**0.0**
TATO	baz=258			*e*S	**Sn**	**23 17 51.0**	**-0.7**
TWY	**Chenhua** baz=315	**0.33**	**320**	P	**Pn**	**23 17 37.1**	**+0.1**
TWY	baz=315			*e*S	**Sn**	**23 17 51.5**	**-0.3**
TWE	**Neicheng** baz=206	**0.34**	**207**	P	**Pn**	**23 17 37.3**	**+0.3**
TWE	baz=206			*e*S	**Sn**	**23 17 52.2**	**+0.4**
NTST	**Danshui** baz=288	**0.38**	**292**	*e*P	**Pn**	**23 17 37.6**	**+0.5**
TWS1	**Kuangyinshan** baz=278	**0.39**	**282**	P	**Pn**	**23 17 37.5**	**+0.4**
TWS1	baz=278			*e*S	**Sn**	**23 17 52.2**	**0.0**
TWC	**Suao** baz=179	**0.41**	**178**	⇓*i*P	**Pn**	**23 17 37.4**	**0.0**
TWC	baz=179			*e*S	**Sn**	**23 17 51.9**	**-0.5**
ENTT	**Nioudou** baz=212	**0.45**	**213**	P	**Pn**	**23 17 37.6**	**0.0**
ENTT	baz=212			*e*S	**Sn**	**23 17 52.4**	**-0.4**
NDT	**Datong Townshi** baz=215	**0.51**	**215**	*e*P	**Pn**	**23 17 38.0**	**+0.1**
NDT	baz=215			*e*S	**Sn**	**23 17 52.7**	**-0.6**
EOS1	**EOS1** baz=153	**0.54**	**150**	*e*P	**Pn**	**23 17 38.2**	**+0.3**
EOS1	baz=153			*e*S	**Sn**	**23 17 53.3**	**-0.2**
YHNB	**Yeheng** baz=229	**0.55**	**230**	*e*P	**Pn**	**23 17 37.8**	**-0.3**
YHNB	baz=229			*e*S	**Sn**	**23 17 52.5**	**-1.2**
NSK	**Sanguang** baz=230	**0.55**	**231**	*e*P	**Pn**	**23 17 37.9**	**-0.3**
NSK	baz=230			*e*S	**Sn**	**23 17 52.7**	**-1.1**
WLTB	**Daxi** baz=251	**0.55**	**252**	P	**Pn**	**23 17 38.4**	**+0.3**
WLTB	baz=251			S	**Sn**	**23 17 53.6**	**-0.1**
NCU	**National Centr** baz=262	**0.59**	**265**	P	**Pn**	**23 17 38.6**	**+0.3**
NCU	baz=262			S	**Sn**	**23 17 54.1**	**+0.1**
NCUH	**Zhongli** baz=263	**0.59**	**265**	*e*P	**Pn**	**23 17 38.6**	**+0.4**
NCUH	baz=263			*e*S	**Sn**	**23 17 54.3**	**+0.3**
NANB	**Nanao** baz=189	**0.60**	**187**	*e*P	**Pn**	**23 17 38.9**	**+0.6**
NANB	baz=189			*e*S	**Sn**	**23 17 54.9**	**+0.7**
ENA	**Nanau** baz=189	**0.60**	**188**	*e*P	**Pn**	**23 17 38.9**	**+0.6**
ENA	baz=189			*e*S	**Sn**	**23 17 54.8**	**+0.6**
NNS	**Nan Shan** baz=215	**0.72**	**216**	*e*P	**Pn**	**23 17 39.4**	**+0.1**
NNS	baz=215			*e*S	**Sn**	**23 17 55.5**	**-0.3**
NNSB	**Datong** baz=215	**0.72**	**215**	*e*P	**Pn**	**23 17 39.4**	**+0.1**
NNSB	baz=215			*e*S	**Sn**	**23 17 55.1**	**-0.8**
SBCB	**Hsinchu** baz=252	**0.80**	**254**	*e*P	**Pn**	**23 17 40.1**	**+0.4**
SBCB	baz=252			*e*S	**Sn**	**23 17 57.4**	**+0.7**
HSN	**Hsinchu** baz=254	**0.81**	**254**	*e*P	**Pn**	**23 17 39.8**	**0.0**
HSN	baz=254			*e*S	**Sn**	**23 17 56.1**	**-0.6**
LIOB	**Emei** baz=242	**0.83**	**243**	*e*P	**Pn**	**23 17 40.2**	**+0.2**
LIOB	baz=242			*e*S	**Sn**	**23 17 56.7**	**-0.4**
NSTT	**Nanjuang** baz=241	**0.85**	**243**	*e*P	**Pn**	**23 17 40.2**	**+0.1**
NSTT	baz=241			*e*S	**Sn**	**23 17 57.0**	**-0.3**
NACB	**Ninganchiao** baz=195	**0.87**	**194**	*e*P	**Pn**	**23 17 39.5**	**-0.8**
NACB	baz=195			*e*S	**Sn**	**23 17 56.2**	**-1.4**
ETLH	**Xiulin Townshi** baz=202	**0.87**	**202**	*e*P	**Pn**	**23 17 40.2**	**-0.3**
ETLH	baz=202			*e*S	**Sn**	**23 17 57.0**	**-0.9**
TWD	**Chiawan** baz=193	**0.96**	**193**	*e*P	**Pn**	**23 17 40.4**	**-0.7**
TWD	baz=193			*e*S	**Sn**	**23 17 57.6**	**-1.4**
TDCB	**Techi** baz=219	**0.98**	**219**	*e*P	**Pn**	**23 17 41.9**	**+0.5**
TDCB	baz=219			*e*S	**Sn**	**23 17 59.3**	**-0.2**
WHF	**Hehuan Shan** baz=210	**1.02**	**211**	*e*P	**Pn**	**23 17 42.5**	**+0.5**
WHF	baz=210			*e*S	**Sn**	**23 18 00.6**	**0.0**
NMLH	**Miaoli** baz=242	**1.06**	**243**	*e*P	**Pn**	**23 17 42.5**	**+0.5**
NMLH	baz=242			*e*S	**Sn**	**23 18 01.0**	**+0.5**
WHP	**Taichung City** baz=227	**1.10**	**228**	*e*P	**Pn**	**23 17 42.8**	**+0.4**
WHP	baz=227			*e*S	**Sn**	**23 18 00.8**	**-0.5**
CHGB	**Renai** baz=212	**1.13**	**212**	*e*P	**Pn**	**23 17 43.4**	**+0.6**
CHGB	baz=212			*e*S	**Sn**	**23 18 02.2**	**+0.1**
ENLB	**Shoufeng** baz=191	**1.14**	**191**	*e*P	**Pn**	**23 17 42.7**	**0.0**
ENLB	baz=191			*e*S	**Sn**	**23 18 02.4**	**+0.6**
NSY	**Sanyi** baz=237	**1.15**	**238**	*e*P	**Pn**	**23 17 43.3**	**+0.6**
NSY	baz=237			*e*S	**Sn**	**23 18 02.1**	**+0.1**
JYNG	**Yonagunijimaku** baz=237	**1.16**	**119**	P	**Pn**	**23 17 42.6**	**-0.2**
JYNG				*e*S	**Sn**	**23 18 01.1**	**-1.0**
YOJ	**Yonaguni jima** baz=118	**1.21**	**117**	*e*P	**Pn**	**23 17 43.1**	**-0.1**
YOJ	baz=118			*e*S	**Sn**	**23 18 02.0**	**-0.9**
YOJ	**Yonaguni jima** baz=118	**1.21**	**117**	P	**Pn**	**23 17 43.0**	**-0.3**
YOJ				S	**Sn**	**23 18 01.8**	**-1.2**
OWD	**Renai** baz=209	**1.22**	**210**	*e*P	**Pn**	**23 17 44.4**	**+0.8**
OWD	baz=209			*e*S	**Sn**	**23 18 03.4**	**-0.1**
ESL	**Shilin** baz=197	**1.26**	**197**	*e*P	**Pn**	**23 17 42.7**	**-1.1**
ESL	baz=197			*e*S	**Sn**	**23 18 01.8**	**-2.1**
WDJ	**Dajia District** baz=238	**1.28**	**238**	*e*P	**Pn**	**23 17 44.6**	**+0.6**
WDJ	baz=238			*e*S	**Sn**	**23 18 04.6**	**+0.4**
EGFH	**Guangfu** baz=196	**1.40**	**195**	*e*P	**Pn**	**23 17 45.9**	**+0.6**
VWDT	**VWDT** baz=207	**1.41**	**207**	*e*P	**Pn**	**23 17 46.3**	**+0.9**
VWDT	baz=207			*e*S	**Sn**	**23 18 07.5**	**+0.8**
SMLT	**Sun Moon Lake** baz=216	**1.42**	**217**	*e*P	**Pn**	**23 17 45.9**	**+0.3**
SMLT	baz=216			*e*S	**Sn**	**23 18 07.2**	**+0.1**
TYC	**Yuchr** baz=218	**1.43**	**219**	*e*P	**Pn**	**23 17 45.9**	**+0.4**
TYC	baz=218			*e*S	**Sn**	**23 18 07.3**	**+0.4**
SSLB	**Suanglung** baz=213	**1.47**	**213**	*e*P	**Pn**	**23 17 46.4**	**+0.3**
SSLB	baz=213			*e*S	**Sn**	**23 18 07.6**	**-0.3**
WNT	**Mingjian** baz=222	**1.55**	**223**	*e*P	**Pn**	**23 17 47.3**	**+0.4**
WNT	baz=222			*e*S	**Sn**	**23 18 09.6**	**+0.2**
HGSD	**Ruisui** baz=194	**1.57**	**194**	*e*P	**Pn**	**23 17 47.5**	**+0.4**
HGSD	baz=194			*e*S	**Sn**	**23 18 10.1**	**+0.3**
EHY	**Hungye** baz=197	**1.58**	**197**	*e*P	**Pn**	**23 17 47.7**	**+0.4**
EHY	baz=197			*e*S	**Sn**	**23 18 09.9**	**-0.2**
WHYT	**Xinyi Township** baz=214	**1.59**	**214**	*e*P	**Pn**	**23 17 48.0**	**+0.5**
WHYT	baz=214			*e*S	**Sn**	**23 18 10.8**	**+0.4**
YULB	**Yu-li** baz=197	**1.70**	**197**	*e*P	**Pn**	**23 17 48.6**	**+0.1**
YULB	baz=197			*e*S	**Sn**	**23 18 12.1**	**-0.2**
YUS	**Yu-Shan** baz=208	**1.73**	**208**	*e*P	**Pn**	**23 17 50.0**	**+0.6**
YUS	baz=208			*e*S	**Sn**	**23 18 14.3**	**+0.6**
TWF1	**Yuli** baz=196	**1.73**	**197**	*e*S	**Sn**	**23 18 12.7**	**-0.4**
RLNB	**Erlin** baz=230	**1.75**	**230**	*e*P	**Pn**	**23 17 49.5**	**+0.4**
RLNB	baz=230			*e*S	**Sn**	**23 18 13.6**	**+0.3**
CHN5	**Tsauling** baz=216	**1.77**	**217**	*e*P	**Pn**	**23 17 49.9**	**+0.5**
CHN5	baz=216			*e*S	**Sn**	**23 18 14.2**	**+0.3**
ALS	**Alishan** baz=211	**1.77**	**212**	*e*P	**Pn**	**23 17 50.0**	**+0.3**
ALS	baz=211			*e*S	**Sn**	**23 18 14.6**	**+0.2**
IRIF	**Iriomote-Funau**	**1.86**	**111**	P	**Pn**	**23 17 50.0**	**-0.3**
IRIF				S	**Sn**	**23 18 13.8**	**-1.7**
ELDTW	**Lidau** baz=202	**1.97**	**202**	*e*P	**Pn**	**23 17 52.4**	**+0.6**
ELDTW	baz=202			*e*S	**Sn**	**23 18 18.3**	**+0.1**
CHN4	**Tsaushan** baz=214	**2.01**	**214**	*e*P	**Pn**	**23 17 52.6**	**+0.4**
CHN4	baz=214			*e*S	**Sn**	**23 18 18.8**	**0.0**
HATJ	**Hateruma jima**	**2.04**	**118**	P	**Pn**	**23 17 52.6**	**+0.1**
HATJ				*e*S	**Sn**	**23 18 18.8**	**-0.5**
MATB	**Ma-tsu** baz=302	**2.04**	**304**	*e*P	**Pn**	**23 17 52.4**	**-0.1**
MATB	baz=302			*e*S	**Sn**	**23 18 18.2**	**-1.2**
WTP	**Ta-pu** baz=212	**2.09**	**212**	*e*P	**Pn**	**23 17 53.3**	**+0.1**
WTP	baz=212			*e*S	**Sn**	**23 18 20.2**	**-0.4**
STYT	**Tauyuan** baz=208	**2.10**	**208**	*e*P	**Pn**	**23 17 53.7**	**+0.5**
STYT	baz=208			*e*S	**Sn**	**23 18 20.1**	**-0.7**
JKRS	**Kuro-shima**	**2.13**	**111**	P	**Pn**	**23 17 54.0**	**+0.4**
JKRS				*e*S	**Sn**	**23 18 20.7**	**-0.6**
VWUC	**VWUC** baz=268	**2.16**	**270**	*e*P	**Pn**	**23 17 53.9**	**0.0**
SNST	**Tainan City** baz=214	**2.17**	**214**	*e*P	**Pn**	**23 17 54.6**	**+0.5**
SNST	baz=214			*e*S	**Sn**	**23 18 22.0**	**-0.2**
CHN1	**Nanshi** baz=213	**2.18**	**213**	*e*P	**Pn**	**23 17 54.4**	**+0.1**
CHN1	baz=213			*e*S	**Sn**	**23 18 22.3**	**-0.3**
JIJ	**Ishigaki jima**	**2.20**	**107**	P	**Pn**	**23 17 54.3**	**-0.1**
JIJ				S	**Sn**	**23 18 21.3**	**-1.5**
SGST	**Jiashian** baz=210	**2.25**	**211**	*e*P	**Pn**	**23 17 55.7**	**+0.6**
SGST	baz=210			*e*S	**Sn**	**23 18 23.7**	**-0.2**
JISG	**Ishigakijimahi**	**2.29**	**100**	P	**Pn**	**23 17 55.9**	**+0.4**
JISG				S	**Sn**	**23 18 23.7**	**-1.1**
TWG	**Pinlang** baz=197	**2.30**	**198**	*e*P	**Pn**	**23 17 56.7**	**+1.0**
TWG	baz=197			*e*S	**Sn**	**23 18 24.9**	**-0.2**
TWGBT	**Beinan** baz=197	**2.30**	**198**	*e*P	**Pn**	**23 17 56.5**	**+0.7**
TWGBT	baz=197			*e*S	**Sn**	**23 18 24.9**	**-0.2**
SSD	**Sandimen** baz=205	**2.52**	**206**	*e*P	**Pn**	**23 17 58.9**	**+0.5**
SSD	baz=205			*e*S	**Sn**	**23 18 29.7**	**-0.3**
PNG	**Penghu** baz=234	**2.53**	**236**	*e*P	**Pn**	**23 17 58.7**	**+0.2**
PNG	baz=234			*e*S	**Sn**	**23 18 28.9**	**-1.3**
PHUB	**P'eng-hu** baz=233	**2.55**	**234**	*e*P	**Pn**	**23 17 58.9**	**+0.1**
PHUB	baz=233			*e*S	**Sn**	**23 18 29.3**	**-1.3**
JTJ	**Tarama**	**2.63**	**98**	P	**Pn**	**23 18 00.5**	**+0.7**
JTJ				*e*S	**Sn**	**23 18 32.1**	**-0.3**
MASBT	**Mashibuluo** baz=204	**2.64**	**205**	*e*P	**Pn**	**23 18 00.5**	**+0.5**
MASBT	baz=204			*e*S	**Sn**	**23 18 32.3**	**-0.4**
WDGT	**Dungji** baz=228	**2.65**	**229**	*e*P	**Pn**	**23 18 00.1**	**+0.1**
WDGT	baz=228			*e*S	**Sn**	**23 18 31.6**	**-1.2**
VCHM	**Qimei** baz=230	**2.84**	**231**	*e*P	**Pn**	**23 18 02.6**	**+0.1**
VCHM	baz=230			*e*S	**Sn**	**23 18 36.3**	**-0.8**
SCZT	**Fangliau** baz=202	**2.86**	**203**	*e*P	**Pn**	**23 18 03.1**	**+0.4**
SCZT	baz=202			*e*S	**Sn**	**23 18 37.1**	**-0.6**
JIRB	**Irabujima**	**3.04**	**93**	P	**Pn**	**23 18 05.3**	**+0.4**
JIRB				*e*S	**Sn**	**23 18 40.7**	**-0.9**
JIKM	**Ikemajima**	**3.10**	**91**	P	**Pn**	**23 18 06.5**	**+0.8**
JIKM				S	**Sn**	**23 18 43.8**	**+0.8**
JMJ	**Miyako jima 2** baz=94	**3.15**	**93**	*e*P	**Pn**	**23 18 08.0**	**+1.6**
JMJ	baz=94			*e*S	**Sn**	**23 18 44.0**	**-0.1**
KNMB	**Chin-men Tao** baz=259	**3.18**	**261**	*e*P	**Pn**	**23 18 06.4**	**-0.3**
JMJ2	**Miyako jima3**	**3.19**	**94**	P	**Pn**	**23 18 07.9**	**+1.1**
JMJ2				*e*S	**Sn**	**23 18 46.1**	**+1.1**
JOGS	**Gusukube**	**3.26**	**94**	S	**Sn**	**23 18 46.9**	**+0.3**

*IDC **19** 23:25:23.7±3.8, 51°.17N×161°.01E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/30, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=107.7km s-min=34.3km az=12.0*
*KRSC **19** 23:25:33.1±10.0, 52°.03N×160°.59E, h60km±10km, ML3.6*
ISC 19 23:25:30.8±2.1, 51°.99N±0°.07×160°.58E±0°.06, h6km±10km, n29,σ0°97/40, mb3.5/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.16**	**343**	P	**Pg**	**23 25 53.0**	**0.0**
SPN				S	**Sg**	**23 26 06.9**	**-1.1**
RUS	**Russkaya**	**1.34**	**290**	P	**Pg**	**23 25 56.4**	**-0.2**
RUS				S	**Sg**	**23 26 12.8**	**-1.1**
NLC	**Nalytchevo**	**1.40**	**328**	P	**Pg**	**23 25 57.9**	**+0.3**
NLC				S	**Sb**	**23 26 15.6**	**+0.2**
DALK	**Dalny**	**1.52**	**314**	P	**Pb**	**23 25 59.2**	**-0.3**
DALK				S	**Sn**	**23 26 17.7**	**-1.0**
MTVR	**Mutnovka**	**1.55**	**289**	P	**Pg**	**23 26 00.1**	**-0.4**
MTVR				S	**Sn**	**23 26 19.5**	**-0.2**
KDTR	**Khodutka, Kamc**	**1.56**	**264**	P	**Pb**	**23 26 00.0**	**-0.1**
KDTR				S	**Sn**	**23 26 19.4**	**-0.2**
PET	**Petropavlovsk**	**1.56**	**312**	P	**Pg**	**23 26 01.0**	**+0.2**
PET				S	**Sg**	**23 26 21.0**	**0.0**
UGLR	**Uglovaya**	**1.62**	**319**	P	**Pg**	**23 26 02.4**	**+0.5**
UGLR				S	**Sg**	**23 26 23.4**	**+0.6**
SDLR	**Sedlovina**	**1.65**	**322**	P	**Pb**	**23 26 01.7**	**0.0**
SDLR				S	**Sn**	**23 26 22.3**	**+0.2**
SMAR	**Somma**	**1.67**	**320**	P	**Pb**	**23 26 01.8**	**-0.3**
ASAK	**Asacha**	**1.69**	**284**	P	**Pb**	**23 26 02.6**	**+0.2**
ASAK				S	**Sb**	**23 26 24.0**	**0.0**
AVH	**Avacha**	**1.69**	**319**	P	**Pg**	**23 26 03.2**	**-0.1**
AVH				S	**Sb**	**23 26 24.8**	**+0.7**
KRMR	**Karymshinskiy**	**1.72**	**300**	P	**Pb**	**23 26 02.3**	**-0.5**
KRMR				S	**Sn**	**23 26 23.4**	**-0.1**
KRER	**Koryakskii**	**1.72**	**320**	P	**Pg**	**23 26 03.7**	**-0.1**
KOK	**Koryaka**	**1.76**	**319**	P	**Pg**	**23 26 04.3**	**-0.2**
KRX	**Arik**	**1.80**	**320**	P	**Pb**	**23 26 04.2**	**-0.1**
PETK	**Petropavlovsk-** 6.2nm,0.3s,baz=110,slow=19,SNR=15	**2.08**	**304**	Pn	**Pb**	**23 26 08.5**	**-0.5**
PETK	6.9nm,0.3s,baz=128,slow=23,SNR=5.1			Sn	**Sb**	**23 26 34.3**	**-0.8**
APC	**Apacha**	**2.29**	**295**	P	**Pb**	**23 26 11.4**	**-1.1**
APC				S	**Sn**	**23 26 39.2**	**+1.6**
MKZ	**Mys Kozlova**	**2.66**	**15**	S	**Sn**	**23 26 44.4**	**-2.3**
KZV	**Kizimen**	**3.13**	**357**	P	**Pn**	**23 26 22.8**	**+1.9**
KZV				S	**Sn**	**23 26 58.3**	**-0.3**
TUMD	**Tumrok D**	**3.22**	**358**	S	**Sn**	**23 26 59.2**	**-1.4**
TUMR	**Tumrok**	**3.31**	**356**	P	**Pn**	**23 26 25.5**	**+2.3**
KBTR	**Krutoberegovo**	**4.42**	**16**	P	**Pn**	**23 26 40.4**	**+1.9**
H11N2	**WAKE ISLAND Hy** baz=352	**32.58**	**169**	T	T	00 06 38.8	
H11N3	**WAKE ISLAND Hy** baz=352	**32.59**	**169**	T	T	00 06 41.2	
H11N1	**WAKE ISLAND Hy** baz=352	**32.59**	**169**	T	T	00 06 42.9	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=57,slow=5.8,SNR=5.4	**48.90**	**297**	P	**P**	**23 34 15.5**	**-1.8**
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=320,slow=4.1,SNR=1.1	**57.81**	**60**	P	P	23 35 17.4	-5.7
FINES	**FINESS Array B** 0.9nm,0.7s,baz=54,slow=7.1,SNR=3.4	**61.25**	**337**	P	**P**	**23 35 46.7**	**+0.5**

KRSC 19 23:28:47.4±10.0, 51°.91N×160°.41E, h17km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.22**	**349**	P	Pn	23 29 08.3	-1.4
SPN				S	Sb	23 29 24.1	-1.3
RUS	**Russkaya**	**1.28**	**295**	P	Pb	23 29 10.9	-0.1
RUS				S	Sb	23 29 27.0	-0.2
NLC	**Nalytchevo**	**1.43**	**333**	P	Pb	23 29 13.0	-0.5
KDTR	**Khodutka, Kamc**	**1.45**	**267**	S	Sg	23 29 33.9	-0.2
MTVR	**Mutnovka**	**1.49**	**294**	P	Pb	23 29 14.7	0.0
MTVR				S	Sg	23 29 34.7	-0.7
DALK	**Dalny**	**1.52**	**319**	P	Pn	23 29 13.4	-0.3
DALK				S	Sn	23 29 32.1	-0.9
PET	**Petropavlovsk**	**1.55**	**317**	P	Pb	23 29 15.0	-0.7
PET				S	Sn	23 29 34.3	+0.4
ASAK	**Asacha**	**1.62**	**288**	P	Pb	23 29 16.3	-0.6
UGLR	**Uglovaya**	**1.62**	**324**	P	Pb	23 29 16.9	-0.1
SDLR	**Sedlovina**	**1.66**	**327**	P	Pb	23 29 17.0	-0.6
KRMR	**Karymshinskiy**	**1.68**	**304**	P	Pn	23 29 16.5	+0.6
KRMR				S	Sn	23 29 37.7	+0.7
SMAR	**Somma**	**1.68**	**325**	P	Pb	23 29 17.7	-0.2
AVH	**Avacha**	**1.70**	**324**	P	Pb	23 29 17.8	-0.5
AVH				S	Sb	23 29 39.5	+0.1
KRER	**Koryakskii**	**1.73**	**325**	P	Pb	23 29 18.7	-0.1
KOK	**Koryaka**	**1.76**	**323**	P	Pb	23 29 19.3	0.0
KRX	**Arik**	**1.81**	**324**	P	Pb	23 29 19.3	-0.8
APC	**Apacha**	**2.24**	**298**	S	Sb	23 29 55.6	+0.9

*DRS **19** 23:29:02.3±0.0, 41°.93N×46°.29E, h6km, ML1.9/2*
*TIF **19** 23:29:04.3, 41°.74N×46°.30E, h9km±2km*
*ISCJB **19** 23:29:05.5±0.4, 41°.86N±0°.02×46°.24E±0°.03, h8km±5km, Error ellipse: s-maj=4.0km s-min=3.6km az=155.5*
*NORS **19** 23:29:06.5±0.0, 41°.83N×46°.36E, h14km, MPVA2.9*
ISC 19 23:29:05.7±0.8, 41°.82N±0°.03×46°.24E±0°.03, h11km±4km, n19,σ1°30/39, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.01**	**353**	P	**Pg**	**23 29 07.5**	**-0.3**
LGD				S	**Sg**	**23 29 09.3**	**+0.2**
LGD	**Lagodekhi**	**0.01**	**353**	*e*Pg	**Pg**	**23 29 07.5**	**-0.3**
LGD				*e*Sg	**Sg**	**23 29 09.3**	**+0.2**
DDFL	**Dedoflistskaro**	**0.39**	**194**	P	**Pg**	**23 29 11.4**	**-2.0**
DDFL				S	**Sb**	**23 29 21.6**	**+1.0**
XNZR	**Khunzakh**	**0.80**	**25**	*e*Pg	**Pn**	**23 29 20.9**	**-2.2**
XNZR				*e*Sg	**Sb**	**23 29 31.8**	**-0.8**
BTLR	**Botlikh** 490nm,0.1s	**0.84**	**359**	*e*Pg	**Pb**	**23 29 21.5**	**-0.8**
BTLR	390nm,0.0s			⇓*i*Sg	**Sb**	**23 29 33.1**	**-0.6**
BTNK	**Botanikuri**	**1.09**	**263**	P	**Pn**	**23 29 26.4**	**-0.6**
BTNK				S	**Sn**	**23 29 42.7**	**+0.7**
URKR	**Urkarakh**	**1.09**	**71**	*e*Pg	**Pn**	**23 29 26.6**	**-0.4**
URKR				*e*Sg	**Sn**	**23 29 41.6**	**-0.6**
TBLG	**Delisi**	**1.13**	**266**	P	**Pn**	**23 29 27.0**	**-0.5**
TBLG				S	**Sn**	**23 29 43.6**	**+0.7**
TBLG	**Delisi**	**1.13**	**266**	*e*Pg	**Pn**	**23 29 27.0**	**-0.5**
TBLG				*e*Sg	**Sn**	**23 29 43.6**	**+0.7**
DVE	**Vedeno**	**1.14**	**356**	*e*Pg	**Pn**	**23 29 26.7**	**-0.9**
DVE				*e*Sg	**Sn**	**23 29 43.3**	**+0.1**
AKT	**Akhty**	**1.16**	**107**	*e*Pg	**Pn**	**23 29 27.4**	**-0.6**
AKT				*e*Sg	**Sn**	**23 29 42.6**	**-1.3**
BUJR	**Buynaksk**	**1.19**	**32**	*e*Pg	**Pn**	**23 29 28.0**	**-0.3**
BUJR				*e*Sg	**Sn**	**23 29 44.5**	**+0.1**
DBC	**Dubki**	**1.27**	**20**	*i* Pg	**Pg**	**23 29 29.1**	**-1.0**
DBC				*e*Pg	**Pb**	**23 29 31.3**	**+1.6**
DBC				*i* Sg	**Sn**	**23 29 46.5**	**0.0**
DBC				*e*Sg	**Sg**	**23 29 47.1**	**+0.4**
GROC	**Groznyy**	**1.42**	**347**	*e*Pg	**Pg**	**23 29 33.2**	**+0.3**
GROC				*e*Sg	**Sg**	**23 29 54.2**	**+2.8**
KSMR	**Kasumkent**	**1.43**	**98**	*e*Pg	Pg	23 29 36.0	+2.9
KSMR				*e*Sg	**Sg**	**23 29 56.0**	**+4.4**
GUDG	**Gudauri** 68nm,0.3s	**1.46**	**297**	P	**Pg**	**23 29 32.9**	**-0.9**
GUDG				S	**Sg**	**23 29 55.6**	**+2.8**
LACR	**Lac**	**1.76**	**305**	*e*Pg	**Pg**	**23 29 38.4**	**-1.0**
LACR				*e*Sg	**Sg**	**23 30 03.1**	**+0.8**
ARNR	**Ardon**	**1.99**	**314**	*i* Pg	**Pb**	**23 29 41.6**	**-0.2**
ARNR				*e*Sg	**Sg**	**23 30 09.1**	**-0.4**
ZEI	**Tsey**	**1.99**	**300**	*e*Pg	**Pb**	**23 29 41.9**	**-0.1**
ZEI				*i* Sg	**Sb**	**23 30 07.8**	**+1.0**

*KRSC **19** 23:33:37.6±10.0, 51°.98N×160°.74E, h17km±10km, ML4.8*
*IDC **19** 23:33:39.3±0.7, 52°.37N×160°.14E, h0km, mb3.9/24,*

mb1 4.1/27, mb1mx4.0/42, mbtmp4.0/27, ML4.0/3, MS3.8/1, Ms1 3.8/1, ms1mx3.1/58, Error ellipse: s-maj=18.4km s-min=12.1km az=162.0
*ISCJB **19** 23:33:42.0±0.7, 52°.01N±0°.04×160°.58E±0°.05, h43km±4km, mb4.1/38, MS3.6/1, Error ellipse: s-maj=7.0km s-min=4.2km az=139.8*
*MOS **19** 23:33:41.1±1.1, 51°.95N×160°.52E, h40km, mb4.6/12, Error ellipse: s-maj=8.3km s-min=3.7km az=103.1*
*NEIC **19** 23:33:44.0±2.9, 52°.25N×160°.30E, h35km, mb4.3/15, Error ellipse: s-maj=20.7km s-min=12.1km az=153.0*

ISC 19 23:33:44.2±1.4, 52°.11N±0°.05×160°.52E±0°.05, h41km±12km, n184, σ1§79/214, mb4.1/38, 8C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.04**	**343**	P	**Pn**	**23 33 58.9**	**-3.4**
SPN				S	**Sn**	**23 34 13.1**	**-2.5**
SPN	**Mys Shipunski**	**1.04**	**343**	PN	**Pn**	**23 33 58.9**	**-3.4**
SPN				S	**Sn**	**23 34 13.1**	**-2.5**
RUS	**Russkaya**	**1.28**	**286**	P	**Pn**	**23 34 04.0**	**-1.5**
RUS				S	**Sn**	**23 34 23.6**	**+2.2**
RUS	**Russkaya**	**1.28**	**286**	PN	**Pn**	**23 34 04.0**	**-1.5**
RUS				S	**Sn**	**23 34 23.6**	**+2.2**
NLC	**Nalytchevo**	**1.28**	**327**	P	**Pn**	**23 34 04.0**	**-1.7**
NLC				S	**Sn**	**23 34 22.3**	**+0.7**
NLC	**Nalytchevo**	**1.28**	**327**	PN	**Pn**	**23 34 04.0**	**-1.7**
NLC				S	**Sn**	**23 34 22.3**	**+0.7**
DALK	**Dalny**	**1.42**	**311**	P	**Pn**	**23 34 05.4**	**-2.1**
DALK				S	**Sn**	**23 34 26.6**	**+1.6**
DALK	**Dalny**	**1.42**	**311**	PN	**Pn**	**23 34 05.4**	**-2.1**
DALK				S	**Sn**	**23 34 26.6**	**+1.6**
PET	**Petropavlovsk**	**1.46**	**310**	*e*Pn	**Pn**	**23 34 06.5**	**-1.6**
PET	**Petropavlovsk**	**1.46**	**310**	*e*PN	**Pn**	**23 34 06.5**	**-1.6**
PET				*e*S	**Sn**	**23 34 26.4**	**+0.4**
PET				smax	smax		
	comp=E,3μm,0.6s						
PET				smax	smax		
	comp=E,3μm,1.1s						
PET				smax	smax		
	comp=N,2μm,0.5s						
MTVR	**Mutnovka**	**1.48**	**286**	P	**Pn**	**23 34 07.3**	**-1.2**
MTVR				S	**Sn**	**23 34 29.0**	**+2.2**
MTVR	**Mutnovka**	**1.48**	**286**	PN	**Pn**	**23 34 07.3**	**-1.2**
MTVR				S	**Sn**	**23 34 29.0**	**+2.2**
UGLR	**Uglovaya**	**1.51**	**318**	P	**Pn**	**23 34 07.8**	**-1.1**
UGLR				S	**Sn**	**23 34 29.9**	**+2.5**
UGLR	**Uglovaya**	**1.51**	**318**	PN	**Pn**	**23 34 07.8**	**-1.1**
UGLR				S	**Sn**	**23 34 29.9**	**+2.5**
SDLR	**Sedlovina**	**1.54**	**320**	P	**Pn**	**23 34 07.6**	**-1.7**
SDLR	**Sedlovina**	**1.54**	**320**	PN	**Pn**	**23 34 07.6**	**-1.7**
KDTR	**Khodutka, Kamc**	**1.54**	**260**	P	**Pn**	**23 34 07.1**	**-2.1**
KDTR				S	**Sn**	**23 34 27.8**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.54**	**260**	PN	**Pn**	**23 34 07.1**	**-2.1**
KDTR				S	**Sn**	**23 34 27.8**	**-0.1**
SMAR	**Somma**	**1.56**	**319**	P	**Pn**	**23 34 08.4**	**-1.3**
SMAR	**Somma**	**1.56**	**319**	PN	**Pn**	**23 34 08.4**	**-1.3**
GRL	**Gorelyy**	**1.57**	**288**	P	**Pn**	**23 34 09.8**	**+0.1**
GRL				S	**Sn**	**23 34 33.3**	**+4.5**
GRL	**Gorelyy**	**1.57**	**288**	PN	**Pn**	**23 34 09.8**	**+0.1**
GRL				S	**Sn**	**23 34 33.3**	**+4.5**
AVH	**Avacha**	**1.59**	**318**	P	**Pn**	**23 34 08.9**	**-1.0**
AVH				S	**Sn**	**23 34 32.6**	**+3.3**
AVH	**Avacha**	**1.59**	**318**	PN	**Pn**	**23 34 08.9**	**-1.0**
AVH				S	**Sn**	**23 34 32.6**	**+3.3**
KRER	**Koryakskii**	**1.61**	**319**	P	**Pn**	**23 34 09.2**	**-1.2**
KRER				S	**Sn**	**23 34 32.4**	**+2.4**
KRER	**Koryakskii**	**1.61**	**319**	PN	**Pn**	**23 34 09.2**	**-1.2**
KRER				S	**Sn**	**23 34 32.4**	**+2.4**
KRMR	**Karymshinskiy**	**1.63**	**297**	P	**Pn**	**23 34 09.1**	**-1.3**
KRMR				S	**Sn**	**23 34 32.5**	**+2.3**
KRMR	**Karymshinskiy**	**1.63**	**297**	PN	**Pn**	**23 34 09.1**	**-1.3**
KRMR				S	**Sn**	**23 34 32.5**	**+2.3**
ASAK	**Asacha**	**1.64**	**281**	P	**Pn**	**23 34 09.8**	**-0.8**
ASAK				S	**Sn**	**23 34 34.2**	**+3.8**
ASAK	**Asacha**	**1.64**	**281**	PN	**Pn**	**23 34 09.8**	**-0.8**
ASAK				S	**Sn**	**23 34 34.2**	**+3.8**
KOK	**Koryaka**	**1.65**	**317**	P	**Pn**	**23 34 09.6**	**-1.2**
KOK	**Koryaka**	**1.65**	**317**	PN	**Pn**	**23 34 09.6**	**-1.2**
KRX	**Arik**	**1.69**	**319**	P	**Pn**	**23 34 10.6**	**-0.8**
KRX	**Arik**	**1.69**	**319**	PN	**Pn**	**23 34 10.6**	**-0.8**
PEA0B	**Petropavlovsk-**	**1.99**	**301**	*e*Pn	**Pn**	**23 34 14.4**	**-1.0**
PEA0B	**Petropavlovsk-**	**1.99**	**301**	*e*PN	**Pn**	**23 34 14.4**	**-1.0**
PETK	**Petropavlovsk-**	**1.99**	**301**	*e*Pn	**Pn**	**23 34 13.8**	**-1.5**
PETK	**Petropavlovsk-**	**1.99**	**301**	*e*PN	**Pn**	**23 34 13.9**	**-1.5**
PETK	**Petropavlovsk-**	**1.99**	**301**	Pn	**Pn**	**23 34 14.3**	**-1.0**
	comp=N,35nm,0.3s,baz=103,slow=19,SNR=129						
PETK				Sn	**Sn**	**23 34 41.3**	**+2.2**
	comp=N,69nm,0.3s,baz=97,slow=17,SNR=4.2						
PEA1	**Petropavlovsk-**	**1.99**	**301**	*e*Pn	**Pn**	**23 34 14.3**	**-1.1**
PEA1				*e*Sn	**Sn**	**23 34 41.3**	**+2.2**
APC	**Apacha**	**2.21**	**293**	P	**Pn**	**23 34 18.2**	**-0.2**
APC				S	**Sn**	**23 34 48.4**	**+3.9**
APC	**Apacha**	**2.21**	**293**	PN	**Pn**	**23 34 18.2**	**-0.2**
APC				S	**Sn**	**23 34 48.4**	**+3.9**
GNL	**Ganaly**	**2.23**	**317**	P	**Pn**	**23 34 19.2**	**+0.4**
GNL	**Ganaly**	**2.23**	**317**	PN	**Pn**	**23 34 19.2**	**+0.4**
KZV	**Kizimen**	**3.02**	**358**	P	**Pn**	**23 34 28.8**	**-0.8**
KZV				S	**Sn**	**23 35 05.4**	**+0.9**
KZV	**Kizimen**	**3.02**	**358**	PN	**Pn**	**23 34 28.8**	**-0.8**
KZV				S	**Sn**	**23 35 05.4**	**+0.9**
SKR	**Severo-Kuril's**	**3.10**	**244**	P	**Pn**	**23 34 29.2**	**-1.4**
SKR				S	**Sn**	**23 35 06.1**	**-0.3**
SKR	**Severo-Kuril's**	**3.10**	**244**	*e*PN	Pn	23 34 25.5	-5.1
SKR				pmax	pmax		
	comp=Z,48nm,0.9s						
TUMD	**Tumrok D**	**3.10**	**359**	P	**Pn**	**23 34 30.6**	**-0.1**
TUMD				S	**Sn**	**23 35 08.5**	**+2.0**
TUMR	**Tumrok**	**3.19**	**356**	P	**Pn**	**23 34 31.3**	**-0.6**
TUMR	**Tumrok**	**3.19**	**356**	PN	**Pn**	**23 34 30.6**	**-1.3**
ALID	**Alaid**	**3.34**	**250**	P	**Pn**	**23 34 33.3**	**-0.8**
ALID	**Alaid**	**3.34**	**250**	PN	**Pn**	**23 34 33.3**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**3.84**	**1**	P	**Pn**	**23 34 42.1**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**3.84**	**1**	PN	**Pn**	**23 34 42.1**	**+1.2**
BZWR	**Bezymyannyi-We**	**3.87**	**360**	P	**Pn**	**23 34 44.9**	**+3.7**
BZWR	**Bezymyannyi-We**	**3.87**	**360**	PN	**Pn**	**23 34 44.9**	**+3.7**
ESO	**Esso**	**3.97**	**345**	P	**Pn**	**23 34 42.2**	**-0.4**
ESO	**Esso**	**3.97**	**345**	PN	**Pn**	**23 34 42.2**	**-0.4**
LGNR	**Loginova**	**3.99**	**1**	P	**Pn**	**23 34 45.0**	**+2.0**
LGNR	**Loginova**	**3.99**	**1**	PN	**Pn**	**23 34 45.0**	**+2.0**
CIRR	**Tsirk**	**4.02**	**2**	P	**Pn**	**23 34 45.9**	**+2.6**
CIRR	**Tsirk**	**4.02**	**2**	PN	**Pn**	**23 34 45.9**	**+2.6**
KRSR	**Krestovskiy**	**4.12**	**0**	P	**Pn**	**23 34 46.7**	**+2.0**
KRSR	**Krestovskiy**	**4.12**	**0**	PN	**Pn**	**23 34 46.7**	**+2.0**
KLY	**Klyuchi**	**4.22**	**1**	P	**Pn**	**23 34 47.2**	**+1.3**
KLY				S	**Sn**	**23 35 37.0**	**+3.2**
KLY	**Klyuchi**	**4.22**	**1**	PN	**Pn**	**23 34 47.2**	**+1.3**
KLY				S	**Sn**	**23 35 37.0**	**+3.2**
SRDR	**Sredinnyy**	**4.25**	**354**	P	**Pn**	**23 34 47.3**	**+0.9**
SRDR	**Sredinnyy**	**4.25**	**354**	PN	**Pn**	**23 34 47.3**	**+0.9**
KBTR	**Krutoberegovo**	**4.33**	**17**	P	**Pn**	**23 34 45.6**	**-1.8**
KBTR	**Krutoberegovo**	**4.33**	**17**	PN	**Pn**	**23 34 45.6**	**-1.8**
BKI	**Bering**	**4.49**	**44**	P	**Pn**	**23 34 47.3**	**-2.3**
BKI	**Bering**	**4.49**	**44**	PN	**Pn**	**23 34 47.3**	**-2.3**
BDR	**Baidarnaya**	**4.49**	**5**	P	**Pn**	**23 34 52.3**	**+2.6**
BDR	**Baidarnaya**	**4.49**	**5**	PN	**Pn**	**23 34 52.3**	**+2.6**
SMKR	**Semkarok**	**4.52**	**7**	P	**Pn**	**23 34 52.4**	**+2.3**
SMKR	**Semkarok**	**4.52**	**7**	PN	**Pn**	**23 34 52.4**	**+2.3**
SRKR	**Sorokina**	**4.57**	**4**	P	**Pn**	**23 34 53.1**	**+2.2**
SRKR	**Sorokina**	**4.57**	**4**	PN	**Pn**	**23 34 53.1**	**+2.2**
MA2	**Magadan**	**9.27**	**328**	Pn	**Pn**	**23 35 53.4**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=112,slow=16,SNR=1.3						
ASAJ	**Asahikawa**	**14.37**	**243**	Pn	**Pn**	**23 37 04.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=90,slow=33,SNR=1.9						
BILL	**Bilibino**	**16.23**	**8**	*e*Pn	**P**	**23 37 31.6**	**+0.1**
	comp=Z,7.8nm,0.8s						
BILL	**Bilibino**	**16.23**	**8**	*e*P	**P**	**23 37 30.2**	**-1.2**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KLR	**Kul'dur**	**18.41**	**272**	P	**P**	**23 37 54.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=50,slow=11,SNR=8.8						
USRK	**Ussuriysk Ar.**	**20.51**	**259**	P	**P**	**23 38 16.7**	**-1.9**
	comp=Z,4.3nm,1.0s,baz=46,slow=8.2,SNR=6.1						
USRK				LR	LR	23 45 56.2	
	comp=Z,263nm,19.6s,baz=264,slow=36						
MAJO	**Matsushiro**	**22.16**	**234**	*e*P	**P**	**23 38 38.2**	**+1.9**
MAJO	**Matsushiro**	**22.16**	**234**	*e*P	**P**	**23 38 38.3**	**+1.9**
MJAR	**Matsushiro Arr**	**22.16**	**234**	P	**P**	**23 38 38.2**	**+1.9**
	comp=Z,2.2nm,0.5s,baz=22,slow=9.5,SNR=7.3						
TIXI	**Tiksi**	**24.09**	**336**	*e*P	**P**	**23 38 53.4**	**-2.0**
	comp=Z,6.9nm,0.7s						
TIXI	**Tiksi**	**24.09**	**336**	*ce*P	**P**	**23 38 53.7**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TIXI	**Tiksi**	**24.09**	**336**	P	**P**	**23 38 53.4**	**-2.0**
	comp=Z,6.2nm,0.6s,baz=125,slow=9.3,SNR=22						
KDAK	**Kodiak Island**	**27.07**	**59**	*ce*P	**P**	**23 39 25.6**	**+3.1**
KDAK	**Kodiak Island**	**27.07**	**59**	P	**P**	**23 39 24.4**	**+1.9**
	comp=Z,3.3nm,0.7s,baz=248,slow=5.4,SNR=4.5						
JNU	**Nakatsue**	**28.61**	**240**	*e*P	**P**	**23 39 35.9**	**-0.6**
	comp=Z,21nm,1.2s						
JNU	**Nakatsue**	**28.61**	**240**	P	**P**	**23 39 35.9**	**-0.6**
	comp=Z,5.6nm,1.0s,baz=16,slow=15,SNR=2.0						
ILAR	**Eielson Array**	**29.34**	**44**	P	**P**	**23 39 43.0**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=259,slow=7.2,SNR=3.0						
ILAR				PcP	**PcP**	**23 42 46.9**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=254,slow=3.4,SNR=2.6						
ILB	**Eielson Array**	**29.34**	**44**	*e*P	**P**	**23 39 43.0**	**+0.4**
ILB				*e*PcP	**PcP**	**23 42 46.9**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**32.69**	**169**	T	T	00 16 08.2	
	baz=352						
H11N3	**WAKE ISLAND Hy**	**32.71**	**169**	T	T	00 16 00.6	
	baz=352,slow=74						
H11N1	**WAKE ISLAND Hy**	**32.71**	**169**	T	T	00 16 09.3	
	baz=352,slow=74						
H11S1	**WAKE ISLAND Hy**	**33.88**	**169**	T	T	00 17 43.5	
	baz=352,slow=76,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**33.89**	**169**	T	T	00 17 49.3	
	baz=352,slow=76,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**33.90**	**169**	T	T	00 17 44.1	
	baz=352,slow=76,SNR=3.2						
ULN	**Ulaanbaatar**	**33.99**	**285**	*ce*P	**P**	**23 40 23.5**	**-0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.3s						
SONA0	**Songino Array**	**34.39**	**285**	*e*P	**P**	**23 40 23.8**	**-3.5**
SONM	**Songino Array**	**34.39**	**285**	P	**P**	**23 40 23.8**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=79,slow=7.5,SNR=4.1						
HHC	**Hu-ho-hao-te**	**34.91**	**271**	*e*P	**P**	**23 40 32.4**	**+0.7**
NJ2	**Nanjing**	**36.20**	**253**	*e*P	**P**	**23 40 45.5**	**+2.7**
DLBC	**Dease Lake**	**38.43**	**52**	*e*P	**P**	**23 41 03.5**	**+1.9**
	comp=Z,5.2nm,1.1s						
DLBC	**Dease Lake**	**38.43**	**52**	P	**P**	**23 41 03.5**	**+1.9**
	comp=Z,1.4nm,0.4s,baz=292,slow=11,SNR=3.8						
ZAA1	**Zalesovo Array**	**43.53**	**304**	*e*P	**P**	**23 41 41.3**	**-2.1**
ZALV	**Zalesovo Beam**	**43.53**	**304**	P	**P**	**23 41 41.3**	**-2.1**
	comp=Z,0.7nm,0.4s,baz=60,slow=7.0,SNR=4.8						
YKA	**Yellowknife Ar**	**43.72**	**42**	*e*P	**P**	**23 41 43.8**	**-1.0**
YKA	**Yellowknife Ar**	**43.72**	**42**	*e*P	**P**	**23 41 43.8**	**-1.0**
YKA	**Yellowknife Ar**	**43.72**	**42**	P	**P**	**23 41 45.4**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=298,slow=7.5,SNR=3.9						
NVS	**Novosibirsk**	**43.90**	**306**	*e*P	**P**	**23 41 44.0**	**-2.3**
RES	**Resolute Bay**	**44.15**	**22**	*e*P	**P**	**23 41 47.8**	**-0.2**
	comp=Z,3.0nm,1.2s						
RES	**Resolute Bay**	**44.15**	**22**	*e*P	**P**	**23 41 47.8**	**-0.2**
RES				pmax	pmax		
	comp=Z,3.0nm,1.2s						
RES	**Resolute Bay**	**44.15**	**22**	P	**P**	**23 41 47.8**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=309,slow=6.4,SNR=2.5						
CD2	**Chengdu**	**46.14**	**266**	*e*P	**P**	**23 42 04.1**	**-0.4**
WMQ	**Urumqi**	**47.55**	**290**	*e*P	**P**	**23 42 15.5**	**+0.1**
WMQ				pP	sP	23 42 38.0	+6.8
SPITS	**Spitsbergen Ar**	**48.15**	**351**	P	**P**	**23 42 19.4**	**-0.1**
SPITS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**48.48**	**303**	*e*P	**P**	**23 42 20.2**	**-2.1**
	comp=Z,6.7nm,0.9s						
KURK	**Kurchatov**	**48.48**	**303**	*ce*P	**P**	**23 42 20.9**	**-1.5**
KURK				pmax	pmax		
	comp=Z,12nm,1.7s						
MKAR	**Makanchi Array**	**48.82**	**297**	*e*P	**P**	**23 42 23.0**	**-2.1**
MKAR	**Makanchi Array**	**48.82**	**297**	*e*P	**P**	**23 42 23.0**	**-2.1**
MKAR	**Makanchi Array**	**48.82**	**297**	P	**P**	**23 42 22.9**	**-2.2**
	comp=Z,1.1nm,0.6s,baz=59,slow=6.7,SNR=13						
MAKZ	**Makanchi**	**48.99**	**297**	*e*P	**P**	**23 42 24.5**	**-1.9**
	comp=Z,1.9nm,0.9s						
MAKZ	**Makanchi**	**48.99**	**297**	*e*P	**P**	**23 42 24.5**	**-1.9**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRVK	**Borovoye**	**51.24**	**309**	*e*P	**P**	**23 42 42.3**	**-1.0**
	comp=Z,4.6nm,0.8s						
BRVK	**Borovoye**	**51.24**	**309**	*ce*P	**P**	**23 42 42.2**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OTUK	**Ortayu**	**53.23**	**303**	P	**P**	**23 42 58.0**	**-0.2**
OTUK				pmax	pmax		
	comp=Z,2.0nm,2.2s						
ARU	**Arti**	**54.30**	**318**	*ce*P	**P**	**23 43 05.6**	**-0.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARA0	**ARCESS Array S**	**54.31**	**342**	*e*P	**P**	**23 43 04.4**	**-1.3**
ARCES	**ARCESS Array B**	**54.31**	**342**	P	**P**	**23 43 04.4**	**-1.3**
	comp=Z,3.8nm,0.9s,baz=46,slow=10,SNR=5.0						
AAK	**Ala-Archa**	**55.75**	**297**	*ce*P	**P**	**23 43 16.8**	**+0.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
NV01	**Mina Array Sit**	**55.84**	**70**	*e*P	**P**	**23 43 19.8**	**+2.4**
NVAR	**Mina Array Bea**	**55.84**	**70**	P	**P**	**23 43 19.8**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=306,slow=7.7,SNR=4.1						
KSH	**Kashi**	**57.03**	**293**	P	**P**	**23 43 28.3**	**+2.5**
KKAR	**Karatay Array**	**57.60**	**300**	*e*P	**P**	**23 43 28.3**	**-1.3**
KKAR	**Karatay Array**	**57.60**	**300**	*e*P	**P**	**23 43 28.3**	**-1.3**
PD31	**Pinedale Array**	**57.78**	**61**	*e*P	**P**	**23 43 32.9**	**+1.7**
PDAR	**Pinedale Array**	**57.78**	**61**	P	**P**	**23 43 32.9**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=309,slow=3.1,SNR=5.9						
CHTO	**Chiang Mai**	**57.97**	**259**	*e*P	**P**	**23 43 31.2**	**-1.2**
	comp=Z,7.7nm,1.1s						
CHTO	**Chiang Mai**	**57.97**	**259**	*e*P	**P**	**23 43 31.3**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CM31	**Chiang Mai Arr**	**58.24**	**259**	*e*P	**P**	**23 43 34.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**58.24**	**259**	P	**P**	**23 43 34.8**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=18,slow=7.9,SNR=7.4						
ABKAR	**Akbulak array**	**58.64**	**311**	*e*P	**P**	**23 43 36.0**	**-0.8**
	comp=Z,2.1nm,0.8s						
SUF	**Sumiainen**	**60.01**	**338**	P	**P**	**23 43 46.8**	**+0.8**
SUF				pmax	pmax		
	comp=Z,16nm,1.5s						
FIA0	**FINESS Array S**	**61.13**	**337**	*e*P	**P**	**23 43 53.4**	**-0.3**
FIA0	**FINESS Array S**	**61.13**	**337**	*e*P	**P**	**23 43 53.4**	**-0.3**
FINES	**FINESS Array B**	**61.13**	**337**	P	**P**	**23 43 53.4**	**-0.3**
	comp=Z,4.1nm,0.5s,baz=38,slow=7.7,SNR=33						
NB2	**NORSAR Subarra**	**64.56**	**344**	*e*P	**P**	**23 44 16.5**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=21,slow=6.9						
NB200	**NORSAR Array S**	**64.56**	**344**	*e*P	**P**	**23 44 16.4**	**-0.2**
NOA	**NORSAR Array B**	**64.56**	**344**	P	**P**	**23 44 16.4**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=21,slow=6.6,SNR=7.9						
AKASG	**Malin Array Be**	**69.59**	**329**	P	**P**	**23 44 47.2**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=30,slow=6.4,SNR=9.4						
KBZ	**Khabaz**	**70.43**	**317**	P	**P**	**23 44 53.1**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=193,slow=3.4,SNR=5.8						
TXAR	**Lajitas Array**	**70.78**	**67**	P	**P**	**23 44 57.6**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=297,slow=5.0,SNR=10						
KWP	**Kalwaria Pacla**	**72.49**	**333**	*e*P	**P**	**23 45 06.5**	**+0.4**
	comp=Z,93nm,1.1s						
KWP	**Kalwaria Pacla**	**72.49**	**333**	*e*P	**P**	**23 45 06.5**	**+0.4**
KWP				pmax	pmax		
	comp=Z,93nm,1.1s						
KOLS	**Kolonicke sedl**	**73.24**	**333**	*e*P	**P**	**23 45 11.5**	**+0.9**
KOLS	**Kolonicke sedl**	**73.24**	**333**	*e*P	**P**	**23 45 11.5**	**+0.9**
CLL	**Collm**	**73.37**	**339**	*e*P	**P**	**23 45 12.0**	**+0.7**
CLL	**Collm**	**73.37**	**339**	*e*P	**P**	**23 45 12.0**	**+0.7**
DPC	**Dobruska-Polom**	**73.50**	**337**	*e*P	**P**	**23 45 13.8**	**+1.6**
DPC	**Dobruska-Polom**	**73.50**	**337**	*e*P	**P**	**23 45 13.8**	**+1.6**
BUR08	**Bucovina Ar. S**	**73.54**	**330**	*e*P	**P**	**23 45 12.9**	**+0.4**
	comp=Z,6.9nm,1.4s						
BURAR	**Bucovina Array**	**73.56**	**330**	*e*P	**P**	**23 45 12.7**	**0.0**
BURAR	**Bucovina Array**	**73.56**	**330**	P	**P**	**23 45 12.7**	**0.0**
MORC	**Moravsky Berou**	**73.73**	**336**	*e*P	**P**	**23 45 11.5**	**-2.1**
	comp=Z,2.8nm,0.8s						
MORC	**Moravsky Berou**	**73.73**	**336**	*e*P	**P**	**23 45 11.5**	**-2.1**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PRU	**Pruhonice**	**74.26**	**338**	*e*P	**P**	**23 45 18.3**	**+1.7**
PRU	**Pruhonice**	**74.26**	**338**	*e*P	**P**	**23 45 18.3**	**+1.7**
VYHS	**Vyhne**	**74.58**	**335**	*e*P	**P**	**23 45 19.3**	**+0.8**
VYHS	**Vyhne**	**74.58**	**335**	*e*P	**P**	**23 45 19.3**	**+0.8**
KHC	**Kasperske Hory**	**75.29**	**338**	*e*P	**P**	**23 45 24.0**	**+1.4**
KHC	**Kasperske Hory**	**75.29**	**338**	*e*P	**P**	**23 45 24.0**	**+1.4**
KHC				*ex*	x	23 45 47.9	
KBA	**Koelnbreinsper**	**77.27**	**338**	P	**P**	**23 45 37.6**	**+3.6**
KBA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BR101	**Keskin Array S**	**77.55**	**321**	*e*P	**P**	**23 45 33.6**	**-2.1**
BRTR	**Keskin Array B**	**77.55**	**321**	P	**P**	**23 45 33.6**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=33,slow=3.0,SNR=6.1						
PALK	**Pallekele**	**78.04**	**266**	*ce*P	**P**	**23 45 37.1**	**-1.5**
AS31	**Alice Springs**	**78.97**	**205**	*e*P	**P**	**23 45 43.5**	**+0.1**
	comp=Z,1.2nm,1.3s						
ASAR	**Alice Springs**	**78.97**	**205**	P	**P**	**23 45 45.1**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=14,slow=5.7,SNR=3.0						
ESDC	**Sonseca Array**	**87.60**	**348**	P	**P**	**23 46 28.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=2.1,slow=4.6,SNR=3.4						

*KRSC **19** 23:43:14.3±10.0, 52°.03N×160°.62E, h47km±10km, ML4.4*
*ISCJB **19** 23:43:16.7±0.8, 52°.08N±0°.04×160°.58E±0°.07, h46km±6km, mb3.8/14, Error ellipse: s-maj=8.8km s-min=5.8km az=43.6*
*IDC **19** 23:43:16.8±2.9, 52°.60N×159°.69E, h0km, mb3.9/14, mb1 3.9/16, mb1mx3.6/68, mbtmp3.9/16, ML3.7/2, Error ellipse: s-maj=65.5km s-min=24.6km az=130.0*
*MOS **19** 23:43:18.7±0.9, 52°.20N×160°.32E, h51km, mb4.0/1, Error ellipse: s-maj=10.1km s-min=5.3km az=112.0*

ISC 19 23:43:17.4±1.8, 52°.09N±0°.06×160°.55E±0°.08, h41km±15km, n71, σ1§21/92, mb3.9/14, 2C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.06**	**343**	P	**Pn**	**23 43 34.5**	**-1.3**
SPN				S	**Sn**	**23 43 48.2**	**-1.2**
SPN	**Mys Shipunski**	**1.06**	**343**	PN	**Pn**	**23 43 34.5**	**-1.3**
SPN				S	**Sn**	**23 43 48.2**	**-1.2**
RUS	**Russkaya**	**1.30**	**286**	P	**Pn**	**23 43 38.1**	**-0.9**
RUS				S	**Sn**	**23 43 55.1**	**0.0**
RUS	**Russkaya**	**1.30**	**286**	PN	**Pn**	**23 43 38.1**	**-0.9**
RUS				S	**Sn**	**23 43 55.1**	**0.0**
NLC	**Nalytchevo**	**1.31**	**327**	P	**Pn**	**23 43 38.5**	**-0.7**
NLC				S	**Sn**	**23 43 56.1**	**+0.7**
NLC	**Nalytchevo**	**1.31**	**327**	PN	**Pn**	**23 43 38.5**	**-0.7**
NLC				S	**Sn**	**23 43 56.1**	**+0.7**
DALK	**Dalny**	**1.45**	**312**	P	**Pn**	**23 43 40.2**	**-0.8**
DALK				S	**Sn**	**23 43 58.8**	**0.0**
DALK	**Dalny**	**1.45**	**312**	PN	**Pn**	**23 43 40.2**	**-0.8**
DALK				S	**Sn**	**23 43 58.8**	**0.0**
PET	**Petropavlovsk**	**1.49**	**310**	α *i*PN	**Pn**	**23 43 41.1**	**-0.5**
PET				*e*S	**Sn**	**23 43 58.5**	**-1.3**
PET				pmax	pmax		
	comp=Z,400nm,0.5s						
PET				pmax	pmax		
	comp=Z,550nm,0.4s						
PET				smax	smax		
	comp=E,900nm,0.6s						
PET				smax	smax		
	comp=N,700nm,0.

comp=Z,1.2nm,0.7s,baz=44,slow=7.4,SNR=4.4
ASF Jabal al Asfar 82.70 315 P P 23 55 38.6 +1.8
comp=Z,1.1nm,0.8s,baz=54,slow=8.7,SNR=3.7

KRSC 19 23:45:20.6±10.0, 52°.06N×160°.59E, h47km±10km, ML3.8,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.10**	**342**	P	Pn	23 45 40.4	+0.9
SPN				S	Sn	23 45 54.2	+0.6
RUS	**Russkaya**	**1.33**	**287**	P	Pn	23 45 44.2	+1.5
RUS				S	Sn	23 46 00.3	+1.0
NLC	**Nalytchevo**	**1.35**	**326**	P	Pn	23 45 44.8	+1.9
NLC				S	Sn	23 46 01.8	+2.1
DALK	**Dalny**	**1.49**	**312**	P	Pn	23 45 46.2	+1.4
DALK				S	Sn	23 46 04.5	+1.5
MTVR	**Mutnovka**	**1.54**	**287**	P	Pn	23 45 47.5	+1.8
MTVR				S	Sn	23 46 06.5	+1.9
KDTR	**Khodutka, Kamc**	**1.58**	**262**	P	Pn	23 45 47.9	+1.9
KDTR				S	Sn	23 46 07.2	+2.0
UGLR	**Uglovaya**	**1.58**	**318**	P	Pn	23 45 48.1	+1.9
UGLR				S	Sn	23 46 07.9	+2.4
SDLR	**Sedlovina**	**1.61**	**320**	P	Pn	23 45 48.5	+1.9
SDLR				S	Sn	23 46 08.3	+2.1
SMAR	**Somma**	**1.63**	**319**	P	Pn	23 45 48.5	+1.5
AVH	**Avacha**	**1.66**	**318**	P	Pn	23 45 49.6	+2.4
AVH				S	Sn	23 46 10.6	+3.3
ASAK	**Asacha**	**1.69**	**282**	P	Pn	23 45 50.1	+2.4
ASAK				S	Sn	23 46 11.3	+3.2
KRMR	**Karymshinskiy**	**1.69**	**298**	P	Pn	23 45 49.6	+2.0
KRMR				S	Sn	23 46 10.4	+2.3
KOK	**Koryaka**	**1.72**	**317**	P	Pn	23 45 50.7	+2.6
APC	**Apacha**	**2.27**	**294**	P	Pn	23 45 59.2	+3.6
APC				S	Sn	23 46 27.3	+5.0
KZV	**Kizimen**	**3.07**	**357**	P	Pn	23 46 11.0	+4.4
TUMR	**Tumrok**	**3.24**	**355**	P	Pn	23 46 12.5	+3.5
KBTR	**Krutoberegovo**	**4.36**	**17**	P	Pn	23 46 27.4	+3.2

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*IDC **19** 23:47:32.5±3.7, 37°.05N×72°.04E, h84km±26km, mb3.9/18, mb1 4.0/23, mb1mx3.7/70, mbtmp4.3/23, Error ellipse: s-maj=39.1km s-min=16.1km az=153.0*
*ISCJB **19** 23:47:37.1±0.3, 37°.47N±0°.03×72°.07E±0°.05, h130km, mb4.0/19, Error ellipse: s-maj=5.7km s-min=3.6km az=152.8*
*NEIC **19** 23:47:38.5±0.7, 37°.56N×71°.91E, h118km±6km, mb4.1/4, Error ellipse: s-maj=10.4km s-min=7.0km az=130.0*
ISC 19 23:47:37.9±0.5, 37°.44N±0°.05×72°.01E±0°.06, h130km, n75, σ2°21/83, mb4.0/19, 2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.05**	**320**	*e*Pn	**Pn**	**23 48 09.5**	**-3.1**
GAR				*e*Sn	**Sn**	**23 48 32.4**	**-6.8**
BTK	**Batken**	**2.77**	**341**	*e*Pn	**Pn**	**23 48 20.8**	**-0.9**
KBL	**Kabul**	**3.76**	**221**	*e*Pn	**Pn**	**23 48 35.2**	**+0.5**
NIL	**Nilore**	**3.92**	**165**	*e*Pn	**Pn**	**23 48 39.7**	**+3.1**
ARSB	**Arslanbob**	**3.95**	**11**	*e*Pn	**Pn**	**23 48 36.2**	**-0.9**
AAK	**Ala-Archa**	**5.53**	**19**	P	**Pn**	**23 48 59.1**	**+0.9**
	8.9nm,0.3s,baz=182,slow=6.9,SNR=75						
AAK				S	**Sn**	**23 50 00.1**	**-0.7**
	3.7nm,0.3s,baz=328,slow=22,SNR=11						
FRU1	**Bishkek**	**5.73**	**20**	*e*Pn	**Pn**	**23 49 01.8**	**+1.0**
KK31	**Karatay Array**	**5.77**	**349**	*e*Pn	**Pn**	**23 48 59.8**	**-1.5**
KK31	**Karatay Array**	**5.77**	**349**	⇓P	**Pn**	**23 48 59.8**	**-1.5**
	21nm,0.4s,baz=171,slow=12,SNR=234						
KK31				⇓S	**Sn**	**23 50 01.1**	**-5.2**
	52nm,0.5s,baz=171,slow=21,SNR=12						
KKAR	**Karatay Array**	**5.77**	**349**	*e*Pn	**Pn**	**23 49 00.1**	**-1.2**
THN	**Thein Dam**	**5.85**	**148**	*e*P	**Sn**	**23 50 07.0**	**-1.3**
BOOM	**Boomskoye usch**	**5.88**	**30**	*e*Pn	**Pn**	**23 49 03.3**	**+0.4**
KDJ	**Kajisay**	**6.15**	**39**	*e*Pn	**Pn**	**23 49 06.6**	**+0.1**
DHRM	**DHARAMSHALA**	**6.27**	**144**	*e*P	**Pn**	**23 49 09.0**	**+0.8**
DHRM				*e*S	**Sn**	**23 50 17.1**	**-1.7**
DHRM				IAML		23 50 24.1	
	comp=N,265nm,0.2s						
DHRM				IAML		23 50 24.6	
	comp=E,454nm,0.4s						
SMLA	**Simla**	**7.61**	**144**	*e*P	**Pn**	**23 49 27.2**	**+1.1**
SMLA				*e*S	**Sn**	**23 50 46.2**	**-4.6**
SMLA				IAML		23 50 54.3	
	comp=N,476nm,0.9s						
SMLA				IAML		23 50 54.4	
	comp=E,195nm,0.6s						
DDI	**Dehra Dun**	**8.70**	**143**	*e*S	**Sn**	**23 51 12.2**	**-5.1**
JOSI	**Joshimath**	**9.29**	**135**	*e*P	**Pn**	**23 49 52.6**	**+3.6**
JOSI				*e*S	**Sn**	**23 51 26.1**	**-5.8**
JOSI				IAML		23 51 40.0	
	comp=N,735nm,1.0s						
JOSI				IAML		23 51 40.6	
	comp=E,133nm,0.3s						
KUDL	**Kundal**	**10.01**	**157**	*e*P	Pn	23 49 51.6	-6.7
KUDL				*e*S	Sn	23 51 35.3	-14
KUDL				IAML		23 51 41.5	
	comp=E,19nm,0.7s						
KUDL				IAML		23 51 41.5	
	comp=N,12nm,0.5s						
SONA	**Sohna**	**10.11**	**154**	*e*P	**Pn**	**23 50 00.2**	**+0.5**
SONA				*e*S	**Sn**	**23 51 43.5**	**-7.8**
SONA				IAML		23 51 50.6	
SONA				IAML		23 51 51.7	
	comp=E,34nm,0.9s						
GEYT	**Alibeck**	**11.02**	**277**	P	Pn	23 50 06.4	-5.4
	comp=E,1.4nm,0.3s,baz=106,slow=13,SNR=27						
GEYT				S	Sn	23 52 02.6	-11
	comp=E,4.6nm,0.3s,baz=40,slow=53,SNR=16						
MAKZ	**Makanchi**	**11.92**	**35**	*e*Pn	**Pn**	**23 50 23.4**	**-0.3**
MK32	**Makanchi Array**	**12.06**	**36**	*e*Pn	**Pn**	**23 50 25.2**	**-0.2**
MKAR	**Makanchi Array**	**12.06**	**36**	P	**Pn**	**23 50 25.2**	**-0.2**
	comp=E,0.2nm,0.3s,baz=228,slow=14,SNR=28						
PYUN	**Piuthan**	**13.11**	**132**	*e*P	**Pn**	**23 50 38.1**	**-1.4**
	comp=E,20nm,0.3s						
DANN	**Dangsing**	**13.39**	**129**	*e*P	**Pn**	**23 50 41.8**	**-1.4**
	comp=E,32nm,0.4s						
KOLN	**Koldanda**	**13.72**	**131**	*e*P	**Pn**	**23 50 46.3**	**-1.0**
	comp=E,18nm,0.4s						
KURBB	**Kurchatov Arra**	**13.98**	**17**	P	**Pn**	**23 50 47.6**	**-2.5**
	comp=E,0.0nm,0.3s,baz=208,slow=12,SNR=8.5						
KURK	**Kurchatov**	**14.09**	**18**	*e*Pn	**Pn**	**23 50 48.6**	**-2.9**
KKN	**Kakani**	**14.74**	**127**	*e*P	**Pn**	**23 50 59.5**	**-0.7**
	comp=E,45nm,0.6s						
DMN	**Daman**	**14.76**	**128**	*e*P	**Pn**	**23 50 59.5**	**-1.0**
	comp=E,42nm,0.7s						
BHPL	**Bhopal**	**14.90**	**160**	*e*P	**P**	**23 51 04.2**	**-0.3**
PKIN	**Phulchoki**	**14.96**	**127**	*e*P	**Pn**	**23 51 01.5**	**-1.6**
	comp=E,20nm,0.5s						
PKI	**Pulchoki**	**14.97**	**127**	*e*P	**Pn**	**23 51 02.4**	**-0.9**
	comp=E,30nm,0.6s						
JIRN	**Jiri**	**15.42**	**125**	*e*P	**Pn**	**23 51 08.2**	**-0.6**
	comp=E,46nm,0.3s						
BVAR	**Borovoye Array**	**15.62**	**356**	P	**Pn**	**23 51 08.6**	**-2.2**
	comp=E,0.7nm,0.3s,baz=162,slow=12,SNR=14						
BRVK	**Borovoye**	**15.66**	**356**	*e*Pn	**Pn**	**23 51 09.5**	**-1.8**
	comp=E,8.4nm,0.8s						
RAMN	**Ramite**	**16.17**	**126**	*e*P	**Pn**	**23 51 17.4**	**-0.6**
	comp=E,38nm,0.5s						
AKTO	**Aktyubinsk**	**16.40**	**327**	P	**Pn**	**23 51 20.1**	**-0.3**
	comp=E,1.8nm,0.3s,baz=125,slow=12,SNR=34						
ODAN	**Odare**	**16.74**	**125**	*e*P	**Pn**	**23 51 24.7**	**-0.3**
	comp=E,19nm,0.5s						
BOK	**Bokaro**	**18.07**	**135**	*e*P	**Pn**	**23 51 42.6**	**+1.8**
ZAA0	**Zalesovo Array**	**18.73**	**24**	*e*P	**P**	**23 51 47.1**	**+0.8**
	comp=E,3.6nm,0.5s						
ZALV	**Zalesovo Beam**	**18.73**	**24**	P	**Pn**	**23 51 47.9**	**-0.3**
	comp=E,1.4nm,0.3s,baz=216,slow=11,SNR=30						
ARU	**Arti**	**21.02**	**339**	*e*P	**P**	**23 52 11.7**	**+0.7**
	comp=E,7.7nm,0.8s						
ARU	**Arti**	**21.02**	**339**	P	**P**	**23 52 12.0**	**+0.9**
	comp=E,1.5nm,0.5s,baz=153,slow=6.2,SNR=11						
GNI	**Garni**	**21.39**	**286**	*e*P	**P**	**23 52 14.6**	**-0.8**
	comp=E,10nm,0.6s						
GNI	**Garni**	**21.39**	**286**	P	**P**	**23 52 15.0**	**-0.3**
	comp=E,11nm,0.8s,baz=6.0,slow=1.6,SNR=9.9						
TBLG	**Delisi**	**21.41**	**290**	*e*P	**P**	**23 52 17.1**	**+1.7**
KBZ	**Khabaz**	**22.91**	**295**	P	**P**	**23 52 31.1**	**+0.6**
	comp=E,1.1nm,0.6s,baz=97,slow=8.1,SNR=3.3						
BRTR	**Keskin Array B**	**29.93**	**286**	*e*P	**P**	**23 53 34.0**	**+0.3**
BRTR	**Keskin Array B**	**29.93**	**286**	P	**P**	**23 53 35.2**	**+1.5**
	comp=E,0.8nm,0.6s,baz=95,slow=7.1,SNR=14						
AKASG	**Malin Array Be**	**33.00**	**308**	P	**P**	**23 54 01.4**	**+1.1**
	comp=E,1.4nm,0.4s,baz=81,slow=7.9,SNR=9.9						
NRIK	**Noril'sk**	**33.06**	**10**	P	**P**	**23 54 03.4**	**+2.8**
	comp=E,1.0nm,0.6s,baz=198,slow=9.6,SNR=3.5						
FIA0	**FINESS Array S**	**37.16**	**325**	*e*P	**P**	**23 54 37.4**	**+1.5**
FIA0				*e*pP	**pP**	**23 55 04.0**	**-1.4**
FINES	**FINESS Array B**	**37.16**	**325**	*e*P	**P**	**23 54 36.3**	**+0.4**
FINES	**FINESS Array B**	**37.16**	**325**	P	**P**	**23 54 37.4**	**+1.5**
	comp=E,2.3nm,0.4s,baz=120,slow=9.1,SNR=28						
FINES				sP	**pP**	**23 55 04.0**	**-1.4**
	comp=E,1.0nm,0.7s,baz=112,slow=11,SNR=2.3						
VYHS	**Vyhne**	**39.70**	**304**	*e*P	**P**	**23 55 00.7**	**+3.5**
VYHS	**Vyhne**	**39.70**	**304**	*e*PN	**P**	**23 55 00.8**	**+3.5**
ARA0	**ARCESS Array S**	**40.59**	**337**	*e*P	**P**	**23 55 06.3**	**+2.0**
ARCES	**ARCESS Array B**	**40.59**	**337**	P	**P**	**23 55 06.3**	**+2.0**
	comp=E,4.1nm,0.8s,baz=112,slow=8.5,SNR=20						
VRAC	**Vranov**	**41.11**	**305**	P	**P**	**23 55 10.8**	**+1.9**
	comp=E,2.1nm,0.6s,baz=96,slow=7.7,SNR=6.1						
BRG	**Berggiesshubel**	**42.68**	**308**	*e*P	**P**	**23 55 23.6**	**+2.0**
	comp=E,4.0nm,0.9s						
HFS	**Hagfors**	**42.83**	**321**	P	**P**	**23 55 24.1**	**+1.5**
	comp=E,7.2nm,0.4s,baz=98,slow=11,SNR=72						
HFS				sP	**pP**	**23 55 50.7**	**-2.4**
	comp=E,1.3nm,0.6s,baz=96,slow=13,SNR=2.0						
CLL	**Collm**	**43.23**	**308**	*e*P	**P**	**23 55 27.0**	**+1.0**
NB2	**NORSAR Subarra**	**44.12**	**322**	P	**P**	**23 55 34.1**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=93,slow=7.9						
NB200	**NORSAR Array S**	**44.12**	**322**	*e*P	**P**	**23 55 34.4**	**+1.4**
NOA	**NORSAR Array B**	**44.12**	**322**	P	**P**	**23 55 34.4**	**+1.4**
	comp=Z,1.3nm,0.4s,baz=94,slow=7.6,SNR=12						
DAVOX	**Davos/Dischmat**	**45.93**	**302**	P	**P**	**23 55 48.9**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=96,slow=7.8,SNR=5.1						
KEST	**Kesra**	**49.51**	**288**	P	**P**	**23 56 16.1**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=21,slow=5.8,SNR=5.6						
EKA	**Eskdalemuir Ar**	**52.17**	**316**	P	**P**	**23 56 35.9**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=90,slow=8.7,SNR=8.3						
MA2	**Magadan**	**53.13**	**39**	P	**P**	**23 56 43.1**	**+1.3**
	comp=Z,27nm,0.8s,baz=342,slow=16,SNR=2.3						
ESDC	**Sonseca Array**	**57.73**	**298**	*e*P	**P**	**23 57 15.5**	**+0.4**
ESDC	**Sonseca Array**	**57.73**	**298**	P	**P**	**23 57 16.5**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=57,slow=7.2,SNR=12						
TOA1	**Torodi Ar. Sit**	**66.54**	**269**	*e*P	**P**	**23 58 13.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**66.54**	**269**	P	**P**	**23 58 13.2**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=46,slow=6.4,SNR=26						
NEW	**Newport**	**94.28**	**6**	P	**P**	**00 00 43.3**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=348,slow=4.8,SNR=4.1						

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*IDC **19** 23:50:10.8±0.5, 52°.33N×159°.93E, h0km, mb4.4/50, mb1 4.5/52, mb1mx4.5/73, mbtmp4.5/52, ML4.0/2, MS4.8/2, Ms1 4.8/2, ms1mx3.8/44, Error ellipse: s-maj=13.4km s-min=9.8km az=155.0*
*KRSC **19** 23:50:11.7±10.0, 52°.13N×160°.47E, h21km±10km, ML5.5*
*MOS **19** 23:50:17.0±1.3, 52°.25N×159°.94E, h57km, mb5.4/68, Error ellipse: s-maj=7.2km s-min=3.2km az=104.3*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
*NEIC **19** 23:50:21.0±0.2, 52°.79N×159°.00E, h35km, mb5.1/71, Error ellipse: s-maj=7.5km s-min=3.7km az=159.0*
*BJI **19** 23:50:22.2±0.0, 53°.05N×159°.12E, h63km, mb5.0/56, mB5.1/35, Ms5.2/35, Ms7 5.1/34*
*ISCJB **19** 23:50:23.9±0.3, 52°.69N±0°.03×159°.16E±0°.04, h84km±2km, mb5.0/202, Error ellipse: s-maj=5.8km s-min=3.3km az=153.7*
ISC 19 23:50:22.1±0.7, 52°.43N±0°.04×159°.63E±0°.04, h66km±5km, n629, σ2°16/601, mb5.0/224, 67C-37D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.68**	**271**	*e*P	**Pn**	**23 50 34.3**	**-2.2**
RUS				*e*S	**Sn**	**23 50 50.8**	**+3.7**
RUS	**Russkaya**	**0.68**	**271**	PN	**Pn**	**23 50 34.3**	**-2.2**
RUS				S	**Sn**	**23 50 50.8**	**+3.7**
SPN	**Mys Shipunski**	**0.71**	**19**	*e*P	Pn	23 50 30.4	-6.5
SPN				*e*S	**Sn**	**23 50 43.4**	**-4.3**
SPN	**Mys Shipunski**	**0.71**	**19**	PN	Pn	23 50 30.4	-6.5
SPN				S	**Sn**	**23 50 43.4**	**-4.3**
NLC	**Nalytchevo**	**0.76**	**347**	*e*P	**Pn**	**23 50 34.5**	**-2.9**
NLC				*e*S	**Sn**	**23 50 51.4**	**+2.7**
NLC	**Nalytchevo**	**0.76**	**347**	PN	**Pn**	**23 50 34.5**	**-2.9**
NLC				S	**Sn**	**23 50 51.4**	**+2.7**
DALK	**Dalny**	**0.80**	**319**	*e*P	**Pn**	**23 50 36.2**	**-1.7**
DALK				*e*S	**Sn**	**23 50 53.6**	**+4.0**
DALK	**Dalny**	**0.80**	**319**	PN	**Pn**	**23 50 36.2**	**-1.7**
DALK				S	**Sn**	**23 50 53.6**	**+4.0**
PET	**Petropavlovsk**	**0.84**	**315**	*e*P	**Pn**	**23 50 37.1**	**-1.3**
PET	**Petropavlovsk**	**0.84**	**315**	*e*iPN	**Pn**	**23 50 36.9**	**-1.5**
PET				*e*S	**Sn**	**23 50 54.7**	**+4.3**
PET				pmax	pmax		
	comp=Z,4μm,0.9s						
PET				smax	smax		
	comp=E,18μm,0.7s						
PET				smax	smax		
	comp=E,41μm,1.9s						
PET				smax	smax		
	comp=N,34μm,2.0s						
PET				smax	smax		
	comp=N,23μm,0.6s						
MTVR	**Mutnovka**	**0.89**	**274**	*e*P	**Pn**	**23 50 37.7**	**-1.4**
MTVR	**Mutnovka**	**0.89**	**274**	PN	**Pn**	**23 50 37.7**	**-1.4**
UGLR	**Uglovaya**	**0.92**	**328**	*e*P	**Pn**	**23 50 38.4**	**-1.1**
UGLR	**Uglovaya**	**0.92**	**328**	PN	**Pn**	**23 50 38.4**	**-1.1**
GRL	**Gorelyy**	**0.96**	**278**	*e*P	**Pn**	**23 50 40.3**	**+0.3**
GRL	**Gorelyy**	**0.96**	**278**	PN	**Pn**	**23 50 40.3**	**+0.3**
SDLR	**Sedlovina**	**0.96**	**332**	*e*P	**Pn**	**23 50 38.6**	**-1.5**
SDLR	**Sedlovina**	**0.96**	**332**	PN	**Pn**	**23 50 38.6**	**-1.5**
SMAR	**Somma**	**0.97**	**329**	*e*P	**Pn**	**23 50 39.0**	**-1.3**
SMAR	**Somma**	**0.97**	**329**	PN	**Pn**	**23 50 39.0**	**-1.3**
AVH	**Avacha**	**1.00**	**327**	*e*P	**Pn**	**23 50 39.5**	**-0.9**
AVH	**Avacha**	**1.00**	**327**	PN	**Pn**	**23 50 39.5**	**-0.9**
KRMR	**Karymshinskiy**	**1.00**	**294**	*e*P	**Pn**	**23 50 40.1**	**-0.3**
KRMR				*e*S	**Sn**	**23 51 00.1**	**+6.2**
KRMR	**Karymshinskiy**	**1.00**	**294**	PN	**Pn**	**23 50 40.1**	**-0.3**
KRER	**Koryakskii**	**1.03**	**329**	*e*P	**Pn**	**23 50 40.6**	**-0.3**
KRER	**Koryakskii**	**1.03**	**329**	PN	**Pn**	**23 50 40.6**	**-0.3**
KOK	**Koryaka**	**1.05**	**325**	*e*P	**Pn**	**23 50 40.7**	**-0.5**
KOK	**Koryaka**	**1.05**	**325**	PN	**Pn**	**23 50 40.7**	**-0.5**
KRX	**Arik**	**1.10**	**328**	*e*P	**Pn**	**23 50 41.4**	**-0.5**
KRX	**Arik**	**1.10**	**328**	PN	**Pn**	**23 50 41.4**	**-0.5**
KDTR	**Khodutka, Kamc**	**1.14**	**238**	*e*P	**Pn**	**23 50 39.0**	**-3.2**
KDTR				*e*S	**Sn**	**23 50 58.3**	**+1.1**
KDTR	**Khodutka, Kamc**	**1.14**	**238**	PN	**Pn**	**23 50 39.0**	**-3.2**
KDTR				S	**Sn**	**23 50 58.3**	**+1.1**
I44RU	**PETROPAVLOVSK-**	**1.35**	**301**	Pn	**Pn**	**23 50 46.6**	**+1.7**
	baz=105,slow=21,SNR=1.3						
I44RU				Sn	Sn	23 51 10.1	+8.0
	baz=93,slow=30						
PETK	**Petropavlovsk-**	**1.36**	**301**	Pn	**Pn**	**23 50 44.6**	**-0.4**
	comp=N,236nm,0.3s,baz=104,slow=20,SNR=279						
PETK				Sn	Sn	23 51 10.4	+8.2
	comp=N,666nm,0.3s,baz=95,slow=18,SNR=3.5						
APC	**Apacha**	**1.58**	**289**	*e*P	**Pn**	**23 50 48.7**	**+0.7**
APC	**Apacha**	**1.58**	**289**	PN	**Pn**	**23 50 48.7**	**+0.7**
MKZ	**Mys Kozlova**	**2.47**	**30**	*e*P	Pn	23 50 52.7	-7.3
MKZ	**Mys Kozlova**	**2.47**	**30**	PN	Pn	23 50 52.7	-7.3
KZV	**Kizimen**	**2.72**	**8**	*e*P	**Pn**	**23 51 00.5**	**-3.0**
KZV	**Kizimen**	**2.72**	**8**	PN	**Pn**	**23 51 00.5**	**-3.0**
SKR	**Severo-Kuril's**	**2.81**	**233**	*e*P	**Pn**	**23 51 01.1**	**-3.4**
SKR	**Severo-Kuril's**	**2.81**	**233**	*e*PN	**Pn**	**23 51 01.2**	**-3.3**
SKR				*e*S	**Sn**	**23 51 39.9**	**+2.7**
SKR				pmax	pmax		
	comp=Z,407nm,0.5s						
SKR				smax	smax		
	comp=N,6μm,0.8s						
SKR				smax	smax		
	comp=E,9μm,0.7s						
SKR				MLR	MLR		
	comp=Z,5μm,14.0s						
TUMD	**Tumrok D**	**2.82**	**9**	*e*P	**Pn**	**23 51 00.2**	**-4.5**
TUMR	**Tumrok**	**2.88**	**6**	*e*P	**Pn**	**23 51 02.6**	**-3.0**
TUMR	**Tumrok**	**2.88**	**6**	PN	**Pn**	**23 51 02.6**	**-3.0**
ESO	**Esso**	**3.54**	**352**	*e*P	**Pn**	**23 51 14.3**	**-0.4**
ESO	**Esso**	**3.54**	**352**	PN	**Pn**	**23 51 14.3**	**-0.4**
BZMR	**Bezymyannaya**	**3.55**	**8**	*e*P	**Pn**	**23 51 17.2**	**+2.4**
BZMR	**Bezymyannaya**	**3.55**	**8**	PN	**Pn**	**23 51 17.2**	**+2.4**
KIRR	**Kirishev**	**3.56**	**6**	*e*P	**Pn**	**23 51 16.9**	**+2.0**
KIRR	**Kirishev**	**3.56**	**6**	PN	**Pn**	**23 51 16.9**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**3.57**	**10**	*e*P	**Pn**	**23 51 14.2**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**3.57**	**10**	PN	**Pn**	**23 51 14.2**	**-0.9**
KOZ	**Kozyrevsk**	**3.64**	**2**	*e*P	**Pn**	**23 51 15.1**	**-0.8**
KOZ	**Kozyrevsk**	**3.64**	**2**	PN	**Pn**	**23 51 15.1**	**-0.8**
SRDR	**Sredinnyy**	**3.90**	**1**	*e*P	**Pn**	**23 51 18.1**	**-1.4**
SRDR	**Sredinnyy**	**3.90**	**1**	PN	**Pn**	**23 51 18.1**	**-1.4**
MA2	**Magadan**	**8.71**	**329**	Pn	**Pn**	**23 52 27.4**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=165,slow=20,SNR=1.9						
TILK	**Tilichiki**	**8.80**	**22**	*e*P	**Pn**	**23 52 21.8**	**-4.6**
TILK	**Tilichiki**	**8.80**	**22**	PN	**Pn**	**23 52 21.8**	**-4.6**
TYV	**Tymovskoe**	**10.67**	**268**	*e*PN	Pn	23 53 00.2	+8.3
TYV				pmax	pmax		
	comp=Z,200nm,3.7s						
TYV				pmax	pmax		
	comp=Z,35nm,1.1s						
TYV				MLR	MLR		
	comp=Z,8μm,16.0s						
SEY	**Seymchan**	**11.21**	**343**	Pn	**Pn**	**23 52 57.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=133,slow=13,SNR=3.5						
NKL	**Nikolayevsk**	**11.50**	**281**	*e*PN	**Pn**	**23 53 05.8**	**+2.6**
UGL	**Uglegorsk**	**11.62**	**260**	*e*PN	Pn	23 53 10.9	+6.0
UGL				pmax	pmax		
	comp=Z,79nm,0.8s						
UGL				MLR	MLR		
	comp=Z,4μm,15.0s						
UGL				MLR	MLR		
	comp=E,4μm,14.0s						
YSS	**Yuzh-Sakhalins**	**12.21**	**250**	*e*PN	**Pn**	**23 53 15.4**	**+2.4**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
ASAJ	**Asahikawa**	**14.04**	**240**	Pn	**Pn**	**23 53 34.3**	**-3.4**
	comp=Z,2.0nm,0.3s,baz=69,slow=17,SNR=6.8						
GRNR	**Gornyy**	**14.51**	**273**	*e*P	**P**	**23 53 51.3**	**+2.7**
GRNR				pmax	pmax		
	comp=Z,70nm,1.2s						
ERM	**Erimo**	**15.25**	**233**	*e*Pn	**Pn**	**23 53 51.7**	**-1.6**
	comp=Z,98nm,1.3s						
ERM	**Erimo**	**15.25**	**233**	⇓*e*P	**Pn**	**23 53 47.2**	**-6.1**
BILL	**Bilibino**	**15.99**	**9**	*e*Pn	**Pn**	**23 54 02.6**	**0.0**
	comp=Z,59nm,0.9s						
BILL	**Bilibino**	**15.99**	**9**	*c*ePn	**Pn**	**23 54 02.5**	**0.0**
BILL				pmax	pmax		
	comp=Z,64nm,1.0s						
TEY	**Ternei**	**16.85**	**253**	⇓*e*P	**P**	**23 54 14.0**	**-0.5**
TEY				*e*S	**Sn**	**23 57 20.8**	**+1.1**
TEY				pmax	pmax		
	comp=N,10.0nm,1.7s						
TEY				pmax	pmax		
	comp=Z,20nm,1.5s						
TEY				MLR	MLR		
	comp=E,2μm,15.0s						
TEY				MLR	MLR		
	comp=N,2μm,16.0s						
TEY				MLR	MLR		
	comp=Z,2μm,15.0s						
KLR	**Kul'dur**	**17.85**	**271**	*de*P	**Pn**	**23 54 27.5**	**+1.8**
KLR	**Kul'dur**	**17.85**	**271**	P	**Pn**	**23 54 26.1**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=66,slow=7.5,SNR=23						
YAK	**Yakutsk**	**18.67**	**313**	*e*P	**P**	**23 54 32.6**	**-1.9**
YAK				*e*S	**Sn**	**23 58 00.5**	**-2.9**
YAK				pmax	pmax		
	comp=Z,448nm,1.1s						
YAK				pmax	pmax		
	comp=E,291nm,1.3s						
YAK				pmax	pmax		
	comp=N,105nm,1.0s						
YAK				smax	smax		
	comp=N,273nm,1.2s						
YAK				smax	smax		
	comp=E,522nm,1.7s						
YAK				MLR	MLR		
	comp=Z,7μm,18.0s						
YAK				MLR	MLR		
	comp=E,8μm,18.0s						
YAK				MLR	MLR		
	comp=N,11μm,16.0s						
ZEA	**Zeya**	**19.41**	**287**	*e*P	**P**	**23 54 41.2**	**-1.4**
ZEA				pmax	pmax		
	comp=E,35nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,35nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,6μm,15.0s						
ZEA				MLR	MLR		
	comp=E,4μm,14.0s						
USRK	**Ussuriysk Ar.**	**20.05**	**257**	P	**P**	**23 54 47.0**	**-2.6**
USRK	**Ussuriysk Ar.**	**20.05**	**257**	P	**P**	**23 54 46.9**

DL2	**Dalian**	**29.43 258**	P	P		23 56 24.1 +4.9
DL2			pmax	pmax		
	comp=Z,34nm,1.2s					
DL2			pmax	pmax		
	comp=Z,390nm,11.6s					
DL2			LR	LR		
	comp=Z,650nm,13.8s					
DL2			LR	LR		
	comp=Z,1μm,16.2s					
DL2			LR	LR		
	comp=Z,2μm,20.1s					
ILAR	**Eielson Array**	**29.48 44**	P	**P**		**23 56 15.3 -4.1**
	comp=Z,0.7nm,0.7s,baz=252,slow=7.3,SNR=6.4					
SCRK	**Sand Creek**	**30.79 46**	*e*P	**P**		**23 56 34.9 +3.7**
	comp=Z,11nm,1.1s					
H11N2	**WAKE ISLAND Hy**	**33.12 167**	T	T		00 32 49.4
	baz=352					
H11N3	**WAKE ISLAND Hy**	**33.14 167**	T	T		00 32 46.9
	baz=352					
H11N1	**WAKE ISLAND Hy**	**33.14 167**	T	T		00 32 53.8
	baz=352					
ULN	**Ulaanbaatar**	**33.38 284**	*e*P	**P**		**23 56 53.5 -0.5**
	comp=Z,12nm,0.9s					
ULN	**Ulaanbaatar**	**33.38 284**	⇓*e*P	**P**		**23 56 52.5 -1.5**
ULN			pmax	pmax		
	comp=Z,9.0nm,1.5s					
ULN	**Ulaanbaatar**	**33.38 284**	P	**P**		**23 56 51.4 -2.6**
	SNR=8.7					
EPYK	**Eagle Plains**	**33.58 41**	*e*P	**P**		**23 56 57.9 +2.5**
	comp=Z,11nm,0.9s					
TLY	**Talaya**	**33.70 292**	*e*P	**P**		**23 56 56.8 +0.2**
	comp=Z,31nm,1.1s					
TLY	**Talaya**	**33.70 292**	*de*P	**P**		**23 56 56.5 -0.1**
TLY	**Talaya**	**33.70 292**	P	**P**		**23 56 54.2 -2.4**
	SNR=5.9					
SONM	**Songino Array**	**33.78 284**	*e*P	**P**		**23 56 55.9 -1.6**
SONM	**Songino Array**	**33.78 284**	P	**P**		**23 56 56.7 -0.8**
	comp=Z,1.9nm,0.4s,baz=63,slow=7.8,SNR=38					
TIA	**Tai'an**	**33.89 258**	P	**P**		**23 57 02.3 +3.9**
TIA			pmax	pmax		
	comp=Z,36nm,0.9s					
H11S1	**WAKE ISLAND Hy**	**34.30 168**	T	T		00 34 31.9
	baz=352					
H11S3	**WAKE ISLAND Hy**	**34.31 168**	T	T		00 34 22.0
	baz=352					
H11S2	**WAKE ISLAND Hy**	**34.32 168**	T	T		00 34 24.8
	baz=352					
HHC	**Hu-ho-hao-te**	**34.36 270**	*e*P	**P**		**23 57 01.8 -0.7**
HHC			pP	pwP		23 57 19.5 -1.2
HHC			S	**S**		**00 02 23.8 -1.5**
HHC			PcS	**PcS**		**00 03 19.9 -3.5**
HHC			pmax	pmax		
	comp=Z,120nm,0.9s					
HHC			pmax	pmax		
	comp=Z,380nm,4.6s					
HHC			LR	LR		
	comp=Z,3μm,12.2s					
HHC			LR	LR		
	comp=Z,2μm,11.7s					
HHC			LR	LR		
	comp=Z,3μm,11.3s					
ZAK	**Zakamensk**	**34.45 290**	*e*P	**P**		**23 57 02.0 -1.3**
ZAK			pmax	pmax		
	comp=Z,24nm,1.1s					
INK	**Inuvik**	**34.57 37**	P	**P**		**23 57 00.4 -3.5**
	comp=Z,0.8nm,0.5s,baz=339,slow=6.9,SNR=5.1					
JOW	**Kunigami**	**34.70 235**	*e*P	**P**		**23 57 07.3 +1.8**
	comp=Z,26nm,1.0s					
MOY	**Mondy**	**35.21 293**	*e*P	**P**		**23 57 08.4 -1.4**
MOY			*e*			23 58 25.9
MOY			pmax	pmax		
	comp=Z,59nm,1.0s					
WHY	**Whitehorse**	**35.59 50**	*e*P	**P**		**23 57 15.3 +2.4**
	comp=Z,25nm,1.5s					
NJ2	**Nanjing**	**35.78 252**	*e*P	**P**		**23 57 14.3 -0.4**
NJ2			pmax	pmax		
	comp=Z,12nm,0.5s					
NJ2			LR	LR		
	comp=Z,2μm,21.0s					
NJ2			LR	LR		
	comp=Z,1μm,21.0s					
NJ2			LR	LR		
	comp=Z,2μm,14.0s					
NRIK	**Noril'sk**	**36.29 325**	P	**P**		**23 57 17.5 -1.1**
	comp=Z,9.1nm,0.6s,baz=86,slow=6.0,SNR=10					
DLBC	**Dease Lake**	**38.67 52**	P	**P**		**23 57 35.4 -3.6**
	comp=Z,1.4nm,0.3s,baz=239,slow=23,SNR=6.0					
WHN	**Wuhan**	**39.51 254**	⇑*i*P	P		23 57 51.8 +5.6
WHN			pmax	pmax		
	comp=Z,68nm,1.0s					
XAN	**Xi'an**	**40.31 263**	P	**P**		**23 57 56.3 +3.4**
XAN			pmax	pmax		
	comp=Z,4.0nm,0.9s					
YULB	**Yu-li**	**41.11 240**	*e*P	**P**		**23 58 02.5 +3.0**
	comp=Z,22nm,0.8s					
LZH	**Lanzhou**	**42.05 270**	*e*P	**P**		**23 58 07.0 -0.3**
LZH			pP	pwP		23 58 25.3 -0.8
LZH			sP	sP		23 58 34.9 +4.6
LZH			pmax	pmax		
	comp=Z,14nm,1.2s					
GTA	**Gaotai**	**42.40 277**	⇑P	**P**		**23 58 08.8 -1.2**
GTA			pmax	pmax		
	comp=Z,6.0nm,1.5s					
GTA			pmax	pmax		
	comp=Z,140nm,5.7s					
GTA			LR	LR		
	comp=Z,1μm,16.8s					
GTA			LR	LR		
	comp=Z,760nm,17.5s					
GTA			LR	LR		
	comp=Z,1μm,18.7s					
ZALV	**Zalesovo Beam**	**42.90 303**	*e*P	**P**		**23 58 11.1 -2.6**
ZALV	**Zalesovo Beam**	**42.90 303**	*e*P	**P**		**23 58 11.1 -2.6**
ZALV	**Zalesovo Beam**	**42.90 303**	P	**P**		**23 58 10.9 -2.8**
	comp=Z,1.5nm,0.4s,baz=52,slow=7.8,SNR=19					
NVS	**Novosibirsk**	**43.26 305**	*e*P	**P**		**23 58 15.1 -1.5**
NVS			*e*S	**S**		**00 04 36.6 -2.0**
NVS			pmax	pmax		
	comp=N,25nm,1.0s					
NVS			pmax	pmax		
	comp=Z,98nm,1.0s					
NVS			pmax	pmax		
	comp=E,62nm,1.0s					
NVS			smax	smax		
	comp=E,5.0nm,0.9s					
DGZ	**Jazzator, Alta**	**43.71 297**	*de*P	**P**		**23 58 19.5 -1.0**
DGZ			pmax	pmax		
	comp=Z,5.0nm,1.0s					
YKW3	**Yellowknife Ar**	**43.81 42**	*e*P	**P**		**23 58 23.1 +2.3**
	comp=Z,9.9nm,1.0s					
YKA	**Yellowknife Ar**	**43.84 42**	*e*P	**P**		**23 58 22.5 +1.3**
YKA	**Yellowknife Ar**	**43.84 42**	P	**P**		**23 58 17.4 -3.8**
	comp=Z,0.6nm,0.6s,baz=298,slow=7.9,SNR=7.3					
RES	**Resolute Bay**	**44.05 22**	P	**P**		**23 58 19.9 -2.7**
	comp=Z,1.0nm,0.7s,baz=316,slow=9.2,SNR=5.9					
CD2	**Chengdu**	**45.62 265**	P	**P**		**23 58 35.9 +0.1**
CD2			pmax	pmax		
	comp=Z,20nm,0.5s					
CD2			LR	LR		
	comp=Z,3μm,24.3s					
CD2			LR	LR		
	comp=Z,2μm,18.2s					
CD2			LR	LR		
	comp=Z,2μm,16.3s					
WMQ	**Urumqi**	**46.92 290**	*e*P	**P**		**23 58 44.8 -1.1**
WMQ			pmax	pmax		
	comp=Z,55nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,190nm,3.8s					
WMQ			LR	LR		
	comp=Z,4μm,17.1s					
WMQ			LR	LR		
	comp=Z,5μm,16.1s					
WMQ			LR	LR		
	comp=Z,8μm,17.1s					
GYA	**Guiyang**	**47.08 258**	⇑*i*P	P		23 58 52.4 +5.0
GYA			PP	**PP**		**00 00 42.0 +3.5**
GYA			S	**S**		**00 05 33.4 -1.2**
GYA			pmax	pmax		
	comp=Z,20nm,1.0s					
GYA			pmax	pmax		
	comp=Z,130nm,5.3s					
GYA			LR	LR		
	comp=Z,540nm,18.9s					
GYA			LR	LR		
	comp=Z,580nm,18.7s					
GYA			LR	LR		
	comp=Z,560nm,17.4s					
SPITS	**Spitsbergen Ar**	**47.74 350**	P	**P**		**23 58 50.4 -1.4**
	comp=Z,14nm,0.4s,baz=57,slow=9.1,SNR=123					
KURK	**Kurchatov**	**47.85 302**	*e*P	**P**		**23 58 50.4 -2.4**
	comp=Z,158nm,0.9s					
KURK	**Kurchatov**	**47.85 302**	*c i*P	**P**		**23 58 50.3 -2.5**
KURK			pmax	pmax		
	comp=Z,27nm,1.1s					
KURK	**Kurchatov**	**47.85 302**	P	**P**		**23 58 50.9 -2.0**
	SNR=33					
KURBB	**Kurchatov Arra**	**47.95 302**	P	**P**		**23 58 51.2 -2.4**
	comp=Z,8.1nm,0.6s,baz=59,slow=7.5,SNR=46					
MKAR	**Makanchi Array**	**48.19 296**	P	**P**		**23 58 53.5 -2.1**
	comp=Z,3.8nm,0.4s,baz=55,slow=6.8,SNR=86					
MAKZ	**Makanchi**	**48.35 296**	*e*P	**P**		**23 58 54.7 -2.1**
	comp=Z,56nm,1.0s					
MAKZ	**Makanchi**	**48.35 296**	*e*P	**P**		**23 58 54.7 -2.1**
MAKZ			pmax	pmax		
	comp=Z,56nm,1.0s					
HSPB	**Hornsund (broa**	**48.87 350**	*e*P	**P**		**23 59 04.6 +4.3**
KMI	**Kunming**	**50.43 260**	P	**P**		**23 59 13.3 +0.1**
KMI			pP	pP		23 59 29.8 +0.6
KMI			sP	sP		23 59 37.8 +1.5
KMI			S	**S**		**00 06 18.8 -3.1**
KMI			pmax	pmax		
	comp=Z,16nm,1.2s					
KMI			pmax	pmax		
	comp=Z,230nm,10.7s					
KMI			LR	LR		
	comp=Z,1μm,21.8s					
KMI			LR	LR		
	comp=Z,930nm,21.3s					
KMI			LR	LR		
	comp=Z,690nm,27.6s					
NEW	**Newport**	**50.48 59**	*e*P	**P**		**23 59 15.9 +2.8**
	comp=Z,10nm,1.1s					
BVAR	**Borovoye Array**	**50.58 309**	P	**P**		**23 59 11.9 -1.8**
	comp=Z,9.3nm,0.6s,baz=60,slow=7.9,SNR=50					
BRVK	**Borovoye**	**50.61 309**	*e*P	**P**		**23 59 12.2 -1.7**
	comp=Z,72nm,0.8s					
BRVK	**Borovoye**	**50.61 309**	*de*P	**P**		**23 59 11.9 -2.0**
BRVK			pmax	pmax		
	comp=Z,12nm,0.9s					
BRVK	**Borovoye**	**50.61 309**	P	**P**		**23 59 12.2 -1.7**
	SNR=23					
DAG	**Danmarks Havn**	**51.07 359**	P	**P**		**23 59 17.1 +0.1**
DAG			pmax	pmax		
	comp=Z,23nm,1.1s					
J05D	**Fort Rock, OR**	**51.36 67**	P	**P**		**23 59 22.2 +2.3**
	baz=310					
YBH	**Yreka Blue Hor**	**51.52 69**	P	**P**		**23 59 18.6 -2.4**
	comp=Z,1.5nm,0.8s,baz=243,slow=18,SNR=2.5					
PDGK	**Podgornoye**	**51.90 294**	P	**P**		**23 59 22.4 -1.4**
PDGK			pmax	pmax		
	comp=Z,21nm,1.0s					
BMO	**Blue Mountains**	**52.53 63**	*e*P	**P**		**23 59 31.3 +2.8**
	comp=Z,13nm,1.3s					
BMO	**Blue Mountains**	**52.53 63**	P	**P**		**23 59 31.3 +2.8**
BMO			pmax	pmax		
	comp=Z,13nm,1.2s					
SVE	**Sverdlovsk**	**52.57 317**	*e*P	**P**		**23 59 33.0 +4.6**
SVE			pmax	pmax		
	comp=Z,26nm,1.2s					
SLVN	**Son La**	**52.59 256**	*e*P	**P**		**23 59 30.0 +0.8**
	comp=Z,30nm,0.9s					
OTUK	**Ortayu**	**52.60 303**	P	**P**		**23 59 27.5 -1.3**
OTUK			pmax	pmax		
	comp=Z,26nm,1.1s					
MSO	**Missoula**	**53.06 59**	*e*P	**P**		**23 59 35.9 +3.6**
	comp=Z,13nm,1.1s					
LVZ	**Lovozero**	**53.20 337**	*e*P	**P**		**23 59 31.1 -1.8**
	comp=Z,172nm,1.0s					
LVZ	**Lovozero**	**53.20 337**	*e*P	**P**		**23 59 31.2 -1.8**
LVZ			pmax	pmax		
	comp=Z,172nm,1.0s					
KEV	**Kevo**	**53.35 341**	*e*P	**P**		**23 59 32.6 -1.4**
	comp=Z,50nm,0.9s					
KEV	**Kevo**	**53.35 341**	*e*P	**P**		**23 59 32.6 -1.4**
KEV			pmax	pmax		
	comp=Z,50nm,0.9s					
FFC	**Flin Flon**	**53.69 45**	*e*P	**P**		**23 59 39.3 +2.6**
	comp=Z,9.8nm,0.8s					
FFC	**Flin Flon**	**53.69 45**	*e*P	**P**		**23 59 39.3 +2.6**
FFC			pmax	pmax		
	comp=Z,10.0nm,0.8s					
ARU	**Arti**	**53.70 317**	*de*P	**P**		**23 59 34.9 -1.8**
ARU			pmax	pmax		
	comp=Z,6.0nm,1.1s					
ARU	**Arti**	**53.70 317**	P	**P**		**23 59 34.8 -1.9**
	comp=Z,3.9nm,0.4s,baz=70,slow=5.5,SNR=28					
ARCES	**ARCESS Array B**	**53.83 342**	P	**P**		**23 59 35.3 -2.2**
	comp=Z,6.9nm,0.6s,baz=46,slow=8.5,SNR=30					
ARCES			LR	LR		00 29 47.2
	comp=Z,542nm,18.2s,baz=358,slow=44					
BEKR	**Beckworth**	**54.09 69**	*e*P	**P**		**23 59 43.7 +3.6**
	comp=Z,25nm,1.4s					
FCC	**Fort Churchill**	**54.18 38**	*e*P	**P**		**23 59 42.2 +2.1**
	comp=Z,34nm,1.4s					
FCC	**Fort Churchill**	**54.18 38**	*e*P	**P**		**23 59 42.2 +2.1**
FCC			pmax	pmax		
	comp=Z,34nm,1.4s					
SUMG	**Summit**	**54.65 7**	*e*P	**P**		**23 59 44.4 +0.5**
	comp=Z,96nm,0.9s					
SUMG	**Summit**	**54.65 7**	*e*P	**P**		**23 59 44.4 +0.5**
SUMG			pmax	pmax		
	comp=Z,96nm,0.9s					
PRGR	**Permogore**	**54.85 328**	⇓*i*P	**P**		**23 59 44.0 -1.0**
PRGR			pmax	pmax		
	comp=Z,79nm,1.3s					
PNTR	**Pine Nut**	**55.05 70**	*e*P	**P**		**23 59 51.0 +3.9**
	comp=Z,19nm,0.8s					
BOZ	**Bozeman (W)**	**55.08 59**	P	**P**		**23 59 49.7 +2.5**
	baz=312					
AAK	**Ala-Archa**	**55.12 296**	*e*P	**P**		**23 59 46.1 -1.3**
	comp=Z,60nm,1.0s					
AAK	**Ala-Archa**	**55.12 296**	*i* P	**P**		**23 59 46.1 -1.3**
	SNR=24					
AAK	**Ala-Archa**	**55.12 296**	*ce*P	**P**		**23 59 45.6 -1.8**
AAK			pmax	pmax		
	comp=Z,8.0nm,1.0s					
AAK	**Ala-Archa**	**55.12 296**	P	**P**		**23 59 46.0 -1.4**
	SNR=17					
TMCR	**Tamitsa**	**55.24 333**	*e*P	**P**		**23 59 47.5 -0.3**
TMCR			pmax	pmax		
	comp=Z,153nm,1.0s					
CMB	**Columbia Colle**	**55.31 71**	*e*P	**P**		**23 59 52.7 +4.0**
	comp=Z,9.3nm,1.0s					
YERR	**Yerington**	**55.32 69**	*e*P	**P**		**23 59 52.7 +3.7**
	comp=Z,13nm,0.9s					
SGF	**Sodankyl**	**55.39 340**	P	**P**		**23 59 49.6 +0.8**
SGF			pmax	pmax		
	comp=Z,49nm,1.1s					
KIRV	**Kirov**	**55.76 324**	P	**P**		**23 59 50.6 -0.9**
	comp=Z,30nm,0.5s,baz=48,slow=4.5,SNR=11					
SKNT	**Sakolnakorn**	**55.94 252**	P	P		23 59 58.3 +4.9
	comp=Z,40nm,1.2s					
GCMT	**Greycliff**	**55.97 58**	*e*P	**P**		**23 59 56.6 +3.1**
YHH	**Holmes Hill**	**56.03 59**	*e*P	**P**		**23 59 56.6 +2.5**
	comp=Z,7.4nm,0.9s					
MSF	**Maaselka**	**56.12 338**	P	**P**		**23 59 53.6 -0.5**
MSF			pmax	pmax		
	comp=Z,183nm,1.1s					
NVAR	**Mina Array Bea**	**56.24 69**	*e*P	**P**		**23 59 57.9 +2.3**
NVAR	**Mina Array Bea**	**56.24 69**	P	**P**		**23 59 52.2 -3.4**
	comp=Z,0.7nm,0.4s,baz=343,slow=8.2,SNR=3.5					
NV11	**Mina Array Sit**	**56.32 69**	*e*P	**P**		**00 00 00.0 +3.9**
	comp=Z,1.2nm,1.1s					
KSH	**Kashi**	**56.40 293**	P	P		00 00 04.3 +7.7
KSH			pP	sP		00 00 20.8 +0.6
KSH			PP	**PP**		**00 02 08.3 +5.9**
KSH			S	**S**		**00 07 42.3 0.0**
KSH			SS	**SS**		**00 11 30.0 +0.5**
KSH			pmax	pmax		
	comp=Z,30nm,1.0s					
KSH			pmax	pmax		
	comp=Z,250nm,4.7s					
KSH			LR	LR		
	comp=Z,680nm,6.8s					
KSH			LR	LR		
	comp=Z,640nm,8.1s					
KSH			LR	LR		
	comp=Z,1μm,9.1s					
PAYA	**Payao**	**56.52 258**	P	P		00 00 03.2 +5.7
	comp=Z,562μmcomp=Z,58μm,0.9s					
FLWY	**Flagg Ranch**	**56.59 60**	*e*P	**P**		**00 00 01.0 +3.0**
	comp=Z,48nm,1.7s					
RLMT	**Red Lodge**	**56.63 58**	P	**P**		**00 00 01.7 +3.4**
	baz=314					
MOOW	**Moose Ponds**	**56.79 60**	*e*P	**P**		**00 00 02.8 +3.3**
	comp=Z,5.5nm,1.0s					
KKAR	**Karatay Array**	**56.96 299**	*e*P	**P**		**23 59 58.0 -2.3**
KKAR	**Karatay Array**	**56.96 299**	*e*P	**P**		**23 59 58.1 -2.3**
HVU	**Hansel Valley**	**57.04 63**	*e*P	**P**		**00 00 04.7 +3.5**
	comp=Z,13nm,1.0s					
HVU	**Hansel Valley**	**57.04 63**	P	**P**		**00 00 04.7 +3.5**
HVU			pmax	pmax		
	comp=Z,13nm,1.0s					
KHON	**Khomkaen**	**57.12 253**	P	P		00 00 08.3 +6.5
LAMP	**Lampang**	**57.31 258**	P	**P**		**00 00 05.3 +2.2**
	comp=Z,427μmcomp=Z,48μm,1.0s					
UTTA	**Uttaradit**	**57.36 256**	P	**P**		**00 00 04.8 +1.4**
	comp=Z,382μmcomp=Z,49μm,0.9s					
KLMR	**Klimovskoe**	**57.38 330**	*e*P	**P**		**00 00 01.6 -1.4**
KLMR			pmax	pmax		
	comp=Z,59nm,0.8s					
SCO	**Scoresbysund**	**57.39 1**	*e*P	**P**		**00 00 04.1 +1.2**
	comp=Z,29nm,1.4s					
SCO	**Scoresbysund**	**57.39 1**	*e*P	**P**		**00 00 04.1 +1.2**
SCO			pmax	pmax		
	comp=Z,29nm,1.4s					
CHTO	**Chiang Mai**	**57.49 258**	*e*P	**P**		**00 00 04.5 +0.1**
	comp=Z,72nm,1.0s					
CHTO	**Chiang Mai**	**57.49 258**	*e*P	**P**		**00 00 04.5 +0.1**
CHTO			pmax	pmax		
	comp=Z,72nm,1.0s					
OUL	**Oulu**	**57.53 339**	P	**P**		**00 00 03.2 -0.8**
OUL			pmax	pmax		
	comp=Z,134nm,1.0s					
CMAR	**Chiang Mai Arr**	**57.77 258**	*e*P	**P**		**00 00 05.6 -0.8**
CMAR	**Chiang Mai Arr**	**57.77 258**	*e*P	**P**		**00 00 05.6 -0.8**
CMAR	**Chiang Mai Arr**	**57.77 258**	P	**P**		**00 00 04.7 -1.6**
	comp=Z,1.9nm,0.5s,baz=25,slow=6.8,SNR=17					
HWUT	**Hardware Ranch**	**57.82 62**	*e*P	**P**		**00 00 10.1 +3.4**
	comp=Z,13nm,1.2s					
CHAI	**Chaiyaphum**	**57.95 254**	P	P		00 00 13.0 +5.3
	comp=Z,34μm,1.1s					
PBKT	**Sadao Pong**	**58.03 255**	P	P		00 00 13.3 +5.2
	comp=Z,9.0nm,1.3s					
AKTO	**Aktyubinsk**	**58.06 312**	P	**P**		**00 00 06.2 -1.8**
	comp=Z,6.8nm,0.5s,baz=71,slow=8.9,SNR=24					
PD31	**Pinedale Array**	**58.09 60**	*e*P	**P**		**00 00 11.9 +3.3**
	comp=Z,11nm,0.9s					
PDAR	**Pinedale Array**	**58.09 60**	P	**P**		**00 00 05.3 -3.4**
	comp=Z,1.0nm,0.7s,baz=314,slow=2.3,SNR=9.5					
FRB	**Frobisher Bay**	**58.23 23**	P	**P**		**00 00 07.2 -1.7**
FURC	**Furnace Creek,**	**58.42 70**	P	**P**		**00 00 12.7 +2.0**
	baz=315					
ODAN	**Odare**	**58.52 274**	*e*P	**P**		**00 00 11.1 -0.7**
JIRN	**Jiri**	**58.67 276**	*e*P	**P**		**00 00 12.2 -0.8**
PSUT	**Pine Spring**	**58.69 66**	*e*P	**P**		**00 00 16.4 +3.6**
	comp=Z,6.9nm,1.0s					
SFJD	**Kangerlussuaq**	**58.73 13**	*e*P	**P**		**00 00 14.8 +2.4**
	comp=Z,34nm,1.1s					
SFJD	**Kangerlussuaq**	**58.73 13**	*e*P	**P**		**00 00 14.8 +2.4**
SFJD			pmax	pmax		
	comp=Z,35nm,1.1s					
RAMN	**Ramite**	**58.94 275**	*e*P	**P**		**00 00 13.1 -1.6**
KKN	**Kakani**	**59.13 276**	*e*P	**P**		**00 00 15.2 -0.8**
PKI	**Pulchoki**	**59.22 276**	*e*P	**P**		**00 00 16.2 -0.5**
PKIN	**Phulchoki**	**59.22 276**	*e*P	**P**		**00 00 15.8 -0.9**
SHPR	**Sheep Range**	**59.37 69**	*e*P	**P**		**00 00 21.7 +4.2**
	comp=Z,31nm,1.9s					
DMN	**Daman**	**59.37 276**	*e*P	**P**		**00 00 16.5 -1.2**
ULM	**Lac du Bonnet**	**59.48 46**	P	**P**		**00 00 15.2 -2.6**
	comp=Z,2.7nm,0.5s,baz=314,slow=6.9,SNR=5.4					
UMPA	**Umpang Tak**	**59.56 257**	P	P		00 00 26.3 +7.4
	comp=Z,71μm,1.0s					
DANN	**Dangsing**	**59.65 278**	*e*P	**P**		**00 00 18.9 -0.8**
KOLN	**Koldanda**	**60.17 278**	*e*P	**P**		**00 00 22.0 -1.2**
GMRC	**Granite Mounta**	**60.30 71**	P	**P**		**00 00 26.9 +3.0**
	baz=316					
PYUN	**Piuthan**	**60.30 278**	*e*P	**P**		**00 00 22.9 -1.1**
FIA1	**FINESS Array S**	**60.62 336**	*e*P	**P**		**00 00 24.0 -1.4**
FINES	**FINESS Array B**	**60.62 336**	P	**P**		**00 00 24.1 -1.4**
	comp=Z,13nm,0.5s,baz=34,slow=8.2,SNR=150					
PUL	**Pulkovo**	**60.94 333**	⇑*e*P	**P**		**00 00 25.3 -2.3**
PUL			pmax	pmax		
	comp=Z,26nm,0.7s					
IRM	**Iron Mountain**	**61.04 71**	P	**P**		**00 00 31.4 +2.6**
	baz=316					
PV18	**Skein Mesa, Pa**	**61.63 63**	*e*P	**P**		**00 00 36.7 +3.8**
	comp=Z,24nm,1.0s					
PHET	**Kaeng Krachan**	**61.70 254**	P	P		00 00 39.5 +6.1
	comp=Z,742μmcomp=Z,100μm,0.9s					
PV13	**Radium Mtn., P**	**61.74 63**	*e*P	**P**		**00 00 36.9 +3.2**
	comp=Z,25nm,1.0s					
MOS	**Moscow**	**62.06 327**	*e*P	**P**		**00 00 32.9 -2.3**
MOS			pmax	pmax		
	comp=Z,44nm,1.1s					
NIL	**Nilore**	**62.07 290**	*e*P	**P**		**00 00 34.9 -0.8**
	comp=Z,124nm,0.8s					
NIL	**Nilore**	**62.07 290**	*e*P	**P**		**00 00 34.9 -0.8**
NIL			pmax	pmax		
	comp=Z,124nm,0.8s					
WUAZ	**Wupatki**	**62.22 67**	P	**P**		**00 00 38.4 +1.6**
	baz=317					
ISCO	**Idaho Springs**	**62.29 60**	*e*P	**P**		**00 00 39.5 +2.1**
	comp=Z,12nm,0.9s					
ISCO	**Idaho Springs**	**62.29 60**	P	**P**		**00 00 39.6 +2.1**
ISCO			pmax	pmax		
	comp=Z,12nm,1.0s					
MVCO	**Mesa Verde**	**62.60 64**	*e*P	**P**		**00 00 42.7 +3.2**
	comp=Z,50nm,1.8s					
MVCO	**Mesa Verde**	**62.60 64**	P	**P**		**00 00 41.9 +2.4**
	baz=317					
OBN	**Obninsk**	**62.92 327**	*e*P	**P**		**00 00 40.4 -0.6**
	comp=Z,93nm,1.0s					
OBN	**Obninsk**	**62.92 327**	*de*P	**P**		**00 00 39.7 -1.3**
OBN			pmax	pmax		
	comp=Z,21nm,1.4s					
OBN	**Obninsk**	**62.92 327**	P	**P**		**00 00 39.8 -1.1**
	comp=Z,2.8nm,0.6s,baz=38,slow=6.4,SNR=10					
VSU	**Vasula**	**63.03 334**	*ce*P	**P**		**00 00 40.3 -1.3**
VSU			pmax	pmax		
	comp=Z,38nm,1.1s					
VSU	**Vasula**	**63.03 334**	*e*P	**P**		**00 00 40.2 -1.4**
VSU			IAmb	IAmb		00 00 47.5
	comp=Z,124nm,0.9s					
KBL	**Kabul**	**63.83 293**	*e*P	**P**		**00 00 46.8 -0.8**
	comp=Z,38nm,0.9s					
KBL	**Kabul**	**63.83 293**	*e*P	**P**		**00 00 46.8 -0.8**
KBL			pmax	pmax		
	comp=Z,38nm,0.9s					
SDCO	**Great Sand Dun**	**63.85 62**	P	**P**		**00 00 50.1 +2.3**
	baz=318					
NB2	**NORSAR Subarra**	**64.10 344**	P	**P**		**00 00 47.7 -1.0**
	comp=Z,8.1nm,0.4s,baz=21,slow=6.9					
NB2	**NORSAR Subarra**	**64.10 344**	P	**P**		**00 00 45.0 -3.7**
NB2			pmax	pmax		
	comp=Z,6.0nm,0.3s					
NOA	**NORSAR Array B**	**64.10 344**	P	**P**		**00 00 47.1 -1.6**
	comp=Z,1.5nm,0.5s,baz=14,slow=5.5,SNR=22					
LPSR	**Galich'ya Gora**	**64.16 324**	*e*P	**P**		**00 00 47.7 -1.5**
LPSR			pmax	pmax		
	comp=Z,10.0nm,0.6s					
VRH	**Novokhopyorsk**	**64.26 322**	*e*P	**P**		**00 00 48.3 -1.6**
VRH			pmax	pmax		
	comp=Z,60nm,1.6s					
NORES	**NORESS Array B**	**64.33 343**	P	**P**		**00 00 49.0 -1.2**
HFS	**Hagfors**	**64.49 342**	P	**P**		**00 00 50.1 -1.2**
	comp=Z,6.5nm,0.4s,baz=40,slow=4.8,SNR=63					
TUC	**Tucson**	**64.89 69**	P	**P**		**00 00 57.4 +3.0**
	baz=318					
**SLI

comp=Z,18nm,0.7s
NACGM **Naroch** 66.11 332 *e* P P 00 01 05.0 +3.2
MICGM **Minsk** 66.14 332 *e* P P 00 01 03.0 +1.0
MNK **Minsk** 66.14 332 *eP* P P 00 01 03.0 +1.0
PABE **Paberze** 66.36 334 *eP* P P 00 01 01.8 -1.5
PABE IAmb IAmb 00 01 09.1
comp=Z,121nm,1.2s
PBUR **Paburg** 66.42 336 *eP* P P 00 01 01.7 -2.0
PBUR IAmb IAmb 00 01 08.2
comp=Z,130nm,1.4s
GEYT **Alibeck** 67.21 303 P P P 00 01 07.6 -1.5
comp=Z,4.7nm,0.3s,baz=27,slow=3.6,SNR=7.9
MATQ **Matagami** 67.23 36 P P P 00 01 10.2 +1.3
baz=327
D47A **Chapleau** 67.35 41 P P P 00 01 10.9 +1.1
baz=324
E46A **Sault Ste Mari** 67.41 42 P P P 00 01 11.6 +1.4
baz=324
I43A **Langenfeld Bro** 67.75 46 P P P 00 01 13.9 +1.5
baz=323
E48A **Lockeyer** 68.19 41 P P P 00 01 14.5 -0.7
baz=325
CHGQ **Chibougamau** 68.25 34 P P P 00 01 16.0 +0.6
baz=328
F48A **Evansville** 68.54 42 P P P 00 01 17.1 -0.2
baz=325
E50A **Wahnapitae** 68.81 40 P P P 00 01 19.8 +0.8
baz=326
F49A **Sandfield** 68.83 41 P P P 00 01 20.0 +0.9
baz=325
N41A **Harden Midland** 69.01 50 P P P 00 01 20.6 +0.3
baz=322
AKASG **Malin Array Be** 69.04 329 *eP* P P 00 01 19.0 -1.3
AKASG **Malin Array Be** 69.04 329 *eP* P P 00 01 19.0 -1.3
AKASG **Malin Array Be** 69.04 329 P P P 00 01 18.4 -1.9
comp=Z,8.7nm,0.4s,baz=31,slow=6.9,SNR=46
KIEV **Kiev** 69.05 329 *eP* P P 00 01 18.2 -2.2
comp=Z,133nm,1.3s
KIEV **Kiev** 69.05 329⇑*iP* P P 00 01 19.0 -1.3
KIEV **Kiev** 69.05 329 *i P* P P 00 01 18.8 -1.5
SNR=30
KIEV **Kiev** 69.05 329*cePP* P 00 01 18.3 -2.0
KIEV pmax pmax
comp=Z,15nm,1.3s
D53A **Lac Vacive, Po** 69.44 38 P P P 00 01 23.8 +1.0
baz=327
WMOK **Wichita Mounta** 69.69 59 *eP* P P 00 01 27.0 +2.4
comp=Z,12nm,1.0s
WMOK **Wichita Mounta** 69.69 59 *eP* P P 00 01 27.0 +2.4
WMOK pmax pmax
comp=Z,12nm,1.0s
KIV **Kislovodsk** 69.73 317 *eP* P P 00 01 26.0 +1.2
comp=Z,15nm,0.8s
KIV **Kislovodsk** 69.73 317⇑*iP* P P 00 01 24.9 +0.1
KIV **Kislovodsk** 69.73 317 *eP* P P 00 01 24.4 -0.4
KIV pmax pmax
comp=Z,24nm,1.1s
RGN **Rugen** 69.77 340 *eP* P P 00 01 25.2 +0.5
comp=Z,101nm,0.8s
M44A **Midewin, Midew** 69.77 48 *eP* P P 00 01 27.2 +2.2
comp=Z,33nm,1.4s
KBZ **Khabaz** 69.82 316 P P P 00 01 24.1 -1.1
comp=Z,2.0nm,0.5s,baz=106,slow=3.3,SNR=8.2
F52A **Sundridge** 69.88 40 P P P 00 01 26.4 +0.8
baz=327
BMRO **Meriville Lake** 70.12 42 P P P 00 01 27.3 +0.2
baz=326
ZEI **Tsey** 70.16 315 *eP* P P 00 01 24.5 -3.1
ZEI pmax pmax
comp=Z,9.0nm,0.8s
E54A **Lac Daplat, Po** 70.17 38 P P P 00 01 27.6 +0.3
baz=328
ALGO **Algonquin Park** 70.24 39 P P P 00 01 28.8 +1.0
baz=327
NEY **Neytrino** 70.29 316⇓*eP* P P 00 01 24.9 -3.5
PEMO **Pembroke** 70.78 38 P P P 00 01 31.6 +0.6
baz=328
HYB **Hyderabad** 70.98 274 *i P* P P 00 01 32.5 -0.2
comp=Z,38nm,0.8s
HYB *e* 00 01 36.5
S41A **Jillco Farms,** 71.04 53 P P P 00 01 33.7 +0.9
baz=323
TXAR **Lajitas Array** 71.16 66 P P P 00 01 29.9 -3.8
comp=Z,1.0nm,0.6s,baz=305,slow=6.3,SNR=15
LVV **L'vov** 71.40 331 *eP* P P 00 01 33.6 -1.1
AKH **Akhalkalaki** 71.45 315⇑*iP* P P 00 01 36.1 +0.6
U40A **Yellville** 71.47 54 P P P 00 01 36.7 +1.3
baz=323
N48A **Decatur** 71.55 46 P P P 00 01 36.9 +1.0
baz=325
EKA **Eskdalemuir Ar** 71.66 350 P P P 00 01 34.9 -1.3
comp=Z,3.1nm,0.5s,baz=17,slow=5.1,SNR=24
ESK **Eskdalemuir** 71.68 350 *eP* P P 00 01 36.9 +0.6
comp=Z,33nm,0.9s
ESK **Eskdalemuir** 71.68 350 *i P* P P 00 01 37.7 +1.4
ALFO **Alfred** 71.71 37 P P P 00 01 37.9 +1.3
baz=329
H55A **Tweed** 71.75 39 P P P 00 01 37.9 +1.0
baz=328
GNI **Garni** 71.92 313 *eP* P P 00 01 39.4 +1.1
comp=Z,28nm,0.8s
GNI **Garni** 71.92 313⇓*eP* P P 00 01 38.4 +0.1
GNI pmax pmax
comp=Z,72nm,1.6s
GNI **Garni** 71.92 313 P P P 00 01 36.5 -1.8
comp=Z,3.3nm,0.6s,baz=163,slow=7.7,SNR=7.7
KWP **Kalwaria Pacla** 71.95 332 *eP* P P 00 01 37.6 -0.5
BATM **Batumi** 72.07 316⇓*iP* P P 00 01 41.8 +2.9
OJC **Ojcow** 72.22 334 *eP* P P 00 01 39.2 -0.5
BCA **Borcka** 72.23 316⇓*iP* P P 00 01 43.4 +3.5
SIM **Simferopol'** 72.30 323 *eP* P P 00 01 40.0 -0.2
SIM pmax pmax
comp=Z,11nm,0.9s
IDGL **Inch Island, C** 72.33 352 *eP* P P 00 01 38.8 -1.4
KIS **Kishinev** 72.39 327 *eP* P P 00 01 33.0 -7.7
KIS **Kishinev** 72.39 327 *eP* P P 00 01 33.0 -7.7
KIS *e* 00 01 44.0
MIAR **Mount Ida** 72.53 56 P P P 00 01 43.1 +1.3
baz=323
KSP **Ksiaz** 72.54 337 *eP* P P 00 01 40.4 -1.2
IAS **Iasi** 72.64 328⇑*iP* P P 00 01 45.9 +3.7
IAS **Iasi** 72.64 328 ⇑P P P 00 01 45.9 +3.7
W41B **Gary Mavity, V** 72.70 55 P P P 00 01 44.3 +1.6
baz=323
NIE **Niedzica** 72.81 334 *eP* P P 00 01 42.7 -0.6
CLL **Collm** 72.87 339 *eP* P P 00 01 42.0 -1.5
CLL pmax pmax
comp=Z,26nm,1.0s
CLL **Collm** 72.87 339 *eP* P P 00 01 44.0 +0.5
CLL ⇓*iP*(2) 00 01 47.9
comp=Z,26nm,1.0s
PRAR **RASCA** 72.91 329⇑*iP* P P 00 01 48.3 +4.4
UPC **Upice** 72.92 337 *eP* P P 00 01 44.2 +0.4
UPC **Upice** 72.92 337 *eP* P P 00 01 44.2 +0.4
UPC *ex* x 00 01 48.8
UZH **Uzhgorod** 72.97 332 *eP* P P 00 01 42.0 -2.1
UZH *e* 00 01 56.1
UZH *e* 00 02 01.4
DPC **Dobruska-Polom** 72.99 336 *eP* P P 00 01 44.0 -0.3
DPC **Dobruska-Polom** 72.99 336 *eP* P P 00 01 44.0 -0.3
DPC *ex* x 00 01 49.3
OKC **Ostrava-Krasne** 73.00 335 *eP* P P 00 01 44.3 0.0
OKC **Ostrava-Krasne** 73.00 335 *eP* P P 00 01 44.3 0.0
OKC *ex* x 00 01 49.6
BURAR **Bucovina Array** 73.01 330 *eP* P P 00 01 40.9 -3.7
BURAR **Bucovina Array** 73.01 330⇑*iP* P P 00 01 45.0 +0.5
BURAR **Bucovina Array** 73.01 330 ⇑P P P 00 01 45.0 +0.5
BRG **Berggiesshubel** 73.07 338 *eP* P P 00 01 43.0 -1.6
comp=Z,19nm,1.9s
BRG *e* 00 01 48.3
comp=Z,13nm,1.2s
BRG **Berggiesshubel** 73.07 338 *eP* P P 00 01 43.0 -1.6
BRG pmax pmax
comp=Z,19nm,1.9s
MORC **Moravsky Berou** 73.21 335⇑*iP* P P 00 01 51.1 +5.5
MORC **Moravsky Berou** 73.21 335 ⇑P P P 00 01 51.1 +5.5
MORC **Moravsky Berou** 73.21 335 *eP* P P 00 01 50.0 +4.4
M54A **Oil Creek Stat** 73.31 42 P P P 00 01 47.8 +1.5
baz=327
TRPA **Tarpa** 73.35 332⇑*iP* P P 00 01 46.4 0.0
BMR **Baia Mare** 73.48 331⇑*iP* P P 00 01 46.7 -0.4
BMR **Baia Mare** 73.48 331 ⇑P P P 00 01 46.7 -0.4
WTSB **Winterswijk** 73.49 343 *eP* P P 00 01 44.2 -3.0
comp=Z,38nm,1.1s
TESR **Tescani** 73.53 328⇑*iP* P P 00 01 47.1 -0.4

O52A **Adamsville** 73.55 45 P P P 00 01 50.0 +2.3
baz=326
N54A **Moraine State** 73.63 43 P P P 00 01 49.7 +1.5
baz=327
O53A **New Philadelph** 73.71 44 P P P 00 01 49.7 +1.0
baz=327
ARCR **ARCALIA** 73.74 330⇑*iP* P 00 01 54.5 +5.8
PRU **Pruhonice** 73.75 337 *eP* P P 00 01 49.4 +0.7
PRU **Pruhonice** 73.75 337 *eP* P P 00 01 49.4 +0.7
PRU *ex* x 00 01 53.6
VRAC **Vranov** 73.89 336⇑*iP* P 00 01 55.2 +5.7
VRAC **Vranov** 73.89 336 *eP* P P 00 01 54.2 +4.7
VRAC **Vranov** 73.89 336 P P P 00 01 48.4 -1.2
comp=Z,1.5nm,0.4s,baz=53,slow=8.5,SNR=6.5
S49A **Springfield** 73.94 48 P P P 00 01 51.1 +1.1
baz=325
TLCR 73.98 326⇓*iP* P P 00 01 49.2 -0.9
TLCR 73.98 326 ⇓P P P 00 01 49.2 -0.9
NKC **Novy Kostel** 74.00 339 *eP* P P 00 01 54.5 +4.3
NKC **Novy Kostel** 74.00 339 *eP* P P 00 01 54.5 +4.3
JAVC **Velka Javorina** 74.03 335 *eP* P 00 01 55.9 +5.5
DSB **Dublin** 74.05 351 *eP* P P 00 01 48.8 -1.6
ODBI **Odobesti** 74.06 328⇑*iP* P P 00 01 52.4 +1.8
VRI **Vrincioaia** 74.08 328⇓*iP* P P 00 01 51.3 +0.6
VRI **Vrincioaia** 74.08 328 ⇓P P P 00 01 51.3 +0.6
WVT **Waverly** 74.09 51 *eP* P P 00 01 52.0 +1.1
comp=Z,12nm,0.8s
WVT **Waverly** 74.09 51 *eP* P P 00 01 52.0 +1.1
WVT pmax pmax
comp=Z,12nm,0.8s
PLOR **Plostina** 74.12 328⇑*iP* P P 00 01 50.8 -0.2
PLOR **Plostina** 74.12 328 ⇑P P P 00 01 50.8 -0.2
KRUC **Moravsky** 74.16 336 *eP* P P 00 01 55.4 +4.3
TREC **Trest** 74.17 337 *eP* P P 00 01 51.5 +0.3
TREC **Trest** 74.17 337 *eP* P P 00 01 51.5 +0.3
TREC *ex* x 00 01 56.2
OZUR 74.18 329⇑*iP* P P 00 01 48.3 -3.0
N55A **Marion Center** 74.20 42 P P P 00 01 51.6 0.0
baz=328
CFR **Carcaliu** 74.22 327⇑*iP* P P 00 01 51.1 -0.4
CFR **Carcaliu** 74.22 327 ⇑P P P 00 01 51.1 -0.4
PSZ **Piszkesteto** 74.29 333⇑*iP* P P 00 01 53.6 +1.6
PSZ **Piszkesteto** 74.29 333 ⇑P P P 00 01 53.6 +1.6
CJR **Cluj-Napoca** 74.31 330⇑*iP* P P 00 01 51.5 -0.6
CJR **Cluj-Napoca** 74.31 330 ⇑P P P 00 01 51.5 -0.6
BISRR **Bisoca** 74.36 328⇑*iP* P 00 01 46.4 -6.1
DOPR **Dopca** 74.42 329⇑*iP* P P 00 01 53.4 +0.7
DZM **Mont Dzumac** 74.42 173 *e*LR LR 00 25 24.2
comp=Z,453nm,23.6s
DRGR 74.50 331⇑*iP* P P 00 01 53.1 -0.2
DRGR 74.50 331 ⇑P P P 00 01 53.1 -0.2
O55A **Ligonier** 74.55 43 P P P 00 01 50.7 -2.8
baz=328
P54A **Burton** 74.56 44 P P P 00 01 55.3 +1.7
baz=327
MLR **Muntele Rosu** 74.66 328⇑*iP* P P 00 01 55.3 +1.0
MLR **Muntele Rosu** 74.66 328 P P P 00 01 53.9 -0.4
comp=Z,6.5nm,0.5s,baz=331,slow=5.1,SNR=39
DIKM **Dikmen** 74.67 320⇑*iP* P P 00 01 58.3 +4.1
U49A **Red Boiling Sp** 74.75 49 P P P 00 01 56.4 +1.7
baz=325
TLB **Topalu** 74.77 326⇑*iP* P P 00 01 53.8 -0.9
TLB **Topalu** 74.77 326 ⇑P P P 00 01 53.8 -0.9
SSPA **Standing Stone** 74.77 42 *eP* P P 00 01 56.4 +1.6
SSPA **Standing Stone** 74.77 42 P P P 00 01 52.5 -2.3
baz=328
KHC **Kasperske Hory** 74.78 338 *eP* P P 00 01 54.5 -0.3
KHC **Kasperske Hory** 74.78 338 *eP* P P 00 01 54.5 -0.3
KHC *ex* x 00 01 59.7
HGN **Heimansgroeve** 74.80 343 *eP* P P 00 01 53.7 -1.1
comp=Z,81nm,1.2s
O56A **Blue Knob Stat** 74.80 42 P P P 00 01 56.0 +0.9
baz=328
MEM **Membach** 74.94 343 ⇓P P P 00 01 56.3 +0.7
comp=Z,51nm,1.0s
VOIR 75.00 329⇑*iP* P P 00 01 56.7 +0.6
VOIR 75.00 329 ⇑P P P 00 01 56.7 +0.6
GERES **GERESS Array B** 75.02 337 *eP* P P 00 01 55.0 -1.2
GERES **GERESS Array B** 75.02 337 P P P 00 01 54.3 -1.9
comp=Z,0.9nm,0.4s,baz=35,slow=4.9,SNR=14
S52A **Salyersville** 75.02 47 P P P 00 01 56.8 +0.4
baz=326
MTUR **Matau** 75.18 329⇑*iP* P P 00 01 57.2 0.0
MTUR **Matau** 75.18 329 ⇑P P P 00 01 57.2 0.0
ARR **Arges** 75.19 329⇓*iP* P P 00 01 57.6 +0.4
BCLA **Clavier** 75.25 343 ⇑P P P 00 02 01.3 +3.9
comp=Z,20nm,1.1s
ICOR **Ion Corvin** 75.27 326⇑*iP* P P 00 01 58.0 +0.4
SNF **Seneffe** 75.34 344 ⇑P P P 00 02 01.9 +4.0
comp=Z,15nm,1.1s
CONA **Conrad Observa** 75.35 336 *epP* P 00 02 03.1 +5.0
comp=Z,26nm,1.1s,SNR=8.4
WB2 **Warramunga Arr** 75.36 205 *eP* P P 00 02 00.8 +2.6
comp=Z,21nm,1.0s
WRA **Warramunga Arr** 75.36 205 P P P 00 01 54.7 -3.6
comp=Z,3.3nm,1.0s,baz=22,slow=5.0,SNR=12
N59A **State Game Lan** 75.38 40 *eP* P P 00 02 00.1 +1.8
comp=Z,22nm,0.8s
LOT **Lotru** 75.39 330⇑*iP* P P 00 01 59.6 +1.2
DOU **Dourbes** 75.68 344 ⇑P P P 00 02 04.1 +4.2
comp=Z,12nm,1.2s
GZR **Gura Zlata** 75.75 330⇓*iP* P P 00 02 01.1 +0.7
GZR **Gura Zlata** 75.75 330 ⇓P P P 00 02 01.1 +0.7
SGRR **Singureni** 75.78 328⇓*iP* P 00 02 05.8 +5.3
BAIF **Baives** 75.78 344 *eP* P P 00 02 00.0 -0.4
BAIF pmax pmax
comp=Z,28nm,1.2s
MOA **Molln** 75.81 337 *epP* P P 00 02 04.8 +4.1
comp=Z,15nm,1.1s,SNR=8.8
BZS **Buzias** 75.89 331⇓*iP* P P 00 02 01.2 +0.1
BZS **Buzias** 75.89 331 ⇓P P P 00 02 01.2 +0.1
W50A **Signal Mountai** 76.04 50 P P P 00 02 03.5 +1.3
baz=326
ARSA **Arzberg** 76.06 336 *epP* P 00 02 07.0 +4.9
comp=Z,19nm,1.1s,SNR=5.7
FITZ **Fitzroy Crossi** 76.19 213 *eP* P P 00 02 06.7 +3.8
BANR **Banloc** 76.25 331⇑*iP* P 00 02 08.5 +5.4
HERR **Herculane** 76.32 330⇑*iP* P P 00 02 03.7 +0.1
VLAD **Vladila** 76.49 328⇑*iP* P P 00 02 05.5 +1.0
MDVR **Moldovita** 76.62 331⇑*iP* P P 00 02 04.4 -1.0
BFO **Black Forest** 76.68 341 *i P* P P 00 02 06.2 +0.6
PUNG **Punghina** 76.70 330⇑*iP* P P 00 02 08.6 +2.9
SOKA **Soboth** 76.72 336 *epP* P P 00 02 10.5 +4.6
comp=Z,20nm,1.0s,SNR=6.8
KBA **Koelnbreinsper** 76.76 337 *epP* P 00 02 11.6 +5.3
comp=Z,56nm,0.9s,SNR=12
CDF **Champ du Feu** 76.81 341 *eP* P P 00 02 04.8 -1.6
CDF pmax pmax
comp=Z,36nm,1.2s
FRGS **Fruska Gora** 76.84 332 *eP* P P 00 02 09.9 +3.4
WATA **Walderalm** 76.93 338 *epP* P 00 02 11.9 +4.8
comp=Z,25nm,1.2s,SNR=9.1
BR131 **Keskin Array S** 76.95 320 P P P 00 02 06.6 -0.8
SNR=15
BRTR **Keskin Array B** 76.95 320 *eP* P P 00 02 06.1 -1.3
BRTR **Keskin Array B** 76.95 320 *i P* P P 00 02 06.9 -0.5
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR **Keskin Array B** 76.95 320 P P P 00 02 06.4 -1.0
comp=Z,3.2nm,0.6s,baz=33,slow=3.1,SNR=26
RETA **Reutte** 76.97 339 *epP* P 00 02 12.0 +4.8
comp=Z,14nm,1.1s
WTTA **Wattenberg** 76.98 338 *epP* P 00 02 12.6 +5.1
comp=Z,37nm,1.2s,SNR=9.4
OBKA **Obir** 77.00 336 *epP* P P 00 02 12.1 +4.6
comp=Z,37nm,1.4s,SNR=5.5
MOTA **Moosalm** 77.03 339 *epP* P 00 02 12.5 +4.8
comp=Z,26nm,1.1s,SNR=9.5
MYKA **Terra Mystica** 77.11 337 *epP* P P 00 02 12.7 +4.6
comp=Z,16nm,1.3s
SQTA **Sankt Quirin** 77.12 339 *epP* P 00 02 13.2 +5.0
comp=Z,38nm,1.1s,SNR=9.9
ANTO **Ankara** 77.16 321 *eP* P P 00 02 09.3 +0.8
comp=Z,122nm,1.5s
ANTO **Ankara** 77.16 321⇑*iP* P P 00 02 08.4 -0.1
ANTO **Ankara** 77.16 321 *eP* P P 00 02 09.3 +0.8
ANTO pmax pmax
comp=Z,122nm,1.5s
ANTO **Ankara** 77.16 321 P P P 00 02 08.1 -0.4
SNR=10
ABTA **Altfaltersbach** 77.27 337 *epP* P P 00 02 13.4 +4.4
comp=Z,24nm,1.0s,SNR=14
ZAG **Zagreb** 77.27 335 *eP* P P 00 02 10.7 +1.8
DAVA **Damuels** 77.35 339 *epP* P 00 02 14.3 +4.8

comp=Z,16nm,1.1s,SNR=7.0
HAU **Haudompre** 77.38 342 *eP* P P 00 02 08.5 -1.0
HAU pmax pmax
comp=Z,43nm,1.2s
CRES **Cresnjev** 77.41 335 *eP* P P 00 02 11.8 +2.1
FETA **Feichten** 77.41 339 *epP* P 00 02 14.7 +4.8
comp=Z,27nm,1.1s,SNR=7.3
SHME **Shamm** 77.48 296 *i P* P P 00 02 09.8 -0.7
SNR=6.5
PHSR **Pinarhisar** 77.56 325⇑*iP* P P 00 02 14.7 +4.1
DOB **Doboj** 77.71 333 *eP* P P 00 02 14.2 +2.8
CEY **Cerknica** 77.75 336 *eP* P P 00 02 14.2 +2.6
DIVS **Divibare** 77.75 331 *eP* P P 00 02 11.3 -0.5
FLN **La Foliniere** 77.77 347 *eP* P P 00 02 10.3 -1.3
FLN pmax pmax
comp=Z,30nm,1.1s
DAVOX **Davos/Dischmat** 77.83 339 P P P 00 02 10.8 -1.4
comp=Z,2.7nm,0.6s,baz=102,slow=1.3,SNR=9.1
LDF **La Druitiere** 77.89 346 *eP* P P 00 02 15.0 +2.7
LDF pmax pmax
comp=Z,19nm,1.1s
BLY **Banja Luka** 77.95 334⇑*iP* P P 00 02 11.7 -1.0
BLY **Banja Luka** 77.95 334 *eP* P P 00 02 15.2 +2.5
HAPS **Han Pijesak,Bl** 78.06 332 *eP* P P 00 02 13.6 +0.1
VTS **Vitosha** 78.11 329 P P P 00 02 12.7 -1.1
VTS **Vitosha** 78.11 329⇓*iP* P P 00 02 13.1 -0.7
VTS **Vitosha** 78.11 329 ⇓P P P 00 02 13.1 -0.7
BBLS **Lazići** 78.14 332 *eP* P P 00 02 13.7 -0.2
GRR **Gorron** 78.19 347 *eP* P P 00 02 12.1 -1.9
GRR pmax pmax
comp=Z,54nm,1.2s
WSAR **Wadi Sarin** 78.30 293 P P P 00 02 14.0 -1.0
comp=Z,6.5nm,0.9s,baz=60,slow=4.9,SNR=9.9
HATD **Hatta, Dubai** 78.45 296 *i P* P P 00 02 15.5 -0.3
SNR=10.0
HATD **Hatta, Dubai** 78.45 296 P P P 00 02 20.2 +4.4
SNR=7.0
LOR **Lormes** 78.54 343 *eP* P P 00 02 15.5 -0.5
LOR pmax pmax
comp=Z,51nm,1.3s
NAZ **Nazwa, Dubai** 78.58 296 *i P* P P 00 02 16.1 -0.4
SNR=6.7
ASHO **Ashiyiah** 78.60 296 *i P* P P 00 02 16.4 -0.3
SNR=8.9
ASHO **Ashiyiah** 78.60 296 P P P 00 02 20.9 +4.2
SNR=6.4
RDO **Rodhopi** 78.67 326 P P P 00 02 15.8 -0.9
ALN **Alexandroupoli** 78.72 326 P P P 00 02 16.0 -1.0
CABF **La Chapelle** 78.77 342 *eP* P P 00 02 17.3 0.0
CABF pmax pmax
comp=Z,34nm,1.1s
SOHO **SOHO** 78.77 295 P P P 00 02 20.9 +3.4
SNR=6.9
SSF **Saint Saulge** 78.80 344 *eP* P P 00 02 16.2 -1.2
SSF pmax pmax
comp=Z,28nm,1.2s
FAQ **Al Faqa, Dubai** 78.81 296 P P P 00 02 16.9 -0.8
UPM **Unac-Piva** 78.89 332 *eP* P P 00 02 19.1 +0.9
QUIF **Quistinic** 78.96 348 *eP* P P 00 02 21.9 +3.7
QUIF pmax pmax
comp=Z,31nm,1.2s
ASAR **Alice Springs** 79.04 204 P P P 00 02 16.5 -2.3
comp=Z,1.5nm,0.6s,baz=16,slow=5.5,SNR=21
NVR **Nevrokopi** 79.05 328 P P P 00 02 17.6 -1.3
ASUD **Al Ashush, Dub** 79.05 296 *i P* P P 00 02 18.0 -1.1
SNR=5.8
AVF **Avril sur Loir** 79.09 344 *eP* P P 00 02 17.4 -1.5
AVF pmax pmax
comp=Z,38nm,1.1s
SKO **Skopje** 79.25 330 *i P* P P 00 02 24.2 +4.2
ALNE **Al Ain** 79.27 295 *i P* P P 00 02 19.8 -0.5
SNR=9.4
BRY **Bratogost** 79.27 332 *eP* P P 00 02 19.4 -0.8
STIP **Stip** 79.27 329 *i P* P P 00 02 18.9 -1.1
SRS **Serrai** 79.34 328 P P P 00 02 18.9 -1.6
VAY **Valandovo** 79.49 329 *i P* P P 00 02 20.3 -0.9
TREB **Trebinje** 79.50 332 *eP* P P 00 02 20.7 -0.5
PDG **Podgorica** 79.50 331⇑*iP* P P 00 02 21.2 0.0
PDG **Podgorica** 79.50 331 *eP* P P 00 02 20.7 -0.5
BSY **Bisya** 79.50 294 P P P 00 02 23.3 +1.7
SNR=8.9
KNT **Kendrikon** 79.53 328 P P P 00 02 20.4 -1.1
STON **Ston** 79.54 333 *eP* P P 00 02 19.5 -1.9
EZN **Ezine** 79.58 325⇑*iP* P P 00 02 26.3 +4.6
EZN **Ezine** 79.58 325 ⇑P P P 00 02 26.3 +4.6
LPL **La Plagne** 79.69 341 *eP* P P 00 02 21.8 -0.7
LPL pmax pmax
comp=Z,49nm,1.2s
HCY **Herceg Novi** 79.70 332 *eP* P P 00 02 20.4 -2.0
LPG **La Plagne** 79.70 341 *eP* P P 00 02 22.0 -0.7
LPG pmax pmax
comp=Z,66nm,1.2s
DRME **Dracevica, Mon** 79.74 331 *eP* P P 00 02 25.0 +2.4
TCF **Toulx Ste Croi** 79.77 344 *eP* P P 00 02 21.2 -1.5
TCF pmax pmax
comp=Z,21nm,1.1s
MFF **Saint Martin d** 79.83 346 *eP* P P 00 02 22.3 -0.7
MFF pmax pmax
comp=Z,33nm,1.2s
KRUS **Krusevo** 79.86 329 *i P* P P 00 02 23.2 -0.2
GRG **Griva** 79.87 329 P P P 00 02 23.1 -0.3
KULA **Kula-Manisa** 79.90 323 P P P 00 02 22.2 -1.4
LIA **Limnos Island** 79.91 326 P P P 00 02 22.0 -1.5
PLG **Polygyros** 80.06 328 P P P 00 02 23.2 -1.2
PRK **Paraskevi** 80.11 325 P P P 00 02 24.6 0.0
BIA **Bitola** 80.16 329 *i P* P P 00 02 24.6 -0.3
OHR **Ohrid** 80.24 330 *i P* P P 00 02 25.1 -0.3
SIGR **SIGRI** 80.29 325 P P P 00 02 25.1 -0.5
TIR **Tirane** 80.31 330⇓*iP* P P 00 02 30.3 +4.7
TIR **Tirane** 80.31 330 ⇓P P P 00 02 30.3 +4.7
MHTO **MHTO** 80.45 292 P P P 00 02 26.6 -0.1
SNR=18
VIVF **Saint-Julien-l** 80.72 342 *eP* P P 00 02 26.9 -1.0
VIVF pmax pmax
comp=Z,23nm,1.1s
RJF **Les Rejaudoux** 80.84 345 *eP* P P 00 02 28.2 -0.2
RJF pmax pmax
comp=Z,27nm,1.2s
CHOS **Chios island** 80.95 325 P P P 00 02 28.2 -1.1
PMOR **Pomariorio Ree** 80.97 129 *eT* T T 01 31 31.0
comp=Z,3.4nm,0.2s
XOR **Xorichti** 81.05 327 P P P 00 02 29.4 -0.3
NEO **Neokhori** 81.10 327 P P P 00 02 28.9 -1.0
FYTO **Fytoko, Volos** 81.10 327 P P P 00 02 28.8 -1.1
CAF **Calviac** 81.12 344 *eP* P P 00 02 29.1 -0.9
CAF pmax pmax
comp=Z,21nm,0.9s
LFF **La Frestale** 81.32 345 *eP* P P 00 02 30.7 -0.3
LFF pmax pmax
comp=Z,50nm,1.4s
MRKA **Markates** 81.52 327 P P P 00 02 30.6 -1.6
JAN **Janina** 81.55 329 P P P 00 02 31.4 -0.9
EREA **Eretria** 81.66 326 P P P 00 02 30.0 -2.9
ATAL **Atalanti** 81.72 327 P P P 00 02 31.5 -1.7
LKR **Lokris** 81.76 327 P P P 00 02 31.5 -1.9
MMAI **Mount Meron Ar** 81.99 315 P P P 00 02 34.1 -0.7
comp=Z,5.4nm,0.5s,baz=39,slow=6.8,SNR=46
ASF **Jabal al Asfar** 82.06 314 P P P 00 02 33.8 -1.4
comp=Z,7.4nm,1.0s,baz=231,slow=0.0,SNR=11
VILL **Villia** 82.10 327 P P P 00 02 33.2 -2.1
DSF **Desfina** 82.14 327 P P P 00 02 33.1 -2.4
ANX **Ano Chora** 82.17 328 P P P 00 02 33.8 -1.9
APE **Apeiranthos** 82.32 325⇑*iP* P P 00 02 33.2 -3.2
PPT2 **Papeete2** 82.43 132 *e*LR LR 00 28 40.8
comp=Z,925nm,24.5s
KLV **Kalavryta, Ach** 82.59 327 P P P 00 02 36.0 -1.9
MTLF **Montolieu** 82.63 344 *eP* P P 00 02 37.8 -0.1
MTLF pmax pmax
comp=Z,24nm,1.2s
DID **Didima** 82.72 326 P P P 00 02 35.2 -3.3
DRO **Drossia** 82.82 328 P P P 00 02 37.8 -1.2
AMT **Artemida-Makis** 83.20 328 P P P 00 02 39.5 -1.5
TIP **Timpagrande** 83.22 332⇑*iP* P P 00 02 40.7 -0.4
EPF **Esparros** 83.25 345 *eP* P P 00 02 40.5 -0.6
EPF pmax pmax
comp=Z,22nm,1.1s
SJPF **Ste Jean** 83.41 346 *eP* P P 00 02 41.4 -0.5
SJPF pmax pmax
comp=Z,26nm,1.3s
ETSF **Etsaut** 83.52 345 *eP* P P 00 02 42.4 -0.2
ETSF pmax pmax
comp=Z,50nm,1.3s
LAST **Lasithi** 84.04 324 P P P 00 02 43.9 -1.5
IDI **Anoyia** 84.14 324 P P P 00 02 43.0 -2.9

comp=Z,5.2nm,0.4s,baz=48,slow=12,SNR=19
ANKY Antikythira Is 84.18 326 P **P 00 02 45.8 -0.1**
VAM Vamos 84.28 325 P **P 00 02 45.0 -1.5**
IMMV Iera Moni Meta 84.31 325 P **P 00 02 43.0 -3.6**
EIL Elat 85.06 314 P **P 00 02 49.0 -1.5**
comp=Z,11nm,1.1s,baz=353,slow=3.8,SNR=6.8
PGAV Gavieira, Arco 85.40 351 *e*P **P 00 02 52.0 -0.1**
PBRG Braganca 85.40 350 *e*P P 00 02 57.3 +5.2
comp=Z,49nm,1.4s
PCAB Cabril 85.63 351 *e*P P 00 02 58.9 +5.7
POLO Lamas de Olo 85.94 351 *e*P P 00 02 59.6 +4.8
PVRL Vila Real 86.03 350 *e*P **P 00 02 59.8 +4.6**
MVO Moncorvo 86.07 350 *e*P **P 00 02 59.3 +3.9**
comp=Z,25nm,1.8s
PVIS Viseu 86.60 351 *e*P **P 00 03 02.0 +4.0**
comp=Z,22nm,1.6s
MTE Manteigas 86.88 350 *e*P P 00 03 04.4 +5.0
comp=Z,36nm,1.2s
ESDC Sonseca Array 87.17 347 *e*P **P 00 02 59.9 -0.9**
ESDC Sonseca Array 87.17 347 P **P 00 02 59.2 -1.6**
comp=Z,11nm,1.0s,baz=0.1,slow=4.8,SNR=20
PCAS Casmilo, Conde 87.32 351 *e*P **P 00 03 03.1 +1.7**
comp=Z,44nm,1.4s
PCBR Castelo Branco 87.42 350 *e*P P 00 03 07.0 +5.1
TBI Tubuai 87.52 134 *e*LR LR 00 31 09.2
comp=Z,565nm,25.0s,baz=332
KEST Kesra 88.45 336 P **P 00 03 05.6 -1.4**
comp=Z,1.7nm,0.7s,baz=306,slow=8.3,SNR=5.4
EVO Evora 88.77 350 *e*P **P 00 03 12.4 +4.0**
LPAZ La Paz 128.00 64 PKP **PKPdf 00 09 18.1 -3.1**
comp=Z,0.6nm,0.6s,baz=346,slow=12,SNR=3.5
PLCA Paso Flores 144.28 91 PKP **PKPdf 00 09 50.0 +0.1**
comp=Z,3.1nm,0.9s,baz=341,slow=7.0,SNR=5.9
TRQA Tornquist 147.86 80 *e*PKPbc **PKPbc 00 10 01.6 +2.6**
TRQA Tornquist 147.86 80 *e*PKP2 **PKPbc 00 10 01.6 +2.6**
SYO Syowa Base 147.99 216⇓*e*PKPdf **PKPbc 00 09 59.0 +0.7**
SYO Syowa Base 147.99 216⇓*e*PKiKP **PKPab 00 10 03.0 +1.7**

IDC ***19*** *23:51:27.9±0.4, 52.°27N×160.°05E, h0km, mb5.2/57, mb1 5.3/59, mb1mx5.2/76, mbtmp5.2/59, ML5.0/1, MS4.6/4, Ms1 4.6/4, ms1mx3.9/45, Error ellipse: s-maj=9.6km s-min=9.4km az=114.0*

KRSC ***19*** *23:51:28.0±10.0, 52.°10N×160.°60E, h59km±10km, ML5.5*

BJI ***19*** *23:51:32.7±0.0, 52.°65N×159.°78E, h44km, mb5.2/57, mB5.2/31, Ms5.3/40, Ms7 5.2/39*

GCMT ***19*** *23:51:32.8±0.3, 52.°15N±0.°02×160.°45E±0.°04, h28km±1km, MW5.2/88, Moment Tensor Solution. s29,c35; s88,c139; Duration: 0 Moment tensor: Scale 10^16Nm; M_r=5.36±.34; M_θθ=-2.14±.19; M_φφ=-3.22±.20; M_rθ=3.03±.31; M_θφ=-2.62±.11; M_φr=2.57±.27; Best double couple: M_0=6.67000×10^16 NP1:φs=45.00000°, δ=63.00000°, λ=96.00000°. NP2: φs=213.00000°, δ=27.00000°, λ=79.00000°. Principal axes: T 6.7040, Plg71.0000°, Azm328.0000°; N -0.0680, Plg5.0000°, Azm223.0000°; P -6.6360, Plg18.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***19*** *23:51:33.4±1.1, 52.°26N×160.°05E, h51km, mb5.7/67, MS5.2/17 Error ellipse: s-maj=6.8km s-min=3.4km az=105.4*

MOS Felt (II) at Petropavlovsk-Kamchatskiy.

ISCJB ***19*** *23:51:33.4±0.4, 52.°24N±0.°02×160.°22E±0.°02, h53km±3km, mb5.4/257, MS5.1/28, Error ellipse: s-maj=4.0km s-min=2.4km az=164.5*

NEIC ***19*** *23:51:33.8±0.2, 52.°35N×160.°04E, h35km, mb5.1/110, Error ellipse: s-maj=6.2km s-min=3.2km az=164.0*

ISC 19 23:51:34.3±0.7, 52.°26N±0.°04×160.°24E±0.°03, h48km±5km, n997,σ1§13/1044, mb5.3/265, MS5.2/29, 98C-35D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.85**	**351**	P	**Pn**	**23 51 48.5**	**-1.5**
SPN				S	**Sn**	**23 52 01.3**	**-0.2**
SPN	**Mys Shipunski**	**0.85**	**351**	PN	**Pn**	**23 51 48.5**	**-1.5**
SPN				S	**Sn**	**23 52 01.3**	**-0.2**
NLC	**Nalytchevo**	**1.06**	**330**	P	**Pn**	**23 51 52.5**	**-0.3**
NLC				S	**Sn**	**23 52 08.9**	**+2.4**
NLC	**Nalytchevo**	**1.06**	**330**	PN	**Pn**	**23 51 52.5**	**-0.3**
NLC				S	**Sn**	**23 52 08.9**	**+2.4**
RUS	**Russkaya**	**1.07**	**280**	P	**Pn**	**23 51 52.0**	**-0.9**
RUS				S	**Sn**	**23 52 08.1**	**+1.4**
RUS	**Russkaya**	**1.07**	**280**	PN	**Pn**	**23 51 52.0**	**-0.9**
RUS				S	**Sn**	**23 52 08.1**	**+1.4**
DALK	**Dalny**	**1.19**	**311**	P	**Pn**	**23 51 54.1**	**-0.5**
DALK				S	**Sn**	**23 52 11.3**	**+1.7**
DALK	**Dalny**	**1.19**	**311**	PN	**Pn**	**23 51 54.1**	**-0.5**
DALK				S	**Sn**	**23 52 11.3**	**+1.7**
PET	**Petropavlovsk**	**1.23**	**309**	*e*Pn	**Pn**	**23 51 54.2**	**-0.9**
PET	**Petropavlovsk**	**1.23**	**309**	⇑*i*PN	**Pn**	**23 51 54.7**	**-0.4**
PET				*e*S	**Sn**	**23 52 12.3**	**+1.7**
PET				pmax	pmax		
	comp=Z,26μm,0.9s						
PET				smax	smax		
	comp=N,31μm,0.8s						
PET				smax	smax		
	comp=E,30μm,0.9s						
MTVR	**Mutnovka**	**1.28**	**281**	P	**Pn**	**23 51 53.7**	**-2.2**
MTVR	**Mutnovka**	**1.28**	**281**	PN	**Pn**	**23 51 53.7**	**-2.2**
GRL	**Gorelyy**	**1.36**	**283**	P	**Pn**	**23 51 57.8**	**+0.8**
GRL	**Gorelyy**	**1.36**	**283**	PN	**Pn**	**23 51 57.8**	**+0.8**
KDTR	**Khodutka, Kamc**	**1.41**	**252**	P	**Pn**	**23 51 56.3**	**-1.2**
KDTR				S	**Sn**	**23 52 15.5**	**+0.6**
KDTR	**Khodutka, Kamc**	**1.41**	**252**	PN	**Pn**	**23 51 56.3**	**-1.2**
KDTR				S	**Sn**	**23 52 15.5**	**+0.6**
KRMR	**Karymshinskiy**	**1.41**	**295**	P	**Pn**	**23 51 57.4**	**-0.1**
KRMR				S	**Sn**	**23 52 17.6**	**+2.7**
KRMR	**Karymshinskiy**	**1.41**	**295**	PN	**Pn**	**23 51 57.4**	**-0.1**
KRX	**Arik**	**1.47**	**320**	P	**Pn**	**23 51 58.9**	**+0.4**
KRX	**Arik**	**1.47**	**320**	PN	**Pn**	**23 51 58.9**	**+0.4**
I44RU	**PETROPAVLOVSK-**	**1.75**	**300**	Pn	**Pn**	**23 52 02.8**	**+0.5**
	baz=95,slow=30						
I44RU				Sn	**Sn**	**23 52 28.0**	**+4.6**
	baz=79,slow=58						
PEA0B	**Petropavlovsk-**	**1.76**	**300**	*e*Pn	**Pn**	**23 52 02.2**	**-0.2**
PEA0B	**Petropavlovsk-**	**1.76**	**300**	*e*PN	**Pn**	**23 52 02.2**	**-0.2**
PETK	**Petropavlovsk-**	**1.76**	**300**	*e*Pn	**Pn**	**23 52 00.4**	**-2.0**
PETK	**Petropavlovsk-**	**1.76**	**300**	Pn	**Pn**	**23 52 02.9**	**+0.5**
	comp=E,749nm,0.3s,baz=106,slow=19,SNR=10.0						
PETK				Sn	**Sn**	**23 52 27.9**	**+4.2**
	comp=E,1μm,0.3s,baz=115,slow=15,SNR=9.6						
APC	**Apacha**	**1.99**	**291**	P	**Pn**	**23 52 07.5**	**+2.0**
APC				S	**Sn**	**23 52 35.2**	**+6.0**
APC	**Apacha**	**1.99**	**291**	PN	**Pn**	**23 52 07.5**	**+2.0**
MKZ	**Mys Kozlova**	**2.47**	**21**	S	**Sn**	**23 52 39.7**	**-1.2**
KZV	**Kizimen**	**2.86**	**1**	P	**Pn**	**23 52 18.3**	**+0.7**
KZV				S	**Sn**	**23 52 52.7**	**+1.9**
KZV	**Kizimen**	**2.86**	**1**	PN	**Pn**	**23 52 18.3**	**+0.7**
KZV				S	**Sn**	**23 52 52.7**	**+1.9**
TUMD	**Tumrok D**	**2.95**	**2**	S	**Sn**	**23 52 53.4**	**+0.5**
SKR	**Severo-Kuril's**	**3.02**	**240**	S	**Sn**	**23 52 52.5**	**-2.0**
SKR	**Severo-Kuril's**	**3.02**	**240**	*e*PN	**Pn**	**23 52 17.7**	**-1.9**
SKR				*e*S	**Sn**	**23 52 51.4**	**-3.1**
SKR				smax	smax		
	comp=N,7μm,0.6s						
SKR				smax	smax		
	comp=E,10μm,0.7s						
ESO	**Esso**	**3.79**	**347**	P	**Pn**	**23 52 31.8**	**+1.7**
ESO	**Esso**	**3.79**	**347**	PN	**Pn**	**23 52 31.8**	**+1.7**
BKI	**Bering**	**4.51**	**47**	S	**Sn**	**23 53 23.3**	**-7.7**
MA2	**Magadan**	**9.05**	**328**	Pn	**Pn**	**23 53 42.4**	**+0.3**
	comp=E,1.5nm,0.3s,baz=149,slow=9.4,SNR=5.2						
MA2				Sn	**Sn**	**23 55 23.7**	**+1.1**
	baz=159,slow=22,SNR=1.8						
MA2				LR	LR	23 57 48.7	
	comp=E,7μm,18.7s,baz=138,slow=42						
SEY	**Seymchan**	**11.49**	**342**	Pn	**Pn**	**23 54 16.5**	**+1.0**
	comp=E,0.3nm,0.3s,baz=0.0,slow=20,SNR=3.3						
SEY				Sn	**Sn**	**23 56 25.6**	**+3.5**
	comp=E,0.2nm,0.3s,baz=168,slow=22,SNR=1.5						
YSS	**Yuzh-Sakhalins**	**12.51**	**252**	*e*Pn	**Pn**	**23 54 30.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**12.51**	**252**	*e*PN	**Pn**	**23 54 30.2**	**+0.7**
ASAJ	**Asahikawa**	**14.28**	**242**	Pn	**Pn**	**23 54 52.9**	**-0.7**
	comp=E,4.5nm,0.3s,baz=79,slow=16,SNR=5.9						
ERM	**Erimo**	**15.45**	**235**	*e*Pn	**Pn**	**23 55 09.7**	**+0.8**
	comp=E,68nm,0.6s						
ERM	**Erimo**	**15.45**	**235**	*e*P	**Pn**	**23 55 09.7**	**+0.8**
ERM				pmax	pmax		
	comp=Z,68nm,0.6s						
BILL	**Bilibino**	**16.10**	**8**	*e*Pn	**P**	**23 55 18.6**	**-1.1**
	comp=Z,132nm,0.8s						
BILL	**Bilibino**	**16.10**	**8**	*i* P	**Pn**	**23 55 18.1**	**+1.1**
BILL				pmax	pmax		
	comp=Z,173nm,1.0s						
KLR	**Kul'dur**	**18.23**	**272**	P	**Pn**	**23 55 43.7**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=64,slow=10.0,SNR=12						
YAK	**Yakutsk**	**19.06**	**313**	*e*P	**P**	**23 55 49.7**	**-2.6**
YAK				*e*S	**S**	**23 59 15.8**	**-10**
YAK				pmax	pmax		
	comp=Z,3μm,0.9s						
YAK				pmax	pmax		
	comp=N,490nm,1.0s						
YAK				pmax	pmax		
	comp=E,1μm,1.1s						
YAK				smax	smax		
	comp=E,496nm,1.5s						
YAK				smax	smax		
	comp=N,135nm,1.3s						
YAK				MLR	MLR		
	comp=Z,7μm,16.0s						
YAK				MLR	MLR		
	comp=N,11μm,15.0s						
YAK				MLR	MLR		
	comp=E,7μm,16.0s						
USRK	**Ussuriysk Ar.**	**20.37**	**258**	P	**P**	**23 56 04.5**	**-2.2**
	comp=E,78nm,0.9s,baz=57,slow=8.8,SNR=13						
MJB9	**Matsu-Tunnel**	**22.10**	**233**	*e*P	**P**	**23 56 25.1**	**-0.3**
MAJO	**Matsushiro**	**22.11**	**233**	*e*P	**P**	**23 56 25.1**	**-0.3**
	comp=Z,261nm,1.0s						
MAJO	**Matsushiro**	**22.11**	**233**	*e*P	**P**	**23 56 25.1**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,261nm,1.0s						
MAT	**Matsushiro**	**22.11**	**233**	P	**P**	**23 56 25.4**	**0.0**
MJAR	**Matsushiro Arr**	**22.11**	**233**	*e*P	**P**	**23 56 26.6**	**+1.2**
MJAR	**Matsushiro Arr**	**22.11**	**233**	P	**P**	**23 56 25.6**	**+0.2**
	comp=Z,119nm,1.0s,baz=16,slow=10.0,SNR=12						
MJAR				LR	LR	00 05 43.3	
	comp=Z,3μm,20.5s,baz=50,slow=39						
INU	**Inuyama**	**23.64**	**233**	*e*P	**P**	**23 56 41.5**	**+0.5**
	comp=Z,90nm,0.8s						
RDOG	**Red Dog Mine**	**23.68**	**34**	*e*P	**P**	**23 56 41.2**	**+0.1**
	comp=Z,66nm,1.0s						
TIXI	**Tiksi**	**23.88**	**336**	*e*P	**P**	**23 56 41.8**	**-1.1**
	comp=Z,176nm,0.8s						
TIXI	**Tiksi**	**23.88**	**336**	*i* P	**P**	**23 56 41.0**	**-1.9**
TIXI	**Tiksi**	**23.88**	**336**	P	**P**	**23 56 41.8**	**-1.1**
	comp=Z,185nm,0.8s,baz=127,slow=9.0,SNR=25						
JHJ	**Hachijo jima 2**	**24.18**	**226**	LR	LR	00 09 07.9	
	comp=Z,738nm,18.7s,baz=90,slow=44						
CN2	**Changchun**	**24.55**	**264**	*e*P	**P**	**23 56 46.5**	**-2.8**
CN2				pmax	pmax		
	comp=Z,60nm,0.9s						
HIA	**Hailar**	**25.55**	**280**	*e*P	**P**	**23 56 56.6**	**-1.8**
	comp=Z,189nm,0.9s						
HIA	**Hailar**	**25.55**	**280**	*e*P	**P**	**23 56 56.6**	**-1.8**
HIA				pmax	pmax		
	comp=Z,189nm,0.9s						
SII	**Sitkinak Islan**	**26.49**	**62**	*e*P	**P**	**23 57 08.7**	**+2.0**
	comp=Z,80nm,0.9s						
BOD	**Bodaibo**	**26.64**	**300**	*e*P	**P**	**23 57 06.3**	**-1.7**
BOD				pmax	pmax		
	comp=Z,62nm,1.2s						
SNY	**Shenyang**	**26.80**	**262**	⇓P	**P**	**23 57 09.4**	**-0.2**
SNY				S	**S**	**00 01 47.4**	**+5.2**
SNY				pmax	pmax		
	comp=Z,45nm,1.0s						
SNY				pmax	pmax		
	comp=Z,99nm,3.6s						
SNY				LR	LR		
	comp=Z,2μm,16.2s						
SNY				LR	LR		
	comp=Z,1μm,19.6s						
SNY				LR	LR		
	comp=Z,3μm,18.0s						
KSRS	**Korea Array**	**26.99**	**250**	P	**P**	**23 57 11.8**	**+0.4**
	comp=Z,26nm,1.0s,baz=43,slow=9.8,SNR=14						
KSRS				PcP	**PcP**	**00 00 32.0**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=341,slow=2.1,SNR=6.1						
KDAK	**Kodiak Island**	**27.14**	**59**	P	**P**	**23 57 12.6**	**0.0**
	comp=Z,19nm,0.9s,baz=12,slow=6.2,SNR=4.4						
KDAK				PcP	**PcP**	**00 00 32.6**	**+0.8**
	comp=Z,7.3nm,0.9s,baz=231,slow=14,SNR=3.2						
BRLK	**Bradley Lake**	**27.76**	**55**	*e*P	**P**	**23 57 19.8**	**+1.6**
	comp=Z,48nm,1.3s						
RC01	**Rabbit Creek A**	**28.20**	**52**	*e*P	**P**	**23 57 24.2**	**+2.1**
	comp=Z,21nm,1.2s						
BWN	**Browne**	**28.23**	**45**	*e*P	**P**	**23 57 24.5**	**+2.2**
	comp=Z,169nm,1.5s						
MCK	**McKinley**	**28.46**	**46**	*e*P	**P**	**23 57 25.8**	**+1.5**
	comp=Z,13nm,0.8s						
MCK	**McKinley**	**28.46**	**46**	*e*P	**P**	**23 57 25.8**	**+1.5**
MCK				pmax	pmax		
	comp=Z,13nm,0.8s						
JNU	**Nakatsue**	**28.53**	**239**	*e*P	**P**	**23 57 25.8**	**+0.6**
	comp=Z,97nm,1.0s						
JNU	**Nakatsue**	**28.53**	**239**	P	**P**	**23 57 25.2**	**0.0**
	comp=Z,46nm,0.9s,baz=31,slow=11,SNR=6.3						
TOLK	**Toolik Lake Re**	**28.59**	**36**	P	**P**	**23 57 26.6**	**+1.2**
	baz=261						
MDM	**Murphy Dome**	**28.78**	**44**	*e*P	**P**	**23 57 25.4**	**-1.7**
	comp=Z,20nm,1.4s						
KNK	**Knik Glacier**	**28.79**	**51**	*e*P	**P**	**23 57 27.1**	**-0.2**
	comp=Z,54nm,1.2s						
SML	**Sawmill**	**28.82**	**50**	*e*P	**P**	**23 57 28.7**	**+1.1**
	comp=Z,45nm,1.0s						
SML	**Sawmill**	**28.82**	**50**	*e*P	**P**	**23 57 28.7**	**+1.1**
SML				pmax	pmax		
	comp=Z,45nm,1.0s						
WRH	**Wood River Hil**	**28.83**	**45**	*e*P	**P**	**23 57 29.6**	**+2.1**
	comp=Z,54nm,1.6s						
TCOL	**CIGO, UAF Yank**	**28.93**	**44**	P	**P**	**23 57 29.6**	**+1.1**
	baz=270						
CCB	**Clear Creek Bu**	**28.95**	**44**	*e*P	**P**	**23 57 30.3**	**+1.7**
	comp=Z,28nm,1.3s						
HDA	**Harding Lake**	**29.33**	**45**	P	**P**	**23 57 33.2**	**+1.2**
	baz=271						
ILAR	**Eielson Array**	**29.35**	**44**	P	**P**	**23 57 33.5**	**+1.4**
	comp=Z,5.2nm,0.8s,baz=265,slow=8.5,SNR=5.9						
ILAR				PcP	**PcP**	**00 00 37.0**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=287,slow=3.6,SNR=6.6						
ILB	**Eielson Array**	**29.35**	**44**	*e*P	**P**	**23 57 32.9**	**+0.7**
	comp=Z,10nm,0.8s						
DL2	**Dalian**	**29.76**	**259**	P	**P**	**23 57 34.5**	**-1.5**
DL2				*e*S	**S**	**00 02 29.3**	**+0.5**
DL2				pmax	pmax		
	comp=Z,73nm,0.9s						
DL2				pmax	pmax		
	comp=Z,330nm,10.3s						
DL2				LR	LR		
	comp=Z,2μm,16.7s						
DL2				LR	LR		
	comp=Z,570nm,13.9s						
DL2				LR	LR		
	comp=Z,2μm,16.0s						
PRP	**Porcupine Dome**	**29.92**	**43**	*e*P	**P**	**23 57 38.2**	**+0.8**
	comp=Z,16nm,0.9s						
KLU	**Klutina**	**30.00**	**51**	*e*P	**P**	**23 57 39.4**	**+1.4**
	comp=Z,18nm,1.1s						
SCRK	**Sand Creek**	**30.64**	**46**	*e*P	**P**	**23 57 44.8**	**+1.1**
	comp=Z,16nm,1.0s						
BCAR	**Beaver Creek A**	**31.72**	**47**	*e*P	**P**	**23 57 54.8**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**32.88**	**168**	T	T	00 33 48.4	
	baz=352,slow=76,SNR=946						
H11N3	**WAKE ISLAND Hy**	**32.89**	**168**	T	T	00 33 49.0	
	baz=352,slow=76,SNR=1370						
H11N1	**WAKE ISLAND Hy**	**32.89**	**168**	T	T	00 33 57.0	
	baz=352,slow=76,SNR=1333						
EPYK	**Eagle Plains**	**33.47**	**41**	*e*P	**P**	**23 58 08.6**	**+0.1**
	comp=Z,71nm,1.6s						
EPYK	**Eagle Plains**	**33.47**	**41**	P	**P**	**23 58 09.0**	**+0.6**
	baz=277						
IRK	**Irkutsk**	**33.53**	**293**	*e*P	**P**	**23 58 06.4**	**-2.7**
IRK				pmax	pmax		
	comp=Z,72nm,1.3s						
ULN	**Ulaanbaatar**	**33.78**	**284**	*e*P	**P**	**23 58 10.0**	**-1.4**
	comp=Z,20nm,0.9s						
ULN	**Ulaanbaatar**	**33.78**	**284**	*c i*P	**P**	**23 58 10.0**	**-1.4**
ULN				pmax	pmax		
	comp=Z,22nm,1.0s						
ULN	**Ulaanbaatar**	**33.78**	**284**	P	**P**	**23 58 10.7**	**-0.8**
	SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**34.06**	**169**	T	T	00 35 27.0	
	baz=352,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**34.07**	**169**	T	T	00 35 27.9	
	baz=352,slow=76,SNR=71						
H11S2	**WAKE ISLAND Hy**	**34.08**	**169**	T	T	00 35 28.0	
	baz=352,slow=76,SNR=31						
TLY	**Talaya**	**34.11**	**292**	*e*P	**P**	**23 58 13.6**	**-0.5**
	comp=Z,54nm,1.0s						
TLY	**Talaya**	**34.11**	**292**	*c i*P	**P**	**23 58 13.4**	**-0.7**
TLY				pmax	pmax		
	comp=Z,129nm,1.0s						
TLY	**Talaya**	**34.11**	**292**	P	**P**	**23 58 14.0**	**-0.1**
	SNR=6.1						
HYT	**Haines Junctio**	**34.13**	**51**	*e*P	**P**	**23 58 15.2**	**+0.9**
	comp=Z,15nm,0.9s						
SONM	**Songino Array**	**34.19**	**284**	*e*P	**P**	**23 58 14.6**	**-0.4**
SONM	**Songino Array**	**34.19**	**284**	*e*P	**P**	**23 58 14.6**	**-0.4**
SONM	**Songino Array**	**34.19**	**284**	P	**P**	**23 58 13.8**	**-1.1**
	comp=Z,7.4nm,0.5s,baz=64,slow=8.1,SNR=18						
SONM				PcP	**PcP**	**00 00 50.7**	**-0.1**
	comp=Z,4.7nm,1.0s,baz=54,slow=2.3,SNR=3.1						
TIA	**Tai'an**	**34.22**	**259**	P	**P**	**23 58 13.9**	**-1.3**
TIA				pmax	pmax		
	comp=Z,72nm,0.9s						
INK	**Inuvik**	**34.48**	**37**	*e*P	**P**	**23 58 17.7**	**+0.6**
	comp=Z,20nm,1.0s						
INK	**Inuvik**	**34.48**	**37**	*e*P	**P**	**23 58 17.7**	**+0.6**
INK				pmax	pmax		
	comp=Z,20nm,1.0s						
INK	**Inuvik**	**34.48**	**37**	P	**P**	**23 58 16.5**	**-0.6**
	comp=Z,11nm,0.9s,baz=261,slow=6.0,SNR=5.4						
INK				PcP	**PcP**	**00 00 52.1**	**+1.1**
	comp=Z,7.0nm,0.6s,baz=272,slow=3.4,SNR=4.8						
INK				LR	LR	00 14 29.8	
	comp=Z,697nm,20.0s,baz=254,slow=40						
ZAK	**Zakamensk**	**34.86**	**290**	*e*P	**P**	**23 58 19.3**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,48nm,1.1s						
JOW	**Kunigami**	**34.90**	**236**	*e*P	**P**	**23 58 21.9**	**+0.7**
	comp=Z,55nm,1.2s						
WHY	**Whitehorse**	**35.41**	**50**	*e*P	**P**	**23 58 26.7**	**+1.4**
	comp=Z,13nm,0.8s						
BTO	**Baotou**	**35.82**	**271**	*e*P	**P**	**23 58 26.6**	**-2.4**
NJ2	**Nanjing**	**36.08**	**252**	*e*P	**P**	**23 58 31.4**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,66nm,0.9s						
NJ2				LR	LR		
	comp=Z,2μm,15.9s						
NJ2				LR	LR		
	comp=Z,1μm,15.9s						
NJ2				LR	LR		
	comp=Z,2μm,18.2s						
JIS	**Juneau Island**	**36.39**	**54**	*e*P	**P**	**23 58 35.3**	**+1.8**
	comp=Z,92nm,1.9s						
NRIK	**Noril'sk**	**36.64**	**325**	P	**P**	**23 58 34.4**	**-1.2**
	comp=Z,39nm,0.8s,baz=93,slow=10,SNR=12						
DLBC	**Dease Lake**	**38.48**	**52**	*e*P	**P**	**23 58 53.0**	**+1.6**
	comp=Z,14nm,0.9s						
DLBC	**Dease Lake**	**38.48**	**52**	P	**P**	**23 58 51.9**	**+0.5**
	comp=Z,11nm,0.8s,baz=297,slow=9.8,SNR=8.4						
WHN	**Wuhan**	**39.83**	**255**	⇑*i*P	**P**	**23 59 03.8**	**+1.0**
WHN				S	**S**	**00 05 03.3**	**-0.4**
WHN				pmax	pmax		
	comp=Z,88nm,0.7s						
WHN				LR	LR		
	comp=Z,2μm,12.6s						
WHN				LR	LR		
	comp=Z,1μm,13.1s						
WHN				LR	LR		
	comp=Z,2μm,15.9s						
XAN	**Xi'an**	**40.66**	**264**	P	**P**	**23 59 10.9**	**+1.1**
XAN				pP	pwP	23 59 24.8	-0.7
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SSLB	**Suanglung**	**41.22**	**242**	*e*P	**P**	**23 59 15.4**	**+1.0**
	comp=Z,34nm,1.1s						
LZH	**Lanzhou**	**42.43**	**271**	*e*P	**P**	**23 59 22.6**	**-1.7**
LZH				pP	pP	23 59 33.6	-2.7
LZH				sP	pwP	23 59 37.6	-2.5
LZH				pmax	pmax		
	comp=Z,60nm,1.0s						
LZH				pmax	pmax		
	comp=Z,340nm,5.7s						
LZH				LR	LR		
	comp=Z,2μm,16.5s						
LZH				LR	LR		
	comp=Z,2μm,17.4s						
LZH				LR	LR		
	comp=Z,4μm,18.7s						
JOHN	**Johnston Islan**	**42.73**	**135**	*e*P	**P**	**23 59 27.9**	**+1.2**
	comp=Z,194nm,1.1s						
GTA	**Gaotai**	**42.79**	**277**	⇑P	**P**	**23 59 26.0**	**-1.2**
GTA				pP	pP	23 59 33.1	-6.2
GTA				PcP	**PcP**	**00 01 19.1**	**+1.4**
GTA				pmax	pmax		
	comp=Z,28nm,1.3s						
GTA				pmax	pmax		
	comp=Z,220nm,5.6s						
GTA				LR	LR		
	comp=Z,2μm,15.9s						
GTA				LR	LR		
	comp=Z,2μm,16.5s						
GTA				LR	LR		
	comp=Z,3μm,17.8s						
ZAA0	**Zalesovo Array**	**43.31**	**303**	*e*P	**P**	**23 59 27.6**	**-3.3**
	comp=Z,26nm,0.9s						
ZALV	**Zalesovo Beam**	**43.31**	**303**	*e*P	**P**	**23 59 27.8**	**-3.2**
ZALV	**Zalesovo Beam**	**43.31**	**303**	P	**P**	**23 59 28.6**	**-2.4**
	comp=Z,30nm,0.9s,baz=53,slow=6.7,SNR=25						
ZALV				PP	**PcP**	**00 01 19.6**	**+0.6**
	comp=Z,14nm,1.0s,baz=46,slow=8.6,SNR=4.2						
NVS	**Novosibirsk**	**43.66**	**305**	⇑*i*P	**P**	**23 59 32.8**	**-1.0**
NVS				*e*S	**S**	**00 05 55.4**	**-4.5**
NVS				pmax	pmax		
	comp=Z,235nm,1.0s						
NVS				pmax	pmax		
	comp=N,45nm,1.0s						
NVS				pmax	pmax		
	comp=E,126nm,0.9s						
NVS				smax	smax		
	comp=N,12nm,1.3s						
NVS				smax	smax		
	comp=E,18nm,1.4s						
YKW3	**Yellowknife Ar**	**43.69**	**42**	*e*P	**P**	**23 59 34.7**	**+0.8**
	comp=E,12nm,1.0s						
YKA	**Yellowknife Ar**	**43.72**	**42**	*e*P	**P**	**23 59 35.9**	**+1.6**
YKA	**Yellowknife Ar**	**43.72**	**42**	P	**P**	**23 59

comp=Z,158nm,0.9s
KURK Kurchatov 48.25 303*c i*P P 00 00 07.9 -2.1
KURK pmax pmax
comp=Z,155nm,0.9s
KURK Kurchatov 48.25 303 P P 00 00 08.6 -1.4
SNR=10
KURBB Kurchatov Arra 48.35 302 P P 00 00 08.8 -2.0
comp=Z,91nm,0.9s,baz=60,slow=7.7,SNR=30
KURBB PcP PcP 00 01 36.5 -0.2
comp=Z,13nm,1.0s,baz=53,slow=3.1,SNR=4.4
KURBB PP PP 00 02 01.7 -1.6
comp=Z,11nm,1.0s,baz=50,slow=9.4,SNR=3.9
HOPEN Hopen 48.37 347 *e*P **P 00 00 11.6 +1.0**
MKAR Makanchi Array 48.60 296 P P 00 00 10.8 -2.0
comp=Z,18nm,0.5s,baz=61,slow=5.5,SNR=25
MKAR PcP PcP 00 01 36.6 -1.1
comp=Z,2.2nm,0.7s,baz=46,slow=5.3,SNR=1.5
MAKZ Makanchi 48.76 297 *e*P **P 00 00 11.9 -2.1**
comp=Z,56nm,1.0s
MAKZ Makanchi 48.76 297 *e*P **P 00 00 11.9 -2.1**
MAKZ pmax pmax
comp=Z,56nm,1.0s
HSPB Hornsund (broa 49.10 350 *e*P **P 00 00 16.5 +0.3**
HSPB Hornsund (broa 49.10 350 *e*P **P 00 00 16.8 +0.6**
H04D Lebanon 49.47 67 P **P 00 00 20.4 +1.0**
baz=308
I03D Drain, OR 49.63 68 P **P 00 00 21.4 +0.7**
baz=309
K02D Willamette Mer 50.07 69 P **P 00 00 25.1 +0.9**
baz=309
I05D Terrebonne, OR 50.37 66 P **P 00 00 26.5 +0.2**
baz=309
KMI Kunming 50.77 261 P **P 00 00 30.1 +0.3**
KMI pP pP 00 00 39.5 -2.7
KMI sP sP 00 00 47.3 -0.1
KMI S **S 00 07 42.8 +0.7**
KMI sS sS 00 08 05.4 +2.2
KMI pmax pmax
comp=Z,23nm,1.0s
KMI pmax pmax
comp=Z,170nm,5.3s
KMI LR LR
comp=Z,1μm,21.8s
KMI LR LR
comp=Z,930nm,21.3s
KMI LR LR
comp=Z,1μm,23.5s
BJO Bjornoya 50.86 347 *e*P **P 00 00 30.4 +0.9**
BVAR Borovoye Array 50.98 309 P **P 00 00 28.9 -1.8**
comp=Z,55nm,0.7s,baz=59,slow=8.8,SNR=31
BVAR PcP **PcP 00 01 46.8 +0.5**
comp=Z,3.6nm,0.3s,baz=55,slow=3.1,SNR=1.9
KULLO Kullorsuaq 50.99 12⇑*i*P P 00 00 30.6 +0.1
KULLO pmax pmax
comp=Z,88nm,1.1s
KULLO Kullorsuaq 50.99 12⇑*i*P P 00 00 30.6 +0.1
comp=Z,88nm,1.1s
BRVK Borovoye 51.01 309 *e*P **P 00 00 29.5 -1.4**
comp=Z,72nm,0.8s
BRVK Borovoye 51.01 309*c i*P P 00 00 28.7 -2.3
BRVK pmax pmax
comp=Z,78nm,0.9s
BRVK Borovoye 51.01 309 P **P 00 00 29.5 -1.4**
SNR=12
DAG Danmarks Havn 51.24 360 *i*P **P 00 00 32.3 -0.1**
DAG pmax pmax
comp=Z,24nm,0.8s
DAG Danmarks Havn 51.24 360 *i*P **P 00 00 32.4 0.0**
comp=Z,32nm,0.8s
PDGK Podgornoye 52.31 294 P **P 00 00 39.8 -1.1**
PDGK pmax pmax
comp=Z,52nm,1.0s
MSO Missoula 52.83 59 P **P 00 00 45.8 +1.0**
baz=310
SLVN Son La 52.91 257 *e*P **P 00 00 46.3 +0.7**
comp=Z,30nm,0.9s
SVE Sverdlovsk 52.95 317 *e*P **P 00 00 44.1 -1.2**
SVE pmax pmax
comp=Z,40nm,1.3s
SVE MLR MLR
comp=Z,2μm,16.0s
OTUK Ortayu 53.01 303 P **P 00 00 44.7 -1.2**
OTUK pmax pmax
comp=Z,59nm,1.0s
HAMF Hammerfest 53.50 343 *e*P **P 00 00 48.8 -0.4**
LVZ Lovozero 53.51 337 *e*P **P 00 00 48.4 -0.9**
comp=Z,172nm,1.0s
LVZ Lovozero 53.51 337 *e*P **P 00 00 48.4 -0.9**
LVZ pmax pmax
comp=Z,172nm,1.0s
FFC Flin Flon 53.55 46 *e*P **P 00 00 50.2 +0.5**
comp=Z,9.2nm,0.8s
FFC Flin Flon 53.55 46 *e*P **P 00 00 50.2 +0.5**
FFC pmax pmax
comp=Z,9.0nm,0.8s
KEV Kevo 53.64 342 *e*P **P 00 00 49.4 -0.8**
comp=Z,50nm,0.9s
KEV Kevo 53.64 342 *e*P **P 00 00 49.4 -0.8**
KEV pmax pmax
comp=Z,50nm,0.9s
HRY Holter Researc 54.01 58 *e*P **P 00 00 56.4 +3.0**
APA Apatity 54.06 338⇓*i*P P 00 00 52.4 -0.9
APA pmax pmax
comp=Z,68nm,0.9s
ARU Arti 54.07 318 *e*P **P 00 00 52.5 -1.1**
comp=Z,44nm,0.7s
ARU Arti 54.07 318*c i*P P 00 00 52.0 -1.6
ARU 00 01 55.7
ARU 00 02 52.3
ARU S **S 00 08 24.4 -1.6**
ARU SS **SKiKP 00 12 00.9 +0.3**
ARU pmax pmax
comp=Z,65nm,1.0s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 54.07 318 P **P 00 00 52.5 -1.1**
comp=Z,17nm,0.5s,baz=45,slow=3.6,SNR=16
ARU PP **PP 00 02 54.3 -0.7**
comp=Z,5.2nm,0.9s,baz=270,slow=20,SNR=2.8
FCC Fort Churchill 54.08 38 *e*P **P 00 00 54.0 +0.5**
comp=Z,34nm,1.4s
FCC Fort Churchill 54.08 38 *e*P **P 00 00 54.0 +0.5**
FCC pmax pmax
comp=Z,34nm,1.4s
ARCES ARCESS Array B 54.11 342 *e*P **P 00 00 53.4 -0.3**
ARCES ARCESS Array B 54.11 342 *e*P **P 00 00 53.4 -0.3**
ARCES ARCESS Array B 54.11 342 P **P 00 00 53.7 0.0**
comp=Z,82nm,0.8s,baz=37,slow=8.2,SNR=32
ARE0 ARCESS Array S 54.11 342 *e*P **P 00 00 53.9 +0.1**
comp=Z,6.4nm,1.0s
ARE0 ARCESS Array S 54.11 342 *e*P **P 00 00 53.8 +0.1**
EGMT Eagleton 54.23 56 *e*P **P 00 00 56.0 +1.1**
comp=Z,11nm,0.9s
EGMT Eagleton 54.23 56 P **P 00 00 55.7 +0.8**
baz=311
KDJ Kajisay 54.38 295 *e*P **P 00 00 55.5 -0.7**
comp=Z,53nm,0.8s
KDJ Kajisay 54.38 295 *e*P **P 00 00 55.5 -0.7**
KDJ pmax pmax
comp=Z,53nm,0.8s
LSA Lhasa 54.57 274 *e*P **P 00 00 58.7 +0.6**
comp=Z,43nm,0.9s
LSA Lhasa 54.57 274 *e*P **P 00 00 58.7 +0.6**
LSA pmax pmax
comp=Z,43nm,0.9s
MCMT McKenzie Canyo 54.71 61 *e*P **P 00 01 00.5 +1.8**
SUMG Summit 54.78 7 *e*P **P 00 00 58.8 -0.2**
comp=Z,96nm,0.9s
SUMG Summit 54.78 7 *e*P **P 00 00 58.8 -0.2**
SUMG pmax pmax
comp=Z,96nm,0.9s
SUMG Summit 54.78 7⇑*i*P P 00 00 59.7 +0.7
comp=Z,237nm,1.0s
BOZ Bozeman (W) 54.85 59 *e*P **P 00 01 01.6 +2.0**
comp=Z,7.3nm,0.8s
BOZ Bozeman (W) 54.85 59 *e*P **P 00 01 01.6 +2.0**
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 54.85 59 P **P 00 01 01.1 +1.5**
baz=312
KTK1 Kautokeino 54.98 343 *e*P **P 00 00 59.4 -0.6**
CMB Columbia Colle 55.01 71 *e*P **P 00 01 02.9 +2.2**
comp=Z,9.3nm,1.0s
CMB Columbia Colle 55.01 71 *e*P **P 00 01 02.9 +2.2**
CMB pmax pmax
comp=Z,9.0nm,1.0s

YERR Yerington 55.03 70 *e*P **P 00 01 02.7 +1.6**
comp=Z,13nm,0.9s
TRO Tromso 55.19 345 *e*P **P 00 01 02.0 +0.6**
PRGR Permogore 55.20 328⇑*i*P P 00 01 01.2 -0.4
PRGR pmax pmax
comp=Z,88nm,0.6s
AAK Ala-Archa 55.53 297 *e*P **P 00 01 03.5 -1.1**
comp=Z,60nm,1.0s
AAK Ala-Archa 55.53 297 *i*P **P 00 01 03.4 -1.1**
SNR=18
AAK Ala-Archa 55.53 297*c i*P P 00 01 03.3 -1.2
AAK pmax pmax
comp=Z,68nm,1.1s
AAK Ala-Archa 55.53 297 P **P 00 01 03.8 -0.7**
SNR=9.4
TMCR Tamitsa 55.56 333 *e*P **P 00 01 03.9 -0.3**
TMCR pmax pmax
comp=Z,310nm,1.0s
SGF Sodankyl 55.68 340 P **P 00 01 05.4 +0.4**
SGF pmax pmax
comp=Z,118nm,1.1s
RYN Ryan 55.69 70 *e*P **P 00 01 06.9 +1.2**
comp=Z,12nm,1.0s
PANO Nakornpanom 55.74 253 P **P 00 01 09.4 +3.3**
comp=Z,252nmcomp=Z,1.4nm,1.1s
YHH Holmes Hill 55.80 59 *e*P **P 00 01 08.0 +1.4**
NVAR Mina Array Bea 55.95 70 P **P 00 01 08.8 +1.1**
comp=Z,2.8nm,0.7s,baz=297,slow=7.0,SNR=3.0
KIRV Kirov 56.12 324 P **P 00 01 08.2 0.0**
comp=Z,90nm,0.5s,baz=61,slow=2.4,SNR=20
KIRV PP **PP 00 03 12.4 -0.7**
comp=Z,10nm,0.5s,baz=45,slow=5.7,SNR=4.0
ELK Elko 56.12 66 *e*P **P 00 01 10.4 +1.5**
comp=Z,6.9nm,0.8s
ELK Elko 56.12 66 *e*P **P 00 01 10.4 +1.5**
ELK pmax pmax
comp=Z,7.0nm,0.8s
H17A Grant Village 56.21 60 P **P 00 01 11.1 +1.7**
baz=313
SKNT Sakolnakorn 56.25 253 P **P 00 01 12.0 +2.3**
comp=Z,79nm,1.0s
IMW Indian Meadow 56.35 60 *e*P **P 00 01 12.3 +1.7**
comp=Z,6.6nm,0.8s
RLMT Red Lodge 56.41 58 *e*P **P 00 01 12.3 +1.5**
comp=Z,15nm,0.9s
RLMT Red Lodge 56.41 58 P **P 00 01 11.5 +0.7**
baz=313
MSF Maaselka 56.42 338 P **P 00 01 10.9 +0.6**
MSF pmax pmax
comp=Z,355nm,1.0s
FXWY Fox Creek 56.48 61 *e*P **P 00 01 13.0 +1.6**
comp=Z,11nm,1.3s
MOOW Moose Ponds 56.55 60 *e*P **P 00 01 12.6 +0.7**
comp=Z,5.5nm,1.0s
PAGB Antelope Grade 56.66 73 *e*P **P 00 01 14.2 +1.7**
comp=Z,26nm,1.2s
ILULI Ilulissat 56.68 13 *e*P **P 00 01 11.7 -0.3**
comp=Z,40nm,0.8s
ILULI Ilulissat 56.68 13 *e*P **P 00 01 11.7 -0.3**
ILULI pmax pmax
comp=Z,40nm,0.8s
ILULI Ilulissat 56.68 13⇑*i*P P 00 01 11.7 -0.3
comp=Z,40nm,0.8s
JMIC Jan Mayen 56.80 356 P **P 00 01 13.4 +0.5**
comp=Z,86nm,0.9s,baz=25,slow=1.0,SNR=4.0
JMIC Jan Mayen 56.80 356 *e*P **P 00 01 15.6 +2.7**
KSH Kashi 56.81 293 P **P 00 01 16.3 +2.7**
KSH pP pP 00 01 28.0 +1.9
KSH PP **PP 00 03 24.3 +4.3**
KSH S **S 00 09 02.3 -1.0**
KSH SS **SS 00 12 54.4 +3.2**
KSH pmax pmax
comp=Z,28nm,1.0s
KSH pmax pmax
comp=Z,510nm,6.2s
KSH LR LR
comp=Z,360nm,8.2s
KSH LR LR
comp=Z,340nm,9.0s
KSH LR LR
comp=Z,1μm,10.7s
PAYA Payao 56.85 259 P **P 00 01 15.5 +1.5**
comp=Z,117μm,0.8s
AHID Auburn Hatcher 57.03 61 *e*P **P 00 01 17.2 +1.9**
comp=Z,12nm,0.9s
SHL Shillong 57.09 270 P **P 00 01 15.2 -0.6**
SHL pmax pmax
comp=Z,42nm,1.1s
PHRA Phrae 57.29 258 P **P 00 01 18.8 +1.7**
comp=Z,151nmcomp=Z,15nm,1.1s
STEI Steigen 57.32 345 *e*P **P 00 01 16.9 +0.3**
KK31 Karatay Array 57.37 300 *e*P **P 00 01 16.2 -1.2**
comp=Z,38nm,0.8s
KK31 Karatay Array 57.37 300 *e*P **P 00 01 16.2 -1.2**
KK31 pmax pmax
comp=Z,38nm,0.8s
KKAR Karatay Array 57.37 300 *e*P **P 00 01 16.2 -1.2**
KKAR Karatay Array 57.37 300 *e*P **P 00 01 16.2 -1.2**
LOF Lofoten 57.39 346 *e*P **P 00 01 17.2 +0.1**
KHON Khomkaen 57.43 254 P **P 00 01 20.4 +2.3**
comp=Z,86μm,1.0s
SCO Scoresbysund 57.56 1 *e*P **P 00 01 18.8 +0.6**
comp=Z,29nm,1.4s
SCO Scoresbysund 57.56 1 *e*P **P 00 01 18.4 +0.1**
SCO pmax pmax
comp=Z,27nm,1.4s
SCO Scoresbysund 57.56 1 *i*P **P 00 01 18.7 +0.4**
comp=Z,27nm,1.4s
R11A Troy Canyon, C 57.56 68 P **P 00 01 20.3 +1.2**
baz=314
LAMP Lampang 57.63 258 P **P 00 01 20.9 +1.4**
comp=Z,899μmcomp=Z,99μm,1.0s
KLMR Klimovskoe 57.72 330 *e*P **P 00 01 18.8 -0.7**
KLMR pmax pmax
comp=Z,203nm,1.1s
CMMT Chiang Mai 57.82 259 P **P 00 01 21.7 +0.8**
comp=Z,409nmcomp=Z,45nm,1.0s
CHTO Chiang Mai 57.82 259 *e*P **P 00 01 21.8 +0.9**
comp=Z,72nm,1.0s
CHTO Chiang Mai 57.82 259 *e*P **P 00 01 21.8 +0.9**
CHTO pmax pmax
comp=Z,72nm,1.0s
CHTO Chiang Mai 57.82 259 P **P 00 01 22.1 +1.3**
SNR=7.5
OUL Oulu 57.82 339 P **P 00 01 20.3 +0.1**
OUL pmax pmax
comp=Z,255nm,1.0s
DAC Darwin (Calif) 57.84 71 *e*P **P 00 01 22.4 +1.4**
comp=Z,22nm,1.5s
DAC Darwin (Calif) 57.84 71 *e*P **P 00 01 22.4 +1.4**
DAC pmax pmax
comp=Z,22nm,1.5s
BW06 Boulder Array 57.86 60 *e*P **P 00 01 22.3 +1.2**
comp=Z,11nm,0.9s
BW06 Boulder Array 57.86 60 P **P 00 01 22.1 +1.0**
baz=314
PD31 Pinedale Array 57.86 60 *e*P **P 00 01 23.0 +1.9**
comp=Z,11nm,0.9s
PDAR Pinedale Array 57.86 60 *e*P **P 00 01 22.5 +1.4**
PDAR Pinedale Array 57.86 60 P **P 00 01 23.0 +1.9**
comp=Z,9.1nm,0.9s,baz=313,slow=3.1,SNR=6.5
CM31 Chiang Mai Arr 58.10 259 P **P 00 01 24.4 +1.6**
SNR=5.3
CMAR Chiang Mai Arr 58.10 259 P **P 00 01 22.7 -0.1**
comp=Z,32nm,0.9s,baz=24,slow=7.1,SNR=19
FURC Furnace Creek, 58.13 70 P **P 00 01 24.2 +1.4**
baz=314
CHAI Chaiyaphum 58.26 254 P **P 00 01 25.5 +1.6**
comp=Z,742μmcomp=Z,73μm,1.0s
PBKT Sadao Pong 58.34 256 P **P 00 01 26.1 +1.6**
comp=Z,445nmcomp=Z,12nm,0.9s
JOF Joensuu 58.36 335 P **P 00 01 24.1 +0.1**
JOF pmax pmax
comp=Z,213nm,0.9s
PSUT Pine Spring 58.41 67 *e*P **P 00 01 26.6 +1.6**
comp=Z,6.4nm,0.9s
AKTO Aktyubinsk 58.45 313 P **P 00 01 23.6 -1.2**
comp=Z,22nm,0.6s,baz=71,slow=8.1,SNR=18
AKTO PcP **PcP 00 02 14.6 -0.5**
comp=Z,8.8nm,0.8s,baz=55,slow=7.8,SNR=2.1
SFJD Kangerlussuaq 58.81 14 *e*P **P 00 01 27.2 +0.2**
comp=Z,34nm,1.1s
SFJD Kangerlussuaq 58.81 14 *e*P **P 00 01 27.2 +0.2**
SFJD pmax pmax
comp=Z,35nm,1.1s
SFJD Kangerlussuaq 58.81 14 *i*P **P 00 01 26.1 -0.9**
comp=Z,26nm,1.1s

SFJD Kangerlussuaq 58.81 14⇑*i*P P 00 01 26.9 -0.1
comp=Z,172nm,0.5s
ODAN Odare 58.91 275 *e*P **P 00 01 27.6 -1.0**
comp=Z,31nm,0.6s
KONS Konsvik 58.97 345 *e*P **P 00 01 28.9 +0.8**
JIRN Jiri 59.06 276 *e*P **P 00 01 29.3 -0.6**
comp=Z,133nm,0.8s
TAS Tashkent 59.25 299 P **P 00 01 30.4 -0.2**
TAS pmax pmax
comp=Z,94nm,1.0s
RAMN Ramite 59.33 275 *e*P **P 00 01 30.9 -0.6**
comp=Z,403nm,0.9s
ULM Lac du Bonnet 59.33 46 *e*P **P 00 01 31.4 +0.5**
comp=Z,9.9nm,0.6s
ULM Lac du Bonnet 59.33 46 *e*P **P 00 01 31.5 +0.5**
ULM pmax pmax
comp=Z,10.0nm,0.6s
ULM Lac du Bonnet 59.33 46 P **P 00 01 30.7 -0.3**
comp=Z,11nm,0.7s,baz=320,slow=7.7,SNR=9.4
TMUT Trail Mountain 59.37 64 *e*P **P 00 01 33.3 +1.6**
comp=Z,29nm,1.5s
KKN Kakani 59.52 277 *e*P **P 00 01 32.5 -0.4**
comp=Z,144nm,0.7s
PKI Pulchoki 59.60 277 *e*P **P 00 01 32.8 -0.8**
comp=Z,176nm,0.9s
PKIN Phulchoki 59.61 277 *e*P **P 00 01 32.6 -0.9**
comp=Z,100nm,0.7s
Q16A Castle Valley 59.65 65 *e*P **P 00 01 34.8 +1.2**
comp=Z,12nm,1.1s
MTPU Mount Pierson 59.70 66 *e*P **P 00 01 36.3 +2.2**
comp=Z,6.9nm,1.0s
DMN Daman 59.76 277 *e*P **P 00 01 34.0 -0.6**
comp=Z,220nm,0.8s
GKN Gorkha 59.76 278 *e*P **P 00 01 33.9 -0.5**
comp=Z,308nm,0.9s
RSSD Black Hills 59.80 56 *e*P **P 00 01 35.5 +1.0**
RSSD Black Hills 59.80 56 *e*P **P 00 01 35.5 +1.0**
RSSD Black Hills 59.80 56 P **P 00 01 35.8 +1.2**
baz=315
SUF Sumiainen 59.80 337 P **P 00 01 34.5 +0.5**
SUF pmax pmax
comp=Z,337nm,0.9s
FAKI Fak Fak 59.85 213 *e*P **P 00 01 35.8 +0.9**
comp=Z,16nm,1.1s
SRU San Rafael Swe 59.87 64 *e*P **P 00 01 36.0 +0.9**
comp=Z,19nm,0.9s
SRU San Rafael Swe 59.87 64 *e*P **P 00 01 36.0 +0.9**
SRU pmax pmax
comp=Z,19nm,0.9s
UMPA Umpang Tak 59.89 257 P **P 00 01 38.3 +3.1**
comp=Z,144μm,1.0s
GMRC Granite Mounta 60.01 71 P **P 00 01 37.1 +1.1**
baz=315
DANN Dangsing 60.05 278 *e*P **P 00 01 35.9 -0.6**
comp=Z,259nm,0.9s
VAF Ylistaro 60.31 339 P **P 00 01 38.2 +0.8**
VAF pmax pmax
comp=Z,199nm,1.3s
GAR Garm 60.33 296 *e*P **P 00 01 36.9 -1.2**
comp=Z,248nm,1.2s
GAR Garm 60.33 296 *e*P **P 00 01 36.9 -1.2**
GAR pmax pmax
comp=Z,248nm,1.2s
O20A White River Ci 60.40 62 P **P 00 01 38.1 -0.6**
baz=315
KOLN Koldanda 60.56 278 *e*P **P 00 01 39.4 -0.6**
comp=Z,82nm,0.6s
PYUN Piuthan 60.70 279 *e*P **P 00 01 40.1 -0.8**
comp=Z,264nm,0.9s
AGMN Agassiz Nation 60.76 48 P **P 00 01 41.1 +0.4**
baz=317
U15A North Rim 60.78 67 *e*P **P 00 01 42.2 +0.8**
comp=Z,9.8nm,1.0s
FINES FINESS Array B 60.92 337 P **P 00 01 41.8 +0.1**
comp=Z,108nm,0.8s,baz=32,slow=9.0,SNR=31
BC3 Big Chuckawall 60.93 72 P **P 00 01 42.2 0.0**
baz=316
NSS Namsos 60.98 345 *e*P **P 00 01 42.5 +0.5**
N23A Red Feather La 61.09 60 P **P 00 01 41.9 -1.6**
baz=316
SRDT SRDT 61.18 256 P **P 00 01 47.0 +3.0**
comp=Z,21nm,1.6s
CHGR Chuyangaron 61.21 297 *e*P **P 00 01 45.3 +1.2**
comp=Z,56nm,0.7s
Y12C Blythe 61.40 71 P **P 00 01 46.0 +0.7**
baz=316
HNR Honiara 61.44 180 P **P 00 01 45.3 -0.4**
comp=Z,50nm,0.4s,baz=244,slow=11,SNR=2.0
PHET Kaeng Krachan 62.01 254 P **P 00 01 51.8 +2.2**
comp=Z,241μm,0.8s
MOS Moscow 62.41 327 *e*P **P 00 01 50.4 -1.3**
MOS *e*S **S 00 10 14.2 -0.4**
MOS pmax pmax
comp=Z,200nm,1.2s
MOS pmax pmax
comp=Z,171nm,1.1s
MOS MLR MLR
comp=Z,700nm,16.0s
EYMN Ely 62.98 46 *e*P **P 00 01 54.9 -0.8**
EYMN Ely 62.98 46 P **P 00 01 55.9 +0.2**
baz=319
OGNE Ogallala 63.11 57 P **P 00 01 56.6 -0.2**
baz=317
OBN Obninsk 63.27 328 *e*P **P 00 01 56.9 -0.5**
comp=Z,93nm,1.0s
OBN Obninsk 63.27 328⇑*i*P P 00 01 56.8 -0.6
OBN Obninsk 63.27 328*c i*P P 00 01 56.3 -1.1
OBN *e* 00 02 15.0
OBN *e* 00 02 32.4
OBN *e* 00 04 14.8
OBN pmax pmax
comp=Z,162nm,1.4s
OBN Obninsk 63.27 328 P **P 00 01 56.8 -0.6**
comp=Z,12nm,0.7s,baz=54,slow=4.3,SNR=16
VSU Vasula 63.34 335*c i*P P 00 01 57.4 -0.5
VSU pmax pmax
comp=Z,335nm,1.0s
VSU Vasula 63.34 335 *e*P **P 00 01 57.7 -0.2**
VSU IAmb IAmb 00 01 59.8
comp=Z,573nm,1.3s
X18A Snowflake 63.47 67 *e*P **P 00 02 00.8 +1.4**
comp=Z,8.8nm,0.8s
MOL Molde 63.50 346 *e*P **P 00 02 00.1 +1.2**
ECSD EROS Data Cent 63.77 52 *e*P **P 00 02 01.3 +0.4**
ECSD EROS Data Cent 63.77 52 P **P 00 02 00.5 -0.4**
baz=318,SNR=6.0
DOMB Dombas 63.77 345 *e*P **P 00 02 01.0 +0.2**
AKN Aaknes 63.96 346 *e*P **P 00 02 02.6 +0.6**
E38A The Farm, Brul 63.97 47 P **P 00 02 02.1 -0.1**
baz=320
F37A Hinrichs Farm, 64.15 48 P **P 00 02 03.6 +0.2**
baz=320
KSCO Kaye Shedlock' 64.22 59 P **P 00 02 03.9 -0.2**
baz=318
KBL Kabul 64.24 294 *e*P **P 00 02 02.6 -1.9**
comp=Z,38nm,0.9s
KBL Kabul 64.24 294 *e*P **P 00 02 02.6 -1.9**
KBL pmax pmax
comp=Z,38nm,0.9s
F38A Pierce - Schro 64.31 47 P **P 00 02 04.4 -0.1**
baz=320,SNR=5.0
NB2 NORSAR Subarra 64.37 344 P **P 00 02 04.6 -0.1**
comp=Z,15nm,0.5s,baz=23,slow=6.9
NB2 NORSAR Subarra 64.37 344 P **P 00 02 04.6 -0.1**
baz=23,slow=6.9
NOA NORSAR Array B 64.37 344 P **P 00 02 05.2 +0.5**
comp=Z,13nm,0.5s,baz=24,slow=6.5,SNR=21
SPMN Marine on St. 64.45 49 P **P 00 02 05.4 0.0**
baz=320
NBO00 NORSAR Array S 64.45 344 *e*P **P 00 02 05.8 +0.6**
comp=Z,224nm,1.9s
LPSR Galich'ya Gora 64.52 325 *e*P **P 00 02 04.3 -1.4**
LPSR pmax pmax
comp=Z,90nm,0.7s
LPSR MLR MLR
comp=Z,1μm,14.0s
E39A Mellen 64.59 46 P **P 00 02 06.5 +0.3**
baz=320
NAO01 NORSAR Array S 64.61 344 *e*P **P 00 02 06.5 +0.3**
VRH Novokhopyorsk 64.63 322 *e*P **P 00 02 04.8 -1.6**
VRH pmax pmax
comp=Z,80nm,0.6s
VRH MLR MLR
comp=Z,3μm,18.0s
IVI Ivigtut 64.63 15 *e*P **P 00 02 06.6 +0.3**
comp=Z,47nm,1.0s
HFS Hagfors 64.77 342 P **P 00 02 07.9 +0.7**

comp=Z,26nm,0.4s,baz=61,slow=4.0,SNR=23
F39A Loretta 64.78 47 P **P 00 02 07.8 +0.3**
baz=320
E40A Wakefield 64.83 46 P **P 00 02 07.8 -0.1**
baz=321
G38A Ridgeland 64.92 48 P **P 00 02 08.1 -0.4**
baz=320,SNR=6.8
HYA Hoyanger 65.04 346 *e*P **P 00 02 09.7 +0.8**
NRS Narsarsuaq 65.09 13 *i* P **P 00 02 08.2 -1.1**
NRS Narsarsuaq 65.09 13 *i* P **P 00 02 08.2 -1.1**
H38A Maiden Rock 65.11 49 P **P 00 02 09.7 0.0**
baz=320
F40A Park Falls 65.13 46 P **P 00 02 10.1 +0.2**
baz=321
LAZ Ladron 65.14 66 *e*P **P 00 02 11.5 +1.1**
VORR Voronezh 65.17 324 P **P 00 02 07.0 -3.0**
VORR pmax pmax
comp=Z,250nm,1.4s
SKAR Skarslia 65.19 345 *e*P **P 00 02 10.7 +0.7**
SLIT Slitere, Latvi 65.20 337 *e*P **P 00 02 09.9 -0.2**
SLIT IAmb IAmb 00 02 11.8
comp=Z,1μm,1.1s
E41A Kenton 65.22 45 P **P 00 02 09.7 -0.7**
baz=321
SUE Sulen 65.35 347 *e*P **P 00 02 11.8 +0.9**
OSL Oslo 65.49 344 *e*P **P 00 02 12.9 +1.0**
VSR Storozhevoye 65.56 324*c i* P **P 00 02 10.7 -1.8**
VSR pmax pmax
comp=Z,95nm,1.1s
E42A Champion 65.70 45 P **P 00 02 13.4 -0.2**
baz=322
VORD Divnogorie 65.72 323 *e*P **P 00 02 12.7 -0.8**
VORD pmax pmax
comp=Z,40nm,0.6s
F41A Three Lakes 65.72 46 P **P 00 02 13.6 -0.1**
baz=321
IZAR Zarasai 65.84 334 *e*P **P 00 02 14.1 -0.1**
IZAR IAmb IAmb 00 02 16.0
comp=Z,33nm,1.0s
BER Bergen 65.91 347 *e*P **P 00 02 15.3 +0.7**
KONO Kongsberg 65.96 344 *e*P **P 00 02 15.6 +0.7**
comp=Z,26nm,1.3s
KONO Kongsberg 65.96 344 *e*P **P 00 02 15.6 +0.7**
KONO pmax pmax
comp=Z,26nm,1.3s
H40A Chili 66.01 48 P **P 00 02 15.2 -0.4**
baz=321
ISAL Salakas 66.03 333 *e*P **P 00 02 15.2 -0.2**
ISAL IAmb IAmb 00 02 17.4
comp=Z,44nm,1.2s
I39A Houston 66.08 49 P **P 00 02 15.6 -0.4**
baz=321
IDID Didziasalis 66.09 333 *e*P **P 00 02 15.7 -0.1**
IDID IAmb IAmb 00 02 17.7
comp=Z,36nm,0.9s
ODD1 Odda 66.18 346 *e*P **P 00 02 17.2 +0.9**
IIGN Ignalina 66.20 333 *e*P **P 00 02 16.8 +0.3**
IIGN IAmb IAmb 00 02 18.5
comp=Z,56nm,0.9s
H41A Junction City 66.35 47 P **P 00 02 17.5 -0.2**
baz=321
SCHQ Schefferville 66.35 28 P **P 00 02 17.9 +0.4**
comp=Z,19nm,0.8s,baz=3.6,slow=4.7,SNR=7.8
J39A Decorah 66.40 49 P **P 00 02 17.8 -0.3**
baz=321,SNR=8.1
E44A Grand Marais A 66.41 43 P **P 00 02 17.9 -0.1**
baz=322
NACGM Naroch 66.44 333 *e*P **P 00 02 18.0 0.0**
NACGM PM 00 02 19.0
comp=Z,0.2nm,1.0s
NACGM *e*LQ LQ 00 48 35.0
NACGM *e*LR LR 00 52 35.0
NACGM LRM MLR 00 56 42.0
comp=Z,12nm,17.0s
I40A Norwalk 66.47 48 P **P 00 02 18.5 0.0**
baz=321
MICGM Minsk 66.47 332⇑ *e*P **P 00 02 19.0 +0.7**
MICGM PM 00 02 20.0
comp=Z,0.5nm,1.5s
MICGM *e*LR LR 00 31 30.0
MNK Minsk 66.47 332⇑ *e*P **P 00 02 19.0 +0.7**
MNK pmax pmax
comp=Z,500nm,1.5s
F43A Flat Rock, Esc 66.50 45 P **P 00 02 18.2 -0.4**
baz=322
BLS5 Blasjo 66.67 346 *e*P **P 00 02 20.6 +1.0**
PABE Paberze 66.67 335 *e*P **P 00 02 19.5 0.0**
PABE IAmb IAmb 00 02 21.3
comp=Z,185nm,1.1s
G43A Wallace 66.72 45 *e*P **P 00 02 20.6 +0.5**
comp=Z,14nm,0.9s
G43A Wallace 66.72 45 P **P 00 02 20.0 -0.1**
baz=322
PBUR Paburg 66.73 336 *e*P **P 00 02 19.7 -0.2**
PBUR IAmb IAmb 00 02 21.7
comp=Z,185nm,1.3s
SCIA State Center 66.78 51 P **P 00 02 20.7 +0.1**
baz=320,SNR=7.4
K39A Oelwein 66.80 50 P **P 00 02 20.2 -0.4**
baz=321
E45A Wooded Hills, 66.93 43 P **P 00 02 20.7 -0.6**
baz=323
D46A Sault St. Mari 66.98 42 P **P 00 02 21.0 -0.7**
baz=323
KMY Karmoy 67.05 346 *e*P **P 00 02 21.2 -0.7**
MATQ Matagami 67.14 37 P **P 00 02 21.7 -0.9**
baz=326,SNR=8.0
K40A Colesburg 67.15 49 P **P 00 02 22.9 0.0**
baz=321
J41A Loganville 67.16 48 P **P 00 02 22.9 0.0**
baz=321
L39A Vinton 67.20 50 P **P 00 02 22.9 -0.3**
baz=321
D47A Chapleau 67.23 42 P **P 00 02 22.4 -0.9**
baz=324
I42A Draeger Farm, 67.25 47 P **P 00 02 23.7 +0.3**
baz=322
E46A Sault Ste Mari 67.29 43 P **P 00 02 22.8 -0.8**
baz=323
H43A Windswept, Lux 67.30 46 P **P 00 02 23.0 -0.7**
baz=322
JFWS Jewell Farm 67.40 49 P **P 00 02 23.8 -0.6**
baz=321
HOMB Homborsund 67.45 344 *e*P **P 00 02 25.0 +0.6**
F46A Macinaw City C 67.57 43 P **P 00 02 25.6 +0.2**
baz=323
I43A Langenfeld Bro 67.60 47 P **P 00 02 25.2 -0.4**
baz=322
J42A Columbus 67.60 48 P **P 00 02 25.0 -0.6**
baz=322,SNR=5.1
L40A Anamosa 67.61 50 P **P 00 02 25.2 -0.6**
baz=321,SNR=5.4
GEYT Alibeck 67.62 303 P **P 00 02 25.8 -0.2**
comp=Z,20nm,0.6s,baz=29,slow=3.4,SNR=17
GEYT PP **PP 00 04 53.9 -1.0**
comp=Z,5.0nm,0.9s,baz=19,slow=6.3,SNR=3.7
E47A Iron Bridge 67.64 42 P **P 00 02 25.3 -0.6**
baz=324
D48A Paudash Townsh 67.66 41 P **P 00 02 24.7 -1.3**
baz=324,SNR=6.4
D49A Beulah Townshi 67.76 40 P **P 00 02 25.7 -0.9**
baz=325,SNR=6.0
J43A Natural Harves 67.87 47 P **P 00 02 27.3 0.0**
baz=322
G46A Petoskey 67.89 44 P **P 00 02 27.3 -0.1**
baz=323
K42A Prairie Point, 67.92 48 P **P 00 02 26.7 -1.0**
baz=322
LSQQ Lebel-sur-Quev 67.97 37 P **P 00 02 28.2 +0.3**
baz=326
E48A Lockeyer 68.08 41 P **P 00 02 28.4 -0.2**
baz=324
MNTX Cornudas Mount 68.14 66 P **P 00 02 30.5 +1.3**
baz=319
CHGQ Chibougamau 68.19 35 P **P 00 02 28.5 -0.7**
baz=328,SNR=7.0
N40A Mertquake, Sal 68.35 51 P **P 00 02 30.6 +0.2**
baz=321,SNR=5.9
L42A Oliver, Polo 68.38 49 P **P 00 02 29.9 -0.6**
baz=322
F48A Evansville 68.42 42 P **P 00 02 30.1 -0.7**
baz=324
K43A Burlington 68.44 48 P **P 00 02 30.6 -0.3**
baz=322
E50A Wahnapitae 68.70 40 P **P 00 02 31.3 -1.2**
baz=325
F49A Sandfield 68.71 42 P **P 00 02 32.0 -0.5**
baz=325
MAK Makhachkala 68.82 313 *e*P **P 00 02 32.7 -0.6**
MAK *e*S **S 00 11 35.2 +2.0**
MAK pmax pmax
comp=Z,90nm,2.0s
N41A Harden Midland 68.84 50 P **P 00 02 33.0 -0.4**
baz=322,SNR=6.1
MUD Monsted U'grnd 69.06 343 *i* P **P 00 02 35.3 +0.8**
MUD pmax pmax
comp=Z,30nm,0.9s
MUD Monsted U'grnd 69.06 343 *i* P **P 00 02 35.3 +0.8**
comp=Z,30nm,0.9s
E51A G1948 Merrick 69.10 40 P **P 00 02 33.9 -1.1**
baz=326,SNR=6.9
D52A ZEK Kipawa Sen 69.15 39 P **P 00 02 34.4 -0.9**
baz=326
M43A Waltham Townsh 69.15 49 P **P 00 02 35.0 -0.3**
baz=322
COP Copenhagen 69.17 341 *i* P **P 00 02 36.3 +1.1**
COP pmax pmax
comp=Z,42nm,0.8s
COP Copenhagen 69.17 341 *i* P **P 00 02 36.0 +0.8**
comp=Z,42nm,0.8s
BSD Bornholm Skovb 69.20 340⇑ *i* P **P 00 02 35.5 +0.1**
BSD pmax pmax
comp=Z,18nm,0.5s
BSD Bornholm Skovb 69.20 340⇑ *i* P **P 00 02 35.5 +0.1**
comp=Z,18nm,0.5s
D53A Lac Vacive, Po 69.34 38 P **P 00 02 35.5 -0.9**
baz=326,SNR=6.0
TOBO Tobermory, Bru 69.36 42 P **P 00 02 35.8 -0.8**
baz=325
AKASG Malin Array Be 69.38 329 P **P 00 02 36.0 -0.6**
comp=Z,35nm,0.5s,baz=32,slow=6.8,SNR=27
GROC Groznyy 69.39 315 *e*P **P 00 02 36.5 -0.3**
GROC *e* 00 02 59.9
GROC *e*S **S 00 11 39.2 -0.7**
GROC pmax pmax
comp=Z,26nm,1.0s
KIEV Kiev 69.39 329⇑ *i* P **P 00 02 36.3 -0.3**
KIEV Kiev 69.39 329 *i* P **P 00 02 36.3 -0.3**
SNR=13
KIEV Kiev 69.39 329*c i* P **P 00 02 35.9 -0.7**
KIEV pmax pmax
comp=Z,71nm,1.1s
F51A Arnstein 69.43 40 P **P 00 02 36.5 -0.5**
baz=326
WMOK Wichita Mounta 69.45 60 P **P 00 02 38.0 +0.6**
baz=320
M44A Midewin, Midew 69.61 48 P **P 00 02 37.6 -0.6**
baz=323
E52A Mattawa 69.63 39 P **P 00 02 37.4 -0.9**
baz=326
D54A Lac Fusel, La 69.67 38 P **P 00 02 37.7 -0.8**
baz=327,SNR=7.1
HDIL Hopedale 69.69 50 P **P 00 02 38.5 -0.3**
baz=322
F52A Sundridge 69.78 40 P **P 00 02 38.3 -0.9**
baz=326,SNR=7.3
KLBO Killbear Provi 69.78 41 P **P 00 02 38.4 -0.8**
baz=326,SNR=6.2
I49A Point Hope 69.86 43 P **P 00 02 39.4 -0.3**
baz=325
E53A Dumoine, Ponti 69.94 39 P **P 00 02 39.5 -0.6**
baz=327
BMRO Meriville Lake 70.00 42 P **P 00 02 40.3 -0.2**
baz=325,SNR=5.4
BUKO Buck Lake 70.04 40 P **P 00 02 39.8 -1.0**
baz=326,SNR=5.7
E54A Lac Daplat, Po 70.07 38 P **P 00 02 39.6 -1.3**
baz=327,SNR=5.4
NCK Nalchik 70.10 316 *i* P **P 00 02 40.8 -0.4**
NCK pmax pmax
comp=Z,18nm,0.9s
KVAR Kislovodsk Arr 70.10 317 P **P 00 02 41.7 +0.4**
comp=Z,5.8nm,0.7s,baz=105,slow=16,SNR=6.8
KIV Kislovodsk 70.11 317 *e*P **P 00 02 43.1 +1.8**
comp=Z,15nm,0.8s
KIV Kislovodsk 70.11 317⇑ *i*P **P 00 02 42.1 +0.8**
KIV Kislovodsk 70.11 317 *e*P **P 00 02 40.4 -0.9**
KIV pmax pmax
comp=Z,49nm,1.0s
KIV MLR MLR
comp=Z,2μm,18.0s
TUL1 Leonard 70.12 57 P **P 00 02 42.0 +0.6**
baz=321
ALGO Algonquin Park 70.14 39 P **P 00 02 40.8 -0.6**
baz=326
KBZ Khabaz 70.20 317 P **P 00 02 42.0 +0.2**
KBZ Khabaz 70.20 317 P **P 00 02 42.0 +0.2**
comp=Z,21nm,0.8s,baz=54,slow=3.9,SNR=13
K48A Perry 70.23 45 P **P 00 02 41.9 -0.1**
baz=324
BASO Ashfield 70.29 43 P **P 00 02 42.2 -0.1**
baz=325
P43A Skaggs, Pawnee 70.31 50 P **P 00 02 42.6 +0.1**
baz=323
GKP Gorka Klasztor 70.38 337 *e*P **P 00 02 43.0 +0.3**
GKP Gorka Klasztor 70.38 337 *e*P **P 00 02 43.0 +0.3**
Q42A Golden Eagle 70.40 51 P **P 00 02 43.3 +0.2**
baz=322
BWLO Walkerton 70.42 42 P **P 00 02 42.7 -0.4**
baz=325
L47A Sherwood 70.42 46 P **P 00 02 42.5 -0.7**
baz=324
R41A Rosebud 70.47 52 P **P 00 02 43.5 0.0**
baz=322,SNR=5.4
H52A Wyevale 70.50 41 P **P 00 02 43.1 -0.5**
baz=326
K49A Clarkson 70.53 44 P **P 00 02 44.1 +0.2**
baz=325
ZEI Tsey 70.54 316 *e*P **P 00 02 42.8 -1.4**
ZEI pmax pmax
comp=Z,16nm,0.9s
ABTX Abilene, Hawle 70.61 62 P **P 00 02 44.6 +0.1**
baz=320
G53A Haliburton 70.61 40 P **P 00 02 43.6 -0.6**
baz=326,SNR=7.2
NEY Neytrino 70.67 317 *i* P **P 00 02 44.2 -0.7**
PEMO Pembroke 70.68 39 P **P 00 02 43.8 -0.9**
baz=327
CCM Cathedral Cave 70.73 52 *e*P **P 00 02 45.7 +0.6**
comp=Z,12nm,0.9s
CCM Cathedral Cave 70.73 52 *e*P **P 00 02 45.7 +0.6**
CCM pmax pmax
comp=Z,12nm,0.9s
CCM Cathedral Cave 70.73 52 P **P 00 02 45.1 0.0**
baz=322
I51A Listowel 70.73 42 P **P 00 02 44.6 -0.5**
baz=326
L48A N Adams 70.79 46 P **P 00 02 44.7 -0.7**
baz=324
BEL Belsk 70.81 335 *e*P **P 00 02 46.2 +1.0**
BEL Belsk 70.81 335 *e*P **P 00 02 46.3 +1.0**
S41A Jillco Farms, 70.85 53 P **P 00 02 45.3 -0.6**
baz=322,SNR=6.2
SFIN Lafayette 70.85 48 P **P 00 02 45.2 -0.6**
baz=323
I52A Shelburne 70.86 42 P **P 00 02 45.9 +0.1**
baz=326
TXAR Lajitas Array 70.89 67 P **P 00 02 47.4 +1.0**
comp=Z,8.8nm,0.9s,baz=300,slow=4.9,SNR=5.7
LATQ La Tuque 70.89 35 P **P 00 02 45.6 -0.3**
baz=329
F55A Otter Lake 70.89 38 P **P 00 02 46.0 +0.1**
baz=327
BANO Bancroft 70.97 40 P **P 00 02 45.7 -0.8**
baz=327,SNR=5.6
N47A Urbana 71.08 47 P **P 00 02 46.6 -0.7**
baz=324
G55A Calabogie 71.24 39 P **P 00 02 47.2 -0.9**
baz=327
U40A Yellville 71.26 55 P **P 00 02 47.8 -0.6**
baz=322,SNR=6.3
ACTO Acton 71.28 42 P **P 00 02 48.9 +0.5**
baz=326
PLVO Plevna 71.28 39 P **P 00 02 47.4 -0.9**
baz=327
HYB Hyderabad 71.36 274 *i* P **P 00 02 49.0 -0.3**
comp=Z,135nm,0.8s
HYB *e* 00 02 59.5
M49A Liberty Center 71.37 46 P **P 00 02 48.9 0.0**
baz=325
PKRO Pickering 71.39 41 P **P 00 02 48.9 -0.1**
baz=326
N48A Decatur 71.40 47 P **P 00 02 49.1 0.0**
baz=324
J52A Paris 71.42 42 P **P 00 02 49.2 0.0**
baz=326
DELO Deloro Mine 71.51 40 P **P 00 02 49.5 -0.2**
baz=327
ORIO Orleans, Innes 71.53 38 P **P 00 02 48.9 -0.9**
baz=328
Q45A Warren Harvey, 71.54 50 P **P 00 02 50.8 +0.8**
baz=323
DRWO Darlington Wes 71.61 41 P **P 00 02 50.1 -0.1**
baz=327
ALFO Alfred 71.62 37 P **P 00 02 49.3 -1.0**
baz=328,SNR=9.3
SOC Sochi 71.64 319*c i*P **P 00 02 49.5 -1.0**
SOC pmax pmax
comp=Z,28nm,0.7s
SOC MLR MLR
comp=Z,1μm,18.0s
H55A Tweed 71.65 39 P **P 00 02 50.3 -0.2**
baz=327
WLVO Wesleyville 71.69 41 P **P 00 02 51.0 +0.2**
baz=327
N49A Columbus Grove 71.73 46 P **P 00 02 51.7 +0.6**
baz=325
LVV L'vov 71.73 332 *e*P **P 00 02 50.9 0.0**
I55A Frankford 71.73 40 P **P 00 02 50.5 -0.5**
baz=327
U41A Viola 71.74 54 P **P 00 02 51.1 -0.1**
baz=322
TYNO Tyneside 71.79 42 P **P 00 02 51.0 -0.4**
baz=326
Q46A CEJHS Indians, 71.81 49 P **P 00 02 52.0 +0.4**
baz=324
O48A Farmland 71.83 47 P **P 00 02 51.4 -0.3**
baz=324
AKH Akhalkalaki 71.84 315⇑ *i*P **P 00 02 53.4 +1.4**
AKH Akhalkalaki 71.84 315 P **P 00 02 53.1 +1.1**
EKA Eskdalemuir Ar 71.89 350 P **P 00 02 52.2 +0.4**
comp=Z,19nm,0.7s,baz=24,slow=5.2,SNR=14
RUE Ruedersdorf 71.90 339 *e*P **P 00 02 52.3 +0.5**
RUE IAmb IAmb 00 02 54.1
comp=Z,68nm,0.9s
ESK Eskdalemuir 71.92 350 *e*P **P 00 02 52.7 +0.8**
comp=Z,33nm,0.9s
ESK Eskdalemuir 71.92 350 *e*P **P 00 02 52.7 +0.8**
ESK pmax pmax
comp=Z,33nm,0.9s
P47A Martinsville 71.94 48 P **P 00 02 52.5 0.0**
baz=324
R45A Skylar, Fairfi 71.96 50 P **P 00 02 52.9 +0.4**
baz=323
H56A Elgin 71.97 39 P **P 00 02 52.3 -0.2**
baz=328
S44A Carbondale 71.98 51 P **P 00 02 52.7 +0.1**
baz=323,SNR=5.2
J54A Appleton 72.14 41 P **P 00 02 54.0 +0.5**
baz=327
PECO Prince Edward 72.24 40 P **P 00 02 53.6 -0.5**
baz=327
WHTX Lake Whitney, 72.27 61 P **P 00 02 54.8 +0.3**
baz=321
KWP Kalwaria Pacla 72.28 333 *e*P **P 00 02 55.0 +0.8**
KWP Kalwaria Pacla 72.28 333 *e*P **P 00 02 55.0 +0.8**
N50A Nevada 72.30 45 P **P 00 02 55.5 +0.9**
baz=325
MEDO Medina 72.31 41 P **P 00 02 54.7 +0.2**
baz=327
S45A Carrier Mills 72.31 51 P **P 00 02 54.4 -0.2**
baz=323,SNR=5.1
GNI Garni 72.31 313 *e*P **P 00 02 56.2 +1.3**
comp=Z,28nm,0.8s
GNI Garni 72.31 313*c i*P **P 00 02 55.4 +0.6**
GNI pmax pmax
comp=Z,99nm,1.0s
GNI Garni 72.31 313 P **P 00 02 55.7 +0.9**
comp=Z,20nm,0.8s,baz=72,slow=22,SNR=7.7
MIAR Mount Ida 72.31 56 P **P 00 02 55.7 +1.0**
baz=322
Q47A Bedord North L 72.31 49 P **P 00 02 54.5 -0.1**
baz=324
P48A Milroy 72.35 48 P **P 00 02 55.2 +0.4**
baz=324
BATM Batumi 72.45 316⇑ *i*P **P 00 02 55.1 -0.3**
J55A Hilton 72.48 41 P **P 00 02 55.7 +0.2**
baz=327
W41B Gary Mavity, V 72.50 55 P **P 00 02 56.4 +0.6**
baz=322
N51A Ashland 72.52 45 P **P 00 02 56.1 +0.3**
baz=325
OJC Ojcow 72.54 335 *e*P **P 00 02 56.6 +0.8**
OJC Ojcow 72.54 335 *e*P **P 00 02 56.6 +0.8**
ERPA Erie 72.55 43 P **P 00 02 56.2 +0.2**
baz=326
IDGL Inch Island, C 72.55 353 *i* P **P 00 02 55.1 -0.6**
L53A Girard 72.57 43 P **P 00 02 56.0 -0.1**
baz=326
LONY Lake Ozonia 72.59 38 P **P 00 02 55.6 -0.6**
baz=328
P49A Miami Univ. Ec 72.61 47 P **P 00 02 56.4 0.0**
baz=325
BCA Borcka 72.61 316⇑ *i*P **P 00 02 56.8 +0.4**
Q48A North Vernon 72.64 48 P **P 00 02 57.0 +0.4**
baz=324
SIM Simferopol' 72.66 323*c i*P **P 00 02 56.2 -0.4**
SIM pmax pmax
comp=Z,21nm,1.0s
S46A Don Dixon Farm 72.72 50 P **P 00 02 57.5 +0.5**
baz=324
L54A Sinclairville 72.73 42 P **P 00 02 57.2 +0.2**
baz=327
KIS Kishinev 72.74 327 *e*P **P 00 02 56.0 -1.0**
comp=Z,180nm,1.2s
KIS Kishinev 72.74 327 *e*P **P 00 02 56.0 -1.0**
KIS *e* 00 03 06.0
KIS *e* 00 03 20.0
KIS pmax pmax
comp=Z,180nm,1.2s
R47A Wooly Knot Far 72.78 49 P **P 00 02 57.8 +0.4**
baz=324
ACSO Alum Creek Sta 72.82 46 P **P 00 02 58.2 +0.6**
baz=325
M53A WI Miller and 72.82 43 P **P 00 02 57.4 -0.2**
baz=326
K55A Perry 72.83 41 P **P 00 02 57.0 -0.6**
baz=327,SNR=6.0
KSP Ksiaz 72.85 337 *e*P **P 00 02 58.7 +1.1**
KSP Ksiaz 72.85 337 *e*P **P 00 02 58.7 +1.1**
N52A McGinn's Farm, 72.91 44 P **P 00 02 57.7 -0.4**
baz=326
WCI Wyandotte Cave 72.95 49 *e*P **P 00 02 59.3 +0.9**
comp=Z,15nm,0.8s
WCI Wyandotte Cave 72.95 49 *e*P **P 00 02 59.3 +0.9**
WCI pmax pmax
comp=Z,15nm,0.8s
WCI Wyandotte Cave 72.95 49 P **P 00 02 58.3 -0.1**
baz=324
P50A Jamestown 72.96 47 P **P 00 02 58.5 0.0**
baz=325
IAS Iasi 72.98 328⇑ *i*P **P 00 02 57.3 -1.1**
IAS Iasi 72.98 328 ⇑P **P 00 02 57.4 -1.0**
R48A Northridge Ran 73.00 49 P **P 00 02 59.1 +0.4**
baz=324
CTA Charters Tower 73.06 194 P **P 00 02 59.1 0.0**
comp=Z,3.7nm,0.7s,baz=26,slow=6.4,SNR=4.0
L55A Hinsdale 73.13 42 P **P 00 02 59.3 -0.2**
baz=327
NIE Niedzica 73.13 334 *e*P **P 00 03 00.4 +1.0**
NIE Niedzica 73.13 334 *e*P **P 00 03 00.4 +1.0**
T46A Princeton 73.15 51 P **P 00 02 59.7 +0.1**
baz=324
CLL Collm 73.17 339⇑ *i*P **P 00 03 00.0 +0.5**
CLL *e* 00 03 12.0
CLL pmax pmax
comp=Z,58nm,0.9s
CLL Collm 73.17 339⇑ *i*P **P 00 03 00.0 +0.5**
comp=Z,58nm,0.9s
CLL *e*pP **pP 00 03 12.0 -0.6**
CLL LmH 00 34 00.0
comp=N,500nm,19.4s
CLL LmH 00 34 00.0
comp=E,1μm,21.8s
S47A Hartford 73.18 50 P **P 00 03 00.6 +0.8**
baz=324
M54A Oil Creek Stat 73.19 43 P **P 00 02 59.7 -0.2**
baz=327
UPC Upice 73.22 337 *e*P **P 00 03 00.9 +1.1**
UPC MLR MLR
comp=Z,2μm,17.6s

UPC	Upice	73.22	337	eP		P	00 03 00.9 +1.1
UPC					AMS	AMS	00 41 30.0
comp=Z,2µm,17.6s							
PRAR	RASCA	73.25	329	⇓iP		P	00 03 00.4 +0.3
N53A	Lisbon	73.27	44	P		P	00 03 00.1 -0.2
baz=326							
DPC	Dobruska-Polom	73.30	337	eP		P	00 03 01.4 +1.1
DPC				e			00 03 10.7
DPC					MLR	MLR	
comp=Z,1µm,16.0s							
DPC	Dobruska-Polom	73.30	337	eP		P	00 03 01.4 +1.1
DPC				ex		x	00 03 10.7
DPC					AMS	AMS	00 41 30.0
comp=Z,1µm,16.0s							
OKC	Ostrava-Krasne	73.32	335	eP		P	00 03 01.3 +0.9
OKC					MLR	MLR	
comp=Z,1µm,16.8s							
OKC	Ostrava-Krasne	73.32	335	eP		P	00 03 01.3 +0.9
OKC					AMS	AMS	00 39 00.0
comp=Z,1µm,16.8s							
BURAR	Bucovina Array	73.34	330	⇓iP		P	00 03 01.5 +0.8
BURAR	Bucovina Array	73.34	330	⇓P		P	00 03 01.5 +0.8
BRG	Berggiesshubel	73.36	338	iP		P	00 03 01.0 +0.4
comp=Z,24nm,1.0s							
BRG	Berggiesshubel	73.36	338	iP		P	00 03 01.0 +0.4
BRG					pmax	pmax	
comp=Z,25nm,1.0s							
P51A	Williamsport	73.40	46	P		P	00 03 00.4 -0.7
baz=325							
O52A	Adamsville	73.41	45	P		P	00 03 00.4 -0.7
baz=326							
R49A	Shelbyville	73.41	48	P		P	00 03 01.9 +0.7
baz=325							
KRLC	Kraliky	73.44	336	eP		P	00 03 02.1 +0.9
KRLC	Kraliky	73.44	336	eP		P	00 03 02.1 +0.9
N54A	Moraine State	73.50	43	P		P	00 03 02.5 +0.9
baz=326							
S48A	Wiedeman Farm,	73.52	49	P		P	00 03 01.4 -0.4
baz=324,SNR=5.4							
MORC	Moravsky Berou	73.53	336	⇑iP		P	00 03 02.7 +1.0
MORC	Moravsky Berou	73.53	336	⇑P		P	00 03 02.7 +1.0
MORC	Moravsky Berou	73.53	336	eP		P	00 03 02.2 +0.5
PVCC	Panska Ves	73.55	338	eP		P	00 03 02.9 +1.2
PVCC					MLR	MLR	
comp=Z,1µm,15.9s							
PVCC	Panska Ves	73.55	338	eP		P	00 03 02.9 +1.2
PVCC					AMS	AMS	00 40 20.0
comp=Z,1µm,15.9s							
T47A	Sharon Grove	73.56	50	P		P	00 03 02.8 +0.8
baz=324							
O53A	New Philadelph	73.57	44	P		P	00 03 01.7 -0.4
baz=326							
M55A	Ridgway	73.59	42	P		P	00 03 01.6 -0.6
baz=327,SNR=5.7							
Q51A	Peebles	73.64	47	P		P	00 03 02.5 0.0
baz=325							
TRPA	Tarpa	73.68	332	⇓iP		P	00 03 03.8 +1.3
P52A	Corning	73.68	45	P		P	00 03 02.7 0.0
baz=326							
WTSB	Winterswijk	73.77	343	eP		P	00 03 03.7 +0.7
comp=Z,70nm,0.9s							
S49A	Springfield	73.77	49	P		P	00 03 03.3 0.0
baz=325							
T48A	Bowling Green	73.80	50	P		P	00 03 03.5 +0.1
baz=324							
R50A	Paris	73.81	48	P		P	00 03 03.6 +0.1
baz=325							
BMR	Baia Mare	73.81	331	⇑iP		P	00 03 04.1 +0.8
BMR	Baia Mare	73.81	331	⇑P		P	00 03 04.1 +0.8
TESR	Tescani	73.87	329	⇓iP		P	00 03 04.1 +0.4
LBNH	Lisbon	73.90	36	P		P	00 03 04.2 +0.3
baz=330							
WVT	Waverly	73.91	51	eP		P	00 03 04.9 +0.9
comp=Z,12nm,0.8s							
WVT	Waverly	73.91	51	P		P	00 03 04.6 +0.5
baz=324							
U47A	Clarksville	73.92	51	P		P	00 03 04.6 +0.5
baz=324							
PKME	Peaks-Kenny Pk	73.94	34	eP		P	00 03 05.0 +1.0
comp=Z,17nm,0.9s							
PKME	Peaks-Kenny Pk	73.94	34	P		P	00 03 04.1 0.0
baz=331							
ACCN	Adirondack Com	73.99	38	eP		P	00 03 04.5 +0.1
comp=Z,22nm,0.9s							
O54A	Avella	73.99	44	P		P	00 03 04.7 +0.2
baz=326							
PRU	Pruhonice	74.06	338	eP		P	00 03 05.5 +0.8
PRU					MLR	MLR	
comp=Z,1µm,16.0s							
PRU	Pruhonice	74.06	338	eP		P	00 03 05.5 +0.8
PRU					AMS	AMS	00 40 00.0
comp=Z,1µm,16.0s							
GOPC	GO Pecny, Ondr	74.07	338	eP		P	00 03 05.8 +1.0
GOPC					MLR	MLR	
comp=Z,1µm,16.2s							
GOPC	GO Pecny, Ondr	74.07	338	eP		P	00 03 05.8 +1.0
GOPC				ex		x	00 03 12.2
GOPC					AMS	AMS	00 38 40.0
comp=Z,1µm,16.2s							
N55A	Marion Center	74.08	43	P		P	00 03 04.5 -0.6
baz=327,SNR=5.8							
ARCR	ARCALIA	74.08	330	⇑iP		P	00 03 06.8 +1.9
BINY	Binghamton	74.10	40	P		P	00 03 04.9 -0.2
baz=328							
P53A	Whipple	74.13	45	P		P	00 03 04.9 -0.4
baz=326							
R51A	Hillsboro	74.13	47	P		P	00 03 05.4 0.0
baz=325							
Q52A	Bidwell	74.17	46	P		P	00 03 06.2 +0.7
baz=326							
VRAC	Vranov	74.19	336	⇑iP		P	00 03 06.8 +1.2
VRAC	Vranov	74.19	336	⇑P		P	00 03 06.8 +1.2
VRAC	Vranov	74.19	336	eP		P	00 03 06.4 +0.8
VRAC	Vranov	74.19	336	P		P	00 03 06.7 +1.1
comp=Z,37nm,0.9s,baz=27,slow=6.5,SNR=18							
T49A	Edmonton	74.21	49	P		P	00 03 06.6 +0.7
baz=325							
U48A	Cassie Pea, Po	74.22	50	P		P	00 03 07.0 +1.1
baz=324							
HNH	Hanover	74.23	37	eP		P	00 03 07.1 +1.3
comp=Z,18nm,0.9s							
S50A	Richmond	74.27	48	P		P	00 03 06.2 +0.1
baz=325							
DSB	Dublin	74.27	352	iP		P	00 03 05.5 -0.4
NKC	Novy Kostel	74.30	339	eP		P	00 03 07.3 +1.1
NKC					MLR	MLR	
comp=Z,700nm,19.6s							
NKC	Novy Kostel	74.30	339	eP		P	00 03 07.3 +1.1
NKC					AMS	AMS	00 40 10.0
comp=Z,700nm,19.6s							
V47A	Nunnelly	74.30	51	P		P	00 03 06.5 +0.2
baz=324							
TLCR		74.33	327	⇓iP		P	00 03 06.4 +0.1
TLCR		74.33	327	⇓P		P	00 03 06.5 +0.1
IGLA	Glengowla, Co	74.33	354	eP		P	00 03 05.3 -0.9
JAVC	Velka Javorina	74.34	335	eP		P	00 03 08.2 +1.7
PETR	Petresti	74.38	328	⇑iP		P	00 03 05.6 -1.1
ODBI	Odobesti	74.41	328	⇓iP		P	00 03 08.5 +1.7
O55A	Ligonier	74.42	43	P		P	00 03 06.6 -0.4
baz=327,SNR=5.9							
VRI	Vrincioaia	74.42	328	⇑iP		P	00 03 07.9 +1.0
P54A	Burton	74.42	44	P		P	00 03 07.3 +0.2
baz=326							
OXF	Oxford	74.44	53	P		P	00 03 08.1 +0.9
baz=324							
PLOR	Plostina	74.46	328	⇓iP		P	00 03 07.2 0.0
PLOR	Plostina	74.46	328	⇓P		P	00 03 07.2 0.0
KRUC	Moravsky	74.47	336	eP		P	00 03 08.0 +0.8
TREC	Trest	74.48	337	eP		P	00 03 08.2 +1.0
TREC					MLR	MLR	
comp=Z,1µm,17.4s							
TREC	Trest	74.48	337	eP		P	00 03 08.2 +1.0
TREC					AMS	AMS	00 42 20.0
comp=Z,1µm,17.4s							
OZUR		74.52	329	⇑iP		P	00 03 06.4 -1.1
CFR	Carcaliu	74.57	327	⇑iP		P	00 03 08.0 +0.3
CFR	Carcaliu	74.57	327	⇑P		P	00 03 08.0 +0.3
U49A	Red Boiling Sp	74.57	50	P		P	00 03 08.1 +0.1
baz=325							
Q53A	Leroy	74.59	46	P		P	00 03 07.6 -0.4
baz=326							
T50A	Nancy	74.60	49	P		P	00 03 08.5 +0.4
baz=325							
PSZ	Piszkesteto	74.61	334	⇓iP		P	00 03 09.5 +1.4
PSZ	Piszkesteto	74.61	334	⇓P		P	00 03 09.5 +1.4
CJR	Cluj-Napoca	74.64	331	⇑iP		P	00 03 08.9 +0.6
CJR	Cluj-Napoca	74.64	331	⇑P		P	00 03 08.9 +0.6
MCWV	Mont Chateau	74.65	44	P		P	00 03 08.6 +0.2
baz=327							
SSPA	Standing Stone	74.65	42	eP		P	00 03 08.8 +0.5
comp=Z,19nm,0.9s							
SSPA	Standing Stone	74.65	42	P		P	00 03 08.9 +0.5
baz=328							
S51A	Beattyville	74.67	48	P		P	00 03 08.8 +0.4
baz=325							
O56A	Blue Knob Stat	74.68	43	P		P	00 03 08.5 -0.1
baz=327,SNR=5.5							
V48A	Smith Brothers	74.71	51	P		P	00 03 08.5 -0.3
baz=324,SNR=6.4							
BISRR	Bisoca	74.71	328	⇓iP		P	00 03 10.2 +1.5
PLAL	Pickwick Lake	74.71	52	eP		P	00 03 09.2 +0.4
comp=Z,11nm,0.8s							
SMOL	Smolenice	74.72	335	eP		P	00 03 10.6 +2.0
W47A	Westpoint	74.73	52	P		P	00 03 10.0 +1.2
baz=324							
DOPR	Dopca	74.76	329	⇓iP		P	00 03 09.9 +1.0
P55A	Reedsville	74.78	44	P		P	00 03 09.0 -0.2
baz=327,SNR=5.5							
Q54A	Coxs Mills	74.78	45	P		P	00 03 09.4 +0.3
baz=326							
X46A	Booneville	74.81	53	P		P	00 03 09.6 +0.2
baz=324							
R53A	Hurricane	74.83	46	P		P	00 03 09.4 0.0
baz=326							
DRGR		74.84	331	⇓iP		P	00 03 10.1 +0.7
DRGR		74.84	331	⇓P		P	00 03 10.1 +0.7
S52A	Salyersville	74.87	47	P		P	00 03 10.0 +0.3
baz=326							
MDB	Medias	74.92	330	⇑iP		P	00 03 11.9 +2.1
MLR	Muntele Rosu	75.01	329	⇓iP		P	00 03 12.2 +1.7
MLR	Muntele Rosu	75.01	329	P		P	00 03 11.3 +0.8
comp=Z,38nm,0.6s,baz=164,slow=4.6,SNR=21							
DIKM	Dikmen	75.04	321	⇑iP		P	00 03 11.2 +0.6
GRF	Grafenberg Arr	75.07	340	P		P	00 03 12.3 +1.7
GRFO	Grafenberg	75.08	340	eP		P	00 03 12.2 +1.6
comp=Z,63nm,1.0s							
GRFO	Grafenberg	75.08	340	P		P	00 03 12.4 +1.8
HGN	Heimansgroeve	75.08	343	eP		P	00 03 11.1 +0.5
comp=Z,105nm,1.0s							
KHC	Kasperske Hory	75.08	338	eP		P	00 03 12.1 +1.4
KHC				e			00 03 24.0
KHC					MLR	MLR	
comp=Z,1µm,15.5s							
KHC	Kasperske Hory	75.08	338	eP		P	00 03 12.1 +1.4
KHC				ex		x	00 03 24.0
KHC					AMS	AMS	00 41 10.0
comp=Z,1µm,15.5s							
BEBN	Eben Emael	75.09	344	⇑P		P	00 03 11.6 +0.9
comp=Z,5.9nm,0.7s							
U50A	Jamestown	75.09	49	P		P	00 03 11.0 0.0
baz=325							
Q55A	Buckhannon	75.10	44	P		P	00 03 11.2 +0.2
baz=327							
TLB	Topalu	75.12	327	⇑iP		P	00 03 11.7 +0.8
TLB	Topalu	75.12	327	⇑P		P	00 03 11.7 +0.8
V49A	McMinnville	75.12	50	P		P	00 03 11.6 +0.5
baz=325							
W48A	Pulaski	75.14	51	P		P	00 03 12.1 +0.8
baz=324							
IWEX	Carrickbyrne,	75.17	352	iP		P	00 03 10.5 -0.6
X47A	Russelville	75.19	52	P		P	00 03 12.1 +0.5
baz=324							
MEM	Membach	75.21	343	⇑P		P	00 03 12.1 +0.7
comp=Z,102nm,0.9s							
WET	Wettzell	75.23	339	P		P	00 03 13.0 +1.4
BZK	Bozkurt	75.26	322	⇑iP		P	00 03 12.6 +0.8
N59A	State Game Lan	75.27	41	P		P	00 03 11.2 -0.7
baz=328,SNR=8.3							
S53A	Wilamson	75.29	47	P		P	00 03 12.5 +0.4
baz=326							
GERES	GERESS Array B	75.32	338	P		P	00 03 12.8 +0.6
comp=Z,13nm,0.8s,baz=38,slow=5.0,SNR=17							
GERES					PP	PP	00 06 02.8 +2.3
comp=Z,1.4nm,0.9s,baz=25,slow=9.7,SNR=4.4							
VOIR		75.34	329	⇑iP		P	00 03 13.3 +1.0
VOIR		75.34	329	⇑P		P	00 03 13.3 +1.0
MFTR	Murfatlar	75.35	326	⇑iP		P	00 03 13.1 +0.8
WRA	Warramunga Arr	75.36	205	P		P	00 03 12.4 0.0
comp=Z,8.7nm,0.8s,baz=23,slow=5.0,SNR=7.2							
T52A	Hallie	75.38	48	P		P	00 03 13.0 +0.4
baz=326							
R54A	Victor	75.38	46	P		P	00 03 13.6 +0.9
baz=326							
BCLA	Clavier	75.52	344	⇑P		P	00 03 13.8 +0.7
comp=Z,35nm,1.3s							
MTUR	Matau	75.52	329	⇑iP		P	00 03 14.3 +0.9
MTUR	Matau	75.52	329	⇑P		P	00 03 14.3 +0.9
HRV	Adam Dziewonsk	75.53	37	eP		P	00 03 14.1 +0.7
comp=Z,28nm,1.0s							
HRV	Adam Dziewonsk	75.53	37	eP		P	00 03 14.1 +0.7
HRV					pmax	pmax	
comp=Z,28nm,1.0s							
HRV	Adam Dziewonsk	75.53	37	P		P	00 03 13.1 -0.3
baz=330							
ARR	Arges	75.53	329	⇑iP		P	00 03 15.3 +1.9
V50A	Pikevile	75.58	50	P		P	00 03 14.2 +0.4
baz=325							
TZTN	Tazewell	75.58	48	P		P	00 03 14.2 +0.4
baz=326							
ODNJ	Ogdensburg	75.59	40	eP		P	00 03 14.1 +0.3
comp=Z,18nm,1.0s							
SNF	Seneffe	75.60	344	⇑P		P	00 03 14.2 +0.6
comp=Z,28nm,0.9s							
ICOR	Ion Corvin	75.61	327	⇑iP		P	00 03 15.3 +1.5
O59A	Robesonia	75.62	41	P		P	00 03 14.1 +0.2
baz=328							
SULR		75.63	328	⇑iP		P	00 03 14.2 +0.3
CONA	Conrad Observa	75.66	336	eP		P	00 03 15.4 +1.3
comp=Z,49nm,1.1s,SNR=11							
R55A	Marlinton	75.68	45	P		P	00 03 14.8 +0.4
baz=327							
T53A	Wise	75.69	47	P		P	00 03 15.0 +0.6
baz=326							
SOP	Sopron	75.71	336	P		P	00 03 16.1 +1.8
LOT	Lotru	75.73	330	⇑iP		P	00 03 15.2 +0.6
Q57A	Strasburg	75.78	43	P		P	00 03 15.1 +0.2
baz=328							
U52A	Thorn Hill	75.79	48	P		P	00 03 15.4 +0.4
baz=326							
V51A	Loudon	75.82	49	P		P	00 03 15.9 +0.8
baz=325							
W50A	Signal Mountai	75.86	50	P		P	00 03 15.4 -0.1
baz=325,SNR=5.3							
VAL	Valentia	75.87	354	iP		P	00 03 14.8 -0.3
O60A	Telford	75.93	41	P		P	00 03 15.9 +0.2
baz=329							
PAL	Palisades	75.93	39	P		P	00 03 15.1 -0.6
baz=329,SNR=5.2							
DOU	Dourbes	75.95	344	⇑P		P	00 03 16.1 +0.5
comp=Z,20nm,1.0s							
Y48A	Jasper	76.02	52	P		P	00 03 16.2 -0.1
baz=324							
T54A	Tazewell	76.05	47	P		P	00 03 17.1 +0.6
baz=326							
GZR	Gura Zlata	76.08	331	⇑iP		P	00 03 17.0 +0.5
GZR	Gura Zlata	76.08	331	⇑P		P	00 03 17.1 +0.5
WLF	Walferdange	76.09	343	⇑P		P	00 03 17.7 +1.3
comp=Z,19nm,1.5s							
MOA	Molln	76.12	337	eP		P	00 03 17.7 +1.0
comp=Z,23nm,0.9s,SNR=10							
SGRR	Singureni	76.13	328	⇓iP		P	00 03 15.5 -1.2
V52A	Sevierville	76.14	49	P		P	00 03 18.0 +1.1
baz=326							
W51A	Cleveland	76.15	50	P		P	00 03 17.8 +0.8
baz=325							
U53A	Fall Branch	76.17	48	P		P	00 03 18.5 +1.3
baz=326							
BZS	Buzias	76.22	331	⇓iP		P	00 03 17.7 +0.4
BZS	Buzias	76.22	331	⇓P		P	00 03 17.7 +0.4
P60A	Greenville	76.27	41	P		P	00 03 17.6 +0.1
baz=329							
X50B	Fort Payne	76.30	51	P		P	00 03 18.4 +0.5
baz=325							
R57A	Stanardsville	76.35	44	P		P	00 03 18.2 +0.1
baz=328							
STU	Stuttgart	76.37	341	P		P	00 03 19.8 +1.8
ARSA	Arzberg	76.37	336	eP		P	00 03 19.4 +1.3
comp=Z,36nm,1.1s,SNR=10							
Y49A	Blount Mountai	76.43	52	P		P	00 03 18.8 +0.2
baz=325							
FUR	Furstenfeldbru	76.51	339	P		P	00 03 20.2 +1.3
R58A	Rapidan	76.57	43	P		P	00 03 19.6 +0.3
baz=328							
BANR	Banloc	76.58	332	⇓iP		P	00 03 18.6 -0.6
W52A	Murphy	76.60	49	P		P	00 03 20.7 +1.1
baz=326							
S57A	Dark Hollow, R	76.62	44	P		P	00 03 20.6 +0.9
baz=327							
V53A	Saluda	76.64	48	P		P	00 03 20.9 +1.0
baz=326							
HERR	Herculane	76.65	331	⇓iP		P	00 03 19.7 0.0
Q59A	Harwood	76.66	42	P		P	00 03 19.9 +0.1
baz=328							
Y50A	Piedmont	76.73	51	P		P	00 03 21.2 +0.8
baz=325							
LRAL	Lakeview Retre	76.81	53	P		P	00 03 21.0 +0.2
baz=325							
VLAD	Vladila	76.83	329	⇑iP		P	00 03 21.4 +0.7
W53A	Cullowhee	76.89	49	P		P	00 03 21.6 +0.3
baz=326							
R58B	Mineral	76.91	44	P		P	00 03 21.8 +0.6
baz=328							
Z49A	Columbiana	76.91	52	P		P	00 03 21.6 +0.2
baz=325							
CBN	Corbin Frederi	76.92	43	P		P	00 03 21.3 0.0
baz=328							
V54A	Nebo	76.95	48	P		P	00 03 21.9 +0.3
baz=326							
MDVR	Moldovita	76.95	331	⇑iP		P	00 03 21.5 0.0
BFO	Black Forest	76.96	341	eP		P	00 03 22.1 +0.6
comp=Z,39nm,1.2s							
BFO	Black Forest	76.96	341	eP		P	00 03 22.1 +0.6
BFO					pmax	pmax	
comp=Z,39nm,1.2s							
X52A	Dahlonega	77.02	50	P		P	00 03 23.4 +1.4
baz=326							
R59A	King George, V	77.03	43	P		P	00 03 22.4 +0.5
baz=328							
SOKA	Soboth	77.03	336	eP		P	00 03 22.9 +1.0
comp=Z,42nm,1.1s,SNR=9.6							
PUNG	Punghina	77.04	330	⇓iP		P	00 03 22.0 +0.1
Y51A	Rockmart	77.04	51	P		P	00 03 22.1 0.0
baz=325							
PERS	Pernice	77.05	336	iP		P	00 03 23.0 +1.0
KBA	Koelnbreinsper	77.06	337	eP		P	00 03 24.0 +1.7
comp=Z,140nm,0.9s,SNR=17							
KBA	Koelnbreinsper	77.06	337	P		P	00 03 23.9 +1.7
T57A	Hurt	77.13	45	P		P	00 03 22.7 +0.2
baz=327							
S58A	Poland Farm, P	77.13	44	P		P	00 03 22.3 -0.2
baz=328							
Z50A	Ashland	77.16	52	eP		P	00 03 23.0 +0.3
comp=Z,19nm,1.0s							
Z50A	Ashland	77.16	52	P		P	00 03 22.3 -0.5
baz=325							
FRGS	Fruska Gora	77.16	332	eP		P	00 03 22.9 +0.3
U56A	King	77.17	46	P		P	00 03 23.1 +0.3
baz=327							
WATA	Walderalm	77.22	339	eP		P	00 03 24.2 +1.1
comp=Z,37nm,1.1s,SNR=9.3							
RETA	Reute	77.26	339	eP		P	00 03 24.1 +1.0
comp=Z,32nm,1.0s,SNR=6.2							
WTTA	Wattenberg	77.28	339	eP		P	00 03 24.8 +1.3
comp=Z,53nm,1.1s,SNR=12							
OBKA	Obir	77.31	336	eP		P	00 03 24.5 +1.1
comp=Z,38nm,1.1s,SNR=6.2							
MOTA	Moosalm	77.32	339	eP		P	00 03 25.1 +1.4
comp=Z,38nm,0.9s,SNR=10							
BR131	Keskin Array S	77.32	321	P		P	00 03 24.6 +0.9
SNR=7.9							
BRTR	Keskin Array B	77.32	321	P		P	00 03 23.9 +0.1
comp=Z,14nm,0.9s,baz=52,slow=3.4,SNR=15							
BRTR					PP	PP	00 06 19.7 +2.0
comp=Z,3.9nm,0.9s,baz=46,slow=4.8,SNR=4.3							
S59A	Mechanicsville	77.32	43	P		P	00 03 24.9 +1.4
baz=328							
X53A	Estanollee	77.38	49	P		P	00 03 24.1 +0.1
baz=326							
W54A	Cherokee Point	77.41	48	P		P	00 03 23.9 -0.2
baz=326							
MYKA	Terra Mystica	77.41	337	iP		P	00 03 24.9 +0.9
comp=Z,12nm,1.1s							
SQTA	Sankt Quirin	77.42	339	eP		P	00 03 25.3 +1.2
comp=Z,54nm,0.9s,SNR=12							
T58A	Grand View Acr	77.48	45	P		P	00 03 24.1 -0.3
baz=328							
ANTO	Ankara	77.53	321	eP		P	00 03 25.8 +1.0
comp=Z,122nm,1.5s							
ANTO	Ankara	77.53	321	⇓iP		P	00 03 25.7 +0.9
ANTO	Ankara	77.53	321	eP		P	00 03 25.8 +1.0
ANTO					pmax	pmax	
comp=Z,122nm,1.5s							
ANTO	Ankara	77.53	321	P		P	00 03 26.3 +1.5
SNR=6.6							
U57A	Blanch	77.56	45	P		P	00 03 25.6 +0.7
baz=327							
ABTA	Abfaltersbach	77.57	338	iP		P	00 03 25.6 +0.7
comp=Z,38nm,0.9s,SNR=11							
V56A	Mocksville	77.57	47	P		P	00 03 25.7 +0.7
baz=327							
ZAG	Zagreb	77.58	335	eP		P	00 03 25.6 +0.7
DAVA	Damuels	77.64	340	eP		P	00 03 26.5 +1.1
comp=Z,27nm,1.0s,SNR=9.0							
BLJ	Bijeljina	77.66	333	eP		P	00 03 25.9 +0.6
FETA	Feichten	77.71	339	eP		P	00 03 27.0 +1.2
comp=Z,39nm,1.0s,SNR=8.8							
KLYT	Kilyos	77.71	325	⇓iP		P	00 03 24.1 -1.6
CRES	Cresnjev	77.72	336	eP		P	00 03 25.8 +0.1
KMSC	Kings Mountain	77.75	48	P		P	00 03 26.1 +0.1
baz=327							
X54A	Belton	77.77	49	P		P	00 03 25.9 -0.2
baz=326							
Y53A	Monroe	77.78	50	P		P	00 03 26.3 +0.1
baz=326							
CTYL	Yalikoy Yolu	77.78	325	⇑iP		P	00 03 23.6 -2.4
V57A	Coltrane Farms	77.83	46	P		P	00 03 27.1 +0.7
baz=327							
PALK	Pallekele	77.88	266	iP		P	00 03 24.5 -2.5
T59A	Double "B" Far	77.88	44	P		P	00 03 27.3 +0.6
baz=328							
SHME	Shamm	77.89	297	iP		P	00 03 26.6 -0.4
SNR=11							
PHSR	Pinarhisar	77.91	326	⇑iP		P	00 03 27.3 +0.5
Z52A	Williamson	77.93	51	P		P	00 03 27.2 +0.1
baz=326							
U58A	Oxford	77.94	45	P		P	00 03 26.7 -0.3
baz=328							
250A	Grady	78.03	53	P		P	00 03 27.5 -0.1
baz=325							
DOB	Doboj	78.03	333	eP		P	00 03 26.9 -0.5
151A	Opelika	78.04	52	P		P	00 03 27.5 -0.1
baz=325							
CEY	Cerknica	78.06	336	eP		P	00 03 27.8 +0.2
BOJS	Bojanci	78.07	336	iP		P	00 03 28.4 +0.8
DIVS	Divibare	78.08	332	eP		P	00 03 27.8 0.0
W56A	Indian Trail	78.10	47	P		P	00 03 28.6 +0.7
baz=327							
DAVOX	Davos/Dischmat	78.12	340	P		P	00 03 29.3 +1.2
comp=Z,21nm,0.8s,baz=36,slow=4.6,SNR=9.9							

comp=Z,72nm,0.8s,baz=73,slow=4.3,SNR=19
BIDO Bidbid 78.78 294 P **P 00 03 33.0 +1.1**
SNR=5.2
W58A Raeford 78.79 46 P **P 00 03 32.8 +1.0**
baz=328
HATD Hatta, Dubai 78.86 296 *i P* **P 00 03 32.1 -0.2**
SNR=18
HATD Hatta, Dubai 78.86 296 P **P 00 03 33.0 +0.7**
SNR=7.1
PLE Pljevlja 78.96 332 ⇑*iP* **P 00 03 32.8 +0.1**
NAZ Nazwa, Dubai 78.99 297 *i P* **P 00 03 32.4 -0.6**
SNR=12
ASHO Ashiyiah 79.01 296 *i P* **P 00 03 33.0 -0.2**
SNR=13
ASHO Ashiyiah 79.01 296 P **P 00 03 33.7 +0.5**
SNR=6.9
ASAR Alice Springs 79.03 204 P **P 00 03 34.1 +1.1**
comp=Z,7.6nm,0.7s,baz=17,slow=5.3,SNR=12
SENIN Lac Senin/Sane 79.05 341 *eP* **P 00 03 34.6 +1.3**
comp=Z,23nm,1.1s
JLN Jalan Bani Buh 79.12 292 P **P 00 03 35.0 +1.2**
SNR=5.6
SOHO SOHO 79.18 295 P **P 00 03 34.1 0.0**
SNR=7.3
UPM Unac-Piva 79.22 332 ⇑*iP* **P 00 03 33.9 -0.3**
UPM Unac-Piva 79.22 332 *eP* **P 00 03 34.2 0.0**
FAQ Al Faqa, Dubai 79.22 296 *i P* **P 00 03 33.4 -0.8**
SNR=9.0
IVA Berane 79.23 331 ⇑*iP* **P 00 03 34.3 +0.1**
KOME Kolasin 79.36 332 ⇑*iP* **P 00 03 34.7 -0.2**
ASUD Al Ashush, Dub 79.46 297 *i P* **P 00 03 35.6 0.0**
SNR=13
PVY Plav 79.47 331 ⇑*iP* **P 00 03 35.3 -0.2**
254A Abbeville 79.49 51 P **P 00 03 36.2 +0.5**
baz=326
NKY Niksic 79.55 332 ⇑*iP* **P 00 03 35.7 -0.2**
SKO Skopje 79.59 330 *i P* **P 00 03 36.7 +0.6**
BRY Bratogost 79.60 332 ⇑*iP* **P 00 03 35.7 -0.5**
BRY Bratogost 79.60 332 P **P 00 03 36.7 +0.5**
BRY Bratogost 79.60 332 *eP* **P 00 03 35.3 -0.9**
NKME Niksic 79.60 332 ⇑*iP* **P 00 03 35.8 -0.3**
STIP Stip 79.61 329 *i P* **P 00 03 35.5 -0.6**
ALNE Al Ain 79.68 296 *i P* **P 00 03 36.5 -0.3**
SNR=16
SRS Serrai 79.69 328 P **P 00 03 36.9 +0.3**
X60A Albert Glenn T 79.72 45 P **P 00 03 37.2 +0.4**
baz=328
CEME Cevo 79.82 332 ⇑*iP* **P 00 03 37.0 -0.3**
TREB Trebinje 79.82 332 *eP* **P 00 03 36.7 -0.6**
PDG Podgorica 79.83 332 ⇓*iP* **P 00 03 37.5 +0.2**
PDG Podgorica 79.83 332 *eP* **P 00 03 37.2 0.0**
TTG Podgorica 79.83 332 ⇑*iP* **P 00 03 37.3 0.0**
VAY Valandovo 79.83 329 *i P* **P 00 03 38.0 +0.7**
STON Ston 79.86 333 *eP* **P 00 03 36.5 -0.9**
255A Hazlehurst 79.89 50 P **P 00 03 38.7 +0.9**
baz=327
EZN Ezine 79.93 326 ⇓*iP* **P 00 03 38.1 +0.2**
EZN Ezine 79.93 326 ⇓P **P 00 03 38.1 +0.2**
HCY Herceg Novi 80.03 332 ⇑*iP* **P 00 03 37.9 -0.5**
HCY Herceg Novi 80.03 332 *eP* **P 00 03 37.7 -0.7**
BUM Brajici-Budva 80.05 332 ⇑*iP* **P 00 03 39.0 +0.4**
DRME Dracevica, Mon 80.07 332 ⇑*iP* **P 00 03 38.6 0.0**
DRME Dracevica, Mon 80.07 332 *eP* **P 00 03 38.6 0.0**
KRUS Krusevo 80.20 330 *i P* **P 00 03 39.7 +0.3**
ULC Ulcinj 80.26 332 ⇑*iP* **P 00 03 39.9 +0.2**
BNI Bardonecchia 80.43 341 P **P 00 03 43.8 +3.1**
OHR Ohrid 80.57 330 *i P* **P 00 03 41.2 -0.2**
TIR Tirane 80.64 331 ⇑*iP* **P 00 03 42.3 +0.6**
TIR Tirane 80.64 331 ⇑P **P 00 03 42.3 +0.6**
FNA Florina 80.69 330 P **P 00 03 42.0 -0.1**
554A Perry 80.84 52 P **P 00 03 43.8 +0.9**
baz=326
MHTO MHTO 80.86 292 P **P 00 03 44.0 +0.8**
SNR=12
LIT Litokhoron 80.96 329 *eP* **P 00 03 42.6 -0.9**
comp=Z,33nm,0.9s
LIT Litokhoron 80.96 329 *eP* **P 00 03 42.6 -0.9**
LIT pmax pmax
comp=Z,33nm,0.9s
555A McAlpin 81.16 52 P **P 00 03 45.4 +0.8**
baz=327
MAMC Mammari 81.42 319 P **P 00 03 45.8 -0.2**
AQU L'Aquila 81.49 336 P **P 00 03 48.9 +2.7**
QASN Qassioun 81.55 316 *eP* **P 00 03 43.1 -3.7**
TOTH TOTAH 81.63 315 *eP* **P 00 03 46.1 -1.1**
ALFC Alefka 81.69 319 P **P 00 03 46.1 -1.3**
BRBR Barbar 81.80 316 *eP* P 00 03 39.6 -8.7
SZAC Souni 81.92 319 P **P 00 03 48.4 -0.2**
656A Willston 81.99 52 P **P 00 03 50.6 +1.6**
baz=327
PPCY Paphos 82.03 319 P **P 00 03 47.8 -1.3**
IGT Igoumenitsa 82.16 330 P **P 00 03 50.3 +0.5**
MATE Matera 82.20 333 ⇑*iP* **P 00 03 49.9 0.0**
MMAI Mount Meron Ar 82.37 316 P **P 00 03 51.7 +0.6**
comp=Z,70nm,0.8s,baz=30,slow=6.8,SNR=29
ASF Jabal al Asfar 82.44 314 P **P 00 03 52.1 +0.6**
comp=Z,32nm,0.8s,baz=73,slow=1.6,SNR=20
APE Apeiranthos 82.67 325 ⇓*iP* **P 00 03 51.0 -1.5**
APE Apeiranthos 82.67 325 ⇓P **P 00 03 51.0 -1.5**
758A Lake Helen 82.97 51 P **P 00 03 55.3 +1.2**
baz=327
857A Zephyrhills 83.05 52 P **P 00 03 55.5 +0.9**
baz=327
TIP Timpagrande 83.55 332 ⇓*iP* **P 00 03 57.9 +0.8**
ITM Ithomi 83.80 328 *eP* **P 00 03 57.2 -1.1**
comp=Z,41nm,0.9s
IDI Anoyia 84.50 325 P **P 00 04 00.5 -1.4**
comp=Z,19nm,0.6s,baz=338,slow=8.6,SNR=11
STKA Stephens Creek 85.36 196 *eP* **P 00 04 07.0 +1.1**
STKA Stephens Creek 85.36 196 P **P 00 04 06.5 +0.6**
comp=Z,5.1nm,0.8s,baz=0.6,slow=7.3,SNR=6.4
EIL Elat 85.44 315 P **P 00 04 06.7 0.0**
comp=Z,50nm,1.0s,baz=9.4,slow=5.5,SNR=12
PGAV Gavieira, Arco 85.63 351 *eP* **P 00 04 08.8 +1.3**
comp=Z,65nm,1.5s
PBRG Braganca 85.64 350 *eP* **P 00 04 08.6 +1.1**
comp=Z,49nm,1.4s
PCAB Cabril 85.86 351 *eP* **P 00 04 09.9 +1.3**
comp=Z,48nm,1.8s
POLO Lamas de Olo 86.17 351 *eP* **P 00 04 11.5 +1.3**
comp=Z,20nm,1.0s
PVRL Vila Real 86.26 351 *eP* **P 00 04 12.0 +1.4**
comp=Z,60nm,0.9s
MVO Moncorvo 86.30 350 *eP* **P 00 04 11.8 +1.0**
comp=Z,47nm,1.0s
PTO Porto 86.48 352 *eP* **P 00 04 13.1 +1.5**
PVIS Viseu 86.83 351 *eP* **P 00 04 14.3 +0.9**
comp=Z,49nm,1.0s
MTE Manteigas 87.11 351 *eP* **P 00 04 15.4 +0.6**
comp=Z,47nm,1.0s
COI Coimbra 87.38 351 *eP* **P 00 04 16.8 +0.8**
comp=Z,58nm,1.1s
ESDC Sonseca Array 87.42 348 P **P 00 04 16.8 +0.5**
comp=Z,26nm,1.1s,baz=4.5,slow=5.0,SNR=14
PCAS Casmilo, Conde 87.54 351 *eP* **P 00 04 17.5 +0.7**
comp=Z,65nm,1.3s
PAB San Pablo 87.59 348 *eP* **P 00 04 17.7 +0.6**
comp=Z,14nm,1.0s
PAB San Pablo 87.59 348 *eP* **P 00 04 17.7 +0.6**
PAB pmax pmax
comp=Z,14nm,1.0s
PCBR Castelo Branco 87.66 351 *eP* **P 00 04 18.3 +1.0**
comp=Z,38nm,1.1s
PTOM Tomar 87.97 351 *eP* **P 00 04 19.4 +0.6**
PMRV Marv??o 88.06 350 *eP* **P 00 04 20.4 +1.1**
comp=Z,31nm,1.5s
KEST Kesra 88.76 337 P **P 00 04 23.1 +0.3**
comp=Z,30nm,1.0s,baz=309,slow=3.4,SNR=11
MDT Midelt 94.25 347 P **P 00 04 48.2 -0.1**
comp=Z,2.6nm,0.8s,baz=36,slow=5.2,SNR=5.4
MDT PP **PP 00 08 33.9 -0.6**
comp=Z,2.5nm,0.9s,baz=101,slow=6.7,SNR=3.7
TORD Torodi Ar. Bea 112.27 337 Pdiff **Pdif 00 06 09.0 0.0**
comp=Z,0.8nm,1.1s,baz=12,slow=5.2,SNR=3.0
TORD PP **PP 00 10 47.6 -1.6**
comp=Z,8.8nm,0.9s,baz=9.9,slow=7.1,SNR=5.7
DBIC Dimbokro 119.94 343 PKP **PKPdf 00 10 19.4 -0.1**
comp=Z,5.5nm,0.7s,baz=324,slow=2.1,SNR=6.0
LPAZ La Paz 127.74 65 *e*PKPdf **PKiKP 00 10 36.0 +0.3**
LPAZ La Paz 127.74 65 PKP **PKiKP 00 10 35.4 -0.2**
comp=Z,24nm,0.9s,baz=20,slow=7.9,SNR=6.9
VNDA Vanda 129.51 180 PKP **PKPdf 00 10 35.9 0.0**
comp=Z,0.9nm,0.9s,baz=2.3,slow=5.1,SNR=4.2
BDFB Brasilia 137.14 42 PKP **PKPdf 00 10 52.4 +0.2**
comp=Z,3.8nm,0.9s,baz=158,slow=3.8,SNR=5.2

BOSA Boshof 139.27 288 PKP **PKPdf 00 10 55.2 -0.6**
comp=Z,1.9nm,0.7s,baz=148,slow=1.7,SNR=2.6
CPUP Villa Florida 141.74 62 PKP **PKPdf 00 10 59.6 -0.5**
comp=Z,4.2nm,1.0s,baz=294,slow=1.4,SNR=5.7
PLCA Paso Flores 143.90 92 *e*PKPdf **PKPdf 00 11 03.6 0.0**
PLCA Paso Flores 143.90 92 PKP **PKPdf 00 11 03.2 -0.4**
comp=Z,4.6nm,0.9s,baz=344,slow=4.8,SNR=4.8
SYO Syowa Base 148.07 216 ⇑*iPKPdf* **PKPbc 00 11 11.7 -1.2**
SYO Syowa Base 148.07 216 ⇓*iPKiKP* **PKPab 00 11 16.0 +0.1**
SYO Syowa Base 148.07 216 ⇓*ipPKPdf* pPKPdf 00 11 25.8 +2.2
USHA Ushuaia 151.43 115 PKPbc **PKPbc 00 11 23.0 +1.5**
comp=Z,6.0nm,0.7s,baz=268,slow=7.2,SNR=3.6

SIGU ***19*** *23:53:41.7±0.1, 46°N±1°×2°7E±°, h95km±1km, mb3.4/6*
IDC ***19*** *23:53:41.5±1.3, 45°.87N×26°.77E, h79km±16km, mb2.8/1, mb1 2.9/5, mb1mx2.7/60, mbtmp3.2/5, Error ellipse: s-maj=34.2km s-min=13.4km az=112.0*
ISCJB ***19*** *23:53:41.1±0.2, 45°.76N±0°.02×26°.63E±0°.02, h97km±2km, mb3.0/1, Error ellipse: s-maj=2.6km s-min=2.4km az=18.1*
BUC ***19*** *23:53:42.4±0.2, 45°.76N×26°.62E, h86km, MD3.9/5, Error ellipse: s-maj=3.4km s-min=2.9km az=82.0*
SOF ***19*** *23:53:43.0, 45°.59N×26°.50E, h100km*
BEO ***19*** *23:53:45.0±0.8, 45°.53N×26°.17E, h10km, ML3.2/9*
ISC 19 23:53:41.8±0.9, **45°.76N**±0°.02×**26°.62E**±0°.02, **h95**km±5km, **n170,** σ1$**34**/229, **48C-64D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.10**	**13**	⇑*iP*	**Pn**	**23 53 54.6**	**-0.6**
PLOR				*i S*	**Sn**	**23 54 04.6**	**-0.5**
PLOR	**Plostina**	**0.10**	**13**	⇑*iP*	**Pn**	**23 53 54.6**	**-0.6**
VRI	**Vrincioaia**	**0.13**	**35**	⇑*iP*	**Pn**	**23 53 54.8**	**-0.4**
VRI				*i S*	**Sn**	**23 54 04.2**	**-1.0**
VRI	**Vrincioaia**	**0.13**	**35**	⇑*iP*	**Pn**	**23 53 54.8**	**-0.4**
ODBI	**Odobesti**	**0.31**	**89**	⇑*iP*	**Pn**	**23 53 56.5**	**+0.7**
ODBI				*i S*	**Sn**	**23 54 06.7**	**+0.5**
ODBI	**Odobesti**	**0.31**	**89**	⇑*iP*	**Pn**	**23 53 56.5**	**+0.7**
PETR	**Petresti**	**0.43**	**94**	⇓*iP*	**Pn**	**23 53 56.8**	**+0.3**
PETR				*i S*	**Sn**	**23 54 07.8**	**+0.4**
PETR	**Petresti**	**0.43**	**94**	⇓*iP*	**Pn**	**23 53 56.8**	**+0.3**
GRER		**0.45**	**146**	⇑*iP*	**Pn**	**23 53 57.8**	**+1.1**
GRER		**0.45**	**146**	⇑*iP*	**Pn**	**23 53 57.8**	**+1.1**
MLR	**Muntele Rosu**	**0.54**	**241**	⇓*iP*	**Pn**	**23 53 57.6**	**+0.1**
MLR				*i S*	**Sn**	**23 54 08.1**	**-1.1**
MLR	**Muntele Rosu**	**0.54**	**241**	⇓*iP*	**Pn**	**23 53 57.6**	**+0.1**
MLR	**Muntele Rosu**	**0.54**	**241**	*eP*	**Pn**	**23 53 57.6**	**+0.1**
29nm,0.3s,baz=315,slow=2.9,SNR=959							
MLR				S	**Sn**	**23 54 07.9**	**-1.3**
111nm,0.3s,baz=222,slow=21,SNR=43							
GHRR		**0.63**	**61**	⇑*iP*	**Pn**	**23 53 58.5**	**+0.5**
GHRR		**0.63**	**61**	⇑*iP*	**Pn**	**23 53 58.5**	**+0.5**
ISR	**Istrita**	**0.64**	**185**	⇑*iP*	**Pn**	**23 53 58.9**	**+0.6**
ISR				*i S*	**Sn**	**23 54 08.9**	**-1.6**
ISR	**Istrita**	**0.64**	**185**	⇑*iP*	**Pn**	**23 53 58.9**	**+0.6**
OZUR		**0.67**	**300**	⇓*iP*	**Pn**	**23 53 58.2**	**-0.3**
OZUR				*i S*	**Sn**	**23 54 09.6**	**-1.4**
OZUR		**0.67**	**300**	⇓*iP*	**Pn**	**23 53 58.2**	**-0.3**
TUDR		**0.75**	**102**	⇑*iP*	**Pn**	**23 53 59.0**	**-0.2**
TUDR				*i S*	**Sn**	**23 54 11.8**	**-0.4**
TUDR		**0.75**	**102**	⇑*iP*	**Pn**	**23 53 59.0**	**-0.2**
TESR	**Tescani**	**0.76**	**2**	⇓*iP*	**Pn**	**23 53 59.2**	**0.0**
TESR				*i S*	**Sn**	**23 54 10.9**	**-1.4**
TESR	**Tescani**	**0.76**	**2**	⇓*iP*	**Pn**	**23 53 59.2**	**0.0**
SECR		**0.82**	**208**	⇓*iP*	**Pn**	**23 54 00.9**	**+1.0**
SECR				*i S*	**Sn**	**23 54 14.6**	**+1.1**
SECR		**0.82**	**208**	⇓*iP*	**Pn**	**23 54 00.9**	**+1.0**
BIR	**Birlad**	**0.87**	**54**	⇑*iP*	**Pn**	**23 54 00.8**	**+0.4**
BIR	**Birlad**	**0.87**	**54**	⇑*iP*	**Pn**	**23 54 00.8**	**+0.4**
DOPR	**Dopca**	**0.89**	**284**	⇓*iP*	**Pn**	**23 54 00.6**	**0.0**
DOPR	**Dopca**	**0.89**	**284**	⇓*iP*	**Pn**	**23 54 00.6**	**0.0**
PLAR	**PLOIESTI**	**0.94**	**207**	⇓*iP*	**Pn**	**23 54 02.2**	**+1.1**
PLAR				*i S*	**Sn**	**23 54 17.0**	**+1.3**
PLAR	**PLOIESTI**	**0.94**	**207**	⇓*iP*	**Pn**	**23 54 02.2**	**+1.1**
SULR		**1.11**	**194**	⇓*iP*	**Pn**	**23 54 03.8**	**+0.8**
SULR				*i S*	**Sn**	**23 54 19.8**	**+0.8**
SULR		**1.11**	**194**	⇓*iP*	**Pn**	**23 54 03.8**	**+0.8**
GIUM	**Giurgiulesti**	**1.15**	**103**	⇑*iP*	**Pn**	**23 54 04.4**	**+0.9**
GIUM				*i S*	**Sn**	**23 54 20.5**	**+0.7**
GIUM	**Giurgiulesti**	**1.15**	**103**	P	**Pn**	**23 54 04.3**	**+0.8**
GIUM				S	**Sn**	**23 54 20.4**	**+0.7**
VOIR		**1.15**	**254**	⇓*iP*	**Pn**	**23 54 03.6**	**0.0**
VOIR				*i S*	**Sn**	**23 54 18.8**	**-1.2**
VOIR		**1.15**	**254**	⇓*iP*	**Pn**	**23 54 03.6**	**0.0**
GIRR	**Girov**	**1.20**	**356**	⇓*iP*	**Pn**	**23 54 04.6**	**+0.5**
GIRR	**Girov**	**1.20**	**356**	⇓*iP*	**Pn**	**23 54 04.6**	**+0.5**
CFR	**Carcaliu**	**1.22**	**118**	⇑*iP*	**Pn**	**23 54 04.0**	**-0.2**
CFR				*i S*	**Sn**	**23 54 20.2**	**-1.0**
CFR	**Carcaliu**	**1.22**	**118**	⇑*iP*	**Pn**	**23 54 04.0**	**-0.2**
CFR				S	**Sn**	**23 54 20.2**	**-1.0**
JOSR	**Joseni**	**1.22**	**321**	⇓*iP*	**Pn**	**23 54 04.5**	**+0.1**
JOSR	**Joseni**	**1.22**	**321**	⇓*iP*	**Pn**	**23 54 04.5**	**+0.1**
BIZ	**Bicaz**	**1.23**	**343**	⇓*iP*	**Pn**	**23 54 05.6**	**+1.1**
BIZ				*i S*	**Sn**	**23 54 22.3**	**+0.6**
BIZ	**Bicaz**	**1.23**	**343**	⇓*iP*	**Pn**	**23 54 05.6**	**+1.1**
LEHL	**Lehliu**	**1.29**	**174**	⇓*iP*	**Pn**	**23 54 05.9**	**+0.7**
LEHL				*i S*	**Sn**	**23 54 23.0**	**+0.2**
LEHL	**Lehliu**	**1.29**	**174**	⇓*iP*	**Pn**	**23 54 05.9**	**+0.7**
INCR	**INCERC-Sediu C**	**1.36**	**194**	⇓*iP*	**Pn**	**23 54 06.4**	**+0.4**
INCR				*i S*	**Sn**	**23 54 24.2**	**0.0**
INCR	**INCERC-Sediu C**	**1.36**	**194**	⇓*iP*	**Pn**	**23 54 06.4**	**+0.4**
HARR	**Harsova**	**1.41**	**139**	⇑*iP*	**Pn**	**23 54 06.8**	**+0.1**
HARR	**Harsova**	**1.41**	**139**	⇓*iP*	**Pn**	**23 54 06.9**	**+0.2**
HARR	**Harsova**	**1.41**	**139**	⇓*iP*	**Pn**	**23 54 06.9**	**+0.2**
HARR	**Harsova**	**1.41**	**139**	⇑*iP*	**Pn**	**23 54 06.8**	**+0.1**
ARR	**Arges**	**1.45**	**255**	⇓*iP*	**Pn**	**23 54 07.9**	**+0.7**
ARR				*i S*	**Sn**	**23 54 26.6**	**+0.2**
ARR	**Arges**	**1.45**	**255**	⇓*iP*	**Pn**	**23 54 07.9**	**+0.7**
BUC1	**Bucharest**	**1.47**	**197**	⇑*iP*	**Pn**	**23 54 07.8**	**+0.4**
BUC1				*i S*	**Sn**	**23 54 26.4**	**-0.3**
BUC1	**Bucharest**	**1.47**	**197**	⇑*iP*	**Pn**	**23 54 07.8**	**+0.4**
TLB	**Topalu**	**1.54**	**139**	⇓*iP*	**Pn**	**23 54 08.5**	**+0.2**
TLB				*i S*	**Sn**	**23 54 26.6**	**-1.8**
TLB	**Topalu**	**1.54**	**139**	⇓*iP*	**Pn**	**23 54 08.5**	**+0.2**
IAS	**Iasi**	**1.58**	**24**	⇓*iP*	**Pn**	**23 54 09.2**	**+0.5**
IAS				*i S*	**Sn**	**23 54 28.2**	**-0.9**
IAS	**Iasi**	**1.58**	**24**	⇓*iP*	**Pn**	**23 54 09.2**	**+0.5**
SGRR	**Singureni**	**1.60**	**197**	⇓*iP*	**Pn**	**23 54 09.2**	**+0.2**
SGRR				*i S*	**Sn**	**23 54 30.3**	**+0.6**
SGRR	**Singureni**	**1.60**	**197**	⇓*iP*	**Pn**	**23 54 09.2**	**+0.2**
MDB	**Medias**	**1.61**	**285**	⇓*iP*	**Pn**	**23 54 10.0**	**+0.9**
MDB	**Medias**	**1.61**	**285**	⇓*iP*	**Pn**	**23 54 10.0**	**+0.9**
PRAR	**RASCA**	**1.63**	**351**	⇓*iP*	**Pn**	**23 54 10.2**	**+0.8**
PRAR	**RASCA**	**1.63**	**351**	⇓*iP*	**Pn**	**23 54 10.2**	**+0.8**
TLCR		**1.65**	**110**	⇑*iP*	**Pn**	**23 54 10.6**	**+1.0**
TLCR				*i S*	**Sn**	**23 54 30.4**	**-0.3**
TLCR		**1.65**	**110**	⇑*iP*	**Pn**	**23 54 10.6**	**+1.0**
HUMR	**Humele**	**1.69**	**224**	⇓*iP*	**Pn**	**23 54 10.4**	**+0.3**
HUMR				*i S*	**Sn**	**23 54 31.0**	**-0.7**
HUMR	**Humele**	**1.69**	**224**	⇓*iP*	**Pn**	**23 54 10.4**	**+0.3**
CVDA	**Cernavoda**	**1.74**	**144**	⇓*iP*	**Pn**	**23 54 11.1**	**+0.3**
CVDA				*i S*	**Sn**	**23 54 31.6**	**-1.2**
CVDA	**Cernavoda**	**1.74**	**144**	⇓*iP*	**Pn**	**23 54 11.1**	**+0.3**
ICOR	**Ion Corvin**	**1.84**	**152**	⇓*iP*	**Pn**	**23 54 12.7**	**+0.6**
ICOR				*i S*	**Sn**	**23 54 34.0**	**-1.1**
ICOR	**Ion Corvin**	**1.84**	**152**	⇓*iP*	**Pn**	**23 54 12.7**	**+0.6**
MILM	**Milestii Mici**	**1.91**	**52**	⇑*iP*	**Pn**	**23 54 13.7**	**+0.7**
MILM				*i S*	**Sn**	**23 54 35.7**	**-1.0**
MILM	**Milestii Mici**	**1.91**	**52**	⇑*iP*	**Pn**	**23 54 13.7**	**+0.7**
MILM	**Milestii Mici**	**1.91**	**52**	P	**Pn**	**23 54 13.7**	**+0.7**
KIS	**Kishinev**	**1.96**	**50**	*e*	Pn	23 54 25.0	+11
KIS	**Kishinev**	**1.96**	**50**	S	**Sn**	**23 54 37.0**	**-0.9**
LOT	**Lotru**	**2.02**	**262**	⇓*iP*	**Pn**	**23 54 14.9**	**+0.3**
LOT				*i S*	**Sn**	**23 54 38.6**	**-1.0**
LOT	**Lotru**	**2.02**	**262**	⇓*iP*	**Pn**	**23 54 14.9**	**+0.3**
MFTR	**Murfatlar**	**2.03**	**140**	⇓*iP*	**Pn**	**23 54 14.9**	**+0.3**
MFTR				*i S*	**Sn**	**23 54 38.4**	**-1.1**
MFTR	**Murfatlar**	**2.03**	**140**	⇓*iP*	**Pn**	**23 54 14.9**	**+0.3**
ARCR	**ARCALIA**	**2.05**	**311**	⇓*iP*	**Pn**	**23 54 15.2**	**+0.4**
ARCR	**ARCALIA**	**2.05**	**311**	⇓*iP*	**Pn**	**23 54 15.2**	**+0.4**
BURAR	**Bucovina Array**	**2.09**	**333**	⇓*iP*	**Pn**	**23 54 17.3**	**+1.8**
BURAR	**Bucovina Array**	**2.09**	**333**	⇓*iP*	**Pn**	**23 54 17.3**	**+1.8**
EFOR	**EFORIE**	**2.21**	**139**	⇑*iP*	**Pn**	**23 54 17.4**	**+0.6**
EFOR				*i S*	**Sn**	**23 54 42.3**	**-1.3**
EFOR	**EFORIE**	**2.21**	**139**	⇑*iP*	**Pn**	**23 54 17.4**	**+0.6**
EFOR				S	**Sn**	**23 54 42.3**	**-1.3**
CJR	**Cluj-Napoca**	**2.30**	**296**	⇓*iP*	**Pn**	**23 54 19.0**	**+0.8**
CJR	**Cluj-Napoca**	**2.30**	**296**	⇓*iP*	**Pn**	**23 54 19.0**	**+0.8**
PSN	**Preselentsi**	**2.36**	**151**	*i P*	**Pn**	**23 54 19.7**	**+0.9**

VLAD	**Vladila**	**2.36**	**223**	⇓*iP*	**Pn**	**23 54 18.6**	**-0.3**
VLAD				*i S*	**Sn**	**23 54 45.1**	**-2.2**
VLAD	**Vladila**	**2.36**	**223**	⇓*iP*	**Pn**	**23 54 18.6**	**-0.3**
MANR	**Mangalia**	**2.39**	**143**	⇑*iP*	**Pn**	**23 54 19.8**	**+0.5**
MANR				*i S*	**Sn**	**23 54 46.7**	**-1.3**
MANR	**Mangalia**	**2.39**	**143**	⇑*iP*	**Pn**	**23 54 19.8**	**+0.5**
CRAR	**CRAIOVA**	**2.46**	**235**	*i S*	**Sn**	**23 54 49.5**	**-0.1**
CRAR	**CRAIOVA**	**2.46**	**235**	S	**Sn**	**23 54 49.5**	**-0.1**
SZH	**Strazhica**	**2.54**	**191**	*i P*	**Pn**	**23 54 21.2**	**0.0**
DEV	**Deva**	**2.60**	**274**	⇑*iP*	**Pn**	**23 54 23.2**	**+1.2**
DEV	**Deva**	**2.60**	**274**	⇑*iP*	**Pn**	**23 54 23.2**	**+1.2**
PRD	**Provadia**	**2.62**	**167**	*i P*	**Pn**	**23 54 23.5**	**+1.2**
SRE	**Strehaia**	**2.65**	**247**	*i S*	**Sn**	**23 54 54.2**	**0.0**
SRE	**Strehaia**	**2.65**	**247**	S	**Sn**	**23 54 54.2**	**0.0**
PVL	**Pavlikeni**	**2.70**	**200**	*i P*	**Pn**	**23 54 24.8**	**+1.4**
ROIA	**ROIAK**	**2.72**	**168**	*i P*	**Pn**	**23 54 24.4**	**+0.8**
GZR	**Gura Zlata**	**2.72**	**264**	⇑*iP*	**Pn**	**23 54 25.0**	**+1.3**
GZR	**Gura Zlata**	**2.72**	**264**	⇑*iP*	**Pn**	**23 54 25.0**	**+1.3**
KMPD	**K-Podol'skiy**	**2.81**	**358**	⇑*iP*	**Pn**	**23 54 24.6**	**-0.2**
KMPD				*i S*	**Sn**	**23 54 55.4**	**-2.5**
RAKU	**Rahkiv**	**2.83**	**324**	*i P*	**Pn**	**23 54 26.1**	**+1.1**
NSLU	**Nyzhne Selyshc**	**2.85**	**330**	*i P*	Pn	23 54 31.7	+6.3
BMR	**Baia Mare**	**2.88**	**313**	⇓*iP*	**Pn**	**23 54 27.0**	**+1.3**
BMR	**Baia Mare**	**2.88**	**313**	⇓*iP*	**Pn**	**23 54 27.0**	**+1.3**
NDNU	**Novodnistrovsk**	**2.88**	**10**	*i P*	**Pn**	**23 54 25.7**	**-0.1**
NDNU				*i S*	**Sn**	**23 54 57.3**	**-2.4**
DRGR		**2.90**	**292**	⇑*iP*	**Pn**	**23 54 26.9**	**+0.8**
DRGR		**2.90**	**292**	⇑*iP*	**Pn**	**23 54 26.9**	**+0.8**
PUNG	**Punghina**	**3.00**	**242**	⇑*iP*	**Pn**	**23 54 26.8**	**-0.6**
PUNG	**Punghina**	**3.00**	**242**	⇑*iP*	**Pn**	**23 54 26.8**	**-0.6**
HERR	**Herculane**	**3.09**	**255**	⇑*iP*	**Pn**	**23 54 29.0**	**+0.4**
HERR				*i S*	**Sn**	**23 55 03.0**	**-1.7**
HERR	**Herculane**	**3.09**	**255**	⇑*iP*	**Pn**	**23 54 29.0**	**+0.4**
MPEP	**Malo Peshtene**	**3.16**	**222**	P	**Pn**	**23 54 30.0**	**+0.4**
JMB	**Yambol**	**3.29**	**180**	*i P*	**Pn**	**23 54 31.2**	**-0.1**
KORU	**Korolevo**	**3.38**	**316**	*eP*	**Pn**	**23 54 33.6**	**+1.1**
HORU	**Horodok**	**3.46**	**358**	*i S*	**Sn**	**23 55 12.3**	**-1.3**
MEZ	**Mezhgor'ye**	**3.48**	**324**	*i P*	**Pn**	**23 54 35.2**	**+1.4**
BZS	**Buzias**	**3.51**	**269**	*ePn*	**Pn**	**23 54 35.0**	**+0.8**
BZS				*eSn*	**Sn**	**23 55 13.9**	**-0.8**
BZS	**Buzias**	**3.51**	**269**	⇑*iP*	**Pn**	**23 54 34.7**	**+0.5**
BZS	**Buzias**	**3.51**	**269**	⇑*iP*	**Pn**	**23 54 34.7**	**+0.5**
MDVR	**Moldovita**	**3.60**	**256**	⇓*iP*	**Pn**	**23 54 36.1**	**+0.6**
MDVR				*i S*	**Sn**	**23 55 14.5**	**-2.5**
MDVR	**Moldovita**	**3.60**	**256**	⇓*iP*	**Pn**	**23 54 36.1**	**+0.6**
PGB	**Panagyurishte**	**3.66**	**210**	*i P*	**Pn**	**23 54 36.6**	**+0.3**
TRPA	**Tarpa**	**3.67**	**312**	⇑*iP*	**Pn**	**23 54 36.9**	**+0.6**
TRPA	**Tarpa**	**3.67**	**312**	⇑*iP*	**Pn**	**23 54 36.9**	**+0.6**
ZAGS	**Zajecar**	**3.68**	**240**	*eSn*	**Sn**	**23 55 15.0**	**-3.9**
KUBS	**Kucevo**	**3.75**	**251**	*ePn*	**Pn**	**23 54 36.8**	**-0.7**
KUBS				*eSn*	**Sn**	**23 55 16.9**	**-3.7**
ZAPS	**Zavoj**	**3.78**	**230**	*ePn*	**Pn**	**23 54 38.4**	**+0.5**
ZAPS				*eSn*	**Sn**	**23 55 18.0**	**-3.4**
VTS	**Vitosha**	**3.97**	**219**	*ePn*	**Pn**	**23 54 41.2**	**+0.6**
VTS				*eSn*	**Sn**	**23 55 23.5**	**-2.7**
VTS	**Vitosha**	**3.97**	**219**	⇑*iP*	**Pn**	**23 54 41.4**	**+0.8**
VTS				*i S*	**Sn**	**23 55 23.9**	**-2.3**
VTS	**Vitosha**	**3.97**	**219**	⇑*iP*	**Pn**	**23 54 41.4**	**+0.8**
VTS	**Vitosha**	**3.97**	**219**	P	**Pn**	**23 54

PET			S	Sn	23 55 36.6	+1.1
PET	**Petropavlovsk**	**1.30 310**	*e*PN	Pn	23 55 18.4	-0.9
PET			*e*S	Sn	23 55 35.8	+0.3
PET			pmax	pmax		
	comp=Z,1μm,0.5s					
PET			smax	smax		
	comp=N,4μm,0.7s					
PET			smax	smax		
	comp=E,3μm,0.7s					
MTVR	**Mutnovka**	**1.33 283**	P	Pn	23 55 19.2	-0.7
MTVR			S	Sn	23 55 37.7	+1.2
MTVR	**Mutnovka**	**1.33 283**	PN	Pn	23 55 19.2	-0.7
MTVR			S	Sn	23 55 37.7	+1.2
UGLR	**Uglovaya**	**1.35 319**	P	Pn	23 55 19.8	-0.3
UGLR			S	Sn	23 55 39.1	+2.1
UGLR	**Uglovaya**	**1.35 319**	PN	Pn	23 55 19.8	-0.3
UGLR			S	Sn	23 55 39.1	+2.1
SDLR	**Sedlovina**	**1.38 322**	P	Pn	23 55 20.6	+0.1
SDLR	**Sedlovina**	**1.38 322**	PN	Pn	23 55 20.6	+0.1
SMAR	**Somma**	**1.40 320**	P	Pn	23 55 20.3	-0.6
SMAR	**Somma**	**1.40 320**	PN	Pn	23 55 20.3	-0.6
GRL	**Gorelyy**	**1.41 285**	P	Pn	23 55 20.8	-0.2
GRL			S	Sn	23 55 40.7	+2.2
GRL	**Gorelyy**	**1.41 285**	PN	Pn	23 55 20.8	-0.2
GRL			S	Sn	23 55 40.7	+2.2
AVH	**Avacha**	**1.43 319**	P	Pn	23 55 21.0	-0.2
AVH			S	Sn	23 55 41.1	+2.3
AVH	**Avacha**	**1.43 319**	PN	Pn	23 55 21.0	-0.2
AVH			S	Sn	23 55 41.1	+2.3
KDTR	**Khodutka, Kamc**	**1.43 255**	P	Pn	23 55 20.0	-1.1
KDTR			S	Sn	23 55 39.5	+0.8
KDTR	**Khodutka, Kamc**	**1.43 255**	PN	Pn	23 55 20.0	-1.1
KDTR			S	Sn	23 55 39.5	+0.8
KRER	**Koryakskii**	**1.45 320**	P	Pn	23 55 21.2	-0.4
KRER			S	Sn	23 55 41.7	+2.1
KRER	**Koryakskii**	**1.45 320**	PN	Pn	23 55 21.2	-0.4
KRER			S	Sn	23 55 41.7	+2.1
KRMR	**Karymshinskiy**	**1.47 296**	P	Pn	23 55 21.1	-0.5
KRMR			S	Sn	23 55 41.6	+1.9
KRMR	**Karymshinskiy**	**1.47 296**	PN	Pn	23 55 21.1	-0.5
KRMR			S	Sn	23 55 41.6	+1.9
ASAK	**Asacha**	**1.49 278**	P	Pn	23 55 21.6	-0.4
ASAK			S	Sn	23 55 42.2	+1.9
ASAK	**Asacha**	**1.49 278**	PN	Pn	23 55 21.6	-0.4
ASAK			S	Sn	23 55 42.2	+1.9
KOK	**Koryaka**	**1.49 318**	P	Pn	23 55 22.0	0.0
KOK	**Koryaka**	**1.49 318**	PN	Pn	23 55 22.0	0.0
KRX	**Arik**	**1.53 320**	P	Pn	23 55 22.1	-0.6
KRX	**Arik**	**1.53 320**	PN	Pn	23 55 22.1	-0.6
PEA0B	**Petropavlovsk-**	**1.83 301**	*e*Pn	Pn	23 55 19.8	-6.7
PEA0B	**Petropavlovsk-**	**1.83 301**	*e*PN	Pn	23 55 19.8	-6.8
PETK	**Petropavlovsk-**	**1.83 301**	*e*Pn	Pn	23 55 24.5	-2.0
PETK	**Petropavlovsk-**	**1.83 301**	Pn	Pn	23 55 27.0	+0.4
	comp=E,81nm,0.3s,baz=106,slow=20,SNR=6.2					
PETK			Sn	Sn	23 55 51.9	+3.4
	comp=E,140nm,0.3s,baz=274,slow=22,SNR=6.7					
APC	**Apacha**	**2.05 292**	P	Pn	23 55 31.3	+1.7
APC			S	Sn	23 55 59.1	+5.1
APC	**Apacha**	**2.05 292**	PN	Pn	23 55 31.3	+1.7
MKZ	**Mys Kozlova**	**2.51 19**	S	Sn	23 56 03.3	-1.8
KZV	**Kizimen**	**2.92 360**	P	Pn	23 55 42.5	+0.9
KZV	**Kizimen**	**2.92 360**	PN	Pn	23 55 42.5	+0.9
TUMD	**Tumrok D**	**3.00 1**	P	Pn	23 55 42.5	-0.2
TUMD			S	Sn	23 56 17.8	+0.3
SKR	**Severo-Kuril's**	**3.03 241**	*e*PN	Pn	23 55 42.4	-0.6
SKR			*e*S	Sn	23 56 17.6	-0.4
SKR			pmax	pmax		
	comp=Z,245nm,0.7s					
SKR			smax	smax		
	comp=E,837nm,0.7s					
SKR			smax	smax		
	comp=N,940nm,1.0s					
TUMR	**Tumrok**	**3.09 358**	P	Pn	23 55 44.4	+0.5
TUMR	**Tumrok**	**3.09 358**	PN	Pn	23 55 44.4	+0.5
ALID	**Alaid**	**3.26 248**	P	Pn	23 55 45.6	-0.7
ALID	**Alaid**	**3.26 248**	PN	Pn	23 55 45.6	-0.7
ESO	**Esso**	**3.85 346**	P	Pn	23 55 56.0	+1.7
ESO	**Esso**	**3.85 346**	PN	Pn	23 55 56.0	+1.7
KBTR	**Krutoberegovo**	**4.28 19**	P	Pn	23 55 59.6	-0.5
KBTR			S	Sn	23 56 48.6	0.0
KBTR	**Krutoberegovo**	**4.28 19**	PN	Pn	23 55 59.6	-0.5
KBTR			S	Sn	23 56 48.6	0.0
BKI	**Bering**	**4.51 46**	S	Sn	23 56 55.2	+0.7
KLR	**Kul'dur**	**18.27 272**	P	Pn	23 59 09.1	+1.5
	comp=N,0.2nm,0.3s,baz=61,slow=21,SNR=1.3					
MAJO	**Matsushiro**	**22.11 234**	*e*P	P	23 59 48.6	-0.3
MAJO	**Matsushiro**	**22.11 234**	*e*P	P	23 59 48.6	-0.3
MAT	**Matsushiro**	**22.11 234**	P	P	23 59 48.9	0.0
MJAR	**Matsushiro Arr**	**22.11 234**	P	P	23 59 48.6	-0.3
	comp=N,5.9nm,0.8s,baz=17,slow=8.9,SNR=4.8					
TIXI	**Tiksi**	**23.95 336**	*e*P	P	00 00 06.0	-1.1
TIXI			pmax	pmax		
	comp=Z,10.0nm,0.7s					
TIXI	**Tiksi**	**23.95 336**	P	P	00 00 05.9	-1.1
	comp=Z,10nm,0.6s,baz=125,slow=9.5,SNR=6.2					
SONA0	**Songino Array**	**34.24 285**	*e*P	P	00 01 38.0	-1.0
SONM	**Songino Array**	**34.24 285**	P	P	00 01 38.0	-1.0
SONM	**Songino Array**	**34.24 285**	P	P	00 01 38.0	-1.0
	comp=Z,0.8nm,0.4s,baz=64,slow=8.3,SNR=6.4					
ZAA1	**Zalesovo Array**	**43.37 304**	*e*P	P	00 02 52.4	-2.7
ZALV	**Zalesovo Beam**	**43.37 304**	P	P	00 02 52.4	-2.7
	comp=Z,1.1nm,0.5s,baz=52,slow=9.5,SNR=2.7					
YKA	**Yellowknife Ar**	**43.73 42**	P	P	00 02 58.7	+0.8
	comp=Z,0.6nm,0.7s,baz=297,slow=7.7,SNR=2.4					
YKB5	**Yellowknife Ar**	**43.73 42**	*e*P	P	00 02 58.7	+0.8
SPITS	**Spitsbergen Ar**	**48.03 351**	P	P	00 03 32.0	+0.3
	comp=Z,11nm,0.6s,baz=57,slow=9.1,SNR=14					
KURBB	**Kurchatov Arra**	**48.42 303**	P	P	00 03 32.5	-2.3
	comp=Z,4.6nm,0.9s,baz=58,slow=7.2,SNR=4.2					
MK32	**Makanchi Array**	**48.66 296**	*e*P	P	00 03 34.9	-1.9
MKAR	**Makanchi Array**	**48.66 296**	P	P	00 03 34.9	-1.9
	comp=Z,2.1nm,0.6s,baz=52,slow=6.9,SNR=4.8					
BVAR	**Borovoye Array**	**51.05 309**	P	P	00 03 52.9	-1.9
	comp=Z,2.6nm,0.5s,baz=61,slow=7.8,SNR=7.7					
MGL	**Magalia**	**53.12 70**	*e*P	P	00 04 14.9	+4.3
ARA0	**ARCESS Array S**	**54.17 342**	*e*P	P	00 04 17.3	-0.4
ARCES	**ARCESS Array B**	**54.17 342**	P	P	00 04 17.3	-0.4
	comp=Z,3.8nm,0.7s,baz=32,slow=8.6,SNR=5.6					
KIRV	**Kirov**	**56.19 324**	P	P	00 04 32.1	-0.2
	comp=Z,14nm,0.5s,baz=60,slow=3.9,SNR=3.9					
PDAR	**Pinedale Array**	**57.85 60**	P	P	00 04 47.0	+2.4
	comp=Z,0.3nm,0.5s,baz=342,slow=5.1,SNR=2.5					
CMAR	**Chiang Mai Arr**	**58.13 259**	P	P	00 04 46.9	+0.3
	comp=Z,1.3nm,0.6s,baz=31,slow=7.0,SNR=4.0					
AKTO	**Aktyubinsk**	**58.52 313**	P	P	00 04 47.9	-1.1
	comp=Z,1.8nm,0.5s,baz=54,slow=6.1,SNR=4.1					
CTCC	**Cactus City**	**60.59 72**	*e*P	P	00 05 06.8	+3.4
FIA0	**FINESS Array S**	**60.99 337**	*e*P	P	00 05 05.6	0.0
FIA0	**FINESS Array S**	**60.99 337**	*e*P	P	00 05 05.6	0.0
FINES	**FINESS Array B**	**60.99 337**	P	P	00 05 05.6	0.0
	comp=Z,6.3nm,0.5s,baz=37,slow=8.0,SNR=10					
NB200	**NORSAR Array S**	**64.43 344**	*e*P	P	00 05 28.9	+0.3
NOA	**NORSAR Array B**	**64.43 344**	P	P	00 05 28.9	+0.3
	comp=Z,0.7nm,0.4s,baz=28,slow=6.0,SNR=7.0					
HFS	**Hagfors**	**64.84 342**	P	P	00 05 31.6	+0.4
	comp=Z,1.7nm,0.3s,baz=43,slow=5.2,SNR=6.7					
GEYT	**Alibeck**	**67.68 303**	P	P	00 05 47.9	-2.0
	comp=Z,11nm,0.8s,baz=52,slow=9.3,SNR=2.7					
AKASG	**Malin Array Be**	**69.44 329**	P	P	00 06 00.0	-0.6
AKASG	**Malin Array Be**	**69.44 329**	P	P	00 05 60.0	-0.6
	comp=Z,2.4nm,0.4s,baz=32,slow=6.9,SNR=8.4					
KVAR	**Kislovodsk Arr**	**70.17 317**	P	P	00 06 03.0	-2.4
	comp=Z,4.0nm,0.8s,baz=5.7,slow=10,SNR=2.1					
LTX	**Lajitas**	**70.87 67**	*e*P	P	00 06 11.5	+1.7
LTX	**Lajitas**	**70.87 67**	*e*P	P	00 06 11.5	+1.7
TXAR	**Lajitas Array**	**70.87 67**	P	P	00 06 11.5	+1.7
	comp=Z,0.2nm,0.5s,baz=300,slow=4.1,SNR=5.1					
EKA	**Eskdalemuir Ar**	**71.95 350**	P	P	00 06 15.4	-0.4
	comp=Z,0.5nm,0.4s,baz=18,slow=5.3,SNR=4.8					
WR1	**Warramunga Arr**	**75.33 205**	*e*P	P	00 06 36.5	+0.6
WRA	**Warramunga Arr**	**75.33 205**	P	P	00 06 36.5	+0.6
	comp=Z,1.1nm,0.9s,baz=26,slow=4.6,SNR=3.5					
GERES	**GERESS Array B**	**75.39 338**	P	P	00 06 36.0	-0.1
	comp=Z,0.7nm,0.8s,baz=36,slow=8.5,SNR=2.4					
BR101	**Keskin Array S**	**77.39 321**	*e*P	P	00 06 46.6	-1.1
BRTR	**Keskin Array B**	**77.39 321**	P	P	00 06 46.6	-1.1
	comp=Z,0.6nm,0.6s,baz=24,slow=3.9,SNR=4.3					
DAVOX	**Davos/Dischmat**	**78.19 340**	P	P	00 06 51.6	-0.4
	comp=Z,1.4nm,0.6s,baz=357,slow=17,SNR=3.3					
ASAR	**Alice Springs**	**79.00 205**	P	P	00 06 57.2	+0.7
	comp=Z,0.6nm,0.6s,baz=22,slow=5.2,SNR=5.5					
MMAI	**Mount Meron Ar**	**82.44 316**	P	P	00 07 14.1	-0.9
	comp=Z,3.2nm,0.6s,baz=43,slow=6.3,SNR=6.9					
IDI	**Anoyia**	**84.56 325**	P	P	00 07 23.9	-2.0
	comp=Z,1.5nm,0.4s,baz=186,slow=18,SNR=5.7					
CMIG	**Matias Romero**	**85.42 68**	P	P	00 07 33.0	+2.6
	comp=Z,1.2nm,0.5s,baz=113,slow=6.9,SNR=1.7					
EIL	**Elat**	**85.51 315**	P	P	00 07 30.1	-0.6
	comp=Z,2.6nm,0.6s,baz=20,slow=11,SNR=3.0					
ESDC	**Sonseca Array**	**87.48 348**	*e*P	P	00 07 39.1	-1.1
ESDC	**Sonseca Array**	**87.48 348**	P	P	00 07 40.2	0.0
	comp=Z,0.9nm,0.7s,baz=360,slow=5.2,SNR=4.7					
TOA1	**Torodi Ar. Sit**	**112.33 337**	*e*Pdif	Pdif	00 09 30.0	-2.8
TORD	**Torodi Ar. Bea**	**112.34 337**	Pdiff	Pdif	00 09 30.0	-2.9
	comp=Z,1.7nm,0.9s,baz=7.1,slow=8.2,SNR=8.1					
DBIC	**Dimbokro**	**120.00 343**	PKP	PKPdf	00 13 42.9	-0.5
	comp=Z,5.7nm,1.1s,baz=45,slow=5.7,SNR=2.0					

IDC ***19*** *23:58:07.3±0.4, 52°.34N×160°.05E, h0km, mb4.7/51, mb1 4.8/54, mb1mx4.7/72, mbtmp4.7/54, ML4.8/3, Error ellipse: s-maj=11.4km s-min=9.3km az=151.0*

KRSC ***19*** *23:58:07.6±10.0, 52°.09N×160°.58E, h54km±10km, ML5.4*

BJI ***19*** *23:58:12.8±0.0, 52°.72N×159°.82E, h54km, mb5.0/46, mB5.2/23, Ms5.2/24, Ms7 5.1/22*

MOS ***19*** *23:58:12.3±1.0, 52°.25N×160°.15E, h47km, mb5.4/78, Error ellipse: s-maj=6.6km s-min=3.0km az=99.5*

ISCJB ***19*** *23:58:13.1±0.4, 52°.28N±0°.03×160°.14E±0°.03, h54km±2km, mb5.0/222, Error ellipse: s-maj=4.8km s-min=2.8km az=145.5*

NEIC ***19*** *23:58:13.1±0.2, 52°.36N×160°.01E, h35km, mb5.0/76, Error ellipse: s-maj=7.1km s-min=4.4km az=163.0*

GCMT ***19*** *23:58:18.1±0.6, 52°.17N±0°.04×160°.63E±0°.06, h33km±1km, MW5.0/51, Moment Tensor Solution. s27,c30; s51,c73; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.57±.38; Mθθ-2.32±.22; Mφφ-2.25±.21; Mrθ1.31±.24; Mφφ-1.63±.10; Mφr1.11±.19; Best double couple: M0=4.57700×10^16 NP1:φs=47.00000°, δ56.00000°, λ91.00000°. NP2: φs=225.00000°, δ34.00000°, λ88.00000°. Principal axes: T 4.9050, Plg79.0000°, Azm322.0000°; N -0.6570, Plg1.0000°, Azm226.0000°; P -4.2480, Plg11.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 23:58:13.8±0.7, 52°.22N±0°.04×160°.32E±0°.03, h52km±5km, n650, σ1§29/687, mb5.0/229, 52C-14D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.90**	**348**	P	**Pn**	**23 58 27.2**	**-2.9**
SPN				S	**Sn**	**23 58 39.8**	**-2.3**
SPN	**Mys Shipunski**	**0.90**	**348**	PN	**Pn**	**23 58 27.2**	**-2.9**
SPN				S	**Sn**	**23 58 39.8**	**-2.3**
NLC	**Nalytchevo**	**1.12**	**328**	P	**Pn**	**23 58 31.4**	**-1.7**
NLC				S	**Sn**	**23 58 47.9**	**+0.4**
NLC	**Nalytchevo**	**1.12**	**328**	PN	**Pn**	**23 58 31.4**	**-1.7**
NLC				S	**Sn**	**23 58 47.9**	**+0.4**
RUS	**Russkaya**	**1.13**	**281**	P	**Pn**	**23 58 31.2**	**-2.1**
RUS				S	**Sn**	**23 58 46.9**	**-0.8**
RUS	**Russkaya**	**1.13**	**281**	PN	**Pn**	**23 58 31.2**	**-2.1**
RUS				S	**Sn**	**23 58 46.9**	**-0.8**
DALK	**Dalny**	**1.25**	**311**	P	**Pn**	**23 58 33.5**	**-1.4**
DALK				S	**Sn**	**23 58 50.8**	**+0.1**
DALK	**Dalny**	**1.25**	**311**	PN	**Pn**	**23 58 33.5**	**-1.4**
DALK				S	**Sn**	**23 58 50.8**	**+0.1**
PET	**Petropavlovsk**	**1.30**	**309**	*e*Pn	**Pn**	**23 58 33.9**	**-1.6**
PET	**Petropavlovsk**	**1.30**	**309**	α *i*PN	**Pn**	**23 58 33.9**	**-1.6**
PET				*e*S	**Sn**	**23 58 51.7**	**0.0**
PET				pmax	pmax		
	comp=Z,12μm,1.3s						
PET				pmax	pmax		
	comp=Z,9μm,0.6s						
PET				smax	smax		
	comp=E,46μm,1.7s						
PET				smax	smax		
	comp=N,18μm,1.5s						
PET				smax	smax		
	comp=E,23μm,0.8s						
PET				smax	smax		
	comp=N,15μm,0.6s						
MTVR	**Mutnovka**	**1.34**	**282**	P	**Pn**	**23 58 34.7**	**-1.5**
MTVR	**Mutnovka**	**1.34**	**282**	PN	**Pn**	**23 58 34.7**	**-1.5**
GRL	**Gorelyy**	**1.42**	**284**	P	**Pn**	**23 58 36.3**	**-1.0**
GRL	**Gorelyy**	**1.42**	**284**	PN	**Pn**	**23 58 36.3**	**-1.0**
AVH	**Avacha**	**1.42**	**318**	P	**Pn**	**23 58 36.5**	**-0.8**
AVH				S	**Sn**	**23 58 56.2**	**+1.3**
AVH	**Avacha**	**1.42**	**318**	PN	**Pn**	**23 58 36.5**	**-0.8**
AVH				S	**Sn**	**23 58 56.2**	**+1.3**
KRER	**Koryakskii**	**1.45**	**319**	P	**Pn**	**23 58 36.9**	**-0.8**
KRER	**Koryakskii**	**1.45**	**319**	PN	**Pn**	**23 58 36.9**	**-0.8**
KDTR	**Khodutka, Kamc**	**1.45**	**254**	P	**Pn**	**23 58 35.7**	**-1.9**
KDTR				S	**Sn**	**23 58 55.0**	**-0.4**
KDTR	**Khodutka, Kamc**	**1.45**	**254**	PN	**Pn**	**23 58 35.7**	**-1.9**
KDTR				S	**Sn**	**23 58 55.0**	**-0.4**
KRMR	**Karymshinskiy**	**1.47**	**295**	P	**Pn**	**23 58 36.7**	**-1.2**
KRMR				S	**Sn**	**23 58 57.6**	**+1.6**
KRMR	**Karymshinskiy**	**1.47**	**295**	PN	**Pn**	**23 58 36.7**	**-1.2**
KRMR				S	**Sn**	**23 58 57.6**	**+1.6**
KOK	**Koryaka**	**1.48**	**317**	P	**Pn**	**23 58 39.4**	**+1.3**
KOK	**Koryaka**	**1.48**	**317**	PN	**Pn**	**23 58 39.4**	**+1.3**
ASAK	**Asacha**	**1.50**	**277**	P	**Pn**	**23 58 37.2**	**-1.1**
ASAK	**Asacha**	**1.50**	**277**	PN	**Pn**	**23 58 37.2**	**-1.1**
PEA0B	**Petropavlovsk-**	**1.83**	**300**	*e*Pn	**Pn**	**23 58 42.1**	**-0.7**
PEA0B	**Petropavlovsk-**	**1.83**	**300**	*e*PN	**Pn**	**23 58 42.1**	**-0.7**
PETK	**Petropavlovsk-**	**1.83**	**300**	Pn	**Pn**	**23 58 41.8**	**-1.0**
	comp=N,459nm,0.3s,baz=109,slow=18,SNR=83						
PETK				Sn	**Sn**	**23 59 07.9**	**+3.1**
	comp=N,798nm,0.3s,baz=92,slow=39,SNR=10						
PETK				LR	LR	23 59 37.6	
	comp=N,13μm,18.8s,baz=45,slow=56						
APC	**Apacha**	**2.06**	**291**	P	**Pn**	**23 58 46.0**	**+0.2**
APC				S	**Sn**	**23 59 12.7**	**+2.4**
APC	**Apacha**	**2.06**	**291**	PN	**Pn**	**23 58 46.0**	**+0.2**
APC				S	**Sn**	**23 59 12.7**	**+2.4**
MKZ	**Mys Kozlova**	**2.48**	**19**	P	**Pn**	**23 58 49.0**	**-2.7**
MKZ				S	**Sn**	**23 59 17.9**	**-2.9**
MKZ	**Mys Kozlova**	**2.48**	**19**	PN	**Pn**	**23 58 49.0**	**-2.7**
MKZ				S	**Sn**	**23 59 17.9**	**-2.9**
KZV	**Kizimen**	**2.90**	**360**	P	**Pn**	**23 58 56.4**	**-1.1**
TUMD	**Tumrok D**	**2.99**	**1**	P	**Pn**	**23 58 56.8**	**-1.8**
TUMD				S	**Sn**	**23 59 32.2**	**-1.0**
SKR	**Severo-Kuril's**	**3.05**	**241**	P	**Pn**	**23 58 57.3**	**-2.1**
SKR				S	**Sn**	**23 59 33.2**	**-1.5**
SKR	**Severo-Kuril's**	**3.05**	**241**	*e*PN	**Pn**	**23 58 57.4**	**-2.0**
SKR				*e*S	**Sn**	**23 59 32.6**	**-2.1**
SKR				pmax	pmax		
	comp=Z,485nm,0.5s						
SKR				smax	smax		
	comp=N,4μm,0.6s						
SKR				smax	smax		
	comp=E,5μm,0.6s						
TUMR	**Tumrok**	**3.07**	**358**	P	**Pn**	**23 58 59.3**	**-0.5**
TUMR				S	**Sn**	**23 59 37.1**	**+1.8**
TUMR	**Tumrok**	**3.07**	**358**	PN	**Pn**	**23 58 59.3**	**-0.5**
TUMR				S	**Sn**	**23 59 37.1**	**+1.8**
ALID	**Alaid**	**3.27**	**247**	P	**Pn**	**23 59 01.4**	**-1.3**
ALID	**Alaid**	**3.27**	**247**	PN	**Pn**	**23 59 01.4**	**-1.3**
BZMR	**Bezymyannaya**	**3.72**	**1**	P	**Pn**	**23 59 09.4**	**+0.6**
BZMR	**Bezymyannaya**	**3.72**	**1**	PN	**Pn**	**23 59 09.4**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**3.73**	**3**	P	**Pn**	**23 59 08.5**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**3.73**	**3**	PN	**Pn**	**23 59 08.5**	**-0.4**
ESO	**Esso**	**3.83**	**346**	P	**Pn**	**23 59 10.0**	**-0.2**
ESO	**Esso**	**3.83**	**346**	PN	**Pn**	**23 59 10.0**	**-0.2**
KOZ	**Kozyrevsk**	**3.85**	**356**	P	**Pn**	**23 59 09.3**	**-1.2**
KOZ	**Kozyrevsk**	**3.85**	**356**	PN	**Pn**	**23 59 09.3**	**-1.2**
LGNR	**Loginova**	**3.87**	**3**	P	**Pn**	**23 59 11.7**	**+0.7**
LGNR	**Loginova**	**3.87**	**3**	PN	**Pn**	**23 59 11.7**	**+0.7**
CIRR	**Tsirk**	**3.91**	**3**	P	**Pn**	**23 59 12.3**	**+0.9**
CIRR	**Tsirk**	**3.91**	**3**	PN	**Pn**	**23 59 12.3**	**+0.9**
KLY	**Klyuchi**	**4.10**	**3**	P	**Pn**	**23 59 14.1**	**+0.2**
KLY				S	**Sn**	**00 00 04.1**	**+3.6**
KLY	**Klyuchi**	**4.10**	**3**	PN	**Pn**	**23 59 14.1**	**+0.2**
KLY				S	**Sn**	**00 00 04.1**	**+3.6**
SRDR	**Sredinnyy**	**4.12**	**355**	P	**Pn**	**23 59 13.4**	**-0.8**
SRDR	**Sredinnyy**	**4.12**	**355**	PN	**Pn**	**23 59 13.4**	**-0.8**
KBTR	**Krutoberegovo**	**4.25**	**19**	P	**Pn**	**23 59 14.7**	**-1.2**
KBTR	**Krutoberegovo**	**4.25**	**19**	PN	**Pn**	**23 59 14.7**	**-1.2**
BDR	**Baidarnaya**	**4.38**	**6**	P	**Pn**	**23 59 18.4**	**+0.6**
BDR	**Baidarnaya**	**4.38**	**6**	PN	**Pn**	**23 59 18.4**	**+0.6**
SMKR	**Semkarok**	**4.42**	**8**	P	**Pn**	**23 59 19.3**	**+1.0**
SMKR	**Semkarok**	**4.42**	**8**	PN	**Pn**	**23 59 19.3**	**+1.0**
SRKR	**Sorokina**	**4.47**	**6**	P	**Pn**	**23 59 19.2**	**+0.3**
SRKR	**Sorokina**	**4.47**	**6**	PN	**Pn**	**23 59 19.2**	**+0.3**
BKI	**Bering**	**4.49**	**46**	S	**Sn**	**00 00 02.9**	**-7.1**
OSSR	**Ossora**	**7.21**	**11**	P	**Pn**	**23 59 55.5**	**-0.9**
OSSR	**Ossora**	**7.21**	**11**	PN	**Pn**	**23 59 55.5**	**-0.9**
TILK	**Tilichiki**	**8.85**	**19**	P	**Pn**	**00 00 17.2**	**-1.6**
MA2	**Magadan**	**9.11**	**328**	Pn	**Pn**	**00 00 21.0**	**-1.4**
	comp=E,1.3nm,0.3s,baz=98,slow=20,SNR=2.8						
SEY	**Seymchan**	**11.54**	**342**	*i* PN	**Pn**	**00 00 55.5**	**-0.1**
SEY	**Seymchan**	**11.54**	**342**	Pn	**Pn**	**00 00 55.9**	**+0.3**
	comp=E,0.2nm,0.3s,baz=140,slow=14,SNR=3.1						
YSS	**Yuzh-Sakhalins**	**12.55**	**252**	*e*PN	**Pn**	**00 01 10.0**	**+0.6**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				MLR	MLR		
	comp=Z,3μm,13.0s						
ASAJ	**Asahikawa**	**14.31**	**243**	Pn	**Pn**	**00 01 31.9**	**-1.5**
	comp=Z,5.5nm,0.3s,baz=79,slow=12,SNR=14						
ERM	**Erimo**	**15.48**	**236**	*i* P	**Pn**	**00 01 46.7**	**-1.8**
BILL	**Bilibino**	**16.13**	**8**	*e*Pn	**P**	**00 01 58.0**	**-1.2**
	comp=Z,58nm,1.0s						
BILL	**Bilibino**	**16.13**	**8**	*ce*P	**P**	**00 01 59.7**	**+0.5**
BILL				pmax	pmax		
	comp=Z,65nm,1.0s						
TEY	**Ternei**	**17.20**	**255**	‖*e*P	**Pn**	**00 02 09.9**	**-0.3**
TEY				pmax	pmax		
	comp=Z,80nm,0.6s						
KLR	**Kul'dur**	**18.28**	**272**	*i* P	**P**	**00 02 22.3**	**-0.8**
KLR	**Kul'dur**	**18.28**	**272**	P	**P**	**00 02 22.0**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=75,slow=9.2,SNR=23						
ZEA	**Zeya**	**19.88**	**288**	*e*P	**P**	**00 02 38.2**	**-2.2**
ZEA				pmax	pmax		
	comp=Z,59nm,1.0s						
USRK	**Ussuriysk Ar.**	**20.42**	**258**	P	**P**	**00 02 43.5**	**-2.9**
	comp=Z,16nm,0.9s,baz=56,slow=10,SNR=16						
MJB9	**Matsu-Tunnel**	**22.13**	**234**	*e*P	**P**	**00 03 05.5**	**+0.7**
	comp=Z,58nm,1.0s						
MAJO	**Matsushiro**	**22.13**	**234**	*e*P	**P**	**00 03 05.4**	**+0.6**
	comp=Z,57nm,1.0s						
MAJO	**Matsushiro**	**22.13**	**234**	*i* P	**P**	**00 03 05.2**	**+0.4**
MAT	**Matsushiro**	**22.13**	**234**	P	**P**	**00 03 04.0**	**-0.8**
MJAR	**Matsushiro Arr**	**22.13**	**234**	*e*P	**P**	**00 03 05.8**	**+0.9**
MJAR	**Matsushiro Arr**	**22.13**	**234**	P	**P**	**00 03 04.5**	**-0.4**
	comp=Z,19nm,0.7s,baz=17,slow=9.9,SNR=25						
INU	**Inuyama**	**23.66**	**234**	*e*P	**P**	**00 03 21.3**	**+0.9**
	comp=Z,35nm,1.0s						
RDOG	**Red Dog Mine**	**23.68**	**34**	*e*P	**P**	**00 03 20.6**	**+0.3**
	comp=Z,33nm,1.0s						
TIXI	**Tiksi**	**23.93**	**336**	*e*P	**P**	**00 03 20.2**	**-2.3**
	comp=Z,56nm,0.7s						
TIXI	**Tiksi**	**23.93**	**336**	*ce*P	**P**	**00 03 20.6**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,66nm,0.8s						
TIXI	**Tiksi**	**23.93**	**336**	P	**P**	**00 03 20.9**	**-1.6**
	comp=Z,62nm,0.8s,baz=126,slow=9.1,SNR=45						
CN2	**Changchun**	**24.61**	**264**	*e*P	**P**	**00 03 26.0**	**-2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**25.61**	**280**	*e*P	**P**	**00 03 36.0**	**-2.1**

LZH pmax pmax
comp=Z,23nm,1.0s
LZH LR LR
comp=Z,760nm,14.6s
LZH LR LR
comp=Z,810nm,15.4s
LZH LR LR
comp=Z,2μm,16.5s
GTA Gaotai 42.85 277 ⇑P **P 00 06 04.8 -2.0**
GTA pP pP 00 06 15.9 -3.6
GTA sP pwP 00 06 19.8 -3.6
GTA pmax pmax
comp=Z,10.0nm,1.4s
GTA pmax pmax
comp=Z,86nm,4.3s
GTA LR LR
comp=Z,1μm,14.6s
GTA LR LR
comp=Z,2μm,14.9s
GTA LR LR
comp=Z,3μm,14.6s
ZAA0 Zalesovo Array 43.37 304 *e*P **P 00 06 07.8 -2.9**
comp=Z,6.8nm,0.7s
ZALV Zalesovo Beam 43.37 304 *e*P **P 00 06 07.9 -2.7**
ZALV Zalesovo Beam 43.37 304 *e*P **P 00 06 07.9 -2.7**
ZALV Zalesovo Beam 43.37 304 P **P 00 06 08.1 -2.6**
comp=Z,3.9nm,0.5s,baz=56,slow=6.8,SNR=14
ZALV PcP **PcP 00 07 58.7 +0.5**
comp=Z,1.5nm,0.5s,baz=57,slow=5.3,SNR=3.3
KWAJ Kwajalein Atol 43.70 170 *e*P **P 00 06 16.0 +2.4**
comp=Z,217nm,1.0s
YKA Yellowknife Ar 43.71 42 *e*P **P 00 06 13.0 -0.3**
YKA Yellowknife Ar 43.71 42 P **P 00 06 13.0 -0.3**
YKA Yellowknife Ar 43.71 42 P **P 00 06 13.4 +0.2**
comp=Z,1.8nm,0.8s,baz=298,slow=8.1,SNR=10
NVS Novosibirsk 43.73 305 ⇓*i*P **P 00 06 11.6 -1.9**
NVS *e* 00 06 22.4
NVS *e* 00 07 53.8
NVS *e*S **S 00 12 36.2 -3.5**
NVS pmax pmax
comp=N,14nm,1.1s
NVS pmax pmax
comp=E,41nm,1.1s
NVS pmax pmax
comp=Z,72nm,1.1s
NVS smax smax
comp=N,8.0nm,1.6s
RES Resolute Bay 44.08 22 *e*P **P 00 06 16.7 +0.7**
comp=N,4.6nm,0.8s
RES Resolute Bay 44.08 22 P **P 00 06 16.7 +0.7**
RES pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 44.08 22 P **P 00 06 15.5 -0.6**
comp=Z,4.0nm,0.8s,baz=306,slow=6.8,SNR=8.4
DGZ Jazzator, Alta 44.19 297 *i* P **P 00 06 16.4 -1.0**
DGZ pmax pmax
comp=Z,15nm,1.0s
CD2 Chengdu 46.03 265 *e*P **P 00 06 30.0 -2.1**
CD2 pmax pmax
comp=Z,20nm,0.6s
WMQ Urumqi 47.40 290 *e*P **P 00 06 41.8 -0.9**
WMQ pP pP 00 06 52.8 -2.9
WMQ ScS ScS 00 16 29.9 -1.8
WMQ pmax pmax
comp=Z,66nm,1.3s
WMQ pmax pmax
comp=Z,920nm,4.9s
WMQ LR LR
comp=Z,4μm,18.1s
WMQ LR LR
comp=Z,5μm,14.3s
WMQ LR LR
comp=Z,6μm,14.3s
KBS Kingsbay 47.76 352⇑*e*P **P 00 06 47.5 +2.5**
KBS pmax pmax
comp=Z,179nm,1.6s
SPA0 Spitsbergen Ar 48.02 351 *e*P **P 00 06 47.0 +0.1**
SPITS Spitsbergen Ar 48.02 351 P **P 00 06 46.9 -0.1**
SPITS pmax pmax
comp=Z,16nm,0.4s
SPITS Spitsbergen Ar 48.02 351 P **P 00 06 47.1 +0.1**
comp=Z,21nm,0.4s,baz=61,slow=8.7,SNR=130
KURK Kurchatov 48.32 303 *e*P **P 00 06 47.5 -2.1**
comp=Z,73nm,1.1s
KURK Kurchatov 48.32 303⇑*e*P **P 00 06 47.3 -2.3**
KURK pmax pmax
comp=Z,81nm,1.2s
KURK Kurchatov 48.32 303 P **P 00 06 47.4 -2.3**
SNR=13
KURBB Kurchatov Arra 48.42 303 P **P 00 06 48.2 -2.2**
comp=Z,5.3nm,0.3s,baz=312,slow=14,SNR=24
KURBB PcP **PcP 00 08 15.5 -0.5**
comp=Z,1.3nm,0.9s,baz=60,slow=5.5,SNR=2.6
MKAR Makanchi Array 48.66 296 *e*P **P 00 06 50.0 -2.4**
MKAR Makanchi Array 48.66 296 P **P 00 06 50.2 -2.1**
comp=Z,10nm,0.4s,baz=53,slow=6.6,SNR=164
MAKZ Makanchi 48.83 297 *e*P **P 00 06 51.4 -2.3**
comp=Z,24nm,1.1s
HSPB Hornsund (broa 49.14 350 *e*P **P 00 06 56.0 +0.3**
KMI Kunming 50.82 261 P **P 00 07 08.8 -0.4**
KMI sP pwP 00 07 26.0 +0.5
KMI pmax pmax
comp=Z,14nm,1.1s
KMI pmax pmax
comp=Z,140nm,6.4s
KMI LR LR
comp=Z,840nm,17.3s
KMI LR LR
comp=Z,670nm,13.9s
KMI LR LR
comp=Z,740nm,17.3s
BJO Bjornoya 50.90 347 *e*P **P 00 07 08.5 -0.4**
KULLO Kullorsuaq 51.01 12 *i* P **P 00 07 09.1 -0.7**
comp=Z,42nm,1.3s
BVAR Borovoye Array 51.04 309 P **P 00 07 08.4 -1.9**
comp=Z,12nm,0.4s,baz=56,slow=7.3,SNR=64
BVAR PcP **PcP 00 08 26.8 +1.2**
comp=Z,2.3nm,0.5s,baz=71,slow=2.7,SNR=2.8
BRVK Borovoye 51.07 309 *e*P **P 00 07 08.8 -1.8**
comp=Z,55nm,1.4s
BRVK Borovoye 51.07 309 *i* P **P 00 07 08.2 -2.3**
BRVK pmax pmax
comp=Z,42nm,1.3s
BRVK Borovoye 51.07 309 P **P 00 07 08.3 -2.3**
SNR=11
YBH Yreka Blue Hor 51.20 69 P **P 00 07 13.4 +1.7**
comp=Z,1.6nm,0.8s,baz=346,slow=4.2,SNR=2.5
DAG Danmarks Havn 51.28 360 P **P 00 07 12.6 +0.9**
DAG pmax pmax
comp=Z,19nm,1.1s
DAG Danmarks Havn 51.28 360⇑*i*P **P 00 07 11.4 -0.3**
comp=Z,7.4nm,0.8s
O03E Paynes Creek 52.65 70 P **P 00 07 24.3 +1.7**
baz=311
SLVN Son La 52.96 257 *e*P **P 00 07 26.1 +1.1**
comp=Z,17nm,1.2s
HAMF Hammerfest 53.55 343 *e*P **P 00 07 27.8 -0.8**
LVZ Lovozero 53.56 338 *e*P **P 00 07 27.9 -0.9**
comp=Z,57nm,1.0s
LVZ Lovozero 53.56 338⇑*e*P **P 00 07 27.4 -1.4**
LVZ pmax pmax
comp=Z,48nm,1.0s
KEV Kevo 53.69 342 *e*P **P 00 07 28.9 -0.7**
comp=Z,22nm,1.0s
KEV Kevo 53.69 342 P **P 00 07 28.9 -0.7**
KEV pmax pmax
comp=Z,22nm,1.0s
ARU Arti 54.13 318 *e*P **P 00 07 31.2 -1.9**
comp=Z,24nm,0.5s
ARU Arti 54.13 318⇑*e*P **P 00 07 31.4 -1.7**
ARU pmax pmax
comp=Z,12nm,0.4s
ARU Arti 54.13 318 P **P 00 07 31.7 -1.4**
comp=Z,10nm,0.4s,baz=67,slow=4.8,SNR=55
ARCES ARCESS Array B 54.16 342 P **P 00 07 32.5 -0.6**
comp=Z,34nm,0.9s,baz=43,slow=8.4,SNR=33
ARE0 ARCESS Array S 54.16 342 *e*P **P 00 07 32.5 -0.6**
MCMT McKenzie Canyo 54.68 61 *e*P **P 00 07 37.3 -0.3**
PNTR Pine Nut 54.72 70 *e*P **P 00 07 40.6 +2.7**
comp=Z,8.6nm,0.8s
SUMG Summit 54.81 7 *e*P **P 00 07 38.5 +0.2**
comp=Z,33nm,0.9s
SUMG Summit 54.81 7⇑*i*P **P 00 07 38.7 +0.4**
comp=Z,101nm,1.1s
BOZ Bozeman (W) 54.82 59 P **P 00 07 39.8 +1.3**
baz=312

KTK1 Kautokeino 55.03 343 *e*P **P 00 07 39.0 -0.4**
TRO Tromso 55.24 345 *e*P **P 00 07 40.4 -0.5**
AAK Ala-Archa 55.59 297 *e*P **P 00 07 42.7 -1.3**
comp=Z,36nm,1.3s
AAK Ala-Archa 55.59 297 *i* P **P 00 07 42.7 -1.3**
SNR=15
AAK Ala-Archa 55.59 297⇑*e*P **P 00 07 42.7 -1.3**
AAK pmax pmax
comp=Z,23nm,1.0s
AAK Ala-Archa 55.59 297 P **P 00 07 42.8 -1.3**
SNR=9.4
SGF Sodankyl 55.73 340 P **P 00 07 44.6 +0.2**
SGF pmax pmax
comp=Z,37nm,1.1s
PANO Nakornpanom 55.78 253 P **P 00 07 48.8 +3.4**
comp=Z,0.5nm,0.9s
NVAR Mina Array Bea 55.91 70 *e*P **P 00 07 48.7 +2.2**
NVAR Mina Array Bea 55.91 70 P **P 00 07 48.2 +1.8**
comp=Z,1.0nm,0.5s,baz=291,slow=7.8,SNR=3.9
KIRV Kirov 56.18 324 P **P 00 07 47.4 -0.4**
comp=Z,36nm,0.4s,baz=85,slow=2.4,SNR=11
SKNT Sakolnakorn 56.29 253 P **P 00 07 50.5 +1.4**
comp=Z,27nm,0.7s
RLMT Red Lodge 56.38 58 P **P 00 07 51.7 +2.0**
baz=313
FXWY Fox Creek 56.45 61 *e*P **P 00 07 52.5 +2.2**
comp=Z,3.2nm,1.0s
MSF Maaselka 56.47 338 P **P 00 07 49.9 +0.1**
MSF pmax pmax
comp=Z,126nm,1.1s
MOOW Moose Ponds 56.52 60 *e*P **P 00 07 52.8 +2.1**
comp=Z,1.9nm,0.8s
ILULI Ilulissat 56.70 13 *e*P **P 00 07 50.7 -0.6**
comp=Z,13nm,0.8s
KSH Kashi 56.87 293 P **P 00 07 56.1 +2.9**
KSH sP sP 00 08 11.5 -0.5
KSH PP **PP 00 10 05.3 +5.7**
KSH S **S 00 15 42.0 -0.9**
KSH SS **SS 00 19 32.4 +1.3**
KSH pmax pmax
comp=Z,23nm,0.9s
KSH pmax pmax
comp=Z,170nm,2.7s
KSH LR LR
comp=Z,410nm,7.2s
KSH LR LR
comp=Z,380nm,8.6s
KSH LR LR
comp=Z,1μm,11.7s
PAYA Payao 56.89 259 P **P 00 07 55.0 +1.6**
comp=Z,697μmcomp=Z,29μm,0.8s
PHRA Phrae 57.34 258 P **P 00 07 57.9 +1.4**
comp=Z,4.0nm,1.2s
KKAR Karatay Array 57.43 300 *e*P **P 00 07 55.0 -2.0**
LOF Lofoten 57.44 346 *e*P **P 00 07 56.3 -0.2**
LAMP Lampang 57.68 258 P **P 00 08 00.8 +1.9**
comp=Z,315μmcomp=Z,29μm,0.9s
UTTA Uttaradit 57.73 257 P **P 00 08 00.7 +1.5**
comp=Z,202μmcomp=Z,25μm,0.9s
BW06 Boulder Array 57.83 60 P **P 00 08 01.7 +1.7**
baz=314
PDAR Pinedale Array 57.83 60 *e*P **P 00 08 01.2 +1.2**
PDAR Pinedale Array 57.83 60 P **P 00 08 01.5 +1.5**
comp=Z,4.2nm,1.0s,baz=312,slow=2.2,SNR=13
CMMT Chiang Mai 57.87 259 P **P 00 08 01.1 +0.8**
comp=Z,13nm,1.1s
CHTO Chiang Mai 57.87 259 *e*P **P 00 08 01.1 +0.8**
comp=Z,45nm,1.4s
CHTO Chiang Mai 57.87 259 *e*P **P 00 08 01.1 +0.8**
CHTO pmax pmax
comp=Z,45nm,1.4s
CHTO Chiang Mai 57.87 259 P **P 00 08 01.1 +0.8**
SNR=6.8
OUL Oulu 57.88 339 P **P 00 07 59.5 -0.1**
OUL pmax pmax
comp=Z,101nm,1.1s
MPMC Manual Prospec 58.01 71 P **P 00 08 03.7 +2.4**
baz=314
FURC Furnace Creek, 58.09 70 P **P 00 08 03.9 +2.3**
baz=314
CMAR Chiang Mai Arr 58.14 259 P **P 00 08 03.0 +0.8**
CMAR Chiang Mai Arr 58.14 259 P **P 00 08 03.0 +0.8**
comp=Z,5.6nm,0.5s,baz=23,slow=7.2,SNR=24
PBKT Sadao Pong 58.39 256 P **P 00 08 06.0 +2.1**
comp=Z,504nmcomp=Z,6.8nm,1.3s
JOF Joensuu 58.42 335 P **P 00 08 03.3 -0.2**
JOF pmax pmax
comp=Z,88nm,1.0s
AKTO Aktyubinsk 58.52 313 P **P 00 08 03.0 -1.4**
AKTO Aktyubinsk 58.52 313 P **P 00 08 03.0 -1.4**
comp=Z,13nm,0.5s,baz=67,slow=8.6,SNR=54
SFJD Kangerlussuaq 58.83 14 *e*P **P 00 08 06.3 +0.1**
comp=Z,58nm,2.0s
SFJD Kangerlussuaq 58.83 14 *e*P **P 00 08 06.4 +0.1**
SFJD pmax pmax
comp=Z,58nm,2.0s
ODAN Odare 58.96 275 *e*P **P 00 08 07.2 -0.9**
comp=Z,13nm,0.4s
KONS Konsvik 59.01 345 *e*P **P 00 08 07.7 +0.2**
JIRN Jiri 59.12 276 *e*P **P 00 08 08.8 -0.5**
comp=Z,34nm,0.6s
ULM Lac du Bonnet 59.32 46 *e*P **P 00 08 11.5 +1.6**
comp=Z,7.6nm,1.0s
ULM Lac du Bonnet 59.32 46 P **P 00 08 11.2 +1.2**
comp=Z,2.7nm,0.4s,baz=318,slow=6.2,SNR=11
RAMN Ramite 59.38 275 *e*P **P 00 08 10.1 -0.9**
comp=Z,79nm,0.5s
KKN Kakani 59.58 277 *e*P **P 00 08 11.8 -0.6**
comp=Z,32nm,0.4s
PKI Pulchoki 59.66 277 *e*P **P 00 08 12.2 -0.8**
comp=Z,26nm,0.5s
MTPU Mount Pierson 59.66 66 *e*P **P 00 08 14.7 +1.8**
comp=Z,6.1nm,1.2s
PKIN Phulchoki 59.66 277 *e*P **P 00 08 12.1 -0.9**
comp=Z,15nm,0.4s
RSSD Black Hills 59.77 56 *e*P **P 00 08 14.9 +1.5**
comp=Z,10nm,0.9s
RSSD Black Hills 59.77 56 *e*P **P 00 08 14.9 +1.5**
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD Black Hills 59.77 56 P **P 00 08 14.4 +1.0**
baz=315
DMN Daman 59.82 277 *e*P **P 00 08 13.5 -0.5**
comp=Z,23nm,0.4s
SUF Sumiainen 59.85 338 P **P 00 08 13.6 +0.2**
SUF pmax pmax
comp=Z,113nm,1.2s
UMPA Umpang Tak 59.93 257 P **P 00 08 18.3 +3.7**
comp=Z,47μm,1.1s
DANN Dangsing 60.10 279 *e*P **P 00 08 15.5 -0.5**
comp=Z,37nm,0.7s
VAF Ylistaro 60.36 339 P **P 00 08 17.5 +0.7**
VAF pmax pmax
comp=Z,92nm,1.1s
KOLN Koldanda 60.62 278 *e*P **P 00 08 18.5 -1.0**
comp=Z,33nm,0.7s
PYUN Piuthan 60.75 279 *e*P **P 00 08 19.5 -0.9**
comp=Z,67nm,0.9s
FINES FINESS Array B 60.98 337 *e*P **P 00 08 20.8 -0.3**
FINES FINESS Array B 60.98 337 *i* P **P 00 08 21.0 -0.1**
FINES pmax pmax
comp=Z,25nm,0.6s
FINES FINESS Array B 60.98 337 P **P 00 08 21.0 -0.1**
comp=Z,25nm,0.6s,baz=39,slow=7.3,SNR=128
NSS Namsos 61.02 345 *e*P **P 00 08 21.6 +0.3**
PV09 Paradox Valley 61.04 64 *e*P **P 00 08 24.9 +2.6**
N23A Red Feather La 61.07 60 P **P 00 08 24.0 +1.6**
baz=316
PV22 Blue Mesa, Par 61.21 63 *e*P **P 00 08 26.0 +2.7**
comp=Z,18nm,1.6s
PV04 Paradox Valley 61.24 64 *e*P **P 00 08 25.2 +1.7**
comp=Z,10nm,1.2s
CHGR Chuyangaron 61.27 297 *e*P **P 00 08 23.5 -0.1**
comp=Z,45nm,1.4s
PV11 David Mesa, Pa 61.33 64 *e*P **P 00 08 26.5 +2.4**
comp=Z,8.9nm,0.7s
PV18 Skein Mesa, Pa 61.34 64 *e*P **P 00 08 27.4 +3.2**
comp=Z,22nm,1.5s
PV05 Paradox Valley 61.36 64 *e*P **P 00 08 25.9 +1.5**
comp=Z,7.7nm,0.7s
ISCO Idaho Springs 62.02 60 P **P 00 08 30.9 +2.0**
baz=316
PHET Kaeng Krachan 62.05 254 P **P 00 08 31.1 +2.1**
comp=Z,764μmcomp=Z,72μm,1.0s
MOS Moscow 62.47 328 *e*P **P 00 08 29.7 -1.5**
MOS pmax pmax
comp=Z,100nm,1.4s

MOS pmax pmax
comp=Z,78nm,1.2s
NIL Nilore 62.55 290 *e*P **P 00 08 31.9 -0.2**
comp=Z,75nm,1.2s
NIL Nilore 62.55 290 *e*P **P 00 08 31.9 -0.2**
NIL pmax pmax
comp=Z,75nm,1.2s
S22A 4UR Ranch, Cre 62.85 63 P **P 00 08 36.8 +2.4**
baz=317
OBN Obninsk 63.33 328 *e*P **P 00 08 36.5 -0.4**
comp=Z,79nm,1.3s
OBN Obninsk 63.33 328 *e*P **P 00 08 36.3 -0.6**
OBN *e* 00 08 47.4
OBN *e* 00 09 12.6
OBN *e* 00 10 53.9
OBN pmax pmax
comp=Z,68nm,1.3s
OBN Obninsk 63.33 328 P **P 00 08 36.2 -0.7**
comp=Z,3.5nm,0.6s,baz=346,slow=0.9,SNR=14
VSU Vasula 63.40 335*c e*P **P 00 08 37.4 +0.1**
VSU pmax pmax
comp=Z,146nm,1.0s
VSU Vasula 63.40 335 *e*P **P 00 08 36.4 -0.9**
VSU IAmb IAmb 00 08 39.0
comp=Z,150nm,1.1s
ECSD EROS Data Cent 63.75 52 P **P 00 08 40.8 +0.9**
baz=318
DOMB Dombas 63.82 345 *e*P **P 00 08 40.4 +0.3**
F38A Pierce - Schro 64.30 47 P **P 00 08 44.4 +1.0**
baz=320
KBL Kabul 64.30 294 *e*P **P 00 08 41.5 -2.4**
comp=Z,12nm,1.0s
KBL Kabul 64.30 294 *e*P **P 00 08 41.5 -2.4**
KBL pmax pmax
comp=Z,12nm,1.0s
NB2 NORSAR Subarra 64.42 344 P **P 00 08 44.0 -0.1**
comp=Z,3.6nm,0.4s,baz=21,slow=6.9
NB2 NORSAR Subarra 64.42 344 P **P 00 08 41.0 -3.1**
NB2 pmax pmax
comp=Z,37nm,1.6s
NOA NORSAR Array B 64.42 344 P **P 00 08 43.5 -0.6**
comp=Z,2.3nm,0.4s,baz=330,slow=16,SNR=32
E39A Mellen 64.57 46 P **P 00 08 45.9 +0.7**
baz=320
LPSR Galich'ya Gora 64.58 325 *e*P **P 00 08 44.0 -1.1**
LPSR pmax pmax
comp=Z,80nm,1.4s
NC602 NORSAR Array S 64.65 344 *e*P **P 00 08 45.5 -0.1**
comp=Z,55nm,1.4s
NORES NORESS Array B 64.65 344 P **P 00 08 45.8 +0.3**
NORES pmax pmax
comp=Z,2.0nm,0.3s
NAO01 NORSAR Array S 64.66 344 *e*P **P 00 08 46.2 +0.6**
comp=Z,22nm,1.0s
NAO01 NORSAR Array S 64.66 344 *e*P **P 00 08 45.2 -0.3**
VRH Novokhopyorsk 64.69 322 *e*P **P 00 08 44.4 -1.5**
VRH pmax pmax
comp=Z,30nm,0.5s
F39A Loretta 64.76 47 P **P 00 08 46.9 +0.4**
baz=320
E40A Wakefield 64.81 46 P **P 00 08 47.9 +1.0**
baz=321
G38A Ridgeland 64.91 48 P **P 00 08 48.0 +0.5**
baz=320
TASM ASL Pad, Albuq 65.09 65 P **P 00 08 52.0 +2.9**
baz=318
TASM ASL Pad, Albuq 65.09 65 P **P 00 08 51.9 +2.9**
baz=318
ANMO Albuquerque 65.09 65 *e*P **P 00 08 51.4 +2.3**
comp=Z,6.1nm,1.4s
ANMO Albuquerque 65.09 65*c e*P **P 00 08 52.3 +3.2**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
LAZ Ladron 65.11 66 *e*P **P 00 08 52.1 +2.9**
E41A Kenton 65.21 45 P **P 00 08 50.1 +0.7**
baz=321
SLIT Slitere, Latvi 65.26 337 *e*P **P 00 08 48.8 -0.7**
SLIT IAmb IAmb 00 08 51.0
comp=Z,355nm,1.1s
VSR Storozhevoye 65.62 324 *i* P **P 00 08 50.3 -1.7**
VSR pmax pmax
comp=Z,24nm,0.4s
F41A Three Lakes 65.71 46 P **P 00 08 53.3 +0.6**
baz=321
VORD Divnogorie 65.78 324 *e*P **P 00 08 52.1 -0.9**
VORD pmax pmax
comp=Z,30nm,1.2s
IZAR Zarasai 65.90 334 *e*P **P 00 08 53.2 -0.4**
IZAR IAmb IAmb 00 08 55.3
comp=Z,9.2nm,0.7s
I39A Houston 66.07 49 P **P 00 08 56.0 +1.1**
baz=321
ISAL Salakas 66.09 334 *e*P **P 00 08 54.5 -0.4**
ISAL IAmb IAmb 00 08 56.7
comp=Z,17nm,1.1s
IDID Didziasalis 66.14 333 *e*P **P 00 08 55.2 0.0**
IDID IAmb IAmb 00 08 57.0
comp=Z,16nm,1.0s
IIGN Ignalina 66.26 333 *e*P **P 00 08 55.9 0.0**
IIGN IAmb IAmb 00 08 57.8
comp=Z,19nm,0.5s
SCHQ Schefferville 66.36 28 *e*P **P 00 08 58.3 +1.7**
comp=Z,9.3nm,0.7s
J39A Decorah 66.38 49 P **P 00 08 57.5 +0.5**
baz=321
I40A Norwalk 66.46 48 P **P 00 08 58.5 +1.0**
baz=321
MICGM Minsk 66.53 332 *e* **P 00 08 58.0 +0.3**
MNK Minsk 66.53 332 *e*P **P 00 08 58.0 +0.3**
G43A Wallace 66.71 45 P **P 00 08 59.4 +0.4**
baz=322
PABE Paberze 66.73 335 *e*P **P 00 08 58.1 -0.8**
PABE IAmb IAmb 00 09 00.6
comp=Z,101nm,1.1s
SCIA State Center 66.77 51 P **P 00 09 00.6 +1.2**
baz=320
PBUR Paburg 66.79 336 *e*P **P 00 08 58.7 -0.6**
PBUR IAmb IAmb 00 09 01.0
comp=Z,98nm,1.3s
D46A Sault St. Mari 66.97 42 P **P 00 09 00.3 -0.3**
baz=323
D47A Chapleau 67.22 42 P **P 00 09 02.2 -0.1**
baz=324
E46A Sault Ste Mari 67.28 43 P **P 00 09 02.4 -0.3**
baz=323
D48A Paudash Townsh 67.65 41 P **P 00 09 04.5 -0.5**
baz=324
GEYT Alibeck 67.68 303 P **P 00 09 05.0 -0.3**
comp=Z,3.8nm,0.4s,baz=24,slow=4.5,SNR=20
LSQQ Lebel-sur-Quev 67.96 37 P **P 00 09 06.9 0.0**
baz=326
E48A Lockeyer 68.07 41 P **P 00 09 07.0 -0.6**
baz=324
MNTX Cornudas Mount 68.10 66 *e*P **P 00 09 11.5 +3.4**
comp=Z,7.0nm,1.2s
CHGQ Chibougamau 68.18 35 P **P 00 09 08.1 -0.2**
baz=328
N40A Mertquake, Sal 68.33 51 P **P 00 09 10.2 +0.9**
baz=321
VLDQ Val d'Or 68.57 38 *e*P **P 00 09 09.8 -0.9**
comp=Z,18nm,1.3s
F49A Sandfield 68.70 42 P **P 00 09 11.4 -0.2**
baz=325
N41A Harden Midland 68.82 51 P **P 00 09 13.2 +0.8**
baz=322
MAK Makhachkala 68.89 314 *e*P **P 00 09 12.1 -0.6**
MAK *e*S **S 00 18 12.9 +0.1**
MAK pmax pmax
comp=Z,54nm,1.1s
MAK MLR MLR
comp=Z,827nm,15.0s
E51A G1948 Merrick 69.09 40 P **P 00 09 13.8 -0.2**
baz=326
MUD Monsted U'grnd 69.11 343 *i* P **P 00 09 14.8 +0.9**
MUD Monsted U'grnd 69.11 343 *i* P **P 00 09 14.8 +0.9**
COP Copenhagen 69.23 341 *i* P **P 00 09 15.7 +1.1**
COP pmax pmax
comp=Z,14nm,0.6s
COP Copenhagen 69.23 341 *i* P **P 00 09 15.7 +1.1**
comp=Z,14nm,0.6s
BSD Bornholm Skovb 69.25 340 *i* P **P 00 09 15.0 +0.2**
BSD Bornholm Skovb 69.25 340 *i* P **P 00 09 15.0 +0.2**
TOBO Tobermory, Bru 69.35 42 P **P 00 09 15.7 +0.1**
baz=325
WMOK Wichita Mounta 69.42 60 P **P 00 09 17.2 +0.9**
baz=320

AKASG **Malin Array Be** 69.43 329 *eP* **P** 00 09 15.1 -0.9
AKASG **Malin Array Be** 69.43 329 *i* P **P** 00 09 15.3 -0.7
AKASG pmax pmax
comp=Z,13nm,0.4s
AKASG **Malin Array Be** 69.43 329 P **P** 00 09 15.3 -0.7
comp=Z,14nm,0.4s,baz=31,slow=6.9,SNR=65
KIEV **Kiev** 69.44 329 *eP* **P** 00 09 15.3 -0.7
comp=Z,36nm,1.1s
KIEV **Kiev** 69.44 329⇑*iP* **P** 00 09 15.4 -0.7
KIEV **Kiev** 69.44 329 *i* P **P** 00 09 15.2 -0.9
SNR=5.1
KIEV **Kiev** 69.44 329 *i* P **P** 00 09 15.2 -0.9
KIEV pmax pmax
comp=Z,42nm,1.1s
D54A **Lac Fusel, La** 69.67 38 P **P** 00 09 17.8 +0.3
baz=327
HDIL **Hopedale** 69.67 50 P **P** 00 09 18.2 +0.5
baz=322
NCK **Nalchik** 70.16 316 *i* P **P** 00 09 20.5 -0.2
NCK pmax pmax
comp=Z,10.0nm,1.2s
KVAR **Kislovodsk Arr** 70.17 317 P **P** 00 09 20.7 -0.1
comp=Z,2.2nm,0.5s,baz=113,slow=13,SNR=5.2
KIV **Kislovodsk** 70.17 317 *eP* **P** 00 09 21.0 +0.2
comp=Z,7.1nm,0.9s
KIV **Kislovodsk** 70.17 317 *eP* **P** 00 09 20.5 -0.3
KIV pmax pmax
comp=Z,20nm,1.1s
KBZ **Khabaz** 70.27 317 P **P** 00 09 21.2 0.0
comp=Z,8.3nm,0.9s,baz=24,slow=2.4,SNR=12
BASO **Ashfield** 70.28 43 P **P** 00 09 21.7 +0.4
baz=325
GKP **Gorka Klasztor** 70.43 337 *eP* **P** 00 09 23.1 +1.0
GKP **Gorka Klasztor** 70.43 337 *eP* **P** 00 09 23.1 +1.0
R41A **Rosebud** 70.45 52 P **P** 00 09 22.2 -0.3
baz=322
G53A **Haliburton** 70.60 40 P **P** 00 09 22.7 -0.6
baz=326
ZEI **Tsey** 70.60 316 *eP* P 00 09 18.5 -5.1
ZEI pmax pmax
comp=Z,9.0nm,1.2s
CCM **Cathedral Cave** 70.70 53 *eP* **P** 00 09 25.7 +1.7
comp=Z,21nm,1.8s
CCM **Cathedral Cave** 70.70 53 *eP* **P** 00 09 25.7 +1.7
CCM pmax pmax
comp=Z,21nm,1.8s
NEY **Neytrino** 70.73 317 *i* P **P** 00 09 24.5 +0.2
TXAR **Lajitas Array** 70.85 67 P **P** 00 09 26.6 +1.4
comp=Z,3.6nm,0.9s,baz=300,slow=4.6,SNR=16
BEL **Belsk** 70.86 335 *eP* **P** 00 09 26.2 +1.5
BEL **Belsk** 70.86 335 *eP* **P** 00 09 26.2 +1.5
TBLG **Delisi** 71.10 314 *eP* **P** 00 09 25.5 -0.9
comp=Z,53nm,1.7s
TBLG **Delisi** 71.10 314 *eP* **P** 00 09 25.5 -0.9
TBLG pmax pmax
comp=Z,53nm,1.7s
TRQ **Mont Tremblant** 71.23 37 *eP* **P** 00 09 27.5 +0.3
G55A **Calabogie** 71.23 39 P **P** 00 09 27.1 0.0
baz=327
U40A **Yellville** 71.24 55 P **P** 00 09 27.2 -0.1
baz=322
N48A **Decatur** 71.39 47 P **P** 00 09 27.8 -0.3
baz=324
HYB **Hyderabad** 71.42 275⇑*iP* **P** 00 09 28.5 -0.2
comp=Z,38nm,0.8s
LVV **L'vov** 71.78 332⇓*iP* **P** 00 09 30.1 -0.2
AKH **Akhalkalaki** 71.90 315⇓*iP* **P** 00 09 31.8 +0.3
AKH **Akhalkalaki** 71.90 315 P **P** 00 09 31.7 +0.3
EKA **Eskdalemuir Ar** 71.94 350 P **P** 00 09 31.6 +0.4
comp=Z,2.5nm,0.4s,baz=17,slow=5.2,SNR=48
ESK **Eskdalemuir** 71.96 350 *eP* **P** 00 09 31.9 +0.6
comp=Z,67nm,1.9s
ESK **Eskdalemuir** 71.96 350 *eP* **P** 00 09 31.9 +0.6
ESK pmax pmax
comp=Z,67nm,1.9s
KWP **Kalwaria Pacla** 72.33 333 *eP* **P** 00 09 34.4 +0.7
KWP **Kalwaria Pacla** 72.33 333 *eP* **P** 00 09 34.4 +0.7
GNI **Garni** 72.38 313 *eP* **P** 00 09 35.4 +1.1
comp=Z,44nm,1.5s
GNI **Garni** 72.38 313*ceP* **P** 00 09 34.7 +0.4
GNI pmax pmax
comp=Z,171nm,1.7s
GNI **Garni** 72.38 313 P **P** 00 09 35.0 +0.7
SNR=5.1
GNI **Garni** 72.38 313 P **P** 00 09 34.8 +0.6
comp=Z,5.9nm,0.7s,baz=172,slow=5.6,SNR=6.8
W41B **Gary Mavity, V** 72.47 55 P **P** 00 09 35.8 +1.2
baz=322
OJC **Ojcow** 72.59 335 *eP* **P** 00 09 35.7 +0.5
OJC **Ojcow** 72.59 335 *eP* **P** 00 09 35.7 +0.5
BCA **Borcka** 72.68 316⇑*iP* **P** 00 09 35.3 -0.6
KIS **Kishinev** 72.80 328 *eP* **P** 00 09 35.0 -1.4
KSP **Ksiaz** 72.90 337 *eP* **P** 00 09 37.6 +0.6
KSP **Ksiaz** 72.90 337 *eP* **P** 00 09 37.6 +0.6
WCI **Wyandotte Cave** 72.93 49 *eP* **P** 00 09 38.5 +1.2
comp=Z,6.9nm,0.9s
WCI **Wyandotte Cave** 72.93 49 *eP* **P** 00 09 38.5 +1.2
WCI pmax pmax
comp=Z,7.0nm,0.9s
WCI **Wyandotte Cave** 72.93 49 P **P** 00 09 37.9 +0.6
baz=324
IAS **Iasi** 73.04 328 P **P** 00 09 38.9 +1.1
CTA **Charters Tower** 73.04 194 P **P** 00 09 38.6 +0.6
comp=Z,3.2nm,0.8s,baz=27,slow=6.8,SNR=2.7
T46A **Princeton** 73.13 51 P **P** 00 09 39.4 +0.8
baz=324
CLL **Collm** 73.22 339 *i* P **P** 00 09 38.9 +0.1
CLL *i* 00 09 50.7
CLL pmax pmax
comp=Z,17nm,0.9s
CLL **Collm** 73.22 339 *i* P **P** 00 09 38.9 +0.1
comp=Z,17nm,0.9s
CLL *i* pP **pP** 00 09 50.7 -2.0
CLL *i* 00 10 03.1
UPC **Upice** 73.28 337 *eP* **P** 00 09 40.0 +0.8
UPC **Upice** 73.28 337 *eP* **P** 00 09 40.0 +0.8
DPC **Dobruska-Polom** 73.35 337 *eP* **P** 00 09 40.8 +1.1
DPC *e* 00 09 49.9
DPC **Dobruska-Polom** 73.35 337 *eP* **P** 00 09 40.8 +1.1
DPC *ex* x 00 09 49.9
OKC **Ostrava-Krasne** 73.37 336 *eP* **P** 00 09 39.7 -0.1
OKC *e* 00 09 51.5
OKC **Ostrava-Krasne** 73.37 336 *eP* **P** 00 09 39.7 -0.1
OKC *ex* x 00 09 51.5
BURAR **Bucovina Array** 73.40 330 *eP* **P** 00 09 40.1 0.0
BURAR **Bucovina Array** 73.40 330⇑*iP* **P** 00 09 40.2 +0.1
BURAR **Bucovina Array** 73.40 330 P **P** 00 09 40.1 0.0
BRG **Berggiesshubel** 73.42 339 *eP* **P** 00 09 40.0 0.0
comp=Z,9.9nm,1.2s
BRG **Berggiesshubel** 73.42 339 *eP* **P** 00 09 40.0 0.0
BRG pmax pmax
comp=Z,10.0nm,1.2s
KRLC **Kraliky** 73.49 336 *eP* **P** 00 09 41.6 +1.0
KRLC **Kraliky** 73.49 336 *eP* **P** 00 09 41.6 +1.0
O53A **New Philadelph** 73.56 45 P **P** 00 09 41.4 +0.3
baz=326
MORC **Moravsky Berou** 73.58 336⇑*iP* **P** 00 09 41.6 +0.5
MORC **Moravsky Berou** 73.58 336 *eP* **P** 00 09 41.7 +0.6
TRPA **Tarpa** 73.73 332⇑*iP* **P** 00 09 42.8 +0.9
WTSB **Winterswijk** 73.82 343 *eP* **P** 00 09 42.6 +0.3
comp=Z,14nm,0.9s
BMR **Baia Mare** 73.86 331⇑*iP* **P** 00 09 44.0 +1.3
WVT **Waverly** 73.89 51 P **P** 00 09 44.0 +1.0
baz=324
TESR **Tescani** 73.93 329⇑*iP* **P** 00 09 42.7 -0.4
PRU **Pruhonice** 74.11 338 *eP* **P** 00 09 44.6 +0.5
PRU **Pruhonice** 74.11 338 *eP* **P** 00 09 44.6 +0.5
PRU *ex* x 00 09 51.6
GOPC **GO Pecny, Ondr** 74.12 338 *eP* **P** 00 09 44.4 +0.2
GOPC *e* 00 09 56.7
GOPC **GO Pecny, Ondr** 74.12 338 *eP* **P** 00 09 44.4 +0.2
GOPC *ex* x 00 09 56.7
ARCR **ARCALIA** 74.14 330⇓*iP* **P** 00 09 45.5 +1.2
T49A **Edmonton** 74.19 49 P **P** 00 09 45.5 +0.7
baz=325
VRAC **Vranov** 74.25 336⇑*iP* **P** 00 09 46.0 +1.1
VRAC **Vranov** 74.25 336 *eP* **P** 00 09 45.8 +0.9
VRAC **Vranov** 74.25 336 P **P** 00 09 45.1 +0.1
comp=Z,11nm,0.9s,baz=21,slow=7.1,SNR=13
NKC **Novy Kostel** 74.35 339 *eP* **P** 00 09 46.4 +0.9
NKC **Novy Kostel** 74.35 339 *eP* **P** 00 09 46.4 +0.9
TLCR 74.39 327⇑*iP* **P** 00 09 46.0 +0.2
TLCR 74.39 327 P **P** 00 09 46.0 +0.2
JAVC **Velka Javorina** 74.39 335 *eP* **P** 00 09 47.5 +1.6

O55A **Ligonier** 74.41 43 P **P** 00 09 46.1 0.0
baz=327
ODBI **Odobesti** 74.46 328⇑*iP* **P** 00 09 47.6 +1.4
VRI **Vrincioaia** 74.48 328⇑*iP* **P** 00 09 47.4 +1.1
VRI **Vrincioaia** 74.48 328 P **P** 00 09 47.3 +1.0
PLOR **Plostina** 74.52 328⇑*iP* **P** 00 09 47.4 +0.8
PLOR **Plostina** 74.52 328 P **P** 00 09 47.3 +0.7
KRUC **Moravsky** 74.53 336 *eP* **P** 00 09 47.3 +0.8
TREC **Trest** 74.53 337 *eP* **P** 00 09 47.3 +0.7
TREC *e* 00 09 57.5
TREC **Trest** 74.53 337 *eP* **P** 00 09 47.3 +0.7
TREC *ex* x 00 09 57.5
Q53A **Leroy** 74.57 46 P **P** 00 09 47.4 +0.4
baz=326
OZUR 74.58 329⇑*iP* **P** 00 09 48.3 +1.4
T50A **Nancy** 74.58 49 P **P** 00 09 47.2 +0.2
baz=325
CFR **Carcaliu** 74.62 327⇓*iP* **P** 00 09 47.2 +0.1
CFR **Carcaliu** 74.62 327 P **P** 00 09 47.2 +0.1
O56A **Blue Knob Stat** 74.67 43 *eP* **P** 00 09 48.7 +1.1
comp=Z,7.1nm,0.8s
O56A **Blue Knob Stat** 74.67 43 P **P** 00 09 48.9 +1.3
baz=327
PSZ **Piszkesteto** 74.67 334 *eP* **P** 00 09 47.5 0.0
comp=Z,12nm,1.0s
PSZ **Piszkesteto** 74.67 334⇓*iP* **P** 00 09 47.0 -0.5
PSZ **Piszkesteto** 74.67 334 *eP* **P** 00 09 47.5 0.0
PSZ pmax pmax
comp=Z,12nm,1.0s
CJR **Cluj-Napoca** 74.70 331⇑*iP* **P** 00 09 48.3 +0.6
CJR **Cluj-Napoca** 74.70 331 P **P** 00 09 48.2 +0.6
W47A **Westpoint** 74.71 52 P **P** 00 09 48.9 +1.1
baz=324
P55A **Reedsville** 74.77 44 P **P** 00 09 48.9 +0.8
baz=327
SMOL **Smolenice** 74.77 335 *eP* **P** 00 09 49.8 +1.8
SNOP **Sinop** 74.81 321 *eP* **P** 00 09 47.2 -1.1
comp=Z,9.2nm,0.8s
DOPR **Dopca** 74.82 329⇑*iP* **P** 00 09 48.5 +0.2
DRGR 74.89 331⇑*iP* **P** 00 09 49.3 +0.5
DRGR 74.89 331 P **P** 00 09 49.2 +0.5
MLR **Muntele Rosu** 75.06 329⇑*iP* **P** 00 09 51.4 +1.5
MLR **Muntele Rosu** 75.06 329 P **P** 00 09 50.3 +0.4
comp=Z,8.7nm,0.5s,baz=244,slow=2.5,SNR=41
DIKM **Dikmen** 75.10 321⇑*iP* **P** 00 09 50.0 0.0
HGN **Heimansgroeve** 75.12 344 *eP* **P** 00 09 50.2 +0.3
comp=Z,54nm,1.2s
GRFO **Grafenberg** 75.13 340 *eP* **P** 00 09 49.7 -0.3
comp=Z,33nm,1.2s
GRFO **Grafenberg** 75.13 340 *eP* **P** 00 09 49.7 -0.3
GRFO pmax pmax
comp=Z,33nm,1.2s
KHC **Kasperske Hory** 75.13 338 *eP* **P** 00 09 50.2 +0.1
comp=Z,6.3nm,1.0s
KHC **Kasperske Hory** 75.13 338 *eP* **P** 00 09 50.2 +0.1
KHC *e* 00 10 01.9
KHC **Kasperske Hory** 75.13 338 *eP* **P** 00 09 50.2 +0.1
KHC *ex* x 00 10 01.9
BEBN **Eben Emael** 75.14 344 ⇑P **P** 00 09 50.5 +0.5
TLB **Topalu** 75.18 327⇓*iP* **P** 00 09 50.3 0.0
TLB **Topalu** 75.18 327 P **P** 00 09 50.3 0.0
MEM **Membach** 75.26 343 ⇑P **P** 00 09 51.3 +0.6
comp=Z,32nm,1.0s
WET **Wettzell** 75.28 339 P **P** 00 09 52.2 +1.3
WRAB **Tennant Creek** 75.34 205 *eP* **P** 00 09 52.1 +0.7
comp=Z,30nm,1.2s
WRAB **Tennant Creek** 75.34 205 *eP* **P** 00 09 52.2 +0.7
WRAB pmax pmax
comp=Z,30nm,1.2s
WRA **Warramunga Arr** 75.35 205 *i* P **P** 00 09 52.2 +0.7
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA **Warramunga Arr** 75.35 205 P **P** 00 09 51.7 +0.2
comp=Z,2.3nm,0.8s,baz=22,slow=5.5,SNR=12
GERES **GERESS Array B** 75.37 338 *eP* **P** 00 09 51.9 +0.4
GERES **GERESS Array B** 75.37 338 P **P** 00 09 51.5 -0.1
comp=Z,3.9nm,0.8s,baz=27,slow=4.4,SNR=20
GERES PP **PP** 00 12 38.4 -1.6
comp=Z,0.8nm,0.9s,baz=25,slow=5.4,SNR=3.8
VOIR 75.40 329⇑*iP* **P** 00 09 52.3 +0.5
VOIR 75.40 329 P **P** 00 09 52.2 +0.5
BCLA **Clavier** 75.57 344 ⇑P **P** 00 09 53.0 +0.5
ARR **Arges** 75.59 329⇓*iP* **P** 00 09 54.1 +1.3
SNF **Seneffe** 75.65 344 ⇑P **P** 00 09 53.4 +0.4
SNF ⇑sP **sP** 00 10 16.1 +3.7
ICOR **Ion Corvin** 75.67 327⇑*iP* **P** 00 09 53.6 +0.4
CONA **Conrad Observa** 75.71 336 *eP* **P** 00 09 54.7 +1.2
comp=Z,16nm,1.0s,SNR=8.1
SOP **Sopron** 75.76 336 P **P** 00 09 55.3 +1.6
LOT **Lotru** 75.78 330⇑*iP* **P** 00 09 54.2 +0.2
X49A **Woodville** 75.92 51 P **P** 00 09 55.5 +0.7
baz=325
GIVF **Givet** 75.95 344 *eP* **P** 00 09 54.5 -0.2
GIVF pmax pmax
comp=Z,25nm,1.4s
DOU **Dourbes** 76.00 344 ⇑P **P** 00 09 54.3 -0.7
comp=Z,7.6nm,1.2s
BAIF **Baives** 76.10 344 *eP* **P** 00 09 55.5 0.0
BAIF pmax pmax
comp=Z,12nm,1.0s
GZR **Gura Zlata** 76.14 331⇓*iP* **P** 00 09 56.3 +0.4
WLF **Walferdange** 76.14 343 ⇑P **P** 00 09 57.0 +1.2
MOA **Molln** 76.17 337 *eP* **P** 00 09 56.8 +0.7
comp=Z,9.4nm,1.1s
FITZ **Fitzroy Crossi** 76.25 214 P **P** 00 09 57.7 +1.1
comp=Z,5.1nm,0.8s,baz=5.6,slow=5.2,SNR=9.6
BZS **Buzias** 76.28 332⇓*iP* **P** 00 09 56.9 +0.3
BZS **Buzias** 76.28 332 P **P** 00 09 56.9 +0.3
ARSA **Arzberg** 76.43 336 *eP* **P** 00 09 58.6 +1.1
comp=Z,12nm,1.1s,SNR=7.9
HERR **Herculane** 76.71 331⇑*iP* **P** 00 09 58.9 -0.2
VLAD **Vladila** 76.89 329⇑*iP* **P** 00 10 00.5 +0.4
BFO **Black Forest** 77.01 341 *eP* **P** 00 10 01.4 +0.6
comp=Z,15nm,1.2s
BFO **Black Forest** 77.01 341 *i* P **P** 00 10 02.0 +1.2
SOKA **Soboth** 77.08 336 *eP* **P** 00 10 02.1 +0.9
comp=Z,18nm,1.1s,SNR=8.8
PUNG **Punghina** 77.10 330⇓*iP* **P** 00 10 00.9 -0.4
KBA **Koelnbreinsper** 77.11 338 *eP* **P** 00 10 03.0 +1.4
comp=Z,35nm,0.9s,SNR=21
KBA **Koelnbreinsper** 77.11 338 P **P** 00 10 03.0 +1.4
CDF **Champ du Feu** 77.14 342 *eP* **P** 00 10 01.6 0.0
CDF pmax pmax
comp=Z,9.0nm,0.7s
FRGS **Fruska Gora** 77.22 333 *eP* **P** 00 10 02.1 +0.1
WATA **Walderalm** 77.28 339 *eP* **P** 00 10 03.4 +1.0
comp=Z,11nm,1.1s,SNR=10.0
RETA **Reute** 77.31 339 *eP* **P** 00 10 03.5 +1.0
comp=Z,7.9nm,1.0s
WTTA **Wattenberg** 77.33 339 *i* P **P** 00 10 03.9 +1.2
comp=Z,23nm,1.0s,SNR=9.3
OBKA **Obir** 77.36 337 *eP* **P** 00 10 04.1 +1.3
comp=Z,21nm,1.2s
MOTA **Moosalm** 77.37 339 *i* P **P** 00 10 04.1 +1.1
comp=Z,16nm,1.1s,SNR=13
BR131 **Keskin Array S** 77.38 321 P **P** 00 10 03.2 0.0
SNR=12
BRTR **Keskin Array B** 77.38 321 *eP* **P** 00 10 02.5 -0.6
BRTR **Keskin Array B** 77.38 321 P **P** 00 10 03.1 0.0
comp=Z,5.0nm,0.8s,baz=26,slow=2.7,SNR=36
BRTR PP **PP** 00 13 00.3 +3.0
comp=Z,1.3nm,0.9s,baz=46,slow=5.3,SNR=3.8
MYKA **Terra Mystica** 77.47 337 *eP* **P** 00 10 05.1 +1.7
comp=Z,10nm,1.2s
SQTA **Sankt Quirin** 77.47 339 *eP* **P** 00 10 04.5 +1.0
comp=Z,20nm,1.1s,SNR=7.8
ANTO **Ankara** 77.59 321 *eP* **P** 00 10 05.1 +0.9
comp=Z,25nm,1.1s
ANTO **Ankara** 77.59 321⇓*iP* **P** 00 10 05.1 +0.9
ANTO **Ankara** 77.59 321 *eP* **P** 00 10 05.1 +0.9
ANTO pmax pmax
comp=Z,25nm,1.1s
ANTO **Ankara** 77.59 321 P **P** 00 10 04.7 +0.5
SNR=7.5
ABTA **Abfaltersbach** 77.62 338 *i* P **P** 00 10 05.5 +1.2
comp=Z,13nm,1.0s,SNR=8.1
DAVA **Damals** 77.69 340 *eP* **P** 00 10 05.8 +1.1
comp=Z,12nm,1.1s
HAU **Haudompre** 77.70 342 *eP* **P** 00 10 04.5 -0.2
HAU pmax pmax
comp=Z,17nm,1.0s
FETA **Feichten** 77.76 339 *eP* **P** 00 10 06.5 +1.3
comp=Z,20nm,1.2s,SNR=5.5
CRES **Cresnjev** 77.77 336 *eP* **P** 00 10 05.0 0.0
HINF **Hinteralfeld** 77.79 342 *eP* **P** 00 10 04.8 -0.4

HINF pmax pmax
comp=Z,12nm,1.2s
PALK **Pallekele** 77.93 266 P **P** 00 10 04.7 -1.7
SHME **Shamm** 77.95 297 P **P** 00 10 05.8 -0.5
PHSR **Pinarhisar** 77.97 326⇑*iP* **P** 00 10 06.6 +0.4
FLN **La Foliniere** 78.07 347 *eP* **P** 00 10 06.3 -0.3
FLN pmax pmax
comp=Z,26nm,1.2s
CEY **Cerknica** 78.11 336 *eP* **P** 00 10 06.0 -0.9
DIVS **Divibare** 78.14 332 *eP* **P** 00 10 07.1 -0.1
DAVOX **Davos/Dischmat** 78.17 340 P **P** 00 10 07.7 +0.3
comp=Z,5.8nm,0.7s,baz=330,slow=4.9,SNR=10
Y54A **Tignall** 78.17 49 P **P** 00 10 08.2 +0.8
baz=326
LDF **La Druitiere** 78.19 347 *eP* **P** 00 10 06.9 -0.4
LDF pmax pmax
comp=Z,30nm,1.4s
FUORN **Ofenpass-Fuorn** 78.24 339 *eP* **P** 00 10 07.6 -0.4
comp=Z,34nm,1.5s
BLY **Banja Luka** 78.32 334⇑*iP* **P** 00 10 07.1 -1.0
CLF **Chambon-Foret** 78.39 345 *eP* **P** 00 10 08.7 +0.3
comp=Z,45nm,1.4s
HAPS **Han Pijesak,Bl** 78.45 333 *eP* **P** 00 10 09.5 +0.6
MSFE **Esma-Masafi** 78.48 296 P **P** 00 10 08.9 -0.5
GRR **Gorron** 78.49 347 *eP* **P** 00 10 08.8 -0.1
GRR pmax pmax
comp=Z,21nm,1.1s
PLD **Plovdiv** 78.49 328 P **P** 00 10 10.0 +0.9
VTS **Vitosha** 78.50 329 *eP* **P** 00 10 08.3 -1.0
comp=Z,17nm,1.1s
VTS **Vitosha** 78.50 329⇑*iP* **P** 00 10 09.6 +0.3
VTS **Vitosha** 78.50 329 *eP* **P** 00 10 08.3 -1.0
VTS pmax pmax
comp=Z,17nm,1.1s
BBLS **Lazići** 78.52 332 *eP* **P** 00 10 10.0 +0.7
TUE **Stuetta** 78.58 340 *eP* **P** 00 10 09.8 +0.1
comp=Z,16nm,0.9s
SGMF **Saint Gilles** 78.84 348 *eP* **P** 00 10 10.8 -0.1
SGMF pmax pmax
comp=Z,15nm,0.8s
ROSF **Rostrenen** 78.84 349 *eP* **P** 00 10 10.9 0.0
ROSF pmax pmax
comp=Z,46nm,1.2s
LOR **Lormes** 78.86 344 *eP* **P** 00 10 10.9 -0.1
LOR pmax pmax
comp=Z,21nm,1.1s
HATD **Hatta, Dubai** 78.92 296 *i* P **P** 00 10 11.5 -0.2
SNR=9.6
HATD **Hatta, Dubai** 78.92 296 P **P** 00 10 11.2 -0.5
SNR=5.4
AS31 **Alice Springs** 79.02 205 *eP* **P** 00 10 13.5 +1.5
ASAR **Alice Springs** 79.02 205 *eP* **P** 00 10 12.3 +0.3
ASAR **Alice Springs** 79.02 205 *eP* **P** 00 10 12.3 +0.3
ASAR **Alice Springs** 79.02 205 P **P** 00 10 13.2 +1.1
comp=Z,2.8nm,0.7s,baz=15,slow=5.3,SNR=24
NAZ **Nazwa, Dubai** 79.05 297 P **P** 00 10 12.0 -0.4
ASHO **Ashiyiah** 79.08 296 *i* P **P** 00 10 12.4 -0.2
SNR=7.4
RDO **Rodhopi** 79.08 327 P **P** 00 10 11.8 -0.5
CABF **La Chapelle** 79.09 342 *eP* **P** 00 10 12.7 +0.3
CABF pmax pmax
comp=Z,32nm,1.2s
SENIN **Lac Senin/Sane** 79.10 341 *eP* **P** 00 10 13.2 +0.5
comp=Z,17nm,1.4s
SSF **Saint Saulge** 79.12 344 *eP* **P** 00 10 12.4 0.0
SSF pmax pmax
comp=Z,13nm,1.1s
ALN **Alexandroupoli** 79.13 326 P **P** 00 10 11.4 -1.2
SOHO **SOHO** 79.25 295 P **P** 00 10 12.7 -0.7
SNR=5.9
UPM **Unac-Piva** 79.27 332 *eP* **P** 00 10 15.2 +1.6
FAQ **Al Faqa, Dubai** 79.28 296 P **P** 00 10 12.8 -0.9
AVF **Avril sur Loir** 79.41 344 *eP* **P** 00 10 14.1 +0.1
AVF pmax pmax
comp=Z,19nm,1.0s
SMF **Signal de Mont** 79.47 344 *eP* **P** 00 10 14.4 +0.1
SMF pmax pmax
comp=Z,20nm,1.2s
ASUD **Al Ashush, Dub** 79.52 297 P **P** 00 10 15.0 +0.1
BRY **Bratogost** 79.65 332 *eP* **P** 00 10 14.7 -0.9
STIP **Stip** 79.67 329 *i* P **P** 00 10 14.8 -0.7
BGF **Bois d'Agland** 79.72 344 *eP* **P** 00 10 15.8 +0.1
BGF pmax pmax
comp=Z,5.0nm,0.4s
ALNE **Al Ain** 79.74 296 *i* P **P** 00 10 15.4 -0.8
SNR=9.7
SRS **Serrai** 79.75 328 P **P** 00 10 16.1 +0.1
SRS **Serrai** 79.75 328 P **P** 00 10 16.0 +0.1
TREB **Trebinje** 79.88 333 *eP* **P** 00 10 17.5 +0.9
PDG **Podgorica** 79.88 332⇑*iP* **P** 00 10 16.2 -0.4
PDG **Podgorica** 79.88 332 *eP* **P** 00 10 16.4 -0.2
VAY **Valandovo** 79.89 329 *i* P **P** 00 10 17.2 +0.5
VAY **Valandovo** 79.89 329 P **P** 00 10 18.3 +1.6
STON **Ston** 79.92 333 *eP* **P** 00 10 17.1 +0.3
EZN **Ezine** 79.99 326⇑*iP* **P** 00 10 17.1 -0.1
EZN **Ezine** 79.99 326 P **P** 00 10 17.1 -0.1
LPL **La Plagne** 80.02 341 *eP* **P** 00 10 18.5 +0.8
LPL pmax pmax
comp=Z,29nm,1.0s
LPG **La Plagne** 80.04 341 *eP* **P** 00 10 18.7 +0.9
LPG pmax pmax
comp=Z,43nm,1.1s
TCF **Toulx Ste Croi** 80.08 345 *eP* **P** 00 10 17.9 +0.2
TCF pmax pmax
comp=Z,13nm,1.0s
DRME **Dracevica, Mon** 80.13 332 *eP* **P** 00 10 19.4 +1.4
MFF **Saint Martin d** 80.14 346 *eP* **P** 00 10 18.3 +0.3
MFF pmax pmax
comp=Z,12nm,1.2s
KRUS **Krusevo** 80.26 330 *i* P **P** 00 10 18.0 -0.8
GRG **Griva** 80.27 329 P **P** 00 10 18.9 +0.1
LIA **Limnos Island** 80.31 327 P **P** 00 10 19.0 0.0
PLG **Polygyros** 80.46 328 P **P** 00 10 18.8 -1.1
BNI **Bardonecchia** 80.48 341 *eP* **P** 00 10 21.0 +1.0
comp=Z,33nm,1.5s
BNI **Bardonecchia** 80.48 341 *eP* **P** 00 10 21.0 +1.0
BNI pmax pmax
comp=Z,33nm,1.5s
PRK **Paraskevi** 80.52 326 P **P** 00 10 20.8 +0.7
TIR **Tirane** 80.69 331 P **P** 00 10 24.0 +3.0
FNA **Florina** 80.75 330 P **P** 00 10 22.7 +1.3
ORIF **Oris-en-Rattie** 80.76 342 *eP* **P** 00 10 22.3 +0.8
ORIF pmax pmax
comp=Z,36nm,1.3s
MHTO **MHTO** 80.93 292 P **P** 00 10 22.4 -0.1
SNR=11
VIVF **Saint-Julien-I** 81.05 343 *eP* **P** 00 10 23.6 +0.7
VIVF pmax pmax
comp=Z,19nm,1.2s
RJF **Les Rejaudoux** 81.15 345 *eP* **P** 00 10 24.0 +0.6
RJF pmax pmax
comp=Z,21nm,1.3s
CHOS **Chios island** 81.37 325 P **P** 00 10 24.2 -0.6
CAF **Calviac** 81.43 345 *eP* **P** 00 10 25.8 +0.8
CAF pmax pmax
comp=Z,12nm,0.9s
XOR **Xorichti** 81.46 328 P **P** 00 10 25.0 -0.2
SBF **Sospel** 81.47 341 *eP* **P** 00 10 27.5 +2.3
SBF pmax pmax
comp=Z,45nm,1.2s
NEO **Neokhori** 81.50 328 P **P** 00 10 24.9 -0.5
AQU **L'Aquila** 81.54 336 *eP* **P** 00 10 26.0 +0.4
comp=Z,44nm,1.1s
AQU **L'Aquila** 81.54 336 *eP* **P** 00 10 26.0 +0.4
AQU pmax pmax
comp=Z,44nm,1.1s
LFF **La Frestale** 81.63 345 *eP* **P** 00 10 26.6 +0.7
LFF pmax pmax
comp=Z,4.0nm,0.5s
MRKA **Markates** 81.92 327 P **P** 00 10 26.6 -1.0
LMR **La Mourre** 82.17 341 *eP* **P** 00 10 31.1 +2.3
LMR pmax pmax
comp=Z,73nm,1.8s
IGT **Igoumenitsa** 82.22 330 P **P** 00 10 30.3 +1.2
DION **Dionisos Attik** 82.38 327 P **P** 00 10 28.5 -1.5
PTL **Penteli** 82.42 327 P **P** 00 10 28.6 -1.7
VLY **Voula,Athens** 82.62 327 P **P** 00 10 29.1 -2.2
MTLF **Montolieu** 82.95 344 *eP* **P** 00 10 33.7 +0.8
MTLF pmax pmax
comp=Z,15nm,1.1s
KLV **Kalavryta, Ach** 83.00 328 P **P** 00 10 32.1 -1.2
EPF **Esparros** 83.56 345 *eP* **P** 00 10 36.3 +0.2
EPF pmax pmax
comp=Z,23nm,1.2s

AMT	Artemida-Makis	83.61 328	P	P		00 10 35.5	-0.9
SJPF	Ste Jean	83.71 347	eP	P		00 10 38.4	+1.6
SJPF			pmax	pmax			
	comp=Z,69nm,1.8s						
ETSF	Etsaut	83.82 346	eP	P		00 10 38.4	+0.9
ETSF			pmax	pmax			
	comp=Z,46nm,1.4s						
PYL	PYLOS	84.18 328	P	P		00 10 37.8	-1.5
NPS	Neapolis	84.32 324	P	P		00 10 38.1	-2.0
IDI	Anoyia	84.56 325	P	P		00 10 39.4	-1.9
	comp=Z,7.5nm,0.4s,baz=29,slow=10,SNR=34						
IMMV	Iera Moni Meta	84.72 326	P	P		00 10 41.5	-0.5
STKA	Stephens Creek	85.34 196	P	P		00 10 46.1	+1.2
	comp=Z,1.2nm,0.5s,baz=356,slow=9.6,SNR=3.1						
PGAV	Gavieira, Arco	85.67 351	eP	P		00 10 48.7	+1.9
	comp=Z,39nm,1.7s						
PBRG	Braganca	85.68 350	eP	P		00 10 47.8	+1.0
	comp=Z,21nm,1.7s						
POLO	Lamas de Olo	86.21 351	eP	P		00 10 49.8	+0.3
	comp=Z,18nm,1.8s						
PVRL	Vila Real	86.30 351	eP	P		00 10 51.3	+1.4
	comp=Z,32nm,2.1s						
MVO	Moncorvo	86.34 350	eP	P		00 10 51.0	+0.9
	comp=Z,24nm,2.5s						
MTE	Manteigas	87.15 351	eP	P		00 10 55.0	+0.9
	comp=Z,29nm,2.2s						
ESDC	Sonseca Array	87.46 348	eP	P		00 10 56.0	+0.4
	comp=Z,7.3nm,1.1s						
ESDC	Sonseca Array	87.46 348	P	P		00 10 56.0	+0.4
	comp=Z,4.0nm,0.8s,baz=1.0,slow=4.2,SNR=23						
PCBR	Castelo Branco	87.70 351	eP	P		00 10 58.4	+1.8
KEST	Kesra	88.81 337	P	P		00 11 02.1	+0.1
	comp=Z,6.5nm,0.9s,baz=326,slow=2.9,SNR=19						
MDT	Midelt	94.30 347	P	P		00 11 27.1	-0.5
	comp=Z,2.1nm,0.9s,baz=62,slow=11,SNR=3.0						
TORD	Torodi Ar. Bea	112.33 337	PP	PP		00 17 27.7	-1.1
	comp=Z,5.7nm,1.1s,baz=354,slow=7.8,SNR=13						
LPAZ	La Paz	127.70 65	PKP	PKPdf		00 17 14.3	+0.2
	comp=Z,1.1nm,0.7s,baz=25,slow=6.1,SNR=4.0						
PLCA	Paso Flores	143.85 92	PKP	PKPdf		00 17 42.5	0.0
	comp=Z,1.5nm,1.0s,baz=279,slow=10,SNR=3.1						

KRSC 19 23:59:20.6±10.0, 52°.11N×160°.46E, h18km±10km, ML4.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.02	345	P	Pb	23 59 39.6	-0.2
SPN				S	Sb	23 59 52.8	-0.1
RUS	Russkaya	1.24	286	P	Pn	23 59 43.0	0.0
RUS				S	Sb	23 59 58.6	-0.4
NLC	Nalytchevo	1.26	328	P	Pb	23 59 43.6	-0.2
NLC				S	Sn	23 59 59.9	+0.1
DALK	Dalny	1.39	312	P	Pn	23 59 45.4	+0.3
DALK				S	Sn	00 00 02.7	-0.3
KDTR	Khodutka, Kamc	1.50	259	P	Pb	23 59 47.4	-0.5
KDTR				S	Sn	00 00 06.2	+0.4
KRMR	Karymshinskiy	1.59	298	S	Sg	00 00 11.0	-1.0

ISK 19 23:59:48.3, 36°.99N×28°.42E, h5km, ML2.1/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	Turunc	0.19	128	PG	Pg	23 59 53.1	+1.0
TURN				SG	Sg	23 59 58.0	+3.4
DALY	Dalyan (Mula)	0.26	132	PG	Pg	23 59 53.9	+0.6
DALY				SG	Sg	23 59 57.9	+1.2
FETY	Fethiye	0.64	123	PG	Pg	00 00 01.3	+0.6
FETY				SG	Sb	00 00 10.7	-0.6
DAT	Datca	0.72	249	PG	Pg	00 00 02.6	+0.4
DAT				SG	Sb	00 00 13.2	-0.4
ARG	Arkhangelos	0.81	197	PG	Pg	00 00 04.3	+0.5
ARG				SG	Sb	00 00 16.1	+0.1
BODT	Bodrum	0.89	275	PG	Pb	00 00 05.8	-0.4
AYDB	Zeytinkoy-Aydi	1.04	336	PG	Pb	00 00 08.6	-0.3
AKAS	Kas	1.22	128	PN	Pn	00 00 12.1	0.0
ELL	Elmali	1.22	101	PN	Pn	00 00 12.2	+0.1
KORT	Korkueli	1.55	89	PN	Pb	00 00 17.2	-0.3

*NEIC **20** 00:00:10.3±0.0, 19°.28N×67°.38W, h43km, MD3.2(RSPR), After RSPR.*

RSPR 20 00:00:10.4, 19°.28N×67°.38W, h44km±6km, MD3.2/11, 4C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.85	162	‖eP	Pn	00 00 24.6	-1.3
AGPR	Aguadilla, PR	0.85	162	eS	Sn	00 00 36.0	-1.3
AGP	Aguadilla	0.90	165	ePn	Pn	00 00 24.6	-2.1
MPR	Mayaguez	1.09	168	ePn	Pn	00 00 28.7	-0.5
AOPR	Arecibo Observ	1.10	147	↑eP	Pn	00 00 27.7	-1.8
AOPR	Arecibo Observ	1.10	147	eS	Sn	00 00 42.3	-1.2
LSP	Las Mesas	1.14	166	‖eP	Pn	00 00 28.6	-1.2
LSP	Las Mesas	1.14	166	eS	Sn	00 00 43.4	-0.9
EMPR	Esperanza - Ma	1.14	135	‖eP	Pn	00 00 29.0	-0.8
EMPR	Esperanza - Ma	1.14	135	eS	Sn	00 00 43.4	-0.8
EMPR	Esperanza - Ma	1.14	135	ePn	Pn	00 00 31.6	+1.8
PCDR	Punta Cana, DR	1.22	231	ePn	Pn	00 00 31.8	+0.9
CELP	Cerrillos	1.42	148	↑eP	Pn	00 00 32.6	-1.2
OBIP	Obispado Ponce	1.44	149	↑eP	Pn	00 00 32.9	-1.0
OBIP	Obispado Ponce	1.44	149	eS	Sn	00 00 50.2	-1.4
OBIP	Obispado Ponce	1.44	149	ePn	Pn	00 00 34.6	+0.6
CBYP	Canovanas	1.76	125	‖eP	Pn	00 00 37.4	-1.1
CBYP	Canovanas	1.76	125	eS	Sn	00 00 58.9	-0.9
HUMP	Col San Antoni	1.84	128	↑eP	Pn	00 00 38.6	-0.9
HUMP	Col San Antoni	1.84	128	eS	Sn	00 01 00.6	-1.0
HUMP	Col San Antoni	1.84	128	ePn	Pn	00 00 38.7	-0.8
MTP	Monte Pirata	2.10	124	‖eP	Pn	00 00 42.0	-1.0
MTP	Monte Pirata	2.10	124	eS	Sn	00 01 06.5	-1.4
CUPR	Culebra, Puert	2.21	116	ePn	Pn	00 00 43.7	-0.9
STVI	Saint Thomas	2.48	112	ePn	Pn	00 00 48.1	-0.2
SDDR	Presa de Saban	3.71	266	ePn	Pn	00 01 07.8	+2.6

WEL 20 00:00:50.9, 42°S±1°×17°4E±°, h62km±2km, ML3.7/24, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.19	139	P	Pn	00 01 01.0	+0.5
BSWZ				S	Sn	00 01 08.0	+0.6
TUWZ	Tuamarina	0.23	52	P	Pn	00 01 01.0	+0.4
TUWZ				S	Sn	00 01 07.4	-0.3
CMWZ	Cape Campbell	0.42	116	P	Pn	00 01 03.6	+1.4
NNZ	Nelson	0.43	325	P	Pn	00 01 01.9	-0.3
NNZ				S	Sn	00 01 10.3	-0.2
TCW	Tory Channel	0.56	50	P	Pn	00 01 04.4	+0.9
TCW				S	Sn	00 01 12.9	0.0
THZ	Tophouse	0.63	252	P	Pn	00 01 04.3	-0.2
DUWZ	D'Urville Isla	0.78	12	P	Pn	00 01 06.8	+0.5
KHZ	Kahutara	0.86	188	P	Pn	00 01 08.0	+0.9
BHW	Baring Head	0.89	80	P	Pn	00 01 08.2	+0.6
KIW	Kapiti Island	1.15	53	P	Pn	00 01 12.0	+1.1
QRZ	Quartz Range	1.16	310	P	Pn	00 01 11.7	+0.7
PLWZ	Palliser	1.16	91	P	Pn	00 01 11.3	+0.1
MSWZ	Moikau Station	1.17	83	P	Pn	00 01 11.4	+0.2
PAWZ	Paruwai Farm	1.31	82	P	Pn	00 01 13.0	-0.1
OGWZ	Otaki Gorge	1.34	56	P	Pn	00 01 14.1	+0.7
MTW	Mount Morrison	1.41	74	P	Pn	00 01 14.4	-0.1
DSZ	Denniston Nort	1.44	262	P	Pn	00 01 15.5	+0.8
TRWZ	Traveller	1.50	84	P	Pn	00 01 15.4	-0.2
HOWZ	Holdsworth Sta	1.52	64	P	Pn	00 01 15.8	0.0
LTZ	Lake Taylor	1.61	221	P	Pn	00 01 17.6	+0.5
MRZ	Mangatainoka R	1.68	58	P	Pn	00 01 18.1	+0.1
TMWZ	Te Maipa	1.71	75	P	Pn	00 01 18.0	-0.4
AMCZ	Amberley	1.79	206	P	Pn	00 01 19.3	-0.2
TIWZ	Tintock	1.83	65	P	Pn	00 01 19.7	-0.3
OHWZ	Ohakea	1.83	42	P	Pn	00 01 21.4	+1.4
POWZ	Post Office Ro	1.95	54	P	Pn	00 01 21.6	-0.1
PRWZ	Pori Road	1.99	60	P	Pn	00 01 22.0	-0.2
INZ	Inchbonnie	2.04	235	P	Pn	00 01 23.3	+0.4
WAZ	Wanganui	2.06	29	P	Pn	00 01 25.5	+2.4
BFZ	Birch Farm	2.11	66	P	Pn	00 01 23.1	-0.8
OXZ	Oxford	2.15	215	P	Pn	00 01 23.7	-0.7
OKCZ	Okains Bay	2.21	192	P	Pn	00 01 24.7	-0.5
PREZ	Palmer Road	2.25	9	P	Pn	00 01 28.3	+2.5
DVHZ	Dannevirke	2.25	57	P	Pn	00 01 25.0	-0.9
MQZ	McQueen's Vall	2.27	200	P	Pn	00 01 24.6	-1.4
TSZ	Takapari Road	2.28	49	P	Pn	00 01 26.1	-0.1
KHEZ	Kahui Hut	2.28	6	P	Pn	00 01 28.4	+2.1
NBEZ	Newall Road No	2.30	3	P	Pn	00 01 28.6	+2.2
ANWZ	Angora Road	2.37	63	P	Pn	00 01 26.5	-0.8
PKE	Pukeiti	2.38	5	P	Pn	00 01 29.9	+2.3
PNHZ	Pukenui	2.52	50	P	Pn	00 01 28.9	-0.5
VRZ	Vera Road	2.57	19	P	Pn	00 01 33.5	+3.4
PRHZ	Porangahau	2.57	61	P	Pn	00 01 28.9	-1.3
PKVZ	Pokaka	2.60	29	P	Pn	00 01 32.4	+1.9
MOVZ	Moawhango	2.66	37	P	Pn	00 01 32.2	+0.7
WVZ	Waitaha Valley	2.67	235	P	Pn	00 01 31.5	+0.1
WHVZ	Whangaehu Hut	2.70	33	P	Pn	00 01 33.2	+1.1
FWVZ	Far West T-bar	2.71	32	P	Pn	00 01 33.4	+1.2
TUVZ	Tukino	2.74	34	P	Pn	00 01 33.8	+1.2
BHHZ	Black Hill Sta	2.75	42	P	Pn	00 01 33.0	+0.4
NGZ	Ngauruhoe	2.79	32	P	Pn	00 01 34.6	+1.3
KRHZ	Kereru	2.79	47	P	Pn	00 01 32.7	-0.5
TWVZ	Taurewa	2.82	29	P	Pn	00 01 35.6	+1.9
WTVZ	West Tongariro	2.84	31	P	Pn	00 01 35.2	+1.3
PXZ	Pawanui	2.85	58	P	Pn	00 01 32.3	-1.6
KRVZ	Karewarewa	2.88	32	P	Pn	00 01 35.8	+1.3
RPZ	Rata Peaks	2.90	221	P	Pn	00 01 35.0	+0.4
KAHZ	Kahuranaki	2.99	55	P	Pn	00 01 34.6	-1.3
KATZ	Kakaramea	3.00	31	P	Pn	00 01 39.7	+3.5
HIZ	Hauiti	3.18	17	P	Pn	00 01 40.8	+2.4
BKZ	Black Stump Fm	3.21	42	P	Pn	00 01 38.2	-0.7
FOZ	Fox Glacier	3.48	234	P	Pn	00 01 42.0	-0.5
TLZ	Tolley Road	3.53	24	P	Pn	00 01 46.4	+3.1
LBZ	Lake Benmore	3.82	221	P	Pn	00 01 46.0	-1.2
TOZ	Tahuroa Road	4.08	20	P	Pn	00 01 53.1	+2.4
ODZ	Otahua Downs	4.13	212	P	Pn	00 01 50.0	-1.4
MWZ	Matawai	4.37	44	P	Pn	00 01 52.8	-1.9
JCZ	Jackson Bay	4.40	234	P	Pn	00 01 54.8	-0.4
AWAZ	Awhitu Peninsu	4.56	9	P	Pn	00 01 59.2	+2.0
MKAZ	Moumakai	4.60	15	P	Pn	00 02 00.0	+2.2
ETAZ	East Tamaki Re	4.71	12	P	Pn	00 02 01.5	+2.2
MBAZ	Motutapu North	4.88	11	P	Pn	00 02 03.8	+2.1
WIAZ	Waiheke Island	4.90	14	P	Pn	00 02 03.9	+2.0
ABAZ	Army Bay	5.04	10	P	Pn	00 02 05.8	+2.0
MSZ	Milford Sound	5.25	232	P	Pn	00 02 08.2	+1.5
WCZ	Waipu Caves	5.64	5	P	Pn	00 02 14.5	+2.3
OUZ	Omahuta	6.34	359	P	Pn	00 02 23.4	+1.8
CTZ	Chatham Island	7.46	110	P	Pn	00 02 36.1	-0.8

KRSC 20 00:00:54.0±10.0, 52°.11N×160°.47E, h18km±10km, ML4.2, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.03	345	P	Pb	00 01 12.6	-0.7
SPN				S	Sb	00 01 26.2	-0.3
RUS	Russkaya	1.24	286	P	Pn	00 01 16.5	0.0
RUS				S	Sn	00 01 32.8	0.0
NLC	Nalytchevo	1.27	328	P	Pn	00 01 17.0	+0.2
NLC				S	Sn	00 01 33.6	+0.3
DALK	Dalny	1.40	312	P	Pn	00 01 18.6	0.0
DALK				S	Sn	00 01 36.7	+0.2
PET	Petropavlovsk	1.44	310	P	Pn	00 01 19.5	+0.3
PET				S	Sb	00 01 38.2	0.0
MTVR	Mutnovka	1.45	286	P	Pb	00 01 20.1	-0.5
MTVR				S	Sb	00 01 39.1	+0.3
UGLR	Uglovaya	1.49	318	P	Pn	00 01 20.6	+0.6
KDTR	Khodutka, Kamc	1.51	260	P	Pb	00 01 21.1	-0.3
KDTR				S	Sb	00 01 40.9	+0.7
GRL	Gorelyy	1.53	288	P	Pb	00 01 21.9	-0.1
SMAR	Somma	1.54	319	P	Pb	00 01 22.0	-0.1
AVH	Avacha	1.56	318	P	Pb	00 01 22.0	-0.5
ASAK	Asacha	1.60	281	P	Pb	00 01 22.6	-0.5
ASAK				S	Sb	00 01 43.7	+0.7
KRMR	Karymshinskiy	1.60	298	P	Pn	00 01 22.1	+0.7
KRMR				S	Sb	00 01 42.4	-0.5
KOK	Koryaka	1.63	318	P	Pb	00 01 24.1	+0.5
KRX	Arik	1.67	319	P	Pn	00 01 23.4	+0.9
APC	Apacha	2.18	293	P	Pb	00 01 32.6	-0.3
APC				S	Sb	00 02 00.8	+1.2
KZV	Kizimen	3.01	358	P	Pn	00 01 43.6	+2.6

KRSC 20 00:02:46.0±10.0, 52°.16N×160°.45E, h22km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.97	345	P	Pn	00 03 04.3	-0.1
SPN				S	Sn	00 03 17.2	-0.3
NLC	Nalytchevo	1.21	327	P	Pb	00 03 08.6	+0.3
NLC				S	Sb	00 03 24.8	+1.3
RUS	Russkaya	1.22	284	P	Pn	00 03 08.1	+0.3
RUS				S	Sb	00 03 24.0	+0.3
DALK	Dalny	1.35	311	P	Pb	00 03 10.2	-0.4
DALK				S	Sb	00 03 27.5	0.0
PET	Petropavlovsk	1.40	309	P	Pn	00 03 10.5	+0.3
PET				S	Sn	00 03 28.2	+0.2
MTVR	Mutnovka	1.43	284	P	Pb	00 03 11.9	-0.1
MTVR				S	Sb	00 03 30.4	+0.5
UGLR	Uglovaya	1.44	317	P	Pb	00 03 12.4	+0.1
UGLR				S	Sb	00 03 31.5	+1.3
SMAR	Somma	1.49	318	P	Pb	00 03 13.0	-0.1
KDTR	Khodutka, Kamc	1.51	257	P	Pb	00 03 12.6	-0.7
KDTR				S	Sb	00 03 32.0	0.0
AVH	Avacha	1.52	317	P	Pb	00 03 13.7	+0.2
KRMR	Karymshinskiy	1.57	296	P	Pb	00 03 13.5	-0.8
KRMR				S	Sb	00 03 33.5	-0.4
ASAK	Asacha	1.58	279	P	Pb	00 03 14.3	-0.3
ASAK				S	Sb	00 03 35.2	+1.0
KRX	Arik	1.62	318	P	Pb	00 03 15.0	-0.4
KZV	Kizimen	2.96	358	P	Pn	00 03 34.2	+2.4
KZV				S	Sn	00 04 09.1	+2.4

*IDC **20** 00:04:00.6±2.7, 51°.46N×160°.28E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.3/70, mbtmp3.6/6, ML2.7/1, Error ellipse: s-maj=78.4km s-min=47.3km az=39.0*
*KRSC **20** 00:04:07.2±10.0, 52°.10N×160°.49E, h17km±10km, ML3.8*

ISC 20 00:04:08.2±2.5, 52°.06N±0°.08×160°.4E±0°.1, h32km±13km, n22, σ1§18/33, mb3.7/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.07	347	P	Pn	00 04 26.2	-0.7
SPN				S	Sn	00 04 39.9	-0.8
RUS	Russkaya	1.22	289	P	Pn	00 04 29.9	+0.8
RUS				S	Sb	00 04 46.3	+0.1
NLC	Nalytchevo	1.29	330	P	Pn	00 04 30.8	+0.8
DALK	Dalny	1.40	315	P	Pn	00 04 31.9	+0.4
DALK				S	Sn	00 04 49.7	+0.8
MTVR	Mutnovka	1.43	288	P	Pb	00 04 33.7	-0.6
MTVR				S	Sb	00 04 52.8	+0.5
KDTR	Khodutka, Kamc	1.46	261	P	Pb	00 04 34.1	-0.7
KDTR				S	Sb	00 04 53.5	+0.5
UGLR	Uglovaya	1.50	321	P	Pn	00 04 34.6	+1.6
UGLR				S	Sb	00 04 54.3	0.0
SDLR	Sedlovina	1.54	323	P	Pn	00 04 34.8	+1.3
SDLR				S	Sb	00 04 54.8	-0.4
SMAR	Somma	1.56	322	P	Pn	00 04 35.2	+1.4
SMAR				S	Sb	00 04 55.5	-0.3
ASAK	Asacha	1.58	283	P	Pb	00 04 36.3	-0.5
ASAK				S	Sb	00 04 57.2	+0.9
AVH	Avacha	1.58	321	P	Pn	00 04 35.9	+1.8
AVH				S	Sb	00 04 56.5	+0.1
KRMR	Karymshinskiy	1.59	300	P	Pn	00 04 35.6	+1.4
KOK	Koryaka	1.64	320	P	Pb	00 04 36.9	-1.0
KRX	Arik	1.69	321	P	Pn	00 04 36.8	+1.2
PETK	Petropavlovsk-	1.96	304	Pn	Pn	00 04 40.6	+1.4
	8.9nm,0.3s,baz=106,slow=18,SNR=6.8						
PETK				Sn	Sb	00 05 08.0	+0.7
	10nm,0.3s,baz=89,slow=25,SNR=9.8						
KZV	Kizimen	3.06	359	P	Pn	00 04 57.1	+2.6
TUMR	Tumrok	3.24	357	P	Pn	00 04 59.5	+2.7
KURBB	Kurchatov Arra	48.55	303	P	P	00 12 47.2	-0.8
	0.7nm,0.8s,baz=62,slow=7.5,SNR=3.9						
MKAR	Makanchi Array	48.78	297	P	P	00 12 48.3	-1.6
	0.3nm,0.5s,baz=56,slow=6.6,SNR=3.8						
BVAR	Borovoye Array	51.19	309	P	P	00 13 07.4	-0.6
	0.4nm,0.5s,baz=64,slow=6.6,SNR=2.6						
FINES	FINESS Array B	61.15	337	P	P	00 14 19.7	+0.8
	0.6nm,0.5s,baz=29,slow=8.7,SNR=5.5						
AKASG	Malin Array Be	69.60	329	P	P	00 15 13.8	+0.1
	0.2nm,0.4s,baz=29,slow=6.8,SNR=3.0						

*KRSC **20** 00:04:58.6±10.0, 52°.03N×160°.62E, h60km±10km, ML4.9*
*IDC **20** 00:04:58.3±0.5, 52°.36N×160°.16E, h0km, mb4.4/41, mb1 4.5/45, mb1mx4.4/70, mbtmp4.4/45, ML4.2/4, Error ellipse: s-maj=12.2km s-min=10.1km az=143.0*
*ISCJB **20** 00:05:01.8±0.5, 52°.09N±0°.03×160°.46E±0°.04, h40km±3km, mb4.6/148, MS5.1/2, Error ellipse: s-maj=5.6km s-min=3.4km az=138.4*
*MOS **20** 00:05:02.6±1.2, 52°.17N×160°.28E, h46km, mb4.9/67, Error ellipse: s-maj=6.5km s-min=3.1km az=101.8*
*NEIC **20** 00:05:04.3±0.4, 52°.34N×160°.14E, h35km, mb4.7/43, Error ellipse: s-maj=10.2km s-min=5.8km az=155.0*
*BJI **20** 00:05:05.0±0.0, 52°.70N×159°.83E, h53km, mb4.7/34, mB5.0/18, Ms5.1/7, Ms7 4.9/7*

ISC 20 00:05:02.0±0.9, 52°.15N±0°.04×160°.41E±0°.04, h28km±5km, n396, σ1§28/444, mb4.7/148, 29C-13D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.98	346	eP	Pn	00 05 19.0	-0.8
SPN				S	Sn	00 05 32.3	-0.4
SPN	Mys Shipunski	0.98	346	PN	Pn	00 05 19.0	-0.8
SPN				S	Sn	00 05 32.3	-0.4
RUS	Russkaya	1.20	284	eP	Pn	00 05 22.7	-0.1
RUS				eS	Sb	00 05 38.9	-0.2
RUS	Russkaya	1.20	284	PN	Pn	00 05 22.7	-0.1
RUS				S	Sb	00 05 38.9	-0.2
NLC	Nalytchevo	1.21	328	eP	Pn	00 05 23.4	+0.4
NLC				eS	Sb	00 05 41.0	+1.6
NLC	Nalytchevo	1.21	328	PN	Pn	00 05 23.4	+0.4
NLC				S	Sb	00 05 41.0	+1.6
DALK	Dalny	1.34	312	eP	Pn	00 05 25.2	+0.4
DALK				eS	Sb	00 05 42.6	-0.6
DALK	Dalny	1.34	312	PN	Pn	00 05 25.2	+0.4
DALK				S	Sb	00 05 42.6	-0.6
PET	Petropavlovsk	1.38	310	ePn	Pn	00 05 25.9	+0.5
PET	Petropavlovsk	1.38	310	eP	Pn	00 05 25.7	+0.4
PET				eS	Sn	00 05 43.3	+0.6
PET	Petropavlovsk	1.38	310	↑eP	Pn	00 05 25.8	+0.4
PET				eS	Sb	00 05 45.3	+0.9
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				pmax	pmax		
	comp=Z,2μm,1.1s						
PET				smax	smax		
	comp=N,6μm,1.0s						
PET				smax	smax		
	comp=N,6μm,0.8s						
PET				smax	smax		
	comp=E,5μm,0.6s						
MTVR	Mutnovka	1.41	285	eP	Pn	00 05 26.3	+0.4
MTVR				eS	Sb	00 05 44.9	-0.3
MTVR	Mutnovka	1.41	285	PN	Pn	00 05 26.3	+0.4
MTVR				S	Sb	00 05 44.9	-0.3
UGLR	Uglovaya	1.43	318	eP	Pn	00 05 27.1	+0.9
UGLR				eS	Sb	00 05 47.8	+1.8
UGLR	Uglovaya	1.43	318	PN	Pn	00 05 27.1	+0.9
UGLR				S	Sb	00 05 47.8	+1.8
SDLR	Sedlovina	1.46	321	eP	Pn	00 05 27.2	+0.6
SDLR				eS	Sb	00 05 47.9	+1.1
SDLR	Sedlovina	1.46	321	PN	Pn	00 05 27.2	+0.6
SDLR				S	Sb	00 05 47.9	+1.1
SMAR	Somma	1.48	319	eP	Pb	00 05 28.0	-1.0
SMAR				eS	Sb	00 05 48.7	+1.2
SMAR	Somma	1.48	319	PN	Pb	00 05 28.0	-1.0
SMAR				S	Sb	00 05 48.7	+1.2
KDTR	Khodutka, Kamc	1.48	258	eP	Pn	00 05 26.7	-0.1
KDTR				eS	Sn	00 05 44.8	-0.4
KDTR	Khodutka, Kamc	1.48	258	PN	Pn	00 05 26.7	-0.1
KDTR				S	Sn	00 05 44.8	-0.4
GRL	Gorelyy	1.49	287	eP	Pb	00 05 28.5	-0.5
GRL	Gorelyy	1.49	287	PN	Pb	00 05 28.5	-0.5
AVH	Avacha	1.51	318	eP	Pb	00 05 28.3	-1.1
AVH				eS	Sb	00 05 49.4	+1.3
AVH	Avacha	1.51	318	PN	Pb	00 05 28.3	-1.1
AVH				S	Sb	00 05 49.4	+1.3
KRER	Koryakskii	1.53	319	eP	Pb	00 05 28.8	-1.1
KRER				eS	Sb	00 05 49.7	+0.8
KRER	Koryakskii	1.53	319	PN	Pb	00 05 28.8	-1.1
KRER				S	Sb	00 05 49.7	+0.8
KRMR	Karymshinskiy	1.55	297	eP	Pn	00 05 28.3	+0.6
KRMR				eS	Sb	00 05 49.2	0.0
KRMR	Karymshinskiy	1.55	297	PN	Pn	00 05 28.3	+0.6
KRMR				S	Sb	00 05 49.2	0.0
ASAK	Asacha	1.56	280	eP	Pn	00 05 28.7	+0.8
ASAK				eS	Sb	00 05 49.2	-0.4
ASAK	Asacha	1.56	280	PN	Pn	00 05 28.7	+0.8
ASAK				S	Sb	00 05 49.2	-0.4
KOK	Koryaka	1.57	317	eP	Pn	00 05 28.9	+0.8
KOK				eS	Sb	00 05 51.0	+1.1
KOK	Koryaka	1.57	317	PN	Pn	00 05 28.9	+0.8
KOK				S	Sb	00 05 51.0	+1.1
KRX	Arik	1.62	319	eP	Pn	00 05 29.6	+0.9
KRX				eS	Sb	00 05 52.1	+0.9
KRX	Arik	1.62	319	PN	Pn	00 05 29

SEY	Seymchan	11.62 342	Pn	Pn	00 07 43.5	-2.3
	comp=E,0.2nm,0.3s,baz=166,slow=19,SNR=1.7					
YSS	Yuzh-Sakhalins	12.58 253	*i* PN	Pn	00 07 59.7	+0.8
ASAJ	Asahikawa	14.33 243	Pn	Pn	00 08 22.6	-0.1
	comp=E,1.5nm,0.3s,baz=68,slow=7.4,SNR=7.6					
GRNR	Gornyy	15.00 274	*e*P	P	00 08 39.2	+2.2
GRNR			pmax	pmax		
	comp=Z,36nm,0.9s					
ERM	Erimo	15.48 236	*i* P	Pn	00 08 34.3	-3.9
BILL	Bilibino	16.19 8	*e*Pn	P	00 08 49.4	-0.7
	comp=Z,14nm,0.7s					
BILL	Bilibino	16.19 8	*e*P	Pn	00 08 47.0	-0.1
BILL			pmax	pmax		
	comp=Z,14nm,0.9s					
TEY	Ternei	17.23 255	⇓*e*P	P	00 09 02.0	+0.3
TEY			pmax	pmax		
	comp=E,40nm,0.6s					
TEY			pmax	pmax		
	comp=Z,40nm,0.6s					
TEY			pmax	pmax		
	comp=N,10.0nm,0.7s					
KLR	Kul'dur	18.34 272	*i* P	Pn	00 09 14.6	+0.6
KLR	Kul'dur	18.34 272	P	P	00 09 12.7	-1.3
	comp=N,0.5nm,0.3s,baz=60,slow=9.6,SNR=22					
USRK	Ussuriysk Ar.	20.45 258	P	P	00 09 35.4	-1.7
	comp=N,16nm,1.0s,baz=58,slow=8.6,SNR=15					
MDJ	Mudanjiang	21.69 262	P	P	00 09 48.5	-1.8
MDJ			pmax	pmax		
	comp=N,13nm,0.9s					
MDJ			pmax	pmax		
	comp=N,1μm,11.9s					
MJAR	Matsushiro Arr	22.13 234	*e*P	P	00 09 57.5	+2.3
MJAR	Matsushiro Arr	22.13 234	P	P	00 09 56.3	+1.1
	comp=N,6.7nm,0.6s,baz=16,slow=9.8,SNR=20					
MJB9	Matsu-Tunnel	22.13 234	*e*P	P	00 09 57.0	+1.8
	comp=N,53nm,1.3s					
MAJO	Matsushiro	22.13 234	*e*P	P	00 09 56.7	+1.6
	comp=N,52nm,1.3s					
MAJO	Matsushiro	22.13 234	*i* P	P	00 09 54.5	-0.7
MAT	Matsushiro	22.13 234	P	P	00 09 56.4	+1.2
INU	Inuyama	23.66 234	*e*P	P	00 10 13.1	+2.2
	comp=N,19nm,0.8s					
TIXI	Tiksi	24.02 336	*e*P	P	00 10 12.2	-1.8
	comp=N,21nm,0.7s					
TIXI	Tiksi	24.02 336	*d* *i*P	P	00 10 12.7	-1.3
TIXI			pmax	pmax		
	comp=Z,20nm,0.8s					
TIXI	Tiksi	24.02 336	P	P	00 10 12.4	-1.6
	comp=Z,19nm,0.6s,baz=129,slow=8.7,SNR=36					
CN2	Changchun	24.65 264	*e*P	P	00 10 18.0	-2.0
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
HIA	Hailar	25.68 280	*e*P	P	00 10 28.0	-1.3
	comp=Z,26nm,0.9s					
HIA	Hailar	25.68 280	*i* P	P	00 10 27.0	-2.3
HIA			pmax	pmax		
	comp=Z,145nm,0.9s					
IMAR	Indian Mountai	26.58 41	*e*P	P	00 10 37.9	+0.6
BOD	Bodaibo	26.78 301	*e*P	P	00 10 37.2	-2.0
BOD			pmax	pmax		
	comp=Z,10.0nm,1.3s					
KSRS	Korea Array	27.06 250	P	P	00 10 42.9	+1.1
	comp=Z,3.7nm,0.9s,baz=46,slow=9.2,SNR=11					
KSAR	Wonju Array Be	27.09 250	*e*P	P	00 10 43.2	+1.1
KSAR	Wonju Array Be	27.09 250	*e*P	P	00 10 43.2	+1.1
KDAK	Kodiak Island	27.11 59	P	P	00 10 41.8	-0.2
	comp=Z,3.8nm,0.5s,baz=291,slow=8.7,SNR=7.5					
JNU	Nakatsue	28.57 240	*e*P	P	00 10 57.8	+2.4
	comp=Z,15nm,0.8s					
JNU	Nakatsue	28.57 240	P	P	00 10 55.9	+0.5
	comp=Z,7.0nm,0.8s,baz=18,slow=6.4,SNR=2.2					
SML	Sawmill	28.80 50	*e*P	P	00 10 58.1	+0.9
	comp=Z,13nm,1.2s					
SML	Sawmill	28.80 50	*e*P	P	00 10 58.1	+0.9
SML			pmax	pmax		
	comp=Z,13nm,1.2s					
ILAR	Eielson Array	29.35 44	*e*P	P	00 11 03.9	+1.9
ILAR	Eielson Array	29.35 44	P	P	00 11 02.0	+0.1
	comp=Z,1.0nm,0.8s,baz=275,slow=7.8,SNR=7.9					
PRP	Porcupine Dome	29.93 43	*e*P	P	00 11 09.0	+1.8
	comp=Z,5.7nm,1.2s					
SCRK	Sand Creek	30.64 46	*e*P	P	00 11 14.8	+1.3
	comp=Z,15nm,1.8s					
BCAR	Beaver Creek A	31.71 47	*e*P	P	00 11 23.4	+0.6
H11N2	WAKE ISLAND Hy	32.75 169	T	T	00 47 43.6	
	baz=351,slow=76					
H11N3	WAKE ISLAND Hy	32.77 169	T	T	00 47 59.1	
	baz=351,slow=76					
H11N1	WAKE ISLAND Hy	32.77 169	T	T	00 47 39.6	
	baz=351,slow=76					
ULN	Ulaanbaatar	33.91 284	*i* P	P	00 11 39.2	-3.2
ULN			pmax	pmax		
	comp=Z,3.0nm,0.9s					
H11S1	WAKE ISLAND Hy	33.94 169	T	T	00 49 01.4	
	baz=354					
H11S3	WAKE ISLAND Hy	33.95 169	T	T	00 48 59.4	
	baz=354					
H11S2	WAKE ISLAND Hy	33.95 169	T	T	00 49 02.3	
	baz=354					
TLY	Talaya	34.25 292	*i* P	P	00 11 43.6	-1.6
SONM	Songino Array	34.32 285	*e*P	P	00 11 45.3	-0.6
SONM	Songino Array	34.32 285	*e*P	P	00 11 45.3	-0.6
SONM	Songino Array	34.32 285	P	P	00 11 44.8	-1.1
	comp=Z,1.3nm,0.3s,baz=64,slow=7.9,SNR=22					
SONM			PcP	PcP	00 14 22.0	+0.5
	comp=Z,0.4nm,0.5s,baz=67,slow=3.1,SNR=3.3					
INK	Inuvik	34.50 37	*e*P	P	00 11 48.5	+1.4
	comp=Z,3.0nm,0.9s					
INK	Inuvik	34.50 37	*e*P	P	00 11 48.5	+1.4
INK			pmax	pmax		
	comp=Z,3.0nm,0.9s					
INK	Inuvik	34.50 37	P	P	00 11 45.8	-1.3
	comp=Z,1.8nm,0.6s,baz=279,slow=10,SNR=7.5					
INK			PcP	PcP	00 14 22.5	+1.1
	comp=Z,0.9nm,0.5s,baz=271,slow=7.6,SNR=4.2					
HHC	Hu-ho-hao-te	34.84 271	*e*P	P	00 11 51.9	+1.4
HHC			S	S	00 17 22.0	+2.5
HHC			pmax	pmax		
	comp=Z,81nm,0.7s					
HHC			pmax	pmax		
	comp=Z,270nm,4.8s					
HHC			LR	LR		
	comp=Z,1μm,12.8s					
HHC			LR	LR		
	comp=Z,910nm,11.2s					
HHC			LR	LR		
	comp=Z,1μm,12.4s					
ZAK	Zakamensk	35.00 290	*e*P	P	00 11 49.1	-2.7
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.0s					
NJ2	Nanjing	36.15 253	*e*P	P	00 12 01.4	-0.2
NJ2			pmax	pmax		
	comp=Z,14nm,0.5s					
NRIK	Noril'sk	36.79 326	P	P	00 12 05.0	-1.7
	comp=Z,5.8nm,0.8s,baz=98,slow=10.0,SNR=7.4					
GTA	Gaotai	42.91 278	*e*P	P	00 12 57.5	-0.6
GTA			pmax	pmax		
	comp=Z,3.0nm,1.0s					
ZAA0	Zalesovo Array	43.45 304	*e*P	P	00 12 59.9	-2.2
	comp=Z,3.7nm,0.8s					
ZALV	Zalesovo Beam	43.45 304	*e*P	P	00 12 58.9	-3.2
ZALV	Zalesovo Beam	43.45 304	P	P	00 12 59.5	-2.6
	comp=Z,2.7nm,0.6s,baz=53,slow=6.7,SNR=10					
YKA	Yellowknife Ar	43.73 42	P	P	00 13 04.0	-0.1
	comp=Z,0.4nm,0.5s,baz=300,slow=8.0,SNR=5.6					
YKA			PcP	PcP	00 14 51.9	+1.3
	comp=Z,0.2nm,0.7s,baz=311,slow=4.8,SNR=3.5					
NVS	Novosibirsk	43.81 305	⇓*i*P	P	00 13 03.2	-1.8
NVS			pmax	pmax		
	comp=E,15nm,0.9s					
NVS			pmax	pmax		
	comp=Z,20nm,0.9s					
NVS			pmax	pmax		
	comp=N,8.0nm,1.0s					
RES	Resolute Bay	44.13 22	*e*P	P	00 13 07.9	+0.7
	comp=N,2.8nm,0.8s					
RES	Resolute Bay	44.13 22	P	P	00 13 07.1	-0.1
	comp=N,2.9nm,0.8s,baz=310,slow=7.3,SNR=12					
RES			PcP	PcP	00 14 52.4	+0.6
	comp=N,0.7nm,0.7s,baz=263,slow=6.3,SNR=3.8					
DGZ	Jazzator, Alta	44.27 297	*d* *i*P	P	00 13 07.5	-1.4
DGZ			pmax	pmax		
	comp=Z,6.0nm,0.9s					
CD2	Chengdu	46.08 265	*e*P	P	00 13 22.4	-0.9
CD2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
WMQ	Urumqi	47.47 290	*e*P	P	00 13 35.6	+1.5
WMQ			pmax	pmax		
	comp=Z,36nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,200nm,5.5s					
SPA0	Spitsbergen Ar	48.10 351	*e*P	P	00 13 38.0	-0.5
	comp=Z,40nm,1.1s					
SPITS	Spitsbergen Ar	48.10 351	P	P	00 13 38.5	+0.1
	comp=Z,8.2nm,0.5s,baz=57,slow=9.1,SNR=43					
KURK	Kurhatov	48.40 303	*e*P	P	00 13 39.1	-2.1
	comp=Z,20nm,1.0s					
KURK	Kurchatov	48.40 303	*c* *i*P	P	00 13 39.0	-2.1
KURK			pmax	pmax		
	comp=Z,18nm,0.9s					
KURBB	Kurchatov Arra	48.50 303	P	P	00 13 39.8	-2.1
	comp=Z,10nm,0.8s,baz=60,slow=7.7,SNR=44					
KURBB			PcP	PcP	00 15 07.2	-0.3
	comp=Z,1.0nm,0.8s,baz=53,slow=2.6,SNR=2.9					
MK31	Makanchi Array	48.74 297	*i* P	P	00 13 41.7	-2.2
MK31			pmax	pmax		
	comp=Z,4.0nm,0.6s					
MKAR	Makanchi Array	48.74 297	*e*P	P	00 13 41.6	-2.2
MKAR	Makanchi Array	48.74 297	*e*P	P	00 13 41.7	-2.2
MKAR	Makanchi Array	48.74 297	P	P	00 13 42.0	-1.9
	comp=Z,3.6nm,0.5s,baz=58,slow=6.9,SNR=48					
MAKZ	Makanchi	48.91 297	*e*P	P	00 13 43.1	-2.0
	comp=Z,5.3nm,0.8s					
MAKZ	Makanchi	48.91 297	*e*P	P	00 13 43.1	-2.0
MAKZ			pmax	pmax		
	comp=Z,5.0nm,0.8s					
BVAR	Borovoye Array	51.13 309	P	P	00 14 00.2	-1.7
	comp=Z,7.6nm,0.6s,baz=59,slow=7.9,SNR=37					
BRVK	Borovoye	51.16 309	*e*P	P	00 14 00.4	-1.6
	comp=Z,13nm,0.8s					
BRVK	Borovoye	51.16 309	*d* *i*P	P	00 13 59.6	-2.5
BRVK			pmax	pmax		
	comp=Z,11nm,0.9s					
PDGK	Podgornoye	52.45 295	*i* P	P	00 14 10.0	-2.0
PDGK			pmax	pmax		
	comp=Z,4.0nm,0.9s					
OTUK	Ortayu	53.16 303	*i* P	P	00 14 15.1	-1.9
OTUK			pmax	pmax		
	comp=Z,9.0nm,1.1s					
LVZ	Lovozero	53.64 338	*e*P	P	00 14 20.4	+0.1
	comp=Z,18nm,0.8s					
LVZ	Lovozero	53.64 338	*e*P	P	00 14 20.4	+0.1
LVZ			pmax	pmax		
	comp=Z,19nm,0.8s					
FCC	Fort Churchill	54.10 38	*e*P	P	00 14 24.3	+0.7
	comp=Z,19nm,1.8s					
FCC	Fort Churchill	54.10 38	*e*P	P	00 14 24.3	+0.7
FCC			pmax	pmax		
	comp=Z,19nm,1.8s					
ARU	Arti	54.22 318	*e*P	P	00 14 22.9	-1.8
	comp=Z,10.0nm,0.5s					
ARU	Arti	54.22 318	*c* *i*P	P	00 14 23.6	-1.1
ARU			*PP	pwP	00 14 36.1	+0.5
ARU					00 16 24.3	
ARU			S	S	00 22 00.0	+0.2
ARU			SS	SS	00 25 41.1	+0.1
ARU			pmax	pmax		
	comp=Z,6.0nm,0.5s					
ARU	Arti	54.22 318	P	P	00 14 22.8	-1.8
	comp=Z,4.0nm,0.5s,baz=63,slow=6.1,SNR=19					
ARCES	ARCESS Array B	54.24 342	*e*P	P	00 14 24.5	-0.1
ARCES	ARCESS Array B	54.24 342	P	P	00 14 23.9	-0.8
	comp=Z,9.0nm,0.9s,baz=39,slow=9.3,SNR=16					
ARE0	ARCESS Array S	54.24 342	*e*P	P	00 14 24.7	0.0
	comp=Z,0.6nm,0.9s					
KDJ	Kajisay	54.52 295	*e*P	P	00 14 26.0	-1.3
	comp=Z,7.1nm,0.8s					
KDJ	Kajisay	54.52 295	*e*P	P	00 14 26.0	-1.3
KDJ			pmax	pmax		
	comp=Z,7.0nm,0.8s					
PNTR	Pine Nut	54.69 70	*e*P	P	00 14 31.2	+2.6
	comp=Z,6.1nm,1.0s					
SUMG	Summit	54.87 7	*e*P	P	00 14 29.8	+0.2
	comp=Z,15nm,1.0s					
SUMG	Summit	54.87 7	*i* P	P	00 14 30.4	+0.8
SUMG			pmax	pmax		
	comp=Z,36nm,1.0s					
SUMG	Summit	54.87 7	*i* P	P	00 14 30.4	+0.8
	comp=Z,36nm,1.0s					
BOOM	Boomskoye usch	54.97 296	*e*P	P	00 14 28.8	-1.7
	comp=Z,7.1nm,1.0s					
BOOM	Boomskoye usch	54.97 296	*e*P	P	00 14 28.8	-1.7
BOOM			pmax	pmax		
	comp=Z,7.0nm,1.0s					
PRGR	Permogore	55.34 328	⇓*i*P	P	00 14 32.8	+0.2
PRGR			pmax	pmax		
	comp=Z,14nm,0.6s					
AAK	Ala-Archa	55.67 297	*e*P	P	00 14 34.7	-0.9
	comp=Z,6.2nm,0.9s					
AAK	Ala-Archa	55.67 297	*i* P	P	00 14 33.6	-1.9
AAK			pmax	pmax		
	comp=Z,7.0nm,1.0s					
AAK	Ala-Archa	55.67 297	P	P	00 14 34.2	-1.4
	comp=Z,9.9nm,1.1s,baz=119,slow=2.9,SNR=11					
TMCR	Tamitsa	55.71 333	*e*P	P	00 14 34.8	-0.4
TMCR			pmax	pmax		
	comp=Z,24nm,0.8s					
PANO	Nakornpanom	55.81 253	P	P	00 14 42.5	+5.9
	comp=Z,0.2nm,1.0s					
NVAR	Mina Array Bea	55.88 70	P	P	00 14 38.9	+1.7
	comp=Z,0.5nm,0.5s,baz=300,slow=7.2,SNR=3.8					
KIRV	Kirov	56.27 324	P	P	00 14 39.3	0.0
	comp=Z,22nm,0.5s,baz=80,slow=3.6,SNR=7.2					
SKNT	Sakolnakorn	56.32 253	P	P	00 14 42.2	+2.0
	comp=Z,14nm,0.6s					
MSF	Maaselka	56.56 338	P	P	00 14 41.8	+0.5
MSF			pmax	pmax		
	comp=Z,34nm,1.4s					
PAYA	Payao	56.93 259	P	P	00 14 46.9	+2.3
	comp=Z,23μm,0.7s					
KSH	Kashi	56.95 293	P	P	00 14 47.8	+3.1
KSH			PP	PP	00 16 55.6	+4.6
KSH			S	S	00 22 36.8	-0.1
KSH			pmax	pmax		
	comp=Z,7.0nm,0.3s					
KSH			pmax	pmax		
	comp=Z,270nm,6.7s					
KSH			LR	LR		
	comp=Z,1μm,10.6s					
KSH			LR	LR		
	comp=Z,1μm,9.1s					
KSH			LR	LR		
	comp=Z,1μm,11.3s					
PHRA	Phrae	57.38 258	P	P	00 14 49.7	+2.0
	comp=Z,2.1nm,0.9s,comp=Z,111nm					
KK31	Karatay Array	57.52 300	*i* P	P	00 14 46.4	-2.1
KK31			pmax	pmax		
	comp=Z,4.0nm,0.8s					
UTTA	Uttaradit	57.76 257	P	P	00 14 52.6	+2.2
	comp=Z,16μm,0.8s					
PDAR	Pinedale Array	57.82 60	*e*P	P	00 14 52.3	+1.5
PDAR	Pinedale Array	57.82 60	P	P	00 14 51.4	+0.5
	comp=Z,0.6nm,0.6s,baz=307,slow=3.1,SNR=5.6					
KLMR	Klimovskoe	57.86 330	*e*P	P	00 14 49.3	-1.3
KLMR			pmax	pmax		
	comp=Z,14nm,0.8s					
CMMT	Chiang Mai	57.91 259	P	P	00 14 52.7	+1.2
	comp=Z,6.8nm,0.8s,comp=Z,170nm					
CHTO	Chiang Mai	57.91 259	*e*P	P	00 14 52.6	+1.1
	comp=Z,8.7nm,0.9s					
CHTO	Chiang Mai	57.91 259	*e*P	P	00 14 52.6	+1.1
CHTO			pmax	pmax		
	comp=Z,9.0nm,0.9s					
CMAR	Chiang Mai Arr	58.18 259	P	P	00 14 54.6	+1.2
	comp=Z,4.2nm,0.6s,baz=25,slow=7.1,SNR=23					
AKTO	Aktyubinsk	58.60 313	P	P	00 14 54.7	-1.2
AKTO			pmax	pmax		
	comp=Z,3.0nm,0.5s					
AKTO	Aktyubinsk	58.60 313	P	P	00 14 54.8	-1.2
	comp=Z,3.6nm,0.5s,baz=72,slow=9.1,SNR=18					
JIRN	Jiri	59.18 276	*e*P	P	00 15 00.3	-0.4
	comp=Z,22nm,0.7s					
RAMN	Ramite	59.44 275	*e*P	P	00 15 01.8	-0.6
	comp=Z,50nm,0.5s					
KKN	Kakani	59.65 277	*e*P	P	00 15 03.3	-0.4
	comp=Z,25nm,0.5s					
PKI	Pulchoki	59.72 277	*e*P	P	00 15 03.8	-0.6
	comp=Z,22nm,0.7s					
PKIN	Phulchoki	59.73 277	*e*P	P	00 15 03.9	-0.5
	comp=Z,17nm,0.7s					
RSSD	Black Hills	59.77 56	*e*P	P	00 15 06.3	+1.9
	comp=Z,4.1nm,0.6s					
RSSD	Black Hills	59.77 56	*e*P	P	00 15 06.3	+1.9
RSSD			pmax	pmax		
	comp=Z,4.0nm,0.6s					
DMN	Daman	59.88 277	*e*P	P	00 15 05.1	-0.3
	comp=Z,31nm,0.7s					
SUF	Sumiainen	59.94 338	P	P	00 15 05.5	+0.5
SUF			pmax	pmax		
	comp=Z,41nm,0.9s					
DANN	Dangsing	60.17 279	*e*P	P	00 15 07.3	-0.1
	comp=Z,44nm,0.8s					
DNR	Dunn Ranch,Anz	60.23 73	*e*P	P	00 15 10.4	+2.8
KOLN	Koldanda	60.69 278	*e*P	P	00 15 10.2	-0.6
	comp=Z,22nm,0.6s					
PYUN	Piuthan	60.82 279	*e*P	P	00 15 11.1	-0.7
	comp=Z,17nm,0.4s					
FINES	FINESS Array B	61.06 337	*e*P	P	00 15 12.5	-0.1
FINES	FINESS Array B	61.06 337	P	P	00 15 12.4	-0.2
	comp=Z,7.8nm,0.4s,baz=33,slow=8.1,SNR=90					
PHET	Kaeng Krachan	62.09 254	P	P	00 15 23.2	+3.0
NIL	Nilore	62.62 290	*e*P	P	00 15 23.5	-0.1
	comp=Z,15nm,0.7s					
NIL	Nilore	62.62 290	*e*P	P	00 15 23.5	-0.1
NIL			pmax	pmax		
	comp=Z,15nm,0.7s					
OBN	Obninsk	63.41 328	*e*P	P	00 15 27.7	-0.8
OBN			pmax	pmax		
	comp=Z,6.0nm,0.9s					
VSU	Vasula	63.49 335	*i* P	P	00 15 27.1	-1.8
VSU			pmax	pmax		
	comp=Z,40nm,1.0s					
NC204	NORSAR Array S	64.36 344	*e*P	P	00 15 34.4	-0.2
	comp=Z,88nm,2.0s					
KBL	Kabul	64.38 294	*e*P	P	00 15 33.9	-1.6
	comp=Z,4.9nm,0.7s					
KBL	Kabul	64.38 294	*e*P	P	00 15 33.9	-1.6
KBL			pmax	pmax		
	comp=Z,5.0nm,0.7s					
NB2	NORSAR Subarra	64.50 344	P	P	00 15 35.0	-0.6
	comp=Z,2.7nm,0.6s,baz=22,slow=6.9					
NB2	NORSAR Subarra	64.50 344	P	P	00 15 33.0	-2.6
NB2			pmax	pmax		
	comp=Z,3.0nm,0.5s					
NOA	NORSAR Array B	64.50 344	P	P	00 15 35.4	-0.2
	comp=Z,5.0nm,0.8s,baz=22,slow=6.7,SNR=26					
NBO00	NORSAR Array S	64.58 344	*e*P	P	00 15 36.1	0.0
	comp=Z,36nm,1.4s					
NC602	NORSAR Array S	64.73 344	*e*P	P	00 15 37.1	+0.1
	comp=Z,15nm,1.1s					
NORES	NORESS Array B	64.73 344	P	P	00 15 38.0	+1.0
HFS	Hagfors	64.91 342	P	P	00 15 37.7	-0.5
	comp=Z,3.7nm,0.5s,baz=44,slow=5.9,SNR=23					
VSR	Storozhevoye	65.71 324	*i* P	P	00 15 41.1	-2.4
VSR			pmax	pmax		
	comp=Z,10.0nm,0.9s					
SCHQ	Schefferville	66.39 28	*e*P	P	00 15 49.2	+1.3
	comp=Z,56nm,2.0s					
GEYT	Alibeck	67.77 303	P	P	00 15 56.0	-1.0
	comp=Z,4.7nm,0.7s,baz=12,slow=3.5,SNR=16					
GYA0B	ALIBECK ARRAY	67.77 303	*e*P	P	00 15 56.7	-0.3
	comp=Z,4.6nm,0.8s					
AKASG	Malin Array Be	69.52 329	*e*P	P	00 16 06.8	-0.8
AKASG	Malin Array Be	69.52 329	*i* P	P	00 16 06.9	-0.7
AKASG			pmax	pmax		
	comp=Z,4.0nm,0.4s					
AKASG	Malin Array Be	69.52 329	P	P	00 16 06.5	-1.1
	comp=Z,3.8nm,0.4s,baz=30,slow=6.9,SNR=22					
KIEV	Kiev	69.53 329	*e*P	P	00 16 06.2	-1.4
	comp=Z,15nm,1.3s					
KIEV	Kiev	69.53 329	⇑*i*P	P	00 16 07.0	-0.6
KIEV	Kiev	69.53 329	*i* P	P	00 16 04.7	-2.9
KIEV			pmax	pmax		
	comp=Z,7.0nm,1.0s					
NCK	Nalchik	70.25 316	*i* P	P	00 16 11.2	-1.0
NCK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KIV	Kislovodsk	70.26 317	*e*P	P	00 16 12.1	-0.3
	comp=Z,3.2nm,0.6s					
KIV	Kislovodsk	70.26 317	⇓*i*P	P	00 16 12.9	+0.5
KIV	Kislovodsk	70.26 317	*e*P	P	00 16 12.1	-0.3
KIV			pmax	pmax		
	comp=Z,3.0nm,0.6s					
KBZ	Khabaz	70.36 317	P	P	00 16 12.5	-0.3
	comp=Z,5.1nm,0.9s,baz=83,slow=3.5,SNR=9.7					
ZEI	Tsey	70.69 316	*e*P	P	00 16 13.1	-2.1
ZEI			pmax	pmax		
	comp=Z,2.0nm,0.4s					
TXAR	Lajitas Array	70.83 67	P	P	00 16 17.1	+1.0
	comp=Z,0.7nm,0.6s,baz=301,slow=5.2,SNR=7.8					
HYB	Hyderabad	71.48 275	*i* P	P	00 16 20.0	-0.1
AKH	Akhalkalaki	71.99 315	⇓*i*P	P	00 16 23.8	+0.8
AKH	Akhalkalaki	71.99 315	P	P	00 16 23.8	+0.8
EKA	Eskdalemuir Ar	72.02 350	P	P	00 16 22.6	-0.1
EKA			pmax	pmax		
	comp=Z,2.0nm,0.4s					
KWP	Kalwaria Pacla	72.42 333	*e*P	P	00 16 26.1	+0.9
KWP	Kalwaria Pacla	72.42 333	*e*P	P	00 16 26.1	+0.9
GNI	Garni	72.47 314	*e*P	P	00 16 23.8	-2.0
	comp=Z,12nm,0.7s					
GNI	Garni	72.47 314	*i* P	P	00 16 23.8	-2.0
GNI			pmax	pmax		
	comp=Z,15nm,1.0s					
GNI	Garni	72.47 314	P	P	00 16 23.8	-2.0
	comp=Z,4.4nm,0.5s,baz=334,slow=2.9,SNR=9.0					
OJC	Ojcow	72.68 335	*e*P	P	00 16 27.7	+1.0
OJC	Ojcow	72.68 335	*e*P	P	00 16 26.7	-0.1
	comp=Z,6.1nm,0.8s					
OJC	Ojcow	72.68 335	*e*P	P	00 16 26.7	-0.1
OJC			pmax	pmax		
	comp=Z,6.0nm,0.8s					
KSP	Ksiaz	72.99 337	P	P	00 16 29.7	+1.2
KOLS	Kolonicke sedl	73.17 333	*e*P	P	00 16 30.1	+0.4
KOLS			pmax	pmax		
	comp=Z,5.0nm,1.0s					
KOLS	Kolonicke sedl	73.17 333	*e*P	P	00 16 30.1	+0.4
CLL	Collm	73.30 339	*i* P	P	00 16 30.7	+0.3
CLL			*e*		00 16 39.0	
CLL			pmax	pmax		
	comp=Z,8.0nm,0.9s					
CLL	Collm	73.30 339	*i* P	P	00 16 30.7	+0.3
	comp=Z,8.0nm,0.9s					
CLL			*e*(pP)	pP	00 16 39.0	+0.6
UPC	Upice	73.36 337	*e*P	P	00 16 31.4	+0.6
UPC	Upice	73.36 337	*e*P	P	00 16 31.4	+0.6
DPC	Dobruska-Polom	73.44 337	*e*P	P	00 16 32.3	+1.0
DPC			*e*		00 16 49.7	
DPC	Dobruska-Polom	73.44 337	*e*P	P	00 16 32.3	+1.0
DPC			*ex*	x	00 16 49.7	
OKC	Ostrava-Krasne	73.46 336	*e*P	P	00 16 32.7	+1.4
OKC	Ostrava-Krasne	73.46 336	*e*P	P	00 16 32.7	+1.4
BURAR	Bucovina Array	73.49 330	*e*P	P	00 16 31.6	-0.1
BURAR	Bucovina Array	73.49 330	⇓*i*P	P	00 16 32.1	+0.4
BURAR	Bucovina Array	73.49 330	P	P	00 16 32.0	+0.4
BRG	Berggiesshubel	73.50 339	*e*P	P	00 16 31.9	+0.3
	comp=Z,3.4nm,1.0s					
BRG	Berggiesshubel	73.50 339	*e*P	P	00 16 31.9	+0.3
BRG			pmax	pmax		
	comp=Z,3.0nm,1.0s					
MORC	Moravsky Berou	73.67 336	⇑*i*P	P	00 16 32.8	+0.2
MORC	Moravsky Berou	73.67 336	P	P	00 16 33.7	+1.1
MORC			pm

CFR	Carcaliu	74.71 327	⇑	iP	P	00 16 38.6	-0.2
CFR	Carcaliu	74.71 327		P	P	00 16 38.5	-0.2
PSZ	Piszkesteto	74.76 334		eP	P	00 16 39.2	+0.1
	comp=Z,3.8nm,0.8s						
PSZ	Piszkesteto	74.76 334	⇑	iP	P	00 16 40.2	+1.1
PSZ	Piszkesteto	74.76 334		eP	P	00 16 39.2	+0.1
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CJR	Cluj-Napoca	74.79 331	⇑	iP	P	00 16 40.5	+1.2
CJR	Cluj-Napoca	74.79 331		P	P	00 16 40.4	+1.2
DOPR	Dopca	74.90 329	⇑	iP	P	00 16 41.2	+1.3
DRGR		74.98 331	⇑	iP	P	00 16 40.7	+0.3
DRGR		74.98 331		P	P	00 16 40.6	+0.2
MODS	Modra-Piesok	75.03 336		eP	P	00 16 42.4	+1.8
MODS	Modra-Piesok	75.03 336		eP	P	00 16 42.4	+1.8
MLR	Muntele Rosu	75.15 329	⇑	iP	P	00 16 42.7	+1.2
MLR	Muntele Rosu	75.15 329		P	P	00 16 41.8	+0.4
	baz=315,slow=4.3						
GRA1	Grafenberg Arr	75.21 340		eP	P	00 16 42.2	+0.6
	comp=Z,6.7nm,0.8s						
GRF	Grafenberg Arr	75.21 340		eP	P	00 16 42.2	+0.6
GRF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GRFO	Grafenberg	75.21 340		eP	P	00 16 42.4	+0.8
	comp=Z,5.9nm,0.8s						
GRFO	Grafenberg	75.21 340		eP	P	00 16 42.4	+0.8
GRFO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KHC	Kasperske Hory	75.22 338		eP	P	00 16 42.9	+1.2
KHC				e		00 16 55.0	
KHC	Kasperske Hory	75.22 338		eP	P	00 16 42.9	+1.2
KHC				epP	PcP	00 16 55.0	0.0
ZST	Bratislava	75.24 336		eP	P	00 16 42.8	+1.1
ZST	Bratislava	75.24 336		eP	P	00 16 42.8	+1.1
TLB	Topalu	75.27 327	⇑	iP	P	00 16 42.7	+0.8
TLB	Topalu	75.27 327		P	P	00 16 42.6	+0.7
WRA	Warramunga Arr	75.31 205		P	P	00 16 42.5	+0.2
	comp=Z,1.4nm,0.9s,baz=23,slow=5.7,SNR=6.7						
MEM	Membach	75.34 343	⇑	P	P	00 16 43.0	+0.7
	comp=Z,12nm,0.9s						
MEM			⇑	pP	PcP	00 16 55.1	-0.4
WET	Wettzell	75.36 339		P	P	00 16 43.8	+1.3
WET				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GEC2	GERESS Array S	75.46 338		eP	P	00 16 43.2	+0.1
	comp=Z,14nm,1.8s						
GEC2	GERESS Array S	75.46 338		eP	P	00 16 43.2	+0.1
GEC2				pmax	pmax		
	comp=Z,14nm,1.8s						
GERES	GERESS Array B	75.46 338		eP	P	00 16 43.6	+0.5
GERES	GERESS Array B	75.46 338		P	P	00 16 42.9	-0.2
	comp=Z,2.1nm,0.8s,baz=40,slow=4.4,SNR=10						
VOIR		75.48 329	⇑	iP	P	00 16 43.8	+0.5
VOIR		75.48 329		P	P	00 16 43.8	+0.5
BCLA	Clavier	75.65 344	⇓	iP	P	00 16 44.9	+0.8
ARR	Arges	75.68 330	⇑	iP	P	00 16 45.5	+1.1
SNF	Seneffe	75.73 345	⇑	iP	P	00 16 44.7	+0.2
ICOR	Ion Corvin	75.76 327	⇑	iP	P	00 16 46.1	+1.3
CONA	Conrad Observa	75.80 336		eP	P	00 16 46.4	+1.3
	comp=Z,2.2nm,0.6s						
GIVF	Givet	76.04 344		eP	P	00 16 46.3	0.0
GIVF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
DOU	Dourbes	76.08 344	⇑	P	P	00 16 46.6	+0.1
BAIF	Baives	76.18 344		eP	P	00 16 47.3	+0.2
BAIF				pmax	pmax		
	comp=Z,6.0nm,1.1s						
FITZ	Fitzroy Crossi	76.22 214		P	P	00 16 48.2	+0.7
	comp=Z,2.0nm,0.9s,baz=30,slow=5.8,SNR=6.3						
GZR	Gura Zlata	76.22 331	⇑	iP	P	00 16 47.9	+0.4
GZR	Gura Zlata	76.22 331		P	P	00 16 47.9	+0.4
MOA	Molln	76.26 337		eP	P	00 16 48.5	+0.9
	comp=Z,2.8nm,0.9s						
BZS	Buzias	76.37 332		P	P	00 16 48.5	+0.3
ARSA	Arzberg	76.51 336		eP	P	00 16 50.4	+1.3
	comp=Z,1.4nm,0.5s						
HERR	Herculane	76.80 331	⇑	iP	P	00 16 50.3	-0.4
SOKA	Soboth	77.17 336		iP	P	00 16 53.8	+1.0
	comp=Z,1.9nm,0.5s						
PUNG	Punghina	77.19 330	⇓	iP	P	00 16 52.6	-0.2
KBA	Koelnbreinsper	77.20 338		iP	P	00 16 54.8	+1.7
	comp=Z,19nm,0.8s						
KBA	Koelnbreinsper	77.20 338		P	P	00 16 54.8	+1.7
KBA				pmax	pmax		
	comp=Z,23nm,0.8s						
CDF	Champ du Feu	77.22 342		eP	P	00 16 53.3	+0.2
CDF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WATA	Walderalm	77.36 339		eP	P	00 16 55.6	+1.6
	comp=Z,4.2nm,1.0s						
RETA	Reutte	77.40 339		eP	P	00 16 55.3	+1.2
	comp=Z,2.1nm,0.7s						
WTTA	Wattenberg	77.42 339		eP	P	00 16 55.7	+1.4
	comp=Z,5.3nm,1.0s						
MOTA	Moosalm	77.46 339		eP	P	00 16 55.6	+1.1
	comp=Z,2.5nm,0.7s						
BRTR	Keskin Array B	77.47 321		eP	P	00 16 54.6	-0.1
BRTR	Keskin Array B	77.47 321		eP	P	00 16 54.6	-0.1
BRTR	Keskin Array B	77.47 321		P	P	00 16 54.3	-0.4
	comp=Z,1.6nm,0.6s,baz=36,slow=3.3,SNR=13						
SQTA	Sankt Quirin	77.55 339		eP	P	00 16 56.3	+1.3
	comp=Z,3.6nm,0.7s						
ABTA	Abfaltersbach	77.70 338		eP	P	00 16 56.9	+1.1
	comp=Z,3.6nm,0.8s						
DAVA	Damuels	77.78 340		eP	P	00 16 58.0	+1.6
	comp=Z,6.2nm,1.1s						
HAU	Haudompre	77.79 343		eP	P	00 16 56.3	+0.1
HAU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FETA	Feichten	77.85 339		eP	P	00 16 57.9	+1.1
	comp=Z,2.8nm,0.7s						
HINF	Hinteralfeld	77.88 342		eP	P	00 16 56.6	-0.1
HINF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PHSR	Pinarhisar	78.06 326	⇓	iP	P	00 16 57.9	+0.1
FLN	La Foliniere	78.15 347		eP	P	00 16 58.1	-0.1
FLN				pmax	pmax		
	comp=Z,17nm,1.2s						
VTS	Vitosha	78.59 329	⇑	iP	P	00 17 01.1	+0.2
SGMF	Saint Gilles	78.92 348		eP	P	00 17 02.6	+0.2
SGMF				pmax	pmax		
	comp=Z,29nm,1.2s						
LOR	Lormes	78.94 344		eP	P	00 17 02.7	+0.1
LOR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ASAR	Alice Springs	78.98 205		P	P	00 17 03.5	+0.5
	comp=Z,1.2nm,0.7s,baz=17,slow=5.2,SNR=11						
CABF	La Chapelle	79.18 342		eP	P	00 17 04.5	+0.5
CABF				pmax	pmax		
	comp=Z,21nm,1.6s						
SSF	Saint Saulge	79.20 344		eP	P	00 17 04.9	+0.9
SSF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AVF	Avril sur Loir	79.49 344		eP	P	00 17 05.9	+0.4
AVF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SMF	Signal de Mont	79.55 344		eP	P	00 17 05.4	-0.5
SMF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SRS	Serrai	79.83 328		P	P	00 17 07.9	+0.4
PDG	Podgorica	79.97 332	⇑	iP	P	00 17 07.6	-0.6
LPL	La Plagne	80.11 342		eP	P	00 17 10.3	+1.1
LPL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LPG	La Plagne	80.12 342		eP	P	00 17 10.5	+1.1
LPG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TCF	Toulx Ste Croi	80.17 345		eP	P	00 17 09.7	+0.4
TCF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MFF	Saint Martin d	80.22 347		eP	P	00 17 11.9	+2.4
MFF				pmax	pmax		
	comp=Z,35nm,1.7s						
ORIF	Oris-en-Rattie	80.85 342		eP	P	00 17 14.2	+1.2
ORIF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VIVF	Saint-Julien-l	81.13 343		eP	P	00 17 15.4	+0.9
VIVF				pmax	pmax		
	comp=Z,11nm,1.2s						
CAF	Calviac	81.52 345		eP	P	00 17 17.6	+1.1
CAF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LFF	La Frestale	81.71 346		eP	P	00 17 20.7	+3.2
LFF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ETSF	Etsaut	83.90 346		eP	P	00 17 30.3	+1.3
ETSF				pmax	pmax		
	comp=Z,70nm,2.0s						
IDI	Anoyia	84.64 325		P	P	00 17 31.8	-1.1
	comp=Z,3.7nm,0.6s,baz=35,slow=10,SNR=9.7						
ESDC	Sonseca Array	87.54 348		eP	P	00 17 47.9	+0.8
	comp=Z,4.0nm,1.4s						
ESDC	Sonseca Array	87.54 348		P	P	00 17 46.9	-0.2
	comp=Z,0.9nm,0.6s,baz=2.0,slow=4.8,SNR=9.7						
KEST	Kesra	88.90 337		P	P	00 17 53.0	-0.6
	comp=Z,2.9nm,0.9s,baz=291,slow=5.2,SNR=3.6						

KRSC 20 00:06:27.9±10.0, 52°.07N×160°.43E, h22km±10km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.06	346	S	Sn	00 07 01.2	-0.2
RUS	Russkaya	1.23	288	P	Pb	00 06 50.5	0.0
RUS				S	Sb	00 07 06.5	+0.5
NLC	Nalytchevo	1.28	329	P	Pb	00 06 51.2	-0.2
NLC				S	Sb	00 07 07.7	+0.3
DALK	Dalny	1.40	314	P	Pb	00 06 53.1	-0.3
DALK				S	Sb	00 07 11.0	+0.1
MTVR	Mutnovka	1.44	287	P	Pb	00 06 53.9	-0.3
MTVR				S	Sb	00 07 12.6	+0.5
KDTR	Khodutka, Kamc	1.48	261	P	Pb	00 06 54.2	-0.5
KDTR				S	Sb	00 07 13.1	0.0
KRMR	Karymshinskiy	1.60	299	P	Pb	00 06 56.1	-0.7
KRMR				S	Sb	00 07 16.3	-0.2

*IDC **20** 00:10:52.5±1.1, 14°.86S×167°.00E, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.1/39, mbtmp4.2/7, ML4.1/1, MS3.9/1, Ms1 3.9/1, ms1mx3.4/35, Error ellipse: s-maj=42.7km s-min=23.6km az=135.0*

*ISCJB **20** 00:10:58.2±1.0, 15°.07S±0°.08×167°.0E±0°.2, h57km, mb4.1/5, Error ellipse: s-maj=22.4km s-min=11.1km az=173.5*

ISC 20 00:10:59.7±0.9, 15°.04S±0°.10×167°.0E±0°.2, h57km, n16, σ1§05/17, mb4.1/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.02	184	Pn	Pn	00 12 39.5	-0.4
	3.5nm,0.3s,baz=127,slow=19,SNR=34						
DZM				Sn	Sn	00 13 59.1	+0.7
	1.6nm,0.3s,baz=150,slow=20,SNR=3.0						
DZM				LR	LR	00 15 17.6	
	comp=Z,771nm,18.6s,baz=34,slow=37						
CTA	Charters Tower	20.43	253	P	P	00 15 31.9	-0.5
	11nm,0.9s,baz=91,slow=11,SNR=8.1						
STKA	Stephens Creek	28.62	230	P	P	00 16 51.8	+1.0
	0.4nm,0.2s,baz=23,slow=7.7,SNR=1.8						
ASAR	Alice Springs	32.34	249	P	P	00 17 23.1	-0.8
	2.9nm,1.0s,baz=84,slow=8.7,SNR=5.4						
FITZ	Fitzroy Crossi	39.73	260	P	P	00 18 26.4	-0.5
	2.5nm,0.8s,baz=79,slow=6.9,SNR=4.5						
CMAR	Chiang Mai Arr	74.86	294	P	P	00 22 36.0	+1.2
	1.0nm,0.6s,baz=120,slow=3.9,SNR=8.4						
ILAR	Eielson Array	86.89	18	P	P	00 23 37.0	-0.9
	2.3nm,0.6s,baz=245,slow=5.0,SNR=9.0						
SNAA	Sanae	93.23	183	PKPdf	P	00 24 04.9	-2.8
VNA3	Neumayer Olymp	93.90	181	PKPdf	P	00 24 11.2	+0.4
VNA2	Neumayer--Watz	94.17	182	PKPdf	P	00 24 12.8	+0.9
	baz=184,slow=3.8						
ARCES	ARCESS Array B	120.49	345	PKP	PKiKP	00 29 44.6	+0.2
	1.9nm,0.5s,baz=82,slow=1.9,SNR=19						
FINES	FINESS Array B	125.92	338	PKP	PKiKP	00 29 56.1	+0.8
	0.8nm,0.4s,baz=31,slow=3.2,SNR=6.6						
AKASG	Malin Array Be	130.86	326	PKP	PKiKP	00 30 05.4	-0.1
	0.1nm,0.3s,baz=45,slow=2.8,SNR=2.4						
NOA	NORSAR Array B	130.86	345	PKP	PKiKP	00 30 05.8	+0.5
	0.7nm,0.7s,baz=52,slow=2.3,SNR=2.5						
KEST	Kesra	151.30	320	PKPbc	PKPbc	00 30 47.8	+0.4
	6.0nm,0.7s,baz=188,slow=1.1,SNR=9.2						
TORD	Torodi Ar. Bea	165.65	264	PKP	PKPdf	00 30 59.6	+0.7
	1.3nm,1.0s,baz=83,slow=2.0,SNR=3.9						

IDC 20 00:12:35.4±4.1, 51°.26N×160°.34E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.2/50, mbtmp3.5/5, ML2.6/1, Error ellipse: s-maj=90.9km s-min=73.2km az=21.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	2.47	320	Pn	Pn	00 13 16.9	+0.1
	7.3nm,0.3s,baz=102,slow=18,SNR=55						
KURBB	Kurchatov Arra	48.95	303	P	P	00 21 22.5	-0.5
	0.5nm,0.9s,baz=54,slow=7.5,SNR=4.2						
MKAR	Makanchi Array	49.11	297	P	P	00 21 24.7	+0.3
	0.2nm,0.6s,baz=67,slow=8.4,SNR=2.9						
FINES	FINESS Array B	61.87	337	P	P	00 22 55.9	0.0
	1.4nm,0.8s,baz=46,slow=9.9,SNR=5.2						
AKASG	Malin Array Be	70.27	329	P	P	00 23 50.0	0.0
	0.1nm,0.2s,baz=34,slow=6.9,SNR=2.2						

*IDC **20** 00:13:11.7±10.0, 52°.05N×160°.81E, h59km±10km, ML5.8*

*ISCJB **20** 00:13:15.5±0.3, 52°.15N±0°.02×160°.52E±0°.02, h39km±2km, mb5.6/364, MS5.5/71, Error ellipse: s-maj=3.1km s-min=1.7km az=166.9*

*BJI **20** 00:13:15.6±0.0, 52°.38N×159°.89E, h33km, mb5.5/73, mB5.6/47, Ms5.7/74, Ms7 5.7/72*

*MOS **20** 00:13:16.8±1.0, 52°.21N×160°.31E, h45km, mb5.9/121, MS5.6/34, Error ellipse: s-maj=5.5km s-min=2.8km az=101.9*

*NEIC **20** 00:13:17.4±0.1, 52°.25N×160°.27E, h35km, mb5.5/176, Error ellipse: s-maj=4.1km s-min=2.4km az=154.0*

*GCMT **20** 00:13:19.4±0.1, 52°.14N±0°.01×160°.79E±0°.01, h21km, MW5.4/124, Moment Tensor Solution. s108,c201; s124,c250; Duration: 1§2 Moment tensor: Scale 10^17 Nm; M_{rr}1.41±.03; $M_{\theta\theta}$-0.47±.02; $M_{\phi\phi}$-0.93±.02; $M_{r\theta}$0.47±.03; $M_{r\phi}$-0.65±.01; $M_{\theta\phi}$0.70±.03; Best double couple: $M_0$1.63200×10^17 NP1:ϕ_S34.00000°, δ60.00000°, λ89.00000°. NP2:ϕ_S216.00000°, δ30.00000°, λ91.00000°. Principal axes: T 1.6430, Plg75.0000°, Azm303.0000°; N -0.0160, Plg0.0000°, Azm35.0000°; P -1.6210, Plg15.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 00:13:17.1±0.2, 52°.19N±0°.03×160°.49E±0°.03, h39km±2km, h38km:pP-P, n1768, σ1§12/1867, mb5.6/402, MS5.4/87, 194C-41D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.96	343	iP	Pn	00 13 32.7	-1.3
SPN				eS	Sn	00 13 47.1	+0.7
SPN	Mys Shipunski	0.96	343	PN	Pn	00 13 32.7	-1.3
SPN				S	Sn	00 13 47.1	+0.7
NLC	Nalytchevo	1.21	325	eP	Pn	00 13 37.6	+0.1
NLC				eS	Sn	00 13 55.4	+2.8
NLC	Nalytchevo	1.21	325	PN	Pn	00 13 37.6	+0.1
NLC				S	Sn	00 13 55.4	+2.8
RUS	Russkaya	1.24	282	eP	Pn	00 13 37.4	-0.5
RUS	Russkaya	1.24	282	PN	Pn	00 13 37.4	-0.5
DALK	Dalny	1.35	309	eP	Pn	00 13 38.8	-0.7
DALK				eS	Sn	00 13 58.3	+2.1
DALK	Dalny	1.35	309	PN	Pn	00 13 38.8	-0.7
DALK				S	Sn	00 13 58.3	+2.1
PET	Petropavlovsk	1.40	308	ePn	Pn	00 13 40.0	-0.1
PET	Petropavlovsk	1.40	308	iPN	Pn	00 13 40.0	-0.1
PET				eS	Sn	00 13 57.8	+0.5
PET				pmax	pmax		
	comp=Z,54μm,2.6s						
PET				pmax	pmax		
	comp=Z,17μm,0.8s						
PET				smax	smax		
	comp=E,98μm,2.3s						
PET				smax	smax		
	comp=E,49μm,1.0s						
PET				smax	smax		
	comp=N,36μm,1.0s						
UGLR	Uglovaya	1.44	316	eP	Pn	00 13 40.7	-0.1
UGLR	Uglovaya	1.44	316	PN	Pn	00 13 40.7	-0.1
MTVR	Mutnovka	1.45	283	eP	Pn	00 13 40.4	-0.5
MTVR	Mutnovka	1.45	283	PN	Pn	00 13 40.4	-0.5
SDLR	Sedlovina	1.47	319	eP	Pn	00 13 41.4	+0.3
SDLR	Sedlovina	1.47	319	PN	Pn	00 13 41.4	+0.3
SMAR	Somma	1.49	317	eP	Pn	00 13 41.6	+0.1
SMAR	Somma	1.49	317	PN	Pn	00 13 41.6	+0.1
AVH	Avacha	1.52	316	eP	Pn	00 13 41.8	0.0
AVH	Avacha	1.52	316	PN	Pn	00 13 41.8	0.0
GRL	Gorelyy	1.53	285	eP	Pn	00 13 43.1	+1.1
GRL	Gorelyy	1.53	285	PN	Pn	00 13 43.1	+1.1
KDTR	Khodutka, Kamc	1.54	257	eP	Pn	00 13 40.6	-1.4
KDTR				eS	Sn	00 14 00.1	-0.6
KDTR	Khodutka, Kamc	1.54	257	PN	Pn	00 13 40.6	-1.4
KDTR				S	Sn	00 14 00.1	-0.6
KRER	Koryakskii	1.54	317	eP	Pn	00 13 42.5	+0.3
KRER	Koryakskii	1.54	317	PN	Pn	00 13 42.5	+0.3
KOK	Koryaka	1.58	315	eP	Pn	00 13 43.3	+0.6
KOK	Koryaka	1.58	315	PN	Pn	00 13 43.3	+0.6
KRMR	Karymshinskiy	1.58	295	eP	Pn	00 13 42.6	0.0
KRMR				eS	Sn	00 14 06.6	+4.9
KRMR	Karymshinskiy	1.58	295	PN	Pn	00 13 42.6	0.0
ASAK	Asacha	1.60	278	eP	Pn	00 13 42.9	-0.1
ASAK	Asacha	1.60	278	PN	Pn	00 13 42.9	-0.1
KRX	Arik	1.62	317	eP	Pn	00 13 43.4	+0.1
KRX	Arik	1.62	317	PN	Pn	00 13 43.4	+0.1
I44RU	PETROPAVLOVSK-	1.93	300	Pn	Pn	00 13 47.3	-0.1
	baz=111,slow=17,SNR=0.8						
I44RU				Sn	Sn	00 14 14.1	+3.8
	baz=87,slow=190						
PEA0B	Petropavlovsk-	1.94	300	ePn	Pn	00 13 47.6	+0.1
PEA0B	Petropavlovsk-	1.94	300	ePN	Pn	00 13 47.6	+0.1
PETK	Petropavlovsk-	1.94	300	ePn	Pn	00 13 47.4	-0.1
PETK	Petropavlovsk-	1.94	300	ePN	Pn	00 13 47.4	-0.1
PETK	Petropavlovsk-	1.94	300	Pn	Pn	00 13 47.7	+0.3
	comp=N,260nm,0.3s,baz=108,slow=19,SNR=326						
PETK				Sn	Sn	00 14 16.4	+5.9
	comp=N,392nm,0.3s,baz=102,slow=40,SNR=8.4						
PETK				LR	LR	00 14 54.1	
	comp=N,85μm,20.4s,baz=113,slow=57						
APC	Apacha	2.16	291	eP	Pn	00 13 51.8	+1.2
APC				eS	Sn	00 14 20.4	+4.3
APC	Apacha	2.16	291	PN	Pn	00 13 51.8	+1.2
APC				S	Sn	00 14 20.4	+4.3
PAU	Pauzhetka	2.39	254	eP	Pn	00 13 53.2	-0.5
PAU				eS	Sn	00 14 22.4	+0.6
PAU	Pauzhetka	2.39	254	PN	Pn	00 13 53.2	-0.5
PAU				S	Sn	00 14 22.4	+0.6
MKZ	Mys Kozlova	2.49	17	eP	Pn	00 13 53.4	-1.6
MKZ				eS	Sn	00 14 22.7	-1.4
MKZ	Mys Kozlova	2.49	17	PN	Pn	00 13 53.4	-1.6
MKZ				S	Sn	00 14 22.7	-1.4
TUMD	Tumrok D	3.02	359	eP	Pn	00 14 02.3	-0.1
TUMR	Tumrok	3.11	356	PN	Pn	00 14 02.3	-1.4
SKR	Severo-Kuril's	3.12	243	eP	Pn	00 14 02.8	-0.9
SKR				eS	Sn	00 14 38.9	-0.8
SKR	Severo-Kuril's	3.12	243	ePN	Pn	00 14 02.8	-0.9
SKR				eS	Sn	00 14 38.4	-1.3
SKR				pmax	pmax		
	comp=Z,2μm,1.0s						
SKR				smax	smax		
	comp=N,12μm,0.8s						
SKR				smax	smax		
	comp=E,15μm,0.8s						
SKR				MLR	MLR		
	comp=Z,38μm,12.0s						
ALID	Alaid	3.35	249	eP	Pn	00 14 07.0	-0.1
ALID	Alaid	3.35	249	PN	Pn	00 14 07.0	-0.1
ESO	Esso	3.89	345	eP	Pn	00 14 15.1	+0.8
ESO	Esso	3.89	345	PN	Pn	00 14 15.1	+0.8
LGNR	Loginova	3.91	2	eP	Pn	00 14 16.0	+1.2
LGNR	Loginova	3.91	2	PN	Pn	00 14 16.0	+1.2
CIRR	Tsirk	3.94	2	eP	Pn	00 14 16.0	+0.9
CIRR	Tsirk	3.94	2	PN	Pn	00 14 16.0	+0.9
KBTR	Krutoberegovo	4.26	18	eP	Pn	00 14 19.4	+0.1
KBTR	Krutoberegovo	4.26	18	PN	Pn	00 14 19.4	+0.1
KBG	Krutoberegovo	4.28	17	eP	Pn	00 14 19.1	-0.5
KBG				eS	Sn	00 15 08.5	+0.3
KBG	Krutoberegovo	4.28	17	PN	Pn	00 14 19.1	-0.5
KBG				S	Sn	00 15 08.5	+0.3
BDR	Baidarnaya	4.41	5	eP	Pn	00 14 22.3	+0.8
BDR	Baidarnaya	4.41	5	PN	Pn	00 14 22.3	+0.8
SMKR	Semkarok	4.44	7	eP	Pn	00 14 23.2	+1.3
SMKR	Semkarok	4.44	7	PN	Pn	00 14 23.2	+1.3
BKI	Bering	4.44	45	eP	Pn	00 14 20.0	-1.9
BKI				eS	Sn	00 15 07.4	-4.9
BKI	Bering	4.44	45	PN	Pn	00 14 20.0	-1.9
SRKR	Sorokina	4.50	5	eP	Pn	00 14 23.4	+0.7
SRKR	Sorokina	4.50	5	PN	Pn	00 14 23.4	+0.7
PALN	Palana	6.93	358	eP	Pn	00 14 56.1	+0.2
PALN	Palana	6.93	358	PN	Pn	00 14 56.1	+0.2
OSSR	Ossora	7.23	11	eP	Pn	00 14 58.7	-1.3
OSSR	Ossora	7.23	11	PN	Pn	00 14 58.7	-1.3
TILK	Tilichiki	8.85	19	eP	Pn	00 15 21.2	-1.1
TILK	Tilichiki	8.85	19	PN	Pn	00 15 21.2	-1.1
MA2	Magadan	9.19	327	ePn	Pn	00 15 27.8	+0.8
MA2	Magadan	9.19	327	ePN	Pn	00 15 27.8	+0.8
MA2	Magadan	9.19	327	Pn	Pn	00 15 27.5	+0.5
	comp=Z,0.7nm,0.3s,baz=137,slow=8.8,SNR=19						
MA2				LR	LR	00 19 46.3	
	comp=Z,16μm,18.9s,baz=145,slow=43						
OKH	Okha	10.70	284	diPN	Pn	00 15 53.4	+5.8
OKH				pmax	pmax		
	comp=Z,2μm,8.8s						
OKH				MLR	MLR		
	comp=Z,34μm,14.0s						
KUR	Kuril'sk	10.85	235	PN	Pn	00 15 49.7	0.0
KUR				pmax	pmax		
	comp=Z,149nm,0.9s						
KUR				pmax	pmax		
	comp=N,38nm,0.5s						
KUR				pmax	pmax		
	comp=E,58nm,0.5s						
KUR				MLR	MLR		
	comp=N,35μm,18.0s						
KUR				MLR	MLR		
	comp=E,17μm,17.0s						
SEY	Seymchan	11.61	341	iPN	Pn	00 15 58.6	-1.4
SEY	Seymchan	11.61	341	Pn	Pn	00 16 01.3	+1.3
	comp=E,0.3nm,0.3s,baz=140,slow=12,SNR=30						
NKL	Nikolayevsk	12.06	282

comp=E,235nm,0.8s
YUK MLR MLR
comp=Z,17μm,18.0s
YUK MLR MLR
comp=E,22μm,17.0s
KIWB Kanaga Island 13.77 83 *e*Pn **Pn 00 16 30.2 +0.7**
ASAJ Asahikawa 14.39 243 Pn **Pn 00 16 36.4 -1.6**
comp=E,7.4nm,0.3s,baz=64,slow=11,SNR=73
ASAJ LR LR 00 23 05.0
comp=E,13μm,18.2s,baz=52,slow=42
GRNR Gornyy 15.05 274 *e*P **P 00 16 49.1 -2.5**
GRNR pmax pmax
comp=Z,63nm,1.0s
ERM Erimo 15.54 236 *e*Pn **Pn 00 16 48.0 -5.2**
comp=Z,257nm,1.3s
ERM Erimo 15.54 236 *i* P **Pn 00 16 54.0 +0.8**
BILL Biiibino 16.15 8 *e*Pn **Pn 00 17 00.3 -0.5**
comp=Z,311nm,1.1s
BILL Biiibino 16.15 8 *ce*P **Pn 00 17 00.3 -0.5**
BILL *e*S **Sn 00 19 59.4 +0.8**
BILL pmax pmax
comp=Z,263nm,1.0s
BILL MLR MLR
comp=Z,11μm,18.0s
TEY Ternei 17.29 255⇓ *e*P **Pn 00 17 15.5 +0.2**
TEY pmax pmax
comp=N,60nm,0.9s
TEY pmax pmax
comp=E,190nm,0.9s
TEY pmax pmax
comp=Z,210nm,0.9s
TEY MLR MLR
comp=N,5μm,14.0s
TEY MLR MLR
comp=E,9μm,14.0s
TEY MLR MLR
comp=Z,12μm,15.0s
KLR Kul'dur 18.39 272 *i* P **Pn 00 17 28.4 -0.4**
KLR pmax pmax
comp=Z,455nm,2.3s
KLR Kul'dur 18.39 272 P **P 00 17 28.0 -0.4**
comp=Z,1.8nm,0.3s,baz=66,slow=10,SNR=121
KLR LR LR 00 25 28.6
comp=Z,14μm,18.4s,baz=74,slow=40
YAK Yakutsk 19.23 313 *c i*P **P 00 17 35.1 -2.4**
YAK *e*S **Sn 00 21 12.0 -0.9**
YAK pmax pmax
comp=Z,6μm,0.9s
YAK pmax pmax
comp=N,1μm,1.0s
YAK pmax pmax
comp=E,4μm,1.2s
YAK smax smax
comp=N,1μm,1.8s
YAK smax smax
comp=E,2μm,2.0s
YAK MLR MLR
comp=Z,33μm,16.0s
YAK MLR MLR
comp=E,29μm,15.0s
YAK MLR MLR
comp=N,25μm,16.0s
ZEA Zeya 19.98 288 *e*P **P 00 17 44.0 -1.9**
ZEA pmax pmax
comp=N,42nm,0.8s
ZEA pmax pmax
comp=E,83nm,1.0s
ZEA pmax pmax
comp=Z,150nm,1.0s
ZEA MLR MLR
comp=E,18μm,15.0s
ZEA MLR MLR
comp=Z,34μm,15.0s
ZEA MLR MLR
comp=N,9μm,14.0s
USRK Ussuriysk Ar. 20.51 258 P **P 00 17 48.9 -2.8**
comp=N,252nm,1.0s,baz=62,slow=9.7,SNR=130
USRK LR LR 00 25 51.2
comp=N,8μm,20.4s,baz=58,slow=37
VLA Vladivostok 21.18 256 *i* P **P 00 17 56.5 -2.3**
VLA pmax pmax
comp=Z,105nm,0.8s
ANM Nome 21.44 42 *e*P **P 00 18 03.2 +1.7**
comp=Z,280nm,1.7s
ANM Nome 21.44 42 *e*P **P 00 18 03.2 +1.7**
ANM pmax pmax
comp=Z,280nm,1.7s
MDJ Mudanjiang 21.74 262 P **P 00 18 02.5 -2.4**
MDJ sP pwP 00 18 16.4 -1.2
MDJ pmax pmax
comp=Z,200nm,0.9s
MDJ LR LR
comp=Z,17μm,19.7s
MDJ LR LR
comp=Z,6μm,20.9s
MDJ LR LR
comp=Z,11μm,18.2s
MDJ Mudanjiang 21.74 262 *e*P **P 00 18 02.5 -2.4**
comp=Z,147nm,0.9s
MJB9 Matsu-Tunnel 22.19 234 *e*P **P 00 18 09.9 +0.2**
MAJO Matsushiro 22.19 234 *e*P **P 00 18 09.9 +0.1**
comp=Z,491nm,1.2s
MAJO Matsushiro 22.19 234 *i* P **P 00 18 09.3 -0.5**
MAT Matsushiro 22.19 234 P **P 00 18 09.0 -0.8**
MAT S **S 00 22 08.2 -3.5**
MJAR Matsushiro Arr 22.19 234 *e*P **P 00 18 09.9 +0.1**
MJAR Matsushiro Arr 22.19 234 P **P 00 18 09.4 -0.4**
comp=Z,190nm,0.9s,baz=21,slow=8.9,SNR=187
MJAR LR LR 00 27 28.5
comp=Z,10μm,20.8s,baz=50,slow=39
RDOG Red Dog Mine 23.65 34 *e*P **P 00 18 24.8 +0.3**
comp=Z,292nm,1.6s
INU Inuyama 23.72 234 *e*P **P 00 18 25.7 +0.4**
comp=Z,267nm,1.0s
TIXI Tiksi 24.01 336 *e*P **P 00 18 26.1 -1.6**
comp=Z,202nm,0.9s
TIXI Tiksi 24.01 336 *ce*P **P 00 18 25.7 -2.0**
TIXI pmax pmax
comp=Z,320nm,1.3s
TIXI Tiksi 24.01 336 P **P 00 18 25.7 -2.0**
comp=Z,167nm,0.8s,baz=126,slow=9.1,SNR=180
JHJ2 Mitsune 24.23 226 *e*P **P 00 18 31.2 +1.1**
comp=Z,479nm,1.1s
JHJ Hachijo jima 2 24.24 226 LR LR 00 31 30.0
comp=Z,3μm,18.5s,baz=92,slow=45
CN2 Changchun 24.70 264 *e*P **P 00 18 31.3 -3.0**
CN2 pmax pmax
comp=Z,130nm,1.0s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,9μm,14.0s
CN2 LR LR
comp=Z,9μm,14.0s
CN2 LR LR
comp=Z,18μm,14.0s
HIA Hailar 25.72 280 *e*P **P 00 18 41.4 -2.1**
comp=Z,275nm,0.9s
HIA Hailar 25.72 280 *i* P **P 00 18 41.2 -2.3**
HIA pmax pmax
comp=Z,2μm,0.8s
SII Sitkinak Islan 26.38 62 *e*P **P 00 18 51.5 +2.1**
comp=Z,240nm,1.0s
IMAR Indian Mountai 26.52 41 *e*P **P 00 18 50.3 -0.2**
RSO Redoubt South 26.69 53 *e*P **P 00 18 53.6 +1.2**
BOD Bodaibo 26.81 301⇓ *i*P **P 00 18 50.5 -2.7**
BOD pmax pmax
comp=Z,150nm,1.3s
SNY Shenyang 26.94 262⇑P **P 00 18 52.8 -1.8**
SNY pmax pmax
comp=Z,60nm,1.4s
SNY pmax pmax
comp=Z,820nm,8.0s
SNY LR LR
comp=Z,17μm,18.8s
SNY LR LR
comp=Z,13μm,19.0s
SNY LR LR
comp=Z,10μm,15.3s
CAST Castle Rocks 26.98 47 *e*P **P 00 18 56.0 +1.2**
comp=Z,138nm,1.8s
SPU Mount Spurr 27.00 52 *e*P **P 00 18 56.3 +1.4**
KDAK Kodiak Island 27.05 59 *e*P **P 00 18 55.6 +0.2**
comp=Z,87nm,1.2s
KDAK Kodiak Island 27.05 59 *i* P **P 00 18 55.7 +0.4**
KDAK Kodiak Island 27.05 59 P **P 00 18 55.0 -0.4**
comp=Z,27nm,0.9s,baz=330,slow=1.5,SNR=10
KSRS Korea Array 27.11 250 P **P 00 18 56.0 -0.2**
comp=Z,60nm,1.0s,baz=42,slow=9.4,SNR=86
KSRS PcP **PcP 00 22 16.5 +0.5**
comp=Z,9.6nm,0.9s,baz=14,slow=1.7,SNR=8.4
KSRS LR LR 00 30 53.0
comp=Z,5μm,18.1s,baz=58,slow=39
KS15 Wonju Array Si 27.14 250 *e*P **P 00 18 57.7 +1.3**
comp=Z,89nm,1.0s
KSAR Wonju Array Be 27.14 250 *e*PcP **PcP 00 22 17.1 +1.0**
MLY Manley 27.66 43 *e*P **P 00 19 02.5 +1.7**
comp=Z,25nm,1.1s
MLY *e*PcP **PcP 00 22 18.6 +1.6**
RC01 Rabbit Creek A 28.12 52 *e*P **P 00 19 06.4 +1.4**
comp=Z,33nm,1.3s
BWN Browne 28.17 45 *e*P **P 00 19 07.7 +2.4**
comp=Z,289nm,1.4s
TJN Taejon 28.18 249 *i* P **P 00 19 06.5 +0.8**
CIT Chita 28.44 289 *e*P **P 00 19 06.1 -1.8**
CIT *e* 00 19 17.2
CIT *e* 00 19 22.6
CIT pmax pmax
comp=Z,246nm,1.3s
GHO Glory Hole Cre 28.47 50 *e*P **P 00 19 08.4 +0.3**
comp=Z,15nm,0.8s
TOLK Toolik Lake Re 28.55 36 *e*P **P 00 19 09.3 +0.5**
comp=Z,40nm,1.1s
TOLK Toolik Lake Re 28.55 36 P **P 00 19 09.0 +0.2**
baz=261
JNU Nakatsue 28.63 240 *e*P **P 00 19 09.9 +0.1**
comp=Z,470nm,1.2s
JNU Nakatsue 28.63 240 P **P 00 19 10.2 +0.5**
comp=Z,50nm,0.7s,baz=105,slow=4.9,SNR=21
JNU LR LR 00 32 00.2
comp=Z,4μm,19.0s,baz=40,slow=40
TCOL CIGO, UAF Yank 28.88 44 P **P 00 19 11.7 +0.1**
baz=269
COLA College 28.88 44 *i* P **P 00 19 12.6 +1.0**
HDA Harding Lake 29.27 45 P **P 00 19 15.0 -0.1**
baz=271
ILAR Eielson Array 29.29 44 *e*P **P 00 19 14.0 -1.3**
ILAR Eielson Array 29.29 44 *e*P **P 00 19 14.0 -1.3**
ILAR Eielson Array 29.29 44 P **P 00 19 14.9 -0.4**
comp=Z,4.3nm,0.9s,baz=255,slow=7.0,SNR=21
ILAR PcP **PcP 00 22 21.1 +0.2**
comp=Z,5.1nm,1.1s,baz=297,slow=4.0,SNR=4.0
ILAR LR LR 00 32 40.0
comp=Z,3μm,19.2s,baz=278,slow=40
GLI Glacier Island 29.43 52 *e*P **P 00 19 19.3 +2.7**
comp=Z,37nm,1.2s
PRP Porcupine Dome 29.87 43 *e*P **P 00 19 21.3 +0.8**
comp=Z,28nm,0.9s
DL2 Dalian 29.90 259 P **P 00 19 19.0 -1.9**
DL2 S **S 00 24 13.0 -2.3**
DL2 pmax pmax
comp=Z,140nm,1.0s
DL2 pmax pmax
comp=Z,1μm,9.8s
DL2 LR LR
comp=Z,5μm,14.6s
DL2 LR LR
comp=Z,4μm,17.0s
DL2 LR LR
comp=Z,6μm,21.7s
FYU Fort Yukon 30.00 40 *e*P **P 00 19 21.8 +0.2**
comp=Z,87nm,1.4s
HARP HAARP 30.18 49 *e*P **P 00 19 24.6 +1.3**
comp=Z,60nm,1.2s
HMT Hamilton 30.89 53 *e*P **P 00 19 30.2 +0.7**
comp=Z,56nm,1.2s
BALM Baldy 31.70 51 *e*P **P 00 19 37.7 +1.0**
comp=Z,28nm,1.2s
BALM Baldy 31.70 51 *e*P **P 00 19 37.7 +1.0**
BALM pmax pmax
comp=Z,28nm,1.2s
EGAK Eagle 31.74 44 *e*P **P 00 19 36.6 -0.3**
comp=Z,20nm,0.8s
BJI Beijing 32.53 266 P **P 00 19 42.9 -1.1**
BJI LR LR
comp=Z,6μm,20.1s
BJI LR LR
comp=Z,8μm,16.2s
BJI LR LR
comp=Z,6μm,21.6s
BJT Baijiatuau 32.54 266 *e*P **P 00 19 44.1 -0.1**
comp=Z,80nm,1.6s
BJT Baijiatuau 32.54 266 *e*P **P 00 19 44.1 -0.1**
BJT pmax pmax
comp=Z,80nm,1.6s
H11N2 WAKE ISLAND Hy 32.78 169 T T 00 54 33.3
baz=350
H11N3 WAKE ISLAND Hy 32.79 169 T T 00 54 31.6
baz=350
H11N1 WAKE ISLAND Hy 32.79 169 T T 00 54 31.3
baz=350
PCA Pinnacle 32.90 52 *e*P **P 00 19 48.8 +1.7**
comp=Z,65nm,1.2s
EPYK Eagle Plains 33.42 41 P **P 00 19 52.2 +0.5**
baz=277
IRK Irkutsk 33.70 293 *e*P **P 00 19 52.0 -2.2**
IRK pmax pmax
comp=Z,171nm,2.2s
ULN Ulaanbaatar 33.95 284 *e*P **P 00 19 55.1 -1.4**
comp=Z,69nm,1.1s
ULN Ulaanbaatar 33.95 284 *ce*P **P 00 19 55.0 -1.6**
ULN pmax pmax
comp=Z,108nm,1.7s
ULN Ulaanbaatar 33.95 284 P **P 00 19 55.0 -1.6**
SNR=36
H11S1 WAKE ISLAND Hy 33.96 169 T T 00 57 22.7
baz=352
H11S3 WAKE ISLAND Hy 33.97 169 T T 00 57 16.0
baz=352
H11S2 WAKE ISLAND Hy 33.98 169 T T 00 56 33.7
baz=352
TLY Talaya 34.28 292 *e*P **P 00 19 58.2 -1.0**
comp=Z,136nm,1.1s
TLY Talaya 34.28 292 *i* P **P 00 19 58.2 -1.0**
TLY pmax pmax
comp=Z,359nm,1.1s
TLY Talaya 34.28 292 P **P 00 19 58.2 -1.0**
SNR=34
SONM Songino Array 34.35 285 *e*P **P 00 19 57.5 -2.5**
SONM Songino Array 34.35 285 P **P 00 19 58.0 -2.0**
comp=Z,11nm,0.8s,baz=60,slow=8.3,SNR=72
SONM PcP **PcP 00 22 36.1 +0.9**
comp=Z,8.9nm,0.8s,baz=80,slow=1.7,SNR=5.0
SONM LR LR 00 35 47.2
comp=Z,19μm,18.0s,baz=64,slow=40
TIA Tai'an 34.36 260 P **P 00 19 58.8 -1.3**
TIA pmax pmax
comp=Z,170nm,0.8s
TIA LR LR
comp=Z,4μm,16.1s
TIA LR LR
comp=Z,4μm,16.9s
TIA LR LR
comp=Z,4μm,15.3s
INK Inuvik 34.45 37 *e*P **P 00 20 01.0 +0.6**
comp=Z,56nm,1.3s
INK Inuvik 34.45 37 P **P 00 20 00.4 0.0**
comp=Z,14nm,0.9s,baz=270,slow=7.4,SNR=27
HHC Hu-ho-hao-te 34.88 271 *e*P **P 00 20 02.1 -2.6**
HHC sP pP 00 20 15.8 +0.8
HHC PP **PP 00 21 24.0 -0.1**
HHC S S 00 25 21.9 -11
HHC pmax pmax
comp=Z,120nm,0.8s
HHC pmax pmax
comp=Z,400nm,4.3s
HHC LR LR
comp=Z,2μm,11.5s
HHC LR LR
comp=Z,2μm,10.9s
HHC LR LR
comp=Z,4μm,12.7s
JOW Kunigami 34.99 236 *e*P **P 00 20 06.2 +0.6**
comp=Z,45nm,0.7s
JOW Kunigami 34.99 236 P **P 00 20 06.0 +0.5**
comp=Z,6.7nm,1.0s,baz=107,slow=15,SNR=8.8
ZAK Zakamensk 35.03 290 *e*P **P 00 20 04.0 -1.9**
ZAK pmax pmax
comp=Z,103nm,1.3s
SSE Sheshan 35.55 249 P **P 00 20 06.8 -3.5**
SSE S **S 00 25 38.8 -4.4**
SSE pmax pmax
comp=Z,11nm,0.8s
SSE pmax pmax
comp=Z,350nm,7.3s
SSE LR LR
comp=Z,2μm,17.9s
SSE LR LR
comp=Z,1μm,15.4s
SSE Sheshan 35.55 249 *e*P **P 00 20 10.8 +0.6**
comp=Z,65nm,0.8s
MOY Mondy 35.79 293 *e*P **P 00 20 11.3 -1.1**
MOY pmax pmax
comp=Z,44nm,1.3s
BTO Baotou 35.98 272 *e*P **P 00 20 12.0 -2.1**
BTO S **S 00 25 51.9 +2.0**
NJ2 Nanjing 36.20 253 *e*P **P 00 20 15.5 -0.4**
NJ2 S **S 00 25 53.0 -0.3**
NJ2 pmax pmax
comp=Z,99nm,1.0s
NJ2 pmax pmax
comp=Z,790nm,3.7s
NJ2 LR LR
comp=Z,9μm,16.8s
NJ2 LR LR
comp=Z,6μm,14.6s
NJ2 LR LR
comp=Z,6μm,17.3s
TIY Taiyuan 36.26 266 *e*P **P 00 20 16.3 -0.1**
TIY PP **PP 00 21 40.6 +1.4**
TIY S **S 00 25 56.8 +2.6**
TIY pmax pmax
comp=Z,26nm,0.5s
TIY pmax pmax
comp=Z,640nm,12.0s
TIY LR LR
comp=Z,7μm,13.9s
TIY LR LR
comp=Z,6μm,15.1s
TIY LR LR
comp=Z,7μm,13.9s
JIS Juneau Island 36.31 54 *e*P **P 00 20 18.6 +2.1**
comp=Z,44nm,1.1s
NRIK Noril'sk 36.79 325 P **P 00 20 19.4 -1.2**
comp=Z,78nm,1.1s,baz=89,slow=8.9,SNR=115
NRIK LR LR 00 36 56.2
comp=Z,13μm,18.6s,baz=76,slow=39
DLBC Dease Lake 38.40 52 *e*P **P 00 20 35.7 +1.3**
comp=Z,23nm,0.8s
DLBC Dease Lake 38.40 52 P **P 00 20 35.6 +1.2**
comp=Z,13nm,0.9s,baz=290,slow=10,SNR=22
WHN Wuhan 39.96 256⇑ *i*P **P 00 20 47.9 +0.4**
WHN pmax pmax
comp=Z,230nm,0.9s
WHN pmax pmax
comp=Z,1μm,2.8s
WHN LR LR
comp=Z,11μm,14.9s
NACB Ninganchiao 40.66 242 *e*P **P 00 20 53.4 -0.1**
comp=Z,41nm,1.0s
XAN Xi'an 40.81 264 P **P 00 20 52.6 -2.1**
XAN pP pP 00 21 05.4 +0.6
XAN pmax pmax
comp=Z,18nm,1.4s
XAN LR LR
comp=Z,6μm,16.2s
XAN LR LR
comp=Z,6μm,16.7s
XAN LR LR
comp=Z,8μm,16.2s
QZH Quanzhou 41.71 246⇑ *i*P **P 00 21 02.8 +0.8**
QZH S **S 00 27 23.1 +6.9**
QZH pmax pmax
comp=Z,850nm,6.1s
QZH LR LR
comp=Z,1μm,18.5s
QZH LR LR
comp=Z,2μm,18.0s
QZH LR LR
comp=Z,3μm,19.2s
TPUB Ta-pu 41.89 242 *e*P **P 00 21 03.1 -0.4**
comp=Z,171nm,1.3s
TWG Pinlang 42.04 241 *e*P **P 00 21 03.9 -0.9**
comp=Z,306nm,1.0s
LZH Lanzhou 42.58 271 *e*P **P 00 21 08.8 -0.5**
LZH pP pP 00 21 17.1 -2.6
LZH sP pwP 00 21 20.8 -1.7
LZH PP **PP 00 22 48.8 +0.5**
LZH pmax pmax
comp=Z,91nm,1.0s
LZH LR LR
comp=Z,9μm,16.0s
LZH LR LR
comp=Z,9μm,17.6s
LZH LR LR
comp=Z,9μm,16.8s
GTA Gaotai 42.96 278⇑P **P 00 21 11.1 -1.1**
GTA pP pP 00 21 22.3 -0.4
GTA sP sP 00 21 26.3 -0.5
GTA PcP **PcP 00 23 03.1 +0.9**
GTA pmax pmax
comp=Z,38nm,1.1s
GTA pmax pmax
comp=Z,660nm,5.7s
GTA LR LR
comp=Z,11μm,15.2s
GTA LR LR
comp=Z,7μm,14.9s
GTA LR LR
comp=Z,12μm,16.5s
ZALV Zalesovo Beam 43.48 304 *e*P **P 00 21 12.8 -3.3**
ZALV Zalesovo Beam 43.48 304 *e*P **P 00 21 12.8 -3.3**
ZALV Zalesovo Beam 43.48 304 P **P 00 21 13.4 -2.6**
comp=Z,28nm,0.8s,baz=59,slow=6.7,SNR=99
ZALV PcP **PcP 00 23 03.2 -0.3**
comp=Z,7.9nm,0.9s,baz=35,slow=5.3,SNR=4.3
ZALV LR LR 00 40 49.8
comp=Z,6μm,18.5s,baz=62,slow=38
YKA Yellowknife Ar 43.67 42 *e*P **P 00 21 17.2 -0.3**
YKA Yellowknife Ar 43.67 42 *e*P **P 00 21 17.2 -0.3**
YKA Yellowknife Ar 43.67 42 P **P 00 21 17.9 +0.4**
comp=Z,5.8nm,0.9s,baz=298,slow=8.1,SNR=56
NVS Novosibirsk 43.83 305⇓ *i*P **P 00 21 17.5 -1.4**
NVS *i* 00 23 00.0
NVS *e* 00 23 34.2
NVS *i* S S 00 27 36.8 -10
NVS pmax pmax
comp=N,65nm,1.1s
NVS pmax pmax
comp=E,208nm,1.1s
NVS pmax pmax
comp=Z,359nm,1.1s
NVS pmax pmax
comp=N,35nm,1.3s
NVS pmax pmax
comp=Z,64nm,1.3s
NVS pmax pmax
comp=E,53nm,1.4s
NVS smax smax
comp=N,58nm,1.8s
NVS smax smax
comp=E,43nm,1.5s
RES Resolute Bay 44.08 22 *e*P **P 00 21 21.5 +0.9**
comp=E,35nm,1.0s
RES Resolute Bay 44.08 22 *e*P **P 00 21 21.5 +0.9**
RES pmax pmax
comp=Z,35nm,1.0s
RES Resolute Bay 44.08 22 P **P 00 21 20.9 +0.2**
comp=Z,26nm,1.0s,baz=298,slow=7.7,SNR=66
RES PcP **PcP 00 23 06.5 +1.3**
comp=Z,18nm,0.8s,baz=291,slow=5.6,SNR=5.9
RES LR LR 00 41 34.5
comp=Z,1μm,20.5s,baz=315,slow=39
DGZ Jazzator, Alta 44.29 297 *c i*P **P 00 21 21.9 -1.0**
DGZ pmax pmax
comp=Z,85nm,0.9s
CD2 Chengdu 46.13 265⇑ *i*P **P 00 21 36.5 -1.0**
CD2 sP sP 00 21 52.3 +0.2
CD2 S **S 00 28 18.6 -2.0**
CD2 sS sS 00 28 32.3 -3.5
CD2 pmax pmax
comp=Z,90nm,1.3s
CD2 LR LR
comp=Z,10μm,21.2s
CD2 LR LR
comp=Z,11μm,20.2s
CD2 LR LR
comp=Z,8μm,16.3s
HKPS Hong Kong Po S 46.32 248 *e*P **P 00 21 39.1 +0.1**
comp=Z,96nm,1.0s

A04D	Lummi Island	46.88	62	P	P	00 21 43.5	+0.4
	baz=305						
ZSN	Zaisan	46.96	296	eLR	LR	00 42 11.1	
	comp=Z,2μm,16.8s						
MWH	Moku'aweowe	47.18	117	eP	P	00 21 47.4	+1.0
	comp=Z,261nm,1.5s						
D03D	Eldon	47.35	64	P	P	00 21 47.2	+0.4
	baz=306						
B05A	Bryant	47.48	62	P	P	00 21 48.2	+0.5
	baz=306						
WMQ	Urumqi	47.50	290	P	P	00 21 48.3	+0.1
WMQ				pP	pP	00 21 58.0	-0.8
WMQ				sP	pwP	00 22 01.3	0.0
WMQ	Urumqi	47.50	290	eP	P	00 21 47.5	-0.7
	comp=Z,176nm,1.0s						
WMQ	Urumqi	47.50	290	eP	P	00 21 47.5	-0.7
WMQ				pmax	pmax		
	comp=Z,176nm,1.0s						
GYA	Guiyang	47.55	259⇑	iP	P	00 21 48.4	-0.3
GYA				PP	PP	00 23 38.8	-1.5
GYA				S	S	00 28 36.3	-4.8
GYA				sS	sS	00 28 56.6	0.0
GYA				SS	SS	00 31 56.0	-13
GYA				pmax	pmax		
	comp=Z,40nm,1.3s						
GYA				pmax	pmax		
	comp=Z,190nm,5.0s						
GYA				LR	LR		
	comp=Z,5μm,19.3s						
GYA				LR	LR		
	comp=Z,2μm,17.1s						
GYA				LR	LR		
	comp=Z,1μm,18.3s						
D04E	Lakebay	47.74	64	P	P	00 21 50.8	+1.0
	baz=306						
KBS	Kingsbay	47.81	352	eP	P	00 21 51.3	+1.4
	comp=Z,249nm,1.1s						
KBS	Kingsbay	47.81	352	ceP	P	00 21 50.7	+0.7
KBS				pmax	pmax		
	comp=Z,1μm,1.3s						
SPA0	Spitsbergen Ar	48.07	351	eP	P	00 21 52.5	+0.4
SPITS	Spitsbergen Ar	48.07	351	P	P	00 21 52.2	+0.2
	comp=Z,226nm,0.9s,baz=55,slow=9.3,SNR=130						
E04D	Cinebar	48.22	64	P	P	00 21 53.7	+0.2
	baz=307						
F04D	Rainier, OR	48.25	65	P	P	00 21 53.7	-0.1
	baz=307						
KURK	Kurchatov	48.42	303	eP	P	00 21 53.1	-1.9
	comp=Z,254nm,1.0s						
KURK	Kurchatov	48.42	303	ceP	P	00 21 53.0	-1.9
KURK				pmax	pmax		
	comp=Z,376nm,1.3s						
KURK	Kurchatov	48.42	303	P	P	00 21 53.1	-1.9
	SNR=159						
KURK				P	P	00 21 53.1	-1.9
	SNR=159						
LON	Longmire	48.52	64	eP	P	00 21 57.8	+1.8
	comp=Z,21nm,1.3s						
KURBB	Kurchatov Arra	48.52	303	P	P	00 21 53.8	-2.0
	comp=Z,118nm,0.9s,baz=60,slow=7.7,SNR=324						
KURBB				PcP	PcP	00 23 21.1	-0.1
	comp=Z,20nm,0.9s,baz=60,slow=4.1,SNR=5.3						
G03D	McMinnville, O	48.63	66	P	P	00 21 56.6	-0.2
	baz=307						
MKAR	Makanchi Array	48.77	297	eP	P	00 21 55.1	-2.8
MKAR	Makanchi Array	48.77	297	P	P	00 21 55.8	-2.0
	comp=Z,26nm,0.6s,baz=55,slow=7.1,SNR=257						
MKAR				LR	LR	00 43 50.4	
	comp=Z,4μm,20.2s,baz=50,slow=38						
MAKZ	Makanchi	48.94	297	eP	P	00 21 56.9	-2.2
	comp=Z,72nm,0.9s						
MAKZ	Makanchi	48.94	297	eP	P	00 21 56.9	-2.2
MAKZ				pmax	pmax		
	comp=Z,72nm,0.9s						
HSPB	Hornsund (broa	49.20	350	eP	P	00 22 01.0	+0.4
F05D	White Salmon	49.24	64	P	P	00 22 01.1	-0.3
	baz=308						
H04D	Lebanon	49.35	67	P	P	00 22 02.6	+0.4
	baz=308						
TGY	Tagaytay City	49.35	235	P	P	00 22 00.8	-1.9
	comp=Z,136nm,0.3s,baz=8.0,slow=5.4,SNR=5.2						
J01E	Myrtle Point	49.51	69	P	P	00 22 03.0	-0.4
	baz=309						
I03D	Drain, OR	49.51	68	P	P	00 22 03.2	-0.2
	baz=308						
H04A	Detroit Lake	49.56	66	eP	P	00 22 05.4	+1.5
	comp=Z,43nm,1.4s						
G05D	Wamic, OR	49.71	65	P	P	00 22 06.0	+1.0
	baz=308						
E07A	Sunnyside	49.71	63	eP	P	00 22 07.0	+2.0
	comp=Z,25nm,1.0s						
K02D	Willamette Mer	49.95	69	P	P	00 22 07.1	+0.1
	baz=309						
I04A	Tendick Farm,	49.99	67	P	P	00 22 08.4	+1.2
	baz=309,SNR=5.2						
HAWA	Hanford	49.99	63	eP	P	00 22 08.7	+1.6
	comp=Z,78nm,1.9s						
F07A	Phinny Hill Vi	50.08	64	eP	P	00 22 09.8	+2.0
	comp=Z,24nm,0.9s						
G06A	Carlson Farm,	50.09	65	eP	P	00 22 09.2	+1.2
	comp=Z,73nm,1.9s						
NEW	Newport	50.15	60	P	P	00 22 09.1	+0.7
	baz=308						
E08A	Dider Farm, El	50.19	62	eP	P	00 22 10.9	+2.3
	comp=Z,86nm,1.9s						
I05D	Terrebonne, OR	50.25	66	P	P	00 22 10.1	+0.9
	baz=309						
L02E	Cave Junction	50.33	70	P	P	00 22 10.2	+0.4
	baz=309						
J04D	Umpqua Nationa	50.50	68	P	P	00 22 11.2	-0.1
	baz=309						
KMI	Kunming	50.91	261	P	P	00 22 14.5	-0.1
KMI				pP	pP	00 22 24.5	-0.5
KMI				sP	sP	00 22 30.1	+0.8
KMI				S	S	00 29 25.8	-2.7
KMI				sS	sS	00 29 43.6	-0.8
KMI				pmax	pmax		
	comp=Z,54nm,1.3s						
KMI				pmax	pmax		
	comp=Z,650nm,4.4s						
KMI				LR	LR		
	comp=Z,7μm,18.2s						
KMI				LR	LR		
	comp=Z,5μm,18.2s						
KMI				LR	LR		
	comp=Z,4μm,14.6s						
BJO	Bjornoya	50.96	348	eP	P	00 22 14.7	+0.7
J05D	Fort Rock, OR	50.97	67	P	P	00 22 15.8	+1.1
	baz=309,SNR=7.3						
G08A	Pilot Rock	50.99	64	eP	P	00 22 16.4	+1.6
	comp=Z,21nm,1.5s						
KULLO	Kullorsuaq	51.03	12⇑	iP	P	00 22 15.1	+0.6
KULLO				pmax	pmax		
	comp=Z,100nm,1.0s						
KULLO	Kullorsuaq	51.03	12⇑	iP	P	00 22 15.1	+0.6
	comp=Z,100nm,1.0s						
L04D	Klamath Falls	51.04	69	P	P	00 22 15.6	+0.4
	baz=310						
K04D	Chiloquin, OR	51.09	68	P	P	00 22 16.0	+0.4
	baz=310						
YBH	Yreka Blue Hor	51.11	69	eP	P	00 22 16.6	+0.9
	comp=Z,55nm,1.4s						
YBH	Yreka Blue Hor	51.11	69	eP	P	00 22 16.6	+0.9
YBH				pmax	pmax		
	comp=Z,55nm,1.4s						
BRVK	Borovoye	51.17	309	eP	P	00 22 14.2	-1.7
	comp=Z,166nm,0.9s						
BRVK	Borovoye	51.17	309	c iP	P	00 22 13.8	-2.1
BRVK				pmax	pmax		
	comp=Z,185nm,0.9s						
BRVK	Borovoye	51.17	309	P	P	00 22 14.1	-1.9
	SNR=79						
BRVK				P	P	00 22 14.1	-1.9
	SNR=79						
M02C	Callahan	51.25	70	P	P	00 22 17.1	+0.4
	baz=310						
DAG	Danmarks Havn	51.31	360⇑	iP	P	00 22 16.8	+0.2
DAG				pmax	pmax		
	comp=Z,130nm,1.1s						
DAG	Danmarks Havn	51.31	360⇑	iP	P	00 22 16.8	+0.2
	comp=Z,102nm,1.1s						
QIZ	Qiongzhong	51.34	250	P	P	00 22 19.6	+2.0
QIZ				sP	pwP	00 22 31.5	-0.1
QIZ				S	S	00 29 33.1	-0.9
QIZ				sS	sS	00 29 47.5	-2.2
QIZ				pmax	pmax		
	comp=Z,100nm,1.1s						
QIZ				LR	LR		
	comp=Z,2μm,16.7s						
QIZ				LR	LR		
	comp=Z,3μm,16.7s						
QIZ				LR	LR		
	comp=Z,3μm,18.6s						
QIZ	Qiongzhong	51.34	250	eP	P	00 22 18.7	+1.2
	comp=Z,129nm,1.0s						
M04C	Macdoel	51.58	69	P	P	00 22 19.3	0.0
	baz=310						
N02D	Trinity Center	51.60	70	P	P	00 22 19.2	-0.2
	baz=310						
BRZS	Berezniki	51.90	305	c iP	P	00 22 19.0	-2.4
BRZS				pmax	pmax		
	comp=Z,180nm,1.4s						
BRZS				MLR	MLR		
	comp=Z,3μm,15.0s						
BRZS	Berezniki	51.90	305⇑	iP	P	00 22 19.0	-2.4
	comp=Z,180nm,1.4s						
BRZS				eLR	LR	00 45 35.8	
	comp=Z,3μm,14.8s						
TDK	Taldyqorghan	52.01	297	i P	P	00 22 20.9	-1.4
TDK				pmax	pmax		
	comp=Z,189nm,1.1s						
TDK				MLR	MLR		
	comp=Z,7μm,16.0s						
TDK	Taldyqorghan	52.01	297	i P	P	00 22 21.0	-1.4
	comp=Z,189nm,1.1s						
TDK				eLR	LR	00 45 17.8	
	comp=Z,7μm,16.1s						
O02D	Mt. Diablo Mer	52.07	71	P	P	00 22 22.3	-0.6
	baz=311						
PDGK	Podgornoye	52.48	295	P	P	00 22 23.9	-2.1
PDGK				pmax	pmax		
	comp=Z,106nm,1.1s						
J08A	Circle Bar Ran	52.48	65	eP	P	00 22 26.9	+1.0
	comp=Z,19nm,1.3s						
O03E	Paynes Creek	52.56	70	P	P	00 22 27.3	+0.7
	baz=311,SNR=6.7						
SHLS	Shalkode	52.60	295	c iP	P	00 22 23.2	-3.7
SHLS				pmax	pmax		
	comp=Z,91nm,1.9s						
SHLS				MLR	MLR		
	comp=Z,815nm,16.0s						
SHLS	Shalkode	52.60	295⇑	iP	P	00 22 23.2	-3.7
	comp=Z,91nm,1.9s						
SHLS				eLR	LR	00 45 34.8	
	comp=Z,815nm,15.7s						
MSO	Missoula	52.73	59	P	P	00 22 28.4	+0.6
	baz=310,SNR=7.5						
KPKS	Kokpek	52.84	295	c iP	P	00 22 27.0	-1.6
KPKS				pmax	pmax		
	comp=Z,71nm,1.5s						
KPKS				MLR	MLR		
	comp=Z,3μm,16.0s						
KPKS	Kokpek	52.84	295⇑	iP	P	00 22 27.0	-1.6
	comp=Z,71nm,1.6s						
KPKS				eLR	LR	00 45 52.4	
	comp=Z,3μm,15.7s						
WVOR	Wild Horse Val	52.98	66	eP	P	00 22 31.9	+2.2
	comp=Z,34nm,1.3s						
WVOR	Wild Horse Val	52.98	66	eP	P	00 22 31.9	+2.2
WVOR				pmax	pmax		
	comp=Z,34nm,1.3s						
SVE	Sverdlovsk	53.11	317	deP	P	00 22 29.3	-0.9
SVE				eS	S	00 29 56.5	-0.9
SVE				pmax	pmax		
	comp=Z,80nm,1.3s						
SVE				MLR	MLR		
	comp=Z,7μm,16.0s						
OTUK	Ortayu	53.17	303	P	P	00 22 28.7	-2.2
OTUK				pmax	pmax		
	comp=Z,143nm,1.0s						
ORV	Oroville	53.22	71	eP	P	00 22 33.5	+2.1
	comp=Z,16nm,0.9s						
SATY	Saty	53.26	295	c iP	P	00 22 30.3	-1.4
SATY				pmax	pmax		
	comp=Z,58nm,1.0s						
SATY				MLR	MLR		
	comp=Z,2μm,17.0s						
SATY	Saty	53.26	295⇑	iP	P	00 22 30.4	-1.4
	comp=Z,58nm,1.0s						
SATY				eLR	LR	00 46 01.3	
	comp=Z,2μm,16.8s						
FFC	Flin Flon	53.48	46	eP	P	00 22 33.5	+0.5
	comp=Z,20nm,1.1s						
FFC	Flin Flon	53.48	46	eP	P	00 22 33.5	+0.5
FFC				pmax	pmax		
	comp=Z,20nm,1.1s						
HAMF	Hammerfest	53.61	344	eP	P	00 22 32.9	-0.8
LVZ	Lovozero	53.63	338	eP	P	00 22 33.0	-1.0
	comp=Z,240nm,1.0s						
LVZ	Lovozero	53.63	338	ceP	P	00 22 33.2	-0.8
LVZ				pmax	pmax		
	comp=Z,286nm,1.3s						
KEV	Kevo	53.75	342	eP	P	00 22 34.6	-0.1
	comp=Z,67nm,1.0s						
KUU	Kurty	53.86	297⇑	iP	P	00 22 33.6	-2.3
	comp=Z,44nm,0.7s						
KUU				eLR	LR	00 46 30.2	
	comp=Z,5μm,15.4s						
MDOK	Medeo	53.94	296	eP	P	00 22 33.1	-3.6
MDOK				pmax	pmax		
	comp=Z,326nm,1.1s						
MDOK				MLR	MLR		
	comp=Z,5μm,17.0s						
MDOK	Medeo	53.94	296	eP	P	00 22 33.2	-3.6
	comp=Z,326nm,1.1s						
MDOK				eLR	LR	00 46 02.6	
	comp=Z,5μm,17.0s						
AAA	Alma-Ata	53.99	296	eLR	LR	00 46 11.5	
	comp=Z,5μm,17.8s						
EGMT	Eagleton	54.14	56	P	P	00 22 38.6	+0.5
	baz=311,SNR=6.7						
LRM	Limekiln Ridge	54.17	59	eP	P	00 22 38.5	0.0
ARCES	ARCESS Array B	54.23	342	P	P	00 22 37.9	-0.4
	comp=Z,105nm,0.9s,baz=29,slow=5.5,SNR=110						
ARCES				LR	LR	00 53 22.0	
	comp=Z,1μm,18.2s,baz=26,slow=44						
ARE0	ARCESS Array S	54.23	342	eP	P	00 22 38.1	-0.1
ARU	Arti	54.23	318	eP	P	00 22 37.0	-1.5
	comp=Z,161nm,1.2s						
ARU	Arti	54.23	318	c iP	P	00 22 36.8	-1.6
ARU				*PP	pP	00 22 48.3	-0.9
ARU						00 24 36.3	
ARU				PPP	PPP	00 25 48.0	
ARU				S	S	00 30 11.4	-1.2
ARU				pmax	pmax		
	comp=Z,80nm,0.7s						
ARU				MLR	MLR		
	comp=Z,5μm,17.0s						
VCNR	Virginia City	54.47	70	eP	P	00 22 42.5	+1.8
	comp=Z,40nm,1.1s						
HLID	Hailey	54.59	63	P	P	00 22 42.7	+1.2
	baz=312,SNR=8.7						
BOZ	Bozeman (W)	54.75	59	P	P	00 22 43.4	+0.8
	baz=311,SNR=19						
SUMG	Summit	54.83	7	eP	P	00 22 43.8	+0.8
	comp=Z,168nm,1.0s						
SUMG	Summit	54.83	7⇑	iP	P	00 22 43.9	+0.8
SUMG				pmax	pmax		
	comp=Z,500nm,1.1s						
SUMG	Summit	54.83	7⇑	iP	P	00 22 43.9	+0.8
	comp=Z,502nm,1.1s						
KTK1	Kautokeino	55.10	343	eP	P	00 22 44.6	+0.1
TRO	Tromso	55.30	345	eP	P	00 22 46.1	+0.2
PRGR	Permogore	55.34	328⇑	iP	P	00 22 46.1	-0.2
PRGR				e*PP	pP	00 22 57.2	+0.2
PRGR				pmax	pmax		
	comp=Z,182nm,0.9s						
TMCR	Tamitsa	55.70	333	eP	P	00 22 46.8	-2.1
TMCR				pmax	pmax		
	comp=Z,563nm,1.1s						
AAK	Ala-Archa	55.70	297	eP	P	00 22 48.5	-1.0
	comp=Z,92nm,1.1s						
AAK	Ala-Archa	55.70	297	i P	P	00 22 48.4	-1.1
	SNR=14						
AAK	Ala-Archa	55.70	297	ceP	P	00 22 48.3	-1.1
AAK				pmax	pmax		
	comp=Z,89nm,1.0s						
AAK	Ala-Archa	55.70	297	P	P	00 22 48.4	-1.1
	SNR=52						
AAK				P	P	00 22 48.4	-1.1
	SNR=52						
AAK	Ala-Archa	55.70	297	P	P	00 22 48.5	-1.0
	comp=Z,72nm,1.0s,baz=89,slow=4.3,SNR=91						
NVAR	Mina Array Bea	55.83	70	P	P	00 22 52.2	+1.7
	comp=Z,4.5nm,0.7s,baz=295,slow=7.6,SNR=14						
NVAR				LR	LR	00 45 59.2	
	comp=Z,555nm,19.7s,baz=294,slow=35						
YNR	Norris Junctio	55.84	59	eP	P	00 22 52.4	+1.9
	comp=Z,73nm,1.7s						
PANO	Nakornpanom	55.87	253	P	P	00 22 52.4	+1.7
	comp=Z,7.8nm,1.2s,comp=Z,82nm						
MDPB	Devils Postpil	55.92	71	eP	P	00 22 52.6	+1.4
	comp=Z,60nm,1.6s						
YFT	Old Faithful	55.93	60	eP	P	00 22 53.8	+2.5
	comp=Z,30nm,1.0s						
MLAC	Mammoth, Mammo	56.06	71	P	P	00 22 51.9	-0.4
	baz=313						
LKWY	Lake	56.09	59	eP	P	00 22 54.8	+2.4
	comp=Z,25nm,0.9s						
LKWY	Lake	56.09	59	eP	P	00 22 54.8	+2.4
LKWY				pmax	pmax		
	comp=Z,25nm,0.9s						
H17A	Grant Village	56.11	60	eP	P	00 22 54.7	+2.2
	comp=Z,47nm,1.3s						
H17A	Grant Village	56.11	60	P	P	00 22 53.2	+0.7
	baz=312						
RLMT	Red Lodge	56.31	58	eP	P	00 22 56.0	+2.1
	comp=Z,38nm,1.3s						
RLMT	Red Lodge	56.31	58	P	P	00 22 55.2	+1.3
	baz=313,SNR=5.8						
SKNT	Sakolnakorn	56.37	253	P	P	00 22 55.5	+1.1
	comp=Z,313nm,1.3s,comp=Z,5μm						
DGMT	Dagmar	56.62	53	P	P	00 22 56.2	+0.5
	baz=313						
VOG	Valley Oaks Go	56.64	72	P	P	00 22 57.6	+1.6
	baz=314						
SNOW	Snow King Moun	56.64	61	eP	P	00 22 57.7	+1.4
ILULI	Ilulissat	56.71	13	i P	P	00 22 55.9	-0.1
ILULI				pmax	pmax		
	comp=Z,59nm,0.9s						
ILULI	Ilulissat	56.71	13	i P	P	00 22 55.9	-0.1
	comp=Z,59nm,0.9s						
LAO	LASA Array	56.82	55	P	P	00 22 58.0	+0.7
	baz=313						
KSH	Kashi	56.98	293	P	P	00 23 01.3	+2.7
KSH				pP	pwP	00 23 12.5	+0.5
KSH				PP	PP	00 25 10.5	+5.4
KSH				S	S	00 30 50.4	+0.4
KSH				SS	SS	00 34 39.4	+1.1
KSH				pmax	pmax		
	comp=Z,44nm,1.1s						
KSH				pmax	pmax		
	comp=Z,870nm,3.2s						
KSH				LR	LR		
	comp=Z,3μm,11.4s						
KSH				LR	LR		
	comp=Z,2μm,11.1s						
KSH				LR	LR		
	comp=Z,3μm,11.6s						
PAYA	Payao	56.99	259	P	P	00 23 00.0	+1.3
	comp=Z,320μm,0.9s						
SHL	Shillong	57.24	270	eP	P	00 22 60.0	-0.7
SHL				i x	x	00 30 45.0	
CWC	Cottonwood Cre	57.32	71	P	P	00 23 01.7	+0.6
	baz=314						
GRAC	Grapevine Rang	57.35	70	P	P	00 23 02.4	+1.2
	baz=314						
STEI	Steigen	57.42	345	eP	P	00 23 01.2	+0.1
PHRA	Phrae	57.43	258	P	P	00 23 03.1	+1.3
	comp=Z,42nm,1.4s,comp=Z,509nm						
R11A	Troy Canyon, C	57.44	68	P	P	00 23 03.5	+1.5
	baz=314,SNR=11						
LOF	Lofoten	57.50	346	eP	P	00 23 01.7	+0.1
KK31	Karatay Array	57.54	300	i P	P	00 23 00.7	-1.7
KK31				pmax	pmax		
	comp=Z,50nm,1.1s						
KKAR	Karatay Array	57.54	300	eP	P	00 22 60.0	-2.4
KHON	Khomkaen	57.56	254	P	P	00 23 04.3	+1.6
	comp=Z,308μm,1.0s						
ISA	Isabella, Lake	57.62	72	eP	P	00 23 04.4	+1.3
	comp=Z,22nm,1.3s						
ISA	Isabella, Lake	57.62	72	eP	P	00 23 04.4	+1.3
ISA				pmax	pmax		
	comp=Z,22nm,1.3s						
ISA	Isabella, Lake	57.62	72	P	P	00 23 02.9	-0.2
	baz=314						
SCO	Scoresbysund	57.63	1	i P	P	00 23 02.8	+0.3
SCO				pmax	pmax		
	comp=Z,20nm,1.0s						
SCO	Scoresbysund	57.63	1	i P	P	00 23 02.8	+0.3
	comp=Z,20nm,1.0s						
DAC	Darwin (Calif)	57.71	71	eP	P	00 23 06.7	+2.8
	comp=Z,50nm,1.7s						
SBC	Santa Barbara	57.74	74	P	P	00 23 04.6	+0.8
	baz=314						
DUG	Dugway, Tooele	57.74	65	P	P	00 23 05.2	+1.2
	baz=314,SNR=8.5						
BW06	Boulder Array	57.76	61	P	P	00 23 05.2	+1.1
	baz=314,SNR=11						
PDAR	Pinedale Array	57.76	61	eP	P	00 23 04.6	+0.5
PDAR	Pinedale Array	57.76	61	P	P	00 23 05.3	+1.2
	comp=Z,10nm,0.9s,baz=313,slow=3.0,SNR=66						
PDAR				LR	LR	00 45 15.8	
	comp=Z,563nm,22.0s,baz=338,slow=33						
PDAR				PKPPKP		00 52 52.4	
	comp=Z,1.0nm,0.9s,baz=113,slow=3.4,SNR=8.0						
LAMP	Lampang	57.77	258	P	P	00 23 05.6	+1.4
	comp=Z,301μm,1.0s						
ARVC	Arvin	57.78	73	P	P	00 23 05.1	+0.9
	baz=314						
UTTA	Uttaradit	57.82	257	P	P	00 23 05.7	+1.2
	comp=Z,283μm,0.9s						
KLMR	Klimovskoe	57.86	330⇑	iP	P	00 23 04.3	0.0
KLMR				pmax	pmax		
	comp=Z,221nm,1.0s						
MPMC	Manual Prospec	57.92	71	P	P	00 23 06.6	+1.2
	baz=314,SNR=7.1						
CMMT	Chiang Mai	57.96	259	P	P	00 23 06.2	+0.6
	comp=Z,130nm,1.1s,comp=Z,1μm						
CHTO	Chiang Mai	57.96	259	eP	P	00 23 06.5	+0.9
	comp=Z,218nm,1.0s						
CHTO	Chiang Mai	57.96	259	eP	P	00 23 06.5	+0.9
CHTO				pmax	pmax		
	comp=Z,217nm,1.0s						
CHTO	Chiang Mai	57.96	259	P	P	00 23 06.7	+1.1
	SNR=52						
CHTO				P	P	00 23 06.7	+1.1
	SNR=52						
FURC	Furnace Creek,	58.01	71	P	P	00 23 07.0	+1.3
	baz=314,SNR=13						
TPNV	Topopah Spring	58.03	70	P	P	00 23 07.2	+1.2
	baz=314,SNR=18						
SCZ2	Santa Cruz Isl	58.10	74	P	P	00 23 08.3	+1.9
	baz=315						
OSI	Osito Audit: C	58.20	73	P	P	00 23 08.1	+0.9
	baz=315						
LRMC	Laurel Mtn Rad	58.21	72	P	P	00 23 07.9	+0.6
	baz=314						
JLU	Jordanelle	58.22	64	eP	P	00 23 08.6	+1.2
	comp=Z,52nm,1.6s						
CM31	Chiang Mai Arr	58.24	259	P	P	00 23 08.8	+1.3
	SNR=34						
CMAR	Chiang Mai Arr	58.24	259	eP	P	00 23 07.9	+0.4
CMAR	Chiang Mai Arr	58.24	259	eP	P	00 23 07.9	+0.4
CMAR	Chiang Mai Arr	58.24	259	P	P	00 23 08.8	+1.2
	comp=Z,87nm,0.9s,baz=24,slow=7.1,SNR=235						
NLU	North Lily Min	58.32	64	eP	P	00 23 10.0	+1.9
	comp=Z,36nm,1.2s						
BLG	Laguna Peak, P	58.36	74	P	P	00 23 09.3	+1.1
	baz=315						
CHAI	Chaiyaphum	58.39	254	P	P	00 23 09.6	+1.0
	comp=Z,186μm,1.0s						
EDW2	Edwards Air Fo	58.45	73	P	P	00 23 10.0	+1.1
	baz=315						
IUG	Iuzhnay	58.45	299	c iP	P	00 23 07.6	-1.3
IUG				pmax	pmax		
	comp=Z,56nm,0.9s						
IUG				MLR	MLR		
	comp=Z,1μm,15.0s						
IUG	Iuzhnay	58.45	299⇑	iP	P	00 23 07.6	-1.3
	comp=Z,56nm,0.9s						
IUG				eLR	LR	00 49 20.6	
	comp=Z,1μm,15.0s						
PBKT	Sadao Pong	58.48	256	P	P	00 23 10.3	+1.1
	comp=Z,49nm,1.2s,comp=Z,936nm						
MPU	Maple Canyon	58.52	64	eP	P	00 23 09.6	+0.1
	comp=Z,79nm,1.8s						
AKTO	Aktyubinsk	58.62	313	P	P	00 23 08.1	-1.7
AKTO				pmax	pmax		
	comp=Z,66nm,1.6s						
DECC	Green Verdugo	58.69	73	P	P	00 23 11.7	+1.1

baz=315
PASC Pasadena Art C 58.83 73 *e*P P 00 23 12.9 +1.4
comp=Z,48nm,1.4s
SFJD Kangerlussuaq 58.84 14 *e*P P 00 23 11.5 +0.5
comp=Z,54nm,1.1s
SFJD Kangerlussuaq 58.84 14 *e*P P 00 23 11.5 +0.5
SFJD pmax pmax
comp=Z,54nm,1.1s
SFJD Kangerlussuaq 58.84 14⇑ *i*P P 00 23 11.0 0.0
comp=Z,36nm,1.1s
GSC Goldstone, Bar 58.85 71 *e*P P 00 23 12.5 +0.8
comp=Z,20nm,1.1s
GSC Goldstone, Bar 58.85 71 *e*P P 00 23 12.5 +0.8
GSC pmax pmax
comp=Z,20nm,1.1s
GSC Goldstone, Bar 58.85 71 P P 00 23 12.9 +1.2
baz=315,SNR=6.7
TCRU Three Creeks R 59.04 66 *e*P P 00 23 14.9 +1.7
comp=Z,54nm,1.6s
ODAN Odare 59.07 275 *e*P P 00 23 13.0 -0.5
comp=Z,77nm,0.7s
KONS Konsvik 59.07 345 *e*P P 00 23 12.4 -0.3
BFSC Mount Baldy Ra 59.09 73 P P 00 23 14.7 +1.2
baz=315
JIRN Jiri 59.23 276 *e*P P 00 23 14.2 -0.5
comp=Z,160nm,0.7s
CIS Catalina Islan 59.24 74 P P 00 23 15.2 +0.8
baz=315
MDND Maddock 59.26 51 *e*P P 00 23 16.6 +2.2
comp=Z,249nm,1.4s
ULM Lac du Bonnet 59.27 47 P P 00 23 14.9 +0.6
comp=Z,13nm,1.0s,baz=306,slow=7.7,SNR=11
TUQ Turquoise Moun 59.27 71 P P 00 23 15.5 +0.8
baz=315
K22A Casper 59.45 59 P P 00 23 16.8 +1.0
baz=315
HEC Hector,Ludlow 59.46 72 P P 00 23 17.5 +1.6
baz=315
RAMN Ramite 59.49 275 *e*P P 00 23 15.9 -0.5
comp=Z,289nm,0.7s
KNTN Kanton 59.59 147 *e*P P 00 23 19.6 +2.8
comp=Z,107nm,1.1s
KKN Kakani 59.69 277 *e*P P 00 23 17.2 -0.6
comp=Z,233nm,0.7s
LCMT Little Creek M 59.71 68 *e*P P 00 23 19.2 +1.5
comp=Z,49nm,1.2s
RSSD Black Hills 59.71 56 *e*P P 00 23 18.8 +1.1
comp=Z,91nm,1.3s
RSSD Black Hills 59.71 56 *e*P P 00 23 18.8 +1.1
RSSD pmax pmax
comp=Z,91nm,1.3s
RSSD Black Hills 59.71 56 P P 00 23 18.3 +0.6
baz=315
RWWY Rawlins 59.76 60 *e*P P 00 23 18.0 -0.1
comp=Z,73nm,1.6s
PKI Pulchoki 59.77 277 *e*P P 00 23 17.8 -0.6
comp=Z,132nm,0.7s
PKIN Phulchoki 59.77 277 *e*P P 00 23 17.8 -0.6
comp=Z,97nm,0.7s
MURC Murrieta 59.82 73 P P 00 23 19.2 +0.9
baz=315
FAKI Fak Fak 59.88 213 *e*P P 00 23 18.6 -0.2
comp=Z,27nm,0.9s
GMRC Granite Mounta 59.88 71 P P 00 23 19.9 +1.0
baz=315,SNR=9.5
DMN Daman 59.92 277 *e*P P 00 23 19.2 -0.2
comp=Z,249nm,0.8s
GKN Gorkha 59.93 278 *e*P P 00 23 18.8 -0.5
comp=Z,172nm,0.7s
PKCU Pink Cliffs 59.93 67 *e*P P 00 23 21.2 +1.8
comp=Z,49nm,1.3s
UMPA Umpang Tak 60.02 257 P P 00 23 22.8 +2.9
comp=Z,381μm,1.0s
DANN Dangsing 60.21 279 *e*P P 00 23 21.0 -0.4
comp=Z,254nm,0.7s
BELC Belle Mtn. Jos 60.24 72 P P 00 23 22.1 +0.7
baz=316
PFO Pinyon Flats O 60.24 73 *e*P P 00 23 22.6 +1.2
comp=Z,75nm,1.8s
PFO Pinyon Flats O 60.24 73 *e*P P 00 23 22.6 +1.2
PFO pmax pmax
comp=Z,75nm,1.8s
PFO Pinyon Flats O 60.24 73 P P 00 23 21.9 +0.5
baz=316
O20A White River Ci 60.30 62 P P 00 23 22.7 +0.9
baz=315,SNR=6.6
109C Camp Elliot, M 60.37 74 P P 00 23 22.2 +0.1
baz=316
NEE2 Needles Airpor 60.50 70 P P 00 23 23.6 +0.6
baz=316
IRM Iron Mountain 60.62 71 P P 00 23 25.0 +1.2
baz=316,SNR=7.3
AGMN Agassiz Nation 60.69 48 P P 00 23 23.7 -0.3
baz=317
KOLN Koldanda 60.73 278 *e*P P 00 23 24.3 -0.6
comp=Z,148nm,0.7s
MONP2 Monument Peak 60.77 73 P P 00 23 26.2 +1.0
baz=316
BC3 Big Chuckawall 60.80 72 P P 00 23 25.1 0.0
baz=316
PYUN Piuthan 60.86 279 *e*P P 00 23 25.1 -0.7
comp=Z,142nm,0.7s
PHWY Pilot Hill 60.97 59 *e*P P 00 23 27.9 +1.4
comp=Z,34nm,0.6s
N23A Red Feather La 61.00 60 P P 00 23 27.7 +1.1
baz=316,SNR=7.2
FINES FINESS Array B 61.05 337 *e*P P 00 23 25.7 -0.5
FINES FINESS Array B 61.05 337 P P 00 23 26.4 +0.2
comp=Z,136nm,0.7s,baz=42,slow=8.9,SNR=360
FINES LR LR 00 53 36.8
comp=Z,3μm,19.7s,baz=27,slow=40
NSS Namsos 61.09 345 *e*P P 00 23 26.5 +0.1
SWSC Sam W. Stewart 61.10 73 P P 00 23 27.5 +0.4
baz=316
PDMCI Parker Dam,Lak 61.10 70 P P 00 23 27.8 +0.8
baz=316
IKP In-Ko-Pah, Jac 61.13 73 P P 00 23 27.7 +0.3
baz=316
PV17 East Wray Mesa 61.22 64 *e*P P 00 23 28.9 +0.8
comp=Z,45nm,0.9s
Y12C Blythe 61.28 71 P P 00 23 29.0 +0.8
baz=316
SRDT SRDT 61.31 256 P P 00 23 30.1 +1.4
comp=Z,49nm,1.3s,comp=Z,3μm
CHGR Chuyangaron 61.38 297 *e*P P 00 23 29.3 +0.3
comp=Z,70nm,0.9s
PUL Pulkovo 61.40 334 *ce*P P 00 23 29.4 +0.8
PUL pmax pmax
comp=Z,118nm,0.7s
PUL Pulkovo 61.40 334 *e*P P 00 23 28.6 0.0
PUL IAmb IAmb 00 23 30.3
comp=Z,217nm,0.7s
GLA Glamis 61.60 72 *e*P P 00 23 32.1 +1.6
GLA Glamis 61.60 72 *e*P P 00 23 32.1 +1.6
GLA Glamis 61.60 72 P P 00 23 30.8 +0.3
baz=316
ANGG Ammassalik, Gr 61.71 8 *e*P P 00 23 30.1 -0.5
comp=Z,165nm,1.7s
LUWI Luwuk 61.79 224 *e*P P 00 23 31.3 -0.5
comp=Z,154nm,1.2s
WUAZ Wupatki 61.83 68 P P 00 23 32.8 +0.6
baz=316
DHRM DHARAMSHALA 61.88 287 *e*P P 00 23 31.2 -1.5
DHRM IAMs_20 IAMs_20 00 54 10.7
comp=Z,8μm,7.2s
ISCO Idaho Springs 61.95 61 P P 00 23 34.5 +1.3
baz=316,SNR=18
SUSD Miller 62.02 53 P P 00 23 33.3 +0.1
baz=317
PHET Kaeng Krachan 62.14 254 P P 00 23 36.4 +2.2
comp=Z,372μm,0.9s
SMLA Simla 62.18 286 *e*P P 00 23 32.7 -1.6
DDI Dehra Dun 62.23 284 *e*P P 00 23 33.6 -1.1
BOK Bokaro 62.23 274 *e*P P 00 23 34.3 -0.5
BOK IAmb IAmb 00 23 35.4
comp=Z,75nm,1.2s
MVCO Mesa Verde 62.24 64 P P 00 23 35.8 +0.9
baz=316,SNR=7.8
PMG Port Moresby 62.41 195 LR LR 00 47 00.5
comp=Z,618nm,20.8s,baz=348,slow=32
MOS Moscow 62.55 328 *e*P P 00 23 32.3 -4.1
MOS *e* 00 23 44.9
MOS *e* 00 24 18.0
MOS *e*S S 00 31 57.0 -3.9
MOS *e* 00 32 31.0
MOS pmax pmax
comp=Z,302nm,1.4s
MOS pmax pmax
comp=N,185nm,1.4s
NIL Nilore 62.65 290 *e*P P 00 23 37.2 -0.4
comp=N,123nm,0.8s
NIL Nilore 62.65 290 *e*P P 00 23 37.2 -0.4
NIL pmax pmax
comp=Z,123nm,0.8s
S22A 4UR Ranch, Cre 62.77 63 P P 00 23 39.6 +1.0
baz=316,SNR=16
Q24A Divide 62.81 61 *e*P P 00 23 39.5 +0.6
comp=Z,20nm,1.3s
Q24A Divide 62.81 61 P P 00 23 39.1 +0.3
baz=317
EYMN Ely 62.91 46 P P 00 23 39.1 0.0
baz=319
OGNE Ogallala 63.02 57 *e*P P 00 23 41.5 +1.5
comp=Z,108nm,1.4s
OGNE Ogallala 63.02 57 P P 00 23 40.5 +0.6
baz=317
W18A Petrified Fore 63.05 67 *e*P P 00 23 41.5 +1.2
comp=Z,20nm,1.0s
W18A Petrified Fore 63.05 67 P P 00 23 40.7 +0.4
baz=317
BORG Borgarnes 63.39 1 *e*P P 00 23 44.8 +2.9
comp=Z,116nm,1.0s
BORG Borgarnes 63.39 1 *i*P P 00 23 45.2 +3.3
OBN Obninsk 63.41 328 *e*P P 00 23 41.8 -0.3
comp=Z,623nm,1.7s
OBN Obninsk 63.41 328⇑ *i*P P 00 23 42.0 -0.1
OBN Obninsk 63.41 328 *c i*P P 00 23 41.6 -0.5
OBN *e* 00 23 51.4
OBN *e* 00 24 23.3
OBN *e*PPP PPP 00 27 32.2
OBN *e*S S 00 32 09.4 -2.3
OBN *e*SS SS 00 36 16.6 -1.3
OBN pmax pmax
comp=Z,382nm,1.7s
OBN MLR MLR
comp=Z,2μm,19.0s
OBN Obninsk 63.41 328 P P 00 23 41.6 -0.5
comp=Z,22nm,0.9s,baz=57,slow=1.2,SNR=67
VSU Vasula 63.48 335 *ce*P P 00 23 43.0 +0.5
VSU pmax pmax
comp=Z,780nm,1.0s
VSU Vasula 63.48 335 *e*P P 00 23 42.7 +0.2
VSU IAmb IAmb 00 23 43.8
comp=Z,508nm,0.9s
SDCO Great Sand Dun 63.50 62 P P 00 23 44.6 +1.2
baz=317,SNR=13
214A Organ Pipe Nat 63.56 71 P P 00 23 44.8 +1.2
baz=317,SNR=7.1
MOL Molde 63.61 346 *e*P P 00 23 43.3 -0.1
ECSD EROS Data Cent 63.69 52 P P 00 23 44.7 +0.5
baz=318,SNR=12
DOMB Dombas 63.88 345 *e*P P 00 23 45.5 +0.3
E38A The Farm, Brul 63.90 47 P P 00 23 45.4 -0.1
baz=320
C40A Isle Royale Na 63.96 45 P P 00 23 45.6 -0.3
baz=320
AKN Aaknes 64.06 347 *e*P P 00 23 47.0 +0.6
F37A Hinrichs Farm, 64.08 48 P P 00 23 46.3 -0.4
baz=319
KSCO Kaye Shedlock' 64.12 59 *e*P P 00 23 49.1 +1.8
comp=Z,23nm,1.0s
KSCO Kaye Shedlock' 64.12 59 P P 00 23 47.0 -0.3
baz=318
F38A Pierce - Schro 64.25 48 P P 00 23 48.1 +0.2
baz=320,SNR=11
SPMN Marine on St. 64.38 49 P P 00 23 48.0 -0.8
baz=319,SNR=6.6
KBL Kabul 64.41 294 *e*P P 00 23 47.2 -2.1
KBL Kabul 64.41 294 *e*P P 00 23 47.2 -2.1
NB2 NORSAR Subarra 64.48 344 P P 00 23 49.4 +0.2
comp=Z,75nm,0.9s,baz=22,slow=6.5
NB2 NORSAR Subarra 64.48 344 P P 00 23 49.4 +0.2
baz=22,slow=6.5
NOA NORSAR Array B 64.48 344 P P 00 23 49.2 0.0
comp=Z,47nm,0.8s,baz=21,slow=6.6,SNR=165
TUC Tucson 64.48 70 *e*P P 00 23 51.5 +1.8
comp=Z,23nm,1.4s
TUC Tucson 64.48 70 *e*P P 00 23 51.5 +1.8
TUC pmax pmax
comp=Z,23nm,1.4s
TUC Tucson 64.48 70 P P 00 23 50.2 +0.5
baz=317
E39A Mellen 64.52 46 P P 00 23 49.3 -0.4
baz=320
T25A Trinidad 64.53 62 P P 00 23 50.9 +0.8
baz=318,SNR=9.6
BGNE Belgrade 64.66 55 *e*P P 00 23 52.0 +1.3
comp=Z,89nm,1.0s
BGNE Belgrade 64.66 55 P P 00 23 50.2 -0.5
baz=318
LPSR Galich'ya Gora 64.67 325 *e*P P 00 23 49.8 -0.6
LPSR pmax pmax
comp=Z,210nm,0.9s
LPSR MLR MLR
comp=Z,3μm,18.0s
NC602 NORSAR Array S 64.71 344 *e*P P 00 23 50.5 -0.1
NORES NORESS Array B 64.71 344 P P 00 23 50.9 +0.3
NORES pmax pmax
comp=Z,24nm,0.8s
F39A Loretta 64.71 47 P P 00 23 51.6 +0.7
baz=320,SNR=5.5
E40A Wakefield 64.76 46 P P 00 23 51.4 +0.2
baz=320,SNR=9.0
VRH Novokhopyorsk 64.78 322 *e*P P 00 23 50.0 -1.2
VRH pmax pmax
comp=Z,150nm,0.8s
VRH MLR MLR
comp=Z,7μm,17.0s
G38A Ridgeland 64.86 48 P P 00 23 51.5 -0.3
baz=320,SNR=11
D41A Chassel 64.87 45 P P 00 23 51.4 -0.5
baz=321
BWNR Bhubaneshwar 64.89 271 *ex* P 00 23 48.0 -4.4
BWNR IAmb IAmb 00 23 50.4
HFS Hagfors 64.89 342 P P 00 23 51.6 -0.2
comp=Z,30nm,0.6s,baz=38,slow=7.5,SNR=51
TASM ASL Pad, Albuq 65.01 65 P P 00 23 54.2 +1.0
baz=318,SNR=12
TASM ASL Pad, Albuq 65.01 65 P P 00 23 53.7 +0.4
baz=318,SNR=9.7
ANMO Albuquerque 65.01 65 *e*P P 00 23 55.0 +1.8
comp=Z,28nm,1.3s
ANMO Albuquerque 65.01 65 *ce*P P 00 23 53.8 +0.5
ANMO pmax pmax
comp=Z,11nm,1.3s
ANMO Albuquerque 65.01 65 P P 00 23 53.4 +0.2
baz=318
H38A Maiden Rock 65.04 49 P P 00 23 53.2 +0.2
baz=320,SNR=9.6
F40A Park Falls 65.07 47 P P 00 23 52.9 -0.3
baz=320
G39A Holcombe 65.08 48 P P 00 23 53.2 -0.1
baz=320,SNR=6.2
NRS Narsarsuaq 65.12 14 *e*P P 00 23 54.2 +1.0
comp=Z,102nm,1.3s
NRS Narsarsuaq 65.12 14 *e*P P 00 23 54.2 +1.0
NRS pmax pmax
comp=Z,102nm,1.3s
HYA Hoyanger 65.15 347 *e*P P 00 23 54.2 +0.8
E41A Kenton 65.16 45 P P 00 23 53.4 -0.4
baz=321,SNR=9.9
SKAR Skarslia 65.30 345 *e*P P 00 23 55.1 +0.6
VORR Voronezh 65.32 324 *e*P P 00 23 52.0 -2.7
VORR pmax pmax
comp=Z,350nm,1.4s
SLIT Slitere, Latvi 65.33 337 *e*P P 00 23 54.7 +0.1
SLIT IAmb IAmb 00 23 56.7
comp=Z,2μm,1.0s
Y22D IRIS PASSCAL I 65.39 66 P P 00 23 56.0 +0.3
baz=318
SUE Sulen 65.45 347 *e*P P 00 23 56.0 +0.7
H39A Augusta 65.49 48 P P 00 23 56.0 0.0
baz=320
G40A Rib Lake 65.53 47 P P 00 23 55.6 -0.6
baz=321
OSL Oslo 65.60 344 *e*P P 00 23 57.5 +1.1
E42A Champion 65.65 45 P P 00 23 56.6 -0.3
baz=321,SNR=9.0
F41A Three Lakes 65.66 46 P P 00 23 56.9 -0.2
baz=321,SNR=10
VSR Storozhevoye 65.71 324 *e*P P 00 23 55.9 -1.3
VSR pmax pmax
comp=Z,160nm,1.0s
VSR MLR MLR
comp=Z,5μm,17.0s
CBKS Cedar Bluff 65.78 58 P P 00 23 57.7 -0.3
baz=319
VORD Divnogorie 65.87 324 *e*P P 00 23 57.5 -0.7
VORD pmax pmax
comp=Z,120nm,0.9s
VORD MLR MLR
comp=Z,2μm,13.0s
H40A Chili 65.94 48 P P 00 23 58.8 -0.1
baz=321,SNR=6.8
DGPR DIGLIPUR 65.96 260 *e*P P 00 23 59.4 +0.1
IZAR Zarasai 65.98 334 *e*P P 00 23 59.2 +0.3
IZAR IAmb IAmb 00 24 01.0
comp=Z,69nm,1.0s
I39A Houston 66.02 49 P P 00 23 59.3 -0.1
baz=320,SNR=8.8
BER Bergen 66.02 347 *e*P P 00 23 59.6 +0.5
121A Cookes Peak, D 66.04 68 P P 00 24 01.2 +1.3
baz=318
KONO Kongsberg 66.07 344 *e*P P 00 24 00.4 +1.0
comp=Z,46nm,1.0s
KONO Kongsberg 66.07 344 *ce*P P 00 23 59.8 +0.4
KONO pmax pmax
comp=Z,45nm,1.0s
KONO Kongsberg 66.07 344 *e*P P 00 24 00.2 +0.8
E43A Lone Tree Farm 66.09 44 P P 00 23 59.4 -0.3
baz=322
KRAB Krabi 66.13 252 P P 00 24 02.9 +2.5
comp=Z,339μm,1.2s
TRTT Trang 66.15 251 P P 00 24 02.5 +2.0
comp=Z,82nm,1.3s
ISAL Salakas 66.17 334 *e*P P 00 24 00.6 +0.5
ISAL IAmb IAmb 00 24 02.3
comp=Z,69nm,1.0s
IDID Didziasalis 66.22 333 *e*P P 00 24 01.0 +0.5
IDID IAmb IAmb 00 24 02.6
comp=Z,82nm,1.0s
H41A Junction City 66.28 47 P P 00 24 00.9 -0.1
baz=321,SNR=7.7
ODD1 Odda 66.28 346 *e*P P 00 24 02.0 +1.2
JBP Jabalpur 66.31 278 *e*P P 00 24 01.8 +0.3
JBP *ex* x 00 32 44.5
J39A Decorah 66.33 49 P P 00 24 00.6 -0.7
baz=320,SNR=6.1
IIGN Ignalina 66.33 333 *e*P P 00 24 01.7 +0.5
IIGN IAmb IAmb 00 24 03.4
comp=Z,110nm,1.0s
SCHQ Schefferville 66.34 28 P P 00 24 01.7 +0.4
comp=Z,38nm,0.9s,baz=349,slow=7.2,SNR=12
SCHQ LR LR 00 58 10.0
comp=Z,1μm,18.3s,baz=350,slow=41
G42A Mountain 66.35 46 P P 00 24 01.4 0.0
baz=321,SNR=7.6
E44A Grand Marais A 66.35 44 P P 00 24 01.8 +0.3
baz=322
I40A Norwalk 66.40 48 P P 00 24 01.3 -0.5
baz=321
F43A Flat Rock, Esc 66.44 45 P P 00 24 01.4 -0.6
baz=322,SNR=10.0
NACGM Naroch 66.57 333 *e*P P 00 24 03.0 +0.3
NACGM PM 00 24 04.0
comp=Z,0.3nm,1.0s
MICGM Minsk 66.61 332⇑ *e*P P 00 24 04.0 +1.1
MICGM ⇑ *e*P P 00 24 04.0 +1.1
MICGM PM 00 24 05.0
comp=Z,1.2nm,1.5s
MICGM PM 00 24 05.0
comp=N,0.5nm,1.4s
MICGM PM 00 24 06.0
comp=E,0.5nm,2.0s
MICGM *e*LR LR 00 52 00.0
MICGM LRM MLR 00 57 32.0
comp=Z,5.3nm,16.0s
MNK Minsk 66.61 332 *ce*P P 00 24 04.0 +1.1
MNK pmax pmax
comp=Z,1μm,1.5s
MNK pmax pmax
comp=N,510nm,1.4s
MNK pmax pmax
comp=E,480nm,2.0s
I41A Arkdale 66.62 48 P P 00 24 02.8 -0.4
baz=321
F44A Big Bay de Noc 66.65 44 P P 00 24 02.7 -0.6
baz=322,SNR=5.9
KAPI Kappang 66.65 225 *e*P P 00 24 04.8 +1.1
comp=E,69nm,1.3s
KAPI Kappang 66.65 225 P P 00 24 04.6 +0.9
SNR=13
KAPI P P 00 24 04.6 +0.9
SNR=13
G43A Wallace 66.66 46 P P 00 24 02.8 -0.6
baz=322,SNR=7.7
SCIA State Center 66.71 51 P P 00 24 04.1 +0.3
baz=320
K39A Oelwein 66.73 50 P P 00 24 03.1 -0.8
baz=321
J40A Soldiers Grove 66.73 49 P P 00 24 03.5 -0.4
baz=321
BLS5 Blasjo 66.78 346 *e*P P 00 24 04.4 +0.4
PABE Paberze 66.80 335 *e*P P 00 24 04.4 +0.3
PABE IAmb IAmb 00 24 06.2
comp=Z,403nm,1.0s
HSIG 66.81 72 *e*P P 00 24 06.1 +1.5
comp=Z,48nm,1.5s
PBUR Paburg 66.86 336 *e*P P 00 24 04.8 +0.2
PBUR IAmb IAmb 00 24 06.6
comp=Z,259nm,1.0s
E45A Wooded Hills, 66.88 43 P P 00 24 04.3 -0.5
baz=323
D46A Sault St. Mari 66.93 42 P P 00 24 04.4 -0.7
baz=323,SNR=7.9
K40A Colesburg 67.08 49 P P 00 24 05.8 -0.4
baz=321,SNR=5.1
J41A Loganville 67.09 48 P P 00 24 05.7 -0.5
baz=321,SNR=8.3
MATQ Matagami 67.11 37 P P 00 24 05.4 -0.8
baz=326,SNR=5.6
L39A Vinton 67.12 50 P P 00 24 06.3 -0.1
baz=321,SNR=8.2
KMY Karmoy 67.16 346 *e*P P 00 24 07.6 +1.3
KSU1 Kansas State U 67.17 55 P P 00 24 05.9 -0.8
baz=320
D47A Chapleau 67.18 42 P P 00 24 06.0 -0.8
baz=324,SNR=5.7
I42A Draeger Farm, 67.18 47 P P 00 24 06.4 -0.3
baz=322,SNR=5.9
E46A Sault Ste Mari 67.23 43 P P 00 24 06.5 -0.6
baz=323,SNR=5.3
H43A Windswept, Lux 67.24 46 *e*P P 00 24 07.6 +0.4
comp=Z,21nm,1.0s
H43A Windswept, Lux 67.24 46 P P 00 24 06.5 -0.6
baz=322
PBA Port Blair 67.26 259 *e*P P 00 24 07.9 +0.3
F45A CMU Biological 67.27 44 P P 00 24 06.8 -0.4
baz=323
JFWS Jewell Farm 67.33 49 P P 00 24 07.4 -0.4
baz=321
F46A Macinaw City C 67.52 43 P P 00 24 08.6 -0.2
baz=323,SNR=6.0
I43A Langenfeld Bro 67.53 47 P P 00 24 08.1 -0.9
baz=322
J42A Columbus 67.53 48 P P 00 24 08.6 -0.4
baz=322,SNR=9.5
L40A Anamosa 67.54 50 P P 00 24 08.8 -0.2
baz=321,SNR=6.0
COEN Coen 67.56 198 *e*P P 00 24 10.1 +0.8
comp=Z,46nm,1.1s
HOMB Homborsund 67.56 344 *e*P P 00 24 09.5 +0.6
E47A Iron Bridge 67.59 42 P P 00 24 08.6 -0.7
baz=324,SNR=8.4
D48A Paudash Townsh 67.61 41 P P 00 24 08.4 -1.0
baz=324,SNR=6.9
AMTX Amarillo 67.69 62 P P 00 24 10.7 +0.4
baz=319
D49A Beulah Townshi 67.71 40 P P 00 24 09.2 -0.9
baz=324,SNR=6.7
G45A Suttons Bay 67.72 44 P P 00 24 09.1 -1.0
baz=323
MSTX Muleshoe 67.78 63 P P 00 24 11.1 +0.2
baz=319,SNR=5.8
GEYT Alibeck 67.79 303 P P 00 24 10.3 -0.5
comp=Z,58nm,0.8s,baz=5.4,slow=3.1,SNR=118
J43A Natural Harves 67.80 47 P P 00 24 10.4 -0.3
baz=322
BHPL Bhopal 67.82 280 *e*P P 00 24 09.6 -1.6
G46A Petoskey 67.84 44 P P 00 24 10.7 -0.2
baz=323

K42A	Prairie Point,	67.85	48	P	P	00 24 10.3	-0.7
	baz=322,SNR=7.4						
H45A	Beulah	67.88	45	P	P	00 24 10.2	-1.0
	baz=323						
LSQQ	Lebel-sur-Quev	67.93	37	P	P	00 24 10.2	-1.2
	baz=326						
U32A	Winter Ranch,	67.99	59	eP	P	00 24 12.9	+0.8
	comp=Z,15nm,0.8s						
MNTX	Cornudas Mount	68.02	66	P	P	00 24 13.1	+0.8
	baz=319,SNR=8.7						
E48A	Lockeyer	68.03	41	P	P	00 24 11.4	-0.6
	baz=324,SNR=6.2						
CHGQ	Chibougamau	68.16	35	P	P	00 24 12.3	-0.5
	baz=327,SNR=6.5						
GDL2	Guadalupe Moun	68.22	65	eP	P	00 24 15.4	+1.8
I45A	Fountain	68.26	46	P	P	00 24 13.3	-0.3
	baz=323						
N40A	Mertquake, Sal	68.28	51	P	P	00 24 13.7	-0.1
	baz=321,SNR=5.1						
L42A	Oliver, Polo	68.31	49	P	P	00 24 12.4	-1.5
	baz=322						
H46A	Fife Lake	68.31	45	P	P	00 24 13.6	-0.3
	baz=323						
GLMI	Grayling	68.33	44	P	P	00 24 12.9	-1.1
	baz=323						
F48A	Evansville	68.37	42	P	P	00 24 13.5	-0.7
	baz=324,SNR=5.6						
K43A	Burlington	68.37	48	P	P	00 24 13.8	-0.5
	baz=322,SNR=5.8						
G47A	Hillman	68.38	43	P	P	00 24 14.0	-0.3
	baz=324						
NGP	Nagpur	68.39	277⇑	eP	P	00 24 13.9	-0.9
NGP				ex	x	00 30 57.0	
NGP				IAMs_20	IAMs_20	00 57 22.9	
	comp=Z,15μm,3.5s						
L43A	Garden Prairie	68.60	48	P	P	00 24 15.1	-0.6
	baz=322						
E50A	Wahnapitae	68.65	41	P	P	00 24 15.2	-0.8
	baz=325,SNR=5.3						
F49A	Sandfield	68.66	42	P	P	00 24 15.3	-0.7
	baz=324,SNR=7.3						
I46A	Reed City	68.68	45	P	P	00 24 15.1	-1.1
	baz=323						
H47A	Mio	68.69	44	P	P	00 24 15.2	-1.0
	baz=324						
MYKOM	Kota Tinggi	68.72	244	eP	P	00 24 17.7	+0.9
	comp=Z,36nm,1.1s						
N41A	Harden Midland	68.76	51	P	P	00 24 16.6	-0.2
	baz=322						
MMRI	Maumere	68.87	221	eP	P	00 24 17.5	-0.1
	comp=Z,93nm,1.1s						
BIGH	Upper Bighouse	68.95	351⇑	eP	P	00 24 17.9	+0.3
BIGH				IAmb	IAmb	00 24 18.6	
	comp=Z,44nm,1.0s						
L44A	Lake County Fo	68.98	48	P	P	00 24 17.8	-0.3
	baz=322						
H48A	Harrisville	68.98	43	P	P	00 24 17.9	-0.1
	baz=324						
MAK	Makhachkala	68.98	314	eP	P	00 24 17.4	-0.7
MAK				e		00 26 50.2	
MAK				eS	S	00 33 20.1	+0.4
MAK				pmax	pmax		
	comp=Z,149nm,1.8s						
MAK				MLR	MLR		
	comp=Z,3μm,15.0s						
I47A	Gladwin	69.03	44	P	P	00 24 18.1	-0.2
	baz=324						
E51A	G1948 Merrick	69.06	40	P	P	00 24 17.2	-1.3
	baz=326,SNR=8.6						
J46A	Howard City	69.07	46	P	P	00 24 17.8	-0.8
	baz=323						
M43A	Waltham Townsh	69.08	49	P	P	00 24 17.8	-0.9
	baz=322						
SOEI	Soe	69.09	219	eP	P	00 24 18.6	-0.5
	comp=Z,80nm,1.0s						
D52A	ZEK Kipawa Sen	69.11	39	P	P	00 24 18.0	-0.8
	baz=326						
MUD	Monsted U'grnd	69.17	343⇑	iP	P	00 24 20.1	+1.1
MUD				pmax	pmax		
	comp=Z,55nm,1.0s						
MUD	Monsted U'grnd	69.17	343⇑	iP	P	00 24 20.1	+1.1
	comp=Z,55nm,1.0s						
RSC	Scourie	69.20	352⇑	eP	P	00 24 19.4	+0.3
I48A	Sherman Twp	69.24	44	P	P	00 24 18.3	-1.3
	baz=324						
COP	Copenhagen	69.29	341⇑	iP	P	00 24 20.7	+1.0
COP				pmax	pmax		
	comp=Z,120nm,0.9s						
COP	Copenhagen	69.29	341⇑	iP	P	00 24 20.7	+1.0
	comp=Z,122nm,0.9s						
D53A	Lac Vacive, Po	69.30	38	P	P	00 24 19.0	-1.0
	baz=326,SNR=7.5						
TOBO	Tobermory, Bru	69.31	42	P	P	00 24 19.0	-1.0
	baz=325,SNR=5.5						
BSD	Bornholm Skovb	69.32	340⇑	iP	P	00 24 20.4	+0.5
BSD				pmax	pmax		
	comp=Z,71nm,0.9s						
BSD	Bornholm Skovb	69.32	340⇑	iP	P	00 24 20.4	+0.5
	comp=Z,71nm,0.9s						
WMOK	Wichita Mounta	69.35	60	P	P	00 24 20.9	+0.3
	baz=320,SNR=20						
N43A	Stutzman Famil	69.37	49	P	P	00 24 20.2	-0.3
	baz=322						
F51A	Arnstein	69.39	40	P	P	00 24 19.3	-1.2
	baz=325						
J47A	Sunmer	69.52	45	P	P	00 24 20.5	-0.8
	baz=324,SNR=6.2						
AKASG	Malin Array Be	69.52	329	eP	P	00 24 20.6	-0.7
AKASG	Malin Array Be	69.52	329	P	P	00 24 20.8	-0.5
	comp=Z,104nm,0.8s,baz=31,slow=6.4,SNR=326						
KIEV	Kiev	69.53	329	eP	P	00 24 20.3	-1.0
	comp=Z,192nm,1.0s						
KIEV	Kiev	69.53	329⇑	iP	P	00 24 21.1	-0.2
KIEV	Kiev	69.53	329	iP	P	00 24 20.8	-0.5
	SNR=25						
KIEV	Kiev	69.53	329	c iP	P	00 24 20.8	-0.5
KIEV				pmax	pmax		
	comp=Z,237nm,1.1s						
K46A	Dorr	69.53	46	P	P	00 24 21.0	-0.5
	baz=323						
M44A	Midewin, Midew	69.54	48	P	P	00 24 21.7	+0.1
	baz=323						
GROC	Groznyy	69.55	315	eP	P	00 24 21.5	-0.1
GROC				e		00 24 44.6	
GROC				e		00 26 53.9	
GROC				eS	S	00 33 27.3	+0.9
GROC				pmax	pmax		
	comp=Z,54nm,1.2s						
E52A	Mattawa	69.59	39	P	P	00 24 20.9	-0.9
	baz=326						
HDIL	Hopedale	69.62	50	P	P	00 24 21.6	-0.4
	baz=322						
D54A	Lac Fusel, La	69.64	38	P	P	00 24 21.8	-0.3
	baz=327						
F52A	Sundridge	69.73	40	P	P	00 24 21.9	-0.8
	baz=326,SNR=8.4						
KLBO	Killbear Provi	69.73	41	P	P	00 24 21.9	-0.7
	baz=325,SNR=10						
RRR	Rubha Reidh	69.75	352	eP	P	00 24 22.8	+0.3
I49A	Point Hope	69.81	43	P	P	00 24 22.5	-0.7
	baz=324,SNR=5.7						
L46A	Eue Claire	69.84	47	P	P	00 24 22.4	-1.0
	baz=323						
K47A	Vermontville	69.89	46	P	P	00 24 23.5	-0.3
	baz=324						
E53A	Dumoine, Ponti	69.90	39	P	P	00 24 22.6	-1.1
	baz=326						
M45A	Boilermakers S	69.91	48	P	P	00 24 23.1	-0.7
	baz=323						
J48A	Bridge Port	69.92	44	P	P	00 24 24.8	+1.0
	baz=325						
BMRO	Meriville Lake	69.95	42	P	P	00 24 23.4	-0.6
	baz=325,SNR=6.7						
N44A	Piper City	69.97	49	P	P	00 24 23.5	-0.7
	baz=323						
BUKO	Buck Lake	69.99	40	P	P	00 24 23.4	-0.9
	baz=326						
TUL1	Leonard	70.03	57	P	P	00 24 24.7	0.0
	baz=321,SNR=5.4						
E54A	Lac Daplat, Po	70.03	38	P	P	00 24 23.7	-0.8
	baz=327						
KAC	Achnashellach	70.06	352⇑	eP	P	00 24 24.8	+0.3
ALGO	Algonquin Park	70.10	39	P	P	00 24 24.1	-0.8
	baz=326						
BRCO	Bruce Peninsul	70.14	42	P	P	00 24 24.7	-0.5
	baz=325						
J49A	Marlette	70.14	44	P	P	00 24 25.3	0.0
	baz=324						
K48A	Perry	70.17	45	P	P	00 24 25.7	+0.3
	baz=324,SNR=12						
N45A	Kentland	70.22	48	P	P	00 24 24.7	-1.1
	baz=323						
P43A	Skaggs, Pawnee	70.23	50	P	P	00 24 25.4	-0.4
	baz=322						
BASO	Ashfield	70.24	43	P	P	00 24 25.6	-0.2
	baz=325,SNR=9.4						
KPL	Plockton	70.25	352⇑	eP	P	00 24 26.1	+0.5
KPL				IAmb	IAmb	00 24 27.1	
	comp=Z,33nm,1.0s						
NCK	Nalchik	70.26	316	c iP	P	00 24 26.0	0.0
NCK				pmax	pmax		
	comp=Z,81nm,0.9s						
KVAR	Kislovodsk Arr	70.26	317	P	P	00 24 26.6	+0.5
	comp=Z,14nm,0.8s,baz=6.3,slow=9.2,SNR=31						
KIV	Kislovodsk	70.27	317	eP	P	00 24 25.9	-0.3
	comp=Z,49nm,1.1s						
KIV	Kislovodsk	70.27	317⇓	iP	P	00 24 26.8	+0.7
KIV	Kislovodsk	70.27	317	i P	P	00 24 26.3	+0.2
	SNR=18						
KIV	Kislovodsk	70.27	317	eP	P	00 24 26.4	+0.3
KIV				e		00 27 01.2	
KIV				e		00 33 34.0	
KIV				pmax	pmax		
	comp=Z,116nm,1.1s						
KIV				MLR	MLR		
	comp=Z,7μm,18.0s						
KIV	Kislovodsk	70.27	317	P	P	00 24 26.2	+0.1
	SNR=37						
M46A	Old House Fiel	70.30	47	P	P	00 24 25.5	-0.8
	baz=323						
Q42A	Golden Eagle	70.32	52	P	P	00 24 26.5	+0.1
	baz=322,SNR=6.2						
O44A	Mansfield	70.33	49	P	P	00 24 25.6	-0.8
	baz=323						
L47A	Sherwood	70.36	46	P	P	00 24 26.4	-0.2
	baz=324,SNR=7.2						
KBZ	Khabaz	70.36	317	P	P	00 24 27.0	+0.4
KBZ	Khabaz	70.36	317	P	P	00 24 26.9	+0.4
	comp=Z,74nm,0.9s,baz=48,slow=3.3,SNR=127						
DRUM	Mains of Drumt	70.37	350	eP	P	00 24 26.6	+0.3
DRUM				IAmb	IAmb	00 24 27.6	
	comp=Z,97nm,1.3s						
BWLO	Walkerton	70.37	42	P	P	00 24 26.3	-0.4
	baz=325						
R41A	Rosebud	70.39	53	P	P	00 24 26.8	0.0
	baz=322,SNR=11						
ZKTA	Zakatala	70.44	313	P	P	00 24 26.9	-0.2
H52A	Wyevale	70.45	41	P	P	00 24 26.5	-0.6
	baz=326						
K49A	Clarkson	70.47	45	P	P	00 24 27.4	+0.2
	baz=324,SNR=6.5						
ABTX	Abilene, Hawle	70.50	62	P	P	00 24 28.3	+0.7
	baz=320,SNR=6.4						
GKP	Gorka Klasztor	70.50	338	eP	P	00 24 27.8	+0.6
GKP	Gorka Klasztor	70.50	338	eP	P	00 24 27.8	+0.6
SEKA	Sheki	70.52	313	P	P	00 24 27.0	-0.7
G53A	Haliburton	70.56	40	P	P	00 24 27.1	-0.7
	baz=326,SNR=8.7						
O45A	Potomac	70.59	49	P	P	00 24 27.8	-0.2
	baz=323						
PEMO	Pembroke	70.64	39	P	P	00 24 27.7	-0.6
	baz=327						
CCM	Cathedral Cave	70.65	53	eP	P	00 24 28.6	+0.2
	comp=Z,106nm,1.9s						
CCM	Cathedral Cave	70.65	53	eP	P	00 24 28.6	+0.2
CCM				pmax	pmax		
	comp=Z,106nm,1.9s						
CCM	Cathedral Cave	70.65	53	P	P	00 24 28.3	-0.1
	baz=322						
PSI	Prapat	70.67	249	eP	P	00 24 29.8	+0.9
	comp=Z,48nm,1.1s						
M47A	Cromwell	70.67	47	P	P	00 24 28.2	-0.3
	baz=324						
I51A	Listowel	70.67	42	P	P	00 24 28.7	+0.2
	baz=325,SNR=8.2						
ZEI	Tsey	70.70	316	eP	P	00 24 25.1	-3.8
ZEI				pmax	pmax		
	comp=Z,47nm,0.9s						
L48A	N Adams	70.73	46	P	P	00 24 28.8	0.0
	baz=324,SNR=6.1						
S41A	Jillco Farms,	70.77	53	P	P	00 24 28.9	-0.2
	baz=322,SNR=9.4						
TXAR	Lajitas Array	70.77	67	P	P	00 24 30.2	+0.8
	comp=Z,10nm,0.9s,baz=298,slow=4.6,SNR=80						
TXAR				PKPPKP	P'P'df	00 52 26.7	-3.8
	comp=Z,0.5nm,0.9s,baz=128,slow=3.5,SNR=3.8						
AAM	Ann Arbor	70.78	45	P	P	00 24 29.2	+0.1
	baz=324						
SFIN	Lafayette	70.78	48	P	P	00 24 27.9	-1.3
	baz=323						
I52A	Shelburne	70.81	42	P	P	00 24 29.0	-0.3
	baz=326						
NEY	Neytrino	70.83	317⇑	iP	P	00 24 30.5	+0.9
NEY				pmax	pmax		
	comp=Z,6.0nm,1.1s						
K50A	Casco	70.84	44	P	P	00 24 28.7	-0.7
	baz=325						
F55A	Otter Lake	70.86	38	P	P	00 24 28.6	-0.9
	baz=327						
LATQ	La Tuque	70.86	35	P	P	00 24 29.3	-0.2
	baz=329						
L49A	Milan	70.89	45	P	P	00 24 30.1	+0.3
	baz=324,SNR=7.1						
BANO	Bancroft	70.92	40	P	P	00 24 29.7	-0.2
	baz=327,SNR=8.3						
BEL	Belsk	70.94	335	eP	P	00 24 31.1	+1.2
BEL	Belsk	70.94	335	eP	P	00 24 31.1	+1.2
M48A	Edgerton	70.97	46	P	P	00 24 29.6	-0.7
	baz=324						
INVG	Invergeldie, C	71.00	351⇑	eP	P	00 24 30.3	+0.1
INVG				IAmb	IAmb	00 24 30.9	
	comp=Z,39nm,1.0s						
N47A	Urbana	71.02	47	P	P	00 24 30.3	-0.3
	baz=324						
P45A	Graceland, Par	71.16	49	P	P	00 24 31.4	-0.1
	baz=323						
U40A	Yellville	71.18	55	P	P	00 24 31.2	-0.5
	baz=322,SNR=15						
G55A	Calabogie	71.20	39	P	P	00 24 29.9	-1.7
	baz=327						
TRQ	Mont Tremblant	71.20	37	eP	P	00 24 31.5	-0.2
ACTO	Acton	71.23	42	P	P	00 24 31.4	-0.5
	baz=326						
PLVO	Plevna	71.24	39	P	P	00 24 31.5	-0.3
	baz=327						
EAB	Aberfoyle	71.27	351	eP	P	00 24 32.2	+0.4
LAWE	Loch Awe, Argy	71.29	352⇑	eP	P	00 24 32.4	+0.5
LAWE				IAmb	IAmb	00 24 33.4	
	comp=Z,50nm,0.9s						
M49A	Liberty Center	71.31	46	P	P	00 24 32.3	0.0
	baz=324						
O47A	Sheridan	71.32	48	P	P	00 24 32.2	-0.3
	baz=324						
N48A	Decatur	71.34	47	P	P	00 24 32.2	-0.3
	baz=324,SNR=13						
P46A	Rosedale	71.34	49	P	P	00 24 32.5	0.0
	baz=323,SNR=6.0						
PKRO	Pickering	71.34	41	P	P	00 24 32.1	-0.4
	baz=326						
L50A	Kingsville	71.36	45	P	P	00 24 32.6	0.0
	baz=325						
ESY	Stoneypath	71.36	350⇑	eP	P	00 24 32.6	+0.2
J52A	Paris	71.36	42	P	P	00 24 32.7	0.0
	baz=326						
GANJ	Ganja	71.37	313	P	P	00 24 32.9	+0.1
DELO	Deloro Mine	71.46	40	P	P	00 24 32.2	-1.0
	baz=327						
Q45A	Warren Harvey,	71.47	50	P	P	00 24 33.3	-0.1
	baz=323,SNR=7.0						
ORIO	Orleans, Innes	71.50	38	P	P	00 24 32.2	-1.1
	baz=328						
HYB	Hyderabad	71.53	275⇑	iP	P	00 24 34.0	0.0
	comp=Z,262nm,0.8s						
EBL	Broad Law	71.55	350⇑	eP	P	00 24 33.8	+0.3
DRWO	Darlington Wes	71.56	41	P	P	00 24 33.5	-0.3
	baz=326						
DRCO	St. Marys Ceme	71.56	41	P	P	00 24 33.6	-0.3
	baz=326						
ALFO	Alfred	71.58	37	P	P	00 24 32.9	-1.0
	baz=328,SNR=6.7						
H55A	Tweed	71.61	40	P	P	00 24 33.8	-0.3
	baz=327						
W39A	Magazine	71.61	56	P	P	00 24 34.1	-0.2
	baz=322						
K52A	Tillsonburg	71.64	43	P	P	00 24 33.6	-0.8
	baz=326						
WLVO	Wesleyville	71.65	41	P	P	00 24 33.7	-0.6
	baz=326						
PGBU	Glenifferbraes	71.65	351⇑	eP	P	00 24 34.7	+0.6
PGBU				IAmb	IAmb	00 24 35.9	
	comp=Z,120nm,1.0s						
U41A	Viola	71.66	54	P	P	00 24 33.6	-1.0
	baz=322						
N49A	Columbus Grove	71.66	46	P	P	00 24 33.5	-1.0
	baz=324,SNR=7.8						
PLIO	Pelee Island,	71.67	45	P	P	00 24 33.2	-1.3
	baz=325						
ANN	Anapa	71.68	321	c iP	P	00 24 33.9	-0.6
ANN				i *PP	pP	00 24 44.3	-1.3
ANN				e		00 27 09.2	
ANN				eS	S	00 33 51.1	0.0
ANN				pmax	pmax		
	comp=Z,136nm,1.6s						
I55A	Frankford	71.69	40	P	P	00 24 34.0	-0.6
	baz=327						
TYNO	Tyneside	71.73	42	P	P	00 24 34.3	-0.6
	baz=326						
O48A	Farmland	71.76	47	P	P	00 24 34.6	-0.5
	baz=324						
M50A	Fremont	71.77	45	P	P	00 24 34.3	-0.8
	baz=325						
SOC	Sochi	71.79	319	c iP	P	00 24 35.0	-0.2
SOC				e*PP	pP	00 24 46.8	+0.5
SOC				e*SP	PcP	00 24 52.3	-1.7
SOC				eS	S	00 33 49.8	-2.7
SOC				eSS	SS	00 38 23.5	-4.4
SOC				pmax	pmax		
	comp=Z,73nm,0.8s						
SOC				MLR	MLR		
	comp=Z,4μm,15.0s						
LVV	L'vov	71.86	332⇓	iP	P	00 24 35.9	+0.3
P47A	Martinsville	71.88	48	P	P	00 24 35.3	-0.5
	baz=324,SNR=6.5						
R45A	Skylar, Fairfi	71.89	51	P	P	00 24 35.4	-0.5
	baz=323						
S44A	Carbondale	71.90	52	P	P	00 24 35.7	-0.2
	baz=323						
H56A	Elgin	71.93	39	P	P	00 24 35.6	-0.4
	baz=328						
EKA	Eskdalemuir Ar	71.99	350	P	P	00 24 36.3	+0.1
EKA				pmax	pmax		
	comp=Z,22nm,0.6s						
AKH	Akhalkalaki	72.00	315⇑	iP	P	00 24 37.8	+1.0
AKH	Akhalkalaki	72.00	315	P	P	00 24 37.7	+1.0
ESK	Eskdalemuir	72.01	350	eP	P	00 24 36.9	+0.6
	comp=Z,60nm,1.0s						
ESK	Eskdalemuir	72.01	350⇑	eP	P	00 24 36.5	+0.1
ESK				IAmb	IAmb	00 24 37.9	
	comp=Z,59nm,1.0s						
ESK				IAMs_20	IAMs_20	01 05 21.0	
	comp=Z,6μm,15.9s						
ESK	Eskdalemuir	72.01	350	i P	P	00 24 37.3	+1.0
RUE	Ruedersdorf	72.02	339	eP	P	00 24 37.1	+0.7
RUE				IAmb	IAmb	00 24 39.0	
	comp=Z,186nm,1.1s						
JCT	Junction City	72.06	63	P	P	00 24 37.0	-0.1
	baz=321						
J54A	Appleton	72.09	41	P	P	00 24 35.5	-1.5
	baz=326						
WHTX	Lake Whitney,	72.17	61	P	P	00 24 37.4	-0.2
	baz=321						
O49A	Covington	72.19	47	P	P	00 24 36.7	-1.0
	baz=324						
PECO	Prince Edward	72.20	40	P	P	00 24 36.1	-1.5
	baz=327						
M51A	Elyria	72.21	45	P	P	00 24 36.8	-0.9
	baz=325						
MIAR	Mount Ida	72.22	56	P	P	00 24 38.4	+0.4
	baz=322,SNR=7.2						
BHH	Howats Hill	72.23	350⇑	eP	P	00 24 38.1	+0.4
S45A	Carrier Mills	72.23	51	P	P	00 24 38.2	+0.2
	baz=323,SNR=7.1						
N50A	Nevada	72.24	46	P	P	00 24 38.1	+0.1
	baz=325,SNR=8.2						
Q47A	Bedord North L	72.25	49	P	P	00 24 37.7	-0.3
	baz=324,SNR=6.5						
MEDO	Medina	72.26	41	P	P	00 24 37.3	-0.7
	baz=327						
P48A	Milroy	72.28	48	P	P	00 24 37.7	-0.5
	baz=324,SNR=7.6						
R46A	Gibon Southern	72.32	50	P	P	00 24 37.8	-0.6
	baz=324						
EDMD	Edmundbyers	72.36	349⇑	eP	P	00 24 38.5	+0.1
EDMD				IAmb	IAmb	00 24 39.8	
	comp=Z,105nm,1.6s						
EDMD				IAMs_20	IAMs_20	01 03 01.7	
	comp=Z,1μm,20.3s						
M52A	Chesterland	72.39	44	P	P	00 24 38.2	-0.7
	baz=326						
W41B	Gary Mavity, V	72.41	55	P	P	00 24 38.6	-0.4
	baz=322,SNR=8.8						
KWP	Kalwaria Pacla	72.41	333	eP	P	00 24 39.8	+0.9
KWP	Kalwaria Pacla	72.41	333	eP	P	00 24 39.8	+0.9
J55A	Hilton	72.43	41	P	P	00 24 37.5	-1.5
	baz=327						
N51A	Ashland	72.46	45	P	P	00 24 39.0	-0.3
	baz=325,SNR=6.6						
BHJ	Bhuj	72.48	285	eP	P	00 24 39.0	-0.6
GNI	Garni	72.48	314	eP	P	00 24 40.7	+1.2
	comp=Z,118nm,1.1s						
GNI	Garni	72.48	314	i P	P	00 24 40.8	+1.2
	SNR=34						
GNI	Garni	72.48	314	ceP	P	00 24 40.7	+1.2
GNI				pmax	pmax		
	comp=Z,1μm,1.7s						
GNI	Garni	72.48	314	P	P	00 24 40.8	+1.2
	SNR=40						
GNI				P	P	00 24 40.8	+1.2
	SNR=40						
GNI	Garni	72.48	314	P	P	00 24 40.4	+0.8
	comp=Z,51nm,0.9s,baz=184,slow=1.1,SNR=59						
ERPA	Erie	72.49	43	P	P	00 24 39.1	-0.3
	baz=326						
L53A	Girard	72.52	43	P	P	00 24 39.5	-0.1
	baz=326,SNR=7.8						
CLGH	Cloghs, Cushen	72.52	352⇑	eP	P	00 24 39.8	+0.4
CLGH				IAmb	IAmb	00 24 41.0	
	comp=Z,74nm,1.0s						
O50A	Cable	72.54	46	P	P	00 24 39.8	0.0
	baz=325,SNR=6.0						
P49A	Miami Univ. Ec	72.55	47	P	P	00 24 39.4	-0.4
	baz=324						
LONY	Lake Ozonia	72.55	38	eP	P	00 24 41.7	+1.9
	comp=Z,24nm,1.4s						
LONY	Lake Ozonia	72.55	38	P	P	00 24 39.2	-0.5
	baz=328						
Q48A	North Vernon	72.57	48	P	P	00 24 39.6	-0.4
	baz=324						
GAL1	Galloway	72.61	351⇑	eP	P	00 24 40.3	+0.4
GAL1				IAmb	IAmb	00 24 41.3	
	comp=Z,36nm,1.2s						
BATM	Batumi	72.61	316⇓	iP	P	00 24 40.3	+0.1
S46A	Don Dixon Farm	72.64	51	P	P	00 24 40.1	-0.3
	baz=324						
IDGL	Inch Island, C	72.64	353	eP	P	00 24 37.8	-2.3
IDGL				i PP	P	00 24 40.7	+0.6
IDGL				eS	S	00 34 00.8	-1.0
X40A	Basin Creek Fa	72.65	56	P	P	00 24 40.4	-0.1
	baz=322						
GSI	Gunungsitoli	72.66	249	eP	P	00 24 41.3	+0.5
	comp=Z,193nm,1.4s						
OJC	Ojcow	72.67	335	eP	P	00 24 41.1	+0.7
OJC	Ojcow	72.67	335	eP	P	00 24 41.1	+0.7
L54A	Sinclairville	72.68	42	P	P	00 24 40.3	-0.3
	baz=326						
R47A	Wooly Knot Far	72.71	49	P	P	00 24 40.6	-0.2
	baz=324						
KESW	Keswick, Cumbr	72.72	350⇑	eP	P	00 24 41.1	+0.5
KESW				IAmb	IAmb	00 24 42.3	
	comp=Z,146nm,0.9s						
KESW				IAMs_20	IAMs_20	01 05 57.2	
	comp=Z,2μm,14.8s						
T45A	Paducah	72.73	52	P	P	00 24 40.5	-0.5
	baz=323						
ACSO	Alum Creek Sta	72.76	46	P	P	00 24 40.9	-0.1
	baz=325,SNR=7.0						
M53A	WI Miller and	72.77	44	P	P	00 24 40.9	-0.2
	baz=326,SNR=10						
BCA	Borcka	72.77	316	eP	P	00 24 41.2

K55A **Perry** 72.78 41 P P 00 24 40.7 -0.4
baz=327,SNR=6.9
SIM **Simferopol'** 72.81 323*c iP* P 00 24 41.1 -0.2
SIM pmax pmax
comp=Z,146nm,1.5s
KARS **Kars** 72.82 315 *eP* P 00 24 42.7 +1.1
TASB **TASBURUN-IGDIR** 72.83 314 *eP* P 00 24 42.8 +1.2
N52A **McGinn's Farm,** 72.85 45 P P 00 24 41.3 -0.3
baz=326
WCI **Wyandotte Cave** 72.88 49 *eP* P 00 24 42.5 +0.7
comp=Z,40nm,1.1s
WCI **Wyandotte Cave** 72.88 49 *eP* P 00 24 42.5 +0.7
WCI pmax pmax
comp=Z,40nm,1.1s
WCI **Wyandotte Cave** 72.88 49 P P 00 24 41.7 -0.1
baz=324
KIS **Kishinev** 72.88 328 *iP* P 00 24 41.0 -0.7
comp=Z,550nm,2.0s
KIS **Kishinev** 72.88 328 *ePcP* PcP 00 24 52.0 -6.6
KIS *eS* S 00 34 04.0 -0.8
KIS LRM MLR 01 00 40.0
comp=Z,5μm,17.0s
KIS **Kishinev** 72.88 328 *iP* P 00 24 41.0 -0.7
KIS *e* 00 24 52.0
KIS *e* 00 25 05.0
KIS *eS* S 00 34 04.0 -0.8
KIS pmax pmax
comp=Z,550nm,2.0s
KIS MLR MLR
comp=Z,5μm,17.0s
Q49A **Aurora** 72.89 48 P P 00 24 41.8 0.0
baz=324
P50A **Jamestown** 72.90 47 P P 00 24 41.7 -0.2
baz=325,SNR=9.1
NAX **Nakhchivan** 72.93 313 P P 00 24 42.2 0.0
R48A **Northridge Ran** 72.93 49 P P 00 24 42.1 0.0
baz=324
KSP **Ksiaz** 72.97 337 *eP* P 00 24 42.8 +0.7
KSP **Ksiaz** 72.97 337 *eP* P 00 24 42.8 +0.7
STHS **Stebnicka Huta** 73.01 334 *eP* P 00 24 43.5 +1.1
STHS **Stebnicka Huta** 73.01 334 *eP* P 00 24 43.5 +1.1
CTA **Charters Tower** 73.03 194 P P 00 24 42.7 0.0
comp=Z,13nm,0.9s,baz=357,slow=7.1,SNR=8.1
CTAO **Charters Tower** 73.03 194 *eP* P 00 24 43.3 +0.6
comp=Z,30nm,1.0s
CTAO **Charters Tower** 73.03 194 *eP* P 00 24 43.3 +0.6
CTAO pmax pmax
comp=Z,30nm,1.0s
435B **Jarrell** 73.03 62 P P 00 24 43.3 +0.5
baz=321
T46A **Princeton** 73.07 51 P P 00 24 43.4 +0.4
baz=324,SNR=24
L55A **Hinsdale** 73.08 42 P P 00 24 42.7 -0.3
baz=327
S47A **Hartford** 73.11 50 P P 00 24 43.6 +0.4
baz=324,SNR=10
IAS **Iasi** 73.12 329⇓*iP* P 00 24 43.4 +0.3
IAS **Iasi** 73.12 329 P P 00 24 43.4 +0.3
M54A **Oil Creek Stat** 73.13 43 P P 00 24 42.9 -0.4
baz=326,SNR=8.2
KOLS **Kolonicke sedl** 73.16 333 *eP* P 00 24 44.1 +0.8
KOLS pmax pmax
comp=Z,66nm,1.0s
KOLS **Kolonicke sedl** 73.16 333 *eP* P 00 24 44.1 +0.8
HPK **Haverah Park** 73.18 349⇑*eP* P 00 24 43.9 +0.7
HPK IAmb IAmb 00 24 45.0
comp=Z,115nm,0.9s
HPK IAMs_20 IAMs_20 01 04 12.1
comp=Z,2μm,19.1s
SENK **Senkaya-Erzuru** 73.19 315 *eP* P 00 24 45.0 +1.1
IOMK **Kirk Michael** 73.19 351⇑*eP* P 00 24 43.6 +0.3
IOMK IAmb IAmb 00 24 44.2
comp=Z,116nm,1.1s
RAC **Raciborz** 73.21 336 *eP* P 00 24 44.8 +1.3
RAC MLR MLR
comp=Z,4μm,18.2s
N53A **Lisbon** 73.22 44 P P 00 24 43.8 0.0
baz=326,SNR=8.9
NIE **Niedzica** 73.27 334 *eP* P 00 24 45.0 +1.1
NIE **Niedzica** 73.27 334 *eP* P 00 24 45.0 +1.1
CLL **Collm** 73.29 339⇑*iP* P 00 24 44.2 +0.2
CLL *e* 00 24 55.0
CLL *eS* SKiKP 00 34 13.0 +1.4
CLL pmax pmax
comp=Z,148nm,1.0s
CLL **Collm** 73.29 339⇑*iP* P 00 24 44.2 +0.2
comp=Z,148nm,1.0s
CLL *epP* pP 00 24 55.0 +0.2
CLL *epPcP* 00 25 10.0
CLL *ePP* PP 00 27 24.0 -2.8
CLL *eS* SKiKP 00 34 13.0 +1.4
CLL *esS* pS 00 34 25.0 +2.1
CLL *e* 00 34 35.0
CLL *eSKS* ScS 00 34 52.0 +2.9
CLL LmH 01 00 00.0
comp=N,2μm,19.0s
CLL LmH 01 00 00.0
comp=E,2μm,18.1s
WIM **Isle of Man** 73.31 351⇑*eP* P 00 24 44.5 +0.4
SEVA **Sevastopol** 73.33 323⇓*iP* P 00 24 44.7 +0.4
P51A **Williamsport** 73.33 46 P P 00 24 44.5 0.0
baz=325
GMM **Mts of Mourne** 73.34 352⇑*eP* P 00 24 44.4 +0.2
R49A **Shelbyville** 73.34 48 P P 00 24 44.9 +0.3
baz=324,SNR=5.9
UPC **Upice** 73.35 337 *eP* P 00 24 45.2 +0.8
UPC MLR MLR
comp=Z,5μm,14.6s
UPC **Upice** 73.35 337⇑*eP* P 00 24 45.2 +0.8
UPC AMS AMS 01 03 30.0
comp=Z,5μm,14.6s
O52A **Adamsville** 73.35 45 P P 00 24 44.7 +0.1
baz=326,SNR=14
PRAR **RASCA** 73.39 329⇓*iP* P 00 24 45.0 +0.3
DPC **Dobruska-Polom** 73.42 337 *eP* P 00 24 45.9 +1.0
DPC *e* 00 24 57.4
DPC MLR MLR
comp=Z,4μm,15.7s
DPC **Dobruska-Polom** 73.42 337⇑*eP* P 00 24 45.9 +1.0
DPC *epP* pwP 00 24 57.4 -1.3
DPC AMS AMS 01 03 30.0
comp=Z,4μm,15.7s
UZH **Uzhgorod** 73.43 333 *eP* P 00 24 44.0 -0.9
UZH *e* 00 24 53.2
UZH *i* 00 25 05.4
Q50A **Georgetown** 73.44 47 P P 00 24 44.9 -0.2
baz=325
OKC **Ostrava-Krasne** 73.44 336 *eP* P 00 24 45.8 +0.9
OKC MLR MLR
comp=Z,3μm,15.8s
OKC **Ostrava-Krasne** 73.44 336⇑*eP* P 00 24 45.8 +0.9
OKC AMS AMS 01 01 00.0
comp=Z,3μm,15.8s
S48A **Wiedeman Farm,** 73.45 49 P P 00 24 45.3 +0.1
baz=324,SNR=12
N54A **Moraine State** 73.45 43 P P 00 24 45.1 -0.1
baz=326,SNR=14
BURAR **Bucovina Array** 73.48 330 *eP* P 00 24 44.6 -0.7
BURAR **Bucovina Array** 73.48 330⇑*iP* P 00 24 45.8 +0.5
BURAR **Bucovina Array** 73.48 330 P P 00 24 45.8 +0.5
BRG **Berggiesshubel** 73.49 339⇑*iP* P 00 24 45.8 +0.6
comp=Z,60nm,1.1s
BRG *i* 00 24 57.4
comp=Z,60nm,1.3s
BRG **Berggiesshubel** 73.49 339 P P 00 24 45.7 +0.6
T47A **Sharon Grove** 73.49 51 P P 00 24 45.7 +0.3
baz=324,SNR=14
O53A **New Philadelph** 73.52 45 P P 00 24 45.2 -0.4
baz=326,SNR=13
M55A **Ridgway** 73.54 42 P P 00 24 45.6 -0.2
baz=327,SNR=13
POO **Poona** 73.55 279 *eP* P 00 24 45.1 -1.0
KRLC **Kraliky** 73.57 337 *eP* P 00 24 46.6 +0.9
KRLC *e* 00 24 58.3
KRLC **Kraliky** 73.57 337⇑*eP* P 00 24 46.6 +0.9
KRLC *epP* pwP 00 24 58.3 -1.2
Q51A **Peebles** 73.58 47 P P 00 24 45.4 -0.5
baz=325
X43A **Marvell** 73.61 55 P P 00 24 46.1 -0.1
baz=323
P52A **Corning** 73.62 46 P P 00 24 45.8 -0.3
baz=326,SNR=5.6
Z41A **Richland Creek** 73.63 57 P P 00 24 46.4 +0.1
baz=322
MORC **Moravsky Berou** 73.65 336⇑*iP* P 00 24 47.5 +1.3
MORC **Moravsky Berou** 73.65 336 P P 00 24 47.5 +1.3
MORC **Moravsky Berou** 73.65 336⇑*iP* P 00 24 47.0 +0.8
CLDR **Caldiran** 73.67 314 *iP* P 00 24 47.9 +1.2
PVCC **Panska Ves** 73.67 338 *eP* P 00 24 47.1 +0.8
PVCC MLR MLR
comp=Z,4μm,14.9s
PVCC **Panska Ves** 73.67 338⇑*eP* P 00 24 47.1 +0.8
PVCC AMS AMS 01 02 50.0
comp=Z,4μm,14.9s
S49A **Springfield** 73.70 49 P P 00 24 47.0 +0.3
baz=324,SNR=14
AGRB **Haur-Agry** 73.72 314 *iP* P 00 24 48.3 +1.3
T48A **Bowling Green** 73.73 50 P P 00 24 47.0 +0.2
baz=324,SNR=6.0
LANS **Liptovska Anna** 73.73 335 *eP* P 00 24 48.4 +1.7
LANS **Liptovska Anna** 73.73 335 *eP* P 00 24 48.4 +1.7
LBWR **Ladybower, Pea** 73.73 349⇑*eP* P 00 24 46.8 +0.2
LBWR IAmb IAmb 00 24 48.2
comp=Z,113nm,1.0s
LBWR IAMs_20 IAMs_20 01 04 37.6
comp=Z,2μm,19.5s
R50A **Paris** 73.74 48 P P 00 24 46.7 -0.1
baz=325,SNR=7.1
BIZ **Bicaz** 73.81 329⇓*iP* P 00 24 48.2 +1.1
TRPA **Tarpa** 73.81 332⇑*iP* P 00 24 48.4 +1.3
TRPA **Tarpa** 73.81 332⇑*iP* P 00 24 47.1 0.0
TRPA **Tarpa** 73.81 332 *eS* S 00 34 14.0 -1.3
MDRS **Chennai** 73.82 270 *eP* P 00 24 47.7 +0.1
MDRS IAMs_20 IAMs_20 01 05 29.7
comp=Z,2μm,19.6s
WVT **Waverly** 73.83 52 *eP* P 00 24 46.5 -0.9
comp=Z,18nm,1.0s
WVT **Waverly** 73.83 52 *eP* P 00 24 46.5 -0.9
WVT pmax pmax
comp=Z,18nm,1.0s
WVT **Waverly** 73.83 52 P P 00 24 47.2 -0.2
baz=324
U47A **Clarksville** 73.84 51 P P 00 24 47.8 +0.3
baz=324,SNR=9.4
LBNH **Lisbon** 73.86 36 P P 00 24 46.4 -1.1
baz=330
KOPR **Koprukoy-ERZUR** 73.87 315 *eP* P 00 24 49.2 +1.3
WTSB **Winterswijk** 73.88 343 *eP* P 00 24 48.1 +0.7
comp=Z,174nm,1.0s
WTSB *eX* pP 00 24 59.6 +1.3
PKME **Peaks-Kenny Pk** 73.91 34 P P 00 24 46.5 -1.3
baz=331
O54A **Avella** 73.93 44 P P 00 24 47.8 -0.2
baz=326,SNR=11
KTUT **Trabzon** 73.93 317 *iP* P 00 24 47.8 -0.2
KTUT **Trabzon** 73.93 317⇓*iP* P 00 24 48.0 0.0
833A **Chaparral WMA,** 73.94 65 *eP* P 00 24 49.4 +1.2
comp=Z,35nm,1.3s
833A **Chaparral WMA,** 73.94 65 P P 00 24 48.1 -0.1
baz=321
BMR **Baia Mare** 73.95 331⇑*iP* P 00 24 49.0 +1.1
V46A **Holladay** 73.96 52 P P 00 24 48.2 0.0
baz=324,SNR=9.9
TESR **Tescani** 74.02 329⇑*iP* P 00 24 48.6 +0.2
WME **Myndd Eilian** 74.02 351⇑*eP* P 00 24 48.3 +0.1
N55A **Marion Center** 74.02 43 P P 00 24 48.5 0.0
baz=327,SNR=15
WPS **Cemaes, Angles** 74.04 351 *eP* P 00 24 48.4 +0.1
WPS IAmb IAmb 00 24 50.0
comp=Z,35nm,1.1s
BINY **Binghamton** 74.06 40 P P 00 24 48.0 -0.7
baz=328
R51A **Hillsboro** 74.06 47 P P 00 24 49.1 +0.3
baz=325,SNR=7.2
P53A **Whipple** 74.07 45 P P 00 24 48.8 0.0
baz=326,SNR=7.5
KECS **Kecovo** 74.07 334 *eP* P 00 24 49.7 +1.1
KECS pmax pmax
comp=Z,175nm,1.0s
KECS **Kecovo** 74.07 334 *eP* P 00 24 49.7 +1.1
STNC **Stoke** 74.09 349 *eP* P 00 24 49.7 +1.0
STNC IAmb IAmb 00 24 49.9
comp=Z,49nm,1.0s
STNC IAMs_20 IAMs_20 01 06 42.7
comp=Z,1μm,13.7s
WACR **West Acre** 74.10 347⇑*eP* P 00 24 49.9 +1.2
WACR IAmb IAmb 00 24 50.3
comp=Z,186nm,1.1s
WACR IAMs_20 IAMs_20 01 05 03.3
comp=Z,1μm,16.2s
Q52A **Bidwell** 74.11 46 P P 00 24 48.7 -0.3
baz=326,SNR=7.3
DZM **Mont Dzumac** 74.12 174 *eP* P 00 24 51.7 +2.5
comp=Z,69nm,1.2s
DZM **Mont Dzumac** 74.12 174 *eLR* LR 00 47 37.0
comp=Z,1μm,22.9s
DZM **Mont Dzumac** 74.12 174 *eP* P 00 24 50.5 +1.4
comp=Z,44nm,1.3s
WLF1 **Llynfaes** 74.14 351 *eP* P 00 24 49.2 +0.4
WLF1 IAmb IAmb 00 24 50.2
comp=Z,133nm,1.4s
WLF1 IAMs_20 IAMs_20 01 06 44.4
comp=Z,3μm,14.9s
T49A **Edmonton** 74.14 49 P P 00 24 49.4 +0.1
baz=324,SNR=7.9
U48A **Cassie Pea, Po** 74.14 50 P P 00 24 49.4 +0.2
baz=324,SNR=8.8
PRU **Pruhonice** 74.18 338 *eP* P 00 24 50.2 +1.0
PRU *e* 00 25 02.1
PRU MLR MLR
comp=Z,4μm,13.5s
PRU **Pruhonice** 74.18 338⇑*eP* P 00 24 50.2 +1.0
PRU *epP* pwP 00 25 02.1 -0.9
PRU AMS AMS 01 03 50.0
comp=Z,4μm,13.5s
HNH **Hanover** 74.19 37 *eP* P 00 24 50.8 +1.4
comp=Z,35nm,1.4s
YRC **Rhoscolyn** 74.19 351⇑*eP* P 00 24 49.2 0.0
GOPC **GO Pecny, Ondr** 74.19 338 *eP* P 00 24 50.3 +0.9
GOPC MLR MLR
comp=Z,3μm,13.9s
GOPC **GO Pecny, Ondr** 74.19 338⇑*eP* P 00 24 50.3 +0.9
GOPC AMS AMS 01 03 40.0
comp=Z,3μm,13.9s
S50A **Richmond** 74.20 48 P P 00 24 49.8 +0.2
baz=325
MOX **Moxa** 74.21 340 P P 00 24 50.3 +0.9
ARCR **ARCALIA** 74.22 331⇑*iP* P 00 24 51.2 +1.7
V47A **Nunnelly** 74.22 52 P P 00 24 49.9 +0.1
baz=324,SNR=7.0
YLL **Llanberis** 74.26 350⇑*eP* P 00 24 49.8 +0.1
MLAZ **Malazgirt-MUS** 74.27 314 *iP* P 00 24 51.6 +1.4
VRAC **Vranov** 74.32 336⇑*iP* P 00 24 51.5 +1.4
VRAC **Vranov** 74.32 336 P P 00 24 51.5 +1.4
VRAC **Vranov** 74.32 336⇑*iP* P 00 24 51.2 +1.1
CWF **Charnwood Fore** 74.34 349⇑*eP* P 00 24 50.5 +0.4
CWF IAmb IAmb 00 24 51.8
comp=Z,100nm,1.2s
VANB **Van** 74.35 314 *iP* P 00 24 52.0 +1.4
OXF **Oxford** 74.35 54 *eP* P 00 24 52.0 +1.5
comp=Z,82nm,1.1s
OXF **Oxford** 74.35 54 *eP* P 00 24 52.0 +1.5
OXF pmax pmax
comp=Z,82nm,1.1s
OXF **Oxford** 74.35 54 P P 00 24 50.0 -0.5
baz=323
W46A **Michie** 74.36 53 P P 00 24 50.3 -0.3
baz=324
DSB **Dublin** 74.36 352 *eP* P 00 24 47.9 -2.3
DSB *iPP* P 00 24 50.6 +0.4
DSB *eS* S 00 34 21.2 -0.1
O55A **Ligonier** 74.37 43 P P 00 24 50.4 -0.1
baz=327,SNR=11
P54A **Burton** 74.37 45 P P 00 24 50.5 -0.1
baz=326,SNR=16
FOEL **Foel Wylfa** 74.41 350⇑*eP* P 00 24 51.1 +0.5
FOEL IAmb IAmb 00 24 52.2
comp=Z,105nm,1.0s
FOEL IAMs_20 IAMs_20 01 04 54.3
comp=Z,1μm,18.5s
GIUM **Giurgiulesti** 74.42 327⇑*iP* P 00 24 52.0 +1.3
NKC **Novy Kostel** 74.42 339 *eP* P 00 24 51.7 +1.0
NKC MLR MLR
comp=Z,2μm,13.5s
NKC **Novy Kostel** 74.42 339⇑*eP* P 00 24 51.7 +1.0
NKC AMS AMS 01 04 30.0
comp=Z,2μm,13.5s
IGLA **Glengowla, Co** 74.42 354 *eP* P 00 24 48.0 -2.6
IGLA *iPP* P 00 24 50.8 +0.2
IGLA *eS* S 00 34 21.8 -0.1
R52A **Catlettsburg** 74.46 47 P P 00 24 50.5 -0.5
baz=326
JAVC **Velka Javorina** 74.47 336⇑*iP* P 00 24 52.9 +1.9
TLCR 74.47 327⇓*iP* P 00 24 51.7 +0.7
TLCR 74.47 327 P P 00 24 51.6 +0.6
OUENC **Ouen Island, N** 74.49 174 *eP* P 00 24 53.3 +2.2
comp=Z,65nm,1.4s
LLW **Llanuwychllyn** 74.50 350⇑*eP* P 00 24 51.1 +0.1
U49A **Red Boiling Sp** 74.50 50 P P 00 24 51.4 +0.1
baz=324,SNR=11
VYHS **Vyhne** 74.50 335 *eP* P 00 24 52.3 +1.1
VYHS pmax pmax
comp=Z,44nm,1.1s
VYHS **Vyhne** 74.50 335 *eP* P 00 24 52.3 +1.1
Q53A **Leroy** 74.53 46 P P 00 24 51.6 +0.1
baz=326,SNR=17
PETR **Petresti** 74.53 328⇓*iP* P 00 24 53.2 +1.9
T50A **Nancy** 74.53 49 P P 00 24 51.6 +0.1
baz=325,SNR=12
ODBI **Odobesti** 74.55 328⇓*iP* P 00 24 53.3 +1.9
VRI **Vrincioaia** 74.56 328⇓*iP* P 00 24 52.4 +0.8
VRI **Vrincioaia** 74.56 328 P P 00 24 52.4 +0.8
MCWV **Mont Chateau** 74.59 44 P P 00 24 52.1 +0.3
baz=327,SNR=6.2
S51A **Beattyville** 74.60 48 P P 00 24 51.8 -0.1
baz=325
KRUC **Moravsky** 74.60 336 P P 00 24 52.8 +1.0
KRUC **Moravsky** 74.60 336⇑*iP* P 00 24 52.7 +1.0
SSPA **Standing Stone** 74.60 42 *eP* P 00 24 52.4 +0.5
comp=Z,96nm,1.6s
SSPA **Standing Stone** 74.60 42 P P 00 24 51.2 -0.7
baz=327
PLOR **Plostina** 74.60 328⇑*iP* P 00 24 52.3 +0.5
PLOR **Plostina** 74.60 328 P P 00 24 52.3 +0.5
TREC **Trest** 74.61 337⇑*iP* P 00 24 52.7 +0.9
TREC *e* 00 25 04.0
TREC MLR MLR
comp=Z,5μm,15.4s
TREC **Trest** 74.61 337⇑*iP* P 00 24 52.7 +0.9
TREC *epP* pP 00 25 04.0 +1.1
TREC AMS AMS 01 04 10.0
comp=Z,5μm,15.4s
O56A **Blue Knob Stat** 74.63 43 P P 00 24 51.6 -0.5
baz=327,SNR=8.7
V48A **Smith Brothers** 74.63 51 P P 00 24 52.2 +0.1
baz=324,SNR=8.6
W47A **Westpoint** 74.65 52 P P 00 24 52.5 +0.2
baz=324,SNR=6.7
OZUR 74.66 329⇑*iP* P 00 24 53.3 +1.1
LTVH **Ltavrtes, Hu** 74.67 332⇑*iP* P 00 24 53.1 +0.9
LTVH **Ltavrtes, Hu** 74.67 332 *eS* S 00 34 30.0 +5.1
CFR **Carcaliu** 74.71 327⇑*iP* P 00 24 52.7 +0.3
CFR **Carcaliu** 74.71 327 P P 00 24 52.7 +0.3
Q54A **Coxs Mills** 74.72 45 P P 00 24 52.5 -0.1
baz=326,SNR=5.8
X46A **Booneville** 74.72 53 P P 00 24 52.6 0.0
baz=324
P55A **Reedsville** 74.73 44 P P 00 24 53.2 +0.6
baz=327,SNR=16
VRTB **Varto-Mus** 74.73 315 *eP* P 00 24 55.1 +2.2
HLM1 **Long Mynd** 74.73 350⇑*eP* P 00 24 52.0 -0.4
HLM1 IAmb IAmb 00 24 53.1
comp=Z,88nm,1.1s
PSZ **Piszkesteto** 74.75 334⇑*iP* P 00 24 54.1 +1.4
AKDM **Akdamar-Van** 74.75 314 *eP* P 00 24 53.8 +0.8
R53A **Hurricane** 74.77 46 P P 00 24 53.0 +0.1
baz=326
CJR **Cluj-Napoca** 74.78 331⇓*iP* P 00 24 54.2 +1.3
CJR **Cluj-Napoca** 74.78 331 P P 00 24 54.1 +1.2
KARO **Karliova-Bingo** 74.79 316 *eP* P 00 24 53.9 +0.7
S52A **Salyersville** 74.80 47 P P 00 24 53.4 +0.3
baz=325,SNR=12
SMOL **Smolenice** 74.85 336 *eP* P 00 24 55.1 +1.9
SMOL **Smolenice** 74.85 336 *eP* P 00 24 55.1 +1.9
BISRR **Bisoca** 74.85 328⇑*iP* P 00 24 55.2 +1.9
YEDI **Yedisu-Bingol** 74.90 316 *eP* P 00 24 53.9 +0.1
SNOP **Sinop** 74.90 321 *eP* P 00 24 53.7 +0.2
DOPR **Dopca** 74.90 329⇓*iP* P 00 24 54.8 +1.3
GRER 74.91 328⇓*iP* P 00 24 55.2 +1.6
DRGR 74.97 331⇑*iP* P 00 24 54.5 +0.4
DRGR 74.97 331 P P 00 24 54.4 +0.4
T51A **Gray** 74.99 48 P P 00 24 54.0 -0.1
baz=325
MODS **Modra-Piesok** 75.02 336 *eP* P 00 24 54.8 +0.6
MODS pmax pmax
comp=Z,84nm,1.0s
MODS **Modra-Piesok** 75.02 336 *eP* P 00 24 54.8 +0.6
U50A **Jamestown** 75.02 49 P P 00 24 54.4 0.0
baz=325,SNR=11
Q55A **Buckhannon** 75.04 45 P P 00 24 54.9 +0.4
baz=327,SNR=8.8
V49A **McMinnville** 75.05 50 P P 00 24 54.4 -0.2
baz=325,SNR=7.2
MDB **Medias** 75.06 330⇑*iP* P 00 24 56.0 +1.6
W48A **Pulaski** 75.06 52 P P 00 24 54.6 0.0
baz=324,SNR=8.6
X47A **Russelville** 75.11 53 P P 00 24 54.5 -0.4
baz=324
MLR **Muntele Rosu** 75.15 329⇓*iP* P 00 24 56.0 +0.9
MLR **Muntele Rosu** 75.15 329 P P 00 24 56.0 +0.9
HGN **Heimansgroeve** 75.19 344 *eP* P 00 24 56.0 +0.9
comp=Z,304nm,1.2s
HGN *eX* pP 00 25 07.3 +1.3
DIKM **Dikmen** 75.19 321 *eP* P 00 24 56.3 +1.0
DIKM **Dikmen** 75.19 321⇑*iP* P 00 24 56.3 +1.0
GRF **Grafenberg Arr** 75.19 340 P P 00 24 56.7 +1.5
GRFO **Grafenberg** 75.19 340 *eP* P 00 24 56.5 +1.4
comp=Z,144nm,1.1s
GRFO **Grafenberg** 75.19 340 *eP* P 00 24 56.5 +1.4
GRFO pmax pmax
comp=Z,144nm,1.1s
BEBN **Eben Emael** 75.20 344 ⇑P P 00 24 56.0 +0.9
comp=Z,12nm,1.3s
BEBN ⇓PcP PcP 00 25 07.5 -1.0
KHC **Kasperske Hory** 75.20 338 *eP* P 00 24 56.2 +0.9
KHC *e* 00 25 06.5
KHC *e* 00 25 17.5
KHC MLR MLR
comp=Z,5μm,13.6s
KHC **Kasperske Hory** 75.20 338⇑*eP* P 00 24 56.2 +0.9
KHC *epP* pP 00 25 06.5 +0.4
KHC *ex* x 00 25 17.5
KHC AMS AMS 01 04 30.0
comp=Z,5μm,13.6s
BNGB **Bingl** 75.21 316 *eP* P 00 24 56.6 +1.0
ZST **Bratislava** 75.23 336 *eP* P 00 24 56.4 +1.1
ZST **Bratislava** 75.23 336 *eP* P 00 24 56.4 +1.1
N59A **State Game Lan** 75.23 41 P P 00 24 55.3 -0.2
baz=328,SNR=5.9
S53A **Williamson** 75.23 47 P P 00 24 55.6 0.0
baz=326
TNS **Taunus Mts** 75.25 342 P P 00 24 56.5 +1.0
MCH1 **Michaelchurch** 75.26 350⇑*eP* P 00 24 55.9 +0.4
MCH1 IAmb IAmb 00 24 57.0
comp=Z,58nm,0.9s
MCH1 IAMs_20 IAMs_20 01 07 29.6
comp=Z,1μm,14.8s
IWEX **Carrickbyrne,** 75.26 352 *eP* P 00 24 53.7 -1.7
IWEX *iPP* P 00 24 56.2 +0.8
IWEX *eS* S 00 34 30.7 -0.7
TLB **Topalu** 75.26 327⇓*iP* P 00 24 56.3 +0.7
TLB **Topalu** 75.26 327 P P 00 24 56.2 +0.7
SRO **Srobarova** 75.27 335 *eP* P 00 24 57.4 +1.9
SRO **Srobarova** 75.27 335 *eP* P 00 24 57.4 +1.9
SRO2 **Moca** 75.29 335 *eP* P 00 24 56.1 +0.4
SRO2 **Moca** 75.29 335 *eP* P 00 24 56.1 +0.4
T52A **Hallie** 75.31 48 P P 00 24 56.4 +0.4
baz=326,SNR=9.5
R54A **Victor** 75.32 46 P P 00 24 56.0 -0.1
baz=326,SNR=7.4
MEM **Membach** 75.33 344 P P 00 24 57.0 +1.2
MEM **Membach** 75.33 344 ⇑P P 00 24 56.5 +0.6
comp=Z,201nm,1.1s
MEM ⇑PcP PcP 00 25 08.6 -0.4
WRAB **Tennant Creek** 75.35 205 *eP* P 00 24 56.9 +0.6
comp=Z,62nm,1.1s
WRAB **Tennant Creek** 75.35 205*c iP* P 00 24 56.4 +0.2
WRAB pmax pmax
comp=Z,66nm,1.2s
WET **Wettzell** 75.35 339 P P 00 24 57.3 +1.2
CUKT **Cukurca** 75.36 313 *eP* P 00 24 56.9 +0.4
WRA **Warramunga Arr** 75.36 205 P P 00 24 56.1 -0.2
comp=Z,33nm,1.1s,baz=21,slow=5.6,SNR=52
WC3 **Warramunga Arr** 75.37 205 *eP* P 00 24 56.2 -0.1

comp=Z,62nm,1.1s
KVT Kavak 75.37 320 P P 00 24 57.6 +1.3
STRD Stroud 75.38 349⇑ eP P 00 24 56.8 +0.7
STRD IAmb IAmb 00 24 57.9
comp=Z,169nm,1.2s
STRD IAMs_20 IAMs_20 01 07 21.4
comp=Z,1µm,12.8s
MONM Monmouth 75.39 349⇑ eP P 00 24 56.8 +0.6
MONM IAmb IAmb 00 24 58.0
comp=Z,104nm,0.9s
MONM IAMs_20 IAMs_20 01 07 25.2
comp=Z,2µm,14.9s
W49A Belvidere 75.40 51 P P 00 24 56.5 0.0
baz=324,SNR=6.2
BZK Bozkurt 75.41 322 P P 00 24 57.2 +0.8
BZK Bozkurt 75.41 322 ⇓ iP P 00 24 57.3 +0.8
UCC Uccle 75.42 345 ⇑P P 00 24 56.7 +0.3
UCC ⇓PcP PcP 00 25 08.4 -1.0
RSDY Resadiye-TOKAT 75.43 319 P P 00 24 57.7 +1.0
U51A La Follette 75.43 49 P P 00 24 56.9 +0.1
baz=325,SNR=10
GERES GERESS Array B 75.44 338 eP P 00 24 56.6 -0.1
GERES GERESS Array B 75.44 338 eP P 00 24 56.6 -0.1
GERES GERESS Array B 75.44 338 P P 00 24 57.0 +0.3
comp=Z,26nm,1.0s,baz=35,slow=4.9,SNR=113
GERES LR LR 01 02 33.3
comp=Z,1µm,18.5s,baz=26,slow=39
VOIR 75.48 329⇑ iP P 00 24 58.1 +1.2
VOIR 75.48 329 P P 00 24 58.1 +1.2
CVDA Cernavoda 75.49 327 ⇓ iP P 00 24 57.9 +1.0
RSBS Rosebush, Pemb 75.49 351⇑ eP P 00 24 56.9 +0.1
RSBS IAmb IAmb 00 24 58.2
comp=Z,41nm,1.2s
RSBS IAMs_20 IAMs_20 01 05 44.3
comp=Z,812nm,14.4s
HRV Adam Dziewonsk 75.49 37 eP P 00 24 58.5 +1.5
comp=Z,40nm,1.1s
HRV Adam Dziewonsk 75.49 37 eP P 00 24 58.5 +1.5
HRV pmax pmax
comp=Z,40nm,1.1s
HRV Adam Dziewonsk 75.49 37 P P 00 24 56.4 -0.6
baz=330
MFTR Murfatlar 75.50 327 ⇓ iP P 00 24 57.7 +0.8
V50A Pikevile 75.50 50 P P 00 24 57.0 -0.2
baz=325,SNR=9.0
TZTN Tazewell 75.52 48 P P 00 24 57.4 +0.2
baz=325
X48A Hartselle 75.56 52 P P 00 24 57.6 +0.1
baz=324
ELSH Elham, Standar 75.57 347⇑ eP P 00 24 58.2 +0.9
ELSH IAmb IAmb 00 24 59.2
comp=Z,194nm,1.1s
ELSH IAMs_20 IAMs_20 01 05 24.5
comp=Z,2µm,17.5s
O59A Robesonia 75.57 41 P P 00 24 57.7 +0.2
baz=328
SWN1 Swindon 75.60 349⇑ eP P 00 24 58.2 +0.9
SWN1 IAmb IAmb 00 24 59.4
comp=Z,254nm,1.0s
R55A Marlinton 75.62 45 P P 00 24 58.6 +0.7
baz=327,SNR=8.0
T53A Wise 75.62 47 P P 00 24 58.3 +0.4
baz=326,SNR=6.4
VBMS Vicksburg 75.62 56 P P 00 24 58.3 +0.4
baz=323
BCLA Clavier 75.63 344 ⇑P P 00 24 58.2 +0.6
comp=Z,74nm,1.3s
BCLA ⇓PcP PcP 00 25 09.8 -0.5
MTUR Matau 75.66 329 ⇓ iP P 00 24 59.2 +1.2
MTUR Matau 75.66 329 P P 00 24 59.1 +1.1
ARR Arges 75.67 330⇑ iP P 00 24 59.7 +1.7
SVAN Silvan-Diyarba 75.68 315 eP P 00 24 59.5 +1.3
SNF Seneffe 75.71 345 ⇑P P 00 24 58.8 +0.7
comp=Z,60nm,1.0s
SNF ⇑PcP PcP 00 25 10.6 0.0
U52A Thorn Hill 75.72 48 P P 00 24 58.4 0.0
baz=326,SNR=12
Q57A Strasburg 75.72 43 P P 00 24 58.5 +0.2
baz=327
WOL Wolverton 75.72 348⇑ eP P 00 24 58.5 +0.4
WOL IAmb IAmb 00 24 59.6
comp=Z,142nm,0.9s
DEV Deva 75.74 331 ⇓ iP P 00 24 59.2 +0.9
DEV Deva 75.74 331 P P 00 24 59.2 +0.9
V51A Loudon 75.75 49 P P 00 24 58.5 -0.1
baz=325,SNR=8.6
ICOR Ion Corvin 75.76 327⇑ iP P 00 24 59.7 +1.3
LEHL Lehliu 75.77 328⇑ iP P 00 24 59.2 +0.7
SULR 75.77 328 ⇓ iP P 00 24 59.4 +0.9
BCX Boston College 75.78 37 eP P 00 24 59.3 +0.7
comp=Z,26nm,1.1s
CONA Conrad Observa 75.79 336 eP P 00 25 00.1 +1.5
comp=Z,79nm,1.0s,SNR=51
W50A Signal Mountai 75.79 50 P P 00 24 59.0 +0.1
baz=325,SNR=9.3
GRC1 Grafenberg Arr 75.79 339 P P 00 24 59.6 +1.0
TOKT Tokat 75.81 319 eP P 00 24 59.9 +1.0
SOP Sopron 75.84 336⇑ iP P 00 25 00.1 +1.2
SOP Sopron 75.84 336 eS SKiKP 00 34 26.0 +10
X49A Woodville 75.86 52 P P 00 24 59.3 +0.1
baz=325,SNR=9.2
LOT Lotru 75.87 330⇑ iP P 00 24 59.4 +0.2
S55A Lewisburg 75.87 46 P P 00 24 59.3 0.0
baz=327
O60A Telford 75.88 41 P P 00 24 58.6 -0.6
baz=329
PAL Palisades 75.89 39 P P 00 24 59.2 0.0
baz=329,SNR=5.3
GOA Goa 75.89 277 eP P 00 24 59.2 -0.4
GOA IAmb IAmb 00 25 01.3
comp=Z,107nm,1.7s
BRNJ Basking Ridge 75.91 40 eP P 00 25 00.6 +1.3
comp=Z,47nm,1.4s
Y48A Jasper 75.94 52 P P 00 24 58.8 -0.9
baz=324
VAL Valentia 75.95 354 eP P 00 24 57.1 -2.3
VAL iPP P 00 25 00.0 +0.6
VAL eS S 00 34 39.4 +0.4
SVSK Karacayir 75.97 319 eP P 00 25 00.9 +1.2
T54A Tazewell 75.99 47 P P 00 25 00.5 +0.5
baz=326,SNR=9.2
KURC Kurucasile-Bar 75.99 322 eP P 00 24 59.3 -0.5
PSN Preselentsi 76.01 326 iP P 00 25 00.8 +0.9
GIVF Givet 76.02 344 eP P 00 25 00.0 +0.2
GIVF pmax pmax
comp=Z,92nm,1.2s
CPNY Central Park 76.05 40 eP P 00 25 01.4 +1.2
comp=Z,100nm,1.4s
DOU Dourbes 76.06 344 ⇑P P 00 25 00.6 +0.6
comp=Z,43nm,1.1s
DOU ⇑PcP PcP 00 25 12.5 +0.4
P59A Jarrettsville 76.06 42 P P 00 24 59.3 -1.0
baz=328,SNR=9.5
V52A Sevierville 76.07 49 P P 00 25 00.3 -0.1
baz=326,SNR=7.4
W51A Cleveland 76.08 50 P P 00 25 00.5 +0.1
baz=325,SNR=5.7
U53A Fall Branch 76.11 48 P P 00 25 01.1 +0.5
baz=326,SNR=11
BAIF Baives 76.16 345 eP P 00 25 01.0 +0.4
BAIF pmax pmax
comp=Z,69nm,1.0s
KTD Kalmit 76.18 342 P P 00 25 02.1 +1.3
WLF Walferdange 76.21 343 ⇓P P 00 25 01.9 +1.0
comp=Z,40nm,1.3s
WLF ⇑sP pwP 00 25 15.4 -0.2
GZR Gura Zlata 76.22 331⇑ iP P 00 25 01.5 +0.4
P60A Greenville 76.22 41 P P 00 25 01.0 -0.1
baz=328
TIH Tihany 76.22 335⇑ iP P 00 25 01.1 +0.1
X50B Fort Payne 76.23 51 P P 00 25 01.4 +0.1
baz=325
MOA Molln 76.25 337 eP P 00 25 02.3 +1.1
comp=Z,40nm,1.0s,SNR=19
SGRR Singureni 76.27 328⇑ iP P 00 25 01.8 +0.5
FITZ Fitzroy Crossi 76.28 214 P P 00 25 02.0 +0.5
comp=Z,33nm,0.9s,baz=32,slow=5.8,SNR=26
GBN Guysborough 76.29 29 eP P 00 25 01.5 +0.1
comp=Z,98nm,1.4s
T55A Pulaski 76.29 46 P P 00 25 01.9 +0.2
baz=326,SNR=6.3
R57A Stanardsville 76.30 44 P P 00 25 01.9 +0.3
baz=327,SNR=6.7
SVRC Sivrice-ELAZID 76.31 316 eP P 00 25 03.5 +1.6
HUMR Humele 76.32 329⇑ iP P 00 25 01.2 -0.4

U54A Nelsons Funny 76.32 47 P P 00 25 01.5 -0.4
baz=326,SNR=6.3
HAL Halifax 76.35 31 eP P 00 25 02.6 +0.9
comp=Z,36nm,1.0s
HAL Halifax 76.35 31 eP P 00 25 02.7 +0.9
HAL pmax pmax
comp=Z,36nm,1.0s
Y49A Blount Mountai 76.35 52 P P 00 25 01.8 -0.2
baz=325
BZS Buzias 76.36 332⇑ iP P 00 25 02.2 +0.4
BZS Buzias 76.36 332 P P 00 25 02.2 +0.4
S56A Natural Bridge 76.36 45 P P 00 25 01.9 -0.1
baz=327
BLA Blacksburg 76.38 46 P P 00 25 01.4 -0.7
baz=327
ZAIG Zacatecas 76.44 70 eP P 00 25 03.9 +0.9
comp=Z,22nm,1.1s
STU Stuttgart 76.49 341 P P 00 25 03.6 +1.1
ARSA Arzberg 76.50 336 eP P 00 25 04.0 +1.4
comp=Z,63nm,1.0s,SNR=38
R58A Rapidan 76.52 44 P P 00 25 02.7 -0.1
baz=328,SNR=6.7
X51A Calhoun 76.52 50 P P 00 25 02.9 0.0
baz=325
W52A Murphy 76.53 50 P P 00 25 03.3 +0.2
baz=326,SNR=6.1
S57A Dark Hollow, R 76.56 45 P P 00 25 03.1 0.0
baz=327,SNR=6.7
LANF Langenberg 76.56 342 P P 00 25 04.1 +1.1
V53A Saluda 76.57 48 P P 00 25 03.4 +0.1
baz=326,SNR=5.4
Q59A Harwood 76.60 42 P P 00 25 02.9 -0.4
baz=328
FUR Furstenfeldbru 76.63 339 P P 00 25 04.4 +1.0
M65A Busby, Falmout 76.65 37 P P 00 25 02.6 -0.9
baz=331
Y50A Piedmont 76.65 51 P P 00 25 03.5 -0.2
baz=325,SNR=7.7
U55A TA2, Sparta 76.69 47 P P 00 25 03.9 0.0
baz=326,SNR=5.9
CORM Corum 76.70 320 iP P 00 25 05.5 +1.5
T56A Rocky Mt 76.70 46 P P 00 25 03.6 -0.3
baz=327
PRD Provadia 76.71 327 iP P 00 25 04.7 +0.9
BANR Banloc 76.71 332⇑ iP P 00 25 05.1 +1.3
CANT Cankiri 76.72 321 iP P 00 25 05.5 +1.4
LRAL Lakeview Retre 76.73 53 P P 00 25 03.7 -0.5
baz=324
SRE Strehaia 76.75 330⇓ iP P 00 25 04.9 +0.8
SRE Strehaia 76.75 330 P P 00 25 04.8 +0.7
HERR Herculane 76.79 331⇑ iP P 00 25 04.1 -0.2
W53A Cullowhee 76.82 49 P P 00 25 04.9 +0.1
baz=326,SNR=5.7
Z49A Columbiana 76.83 52 P P 00 25 03.9 -0.8
baz=325
R58B Mineral 76.85 44 P P 00 25 04.8 +0.1
baz=328
CBN Corbin Frederi 76.86 43 P P 00 25 04.5 -0.2
baz=328
V54A Nebo 76.88 48 P P 00 25 04.7 -0.3
baz=326,SNR=6.3
YOZ Yozgat 76.89 320 iP P 00 25 05.8 +0.7
BEHE Becsehely 76.91 335⇑ iP P 00 25 06.0 +1.1
DARE Darende-Malaty 76.91 318 P P 00 25 06.6 +1.4
X52A Dahlonega 76.94 50 P P 00 25 05.4 0.0
baz=326,SNR=9.3
Y51A Rockmart 76.97 51 P P 00 25 05.4 -0.1
baz=325,SNR=8.1
R59A King George, V 76.97 43 P P 00 25 05.3 -0.1
baz=328
VLAD Vladila 76.97 329⇑ iP P 00 25 05.6 +0.3
T57A Hurt 77.07 45 P P 00 25 05.9 -0.1
baz=327
S58A Poland Farm, P 77.07 44 P P 00 25 06.2 +0.2
baz=328
Z50A Ashland 77.08 52 P P 00 25 05.7 -0.4
baz=325,SNR=10
BFO Black Forest 77.08 341 eP P 00 25 06.7 +0.7
comp=Z,81nm,1.2s
BFO Black Forest 77.08 341 iP P 00 25 06.6 +0.7
MDVR Moldovita 77.09 331⇑ iP P 00 25 06.3 +0.2
U56A King 77.11 46 P P 00 25 06.2 -0.1
baz=327
SZH Strazhica 77.14 328 iP P 00 25 06.4 +0.1
R60A Leonardtown, M 77.14 43 P P 00 25 05.4 -0.9
baz=328
V55A Taylorsville 77.15 47 P P 00 25 06.2 -0.3
baz=326
SOKA Soboth 77.16 336 iP P 00 25 07.5 +1.1
comp=Z,84nm,1.1s,SNR=37
PERS Pernice 77.17 336 eP P 00 25 07.5 +1.0
PUNG Punghina 77.18 330⇑ iP P 00 25 06.6 +0.1
149A Jones 77.19 53 P P 00 25 06.7 0.0
baz=325
KBA Koelnbreinsper 77.19 338 eP P 00 25 08.4 +1.6
comp=Z,239nm,0.9s,SNR=114
KBA Koelnbreinsper 77.19 338 P P 00 25 08.1 +1.4
CDF Champ du Feu 77.20 342 eP P 00 25 07.0 +0.3
CDF pmax pmax
comp=Z,128nm,1.2s
S59A Mechanicsville 77.27 43 P P 00 25 08.0 +0.9
baz=328
FRGS Fruska Gora 77.30 333 eP P 00 25 07.9 +0.7
URFA Urfa 77.31 316 iP P 00 25 08.8 +1.4
X53A Estanollee 77.31 49 P P 00 25 07.4 +0.1
baz=326,SNR=10
W54A Cherokee Point 77.34 48 P P 00 25 07.1 -0.4
baz=326
WATA Walderalm 77.35 339 eP P 00 25 08.9 +1.3
comp=Z,69nm,1.1s,SNR=33
RETA Reutte 77.38 339 eP P 00 25 08.7 +1.1
comp=Z,48nm,1.0s,SNR=13
Z51A Franklin 77.39 51 P P 00 25 07.2 -0.7
baz=325
WTTA Wattenberg 77.40 339 eP P 00 25 09.4 +1.5
comp=Z,114nm,1.1s,SNR=48
ECH Echery 77.42 342 P P 00 25 08.7 +0.9
T58A Grand View Acr 77.42 45 P P 00 25 08.1 +0.1
baz=328,SNR=5.5
OBKA Obir 77.43 337 eP P 00 25 09.1 +1.1
comp=Z,72nm,1.1s,SNR=18
MOTA Moosalm 77.44 339 eP P 00 25 09.2 +1.1
comp=Z,38nm,0.9s,SNR=68
Y52A Lilburn 77.47 50 P P 00 25 08.7 +0.4
baz=326,SNR=5.5
BR131 Keskin Array S 77.47 321 P P 00 25 08.7 +0.3
SNR=78
BRTR Keskin Array B 77.48 321 P P 00 25 08.6 +0.2
comp=Z,52nm,0.9s,baz=46,slow=3.6,SNR=244
U57A Blanch 77.50 46 P P 00 25 08.6 +0.2
baz=327
V56A Mocksville 77.51 47 P P 00 25 08.3 -0.1
baz=327
249A Camden 77.53 54 P P 00 25 08.9 +0.2
baz=325
SQTA Sankt Quirin 77.54 339 eP P 00 25 09.9 +1.3
comp=Z,102nm,1.0s,SNR=59
MYKA Terra Mystica 77.54 337 eP P 00 25 09.2 +0.6
comp=Z,43nm,1.3s,SNR=14
150A Eclectic 77.56 52 P P 00 25 09.3 +0.5
baz=325
S60A Water View 77.58 43 P P 00 25 10.6 +1.7
baz=328
SLE Schleitheim 77.59 341 P P 00 25 09.5 +0.7
JMB Yambol 77.63 327 iP P 00 25 09.4 +0.3
LOD Lodumlu 77.67 321 eP P 00 25 09.4 0.0
ANTO Ankara 77.68 321 eP P 00 25 10.3 +0.9
comp=Z,130nm,1.0s
ANTO Ankara 77.68 321 ⇓ iP P 00 25 10.9 +1.4
ANTO Ankara 77.68 321 eP P 00 25 10.3 +0.9
ANTO pmax pmax
comp=Z,130nm,1.0s
ANTO Ankara 77.68 321 P P 00 25 10.2 +0.7
SNR=44
ANTO P P 00 25 10.2 +0.7
SNR=44
KMSC Kings Mountain 77.69 48 P P 00 25 09.3 -0.2
baz=327,SNR=5.6
ABTA Abfaltersbach 77.69 338 eP P 00 25 10.3 +0.9
comp=Z,83nm,1.0s,SNR=33
X54A Belton 77.70 49 P P 00 25 09.7 +0.2
baz=326,SNR=6.3
Y53A Monroe 77.70 50 P P 00 25 08.9 -0.7
baz=326
BR231 Keskin MP Arra 77.71 321 eP P 00 25 09.8 +0.1
comp=Z,127nm,1.0s
ZAG Zagreb 77.71 335 eP P 00 25 10.7 +1.3

MDUB Mudurnu 77.76 323 eP P 00 25 10.6 +0.7
DAVA Damuels 77.76 340 eP P 00 25 11.0 +1.1
comp=Z,58nm,1.1s,SNR=22
MPEP Malo Peshtene 77.76 329 P P 00 25 08.2 -1.6
V57A Coltrane Farms 77.77 46 P P 00 25 09.7 -0.2
baz=327
HAU Haudompre 77.77 343 eP P 00 25 10.0 +0.2
HAU pmax pmax
comp=Z,117nm,1.1s
MOF Molkenrain 77.77 342 P P 00 25 10.7 +0.8
T59A Double "B" Far 77.82 44 P P 00 25 10.3 +0.1
baz=328,SNR=6.9
FETA Feichten 77.83 339 iP P 00 25 11.6 +1.3
comp=Z,74nm,1.0s,SNR=34
SAUV Serdivan-Sakar 77.84 324 eP P 00 25 10.8 +0.5
CRES Cresnjev 77.85 336 eP P 00 25 11.0 +0.8
Z52A Williamson 77.86 51 P P 00 25 10.3 -0.1
baz=326,SNR=6.7
HINF Hinteralfeld 77.86 342 eP P 00 25 10.3 0.0
HINF pmax pmax
comp=Z,68nm,1.2s
KLYT Kilyos 77.86 325 eP P 00 25 10.3 0.0
KLYT Kilyos 77.86 325 ⇓ iP P 00 25 10.9 +0.6
JLP Les Platons 77.87 348 eP P 00 25 11.0 +0.7
LJU Ljubljana 77.87 336 eP P 00 25 10.8 +0.4
U58A Oxford 77.88 45 P P 00 25 10.6 0.0
baz=328,SNR=5.9
SPNC Sapanca-Adapaz 77.90 324 iP P 00 25 11.6 +1.0
JVM Valle D.L. Mar 77.91 348⇑ eP P 00 25 10.9 +0.5
CTYL Yalikoy Yolu 77.93 325 P P 00 25 22.8 +12
CTYL Yalikoy Yolu 77.93 325⇑ iP P 00 25 11.2 +0.5
JSA Saint Aubin 77.93 348⇑ eP P 00 25 11.2 +0.7
JSA IAmb IAmb 00 25 12.3
comp=Z,160nm,1.0s
JSA IAMs_20 IAMs_20 01 09 20.3
comp=Z,1µm,14.6s
AFSR Afar-Bala (An 77.94 321 P P 00 25 11.7 +0.8
250A Grady 77.95 53 eP P 00 25 12.0 +1.0
comp=Z,105nm,1.8s
250A Grady 77.95 53 P P 00 25 11.1 +0.1
baz=325
151A Opelika 77.96 52 P P 00 25 10.9 -0.2
baz=325
349A Repton 78.00 54 P P 00 25 10.8 -0.4
baz=325
HRT Hereke 78.01 324 P P 00 25 11.8 +0.5
BGKT Bogazkoy 78.02 325 eP P 00 25 11.3 +0.1
ISK Istanbul-Kandi 78.02 325 iP P 00 25 11.4 +0.2
KAVV Kandilli-Istan 78.02 325 iP P 00 25 11.5 +0.3
VISS Visnje 78.02 336 eP P 00 25 11.4 +0.2
PALK Pallekele 78.03 266 eP P 00 25 12.2 +0.5
comp=Z,151nm,1.1s
PALK Pallekele 78.03 266 iP P 00 25 12.1 +0.4
SNR=6.0
PALK Pallekele 78.03 266 eP P 00 25 12.2 +0.5
PALK pmax pmax
comp=Z,151nm,1.1s
T60A Surry 78.03 43 P P 00 25 10.9 -0.4
baz=328
W56A Indian Trail 78.03 47 P P 00 25 10.4 -1.0
baz=327
OZLJ Ozalj 78.04 336 P P 00 25 11.5 +0.3
GULT Gulveren 78.04 323 P P 00 25 12.1 +0.6
PHSR Pinarhisar 78.06 326 P P 00 25 11.9 +0.5
PHSR Pinarhisar 78.06 326⇑ iP P 00 25 12.2 +0.8
SHME Shamm 78.06 297 iP P 00 25 11.2 -0.5
SNR=18
CTKS Kestanelik-??a 78.06 325 P P 00 25 11.7 +0.3
KMRS Kahramanmaras 78.06 317 P P 00 25 12.6 +1.0
XMIS Christmas Isla 78.09 235 eP P 00 25 11.5 -0.4
comp=Z,70nm,1.1s
X55A Gracelyn & Ava 78.11 48 P P 00 25 11.5 -0.3
baz=326
Y54A Tignall 78.12 49 P P 00 25 11.9 0.0
baz=326,SNR=6.7
GOGA Godfrey 78.12 50 P P 00 25 12.0 +0.1
baz=326
JAVS Javornik 78.13 337 eP P 00 25 11.5 -0.4
FLN La Foliniere 78.13 347 eP P 00 25 11.7 0.0
FLN pmax pmax
comp=Z,127nm,1.0s
EDRB Edirne 78.13 327 P P 00 25 12.4 +0.6
EDRB Edirne 78.13 327 P P 00 25 11.9 +0.1
V58A Windy Hill, Pi 78.14 46 P P 00 25 11.8 -0.2
baz=327,SNR=9.0
152A Waverly Hall 78.14 51 P P 00 25 11.5 -0.5
baz=326
SLVT Silivri 78.17 325 P P 00 25 12.8 +0.7
SERE Serefikochisa 78.18 320 P P 00 25 12.4 +0.1
BUY Buyukada 78.18 324 P P 00 25 11.9 -0.2
Z53A Monticello 78.18 50 P P 00 25 12.6 +0.3
baz=326,SNR=6.3
CEY Cerknica 78.18 336 eP P 00 25 12.4 +0.3
BOJS Bojanci 78.20 336 iP P 00 25 12.7 +0.6
GAZ Gaziantep 78.21 317 P P 00 25 13.6 +1.1
BRAL Brewton 78.22 54 P P 00 25 12.7 +0.3
baz=325
DIVS Divibare 78.22 332 eP P 00 25 12.7 +0.3
U59A Littleton 78.24 45 P P 00 25 12.2 -0.3
baz=328
LDF La Druitiere 78.24 347 eP P 00 25 12.3 0.0
LDF pmax pmax
comp=Z,78nm,1.1s
251A Midway 78.27 52 P P 00 25 12.7 0.0
baz=325,SNR=7.5
W57A Gilead 78.28 47 P P 00 25 12.4 -0.3
baz=327,SNR=6.3
FUORN Ofenpass-Fuorn 78.31 340 eP P 00 25 13.9 +0.8
comp=Z,97nm,1.1s
KULU Kulu 78.31 321 P P 00 25 14.3 +1.3
SRCK Saricakaya, Es 78.34 323 P P 00 25 13.3 +0.2
PGB Panagyurishte 78.35 329 iP P 00 25 13.6 +0.5
DIM Dimitrovgrad 78.36 327 iP P 00 25 14.5 +1.4
X56A White Oak 78.36 48 P P 00 25 13.0 -0.2
baz=327,SNR=5.4
350A Dozier 78.37 53 P P 00 25 13.3 0.0
baz=325
TRI Trieste 78.37 337 eP P 00 25 12.8 -0.3
comp=Z,36nm,0.9s
TRI Trieste 78.37 337 eP P 00 25 12.8 -0.3
TRI pmax pmax
comp=Z,36nm,0.9s
BLY Banja Luka 78.40 334 ⇓ iP P 00 25 14.0 +0.7
BLY Banja Luka 78.40 334 eP P 00 25 13.6 +0.3
U60A Pendleton 78.42 44 P P 00 25 13.3 -0.2
baz=328
CRLT Corlu 78.43 326 P P 00 25 14.2 +0.7
JSC Jenkinsville 78.43 48 eP P 00 25 14.7 +1.1
comp=Z,16nm,1.2s
JSC Jenkinsville 78.43 48 eP P 00 25 14.7 +1.1
JSC pmax pmax
comp=Z,16nm,1.2s
Y55A Saluda 78.44 49 P P 00 25 13.7 +0.1
baz=326,SNR=6.5
449A Pace 78.47 54 P P 00 25 14.6 +0.7
baz=325
CAVI Cavuskoy 78.49 324 P P 00 25 14.7 +0.8
GEMT Gemlik 78.53 324 P P 00 25 13.7 -0.3
HAPS Han Pijesak,Bl 78.53 333 eP P 00 25 14.2 +0.1
ARMT Armutlu 78.53 324 P P 00 25 14.1 0.0
KOZT Kozan 78.53 318 P P 00 25 14.9 +0.8
SVRH Sivrihisar-ESK 78.53 322 P P 00 25 14.4 +0.2
V59A Middlesex 78.54 45 P P 00 25 14.3 +0.1
baz=328,SNR=8.0
GRR Gorron 78.55 347 eP P 00 25 14.2 +0.2
GRR pmax pmax
comp=Z,163nm,1.1s
Z54A Sparta 78.56 50 P P 00 25 14.9 +0.6
baz=326,SNR=7.1
153A Fort Valley 78.58 51 P P 00 25 14.5 0.0
baz=326
VTS Vitosha 78.59 329 P P 00 25 14.7 +0.2
VTS Vitosha 78.59 329⇑ iP P 00 25 15.1 +0.6
VTS Vitosha 78.59 329 iP P 00 25 14.5 0.0
MSFE Esma-Masafi 78.59 297 iP P 00 25 14.5 -0.2
SNR=13
BBLS Lazići 78.60 332 eP P 00 25 15.4 +0.9
TUE Stuetta 78.65 340 eP P 00 25 15.4 +0.5
comp=Z,76nm,0.9s
252A Lumpkin 78.68 52 P P 00 25 14.6 -0.4
baz=326
MDNY Mudanya-Bursa 78.69 324 P P 00 25 15.4 +0.5
W58A Raeford 78.73 46 P P 00 25 15.7 +0.4
baz=328,SNR=9.6
UMQ Umm Al-Quwin 78.73 297 P P 00 25 15.9 +0.5

UMQ Umm Al-Quwin 78.73 297 P P 00 25 16.1 +0.7
UMQ P P 00 25 16.1 +0.7
KDZ Kurdzhali 78.75 327 *i* P P 00 25 20.0 +4.7
CHBY Cihanbeyli 78.75 321 P P 00 25 15.3 -0.2
CIFT Cifteler, Eski 78.78 322 P P 00 25 15.6 0.0
X57A Johnson Farm, 78.81 47 P P 00 25 15.7 0.0
baz=327
Y56A Pelion 78.82 48 P P 00 25 15.6 -0.2
baz=327
U61A Possum Corner 78.84 44 P P 00 25 15.9 +0.1
baz=329
SULT Sultanhani-AKS 78.84 320 P P 00 25 16.5 +0.6
351A Pinckard 78.84 53 P P 00 25 15.9 0.0
baz=325
WSAR Wadi Sarin 78.88 293 P P 00 25 16.7 +0.4
SNR=10
SGMF Saint Gilles 78.89 349 *eP* P 00 25 17.1 +1.2
SGMF pmax pmax
comp=Z,121nm,1.0s
ROSF Rostrenen 78.90 349 *eP* P 00 25 16.3 +0.3
ROSF pmax pmax
comp=Z,194nm,1.1s
Z55A Blythe 78.91 49 P P 00 25 15.8 -0.5
baz=326
253A Americus 78.92 51 P P 00 25 16.9 +0.6
baz=326
LOR Lormes 78.92 344 *eP* P 00 25 16.4 +0.3
LOR pmax pmax
comp=Z,138nm,1.2s
BIDO Bidbid 78.95 294 P P 00 25 16.8 +0.2
SNR=11
BIDO P P 00 25 16.8 +0.2
SNR=11
RZN Rozhen 78.95 328 *i* P P 00 25 17.1 +0.5
154A Montrose 78.95 50 P P 00 25 16.2 -0.3
baz=326
W59A Clinton 78.96 46 P P 00 25 16.1 -0.4
baz=328
CEYT Ceyhan 78.96 318 P P 00 25 17.8 +1.3
V60A Jim Taylor Roa 78.97 44 P P 00 25 15.8 -0.7
baz=326
KCTX Karacabey (Bur 78.97 325 P P 00 25 17.1 +0.6
UDBI Udbina 78.98 335 P P 00 25 16.5 0.0
352A Blakely 79.01 52 P P 00 25 17.0 +0.2
baz=326
HATD Hatta, Dubai 79.03 296 *i* P P 00 25 16.8 -0.3
SNR=36
HATD Hatta, Dubai 79.03 296 P P 00 25 16.8 -0.3
SNR=22
HATD P P 00 25 16.8 -0.3
SNR=22
ASAR Alice Springs 79.03 205 P P 00 25 17.4 +0.5
comp=Z,14nm,0.9s,baz=16,slow=5.3,SNR=90
KARA Karaisali 79.03 319 P P 00 25 17.7 +0.8
Y57A Sumter 79.05 48 P P 00 25 16.8 -0.2
baz=327
EDC Edincik 79.08 325 P P 00 25 17.1 0.0
X58A Rowland 79.08 47 P P 00 25 16.8 -0.3
baz=328
PLE Pljevlja 79.10 332⇑ *iP* P 00 25 17.6 +0.3
CNNC Cliffs of the 79.14 45 P P 00 25 17.4 0.0
baz=328
CABF La Chapelle 79.16 342 *eP* P 00 25 18.2 +0.7
CABF pmax pmax
comp=Z,124nm,1.2s
NAZ Nazwa, Dubai 79.16 297 *i* P P 00 25 17.3 -0.4
SNR=12
NAZ Nazwa, Dubai 79.16 297 P P 00 25 17.3 -0.4
SNR=13
NAZ P P 00 25 17.3 -0.4
SNR=13
RDO Rodhopi 79.16 327 P P 00 25 18.1 +0.6
NVLJ Novalja 79.17 336 P P 00 25 17.0 -0.4
Z56A Williston 79.18 49 P P 00 25 17.4 -0.3
baz=327
ASHO Ashiyiah 79.18 296 *i* P P 00 25 17.7 -0.3
SNR=39
ASHO Ashiyiah 79.18 296 P P 00 25 17.4 -0.5
SNR=24
ASHO P P 00 25 17.4 -0.5
SNR=24
SSF Saint Saulge 79.18 344 *eP* P 00 25 17.9 +0.4
SSF pmax pmax
comp=Z,51nm,0.9s
WBK Wadi Bani Khal 79.19 293 P P 00 25 18.6 +0.6
SNR=7.7
ALN Alexandroupoli 79.21 327 P P 00 25 18.0 +0.2
V61A Roper 79.24 44 P P 00 25 17.6 -0.4
baz=329
155A Kite 79.25 50 P P 00 25 18.0 -0.1
baz=326
ERIK Erikli-Kesan 79.26 326 P P 00 25 18.5 +0.5
LADK Ladik-KONYA 79.29 321 P P 00 25 18.7 +0.3
TVSB Tavsanli 79.29 324 P P 00 25 18.8 +0.4
JLN Jalan Bani Buh 79.30 292 P P 00 25 19.0 +0.4
SNR=12
QUIF Quistinic 79.30 349 *eP* P 00 25 18.4 +0.3
QUIF pmax pmax
comp=Z,82nm,1.0s
451A Vernon 79.31 53 P P 00 25 18.6 +0.1
baz=325
ENEZ Enez 79.32 326 P P 00 25 19.1 +0.7
TAHT Tahtakopru-Hat 79.32 317 P P 00 25 19.8 +1.3
UPM Unac-Piva 79.35 332⇑ *iP* P 00 25 18.3 -0.5
SMDO Samad 79.35 294 P P 00 25 19.6 +0.6
SNR=9.8
SOHO SOHO 79.35 296 P P 00 25 18.0 -0.8
SNR=19
SOHO P P 00 25 18.0 -0.8
SNR=19
HOQ Hoqain 79.36 295 P P 00 25 19.3 +0.4
SNR=9.8
MMB Musomiste 79.36 328 *i* P P 00 25 19.2 +0.6
IVA Berane 79.37 332⇑ *iP* P 00 25 18.9 +0.1
TRD Trivandrum 79.37 270 *eP* P 00 25 18.5 -0.5
W60A Pink Hill 79.38 45 P P 00 25 18.6 -0.2
baz=328
X59A McDuffie Farm, 79.39 46 P P 00 25 17.7 -1.1
baz=328
FAQ Al Faqa, Dubai 79.39 297 *i* P P 00 25 18.4 -0.6
SNR=20
FAQ Al Faqa, Dubai 79.39 297 P P 00 25 18.3 -0.8
SNR=7.5
452A Marianna 79.40 53 P P 00 25 19.1 +0.1
baz=326
254A Abbeville 79.42 51 P P 00 25 18.6 -0.4
baz=326
LPK Lapseki 79.44 326 P P 00 25 19.7 +0.7
353A Camilla 79.46 52 P P 00 25 19.7 +0.4
baz=326
AVF Avril sur Loir 79.47 344 *eP* P 00 25 19.5 +0.4
AVF pmax pmax
comp=Z,127nm,1.0s
Y58A Scranton 79.47 47 P P 00 25 19.7 +0.4
baz=327
KOME Kolasin 79.50 332⇑ *iP* P 00 25 19.6 +0.1
Z57A Bowman 79.51 48 P P 00 25 18.9 -0.6
baz=327
GELI Tayfur-Gelibol 79.51 326 P P 00 25 19.8 +0.4
KONT Konya--Tatoy 79.51 321 P P 00 25 20.1 +0.6
SMF Signal de Mont 79.53 344 *eP* P 00 25 19.9 +0.4
SMF pmax pmax
comp=Z,124nm,1.2s
NVR Nevrokopi 79.53 328 P P 00 25 20.0 +0.4
W61A Ground Anchor 79.58 45 P P 00 25 20.5 +0.6
baz=328
MERS Mersin 79.59 319 P P 00 25 20.2 +0.2
PVY Plav 79.61 331⇑ *iP* P 00 25 20.2 +0.1
ASUD Al Ashush, Dub 79.63 297 *i* P P 00 25 20.1 -0.2
SNR=12
ASUD Al Ashush, Dub 79.63 297 P P 00 25 20.1 -0.2
SNR=6.2
ASUD P P 00 25 20.1 -0.2
SNR=6.2
KAVA Kavala 79.64 328 P P 00 25 20.4 +0.3
X60A Albert Glenn T 79.66 46 P P 00 25 20.8 +0.4
baz=328
GEDZ Gediz 79.67 323 P P 00 25 20.8 +0.4
SHUT Suhut-Afyon 79.68 322 P P 00 25 21.3 +0.8
NKY Niksic 79.69 332⇑ *iP* P 00 25 20.3 -0.2
TIGA Tifton 79.69 51 P P 00 25 21.1 +0.5
baz=326,SNR=6.2
BALB Balikesir 79.70 325 P P 00 25 20.8 +0.4
V62A Hyde County Ai 79.70 44 P P 00 25 20.8 +0.3
baz=329
SKO Skopje 79.73 330 *i* P P 00 25 21.4 +0.7

BRY Bratogost 79.73 333⇑ *iP* P 00 25 20.3 -0.5
BRY Bratogost 79.73 333 *eP* P 00 25 20.7 -0.1
NKME Niksic 79.74 332⇑ *iP* P 00 25 20.3 -0.4
STIP Stip 79.75 330 *i* P P 00 25 20.2 -0.5
SMTH Samothraki Isl 79.77 327 P P 00 25 19.8 -1.1
BGF Bois d'Agland 79.78 345 *eP* P 00 25 21.3 +0.5
BGF pmax pmax
comp=Z,56nm,1.0s
453A Whigham 79.82 52 P P 00 25 21.2 0.0
baz=326
255A Hazlehurst 79.82 50 *eP* P 00 25 22.4 +1.1
comp=Z,117nm,1.5s
255A Hazlehurst 79.82 50 P P 00 25 21.0 -0.2
baz=326
SRS Serrai 79.83 328 P P 00 25 20.2 -1.0
ALNE Al Ain 79.85 296 *i* P P 00 25 21.2 -0.3
SNR=18
JMDO Jabal Madar 79.87 293 P P 00 25 22.6 +1.0
SNR=8.4
AJN Ajban 79.87 297 P P 00 25 20.7 -0.9
SNR=7.9
AJN P P 00 25 20.7 -0.9
SNR=7.9
Z58A St. Stephen 79.88 48 P P 00 25 21.7 +0.2
baz=327
NHSC New Hope 79.91 48 P P 00 25 22.2 +0.5
baz=327
THAS Thassos island 79.92 327 P P 00 25 21.5 -0.1
CEME Cevo 79.95 332⇑ *iP* P 00 25 21.5 -0.4
TREB Trebinje 79.96 333 *eP* P 00 25 21.8 0.0
PDG Podgorica 79.96 332⇑ *iP* P 00 25 22.1 +0.3
PDG Podgorica 79.96 332 *eP* P 00 25 21.9 +0.1
TTG Podgorica 79.96 332⇑ *iP* P 00 25 21.7 -0.1
VAY Valandovo 79.97 329 *i* P P 00 25 22.7 +0.8
ARQ Araqi 79.99 295 P P 00 25 22.8 +0.4
SNR=12
STON Ston 80.00 333 P P 00 25 20.6 -1.4
STON Ston 80.00 333 *eP* P 00 25 21.5 -0.5
KNT Kendrikon 80.01 329 P P 00 25 22.4 +0.2
256A Glennville 80.05 50 P P 00 25 22.4 -0.1
baz=327
KIZK Mersin 80.07 319 P P 00 25 21.9 -0.6
EZN Ezine 80.08 326 P P 00 25 22.7 +0.2
EZN Ezine 80.08 326 P P 00 25 22.2 -0.2
EZN Ezine 80.08 326 *jiP* P 00 25 22.3 -0.2
EZN Ezine 80.08 326 P P 00 25 22.2 -0.2
BSY Bisya 80.08 294 P P 00 25 23.0 +0.2
SNR=13
LPL La Plagne 80.09 342 *eP* P 00 25 24.0 +1.2
LPL pmax pmax
comp=Z,140nm,1.0s
LPG La Plagne 80.11 342 *eP* P 00 25 24.3 +1.4
LPG pmax pmax
comp=Z,195nm,1.1s
355A Pearson 80.12 51 P P 00 25 22.8 -0.1
baz=326
TCF Toulx Ste Croi 80.15 345 *eP* P 00 25 23.4 +0.6
TCF pmax pmax
comp=Z,57nm,0.9s
BOZC Bozcaada 80.16 326 P P 00 25 22.7 -0.2
HCY Herceg Novi 80.16 332⇑ *iP* P 00 25 22.4 -0.6
SOH Sokhos 80.17 328 P P 00 25 23.1 0.0
BUM Brajici-Budva 80.19 332⇑ *iP* P 00 25 22.6 -0.5
MFF Saint Martin d 80.20 347 *eP* P 00 25 23.7 +0.7
MFF pmax pmax
comp=Z,66nm,1.0s
DRME Dracevica, Mon 80.21 332⇑ *iP* P 00 25 23.0 -0.2
DRME Dracevica, Mon 80.21 332 *eP* P 00 25 23.7 +0.5
SILI Silifke-Mersin 80.26 319 P P 00 25 23.5 0.0
454A Quitman 80.27 52 P P 00 25 24.2 +0.5
baz=326
KEBE Keben-Mersin 80.28 319 P P 00 25 23.8 +0.1
PHP Peshkopia 80.30 331 P P 00 25 23.4 -0.3
KRUS Krusevo 80.34 330 *i* P P 00 25 24.4 +0.3
GRG Griva 80.36 329 P P 00 25 24.3 +0.3
ULC Ulcinj 80.39 332⇑ *iP* P 00 25 24.0 -0.2
LIA Limnos Island 80.40 327 P P 00 25 23.9 -0.3
OUR Ouranopolis 80.41 328 P P 00 25 23.9 -0.4
KULA Kula-Manisa 80.41 324 P P 00 25 24.7 +0.3
KULA Kula-Manisa 80.41 324 P P 00 25 24.3 -0.1
IKL Isikli 80.47 319 P P 00 25 24.4 -0.3
455A Stateville 80.54 51 P P 00 25 25.3 +0.2
baz=326
BNI Bardonecchia 80.55 342 P P 00 25 27.1 +2.0
PLG Polygyros 80.55 328 P P 00 25 24.7 -0.4
BERE Bereket-Mersin 80.56 319 P P 00 25 24.6 -0.8
AKKU Akkuyu-Mersin 80.59 319 P P 00 25 25.1 -0.2
PRK Paraskevi 80.61 326 P P 00 25 26.0 +0.6
BCK Bucak 80.62 322 P P 00 25 25.0 -0.6
BIA Bitola 80.63 330 *i* P P 00 25 25.9 +0.3
357A Townsend 80.70 50 P P 00 25 26.5 +0.5
baz=327
OHR Ohrid 80.71 330 *i* P P 00 25 25.9 0.0
554A Perry 80.76 52 P P 00 25 26.9 +0.6
baz=326
TIR Tirane 80.78 331 P P 00 25 26.6 +0.4
TIR Tirane 80.78 331⇑ *iP* P 00 25 26.9 +0.7
TIR Tirane 80.78 331 P P 00 25 26.9 +0.7
TEKE Tekeli-Mersin 80.78 319 P P 00 25 24.9 -1.4
SIGR SIGRI 80.79 326 P P 00 25 25.8 -0.5
ORIF Oris-en-Rattie 80.83 342 *eP* P 00 25 27.8 +1.2
ORIF pmax pmax
comp=Z,107nm,1.0s
FNA Florina 80.83 330 P P 00 25 26.4 -0.2
MBDF Montbardon 80.84 341 *eP* P 00 25 27.5 +0.8
MBDF pmax pmax
comp=Z,41nm,1.0s
PAIG Paliouri 80.88 328 P P 00 25 26.4 -0.4
EREN Erenkoy 80.88 318 P P 00 25 27.4 +0.5
MHTO MHTO 81.03 293 P P 00 25 27.8 -0.1
SNR=62
MHTO P P 00 25 27.8 -0.1
SNR=62
555A McAlpin 81.08 52 P P 00 25 28.9 +0.9
baz=326
KORT Korkueli 81.11 322 P P 00 25 27.9 -0.4
VIVF Saint-Julien-l 81.11 343 *eP* P 00 25 29.1 +1.1
VIVF pmax pmax
comp=Z,73nm,1.0s
AYDB Zeytinkoy-Aydi 81.19 324 P P 00 25 28.9 +0.2
RJF Les Rejaudoux 81.22 345 *eP* P 00 25 29.3 +0.8
RJF pmax pmax
comp=Z,86nm,1.2s
URLA Izmir 81.29 325 P P 00 25 28.8 -0.3
PHNC Paralimni 81.39 318 P P 00 25 30.1 +0.5
655A Horseshoe Beac 81.44 52 P P 00 25 31.3 +1.4
baz=326
556A Lake Butler 81.45 51 P P 00 25 31.1 +1.1
baz=327
CHOS Chios island 81.45 325 P P 00 25 28.6 -1.4
PSAD1 Pilbara Seismi 81.46 218 *eP* P 00 25 29.9 -0.1
comp=Z,80nm,1.3s
CAF Calviac 81.50 345 *eP* P 00 25 21.3 -8.8
CAF pmax pmax
comp=Z,117nm,1.1s
ELL Elmali 81.50 322 P P 00 25 30.3 -0.1
PSAC2 Pilbara Seismi 81.53 218 *eP* P 00 25 30.4 +0.1
comp=Z,68nm,1.2s
PSAC1 Pilbara Seismi 81.54 218 *eP* P 00 25 30.7 +0.4
comp=Z,47nm,1.1s
SBF Sospel 81.54 341 *eP* P 00 25 30.4 +0.1
SBF pmax pmax
comp=Z,51nm,0.9s
PSAB2 Pilbara Seismi 81.54 218 *eP* P 00 25 30.9 +0.5
comp=Z,82nm,1.3s
XOR Xorichti 81.54 328 P P 00 25 29.4 -1.0
PSAA2 Pilbara Seismi 81.55 218 *eP* P 00 25 31.3 +0.9
comp=Z,98nm,1.4s
PSA00 Pilbara Seismi 81.56 218 *eP* P 00 25 29.4 -1.1
comp=Z,77nm,1.3s
PSAA3 Pilbara Seismi 81.56 218 *eP* P 00 25 31.3 +0.8
comp=Z,94nm,1.4s
PSAB1 Pilbara Seismi 81.57 218 *eP* P 00 25 30.9 +0.4
comp=Z,102nm,1.4s
PSAA1 Pilbara Seismi 81.57 218 *eP* P 00 25 31.1 +0.6
comp=Z,87nm,1.3s
PSAB3 Pilbara Seismi 81.58 218 *eP* P 00 25 30.1 -0.4
comp=Z,54nm,1.1s
MAMC Mammari 81.58 319 P P 00 25 30.1 -0.5
FYTO Fytoko, Volos 81.59 328 P P 00 25 30.3 -0.3
NEO Neokhori 81.59 328 P P 00 25 29.9 -0.7
KPRO Kipourio 81.59 329 P P 00 25 30.6 -0.1
AQU L'Aquila 81.61 336 *eP* P 00 25 31.6 +0.8
comp=Z,165nm,1.1s

AQU L'Aquila 81.61 336 *eP* P 00 25 31.6 +0.8
AQU pmax pmax
comp=Z,165nm,1.1s
AQU L'Aquila 81.61 336 *eP* P 00 25 32.7 +1.9
PSAD3 Pilbara Seismi 81.65 218 *eP* P 00 25 31.2 +0.2
comp=Z,89nm,1.3s
GCAM G?zelcaml? 81.65 324 P P 00 25 30.9 0.0
BHL Bhannes 81.66 316 *eP* P 00 25 31.2 0.0
LFF La Frestale 81.69 346 *eP* P 00 25 32.1 +1.1
LFF pmax pmax
comp=Z,92nm,1.1s
TPE Tepelena 81.70 331 P P 00 25 31.5 +0.3
CSS Mathiatis 81.72 319 P P 00 25 31.3 -0.1
THL Klokotos Trika 81.74 329 P P 00 25 29.7 -1.7
557A Orange Park 81.76 51 P P 00 25 32.4 +0.7
baz=327
ALFC Alefka 81.84 319 P P 00 25 31.3 -0.8
PPT Papeete 81.86 132 *eP* P 00 25 34.1 +2.0
PPT Papeete 81.86 132 *eP* P 00 25 34.1 +2.0
PPT Papeete 81.86 132 LR LR 00 56 17.6
comp=Z,763nm,18.8s,baz=320,slow=32
DQRL Deir Qamar 81.87 316 *eP* P 00 25 32.4 +0.1
PPT2 Papeete2 81.88 132 *e*LR LR 00 51 05.0
comp=Z,2µm,25.2s,baz=330
TURN Turunc 81.88 323 P P 00 25 33.8 +1.6
656A Willston 81.91 52 P P 00 25 32.9 +0.4
baz=327
DALY Dalyan (Mula) 81.91 323 P P 00 25 32.7 +0.4
FETY Fethiye 81.91 322 P P 00 25 32.6 +0.2
FETY Fethiye 81.91 322 P P 00 25 32.0 -0.4
QRWL Qaraoun 81.95 316 *eP* P 00 25 32.9 +0.2
SMIA Simia 81.98 328 P P 00 25 32.4 -0.3
FRF La Foret Royal 81.99 341 *eP* P 00 25 33.0 +0.4
FRF pmax pmax
comp=Z,43nm,1.2s
MRKA Markates 82.01 327 P P 00 25 32.1 -0.8
JAN Janina 82.03 330 P P 00 25 33.4 +0.5
657A Interlachen 82.05 51 P P 00 25 33.5 +0.3
baz=327
AKAS Kas 82.07 322 P P 00 25 32.4 -1.0
SZAC Souni 82.08 319 P P 00 25 33.1 -0.2
SRN Sarande 82.08 330 P P 00 25 33.4 +0.2
SHBL Chebaa 82.10 316 *eP* P 00 25 33.9 +0.3
DQM DQM 82.11 292 P P 00 25 33.0 -0.6
DQM P P 00 25 33.0 -0.6
EREA Eretria 82.15 327 P P 00 25 32.8 -0.8
PPCY Paphos 82.18 319 P P 00 25 32.9 -0.9
BODT Bodrum 82.19 324 P P 00 25 32.9 -0.9
ATAL Atalanti 82.21 328 P P 00 25 32.6 -1.3
LMR La Mourre 82.23 341 *eP* P 00 25 34.5 +0.6
LMR pmax pmax
comp=Z,118nm,1.3s
LKR Lokris 82.25 328 P P 00 25 32.8 -1.3
AXAR Agios Charalam 82.26 328 P P 00 25 35.6 +1.4
KEK Kerkira 82.30 330 P P 00 25 34.4 +0.1
IGT Igoumenitsa 82.30 330 P P 00 25 34.0 -0.3
MATE Matera 82.33 333⇑ *iP* P 00 25 34.8 +0.4
DION Dionisos Attik 82.46 327 P P 00 25 34.0 -1.2
757A Oxford 82.49 52 P P 00 25 36.2 +0.8
baz=327
PTL Penteli 82.51 327 P P 00 25 34.2 -1.3
VILL Villia 82.59 327 P P 00 25 34.6 -1.3
ATHU Athens Univers 82.61 327 P P 00 25 35.6 -0.4
DSF Desfina 82.63 328 P P 00 25 34.0 -2.1
ATH Athens Observa 82.63 327 P P 00 25 35.2 -0.8
ANX Ano Chora 82.66 328 P P 00 25 35.4 -0.9
VLY Voula,Athens 82.71 327 P P 00 25 36.0 -0.5
KALE Kalithea 82.77 328 P P 00 25 35.4 -1.5
EFP Efpalio 82.81 328 P P 00 25 36.3 -0.7
APE Apeiranthos 82.82 325 P P 00 25 34.8 -2.3
APE Apeiranthos 82.82 325⇑ *iP* P 00 25 35.5 -1.6
APE Apeiranthos 82.82 325 P P 00 25 35.5 -1.6
LOUT Loutraki 82.86 327 P P 00 25 35.7 -1.6
LKD2 Lefkada island 82.88 329 P P 00 25 36.9 -0.5
758A Lake Helen 82.89 51 P P 00 25 38.5 +1.0
baz=327
AMGA Amorgos Island 82.90 325 P P 00 25 35.9 -1.6
857A Zephyrhills 82.97 52 P P 00 25 39.1 +1.1
baz=327
MTLF Montolieu 83.01 344 *eP* P 00 25 39.2 +1.2
MTLF pmax pmax
comp=Z,96nm,1.1s
KLV Kalavryta, Ach 83.08 328 P P 00 25 37.3 -1.2
GUR Goura 83.12 328 P P 00 25 37.2 -1.5
DID Didima 83.21 327 P P 00 25 36.6 -2.5
RLS Riolos of Patr 83.29 329 P P 00 25 39.4 -0.1
DRO Drossia 83.31 328 P P 00 25 39.5 -0.1
KRND KRANIDI 83.35 327 P P 00 25 37.7 -2.1
VLS Valsamata 83.46 329 P P 00 25 39.4 -1.0
EPF Esparros 83.62 345 *eP* P 00 25 41.7 +0.5
EPF pmax pmax
comp=Z,77nm,1.1s
VLX Vlachokerasia 83.62 328 P P 00 25 40.4 -0.9
TIP Timpagrande 83.69 332⇓ *iP* P 00 25 42.8 +1.2
AMT Artemida-Makis 83.69 328 P P 00 25 40.2 -1.4
SJPF Ste Jean 83.77 347 *eP* P 00 25 44.4 +2.5
SJPF pmax pmax
comp=Z,74nm,1.2s
859A Kempfer Cattle 83.79 51 P P 00 25 42.3 +0.1
baz=327
ETSF Etsaut 83.88 346 *eP* P 00 25 43.9 +1.4
ETSF pmax pmax
comp=Z,84nm,1.0s
ITM Ithomi 83.94 328 P P 00 25 41.8 -1.1
VLI Veliai 84.03 327 P P 00 25 40.4 -2.9
PYL PYLOS 84.26 328 P P 00 25 43.0 -1.5
ZKR Zakros 84.32 324 P P 00 25 44.1 -0.7
NPS Neapolis 84.41 324 P P 00 25 43.3 -2.0
LAST Lasithi 84.55 324 P P 00 25 44.5 -1.6
059A Moore Haven 84.58 52 P P 00 25 46.5 +0.2
baz=327
ANKY Antikythira Is 84.67 326 P P 00 25 45.1 -1.5
VAM Vamos 84.78 325 P P 00 25 46.0 -1.1
IMMV Iera Moni Meta 84.81 326 P P 00 25 47.6 +0.3
060A Indiantown 84.91 51 *eP* P 00 25 48.1 +0.2
comp=Z,213nm,1.1s
060A Indiantown 84.91 51 P P 00 25 47.7 -0.1
baz=328
SIVA Sivas 84.92 325 P P 00 25 47.4 -0.4
059Z Ave Maria 84.97 53 P P 00 25 48.3 +0.1
baz=327
MYIG Mrida 85.09 62 *eP* P 00 25 50.6 +1.8
comp=Z,134nm,1.0s
STKA Stephens Creek 85.33 196 *eP* P 00 25 50.6 +1.1
comp=Z,5.2nm,1.1s
STKA Stephens Creek 85.33 196 P P 00 25 49.9 +0.3
comp=Z,8.5nm,0.9s,baz=344,slow=7.4,SNR=12
STKA LR LR 01 03 39.8
comp=Z,370nm,19.8s,baz=4.2,slow=36
060Z West Palm Beac 85.34 52 P P 00 25 50.7 +0.7
baz=328
061Z Ochoppi 85.62 52 P P 00 25 52.0 +0.6
baz=328
PGAV Gavieira, Arco 85.72 352 *eP* P 00 25 52.9 +1.1
comp=Z,95nm,1.4s
PBRG Braganca 85.73 350 *eP* P 00 25 51.9 +0.1
comp=Z,94nm,1.4s
PCAB Cabril 85.95 351 *eP* P 00 25 54.8 +1.9
comp=Z,81nm,1.7s
POLO Lamas de Olo 86.26 351 *eP* P 00 25 56.0 +1.5
comp=Z,42nm,1.4s
PVRL Vila Real 86.35 351 *eP* P 00 25 57.0 +2.1
comp=Z,116nm,1.3s
MVO Moncorvo 86.40 351 *eP* P 00 25 56.5 +1.3
comp=Z,84nm,1.3s
PVIS Viseu 86.92 351 *eP* P 00 25 59.0 +1.3
comp=Z,62nm,1.3s
MTE Manteigas 87.20 351 *eP* P 00 26 00.1 +1.0
comp=Z,67nm,1.1s
BBOO Buckleboo 87.30 200 *eP* P 00 25 59.7 +0.5
comp=Z,120nm,1.8s
FORT Forrest 87.36 208 *eP* P 00 26 00.4 +0.8
comp=Z,54nm,0.9s
COI Coimbra 87.48 352 *eP* P 00 26 01.7 +1.4
comp=Z,77nm,1.1s
ESDC Sonseca Array 87.52 348 P P 00 26 00.7 +0.1
comp=Z,23nm,1.0s,baz=4.9,slow=4.8,SNR=66
PCAS Casmilo, Conde 87.64 352 *eP* P 00 26 02.9 +1.8
comp=Z,85nm,1.3s
PAB San Pablo 87.69 348 *eP* P 00 26 02.2 +0.7
comp=Z,34nm,1.3s
PAB San Pablo 87.69 348 *eP* P 00 26 02.2 +0.7
PAB pmax pmax
comp=Z,34nm,1.3s

PCBR	Castelo Branco	87.75	351	eP	P	00 26 02.6	+1.0
	comp=Z,65nm,1.2s						
PTOM	Tomar	88.06	351	eP	P	00 26 05.2	+2.1
	comp=Z,60nm,1.3s						
PMRV	Marv??o	88.15	351	eP	P	00 26 04.4	+0.8
	comp=Z,43nm,1.5s						
PMTG	Montargil	88.59	351	eP	P	00 26 06.2	+0.6
	comp=Z,29nm,1.4s						
KEST	Kesra	88.89	337	P	P	00 26 07.2	0.0
	comp=Z,40nm,1.0s,baz=294,slow=2.5,SNR=25						
PCVE	Castro Verde	90.00	351	eP	P	00 26 15.0	+2.7
	comp=Z,45nm,1.5s						
FSCY	Frank Sound, G	90.97	56	eP	P	00 26 18.9	+1.9
	comp=Z,191nm,1.2s						
NWAO	Narrogin (SRO)	92.82	215	eP	P	00 26 25.3	+0.2
	comp=Z,39nm,1.0s						
NWAO	Narrogin (SRO)	92.82	215	eP	P	00 26 25.3	+0.2
NWAO				pmax	pmax		
	comp=Z,39nm,1.0s						
DAMY	Dhamar	93.74	299	eP	P	00 26 30.3	+0.1
	comp=Z,26nm,1.1s						
TORD	Torodi Ar. Bea	112.40	338	PKiKP	PKiKP	00 31 49.0	0.0
	comp=Z,1.2nm,0.9s,baz=5.2,slow=0.8,SNR=4.4						
DBIC	Dimbokro	120.05	343	PKP	PKPdf	00 32 03.3	-0.3
	comp=Z,7.9nm,0.8s,baz=12,slow=3.8,SNR=7.2						
LSZ	Lusaka	127.32	296	ePKPdf	PKPdf	00 32 17.5	-0.1
LSZ	Lusaka	127.32	296	ePKiKP	PKPdf	00 32 17.5	-0.1
LPAZ	La Paz	127.63	65	PKP	PKiKP	00 32 19.2	-0.2
	comp=Z,1.1nm,0.8s,baz=33,slow=7.5,SNR=4.4						
LPAZ	La Paz	127.63	65	eP	PKiKP	00 32 20.3	+0.9
VNDA	Vanda	129.44	180	PKP	PKiKP	00 32 20.3	-0.1
	comp=Z,0.7nm,0.9s,baz=286,slow=4.3,SNR=4.0						
RCBR	Riachuelo	131.84	22	eP	PKiKP	00 32 28.9	+1.6
LBTB	Lobatse	136.52	291	ePKPdf	PKPdf	00 32 34.7	0.0
LBTB	Lobatse	136.52	291	ePKiKP	PKPdf	00 32 34.7	0.0
BDFB	Brasilia	137.09	42	PKhKP	PKPpre	00 32 29.1	
	comp=Z,4.8nm,0.9s,baz=47,slow=17,SNR=3.1						
BDFB				PKP	PKiKP	00 32 37.0	-0.9
	comp=Z,4.7nm,0.9s,baz=85,slow=1.8,SNR=5.2						
AQDB	Aquidauana	137.72	55	eP	PKiKP	00 32 39.6	+0.7
MAW	Mawson	139.39	216	ePKPdf	PKiKP	00 32 40.6	-0.2
MAW	Mawson	139.39	216	PKhKP	PKPpre	00 32 31.4	
	comp=Z,2.6nm,0.8s,baz=12,slow=9.3,SNR=3.3						
MAW				PKP	PKiKP	00 32 39.6	-1.2
	comp=Z,7.1nm,1.0s,baz=336,slow=3.5,SNR=5.5						
BOSA	Boshof	139.44	288	ePKPdf	PKiKP	00 32 41.3	-1.0
BOSA	Boshof	139.44	288	PKhKP	PKPpre	00 32 32.6	
	comp=Z,3.7nm,1.1s,baz=325,slow=15,SNR=3.0						
BOSA				PKP	PKPdf	00 32 40.1	+0.1
	comp=Z,6.7nm,0.9s,baz=128,slow=3.8,SNR=6.6						
MCI8	Montes Claros	139.63	38	eP	PKiKP	00 32 42.9	-0.1
ITRB	Iturama	139.65	48	eP	PKiKP	00 32 42.5	-0.3
MCI9	Montes Claros	139.68	38	eP	PKiKP	00 32 43.1	+0.1
MCI6	Montes Claros	139.78	38	eP	PKiKP	00 32 42.9	-0.4
TRCB	Terra Rica	141.21	54	eP	PKiKP	00 32 45.8	-0.2
CPUP	Villa Florida	141.64	62	PKP	PKPdf	00 32 45.1	+1.3
	comp=Z,1.7nm,1.0s,baz=350,slow=3.8,SNR=2.4						
BB19B	Bebedouro	141.67	47	eP	PKiKP	00 32 46.7	-0.3
QSPA	South Pole Qui	141.93	180	ePKPpre	PKPpre	00 32 39.8	
GO06	Curarrehue	142.49	91	ePKPdf	PKiKP	00 32 46.8	-1.5
BSFB	Barra de Sao F	142.75	35	eP	PKiKP	00 32 48.5	-0.7
PLCA	Paso Flores	143.75	92	PKP	PKPdf	00 32 47.1	-0.2
	comp=Z,5.6nm,1.0s,baz=324,slow=3.3,SNR=9.7						
PLCA	Paso Flores	143.75	92	eP	PKiKP	00 32 50.6	-0.2
ALF01	Guarapari-ES	144.44	36	eP	PKiKP	00 32 51.8	-0.8
SUR	Sutherland	144.80	288	ePKPdf	PKPdf	00 32 50.2	+0.6
ITAB	Concordia	145.13	57	eP	PKiKP	00 32 52.0	-1.8
TRQA	Tornquist	147.38	81	ePKPdf	PKPbc	00 32 54.9	-1.1
TRQA	Tornquist	147.38	81	ePKP2	PKPbc	00 32 54.9	-1.1
SYO	Syowa Base	148.10	216	⇓iPKPdf	PKPbc	00 32 55.2	-1.7
SYO	Syowa Base	148.10	216	⇓iPKPbc	PKiKP	00 32 58.4	-0.2
SYO	Syowa Base	148.10	216	⇑iPKiKP	PKPab	00 33 01.6	+1.7
SYO	Syowa Base	148.10	216	⇓pPKPdf	pPKPdf	00 33 06.0	+1.2
PMSA	Palmer Station	154.16	136	eP	PKPdf	00 33 06.9	+3.9
SNAA	Sanae	159.09	195	PKPdf	PKPdf	00 33 09.9	+0.5
SNAA	Sanae	159.09	195	ePKPdf	PKPdf	00 33 09.2	-0.2
SNAA	Sanae	159.09	195	ePKiKP	PKPdf	00 33 09.2	-0.2
VNA3	Neumayer Olymp	160.37	189	PKPab	PKPab	00 33 51.2	-0.7
VNA3	Neumayer Olymp	160.37	189	PKPdf	PKPdf	00 33 10.6	-0.2
VNA2	Neumayer--Watz	160.41	192	PKPab	PKPab	00 33 51.5	-0.6
	baz=168,slow=2.9						
VNA2	Neumayer--Watz	160.41	192	PKPdf	PKPdf	00 33 10.7	-0.1
	baz=63,slow=0.9						

*IDC **20** 00:14:33.1±1.5, 63°.75N×148°.81W, h96km±17km, mb2.8/1, mb1 3.1/4, mb1mx2.9/46, mbtmp3.2/4, Error ellipse: s-maj=25.5km s-min=12.9km az=122.0*
*ISCJB **20** 00:14:34.3±0.4, 63°.82N±0°.03×148°.5W±0°.1, h108km, mb2.6/1, Error ellipse: s-maj=6.7km s-min=4.7km az=17.4*
*NEIC **20** 00:14:35.5±0.0, 63°.82N×148°.44W, h100km, ML2.8(AEIC), After AEIC.*

ISC 20 00:14:34.5±1.1, 63°.80N±0°.04×148°.53W±0°.05, h108km, n35, σ1§18/37, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCK	McKinley	0.20	249	ePn	Pn	00 14 50.0	+0.4
BWN	Browne	0.56	312	ePn	Pn	00 14 51.9	+0.4
WRH	Wood River Hil	0.70	16	ePn	Pn	00 14 53.0	+0.4
CCB	Clear Creek Bu	0.90	20	ePn	Pn	00 14 54.7	+0.2
HDA	Harding Lake	0.92	48	ePn	Pn	00 14 54.8	+0.1
COLA	College	1.11	15	ePn	Pn	00 14 57.0	+0.4
BPAW	Bear Paw Mtn.	1.13	286	ePn	Pn	00 14 57.3	+0.5
MDM	Murphy Dome	1.17	6	ePn	Pn	00 14 57.5	+0.2
ILAR	Eielson Array	1.21	36	ePn	Pn	00 14 57.2	-0.5
ILAR	Eielson Array	1.21	36	P	Pn	00 14 57.5	-0.2
	5.5nm,0.3s,baz=219,slow=11,SNR=381						
ILAR				S	Sn	00 15 14.9	-0.4
	5.2nm,0.3s,baz=222,slow=19,SNR=22						
ILB	Eielson Array	1.21	36	ePn	Pn	00 14 57.7	0.0
MLY	Manley	1.56	323	ePn	Pn	00 15 02.4	+0.5
CAST	Castle Rocks	1.64	258	ePn	Pn	00 15 03.3	+0.5
RIDG	Independent Ri	1.64	91	ePn	Pn	00 15 03.4	+0.5
SML	Sawmill	2.00	177	ePn	Pn	00 15 08.3	+0.9
SCRK	Sand Creek	2.02	83	ePn	Pn	00 15 07.7	+0.1
SCM	Sheep Creek Mo	2.05	164	ePn	Pn	00 15 08.7	+0.7
HARP	HAARP	2.08	131	ePn	Pn	00 15 11.1	+2.8
PRP	Porcupine Dome	2.15	36	ePn	Pn	00 15 09.6	+0.2
KNK	Knik Glacier	2.40	179	ePn	Pn	00 15 13.4	+0.9
KLU	Klutina	2.61	151	ePn	Pn	00 15 15.9	+0.6
RC01	Rabbit Creek A	2.78	192	ePn	Pn	00 15 19.4	+2.0
GLI	Glacier Island	3.01	167	ePn	Pn	00 15 20.5	+0.1
SPU	Mount Spurr	3.10	213	ePn	Pn	00 15 22.6	+0.9
EGAK	Eagle	3.36	70	ePn	Pn	00 15 24.7	-0.3
RSO	Redoubt South	3.90	213	ePn	Pn	00 15 33.6	+1.2
BALM	Baldy	4.00	131	ePn	Pn	00 15 33.9	+0.1
HMT	Hamilton	4.02	148	ePn	Pn	00 15 33.6	-0.4
DAWY	Dawson	4.04	82	ePn	Pn	00 15 34.2	-0.1
BRLK	Bradley Lake	4.21	197	ePn	Pn	00 15 37.6	+1.2
TOLK	Toolik Lake Re	4.88	355	ePn	Pn	00 15 45.7	+0.2
KDAK	Kodiak Island	6.36	200	P	Pn	00 16 02.8	-2.7
	0.1nm,0.3s,baz=353,slow=16,SNR=3.0						
KDAK				S	Sn	00 17 12.2	-4.4
	0.5nm,0.3s,baz=282,slow=19,SNR=4.5						
INK	Inuvik	7.58	47	P	Pn	00 16 22.1	+0.1
	0.1nm,0.3s,baz=243,slow=9.0,SNR=2.9						
YKA	Yellowknife Ar	15.28	80	P	Pn	00 18 05.0	+1.0
	0.0nm,0.3s,baz=295,slow=10,SNR=2.9						
TXAR	Lajitas Array	44.65	119	P	P	00 22 36.6	+0.6
	0.1nm,0.7s,baz=328,slow=6.4,SNR=3.7						

*IDC **20** 00:15:28.0±0.7, 52°.21N×160°.18E, h0km, mb4.5/24, mb1 4.6/26, mb1mx4.5/49, mbtmp4.5/26, ML4.3/1, MS5.0/2, Ms1 4.9/2, ms1mx4.2/34, Error ellipse: s-maj=18.6km s-min=12.8km az=141.0*
*KRSC **20** 00:15:30.3±10.0, 52°.13N×160°.51E, h16km±10km, ML5.5*
*MOS **20** 00:15:31.7±1.2, 52°.09N×160°.44E, h45km, mb4.9/2, Error ellipse: s-maj=9.7km s-min=6.7km az=117.4*
*ISCJB **20** 00:15:33.4±0.9, 52°.16N±0°.05×160°.33E±0°.10, h56km±6km, mb4.5/27, MS5.0/2, Error ellipse: s-maj=10.9km s-min=5.9km az=31.1*
*NEIC **20** 00:15:33.1±0.4, 52°.12N×160°.24E, h35km, mb4.8/4, Error ellipse: s-maj=8.4km s-min=6.6km az=154.0*

ISC 20 00:15:31.8±1.7, 52°.18N±0°.05×160°.40E±0°.06, h25km±11km, n90, σ1§09/107, mb4.6/27, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.95	346	P	Pb	00 15 48.7	-0.9
SPN				S	Sb	00 16 01.5	-0.2
SPN	Mys Shipunski	0.95	346	PN	Pb	00 15 48.7	-0.9
SPN				S	Sb	00 16 01.5	-0.2
NLC	Nalytchevo	1.18	328	P	Pn	00 15 52.9	+0.1
NLC				S	Sb	00 16 09.5	+1.1
NLC	Nalytchevo	1.18	328	PN	Pn	00 15 52.9	+0.1
NLC				S	Sb	00 16 09.5	+1.1
RUS	Russkaya	1.18	283	P	Pb	00 15 53.6	+0.1
RUS				S	Sn	00 16 09.8	+1.7
RUS	Russkaya	1.18	283	PN	Pb	00 15 53.6	+0.1
RUS				S	Sn	00 16 09.8	+1.7
DALK	Dalny	1.32	311	P	Pb	00 15 55.6	-0.2
DALK				eS	Sb	00 16 13.2	+1.0
DALK	Dalny	1.32	311	PN	Pb	00 15 55.6	-0.2
DALK				S	Sb	00 16 13.2	+1.0
PET	Petropavlovsk	1.36	309	ePn	Pb	00 15 56.8	+0.3
PET	Petropavlovsk	1.36	309	ePN	Pb	00 15 56.5	0.0
PET				eS	Sb	00 16 13.9	+0.4
PET				smax	smax		
	comp=E,30μm,0.7s						
PET				smax	smax		
	comp=N,29μm,0.5s						
MTVR	Mutnovka	1.39	284	P	Pb	00 15 57.1	-0.1
MTVR	Mutnovka	1.39	284	PN	Pb	00 15 57.1	-0.1
UGLR	Uglovaya	1.41	318	P	Pn	00 15 56.5	+0.5
UGLR	Uglovaya	1.41	318	PN	Pn	00 15 56.5	+0.5
KDTR	Khodutka, Kamc	1.48	256	P	Pb	00 15 58.0	-0.6
KDTR				eS	Sb	00 16 16.7	-0.2
KDTR	Khodutka, Kamc	1.48	256	PN	Pb	00 15 58.0	-0.6
KDTR				S	Sb	00 16 16.7	-0.2
AVH	Avacha	1.48	318	P	Pb	00 15 58.3	-0.4
AVH	Avacha	1.48	318	PN	Pb	00 15 58.3	-0.4
KRMR	Karymshinskiy	1.53	296	P	Pb	00 15 58.9	-0.6
KRMR				eS	Sb	00 16 18.9	+0.5
KRMR	Karymshinskiy	1.53	296	PN	Pb	00 15 58.9	-0.6
KRMR				S	Sb	00 16 18.9	+0.5
ASAK	Asacha	1.55	279	P	Pb	00 15 59.5	-0.3
ASAK	Asacha	1.55	279	PN	Pb	00 15 59.5	-0.3
PEA0B	Petropavlovsk-	1.89	301	ePn	Pb	00 16 03.9	-1.7
PEA0B	Petropavlovsk-	1.89	301	ePN	Pb	00 16 03.9	-1.7
PETK	Petropavlovsk-	1.89	301	ePn	Pn	00 16 03.0	+0.6
PETK				Sn	Sb	00 16 29.9	+1.1
PETK	Petropavlovsk-	1.89	301	Pn	Pn	00 16 03.9	+1.4
	comp=N,216nm,0.3s,baz=108,slow=20,SNR=9.2						
PETK				Sn	Sb	00 16 29.9	+1.1
	comp=N,751nm,0.3s,baz=140,slow=31,SNR=11						
PEA1	Petropavlovsk-	1.89	301	ePn	Pn	00 16 03.9	+1.4
APC	Apacha	2.11	292	eP	Pb	00 16 08.2	-1.2
APC				eS	Sb	00 16 37.3	+2.2
APC	Apacha	2.11	292	PN	Pb	00 16 08.2	-1.2
APC				S	Sb	00 16 37.3	+2.2
SKR	Severo-Kuril's	3.07	242	ePN	Pn	00 16 18.6	0.0
SKR				eS	Sn	00 16 55.7	+1.2
SKR				smax	smax		
	comp=N,4μm,0.6s						
SKR				smax	smax		
	comp=E,3μm,0.8s						
ALID	Alaid	3.30	248	P	Pn	00 16 23.6	+1.6
ALID	Alaid	3.30	248	PN	Pn	00 16 23.6	+1.6
ASAJ	Asahikawa	14.33	243	Pn	Pn	00 18 52.2	-0.7
	comp=E,2.1nm,0.3s,baz=98,slow=14,SNR=3.1						
KLR	Kul'dur	18.33	272	P	P	00 19 42.6	-1.5
	baz=68,slow=12,SNR=1.6						
USRK	Ussuriysk Ar.	20.45	258	P	P	00 20 05.9	-1.3
	comp=E,14nm,1.0s,baz=42,slow=10,SNR=7.2						
MAJO	Matsushiro	22.14	234	eP	P	00 20 23.3	-2.2
MAJO	Matsushiro	22.14	234	eP	P	00 20 23.3	-2.2
MJAR	Matsushiro Arr	22.14	234	P	P	00 20 23.3	-2.2
	comp=E,8.9nm,0.9s,baz=31,slow=12,SNR=2.4						
MAT	Matsushiro	22.14	234	P	P	00 20 27.6	+2.1
TIXI	Tiksi	23.99	336	P	P	00 20 42.5	-1.5
	comp=E,7.2nm,0.4s,baz=126,slow=12,SNR=6.0						
KSRS	Korea Array	27.06	250	P	P	00 21 10.2	-1.8
	comp=E,2.7nm,0.8s,baz=43,slow=8.6,SNR=2.2						
KSAR	Wonju Array Be	27.09	250	P	P	00 21 10.2	-2.1
KSAR	Wonju Array Be	27.09	250	P	P	00 21 10.2	-2.1
ILAR	Eielson Array	29.34	44	P	P	00 21 31.6	-0.6
	comp=E,4.0nm,1.1s,baz=278,slow=8.1,SNR=2.1						
ILAR				PcP	PcP	00 24 37.4	-0.5
	comp=E,0.8nm,0.8s,baz=270,slow=3.3,SNR=2.6						
ILB	Eielson Array	29.34	44	ePcP	PcP	00 24 37.4	-0.5
SONA0	Songino Array	34.30	285	eP	P	00 22 15.7	-0.4
SONM	Songino Array	34.30	285	P	P	00 22 15.7	-0.4
	comp=E,1.6nm,0.3s,baz=66,slow=8.5,SNR=10						
INK	Inuvik	34.49	37	P	P	00 22 18.2	+1.0
	comp=E,5.6nm,0.9s,baz=304,slow=6.8,SNR=2.2						
SPITS	Spitsbergen Ar	48.07	351	P	P	00 24 08.8	+0.3
	comp=E,4.5nm,0.3s,baz=55,slow=8.7,SNR=18						
KURK	Kurchatov	48.38	303	P	P	00 24 10.6	-0.6
KURBB	Kurchatov Arra	48.48	303	P	P	00 24 10.6	-1.4
	comp=E,6.3nm,0.4s,baz=59,slow=7.6,SNR=29						
MK32	Makanchi Array	48.72	297	eP	P	00 24 12.4	-1.6
MKAR	Makanchi Array	48.72	297	P	P	00 24 12.4	-1.6
	comp=E,2.7nm,0.4s,baz=71,slow=8.1,SNR=10						
GLK	Glacier Lake	48.80	64	eP	P	00 24 17.7	+3.0
TGY	Tagaytay City	49.30	234	LR	LR	00 46 16.4	
	comp=E,1μm,19.6s,baz=18,slow=38						
ARA0	ARCESS Array S	54.22	342	eP	P	00 24 54.2	-0.5
ARCES	ARCESS Array B	54.22	342	eP	P	00 24 53.9	-0.9
ARCES	ARCESS Array B	54.22	342	P	P	00 24 54.2	-0.5
	comp=E,15nm,0.9s,baz=23,slow=8.6,SNR=6.0						
PDAR	Pinedale Array	57.81	60	P	P	00 25 22.9	+1.8
	comp=E,1.9nm,1.0s,baz=286,slow=3.4,SNR=2.3						
CMAR	Chiang Mai Arr	58.18	259	P	P	00 25 24.3	+0.6
	comp=E,9.6nm,0.9s,baz=28,slow=7.0,SNR=4.6						
ULM	Lac du Bonnet	59.32	46	LR	LR	00 52 01.3	
	comp=E,1μm,18.7s,baz=326,slow=37						
FIA0	FINESS Array S	61.03	337	eP	P	00 25 43.1	+0.4
FIA0	FINESS Array S	61.03	337	eP	P	00 25 43.2	+0.4
FINES	FINESS Array B	61.03	337	eP	P	00 25 42.7	0.0
FINES	FINESS Array B	61.03	337	eP	P	00 25 42.7	0.0
FINES	FINESS Array B	61.03	337	P	P	00 25 43.1	+0.4
	comp=E,13nm,0.4s,baz=46,slow=5.6,SNR=23						
NB2	NORSAR Subarra	64.47	344	P	P	00 26 06.4	+0.7
	comp=Z,2.8nm,0.5s,baz=23,slow=6.9						
NOA	NORSAR Array B	64.47	344	P	P	00 26 05.3	-0.4
	comp=Z,0.5nm,0.3s,baz=20,slow=6.0,SNR=6.8						
HFS	Hagfors	64.88	342	P	P	00 26 08.2	-0.2
	comp=Z,5.8nm,0.5s,baz=44,slow=8.1,SNR=12						
GEYT	Alibeck	67.74	303	P	P	00 26 25.6	-1.5
	comp=Z,7.8nm,0.6s,baz=27,slow=9.7,SNR=5.1						
AKASG	Malin Array Be	69.49	329	eP	P	00 26 37.3	-0.4
AKASG	Malin Array Be	69.49	329	P	P	00 26 36.6	-1.1
	comp=Z,3.7nm,0.4s,baz=30,slow=6.9,SNR=17						
KIEV	Kiev	69.50	329	eP	P	00 26 37.1	-0.7
	comp=Z,23nm,1.1s						
KIEV	Kiev	69.50	329	eP	P	00 26 37.1	-0.7
KIEV				pmax	pmax		
	comp=Z,23nm,1.1s						
LTX	Lajitas	70.83	67	eP	P	00 26 47.1	+0.7
LTX	Lajitas	70.83	67	eP	P	00 26 47.1	+0.7
TXAR	Lajitas Array	70.83	67	P	P	00 26 47.1	+0.7
	comp=Z,1.5nm,0.9s,baz=297,slow=5.1,SNR=2.8						
HYB	Hyderabad	71.47	275	iP	P	00 26 50.5	+0.2
CLL	Collm	73.28	339	eP	P	00 27 02.0	+1.4
LMN	Caledonia Moun	74.91	31	eP	P	00 27 11.0	+0.8
	comp=Z,8.3nm,1.0s						
MLR	Muntele Rosu	75.12	329	eP	P	00 27 12.6	+1.0
	comp=Z,18nm,1.3s						
MLR	Muntele Rosu	75.12	329	eP	P	00 27 12.6	+1.0
MLR				pmax	pmax		
	comp=Z,18nm,1.3s						
WB2	Warramunga Arr	75.33	205	eP	P	00 27 13.3	+0.6
	comp=Z,11nm,1.1s						
WR1	Warramunga Arr	75.33	205	eP	P	00 27 12.3	-0.4
WRA	Warramunga Arr	75.33	205	P	P	00 27 12.3	-0.4
	comp=Z,2.3nm,1.1s,baz=12,slow=7.2,SNR=2.3						
GERES	GERESS Array B	75.43	338	P	P	00 27 12.9	-0.4
	comp=Z,1.2nm,0.5s,baz=31,slow=5.7,SNR=6.6						
BR101	Keskin Array S	77.44	321	eP	P	00 27 24.6	-0.4
BRTR	Keskin Array B	77.44	321	P	P	00 27 24.6	-0.4
	comp=Z,2.5nm,0.8s,baz=35,slow=3.1,SNR=4.6						
ASAR	Alice Springs	79.00	205	P	P	00 27 33.9	+0.6
	comp=Z,2.1nm,0.8s,baz=18,slow=5.5,SNR=3.2						
ESDC	Sonseca Array	87.51	348	P	P	00 28 16.4	-0.9
	comp=Z,4.9nm,1.1s,baz=356,slow=5.8,SNR=3.2						

*ISCJB **20** 00:15:46.6±0.4, 41°.81N±0°.02×46°.31E±0°.03, h10km±6km, Error ellipse: s-maj=4.0km s-min=3.3km az=177.3*
*DRS **20** 00:15:46.8±0.0, 41°.78N×46°.17E, h15km, ML2.1/2*
*TIF **20** 00:15:46.6, 41°.79N×46°.33E, h13km±1km*

*NORS **20** 00:15:47.2±0.0, 41°.83N×46°.34E, h22km, MPVA3.2*

ISC 20 00:15:47.4±0.9, 41°.78N±0°.03×46°.30E±0°.02, h11km±5km, n20, σ0§74/41, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	Lagodekhi	0.07	321	P	Pg	00 15 49.8	0.0
LGD	Lagodekhi	0.07	321	P	Pg	00 15 49.8	0.0
LGD				S	Sg	00 15 51.7	+0.1
LGD	Lagodekhi	0.07	321	ePg	Pg	00 15 49.8	0.0
LGD				eSg	Sg	00 15 51.7	+0.1
DDFL	Dedoflistskaro	0.36	203	P	Pg	00 15 54.1	-0.5
DDFL				S	Sb	00 16 01.0	-0.6
XNZR	Khunzakh	0.82	21	ePg	Pg	00 16 02.7	-0.6
XNZR				eSg	Sg	00 16 14.1	+0.1
BTLR	Botlikh	0.89	356	ePg	Pg	00 16 03.3	-1.2
	8.0nm,0.5s						
BTLR				⇑eSg	Sg	00 16 15.6	-0.6
	90nm,0.4s						
URKR	Urkarakh	1.06	68	ePg	Pb	00 16 07.6	-0.4
URKR				eSg	Sn	00 16 23.3	0.0
AKT	Akhty	1.11	105	ePg	Pb	00 16 08.6	-0.2
	13nm,0.3s						
AKT				⇓eSg	Sn	00 16 25.2	+0.8
	46nm,0.4s						
BTNK	Botanikuri	1.13	266	P	Pb	00 16 08.9	-0.1
BTNK				S	Sn	00 16 25.6	+0.8
TBLG	Delisi	1.17	268	P	Pb	00 16 09.4	-0.3
TBLG				S	Sn	00 16 25.8	0.0
TBLG	Delisi	1.17	268	ePg	Pb	00 16 09.4	-0.3
TBLG				eSg	Sn	00 16 25.8	0.0
DVE	Vedeno	1.19	354	ePg	Pb	00 16 08.1	-1.9
DVE				eSg	Sg	00 16 25.4	-0.2
DBC	Dubki	1.30	17	ePg	Pb	00 16 11.4	-0.2
DBC				ePg	Pb	00 16 11.7	-0.3
DBC				eSg	Sg	00 16 29.5	+0.2
DBC				eSg	Sg	00 16 29.5	+0.2
KSMR	Kasumkent	1.38	97	ePg	Pb	00 16 13.0	-0.2
KSMR				eSg	Sg	00 16 32.0	+0.2
	61nm,0.2s						
GROC	Groznyy	1.47	345	ePg	Pg	00 16 17.0	+1.4
GROC				eSg	Sg	00 16 36.7	+1.9
MAK	Makhachkala	1.48	37	ePg	Pg	00 16 15.2	-0.6
MAK				eSg	Sg	00 16 36.7	+1.6
DRN	Derbent	1.53	80	ePg	Pn	00 16 14.7	0.0
DRN				i Sg	Sb	00 16 35.7	+0.4
LACR	Lac	1.82	306	ePg	Pb	00 16 20.5	-0.4
LACR				eSg	Sb	00 16 44.6	+0.9
ARNR	Ardon	2.05	314	ePg	Pg	00 16 25.8	-0.9
ARNR				i Sg	Sb	00 16 50.3	+0.2
ZEI	Tsey	2.05	300	ePg	Pg	00 16 26.4	-0.4
ZEI				eSg	Sb	00 16 51.4	+1.1

KRSC 20 00:17:14.9±10.0, 52°.14N×160°.50E, h17km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.00	343	P	Pb	00 17 33.3	-0.5
SPN				S	Sb	00 17 46.7	0.0
NLC	Nalytchevo	1.25	326	P	Pb	00 17 37.9	-0.1
NLC				S	Sn	00 17 54.4	+0.4
RUS	Russkaya	1.26	284	P	Pn	00 17 37.6	-0.1
RUS				S	Sb	00 17 53.8	-0.2
DALK	Dalny	1.39	311	S	Sb	00 17 57.9	+0.1
MTVR	Mutnovka	1.46	284	P	Pb	00 17 41.3	-0.5
MTVR				S	Sn	00 17 59.8	+0.3
KDTR	Khodutka, Kamc	1.54	258	S	Sb	00 18 01.9	-0.1
KRMR	Karymshinskiy	1.61	296	P	Pb	00 17 43.3	-0.8
KRMR				S	Sb	00 18 04.0	-0.1

KRSC 20 00:18:23.2±10.0, 52°.18N×160°.50E, h24km±10km, ML4.0, Off east coast of Kamchatka Peninsula

| Code | Station Name | Δ° | AZ° |

GRL			S		Sb	00 22 57.8 +0.5
AVH	**Avacha**	**1.46 317**	*e*P		**Pn**	00 22 37.1 +0.3
AVH	**Avacha**	**1.46 317**	PN		**Pn**	00 22 37.1 +0.3
KDTR	**Khodutka, Kamc**	**1.48 255**	*e*P		**Pn**	00 22 36.6 -0.3
KDTR			*e*S		**Sn**	00 22 55.7 +0.5
KDTR	**Khodutka, Kamc**	**1.48 255**	PN		**Pn**	00 22 36.6 -0.3
KDTR			S		**Sn**	00 22 55.7 +0.5
KRER	**Koryakskii**	**1.48 319**	*e*P		**Pn**	00 22 37.5 +0.3
KRER			*e*S		**Sb**	00 22 57.0 -1.1
KRER	**Koryakskii**	**1.48 319**	PN		**Pn**	00 22 37.5 +0.3
KRER			S		**Sb**	00 22 57.0 -1.1
KRMR	**Karymshinskiy**	**1.51 295**	*e*P		**Pn**	00 22 37.8 +0.4
KRMR			*e*S		**Sb**	00 22 58.5 -0.2
KRMR	**Karymshinskiy**	**1.51 295**	PN		**Pn**	00 22 37.8 +0.4
KRMR			S		**Sb**	00 22 58.5 -0.2
KOK	**Koryaka**	**1.52 316**	*e*P		**Pn**	00 22 38.2 +0.6
KOK			*e*S		**Sb**	00 22 58.6 -0.5
KOK	**Koryaka**	**1.52 316**	PN		**Pn**	00 22 38.2 +0.6
KOK			S		**Sb**	00 22 58.6 -0.5
ASAK	**Asacha**	**1.54 278**	*e*P		**Pn**	00 22 38.5 +0.7
ASAK	**Asacha**	**1.54 278**	PN		**Pn**	00 22 38.5 +0.7
KRX	**Arik**	**1.56 318**	*e*P		**Pn**	00 22 38.5 +0.2
KRX			*e*S		**Sb**	00 22 59.1 -1.2
KRX	**Arik**	**1.56 318**	PN		**Pn**	00 22 38.5 +0.2
KRX			S		**Sb**	00 22 59.1 -1.2
PEA0B	**Petropavlovsk-**	**1.87 300**	*e*Pn		**Pn**	00 22 42.6 +0.3
PEA0B	**Petropavlovsk-**	**1.87 300**	*e*PN		**Pn**	00 22 42.6 +0.3
PETK	**Petropavlovsk-**	**1.87 300**	*e*Pn		**Pn**	00 22 42.9 +0.6
PETK	**Petropavlovsk-**	**1.87 300**	Pn		**Pn**	00 22 43.2 +0.9
	comp=N,269nm,0.3s,baz=107,slow=19,SNR=155					
PETK			Sn		**Sn**	00 23 06.5 +1.7
	comp=N,166nm,0.3s,baz=96,slow=22,SNR=12					
APC	**Apacha**	**2.10 291**	*e*P		**Pn**	00 22 46.9 +1.5
APC			*e*S		**Sb**	00 23 14.6 -0.8
APC	**Apacha**	**2.10 291**	PN		**Pn**	00 22 46.9 +1.5
APC			S		**Sb**	00 23 14.6 -0.8
PAU	**Pauzhetka**	**2.34 253**	P		**Pn**	00 22 49.0 +0.3
PAU	**Pauzhetka**	**2.34 253**	PN		**Pn**	00 22 49.0 +0.3
MKZ	**Mys Kozlova**	**2.49 18**	*e*P		**Pn**	00 22 50.0 -0.8
MKZ			*e*S		**Sn**	00 23 18.6 -1.5
MKZ	**Mys Kozlova**	**2.49 18**	PN		**Pn**	00 22 50.0 -0.8
MKZ			S		**Sn**	00 23 18.6 -1.5
KZV	**Kizimen**	**2.91 359**	*e*P		**Pn**	00 22 57.7 +0.9
KZV			*e*S		**Sn**	00 23 32.2 +1.4
KZV	**Kizimen**	**2.91 359**	PN		**Pn**	00 22 57.7 +0.9
KZV			S		**Sn**	00 23 32.2 +1.4
TUMD	**Tumrok D**	**3.00 0**	P		**Pn**	00 22 58.5 +0.6
TUMD			*e*S		**Sn**	00 23 32.9 +0.1
SKR	**Severo-Kuril's**	**3.08 242**	P		**Pn**	00 22 58.8 0.0
SKR			*e*S		**Sn**	00 23 33.3 -1.2
SKR	**Severo-Kuril's**	**3.08 242**	*e*PN		**Pn**	00 22 58.8 0.0
SKR			*e*S		**Sn**	00 23 38.5 +4.0
SKR			pmax	pmax		
	comp=Z,91nm,0.4s					
SKR			smax	smax		
	comp=E,3μm,0.5s					
SKR			smax	smax		
	comp=N,2μm,0.6s					
TUMR	**Tumrok**	**3.09 357**	P		**Pn**	00 23 00.6 +1.4
TUMR			*e*S		**Sn**	00 23 37.2 +2.2
TUMR	**Tumrok**	**3.09 357**	PN		**Pn**	00 23 00.6 +1.4
TUMR			S		**Sn**	00 23 37.2 +2.2
ALID	**Alaid**	**3.30 248**	*e*P		**Pn**	00 23 02.3 +0.2
ALID			*e*S		**Sn**	00 23 40.3 -0.1
ALID	**Alaid**	**3.30 248**	PN		**Pn**	00 23 02.3 +0.2
ALID			S		**Sn**	00 23 40.3 -0.1
BZMR	**Bezymyannaya**	**3.74 1**	*e*P		**Pn**	00 23 10.2 +2.1
BZMR			*e*S		**Sn**	00 23 54.7 +3.6
BZMR	**Bezymyannaya**	**3.74 1**	PN		**Pn**	00 23 10.2 +2.1
BZMR			S		**Sn**	00 23 54.7 +3.6
BZGR	**Bezymyannyi-Gr**	**3.75 3**	*e*P		**Pn**	00 23 10.5 +2.3
BZGR	**Bezymyannyi-Gr**	**3.75 3**	PN		**Pn**	00 23 10.5 +2.3
KIRR	**Kirishev**	**3.76 360**	*e*P		**Pn**	00 23 10.4 +2.0
KIRR	**Kirishev**	**3.76 360**	PN		**Pn**	00 23 10.4 +2.0
BZWR	**Bezymyannyi-We**	**3.77 1**	*e*P		**Pn**	00 23 10.5 +2.0
BZWR	**Bezymyannyi-We**	**3.77 1**	PN		**Pn**	00 23 10.5 +2.0
KPT	**Kopyto**	**3.77 359**	*e*P		**Pn**	00 23 11.2 +2.7
KPT	**Kopyto**	**3.77 359**	PN		**Pn**	00 23 11.2 +2.7
ESO	**Esso**	**3.86 346**	*e*P		**Pn**	00 23 11.2 +1.6
ESO	**Esso**	**3.86 346**	PN		**Pn**	00 23 11.2 +1.6
LGNR	**Loginova**	**3.89 3**	*e*P		**Pn**	00 23 11.6 +1.3
LGNR	**Loginova**	**3.89 3**	PN		**Pn**	00 23 11.6 +1.3
KRSR	**Krestovskiy**	**4.02 1**	*e*P		**Pn**	00 23 10.1 -1.9
KLY	**Klyuchi**	**4.12 2**	*e*P		**Pn**	00 23 15.6 +2.4
KLY	**Klyuchi**	**4.12 2**	PN		**Pn**	00 23 15.6 +2.4
SRDR	**Sredinnyy**	**4.14 355**	P		**Pn**	00 23 15.1 +1.6
SRDR	**Sredinnyy**	**4.14 355**	PN		**Pn**	00 23 15.1 +1.6
KBTR	**Krutoberegovo**	**4.26 19**	*e*P		**Pn**	00 23 15.3 +0.2
KBTR	**Krutoberegovo**	**4.26 19**	PN		**Pn**	00 23 15.3 +0.2
KBG	**Krutoberegovo**	**4.28 18**	*e*P		**Pn**	00 23 16.4 +1.0
KBG	**Krutoberegovo**	**4.28 18**	PN		**Pn**	00 23 16.4 +1.0
BDR	**Baidarnaya**	**4.40 6**	*e*P		**Pn**	00 23 18.0 +0.9
BDR	**Baidarnaya**	**4.40 6**	PN		**Pn**	00 23 18.0 +0.9
SMKR	**Semkarok**	**4.43 8**	P		**Pn**	00 23 18.0 +0.4
SMKR	**Semkarok**	**4.43 8**	PN		**Pn**	00 23 18.0 +0.4
BKI	**Bering**	**4.48 46**	*e*P		**Pn**	00 23 16.4 -1.7
BKI			*e*S		**Sn**	00 24 03.4 -5.6
BKI	**Bering**	**4.48 46**	PN		**Pn**	00 23 16.4 -1.7
SRKR	**Sorokina**	**4.48 6**	P		**Pn**	00 23 20.7 +2.4
SRKR	**Sorokina**	**4.48 6**	PN		**Pn**	00 23 20.7 +2.4
PALN	**Palana**	**6.91 358**	P		**Pn**	00 23 55.6 +4.2
PALN	**Palana**	**6.91 358**	PN		**Pn**	00 23 55.6 +4.2
TILK	**Tilichiki**	**8.86 19**	*e*P		**Pn**	00 24 18.6 +0.5
TILK	**Tilichiki**	**8.86 19**	PN		**Pn**	00 24 18.6 +0.5
MA2	**Magadan**	**9.14 328**	Pn		**Pn**	00 24 21.8 -0.3
	comp=N,0.5nm,0.3s,baz=171,slow=19,SNR=2.8					
KUR	**Kuril'sk**	**10.81 235**	*i* PN		**Pn**	00 24 45.6 +0.7
SEY	**Seymchan**	**11.57 341**	*i* PN		**Pn**	00 24 56.8 +1.5
SEY	**Seymchan**	**11.57 341**	Pn		**Pn**	00 24 55.7 +0.5
	comp=N,0.2nm,0.3s,baz=17,slow=20,SNR=3.0					
YSS	**Yuzh-Sakhalins**	**12.58 252**	*e*PN		**Pn**	00 25 11.2 +2.1
YSS			pmax	pmax		
	comp=Z,20nm,0.8s					
YUK	**Yuzh-Kuril'sk**	**12.67 236**	*i* PN		**Pn**	00 25 11.0 +0.6
ASAJ	**Asahikawa**	**14.34 243**	Pn		**Pn**	00 25 32.6 -0.6
	comp=Z,2.0nm,0.3s,baz=59,slow=11,SNR=5.0					
GRNR	**Gornyy**	**14.98 274**	*e*P		**P**	00 25 49.6 +2.6
GRNR			pmax	pmax		
	comp=Z,63nm,1.0s					
ERM	**Erimo**	**15.50 236**	*e*Pn		**Pn**	00 25 48.5 -0.1
	comp=Z,103nm,1.6s					
ERM	**Erimo**	**15.50 236**	*e*P		**Pn**	00 25 48.5 -0.1
ERM			pmax	pmax		
	comp=Z,103nm,1.6s					
BILL	**Bilibino**	**16.14 8**	*e*Pn		**Pn**	00 25 56.1 -0.6
	comp=Z,37nm,1.0s					
BILL	**Bilibino**	**16.14 8**	*e*P		**Pn**	00 25 56.3 -0.4
BILL			pmax	pmax		
	comp=Z,31nm,1.0s					
BILL			MLR	MLR		
	comp=Z,2μm,16.0s					
TEY	**Ternei**	**17.23 255⇓**	*e*P		**Pn**	00 26 11.1 +0.5
TEY			pmax	pmax		
	comp=Z,30nm,0.9s					
TEY			pmax	pmax		
	comp=E,20nm,1.2s					
KLR	**Kul'dur**	**18.32 272⇓**	*e*P		**Pn**	00 26 24.2 +0.2
KLR	**Kul'dur**	**18.32 272**	P		**P**	00 26 23.3 -0.6
	comp=E,0.6nm,0.3s,baz=64,slow=11,SNR=12					
YAK	**Yakutsk**	**19.16 313**	*e*P		**P**	00 26 29.9 -3.1
YAK			pmax	pmax		
	comp=Z,709nm,0.9s					
YAK			pmax	pmax		
	comp=E,412nm,1.3s					
YAK			pmax	pmax		
	comp=N,142nm,0.9s					
ZEA	**Zeya**	**19.92 288**	*e*P		**P**	00 26 39.8 -1.5
USRK	**Ussuriysk Ar.**	**20.45 258**	P		**P**	00 26 44.0 -3.2
USRK	**Ussuriysk Ar.**	**20.45 258**	P		**P**	00 26 44.0 -3.2
	comp=N,14nm,0.9s,baz=59,slow=10,SNR=15					
MDJ	**Mudanjiang**	**21.68 262**	P		**P**	00 26 58.4 -2.0
MDJ			pmax	pmax		
	comp=N,11nm,0.8s					
MDJ			pmax	pmax		
	comp=N,8μm,14.7s					
MJAR	**Matsushiro Arr**	**22.15 234**	P		**P**	00 27 05.7 +0.1
	comp=N,22nm,1.1s,baz=19,slow=9.9,SNR=23					
MAJO	**Matsushiro**	**22.15 234**	*e*P		**P**	00 27 06.9 +1.4
	comp=N,47nm,1.0s					
MAJO	**Matsushiro**	**22.15 234**	*e*P		**P**	00 27 06.9 +1.4
MAJO			pmax	pmax		
	comp=Z,47nm,1.0s					
MAT	**Matsushiro**	**22.15 234**	P		**P**	00 27 05.9 +0.4
INU	**Inuyama**	**23.68 234**	*e*P		**P**	00 27 22.2 +1.0
	comp=Z,21nm,0.9s					
TIXI	**Tiksi**	**23.96 336**	*e*P		**P**	00 27 22.2 -1.4
	comp=Z,37nm,0.8s					
TIXI	**Tiksi**	**23.96 336**	*i* P		**P**	00 27 22.4 -1.2
TIXI			pmax	pmax		
	comp=Z,46nm,0.9s					
TIXI	**Tiksi**	**23.96 336**	P		**P**	00 27 22.2 -1.4
	comp=Z,40nm,0.8s,baz=128,slow=8.7,SNR=38					
HIA	**Hailar**	**25.65 280**	*e*P		**P**	00 27 37.6 -1.6
	comp=Z,31nm,0.8s					
HIA	**Hailar**	**25.65 280**	*e*P		**P**	00 27 37.6 -1.6
HIA			pmax	pmax		
	comp=Z,31nm,0.8s					
IMAR	**Indian Mountai**	**26.55 41**	*e*P		**P**	00 27 47.7 +0.7
KSRS	**Korea Array**	**27.06 250**	P		**P**	00 27 51.7 -0.2
	comp=Z,7.1nm,1.0s,baz=44,slow=9.6,SNR=14					
KDAK	**Kodiak Island**	**27.09 59**	P		**P**	00 27 54.7 +2.7
	comp=Z,3.6nm,0.8s,baz=254,slow=5.2,SNR=4.8					
JNU	**Nakatsue**	**28.58 240**	*e*P		**P**	00 28 06.5 +0.9
	comp=Z,59nm,1.6s					
JNU	**Nakatsue**	**28.58 240**	P		**P**	00 28 05.9 +0.3
	comp=Z,6.5nm,0.7s,baz=53,slow=6.1,SNR=4.7					
SML	**Sawmill**	**28.78 50**	*e*P		**P**	00 28 09.4 +2.3
	comp=Z,17nm,1.0s					
SML	**Sawmill**	**28.78 50**	*e*P		**P**	00 28 09.5 +2.3
SML			pmax	pmax		
	comp=Z,17nm,1.0s					
WRH	**Wood River Hil**	**28.80 45**	*e*P		**P**	00 28 09.8 +2.6
	comp=Z,14nm,1.2s					
ILAR	**Eielson Array**	**29.32 44**	*e*P		**P**	00 28 13.8 +1.9
ILAR	**Eielson Array**	**29.32 44**	P		**P**	00 28 11.1 -0.8
	comp=Z,0.9nm,0.8s,baz=258,slow=8.0,SNR=7.0					
ILAR			PcP		**PcP**	00 31 17.0 -0.4
	comp=Z,0.6nm,0.7s,baz=273,slow=3.0,SNR=3.6					
H11N2	**WAKE ISLAND Hy**	**32.81 169**	T		T	01 03 23.4
	baz=352,slow=76					
H11N3	**WAKE ISLAND Hy**	**32.82 169**	T		T	01 03 29.5
	baz=352,slow=76					
H11N1	**WAKE ISLAND Hy**	**32.82 169**	T		T	01 03 26.0
	baz=352,slow=76					
ULN	**Ulaanbaatar**	**33.88 284**	*e*P		**P**	00 28 50.7 -1.6
	comp=Z,6.1nm,0.9s					
ULN	**Ulaanbaatar**	**33.88 284**	*i* P		**P**	00 28 51.6 -0.7
ULN			pmax	pmax		
	comp=Z,7.0nm,1.1s					
H11S1	**WAKE ISLAND Hy**	**33.99 169**	T		T	01 06 03.6
	baz=352,slow=74					
H11S3	**WAKE ISLAND Hy**	**34.00 169**	T		T	01 06 07.8
	baz=352,slow=74					
H11S2	**WAKE ISLAND Hy**	**34.01 169**	T		T	01 06 01.5
	baz=352					
HYT	**Haines Junctio**	**34.09 51**	*e*P		**P**	00 28 55.4 +1.5
	comp=Z,6.3nm,1.0s					
TLY	**Talaya**	**34.22 292**	*e*P		**P**	00 28 54.1 -0.9
	comp=Z,12nm,1.1s					
TLY	**Talaya**	**34.22 292**	*i* P		**P**	00 28 53.8 -1.2
TLY			pmax	pmax		
	comp=Z,31nm,1.1s					
SONM	**Songino Array**	**34.29 285**	*e*P		**P**	00 28 54.0 -1.7
SONM	**Songino Array**	**34.29 285**	P		**P**	00 28 54.4 -1.4
	comp=Z,1.8nm,0.4s,baz=66,slow=7.7,SNR=20					
INK	**Inuvik**	**34.47 37**	*e*P		**P**	00 28 58.2 +1.3
	comp=Z,20nm,1.8s					
INK	**Inuvik**	**34.47 37**	*e*P		**P**	00 28 58.2 +1.3
INK			pmax	pmax		
	comp=Z,20nm,1.8s					
INK	**Inuvik**	**34.47 37**	P		**P**	00 28 57.4 +0.4
	comp=Z,2.8nm,0.7s,baz=272,slow=6.4,SNR=7.5					
HHC	**Hu-ho-hao-te**	**34.82 271**	*e*P		**P**	00 28 58.5 -1.9
HHC			pmax	pmax		
	comp=Z,42nm,0.8s					
HHC			pmax	pmax		
	comp=Z,150nm,4.1s					
ZAK	**Zakamensk**	**34.97 290**	*e*P		**P**	00 29 00.0 -1.6
ZAK			pmax	pmax		
	comp=Z,13nm,1.0s					
NJ2	**Nanjing**	**36.15 253**	*e*P		**P**	00 29 11.8 +0.1
NJ2			pmax	pmax		
	comp=Z,14nm,0.7s					
NRIK	**Noril'sk**	**36.74 325**	P		**P**	00 29 14.1 -2.3
	comp=Z,10nm,1.0s,baz=102,slow=9.6,SNR=6.5					
DLBC	**Dease Lake**	**38.44 52**	P		**P**	00 29 30.5 -0.5
	comp=Z,1.7nm,0.7s,baz=0.0,slow=20,SNR=2.0					
WHN	**Wuhan**	**39.90 255**	P		**P**	00 29 44.4 +1.0
XAN	**Xi'an**	**40.75 264**	P		**P**	00 29 53.4 +2.9
XAN			pP	pwP		00 30 01.4 -0.4
XAN			pmax	pmax		
	comp=Z,5.0nm,0.5s					
LZH	**Lanzhou**	**42.52 271**	*e*P		**P**	00 30 04.1 -1.0
LZH			pP	pP		00 30 12.5 -1.1
LZH			sP	sP		00 30 17.1 0.0
LZH			pmax	pmax		
	comp=Z,20nm,1.1s					
GTA	**Gaotai**	**42.89 278**	⇑P		**P**	00 30 06.6 -1.4
GTA			pP	pP		00 30 14.8 -1.7
GTA			sP	pwP		00 30 17.8 -1.7
GTA			PcP		**PcP**	00 31 57.8 -0.6
ZAA0	**Zalesovo Array**	**43.41 304**	*e*P		**P**	00 30 08.9 -2.9
	comp=Z,5.0nm,0.9s					
ZALV	**Zalesovo Beam**	**43.41 304**	*e*P		**P**	00 30 09.2 -2.6
ZALV	**Zalesovo Beam**	**43.41 304**	*i* P		**P**	00 30 09.0 -2.8
ZALV			pmax	pmax		
	comp=Z,2.0nm,0.4s					
ZALV	**Zalesovo Beam**	**43.41 304**	P		**P**	00 30 08.9 -3.0
	comp=Z,1.7nm,0.4s,baz=54,slow=7.5,SNR=8.1					
YKA	**Yellowknife Ar**	**43.70 42**	*e*P		**P**	00 30 14.3 +0.2
YKA	**Yellowknife Ar**	**43.70 42**	P		**P**	00 30 14.4 +0.3
	comp=Z,1.5nm,0.8s,baz=300,slow=8.1,SNR=10					
NVS	**Novosibirsk**	**43.77 305⇓**	*i* P		**P**	00 30 12.5 -2.2
NVS			*i*			00 30 33.4
NVS			*e*			00 32 03.9
NVS			pmax	pmax		
	comp=Z,45nm,1.1s					
NVS			pmax	pmax		
	comp=N,8.0nm,1.0s					
NVS			pmax	pmax		
	comp=E,27nm,1.0s					
RES	**Resolute Bay**	**44.08 22**	*e*P		**P**	00 30 18.1 +1.1
	comp=E,4.6nm,0.9s					
RES	**Resolute Bay**	**44.08 22**	P		**P**	00 30 17.0 0.0
	comp=E,4.1nm,1.0s,baz=273,slow=6.7,SNR=7.9					
DGZ	**Jazzator, Alta**	**44.23 297**	*i* P		**P**	00 30 17.5 -1.2
DGZ			pmax	pmax		
	comp=Z,10.0nm,0.9s					
CD2	**Chengdu**	**46.06 265**	P		**P**	00 30 34.3 +1.0
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
CD2			LR	LR		
	comp=Z,5μm,15.7s					
WMQ	**Urumqi**	**47.44 290**	*e*P		**P**	00 30 45.8 +1.8
SPA0	**Spitsbergen Ar**	**48.04 351**	*e*P		**P**	00 30 48.4 +0.2
	comp=Z,96nm,1.1s					
SPITS	**Spitsbergen Ar**	**48.04 351**	P		**P**	00 30 48.2 +0.1
SPITS			pmax	pmax		
	comp=Z,6.0nm,0.4s					
KURK	**Kurchatov**	**48.36 303**	*e*P		**P**	00 30 48.7 -2.2
	comp=Z,37nm,1.0s					
KURK	**Kurchatov**	**48.36 303**	*i* P		**P**	00 30 48.3 -2.6
KURK			pmax	pmax		
	comp=Z,42nm,1.1s					
MKAR	**Makanchi Array**	**48.70 297**	*i* P		**P**	00 30 51.7 -2.0
MKAR			pmax	pmax		
	comp=Z,4.0nm,0.4s					
MKAR	**Makanchi Array**	**48.70 297**	P		**P**	00 30 51.2 -2.4
	comp=Z,3.9nm,0.4s,baz=54,slow=6.7,SNR=77					
MAKZ	**Makanchi**	**48.87 297**	*e*P		**P**	00 30 53.0 -1.9
	comp=Z,11nm,1.0s					
MAKZ	**Makanchi**	**48.87 297**	*e*P		**P**	00 30 53.0 -1.9
MAKZ			pmax	pmax		
	comp=Z,11nm,1.0s					
BRVK	**Borovoye**	**51.11 309**	*e*P		**P**	00 31 10.1 -1.7
	comp=Z,18nm,1.0s					
BRVK	**Borovoye**	**51.11 309**	*i* P		**P**	00 31 09.5 -2.3
BRVK			pmax	pmax		
	comp=Z,22nm,1.1s					
DAG	**Danmarks Havn**	**51.30 360⇑**	*i* P		**P**	00 31 12.5 -0.3
DAG			pmax	pmax		
	comp=Z,28nm,1.2s					
DAG	**Danmarks Havn**	**51.30 360⇑**	*i* P		**P**	00 31 12.5 -0.3
	comp=Z,18nm,1.2s					
LVZ	**Lovozero**	**53.59 338**	*e*P		**P**	00 31 29.1 -0.9
	comp=Z,30nm,0.8s					
LVZ	**Lovozero**	**53.59 338**	*e*P		**P**	00 31 29.1 -0.9
LVZ			pmax	pmax		
	comp=Z,30nm,0.8s					
KEV	**Kevo**	**53.72 342**	*e*P		**P**	00 31 30.0 -0.8
	comp=Z,17nm,1.0s					
KEV	**Kevo**	**53.72 342**	*e*P		**P**	00 31 30.0 -0.8
KEV			pmax	pmax		
	comp=Z,17nm,1.0s					
FCC	**Fort Churchill**	**54.07 38**	*e*P		**P**	00 31 34.7 +1.2
	comp=Z,8.3nm,1.0s					
FCC	**Fort Churchill**	**54.07 38**	*e*P		**P**	00 31 34.7 +1.2
FCC			pmax	pmax		
	comp=Z,8.0nm,1.0s					
ARU	**Arti**	**54.17 318**	*e*P		**P**	00 31 32.6 -1.8
	comp=Z,14nm,0.5s					
ARCES	**ARCESS Array B**	**54.19 342**	*e*P		**P**	00 31 33.8 -0.5
ARCES	**ARCESS Array B**	**54.19 342**	*e*P		**P**	00 31 33.8 -0.5
ARCES	**ARCESS Array B**	**54.19 342**	P		**P**	00 31 32.9 -1.4
	comp=Z,23nm,0.9s,baz=37,slow=8.2,SNR=22					
ARE0	**ARCESS Array S**	**54.19 342**	*e*P		**P**	00 31 32.9 -1.4
PNTR	**Pine Nut**	**54.69 70**	*e*P		**P**	00 31 41.5 +2.8
	comp=Z,7.6nm,1.0s					
SUMG	**Summit**	**54.82 7**	*e*P		**P**	00 31 39.9 +0.5
	comp=Z,25nm,1.0s					
SUMG	**Summit**	**54.82 7**	*e*P		**P**	00 31 39.9 +0.5
SUMG			pmax	pmax		
	comp=Z,25nm,1.0s					
SUMG	**Summit**	**54.82 7**	*i* P		**P**	00 31 40.4 +1.0
	comp=Z,58nm,1.0s					
BOOM	**Boomskoye usch**	**54.93 296**	*e*P		**P**	00 31 39.1 -1.3
	comp=Z,9.9nm,0.9s					
BOOM	**Boomskoye usch**	**54.93 296**	*e*P		**P**	00 31 39.1 -1.3
BOOM			pmax	pmax		
	comp=Z,10.0nm,0.9s					
BMN	**Battle Mountai**	**55.15 67**	*e*P		**P**	00 31 45.1 +3.2
	comp=Z,6.5nm,1.1s					
WAKR	**Walker**	**55.17 70**	*e*P		**P**	00 31 45.9 +3.7
	comp=Z,20nm,1.6s					
PRGR	**Permogore**	**55.29 328⇓**	*i* P		**P**	00 31 42.2 -0.1
PRGR			pmax	pmax		
	comp=Z,32nm,1.0s					
KVN	**Kaiserville**	**55.58 69**	*e*P		**P**	00 31 48.6 +3.5
	comp=Z,5.4nm,1.0s					
KVN	**Kaiserville**	**55.58 69**	*e*P		**P**	00 31 48.6 +3.5
KVN			pmax	pmax		
	comp=Z,5.0nm,1.0s					
RYN	**Ryan**	**55.62 70**	*e*P		**P**	00 31 48.4 +3.1
	comp=Z,5.0nm,0.9s					
AAK	**Ala-Archa**	**55.63 297**	*e*P		**P**	00 31 44.3 -1.0
	comp=Z,13nm,1.0s					
AAK	**Ala-Archa**	**55.63 297**	*i* P		**P**	00 31 44.5 -0.9
AAK			pmax	pmax		
	comp=Z,15nm,1.1s					
TMCR	**Tamitsa**	**55.65 333**	*e*P		**P**	00 31 44.9 0.0
TMCR			pmax	pmax		
	comp=Z,84nm,1.0s					
YHH	**Holmes Hill**	**55.75 59**	*e*P		**P**	00 31 48.9 +2.6
	comp=Z,3.0nm,0.9s					
SGF	**Sodankyl**	**55.76 340**	P		**P**	00 31 46.4 +0.7
SGF			pmax	pmax		
	comp=Z,29nm,1.2s					
NVAR	**Mina Array Bea**	**55.88 70**	*e*P		**P**	00 31 50.6 +3.3
NVAR	**Mina Array Bea**	**55.88 70**	P		**P**	00 31 49.5 +2.2
	comp=Z,0.7nm,0.5s,baz=302,slow=6.0,SNR=4.4					
ELK	**Elko**	**56.06 66**	*e*P		**P**	00 31 50.1 +1.5
	comp=Z,2.3nm,0.9s					
ELK	**Elko**	**56.06 66**	*e*P		**P**	00 31 50.1 +1.5
ELK			pmax	pmax		
	comp=Z,2.0nm,0.9s					
MSF	**Maaselka**	**56.50 338**	P		**P**	00 31 51.4 +0.4
MSF			pmax	pmax		
	comp=Z,79nm,1.0s					
ILULI	**Ilulissat**	**56.71 13**	*e*P		**P**	00 31 52.4 0.0
	comp=Z,26nm,1.3s					
ILULI	**Ilulissat**	**56.71 13**	*e*P		**P**	00 31 52.4 0.0
ILULI			pmax	pmax		
	comp=Z,26nm,1.3s					
KSH	**Kashi**	**56.91 293**	P		**P**	00 31 57.4 +2.9
KSH			PP		**PP**	00 34 05.1 +4.3
KSH			S		**S**	00 39 42.1 -4.1
KSH			SS		**SS**	00 43 34.6 +0.4
KSH			pmax	pmax		
	comp=Z,12nm,0.9s					
KSH			pmax	pmax		
	comp=Z,730nm,12.1s					
KSH			LR	LR		
	comp=Z,830nm,9.2s					
KSH			LR	LR		
	comp=Z,540nm,10.0s					
KSH			LR	LR		
	comp=Z,2μm,13.6s					
ARSB	**Arslanbob**	**57.35 297**	*e*P		**P**	00 31 56.6 -1.0
	comp=Z,11nm,1.0s					
PHRA	**Phrae**	**57.37 258**	P		**P**	00 31 59.5 +1.7
KKAR	**Karatay Array**	**57.48 300**	*e*P		**P**	00 31 56.2 -2.1
KKAR	**Karatay Array**	**57.48 300**	*e*P		**P**	00 31 56.2 -2.1
UTTA	**Uttaradit**	**57.76 257**	P		**P**	00 32 02.1 +1.6
	comp=Z,20μm,0.9s					
DUG	**Dugway, Tooele**	**57.79 65**	*e*P		**P**	00 32 03.2 +2.5
	comp=Z,3.8nm,1.0s					
DUG	**Dugway, Tooele**	**57.79 65**

FINES	FINESS Array B	61.01	337	P		P	00 32 22.0 -0.3
	comp=Z,10nm,0.4s,baz=36,slow=7.9,SNR=83						
PV03	Paradox Valley	61.35	64	eP		P	00 32 27.5 +2.2
	comp=Z,7.5nm,1.2s						
PV13	Radium Mtn., P	61.43	64	eP		P	00 32 28.9 +3.0
	comp=Z,9.8nm,1.2s						
ISCO	Idaho Springs	62.00	61	eP		P	00 32 32.9 +3.1
	comp=Z,7.4nm,1.4s						
PHET	Kaeng Krachan	62.09	254	P		P	00 32 33.0 +2.8
	comp=Z,58µm,0.9s,comp=Z,540µm						
NIL	Nilore	62.59	290	eP		P	00 32 31.9 -1.6
	comp=Z,32nm,1.0s						
NIL	Nilore	62.59	290	eP		P	00 32 31.9 -1.6
NIL				pmax	pmax		
	comp=Z,32nm,1.0s						
OBN	Obninsk	63.36	328	eP		P	00 32 38.2 0.0
OBN	Obninsk	63.36	328	eP		P	00 32 36.4 -1.8
OBN				e			00 33 12.6
OBN				e			00 34 56.3
OBN				ePPP	PPP		00 36 26.2
OBN				pmax	pmax		
	comp=Z,50nm,1.4s						
OBN				MLR	MLR		
	comp=Z,1µm,16.0s						
VSU	Vasula	63.43	335	i P		P	00 32 38.1 -0.5
VSU	Vasula	63.43	335	eP		P	00 32 37.7 -0.9
VSU				IAmb	IAmb		00 32 39.1
	comp=Z,110nm,1.1s						
ECSD	EROS Data Cent	63.73	52	eP		P	00 32 41.9 +1.0
	comp=Z,14nm,1.6s						
NB2	NORSAR Subarra	64.45	344	P		P	00 32 45.2 -0.1
	comp=Z,2.7nm,0.5s,baz=23,slow=6.9						
NB2	NORSAR Subarra	64.45	344	P		P	00 32 43.2 -2.1
NB2				pmax	pmax		
	comp=Z,11nm,1.0s						
NOA	NORSAR Array B	64.45	344	P		P	00 32 45.0 -0.3
	comp=Z,4.1nm,0.7s,baz=23,slow=6.7,SNR=22						
NBO00	NORSAR Array S	64.53	344	eP		P	00 32 45.7 -0.2
	comp=Z,67nm,1.6s						
NC602	NORSAR Array S	64.68	344	eP		P	00 32 46.5 -0.3
	comp=Z,75nm,1.9s						
NORES	NORESS Array B	64.68	344	P		P	00 32 47.1 +0.3
NAO01	NORSAR Array S	64.69	344	eP		P	00 32 46.0 -0.8
	comp=Z,66nm,1.6s						
LAZ	Ladron	65.08	66	eP		P	00 32 53.8 +3.6
SLIT	Slitere, Latvi	65.29	337	eP		P	00 32 49.8 -1.0
SLIT				IAmb	IAmb		00 32 52.2
	comp=Z,192nm,0.9s						
IZAR	Zarasai	65.93	334	eP		P	00 32 54.8 -0.2
IZAR				IAmb	IAmb		00 32 57.4
	comp=Z,4.3nm,0.7s						
ISAL	Salakas	66.12	334	eP		P	00 32 55.8 -0.4
ISAL				IAmb	IAmb		00 32 57.8
	comp=Z,16nm,1.1s						
IDID	Didziasalis	66.18	333	eP		P	00 32 56.3 -0.2
IDID				IAmb	IAmb		00 32 58.1
	comp=Z,11nm,1.0s						
IIGN	Ignalina	66.29	333	eP		P	00 32 57.0 -0.2
IIGN				IAmb	IAmb		00 32 59.0
	comp=Z,9.4nm,0.7s						
PABE	Paberze	66.76	335	eP		P	00 32 58.5 -1.8
PABE				IAmb	IAmb		00 33 01.8
	comp=Z,78nm,1.3s						
GEYT	Alibeck	67.72	303	P		P	00 33 06.0 -0.8
	comp=Z,7.7nm,0.7s,baz=29,slow=3.4,SNR=9.9						
GYA0B	ALIBECK ARRAY	67.72	303	eP		P	00 33 06.4 -0.3
	comp=Z,4.7nm,0.9s						
VLDQ	Val d'Or	68.56	38	eP		P	00 33 11.2 -0.5
	comp=Z,13nm,1.0s						
AKASG	Malin Array Be	69.47	329	eP		P	00 33 16.9 -0.4
AKASG	Malin Array Be	69.47	329	P		P	00 33 16.4 -0.9
	comp=Z,5.2nm,0.3s,baz=30,slow=6.8,SNR=41						
KIEV	Kiev	69.48	329	eP		P	00 33 16.6 -0.8
	comp=Z,17nm,1.0s						
KIEV	Kiev	69.48	329	⇓iP		P	00 33 17.0 -0.4
KIEV	Kiev	69.48	329	eP		P	00 33 16.6 -0.8
KIEV				pmax	pmax		
	comp=Z,17nm,1.0s						
KBZ	Khabaz	70.31	317	P		P	00 33 22.2 -0.4
	comp=Z,5.5nm,0.9s,baz=36,slow=2.6,SNR=7.3						
LGD	Lagodekhi	70.39	314	P		P	00 33 28.4 +5.3
LGD				S		P	00 33 30.3 +7.1
TXAR	Lajitas Array	70.82	67	eP		P	00 33 28.1 +2.0
TXAR	Lajitas Array	70.82	67	eP		P	00 33 28.1 +2.0
TXAR	Lajitas Array	70.82	67	P		P	00 33 27.4 +1.3
	comp=Z,1.7nm,0.8s,baz=303,slow=4.4,SNR=15						
TBLG	Delisi	71.14	315	P		P	00 33 28.1 +0.4
TBLG				pmax	pmax		
	comp=Z,61nm,2.0s						
TRQ	Mont Tremblant	71.23	37	eP		P	00 33 28.5 +0.2
HYB	Hyderabad	71.46	275	⇑iP		P	00 33 29.5 -0.5
AKH	Akhalkalaki	71.94	315	⇓iP		P	00 33 33.5 +0.7
AKH	Akhalkalaki	71.94	315	P		P	00 33 33.5 +0.7
EKA	Eskdalemuir Ar	71.96	350	P		P	00 33 32.3 -0.1
EKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
RUE	Ruedersdorf	71.98	339	eP		P	00 33 32.1 -0.4
RUE				IAmb	IAmb		00 33 33.7
	comp=Z,14nm,0.7s						
ESK	Eskdalemuir	71.98	350	eP		P	00 33 32.9 +0.3
	comp=Z,30nm,1.7s						
ESK	Eskdalemuir	71.98	350	eP		P	00 33 32.9 +0.3
ESK				pmax	pmax		
	comp=Z,30nm,1.7s						
MEDO	Medina	72.28	41	eP		P	00 33 34.8 +0.2
	comp=Z,12nm,0.8s						
OJC	Ojcow	72.62	335	eP		P	00 33 35.9 -0.6
	comp=Z,14nm,1.1s						
OJC	Ojcow	72.62	335	eP		P	00 33 35.9 -0.6
OJC				pmax	pmax		
	comp=Z,14nm,1.1s						
KIS	Kishinev	72.83	328	eP		P	00 33 31.0 -6.8
KIS	Kishinev	72.83	328	eP		P	00 33 31.0 -6.8
KIS				e			00 33 43.0
MMNY	Mt. Morris Dam	72.87	41	eP		P	00 33 38.2 +0.2
	comp=Z,14nm,1.0s						
KOLS	Kolonicke sedl	73.12	333	eP		P	00 33 39.8 +0.4
KOLS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KOLS	Kolonicke sedl	73.12	333	eP		P	00 33 39.8 +0.4
CLL	Collm	73.25	339	eP		P	00 33 40.0 -0.1
	comp=Z,12nm,0.9s						
CLL	Collm	73.25	339	eP		P	00 33 40.0 -0.1
CLL				pmax	pmax		
	comp=Z,13nm,0.9s						
CLL	Collm	73.25	339	eP		P	00 33 40.0 -0.1
	comp=Z,15nm,1.0s						
CLL				epP		pwP	00 33 51.0 -0.7
CLL				e			00 33 58.0
DPC	Dobruska-Polom	73.38	337	eP		P	00 33 42.1 +1.1
DPC	Dobruska-Polom	73.38	337	eP		P	00 33 42.1 +1.1
OKC	Ostrava-Krasne	73.40	336	eP		P	00 33 42.0 +0.9
OKC	Ostrava-Krasne	73.40	336	eP		P	00 33 42.0 +0.9
BURAR	Bucovina Array	73.43	330	eP		P	00 33 41.3 -0.2
BURAR	Bucovina Array	73.43	330	⇓iP		P	00 33 41.7 +0.2
BURAR	Bucovina Array	73.43	330	P		P	00 33 41.6 +0.1
BRG	Berggiesshubel	73.45	339	eP		P	00 33 41.3 0.0
	comp=Z,6.9nm,1.1s						
BRG	Berggiesshubel	73.45	339	eP		P	00 33 41.3 0.0
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KRLC	Kraliky	73.52	337	eP		P	00 33 42.5 +0.6
KRLC	Kraliky	73.52	337	eP		P	00 33 42.5 +0.6
MORC	Moravsky Berou	73.61	336	eP		P	00 33 42.3 -0.1
	comp=Z,10nm,0.9s						
MORC	Moravsky Berou	73.61	336	⇓iP		P	00 33 43.3 +0.9
MORC	Moravsky Berou	73.61	336	eP		P	00 33 42.3 -0.1
MORC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MORC	Moravsky Berou	73.61	336	eP		P	00 33 42.8 +0.4
PVCC	Panska Ves	73.63	338	eP		P	00 33 43.1 +0.7
PVCC	Panska Ves	73.63	338	eP		P	00 33 43.1 +0.7
LANS	Liptovska Anna	73.69	334	eP		P	00 33 44.5 +1.6
LANS	Liptovska Anna	73.69	334	eP		P	00 33 44.5 +1.6
TRPA	Tarpa	73.77	332	⇑iP		P	00 33 43.4 +0.2
TRPA	Tarpa	73.77	332	eP		P	00 33 42.0 -1.2
WTSB	Winterswijk	73.84	343	eP		P	00 33 44.4 +0.8
	comp=Z,24nm,1.1s						
TESR	Tescani	73.97	329	⇓iP		P	00 33 44.5 0.0
PRU	Pruhonice	74.14	338	eP		P	00 33 46.0 +0.6
PRU				e			00 34 03.8
PRU	Pruhonice	74.14	338	eP		P	00 33 46.0 +0.6
PRU				ex		x	00 34 03.8
GOPC	GO Pecny, Ondr	74.15	338	eP		P	00 33 46.0 +0.5
GOPC	GO Pecny, Ondr	74.15	338	eP		P	00 33 46.0 +0.5
VRAC	Vranov	74.28	336	⇑iP		P	00 33 47.2 +0.9
VRAC	Vranov	74.28	336	P		P	00 33 47.1 +0.8
VRAC	Vranov	74.28	336	eP		P	00 33 47.0 +0.8
NKC	Novy Kostel	74.38	339	eP		P	00 33 47.7 +0.9
NKC	Novy Kostel	74.38	339	eP		P	00 33 47.7 +0.9
JAVC	Velka Javorina	74.42	335	eP		P	00 33 48.8 +1.6
VYHS	Vyhne	74.46	335	eP		P	00 33 48.0 +0.7
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
VYHS	Vyhne	74.46	335	eP		P	00 33 48.0 +0.7
KRUC	Moravsky	74.56	336	eP		P	00 33 48.5 +0.6
TREC	Trest	74.56	337	eP		P	00 33 48.6 +0.7
TREC				e			00 34 06.6
TREC	Trest	74.56	337	eP		P	00 33 48.6 +0.7
TREC				ex		x	00 34 06.6
LTVH	Ltavrtes, Hu	74.62	332	eP		P	00 33 38.1 -10
O56A	Blue Knob Stat	74.66	43	eP		P	00 33 48.4 -0.3
	comp=Z,17nm,1.3s						
CFR	Carcaliu	74.66	327	⇑iP		P	00 33 48.3 -0.2
CFR	Carcaliu	74.66	327	P		P	00 33 48.3 -0.2
PSZ	Piszkesteto	74.70	334	eP		P	00 33 48.3 -0.5
	comp=Z,9.4nm,1.1s						
PSZ	Piszkesteto	74.70	334	⇑iP		P	00 33 50.3 +1.5
PSZ	Piszkesteto	74.70	334	eP		P	00 33 48.3 -0.5
PSZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CJR	Cluj-Napoca	74.73	331	⇓iP		P	00 33 49.8 +0.8
CJR	Cluj-Napoca	74.73	331	P		P	00 33 49.8 +0.8
SMOL	Smolenice	74.81	335	eP		P	00 33 51.1 +1.8
SMOL	Smolenice	74.81	335	eP		P	00 33 51.1 +1.8
DOPR	Dopca	74.85	329	⇓iP		P	00 33 50.4 +0.8
DRGR		74.93	331	⇓iP		P	00 33 50.6 +0.4
DRGR		74.93	331	P		P	00 33 50.5 +0.4
MODS	Modra-Piesok	74.97	336	eP		P	00 33 50.9 +0.6
MODS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MODS	Modra-Piesok	74.97	336	eP		P	00 33 50.9 +0.6
MLR	Muntele Rosu	75.10	329	eP		P	00 33 51.4 +0.2
	comp=Z,9.4nm,0.8s						
MLR	Muntele Rosu	75.10	329	⇓iP		P	00 33 52.6 +1.4
MLR	Muntele Rosu	75.10	329	eP		P	00 33 51.4 +0.2
MLR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HGN	Heimansgroeve	75.15	344	eP		P	00 33 51.7 +0.5
	comp=Z,45nm,1.3s						
GRA1	Grafenberg Arr	75.15	340	eP		P	00 33 51.6 +0.3
	comp=Z,16nm,1.1s						
GRF	Grafenberg Arr	75.15	340	eP		P	00 33 51.6 +0.3
GRF				pmax	pmax		
	comp=Z,16nm,1.1s						
GRFO	Grafenberg	75.16	340	eP		P	00 33 51.9 +0.6
	comp=Z,12nm,1.0s						
GRFO	Grafenberg	75.16	340	eP		P	00 33 51.9 +0.6
GRFO				pmax	pmax		
	comp=Z,13nm,1.0s						
KHC	Kasperske Hory	75.16	338	eP		P	00 33 51.9 +0.5
KHC				e			00 34 10.4
KHC	Kasperske Hory	75.16	338	eP		P	00 33 51.9 +0.5
KHC				ex		x	00 34 10.4
ZST	Bratislava	75.18	336	eP		P	00 33 51.8 +0.3
ZST	Bratislava	75.18	336	eP		P	00 33 51.8 +0.3
TLB	Topalu	75.21	327	⇑iP		P	00 33 52.2 +0.5
TLB	Topalu	75.21	327	P		P	00 33 52.1 +0.4
MEM	Membach	75.29	343	⇑P		P	00 33 52.6 +0.6
	comp=Z,23nm,1.0s						
WET	Wettzell	75.31	339	P		P	00 33 53.9 +1.7
WET				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WRA	Warramunga Arr	75.35	205	P		P	00 33 52.8 +0.2
	comp=Z,0.8nm,0.7s,baz=23,slow=5.4,SNR=7.1						
GEC2	GERESS Array S	75.40	338	eP		P	00 33 52.9 0.0
	comp=Z,4.7nm,0.9s						
GEC2	GERESS Array S	75.40	338	eP		P	00 33 52.9 0.0
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GERES	GERESS Array B	75.40	338	eP		P	00 33 53.2 +0.3
GERES	GERESS Array B	75.40	338	P		P	00 33 53.0 +0.1
	comp=Z,3.4nm,0.9s,baz=49,slow=4.3,SNR=20						
VOIR		75.43	329	⇑iP		P	00 33 53.7 +0.6
VOIR		75.43	329	P		P	00 33 53.9 +0.8
VOIR				pmax	pmax		
	comp=Z,11nm,0.8s						
BCLA	Clavier	75.59	344	⇑P		P	00 33 53.6 -0.2
BCLA				⇑PcP		PcP	00 34 07.5 +0.9
ARR	Arges	75.62	329	⇑iP		P	00 33 55.1 +0.9
CONA	Conrad Observa	75.74	336	eP		P	00 33 56.4 +1.5
	comp=Z,7.6nm,0.9s,SNR=5.7						
SOP	Sopron	75.80	336	⇑eP		P	00 33 56.0 +1.0
GIVF	Givet	75.98	344	eP		P	00 33 55.9 -0.1
GIVF				pmax	pmax		
	comp=Z,24nm,1.4s						
DOU	Dourbes	76.03	344	⇓P		P	00 33 57.2 +0.9
BAIF	Baives	76.13	344	eP		P	00 33 56.9 +0.1
BAIF				pmax	pmax		
	comp=Z,11nm,1.1s						
GZR	Gura Zlata	76.17	331	⇑iP		P	00 33 57.3 0.0
GZR	Gura Zlata	76.17	331	P		P	00 33 57.3 0.0
WLF	Walferdange	76.17	343	⇑P		P	00 33 58.1 +1.0
MOA	Molln	76.20	337	eP		P	00 33 58.5 +1.1
	comp=Z,7.8nm,1.3s						
BZS	Buzias	76.31	332	⇓iP		P	00 33 58.2 +0.3
BZS	Buzias	76.31	332	P		P	00 33 58.3 +0.3
BZS				pmax	pmax		
	comp=Z,12nm,1.3s						
ARSA	Arzberg	76.46	336	i P		P	00 34 00.1 +1.2
	comp=Z,6.6nm,1.0s						
VLAD	Vladila	76.92	329	⇓iP		P	00 34 02.2 +0.8
BFO	Black Forest	77.04	341	i P		P	00 34 03.3 +1.2
SOKA	Soboth	77.11	336	i P		P	00 34 03.4 +0.8
	comp=Z,9.0nm,0.9s						
PUNG	Punghina	77.13	330	⇑iP		P	00 34 02.3 -0.3
PERS	Pernice	77.13	336	i P		P	00 34 03.4 +0.7
KBA	Koelnbreinsper	77.14	338	eP		P	00 34 04.1 +1.2
	comp=Z,22nm,0.9s,SNR=14						
KBA	Koelnbreinsper	77.14	338	P		P	00 34 04.5 +1.6
KBA				pmax	pmax		
	comp=Z,32nm,1.0s						
CDF	Champ du Feu	77.17	342	eP		P	00 34 03.0 +0.1
CDF				pmax	pmax		
	comp=Z,17nm,1.3s						
WATA	Walderalm	77.31	339	eP		P	00 34 05.0 +1.2
	comp=Z,6.7nm,1.0s,SNR=5.4						
RETA	Reutte	77.34	339	i P		P	00 34 04.9 +1.1
	comp=Z,5.3nm,1.0s						
WTTA	Wattenberg	77.36	339	i P		P	00 34 05.6 +1.5
	comp=Z,15nm,1.0s						
ECH	Echery	77.38	342	eP		P	00 34 03.9 -0.1
	comp=Z,18nm,1.3s						
ECH	Echery	77.38	342	eP		P	00 34 03.9 -0.1
ECH				pmax	pmax		
	comp=Z,18nm,1.3s						
OBKA	Obir	77.39	337	eP		P	00 34 05.6 +1.5
	comp=Z,14nm,1.3s						
MOTA	Moosalm	77.40	339	eP		P	00 34 05.5 +1.2
	comp=Z,13nm,1.0s,SNR=8.5						
BRTR	Keskin Array B	77.42	321	eP		P	00 34 04.0 -0.5
BRTR	Keskin Array B	77.42	321	i P		P	00 34 04.4 -0.1
BRTR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BRTR	Keskin Array B	77.42	321	P		P	00 34 04.0 -0.5
	comp=Z,6.2nm,1.1s,baz=64,slow=2.9,SNR=15						
MYKA	Terra Mystica	77.50	337	eP		P	00 34 04.8 0.0
	comp=Z,8.0nm,1.6s						
SQTA	Sankt Quirin	77.50	339	eP		P	00 34 06.2 +1.4
	comp=Z,16nm,1.1s,SNR=5.2						
ABTA	Abfaltersbach	77.65	338	i P		P	00 34 06.2 +0.6
	comp=Z,7.8nm,1.0s						
DAVA	Damuels	77.72	340	i P		P	00 34 07.3 +1.2
	comp=Z,9.2nm,1.0s						
HAU	Haudompre	77.73	342	eP		P	00 34 06.0 0.0
HAU				pmax	pmax		
	comp=Z,13nm,1.1s						
FETA	Feichten	77.79	339	eP		P	00 34 07.2 +0.7
	comp=Z,9.0nm,1.0s						
VISS	Visnje	77.98	336	eP		P	00 34 07.5 +0.2
PHSR	Pinarhisar	78.00	326	⇑iP		P	00 34 08.1 +0.6
FLN	La Foliniere	78.10	347	eP		P	00 34 07.7 -0.2
FLN				pmax	pmax		
	comp=Z,31nm,1.4s						
BOJS	Bojanci	78.15	336	i P		P	00 34 08.8 +0.5
CLF	Chambon-Foret	78.41	345	eP		P	00 34 09.9 +0.2
	comp=Z,39nm,1.4s						
GRR	Gorron	78.51	347	eP		P	00 34 10.2 0.0
GRR				pmax	pmax		
	comp=Z,25nm,1.2s						
VTS	Vitosha	78.54	329	eP		P	00 34 10.1 -0.6
	comp=Z,7.6nm,0.9s						
VTS	Vitosha	78.54	329	⇓iP		P	00 34 10.7 0.0
VTS	Vitosha	78.54	329	eP		P	00 34 10.1 -0.6
VTS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TUE	Stuetta	78.61	340	eP		P	00 34 11.5 +0.4
	comp=Z,8.9nm,0.9s						
SGMF	Saint Gilles	78.86	348	eP		P	00 34 12.2 0.0
SGMF				pmax	pmax		
	comp=Z,23nm,1.1s						
ROSF	Rostrenen	78.87	349	eP		P	00 34 12.3 +0.1
ROSF				pmax	pmax		
	comp=Z,17nm,0.9s						
LOR	Lormes	78.89	344	eP		P	00 34 12.4 0.0
LOR				pmax	pmax		
	comp=Z,16nm,1.2s						
ASAR	Alice Springs	79.02	205	P		P	00 34 13.4 +0.2
	comp=Z,1.3nm,0.6s,baz=15,slow=5.0,SNR=11						
CABF	La Chapelle	79.12	342	eP		P	00 34 14.1 +0.3
CABF				pmax	pmax		
	comp=Z,13nm,1.0s						
SENIN	Lac Senin/Sane	79.13	341	eP		P	00 34 14.8 +0.9
	comp=Z,22nm,1.5s						
SSF	Saint Saulge	79.15	344	eP		P	00 34 13.8 0.0
SSF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AVF	Avril sur Loir	79.44	344	eP		P	00 34 15.5 +0.2
AVF				pmax	pmax		
	comp=Z,14nm,1.0s						
SMF	Signal de Mont	79.49	344	eP		P	00 34 15.8 +0.1
SMF				pmax	pmax		
	comp=Z,24nm,1.3s						
STIP	Stip	79.70	330	i P		P	00 34 16.0 -0.9
PDG	Podgorica	79.91	332	⇑iP		P	00 34 17.7 -0.3
VAY	Valandovo	79.92	329	i P		P	00 34 18.4 +0.3
EZN	Ezine	80.02	326	⇑iP		P	00 34 18.0 -0.6
EZN	Ezine	80.02	326	P		P	00 34 18.0 -0.6
LPL	La Plagne	80.05	342	eP		P	00 34 19.9 +0.9
LPL				pmax	pmax		
	comp=Z,23nm,1.1s						
LPG	La Plagne	80.07	342	eP		P	00 34 20.1 +1.0
LPG				pmax	pmax		
	comp=Z,19nm,1.0s						
TCF	Toulx Ste Croi	80.11	345	eP		P	00 34 19.3 +0.3
TCF				pmax	pmax		
	comp=Z,11nm,1.1s						
MFF	Saint Martin d	80.16	347	eP		P	00 34 19.6 +0.3
MFF				pmax	pmax		
	comp=Z,13nm,1.1s						
KRUS	Krusevo	80.29	330	i P		P	00 34 17.7 -2.4
LIA	Limnos Island	80.35	327	P		P	00 34 20.3 -0.1
OUR	Ouranopolis	80.36	328	P		P	00 34 19.4 -1.0
PRK	Paraskevi	80.56	326	P		P	00 34 21.6 +0.1
ORIF	Oris-en-Rattie	80.79	342	eP		P	00 34 23.7 +0.9
ORIF				pmax	pmax		
	comp=Z,14nm,1.0s						
VIVF	Saint-Julien-l	81.08	343	eP		P	00 34 25.0 +0.7
VIVF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RJF	Les Rejaudoux	81.18	345	eP		P	00 34 26.2 +1.4
RJF				pmax	pmax		
	comp=Z,12nm,1.2s						
CAF	Calviac	81.46	345	eP		P	00 34 27.2 +0.9
CAF				pmax	pmax		
	comp=Z,13nm,1.1s						
NEO	Neokhori	81.54	328	P		P	00 34 25.9 -0.9
LFF	La Frestale	81.66	346	eP		P	00 34 28.1 +0.8
LFF				pmax	pmax		
	comp=Z,12nm,1.0s						
CSS	Mathiatis	81.66	319	eP		P	00 34 27.0 -0.5
	comp=Z,12nm,0.9s						
CSS	Mathiatis	81.66	319	P		P	00 34 26.9 -0.6
ANX	Ano Chora	82.61	328	P		P	00 34 31.6 -0.9
MTLF	Montolieu	82.98	344	eP		P	00 34 35.2 +1.0
MTLF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
DRO	Drossia	83.26	328	P		P	00 34 35.5 -0.3
AMT	Artemida-Makis	83.64	328	P		P	00 34 36.4 -1.4
ETSF	Etsaut	83.85	346	eP		P	00 34 39.9 +1.1
ETSF				pmax	pmax		
	comp=Z,11nm,1.0s						
LAST	Lasithi	84.50	324	P		P	00 34 41.3 -0.9
POLO	Lamas de Olo	86.23	351	eP		P	00 34 52.0 +1.2
MVO	Moncorvo	86.37	351	eP		P	00 34 52.5 +1.1
	comp=Z,27nm,1.9s						
MTE	Manteigas	87.18	351	eP		P	00 34 57.3 +1.9
ESDC	Sonseca Array	87.49	348	eP		P	00 34 57.1 +0.3
ESDC	Sonseca Array	87.49	348	P		P	00 34 56.7 -0.2
	comp=Z,2.5nm,0.8s,baz=6.5,slow=4.1,SNR=13						
PCAS	Casmilo, Conde	87.61	351	eP		P	00 34 59.3 +1.9
PCBR	Castelo Branco	87.72	351	eP		P	00 35 00.6 +2.7
KEST	Kesra	88.84	337	eP		P	00 35 02.9 -0.5
	comp=Z,15nm,1.3s						
KEST	Kesra	88.84	337	P		P	00 35 02.8 -0.6
	comp=Z,4.6nm,0.8s,baz=27,slow=2.3,SNR=4.3						
TORD	Torodi Ar. Bea	112.36	337	PP		PP	00 41 28.9 -1.1
	comp=Z,2.7nm,1.0s,baz=357,slow=8.2,SNR=8.3						

DDA ***20*** *00:22:48.2, 37.°03N×28.°43E, h7km±3km, ML2.5*
ISK ***20*** *00:22:48.9, 36.°98N×28.°42E, h2km, ML2.5/16*
ISCJB ***20*** *00:22:49.9±0.4, 36.°99N±0.°03×28.°40E±0.°03, h11km±5km,*
Error ellipse: s-maj=6.3km s-min=3.5km az=28.4
ISC 20 00:22:49.8±0.9, 37.°02N±0.°03×28.°42E±0.°02, h15km±7km,
n27, σ1°905/37, Turkey

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	Turunc	0.21	135	PG	Pg	00 22 54.7	+0.2
TURN				SG	Sg	00 22 59.3	+1.6
TURN	Turunc	0.21	135	i P	Pg	00 22 54.2	-0.3
TURN				i S	Sg	00 22 59.3	+1.6
DALY	Dalyan (Mula)	0.28	137	PG	Pg	00 22 54.4	-1.2
DALY				SG	Sb	00 22 59.1	-1.8
DALY	Dalyan (Mula)	0.28	137	IAML_P			
	comp=

ellipse: s-maj=21.7km s-min=14.8km az=142.0
*KRSC **20** 00:23:58.6±10.0, 52°.06N×160°.64E, h61km±10km, ML4.8*
*MOS **20** 00:24:02.6±0.9, 52°.13N×160°.35E, h48km, mb4.3/1, Error ellipse: s-maj=10.5km s-min=5.9km az=112.1*
ISC 20 00:23:58.7±1.7, 52°.11N±0°.04×160°.52E±0°.05, h9km±9km, n93, σ1§17/117, mb4.3/28, 17C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.03**	**343**	*eP*	**Pn**	**00 24 19.1**	**-0.2**
SPN				*eS*	**Sg**	**00 24 31.4**	**-0.5**
SPN	**Mys Shipunski**	**1.03**	**343**	PN	**Pn**	**00 24 19.1**	**-0.2**
SPN				S	**Sg**	**00 24 31.4**	**-0.5**
RUS	**Russkaya**	**1.27**	**285**	*eP*	**Pb**	**00 24 22.8**	**+0.1**
RUS				*eS*	**Sb**	**00 24 38.6**	**-0.6**
RUS	**Russkaya**	**1.27**	**285**	PN	**Pb**	**00 24 22.8**	**+0.1**
RUS				S	**Sb**	**00 24 38.6**	**-0.6**
NLC	**Nalytchevo**	**1.28**	**327**	*eP*	**Pg**	**00 24 23.2**	**0.0**
NLC				*eS*	**Sn**	**00 24 40.0**	**+0.1**
NLC	**Nalytchevo**	**1.28**	**327**	PN	**Pg**	**00 24 23.2**	**0.0**
NLC				S	**Sn**	**00 24 40.0**	**+0.1**
DALK	**Dalny**	**1.42**	**311**	*eP*	**Pb**	**00 24 25.0**	**-0.2**
DALK				*eS*	**Sg**	**00 24 43.8**	**-0.3**
DALK	**Dalny**	**1.42**	**311**	PN	**Pb**	**00 24 25.0**	**-0.2**
DALK				S	**Sg**	**00 24 43.8**	**-0.3**
PET	**Petropavlovsk**	**1.46**	**309**	*e*PN	**Pg**	**00 24 26.5**	**-0.1**
PET				*eS*	**Sn**	**00 24 43.9**	**-0.4**
PET				smax	smax		
	comp=N,3μm,0.4s						
PET				smax	smax		
	comp=E,3μm,0.4s						
UGLR	**Uglovaya**	**1.50**	**317**	*eP*	**Pg**	**00 24 27.3**	**-0.2**
UGLR				*eS*	**Sg**	**00 24 47.0**	**-0.1**
UGLR	**Uglovaya**	**1.50**	**317**	PN	**Pg**	**00 24 27.3**	**-0.2**
UGLR				S	**Sg**	**00 24 47.0**	**-0.1**
SDLR	**Sedlovina**	**1.53**	**320**	*eP*	**Pb**	**00 24 27.3**	**0.0**
SDLR	**Sedlovina**	**1.53**	**320**	PN	**Pb**	**00 24 27.3**	**0.0**
KDTR	**Khodutka, Kamc**	**1.54**	**260**	*eP*	**Pb**	**00 24 27.0**	**-0.3**
KDTR				*eS*	**Sn**	**00 24 46.1**	**-0.2**
KDTR	**Khodutka, Kamc**	**1.54**	**260**	PN	**Pb**	**00 24 27.0**	**-0.3**
KDTR				S	**Sn**	**00 24 46.1**	**-0.2**
SMAR	**Somma**	**1.55**	**318**	*eP*	**Pb**	**00 24 27.7**	**0.0**
SMAR				*eS*	**Sg**	**00 24 48.3**	**-0.4**
SMAR	**Somma**	**1.55**	**318**	PN	**Pb**	**00 24 27.7**	**0.0**
SMAR				S	**Sg**	**00 24 48.3**	**-0.4**
AVH	**Avacha**	**1.58**	**318**	*eP*	**Pg**	**00 24 29.1**	**+0.1**
AVH	**Avacha**	**1.58**	**318**	PN	**Pg**	**00 24 29.1**	**+0.1**
KRER	**Koryakskii**	**1.60**	**319**	P	**Pg**	**00 24 29.5**	**0.0**
KRER				S	**Sg**	**00 24 50.6**	**+0.3**
KRER	**Koryakskii**	**1.60**	**319**	PN	**Pg**	**00 24 29.5**	**0.0**
KRER				S	**Sg**	**00 24 50.6**	**+0.3**
ASAK	**Asacha**	**1.63**	**281**	*eP*	**Pb**	**00 24 28.9**	**0.0**
ASAK	**Asacha**	**1.63**	**281**	PN	**Pb**	**00 24 28.9**	**0.0**
KOK	**Koryaka**	**1.64**	**317**	P	**Pg**	**00 24 29.7**	**-0.5**
KOK				*eS*	**Sg**	**00 24 50.9**	**-0.6**
KOK	**Koryaka**	**1.64**	**317**	PN	**Pg**	**00 24 29.7**	**-0.5**
KOK				S	**Sg**	**00 24 50.9**	**-0.6**
KRX	**Arik**	**1.69**	**318**	P	**Pb**	**00 24 30.1**	**+0.2**
KRX				S	**Sb**	**00 24 51.6**	**+0.3**
KRX	**Arik**	**1.69**	**318**	PN	**Pb**	**00 24 30.1**	**+0.2**
KRX				S	**Sb**	**00 24 51.6**	**+0.3**
PETK	**Petropavlovsk-**	**1.98**	**301**	Pn	**Pn**	**00 24 33.5**	**+1.1**
	comp=E,95nm,0.3s,baz=110,slow=19,SNR=9.0						
PETK				Sn	**Sb**	**00 24 59.7**	**-0.1**
	comp=E,146nm,0.3s,baz=33,slow=24,SNR=6.8						
APC	**Apacha**	**2.21**	**293**	*eP*	**Pb**	**00 24 37.6**	**-1.1**
APC	**Apacha**	**2.21**	**293**	PN	**Pb**	**00 24 37.6**	**-1.1**
KZV	**Kizimen**	**3.01**	**358**	P	**Pn**	**00 24 48.6**	**+2.0**
KZV				S	**Sn**	**00 25 22.9**	**+0.1**
KZV	**Kizimen**	**3.01**	**358**	PN	**Pn**	**00 24 48.6**	**+2.0**
KZV				S	**Sn**	**00 25 22.9**	**+0.1**
SKR	**Severo-Kuril's**	**3.10**	**244**	*eS*	**Sn**	**00 25 23.7**	**-1.2**
SKR	**Severo-Kuril's**	**3.10**	**244**	*e*PN	**Pn**	**00 24 47.5**	**-0.2**
SKR				*eS*	**Sn**	**00 25 24.4**	**-0.5**
SKR				smax	smax		
	comp=E,869nm,0.8s						
SKR				smax	smax		
	comp=N,947nm,0.6s						
SKR				MLR	MLR		
	comp=Z,4μm,17.0s						
TUMR	**Tumrok**	**3.18**	**356**	*eP*	**Pn**	**00 24 51.3**	**+2.3**
TUMR	**Tumrok**	**3.18**	**356**	PN	**Pn**	**00 24 51.3**	**+2.3**
ALID	**Alaid**	**3.34**	**250**	*eP*	**Pn**	**00 24 51.8**	**+0.6**
ALID	**Alaid**	**3.34**	**250**	PN	**Pn**	**00 24 51.8**	**+0.6**
BKI	**Bering**	**4.49**	**44**	*eS*	**Sn**	**00 25 53.7**	**-5.2**
ASAJ	**Asahikawa**	**14.37**	**243**	Pn	**Pn**	**00 27 23.6**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=58,slow=15,SNR=2.7						
KLR	**Kul'dur**	**18.41**	**272**	P	**P**	**00 28 12.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=83,slow=15,SNR=1.7						
USRK	**Ussuriysk Ar.**	**20.51**	**259**	P	**P**	**00 28 35.9**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=67,slow=11,SNR=3.6						
MJAR	**Matsushiro Arr**	**22.16**	**234**	P	**P**	**00 28 56.9**	**+2.2**
	comp=Z,5.2nm,0.6s,baz=19,slow=11,SNR=3.7						
TIXI	**Tiksi**	**24.08**	**336**	P	**P**	**00 29 11.6**	**-2.4**
	comp=Z,7.9nm,0.6s,baz=122,slow=10.0,SNR=7.7						
KSRS	**Korea Array**	**27.11**	**250**	P	**P**	**00 29 42.8**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=46,slow=10,SNR=3.3						
ILAR	**Eielson Array**	**29.33**	**44**	PcP	**PcP**	**00 33 07.9**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=289,slow=3.2,SNR=3.3						
SONM	**Songino Array**	**34.39**	**285**	P	**P**	**00 30 44.7**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=61,slow=8.1,SNR=6.7						
INK	**Inuvik**	**34.49**	**37**	P	**P**	**00 30 46.9**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=260,slow=3.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**43.53**	**304**	P	**P**	**00 32 00.6**	**-1.6**
	comp=Z,1.5nm,0.6s,baz=74,slow=5.7,SNR=3.6						
ZALV				PcP	**PcP**	**00 33 49.1**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=29,slow=3.3,SNR=2.6						
YKA	**Yellowknife Ar**	**43.72**	**42**	P	**P**	**00 32 03.9**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=297,slow=7.5,SNR=2.3						
MKAR	**Makanchi Array**	**48.82**	**297**	P	**P**	**00 32 42.0**	**-2.0**
MKAR	**Makanchi Array**	**48.82**	**297**	P	**P**	**00 32 42.0**	**-2.0**
	comp=Z,2.2nm,0.4s,baz=54,slow=6.6,SNR=12						
ARCES	**ARCESS Array B**	**54.30**	**342**	P	**P**	**00 33 24.4**	**-0.2**
	comp=Z,6.1nm,0.9s,baz=34,slow=9.8,SNR=5.8						
PDAR	**Pinedale Arr**	**57.78**	**61**	P	**P**	**00 33 50.9**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=345,slow=6.6,SNR=2.2						
CMAR	**Chiang Mai Arr**	**58.24**	**259**	P	**P**	**00 33 54.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**58.24**	**259**	P	**P**	**00 33 54.0**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=26,slow=7.8,SNR=4.5						
FINES	**FINESS Array B**	**61.12**	**337**	P	**P**	**00 34 12.6**	**-0.1**
	comp=Z,6.0nm,0.5s,baz=31,slow=8.2,SNR=14						
NB2	**NORSAR Subarra**	**64.56**	**344**	P	**P**	**00 34 35.6**	**0.0**
	comp=Z,2.1nm,0.6s,baz=23,slow=6.9						
NOA	**NORSAR Array B**	**64.56**	**344**	P	**P**	**00 34 34.9**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=22,slow=5.8,SNR=6.3						
GEYT	**Alibeck**	**67.84**	**303**	P	**P**	**00 34 57.2**	**+0.2**
	comp=Z,7.5nm,0.5s,baz=31,slow=3.9,SNR=3.8						
AKASG	**Malin Array Be**	**69.59**	**329**	P	**P**	**00 35 06.6**	**-1.0**
	comp=Z,2.5nm,0.4s,baz=30,slow=6.8,SNR=10						
TXAR	**Lajitas Array**	**70.78**	**67**	P	**P**	**00 35 16.1**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=293,slow=4.7,SNR=4.7						
BURAR	**Bucovina Array**	**73.55**	**330**	⇑*i*P	**P**	**00 35 32.5**	**+0.8**
BURAR	**Bucovina Array**	**73.55**	**330**	⇑P	**P**	**00 35 32.5**	**+0.8**
TRPA	**Tarpa**	**73.89**	**332**	⇑*i*P	**PcP**	**00 35 45.5**	**-3.4**
CEI	**Carei**	**74.31**	**332**	⇑*i*P	P	00 35 27.4	-8.6
CEI	**Carei**	**74.31**	**332**	⇑P	P	00 35 27.4	-8.6
VRAC	**Vranov**	**74.40**	**336**	⇑*i*P	**P**	**00 35 39.0**	**+2.5**
VRAC	**Vranov**	**74.40**	**336**	⇑P	**P**	**00 35 39.0**	**+2.5**
TLCR		**74.55**	**327**	⇑*i*P	**PcP**	**00 35 51.6**	**-0.2**
OZUR		**74.73**	**329**	⇑*i*P	**P**	**00 35 40.1**	**+1.6**
CFR	**Carcaliu**	**74.78**	**327**	⇑*i*P	**P**	**00 35 38.2**	**-0.5**
CFR	**Carcaliu**	**74.78**	**327**	⇑P	**P**	**00 35 38.2**	**-0.5**
CJR	**Cluj-Napoca**	**74.85**	**331**	⇓*i*P	**P**	**00 35 40.2**	**+1.0**
CJR	**Cluj-Napoca**	**74.85**	**331**	⇓P	**P**	**00 35 40.2**	**+1.0**
MLR	**Muntele Rosu**	**75.22**	**329**	⇑*i*P	**P**	**00 35 42.5**	**+1.0**
MLR	**Muntele Rosu**	**75.22**	**329**	⇑P	**P**	**00 35 42.5**	**+1.0**
WRA	**Warramunga Arr**	**75.30**	**205**	P	**P**	**00 35 43.1**	**+1.2**
	comp=Z,1.5nm,1.0s,baz=26,slow=4.9,SNR=3.4						
GERES	**GERESS Array B**	**75.52**	**338**	P	**P**	**00 35 42.5**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=30,slow=6.1,SNR=3.7						
VOIR		**75.55**	**329**	⇑*i*P	**P**	**00 35 43.0**	**-0.3**
VOIR		**75.55**	**329**	⇑P	**P**	**00 35 43.0**	**-0.3**
KDZE	**Karadeniz Ereo**	**77.00**	**323**	⇑*i*P	**P**	**00 35 48.2**	**-3.4**
MDVR	**Moldovita**	**77.16**	**331**	⇑*i*P	**P**	**00 35 53.6**	**+1.2**
SOKA	**Soboth**	**77.23**	**336**	*e*PKKPdf	**P**	**00 35 53.9**	**+1.0**
	comp=Z,7.1nm,1.2s						
KBA	**Koelnbreinsper**	**77.26**	**338**	*e*PKKPbc	**P**	**00 35 55.4**	**+2.3**
	comp=Z,22nm,1.6s						
WTTA	**Wattenberg**	**77.47**	**339**	*e*PKKPbc	**P**	**00 35 56.0**	**+1.7**
	comp=Z,8.7nm,1.2s						
MOTA	**Moosalm**	**77.52**	**339**	*e*PKKPbc	**P**	**00 35 55.7**	**+1.2**
	comp=Z,2.8nm,0.9s						
BRTR	**Keskin Array B**	**77.54**	**321**	P	**P**	**00 35 54.5**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=28,slow=3.6,SNR=5.2						
SQTA	**Sankt Quirin**	**77.61**	**339**	*e*PKKPbc	**P**	**00 35 57.2**	**+2.2**
	comp=Z,7.3nm,1.2s						
ABTA	**Abfaltersbach**	**77.77**	**338**	*e*PKKPbc	**P**	**00 35 56.8**	**+1.0**
	comp=Z,9.1nm,1.2s						
FETA	**Feichten**	**77.91**	**339**	*e*PKKPbc	**P**	**00 35 58.1**	**+1.4**
	comp=Z,7.3nm,1.3s						
ASAR	**Alice Springs**	**78.97**	**205**	P	**P**	**00 36 03.8**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=14,slow=5.5,SNR=4.3						
ESDC	**Sonseca Array**	**87.59**	**348**	P	**P**	**00 36 47.0**	**0.0**
	comp=Z,0.9nm,0.8s,baz=5.0,slow=4.7,SNR=4.7						

*IDC **20** 00:30:40.6±2.7, 51°.86N×160°.38E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.5/41, mbtmp3.8/7, ML2.8/1, Error ellipse: s-maj=56.5km s-min=38.5km az=3.0*
*KRSC **20** 00:30:44.5±10.0, 52°.09N×160°.57E, h61km±10km, ML4.2*
ISC 20 00:30:42.8±1.9, 52°.05N±0°.06×160°.50E±0°.06, h9km±9km, n27, σ0§86/47, mb3.8/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.09**	**345**	P	**Pb**	**00 31 04.1**	**+0.2**
SPN				S	**Sg**	**00 31 17.0**	**-0.9**
RUS	**Russkaya**	**1.28**	**288**	P	**Pb**	**00 31 07.7**	**+0.6**
RUS				S	**Sb**	**00 31 24.3**	**+0.7**
NLC	**Nalytchevo**	**1.32**	**328**	P	**Pg**	**00 31 08.4**	**+0.2**
NLC				S	**Sb**	**00 31 25.5**	**+0.6**
DALK	**Dalny**	**1.45**	**313**	P	**Pb**	**00 31 09.9**	**-0.1**
DALK				S	**Sb**	**00 31 28.0**	**-0.5**
MTVR	**Mutnovka**	**1.49**	**288**	P	**Pg**	**00 31 11.4**	**+0.1**
MTVR				S	**Sn**	**00 31 30.0**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.52**	**262**	P	**Pg**	**00 31 11.6**	**-0.3**
KDTR				S	**Sg**	**00 31 31.9**	**+0.4**
UGLR	**Uglovaya**	**1.55**	**319**	P	**Pg**	**00 31 12.3**	**-0.2**
UGLR				S	**Sb**	**00 31 31.8**	**+0.4**
GRL	**Gorelyy**	**1.57**	**290**	P	**Pg**	**00 31 13.7**	**+0.8**
GRL				S	**Sg**	**00 31 33.1**	**-0.2**
SDLR	**Sedlovina**	**1.57**	**322**	P	**Pb**	**00 31 12.3**	**+0.1**
SDLR				S	**Sn**	**00 31 32.4**	**+0.7**
SMAR	**Somma**	**1.60**	**320**	P	**Pb**	**00 31 12.7**	**+0.1**
AVH	**Avacha**	**1.62**	**319**	P	**Pg**	**00 31 13.4**	**-0.5**
AVH				S	**Sb**	**00 31 34.3**	**+0.7**
ASAK	**Asacha**	**1.63**	**283**	P	**Pg**	**00 31 13.9**	**-0.2**
ASAK				S	**Sg**	**00 31 35.1**	**-0.1**
KRMR	**Karymshinskiy**	**1.65**	**299**	P	**Pb**	**00 31 13.2**	**-0.1**
KRMR				S	**Sn**	**00 31 33.4**	**+0.2**
KRER	**Koryakskii**	**1.65**	**320**	P	**Pb**	**00 31 13.7**	**+0.2**
KRER				S	**Sn**	**00 31 34.5**	**+0.9**
KOK	**Koryaka**	**1.68**	**318**	P	**Pb**	**00 31 14.1**	**+0.1**
KOK				S	**Sn**	**00 31 35.1**	**+0.8**
KRX	**Arik**	**1.73**	**320**	P	**Pb**	**00 31 14.9**	**+0.1**
KRX				S	**Sb**	**00 31 36.7**	**0.0**
PETK	**Petropavlovsk-**	**2.01**	**303**	Pn	**Pn**	**00 31 17.6**	**+0.6**
	16nm,0.3s,baz=108,slow=19,SNR=49						
PETK				Sn	**Sn**	**00 31 43.8**	**+1.5**
	48nm,0.3s,baz=84,slow=39,SNR=16						
APC	**Apacha**	**2.22**	**295**	P	**Pb**	**00 31 22.6**	**-0.5**
APC				S	**Sb**	**00 31 50.8**	**+0.1**
KZV	**Kizimen**	**3.07**	**358**	P	**Pn**	**00 31 32.3**	**+0.6**
KZV				S	**Sn**	**00 32 07.9**	**-0.7**
TUMD	**Tumrok D**	**3.16**	**359**	P	**Pn**	**00 31 33.1**	**+0.3**
TUMD				S	**Sn**	**00 32 08.5**	**-2.1**
KBTR	**Krutoberegovo**	**4.39**	**17**	P	**Pn**	**00 31 51.9**	**+2.3**
KBTR				S	**Sn**	**00 32 42.6**	**+1.8**
TIXI	**Tiksi**	**24.14**	**336**	P	**P**	**00 35 57.8**	**-0.8**
	2.6nm,0.3s,baz=126,slow=8.9,SNR=4.9						
SONM	**Songino Array**	**34.39**	**285**	P	**P**	**00 37 30.1**	**-0.1**
	0.2nm,0.3s,baz=65,slow=9.0,SNR=2.6						
MKAR	**Makanchi Array**	**48.84**	**297**	P	**P**	**00 39 25.9**	**-2.5**
	0.3nm,0.5s,baz=53,slow=4.7,SNR=7.0						
FINES	**FINESS Array B**	**61.18**	**337**	P	**P**	**00 40 57.6**	**+0.4**
	1.2nm,0.5s,baz=32,slow=8.2,SNR=11						
NOA	**NORSAR Array B**	**64.61**	**344**	P	**P**	**00 41 21.2**	**+1.0**
	0.3nm,0.5s,baz=20,slow=6.9,SNR=3.1						
AKASG	**Malin Array Be**	**69.64**	**329**	P	**P**	**00 41 52.0**	**-0.1**
	0.3nm,0.3s,baz=31,slow=6.7,SNR=4.5						

*ISCJB **20** 00:32:46.3±1.1, 43°.11N±0°.06×145°.22E±0°.06, h93km±7km, Error ellipse: s-maj=11.7km s-min=5.1km az=147.4*
*JMA **20** 00:32:46.4±0.1, 43°.11N×145°.24E, h94km±1km, M2.9*
*SKHL **20** 00:32:46.3±0.7, 42°.79N×145°.57E, h45km±4km, mb3.6/2*
ISC 20 00:32:47.1±1.9, 43°.11N±0°.08×145°.21E±0°.05, h89km±11km, n14, σ0§46/27, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.05**	**229**	P	**Pn**	**00 32 59.8**	**+0.2**
JKHN				S	**Sn**	**00 33 09.7**	**+0.8**
JAK	**Akkeshi**	**0.39**	**253**	P	**Pn**	**00 33 00.9**	**-0.1**
JAK				*eS*	**Sn**	**00 33 11.8**	**+0.5**
NEM2	**Nemuro 2**	**0.46**	**57**	P	**Pn**	**00 33 01.0**	**-0.4**
NEM2				*eS*	**Sn**	**00 33 11.6**	**-0.5**
JNK	**Nakash**	**0.59**	**323**	P	**Pn**	**00 33 02.0**	**-0.5**
JNK				*eS*	**Sn**	**00 33 13.8**	**-0.2**
JRA	**Rausu**	**0.83**	**356**	P	**Pn**	**00 33 04.7**	**-0.1**
JRA				*eS*	**Sn**	**00 33 18.5**	**+0.5**
GRPR	**Tuman**	**0.97**	**25**	*i* P	**Pn**	**00 33 06.0**	**-0.4**
GRPR				AMB	AMB	00 33 08.0	
	10.0nm,0.4s						
GRPR				AMB	AMB	00 33 08.0	
	80nm,0.4s						
GRPR				AMB	AMB	00 33 08.0	
	20nm,0.4s						
GRPR				*i* S	**Sn**	**00 33 20.0**	**-0.8**
GRPR				A	A	00 33 22.0	
	180nm,0.2s						
GRPR				A	A	00 33 22.0	
	170nm,0.2s						
JOB	**Onbets**	**1.03**	**259**	P	**Pn**	**00 33 07.0**	**-0.1**
JOB				*eS*	**Sn**	**00 33 22.3**	**+0.3**
LAGR	**Lagunnoye**	**1.03**	**24**	*i* P	**Pn**	**00 33 07.0**	**-0.1**
LAGR				AMB	AMB	00 33 08.0	
	10.0nm,0.3s						
LAGR				AMB	AMB	00 33 08.0	
	20nm,0.3s						
LAGR				*i* S	**Sn**	**00 33 23.0**	**+1.0**
LAGR				A	A	00 33 23.0	
	180nm,0.2s						
LAGR				A	A	00 33 23.0	
	150nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.03**	**27**	*eP*	**Pn**	**00 33 07.0**	**-0.1**
YUK				*i* S	**Sn**	**00 33 22.0**	**-0.1**
YUK				A	A	00 33 22.5	
	140nm,0.2s						
YUK				A	A	00 33 22.5	
	170nm,0.2s						
JAR	**Ashorobuto**	**1.07**	**280**	P	**Pn**	**00 33 07.4**	**-0.1**
JAR				*eS*	**Sn**	**00 33 22.8**	**-0.1**
JTKR	**Abashiri--Toko**	**1.28**	**313**	P	**Pn**	**00 33 10.0**	**0.0**
JCH	**Churui**	**1.45**	**250**	P	**Pn**	**00 33 12.0**	**-0.1**
JCH				*eS*	**Sn**	**00 33 30.3**	**-0.7**
JMP	**Maruseppu**	**1.61**	**304**	P	**Pn**	**00 33 14.2**	**-0.1**
JMP				*eS*	**Sn**	**00 33 35.3**	**+0.4**
KUR	**Kuril'sk**	**2.85**	**41**	*eP*	**Pn**	**00 33 31.0**	**+0.4**
KUR				*eS*	**Sn**	**00 34 04.0**	**0.0**
KUR				A	A	00 34 05.0	
	40nm,0.2s						
KUR				A	A	00 34 05.0	
	20nm,0.2s						

*IDC **20** 00:36:07.9±1.4, 12°.49N×90°.71W, h0km, mb3.9/7, mb1 4.2/10, mb1mx3.9/37, mbtmp3.9/10, ML3.7/3, Error ellipse: s-maj=40.5km s-min=20.7km az=41.0*
*SNET **20** 00:36:08.2±1.0, 12°.48N×90°.79W, h11km±140km, ML4.1*
*UCR **20** 00:36:08.8±1.5, 12°.34N×90°.70W, h20km±37km, MD3.8, ML3.9, mb4.3(NEIC)*
*MEX **20** 00:36:10.4±0.6, 12°.11N×91°.41W, h20km, MD3.9*
*NEIC **20** 00:36:15.7±0.9, 12°.69N×90°.44W, h44km±8km, mb4.3/20, MD4.1(SNET), Error ellipse: s-maj=11.5km s-min=5.5km az=210.0*
NEIC Felt [I] at San Salvador.
ISC 20 00:36:07.1±3.4, 12°.39N±0°.06×90°.76W±0°.04, h6km±21km, n244, σ1§28/257, mb4.3/23, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.80**	**9**	*eP*	**Pb**	**00 36 40.5**	**0.0**
CEVE	**Cerro Verde**	**1.81**	**38**	*eP*	**Pn**	**00 36 38.9**	**-0.1**
CEVE				*eS*	**Sb**	**00 37 02.6**	**-1.1**
CEVE				IAML		00 37 05.8	
	comp=Z,5μm,0.4s						
CEVE	**Cerro Verde**	**1.81**	**38**	*eP*	**Pn**	**00 36 38.9**	**-0.1**
CEVE				*eS*	**Sb**	**00 37 02.6**	**-1.1**
CEVE				IAML		00 37 05.8	
	comp=Z,5μm,0.4s						
SBLS	**San Blas**	**1.81**	**37**	*eP*	**Pn**	**00 36 39.0**	**-0.1**
SBLS	**San Blas**	**1.81**	**37**	*eP*	**Pn**	**00 36 39.0**	**-0.1**
RTR	**El Retiro**	**1.85**	**36**	*eP*	**Pn**	**00 36 39.5**	**0.0**
RTR	**El Retiro**	**1.85**	**36**	*eP*	**Pn**	**00 36 39.5**	**0.0**
SNJE	**San Jose**	**1.85**	**37**	*eP*	**Pn**	**00 36 39.5**	**-0.1**
SNJE	**San Jose**	**1.85**	**37**	*eP*	**Pn**	**00 36 39.5**	**-0.1**
BOQS	**Boqueron**	**1.96**	**47**	*eP*	**Pn**	**00 36 41.1**	**-0.1**
BOQS				*eP*	**Pb**	**00 36 41.2**	**-2.2**
BOQS				*eS*	**Sb**	**00 37 06.7**	**-1.6**
BOQS				*eS*	**Sn**	**00 37 06.9**	**+0.6**
BOQS				IAML		00 37 07.8	
	comp=Z,771nm,0.4s						
SNET	**Serv Nac Est T**	**1.97**	**49**	*eP*	**Pn**	**00 36 40.6**	**-0.5**
SNET				*eP*	**Pb**	**00 36 41.0**	**-2.4**
SNET				*eS*	**Sn**	**00 37 06.1**	**-0.1**
SNET				*eS*	**Sb**	**00 37 07.0**	**-1.2**
SNET				IAML		00 37 12.8	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**1.97**	**49**	*eP*	**Pn**	**00 36 40.6**	**-0.5**
SNET				*eS*	**Sb**	**00 37 07.0**	**-1.2**
SNET				IAML		00 37 12.8	
	comp=Z,1μm,0.3s						
UEES	**San Salvador**	**1.99**	**48**	*eP*	**Pn**	**00 36 41.0**	**-0.4**
UEES				IAML		00 37 12.2	
	comp=Z,1μm,0.3s						
UEES	**San Salvador**	**1.99**	**48**	*eP*	**Pn**	**00 36 41.0**	**-0.4**
UEES				IAML		00 37 12.2	
	comp=Z,1μm,0.3s						
PCG	**Pacaya**	**2.00**	**4**	*eP*	**Pn**	**00 36 42.8**	**+1.2**
OPAM	**San Salvador**	**2.01**	**49**	*eP*	**Pn**	**00 36 41.6**	**-0.1**
OPAM				IAML		00 37 10.9	
	comp=Z,752nm,0.3s						
OPAM	**San Salvador**	**2.01**	**49**	*eP*	**Pn**	**00 36 41.6**	**-0.1**
OPAM				IAML		00 37 10.9	
	comp=Z,752nm,0.3s						
FUG	**Fuego 3**	**2.04**	**358**	*eP*	**Pn**	**00 36 43.1**	**+0.8**
LFRS	**El Faro**	**2.06**	**53**	*eP*	**Pn**	**00 36 41.9**	**-0.5**
LFU	**La Fuente**	**2.10**	**50**	*eP*	**Pn**	**00 36 42.9**	**0.0**
LFU	**La Fuente**	**2.10**	**50**	*eP*	**Pn**	**00 36 42.9**	**0.0**
LBRS	**Las Brisas**	**2.14**	**51**	*eP*	**Pn**	**00 36 43.7**	**+0.2**
PAVA	**Las Pavas**	**2.21**	**53**	*eP*	**Pn**	**00 36 44.6**	**+0.2**
PAVA				IAML		00 36 46.3	
	comp=Z,2μm,0.4s						
PAVA				*eS*	**Sb**	**00 37 13.6**	**-1.7**
PAVA	**Las Pavas**	**2.21**	**53**	*eP*	**Pn**	**00 36 44.6**	**+0.2**
PAVA				IAML		00 36 46.3	
	comp=Z,2μm,0.4s						
PAVA				*eS*	**Sb**	**00 37 13.6**	**-1.7**
NBG	**Las Nubes**	**2.22**	**10**	*eP*	**Pn**	**00 36 46.8**	**+2.0**
SNVI	**San Vicente**	**2.23**	**57**	*eP*	**Pn**	**00 36 44.7**	**-0.1**
SNVI	**San Vicente**	**2.23**	**57**	*eP*	**Pn**	**00 36 44.8**	**-0.1**
APG	**El Apazote**	**2.61**	**6**	Pn	**Pn**	**00 36 51.6**	**+1.5**
	comp=Z,16nm,0.3s,baz=169,slow=5.8,SNR=148						
APG				Sn	**Sn**	**00 37 22.3**	**0.0**
	comp=Z,98nm,0.3s,baz=93,slow=19,SNR=26						
VSM	**San Miguel

Z52A	Williamson baz=196	21.50	15	P	P	00 40 57.0 +0.3
155A	Kite baz=202	21.52	19	P	P	00 40 57.8 +0.8
Y48A	Jasper baz=189	21.67	8	P	P	00 40 59.5 +0.9
Y49A	Blount Mountai comp=E,13nm,1.0s	21.73	10	eP	P	00 40 59.6 +0.3
Y49A	Blount Mountai baz=191	21.73	10	P	P	00 41 00.2 +0.9
Z53A	Monticello baz=199	21.81	16	P	P	00 41 00.0 0.0
Y50A	Piedmont baz=193	21.89	11	P	P	00 41 01.3 +0.4
GOGA	Godfrey baz=199	21.96	16	P	P	00 41 01.4 -0.3
Y51A	Rockmart baz=194,SNR=13	22.03	13	P	P	00 41 02.6 +0.1
OXF	Oxford baz=183	22.05	3	P	P	00 41 02.2 -0.5
157A	Early Branch baz=206	22.09	22	P	P	00 41 03.6 +0.6
X47A	Russelville baz=187	22.18	6	P	P	00 41 03.8 -0.3
MIAR	Mount Ida comp=E,5.0nm,0.9s	22.20	354	eP	P	00 41 06.2 +1.9
X48A	Hartselle comp=E,7.1nm,0.9s	22.22	8	eP	P	00 41 05.2 +0.8
X48A	Hartselle baz=189	22.22	8	P	P	00 41 04.5 +0.1
Y52A	Lilburn comp=E,10.0nm,0.8s	22.23	15	eP	P	00 41 05.0 +0.4
Y52A	Lilburn baz=197,SNR=5.8	22.23	15	P	P	00 41 04.4 -0.2
Y53A	Monroe baz=198	22.35	16	P	P	00 41 05.9 +0.1
X49A	Woodville baz=191,SNR=5.5	22.39	10	P	P	00 41 06.4 +0.2
X50B	Fort Payne baz=192,SNR=7.6	22.46	11	P	P	00 41 07.0 -0.1
X37A	Clayton comp=E,11nm,1.0s	22.49	350	eP	P	00 41 09.2 +1.9
X51A	Calhoun baz=194	22.72	13	P	P	00 41 09.2 -0.6
NHSC	New Hope baz=207	22.78	23	P	P	00 41 11.1 +0.6
W48A	Pulaski baz=189	22.91	8	P	P	00 41 11.9 +0.1
Y55A	Saluda baz=202	22.93	19	P	P	00 41 11.4 -0.7
W47A	Westpoint baz=187	22.94	7	P	P	00 41 12.2 +0.1
X52A	Dahlonega baz=197	22.98	15	P	P	00 41 12.5 0.0
W49A	Belvidere baz=191	22.99	9	P	P	00 41 12.7 0.0
X53A	Estanollee baz=198	23.03	16	P	P	00 41 13.1 0.0
SWET	Sewanee comp=E,9.3nm,0.8s	23.14	10	eP	P	00 41 14.1 -0.1
W50A	Signal Mountai baz=193	23.24	11	P	P	00 41 14.8 -0.4
W51A	Cleveland baz=194,SNR=9.2	23.31	12	P	P	00 41 15.3 -0.6
X54A	Belton baz=200	23.34	18	P	P	00 41 15.6 -0.6
V46A	Holladay baz=186	23.43	5	P	P	00 41 16.3 -0.7
W52A	Murphy baz=196	23.43	14	P	P	00 41 17.1 -0.1
X55A	Gracelyn & Ava baz=202	23.49	19	P	P	00 41 17.4 -0.3
V47A	Nunnelly baz=187	23.52	7	P	P	00 41 17.8 -0.2
V48A	Smith Brothers comp=E,6.4nm,0.8s	23.52	8	eP	P	00 41 18.4 +0.4
V48A	Smith Brothers baz=189	23.52	8	P	P	00 41 18.6 +0.6
CPCT	Cooper Cave comp=E,7.7nm,0.8s	23.64	13	eP	P	00 41 19.4 +0.2
V49A	McMinnville baz=191	23.68	10	P	P	00 41 19.5 -0.1
W53A	Cullowhee baz=198	23.70	16	P	P	00 41 19.4 -0.5
X56A	White Oak baz=204	23.71	20	P	P	00 41 19.2 -0.7
V50A	Pikevile baz=193	23.73	12	P	P	00 41 20.2 0.0
WVT	Waverly baz=186	23.78	6	P	P	00 41 19.5 -1.1
TUL1	Leonard baz=167	23.85	350	P	P	00 41 19.5 -1.8
W54A	Cherokee Point baz=200	23.89	18	P	P	00 41 21.8 +0.2
U46A	Springville baz=186	23.98	5	P	P	00 41 22.2 -0.2
V51A	Loudon baz=195	24.02	13	P	P	00 41 23.1 +0.3
U47A	Clarksville baz=188	24.15	7	P	P	00 41 23.8 -0.2
V52A	Sevierville baz=197	24.23	14	P	P	00 41 24.9 +0.1
V53A	Saluda comp=E,22nm,1.7s	24.26	16	eP	P	00 41 25.0 -0.2
V53A	Saluda baz=199	24.26	16	P	P	00 41 25.6 +0.4
U48A	Cassie Pea, Po baz=189	24.31	8	P	P	00 41 25.6 0.0
U49A	Red Boiling Sp baz=191,SNR=12	24.43	10	P	P	00 41 26.0 -0.7
W56A	Indian Trail baz=204	24.45	20	P	P	00 41 26.7 -0.1
AMTX	Amarillo baz=153	24.49	338	P	P	00 41 24.2 -3.1
U50A	Jamestown baz=193	24.51	12	P	P	00 41 27.8 +0.4
V54A	Nebo baz=200	24.61	17	P	P	00 41 29.1 +0.8
U51A	La Follette baz=195	24.64	13	P	P	00 41 29.6 +1.0
W57A	Gilead baz=205	24.67	22	P	P	00 41 29.2 +0.4
T47A	Sharon Grove comp=E,22nm,0.8s	24.71	7	eP	P	00 41 29.0 -0.1
T47A	Sharon Grove baz=188,SNR=14	24.71	7	P	P	00 41 29.0 -0.1
U52A	Thorn Hill baz=197	24.81	14	P	P	00 41 30.4 +0.3
W58A	Raeford baz=207	24.84	23	P	P	00 41 30.5 +0.2
V55A	Taylorsville baz=202	24.90	19	P	P	00 41 31.8 +0.9
TZTN	Tazewell baz=196	24.91	14	P	P	00 41 31.2 +0.2
T48A	Bowling Green baz=190	24.92	8	P	P	00 41 31.5 +0.4
X60A	Albert Glenn T baz=210	24.95	26	P	P	00 41 32.3 +0.9
U53A	Fall Branch baz=199	24.98	16	P	P	00 41 31.9 +0.2
T49A	Edmonton comp=E,9.7nm,0.7s	25.05	10	eP	P	00 41 32.2 -0.1
T49A	Edmonton baz=192	25.05	10	P	P	00 41 33.2 +0.9
T50A	Nancy baz=193	25.09	11	P	P	00 41 33.6 +1.0
T51A	Gray baz=195	25.22	13	P	P	00 41 34.3 +0.5
S44A	Carbondale baz=183	25.23	3	P	P	00 41 35.0 +1.1
S47A	Hartford baz=188	25.34	7	P	P	00 41 35.6 +0.8
U54A	Nelsons Funny baz=200	25.34	17	P	P	00 41 35.7 +0.8
121A	Cookes Peak, D baz=137	25.41	325	P	P	00 41 30.6 -5.2
U55A	TA2, Sparta baz=202	25.55	18	P	P	00 41 37.0 +0.1
STVI	Saint Thomas comp=E,50nm,1.2s	25.56	73	eP	P	00 41 37.0 0.0
V58A	Windy Hill, Pi baz=207	25.56	22	P	P	00 41 37.7 +0.8
U56A	King baz=204	25.62	20	P	P	00 41 38.6 +1.1
S49A	Springfield baz=192	25.76	10	P	P	00 41 39.2 +0.6
R41A	Rosebud baz=178	25.80	359	P	P	00 41 39.1 0.0
R45A	Skylar, Fairfi baz=185	25.89	4	P	P	00 41 40.0 +0.2
S51A	Beattyville baz=196	25.95	13	P	P	00 41 40.4 0.0
WCI	Wyandotte Cave comp=E,21nm,0.8s	26.04	8	eP	P	00 41 41.6 +0.5
WCI	Wyandotte Cave baz=189	26.04	8	P	P	00 41 40.8 -0.4
U57A	Blanch baz=206	26.05	21	P	P	00 41 41.3 -0.1
R47A	Wooly Knot Far baz=189	26.07	8	P	P	00 41 40.9 -0.5
U59A	Littleton baz=209	26.56	24	P	P	00 41 44.8 -1.1
Q46A	CEJHS Indians, baz=187	26.70	6	P	P	00 41 46.3 -0.8
Q47A	Bedord North L baz=189	26.71	8	P	P	00 41 46.5 -0.8
Q48A	North Vernon baz=190	26.80	9	P	P	00 41 47.7 -0.4
U60A	Pendleton baz=210	26.92	25	P	P	00 41 49.1 -0.1
Q49A	Aurora baz=192	27.01	10	P	P	00 41 49.5 -0.5
Q50A	Georgetown baz=194	27.02	12	P	P	00 41 49.5 -0.6
T59A	Double "B" Far baz=209	27.20	24	P	P	00 41 50.7 -0.9
Q51A	Peebles baz=195	27.33	13	P	P	00 41 52.3 -0.5
P48A	Milroy baz=191	27.37	9	P	P	00 41 52.5 -0.7
Q54A	Coxs Mills baz=201	27.91	17	P	P	00 41 57.3 -0.7
CBN	Corbin Frederi baz=208	28.34	23	P	P	00 42 01.2 -0.7
O50A	Cable baz=194	28.35	12	P	P	00 42 01.4 -0.6
N47A	Urbana baz=190	28.73	8	P	P	00 42 04.2 -1.1
L39A	Vinton baz=177	29.64	358	P	P	00 42 11.4 -2.0
M50A	Fremont baz=195	29.68	12	P	P	00 42 13.3 -0.5
L47A	Sherwood baz=190	29.87	8	P	P	00 42 14.3 -1.1
N54A	Moraine State baz=201	29.99	16	P	P	00 42 15.5 -1.0
M52A	Chesterland baz=198	30.18	14	P	P	00 42 17.2 -1.0
JFWS	Jewell Farm baz=180	30.41	1	P	P	00 42 19.1 -1.1
J42A	Columbus baz=182	30.85	2	P	P	00 42 22.1 -1.9
I49A	Point Hope baz=194	32.17	11	P	P	00 42 34.5 -1.2
ACTO	Acton baz=199	32.45	15	P	P	00 42 36.8 -1.3
BASO	Ashfield baz=196	32.47	12	P	P	00 42 36.5 -1.8
FMP	Fort Macarthur baz=123	32.87	315	P	P	00 42 34.3 -7.6
F43A	Flat Rock, Esc baz=186	33.47	5	P	P	00 42 44.7 -2.3
F38A	Pierce - Schro baz=177	33.47	359	P	P	00 42 44.2 -2.8
TOBO	Tobermory, Bru baz=196	33.66	12	P	P	00 42 46.3 -2.3
F44A	Big Bay de Noc baz=187	33.67	5	P	P	00 42 46.7 -2.1
F48A	Evansville baz=194	34.03	10	P	P	00 42 51.1 -0.9
KLBO	Killbear Provi baz=198	34.06	13	P	P	00 42 50.9 -1.3
F49A	Sandfield baz=195	34.08	11	P	P	00 42 51.1 -1.2
G53A	Haliburton baz=201	34.23	15	P	P	00 42 52.6 -1.0
BUKO	Buck Lake baz=200	34.33	14	P	P	00 42 53.4 -1.2
PDAR	Pinedale Array	34.38	335	eP	P	00 42 57.6 +2.4
PDAR	Pinedale Array comp=E,0.9nm,0.8s,baz=133,slow=10.0,SNR=6.9	34.38	335	P	P	00 42 56.5 +1.2
PLVO	Plevna baz=204	34.57	17	P	P	00 42 55.7 -0.9
F51A	Arnstein baz=198	34.67	13	P	P	00 42 55.8 -1.7
F52A	Sundridge baz=199	34.68	14	P	P	00 42 56.6 -1.0
E48A	Lockeyer baz=194	34.75	10	P	P	00 42 57.1 -1.0
E50A	Wahnapitae baz=197	34.96	12	P	P	00 42 59.1 -0.8
PEMO	Pembroke baz=203	35.11	17	P	P	00 43 00.5 -0.7
ALGO	Algonquin Park baz=202	35.15	15	P	P	00 43 00.4 -1.2
E51A	G1948 Merrick baz=199	35.34	13	P	P	00 43 02.3 -0.9
REDW	Red Top Meadow comp=E,7.1nm,0.9s	35.41	334	eP	P	00 43 06.6 +2.5
ORIO	Orleans, Innes baz=206	35.42	19	P	P	00 43 02.6 -1.2
SNOW	Snow King Moun comp=E,10nm,0.9s	35.45	335	eP	P	00 43 07.5 +3.0
D48A	Paudash Townsh baz=195	35.48	11	P	P	00 43 02.5 -2.0
LOHW	Long Hollow comp=E,2.5nm,0.8s	35.51	335	eP	P	00 43 07.1 +2.1
NV11	Mina Array Sit comp=E,0.4nm,1.0s	35.59	322	eP	P	00 43 08.0 +2.4
D49A	Beulah Townshi baz=195	35.66	11	P	P	00 43 04.8 -1.2
NVAR	Mina Array Bea	35.67	321	eP	P	00 43 10.0 +3.5
NVAR	Mina Array Bea comp=E,2.0nm,0.7s,baz=139,slow=8.4,SNR=9.0	35.67	321	P	P	00 43 09.3 +2.8
NVAR				PcP	PcP	00 45 36.8 +1.8
	comp=E,0.2nm,0.5s,baz=152,slow=4.0,SNR=3.5					
E54A	Lac Daplat, Po baz=203	35.82	16	P	P	00 43 06.4 -1.0
D52A	ZEK Kipawa Sen baz=200	36.01	14	P	P	00 43 07.8 -1.2
D53A	Lac Vacive, Po baz=202	36.28	15	P	P	00 43 10.5 -0.8
D54A	Lac Fusel, La baz=203	36.62	16	P	P	00 43 13.9 -0.4
MCMT	McKenzie Canyo	37.44	334	eP	P	00 43 24.9 +3.4
PKME	Peaks-Kenny Pk baz=216	37.53	25	P	P	00 43 21.4 -0.5
LATQ	La Tuque baz=209	38.01	20	P	P	00 43 24.8 -1.2
LSQQ	Lebel-sur-Quev baz=202	38.30	15	P	P	00 43 27.0 -1.4
MATQ	Matagami baz=200	38.80	14	P	P	00 43 31.5 -1.0
M04C	Macdoel baz=128	39.88	323	P	P	00 43 36.2 -5.7
F10A	Beach Ranch, E comp=E,5.3nm,1.0s	40.29	331	eP	P	00 43 47.4 +2.2
I04A	Tendick Farm, baz=129	41.47	325	P	P	00 43 50.2 -4.7
STD	Studebaker Rid	42.95	328	eP	P	00 44 10.4 +3.3
YKA	Yellowknife Ar comp=E,0.8nm,0.8s,baz=152,slow=7.6,SNR=11	52.86	346	P	P	00 45 23.3 -0.1
INK	Inuvik comp=E,4.0nm,0.8s,baz=111,slow=6.4,SNR=14	62.31	343	P	P	00 46 31.3 +1.4
ILAR	Eielson Array	64.78	337	eP	P	00 46 47.5 +1.2
ILAR	Eielson Array comp=E,0.9nm,0.7s,baz=164,slow=4.6,SNR=8.0	64.78	337	P	P	00 46 46.4 +0.1
CMAR	Chiang Mai Arr comp=E,1.5nm,0.6s,baz=352,slow=3.2,SNR=6.3	147.89	342	PKPbc	PKPbc	00 55 55.0 +0.8

KRSC 20 00:37:11.1±10.0, 52°.11N×160°.66E, h47km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.07	339	P	Pn	00 37 29.7	+0.1
SPN				S	Sn	00 37 42.0	-1.3
NLC	Nalytchevo	1.33	324	P	Pn	00 37 35.4	+2.2
NLC				S	Sn	00 37 52.4	+2.6
RUS	Russkaya	1.36	285	P	Pn	00 37 34.7	+1.1
RUS				S	Sn	00 37 51.0	+0.6
DALK	Dalny	1.49	309	P	Pn	00 37 36.5	+1.2
DALK				S	Sn	00 37 55.3	+1.8
MTVR	Mutnovka	1.57	285	P	Pn	00 37 38.4	+1.8
MTVR				S	Sn	00 37 57.5	+1.8
UGLR	Uglovaya	1.57	315	P	Pn	00 37 38.6	+2.0
UGLR				S	Sn	00 37 57.8	+2.0
SDLR	Sedlovina	1.60	318	P	Pn	00 37 39.0	+2.1
SMAR	Somma	1.62	316	P	Pn	00 37 39.5	+2.2
KDTR	Khodutka, Kamc	1.63	260	P	Pn	00 37 38.9	+1.7
KDTR				S	Sn	00 37 58.0	+1.1
AVH	Avacha	1.65	316	P	Pn	00 37 40.6	+3.0
AVH				S	Sn	00 38 01.3	+3.7
KRER	Koryakskii	1.67	317	P	Pn	00 37 40.7	+2.7
KRMR	Karymshinskiy	1.71	296	P	Pn	00 37 40.3	+2.0
KRMR				S	Sn	00 38 01.1	+2.1
KOK	Koryaka	1.71	315	P	Pn	00 37 41.0	+2.5
KOK				S	Sn	00 38 02.1	+2.9
ASAK	Asacha	1.72	280	P	Pn	00 37 41.9	+3.3
KRX	Arik	1.75	317	P	Pn	00 37 41.7	+2.6
KRX				S	Sn	00 38 03.3	+3.0
APC	Apacha	2.29	292	S	Sn	00 38 20.0	+6.7
KZV	Kizimen	3.02	356	P	Pn	00 38 00.1	+3.6
TUMD	Tumrok D	3.11	357	S	Sn	00 38 35.3	+1.9

*ISCJB **20** 00:38:32.9±0.6, 31°.89N±0°.02×114°.91W±0°.04, h8km±4km, Error ellipse: s-maj=5.3km s-min=3.7km az=180.0*
*ANF **20** 00:38:32.7±1.0, 31°.97N×114°.98W, h3km±4km, ML2.5/10, Error ellipse: s-maj=7.8km s-min=4.7km az=16.0*
*PAS **20** 00:38:34.2±0.0, 31°.86N×114°.94W, h2km*
*NEIC **20** 00:38:35.4±0.0, 31°.85N×114°.96W, h8km, MD3.0(ECX), ML3.0(PAS), After ECX.*
*ECX **20** 00:38:35.4±0.5, 31°.85N×114°.96W, h8km, MD2.8, ML3.0*

ISC 20 00:38:31.5±1.3, 31°.84N±0°.03×114°.92W±0°.03, h6km±11km, n38, σ1§12/48, 2C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	El Chinero	0.38	198	⇓iP	Pn	00 38 42.4	-1.2
ECBX				eS	Sb	00 38 47.8	+1.0
CPBX	Cerro Prieto	0.67	330	eSg	Sn	00 38 56.4	-1.9
CPBX	Cerro Prieto	0.67	330	eP	Pn	00 38 46.3	-1.3
CPBX				eS	Sb	00 38 55.6	+0.5
CPBX				⇓e		00 38 58.5	
CPBX				IAML		00 38 58.5	
	comp=E,4μm,0.2s						
UABX	UABC, Campus M	0.91	331	eSg	Sn	00 39 05.2	+0.9
SPX	San Pedro Mart	0.92	211	ePg	Pn	00 38 52.2	+0.9
SPX				eSg	Sn	00 39 05.1	0.0
SPX	San Pedro Mart	0.92	211	eP	Pn	00 38 51.5	+0.2
SPX				eS	Sn	00 39 04.4	-0.7
SPX				⇑e		00 39 05.7	
SPX				IAML		00 39 05.7	
	comp=N,398nm,0.1s						
SPX				⇓e		00 39 05.9	
SPX				IAML		00 39 05.9	
	comp=E,253nm,0.1s						
DREC	Desert Rsrch C	1.06	335	eSn	Sn	00 39 10.0	+1.9
ERPC	Ernies Place	1.10	325	ePg	Pn	00 38 55.3	+1.8
SNR	Schaffner Ranc	1.11	337	ePn	Pn	00 38 58.5	+4.8
RUN	Ruthven	1.13	357	ePg	Pg	00 38 53.3	+0.1
WESC	Westside Schoo	1.15	323	eSg	Sn	00 39 11.7	+1.4
YUH	Yuha Desert	1.18	314	ePg	Pn	00 38 55.4	+0.8
YUH				eSn	Sn	00 39 10.3	-0.6
GLA	Glamis	1.21	4	ePg	Pg	00 38 54.7	-0.1
GLA				eSn	Sn	00 39 12.4	+0.4
GLA	Glamis	1.21	4	P	Pb	00 38 54.3	-0.6
	baz=186,SNR=138						
RMX	La Rumorosa	1.25	308	ePg	Pg	00 38 55.7	+0.3
RMX	La Rumorosa	1.25	308	eP	Pg	00 38 55.5	+0.1
RMX				eS	Sb	00 39 10.5	-1.5
RMX				⇑e		00 39 10.9	
RMX				IAML		00 39 10.9	
	comp=E,251nm,0.2s						
IKP	In-Ko-Pah, Jac	1.30	309	P	Pb	00 38 55.9	-0.5
	baz=129,SNR=11						
IKP				S	Sb	00 39 10.9	-2.4
	baz=129						
IKP	In-Ko-Pah, Jac	1.30	309	eP	Pg	00 38 57.0	+0.6
SWSC	Sam W. Stewart	1.33	326	S	Sb	00 39 11.5	-2.9
	baz=147						
113A	Mohawk Valley,	1.34	46	ePn	Pg	00 38 57.3	0.0
CBX	Cerro Bola	1.56	288	ePn	Pg	00 39 02.7	+1.3
CBX	Cerro Bola	1.56	288	eP	Pg	00 39 02.0	+0.7
CBX				eS	Sg	00 39 21.6	+0.1
CBX				IAML		00 39 22.8	
	comp=N,175nm,0.2s						
MONP2	Monument Peak	1.65	310	P	Pn	00 39 01.3	0.0
	baz=130,SNR=10						
MONP2				S	Sn	00 39 22.4	-0.6
	baz=130						
BAR	Barrett	1.71	300	ePn	Pb	00 39 02.2	-1.2
214A	Organ Pipe Nat	1.79	86	P	Pb	00 39 04.5	-0.3
	baz=267						
Y12C	Blythe	1.94	10	ePn	Pg	00 39 08.8	+0.3
EML	El Monte Cty P	1.94	303	iS	Sg	00 39 32.7	-1.2
109C	Camp Elliot, M	2.13	300	P	Pn	00 39 07.9	+0.2
	baz=119,SNR=5.6						
109C				Sb	Sb	00 39 38.0	+0.8
	baz=119						
CPE	Camp Elliot	2.13	300	ePn	Pn	00 39 08.3	+0.7
PFO	Pinyon Flats O	2.20	324	ePn	Pb	00 39 12.3	+0.6
PFO	Pinyon Flats O	2.20	324	Pg	Pb	00 39 12.3	+0.6
	baz=144						
IRM	Iron Mountain	2.32	355	S	Sn	00 39 39.1	-0.2
	baz=176						
PDMCI	Parker Dam,Lak	2.54	15	S	Sn	00 39 44.8	+0.1
	baz=196						
MURC	Murrieta	2.60	313	Sg	Sg	00 39 54.6	-0.6
	baz=132						
Y14A	Wickenburg	2.64	37	ePn	Pn	00 39 16.1	+1.3
MLSC	Mira Loma	3.10	315	ePn	Pn	00 39 23.0	+2.0
SANC	Santa Ana	3.12	307	ePn	Pg	00 39 30.9	-0.3
MPI	Mount Pinos, F	4.62	311	ePg	Pg	00 40 01.9	+1.9

*IDC **20** 00:39:31.3±2.3, 35°.39N×141°.60E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/43, mbtmp3.6/5, ML2.8/2, Error ellipse: s-maj=51.3km s-min=23.5km az=79.0*
*ISCJB **20** 00:39:32.8±1.6, 35°.76N±0°.05×141°.43E±0°.08, h7km±8km, mb3.6/3, Error ellipse: s-maj=11.1km s-min=7.6km az=166.9*
*JMA **20** 00:39:33.6±0.2, 35°.78N×141°.41E, h17km±2km, M3.1*

ISC 20 00:39:32.1±2.4, 35°.66N±0°.06×141°.49E±0°.10, h7km±12km, n21, σ1§81/20, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.51	275	P	Pg	00 39 42.7	+0.8
CHOJ				eS	Sg	00 39 48.9	+0.3
JIHU	Itakohorinouch	0.84	292	P	Pb	00 39 47.9	-1.0
JIHU				eS	Sg	00 39 58.1	-0.9
JSMT	Sammumatsuo	0.85	269	P	Pg	00 39 49.3	+1.0
JHYU	Hitachinakayam	1.00	313	P	Pb	00 39 50.3	-1.3
JCN	Nagara	1.07	257	eS	Sb	00 40 06.9	-0.3
BSO1	Boso 1	1.09	203	P	Pn	00 39 54.5	+1.3
BSO1				eS	Sb	00 40 09.8	+2.7
BSO3	Boso 3	1.17	223	P	Pn	00 39 55.0	+0.4
JYT	Yasato	1.19	299	P	Pb	00 39 52.4	-2.6
JHO	Hitachi	1.21	322	P	Pb	00 39 53.0	-2.2
MJAR	Matsushiro Arr	2.80	289	Pn	Pn	00 40 17.7	+0.5
	0.8nm,0.3s,baz=112,slow=7.4,SNR=16						
MAT	Matsushiro	2.80	289	P	Pn	00 40 17.9	+0.6
MAT				S	Sn	00 40 51.3	0.0
JHJ	Hachijo jima 2	2.90	210	Pn	Pn	00 40 16.6	-2.0
	8.3nm,0.3s,baz=52,slow=19,SNR=4.9						
JHJ				Sn	Sn	00 40 52.1	-1.7
	8.8nm,0.3s,baz=90,slow=20,SNR=3.9						
H11N2	WAKE ISLAND Hy	27.42	119	T	T	01 14 16.7	
	baz=311,slow=75,SNR=6.6						
H11N1	WAKE ISLAND Hy	27.43	119	T	T	01 14 17.7	
	baz=311,slow=75,SNR=7.2						
H11N3	WAKE ISLAND Hy	27.43	119	T	T	01 14 19.7	
	baz=311,slow=75,SNR=8.0						
H11S1	WAKE ISLAND Hy	28.09	121	T	T	01 15 08.2	
	baz=312,slow=75,SNR=4.3						
H11S3	WAKE ISLAND Hy	28.09	121	T	T	01 15 09.7	
	baz=312,slow=75,SNR=5.4						
H11S2	WAKE ISLAND Hy	28.10	121	T	T	01 15 07.0	
	baz=312,slow=75,SNR=10						
ZALV	Zalesovo Beam	42.89	313	P	P	00 47 34.4	+3.4
	0.3nm,0.3s,baz=90,slow=2.9,SNR=3.0						
MKAR	Makanchi Array	44.91	303	P	P	00 47 49.0	+1.7
	0.6nm,0.8s,baz=90,slow=8.6,SNR=4.5						
WRA	Warramunga Arr	55.71	188	P	P	00 49 07.2	-2.1

1.0nm,0.8s,baz=4.9,slow=5.6,SNR=4.1

KRSC 20 00:50:27.0±10.0, 52°.04N×160°.82E, h59km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.16**	**336**	P	Pn	00 50 47.6	+0.5
SPN				S	Sn	00 51 01.1	-1.0
NLC	**Nalytchevo**	**1.45**	**322**	P	Pn	00 50 52.6	+1.8
NLC				S	Sn	00 51 10.2	+1.4
RUS	**Russkaya**	**1.47**	**286**	P	Pn	00 50 52.4	+1.2
RUS				S	Sn	00 51 09.8	+0.4
DALK	**Dalny**	**1.60**	**309**	P	Pn	00 50 54.5	+1.5
DALK				S	Sn	00 51 13.8	+1.2
PET	**Petropavlovsk**	**1.65**	**307**	P	Pn	00 50 56.4	+2.8
PET				S	Sn	00 51 17.3	+3.6
MTVR	**Mutnovka**	**1.68**	**286**	P	Pn	00 50 56.0	+1.8
MTVR				S	Sn	00 51 17.0	+2.3
UGLR	**Uglovaya**	**1.69**	**315**	P	Pn	00 50 56.8	+2.6
UGLR				S	Sn	00 51 18.0	+3.2
SDLR	**Sedlovina**	**1.71**	**317**	P	Pn	00 50 57.0	+2.5
SMAR	**Somma**	**1.73**	**316**	P	Pn	00 50 57.4	+2.4
AVH	**Avacha**	**1.76**	**315**	P	Pn	00 50 57.7	+2.5
AVH				S	Sn	00 51 19.5	+2.9
KOK	**Koryaka**	**1.83**	**314**	P	Pn	00 50 59.0	+2.9
KRMR	**Karymshinskiy**	**1.83**	**297**	P	Pn	00 50 57.9	+1.9
KRMR				S	Sn	00 51 20.5	+2.5
ASAK	**Asacha**	**1.83**	**282**	P	Pn	00 50 58.6	+2.5
KRX	**Arik**	**1.87**	**316**	P	Pn	00 50 59.2	+2.5
APC	**Apacha**	**2.41**	**293**	P	Pn	00 51 06.7	+2.8
APC				S	Sn	00 51 37.6	+5.4
TUMD	**Tumrok D**	**3.18**	**356**	S	Sn	00 51 52.4	+1.4

WEL 20 00:50:30.7, 37°.5S±8°.×177°.7E±°, h219km±9km, ML3.8/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.13**	**164**	P	Pn	00 51 02.8	-0.4
HAZ				S	S	00 51 26.7	-2.0
MXZ	**Matakaoa Point**	**1.16**	**141**	P	Pn	00 51 02.8	-0.6
MXZ				S	S	00 51 27.0	-2.0
RUGZ	**Raukumara Rang**	**1.31**	**170**	P	Pn	00 51 04.0	-0.7
KUZ	**Kuaotunu**	**1.34**	**266**	P	Pn	00 51 04.8	+0.1
PKGZ	**Pakihiroa**	**1.34**	**156**	P	Pn	00 51 05.0	+0.2
WMGZ	**Waiomatatini S**	**1.41**	**145**	P	Pn	00 51 05.4	+0.1
PUZ	**Puketiti**	**1.56**	**154**	P	Pn	00 51 06.8	+0.2
PUZ				S	S	00 51 33.5	-1.1
TWGZ	**Tauwhareparae**	**1.58**	**163**	P	Pn	00 51 07.6	+0.9
TWGZ				S	S	00 51 35.0	+0.1
URZ	**Urewera**	**1.60**	**188**	P	Pn	00 51 07.0	+0.1
GRZ	**Great Barrier**	**1.61**	**285**	P	Pn	00 51 06.7	-0.2
MWZ	**Matawai**	**1.66**	**176**	P	Pn	00 51 08.2	+0.7
TKGZ	**Te Karaka**	**1.80**	**168**	P	Pn	00 51 09.4	+0.7
WIAZ	**Waiheke Island**	**1.81**	**265**	P	Pn	00 51 09.5	+0.7
MKAZ	**Moumakai**	**1.83**	**256**	P	Pn	00 51 10.1	+1.1
TOZ	**Tahuroa Road**	**1.84**	**234**	P	Pn	00 51 10.4	+1.4
MUGZ	**Murupara**	**1.87**	**195**	P	Pn	00 51 10.1	+0.8
RTZ	**Ruatahuna**	**1.97**	**189**	P	Pn	00 51 10.7	+0.4
RIGZ	**Rimuhau**	**2.05**	**172**	P	Pn	00 51 11.7	+0.6
SNGZ	**Shannon Statio**	**2.11**	**181**	P	Pn	00 51 12.6	+0.9
TLZ	**Tolley Road**	**2.21**	**221**	P	Pn	00 51 15.4	+2.6
MRHZ	**Matea Rd**	**2.29**	**199**	P	Pn	00 51 13.9	+0.4
KNZ	**Kokohu**	**2.36**	**174**	P	Pn	00 51 14.5	+0.3
NMHZ	**Naumai**	**2.46**	**190**	P	Pn	00 51 16.5	+1.1
WCZ	**Waipu Caves**	**2.56**	**286**	P	Pn	00 51 16.4	0.0
BKZ	**Black Stump Fm**	**2.59**	**195**	P	Pn	00 51 16.9	+0.1
ARHZ	**Aropaoanui**	**2.61**	**187**	P	Pn	00 51 17.6	+0.8
HIZ	**Hauiti**	**2.72**	**227**	P	Pn	00 51 20.3	+2.2
MCHZ	**McNeill Hill**	**2.82**	**191**	P	Pn	00 51 19.6	+0.3
WTVZ	**West Tongariro**	**2.82**	**210**	P	Pn	00 51 19.9	+0.6
OTVZ	**Oturere**	**2.83**	**208**	P	Pn	00 51 20.7	+1.1
TWVZ	**Taurewa**	**2.85**	**212**	P	Pn	00 51 20.8	+1.1
KWHZ	**Kaweka Forest**	**2.85**	**195**	P	Pn	00 51 20.0	+0.4
NGZ	**Ngauruhoe**	**2.87**	**209**	P	Pn	00 51 20.9	+1.0
TUVZ	**Tukino**	**2.93**	**207**	P	Pn	00 51 21.3	+0.6
FWVZ	**Far West T-bar**	**2.96**	**209**	P	Pn	00 51 21.6	+0.6
WHVZ	**Whangaehu Hut**	**2.97**	**208**	P	Pn	00 51 21.6	+0.5
BHHZ	**Black Hill Sta**	**3.00**	**200**	P	Pn	00 51 21.3	0.0
KRHZ	**Kereru**	**3.07**	**195**	P	Pn	00 51 21.9	-0.3
KAHZ	**Kahuranaki**	**3.14**	**187**	P	Pn	00 51 23.1	+0.1
VRZ	**Vera Road**	**3.21**	**219**	P	Pn	00 51 26.4	+2.7
PNHZ	**Pukenui**	**3.37**	**196**	P	Pn	00 51 25.2	-0.4
OUZ	**Omahuta**	**3.40**	**294**	P	Pn	00 51 26.3	+0.4
TSZ	**Takapari Road**	**3.56**	**198**	P	Pn	00 51 27.4	-0.5
PRHZ	**Porangahau**	**3.64**	**189**	P	Pn	00 51 28.2	-0.5
DVHZ	**Dannevirke**	**3.75**	**194**	P	Pn	00 51 28.9	-1.1
ANWZ	**Angora Road**	**3.85**	**190**	P	Pn	00 51 30.7	-0.6
POWZ	**Post Office Ro**	**3.92**	**198**	P	Pn	00 51 31.4	-0.8

*ISCJB **20** 00:50:29.6±1.0, 16°.1S±0°.1×74°.3W±0°.1, h54km, mb3.5/5, Error ellipse: s-maj=24.4km s-min=7.9km az=43.7*
*IDC **20** 00:50:33.6±2.6, 15°.82S×74°.15W, h60km±22km, mb3.2/6, mb1 3.5/10, mb1mx3.4/40, mbtmp3.6/10, ML3.3/4, Error ellipse: s-maj=31.6km s-min=19.1km az=44.0*

ISC 20 00:50:32.3±0.8, 16°.0S±0°.1×74°.2W±0°.1, h54km, n13, σ1§28/14, mb3.5/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.74**	**327**	P	**Pn**	**00 51 40.2**	**-1.2**
	1.0nm,0.3s,baz=112,slow=12,SNR=3.5						
NNA				S	**Sn**	**00 52 36.9**	**+1.8**
	5.6nm,0.3s,baz=236,slow=18,SNR=2.6						
LPAZ	**La Paz**	**5.83**	**94**	P	**Pn**	**00 51 58.6**	**+1.8**
	1.4nm,0.3s,baz=284,slow=6.8,SNR=22						
LVC	**Limon Verde**	**8.25**	**144**	P	**Pn**	**00 52 28.3**	**-1.5**
	0.7nm,0.3s,baz=318,slow=14,SNR=6.3						
LVC				S	Sn	00 53 50.9	-11
	1.0nm,0.3s,baz=93,slow=18,SNR=7.6						
ATAH	**Atahualpa**	**9.72**	**334**	P	**Pn**	**00 52 49.8**	**-0.2**
	0.1nm,0.3s,baz=240,slow=8.1,SNR=2.0						
SIV	**San Ignacio**	**12.62**	**92**	P	**Pn**	**00 53 29.1**	**-0.1**
	0.2nm,0.3s,baz=260,slow=11,SNR=4.4						
PTGA	**Pitinga**	**20.66**	**44**	P	**P**	**00 55 07.1**	**-0.7**
	0.8nm,0.5s,baz=180,slow=20,SNR=2.7						
PLCA	**Paso Flores**	**24.85**	**173**	P	**P**	**00 55 52.2**	**+2.4**
	0.7nm,0.6s,baz=347,slow=6.4,SNR=3.9						
TXAR	**Lajitas Array**	**53.30**	**328**	P	**P**	**00 59 46.1**	**0.0**
	0.1nm,0.4s,baz=149,slow=7.2,SNR=2.6						
PDAR	**Pinedale Array**	**66.91**	**332**	P	**P**	**01 01 18.2**	**-1.0**
	0.2nm,0.4s,baz=125,slow=7.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**80.41**	**73**	P	**P**	**01 02 38.6**	**-0.2**
	0.8nm,0.6s,baz=259,slow=5.5,SNR=13						
YKA	**Yellowknife Ar**	**84.41**	**342**	P	**P**	**01 02 58.5**	**0.0**
	0.3nm,0.6s,baz=138,slow=5.6,SNR=8.2						
WRA	**Warramunga Arr**	**134.59**	**219**	PKP	**PKPdf**	**01 09 45.2**	**-0.4**
	0.3nm,0.5s,baz=143,slow=2.8,SNR=4.4						
SONM	**Songino Array**	**148.25**	**359**	PKPbc	**PKPbc**	**01 10 13.3**	**+0.7**
	0.3nm,0.3s,baz=325,slow=2.3,SNR=3.3						

*IDC **20** 00:51:45.8±0.9, 52°.31N×160°.20E, h0km, mb4.0/18, mb1 4.2/19, mb1mx4.0/47, mbtmp4.0/19, ML3.4/2, Error ellipse: s-maj=22.3km s-min=16.3km az=126.0*
*KRSC **20** 00:51:46.7±10.0, 52°.15N×160°.57E, h59km±10km, ML4.6*
*ISCJB **20** 00:51:48.8±0.6, 52°.15N±0°.03×160°.50E±0°.05, h42km±4km, mb4.2/30, Error ellipse: s-maj=6.6km s-min=4.1km az=135.7*
*MOS **20** 00:51:49.9±1.0, 52°.22N×160°.34E, h46km, mb4.6/18, Error ellipse: s-maj=8.5km s-min=4.2km az=104.1*
*NEIC **20** 00:51:49.9±0.7, 52°.17N×160°.35E, h35km, mb4.4/4, Error ellipse: s-maj=13.2km s-min=10.2km az=167.0*

ISC 20 00:51:50.0±0.8, 52°.22N±0°.04×160°.36E±0°.04, h35km±2km, n172, σ1§21/203, mb4.3/30, 20C-10D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.91**	**347**	*eP*	**Pn**	**00 52 06.0**	**-0.2**
SPN				*eS*	**Sb**	**00 52 18.7**	**-0.4**
SPN	**Mys Shipunski**	**0.91**	**347**	PN	**Pn**	**00 52 06.0**	**-0.2**
SPN				S	**Sb**	**00 52 18.7**	**-0.4**
NLC	**Nalytchevo**	**1.14**	**328**	*eP*	**Pn**	**00 52 10.1**	**+0.7**
NLC				*eS*	**Sb**	**00 52 26.2**	**+0.5**
NLC	**Nalytchevo**	**1.14**	**328**	PN	**Pn**	**00 52 10.1**	**+0.7**
NLC				S	**Sb**	**00 52 26.2**	**+0.5**
RUS	**Russkaya**	**1.15**	**282**	*eP*	**Pn**	**00 52 09.8**	**+0.2**
RUS	**Russkaya**	**1.15**	**282**	PN	**Pn**	**00 52 09.8**	**+0.2**
DALK	**Dalny**	**1.27**	**310**	*i P*	**Pn**	**00 52 11.8**	**+0.5**
DALK				*eS*	**Sb**	**00 52 28.6**	**-0.9**
DALK	**Dalny**	**1.27**	**310**	PN	**Pn**	**00 52 11.8**	**+0.5**
DALK				S	**Sb**	**00 52 28.6**	**-0.9**
PET	**Petropavlovsk**	**1.32**	**309**	*ePn*	**Pn**	**00 52 12.6**	**+0.8**
PET	**Petropavlovsk**	**1.32**	**309**	*i PN*	**Pn**	**00 52 12.5**	**+0.6**
PET				*eS*	**Sb**	**00 52 29.9**	**-0.8**
PET				pmax	pmax		
	comp=Z,1μm,0.7s						
PET				smax	smax		
	comp=N,3μm,0.8s						
PET				smax	smax		
	comp=E,2μm,0.6s						
MTVR	**Mutnovka**	**1.36**	**282**	*eP*	**Pn**	**00 52 13.3**	**+0.7**
MTVR				*eS*	**Sb**	**00 52 31.8**	**-0.3**
MTVR	**Mutnovka**	**1.36**	**282**	PN	**Pn**	**00 52 13.3**	**+0.7**
MTVR				S	**Sb**	**00 52 31.8**	**-0.3**
UGLR	**Uglovaya**	**1.36**	**317**	*eP*	**Pb**	**00 52 13.8**	**-1.2**
UGLR				*eS*	**Sb**	**00 52 33.0**	**+0.8**
UGLR	**Uglovaya**	**1.36**	**317**	PN	**Pb**	**00 52 13.8**	**-1.2**
UGLR				S	**Sb**	**00 52 33.0**	**+0.8**
SDLR	**Sedlovina**	**1.39**	**320**	*eP*	**Pn**	**00 52 13.6**	**+0.6**
SDLR				*eS*	**Sb**	**00 52 32.9**	**-0.1**
SDLR	**Sedlovina**	**1.39**	**320**	PN	**Pn**	**00 52 13.6**	**+0.6**
SDLR				S	**Sb**	**00 52 32.9**	**-0.1**
SMAR	**Somma**	**1.41**	**319**	*eP*	**Pn**	**00 52 14.4**	**+1.0**
SMAR				*eS*	**Sb**	**00 52 33.6**	**-0.1**
SMAR	**Somma**	**1.41**	**319**	PN	**Pn**	**00 52 14.4**	**+1.0**
SMAR				S	**Sb**	**00 52 33.6**	**-0.1**
AVH	**Avacha**	**1.44**	**317**	*eP*	**Pb**	**00 52 15.1**	**-1.2**
AVH				*eS*	**Sb**	**00 52 34.5**	**+0.2**
AVH	**Avacha**	**1.44**	**317**	PN	**Pb**	**00 52 15.1**	**-1.2**
AVH				S	**Sb**	**00 52 34.5**	**+0.2**
GRL	**Gorelyy**	**1.44**	**284**	*eP*	**Pn**	**00 52 14.6**	**+0.9**
GRL	**Gorelyy**	**1.44**	**284**	PN	**Pn**	**00 52 14.6**	**+0.9**
KDTR	**Khodutka, Kamc**	**1.47**	**255**	*eP*	**Pn**	**00 52 13.9**	**0.0**
KDTR				*eS*	**Sn**	**00 52 33.2**	**+1.3**
KDTR	**Khodutka, Kamc**	**1.47**	**255**	PN	**Pn**	**00 52 13.9**	**0.0**
KDTR				S	**Sn**	**00 52 33.2**	**+1.3**
KRMR	**Karymshinskiy**	**1.49**	**295**	*eP*	**Pn**	**00 52 15.2**	**+0.9**
KRMR				*eS*	**Sb**	**00 52 34.7**	**-1.0**
KRMR	**Karymshinskiy**	**1.49**	**295**	PN	**Pn**	**00 52 15.2**	**+0.9**
KRMR				S	**Sb**	**00 52 34.7**	**-1.0**
KOK	**Koryaka**	**1.50**	**317**	*eP*	**Pb**	**00 52 15.9**	**-1.4**
KOK				*eS*	**Sb**	**00 52 35.6**	**-0.5**
KOK	**Koryaka**	**1.50**	**317**	PN	**Pb**	**00 52 15.9**	**-1.4**
KOK				S	**Sb**	**00 52 35.6**	**-0.5**
ASAK	**Asacha**	**1.52**	**277**	*eP*	**Pn**	**00 52 15.9**	**+1.2**
ASAK				*eS*	**Sb**	**00 52 36.3**	**-0.3**
ASAK	**Asacha**	**1.52**	**277**	PN	**Pn**	**00 52 15.9**	**+1.2**
ASAK				S	**Sb**	**00 52 36.3**	**-0.3**
KRX	**Arik**	**1.54**	**318**	*eP*	**Pn**	**00 52 16.4**	**+1.2**
KRX	**Arik**	**1.54**	**318**	PN	**Pn**	**00 52 16.4**	**+1.2**
PEA0B	**Petropavlovsk-**	**1.85**	**300**	*ePn*	**Pn**	**00 52 20.3**	**+1.1**
PEA0B	**Petropavlovsk-**	**1.85**	**300**	*ePN*	**Pn**	**00 52 20.3**	**+1.1**
PETK	**Petropavlovsk-**	**1.85**	**300**	*eP*	**Pn**	**00 52 20.8**	**+1.6**
PETK	**Petropavlovsk-**	**1.85**	**300**	*ePN*	**Pn**	**00 52 20.8**	**+1.6**
PETK	**Petropavlovsk-**	**1.85**	**300**	Pn	**Pn**	**00 52 20.1**	**+0.9**
	comp=E,72nm,0.3s,baz=110,slow=19,SNR=71						
PETK				Sn	**Sb**	**00 52 44.8**	**-1.2**
	comp=E,82nm,0.3s,baz=88,slow=39,SNR=13						
PEA1	**Petropavlovsk-**	**1.85**	**300**	*ePn*	**Pn**	**00 52 20.1**	**+0.8**
PEA1				*eSn*	**Sb**	**00 52 44.8**	**-1.3**
APC	**Apacha**	**2.08**	**291**	*eP*	**Pn**	**00 52 24.2**	**+1.9**
APC				*eS*	**Sb**	**00 52 52.0**	**-0.4**
APC	**Apacha**	**2.08**	**291**	PN	**Pn**	**00 52 24.2**	**+1.9**
APC				S	**Sb**	**00 52 52.0**	**-0.4**
PAU	**Pauzhetka**	**2.33**	**253**	*eP*	**Pn**	**00 52 26.3**	**+0.6**
PAU	**Pauzhetka**	**2.33**	**253**	PN	**Pn**	**00 52 26.3**	**+0.6**
MKZ	**Mys Kozlova**	**2.48**	**19**	P	**Pn**	**00 52 28.2**	**+0.3**
MKZ				*eS*	**Sn**	**00 52 56.3**	**-0.7**
MKZ	**Mys Kozlova**	**2.48**	**19**	PN	**Pn**	**00 52 28.2**	**+0.3**
MKZ				S	**Sn**	**00 52 56.3**	**-0.7**
KZV	**Kizimen**	**2.90**	**359**	*eP*	**Pn**	**00 52 35.5**	**+1.7**
KZV				*eS*	**Sn**	**00 53 09.2**	**+1.6**
KZV	**Kizimen**	**2.90**	**359**	PN	**Pn**	**00 52 35.5**	**+1.7**
KZV				S	**Sn**	**00 53 09.2**	**+1.6**
TUMD	**Tumrok D**	**2.99**	**0**	*eP*	**Pn**	**00 52 36.1**	**+1.2**
TUMD				*eS*	**Sn**	**00 53 10.2**	**+0.6**
SKR	**Severo-Kuril's**	**3.06**	**242**	*eP*	**Pn**	**00 52 36.4**	**+0.5**
SKR	**Severo-Kuril's**	**3.06**	**242**	*ePN*	**Pn**	**00 52 35.8**	**-0.1**
SKR				*eS*	**Sn**	**00 53 10.7**	**-0.6**
SKR				pmax	pmax		
	comp=Z,47nm,0.5s						
SKR				smax	smax		
	comp=N,780nm,0.6s						
SKR				smax	smax		
	comp=E,659nm,0.6s						
TUMR	**Tumrok**	**3.08**	**358**	*eP*	**Pn**	**00 52 38.2**	**+2.0**
TUMR	**Tumrok**	**3.08**	**358**	PN	**Pn**	**00 52 38.2**	**+2.0**
ALID	**Alaid**	**3.29**	**248**	*eP*	**Pn**	**00 52 39.9**	**+0.8**
ALID	**Alaid**	**3.29**	**248**	PN	**Pn**	**00 52 39.9**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**3.74**	**3**	P	**Pn**	**00 52 45.2**	**0.0**
BZGR	**Bezymyannyi-Gr**	**3.74**	**3**	PN	**Pn**	**00 52 45.2**	**0.0**
ESO	**Esso**	**3.84**	**346**	*i P*	**Pn**	**00 52 47.9**	**+1.3**
ESO	**Esso**	**3.84**	**346**	PN	**Pn**	**00 52 47.9**	**+1.3**
KOZ	**Kozyrevsk**	**3.86**	**356**	P	**Pn**	**00 52 46.8**	**0.0**
KOZ	**Kozyrevsk**	**3.86**	**356**	PN	**Pn**	**00 52 46.8**	**0.0**
KRSR	**Krestovskiy**	**4.01**	**2**	P	**Pn**	**00 52 49.2**	**+0.2**
KRSR	**Krestovskiy**	**4.01**	**2**	PN	**Pn**	**00 52 49.2**	**+0.2**
SRDR	**Sredinnyy**	**4.13**	**355**	*eP*	**Pn**	**00 52 52.3**	**+1.8**
SRDR	**Sredinnyy**	**4.13**	**355**	PN	**Pn**	**00 52 52.3**	**+1.8**
KBTR	**Krutoberegovo**	**4.25**	**19**	*eP*	**Pn**	**00 52 52.9**	**+0.7**
KBTR	**Krutoberegovo**	**4.25**	**19**	PN	**Pn**	**00 52 52.9**	**+0.7**
BDR	**Baidarnaya**	**4.39**	**6**	*eP*	**Pn**	**00 52 54.7**	**+0.5**
BDR	**Baidarnaya**	**4.39**	**6**	PN	**Pn**	**00 52 54.7**	**+0.5**
SRKR	**Sorokina**	**4.47**	**6**	*eP*	**Pn**	**00 52 57.6**	**+2.3**
SRKR	**Sorokina**	**4.47**	**6**	PN	**Pn**	**00 52 57.6**	**+2.3**
BKI	**Bering**	**4.48**	**46**	*eS*	**Sn**	**00 53 42.3**	**-3.9**
SEY	**Seymchan**	**11.55**	**342**	*i PN*	**Pn**	**00 54 31.0**	**-1.2**
SEY	**Seymchan**	**11.55**	**342**	Pn	**Pn**	**00 54 32.1**	**-0.1**
	comp=E,0.1nm,0.3s,baz=17,slow=19,SNR=1.5						
ERM	**Erimo**	**15.49**	**236**	*i P*	**Pn**	**00 55 22.9**	**-2.7**
BILL	**Bilibino**	**16.13**	**8**	*ePn*	**P**	**00 55 36.7**	**+0.1**
	comp=E,4.9nm,0.7s						
BILL	**Bilibino**	**16.13**	**8**	*eP*	**P**	**00 55 37.5**	**+0.8**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KLR	**Kul'dur**	**18.30**	**272**	*i P*	**P**	**00 55 57.5**	**-3.3**
KLR	**Kul'dur**	**18.30**	**272**	P	**P**	**00 56 00.6**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=70,slow=6.9,SNR=11						
USRK	**Ussuriysk Ar.**	**20.43**	**258**	P	**P**	**00 56 23.3**	**-0.7**
	comp=Z,3.2nm,0.9s,baz=46,slow=10,SNR=3.7						
MAJO	**Matsushiro**	**22.14**	**234**	*eP*	**P**	**00 56 43.9**	**+1.4**
MAJO	**Matsushiro**	**22.14**	**234**	*eP*	**P**	**00 56 43.9**	**+1.4**
MJAR	**Matsushiro Arr**	**22.14**	**234**	P	**P**	**00 56 43.9**	**+1.4**
	comp=Z,3.4nm,0.7s,baz=21,slow=10.0,SNR=7.9						
TIXI	**Tiksi**	**23.95**	**336**	*ceP*	**P**	**00 56 58.8**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TIXI	**Tiksi**	**23.95**	**336**	P	**P**	**00 56 59.9**	**-0.5**
	comp=Z,6.0nm,0.5s,baz=125,slow=9.9,SNR=20						
RSO	**Redoubt South**	**26.73**	**54**	*eP*	**P**	**00 57 25.5**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**32.82**	**169**	T	T	01 34 09.4	
	baz=352,slow=76,SNR=93						
H11N3	**WAKE ISLAND Hy**	**32.84**	**169**	T	T	01 34 10.5	
	baz=352,slow=76,SNR=99						
H11N1	**WAKE ISLAND Hy**	**32.84**	**169**	T	T	01 34 11.9	
	baz=352,slow=76,SNR=72						
H11S1	**WAKE ISLAND Hy**	**34.01**	**169**	T	T	01 35 52.7	
	baz=352,slow=76,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**34.02**	**169**	T	T	01 35 53.5	
	baz=352,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**34.02**	**169**	T	T	01 35 50.9	
	baz=352,slow=76,SNR=5.5						
TLY	**Talaya**	**34.20**	**292**	*i P*	**P**	**00 58 29.3**	**-2.5**
SONA0	**Songino Array**	**34.27**	**285**	*eP*	**P**	**00 58 32.2**	**-0.4**
SONM	**Songino Array**	**34.27**	**285**	P	**P**	**00 58 32.2**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=65,slow=8.6,SNR=7.5						
YKA	**Yellowknife Ar**	**43.70**	**42**	P	**P**	**00 59 51.6**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=295,slow=7.2,SNR=3.6						
YKB5	**Yellowknife Ar**	**43.70**	**42**	*eP*	**P**	**00 59 51.6**	**+0.6**
NVS	**Novosibirsk**	**43.75**	**305**	*i P*	**P**	**00 59 50.4**	**-1.2**
NVS				pmax	pmax		
	comp=E,6.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
DGZ	**Jazzator, Alta**	**44.21**	**297**	*i P*	**P**	**00 59 54.6**	**-0.9**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**48.03**	**351**	P	**P**	**01 00 26.0**	**+1.0**
KURK	**Kurchatov**	**48.34**	**303**	*eP*	**P**	**01 00 26.1**	**-1.7**
	comp=Z,7.2nm,1.0s						
KURK	**Kurchatov**	**48.34**	**303**	*ceP*	**P**	**01 00 25.3**	**-2.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MK32	**Makanchi Array**	**48.69**	**296**	*eP*	**P**	**01 00 29.1**	**-1.4**
MKAR	**Makanchi Array**	**48.69**	**296**	P	**P**	**01 00 29.1**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=54,slow=6.8,SNR=34						
VALT	**Mount Saint He**	**48.69**	**64**	*eP*	**P**	**01 00 31.1**	**+0.3**
MAKZ	**Makanchi**	**48.85**	**297**	*eP*	**P**	**01 00 30.3**	**-1.5**
	comp=Z,2.6nm,1.0s						
MAKZ	**Makanchi**	**48.85**	**297**	*eP*	**P**	**01 00 30.3**	**-1.5**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	**Borovoye**	**51.09**	**309**	*i P*	**P**	**01 00 47.4**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	**54.15**	**318**	*eP*	**P**	**01 01 10.4**	**-0.9**
	comp=Z,5.6nm,0.4s						
ARU	**Arti**	**54.15**	**318**	*d iP*	**P**	**01 01 10.6**	**-0.6**
ARU				*PP	**sP**	**01 01 26.0**	**+2.0**
ARU				S	**S**	**01 08 41.5**	**-3.8**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARA0	**ARCESS Array S**	**54.17**	**342**	*eP*	**P**	**01 01 10.9**	**-0.3**
ARCES	**ARCESS Array B**	**54.17**	**342**	P	**P**	**01 01 10.9**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=40,slow=8.3,SNR=11						
PRGR	**Permogore**	**55.27**	**328**	*eP*	P	01 01 14.0	-5.2
PRGR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AAK	**Ala-Archa**	**55.61**	**297**	*ceP*	**P**	**01 01 21.0**	**-1.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KSH	**Kashi**	**56.90**	**293**	P	**P**	**01 01 32.3**	**+1.0**
KKAR	**Karatay Array**	**57.46**	**300**	*eP*	**P**	**01 01 33.2**	**-1.9**
KKAR	**Karatay Array**	**57.46**	**300**	*eP*	**P**	**01 01 33.2**	**-1.9**
KLMR	**Klimovskoe**	**57.79**	**330**	*eP*	**P**	**01 01 33.9**	**-3.2**
KLMR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**58.16**	**259**	P	**P**	**01 01 41.6**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=24,slow=6.9,SNR=6.9						
ABKAR	**Akbulak array**	**58.49**	**311**	*eP*	**P**	**01 01 41.5**	**-0.7**
GAR	**Garm**	**60.41**	**296**	*eP*	**P**	**01 01 55.4**	**-0.4**
	comp=Z,6.5nm,1.0s						
GAR	**Garm**	**60.41**	**296**	*eP*	**P**	**01 01 55.4**	**-0.4**
GAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
FIA1	**FINESS Array S**	**60.99**	**337**	*eP*	**P**	**01 02 00.1**	**+0.9**
	comp=Z,7.9nm,0.6s						
FIA0	**FINESS Array S**	**60.99**	**337**	*eP*	**P**	**01 01 59.9**	**+0.7**
FIA0	**FINESS Array S**	**60.99**	**337**	*eP*	**P**	**01 01 59.9**	**+0.7**
FINES	**FINESS Array B**	**60.99**	**337**	*i P*	**P**	**01 02 00.0**	**+0.8**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.4s						
FINES

KRER				*e*S	**Sb**	**00 57 55.1**	**+1.4**
KRMR	**Karymshinskiy**	**1.55 296**		*e*P	**Pb**	**00 57 34.0**	**-1.1**
KRMR				*e*S	**Sb**	**00 57 55.6**	**+1.3**
KOK	**Koryaka**	**1.56 316**		*e*P	**Pb**	**00 57 34.5**	**-0.8**
ASAK	**Asacha**	**1.57 278**		*e*P	**Pb**	**00 57 34.7**	**-0.8**
ASAK				*e*S	**Sb**	**00 57 56.0**	**+1.0**
KRX	**Arik**	**1.60 318**		*e*P	**Pb**	**00 57 35.2**	**-0.9**
PETK	**Petropavlovsk-**	**1.91 300**		Pn	**Pb**	**00 57 39.5**	**-1.7**
	12nm,0.3s,baz=106,slow=20,SNR=64						
PETK				Sn	**Sb**	**00 58 04.7**	**+0.1**
	32nm,0.3s,baz=102,slow=25,SNR=13						
APC	**Apacha**	**2.13 292**		*e*P	**Pb**	**00 57 43.1**	**-1.9**
APC				*e*S	**Sb**	**00 58 11.1**	**+0.1**
PAU	**Pauzhetka**	**2.36 254**		P	**Pn**	**00 57 45.4**	**+1.7**
MKZ	**Mys Kozlova**	**2.50 18**		*e*S	**Sn**	**00 58 14.2**	**-0.9**
KZV	**Kizimen**	**2.94 358**		P	**Pn**	**00 57 53.9**	**+2.1**
KZV				*e*S	**Sn**	**00 58 28.2**	**+2.1**
TUMD	**Tumrok D**	**3.03 360**		*e*P	**Pn**	**00 57 53.8**	**+0.9**
TUMD				*e*S	**Sn**	**00 58 27.4**	**-0.7**
TUMR	**Tumrok**	**3.11 357**		*e*P	**Pn**	**00 57 55.6**	**+1.4**
ALID	**Alaid**	**3.32 249**		*e*P	**Pn**	**00 57 58.7**	**+1.6**
KBTR	**Krutoberegovo**	**4.27 18**		*e*P	**Pn**	**00 58 10.8**	**+0.8**
MKAR	**Makanchi Array**	**48.74 297**		P	**P**	**01 05 47.2**	**-1.5**
	0.3nm,0.5s,baz=46,slow=5.8,SNR=5.1						
FINES	**FINESS Array B**	**61.04 337**		P	**P**	**01 07 17.8**	**+0.6**
	1.0nm,0.5s,baz=32,slow=8.2,SNR=14						

IDC ***20*** *01:07:33.0±0.4, 52°.37N×160°.14E, h0km, mb4.8/32, mb1 4.9/35, mb1mx4.9/37, mbtmp4.8/35, ML4.7/3, MS5.0/33, Ms1 5.0/33, ms1mx4.9/44, Error ellipse: s-maj=12.3km s-min=9.8km az=152.0*

KRSC ***20*** *01:07:33.9±10.0, 52°.14N×160°.58E, h55km±10km, ML5.8*

MOS ***20*** *01:07:36.9±1.1, 52°.22N×160°.32E, h54km, mb5.6/77, MS5.4/25, Error ellipse: s-maj=5.7km s-min=3.0km az=97.3*

MOS Felt (II) at Petropavlovsk-Kamchatskiy.

NEIC ***20*** *01:07:36.8±2.4, 52°.31N×160°.25E, h29km±4km, mb5.1/257, Error ellipse: s-maj=14.2km s-min=11.6km az=161.0*

ISCJB ***20*** *01:07:37.7±0.3, 52°.25N±0°.02×160°.30E±0°.03, h48km±2km, mb5.3/217, MS5.3/71, Error ellipse: s-maj=4.2km s-min=2.4km az=154.8*

BJI ***20*** *01:07:37.2±0.0, 52°.56N×159°.84E, h40km, mb5.1/72, mB5.3/45, Ms5.6/69, Ms7 5.4/63*

GCMT ***20*** *01:07:39.8±0.1, 52°.25N±0°.01×160°.61E±0°.02, h28km, MW5.3/109, Moment Tensor Solution. s94,c173; s109,c202; Duration: 1§1 Moment tensor: Scale 10¹⁷ Nm; Mrr1.04±.02; Mtt0.42±.01; Mpp-0.61±.01; Mrt0.55±.03; Mrp-0.53±.01; Mtp0.57±.02; Best double couple: M0 1.31200×10¹⁷ NP1:φs42.00000°, δ64.00000°, λ92.00000°. NP2:φs218.00000°, δ26.00000°, λ86.00000°. Principal axes: T 1.3080, Plg71.0000°, Azm317.0000°; N 0.0140, Plg2.0000°, Azm221.0000°; P -1.3170, Plg19.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 01:07:39.0±0.4, 52°.29N±0°.03×160°.37E±0°.03, h49km±2km, h49km:pP-P, n994, σ1§44/1080, mb5.3/226, MS5.3/72, 93C-25D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.84**	**346**	*e*P	**Pn**	**01 07 52.4**	**-2.1**
SPN				*e*S	**Sn**	**01 08 05.0**	**-0.8**
SPN	**Mys Shipunski**	**0.84**	**346**	PN	**Pn**	**01 07 52.4**	**-2.1**
SPN				S	**Sn**	**01 08 05.0**	**-0.8**
NLC	**Nalytchevo**	**1.08**	**325**	*e*P	**Pn**	**01 07 56.9**	**-0.8**
NLC				*e*S	**Sn**	**01 08 13.8**	**+2.2**
NLC	**Nalytchevo**	**1.08**	**325**	PN	**Pn**	**01 07 56.9**	**-0.8**
NLC				S	**Sn**	**01 08 13.8**	**+2.2**
RUS	**Russkaya**	**1.15**	**278**	*i* P	**Pn**	**01 07 57.3**	**-1.3**
RUS				*e*S	**Sn**	**01 08 13.8**	**+0.6**
RUS	**Russkaya**	**1.15**	**278**	PN	**Pn**	**01 07 57.3**	**-1.3**
RUS				S	**Sn**	**01 08 13.8**	**+0.6**
DALK	**Dalny**	**1.23**	**308**	*e*P	**Pn**	**01 07 59.0**	**-0.8**
DALK				*e*S	**Sn**	**01 08 16.8**	**+1.5**
DALK	**Dalny**	**1.23**	**308**	PN	**Pn**	**01 07 59.0**	**-0.8**
DALK				S	**Sn**	**01 08 16.8**	**+1.5**
PET	**Petropavlovsk**	**1.28**	**306**	*e*Pn	**Pn**	**01 07 59.0**	**-1.4**
PET				*e*Sn	**Sn**	**01 08 14.3**	**-2.1**
PET	**Petropavlovsk**	**1.28**	**306**	α *i*PN	**Pn**	**01 07 59.6**	**-0.8**
PET				*e*S	**Sn**	**01 08 17.2**	**+0.8**
PET				pmax	pmax		
	comp=Z,42μm,1.4s						
PET				pmax	pmax		
	comp=Z,33μm,0.8s						
PET				smax	smax		
	comp=E,217μm,1.6s						
PET				smax	smax		
	comp=N,86μm,1.5s						
PET				smax	smax		
	comp=N,58μm,0.9s						
PET				smax	smax		
	comp=E,66μm,0.7s						
UGLR	**Uglovaya**	**1.31**	**315**	*e*P	**Pn**	**01 08 00.7**	**-0.4**
UGLR	**Uglovaya**	**1.31**	**315**	PN	**Pn**	**01 08 00.7**	**-0.4**
SDLR	**Sedlovina**	**1.34**	**318**	*e*P	**Pn**	**01 08 00.6**	**-0.8**
SDLR	**Sedlovina**	**1.34**	**318**	PN	**Pn**	**01 08 00.6**	**-0.8**
MTVR	**Mutnovka**	**1.35**	**279**	*e*P	**Pn**	**01 08 00.6**	**-1.0**
MTVR	**Mutnovka**	**1.35**	**279**	PN	**Pn**	**01 08 00.6**	**-1.0**
SMAR	**Somma**	**1.36**	**316**	*e*P	**Pn**	**01 08 00.9**	**-0.9**
SMAR	**Somma**	**1.36**	**316**	PN	**Pn**	**01 08 00.9**	**-0.9**
AVH	**Avacha**	**1.39**	**315**	*i* P	**Pn**	**01 08 01.8**	**-0.3**
AVH	**Avacha**	**1.39**	**315**	PN	**Pn**	**01 08 01.8**	**-0.3**
KRER	**Koryakskii**	**1.41**	**317**	*e*P	**Pn**	**01 08 02.9**	**+0.4**
KRER	**Koryakskii**	**1.41**	**317**	PN	**Pn**	**01 08 02.9**	**+0.4**
GRL	**Gorelyy**	**1.43**	**282**	*i* P	**Pn**	**01 08 02.6**	**0.0**
GRL	**Gorelyy**	**1.43**	**282**	PN	**Pn**	**01 08 02.6**	**0.0**
KOK	**Koryaka**	**1.45**	**314**	*i* P	**Pn**	**01 08 02.7**	**-0.2**
KOK	**Koryaka**	**1.45**	**314**	PN	**Pn**	**01 08 02.7**	**-0.2**
KRMR	**Karymshinskiy**	**1.47**	**293**	*e*P	**Pn**	**01 08 02.4**	**-0.6**
KRMR				*e*S	**Sn**	**01 08 23.3**	**+2.2**
KRMR	**Karymshinskiy**	**1.47**	**293**	PN	**Pn**	**01 08 02.4**	**-0.6**
KRMR				S	**Sn**	**01 08 23.3**	**+2.2**
KDTR	**Khodutka, Kamc**	**1.49**	**252**	*e*P	**Pn**	**01 08 01.6**	**-1.8**
KDTR				*e*S	**Sn**	**01 08 20.6**	**-1.1**
KDTR	**Khodutka, Kamc**	**1.49**	**252**	PN	**Pn**	**01 08 01.6**	**-1.8**
KDTR				S	**Sn**	**01 08 20.6**	**-1.1**
KRX	**Arik**	**1.50**	**316**	*i* P	**Pn**	**01 08 03.7**	**+0.2**
KRX	**Arik**	**1.50**	**316**	PN	**Pn**	**01 08 03.7**	**+0.2**
ASAK	**Asacha**	**1.52**	**275**	*e*P	**Pn**	**01 08 02.9**	**-0.9**
ASAK	**Asacha**	**1.52**	**275**	PN	**Pn**	**01 08 02.9**	**-0.9**
I44RU	**PETROPAVLOVSK-**	**1.81**	**298**	Pn	**Pn**	**01 08 07.8**	**+0.1**
	baz=101,slow=18,SNR=2.2						
I44RU				Sn	**Sn**	**01 08 34.5**	**+5.0**
	baz=102,slow=24						
PEA0B	**Petropavlovsk-**	**1.82**	**298**	*e*Pn	**Pn**	**01 08 07.8**	**0.0**
PEA0B				*e*Sn	**Sn**	**01 08 25.4**	**-4.3**
PEA0B	**Petropavlovsk-**	**1.82**	**298**	*e*PN	**Pn**	**01 08 07.8**	**0.0**
PEA0B				*e*		01 08 25.4	
PETK	**Petropavlovsk-**	**1.82**	**298**	*e*Pn	**Pn**	**01 08 07.4**	**-0.5**
PETK				*e*Sn	**Sn**	**01 08 25.9**	**-3.8**
PETK	**Petropavlovsk-**	**1.82**	**298**	Pn	**Pn**	**01 08 07.7**	**-0.2**
	comp=E,541nm,0.3s,baz=107,slow=20,SNR=1047						
PETK				Sn	**Sn**	**01 08 33.4**	**+3.7**
	comp=E,995nm,0.3s,baz=101,slow=34,SNR=20						
PETK				LR	LR	01 08 38.6	
	comp=E,14μm,19.0s,baz=138,slow=40						
PEA1	**Petropavlovsk-**	**1.82**	**298**	*e*Pn	**Pn**	**01 08 07.7**	**-0.2**
PEA1				*e*Sn	**Sn**	**01 08 33.4**	**+3.6**
APC	**Apacha**	**2.06**	**289**	*e*P	**Pn**	**01 08 11.8**	**+0.7**
APC				*e*S	**Sn**	**01 08 38.2**	**+2.7**
APC	**Apacha**	**2.06**	**289**	PN	**Pn**	**01 08 11.8**	**+0.7**
APC				S	**Sn**	**01 08 38.2**	**+2.7**
PAU	**Pauzhetka**	**2.35**	**251**	*e*P	**Pn**	**01 08 14.3**	**-0.8**
PAU	**Pauzhetka**	**2.35**	**251**	PN	**Pn**	**01 08 14.3**	**-0.8**
MKZ	**Mys Kozlova**	**2.41**	**19**	*e*P	**Pn**	**01 08 14.4**	**-1.5**
MKZ	**Mys Kozlova**	**2.41**	**19**	PN	**Pn**	**01 08 14.4**	**-1.5**
KZV	**Kizimen**	**2.83**	**359**	*i* P	**Pn**	**01 08 22.0**	**+0.2**
KZV	**Kizimen**	**2.83**	**359**	PN	**Pn**	**01 08 22.0**	**+0.2**
TUMD	**Tumrok D**	**2.92**	**0**	*e*P	**Pn**	**01 08 22.3**	**-0.6**
TUMD				*e*S	**Sn**	**01 08 57.7**	**+1.0**
TUMR	**Tumrok**	**3.00**	**358**	*e*P	**Pn**	**01 08 24.6**	**+0.5**
TUMR	**Tumrok**	**3.00**	**358**	PN	**Pn**	**01 08 24.6**	**+0.5**
SKR	**Severo-Kuril's**	**3.11**	**240**	*e*P	**Pn**	**01 08 23.9**	**-1.5**
SKR				*e*S	**Sn**	**01 08 59.7**	**-1.5**
SKR	**Severo-Kuril's**	**3.11**	**240**	*e*PN	**Pn**	**01 08 23.6**	**-1.8**
SKR				*e*S	**Sn**	**01 08 57.8**	**-3.4**
SKR				pmax	pmax		
	comp=Z,2μm,0.8s						
SKR				smax	smax		
	comp=N,13μm,0.6s						
SKR				smax	smax		
	comp=E,10μm,0.6s						
ALID	**Alaid**	**3.32**	**247**	*i* P	**Pn**	**01 08 27.7**	**-0.9**
ALID	**Alaid**	**3.32**	**247**	PN	**Pn**	**01 08 27.7**	**-0.9**
BZMR	**Bezymyannaya**	**3.65**	**1**	*e*P	**Pn**	**01 08 35.4**	**+2.3**
BZMR	**Bezymyannaya**	**3.65**	**1**	PN	**Pn**	**01 08 35.4**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**3.66**	**3**	*e*P	**Pn**	**01 08 34.4**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**3.66**	**3**	PN	**Pn**	**01 08 34.4**	**+1.2**
KIRR	**Kirishev**	**3.67**	**360**	*e*P	**Pn**	**01 08 34.0**	**+0.7**
KIRR	**Kirishev**	**3.67**	**360**	PN	**Pn**	**01 08 34.0**	**+0.7**
BZWR	**Bezymyannyi-We**	**3.68**	**1**	P	**Pn**	**01 08 35.1**	**+1.6**
BZWR	**Bezymyannyi-We**	**3.68**	**1**	PN	**Pn**	**01 08 35.1**	**+1.6**
ESO	**Esso**	**3.77**	**346**	*e*P	**Pn**	**01 08 34.7**	**+0.1**
ESO	**Esso**	**3.77**	**346**	PN	**Pn**	**01 08 34.7**	**+0.1**
KOZ	**Kozyrevsk**	**3.79**	**356**	*e*P	**Pn**	**01 08 37.1**	**+2.3**
KOZ	**Kozyrevsk**	**3.79**	**356**	PN	**Pn**	**01 08 37.1**	**+2.3**
LGNR	**Loginova**	**3.81**	**3**	*i* P	**Pn**	**01 08 37.0**	**+1.7**
LGNR	**Loginova**	**3.81**	**3**	PN	**Pn**	**01 08 37.0**	**+1.7**
CIRR	**Tsirk**	**3.84**	**3**	*e*P	**Pn**	**01 08 37.7**	**+2.1**
CIRR	**Tsirk**	**3.84**	**3**	PN	**Pn**	**01 08 37.7**	**+2.1**
KRSR	**Krestovskiy**	**3.94**	**2**	*e*P	**Pn**	**01 08 37.0**	**+0.1**
KRSR	**Krestovskiy**	**3.94**	**2**	PN	**Pn**	**01 08 37.0**	**+0.1**
KLY	**Klyuchi**	**4.04**	**2**	*e*P	**Pn**	**01 08 39.6**	**+1.4**
KLY	**Klyuchi**	**4.04**	**2**	PN	**Pn**	**01 08 39.6**	**+1.4**
SRDR	**Sredinnyy**	**4.05**	**355**	*e*P	**Pn**	**01 08 39.9**	**+1.4**
SRDR	**Sredinnyy**	**4.05**	**355**	PN	**Pn**	**01 08 39.9**	**+1.4**
KBTR	**Krutoberegovo**	**4.18**	**19**	*i* P	**Pn**	**01 08 39.1**	**-1.1**
KBTR	**Krutoberegovo**	**4.18**	**19**	PN	**Pn**	**01 08 39.1**	**-1.1**
KBG	**Krutoberegovo**	**4.20**	**18**	*e*P	**Pn**	**01 08 41.0**	**+0.5**
KBG	**Krutoberegovo**	**4.20**	**18**	PN	**Pn**	**01 08 41.0**	**+0.5**
BDR	**Baidarnaya**	**4.32**	**6**	*e*P	**Pn**	**01 08 43.5**	**+1.4**
BDR	**Baidarnaya**	**4.32**	**6**	PN	**Pn**	**01 08 43.5**	**+1.4**
SMKR	**Semkarok**	**4.35**	**8**	*e*P	**Pn**	**01 08 43.5**	**+0.9**
SMKR	**Semkarok**	**4.35**	**8**	PN	**Pn**	**01 08 43.5**	**+0.9**
SRKR	**Sorokina**	**4.40**	**6**	*e*P	**Pn**	**01 08 44.4**	**+1.2**
SRKR	**Sorokina**	**4.40**	**6**	PN	**Pn**	**01 08 44.4**	**+1.2**
BKI	**Bering**	**4.43**	**47**	*e*P	**Pn**	**01 08 41.5**	**-2.0**
BKI				*e*S	**Sn**	**01 09 27.8**	**-5.9**
BKI	**Bering**	**4.43**	**47**	PN	**Pn**	**01 08 41.5**	**-2.0**
PALN	**Palana**	**6.82**	**358**	P	**Pn**	**01 09 18.5**	**+2.2**
PALN	**Palana**	**6.82**	**358**	PN	**Pn**	**01 09 18.5**	**+2.2**
OSSR	**Ossora**	**7.14**	**11**	*e*P	**Pn**	**01 09 21.0**	**+0.3**
OSSR	**Ossora**	**7.14**	**11**	PN	**Pn**	**01 09 21.0**	**+0.3**
TILK	**Tilichiki**	**8.78**	**19**	*e*P	**Pn**	**01 09 43.4**	**+0.3**
TILK	**Tilichiki**	**8.78**	**19**	PN	**Pn**	**01 09 43.4**	**+0.3**
MA2	**Magadan**	**9.07**	**327**	*i* PN	**Pn**	**01 09 46.7**	**-0.4**
MA2	**Magadan**	**9.07**	**327**	Pn	**Pn**	**01 09 47.6**	**+0.5**
	comp=E,1.8nm,0.3s,baz=142,slow=11,SNR=10						
MA2				LR	LR	01 13 54.4	
	comp=E,18μm,18.6s,baz=138,slow=43						
OKH	**Okha**	**10.61**	**284**	*de*PN	Pn	01 10 01.9	-6.2
OKH				MLR	MLR		
	comp=Z,21μm,14.0s						
KUR	**Kuril'sk**	**10.85**	**234**	PN	**Pn**	**01 10 10.5**	**-1.0**
KUR				pmax	pmax		
	comp=Z,77nm,0.7s						
KUR				MLR	MLR		
	comp=N,22μm,17.0s						
KUR				MLR	MLR		
	comp=E,12μm,16.0s						
TYV	**Tymovskoe**	**11.12**	**270**	*e*PN	**Pn**	**01 10 18.2**	**+3.1**
TYV				*e*		01 12 23.8	
TYV				pmax	pmax		
	comp=Z,49nm,1.4s						
TYV				pmax	pmax		
	comp=Z,1μm,3.6s						
TYV				MLR	MLR		
	comp=N,12μm,16.0s						
TYV				MLR	MLR		
	comp=Z,23μm,16.0s						
SEY	**Seymchan**	**11.49**	**341**	*i* PN	**Pn**	**01 10 20.7**	**+0.6**
SEY	**Seymchan**	**11.49**	**341**	Pn	**Pn**	**01 10 21.6**	**+1.5**
	baz=145,slow=11,SNR=20						
SEY				LR	LR	01 15 13.2	
	comp=Z,10μm,19.4s,baz=148,slow=40						
NKL	**Nikolayevsk**	**11.97**	**282**	*e*PN	**Pn**	**01 10 30.0**	**+3.3**
NKL				pmax	pmax		
	comp=E,550nm,2.0s						
NKL				pmax	pmax		
	comp=Z,340nm,2.0s						
NKL				pmax	pmax		
	comp=E,2μm,9.0s						
NKL				pmax	pmax		
	comp=Z,2μm,9.0s						
NKL				MLR	MLR		
	comp=N,6μm,14.0s						
NKL				MLR	MLR		
	comp=E,13μm,14.0s						
NKL				MLR	MLR		
	comp=Z,32μm,14.0s						
UGL	**Uglegorsk**	**12.04**	**262**	*c i*PN	**Pn**	**01 10 29.8**	**+2.1**
UGL				pmax	pmax		
	comp=Z,170nm,1.3s						
UGL				pmax	pmax		
	comp=Z,2μm,4.6s						
UGL				MLR	MLR		
	comp=Z,12μm,14.0s						
UGL				MLR	MLR		
	comp=E,14μm,14.0s						
YSS	**Yuzh-Sakhalins**	**12.60**	**252**	*e*Pn	**Pn**	**01 10 35.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**12.60**	**252**	α *i*PN	**Pn**	**01 10 35.5**	**+0.2**
YSS				pmax	pmax		
	comp=Z,60nm,1.3s						
YSS				pmax	pmax		
	comp=N,400nm,6.0s						
YSS				pmax	pmax		
	comp=Z,1μm,6.0s						
YSS				pmax	pmax		
	comp=E,700nm,7.0s						
YSS				MLR	MLR		
	comp=Z,13μm,14.0s						
YSS				MLR	MLR		
	comp=E,9μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**12.71**	**235**	PN	**P**	**01 10 44.2**	**-2.6**
YUK				S	**Sn**	**01 13 05.0**	**+8.3**
YUK				pmax	pmax		
	comp=Z,514nm,1.4s						
YUK				pmax	pmax		
	comp=N,130nm,1.3s						
YUK				pmax	pmax		
	comp=E,206nm,1.3s						
YUK				MLR	MLR		
	comp=Z,11μm,16.0s						
YUK				MLR	MLR		
	comp=E,18μm,19.0s						
ADK	**Adak**	**14.11**	**83**	*e*Pn	**Pn**	**01 10 54.3**	**-1.5**
ADK	**Adak**	**14.11**	**83**	*e*P	**Pn**	**01 10 54.3**	**-1.5**
ASAJ	**Asahikawa**	**14.37**	**242**	Pn	**Pn**	**01 10 57.7**	**-1.7**
	comp=E,4.2nm,0.3s,baz=71,slow=12,SNR=29						
GSTR	**Great Sitkin T**	**14.45**	**81**	*e*Pn	**Pn**	**01 10 57.8**	**-2.6**
GRNR	**Gornyy**	**14.97**	**274**	*e*P	**P**	**01 11 09.9**	**-1.9**
GRNR				pmax	pmax		
	comp=Z,53nm,1.2s						
ERM	**Erimo**	**15.54**	**235**	*e*Pn	**Pn**	**01 11 09.4**	**-5.2**
	comp=Z,52nm,0.6s						
ERM	**Erimo**	**15.54**	**235**	*i* P	**Pn**	**01 11 09.6**	**-5.0**
BILL	**Bilibino**	**16.06**	**8**	*e*Pn	**Pn**	**01 11 21.8**	**+0.7**
	comp=Z,161nm,1.4s						
BILL	**Bilibino**	**16.06**	**8**	⇑ *i*P	**Pn**	**01 11 19.8**	**-1.3**
BILL				pmax	pmax		
	comp=Z,63nm,1.1s						
BILL				MLR	MLR		
	comp=Z,8μm,20.0s						
TEY	**Ternei**	**17.24**	**255**	⇓ *e*P	**Pn**	**01 11 35.6**	**-0.5**
TEY				pmax	pmax		
	comp=E,90nm,0.9s						
TEY				pmax	pmax		
	comp=Z,110nm,0.9s						
KLR	**Kul'dur**	**18.31**	**272**	*c i*P	**Pn**	**01 11 48.9**	**-0.2**
KLR	**Kul'dur**	**18.31**	**272**	P	**P**	**01 11 48.2**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=62,slow=12,SNR=48						
KLR				LR	LR	01 19 47.4	
	comp=Z,11μm,18.1s,baz=74,slow=40						
YAK	**Yakutsk**	**19.10**	**313**	*c i*P	**P**	**01 11 54.9**	**-2.4**
YAK				*e*S	**S**	**01 15 21.5**	**-10**
YAK				pmax	pmax		
	comp=Z,3μm,1.1s						
YAK				pmax	pmax		
	comp=N,712nm,1.1s						
YAK				pmax	pmax		
	comp=E,534nm,1.4s						
YAK				smax	smax		
	comp=E,537nm,1.4s						
YAK				smax	smax		
	comp=N,454nm,1.9s						
YAK				MLR	MLR		
	comp=Z,26μm,18.0s						
YAK				MLR	MLR		
	comp=E,23μm,16.0s						
YAK				MLR	MLR		
	comp=N,19μm,16.0s						
ZEA	**Zeya**	**19.88**	**287**	*e*P	**P**	**01 12 04.2**	**-1.7**
ZEA				pmax	pmax		
	comp=E,72nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,92nm,1.2s						
ZEA				MLR	MLR		
	comp=E,9μm,15.0s						
ZEA				MLR	MLR		
	comp=Z,16μm,15.0s						
ZEA				MLR	MLR		
	comp=N,6μm,14.0s						
USA0B	**Ussuriysk Arra**	**20.45**	**258**	*e*P	**P**	**01 12 09.5**	**-2.7**
	comp=N,117nm,1.2s						
USA0B	**Ussuriysk Arra**	**20.45**	**258**	*e*P	**P**	**01 12 09.5**	**-2.7**
USA0B				pmax	pmax		
	comp=Z,117nm,1.2s						
USRK	**Ussuriysk Ar.**	**20.45**	**258**	*e*P	**P**	**01 12 10.3**	**-1.9**
USRK	**Ussuriysk Ar.**	**20.45**	**258**	*e*P	**P**	**01 12 10.3**	**-1.9**
USRK	**Ussuriysk Ar.**	**20.45**	**258**	P	**P**	**01 12 09.7**	**-2.5**
	comp=Z,61nm,1.0s,baz=60,slow=11,SNR=62						
USRK				LR	LR	01 20 51.6	
	comp=Z,5μm,18.7s,baz=58,slow=39						
ANM	**Nome**	**21.41**	**42**	*e*P	**P**	**01 12 21.2**	**-1.1**
	comp=Z,84nm,1.4s						
ANM	**Nome**	**21.41**	**42**	*e*P	**P**	**01 12 21.2**	**-1.1**
ANM				pmax	pmax		
	comp=Z,84nm,1.4s						
MDJ	**Mudanjiang**	**21.68**	**262**	P	**P**	**01 12 23.3**	**-2.1**
MDJ				pP	pP	01 12 31.0	-4.9
MDJ				PcS	**PcS**	**01 19 59.4**	**-3.6**
MDJ				pmax	pmax		
	comp=Z,45nm,1.1s						
MDJ				LR	LR		
	comp=Z,10μm,18.7s						
MDJ				LR	LR		
	comp=Z,4μm,19.1s						
MDJ				LR	LR		
	comp=Z,8μm,18.6s						
MDJ	**Mudanjiang**	**21.68**	**262**	*e*P	**P**	**01 12 23.7**	**-1.6**
	comp=Z,121nm,1.4s						
MSHR	**Mys Shultsa**	**21.88**	**255**	*i* P	**P**	**01 12 25.8**	**-1.7**
MAJO	**Matsushiro**	**22.19**	**234**	*e*P	**P**	**01 12 31.0**	**+0.1**
	comp=Z,306nm,1.4s						
MAJO	**Matsushiro**	**22.19**	**234**	*i* P	**P**	**01 12 30.9**	**0.0**
MAJO				pmax	pmax		
	comp=Z,160nm,1.1s						
MAT	**Matsushiro**	**22.19**	**234**	P	**P**	**01 12 30.4**	**-0.5**
MAT				S	**S**	**01 16 31.8**	**-0.4**
MJAR	**Matsushiro Arr**	**22.19**	**234**	P	**P**	**01 12 30.6**	**-0.3**
	comp=Z,86nm,1.1s,baz=21,slow=9.1,SNR=63						
MJAR				LR	LR	01 21 39.9	
	comp=Z,8μm,20.8s,baz=55,slow=38						
RDOG	**Red Dog Mine**	**23.61**	**34**	*e*P	**P**	**01 12 45.5**	**+0.4**
	comp=Z,107nm,1.3s						
INU	**Inuyama**	**23.72**	**234**	*e*P	**P**	**01 12 47.2**	**+0.8**
	comp=Z,160nm,1.1s						
TIXI	**Tiksi**	**23.88**	**336**	*e*P	**P**	**01 12 45.5**	**-2.0**
	comp=Z,111nm,1.2s						
TIXI				*e*P	**P**	**01 12 46.4**	**-1.1**
TIXI	**Tiksi**	**23.88**	**336**	*c i*P	**P**	**01 12 45.3**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,68nm,1.1s						
TIXI	**Tiksi**	**23.88**	**336**	P	**P**	**01 12 46.4**	**-1.1**
	comp=Z,30nm,0.6s,baz=124,slow=12,SNR=96						
JHJ	**Hachijo jima 2**	**24.26**	**226**	LR	LR	01 25 52.3	
	comp=Z,1μm,18.4s,baz=95,slow=45						
CN2	**Changchun**	**24.64**	**264**	*e*P	**P**	**01 12 52.3**	**-2.4**
CN2				pmax	pmax		
	comp=Z,40nm,1.1s						
CN2				pmax	pmax		
	comp=Z,220nm,3.0s						
CN2				LR	LR		
	comp=Z,5μm,14.0s						
CN2				LR	LR		
	comp=Z,8μm,14.0s						
CN2				LR	LR		
	comp=Z,10μm,16.0s						
HIA	**Hailar**	**25.63**	**280**	*e*P	**P**	**01 13 01.5**	**-2.1**
	comp=Z,92nm,0.9s						
HIA	**Hailar**	**25.63**	**280**	*i* P	**P**	**01 13 00.4**	**-3.2**
HIA				pmax	pmax		
	comp=Z,634nm,1.0s						
RSO	**Redoubt South**	**26.69**	**54**	*e*P	**P**	**01 13 12.7**	**-0.6**
BOD	**Bodaibo**	**26.69**	**300**	⇓ *i*P	**P**	**01 13 10.3**	**-2.8**
BOD				pmax	pmax		
	comp=Z,111nm,1.4s						
SNY	**Shenyang**	**26.88**	**262**	⇓ P	**P**	**01 13 14.6**	**-0.4**
SNY				S	**S**	**01 17 52.8**	**+4.8**
SNY				pmax	pmax		
	comp=Z,39nm,1.0s						
SNY				pmax	pmax		
	comp=Z,880nm,11.2s						
SNY				LR	LR		
	comp=Z,10μm,19.4s						
SNY				LR	LR		
	comp=Z,7μm,19.2s						
SNY				LR	LR		
	comp=Z,6μm,19.6s						
**KDA

ULN	**Ulaanbaatar**	**33.85**	**284**	*e*P	**P**	**01 14 13.9**	**-2.7**
ULN				pmax	pmax		
comp=Z,24nm,1.2s							
ULN	**Ulaanbaatar**	**33.85**	**284**	P	**P**	**01 14 15.1**	**-1.5**
SNR=23							
H11S1	**WAKE ISLAND Hy**	**34.08**	**169**	T	T	01 51 01.1	
baz=352,slow=76,SNR=55							
H11S3	**WAKE ISLAND Hy**	**34.09**	**169**	T	T	01 50 58.7	
baz=352,slow=76,SNR=185							
H11S2	**WAKE ISLAND Hy**	**34.09**	**169**	T	T	01 51 50.8	
baz=352,slow=76,SNR=36							
TLY	**Talaya**	**34.17**	**292**	*e*P	**P**	**01 14 17.9**	**-1.3**
comp=Z,78nm,1.3s							
TLY	**Talaya**	**34.17**	**292**	*i* P	**P**	**01 14 17.9**	**-1.3**
TLY	**Talaya**	**34.17**	**292**	P	**P**	**01 14 18.2**	**-1.0**
SNR=17							
SONA0	**Songino Array**	**34.26**	**285**	*e*P	**P**	**01 14 18.9**	**-1.2**
SONA0				*e*PcP	**PcP**	**01 16 56.2**	**+0.7**
SONM	**Songino Array**	**34.26**	**285**	P	**P**	**01 14 18.9**	**-1.2**
comp=Z,3.4nm,0.5s,baz=54,slow=8.6,SNR=32							
SONM				PcP	**PcP**	**01 16 56.2**	**+0.7**
comp=Z,1.5nm,0.8s,baz=86,slow=3.9,SNR=2.5							
SONM				LR	LR	01 29 47.7	
comp=Z,13μm,18.6s,baz=62,slow=39							
TIA	**Tai'an**	**34.31**	**259**	P	**P**	**01 14 19.3**	**-1.3**
TIA				pmax	pmax		
comp=Z,50nm,1.0s							
INK	**Inuvik**	**34.41**	**37**	*e*P	**P**	**01 14 21.6**	**+0.6**
comp=Z,6.8nm,0.6s							
INK				*e*PcP	**PcP**	**01 16 56.6**	**+1.2**
INK	**Inuvik**	**34.41**	**37**	*e*P	**P**	**01 14 21.6**	**+0.6**
INK				*e*		01 16 56.6	
INK				pmax	pmax		
comp=Z,7.0nm,0.6s							
INK	**Inuvik**	**34.41**	**37**	P	**P**	**01 14 21.7**	**+0.6**
comp=Z,4.8nm,0.8s,baz=278,slow=7.6,SNR=17							
INK				PcP	**PcP**	**01 16 56.6**	**+1.2**
comp=Z,2.9nm,0.7s,baz=317,slow=3.7,SNR=4.0							
HHC	**Hu-ho-hao-te**	**34.81**	**271**	*e*P	**P**	**01 14 22.8**	**-2.2**
HHC				PP	**PnPn**	**01 15 41.8**	**-0.5**
HHC				S	**S**	**01 19 47.0**	**-5.1**
HHC				pmax	pmax		
comp=Z,130nm,0.8s							
HHC				pmax	pmax		
comp=Z,320nm,4.6s							
HHC				LR	LR		
comp=Z,1μm,13.3s							
HHC				LR	LR		
comp=Z,2μm,12.2s							
HHC				LR	LR		
comp=Z,2μm,13.5s							
ZAK	**Zakamensk**	**34.93**	**290**	*e*P	**P**	**01 14 24.4**	**-1.5**
ZAK				pmax	pmax		
comp=Z,45nm,1.3s							
SSE	**Sheshan**	**35.51**	**249**	P	**P**	**01 14 29.8**	**-1.1**
SSE				S	**S**	**01 20 04.8**	**+2.0**
SSE				pmax	pmax		
comp=Z,10.0nm,0.6s							
SSE				pmax	pmax		
comp=Z,150nm,4.3s							
SSE				LR	LR		
comp=Z,1μm,18.3s							
SSE				LR	LR		
comp=Z,1μm,21.9s							
MOY	**Mondy**	**35.68**	**293**	*e*P	**P**	**01 14 31.7**	**-0.6**
MOY				pmax	pmax		
comp=Z,81nm,1.6s							
BTO	**Baotou**	**35.90**	**271**	*e*P	**P**	**01 14 32.3**	**-2.0**
NJ2	**Nanjing**	**36.16**	**253** ⇓	*i*P	**P**	**01 14 38.0**	**+1.5**
NJ2				S	**S**	**01 20 13.5**	**+0.7**
NJ2				pmax	pmax		
comp=Z,51nm,1.0s							
NJ2				pmax	pmax		
comp=Z,600nm,3.6s							
NJ2				LR	LR		
comp=Z,6μm,16.3s							
NJ2				LR	LR		
comp=Z,3μm,14.1s							
NJ2				LR	LR		
comp=Z,5μm,19.0s							
NRIK	**Noril'sk**	**36.66**	**325**	P	**P**	**01 14 39.6**	**-0.8**
comp=Z,50nm,1.2s,baz=89,slow=9.3,SNR=52							
NRIK				LR	LR	01 31 03.7	
comp=Z,8μm,21.3s,baz=74,slow=39							
DLBC	**Dease Lake**	**38.40**	**53**	LR	LR	01 31 57.2	
comp=Z,1μm,20.7s,baz=300,slow=38							
WHN	**Wuhan**	**39.91**	**255** ⇑	*i*P	**P**	**01 15 09.3**	**+1.2**
WHN				pP	**pP**	**01 15 19.9**	**-0.4**
WHN				S	**S**	**01 21 15.9**	**+6.4**
WHN				pmax	pmax		
comp=Z,110nm,1.1s							
WHN				LR	LR		
comp=Z,5μm,14.5s							
WHN				LR	LR		
comp=Z,7μm,13.9s							
WHN				LR	LR		
comp=Z,7μm,14.3s							
XAN	**Xi'an**	**40.75**	**264**	P	**P**	**01 15 13.1**	**-1.9**
XAN				pP	pP	01 15 24.6	-2.6
XAN				pmax	pmax		
comp=Z,10.0nm,1.5s							
XAN				LR	LR		
comp=Z,5μm,15.2s							
XAN				LR	LR		
comp=Z,3μm,13.7s							
XAN				LR	LR		
comp=Z,4μm,15.2s							
TWG	**Pinlang**	**42.02**	**241**	*e*P	**P**	**01 15 24.9**	**-0.6**
comp=Z,182nm,1.2s							
LZH	**Lanzhou**	**42.51**	**271**	*e*P	**P**	**01 15 29.1**	**-0.4**
LZH				pP	pP	01 15 42.8	+1.0
LZH				sP	sP	01 15 48.1	+0.9
LZH				PP	**PP**	**01 17 08.6**	**0.0**
LZH				pmax	pmax		
comp=Z,44nm,1.1s							
LZH				LR	LR		
comp=Z,5μm,17.3s							
LZH				LR	LR		
comp=Z,4μm,17.9s							
LZH				LR	LR		
comp=Z,9μm,18.2s							
GTA	**Gaotai**	**42.87**	**277**	*e*P	**P**	**01 15 31.5**	**-0.9**
GTA				pP	pP	01 15 36.8	-7.9
GTA				PcP	**PcP**	**01 17 25.9**	**+3.3**
GTA				pmax	pmax		
comp=Z,28nm,1.6s							
GTA				pmax	pmax		
comp=Z,200nm,5.9s							
GTA				LR	LR		
comp=Z,4μm,18.1s							
GTA				LR	LR		
comp=Z,6μm,16.5s							
GTA				LR	LR		
comp=Z,8μm,17.1s							
ENH	**Enshi**	**43.02**	**260**	*e*P	**P**	**01 15 32.0**	**-1.6**
comp=Z,63nm,1.3s							
ZAA1	**Zalesovo Array**	**43.35**	**304**	*e*P	**P**	**01 15 33.8**	**-2.2**
ZAA1				*e*PP	**PcP**	**01 17 24.3**	**+0.6**
ZALV	**Zalesovo Beam**	**43.35**	**304**	P	**P**	**01 15 33.8**	**-2.2**
comp=Z,17nm,1.1s,baz=64,slow=6.8,SNR=46							
ZALV				PcP	**PcP**	**01 17 24.3**	**+0.6**
comp=Z,7.0nm,1.0s,baz=76,slow=1.9,SNR=3.4							
ZALV				LR	LR	01 35 06.9	
comp=Z,5μm,18.1s,baz=68,slow=38							
YKA	**Yellowknife Ar**	**43.65**	**42**	*i* P	**P**	**01 15 38.6**	**+0.4**
YKA	**Yellowknife Ar**	**43.65**	**42**	P	**P**	**01 15 38.7**	**+0.5**
comp=Z,1.4nm,0.6s,baz=298,slow=8.0,SNR=20							
NVS	**Novosibirsk**	**43.71**	**305** ⇓	*i*P	**P**	**01 15 37.5**	**-1.3**
NVS				*i*		01 17 17.4	
NVS				*i* S	**S**	**01 22 01.0**	**-4.1**
NVS				pmax	pmax		
comp=Z,316nm,1.3s							
NVS				pmax	pmax		
comp=N,61nm,1.2s							
NVS				pmax	pmax		
comp=E,172nm,1.2s							
NVS				pmax	pmax		
comp=N,30nm,1.4s							
NVS				pmax	pmax		
comp=Z,48nm,1.4s							
NVS				pmax	pmax		
comp=E,37nm,1.2s							
NVS				smax	smax		
comp=N,57nm,1.9s							
NVS				smax	smax		
comp=E,14nm,1.6s							
RES	**Resolute Bay**	**44.01**	**22**	*e*P	**P**	**01 15 41.8**	**+0.8**
comp=E,11nm,0.9s							
RES	**Resolute Bay**	**44.01**	**22**	*e*P	**P**	**01 15 41.8**	**+0.8**
RES				pmax	pmax		
comp=Z,11nm,0.9s							
RES	**Resolute Bay**	**44.01**	**22**	LR	LR	01 35 42.5	
comp=Z,809nm,19.9s,baz=320,slow=38							
DGZ	**Jazzator, Alta**	**44.18**	**297**	*c*P	**P**	**01 15 42.2**	**-0.6**
DGZ				pmax	pmax		
comp=Z,28nm,1.1s							
CD2	**Chengdu**	**46.06**	**265** ⇑	*i*P	**P**	**01 15 56.9**	**-1.0**
CD2				sP	pP	01 16 11.3	+1.1
CD2				pmax	pmax		
comp=Z,20nm,1.2s							
CD2				pmax	pmax		
comp=Z,780nm,11.2s							
CD2				LR	LR		
comp=Z,6μm,21.2s							
CD2				LR	LR		
comp=Z,6μm,18.8s							
CD2				LR	LR		
comp=Z,6μm,14.3s							
WMQ	**Urumqi**	**47.40**	**290**	P	**P**	**01 16 08.3**	**+0.1**
WMQ				pP	pP	01 16 19.8	-0.9
WMQ				sP	sP	01 16 27.1	+1.0
WMQ				PcS	**PcS**	**01 21 34.6**	**+1.2**
WMQ				S	**S**	**01 22 58.3**	**-0.3**
WMQ				ScS	**ScS**	**01 25 57.1**	**-0.3**
WMQ				pmax	pmax		
comp=Z,190nm,1.1s							
WMQ				pmax	pmax		
comp=Z,1μm,7.5s							
GYA	**Guiyang**	**47.49**	**259** ⇑	*i*P	**P**	**01 16 08.8**	**-0.4**
GYA				pP	pwP	01 16 24.3	-0.6
GYA				PP	**PP**	**01 17 58.9**	**-1.9**
GYA				S	**S**	**01 22 56.3**	**-4.1**
GYA				pmax	pmax		
comp=Z,20nm,1.1s							
GYA				pmax	pmax		
comp=Z,130nm,5.2s							
GYA				LR	LR		
comp=Z,3μm,19.3s							
GYA				LR	LR		
comp=Z,2μm,17.7s							
GYA				LR	LR		
comp=Z,780nm,17.7s							
KBS	**Kingsbay**	**47.70**	**352**	*e*P	**P**	**01 16 10.5**	**+0.5**
SPA0	**Spitsbergen Ar**	**47.96**	**351**	*e*P	**P**	**01 16 12.5**	**+0.4**
comp=Z,454nm,1.5s							
SPA0	**Spitsbergen Ar**	**47.96**	**351**	*e*P	**P**	**01 16 12.4**	**+0.4**
SPITS	**Spitsbergen Ar**	**47.96**	**351**	P	**P**	**01 16 12.6**	**+0.6**
SPITS				pmax	pmax		
comp=Z,4.0nm,0.3s							
KURK	**Kurchatov**	**48.30**	**303**	*e*P	**P**	**01 16 13.2**	**-1.8**
comp=Z,269nm,1.3s							
KURK	**Kurchatov**	**48.30**	**303**	*c i*P	**P**	**01 16 12.9**	**-2.1**
KURK				pmax	pmax		
comp=Z,191nm,1.2s							
KURK	**Kurchatov**	**48.30**	**303**	P	**P**	**01 16 13.1**	**-1.9**
SNR=90							
KURK				P	**P**	**01 16 13.1**	**-1.9**
SNR=90							
HOPEN	**Hopen**	**48.36**	**347**	*e*P	**P**	**01 16 15.5**	**+0.4**
MK31	**Makanchi Array**	**48.66**	**296**	*i* P	**P**	**01 16 15.5**	**-2.3**
MK31				pmax	pmax		
comp=Z,51nm,1.2s							
MKAR	**Makanchi Array**	**48.66**	**296**	*i* P	**P**	**01 16 15.8**	**-2.0**
MKAR				pmax	pmax		
comp=Z,7.0nm,0.6s							
MKAR	**Makanchi Array**	**48.66**	**296**	P	**P**	**01 16 16.2**	**-1.6**
comp=Z,6.9nm,0.6s,baz=59,slow=7.2,SNR=90							
MKAR				LR	LR	01 38 08.3	
comp=Z,4μm,19.3s,baz=42,slow=38							
MAKZ	**Makanchi**	**48.82**	**297**	*e*P	**P**	**01 16 17.0**	**-2.1**
comp=Z,57nm,1.2s							
MAKZ	**Makanchi**	**48.82**	**297**	*e*P	**P**	**01 16 17.0**	**-2.1**
MAKZ				pmax	pmax		
comp=Z,57nm,1.2s							
HSPB	**Hornsund (broa**	**49.08**	**350**	*e*P	**P**	**01 16 21.3**	**+0.7**
HSPB	**Hornsund (broa**	**49.08**	**350**	*e*P	**P**	**01 16 20.8**	**+0.2**
NEW	**Newport**	**50.16**	**60**	*e*P	**P**	**01 16 28.0**	**-1.3**
comp=Z,6.7nm,1.1s							
NEW	**Newport**	**50.16**	**60**	*e*P	**P**	**01 16 28.0**	**-1.3**
NEW				pmax	pmax		
comp=Z,7.0nm,1.1s							
NEW	**Newport**	**50.16**	**60**	LR	LR	01 38 22.7	
comp=Z,584nm,18.5s,baz=330,slow=37							
BJO	**Bjornoya**	**50.84**	**347**	*e*P	**P**	**01 16 34.5**	**+0.5**
PINE	**Pine Mountain**	**50.85**	**66**	*e*P	**P**	**01 16 34.7**	**0.0**
comp=Z,8.9nm,1.1s							
KMI	**Kunming**	**50.85**	**261**	P	**P**	**01 16 34.9**	**-0.1**
KMI				pmax	pmax		
comp=Z,29nm,1.3s							
KULLO	**Kullorsuaq**	**50.94**	**12** ⇑	*i*P	**P**	**01 16 35.1**	**+0.4**
KULLO	**Kullorsuaq**	**50.94**	**12** ⇑	*i*P	**P**	**01 16 35.1**	**+0.4**
J05D	**Fort Rock, OR**	**51.00**	**67**	P	**P**	**01 16 38.0**	**+2.2**
baz=309							
G08A	**Pilot Rock**	**51.01**	**64**	*e*P	**P**	**01 16 34.3**	**-1.5**
comp=Z,4.9nm,1.1s							
BRVK	**Borovoye**	**51.05**	**309**	*e*P	**P**	**01 16 34.1**	**-1.7**
comp=Z,81nm,1.0s							
BRVK	**Borovoye**	**51.05**	**309**	*c i*P	**P**	**01 16 33.8**	**-2.1**
BRVK				pmax	pmax		
comp=Z,83nm,1.2s							
BRVK	**Borovoye**	**51.05**	**309**	P	**P**	**01 16 34.0**	**-1.8**
SNR=53							
BRVK				P	**P**	**01 16 34.0**	**-1.8**
SNR=53							
L04D	**Klamath Falls**	**51.07**	**69**	P	**P**	**01 16 38.1**	**+1.8**
baz=310							
DAG	**Danmarks Havn**	**51.21**	**360** ⇑	*i*P	**P**	**01 16 36.7**	**0.0**
DAG				*i*		01 16 48.3	
DAG				pmax	pmax		
comp=Z,160nm,1.4s							
DAG	**Danmarks Havn**	**51.21**	**360** ⇑	*i*P	**P**	**01 16 36.7**	**0.0**
comp=Z,67nm,1.4s							
DAG				*i*		01 16 48.3	
QIZ	**Qiongzhong**	**51.30**	**249**	P	**P**	**01 16 39.1**	**+0.9**
QIZ				S	**S**	**01 23 55.0**	**+1.4**
QIZ				sS	**sS**	**01 24 13.3**	**-0.9**
QIZ				pmax	pmax		
comp=Z,36nm,1.5s							
QIZ				pmax	pmax		
comp=Z,610nm,3.3s							
QIZ				LR	LR		
comp=Z,2μm,15.7s							
QIZ				LR	LR		
comp=Z,2μm,18.6s							
QIZ				LR	LR		
comp=Z,2μm,14.7s							
BMO	**Blue Mountains**	**52.19**	**63**	*e*P	**P**	**01 16 46.1**	**+1.5**
comp=Z,13nm,1.4s							
BMO	**Blue Mountains**	**52.19**	**63**	*e*P	**P**	**01 16 46.1**	**+1.5**
BMO				pmax	pmax		
comp=Z,13nm,1.4s							
PDGK	**Podgornoye**	**52.37**	**295**	*i* P	**P**	**01 16 44.0**	**-2.0**
PDGK				pmax	pmax		
comp=Z,64nm,1.2s							
O03E	**Paynes Creek**	**52.60**	**70**	P	**P**	**01 16 49.2**	**+1.5**
baz=311							
SVE	**Sverdlovsk**	**52.98**	**317**	*de*P	**P**	**01 16 49.5**	**-0.6**
SVE				pmax	pmax		
comp=Z,38nm,1.1s							
SVE				MLR	MLR		
comp=Z,5μm,16.0s							
OTUK	**Ortayu**	**53.06**	**303**	*i* P	**P**	**01 16 49.5**	**-1.4**
OTUK				pmax	pmax		
comp=Z,105nm,1.2s							
FFC	**Flin Flon**	**53.47**	**46**	*e*P	**P**	**01 16 53.3**	**-0.4**
comp=Z,16nm,1.3s							
FFC	**Flin Flon**	**53.47**	**46**	*i* P	**P**	**01 16 55.4**	**+1.7**
HAMF	**Hammerfest**	**53.49**	**343**	*e*P	**P**	**01 16 53.3**	**-0.4**
LVZ	**Lovozero**	**53.51**	**338**	*e*P	**P**	**01 16 53.8**	**-0.1**
comp=Z,97nm,1.1s							
KEV	**Kevo**	**53.63**	**342**	*e*P	**P**	**01 16 54.6**	**-0.1**
comp=Z,36nm,1.1s							
KEV	**Kevo**	**53.63**	**342**	*e*P	**P**	**01 16 54.6**	**-0.1**
KEV				pmax	pmax		
comp=Z,36nm,1.1s							
ARU	**Arti**	**54.10**	**318**	*e*P	**P**	**01 16 57.0**	**-1.4**
comp=Z,34nm,0.8s							
ARU	**Arti**	**54.10**	**318**	*c i*P	**P**	**01 16 56.7**	**-1.7**
ARU				pmax	pmax		
comp=Z,37nm,1.0s							
ARCES	**ARCESS Array B**	**54.10**	**342**	*e*P	**P**	**01 16 57.8**	**-0.4**
ARCES	**ARCESS Array B**	**54.10**	**342**	P	**P**	**01 16 58.1**	**-0.1**
comp=Z,23nm,0.8s,baz=46,slow=5.9,SNR=37							
ARCES				LR	LR	01 44 09.0	
comp=Z,1μm,18.4s,baz=29,slow=41							
ARE0	**ARCESS Array S**	**54.10**	**342**	*e*P	**P**	**01 16 58.4**	**+0.2**
EGMT	**Eagleton**	**54.14**	**56**	P	**P**	**01 16 59.2**	**+0.3**
baz=311							
HLID	**Hailey**	**54.61**	**63**	P	**P**	**01 17 05.2**	**+2.8**
baz=312							
LSA	**Lhasa**	**54.65**	**274**	P	**P**	**01 17 03.2**	**-0.1**
SUMG	**Summit**	**54.74**	**7**	*e*P	**P**	**01 17 03.9**	**+0.7**
comp=Z,60nm,1.1s							
SUMG				*e*PP	**PP**	**01 19 10.0**	**+4.3**
SUMG	**Summit**	**54.74**	**7** ⇑	*i*P	**P**	**01 17 04.0**	**+0.7**
SUMG				pmax	pmax		
comp=Z,160nm,1.2s							
SUMG	**Summit**	**54.74**	**7** ⇑	*i*P	**P**	**01 17 04.0**	**+0.7**
comp=Z,158nm,1.2s							
BOZ	**Bozeman (W)**	**54.76**	**59**	P	**P**	**01 17 05.3**	**+1.7**
baz=311							
KTK1	**Kautokeino**	**54.98**	**343**	*e*P	**P**	**01 17 04.8**	**+0.3**
TRO	**Tromso**	**55.18**	**345**	*e*P	**P**	**01 17 06.0**	**+0.1**
PRGR	**Permogore**	**55.21**	**328** ⇑	*i*P	**P**	**01 17 06.1**	**-0.2**
PRGR				*e**SP	**sP**	**01 17 23.6**	**-0.8**
PRGR				*e*S	**S**	**01 24 41.5**	**-4.1**
PRGR				pmax	pmax		
comp=Z,80nm,1.0s							
TMCR	**Tamitsa**	**55.57**	**333**	*e*P	**P**	**01 17 06.9**	**-1.9**
TMCR				pmax	pmax		
comp=Z,407nm,1.1s							
AAK	**Ala-Archa**	**55.58**	**297**	*e*P	**P**	**01 17 08.5**	**-1.0**
comp=Z,69nm,1.3s							
AAK	**Ala-Archa**	**55.58**	**297**	*i* P	**P**	**01 17 08.4**	**-1.0**
SNR=28							
AAK	**Ala-Archa**	**55.58**	**297**	*c i*P	**P**	**01 17 07.9**	**-1.6**
AAK				pmax	pmax		
comp=Z,43nm,1.1s							
AAK	**Ala-Archa**	**55.58**	**297**	P	**P**	**01 17 08.4**	**-1.1**
SNR=17							
AAK				P	**P**	**01 17 08.4**	**-1.1**
SNR=17							
SGF	**Sodankyl**	**55.68**	**340**	P	**P**	**01 17 09.9**	**+0.4**
SGF				pmax	pmax		
comp=Z,87nm,1.4s							
PANO	**Nakornpanom**	**55.83**	**253**	P	**P**	**01 17 13.1**	**+1.8**
comp=Z,2.2nm,0.9s,comp=Z,38nm							
NVAR	**Mina Array Bea**	**55.86**	**70**	P	**P**	**01 17 13.3**	**+1.7**
comp=Z,2.8nm,0.8s,baz=288,slow=8.3,SNR=7.6							
NVAR				LR	LR	01 38 25.7	
comp=Z,418nm,20.1s,baz=283,slow=33							
RLMT	**Red Lodge**	**56.32**	**58**	P	**P**	**01 17 17.1**	**+2.3**
baz=313							
SKNT	**Sakolnakorn**	**56.33**	**253**	P	**P**	**01 17 16.1**	**+1.2**
comp=Z,70nm,0.9s							
KSH	**Kashi**	**56.87**	**293**	P	**P**	**01 17 21.5**	**+2.8**
KSH				sP	sP	01 17 39.1	+2.4
KSH				PP	**PP**	**01 19 32.3**	**+7.2**
KSH				S	**S**	**01 25 09.5**	**+0.9**
KSH				SS	**SS**	**01 29 01.4**	**+4.7**
KSH				pmax	pmax		
comp=Z,62nm,1.1s							
KSH				pmax	pmax		
comp=Z,510nm,3.1s							
KSH				LR	LR		
comp=Z,1μm,12.8s							
KSH				LR	LR		
comp=Z,1μm,11.0s							
KSH				LR	LR		
comp=Z,2μm,13.0s							
PAYA	**Payao**	**56.93**	**259**	P	**P**	**01 17 20.8**	**+1.6**
comp=Z,89μm,0.8s,comp=Z,877μm							
SHL	**Shillong**	**57.17**	**270**	P	**P**	**01 17 20.2**	**-0.8**
SHL				pmax	pmax		
comp=Z,12nm,0.4s							
STEI	**Steigen**	**57.31**	**345**	*e*P	**P**	**01 17 21.5**	**+0.4**
CWC	**Cottonwood Cre**	**57.35**	**71**	P	**P**	**01 17 24.1**	**+2.0**
baz=314							
PHRA	**Phrae**	**57.38**	**258**	P	**P**	**01 17 23.7**	**+1.4**
comp=Z,15nm,1.5s,comp=Z,207nm							
LOF	**Lofoten**	**57.38**	**346**	*e*P	**P**	**01 17 21.7**	**+0.1**
R11A	**Troy Canyon, C**	**57.48**	**68**	P	**P**	**01 17 25.0**	**+2.0**
baz=314							
KHON	**Khomkaen**	**57.51**	**254**	P	**P**	**01 17 25.4**	**+2.1**
comp=Z,62μm,0.8s							
LAMP	**Lampang**	**57.72**	**258**	P	**P**	**01 17 26.2**	**+1.5**
comp=Z,85μm,1.0s							
KLMR	**Klimovskoe**	**57.73**	**330** ⇑	*i*P	**P**	**01 17 24.0**	**-0.2**
KLMR				pmax	pmax		
comp=Z,174nm,1.3s							
DUG	**Dugway, Tooele**	**57.77**	**65**	P	**P**	**01 17 25.7**	**+0.7**
baz=314							
UTTA	**Uttaradit**	**57.77**	**257**	P	**P**	**01 17 26.5**	**+1.5**
comp=Z,76μm,1.1s,comp=Z,854μm							
BW06	**Boulder Array**	**57.77**	**61**	P	**P**	**01 17 25.9**	**+0.8**
baz=314							
PDAR	**Pinedale Array**	**57.77**	**61**	P	**P**	**01 17 26.8**	**+1.6**
comp=Z,3.3nm,0.8s,baz=320,slow=2.3,SNR=19							
PDAR				LR	LR	01 40 13.1	
comp=Z,518nm,21.9s,baz=336,slow=34							
CMMT	**Chiang Mai**	**57.91**	**259**	P	**P**	**01 17 27.0**	**+1.0**
comp=Z,44nm,1.4s,comp=Z,588nm							
CHTO	**Chiang Mai**	**57.91**	**259**	*e*P	**P**	**01 17 27.0**	**+0.9**
comp=Z,165nm,1.5s							
CHTO	**Chiang Mai**	**57.91**	**259**	P	**P**	**01 17 27.0**	**+0.9**
CHTO				pmax	pmax		
comp=Z,165nm,1.5s							
CHTO	**Chiang Mai**	**57.91**	**259**	P	**P**	**01 17 27.0**	**+0.9**
SNR=21							
CHTO				P	**P**	**01 17 27.0**	**+0.9**
SNR=21							
MPMC	**Manual Prospec**	**57.96**	**71**	P	**P**	**01 17 28.3**	**+1.8**
baz=314							
TPNV	**Topopah Spring**	**58.06**	**70**	P	**P**	**01 17 29.1**	**+2.0**
baz=314							
FRB	**Frobisher Bay**	**58.18**	**23**	P	**P**	**01 17 27.3**	**0.0**
CM31	**Chiang Mai Arr**	**58.18**	**259**	P	**P**	**01 17 29.2**	**+1.3**
SNR=12							
CMAR	**Chiang Mai Arr**	**58.18**	**259**	P	**P**	**01 17 28.8**	**+0.9**
comp=Z,20nm,0.9s,baz=24,slow=7.1,SNR=69							
CMAR				LR	LR	01 44 53.3	
comp=Z,2μm,19.6s,baz=52,slow=39							
LRMC	**Laurel Mtn Rad**	**58.25**	**72**	P	**P**	**01 17 32.4**	**+3.9**
baz=314							
CHAI	**Chaiyaphum**	**58.35**	**254**	P	**P**	**01 17 30.4**	**+1.3**
comp=Z,53μm,1.2s,comp=Z,607μm							
PBKT	**Sadao Pong**	**58.43**	**256**	P	**P**	**01 17 31.0**	**+1.4**
comp=Z,23nm,1.6s							
AKTO	**Aktyubinsk**	**58.49**	**313**	*i* P	**P**	**01 17 27.9**	**-1.8**
AKTO				pmax	pmax		
comp=Z,16nm,0.7s							
SFJD	**Kangerlussuaq**	**58.76**	**14**	*e*P	**P**	**01 17 31.2**	**0.0**
comp=Z,22nm,1.3s							
SFJD	**Kangerlussuaq**	**58.76**	**14**	*i* P	**P**	**01 17 31.2**	**0.0**
ODAN	**Odare**	**58.98**	**275**	*e*P	**P**	**01 17 33.1**	**-0.7**
comp=Z,29nm,0.5s							
JIRN	**Jiri**	**59.14**	**276**	*e*P	**P**	**01 17 34.6**	**-0.4**
comp=Z,103nm,1.0s							
ULM	**Lac du Bonnet**	**59.25**	**47**	P	**P**	**01 17 36.5**	**+1.5**
comp=Z,3.5nm,0.5s,baz=316,slow=7.1,SNR=9.4							
RAMN	**Ramite**	**59.40**	**275**	*e*P	**P**	**01 17 35.9**	**-0.8**
comp=Z,111nm,0.7s							
P17A	**Butcher Ranch,**	**59.41**	**64**	*e*P	**P**	**01 17 39.0**	**+2.5**
comp=Z,14nm,1.3s							
KKN	**Kakani**	**59.60**	**277**	*e*P	**P**	**01 17 37.5**	**-0.5**
comp=Z,72nm,0.8s							
PKI	**Pulchoki**	**59.68**	**277**	*e*P	**P**	**01 17 38.0**	**-0.7**
comp=Z,34nm,0.6s							
PKIN	**Phulchoki**	**59.68**	**277**	*e*P	**P**

baz=316
PYUN Piuthan 60.77 279 *e*P **P 01 17 45.3 -0.7**
comp=Z,116nm,0.9s
FINES FINESS Array B 60.92 337 *i* P **P 01 17 46.5 +0.3**
FINES pmax pmax
comp=Z,29nm,0.6s
FINES FINESS Array B 60.92 337 P **P 01 17 46.3 +0.1**
comp=Z,29nm,0.6s,baz=36,slow=6.6,SNR=157
FINES LR LR 01 47 53.8
comp=Z,2μm,18.4s,baz=28,slow=40
NSS Namsos 60.97 345 *e*P **P 01 17 47.2 +0.8**
PV09 Paradox Valley 60.99 64 *e*P **P 01 17 49.7 +2.3**
PDMCI Parker Dam,Lak 61.14 70 P **P 01 17 50.1 +2.0**
baz=316
CHGR Chuyangaron 61.27 297 *e*P **P 01 17 48.2 -0.8**
comp=Z,56nm,1.3s
SRDT SRDT 61.27 256 P **P 01 17 51.8 +2.6**
comp=Z,19nm,1.7s
PUL Pulkovo 61.27 334 *e*P **P 01 17 48.0 -0.6**
PUL IAmb IAmb 01 17 49.6
comp=Z,92nm,0.5s
ISCO Idaho Springs 61.97 61 P **P 01 17 55.7 +1.6**
baz=316
PHET Kaeng Krachan 62.10 254 P **P 01 17 57.1 +2.3**
comp=Z,154μm,0.9s
MOS Moscow 62.42 328 *e*P **P 01 17 53.5 -2.9**
MOS *e* 01 18 05.9
MOS *e*S **S 01 26 17.4 -1.9**
MOS *e* 01 26 39.9
MOS pmax pmax
comp=Z,216nm,1.3s
MOS pmax pmax
comp=N,103nm,1.3s
MOS pmax pmax
comp=E,40nm,0.9s
PMG Port Moresby 62.49 195 LR LR 01 41 23.9
comp=E,577nm,21.4s,baz=34,slow=32
NIL Nilore 62.55 290 *e*P **P 01 17 56.1 -1.6**
comp=E,114nm,1.3s
S22A 4UR Raach, Cre 62.79 63 P **P 01 18 01.4 +1.8**
baz=317
OBN Obninsk 63.28 328 *e*P **P 01 18 01.8 -0.3**
comp=E,105nm,1.0s
OBN Obninsk 63.28 328*c i*P **P 01 18 01.4 -0.7**
OBN *e* 01 18 38.3
OBN *e* 01 20 21.9
OBN *e*PPP PPP 01 21 49.7
OBN pmax pmax
comp=Z,113nm,1.2s
OBN MLR MLR
comp=Z,2μm,20.0s
VSU Vasula 63.35 335*c i*P **P 01 18 02.5 0.0**
VSU pmax pmax
comp=Z,233nm,1.1s
VSU Vasula 63.35 335 *e*P **P 01 18 02.4 0.0**
SDCO Great Sand Dun 63.52 62 P **P 01 18 05.3 +1.0**
baz=317
214A Organ Pipe Nat 63.60 71 P **P 01 18 06.7 +2.0**
baz=317
ECSD EROS Data Cent 63.69 52 P **P 01 18 05.3 +0.2**
baz=318
DOMB Dombas 63.76 345 *e*P **P 01 18 05.6 +0.4**
AKN Aaknes 63.94 346 *e*P **P 01 18 07.0 +0.6**
F38A Pierce - Schro 64.23 48 P **P 01 18 09.1 +0.6**
baz=320
NB2 NORSAR Subarra 64.36 344 P **P 01 18 09.0 -0.2**
comp=Z,214nm,2.0s,baz=21,slow=6.5
NB2 NORSAR Subarra 64.36 344 P **P 01 18 07.3 -1.9**
NB2 pmax pmax
comp=Z,204nm,2.1s
NB2 NORSAR Subarra 64.36 344 P **P 01 18 09.0 -0.2**
baz=21,slow=6.5
NOA NORSAR Array B 64.36 344 P **P 01 18 09.2 0.0**
comp=Z,2.9nm,0.6s,baz=24,slow=6.5,SNR=15
NOA LR LR 01 49 53.8
comp=Z,984nm,19.4s,baz=15,slow=40
SPMN Marine on St. 64.37 49 P **P 01 18 10.2 +0.8**
baz=320
E39A Mellen 64.51 46 P **P 01 18 11.2 +0.8**
baz=320
TUC Tucson 64.52 70 *e*P **P 01 18 11.7 +1.0**
comp=Z,6.9nm,1.1s
LPSR Galich'ya Gora 64.54 325 *e*P **P 01 18 09.8 -0.6**
LPSR pmax pmax
comp=Z,200nm,1.8s
LPSR MLR MLR
comp=Z,3μm,18.0s
NC602 NORSAR Array S 64.59 344 *e*P **P 01 18 12.0 +1.4**
NORES NORESS Array B 64.59 344 P **P 01 18 12.0 +1.4**
VRH Novokhopyorsk 64.65 322 *e*P **P 01 18 09.6 -1.6**
VRH pmax pmax
comp=Z,140nm,1.4s
VRH MLR MLR
comp=Z,6μm,18.0s
E40A Wakefield 64.75 46 P **P 01 18 13.5 +1.6**
baz=320
G38A Ridgeland 64.84 48 P **P 01 18 13.4 +0.9**
baz=320
D41A Chassel 64.85 45 P **P 01 18 15.3 +2.7**
baz=321
H38A Maiden Rock 65.02 49 P **P 01 18 15.3 +1.6**
baz=320
HYA Hoyanger 65.03 347 *e*P **P 01 18 14.1 +0.7**
TASM ASL Pad, Albuq 65.04 65 P **P 01 18 16.5 +2.3**
baz=318
TASM ASL Pad, Albuq 65.04 65 P **P 01 18 16.5 +2.3**
baz=318
ANMO Albuquerque 65.04 65 *e*P **P 01 18 16.7 +2.5**
comp=Z,5.2nm,1.0s
ANMO Albuquerque 65.04 65 *i* P **P 01 18 15.6 +1.4**
E41A Kenton 65.14 45 P **P 01 18 15.4 +0.9**
baz=321
SKAR Skarslia 65.18 345 *e*P **P 01 18 14.9 +0.4**
VORR Voronezh 65.20 324 *e*P **P 01 18 12.0 -2.7**
VORR pmax pmax
comp=Z,300nm,1.4s
SLIT Slitere, Latvi 65.21 337 *e*P **P 01 18 14.4 -0.3**
SLIT IAmb IAmb 01 18 15.7
comp=Z,662nm,1.0s
LENM Lemitar 65.32 66 *e*P **P 01 18 17.9 +1.8**
SUE Sulen 65.33 347 *e*P **P 01 18 16.0 +0.6**
VSR Storozhevoye 65.58 324*c i*P **P 01 18 15.6 -1.6**
VSR pmax pmax
comp=Z,114nm,1.2s
VORD Divnogorie 65.74 324 *e*P **P 01 18 16.9 -1.3**
VORD pmax pmax
comp=Z,90nm,1.4s
VORD MLR MLR
comp=Z,3μm,16.0s
CBKS Cedar Bluff 65.79 58 P **P 01 18 19.8 +1.0**
baz=319
IZAR Zarasai 65.85 334 *e*P **P 01 18 18.8 -0.1**
IZAR IAmb IAmb 01 18 21.2
comp=Z,73nm,1.5s
BER Bergen 65.90 347 *e*P **P 01 18 20.0 +0.9**
KONO Kongsberg 65.95 344 *e*P **P 01 18 19.4 0.0**
comp=Z,15nm,0.8s
KONO Kongsberg 65.95 344 *e*P **P 01 18 20.0 +0.6**
ISAL Salakas 66.04 334 *e*P **P 01 18 20.3 +0.2**
ISAL IAmb IAmb 01 18 22.7
comp=Z,110nm,1.7s
KRAB Krabi 66.09 252 P P 01 18 29.0 +8.1
IDID Didziasalis 66.10 333 *e*P **P 01 18 20.5 +0.1**
IDID IAmb IAmb 01 18 22.8
comp=Z,62nm,1.4s
TRTT Trang 66.11 251 P P 01 18 27.1 +6.0
comp=Z,40nm,1.3s
IIGN Ignalina 66.21 333 *e*P **P 01 18 21.3 +0.1**
IIGN IAmb IAmb 01 18 22.4
comp=Z,33nm,1.0s
SCHQ Schefferville 66.29 28 P **P 01 18 22.2 +0.5**
comp=Z,5.3nm,0.7s,baz=357,slow=6.5,SNR=7.2
SCHQ LR LR 01 52 01.5
comp=Z,476nm,18.3s,baz=353,slow=40
MICGM Minsk 66.48 332⇑ *e*P **P 01 18 24.0 +1.1**
MICGM PM 01 18 25.0
comp=Z,0.6nm,1.5s
MICGM PM 01 18 25.0
comp=N,0.4nm,1.2s
MICGM PM 01 18 25.0
comp=E,0.4nm,2.0s
MICGM *e*pP **pP 01 18 35.0 -1.0**
MICGM *e*PcP **sP 01 18 43.0 +1.8**
MICGM *e*S **S 01 27 10.0 +0.6**
MICGM *e*LR LR 01 47 10.0
MICGM LRM MLR 01 51 25.0
comp=Z,5.3nm,16.0s
MNK Minsk 66.48 332⇑ *e*P **P 01 18 24.0 +1.1**
MNK *e**PP **pP 01 18 35.0 -1.0**
MNK *e* 01 18 43.0
MNK *e*S **S 01 27 10.0 +0.6**
MNK pmax pmax
comp=Z,630nm,1.5s
MNK pmax pmax
comp=N,380nm,1.2s
MNK pmax pmax
comp=E,380nm,2.0s
MNK MLR MLR
comp=Z,5μm,16.0s
G43A Wallace 66.64 46 P **P 01 18 26.1 +2.0**
baz=322
BLS5 Blasjo 66.66 346 *e*P **P 01 18 24.4 +0.4**
KAPI Kappang 66.67 225 P **P 01 18 25.4 +0.8**
SNR=5.2
PABE Paberze 66.68 335 *e*P **P 01 18 24.3 +0.2**
PABE IAmb IAmb 01 18 26.3
comp=Z,211nm,1.1s
PBUR Paburg 66.73 336 *e*P **P 01 18 24.7 +0.2**
PBUR IAmb IAmb 01 18 25.5
comp=Z,145nm,1.1s
D46A Sault St. Mari 66.90 42 P **P 01 18 25.7 0.0**
baz=323
MATQ Matagami 67.07 37 P **P 01 18 26.6 -0.1**
baz=326
K40A Colesburg 67.07 49 P **P 01 18 27.1 +0.2**
baz=321
D47A Chapleau 67.15 42 P **P 01 18 27.6 +0.2**
baz=324
E46A Sault Ste Mari 67.21 43 P **P 01 18 28.3 +0.6**
baz=323
GEYT Alibeck 67.67 303 P **P 01 18 30.4 -0.4**
comp=Z,20nm,0.9s,baz=8.5,slow=3.0,SNR=39
GEYT LR LR 01 50 37.2
comp=Z,4μm,18.4s,baz=25,slow=38
D49A Beulah Townshi 67.68 40 P **P 01 18 31.1 +0.4**
baz=324
K42A Prairie Point, 67.84 48 P **P 01 18 31.7 -0.1**
baz=322
LSQQ Lebel-sur-Quev 67.89 37 P **P 01 18 32.1 +0.1**
baz=326
E48A Lockeyer 68.00 41 P **P 01 18 32.9 +0.2**
baz=324
MNTX Cornudas Mount 68.05 66 P **P 01 18 35.6 +2.3**
baz=319
CHGQ Chibougamau 68.11 35 P **P 01 18 33.5 +0.2**
baz=327
N40A Mertquake, Sal 68.27 51 P **P 01 18 35.8 +1.4**
baz=321
F48A Evansville 68.34 42 P **P 01 18 35.3 +0.5**
baz=324
VLDQ Val d'Or 68.50 38 *e*P **P 01 18 34.2 -1.6**
comp=Z,38nm,1.4s
F49A Sandfield 68.63 42 P **P 01 18 37.2 +0.6**
baz=324
MAK Makhachkala 68.86 314 *e*P **P 01 18 38.4 +0.3**
MAK *e*S **S 01 27 38.8 +0.6**
MAK pmax pmax
comp=Z,84nm,1.6s
MAK MLR MLR
comp=Z,2μm,16.0s
E51A G1948 Merrick 69.03 40 P **P 01 18 39.1 0.0**
baz=326
MUD Monsted U'grnd 69.05 343⇑ *i*P **P 01 18 40.1 +1.1**
MUD Monsted U'grnd 69.05 343⇑ *i*P **P 01 18 40.1 +1.1**
D52A ZEK Kipawa Sen 69.08 39 P **P 01 18 39.6 +0.2**
baz=326
SOEI Soe 69.12 218 *e*P **P 01 18 38.0 -2.1**
comp=Z,29nm,1.3s
COP Copenhagen 69.17 341⇑ *i*P **P 01 18 40.9 +1.1**
COP Copenhagen 69.17 341⇑ *i*P **P 01 18 40.9 +1.1**
BSD Bornholm Skovb 69.19 340⇑ *i*P **P 01 18 40.4 +0.5**
BSD Bornholm Skovb 69.19 340⇑ *i*P **P 01 18 40.4 +0.5**
D53A Lac Vacive, Po 69.27 38 *e*P **P 01 18 40.1 -0.5**
comp=Z,26nm,1.3s
D53A Lac Vacive, Po 69.27 38 P **P 01 18 41.0 +0.5**
baz=326
TOBO Tobermory, Bru 69.28 42 P **P 01 18 41.0 +0.4**
baz=325
WMOK Wichita Mounta 69.37 60 P **P 01 18 42.9 +1.4**
baz=320
AKASG Malin Array Be 69.39 329 P **P 01 18 40.9 -0.4**
comp=Z,9.4nm,0.4s,baz=32,slow=6.6,SNR=130
AKASG LR LR 01 54 25.1
comp=Z,3μm,18.4s,baz=25,slow=41
KIEV Kiev 69.40 329 *e*P **P 01 18 40.8 -0.5**
comp=Z,200nm,1.5s
KIEV Kiev 69.40 329⇑ *i*P **P 01 18 41.1 -0.2**
KIEV Kiev 69.40 329 *i* P **P 01 18 40.9 -0.4**
SNR=23
KIEV Kiev 69.40 329*c i*P **P 01 18 40.2 -1.1**
KIEV pmax pmax
comp=Z,87nm,1.3s
GROC Groznyy 69.42 315 *e*P **P 01 18 40.9 -0.7**
GROC *e* 01 19 05.2
GROC *e* 01 21 14.5
GROC *e*S **S 01 27 44.5 -0.3**
GROC pmax pmax
comp=Z,54nm,1.5s
D54A Lac Fusel, La 69.60 38 P **P 01 18 42.6 0.0**
baz=327
F52A Sundridge 69.70 40 P **P 01 18 43.6 +0.3**
baz=326
KLBO Killbear Provi 69.70 41 P **P 01 18 42.8 -0.5**
baz=325
BUKO Buck Lake 69.96 40 P **P 01 18 45.3 +0.4**
baz=326
E54A Lac Daplat, Po 70.00 38 P **P 01 18 45.2 +0.1**
baz=327
TUL1 Leonard 70.03 57 *e*P **P 01 18 45.4 -0.1**
comp=Z,10nm,1.0s
NCK Nalchik 70.13 316*c i*P **P 01 18 45.7 -0.3**
NCK pmax pmax
comp=Z,26nm,1.2s
KIV Kislovodsk 70.14 317 *e*P **P 01 18 45.6 -0.5**
comp=Z,38nm,1.4s
KIV Kislovodsk 70.14 317 *i* P **P 01 18 46.4 +0.3**
SNR=18
KIV Kislovodsk 70.14 317 *e*P **P 01 18 46.0 -0.1**
KIV pmax pmax
comp=Z,48nm,1.0s
KIV MLR MLR
comp=Z,4μm,17.0s
KIV Kislovodsk 70.14 317 P **P 01 18 46.2 +0.1**
SNR=17
KIV P **P 01 18 46.2 +0.1**
SNR=17
KBZ Khabaz 70.24 317 P **P 01 18 47.0 +0.5**
KBZ Khabaz 70.24 317 P **P 01 18 47.0 +0.5**
comp=Z,25nm,1.0s,baz=42,slow=4.3,SNR=49
KBZ LR LR 01 54 33.5
comp=Z,2μm,18.2s,baz=13,slow=40
L47A Sherwood 70.34 46 P **P 01 18 47.6 +0.3**
baz=324
GKP Gorka Klasztor 70.38 338 *e*P **P 01 18 48.1 +0.8**
GKP Gorka Klasztor 70.38 338 *e*P **P 01 18 48.1 +0.8**
R41A Rosebud 70.39 52 P **P 01 18 48.5 +0.9**
baz=322
G53A Haliburton 70.53 40 P **P 01 18 48.7 +0.3**
baz=326
ZEI Tsey 70.57 316 *e*P **P 01 18 45.5 -3.4**
ZEI pmax pmax
comp=Z,32nm,1.4s
PEMO Pembroke 70.61 39 P **P 01 18 49.0 +0.2**
baz=327
PSI Prapat 70.64 248 *e*P **P 01 18 48.0 -1.5**
comp=Z,12nm,1.0s
PSI *e*PP PP 01 21 14.0 -12
CCM Cathedral Cave 70.64 53 *e*P **P 01 18 48.0 -1.2**
comp=Z,7.7nm,0.9s
CCM Cathedral Cave 70.64 53 *e*P **P 01 18 48.0 -1.2**
CCM pmax pmax
comp=Z,8.0nm,0.9s
CCM Cathedral Cave 70.64 53 P **P 01 18 49.3 +0.1**
baz=322
NEY Neytrino 70.70 317*d i*P **P 01 18 50.5 +0.8**
S41A Jilicо Farms, 70.77 53 P **P 01 18 50.5 +0.6**
baz=322
TXAR Lajitas Array 70.80 67 P **P 01 18 51.8 +1.5**
comp=Z,2.6nm,0.6s,baz=298,slow=4.5,SNR=32
TXAR LR LR 01 48 48.9
comp=Z,318nm,19.0s,baz=0.0,slow=35
BEL Belsk 70.81 335 *e*P **P 01 18 51.1 +1.2**
BEL Belsk 70.81 335 *e*P **P 01 18 51.1 +1.2**
BANO Bancroft 70.89 40 P **P 01 18 51.2 +0.6**
baz=327
G55A Calabogie 71.17 39 P **P 01 18 52.2 0.0**
baz=327
U40A Yellville 71.18 55 P **P 01 18 52.8 +0.4**
baz=322
N48A Decatur 71.32 47 P **P 01 18 53.8 +0.6**
baz=324
P46A Rosedale 71.33 49 P **P 01 18 53.9 +0.7**
baz=323
HYB Hyderabad 71.44 275⇑ *i*P **P 01 18 54.0 -0.3**
comp=Z,88nm,0.8s
ALFO Alfred 71.55 37 P **P 01 18 54.4 0.0**
baz=328
ANN Anapa 71.55 321 *e*P **P 01 18 51.5 -3.0**
ANN *e**PP **pP 01 19 05.7 -2.0**
ANN *e* 01 21 29.1
ANN *e*S **S 01 28 06.5 -3.1**
ANN *e*SS **SS 01 32 40.5 -3.8**
ANN pmax pmax
comp=Z,102nm,1.8s
ANN MLR MLR
comp=N,4μm,20.0s
ANN MLR MLR
comp=Z,2μm,20.0s
ANN MLR MLR
comp=E,2μm,20.0s
H55A Tweed 71.58 39 P **P 01 18 54.3 -0.4**
baz=327
W39A Magazine 71.61 56 P **P 01 18 55.3 +0.2**
baz=322
U41A Viola 71.66 54 P **P 01 18 55.9 +0.5**
baz=322
SOC Sochi 71.67 319*c i*P **P 01 18 54.9 -0.3**
SOC *e*S **S 01 28 11.5 +0.5**
SOC *e*SS **SS 01 32 40.6 -5.5**
SOC pmax pmax
comp=Z,76nm,1.2s
SOC MLR MLR
comp=Z,3μm,16.0s
LVV L'vov 71.74 332 *e*P **P 01 18 55.8 +0.2**
LVV *e* 01 21 36.0
LVV *e*S **S 01 28 14.2 +2.6**
LVV *e*SS **SS 01 32 45.1 -1.7**
LVV MLR MLR
comp=Z,2μm,17.0s
AKH Akhalkalaki 71.87 315⇑ *i*P **P 01 18 57.6 +0.8**
AKH Akhalkalaki 71.87 315 P **P 01 18 57.5 +0.8**
EKA Eskdalemuir Ar 71.88 350 P **P 01 18 56.3 0.0**
EKA pmax pmax
comp=Z,1.0nm,0.4s
RUE Ruedersdorf 71.90 339 *e*P **P 01 18 56.8 +0.4**
RUE IAmb IAmb 01 18 58.0
comp=Z,53nm,1.1s
ESK Eskdalemuir 71.90 350 *e*P **P 01 18 56.8 +0.3**
comp=Z,38nm,1.2s
ESK Eskdalemuir 71.90 350 *i* P **P 01 18 58.0 +1.6**
MIAR Mount Ida 72.23 56 P **P 01 18 59.7 +0.9**
baz=322
Q47A Bedord North L 72.23 49 P **P 01 18 59.3 +0.6**
baz=324
KWP Kalwaria Pacla 72.28 333 *e*P **P 01 18 59.9 +1.0**
KWP Kalwaria Pacla 72.28 333 *e*P **P 01 18 59.9 +1.0**
GNI Garni 72.35 314 *e*P **P 01 18 59.7 +0.1**
comp=Z,50nm,1.1s
GNI Garni 72.35 314 *i* P **P 01 19 00.8 +1.1**
SNR=17
GNI Garni 72.35 314*c i*P **P 01 19 00.5 +0.9**
GNI pmax pmax
comp=Z,145nm,1.4s
GNI Garni 72.35 314 P **P 01 19 00.8 +1.1**
SNR=22
GNI P **P 01 19 00.8 +1.1**
SNR=22
W41B Gary Mavity, V 72.41 55 P **P 01 19 00.8 +1.0**
baz=322
N51A Ashland 72.44 45 P **P 01 19 00.6 +0.7**
baz=325
BATM Batumi 72.48 316⇓ *i*P **P 01 19 00.6 +0.4**
LONY Lake Ozonia 72.51 38 P **P 01 19 00.3 -0.1**
baz=328
IDGL Inch Island, C 72.53 353 *e*P **P 01 18 57.7 -2.5**
IDGL *i* PP **P 01 19 00.7 +0.5**
P49A Miami Univ. Ec 72.53 47 P **P 01 19 01.3 +0.8**
baz=324
OJC Ojcow 72.54 335 *e*P **P 01 19 01.3 +0.9**
OJC Ojcow 72.54 335 *e*P **P 01 19 01.3 +0.9**
K54A Basiliko Farm, 72.59 42 P **P 01 19 02.1 +1.3**
baz=327
GSI Gunungsitoli 72.62 249 *e*P **P 01 19 02.1 +0.7**
comp=Z,60nm,1.4s
BCA Borcka 72.65 316 P **P 01 19 01.3 +0.1**
BCA Borcka 72.65 316⇑ *i*P **P 01 19 01.0 -0.2**
X40A Basin Creek Fa 72.65 56 P **P 01 19 03.0 +1.7**
baz=322
SIM Simferopol' 72.68 323*c i*P **P 01 19 01.2 -0.1**
SIM pmax pmax
comp=Z,101nm,1.8s
KARS Kars 72.69 315 P **P 01 19 02.9 +1.3**
R47A Wooly Knot Far 72.70 49 P **P 01 19 02.5 +1.0**
baz=324
TASB TASBURUN-IGDIR 72.71 314 P **P 01 19 02.8 +1.2**
K55A Perry 72.75 41 P **P 01 19 02.7 +1.0**
baz=327
KIS Kishinev 72.76 328 *e*P **P 01 19 00.0 -1.7**
comp=Z,420nm,2.0s
KIS Kishinev 72.76 328 *i* PcP **PcP 01 19 12.0 -6.8**
KIS *e*S **S 01 28 22.0 -1.3**
KIS *e*L L 01 47 00.0
KIS LRM MLR 01 54 48.0
comp=Z,4μm,18.0s
MOQ Mont Orford 72.78 36 *e*P **P 01 19 01.9 -0.1**
KSP Ksiaz 72.85 337 *e*P **P 01 19 03.1 +0.9**
KSP Ksiaz 72.85 337 *e*P **P 01 19 03.1 +0.9**
WCI Wyandotte Cave 72.86 49 *e*P **P 01 19 03.0 +0.6**
comp=Z,12nm,0.8s
WCI Wyandotte Cave 72.86 49 P **P 01 19 03.3 +0.8**
WCI pmax pmax
comp=Z,12nm,0.8s
WCI Wyandotte Cave 72.86 49 P **P 01 19 03.1 +0.6**
baz=324
IAS Iasi 72.99 328⇓ *i*P **P 01 19 03.7 +0.6**
IAS Iasi 72.99 328 P **P 01 19 03.7 +0.6**
KOLS Kolonicke sedl 73.04 333 *e*P **P 01 19 03.9 +0.5**
KOLS pmax pmax
comp=Z,147nm,2.2s
KOLS Kolonicke sedl 73.04 333 *e*P **P 01 19 03.9 +0.5**
L55A Hinsdale 73.05 42 P **P 01 19 04.5 +0.9**
baz=327
SENK Senkaya-Erzuru 73.06 315 P **P 01 19 05.1 +1.2**
T46A Princeton 73.06 51 P **P 01 19 05.3 +1.6**
baz=324
RAC Raciborz 73.08 336 *e*P **P 01 19 03.7 +0.1**
RAC MLR MLR
comp=Z,4μm,18.1s
S47A Hartford 73.10 50 P **P 01 19 05.2 +1.3**
baz=324
M54A Oil Creek Stat 73.11 43 P **P 01 19 04.2 +0.2**
baz=326
NIE Niedzica 73.14 334 *e*P **P 01 19 05.2 +1.2**
NIE Niedzica 73.14 334 *e*P **P 01 19 05.2 +1.2**
CLL Collm 73.17 339⇑ *i*P **P 01 19 04.3 +0.3**
CLL *i* 01 19 16.3
CLL *e*S **SKiKP 01 28 31.0 -0.1**
CLL pmax pmax
comp=Z,46nm,1.2s
CLL Collm 73.17 339⇑ *i*P **P 01 19 04.3 +0.3**
comp=Z,46nm,1.2s
CLL *e*Pmax 01 19 06.0
CLL *i* 01 19 10.1
CLL *i* sP **pP 01 19 16.3 -1.0**
comp=Z,54nm,1.0s
CLL *e*S **SKiKP 01 28 31.0 -0.1**
CLL *e*sS **pS 01 28 46.0 +1.4**
CLL *e* 01 29 43.0
CLL *e*SS SS 01 33 24.0 +15
CLL *e* 01 35 32.0
CLL *e*(SSS) 01 36 54.0
CLL *e*SSSS 01 38 12.0
CLL LmH 01 54 00.0
comp=N,1μm,19.5s
CLL LmH 01 54 00.0
comp=E,1μm,18.3s
CLL Lmax 01 57 00.0
UPC Upice 73.23 337 *e*P **P 01 19 05.2 +0.8**

UPC MLR MLR
comp=N,4µm,15.6s
UPC Upice 73.23 337 *eP* **P 01 19 05.2 +0.8**
UPC AMS AMS 01 57 40.0
comp=N,4µm,15.6s
DPC Dobruska-Polom 73.30 337 *eP* **P 01 19 06.1 +1.2**
DPC *e* 01 19 18.2
DPC MLR MLR
comp=Z,3µm,15.6s
DPC Dobruska-Polom 73.30 337 *eP* **P 01 19 06.1 +1.2**
DPC *epP* **pP 01 19 18.2 0.0**
DPC AMS AMS 01 57 30.0
comp=Z,3µm,15.6s
UZH Uzhgorod 73.30 332⇑*iP* **P 01 19 04.8 -0.1**
UZH *e* 01 19 22.9
UZH *eS* **S 01 28 28.2 -1.3**
UZH MLR MLR
comp=N,400nm,16.0s
UZH MLR MLR
comp=E,400nm,16.0s
UZH MLR MLR
comp=Z,400nm,16.0s
OKC Ostrava-Krasne 73.32 336 *eP* **P 01 19 06.2 +1.2**
OKC *e* 01 19 17.0
OKC MLR MLR
comp=Z,3µm,15.7s
OKC Ostrava-Krasne 73.32 336 *eP* **P 01 19 06.2 +1.2**
OKC *epP* **pP 01 19 17.0 -1.2**
OKC AMS AMS 01 55 10.0
comp=Z,3µm,15.7s
O52A Adamsville 73.33 45 P **P 01 19 06.8 +1.5**
baz=326
BURAR Bucovina Array 73.35 330⇓*iP* **P 01 19 06.1 +0.7**
BURAR Bucovina Array 73.35 330 P **P 01 19 06.0 +0.7**
BRG Berggiesshubel 73.36 339 *eP* **P 01 19 05.6 +0.4**
comp=Z,35nm,1.5s
BRG *e* 01 19 17.1
comp=Z,44nm,1.5s
BRG Berggiesshubel 73.36 339 *eP* **P 01 19 05.6 +0.4**
BRG *e* 01 19 17.1
BRG pmax pmax
comp=Z,35nm,1.5s
N54A Moraine State 73.43 43 P **P 01 19 06.6 +0.8**
baz=326
S48A Wiedeman Farm, 73.44 49 P **P 01 19 07.4 +1.5**
baz=324
KRLC Kraliky 73.44 336 *eP* **P 01 19 06.6 +0.8**
KRLC *e* 01 19 18.9
KRLC Kraliky 73.44 336 *eP* **P 01 19 06.6 +0.8**
KRLC *epP* **pP 01 19 18.9 -0.1**
T47A Sharon Grove 73.48 50 P **P 01 19 07.0 +0.8**
baz=324
M55A Ridgway 73.52 42 P **P 01 19 07.5 +1.2**
baz=327
MORC Moravsky Berou 73.53 336⇑*iP* **P 01 19 07.3 +1.0**
MORC Moravsky Berou 73.53 336 P **P 01 19 07.2 +1.0**
MORC Moravsky Berou 73.53 336 *eP* **P 01 19 07.2 +1.0**
CLDR Caldiran 73.54 313 P **P 01 19 07.9 +1.1**
PVCC Panska Ves 73.55 338 *eP* **P 01 19 07.5 +1.2**
PVCC MLR MLR
comp=Z,2µm,16.2s
PVCC Panska Ves 73.55 338 *eP* **P 01 19 07.5 +1.2**
PVCC AMS AMS 01 56 40.0
comp=Z,2µm,16.2s
AGRB Hanur-Agry 73.59 314 P **P 01 19 08.5 +1.5**
P52A Corning 73.60 46 P **P 01 19 07.8 +1.0**
baz=326
LANS Liptovska Anna 73.61 334 *eP* **P 01 19 09.0 +2.2**
LANS Liptovska Anna 73.61 334 *eP* **P 01 19 09.0 +2.2**
BIZ Bicaz 73.68 329⇓*iP* **P 01 19 08.3 +1.1**
TRPA Tarpa 73.69 332⇑*iP* **P 01 19 08.5 +1.4**
TRPA Tarpa 73.69 332⇑*iP* **P 01 19 07.1 0.0**
TRPA *eS* **S 01 28 37.1 +3.3**
KOPR Koprukoy-ERZUR 73.75 315 P **P 01 19 09.2 +1.3**
WTSB Winterswijk 73.76 343 *eP* **P 01 19 08.2 +0.7**
comp=Z,205nm,2.2s
KTUT Trabzon 73.81 317 P **P 01 19 07.5 -0.5**
LBNH Lisbon 73.82 36 P **P 01 19 09.0 +1.0**
baz=330
WVT Waverly 73.83 52 *eP* **P 01 19 09.1 +0.9**
comp=Z,8.0nm,0.8s
WVT Waverly 73.83 52 P **P 01 19 09.1 +0.9**
WVT pmax pmax
comp=Z,8.0nm,0.8s
WVT Waverly 73.83 52 P **P 01 19 09.0 +0.9**
baz=324
PKME Peaks-Kenny Pk 73.87 34 P **P 01 19 09.0 +0.8**
baz=331
TESR Tescani 73.89 329⇑*iP* **P 01 19 08.7 +0.3**
O54A Avella 73.91 44 P **P 01 19 09.4 +0.8**
baz=326
V46A Holladay 73.95 52 P **P 01 19 09.8 +0.9**
baz=324
N55A Marion Center 74.00 43 P **P 01 19 09.8 +0.6**
baz=327
BINY Binghamton 74.03 40 P **P 01 19 09.6 +0.3**
baz=328
P53A Whipple 74.05 45 *eP* **P 01 19 09.4 0.0**
comp=Z,21nm,1.2s
PRU Pruhonice 74.06 338 *eP* **P 01 19 08.5 -0.8**
PRU *e* 01 19 22.5
PRU MLR MLR
comp=Z,2µm,15.2s
PRU Pruhonice 74.06 338 *eP* **P 01 19 08.5 -0.8**
PRU *epP* **pP 01 19 22.5 -0.1**
PRU AMS AMS 01 56 10.0
comp=Z,2µm,15.2s
GOPC GO Pecny, Ondr 74.07 338 *eP* **P 01 19 10.5 +1.1**
GOPC *e* 01 19 22.5
GOPC MLR MLR
comp=Z,2µm,16.1s
GOPC GO Pecny, Ondr 74.07 338 *eP* **P 01 19 10.5 +1.1**
GOPC *ex* x 01 19 22.5
GOPC AMS AMS 01 56 00.0
comp=Z,2µm,16.1s
ARCR ARCALIA 74.09 330⇓*iP* **P 01 19 11.3 +1.7**
Q52A Bidwell 74.09 46 P **P 01 19 11.2 +1.5**
baz=326
T49A Edmonton 74.13 49 P **P 01 19 11.0 +1.1**
baz=324
BAYT Aydıntepe-Bayb 74.14 317 P **P 01 19 12.0 +1.8**
MLAZ Malazgirt-MUS 74.15 314 P **P 01 19 11.6 +1.4**
VRAC Vranov 74.20 336⇓*iP* **P 01 19 11.9 +1.7**
VRAC Vranov 74.20 336 P **P 01 19 11.9 +1.7**
VRAC Vranov 74.20 336 *eP* **P 01 19 11.4 +1.2**
V47A Nunnelly 74.22 51 P **P 01 19 12.2 +1.7**
baz=324
VANB Van 74.22 313 P **P 01 19 12.0 +1.4**
DZM Mont Dzumac 74.23 174 *eLR* LR 01 42 00.0
comp=Z,1µm,21.7s
DSB Dublin 74.25 352 *eP* **P 01 19 07.6 -2.8**
DSB *i* PP **P 01 19 11.0 +0.6**
NKC Novy Kostel 74.30 339 *eP* **P 01 19 11.9 +1.2**
NKC *e* 01 19 24.2
NKC MLR MLR
comp=Z,2µm,14.0s
NKC Novy Kostel 74.30 339 *eP* **P 01 19 11.9 +1.2**
NKC *epP* **pP 01 19 24.2 +0.2**
NKC AMS AMS 01 58 30.0
comp=Z,2µm,14.0s
JAVC Velka Javorina 74.34 335 *eP* **P 01 19 13.0 +1.9**
O55A Ligonier 74.34 43 P **P 01 19 12.0 +0.8**
baz=327
P54A Burton 74.35 44 P **P 01 19 11.6 +0.4**
baz=326
TLCR 74.35 327⇑*iP* **P 01 19 12.0 +1.0**
TLCR 74.35 327 P **P 01 19 12.0 +1.0**
VYHS Vyhne 74.38 335 *eP* **P 01 19 12.2 +1.0**
VYHS pmax pmax
comp=Z,200nm,3.1s
VYHS Vyhne 74.38 335 *eP* **P 01 19 12.2 +1.0**
ODBI Odobesti 74.42 328⇑*iP* **P 01 19 13.3 +1.8**
VRI Vrincioaia 74.44 328⇓*iP* **P 01 19 12.4 +0.8**
VRI Vrincioaia 74.44 328 P **P 01 19 12.4 +0.8**
PLOR Plostina 74.47 328⇑*iP* **P 01 19 12.4 +0.5**
PLOR Plostina 74.47 328 P **P 01 19 12.4 +0.5**
KRUC Moravsky 74.48 336 *eP* **P 01 19 12.7 +0.9**
TREC Trest 74.48 337 *eP* **P 01 19 13.1 +1.3**
TREC MLR MLR
comp=Z,4µm,15.4s
TREC Trest 74.48 337 *eP* **P 01 19 13.1 +1.3**
TREC AMS AMS 01 58 20.0
comp=Z,4µm,15.4s
OZUR 74.53 329⇑*iP* **P 01 19 13.2 +1.0**

LTVH Ltavrtes, Hu 74.55 332⇑*iP* **P 01 19 13.1 +0.9**
LTVH *eS* S 01 29 03.0 +20
SSPA Standing Stone 74.58 42 *eP* **P 01 19 13.4 +0.9**
comp=Z,27nm,1.2s
SSPA *ePP* PP 01 21 47.1 -12
CFR Carcaliu 74.58 327⇑*iP* **P 01 19 12.6 +0.1**
CFR Carcaliu 74.58 327 P **P 01 19 12.5 +0.1**
S51A Beattyville 74.58 48 P **P 01 19 14.0 +1.4**
baz=325
O56A Blue Knob Stat 74.60 43 P **P 01 19 13.5 +0.8**
baz=327
VRTB Varto-Mus 74.61 315 P **P 01 19 16.2 +3.3**
PSZ Piszkesteto 74.62 334⇑*iP* **P 01 19 14.1 +1.4**
PSZ Piszkesteto 74.62 334⇑*iP* **P 01 19 13.1 +0.3**
V48A Smith Brothers 74.62 51 P **P 01 19 14.0 +1.1**
baz=324
AKDM Akdamar-Van 74.62 314 P **P 01 19 13.9 +0.9**
CJR Cluj-Napoca 74.65 331⇑*iP* **P 01 19 14.7 +1.8**
CJR Cluj-Napoca 74.65 331 P **P 01 19 14.7 +1.8**
KARO Karliova-Bingo 74.66 315 P **P 01 19 13.5 +0.3**
P55A Reedsville 74.70 44 P **P 01 19 14.0 +0.7**
baz=327
BISRR Bisoca 74.72 328⇑*iP* **P 01 19 15.2 +1.9**
YEDI Yedisu-Bingol 74.77 316 P **P 01 19 14.8 +1.0**
SNOP Sinop 74.77 321 P **P 01 19 13.8 +0.2**
DOPR Dopca 74.77 329⇑*iP* **P 01 19 14.5 +0.9**
S52A Salyersville 74.79 47 P **P 01 19 13.6 -0.2**
baz=326
DRGR 74.85 331⇑*iP* **P 01 19 14.4 +0.4**
DRGR 74.85 331 P **P 01 19 14.4 +0.4**
MODS Modra-Piesok 74.89 335 *eP* **P 01 19 15.0 +0.8**
MODS pmax pmax
comp=Z,583nm,3.4s
MODS Modra-Piesok 74.89 335 *eP* **P 01 19 15.0 +0.8**
U50A Jamestown 75.01 49 P **P 01 19 16.2 +1.1**
baz=325
MLR Muntele Rosu 75.02 329⇑*iP* **P 01 19 17.0 +1.8**
MLR Muntele Rosu 75.02 329 P **P 01 19 16.9 +1.8**
V49A McMinnville 75.04 50 P **P 01 19 16.1 +0.9**
baz=325
W48A Pulaski 75.06 51 P **P 01 19 16.1 +0.8**
baz=324
DIKM Dikmen 75.07 321 P **P 01 19 16.4 +1.1**
DIKM Dikmen 75.07 321⇓*iP* **P 01 19 16.8 +1.5**
HGN Heimansgroeve 75.07 344 *eP* **P 01 19 16.0 +0.9**
comp=Z,128nm,1.4s
GRF Grafenberg Arr 75.07 340 P **P 01 19 16.7 +1.5**
GRFO Grafenberg 75.07 340 *eP* **P 01 19 16.0 +0.8**
comp=Z,71nm,1.2s
BEBN Eben Emael 75.08 344⇑P **P 01 19 16.1 +1.0**
KHC Kasperske Hory 75.08 338 *eP* **P 01 19 16.4 +1.1**
KHC *e* 01 19 29.0
KHC MLR MLR
comp=Z,2µm,16.2s
KHC Kasperske Hory 75.08 338 *eP* **P 01 19 16.4 +1.1**
KHC *ex* x 01 19 29.0
KHC AMS AMS 01 57 40.0
comp=Z,2µm,16.2s
BNGB Bingl 75.08 316 P **P 01 19 16.7 +1.1**
ZST Bratislava 75.10 336 *eP* **P 01 19 16.4 +1.0**
ZST Bratislava 75.10 336 *eP* **P 01 19 16.4 +1.0**
X47A Russelville 75.11 53 P **P 01 19 17.3 +1.6**
baz=324
TNS Taunus Mts 75.13 342 P **P 01 19 17.0 +1.4**
TLB Topalu 75.14 327⇓*iP* **P 01 19 16.3 +0.6**
TLB Topalu 75.14 327 P **P 01 19 16.2 +0.6**
SRO Srobarova 75.14 335 *eP* **P 01 19 17.2 +1.6**
SRO Srobarova 75.14 335 *eP* **P 01 19 17.2 +1.6**
IWEX Carrickbyrne, 75.15 352 *eP* **P 01 19 13.1 -2.5**
IWEX *i* PP **P 01 19 16.2 +0.6**
SRO2 Moca 75.17 335 *eP* **P 01 19 16.5 +0.8**
SRO2 Moca 75.17 335 *eP* **P 01 19 16.5 +0.8**
N59A State Game Lan 75.20 41 P **P 01 19 17.2 +1.1**
baz=328
MEM Membach 75.20 343 P **P 01 19 17.1 +1.2**
MEM Membach 75.20 343⇑P **P 01 19 16.7 +0.8**
comp=Z,59nm,1.1s
MEM ⇑*sP* **sP 01 19 36.4 +1.9**
CUKT Cukurca 75.23 313 P **P 01 19 16.9 +0.4**
KVT Kavak 75.24 320 P **P 01 19 17.6 +1.2**
BZK Bozkurt 75.28 322 P **P 01 19 17.1 +0.6**
BZK Bozkurt 75.28 322⇓*iP* **P 01 19 17.2 +0.7**
UCC Uccle 75.30 345⇑P **P 01 19 16.8 +0.4**
RSDY Resadiye-TOKAT 75.31 319 P **P 01 19 17.9 +1.2**
GERES GERESS Array B 75.32 338 P **P 01 19 17.4 +0.6**
comp=Z,4.0nm,0.8s,baz=28,slow=6.0,SNR=35
GERES *eLR* LR 01 55 59.6
comp=Z,1µm,21.4s,baz=28,slow=39
VOIR 75.35 329⇑*iP* **P 01 19 18.0 +1.0**
VOIR 75.35 329 P **P 01 19 18.0 +1.0**
WRAB Tennant Creek 75.41 205 *eP* **P 01 19 17.1 -0.3**
comp=Z,20nm,1.1s
WB2 Warramunga Arr 75.42 205 *eP* **P 01 19 17.4 0.0**
comp=Z,19nm,1.1s
WRA Warramunga Arr 75.42 205 *i P* **P 01 19 18.1 +0.7**
WRA pmax pmax
comp=Z,6.0nm,0.8s
WRA Warramunga Arr 75.42 205 P **P 01 19 17.9 +0.5**
comp=Z,4.3nm,0.8s,baz=23,slow=5.5,SNR=23
U51A La Follette 75.42 49 P **P 01 19 19.2 +1.8**
baz=325
V50A Pikevile 75.50 50 P **P 01 19 19.4 +1.6**
baz=325
BCLA Clavier 75.51 344⇑P **P 01 19 18.4 +0.7**
comp=Z,24nm,1.2s
MTUR Matau 75.54 329 P **P 01 19 19.7 +1.6**
O59A Robesonia 75.54 41 P **P 01 19 18.8 +0.7**
baz=328
ARR Arges 75.55 329⇑*iP* **P 01 19 19.6 +1.5**
SVAN Silvan-Diyarba 75.56 315 P **P 01 19 19.6 +1.4**
CSKK Cskako 75.57 334 *i P* **P 01 19 19.0 +0.9**
CSKK *eS* **S 01 28 56.1 +1.2**
SNF Seneffe 75.59 344⇑P **P 01 19 19.0 +0.9**
ICOR Ion Corvin 75.63 327⇑*iP* **P 01 19 19.7 +1.2**
SULR 75.64 328⇑*iP* **P 01 19 19.7 +1.2**
TOD Tromm 75.65 341 P **P 01 19 19.7 +1.2**
CONA Conrad Observa 75.66 336 *eP* **P 01 19 20.2 +1.5**
comp=Z,25nm,1.0s,SNR=18
GRC1 Grafenberg Arr 75.67 339 P **P 01 19 19.8 +1.2**
TOKT Tokat 75.69 319 P **P 01 19 19.9 +0.9**
SOP Sopron 75.71 336 P **P 01 19 20.6 +1.7**
SOP Sopron 75.71 336⇑*iP* **P 01 19 20.0 +1.1**
SOP *eS* **S 01 28 52.1 -4.4**
LOT Lotru 75.74 330⇑*iP* **P 01 19 19.9 +0.7**
W50A Signal Mountai 75.78 50 P **P 01 19 21.0 +1.5**
baz=325
SVSK Karacayir 75.85 319 P **P 01 19 21.1 +1.3**
X49A Woodville 75.86 51 P **P 01 19 20.9 +0.9**
baz=325
PSN Preselentsi 75.89 326 *i P* **P 01 19 21.0 +1.1**
GIVF Givet 75.90 344 *eP* **P 01 19 19.9 0.0**
GIVF pmax pmax
comp=Z,29nm,1.2s
DOU Dourbes 75.94 344⇑P **P 01 19 20.8 +0.7**
P59A Jarrettsville 76.04 42 P **P 01 19 21.3 +0.5**
baz=328
BAIF Baives 76.04 344 *eP* **P 01 19 20.9 +0.2**
BAIF pmax pmax
comp=Z,30nm,1.3s
KTD Kalmit 76.06 342 P **P 01 19 22.6 +1.7**
WLF Walferdange 76.09 343 P **P 01 19 23.2 +2.2**
WLF Walferdange 76.09 343⇑P **P 01 19 20.9 -0.1**
comp=Z,26nm,2.4s
GZR Gura Zlata 76.09 331⇑*iP* **P 01 19 21.7 +0.5**
GZR Gura Zlata 76.09 331 P **P 01 19 21.7 +0.5**
TIH Tihany 76.09 335⇑*iP* **P 01 19 20.1 -1.0**
MOA Molln 76.12 337 *eP* **P 01 19 22.4 +1.2**
comp=Z,13nm,1.1s,SNR=10.0
SVRC Sivrice-ELAZID 76.18 316 P **P 01 19 23.7 +1.7**
BZS Buzias 76.23 332⇑*iP* **P 01 19 22.1 +0.2**
BZS Buzias 76.23 332 P **P 01 19 22.0 +0.2**
STU Stuttgart 76.36 341 P **P 01 19 24.3 +1.7**
ARSA Arzberg 76.38 336 *eP* **P 01 19 24.3 +1.6**
comp=Z,22nm,1.1s,SNR=12
LANF Langenberg 76.44 342 P **P 01 19 24.8 +1.8**
R58A Rapidan 76.49 44 P **P 01 19 24.9 +1.4**
baz=328
CORM Corum 76.57 320 P **P 01 19 25.7 +1.6**
PRD Provadia 76.58 327 *i P* **P 01 19 25.2 +1.3**
CANT Cankiri 76.60 321 P **P 01 19 25.5 +1.4**
HERR Herculane 76.66 331⇓*iP* **P 01 19 24.1 -0.2**
LRAL Lakeview Retre 76.73 53 P **P 01 19 26.0 +1.1**
baz=325

YOZ Yozgat 76.76 320 P **P 01 19 25.6 +0.4**
BEHE Becsehely 76.78 335⇑*iP* **P 01 19 25.1 +0.1**
DARE Darende-Malaty 76.79 317 P **P 01 19 26.0 +0.7**
VLAD Vladila 76.85 329⇑*iP* **P 01 19 26.4 +1.0**
BFO Black Forest 76.96 341 *eP* **P 01 19 24.9 -1.1**
comp=Z,55nm,1.5s
BFO Black Forest 76.96 341 *i P* **P 01 19 27.1 +1.1**
Y51A Rockmart 76.96 51 P **P 01 19 27.4 +1.2**
baz=325
MDVR Moldovita 76.96 331⇑*iP* **P 01 19 26.4 +0.3**
SZH Strazhica 77.01 328 *i P* **P 01 19 26.1 -0.2**
SOKA Soboth 77.03 336 *eP* **P 01 19 27.8 +1.3**
comp=Z,31nm,1.1s,SNR=15
PERS Pernice 77.05 336 *i P* **P 01 19 27.7 +1.1**
PUNG Punghina 77.05 330⇑*iP* **P 01 19 26.5 0.0**
KBA Koelnbreinsper 77.06 338 *eP* **P 01 19 28.6 +1.8**
comp=Z,62nm,1.0s,SNR=23
KBA Koelnbreinsper 77.06 338 P **P 01 19 28.5 +1.8**
Z50A Ashland 77.07 52 P **P 01 19 27.7 +0.8**
baz=325
CDF Champ du Feu 77.08 342 *eP* **P 01 19 26.9 +0.1**
CDF pmax pmax
comp=Z,67nm,1.3s
FRGS Fruska Gora 77.17 333 *eP* **P 01 19 26.6 -0.6**
URFA Urfa 77.18 316 P **P 01 19 29.0 +1.5**
WATA Walderalm 77.22 339 *eP* **P 01 19 28.9 +1.3**
comp=Z,86nm,1.8s,SNR=16
RETA Reutte 77.26 339 *eP* **P 01 19 28.9 +1.1**
comp=Z,17nm,1.2s,SNR=8.2
WTTA Wattenberg 77.28 339 *eP* **P 01 19 29.4 +1.4**
comp=Z,41nm,1.2s,SNR=18
X53A Estanollee 77.29 49 P **P 01 19 29.4 +1.4**
baz=326
ECH Echery 77.30 342 P **P 01 19 29.2 +1.3**
OBKA Obir 77.31 337 *eP* **P 01 19 29.2 +1.1**
comp=Z,32nm,1.4s,SNR=10
MOTA Moosalm 77.32 339 *eP* **P 01 19 29.2 +1.1**
comp=Z,20nm,1.0s,SNR=17
BR131 Keskin Array S 77.35 321 P **P 01 19 28.8 +0.3**
SNR=45
BRTR Keskin Array B 77.35 321 P **P 01 19 28.7 +0.3**
comp=Z,20nm,1.2s,baz=74,slow=1.8,SNR=78
BRTR *LR* LR 01 58 51.1
comp=Z,1µm,20.1s,baz=10,slow=40
MYKA Terra Mystica 77.41 337 *eP* **P 01 19 29.5 +0.9**
comp=Z,25nm,1.3s,SNR=7.8
SQTA Sankt Quirin 77.41 339 *eP* **P 01 19 30.2 +1.5**
comp=Z,34nm,1.1s,SNR=19
SLE Schleitheim 77.47 341 P **P 01 19 30.0 +1.1**
LOD Lodumlu 77.54 321 P **P 01 19 30.5 +1.0**
ANTO Ankara 77.55 321 *eP* **P 01 19 30.4 +0.9**
comp=Z,74nm,1.4s
ANTO *ePP* **PP 01 22 26.8 +2.7**
ANTO Ankara 77.55 321⇑*iP* **P 01 19 30.8 +1.3**
ANTO Ankara 77.55 321 P **P 01 19 30.9 +1.4**
ANTO pmax pmax
comp=Z,74nm,1.3s
ANTO Ankara 77.55 321 P **P 01 19 30.4 +0.9**
SNR=27
ANTO P **P 01 19 30.4 +0.9**
SNR=27
ABTA Abfaltersbach 77.57 338 *eP* **P 01 19 30.5 +1.0**
comp=Z,28nm,1.1s,SNR=11
ZAG Zagreb 77.58 335 *eP* **P 01 19 31.1 +1.6**
MDUB Mudurnu 77.63 323 P **P 01 19 30.8 +0.8**
MPEP Malo Peshtene 77.63 329 P **P 01 19 28.1 -1.7**
DAVA Damuels 77.64 340 *eP* **P 01 19 31.2 +1.2**
comp=Z,20nm,1.1s,SNR=8.5
HAU Haudompre 77.65 342 *eP* **P 01 19 30.0 +0.1**
HAU pmax pmax
comp=Z,59nm,1.2s
MOF Molkenrain 77.65 342 P **P 01 19 31.2 +1.3**
FETA Feichten 77.71 339 *eP* **P 01 19 31.8 +1.4**
comp=Z,27nm,1.1s,SNR=10
SAUV Serdivan-Sakar 77.72 323 P **P 01 19 30.9 +0.6**
CRES Cresnjev 77.72 336 *eP* **P 01 19 31.1 +0.8**
KLYT Kilyos 77.73 325 P **P 01 19 30.8 +0.5**
KLYT Kilyos 77.73 325⇓*iP* **P 01 19 30.9 +0.6**
HINF Hinteralfeld 77.74 342 *eP* **P 01 19 30.2 -0.2**
HINF pmax pmax
comp=Z,39nm,1.6s
SPNC Sapanca-Adapaz 77.77 323 P **P 01 19 32.6 +2.0**
CTYL Yalikoy Yolu 77.80 325 P **P 01 19 31.2 +0.5**
AFSR Afar-Bala (An 77.81 321 P **P 01 19 30.9 -0.1**
Z52A Williamson 77.85 51 P **P 01 19 31.8 +0.6**
baz=326
HRT Hereke 77.88 324 P **P 01 19 31.9 +0.6**
ISK Istanbul-Kandi 77.89 324 P **P 01 19 31.6 +0.4**
KAVV Kandilli-Istan 77.89 324 P **P 01 19 30.8 -0.5**
VISS Visnje 77.90 336 *i P* **P 01 19 31.6 +0.4**
OZLJ Ozalj 77.91 336 P **P 01 19 31.2 -0.1**
GULT Gulveren 77.92 323 P **P 01 19 32.3 +0.8**
PHSR Pinarhisar 77.93 326 P **P 01 19 32.3 +0.8**
PHSR Pinarhisar 77.93 326⇑*iP* **P 01 19 32.2 +0.8**
CTKS Kestanelik-??a 77.93 325 P **P 01 19 31.9 +0.4**
KMRS Kahramanmaras 77.93 317 P **P 01 19 32.3 +0.7**
EDRB Edirne 78.00 326 P **P 01 19 32.5 +0.6**
EDRB Edirne 78.00 326 P **P 01 19 32.0 +0.1**
JAVS Javornik 78.00 337 *i P* **P 01 19 36.6 +4.7**
FLN La Foliniere 78.01 347 *eP* **P 01 19 31.6 -0.2**
FLN pmax pmax
comp=Z,76nm,1.5s
SLVT Silivri 78.04 325 P **P 01 19 32.9 +0.8**
SERE Sereflikochisa 78.05 320 P **P 01 19 32.9 +0.5**
BUY Buyukada 78.06 324 P **P 01 19 32.5 +0.3**
CEY Cerknica 78.06 336 *eP* **P 01 19 34.3 +2.1**
BOJS Bojanci 78.07 336 *i P* **P 01 19 33.1 +0.9**
GAZ Gaziantep 78.09 317 P **P 01 19 33.7 +1.2**
DIVS Divibare 78.09 332 *eP* **P 01 19 32.6 +0.1**
Y54A Tignall 78.11 49 P **P 01 19 33.5 +0.9**
baz=326
LDF La Druitiere 78.13 347 *eP* **P 01 19 32.2 -0.3**
LDF pmax pmax
comp=Z,33nm,1.4s
KULU Kulu 78.19 321 P **P 01 19 33.9 +0.8**
LOMF Lomont 78.19 342 P **P 01 19 34.4 +1.5**
SRCK Saricakaya, Es 78.22 323 P **P 01 19 33.6 +0.5**
DIM Dimitrovgrad 78.23 327 *i P* **P 01 19 34.6 +1.5**
BLY Banja Luka 78.27 334 *eP* **P 01 19 33.5 +0.2**
CRLT Corlu 78.30 325 P **P 01 19 34.9 +1.4**
CAVI Cavuskoy 78.36 324 P **P 01 19 34.9 +0.9**
GEMT Gemlik 78.40 324 P **P 01 19 34.5 +0.4**
HAPS Han Pijesak,Bl 78.40 333 *eP* **P 01 19 34.8 +0.6**
ARMT Armutlu 78.40 324 P **P 01 19 34.2 +0.1**
KOZT Kozan 78.40 318 P **P 01 19 35.2 +1.0**
SVRH Sivrihisar-ESK 78.40 322 P **P 01 19 34.5 +0.2**
GRR Gorron 78.43 347 *eP* **P 01 19 34.2 +0.1**
GRR pmax pmax
comp=Z,47nm,1.2s
PLD Plovdiv 78.45 328 P **P 01 19 34.8 +0.5**
VTS Vitosha 78.46 329 P **P 01 19 34.5 -0.1**
VTS Vitosha 78.46 329⇑*iP* **P 01 19 35.0 +0.4**
VTS Vitosha 78.46 329 P **P 01 19 35.0 +0.4**
VTS Vitosha 78.46 329 *i P* **P 01 19 35.1 +0.4**
BBLS Lazići 78.47 332 *eP* **P 01 19 35.6 +1.1**
MSFE Esma-Masafi 78.48 296 *i P* **P 01 19 34.6 -0.2**
SNR=8.4
V59A Middlesex 78.53 45 P **P 01 19 35.9 +1.0**
baz=328
MDNY Mudanya-Bursa 78.56 324 P **P 01 19 35.6 +0.6**
CHBY Cihanbeyli 78.63 321 P **P 01 19 36.3 +0.8**
CIFT Cifteler, Eski 78.65 322 P **P 01 19 35.7 +0.1**
SULT Sultanhani-AKS 78.71 320 P **P 01 19 36.6 +0.6**
WSAR Wadi Sarin 78.77 293 P **P 01 19 36.9 +0.5**
SNR=6.6
SGMF Saint Gilles 78.78 348 *eP* **P 01 19 36.2 +0.2**
SGMF pmax pmax
comp=Z,30nm,1.1s
ROSF Rostrenen 78.78 349 *eP* **P 01 19 36.2 +0.1**
ROSF pmax pmax
comp=Z,77nm,1.2s
LOR Lormes 78.80 344 *eP* **P 01 19 36.4 +0.2**
LOR pmax pmax
comp=Z,50nm,1.2s
CEYT Ceyhan 78.83 318 P **P 01 19 38.1 +1.6**
BIDO Bidbid 78.84 294 P **P 01 19 37.1 +0.3**
SNR=6.8
BIDO P **P 01 19 37.1 +0.3**
SNR=6.8
KCTX Karacabey (Bur 78.84 325 P **P 01 19 36.4 -0.2**
UDBI Udbina 78.85 335 P **P 01 19 36.6 0.0**
KARA Karaisali 78.90 318 P **P 01 19 37.9 +0.9**
HATD Hatta, Dubai 78.92 296 *i P* **P 01 19 36.9 -0.3**
SNR=19

HATD	Hatta, Dubai	78.92 296	P	P	01 19 36.9	-0.3
	SNR=16					
HATD			P	P	01 19 36.9	-0.3
	SNR=16					
EDC	Edincik	78.95 325	P	P	01 19 37.9	+0.8
RDO	Rodhopi	79.03 327	P	P	01 19 38.1	+0.5
CABF	La Chapelle	79.04 342	eP	P	01 19 38.1	+0.5
CABF			pmax	pmax		
	comp=Z,66nm,1.3s					
YURE	YUREGIR	79.04 318	P	P	01 19 38.7	+1.0
NAZ	Nazwa, Dubai	79.05 297	i P	P	01 19 37.5	-0.4
	SNR=9.3					
NAZ	Nazwa, Dubai	79.05 297	P	P	01 19 37.3	-0.6
	SNR=7.0					
NAZ			P	P	01 19 37.3	-0.6
	SNR=7.0					
SSF	Saint Saulge	79.06 344	eP	P	01 19 37.8	+0.2
SSF			pmax	pmax		
	comp=Z,22nm,1.0s					
ASHO	Ashiyiah	79.07 296	i P	P	01 19 37.7	-0.3
	SNR=15					
ASHO	Ashiyiah	79.07 296	P	P	01 19 37.8	-0.3
	SNR=15					
ASHO			P	P	01 19 37.8	-0.3
	SNR=15					
ALN	Alexandroupoli	79.09 326	P	P	01 19 37.8	0.0
AS31	Alice Springs	79.09 205	eP	P	01 19 38.5	+0.5
	comp=Z,2.7nm,0.9s					
ASAR	Alice Springs	79.09 205	P	P	01 19 39.1	+1.2
	comp=Z,6.5nm,0.3s,baz=16,slow=5.2,SNR=36					
ASAR			LR	LR	01 52 53.6	
	comp=Z,280nm,21.8s,baz=6.5,slow=34					
ERIK	Erikli-Kesan	79.13 326	P	P	01 19 38.7	+0.6
LADK	Ladik-KONYA	79.16 321	P	P	01 19 38.8	+0.3
TVSB	Tavsanli	79.17 323	P	P	01 19 39.0	+0.5
QUIF	Quistinic	79.19 349	eP	P	01 19 38.3	0.0
QUIF			pmax	pmax		
	comp=Z,100nm,1.6s					
JLN	Jalan Bani Buh	79.19 292	P	P	01 19 39.4	+0.6
	SNR=8.8					
JLN			P	P	01 19 39.4	+0.6
	SNR=8.8					
TAOE	Nuku Hiva Isla	79.19 120	eLR	LR	01 44 17.8	
	comp=Z,826nm,22.5s,baz=332					
ENEZ	Enez	79.19 326	P	P	01 19 38.9	+0.5
TAHT	Tahtakopru-Hat	79.19 317	P	P	01 19 39.4	+0.9
UPM	Unac-Piva	79.22 332	eP	P	01 19 37.8	-1.0
MMB	Musomiste	79.23 328	i P	P	01 19 39.7	+1.0
SOHO	SOHO	79.24 295	P	P	01 19 38.4	-0.5
	SNR=15					
SOHO			P	P	01 19 38.4	-0.5
	SNR=15					
SMDO	Samad	79.24 294	P	P	01 19 39.1	0.0
	SNR=6.1					
FAQ	Al Faqa, Dubai	79.28 297	i P	P	01 19 38.5	-0.6
	SNR=8.2					
FAQ	Al Faqa, Dubai	79.28 297	P	P	01 19 38.5	-0.6
	SNR=5.9					
LPK	Lapseki	79.31 326	P	P	01 19 39.9	+0.8
AVF	Avril sur Loir	79.35 344	eP	P	01 19 39.5	+0.3
AVF			pmax	pmax		
	comp=Z,47nm,1.2s					
KRTS	Karatas	79.36 318	P	P	01 19 40.8	+1.4
GELI	Tayfur-Gelibol	79.39 326	P	P	01 19 39.9	+0.4
KONT	Konya--Tatoy	79.39 321	P	P	01 19 40.2	+0.6
NVR	Nevrokopi	79.40 328	P	P	01 19 40.0	+0.3
SMF	Signal de Mont	79.41 344	eP	P	01 19 39.8	+0.2
SMF			pmax	pmax		
	comp=Z,63nm,1.4s					
MERS	Mersin	79.46 319	P	P	01 19 40.5	+0.4
KAVA	Kavala	79.51 328	P	P	01 19 40.5	+0.3
ASUD	Al Ashush, Dub	79.52 297	P	P	01 19 40.4	0.0
SHUT	Suhut-Afyon	79.55 322	P	P	01 19 41.3	+0.7
BALB	Balikesir	79.57 325	P	P	01 19 40.9	+0.4
SKO	Skopje	79.60 330	i P	P	01 19 41.3	+0.7
BRY	Bratogost	79.61 333	eP	P	01 19 40.6	-0.3
STIP	Stip	79.62 329	i P	P	01 19 40.2	-0.6
SMTH	Samothraki Isl	79.64 327	P	P	01 19 40.6	-0.3
BGF	Bois d'Agland	79.66 344	eP	P	01 19 41.2	+0.3
BGF			pmax	pmax		
	comp=Z,75nm,1.8s					
SRS	Serrai	79.70 328	P	P	01 19 40.9	-0.3
SRS	Serrai	79.70 328	P	P	01 19 41.3	+0.1
ALNE	Al Ain	79.74 296	i P	P	01 19 41.4	-0.3
	SNR=11					
TREB	Trebinje	79.83 333	eP	P	01 19 39.3	-2.6
PDG	Podgorica	79.83 332	‖i P	P	01 19 42.1	+0.2
PDG	Podgorica	79.83 332	eP	P	01 19 40.8	-1.1
VAY	Valandovo	79.84 329	i P	P	01 19 42.7	+0.7
VAY	Valandovo	79.84 329	P	P	01 19 43.1	+1.1
STON	Ston	79.87 333	eP	P	01 19 41.6	-0.5
ARQ	Araqi	79.88 295	P	P	01 19 43.6	+1.1
	SNR=6.0					
KNT	Kendrikon	79.88 329	P	P	01 19 42.8	+0.6
KIZK	Mersin	79.95 319	P	P	01 19 42.2	-0.4
EZN	Ezine	79.95 326	P	P	01 19 42.8	+0.3
EZN	Ezine	79.95 326	‖i P	P	01 19 43.0	+0.5
EZN	Ezine	79.95 326	P	P	01 19 43.0	+0.5
LPG	La Plagne	79.98 341	eP	P	01 19 44.2	+1.2
LPG			pmax	pmax		
	comp=Z,117nm,1.3s					
BOZC	Bozcaada	80.03 326	P	P	01 19 43.0	0.0
TCF	Toulx Ste Croi	80.03 345	eP	P	01 19 43.3	+0.4
TCF			pmax	pmax		
	comp=Z,20nm,1.1s					
DRME	Dracevica, Mon	80.08 332	eP	P	01 19 42.6	-0.6
MFF	Saint Martin d	80.08 346	eP	P	01 19 44.0	+0.8
MFF			pmax	pmax		
	comp=Z,47nm,1.3s					
SILI	Silifke-Mersin	80.13 319	P	P	01 19 43.5	-0.1
KEBE	Keben-Mersin	80.15 319	P	P	01 19 43.3	-0.5
KRUS	Krusevo	80.21 330	i P	P	01 19 44.5	+0.4
GRG	Griva	80.23 329	P	P	01 19 44.6	+0.5
LIA	Limnos Island	80.27 327	P	P	01 19 44.5	+0.2
OUR	Ouranopolis	80.28 328	P	P	01 19 44.3	0.0
KULA	Kula-Manisa	80.28 324	P	P	01 19 44.9	+0.4
KULA	Kula-Manisa	80.28 324	P	P	01 19 44.6	+0.1
IKL	Isikli	80.34 319	P	P	01 19 44.6	-0.1
PLG	Polygyros	80.42 328	P	P	01 19 44.9	-0.3
AKKU	Akkuyu-Mersin	80.46 319	P	P	01 19 45.2	-0.2
PRK	Paraskevi	80.48 326	P	P	01 19 46.3	+0.9
BCK	Bucak	80.49 322	P	P	01 19 45.3	-0.3
BIA	Bitola	80.51 330	i P	P	01 19 46.0	+0.4
PMOR	Pomariorio Ree	80.53 130	eT	T	02 48 47.2	
	comp=Z,3.4nm,0.2s					
OHR	Ohrid	80.58 330	i P	P	01 19 46.1	+0.1
TIR	Tirane	80.65 331	‖i P	P	01 19 46.0	-0.3
TIR	Tirane	80.65 331	P	P	01 19 46.0	-0.3
TEKE	Tekeli-Mersin	80.65 319	P	P	01 19 45.9	-0.5
SIGR	SIGRI	80.66 326	P	P	01 19 46.1	-0.3
FNA	Florina	80.71 330	P	P	01 19 47.0	+0.3
ORIF	Oris-en-Rattie	80.71 342	eP	P	01 19 47.8	+1.1
ORIF			pmax	pmax		
	comp=Z,100nm,1.5s					
EREN	Erenkoy	80.75 318	P	P	01 19 47.7	+0.7
MHTO	MHTO	80.92 292	P	P	01 19 48.0	0.0
	SNR=29					
KORT	Korkueli	80.99 322	P	P	01 19 48.1	-0.3
VIVF	Saint-Julien-l	80.99 343	eP	P	01 19 49.1	+1.0
VIVF			pmax	pmax		
	comp=Z,29nm,1.1s					
AYDB	Zeytinkoy-Aydi	81.07 324	P	P	01 19 49.0	+0.2
RJF	Les Rejaudoux	81.09 345	eP	P	01 19 49.4	+0.8
RJF			pmax	pmax		
	comp=Z,57nm,1.4s					
URLA	Izmir	81.16 325	P	P	01 19 48.9	-0.2
CHOS	Chios island	81.33 325	P	P	01 19 49.9	-0.2
CAF	Calviac	81.38 345	eP	P	01 19 51.3	+1.1
CAF			pmax	pmax		
	comp=Z,57nm,1.3s					
ELL	Elmali	81.38 322	P	P	01 19 50.7	+0.3
XOR	Xorichti	81.42 328	P	P	01 19 49.6	-0.9
FYTO	Fytoko, Volos	81.46 328	P	P	01 19 50.5	-0.1
NEO	Neokhori	81.46 328	P	P	01 19 49.6	-1.1
AQU	L'Aquila	81.49 336	P	P	01 19 53.3	+2.5
AQU	L'Aquila	81.49 336	eP	P	01 19 52.8	+2.0
GCAM	G?zelcaml?	81.52 324	P	P	01 19 50.9	-0.1
LFF	La Frestale	81.57 346	eP	P	01 19 52.0	+0.9
LFF			pmax	pmax		
	comp=Z,27nm,1.1s					
CSS	Mathiatis	81.59 318	P	P	01 19 51.4	0.0
DALY	Dalyan (Mula)	81.79 323	P	P	01 19 52.0	-0.4
MRKA	Markates	81.88 327	P	P	01 19 52.4	-0.5
JAN	Janina	81.90 330	P	P	01 19 53.5	+0.5
AKAS	Kas	81.94 322	P	P	01 19 52.3	-1.1
PPT	Papeete	81.98 132	LR	LR	01 48 51.0	
	comp=Z,638nm,20.8s,baz=332,slow=30					
PPT2	Papeete2	82.00 132	eS	S	01 30 09.9	+5.8
	comp=Z,1μm,35.0s					
PPT2	Papeete2	82.00 132	eLR	LR	01 45 33.7	
	comp=Z,2μm,23.2s,baz=330					
EREA	Eretria	82.03 327	P	P	01 19 53.0	-0.7
ATAL	Atalanti	82.08 328	P	P	01 19 52.9	-1.1
IGT	Igoumenitsa	82.17 330	P	P	01 19 54.6	+0.2
DAT	Datca	82.26 323	P	P	01 19 54.1	-1.0
DION	Dionisos Attik	82.33 327	P	P	01 19 53.9	-1.4
PTL	Penteli	82.38 327	P	P	01 19 54.8	-0.8
VILL	Villia	82.46 327	P	P	01 19 54.8	-1.2
ATHU	Athens Univers	82.48 327	P	P	01 19 55.0	-1.1
APE	Apeiranthos	82.69 325	‖i P	P	01 19 56.2	-1.0
APE	Apeiranthos	82.69 325	P	P	01 19 56.1	-1.1
MTLF	Montolieu	82.89 344	eP	P	01 19 59.2	+1.1
MTLF			pmax	pmax		
	comp=Z,77nm,1.6s					
KLV	Kalavryta, Ach	82.95 328	P	P	01 19 57.7	-0.9
GUR	Goura	82.99 328	P	P	01 19 56.8	-2.0
DID	Didima	83.08 327	P	P	01 19 56.5	-2.7
DRO	Drossia	83.18 328	P	P	01 19 59.7	0.0
EPF	Esparros	83.50 345	eP	P	01 20 01.7	+0.4
EPF			pmax	pmax		
	comp=Z,41nm,1.3s					
TIP	Timpagrande	83.56 332	‖i P	P	01 20 02.2	+0.5
SJPF	Ste Jean	83.65 347	eP	P	01 20 04.4	+2.4
SJPF			pmax	pmax		
	comp=Z,90nm,1.8s					
ETSF	Etsaut	83.76 346	eP	P	01 20 03.9	+1.2
ETSF			pmax	pmax		
	comp=Z,57nm,1.1s					
ITM	Ithomi	83.81 328	P	P	01 20 02.4	-0.6
LISJ	El Lisan	83.90 315	P	P	01 20 04.7	+1.3
VLI	Velia	83.90 327	P	P	01 20 01.0	-2.4
PYL	PYLOS	84.13 328	P	P	01 20 03.2	-1.4
LAST	Lasithi	84.42 324	P	P	01 20 05.0	-1.2
STKA	Stephens Creek	85.41 196	P	P	01 20 11.9	+1.2
	comp=Z,3.0nm,0.7s,baz=334,slow=8.7,SNR=3.1					
STKA			LR	LR	01 58 12.9	
	comp=Z,384nm,19.9s,baz=4.7,slow=36					
PBRG	Braganca	85.62 350	eP	P	01 20 14.1	+2.1
	comp=Z,58nm,1.8s					
POLO	Lamas de Olo	86.15 351	eP	P	01 20 16.6	+1.9
	comp=Z,17nm,1.4s					
PVRL	Vila Real	86.24 351	eP	P	01 20 17.2	+2.1
	comp=Z,73nm,1.6s					
MVO	Moncorvo	86.28 350	eP	P	01 20 16.8	+1.5
	comp=Z,45nm,1.9s					
PTO	Porto	86.46 352	eP	P	01 20 18.1	+2.0
	comp=Z,50nm,1.5s					
PVIS	Viseu	86.81 351	eP	P	01 20 19.3	+1.4
	comp=Z,42nm,2.1s					
MTE	Manteigas	87.09 351	eP	P	01 20 21.4	+2.1
	comp=Z,38nm,2.1s					
TBI	Tubuai	87.10 135	eS	S	01 30 54.7	+0.2
	comp=Z,404nm,25.8s					
TBI	Tubuai	87.10 135	eLR	LR	01 47 52.0	
	comp=Z,1μm,23.5s,baz=332					
ESDC	Sonseca Array	87.40 348	P	P	01 20 21.4	+0.6
	comp=Z,110nm,1.1s,baz=360,slow=4.6,SNR=26					
PCAS	Casmilo, Conde	87.53 351	eP	P	01 20 22.8	+1.5
	comp=Z,42nm,1.6s					
PAB	San Pablo	87.58 348	eP	P	01 20 22.5	+0.8
	comp=Z,12nm,1.2s					
PCBR	Castelo Branco	87.64 351	eP	P	01 20 22.7	+0.9
	comp=Z,25nm,1.4s					
KEST	Kesra	88.76 337	P	P	01 20 27.8	+0.5
	comp=Z,13nm,1.1s,baz=343,slow=5.9,SNR=7.3					
KEST			LR	LR	02 05 57.1	
	comp=Z,2μm,18.1s,baz=354,slow=40					
DBIC	Dimbokro	119.93 343	ePKPdf	PKiKP	01 26 25.3	+1.1
DBIC	Dimbokro	119.93 343	PKP	PKiKP	01 26 25.6	+1.5
	comp=Z,5.2nm,1.1s,baz=132,slow=4.8,SNR=5.1					
LPAZ	La Paz	127.65 65	PKP	PKiKP	01 26 41.0	+0.9
	comp=Z,0.5nm,0.6s,baz=22,slow=3.9,SNR=3.4					
SIV	San Ignacio	131.22 58	PKP	PKiKP	01 26 46.4	-0.1
	comp=Z,2.2nm,0.9s,baz=49,slow=2.8,SNR=8.7					
BOSA	Boshof	139.34 288	PKP	PKPdf	01 27 01.2	+0.7
	comp=Z,2.6nm,1.0s,baz=206,slow=1.7,SNR=2.7					
QSPA	South Pole Qui	142.03 180	ePKPpre	PKPpre	01 27 00.3	
PLCA	Paso Flores	143.82 92	ePKPdf	PKPdf	01 27 08.8	+0.7
PLCA	Paso Flores	143.82 92	ePKiKP	PKPdf	01 27 08.8	+0.7
PLCA	Paso Flores	143.82 92	PKP	PKPdf	01 27 09.2	+1.1
	comp=Z,2.5nm,1.1s,baz=342,slow=3.3,SNR=3.3					
TRQA	Tornquist	147.44 81	ePKPdf	PKPbc	01 27 16.5	-0.4
TRQA	Tornquist	147.44 81	ePKP2	PKPbc	01 27 16.5	-0.4
SYO	Syowa Base	148.14 216	‖ePKPdf	PKPdf	01 27 15.9	+1.5
SYO	Syowa Base	148.14 216	‖ePKPbc	PKPbc	01 27 18.4	+0.7
SYO	Syowa Base	148.14 216	‖ePKPdf	pPKPdf	01 27 30.6	+2.0
SYO	Syowa Base	148.14 216	‖ePKPbc	pPKPbc	01 27 33.7	+2.0
SNAA	Sanae	159.17 195	PKPab	PKPab	01 28 08.1	+0.6
	comp=Z,1.5nm,0.8s,baz=199,slow=4.6,SNR=5.9					

KRSC 20 01:15:10.2±10.0, 52°.16N×160°.53E, h62km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.99	342	P	Pn	01 15 28.2	+0.1
SPN				S	Sn	01 15 40.9	-0.4
NLC	Nalytchevo	1.24	325	P	Pn	01 15 32.7	+1.3
NLC				S	Sn	01 15 48.9	+1.6
RUS	Russkaya	1.27	283	P	Pn	01 15 33.1	+1.4
RUS				S	Sn	01 15 49.1	+1.2
DALK	Dalny	1.39	309	P	Pn	01 15 35.1	+1.7
DALK				S	Sn	01 15 52.0	+1.2
MTVR	Mutnovka	1.47	283	P	Pn	01 15 36.7	+2.0
MTVR				S	Sn	01 15 55.7	+2.6
UGLR	Uglovaya	1.47	316	P	Pn	01 15 37.2	+2.6
SDLR	Sedlovina	1.50	319	P	Pn	01 15 37.4	+2.4
SDLR				S	Sn	01 15 57.1	+3.5
SMAR	Somma	1.52	317	P	Pn	01 15 37.5	+2.1
AVH	Avacha	1.55	316	P	Pn	01 15 38.1	+2.5
AVH				S	Sn	01 15 57.9	+3.1
KDTR	Khodutka, Kamc	1.56	258	P	Pn	01 15 37.0	+1.4
KDTR				S	Sn	01 15 55.9	+1.1
KRER	Koryakskii	1.57	317	P	Pn	01 15 38.0	+1.9
KRMR	Karymshinskiy	1.61	295	P	Pn	01 15 38.3	+1.9
KRMR				S	Sn	01 15 58.5	+2.4
KOK	Koryaka	1.61	315	P	Pn	01 15 38.9	+2.4
ASAK	Asacha	1.63	279	P	Pn	01 15 39.1	+2.4
ASAK				S	Sn	01 15 59.3	+2.6
KRX	Arik	1.66	317	P	Pn	01 15 39.3	+2.2
APC	Apacha	2.19	292	P	Pn	01 15 47.6	+3.3
APC				S	Sn	01 16 14.1	+3.8
KZV	Kizimen	2.96	357	P	Pn	01 15 57.8	+3.0
KZV				S	Sn	01 16 32.1	+2.9
TUMD	Tumrok D	3.05	359	S	Sn	01 16 32.0	+0.8

MEX 20 01:16:17.2±0.4, 16°.04N×96°.02W, h48km±6km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.28	198	eP	Pn	01 16 24.6	-1.5
HUIG				eS	Sn	01 16 30.6	-1.8
CMIG	Matias Romero	1.51	46	eP	Pn	01 16 40.2	-1.6
CMIG				i S	Sn	01 16 58.3	-2.0
PNIG	Pinotepa	2.06	280	eP	Pn	01 16 48.3	-1.1
PNIG				i S	Sn	01 17 11.8	-2.1
TPIG	Tehuac#an	2.69	332	i P	Pn	01 16 57.2	-1.1
TPIG				i S	Sn	01 17 27.3	-2.4
PCIG		2.71	97	i P	Pn	01 16 57.6	-0.7
PCIG				eS	Sn	01 17 27.3	-2.6
CCIG	Comitan	3.73	86	i P	Pn	01 17 11.7	-0.8
CCIG				eS	Sn	01 17 54.2	-1.2

IDC ***20*** *01:19:13.4±3.5, 51°.71N×160°.60E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.3/38, mbtmp3.8/3, ML2.9/1, Error ellipse: s-maj=98.0km s-min=47.5km az=26.0*
KRSC ***20*** *01:19:17.6±10.0, 52°.11N×160°.72E, h61km±10km, ML4.1*
ISC 20 01:19:15.8±2.0, 52°.10N±0°.06×160°.74E±0°.05, h7km±11km, n27, σ1°.26/44, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.09	337	eP	Pn	01 19 37.7	+0.2
SPN				eS	Sg	01 19 50.3	-0.7
NLC	Nalytchevo	1.37	322	eP	Pg	01 19 42.4	+0.3
NLC				eS	Sb	01 19 58.4	-1.0
RUS	Russkaya	1.41	285	eP	Pb	01 19 42.5	+0.2
RUS				eS	Sn	01 19 58.6	-1.9
DALK	Dalny	1.53	308	eP	Pb	01 19 44.3	-0.1
DALK				eS	Sn	01 20 02.2	-1.4
UGLR	Uglovaya	1.61	314	eP	Pb	01 19 46.1	+0.2
UGLR				eS	Sb	01 20 06.6	+0.1
MTVR	Mutnovka	1.62	285	eP	Pb	01 19 45.9	-0.1
MTVR				eS	Sn	01 20 05.5	-0.4
SDLR	Sedlovina	1.64	317	eP	Pb	01 19 46.4	+0.1
SDLR				eS	Sn	01 20 06.5	+0.2
SMAR	Somma	1.66	315	eP	Pb	01 19 46.7	-0.1
KDTR	Khodutka, Kamc	1.67	261	eP	Pb	01 19 46.7	-0.1
KDTR				eS	Sn	01 20 05.2	-1.8
AVH	Avacha	1.69	315	eP	Pb	01 19 47.2	0.0
GRL	Gorelyy	1.70	287	eP	Pg	01 19 48.2	-0.1
GRL				eS	Sb	01 20 09.0	+0.1
KRER	Koryakskii	1.71	316	eP	Pb	01 19 47.7	+0.1
KOK	Koryaka	1.75	314	eP	Pb	01 19 48.3	0.0
KRMR	Karymshinskiy	1.76	296	eP	Pb	01 19 47.7	-0.6
KRMR				eS	Sn	01 20 07.8	-1.3
ASAK	Asacha	1.77	280	eP	Pb	01 19 48.6	+0.1
ASAK				eS	Sb	01 20 10.5	-0.4
KRX	Arik	1.79	316	eP	Pb	01 19 48.3	-0.7
PETK	Petropavlovsk-	2.11	300	Pn	Pb	01 19 53.1	-1.2
	14nm,0.3s,baz=107,slow=18,SNR=48						
PETK				Sn	Sb	01 20 20.0	-0.8
	24nm,0.3s,baz=93,slow=27,SNR=15						
APC	Apacha	2.34	292	eP	Pb	01 19 56.8	-1.4
APC				eS	Sn	01 20 23.7	+0.2
MKZ	Mys Kozlova	2.53	13	eP	Pn	01 19 56.8	-0.4
MKZ				eS	Sn	01 20 27.9	-0.4
KZV	Kizimen	3.03	355	eP	Pb	01 20 07.9	-2.2
KZV				eS	Sn	01 20 42.0	+1.2
TUMD	Tumrok D	3.12	356	eP	Pn	01 20 07.8	+2.5
TUMD				eS	Sn	01 20 41.9	-0.9
TUMR	Tumrok	3.21	354	eP	Pn	01 20 09.4	+2.7
TUMR				eS	Sn	01 20 46.3	+1.1
ALID	Alaid	3.47	251	eP	Pn	01 20 11.8	+1.6
KBTR	Krutoberegovo	4.30	16	eP	Pn	01 20 24.8	+3.4
BKI	Bering	4.40	43	eS	Sn	01 21 11.4	-2.9
MKAR	Makanchi Array	48.95	297	P	P	01 28 01.5	-0.8
	0.4nm,0.6s,baz=47,slow=8.3,SNR=3.9						
FINES	FINESS Array B	61.19	337	P	P	01 29 31.4	+0.9
	0.9nm,0.4s,baz=30,slow=8.8,SNR=11						

KRSC ***20*** *01:23:06.4±10.0, 52°.02N×160°.90E, h59km±10km, ML4.5*
IDC ***20*** *01:23:08.3±0.7, 52°.38N×160°.36E, h0km, mb4.0/25, mb1 4.2/28, mb1mx4.1/43, mbtmp4.0/28, ML3.6/3, Error ellipse: s-maj=18.5km s-min=12.1km az=144.0*
ISCJB ***20*** *01:23:11.8±0.7, 52°.20N±0°.04×160°.54E±0°.07, h42km±4km, mb4.4/71, Error ellipse: s-maj=9.0km s-min=4.1km az=39.3*
MOS ***20*** *01:23:11.8±1.2, 52°.22N×160°.50E, h43km, mb4.7/37, Error ellipse: s-maj=7.3km s-min=3.9km az=107.0*
NEIC ***20*** *01:23:12.8±1.1, 52°.17N×160°.35E, h35km, mb4.5/21, Error ellipse: s-maj=20.2km s-min=11.8km az=126.0*
ISC 20 01:23:12.3±0.7, 52°.17N±0°.04×160°.64E±0°.04, h40km±5km, h41km; pP-P, n224, σ1°.75/251, mb4.5/71, 26C-11D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.00	338	eP	Pn	01 23 28.3	-1.6
SPN				eS	Sn	01 23 41.7	-1.1
SPN	Mys Shipunski	1.00	338	PN	Pn	01 23 28.3	-1.6
SPN				S	Sn	01 23 41.7	-1.1
NLC	Nalytchevo	1.28	322	eP	Pn	01 23 32.7	-0.9
NLC	Nalytchevo	1.28	322	PN	Pn	01 23 32.7	-0.9
RUS	Russkaya	1.33	282	eP	Pn	01 23 32.9	-1.5
RUS				eS	Sn	01 23 50.5	-0.4
RUS	Russkaya	1.33	282	PN	Pn	01 23 32.9	-1.5
RUS				S	Sn	01 23 50.5	-0.4
DALK	Dalny	1.44	308	P	Pn	01 23 35.0	-0.8
DALK	Dalny	1.44	308	PN	Pn	01 23 35.0	-0.8
PET	Petropavlovsk	1.48	306	ePn	Pn	01 23 35.6	-0.8
PET	Petropavlovsk	1.48	306	eP	Pn	01 23 36.0	-0.4
PET				eS	Sn	01 23 54.9	+0.3
PET	Petropavlovsk	1.48	306	α i PN	Pn	01 23 35.7	-0.7
PET				eS	Sn	01 23 57.6	+3.0
PET				pmax	pmax		
	comp=Z,1μm,0.7s						
PET				smax	smax		
	comp=E,4μm,1.2s						
PET				smax	smax		
	comp=N,2μm,0.8s						
PET				smax	smax		
	comp=E,3μm,0.9s						
UGLR	Uglovaya	1.52	314	eP	Pn	01 23 36.9	-0.2
UGLR	Uglovaya	1.52	314	PN	Pn	01 23 36.9	-0.2
MTVR	Mutnovka	1.54	283	eP	Pn	01 23 36.5	-0.9
MTVR				eS	Sn	01 23 57.6	+1.4
MTVR	Mutnovka	1.54	283	PN	Pn	01 23 36.5	-0.9
MTVR				S	Sn	01 23 57.6	+1.4
SDLR	Sedlovina	1.54	317	eP	Pn	01 23 37.0	-0.4
SDLR				eS	Sn	01 23 58.1	+1.9
SDLR	Sedlovina	1.54	317	PN	Pn	01 23 37.0	-0.4
SDLR				S	Sn	01 23 58.1	+1.9
SMAR	Somma	1.57	315	eP	Pn	01 23 37.3	-0.5
SMAR				eS	Sn	01 23 58.8	+1.8
SMAR	Somma	1.57	315	PN	Pn	01 23 37.3	-0.5
SMAR				S	Sn	01 23 58.8	+1.8
AVH	Avacha	1.60	314	eP	Pn	01 23 38.0	-0.1
AVH	Avacha	1.60	314	PN	Pn	01 23 38.0	-0.1
KRER	Koryakskii	1.62	315	P	Pn	01 23 38.5	0.0
KRER				eS	Sn	01 24 02.4	+4.2
KRER	Koryakskii	1.62	315	PN	Pn	01 23 38.5	0.0
KDTR	Khodutka, Kamc	1.63	258	eP	Pn	01 23 36.7	-1.7
KDTR				eS	Sn	01 23 55.6	-2.5
KDTR	Khodutka, Kamc	1.63	258	PN	Pn	01 23 36.7	-1.7
KDTR				S	Sn	01 23 55.6	-2.5
KOK	Koryaka	1.66	313	P	Pn	01 23 39.2	+0.2
KOK	Koryaka	1.

KLY	Klyuchi	4.15	0	P	Pn	01 24 12.4	-0.7
KLY	Klyuchi	4.15	0	PN	Pn	01 24 12.4	-0.7
SRDR	Sredinnyy	4.19	353	P	Pn	01 24 13.9	+0.2
SRDR	Sredinnyy	4.19	353	PN	Pn	01 24 13.9	+0.2
KBTR	Krutoberegovo	4.25	17	eP	Pn	01 24 14.2	-0.1
KBTR	Krutoberegovo	4.25	17	PN	Pn	01 24 14.2	-0.1
BKI	Bering	4.39	44	eS	Sn	01 25 01.0	-5.1
BDR	Baidarnaya	4.42	4	eP	Pn	01 24 16.4	-0.4
BDR	Baidarnaya	4.42	4	PN	Pn	01 24 16.4	-0.4
SMKR	Semkarok	4.45	6	eP	Pn	01 24 16.7	-0.5
SMKR	Semkarok	4.45	6	PN	Pn	01 24 16.7	-0.5
SRKR	Sorokina	4.51	4	P	Pn	01 24 18.8	+0.8
SRKR	Sorokina	4.51	4	PN	Pn	01 24 18.8	+0.8
MA2	Magadan	9.26	327	i PN	Pn	01 25 13.5	-10
SEY	Seymchan	11.65	341	i PN	Pn	01 25 53.6	-2.2
SEY	Seymchan	11.65	341	Pn	Pn	01 25 54.9	-0.9
	comp=N,0.1nm,0.3s,baz=121,slow=18,SNR=1.9						
ASAJ	Asahikawa	14.46	243	Pn	Pn	01 26 33.8	-0.3
	comp=N,0.8nm,0.3s,baz=108,slow=20,SNR=3.0						
BILL	Bilibino	16.16	8	ePn	P	01 26 59.5	+0.7
	comp=N,13nm,0.8s						
BILL	Bilibino	16.16	8	eP	Pn	01 26 56.3	+0.2
BILL				pmax	pmax		
	comp=Z,18nm,1.0s						
TEY	Ternei	17.37	255⇑	eP	P	01 27 13.1	+0.7
TEY				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	Kul'dur	18.48	272⇑	iP	Pn	01 27 25.3	+0.3
KLR	Kul'dur	18.48	272	P	Pn	01 27 24.4	-0.6
	comp=Z,0.1nm,0.3s,baz=58,slow=13,SNR=12						
YAK	Yakutsk	19.30	313	eP	P	01 27 30.1	-3.4
YAK				e		01 31 09.2	
YAK				pmax	pmax		
	comp=Z,277nm,0.9s						
YAK				pmax	pmax		
	comp=E,166nm,1.1s						
YAK				pmax	pmax		
	comp=N,66nm,1.0s						
USA0B	Ussuriysk Arra	20.60	259	eP	P	01 27 45.1	-2.6
	comp=N,11nm,0.9s						
USA0B	Ussuriysk Arra	20.60	259	eP	P	01 27 45.1	-2.6
USA0B				pmax	pmax		
	comp=Z,11nm,0.9s						
USRK	Ussuriysk Ar.	20.60	259	eP	P	01 27 44.0	-3.6
USRK	Ussuriysk Ar.	20.60	259	P	P	01 27 46.1	-1.6
	comp=Z,8.9nm,1.0s,baz=60,slow=11,SNR=14						
MAJO	Matsushiro	22.25	234	eP	P	01 28 06.8	+1.2
MAJO	Matsushiro	22.25	234	eP	P	01 28 06.8	+1.2
MJAR	Matsushiro Arr	22.25	234	P	P	01 28 06.8	+1.2
	comp=Z,1.7nm,0.3s,baz=26,slow=9.4,SNR=9.6						
TIXI	Tiksi	24.06	336	eP	P	01 28 21.4	-1.8
	comp=Z,7.3nm,0.8s						
TIXI	Tiksi	24.06	336	i P	P	01 28 21.6	-1.7
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIXI	Tiksi	24.06	336	P	P	01 28 22.2	-1.1
	comp=Z,10nm,0.9s,baz=122,slow=9.6,SNR=15						
HIA	Hailar	25.81	280	eP	P	01 28 37.0	-2.5
	comp=Z,13nm,0.6s						
HIA	Hailar	25.81	280	eP	P	01 28 37.0	-2.5
HIA				pmax	pmax		
	comp=Z,13nm,0.6s						
IMAR	Indian Mountai	26.47	41	eP	P	01 28 52.9	+7.7
BOD	Bodaibo	26.90	301	eP	P	01 28 46.6	-2.5
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KSRS	Korea Array	27.20	250	P	P	01 28 54.0	+2.0
KSRS	Korea Array	27.20	250	P	P	01 28 54.0	+2.0
	comp=Z,1.5nm,0.7s,baz=50,slow=9.0,SNR=6.1						
JNU	Nakatsue	28.70	240	eP	P	01 29 06.0	+0.5
	comp=Z,10.0nm,1.1s						
JNU	Nakatsue	28.70	240	P	P	01 29 07.3	+1.8
	comp=Z,4.6nm,0.9s,baz=35,slow=9.0,SNR=1.8						
ILAR	Eielson Array	29.24	44	P	P	01 29 11.1	+1.2
	comp=Z,0.2nm,0.6s,baz=250,slow=7.6,SNR=3.0						
ULN	Ulaanbaatar	34.04	285	ceP	P	01 29 50.9	-1.6
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONA0	Songino Array	34.45	285	eP	P	01 29 54.5	-1.4
SONA0				ePcP	PcP	01 32 31.6	+1.2
SONM	Songino Array	34.45	285	P	P	01 29 54.5	-1.4
	comp=Z,0.4nm,0.6s,baz=73,slow=4.8,SNR=3.5						
SONM				PcP	PcP	01 32 31.7	+1.2
	comp=Z,0.5nm,0.8s,baz=66,slow=3.6,SNR=3.7						
ZAK	Zakamensk	35.13	290	eP	P	01 29 59.6	-2.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NRIK	Noril'sk	36.86	326	P	P	01 30 15.4	-0.8
	comp=Z,2.9nm,0.9s,baz=104,slow=9.9,SNR=4.5						
YKA	Yellowknife Ar	43.62	42	P	P	01 31 13.3	+1.1
	comp=Z,0.2nm,0.8s,baz=306,slow=7.2,SNR=3.6						
NVS	Novosibirsk	43.92	306⇑	iP	P	01 31 13.4	-1.3
NVS				i		01 31 25.5	
NVS				pmax	pmax		
	comp=Z,16nm,1.3s						
NVS				pmax	pmax		
	comp=N,3.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,14nm,1.4s						
RES	Resolute Bay	44.06	22	eP	P	01 31 19.6	+4.1
	comp=E,3.7nm,1.0s						
RES	Resolute Bay	44.06	22	P	P	01 31 16.1	+0.6
	comp=E,1.4nm,1.0s,baz=350,slow=6.1,SNR=3.2						
DGZ	Jazzator, Alta	44.38	297	i P	P	01 31 17.9	-0.8
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	Kurchatov	48.51	303	eP	P	01 31 49.2	-1.5
	comp=Z,12nm,1.0s						
KURK	Kurchatov	48.51	303	ceP	P	01 31 47.3	-3.5
KURK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GLK	Glacier Lake	48.67	64	eP	P	01 31 59.3	+7.1
MK31	Makanchi Array	48.86	297	eP	P	01 31 52.0	-1.5
	comp=Z,1.2nm,0.8s						
MK31	Makanchi Array	48.86	297	eP	P	01 31 52.1	-1.5
MK31				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	48.86	297	ceP	P	01 31 51.9	-1.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	48.86	297	P	P	01 31 52.2	-1.4
	comp=Z,1.0nm,0.6s,baz=59,slow=7.6,SNR=14						
MAKZ	Makanchi	49.03	297	eP	P	01 31 53.2	-1.6
	comp=Z,3.7nm,1.0s						
MAKZ	Makanchi	49.03	297	eP	P	01 31 53.2	-1.6
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRVK	Borovoye	51.26	309	eP	P	01 32 10.6	-1.0
	comp=Z,8.3nm,0.9s						
BRVK	Borovoye	51.26	309	eP	P	01 32 10.6	-1.0
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PDGK	Podgornoye	52.57	295	P	P	01 32 22.2	+0.5
PDGK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
OTUK	Ortayu	53.26	304	P	P	01 32 26.3	-0.3
OTUK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ARA0	ARCESS Array S	54.27	342	eP	P	01 32 33.4	-0.3
ARCES	ARCESS Array B	54.27	342	P	P	01 32 33.4	-0.3
	comp=Z,3.6nm,0.9s,baz=35,slow=9.9,SNR=5.8						
ARU	Arti	54.31	318	eP	P	01 32 32.3	-1.8
	comp=Z,4.3nm,0.7s						
ARU	Arti	54.31	318	c iP	P	01 32 33.0	-1.0
ARU				S	S	01 40 00.0	-8.6
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SUMG	Summit	54.84	7	eP	P	01 32 39.8	+1.6
	comp=Z,7.7nm,1.0s						
SUMG	Summit	54.84	7	eP	P	01 32 39.8	+1.6
SUMG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PRGR	Permogore	55.40	328	eP	P	01 32 39.0	-2.9
PRGR				e*PP	pP	01 32 50.7	-2.0
PRGR				e*SP	sP	01 32 58.1	+1.0
PRGR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KVN	Kaiserville	55.44	69	eP	P	01 32 51.7	+8.9
	comp=Z,1.5nm,0.8s						
KVN	Kaiserville	55.44	69	eP	P	01 32 51.7	+8.9
KVN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	Mina Array Bea	55.75	70	P	P	01 32 47.3	+2.3
	comp=Z,1.6nm,0.9s,baz=319,slow=6.7,SNR=4.2						
TMCR	Tamitsa	55.76	333	eP	P	01 32 44.2	-0.1
TMCR				pmax	pmax		
	comp=Z,31nm,1.2s						
AAK	Ala-Archa	55.79	297	eP	P	01 32 43.4	-1.8
	comp=Z,2.7nm,0.8s						
AAK	Ala-Archa	55.79	297	ceP	P	01 32 43.5	-1.7
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MSF	Maaselka	56.59	338	P	P	01 32 52.3	+1.9
MSF				pmax	pmax		
	comp=Z,18nm,1.4s						
KSH	Kashi	57.07	293	P	P	01 33 01.5	+7.2
KSH				sP	PcP	01 33 30.4	-18
KSH				PP	PP	01 35 06.1	+5.1
KSH				S	S	01 40 42.4	-3.8
KSH	Kashi	57.07	293	SS	SS	01 44 28.0	-6.7
PHRA	Phrae	57.52	258	P	P	01 33 00.0	+2.5
	comp=Z,1.5nm,1.0s						
PDAR	Pinedale Array	57.69	61	P	P	01 33 01.1	+2.4
	comp=Z,0.4nm,0.7s,baz=278,slow=4.0,SNR=3.7						
UTTA	Uttaradit	57.90	257	P	P	01 33 02.7	+2.5
	comp=Z,11μm,1.0s						
KLMR	Klimovskoe	57.92	330	eP	P	01 32 58.5	-1.2
KLMR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
OUL	Oulu	58.00	339	P	P	01 33 02.1	+1.9
OUL				pmax	pmax		
	comp=Z,11nm,1.3s						
CMMT	Chiang Mai	58.05	259	P	P	01 33 03.0	+1.7
	comp=Z,5.0nm,1.1s						
CHTO	Chiang Mai	58.05	259	eP	P	01 33 01.6	+0.3
	comp=Z,8.4nm,0.9s						
CHTO	Chiang Mai	58.05	259	eP	P	01 33 01.6	+0.3
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR	Chiang Mai Arr	58.33	259	P	P	01 33 04.1	+0.9
	comp=Z,2.9nm,0.7s,baz=19,slow=7.5,SNR=12						
JOF	Joensuu	58.55	335	P	P	01 33 05.4	+1.3
JOF				pmax	pmax		
	comp=Z,16nm,1.5s						
RSSD	Black Hills	59.64	56	eP	P	01 33 19.5	+7.2
	comp=Z,5.6nm,1.1s						
RSSD	Black Hills	59.64	56	eP	P	01 33 19.5	+7.2
RSSD				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SUF	Sumiainen	59.98	338	P	P	01 33 16.1	+2.1
SUF				pmax	pmax		
	comp=Z,23nm,0.9s						
FINES	FINESS Array B	61.10	337	i P	P	01 33 22.6	+0.9
FINES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
FINES	FINESS Array B	61.10	337	P	P	01 33 22.0	+0.3
	comp=Z,6.6nm,0.7s,baz=37,slow=9.8,SNR=22						
OBN	Obninsk	63.48	328	eP	P	01 33 36.3	-1.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VSU	Vasula	63.53	335	ceP	P	01 33 39.0	+1.1
VSU				pmax	pmax		
	comp=Z,36nm,1.7s						
NB2	NORSAR Subarra	64.52	344	P	P	01 33 44.7	+0.2
	comp=Z,1.3nm,0.7s,baz=23,slow=6.9						
NOA	NORSAR Array B	64.52	344	P	P	01 33 45.0	+0.5
	comp=Z,2.2nm,0.8s,baz=22,slow=6.5,SNR=9.9						
LPSR	Galich'ya Gora	64.73	325	eP	P	01 33 45.4	-0.5
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRH	Novokhopyorsk	64.85	323	eP	P	01 33 45.7	-1.0
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	Storozhevoye	65.78	324	i P	P	01 33 52.2	-0.5
VSR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VORD	Divnogorie	65.94	324	eP	P	01 33 53.0	-0.7
VORD				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GEYT	Alibeck	67.88	304	P	P	01 34 06.7	+0.3
	comp=Z,2.1nm,0.8s,baz=346,slow=3.1,SNR=5.6						
L42A	Oliver, Polo	68.25	49	eP	P	01 34 16.4	+7.8
	comp=Z,15nm,0.8s						
AKASG	Malin Array Be	69.58	329	P	P	01 34 16.6	-0.1
	comp=Z,5.5nm,0.8s,baz=30,slow=6.6,SNR=19						
KIEV	Kiev	69.59	329	eP	P	01 34 15.9	-0.8
	comp=Z,8.6nm,1.0s						
KIEV	Kiev	69.59	329	i P	P	01 34 16.5	-0.2
KIEV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV	Kislovodsk	70.34	317	eP	P	01 34 22.4	+0.8
KIV				pmax	pmax		
	comp=Z,11nm,0.9s						
KBZ	Khabaz	70.44	317	P	P	01 34 22.8	+0.8
	comp=Z,4.8nm,0.9s,baz=172,slow=0.2,SNR=9.7						
TXAR	Lajitas Array	70.69	67	P	P	01 34 26.1	+2.1
	comp=Z,0.4nm,0.8s,baz=299,slow=3.9,SNR=3.7						
AKH	Akhalkalaki	72.08	315	eP	P	01 34 33.4	+1.1
	comp=Z,6.1nm,1.1s						
AKH	Akhalkalaki	72.08	315	⇓iP	P	01 34 34.0	+1.7
AKH	Akhalkalaki	72.08	315	eP	P	01 34 33.4	+1.1
AKH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GNI	Garni	72.56	314	ceP	P	01 34 36.8	+1.7
GNI				pmax	pmax		
	comp=Z,14nm,0.8s						
KOLS	Kolonicke sedl	73.22	333	eP	P	01 34 40.2	+1.5
KOLS	Kolonicke sedl	73.22	333	eP	P	01 34 40.2	+1.5
CLL	Collm	73.34	339	i P	P	01 34 39.9	+0.6
CLL				i		01 34 50.3	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CLL	Collm	73.34	339	i P	P	01 34 39.9	+0.6
	comp=Z,6.0nm,1.0s						
CLL				i pP	pP	01 34 50.3	0.0
DPC	Dobruska-Polom	73.48	337	eP	P	01 34 41.6	+1.4
DPC				e		01 34 52.9	
DPC	Dobruska-Polom	73.48	337	eP	P	01 34 41.6	+1.4
DPC				epP	pwP	01 34 52.9	-2.5
BURAR	Bucovina Array	73.54	330	⇓iP	P	01 34 41.6	+0.8
BURAR	Bucovina Array	73.54	330	⇓P	P	01 34 41.6	+0.8
MORC	Moravsky Berou	73.71	336	⇓iP	P	01 34 43.2	+1.6
MORC	Moravsky Berou	73.71	336	⇓P	P	01 34 43.2	+1.6
TRPA	Tarpa	73.87	332	⇑iP	P	01 34 43.8	+1.3
PRU	Pruhonice	74.23	338	eP	P	01 34 45.9	+1.3
PRU	Pruhonice	74.23	338	eP	P	01 34 45.9	+1.3
VRAC	Vranov	74.38	336	⇑iP	P	01 34 46.4	+0.9
VRAC	Vranov	74.38	336	⇑P	P	01 34 46.4	+0.9
VYHS	Vyhne	74.56	335	eP	P	01 34 48.5	+1.9
VYHS	Vyhne	74.56	335	eP	P	01 34 48.5	+1.9
VRI	Vrincioaia	74.63	329	⇑iP	P	01 34 47.7	+0.7
VRI	Vrincioaia	74.63	329	⇑P	P	01 34 47.7	+0.7
CFR	Carcaliu	74.78	327	⇑iP	P	01 34 48.8	+1.0
CFR	Carcaliu	74.78	327	⇑P	P	01 34 48.8	+1.0
DRGR		75.03	332	⇑iP	P	01 34 50.4	+1.0
DRGR		75.03	332	⇑P	P	01 34 50.4	+1.0
MLR	Muntele Rosu	75.21	329	eP	P	01 34 51.2	+0.8
	comp=Z,3.6nm,0.8s						
MLR	Muntele Rosu	75.21	329	⇓iP	P	01 34 52.3	+1.8
MLR	Muntele Rosu	75.21	329	eP	P	01 34 51.3	+0.8
MLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KHC	Kasperske Hory	75.26	338	eP	P	01 34 52.3	+1.7
KHC				e		01 35 01.7	
KHC	Kasperske Hory	75.26	338	eP	P	01 34 52.3	+1.7
KHC				epP	pP	01 35 01.7	+0.1
TLB	Topalu	75.33	327	⇓iP	P	01 34 52.1	+1.1
TLB	Topalu	75.33	327	⇓P	P	01 34 52.1	+1.1
WET	Wettzell	75.40	339	P	P	01 34 55.3	+3.9
WET				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GERES	GERESS Array B	75.50	338	P	P	01 34 52.7	+0.6
	comp=Z,1.0nm,0.9s,baz=34,slow=5.0,SNR=6.8						
VOIR		75.54	329	⇑iP	P	01 34 53.8	+1.4
VOIR		75.54	329	⇑P	P	01 34 53.8	+1.4
ARR	Arges	75.73	330	⇓iP	P	01 34 55.4	+2.0
CONA	Conrad Observa	75.84	336	eP	P	01 34 56.1	+2.1
	comp=Z,3.2nm,1.2s						
GZR	Gura Zlata	76.28	331	⇑iP	P	01 34 57.0	+0.5
GZR	Gura Zlata	76.28	331	⇑P	P	01 34 57.1	+0.5
ARSA	Arzberg	76.56	336	eP	P	01 34 59.8	+1.7
	comp=Z,3.5nm,1.1s						
KBA	Koelnbreinsper	77.24	338	eP	P	01 35 04.2	+2.2
	comp=Z,8.5nm,0.8s						
KBA	Koelnbreinsper	77.24	338	P	P	01 35 05.5	+3.4
KBA				pmax	pmax		
	comp=Z,14nm,1.1s						
MOTA	Moosalm	77.49	339	eP	P	01 35 06.0	+2.5
	comp=Z,3.1nm,1.0s						
BR131	Keskin Array S	77.55	321	eP	P	01 35 03.7	-0.2
	comp=Z,3.0nm,1.1s						
BR131	Keskin Array S	77.55	321	eP	P	01 35 03.7	-0.2
BR131				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRTR	Keskin Array B	77.55	321	ceP	P	01 35 04.6	+0.7
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRTR	Keskin Array B	77.55	321	P	P	01 35 04.4	+0.5
	comp=Z,2.2nm,1.0s,baz=31,slow=2.9,SNR=13						
SQTA	Sankt Quirin	77.59	339	eP	P	01 35 05.8	+1.8
	comp=Z,4.9nm,0.9s						
ABTA	Abfaltersbach	77.74	338	eP	P	01 35 06.8	+2.0
	comp=Z,6.2nm,1.2s						
VTS	Vitosha	78.65	329	⇓iP	P	01 35 10.7	+0.8
VTS	Vitosha	78.65	329	⇓P	P	01 35 10.7	+0.8
ASAR	Alice Springs	79.05	205	P	P	01 35 14.5	+2.5
	comp=Z,0.5nm,0.7s,baz=23,slow=6.8,SNR=4.2						
SRS	Serrai	79.89	328	P	P	01 35 18.7	+2.1
KNT	Kendrikon	80.08	329	P	P	01 35 20.5	+2.7
GRG	Griva	80.42	329	P	P	01 35 22.5	+3.1
ESDC	Sonseca Array	87.56	348	P	P	01 35 56.9	+1.0
	comp=Z,1.2nm,1.1s,baz=351,slow=4.8,SNR=3.1						

KRSC ***20*** *01:29:19.8±10.0, 52°.02N×160°.72E, h68km±10km, ML4.5*
IDC ***20*** *01:29:20.2±0.7, 52°.21N×160°.27E, h0km, mb4.0/28, mb1 4.2/31, mb1mx4.1/49, mbtmp4.0/31, ML3.6/3, Error ellipse: s-maj=17.5km s-min=10.9km az=152.0*
ISCJB ***20*** *01:29:21.5±1.0, 52°.03N±0°.03×160°.61E±0°.04, h28km±7km, mb4.2/53, Error ellipse: s-maj=4.7km s-min=4.0km az=141.7*
MOS ***20*** *01:29:22.6±1.1, 52°.07N×160°.56E, h36km, mb4.7/22, Error ellipse: s-maj=7.7km s-min=3.9km az=104.0*
NEIC ***20*** *01:29:25.2±2.2, 52°.19N×160°.30E, h39km±7km, mb4.5/24, Error ellipse: s-maj=16.6km s-min=13.7km az=165.0*
ISC 20 01:29:23.2±0.9, 52°.05N±0°.04×160°.64E±0°.03, h28km±6km, n202, σ1°39/241, mb4.3/54, 12C-5D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.12	341	eP	Pn	01 29 41.4	-1.6
SPN				eS	Sn	01 29 55.3	-2.2
SPN	Mys Shipunski	1.12	341	PN	Pn	01 29 41.4	-1.6
SPN				S	Sn	01 29 55.3	-2.2
RUS	Russkaya	1.36	287	eP	Pn	01 29 45.1	-1.3
RUS				eS	Sn	01 30 02.7	-0.8
RUS	Russkaya	1.36	287	PN	Pn	01 29 45.1	-1.3
RUS				S	Sn	01 30 02.7	-0.8
NLC	Nalytchevo	1.37	326	eP	Pn	01 29 45.7	-0.9
NLC				eS	Sn	01 30 03.7	-0.1
NLC	Nalytchevo	1.37	326	PN	Pn	01 29 45.7	-0.9
NLC				S	Sn	01 30 03.7	-0.1
DALK	Dalny	1.51	311	P	Pn	01 29 47.6	-0.9
DALK				eS	Sn	01 30 06.5	-0.8
DALK	Dalny	1.51	311	PN	Pn	01 29 47.6	-0.9
DALK				S	Sn	01 30 06.5	-0.8
PET	Petropavlovsk	1.56	310	ePn	Pn	01 29 47.8	-1.3
PET				eSn	Sn	01 29 55.5	-13
PET	Petropavlovsk	1.56	310	⇑iPN	Pn	01 29 48.4	-0.7
PET				eS	Sb	01 30 12.3	+1.7
PET				pmax	pmax		
	comp=Z,385nm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.6s						
PET				smax	smax		
	comp=E,2μm,0.6s						
MTVR	Mutnovka	1.57	287	eP	Pn	01 29 48.5	-0.9
MTVR				eS	Sn	01 30 07.8	-1.1
MTVR	Mutnovka	1.57	287	PN	Pn	01 29 48.5	-0.9
MTVR				S	Sn	01 30 07.8	-1.1
KDTR	Khodutka, Kamc	1.60	262	eP	Pn	01 29 48.4	-1.3
KDTR				eS	Sn	01 30 07.2	-2.2
KDTR	Khodutka, Kamc	1.60	262	PN	Pn	01 29 48.4	-1.3
KDTR				S	Sn	01 30 07.2	-2.2
UGLR	Uglovaya	1.60	317	eP	Pn	01 29 49.4	-0.5
UGLR				eS	Sn	01 30 09.4	-0.3
UGLR	Uglovaya	1.60	317	PN	Pn	01 29 49.4	-0.5
UGLR				S	Sn	01 30 09.4	-0.3
SDLR	Sedlovina	1.63	320	eP	Pn	01 29 49.9	-0.3
SDLR	Sedlovina	1.63	320	PN	Pn	01 29 49.9	-0.3
SMAR	Somma	1.65	318	eP	Pn	01 29 50.2	-0.4
SMAR				eS	Sn	01 30 10.7	-0.3
SMAR	Somma	1.65	318	PN	Pn	01 29 50.2	-0.4
SMAR				S	Sn	01 30 10.7	-0.3
AVH	Avacha	1.68	317	eP	Pn	01 29 50.6	-0.3
AVH	Avacha	1.68	317	PN	Pn	01 29 50.6	-0.3
KRER	Koryakskii	1.71	318	P	Pn	01 29 51.1	-0.2
KRER				eS	Sn	01 30 11.7	-0.6
KRER	Koryakskii	1.71	318	PN	Pn	01 29 51.1	-0.2
KRER				S	Sn	01 30 11.7	-0.6
ASAK	Asacha	1.72	282	eP	Pn	01 29 51.1	-0.3
ASAK	Asacha	1.72	282	PN	Pn	01 29 51.1	-0.3
KRMR	Karymshinskiy	1.72	298	P	Pn	01 29 50.7	-0.6
KRMR				eS	Sn	01 30 10.9	-1.5
KRMR	Karymshinskiy	1.72	298	PN	Pn	01 29 50.7	-0.6
KRMR				S	Sn	01 30 10.9	-1.5
KOK	Koryaka	1.74	316	P	Pn	01 29 51.4	-0.3
KOK	Koryaka	1.74	316	PN	Pn	01 29 51.4	-0.3
KRX	Arik	1.79	318	eP	Pn	01 29 52.1	-0.3
KRX	Arik	1.79	318	PN	Pn	01 29 52.1	-0.3
PEA0B	Petropavlovsk-	2.08	302	ePn	Pn	01 29 56.4	0.0
PEA0B	Petropavlovsk-	2.08	302	ePN	Pn	01 29 56.4	0.0
PETK	Petropavlovsk-	2.08	302	ePn	Pn	01 29 56.0	-0.3
PETK	Petropavlovsk-	2.08	302	ePN	Pn	01 29 56.0	-0.3
PETK	Petropavlovsk-	2.08	302	Pn	Pn	01 29 56.3	0.0
	comp=E,22nm,0.3s,baz=109,slow=19,SNR=100						
PETK				Sn	Sb	01 30 25.6	-0.2
	comp=E,42nm,0.3s,baz=105,slow=21,SNR=6.1

comp=N,0.6nm,0.3s,baz=81,slow=17,SNR=4.5
GRNR Gornyy 15.15 275 *e*P **P 01 33 01.9 +1.9**
GRNR pmax pmax
comp=Z,28nm,0.8s
ERM Erimo 15.54 237 *e*Pn **Pn 01 32 58.8 -1.4**
comp=Z,22nm,0.9s
ERM Erimo 15.54 237 *e*P **Pn 01 32 58.8 -1.4**
ERM pmax pmax
comp=Z,22nm,0.9s
BILL Bilibino 16.28 8 *e*P **P 01 33 13.8 +1.4**
BILL pmax pmax
comp=Z,10.0nm,0.9s
KLR Kul'dur 18.48 273 P **P 01 33 35.3 -1.6**
comp=Z,0.3nm,0.3s,baz=77,slow=11,SNR=12
YAK Yakutsk 19.39 313 *e*P **P 01 33 43.2 -3.4**
YAK pmax pmax
comp=Z,184nm,0.9s
YAK pmax pmax
comp=N,38nm,0.9s
YAK pmax pmax
comp=E,72nm,1.1s
USA0B Ussuriysk Arra 20.57 259 *e*P **P 01 33 55.7 -3.9**
comp=E,8.3nm,0.9s
USA0B Ussuriysk Arra 20.57 259 *e*P **P 01 33 55.7 -3.9**
USA0B pmax pmax
comp=Z,8.0nm,0.9s
USRK Ussuriysk Ar. 20.57 259 *e*P **P 01 33 57.2 -2.4**
USRK Ussuriysk Ar. 20.57 259 P **P 01 33 57.9 -1.7**
comp=Z,5.0nm,0.8s,baz=60,slow=11,SNR=13
MJAR Matsushiro Arr 22.18 234 P **P 01 34 17.1 0.0**
comp=Z,1.8nm,0.3s,baz=21,slow=9.8,SNR=8.7
MAJO Matsushiro 22.18 234 *e*P **P 01 34 17.1 0.0**
MAJO Matsushiro 22.18 234 *e*P **P 01 34 17.1 0.0**
MAT Matsushiro 22.18 234 P **P 01 34 18.7 +1.7**
TIXI Tiksi 24.17 336 *e*P **P 01 34 35.0 -1.7**
comp=Z,7.7nm,0.8s
TIXI *e*P **P 01 34 35.3 -1.4**
TIXI Tiksi 24.17 336 *e*P **P 01 34 35.0 -1.7**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 24.17 336 P **P 01 34 35.3 -1.4**
comp=Z,4.6nm,0.5s,baz=326,slow=1.0,SNR=14
IMAR Indian Mountai 26.57 41 *e*P **P 01 34 59.0 +0.5**
BOD Bodaibo 26.96 301 *e*P **P 01 35 01.0 -1.0**
KDAK Kodiak Island 27.04 59 *e*P **P 01 35 04.0 +1.2**
comp=Z,12nm,1.1s
KDAK Kodiak Island 27.04 59 *e*P **P 01 35 04.0 +1.2**
KDAK pmax pmax
comp=Z,12nm,1.1s
KDAK Kodiak Island 27.04 59 P **P 01 35 04.0 +1.2**
comp=Z,8.5nm,1.0s,baz=316,slow=8.1,SNR=3.9
KSRS Korea Array 27.15 250 P **P 01 35 04.3 +0.3**
comp=Z,1.2nm,0.6s,baz=46,slow=8.7,SNR=4.2
KS15 Wonju Array Si 27.18 250 *e*P **P 01 35 02.8 -1.5**
comp=Z,4.7nm,0.9s
JNU Nakatsue 28.64 240 *e*P **P 01 35 15.6 -1.7**
comp=Z,11nm,1.0s
JNU Nakatsue 28.64 240 P **P 01 35 15.6 -1.7**
comp=Z,1.4nm,0.4s,baz=90,slow=3.0,SNR=2.3
ILAR Eielson Array 29.33 44 P **P 01 35 24.3 +1.2**
comp=Z,0.2nm,0.6s,baz=252,slow=7.4,SNR=2.6
ILB Eielson Array 29.33 44 *e*P **P 01 35 21.2 -1.9**
comp=Z,2.6nm,1.0s
SONA0 Songino Array 34.48 285 *e*P **P 01 36 07.0 -1.7**
SONM Songino Array 34.48 285 P **P 01 36 07.0 -1.6**
SONM Songino Array 34.48 285 P **P 01 36 07.0 -1.6**
comp=Z,0.5nm,0.4s,baz=62,slow=6.9,SNR=6.6
INK Inuvik 34.50 37 P **P 01 36 08.1 -0.3**
comp=Z,0.6nm,0.9s,baz=301,slow=5.9,SNR=3.3
NJ2 Nanjing 36.25 253 *e*P **P 01 36 28.3 +4.5**
XAN Xi'an 40.89 265 P P 01 37 12.0 +9.2
XAN pP pwP 01 37 21.3 +6.0
ZAA1 Zalesovo Array 43.62 304 *e*P **P 01 37 22.2 -2.6**
ZALV Zalesovo Beam 43.63 304 P **P 01 37 22.2 -2.6**
comp=Z,1.6nm,0.8s,baz=91,slow=7.7,SNR=5.0
YKA Yellowknife Ar 43.72 42 P **P 01 37 26.7 +1.3**
comp=Z,0.1nm,0.5s,baz=296,slow=8.1,SNR=3.6
YKB5 Yellowknife Ar 43.72 42 *e*P **P 01 37 26.7 +1.3**
NVS Novosibirsk 43.99 306 ||*i*P **P 01 37 25.6 -2.1**
NVS *e* 01 37 36.6
NVS pmax pmax
comp=Z,10.0nm,1.1s
NVS pmax pmax
comp=E,5.0nm,1.0s
RES Resolute Bay 44.17 22 *e*P **P 01 37 29.4 +0.5**
comp=E,1.7nm,1.1s
RES Resolute Bay 44.17 22 *e*P **P 01 37 29.5 +0.5**
RES pmax pmax
comp=Z,2.0nm,1.1s
RES Resolute Bay 44.17 22 P **P 01 37 29.4 +0.5**
comp=Z,0.8nm,0.8s,baz=314,slow=11,SNR=4.4
SPA0 Spitsbergen Ar 48.22 351 *e*P **P 01 38 00.5 -0.2**
comp=Z,29nm,1.1s
SPITS Spitsbergen Ar 48.22 351 P **P 01 38 00.8 +0.1**
comp=Z,3.8nm,0.4s,baz=58,slow=7.9,SNR=52
KURK Kurchatov 48.57 303 *e*P **P 01 38 01.3 -2.5**
comp=Z,9.9nm,1.1s
KURK Kurchatov 48.57 303 *e*P **P 01 38 01.3 -2.5**
KURK pmax pmax
comp=Z,10.0nm,1.1s
MK32 Makanchi Array 48.91 297 *e*P **P 01 38 04.7 -1.9**
MK32 *e*PcP **PcP 01 39 31.1 +0.6**
MKAR Makanchi Array 48.91 297 P **P 01 38 04.7 -1.9**
comp=Z,1.7nm,0.5s,baz=57,slow=6.8,SNR=31
MKAR PcP **PcP 01 39 31.1 +0.6**
comp=Z,0.3nm,0.5s,baz=46,slow=4.2,SNR=2.5
BRVK Borovoye 51.33 309 *e*P **P 01 38 23.0 -1.7**
comp=Z,6.5nm,0.6s
BRVK Borovoye 51.33 309 *e*P **P 01 38 23.0 -1.7**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
PDGK Podgornoye 52.62 295 P **P 01 38 32.7 -1.9**
PDGK pmax pmax
comp=Z,3.0nm,0.9s
OTUK Ortayu 53.33 304 P **P 01 38 38.2 -1.4**
OTUK pmax pmax
comp=Z,4.0nm,0.9s
ARA0 ARCESS Array S 54.39 342 *e*P **P 01 38 46.6 -0.5**
ARCES ARCESS Array B 54.39 342 P **P 01 38 46.6 -0.5**
comp=Z,2.5nm,0.8s,baz=42,slow=8.0,SNR=7.5
ARU Arti 54.40 318 *e*P **P 01 38 45.6 -1.7**
comp=Z,6.2nm,0.6s
ARU Arti 54.40 318 P **P 01 38 46.0 -1.2**
SUMG Summit 54.96 7 *e*P **P 01 38 52.2 +0.7**
comp=Z,6.8nm,0.9s
SUMG Summit 54.96 7 *e*P **P 01 38 52.3 +0.7**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
NV01 Mina Array Sit 55.79 70 *e*P **P 01 39 01.0 +3.1**
NVAR Mina Array Bea 55.79 70 P **P 01 39 01.0 +3.1**
comp=Z,0.4nm,0.3s,baz=297,slow=12,SNR=3.4
AAK Ala-Archa 55.84 297 P **P 01 38 56.6 -1.5**
AAK pmax pmax
comp=Z,3.0nm,1.1s
KSH Kashi 57.12 293 P **P 01 39 09.4 +2.2**
KSH PP **PP 01 41 16.3 +2.5**
KSH S **S 01 47 02.3 +1.8**
KSH Kashi 57.12 293 SS **SS 01 50 50.0 +1.1**
PD31 Pinedale Array 57.75 61 *e*P **P 01 39 13.8 +2.1**
comp=Z,1.3nm,0.9s
PDAR Pinedale Array 57.75 61 P **P 01 39 13.8 +2.1**
comp=Z,0.2nm,0.3s,baz=310,slow=3.5,SNR=3.8
CMAR Chiang Mai Arr 58.30 259 P **P 01 39 16.3 +0.7**
comp=Z,2.3nm,0.6s,baz=27,slow=7.1,SNR=10
JOF Joensuu 58.66 336 P **P 01 39 17.3 -0.1**
JOF pmax pmax
comp=Z,13nm,0.8s
ABKAR Akbulak array 58.73 311 *e*P **P 01 39 15.9 -2.3**
SUF Sumiainen 60.09 338 P **P 01 39 27.8 +0.5**
SUF pmax pmax
comp=Z,23nm,0.8s
GAR Garm 60.64 297 *e*P **P 01 39 29.8 -1.8**
comp=Z,6.6nm,0.7s
GAR Garm 60.64 297 *e*P **P 01 39 29.8 -1.8**
GAR pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 61.21 337 P **P 01 39 35.0 0.0**
FINES FINESS Array B 61.21 337 P **P 01 39 35.0 0.0**
comp=Z,8.9nm,0.6s,baz=32,slow=8.3,SNR=46
NIL Nilore 62.79 290 *e*P **P 01 39 45.6 -0.5**
comp=Z,6.9nm,0.7s
NIL Nilore 62.79 290 *e*P **P 01 39 45.6 -0.5**
NIL pmax pmax
comp=Z,7.0nm,0.7s
NB2 NORSAR Subarra 64.64 344 P **P 01 39 56.8 -1.1**
comp=Z,1.0nm,0.5s,baz=21,slow=6.9
NB2 NORSAR Subarra 64.64 344 P **P 01 39 59.5 +1.6**
NB2 pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 64.64 344 P **P 01 39 57.7 -0.1**
comp=Z,1.6nm,0.6s,baz=21,slow=6.6,SNR=12
GEYT Alibeck 67.94 304 P **P 01 40 18.8 -0.6**
comp=Z,2.6nm,0.8s,baz=27,slow=3.6,SNR=6.0
AKASG Malin Array Be 69.68 329 P **P 01 40 29.4 -0.5**
comp=Z,3.4nm,0.6s,baz=29,slow=6.4,SNR=14
AKBB Malin Array Si 69.68 329 *e*P **P 01 40 29.2 -0.7**
comp=Z,5.4nm,0.8s
KIEV Kiev 69.69 329 *e*P **P 01 40 28.5 -1.5**
comp=Z,5.2nm,0.7s
KIEV Kiev 69.69 329 *e*P **P 01 40 28.5 -1.5**
KIEV pmax pmax
comp=Z,5.0nm,0.7s
KBZ Khabaz 70.53 317 P **P 01 40 35.0 -0.1**
comp=Z,2.5nm,0.8s,baz=92,slow=2.0,SNR=6.7
LTX Lajitas 70.74 67 *e*P **P 01 40 38.7 +1.8**
LTX Lajitas 70.74 67 *e*P **P 01 40 38.7 +1.8**
TXAR Lajitas Array 70.74 67 P **P 01 40 38.7 +1.8**
comp=Z,0.3nm,0.4s,baz=299,slow=4.8,SNR=9.8
EKA Eskdalemuir Ar 72.14 350 P **P 01 40 45.0 +0.2**
EKA pmax pmax
comp=Z,1.0nm,0.4s
AKH Akhalkalaki 72.16 315⇑ *i*P **P 01 40 46.4 +1.0**
AKH Akhalkalaki 72.16 315 P **P 01 40 46.3 +0.9**
KSP Ksiaz 73.14 337 P **P 01 40 51.8 +1.0**
KOLS Kolonicke sedl 73.33 333 *e*P **P 01 40 52.5 +0.5**
KOLS Kolonicke sedl 73.33 333 *e*P **P 01 40 52.5 +0.5**
CLL Collm 73.45 339 *i* P **P 01 40 52.6 0.0**
CLL *i* 01 41 04.0
CLL pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 73.45 339 *i* P **P 01 40 52.6 0.0**
comp=Z,4.0nm,0.6s
CLL *i* pP **sP 01 41 04.0 +1.2**
CLZ Clausthal 73.49 341 P **P 01 40 53.7 +0.8**
CLZ pmax pmax
comp=Z,3.0nm,0.8s
BURAR Bucovina Array 73.65 330⇑ *i*P **P 01 40 54.2 +0.2**
BURAR Bucovina Array 73.65 330 P **P 01 40 54.1 +0.1**
TRPA Tarpa 73.98 332⇑ *i*P **P 01 40 56.5 +0.8**
TESR Tescani 74.18 329⇑ *i*P **P 01 40 57.1 +0.1**
VRI Vrincioaia 74.73 329⇓ *i*P **P 01 41 00.7 +0.5**
VRI Vrincioaia 74.73 329 P **P 01 41 00.6 +0.4**
KRUC Moravsky 74.77 337 P **P 01 41 00.6 +0.3**
KRUC pmax pmax
comp=Z,3.0nm,0.6s
CFR Carcaliu 74.88 327⇓ *i*P **P 01 41 01.2 +0.2**
CFR Carcaliu 74.88 327 P **P 01 41 01.2 +0.2**
DOPR Dopca 75.06 329⇓ *i*P **P 01 41 03.0 +0.8**
DRGR 75.14 332⇓ *i*P **P 01 41 02.5 -0.2**
DRGR 75.14 332 P **P 01 41 02.4 -0.2**
MLR Muntele Rosu 75.31 329⇑ *i*P **P 01 41 04.8 +1.1**
MLR Muntele Rosu 75.31 329 P **P 01 41 04.1 +0.4**
MLR pmax pmax
comp=Z,5.0nm,0.6s
KHC Kasperske Hory 75.37 338 P **P 01 41 04.8 +0.9**
KHC pmax pmax
comp=Z,1.0nm,1.2s
GERES GERESS Array B 75.61 338 P **P 01 41 05.5 +0.2**
comp=Z,0.5nm,0.6s,baz=44,slow=7.8,SNR=5.1
VOIR 75.65 329⇑ *i*P **P 01 41 06.4 +0.8**
VOIR 75.65 329 P **P 01 41 05.6 0.0**
VOIR pmax pmax
comp=Z,6.0nm,0.8s
ARR Arges 75.84 330⇑ *i*P **P 01 41 07.6 +0.9**
GZR Gura Zlata 76.38 331⇑ *i*P **P 01 41 09.9 +0.1**
GZR Gura Zlata 76.38 331 P **P 01 41 09.9 +0.1**
BZS Buzias 76.53 332⇑ *i*P **P 01 41 10.1 -0.3**
BZS Buzias 76.53 332 P **P 01 41 09.9 -0.5**
BZS pmax pmax
comp=Z,4.0nm,1.4s
SOKA Soboth 77.32 337 *e*P **P 01 41 17.1 +2.1**
comp=Z,3.7nm,1.3s
PUNG Punghina 77.34 330⇑ *i*P **P 01 41 14.8 -0.3**
KBA Koelnbreinsper 77.35 338 *e*P **P 01 41 17.0 +1.7**
comp=Z,7.5nm,0.9s
KBA Koelnbreinsper 77.35 338 P **P 01 41 16.5 +1.2**
KBA pmax pmax
comp=Z,13nm,0.9s
WATA Walderalm 77.51 339 *e*P **P 01 41 17.6 +1.5**
comp=Z,3.1nm,1.0s
MOTA Moosalm 77.61 339 *e*P **P 01 41 17.7 +1.0**
comp=Z,1.6nm,0.8s
BR101 Keskin Array S 77.64 321 *e*P **P 01 41 16.9 -0.1**
BRTR Keskin Array B 77.64 321 P **P 01 41 16.9 -0.1**
comp=Z,1.5nm,0.9s,baz=35,slow=3.0,SNR=9.6
SQTA Sankt Quirin 77.70 339 PcP **P 01 41 20.1 +2.9**
comp=Z,2.6nm,0.9s
VTS Vitosha 78.75 329⇑ *i*P **P 01 41 23.0 -0.1**
VTS Vitosha 78.75 329 P **P 01 41 23.0 -0.1**
AS31 Alice Springs 78.94 205 *e*P **P 01 41 25.7 +1.7**
comp=Z,0.5nm,0.8s
ASAR Alice Springs 78.94 205 P **P 01 41 25.7 +1.7**
comp=Z,0.5nm,0.6s,baz=20,slow=4.4,SNR=4.3
ESDC Sonseca Array 87.67 348 P **P 01 42 09.6 +0.5**
comp=Z,0.2nm,0.4s,baz=358,slow=5.4,SNR=5.8

KRSC 20 01:30:48.9±10.0, 52°.12N×160°.60E, h42km±10km, ML4.1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.04**	**340**	P	P	Pn	01 31 08.0	+1.0
SPN				S	S	Sn	01 31 20.8	+0.5
NLC	**Nalytchevo**	**1.30**	**324**	P	P	Pn	01 31 12.4	+1.9
NLC				S	S	Sn	01 31 29.0	+2.3
RUS	**Russkaya**	**1.32**	**284**	P	P	Pn	01 31 12.1	+1.3
RUS				S	S	Sn	01 31 28.2	+1.0
MTVR	**Mutnovka**	**1.53**	**285**	P	P	Pn	01 31 15.7	+1.9
MTVR				S	S	Sn	01 31 34.8	+2.2
UGLR	**Uglovaya**	**1.54**	**316**	P	P	Pn	01 31 16.4	+2.5
SDLR	**Sedlovina**	**1.56**	**319**	P	P	Pn	01 31 16.7	+2.5
KDTR	**Khodutka, Kamc**	**1.59**	**260**	P	P	Pn	01 31 16.0	+1.4
KDTR				S	S	Sn	01 31 35.0	+1.1
AVH	**Avacha**	**1.61**	**316**	P	P	Pn	01 31 17.4	+2.5
KRMR	**Karymshinskiy**	**1.67**	**296**	P	P	Pn	01 31 17.6	+2.0
KRMR				S	S	Sn	01 31 37.9	+2.1
KRX	**Arik**	**1.71**	**317**	P	P	Pn	01 31 19.2	+2.8
MKZ	**Mys Kozlova**	**2.53**	**15**	S	S	Sn	01 31 58.2	+1.3

ATH 20 01:32:22.9, 38°.49N×23°.83E, h11km±4km, ML1.0/3, Error ellipse: s-maj=5.0km s-min=1.2km az=64.0, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EREA	**Eretria**	**0.11**	**131**	P	P	Pg	01 32 25.8	0.0
EREA				S	S	Sg	01 32 27.9	0.0
EREA				AML	AML		01 32 28.2	
	comp=N,322μm,0.2s							
EREA				AML	AML		01 32 29.1	
	comp=E,380μm,0.3s							
MRKA	**Markates**	**0.29**	**319**	P	P	Pg	01 32 28.8	0.0
MRKA				S	S	Sg	01 32 32.8	+0.1
MRKA				AML	AML		01 32 35.8	
	comp=N,62μm,0.4s							
MRKA				AML	AML		01 32 37.0	
	comp=E,64μm,0.3s							
DION	**Dionisos Attik**	**0.42**	**169**	P	P	Pg	01 32 31.2	0.0
DION				S	S	Sg	01 32 37.3	+0.5
DION				AML	AML		01 32 37.8	
	comp=E,52μm,0.3s							
DION				AML	AML		01 32 39.3	
	comp=N,22μm,0.2s							
PTL	**Penteli**	**0.44**	**176**	P	P	Pg	01 32 31.4	-0.2
PTL				S	S	Sg	01 32 37.4	-0.1
VIL2	**Platees**	**0.52**	**238**	P	P	Pg	01 32 32.7	-0.4
VIL2				S	S	Sg	01 32 40.3	+0.3
ATHU	**Athens Univers**	**0.53**	**184**	P	P	Pg	01 32 32.6	-0.6
VLY	**Voula,Athens**	**0.64**	**183**	P	P	Pg	01 32 35.0	-0.3
EPID	**Epidavros**	**1.04**	**213**	P	P	Pn	01 32 43.5	+0.1
DID	**Didima**	**1.09**	**206**	P	P	Pg	01 32 43.9	0.0
DID				S	S	Sn	01 32 58.7	-0.4

*KRSC **20** 01:33:16.6±10.0, 52°.03N×160°.67E, h67km±10km, ML4.6*
*IDC **20** 01:33:17.5±0.7, 52°.33N×160°.20E, h0km, mb4.0/26,*
mb1 4.1/29, mb1mx4.1/46, mbtmp4.0/29, ML4.0/3, MS4.2/2,
Ms1 4.2/2, ms1mx3.5/38, Error ellipse: s-maj=17.2km
s-min=11.3km az=148.0
*ISCJB **20** 01:33:20.8±0.6, 52°.12N±0°.03×160°.45E±0°.06, h46km±4km,*
mb4.3/61, MS4.4/1, Error ellipse: s-maj=7.1km
s-min=3.7km az=43.4
*MOS **20** 01:33:21.2±1.2, 52°.18N×160°.31E, h50km, mb4.6/30, Error*
ellipse: s-maj=7.3km s-min=4.0km az=104.1
*NEIC **20** 01:33:21.8±0.4, 52°.17N×160°.29E, h35km, mb4.4/23, Error*
ellipse: s-maj=8.9km s-min=6.3km az=154.0
ISC 20 01:33:21.9±0.9, 52°.11N±0°.04×160°.52E±0°.04, h44km±7km, n214, σ1§80/247, mb4.3/61, 15C-12D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.03**	**343**	*e*P	P	Pn	01 33 37.8	-2.1
SPN				*e*S	S	Sn	01 33 51.9	-1.3
SPN	**Mys Shipunski**	**1.03**	**343**	PN	P	Pn	01 33 37.8	-2.1
SPN				S	S	Sn	01 33 51.9	-1.3
RUS	**Russkaya**	**1.28**	**285**	*e*P	P	Pn	01 33 41.8	-1.4
RUS				*e*S	S	Sn	01 33 58.7	-0.4
RUS	**Russkaya**	**1.28**	**285**	PN	P	Pn	01 33 41.8	-1.4
RUS				S	S	Sn	01 33 58.7	-0.4
NLC	**Nalytchevo**	**1.28**	**326**	*e*P	P	Pn	01 33 42.6	-0.7
NLC				*e*S	S	Sn	01 34 00.1	+0.9
NLC	**Nalytchevo**	**1.28**	**326**	PN	P	Pn	01 33 42.6	-0.7
NLC				S	S	Sn	01 34 00.1	+0.9
DALK	**Dalny**	**1.42**	**311**	P	P	Pn	01 33 43.8	-1.3
DALK				*e*S	S	Sn	01 34 02.4	-0.2
DALK	**Dalny**	**1.42**	**311**	PN	P	Pn	01 33 43.8	-1.3
DALK				S	S	Sn	01 34 02.4	-0.2
PET	**Petropavlovsk**	**1.46**	**309**	*e*Pn	P	Pn	01 33 44.8	-1.0
PET				*e*Sn	S	Sn	01 33 51.5	-12
PET	**Petropavlovsk**	**1.46**	**309**⇑	*i*PN	P	Pn	01 33 44.7	-1.0
PET				pmax	pmax			
	comp=Z,396nm,0.7s							
MTVR	**Mutnovka**	**1.48**	**285**	*e*P	P	Pn	01 33 45.1	-1.1
MTVR				*e*S	S	Sn	01 34 04.3	-0.2
MTVR	**Mutnovka**	**1.48**	**285**	PN	P	Pn	01 33 45.1	-1.1
MTVR				S	S	Sn	01 34 04.3	-0.2
UGLR	**Uglovaya**	**1.51**	**317**	*e*P	P	Pn	01 33 46.2	-0.3
UGLR				*e*S	S	Sn	01 34 06.3	+1.3
UGLR	**Uglovaya**	**1.51**	**317**	PN	P	Pn	01 33 46.2	-0.3
UGLR				S	S	Sn	01 34 06.3	+1.3
KDTR	**Khodutka, Kamc**	**1.54**	**260**	*e*P	P	Pn	01 33 45.0	-1.8
KDTR				*e*S	S	Sn	01 34 04.1	-1.6
KDTR	**Khodutka, Kamc**	**1.54**	**260**	PN	P	Pn	01 33 45.0	-1.8
KDTR				S	S	Sn	01 34 04.1	-1.6
SMAR	**Somma**	**1.56**	**318**	*e*P	P	Pn	01 33 45.8	-1.5
SMAR	**Somma**	**1.56**	**318**	PN	P	Pn	01 33 45.8	-1.5
AVH	**Avacha**	**1.59**	**317**	*e*P	P	Pn	01 33 47.3	-0.2
AVH				*e*S	S	Sn	01 34 08.2	+1.3
AVH	**Avacha**	**1.59**	**317**	PN	P	Pn	01 33 47.3	-0.2
AVH				S	S	Sn	01 34 08.2	+1.3
KRER	**Koryakskii**	**1.61**	**319**	*e*P	P	Pn	01 33 47.8	-0.2
KRER	**Koryakskii**	**1.61**	**319**	PN	P	Pn	01 33 47.8	-0.2
KRMR	**Karymshinskiy**	**1.63**	**297**	*e*P	P	Pn	01 33 47.3	-0.8
KRMR				*e*S	S	Sn	01 34 08.7	+0.9
KRMR	**Karymshinskiy**	**1.63**	**297**	PN	P	Pn	01 33 47.3	-0.8
KRMR				S	S	Sn	01 34 08.7	+0.9
ASAK	**Asacha**	**1.64**	**281**	*e*P	P	Pn	01 33 47.6	-0.6
ASAK				*e*S	S	Sn	01 34 09.0	+0.9
ASAK	**Asacha**	**1.64**	**281**	PN	P	Pn	01 33 47.6	-0.6
ASAK				S	S	Sn	01 34 09.0	+0.9
KOK	**Koryaka**	**1.65**	**317**	*e*P	P	Pn	01 33 47.8	-0.6
KOK	**Koryaka**	**1.65**	**317**	PN	P	Pn	01 33 47.8	-0.6
KRX	**Arik**	**1.69**	**318**	*e*P	P	Pn	01 33 48.9	-0.1
KRX	**Arik**	**1.69**	**318**	PN	P	Pn	01 33 48.9	-0.1
PEA0B	**Petropavlovsk-**	**1.99**	**301**	*e*Pn	P	Pn	01 33 53.3	+0.3
PEA0B				*e*Sn	S	Sn	01 34 05.1	-12
PEA0B	**Petropavlovsk-**	**1.99**	**301**	*e*PN	P	Pn	01 33 53.3	+0.3
PETK	**Petropavlovsk-**	**1.99**	**301**	*e*Pn	P	Pn	01 33 52.6	-0.4
PETK	**Petropavlovsk-**	**1.99**	**301**	*e*PN	P	Pn	01 33 52.6	-0.4
PETK	**Petropavlovsk-**	**1.99**	**301**	Pn	P	Pn	01 33 53.1	+0.1
	comp=Z,17nm,0.3s,baz=105,slow=18,SNR=15							
PETK				Sn	S	Sn	01 34 22.5	+5.8
	comp=Z,41nm,0.3s,baz=76,slow=25,SNR=7.2							
PEA1	**Petropavlovsk-**	**1.99**	**301**	*e*Pn	P	Pn	01 33 53.1	+0.1
PEA1				*e*Sn	S	Sn	01 34 22.5	+5.7
APC	**Apacha**	**2.21**	**293**	*e*P	P	Pn	01 33 56.2	+0.2
APC	**Apacha**	**2.21**	**293**	PN	P	Pn	01 33 56.2	+0.2
PAU	**Pauzhetka**	**2.40**	**256**	*e*P	P	Pn	01 33 57.4	-1.1
PAU				*e*S	S	Sn	01 34 24.8	-1.8
PAU	**Pauzhetka**	**2.40**	**256**	PN	P	Pn	01 33 57.4	-1.1
PAU				S	S	Sn	01 34 24.8	-1.8
MKZ	**Mys Kozlova**	**2.55**	**16**	*e*P	P	Pn	01 33 59.1	-1.6
MKZ				*e*S	S	Sn	01 34 27.2	-3.3
MKZ	**Mys Kozlova**	**2.55**	**16**	PN	P	Pn	01 33 59.1	-1.6
MKZ				S	S	Sn	01 34 27.2	-3.3
KZV	**Kizimen**	**3.01**	**357**	*e*P	P	Pn	01 34 06.8	-0.3
KZV				*e*S	S	Sn	01 34 41.2	-0.8
KZV	**Kizimen**	**3.01**	**357**	PN	P	Pn	01 34 06.8	-0.3
KZV				S	S	Sn	01 34 41.2	-0.8
TUMD	**Tumrok D**	**3.10**	**359**	*e*P	P	Pn	01 34 07.5	-0.7
TUMD				*e*S	S	Sn	01 34 43.3	-0.7
SKR	**Severo-Kuril's**	**3.11**	**244**	*e*P	P	Pn	01 34 06.9	-1.4
SKR				*e*S	S	Sn	01 34 41.3	-2.9
SKR	**Severo-Kuril's**	**3.11**	**244**	*e*PN	P	Pn	01 34 07.2	-1.1
SKR				*e*S	S	Sn	01 34 41.5	-2.7
SKR				pmax	pmax			
	comp=Z,62nm,0.7s							
SKR				smax	smax			
	comp=E,744nm,0.3s							
SKR				smax	smax			
	comp=N,886nm,0.6s							
TUMR	**Tumrok**	**3.19**	**356**	*e*P	P	Pn	01 34 09.5	0.0
TUMR				*e*S	S	Sn	01 34 45.9	-0.3
TUMR	**Tumrok**	**3.19**	**356**	PN	P	Pn	01 34 07.5	-2.0
TUMR				S	S	Sn	01 34 43.3	-2.9
ALID	**Alaid**	**3.35**	**250**	*e*P	P	Pn	01 34 10.5	-1.3
ALID	**Alaid**	**3.35**	**250**	PN	P	Pn	01 34 10.5	-1.3
BZGR	**Bezymyannyi-Gr**	**3.84**	**1**	P	P	Pn	01 34 17.6	-0.8
BZGR	**Bezymyannyi-Gr**	**3.84**	**1**	PN	P	Pn	01 34 17.6	-0.8
ESO	**Esso**	**3.97**	**345**	P	P	Pn	01 34 20.4	+0.2
ESO	**Esso**	**3.97**	**345**	PN	P	Pn	01 34 20.4	+0.2
SRDR	**Sredinnyy**	**4.24**	**354**	*e*P	P	Pn	01 34 24.2	+0.3
SRDR	**Sredinnyy**	**4.24**	**354**	PN	P	Pn	01 34 24.2	+0.3
KBTR	**Krutoberegovo**	**4.32**	**17**	*e*P	P	Pn	01 34 23.7	-1.2
KBTR	**Krutoberegovo**	**4.32**	**17**	PN	P	Pn	01 34 23.7	-1.2
BKI	**Bering**	**4.48**	**44**	*e*S	S	Sn	01 35 10.3	-7.6
SMKR	**Semkarok**	**4.51**	**7**	*e*P	P	Pn	01 34 27.6	-0.1
SMKR	**Semkarok**	**4.51**	**7**	PN	P	Pn	01 34 27.6	-0.1
SRKR	**Sorokina**	**4.57**	**4**	*e*P	P	Pn	01 34 29.5	+1.1
SRKR	**Sorokina**	**4.57**	**4**	PN	P	Pn	01 34 29.5	+1.1
MA2	**Magadan**	**9.27**	**328**	*e*Pn	P	Pn	01 35 30.6	-2.1
MA2	**Magadan**	**9.27**	**328**	*e*PN	P	Pn	01 35 30.6	-2.1
MA2	**Magadan**	**9.27**	**328**	LR	LR		01 40 11.4	
	comp=N,607nm,18.5s,baz=178,slow=46							
SEY	**Seymchan**	**11.69**	**341**	*i*PN	P	Pn	01 36 03.5	-2.2
SEY	**Seymchan**	**11.69**	**341**	Pn	P	Pn	01 36 04.0	-1.8
	comp=N,0.4nm,0.3s,baz=130,slow=16,SNR=2.3							
ASAJ	**Asahikawa**	**14.37**	**243**	Pn	P	Pn	01 36 41.4	-1.0
	comp=N,2.0nm,0.3s,baz=52,slow=14,SNR=5.7							
GRNR	**Gornyy**	**15.07**	**274**	*e*P	P		01 36 58.2	+2.0
GRNR				pmax	pmax			
	comp=Z,32nm,1.0s							
ERM	**Erimo**	**15.52**	**236**	*i* P	P	Pn	01 36 55.1	-2.3
BILL	**Bilibino**	**16.22**	**8**	*e*Pn	P	Pn	01 37 06.0	-0.2
	comp=Z,9.3nm,0.8s							
BILL	**Bilibino**	**16.22**	**8**	*e*P	P	Pn	01 37 06.

MAJO pmax pmax
comp=Z,13nm,0.9s
MAT Matsushiro 22.16 234 P **P 01 38 15.4 +1.5**
MJAR Matsushiro Arr 22.16 234 *eP* **P 01 38 14.1 +0.2**
MJAR Matsushiro Arr 22.16 234 P **P 01 38 14.8 +1.0**
comp=Z,1.8nm,0.4s,baz=24,slow=9.2,SNR=6.8
TIXI Tiksi 24.09 336 *eP* **P 01 38 30.8 -1.8**
comp=Z,7.1nm,0.8s
TIXI Tiksi 24.09 336 *i* P **P 01 38 30.5 -2.2**
TIXI pmax pmax
comp=Z,8.0nm,0.9s
TIXI Tiksi 24.09 336 P **P 01 38 31.4 -1.2**
comp=Z,7.9nm,0.7s,baz=123,slow=9.5,SNR=10
HIA Hailar 25.75 280 *i* P **P 01 38 44.8 -3.3**
HIA pmax pmax
comp=Z,42nm,1.0s
BOD Bodaibo 26.86 301 *eP* **P 01 38 55.7 -2.3**
BOD pmax pmax
comp=Z,4.0nm,1.2s
KSRS Korea Array 27.11 250 P **P 01 39 01.5 +1.1**
comp=Z,1.1nm,0.5s,baz=42,slow=9.1,SNR=5.6
KS15 Wonju Array Si 27.14 250 *eP* **P 01 39 01.5 +0.8**
comp=Z,5.8nm,1.1s
JNU Nakatsue 28.61 240 *eP* **P 01 39 14.2 +0.4**
comp=Z,10nm,1.0s
JNU Nakatsue 28.61 240 P **P 01 39 16.0 +2.1**
comp=Z,3.5nm,0.8s,baz=24,slow=10.0,SNR=2.5
MIDW Midway 29.02 137 *eP* **P 01 39 19.4 +2.0**
comp=Z,64nm,1.0s
ILAR Eielson Array 29.33 44 P **P 01 39 21.5 +1.6**
comp=Z,0.1nm,0.4s,baz=252,slow=7.4,SNR=2.4
ILB Eielson Array 29.33 44 *eP* **P 01 39 21.5 +1.6**
comp=Z,2.1nm,1.0s
BCAR Beaver Creek A 31.69 47 *eP* **P 01 39 42.7 +1.9**
CTGM Chitina Glacie 32.23 51 *eP* **P 01 39 46.6 +1.0**
comp=Z,5.2nm,1.1s
ULN Ulaanbaatar 33.99 285 *i* P **P 01 39 59.2 -2.0**
ULN pmax pmax
comp=Z,2.0nm,1.2s
TLY Talaya 34.33 292 *eP* **P 01 40 02.5 -1.4**
SONA0 Songino Array 34.39 285 *eP* **P 01 40 03.9 -0.7**
SONM Songino Array 34.39 285 P **P 01 40 03.9 -0.7**
comp=Z,0.4nm,0.4s,baz=60,slow=7.8,SNR=6.0
SONM LR LR 01 54 45.4
comp=Z,703nm,18.4s,baz=78,slow=38
INK Inuvik 34.49 37 P **P 01 40 06.3 +1.2**
comp=Z,1.2nm,1.0s,baz=260,slow=10,SNR=2.6
HHC Hu-ho-hao-te 34.91 271 *eP* **P 01 40 05.9 -3.2**
HHC S **S 01 45 28.8 -8.6**
ZAK Zakamensk 35.08 290 *eP* **P 01 40 09.9 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
NJ2 Nanjing 36.20 253 *eP* **P 01 40 23.3 +3.1**
NRIK Noril'sk 36.86 326 P **P 01 40 24.4 -1.0**
comp=Z,1.5nm,0.3s,baz=100,slow=9.2,SNR=4.0
LZH Lanzhou 42.61 271 *eP* P 01 41 20.0 +6.3
LZH pP sP 01 41 35.0 +5.2
LZH sP pwP 01 41 42.0 +14
GTA Gaotai 42.99 278 *eP* P 01 41 27.3 +11
GTA pP pwP 01 41 32.4 +0.7
GTA sP sP 01 41 35.3 +2.5
ZALV Zalesovo Beam 43.53 304 P **P 01 41 19.1 -1.7**
comp=Z,0.4nm,0.3s,baz=81,slow=8.9,SNR=4.0
YKA Yellowknife Ar 43.71 42 P **P 01 41 23.2 +1.1**
comp=Z,0.1nm,0.6s,baz=299,slow=7.2,SNR=3.6
YKB5 Yellowknife Ar 43.71 42 *eP* **P 01 41 23.2 +1.1**
NVS Novosibirsk 43.89 306 *i* P **P 01 41 22.4 -1.2**
NVS *i* 01 41 33.5
NVS pmax pmax
comp=Z,11nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.1s
RES Resolute Bay 44.14 22 *eP* **P 01 41 26.4 +1.0**
comp=E,2.6nm,1.0s
RES Resolute Bay 44.14 22 *eP* **P 01 41 26.4 +1.0**
RES pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 44.14 22 P **P 01 41 26.4 +1.0**
comp=Z,0.5nm,0.7s,baz=304,slow=11,SNR=2.1
DGZ Jazzator, Alta 44.34 297 *i* P **P 01 41 26.3 -1.2**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
CD2 Chengdu 46.14 266 *eP* **P 01 41 41.1 -0.7**
WMQ Urumqi 47.55 290 *eP* **P 01 41 52.9 +0.2**
WMQ pP sP 01 42 12.6 +3.3
SPA0 Spitsbergen Ar 48.15 351 *eP* **P 01 41 57.2 +0.3**
SPITS Spitsbergen Ar 48.15 351 P **P 01 41 56.9 0.0**
comp=Z,2.8nm,0.4s,baz=63,slow=7.6,SNR=37
KURK Kurchatov 48.48 303 *eP* **P 01 41 57.8 -1.9**
comp=Z,9.6nm,1.0s
KURK Kurchatov 48.48 303 *i* P **P 01 41 58.0 -1.7**
KURK pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 48.82 297 *eP* **P 01 42 00.1 -2.4**
comp=Z,1.4nm,0.6s
MK31 Makanchi Array 48.82 297 *eP* **P 01 42 00.1 -2.4**
MK31 pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 48.82 297 *i* P **P 01 42 01.2 -1.3**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 48.82 297 P **P 01 42 01.0 -1.4**
comp=Z,1.1nm,0.5s,baz=56,slow=7.0,SNR=15
MAKZ Makanchi 48.99 297 *eP* **P 01 42 02.6 -1.1**
comp=Z,3.3nm,1.0s
MAKZ Makanchi 48.99 297 *eP* **P 01 42 02.6 -1.1**
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
KMI Kunming 50.92 261 P **P 01 42 20.0 +1.1**
BRVK Borovoye 51.24 309 *eP* **P 01 42 18.7 -1.9**
comp=Z,5.8nm,0.8s
BRVK Borovoye 51.24 309 *i* P **P 01 42 17.6 -3.0**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
DAG Danmarks Havn 51.39 360 P **P 01 42 23.6 +2.2**
DAG pmax pmax
comp=Z,3.0nm,1.7s
OTUK Ortayu 53.23 303 P **P 01 42 35.4 -0.1**
OTUK pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 54.30 318*c* *i* P **P 01 42 41.8 -1.4**
ARU S **S 01 50 10.5 -6.9**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARA0 ARCESS Array S 54.30 342 *eP* **P 01 42 42.8 -0.2**
ARCES ARCESS Array B 54.30 342 P **P 01 42 42.8 -0.2**
comp=Z,4.5nm,1.0s,baz=39,slow=7.6,SNR=5.2
SUMG Summit 54.91 7 *eP* **P 01 42 48.0 +0.2**
comp=Z,8.6nm,1.1s
SUMG Summit 54.91 7 *eP* **P 01 42 48.0 +0.2**
SUMG pmax pmax
comp=Z,9.0nm,1.1s
AAK Ala-Archa 55.75 297 *eP* **P 01 42 53.0 -1.0**
comp=Z,4.0nm,1.1s
AAK Ala-Archa 55.75 297 *i* P **P 01 42 52.3 -1.8**
AAK pmax pmax
comp=Z,3.0nm,1.1s
NV01 Mina Array Sit 55.83 70 *eP* **P 01 42 58.5 +3.7**
NVAR Mina Array Bea 55.83 70 P **P 01 42 58.5 +3.7**
comp=Z,0.2nm,0.3s,baz=310,slow=7.0,SNR=3.0
MSF Maaselka 56.62 338 P **P 01 43 01.3 +1.6**
MSF pmax pmax
comp=Z,15nm,1.1s
KSH Kashi 57.03 293 P **P 01 43 06.5 +3.3**
KSH pP pP 01 43 16.8 +1.7
KSH PP **PP 01 45 11.3 +1.5**
KSH S S 01 50 43.6 -11
KSH Kashi 57.03 293 SS SS 01 54 28.1 -15
KKAR Karatay Array 57.60 300 *eP* **P 01 43 05.3 -1.6**
comp=Z,2.6nm,1.0s
KKAR Karatay Array 57.60 300 *eP* **P 01 43 05.3 -1.6**
KKAR pmax pmax
comp=Z,3.0nm,1.0s
PD31 Pinedale Array 57.78 61 *eP* **P 01 43 08.6 +0.1**
comp=Z,2.3nm,1.1s
PDAR Pinedale Array 57.78 61 P **P 01 43 10.8 +2.3**
comp=Z,0.2nm,0.4s,baz=352,slow=5.5,SNR=3.3
CHTO Chiang Mai 57.97 259 P **P 01 43 12.6 +2.8**
CHTO pmax pmax
comp=Z,8.0nm,1.1s
OUL Oulu 58.02 339 P **P 01 43 10.8 +1.3**
OUL pmax pmax
comp=Z,18nm,1.3s
CMAR Chiang Mai Arr 58.24 259 P **P 01 43 13.4 +1.6**
comp=Z,1.8nm,0.3s,baz=25,slow=6.8,SNR=10
SUF Sumiainen 60.01 338 P **P 01 43 24.8 +1.5**
SUF pmax pmax
comp=Z,16nm,0.8s
GAR Garm 60.55 297 *eP* **P 01 43 26.3 -1.3**
comp=Z,8.3nm,0.9s
GAR Garm 60.55 297 *eP* **P 01 43 26.3 -1.3**
GAR pmax pmax
comp=Z,8.0nm,0.9s
AGMN Agassiz Nation 60.72 48 *eP* **P 01 43 32.2 +3.8**
comp=Z,14nm,0.9s
FIA0 FINESS Array S 61.13 337 *eP* **P 01 43 31.3 +0.3**
FIA0 FINESS Array S 61.13 337 *eP* **P 01 43 31.3 +0.3**
FINES FINESS Array B 61.13 337 *i* P **P 01 43 31.7 +0.7**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 61.13 337 P **P 01 43 31.3 +0.3**
comp=Z,5.9nm,0.6s,baz=35,slow=7.6,SNR=31
OBN Obninsk 63.49 328 *eP* **P 01 43 46.8 0.0**
OBN pmax pmax
comp=Z,5.0nm,0.7s
VSU Vasula 63.55 335 *i* P **P 01 43 45.7 -1.5**
VSU pmax pmax
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 64.56 344 P **P 01 43 54.2 +0.3**
comp=Z,0.8nm,0.5s,baz=22,slow=6.9
NOA NORSAR Array B 64.56 344 P **P 01 43 53.9 +0.1**
comp=Z,2.8nm,0.9s,baz=23,slow=6.4,SNR=7.9
VSR Storozhevoye 65.78 324 *i* P **P 01 43 58.8 -3.1**
VSR pmax pmax
comp=Z,5.0nm,0.9s
GEYT Alibeck 67.85 304 P **P 01 44 15.9 +0.6**
comp=Z,19nm,0.8s,baz=348,slow=6.4,SNR=5.1
AKASG Malin Array Be 69.59 329 P **P 01 44 26.1 +0.2**
comp=Z,3.8nm,0.8s,baz=30,slow=6.5,SNR=10
KIEV Kiev 69.60 329 *eP* **P 01 44 25.4 -0.5**
comp=Z,7.0nm,1.0s
KIEV Kiev 69.60 329 *eP* **P 01 44 24.4 -1.5**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 70.43 317 P **P 01 44 31.7 +0.6**
comp=Z,2.7nm,0.7s,baz=9.8,slow=2.9,SNR=6.5
LTX Lajitas 70.78 67 *eP* **P 01 44 35.4 +1.8**
LTX Lajitas 70.78 67 *eP* **P 01 44 35.4 +1.8**
TXAR Lajitas Array 70.78 67 P **P 01 44 35.4 +1.8**
comp=Z,0.2nm,0.4s,baz=296,slow=4.7,SNR=8.3
KOLS Kolonicke sedl 73.24 333 *eP* **P 01 44 49.0 +1.1**
KOLS pmax pmax
comp=Z,4.0nm,1.2s
KOLS Kolonicke sedl 73.24 333 *eP* **P 01 44 49.0 +1.1**
CLL Collm 73.37 339 *eP* **P 01 44 49.2 +0.6**
comp=Z,7.1nm,1.1s
CLL Collm 73.37 339⇓ *i* P **P 01 44 49.7 +1.1**
CLL *i* 01 45 00.6
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 73.37 339⇓ *i* P **P 01 44 49.7 +1.1**
comp=Z,8.0nm,1.1s
CLL *i* pP **pP 01 45 00.6 -0.1**
CLZ Clausthal 73.41 341 P **P 01 44 51.9 +3.0**
CLZ pmax pmax
comp=Z,5.0nm,1.1s
BURAR Bucovina Array 73.56 330⇑ *i* P **P 01 44 51.2 +1.2**
BURAR Bucovina Array 73.56 330⇑ P **P 01 44 51.2 +1.2**
MORC Moravsky Berou 73.73 336⇓ *i* P **P 01 44 51.8 +0.9**
MORC Moravsky Berou 73.73 336⇓ P **P 01 44 51.8 +0.9**
TRPA Tarpa 73.89 332⇓ *i* P **P 01 44 53.4 +1.7**
TESR Tescani 74.09 329⇓ *i* P **P 01 44 53.7 +0.7**
VYHS Vyhne 74.58 335 *eP* **P 01 44 57.6 +1.8**
VYHS Vyhne 74.58 335 *eP* **P 01 44 57.6 +1.8**
VRI Vrincioaia 74.64 328⇓ *i* P **P 01 44 58.8 +2.6**
VRI Vrincioaia 74.64 328⇓ P **P 01 44 58.8 +2.6**
CFR Carcaliu 74.78 327⇑ *i* P **P 01 44 57.8 +0.8**
CFR Carcaliu 74.78 327⇑ P **P 01 44 57.8 +0.8**
MLR Muntele Rosu 75.22 329⇓ *i* P **P 01 45 01.8 +2.1**
MLR Muntele Rosu 75.22 329⇓ P **P 01 45 01.8 +2.1**
TLB Topalu 75.34 327⇑ *i* P **P 01 45 00.9 +0.7**
TLB Topalu 75.34 327⇑ P **P 01 45 00.9 +0.7**
GERES GERESS Array B 75.52 338 P **P 01 45 01.6 +0.3**
comp=Z,0.3nm,0.4s,baz=37,slow=6.9,SNR=4.1
VOIR 75.56 329⇑ *i* P **P 01 45 03.4 +1.9**
VOIR 75.56 329⇑ P **P 01 45 03.4 +1.9**
ARR Arges 75.75 330⇑ *i* P **P 01 45 04.8 +2.2**
GZR Gura Zlata 76.29 331⇓ *i* P **P 01 45 06.8 +1.1**
GZR Gura Zlata 76.29 331⇓ P **P 01 45 06.8 +1.1**
BZS Buzias 76.44 332⇑ *i* P **P 01 45 06.9 +0.5**
BZS Buzias 76.44 332⇑ P **P 01 45 06.9 +0.5**
KBA Koelnbreinsper 77.26 338 P **P 01 45 15.6 +4.3**
KBA pmax pmax
comp=Z,13nm,0.9s
BR101 Keskin Array S 77.55 321 *eP* **P 01 45 13.3 +0.3**
BRTR Keskin Array B 77.55 321 P **P 01 45 13.3 +0.3**
comp=Z,1.4nm,0.9s,baz=22,slow=4.0,SNR=8.3
VTS Vitosha 78.66 329⇑ *i* P **P 01 45 20.0 +0.9**
VTS Vitosha 78.66 329⇑ P **P 01 45 20.0 +0.9**
ASAR Alice Springs 78.97 205 P **P 01 45 22.6 +1.9**
comp=Z,0.4nm,0.6s,baz=19,slow=5.9,SNR=3.8
ESDC Sonseca Array 87.60 348 P **P 01 46 06.1 +1.0**
comp=Z,0.1nm,0.3s,baz=357,slow=5.6,SNR=3.5

PRU 20 01:39:51.3±0.0, 50°.26N×18°.77E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.15**	**78**	*e*Pg	Pg	01 39 53.8	-0.3
CHZP				*e*Sg	Sg	01 39 55.4	-0.6
OKC	**Ostrava-Krasne**	**0.58**	**224**	*e*PG	Pg	01 40 02.9	+0.4
OKC				*e*SG	Sg	01 40 10.0	0.0
comp=Z,4.1nm,0.4s							
OJC	**Ojcow**	**0.66**	**93**	*e*P	Pn	01 40 13.5	+5.6
OJC	**Ojcow**	**0.66**	**93**	*e*Pg	Pg	01 40 03.8	-0.1
OJC				*e*Sg	Sg	01 40 12.1	-0.4
MORC	**Moravsky Berou**	**0.93**	**239**	*e*PG	Pg	01 40 08.9	-0.2
MORC				*e*SG	Sg	01 40 21.3	+0.2
KRLC	**Kraliky**	**1.29**	**263**	*e*PG	Pg	01 40 14.5	-1.5
KRLC				*e*SG	Sg	01 40 32.5	-0.3
comp=Z,1.2nm,0.5s							
NIE	**Niedzica**	**1.30**	**130**	*e*P	Pb	01 40 16.6	0.0
NIE	**Niedzica**	**1.30**	**130**	*e*Pg	Pg	01 40 16.4	+0.2
NIE				*e*Sg	Sb	01 40 33.8	-0.1
DPC	**Dobruska-Polom**	**1.57**	**274**	*e*PG	Pn	01 40 19.5	-1.0
DPC				*e*SG	Sg	01 40 42.1	+0.3
comp=Z,3.0nm,0.7s							
KSP	**Ksiaz**	**1.68**	**291**	*e*Pg	Pb	01 40 22.9	-0.2
KSP				*e*Sg	Sg	01 40 45.4	0.0
VRAC	**Vranov**	**1.70**	**237**	*e*PN	Pn	01 40 22.1	-0.2
VRAC				*e*SG	Sb	01 40 45.2	-0.2
UPC	**Upice**	**1.78**	**279**	*e*SG	Sg	01 40 49.0	+0.5
KRUC	**Moravsky**	**1.95**	**233**	*e*PN	Pn	01 40 25.8	+0.1
KRUC				*e*SG	Sb	01 40 52.5	-0.1
KHC	**Kasperske Hory**	**3.56**	**253**	*e*SG	Sg	01 41 45.1	-0.3

*ANF **20** 01:46:33.4±0.9, 35°.85N×97°.15W, h5km±4km, ML3.6/10, Error ellipse: s-maj=18.1km s-min=3.1km az=164.0*
*ISCJB **20** 01:46:34.0±0.4, 35°.73N±0°.04×97°.12W±0°.02, h11km±2km, Error ellipse: s-maj=6.3km s-min=3.2km az=173.1*
*TUL **20** 01:46:35.0, 35°.67N×97°.11W, h6km, ML3.2*
*NEIC **20** 01:46:35.0±0.0, 35°.67N×97°.11W, h6km, ML3.2(TUL), After TUL.*
NEIC Felt [III] at Luther. Also felt at Oklahoma City, Spencer and Wellston.

ISC 20 01:46:35.1±0.8, 35°.76N±0°.04×97°.08W±0°.03, h10km±5km, n47, σ1°.83/68, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK024	**West corner E0**	**0.03**	**151**	*e*Pg	**Pg**	**01 46 36.7**	**-0.3**
OK024				*e*Sg	**Sg**	**01 46 37.8**	**-0.6**
OK023	**East Waterloo**	**0.07**	**246**	*e*Pg	**Pg**	**01 46 36.7**	**-0.7**
OK023				*e*Sg	**Sg**	**01 46 37.3**	**-1.7**
OK005	**Luther M Schoo**	**0.14**	**223**	*e*Pg	**Pg**	**01 46 36.6**	**-1.6**
OK001	**Jones High Sch**	**0.26**	**222**	*e*Pg	**Pg**	**01 46 38.7**	**-1.7**
OK009	**Oakdale Elemen**	**0.33**	**238**	*e*Pg	**Pg**	**01 46 40.3**	**-1.4**
TUL1	**Leonard**	**1.06**	**81**	*e*Pg	**Pg**	**01 46 54.5**	**-0.9**
TUL1	**Leonard**	**1.06**	**81**	P	**Pg**	**01 46 54.5**	**-0.9**
baz=267							
TUL1				S	**Sg**	**01 47 09.5**	**+0.3**
baz=267							
U32A	**Winter Ranch,**	**1.68**	**292**	*e*Pn	**Pn**	**01 47 05.0**	**+0.4**
U32A				*e*Sn	**Sb**	**01 47 27.9**	**+0.6**
WMOK	**Wichita Mounta**	**1.72**	**234**	*e*Pn	**Pn**	**01 47 04.1**	**-1.1**
WMOK				*e*Sn	**Sn**	**01 47 25.7**	**-1.6**
WMOK	**Wichita Mounta**	**1.72**	**234**	P	**Pn**	**01 47 04.1**	**-1.1**
baz=50							
WMOK				S	**Sn**	**01 47 26.6**	**-0.6**
baz=50							
X37A	**Clayton**	**1.82**	**129**	*e*Pn	**Pn**	**01 47 06.4**	**0.0**
X37A				*e*Sn	**Sb**	**01 47 30.7**	**-0.6**
HHAR	**Hobbs**	**2.60**	**77**	*e*Pn	**Pn**	**01 47 18.3**	**+1.2**
HHAR				*e*Sn	**Sn**	**01 47 51.3**	**+2.5**
W39A	**Magazine**	**2.75**	**101**	*e*Pn	**Pn**	**01 47 19.5**	**+0.3**
W39A	**Magazine**	**2.75**	**101**	P	**Pn**	**01 47 19.6**	**+0.3**
baz=284							
MIAR	**Mount Ida**	**3.11**	**112**	*e*Pn	**Pn**	**01 47 24.9**	**+0.7**
MIAR				*e*Sn	**Sn**	**01 48 01.7**	**+0.2**
MIAR	**Mount Ida**	**3.11**	**112**	P	**Pn**	**01 47 25.0**	**+0.7**
baz=295							
MIAR				S	**Sn**	**01 48 03.9**	**+2.4**
baz=295							
KSU1	**Kansas State U**	**3.36**	**6**	P	**Pn**	**01 47 29.0**	**+1.3**
baz=188							
U40A	**Yellville**	**3.48**	**79**	S	**Sn**	**01 48 10.8**	**+0.4**
baz=263							
X40A	**Basin Creek Fa**	**3.70**	**109**	*e*Pn	**Pn**	**01 47 33.0**	**+0.7**
X40A				*e*Sn	**Sn**	**01 48 11.7**	**-4.3**
X40A	**Basin Creek Fa**	**3.70**	**109**	P	**Pn**	**01 47 33.0**	**+0.7**
baz=292							
CBKS	**Cedar Bluff**	**3.72**	**326**	*e*Pn	**Pn**	**01 47 33.3**	**+0.7**
WHTX	**Lake Whitney,**	**3.77**	**185**	*e*Pn	**Pn**	**01 47 32.4**	**-0.9**
ABTX	**Abilene, Hawle**	**3.78**	**215**	*e*Pn	**Pn**	**01 47 32.7**	**-0.7**
AMTX	**Amarillo**	**3.86**	**258**	*e*Pn	**Pn**	**01 47 33.2**	**-1.4**
AMTX				*e*Sn	**Sn**	**01 48 17.0**	**-3.1**
WLAR	**White Oak Lake**	**3.86**	**121**	*e*Pn	**Pn**	**01 47 34.3**	**-0.2**
WHAR	**Wooly Hollow**	**3.93**	**95**	*e*Pn	**Pn**	**01 47 36.2**	**+0.7**
WHAR				*e*Sn	**Sn**	**01 48 18.2**	**-3.6**
W41B	**Gary Mavity, V**	**3.98**	**97**	*e*Pn	**Pn**	**01 47 36.8**	**+0.5**
W41B	**Gary Mavity, V**	**3.98**	**97**	P	**Pn**	**01 47 36.7**	**+0.5**
baz=281							
W41B				S	**Sn**	**01 48 23.5**	**+0.5**
baz=281							
UALR	**University of**	**4.00**	**103**	*e*Pn	**Pn**	**01 47 37.2**	**+0.9**
UALR				*e*Pg	**Pb**	**01 47 47.0**	**+1.4**
U41A	**Viola**	**4.22**	**80**	S	**Sn**	**01 48 29.9**	**+1.1**
baz=265							
CCAR	**Cane Creek**	**4.73**	**111**	*e*Pn	**Pn**	**01 47 46.9**	**+0.4**
MSTX	**Muleshoe**	**5.01**	**251**	*e*Pn	**Pn**	**01 47 49.6**	**-0.8**
CCM	**Cathedral Cave**	**5.21**	**62**	*e*Pn	**Pn**	**01 47 54.5**	**+1.5**
CCM				*e*Sn	**Sn**	**01 48 51.7**	**-1.5**
R41A	**Rosebud**	**5.22**	**59**	P	**Pn**	**01 47 54.3**	**+1.1**
baz=244							
JCT	**Junction City**	**5.74**	**204**	*e*Pn	**Pn**	**01 48 00.0**	**-0.3**
JCT				*e*Pg	**Pb**	**01 48 18.3**	**+3.0**
FVM	**French Village**	**5.78**	**65**	*e*Pn	**Pn**	**01 48 02.3**	**+1.5**
FVM				*e*Sn	**Sn**	**01 49 05.5**	**-1.7**
T25A	**Trinidad**	**6.07**	**285**	*e*Pn	**Pn**	**01 48 06.2**	**+1.1**
SIUC	**Southern Illin**	**6.61**	**70**	*e*Pn	**Pn**	**01 48 12.9**	**+0.6**
SDCO	**Great Sand Dun**	**7.05**	**289**	*e*Pn	**Pn**	**01 48 18.7**	**+0.1**
Q24A	**Divide**	**7.18**	**299**	*e*Pn	**Pn**	**01 48 21.2**	**+0.7**
Q24A				*e*Sn	**Sn**	**01 49 40.2**	**-2.0**
WVT	**Waverly**	**7.51**	**84**	*e*Pn	**Pn**	**01 48 28.2**	**+3.6**
WVT				*e*Sn	**Sn**	**01 49 44.9**	**-5.0**
L40A	**Anamosa**	**7.78**	**34**	*e*Pn	**Pn**	**01 48 29.9**	**+1.6**
ISCO	**Idaho Springs**	**7.87**	**303**	*e*Pn	**Pn**	**01 48 31.9**	**+2.0**
ISCO				*e*Pg	Pg	01 49 01.0	-4.8
MNTX	**Cornudas Mount**	**8.01**	**242**	*e*Pn	**Pn**	**01 48 33.9**	**+2.3**
T47A	**Sharon Grove**	**8.14**	**78**	*e*Pn	**Pn**	**01 48 33.4**	**+0.1**
T47A				*e*Sn	**Sn**	**01 49 58.2**	**-7.1**
P45A	**Graceland, Par**	**8.31**	**60**	*e*Pn	**Pn**	**01 48 35.0**	**-0.5**
TX31	**Lajitas Ar. Si**	**8.48**	**223**	*e*Pn	**Pn**	**01 48 39.1**	**+1.1**

KRSC 20 01:52:45.0±10.0, 52°.07N×160°.73E, h61km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.12**	**338**	*e*P	Pn	01 53 05.1	+0.4
SPN				*e*S	Sn	01 53 17.9	-1.4
NLC	**Nalytchevo**	**1.39**	**323**	P	Pn	01 53 10.2	+1.9
NLC				S	Sn	01 53 29.1	+3.4
RUS	**Russkaya**	**1.41**	**286**	*e*P	Pn	01 53 09.8	+1.3
RUS				S	Sn	01 53 26.9	+0.7
DALK	**Dalny**	**1.55**	**309**	*e*P	Pn	01 53 12.1	+1.8
DALK				*e*S	Sn	01 53 31.7	+2.3
PET	**Petropavlovsk**	**1.59**	**308**	*e*P	Pn	01 53 13.5	+2.6
PET				*e*S	Sn	01 53 33.2	+2.7
MTVR	**Mutnovka**	**1.62**	**286**	*e*P	Pn	01 53 13.5	+2.0
MTVR				*e*S	Sn	01 53 34.2	+2.7
UGLR	**Uglovaya**	**1.63**	**315**	*e*P	Pn	01 53 14.0	+2.4
UGLR				*e*S	Sn	01 53 35.6	+3.9
SDLR	**Sedlovina**	**1.66**	**318**	*e*P	Pn	01 53 14.1	+2.2
SDLR				S	Sn	01 53 35.2	+3.0
KDTR	**Khodutka, Kamc**	**1.66**	**262**	S	Sn	01 53 33.1	+0.9
SMAR	**Somma**	**1.68**	**316**	*e*P	Pn	01 53 14.7	+2.3
SMAR				S	Sn	01 53 37.0	+4.0
AVH	**Avacha**	**1.71**	**315**	*e*P	Pn	01 53 15.1	+2.5
KRER	**Koryakskii**	**1.73**	**317**	*e*P	Pn	01 53 15.4	+2.4
KRMR	**Karymshinskiy**	**1.77**	**297**	*e*P	Pn	01 53 15.3	+2.0
KRMR				*e*S	Sn	01 53 36.0	+1.3
KOK	**Koryaka**	**1.77**	**315**	*e*P	Pn	01 53 16.2	+2.7
KRX	**Arik**	**1.81**	**316**	*e*P	Pn	01 53 16.7	+2.6
MKZ	**Mys Kozlova**	**2.56**	**13**	P	Pn	01 53 26.0	+1.9
MKZ				S	Sn	01 53 55.4	+1.3
KZV	**Kizimen**	**3.06**	**355**	P	Pn	01 53 33.7	+2.6
TUMD	**Tumrok D**	**3.15**	**357**	P	Pn	01 53 35.8	+3.6
TUMD				S	Sn	01 54 10.8	+2.3
TUMR	**Tumrok**	**3.24**	**354**	*e*P	Pn	01 53 36.9	+3.4

*ISCJB **20** 01:56:40.8±0.3, 27°.81S±0°.07×65°.36E±0°.07, h10km, mb4.4/30, MS4.0/1, Error ellipse: s-maj=9.9km s-min=9.1km az=8.4*
*IDC **20** 01:56:41.0±0.5, 27°.78S×65°.31E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.2/49, mbtmp4.3/22, ML3.8/1, MS4.0/1, Ms1 3.9/1, ms1mx3.2/26, Error ellipse: s-maj=15.5km s-min=15.0km az=43.0*
*NEIC **20** 01:56:42.7±1.5, 27°.77S×65°.39E, h10km±2km, mb4.6/18, Error ellipse: s-maj=20.9km s-min=16.2km az=60.0*

ISC 20 01:56:42.7±0.4, 27°.80S±0°.09×65°.33E±0°.09, h10km, n66, σ0°.65/60, mb4.5/30, 2C, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**18.76**	**294**	*e*P	**Pn**	**02 01 03.3**	**+0.8**
14nm,1.2s							
ABPO				*e*Sn	Sn	02 04 20.5	-12
OPO	**Ambohidratompo**	**19.02**	**295**	P	**P**	**02 01 04.8**	**-0.2**
0.3nm,0.3s,baz=128,slow=14,SNR=4.7							
H08S1	**Diego Garcia H**	**21.15**	**20**	T	T	02 23 18.0	
baz=198,slow=76,SNR=30							
H08S2	**Diego Garcia H**	**21.16**	**20**	T	T	02 23 18.4	
baz=198,slow=76,SNR=79							
H08S3	**Diego Garcia H**	**21.17**	**20**	T	T	02 23 19.0	
baz=198,slow=76,SNR=33							
BOSA	**Boshof**	**35.21**	**259**	P	**P**	**02 03 37.4**	**0.0**
2.1nm,0.6s,baz=106,slow=11,SNR=7.1							
LBTB	**Lobatse**	**35.59**	**265**	P	**P**	**02 03 40.2**	**-0.5**
2.7nm,0.8s,baz=90,slow=9.2,SNR=3.9							
MAW	**Mawson**	**39.86**	**181**	*e*P	**P**	**02 04 16.1**	**+0.1**
6.3nm,1.9s							
MAW	**Mawson**	**39.86**	**181**	P	**P**	**02 04 16.1**	**+0.1**
2.0nm,0.7s,baz=348,slow=9.3,SNR=4.1							
MAW				LR	LR	02 16 43.9	
comp=Z,205nm,18.7s,baz=254,slow=30							
H01W2	**Cape Leeuwin H**	**41.94**	**112**	T	T	02 49 03.7	
baz=266,slow=74,SNR=11							
H01W3	**Cape Leeuwin H**	**41.95**	**112**	T	T	02 49 03.3	
baz=266,slow=74,SNR=5.8							
H01W1	**Cape Leeu

	17nm,0.7s							
DMN	Daman	58.27	21	eP		P	02 06 38.3	+0.5
	12nm,0.7s							
PKI	Pulchoki	58.33	21	eP		P	02 06 38.1	-0.2
	9.5nm,0.6s							
DANN	Dangsing	58.56	19	eP		P	02 06 40.1	+0.2
	33nm,0.7s							
JIRN	Jiri	58.66	22	eP		P	02 06 41.2	+0.5
	24nm,0.5s							
ASAR	Alice Springs	61.19	103	P		P	02 06 57.6	-0.3
	4.1nm,0.8s,baz=248,slow=6.2,SNR=41							
AS31	Alice Springs	61.19	103	eP		P	02 06 57.2	-0.8
	1.4nm,0.6s							
QSPA	South Pole Qui	62.35	180	eP		P	02 07 06.1	+0.9
	13nm,1.0s							
WR1	Warramunga Arr	62.88	99	eP		P	02 07 09.1	-0.3
WRA	Warramunga Arr	62.88	99	P		P	02 07 09.1	-0.3
	3.2nm,0.8s,baz=233,slow=6.9,SNR=14							
VNDA	Vanda	64.47	166	eP		P	02 07 19.6	+0.7
	3.6nm,0.8s							
VNDA	Vanda	64.47	166	P		P	02 07 19.2	+0.3
	3.1nm,0.7s,baz=274,slow=6.5,SNR=25							
STKA	Stephens Creek	64.99	114	eP		P	02 07 23.1	0.0
	6.6nm,1.8s							
STKA	Stephens Creek	64.99	114	P		P	02 07 24.3	+1.2
	0.6nm,0.4s,baz=285,slow=7.5,SNR=2.9							
AAK	Ala-Archa	70.59	7	eP		P	02 07 56.4	-1.7
	8.3nm,1.4s							
KK31	Karatay Array	70.71	4	eP		P	02 07 58.7	0.0
	3.3nm,0.8s							
KKAR	Karatay Array	70.71	4	eP		P	02 07 58.6	0.0
	3.3nm,0.8s							
BR101	Keskin Array S	73.38	335	eP		P	02 08 14.8	0.0
BR131	Keskin Array S	73.38	335	eP		P	02 08 14.5	-0.4
	4.3nm,0.8s							
BRTR	Keskin Array B	73.38	335	P		P	02 08 14.8	0.0
	2.9nm,0.8s,baz=162,slow=7.4,SNR=26							
TORD	Torodi Ar. Bea	73.84	295	P		P	02 08 17.8	-0.2
	0.6nm,0.7s,baz=113,slow=5.4,SNR=4.6							
TOA1	Torodi Ar. Sit	73.84	295	eP		P	02 08 17.8	-0.2
KBZ	Khabaz	74.09	343	P		P	02 08 19.1	+0.3
	0.9nm,0.4s,baz=214,slow=3.6,SNR=3.3							
MK32	Makanchi Array	75.81	12	eP		P	02 08 28.6	-0.1
MKAR	Makanchi Array	75.81	12	P		P	02 08 28.6	-0.1
	3.2nm,0.7s,baz=195,slow=5.3,SNR=32							
KURBB	Kurchatov Arra	78.94	9	P		P	02 08 46.0	-0.1
	3.6nm,0.7s,baz=206,slow=6.1,SNR=20							
KURK	Kurchatov	79.05	9	eP		P	02 08 45.9	-0.7
	7.0nm,1.1s							
BVAR	Borovoye Array	80.60	3	P		P	02 08 55.0	0.0
	4.1nm,0.6s,baz=165,slow=6.2,SNR=22							
MLR	Muntele Rosu	81.26	333	‖/P		P	02 08 58.9	-0.1
ARR	Arges	81.69	332	‖/P		P	02 09 00.2	-1.0
ZALV	Zalesovo Beam	83.14	11	P		P	02 09 08.5	+0.1
	5.0nm,0.6s,baz=198,slow=4.8,SNR=27							
ZAA1	Zalesovo Array	83.14	11	eP		P	02 09 08.5	+0.1
SONM	Songino Array	83.84	26	P		P	02 09 12.4	+0.1
	1.7nm,0.8s,baz=216,slow=5.5,SNR=10							
AKASG	Malin Array Be	84.43	338	P		P	02 09 14.8	-0.3
	1.5nm,0.7s,baz=144,slow=4.3,SNR=7.1							
AKBB	Malin Array Si	84.43	338	eP		P	02 09 14.8	-0.3
KS15	Wonju Array Si	87.47	45	eP		P	02 09 30.4	-0.1
	67nm,2.0s							
KSRS	Korea Array	87.50	45	P		P	02 09 30.4	-0.2
	2.2nm,0.9s,baz=241,slow=4.6,SNR=6.5							
ESDC	Sonseca Array	93.05	314	P		P	02 09 56.8	+0.2
	0.5nm,0.6s,baz=131,slow=5.5,SNR=4.5							
YKW3	Yellowknife Ar	145.24	360	ePKPbc		PKPbc	02 16 18.5	-1.1
YKA	Yellowknife Ar	145.30	360	PKPbc		PKPbc	02 16 19.2	-0.6
	2.6nm,0.8s,baz=342,slow=3.7,SNR=43							
YKB5	Yellowknife Ar	145.30	360	ePKPbc		PKPbc	02 16 19.2	-0.6
D53A	Lac Vacive, Po	145.32	314	ePKPbc		PKPbc	02 16 19.3	-1.1
M54A	Oil Creek Stat	148.35	305	epPKPdf		PKPbc	02 16 28.4	-0.9
P53A	Whipple	150.10	302	ePKPbc		PKPbc	02 16 32.9	-0.8
ULM	Lac du Bonnet	153.39	333	PKPbc		PKPbc	02 16 39.1	-1.8
	1.8nm,0.7s,baz=355,slow=5.5,SNR=4.2							
PD31	Pinedale Array	164.50	346	ePKPdf		PKPdf	02 16 46.4	-0.5
PDAR	Pinedale Array	164.50	346	PKP		PKPdf	02 16 46.4	-0.5
	0.4nm,0.7s,baz=129,slow=2.1,SNR=3.9							

*KRSC **20** 02:08:26.0±10.0, 52°.11N×160°.47E, h42km±10km, ML4.2*
*IDC **20** 02:08:28.4±7.0, 51°.93N×160°.26E, h49km±47km, mb3.6/9, mb1 3.7/9, mb1mx3.3/60, mbtmp3.8/9, Error ellipse: s-maj=53.5km s-min=41.3km az=151.0*
ISC 20 02:08:23.9±2.4, 52°.10N±0°.05×160°.50E±0°.05, h11km±13km, n39, σ1§52/61, mb3.9/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.04	344	eP		Pb	02 08 44.6	+0.6
SPN				eS		Sg	02 08 57.3	-0.1
RUS	Russkaya	1.27	286	eP		Pn	02 08 48.2	+0.6
RUS				eS		Sb	02 09 03.0	-1.1
NLC	Nalytchevo	1.28	327	eP		Pb	02 08 48.7	+0.6
NLC				eS		Sb	02 09 04.9	+0.3
DALK	Dalny	1.42	312	eP		Pn	02 08 50.3	+0.7
DALK				eS		Sn	02 09 07.3	-1.0
PET	Petropavlovsk	1.46	310	eP		Pn	02 08 51.1	+0.9
PET				eS		Sn	02 09 07.9	-1.4
MTVR	Mutnovka	1.48	286	eP		Pn	02 08 51.7	+1.1
MTVR				eS		Sn	02 09 09.7	-0.3
UGLR	Uglovaya	1.51	318	eP		Pn	02 08 52.2	+1.2
UGLR				eS		Sn	02 09 11.3	+0.6
KDTR	Khodutka, Kamc	1.53	260	eP		Pb	02 08 52.4	+0.1
KDTR				eS		Sn	02 09 10.8	-0.3
SDLR	Sedlovina	1.54	321	eP		Pn	02 08 52.4	+1.0
SDLR				eS		Sn	02 09 10.6	-0.8
SMAR	Somma	1.56	319	eP		Pn	02 08 52.6	+0.8
SMAR				eS		Sn	02 09 11.8	-0.3
GRL	Gorelyy	1.56	288	eP		Pb	02 08 53.6	+0.7
GRL				eS		Sn	02 09 13.1	+1.1
AVH	Avacha	1.58	318	eP		Pn	02 08 53.4	+1.3
AVH				eS		Sn	02 09 13.7	+1.1
KRER	Koryakskii	1.61	319	eP		Pn	02 08 53.9	+1.4
KRER				eS		Sn	02 09 14.1	+0.7
KRMR	Karymshinskiy	1.62	298	eP		Pn	02 08 53.6	+1.1
KRMR				eS		Sn	02 09 13.7	+0.3
ASAK	Asacha	1.62	281	P		Pn	02 08 54.1	+1.5
ASAK				S		Sn	02 09 13.4	-0.2
KOK	Koryaka	1.65	317	eP		Pn	02 08 54.2	+1.3
KOK				S		Sn	02 09 15.1	+1.0
KRX	Arik	1.69	319	eP		Pn	02 08 54.8	+1.2
PETK	Petropavlovsk-	1.98	302	P		Pn	02 08 59.0	+1.5
	23nm,0.3s,baz=105,slow=20,SNR=282							
PETK				S		Sn	02 09 23.1	+0.8
	28nm,0.3s,baz=105,slow=17,SNR=12							
APC	Apacha	2.20	293	eP		Pn	02 09 02.7	+2.2
APC				eS		Sn	02 09 29.0	+1.3
MKZ	Mys Kozlova	2.57	16	eP		Pn	02 09 06.7	+1.3
MKZ				S		Sn	02 09 35.8	-0.8
KZV	Kizimen	3.02	358	eP		Pn	02 09 14.5	+2.7
KZV				S		Sn	02 09 49.7	+1.6
SKR	Severo-Kuril's	3.09	244	P		Pn	02 09 14.5	+1.8
SKR				S		Sn	02 09 50.6	+1.0
TUMD	Tumrok D	3.11	359	eP		Pb	02 09 16.6	-2.6
TUMD				eS		Sn	02 09 53.3	+3.2
TUMR	Tumrok	3.19	356	eP		Pn	02 09 17.3	+3.1
ALID	Alaid	3.33	250	P		Pn	02 09 18.5	+2.4
ESO	Esso	3.98	345	eP		Pn	02 09 27.9	+3.1
LGNR	Loginova	3.99	2	P		Pb	02 09 31.5	-2.9
KBTR	Krutoberegovo	4.33	17	eP		Pn	02 09 31.8	+2.1
SRKR	Sorokina	4.58	5	P		Pn	02 09 37.0	+3.8
TIXI	Tiksi	24.09	336	P		P	02 13 38.4	-0.7
	1.8nm,0.3s,baz=139,slow=7.6,SNR=5.1							
SONM	Songino Array	34.38	285	P		P	02 15 10.1	-0.8
	0.2nm,0.3s,baz=61,slow=9.4,SNR=2.8							
MKAR	Makanchi Array	48.82	297	P		P	02 17 07.7	-1.3
	0.3nm,0.5s,baz=53,slow=8.4,SNR=6.6							
BVAR	Borovoye Array	51.20	309	P		P	02 17 25.7	-1.2
	0.4nm,0.3s,baz=62,slow=7.5,SNR=3.2							
ARCES	ARCESS Array B	54.31	342	P		P	02 17 49.7	0.0
	2.3nm,0.9s,baz=35,slow=8.0,SNR=3.7							
FINES	FINESS Array B	61.13	337	P		P	02 18 38.5	+0.8
	1.9nm,0.5s,baz=37,slow=7.4,SNR=21							
NB2	NORSAR Subarra	64.56	344	P		P	02 19 02.1	+1.5
	comp=Z,0.5nm,0.4s,baz=20,slow=6.9							
NOA	NORSAR Array B	64.56	344	P		P	02 19 01.4	+0.7
	comp=Z,0.4nm,0.5s,baz=14,slow=5.7,SNR=5.5							
AKASG	Malin Array Be	69.59	329	P		P	02 19 32.3	-0.3
	comp=Z,0.8nm,0.4s,baz=30,slow=6.8,SNR=4.9							
ESDC	Sonseca Array	87.60	348	P		P	02 21 11.4	-0.7
	comp=Z,0.2nm,0.6s,baz=4.4,slow=5.6,SNR=3.0							

*SNET **20** 02:11:48.5±1.1, 12°.27N×89°.47W, h23km±10km, ML3.8*
*ISCJB **20** 02:11:49.9±0.8, 12°.25N±0°.06×89°.38W±0°.04, h55km±3km, mb4.2/20, Error ellipse: s-maj=10.1km s-min=4.7km az=24.2*
*UCR **20** 02:11:50.2±1.4, 12°.43N×89°.31W, h4km, MD3.9, ML3.6, mb4.3(NEIC)*
*IDC **20** 02:11:54.7±2.5, 12°.90N×88°.90W, h39km±25km, mb3.8/8, mb1 3.9/12, mb1mx3.6/46, mbtmp3.9/12, ML3.0/4, Error ellipse: s-maj=43.4km s-min=15.3km az=44.0*
*NEIC **20** 02:11:55.6±2.5, 12°.68N×89°.11W, h55km±9km, mb4.3/34, Error ellipse: s-maj=22.4km s-min=4.0km az=216.0*
ISC 20 02:11:53.4±1.4, 12°.41N±0°.07×89°.33W±0°.05, h55km±12km, n278, σ1§13/285, mb4.3/19, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	1.23	12	eP		Pn	02 12 12.3	-2.2
SNET	Serv Nac Est T	1.27	4	eP		Pn	02 12 12.8	-2.2
SNET				IAML			02 12 34.0	
	comp=Z,906nm,0.2s							
SNET	Serv Nac Est T	1.27	4	eP		Pn	02 12 12.8	-2.2
SNET				IAML			02 12 34.0	
	comp=Z,906nm,0.2s							
OPAM	San Salvador	1.30	5	IAML			02 12 38.0	
	comp=Z,628nm,0.4s							
OPAM	San Salvador	1.30	5	IAML			02 12 38.0	
	comp=Z,628nm,0.4s							
UEES	San Salvador	1.31	4	eP		Pn	02 12 13.6	-1.9
UEES				IAML			02 12 24.2	
	comp=Z,628nm,0.4s							
UEES	San Salvador	1.31	4	eP		Pn	02 12 13.6	-1.9
UEES				IAML			02 12 24.2	
	comp=Z,628nm,0.4s							
BOQS	Boqueron	1.31	2	eP		Pn	02 12 13.9	-1.8
BOQS				eS		Sn	02 12 31.8	-0.6
TECA	Tecapa	1.34	37	eP		Pn	02 12 14.8	-1.3
TECA	Tecapa	1.34	37	eP		Pn	02 12 14.8	-1.3
LFU	La Fuente	1.34	9	eP		Pn	02 12 14.4	-1.6
LFU	La Fuente	1.34	9	eP		Pn	02 12 14.4	-1.6
LBRS	Las Brisas	1.35	12	eP		Pn	02 12 14.7	-1.3
PAVA	Las Pavas	1.35	16	eP		Pn	02 12 14.3	-1.7
PAVA				IAML			02 12 40.5	
	comp=Z,2μm,0.5s							
PAVA	Las Pavas	1.35	16	eP		Pn	02 12 14.3	-1.7
PAVA				IAML			02 12 40.5	
	comp=Z,2μm,0.5s							
LCY	Lacayo	1.42	45	eP		Pn	02 12 15.7	-1.4
LCY	Lacayo	1.42	45	eP		Pn	02 12 15.7	-1.4
PACA	Pacayal	1.43	43	eP		Pn	02 12 15.5	-1.8
PACA				IAML			02 12 41.2	
	comp=Z,3μm,0.3s							
PACA	Pacayal	1.43	43	eP		Pn	02 12 15.5	-1.8
PACA				IAML			02 12 41.2	
	comp=Z,3μm,0.3s							
CEVE	Cerro Verde	1.44	348	eP		Pn	02 12 15.3	-2.0
CEVE	Cerro Verde	1.44	348	eP		Pn	02 12 15.3	-2.0
SBLS	San Blas	1.45	348	eP		Pn	02 12 16.0	-1.6
SBLS	San Blas	1.45	348	eP		Pn	02 12 16.0	-1.6
SNJE	San Jose	1.47	349	eP		Pn	02 12 15.7	-2.1
SNJE	San Jose	1.47	349	eP		Pn	02 12 15.7	-2.1
RTR	El Retiro	1.51	348	eP		Pn	02 12 16.6	-1.7
RTR	El Retiro	1.51	348	eP		Pn	02 12 16.6	-1.7
LCND	La Caada	1.66	57	eP		Pn	02 12 18.5	-1.6
LCND				eS		Sn	02 12 42.2	+1.8
LCND				IAML			02 12 48.8	
	comp=Z,1μm,0.3s							
LCND	La Caada	1.66	57	eP		Pn	02 12 18.5	-1.6
LCND				eS		Sn	02 12 42.2	+1.8
LCND				IAML			02 12 48.8	
	comp=Z,1μm,0.3s							
VICT	Victoria	1.68	23	eP		Pn	02 12 19.9	-0.7
VICT	Victoria	1.68	23	eP		Pn	02 12 19.9	-0.7
CNCH	Conchagua	1.69	59	eP		Pn	02 12 20.3	-0.4
CNCH				eS		Sn	02 12 44.5	+3.2
CNCH	Conchagua	1.69	59	eP		Pn	02 12 20.3	-0.4
CNCH				eS		Sn	02 12 44.5	+3.2
CAHU	Cacacuatique	1.73	39	eP		Pn	02 12 20.5	-0.9
CAHU	Cacacuatique	1.73	39	eP		Pn	02 12 20.5	-0.9
IXG	Ixpaco	2.06	328	eP		Pn	02 12 25.8	0.0
IXG				eS		Sn	02 12 53.6	+3.2
CRIN	San Cristobal	2.24	82	eP		Pn	02 12 27.4	-0.8
CRIN				IAML			02 13 10.4	
	comp=N,456nm,0.3s							
NBG	Las Nubes	2.38	335	eP		Pn	02 12 30.7	+0.5
FUG	Fuego 3	2.50	324	eP		Pn	02 12 32.4	+0.6
FUG				eS		Sn	02 13 04.6	+3.3
TGUH	Tegucigalpa,Un	2.58	50	ePn		Pn	02 12 31.7	-1.0
TGUH	Tegucigalpa,Un	2.58	50	eP		Pn	02 12 32.6	-0.2
MOMN	Momotombo	2.72	90	eP		Pn	02 12 33.4	-1.3
APG	El Apazote	2.80	337	Pn		Pn	02 12 34.5	-1.6
	comp=N,5.6nm,0.3s,baz=179,slow=11,SNR=14							
SOMN	Somoto	2.83	69	‖/P		Pn	02 12 37.1	+0.8
ESTN	Estel	2.96	76	ePn		Pn	02 12 36.0	-2.1
ESTN				eSn		Sn	02 12 58.2	-14
RCON	San Juan de Ri	3.27	71	eP		Pn	02 12 42.0	-0.3
MATN	Matagalpa	3.36	81	eP		Pn	02 12 42.8	-0.7
CCIG	Comitan	4.71	325	ePn		Pn	02 13 04.0	+1.8
JTS	Las Juntas de	4.78	116	Pn		Pn	02 13 03.5	+0.6
	comp=N,1.2nm,0.3s,baz=7.5,slow=22,SNR=15							
JTS				Sn		Sn	02 13 54.5	-2.6
	comp=N,0.8nm,0.3s,baz=320,slow=18,SNR=2.2							
CMIG	Matias Romero	7.11	312	Pn		Pn	02 13 34.6	-0.2
	comp=N,0.3nm,0.3s,baz=130,slow=11,SNR=5.5							
CMIG				Sn		Sn	02 14 53.3	-1.0
	comp=N,0.3nm,0.3s,baz=299,slow=19,SNR=2.2							
TEIG	Tepich	7.83	7	ePn		Pn	02 13 46.8	+2.0
061Z	Ochoppi	15.56	29	P		Pn	02 15 28.6	-0.6
	baz=212							
LNIG	Linares	15.69	324	ePn		P	02 15 33.9	-0.2
	comp=N,9.1nm,1.0s							
060Z	West Palm Beac	16.18	29	P		Pn	02 15 37.6	+0.4
	baz=212							
058A	Arcadia	16.19	25	P		Pn	02 15 38.1	+0.8
	baz=207							
833A	Chaparral WMA,	18.41	331	P		Pn	02 16 04.5	-0.2
	baz=146							
451A	Vernon	18.42	10	P		Pn	02 16 06.0	+1.3
	baz=190							
657A	Interlachen	18.44	21	P		Pn	02 16 05.7	+0.7
	baz=203							
SDV	Santo Domingo	18.70	99	P		P	02 16 07.7	0.0
	comp=N,0.2nm,0.3s,baz=293,slow=7.7,SNR=3.2							
453A	Whigham	18.93	13	P		Pn	02 16 11.7	+0.8
	baz=195							
349A	Repton	18.95	6	P		Pn	02 16 12.0	+0.8
	baz=186							
454A	Quitman	18.96	15	P		Pn	02 16 12.0	+0.6
	baz=197							
351A	Pinckard	19.08	10	P		Pn	02 16 13.6	+0.8
	baz=191							
352A	Blakely	19.41	11	P		Pn	02 16 16.6	0.0
	baz=192							
353A	Camilla	19.43	13	P		Pn	02 16 16.6	-0.3
	baz=195							
457A	Yulee	19.49	20	P		P	02 16 16.7	+0.7
	baz=203							
249A	Camden	19.58	6	P		Pn	02 16 17.7	-0.9
	baz=186							
TIGA	Tifton	19.66	15	eP		Pn	02 16 19.9	+0.3
	comp=N,15nm,0.6s							
TIGA	Tifton	19.66	15	P		P	02 16 18.6	+0.8
	baz=196							
VBMS	Vicksburg	19.74	357	eP		P	02 16 15.1	-3.6
	comp=N,61nm,0.3s							
355A	Pearson	19.77	17	P		P	02 16 19.2	+0.2
	baz=198							
435B	Jarrell	19.81	339	eP		P	02 16 19.4	-0.1
	comp=N,14nm,0.8s							
435B	Jarrell	19.81	339	P		P	02 16 19.9	+0.4
	baz=155							
NATX	Nacogdoches	19.87	347	P		P	02 16 20.9	+0.7
	baz=164							
251A	Midway	19.92	10	P		Pn	02 16 22.1	-0.6
	baz=191							
252A	Lumpkin	19.94	11	P		P	02 16 21.8	+0.9
	baz=193							
147A	Livingston	20.19	3	P		P	02 16 24.7	+1.1
	baz=182							
148A	Greensboro	20.20	4	P		P	02 16 24.5	+0.8
	baz=184,SNR=5.0							
254A	Abbeville	20.22	15	P		P	02 16 24.7	+0.9
	baz=197							
149A	Jones	20.23	6	P		P	02 16 24.7	+0.8
	baz=187							
150A	Eclectic	20.33	8	P		P	02 16 26.1	+1.1
	baz=189							
151A	Opelika	20.35	10	P		P	02 16 26.2	+0.9
	baz=191							
255A	Hazlehurst	20.42	17	P		P	02 16 26.8	+0.7
	baz=199							
JCT	Junction City	20.43	333	eP		P	02 16 26.0	-0.2
	comp=N,6.2nm,0.7s							
JCT	Junction City	20.43	333	P		P	02 16 26.3	0.0
	baz=149							
152A	Waverly Hall	20.60	11	P		P	02 16 28.9	+0.9
	baz=192							
LRAL	Lakeview Retre	20.64	6	P		P	02 16 29.3	+0.9
	baz=186							
Z49A	Columbiana	20.84	7	P		P	02 16 31.7	+1.1
	baz=187							
WHTX	Lake Whitney,	20.87	340	eP		P	02 16 31.6	+0.6
	comp=N,24nm,0.8s							
WHTX	Lake Whitney,	20.87	340	P		P	02 16 31.0	0.0
	baz=156,SNR=6.8							
154A	Montrose	20.90	15	P		P	02 16 32.2	+1.0
	baz=197							
Z50A	Ashland	20.98	8	P		P	02 16 33.2	+1.1
	baz=189							
Z41A	Richland Creek	20.99	352	P		P	02 16 33.4	+1.2
	baz=170							
155A	Kite	21.08	16	P		P	02 16 34.0	+0.9
	baz=198							
156A	Sylvania	21.39	18	P		P	02 16 38.0	+1.5
	baz=201							
Z53A	Monticello	21.43	13	P		P	02 16 37.6	+0.7
	baz=195							
WLAR	White Oak Lake	21.46	351	eP		P	02 16 38.6	+1.4
	comp=N,12nm,0.9s							
TXAR	Lajitas Array	21.48	324	eP		P	02 16 39.2	+1.6
TXAR	Lajitas Array	21.48	324	P		P	02 16 39.9	+2.3
	comp=N,2.7nm,0.7s,baz=145,slow=10,SNR=36							
TX31	Lajitas Ar. Si	21.48	324	eP		P	02 16 39.1	+1.5
	comp=N,2.9nm,0.8s							
Y48A	Jasper	21.49	5	P		P	02 16 38.5	+0.9
	baz=185							
Y49A	Blount Mountai	21.51	7	P		P	02 16 37.6	-0.2
	baz=187							
Z54A	Sparta	21.56	15	P		P	02 16 38.2	-0.1
	baz=197							
GOGA	Godfrey	21.58	13	P		P	02 16 38.4	-0.1
	baz=195							
Y51A	Rockmart	21.74	10	P		P	02 16 40.4	+0.1
	baz=191							
Y52A	Lilburn	21.89	12	P		P	02 16 41.1	-0.8
	baz=193							
Y53A	Monroe	21.98	13	P		P	02 16 43.0	+0.2
	baz=195							
OXF	Oxford	22.00	360	eP		P	02 16 44.0	+1.0
	comp=N,20nm,0.8s							
OXF	Oxford	22.00	360	P		P	02 16 43.9	+1.0
	baz=179							
X48A	Hartselle	22.04	5	P		P	02 16 44.3	+0.8
	baz=185							
X47A	Russelville	22.05	3	P		P	02 16 43.9	+0.4
	baz=183,SNR=6.4							
Z56A	Williton	22.05	18	P		P	02 16 44.0	+0.5
	baz=201							
X46A	Booneville	22.05	2	P		P	02 16 43.9	+0.3
	baz=181							
X49A	Woodville	22.17	7	P		P	02 16 45.3	+0.4
	baz=187							
Y54A	Tignall	22.19	15	P		P	02 16 45.6	+0.5
	baz=197							
X50B	Fort Payne	22.20	8	P		P	02 16 45.8	+0.6
	baz=189							
ABTX	Abilene, Hawle	22.23	336	P		P	02 16 45.3	-0.2
	baz=152							
NHSC	New Hope	22.23	21	P		P	02 16 45.8	+0.2
	baz=204							
MIAR	Mount Ida	22.37	351	P		P	02 16 47.7	+0.7
	baz=168,SNR=8.6							
X52A	Dahlonega	22.64	12	P		P	02 16 49.9	0.0
	baz=193							
X53A	Estanollee	22.66	13	P		P	02 16 50.1	0.0
	baz=195							
W48A	Pulaski	22.73	5	P		P	02 16 51.2	+0.4
	baz=186							
W47A	Westpoint	22.79	4	P		P	02 16 51.5	0.0
	baz=184							
W41B	Gary Mavity, V	22.82	354	P		P	02 16 52.1	+0.4
	baz=172							
Y57A	Sumter	23.00	19	P		P	02 16 53.8	+0.3
	baz=202							
W51A	Cleveland	23.02	10	P		P	02 16 53.8	-0.1
	baz=191							
W39A	Magazine	23.04	351	eP		P	02 16 55.0	+1.0
	comp=N,7.2nm,0.8s							
W39A	Magazine	23.04	351	P		P	02 16 54.8	+0.8
	baz=168							
X55A	Gracelyn & Ava	23.05	16	P		P	02 16 54.0	0.0
	baz=199							
X56A	White Oak	23.24	18	P		P	02 16 55.9	0.0
	baz=200							
V46A	Holladay	23.31	2	P		P	02 16 57.1	+0.5
	baz=182							
W53A	Cullowhee	23.34	13	P		P	02 16 57.1	+0.1
	baz=195							
V48A	Smith Brothers	23.34	5	P		P	02 16 57.4	+0.6
	baz=186							
V49A	McMinnville	23.46	7	P		P	02 16 57.4	-0.7
	baz=188							
W54A	Cherokee Point	23

	baz=199							
S41A	Jillco Farms,	25.16	355	P		P	02 17 13.2	-0.4
	baz=174,SNR=6.1							
S47A	Hartford	25.17	5	P		P	02 17 12.9	-0.7
	baz=185							
S44A	Carbondale	25.18	0	P		P	02 17 12.5	-1.1
	baz=180							
S46A	Don Dixon Farm	25.21	3	P		P	02 17 13.8	-0.1
	baz=183							
T54A	Tazewell	25.51	15	P		P	02 17 17.1	+0.3
	baz=197							
U57A	Blanch	25.55	19	P		P	02 17 15.7	-1.4
	baz=203							
CCM	Cathedral Cave	25.59	356	eP		P	02 17 17.3	-0.1
	comp=N,11nm,0.6s							
CCM	Cathedral Cave	25.59	356	P		P	02 17 17.6	+0.1
	baz=175							
R41A	Rosebud	25.84	356	P		P	02 17 19.3	-0.4
	baz=175,SNR=13							
WCI	Wyandotte Cave	25.85	5	eP		P	02 17 19.4	-0.5
	comp=N,7.2nm,0.9s							
WCI	Wyandotte Cave	25.85	5	P		P	02 17 19.5	-0.3
	baz=186							
R47A	Wooly Knot Far	25.90	5	P		P	02 17 19.2	-1.0
	baz=186							
T57A	Hurt	26.10	19	P		P	02 17 22.1	0.0
	baz=202							
Q47A	Bedord North L	26.54	5	P		P	02 17 25.1	-0.9
	baz=186							
Q49A	Aurora	26.78	8	P		P	02 17 27.2	-0.9
	baz=189							
P47A	Martinsville	27.10	5	P		P	02 17 30.5	-0.6
	baz=186							
KSU1	Kansas State U	27.36	348	P		P	02 17 33.4	0.0
	baz=164							
R58B	Mineral	27.42	20	P		P	02 17 33.6	-0.3
	baz=205							
Q54A	Coxs Mills	27.52	14	P		P	02 17 34.5	-0.3
	baz=198							
O47A	Sheridan	27.85	5	P		P	02 17 36.8	-1.0
	baz=186							
O49A	Covington	28.01	8	P		P	02 17 37.9	-1.4
	baz=190							
O50A	Cable	28.08	9	P		P	02 17 39.3	-0.5
	baz=192							
T25A	Trinidad	28.09	334	P		P	02 17 37.7	-2.6
	baz=147							
P54A	Burton	28.19	15	P		P	02 17 40.7	-0.1
	baz=198							
O52A	Adamsville	28.38	12	P		P	02 17 42.3	-0.2
	baz=195							
N48A	Decatur	28.59	7	P		P	02 17 43.0	-1.3
	baz=188							
O53A	New Philadelph	28.64	13	P		P	02 17 43.6	-1.1
	baz=196							
N49A	Columbus Grove	28.76	8	P		P	02 17 45.3	-0.5
	baz=190							
M41A	Milan	28.87	358	P		P	02 17 46.6	-0.2
	baz=177							
M49A	Liberty Center	29.33	8	P		P	02 17 48.9	-2.0
	baz=190							
M50A	Fremont	29.40	10	P		P	02 17 50.6	-0.9
	baz=192							
L42A	Oliver, Polo	29.48	359	P		P	02 17 51.8	-0.5
	baz=179							
L40A	Anamosa	29.59	357	P		P	02 17 52.4	-0.8
	baz=176							
N54A	Moraine State	29.60	14	P		P	02 17 53.3	0.0
	baz=198							
L43A	Garden Prairie	29.66	1	P		P	02 17 52.7	-1.1
	baz=181							
N55A	Marion Center	29.68	16	P		P	02 17 53.6	-0.5
	baz=200							
P60A	Greenville	29.85	21	P		P	02 17 55.2	-0.3
	baz=207							
M54A	Oil Creek Stat	30.19	15	P		P	02 17 58.2	-0.3
	baz=199							
K43A	Burlington	30.19	1	P		P	02 17 58.8	+0.2
	baz=182							
JFWS	Jewell Farm	30.40	359	P		P	02 17 59.9	-0.5
	baz=178							
K49A	Clarkson	30.69	8	P		P	02 18 02.1	-0.8
	baz=191							
J42A	Columbus	30.79	0	P		P	02 18 03.7	-0.1
	baz=180							
J41A	Loganville	30.85	359	P		P	02 18 03.8	-0.6
	baz=178,SNR=5.2							
J43A	Natural Harves	30.87	1	P		P	02 18 04.3	-0.1
	baz=181							
J39A	Decorah	30.88	357	P		P	02 18 05.0	+0.4
	baz=175							
J40A	Soldiers Grove	30.90	358	P		P	02 18 03.9	-0.8
	baz=177							
K52A	Tillsonburg	31.17	12	P		P	02 18 06.4	-0.7
	baz=196							
J49A	Marlette	31.30	9	P		P	02 18 07.3	-0.9
	baz=191							
I42A	Draeger Farm,	31.37	1	P		P	02 18 09.2	+0.3
	baz=180							
I43A	Langenfeld Bro	31.38	2	P		P	02 18 08.9	0.0
	baz=182							
I41A	Arkdale	31.54	359	P		P	02 18 09.9	-0.4
	baz=179							
I49A	Point Hope	31.91	9	P		P	02 18 12.7	-1.0
	baz=192							
H42A	Shiocton	31.99	1	P		P	02 18 14.3	-0.1
	baz=181							
MEDO	Medina	32.05	15	P		P	02 18 14.6	-0.3
	baz=200							
I51A	Listowel	32.09	11	P		P	02 18 14.9	-0.3
	baz=195							
H41A	Junction City	32.09	360	P		P	02 18 15.0	-0.2
	baz=179							
H40A	Chili	32.11	359	P		P	02 18 15.1	-0.3
	baz=178							
H39A	Augusta	32.20	357	P		P	02 18 16.2	0.0
	baz=176							
H38A	Maiden Rock	32.25	356	P		P	02 18 16.6	0.0
	baz=174							
J55A	Hilton	32.31	16	P		P	02 18 16.9	-0.2
	baz=201							
BWLO	Walkerton	32.37	11	P		P	02 18 16.9	-0.7
	baz=195							
H48A	Harrisville	32.59	8	P		P	02 18 18.9	-0.6
	baz=191							
G45A	Suttons Bay	32.67	5	P		P	02 18 19.7	-0.6
	baz=186							
G38A	Ridgeland	32.72	357	P		P	02 18 20.1	-0.6
	baz=175							
G42A	Mountain	32.73	1	P		P	02 18 20.2	-0.6
	baz=181							
G40A	Rib Lake	32.75	359	P		P	02 18 20.9	-0.1
	baz=178							
G39A	Holcombe	32.80	358	P		P	02 18 21.1	-0.4
	baz=176							
SPMN	Marine on St.	32.84	355	P		P	02 18 21.1	-0.7
	baz=173,SNR=6.7							
F41A	Three Lakes	33.22	0	P		P	02 18 24.3	-0.7
	baz=180							
TOBO	Tobermory, Bru	33.37	10	P		P	02 18 26.5	+0.1
	baz=194							
F40A	Park Falls	33.40	359	P		P	02 18 26.2	-0.5
	baz=178							
SADO	Sadowa	33.40	13	P		P	02 18 24.8	-1.9
	comp=N,2.3nm,0.5s,baz=267,slow=9.5,SNR=3.9							
F38A	Pierce - Schro	33.51	357	P		P	02 18 27.1	-0.4
	baz=175							
F44A	Big Bay de Noc	33.54	4	P		P	02 18 27.2	-0.6
	baz=185							
GSC	Goldstone, Bar	33.72	317	P		P	02 18 26.6	-3.1
	baz=125							
F48A	Evansville	33.79	8	P		P	02 18 28.9	-1.1
	baz=192							
F49A	Sandfield	33.81	9	P		P	02 18 29.7	-0.5
	baz=192							
G53A	Haliburton	33.86	14	P		P	02 18 29.7	-0.9
	baz=199							
E40A	Wakefield	33.92	359	P		P	02 18 30.7	-0.6
	baz=179							
BANO	Bancroft	33.92	15	P		P	02 18 30.1	-1.1
	baz=200							
E42A	Champion	33.93	2	P		P	02 18 30.2	-1.0
	baz=182							
BUKO	Buck Lake	33.99	13	P		P	02 18 31.0	-0.8
	baz=197							
E45A	Wooded Hills,	34.01	5	P		P	02 18 31.6	-0.3
	baz=187							
F52A	Sundridge	34.34	12	P		P	02 18 34.0	-0.8
	baz=197							
E48A	Lockeyer	34.49	9	P		P	02 18 35.3	-0.8
	baz=192							
D41A	Chassel	34.54	1	P		P	02 18 35.9	-0.7
	baz=181							
E51A	G1948 Merrick	35.01	12	P		P	02 18 39.3	-1.3
	baz=197							
E53A	Dumoine, Ponti	35.26	14	P		P	02 18 42.2	-0.6
	baz=200							
D49A	Beulah Townshi	35.39	9	P		P	02 18 42.8	-1.1
	baz=193							
D53A	Lac Vacive, Po	35.92	14	P		P	02 18 47.6	-0.7
	baz=199							
D54A	Lac Fusel, La	36.23	15	P		P	02 18 50.1	-1.0
	baz=201							
MDND	Maddock	36.36	348	P		P	02 18 51.2	-1.0
	baz=162							
NV01	Mina Array Sit	36.54	320	eP		P	02 18 56.2	+2.1
NVAR	Mina Array Bea	36.54	320	P		P	02 18 56.2	+2.1
	comp=N,0.6nm,0.5s,baz=135,slow=10,SNR=3.1							
LATQ	La Tuque	37.53	19	P		P	02 19 00.4	-1.6
	baz=207							
HLID	Hailey	37.83	330	P		P	02 19 01.5	-3.4
	baz=137							
LSQQ	Lebel-sur-Quev	37.94	13	P		P	02 19 04.6	-0.9
	baz=200							
DGMT	Dagmar	38.02	344	P		P	02 19 07.3	+1.1
	baz=156							
ULM	Lac du Bonnet	38.11	353	P		P	02 19 05.3	-1.6
	comp=N,2.9nm,0.7s,baz=172,slow=9.9,SNR=4.5							
BOZ	Bozeman (W)	38.12	334	P		P	02 19 07.7	+0.3
	baz=143							
MATQ	Matagami	38.46	12	P		P	02 19 09.0	-0.9
	baz=198							
HMR	Hamilton Ranch	38.64	317	eP		P	02 19 11.3	-0.2
SIV	San Ignacio	39.72	135	P		P	02 19 23.2	+2.4
	comp=N,1.3nm,0.8s,baz=300,slow=9.5,SNR=4.6							
L04D	Klamath Falls	41.26	322	P		P	02 19 29.4	-4.0
	baz=126							
LTY	Liberty	43.56	329	eP		P	02 19 52.8	+0.8
	comp=N,6.5nm,0.7s							
GLK	Glacier Lake	43.58	328	eP		P	02 19 50.1	-2.1
YKA	Yellowknife Ar	53.18	346	P		P	02 21 05.8	+0.1
	comp=N,1.3nm,0.7s,baz=143,slow=7.5,SNR=15							
YKB5	Yellowknife Ar	53.18	346	eP		P	02 21 05.8	+0.2
FRB	Frobisher Bay	53.31	11	P		P	02 21 05.2	-1.3
	comp=N,1.9nm,0.4s,baz=205,slow=7.9,SNR=5.3							
RES	Resolute Bay	62.34	358	eP		P	02 22 08.9	-0.8
	comp=N,14nm,2.0s							
RES	Resolute Bay	62.34	358	P		P	02 22 08.9	-0.8
	comp=N,0.4nm,0.4s,baz=192,slow=3.1,SNR=4.3							
MCK	McKinley	65.72	335	eP		P	02 22 32.0	-0.2
	comp=N,4.1nm,0.9s							
CM31	Chiang Mai Arr	148.26	345	ePKPbc		PKPbc	02 31 36.7	+2.3
CMAR	Chiang Mai Arr	148.26	345	PKPbc		PKPbc	02 31 36.7	+2.3
	comp=N,1.3nm,0.4s,baz=329,slow=3.6,SNR=5.7							

*JMA **20** 02:48:40.5±0.3, 43°.32N×147°.28E, h66km, M2.7*
*SKHL **20** 02:48:51.8±0.7, 43°.83N×147°.00E, h51km±3km*
ISC 20 02:48:42.2±2.5, 43°.3N±0°.1×147°.3E±0°.1, h50km, n9, σ1§99/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.11	276	P	Pn	02 49 00.6	-0.7
NEM2				eS	Sn	02 49 15.7	+0.2
YUK	Yuzh-Kuril'sk	1.27	308	eP	Pn	02 49 07.0	+3.4
YUK				i S	Sn	02 49 18.0	-1.5
YUK				A	A	02 49 19.0	
	240nm,0.2s						
YUK				A	A	02 49 19.0	
	70nm,0.2s						
GRPR	Tuman	1.30	305	eS	Sn	02 49 19.0	-1.2
LAGR	Lagunnoye	1.33	307	eP	Pn	02 49 07.0	+2.7
LAGR				eS	Sn	02 49 19.0	-1.9
JRA	Rausu	1.69	294	eS	Sn	02 49 29.1	-0.6
JNK	Nakash	1.88	281	eS	Sn	02 49 33.8	-0.5
KUR	Kuril'sk	2.02	12	eP	Pn	02 49 16.0	+2.2
KUR				eS	Sn	02 49 34.0	-3.9
KUR				A	A	02 49 37.1	
	50nm,0.2s						
KUR				A	A	02 49 37.1	
	30nm,0.2s						
JAR	Ashorobuto	2.54	272	eS	Sn	02 49 50.7	0.0
JNBK	Urakawa-nobuka	3.46	255	P	Pn	02 49 33.5	+0.1

KRSC 20 02:49:16.2±10.0, 52°.16N×160°.65E, h46km±10km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.02	338	eP	Pn	02 49 35.0	+1.0
SPN				eS	Sn	02 49 47.2	0.0
NLC	Nalytchevo	1.29	323	eP	Pn	02 49 39.3	+1.6
NLC				eS	Sn	02 49 55.8	+2.0
RUS	Russkaya	1.34	283	eP	Pn	02 49 39.8	+1.4
RUS				eS	Sn	02 49 55.4	+0.4
DALK	Dalny	1.45	308	eP	Pn	02 49 41.4	+1.5
DALK				eS	Sn	02 49 59.3	+1.6
PET	Petropavlovsk	1.50	306	eP	Pn	02 49 42.1	+1.6
PET				eS	Sn	02 50 00.6	+1.8
UGLR	Uglovaya	1.53	314	eP	Pn	02 49 43.2	+2.0
UGLR				eS	Sn	02 50 02.8	+2.9
MTVR	Mutnovka	1.55	283	eP	Pn	02 49 43.3	+1.9
MTVR				eS	Sn	02 50 01.6	+1.2
SDLR	Sedlovina	1.56	317	eP	Pn	02 49 43.7	+2.2
SDLR				eS	Sn	02 50 02.8	+2.3
SMAR	Somma	1.58	315	eP	Pn	02 49 43.7	+1.8
AVH	Avacha	1.61	314	eP	Pn	02 49 44.6	+2.4
AVH				eS	Sn	02 50 04.6	+2.8
KDTR	Khodutka, Kamc	1.63	259	eP	Pn	02 49 44.0	+1.7
KDTR				eS	Sn	02 50 02.9	+0.9
GRL	Gorelyy	1.63	285	P	Pn	02 49 46.0	+3.5
GRL				S	Sn	02 50 05.9	+3.6
KRER	Koryakskii	1.63	316	eP	Pn	02 49 44.9	+2.3
KRER				eS	Sn	02 50 04.7	+2.2
KOK	Koryaka	1.67	314	eP	Pn	02 49 45.5	+2.4
KOK				S	Sn	02 50 05.9	+2.6
KRMR	Karymshinskiy	1.68	295	eP	Pn	02 49 44.9	+1.8
KRMR				eS	Sn	02 50 05.9	+2.5
ASAK	Asacha	1.70	279	eP	Pn	02 49 45.7	+2.2
KRX	Arik	1.71	316	eP	Pn	02 49 45.9	+2.3
APC	Apacha	2.27	291	eP	Pn	02 49 54.2	+3.1
APC				eS	Sn	02 50 22.4	+4.6
PAU	Pauzhetka	2.48	255	P	Pn	02 49 57.4	+3.4
MKZ	Mys Kozlova	2.49	15	eP	Pn	02 49 56.8	+2.6
MKZ				eS	Sn	02 50 25.1	+1.8
KZV	Kizimen	2.97	356	eP	Pn	02 50 05.2	+4.3
KZV				eS	Sn	02 50 39.1	+3.7
TUMD	Tumrok D	3.06	357	eP	Pn	02 50 06.3	+4.3
TUMD				eS	Sn	02 50 39.7	+2.4
TUMR	Tumrok	3.15	355	eP	Pn	02 50 07.3	+4.0
KBTR	Krutoberegovo	4.26	17	P	Pn	02 50 21.6	+3.2

MEX 20 02:54:50.8±0.6, 14°.96N×91°.76W, h156km±7km, MD3.9, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.49	264	i P	Pn	02 55 11.8	-1.0
THIG				i S	Sn	02 55 27.2	-2.3
CCIG	Comitan	1.36	344	eP	Pn	02 55 18.9	-0.8
CCIG				eS	Sn	02 55 39.7	-2.2
PCIG		1.59	298	eP	Pn	02 55 20.5	-1.3
PCIG				eS	Sn	02 55 43.9	-1.7
CMIG	Matias Romero	3.68	306	eP	Pn	02 55 45.5	-1.6
CMIG				i S	Sn	02 56 28.6	-2.3

*IDC **20** 02:59:34.5±3.6, 50°.74N×159°.40E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.5/39, mbtmp3.8/6, ML2.9/1, MS3.1/1, Ms1 3.3/1, ms1mx2.6/44, Error ellipse: s-maj=112.8km s-min=33.6km az=32.0*
*KRSC **20** 02:59:41.6±10.0, 52°.07N×160°.82E, h61km±10km, ML4.0*
*ISCJB **20** 02:59:44.1±1.0, 52°.11N±0°.05×160°.79E±0°.08, h35km±10km, mb3.8/5, MS3.1/1, Error ellipse: s-maj=10.5km s-min=6.1km az=139.4*
ISC 20 02:59:43.3±3.8, 52°.12N±0°.06×160°.70E±0°.05, h16km±23km, n30, σ1§09/39, mb4.1/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.06	337	eP	Pb	03 00 02.5	-0.8
SPN				eS	Sb	03 00 16.1	-0.8
RUS	Russkaya	1.38	284	eP	Pn	03 00 07.3	-0.6
DALK	Dalny	1.50	308	eP	Pn	03 00 09.4	-0.1
DALK				S	Sn	03 00 28.4	-0.2
PET	Petropavlovsk	1.54	307	eP	Pn	03 00 10.0	-0.1
PET				eS	Sb	03 00 31.1	+0.4
UGLR	Uglovaya	1.58	314	eP	Pn	03 00 11.3	+0.6
MTVR	Mutnovka	1.59	284	eP	Pn	03 00 10.8	-0.1
MTVR				eS	Sn	03 00 30.3	-0.8
SDLR	Sedlovina	1.60	317	eP	Pn	03 00 11.4	+0.4
SMAR	Somma	1.63	315	eP	Pn	03 00 12.0	+0.6
KDTR	Khodutka, Kamc	1.66	260	eP	Pn	03 00 11.0	-0.6
KDTR				eS	Sn	03 00 30.8	-1.7
AVH	Avacha	1.66	315	eP	Pn	03 00 12.6	+0.9
KRER	Koryakskii	1.68	316	eP	Pn	03 00 12.6	+0.5
KOK	Koryaka	1.72	314	eP	Pn	03 00 13.6	+1.0
KRMR	Karymshinskiy	1.73	295	eP	Pn	03 00 12.7	+0.1
KRMR				S	Sn	03 00 35.2	+0.9
ASAK	Asacha	1.74	280	P	Pn	03 00 13.5	+0.6
KRX	Arik	1.76	316	eP	Pn	03 00 13.4	+0.2
PETK	Petropavlovsk-	2.08	300	Pn	Pn	03 00 18.1	+0.6
	12nm,0.3s,baz=105,slow=18,SNR=103						
PETK				Sn	Sb	03 00 45.2	-1.1
	9.7nm,0.3s,baz=106,slow=19,SNR=9.7						
APC	Apacha	2.31	292	eP	Pn	03 00 21.7	+1.1
MKZ	Mys Kozlova	2.52	14	eP	Pn	03 00 23.8	+0.4
MKZ				eS	Sn	03 00 52.5	-1.2
KZV	Kizimen	3.01	356	eP	Pn	03 00 31.3	+1.0
KZV				eS	Sn	03 01 06.0	-0.1
TUMD	Tumrok D	3.09	357	eP	Pn	03 00 31.9	+0.5
TUMD				eS	Sn	03 01 06.4	-1.6
TUMR	Tumrok	3.18	354	eP	Pn	03 00 34.3	+1.5
ALID	Alaid	3.46	251	P	Pn	03 00 37.3	+0.8
KBTR	Krutoberegovo	4.28	16	P	Pn	03 00 48.6	+0.9
BKI	Bering	4.40	43	S	Sn	03 01 36.6	-3.5
ARCES	ARCESS Array B	54.33	342	P	P	03 09 09.9	+1.6
	2.3nm,0.9s,baz=28,slow=9.6,SNR=3.8						
CMAR	Chiang Mai Arr	58.35	259	LR	LR	03 38 02.7	
	comp=Z,16nm,19.1s,baz=305,slow=40						
FINES	FINESS Array B	61.16	337	P	P	03 09 56.7	+0.4
	1.1nm,0.4s,baz=42,slow=7.2,SNR=14						
NOA	NORSAR Array B	64.58	344	P	P	03 10 18.6	-0.6
	1.1nm,1.0s,baz=24,slow=6.6,SNR=3.3						
AKASG	Malin Array Be	69.64	329	P	P	03 10 50.3	-1.1
	1.1nm,0.7s,baz=29,slow=6.3,SNR=3.4						
TXAR	Lajitas Array	70.67	67	P	P	03 11 00.1	+1.9
	0.1nm,0.6s,baz=307,slow=3.3,SNR=2.4						

*IDC **20** 03:08:21.4±3.3, 51°.41N×160°.33E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3. 1/34, mbtmp3.5/3, ML2.3/1, Error ellipse: s-maj=92.4km s-min=50.1km az=43.0*
*KRSC **20** 03:08:26.0±10.0, 51°.98N×160°.70E, h62km±10km, ML3.6*
ISC 20 03:08:26.8±2.4, 52°.05N±0°.08×160°.50E±0°.07, h15km±11km, n22, σ0§88/37, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.09	345	P	Pg	03 08 47.5	-0.3
SPN				S	Sn	03 09 01.5	-0.7
RUS	Russkaya	1.28	288	P	Pg	03 08 51.2	-0.2
RUS				S	Sb	03 09 08.1	+1.4
NLC	Nalytchevo	1.32	328	P	Pg	03 08 52.1	-0.1
NLC				S	Sg	03 09 10.9	+1.4
DALK	Dalny	1.45	313	P	Pb	03 08 53.2	-0.2
DALK				S	Sg	03 09 13.4	0.0
MTVR	Mutnovka	1.49	288	P	Pb	03 08 54.3	+0.1
MTVR				S	Sb	03 09 14.3	+1.4
KDTR	Khodutka, Kamc	1.52	262	P	Pn	03 08 53.8	+0.5
KDTR				S	Sn	03 09 13.4	+0.6
UGLR	Uglovaya	1.54	319	P	Pg	03 08 55.9	-0.6
UGLR				S	Sg	03 09 17.3	+0.8
SDLR	Sedlovina	1.57	322	P	Pg	03 08 56.0	-1.0
SMAR	Somma	1.59	320	P	Pg	03 08 57.4	0.0
AVH	Avacha	1.62	319	P	Pb	03 08 56.5	+0.1
AVH				S	Sg	03 09 18.3	-0.7
ASAK	Asacha	1.63	283	P	Pb	03 08 56.7	+0.1
KRER	Koryakskii	1.65	320	P	Pg	03 08 57.5	-0.9
KRER				S	Sg	03 09 20.0	+0.2
KRMR	Karymshinskiy	1.65	299	P	Pb	03 08 56.3	-0.5
KRMR				S	Sb	03 09 17.9	+0.6
KOK	Koryaka	1.68	318	P	Pb	03 08 57.7	+0.2
KOK				S	Sg	03 09 20.3	-0.6
KRX	Arik	1.73	320	P	Pb	03 08 58.0	-0.2
PETK	Petropavlovsk-	2.01	303	Pn	Pb	03 09 02.0	-1.0
	3.4nm,0.3s,baz=108,slow=18,SNR=36						
PETK				Sn	Sg	03 09 30.6	-0.7
	5.4nm,0.3s,baz=86,slow=18,SNR=6.2						
APC	Apacha	2.22	295	P	Pb	03 09 05.6	-1.0
APC				S	Sb	03 09 34.4	+0.5
MKZ	Mys Kozlova	2.62	16	S	Sn	03 09 38.2	-1.7
KZV	Kizimen	3.07	358	P	Pn	03 09 15.8	+1.0
KZV				S	Sn	03 09 50.9	-0.4
KBTR	Krutoberegovo	4.38	17	P	Pn	03 09 34.6	+1.9
KBTR				S	Sn	03 10 23.0	-0.4
MKAR	Makanchi Array	48.84	297	P	P	03 17 09.6	-1.7
	0.2nm,0.4s,baz=55,slow=7.1,SNR=3.2						
FINES	FINESS Array B	61.18	337	P	P	03 18 40.8	+0.6
	1.7nm,0.9s,baz=36,slow=7.8,SNR=2.7						

ISC 20 03:16:50.6±2.2, 49°.8N±0°.1×18°.45E±0°.07, h12km±19km, n5, σ0§48/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	Moravsky Berou	0.59	267	ePG	Pb	03 17 02.4	-0.5
MORC				eSG	Sg	03 17 10.3	+0.3
OJC	Ojcow	0.96	64	ePg	Pb	03 17 08.9	-0.2
OJC				eSg	Sb	03 17 21.7	0.0
JAVC	Velka Javorina	1.09	208	ePG	Pn	03 17 11.9	+0.3
JAVC				eSG	Sb	03 17 25.4	0.0
VRAC	Vranov	1.31	248	ePG	Pb	03 17 15.0	-0.2
VRAC				eSG	Sn	03 17 32.1	0.0
KRUC	Moravsky	1.54	241	ePG	Pb	03 17 18.3	-0.7
KRUC				eSG	Sb	03 17 39.1	+0.6

*KRSC **20** 03:38:50.9±10.0, 52°.05N×160°.84E, h60km±10km, ML4.5*
*IDC **20** 03:38:51.8±0.7, 52°.31N×160°.35E, h0km, mb3.9/21, mb1 4.1/23, mb1mx4.0/55, mbtmp3.9/23, ML3.7/2, MS3.8/8, Ms1 3.8/8, ms1mx3.4/44, Error ellipse: s-maj=19.5km s-min=14.4km az=145.0*
*ISCJB **20** 03:38:54.0±1.2, 52°.12N±0°.03×160°.69E±0°.04, h31km±8km, mb4.2/43, MS3.8/5, Error ellipse: s-maj=5.5km s-min=4.3km az=151.6*
*NEIC **20** 03:38:56.3±2.3, 52°.27N×160°.38E, h30km±6km, mb4.4/10, Error ellipse: s-maj=18.0km s-min=14.0km az=170.0*
*MOS **20** 03:38:56. 1±0.9, 52°.23N×160°.50E, h45km, mb4.6/15, Error ellipse: s-maj=8.3km s-min=4.6km az=107.1*
ISC 20 03:38:55.3±1.0, 52°.15N±0°.04×160°.69E±0°.04, h31km±6km, n162, σ1§33/182, mb4.2/43, MS3.8/5, 13C-10D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.03	337	eP	Pn	03 39 11.8	-1.8

PET smax smax
comp=N,1μm,0.5s
UGLR Uglovaya 1.55 314 *eP* **Pn 03 39 20.6 -0.3**
UGLR *eS* **Sb 03 39 43.4 +0.7**
UGLR Uglovaya 1.55 314 PN **Pn 03 39 20.6 -0.3**
UGLR S **Sb 03 39 43.4 +0.7**
MTVR Mutnovka 1.57 283 *eP* **Pn 03 39 20.4 -0.8**
MTVR *eS* **Sn 03 39 41.7 +1.1**
MTVR Mutnovka 1.57 283 PN **Pn 03 39 20.4 -0.8**
MTVR S **Sn 03 39 41.7 +1.1**
SDLR Sedlovina 1.57 317 *eP* **Pn 03 39 20.7 -0.5**
SDLR *eS* **Sn 03 39 41.2 +0.6**
SDLR Sedlovina 1.57 317 PN **Pn 03 39 20.7 -0.5**
SDLR S **Sn 03 39 41.2 +0.6**
SMAR Somma 1.60 315 *eP* **Pn 03 39 21.0 -0.6**
SMAR Somma 1.60 315 PN **Pn 03 39 21.0 -0.6**
AVH Avacha 1.63 314 *eP* **Pn 03 39 21.7 -0.2**
AVH Avacha 1.63 314 PN **Pn 03 39 21.7 -0.2**
KRER Koryakskii 1.65 315 *eP* **Pn 03 39 22.2 -0.1**
KRER Koryakskii 1.65 315 PN **Pn 03 39 22.2 -0.1**
KDTR Khodutka, Kamc 1.65 259 *eP* **Pn 03 39 20.7 -1.4**
KDTR *eS* **Sn 03 39 40.7 -1.5**
KDTR Khodutka, Kamc 1.65 259 PN **Pn 03 39 20.7 -1.4**
KDTR S **Sn 03 39 40.7 -1.5**
GRL Gorelyy 1.65 285 P **Pn 03 39 23.1 +0.8**
GRL Gorelyy 1.65 285 PN **Pn 03 39 23.1 +0.8**
KOK Koryaka 1.69 313 *eP* **Pn 03 39 22.5 -0.3**
KOK Koryaka 1.69 313 PN **Pn 03 39 22.5 -0.3**
KRMR Karymshinskiy 1.70 294 *eP* **Pn 03 39 22.1 -0.8**
KRMR *eS* **Sb 03 39 46.0 -0.9**
KRMR Karymshinskiy 1.70 294 PN **Pn 03 39 22.1 -0.8**
KRMR S **Sb 03 39 46.0 -0.9**
ASAK Asacha 1.73 279 *eP* **Pn 03 39 23.0 -0.3**
ASAK Asacha 1.73 279 PN **Pn 03 39 23.0 -0.3**
KRX Arik 1.73 315 *eP* **Pn 03 39 22.9 -0.5**
KRX Arik 1.73 315 PN **Pn 03 39 22.9 -0.5**
PEA0B Petropavlovsk- 2.06 299 *e*PN **Pn 03 39 27.7 -0.1**
PEA0B *e*Sn Sn 03 39 42.5 -10
PEA0B Petropavlovsk- 2.06 299 *e*PN **Pn 03 39 27.7 -0.1**
PETK Petropavlovsk- 2.06 299 *e*Pn **Pn 03 39 27.4 -0.4**
PETK Petropavlovsk- 2.06 299 Pn **Pn 03 39 27.2 -0.6**
comp=N,24nm,0.3s,baz=102,slow=19,SNR=118
PETK Sn **Sn 03 39 54.0 +1.7**
comp=N,24nm,0.3s,baz=112,slow=28,SNR=4.7
PETK LR LR 03 40 00.1
comp=N,706nm,18.7s,baz=49,slow=38
PEA1 Petropavlovsk- 2.06 299 *e*Pn **Pn 03 39 27.2 -0.6**
PEA1 *e*Sn **Sn 03 39 54.0 +1.6**
APC Apacha 2.29 291 *eP* **Pn 03 39 31.5 +0.6**
APC Apacha 2.29 291 PN **Pn 03 39 31.5 +0.6**
MKZ Mys Kozlova 2.49 14 *eP* **Pn 03 39 32.8 -0.8**
MKZ *eS* **Sn 03 40 00.9 -2.0**
MKZ Mys Kozlova 2.49 14 PN **Pn 03 39 32.8 -0.8**
MKZ S **Sn 03 40 00.9 -2.0**
KZV Kizimen 2.98 356 *eP* **Pn 03 39 40.6 +0.1**
KZV Kizimen 2.98 356 PN **Pn 03 39 40.6 +0.1**
TUMD Tumrok D 3.06 357 *eP* **Pn 03 39 40.6 -1.0**
TUMD *eS* **Sn 03 40 15.4 -1.7**
TUMR Tumrok 3.15 354 *eP* **Pn 03 39 43.7 +0.8**
TUMR Tumrok 3.15 354 PN **Pn 03 39 43.7 +0.8**
SKR Severo-Kuril's 3.22 245 *eP* **Pn 03 39 42.7 -1.0**
SKR *eS* **Sn 03 40 19.3 -1.6**
SKR Severo-Kuril's 3.22 245 *e*PN **Pn 03 39 46.3 +2.6**
SKR *eS* **Sn 03 40 19.0 -1.9**
SKR pmax pmax
comp=Z,78nm,0.8s
SKR smax smax
comp=N,408nm,0.8s
SKR smax smax
comp=E,524nm,0.8s
ALID Alaid 3.46 250 *eP* **Pn 03 39 47.4 +0.3**
ALID Alaid 3.46 250 PN **Pn 03 39 47.4 +0.3**
LGNR Loginova 3.94 0 P **Pn 03 39 55.2 +1.3**
LGNR Loginova 3.94 0 PN **Pn 03 39 55.2 +1.3**
ESO Esso 3.96 344 P **Pn 03 39 55.8 +1.9**
ESO Esso 3.96 344 PN **Pn 03 39 55.8 +1.9**
KBTR Krutoberegovo 4.25 16 *eP* **Pn 03 39 57.6 -0.3**
KBTR Krutoberegovo 4.25 16 PN **Pn 03 39 57.6 -0.3**
BKI Bering 4.38 44 S **Sn 03 40 44.7 -4.9**
BDR Baidarnaya 4.43 4 P **Pn 03 40 02.5 +2.0**
BDR Baidarnaya 4.43 4 PN **Pn 03 40 02.5 +2.0**
SMKR Semkarok 4.46 6 P **Pn 03 40 03.5 +2.6**
SMKR Semkarok 4.46 6 PN **Pn 03 40 03.5 +2.6**
MA2 Magadan 9.29 327 LR LR 03 45 17.1
comp=E,314nm,19.1s,baz=156,slow=43
ASAJ Asahikawa 14.48 243 Pn **Pn 03 42 17.2 -0.8**
comp=E,0.6nm,0.3s,baz=76,slow=18,SNR=4.7
GRNR Gornyy 15.17 274 *eP* **P 03 42 33.5 +1.6**
GRNR pmax pmax
comp=Z,21nm,1.0s
BILL Bilibino 16.17 8 *e*Pn **Pn 03 42 40.4 +0.5**
comp=Z,11nm,0.9s
BILL Bilibino 16.17 8 *e*P **Pn 03 42 41.3 +1.4**
BILL pmax pmax
comp=Z,14nm,1.0s
KLR Kul'dur 18.51 272 P **P 03 43 08.7 -0.2**
comp=Z,0.2nm,0.3s,baz=56,slow=12,SNR=7.2
KLR LR LR 03 51 09.1
comp=Z,274nm,19.5s,baz=73,slow=40
YAK Yakutsk 19.34 313 *eP* **P 03 43 14.5 -3.3**
YAK pmax pmax
comp=Z,205nm,1.0s
YAK pmax pmax
comp=E,102nm,1.0s
YAK pmax pmax
comp=N,50nm,1.0s
USRK Ussuriysk Ar. 20.62 259 P **P 03 43 29.8 -2.1**
comp=N,4.9nm,0.6s,baz=74,slow=11,SNR=9.1
MJAR Matsushiro Arr 22.27 234 P **P 03 43 50.5 +0.8**
comp=N,4.3nm,0.9s,baz=25,slow=8.5,SNR=8.7
MJAR LR LR 03 52 47.7
comp=N,245nm,21.4s,baz=55,slow=38
MJB9 Matsu-Tunnel 22.27 234 *eP* **P 03 43 49.9 +0.2**
comp=N,10nm,0.9s
MAJO Matsushiro 22.27 234 *eP* **P 03 43 50.5 +0.8**
MAJO Matsushiro 22.27 234 *eP* **P 03 43 50.5 +0.8**
MAT Matsushiro 22.27 234 P **P 03 43 51.0 +1.3**
TIXI Tiksi 24.09 336 *eP* **P 03 44 05.7 -1.9**
comp=N,5.0nm,0.8s
TIXI *eP* **P 03 44 05.7 -1.9**
TIXI Tiksi 24.09 336 P **P 03 44 05.7 -1.9**
comp=N,4.7nm,0.7s,baz=121,slow=9.3,SNR=8.1
RSO Redoubt South 26.61 53 *eP* **P 03 44 32.6 +1.7**
BOD Bodaibo 26.93 301 *eP* **P 03 44 30.3 -3.1**
BOD pmax pmax
comp=Z,6.0nm,1.4s
KSRS Korea Array 27.22 250 P **P 03 44 38.5 +2.3**
comp=Z,1.1nm,0.8s,baz=35,slow=11,SNR=5.0
JNU Nakatsue 28.72 240 *eP* **P 03 44 48.5 -1.2**
comp=Z,15nm,1.1s
H11N2 WAKE ISLAND Hy 32.72 169 T T 04 21 36.3
baz=352,slow=76,SNR=27
H11N3 WAKE ISLAND Hy 32.73 169 T T 04 21 37.3
baz=352,slow=76,SNR=21
H11N1 WAKE ISLAND Hy 32.74 169 T T 04 21 26.5
baz=352,slow=76,SNR=23
ULN Ulaanbaatar 34.07 285 *ce*P **P 03 45 35.6 -1.2**
ULN pmax pmax
comp=Z,4.0nm,1.7s
SONA0 Songino Array 34.48 285 *eP* **P 03 45 38.7 -1.6**
SONM Songino Array 34.48 285 P **P 03 45 38.7 -1.6**
comp=Z,0.4nm,0.6s,baz=47,slow=9.5,SNR=3.1
NJ2 Nanjing 36.31 253 *eP* P 03 45 51.0 -5.0
NRIK Noril'sk 36.89 326 LR LR 04 01 39.6
comp=Z,123nm,20.3s,baz=44,slow=37
LZH Lanzhou 42.70 271 *eP* **P 03 46 51.0 +1.5**
LZH pP pP 03 46 52.8 -4.6
LZH sP sP 03 46 54.6 -6.1
YKA Yellowknife Ar 43.62 42 P **P 03 46 57.5 +1.3**
comp=Z,0.3nm,0.9s,baz=298,slow=7.8,SNR=3.4
YKB5 Yellowknife Ar 43.62 42 *eP* **P 03 46 57.5 +1.3**
NVS Novosibirsk 43.95 306 *eP* **P 03 46 57.7 -1.3**
NVS pmax pmax
comp=E,13nm,1.3s
NVS pmax pmax
comp=Z,14nm,1.3s
CD2 Chengdu 46.24 266 *eP* P 03 47 12.3 -5.3
WMQ Urumqi 47.63 290 *eP* **P 03 47 28.0 -0.3**
KURK Kurchatov 48.54 303 *eP* **P 03 47 32.9 -2.3**
comp=Z,10nm,1.0s
KURK Kurchatov 48.54 303 *ce*P **P 03 47 33.6 -1.6**
KURK pmax pmax
comp=Z,14nm,1.3s

GLK Glacier Lake 48.65 64 *eP* **P 03 47 38.2 +2.0**
MKAR Makanchi Array 48.89 297 P **P 03 47 36.0 -2.0**
comp=Z,0.7nm,0.5s,baz=55,slow=6.4,SNR=15
KMI Kunming 51.02 261 P **P 03 47 52.8 -1.9**
BRVK Borovoye 51.29 309 *eP* **P 03 47 55.0 -1.0**
comp=Z,5.2nm,0.8s
BRVK Borovoye 51.29 309 *ce*P **P 03 47 54.9 -1.1**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
ARA0 ARCESS Array S 54.29 342 *eP* **P 03 48 17.1 -0.9**
ARCES ARCESS Array B 54.29 342 P **P 03 48 17.1 -0.9**
comp=Z,2.4nm,0.8s,baz=38,slow=6.1,SNR=4.3
ARU Arti 54.34 318 *ce*P **P 03 48 18.3 -0.1**
ARU pmax pmax
comp=Z,8.0nm,1.7s
NV01 Mina Array Sit 55.73 70 *eP* **P 03 48 31.4 +2.4**
NVAR Mina Array Bea 55.73 70 P **P 03 48 31.4 +2.4**
comp=Z,0.6nm,0.6s,baz=308,slow=7.6,SNR=4.9
AAK Ala-Archa 55.82 297 *ce*P **P 03 48 29.5 -0.1**
AAK pmax pmax
comp=Z,4.0nm,1.7s
PDAR Pinedale Array 57.67 61 P **P 03 48 45.1 +2.3**
comp=Z,0.5nm,0.6s,baz=306,slow=3.5,SNR=5.2
KLMR Klimovskoe 57.95 330 *eP* **P 03 48 41.7 -2.4**
KLMR pmax pmax
comp=Z,8.0nm,1.1s
CHTO Chiang Mai 58.08 259 *eP* **P 03 48 46.4 +0.8**
comp=Z,12nm,1.1s
CHTO Chiang Mai 58.08 259 *eP* **P 03 48 46.4 +0.8**
CHTO pmax pmax
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 58.35 259 P **P 03 48 48.6 +1.1**
comp=Z,1.6nm,0.4s,baz=19,slow=7.1,SNR=12
CMAR LR LR 04 16 13.1
comp=Z,64nm,18.2s,baz=54,slow=38
ABKAR Akbulak array 58.68 311 *eP* **P 03 48 49.0 -0.5**
comp=Z,1.4nm,0.8s
FINES FINESS Array B 61.13 337 P **P 03 49 06.4 +0.4**
comp=Z,3.8nm,0.6s,baz=38,slow=7.7,SNR=21
FINES LR LR 04 19 15.9
comp=Z,82nm,19.4s,baz=24,slow=40
OBN Obninsk 63.50 328 *eP* **P 03 49 20.5 -1.5**
OBN pmax pmax
comp=Z,3.0nm,0.9s
NB2 NORSAR Subarra 64.55 344 P **P 03 49 28.3 -0.6**
comp=Z,0.7nm,0.6s,baz=20,slow=6.9
NOA NORSAR Array B 64.55 344 P **P 03 49 28.5 -0.4**
comp=Z,1.6nm,0.8s,baz=20,slow=6.6,SNR=7.3
HFS Hagfors 64.96 342 P **P 03 49 31.2 -0.3**
comp=Z,1.2nm,0.5s,baz=28,slow=6.5,SNR=4.2
AKASG Malin Array Be 69.61 329 P **P 03 50 00.1 -0.9**
comp=Z,1.2nm,0.4s,baz=29,slow=6.1,SNR=12
AKBB Malin Array Si 69.61 329 *eP* **P 03 50 00.1 -0.9**
AKBB Malin Array Si 69.61 329 *eP* **P 03 50 00.2 -0.9**
KBZ Khabaz 70.47 317 P **P 03 50 06.5 +0.1**
comp=Z,2.2nm,0.7s,baz=34,slow=3.6,SNR=5.3
TXAR Lajitas Array 70.67 67 P **P 03 50 09.9 +1.8**
comp=Z,0.3nm,0.4s,baz=311,slow=4.0,SNR=3.9
KWP Kalwaria Pacla 72.50 333 *eP* **P 03 50 19.6 +1.0**
comp=Z,109nm,1.1s
KWP Kalwaria Pacla 72.50 333 *eP* **P 03 50 19.6 +1.0**
KWP pmax pmax
comp=Z,109nm,1.1s
CLL Collm 73.36 339 *eP* **P 03 50 24.0 +0.3**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 73.36 339 *eP* **P 03 50 24.0 +0.3**
comp=Z,4.0nm,0.9s
BURAR Bucovina Array 73.57 330 ⇓*iP* **P 03 50 25.4 +0.3**
BURAR Bucovina Array 73.57 330 ⇓P **P 03 50 25.4 +0.3**
TRPA Tarpa 73.90 332 ⇓*iP* **P 03 50 27.7 +0.8**
VRAC Vranov 74.40 337 ⇓*iP* **P 03 50 32.1 +2.2**
VRAC Vranov 74.40 337 ⇓P **P 03 50 32.1 +2.2**
VRI Vrincioaia 74.66 329 ⇑*iP* **P 03 50 32.1 +0.7**
VRI Vrincioaia 74.66 329 ⇑P **P 03 50 32.1 +0.7**
DRGR 75.06 332 ⇓*iP* **P 03 50 34.3 +0.5**
DRGR 75.06 332 ⇓P **P 03 50 34.3 +0.5**
MLR Muntele Rosu 75.24 329 ⇓*iP* **P 03 50 36.2 +1.3**
MLR Muntele Rosu 75.24 329 ⇓P **P 03 50 36.2 +1.3**
WR1 Warramunga Arr 75.38 206 *eP* **P 03 50 36.5 +0.8**
WRA Warramunga Arr 75.38 206 P **P 03 50 36.5 +0.8**
comp=Z,0.6nm,0.9s,baz=25,slow=6.0,SNR=4.0
MEM Membach 75.39 344 ⇓P **P 03 50 36.5 +0.9**
GEC2 GERESS Array S 75.52 338 *eP* **P 03 50 37.1 +0.7**
comp=Z,1.8nm,1.0s
GEC2 GERESS Array S 75.52 338 *eP* **P 03 50 37.2 +0.7**
GEC2 pmax pmax
comp=Z,2.0nm,1.0s
GERES GERESS Array B 75.52 338 P **P 03 50 37.1 +0.7**
comp=Z,0.5nm,0.5s,baz=34,slow=7.2,SNR=5.0
GERES LR LR 04 28 21.5
comp=Z,73nm,18.9s,baz=330,slow=39
VOIR 75.57 329 ⇑*iP* **P 03 50 37.5 +0.7**
VOIR 75.57 329 ⇑P **P 03 50 37.5 +0.7**
BCLA Clavier 75.69 344 ⇑P **P 03 50 37.1 -0.2**
ARR Arges 75.76 330 ⇑*iP* **P 03 50 39.6 +1.8**
CONA Conrad Observa 75.86 336 *eP* **P 03 50 40.3 +1.9**
comp=Z,4.8nm,1.1s
KBA Koelnbreinsper 77.26 338 P **P 03 50 48.3 +1.8**
comp=Z,9.9nm,0.9s
WATA Walderalm 77.42 339 *eP* **P 03 50 48.5 +1.2**
comp=Z,1.2nm,0.7s
MOTA Moosalm 77.52 339 *eP* **P 03 50 48.9 +1.1**
comp=Z,1.2nm,0.6s
BRTR Keskin Array B 77.58 321 *ce*P **P 03 50 48.7 +0.4**
BRTR *e**SP **sP 03 51 00.2 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 77.58 321 P **P 03 50 48.1 -0.1**
comp=Z,1.8nm,1.0s,baz=66,slow=3.0,SNR=12
SQTA Sankt Quirin 77.61 339 *eP* **P 03 50 49.6 +1.2**
comp=Z,1.7nm,0.7s
ABTA Abfaltersbach 77.77 338 *eP* **P 03 50 50.7 +1.6**
comp=Z,4.9nm,0.9s
FETA Feichten 77.91 339 P **P 03 50 51.6 +1.6**
comp=Z,3.5nm,1.0s
ASAR Alice Springs 79.05 205 P **P 03 50 57.4 +1.1**
comp=Z,0.4nm,0.8s,baz=18,slow=5.6,SNR=4.7
ESDC Sonseca Array 87.58 348 P **P 03 51 40.9 +0.6**
comp=Z,0.4nm,0.7s,baz=5.4,slow=3.9,SNR=5.3

IDC 20 03:40:47.1±2.0, 0°.84S×128°.11E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.5/55, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=116.6km s-min=24.9km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.32**	**188**	P	Pn	03 44 50.8	+0.4
0.1nm,0.3s,baz=11,slow=10,SNR=4.5							
WRA	**Warramunga Arr**	**19.94**	**163**	P	P	03 45 20.9	+0.1
0.3nm,0.3s,baz=341,slow=12,SNR=22							
ASAR	**Alice Springs**	**23.37**	**167**	P	P	03 45 57.5	-0.1
1.3nm,0.5s,baz=345,slow=11,SNR=21							
MKAR	**Makanchi Array**	**62.09**	**326**	P	P	03 51 09.7	-0.1
0.3nm,0.5s,baz=121,slow=7.3,SNR=5.4							

*IDC **20** 03:42:32.4±0.6, 52°.18N×160°.25E, h0km, mb4.2/36, mb1 4.3/39, mb1mx4.2/66, mbtmp4.2/39, ML4.0/3, Error ellipse: s-maj=15.3km s-min=10.7km az=153.0*
*KRSC **20** 03:42:32.7±10.0, 52°.00N×160°.64E, h63km±10km, ML4.5*
*ISCJB **20** 03:42:36.2±0.6, 52°.08N±0°.03×160°.47E±0°.05, h43km±3km, mb4.5/11, MS4.6/2, Error ellipse: s-maj=6.8km s-min=3.7km az=41.9*
*MOS **20** 03:42:36.7±1.1, 52°.12N×160°.34E, h46km, mb4.9/43, Error ellipse: s-maj=7.0km s-min=3.4km az=101.2*
*NEIC **20** 03:42:37.4±2.0, 52°.15N×160°.40E, h36km±4km, mb4.6/39, Error ellipse: s-maj=15.7km s-min=9.8km az=176.0*
*BJI **20** 03:42:39.2±0.0, 52°.81N×159°.68E, h42km, mb4.5/24, mB4.7/18, Ms4.5/12, Ms7 4.3/12*
ISC 20 03:42:37.1±1.1, 52.06N±0.04×160.56E±0.04, h40km±8km, n279, σ1°61/314, mb4.5/115, 20C-11D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.09**	**343**	*eP*	**Pn**	**03 42 53.7**	**-2.2**
SPN				*eS*	**Sn**	**03 43 07.7**	**-2.1**
SPN	**Mys Shipunski**	**1.09**	**343**	PN	**Pn**	**03 42 53.7**	**-2.2**
SPN				S	**Sn**	**03 43 07.7**	**-2.1**
RUS	**Russkaya**	**1.31**	**287**	P	**Pn**	**03 42 57.3**	**-1.6**
RUS				S	**Sn**	**03 43 14.8**	**-0.4**
RUS	**Russkaya**	**1.31**	**287**	PN	**Pn**	**03 42 57.3**	**-1.6**
RUS				S	**Sn**	**03 43 14.8**	**-0.4**
NLC	**Nalytchevo**	**1.34**	**327**	*eP*	**Pn**	**03 42 58.2**	**-1.0**
NLC				*eS*	**Sn**	**03 43 15.6**	**-0.2**
NLC	**Nalytchevo**	**1.34**	**327**	PN	**Pn**	**03 42 58.2**	**-1.0**
NLC				S	**Sn**	**03 43 15.6**	**-0.2**
DALK	**Dalny**	**1.47**	**312**	*eP*	**Pn**	**03 42 59.8**	**-1.3**
DALK				S	**Sn**	**03 43 18.0**	**-1.1**
DALK	**Dalny**	**1.47**	**312**	PN	**Pn**	**03 42 59.8**	**-1.3**
DALK				S	**Sn**	**03 43 18.0**	**-1.1**
PET	**Petropavlovsk**	**1.52**	**311**	*e*Pn	**Pn**	**03 43 00.7**	**-1.0**
PET	**Petropavlovsk**	**1.52**	**311**	*e*P	**Pn**	**03 43 00.6**	**-1.0**
PET				*e*S	**Sn**	**03 43 19.3**	**-0.8**
PET	**Petropavlovsk**	**1.52**	**311**	⇑*i*PN	**Pn**	**03 43 00.6**	**-1.0**
PET				*e*S	**Sn**	**03 43 20.1**	**0.0**
PET				pmax	pmax		
comp=Z,467nm,0.5s							
PET				smax	smax		
comp=N,2μm,0.7s							
MTVR	**Mutnovka**	**1.52**	**287**	*eP*	**Pn**	**03 43 00.7**	**-1.2**
MTVR				*e*S	**Sn**	**03 43 21.7**	**+1.2**
MTVR	**Mutnovka**	**1.52**	**287**	PN	**Pn**	**03 43 00.7**	**-1.2**
MTVR				S	**Sn**	**03 43 21.7**	**+1.2**
KDTR	**Khodutka, Kamc**	**1.56**	**262**	*eP*	**Pn**	**03 43 00.5**	**-1.7**
KDTR				*e*S	**Sn**	**03 43 19.3**	**-1.9**
KDTR	**Khodutka, Kamc**	**1.56**	**262**	PN	**Pn**	**03 43 00.5**	**-1.7**
KDTR				S	**Sn**	**03 43 19.3**	**-1.9**
UGLR	**Uglovaya**	**1.57**	**318**	*eP*	**Pn**	**03 43 02.0**	**-0.5**
UGLR				*e*S	**Sn**	**03 43 22.3**	**+0.7**
UGLR	**Uglovaya**	**1.57**	**318**	PN	**Pn**	**03 43 02.0**	**-0.5**
UGLR				S	**Sn**	**03 43 22.3**	**+0.7**
SDLR	**Sedlovina**	**1.59**	**321**	*eP*	**Pn**	**03 43 02.0**	**-0.9**
SDLR	**Sedlovina**	**1.59**	**321**	PN	**Pn**	**03 43 02.0**	**-0.9**
GRL	**Gorelyy**	**1.61**	**289**	*eP*	**Pn**	**03 43 02.9**	**-0.1**
GRL	**Gorelyy**	**1.61**	**289**	PN	**Pn**	**03 43 02.9**	**-0.1**
SMAR	**Somma**	**1.62**	**319**	*eP*	**Pn**	**03 43 02.3**	**-0.9**
SMAR	**Somma**	**1.62**	**319**	PN	**Pn**	**03 43 02.3**	**-0.9**
AVH	**Avacha**	**1.64**	**318**	*eP*	**Pn**	**03 43 03.8**	**+0.3**
AVH	**Avacha**	**1.64**	**318**	PN	**Pn**	**03 43 03.8**	**+0.3**
KRER	**Koryakskii**	**1.67**	**319**	*eP*	**Pn**	**03 43 03.5**	**-0.4**
KRER	**Koryakskii**	**1.67**	**319**	PN	**Pn**	**03 43 03.5**	**-0.4**
ASAK	**Asacha**	**1.67**	**282**	P	**Pn**	**03 43 02.9**	**-1.0**
ASAK	**Asacha**	**1.67**	**282**	PN	**Pn**	**03 43 02.9**	**-1.0**
KRMR	**Karymshinskiy**	**1.68**	**298**	*eP*	**Pn**	**03 43 02.7**	**-1.2**
KRMR	**Karymshinskiy**	**1.68**	**298**	PN	**Pn**	**03 43 02.7**	**-1.2**
KOK	**Koryaka**	**1.71**	**317**	*eP*	**Pn**	**03 43 03.7**	**-0.7**
KOK	**Koryaka**	**1.71**	**317**	PN	**Pn**	**03 43 03.7**	**-0.7**
KRX	**Arik**	**1.75**	**319**	*eP*	**Pn**	**03 43 04.3**	**-0.7**
KRX	**Arik**	**1.75**	**319**	PN	**Pn**	**03 43 04.3**	**-0.7**
PEA0B	**Petropavlovsk-**	**2.04**	**302**	*e*Pn	**Pn**	**03 43 08.4**	**-0.5**
PEA0B	**Petropavlovsk-**	**2.04**	**302**	*e*PN	**Pn**	**03 43 08.4**	**-0.5**
PETK	**Petropavlovsk-**	**2.04**	**302**	*e*Pn	**Pn**	**03 43 08.4**	**-0.4**
PETK	**Petropavlovsk-**	**2.04**	**302**	*e*PN	**Pn**	**03 43 08.5**	**-0.4**
PETK	**Petropavlovsk-**	**2.04**	**302**	Pn	**Pn**	**03 43 08.2**	**-0.7**
comp=N,31nm,0.3s,baz=101,slow=18,SNR=17							
PETK				Sn	**Sn**	**03 43 37.1**	**+4.0**
comp=N,44nm,0.3s,baz=123,slow=21,SNR=5.0							
PEA1	**Petropavlovsk-**	**2.04**	**302**	*e*Pn	**Pn**	**03 43 08.2**	**-0.7**
PEA1				*e*Sn	**Sn**	**03 43 37.1**	**+4.0**
APC	**Apacha**	**2.25**	**294**	*eP*	**Pn**	**03 43 12.0**	**+0.2**
APC	**Apacha**	**2.25**	**294**	PN	**Pn**	**03 43 12.0**	**+0.2**
PAU	**Pauzhetka**	**2.40**	**257**	*eP*	**Pn**	**03 43 12.7**	**-1.1**
PAU	**Pauzhetka**	**2.40**	**257**	PN	**Pn**	**03 43 12.7**	**-1.1**
MKZ	**Mys Kozlova**	**2.60 15**		*eP*	**Pn**	**03 43 14.3**	**-2.2**
MKZ				*e*S	**Sn**	**03 43 43.9**	**-3.0**
MKZ	**Mys Kozlova**	**2.60 15**		PN	**Pn**	**03 43 14.3**	**-2.2**
MKZ				S	**Sn**	**03 43 43.9**	**-3.0**
KZV	**Kizimen**	**3.07**	**357**	*eP*	**Pn**	**03 43 22.6**	**-0.5**
KZV				*e*S	**Sn**	**03 43 58.8**	**+0.2**
KZV	**Kizimen**	**3.07**	**357**	PN	**Pn**	**03 43 22.6**	**-0.5**
KZV				S	**Sn**	**03 43 58.8**	**+0.2**
SKR	**Severo-Kuril's**	**3.11**	**245**	*eP*	**Pn**	**03 43 22.5**	**-1.0**
SKR				*e*S	**Sn**	**03 43 57.0**	**-2.3**
SKR	**Severo-Kuril's**	**3.11**	**245**	*e*PN	**Pn**	**03 43 22.1**	**-1.4**
SKR				*e*S	**Sn**	**03 43 55.6**	**-3.7**
SKR				pmax	pmax		
comp=Z,144nm,0.6s							
SKR				smax	smax		
comp=E,810nm,0.4s							
SKR				smax	smax		
comp=N,763nm,0.6s							
TUMD	**Tumrok D**	**3.15**	**358**	*eP*	**Pn**	**03 43 23.2**	**-1.0**
TUMD				*e*S	**Sn**	**03 43 58.7**	**-1.9**
TUMR	**Tumrok**	**3.24**	**356**	*eP*	**Pn**	**03 43 25.4**	**-0.1**
TUMR				*e*S	**Sn**	**03 44 03.6**	**+0.7**
TUMR	**Tumrok**	**3.24**	**356**	PN	**Pn**	**03 43 23.2**	**-2.3**
TUMR				S	**Sn**	**03 43 58.7**	**-4.2**
ALID	**Alaid**	**3.35**	**251**	*eP*	**Pn**	**03 43 26.5**	**-0.5**
ALID	**Alaid**	**3.35**	**251**	PN	**Pn**	**03 43 26.5**	**-0.5**
ESO	**Esso**	**4.03**	**345**	P	**Pn**	**03 43 35.8**	**-0.4**
ESO	**Esso**	**4.03**	**345**	PN	**Pn**	**03 43 35.8**	**-0.4**
LGNR	**Loginova**	**4.04 1**		P	**Pn**	**03 43 35.9**	**-0.6**
LGNR	**Loginova**	**4.04 1**		PN	**Pn**	**03 43 35.9**	**-0.6**
CIRR	**Tsirk**	**4.07 1**		P	**Pn**	**03 43 38.7**	**+1.9**
CIRR	**Tsirk**	**4.07 1**		PN	**Pn**	**03 43 38.7**	**+1.9**
KRSR	**Krestovskiy**	**4.17 0**		P	**Pn**	**03 43 38.8**	**+0.6**
KRSR	**Krestovskiy**	**4.17 0**		PN	**Pn**	**03 43 38.8**	**+0.6**
KLY	**Klyuchi**	**4.27 1**		P	**Pn**	**03 43 40.0**	**+0.6**
KLY	**Klyuchi**	**4.27 1**		PN	**Pn**	**03 43 40.0**	**+0.6**
SRDR	**Sredinnyy**	**4.30**	**354**	P	**Pn**	**03 43 39.6**	**-0.3**
SRDR	**Sredinnyy**	**4.30**	**354**	PN	**Pn**	**03 43 39.6**	**-0.3**
KBTR	**Krutoberegovo**	**4.37 17**		*eP*	**Pn**	**03 43 40.1**	**-0.7**
KBTR	**Krutoberegovo**	**4.37 17**		PN	**Pn**	**03 43 40.1**	**-0.7**
BKI	**Bering**	**4.51 43**		S	**Sn**	**03 44 27.9**	**-5.9**
BDR	**Baidarnaya**	**4.54 5**		P	**Pn**	**03 43 43.7**	**+0.5**
BDR	**Baidarnaya**	**4.54 5**		PN	**Pn**	**03 43 43.7**	**+0.5**
SMKR	**Semkarok**	**4.57 6**		P	**Pn**	**03 43 46.0**	**+2.4**
SMKR	**Semkarok**	**4.57 6**		PN	**Pn**	**03 43 46.0**	**+2.4**
SRKR	**Sorokina**	**4.62 4**		P	**Pn**	**03 43 45.1**	**+0.7**
SRKR	**Sorokina**	**4.62 4**		PN	**Pn**	**03 43 45.1**	**+0.7**
SEY	**Seymchan**	**11.74**	**341**	Pn	**Pn**	**03 45 21.8**	**0.0**
comp=N,0.2nm,0.3s,baz=180,slow=20,SNR=2.9							
YSS	**Yuzh-Sakhalins**	**12.64**	**253**	*e*PN	**Pn**	**03 45 36.2**	**+2.1**
YSS				pmax	pmax		
comp=Z,20nm,0.8s							
ASAJ	**Asahikawa**	**14.37**	**244**	*e*Pn	**Pn**	**03 45 56.6**	**-1.0**
ASAJ				*e*Sn	**S**	**03 48 46.0**	**-8.3**
ASAJ	**Asahikawa**	**14.37**	**244**	Pn	**Pn**	**03 45 56.6**	**-1.0**
comp=Z,2.0nm,0.3s,baz=64,slow=14,SNR=10							
GRNR	**Gornyy**	**15.10**	**275**	*eP*	**P**	**03 46 13.7**	**+1.7**
GRNR				pmax	pmax		
comp=Z,28nm,0.8s							
ERM	**Erimo**	**15.51**	**236**	*e*Pn	**Pn**	**03 46 11.3**	**-1.4**
comp=Z,28nm,1.0s							
ERM	**Erimo**	**15.51**	**236**	*e*P	**Pn**	**03 46 11.3**	**-1.4**
ERM				pmax	pmax		
comp=Z,28nm,1.0s							
BILL	**Bilibino**	**16.27 8**		*e*Pn	**Pn**	**03 46 23.5**	**+1.2**
comp=Z

comp=Z,6.2nm,0.8s,baz=18,slow=11,SNR=12
TIXI Tiksi 24.14 336 *e*P **P 03 47 47.4 -1.4**
TIXI *e*P **P 03 47 47.6 -1.2**
TIXI Tiksi 24.14 336 *ce*P **P 03 47 47.1 -1.7**
TIXI pmax pmax
comp=Z,11nm,0.8s
TIXI Tiksi 24.14 336 P **P 03 47 47.4 -1.4**
comp=Z,9.4nm,0.6s,baz=127,slow=8.7,SNR=18
BOD Bodaibo 26.91 301 *e*P **P 03 48 10.0 -4.0**
BOD pmax pmax
comp=Z,5.0nm,1.1s
KDAK Kodiak Island 27.07 59 *e*P **P 03 48 18.6 +3.2**
comp=Z,6.4nm,1.0s
KDAK Kodiak Island 27.07 59 *i* P **P 03 48 19.5 +4.1**
KDAK Kodiak Island 27.07 59 P **P 03 48 18.5 +3.2**
comp=Z,8.8nm,1.0s,baz=253,slow=8.6,SNR=4.8
KSRS Korea Array 27.11 250 P **P 03 48 16.8 +0.9**
comp=Z,1.9nm,0.6s,baz=42,slow=10.0,SNR=7.2
KSAR Wonju Array Be 27.14 250 *e*P **P 03 48 18.0 +1.8**
JNU Nakatsue 28.60 240 P **P 03 48 33.3 +3.9**
comp=Z,6.4nm,0.8s,baz=9.0,slow=19,SNR=4.2
SML Sawmill 28.79 50 *e*P **P 03 48 32.3 +1.5**
comp=Z,6.3nm,0.9s
ILAR Eielson Array 29.35 44 P **P 03 48 37.2 +1.5**
comp=Z,0.4nm,0.7s,baz=271,slow=8.9,SNR=4.0
H11N2 WAKE ISLAND Hy 32.64 169 T T 04 23 43.3
baz=351
H11N3 WAKE ISLAND Hy 32.65 169 T T 04 23 46.9
baz=351
H11N1 WAKE ISLAND Hy 32.66 169 T T 04 23 55.4
baz=351
SONA0 Songino Array 34.43 285 *e*P **P 03 49 19.6 -0.9**
SONA0 *e*PcP **PcP 03 51 56.0 +0.9**
SONM Songino Array 34.43 285 P **P 03 49 19.6 -0.9**
comp=Z,0.7nm,0.6s,baz=50,slow=7.7,SNR=4.8
SONM PcP **PcP 03 51 56.0 +0.9**
comp=Z,0.5nm,0.6s,baz=67,slow=4.2,SNR=2.9
INK Inuvik 34.52 37 *e*P **P 03 49 20.4 -0.5**
comp=Z,3.2nm,1.0s
INK Inuvik 34.52 37 P **P 03 49 22.0 +1.1**
comp=Z,0.8nm,0.8s,baz=292,slow=4.7,SNR=3.0
ZAK Zakamensk 35.12 291 *e*P **P 03 49 22.7 -3.7**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
NJ2 Nanjing 36.21 253 *e*P **P 03 49 36.3 +0.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.9s
DLBC Dease Lake 38.45 52 P **P 03 49 56.8 +2.2**
comp=Z,0.6nm,0.4s,baz=282,slow=9.3,SNR=2.0
WHN Wuhan 39.97 256 *e*P P 03 50 13.0 +5.5
GTA Gaotai 43.02 278 *e*P **P 03 50 34.3 +1.8**
GTA pP pP 03 50 42.5 -0.3
GTA sP sP 03 50 46.6 -0.6
GTA pmax pmax
comp=Z,3.0nm,1.1s
ZALV Zalesovo Beam 43.58 304 P **P 03 50 34.2 -2.5**
comp=Z,3.1nm,0.9s,baz=65,slow=6.8,SNR=5.7
YKA Yellowknife Ar 43.74 42 P **P 03 50 38.9 +1.0**
comp=Z,0.3nm,0.8s,baz=299,slow=8.7,SNR=3.6
NVS Novosibirsk 43.94 306 ⇓*i*P **P 03 50 37.6 -2.0**
NVS *e* 03 50 48.7
NVS pmax pmax
comp=Z,15nm,1.0s
NVS pmax pmax
comp=N,3.0nm,0.5s
NVS pmax pmax
comp=E,10.0nm,0.9s
RES Resolute Bay 44.18 22 *e*P **P 03 50 41.4 +0.2**
comp=E,2.5nm,1.0s
RES Resolute Bay 44.18 22 P **P 03 50 41.4 +0.2**
comp=E,1.6nm,0.8s,baz=332,slow=12,SNR=5.3
DGZ Jazzator, Alta 44.39 297 *d i*P **P 03 50 42.7 -0.8**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
CD2 Chengdu 46.16 266 *e*P **P 03 50 56.3 -1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
WMQ Urumqi 47.59 290 *e*P **P 03 51 10.5 +1.9**
WMQ LR LR
comp=Z,330nm,15.3s
WMQ LR LR
comp=Z,860nm,15.3s
WMQ LR LR
comp=Z,1μm,15.9s
KBS Kingsbay 47.94 352 *ce*P **P 03 51 13.1 +2.3**
KBS pmax pmax
comp=Z,57nm,1.0s
SPA0 Spitsbergen Ar 48.21 351 *e*P **P 03 51 13.2 +0.3**
comp=Z,16nm,0.9s
SPITS Spitsbergen Ar 48.21 351 P **P 03 51 13.3 +0.5**
comp=Z,6.0nm,0.5s,baz=60,slow=8.5,SNR=47
KURK Kurchatov 48.53 303 *e*P **P 03 51 13.5 -2.1**
comp=Z,9.6nm,0.9s
KURK Kurchatov 48.53 303 *ce*P **P 03 51 13.4 -2.3**
KURK pmax pmax
comp=Z,9.0nm,0.8s
GLK Glacier Lake 48.76 64 *e*P **P 03 51 17.5 -0.2**
MKAR Makanchi Array 48.87 297 P **P 03 51 16.4 -2.1**
comp=Z,2.5nm,0.5s,baz=58,slow=7.2,SNR=41
MAKZ Makanchi 49.03 297 *e*P **P 03 51 16.8 -2.9**
comp=Z,2.9nm,0.8s
KMI Kunming 50.93 261 P **P 03 51 37.1 +2.5**
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI LR LR
comp=Z,270nm,17.2s
KMI LR LR
comp=Z,170nm,17.8s
KMI LR LR
comp=Z,140nm,16.6s
BVAR Borovoye Array 51.26 309 P **P 03 51 34.8 -1.6**
comp=Z,6.8nm,0.5s,baz=59,slow=7.4
BRVK Borovoye 51.29 309 *e*P **P 03 51 35.6 -1.0**
comp=Z,10nm,0.6s
BRVK Borovoye 51.29 309 *i* P **P 03 51 36.3 -0.3**
OTUK Ortayu 53.28 304 P **P 03 51 50.9 -0.6**
OTUK pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 54.36 318 *c i*P **P 03 51 57.6 -1.6**
ARU S **S 03 59 31.2 -2.8**
ARU SS **SS 04 03 11.2 -4.5**
ARU pmax pmax
comp=Z,5.0nm,0.5s
ARU Arti 54.36 318 P **P 03 51 58.5 -0.6**
comp=Z,3.1nm,0.4s,baz=54,slow=3.3,SNR=10
ARA0 ARCESS Array S 54.36 342 *e*P **P 03 51 59.0 -0.1**
ARCES ARCESS Array B 54.36 342 P **P 03 51 59.0 -0.1**
comp=Z,1.4nm,0.6s,baz=37,slow=7.7,SNR=9.7
SUMG Summit 54.96 7 *e*P **P 03 52 04.3 +0.5**
comp=Z,10nm,1.0s
PRGR Permogore 55.47 328 *e*P **P 03 52 04.8 -2.3**
PRGR pmax pmax
comp=Z,5.0nm,0.4s
AAK Ala-Archa 55.80 297 *e*P **P 03 52 08.8 -1.2**
comp=Z,3.1nm,0.9s
AAK Ala-Archa 55.80 297 *ce*P **P 03 52 08.4 -1.6**
AAK pmax pmax
comp=Z,5.0nm,1.3s
NVAR Mina Array Bea 55.83 70 P **P 03 52 12.8 +2.4**
comp=Z,0.4nm,0.5s,baz=304,slow=8.1,SNR=4.2
MSF Maaselka 56.68 338 P **P 03 52 16.7 +1.0**
MSF pmax pmax
comp=Z,23nm,1.2s
KSH Kashi 57.07 293 P **P 03 52 21.3 +2.2**
KSH pP sP 03 52 37.3 +3.0
KSH PP **PP 03 54 29.5 +3.7**
KSH S **S 04 00 08.5 -2.5**
KSH SS **SS 04 03 58.8 -0.7**
KSH pmax pmax
comp=Z,96nm,4.1s
KSH LR LR
comp=Z,140nm,7.3s
KSH LR LR
comp=Z,130nm,9.3s
KSH LR LR
comp=Z,260nm,9.1s
PHRA Phrae 57.45 258 P **P 03 52 24.1 +2.4**
comp=Z,1.4nm,1.0s
PD31 Pinedale Array 57.78 61 *e*P **P 03 52 24.3 +0.2**
comp=Z,1.2nm,0.9s
PDAR Pinedale Array 57.78 61 P **P 03 52 25.2 +1.0**
comp=Z,0.5nm,0.7s,baz=322,slow=2.8,SNR=4.5
CMMT Chiang Mai 57.98 259 P **P 03 52 27.3 +1.8**
comp=Z,5.3nm,0.8s
CHTO Chiang Mai 57.98 259 *e*P **P 03 52 26.4 +0.9**
comp=Z,8.4nm,0.9s
CHTO Chiang Mai 57.98 259 P **P 03 52 27.2 +1.7**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
KLMR Klimovskoe 57.99 330 *e*P **P 03 52 22.9 -2.1**
KLMR pmax pmax
comp=Z,5.0nm,0.6s
OUL Oulu 58.08 339 P **P 03 52 26.2 +0.6**
OUL pmax pmax
comp=Z,19nm,0.7s
CMAR Chiang Mai Arr 58.26 259 P **P 03 52 29.0 +1.5**
CMAR Chiang Mai Arr 58.26 259 P **P 03 52 28.9 +1.5**
comp=Z,4.2nm,0.7s,baz=25,slow=7.1,SNR=14
JOF Joensuu 58.63 335 P **P 03 52 29.8 +0.4**
JOF pmax pmax
comp=Z,18nm,1.1s
AKTO Aktyubinsk 58.74 313 P **P 03 52 29.2 -1.2**
comp=Z,1.9nm,0.5s,baz=65,slow=9.4,SNR=9.6
SUF Sumiainen 60.06 338 P **P 03 52 40.0 +0.7**
SUF pmax pmax
comp=Z,34nm,0.8s
GAR Garm 60.60 297 *e*P **P 03 52 41.9 -1.6**
comp=Z,9.4nm,0.7s
AGMN Agassiz Nation 60.74 48 *e*P **P 03 52 43.4 -0.9**
comp=Z,5.5nm,0.9s
FINES FINESS Array B 61.19 337 P **P 03 52 47.5 +0.5**
comp=Z,9.3nm,0.6s,baz=35,slow=8.3,SNR=50
NIL Nilore 62.74 290 P **P 03 52 58.6 +0.7**
NIL pmax pmax
comp=Z,13nm,0.9s
OBN Obninsk 63.55 328 *e*P **P 03 53 00.6 -2.2**
OBN pmax pmax
comp=Z,15nm,0.3s
VSU Vasula 63.61 335 *ce*P **P 03 53 03.4 +0.2**
VSU pmax pmax
comp=Z,31nm,1.3s
VSU Vasula 63.61 335 *e*P **P 03 53 01.3 -1.9**
VSU IAmb IAmb 03 53 04.1
comp=Z,27nm,1.0s
NC303 NORSAR Array S 64.42 344 *e*P **P 03 53 07.8 -0.7**
comp=Z,8.9nm,0.8s
NC204 NORSAR Array S 64.47 344 *e*P **P 03 53 09.4 +0.4**
comp=Z,10.0nm,0.8s
NB201 NORSAR Array S 64.60 344 *e*P **P 03 53 09.2 -0.5**
comp=Z,11nm,0.8s
NB2 NORSAR Subarra 64.62 344 P **P 03 53 09.8 -0.1**
comp=Z,1.4nm,0.6s,baz=21,slow=6.9
NB2 NORSAR Subarra 64.62 344 P **P 03 53 10.0 +0.1**
NOA NORSAR Array B 64.62 344 P **P 03 53 09.8 -0.1**
comp=Z,1.8nm,0.6s,baz=21,slow=6.6,SNR=13
LPSR Galich'ya Gora 64.80 325 *e*P **P 03 53 10.5 -0.6**
LPSR pmax pmax
comp=Z,8.0nm,0.7s
NORES NORESS Array B 64.85 344 P **P 03 53 14.7 +3.4**
VRH Novokhopyorsk 64.91 323 *e*P **P 03 53 10.4 -1.4**
VRH pmax pmax
comp=Z,10.0nm,0.7s
HFS Hagfors 65.03 342 P **P 03 53 12.4 -0.1**
comp=Z,3.8nm,0.5s,baz=46,slow=4.3,SNR=15
VSR Storozhevoye 65.84 324 *e*P **P 03 53 16.4 -1.5**
VSR pmax pmax
comp=Z,6.0nm,0.9s
VORD Divnogorie 66.00 324 *e*P **P 03 53 18.0 -0.9**
VORD pmax pmax
comp=Z,8.0nm,1.0s
IZAR Zarasai 66.11 334 *e*P **P 03 53 17.9 -1.6**
IZAR IAmb IAmb 03 53 21.1
comp=Z,3.2nm,0.6s
ISAL Salakas 66.30 334 *e*P **P 03 53 19.0 -1.8**
ISAL IAmb IAmb 03 53 20.8
comp=Z,4.3nm,0.9s
IDID Didziasalis 66.36 333 *e*P **P 03 53 19.3 -1.8**
IDID IAmb IAmb 03 53 21.9
comp=Z,4.5nm,0.6s
IIGN Ignalina 66.47 334 *e*P **P 03 53 19.9 -1.9**
IIGN IAmb IAmb 03 53 24.4
comp=Z,5.8nm,0.6s
GEYT Alibeck 67.90 304 P **P 03 53 31.2 0.0**
comp=Z,3.4nm,0.8s,baz=37,slow=5.9,SNR=4.9
AKASG Malin Array Be 69.65 329 *ce*P **P 03 53 41.7 -0.2**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 69.65 329 P **P 03 53 41.2 -0.6**
comp=Z,6.9nm,0.8s,baz=30,slow=6.3,SNR=13
KIEV Kiev 69.66 329 *e*P **P 03 53 41.5 -0.4**
KIEV pmax pmax
comp=Z,8.6nm,0.9s
KIEV Kiev 69.66 329 ⇑*i*P **P 03 53 41.3 -0.6**
KIEV Kiev 69.66 329 *i* P **P 03 53 41.4 -0.5**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 70.49 317 P **P 03 53 47.6 +0.5**
comp=Z,4.7nm,0.8s,baz=63,slow=5.3,SNR=9.7
LTX Lajitas 70.78 67 *e*P **P 03 53 50.9 +1.6**
TXAR Lajitas Array 70.78 67 P **P 03 53 50.9 +1.6**
comp=Z,0.5nm,0.6s,baz=301,slow=4.8,SNR=9.3
HYB Hyderabad 71.58 275 *i* P **P 03 53 54.0 -0.2**
EKA Eskdalemuir Ar 72.13 350 P **P 03 53 57.2 +0.3**
comp=Z,1.2nm,0.6s,baz=12,slow=5.3,SNR=6.4
MEDO Medina 72.33 41 *e*P **P 03 53 59.0 +0.7**
comp=Z,13nm,1.2s
KOLS Kolonicke sedl 73.30 333 *e*P **P 03 54 04.7 +0.8**
KOLS pmax pmax
comp=Z,3.0nm,0.7s
KOLS Kolonicke sedl 73.30 333 *e*P **P 03 54 04.7 +0.8**
CLL Collm 73.43 339 ⇓*i*P **P 03 54 05.3 +0.7**
CLL *e*S **SKiKP 04 03 31.0 -0.5**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 73.43 339 ⇓*i*P **P 03 54 05.3 +0.7**
comp=Z,5.0nm,0.9s
CLL *e*S **SKiKP 04 03 31.0 -0.5**
CLZ Clausthal 73.47 341 P **P 03 54 07.1 +2.2**
CLZ pmax pmax
comp=Z,9.0nm,1.2s
BURAR Bucovina Array 73.62 330 ⇑*i*P **P 03 54 06.2 +0.3**
BURAR Bucovina Array 73.62 330 P **P 03 54 06.2 +0.3**
MORC Moravsky Berou 73.79 336 ⇓*i*P **P 03 54 08.2 +1.4**
MORC Moravsky Berou 73.79 336 P **P 03 54 08.4 +1.6**
MORC pmax pmax
comp=Z,5.0nm,1.1s
TRPA Tarpa 73.95 332 ⇑*i*P **P 03 54 08.2 +0.5**
TESR Tescani 74.15 329 ⇑*i*P **P 03 54 08.1 -0.8**
VRAC Vranov 74.46 336 ⇑*i*P **P 03 54 11.9 +1.2**
VRAC Vranov 74.46 336 P **P 03 54 10.0 -0.7**
VRAC Vranov 74.46 336 P **P 03 54 10.0 -0.7**
comp=Z,2.8nm,0.8s,baz=61,slow=5.8,SNR=3.6
VYHS Vyhne 74.64 335 *e*P **P 03 54 12.6 +0.8**
VYHS pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 74.64 335 *e*P **P 03 54 12.6 +0.8**
VRI Vrincioaia 74.70 328 ⇑*i*P **P 03 54 11.9 -0.2**
VRI Vrincioaia 74.70 328 P **P 03 54 11.9 -0.2**
CFR Carcaliu 74.84 327 ⇓*i*P **P 03 54 12.6 -0.3**
CFR Carcaliu 74.84 327 P **P 03 54 12.6 -0.3**
DRGR 75.11 332 ⇓*i*P **P 03 54 14.5 -0.1**
DRGR 75.11 332 P **P 03 54 14.5 -0.1**
MODS Modra-Piesok 75.15 336 *e*P **P 03 54 14.8 +0.1**
MODS pmax pmax
comp=Z,4.0nm,0.9s
MODS Modra-Piesok 75.15 336 *e*P **P 03 54 14.8 +0.1**
WR1 Warramunga Arr 75.26 205 *e*P **P 03 54 16.1 +0.5**
WRA Warramunga Arr 75.26 205 P **P 03 54 16.1 +0.5**
comp=Z,1.5nm,1.2s,baz=24,slow=6.0,SNR=3.7
MLR Muntele Rosu 75.28 329 *e*P **P 03 54 16.1 +0.5**
comp=Z,6.6nm,0.7s
MLR Muntele Rosu 75.28 329 ⇑*i*P **P 03 54 16.9 +1.2**
MLR Muntele Rosu 75.28 329 P **P 03 54 16.8 +1.2**
comp=Z,5.8nm,0.6s,baz=336,slow=10.0,SNR=14
DIKM Dikmen 75.32 321 ⇑*i*P **P 03 54 14.8 -1.0**
KHC Kasperske Hory 75.34 338 *e*P **P 03 54 16.3 +0.5**
comp=Z,1.4nm,1.0s
KHC Kasperske Hory 75.34 338 P **P 03 54 16.3 +0.5**
KHC pmax pmax
comp=Z,4.0nm,1.5s
MEM Membach 75.46 344 ⇑P **P 03 54 17.3 +0.9**
comp=Z,8.3nm,0.9s
GERES GERESS Array B 75.58 338 P **P 03 54 17.4 +0.2**
comp=Z,0.7nm,0.6s,baz=27,slow=6.3,SNR=6.6
VOIR 75.61 329 ⇑*i*P **P 03 54 18.5 +1.0**
VOIR 75.61 329 P **P 03 54 18.5 +1.0**
BCLA Clavier 75.77 344 ⇑P **P 03 54 16.8 -1.4**
ARR Arges 75.81 330 ⇓*i*P **P 03 54 19.8 +1.2**
ICOR Ion Corvin 75.89 327 ⇑*i*P **P 03 54 19.1 +0.1**
CONA Conrad Observa 75.92 336 P **P 03 54 20.9 +1.6**
comp=Z,2.8nm,0.8s
BAIF Baives 76.30 345 *e*P **P 03 54 21.3 +0.1**
BAIF pmax pmax
comp=Z,3.0nm,0.8s
GZR Gura Zlata 76.35 331 ⇓*i*P **P 03 54 22.4 +0.7**
GZR Gura Zlata 76.35 331 P **P 03 54 22.3 +0.6**
MOA Molln 76.38 337 *e*P **P 03 54 23.4 +1.6**
comp=Z,2.3nm,0.9s
BZS Buzias 76.50 332 ⇓*i*P **P 03 54 22.4 0.0**
BZS Buzias 76.50 332 P **P 03 54 22.3 -0.1**
KBA Koelnbreinsper 77.32 338 *e*P **P 03 54 29.3 +2.0**
comp=Z,7.0nm,0.8s
KBA Koelnbreinsper 77.32 338 P **P 03 54 29.5 +2.2**
KBA pmax pmax
comp=Z,13nm,0.8s
WATA Walderalm 77.48 339 P **P 03 54 29.9 +1.7**
comp=Z,4.1nm,1.1s
MOTA Moosalm 77.58 339 *e*P **P 03 54 30.4 +1.7**
comp=Z,5.6nm,1.2s
BRTR Keskin Array B 77.60 321 P **P 03 54 29.1 +0.2**
comp=Z,1.8nm,0.8s,baz=32,slow=4.8,SNR=14
SQTA Sankt Quirin 77.67 339 *e*P **P 03 54 31.1 +1.9**
comp=Z,5.1nm,0.9s
ABTA Abfaltersbach 77.83 338 *e*P **P 03 54 31.5 +1.5**
comp=Z,7.1nm,1.0s
HAU Haudompre 77.91 343 *e*P **P 03 54 31.4 +1.1**
HAU pmax pmax
comp=Z,2.0nm,0.7s
VTS Vitosha 78.72 329 *e*P **P 03 54 35.1 +0.1**
comp=Z,3.6nm,0.6s
VTS Vitosha 78.72 329 ⇓*i*P **P 03 54 35.2 +0.1**
VTS Vitosha 78.72 329 P **P 03 54 35.1 +0.1**
VTS pmax pmax
comp=Z,4.0nm,0.6s
TUE Stuetta 78.78 340 *e*P **P 03 54 36.5 +1.0**
comp=Z,3.7nm,0.8s
ASAR Alice Springs 78.93 205 *e*P **P 03 54 37.7 +1.6**
ASAR Alice Springs 78.93 205 P **P 03 54 37.1 +1.0**
comp=Z,0.5nm,0.6s,baz=15,slow=4.8,SNR=5.3
SGMF Saint Gilles 79.03 349 *e*P **P 03 54 38.0 +1.5**
SGMF pmax pmax
comp=Z,60nm,1.8s
ROSF Rostrenen 79.04 349 *e*P **P 03 54 40.2 +3.7**
ROSF pmax pmax
comp=Z,37nm,1.3s
LOR Lormes 79.06 344 *e*P **P 03 54 36.7 0.0**
LOR pmax pmax
comp=Z,7.0nm,1.2s
SSF Saint Saulge 79.32 344 *e*P **P 03 54 39.0 +0.9**
SSF pmax pmax
comp=Z,4.0nm,1.0s
AVF Avril sur Loir 79.61 344 *e*P **P 03 54 40.6 +1.0**
AVF pmax pmax
comp=Z,7.0nm,1.0s
SMF Signal de Mont 79.67 344 *e*P **P 03 54 41.9 +1.9**
SMF pmax pmax
comp=Z,16nm,1.8s
LPL La Plagne 80.23 342 *e*P **P 03 54 45.1 +1.8**
LPL pmax pmax
comp=Z,12nm,1.2s
LPG La Plagne 80.24 342 *e*P **P 03 54 45.3 +1.8**
LPG pmax pmax
comp=Z,7.0nm,1.2s
TCF Toulx Ste Croi 80.28 345 *e*P **P 03 54 44.5 +1.1**
TCF pmax pmax
comp=Z,27nm,1.9s
ORIF Oris-en-Rattie 80.97 342 *e*P **P 03 54 48.9 +1.8**
ORIF pmax pmax
comp=Z,29nm,1.5s
MBDF Montbardon 80.98 341 *e*P **P 03 54 51.5 +4.2**
MBDF pmax pmax
comp=Z,96nm,2.6s
VIVF Saint-Julien-l 81.25 343 *e*P **P 03 54 48.3 -0.3**
VIVF pmax pmax
comp=Z,7.0nm,1.1s
MTLF Montolieu 83.15 344 *e*P **P 03 55 00.4 +1.9**
MTLF pmax pmax
comp=Z,20nm,1.8s
ETSF Etsaut 84.02 346 *e*P **P 03 55 04.4 +1.4**
ETSF pmax pmax
comp=Z,27nm,1.6s
ESDC Sonseca Array 87.66 348 P **P 03 55 21.6 +0.6**
comp=Z,0.2nm,0.5s,baz=0.3,slow=4.9,SNR=3.3
TORD Torodi Ar. Bea 112.53 338 PP **PP 04 01 53.1 -1.6**
comp=Z,0.6nm,0.9s,baz=0.5,slow=7.9,SNR=4.4

*KRSC **20** 03:43:58.3±10.0, 52°.03N×160°.66E, h62km±10km, ML4.1*
*IDC **20** 03:44:00.1±9.8, 52°.35N×159°.78E, h0km, mb4.0/9,*
mb1 4.0/9, mb1mx3.6/62, mbtmp4.0/9, Error ellipse:
s-maj=217.9km s-min=54.3km az=145.0
ISC 20 03:44:01.0±1.3, 52°.04N±0°.09×160°.60E±0°.08, h30km, n18, σ1°03/23, mb4.2/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.12**	**342**	*e*P	**Pn**	**03 44 19.8**	**-0.8**
SPN				*e*S	**Sn**	**03 44 33.8**	**-1.2**
RUS	**Russkaya**	**1.34**	**288**	*e*P	**Pn**	**03 44 23.4**	**-0.2**
RUS				*e*S	**Sn**	**03 44 40.8**	**+0.3**
PET	**Petropavlovsk**	**1.55**	**310**	P	**Pn**	**03 44 27.2**	**+0.8**
MTVR	**Mutnovka**	**1.55**	**288**	*e*P	**Pn**	**03 44 26.7**	**0.0**
MTVR				*e*S	**Sb**	**03 44 47.8**	**-0.6**
KDTR	**Khodutka, Kamc**	**1.58**	**263**	P	**Pn**	**03 44 26.7**	**-0.2**
KDTR				S	**Sn**	**03 44 45.3**	**-1.0**
KRMR	**Karymshinskiy**	**1.71**	**299**	P	**Pn**	**03 44 29.1**	**+0.4**
PETK	**Petropavlovsk-**	**2.07**	**302**	Pn	**Pn**	**03 44 35.4**	**+1.7**
	baz=110,slow=19,SNR=2.5						
MKZ	**Mys Kozlova**	**2.61**	**15**	S	**Sn**	**03 45 09.3**	**-2.4**
KZV	**Kizimen**	**3.09**	**357**	P	**Pn**	**03 44 48.7**	**+0.9**
KZV				S	**Sn**	**03 45 24.6**	**+0.9**
SPITS	**Spitsbergen Ar**	**48.23**	**351**	P	**P**	**03 52 39.0**	**+0.8**
	5.7nm,0.8s,baz=49,slow=6.5,SNR=6.2						
MKAR	**Makanchi Array**	**48.90**	**297**	P	**P**	**03 52 42.5**	**-1.3**
	0.6nm,0.5s,baz=60,slow=7.0,SNR=4.9						
BVAR	**Borovoye Array**	**51.29**	**309**	P	**P**	**03 53 01.0**	**-0.8**
	1.6nm,0.5s,baz=70,slow=6.7,SNR=3.8						
ARCES	**ARCESS Array B**	**54.39**	**342**	P	**P**	**03 53 24.4**	**0.0**
	0.9nm,0.7s,baz=41,slow=7.4,SNR=2.8						
FINES	**FINESS Array B**	**61.22**	**337**	P	**P**	**03 54 13.5**	**+1.2**
	2.1nm,0.6s,baz=34,slow=7.9,SNR=4.8						
NOA	**NORSAR Array B**	**64.64**	**344**	P	**P**	**03 54 35.5**	**+0.3**
	0.7nm,0.8s,baz=24,slow=6.8,SNR=2.5						
HFS	**Hagfors**	**65.05**	**342**	P	**P**	**03 54 38.5**	**+0.7**
	1.1nm,0.6s,baz=36,slow=11,SNR=3.4						
AKASG	**Malin Array Be**	**69.68**	**329**	P	**P**	**03 55 07.5**	**+0.3**
	2.0nm,0.9s,baz=30,slow=5.9,SNR=3.4						
BRTR	**Keskin Array B**	**77.64**	**321**	P	**P**	**03 55 55.5**	**+1.2**
	0.6nm,0.9s,baz=22,slow=4.7,SNR=2.4						

*IDC **20** 03:48:15.2±15.0, 51°.73N×160°.28E, h0km, mb4.0/7,*
mb1 4.0/7, mb1mx3.5/60, mbtmp4.0/7, Error ellipse:
s-maj=332.3km s-min=55.1km az=147.0
*KRSC **20** 03:48:18.1±10.0, 51°.99N×160°.70E, h61km±10km, ML4.1*
ISC 20 03:48:19.0±2.5, 52°.04N±0°.07×160°.49E±0°.08, h16km±12km, n31, σ0°90/41, mb4.1/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.09**	**345**	*e*P	**Pb**	**03 48 39.5**	**0.0**
SPN				*e*S	**Sb**	**03 48 53.3**	**-0.2**
RUS	**Russkaya**	**1.28**	**289**	P	**Pg**	**03 48 43.2**	**-0.3**
RUS				S	**Sg**	**03 49 00.0**	**-0.1**
NLC	**Nalytchevo**	**1.33**	**329**	*e*P	**Pg**	**03 48 44.3**	**-0.2**
NLC				S	**Sg**	**03 49 02.8**	**+1.0**
DALK	**Dalny**	**1.45**	**314**	*e*P	**Pb**	**03 48 45.6**	**+0.1**
MTVR	**Mutnovka**	**1.48**	**288**	*e*P	**Pg**	**03 48 46.7**	**-0.8**
MTVR				*e*S	**Sg**	**03 49 07.1**	**+0.3**
PET	**Petropavlovsk**	**1.49**	**312**	*e*P	**Pb**	**03 48 46.1**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.51**	**262**	*e*P	**Pb**	**03 48 46.4**	**-0.2**
KDTR				*e*S	**Sb**	**03 49 05.2**	**-0.3**
UGLR	**Uglovaya**	**1.55**	**320**	*e*P	**Pb**	**03 48 47.6**	**+0.3**
UGLR				S	**Sg**	**03 49 09.3**	**+0.5**
SDLR	**Sedlovina**	**1.58**	**322**	*e*P	**Pb**	**03 48 48.3**	**+0.5**
SMAR	**Somma**	**1.60**	**321**	P	**Pg**	**03 48 49.1**	**-0.5**
AVH	**Avacha**	**1.62**	**320**	*e*P	**Pg**	**03 48 49.5**	**-0.6**
ASAK	**Asacha**	**1.63**	**283**	P	**Pb**	**03 48 48.7**	**0.0**
KRMR	**Karymshinskiy**	**1.64**	**300**	*e*P	**Pb**	**03 48 48.6**	**-0.3**
KRMR				S	**Sb**	**03 49 10.0**	**+0.6**
KRER	**Koryakskii**	**1.65**	**321**	*e*P	**Pb**	**03 48 49.1**	**0.0**
KOK	**Koryaka**	**1.68**	**319**	P	**Pg**	**03 48 50.4**	**-0.9**
KRX	**Arik**	**1.73**	**320**	P	**Pb**	**03 48 50.1**	**-0.3**
PETK	**Petropavlovsk-**	**2.01**	**303**	Pn	**Pb**	**03 48 54.2**	**-0.9**

9.2nm,0.3s,baz=101,slow=18,SNR=22
PETK Sn **Sg** **03 49 23.0 -0.5**
10nm,0.3s,baz=110,slow=18,SNR=5.9
APC Apacha 2.22 295 P **Pb** **03 48 57.8 -0.9**
MKZ Mys Kozlova 2.62 16 S **Sn** **03 49 29.3 -2.9**
KZV Kizimen 3.08 358 *eP* **Pn** **03 49 08.8 +1.8**
KZV *eS* **Sn** **03 49 44.4 +0.8**
TUMD Tumrok D 3.17 359 *eP* **Pn** **03 49 08.7 +0.6**
TUMD *eS* **Sn** **03 49 44.9 -0.7**
TUMR Tumrok 3.25 357 *eP* **Pn** **03 49 11.0 +1.6**
ALID Alaid 3.31 251 P **Pn** **03 49 12.0 +1.8**
KBTR Krutoberegovo 4.39 17 P **Pn** **03 49 25.8 +0.9**
SPITS Spitsbergen Ar 48.21 351 P **P** **03 56 58.8 +0.6**
4.4nm,0.8s,baz=33,slow=11,SNR=8.2
MKAR Makanchi Array 48.83 297 P **P** **03 57 02.5 -0.9**
0.4nm,0.5s,baz=57,slow=8.1,SNR=8.2
BVAR Borovoye Array 51.23 309 P **P** **03 57 20.6 -0.8**
1.1nm,0.5s,baz=65,slow=6.9,SNR=5.5
ARCES ARCESS Array B 54.36 342 P **P** **03 57 44.6 +0.3**
2.4nm,1.0s,baz=38,slow=7.5,SNR=2.4
FINES FINESS Array B 61.18 337 P **P** **03 58 33.4 +1.1**
1.7nm,0.6s,baz=47,slow=8.4,SNR=7.8
HFS Hagfors 65.02 342 P **P** **03 58 58.6 +0.8**
0.8nm,0.6s,baz=33,slow=6.7,SNR=4.2
AKASG Malin Array Be 69.64 329 P **P** **03 59 26.6 -0.6**
0.3nm,0.3s,baz=28,slow=6.1,SNR=3.9

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*ISCJB **20** 03:58:39.6±0.9, 33°.05N±0°.04×140°.55E±0°.10, h85km±6km, mb3.5/4, Error ellipse: s-maj=14.0km s-min=7.3km az=6.0*
*JMA **20** 03:58:40.6±0.1, 33°.09N×140°.59E, h74km±3km, M3.4*
*IDC **20** 03:58:41.2±2.0, 32°.90N×140°.22E, h81km±9km, mb3.4/4, mb1 3.5/5, mb1mx3.1/33, mbtmp3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/20, Error ellipse: s-maj=57.4km s-min=15.5km az=77.0*
ISC 20 03:58:39.9±1.3, 33°.03N±0°.06×140°.6E±0°.1, h76km±9km, n26, σ0°.80/28, mb3.4/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.67**	**277**	P	**Pn**	**03 58 55.5**	**+0.6**
JHJ2				*e*S	**Sn**	**03 59 05.8**	**-0.2**
JHCJ	**Hachijojimakas**	**0.68**	**274**	P	**Pn**	**03 58 55.5**	**+0.4**
JHCJ				*e*S	**Sn**	**03 59 06.0**	**-0.3**
JHJ	**Hachijo jima 2**	**0.69**	**277**	P	**Pn**	**03 58 55.4**	**+0.2**
	1μm,0.3s,baz=162,slow=20,SNR=987						
JHJ				S	**Sn**	**03 59 06.1**	**-0.5**
	408nm,0.3s,baz=30,slow=22,SNR=17						
JAOM	**Aogashimamukai**	**0.91**	**231**	P	**Pn**	**03 58 58.4**	**+0.7**
JMKN	**Mikurajimanish**	**1.20**	**316**	P	**Pn**	**03 59 01.3**	**0.0**
JKO	**Kozu shima**	**1.68**	**314**	P	**Pn**	**03 59 08.2**	**+0.7**
JKO				S	**Sn**	**03 59 28.5**	**+0.2**
BSO2	**Boso 2**	**1.72**	**4**	S	**Sn**	**03 59 29.7**	**+0.9**
BSO3	**Boso 3**	**1.77**	**358**	P	**Pn**	**03 59 08.5**	**+0.1**
BSO3				S	**Sn**	**03 59 29.9**	**-0.1**
JTHY	**Toshimahigashi**	**1.85**	**324**	P	**Pn**	**03 59 10.4**	**+0.7**
JIM2	**Oshima 3**	**1.94**	**330**	P	**Pn**	**03 59 11.2**	**+0.2**
JIM2				*e*S	**Sn**	**03 59 32.9**	**-1.7**
BSO4	**Boso 4**	**1.96**	**354**	P	**Pn**	**03 59 11.8**	**+0.7**
JIZS	**Izushimoda**	**2.21**	**320**	P	**Pn**	**03 59 15.4**	**+0.9**
JIZS				*e*S	**Sn**	**03 59 40.7**	**-0.3**
TK02	**Tokai 2**	**2.55**	**292**	P	**Pn**	**03 59 20.2**	**+1.3**
JOD2	**Odawara 2**	**2.55**	**331**	P	**Pn**	**03 59 19.7**	**+0.5**
JOD2				S	**Sn**	**03 59 47.6**	**-1.7**
MJAR	**Matsushiro Arr**	**4.02**	**331**	P	**Pn**	**03 59 40.0**	**+0.9**
	0.2nm,0.3s,baz=164,slow=12,SNR=5.0						
MJAR				S	**Sn**	**04 00 26.0**	**+1.1**
	0.2nm,0.3s,baz=155,slow=21,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**26.94**	**113**	T	T	04 33 11.6	
	baz=305,slow=75,SNR=2.7						
H11N1	**WAKE ISLAND Hy**	**26.94**	**113**	T	T	04 33 17.3	
	baz=305,slow=75,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**26.95**	**113**	T	T	04 33 14.8	
	baz=305,slow=75,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**27.50**	**115**	T	T	04 33 50.8	
	baz=308						
H11S1	**WAKE ISLAND Hy**	**27.50**	**115**	T	T	04 33 49.6	
	baz=308						
H11S2	**WAKE ISLAND Hy**	**27.51**	**115**	T	T	04 33 52.6	
	baz=308						
MKAR	**Makanchi Array**	**45.78**	**305**	P	**P**	**04 06 53.3**	**-0.6**
	0.2nm,0.4s,baz=86,slow=9.7,SNR=4.8						
FITZ	**Fitzroy Crossi**	**52.82**	**198**	LR	LR	04 26 17.2	
	comp=Z,22nm,21.4s,baz=8.0,slow=32						
WRA	**Warramunga Arr**	**53.02**	**187**	P	**P**	**04 07 48.7**	**-0.5**
	0.3nm,0.7s,baz=5.0,slow=7.2,SNR=5.3						
ARCES	**ARCESS Array B**	**67.51**	**340**	P	**P**	**04 09 27.6**	**+0.1**
	3.7nm,1.0s,baz=58,slow=8.6,SNR=3.2						
BRTR	**Keskin Array B**	**81.00**	**312**	P	**P**	**04 10 46.8**	**+0.2**
	0.4nm,0.7s,baz=45,slow=2.2,SNR=3.7						

IDC 20 04:15:31.3±1.0, 16°.01S×178°.23E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/39, mbtmp3.8/7, MS3.5/8, Ms1 3.5/8, ms1mx3.3/20, Error ellipse: s-maj=39.9km s-min=22.2km az=133.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.67**	**240**	*e*LR	LR	04 21 18.1	
	comp=Z,199nm,25.9s						
DZM	**Mont Dzumac**	**12.67**	**240**	LR	LR	04 22 25.3	
	comp=Z,145nm,20.3s,baz=216,slow=33						
HNR	**Honiara**	**18.99**	**288**	LR	LR	04 26 21.1	
	comp=Z,170nm,18.3s,baz=124,slow=34						
PPT2	**Papeete2**	**30.84**	**98**	*e*LR	LR	04 29 54.6	
	comp=Z,149nm,29.2s						
PPT	**Papeete**	**30.84**	**98**	LR	LR	04 31 55.7	
	comp=Z,31nm,18.8s,baz=300,slow=32						
PMG	**Port Moresby**	**30.98**	**278**	LR	LR	04 33 25.3	
	comp=Z,74nm,20.0s,baz=152,slow=35						
TBI	**Tubuai**	**31.24**	**109**	*e*LR	LR	04 30 04.0	
	comp=Z,201nm,28.8s						
STKA	**Stephens Creek**	**36.81**	**238**	P	P	04 22 42.5	+1.3
	3.1nm,0.8s,baz=70,slow=9.3,SNR=6.3						
STKA				LR	LR	04 36 47.0	
	comp=Z,95nm,19.9s,baz=26,slow=35						
WRA	**Warramunga Arr**	**41.85**	**258**	P	P	04 23 23.0	-0.4
	1.0nm,1.0s,baz=93,slow=8.7,SNR=3.2						
ASAR	**Alice Springs**	**42.25**	**252**	P	P	04 23 25.9	-0.9
	1.0nm,0.7s,baz=78,slow=8.9,SNR=10						
VNDA	**Vanda**	**62.08**	**184**	P	P	04 25 53.0	-0.4
	0.3nm,0.8s,baz=36,slow=7.6,SNR=2.6						
VNDA				LR	LR	04 49 53.1	
	comp=Z,56nm,18.5s,baz=308,slow=33						
NVAR	**Mina Array Bea**	**80.34**	**45**	P	P	04 27 45.3	+0.5
	0.9nm,0.9s,baz=225,slow=8.7,SNR=4.7						
NVAR				LR	LR	04 58 41.7	
	comp=Z,51nm,18.7s,baz=80,slow=32						
SEY	**Seymchan**	**81.24**	**348**	P	P	04 27 48.9	+0.1
	0.5nm,0.3s,baz=158,slow=11,SNR=1.8						
ILAR	**Eielson Array**	**84.81**	**14**	P	P	04 28 06.9	-0.3
	1.0nm,0.9s,baz=229,slow=6.6,SNR=7.4						
PDAR	**Pinedale Array**	**88.23**	**45**	LR	LR	05 04 19.2	
	comp=Z,28nm,18.1s,baz=283,slow=33						

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*BJI **20** 04:16:25.7±0.0, 51°.85N×160°.41E, h11km, mb4.5/12, mB4.8/4, Ms4.9/3, Ms7 4.7/3*
*KRSC **20** 04:16:26.3±10.0, 52°.06N×160°.92E, h60km±10km, ML4.5*
*IDC **20** 04:16:27.2±0.6, 52°.36N×160°.48E, h0km, mb3.9/25, mb1 4.1/27, mb1mx4.0/54, mbtmp3.9/27, ML3.8/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/40, Error ellipse: s-maj=18.4km s-min=11.9km az=154.0*
*MOS **20** 04:16:30.7±1.2, 52°.19N×160°.60E, h47km, mb4.6/10, Error ellipse: s-maj=7.3km s-min=4.7km az=110.0*
*NEIC **20** 04:16:31.6±0.4, 52°.19N×160°.53E, h35km, mb4.1/14, Error ellipse: s-maj=10.0km s-min=6.2km az=151.0*
ISC 20 04:16:27.5±1.1, 52°.18N±0°.04×160°.66E±0°.04, h7km±6km, n136, σ1°.36/145, mb4.2/39, 1C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.99**	**337**	*e*P	**Pb**	**04 16 47.4**	**+0.3**
SPN				*e*S	**Sn**	**04 17 01.1**	**-1.1**
SPN	**Mys Shipunski**	**0.99**	**337**	PN	**Pb**	**04 16 47.4**	**+0.3**
SPN				S	**Sn**	**04 17 01.1**	**-1.1**
NLC	**Nalytchevo**	**1.27**	**322**	*e*P	**Pg**	**04 16 51.9**	**0.0**
NLC	**Nalytchevo**	**1.27**	**322**	PN	**Pg**	**04 16 51.9**	**0.0**
RUS	**Russkaya**	**1.34**	**282**	*e*P	**Pg**	**04 16 52.9**	**-0.3**
RUS	**Russkaya**	**1.34**	**282**	PN	**Pg**	**04 16 52.9**	**-0.3**
DALK	**Dalny**	**1.44**	**307**	*e*P	**Pb**	**04 16 54.5**	**-0.1**
DALK	**Dalny**	**1.44**	**307**	PN	**Pb**	**04 16 54.5**	**-0.1**
PET	**Petropavlovsk**	**1.48**	**305**	*e*Pn	**Pb**	**04 16 55.4**	**-0.1**
PET	**Petropavlovsk**	**1.48**	**305**	*i* P	**Pg**	**04 16 56.1**	**+0.2**
PET	**Petropavlovsk**	**1.48**	**305**	‖ *i*PN	**Pb**	**04 16 55.3**	**-0.1**
PET				*e*S	**Sg**	**04 17 14.2**	**-1.0**
PET				pmax	pmax		
	comp=Z,702nm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.6s						
PET				smax	smax		
	comp=E,2μm,0.7s						
UGLR	**Uglovaya**	**1.52**	**313**	*i* P	**Pg**	**04 16 56.5**	**-0.1**
UGLR	**Uglovaya**	**1.52**	**313**	PN	**Pg**	**04 16 56.5**	**-0.1**
SDLR	**Sedlovina**	**1.54**	**316**	*i* P	**Pb**	**04 16 56.5**	**+0.1**
SDLR	**Sedlovina**	**1.54**	**316**	PN	**Pb**	**04 16 56.5**	**+0.1**
MTVR	**Mutnovka**	**1.55**	**282**	*e*P	**Pb**	**04 16 56.4**	**-0.2**
MTVR				*e*S	**Sg**	**04 17 17.7**	**+0.5**
MTVR	**Mutnovka**	**1.55**	**282**	PN	**Pb**	**04 16 56.4**	**-0.2**
MTVR				S	**Sg**	**04 17 17.7**	**+0.5**
SMAR	**Somma**	**1.56**	**315**	*i* P	**Pb**	**04 16 56.8**	**-0.1**
SMAR	**Somma**	**1.56**	**315**	PN	**Pb**	**04 16 56.8**	**-0.1**
AVH	**Avacha**	**1.59**	**314**	*i* P	**Pg**	**04 16 57.6**	**-0.4**
AVH	**Avacha**	**1.59**	**314**	PN	**Pg**	**04 16 57.6**	**-0.4**
KRER	**Koryakskii**	**1.61**	**315**	*e*P	**Pg**	**04 16 58.1**	**-0.3**
KRER	**Koryakskii**	**1.61**	**315**	PN	**Pg**	**04 16 58.1**	**-0.3**
GRL	**Gorelyy**	**1.62**	**284**	*i* P	**Pg**	**04 16 58.0**	**-0.7**
GRL	**Gorelyy**	**1.62**	**284**	PN	**Pg**	**04 16 58.0**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.64**	**258**	*e*P	**Pn**	**04 16 56.7**	**0.0**
KDTR				*e*S	**Sn**	**04 17 16.7**	**-1.3**
KDTR	**Khodutka, Kamc**	**1.64**	**258**	PN	**Pn**	**04 16 56.7**	**0.0**
KDTR				S	**Sn**	**04 17 16.7**	**-1.3**
KOK	**Koryaka**	**1.66**	**313**	*i* P	**Pb**	**04 16 58.5**	**+0.1**
KOK	**Koryaka**	**1.66**	**313**	PN	**Pb**	**04 16 58.5**	**+0.1**
KRMR	**Karymshinskiy**	**1.67**	**294**	*e*P	**Pb**	**04 16 58.2**	**-0.4**
KRMR	**Karymshinskiy**	**1.67**	**294**	PN	**Pb**	**04 16 58.2**	**-0.4**
KRX	**Arik**	**1.69**	**315**	*i* P	**Pg**	**04 16 59.5**	**-0.5**
KRX	**Arik**	**1.69**	**315**	PN	**Pg**	**04 16 59.5**	**-0.5**
ASAK	**Asacha**	**1.70**	**278**	*e*P	**Pb**	**04 16 58.9**	**-0.3**
ASAK	**Asacha**	**1.70**	**278**	PN	**Pb**	**04 16 58.9**	**-0.3**
PEA0B	**Petropavlovsk-**	**2.02**	**298**	*e*Pn	**Pb**	**04 17 03.5**	**-1.1**
PEA0B	**Petropavlovsk-**	**2.02**	**298**	*e*PN	**Pb**	**04 17 03.6**	**-1.1**
PETK	**Petropavlovsk-**	**2.02**	**298**	Pn	**Pb**	**04 17 03.5**	**-1.2**
	comp=E,47nm,0.3s,baz=107,slow=17,SNR=128						
PETK				Sn	**Sg**	**04 17 31.2**	**-1.4**
	comp=E,68nm,0.3s,baz=86,slow=21,SNR=13						
PETK				LR	LR	04 18 04.3	
	comp=E,551nm,18.2s,baz=60,slow=52						
PEA1	**Petropavlovsk-**	**2.03**	**298**	*e*Pn	**Pb**	**04 17 03.5**	**-1.2**
PEA1				*e*Sn	**Sg**	**04 17 31.2**	**-1.5**
APC	**Apacha**	**2.26**	**291**	*e*P	**Pb**	**04 17 07.4**	**-1.2**
APC	**Apacha**	**2.26**	**291**	PN	**Pb**	**04 17 07.4**	**-1.2**
MKZ	**Mys Kozlova**	**2.46**	**15**	*e*S	**Sn**	**04 17 36.7**	**-1.7**
KZV	**Kizimen**	**2.94**	**356**	*i* P	**Pn**	**04 17 16.3**	**+1.5**
KZV	**Kizimen**	**2.94**	**356**	PN	**Pn**	**04 17 16.3**	**+1.5**
TUMD	**Tumrok D**	**3.03**	**357**	*e*P	**Pn**	**04 17 16.7**	**+0.8**
TUMR	**Tumrok**	**3.12**	**355**	*i* P	**Pn**	**04 17 19.1**	**+1.9**
TUMR	**Tumrok**	**3.12**	**355**	PN	**Pn**	**04 17 19.1**	**+1.9**
SKR	**Severo-Kuril's**	**3.21**	**244**	*e*P	**Pn**	**04 17 18.6**	**+0.2**
SKR	**Severo-Kuril's**	**3.21**	**244**	*e*PN	**Pn**	**04 17 19.3**	**+0.9**
SKR				pmax	pmax		
	comp=Z,38nm,0.6s						
ALID	**Alaid**	**3.45**	**250**	*i* P	**Pn**	**04 17 23.2**	**+1.4**
ALID	**Alaid**	**3.45**	**250**	PN	**Pn**	**04 17 23.2**	**+1.4**
KBTR	**Krutoberegovo**	**4.23**	**17**	*i* P	**Pn**	**04 17 33.1**	**+0.8**
KBTR	**Krutoberegovo**	**4.23**	**17**	PN	**Pn**	**04 17 33.1**	**+0.8**
BKI	**Bering**	**4.37**	**44**	*e*P	**Pn**	**04 17 34.1**	**-0.2**
BKI				*e*S	**Sn**	**04 18 19.7**	**-5.8**
BKI	**Bering**	**4.37**	**44**	PN	**Pn**	**04 17 34.1**	**-0.2**
GSTR	**Great Sitkin T**	**14.29**	**81**	*e*Pn	Pn	04 19 43.5	-6.7
ASAJ	**Asahikawa**	**14.48**	**243**	Pn	**Pn**	**04 19 53.4**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=83,slow=15,SNR=4.8						
ASAJ				LR	LR	04 26 22.4	
	comp=Z,113nm,18.4s,baz=106,slow=41						
GRNR	**Gornyy**	**15.15**	**274**	*e*P	**P**	**04 20 09.8**	**+2.8**
GRNR				pmax	pmax		
	comp=Z,25nm,1.0s						
ERM	**Erimo**	**15.62**	**236**	*e*Pn	**Pn**	**04 20 06.1**	**-2.0**
	comp=Z,26nm,1.1s						
ERM	**Erimo**	**15.62**	**236**	*e*P	**Pn**	**04 20 06.1**	**-2.0**
ERM				pmax	pmax		
	comp=Z,26nm,1.1s						
BILL	**Bilibino**	**16.14**	**8**	*e*Pn	**Pn**	**04 20 15.8**	**+1.3**
	comp=Z,5.2nm,0.6s						
BILL	**Bilibino**	**16.14**	**8**	*e*P	**P**	**04 20 17.4**	**-0.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KLR	**Kul'dur**	**18.49**	**272**	*e*P	**Pn**	**04 20 44.0**	**0.0**
KLR	**Kul'dur**	**18.49**	**272**	P	**Pn**	**04 20 44.0**	**0.0**
	comp=Z,0.4nm,0.3s,baz=57,slow=11,SNR=8.6						
YAK	**Yakutsk**	**19.30**	**313**	*e*P	**P**	**04 20 49.5**	**-3.2**
YAK				pmax	pmax		
	comp=Z,165nm,0.9s						
YAK				pmax	pmax		
	comp=E,83nm,1.1s						
YAK				pmax	pmax		
	comp=N,32nm,0.9s						
USRK	**Ussuriysk Ar.**	**20.61**	**259**	P	**P**	**04 21 06.2**	**-0.9**
	comp=N,6.1nm,0.9s,baz=60,slow=10,SNR=9.1						
MJB9	**Matsu-Tunnel**	**22.27**	**234**	*e*P	**P**	**04 21 24.8**	**-0.2**
	comp=N,7.1nm,0.8s						
MAJO	**Matsushiro**	**22.27**	**234**	*e*P	**P**	**04 21 26.5**	**+1.4**
	comp=N,7.1nm,0.8s						
MAJO	**Matsushiro**	**22.27**	**234**	*e*P	**P**	**04 21 26.5**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MJAR	**Matsushiro Arr**	**22.27**	**234**	*e*P	**P**	**04 21 24.1**	**-1.0**
MJAR	**Matsushiro Arr**	**22.27**	**234**	P	**P**	**04 21 25.8**	**+0.8**
	comp=Z,3.6nm,0.6s,baz=28,slow=8.4,SNR=8.6						
TIXI	**Tiksi**	**24.05**	**336**	*e*P	**P**	**04 21 41.6**	**-1.3**
TIXI	**Tiksi**	**24.05**	**336**	*e*P	**P**	**04 21 41.6**	**-1.3**
TIXI	**Tiksi**	**24.05**	**336**	P	**P**	**04 21 41.5**	**-1.4**
	comp=Z,4.6nm,0.6s,baz=121,slow=9.9,SNR=15						
HIA	**Hailar**	**25.82**	**280**	*e*P	**P**	**04 21 56.9**	**-2.3**
	comp=Z,14nm,0.9s						
HIA	**Hailar**	**25.82**	**280**	*e*P	**P**	**04 21 56.9**	**-2.3**
HIA				pmax	pmax		
	comp=Z,14nm,0.9s						
BOD	**Bodaibo**	**26.90**	**301**	*e*P	**P**	**04 22 06.6**	**-2.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KSRS	**Korea Array**	**27.21**	**250**	P	**P**	**04 22 13.8**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=42,slow=9.7,SNR=3.4						
KS15	**Wonju Array Si**	**27.24**	**250**	*e*P	**P**	**04 22 11.6**	**-0.5**
	comp=Z,8.1nm,1.0s						
BPAW	**Bear Paw Mtn.**	**27.43**	**45**	*e*P	**P**	**04 22 13.2**	**-0.4**
	comp=Z,1.0nm,1.0s						
TOLK	**Toolik Lake Re**	**28.49**	**36**	*e*P	**P**	**04 22 24.5**	**+1.5**
	comp=Z,0.6nm,1.1s						
ILAR	**Eielson Array**	**29.22**	**44**	P	**P**	**04 22 28.9**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=276,slow=9.0,SNR=3.8						
ILB	**Eielson Array**	**29.22**	**44**	*e*P	**P**	**04 22 28.9**	**-0.6**
	comp=Z,0.9nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**32.75**	**169**	T	T	04 58 55.7	
	baz=352,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**32.77**	**169**	T	T	04 59 00.2	
	baz=352,slow=76,SNR=31						
H11N1	**WAKE ISLAND Hy**	**32.77**	**169**	T	T	04 58 59.2	
	baz=352,slow=76,SNR=34						
INK	**Inuvik**	**34.39**	**37**	P	**P**	**04 23 14.8**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=273,slow=3.5,SNR=3.1						
SONA0	**Songino Array**	**34.45**	**285**	*e*P	**P**	**04 23 14.5**	**-1.3**
SONM	**Songino Array**	**34.45**	**285**	P	**P**	**04 23 14.5**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=64,slow=7.0,SNR=2.5						
WHN	**Wuhan**	**40.06**	**256**	‖P	**P**	**04 24 01.3**	**-1.9**
ZAA1	**Zalesovo Array**	**43.56**	**304**	*e*P	**P**	**04 24 30.0**	**-1.6**
ZALV	**Zalesovo Beam**	**43.56**	**304**	P	**P**	**04 24 30.0**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=69,slow=7.9,SNR=3.0						
ZALV				LR	LR	04 43 57.8	
	comp=Z,42nm,18.7s,baz=61,slow=38						
YKA	**Yellowknife Ar**	**43.60**	**42**	P	**P**	**04 24 32.2**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=299,slow=7.9,SNR=3.1						
YKB5	**Yellowknife Ar**	**43.60**	**42**	*e*P	**P**	**04 24 32.1**	**+0.3**
NVS	**Novosibirsk**	**43.92**	**306**	*e*P	**P**	**04 24 31.6**	**-2.9**
KURK	**Kurchatov**	**48.51**	**303**	*e*P	**P**	**04 25 08.8**	**-1.9**
	comp=Z,11nm,1.1s						
KURK	**Kurchatov**	**48.51**	**303**	*e*P	**P**	**04 25 08.8**	**-1.9**
KURK				pmax	pmax		
	comp=Z,11nm,1.1s						
MK32	**Makanchi Array**	**48.86**	**297**	*e*P	**P**	**04 25 11.8**	**-1.7**
MKAR	**Makanchi Array**	**48.86**	**297**	P	**P**	**04 25 11.8**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=53,slow=6.8,SNR=26						
MAKZ	**Makanchi**	**49.03**	**297**	*e*P	**P**	**04 25 12.7**	**-2.1**
	comp=Z,2.1nm,0.9s						
MAKZ	**Makanchi**	**49.03**	**297**	*e*P	**P**	**04 25 12.7**	**-2.1**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YBH	**Yreka Blue Hor**	**51.02**	**70**	P	**P**	**04 25 31.8**	**+1.8**
	comp=Z,1.3nm,0.8s,baz=284,slow=8.3,SNR=3.1						
BRVK	**Borovoye**	**51.26**	**309**	*e*P	**P**	**04 25 30.6**	**-0.9**
	comp=Z,5.3nm,0.8s						
BRVK	**Borovoye**	**51.26**	**309**	*e*P	**P**	**04 25 30.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OTUK	**Ortayu**	**53.26**	**304**	P	**P**	**04 25 45.8**	**-0.8**
OTUK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARA0	**ARCESS Array S**	**54.26**	**342**	*e*P	**P**	**04 25 52.5**	**-1.0**
ARCES	**ARCESS Array B**	**54.26**	**342**	P	**P**	**04 25 52.5**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=40,slow=9.6,SNR=5.8						
NV01	**Mina Array Sit**	**55.73**	**70**	*e*P	**P**	**04 26 06.0**	**+1.2**
NVAR	**Mina Array Bea**	**55.73**	**70**	P	**P**	**04 26 06.0**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=300,slow=7.1,SNR=6.8						
KSH	**Kashi**	**57.08**	**293**	P	**P**	**04 26 17.3**	**+3.0**
KSH				pP	pwP	04 26 21.8	+1.4
KSH				PP	**PP**	**04 28 26.1**	**+5.4**
KSH				S	**S**	**04 34 10.0**	**+0.6**
KSH				SS	**SS**	**04 38 01.0**	**+3.5**
KSH				pmax	pmax		
	comp=Z,98nm,1.8s						
KSH				LR	LR		
	comp=Z,180nm,9.2s						
KSH				LR	LR		
	comp=Z,140nm,6.3s						
KSH				LR	LR		
	comp=Z,230nm,7.3s						
PD31	**Pinedale Array**	**57.67**	**61**	*e*P	**P**	**04 26 19.6**	**+0.9**
	comp=Z,0.8nm,0.9s						
PDAR	**Pinedale Array**	**57.67**	**61**	P	**P**	**04 26 19.6**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=242,slow=3.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**58.34**	**259**	P	**P**	**04 26 24.4**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=23,slow=7.3,SNR=13						
SUF	**Sumiainen**	**59.97**	**338**	P	**P**	**04 26 36.4**	**+2.4**
SUF				pmax	pmax		
	comp=Z,11nm,0.9s						
FIA0	**FINESS Array S**	**61.09**	**337**	*e*P	**P**	**04 26 42.0**	**+0.4**
FIA0	**FINESS Array S**	**61.09**	**337**	*e*P	**P**	**04 26 42.0**	**+0.4**
FINES	**FINESS Array B**	**61.09**	**337**	P	**P**	**04 26 42.0**	**+0.4**
	comp=Z,4.5nm,0.7s,baz=38,slow=8.1,SNR=22						
NB2	**NORSAR Subarra**	**64.51**	**344**	P	**P**	**04 27 03.9**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=23,slow=6.9						
NOA	**NORSAR Array B**	**64.51**	**344**	P	**P**	**04 27 04.2**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=16,slow=5.4,SNR=8.5						
LENM	**Lemitar**	**65.20**	**66**	*e*P	**P**	**04 27 10.4**	**+0.8**
AKASG	**Malin Array Be**	**69.57**	**329**	P	**P**	**04 27 35.4**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=32,slow=6.6,SNR=9.8						
AKBB	**Malin Array Si**	**69.57**	**329**	*e*P	**P**	**04 27 36.0**	**-0.7**
AKBB	**Malin Array Si**	**69.57**	**329**	*e*P	**P**	**04 27 36.0**	**-0.7**
KBZ	**Khabaz**	**70.43**	**317**	P	**P**	**04 27 42.2**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=46,slow=3.5,SNR=6.8						
TXAR	**Lajitas Array**	**70.68**	**67**	P	**P**	**04 27 44.6**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=296,slow=4.6,SNR=8.2						
CLL	**Collm**	**73.33**	**339**	*e*P	**P**	**04 27 59.0**	**-0.4**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**73.33**	**339**	*e*P	**P**	**04 27 59.0**	**-0.4**
	comp=Z,4.0nm,0.9s						
CLL				*e*(pP)	**pwP**	**04 28 07.0**	**+1.5**
MLR	**Muntele Rosu**	**75.20**	**329**	P	P	04 28 15.8	+5.2
MLR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WR1	**Warramunga Arr**	**75.40**	**206**	*e*P	**P**	**

KBTR	Krutoberegovo	4.37	16	P		Pn	04 34 52.9 +1.2
H11N2	WAKE ISLAND Hy	32.62	169	T		T	05 14 52.9
	baz=354						
H11N3	WAKE ISLAND Hy	32.63	169	T		T	05 15 00.2
	baz=354						
H11N1	WAKE ISLAND Hy	32.63	169	T		T	05 14 52.9
	baz=354						
SPITS	Spitsbergen Ar	48.23	351	P		P	04 42 26.4 +1.1
	9.9nm,1.0s,baz=22,slow=8.1,SNR=3.2						
MKAR	Makanchi Array	48.91	297	P		P	04 42 29.6 -1.4
	0.2nm,0.6s,baz=59,slow=9.1,SNR=2.5						
FINES	FINESS Array B	61.22	337	P		P	04 44 00.2 +0.6
	1.1nm,0.8s,baz=29,slow=9.0,SNR=5.4						

KRSC 20 04:37:49.2±10.0, 52°.09N×160°.62E, h60km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.07	341	eP		Pn	04 38 08.6 +0.4
SPN				eS		Sn	04 38 21.3 -1.0
NLC	Nalytchevo	1.33	325	eP		Pn	04 38 13.3 +1.7
RUS	Russkaya	1.34	286	eP		Pn	04 38 13.0 +1.3
RUS				eS		Sn	04 38 28.9 +0.4
DALK	Dalny	1.48	310	eP		Pn	04 38 15.2 +1.6
DALK				eS		Sn	04 38 33.8 +1.9
PET	Petropavlovsk	1.52	309	eP		Pn	04 38 16.2 +2.1
PET				eS		Sn	04 38 35.2 +2.3
MTVR	Mutnovka	1.54	286	eP		Pn	04 38 16.6 +2.0
MTVR				eS		Sn	04 38 35.8 +2.0
UGLR	Uglovaya	1.56	316	eP		Pn	04 38 17.1 +2.2
UGLR				eS		Sn	04 38 37.4 +3.2
SDLR	Sedlovina	1.59	319	eP		Pn	04 38 17.3 +2.1
SDLR				eS		Sn	04 38 38.0 +3.2
KDTR	Khodutka, Kamc	1.60	261	eP		Pn	04 38 17.0 +1.8
KDTR				eS		Sn	04 38 35.8 +1.1
SMAR	Somma	1.61	317	P		Pn	04 38 17.8 +2.2
AVH	Avacha	1.64	317	P		Pn	04 38 18.2 +2.3
KRER	Koryakskii	1.66	318	P		Pn	04 38 18.9 +2.6
KRER				S		Sn	04 38 40.6 +3.9
KRMR	Karymshinskiy	1.69	297	eP		Pn	04 38 18.3 +1.8
KRMR				S		Sn	04 38 38.8 +1.7
ASAK	Asacha	1.69	281	P		Pn	04 38 19.2 +2.6
KOK	Koryaka	1.70	316	eP		Pn	04 38 19.1 +2.4
KRX	Arik	1.75	318	P		Pn	04 38 19.5 +2.1
KRX				S		Sn	04 38 40.5 +1.9
APC	Apacha	2.27	293	P		Pn	04 38 27.4 +3.1
APC				S		Sn	04 38 54.9 +3.7
MKZ	Mys Kozlova	2.56	15	eS		Sn	04 38 59.1 +0.9
KZV	Kizimen	3.04	357	P		Pn	04 38 38.4 +3.5
TUMD	Tumrok D	3.12	358	eS		Sn	04 39 13.2 +1.2
TUMR	Tumrok	3.21	355	P		Pn	04 38 41.8 +4.5
KBTR	Krutoberegovo	4.33	17	P		Pn	04 38 55.4 +3.0

*ISCJB **20** 04:41:53.6±0.3, 51°.45N±0°.01×16°.19E±0°.02, h0km, mb3.0/1, Error ellipse: s-maj=2.2km s-min=1.9km az=26.6*
*LDG **20** 04:41:55.8±0.1, 51°.40N×16°.24E, h1km, Ml3.6/3, Error ellipse: s-maj=3.5km s-min=3.5km az=149.0, Suspected Mining induced.*
*IDC **20** 04:41:56.2±0.7, 51°.45N×16°.08E, h0km, mb3.1/1, mb1 3.3/9, mb1mx3.2/43, mbtmp3.2/9, ML3.0/8, Error ellipse: s-maj=15.5km s-min=7.3km az=106.0*
*PRU **20** 04:41:56.7±0.0, 51°.43N×16°.15E, h0km, Felt In Harrachov*
*BGR **20** 04:41:57.6±0.4, 51°.39N×16°.18E, h1km, ML3.2/13, Error ellipse: s-maj=5.6km s-min=2.2km az=19.0*
*UPP **20** 04:42:00.3±3.0, 51°.75N×15°.76E, h0km, ML2.7, Suspected explosion*

ISC 20 04:41:53.8±0.6, 51°.55N±0°.03×16°.21E±0°.02, h0km, n90, σ1§77/161, 5C-11D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	176	iPg		Pg	04 42 08.1 +0.7
KSP				eSg		Sg	04 42 15.9 -0.5
KSP	Ksiaz	0.71	176	ePg		Pg	04 42 08.0 +0.7
KSP				eSg		Sg	04 42 16.0 -0.5
UPC	Upice	1.05	187	⇓iPG		Pg	04 42 14.3 +0.4
UPC				eSG		Sg	04 42 27.0 -0.4
DPC	Dobruska-Polom	1.20	177	ePg		Pg	04 42 16.9 +0.1
DPC				eSg		Sg	04 42 31.4 -0.9
DPC	Dobruska-Polom	1.20	177	⇓iPG		Pg	04 42 16.9 +0.1
DPC				eSG		Sg	04 42 31.4 -0.9
	comp=Z,114nm,0.4s						
PVCC	Panska Ves	1.46	226	⇓ePG		Pn	04 42 22.4 +1.1
PVCC				eSG		Sg	04 42 41.1 +0.6
	comp=Z,419nm,0.2s						
KRLC	Kraliky	1.52	166	⇓ePG		Pn	04 42 23.2 +1.0
KRLC				eSG		Sg	04 42 41.5 -1.0
	comp=Z,27nm,0.5s						
BRG	Berggiesshubel	1.58	246	PN		Pn	04 42 23.6 +0.6
BRG				PG		Pg	04 42 25.5 +1.5
BRG				SG		Sg	04 42 45.9 +1.4
	94nm,0.5s						
BRG	Berggiesshubel	1.58	246	ePn		Pn	04 42 23.7 +0.7
BRG				eSg		Sg	04 42 45.7 +1.2
GOPC	GO Pecny, Ondr	1.87	210	⇓ePG		Pb	04 42 29.2 +0.4
GOPC				eSG		Sn	04 42 52.4 +1.0
	comp=Z,92nm,0.6s						
PRU	Pruhonice	1.89	215	⇓ePN		Pn	04 42 27.7 +0.4
PRU				ePG		Pb	04 42 29.8 +0.7
PRU				eSG		Sb	04 42 53.1 -0.1
	comp=Z,98nm,0.4s						
MORC	Moravsky Berou	1.96	154	⇑iP		Pn	04 42 28.4 0.0
MORC	Moravsky Berou	1.96	154	S		Sn	04 42 54.0 +0.3
MORC	Moravsky Berou	1.96	154	ePN		Pn	04 42 28.8 +0.5
MORC				eSG		Sn	04 42 54.2 +0.5
MORC	Moravsky Berou	1.96	154	ePn		Pn	04 42 28.9 +0.5
MORC				eSg		Sn	04 42 54.5 +0.8
CLL	Collm	2.02	264	ePn		Pn	04 42 30.0 +0.8
CLL				ePg		Pb	04 42 33.0 +1.6
CLL				eSg		Sg	04 43 01.0 +2.2
	comp=Z,55nm,0.7s						
CLL	Collm	2.02	264	ePn		Pn	04 42 30.4 +1.2
CLL				eSg		Sg	04 43 00.1 +1.4
OKC	Ostrava-Krasne	2.11	144	ePn		Pn	04 42 30.6 +0.3
OKC				eSg		Sg	04 43 01.1 -0.4
OKC	Ostrava-Krasne	2.11	144	⇓ePN		Pn	04 42 30.5 +0.2
OKC				ePG		Pb	04 42 34.2 +1.3
OKC				eSG		Sb	04 42 59.4 -0.2
CHZP	Chorzow	2.16	124	ePg		Pg	04 42 36.8 +1.6
CHZP				eSg		Sg	04 43 05.4 +2.2
VRAC	Vranov	2.25	174	⇓iP		Pn	04 42 33.2 +0.9
VRAC	Vranov	2.25	174	S		Sn	04 43 01.6 +0.8
VRAC	Vranov	2.25	174	ePN		Pn	04 42 32.8 +0.5
VRAC				eSG		Sb	04 43 04.1 +0.3
VRAC	Vranov	2.25	174	Pn		Pn	04 42 32.7 +0.3
	comp=Z,5.9nm,0.3s,baz=333,slow=16,SNR=16						
VRAC				Lg		Lg	04 43 03.0
	comp=Z,14nm,0.3s,baz=76,slow=21,SNR=13						
TREC	Trest	2.30	192	⇓ePG		Pb	04 42 37.0 +0.8
TREC				eSG		Sb	04 43 05.6 +0.4
	comp=Z,56nm,0.3s						
KRUC	Moravsky	2.49	177	ePN		Pn	04 42 36.4 +0.8
KRUC				eSG		Sb	04 43 11.6 +1.0
TANN	Tannenbergstha	2.63	246	ePn		Pn	04 42 39.0 +1.5
OJC	Ojcow	2.63	119	ePn		Pn	04 42 37.2 -0.3
OJC				ePg		Pg	04 42 45.3 +1.1
OJC				eSg		Sg	04 43 19.9 +1.6
NKC	Novy Kostel	2.72	243	⇓ePN		Pn	04 42 40.2 +1.4
NKC				ePG		Pg	04 42 46.0 0.0
JAVC	Velka Javorina	2.85	160	ePN		Pn	04 42 42.1 +1.5
JAVC				eSG		Sb	04 43 22.0 +1.0
KHC	Kasperske Hory	2.95	216	⇓ePN		Pn	04 42 42.5 +0.6
KHC				ePG		Pb	04 42 48.6 +1.4
KHC				eSN		Sn	04 43 15.6 -2.4
MOX	Moxa	3.04	254	ePn		Pn	04 42 44.8 +1.7
MOX				eSg		Sg	04 43 33.1 +1.8
MANZ	Manzenberg	3.04	241	ePn		Pn	04 42 44.8 +1.6
MANZ				eSg		Sg	04 43 31.2 -0.1
ROTZ	Rotzenmuhle	3.11	237	ePn		Pn	04 42 45.2 +1.1
GEC2	GERESS Array S	3.15	212	ePn		Pn	04 42 46.4 +1.7
GEC2				eSg		Sb	04 43 32.2 +2.5
GERES	GERESS Array B	3.15	212	Pn		Pn	04 42 45.5 +0.8
	comp=Z,1.0nm,0.3s,baz=34,slow=14,SNR=27						
GERES				Pg		Pb	04 42 51.9 +1.2
	comp=Z,9.4nm,0.3s,baz=30,slow=17,SNR=92						
GERES				Lg		Lg	04 43 31.3
	comp=Z,9.0nm,0.3s,baz=32,slow=30,SNR=12						
LANS	Liptovska Anna	3.18	138	ePN		Pn	04 42 46.4 +1.3
LANS				ePG		Pg	04 42 54.6 -0.1
LANS				eSG		Sg	04 43 36.2 +0.3
WET	Wettzell	3.22	223	ePn		Pn	04 42 46.8 +1.2
WET				eSg		Sb	04 43 34.4 +2.9
MODS	Modra-Piesok	3.25	167	ePG		Pg	04 42 54.9 -1.2
MODS				eSG		Sg	04 43 37.5 -0.7
NIE	Niedzica	3.37	128	ePn		Pn	04 42 49.3 +1.6
NIE				ePg		Pg	04 42 59.6 +1.2
NIE				eSg		Sg	04 43 43.5 +1.5
ZST	Bratislava	3.40	170	eSG		Sb	04 43 39.6 +2.8
VYHS	Vyhne	3.49	150	ePN		Pn	04 42 50.1 +0.7
VYHS				ePG		Pg	04 43 01.3 +0.6
VYHS				eSG		Sb	04 43 42.3 +2.9
CONA	Conrad Observa	3.63	184	ePn		Pn	04 42 52.8 +1.5
	comp=Z,1.7nm,0.4s						
CONA				Pg		Pg	04 43 02.8 -0.5
	comp=Z,5.0nm,0.3s						
CONA				Sg		Sg	04 43 49.7 -0.6
	comp=Z,26nm,0.4s						
CLZ	Clausthal	3.65	277	ePn		Pn	04 42 54.2 +2.7
BSD	Bornholm Skovb	3.66	348	iP		Pn	04 42 53.8 +2.2
BSD				iS		Sn	04 43 35.5 +0.1
GRF	Grafenberg Arr	3.68	242	ePn		Pn	04 42 53.7 +1.7
GRF				eSg		Sg	04 43 52.6 +0.6
STHS	Stebnicka Huta	3.86	122	ePG		Pg	04 43 09.5 +1.8
STHS				eSG		Sg	04 44 01.3 +3.7
SOP	Sopron	3.87	177	eP		Pg	04 43 08.0 0.0
SOP				eSg		Sg	04 43 58.1 -0.1
MOA	Molln	3.91	200	ePn		Pn	04 42 56.3 +1.2
	comp=Z,3.0nm,0.2s						
MOA				Pg		Pg	04 43 09.3 +0.6
	comp=Z,5.1nm,0.2s						
MOA				Sg		Sg	04 43 58.6 -0.8
	comp=Z,17nm,0.6s						
ARSA	Arzberg	4.32	186	ePn		Pn	04 43 02.7 +1.9
	comp=Z,0.8nm,0.3s						
ARSA				Pg		Pg	04 43 17.5 +0.9
	comp=Z,2.2nm,0.3s						
ARSA				Sg		Sg	04 44 09.7 -3.0
	comp=Z,9.0nm,0.4s						
PSZ	Piszkesteto	4.35	145	⇑iP		Pn	04 43 02.6 +1.4
PSZ	Piszkesteto	4.35	145	eP		Pn	04 43 02.0 +0.9
PSZ				eSg		Sg	04 44 16.0 +2.7
LUNU	Lund	4.41	339	P		Pn	04 43 03.8 +1.9
LUNU				S		Sn	04 43 52.6 -1.4
BLEU	Blekinge	4.77	357	P		Pn	04 43 09.4 +2.5
BLEU				S		Sn	04 44 02.4 -0.5
KBA	Koelnbreinsper	4.85	204	ePn		Pn	04 43 09.8 +1.6
	comp=Z,1.3nm,0.3s						
KBA				Sg		Sg	04 44 31.5 +1.9
	comp=Z,25nm,0.7s						
BJUU	Bjuv	4.91	339	P		Pn	04 43 10.3 +1.4
DEL	Delary	5.12	345	P		Pn	04 43 13.6 +1.9
OBKA	Obir	5.16	193	Pg		Pg	04 43 34.3 +1.6
	comp=Z,1.8nm,0.4s						
OBKA				Sg		Sg	04 44 39.1 -0.4
	comp=Z,5.9nm,0.5s						
WATA	Walderalm	5.19	217	ePn		Pn	04 43 15.2 +2.5
	comp=Z,2.1nm,0.2s						
MYKA	Terra Mystica	5.20	200	Pg		Pg	04 43 35.3 +1.8
	comp=Z,1.7nm,0.3s						
MYKA				Sg		Sg	04 44 41.8 +0.9
	comp=Z,6.9nm,0.5s						
WTTA	Wattenberg	5.22	217	ePn		Pn	04 43 15.9 +2.5
	comp=Z,1.5nm,0.2s						
WTTA				Sg		Sg	04 44 40.6 -0.9
	comp=Z,7.0nm,0.5s						
TRPA	Tarpa	5.33	127	eP		Pn	04 43 14.1 -0.5
MOTA	Moosalm	5.37	220	ePn		Pn	04 43 17.1 +1.9
	comp=Z,0.8nm,0.2s						
ABTA	Abfaltersbach	5.38	208	Pg		Pn	04 43 17.2 +1.9
	comp=Z,0.6nm,0.2s						
ABTA				Sg		Sg	04 44 47.6 +1.0
	comp=Z,16nm,0.7s						
RETA	Reutte	5.39	223	ePn		Pn	04 43 16.2 +0.7
	comp=Z,1.6nm,0.2s						
RETA				eSn		Sn	04 44 17.8 -0.6
	comp=Z,2.3nm,0.3s						
SQTA	Sankt Quirin	5.42	219	ePn		Pn	04 43 18.5 +2.5
	comp=Z,2.2nm,0.2s						
SQTA				eSn		Sn	04 44 18.9 -0.2
	comp=Z,1.1nm,0.2s						
VXJU	Vaexsjoe	5.44	353	P		Pn	04 43 18.6 +2.5
BYXU	Byxelkrok	5.77	4	P		Pn	04 43 23.6 +2.9
FETA	Feichten	5.78	221	Pn		Pn	04 43 22.9 +2.0
	comp=Z,0.3nm,0.2s						
FABU	Falkenberg	5.84	341	P		Pn	04 43 23.5 +2.0
GNOU	Gnosjoe	5.93	347	P		Pn	04 43 25.1 +2.3
DAVA	Damuels	5.94	227	ePn		Pn	04 43 23.9 +0.8
	comp=Z,1.0nm,0.2s						
DAVA				eSn		Sn	04 44 31.6 -0.2
	comp=Z,2.6nm,0.3s						
DAVOX	Davos/Dischmat	6.32	223	Pn		Pn	04 43 29.6 +1.2
	comp=Z,0.4nm,0.3s,baz=66,slow=15,SNR=4.4						
DAVOX				Lg		Lg	04 45 09.8
	comp=Z,0.5nm,0.3s,baz=319,slow=20,SNR=3.1						
DRGR		6.39	136	⇑iP		Pn	04 43 29.6 +0.4
CDF	Champ du Feu	6.56	245	ePn		Pn	04 43 30.8 -0.8
CDF				eSg		Sg	04 45 19.9 -4.5
BURAR	Bucovina Array	7.05	120	⇑iP		Pn	04 43 39.4 +1.1
HINF	Hinteralfeld	7.13	242	ePn		Pn	04 43 38.5 -0.8
HINF				eSg		Sg	04 45 38.0 -4.5
	comp=Z,10nm,0.7s						
BAIF	Baives	7.75	264	eP		Pn	04 43 52.5 +4.7
MEZF	Maizieres J'vi	7.81	251	ePn		Pn	04 43 48.1 -0.5
MEZF				eSg		Sg	04 46 00.0 -4.3
	comp=Z,4.4nm,0.3s						
SFTF	Sexfontaines	7.96	250	ePn		Pn	04 43 50.5 -0.1
KIEV	Kiev	8.22	91	⇑iP		Pn	04 43 56.8 +2.5
AKASG	Malin Array Be	8.23	91	Pn		Pn	04 43 54.4 0.0
	comp=Z,0.9nm,0.3s,baz=280,slow=12,SNR=4.5						
AKASG				Sn		Sn	04 45 22.8 -5.2
	comp=Z,0.9nm,0.3s,baz=274,slow=23,SNR=3.6						
CABF	La Chapelle	8.28	237	ePg		Pg	04 44 29.3 -3.0
CABF				eSg		Sg	04 46 15.1 -4.4
	comp=Z,39nm,1.2s						
HFS	Hagfors	8.72	352	Pn		Pn	04 44 02.6 +1.5
	comp=Z,0.2nm,0.3s,baz=172,slow=15,SNR=12						
HFS				Sn		Sn	04 45 35.2 -4.8
	comp=Z,0.1nm,0.3s,baz=170,slow=26,SNR=2.5						
LOR	Lormes	9.12	247	ePn		Pn	04 44 05.7 -0.9
NOA	NORSAR Array B	9.91	346	Pn		Pn	04 44 16.6 -0.8
	comp=Z,0.0nm,0.3s,baz=157,slow=12,SNR=4.0						
FINES	FINESS Array B	11.30	25	Pn		Pn	04 44 36.6 +0.2
	comp=Z,0.3nm,0.3s,baz=208,slow=11,SNR=8.3						
FINES				Sn		Sn	04 46 37.0 -6.2
	comp=Z,0.3nm,0.3s,baz=222,slow=19,SNR=5.6						
EKA	Eskdalemuir Ar	12.15	296	Pn		Pn	04 44 46.5 -1.4
	baz=101,slow=13,SNR=3.5						
ARCES	ARCESS Array B	18.57	10	Pn		P	04 46 10.6 -1.5
	comp=Z,0.2nm,0.3s,baz=195,slow=12,SNR=8.0						
YKA	Yellowknife Ar	59.85	336	P		P	04 52 03.4 +2.9
	comp=Z,0.1nm,0.6s,baz=27,slow=7.1,SNR=3.0						

*IDC **20** 05:02:13.6±2.4, 35°.64N×141°.65E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.3/45, mbtmp3.5/5, ML2.8/2, Error ellipse: s-maj=52.5km s-min=24.1km az=78.0*
*ISCJB **20** 05:02:15.7±1.1, 35°.70N±0°.06×141°.6E±0°.1, h25km, mb3.5/3, Error ellipse: s-maj=12.1km s-min=8.3km az=165.8*
*JMA **20** 05:02:16.8±0.3, 35°.78N×141°.41E, h24km±2km, M3.0*

ISC 20 05:02:17.0±1.5, 35°.72N±0°.07×141°.5E±0°.1, h25km, n17, σ1§76/14, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.53	268	P		Pb	05 02 26.0 -1.6
CHOJ				eS		Sb	05 02 32.9 -2.0
JHO	Hitachi	1.17	320	P		Pn	05 02 36.0 -1.8
JYT	Yasato	1.18	296	P		Pn	05 02 35.8 -2.1
BSO4	Boso 4	1.20	233	P		Pb	05 02 38.5 -0.5
BSO3	Boso 3	1.23	222	P		Pb	05 02 38.4 -0.9
MJAR	Matsushiro Arr	2.79	288	Pn		Pn	05 03 01.2 +1.1
	0.8nm,0.3s,baz=112,slow=8.3,SNR=12						
MAT	Matsushiro	2.79	288	P		Pn	05 03 01.4 +1.3
MAT				eS		Sn	05 03 36.6 +3.6
JHJ	Hachijo jima 2	2.96	209	Pn		Pn	05 03 02.4 0.0
	6.1nm,0.3s,baz=73,slow=19,SNR=4.9						
JHJ				Sn		Sn	05 03 37.1 0.0
	15nm,0.3s,baz=90,slow=20,SNR=4.4						
H11N2	WAKE ISLAND Hy	27.43	119	T		T	05 37 05.7
	baz=311,slow=75,SNR=82						
H11N1	WAKE ISLAND Hy	27.44	119	T		T	05 36 59.5
	baz=311,slow=75,SNR=82						
H11N3	WAKE ISLAND Hy	27.45	119	T		T	05 37 02.5
	baz=311,slow=75,SNR=87						
H11S1	WAKE ISLAND Hy	28.10	121	T		T	05 37 50.5
	baz=312,slow=75,SNR=52						
H11S3	WAKE ISLAND Hy	28.10	121	T		T	05 37 52.6
	baz=312,slow=75,SNR=47						
H11S2	WAKE ISLAND Hy	28.12	121	T		T	05 37 54.0
	baz=312,slow=75,SNR=37						
MKAR	Makanchi Array	44.89	303	P		P	05 10 30.5 +1.1
	0.1nm,0.4s,baz=86,slow=11,SNR=2.3						
KURBB	Kurchatov Arra	46.88	309	P		P	05 10 46.5 +1.6
	0.4nm,0.4s,baz=82,slow=7.7,SNR=8.4						
WRA	Warramunga Arr	55.77	188	P		P	05 11 51.7 -0.2
	0.6nm,0.8s,baz=5.3,slow=7.3,SNR=6.2						

*IDC **20** 05:21:50.8±2.6, 51°.46N×159°.81E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.5/41, mbtmp3.8/7, ML2.7/1, MS2.8/3, Ms1 2.8/3, ms1mx2.4/36, Error ellipse: s-maj=76.6km s-min=29.7km az=31.0*
*KRSC **20** 05:21:55.9±10.0, 52°.06N×160°.43E, h59km±10km, ML4.0*
*NEIC **20** 05:21:56.2±2.0, 51°.56N×159°.99E, h35km, mb4.4/6, Error ellipse: s-maj=48.3km s-min=11.6km az=202.0*
*ISCJB **20** 05:21:57.8±0.8, 52°.08N±0°.05×160°.45E±0°.06, h41km±8km, mb4.1/12, MS3.2/1, Error ellipse: s-maj=8.8km s-min=5.5km az=147.2*

ISC 20 05:21:58.1±2.0, 52°.12N±0°.07×160°.28E±0°.06, h26km±13km, n47, σ1§02/60, mb4.2/12, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.00	351	eP		Pn	05 22 16.0 -0.4
SPN				eS		Sb	05 22 28.9 -0.5
RUS	Russkaya	1.13	287	eP		Pn	05 22 18.2 0.0
RUS				eS		Sn	05 22 33.2 +0.3
NLC	Nalytchevo	1.20	332	eP		Pn	05 22 19.5 +0.3
NLC				eS		Sb	05 22 35.7 +0.4
DALK	Dalny	1.31	315	eP		Pn	05 22 21.0 +0.3
DALK				eS		Sn	05 22 37.5 +0.2
MTVR	Mutnovka	1.34	287	eP		Pn	05 22 21.9 +0.7
MTVR				eS		Sb	05 22 39.3 -0.1
PET	Petropavlovsk	1.35	313	ePn		Pn	05 22 21.6 +0.4
PET	Petropavlovsk	1.35	313	eP		Pn	05 22 21.6 +0.4
PET				eS		Sb	05 22 40.0 +0.6
KDTR	Khodutka, Kamc	1.40	258	eP		Pn	05 22 22.4 +0.5
KDTR				eS		Sn	05 22 39.9 +0.5
UGLR	Uglovaya	1.41	322	eP		Pn	05 22 23.0 +0.8
UGLR				eS		Sb	05 22 42.9 +1.5
GRL	Gorelyy	1.42	289	eP		Pb	05 22 23.8 -0.2
GRL				eS		Sb	05 22 42.5 +0.8
SDLR	Sedlovina	1.44	324	eP		Pn	05 22 23.0 +0.3
SMAR	Somma	1.46	323	eP		Pn	05 22 23.4 +0.4
AVH	Avacha	1.48	321	eP		Pn	05 22 24.0 +0.8
AVH				eS		Sb	05 22 43.6 +0.1
ASAK	Asacha	1.49	281	eP		Pb	05 22 24.4 -0.7
ASAK				eS		Sb	05 22 43.7 +0.2
KRMR	Karymshinskiy	1.50	299	eP		Pn	05 22 23.8 +0.5
KRMR				eS		Sb	05 22 43.9 +0.2
KRER	Koryakskii	1.51	323	eP		Pn	05 22 24.3 +0.6
KOK	Koryaka	1.55	320	eP		Pn	05 22 24.8 +0.7
KRX	Arik	1.59	322	eP		Pn	05 22 25.5 +0.8
PEA0B	Petropavlovsk-	1.86	303	ePn		Pn	05 22 29.5 +1.2
PETK	Petropavlovsk-	1.86	303	Pn		Pn	05 22 29.2 +0.9
	12nm,0.3s,baz=104,slow=16,SNR=223						
PETK				Sn		Sb	05 22 55.1 +0.9
	21nm,0.3s,baz=117,slow=16,SNR=11						
PETK				LR		LR	05 23 24.0
	comp=Z,151nm,20.2s,baz=76,slow=44						
PEA1	Petropavlovsk-	1.86	303	ePn		Pn	05 22 29.2 +0.9
PEA1				eSn		Sb	05 22 55.1 +0.8
APC	Apacha	2.07	294	eP		Pb	05 22 33.4 -1.6
APC				eS		Sb	05 23 01.1 +0.8
MKZ	Mys Kozlova	2.60	19	eP		Pn	05 22 38.2 -0.2
MKZ				eS		Sn	05 23 07.0 -2.0
KZV	Kizimen	3.00	0	eP		Pn	05 22 45.6 +1.5
KZV				eS		Sn	05 23 20.0 +0.6
TUMD	Tumrok D	3.10	1	eP		Pn	05 22 46.2 +0.9
TUMD				eS		Sn	05 23 21.7 +0.3
TUMR	Tumrok	3.18	359	eP		Pn	05 22 48.1 +1.6
KBTR	Krutoberegovo	4.37	19	eP		Pn	05 23 03.8 +1.1
MA2	Magadan	9.18	328	LR		LR	05 28 04.9
	comp=Z,33nm,19.8s,baz=108,slow=39						
SCM	Sheep Creek Mo	29.36	50	eP		P	05 28 01.6 +2.9
	5.0nm,1.0s						
H11N2	WAKE ISLAND Hy	32.73	168	T		T	06 03 15.2
	baz=353,slow=76,SNR=7.5						
H11N3	WAKE ISLAND Hy	32.75	168	T		T	06 03 15.2
	baz=353,slow=76,SNR=7.2						
H11N1	WAKE ISLAND Hy	32.75	168	T		T	06 03 15.2
	baz=353,slow=76,SNR=9.7						
SONM	Songino Array	34.25	285	LR		LR	05 44 31.8
	comp=Z,46nm,19.0s,baz=76,slow=40						
PGC	Sidney	46.66	62	eP		P	05 30 23.2 -0.8
	5.4nm,1.0s						
SPITS	Spitsbergen Ar	48.12	351	P		P	05 30 35.5 +0.4
	6.4nm,0.9s,baz=66,slow=8.3,SNR=9.7						
KURK	Kurchatov	48.35	303	eP		P	05 30 35.0 -2.2
	2.2nm,0.

	121nm,0.3s						
MNBS	**Baschi**	**3.04 280**	Pg	**Pb**	**05 28 19.1**	**+0.9**	
	7.5nm,0.2s						
MNBS			Lg	Lg	05 28 59.8		
	56nm,0.4s						
MNBS	**Baschi**	**3.04 280**	*e*P	**Pb**	**05 28 19.1**	**+0.9**	
	7.5nm,0.2s						
MNBS			*e*S	**Sg**	**05 28 59.8**	**-1.1**	
	56nm,0.4s						
SATY	**Saty**	**3.09 260**	Pg	**Pb**	**05 28 19.9**	**+0.9**	
	9.4nm,0.2s						
SATY			Lg	Lg	05 29 01.2		
	80nm,0.4s						
SATY	**Saty**	**3.09 260**	*e*P	**Pb**	**05 28 19.9**	**+0.9**	
	9.4nm,0.2s						
SATY			⇓*i*S	**Sg**	**05 29 01.2**	**-1.3**	
	80nm,0.4s						
MK31	**Makanchi Array**	**3.15 357**	⇑Pg	**Pb**	**05 28 21.2**	**+1.3**	
	0.5nm,0.2s,baz=168,slow=17,SNR=17						
MK31			⇑Lg	Lg	05 29 00.8		
	5.7nm,0.3s,baz=175,slow=27,SNR=7.3						
MAKZ	**Makanchi**	**3.19 353**	⇑Pg	**Pg**	**05 28 23.2**	**-1.0**	
	2.0nm,0.4s						
MAKZ			⇑Lg	Lg	05 29 01.0		
KURS	**Kuram**	**3.20 269**	Pg	**Pb**	**05 28 22.2**	**+1.4**	
	2.7nm,0.5s						
KURS			Lg	Lg	05 29 04.7		
	17nm,0.7s						
KURS	**Kuram**	**3.20 269**	*e*P	**Pb**	**05 28 22.2**	**+1.4**	
	2.7nm,0.5s						
KURS			*e*S	**Sg**	**05 29 04.7**	**-1.2**	
	17nm,0.7s						
ARXS	**Arharly**	**3.47 281**	*e*P	**Pb**	**05 28 27.0**	**+1.6**	
	8.5nm,0.4s						
ARXS			*e*S	**Sg**	**05 29 13.2**	**-1.4**	
	55nm,0.3s						
KOTS	**Kotyrbulak**	**3.99 266**	Pg	**Pg**	**05 28 38.5**	**-1.2**	
	6.5nm,0.2s						
KOTS			Lg	Lg	05 29 33.1		
	40nm,0.4s						
KOTS	**Kotyrbulak**	**3.99 266**	*e*P	**Pg**	**05 28 38.5**	**-1.2**	
	6.5nm,0.2s						
KOTS			*e*S	**Sg**	**05 29 33.1**	**+1.6**	
	40nm,0.4s						
CHKK	**Chushkaly**	**4.05 275**	*e*P	**Pb**	**05 28 36.9**	**+1.7**	
	3.7nm,0.2s						
CHKK			*e*S	**Sg**	**05 29 30.0**	**-3.2**	
	28nm,0.2s						
MDOK	**Medeo**	**4.05 265**	Pg	**Pb**	**05 28 37.7**	**+2.3**	
	1.1nm,0.2s						
MDOK			Lg	Lg	05 29 33.7		
	15nm,0.6s						
MDOK	**Medeo**	**4.05 265**	Pg	**Pg**	**05 28 39.6**	**-1.2**	
	5.3nm,0.3s						
MDOK			Lg	Lg	05 29 35.2		
	20nm,0.6s						
MDOK	**Medeo**	**4.05 265**	*e*P	**Pg**	**05 28 39.6**	**-1.2**	
	5.3nm,0.3s						
MDOK			*e*S	**Sg**	**05 29 35.2**	**+1.9**	
	20nm,0.6s						
ZSN	**Zaisan**	**4.13 22**	*e*P	**Pg**	**05 28 40.4**	**-2.0**	
	2.5nm,0.2s						
ZSN			*e*S	**Sg**	**05 29 36.4**	**+0.6**	
	7.6nm,0.5s						
TNSS	**Tian-Shan**	**4.14 263**	Pg	**Pb**	**05 28 39.5**	**+2.4**	
	5.3nm,0.2s						
TNSS			Lg	Lg	05 29 35.0		
	12nm,0.5s						
TNSS	**Tian-Shan**	**4.14 263**	*e*P	**Pb**	**05 28 39.5**	**+2.4**	
	5.3nm,0.2s						
TNSS			*e*S	**Sg**	**05 29 35.0**	**-1.3**	
	12nm,0.5s						
KTBS	**Karatobe**	**4.27 273**	Pg	**Pb**	**05 28 41.5**	**+2.5**	
	3.0nm,0.3s						
KTBS			Lg	Lg	05 29 38.3		
	17nm,0.6s						
KTBS	**Karatobe**	**4.27 273**	*e*P	**Pb**	**05 28 41.5**	**+2.5**	
	3.0nm,0.3s						
KTBS			*e*S	**Sg**	**05 29 38.3**	**-2.0**	
	17nm,0.6s						
MTBS	**Maitube**	**4.50 265**	Pg	**Pb**	**05 28 46.5**	**+3.5**	
	4.4nm,0.2s						
MTBS			Lg	Lg	05 29 46.6		
	18nm,0.3s						
MTBS	**Maitube**	**4.50 265**	*e*P	**Pb**	**05 28 46.5**	**+3.5**	
	4.4nm,0.2s						
MTBS			⇓*i*S	**Sg**	**05 29 46.6**	**-1.2**	
	18nm,0.3s						
KUU	**Kurty**	**4.52 275**	Pg	**Pb**	**05 28 46.1**	**+2.9**	
	1.7nm,0.2s						
KUU			Lg	Lg	05 29 46.0		
	16nm,0.3s						
KUU	**Kurty**	**4.52 275**	*e*P	**Pb**	**05 28 46.1**	**+2.9**	
	1.7nm,0.2s						
KUU			⇓*i*S	**Sg**	**05 29 46.0**	**-2.2**	
	16nm,0.3s						
KST	**Kastek**	**4.85 265**	Pg	**Pg**	**05 28 53.2**	**-3.0**	
	5.9nm,1.1s						
KST			Lg	Lg	05 29 58.5		
	13nm,0.5s						
KST	**Kastek**	**4.85 265**	*e*P	**Pg**	**05 28 53.2**	**-3.0**	
	5.9nm,1.1s						
KST			*e*S	**Sg**	**05 29 58.5**	**-0.6**	
	13nm,0.5s						
DGS	**Degeres**	**4.96 268**	Pg	**Pb**	**05 28 54.4**	**+3.5**	
	3.8nm,0.3s						
DGS			Lg	Lg	05 30 01.1		
	18nm,0.6s						
DGS	**Degeres**	**4.96 268**	*e*P	**Pb**	**05 28 54.4**	**+3.5**	
	2.0nm,0.4s						
DGS			*e*S	**Sg**	**05 30 01.1**	**-1.6**	
	18nm,0.6s						
TKM2	**Tokmak 2**	**5.14 264**	⇑Lg	Lg	05 30 04.4		
	12nm,0.7s						
KURBB	**Kurchatov Arra**	**7.50 340**	⇑Pn	**Pn**	**05 29 15.6**	**+2.1**	
	1.6nm,0.8s						
KURBB			⇓Sn	**Sn**	**05 30 37.1**	**-1.9**	
	3.5nm,0.6s						
KURBB			⇓Lg	Lg	05 31 16.6		
	5.8nm,0.6s						
KURK	**Kurchatov**	**7.56 341**	⇑Sn	**Sn**	**05 30 38.7**	**-1.9**	
	1.7nm,0.6s						
KURK			⇑Lg	Lg	05 31 17.3		
	3.6nm,0.7s						

*IDC **20** 05:30:59.7±2.5,59°.11S×32°.17W,h0km,mb4.0/1, mb1 4.0/1,mb1mx3.5/14,mbtmp4.0/1,Error ellipse: s-maj=139.5km s-min=77.2km az=152.0*

ISC 20 05:30:57.8±1.9,60°.3S±0°.3×30°.9W±0°.6,h10km,n13, σ0°54/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.85**	**148**	P	**Pn**	**05 34 14.4**	**+0.6**
VNA3	**Neumayer Olymp**	**13.87**	**151**	P	**Pn**	**05 34 14.1**	**0.0**
VNA2	**Neumayer--Watz**	**14.25**	**148**	P	**Pn**	**05 34 19.7**	**+0.4**
	baz=311,slow=15						
SNAA	**Sanae**	**15.89**	**147**	P	**P**	**05 34 44.1**	**-0.8**
H10S2	**ASCENSION HYDR**	**52.67**	**20**	T	T	06 37 41.8	
	baz=191,slow=75,SNR=4.1						
H10S3	**ASCENSION HYDR**	**52.68**	**20**	T	T	06 37 41.9	
	baz=191,slow=75,SNR=4.1						
H10S1	**ASCENSION HYDR**	**52.69**	**20**	T	T	06 37 43.0	
	baz=191,slow=75,SNR=4.3						
H10N1	**ASCENSION HYDR**	**53.79**	**20**	T	T	06 39 05.2	
	baz=199						
H10N3	**ASCENSION HYDR**	**53.79**	**20**	T	T	06 39 04.2	
	baz=199,slow=74						
H10N2	**ASCENSION HYDR**	**53.81**	**20**	T	T	06 39 05.8	
	baz=199,slow=74						
TORD	**Torodi Ar. Bea**	**77.72**	**32**	P	**P**	**05 42 54.5**	**0.0**
	1.6nm,1.2s,baz=202,slow=7.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**145.80**	**71**	PKPbc	**PKiKP**	**05 50 39.2**	**0.0**
	0.5nm,0.4s,baz=247,slow=3.0,SNR=3.2						
ILAR	**Eielson Array**	**151.31**	**307**	PKPbc	**PKPbc**	**05 50 50.1**	**+0.2**
	0.6nm,0.9s,baz=139,slow=3.3,SNR=4.8						

DJA 20 05:39:49.1±0.6,6°S±4°×13°2E±°,h138km±14km,M4.4/6, mb4.7/1,MLv4.2/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.97**	**300**	P	Pn	05 40 22.9	-0.3
BNDI				S	Sn	05 40 49.8	+0.5
SAUI	**Saumlaki**	**2.48**	**187**	P	Pn	05 40 29.5	+0.1
SAUI				S	Sn	05 41 00.3	-0.1
FAKI	**Fak Fak**	**2.65**	**14**	P	Pn	05 40 31.5	-0.1
FAKI				S	Sn	05 41 01.4	-2.9
SWI	**Sorong**	**4.63**	**356**	P	Pn	05 40 57.8	+0.4
TNTI	**Ternate**	**7.55**	**326**	P	Pn	05 41 35.8	-0.7

*ROM **20** 05:40:42.4±0.2,42°.10N±0°.01×15°.52E±0°.01,h10km, ML3.0/28,Error ellipse: s-maj=1.5km s-min=0.9km az=21.0*

*BEO **20** 05:40:47.4±0.6,41°.26N×16°.10E,h0km,ML2.8/6*

ISC 20 05:40:43.0±1.1,42°.08N±0°.02×15°.47E±0°.02,h8km±10km, n129,σ1°21/128,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**0.38**	**148**	P	**Pg**	**05 40 49.8**	**-0.7**
SGRT	**San Giovanni R**	**0.38**	**148**	P	**Pg**	**05 40 50.6**	**+0.1**
SGRT				S	**Sg**	**05 40 56.0**	**+0.4**
SGRT				AML	AML		
	comp=E,5940μm,0.3s						
SGRT				AML	AML		
	comp=N,5080μm,0.6s						
SGRT				AML	AML		
	comp=E,5940μm,0.3s						
SGRT				AML	AML		
	comp=N,5080μm,0.6s						
SGRT				AML	AML		
	comp=E,5940μm,0.3s						
SGRT				AML	AML		
	comp=N,5080μm,0.6s						
SGRT				AML	AML		
	comp=E,5940μm,0.3s						
SGRT				AML	AML		
	comp=N,5080μm,0.6s						
SGRT	**San Giovanni R**	**0.38**	**148**	S	**Sg**	**05 40 55.8**	**+0.2**
MELA	**Melanico ??? S**	**0.45**	**215**	P	**Pg**	**05 40 51.3**	**-0.5**
MELA				AML	AML		
	comp=E,6960μm,0.3s						
MELA				AML	AML		
	comp=N,4230μm,0.2s						
MELA				AML	AML		
	comp=E,6965μm,0.3s						
MELA				AML	AML		
	comp=N,4235μm,0.2s						
MELA				AML	AML		
	comp=E,6965μm,0.3s						
MELA				AML	AML		
	comp=N,4230μm,0.2s						
MELA				AML	AML		
	comp=E,6965μm,0.3s						
MELA				AML	AML		
	comp=N,4230μm,0.2s						
MELA	**Melanico ??? S**	**0.45**	**215**	P	**Pg**	**05 40 51.3**	**-0.5**
MELA	**Melanico ??? S**	**0.45**	**215**	S	**Sb**	**05 40 59.9**	**-0.2**
MSAG	**Monte S. Angel**	**0.49**	**138**	P	**Pg**	**05 40 52.8**	**+0.3**
MSAG				AML	AML		
	comp=E,3290μm,0.7s						
MSAG				AML	AML		
	comp=N,10810μm,0.7s						
MSAG				AML	AML		
	comp=E,3290μm,0.7s						
MSAG				AML	AML		
	comp=N,10770μm,0.7s						
MSAG				AML	AML		
	comp=E,3290μm,0.7s						
MSAG				AML	AML		
	comp=N,10765μm,0.7s						
MSAG				AML	AML		
	comp=E,3290μm,0.7s						
MSAG				AML	AML		
	comp=N,10765μm,0.7s						
MSAG	**Monte S. Angel**	**0.49**	**138**	P	**Pb**	**05 40 52.9**	**-1.0**
MSAG	**Monte S. Angel**	**0.49**	**138**	S	**Sb**	**05 41 00.6**	**-0.7**
CIGN	**Sant'Elia a Pi**	**0.60**	**225**	P	**Pg**	**05 40 54.2**	**-0.4**
CIGN	**Sant'Elia a Pi**	**0.60**	**225**	P	**Pg**	**05 40 54.4**	**-0.2**
CIGN				AML	AML		
	comp=E,761μm,0.3s						
CIGN				AML	AML		
	comp=N,661μm,0.4s						
CIGN				AML	AML		
	comp=E,761μm,0.3s						
CIGN				AML	AML		
	comp=N,661μm,0.4s						
CIGN				AML	AML		
	comp=E,761μm,0.3s						
CIGN				AML	AML		
	comp=N,661μm,0.4s						
CIGN				AML	AML		
	comp=N,661μm,0.4s						
CIGN				AML	AML		
	comp=E,761μm,0.3s						
GATE	**Gambatesa**	**0.70**	**217**	P	**Pg**	**05 40 57.1**	**+0.5**
GATE	**Gambatesa**	**0.70**	**217**	P	**Pg**	**05 40 57.1**	**+0.5**
MOCO	**Biccari - m.te**	**0.75**	**198**	P	**Pg**	**05 40 57.3**	**-0.1**
MOCO				S	**Sb**	**05 41 08.3**	**-0.4**
MOCO				AML	AML		
	comp=E,962μm,0.5s						
MOCO				AML	AML		
	comp=N,492μm,1.6s						
MOCO				AML	AML		
	comp=E,966μm,0.5s						
MOCO				AML	AML		
	comp=N,492μm,1.6s						
MOCO				AML	AML		
	comp=E,964μm,0.5s						
MOCO				AML	AML		
	comp=N,492μm,1.6s						
MOCO				AML	AML		
	comp=E,964μm,0.5s						
MOCO				AML	AML		
	comp=N,492μm,1.6s						
MOCO	**Biccari - m.te**	**0.75**	**198**	P	**Pg**	**05 40 57.5**	**+0.1**
MOCO	**Biccari - m.te**	**0.75**	**198**	S	**Sb**	**05 41 08.3**	**-0.4**
TRIV	**Trivento**	**0.76**	**246**	P	**Pg**	**05 40 57.6**	**+0.1**
TRIV				AML	AML		
	comp=E,480μm,1.4s						
TRIV				AML	AML		
	comp=N,535μm,0.9s						
TRIV				AML	AML		
	comp=E,480μm,1.4s						
TRIV				AML	AML		
	comp=N,535μm,0.9s						
TRIV				AML	AML		
	comp=E,480μm,1.4s						
TRIV				AML	AML		
	comp=N,536μm,0.9s						
TRIV				AML	AML		
	comp=N,536μm,0.9s						
TRIV				AML	AML		
	comp=E,480μm,1.4s						
TRIV	**Trivento**	**0.76**	**246**	P	**Pb**	**05 40 58.6**	**+0.2**
BSSO	**Busso**	**0.84**	**231**	P	**Pg**	**05 40 58.5**	**-0.7**
BSSO	**Busso**	**0.84**	**231**	P	**Pg**	**05 40 58.6**	**-0.6**
BSSO				S	**Sb**	**05 41 11.6**	**+0.1**
BSSO				AML	AML		
	comp=E,220μm,0.4s						
BSSO				AML	AML		
	comp=N,238μm,1.2s						
BSSO				AML	AML		
	comp=E,490μm,0.4s						
BSSO				AML	AML		
	comp=N,586μm,1.2s						
BSSO				AML	AML		
	comp=E,220μm,0.4s						
BSSO				AML	AML		
	comp=N,238μm,1.2s						
BSSO				AML	AML		
	comp=E,220μm,0.4s						
BSSO				AML	AML		
	comp=N,238μm,1.2s						
BSSO				AML	AML		
	comp=N,238μm,1.2s						
BSSO				AML	AML		
	comp=E,220μm,0.4s						
BSSO	**Busso**	**0.84**	**231**	S	**Sb**	**05 41 11.6**	**+0.1**
CAFR	**Castel Frentan**	**0.85**	**280**	P	**Pb**	**05 40 59.6**	**-0.4**
CAFR				AML	AML		
	comp=E,2700μm,0.3s						
CAFR				AML	AML		
	comp=N,3195μm,0.9s						
CAFR				AML	AML		
	comp=E,2695μm,0.3s						
CAFR				AML	AML		
	comp=N,3195μm,0.9s						
CAFR				AML	AML		
	comp=E,2695μm,0.3s						
CAFR				AML	AML		
	comp=N,3195μm,0.9s						
CAFR	**Castel Frentan**	**0.85**	**280**	P	**Pn**	**05 41 01.2**	**-0.1**
SACR	**S. Croce Del S**	**0.89**	**220**	P	**Pg**	**05 40 59.4**	**-0.7**
SACR	**S. Croce Del S**	**0.89**	**220**	P	**Pg**	**05 40 59.6**	**-0.5**
SACR				S	**Sb**	**05 41 12.7**	**-0.1**
SACR				AML	AML		
	comp=E,577μm,0.8s						
SACR				AML	AML		
	comp=N,544μm,0.9s						
SACR				AML	AML		
	comp=E,604μm,0.8s						
SACR				AML	AML		
	comp=N,556μm,0.9s						
SACR				AML	AML		
	comp=E,577μm,0.8s						
SACR				AML	AML		
	comp=N,544μm,0.9s						
SACR				AML	AML		
	comp=E,604μm,0.8s						
SACR				AML	AML		
	comp=N,555μm,0.9s						
SACR				AML	AML		
	comp=E,577μm,0.8s						
SACR				AML	AML		
	comp=N,544μm,0.9s						
SACR				AML	AML		
	comp=E,604μm,0.8s						
SACR				AML	AML		
	comp=N,555μm,0.9s						
SACR				AML	AML		
	comp=E,604μm,0.8s						
SACR				AML	AML		
	comp=N,544μm,0.9s						
SACR				AML	AML		
	comp=N,555μm,0.9s						
SACR				AML	AML		
	comp=E,577μm,0.8s						
SACR	**S. Croce Del S**	**0.89**	**220**	S	**Sb**	**05 41 12.7**	**-0.1**
SACR	**S. Croce Del S**	**0.89**	**220**	S	**Sb**	**05 41 13.0**	**+0.2**
SGTA	**Sant Agata di**	**0.95**	**185**	P	**Pg**	**05 41 00.3**	**-0.9**
SGTA	**Sant Agata di**	**0.95**	**185**	P	**Pg**	**05 41 00.4**	**-0.8**
SGTA				AML	AML		
	comp=E,1098μm,1.2s						
SGTA				AML	AML		
	comp=N,1130μm,1.1s						
SGTA				AML	AML		
	comp=E,1170μm,1.2s						
SGTA				AML	AML		
	comp=N,1075μm,1.1s						
SGTA				AML	AML		
	comp=E,1095μm,1.2s						
SGTA				AML	AML		
	comp=N,1125μm,1.1s						
SGTA				AML	AML		
	comp=E,1170μm,1.2s						
SGTA				AML	AML		
	comp=N,1075μm,1.1s						
SGTA				AML	AML		
	comp=E,1097μm,1.2s						
SGTA				AML	AML		
	comp=N,1126μm,1.1s						
SGTA				AML	AML		
	comp=E,1170μm,1.2s						
SGTA				AML	AML		
	comp=N,1075μm,1.1s						
SGTA				AML	AML		
	comp=N,1075μm,1.1s						
SGTA				AML	AML		
	comp=N,1126μm,1.1s						
SGTA				AML	AML		
	comp=E,1170μm,1.2s						
SGTA				AML	AML		
	comp=E,1097μm,1.2s						
SGTA	**Sant Agata di**	**0.95**	**185**	S	**Sb**	**05 41 14.2**	**-0.2**
LPEL	**Lama dei Pelig**	**0.96**	**269**	P	**Pg**	**05 41 00.3**	**-1.1**
LPEL	**Lama dei Pelig**	**0.96**	**269**	P	**Pg**	**05 41 00.7**	**-0.7**
LPEL	**Lama dei Pelig**	**0.96**	**269**	S	**Sb**	**05 41 15.4**	**+0.6**
PSB1	**Pescosannita**	**0.99**	**210**	P	**Pg**	**05 41 00.5**	**-1.5**
PSB1	**Pescosannita**	**0.99**	**210**	P	**Pg**	**05 41 01.0**	**-1.0**
PSB1				AML	AML		
	comp=E,974μm,0.5s						
PSB1				AML	AML		
	comp=N,674μm,0.5s						
PSB1				AML	AML		
	comp=E,1041μm,0.5s						
PSB1				AML	AML		
	comp=N,608μm,0.5s						
PSB1				AML	AML		
	comp=E,975μm,0.5s						
PSB1				AML	AML		
	comp=N,674μm,0.5s						
PSB1				AML	AML		
	comp=E,1041μm,0.5s						
PSB1				AML	AML		
	comp=N,608μm,0.5s						
PSB1				AML	AML		
	comp=N,674μm,0.5s						
PSB1				AML	AML		
	comp=N,608μm,0.5s						
PSB1				AML	AML		
	comp=E,1041μm,0.5s						
PSB1				AML	AML		
	comp=E,975μm,0.5s						
PSB1	**Pescosannita**	**0.99**	**210**	S	**Sb**	**05 41 15.7**	**+0.1**
PTRJ	**Pietraroja**	**1.00**	**225**	P	**Pg**	**05 41 01.2**	**-1.1**
PTRJ				AML	AML		
	comp=E,1215μm,1.4s						
PTRJ				AML	AML		
	comp=N,1400μm,1.6s						
PTRJ				AML	AML		
	comp=E,1215μm,1.4s						
PTRJ				AML	AML		
	comp=N,1400μm,1.6s						
PTRJ				AML	AML		
	comp=N,1400μm,1.6s						
PTRJ				AML	AML		
	comp=E,1215μm,1.4s						
PTRJ	**Pietraroja**	**1.00**	**225**	P	**Pg**	**05 41 01.3**	**-1.0**
PTRJ	**Pietraroja**	**1.00**	**225**	S	**Sb**	**05 41 16.4**	**+0.3**
MIDA	**Miranda**	**1.01**	**245**	P	**Pg**	**05 41 01.9**	**-0.5**
MIDA	**Miranda**	**1.01**	**245**	P	**Pg**	**05 41 02.0**	**-0.4**
RNI2	**Rionero Sannit**	**1.05**	**250**	P	**Pg**	**05 41 03.1**	**-0.1**
RNI2				AML	AML		
	comp=E,618μm,1.4s						
RNI2				AML	AML		
	comp=N,664μm,0.4s						
RNI2				AML	AML		
	comp=E,600μm,1.4s						
RNI2				AML	AML		
	comp=N,679μm,0.4s						
RNI2				AML	AML		
	comp=E,618μm,1.4s						
RNI2				AML	AML		
	comp=N,664μm,0.4s						
RNI2				AML	AML		
	comp=E,600μm,1.4s						
RNI2				AML	AML		
	comp=N,679μm,0.4s						
RNI2				AML	AML		
	comp=E,618μm,1.4s						
RNI2				AML	AML		
	comp=N,679μm,0.4s						
RNI2	**Rionero Sannit**	**1.05**	**250**	S	**Sb**	**05 41 18.0**	**+0.4**
CAFE	**Carife**	**1.06**	**190**	P	**Pg**	**05 41 02.2**	**-1.3**
CAFE	**Carife**	**1.06**	**190**	AML	AML		
CAFE				AML	AML		
	comp=N,574μm,0.4s						
CAFE				AML	AML		
	comp=E,771μm,0.3s						
CAFE				AML	AML		
	comp=E,2433μm,1.6s						
CAFE				AML	AML		
	comp=N,2460μm,1.6s						
CAFE				AML	AML		
	comp=E,772μm,0.3s						
CAFE				AML	AML		
	comp=N,573μm,0.4s						
CAFE				AML	AML		
	comp=E,772μm,0.3s						
CAFE				AML	AML		
	comp=N,573μm,0.4s						
CAFE				AML	AML		
	comp=E,2433μm,1.6s						

CAFE			AML	AML		
	comp=N,2460μm,1.6s					
SGG	**Gregorio Mates**	**1.07 230**	P	**Pg**	**05 41 02.9**	**-0.6**
SGG	**Gregorio Mates**	**1.07 230**	P	**Pg**	**05 41 03.0**	**-0.6**
SGG			AML	AML		
	comp=E,523μm,0.3s					
SGG			AML	AML		
	comp=N,898μm,0.4s					
SGG			AML	AML		
	comp=E,523μm,0.3s					
SGG			AML	AML		
	comp=N,898μm,0.4s					
SGG			AML	AML		
	comp=E,523μm,0.3s					
SGG			AML	AML		
	comp=N,898μm,0.4s					
SGG	**Gregorio Mates**	**1.07 230**	S	**Sb**	**05 41 18.3**	**+0.2**
SGG	**Gregorio Mates**	**1.07 230**	S	**Sn**	**05 41 20.0**	**+0.5**
VAGA	**Valle Agricola**	**1.14 235**	P	**Pb**	**05 41 03.6**	**-1.4**
VAGA			AML	AML		
	comp=E,654μm,1.4s					
VAGA			AML	AML		
	comp=N,1570μm,0.3s					
VAGA			AML	AML		
	comp=E,678μm,1.4s					
VAGA			AML	AML		
	comp=N,1635μm,0.3s					
VAGA			AML	AML		
	comp=E,654μm,1.4s					
VAGA			AML	AML		
	comp=N,1575μm,0.3s					
VAGA			AML	AML		
	comp=E,678μm,1.4s					
VAGA			AML	AML		
	comp=N,1635μm,0.3s					
VAGA			AML	AML		
	comp=N,1575μm,0.3s					
VAGA			AML	AML		
	comp=E,654μm,1.4s					
VAGA			AML	AML		
	comp=E,678μm,1.4s					
VAGA			AML	AML		
	comp=N,1635μm,0.3s					
VAGA	**Valle Agricola**	**1.14 235**	P	**Pn**	**05 41 05.7**	**+0.4**
MRVN	**Minervino Murg**	**1.15 152**	P	**Pb**	**05 41 04.5**	**-0.7**
MRVN	**Minervino Murg**	**1.15 152**	P	**Pb**	**05 41 04.9**	**-0.3**
MRVN	**Minervino Murg**	**1.15 152**	S	**Sb**	**05 41 20.3**	**0.0**
INTR	**Introdacqua**	**1.17 267**	P	**Pb**	**05 41 03.8**	**-1.8**
INTR	**Introdacqua**	**1.17 267**	P	**Pb**	**05 41 05.3**	**-0.3**
SNAL	**S. Angelo Dei**	**1.17 190**	P	**Pb**	**05 41 03.7**	**-1.8**
SNAL			AML	AML		
	comp=E,582μm,0.5s					
SNAL			AML	AML		
	comp=N,432μm,1.4s					
SNAL			AML	AML		
	comp=E,582μm,0.5s					
SNAL			AML	AML		
	comp=N,432μm,1.4s					
SNAL			AML	AML		
	comp=N,432μm,1.4s					
SNAL			AML	AML		
	comp=E,582μm,0.5s					
SNAL	**S. Angelo Dei**	**1.17 190**	P	**Pb**	**05 41 04.3**	**-1.2**
PALZ	**Palazzo San Ge**	**1.19 162**	P	**Pb**	**05 41 04.7**	**-1.2**
PALZ			AML	AML		
	comp=E,1300μm,0.6s					
PALZ			AML	AML		
	comp=N,785μm,0.7s					
PALZ			AML	AML		
	comp=E,1300μm,0.6s					
PALZ			AML	AML		
	comp=N,859μm,0.6s					
PALZ			AML	AML		
	comp=N,859μm,0.6s					
PALZ			AML	AML		
	comp=E,1300μm,0.6s					
PALZ	**Palazzo San Ge**	**1.19 162**	P	**Pb**	**05 41 05.3**	**-0.6**
PAOL	**Paolisi**	**1.25 213**	P	**Pg**	**05 41 08.8**	**+1.9**
PAOL	**Paolisi**	**1.25 213**	AML	AML		
	comp=N,542μm,1.5s					
PAOL			AML	AML		
	comp=E,471μm,1.6s					
PAOL			AML	AML		
	comp=E,480μm,0.4s					
PAOL			AML	AML		
	comp=N,475μm,0.8s					
PAOL			AML	AML		
	comp=E,471μm,1.6s					
PAOL			AML	AML		
	comp=N,542μm,1.5s					
PAOL			AML	AML		
	comp=E,480μm,0.4s					
PAOL			AML	AML		
	comp=N,475μm,0.8s					
PIGN	**Pignataro Magg**	**1.31 228**	P	**Pn**	**05 41 07.4**	**-0.2**
PIGN			AML	AML		
	comp=E,364μm,0.7s					
PIGN			AML	AML		
	comp=N,356μm,1.1s					
PIGN			AML	AML		
	comp=E,364μm,0.7s					
PIGN			AML	AML		
	comp=N,356μm,1.1s					
PIGN			AML	AML		
	comp=E,364μm,0.7s					
PIGN			AML	AML		
	comp=N,356μm,1.1s					
PIGN	**Pignataro Magg**	**1.31 228**	P	**Pb**	**05 41 07.8**	**0.0**
PIGN	**Pignataro Magg**	**1.31 228**	S	**Sn**	**05 41 25.3**	**+0.1**
MRLC	**Muro Lucano**	**1.32 179**	P	**Pn**	**05 41 06.6**	**-1.2**
MRLC	**Muro Lucano**	**1.32 179**	P	**Pn**	**05 41 07.5**	**-0.4**
ACER	**Acerenza**	**1.34 165**	P	**Pb**	**05 41 08.2**	**-0.2**
ACER	**Acerenza**	**1.34 165**	AML	AML		
	comp=N,1040μm,0.5s					
ACER			AML	AML		
	comp=E,1074μm,0.4s					
ACER			AML	AML		
	comp=N,1010μm,0.5s					
ACER			AML	AML		
	comp=E,1126μm,0.4s					
ACER			AML	AML		
	comp=N,1040μm,0.5s					
ACER			AML	AML		
	comp=E,1074μm,0.4s					
ACER			AML	AML		
	comp=N,1008μm,0.5s					
ACER			AML	AML		
	comp=E,1126μm,0.4s					
ACER			AML	AML		
	comp=N,1040μm,0.5s					
ACER			AML	AML		
	comp=E,1126μm,0.4s					
ACER			AML	AML		
	comp=E,1074μm,0.4s					
ACER			AML	AML		
	comp=N,1008μm,0.5s					
POFI	**Posta Fibreno**	**1.36 255**	P	**Pn**	**05 41 07.8**	**-0.6**
POFI			AML	AML		
	comp=E,228μm,0.7s					
POFI			AML	AML		
	comp=N,186μm,0.8s					
POFI			AML	AML		
	comp=E,228μm,0.7s					
POFI			AML	AML		
	comp=N,186μm,0.8s					
POFI			AML	AML		
	comp=E,228μm,0.7s					
POFI			AML	AML		
	comp=N,186μm,0.8s					
POFI	**Posta Fibreno**	**1.36 255**	P	**Pn**	**05 41 07.8**	**-0.6**
VVLD	**Villa Vallelon**	**1.40 262**	P	**Pn**	**05 41 08.6**	**-0.3**
VVLD	**Villa Vallelon**	**1.40 262**	AML	AML		
	comp=E,328μm,0.6s					
VVLD			AML	AML		
	comp=E,328μm,0.6s					
VVLD			AML	AML		
	comp=N,252μm,1.3s					
VVLD			AML	AML		
	comp=E,328μm,0.6s					
VVLD			AML	AML		
	comp=N,251μm,1.3s					
VVLD			AML	AML		
	comp=N,251μm,1.3s					
FAGN	**Fagnano**	**1.42 278**	P	**Pg**	**05 41 11.0**	**+0.8**
BAI	**Bari**	**1.43 132**	*e*Pg	**Pg**	**05 41 11.6**	**+1.1**
BAI			Sg	**Sg**	**05 41 30.0**	**+0.9**
AMUR	**Altamura**	**1.45 144**	P	**Pn**	**05 41 08.5**	**-1.0**
AMUR	**Altamura**	**1.45 144**	AML	AML		
	comp=E,863μm,0.3s					
AMUR			AML	AML		
	comp=N,951μm,0.2s					
AMUR			AML	AML		
	comp=E,863μm,0.3s					
AMUR			AML	AML		
	comp=N,951μm,0.2s					
AMUR			AML	AML		
	comp=E,863μm,0.3s					
AMUR			AML	AML		
	comp=N,951μm,0.2s					
CDRU	**Civita di Ruta**	**1.59 185**	P	**Pb**	**05 41 12.1**	**-0.6**
CDRU	**Civita di Ruta**	**1.59 185**	AML	AML		
	comp=N,116μm,0.4s					
CDRU			AML	AML		
	comp=E,182μm,0.8s					
CDRU			AML	AML		
	comp=N,116μm,0.4s					
CDRU			AML	AML		
	comp=E,182μm,0.8s					
PTRP	**Pietrapertosa**	**1.62 164**	P	**Pg**	**05 41 13.9**	**-0.1**
MIGL	**Miglionico**	**1.64 153**	P	**Pb**	**05 41 13.5**	**-0.1**
MATE	**Matera**	**1.70 147**	S	**Sg**	**05 41 40.0**	**+2.3**
FIAM	**Fiamignano**	**1.76 277**	P	**Pg**	**05 41 16.9**	**+0.1**
MCEL	**Monticello**	**1.77 172**	P	**Pb**	**05 41 15.8**	**+0.1**
STON	**Ston**	**1.83 64**	*e*Pn	Pg	05 41 22.8	+4.7
STON			*e*Sg	Sg	05 41 50.8	+9.0
STON	**Ston**	**1.83 64**	*e*Pn	**Pg**	**05 41 18.3**	**+0.2**
STON	**Ston**	**1.83 64**	*e*Pn	**Pg**	**05 41 19.6**	**+1.5**
CRAC	**Craco**	**1.86 157**	P	**Pg**	**05 41 17.8**	**-0.8**
CRAC	**Craco**	**1.86 157**	AML	AML		
	comp=E,924μm,0.8s					
CRAC			AML	AML		
	comp=N,608μm,0.6s					
CRAC			AML	AML		
	comp=E,924μm,0.8s					
CRAC			AML	AML		
	comp=N,608μm,0.6s					
FASA	**Fasano**	**1.90 131**	*e*Pg	**Pg**	**05 41 18.8**	**-0.5**
FASA			Sg	**Sg**	**05 41 43.8**	**-0.1**
MASS	**Massafra**	**1.92 138**	*e*Pg	**Pg**	**05 41 19.1**	**-0.6**
MASS			Sg	**Sg**	**05 41 45.1**	**+0.6**
CSP1	**Cessapalombo**	**1.96 302**	P	**Pg**	**05 41 20.8**	**+0.3**
TAR1	**Taranto**	**2.07 138**	*e*Pg	**Pb**	**05 41 20.2**	**-0.6**
TAR1			Sg	**Sg**	**05 41 49.6**	**+0.2**
CGL1	**Ceglie Messapi**	**2.07 133**	*e*Pg	**Pg**	**05 41 21.8**	**-0.9**
CGL1			Sg	**Sg**	**05 41 49.0**	**-0.6**
RMP	**Rome, Mte Porz**	**2.08 264**	S	**Sb**	**05 41 47.0**	**-0.1**
TREB	**Trebinje**	**2.23 72**	*e*Pg	**Pg**	**05 41 27.0**	**+1.3**
TREB			*e*Sg	**Sg**	**05 41 57.4**	**+2.9**
TREB	**Trebinje**	**2.23 72**	*e*Pn	**Pg**	**05 41 25.9**	**+0.2**
SALB	**San Lorenzo Be**	**2.30 163**	P	**Pn**	**05 41 22.1**	**+0.8**
FOSV	**Fossato di Vic**	**2.34 302**	P	**Pg**	**05 41 26.8**	**-1.0**
FOSV	**Fossato di Vic**	**2.34 302**	AML	AML		
	comp=E,97μm,0.6s					
FOSV			AML	AML		
	comp=N,88μm,1.1s					
FOSV			AML	AML		
	comp=N,88μm,1.1s					
FOSV			AML	AML		
	comp=E,97μm,0.6s					
SSFR	**Montelago di S**	**2.40 305**	P	**Pb**	**05 41 24.7**	**-1.8**
SSFR	**Montelago di S**	**2.40 305**	AML	AML		
	comp=E,124μm,0.2s					
SSFR			AML	AML		
	comp=E,124μm,0.2s					
SSFR			AML	AML		
	comp=N,105μm,0.3s					
SSFR			AML	AML		
	comp=N,105μm,0.3s					
BRY	**Bratogost**	**2.41 69**	*e*Pn	**Pg**	**05 41 28.4**	**-0.9**
UDBI	**Udbina**	**2.46 5**	*e*Pn	**Pb**	**05 41 27.9**	**+0.4**
UDBI			Sn	**Sb**	**05 41 58.6**	**+0.7**
NVLJ	**Novalja**	**2.52 350**	*e*Pn	**Pb**	**05 41 26.0**	**-2.6**
NVLJ			Sn	**Sb**	**05 41 57.3**	**-2.4**
DRME	**Dracevica, Mon**	**2.76 87**	*e*Pn	**Pn**	**05 41 24.4**	**-3.2**
PDG	**Podgorica**	**2.83 82**	*e*Pn	**Pb**	**05 41 31.0**	**-2.8**
PDG	**Podgorica**	**2.83 82**	*e*Pn	Pn	05 41 16.7	-12
CAFI	**Castiglion Fio**	**2.87 297**	P	**Pb**	**05 41 33.2**	**-1.3**
MCIV	**Monte Civitell**	**2.90 285**	P	**Pn**	**05 41 29.8**	**+0.3**
BLY	**Banja Luka**	**2.95 24**	*e*Pn	Pg	05 41 44.7	+5.2
BLY	**Banja Luka**	**2.95 24**	*e*Pn	Pg	05 41 43.7	+4.2
HAPS	**Han Pijesak,Bl**	**3.24 51**	*e*Pn	**Pg**	**05 41 43.1**	**-2.1**
HAPS			*e*Sg	Sg	05 42 38.9	+12
HAPS	**Han Pijesak,Bl**	**3.24 51**	*e*Pn	**Pg**	**05 41 44.7**	**-0.5**
BBLS	**Lazići**	**3.39 57**	*e*Pn	**Pb**	**05 41 44.6**	**+1.1**
BBLS			*e*Sg	Sg	05 42 41.3	+9.3
BBLS	**Lazići**	**3.39 57**	*e*Pn	**Pb**	**05 41 43.5**	**0.0**
SJES	**Sjenica**	**3.52 69**	*e*Pn	**Pb**	**05 41 42.9**	**-2.8**
SJES			*e*Sg	**Sg**	**05 42 39.1**	**+2.9**
TRI	**Trieste**	**3.83 342**	P	**Pn**	**05 41 41.6**	**-0.7**
DIVS	**Divibare**	**3.88 57**	*e*Pn	**Pb**	**05 41 49.4**	**-2.3**
DIVS			*e*Sg	Sg	05 42 56.0	+8.5
MCPD	**Capo d'Orlando**	**3.99 188**	S	**Sb**	**05 42 46.0**	**+3.9**
TRUS	**Trudelj**	**4.20 58**	*e*Pn	**Pb**	**05 41 54.3**	**-2.8**
GRUS	**Gruza**	**4.25 63**	*e*Pn	Pb	05 41 52.9	-5.1
SARO	**Sassorosso**	**4.27 301**	P	**Pg**	**05 42 06.6**	**+1.9**
TEOL	**Teolo**	**4.28 321**	P	**Pg**	**05 42 04.8**	**-0.3**
SELS	**Selova**	**4.32 73**	*e*Pn	**Pn**	**05 41 52.9**	**+3.9**
NDIM	**Novi di Modena**	**4.35 312**	S	**Sg**	**05 43 03.0**	**+0.2**
ROVR	**Rover Verones**	**4.78 320**	P	**Pg**	**05 42 12.7**	**-1.8**
MAGA	**Magasa**	**5.09 318**	P	**Pn**	**05 42 01.1**	**+1.4**
ABSI	**Aberstueckl**	**5.52 329**	P	**Pn**	**05 42 08.1**	**+2.4**

*IDC **20** 06:01:23.8±0.8, 52.°24N×160.°41E, h0km, mb3.8/18, mb1 4.0/19, mb1mx3.8/47, mbtmp3.8/19, ML3.4/1, MS3.4/11, Ms1 3.4/11, ms1mx3.2/35, Error ellipse: s-maj=22.5km s-min=13.3km az=172.0*

*KRSC **20** 06:01:24.5±10.0, 52.°11N×160.°69E, h41km±10km, ML4.6*

*MOS **20** 06:01:28.1±0.8, 52.°19N×160.°41E, h51km, mb4.4/10, Error ellipse: s-maj=8.3km s-min=4.4km az=101.3*

*NEIC **20** 06:01:28.3±0.3, 52.°10N×160.°31E, h35km, mb4.3/21, Error ellipse: s-maj=8.8km s-min=5.2km az=163.0*

ISC 20 06:01:24.8±1.6, 52.°09N±0.°04×160.°40E±0.°05, h12km±9km, n165, σ1§12/181, mb4.2/36, MS3.2/8, 2C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.04**	**347**	*e*P	**Pb**	**06 01 43.8**	**-0.9**
SPN				*e*S	**Sb**	**06 01 56.3**	**-2.0**
SPN	**Mys Shipunski**	**1.04**	**347**	PN	**Pb**	**06 01 43.8**	**-0.9**
SPN				S	**Sb**	**06 01 56.3**	**-2.0**
NLC	**Nalytchevo**	**1.26**	**330**	*e*P	**Pb**	**06 01 48.5**	**0.0**
NLC				*e*S	**Sg**	**06 02 06.5**	**+1.1**
NLC	**Nalytchevo**	**1.26**	**330**	PN	**Pb**	**06 01 48.5**	**0.0**
NLC				S	**Sg**	**06 02 06.5**	**+1.1**
DALK	**Dalny**	**1.38**	**314**	*e*P	**Pb**	**06 01 50.5**	**0.0**
DALK				*e*S	**Sg**	**06 02 08.7**	**-0.5**
DALK	**Dalny**	**1.38**	**314**	PN	**Pb**	**06 01 50.5**	**0.0**
DALK				S	**Sg**	**06 02 08.7**	**-0.5**
MTVR	**Mutnovka**	**1.42**	**287**	*e*P	**Pg**	**06 01 51.9**	**-0.2**
MTVR				*e*S	**Sg**	**06 02 11.2**	**+0.7**
MTVR	**Mutnovka**	**1.42**	**287**	PN	**Pg**	**06 01 51.9**	**-0.2**
MTVR				S	**Sg**	**06 02 11.2**	**+0.7**
PET	**Petropavlovsk**	**1.42**	**312**	*e*Pn	**Pb**	**06 01 50.8**	**-0.4**
PET				*e*Sn	**Sn**	**06 02 06.4**	**-2.7**
PET	**Petropavlovsk**	**1.42**	**312**	*e*PN	**Pb**	**06 01 50.9**	**-0.3**
PET				*e*S	**Sg**	**06 02 09.2**	**-1.3**
PET				pmax	pmax		
	comp=Z,774nm,0.7s						
PET				smax	smax		
	comp=N,2μm,0.7s						
PET				smax	smax		
	comp=E,2μm,0.9s						
PET				smax	smax		
	comp=E,3μm,0.8s						
KDTR	**Khodutka, Kamc**	**1.47**	**260**	*e*P	**Pg**	**06 01 52.8**	**-0.1**
KDTR				*e*S	**Sg**	**06 02 11.9**	**0.0**
KDTR	**Khodutka, Kamc**	**1.47**	**260**	PN	**Pg**	**06 01 52.8**	**-0.1**
KDTR				S	**Sg**	**06 02 11.9**	**0.0**
UGLR	**Uglovaya**	**1.48**	**320**	*e*P	**Pb**	**06 01 52.2**	**-0.1**
UGLR				*e*S	**Sg**	**06 02 13.0**	**+0.6**
UGLR	**Uglovaya**	**1.48**	**320**	PN	**Pb**	**06 01 52.2**	**-0.1**
UGLR				S	**Sg**	**06 02 13.0**	**+0.6**
GRL	**Gorelyy**	**1.50**	**289**	*e*P	**Pg**	**06 01 54.3**	**+0.6**
GRL	**Gorelyy**	**1.50**	**289**	PN	**Pg**	**06 01 54.3**	**+0.6**
SDLR	**Sedlovina**	**1.51**	**323**	*e*P	**Pb**	**06 01 52.3**	**-0.5**
SDLR	**Sedlovina**	**1.51**	**323**	PN	**Pb**	**06 01 52.3**	**-0.5**
SMAR	**Somma**	**1.53**	**321**	*e*P	**Pb**	**06 01 52.6**	**-0.6**
SMAR	**Somma**	**1.53**	**321**	PN	**Pb**	**06 01 52.6**	**-0.6**
AVH	**Avacha**	**1.55**	**320**	*e*P	**Pb**	**06 01 53.3**	**-0.3**
AVH				*e*S	**Sg**	**06 02 14.7**	**-0.1**
AVH	**Avacha**	**1.55**	**320**	PN	**Pb**	**06 01 53.3**	**-0.3**
AVH				S	**Sg**	**06 02 14.7**	**-0.1**
ASAK	**Asacha**	**1.56**	**282**	*e*P	**Pg**	**06 01 54.5**	**-0.4**
ASAK	**Asacha**	**1.56**	**282**	PN	**Pg**	**06 01 54.5**	**-0.4**
KRMR	**Karymshinskiy**	**1.57**	**299**	*e*P	**Pb**	**06 01 53.8**	**-0.1**
KRMR				*e*S	**Sg**	**06 02 15.8**	**+0.3**
KRMR	**Karymshinskiy**	**1.57**	**299**	PN	**Pb**	**06 01 53.8**	**-0.1**
KRMR				S	**Sg**	**06 02 15.8**	**+0.3**
KRER	**Koryakskii**	**1.58**	**321**	*e*P	**Pb**	**06 01 53.9**	**-0.2**
KRER	**Koryakskii**	**1.58**	**321**	PN	**Pb**	**06 01 53.9**	**-0.2**
KOK	**Koryaka**	**1.61**	**319**	*e*P	**Pb**	**06 01 54.2**	**-0.4**
KOK	**Koryaka**	**1.61**	**319**	PN	**Pb**	**06 01 54.2**	**-0.4**
KRX	**Arik**	**1.66**	**321**	*e*P	**Pb**	**06 01 54.7**	**-0.7**
KRX	**Arik**	**1.66**	**321**	PN	**Pb**	**06 01 54.7**	**-0.7**
PEA0B	**Petropavlovsk-**	**1.94**	**303**	*e*Pn	**Pb**	**06 01 59.1**	**-0.9**
PEA0B				*e*Sn	**Sb**	**06 02 24.0**	**-0.2**
PEA0B	**Petropavlovsk-**	**1.94**	**303**	*e*PN	**Pb**	**06 01 59.2**	**-0.9**
PEA0B				*e*		06 02 24.0	
PETK	**Petropavlovsk-**	**1.94**	**303**	*e*Pn	**Pb**	**06 01 58.9**	**-1.2**
PETK				*e*Sn	**Sn**	**06 02 20.4**	**-1.5**
PETK	**Petropavlovsk-**	**1.94**	**303**	Pn	**Pb**	**06 01 59.0**	**-1.1**
	comp=E,37nm,0.3s,baz=102,slow=18,SNR=344						
PETK				LR	LR	06 02 22.9	
	comp=E,148nm,20.1s,baz=55,slow=32						
PETK				Sn	**Sb**	**06 02 24.0**	**-0.3**
	comp=E,47nm,0.3s,baz=98,slow=18,SNR=14						
PEA1	**Petropavlovsk-**	**1.94**	**303**	*e*Pn	**Pb**	**06 01 59.0**	**-1.1**
PEA1				*e*Sn	**Sb**	**06 02 23.9**	**-0.4**
APC	**Apacha**	**2.15**	**294**	*e*P	**Pb**	**06 02 02.8**	**-0.9**
APC				*e*S	**Sb**	**06 02 30.8**	**+0.5**
APC	**Apacha**	**2.15**	**294**	PN	**Pb**	**06 02 02.8**	**-0.9**
APC				S	**Sb**	**06 02 30.8**	**+0.5**
MKZ	**Mys Kozlova**	**2.60**	**17**	*e*P	**Pn**	**06 02 05.0**	**-1.6**
MKZ	**Mys Kozlova**	**2.60**	**17**	PN	**Pn**	**06 02 05.0**	**-1.6**
SKR	**Severo-Kuril's**	**3.03**	**244**	*e*PN	**Pb**	**06 02 17.2**	**-1.5**
SKR				*e*S	**Sn**	**06 02 49.0**	**+0.3**
SKR				pmax	pmax		
	comp=Z,49nm,0.8s						
SKR				smax	smax		
	comp=E,377nm,0.6s						
SKR				smax	smax		
	comp=N,278nm,0.6s						
KZV	**Kizimen**	**3.03**	**359**	*e*P	**Pn**	**06 02 13.0**	**+0.2**
KZV				*e*S	**Sn**	**06 02 48.9**	**-0.1**
KZV	**Kizimen**	**3.03**	**359**	PN	**Pn**	**06 02 13.0**	**+0.2**
KZV				S	**Sn**	**06 02 48.9**	**-0.1**
TUMD	**Tumrok D**	**3.12**	**360**	*e*P	**Pn**	**06 02 14.6**	**+0.7**
TUMD				*e*S	**Sn**	**06 02 49.3**	**-1.8**
TUMR	**Tumrok**	**3.21**	**357**	*e*P	**Pn**	**06 02 15.7**	**+0.6**
TUMR	**Tumrok**	**3.21**	**357**	PN	**Pn**	**06 02 15.7**	**+0.6**
ALID	**Alaid**	**3.27**	**250**	*e*P	**Pb**	**06 02 19.7**	**-3.1**
ALID	**Alaid**	**3.27**	**250**	PN	**Pb**	**06 02 19.7**	**-3.1**
ESO	**Esso**	**3.97**	**346**	*e*P	**Pn**	**06 02 28.1**	**+2.5**
ESO	**Esso**	**3.97**	**346**	PN	**Pn**	**06 02 28.1**	**+2.5**
KOZ	**Kozyrevsk**	**3.99**	**356**	*e*P	**Pn**	**06 02 27.8**	**+2.0**
KOZ	**Kozyrevsk**	**3.99**	**356**	PN	**Pn**	**06 02 27.8**	**+2.0**
LGNR	**Loginova**	**4.01**	**2**	*e*P	**Pn**	**06 02 27.7**	**+1.4**
LGNR	**Loginova**	**4.01**	**2**	PN	**Pn**	**06 02 27.7**	**+1.4**
CIRR	**Tsirk**	**4.04**	**3**	P	**Pn**	**06 02 28.7**	**+2.1**
CIRR	**Tsirk**	**4.04**	**3**	PN	**Pn**	**06 02 28.7**	**+2.1**
KRSR	**Krestovskiy**	**4.14**	**1**	P	**Pn**	**06 02 29.7**	**+1.8**
KRSR	**Krestovskiy**	**4.14**	**1**	PN	**Pn**	**06 02 29.7**	**+1.8**
KBTR	**Krutoberegovo**	**4.37**	**18**	*e*P	**Pn**	**06 02 30.8**	**-0.1**
KBTR	**Krutoberegovo**	**4.37**	**18**	PN	**Pn**	**06 02 30.8**	**-0.1**
KBG	**Krutoberegovo**	**4.39**	**17**	P	**Pn**	**06 02 31.8**	**+0.6**
KBG	**Krutoberegovo**	**4.39**	**17**	PN	**Pn**	**06 02 31.8**	**+0.6**
BDR	**Baidarnaya**	**4.51**	**6**	P	**Pn**	**06 02 34.4**	**+1.4**
BDR	**Baidarnaya**	**4.51**	**6**	PN	**Pn**	**06 02 34.4**	**+1.4**
SMKR	**Semkarok**	**4.55**	**7**	*e*P	**Pn**	**06 02 35.4**	**+1.9**
SMKR	**Semkarok**	**4.55**	**7**	PN	**Pn**	**06 02 35.4**	**+1.9**
MA2	**Magadan**	**9.25**	**328**	LR	LR	06 07 48.6	
	comp=N,289nm,19.0s,baz=138,slow=42						
ASAJ	**Asahikawa**	**14.29**	**243**	LR	LR	06 11 17.9	
	comp=N,151nm,18.4s,baz=70,slow=41						
ERM	**Erimo**	**15.44**	**236**	*e*Pn	**Pn**	**06 05 03.3**	**+1.0**
	comp=N,17nm,0.9s						
ERM	**Erimo**	**15.44**	**236**	*e*P	**Pn**	**06 05 03.3**	**+1.0**
ERM				pmax	pmax		
	comp=Z,17nm,0.9s						
BILL	**Bilibino**	**16.25**	**8**	*e*P	**P**	**06 05 16.0**	**+0.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KLR	**Kul'dur**	**18.34**	**272**	P	**P**	**06 05 40.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=71,slow=10,SNR=6.8						
KLR				LR	LR	06 13 41.7	
	comp=Z,170nm,19.1s,baz=72,slow=40						
YAK	**Yakutsk**	**19.25**	**313**	*e*P	**P**	**06 05 46.2**	**-2.6**
YAK				pmax	pmax		
	comp=Z,141nm,0.9s						
YAK				pmax	pmax		
	comp=E,76nm,1.1s						
YAK				pmax	pmax		
	comp=N,37nm,1.0s						
USRK	**Ussuriysk Ar.**	**20.43**	**259**	LR	LR	06 13 43.5	
	comp=N,108nm,20.2s,baz=86,slow=36						
MJB9	**Matsu-Tunnel**	**22.09**	**234**	*e*P	**P**	**06 06 20.1**	**+0.5**
	comp=N,5.2nm,0.9s						
MAJO	**Matsushiro**	**22.09**	**234**	*e*P	**P**	**06 06 20.1**	**+0.4**
MAJO	**Matsushiro**	**22.09**	**234**	*e*P	**P**	**06 06 20.1**	**+0.4**
MJAR	**Matsushiro Arr**	**22.09**	**234**	P	**P**	**06 06 20.9**	**+1.2**
	comp=N,1.0nm,0.3s,baz=112,slow=16,SNR=2.7						
JHJ2	**Mitsune**	**24.12**	**226**	*e*P	**P**	**06 06 44.4**	**+4.0**
	comp=N,159nm,1.1s						
KSRS	**Korea Array**	**27.03**	**250**	LR	LR	06 18 56.8	
	comp=N,63nm,19.5s,baz=48,slow=39						
KS15	**Wonju Array Si**	**27.06**	**250**	*e*P	**P**	**06 07 05.7**	**-1.3**
	comp=N,15nm,0.9s						
KSAR	**Wonju Array Be**	**27.06**	**250**	*e*P	**P**	**06 07 05.5**	**-1.4**
KSAR	**Wonju Array Be**	**27.06**	**250**	*e*P	**P**	**06 07 05.6**	**-1.4**
JNU	**Nakatsue**	**28.53**	**240**	LR	LR	06 20 13.1	
	comp=N,57nm,18.4s,baz=13,slow=40						
ILAR	**Eielson Array**	**29.40**	**44**	P	**P**	**06 07 27.7**	**+0.1**
	comp=N,0.3nm,0.7s,baz=253,slow=9.3,SNR=3.3						
ILB	**Eielson Array**	**29.40**	**44**	*e*P	**P**	**06 07 27.2**	**-0.4**
	comp=N,1.6nm,0.9s						
BCAR	**Beaver Creek A**	**31.76**	**47**	*e*P	**P**	**06 07 49.1**	**+0.7**
BALM	**Baldy**	**31.80**	**51**	*e*P	**P**	**06 07 49.3**	**+0.3**
BALM	**Baldy**	**31.80**	**51**	*e*P	**P**	**06 07 49.3**	**+0.3**
CTGM	**Chitina Glacie**	**32.30**	**51**	*e*P	**P**	**06 07 55.1**	**+1.7**
	comp=N,3.3nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**32.69**	**169**	T	T	06 44 04.0	
	baz=352,slow=76,SNR=64						
H11N3	**WAKE ISLAND Hy**	**32.70**	**169**	T	T	06 43 51.8	
	baz=352,slow=76						
H11N1	**WAKE ISLAND Hy**	**32.71**	**169**	T

comp=Z,0.4nm,0.5s,baz=56,slow=6.8,SNR=7.8
MKAR LR LR 06 32 10.9
MAKZ Makanchi 48.93 297 *eP* **P 06 10 09.0 -1.6**
comp=Z,2.3nm,1.0s
MAKZ Makanchi 48.93 297 *eP* **P 06 10 09.0 -1.6**
MAKZ pmax pmax
comp=Z,2.0nm,1.0s
BRVK Borovoye 51.20 309 *eP* **P 06 10 26.5 -1.1**
comp=Z,3.9nm,0.8s
BRVK Borovoye 51.20 309 *eP* **P 06 10 26.5 -1.1**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
ARA0 ARCESS Array S 54.30 342 *eP* **P 06 10 49.2 -1.1**
ARCES ARCESS Array B 54.30 342 P **P 06 10 49.2 -1.1**
comp=Z,3.0nm,0.9s,baz=27,slow=8.1,SNR=4.4
AAK Ala-Archa 55.69 297 *eP* **P 06 11 00.8 -0.2**
comp=Z,1.3nm,0.8s
AAK Ala-Archa 55.69 297 *eP* **P 06 11 00.8 -0.2**
AAK pmax pmax
comp=Z,1.0nm,0.8s
NV01 Mina Array Sit 55.91 70 *eP* **P 06 11 04.0 +1.3**
NVAR Mina Array Bea 55.91 70 *eP* **P 06 11 04.7 +2.0**
NVAR Mina Array Bea 55.91 70 P **P 06 11 04.0 +1.3**
comp=Z,0.7nm,0.6s,baz=305,slow=7.1,SNR=4.8
ELK Elko 56.10 66 P **P 06 11 04.6 +0.6**
comp=Z,0.2nm,0.4s,baz=311,slow=20,SNR=1.9
PD31 Pinedale Array 57.85 60 *eP* **P 06 11 16.3 -0.1**
PDAR Pinedale Array 57.85 60 *eP* **P 06 11 17.2 +0.8**
PDAR Pinedale Array 57.85 60 P **P 06 11 16.8 +0.4**
comp=Z,0.6nm,0.7s,baz=304,slow=3.4,SNR=5.5
CM31 Chiang Mai Arr 58.16 259 *eP* **P 06 11 18.8 +0.3**
comp=Z,3.4nm,0.8s
CMAR Chiang Mai Arr 58.16 259 *eP* **P 06 11 18.5 -0.1**
CMAR Chiang Mai Arr 58.16 259 *eP* **P 06 11 18.5 -0.1**
CMAR Chiang Mai Arr 58.16 259 P **P 06 11 20.4 +1.8**
comp=Z,1.1nm,0.3s,baz=18,slow=7.5,SNR=5.3
CMAR LR LR 06 38 44.9
comp=Z,31nm,19.7s,baz=14,slow=38
ABKAR Akbulak array 58.59 311 *eP* **P 06 11 20.7 -0.4**
comp=Z,1.9nm,0.9s
FIA1 FINESS Array S 61.12 337 *eP* **P 06 11 38.3 0.0**
comp=Z,8.7nm,1.0s
FIA0 FINESS Array S 61.12 337 *eP* **P 06 11 38.1 -0.2**
FIA0 FINESS Array S 61.12 337 *eP* **P 06 11 38.1 -0.2**
FINES FINESS Array B 61.12 337 P **P 06 11 38.1 -0.2**
comp=Z,2.3nm,0.5s,baz=36,slow=7.3,SNR=13
FINES LR LR 06 41 47.7
comp=Z,43nm,19.2s,baz=218,slow=40
NB2 NORSAR Subarra 64.56 344 P **P 06 12 00.8 -0.5**
comp=Z,1.0nm,0.8s,baz=22,slow=6.9
NB200 NORSAR Array S 64.56 344 *eP* **P 06 12 01.0 -0.3**
NOA NORSAR Array B 64.56 344 P **P 06 12 01.0 -0.3**
comp=Z,1.3nm,0.8s,baz=21,slow=6.6,SNR=6.2
NOA LR LR 06 42 42.9
comp=Z,13nm,20.2s,baz=55,slow=38
NAO01 NORSAR Array S 64.80 344 *eP* **P 06 12 03.3 +0.4**
comp=Z,8.0nm,1.0s
AKASG Malin Array Be 69.57 329 *eP* **P 06 12 32.8 -0.5**
AKASG Malin Array Be 69.57 329 P **P 06 12 32.4 -0.8**
comp=Z,0.5nm,0.3s,baz=27,slow=6.1,SNR=4.8
AKBB Malin Array Si 69.57 329 *eP* **P 06 12 31.8 -1.4**
comp=Z,4.5nm,1.1s
AKBB Malin Array Si 69.57 329 *eP* **P 06 12 31.8 -1.4**
AKBB pmax pmax
comp=Z,5.0nm,1.1s
KIEV Kiev 69.58 329 *eP* **P 06 12 31.8 -1.5**
comp=Z,4.3nm,1.1s
KIEV Kiev 69.58 329 *eP* **P 06 12 31.8 -1.5**
KIEV pmax pmax
comp=Z,4.0nm,1.1s
KBZ Khabaz 70.40 317 *eP* **P 06 12 39.0 +0.6**
KBZ Khabaz 70.40 317 P **P 06 12 39.0 +0.6**
comp=Z,1.4nm,0.6s,baz=29,slow=4.2,SNR=4.0
TXAR Lajitas Array 70.86 67 *eP* **P 06 12 41.6 0.0**
TXAR Lajitas Array 70.86 67 P **P 06 12 41.8 +0.2**
comp=Z,0.5nm,0.8s,baz=295,slow=5.4,SNR=6.7
CLL Collm 73.36 339 *eP* **P 06 12 57.2 +1.1**
comp=Z,3.7nm,0.8s
CLL Collm 73.36 339 *eP* **P 06 12 57.2 +1.1**
CLL pmax pmax
comp=Z,4.0nm,0.8s
BURAR Bucovina Array 73.54 330 *eP* **P 06 12 57.0 -0.4**
MORC Moravsky Berou 73.72 336 *eP* **P 06 12 57.6 -0.6**
comp=Z,3.2nm,1.0s
MORC Moravsky Berou 73.72 336 *eP* **P 06 12 57.7 -0.6**
MORC pmax pmax
comp=Z,3.0nm,1.0s
GERES GERESS Array B 75.52 338 *eP* **P 06 13 08.9 +0.1**
GERES GERESS Array B 75.52 338 *eP* **P 06 13 08.9 +0.1**
GERES GERESS Array B 75.52 338 P **P 06 13 09.4 +0.6**
comp=Z,0.4nm,0.6s,baz=35,slow=7.5,SNR=3.2
BR101 Keskin Array S 77.52 321 *eP* **P 06 13 20.4 0.0**
BR131 Keskin Array S 77.52 321 *eP* **P 06 13 20.3 -0.1**
comp=Z,1.6nm,1.1s
BR131 Keskin Array S 77.52 321 *eP* **P 06 13 20.3 -0.1**
BR131 pmax pmax
comp=Z,2.0nm,1.1s
BRTR Keskin Array B 77.52 321 *eP* **P 06 13 19.6 -0.8**
BRTR Keskin Array B 77.52 321 *eP* **P 06 13 19.6 -0.8**
BRTR Keskin Array B 77.52 321 P **P 06 13 20.4 0.0**
comp=Z,0.6nm,0.9s,baz=354,slow=7.6,SNR=4.3
ASAR Alice Springs 78.92 205 P **P 06 13 29.6 +1.6**
comp=Z,0.6nm,0.9s,baz=13,slow=8.6,SNR=4.2

DJA 20 06:08:03.7±0.8, 10°S±7°×11°E±°, h10km, M4.0/5, MLv4.0/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.65**	**24**	P	Pg	06 08 35.8	+0.4
PLAI				S	Sn	06 08 52.6	-1.4
IGBI	**Denpasar**	**2.44**	**308**	P	Pn	06 08 44.6	+0.9
WSI	**Waingapu**	**3.23**	**78**	P	Pn	06 08 52.7	-1.8
JAGI	**Jajag, Banyuwa**	**3.44**	**302**	P	Pn	06 08 55.7	-1.8

MEX 20 06:12:06.8±0.4, 17°84N×94°53W, h60km±5km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.82**	**204**	*eP*	Pn	06 12 21.2	-1.4
CMIG				*eS*	Sn	06 12 32.4	-1.8
PCIG		**2.47**	**149**	*iP*	Pn	06 12 43.5	-1.2
PCIG				*iS*	Sn	06 13 11.2	-2.5
HUIG	**Huatulco**	**2.56**	**216**	*iP*	Pn	06 12 44.8	-1.2
HUIG				*iS*	Sn	06 13 14.2	-1.7
TPIG	**Tehuac#an**	**2.75**	**282**	*iP*	Pn	06 12 47.5	-1.2
TPIG				*eS*	Sn	06 13 18.7	-2.3
CCIG	**Comitan**	**2.77**	**124**	*eP*	Pn	06 12 47.7	-1.2
CCIG				*iS*	Sn	06 13 19.5	-1.7

*IDC **20** 06:15:09.7±0.7, 5°63S×78°42W, h0km, mb3.9/10, mb1 4.1/13, mb1mx3.9/33, mbtmp3.9/13, ML3.7/3, MS3.2/11, Ms1 3.2/11, ms1mx3.1/31, Error ellipse: s-maj=22.2km s-min=10.3km az=80.0*
*NEIC **20** 06:15:17.8±1.7, 5°71S×78°34W, h64km±7km, mb4.3/22, Error ellipse: s-maj=22.3km s-min=13.4km az=71.0*
ISC 20 06:15:14.9±0.5, 5°74S±0°05×78°24W±0°09, h35km, n86, σ1§76/66, mb4.3/25, MS3.0/5, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.40**	**186**	Pg	**Pn**	**06 15 38.5**	**+0.2**
	50nm,0.3s,baz=19,slow=5.8,SNR=224						
ATAH				Lg	Lg	06 15 57.6	
	88nm,0.3s,baz=154,slow=18,SNR=16						
OTAV	**Otavalo**	**5.94**	**358**	*ePn*	**Pn**	**06 16 43.6**	**+2.8**
OTAV	**Otavalo**	**5.94**	**358**	*eP*	**Pn**	**06 16 44.9**	**+4.1**
OTAV	**Otavalo**	**5.94**	**358**	*eP*	**Pn**	**06 16 44.9**	**+4.1**
NNA	**Nana**	**6.36**	**168**	*ePn*	**Pn**	**06 16 48.2**	**+1.9**
NNA				*eSn*	**Sn**	**06 17 57.0**	**-0.8**
NNA	**Nana**	**6.36**	**168**	Pn	**Pn**	**06 16 48.8**	**+2.5**
	3.3nm,0.3s,baz=328,slow=12,SNR=18						
NNA				Sn	**Sn**	**06 18 00.9**	**+3.1**
	8.3nm,0.3s,baz=165,slow=17,SNR=5.8						
NNA				Lg	Lg	06 18 34.8	
	9.0nm,0.3s,baz=61,slow=20,SNR=5.9						
NNA				LR	LR	06 18 54.3	
	comp=Z,104nm,20.8s,baz=316,slow=34						
PTLC	**Puerto Leguiza**	**6.80**	**30**	*eP*	**Pn**	**06 16 50.4**	**-1.8**
PTLC	**Puerto Leguiza**	**6.80**	**30**	*eP*	**Pn**	**06 16 50.4**	**-1.8**

GCUF	**Volcan Galeras**	**6.97**	**7**	*eP*	Pn	06 16 60.0	+4.9
GCUF	**Volcan Galeras**	**6.97**	**7**	*eP*	Pn	06 16 60.0	+4.9
FLOC	**Florencia**	**7.72**	**20**	*eP*	**Pn**	**06 17 06.1**	**+1.3**
FLOC	**Florencia**	**7.72**	**20**	*eP*	**Pn**	**06 17 06.1**	**+1.3**
BBAC	**Balboa, Cauca**	**7.77**	**7**	*eP*	Pn	06 17 14.3	+8.6
BBAC	**Balboa, Cauca**	**7.77**	**7**	*eP*	Pn	06 17 14.3	+8.6
SOTA	**Rioblanco**	**7.99**	**12**	*eP*	Pn	06 17 16.7	+7.7
SOTA	**Rioblanco**	**7.99**	**12**	*eP*	Pn	06 17 16.7	+7.7
PCON	**Cinco Dias**	**8.22**	**13**	*eP*	Pn	06 17 21.5	+9.2
PCON	**Cinco Dias**	**8.22**	**13**	*eP*	Pn	06 17 21.5	+9.2
POPC	**Popayan, Colom**	**8.37**	**11**	*eP*	**Pn**	**06 17 17.5**	**+3.5**
POPC	**Popayan, Colom**	**8.37**	**11**	*eP*	**Pn**	**06 17 17.5**	**+3.5**
MARP	**Paez Belalcaza**	**8.82**	**15**	*eP*	Pn	06 17 27.1	+6.8
MARP	**Paez Belalcaza**	**8.82**	**15**	*eP*	Pn	06 17 27.1	+6.8
YOTC	**Yotoco, Valle**	**9.84**	**11**	*eP*	Pn	06 17 41.4	+7.3
YOTC	**Yotoco, Valle**	**9.84**	**11**	*eP*	Pn	06 17 41.4	+7.3
GUVC	**San Jose del G**	**9.96**	**34**	*eP*	**Pn**	**06 17 39.8**	**+4.2**
GUVC	**San Jose del G**	**9.96**	**34**	*eP*	**Pn**	**06 17 39.8**	**+4.2**
PRAC	**Prado**	**9.97**	**20**	*eP*	Pn	06 17 43.8	+8.0
PRAC	**Prado**	**9.97**	**20**	*eP*	Pn	06 17 43.8	+8.0
VILC	**Villavicencio,**	**10.79**	**25**	*eP*	Pn	06 17 52.5	+5.5
VILC	**Villavicencio,**	**10.79**	**25**	*eP*	Pn	06 17 52.5	+5.5
ROSC	**El Rosal**	**11.21**	**21**	*ePn*	**Pn**	**06 17 55.5**	**+2.4**
ROSC	**El Rosal**	**11.21**	**21**	Pn	Pn	06 18 02.2	+9.0
	0.4nm,0.3s,baz=271,slow=18,SNR=3.7						
ROSC				LR	LR	06 23 26.1	
	comp=Z,144nm,19.3s,baz=182,slow=44						
CHIC	**Chingaza**	**11.24**	**24**	*eP*	Pn	06 18 02.3	+8.8
CHIC	**Chingaza**	**11.24**	**24**	*eP*	Pn	06 18 02.3	+8.8
RUSC	**La Rusia**	**12.65**	**24**	*eP*	**Pn**	**06 18 12.4**	**-0.4**
RUSC	**La Rusia**	**12.65**	**24**	*eP*	**Pn**	**06 18 12.4**	**-0.4**
LPAZ	**La Paz**	**14.43**	**137**	*ePn*	**Pn**	**06 18 37.7**	**+0.4**
LPAZ				*eSn*	**Sn**	**06 21 13.6**	**-2.8**
LPAZ	**La Paz**	**14.43**	**137**	Pn	**P**	**06 18 41.5**	**-2.3**
	0.0nm,0.3s,baz=82,slow=4.3,SNR=2.9						
SDV	**Santo Domingo**	**16.39**	**28**	Pn	**P**	**06 19 04.7**	**-0.3**
	0.5nm,0.3s,baz=99,slow=3.5,SNR=6.5						
SDV				LR	LR	06 27 03.7	
	comp=Z,136nm,19.3s,baz=248,slow=44						
JTS	**Las Juntas de**	**17.27**	**337**	LR			
	comp=Z,83nm,21.5s,baz=216,slow=35						
PTGA	**Pitinga**	**18.91**	**75**	*eP*	**Pn**	**06 19 35.7**	**+2.1**
	7.2nm,0.8s						
PTGA	**Pitinga**	**18.91**	**75**	P	**Pn**	**06 19 35.0**	**+1.5**
	0.3nm,0.3s,baz=275,slow=17,SNR=3.8						
PTGA				LR	LR	06 26 15.6	
	comp=Z,49nm,19.9s,baz=257,slow=35						
SIV	**San Ignacio**	**19.68**	**123**	P	**Pn**	**06 19 44.1**	**+1.2**
	0.1nm,0.3s,baz=249,slow=14,SNR=3.5						
SIV				LR	LR	06 28 02.3	
	comp=Z,109nm,19.9s,baz=320,slow=39						
APG	**El Apazote**	**23.90**	**330**	LR	LR	06 28 51.4	
	comp=Z,39nm,20.5s,baz=172,slow=35						
SJG	**San Juan**	**26.53**	**26**	P	**P**	**06 20 49.8**	**+0.4**
	5.6nm,0.8s,baz=220,slow=16,SNR=1.5						
SJG				LR	LR	06 33 07.7	
	comp=Z,36nm,18.1s,baz=258,slow=41						
MDP	**Montagnes des**	**27.74**	**68**	LR	LR	06 32 35.4	
	comp=Z,39nm,20.5s,baz=336,slow=38						
CMIG	**Matias Romero**	**28.02**	**324**	LR	LR	06 30 35.1	
	comp=Z,70nm,18.8s,baz=144,slow=33						
CPUP	**Villa Florida**	**28.60**	**138**	LR	LR	06 35 28.6	
	comp=Z,92nm,18.6s,baz=252,slow=42						
BDFB	**Brasilia**	**31.25**	**111**	P	**P**	**06 21 33.3**	**+1.6**
	2.1nm,0.7s,baz=200,slow=6.0,SNR=4.0						
GO06	**Curarrehue**	**34.25**	**171**	*eP*	**P**	**06 21 56.8**	**-0.9**
	6.5nm,1.2s						
PLCA	**Paso Flores**	**35.52**	**170**	*eP*	**P**	**06 22 09.1**	**+0.5**
	3.7nm,0.9s						
PLCA	**Paso Flores**	**35.52**	**170**	P	**P**	**06 22 09.0**	**+0.5**
	2.6nm,0.9s,baz=0.6,slow=9.9,SNR=8.2						
HPIG		**41.95**	**322**	*eP*	**P**	**06 23 03.7**	**+0.9**
	1.9nm,0.7s						
TXAR	**Lajitas Array**	**42.58**	**326**	P	**P**	**06 23 06.8**	**-1.0**
	0.1nm,0.6s,baz=156,slow=8.9,SNR=2.3						
TXAR				PcP	**PcP**	**06 25 00.3**	**+0.4**
	0.4nm,0.8s,baz=147,slow=2.5,SNR=3.6						
PBMO	**Poplar Bluff**	**43.80**	**346**	*eP*	**P**	**06 23 15.0**	**-2.4**
	9.5nm,0.8s						
ANMO	**Albuquerque**	**48.42**	**329**	*eP*	**P**	**06 23 53.6**	**-0.4**
	2.2nm,0.8s						
ANMO	**Albuquerque**	**48.42**	**329**	P	**P**	**06 23 52.9**	**-1.2**
	1.8nm,0.9s,baz=148,slow=11,SNR=8.3						
SDCO	**Great Sand Dun**	**50.16**	**332**	*eP*	**P**	**06 24 06.5**	**-0.9**
	3.8nm,1.3s						
WUAZ	**Wupatki**	**51.51**	**325**	*eP*	**P**	**06 24 17.6**	**0.0**
	7.6nm,1.2s						
ECSD	**EROS Data Cent**	**51.97**	**343**	*eP*	**P**	**06 24 19.2**	**-1.3**
	2.3nm,0.8s						
PV02	**Paradox Valley**	**52.10**	**330**	*eP*	**P**	**06 24 21.3**	**-0.6**
	8.2nm,1.3s						
LCMT	**Little Creek M**	**53.64**	**325**	*eP*	**P**	**06 24 34.3**	**+1.2**
	5.2nm,1.1s						
SPUT	**South Promonto**	**56.31**	**329**	*eP*	**P**	**06 24 52.2**	**-0.3**
	36nm,1.2s						
NV01	**Mina Array Sit**	**57.54**	**323**	*eP*	**P**	**06 25 00.5**	**-0.8**
NVAR	**Mina Array Bea**	**57.54**	**323**	*eP*	**P**	**06 25 01.4**	**0.0**
NVAR	**Mina Array Bea**	**57.54**	**323**	P	**P**	**06 25 00.5**	**-0.8**
	0.6nm,0.7s,baz=128,slow=7.9,SNR=4.3						
FCC	**Fort Churchill**	**65.54**	**351**	*eP*	**P**	**06 25 53.0**	**-1.5**
	6.0nm,1.4s						
YKA	**Yellowknife Ar**	**73.50**	**343**	P	**P**	**06 26 42.1**	**-1.5**
	0.5nm,0.8s,baz=142,slow=5.9,SNR=6.2						
YKB5	**Yellowknife Ar**	**73.50**	**343**	*eP*	**P**	**06 26 42.1**	**-1.5**
DBIC	**Dimbokro**	**74.27**	**81**	*eP*	**P**	**06 26 49.5**	**+0.3**
	13nm,1.4s						
DBIC	**Dimbokro**	**74.27**	**81**	P	**P**	**06 26 50.2**	**+1.0**
	3.2nm,0.7s,baz=247,slow=8.4,SNR=4.1						
SNAA	**Sanae**	**80.01**	**162**	*eP*	**P**	**06 27 20.8**	**+0.4**
TOA1	**Torodi Ar. Sit**	**81.55**	**76**	*eP*	**P**	**06 27 29.9**	**+0.3**
TOA0	**Torodi Ar. Sit**	**81.55**	**76**	*eP*	**P**	**06 27 30.1**	**+0.4**
	6.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**81.55**	**76**	P	**P**	**06 27 29.9**	**+0.3**
	1.1nm,0.6s,baz=280,slow=5.9,SNR=12						
DAWY	**Dawson**	**83.00**	**337**	*eP*	**P**	**06 27 36.0**	**-0.3**
	2.6nm,1.1s						
INK	**Inuvik**	**83.19**	**342**	*eP*	**P**	**06 27 36.4**	**-0.7**
	2.8nm,1.1s						
BCAR	**Beaver Creek A**	**83.48**	**336**	*eP*	**P**	**06 27 39.0**	**+0.1**
EGAK	**Eagle**	**84.01**	**337**	*eP*	**P**	**06 27 41.0**	**-0.4**
	4.1nm,0.8s						
QSPA	**South Pole Qui**	**84.36**	**180**	*eP*	**P**	**06 27 43.5**	**+0.2**
	6.4nm,1.4s						
ILAR	**Eielson Array**	**86.24**	**336**	P	**P**	**06 27 51.4**	**-1.2**
	0.4nm,0.8s,baz=116,slow=6.1,SNR=3.6						
ILB	**Eielson Array**	**86.24**	**336**	*eP**	**P**	**06 27 51.4**	**-1.2**
	5.2nm,1.5s						
AS31	**Alice Springs**	**137.13**	**226**	*ePKPdf*	**PKPdf**	**06 34 34.2**	**-1.1**
ASAR	**Alice Springs**	**137.13**	**226**	PKP	**PKPdf**	**06 34 34.2**	**-1.1**
	0.7nm,0.7s,baz=116,slow=2.3,SNR=6.9						
WR1	**Warramunga Arr**	**139.04**	**231**	*ePKPdf*	**PKPdf**	**06 34 37.7**	**-1.1**
WRA	**Warramunga Arr**	**139.04**	**231**	PKP	**PKPdf**	**06 34 37.7**	**-1.1**
	0.8nm,0.4s,baz=120,slow=2.4,SNR=8.7						

IDC 20 06:22:23.1±10.0, 24°73N×143°44E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/27, mbtmp3.4/3, Error ellipse: s-maj=383.7km s-min=30.3km az=72.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.27**	**192**	P	P	06 30 43.0	+0.4
	0.5nm,0.4s,baz=15,slow=7.7,SNR=21						
ASAR	**Alice Springs**	**48.98**	**192**	P	P	06 31 10.9	-0.8
	0.3nm,0.8s,baz=8,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**52.86**	**311**	P	P	06 31 40.7	0.0
	0.3nm,0.7s,baz=106,slow=8.4,SNR=3.0						

RSNC 20 06:36:32.1±1.0, 6°82N×73°14W, h150km±3km, ML3.1, Mw3.5, 2C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**191**	*iP*	Pn	06 36 52.3	-0.5
BARC				*eS*	Sn	06 37 07.8	-0.8
BARC				*i*		06 37 11.0	
	comp=Z,126nm,0.7s						
GIRC	**Giron, Santand**	**0.26**	**348**	*iP*	Pn	06 36 52.4	-0.4
GIRC				*eS*	Sn	06 37 08.0	-0.5
BRRC	**Barranca, Sant**	**0.64**	**297**	*eP*	Pn	06 36 54.2	0.0
BRRC				*eS*	Sn	06 37 11.7	+0.6
BRRC				*i*		06 37 14.8	
	comp=E,207nm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**40**	*iP*	Pn	06 36 55.1	0.0
PAMC				*i*		06 36 55.5	
	comp=Z,133nm,0.3s						
PAMC				*eS*	Sn	06 37 12.1	-0.3
RUSC	**La Rusia**	**0.92**	**177**	*iP*	Pn	06 36 56.1	-0.7
RUSC				*eS*	Sn	06 37 14.9	-0.8
RUSC				*i*		06 37 16.3	
	comp=E,175nm,0.2s						
CAPV	**Capacho**	**1.32**	**38**	*iP*	Pn	06 37 00.1	0.0
CAPV				*eS*	Sn	06 37 20.8	-0.7
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	*eP*	Pn	06 36 59.0	-1.1
PTBC				*eS*	Sn	06 37 20.1	-1.3
PTBC				*i*		06 37 27.7	
	comp=E,157nm,0.3s						
TAMC	**Tame, Arauca**	**1.39**	**106**	*iP*	Pn	06 37 00.5	-0.1
TAMC				*i*		06 37 00.6	
	comp=Z,136nm,0.3s						
TAMC				*eS*	Sn	06 37 22.2	-0.2
OCAC	**Ocana**	**1.42**	**353**	*eP*	Pn	06 37 00.5	-0.5
OCAC				*eS*	Sn	06 37 22.9	-0.3
OCAC				*i*		06 37 26.7	
	comp=N,338nm,0.4s						
YOPC	**Yopal, Colombi**	**1.62**	**154**	*eP*	Pn	06 37 02.7	-0.4
YOPC				*eS*	Sn	06 37 26.7	-0.2
YOPC				*i*		06 37 28.1	
	comp=E,191nm,0.8s						
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*eP*	Pn	06 37 05.1	-0.3
ZARC				*eS*	Sn	06 37 29.9	-0.9
ZARC				*i*		06 37 36.8	
	comp=N,149nm,0.4s						
NORC	**Norcasia**	**2.13**	**234**	*eP*	Pn	06 37 08.2	-0.6
NORC				*eS*	Sn	06 37 36.9	-0.1
NORC				*i*		06 37 40.0	
	comp=E,116nm,0.3s						
SMLC	**San Martn de**	**2.17**	**335**	*eP*	Pn	06 37 08.6	-0.7
SMLC				*eS*	Sn	06 37 37.1	-0.9
SMLC				*i*		06 37 44.7	
	comp=E,164nm,0.1s						
CHIC	**Chingaza**	**2.25**	**195**	*eP*	Pn	06 37 10.5	-0.2
CHIC				*eS*	Sn	06 37 40.0	-0.3
CHIC				*i*		06 37 43.5	
	comp=N,66nm,0.3s						
HELC	**Santa Helena**	**2.46**	**255**	*eP*	Pn	06 37 14.2	+1.2
HELC				*eS*	Sn	06 37 43.9	-0.6
HELC				*i*		06 37 50.9	
	comp=N,38nm,0.5s						
SOCV	**Socops**	**2.69**	**57**	*iP*	Pn	06 37 14.4	-1.2
SOCV				*eS*	Sn	06 37 46.4	-2.8
GUY2C	**Guyana, Caldas**	**2.72**	**235**	*eP*	Pn	06 37 16.4	-0.1
GUY2C				*eS*	Sn	06 37 51.1	+0.4
GUY2C				*i*		06 38 01.2	
	comp=N,65nm,0.7s						
VILC	**Villavicencio,**	**2.75**	**192**	*eP*	Pn	06 37 15.6	-0.8
VILC				*eS*	Sn	06 37 50.1	-0.6
VILC				*i*		06 37 57.0	
	comp=N,121nm,0.5s						
RREF	**El Recreo**	**2.91**	**229**	*eS*	Sn	06 37 56.9	+1.9
RREF				*i*		06 38 01.8	
	comp=Z,50nm,0.3s						
CODC	**Agustn Codazz**	**3.11**	**354**	*eP*	Pn	06 37 20.2	-0.7
CODC				*eS*	Sn	06 37 58.6	-0.1
CODC				*i*		06 38 03.1	
	comp=N,36nm,0.6s						
SDV	**Santo Domingo**	**3.22**	**50**	*eP*	Pn	06 37 21.4	-1.0
PRAC	**Prado**	**3.54**	**210**	*eP*	Pn	06 37 25.6	-0.9
PRAC				*eS*	Sn	06 38 08.6	-0.1
PRAC				*i*		06 38 13.7	
	comp=N,27nm,0.6s						
PLMC	**San Jos del P**	**3.66**	**239**	*eP*	Pn	06 37 28.1	+0.1
PLMC				*eS*	Sn	06 38 11.5	0.0

*IDC **20** 06:56:44.7±0.8, 52°30N×160°30E, h0km, mb3.8/20, mb1 4.0/23, mb1mx3.9/63, mbtmp3.8/23, ML3.7/3, MS3.6/6, Ms1 3.6/6, ms1mx3.2/40, Error ellipse: s-maj=19.4km s-min=12.7km az=161.0*
*KRSC **20** 06:56:44.4±10.0, 52°11N×160°67E, h42km±10km, ML4.6*
*MOS **20** 06:56:47.8±1.1, 52°21N×160°44E, h45km, mb4.8/8, Error ellipse: s-maj=8.0km s-min=4.5km az=104.3*
*ISCJB **20** 06:56:48.4±0.6, 52°21N±0°04×160°45E±0°06, h49km±5km, mb4.1/36, MS3.5/3, Error ellipse: s-maj=7.5km s-min=4.2km az=137.6*
*NEIC **20** 06:56:49.3±0.5, 52°31N×160°32E, h35km, mb4.0/15, Error ellipse: s-maj=11.7km s-min=6.5km az=169.0*
ISC 20 06:56:49.0±1.2, 52°29N±0°04×160°41E±0°04, h34km±3km, n157, σ1§44/182, mb4.2/36, MS3.5/3, 3C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.84**	**344**	*eP*	**Pn**	**06 57 03.5**	**-1.0**
SPN				*eS*	**Sn**	**06 57 15.8**	**+0.2**
SPN	**Mys Shipunski**	**0.84**	**344**	PN	**Pn**	**06 57 03.5**	**-1.0**
SPN				S	**Sn**	**06 57 15.8**	**+0.2**
NLC	**Nalytchevo**	**1.09**	**324**	*eP*	**Pn**	**06 57 07.9**	**0.0**
NLC	**Nalytchevo**	**1.09**	**324**	PN	**Pn**	**06 57 07.9**	**0.0**
DALK	**Dalny**	**1.25**	**307**	*eP*	**Pn**	**06 57 10.2**	**+0.1**
DALK				*eS*	**Sb**	**06 57 28.5**	**+0.6**
DALK	**Dalny**	**1.25**	**307**	PN	**Pn**	**06 57 10.2**	**+0.1**
DALK				S	**Sb**	**06 57 28.5**	**+0.6**
PET	**Petropavlovsk**	**1.30**	**305**	*ePn*	**Pn**	**06 57 09.7**	**-1.0**
PET				*eSn*	**Sn**	**06 57 22.0**	**-4.9**
PET	**Petropavlovsk**	**1.30**	**305**	*α iPN*	**Pn**	**06 57 10.8**	**+0.1**
PET				*eS*	**Sb**	**06 57 29.6**	**+0.4**
PET				pmax	pmax		
	comp=Z,700nm,1.4s						
PET				pmax	pmax		
	comp=Z,647nm,0.6s						
PET				smax	smax		
	comp=E,4μm,1.7s						
PET				sm

PETK Sn **Sb** **06 57 44.3 -0.5**
comp=N,40nm,0.3s,baz=100,slow=34,SNR=8.7
PEA1 Petropavlovsk- 1.84 298 *e*Pn **Pn** **06 57 18.8 +0.5**
PEA1 *e*Sn **Sb** **06 57 44.3 -0.6**
APC Apacha 2.08 289 *e*P **Pn** **06 57 23.1 +1.6**
APC *e*S **Sb** **06 57 51.3 -0.3**
APC Apacha 2.08 289 PN **Pn** **06 57 23.1 +1.6**
APC S **Sb** **06 57 51.3 -0.3**
PAU Pauzhetka 2.38 251 *e*P **Pn** **06 57 25.7 +0.1**
PAU Pauzhetka 2.38 251 PN **Pn** **06 57 25.7 +0.1**
MKZ Mys Kozlova 2.40 19 *e*P **Pn** **06 57 24.9 -1.0**
MKZ *e*S **Sn** **06 57 53.1 -1.0**
MKZ Mys Kozlova 2.40 19 PN **Pn** **06 57 24.9 -1.0**
MKZ S **Sn** **06 57 53.1 -1.0**
KZV Kizimen 2.83 359 *e*P **Pn** **06 57 34.0 +2.1**
KZV S **Sb** **06 58 09.5 -3.6**
KZV Kizimen 2.83 359 PN **Pn** **06 57 34.0 +2.1**
KZV S **Sb** **06 58 09.5 -3.6**
TUMD Tumrok D 2.92 360 *e*P **Pn** **06 57 34.6 +1.6**
TUMD *e*S **Sn** **06 58 10.9 +4.0**
TUMR Tumrok 3.00 357 *e*P **Pn** **06 57 35.8 +1.5**
TUMR Tumrok 3.00 357 PN **Pn** **06 57 35.8 +1.5**
SKR Severo-Kuril's 3.13 241 *e*P **Pn** **06 57 35.6 -0.3**
SKR *e*S **Sn** **06 58 11.3 -0.8**
SKR Severo-Kuril's 3.13 241 *e*PN **Pn** **06 57 35.7 -0.2**
SKR *e*S **Sn** **06 58 12.5 +0.4**
SKR pmax pmax
comp=Z,91nm,0.7s
SKR smax smax
comp=E,452nm,0.6s
SKR smax smax
comp=N,437nm,0.6s
ALID Alaid 3.35 247 *e*P **Pn** **06 57 39.1 0.0**
ALID Alaid 3.35 247 PN **Pn** **06 57 39.1 0.0**
ESO Esso 3.78 345 *e*P **Pn** **06 57 49.0 +4.2**
ESO Esso 3.78 345 PN **Pn** **06 57 49.0 +4.2**
KBTR Krutoberegovo 4.17 19 *e*P **Pn** **06 57 50.4 +0.2**
KBTR Krutoberegovo 4.17 19 PN **Pn** **06 57 50.4 +0.2**
BDR Baidarnaya 4.31 6 P **Pn** **06 57 55.1 +2.9**
BDR Baidarnaya 4.31 6 PN **Pn** **06 57 55.1 +2.9**
SMKR Semkarok 4.34 8 P **Pn** **06 57 55.0 +2.4**
SMKR Semkarok 4.34 8 PN **Pn** **06 57 55.0 +2.4**
SRKR Sorokina 4.39 5 P **Pn** **06 57 54.6 +1.3**
SRKR Sorokina 4.39 5 PN **Pn** **06 57 54.6 +1.3**
MA2 Magadan 9.08 327 LR LR 07 03 06.4
comp=N,421nm,18.6s,baz=146,slow=42
SEY Seymchan 11.49 341 Pn **Pn** **06 59 32.9 +2.4**
comp=N,0.1nm,0.3s,baz=343,slow=19,SNR=1.7
ASAJ Asahikawa 14.39 242 Pn **Pn** **07 00 10.4 +0.2**
comp=N,1.3nm,0.3s,baz=306,slow=18,SNR=2.8
ASAJ LR LR 07 06 31.0
comp=N,144nm,20.0s,baz=86,slow=41
BILL Bilibino 16.05 8 *e*Pn **Pn** **07 00 30.3 -1.6**
comp=N,8.8nm,1.0s
BILL Bilibino 16.05 8 *e*P **P** **07 00 33.5 -1.4**
BILL pmax pmax
comp=Z,8.0nm,1.1s
KLR Kul'dur 18.34 272 P **Pn** **07 01 01.1 +0.6**
comp=Z,0.2nm,0.3s,baz=63,slow=9.1,SNR=4.4
KLR LR LR 07 08 59.6
comp=Z,268nm,18.2s,baz=70,slow=40
YAK Yakutsk 19.12 313 *e*P **P** **07 01 06.0 -2.7**
YAK pmax pmax
comp=Z,117nm,1.0s
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,78nm,1.1s
USRK Ussuriysk Ar. 20.48 258 P **P** **07 01 23.0 -0.7**
comp=E,2.8nm,0.8s,baz=67,slow=11,SNR=3.3
MAJO Matsushiro 22.21 234 *e*P **P** **07 01 42.8 +0.3**
MAJO Matsushiro 22.21 234 *e*S **P** **07 01 42.8 +0.3**
MJAR Matsushiro Arr 22.21 234 P **P** **07 01 42.8 +0.3**
comp=E,1.3nm,0.3s,baz=18,slow=12,SNR=7.0
MJAR LR LR 07 11 02.5
comp=E,195nm,20.7s,baz=55,slow=39
TIXI Tiksi 23.89 336 *e*P **P** **07 01 57.3 -1.8**
TIXI Tiksi 23.89 336 *e*P **P** **07 01 57.3 -1.8**
IMAR Indian Mountai 26.47 41 *e*P **P** **07 02 22.0 -0.6**
BOD Bodaibo 26.71 300 *e*P **P** **07 02 23.1 -1.7**
KSRS Korea Array 27.11 250 LR LR 07 14 07.8
comp=E,111nm,18.9s,baz=42,slow=38
ILAR Eielson Array 29.25 44 *e*P **P** **07 02 46.2 -1.2**
ILAR Eielson Array 29.25 44 *e*P **P** **07 02 46.2 -1.2**
ILAR Eielson Array 29.25 44 P **P** **07 02 48.7 +1.3**
comp=E,0.3nm,0.7s,baz=253,slow=6.6,SNR=4.5
ILAR LR LR 07 16 22.4
comp=E,110nm,18.0s,baz=242,slow=40
ILB Eielson Array 29.25 44 *e*P **P** **07 02 47.3 -0.1**
comp=E,0.6nm,0.6s
BCAR Beaver Creek A 31.61 47 *e*P **P** **07 03 10.6 +2.2**
EGAK Eagle 31.70 44 *e*P **P** **07 03 07.6 -1.4**
comp=E,2.1nm,0.7s
H11N2 WAKE ISLAND Hy 32.89 169 T T 07 39 19.5
baz=352,slow=76,SNR=42
H11N3 WAKE ISLAND Hy 32.90 169 T T 07 39 15.4
baz=352,slow=76,SNR=32
H11N1 WAKE ISLAND Hy 32.91 169 T T 07 39 20.7
baz=352,slow=76,SNR=59
TLY Talaya 34.20 292 *e*P **P** **07 03 30.8 -0.2**
comp=E,3.6nm,1.1s
SONA0 Songino Array 34.28 285 *e*P **P** **07 03 33.4 +1.5**
SONM Songino Array 34.28 285 *e*P **P** **07 03 30.2 -1.7**
SONM Songino Array 34.28 285 *e*P **P** **07 03 30.2 -1.7**
SONM Songino Array 34.28 285 P **P** **07 03 33.4 +1.5**
comp=E,0.4nm,0.3s,baz=335,slow=21,SNR=2.6
INK Inuvik 34.39 37 *e*P **P** **07 03 33.4 +1.0**
comp=E,2.0nm,1.1s
INK Inuvik 34.39 37 *e*P **P** **07 03 33.4 +1.0**
INK pmax pmax
comp=Z,2.0nm,1.1s
INK Inuvik 34.39 37 P **P** **07 03 33.5 +1.0**
comp=Z,0.9nm,0.9s,baz=318,slow=7.3,SNR=3.2
ZAA0 Zalesovo Array 43.38 304 *e*P **P** **07 04 45.8 -2.0**
comp=Z,1.4nm,0.7s
ZALV Zalesovo Beam 43.38 304 *e*P **P** **07 04 45.4 -2.4**
ZALV Zalesovo Beam 43.38 304 *e*P **P** **07 04 45.4 -2.4**
YKA Yellowknife Ar 43.62 42 P **P** **07 04 50.0 +0.4**
YKA Yellowknife Ar 43.62 42 P **P** **07 04 50.0 +0.4**
comp=Z,0.4nm,0.8s,baz=290,slow=7.3,SNR=3.8
YKB5 Yellowknife Ar 43.62 42 *e*P **P** **07 04 50.0 +0.4**
NVS Novosibirsk 43.73 305 *e*P **P** **07 04 47.6 -3.0**
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.2s
RES Resolute Bay 44.00 22 *e*P **P** **07 04 53.0 +0.6**
comp=E,1.7nm,1.0s
RES Resolute Bay 44.00 22 *e*P **P** **07 04 53.0 +0.6**
RES pmax pmax
comp=Z,2.0nm,1.0s
RES Resolute Bay 44.00 22 P **P** **07 04 53.8 +1.3**
comp=Z,1.4nm,0.9s,baz=226,slow=1.8,SNR=4.7
KURK Kurchatov 48.33 303 *e*P **P** **07 05 24.9 -1.9**
comp=Z,8.1nm,1.1s
KURK Kurchatov 48.33 303 *e*P **P** **07 05 24.9 -1.9**
KURK pmax pmax
comp=Z,8.0nm,1.1s
KURBB Kurchatov Arra 48.43 303 P **P** **07 05 26.2 -1.3**
comp=Z,3.7nm,0.9s,baz=60,slow=7.7,SNR=15
MK31 Makanchi Array 48.68 296 *e*P **P** **07 05 28.2 -1.5**
comp=Z,1.2nm,0.8s
MK31 Makanchi Array 48.68 296 *e*P **P** **07 05 28.2 -1.5**
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MK32 Makanchi Array 48.68 296 *e*P **P** **07 05 28.4 -1.3**
MKAR Makanchi Array 48.68 296 *e*P **P** **07 05 27.2 -2.4**
MKAR Makanchi Array 48.68 296 P **P** **07 05 28.4 -1.3**
comp=Z,1.1nm,0.8s,baz=50,slow=8.0,SNR=6.2
MAKZ Makanchi 48.84 297 *e*P **P** **07 05 29.6 -1.3**
comp=Z,1.9nm,0.9s
MAKZ Makanchi 48.84 297 *e*P **P** **07 05 29.6 -1.3**
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 51.04 309 P **P** **07 05 45.9 -1.6**
comp=Z,2.7nm,0.6s,baz=41,slow=9.9,SNR=9.5
OTUK Ortayu 53.08 303 P **P** **07 06 00.3 -2.4**
OTUK pmax pmax
comp=Z,3.0nm,1.0s
DMPH Davao City--Mi 53.38 225⇑ *e*P P 07 05 58.2 -7.0
ARA0 ARCESS Array S 54.11 342 *e*P **P** **07 06 11.5 +1.6**
ARCES ARCESS Array B 54.11 342 *e*P **P** **07 06 10.1 +0.2**
ARCES ARCESS Array B 54.11 342 *e*P **P** **07 06 10.1 +0.2**
ARCES ARCESS Array B 54.11 342 P **P** **07 06 11.5 +1.6**
comp=Z,2.5nm,0.8s,baz=38,slow=8.0,SNR=4.3
NV01 Mina Array Sit 55.84 70 *e*P **P** **07 06 25.3 +2.2**
NVAR Mina Array Bea 55.84 70 P **P** **07 06 25.3 +2.2**
comp=Z,0.3nm,0.6s,baz=294,slow=6.8,SNR=3.2
MSF Maaselka 56.43 338 P **P** **07 06 26.4 -0.2**
MSF pmax pmax
comp=Z,12nm,1.1s
LAO LAŠA Array 56.80 55 *e*P **P** **07 06 31.1 +1.4**
comp=Z,22nm,0.8s
PD31 Pinedale Array 57.75 61 *e*P **P** **07 06 38.4 +1.8**
comp=Z,1.1nm,0.9s
PDAR Pinedale Array 57.75 61 *e*P **P** **07 06 36.9 +0.3**
PDAR Pinedale Array 57.75 61 P **P** **07 06 38.0 +1.4**
comp=Z,0.2nm,0.4s,baz=300,slow=1.8,SNR=3.1
CMAR Chiang Mai Arr 58.21 259 *e*P **P** **07 06 39.3 -0.6**
CMAR Chiang Mai Arr 58.21 259 *e*P **P** **07 06 39.3 -0.6**
CMAR Chiang Mai Arr 58.21 259 P **P** **07 06 40.5 +0.6**
comp=Z,1.0nm,0.3s,baz=30,slow=6.6,SNR=4.8
ABKAR Akbulak array 58.46 311 *e*P **P** **07 06 40.8 -0.4**
SUF Sumiainen 59.81 338 P **P** **07 06 50.6 +0.3**
SUF pmax pmax
comp=Z,12nm,1.2s
FIA0 FINESS Array S 60.93 337 *e*P **P** **07 06 58.1 +0.1**
FIA0 FINESS Array S 60.93 337 *e*P **P** **07 06 58.1 +0.1**
FINES FINESS Array B 60.93 337 P **P** **07 06 58.1 +0.1**
comp=Z,2.7nm,0.5s,baz=32,slow=6.1,SNR=12
NB2 NORSAR Subarra 64.37 344 P **P** **07 07 24.3 +3.3**
comp=Z,0.4nm,0.5s,baz=26,slow=6.5
NB200 NORSAR Array S 64.37 344 *e*P **P** **07 07 21.4 +0.4**
NOA NORSAR Array B 64.37 344 P **P** **07 07 21.4 +0.4**
comp=Z,0.8nm,0.7s,baz=21,slow=6.9,SNR=3.4
LPM Los Pinos Moun 65.38 65 *e*P **P** **07 07 28.1 0.0**
AKASG Malin Array Be 69.40 329 *e*P **P** **07 07 52.8 -0.3**
AKASG Malin Array Be 69.40 329 P **P** **07 07 52.6 -0.5**
comp=Z,0.7nm,0.3s,baz=30,slow=6.6,SNR=5.4
AKBB Malin Array Si 69.40 329 *e*P **P** **07 07 52.8 -0.3**
comp=Z,3.1nm,1.0s
KIEV Kiev 69.41 329 *e*P **P** **07 07 52.1 -1.0**
comp=Z,3.3nm,1.1s
KIEV Kiev 69.41 329 *e*P **P** **07 07 52.1 -1.0**
KIEV pmax pmax
comp=Z,3.0nm,1.1s
TX31 Lajitas Ar. Si 70.77 67 *e*P **P** **07 08 02.9 +0.9**
TXAR Lajitas Array 70.77 67 P **P** **07 08 02.8 +0.8**
comp=Z,0.2nm,0.5s,baz=328,slow=4.5,SNR=4.3
CLL Collm 73.17 339 *e*P **P** **07 08 20.0 +4.2**
CLL pmax pmax
comp=Z,3.0nm,0.6s
CLL Collm 73.17 339 *e*P **P** **07 08 17.0 +1.1**
BUR08 Bucovina Ar. S 73.34 330 *e*P **P** **07 08 17.6 +0.5**
comp=Z,2.7nm,1.1s
BURAR Bucovina Array 73.37 330 *e*P **P** **07 08 17.2 0.0**
GERES GERESS Array B 75.33 338 P **P** **07 08 29.3 +0.7**
comp=Z,0.5nm,0.6s,baz=29,slow=4.5,SNR=2.5
KBA Koelnbreinsper 77.07 338 P **P** **07 08 39.8 +1.2**
KBA pmax pmax
comp=Z,9.0nm,0.7s
AS31 Alice Springs 79.11 205 *e*P **P** **07 08 49.2 -0.6**
comp=Z,0.7nm,0.8s
ASAR Alice Springs 79.11 205 P **P** **07 08 50.5 +0.6**
comp=Z,0.2nm,0.2s,baz=21,slow=5.5,SNR=4.7

DSN ***20*** *07:02:24.3±2.1,26°.47N×58°.39E,h10km,mb5.0/1,ML4.8/5, Error ellipse: s-maj=44.1km s-min=6.6km az=120.0*
IDC ***20*** *07:02:26.7±0.6,26°.70N×57°.81E,h0km,mb4.2/34, mb1 4.3/38,mb1mx4.3/63,mbtmp4.3/38,ML3.5/3,MS3.7/24, Ms1 3.7/24,ms1mx3.5/54,Error ellipse: s-maj=13.2km s-min=11.2km az=144.0*
ISCJB ***20*** *07:02:26.7±0.1,26°.71N±0°.02×57°.85E±0°.02,h10km, mb4.5/146,MS3.7/26,Error ellipse: s-maj=3.0km s-min=2.3km az=1.2*
NEIC ***20*** *07:02:26.9±0.0,26°.70N×57°.46E,h15km,mb4.6/77, ML4.4(THR),MN4.7(TEH),After THR.*
TEH ***20*** *07:02:28.0,26°.72N×57°.76E,h8km,ML4.7*
MOS ***20*** *07:02:28.8±1.2,26°.70N×57°.86E,h24km,mb4.9/73,Error ellipse: s-maj=6.2km s-min=3.6km az=118.9*
OMAN ***20*** *07:02:31.2±0.9,26°.61N×58°.10E,h26km±30km,ml4.9/10, Error ellipse: s-maj=37.0km s-min=8.2km az=12.0*
ISC 20 07:02:27.9±0.3,26°.66N±0°.03×57°.77E±0°.03,h10km,n430,
σ1$95/405,mb4.7/157,MS3.7/26,22C-12D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.02**	**180**	*e*Pg	**Pn**	**07 02 49.1**	**+0.9**
NIAN	**Nian**	**1.22**	**317**	*e*Pg	**Pg**	**07 02 52.3**	**+0.9**
NIAN				IAMB	IAmb	07 03 17.1	
KHNJ	**Kahnooj**	**1.28**	**357**	*e*Pg	**Pn**	**07 02 51.3**	**-0.6**
KHNJ				*e*Sg	**Sb**	**07 03 09.1**	**+0.4**
SHME	**Shamm**	**1.59**	**248**	*e*Pn	**Pb**	**07 02 57.4**	**+0.1**
GENO	**Geno**	**1.61**	**298**	*e*Pn	**Pb**	**07 02 58.5**	**+0.8**
GENO				IAMB	IAmb	07 03 33.3	
BNDS	**Bandar-Abbas**	**1.61**	**298**	*e*Pg	Pn	07 02 51.7	-4.8
MSFE	**Esma-Masafi**	**1.95**	**229**	*e*Pn	**Pn**	**07 03 00.3**	**-0.8**
UMQ	**Umm Al-Quwin**	**2.21**	**240**	*e*Pn	**Pb**	**07 03 08.5**	**+0.6**
HATD	**Hatta, Dubai** SNR=70	**2.35**	**219**	*e*P	**Pn**	**07 03 05.3**	**-1.4**
HATD	**Hatta, Dubai** SNR=7.2	**2.35**	**219**	P	**Pn**	**07 03 05.7**	**-0.9**
HATD	**Hatta, Dubai**	**2.35**	**219**	*e*Pn	**Pn**	**07 03 07.9**	**+1.3**
ASHO	**Ashiyiah** SNR=32	**2.51**	**219**	*e*P	**Pn**	**07 03 08.5**	**-0.2**
ASHO				S	**Sb**	**07 03 42.7**	**-1.2**
ASHO	**Ashiyiah** SNR=32	**2.51**	**219**	P	**Pn**	**07 03 08.8**	**+0.1**
ASHO				S	**Sb**	**07 03 43.3**	**-0.6**
NAZ	**Nazwa, Dubai** SNR=113	**2.53**	**229**	*e*P	**Pn**	**07 03 10.8**	**+1.8**
NAZ	**Nazwa, Dubai**	**2.53**	**229**	*e*Pn	**Pn**	**07 03 11.4**	**+2.4**
CHBR	**Chabahar**	**2.66**	**113**	*e*Pn	**Pb**	**07 03 14.0**	**-1.5**
CHBR	**Chabahar**	**2.66**	**113**	*e*Pn	**Pb**	**07 03 14.8**	**-0.7**
FAQ	**Al Faqa, Dubai** SNR=188	**2.74**	**226**	*i* P	**Pn**	**07 03 13.7**	**+1.7**
FAQ	**Al Faqa, Dubai** SNR=29	**2.74**	**226**	P	**Pn**	**07 03 14.6**	**+2.6**
FAQ				S	**Sb**	**07 03 51.1**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.74**	**226**	*e*Pn	**Pn**	**07 03 14.4**	**+2.4**
SOHO	**SOHO** SNR=37	**2.76**	**204**	P	**Pn**	**07 03 10.8**	**-1.4**
ASUD	**Al Ashush, Dub** SNR=48	**3.00**	**228**	*i* P	**Pn**	**07 03 17.3**	**+1.8**
ASUD	**Al Ashush, Dub** SNR=48	**3.00**	**228**	P	**Pn**	**07 03 18.3**	**+2.8**
ASUD				S	**Sb**	**07 03 56.9**	**-1.1**
ASUD	**Al Ashush, Dub**	**3.00**	**228**	*e*Pn	**Pn**	**07 03 18.6**	**+3.1**
NGRK	**Negar Kerman**	**3.11**	**343**	*e*Pn	**Pn**	**07 03 20.1**	**+2.8**
NGRK				IAMB	IAmb	07 04 20.8	
BIDO	**Bidbid** SNR=6.9	**3.15**	**174**	P	**Pn**	**07 03 16.9**	**-0.6**
ALNE	**Al Ain**	**3.18**	**216**	*e*Pn	**Pn**	**07 03 20.0**	**+2.1**
CHMN	**Cheshme madani**	**3.19**	**356**	*e*Pn	**Pb**	**07 03 23.1**	**-1.8**
CHMN				IAMB	IAmb	07 04 24.1	
AJN	**Ajban**	**3.27**	**231**	*e*Pn	**Pn**	**07 03 22.0**	**+2.8**
TVBK	**TV Kerman**	**3.43**	**345**	*e*Pn	**Pn**	**07 03 25.6**	**+3.9**
TVBK				IAMB	IAmb	07 04 34.1	
WSAR	**Wadi Sarin**	**3.50**	**167**	Pn	**Pn**	**07 03 22.3**	**-0.1**
WSAR				Sn	**Sn**	**07 04 01.0**	**-2.8**
ARQ	**Araqi** SNR=5.1	**3.50**	**199**	P	**Pn**	**07 03 24.8**	**+2.4**
ARQ				S	**Sn**	**07 04 06.9**	**+2.9**
SMDO	**Samad**	**3.60**	**176**	P	**Pn**	**07 03 24.1**	**+0.3**
SMDO				S	**Sn**	**07 04 07.5**	**+1.1**
KHGB	**Koh Gabri**	**3.87**	**343**	*e*Pn	**Pn**	**07 03 31.4**	**+3.7**
KHGB				IAMB	IAmb	07 04 42.3	
SZD1	**Zahaedan-tmp**	**3.92**	**43**	*e*Pn	**Pb**	**07 03 34.7**	**-2.5**
BSY	**Bisya** SNR=28	**3.94**	**188**	P	**Pn**	**07 03 30.5**	**+2.1**
BSY				S	**Sn**	**07 04 17.8**	**+3.1**
ZHSF	**Zahedan**	**3.96**	**41**	*e*Pn	**Pn**	**07 03 31.0**	**+2.2**
ZHSF	**Zahedan**	**3.96**	**41**	*e*Pn	**Pn**	**07 03 31.9**	**+3.1**
JHRM	**Jahrom**	**4.15**	**297**	*e*Pn	**Pn**	**07 03 32.4**	**+1.0**
WBK	**Wadi Bani Khal** SNR=14	**4.18**	**165**	P	**Pn**	**07 03 32.2**	**+0.5**
WBK				S	**Sn**	**07 04 18.6**	**-2.1**
JLN	**Jalan Bani Buh**	**4.73**	**161**	P	**Pn**	**07 03 39.1**	**-0.2**
JLN				S	**Sn**	**07 04 30.1**	**-4.3**
IPAR	**Pars**	**5.24**	**308**	*e*Pn	**Pn**	**07 03 47.9**	**+1.4**
MZR	**Muzera**	**5.34**	**228**	*e*Pn	**Pn**	**07 03 48.7**	**+1.0**
IMEH	**Mehriz**	**5.46**	**330**	*e*Pn	**Pn**	**07 03 51.6**	**+2.0**
SHI	**Shiraz**	**5.51**	**304**	*e*Pn	**Pn**	**07 03 50.7**	**+0.5**
MHTO	**MHTO** SNR=36	**5.65**	**178**	P	**Pn**	**07 03 53.2**	**+1.3**
MHTO				S	**Sn**	**07 04 56.6**	**-0.4**
IKOO	**Kooshah**	**5.84**	**10**	*e*Pn	**Pn**	**07 03 57.0**	**+2.2**
IKAZ	**Kazeroun**	**6.09**	**302**	*e*Pn	**Pn**	**07 03 58.5**	**+0.3**
ISAD	**Sadrabad**	**6.33**	**327**	*e*Pn	**Pn**	**07 04 03.5**	**+1.9**
TPRV	**Parvadeh(Tabas**	**6.41**	**352**	*e*Pn	**Pn**	**07 04 05.5**	**+3.0**
IMON	**Monand**	**6.71**	**14**	*e*Pn	**Pn**	**07 04 10.9**	**+4.2**
KLNJ	**Kolanjah**	**6.94**	**310**	*e*Pn	**Pn**	**07 04 10.5**	**+0.6**
TKDS	**Koohdasht(Taba**	**6.95**	**355**	*e*Pn	**Pn**	**07 04 14.1**	**+4.2**
IRAM	**Ramesheh**	**6.96**	**319**	*e*Pn	**Pn**	**07 04 11.4**	**+1.2**
SHRT	**Shahrakht**	**7.29**	**17**	*e*Pn	**Pn**	**07 04 15.4**	**+0.9**
TNSJ	**Nastanj**	**7.34**	**352**	*e*Pn	**Pn**	**07 04 19.3**	**+4.0**
IGAR	**Gharneh**	**7.59**	**320**	*e*Pn	**Pn**	**07 04 19.7**	**+0.9**
IZEF	**Zefreh**	**7.81**	**324**	*e*Pn	**Pn**	**07 04 22.5**	**+0.7**
ZNGN	**Zangian**	**8.12**	**314**	*e*Pn	**Pn**	**07 04 27.5**	**+1.4**
ROKH	**ROKH**	**8.16**	**316**	*e*Pn	**Pn**	**07 04 27.1**	**+0.6**
JHBN	**Jahan bin**	**8.32**	**314**	*e*Pn	**Pn**	**07 04 29.4**	**+0.6**
IPIR	**Pirpir**	**8.47**	**317**	*e*Pn	**Pn**	**07 04 31.9**	**+0.9**
IKLH	**Kolahrood**	**8.53**	**322**	*e*Pn	**Pn**	**07 04 32.9**	**+1.1**
KHMZ	**Khomeyn**	**9.77**	**318**	*e*Pn	**Pn**	**07 04 47.0**	**-1.6**
KHMZ	**Khomeyn**	**9.77**	**318**	*e*Pn	**Pn**	**07 04 47.5**	**-1.1**
IMYA	**Miami**	**9.85**	**11**	*e*Pn	Pn	07 04 55.7	+6.0
IAKL	**Akhelmad**	**9.94**	**5**	*e*Pn	**Pn**	**07 04 54.7**	**+3.6**
IALA	**Alasht**	**10.30**	**337**	*e*Pn	**Pn**	**07 04 59.4**	**+3.4**
ISFR	**Sfrayin**	**10.36**	**1**	*e*Pn	**Pn**	**07 05 01.4**	**+4.6**
IKMR	**Kamar-syah**	**10.62**	**312**	*e*Pn	**Pn**	**07 04 59.9**	**-0.2**
IDOB	**Doab**	**10.92**	**313**	*e*Pn	**Pn**	**07 05 03.9**	**-0.5**
IRAZ	**Razeghan**	**11.00**	**324**	*e*Pn	**Pn**	**07 05 06.5**	**+0.9**
GEYT	**Alibeck**	**11.24**	**1**	*e*Pn	**Pn**	**07 05 09.1**	**+0.5**
GEYT	**Alibeck**	**11.24**	**1**	Pn	**Pn**	**07 05 08.4**	**-0.2**
GEYT	comp=Z,0.4nm,0.3s,baz=185,slow=9.6,SNR=2.3			Lg	Lg	07 08 17.6	
GEYT	comp=Z,1.1nm,0.3s,baz=193,slow=10,SNR=5.8			LR	LR	07 10 35.7	
GYA0B	comp=Z,208nm,20.1s,baz=190,slow=44 **ALIBECK ARRAY**	**11.24**	**1**	*e*Pn	**Pn**	**07 05 06.6**	**-2.0**
QABG	**Abgarm-Qazvin**	**11.42**	**324**	*e*Pn	**Pn**	**07 05 13.8**	**+2.6**
QALM	**Alamut, Qazvin**	**11.47**	**330**	*e*Pn	**Pn**	**07 05 15.4**	**+3.4**
IKOM	**Komasi**	**11.59**	**313**	*e*Pn	**Pn**	**07 05 13.0**	**-0.6**
KCHF	**Cheshme Sefid,**	**11.96**	**312**	*e*Pn	**Pn**	**07 05 17.2**	**-1.5**
IVIS	**Veis**	**12.24**	**312**	*e*Pn	**Pn**	**07 05 20.8**	**-1.6**
KBL	**Kabul**	**12.48**	**48**	*e*Pn	**Pn**	**07 05 29.3**	**+3.6**
KBL	**Kabul**	**12.48**	**48**	*e*P	**Pn**	**07 05 29.3**	**+3.6**
IDHR	**Dehrash**	**12.65**	**312**	*e*Pn	**Pn**	**07 05 26.2**	**-1.9**
NIL	**Nilore**	**15.08**	**59**	*e*Pn	**Pn**	**07 06 01.2**	**+0.2**
NIL	comp=Z,47nm,0.8s **Nilore**	**15.08**	**59**	*e*P	**Pn**	**07 06 01.3**	**+0.2**
NIL				pmax	pmax		
CHGR	comp=Z,47nm,0.8s **Chuyangaron**	**15.31**	**36**	*e*Pn	**Pn**	**07 06 03.1**	**-1.1**
GAR	comp=Z,26nm,0.9s **Garm**	**16.18**	**37**	*e*Pn	**Pn**	**07 06 14.7**	**-0.8**
GAR	comp=Z,16nm,0.7s **Garm**	**16.18**	**37**	*e*P	**Pn**	**07 06 14.7**	**-0.8**
GAR				pmax	pmax		
AKT	comp=Z,16nm,0.7s **Akhty**	**16.94**	**333**	*i* P	**P**	**07 06 28.5**	**+1.4**
GNI	**Garni**	**17.27**	**324**	*e*Pn	**Pn**	**07 06 24.1**	**-5.2**
GNI	comp=Z,17nm,0.7s **Garni**	**17.27**	**324**	*i* P	**Pn**	**07 06 29.5**	**+0.2**
GNI	**Garni**	**17.27**	**324**	P	**Pn**	**07 06 28.0**	**-1.4**
GNI	comp=Z,0.9nm,0.3s,baz=218,slow=19,SNR=2.6			LR	LR	07 14 24.6	
DAMY	comp=Z,317nm,20.9s,baz=121,slow=42 **Dhamar**	**17.35**	**229**	*e*Pn	**Pn**	**07 06 27.2**	**-3.3**
MAK	comp=Z,46nm,0.8s **Makhachkala**	**18.29**	**335**	*e*P	**Pn**	**07 06 41.4**	**-0.3**
MAK				*e*S	**Sn**	**07 10 03.3**	**-2.6**
MAK				pmax	pmax		
MAK	comp=Z,35nm,0.3s			MLR	MLR		
TBLG	comp=Z,175nm,18.0s **Delisi**	**18.46**	**328**	*e*Pn	**Pn**	**07 06 44.5**	**+0.6**
TBLG	comp=Z,9.8nm,0.7s **Delisi**	**18.46**	**328**	*e*P	**Pn**	**07 06 44.5**	**+0.6**
TBLG				pmax	pmax		
AKH	comp=Z,10.0nm,0.7s **Akhalkalaki**	**18.84**	**325**	*e*P	**P**	**07 06 46.6**	**-1.5**
AKH	comp=Z,21nm,1.1s **Akhalkalaki**	**18.84**	**325**	*e*P	**P**	**07 06 46.6**	**-1.5**
AKH				pmax	pmax		
ASF	comp=Z,21nm,1.1s **Jabal al Asfar**	**18.99**	**292**	*e*P	**P**	**07 06 49.0**	**-0.7**
ASF	**Jabal al Asfar**	**18.99**	**292**	P	**P**	**07 06 49.0**	**-0.7**
ASF	comp=Z,0.8nm,0.3s,baz=42,slow=11,SNR=8.4			S	Sn	07 10 08.6	-14
ARSB	comp=Z,0.1nm,0.3s,baz=48,slow=15,SNR=3.3 **Arslanbob**	**19.27**	**37**	*e*P	**P**	**07 06 51.8**	**-0.9**
KK31	comp=Z,13nm,0.6s **Karatay Array**	**19.41**	**29**	*e*P	**P**	**07 06 53.5**	**-0.6**
KK31	comp=Z,18nm,0.9s **Karatay Array**	**19.41**	**29**	*e*P	**P**	**07 06 53.6**	**-0.6**
KK31				pmax	pmax		
KKAR	comp=Z,18nm,0.9s **Karatay Array**	**19.41**	**29**	*e*P	**P**	**07 06 53.3**	**-0.8**
KKAR	**Karatay Array**	**19.41**	**29**	*e*P	**P**	**07 06 53.3**	**-0.8**
ZEI	**Tsey**	**19.67**	**328**	*e*P	**P**	**07 06 57.9**	**+0.7**
ZEI				pmax	pmax		
KSH	comp=Z,14nm,0.8s **Kashi**	**19.87**	**45**	P	**P**	**07 06 54.5**	**-4.9**
KSH				pP	sP	07 07 06.3	+2.2
KSH				PP	**PnPn**	**07 07 13.3**	**-1.6**
KSH				S	S	07 10 18.1	-25
KSH				SS	**Sn**	**07 10 45.3**	**+0.9**
EIL	**Elat**	**20.34**	**284**	P	**P**	**07 07 05.3**	**+0.9**
EIL	comp=Z,23nm,1.0s,baz=87,slow=5.1,SNR=12			LR	LR	07 16 34.8	
NCK	comp=Z,209nm,19.4s,baz=10.0,slow=42 **Nalchik**	**20.36**	**329**	*i* P	Pn	07 07 08.4	+1.8
NCK				pmax	pmax		
MMAI	comp=Z,21nm,0.9s **Mount Meron Ar**	**20.39**	**293**	P	Pn	07 07 06.8	-0.3
MMAI	comp=Z,9.8nm,0.6s,baz=102,slow=16,SNR=14			S	**S**	**07 10 44.4**	**-9.2**
MMAI	comp=Z,0.7nm,0.3s,baz=115,slow=26,SNR=2.2			LR	LR	07 16 33.0	
NEY	comp=Z,77nm,19.0s,baz=95,slow=42 **Neytrino**	**20.59**	**327**	*i* P	Pn	07 07 10.1	+0.7
NEY				pmax	pmax		
ATD	comp=Z,5.0nm,0.7s **Arta Tunnel**	**20.60**	**226**	P	Pn	07 07 09.

comp=Z,29nm,0.9s
KDJ Kajisay 22.16 41 *e*P **P 07 07 21.9 -2.2**
KDJ pmax pmax
comp=Z,29nm,0.9s
TARG Taragay, Kyrgy 22.29 43 *e*P **P 07 07 25.0 -0.7**
comp=Z,9.1nm,0.6s
CSS Mathiatis 22.52 297 *e*P **P 07 07 21.4 -6.5**
comp=Z,30nm,1.0s
ABKAR Akbulak array 22.62 4 *e*P **P 07 07 28.5 -0.2**
comp=Z,17nm,0.9s
AKTO Aktyubinsk 23.74 0 P **P 07 07 40.1 0.0**
comp=Z,13nm,0.6s,baz=175,slow=9.8,SNR=15
AKTO LR LR 07 17 43.3
comp=Z,266nm,21.8s,baz=170,slow=39
BR101 Keskin Array S 23.95 309 *e*P **P 07 07 43.1 +0.8**
BR131 Keskin Array S 23.95 309 *e*P **P 07 07 38.4 -4.0**
comp=Z,18nm,0.8s
BRTR Keskin Array B 23.95 309 *e*P P 07 07 35.5 -6.9
BRTR Keskin Array B 23.95 309 P **P 07 07 43.1 +0.8**
comp=Z,15nm,0.7s,baz=122,slow=12,SNR=82
BRTR LR LR 07 18 53.6
comp=Z,420nm,19.1s,baz=106,slow=41
SNOP Sinop 24.02 315 *e*P P 07 07 35.2 -7.6
comp=Z,24nm,0.8s
PDGK Podgornoye 24.24 41 P **P 07 07 45.7 +0.6**
PDGK pmax pmax
comp=Z,14nm,1.0s
OTUK Ortayu 24.37 24 P **P 07 07 47.1 +1.0**
OTUK pmax pmax
comp=Z,8.0nm,1.2s
ANN Anapa 24.39 323 *e*P **P 07 07 45.8 -0.4**
ANN *e**PP **sP 07 07 53.3 +2.2**
ANN *e*S **S 07 12 03.6 -2.1**
ANN pmax pmax
comp=Z,46nm,1.4s
ILGA Ilgaz 24.50 312 *e*P **P 07 07 43.4 -4.2**
comp=Z,11nm,0.8s
ANTO Ankara 24.60 309 *e*P **P 07 07 44.9 -3.4**
comp=Z,26nm,0.6s
ANTO Ankara 24.60 309⇑*i*P **P 07 07 51.4 +3.1**
ANTO Ankara 24.60 309 P **P 07 07 50.5 +2.2**
ANTO pmax pmax
comp=Z,26nm,0.6s
BR231 Keskin MP Arra 24.60 309 *e*P **P 07 07 43.1 -5.3**
comp=Z,25nm,0.9s
BZK Bozkurt 24.75 314⇑*i*P **P 07 07 53.5 +3.9**
ISP Isparta 25.51 303 *e*P **P 07 07 52.0 -4.6**
comp=Z,21nm,1.1s
ISP Isparta 25.51 303 P **P 07 07 58.1 +1.5**
ISP pmax pmax
comp=Z,18nm,0.8s
MDUB Mudurnu 25.96 309 *e*P **P 07 07 57.4 -3.3**
comp=Z,256nm,0.8s
SIM Simferopol' 26.32 320*ce*P **P 07 08 06.0 +2.2**
SIM pmax pmax
comp=Z,32nm,0.9s
MANT Manisa 27.18 303 *e*P **P 07 08 07.1 -4.8**
comp=Z,26nm,0.9s
VRH Novokhopyorsk 27.38 338 *e*P **P 07 08 13.9 +0.7**
VRH pmax pmax
comp=Z,20nm,1.6s
KARP Karpathos 27.58 296 *e*P **P 07 08 08.5 -6.8**
comp=Z,54nm,0.9s
MAKZ Makanchi 27.75 37 *e*P **P 07 08 15.2 -1.5**
comp=Z,5.5nm,1.0s
MK31 Makanchi Array 27.91 38 *e*P **P 07 08 15.2 -2.8**
comp=Z,2.8nm,0.9s
MK32 Makanchi Array 27.91 38 *e*P **P 07 08 18.9 +0.9**
MKAR Makanchi Array 27.91 38 *e*P **P 07 08 17.1 -0.9**
MKAR Makanchi Array 27.91 38 *i*P **P 07 08 19.6 +1.5**
MKAR Makanchi Array 27.91 38 P **P 07 08 18.9 +0.9**
comp=Z,0.5nm,0.6s,baz=227,slow=6.8,SNR=4.2
BVAR Borovoye Array 27.97 16 P **P 07 08 18.5 0.0**
comp=Z,2.0nm,0.6s,baz=196,slow=10.0,SNR=9.9
BRVK Borovoye 27.97 16 *e*P **P 07 08 15.8 -2.7**
comp=Z,3.4nm,0.8s
BRVK Borovoye 27.97 16 *i*P **P 07 08 21.0 +2.5**
BRVK pmax pmax
comp=Z,1.0nm,1.0s
VSR Storozhevoye 28.31 335 *e*P **P 07 08 21.7 +0.2**
VSR pmax pmax
comp=Z,7.0nm,0.6s
KURBB Kurchatov Arra 28.71 28 P **P 07 08 25.1 +0.1**
comp=Z,1.4nm,0.7s,baz=227,slow=8.4,SNR=10
KURK Kurchatov 28.82 28 *e*P **P 07 08 25.1 -0.9**
comp=Z,2.2nm,0.6s
KURK Kurchatov 28.82 28 *i*P **P 07 08 28.2 +2.2**
KURK pmax pmax
comp=Z,6.0nm,1.8s
PALK Pallekele 29.10 127 LR LR 07 19 12.8
comp=Z,147nm,21.9s,baz=297,slow=35
APE Apeiranthos 29.16 299⇓*i*P **P 07 08 30.3 +1.0**
APE Apeiranthos 29.16 299 *i*P **P 07 08 29.0 -0.3**
APE pmax pmax
comp=Z,7.0nm,0.8s
IDI Anoyia 29.37 295 P **P 07 08 32.1 +0.8**
comp=Z,12nm,0.9s,baz=117,slow=5.9,SNR=9.2
LPSR Galich'ya Gora 29.51 336 *e*P **P 07 08 33.9 +1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
WMQ Urumqi 29.61 47 *e*P **P 07 08 36.3 +3.0**
WMQ pP sP 07 08 43.1 +4.8
ARU Arti 29.75 1 LR LR 07 22 53.6
comp=Z,229nm,18.1s,baz=224,slow=41
VRI Vrincioaia 31.24 316⇑*i*P **P 07 08 49.7 +2.1**
VRI Vrincioaia 31.24 316 P P 07 08 52.6 +5.0
VRI pmax pmax
comp=Z,6.0nm,1.4s
PLOR Plostina 31.28 316⇓*i*P **P 07 08 49.8 +1.8**
PLOR Plostina 31.28 316 P **P 07 08 49.8 +1.8**
MLR Muntele Rosu 31.56 315 *e*P P 07 08 46.0 -4.6
comp=Z,8.3nm,1.0s
MLR Muntele Rosu 31.56 315⇑*i*P **P 07 08 52.5 +1.9**
MLR Muntele Rosu 31.56 315 P **P 07 08 50.7 +0.1**
MLR pmax pmax
comp=Z,7.0nm,0.8s
SRS Serrai 31.60 306 P **P 07 08 54.2 +3.4**
SRS pmax pmax
comp=Z,11nm,1.2s
SOH Sokhos 31.69 305 P **P 07 08 54.5 +2.8**
SOH pmax pmax
comp=Z,6.0nm,1.3s
ITM Ithomi 32.01 298 *e*P **P 07 08 50.6 -3.9**
comp=Z,12nm,1.0s
VOIR 32.11 314⇑*i*P **P 07 08 56.6 +1.2**
VOIR 32.11 314 P **P 07 08 56.6 +1.2**
BIZ Bicaz 32.12 317⇑*i*P **P 07 08 56.4 +1.1**
LIT Litokhoron 32.15 304 *e*P P 07 08 51.2 -4.5
comp=Z,5.7nm,0.9s
LIT Litokhoron 32.15 304 *e*P P 07 08 51.2 -4.5
LIT pmax pmax
comp=Z,6.0nm,0.9s
ARR Arges 32.35 314⇑*i*P **P 07 08 58.8 +1.4**
OBN Obninsk 32.37 337 *e*P **P 07 08 57.4 +0.1**
OBN *e* 07 10 05.5
OBN *e*PPP PPP 07 10 17.7
OBN pmax pmax
comp=Z,12nm,0.5s
OBN Obninsk 32.37 337 LR LR 07 24 51.0
comp=Z,31nm,19.6s,baz=192,slow=42
DGZ Jazzator, Alta 32.39 37 *i*P **P 07 08 59.4 +1.5**
DGZ pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 32.40 325 *e*P **P 07 08 54.6 -3.1**
AKASG Malin Array Be 32.40 325 P **P 07 08 57.5 -0.2**
comp=Z,9.2nm,0.8s,baz=124,slow=8.1,SNR=21
AKASG LR LR 07 24 56.4
comp=Z,148nm,21.8s,baz=125,slow=42
AKBB Malin Array Si 32.40 325 *e*P **P 07 08 54.0 -3.7**
comp=Z,16nm,0.8s
KIEV Kiev 32.40 325 *e*P **P 07 08 53.7 -4.0**
comp=Z,15nm,0.7s
KIEV Kiev 32.40 325⇓*i*P **P 07 08 58.2 +0.5**
KIEV Kiev 32.40 325 P **P 07 08 58.0 +0.2**
KIEV Kiev 32.40 325⇑*e*P **P 07 08 57.8 +0.1**
GRG Griva 32.43 305 P **P 07 08 59.9 +1.8**
BURAR Bucovina Array 32.97 318⇓*i*P **P 07 09 04.2 +1.3**
BURAR Bucovina Array 32.97 318 P **P 07 09 04.2 +1.3**
FNA Florina 33.14 304 *e*P **P 07 09 00.3 -4.0**
comp=Z,15nm,1.0s
FNA Florina 33.14 304 P **P 07 09 06.0 +1.6**
FNA pmax pmax
comp=Z,15nm,1.0s
GZR Gura Zlata 33.57 313⇑*i*P **P 07 09 08.9 +0.8**
GZR Gura Zlata 33.57 313 P **P 07 09 08.9 +0.8**

HERR Herculane 33.62 312⇓*i*P **P 07 09 08.9 +0.5**
NVS Novosibirsk 33.75 27⇓*i*P **P 07 09 10.1 +0.7**
NVS pmax pmax
comp=Z,14nm,1.2s
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.1s
ZAA0 Zalesovo Array 33.78 29 *e*P **P 07 09 09.8 0.0**
comp=E,6.4nm,0.7s
ZALV Zalesovo Beam 33.78 29 *e*P **P 07 09 08.3 -1.5**
ZALV Zalesovo Beam 33.78 29 *i*P **P 07 09 09.6 -0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 33.78 29 P **P 07 09 09.1 -0.6**
comp=Z,2.1nm,0.4s,baz=237,slow=11,SNR=8.9
ZAA1 Zalesovo Array 33.79 29 *e*P **P 07 09 09.1 -0.7**
KMBO Kilima Mbogo 33.98 219 P **P 07 09 13.1 +0.9**
comp=Z,3.6nm,0.9s,baz=44,slow=12,SNR=5.0
KMBO LR LR 07 23 21.0
comp=Z,102nm,20.8s,baz=86,slow=37
MDVR Moldovita 34.05 312⇑*i*P **P 07 09 13.3 +1.0**
DRGR 34.15 315⇑*i*P **P 07 09 14.2 +1.1**
DRGR 34.15 315 P **P 07 09 14.1 +1.0**
TIR Tirane 34.38 305 *e*P P 07 09 09.5 -5.6
comp=Z,30nm,0.6s
TIR Tirane 34.38 305 *e*P P 07 09 09.5 -5.6
TIR pmax pmax
comp=Z,30nm,0.6s
BZS Buzias 34.41 313⇑*i*P **P 07 09 16.2 +0.9**
BZS Buzias 34.41 313 P **P 07 09 16.1 +0.8**
SIRR Siria 34.62 314⇑*i*P **P 07 09 18.6 +1.5**
LTVH Ltavrtes, Hu 34.90 316 *e*P P 07 09 30.0 +11
KOLS Kolonicke sedl 35.32 319 *e*P **P 07 09 25.2 +2.1**
KOLS pmax pmax
comp=Z,21nm,0.9s
KOLS Kolonicke sedl 35.32 319 *e*P **P 07 09 25.2 +2.1**
KWP Kalwaria Pacla 35.38 320 *e*P P 07 09 18.9 -4.8
comp=Z,139nm,0.8s
KWP Kalwaria Pacla 35.38 320 *e*P P 07 09 18.9 -4.7
KWP pmax pmax
comp=Z,139nm,0.8s
PRGR Permogore 35.91 350 *e*P **P 07 09 25.8 -2.2**
KECS Kecovo 36.21 317 *e*P **P 07 09 32.1 +1.4**
KECS pmax pmax
comp=Z,56nm,1.4s
KECS Kecovo 36.21 317 *e*P **P 07 09 32.1 +1.4**
PSZ Piszkesteto 36.35 316 *e*P P 07 09 27.1 -5.0
comp=Z,9.2nm,1.0s
PSZ Piszkesteto 36.35 316⇑*i*P **P 07 09 33.0 +0.9**
PSZ Piszkesteto 36.35 316 *e*P P 07 09 27.1 -5.0
PSZ pmax pmax
comp=Z,9.0nm,1.0s
PSZ Piszkesteto 36.35 316⇑*e*P **P 07 09 33.0 +0.9**
KLMR Klimovskoe 36.37 345 *e*P **P 07 09 31.0 -0.9**
KLMR pmax pmax
comp=Z,11nm,1.5s
LANS Liptovska Anna 37.09 318 *e*P **P 07 09 39.8 +1.5**
LANS Liptovska Anna 37.09 318 *e*P **P 07 09 39.8 +1.5**
GTA Gaotai 37.15 59 P **P 07 09 41.3 +2.3**
GTA pP sP 07 09 47.1 +3.1
GTA sP pP 07 09 50.6 +8.0
GTA PcP PcP 07 11 32.8 -26
CSKK Cskako 37.19 314 *e*P P 07 09 28.0 -11
VYHS Vyhne 37.22 316 *e*P **P 07 09 40.9 +1.5**
VYHS pmax pmax
comp=Z,4.0nm,1.3s
VYHS Vyhne 37.22 316 *e*P **P 07 09 40.9 +1.5**
OJC Ojcow 37.33 319 *e*P **P 07 09 36.1 -4.2**
comp=Z,15nm,0.8s
OJC Ojcow 37.33 319 *e*P **P 07 09 36.1 -4.2**
OJC pmax pmax
comp=Z,15nm,0.8s
JAVC Velka Javorina 38.08 316 *e*P **P 07 09 46.8 +0.1**
MODS Modra-Piesok 38.15 315 *e*P **P 07 09 47.5 +0.2**
MODS pmax pmax
comp=Z,16nm,1.2s
MODS Modra-Piesok 38.15 315 *e*P **P 07 09 47.5 +0.2**
ZST Bratislava 38.20 315 *e*P **P 07 09 48.7 +1.0**
ZST Bratislava 38.20 315 *e*P **P 07 09 48.7 +1.0**
SOP Sopron 38.38 314 P **P 07 09 51.1 +1.9**
SOP pmax pmax
comp=Z,29nm,0.9s
SOP Sopron 38.38 314 *e*P **P 07 09 50.0 +0.8**
MORC Moravsky Berou 38.49 318 *e*P P 07 09 45.6 -4.6
comp=Z,4.1nm,0.8s
MORC Moravsky Berou 38.49 318⇓*i*P **P 07 09 50.5 +0.4**
MORC Moravsky Berou 38.49 318 *e*P P 07 09 45.6 -4.6
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 38.49 318 *e*P **P 07 09 49.7 -0.4**
VSU Vasula 38.49 334*ce*P **P 07 09 51.5 +1.6**
VSU pmax pmax
comp=Z,41nm,1.3s
BOJS Bojanci 38.63 310 *i*P **P 07 09 53.0 +1.6**
CMAR Chiang Mai Arr 38.75 93 LR LR 07 27 56.3
comp=Z,136nm,21.6s,baz=264,slow=40
VRAC Vranov 38.90 317 *e*P **P 07 09 53.6 +0.1**
CONA Conrad Observa 38.91 314 *e*pP **P 07 09 54.5 +0.8**
comp=Z,3.2nm,0.6s,SNR=5.8
ARSA Arzberg 38.92 313 *e*P **P 07 09 55.3 +1.5**
comp=Z,6.7nm,0.8s,SNR=8.1
KRUC Moravsky 38.94 316 *e*P **P 07 09 53.9 +0.1**
VISS Visnje 38.99 311 *i*P **P 07 09 56.7 +2.4**
PERS Pernice 39.02 312 *i*P P 07 10 00.2 +5.6
DPC Dobruska-Polom 39.43 318 *e*P **P 07 09 58.9 +0.9**
DPC Dobruska-Polom 39.43 318 *e*P **P 07 09 58.9 +0.9**
JAVS Javornik 39.54 311 *e*P **P 07 09 59.9 +0.8**
TREC Trest 39.58 316 *e*P **P 07 10 00.3 +1.1**
TREC Trest 39.58 316 *e*P **P 07 10 00.3 +1.1**
UPC Upice 39.67 318 *e*P **P 07 10 01.8 +1.8**
UPC Upice 39.67 318 *e*P **P 07 10 01.8 +1.8**
MOA Molln 39.91 314 *e*pP **P 07 10 03.1 +1.0**
comp=Z,11nm,0.7s,SNR=9.3
MYKA Terra Mystica 40.00 312 *e*pP **P 07 10 03.6 +0.8**
comp=Z,5.9nm,0.9s
LZH Lanzhou 40.13 65 *e*P **P 07 10 08.6 +4.4**
LZH pP sP 07 10 16.8 +7.6
LZH sP pP 07 10 20.4 +13
GOPC GO Pecny, Ondr 40.21 317 AMS AMS 07 30 20.0
comp=Z,100nm,23.3s
CD2 Chengdu 40.31 73 *e*P **P 07 10 05.3 -0.3**
KBA Koelnbreinsper 40.31 312 *e*pP **P 07 10 06.5 +1.0**
comp=Z,13nm,0.8s,SNR=7.1
KBA Koelnbreinsper 40.31 312 P **P 07 10 08.6 +3.1**
KBA pmax pmax
comp=Z,14nm,1.2s
KMI Kunming 40.32 82 P **P 07 10 07.4 +1.4**
PRU Pruhonice 40.38 317 *e*P **P 07 10 05.7 -0.2**
PRU MLR MLR
comp=Z,100nm,19.3s
PRU Pruhonice 40.38 317 *e*P **P 07 10 05.7 -0.2**
PRU AMS AMS 07 30 20.0
comp=Z,100nm,19.3s
GEC2 GERESS Array S 40.55 315 *e*P P 07 10 02.1 -5.4
comp=Z,6.3nm,0.8s
GEC2 *e*PcP **PcP 07 12 11.7 +2.0**
GEC2 GERESS Array S 40.55 315 *e*P P 07 10 02.1 -5.3
GEC2 pmax pmax
comp=Z,6.0nm,0.8s
GERES GERESS Array B 40.55 315 *e*P **P 07 10 03.9 -3.6**
GERES GERESS Array B 40.55 315 P **P 07 10 07.8 +0.3**
comp=Z,4.0nm,0.8s,baz=113,slow=8.8,SNR=19
GERES PcP **PcP 07 12 11.6 +2.0**
comp=Z,0.4nm,0.5s,baz=104,slow=3.2,SNR=2.1
GERES LR LR 07 30 47.9
comp=Z,98nm,18.5s,baz=102,slow=42
KHC Kasperske Hory 40.71 315 *e*P P 07 10 04.1 -4.6
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 40.71 315 *e*P **P 07 10 09.3 +0.6**
KHC MLR MLR
comp=Z,200nm,18.8s
KHC Kasperske Hory 40.71 315 *e*P **P 07 10 09.3 +0.6**
KHC AMS AMS 07 30 10.0
comp=Z,200nm,18.8s
FIA1 FINESS Array S 40.77 337 *e*P **P 07 10 07.5 -1.5**
comp=Z,6.3nm,0.7s
FIA0 FINESS Array S 40.77 337 *e*P **P 07 10 08.3 -0.6**
FINES FINESS Array B 40.77 337 *e*P **P 07 10 07.2 -1.7**
FINES FINESS Array B 40.77 337 *i*P **P 07 10 10.1 +1.2**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 40.77 337 P **P 07 10 08.3 -0.6**
comp=Z,4.7nm,0.6s,baz=130,slow=8.1,SNR=12

FINES LR LR 07 28 46.8
comp=Z,90nm,19.3s,baz=60,slow=39
ABTA Abfaltersbach 40.78 312 *e*pP **P 07 10 10.3 +0.9**
comp=Z,5.5nm,0.6s
BRG Berggiesshubel 41.03 318 *e*P **P 07 10 10.4 -0.8**
comp=Z,3.3nm,0.7s
BRG Berggiesshubel 41.03 318 *e*P **P 07 10 10.4 -0.8**
BRG pmax pmax
comp=Z,3.0nm,0.7s
WET Wettzell 41.16 315 P **P 07 10 14.0 +1.7**
WET pmax pmax
comp=Z,8.0nm,1.0s
WTTA Wattenberg 41.48 312 *e*pP **P 07 10 15.7 +0.5**
comp=Z,11nm,0.6s,SNR=13
WATA Walderalm 41.54 312 *e*P **P 07 10 16.9 +1.2**
comp=Z,4.4nm,0.6s,SNR=13
CLL Collm 41.74 318 *e*P **P 07 10 13.4 -3.6**
comp=Z,8.7nm,1.1s
CLL Collm 41.74 318⇓*i*P **P 07 10 18.1 +1.1**
CLL pmax pmax
comp=Z,15nm,1.4s
CLL Collm 41.74 318⇓*i*P **P 07 10 18.1 +1.1**
comp=Z,15nm,1.4s
CLL LmV 07 31 00.0
comp=Z,100nm,19.5s
NKC Novy Kostel 41.74 317 AMS AMS 07 29 20.0
comp=Z,200nm,23.3s
SQTA Sankt Quirin 41.76 312 *e*pP **P 07 10 17.7 +0.3**
comp=Z,16nm,0.5s,SNR=13
MOTA Moosalm 41.86 312 *i*pP **P 07 10 17.9 -0.3**
comp=Z,11nm,0.5s,SNR=16
FETA Feichten 42.04 312 *e*pP **P 07 10 20.3 +0.5**
comp=Z,8.2nm,0.6s,SNR=16
KEST Kesra 42.05 295 *e*P P 07 10 13.6 -6.3
comp=Z,5.5nm,0.9s
KEST Kesra 42.05 295 P **P 07 10 20.6 +0.7**
comp=Z,3.0nm,0.5s,baz=42,slow=1.3,SNR=5.1
KEST LR LR 07 31 10.3
comp=Z,89nm,19.1s,baz=301,slow=41
RETA Reutte 42.11 312 *i*pP **P 07 10 20.1 -0.1**
comp=Z,6.5nm,0.6s
FUORN Ofenpass-Fuorn 42.27 311 *e*P **P 07 10 18.0 -3.7**
comp=Z,6.5nm,0.7s
GRA1 Grafenberg Arr 42.35 316 *e*P **P 07 10 18.6 -3.4**
comp=Z,15nm,0.7s
GRF Grafenberg Arr 42.35 316 P **P 07 10 23.3 +1.2**
GRF pmax pmax
comp=Z,15nm,0.7s
GRFO Grafenberg 42.35 316 *e*P **P 07 10 18.6 -3.4**
comp=Z,14nm,0.7s
GRFO Grafenberg 42.35 316 P **P 07 10 22.7 +0.6**
GRFO pmax pmax
comp=Z,14nm,0.7s
PGF Pioggiola 42.56 305 *e*P **P 07 10 26.6 +2.6**
PGF pmax pmax
comp=Z,54nm,1.5s
DAVA Damuels 42.66 312 *e*pP **P 07 10 25.0 +0.2**
comp=Z,30nm,0.5s,SNR=17
TUE Stuetta 42.86 311 *e*P P 07 10 21.6 -4.9
comp=Z,8.3nm,0.9s
SONA0 Songino Array 43.25 48 *e*P **P 07 10 29.1 -0.5**
SONM Songino Array 43.25 48 *e*P **P 07 10 28.5 -1.0**
SONM Songino Array 43.25 48 P **P 07 10 29.1 -0.5**
comp=Z,2.0nm,0.8s,baz=281,slow=9.5,SNR=7.2
ULN Ulaanbaatar 43.69 48 *e*P **P 07 10 33.2 +0.1**
comp=Z,2.1nm,0.6s
ULN Ulaanbaatar 43.69 48*ce*P **P 07 10 32.3 -0.8**
ULN pmax pmax
comp=Z,1.0nm,0.9s
BFO Black Forest 43.89 313 *e*P P 07 10 30.0 -4.6
comp=Z,5.8nm,1.1s
TNS Taunus Mts 44.22 316 P **P 07 10 40.1 +2.9**
TNS pmax pmax
comp=Z,11nm,1.4s
SENIN Lac Senin/Sane 44.24 310 *e*P **P 07 10 37.2 -0.4**
comp=Z,7.5nm,0.9s
XAN Xi'an 44.37 68 P P 07 10 46.5 +7.9
XAN sP sP 07 10 58.9 +15
XAN Xi'an 44.37 68 *e*P **P 07 10 37.4 -1.3**
comp=Z,8.0nm,1.1s
MBDF Montbardon 44.40 308 *e*P **P 07 10 40.4 +1.5**
MBDF pmax pmax
comp=Z,9.0nm,0.8s
BNI Bardonecchia 44.50 308 *e*P **P 07 10 37.4 -2.3**
comp=Z,7.4nm,1.0s
BNI Bardonecchia 44.50 308 P **P 07 10 40.1 +0.4**
BNI pmax pmax
comp=Z,7.0nm,1.0s
LPG La Plagne 44.51 309 *e*P **P 07 10 40.3 +0.4**
LPG pmax pmax
comp=Z,10.0nm,1.0s
LPL La Plagne 44.52 309 *e*P **P 07 10 40.0 +0.1**
LPL pmax pmax
comp=Z,10.0nm,1.0s
CDF Champ du Feu 44.59 313 *e*P **P 07 10 39.5 -0.8**
CDF pmax pmax
comp=Z,12nm,1.4s
ECH Echery 44.64 313 *e*P **P 07 10 38.4 -2.2**
comp=Z,12nm,1.0s
ECH Echery 44.64 313 P **P 07 10 41.4 +0.8**
ECH pmax pmax
comp=Z,14nm,1.2s
HINF Hinteralfeld 44.77 312 *e*P **P 07 10 41.1 -0.6**
HINF pmax pmax
comp=Z,3.0nm,0.6s
HFS Hagfors 44.91 330 P **P 07 10 42.9 +0.4**
comp=Z,3.3nm,0.5s,baz=126,slow=10,SNR=16
CABF La Chapelle 45.11 310 *e*P **P 07 10 45.3 +0.9**
CABF pmax pmax
comp=Z,10.0nm,0.9s
HAU Haudompre 45.14 312 *e*P **P 07 10 44.4 -0.1**
HAU pmax pmax
comp=Z,6.0nm,0.6s
WLF Walferdange 45.55 314 *e*P **P 07 10 44.2 -3.5**
comp=Z,38nm,0.8s
WLF Walferdange 45.55 314 P **P 07 10 47.8 0.0**
WLF pmax pmax
comp=Z,38nm,0.8s
WLF Walferdange 45.55 314⇓P **P 07 10 48.5 +0.7**
comp=Z,7.6nm,0.9s
GSI Gunungsitoli 45.78 117 *e*P **P 07 10 50.6 +0.6**
comp=Z,6.9nm,0.7s
MEM Membach 45.83 316⇑P **P 07 10 52.4 +2.5**
PSI Prapat 46.00 114 LR LR 07 30 44.4
comp=Z,66nm,21.6s,baz=0.0,slow=37
SSB Saint Sauveur 46.03 308 *e*P **P 07 10 49.2 -2.4**
comp=Z,6.3nm,0.7s
SSB Saint Sauveur 46.03 308 P **P 07 10 52.0 +0.3**
SSB pmax pmax
comp=Z,6.0nm,0.7s
NRIK Noril'sk 46.14 14 P **P 07 10 52.1 0.0**
comp=Z,2.7nm,0.6s,baz=210,slow=7.4,SNR=7.0
HHC Hu-ho-hao-te 46.22 58 *e*P **P 07 10 55.5 +2.2**
BCLA Clavier 46.23 315⇓P **P 07 10 54.6 +1.6**
comp=Z,11nm,1.6s
NC405 NORSAR Array S 46.23 331 *e*P **P 07 10 50.4 -2.6**
comp=Z,14nm,0.8s
NB2 NORSAR Subarra 46.42 331 P **P 07 10 54.3 -0.1**
comp=Z,1.4nm,0.7s,baz=115,slow=8.6
NB200 NORSAR Array S 46.42 331 *e*P **P 07 10 54.4 -0.1**
NOA NORSAR Array B 46.42 331 P **P 07 10 54.4 -0.1**
comp=Z,2.3nm,0.8s,baz=116,slow=7.8,SNR=8.2
GIVF Givet 46.48 315 *e*P **P 07 10 56.2 +1.2**
GIVF pmax pmax
comp=Z,27nm,1.2s
DOU Dourbes 46.62 315 P **P 07 10 59.8 +3.6**
DOU pmax pmax
comp=Z,14nm,1.0s
DOU Dourbes 46.62 315⇑P **P 07 10 57.6 +1.5**
comp=Z,8.6nm,1.2s
SMF Signal de Mont 46.65 310 *e*P **P 07 10 56.3 -0.2**
SMF pmax pmax
comp=Z,16nm,0.7s
LOR Lormes 46.70 311 *e*P **P 07 10 57.1 +0.2**
LOR pmax pmax
comp=Z,7.0nm,0.8s
ARA0 ARCESS Array S 46.85 345 *e*P **P 07 10 57.7 0.0**
ARCES ARCESS Array B 46.85 345 P **P 07 10 57.7 0.0**
comp=Z,2.6nm,0.7s,baz=140,slow=8.7,SNR=9.1
BAIF Baives 46.86 315 *e*P **P 07 10 59.3 +1.3**
BAIF pmax pmax
comp=Z,24nm,1.1s
SNF Seneffe 46.89 315⇓P **P 07 10 59.9 +1.6**
comp=Z,10nm,1.2s
SSF Saint Saulge 46.92 311 *e*P **P 07 10 58.6 0.0**
SSF pmax pmax
comp=Z,36nm,1.3s

AVF	**Avril sur Loir**	**47.00**	**310**	*eP*	**P**	**07 10 58.9**	**-0.3**
AVF				pmax	pmax		
comp=Z,5.0nm,0.8s							
BGF	**Bois d'Agland**	**47.32**	**310**	*eP*	**P**	**07 11 04.8**	**+3.1**
BGF				pmax	pmax		
comp=Z,14nm,0.8s							
TAM	**Tamanrasset**	**47.35**	**277**	*eP*	P	07 10 57.7	-4.8
comp=Z,4.1nm,0.7s							
TAM	**Tamanrasset**	**47.35**	**277**	P	**P**	**07 11 03.5**	**+1.0**
TAM				pmax	pmax		
comp=Z,4.0nm,0.7s							
MTLF	**Montolieu**	**47.58**	**305**	*eP*	**P**	**07 11 04.7**	**+0.9**
MTLF				pmax	pmax		
comp=Z,8.0nm,1.0s							
TCF	**Toulx Ste Croi**	**47.74**	**309**	*eP*	**P**	**07 11 05.2**	**+0.2**
TCF				pmax	pmax		
comp=Z,15nm,1.2s							
CAF	**Calviac**	**47.76**	**308**	*eP*	**P**	**07 11 05.6**	**+0.4**
CAF				pmax	pmax		
comp=Z,9.0nm,1.0s							
WHN	**Wuhan**	**49.39**	**72**	*eP*	**P**	**07 11 20.8**	**+2.9**
LDF	**La Druitiere**	**49.49**	**312**	*eP*	**P**	**07 11 18.1**	**-0.3**
LDF				pmax	pmax		
comp=Z,10.0nm,0.8s							
ETSF	**Etsaut**	**49.61**	**305**	*eP*	**P**	**07 11 22.9**	**+3.4**
ETSF				pmax	pmax		
comp=Z,9.0nm,1.0s							
FLN	**La Foliniere**	**49.75**	**312**	*eP*	**P**	**07 11 20.6**	**+0.3**
FLN				pmax	pmax		
comp=Z,23nm,1.1s							
BOD	**Bodaibo**	**49.97**	**36**	*eP*	P	07 11 15.0	-6.9
BOD				pmax	pmax		
comp=Z,15nm,1.3s							
SJPF	**Ste Jean**	**50.10**	**305**	*eP*	**P**	**07 11 24.2**	**+1.0**
SJPF				pmax	pmax		
comp=Z,40nm,1.6s							
SGMF	**Saint Gilles**	**51.09**	**312**	*eP*	**P**	**07 11 31.2**	**+0.7**
SGMF				pmax	pmax		
comp=Z,12nm,0.8s							
QUIF	**Quistinic**	**51.49**	**311**	*eP*	**P**	**07 11 33.8**	**+0.3**
QUIF				pmax	pmax		
comp=Z,51nm,1.4s							
ROSF	**Rostrenen**	**51.58**	**312**	*eP*	**P**	**07 11 34.6**	**+0.4**
ROSF				pmax	pmax		
comp=Z,90nm,1.6s							
ESDC	**Sonseca Array**	**52.35**	**301**	*eP*	**P**	**07 11 36.2**	**-3.9**
ESDC	**Sonseca Array**	**52.35**	**301**	P	**P**	**07 11 40.4**	**+0.2**
comp=Z,1.0nm,0.5s,baz=79,slow=7.4,SNR=7.8							
NJ2	**Nanjing**	**52.90**	**69**	*eP*	**P**	**07 11 44.6**	**+0.3**
TOA0	**Torodi Ar. Sit**	**54.03**	**267**	*eP*	**P**	**07 11 53.2**	**+0.4**
comp=Z,7.1nm,0.8s							
TOA1	**Torodi Ar. Sit**	**54.03**	**267**	*eP*	**P**	**07 11 51.8**	**-1.0**
TORD	**Torodi Ar. Bea**	**54.03**	**267**	P	**P**	**07 11 51.8**	**-1.0**
comp=Z,1.0nm,0.5s,baz=58,slow=7.1,SNR=31							
TORD				LR	LR	07 38 45.1	
comp=Z,71nm,19.0s,baz=350,slow=40							
PBRG	**Braganca**	**54.25**	**304**	*eP*	**P**	**07 11 54.6**	**+0.5**
MVO	**Moncorvo**	**54.53**	**303**	*eP*	**P**	**07 11 57.3**	**+1.1**
SPA0	**Spitsbergen Ar**	**54.89**	**350**	*eP*	**P**	**07 11 57.2**	**-1.0**
comp=Z,15nm,1.0s							
SPITS	**Spitsbergen Ar**	**54.89**	**350**	P	**P**	**07 11 58.6**	**+0.4**
comp=Z,8.0nm,1.1s,baz=146,slow=18,SNR=5.3							
PMRV	**Marv??o**	**55.01**	**301**	*eP*	**P**	**07 12 01.6**	**+2.0**
EVO	**Evora**	**55.62**	**300**	*eP*	**P**	**07 12 04.3**	**+0.3**
ZEA	**Zeya**	**56.95**	**42**	*eP*	P	07 12 03.5	-10
TIXI	**Tiksi**	**58.99**	**20**	*eP*	**P**	**07 12 28.2**	**+1.0**
TIXI	**Tiksi**	**58.99**	**20**	*i P*	**P**	**07 12 29.8**	**+2.6**
TIXI				pmax	pmax		
comp=Z,1.0nm,0.9s							
KS15	**Wonju Array Si**	**59.17**	**61**	*eP*	**P**	**07 12 29.6**	**+0.5**
comp=Z,5.7nm,0.9s							
KSAR	**Wonju Array Be**	**59.17**	**61**	*eP*	**P**	**07 12 27.4**	**-1.6**
KSRS	**Korea Array**	**59.20**	**61**	P	**P**	**07 12 29.4**	**+0.2**
comp=Z,1.4nm,0.7s,baz=274,slow=6.9,SNR=6.1							
KLR	**Kul'dur**	**60.07**	**47**	P	**P**	**07 12 34.9**	**-0.2**
comp=Z,1.6nm,0.7s,baz=268,slow=12,SNR=6.4							
JNU	**Nakatsue**	**62.55**	**65**	*eP*	**P**	**07 12 51.7**	**-0.5**
comp=Z,16nm,1.1s							
DBIC	**Dimbokro**	**62.60**	**263**	*eP*	**P**	**07 12 50.0**	**-2.8**
DBIC	**Dimbokro**	**62.60**	**263**	*eP*	**P**	**07 12 50.0**	**-2.8**
DBIC	**Dimbokro**	**62.60**	**263**	P	**P**	**07 12 52.8**	**0.0**
comp=Z,5.6nm,0.9s,baz=57,slow=7.2,SNR=5.4							
BOSA	**Boshof**	**63.21**	**212**	P	**P**	**07 12 57.8**	**+1.2**
comp=Z,1.9nm,0.8s,baz=18,slow=3.2,SNR=3.0							
BOSA				LR	LR	07 41 16.0	
comp=Z,54nm,18.6s,baz=29,slow=37							
SUMG	**Summit**	**66.65**	**341**	*eP*	**P**	**07 13 16.1**	**-2.6**
comp=Z,10nm,1.0s							
SUMG	**Summit**	**66.65**	**341**	*eP*	**P**	**07 13 16.1**	**-2.6**
SUMG				pmax	pmax		
comp=Z,10.0nm,1.0s							
SUMG	**Summit**	**66.65**	**341**	*i P*	**P**	**07 13 19.9**	**+1.1**
SEY	**Seymchan**	**68.65**	**29**	*ceP*	**P**	**07 13 31.4**	**+0.4**
MA2	**Magadan**	**68.87**	**33**	*i P*	**P**	**07 13 31.8**	**-0.7**
MA2				pmax	pmax		
comp=Z,6.0nm,1.0s							
MA2	**Magadan**	**68.87**	**33**	LR	LR	07 48 15.1	
comp=Z,75nm,18.6s,baz=250,slow=40							
BILL	**Bilibino**	**72.14**	**22**	*eP*	**P**	**07 13 51.9**	**-0.4**
BILL				*e*		07 14 11.8	
BILL				*e*		07 16 35.6	
BILL				*e*PPP	PPP	07 18 12.9	
BILL				pmax	pmax		
comp=Z,3.0nm,1.0s							
PETK	**Petropavlovsk-**	**74.75**	**38**	LR	LR	07 48 17.5	
comp=Z,83nm,21.3s,baz=359,slow=37							
TOLK	**Toolik Lake Re**	**82.87**	**10**	*eP*	**P**	**07 14 53.8**	**+1.5**
comp=Z,5.5nm,0.8s							
IMAR	**Indian Mountai**	**84.55**	**12**	*eP*	**P**	**07 14 59.4**	**-1.5**
MLY	**Manley**	**85.97**	**12**	*eP*	**P**	**07 15 07.3**	**-0.8**
comp=Z,2.3nm,1.0s							
MDM	**Murphy Dome**	**86.47**	**11**	*eP*	**P**	**07 15 09.5**	**-1.1**
comp=Z,3.9nm,1.0s							
BPAW	**Bear Paw Mtn.**	**86.76**	**12**	*eP*	**P**	**07 15 12.7**	**+0.7**
comp=Z,3.4nm,0.8s							
ILAR	**Eielson Array**	**86.86**	**10**	P	**P**	**07 15 12.0**	**-0.5**
ILAR	**Eielson Array**	**86.86**	**10**	P	**P**	**07 15 11.9**	**-0.5**
comp=Z,0.5nm,0.7s,baz=317,slow=3.0,SNR=7.7							
CAST	**Castle Rocks**	**87.16**	**13**	*eP*	P	07 15 09.5	-4.5
comp=Z,6.9nm,0.9s							
WR1	**Warramunga Arr**	**87.46**	**114**	*eP*	**P**	**07 15 16.8**	**+0.7**
WRA	**Warramunga Arr**	**87.46**	**114**	P	**P**	**07 15 16.8**	**+0.7**
comp=Z,1.0nm,0.8s,baz=296,slow=3.4,SNR=5.7							
AS31	**Alice Springs**	**88.94**	**117**	*eP*	**P**	**07 15 22.6**	**-0.5**
comp=Z,1.1nm,1.1s							
ASAR	**Alice Springs**	**88.94**	**117**	P	**P**	**07 15 23.2**	**+0.2**
comp=Z,0.3nm,0.5s,baz=307,slow=5.2,SNR=5.4							
YKA	**Yellowknife Ar**	**90.94**	**356**	P	**P**	**07 15 31.5**	**-0.3**
comp=Z,0.2nm,0.6s,baz=0.7,slow=5.3,SNR=2.7							
YKB5	**Yellowknife Ar**	**90.94**	**356**	*eP*	**P**	**07 15 31.5**	**-0.3**
KDAK	**Kodiak Island**	**92.11**	**16**	*i P*	**P**	**07 15 36.7**	**-0.5**
STKA	**Stephens Creek**	**98.78**	**121**	LR	LR	07 57 00.6	
comp=Z,72nm,21.6s,baz=16,slow=33							
ULM	**Lac du Bonnet**	**99.94**	**343**	LR	LR	08 06 54.7	
comp=Z,49nm,18.2s,baz=72,slow=39							
TXAR	**Lajitas Array**	**121.55**	**341**	PKP	**PKiKP**	**07 21 23.6**	**+1.1**
comp=Z,0.2nm,0.8s,baz=90,slow=0.9,SNR=3.0							

DDA 20 07:07:00.9, 40.78N×31.91E, h7km±2km, ML2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCAM	**Yenicaga**	**0.12**	**72**	*i P*	Pg	07 07 05.0	+1.4
BCAM				*i S*	Sg	07 07 07.0	+1.5
KIBS	**BOLU**	**0.36**	**187**	IAML_P			
comp=Z,747nm,0.2s							
KIBS				*i P*	Pb	07 07 09.5	-0.3
KIBS				*i S*	Sg	07 07 14.2	+1.4
YIGI	**Dzce**	**0.40**	**298**	IAML_P			
comp=Z,377nm,0.1s							
YIGI				*i P*	Pb	07 07 09.7	-0.6
YIGI				*i S*	Sb	07 07 15.5	-1.1

MEX 20 07:07:28.8±1.0, 18.65N×104.54W, h17km±999km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.97**	**331**	*eP*	Pb	07 07 43.9	-3.2
CJM				*eS*	Sb	07 07 55.2	-4.4
MMIG	**Aquila**	**1.19**	**107**	*i P*	Pn	07 07 47.4	-3.4
MMIG				*i S*	Sb	07 08 01.5	-4.7
EZ5V		**1.21**	**47**	*i P*	Pn	07 07 47.0	-4.3
EZ5V				*eS*	Sb	07 08 02.4	-4.6
ANIG	**Ahuacatlan**	**2.39**	**1**	*eP*	Pn	07 08 03.6	-3.7
ANIG				*i S*	Sn	07 08 33.0	-3.4

IDC 20 07:09:25.7±3.1, 7.31S×146.18E, h170km±27km, mb2.9/3, mb1 3.1/5, mb1mx2.9/38, mbtmp3.4/5, Error ellipse: s-maj=49.6km s-min=16.5km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.30**	**155**	P	Pn	07 10 06.6	+1.2
15nm,0.3s,baz=329,slow=18,SNR=19							
PMG				S	Sn	07 10 36.2	-0.1
2.8nm,0.3s,baz=345,slow=19,SNR=3.7							
WRA	**Warramunga Arr**	**17.02**	**221**	P	P	07 13 12.3	-0.6
0.1nm,0.3s,baz=47,slow=11,SNR=6.7							
WRA				S	Sn	07 16 29.6	+4.9
0.1nm,0.3s,baz=40,slow=18,SNR=3.5							
ASAR	**Alice Springs**	**20.09**	**215**	P	P	07 13 46.3	+0.1
0.3nm,0.4s,baz=50,slow=9.0,SNR=4.5							
ASAR				S	S	07 17 23.2	+0.6
0.8nm,0.5s,baz=30,slow=17,SNR=6.4							
VNDA	**Vanda**	**70.66**	**176**	P	P	07 20 23.0	+0.7
0.3nm,0.7s,baz=346,slow=4.5,SNR=3.7							
ILAR	**Eielson Array**	**87.00**	**23**	P	P	07 21 50.9	-0.5
0.4nm,0.7s,baz=232,slow=5.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**144.60**	**282**	PKP	PKPbc	07 28 42.4	+0.2
0.8nm,0.9s,baz=69,slow=4.1,SNR=4.0							

BJI ***20*** *07:26:46.2±0.0, 5.39N×127.32E, h121km, mb5.1/47, mB4.9/27*
MOS ***20*** *07:26:49.0±1.0, 5.89N×127.07E, h105km, mb5.2/51, Error ellipse: s-maj=9.3km s-min=5.3km az=118.7*
ISCJB ***20*** *07:26:50.7±0.3, 5.87N±0.02×127.01E±0.03, h119km±2km, mb5.0/173, Error ellipse: s-maj=4.8km s-min=3.0km az=167.7*
MAN ***20*** *07:26:50.5, 5.81N×127.02E, h97km, ML5.0, MS4.7*
IDC ***20*** *07:26:52.0±1.0, 5.93N×127.15E, h118km±8km, mb4.4/36, mb1 4.5/36, mb1mx4.5/43, mbtmp4.8/36, MS3.3/4, Ms1 3.4/4, ms1mx2.9/28, Error ellipse: s-maj=12.2km s-min=7.8km az=78.0*
DJA ***20*** *07:26:52.4±0.5, 6.7N±3.3×12.7E±., h113km±4km, M4.9/22, mB5.2/10, mb5.0/22, MLv5.3/6, Mw(mB)4.5/10*
NEIC ***20*** *07:26:52.5±1.6, 5.88N×126.98E, h119km±4km, mb4.9/131, Error ellipse: s-maj=13.7km s-min=4.2km az=62.0*
NEIC Felt [II PIVS] at Davao.
KLM ***20*** *07:26:54.0, 5.71N×127.03E, h96km, mb5.0*
ISC 20 07:26:51.2±0.5, 5.91N±0.03×127.09E±0.04, h111km±4km, n458, σ19.36/502, mb5.0/171, 55C-11D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.32**	**321**	*eP*	**Pn**	**07 27 15.3**	**-0.8**
MATI				*eS*	**Sn**	**07 27 33.1**	**-1.8**
DDMP	**Don Marcelino,**	**1.39**	**278**	*eP*	**Pn**	**07 27 15.3**	**-1.5**
DDMP				*eS*	Sn	07 27 25.5	-11
DAV	**Davao City (W)**	**1.89**	**308**	*ePn*	**Pn**	**07 27 23.8**	**+0.8**
DAV				*eSn*	**Sn**	**07 27 47.8**	**+0.6**
DAV	**Davao City (W)**	**1.89**	**308**	P	**Pn**	**07 27 23.9**	**+1.0**
DAV	**Davao City (W)**	**1.89**	**308**	P	**Pn**	**07 27 24.0**	**+1.0**
2μm,0.3s,baz=250,slow=4.9,SNR=39							
DAV				S	**Sn**	**07 27 50.4**	**+3.2**
1μm,0.3s,baz=248,slow=23,SNR=19							
DMPH	**Davao City--Mi**	**1.96**	**307⇑**	*eP*	**Pn**	**07 27 25.5**	**+1.8**
DMPH				*eS*	**Sn**	**07 27 52.8**	**+4.2**
BIPH	**Bislig**	**2.37**	**342⇓**	*eP*	**Pn**	**07 27 30.8**	**+1.7**
BIPH				*i S*	**Sn**	**07 27 58.8**	**+0.7**
SKMP	**Bagumbayan, Su**	**2.60**	**284**	*eP*	**Pn**	**07 27 31.2**	**-0.9**
SKMP				*eS*	**Sn**	**07 28 01.3**	**-2.2**
SGSI	**Sangihe**	**2.70**	**215**	P	**Pn**	**07 27 32.8**	**-0.6**
SGSI				S	**Sn**	**07 28 04.2**	**-1.6**
BUKP	**Musuan**	**2.81**	**314**	*eP*	**Pn**	**07 27 35.0**	**+0.2**
BUKP				*eS*	**Sn**	**07 28 09.0**	**+0.6**
CTBH	**Cotabato--PC H**	**3.11**	**295⇑**	*i P*	**Pn**	**07 27 37.0**	**-1.7**
BUTP	**Butuan**	**3.37**	**334**	*eP*	**Pn**	**07 27 44.1**	**+1.9**
BUTP				*eS*	**Sn**	**07 28 23.7**	**+2.1**
CGP	**Cagayan de Oro**	**3.47**	**317⇓**	*eP*	**Pn**	**07 27 44.4**	**+0.8**
CGP				*eS*	**Sn**	**07 28 24.5**	**+0.5**
PAGZ	**Pagadian**	**4.15**	**298**	*eP*	**Pn**	**07 27 52.8**	**+0.1**
SCPH	**Surigao**	**4.16**	**338⇑**	*eP*	Pn	07 28 02.5	+10
DCPH	**Dipolog City**	**4.56**	**306⇑**	*eP*	Pn	07 28 03.1	+4.9
MSLP	**Maasin**	**4.74**	**332**	*eP*	**Pn**	**07 28 03.4**	**+0.8**
IPIL	**Ipil**	**4.86**	**293**	*eP*	**Pn**	**07 28 03.1**	**+0.9**
TBP	**Tagbilaran**	**4.93**	**320**	*eP*	**Pn**	**07 28 03.8**	**+0.6**
MNI	**Manado**	**4.97**	**207**	P	**Pn**	**07 28 03.1**	**-0.7**
ZCP	**Zamboanga City**	**5.09**	**282⇑**	*i P*	**Pn**	**07 28 03.8**	**-1.5**
ZCP				*i S*	**Sn**	**07 29 02.4**	**-0.6**
TNTI	**Ternate**	**5.11**	**177**	*ePn*	**Pn**	**07 28 06.7**	**+1.0**
TNTI				*eSn*	**Sn**	**07 29 05.8**	**+2.2**
TNTI	**Ternate**	**5.11**	**177**	P	**Pn**	**07 28 06.6**	**+1.0**
TNTI				S	**Sn**	**07 29 03.4**	**-0.2**
SNPH	**Sibulan**	**5.12**	**312⇑**	*eP*	**Pn**	**07 28 07.8**	**+2.0**
SNPH				*eS*	**Sn**	**07 29 09.0**	**+5.2**
LLP	**Lapu-Lapu**	**5.36**	**325**	*eP*	**Pn**	**07 28 09.8**	**+0.8**
LLP				*eS*	**Sn**	**07 29 10.6**	**+1.1**
PLP	**Palo**	**5.62**	**338⇓**	*i P*	**Pn**	**07 28 12.1**	**-0.5**
PLP				*eS*	**Sn**	**07 29 10.0**	**-5.9**
CNP	**Catarman**	**6.98**	**340**	*eP*	**Pn**	**07 28 31.7**	**+0.8**
CNP				*eS*	**Sn**	**07 29 42.0**	**-6.8**
MRSI	**Marisa**	**7.45**	**224**	P	**Pn**	**07 28 36.9**	**-0.5**
SANI	**Sanana**	**7.98**	**188**	P	**Pn**	**07 28 42.4**	**-2.2**
LUWI	**Luwuk**	**8.14**	**212**	*ePn*	**Pn**	**07 28 45.9**	**-0.9**
LUWI				*eSn*	**Sn**	**07 30 21.5**	**+4.4**
LUWI	**Luwuk**	**8.14**	**212**	P	**Pn**	**07 28 48.7**	**+2.0**
PVCP	**Virac**	**8.17**	**339**	*eP*	**Pn**	**07 28 48.5**	**+1.4**
TGY	**Tagaytay City**	**10.14**	**324**	LR	LR	07 34 07.3	
comp=Z,152nm,20.9s,baz=78,slow=43							
FAKI	**Fak Fak**	**10.17**	**149**	*ePn*	**Pn**	**07 29 14.9**	**+0.7**
FAKI				*eSn*	**Sn**	**07 31 00.2**	**-6.3**
FAKI	**Fak Fak**	**10.17**	**149**	P	**Pn**	**07 29 14.8**	**+0.5**
BKB	**Balikpapan**	**12.42**	**235**	P	**Pn**	**07 29 47.8**	**+3.5**
KAPI	**Kappang**	**13.09**	**214**	*ePn*	**Pn**	**07 29 52.3**	**-0.8**
KAPI	**Kappang**	**13.09**	**214**	*eP*	**Pn**	**07 29 52.3**	**-0.8**
KAPI	**Kappang**	**13.09**	**214**	P	**Pn**	**07 29 51.4**	**-1.7**
KAPI	**Kappang**	**13.09**	**214**	P	**Pn**	**07 29 51.8**	**-1.3**
2.7nm,0.3s,baz=20,slow=5.4,SNR=12							
MTKI	**Muara Teweh, K**	**13.95**	**241**	P	**P**	**07 30 08.1**	**-0.5**
SBUM	**Sibu**	**15.22**	**258**	*ePn*	**Pn**	**07 30 20.9**	**+0.6**
44nm,0.7s							
SBUM	**Sibu**	**15.22**	**258**	P	**P**	**07 30 24.0**	**+1.2**
SOEI	**Soe**	**15.81**	**190**	*ePn*	**Pn**	**07 30 27.3**	**-0.6**
55nm,0.8s							
SOEI	**Soe**	**15.81**	**190**	P	**P**	**07 30 29.8**	**+0.4**
KSM	**Kuching**	**17.31**	**256**	*eP*	**Pn**	**07 30 46.7**	**+0.5**
28nm,0.9s							
KSM	**Kuching**	**17.31**	**256**	P	**Pn**	**07 30 48.0**	**+1.8**
PLAI	**Plampang**	**17.34**	**212**	P	**Pn**	**07 30 46.7**	**+0.3**
YULB	**Yu-li**	**18.25**	**343**	*eP*	**P**	**07 30 56.2**	**+0.1**
17nm,1.1s							
KMMI	**Kalianget**	**18.36**	**226**	P	**Pn**	**07 31 03.9**	**+5.1**
TPUB	**Ta-pu**	**18.38**	**341**	*eP*	**Pn**	**07 30 58.4**	**-0.5**
22nm,0.7s							
SSLB	**Suanglung**	**18.73**	**342**	*eP*	**Pn**	**07 31 02.4**	**-0.7**
24nm,0.9s							
NACB	**Ninganchiao**	**18.91**	**344**	*eP*	**P**	**07 31 04.2**	**+0.8**
20nm,0.9s							
MTN	**Manton Dam**	**19.06**	**168**	*eP*	**P**	**07 31 05.9**	**+0.9**
28nm,0.6s							
GUMO	**Guam**	**19.10**	**65**	*eP*	**Pn**	**07 31 07.5**	**+0.1**
69nm,0.9s							
GUMO	**Guam**	**19.10**	**65**	*eP*	**Pn**	**07 31 07.5**	**+0.1**
GUMO				pmax	pmax		
comp=Z,69nm,0.9s							
GUMO	**Guam**	**19.10**	**65**	P	**Pn**	**07 31 07.6**	**+0.1**
comp=Z,5.7nm,0.3s,baz=211,slow=1.4,SNR=3.6							
GUMO				LR	LR	07 38 46.0	
comp=Z,52nm,18.0s,baz=236,slow=38							
JAGI	**Jajag, Banyuwa**	**19.25**	**222**	*eP*	**P**	**07 31 06.1**	**-1.0**
comp=Z,42nm,1.1s							
DLV	**T Lat**	**19.32**	**289**	*eP*	**P**	**07 31 07.8**	**-0.3**
comp=Z,53nm,1.0s							
YHNB	**Yeheng**	**19.44**	**344**	*eP*	**P**	**07 31 09.9**	**+0.7**
comp=Z,31nm,0.9s							
TATO	**Taipei**	**19.70**	**345**	*eP*	**Pn**	**07 31 13.3**	**-1.1**
comp=Z,207nm,1.5s							
KNMB	**Chin-men Tao**	**20.25**	**337**	*eP*	**P**	**07 31 17.7**	**-0.1**
comp=Z,48nm,0.8s							
JOW	**Kunigami**	**20.84**	**3**	*eP*	**P**	**07 31 24.9**	**+0.8**
comp=Z,25nm,0.6s							
JOW	**Kunigami**	**20.84**	**3**	P	**P**	**07 31 24.2**	**+0.1**
comp=Z,2.0nm,0.3s,baz=161,slow=13,SNR=9.8							
ANA2	**Anatahan**	**20.98**	**59**	*eP*	Pn	07 31 28.2	-1.3
comp=Z,79nm,0.8s							
SARN	**Sarigan**	**21.21**	**58**	*eP*	**P**	**07 31 29.1**	**+0.9**
comp=Z,16nm,0.7s							
QIZ	**Qiongzhong**	**21.27**	**309**	*eP*	**P**	**07 31 27.5**	**-1.3**
comp=Z,55nm,1.5s							
UGM	**Wanagama**	**21.48**	**230**	*eP*	**P**	**07 31 30.2**	**-1.0**
comp=Z,133nm,1.3s							
MANU	**Manus Island**	**21.73**	**111**	*eP*	**P**	**07 31 35.8**	**+1.9**
comp=Z,155nm,0.1s							
CISI	**Cisompet, Garu**	**23.42**	**235**	*eP*	**P**	**07 31 48.8**	**-1.9**
comp=Z,22nm,0.8s							
MYKOM	**Kota Tinggi**	**23.54**	**261**	P	**P**	**07 31 57.0**	**+5.3**
FITZ	**Fitzroy Crossi**	**23.90**	**183**	*eP*	**P**	**07 31 55.6**	**+0.8**
comp=Z,17nm,0.8s							
FITZ	**Fitzroy Crossi**	**23.90**	**183**	P	**P**	**07 31 55.3**	**+0.5**
comp=Z,18nm,0.8s,baz=13,slow=8.0,SNR=27							
PANO	**Nakornpanom**	**24.66**	**299**	P	**P**	**07 32 03.9**	**+2.1**
comp=Z,0.3nm,0.9s							
SKNT	**Sakolnakorn**	**25.14**	**298**	P	**P**	**07 32 06.9**	**+0.7**
comp=Z,27nm,0.9s							
COEN	**Coen**	**25.39**	**141**	*eP*	**P**	**07 32 09.9**	**+1.5**
comp=Z,14nm,1.1s							
KHON	**Khomkaen**	**25.93**	**296**	P	**P**	**07 32 14.2**	**+0.8**
comp=Z,85μm,0.6s							
CHAI	**Chaiyaphum**	**26.54**	**294**	P	**P**	**07 32 18.9**	**0.0**
comp=Z,36μm,0.5s							
WRAB	**Tennant Creek**	**26.66**	**165**	*eP*	**P**	**07 32 19.3**	**-0.5**
comp=Z,8.3nm,0.4s							
WRAB	**Tennant Creek**	**26.66**	**165**	*i P*	**P**	**07 32 18.4**	**-1.4**
WR1	**Warramunga Arr**	**26.66**	**165**	*eP*	**P**	**07 32 19.6**	**-0.2**
WR1				*e*ScP	**ScP**	**07 39 11.9**	**+0.8**
WRA	**Warramunga Arr**	**26.66**	**165**	P	**P**	**07 32 19.6**	**-0.2**
comp=Z,6.7nm,0.6s,baz=348,slow=11,SNR=30							
WRA				ScP	**ScP**	**07 39 11.9**	**+0.8**
comp=Z,3.3nm,0.7s,baz=333,slow=1.7,SNR=14							
WB2	**Warramunga Arr**	**26.67**	**165**	*eP*	**P**	**07 32 19.7**	**-0.2**
comp=Z,15nm,1.0s							
NJ2	**Nanjing**	**27.12**	**345**	*eP*	**P**	**07 32 26.6**	**+2.7**
NJ2				pmax	pmax		
comp=Z,12nm,0.7s							
SLVN	**Son La**	**27.19**	**307**	*eP*	**P**	**07 32 25.5**	**+0.8**
comp=Z,5.4nm,0.7s							
WHN	**Wuhan**	**27.28**	**335⇑**	*i P*	**P**	**07 32 30.9**	**+5.6**
WHN				pmax	pmax		
comp=Z,54nm,1.0s							
JNU	**Nakatsue**	**27.30**	**7**	*eP*	**P**	**07 32 27.1**	**+1.5**
comp=Z,20nm,1.1s							
JNU	**Nakatsue**	**27.30**	**7**	P	**P**	**07 32 24.6**	**-0.9**
comp=Z,5.1nm,0.4s,baz=0.4,slow=3.3,SNR=8.2							
PBKT	**Sadao Pong**	**27.68**	**295**	P	**P**	**07 32 29.4**	**+0.3**
comp=Z,10nm,0.6s							
PHET	**Kaeng Krachan**	**27.95**	**286**	P	**P**	**07 32 33.8**	**+2.3**
comp=Z,36μm,0.8s,comp=Z,607μm							
PSA00	**Pilbara Seismi**	**28.22**	**194**	*eP*	**P**	**07 32 34.0**	**+0.3**
comp=Z,27nm,1.0s							
PSI	**Prapat**	**28.25**	**265**	*eP*	**P**	**07 32 32.9**	**-1.4**
comp=Z,7.0nm,0.5s							
PSI				*e*PcP	**PcP**	**07 35 45.7**	**+0.4**
PSI	**Prapat**	**28.25**	**265**	*eP*	**P**	**07 32 32.9**	**-1.4**
PSI				*e*		07 35 45.7	
PSI				pmax	pmax		
comp=Z,7.0nm,0.5s							
PSI	**Prapat**	**28.25**	**265**	P	**P**	**07 32 33.5**	**-0.8**
comp=Z,5.7nm,0.5s,baz=88,slow=3.5,SNR=5.5							
PSI				PcP	**PcP**	**07 35 45.7**	**+0.4**
comp=Z,2.5nm,0.3s,baz=291,slow=3.8,SNR=4.1							
UTTA	**Uttaradit**	**28.46**	**297**	P	**P**	**07 32 38.9**	**+2.9**
comp=Z,11μm,0.7s							
NANT	**Nan**	**28.73**	**299**	P	**P**	**07 32 39.7**	**+1.3**
comp=Z,23μm,0.5s							
SISI	**Saibi**	**28.87**	**256**	P	**P**	**07 32 38.4**	**-1.3**
PHRA	**Phrae**	**29.03**	**298**	P	**P**	**07 32 42.5**	**+1.5**
comp=Z,2.0nm,0.7s							
**

HHC	**Hu-ho-hao-te**	37.46	340	*e*P		**P**	07 33 54.4 +0.3
HHC				S		**S**	07 39 38.3 +3.7
HHC				pmax		pmax	
	comp=Z,94nm,0.9s						
HHC				pmax		pmax	
	comp=Z,290nm,4.8s						
USA0B	**Ussuriysk Arra**	38.38	6	*e*P		**P**	07 34 01.8 +0.2
	comp=Z,5.4nm,0.8s						
USRK	**Ussuriysk Ar.**	38.38	6	*e*P		**P**	07 34 01.8 +0.3
USRK	**Ussuriysk Ar.**	38.38	6	P		**P**	07 34 01.6 0.0
	comp=Z,2.7nm,0.5s,baz=171,slow=8.2,SNR=8.7						
MDJ	**Mudanjiang**	38.62	3	P		**P**	07 34 04.3 +0.8
MDJ				pmax		pmax	
	comp=Z,11nm,1.1s						
MDJ				pmax		pmax	
	comp=Z,110nm,3.4s						
EIDS	**Eidsvold**	38.87	144	*e*P		**P**	07 34 06.0 +0.1
	comp=Z,5.4nm,1.0s						
SHL	**Shillong**	38.92	304	*e*P		**P**	07 34 06.0 -0.6
	comp=Z,31nm,0.8s						
SHL				*e*PcP		**PcP**	07 36 15.3 0.0
SHL	**Shillong**	38.92	304	*e*P		**P**	07 34 06.0 -0.6
SHL				pmax		pmax	
	comp=Z,31nm,0.8s						
SHL	**Shillong**	38.92	304	⇑*i*P		**P**	07 34 05.0 -1.6
BBOO	**Buckleboo**	39.44	168	*e*P		**P**	07 34 10.9 +0.3
	comp=Z,15nm,0.5s						
NWAO	**Narrogin (SRO)**	39.74	193	*e*P		**P**	07 34 12.9 -0.2
	comp=Z,31nm,0.6s						
NWAO	**Narrogin (SRO)**	39.74	193	P		**P**	07 34 13.5 +0.5
TEY	**Ternei**	39.85	11	*e*P		**P**	07 34 14.4 +0.7
STKA	**Stephens Creek**	40.04	161	*e*P		**P**	07 34 16.0 +0.4
	comp=Z,2.7nm,0.8s						
STKA	**Stephens Creek**	40.04	161	P		**P**	07 34 16.2 +0.6
STKA				pmax		pmax	
	comp=Z,3.0nm,0.7s						
STKA	**Stephens Creek**	40.04	161	P		**P**	07 34 16.0 +0.4
	comp=Z,12nm,0.6s,baz=332,slow=8.6,SNR=34						
H11S3	**WAKE ISLAND Hy**	40.57	68	T		T	08 18 48.2
	baz=246,slow=75						
H11S1	**WAKE ISLAND Hy**	40.58	68	T		T	08 18 49.3
	baz=246,slow=75						
H11S2	**WAKE ISLAND Hy**	40.58	68	T		T	08 18 50.4
	baz=246,slow=75						
H11N1	**WAKE ISLAND Hy**	41.04	67	T		T	08 19 19.1
	baz=265,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	41.05	67	T		T	08 19 21.1
	baz=265,slow=75,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	41.05	67	T		T	08 19 18.5
	baz=265,slow=75,SNR=17						
LSA	**Lhasa**	41.31	309	*e*P		**P**	07 34 27.8 +1.2
	comp=Z,13nm,0.8s						
LSA	**Lhasa**	41.31	309	*e*P		**P**	07 34 27.8 +1.2
LSA				pmax		pmax	
	comp=Z,13nm,0.8s						
GTA	**Gaotai**	41.44	328	⇑P		**P**	07 34 27.8 +0.6
GTA				PcP		**PcP**	07 36 23.8 +0.7
GTA				pmax		pmax	
	comp=Z,31nm,0.7s						
GTA				pmax		pmax	
	comp=Z,70nm,4.9s						
GTA				LR		LR	
	comp=Z,88nm,15.9s						
GTA				LR		LR	
	comp=Z,100nm,14.9s						
GTA				LR		LR	
	comp=Z,92nm,15.9s						
ARMA	**Armidale**	43.10	148	*e*P		**P**	07 34 42.5 +1.8
	comp=Z,11nm,1.0s						
ODAN	**Odare**	43.14	303	*e*P		**P**	07 34 41.1 -0.2
	comp=Z,112nm,0.8s						
KLR	**Kul'dur**	43.35	4	*i* P		**P**	07 34 40.7 -1.6
KLR				pmax		pmax	
	comp=Z,3.0nm,0.4s						
KLR	**Kul'dur**	43.35	4	P		**P**	07 34 41.8 -0.5
	comp=Z,2.8nm,0.4s,baz=172,slow=7.2,SNR=16						
HIA	**Hailar**	43.65	353	*i* P		**P**	07 34 46.3 +1.6
HIA				pmax		pmax	
	comp=Z,26nm,0.9s						
RAMN	**Ramite**	43.83	303	*e*P		**P**	07 34 47.0 +0.2
	comp=Z,102nm,0.7s						
JIRN	**Jiri**	44.43	304	*e*P		**P**	07 34 51.7 0.0
	comp=Z,172nm,0.7s						
PKI	**Pulchoki**	45.04	303	*e*P		**P**	07 34 55.8 -0.7
	comp=Z,65nm,0.8s						
PKIN	**Phulchoki**	45.05	303	*e*P		**P**	07 34 56.1 -0.5
	comp=Z,34nm,0.6s						
ULN	**Ulaanbaatar**	45.18	341	*e*P		**P**	07 34 57.6 +0.5
	comp=Z,19nm,1.1s						
ULN	**Ulaanbaatar**	45.18	341	*i* P		**P**	07 34 57.4 +0.3
ULN				pmax		pmax	
	comp=Z,16nm,1.0s						
ULN	**Ulaanbaatar**	45.18	341	P		**P**	07 34 58.5 +1.4
	SNR=10						
KKN	**Kakani**	45.23	304	*e*P		**P**	07 34 57.5 -0.4
	comp=Z,68nm,0.8s						
DMN	**Daman**	45.30	303	*e*P		**P**	07 34 58.2 -0.4
	comp=Z,82nm,0.9s						
SONA0	**Songino Array**	45.37	340	*e*P		**P**	07 34 59.0 +0.5
SONA0				*e*PcP		**PcP**	07 36 37.1 +0.9
SONA0				*e*ScP		**ScP**	07 40 19.1 +0.3
SONM	**Songino Array**	45.37	340	*e*P		**P**	07 34 58.0 -0.6
SONM	**Songino Array**	45.37	340	P		**P**	07 34 59.0 +0.5
	comp=Z,4.5nm,0.6s,baz=134,slow=6.4,SNR=16						
SONM				PcP		**PcP**	07 36 37.1 +0.9
	comp=Z,3.1nm,0.8s,baz=75,slow=1.1,SNR=4.1						
SONM				ScP		**ScP**	07 40 19.1 +0.3
	comp=Z,1.0nm,0.8s,baz=148,slow=8.7,SNR=3.5						
TOO	**Toolangi**	46.54	160	*e*P		**P**	07 35 07.8 0.0
	comp=Z,13nm,1.2s						
TOO	**Toolangi**	46.54	160	*e*P		**P**	07 35 07.8 0.0
TOO				pmax		pmax	
	comp=Z,13nm,1.2s						
KOLN	**Koldanda**	46.61	303	*e*P		**P**	07 35 08.8 0.0
	comp=Z,87nm,0.4s						
DANN	**Dangsing**	46.68	304	*e*P		**P**	07 35 09.1 -0.3
	comp=Z,195nm,0.6s						
PYUN	**Piuthan**	47.23	303	*e*P		**P**	07 35 13.6 0.0
	comp=Z,186nm,0.9s						
HYB	**Hyderabad**	48.76	288	*i* P		**P**	07 35 25.5 +0.3
TLY	**Talaya**	49.59	341	*e*P		**P**	07 35 31.4 +0.4
	comp=Z,7.7nm,1.0s						
TLY	**Talaya**	49.59	341	*i* P		**P**	07 35 32.2 +1.2
TLY				pmax		pmax	
	comp=Z,19nm,1.0s						
WMQ	**Urumqi**	51.17	324	*e*P		**P**	07 35 45.3 +2.2
WMQ				pmax		pmax	
	comp=Z,80nm,1.1s						
WMQ				pmax		pmax	
	comp=Z,230nm,4.1s						
WMQ	**Urumqi**	51.17	324	*e*P		**P**	07 35 42.6 -0.5
	comp=Z,16nm,0.6s						
PEA0B	**Petropavlovsk-**	53.29	23	*e*P		**P**	07 35 59.7 +1.1
	comp=Z,25nm,1.0s						
PETK	**Petropavlovsk-**	53.29	23	*e*P		**P**	07 35 59.6 +1.1
PETK	**Petropavlovsk-**	53.29	23	*e*P		**P**	07 35 59.6 +1.1
PETK	**Petropavlovsk-**	53.29	23	P		**P**	07 35 59.0 +0.5
	comp=Z,9.0nm,0.8s,baz=192,slow=3.2,SNR=11						
PEA1	**Petropavlovsk-**	53.29	23	*e*P		**P**	07 35 59.0 +0.4
DGZ	**Jazzator, Alta**	54.90	330	*c i*P		**P**	07 36 11.5 +1.0
DGZ				pmax		pmax	
	comp=Z,8.0nm,1.1s						
MK31	**Makanchi Array**	55.99	324	*e*P		**P**	07 36 19.0 +0.8
	comp=Z,21nm,0.7s						
MK31	**Makanchi Array**	55.99	324	*e*P		**P**	07 36 18.5 +0.3
MK31				pmax		pmax	
	comp=Z,8.0nm,0.4s						
MK32	**Makanchi Array**	55.99	324	*e*P		**P**	07 36 18.9 +0.7
MK32				*e*PcP		**PcP**	07 37 15.6 +0.2
MK32				*e*ScP		**ScP**	07 41 04.5 +0.1
MKAR	**Makanchi Array**	55.99	324	*ce*P		**P**	07 36 18.8 +0.6
MKAR				pmax		pmax	
	comp=Z,45nm,0.7s						
MKAR	**Makanchi Array**	55.99	324	P		**P**	07 36 18.9 +0.7
	comp=Z,44nm,0.7s,baz=116,slow=7.3,SNR=300						
MKAR				PcP		**PcP**	07 37 15.6 +0.2
	comp=Z,8.4nm,0.7s,baz=115,slow=5.5,SNR=6.1						
MKAR				ScP		**ScP**	07 41 04.5 +0.1
	comp=Z,0.9nm,0.6s,baz=112,slow=5.8,SNR=4.0						
MAKZ	**Makanchi**	56.18	324	*e*P		**P**	07 36 19.8 +0.2
	comp=Z,30nm,0.8s						
MAKZ	**Makanchi**	56.18	324	P		**P**	07 36 19.7 +0.1
MAKZ				pmax		pmax	
	comp=Z,30nm,0.7s						
TARG	**Taragay, Kyrgy**	56.39	317	*e*P		**P**	07 36 22.1 +0.4
	comp=Z,9.4nm,0.8s						
MA2	**Magadan**	56.52	14	*i* P		**P**	07 36 19.4 -2.3
MA2				pmax		pmax	
	comp=Z,4.0nm,0.9s						
MA2	**Magadan**	56.52	14	P		**P**	07 36 21.7 +0.1
	comp=Z,2.2nm,0.4s,baz=193,slow=7.5,SNR=4.9						
KSH	**Kashi**	56.78	314	P		**P**	07 36 26.0 +1.9
KSH				sP		sP	07 37 06.3 +4.5
KSH				PP		**PP**	07 38 36.3 +4.8
KSH				S		**S**	07 44 05.6 -3.2
KSH				pmax		pmax	
	comp=Z,44nm,0.5s						
KSH				pmax		pmax	
	comp=Z,140nm,4.3s						
KSH				LR		LR	
	comp=Z,500nm,13.8s						
KSH				LR		LR	
	comp=Z,340nm,14.5s						
NIL	**Nilore**	56.90	306	*e*P		**P**	07 36 24.9 -0.1
	comp=Z,62nm,0.7s						
NIL	**Nilore**	56.90	306	*e*P		**P**	07 36 24.9 -0.1
NIL				pmax		pmax	
	comp=Z,62nm,0.7s						
KDJ	**Kajisay**	56.98	317	*e*P		**P**	07 36 26.1 +0.5
	comp=Z,32nm,0.4s						
KDJ	**Kajisay**	56.98	317	*e*P		**P**	07 36 26.1 +0.5
KDJ				pmax		pmax	
	comp=Z,32nm,0.4s						
NRN	**Naryn**	57.50	316	*e*P		**P**	07 36 29.9 +0.5
	comp=Z,12nm,0.5s						
NRN	**Naryn**	57.50	316	P		**P**	07 36 29.9 +0.5
NRN				pmax		pmax	
	comp=Z,12nm,0.5s						
ULHL	**Ulahol**	57.66	317	P		**P**	07 36 31.2 +0.9
	SNR=7.2						
BOOM	**Boomskoye usch**	57.97	317	*e*P		**P**	07 36 33.4 +0.9
	comp=Z,8.5nm,0.8s						
BOOM	**Boomskoye usch**	57.97	317	P		**P**	07 36 33.4 +0.9
BOOM				pmax		pmax	
	comp=Z,8.0nm,0.8s						
KZA	**Kyzart**	58.27	317	P		**P**	07 36 36.1 +1.2
	SNR=30						
TKM2	**Tokmak 2**	58.38	318	P		**P**	07 36 36.1 +0.7
	SNR=23						
KBK	**Karagaybulak**	58.71	317	P		**P**	07 36 38.6 +1.0
	SNR=14						
ZAA0	**Zalesovo Array**	58.83	332	*e*P		**P**	07 36 37.4 -0.5
	comp=Z,17nm,0.8s						
ZALV	**Zalesovo Beam**	58.83	332	P		**P**	07 36 37.6 -0.3
	comp=Z,9.2nm,0.3s,baz=122,slow=6.5,SNR=35						
ZALV				PcP		**PcP**	07 37 25.0 -1.3
	comp=Z,5.3nm,0.6s,baz=123,slow=4.5,SNR=2.4						
ZAA1	**Zalesovo Array**	58.83	332	*e*P		**P**	07 36 37.6 -0.4
ZAA1				*e*PcP		**PcP**	07 37 25.0 -1.3
UCH	**Uchtor**	58.84	316	P		**P**	07 36 40.0 +1.2
	SNR=42						
CHMS	**Chumysh**	58.98	317	P		**P**	07 36 39.8 +0.5
	SNR=6.8						
AAK	**Ala-Archa**	59.01	317	P		**P**	07 36 40.5 +0.9
	SNR=10						
AAK	**Ala-Archa**	59.01	317	*e*P		**P**	07 36 38.9 -0.7
	comp=Z,20nm,1.3s						
AAK	**Ala-Archa**	59.01	317	*ce*P		**P**	07 36 39.0 -0.7
AAK				pmax		pmax	
	comp=Z,22nm,1.7s						
AAK	**Ala-Archa**	59.01	317	P		**P**	07 36 40.1 +0.4
	SNR=6.0						
USP	**Ospenovka**	59.25	318	P		**P**	07 36 41.7 +0.5
	SNR=26						
AML	**Almayashu**	59.36	316	P		**P**	07 36 43.5 +1.1
	SNR=15						
EKS2	**Erkin-Say**	59.51	317	P		**P**	07 36 44.0 +1.0
	SNR=29						
ARSB	**Arslanbob**	59.57	315	*e*P		**P**	07 36 44.1 +0.6
	comp=Z,50nm,1.4s						
SEY	**Seymchan**	59.84	13	*i* P		P	07 36 37.5 -7.2
SEY	**Seymchan**	59.84	13	P		**P**	07 36 46.3 +1.6
	comp=Z,0.7nm,0.3s,baz=207,slow=6.9,SNR=4.3						
NVS	**Novosibirsk**	60.11	332	⇓*i*P		**P**	07 36 46.9 +0.2
NVS				*e*			07 37 14.5
NVS				pmax		pmax	
	comp=Z,28nm,1.1s						
NVS				pmax		pmax	
	comp=N,15nm,1.0s						
NVS				pmax		pmax	
	comp=E,17nm,0.8s						
KURK	**Kurchatov**	60.12	327	*e*P		**P**	07 36 47.5 +0.6
	comp=E,65nm,0.6s						
KURK	**Kurchatov**	60.12	327	*ce*P		**P**	07 36 47.3 +0.4
KURK				pmax		pmax	
	comp=Z,61nm,0.9s						
KURK	**Kurchatov**	60.12	327	P		**P**	07 36 47.7 +0.8
	SNR=25						
KURBB	**Kurchatov Arra**	60.12	327	P		**P**	07 36 47.3 +0.5
	comp=Z,51nm,0.6s,baz=126,slow=6.6,SNR=477						
KBL	**Kabul**	60.51	306	*e*P		**P**	07 36 50.1 0.0
	comp=Z,27nm,0.7s						
KBL	**Kabul**	60.51	306	P		**P**	07 36 50.1 0.0
KBL				pmax		pmax	
	comp=Z,27nm,0.7s						
BTK	**Batken**	60.69	313	*e*P		**P**	07 36 51.6 +0.5
	comp=Z,25nm,1.0s						
BTK	**Batken**	60.69	313	*e*P		**P**	07 36 51.6 +0.5
BTK				pmax		pmax	
	comp=Z,25nm,1.0s						
GAR	**Garm**	60.73	312	*e*P		**P**	07 36 51.9 +0.3
	comp=Z,104nm,0.9s						
GAR	**Garm**	60.73	312	*e*P		**P**	07 36 51.8 +0.3
GAR				pmax		pmax	
	comp=Z,104nm,0.9s						
KK31	**Karatay Array**	61.91	316	*e*P		**P**	07 36 59.1 -0.1
	comp=Z,28nm,1.0s						
KK31	**Karatay Array**	61.91	316	*i* P		**P**	07 36 59.2 0.0
KK31				pmax		pmax	
	comp=Z,12nm,0.7s						
KKAR	**Karatay Array**	61.91	316	*e*P		**P**	07 36 59.0 -0.1
	comp=Z,28nm,1.0s						
KKAR	**Karatay Array**	61.91	316	*e*P		**P**	07 36 59.0 -0.1
KKAR				pmax		pmax	
	comp=Z,28nm,1.0s						
BKZ	**Black Stump Fm**	63.97	139	*e*P		**P**	07 37 12.3 -0.6
	comp=Z,38nm,1.5s						
KHZ	**Kahutara**	63.97	143	*e*P		**P**	07 37 13.4 +0.7
	comp=Z,28nm,1.3s						
TIXI	**Tiksi**	65.67	1	*e*P		**P**	07 37 23.5 +0.2
TIXI	**Tiksi**	65.67	1	*ce*P		**P**	07 37 21.9 -1.4
TIXI				pmax		pmax	
	comp=Z,20nm,1.7s						
TIXI	**Tiksi**	65.67	1	P		**P**	07 37 22.8 -0.4
	comp=Z,5.1nm,0.4s,baz=14,slow=0.3,SNR=7.2						
BRVK	**Borovoye**	65.78	326	*e*P		**P**	07 37 24.8 +0.5
	comp=Z,64nm,0.8s						
BRVK	**Borovoye**	65.78	326	*c i*P		**P**	07 37 24.8 +0.5
BRVK				pmax		pmax	
	comp=Z,43nm,0.8s						
BRVK	**Borovoye**	65.78	326	P		**P**	07 37 25.1 +0.8
	SNR=29						
BILL	**Bilibino**	67.37	15	*e*P		**P**	07 37 34.1 0.0
BILL				*e**PP		**PcP**	07 38 01.2 +0.3
BILL				*i*			07 40 04.2
BILL				pmax		pmax	
	comp=Z,3.0nm,0.9s						
NRIK	**Noril'sk**	68.41	346	P		**P**	07 37 40.4 -0.3
	comp=Z,9.0nm,0.7s,baz=133,slow=5.3,SNR=20						
MHTO	**MHTO**	68.43	290	P		**P**	07 37 40.7 -0.9
GEYT	**Alibeck**	69.83	308	P		**P**	07 37 51.0 +0.9
	comp=Z,18nm,0.6s,baz=132,slow=4.2,SNR=33						
GYA0B	**ALIBECK ARRAY**	69.83	308	*e*P		**P**	07 37 51.0 +0.9
	comp=Z,26nm,0.9s						
HATD	**Hatta, Dubai**	70.27	294	P		**P**	07 37 51.9 -1.1
ASHO	**Ashiyiah**	70.33	294	P		**P**	07 37 52.6 -0.8
AB31	**Akbulak array**	70.71	320	P		**P**	07 37 54.9 -0.2
AB31				pmax		pmax	
	comp=Z,10.0nm,0.5s						
ABKAR	**Akbulak array**	70.71	320	*e*P		**P**	07 37 55.5 +0.3
DMTO	**DMTO**	71.23	287	P		**P**	07 37 57.9 -1.0
SVE	**Sverdlovsk**	72.31	328	*e*P		**P**	07 38 05.0 +0.4
SVE				pmax		pmax	
	comp=Z,52nm,1.0s						
WHFO	**Wadi Hawf**	72.35	287	P		**P**	07 38 04.6 -1.1
CASY	**Casey**	73.01	187	*e*P		**P**	07 38 09.3 +0.8
	comp=Z,22nm,0.8s						
ARU	**Arti**	73.30	327	*e*P		**P**	07 38 10.2 -0.3
	comp=Z,36nm,0.6s						
ARU	**Arti**	73.30	327	*c i*P		**P**	07 38 10.2 -0.3
ARU							07 38 24.0
ARU				*PP		**pP**	07 38 33.4 -4.0
ARU							07 40 50.9
ARU				S		**SKiKP**	07 47 32.0 +1.0
ARU				SS		**SS**	07 52 10.0 -4.0
ARU				pmax		pmax	
	comp=Z,30nm,0.6s						
RDOG	**Red Dog Mine**	77.13	21	*e*P		**P**	07 38 34.3 +2.1
	comp=Z,9.4nm,0.6s						
SII	**Sitkinak Islan**	78.88	34	*e*P		**P**	07 38 43.7 +1.5
	comp=Z,26nm,0.6s						
GROC	**Groznyy**	79.64	313	*i* P		**P**	07 38 44.6 -1.9
GROC				*e*			07 38 51.6
GROC				*e**PP		**pP**	07 39 11.0 -2.9
GROC				*e**SP		**pwP**	07 39 21.6 +3.4
GROC				pmax		pmax	
	comp=Z,74nm,1.1s						
KDAK	**Kodiak Island**	79.87	32	*e*P		**P**	07 38 48.2 +0.8
	comp=Z,32nm,0.6s						
KDAK	**Kodiak Island**	79.87	32	*ce*P		**P**	07 38 47.7 +0.3
KDAK	**Kodiak Island**	79.87	32	P		**P**	07 38 48.0 +0.6
	comp=Z,32nm,0.6s,baz=257,slow=2.9,SNR=66						
RSO	**Redoubt South**	80.03	30	*e*P		**P**	07 38 48.3 -0.3
IMAR	**Indian Mountai**	80.22	24	*e*P		**P**	07 38 50.0 +0.8
GNI	**Garni**	80.37	310	*i* P		**P**	07 38 50.7 -0.1
GNI				pmax		pmax	
	comp=Z,75nm,1.1s						
TBLG	**Delisi**	80.39	311	*e*P		**P**	07 38 51.7 +1.0
	comp=Z,49nm,0.8s						
SPU	**Mount Spurr**	80.44	29	*e*P		**P**	07 38 51.5 +0.9
CAST	**Castle Rocks**	80.64	27	*e*P		**P**	07 38 52.1 +0.6
	comp=Z,24nm,0.7s						
PRGR	**Permogore**	80.77	331	⇓*i*P		**P**	07 38 52.4 +0.2
PRGR				*e**PP		**pP**	07 39 19.3 -0.4
PRGR				pmax		pmax	
	comp=Z,25nm,0.6s						
ZEI	**Tsey**	81.02	312	*e*P		**P**	07 38 52.8 -1.4
ZEI				pmax		pmax	
	comp=Z,24nm,0.7s						
BPAW	**Bear Paw Mtn.**	81.18	26	*e*P		**P**	07 38 55.0 +0.6
	comp=Z,24nm,0.7s						
AKH	**Akhalkalaki**	81.32	311	*e*P		**P**	07 38 56.0 +0.2
	comp=Z,53nm,1.0s						
AKH	**Akhalkalaki**	81.32	311	⇑*i*P		**P**	07 38 56.6 +0.8
AKH	**Akhalkalaki**	81.32	311	*e*P		**P**	07 38 56.0 +0.2
AKH				pmax		pmax	
	comp=Z,53nm,1.0s						
MLY	**Manley**	81.36	25	*e*P		**P**	07 38 55.9 +0.5
	comp=Z,22nm,0.6s						
RC01	**Rabbit Creek A**	81.56	29	*e*P		**P**	07 38 56.4 0.0
	comp=Z,23nm,0.5s						
KBZ	**Khabaz**	81.75	313	P		**P**	07 38 57.8 0.0
	comp=Z,8.6nm,0.7s,baz=155,slow=3.5,SNR=16						
BWN	**Browne**	81.85	26	*e*P		**P**	07 38 58.9 +1.0
	comp=Z,29nm,0.8s						
NEY	**Neytrino**	81.88	313	*i* P		**P**	07 38 59.6 +0.9
NEY				pmax		pmax	
	comp=Z,2.0nm,0.8s						
KIV	**Kislovodsk**	81.91	313	*e*P		**P**	07 38 59.5 +0.8
	comp=Z,20nm,0.8s						
KIV	**Kislovodsk**	81.91	313	⇑*i*P		**P**	07 38 59.8 +1.1
KIV	**Kislovodsk**	81.91	313	*e*P		**P**	07 38 59.3 +0.6
KIV				pmax		pmax	
	comp=Z,76nm,1.0s						
GHO	**Glory Hole Cre**	81.98	29	*e*P		**P**	07 38 59.6 +0.9
MCK	**McKinley**	82.06	27	*e*P		**P**	07 38 59.2 +0.2
	comp=Z,33nm,0.7s						
MCK	**McKinley**	82.06	27	*e*P		**P**	07 38 59.2 +0.2
MCK				pmax		pmax	
	comp=Z,33nm,0.7s						
TOLK	**Toolik Lake Re**	82.10	22	*e*P		**P**	07 39 00.1 +0.9
	comp=Z,17nm,0.8s						
KNK	**Knik Glacier**	82.19	29	*e*P		**P**	07 39 00.7 +1.0
	comp=Z,20nm,0.8s						
SML	**Sawmill**	82.26	28	*e*P		**P**	07 39 01.0 +0.9
	comp=Z,18nm,0.7s						
SML	**Sawmill**	82.26	28	*e*P		**P**	07 39 01.0 +0.9
SML				pmax		pmax	
	comp=Z,18nm,0.7s						
MDM	**Murphy Dome**	82.42	25	*e*P		**P**	07 39 01.9 +1.0
	comp=Z,9.1nm,0.7s						
WRH	**Wood River Hil**	82.47	26	*e*P		**P**	07 39 02.0 +0.9
	comp=Z,9.7nm,0.8s						
VRH	**Novokhopyorsk**	82.53	321	*e*P		**P**	07 39 01.2 -0.4
VRH				pmax		pmax	
	comp=Z,70nm,0.8s						
COLA	**College**	82.58	25	*e*P		**P**	07 39 02.3 +0.6
	comp=Z,11nm,0.6s						
COLA	**College**	82.58	25	*i* P		**P**	07 39 02.5 +0.9
COLA				pmax		pmax	
	comp=Z,10.0nm,0.9s						
CCB	**Clear Creek Bu**	82.59	26	*e*P		**P**	07 39 01.6 -0.1
	comp=Z,18nm,1.1s						
BCA	**Borcka**	82.73	311	⇓*i*P		**P**	07 39 03.2 +0.2
SCM	**Sheep Creek Mo**	82.74	28	*e*P		**P**	07 39 03.6 +0.9
	comp=Z,26nm,1.0s						
GLI	**Glacier Island**	82.83	29	*e*P		**P**	07 39 03.1 +0.1
	comp=Z,21nm,0.6s						
HDA	**Harding Lake**	82.96	26	*e*P		**P**	07 39 03.2 -0.4
	comp=Z,19nm,0.6s						
ILAR	**Eielson Array**	82.99	26	*e*P		**P**	07 39 03.5 -0.4
ILAR	**Eielson Array**	82.99	26	P		**P**	07 39 03.3 -0.5
ILAR	**Eielson Array**	82.99	26	P		**P**	07 39 03.1 -0.7
	comp=Z,6.6nm,0.5s,baz=252,slow=5.2,SNR=92						
ILAR				PKKP		**PKKPdf**	07 57 19.8 +1.4
	comp=Z,0.2nm,0.5s,baz=34,slow=3.4,SNR=2.8						
ILAR				PKKPbc		**PKKPbc**	07 57 27.9 -0.3
	comp=Z,0.4nm,0.9s,baz=48

DAWY	Dawson	86.27	26	eP	P	07 39 22.0	+1.7
	comp=Z,4.1nm,0.6s						
EPYK	Eagle Plains	87.11	24	eP	P	07 39 25.7	+1.3
	comp=Z,7.4nm,0.5s						
SIM	Simferopol'	87.97	315	eP	P	07 39 29.5	+0.6
SIM				pmax	pmax		
	comp=Z,16nm,0.7s						
INK	Inuvik	88.02	22	eP	P	07 39 29.6	+1.0
	comp=Z,4.1nm,0.8s						
INK	Inuvik	88.02	22	eP	P	07 39 29.6	+1.0
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	Inuvik	88.02	22	P	P	07 39 28.3	-0.3
	comp=Z,3.3nm,0.6s,baz=274,slow=3.2,SNR=28						
BZK	Bozkurt	88.38	312	⇑iP	P	07 39 30.6	-0.3
SPITS	Spitsbergen Ar	88.42	349	P	P	07 39 30.3	-0.1
ARA0	ARCESS Array S	88.54	340	eP	P	07 39 29.9	-1.2
ARCES	ARCESS Array B	88.54	340	P	P	07 39 29.9	-1.2
	comp=Z,11nm,0.8s,baz=84,slow=6.7,SNR=56						
BR101	Keskin Array S	88.92	310	eP	P	07 39 33.0	-0.7
BR131	Keskin Array S	88.92	310	eP	P	07 39 32.7	-1.0
	comp=Z,4.6nm,0.7s						
BR131	Keskin Array S	88.92	310	P	P	07 39 33.2	-0.5
	SNR=6.8						
BRTR	Keskin Array B	88.92	310	ceP	P	07 39 33.0	-0.7
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BRTR	Keskin Array B	88.92	310	P	P	07 39 33.0	-0.7
	comp=Z,4.1nm,0.7s,baz=106,slow=4.4,SNR=21						
CSS	Mathiatis	89.73	305	eP	P	07 39 36.9	-0.5
	comp=Z,14nm,0.7s						
KMBO	Kilima Mbogo	89.95	269	eP	P	07 39 38.8	-0.4
	comp=Z,13nm,1.3s						
KMBO	Kilima Mbogo	89.95	269	ceP	P	07 39 39.5	+0.3
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KMBO	Kilima Mbogo	89.95	269	P	P	07 39 38.5	-0.7
	comp=Z,1.7nm,0.3s,baz=34,slow=8.4,SNR=5.3						
FIA1	FINESS Array S	90.09	332	eP	P	07 39 38.0	-0.4
	comp=Z,7.3nm,0.9s						
FIA0	FINESS Array S	90.09	332	eP	P	07 39 37.0	-1.5
FINES	FINESS Array B	90.09	332	ceP	P	07 39 37.9	-0.6
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
FINES	FINESS Array B	90.09	332	P	P	07 39 37.0	-1.5
	comp=Z,4.2nm,0.5s,baz=61,slow=5.1,SNR=40						
VSU	Vasula	90.40	329	ceP	P	07 39 39.3	-0.6
VSU				pmax	pmax		
	comp=Z,31nm,0.9s						
AKASG	Malin Array Be	90.44	321	P	P	07 39 39.4	-0.9
	comp=Z,3.7nm,0.4s,baz=58,slow=5.2,SNR=14						
AKBB	Malin Array Si	90.44	321	eP	P	07 39 39.2	-1.1
	comp=Z,12nm,1.3s						
KIEV	Kiev	90.45	321	eP	P	07 39 39.2	-1.1
	comp=Z,11nm,1.2s						
KIEV	Kiev	90.45	321	⇑iP	P	07 39 38.9	-1.4
KIEV	Kiev	90.45	321	c iP	P	07 39 39.1	-1.2
KIEV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TLCR		91.66	316	⇑iP	P	07 39 47.7	+1.6
TLCR		91.66	316	⇑iP	P	07 39 47.7	+1.6
CFR	Carcaliu	92.13	316	⇑iP	P	07 39 47.4	-0.9
CFR	Carcaliu	92.13	316	⇑iP	P	07 39 47.4	-0.9
TLB	Topalu	92.31	315	⇑iP	P	07 39 48.3	-0.8
TLB	Topalu	92.31	315	⇑iP	P	07 39 48.3	-0.8
TESR	Tescani	92.90	317	⇑iP	P	07 39 51.2	-0.6
VRI	Vrincioaia	92.97	317	⇑iP	P	07 39 52.1	-0.1
VRI	Vrincioaia	92.97	317	⇑iP	P	07 39 52.1	-0.1
PLOR	Plostina	93.03	317	⇑iP	P	07 39 52.2	-0.3
PLOR	Plostina	93.03	317	⇑iP	P	07 39 52.2	-0.3
MLR	Muntele Rosu	93.59	316	eP	P	07 39 54.7	-0.4
	comp=Z,6.9nm,0.7s						
MLR	Muntele Rosu	93.59	316	⇑iP	P	07 39 55.4	+0.2
MLR	Muntele Rosu	93.59	316	⇑iP	P	07 39 55.4	+0.2
BURAR	Bucovina Array	93.62	318	⇓iP	P	07 39 55.4	+0.1
BURAR	Bucovina Array	93.62	318	⇓iP	P	07 39 55.4	+0.1
BUR08	Bucovina Ar. S	93.62	318	eP	P	07 39 55.4	+0.1
	comp=Z,4.3nm,0.9s						
VOIR		94.21	316	⇑iP	P	07 40 00.6	+2.6
VOIR		94.21	316	⇑iP	P	07 40 00.6	+2.6
EZN	Ezine	94.46	311	⇑iP	P	07 39 57.0	-2.1
EZN	Ezine	94.46	311	⇑iP	P	07 39 57.0	-2.1
ARR	Arges	94.51	316	⇑iP	P	07 39 58.9	-0.5
SYO	Syowa Base	94.58	201	⇓eP	P	07 40 00.4	+1.5
KWP	Kalwaria Pacla	94.76	321	eP	P	07 40 00.3	0.0
	comp=Z,141nm,1.2s						
KWP	Kalwaria Pacla	94.76	321	eP	P	07 40 00.3	0.0
TRPA	Tarpa	95.25	319	⇑iP	P	07 40 02.3	-0.2
DRGR		95.47	318	⇑iP	P	07 40 03.2	-0.5
DRGR		95.47	318	⇑iP	P	07 40 03.2	-0.5
RES	Resolute Bay	95.62	10	eP	P	07 40 04.6	+0.9
	comp=Z,2.1nm,0.7s						
RES	Resolute Bay	95.62	10	eP	P	07 40 04.6	+0.9
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RES	Resolute Bay	95.62	10	P	P	07 40 03.7	0.0
	comp=Z,2.2nm,0.7s,baz=296,slow=6.6,SNR=13						
GZR	Gura Zlata	95.78	317	⇓iP	P	07 40 05.0	-0.1
GZR	Gura Zlata	95.78	317	⇓iP	P	07 40 05.0	-0.1
QSPA	South Pole Qui	95.80	180	eP	P	07 40 05.4	+0.6
	comp=Z,5.8nm,1.1s						
VTS	Vitosha	96.13	314	eP	P	07 40 06.4	-0.6
	comp=Z,4.9nm,0.9s						
VTS	Vitosha	96.13	314	⇑iP	P	07 40 06.3	-0.6
VTS	Vitosha	96.13	314	⇑iP	P	07 40 06.3	-0.6
HERR	Herculane	96.15	316	⇑iP	P	07 40 18.7	+12
SIRR	Siria	96.31	318	⇑iP	P	07 40 07.4	-0.1
MDVR	Moldovita	96.66	316	⇑iP	P	07 40 09.0	-0.1
NB2	NORSAR Subarra	97.00	334	P	P	07 40 08.9	-1.3
	comp=Z,2.1nm,0.8s,baz=64,slow=4.6						
NB2	NORSAR Subarra	97.00	334	P	Pdif	07 40 11.8	+1.4
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	NORSAR Subarra	97.00	334	P	P	07 40 08.9	-1.3
	baz=64,slow=4.6						
NB200	NORSAR Array S	97.00	334	eP	P	07 40 09.0	-1.3
NOA	NORSAR Array B	97.00	334	P	P	07 40 09.0	-1.3
	comp=Z,1.9nm,0.8s,baz=65,slow=4.5,SNR=7.3						
YKA	Yellowknife Ar	97.38	24	⇑eP	Pdif	07 40 12.9	+1.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	97.38	24	P	P	07 40 11.4	-0.5
	comp=Z,0.8nm,0.6s,baz=299,slow=4.4,SNR=11						
YKB5	Yellowknife Ar	97.38	24	eP	P	07 40 11.3	-0.5
VYHS	Vyhne	97.52	320	eP	P	07 40 10.0	-2.9
VYHS	Vyhne	97.52	320	eP	P	07 40 10.0	-2.9
BRG	Berggiesshubel	99.71	324	eP	Pdif	07 40 22.6	0.0
	comp=Z,7.0nm,1.3s						
BRG	Berggiesshubel	99.71	324	eP	Pdif	07 40 22.6	0.0
BRG				pmax	pmax		
	comp=Z,7.0nm,1.3s						
MATP	Matopo	100.07	250	P	Pdif	07 40 23.9	-1.1
	comp=Z,7.3nm,1.0s,baz=125,slow=3.3,SNR=12						
LSZ	Lusaka	100.10	256	ePdif	Pdif	07 40 24.5	-0.7
	comp=Z,7.2nm,0.9s						
LSZ	Lusaka	100.10	256	eP	Pdif	07 40 24.5	-0.7
LSZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LSZ	Lusaka	100.10	256	P	Pdif	07 40 23.9	-1.3
	comp=Z,6.4nm,0.8s,baz=67,slow=4.7,SNR=9.1						
GEC2	GERESS Array S	100.61	322	ePdif	Pdif	07 40 26.6	-0.2
GEC2	GERESS Array S	100.61	322	eP	Pdif	07 40 26.6	-0.2
GERES	GERESS Array B	100.61	322	P	Pdif	07 40 25.6	-1.2
	comp=Z,1.5nm,0.8s,baz=63,slow=6.3,SNR=8.6						
NV01	Mina Array Sit	105.19	48	ePKKPbc	PKKPbc	07 56 29.4	+0.5
NV01				ePKKPab	PKKPab	07 56 44.4	-2.4
NVAR	Mina Array Bea	105.19	48	PKKPbc	PKKPbc	07 56 29.4	+0.5
	comp=Z,0.7nm,0.7s,baz=131,slow=3.5,SNR=6.4						
NVAR				PKKP	PKKPab	07 56 44.4	-2.4
	comp=Z,0.8nm,0.6s,baz=131,slow=4.9,SNR=5.8						
PDAR	Pinedale Array	109.48	41	PKKP	PKKPab	07 56 25.5	-2.3
	comp=Z,1.3nm,0.7s,baz=130,slow=5.8,SNR=9.0						
SCHQ	Schefferville	118.37	9	PKP	PKPdf	07 45 24.0	-1.7
	comp=Z,5.2nm,0.6s,baz=241,slow=8.1,SNR=3.8						
LTX	Lajitas	119.97	51	ePKKPbc	PKKPbc	07 55 39.0	-0.3
TXAR	Lajitas Array	119.97	51	PKKPbc	PKKPbc	07 55 39.0	-0.3
	comp=Z,0.4nm,0.7s,baz=136,slow=6.7,SNR=5.7						
L40A	Anamosa	120.86	33	ePKPdf	PKPdf	07 45 30.5	-0.3
E46A	Sault Ste Mari	120.94	25	ePKPdf	PKiKP	07 45 31.2	+0.3
JCT	Junction City	122.36	48	ePKPdf	PKiKP	07 45 35.2	+0.9
TOA0	Torodi Ar. Sit	122.56	290	ePKPdf	PKPdf	07 45 34.6	-0.1
TORD	Torodi Ar. Bea	122.56	290	PKP	PKPdf	07 45 34.1	-0.6
	comp=Z,7.1nm,0.5s,baz=54,slow=2.2,SNR=60						
TOA1	Torodi Ar. Sit	122.56	290	ePKPdf	PKPdf	07 45 34.1	-0.6
J47A	Sunmer	123.18	27	ePKPdf	PKiKP	07 45 35.9	+0.5
CCM	Cathedral Cave	123.58	36	ePKPdf	PKiKP	07 45 36.8	+0.4
J48A	Bridge Port	123.60	27	ePKPdf	PKiKP	07 45 36.6	+0.3
MIAR	Mount Ida	124.41	41	ePKPdf	PKiKP	07 45 39.4	+1.3
MIAR	Mount Ida	124.41	41	ePKIKP	PKiKP	07 45 39.4	+1.3
OLIL	Olney	124.89	33	ePKPdf	PKiKP	07 45 39.2	+0.3
BLO	Bloomington	125.42	32	ePKPdf	PKPdf	07 45 39.8	+0.1
O49A	Covington	125.77	29	ePKPdf	PKiKP	07 45 40.7	0.0
WVT	Waverly	126.89	35	ePKPdf	PKiKP	07 45 42.8	-0.2
WVT	Waverly	126.89	35	ePKIKP	PKiKP	07 45 42.8	-0.2
PLAL	Pickwick Lake	127.54	37	ePKPdf	PKPdf	07 45 43.6	-0.2
KIC	Kosan Boka	130.40	283	eP	PKPdf	07 45 49.4	-0.4
	comp=Z,55nm,1.4s						
DBIC	Dimbokro	130.44	284	ePKPdf	PKPdf	07 45 48.3	-1.5
DBIC	Dimbokro	130.44	284	ePKIKP	PKPdf	07 45 48.3	-1.5
DBIC	Dimbokro	130.44	284	PKP	PKiKP	07 45 50.6	-0.1
	comp=Z,4.2nm,0.6s,baz=71,slow=0.9,SNR=12						
TIC	Toumodi	130.61	284	eP	PKiKP	07 45 50.9	-0.2
LIC	Lamto	130.71	283	eP	PKPdf	07 45 50.7	+0.3
	comp=Z,31nm,0.8s						
PLCA	Paso Flores	141.90	158	ePKPdf	PKPdf	07 46 10.1	-0.4
PLCA	Paso Flores	141.90	158	ePKIKP	PKPdf	07 46 10.1	-0.4
PLCA	Paso Flores	141.90	158	PKP	PKPdf	07 46 09.3	-1.2
	comp=Z,2.1nm,1.0s,baz=278,slow=3.2,SNR=3.6						
TRQA	Tornquist	146.96	167	ePKPbc	PKPbc	07 46 21.8	+0.5
TRQA	Tornquist	146.96	167	ePKP2	PKPbc	07 46 21.8	+0.5
SDV	Santo Domingo	157.02	50	ePKPdf	PKPdf	07 46 35.6	+0.5
LPAZ	La Paz	161.87	126	PKP	PKPdf	07 46 42.0	+0.9
	comp=Z,0.8nm,0.7s,baz=194,slow=8.1,SNR=3.7						
BDFB	Brasilia	169.20	206	PKPab	PKPab	07 47 58.6	-0.1
	comp=Z,2.2nm,0.7s,baz=9.8,slow=21,SNR=3.5						

NIED **20** *07:32:00,36.°20N×143.°50E,h8km,Mw4.2 Best double couple: M0=2.21000×10^15 NP1:φs=52.00000°,δ34.00000°, λ-52.00000°. NP2:φs=189.00000°,δ64.00000°, λ-112.00000°.*
IDC **20** *07:32:05.9±0.6,36.°03N×143.°82E,h0km,mb4.1/22, mb1 4.3/26,mb1mx4.2/43,mbtmp4.2/26,ML3.9/3,MS3.2/5, Ms1 3.2/5,ms1mx2.8/29,Error ellipse: s-maj=17.1km s-min=14.5km az=152.0*
ISCJB **20** *07:32:09.6±0.2,36.°05N±0.°04×143.°60E±0.°03,h33km, mb4.3/57,MS3.2/3,Error ellipse: s-maj=5.9km s-min=3.0km az=168.1*
JMA **20** *07:32:10.2±0.3,36.°20N×143.°52E,h102km,M4.1*
NEIC **20** *07:32:11.6±0.2,36.°02N×143.°70E,h35km,mb4.5/41,Error ellipse: s-maj=6.3km s-min=4.0km az=166.0*
ISC 20 07:32:11.3±0.5,36.°08N±0.°05×143.°65E±0.°06,h35km,n127, σ1=52/136,**mb4.3**/57,**MS3.4**/3,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	2.30	261	P	Pn	07 32 46.5	-0.2
CHOJ				eS	Sn	07 33 14.1	+0.4
JHYU	Hitachinakayam	2.49	277	P	Pn	07 32 48.4	-0.9
JHYU				eS	Sn	07 33 16.4	-2.1
ONAJ	Iwakimizuishiy	2.51	295	P	Pn	07 32 47.9	-1.8
JIHU	Itakohorinouch	2.53	268	P	Pn	07 32 49.8	-0.1
JIHU				eS	Sn	07 33 19.3	-0.3
JHO	Hitachi	2.54	283	P	Pn	07 32 48.6	-1.5
BSO1	Boso 1	2.61	238	P	Pn	07 32 49.7	-0.7
JFT	Otama	3.02	299	P	Pn	07 32 55.9	-0.8
JFT				eS	Sn	07 33 29.4	-2.3
JAG	Ashikaga	3.41	277	P	Pn	07 33 01.1	-0.9
JMK	Ichinoseki	3.46	327	P	Pn	07 33 00.4	-2.2
JMK				S	Sn	07 33 38.5	-3.8
JOD2	Odawara 2	3.80	259	P	Pn	07 33 06.9	-0.5
JOD2				S	Sn	07 33 49.5	-1.4
JRY	Ryogami san	3.85	270	P	Pn	07 33 07.3	-0.8
JRY				eS	Sn	07 33 50.4	-1.7
JHJ2	Mitsune	4.33	228	ePn	Pn	07 33 13.9	-0.7
JHJ2				eSn	Sn	07 33 59.8	-4.1
JHJ2	Mitsune	4.33	228	P	Pn	07 33 13.7	-1.0
JHJ	Hachijo jima 2	4.34	228	Pn	Pn	07 33 12.9	-2.0
	27nm,0.3s,baz=72,slow=20,SNR=40						
JHJ				Sn	Sn	07 33 59.8	-4.6
	136nm,0.3s,baz=120,slow=21,SNR=12						
MJAR	Matsushiro Arr	4.42	278	ePn	Pn	07 33 15.6	-0.3
MJAR				eSn	Sn	07 34 06.3	+0.2
MJAR	Matsushiro Arr	4.42	278	Pn	Pn	07 33 15.7	-0.3
	1.0nm,0.3s,baz=113,slow=12,SNR=14						
MJAR				Sn	Sn	07 34 01.0	-5.1
	0.7nm,0.3s,baz=147,slow=8.0,SNR=4.3						
MJAR				LR	LR	07 35 09.4	
	comp=Z,210nm,20.4s,baz=105,slow=40						
MAJO	Matsushiro	4.42	278	ePn	Pn	07 33 16.2	+0.3
MAJO				eSn	Sn	07 34 01.0	-5.2
MAT	Matsushiro	4.42	278	P	Pn	07 33 15.7	-0.2
MAT				S	Sn	07 34 00.4	-5.7
MJB9	Matsu-Tunnel	4.42	278	ePn	Pn	07 33 16.2	+0.2
MJB9				eSn	Sn	07 34 03.7	-2.5
INU	Inuyama	5.45	264	ePn	Pn	07 33 30.4	+0.4
INU				eSn	Sn	07 34 32.2	+0.8
ERM	Erimo	5.94	356	ePn	Pn	07 33 32.3	-4.5
ERM				eSn	Sn	07 34 36.1	-7.4
JKB	Kayabe	6.15	341	P	Pn	07 33 37.8	-1.8
JKB				eS	Sn	07 34 41.0	-7.6
JCH	Churui	6.53	358	P	Pn	07 33 40.6	-4.2
JCH				S	Sn	07 34 48.3	-10
ASAJ	Asahikawa	8.07	355	Pn	Pn	07 34 03.4	-2.5
	3.3nm,0.3s,baz=194,slow=12,SNR=4.3						
ASAJ				Sn	Sn	07 35 28.3	-7.6
	0.8nm,0.3s,baz=209,slow=19,SNR=2.8						
USA0B	Ussuriysk Arra	12.05	316	ePn	Pn	07 35 02.4	+2.0
USRK	Ussuriysk Ar.	12.05	316	Pn	Pn	07 35 01.9	+1.5
	0.2nm,0.3s,baz=128,slow=12,SNR=5.1						
USRK				LR	LR	07 40 26.0	
	comp=Z,72nm,19.5s,baz=162,slow=41						
KSAR	Wonju Array Be	12.72	281	ePn	Pn	07 35 10.1	+0.5
JOW	Kunigami	16.02	239	ePn	Pn	07 35 51.2	-2.7
	29nm,1.3s						
PEA0B	Petropavlovsk-	19.68	26	eP	P	07 36 32.1	-5.2
	12nm,0.8s						
MA2	Magadan	23.96	9	eP	P	07 37 21.1	-1.1
	19nm,1.6s						
H11N2	WAKE ISLAND Hy	26.11	122	T	T	08 04 54.1	
	baz=314,slow=75,SNR=28						
H11N1	WAKE ISLAND Hy	26.12	122	T	T	08 04 57.1	
	baz=314,slow=75,SNR=20						
H11N3	WAKE ISLAND Hy	26.13	122	T	T	08 04 57.7	
	baz=314,slow=75,SNR=19						
H11S1	WAKE ISLAND Hy	26.83	125	T	T	08 05 48.9	
	baz=316,slow=76,SNR=9.8						
H11S3	WAKE ISLAND Hy	26.83	125	T	T	08 05 48.9	
	baz=316,slow=76,SNR=9.0						
H11S2	WAKE ISLAND Hy	26.85	125	T	T	08 05 50.1	
	baz=316,slow=76,SNR=9.3						
SEY	Seymchan	27.42	9	P	P	07 37 53.7	+0.3
	4.8nm,0.8s,baz=181,slow=6.3,SNR=6.0						
ULN	Ulaanbaatar	29.38	305	eP	P	07 38 13.5	+2.3
	2.1nm,0.7s						
SONA0	Songino Array	29.81	305	eP	P	07 38 17.3	+2.4
SONM	Songino Array	29.81	305	P	P	07 38 17.3	+2.4
	0.9nm,0.7s,baz=137,slow=11,SNR=2.4						
CMAR	Chiang Mai Arr	43.03	258	LR	LR	07 57 46.7	
	comp=Z,18nm,20.9s,baz=55,slow=36						
ZAA0	Zalesovo Array	43.88	313	eP	P	07 40 14.9	+0.8
	2.3nm,0.7s						
ZAA1	Zalesovo Array	43.88	313	eP	P	07 40 15.1	+0.9
ZAA1				ePP	PcP	07 42 00.2	+0.3
ZALV	Zalesovo Beam	43.88	313	P	P	07 40 15.1	+0.9
	1.8nm,0.6s,baz=90,slow=6.7,SNR=4.2						
ZALV				PcP	PcP	07 42 00.2	+0.3
	2.0nm,0.6s,baz=101,slow=2.0,SNR=6.4						
SBUM	Sibu	44.32	228	eP	P	07 40 18.2	+0.2
	1.5nm,0.8s						
NRIK	Noril'sk	44.88	335	LR	LR	08 00 09.8	
	comp=Z,44nm,18.5s,baz=112,slow=37						
MK32	Makanchi Array	46.15	303	eP	P	07 40 33.8	+1.5
MKAR	Makanchi Array	46.15	303	eP	P	07 40 34.2	+1.8
MKAR	Makanchi Array	46.15	303	P	P	07 40 33.8	+1.5
	0.6nm,0.7s,baz=87,slow=9.2,SNR=3.4						
IMAR	Indian Mountai	46.56	30	eP	P	07 40 36.3	+1.0
KDAK	Kodiak Island	46.61	41	eP	P	07 40 35.6	-0.1
	70nm,1.8s						
KDAK	Kodiak Island	46.61	41	P	P	07 40 35.5	-0.3
	4.8nm,0.9s,baz=292,slow=11,SNR=1.7						
MLY	Manley	47.71	32	eP	P	07 40 44.2	-0.1
	3.1nm,0.8s						
KURK	Kurchatov	47.93	309	eP	P	07 40 46.9	+0.8
	6.4nm,0.8s						
KURBB	Kurchatov Arra	48.00	309	P	P	07 40 47.6	+0.9
	4.8nm,0.7s,baz=84,slow=7.7,SNR=15						
GHO	Glory Hole Cre	48.42	36	eP	P	07 40 48.6	-1.2
MDM	Murphy Dome	48.77	32	eP	P	07 40 53.4	+0.9
	3.5nm,0.8s						
ILAR	Eielson Array	49.34	32	eP	P	07 40 56.9	+0.1
ILAR	Eielson Array	49.34	32	P	P	07 40 56.1	-0.7
	1.3nm,0.8s,baz=257,slow=6.6,SNR=4.4						
CTGM	Chitina Glacie	52.12	37	eP	P	07 41 19.4	+1.5
	6.9nm,1.0s						
BRVK	Borovoye	52.60	313	eP	P	07 41 22.1	+0.8
	2.7nm,0.7s						
EPYK	Eagle Plains	53.46	30	eP	P	07 41 28.5	+0.8
	21nm,1.6s						
INK	Inuvik	54.42	27	eP	P	07 41 34.6	+0.2
	2.6nm,0.6s						
INK	Inuvik	54.42	27	P	P	07 41 34.4	-0.1
	2.5nm,0.6s,baz=282,slow=3.9,SNR=10						
KK31	Karatay Array	55.16	301	eP	P	07 41 41.2	+0.9
	4.4nm,1.0s						
KKAR	Karatay Array	55.16	301	eP	P	07 41 41.4	+1.1
WB2	Warramunga Arr	56.41	191	eP	P	07 41 48.8	-0.5
	7.4nm,0.7s						
WR1	Warramunga Arr	56.41	191	eP	P	07 41 49.1	-0.3
WRA	Warramunga Arr	56.41	191	P	P	07 41 49.1	-0.3
	1.8nm,0.8s,baz=14,slow=6.1,SNR=6.9						
WC3	Warramunga Arr	56.42	190	eP	P	07 41 48.9	-0.5
	10nm,0.8s						
ABKAR	Akbulak array	59.92	311	eP	P	07 42 13.5	-0.2
AS31	Alice Springs	60.13	190	eP	P	07 42 15.1	-0.2
	1.2nm,0.6s						
ASAR	Alice Springs	60.13	190	eP	P	07 42 17.0	+1.6
ASAR	Alice Springs	60.13	190	P	P	07 42 14.9	-0.4
	1.0nm,0.7s,baz=8.2,slow=7.7,SNR=7.1						
RES	Resolute Bay	63.07	15	eP	P	07 42 34.4	-0.1
	4.0nm,0.6s						
RES	Resolute Bay	63.07	15	P	P	07 42 34.5	-0.1
	3.4nm,0.6s,baz=326,slow=7.4,SNR=18						
YKA	Yellowknife Ar	63.72	30	eP	P	07 42 39.3	+0.3
YKA	Yellowknife Ar	63.72	30	P	P	07 42 38.4	-0.6
	1.2nm,0.7s,baz=297,slow=6.6,SNR=9.4						
YKA				PcP	PcP	07 43 14.9	0.0
	0.2nm,0.7s,baz=310,slow=4.1,SNR=3.8						
YKB5	Yellowknife Ar	63.72	30	eP	P	07 42 38.4	-0.6
YKB5				ePcP	PcP	07 43 14.9	0.0
ARA0	ARCESS Array S	65.51	340	eP	P	07 42 51.1	+0.5
ARCES	ARCESS Array B	65.51	340	P	P	07 42 51.1	+0.5
	1.4nm,0.8s,baz=48,slow=8.6,SNR=3.1						
GEYT	Alibeck	65.87	300	P	P	07 42 53.6	+0.1
	1.3nm,0.5s,baz=58,slow=11,SNR=4.0						
GLK	Glacier Lake	67.78	48	eP	P	07 43 05.9	+0.3
FIA1	FINESS Array S	70.48	333	eP	P	07 43 24.5	+2.6
	18nm,1.5s						
FIA0	FINESS Array S	70.49	333	eP	P	07 43 21.5	-0.4
FINES	FINESS Array B	70.49	333	P	P	07 43 21.5	-0.4
	3.0nm,0.9s,baz=56,slow=8.6,SNR=4.4						
FINES				LR	LR	08 17 09.4	
	comp=Z,17nm,18.1s,baz=78,slow=38						
KBZ	Khabaz	72.88	312	P	P	07 43 37.2	+0.5
	1.2nm,0.6s,baz=60,slow=3.9,SNR=4.2						
HRY	Holter Researc	73.40	44	eP	P	07 43 39.9	+0.1
FFC	Flin Flon	73.52	33	eP	P	07 43 40.1	-0.2
	4.6nm,0.8s						
LRM	Limekiln Ridge	73.56	45	eP	P	07 43 41.4	+0.4
DLMT	Dillon	73.74	46	eP	P	07 43 42.5	+0.5
	4.5nm,1.2s						
EGMT	Eagleton	73.78	42	eP	P	07 43 42.2	+0.1
	21nm,1.9s						
MDPB	Devils Postpil	74.03	55	eP	P	07 43 43.3	-0.6
	3.2nm,1.0s						
FCC	Fort Churchill	74.04	27	eP	P	07 43 42.6	-0.5
	8.8nm,1.4s						
NV01	Mina Array Sit	74.11	54	eP	P	07 43 44.1	-0.2
NVAR	Mina Array Bea	74.11

TUMR	Tumrok	3.19 355	P	Pn	07 47 18.5	+4.1
KBTR	Krutoberegovo	4.30 17	eP	Pn	07 47 32.0	+2.5

*ISCJB **20** 07:47:18.2±1.3,29°.58S±0°.08×177°.8W±0°.2, h10km, mb4.5/14, Error ellipse: s-maj=23.1km s-min=10.3km az=162.5*
*IDC **20** 07:47:18.6±4.8,29°.20S×177°.81W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/22, mbtmp4.4/3, Error ellipse: s-maj=183.9km s-min=73.8km az=157.0*
*NEIC **20** 07:47:19.2±1.2,29°.50S×177°.68W, h10km, mb4.5/13, Error ellipse: s-maj=23.5km s-min=11.9km az=77.0*

ISC 20 07:47:19.1±1.3,29°.55±0°.1×177°.6W±0°.2, h10km, n30, σ1°39/28, mb4.6/14, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	8.72	202	ePn	Pn	07 49 26.1	+0.9
OUZ	Omahuta	9.35	230	ePn	Pn	07 49 36.0	+2.1
URZ	Urewera	9.76	205	ePn	Pn	07 49 38.9	-0.6
BKZ	Black Stump Fm	10.79	205	ePn	Pn	07 49 51.5	-2.1
BFZ	Birch Farm	12.22	203	ePn	Pn	07 50 12.7	-0.5
SNZO	South Karori	13.32	206	ePn	Pn	07 50 29.8	+1.5
THZ	Tophouse	14.43	210	ePn	Pn	07 50 41.4	-2.1
KHZ	Kahutara	14.72	207	ePn	P	07 50 51.8	-1.6
PINNC	Pines Island, 38nm,1.3s	15.06	294	ePn	Pn	07 50 51.1	-0.9
CTAO	Charters Tower 7.1nm,0.5s	33.99	278	eP	P	07 54 06.1	+2.9
STKA	Stephens Creek 0.9nm,0.9s	35.01	256	eP	P	07 54 11.7	-0.1
STKA	Stephens Creek 2.9nm,0.5s,baz=107,slow=11,SNR=8.1	35.01	256	P	P	07 54 11.9	+0.1
BBOO	Buckleboo 20nm,1.4s	39.53	253	eP	P	07 54 48.0	-2.3
AS31	Alice Springs 1.1nm,0.4s	43.49	266	eP	P	07 55 22.9	0.0
ASAR	Alice Springs	43.49	266	eP	P	07 55 22.3	-0.6
ASAR	Alice Springs 1.7nm,0.4s,baz=105,slow=7.4,SNR=37	43.49	266	P	P	07 55 22.4	-0.5
WC3	Warramunga Arr 6.5nm,0.3s	44.36	271	eP	P	07 55 30.2	+0.2
WB2	Warramunga Arr 7.6nm,0.3s	44.39	271	eP	P	07 55 30.3	+0.2
WRAB	Tennant Creek 4.3nm,0.8s	44.39	271	eP	P	07 55 30.2	+0.1
WR1	Warramunga Arr	44.40	271	eP	P	07 55 30.2	0.0
WRA	Warramunga Arr 3.1nm,0.3s,baz=108,slow=8.1,SNR=78	44.40	271	P	P	07 55 30.2	0.0
VNDA	Vanda 0.7nm,0.9s	49.01	186	eP	P	07 56 06.7	+1.2
FITZ	Fitzroy Crossi 10nm,1.3s	52.69	269	eP	P	07 56 32.4	-1.7
QSPA	South Pole Qui 4.1nm,0.8s	60.60	180	eP	P	07 57 31.3	+1.5
YOJ	Yonaguni jima 52nm,1.2s	78.29	307	eP	P	07 59 17.0	-2.5
SNAA	Sanae 2.5nm,1.3s	79.03	178	eP	P	07 59 23.8	+0.8
HRY	Holter Researc	96.30	39	eP	P	08 00 43.1	-4.7
FURI	Furi	140.30	246	ePKPpre	PKPpre	08 06 40.1	
FIA0	FINESS Array S	144.42	341	ePKPdf	PKPdf	08 06 55.0	+0.1
FINES	FINESS Array B 2.6nm,0.5s,baz=54,slow=3.6,SNR=16	144.42	341	PKP	PKPdf	08 06 55.0	+0.1

*IDC **20** 07:48:01.6±3.0,51°.52N×160°.38E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.5/35, mbtmp3.8/6, ML3.0/1, MS3.7/2, Ms1 3.7/2, ms1mx2.6/47, Error ellipse: s-maj=79.5km s-min=44.8km az=27.0*
*KRSC **20** 07:48:05.8±10.0,52°.03N×160°.60E, h65km±10km, ML4.0*
*NEIC **20** 07:48:06.7±0.7,51°.48N×160°.05E, h35km, mb4.4/9, Error ellipse: s-maj=13.8km s-min=10.0km az=183.0*
*MOS **20** 07:48:07.0±0.7,51°.98N×160°.61E, h51km, mb4.5/5, Error ellipse: s-maj=11.5km s-min=5.4km az=115.3*

ISC 20 07:48:05.6±2.4,52°.01N±0°.05×160°.57E±0°.04, h13km±14km, n91, σ1°52/116, mb4.3/14, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.14	343	eP	Pn	07 48 26.6	-0.6
SPN				eS	Sb	07 48 40.3	-1.6
SPN	Mys Shipunski	1.14	343	PN	Pn	07 48 26.6	-0.6
SPN				S	Sb	07 48 40.3	-1.6
RUS	Russkaya	1.33	290	eP	Pn	07 48 30.0	+0.2
RUS	Russkaya	1.33	290	PN	Pn	07 48 30.0	+0.2
NLC	Nalytchevo	1.39	328	eP	Pb	07 48 31.1	-0.2
NLC				eS	Sn	07 48 48.1	-0.6
NLC	Nalytchevo	1.39	328	PN	Pb	07 48 31.1	-0.2
NLC				S	Sn	07 48 48.1	-0.6
DALK	Dalny	1.51	314	eP	Pn	07 48 32.7	+0.4
DALK				eS	Sn	07 48 50.7	-1.1
DALK	Dalny	1.51	314	PN	Pn	07 48 32.7	+0.4
DALK				S	Sn	07 48 50.7	-1.1
MTVR	Mutnovka	1.54	289	eP	Pn	07 48 33.4	+0.6
MTVR				eS	Sn	07 48 52.4	-0.4
MTVR	Mutnovka	1.54	289	PN	Pn	07 48 33.4	+0.6
MTVR				S	Sn	07 48 52.4	-0.4
PET	Petropavlovsk	1.55	312	ePn	Pn	07 48 33.4	+0.5
PET				eSn	Sg	07 48 55.3	-0.2
PET	Petropavlovsk	1.55	312	eP	Pn	07 48 33.4	+0.5
PET	Petropavlovsk	1.55	312	⇑P/PN	Pn	07 48 33.3	+0.5
PET				eS	Sb	07 48 53.5	-0.1
PET				pmax	pmax		
	comp=Z,342nm,0.5s						
PET				smax	smax		
	comp=E,422nm,0.6s						
PET				smax	smax		
	comp=N,442nm,0.6s						
KDTR	Khodutka, Kamc	1.55	264	eP	Pn	07 48 33.4	+0.5
KDTR				eS	Sn	07 48 52.0	-0.8
KDTR	Khodutka, Kamc	1.55	264	PN	Pn	07 48 33.4	+0.5
KDTR				S	Sn	07 48 52.0	-0.8
UGLR	Uglovaya	1.61	319	eP	Pn	07 48 34.5	+0.8
UGLR	Uglovaya	1.61	319	PN	Pn	07 48 34.5	+0.8
SDLR	Sedlovina	1.64	322	eP	Pn	07 48 34.9	+0.8
SDLR	Sedlovina	1.64	322	PN	Pn	07 48 34.9	+0.8
SMAR	Somma	1.66	320	eP	Pn	07 48 35.2	+0.7
SMAR	Somma	1.66	320	PN	Pn	07 48 35.2	+0.7
AVH	Avacha	1.68	319	eP	Pn	07 48 35.6	+0.9
AVH				eS	Sn	07 48 56.2	0.0
AVH	Avacha	1.68	319	PN	Pn	07 48 35.6	+0.9
AVH				S	Sn	07 48 56.2	0.0
ASAK	Asacha	1.68	284	eP	Pb	07 48 35.9	-0.5
ASAK	Asacha	1.68	284	PN	Pb	07 48 35.9	-0.5
KRMR	Karymshinskiy	1.71	300	eP	Pn	07 48 35.6	+0.7
KRMR				eS	Sn	07 48 57.2	+0.6
KRMR	Karymshinskiy	1.71	300	PN	Pn	07 48 35.6	+0.7
KRMR				S	Sn	07 48 57.2	+0.6
KRER	Koryakskii	1.71	320	eP	Pb	07 48 36.6	-0.3
KRER	Koryakskii	1.71	320	PN	Pb	07 48 36.6	-0.3
KOK	Koryaka	1.74	318	eP	Pb	07 48 36.7	-0.8
KOK	Koryaka	1.74	318	PN	Pb	07 48 36.7	-0.8
KRX	Arik	1.79	320	eP	Pn	07 48 37.1	+0.9
KRX	Arik	1.79	320	PN	Pn	07 48 37.1	+0.9
PEA0B	Petropavlovsk-	2.07	303	ePn	Pn	07 48 41.0	+1.0
PEA0B				eSn	Sb	07 49 08.0	-0.5
PEA0B	Petropavlovsk-	2.07	303	ePN	Pn	07 48 41.0	+1.0
PEA0B				e		07 49 08.0	
PETK	Petropavlovsk-	2.07	303	ePn	Pn	07 48 40.7	+0.7
PETK				eSn	Sb	07 49 08.1	-0.4
PETK	Petropavlovsk-	2.07	303	Pn	Pn	07 48 41.4	+1.4
	comp=N,18nm,0.3s,baz=104,slow=19,SNR=13						
PETK				Sn	Sb	07 49 09.7	+1.1
	comp=N,8.7nm,0.3s,baz=118,slow=21,SNR=4.5						
PEA1	Petropavlovsk-	2.07	303	ePn	Pn	07 48 41.4	+1.4
PEA1				eSn	Sb	07 49 09.7	+1.0
APC	Apacha	2.28	295	eP	Pn	07 48 44.7	+1.9
APC				S	Sn	07 49 11.7	+1.0
APC	Apacha	2.28	295	PN	Pn	07 48 44.7	+1.9
APC				S	Sn	07 49 11.7	+1.0
PAU	Pauzhetka	2.40	258	P	Pn	07 48 44.5	+0.1
PAU	Pauzhetka	2.40	258	PN	Pn	07 48 44.5	+0.1
MKZ	Mys Kozlova	2.65	15	eP	Pn	07 48 48.4	+0.5
MKZ				eS	Sn	07 49 17.3	-2.5
MKZ	Mys Kozlova	2.65	15	PN	Pn	07 48 48.4	+0.5
MKZ				S	Sn	07 49 17.3	-2.5
SKR	Severo-Kuril's	3.09	246	eP	Pn	07 48 55.3	+1.4
SKR	Severo-Kuril's	3.09	246	ePN	Pn	07 48 55.3	+1.4
SKR				pmax	pmax		
	comp=Z,22nm,0.6s						
KZV	Kizimen	3.12	357	eP	Pn	07 48 56.8	+2.3
KZV				S	Sn	07 49 31.5	-0.2
KZV	Kizimen	3.12	357	PN	Pn	07 48 56.8	+2.3
KZV				S	Sn	07 49 31.5	-0.2
TUMD	Tumrok D	3.21	358	eP	Pn	07 48 56.5	+0.9
TUMD				eS	Sn	07 49 31.8	-1.8
TUMR	Tumrok	3.29	356	eP	Pn	07 48 59.1	+2.2
TUMR	Tumrok	3.29	356	PN	Pn	07 48 56.5	-0.4
ALID	Alaid	3.34	252	P	Pn	07 48 58.9	+1.4
ALID	Alaid	3.34	252	PN	Pn	07 48 58.9	+1.4
KBTR	Krutoberegovo	4.41	17	eP	Pn	07 49 13.8	+1.6
KBTR				eS	Sn	07 50 01.9	-1.5
KBTR	Krutoberegovo	4.41	17	PN	Pn	07 49 13.8	+1.6
KBTR				S	Sn	07 50 01.9	-1.5
BKI	Bering	4.54	43	S	Sn	07 50 02.4	-4.1
MA2	Magadan	9.37	328	ePn	Pn	07 50 21.7	+1.6
MA2	Magadan	9.37	328	ePN	Pn	07 50 21.7	+1.6
RSO	Redoubt South	26.76	53	eP	P	07 53 47.3	+2.4
KS15	Wonju Array Si	27.13	250	eP	P	07 53 41.3	-6.8
	comp=Z,9.2nm,0.8s						
KSAR	Wonju Array Be	27.13	250	eP	P	07 53 40.1	-8.0
KSAR	Wonju Array Be	27.13	250	eP	P	07 53 40.1	-8.0
SML	Sawmill	28.82	50	eP	P	07 54 06.9	+3.8
	comp=Z,12nm,1.3s						
SML	Sawmill	28.82	50	eP	P	07 54 06.9	+3.8
SML				pmax	pmax		
	comp=Z,12nm,1.3s						
CTGM	Chitina Glacie	32.27	51	eP	P	07 54 37.1	+3.5
	comp=Z,6.5nm,1.5s						
TLY	Talaya	34.39	293	eP	P	07 54 50.2	-1.9
	comp=Z,3.7nm,0.8s						
TLY	Talaya	34.39	293	eP	P	07 54 50.2	-1.9
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SPA0	Spitsbergen Ar	48.26	351	eP	P	07 56 46.3	+0.8
	comp=Z,26nm,1.3s						
MK31	Makanchi Array	48.89	297	eP	P	07 56 47.9	-2.9
	comp=Z,2.2nm,1.4s						
MK31	Makanchi Array	48.89	297	eP	P	07 56 47.9	-2.9
MK31				pmax	pmax		
	comp=Z,2.0nm,1.4s						
MK32	Makanchi Array	48.89	297	eP	P	07 56 49.3	-1.5
MKAR	Makanchi Array	48.89	297	eP	P	07 56 49.6	-1.2
MKAR	Makanchi Array	48.89	297	eP	P	07 56 49.6	-1.2
MKAR	Makanchi Array	48.89	297	P	P	07 56 49.3	-1.5
	comp=Z,0.4nm,0.5s,baz=56,slow=7.2,SNR=6.9						
ARU	Arti	54.40	318	LR	LR	08 23 05.2	
	comp=Z,67nm,19.9s,baz=186,slow=38						
ARA0	ARCESS Array S	54.41	342	eP	P	07 57 32.3	+0.7
ARCES	ARCESS Array B	54.41	342	P	P	07 57 32.3	+0.7
	comp=Z,1.4nm,0.7s,baz=37,slow=9.1,SNR=3.4						
ABKAR	Akbulak array	58.72	311	eP	P	07 58 02.5	-0.1
LCMT	Little Creek M	59.73	68	eP	P	07 58 11.8	+1.8
	comp=Z,3.7nm,0.8s						
GAR	Garm	60.62	297	eP	P	07 58 14.1	-1.9
	comp=Z,4.6nm,1.0s						
GAR	Garm	60.62	297	eP	P	07 58 14.1	-1.9
GAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FIA0	FINESS Array S	61.23	337	eP	P	07 58 19.4	-0.2
FIA0	FINESS Array S	61.23	337	eP	P	07 58 19.5	-0.2
FINES	FINESS Array B	61.23	337	eP	P	07 58 18.7	-0.9
FINES	FINESS Array B	61.23	337	eP	P	07 58 18.7	-0.9
FINES	FINESS Array B	61.23	337	P	P	07 58 19.4	-0.2
	comp=Z,0.7nm,0.5s,baz=27,slow=6.5,SNR=4.6						
NB200	NORSAR Array S	64.67	344	eP	P	07 58 44.0	+1.5
NOA	NORSAR Array B	64.67	344	P	P	07 58 44.0	+1.5
	comp=Z,0.4nm,0.5s,baz=24,slow=6.8,SNR=3.3						
AKASG	Malin Array Be	69.70	329	P	P	07 59 16.0	+1.5
	comp=Z,0.5nm,0.4s,baz=27,slow=6.0,SNR=2.7						
AKBB	Malin Array Si	69.70	329	eP	P	07 59 16.0	+1.5
	comp=Z,1.8nm,0.6s						
PPT	Papeete	81.70	133	LR	LR	08 29 14.4	
	comp=Z,53nm,20.2s,baz=354,slow=30						

WEL 20 07:48:07.5,45°.S±8°×16°.7E±°, h12km, ML3.9/18, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.36	119	P	Pb	07 48 16.4	+0.6
DCZ				S	Sb	07 48 22.5	+1.2
MLZ	Mavora Lakes	1.00	95	P	Pg	07 48 26.5	-0.2
MLZ				S	Sn	07 48 40.6	-0.7
WHZ	Wether Hill Ro	1.06	125	P	Pb	07 48 27.5	-0.3
WHZ				S	Sn	07 48 42.4	-0.4
MSZ	Milford Sound	1.06	55	P	Pb	07 48 26.2	-1.5
MSZ				S	Sb	07 48 40.4	-1.2
WKZ	Wanaka	1.70	75	P	Pb	07 48 38.1	-0.6
WKZ				S	Sb	07 49 00.6	+0.5
APZ	The Paps	1.78	150	P	Pn	07 48 39.0	+0.9
EAZ	Earnscleugh	1.84	89	P	Pn	07 48 39.9	+1.1
EAZ				S	Sb	07 49 03.4	-0.6
JCZ	Jackson Bay	1.92	51	P	Pb	07 48 41.4	-1.0
SYZ	Scrubby Hill	2.11	127	P	Pn	07 48 43.2	+0.8
LBZ	Lake Benmore	2.63	71	P	Pn	07 48 49.4	-0.4
HHSZ	Highcliff Hill	2.79	104	P	Pn	07 48 52.3	+0.3
ODZ	Otahua Downs	2.79	86	P	Pn	07 48 51.9	-0.1
FOZ	Fox Glacier	2.84	53	P	Pn	07 48 51.6	-1.0
GCSZ	Gaunt Creek Bo	3.26	54	P	Pn	07 48 56.2	-2.2
RPZ	Rata Peaks	3.49	65	P	Pn	07 49 00.5	-1.0
WVZ	Waitaha Valley	3.65	54	P	Pn	07 49 01.7	-2.0
INZ	Inchbonnie	4.27	55	P	Pn	07 49 10.4	-1.9
OXZ	Oxford	4.30	65	P	Pn	07 49 11.2	-1.5
MQZ	McQueen's Vall	4.54	72	P	Pn	07 49 14.0	-2.0
LTZ	Lake Taylor	4.73	60	P	Pn	07 49 18.2	-0.4
DSZ	Denniston Nort	5.13	48	P	Pn	07 49 22.2	-1.8
THZ	Tophouse	5.72	54	P	Pn	07 49 31.9	-0.3
QRZ	Quartz Range	6.17	46	P	Pn	07 49 35.5	-2.9
NNZ	Nelson	6.35	52	P	Pn	07 49 40.2	-0.6

KRSC 20 07:51:46.0±10.0,52°.24N×160°.82E, h60km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.99	331	eP	Pn	07 52 04.3	+0.5
SPN				eS	Sn	07 52 16.5	-0.6
NLC	Nalytchevo	1.29	317	eP	Pn	07 52 09.4	+1.5
RUS	Russkaya	1.43	279	eP	Pn	07 52 11.7	+2.1
RUS				eS	Sn	07 52 29.0	+1.6
DALK	Dalny	1.49	303	eP	Pn	07 52 12.3	+1.9
DALK				eS	Sn	07 52 30.1	+1.2
UGLR	Uglovaya	1.55	310	eP	Pn	07 52 13.7	+2.2
SDLR	Sedlovina	1.57	312	eP	Pn	07 52 13.6	+1.9
SMAR	Somma	1.60	311	eP	Pn	07 52 14.5	+2.3
AVH	Avacha	1.63	310	eP	Pn	07 52 14.9	+2.4
MTVR	Mutnovka	1.63	280	eP	Pn	07 52 15.1	+2.5
MTVR				eS	Sn	07 52 35.8	+3.2
KRER	Koryakskii	1.65	311	eP	Pn	07 52 15.8	+3.0
KOK	Koryaka	1.69	309	eP	Pn	07 52 15.9	+2.5
KRX	Arik	1.73	311	eP	Pn	07 52 16.9	+3.0
KRMR	Karymshinskiy	1.74	291	eP	Pn	07 52 16.3	+2.4
KRMR				eS	Sn	07 52 37.7	+2.6
KDTR	Khodutka, Kamc	1.75	257	eP	Pn	07 52 16.1	+2.1
KDTR				eS	Sn	07 52 36.6	+1.5
ASAK	Asacha	1.80	276	eP	Pn	07 52 17.7	+3.0
APC	Apacha	2.33	289	eP	Pn	07 52 25.6	+3.6
APC				eS	Sn	07 52 53.5	+4.0
MKZ	Mys Kozlova	2.38	13	eP	Pn	07 52 24.6	+2.0
MKZ				eS	Sn	07 52 51.3	+0.6
KZV	Kizimen	2.90	354	eP	Pn	07 52 33.2	+3.4
KZV				eS	Sn	07 53 07.2	+3.8
TUMD	Tumrok D	2.98	355	eP	Pn	07 52 33.5	+2.7
TUMD				eS	Sn	07 53 08.1	+2.8
TUMR	Tumrok	3.08	353	eP	Pn	07 52 35.9	+3.7
SKR	Severo-Kuril's	3.33	244	eP	Pn	07 52 38.3	+2.8
SKR				eS	Sn	07 53 14.7	+1.0
ALID	Alaid	3.56	249	eP	Pn	07 52 41.8	+2.9
KBTR	Krutoberegovo	4.15	16	eP	Pn	07 52 49.4	+2.7

KRSC 20 08:07:57.6±10.0,52°.03N×160°.69E, h60km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.15	339	eP	Pn	08 08 18.1	+0.6
SPN				eS	Sn	08 08 33.0	+0.6
RUS	Russkaya	1.40	288	eP	Pn	08 08 22.7	+1.8
RUS				eS	Sn	08 08 40.0	+1.6
NLC	Nalytchevo	1.41	325	eP	Pn	08 08 22.5	+1.5
NLC				eS	Sn	08 08 40.2	+1.6
DALK	Dalny	1.55	311	eP	Pn	08 08 24.4	+1.4
DALK				eS	Sn	08 08 43.7	+1.6
PET	Petropavlovsk	1.60	309	eP	Pn	08 08 26.1	+2.6
MTVR	Mutnovka	1.61	287	eP	Pn	08 08 25.9	+2.0
MTVR				eS	Sn	08 08 46.4	+2.7
KDTR	Khodutka, Kamc	1.64	263	eP	Pn	08 08 25.9	+1.8
KDTR				eS	Sn	08 08 45.9	+1.8
UGLR	Uglovaya	1.64	317	eP	Pn	08 08 26.9	+2.6
UGLR				eS	Sn	08 08 48.1	+3.7
SDLR	Sedlovina	1.67	319	eP	Pn	08 08 26.8	+2.2
SMAR	Somma	1.69	318	eP	Pn	08 08 28.6	+3.6
AVH	Avacha	1.72	317	eP	Pn	08 08 27.6	+2.3
KRER	Koryakskii	1.74	318	eP	Pn	08 08 27.1	+1.4
KRMR	Karymshinskiy	1.76	298	eP	Pn	08 08 27.9	+2.1
KRMR				eS	Sn	08 08 49.7	+2.5
KOK	Koryaka	1.78	316	eP	Pn	08 08 29.4	+3.3
KRX	Arik	1.82	318	eP	Pn	08 08 28.8	+2.0
APC	Apacha	2.34	294	eP	Pn	08 08 36.1	+2.5
MKZ	Mys Kozlova	2.61	13	eP	Pn	08 08 39.7	+2.4
MKZ				eS	Sn	08 09 07.9	+0.2
KZV	Kizimen	3.10	356	eP	Pn	08 08 47.4	+3.2
SKR	Severo-Kuril's	3.17	247	eS	Sn	08 09 24.0	+2.5
TUMD	Tumrok D	3.19	357	eP	Pn	08 08 49.8	+4.6
KBTR	Krutoberegovo	4.37	16	eP	Pn	08 09 04.4	+3.0

IDC 20 08:14:11.4±2.0,0°.71N×124°.34E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/40, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=148.1km s-min=26.9km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.73	176	P	Pn	08 18 32.3	+0.1
	0.1nm,0.3s,baz=342,slow=9.6,SNR=1.8						
WRA	Warramunga Arr	22.74	155	P	P	08 19 16.0	+0.6
	1.6nm,0.3s,baz=333,slow=9.0,SNR=35						
ASAR	Alice Springs	25.95	160	P	P	08 19 45.0	-0.9
	0.2nm,0.5s,baz=339,slow=7.7,SNR=5.1						
MKAR	Makanchi Array	58.73	327	P	P	08 24 11.2	0.0
	0.3nm,0.5s,baz=126,slow=6.1,SNR=2.0						

*NNC **20** 08:15:41.9±2.3,54°.27N×86°.39E, h0km, mb3.8, mpv3.0, Error ellipse: s-maj=45.9km s-min=11.3km az=167.0, Suspected Mining explosion.*
*IDC **20** 08:15:44.9±2.4,54°.15N×86°.33E, h0km, mb1 3.2/2, mb1mx3.0/45, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=18.1km s-min=10.9km az=63.0*

ISC 20 08:15:44.3±4.7,54°.3N±0°.2×86°.1E±0°.2, h0km, n8, σ1°66/10, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.83	249	i		08 22 30.0	
	baz=75,slow=336,SNR=4.2						
ZAA0	Zalesovo Array	0.83	249	⇓P	Pg	08 16 00.6	+0.5
	1.1nm,0.7s						
ZAA0				⇑S	Sn	08 16 14.3	-1.9
	5.2nm,1.1s						
ZALV	Zalesovo Beam	0.83	249	Pg	Pb	08 16 00.9	-0.7
	1.5nm,0.3s,baz=75,slow=17,SNR=29						
ZALV				Lg	Lg	08 16 15.5	
	7.7nm,0.3s,baz=78,slow=30,SNR=40						
ZALV				Rg	Rg	08 16 21.1	
	70nm,1.0s,baz=75,slow=34,SNR=28						
KURK	Kurchatov	5.79	235	⇑Pn	Pn	08 17 11.5	+0.1
	3.0nm,1.0s						
KURK				⇑Lg	Lg	08 18 49.5	
	6.3nm,1.3s						
KURBB	Kurchatov Arra	5.90	235	⇓Pn	Pn	08 17 11.5	-1.3
	6.7nm,1.1s						
KURBB				⇓Lg	Lg	08 18 53.4	
	8.9nm,0.7s						
KURBB	Kurchatov Arra	5.90	235	Pn	Pn	08 17 15.1	+2.2
	0.1nm,0.3s,baz=54,slow=14,SNR=27						
KURBB				Sn	Sn	08 18 23.4	+2.3
	0.0nm,0.3s,baz=9.1,slow=17,SNR=1.1						
KURBB				Lg	Lg	08 18 52.5	
	0.0nm,0.3s,baz=56,slow=32,SNR=6.7						
MK31	Makanchi Array	7.86	200	Pn	Pn	08 17 39.5	-0.2
	1.1nm,0.7s,baz=27,slow=14,SNR=6.5						
MK31				⇑Lg	Lg	08 19 53.8	
	7.6nm,1.3s,baz=26,slow=29,SNR=6.5						
MKAR	Makanchi Array	7.86	200	Pn	Pn	08 17 40.9	+1.1
	0.2nm,0.3s,baz=23,slow=12,SNR=6.9						
MKAR				Sn	Sn	08 19 08.0	-1.3
	0.1nm,0.3s,baz=20,slow=26,SNR=3.1						
MKAR				Lg	Lg	08 19 50.0	
	0.1nm,0.3s,baz=23,slow=30,SNR=9.8						

*IDC **20** 08:29:49.3±0.8,27°.29N×141°.63E, h0km, mb3.6/12, mb1 3.9/12, mb1mx3.6/47, mbtmp3.6/12, MS2.6/3, Ms1 2.6/3, ms1mx2.4/38, Error ellipse: s-maj=30.2km s-min=19.3km az=95.0*
*ISCJB **20** 08:29:56.0±0.7,27°.3N±0°.1×141°.5E±0°.2, h64km, mb3.6/12, Error ellipse: s-maj=25.4km s-min=15.9km az=2.0*

ISC 20 08:29:57.6±0.9,27°.3N±0°.1×141°.5E±0°.2, h64km, n20, σ0°65/12, mb3.6/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	Nakatsue	10.88	305	LR	LR	08 36 19.6	
	comp=Z,27nm,20.4s,baz=27,slow=36						
KSRS	Korea Array	15.30	315	LR	LR	08 38 43.0	
	comp=Z,21nm,18.7s,baz=115,slow=35						
KLR	Kul'dur	23.17	344	P	P	08 34 57.9	-0.8
	0.6nm,0.4s,baz=150,slow=8.1,SNR=3.4						
H11N2	WAKE ISLAND Hy	24.43	102

MTVR	**Mutnovka**	**1.61**	**288**	*eP*	Pn	08 43 16.1	+2.0
MTVR				*eS*	Sn	08 43 36.1	+2.3
KDTR	**Khodutka, Kamc**	**1.64**	**264**	*eP*	Pn	08 43 16.3	+2.0
KDTR				*eS*	Sn	08 43 35.3	+1.3
UGLR	**Uglovaya**	**1.65**	**317**	*eP*	Pn	08 43 16.9	+2.3
UGLR				*eS*	Sn	08 43 37.8	+3.2
SDLR	**Sedlovina**	**1.68**	**320**	*eP*	Pn	08 43 17.1	+2.1
SMAR	**Somma**	**1.70**	**318**	*eP*	Pn	08 43 17.7	+2.3
AVH	**Avacha**	**1.73**	**317**	*eP*	Pn	08 43 18.3	+2.7
KRER	**Koryakskii**	**1.75**	**318**	*eP*	Pn	08 43 18.5	+2.4
ASAK	**Asacha**	**1.76**	**283**	*eP*	Pn	08 43 18.6	+2.5
KRMR	**Karymshinskiy**	**1.77**	**298**	*eP*	Pn	08 43 18.0	+1.9
KRMR				*eS*	Sn	08 43 39.6	+2.3
KOK	**Koryaka**	**1.79**	**316**	*eP*	Pn	08 43 18.9	+2.4
KRX	**Arik**	**1.83**	**318**	*eP*	Pn	08 43 19.0	+1.9
APC	**Apacha**	**2.35**	**294**	*eP*	Pn	08 43 26.9	+2.9
APC				*eS*	Sn	08 43 54.4	+2.8
MKZ	**Mys Kozlova**	**2.62**	**13**	*eP*	Pn	08 43 30.7	+3.0
MKZ				*eS*	Sn	08 44 00.0	+1.8
KZV	**Kizimen**	**3.11**	**356**	*eP*	Pn	08 43 38.1	+3.4
TUMD	**Tumrok D**	**3.20**	**357**	*eS*	Sn	08 44 17.5	+4.9
KBTR	**Krutoberegovo**	**4.38**	**16**	*eP*	Pn	08 43 56.0	+4.1

*IDC **20** 08:44:19.8±4.7, 13°.92N×92°.41W, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.5/29, mbtmp3.3/6, ML3.3/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/28, Error ellipse: s-maj=89.1km s-min=25.8km az=180.0*

*MEX **20** 08:44:23.3±0.5, 13°.87N×92°.43W, h24km±25km, MD3.8*

ISC 20 08:44:27.3±1.6, 14°.2N±0°.1×92°.40W±0°.06, h46km, n12, σ2s17/16, mb3.4/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.76**	**10**	*eP*	**Pn**	**08 44 40.0**	**-1.8**
THIG				*eS*	**Sn**	**08 44 52.3**	**+0.1**
PCIG		**1.73**	**333**	*eP*	**Pn**	**08 44 52.6**	**-2.4**
PCIG				*i* S	**Sn**	**08 45 16.2**	**+0.3**
APG	**El Apazote**	**2.06**	**65**	Pn	**Pn**	**08 44 58.7**	**-0.9**
	6.7nm,0.3s,baz=240,slow=8.8,SNR=87						
APG				Sn	**Sn**	**08 45 25.6**	**+1.4**
	7.8nm,0.3s,baz=124,slow=7.2,SNR=4.8						
CCIG	**Comitan**	**2.13**	**7**	*eP*	**Pn**	**08 44 59.5**	**-1.1**
CCIG				*i* S	**Sn**	**08 45 27.5**	**+1.5**
CMIG	**Matias Romero**	**3.78**	**321**	*eP*	**Pn**	**08 45 21.2**	**-1.9**
CMIG				*eS*	**Sn**	**08 46 05.6**	**-0.6**
CMIG	**Matias Romero**	**3.78**	**321**	Pn	**Pn**	**08 45 21.7**	**-1.4**
	1.4nm,0.3s,baz=144,slow=13,SNR=16						
CMIG				Sn	**Sn**	**08 46 12.3**	**+6.1**
	4.0nm,0.3s,baz=96,slow=14,SNR=3.6						
TXAR	**Lajitas Array**	**18.36**	**327**	P	**Pn**	**08 48 38.3**	**-0.3**
	0.0nm,0.3s,baz=144,slow=12,SNR=3.0						
LPIG	**La Paz**	**19.58**	**303**	LR	LR	08 56 02.1	
	comp=Z,40nm,21.1s,baz=228,slow=36						
ROSC	**El Rosal**	**20.07**	**116**	LR	LR	08 55 17.3	
	comp=Z,63nm,21.1s,baz=234,slow=33						
NVAR	**Mina Array Bea**	**33.31**	**321**	P	**P**	**08 51 02.7**	**+1.7**
	0.3nm,0.6s,baz=143,slow=9.1,SNR=2.9						
YKA	**Yellowknife Ar**	**50.79**	**347**	P	**P**	**08 53 22.1**	**-0.6**
	0.7nm,0.7s,baz=148,slow=7.5,SNR=8.7						
ILAR	**Eielson Array**	**62.55**	**337**	P	**P**	**08 54 45.9**	**-0.2**
	0.2nm,0.6s,baz=104,slow=6.6,SNR=2.5						

*SOME **20** 08:45:42.5, 42°.18N×76°.57E, h15km*

*KRNET **20** 08:45:42.6±0.1, 42°.20N×76°.58E, h19km, mb3.2*

*NNC **20** 08:45:42.7±0.5, 42°.23N×76°.55E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=3.1km s-min=1.6km az=164.0*

*KNET **20** 08:45:43.6±0.4, 42°.20N×76°.47E, h18km±1km, ml2.2, Error ellipse: s-maj=2.9km s-min=2.1km az=125.0*

ISC 20 08:45:42.7±0.9, 42°.20N±0°.02×76°.55E±0°.02, h17km±7km, n78, σ0s90/145, 44C-31D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.23**	**281**	P	**Pg**	**08 45 48.3**	**0.0**
	85nm,0.1s,SNR=423						
ULHL				⇑S	**Sg**	**08 45 52.3**	**+0.2**
	438nm,0.1s						
ULHL	**Ulahol**	**0.23**	**281**	⇓*iP*	**Pg**	**08 45 48.2**	**0.0**
	baz=80						
ULHL				⇓*iS*	**Sg**	**08 45 52.2**	**+0.2**
	baz=80						
KDJ	**Kajisay**	**0.47**	**98**	⇑*iP*	**Pg**	**08 45 51.8**	**-0.5**
	baz=99						
KDJ				⇑*iS*	**Sg**	**08 45 58.0**	**-0.8**
	baz=99						
BOOM	**Boomskoye usch**	**0.54**	**303**	⇑*iP*	**Pg**	**08 45 53.2**	**-0.3**
	baz=2.0						
BOOM				⇑*iS*	**Sg**	**08 46 01.0**	**+0.2**
	baz=2.0						
IZV	**Izvestkoviy**	**0.84**	**3**	P	**Pb**	**08 45 58.7**	**-0.2**
	22nm,0.2s						
IZV				S	**Sg**	**08 46 10.2**	**+0.1**
	117nm,0.1s						
IZV	**Izvestkoviy**	**0.84**	**3**	*eP*	**Pb**	**08 45 58.7**	**-0.2**
	baz=2.0						
IZV				*eS*	**Sg**	**08 46 10.2**	**+0.1**
	baz=2.0						
IZV	**Izvestkoviy**	**0.84**	**3**	*eP*	**Pb**	**08 45 58.7**	**-0.2**
	22nm,0.2s						
IZV				*eS*	**Sg**	**08 46 10.2**	**+0.1**
	117nm,0.1s						
NRN	**Naryn**	**0.87**	**208**	⇑*iP*	**Pb**	**08 45 59.5**	**0.0**
	baz=11						
NRN				⇑*iS*	**Sg**	**08 46 11.4**	**+0.1**
	baz=11						
TNSS	**Tian-Shan**	**0.89**	**19**	P	**Pb**	**08 45 59.5**	**-0.3**
	40nm,0.2s						
TNSS				S	**Sb**	**08 46 11.5**	**0.0**
	121nm,0.2s						
TNSS	**Tian-Shan**	**0.89**	**19**	⇑*iP*	**Pb**	**08 45 59.5**	**-0.3**
	baz=18						
TNSS				⇑*eS*	**Sb**	**08 46 11.5**	**0.0**
	baz=18						
TNSS	**Tian-Shan**	**0.89**	**19**	⇑*iP*	**Pb**	**08 45 59.5**	**-0.3**
	42nm,0.1s						
TNSS				*eS*	**Sb**	**08 46 11.5**	**0.0**
	119nm,0.2s						
MTBS	**Maitube**	**0.93**	**355**	P	**Pb**	**08 46 00.3**	**-0.2**
	24nm,0.1s						
MTBS				S	**Sg**	**08 46 13.0**	**-0.2**
	169nm,0.2s						
MTBS	**Maitube**	**0.93**	**355**	⇓*iP*	**Pb**	**08 46 00.3**	**-0.2**
	baz=53						
MTBS				⇓*iS*	**Sg**	**08 46 13.0**	**-0.2**
	baz=53						
MTBS	**Maitube**	**0.93**	**355**	⇓*iP*	**Pb**	**08 46 00.3**	**-0.2**
	24nm,0.1s						
MTBS				⇓*iS*	**Sg**	**08 46 13.0**	**-0.2**
	169nm,0.2s						
KST	**Kastek**	**0.95**	**333**	P	**Pb**	**08 46 00.6**	**-0.1**
	54nm,0.2s						
KST				S	**Sg**	**08 46 13.7**	**+0.1**
	102nm,0.4s						
KST	**Kastek**	**0.95**	**333**	⇓*iP*	**Pb**	**08 46 00.6**	**-0.1**
	baz=32						
KST				⇑*iS*	**Sg**	**08 46 13.7**	**+0.1**
	baz=32						
KST	**Kastek**	**0.95**	**333**	⇓*iP*	**Pb**	**08 46 00.6**	**-0.1**
	54nm,0.2s						
KST				⇑*iS*	**Sg**	**08 46 13.7**	**+0.1**
	102nm,0.4s						
KZA	**Kyzart**	**0.98**	**263**	⇑P	**Pb**	**08 46 01.4**	**0.0**
	12nm,0.2s,SNR=8.1						
KZA				⇑S	**Sg**	**08 46 14.8**	**+0.3**
	25nm,0.2s						
KZA	**Kyzart**	**0.98**	**263**	⇑*iP*	**Pb**	**08 46 01.3**	**0.0**
	baz=63						
KZA				⇑*iS*	**Sg**	**08 46 14.9**	**+0.3**
	baz=63						
TKM2	**Tokmak 2**	**1.01**	**316**	⇓P	**Pb**	**08 46 01.8**	**0.0**
	41nm,0.2s,SNR=67						
TKM2				⇑S	**Sg**	**08 46 15.8**	**+0.3**
	76nm,0.1s						
TKM2	**Tokmak 2**	**1.01**	**316**	⇑P	**Pb**	**08 46 01.6**	**-0.2**
	11nm,0.3s						
TKM2				⇑S	**Sb**	**08 46 15.3**	**+0.5**
	15nm,0.3s						
TKM2	**Tokmak 2**	**1.01**	**316**	⇓*iP*	**Pb**	**08 46 01.8**	**0.0**
	baz=15						
TKM2				⇓*iS*	**Sg**	**08 46 15.6**	**+0.1**
	baz=15						
MDOK	**Medeo**	**1.03**	**21**	P	**Pb**	**08 46 01.7**	**-0.5**
	5.6nm,0.2s						
MDOK				S	**Sb**	**08 46 15.3**	**-0.1**
	32nm,0.3s						
MDOK	**Medeo**	**1.03**	**21**	Pg	**Pb**	**08 46 01.8**	**-0.3**
	24nm,0.2s						
MDOK				Lg	Lg	08 46 15.5	
	108nm,0.3s						
MDOK	**Medeo**	**1.03**	**21**	⇓*iP*	**Pb**	**08 46 01.8**	**-0.3**
	baz=19						
MDOK				⇓*iS*	**Sb**	**08 46 15.5**	**+0.1**
	baz=19						
MDOK	**Medeo**	**1.03**	**21**	⇓*iP*	**Pb**	**08 46 01.8**	**-0.3**
	24nm,0.2s						
MDOK				⇓*iS*	**Sb**	**08 46 15.5**	**+0.1**
	108nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.05**	**116**	⇑*iP*	**Pb**	**08 46 01.8**	**-0.8**
	baz=17						
TARG				⇑*iS*	**Sb**	**08 46 15.4**	**-0.8**
	baz=17						
KNDC	**Almaty**	**1.06**	**17**	⇓P	**Pn**	**08 46 02.9**	**0.0**
	16nm,0.2s						
KNDC				⇑S	**Sg**	**08 46 17.4**	**+0.2**
	184nm,0.3s						
KOTS	**Kotyrbulak**	**1.11**	**22**	P	**Pn**	**08 46 03.5**	**-0.1**
	39nm,0.2s						
KOTS				S	**Sg**	**08 46 18.7**	**-0.2**
	273nm,0.3s						
KOTS	**Kotyrbulak**	**1.11**	**22**	*eP*	**Pn**	**08 46 03.5**	**-0.1**
	baz=21						
KOTS				*eS*	**Sg**	**08 46 18.7**	**-0.2**
	baz=21						
KOTS	**Kotyrbulak**	**1.11**	**22**	*eP*	**Pn**	**08 46 03.5**	**-0.1**
	39nm,0.2s						
KOTS				*eS*	**Sg**	**08 46 18.7**	**-0.2**
	273nm,0.3s						
DGS	**Degeres**	**1.19**	**331**	P	**Pb**	**08 46 04.9**	**+0.1**
	17nm,0.1s						
DGS				S	**Sg**	**08 46 21.0**	**-0.2**
	44nm,0.2s						
DGS	**Degeres**	**1.19**	**331**	*eP*	**Pb**	**08 46 04.9**	**+0.1**
	baz=30						
DGS				*eS*	**Sg**	**08 46 21.0**	**-0.2**
	baz=30						
DGS	**Degeres**	**1.19**	**331**	*eP*	**Pb**	**08 46 04.9**	**+0.1**
	17nm,0.1s						
DGS				*eS*	**Sg**	**08 46 21.1**	**-0.2**
	44nm,0.2s						
KBK	**Karagaybulak**	**1.27**	**292**	⇓P	**Pb**	**08 46 06.6**	**+0.4**
	17nm,0.1s,SNR=21						
KBK				⇓S	**Sg**	**08 46 24.4**	**+0.5**
	33nm,0.2s						
KBK	**Karagaybulak**	**1.27**	**292**	⇑*iP*	**Pb**	**08 46 06.3**	**0.0**
	baz=91						
KBK				⇑*iS*	**Sg**	**08 46 23.9**	**0.0**
	baz=91						
KTBS	**Karatobe**	**1.51**	**4**	P	**Pb**	**08 46 10.8**	**+0.4**
	14nm,0.1s						
KTBS				S	**Sg**	**08 46 30.7**	**-0.9**
	304nm,0.2s						
KTBS	**Karatobe**	**1.51**	**4**	*eP*	**Pb**	**08 46 10.8**	**+0.4**
	14nm,0.1s						
KTBS				*eS*	**Sg**	**08 46 30.7**	**-0.9**
	304nm,0.2s						
UCH	**Uchtor**	**1.51**	**272**	⇓P	**Pb**	**08 46 10.7**	**+0.1**
	4.5nm,0.4s,SNR=11						
UCH				⇓S	**Sg**	**08 46 31.6**	**-0.2**
	11nm,0.2s						
UCH	**Uchtor**	**1.51**	**272**	⇑*iP*	**Pb**	**08 46 10.7**	**+0.1**
	baz=72						
UCH				⇑*iS*	**Sg**	**08 46 31.5**	**-0.2**
	baz=72						
CHMS	**Chumysh**	**1.55**	**302**	⇓P	**Pb**	**08 46 11.0**	**+0.1**
	7.6nm,0.2s,SNR=7.8						
CHMS				⇓S	**Sg**	**08 46 32.1**	**-0.6**
	38nm,0.2s						
CHMS	**Chumysh**	**1.55**	**302**	⇑*iP*	**Pb**	**08 46 11.0**	**+0.1**
	baz=1.0						
CHMS				⇑*iS*	**Sb**	**08 46 31.8**	**+1.5**
	baz=1.0						
AAK	**Ala-Archa**	**1.58**	**287**	⇑P	**Pb**	**08 46 12.1**	**+0.6**
	6.5nm,0.2s,SNR=11						
AAK				⇑S	**Sg**	**08 46 33.6**	**-0.2**
	23nm,0.2s						
AAK	**Ala-Archa**	**1.58**	**287**	⇑P	**Pb**	**08 46 11.9**	**+0.3**
	2.0nm,0.3s						
AAK				⇑S	**Sg**	**08 46 33.0**	**-0.8**
	9.5nm,0.4s						
AAK	**Ala-Archa**	**1.58**	**287**	⇑*iP*	**Pb**	**08 46 12.2**	**+0.6**
	baz=86						
AAK				⇑*iS*	**Sg**	**08 46 33.7**	**-0.1**
	baz=86						
SATY	**Saty**	**1.61**	**57**	P	**Pb**	**08 46 12.4**	**+0.3**
	18nm,0.2s						
SATY				S	**Sg**	**08 46 33.7**	**-1.2**
	90nm,0.1s						
SATY	**Saty**	**1.61**	**57**	*eP*	**Pb**	**08 46 12.4**	**+0.3**
	18nm,0.2s						
SATY				*eS*	**Sg**	**08 46 33.7**	**-1.2**
	90nm,0.1s						
CHKK	**Chushkaly**	**1.68**	**11**	P	**Pb**	**08 46 13.5**	**+0.3**
	26nm,0.2s						
CHKK				S	**Sg**	**08 46 36.2**	**-0.7**
	101nm,0.3s						
CHKK	**Chushkaly**	**1.68**	**11**	⇑*iP*	**Pb**	**08 46 13.5**	**+0.3**
	baz=10.0						
CHKK				⇑*eS*	**Sg**	**08 46 35.9**	**-1.1**
	baz=10.0						
CHKK	**Chushkaly**	**1.68**	**11**	⇑*iP*	**Pb**	**08 46 13.5**	**+0.3**
	27nm,0.2s						
CHKK				*eS*	**Sg**	**08 46 35.9**	**-1.1**
	101nm,0.3s						
KUU	**Kurty**	**1.70**	**355**	P	**Pb**	**08 46 13.8**	**+0.4**
	9.5nm,0.3s						
KUU				S	**Sg**	**08 46 36.1**	**-1.4**
	72nm,0.4s						
KUU	**Kurty**	**1.70**	**355**	*eP*	**Pb**	**08 46 13.8**	**+0.4**
	baz=54						
KUU				*eS*	**Sg**	**08 46 36.1**	**-1.4**
	baz=54						
KUU	**Kurty**	**1.70**	**355**	*eP*	**Pb**	**08 46 13.8**	**+0.4**
	9.5nm,0.3s						
KUU				*eS*	**Sg**	**08 46 36.1**	**-1.4**
	72nm,0.4s						
KURS	**Kuram**	**1.75**	**42**	P	**Pb**	**08 46 14.3**	**-0.1**
	5.0nm,0.5s						
KURS				S	**Sg**	**08 46 37.6**	**-1.6**
	20nm,0.4s						
KURS	**Kuram**	**1.75**	**42**	⇓*eP*	**Pb**	**08 46 14.3**	**-0.1**
	baz=42						
KURS				⇓*eS*	**Sb**	**08 46 37.2**	**+1.1**
	baz=42						
KURS	**Kuram**	**1.75**	**42**	⇓*eP*	**Pb**	**08 46 14.3**	**-0.1**
	2.9nm,0.2s						
KURS				*eS*	**Sb**	**08 46 37.2**	**+1.1**
	22nm,0.4s						
USP	**Ospenovka**	**1.85**	**306**	⇓P	**Pb**	**08 46 16.3**	**+0.2**
	7.1nm,0.1s,SNR=15						
USP	**Ospenovka**	**1.85**	**306**	⇑*iP*	**Pb**	**08 46 16.3**	**+0.2**
	baz=5.0						
USP				⇑*iS*	**Sg**	**08 46 40.9**	**-1.4**
	baz=5.0						
KPKS	**Kokpek**	**2.02**	**50**	*eP*	**Pb**	**08 46 19.0**	**+0.1**
	44nm,0.4s						
KPKS				*eS*	**Sb**	**08 46 45.0**	**+1.2**
	56nm,0.2s						
UZB	**Uzynbulak**	**2.05**	**62**	Pg	**Pb**	**08 46 19.3**	**-0.3**
	12nm,0.3s						
UZB				Lg	Lg	08 46 46.0	
	27nm,0.2s						
UZB	**Uzynbulak**	**2.05**	**62**	*eP*	**Pb**	**08 46 18.9**	**-0.7**
	baz=61						
UZB				*eS*	**Sb**	**08 46 45.4**	**+0.5**
	baz=61						
UZB	**Uzynbulak**	**2.05**	**62**	*eP*	**Pb**	**08 46 18.9**	**-0.7**
	12nm,0.3s						
UZB				*eS*	**Sb**	**08 46 45.4**	**+0.5**
	27nm,0.2s						
EKS2	**Erkin-Say**	**2.10**	**284**	⇑*iP*	**Pb**	**08 46 20.5**	**+0.1**
	baz=83						
EKS2				⇑*iS*	**Sb**	**08 46 48.4**	**+2.1**
	baz=83						
AML	**Almayashu**	**2.12**	**269**	⇓*iP*	**Pb**	**08 46 21.1**	**+0.1**
	baz=69						
AML				⇓*iS*	**Sb**	**08 46 48.9**	**+1.7**
	baz=69						
ARXS	**Arharly**	**2.22**	**24**	Pg	**Pb**	**08 46 22.4**	**+0.1**
	17nm,0.3s						
ARXS				Lg	Lg	08 46 51.2	
	36nm,0.1s						
ARXS	**Arharly**	**2.22**	**24**	*eP*	**Pb**	**08 46 22.4**	**+0.1**
	17nm,0.3s						
ARXS				*eS*	**Sb**	**08 46 51.1**	**+1.6**
	36nm,0.1s						
MNBS	**Baschi**	**2.31**	**35**	Pg	**Pb**	**08 46 25.1**	**+1.0**
	11nm,0.2s						
MNBS				Lg	Lg	08 46 55.7	
	26nm,0.2s						
MNBS	**Baschi**	**2.31**	**35**	*eP*	**Pb**	**08 46 25.1**	**+1.0**
	11nm,0.2s						
MNBS				*eS*	**Sg**	**08 46 55.7**	**-1.5**
	26nm,0.2s						
SHLS	**Shalkode**	**2.35**	**65**	Pg	**Pg**	**08 46 29.6**	**+1.8**
	17nm,0.1s						
SHLS				Lg	Lg	08 47 03.7	
	82nm,0.3s						
SHLS	**Shalkode**	**2.35**	**65**	*eP*	**Pg**	**08 46 29.6**	**+1.8**
	17nm,0.1s						
SHLS				*eS*	**Sg**	**08 47 03.7**	**+5.4**
	82nm,0.3s						
PDGK	**Podgornoye**	**2.44**	**61**	Pg	**Pb**	**08 46 25.5**	**-0.7**
	2.4nm,0.2s						
PDGK				Lg	Lg	08 46 56.4	
	7.6nm,0.6s						
PDGK	**Podgornoye**	**2.44**	**61**	⇓Pn	**Pb**	**08 46 24.3**	**-1.9**
	4.2nm,0.4s						
PDGK				⇑Lg	Lg	08 46 58.4	
	14nm,0.7s						
PDGK	**Podgornoye**	**2.44**	**61**	⇑*iP*	**Pb**	**08 46 24.5**	**-1.7**
	baz=61						
PDGK				⇑*iS*	**Sb**	**08 46 54.1**	**-1.9**
	baz=61						
MRKS	**Merke**	**2.52**	**284**	Pg	**Pb**	**08 46 27.8**	**+0.3**
	7.0nm,0.3s						
MRKS				Lg	Lg	08 47 00.5	
	32nm,0.2s						
MRKS	**Merke**	**2.52**	**284**	*eP*	**Pb**	**08 46 28.8**	**+1.3**
	7.0nm,0.3s						
MRKS				*eS*	**Sg**	**08 47 02.4**	**-1.3**
	32nm,0.2s						
DJR	**Jarkent**	**3.18**	**47**	Pg	**Pb**	**08 46 38.8**	**0.0**
	2.6nm,0.2s						
DJR				Lg	Lg	08 47 19.4	
	8.2nm,0.4s						
DJR	**Jarkent**	**3.18**	**47**	*eP*	**Pb**	**08 46 38.9**	**0.0**
	2.6nm,0.2s						
DJR				*eS*	**Sb**	**08 47 19.4**	**+2.1**
	8.2nm,0.4s						
KK31	**Karatay Array**	**4.54**	**283**	⇓Pg	**Pg**	**08 47 06.2**	**-3.5**
	0.4nm,0.3s,baz=98,slow=17,SNR=7.8						
KK31				⇓Lg	Lg	08 48 08.0	
	3.1nm,0.7s,baz=96,slow=30,SNR=7.3						

*ASRS **20** 08:53:37.3, 53°.74N×91°.04E, M3.4, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

*NNC **20** 08:53:50.8±3.1, 53°.32N×90°.12E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=25.4km s-min=19.1km az=83.0, Suspected Mining explosion.*

ISC 20 08:53:44.5±4.3, 53°.7N±0°.2×90°.4E±0°.2, h0km, n5, σ0s39/9, 8C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.33**	**277**	⇑Pn	**Pb**	**08 54 44.3**	**0.0**
	3.0nm,0.7s						
ZAA0				⇑Lg	Lg	08 55 33.3	
	29nm,1.1s						
KURK	**Kurchatov**	**7.83**	**252**	⇓Pn	**Pn**	**08 55 39.5**	**-0.1**
	9.1nm,1.2s						
KURK				⇑Sn	**Sn**	**08 57 08.5**	**-0.4**
	25nm,0.8s						
KURK				⇓Lg	Lg	08 57 51.4	
	63nm,0.9s						
KURBB	**Kurchatov Arra**	**7.93**	**252**	⇑Pn	**Pn**	**08 55 41.3**	**+0.4**
	6.9nm,0.7s						
KURBB				⇓Sn	**Sn**	**08 57 11.3**	**+0.1**
	106nm,1.1s						
KURBB				⇓Lg	Lg	08 57 51.4	
	210nm,1.4s						
MK31	**Makanchi Array**	**8.64**	**220**	⇑Pn	**Pn**	**08 55 51.1**	**+0.3**
	1.0nm,0.5s,baz=34,slow=12,SNR=34						
MK31				⇑Sn	**Sn**	**08 57 28.9**	**0.0**
	8.8nm,0.9s,baz=39,slow=26,SNR=4.9						
MK31				⇑Lg	Lg	08 58 12.5	
	36nm,1.1s,baz=50,slow=27,SNR=3.8						
MAKZ	**Makanchi**	**8.75**	**221**	⇓Pn	**Pn**	**08 55 51.7**	**-0.6**
	1.7nm,0.6s						
MAKZ				⇑Sn	**Sn**	**08 57 31.9**	**+0.3**
	7.3nm,0.7s						
MAKZ				⇓Lg	Lg	08 58 18.5	
	25nm,1.1s						

RSNC 20 08:54:51.9±1.6, 4°.64N×74°.51W, h2km±4km, ML3.3, Mw3.6, 4C-5D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROSA	**EL ROSAL, CUND**	**0.28**	**42**	⇑*iP*	Pg	08 54 57.1	-0.2
CROSA				*eS*	Sg	08 55 02.9	+1.9
CROSA				*i*		08 55 04.8	
	comp=Z,3μm,0.6s						
CTAB	**Cerro Tablazo,**	**0.48**	**40**	*eP*	Pg	08 55 01.3	+0.2
CTAB				*eS*	Sg	08 55 07.8	+0.5
CTAB				*i*		08 55 10.9	
	comp=Z,2μm,0.5s						
CTAU	**Tausa, Cundina**	**0.73**	**40**	*i* P	Pn	08 55 09.4	-0.3
CTAU				*eS*	Sb	08 55 19.1	+0.8
CHIC	**Chingaza**	**0.78**	**91**	⇓*iP*	Pg	08 55 06.1	-0.7
CHIC				*eS*	Sg	08 55 17.6	+0.7
CHIC				*i*		08 55 28.0	
	comp=N,350nm,0.3s						
RREF	**El Recreo**	**0.87**	**287**	⇓*iP*	Pg	08 55 07.5	-1.2
RREF				*eS*	Sg	08 55 19.1	-1.0
VILC	**Villavicencio,**	**0.97**	**123**	*eP*	Pg	08 55 08.7	-1.8
VILC				*eS*	Sg	08 55 23.8	+0.7
VILC				*i*		08 55 29.7	
	comp=N,2μm,0.5s						
NORC	**Norcasia**	**0.98**	**339**	⇓*iP*	Pg	08 55 09.4	-1.4
NORC				*eS*	Sg	08 55 23.0	-0.6
NORC				*i*		08 55 25.7	
	comp=N,1μm,0.2s						
PRAC	**Prado**	**0.99**	**202**	⇑*iP*	Pg	08 55 08.8	-2.2
PRAC				*i*		08 55 10.6	
	comp=Z,676nm,0.4s						
PRAC				*eS*	Sg	08 55 22.8	-1.1
GUY2C	**Guyana, Caldas**	**1.03**	**304**	⇓*iP*	Pg	08 55 10.6	-1.1
GUY2C				*i*		08 55 39.1	
	comp=N,246nm,0.6s						
CMAN1	**Manizales, Cal**	**1.10**	**293**	*eP*	Pg	08 55 10.2	-2.7
CMAN1				*eS*	Sg	08 55 23.7	-3.5
PLMC	**San Jos del P**	**1.79**	**279**	*eP*	Pn	08 55 23.7	-0.2
HELC	**Santa Helena**	**1.84**	**327**	⇓*iP*	Pn	08 55 24.1	-0.9
HELC				*eS*	Sn	08 55 48.3	-0.8
HELC				*i*		08 55 53.4	
	comp=N,200nm,0

PCON	**Cinco Dias**	**2.97 219**	*e*P	Pn	08 55 39.2	-1.4
PCON			*i*		08 56 25.2	
comp=Z,139nnm,0.4s						
POPC	**Popayan, Colom**	**3.00 226**	⇑*i*P	Pn	08 55 40.4	-0.4
POPC			*e*S	Sn	08 56 17.7	+0.2
POPC			*i*		08 56 25.4	
comp=N,30nm,0.5s						
PAMC	**Pamplona, Colo**	**3.23 34**	*e*P	Pn	08 55 44.4	+0.2
PAMC			*i*		08 56 42.7	
comp=N,75nm,0.3s						
FLOC	**Florencia**	**3.24 201**	*e*P	Pn	08 55 42.0	-2.0
FLOC			*e*S	Sb	08 56 29.4	-0.9
SOTA	**Rioblanco**	**3.25 220**	*e*P	Pn	08 55 44.2	-0.3
SOTA			*e*S	Sb	08 56 30.5	-0.5
BBAC	**Balboa, Cauca**	**3.77 226**	*e*P	Pn	08 55 50.5	-0.8

KRSC 20 09:07:04.4±10.0, 52°.05N×160°.81E, h53km±10km, ML3.5,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.16**	**336**	*e*P	Pn	09 07 25.2	+1.0
SPN				*e*S	Sn	09 07 40.4	+1.4
NLC	**Nalytchevo**	**1.44**	**322**	*e*P	Pn	09 07 30.0	+2.0
RUS	**Russkaya**	**1.46**	**286**	*e*P	Pn	09 07 29.7	+1.4
RUS				*e*S	Sn	09 07 47.3	+0.9
DALK	**Dalny**	**1.59**	**309**	*e*P	Pn	09 07 31.6	+1.5
DALK				*e*S	Sn	09 07 51.0	+1.4
PET	**Petropavlovsk**	**1.64**	**307**	*e*P	Pn	09 07 32.8	+2.0
PET				*e*S	Sn	09 07 53.1	+2.4
MTVR	**Mutnovka**	**1.67**	**286**	*e*P	Pn	09 07 33.0	+1.7
MTVR				*e*S	Sn	09 07 53.8	+2.1
UGLR	**Uglovaya**	**1.68**	**315**	*e*P	Pn	09 07 33.8	+2.4
SDLR	**Sedlovina**	**1.70**	**317**	*e*P	Pn	09 07 33.8	+2.1
SDLR				*e*S	Sn	09 07 55.1	+2.7
KDTR	**Khodutka, Kamc**	**1.71**	**263**	*e*P	Pn	09 07 33.7	+2.0
KDTR				*e*S	Sn	09 07 53.1	+0.8
SMAR	**Somma**	**1.72**	**316**	*e*P	Pn	09 07 34.6	+2.5
AVH	**Avacha**	**1.75**	**315**	*e*P	Pn	09 07 34.9	+2.5
KRER	**Koryakskii**	**1.77**	**316**	*e*P	Pn	09 07 35.4	+2.6
KOK	**Koryaka**	**1.82**	**314**	*e*P	Pn	09 07 36.1	+2.8
KRMR	**Karymshinskiy**	**1.82**	**297**	*e*P	Pn	09 07 35.0	+1.8
KRMR				*e*S	Sn	09 07 57.4	+2.4
ASAK	**Asacha**	**1.82**	**282**	*e*P	Pn	09 07 35.7	+2.4
ASAK				*e*S	Sn	09 07 58.7	+3.5
KRX	**Arik**	**1.86**	**316**	*e*P	Pn	09 07 36.8	+2.9
APC	**Apacha**	**2.40**	**293**	*e*P	Pn	09 07 45.1	+4.0
APC				*e*S	Sn	09 08 14.4	+5.2
MKZ	**Mys Kozlova**	**2.57**	**12**	*e*P	Pn	09 07 46.3	+2.8
MKZ				*e*S	Sn	09 08 15.4	+1.9
KZV	**Kizimen**	**3.09**	**355**	*e*P	Pn	09 07 53.8	+3.1
TUMD	**Tumrok D**	**3.17**	**356**	*e*S	Sn	09 08 30.9	+2.6
KBTR	**Krutoberegovo**	**4.33**	**15**	*e*P	Pn	09 08 11.5	+3.9

OMAN ***20*** *09:16:22.1±3.0, 26°.94N×57°.76E, h0km, ml4.7/19, Error ellipse: s-maj=33.6km s-min=9.9km az=10.0*
ISCJB ***20*** *09:16:26.6±0.1, 26°.62N±0°.02×57°.75E±0°.02, h10km, mb4.6/153, MS3.9/39, Error ellipse: s-maj=3.0km s-min=2.4km az=179.5*
IDC ***20*** *09:16:26.3±0.5, 26°.62N×57°.73E, h0km, mb4.3/42, mb1 4.4/46, mb1mx4.4/70, mbtmp4.4/46, ML3.5/2, MS3.8/31, Ms1 3.8/31, ms1mx3.7/56, Error ellipse: s-maj=11.5km s-min=10.3km az=134.0*
TEH ***20*** *09:16:27.9, 26°.78N×57°.73E, h5km, ML4.8*
GCMT ***20*** *09:16:27.1±0.7, 26°.48N±0°.04×57°.64E±0°.04, h27km±1km, MW4.8/55, Moment Tensor Solution. s24,c27; s55,c89; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.36±.14; Mθθ=0.51±.13; Mφφ=-0.15±.12; Mrθ=0.09±.23; Mφθ=2.24±.12; Mφr=0.58±.23; Best double couple: Mo=2.34100×10^16^ NP1:φs=185.00000°, δ88.00000°, λ=-165.00000°. NP2: φs=94.00000°, δ75.00000°, λ=-2.00000°. Principal axes: T 2.5140, Plg9.0000°, Azm318.0000°; N -0.3440, Plg75.0000°, Azm193.0000°; P -2.1690, Plg12.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DSN ***20*** *09:16:28.2±0.5, 26°.52N×57°.92E, h10km, mb5.3/4, ML4.7/11 Error ellipse: s-maj=10.6km s-min=5.0km az=140.0*
BJI ***20*** *09:16:30.0±0.0, 27°.00N×57°.80E, h10km, mb4.6/16, mB4.7/12, Ms4.4/11, Ms7 4.2/10*
NEIC ***20*** *09:16:30.1±2.5, 26°.54N×57°.71E, h24km±4km, mb4.6/70, MN4.8(TEH), Error ellipse: s-maj=13.8km s-min=9.3km az=161.0*
MOS ***20*** *09:16:31.3±1.2, 26°.68N×57°.77E, h43km, mb5.0/82, Error ellipse: s-maj=5.9km s-min=3.3km az=119.2*

ISC 20 09:16:28.2±0.3, 26°.57N±0°.03×57°.73E±0°.04, h10km, n385,
σ1§53/389, **mb4.7**/157, **MS3.9**/39, **18C-7D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.27**	**321**	*e*Pg	**Pn**	**09 16 50.7**	**-1.3**
NIAN				IAMB	IAmb	09 17 34.5	
comp=Z,0.0nm,3.4s							
KHNJ	**Kahnooj**	**1.37**	**359**	*e*Pg	**Pn**	**09 16 50.0**	**-3.5**
SHME	**Shamm**	**1.52**	**250**	*e*P	**Pn**	**09 16 56.4**	**+0.9**
SHME	SNR=380			S	**Sg**	**09 17 20.2**	**+3.1**
SHME	**Shamm**	**1.52**	**250**	*e*Pn	**Pn**	**09 16 56.5**	**+1.0**
GENO	**Geno**	**1.61**	**301**	*e*Pn	**Pn**	**09 16 57.0**	**0.0**
GENO				IAMB	IAmb	09 17 30.2	
comp=Z,0.0nm,0.5s							
MSFE	**Esma-Masafi**	**1.86**	**230**	*e*P	**Pn**	**09 16 58.9**	**-1.3**
MSFE	SNR=26			*e*Pn	**Pn**	**09 16 59.2**	**-1.0**
MSFE	**Esma-Masafi**	**1.86**	**230**	*e*P	**Pn**	**09 17 06.0**	**+2.1**
UMQ	**Umm Al-Quwin**	**2.13**	**241**	SNR=24			
UMQ	**Umm Al-Quwin**	**2.13**	**241**	P	**Pb**	**09 17 07.2**	**+0.2**
UMQ	**Umm Al-Quwin**	**2.13**	**241**	*e*Pn	**Pb**	**09 17 06.8**	**-0.1**
HATD	**Hatta, Dubai**	**2.26**	**220**	*e*P	**Pn**	**09 17 04.8**	**-0.8**
HATD	SNR=73			P	**Pn**	**09 17 04.6**	**-1.0**
HATD	**Hatta, Dubai**	**2.26**	**220**	S	**Sn**	**09 17 34.8**	**+1.2**
HATD	**Hatta, Dubai**	**2.26**	**220**	*e*Pn	**Pn**	**09 17 04.3**	**-1.4**
ASHO	**Ashiyiah**	**2.41**	**219**	*e*P	**Pn**	**09 17 09.3**	**+1.5**
ASHO	SNR=167			P	**Pn**	**09 17 09.7**	**+1.9**
ASHO	**Ashiyiah**	**2.41**	**219**	SNR=14			
ASHO	**Ashiyiah**	**2.41**	**219**	*e*Pn	**Pn**	**09 17 07.9**	**+0.1**
NAZ	**Nazwa, Dubai**	**2.44**	**230**	*e*P	**Pn**	**09 17 10.6**	**+2.5**
NAZ	SNR=80			P	**Pn**	**09 17 10.4**	**+2.2**
NAZ	**Nazwa, Dubai**	**2.44**	**230**	SNR=59			
NAZ				S	**Sg**	**09 17 48.9**	**+2.2**
NAZ	**Nazwa, Dubai**	**2.44**	**230**	*e*Pn	**Pn**	**09 17 10.1**	**+1.9**
FAQ	**Al Faqa, Dubai**	**2.65**	**227**	*e*P	**Pn**	**09 17 13.3**	**+2.3**
FAQ	SNR=27			P	**Pn**	**09 17 12.8**	**+1.8**
FAQ	**Al Faqa, Dubai**	**2.65**	**227**	SNR=27			
FAQ	**Al Faqa, Dubai**	**2.65**	**227**	*e*Pn	**Pb**	**09 17 16.6**	**+0.8**
SOHO	**SOHO**	**2.66**	**204**	P	**Pn**	**09 17 09.3**	**-1.8**
CHBR	**Chabahar**	**2.66**	**111**	SNR=24			
ASUD	**Al Ashush, Dub**	**2.91**	**229**	*e*Pn	**Pn**	**09 17 12.4**	**+1.2**
ASUD	SNR=35			*i*P	**Pn**	**09 17 17.1**	**+2.5**
ASUD	**Al Ashush, Dub**	**2.91**	**229**	P	**Pn**	**09 17 17.5**	**+3.0**
ASUD	SNR=35						
ASUD	**Al Ashush, Dub**	**2.91**	**229**	*e*Pn	**Pn**	**09 17 17.2**	**+2.6**
HOQ	**Hoqain**	**3.00**	**187**	P	**Pn**	**09 17 15.4**	**-0.6**
HOQ				S	**Sn**	**09 17 51.1**	**-0.9**
HOQ	**Hoqain**	**3.00**	**187**	*e*Pn	**Pn**	**09 17 15.3**	**-0.6**
BIDO	**Bidbid**	**3.06**	**173**	P	**Pn**	**09 17 16.3**	**-0.5**
BIDO	SNR=53			S	**Sn**	**09 17 53.7**	**+0.4**
BIDO	**Bidbid**	**3.06**	**173**	*e*Pn	**Pn**	**09 17 16.2**	**-0.5**
ALNE	**Al Ain**	**3.08**	**216**	*i*P	**Pn**	**09 17 18.4**	**+1.4**
ALNE	SNR=28						
ALNE	**Al Ain**	**3.08**	**216**	*e*Pn	**Pn**	**09 17 18.8**	**+1.8**
AJN	**Ajban**	**3.18**	**232**	*i*P	**Pn**	**09 17 20.6**	**+2.2**
AJN	SNR=7.8						
AJN	**Ajban**	**3.18**	**232**	P	**Pn**	**09 17 21.0**	**+2.6**
AJN	SNR=21						
AJN	**Ajban**	**3.18**	**232**	*e*Pn	**Pn**	**09 17 20.2**	**+1.8**
NGRK	**Negar Kerman**	**3.18**	**344**	*e*Pn	**Pn**	**09 17 19.0**	**+0.3**
NGRK				IAMB	IAmb	09 18 15.0	
comp=Z,0.0nm,1.3s							
CHMN	**Cheshme madani**	**3.28**	**357**	*e*Pn	**Pn**	**09 17 21.9**	**+1.9**
CHMN				IAMB	IAmb	09 18 19.8	
comp=Z,0.0nm,1.1s							
ARQ	**Araqi**	**3.40**	**199**	P	**Pn**	**09 17 23.7**	**+2.3**
ARQ	SNR=7.3			S	**Sb**	**09 18 07.6**	**-2.5**
WSAR	**Wadi Sarin**	**3.42**	**166**	P	**Pn**	**09 17 21.8**	**+0.2**
WSAR	SNR=62						
WSAR	**Wadi Sarin**	**3.42**	**166**	Pn	**Pn**	**09 17 21.8**	**+0.2**
comp=Z,166nm,0.3s,baz=354,slow=7.2,SNR=338							
WSAR				Sn	**Sn**	**09 18 00.0**	**-2.3**
comp=Z,47nm,0.3s,baz=67,slow=21,SNR=13							
TVBK	**TV Kerman**	**3.51**	**346**	*e*Pn	**Pn**	**09 17 23.8**	**+0.7**
TVBK				IAMB	IAmb	09 18 45.4	
comp=Z,0.0nm,1.4s							
SMDO	**Samad**	**3.51**	**175**	P	**Pn**	**09 17 24.0**	**+1.0**
BSY	SNR=17 **Bisya**	**3.84**	**187**	P	**Pn**	**09 17 30.0**	**+2.5**
BSY	SNR=20			S	**Sb**	**09 18 21.3**	**-1.4**
KHGB	**Koh Gabri**	**3.95**	**344**	*e*Pn	**Pn**	**09 17 30.5**	**+1.4**
KHGB				IAMB	IAmb	09 18 43.6	
comp=Z,0.0nm,1.2s							
SZD1	**Zahaedan-tmp**	**4.01**	**43**	*e*Pn	**Pn**	**09 17 30.5**	**+0.6**
ZHSF	**Zahedan**	**4.05**	**41**	*e*Pn	**Pn**	**09 17 31.4**	**+0.9**
WBK	**Wadi Bani Khal**	**4.10**	**164**	P	**Pn**	**09 17 31.8**	**+0.7**
JHRM	SNR=20 **Jahrom**	**4.16**	**299**	*e*Pn	**Pn**	**09 17 32.3**	**+0.4**
JMDO	**Jabal Madar**	**4.20**	**175**	P	**Pn**	**09 17 33.6**	**+1.2**
GHIR	SNR=28 **Ghir-Karzin**	**4.55**	**293**	*e*Pn	**Pn**	**09 17 37.4**	**+0.2**
JLN	**Jalan Bani Buh**	**4.66**	**160**	P	**Pn**	**09 17 38.4**	**-0.3**
JLN				S	**Sn**	**09 18 32.2**	**-0.7**
MZR	**Muzera**	**5.25**	**228**	*i*P	**Pn**	**09 17 47.9**	**+1.0**
MZR	SNR=7.5 **Muzera**	**5.25**	**228**	*e*Pn	**Pn**	**09 17 47.8**	**+1.0**
IPAR	**Pars**	**5.26**	**309**	*e*Pn	**Pn**	**09 17 46.6**	**-0.6**
IMEH	**Mehriz**	**5.52**	**331**	*e*Pn	**Pn**	**09 17 50.4**	**-0.3**
SHI	**Shiraz**	**5.53**	**305**	*e*Pn	**Pn**	**09 17 49.8**	**-1.0**
MHTO	**MHTO**	**5.56**	**178**	P	**Pn**	**09 17 54.0**	**+2.8**
IKAZ	SNR=25 **Kazeroun**	**6.10**	**303**	*e*Pn	**Pn**	**09 17 56.9**	**-1.9**
ICHK	**Chekchek**	**6.35**	**334**	*e*Pn	**Pn**	**09 18 03.0**	**+0.9**
ITEG	**Tejag**	**6.36**	**8**	*e*Pn	**Pn**	**09 18 05.7**	**+3.4**
TPRV	**Parvadeh(Tabas**	**6.50**	**352**	*e*Pn	**Pn**	**09 18 04.4**	**+0.4**
KLNJ	**Kolanjah**	**6.96**	**311**	*e*Pn	**Pn**	**09 18 09.9**	**-0.8**
IRAM	**Ramesheh**	**7.00**	**319**	*e*Pn	**Pn**	**09 18 10.3**	**-0.8**
TKDS	**Koohdasht(Taba**	**7.04**	**356**	*e*Pn	**Pn**	**09 18 13.0**	**+1.6**
IGAR	**Gharneh**	**7.63**	**321**	*e*Pn	**Pn**	**09 18 19.7**	**-0.1**
IZEF	**Zefreh**	**7.86**	**325**	*e*Pn	**Pn**	**09 18 21.2**	**-1.6**
ZNGN	**Zangian**	**8.15**	**314**	*e*Pn	**Pn**	**09 18 26.3**	**-0.7**
ROKH	**ROKH**	**8.19**	**316**	*e*Pn	**Pn**	**09 18 26.0**	**-1.4**
JHBN	**Jahan bin**	**8.35**	**314**	*e*Pn	**Pn**	**09 18 28.3**	**-1.3**
IPIR	**Pirpir**	**8.51**	**317**	*e*Pn	**Pn**	**09 18 30.9**	**-1.0**
IKLH	**Kolahrood**	**8.58**	**323**	*e*Pn	**Pn**	**09 18 32.8**	**0.0**
DMTO	**DMTO**	**9.18**	**197**	P	**Pn**	**09 18 39.5**	**-1.3**
WHFO	SNR=15 **Wadi Hawf**	**9.36**	**204**	P	**Pn**	**09 18 42.2**	**-1.1**
KHMZ	**Khomeyn**	**9.81**	**319**	*e*Pn	**Pn**	**09 18 48.9**	**-0.6**
IMYA	**Miami**	**9.95**	**11**	*e*Pn	**Pn**	**09 18 52.8**	**+1.4**
IAKL	**Akhelmad**	**10.04**	**5**	*e*Pn	**Pn**	**09 18 54.7**	**+1.9**
IEMG	**Emamgholi**	**10.84**	**4**	*e*Pn	**Pn**	**09 19 06.0**	**+2.3**
GEYT	**Alibeck**	**11.33**	**2**	Pn	**Pn**	**09 19 09.5**	**-0.7**
GEYT	baz=199,slow=16,SNR=5.9			Lg	Lg	09 22 22.1	
comp=Z,0.7nm,0.3s,baz=163,slow=20,SNR=2.6							
GEYT				LR	LR	09 24 34.4	
comp=Z,318nm,20.8s,baz=175,slow=43							
GYA0B	**ALIBECK ARRAY**	**11.33**	**2**	*e*Pn	**Pn**	**09 19 11.6**	**+1.4**
QABG	**Abgarm-Qazvin**	**11.47**	**325**	*e*Pn	**Pn**	**09 19 12.3**	**0.0**
KBL	**Kabul**	**12.57**	**48**	*e*Pn	**Pn**	**09 19 30.5**	**+3.1**
KBL	**Kabul**	**12.57**	**48**	*e*P	**Pn**	**09 19 30.5**	**+3.1**
THW	**Thamme Wali**	**13.66**	**60**	P	**Pn**	**09 19 41.1**	**-1.0**
CEP	**Cherat**	**14.22**	**56**	P	**Pn**	**09 19 49.6**	**-0.3**
NIL	**Nilore**	**15.16**	**59**	*e*Pn	**Pn**	**09 20 02.9**	**+0.4**
NIL	comp=Z,67nm,0.8s **Nilore**	**15.16**	**59**	*e*P	**Pn**	**09 20 02.9**	**+0.4**
NIL				pmax	pmax		
comp=Z,67nm,0.8s							
CHCP	**Chirah Chowk**	**15.18**	**59**	P	**Pn**	**09 20 00.6**	**-2.1**
CHGR	**Chuyangaron**	**15.41**	**36**	*e*Pn	**Pn**	**09 20 03.1**	**-2.7**
GAR	comp=Z,27nm,1.0s **Garm**	**16.28**	**37**	*e*Pn	**Pn**	**09 20 14.5**	**-2.6**
GAR	comp=Z,29nm,0.9s			*e*P	**Pn**	**09 20 14.5**	**-2.6**
comp=Z,29nm,0.9s							
AKT	**Akhty**	**17.00**	**334**	*i*P	**P**	**09 20 28.7**	**+0.6**
DAMY	**Dhamar**	**17.26**	**229**	*e*Pn	**Pn**	**09 20 29.8**	**0.0**
GNI	comp=Z,90nm,0.9s **Garni**	**17.32**	**325**	*e*P	**P**	**09 20 32.0**	**+0.3**
GNI	comp=Z,29nm,0.8s **Garni**	**17.32**	**325**	P	**P**	**09 20 32.4**	**+0.7**
GNI	**Garni**	**17.32**	**325**	*i*P	**Pn**	**09 20 30.5**	**+0.2**
GNI	**Garni**	**17.32**	**325**	P	**Pn**	**09 20 30.6**	**+0.3**
GNI	comp=Z,1.3nm,0.3s,baz=337,slow=15,SNR=5.6			LR	LR	09 28 23.1	
comp=Z,568nm,20.4s,baz=122,slow=42							
MAK	**Makhachkala**	**18.36**	**336**	*e*P	**P**	**09 20 42.7**	**-0.2**
MAK				*e*S	**Sn**	**09 24 07.3**	**-0.5**
MAK	comp=Z,23nm,0.3s			pmax	pmax		
MAK				MLR	MLR		
comp=Z,310nm,17.0s							
BTLR	**Botlikh**	**18.61**	**333**	*i*P	**Pn**	**09 20 48.2**	**+2.2**
DVE	**Vedeno**	**18.89**	**333**	*i*P	**Pn**	**09 20 49.5**	**+0.1**
AKH	**Akhalkalaki**	**18.89**	**325**	*e*P	**P**	**09 20 47.9**	**-1.1**
AKH	comp=Z,18nm,1.1s **Akhalkalaki**	**18.89**	**325**	*e*P	**P**	**09 20 47.9**	**-1.1**
AKH				pmax	pmax		
comp=Z,18nm,1.1s							
ASF	**Jabal al Asfar**	**18.98**	**292**	P	**Pn**	**09 20 51.2**	**+0.5**
ASF	comp=Z,21nm,0.9s **Jabal al Asfar**	**18.98**	**292**	P	**P**	**09 20 49.1**	**-1.0**
comp=Z,1.0nm,0.3s,baz=92,slow=7.9,SNR=6.9							
ASF				S	Sn	09 24 09.0	-14
comp=Z,0.1nm,0.3s,baz=41,slow=8.1,SNR=3.7							
GROC	**Groznyy**	**19.23**	**333**	*e*P	**P**	**09 20 48.8**	**-3.7**
GROC				*e*S	**Sn**	**09 24 24.3**	**-4.6**
GROC				pmax	pmax		
comp=Z,22nm,0.4s							
ARSB	**Arslanbob**	**19.36**	**37**	*e*P	**P**	**09 20 53.9**	**-0.3**
KK31	comp=Z,26nm,0.9s **Karatay Array**	**19.51**	**29**	*e*P	**Pn**	**09 20 55.8**	**-1.0**
KK31	comp=Z,36nm,1.0s **Karatay Array**	**19.51**	**29**	*e*P	**Pn**	**09 20 55.8**	**-1.0**
KK31				pmax	pmax		
comp=Z,37nm,1.0s							
KKAR	**Karatay Array**	**19.51**	**29**	*e*P	**Pn**	**09 20 55.8**	**-1.0**
KKAR	comp=Z,36nm,1.0s **Karatay Array**	**19.51**	**29**	*e*P	**Pn**	**09 20 55.8**	**-1.0**
KKAR				pmax	pmax		
comp=Z,37nm,1.0s							
ZEI	**Tsey**	**19.73**	**329**	*e*P	**P**	**09 20 58.0**	**-0.2**
ZEI				pmax	pmax		
comp=Z,25nm,1.2s							
WALJ	**Wala**	**19.78**	**290**	P	**Pn**	**09 21 01.3**	**+1.1**
comp=Z,66nm,0.7s							
KARJ		**19.85**	**288**	P	**Pn**	**09 21 05.8**	**+4.8**
comp=Z,45nm,0.8s							
GHAJ	**Ghor Haditha**	**19.95**	**289**	P	**P**	**09 21 00.5**	**0.0**
comp=Z,43nm,1.4s							
KSH	**Kashi**	**19.96**	**45**	P	**P**	**09 20 56.3**	**-4.4**
KSH				sP	pP	09 21 03.0	-1.0
KSH				PP	**PnPn**	**09 21 14.3**	**-2.3**
KSH				S	S	09 24 28.1	-17
KSH				SS	**Sn**	**09 24 52.6**	**+5.6**
KSH				pmax	pmax		
comp=Z,32nm,0.6s							
KSH				pmax	pmax		
comp=Z,270nm,4.5s							
KSH				LR	LR		
comp=Z,330nm,10.3s							
KSH				LR	LR		
comp=Z,500nm,9.6s							
KSH				LR	LR		
comp=Z,410nm,10.8s							
SHMJ	**Saham**	**20.04**	**293**	P	Pn	09 21 04.5	+1.3
comp=Z,108nm,1.3s							
EIL	**Elat**	**20.32**	**284**	P	**P**	**09 21 04.3**	**-0.2**
comp=Z,45nm,1.1s,baz=88,slow=5.9,SNR=16							
EIL				S	Sn	09 24 58.9	+3.4
comp=Z,9.1nm,1.0s,baz=136,slow=20,SNR=2.5							
EIL				LR	LR	09 30 34.0	
comp=Z,421nm,20.2s,baz=86,slow=42							
MMAI	**Mount Meron Ar**	**20.39**	**294**	P	**P**	**09 21 04.6**	**-0.8**
comp=Z,9.7nm,0.7s,baz=101,slow=15,SNR=8.6							
MMAI				S	**S**	**09 24 45.3**	**-8.7**
comp=Z,1.8nm,0.3s,baz=93,slow=28,SNR=5.6							
MMAI				LR	LR	09 31 07.0	
comp=Z,285nm,18.0s,baz=230,slow=43							
NCK	**Nalchik**	**20.42**	**329**	*i*P	Pn	09 21 07.6	0.0
NCK				pmax	pmax		
comp=Z,25nm,0.7s							
ATD	**Arta Tunnel**	**20.50**	**226**	P	**P**	**09 21 08.1**	**+1.4**
comp=Z,23nm,0.9s,baz=54,slow=12,SNR=11							
ATD				LR	LR	09 29 31.6	
comp=Z,250nm,21.7s,baz=30,slow=38							
NEY	**Neytrino**	**20.64**	**328**	*i*P	Pn	09 21 10.7	+0.3
NEY				pmax	pmax		
comp=Z,4.0nm,0.7s							
KBZ	**Khabaz**	**20.92**	**329**	P	**P**	**09 21 10.8**	**-0.1**
comp=Z,3.9nm,0.8s,baz=125,slow=7.0,SNR=2.9							
KBZ				LR	LR	09 30 49.4	
comp=Z,213nm,18.0s,baz=137,slow=41							
AAK	**Ala-Archa**	**21.09**	**36**	*e*P	**P**	**09 21 12.1**	**-0.8**
comp=Z,27nm,1.0s							
AAK	**Ala-Archa**	**21.09**	**36**	*i*P	**P**	**09 21 12.1**	**-0.8**
SNR=15							
AAK	**Ala-Archa**	**21.09**	**36**	*i*P	**P**	**09 21 11.7**	**-1.2**
AAK	**Ala-Archa**	**21.09**	**36**	P	**P**	**09 21 11.6**	**-1.3**
comp=Z,16nm,1.0s,baz=203,slow=12,SNR=14							
AAK				LR	LR	09 29 26.8	
comp=Z,224nm,19.2s,baz=224,slow=37							
NRN	**Naryn**	**21.13**	**41**	*e*P	**P**	**09 21 12.0**	**-1.6**
comp=Z,16nm,0.9s							
NRN	**Naryn**	**21.13**	**41**	*e*P	**P**	**09 21 12.0**	**-1.6**
NRN				pmax	pmax		
comp=Z,16nm,0.9s							
CUKAN	**kangal_SIVAS**	**21.17**	**312**	*i*P	**P**	**09 21 14.2**	**+0.4**
KVAR	**Kislovodsk Arr**	**21.19**	**329**	P	**P**	**09 21 12.7**	**-1.2**
comp=Z,2.1nm,0.3s,baz=288,slow=19,SNR=2.8							
KIV	**Kislovodsk**	**21.19**	**329**	*e*P	**P**	**09 21 15.1**	**+1.1**
comp=Z,36nm,0.8s							
KIV	**Kislovodsk**	**21.19**	**329**	*i*P	**P**	**09 21 15.6**	**+1.6**
KIV	SNR=7.0 **Kislovodsk**	**21.19**	**329**	*e*P	**P**	**09 21 15.5**	**+1.6**
KIV				pmax	pmax		
comp=Z,138nm,1.0s							
DOMR	**Dombai**	**21.21**	**326**	*i*P	**P**	**09 21 13.0**	**-1.2**
DOMR				pmax	pmax		
comp=Z,11nm,0.9s							
HYB	**Hyderabad**	**21.33**	**111**	*i*P	**P**	**09 21 16.0**	**+0.5**
KDJ	**Kajisay**	**22.25**	**41**	*e*P	**P**	**09 21 24.6**	**-0.9**
comp=Z,45nm,0.9s							
KDJ	**Kajisay**	**22.25**	**41**	*e*P	**P**	**09 21 24.6**	**-0.9**
KDJ				pmax	pmax		
comp=Z,45nm,0.9s							
TARG	**Taragay, Kyrgy**	**22.38**	**42**	*e*P	**P**	**09 21 26.0**	**-1.2**
comp=Z,11nm,0.8s							
SOC	**Sochi**	**22.40**	**324**	*e*P	P	09 21 34.4	+7.6
SOC				*e*PPP	PPP	09 21 59.9	
SOC				*e*SSS	SSS	09 26 17.7	
SOC				pmax	pmax		
comp=Z,15nm,0.5s							
SOC				MLR	MLR		
comp=Z,417nm,15.0s							
CSS	**Mathiatis**	**22.53**	**298**	P	**P**	**09 21 27.1**	**-1.2**
comp=Z,7.8nm,0.9s							
AKTO	**Aktyubinsk**	**23.83**	**0**	P	**P**	**09 21 40.2**	**-1.1**
comp=Z,9.3nm,0.5s,baz=168,slow=10,SNR=39							
AKTO				LR	LR	09 31 42.3	
comp=Z,404nm,21.9s,baz=170,slow=38							
BR131	**Keskin Array S**	**23.97**	**309**	*e*P	**P**	**09 21 43.1**	**+0.1**
comp=Z,17nm,0.8s							
BR131	**Keskin Array S**	**23.97**	**309**	*e*P	**P**	**09 21 43.1**	**+0.1**
BR131				pmax	pmax		
comp=Z,17nm,0.8s							
BRTR	**Keskin Array B**	**23.97**	**309**	P	**P**	**09 21 42.6**	**-0.4**
comp=Z,11nm,0.7s,baz=126,slow=12,SNR=63							
BRTR				PcP	**PcP**	**09 25 24.8**	**-0.4**
comp=Z,0.5nm,0.6s,baz=132,slow=2.1,SNR=2.2							
BRTR				ScP	**ScP**	**09 29 04.9**	**+1.2**
comp=Z,0.2nm,0.6s,baz=111,slow=3.2,SNR=2.1							
PDGK	**Podgornoye**	**24.33**	**41**	P	**P**	**09 21 45.9**	**-0.4**
PDGK				pmax	pmax		
comp=Z,17nm,1.3s							
ANN	**Anapa**	**24.43**	**323**	*e*P	**P**	**09 21 46.0**	**-1.0**
ANN				*e**PP	**sP**	**09 21 55.5**	**+3.6**
ANN				*e*		09 22 17.7	
ANN				*e*S	**S**	**09 26 04.6**	**-2.2**
ANN				pmax	pmax		
comp=Z,46nm,1.1s							
OTUK	**Ortayu**	**24.47**	**24**	P	**P**	**09 21 47.5**	**+0.1**
OTUK				pmax	pmax		
comp=Z,10.0nm,0.8s							
ANTO	**Ankara**	**24.62**	**309**	*e*P	**P**	**09 21 49.3**	**+0.4**
comp=Z,22nm,0.7s		

SOH pmax pmax
comp=Z,9.0nm,1.1s
VOIR **32.15 314⇑** *i*P **P** **09 22 57.0 +1.0**
VOIR **32.15 314** P **P** **09 22 56.5 +0.5**
VOIR pmax pmax
comp=Z,13nm,1.2s
BIZ **Bicaz** **32.16 318⇓** *i*P **P** **09 22 55.3 -0.7**
DOPR **Dopca** **32.16 315⇑** *i*P **P** **09 22 55.5 -0.6**
ARR **Arges** **32.38 314⇑** *i*P **P** **09 22 57.8 -0.3**
OBN **Obninsk** **32.43 337** *e*P **P** **09 22 57.5 -0.8**
OBN *e* 09 24 07.3
OBN *e*PPP PPP 09 24 19.4
OBN pmax pmax
comp=Z,15nm,0.9s
OBN **Obninsk** **32.43 337** P **P** **09 22 58.0 -0.3**
comp=Z,5.2nm,0.3s,baz=139,slow=11,SNR=3.1
OBN LR LR 09 37 43.8
comp=Z,45nm,18.6s,baz=184,slow=39
GRG **Griva** **32.44 305** P **P** **09 23 00.4 +1.8**
GRG pmax pmax
comp=Z,8.0nm,0.9s
AKASG **Malin Array Be** **32.45 326** P **P** **09 22 57.2 -1.3**
comp=Z,16nm,0.8s,baz=127,slow=8.3,SNR=32
AKASG PcP **PcP** **09 25 45.2 -0.4**
comp=Z,0.4nm,0.3s,baz=120,slow=5.6,SNR=3.1
AKBB **Malin Array Si** **32.45 326** *e*P **P** **09 22 57.3 -1.2**
comp=Z,34nm,0.8s
AKBB **Malin Array Si** **32.45 326** *e*P **P** **09 22 57.3 -1.2**
AKBB pmax pmax
comp=Z,34nm,0.8s
KIEV **Kiev** **32.45 326** *e*P **P** **09 22 57.0 -1.5**
comp=Z,32nm,0.8s
KIEV **Kiev** **32.45 326⇑** *i*P **P** **09 22 57.2 -1.3**
KIEV **Kiev** **32.45 326⇑** *e*P **P** **09 22 56.7 -1.8**
KIEV pmax pmax
comp=Z,32nm,0.8s
DGZ **Jazzator, Alta** **32.49 37** *i* P **P** **09 22 59.8 +0.7**
DGZ pmax pmax
comp=Z,1.0nm,0.5s
KIRV **Kirov** **32.52 352** LR LR 09 37 42.3
comp=Z,156nm,19.8s,baz=181,slow=39
MOS **Moscow** **32.59 339** *e*P **P** **09 23 04.1 +4.5**
BURAR **Bucovina Array** **33.01 318⇓** *i*P **P** **09 23 03.1 -0.5**
BURAR **Bucovina Array** **33.01 318** ⇓P **P** **09 23 03.1 -0.5**
FNA **Florina** **33.15 305** P **P** **09 23 07.1 +2.2**
FNA pmax pmax
comp=Z,23nm,1.0s
NVS **Novosibirsk** **33.85 27** *e*P **P** **09 23 10.2 -0.5**
NVS pmax pmax
comp=Z,16nm,1.4s
NVS pmax pmax
comp=N,12nm,1.6s
NVS pmax pmax
comp=E,6.0nm,1.6s
ZALV **Zalesovo Beam** **33.88 29** P **P** **09 23 10.1 -0.9**
comp=E,2.6nm,0.4s,baz=241,slow=9.1,SNR=14
ZALV LR LR 09 36 36.1
comp=E,78nm,19.9s,baz=250,slow=36
KMBO **Kilima Mbogo** **33.89 219** LR LR 09 38 59.4
comp=E,152nm,20.2s,baz=50,slow=40
DRGR **34.19 315⇑** *i*P **P** **09 23 13.2 -0.6**
DRGR **34.19 315** ⇑P **P** **09 23 13.2 -0.6**
KOLS **Kolonicke sedl** **35.36 319** *e*P **P** **09 23 24.4 +0.5**
KOLS pmax pmax
comp=Z,36nm,0.8s
KOLS **Kolonicke sedl** **35.36 319** *e*P **P** **09 23 24.4 +0.5**
PRGR **Permogore** **35.99 350** *e*P **P** **09 23 28.0 -1.1**
PRGR pmax pmax
comp=Z,4.0nm,0.5s
KECS **Kecovo** **36.24 317** *e*P **P** **09 23 32.4 +1.0**
KECS **Kecovo** **36.24 317** *e*P **P** **09 23 32.4 +1.0**
KLMR **Klimovskoe** **36.45 345** *e*P **P** **09 23 30.2 -2.7**
KLMR pmax pmax
comp=Z,10.0nm,1.1s
IDID **Didziasalis** **36.49 330** *e*P **P** **09 23 33.9 +0.5**
IDID IAmb IAmb 09 23 35.9
comp=Z,14nm,1.2s
IIGN **Ignalina** **36.74 330** *e*P **P** **09 23 36.0 +0.5**
IIGN IAmb IAmb 09 23 38.2
comp=Z,10.0nm,0.8s
ISAL **Salakas** **36.92 330** *e*P **P** **09 23 37.7 +0.6**
ISAL IAmb IAmb 09 23 39.5
comp=Z,4.0nm,0.7s
IZAR **Zarasai** **36.98 331** *e*P **P** **09 23 38.3 +0.7**
LANS **Liptovska Anna** **37.13 318** *e*P **P** **09 23 41.3 +2.3**
LANS **Liptovska Anna** **37.13 318** *e*P **P** **09 23 41.3 +2.3**
GTA **Gaotai** **37.23 59** *e*P **P** **09 23 42.8 +2.7**
GTA pP sP 09 23 50.5 +5.5
GTA sP pP 09 23 54.6 +11
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,58nm,5.1s
GTA LR LR
comp=Z,310nm,21.9s
GTA LR LR
comp=Z,200nm,19.7s
VYHS **Vyhne** **37.26 316** *e*P **P** **09 23 40.0 -0.1**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS **Vyhne** **37.26 316** *e*P **P** **09 23 40.0 -0.1**
OJC **Ojcow** **37.37 319** P **P** **09 23 41.5 +0.5**
PABE **Paberze** **37.86 329** *e*P **P** **09 23 43.7 -1.4**
PABE IAmb IAmb 09 23 47.0
comp=Z,20nm,0.7s
JAVC **Velka Javorina** **38.11 316** *e*P **P** **09 23 47.8 +0.4**
SMOL **Smolenice** **38.14 316** P **P** **09 23 50.8 +3.2**
SMOL pmax pmax
comp=Z,35nm,0.9s
MODS **Modra-Piesok** **38.19 316** *e*P **P** **09 23 49.2 +1.2**
MODS pmax pmax
comp=Z,11nm,0.8s
MODS **Modra-Piesok** **38.19 316** *e*P **P** **09 23 49.2 +1.2**
SOP **Sopron** **38.42 314** P **P** **09 23 50.4 +0.5**
MORC **Moravsky Berou** **38.53 318** P **P** **09 23 50.4 -0.4**
MORC pmax pmax
comp=Z,53nm,1.1s
MORC **Moravsky Berou** **38.53 318** *e*P **P** **09 23 50.0 -0.8**
VSU **Vasula** **38.55 334** P **P** **09 23 50.6 -0.2**
VSU pmax pmax
comp=Z,35nm,1.3s
CMAR **Chiang Mai Arr** **38.79 93** LR LR 09 41 43.9
comp=Z,196nm,22.0s,baz=268,slow=39
VRAC **Vranov** **38.94 317** *e*P **P** **09 23 53.6 -0.6**
VRAC **Vranov** **38.94 317** P **P** **09 23 53.2 -1.0**
comp=Z,9.3nm,0.8s,baz=116,slow=9.6,SNR=7.2
VRAC LR LR 09 41 53.1
comp=Z,114nm,19.3s,baz=114,slow=39
CONA **Conrad Observa** **38.94 314** *e*P **P** **09 23 53.5 -0.9**
comp=Z,5.8nm,1.2s
ARSA **Arzberg** **38.95 313** *e*P **P** **09 23 54.5 +0.1**
comp=Z,5.9nm,0.9s
KRUC **Moravsky** **38.97 316** *e*P **P** **09 23 54.3 -0.2**
SOKA **Soboth** **39.12 312** *e*P **P** **09 23 56.1 +0.2**
comp=Z,5.5nm,1.0s
AQU **L'Aquila** **39.33 305** P **P** **09 23 57.9 +0.2**
AQU pmax pmax
comp=Z,37nm,0.7s
DPC **Dobruska-Polom** **39.47 318** *e*P **P** **09 23 58.3 -0.4**
DPC MLR MLR
comp=Z,4μm,19.9s
DPC **Dobruska-Polom** **39.47 318** *e*P **P** **09 23 58.3 -0.4**
DPC AMS AMS 09 41 50.0
comp=Z,200nm,21.0s
TREC **Trest** **39.61 316** AMS AMS 09 43 50.0
comp=Z,200nm,16.0s
UPC **Upice** **39.71 318** *e*P **P** **09 24 00.1 -0.6**
UPC **Upice** **39.71 318** *e*P **P** **09 24 00.1 -0.6**
MOA **Molln** **39.94 314** *e*P **P** **09 24 02.5 -0.2**
comp=Z,9.0nm,0.7s,SNR=18
MYKA **Terra Mystica** **40.03 312** *e*P **P** **09 24 03.1 -0.4**
comp=Z,3.2nm,0.9s
GOPC **GO Pecny, Ondr** **40.25 317** *e*P **P** **09 24 05.1 -0.1**
GOPC MLR MLR
comp=Z,200nm,18.7s
GOPC **GO Pecny, Ondr** **40.25 317** *e*P **P** **09 24 05.1 -0.1**
GOPC AMS AMS 09 44 20.0
comp=Z,200nm,18.7s
KBA **Koelnbreinsper** **40.34 312** *e*P **P** **09 24 05.9 -0.2**
comp=Z,13nm,0.8s,SNR=11
KBA **Koelnbreinsper** **40.34 312** P **P** **09 24 07.0 +0.9**
KBA pmax pmax
comp=Z,22nm,1.0s
PRU **Pruhonice** **40.42 317** *e*P **P** **09 24 07.3 +0.7**
PRU MLR MLR
comp=Z,200nm,18.8s
PRU **Pruhonice** **40.42 317** *e*P **P** **09 24 07.3 +0.7**
PRU AMS AMS 09 44 30.0
comp=Z,200nm,18.8s
GERES **GERESS Array B** **40.59 315** P **P** **09 24 07.4 -0.7**
comp=Z,8.4nm,0.7s,baz=108,slow=8.6,SNR=33
GERES LR LR 09 44 45.9
comp=Z,120nm,18.4s,baz=110,slow=42
KHC **Kasperske Hory** **40.75 316** *e*P **P** **09 24 08.7 -0.7**
KHC *e* 09 24 18.5
KHC MLR MLR
comp=Z,200nm,14.8s
KHC **Kasperske Hory** **40.75 316** *e*P **P** **09 24 08.7 -0.7**
KHC *e*pP **sP** **09 24 18.5 +4.2**
KHC AMS AMS 09 44 00.0
comp=Z,200nm,14.8s
ABTA **Abfaltersbach** **40.81 312** *e*P **P** **09 24 09.6 -0.4**
comp=Z,13nm,1.2s
FIA0 **FINESS Array S** **40.84 337** *e*P **P** **09 24 08.8 -1.1**
FIA0 **FINESS Array S** **40.84 337** *e*P **P** **09 24 08.8 -1.1**
FIA1 **FINESS Array S** **40.84 337** *e*P **P** **09 24 09.9 +0.1**
comp=Z,6.6nm,0.6s
FINES **FINESS Array B** **40.84 337** *i* P **P** **09 24 09.3 -0.5**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES **FINESS Array B** **40.84 337** P **P** **09 24 08.8 -1.1**
comp=Z,6.1nm,0.6s,baz=132,slow=8.5,SNR=20
FINES LR LR 09 44 32.6
comp=Z,151nm,18.2s,baz=139,slow=41
BRG **Berggiesshubel** **41.07 318** *e*P **P** **09 24 11.0 -0.9**
comp=Z,6.0nm,0.8s
BRG **Berggiesshubel** **41.07 318** *e*P **P** **09 24 11.0 -0.9**
BRG pmax pmax
comp=Z,6.0nm,0.8s
WET **Wettzell** **41.19 315** P **P** **09 24 12.8 -0.2**
WET pmax pmax
comp=Z,9.0nm,0.8s
PBKT **Sadao Pong** **41.26 95** P P 09 24 20.8 +7.0
comp=Z,3.9nm,1.0s
WTTA **Wattenberg** **41.52 312** *e*P **P** **09 24 15.1 -0.7**
comp=Z,36nm,1.2s,SNR=18
WATA **Walderalm** **41.57 312** *e*P **P** **09 24 15.8 -0.5**
comp=Z,25nm,1.0s,SNR=12
SUF **Sumiainen** **41.72 339** P **P** **09 24 20.9 +3.9**
SUF pmax pmax
comp=Z,12nm,2.0s
CLL **Collm** **41.78 318⇓** *i*P **P** **09 24 17.4 -0.3**
CLL *e* 09 24 33.0
CLL pmax pmax
comp=Z,12nm,1.1s
CLL **Collm** **41.78 318⇓** *i*P **P** **09 24 17.4 -0.3**
comp=Z,12nm,1.1s
CLL *e* 09 24 33.0
CLL LmV 09 45 00.0
comp=Z,200nm,18.8s
NKC **Novy Kostel** **41.78 317** AMS AMS 09 43 20.0
comp=Z,200nm,20.7s
SQTA **Sankt Quirin** **41.79 312** *e*P **P** **09 24 17.2 -0.8**
comp=Z,12nm,0.5s,SNR=18
MOTA **Moosalm** **41.89 312** *e*P **P** **09 24 17.4 -1.4**
comp=Z,7.4nm,0.6s,SNR=20
KEST **Kesra** **42.05 295** P **P** **09 24 19.3 -0.9**
comp=Z,4.3nm,0.6s,baz=97,slow=9.9,SNR=5.0
KEST LR LR 09 45 08.8
comp=Z,142nm,19.4s,baz=308,slow=41
FETA **Feichten** **42.06 312** *e*P **P** **09 24 19.7 -0.6**
comp=Z,33nm,1.0s,SNR=14
RETA **Reutte** **42.14 312** *e*P **P** **09 24 19.4 -1.5**
comp=Z,10nm,0.8s
GRFO **Grafenberg** **42.38 316** *e*P **P** **09 24 22.4 -0.3**
comp=Z,27nm,0.8s
GRFO **Grafenberg** **42.38 316** *e*P **P** **09 24 22.4 -0.3**
GRFO pmax pmax
comp=Z,27nm,0.8s
MOX **Moxa** **42.41 317** P **P** **09 24 26.9 +4.0**
MOX pmax pmax
comp=Z,5.0nm,0.9s
DAVOX **Davos/Dischmat** **42.59 311** LR LR 09 47 08.1
comp=Z,188nm,18.7s,baz=20,slow=43
DAVA **Damuels** **42.69 312** *e*P **P** **09 24 24.5 -0.9**
comp=Z,19nm,0.5s,SNR=20
SONA0 **Songino Array** **43.34 47** *e*P **P** **09 24 30.0 -0.6**
SONM **Songino Array** **43.34 47** *e*P **P** **09 24 32.2 +1.5**
SONM **Songino Array** **43.34 47** P **P** **09 24 30.0 -0.6**
comp=Z,2.7nm,0.9s,baz=250,slow=9.2,SNR=9.6
SONM LR LR 09 44 30.1
comp=Z,280nm,18.9s,baz=258,slow=39
OUL **Oulu** **43.50 341** P **P** **09 24 34.3 +2.8**
OUL pmax pmax
comp=Z,11nm,1.0s
ULN **Ulaanbaatar** **43.78 48** *i* P **P** **09 24 34.6 +0.4**
ULN pmax pmax
comp=Z,3.0nm,0.8s
BFO **Black Forest** **43.92 313** *e*P **P** **09 24 35.8 +0.6**
comp=Z,5.8nm,1.0s
BFO **Black Forest** **43.92 313** *e*P **P** **09 24 35.8 +0.6**
BFO pmax pmax
comp=Z,6.0nm,1.0s
XAN **Xi'an** **44.44 68** P P 09 24 46.8 +7.2
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,87nm,5.1s
XAN LR LR
comp=Z,170nm,19.5s
XAN LR LR
comp=Z,210nm,19.5s
XAN LR LR
comp=Z,280nm,17.2s
BNI **Bardonecchia** **44.53 308** P **P** **09 24 42.1 +1.9**
BNI pmax pmax
comp=Z,21nm,1.8s
LPG **La Plagne** **44.53 309** *e*P **P** **09 24 41.1 +0.7**
LPG pmax pmax
comp=Z,10.0nm,0.8s
CDF **Champ du Feu** **44.62 313** *e*P **P** **09 24 41.6 +0.7**
CDF pmax pmax
comp=Z,6.0nm,0.9s
ECH **Echery** **44.67 313** P **P** **09 24 40.4 -0.8**
ECH pmax pmax
comp=Z,28nm,1.0s
HINF **Hinteralfeld** **44.80 312** *e*P **P** **09 24 40.6 -1.7**
HINF pmax pmax
comp=Z,13nm,1.1s
HFS **Hagfors** **44.97 331** P **P** **09 24 42.5 -0.9**
comp=Z,8.7nm,0.9s,baz=120,slow=8.8,SNR=12
HFS LR LR 09 45 55.6
comp=Z,186nm,21.3s,baz=131,slow=39
CABF **La Chapelle** **45.13 310** *e*P **P** **09 24 44.4 -0.6**
CABF pmax pmax
comp=Z,9.0nm,0.7s
HAU **Haudompre** **45.17 312** *e*P **P** **09 24 43.2 -1.9**
HAU pmax pmax
comp=Z,10.0nm,0.7s
BUG **Bochum--Univer** **45.26 317** P **P** **09 24 48.4 +2.6**
BUG pmax pmax
comp=Z,19nm,1.0s
WLF **Walferdange** **45.58 315** P **P** **09 24 48.0 -0.4**
WLF pmax pmax
comp=Z,120nm,0.9s
VIVF **Saint-Julien-l** **45.92 308** *e*P **P** **09 24 51.2 0.0**
VIVF pmax pmax
comp=Z,8.0nm,0.9s
PSI **Prapat** **46.00 114** LR LR 09 43 33.6
comp=Z,103nm,21.6s,baz=326,slow=35
SSB **Saint Sauveur** **46.05 308** P **P** **09 24 53.0 +0.8**
SSB pmax pmax
comp=Z,18nm,0.9s
NORES **NORESS Array B** **46.20 331** P **P** **09 24 53.5 +0.4**
NRIK **Noril'sk** **46.23 14** P **P** **09 24 52.6 -0.6**
comp=Z,7.4nm,0.8s,baz=209,slow=4.7,SNR=8.4
NRIK LR LR 09 47 57.8
comp=Z,321nm,18.5s,baz=214,slow=41
NC405 **NORSAR Array S** **46.29 331** *e*P **P** **09 24 53.6 -0.3**
comp=Z,9.6nm,0.8s
NB2 **NORSAR Subarra** **46.48 331** P **P** **09 24 53.6 -1.7**
comp=Z,1.1nm,0.6s,baz=117,slow=7.9
NB2 **NORSAR Subarra** **46.48 331** P **P** **09 24 55.7 +0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NOA **NORSAR Array B** **46.48 331** P **P** **09 24 54.1 -1.2**
comp=Z,2.9nm,0.8s,baz=115,slow=7.8,SNR=10
NOA LR LR 09 46 41.8
comp=Z,152nm,21.7s,baz=140,slow=39
GIVF **Givet** **46.51 315** *e*P **P** **09 24 56.3 +0.6**
GIVF pmax pmax
comp=Z,39nm,1.0s
DOU **Dourbes** **46.65 315** P **P** **09 24 58.7 +1.9**
DOU pmax pmax
comp=Z,23nm,1.1s
SMF **Signal de Mont** **46.67 310** *e*P **P** **09 24 55.6 -1.5**
SMF pmax pmax
comp=Z,26nm,0.8s
LOR **Lormes** **46.73 311** *e*P **P** **09 24 55.8 -1.7**
LOR pmax pmax
comp=Z,7.0nm,0.7s
BAIF **Baives** **46.89 315** *e*P **P** **09 24 58.5 -0.2**
BAIF pmax pmax
comp=Z,26nm,1.0s
ARCES **ARCESS Array B** **46.92 345** P **P** **09 24 57.8 -0.8**
comp=Z,1.9nm,0.7s,baz=138,slow=8.5,SNR=6.6
SSF **Saint Saulge** **46.95 311** *e*P **P** **09 24 57.8 -1.4**
SSF pmax pmax
comp=Z,15nm,0.7s
AVF **Avril sur Loir** **47.02 310** *e*P **P** **09 24 57.2 -2.5**
AVF pmax pmax
comp=Z,5.0nm,0.6s
TAM **Tamanrasset** **47.32 277** *e*P **P** **09 25 03.7 +1.1**
comp=Z,5.8nm,0.8s
TAM **Tamanrasset** **47.32 277** *e*P **P** **09 25 03.7 +1.1**
TAM pmax pmax
comp=Z,6.0nm,0.8s
BGF **Bois d'Agland** **47.35 310** *e*P **P** **09 25 01.4 -0.9**
BGF pmax pmax
comp=Z,12nm,0.8s
MTLF **Montolieu** **47.60 305** *e*P **P** **09 25 03.6 -0.7**
MTLF pmax pmax
comp=Z,12nm,0.8s
TCF **Toulx Ste Croi** **47.77 309** *e*P **P** **09 25 04.9 -0.7**
TCF pmax pmax
comp=Z,4.0nm,0.5s
CAF **Calviac** **47.78 308** *e*P **P** **09 25 06.5 +0.8**
CAF pmax pmax
comp=Z,13nm,0.9s
RJF **Les Rejaudoux** **48.19 308** *e*P **P** **09 25 08.9 +0.1**
RJF pmax pmax
comp=Z,7.0nm,0.7s
LFF **La Frestale** **48.72 308** *e*P **P** **09 25 12.8 -0.1**
LFF pmax pmax
comp=Z,7.0nm,0.6s
LDF **La Druitiere** **49.52 312** *e*P **P** **09 25 17.3 -1.7**
LDF pmax pmax
comp=Z,13nm,0.8s
ETSF **Etsaut** **49.63 305** *e*P **P** **09 25 23.7 +3.7**
ETSF pmax pmax
comp=Z,14nm,0.9s
FLN **La Foliniere** **49.78 313** *e*P **P** **09 25 19.5 -1.4**
FLN pmax pmax
comp=Z,26nm,0.9s
BOD **Bodaibo** **50.06 35** *e*P **P** **09 25 21.2 -1.8**
BOD pmax pmax
comp=Z,50nm,1.5s
SJPF **Ste Jean** **50.12 305** *e*P **P** **09 25 24.9 +1.2**
SJPF pmax pmax
comp=Z,41nm,1.5s
SGMF **Saint Gilles** **51.12 312** *e*P **P** **09 25 31.9 +0.8**
SGMF pmax pmax
comp=Z,17nm,0.8s
QUIF **Quistinic** **51.52 311** *e*P **P** **09 25 33.8 -0.3**
QUIF pmax pmax
comp=Z,18nm,0.8s
ROSF **Rostrenen** **51.60 312** *e*P **P** **09 25 35.3 +0.6**
ROSF pmax pmax
comp=Z,13nm,0.7s
EKA **Eskdalemuir Ar** **52.11 321** P **P** **09 25 37.4 -1.0**
comp=Z,1.5nm,0.8s,baz=120,slow=7.8,SNR=3.6
ESDC **Sonseca Array** **52.36 301** P **P** **09 25 39.7 -0.9**
comp=Z,0.7nm,0.4s,baz=69,slow=8.0,SNR=14
GUD **Guadarrama** **52.42 302** P **P** **09 25 42.5 +1.4**
GUD pmax pmax
comp=Z,13nm,1.1s
PAB **San Pablo** **52.67 301** *e*P **P** **09 25 43.6 +0.7**
comp=Z,5.3nm,0.7s
PAB **San Pablo** **52.67 301** *e*P **P** **09 25 43.6 +0.7**
PAB pmax pmax
comp=Z,5.0nm,0.7s
MDT **Midelt** **53.84 293** P **P** **09 25 51.2 -0.5**
comp=Z,3.2nm,0.7s,baz=91,slow=8.2,SNR=7.8
TOA0 **Torodi Ar. Sit** **53.99 267** *e*P **P** **09 25 52.0 -0.9**
comp=Z,9.2nm,0.6s
TOA1 **Torodi Ar. Sit** **53.99 267** *e*P **P** **09 25 51.0 -1.9**
TORD **Torodi Ar. Bea** **53.99 267** P **P** **09 25 51.0 -1.9**
comp=Z,4.6nm,0.6s,baz=55,slow=6.3,SNR=33
PBRG **Braganca** **54.26 304** *e*P **P** **09 25 56.4 +1.8**
comp=Z,17nm,1.9s
MVO **Moncorvo** **54.54 303** *e*P **P** **09 25 58.8 +2.2**
MATP **Matopo** **54.65 214** P **P** **09 25 57.6 +0.1**
comp=Z,8.7nm,0.9s,baz=20,slow=7.4,SNR=15
SPITS **Spitsbergen Ar** **54.97 350** P **P** **09 25 58.8 -0.3**
comp=Z,2.9nm,0.7s,baz=116,slow=9.8,SNR=3.7
MTE **Manteigas** **55.02 302** *e*P **P** **09 26 01.1 +1.0**
PCBR **Castelo Branco** **55.03 301** *e*P **P** **09 26 01.2 +1.1**
comp=Z,19nm,1.7s
POLO **Lamas de Olo** **55.09 303** *e*P **P** **09 26 02.1 +1.4**
comp=Z,12nm,2.0s
PCAB **Cabril** **55.23 304** *e*P **P** **09 26 03.8 +2.2**
comp=Z,28nm,2.1s
PCVE **Castro Verde** **55.78 299** *e*P **P** **09 26 07.1 +1.6**
PCAS **Casmilo, Conde** **55.78 302** *e*P **P** **09 26 07.9 +2.3**
comp=Z,38nm,1.9s
TIXI **Tiksi** **59.09 20** *ce*P **P** **09 26 28.7 +0.4**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
KSRS **Korea Array** **59.28 61** P **P** **09 26 29.0 -1.1**
comp=Z,3.2nm,0.9s,baz=275,slow=7.6,SNR=10
KSRS LR LR 09 55 57.6
comp=Z,136nm,20.3s,baz=273,slow=40
TSUM **Tsumeb** **59.90 225** P **P** **09 26 34.5 -0.3**
comp=Z,1.2nm,0.7s,baz=78,slow=8.7,SNR=3.4
LBTB **Lobatse** **59.94 214** *e*P **P** **09 26 34.8 -0.1**
comp=Z,8.4nm,1.1s
LBTB **Lobatse** **59.94 214** *e*P **P** **09 26 34.8 -0.1**
LBTB pmax pmax
comp=Z,8.0nm,1.1s
LBTB **Lobatse** **59.94 214** P **P** **09 26 34.8 -0.1**
comp=Z,3.9nm,0.9s,baz=20,slow=9.4,SNR=3.5
KLR **Kul'dur** **60.16 47** *i* P **P** **09 26 35.1 -1.0**
KLR pmax pmax
comp=Z,5.0nm,1.0s
USRK **Ussuriysk Ar.** **61.06 52** P **P** **09 26 41.7 -0.6**
comp=Z,0.7nm,0.8s,baz=254,slow=8.1,SNR=4.2
BOSA **Boshof** **63.11 212** P **P** **09 26 55.7 -0.5**
comp=Z,2.9nm,0.7s,baz=20,slow=6.9,SNR=5.5
SUMG **Summit** **66.72 341** *e*P **P** **09 27 19.6 0.0**
comp=Z,7.0nm,0.7s
SUMG **Summit** **66.72 341** *e*P **P** **09 27 19.6 0.0**
SUMG pmax pmax
comp=Z,7.0nm,0.7s
DAV **Davao City (W)** **67.08 94** LR LR 09 59 55.8
comp=Z,14nm,21.9s,baz=325,slow=39
KAPI **Kappang** **67.67 108** LR LR 09 59 04.5
comp=Z,65nm,20.5s,baz=291,slow=38
YSS **Yuzh-Sakhalins** **67.83 47** *e*P **P** **09 27 27.3 +0.7**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,200nm,16.0s
SEY **Seymchan** **68.75 29** *ce*P **P** **09 27 33.1 +1.1**
MA2 **Magadan** **68.97 33** *e*P **P** **09 27 33.5 +0.1**
comp=Z,5.8nm,0.9s
MA2 **Magadan** **68.97 33** *ce*P **P** **09 27 33.9 +0.4**
MA2 pmax pmax
comp=Z,7.0nm,1.0s
BILL **Bilibino** **72.23 22** *e*P **P** **09 27 55.0 +1.8**
comp=Z,4.7nm,0.9s
BILL **Bilibino** **72.23 22** *e*P **P** **09 27 52.4 -0.8**
BILL *e* 09 28 07.8
BILL *e* 09 30 36.4
BILL pmax pmax
comp=Z,4.0nm,1.0s
PETK **Petropavlovsk-** **74.84 38** P **P** **09 28 08.4 -0.5**
comp=Z,1.7nm,0.8s,baz=271,slow=6.5,SNR=4.0
FRB **Frobisher Bay** **80.63 339** P **P** **09 28 40.8 0.0**
comp=Z,4.6nm,0.9s,baz=50,slow=5.5,SNR=5.9
MDM **Murphy Dome** **86.56 11** *e*P **P** **09 29 12.3 +0.9**
comp=Z,6.1nm,1.0s
ILAR **Eielson Array** **86.96 10** *e*P **P** **09 29 15.4 +2.1**
ILAR **Eielson Array** **86.96 10** P **P** **09 29 13.1 -0.2**
comp=Z,1.1nm,0.6s,baz=324,slow=4.6,SNR=14
CAST **Castle Rocks** **87.26 13** *e*P **P** **09 29 16.2 +1.4**
comp=Z,4.8nm,0.8s
WR1 **Warramunga Arr** **87.47 114** *e*P **P** **09 29 16.0 -0.5**

WRA	Warramunga Arr	87.47	114	P	P	09 29 16.0	-0.5
	comp=Z,1.6nm,1.1s,baz=304,slow=3.6,SNR=4.4						
ASAR	Alice Springs	88.93	117	P	P	09 29 23.2	-0.2
	comp=Z,1.9nm,1.0s,baz=306,slow=5.0,SNR=9.1						
YKA	Yellowknife Ar	91.03	356	P	P	09 29 32.1	-0.5
	comp=Z,0.4nm,0.6s,baz=1.4,slow=4.8,SNR=9.3						
YKB5	Yellowknife Ar	91.03	356	eP	P	09 29 32.1	-0.5
NVAR	Mina Array Bea	115.23	357	PKP	PKPdf	09 35 10.8	+0.3
	comp=Z,0.5nm,0.8s,baz=60,slow=2.2,SNR=2.2						
LTX	Lajitas	121.62	341	ePKPdf	PKPdf	09 35 21.7	-1.2
LTX	Lajitas	121.62	341	ePKIKP	PKPdf	09 35 21.7	-1.2
TXAR	Lajitas Array	121.62	341	PKP	PKPdf	09 35 21.7	-1.2
	comp=Z,0.3nm,0.8s,baz=162,slow=1.2,SNR=3.5						

PRU **20** *09:24:00.3±0.0, 43°.55N×17°.38E, h0km, M4.4*
BEO **20** *09:24:01.6±0.3, 43°.73N×17°.00E, h1km±2km, ML3.9/12*
SAR **20** *09:24:01.9±0.3, 43°.71N×17°.09E, h4km±2km, ML3.9/1*
IDC **20** *09:24:02.0±0.7, 43°.83N×17°.17E, h0km, mb3.8/12, mb1 4.0/22, mb1mx3.8/62, mbtmp3.8/22, ML4.1/8, MS3.1/4, Ms1 3.1/4, ms1mx2.7/47, Error ellipse: s-maj=15.2km s-min=10.4km az=63.0*
PDG **20** *09:24:02.5±0.8, 43°.76N×17°.15E, h2km, MD4.1/12, ML4.1/13, Error ellipse: s-maj=0.8km s-min=1.1km az=0.0*
LDG **20** *09:24:02.9±0.1, 43°.87N×17°.20E, h2km, Ml4.0/18, Error ellipse: s-maj=2.3km s-min=1.3km az=22.0*
NEIC **20** *09:24:04.0±1.7, 43°.83N×17°.14E, h10km±2km, mb4.4/3, ML4.0(PDG), Error ellipse: s-maj=12.4km s-min=7.3km az=222.0*
THE **20** *09:24:04.8, 43°.46N×17°.03E, h3km±31km, ML4.3/5, Error ellipse: s-maj=31.6km s-min=3.6km az=0.0*
ISC 20 09:24:01.0±1.1, 43°.72N±0°.02×16°.93E±0°.02, h1km±7km, n261, σ2°11/363, mb3.9/14, 22C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	1.02	146	ePg	Pg	09 24 18.6	-1.8
STON				eSg	Sg	09 24 33.6	0.0
STON	Ston	1.02	146	i Pg	Pg	09 24 18.6	-1.8
STON				Sg	Sg	09 24 33.1	-0.5
STON	Ston	1.02	146	ePg	Pg	09 24 18.5	-1.8
STON				eSg	Sg	09 24 32.3	-1.3
BLY	Banja Luka	1.04	10	ePg	Pg	09 24 20.8	-0.2
BLY				eSg	Sb	09 24 34.9	-1.2
BLY	Banja Luka	1.04	10	ePg	Pg	09 24 21.1	+0.1
BLY	Banja Luka	1.04	10	⇓iP	Pb	09 24 21.2	-0.7
BLY				S	Sn	09 24 36.5	-1.5
BLY	Banja Luka	1.04	10	ePg	Pg	09 24 20.5	-0.5
BLY				eSg	Sb	09 24 35.3	-0.8
UDBI	Udbina	1.17	314	ePn	Pg	09 24 24.4	+1.0
UDBI				Sn	Sn	09 24 43.4	+2.2
DOB	Doboj	1.31	39	ePg	Pn	09 24 24.3	-2.2
DOB				eSg	Sb	09 24 42.1	-1.7
BRY	Bratogost	1.43	124	⇑iPg	Pn	09 24 26.1	-2.1
BRY				eSg	Sg	09 24 47.6	+0.7
BRY	Bratogost	1.43	124	ePn	Pn	09 24 26.7	-1.5
BRY				eSn	Sb	09 24 45.3	-2.0
TREB	Trebinje	1.44	134	ePg	Pn	09 24 25.8	-2.4
TREB				eSn	Sg	09 24 48.0	+0.8
TREB	Trebinje	1.44	134	ePg	Pn	09 24 25.6	-2.6
TREB				eSg	Sn	09 24 45.0	-2.8
HAPS	Han Pijesak,BI	1.50	75	ePg	Pn	09 24 27.3	-1.9
HAPS				eSg	Sb	09 24 47.7	-1.7
HAPS	Han Pijesak,BI	1.50	75	ePn	Pn	09 24 27.6	-1.6
HAPS				eSn	Sb	09 24 47.6	-1.8
UPM	Unac-Piva	1.53	109	⇑iPg	Pn	09 24 28.5	-1.1
UPM				eSg	Sg	09 24 50.9	+0.9
UPM	Unac-Piva	1.53	109	ePn	Pn	09 24 27.8	-1.8
UPM				eSn	Sn	09 24 47.7	-2.5
NVLJ	Novalja	1.71	300	i Pn	Pg	09 24 34.5	+0.8
NVLJ				Sn	Sg	09 24 57.5	+1.7
HCY	Herceg Novi	1.71	138	⇑iPn	Pb	09 24 32.3	-0.9
HCY				eSn	Sg	09 24 57.9	+2.0
HCY	Herceg Novi	1.71	138	ePn	Pn	09 24 30.9	-1.0
HCY				eSn	Sb	09 24 53.4	-1.8
NKME	Niksic	1.76	122	⇑iPn	Pb	09 24 32.6	-1.4
NKME				eSn	Sg	09 24 58.3	+0.9
NKY	Niksic	1.76	120	⇓iPn	Pb	09 24 33.0	-1.1
NKY				eSn	Sg	09 24 58.4	+1.0
BBLS	Lazići	1.80	84	ePn	Pn	09 24 32.7	-0.5
BBLS				eSn	Sb	09 24 55.9	-1.9
BBLS	Lazići	1.80	84	ePn	Pn	09 24 32.6	-0.6
BBLS				eSn	Sn	09 24 54.3	-2.4
PLE	Pljevlja	1.83	101	⇑iPn	Pb	09 24 34.5	-0.8
PLE				eSn	Sg	09 24 59.1	-0.6
CEME	Cevo	1.87	128	⇓iPn	Pb	09 24 34.5	-1.4
CEME				eSn	Sg	09 25 01.4	+0.5
BUM	Brajici-Budva	2.02	134	⇑iPn	Pb	09 24 37.5	-1.0
BUM				eSn	Sg	09 25 04.6	-1.2
TEKS	Tekeris	2.04	65	ePn	Pn	09 24 36.1	-0.4
TEKS				eSn	Sn	09 25 00.9	-1.8
KOME	Kolasin	2.08	114	⇑iPn	Pb	09 24 38.7	-0.8
KOME				eSn	Sg	09 25 06.2	-1.4
PDG	Podgorica	2.13	126	ePn	Pb	09 24 38.7	-1.7
PDG				eSn	Sb	09 25 05.1	-2.3
PDG	Podgorica	2.13	126	⇑iP	Pb	09 24 39.3	-1.1
PDG	Podgorica	2.13	126	S	Sb	09 25 06.0	-1.4
PDG	Podgorica	2.13	126	ePg	Pb	09 24 39.4	-1.0
PDG				eSg	Sb	09 25 07.3	-0.1
TTG	Podgorica	2.13	126	⇑iPn	Pb	09 24 39.3	-1.1
TTG				eSn	Sb	09 25 07.1	-0.3
TTG	Podgorica	2.13	126	ePn	Pb	09 24 39.1	-1.3
TTG				eSn	Sb	09 25 07.0	-0.4
OZLJ	Ozalj	2.17	332	ePn	Pb	09 24 40.0	-1.0
ZAG	Zagreb	2.21	343	ePn	Pn	09 24 39.3	+0.5
ZAG				eSn	Sb	09 25 07.5	-2.2
DIVS	Divibare	2.24	79	ePn	Pn	09 24 38.5	-0.8
DIVS				eSn	Sn	09 25 06.5	-1.2
DIVS	Divibare	2.24	79	ePn	Pn	09 24 38.6	-0.8
DIVS				eSn	Sn	09 25 05.5	-2.2
DRME	Dracevica, Mon	2.25	132	⇑iPn	Pb	09 24 41.0	-1.5
DRME				eSn	Sb	09 25 10.9	+0.1
DRME	Dracevica, Mon	2.25	132	ePn	Pn	09 24 38.5	-0.9
DRME				eSn	Sn	09 25 06.1	-1.7
SJES	Sjenica	2.26	101	ePn	Pn	09 24 39.9	+0.3
SJES				eSn	Sn	09 25 06.8	-1.4
IVA	Berane	2.32	110	⇑iPn	Pb	09 24 41.9	-1.8
IVA				eSn	Sb	09 25 11.8	-1.1
CRES	Cresnjev	2.35	334	ePn	Pb	09 24 42.5	-1.7
CRES				eSn	Sb	09 25 12.3	-1.5
RIY	Rijeka	2.38	313	ePg	Pb	09 24 45.4	+0.8
RIY				eSg	Sg	09 25 18.3	+1.0
RIY	Rijeka	2.38	313	ePn	Pb	09 24 43.2	-1.4
RIY				eSn	Sb	09 25 14.1	-0.3
ULC	Ulcinj	2.44	135	⇓iPn	Pb	09 24 43.8	-1.9
ULC				eSn	Sb	09 25 14.7	-1.6
PVY	Plav	2.48	116	⇑iPn	Pb	09 24 44.3	-2.2
PVY				eSn	Sb	09 25 15.9	-1.7
FRGS	Fruska Gora	2.51	54	ePn	Pn	09 24 41.9	-1.1
FRGS	Fruska Gora	2.51	54	ePn	Pn	09 24 42.2	-0.8
FRGS				eSn	Sn	09 25 12.3	-2.0
TRUS	Trudelj	2.56	77	ePn	Pn	09 24 42.7	-0.9
TRUS				eSg	Sg	09 25 22.0	-1.1
BAI	Bari	2.61	181	eP	Pb	09 24 46.5	-2.0
CEY	Cerknica	2.70	319	ePn	Pb	09 24 47.4	-2.6
CEY				eSn	Sb	09 25 21.0	-2.6
GRUS	Gruza	2.74	85	ePn	Pn	09 24 45.6	-0.5
GRUS				eSg	Sg	09 25 28.2	-0.9
BEHE	Becsehely	2.75	358	ePn	Pn	09 24 47.7	+1.4
BEHE				eSn	Sn	09 25 21.1	+0.9
BEHE	Becsehely	2.75	358	ePn	Pn	09 24 46.1	-0.2
BEHE	Becsehely	2.75	358	ePn	Sn	09 25 19.0	-1.1
BEHE				eSg	Sg	09 25 31.1	+1.7
LJU	Ljubljana	2.88	324	ePn	Pn	09 24 49.8	+1.7
LJU				eSn	Sb	09 25 25.7	-3.3
FASA	Fasano	2.92	174	eP	Pn	09 24 49.4	+0.9
AQU	L'Aquila	2.93	243	ePn	Pb	09 24 53.4	-0.6
AQU				eSn	Sb	09 25 27.6	-2.6
AQU	L'Aquila	2.93	243	ePn	Pn	09 24 50.6	+1.9
AQU				eSn	Sn	09 25 27.2	+2.7
TRI	Trieste	3.01	312	ePn	Pb	09 24 53.5	-1.9
MATE	Matera	3.07	183	⇑iP	Pn	09 24 51.5	+0.9
MASS	Massafra	3.09	177	eP	Pn	09 24 50.9	0.0
SELS	Selova	3.09	98	ePn	Pn	09 24 50.7	-0.2
SELS				eSn	Sn	09 25 26.7	-1.8
TIR	Tirane	3.21	137	ePn	Pn	09 24 53.5	+0.9
TIR				eSg	Sg	09 25 42.5	-1.6
TIR	Tirane	3.21	137	ePn	Pb	09 24 55.2	-3.6
TIR	Tirane	3.21	137	⇑iP	Pn	09 24 53.5	+0.9
SOKA	Soboth	3.25	336	ePn	Pn	09 24 54.9	+1.7
SOKA	24nm,0.3s,SNR=25						
SOKA				Sn	Sb	09 25 36.3	-3.3
	43nm,0.6s						
TIH	Tihany	3.25	12	ePn	Pn	09 24 53.1	0.0
TIH				Sn	Sg	09 25 46.1	+0.7
OBKA	Obir	3.26	330	ePn	Pb	09 24 56.6	-3.1
OBKA	24nm,0.4s,SNR=21						
OBKA				eSn	Sb	09 25 38.3	-1.7
	162nm,0.8s						
PHP	Peshkopia	3.29	127	P	Pn	09 24 55.9	+2.2
BOVS	Bovan	3.46	90	ePn	Pn	09 24 55.5	-0.5
BOVS				eSg	Sg	09 25 50.1	-2.1
KUBS	Kucevo	3.49	77	ePn	Pn	09 24 56.9	+0.5
MDVR	Moldovita	3.59	71	⇑iP	Pn	09 24 57.1	-0.8
ARSA	Arzberg	3.67	345	i Pn	Pn	09 25 00.3	+1.4
	112nm,0.3s,SNR=80						
BARS	Barje	3.68	103	ePn	Pn	09 24 59.6	+0.6
BARS				eSn	Sn	09 25 42.2	-0.8
MYKA	Terra Mystica	3.73	322	ePn	Pn	09 25 03.2	+3.5
MYKA	9.0nm,0.4s,SNR=7.1						
MYKA				Sn	Sb	09 25 51.3	-2.0
	33nm,0.4s						
SKO	Skopje	3.75	116	ePn	Pn	09 25 00.5	+0.6
SKO	Skopje	3.75	116	P	Pn	09 25 02.3	+2.4
SKO				S	Sb	09 25 47.8	-6.0
SKO	Skopje	3.75	116	i Pn	Pn	09 25 02.8	+2.8
SKO				i Sn	Sb	09 25 48.1	-5.7
CSKK	Cskako	3.76	14	ePn	Pn	09 25 01.1	+1.0
CSKK				Sn	Sb	09 25 49.0	-5.2
CSKK				Sn	Sb	09 25 49.0	-5.2
ZAGS	Zajecar	3.84	87	ePn	Pn	09 25 01.7	+0.5
BZS	Buzias	3.84	59	⇑iP	Pn	09 25 00.4	-0.8
OHR	Ohrid	3.87	131	i Pn	Pb	09 25 10.9	+0.8
OHR				i Sn	Sn	09 25 50.4	+2.6
KRUS	Krusevo	3.96	125	i Pn	Pn	09 25 04.4	+1.5
SOP	Sopron	3.97	356	ePn	Pn	09 25 04.0	+1.0
SOP				Sn	Sn	09 25 51.1	+0.9
HERR	Herculane	4.10	72	⇑iP	Pn	09 25 04.4	-0.4
SRO2	Moca	4.17	14	ePN	Pn	09 25 05.9	+0.2
SRO2				eSN	Sn	09 25 52.7	-2.4
ZAPS	Zavoj	4.17	94	ePn	Pn	09 25 06.0	+0.2
ZAPS				eSn	Sn	09 25 53.7	-1.5
KBA	Koelnbreinsper	4.20	324	ePn	Pn	09 25 10.6	+4.2
	12nm,0.3s,SNR=14						
KBA				eSn	Sb	09 26 02.7	-4.5
	49nm,0.7s						
SRO	Srobarova	4.21	13	ePN	Pn	09 25 07.4	+1.2
SRO				eSN	Sn	09 25 55.2	-0.8
SIRR	Siria	4.21	51	⇓iP	Pn	09 25 05.8	-0.5
BIA	Bitola	4.23	128	i Pn	Pn	09 25 09.9	+3.3
BOSS	Bosilegrad	4.24	105	ePn	Pn	09 25 06.7	0.0
CONA	Conrad Observa	4.28	350	ePn	Pn	09 25 08.6	+1.3
	23nm,0.3s,SNR=22						
CONA				eSn	Sn	09 26 00.6	+2.8
	41nm,0.7s						
ABTA	Abfaltersbach	4.35	316	ePn	Pn	09 25 12.1	+3.8
	20nm,0.4s,SNR=29						
ABTA				Sn	Sb	09 26 05.9	-5.4
	92nm,0.7s						
STIP	Stip	4.37	116	i Pn	Pb	09 25 12.7	-5.8
FNA	Florina	4.41	130	P	Pn	09 25 10.8	+1.7
ZST	Bratislava	4.48	1	ePN	Pn	09 25 09.7	-0.3
ZST				eSN	Sn	09 25 59.8	-2.9
GZR	Gura Zlata	4.50	66	⇑iP	Pn	09 25 09.6	-0.7
NEST	Nestorio	4.50	136	P	Pn	09 25 11.9	+1.5
MOA	Molln	4.53	337	ePn	Pn	09 25 13.6	+2.8
MOA	24nm,0.3s,SNR=23						
MOA				Sn	Sb	09 26 09.9	-6.5
	34nm,0.4s						
TIP	Timpagrande	4.54	182	ePn	Pn	09 25 12.3	+1.4
TIP	Timpagrande	4.54	182	P	Pn	09 25 12.1	+1.2
TIP	Timpagrande	4.54	182	⇓iP	Pn	09 25 12.6	+1.7
KEK	Kerkira	4.54	151	P	Pn	09 25 12.3	+1.5
SRE	Strehaia	4.61	76	⇓iP	Pn	09 25 12.3	+0.5
MODS	Modra-Piesok	4.66	3	ePN	Pn	09 25 12.2	-0.3
MODS				eSN	Sn	09 26 04.6	-2.6
PSZ	Piszkesteto	4.68	25	ePn	Pn	09 25 12.6	-0.2
PSZ	Piszkesteto	4.68	25	ePn	Pn	09 25 12.1	-0.8
PSZ				Sn	Sn	09 26 12.1	+4.3
PSZ				eSg	Sg	09 26 33.0	+1.8
VTS	Vitosha	4.74	101	ePn	Pn	09 25 14.2	+0.5
VTS	Vitosha	4.74	101	P	Pn	09 25 14.7	+1.0
VTS	Vitosha	4.74	101	⇑iP	Pn	09 25 15.0	+1.3
VTS	Vitosha	4.74	101	i P	Pn	09 25 14.5	+0.8
VLC	Villacollemand	4.75	278	ePn	Pn	09 25 16.8	+3.1
VLC				eSn	Sb	09 26 16.8	-5.9
VAY	Valandovo	4.81	118	ePn	Pn	09 25 13.5	-1.0
SMOL	Smolenice	4.81	4	ePN	Pn	09 25 15.5	+1.0
SMOL				eSN	Sn	09 26 10.4	-0.4
GRG	Griva	4.90	122	P	Pn	09 25 17.2	+1.3
VYHS	Vyhne	4.96	15	ePN	Pn	09 25 17.2	+0.7
VYHS				e		09 26 12.7	
KPRO	Kipourio	5.01	137	P	Pn	09 25 19.6	+2.3
LTVH	Ltavrtes, Hu	5.06	42	ePg	Pg	09 25 37.0	-0.9
LTVH				ePn	Sn	09 26 16.1	-0.9
LTVH				eSg	Sg	09 26 47.1	+3.7
LTVH				Sn	Sg	09 26 48.0	+4.6
KNT	Kendrikon	5.10	118	P	Pn	09 25 19.9	+1.4
DRGR		5.11	51	⇑iP	Pn	09 25 19.3	+0.6
WTTA	Wattenberg	5.14	315	ePn	Pn	09 25 23.1	+3.9
	131nm,0.6s,SNR=45						
WTTA				eSn	Sb	09 26 26.9	-7.2
	125nm,0.6s						
JAVC	Velka Javorina	5.17	5	ePN	Pn	09 25 20.8	+1.3
JAVC				eSN	Sn	09 26 19.5	-0.2
WATA	Walderalm	5.22	316	ePn	Pn	09 25 25.1	+4.9
	62nm,0.5s,SNR=59						
SQTA	Sankt Quirin	5.33	313	ePn	Pn	09 25 26.3	+4.4
	41nm,0.5s,SNR=19						
SQTA				eSn	Sb	09 26 32.3	-7.3
	177nm,0.8s						
KRUC	Moravsky	5.36	356	ePN	Pn	09 25 22.9	+0.9
KRUC				eSN	Sn	09 26 25.2	+0.9
KRUC	Moravsky	5.36	356	ePG	Sn	09 26 22.1	-2.2
PGB	Panagyurishte	5.42	100	P	Pn	09 25 24.6	+1.6
MMB	Musomiste	5.44	111	P	Pn	09 25 26.4	+3.1
MOTA	Moosalm	5.47	314	ePn	Pn	09 25 28.2	+4.5
	40nm,0.5s,SNR=50						
FETA	Feichten	5.48	309	ePn	Pn	09 25 28.5	+4.7
	18nm,0.5s,SNR=9.9						
FETA				eSn	Sb	09 26 35.0	-8.7
	30nm,0.7s						
LIT	Litokhoron	5.50	129	ePn	Pn	09 25 25.2	+1.2
LIT	Litokhoron	5.50	129	P	Pn	09 25 24.6	+0.6
FUORN	Ofenpass-Fuorn	5.54	304	ePn	Pn	09 25 28.7	+4.0
SRS	Serrai	5.57	116	P	Pn	09 25 26.6	+1.6
GEC2	GERESS Array S	5.59	338	ePn	Pn	09 25 27.7	+2.3
GEC2				eSn	Sn	09 26 30.6	+0.2
GERES	GERESS Array B	5.59	338	ePn	Pn	09 25 26.9	+1.6
GERES	GERESS Array B	5.59	338	Pn	Pn	09 25 27.0	+1.6
	2.5nm,0.3s,baz=155,slow=13,SNR=38						
GERES				Sn	Sn	09 26 30.6	+0.2
	0.8nm,0.3s,baz=156,slow=25,SNR=3.7						
GERES				LR	LR	09 28 07.6	
	comp=Z,201nm,18.7s,baz=119,slow=44						
VRAC	Vranov	5.59	358	⇑iP	Pn	09 25 26.5	+1.2
VRAC	Vranov	5.59	358	ePn	Pn	09 25 26.3	+1.0
VRAC				eSN	Sn	09 26 30.5	+0.3
VRAC	Vranov	5.59	358	Pn	Pn	09 25 25.9	+0.6
	1.3nm,0.3s,baz=184,slow=13,SNR=7.5						
VRAC				Sn	Sn	09 26 29.1	-1.1
	3.4nm,0.3s,baz=88,slow=3.2,SNR=7.5						
THL	Klokotos Trika	5.63	136	P	Pn	09 25 26.3	+0.5
TSLK	Tsoukalades, L	5.64	149	P	Pn	09 25 25.6	-0.3
LANS	Liptovska Anna	5.71	17	ePN	Pn	09 25 28.6	+1.7
RETA	Reutte	5.74	313	ePn	Pn	09 25 32.0	+4.6
	19nm,0.3s,SNR=11						
RETA				eSn	Sn	09 26 39.7	+5.8
	46nm,0.4s						
EVGI	Lefkada island	5.82	150	P	Pn	09 25 27.9	-0.5
EVGI				S	Sn	09 26 34.3	-1.4
DAVOX	Davos/Dischmat	5.84	304	Pn	Pn	09 25 32.7	+3.8
	20nm,0.3s,baz=155,slow=7.8,SNR=60						
DAVOX				Sn	Sn	09 26 41.4	+4.8
	4.0nm,0.3s,baz=68,slow=14,SNR=6.6						
DAVOX				Lg	Lg	09 27 01.0	
	2.5nm,0.3s,baz=139,slow=23,SNR=3.7						
DAVOX				LR	LR	09 27 56.8	
	comp=Z,82nm,18.8s,baz=85,slow=40						
KHC	Kasperske Hory	5.89	338	ePn	Pn	09 25 31.4	+2.0
KHC	Kasperske Hory	5.89	338	ePN	Pn	09 25 31.3	+1.9
KHC				ex	x	09 25 39.0	
KHC				eSN	Sn	09 26 41.1	+3.6
KHC				AMS	AMS	09 27 50.0	
	comp=Z,500nm,9.5s						
TRPA	Tarpa	5.89	40	ePn	Pn	09 25 25.0	-4.3
TRPA				Sn	Sn	09 26 27.1	-10
PGF	Pioggiola	5.92	261	ePn	Pn	09 25 32.6	+2.7
PGF				eSg	Sg	09 27 14.2	+3.1
TUE	Stuetta	6.03	300	eSn	Sn	09 26 43.0	+1.7
EVR	Evrytania	6.04	141	P	Pn	09 25 32.4	+0.9
MORC	Moravsky Berou	6.07	4	ePn	Pn	09 25 32.4	+0.6
MORC				eSn	Sn	09 26 40.6	-1.5
MORC	Moravsky Berou	6.07	4	⇑iP	Pn	09 25 32.5	+0.6
MORC	Moravsky Berou	6.07	4	ePN	Pn	09 25 33.4	+1.5
MORC				eSN	Sn	09 26 41.3	-0.8
DAVA	Damuels	6.11	308	ePn	Pn	09 25 37.5	+5.0
	16nm,0.5s						
DAVA				Sn	Sn	09 26 49.7	+6.7
	42nm,0.6s						
PVO	Paravola	6.16	144	P	Pn	09 25 33.5	+0.4
OKC	Ostrava-Krasne	6.18	7	ePN	Pn	09 25 33.3	0.0
OKC				eSN	Sn	09 26 44.5	0.0
OKC				AMS	AMS	09 28 20.0	
	comp=Z,300nm,10.1s						
PAIG	Paliouri	6.30	125	P	Pn	09 25 35.3	+0.3
KFL	Anninata	6.32	151	P	Pn	09 25 36.0	+0.7
ANX	Ano Chora	6.36	142	P	Pn	09 25 36.6	+0.8
ANX				S	Sn	09 26 48.8	-0.3
KRLC	Kraliky	6.36	359	ePN	Pn	09 25 36.8	+1.0
XOR	Xorichti	6.40	131	P	Pn	09 25 36.1	-0.3
PRU	Pruhonice	6.48	346	ePN	Pn	09 25 39.8	+2.3
PRU				AMS	AMS	09 28 10.0	
	comp=Z,300nm,11.4s						
EFP	Efpalio	6.49	143	P	Pn	09 25 38.8	+1.3
EFP				S	Sn	09 26 51.9	-0.3
SERG	Sergoula	6.56	142	P	Pn	09 25 39.9	+1.3
SERG				S	Sn	09 26 52.6	-1.5
AXAR	Agios Charalam	6.56	137	P	Pn	09 25 39.6	+0.9
DPC	Dobruska-Polom	6.65	357	AMS	AMS	09 28 20.0	
	comp=Z,200nm,10.8s						
MLR	Muntele Rosu	6.67	71	Pn	Pn	09 25 44.3	+4.0
	0.5nm,0.3s,baz=238,slow=9.5,SNR=2.7						
MLR				Lg	Lg	09 27 14.7	
	0.5nm,0.3s,baz=19,slow=23,SNR=1.4						
CLTB	Caltabellotta	6.75	206	ePn	Pn	09 25 46.0	+4.7
ATAL	Atalanti	6.80	136	P	Pn	09 25 42.3	+0.4
DRO	Drossia	6.80	146	P	Pn	09 25 42.2	+0.3
DRO				S	Sn	09 26 59.2	-0.9
UPC	Upice	6.82	355	AMS	AMS	09 28 20.0	
	comp=Z,200nm,11.9s						
SBF	Sospel	6.88	274	ePn	Pn	09 25 45.2	+2.2
SBF				eSn	Sn	09 27 01.0	-0.9
	30nm,0.5s						
PVCC	Panska Ves	7.00	348	AMS	AMS	09 28 30.0	
	comp=Z,300nm,10.2s						
GUR	Goura	7.08	143	P	Pn	09 25 45.6	-0.3
GRFO	Grafenberg	7.15	329	ePn	Pn	09 25 50.3	+3.7
GRA1	Grafenberg Arr	7.15	329	ePn	Pn	09 25 47.4	+0.8
AMT	Artemida-Makis	7.17	148	P	Pn	09 25 47.1	+0.2
AMT				S	Sn	09 27 07.7	-1.3
SENIN	Lac Senin/Sane	7.32	295	eSn	Sn	09 27 16.4	+3.5
ALN	Alexandroupoli	7.32	110	ePn	Pn	09 25 50.6	+1.6
ALN	Alexandroupoli	7.32	110	P	Pn	09 25 51.2	+2.2
MBDF	Montbardon	7.37	281	ePn	Pn	09 25 50.6	+0.8
MBDF				eSn	Sn	09 27 12.5	-1.7
	51nm,0.7s						
BRG	Berggiesshubel	7.44	345	PG	Pn	09 25 52.7	+2.1
BRG				SG	Sn	09 27 20.2	+4.6
	13nm,0.8s						
FRF	La Foret Royal	7.46	272	ePn	Pn	09 25 53.1	+2.1
FRF				eSn	Sn	09 27 15.1	-1.2
	24nm,0.7s						
BNI	Bardonecchia	7.47	284	ePn	Pn	09 25 52.3	+1.1
LPG	La Plagne	7.48	287	ePn	Pn	09 25 52.3	+0.8
LPG				eSn	Sn	09 27 15.5	-1.6
	70nm,0.6s						
LPL	La Plagne	7.50	287	ePn	Pn	09 25 52.8	+1.2
LPL				eSn	Sn	09 27 15.2	-2.2
	120nm,0.7s						
BFO	Black Forest	7.55	311	ePn	Pn	09 25 55.0	+2.7
ITM	Ithomi	7.56	148	ePn	Pn	09 25 53.0	+0.7
LMR	La Mourre	7.59	271	ePn	Pn	09 25 54.6	+2.0
LMR				eSn	Sn	09 27 18.2	-1.1

FIA0	FINESS Array S	18.57	14	*e*P		Pn	09 28 19.8	+0.6
FINES	FINESS Array B	18.57	14	P		Pn	09 28 19.8	+0.6
	comp=Z,0.5nm,0.3s,baz=190,slow=11,SNR=11							
ARA0	ARCESS Array S	26.25	7	*e*P		P	09 29 37.8	+0.5
ARCES	ARCESS Array B	26.25	7	P		P	09 29 37.8	+0.5
	comp=Z,1.9nm,0.9s,baz=188,slow=7.4,SNR=8.7							
BORG	Borgarnes	29.96	328	LR		LR	09 43 03.7	
	comp=Z,56nm,19.1s,baz=175,slow=38							
GEYT	Alibeck	31.45	86	P		P	09 30 24.2	+0.3
	comp=Z,3.0nm,0.7s,baz=282,slow=8.9,SNR=4.5							
TOA1	Torodi Ar. Sit	33.16	208	*e*P		P	09 30 42.1	+3.1
TORD	Torodi Ar. Bea	33.16	208	P		P	09 30 42.1	+3.0
	comp=Z,0.2nm,0.6s,baz=14,slow=9.8,SNR=2.4							
BRVK	Borovoye	35.87	56	*e*P		P	09 31 02.5	+0.3
	comp=Z,3.8nm,0.6s							
BVAR	Borovoye Array	35.94	56	P		P	09 31 02.8	0.0
	comp=Z,1.3nm,0.6s,baz=284,slow=6.0,SNR=6.5							
KURBB	Kurchatov Arra	41.36	58	P		P	09 31 47.2	-1.0
	comp=Z,0.5nm,0.6s,baz=286,slow=9.5,SNR=3.5							
ZAA1	Zalesovo Array	44.20	52	*e*P		P	09 32 10.9	-0.4
ZALV	Zalesovo Beam	44.20	52	P		P	09 32 10.9	-0.4
	comp=Z,2.1nm,0.6s,baz=281,slow=9.7,SNR=9.7							
MK32	Makanchi Array	44.92	62	*e*P		P	09 32 16.3	-0.8
MKAR	Makanchi Array	44.92	62	P		P	09 32 16.3	-0.8
	comp=Z,0.5nm,0.8s,baz=283,slow=6.8,SNR=3.7							
SONA0	Songino Array	59.10	52	*e*P		P	09 34 02.6	-0.4
SONM	Songino Array	59.10	52	P		P	09 34 02.6	-0.4
	comp=Z,1.2nm,0.8s,baz=285,slow=10,SNR=6.2							
YKA	Yellowknife Ar	67.25	338	P		P	09 34 57.5	+0.9
	comp=Z,1.0nm,0.5s,baz=40,slow=5.3,SNR=17							
YKB5	Yellowknife Ar	67.25	338	*e*P		P	09 34 57.5	+0.9
ILAR	Eielson Array	71.11	353	P		P	09 35 20.5	0.0
	comp=Z,0.4nm,0.6s,baz=9.7,slow=6.9,SNR=5.4							
HDA	Harding Lake	71.47	353	*e*P		P	09 35 23.3	+0.6
	comp=Z,2.7nm,0.8s							
PDAR	Pinedale Array	81.46	323	P		P	09 36 20.9	+0.8
	comp=Z,0.2nm,0.5s,baz=52,slow=6.2,SNR=2.9							
TXAR	Lajitas Array	89.23	311	P		P	09 37 01.2	+2.3
	comp=Z,0.4nm,0.8s,baz=90,slow=4.5,SNR=4.7							
ASAR	Alice Springs	125.20	90	PKP		PKPdf	09 43 02.3	-1.2
	comp=Z,0.3nm,0.7s,baz=332,slow=1.8,SNR=5.5							

IDC 20 09:24:42.1±9.5, 0°.57S×98°.04E, h0km, mb3.8/4, mb1 3.7/5, mb1mx3.4/59, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=214.7km s-min=77.0km az=138.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.46	15	Pn	Pn	09 25 36.0	-1.4
	2.3nm,0.3s,baz=189,slow=16,SNR=5.8						
PSI				Sn	Sn	09 26 11.7	-7.5
	2.4nm,0.3s,baz=187,slow=14,SNR=3.9						
H08S2	Diego Garcia H	26.42	254	T	T	09 57 33.0	
	baz=71,slow=75,SNR=431						
H08S3	Diego Garcia H	26.42	254	T	T	09 57 32.7	
	baz=71,slow=75,SNR=497						
H08S1	Diego Garcia H	26.43	254	T	T	09 57 35.8	
	baz=71,slow=75,SNR=363						
SONM	Songino Array	48.76	7	P	P	09 33 28.8	0.0
	0.4nm,0.5s,baz=180,slow=5.8,SNR=3.3						
MKAR	Makanchi Array	49.15	346	P	P	09 33 31.5	-0.2
	0.7nm,0.5s,baz=164,slow=8.5,SNR=8.3						
KURBB	Kurchatov Arra	53.65	345	P	P	09 34 05.6	+0.3
	0.3nm,0.4s,baz=159,slow=7.1,SNR=4.3						
ZALV	Zalesovo Beam	55.43	351	P	P	09 34 17.7	-0.5
	1.1nm,0.5s,baz=174,slow=5.7,SNR=4.3						

*ISCJB **20** 09:25:18.8±0.6, 21°.22S±0°.07×178°.7W±0°.1, h536km, mb3.7/11, Error ellipse: s-maj=16.5km s-min=8.9km az=1.5*

*IDC **20** 09:25:19.8±2.7, 21°.27S×178°.68W, h537km±29km, mb3.3/11, mb1 3.5/12, mb1mx3.3/35, mbtmp4.2/12, Error ellipse: s-maj=19.4km s-min=17.0km az=139.0*

ISC 20 09:25:19.5±0.7, 21°.3S±0°.1×178°.6W±0°.1, h536km, n39, σ1°08/40, mb3.7/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	Omahuta	15.48	205	P	P	09 28 35.5	+1.4
KUZ	Kuaotunu	16.18	197	P	P	09 28 41.1	+0.1
MKAZ	Moumakai	16.67	198	P	P	09 28 47.4	+1.8
WTAZ	Waiatarua	16.68	199	P	P	09 28 47.6	+1.8
PKGZ	Pakihiroa	16.80	189	P	P	09 28 47.2	+0.3
RUGZ	Raukumara Rang	16.93	190	P	P	09 28 47.5	-0.8
PUZ	Puketiti	16.95	188	P	P	09 28 47.7	-0.6
PUZ				S	S	09 31 52.5	+14
TWGZ	Tauwhareparae	17.09	189	P	P	09 28 49.6	-0.1
TOZ	Tahuroa Road	17.16	196	P	P	09 28 51.8	+1.6
MWZ	Matawai	17.32	190	P	P	09 28 51.1	-0.6
URZ	Urewera	17.32	191	P	P	09 28 51.6	0.0
	1.9nm,0.3s,baz=265,slow=2.7,SNR=19						
URZ	Urewera	17.32	191	P	P	09 28 49.3	-2.3
RIGZ	Rimuhau	17.64	189	P	P	09 28 54.9	+0.2
BKZ	Black Stump Fm	18.31	192	P	P	09 28 58.6	-2.2
KWHZ	Kaweka Forest	18.58	192	P	P	09 29 01.1	-2.1
BHHZ	Black Hill Sta	18.71	193	P	P	09 29 02.9	-1.6
BFZ	Birch Farm	19.83	192	P	P	09 29 13.2	-1.4
MRZ	Mangatainoka R	19.94	193	P	P	09 29 14.5	-1.1
TCW	Tory Channel	20.76	195	P	P	09 29 24.3	+1.3
TUWZ	Tuamarina	21.05	196	P	P	09 29 26.9	+1.3
CTA	Charters Tower	32.85	266	P	P	09 31 09.5	+0.2
	4.0nm,0.5s,baz=96,slow=11,SNR=12						
STKA	Stephens Creek	36.93	245	P	P	09 31 43.7	+0.5
	1.5nm,0.5s,baz=93,slow=10,SNR=8.1						
ASAR	Alice Springs	43.78	258	P	P	09 32 37.2	-0.9
	6.1nm,0.6s,baz=98,slow=7.9,SNR=120						
ASAR				PcP	PcP	09 34 12.7	-0.2
	0.8nm,0.6s,baz=106,slow=3.7,SNR=7.2						
ASAR				ScP	ScP	09 37 13.2	-0.5
	0.3nm,0.8s,baz=99,slow=5.7,SNR=3.4						
WRA	Warramunga Arr	43.93	263	P	P	09 32 37.9	-1.3
	1.4nm,0.3s,baz=95,slow=7.7,SNR=46						
FITZ	Fitzroy Crossi	52.36	263	P	P	09 33 42.0	0.0
	1.5nm,0.4s,baz=90,slow=6.1,SNR=8.4						
VNDA	Vanda	57.08	185	P	P	09 34 14.4	+0.2
	0.4nm,0.5s,baz=356,slow=5.2,SNR=8.1						
PETK	Petropavlovsk-	76.88	346	P	P	09 36 15.8	-0.3
	2.7nm,0.7s,baz=124,slow=6.5,SNR=5.2						
USRK	Ussuriysk Ar.	79.29	326	P	P	09 36 29.9	+0.6
	0.7nm,0.5s,baz=138,slow=4.5,SNR=4.5						
TXAR	Lajitas Array	87.96	58	P	P	09 37 13.8	+1.0
	0.6nm,0.9s,baz=230,slow=5.6,SNR=4.3						
ILAR	Eielson Array	89.20	13	P	P	09 37 17.5	-0.1
	0.6nm,0.6s,baz=215,slow=5.0,SNR=8.4						
PDAR	Pinedale Array	89.92	43	P	P	09 37 21.8	0.0
	0.6nm,0.6s,baz=205,slow=3.1,SNR=5.2						
BVAR	Borovoye Array	119.30	320	PKP	PKPdf	09 43 07.3	-0.3
	0.7nm,0.4s,baz=116,slow=3.4,SNR=3.5						
ARCES	ARCESS Array B	129.58	349	PKP	PKPdf	09 43 26.4	-0.5
	2.3nm,1.0s,baz=45,slow=1.4,SNR=8.8						
FINES	FINESS Array B	136.35	343	PKP	PKPdf	09 43 38.9	-0.9
	0.5nm,0.4s,baz=0.0,slow=1.4,SNR=3.7						
HFS	Hagfors	140.21	350	PKhKP	PKPpre	09 43 39.8	
	1.0nm,0.3s,baz=56,slow=3.7,SNR=8.6						
AKASG	Malin Array Be	143.41	330	PKP	PKPab	09 43 50.8	-0.3
	2.8nm,0.5s,baz=42,slow=4.6,SNR=33						
EKA	Eskdalemuir Ar	145.83	5	PKPbc	PKPdf	09 43 57.7	+0.9
	2.3nm,0.7s,baz=354,slow=3.4,SNR=6.8						
BRTR	Keskin Array B	146.93	311	PKPbc	PKPbc	09 44 02.1	-0.2
	1.7nm,0.6s,baz=130,slow=4.1,SNR=9.5						
GERES	GERESS Array B	150.79	343	PKPbc	PKPbc	09 44 11.6	+0.2
	1.2nm,0.8s,baz=79,slow=2.9,SNR=8.4						
GERES				PKPab	PKPab	09 44 20.7	-0.3
	0.2nm,0.4s,baz=32,slow=3.8,SNR=2.1						

IDC 20 09:25:37.1±3.1, 54°.21N×87°.27E, h0km, mb1 3.4/2, mb1mx3.1/62, mbtmp3.4/2, ML2.6/2, Error ellipse: s-maj=25.9km s-min=17.2km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.47	261	*i*		09 34 45.4	
	baz=81,slow=331,SNR=5.4						
ZALV	Zalesovo Beam	1.47	261	Pg	Pn	09 26 02.9	-1.9
	0.7nm,0.3s,baz=78,slow=16,SNR=3.2						
ZALV				Lg	Lg	09 26 23.6	
	1.1nm,0.3s,baz=81,slow=29,SNR=5.3						
KURBB	Kurchatov Arra	6.44	240	Pn	Pn	09 27 13.5	+0.4
	0.1nm,0.3s,baz=54,slow=14,SNR=1.6						
KURBB				Lg	Lg	09 29 02.3	
	baz=56,slow=33,SNR=1.0						
MKAR	Makanchi Array	8.08	205	Pn	Pn	09 27 37.2	+1.6
	0.1nm,0.3s,baz=28,slow=14,SNR=5.8						
MKAR				Sn	Sn	09 29 07.0	-0.6
	0.1nm,0.3s,baz=24,slow=27,SNR=3.8						
MKAR				Lg	Lg	09 29 56.8	
	0.1nm,0.3s,baz=27,slow=32,SNR=2.3						

IDC 20 09:32:34.9±1.8, 1°.07N×127°.72E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/40, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=58.6km s-min=26.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	9.99	233	Pn	Pn	09 35 00.8	+1.0
	0.6nm,0.3s,baz=48,slow=19,SNR=4.1						
KAPI				Sn	Sn	09 36 40.6	-12
	0.6nm,0.3s,baz=142,slow=23,SNR=2.4						
WRA	Warramunga Arr	21.87	163	P	P	09 37 29.0	-0.5
	0.6nm,0.4s,baz=340,slow=11,SNR=8.3						
ASAR	Alice Springs	25.31	167	P	P	09 38 03.6	+0.2
	0.5nm,0.5s,baz=343,slow=12,SNR=8.4						
MKAR	Makanchi Array	60.29	326	P	P	09 42 45.3	-0.2
	0.2nm,0.4s,baz=128,slow=6.7,SNR=5.3						

*MEX **20** 09:41:04.7±0.8, 14°.10N×92°.23W, h91km±19km, MD3.8*

*IDC **20** 09:41:04.9±3.6, 14°.55N×92°.39W, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.4/34, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=90.1km s-min=26.7km az=16.0*

ISC 20 09:41:10.8±1.6, 14°.4N±0°.1×92°.39W±0°.06, h62km, n10, σ2°15/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.52	14	*e*P	Pn	09 41 20.7	-2.4
THIG				*e*S	Sn	09 41 34.1	+2.0
PCIG		1.52	328	*e*P	Pn	09 41 33.0	-2.8
PCIG				*i* S	Sn	09 41 56.9	+2.2
CCIG	Comitan	1.88	7	*i* P	Pn	09 41 38.6	-2.3
CCIG				*i* S	Sn	09 42 04.4	+0.6
APG	El Apazote	1.96	72	Pn	Pn	09 41 39.6	-2.3
	6.5nm,0.3s,baz=255,slow=12,SNR=76						
APG				Sn	Sn	09 42 07.8	+2.1
	14nm,0.3s,baz=325,slow=10,SNR=7.4						
CMIG	Matias Romero	3.59	318	*e*P	Pn	09 42 02.3	-1.7
CMIG				*i* S	Sn	09 42 46.0	+0.7
CMIG	Matias Romero	3.59	318	Pn	Pn	09 42 01.3	-2.8
	1.1nm,0.3s,baz=132,slow=11,SNR=9.6						
CMIG				Sn	Sn	09 42 47.8	+2.5
	2.3nm,0.3s,baz=118,slow=13,SNR=6.4						
TXAR	Lajitas Array	18.15	327	P	P	09 45 18.0	-0.3
	0.0nm,0.3s,baz=144,slow=14,SNR=2.6						
NVAR	Mina Array Bea	33.12	321	P	P	09 47 42.4	+1.1
	0.6nm,0.9s,baz=121,slow=8.5,SNR=3.0						
YKA	Yellowknife Ar	50.55	347	P	P	09 50 02.6	-0.1
	0.3nm,0.5s,baz=151,slow=7.4,SNR=5.3						
CMAR	Chiang Mai Arr	145.49	341	PKPbc	PKPbc	10 00 44.5	+1.6
	0.9nm,0.3s,baz=15,slow=3.8,SNR=3.2						

*SOME **20** 09:41:09.2, 43°.80N×69°.58E*

NNC 20 09:41:12.3±1.7, 43°.58N×69°.59E, h0km, mb3.5, mpv2.9, 1C-4D, Error ellipse: s-maj=16.5km s-min=9.0km az=39.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.83	125	⇓P	Pg	09 41 28.5	+0.4
	5.4nm,0.6s,baz=305,slow=17,SNR=19						
KK31				S	Sg	09 41 39.9	+1.1
	10nm,0.3s,baz=296,slow=30,SNR=76						
AAK	Ala-Archa	3.72	103	⇓Pg	Pb	09 42 18.4	-0.5
	3.5nm,0.5s						
AAK				⇑Lg	Lg	09 43 10.0	
	1.6nm,0.4s						
TKM2	Tokmak 2	4.44	96	⇓Pg	Pb	09 42 32.3	+1.1
	2.2nm,0.6s						
TKM2				⇓Lg	Lg	09 43 33.2	
	5.7nm,0.6s						

MEX 20 09:43:30.6±0.6, 18°.12N×103°.40W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.18	16	*e*P	Pg	09 43 33.6	-0.5
MMIG				*e*S	Sg	09 43 36.3	-0.1
EZ5V		1.37	352	*e*P	Pn	09 43 53.0	-3.7
EZ5V				*i* S	Sg	09 44 10.6	-4.0
MOIG	Morelia	2.60	53	*i* P	Pn	09 44 10.5	-3.1
MOIG				*i* S	Sn	09 44 42.5	-3.2

*IDC **20** 09:49:01.2±0.4, 45°.00S×80°.72W, h0km, mb4.8/16, mb1 4.9/18, mb1mx4.8/22, mbtmp4.8/18, ML5.3/2, MS5.6/17, Ms1 5.6/17, ms1mx5.6/20, Error ellipse: s-maj=18.1km s-min=13.7km az=100.0*

*BJI **20** 09:49:02.8±0.0, 44°.90S×80°.50W, h10km, mB6.2/2, Ms6.2/36, Ms7 6.1/36*

*NEIC **20** 09:49:03.0±0.0, 44°.93S×80°.78W, h13km, Moment Tensor Solution. s38 Moment tensor: Scale 10^18^Nm; M_{rr}=0.08; $M_{\theta\theta}$=1.52; $M_{\phi\phi}$-1.44; $M_{r\theta}$=1.57; $M_{\theta\phi}$-3.90; $M_{\phi r}$-1.10; Best double couple: M_0=4.60000×10^18^ NP1:φs=171.00000°, δ75.00000°, λ15.00000°. NP2:φs=78.00000°, δ75.00000°, λ165.00000°. Principal axes: T 4.9400, Plg20.0000°, Azm34.0000°; N -0.8200, Plg69.0000°, Azm213.0000°; P -4.1200, Plg0.0000°, Azm304.0000°;*

*NEIC **20** 09:49:04.5±2.3, 44°.87S×80°.75W, h10km, mb5.5/222, MS5.8/516, MW6.3, MW6.4 Error ellipse: s-maj=19.3km s-min=15.1km az=276.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^18^Nm; M_{rr}=0.28; $M_{\theta\theta}$=1.21; $M_{\phi\phi}$=0.93; $M_{r\theta}$=0.26; $M_{\theta\phi}$-3.15; $M_{\phi r}$=0.01; Best double couple: M_0=3.30000×10^18^ NP1:φs=81.00000°, δ90.00000°, λ-176.00000°. NP2:φs=351.00000°, δ86.00000°, λ0.00000°. Principal axes: T 3.4700, Plg3.0000°, Azm216.0000°; N -0.2800, Plg86.0000°, Azm81.0000°; P -3.1900, Plg3.0000°, Azm306.0000°;*

*MOS **20** 09:49:05.2±1.1, 45°.02S×80°.51W, h27km, mb5.7/35, MS5.8/16 Error ellipse: s-maj=14.6km s-min=8.1km az=83.6*

*ISCJB **20** 09:49:06.1±0.2, 44°.97S±0°.03×80°.64W±0°.04, h33km, mb5.3/144, MS5.8/512, Error ellipse: s-maj=4.7km s-min=3.7km az=25.2*

*GCMT **20** 09:49:09.5±0.0, 44°.95S×80°.99W, h19km, MW6.3/136, Moment Tensor Solution. s135,c333; s136,c570; Duration: 3s4 Moment tensor: Scale 10^18^Nm; M_{rr}=0.23±.02; $M_{\theta\theta}$1.37±.01; $M_{\phi\phi}$-1.14±.02; $M_{r\theta}$0.47±.03; $M_{\theta\phi}$-3.28±.01; $M_{\phi r}$-0.09±.04; Best double couple: M_0=3.54200×10^18^ NP1:φs=79.00000°, δ88.00000°, λ173.00000°. NP2:φs=170.00000°, δ83.00000°, λ2.00000°. Principal axes: T 3.6760, Plg6.0000°, Azm34.0000°; N -0.2670, Plg83.0000°, Azm244.0000°; P -3.4090, Plg4.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 20 09:49:08.2±0.2, 45°.01S±0°.05×80°.72W±0°.05, h35km, n1243, σ1°91/808, mb5.4/144, MS5.8/514, 5C-5D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	Milladeo Hill,	5.43	72	*e*Pn	Pn	09 50 24.1	-2.5
GO07				*e*Sn	Sn	09 51 28.2	+0.5
GO07	Milladeo Hill,	5.43	72	*e*P	Pn	09 50 21.8	-4.8
GO07				*i* S	Sn	09 51 26.5	-1.2
COYC	Coyhaique	6.12	98	*e*P	Pn	09 50 33.4	-2.8
GO09	Cerro Castillo	8.41	141	*e*Pn	Pn	09 51 07.8	+0.3
PLCA	Paso Flores	8.60	64	*e*Pn	Pn	09 51 07.9	-2.4
PLCA				*e*Sn	Sn	09 52 44.3	-1.8
PLCA	Paso Flores	8.60	64	*i* P	Pn	09 51 08.2	-2.1
PLCA				IAML		09 51 15.8	
	comp=Z,192nm,0.5s						
PLCA				*i* S	Sn	09 52 56.5	+10
PLCA	Paso Flores	8.60	64	*e*P	Pn	09 51 07.8	-2.5
PLCA	Paso Flores	8.60	64	*e*P	Pn	09 51 06.4	-3.9
PLCA	Paso Flores	8.60	64	Pn	Pn	09 51 07.4	-2.9
	comp=Z,11nm,0.3s,baz=256,slow=11,SNR=260						
PLCA				Sn	Sn	09 52 50.8	+4.7
	comp=Z,0.7nm,0.3s,baz=221,slow=17,SNR=2.4						
PLCA				LR	LR	09 54 07.7	
	comp=Z,131μm,20.3s,baz=263,slow=36						
PLCA	Paso Flores	8.60	64	*e*S	Sn	09 52 45.8	-0.3
GO06	Curarrehue	8.74	55	*e*Pn	Pn	09 51 08.7	-3.4
GO06	Curarrehue	8.74	55	⇓*e*P	Pn	09 51 07.5	-4.7
CANA	Caviahue	10.15	49	*i* P	Pn	09 51 28.1	-3.5
CANA				IAML		09 51 34.9	
	comp=Z,193nm,0.4s						
GO10	Punta Arenas	10.32	146	*e*Pn	Pn	09 51 34.3	+0.5
GO10	Punta Arenas	10.32	146	*e*P	Pn	09 51 35.1	+1.4
GO10				*i* S	Sn	09 53 30.4	+2.3
CCHI	Chillan	10.64	41	*e*P	Pn	09 51 32.6	-5.5
GO05	Huala	12.04	37	*e*Pn	Pn	09 51 51.3	-5.9
GO05	Huala	12.04	37	*e*P	Pn	09 51 50.5	-6.8
USHA	Ushuaia	12.61	146	Pn	Pn	09 52 03.5	-1.4
	comp=Z,9.2nm,0.3s,baz=22,slow=9.8,SNR=37						
USHA				LR	LR	09 56 26.9	
	comp=Z,80μm,20.2s,baz=312,slow=35						
PEL	Peldehue	14.17	37	*e*Pn	Pn	09 52 20.6	-5.7
PEL	Peldehue	14.17	37	*e*P	Pn	09 52 20.6	-5.7
ROC1	El Roble	14.17	35	*e*Pn	Pn	09 52 21.5	-5.1
ROC1	El Roble	14.17	35	*i* P	Pn	09 52 19.5	-7.1
TRQA	Tornquist	15.64	70	*e*Pn	Pn	09 52 43.7	-2.2
	comp=Z,338nm,1.1s						
TRQA	Tornquist	15.64	70	*e*P	Pn	09 52 43.7	-2.2
TRQA				pmax	pmax		
	comp=Z,338nm,1.1s						
TRQA	Tornquist	15.64	70	*e*P	Pn	09 52 47.4	+1.4
EFI	East Falkland	16.44	122	*e*Pn	Pn	09 52 56.1	+0.1
	comp=Z,309nm,1.1s						
EFI	East Falkland	16.44	122	*e*P	Pn	09 52 54.1	-1.9
EFI				pmax	pmax		
	comp=Z,267nm,1.1s						
EFI				MLR	MLR		
	comp=Z,88μm,17.0s						
GO04	Tololo Observa	16.75	31	*e*Pn	Pn	09 52 57.7	-2.6
	comp=Z,622nm,1.0s						
LCO	Las Campanas	17.84	30	*e*Pn	Pn	09 53 10.4	-3.4
	comp=Z,367nm,1.5s						
LCO	Las Campanas	17.84	30	*e*P	P	09 53 14.2	-0.1
LCO	Las Campanas	17.84	30	*e*P	Pn	09 53 11.9	-1.9
GO03	Copiap	19.29	29	*e*P	P	09 53 27.8	-2.3
	comp=Z,171nm,1.3s						
GO02	Mina Guanaco	21.75	28	*e*P	P	09 53 54.8	-2.2
	comp=Z,364nm,1.4s						
GO02				LR	LR		
	comp=Z,46μm,21.0s						
PMSA	Palmer Station	21.87	161	PFAKE		09 54 10.0	+12
PMSA				LR	LR		
	comp=Z,21μm,20.0s						
PMSA	Palmer Station	21.87	161	LR	LR	10 00 44.3	
	comp=Z,3μm,18.5s,baz=324,slow=32						
PMSA	Palmer Station	21.87	161	*e*P	P	09 54 06.7	+9.1
PB10	IPOC Station P	22.99	25	*e*P	P	09 54 07.5	-2.3
	comp=Z,488nm,1.7s						
PB10				LR	LR		
	comp=Z,48μm,22.0s						
PB04	IPOC Station P	24.22	24	*e*P	P	09 54 21.9	0.0
	comp=Z,970nm,1.9s						
PB04				LR	LR		
	comp=Z,31μm,22.0s						
LVC	Limon Verde	24.35	27	*e*P	P	09 54 20.8	-2.4
	comp=Z,401nm,1.5s						
LVC				LR	LR		
	comp=Z,31μm,21.0s						
LVC	Limon Verde	24.35	27	P	P	09 54 21.1	-2.1
	comp=Z,31nm,0.7s,baz=226,slow=7.3,SNR=22						
LVC				LR	LR	10 01 40.9	
	comp=Z,40μm,21.2s,baz=214,slow=31						
PB01	IPOC Station P	25.64	25	PFAKE		09 54 40.0	+5.4
PB01				LR	LR		
	comp=Z,32μm,19.0s						
CPUP	Villa Florida	26.46	53	*e*P	P	09 54 39.6	-2.4
	comp=Z,99nm,1.1s						
CPUP	Villa Florida	26.46	53	*e*P	P	09 54 39.6	-2.4
CPUP				pmax	pmax		
	comp=Z,99nm,1.1s						
CPUP	Villa Florida	26.46	53	P	P	09 54 39.5	-2.4
	comp=Z,39nm,0.8s,baz=233,slow=8.7,SNR=38						
CPUP				LR	LR	10 05 22.7	
	comp=Z,73μm,18.5s,baz=219,slow=37						
CPUP	Villa Florida	26.46	53	*e*P	P	09 54 42.1	+0.2
PB11	IPOC Station P	26.80	24	*e*P	P	09 54 44.0	-1.1
	comp=Z,156nm,1.2s						
PB11				LR	LR		
	comp=Z,32μm,21.0s						
GO01	Chusmiza	27.02	24	PFAKE		09 55 00.0	+12
GO01				LR	LR		
	comp=Z,34μm,22.0s						
MNMC	Minye Minye	27.41	23	PFAKE		09 55 00.0	+9.2
MNMC				LR	LR		
	comp=Z,32μm,20.0s						
CNLB	Canela	28.29	67	*e*P	P	09 54 51.4	-7.0
CNLB				*e*		09 55 36.2	
CNLB				*e*		09 59 02.9	
CNLB				*i*		10 01 12.0	
CNLB				*i*		10 02 44.5	
CNLB				*i*		10 04 03.3	
CNLB				*i*		10 05 49.3	
CNLB				*i*		10 08 01.2	
CNLB	Canela	28.29	67	*e*P	P	09 55 01.4	+3.0
ITAB	Concordia	28.90	62	*e*P	P	09 55 05.6	+1.9
RPN	Rapa Nui	28.99	298	PFAKE		09 55 20.0	+15
RPN				LR	LR		
	comp=Z,6μm,22.0s						
HOPE	Hope Point	29.66	124	*e*P	P	09 55 10.7	+0.5
	comp=Z,138nm,1.5s						
HOPE				LR	LR		
	comp=Z,29μm,19.0s						
TER01	Tubaro-SC	29.94	67	*e*P	P	09 55 15.8	+2.8
LPAZ	La Paz	30.53

BDFB Brasilia 40.19 54 *eP* **P 09 56 40.1 -1.2**
BDFB pmax pmax
comp=Z,120nm,1.4s
BDFB MLR MLR
comp=Z,33μm,21.0s
BDFB Brasilia 40.19 54 P **P 09 56 39.1 -2.2**
comp=Z,42nm,1.0s,baz=216,slow=5.8,SNR=24
ALF01 Guarapari-ES 40.91 67 *eP* **P 09 56 49.4 +2.3**
MCI6 Montes Claros 41.72 60 *eP* **P 09 56 55.3 +1.4**
MCI9 Montes Claros 41.80 60 *eP* **P 09 56 56.3 +1.8**
MCI8 Montes Claros 41.82 59 *eP* **P 09 56 55.7 +1.1**
SJMB Sao Joao De Ma 42.00 64 *eP* **P 09 56 57.4 +1.3**
RIB01 Linhares ES 42.06 66 *eP* **P 09 56 58.4 +1.8**
BSFB Barra de Sao F 42.12 65 *eP* **P 09 56 58.8 +1.7**
VNA3 Neumayer Olymp 42.15 153 P **P 09 56 55.3 -1.4**
VNA1 Neumayer--Stat 42.63 152 P **P 09 57 00.4 -0.2**
JANB Januaría 42.82 58 *eP* **P 09 57 03.8 +1.0**
VNA2 Neumayer--Watz 42.90 152 P **P 09 57 02.4 -0.4**
baz=273,slow=8.7
SNAA Sanae 44.30 154 P **P 09 57 13.0 -1.1**
SNAA Sanae 44.30 154 *eP* **P 09 57 13.1 -1.1**
comp=Z,34nm,1.0s
SNAA Sanae 44.30 154 *eP* **P 09 57 13.1 -1.1**
SNAA pmax pmax
comp=Z,34nm,1.0s
SNAA Sanae 44.30 154 P **P 09 57 12.8 -1.3**
comp=Z,17nm,0.9s,baz=248,slow=6.8,SNR=18
PAYG Puerto Ayora 44.95 346 PFAKE 09 57 30.0 +10
PAYG LR LR
comp=Z,8μm,21.0s
OTAV Otavalo 45.09 3 *eP* **P 09 57 19.9 -1.6**
comp=Z,39nm,1.4s
OTAV LR LR
comp=Z,12μm,22.0s
OTAV Otavalo 45.09 3 *eP* **P 09 57 17.3 -4.2**
OTAV Otavalo 45.09 3 *eP* **P 09 57 19.9 -1.6**
OTAV pmax pmax
comp=Z,39nm,1.4s
OTAV MLR MLR
comp=Z,12μm,22.0s
OTAV Otavalo 45.09 3 *eP* **P 09 57 17.3 -4.2**
OTAV Otavalo 45.09 3 *eP* **P 09 57 20.5 -1.0**
QSPA South Pole Qui 45.24 180 *eP* **P 09 57 20.5 -1.3**
comp=Z,138nm,1.7s
QSPA LR LR
comp=Z,5μm,19.0s
PTLC Puerto Leguiza 45.29 8 *eP* **P 09 57 22.1 -0.5**
PTLC Puerto Leguiza 45.29 8 *eP* **P 09 57 22.1 -0.5**
CRUC La Cruz 46.49 5 *eP* **P 09 57 33.4 +1.0**
CRUC La Cruz 46.49 5 *eP* **P 09 57 33.4 +1.0**
BBAC Balboa, Cauca 46.92 5 *eP* **P 09 57 33.8 -1.8**
BBAC Balboa, Cauca 46.92 5 *eP* **P 09 57 33.8 -1.8**
SOTA Rioblanco 47.08 6 *eP* P 09 57 42.8 +5.6
SOTA Rioblanco 47.08 6 *eP* P 09 57 42.8 +5.6
PTGA Pitinga 47.76 29 *eP* **P 09 57 39.5 -2.4**
comp=Z,93nm,1.5s
PTGA LR LR
comp=Z,17μm,19.0s
PTGA Pitinga 47.76 29 *eP* **P 09 57 40.5 -1.4**
PRAC Prado 48.78 8 *eP* **P 09 57 46.7 -3.1**
PRAC Prado 48.78 8 *eP* **P 09 57 46.7 -3.1**
YOTC Yotoco, Valle 48.93 6 *eP* **P 09 57 48.3 -2.7**
YOTC Yotoco, Valle 48.93 6 *eP* **P 09 57 48.3 -2.7**
RKT Rikitea 48.95 278 *eS* **S 10 04 58.5 +5.8**
comp=Z,3μm,26.9s
RKT *e*LQ LQ 10 09 30.6
comp=Z,12μm,35.2s
RKT *e*LR LR 10 11 50.0
comp=Z,6μm,37.2s,baz=137
CHIC Chingaza 49.81 9 *eP* **P 09 58 02.0 +3.9**
CHIC Chingaza 49.81 9 *eP* **P 09 58 02.0 +3.9**
ROSC El Rosal 49.95 8 PFAKE 09 58 10.0 +11
ROSC LR LR
comp=Z,31μm,21.0s
ROSC El Rosal 49.95 8 P **P 09 57 57.3 -1.9**
comp=Z,3.7nm,0.3s,baz=150,slow=20,SNR=2.6
ROSC LR LR 10 16 35.2
comp=Z,36μm,20.7s,baz=201,slow=33
NORC Norcasia 50.61 8 *eP* **P 09 58 05.0 +1.3**
NORC Norcasia 50.61 8 *eP* **P 09 58 05.0 +1.3**
SBA Scott Base 50.86 195 *eP* **P 09 58 03.7 -1.1**
comp=Z,137nm,1.8s
SBA LR LR
comp=Z,3μm,19.0s
SBA Scott Base 50.86 195 *eP* **P 09 58 03.7 -1.1**
SBA pmax pmax
comp=Z,137nm,1.8s
SBA MLR MLR
comp=Z,3μm,19.0s
RUSC La Rusia 51.13 10 *eP* **P 09 58 04.2 -3.9**
RUSC La Rusia 51.13 10 *eP* **P 09 58 04.2 -3.9**
VNDA Vanda 51.91 194 *eP* **P 09 58 11.6 -1.2**
comp=Z,63nm,1.6s
VNDA Vanda 51.91 194 *eP* **P 09 58 11.6 -1.2**
VNDA pmax pmax
comp=Z,63nm,1.6s
VNDA Vanda 51.91 194 P **P 09 58 11.1 -1.7**
comp=Z,6.9nm,1.2s,baz=128,slow=4.9,SNR=12
VNDA LR LR 10 15 56.7
comp=Z,3μm,21.1s,baz=131,slow=31
SOCV Socops 53.78 12 *eP* **P 09 58 25.7 -1.5**
SOCV Socops 53.78 12 *eP* **P 09 58 25.7 -1.5**
SMLC San Martn de 53.89 8 *eP* **P 09 58 26.8 -1.2**
SMLC San Martn de 53.89 8 *eP* **P 09 58 26.8 -1.2**
SDV Santo Domingo 54.41 12 *eP* **P 09 58 29.5 -2.5**
comp=Z,116nm,1.9s
SDV LR LR
comp=Z,20μm,22.0s
SDV Santo Domingo 54.41 12 *eP* **P 09 58 29.7 -2.3**
SDV Santo Domingo 54.41 12 *eP* **P 09 58 29.7 -2.3**
HDC Heredia 54.84 356 PFAKE 09 58 50.0 +15
HDC LR LR
comp=Z,12μm,21.0s
RCBR Riachuelo 55.13 59 PFAKE 09 58 50.0 +13
RCBR LR LR
comp=Z,26μm,21.0s
RCBR Riachuelo 55.13 59 *eP* **P 09 58 38.5 +1.3**
JTS Las Juntas de 55.17 355 PFAKE 09 58 50.0 +13
JTS LR LR
comp=Z,12μm,22.0s
SYO Syowa Base 58.10 159‖ *eP* P 09 58 50.0 -7.5
SYO Syowa Base 58.10 159‖ *eP* **P 09 58 54.8 -2.7**
SYO Syowa Base 58.10 159‖ *eP* **P 09 59 01.6 +4.1**
SYO Syowa Base 58.10 159‖ *eP* P 09 59 04.4 +6.9
TBI Tubuai 59.06 267 *eS* **S 10 07 15.3 +6.0**
comp=Z,2μm,33.2s
TBI *e*LQ LQ 10 13 52.0
comp=Z,24μm,36.8s
TBI *e*LR LR 10 16 18.1
comp=Z,5μm,33.5s
TGUH Tegucigalpa,Un 59.08 353 PFAKE 09 59 20.0 +15
TGUH LR LR
comp=Z,9μm,20.0s
SVB Belmont 60.63 22 PFAKE 09 59 30.0 +14
SVB LR LR
comp=Z,12μm,21.0s
BBGH Gun Hill 60.98 24 PFAKE 09 59 30.0 +12
BBGH LR LR
comp=Z,19μm,22.0s
FDF Fort de France 62.06 22 PFAKE 09 59 40.0 +15
FDF LR LR
comp=Z,16μm,20.0s
TIAR Tiarei 62.74 272 *eP* **P 09 59 32.3 +2.4**
comp=Z,38nm,1.2s
TIAR Tiarei 62.74 272 *e*T T 11 07 06.9
comp=Z,2.7nm,0.3s
PPT2 Papeete2 62.88 272 *eP* **P 09 59 33.2 +2.3**
comp=Z,108nm,1.3s
PPT2 *e*S **S 10 08 03.5 +5.2**
comp=Z,4μm,30.0s
PPT2 *e*LQ LQ 10 15 33.4
comp=Z,29μm,37.2s
PPT2 *e*LR LR 10 18 02.5
comp=Z,8μm,30.5s,baz=132
PPT Papeete 62.90 272 P **P 09 59 28.8 -2.2**
comp=Z,39nm,0.8s,baz=90,slow=16,SNR=2.5
MTDJ Mount Denham 62.99 3 PFAKE 09 59 40.0 +8.5
MTDJ LR LR
comp=Z,7μm,22.0s
ICMP Isla Caja de M 63.91 15 PFAKE 09 59 50.0 +13
ICMP LR LR
comp=Z,5μm,20.0s
OBIP Obispado Ponce 64.05 15 PFAKE 09 59 50.0 +12
OBIP LR LR
comp=Z,7μm,20.0s

MPR Mayaguez 64.12 14 PFAKE 09 59 50.0 +11
MPR LR LR
comp=Z,8μm,20.0s
SJG San Juan 64.20 15 PFAKE 09 59 50.0 +11
SJG LR LR
comp=Z,7μm,19.0s
SDDR Presa de Saban 64.26 10 PFAKE 09 59 50.0 +10
SDDR LR LR
comp=Z,7μm,21.0s
SEUS St. Eustatius 64.26 19 PFAKE 09 59 50.0 +10
SEUS LR LR
comp=Z,13μm,21.0s
HUMP Col San Antoni 64.29 16 PFAKE 09 59 50.0 +10
HUMP LR LR
comp=Z,9μm,20.0s
MTP Monte Pirata 64.30 16 PFAKE 09 59 50.0 +10
MTP LR LR
comp=Z,9μm,20.0s
AGP Aguadilla 64.31 14 PFAKE 09 59 50.0 +10
AGP LR LR
comp=Z,6μm,19.0s
AOPR Arecibo Observ 64.32 15 PFAKE 09 59 50.0 +10
AOPR LR LR
comp=Z,6μm,20.0s
TLIG Tlapa 64.35 341 PFAKE 09 59 50.0 +9.5
TLIG LR LR
comp=Z,5μm,21.0s
MAW Mawson 64.39 165 *eP* **P 09 59 40.5 +0.4**
comp=Z,2.3nm,1.4s
MAW Mawson 64.39 165 *eP* **P 09 59 40.5 +0.4**
MAW pmax pmax
comp=Z,2.0nm,1.4s
MAW Mawson 64.39 165 P **P 09 59 39.2 -0.9**
comp=Z,4.8nm,0.9s,baz=200,slow=8.2,SNR=5.1
MAW LR LR 10 25 19.6
comp=Z,12μm,21.7s,baz=208,slow=34
CBYP Canovanas 64.41 16 *eP* **P 09 59 40.9 +0.1**
comp=Z,160nm,1.9s
CBYP LR LR
comp=Z,8μm,18.0s
EMPR Esperanza - Ma 64.49 15 PFAKE 09 59 50.0 +8.8
EMPR LR LR
comp=Z,10μm,21.0s
CUPR Culebra, Puert 64.56 16 PFAKE 09 59 50.0 +8.3
CUPR LR LR
comp=Z,9μm,21.0s
STVI Saint Thomas 64.67 17 PFAKE 09 59 50.0 +7.6
STVI LR LR
comp=Z,9μm,20.0s
ANWB Willy Bob 64.72 20 PFAKE 09 59 50.0 +7.3
ANWB LR LR
comp=Z,8μm,21.0s
GTBY Guantanamo Bay 64.82 6 PFAKE 09 59 50.0 +6.7
GTBY LR LR
comp=Z,5μm,20.0s
ABVI Anegada Island 65.16 17 PFAKE 10 00 00.0 +14
ABVI LR LR
comp=Z,9μm,20.0s
TEIG Tepich 65.28 352 PFAKE 10 00 00.0 +14
TEIG LR LR
comp=Z,7μm,20.0s
GRTK Grand Turk 66.77 10 PFAKE 10 00 10.0 +14
GRTK LR LR
comp=Z,8μm,22.0s
RAR Rarotonga 67.71 262 LR LR 10 23 30.4
comp=Z,920nm,19.9s,baz=146,slow=31
ASCN Ascension 67.77 79 PFAKE 10 00 10.0 +7.5
ASCN LR LR
comp=Z,18μm,18.0s
SHEL Horse Pasture 68.32 91 PFAKE 10 00 20.0 +14
SHEL LR LR
comp=Z,5μm,20.0s
MCQ Macquarie Isla 68.68 213 PFAKE 10 00 20.0 +12
MCQ LR LR
comp=Z,4μm,18.0s
CASY Casey 68.71 185 *eP* **P 10 00 08.2 +0.5**
comp=Z,68nm,1.6s
CASY LR LR
comp=Z,8μm,20.0s
H06E1 SOCORRO T-PHAS 69.19 329 T T 11 15 39.4
MQZ McQueen's Vall 70.24 228 PFAKE 10 00 30.0 +13
MQZ LR LR
comp=Z,4μm,22.0s
ZAIG Zacatecas 70.33 339 *eP* **P 10 00 18.2 -0.3**
comp=Z,40nm,1.5s
ZAIG LR LR
comp=Z,4μm,18.0s
ODZ Otahua Downs 70.34 226 PFAKE 10 00 30.0 +12
ODZ LR LR
comp=Z,3μm,20.0s
CRLZ Canterbury Las 70.34 228 PFAKE 10 00 30.0 +12
CRLZ LR LR
comp=Z,4μm,20.0s
BFZ Birch Farm 70.36 232 PFAKE 10 00 30.0 +12
BFZ LR LR
comp=Z,1μm,19.0s
061Z Ochoppi 70.53 360 PFAKE 10 00 30.0 +11
061Z LR LR
comp=Z,4μm,20.0s
KHZ Kahutara 70.66 229 PFAKE 10 00 30.0 +10
KHZ LR LR
comp=Z,3μm,19.0s
SNZO South Karori 70.79 231 PFAKE 10 00 30.0 +9.1
SNZO LR LR
comp=Z,2μm,20.0s
OXZ Oxford 70.82 228 PFAKE 10 00 30.0 +8.9
OXZ LR LR
comp=Z,4μm,22.0s
LBZ Lake Benmore 71.04 226 PFAKE 10 00 30.0 +7.6
LBZ LR LR
comp=Z,3μm,19.0s
RPZ Rata Peaks 71.06 227 PFAKE 10 00 40.0 +17
RPZ LR LR
comp=Z,2μm,20.0s
LTZ Lake Taylor 71.08 228 PFAKE 10 00 40.0 +17
LTZ LR LR
comp=Z,4μm,21.0s
WHZ Wether Hill Ro 71.08 223 PFAKE 10 00 40.0 +17
WHZ LR LR
comp=Z,2μm,22.0s
BKZ Black Stump Fm 71.26 233 PFAKE 10 00 40.0 +16
BKZ LR LR
comp=Z,4μm,20.0s
MXZ Matakaoa Point 71.30 235 PFAKE 10 00 40.0 +16
MXZ LR LR
comp=Z,3μm,21.0s
WKZ Wanaka 71.31 225 PFAKE 10 00 40.0 +16
WKZ LR LR
comp=Z,4μm,21.0s
MLZ Mavora Lakes 71.37 224 PFAKE 10 00 40.0 +16
MLZ LR LR
comp=Z,4μm,22.0s
THZ Tophouse 71.45 229 PFAKE 10 00 40.0 +15
THZ LR LR
comp=Z,3μm,21.0s
URZ Urewera 71.52 234 PFAKE 10 00 40.0 +15
URZ LR LR
comp=Z,2μm,21.0s
URZ Urewera 71.52 234 LR LR 10 23 36.1
comp=Z,3μm,21.4s,baz=126,slow=29
059A Moore Haven 71.63 360 PFAKE 10 00 40.0 +14
059A LR LR
comp=Z,4μm,19.0s
LNIG Linares 71.64 342 *eP* **P 10 00 24.4 -1.7**
comp=Z,17nm,1.3s
060A Indiantown 71.69 0 PFAKE 10 00 40.0 +14
060A LR LR
comp=Z,5μm,21.0s
DCZ Deep Cove 71.78 223 PFAKE 10 00 40.0 +13
DCZ LR LR
comp=Z,2μm,20.0s
FOZ Fox Glacier 71.83 226 PFAKE 10 00 40.0 +13
FOZ LR LR
comp=Z,2μm,21.0s
957A Wimauma 72.34 359 PFAKE 10 00 40.0 +10
957A LR LR
comp=Z,4μm,22.0s
HIZ Hauiti 72.63 233 PFAKE 10 00 40.0 +8.0
HIZ LR LR
comp=Z,1μm,19.0s
DWPF Disney Wildern 72.77 359 PFAKE 10 00 40.0 +7.4
DWPF LR LR
comp=Z,4μm,19.0s
757A Oxford 73.60 359 P **P 10 00 37.0 -0.5**
baz=179
656A Willston 74.04 358 PFAKE 10 00 50.0 +10

656A LR LR
comp=Z,5μm,20.0s
658A Bunnell 74.07 360 PFAKE 10 00 50.0 +10
658A LR LR
comp=Z,6μm,21.0s
556A Lake Butler 74.67 358 P **P 10 00 43.2 -0.5**
baz=179
555A McAlpin 74.80 358 PFAKE 10 01 00.0 +16
555A LR LR
comp=Z,7μm,22.0s
555A McAlpin 74.80 358 P **P 10 00 44.0 -0.5**
baz=178
833A Chaparral WMA, 74.94 343 PFAKE 10 01 00.0 +15
833A LR LR
comp=Z,2μm,21.0s
HPIG 75.13 337 *eP* **P 10 00 46.1 -0.6**
comp=Z,52nm,1.3s
SUR Sutherland 75.19 121 PFAKE 10 01 00.0 +13
SUR LR LR
comp=Z,10μm,20.0s
456A Hilliard 75.38 359 PFAKE 10 01 00.0 +12
456A LR LR
comp=Z,6μm,22.0s
451A Vernon 75.40 356 PFAKE 10 01 00.0 +12
451A LR LR
comp=Z,3μm,20.0s
451A Vernon 75.40 356 P **P 10 00 47.8 -0.1**
baz=176
455A Stateville 75.42 358 P **P 10 00 47.8 -0.2**
baz=178
453A Whigham 75.57 357 PFAKE 10 01 00.0 +11
453A LR LR
comp=Z,6μm,22.0s
453A Whigham 75.57 357 P **P 10 00 49.0 +0.1**
baz=177
452A Marianna 75.60 356 P **P 10 00 49.5 +0.3**
baz=177
449A Pace 75.64 354 P **P 10 00 49.9 +0.6**
baz=175
450A Crestview 75.64 355 P **P 10 00 49.7 +0.3**
baz=176
OUZ Omahuta 75.66 234 PFAKE 10 01 00.0 +10
OUZ LR LR
comp=Z,1μm,19.0s
BRAL Brewton 76.03 354 PFAKE 10 01 00.0 +8.4
BRAL LR LR
comp=Z,3μm,22.0s
351A Pinckard 76.05 356 P **P 10 00 51.6 -0.1**
baz=176
353A Camilla 76.06 357 P **P 10 00 51.5 -0.2**
baz=178
TIGA Tifton 76.13 357 PFAKE 10 01 00.0 +7.9
TIGA LR LR
comp=Z,6μm,21.0s
TIGA Tifton 76.13 357 P **P 10 00 51.5 -0.6**
baz=178
352A Blakely 76.22 356 *eP* **P 10 00 52.7 +0.1**
comp=Z,64nm,1.4s
352A LR LR
comp=Z,4μm,21.0s
352A Blakely 76.22 356 P **P 10 00 52.1 -0.6**
baz=177
349A Repton 76.22 354 P **P 10 00 52.4 -0.2**
baz=175
350A Dozier 76.23 355 P **P 10 00 52.8 +0.1**
baz=176
255A Hazlehurst 76.58 358 PFAKE 10 01 10.0 +15
255A LR LR
comp=Z,6μm,22.0s
255A Hazlehurst 76.58 358 P **P 10 00 53.7 -1.0**
baz=179
257A Skidaway Islan 76.62 360 PFAKE 10 01 10.0 +15
257A LR LR
comp=Z,7μm,20.0s
254A Abbeville 76.62 358 P **P 10 00 54.1 -0.8**
baz=178
256A Glennville 76.63 359 P **P 10 00 53.8 -1.1**
baz=179
252A Lumpkin 76.72 356 P **P 10 00 54.1 -1.4**
baz=177
253A Americus 76.77 357 *eP* **P 10 00 56.3 +0.6**
comp=Z,146nm,1.7s
253A LR LR
comp=Z,5μm,21.0s
253A Americus 76.77 357 P **P 10 00 54.2 -1.5**
baz=178
250A Grady 76.78 355 *eP* **P 10 00 55.5 -0.3**
comp=Z,119nm,1.4s
250A LR LR
comp=Z,3μm,21.0s
250A Grady 76.78 355 P **P 10 00 54.7 -1.1**
baz=176
251A Midway 76.85 356 P **P 10 00 55.1 -1.1**
baz=177
TXAR Lajitas Array 76.88 340 *eP* **P 10 00 55.9 -0.7**
TXAR Lajitas Array 76.88 340 *eP* **P 10 00 55.9 -0.7**
TXAR Lajitas Array 76.88 340 P **P 10 00 55.8 -0.8**
comp=Z,4.3nm,0.9s,baz=164,slow=6.7,SNR=24
TXAR LR LR 10 29 16.6
comp=Z,4μm,21.0s,baz=0.0,slow=31
435B Jarrell 76.98 345 *eP* **P 10 00 56.7 -0.3**
comp=Z,70nm,1.3s
435B LR LR
comp=Z,2μm,20.0s
435B Jarrell 76.98 345 P **P 10 00 56.5 -0.5**
baz=168
JCT Junction City 77.11 343 *eP* **P 10 00 58.0 +0.2**
comp=Z,89nm,1.3s
JCT Junction City 77.11 343 *eP* **P 10 00 58.0 +0.2**
JCT pmax pmax
comp=Z,89nm,1.3s
JCT Junction City 77.11 343 P **P 10 00 57.2 -0.6**
baz=166,SNR=6.2
151A Opelika 77.28 356 P **P 10 00 57.9 -0.7**
baz=177,SNR=13
154A Montrose 77.28 358 PFAKE 10 01 10.0 +11
154A LR LR
comp=Z,6μm,21.0s
VBMS Vicksburg 77.37 352 PFAKE 10 01 10.0 +11
VBMS LR LR
comp=Z,2μm,20.0s
152A Waverly Hall 77.39 357 *eP* **P 10 00 57.9 -1.4**
comp=Z,27nm,1.2s
152A LR LR
comp=Z,4μm,21.0s
152A Waverly Hall 77.39 357 P **P 10 00 58.8 -0.4**
baz=177
150A Eclectic 77.40 355 P **P 10 00 58.9 -0.3**
baz=176
149A Jones 77.44 355 P **P 10 00 59.1 -0.3**
baz=176
NATX Nacogdoches 77.45 348 *eP* **P 10 00 59.4 -0.2**
comp=Z,108nm,1.5s
148A Greensboro 77.54 354 P **P 10 00 59.8 -0.2**
baz=175
147A Livingston 77.62 353 *eP* **P 10 01 00.4 -0.1**
comp=Z,93nm,1.4s
147A Livingston 77.62 353 P **P 10 01 01.1 +0.6**
baz=175
NHSC New Hope 77.75 0 PFAKE 10 01 10.0 +8.8
NHSC LR LR
comp=Z,5μm,21.0s
NHSC New Hope 77.75 0 P **P 10 01 01.0 -0.2**
baz=180
LRAL Lakeview Retre 77.88 355 *eP* **P 10 01 01.8 -0.1**
comp=Z,25nm,1.0s
LRAL Lakeview Retre 77.88 355 P **P 10 01 01.6 -0.3**
baz=176
Z54A Sparta 77.90 358 P **P 10 01 01.7 -0.3**
baz=178
Z52A Williamson 77.90 357 P **P 10 01 01.6 -0.4**
baz=177
Z53A Monticello 77.96 358 P **P 10 01 01.8 -0.5**
baz=178
Z58A St. Stephen 77.98 1 P **P 10 01 02.5 0.0**
baz=181
Z49A Columbiana 78.01 355 P **P 10 01 02.2 -0.4**
baz=176
Z50A Ashland 78.03 356 *eP* **P 10 01 03.0 +0.1**
comp=Z,18nm,1.1s
Z50A LR LR
comp=Z,3μm,19.0s
Z50A Ashland 78.03 356 P **P 10 01 02.7 -0.1**
baz=176
GOGA Godfrey 78.09 358 PFAKE 10 01 10.0 +6.9
GOGA LR LR
comp=Z,6μm,21.0s

GOGA	**Godfrey**	**78.09**	**358**	P	**P**	**10 01 04.1**	**+1.0**
GOGA	comp=Z,44nm,1.4s			pmax	pmax		
GOGA	**Godfrey**	**78.09**	**358**	P	**P**	**10 01 02.8**	**-0.3**
	baz=178,SNR=8.3						
WHTX	**Lake Whitney,**	**78.13**	**346**	PFAKE		10 01 10.0	+6.6
WHTX	comp=Z,1μm,21.0s			LR	LR		
Y54A	**Tignall**	**78.52**	**358**	P	**P**	**10 01 05.3**	**-0.2**
	baz=179						
Y53A	**Monroe**	**78.53**	**358**	P	**P**	**10 01 05.1**	**-0.4**
	baz=178						
Y58A	**Scranton**	**78.55**	**1**	PFAKE		10 01 20.0	+14
Y58A	comp=Z,5μm,21.0s			LR	LR		
Y58A	**Scranton**	**78.55**	**1**	P	**P**	**10 01 05.4**	**-0.2**
	baz=181						
Y52A	**Lilburn**	**78.56**	**357**	*eP*	**P**	**10 01 05.6**	**-0.2**
Y52A	comp=Z,50nm,1.3s			LR	LR		
Y52A	**Lilburn**	**78.56**	**357**	P	**P**	**10 01 05.5**	**-0.2**
	baz=178,SNR=6.0						
Y55A	**Saluda**	**78.58**	**359**	P	**P**	**10 01 05.6**	**-0.2**
	baz=179						
Y51A	**Rockmart**	**78.63**	**356**	P	**P**	**10 01 06.0**	**-0.1**
	baz=177,SNR=5.8						
Y50A	**Piedmont**	**78.66**	**356**	P	**P**	**10 01 05.9**	**-0.3**
	baz=176						
Y49A	**Blount Mountai**	**78.66**	**355**	PFAKE		10 01 20.0	+14
Y49A	comp=Z,3μm,22.0s			LR	LR		
Y49A	**Blount Mountai**	**78.66**	**355**	P	**P**	**10 01 06.0**	**-0.3**
	baz=176						
Z41A	**Richland Creek**	**78.67**	**350**	PFAKE		10 01 20.0	+14
Z41A	comp=Z,5μm,22.0s			LR	LR		
Y60A	**Bolivia**	**78.67**	**2**	PFAKE		10 01 20.0	+14
Y60A	comp=Z,5μm,21.0s			LR	LR		
HODGE	**Hodges**	**78.88**	**359**	*eP*	**P**	**10 01 07.4**	**0.0**
HODGE	comp=Z,56nm,1.5s			LR	LR		
X55A	**Gracelyn & Ava**	**79.11**	**359**	P	**P**	**10 01 08.4**	**-0.3**
	baz=179						
X56A	**White Oak**	**79.13**	**360**	P	**P**	**10 01 08.6**	**-0.2**
	baz=180						
WLAR	**White Oak Lake**	**79.13**	**350**	*eP*	**P**	**10 01 09.1**	**+0.3**
WLAR	comp=Z,66nm,1.3s			LR	LR		
ABTX	**Abilene, Hawle**	**79.16**	**344**	P	**P**	**10 01 09.0**	**-0.1**
	baz=166						
X53A	**Estanollee**	**79.17**	**358**	P	**P**	**10 01 09.1**	**0.0**
	baz=178						
CCAR	**Cane Creek**	**79.19**	**351**	PFAKE		10 01 20.0	+11
CCAR	comp=Z,3μm,22.0s			LR	LR		
X54A	**Belton**	**79.20**	**359**	P	**P**	**10 01 09.2**	**0.0**
	baz=179						
X58A	**Rowland**	**79.20**	**1**	PFAKE		10 01 20.0	+11
X58A	comp=Z,4μm,22.0s			LR	LR		
X50B	**Fort Payne**	**79.22**	**356**	P	**P**	**10 01 09.4**	**0.0**
	baz=176						
X51A	**Calhoun**	**79.29**	**357**	PFAKE		10 01 20.0	+10
X51A	comp=Z,4μm,19.0s			LR	LR		
X51A	**Calhoun**	**79.29**	**357**	P	**P**	**10 01 09.5**	**-0.2**
	baz=177						
X52A	**Dahlonega**	**79.29**	**357**	P	**P**	**10 01 09.7**	**0.0**
	baz=178						
X48A	**Hartselle**	**79.29**	**355**	*eP*	**P**	**10 01 10.3**	**+0.6**
	comp=Z,43nm,1.4s						
X48A	**Hartselle**	**79.29**	**355**	P	**P**	**10 01 09.2**	**-0.5**
	baz=176,SNR=5.5						
X49A	**Woodville**	**79.31**	**355**	P	**P**	**10 01 09.5**	**-0.3**
	baz=176						
X47A	**Russelville**	**79.42**	**354**	P	**P**	**10 01 10.1**	**-0.3**
	baz=175						
PAULI	**Pauline**	**79.46**	**359**	*eP*	**P**	**10 01 08.2**	**-2.4**
	comp=Z,48nm,1.4s						
X46A	**Booneville**	**79.51**	**353**	P	**P**	**10 01 10.5**	**-0.4**
	baz=174						
OXF	**Oxford**	**79.54**	**353**	*eP*	**P**	**10 01 11.2**	**+0.2**
	comp=Z,47nm,1.1s						
OXF	**Oxford**	**79.54**	**353**	*eP*	**P**	**10 01 11.2**	**+0.2**
OXF	comp=Z,47nm,1.1s			pmax	pmax		
OXF	**Oxford**	**79.54**	**353**	P	**P**	**10 01 10.2**	**-0.8**
	baz=174						
MNTX	**Cornudas Mount**	**79.57**	**339**	*eP*	**P**	**10 01 10.2**	**-1.1**
	comp=Z,14nm,1.1s						
MNTX	**Cornudas Mount**	**79.57**	**339**	P	**P**	**10 01 10.7**	**-0.7**
	baz=162						
BG3	**Lake Jocassee**	**79.65**	**358**	*eP*	**P**	**10 01 10.2**	**-1.5**
BG3	comp=Z,20nm,1.1s			LR	LR		
W58A	**Raeford**	**79.67**	**1**	P	**P**	**10 01 11.2**	**-0.5**
	baz=181						
W54A	**Cherokee Point**	**79.73**	**359**	P	**P**	**10 01 11.1**	**-1.0**
	baz=179						
KMSC	**Kings Mountain**	**79.78**	**359**	P	**P**	**10 01 11.6**	**-0.8**
	baz=180						
W52A	**Murphy**	**79.78**	**357**	*eP*	**P**	**10 01 12.2**	**-0.2**
W52A	comp=Z,36nm,1.4s			LR	LR		
W52A	**Murphy**	**79.78**	**357**	P	**P**	**10 01 11.5**	**-0.9**
	baz=178						
W57A	**Gilead**	**79.79**	**1**	*eP*	**P**	**10 01 12.1**	**-0.2**
W57A	comp=Z,38nm,1.3s			LR	LR		
W57A	**Gilead**	**79.79**	**1**	P	**P**	**10 01 11.6**	**-0.7**
	baz=180						
GDL2	**Guadalupe Moun**	**79.79**	**340**	*eP*	**P**	**10 01 13.1**	**+0.4**
W53A	**Cullowhee**	**79.83**	**358**	P	**P**	**10 01 12.1**	**-0.7**
	baz=178						
W51A	**Cleveland**	**79.88**	**357**	P	**P**	**10 01 12.7**	**-0.2**
	baz=177						
X40A	**Basin Creek Fa**	**79.88**	**350**	PFAKE		10 01 20.0	+7.1
X40A	comp=Z,3μm,22.0s			LR	LR		
PLAL	**Pickwick Lake**	**79.89**	**354**	*eP*	**P**	**10 01 12.2**	**-0.7**
	comp=Z,18nm,1.1s						
W49A	**Belvidere**	**79.91**	**355**	P	**P**	**10 01 12.4**	**-0.6**
	baz=176,SNR=7.6						
CNNC	**Cliffs of the**	**79.91**	**2**	PFAKE		10 01 20.0	+7.0
CNNC	comp=Z,4μm,21.0s			LR	LR		
EPT	**El Paso**	**79.94**	**338**	PFAKE		10 01 20.0	+6.6
EPT	comp=Z,3μm,22.0s			LR	LR		
W50A	**Signal Mountai**	**79.94**	**356**	PFAKE		10 01 20.0	+6.7
W50A	comp=Z,4μm,22.0s			LR	LR		
W50A	**Signal Mountai**	**79.94**	**356**	P	**P**	**10 01 11.6**	**-1.7**
	baz=177,SNR=8.1						
W48A	**Pulaski**	**79.97**	**355**	P	**P**	**10 01 12.7**	**-0.6**
	baz=176						
SWET	**Sewanee**	**79.99**	**356**	*eP*	**P**	**10 01 12.7**	**-0.8**
SWET	comp=Z,34nm,0.8s			LR	LR		
MIAR	**Mount Ida**	**80.03**	**349**	*eP*	**P**	**10 01 13.2**	**-0.5**
MIAR	comp=Z,14nm,1.0s			LR	LR		
MIAR	**Mount Ida**	**80.03**	**349**	*eP*	**P**	**10 01 13.2**	**-0.5**
MIAR	comp=Z,14nm,1.0s			pmax	pmax		
MIAR	comp=Z,4μm,22.0s			MLR	MLR		
MIAR	**Mount Ida**	**80.03**	**349**	P	**P**	**10 01 13.0**	**-0.8**
	baz=171						
W46A	**Michie**	**80.07**	**354**	P	**P**	**10 01 12.8**	**-1.1**
	baz=174						
UALR	**University of**	**80.11**	**350**	PFAKE		10 01 20.0	+5.9
UALR	comp=Z,3μm,21.0s			LR	LR		
W47A	**Westpoint**	**80.13**	**354**	P	**P**	**10 01 13.2**	**-1.0**
	baz=175,SNR=6.2						
CPCT	**Cooper Cave**	**80.16**	**357**	*eP*	**P**	**10 01 13.6**	**-0.7**
	comp=Z,24nm,1.1s						
CPCT	comp=Z,4μm,20.0s			LR	LR		
V62A	**Hyde County Ai**	**80.31**	**4**	PFAKE		10 01 30.0	+15
V62A	comp=Z,4μm,20.0s			LR	LR		
V53A	**Saluda**	**80.32**	**358**	*eP*	**P**	**10 01 15.1**	**-0.3**
	comp=Z,28nm,1.3s						
V53A	comp=Z,6μm,22.0s			LR	LR		
V53A	**Saluda**	**80.32**	**358**	P	**P**	**10 01 14.5**	**-0.8**
	baz=178						
X37A	**Clayton**	**80.33**	**348**	PFAKE		10 01 30.0	+15
X37A	comp=Z,4μm,22.0s			LR	LR		
V50A	**Pikevile**	**80.40**	**356**	P	**P**	**10 01 15.2**	**-0.5**
	baz=177,SNR=7.6						
V54A	**Nebo**	**80.42**	**359**	P	**P**	**10 01 14.7**	**-1.1**
	baz=179						
V59A	**Middlesex**	**80.43**	**2**	P	**P**	**10 01 14.8**	**-1.0**
	baz=182						
V58A	**Windy Hill, Pi**	**80.44**	**1**	P	**P**	**10 01 15.3**	**-0.5**
	baz=181						
V56A	**Mocksville**	**80.44**	**0**	*eP*	**P**	**10 01 15.4**	**-0.5**
V56A	comp=Z,46nm,1.4s			LR	LR		
V56A	**Mocksville**	**80.44**	**0**	P	**P**	**10 01 15.5**	**-0.5**
	baz=180						
V55A	**Taylorsville**	**80.48**	**360**	P	**P**	**10 01 15.7**	**-0.4**
	baz=180						
W41B	**Gary Mavity, V**	**80.49**	**350**	*eP*	**P**	**10 01 15.5**	**-0.6**
W41B	comp=Z,65nm,1.8s			LR	LR		
W41B	**Gary Mavity, V**	**80.49**	**350**	P	**P**	**10 01 15.7**	**-0.4**
	baz=172						
V51A	**Loudon**	**80.50**	**357**	*eP*	**P**	**10 01 16.6**	**+0.4**
V51A	comp=Z,30nm,1.4s			LR	LR		
V51A	**Loudon**	**80.50**	**357**	P	**P**	**10 01 15.6**	**-0.6**
	baz=177						
V52A	**Sevierville**	**80.52**	**358**	PFAKE		10 01 30.0	+14
V52A	comp=Z,6μm,21.0s			LR	LR		
V52A	**Sevierville**	**80.52**	**358**	P	**P**	**10 01 15.5**	**-0.8**
	baz=178						
V57A	**Coltrane Farms**	**80.52**	**1**	P	**P**	**10 01 15.6**	**-0.8**
	baz=181						
V49A	**McMinnville**	**80.53**	**356**	P	**P**	**10 01 15.9**	**-0.5**
	baz=176						
BOSA	**Boshof**	**80.56**	**121**	*eP*	**P**	**10 01 18.0**	**+0.8**
	comp=Z,84nm,1.6s						
BOSA	**Boshof**	**80.56**	**121**	P	**P**	**10 01 14.3**	**-2.8**
	comp=Z,4.3nm,1.0s,baz=205,slow=5.1,SNR=3.1						
BOSA	comp=Z,8μm,18.6s,baz=222,slow=33			LR	LR	10 33 45.4	
V48A	**Smith Brothers**	**80.56**	**355**	P	**P**	**10 01 15.8**	**-0.7**
	baz=176,SNR=9.7						
WHAR	**Wooly Hollow**	**80.61**	**350**	*eP*	**P**	**10 01 16.7**	**-0.1**
WHAR	comp=Z,46nm,1.3s			LR	LR		
V47A	**Nunnelly**	**80.69**	**354**	P	**P**	**10 01 16.2**	**-1.1**
	baz=175,SNR=12						
W39A	**Magazine**	**80.70**	**349**	PFAKE		10 01 30.0	+13
W39A	comp=Z,4μm,22.0s			LR	LR		
W39A	**Magazine**	**80.70**	**349**	P	**P**	**10 01 17.5**	**+0.2**
	baz=171						
V46A	**Holladay**	**80.71**	**354**	P	**P**	**10 01 16.8**	**-0.5**
	baz=175						
U56A	**King**	**80.98**	**0**	P	**P**	**10 01 18.3**	**-0.4**
	baz=180						
U53A	**Fall Branch**	**81.01**	**358**	P	**P**	**10 01 18.1**	**-0.9**
	baz=179						
WVT	**Waverly**	**81.02**	**354**	*eP*	**P**	**10 01 17.7**	**-1.2**
	comp=Z,69nm,1.6s						
WVT	**Waverly**	**81.02**	**354**	*eP*	**P**	**10 01 17.7**	**-1.2**
WVT	comp=Z,69nm,1.6s			pmax	pmax		
WVT	**Waverly**	**81.02**	**354**	P	**P**	**10 01 18.6**	**-0.4**
	baz=175						
U59A	**Littleton**	**81.03**	**2**	PFAKE		10 01 30.0	+11
U59A	comp=Z,4μm,21.0s			LR	LR		
U59A	**Littleton**	**81.03**	**2**	P	**P**	**10 01 18.7**	**-0.3**
	baz=182						
WMOK	**Wichita Mounta**	**81.05**	**345**	PFAKE		10 01 30.0	+11
WMOK	comp=Z,2μm,22.0s			LR	LR		
WMOK	**Wichita Mounta**	**81.05**	**345**	P	**P**	**10 01 18.8**	**-0.4**
	baz=167,SNR=18						
U58A	**Oxford**	**81.05**	**2**	P	**P**	**10 01 18.5**	**-0.6**
	baz=182						
U61A	**Possum Corner**	**81.06**	**3**	PFAKE		10 01 30.0	+11
U61A	comp=Z,4μm,21.0s			LR	LR		
U61A	**Possum Corner**	**81.06**	**3**	P	**P**	**10 01 18.9**	**-0.2**
	baz=183						
U52A	**Thorn Hill**	**81.06**	**358**	P	**P**	**10 01 18.7**	**-0.6**
	baz=178						
U51A	**La Follette**	**81.06**	**357**	P	**P**	**10 01 18.6**	**-0.7**
	baz=178						
U57A	**Blanch**	**81.07**	**1**	P	**P**	**10 01 18.7**	**-0.5**
	baz=181						
MSTX	**Muleshoe**	**81.11**	**342**	P	**P**	**10 01 19.0**	**-0.7**
	baz=164						
U50A	**Jamestown**	**81.13**	**357**	P	**P**	**10 01 18.9**	**-0.7**
	baz=177						
U55A	**TA2, Sparta**	**81.13**	**360**	P	**P**	**10 01 19.3**	**-0.4**
	baz=180						
U54A	**Nelsons Funny**	**81.16**	**359**	PFAKE		10 01 30.0	+10
U54A	comp=Z,4μm,22.0s			LR	LR		
U54A	**Nelsons Funny**	**81.16**	**359**	P	**P**	**10 01 18.7**	**-1.1**
	baz=179						
U60A	**Pendleton**	**81.17**	**3**	P	**P**	**10 01 19.0**	**-0.7**
	baz=183						
TZTN	**Tazewell**	**81.21**	**358**	PFAKE		10 01 30.0	+10
TZTN	comp=Z,5μm,21.0s			LR	LR		
TZTN	**Tazewell**	**81.21**	**358**	P	**P**	**10 01 19.1**	**-0.9**
	baz=178						
U46A	**Springville**	**81.27**	**354**	P	**P**	**10 01 19.3**	**-0.9**
	baz=175						
U49A	**Red Boiling Sp**	**81.27**	**356**	P	**P**	**10 01 19.7**	**-0.6**
	baz=176,SNR=9.5						
U47A	**Clarksville**	**81.29**	**355**	P	**P**	**10 01 19.6**	**-0.8**
	baz=175,SNR=15						
U48A	**Cassie Pea, Po**	**81.31**	**355**	P	**P**	**10 01 19.7**	**-0.8**
	baz=176						
T58A	**Grand View Acr**	**81.60**	**2**	P	**P**	**10 01 21.5**	**-0.5**
	baz=182						
T53A	**Wise**	**81.63**	**359**	P	**P**	**10 01 21.4**	**-0.8**
	baz=179						
T57A	**Hurt**	**81.64**	**1**	PFAKE		10 01 30.0	+7.8
T57A	comp=Z,3μm,19.0s			LR	LR		
T57A	**Hurt**	**81.64**	**1**	P	**P**	**10 01 21.5**	**-0.7**
	baz=181						
T51A	**Gray**	**81.65**	**357**	P	**P**	**10 01 21.8**	**-0.5**
	baz=178						
T59A	**Double "B" Far**	**81.65**	**3**	PFAKE		10 01 30.0	+7.7
T59A	comp=Z,3μm,18.0s			LR	LR		
T56A	**Rocky Mt**	**81.66**	**1**	P	**P**	**10 01 21.7**	**-0.7**
	baz=180						
TUC	**Tucson**	**81.66**	**335**	P	**P**	**10 01 21.8**	**-0.8**
	baz=159						
TUL1	**Leonard**	**81.69**	**348**	PFAKE		10 01 30.0	+7.5
TUL1	comp=Z,2μm,19.0s			LR	LR		
TUL1	**Leonard**	**81.69**	**348**	P	**P**	**10 01 21.9**	**-0.6**
	baz=169,SNR=7.5						
T54A	**Tazewell**	**81.69**	**359**	P	**P**	**10 01 22.6**	**0.0**
	baz=179						
OK024	**West corner E0**	**81.71**	**347**	*eP*	**P**	**10 01 22.6**	**0.0**
	comp=Z,96nm,1.6s						
U40A	**Yellville**	**81.73**	**350**	P	**P**	**10 01 22.1**	**-0.6**
	baz=171,SNR=9.0						
T50A	**Nancy**	**81.73**	**357**	P	**P**	**10 01 22.3**	**-0.4**
	baz=177						
T55A	**Pulaski**	**81.75**	**360**	P	**P**	**10 01 22.5**	**-0.3**
	baz=180						
AMTX	**Amarillo**	**81.76**	**343**	P	**P**	**10 01 23.0**	**0.0**
	baz=165						
T52A	**Hallie**	**81.76**	**358**	PFAKE		10 01 30.0	+7.1
T52A	comp=Z,6μm,21.0s			LR	LR		
T52A	**Hallie**	**81.76**	**358**	P	**P**	**10 01 22.4**	**-0.5**
	baz=178						
HHAR	**Hobbs**	**81.79**	**349**	PFAKE		10 01 30.0	+6.9
HHAR	comp=Z,3μm,21.0s			LR	LR		
T47A	**Sharon Grove**	**81.82**	**355**	PFAKE		10 01 30.0	+6.8
T47A	comp=Z,3μm,21.0s			LR	LR		
T47A	**Sharon Grove**	**81.82**	**355**	P	**P**	**10 01 21.0**	**-2.2**
	baz=175,SNR=6.6						
BLA	**Blacksburg**	**81.84**	**0**	PFAKE		10 01 30.0	+6.6
BLA	comp=Z,3μm,21.0s			LR	LR		
T60A	**Surry**	**81.85**	**3**	PFAKE		10 01 30.0	+6.7
T60A	comp=Z,3μm,19.0s			LR	LR		
T49A	**Edmonton**	**81.85**	**356**	PFAKE		10 01 30.0	+6.7
T49A	comp=Z,5μm,22.0s			LR	LR		
T49A	**Edmonton**	**81.85**	**356**	P	**P**	**10 01 22.7**	**-0.6**
	baz=177						
PBMO	**Poplar Bluff**	**81.88**	**352**	*eP*	**P**	**10 01 23.2**	**-0.3**
	comp=Z,38nm,1.2s						
T48A	**Bowling Green**	**81.90**	**355**	P	**P**	**10 01 22.8**	**-0.8**
	baz=176						
T46A	**Princeton**	**81.93**	**354**	P	**P**	**10 01 23.0**	**-0.7**
	baz=175,SNR=9.9						
214A	**Organ Pipe Nat**	**81.97**	**333**	P	**P**	**10 01 23.6**	**-0.5**
	baz=158						
BNM	**Barren Site**	**82.22**	**339**	*eP*	**P**	**10 01 25.9**	**+0.2**
S58A	**Poland Farm, P**	**82.28**	**2**	*eP*	**P**	**10 01 25.5**	**0.0**
S58A	comp=Z,36nm,1.3s			LR	LR		
S58A	**Poland Farm, P**	**82.28**	**2**	P	**P**	**10 01 25.6**	**0.0**
	baz=182						
S51A	**Beattyville**	**82.31**	**358**	PFAKE		10 01 40.0	+14
S51A	comp=Z,7μm,22.0s			LR	LR		
S51A	**Beattyville**	**82.31**	**358**	P	**P**	**10 01 25.1**	**-0.6**
	baz=178						
S56A	**Natural Bridge**	**82.31**	**1**	P	**P**	**10 01 25.0**	**-0.8**
	baz=181						
S53A	**Williamson**	**82.32**	**359**	P	**P**	**10 01 25.1**	**-0.8**
	baz=179						
TSUM	**Tsumeb**	**82.33**	**109**	PFAKE		10 01 40.0	+13
TSUM	comp=Z,5μm,20.0s			LR	LR		
S50A	**Richmond**	**82.37**	**357**	P	**P**	**10 01 25.6**	**-0.5**
	baz=177						
S55A	**Lewisburg**	**82.40**	**0**	P	**P**	**10 01 25.7**	**-0.6**
	baz=180						
S57A	**Dark Hollow, R**	**82.40**	**1**	*eP*	**P**	**10 01 24.8**	**-1.4**
	comp=Z,33nm,1.3s						
S57A	comp=Z,3μm,20.0s			LR	LR		
S57A	**Dark Hollow, R**	**82.40**	**1**	P	**P**	**10 01 25.3**	**-1.0**
	baz=181						
S47A	**Hartford**	**82.41**	**355**	P	**P**	**10 01 25.2**	**-1.0**
	baz=176						
S48A	**Wiedeman Farm,**	**82.43**	**356**	P	**P**	**10 01 25.9**	**-0.5**
	baz=176						
S49A	**Springfield**	**82.52**	**356**	P	**P**	**10 01 26.0**	**-0.8**
	baz=177						
TAU	**Tasmania Unive**	**82.55**	**213**	PFAKE		10 01 40.0	+13
TAU	comp=Z,2μm,22.0s			LR	LR		
S46A	**Don Dixon Farm**	**82.55**	**354**	P	**P**	**10 01 26.0**	**-1.0**
	baz=175						
S45A	**Carrier Mills**	**82.61**	**354**	P	**P**	**10 01 26.7**	**-0.6**
	baz=174						
R58B	**Mineral**	**82.63**	**2**	PFAKE		10 01 40.0	+13
R58B	comp=Z,3μm,22.0s			LR	LR		
R58B	**Mineral**	**82.63**	**2**	P	**P**	**10 01 26.3**	**-1.1**
	baz=182						
S44A	**Carbondale**	**82.68**	**353**	P	**P**	**10 01 27.1**	**-0.6**
	baz=174,SNR=9.5						
R54A	**Victor**	**82.81**	**360**	P	**P**	**10 01 27.6**	**-0.8**
	baz=180						
S41A	**Jillco Farms,**	**82.82**	**351**	P	**P**	**10 01 28.1**	**-0.3**
	baz=172,SNR=8.2						
USIN	**University of**	**82.83**	**354**	PFAKE		10 01 40.0	+12
USIN	comp=Z,2μm,20.0s			LR	LR		
CBN	**Corbin Frederi**	**82.89**	**3**	PFAKE		10 01 40.0	+11
CBN	comp=Z,4μm,21.0s			LR	LR		
CBN	**Corbin Frederi**	**82.89**	**3**	P	**P**	**10 01 28.7**	**0.0**
	baz=182						
R59A	**King George, V**	**82.89**	**3**	P	**P**	**10 01 28.6**	**-0.1**
	baz=183						
R55A	**Marlinton**	**82.91**	**0**	PFAKE		10 01 40.0	+11
R55A	comp=Z,3μm,20.0s			LR	LR		
R55A	**Marlinton**	**82.91**	**0**	P	**P**	**10 01 28.7**	**-0.3**
	baz=180						
ANMO	**Albuquerque**	**82.93**	**339**	*eP*	**P**	**10 01 28.2**	**-1.1**
	comp=Z,25nm,1.0s						
ANMO	**Albuquerque**	**82.93**	**339**	*eP*	**P**	**10 01 28.2**	**-1.1**
ANMO	comp=Z,25nm,1.0s			pmax	pmax		
ANMO	**Albuquerque**	**82.93**	**339**	P	**P**	**10 01 29.4**	**0.0**
	baz=162						
TASM	**ASL Pad, Albuq**	**82.93**	**339**	P	**P**	**10 01 29.8**	**+0.5**
	baz=162,SNR=8.6						
TASM	**ASL Pad, Albuq**	**82.93**	**339**	P	**P**	**10 01 29.6**	**+0.3**
	baz=162,SNR=9.0						
R57A	**Stanardsville**	**82.95**	**2**	P	**P**	**10 01 29.0**	**-0.1**
	baz=182						
R58A	**Rapidan**	**82.96**	**2**	P	**P**	**10 01 28.7**	**-0.4**
	baz=182						
R53A	**Hurricane**	**82.97**	**359**	PFAKE		10 01 40.0	+11
R53A	comp=Z,5μm,21.0s			LR	LR		
R53A	**Hurricane**	**82.97**	**359**	P	**P**	**10 01 28.4**	**-0.7**
	baz=179						
R51A	**Hillsboro**	**82.97**	**358**	P	**P**	**10 01 28.8**	**-0.4**
	baz=178						
R50A	**Paris**	**82.97**	**357**	P	**P**	**10 01 28.4**	**-0.7**
	baz=177						
R52A	**Catlettsburg**	**82.98**	**358**	P	**P**	**10 01 28.3**	**-1.0**
	baz=179						
WCI	**Wyandotte Cave**	**83.01**	**356**	*eP*	**P**	**10 01 29.8**	**+0.5**
	comp=Z,61nm,1.8s						
WCI	**Wyandotte Cave**	**83.01**	**356**	P	**P**	**10 01 29.9**	**+0.5**
R49A	**Shelbyville**	**83.02**	**356**	P	**P**	**10 01 28.4**	**-0.9**
	baz=177						
R46A	**Gibon Southern**	**83.06**	**355**	P	**P**	**10 01 28.6**	**-1.0**
	baz=175						
FVM	**French Village**	**83.07**	**352**	*eP*	**P**	**10 01 28.9**	**-0.8**
FVM	comp=Z,36nm,1.3s			LR	LR		
FVM	**French Village**	**83.07**	**352**	*eP*	**P**	**10 01 28.9**	**-0.8**
FVM	comp=Z,37nm,1.3s			pmax	pmax		
FVM	comp=Z,3μm,21.0s			MLR	MLR		
R47A	**Wooly Knot Far**	**83.09**	**355**	P	**P**	**10 01 28.5**	**-1.3**
	baz=176						
R48A	**Northridge Ran**	**83.16**	**356**	P	**P**	**10 01 29.3**	**-0.8**
	baz=176						
R45A	**Skylar, Fairfi**	**83.20**	**354**	P	**P**	**10 01 29.4**	**-0.9**
	baz=175						
CCM	**Cathedral Cave**	**83.23**	**352**	*eP*	**P**	**10 01 29.0**	**-1.5**
CCM	comp=Z,65nm,1.0s			LR	LR		
CCM	**Cathedral Cave**	**83.23**	**352**	*eP*	**P**	**10 01 29.0**	**-1.5**
CCM	comp=Z,65nm,1.0s			pmax	pmax		
CCM	comp=Z,4μm,22.0s			MLR	MLR		
CCM	**Cathedral Cave**	**83.23**	**352**	P	**P**	**10 01 29.5**	**-0.9**
	baz=172						
LBTB	**Lobatse**	**83.37**	**119**	*eP*	**P**	**10 01 31.0**	**-1.0**
	comp=Z,106nm,1.5s						
LBTB	**Lobatse**	**83.37**	**119**	*eP*	**P**	**10 01 31.0**	**-1.0**
LBTB	comp=Z,106nm,1.5s			pmax	pmax		
R41A	**Rosebud**	**83.48**	**352**	P	**P**	**10 01 31.1**	**-0.7**
	baz=172,SNR=10						
X18A	**Snowflake**	**83.49**	**336**	*eP*	**P**	**10 01 34.4**	**+2.3**
	comp=Z,47nm,1.4s						

Q53A	Leroy	83.49	359	P	P	10 01 31.0	-0.8
	baz=179						
Q50A	Georgetown	83.52	357	P	P	10 01 31.4	-0.6
	baz=178						
Q54A	Coxs Mills	83.61	360	PFAKE		10 01 40.0	+7.6
Q54A				LR	LR		
	comp=Z,3μm,22.0s						
Q54A	Coxs Mills	83.61	360	P	P	10 01 32.0	-0.4
	baz=180						
Q55A	Buckhannon	83.62	1	P	P	10 01 32.0	-0.6
	baz=180						
OLIL	Olney	83.62	354	PFAKE		10 01 40.0	+7.5
OLIL				LR	LR		
	comp=Z,3μm,22.0s						
GLA	Glamis	83.64	332	P	P	10 01 31.9	-0.9
	baz=156						
Q48A	North Vernon	83.68	356	P	P	10 01 31.7	-1.0
	baz=176						
Q51A	Peebles	83.69	358	PFAKE		10 01 40.0	+7.2
Q51A				LR	LR		
	comp=Z,5μm,20.0s						
Q51A	Peebles	83.69	358	P	P	10 01 32.1	-0.7
	baz=178						
Q57A	Strasburg	83.69	2	P	P	10 01 31.2	-1.7
	baz=182						
SLM	Saint Louis	83.70	353	PFAKE		10 01 40.0	+7.1
SLM				LR	LR		
	comp=Z,2μm,20.0s						
IKP	In-Ko-Pah, Jac	83.72	331	P	P	10 01 32.3	-1.0
	baz=156						
Q49A	Aurora	83.72	357	P	P	10 01 32.1	-0.8
	baz=177						
Q47A	Bedord North L	83.72	356	P	P	10 01 31.7	-1.3
	baz=176						
Q45A	Warren Harvey,	83.79	354	P	P	10 01 32.1	-1.3
	baz=175,SNR=9.7						
X16A	Lo Mia Camp, P	83.82	335	eP	P	10 01 34.0	+0.1
	comp=Z,23nm,1.3s						
SWSC	Sam W. Stewart	83.88	331	P	P	10 01 32.4	-1.5
	baz=156						
BAR	Barrett	83.94	330	PFAKE		10 01 50.0	+16
BAR				LR	LR		
	comp=Z,1μm,19.0s						
MONP2	Monument Peak	84.04	330	P	P	10 01 33.4	-1.7
	baz=155						
SDMD	Soldier's Deli	84.11	3	eP	P	10 01 34.4	-0.5
	comp=Z,18nm,1.2s						
P53A	Whipple	84.11	359	PFAKE		10 01 50.0	+15
P53A				LR	LR		
	comp=Z,4μm,21.0s						
P53A	Whipple	84.11	359	P	P	10 01 34.7	-0.3
	baz=180						
P51A	Williamsport	84.13	358	PFAKE		10 01 50.0	+15
P51A				LR	LR		
	comp=Z,6μm,22.0s						
P51A	Williamsport	84.13	358	P	P	10 01 34.2	-0.9
	baz=178						
P55A	Reedsville	84.14	1	P	P	10 01 34.4	-0.8
	baz=181						
Y12C	Blythe	84.18	332	eP	P	10 01 35.6	+0.1
	comp=Z,34nm,1.3s						
Y12C	Blythe	84.18	332	P	P	10 01 34.3	-1.2
	baz=157						
P48A	Milroy	84.19	356	P	P	10 01 34.3	-1.1
	baz=177						
P49A	Miami Univ. Ec	84.24	357	P	P	10 01 34.4	-1.2
	baz=177						
P47A	Martinsville	84.26	356	P	P	10 01 34.8	-0.9
	baz=176						
P52A	Corning	84.27	359	P	P	10 01 35.1	-0.7
	baz=179						
P50A	Jamestown	84.28	358	P	P	10 01 35.2	-0.6
	baz=178						
109C	Camp Elliot, M	84.28	330	P	P	10 01 35.5	-0.5
	baz=155						
MCWV	Mont Chateau	84.29	1	eP	P	10 01 35.5	-0.4
	comp=Z,32nm,1.6s						
MCWV				LR	LR		
	comp=Z,2μm,22.0s						
MCWV	Mont Chateau	84.29	1	P	P	10 01 35.3	-0.6
	baz=181						
P59A	Jarrettsville	84.32	3	P	P	10 01 35.4	-0.6
	baz=183						
LIC	Lamto	84.36	75	eP	P	10 01 35.3	-1.6
	comp=Z,193nm,1.6s						
P45A	Graceland, Par	84.39	355	eP	P	10 01 35.9	-0.5
	comp=Z,76nm,1.4s						
P45A	Graceland, Par	84.39	355	P	P	10 01 35.2	-1.2
	baz=175						
BC3	Big Chuckawall	84.40	331	P	P	10 01 34.9	-1.9
	baz=156						
T25A	Trinidad	84.52	341	P	P	10 01 36.3	-1.1
	baz=163						
P60A	Greenville	84.56	4	P	P	10 01 35.7	-1.5
	baz=184						
P43A	Skaggs, Pawnee	84.64	353	P	P	10 01 36.0	-1.6
	baz=174						
KIC	Kosan Boka	84.65	76	eP	P	10 01 36.0	-2.4
	comp=Z,252nm,1.6s						
TIC	Toumodi	84.66	75	eP	P	10 01 37.8	-0.7
PFO	Pinyon Flats O	84.71	331	eP	P	10 01 38.9	+0.6
	comp=Z,92nm,1.8s						
PFO	Pinyon Flats O	84.71	331	P	P	10 01 36.4	-1.9
	baz=156						
PFO	Pinyon Flats O	84.71	331	P	P	10 01 36.8	-1.6
	baz=140,slow=4.6						
MVL	Millersville	84.72	3	eP	P	10 01 37.9	-0.1
	comp=Z,46nm,1.4s						
O52A	Adamsville	84.75	359	eP	P	10 01 37.6	-0.6
	comp=Z,51nm,1.5s						
O52A				LR	LR		
	comp=Z,3μm,19.0s						
O52A	Adamsville	84.75	359	P	P	10 01 36.8	-1.4
	baz=179						
IRM	Iron Mountain	84.76	332	P	P	10 01 36.9	-1.6
	baz=156						
DBIC	Dimbokro	84.80	75	eP	P	10 01 38.4	-0.7
	comp=Z,86nm,1.4s						
DBIC	Dimbokro	84.80	75	eP	P	10 01 38.4	-0.7
DBIC				pmax	pmax		
	comp=Z,87nm,1.4s						
DBIC	Dimbokro	84.80	75	P	P	10 01 37.7	-1.4
	comp=Z,14nm,0.9s,baz=189,slow=7.2,SNR=6.8						
DBIC				LR	LR	10 32 58.8	
	comp=Z,5μm,21.9s,baz=201,slow=31						
O54A	Avella	84.81	0	P	P	10 01 36.7	-1.8
	baz=180						
O50A	Cable	84.81	358	P	P	10 01 37.1	-1.4
	baz=178						
WUAZ	Wupatki	84.82	335	eP	P	10 01 38.1	-0.8
	comp=Z,54nm,1.5s						
WUAZ	Wupatki	84.82	335	P	P	10 01 38.5	-0.4
	baz=159,SNR=5.6						
O55A	Ligonier	84.84	1	P	P	10 01 38.3	-0.4
	baz=181						
O49A	Covington	84.87	357	PFAKE		10 01 50.0	+11
O49A				LR	LR		
	comp=Z,7μm,22.0s						
O49A	Covington	84.87	357	P	P	10 01 37.8	-1.1
	baz=177						
O53A	New Philadelph	84.88	360	P	P	10 01 38.0	-0.8
	baz=180						
ACSO	Alum Creek Sta	84.88	358	PFAKE		10 01 50.0	+11
ACSO				LR	LR		
	comp=Z,6μm,21.0s						
ACSO	Alum Creek Sta	84.88	358	P	P	10 01 38.0	-0.8
	baz=178						
O56A	Blue Knob Stat	84.91	2	PFAKE		10 01 50.0	+11
O56A				LR	LR		
	comp=Z,3μm,22.0s						
O56A	Blue Knob Stat	84.91	2	P	P	10 01 38.9	-0.2
	baz=182						
KSU1	Kansas State U	84.94	348	PFAKE		10 01 50.0	+11
KSU1				LR	LR		
	comp=Z,2μm,20.0s						
O48A	Farmland	84.97	357	P	P	10 01 38.4	-0.9
	baz=177						
O47A	Sheridan	85.00	356	P	P	10 01 38.3	-1.2
	baz=176						
O59A	Robesonia	85.03	3	P	P	10 01 38.2	-1.4
	baz=183						
O44A	Mansfield	85.06	354	P	P	10 01 38.8	-0.9
	baz=174						
O60A	Telford	85.08	4	P	P	10 01 39.3	-0.5
	baz=184						
O45A	Potomac	85.11	355	P	P	10 01 39.2	-0.8
	baz=175						
CBKS	Cedar Bluff	85.18	345	eP	P	10 01 41.1	+0.6
	comp=Z,187nm,1.4s						
CBKS				LR	LR		
	comp=Z,3μm,22.0s						
CBKS	Cedar Bluff	85.18	345	eP	P	10 01 41.1	+0.6
CBKS				pmax	pmax		
	comp=Z,187nm,1.4s						
CBKS				MLR	MLR		
	comp=Z,3μm,22.0s						
CBKS	Cedar Bluff	85.18	345	P	P	10 01 40.6	+0.1
	baz=167						
SFIN	Lafayette	85.19	355	eP	P	10 01 38.7	-1.7
	comp=Z,44nm,1.4s						
SFIN	Lafayette	85.19	355	P	P	10 01 39.0	-1.4
	baz=176						
SSPA	Standing Stone	85.30	2	PFAKE		10 01 50.0	+9.1
SSPA				LR	LR		
	comp=Z,3μm,22.0s						
SDCO	Great Sand Dun	85.36	341	eP	P	10 01 41.8	+0.1
	comp=Z,19nm,1.6s						
N55A	Marion Center	85.42	1	eP	P	10 01 41.2	-0.4
	comp=Z,83nm,1.8s						
N55A				LR	LR		
	comp=Z,3μm,22.0s						
N55A	Marion Center	85.42	1	P	P	10 01 40.4	-1.2
	baz=181						
N50A	Nevada	85.42	358	P	P	10 01 40.8	-0.7
	baz=178						
N53A	Lisbon	85.43	360	PFAKE		10 01 50.0	+8.4
N53A				LR	LR		
	comp=Z,3μm,21.0s						
N53A	Lisbon	85.43	360	P	P	10 01 40.5	-1.1
	baz=180						
BBRC	Big Bear Solar	85.46	331	P	P	10 01 40.7	-1.5
	baz=155						
BRNJ	Basking Ridge	85.48	5	PFAKE		10 01 50.0	+8.2
BRNJ				LR	LR		
	comp=Z,4μm,22.0s						
HDIL	Hopedale	85.53	353	eP	P	10 01 40.5	-1.6
	comp=Z,30nm,0.8s						
HDIL	Hopedale	85.53	353	P	P	10 01 41.7	-0.4
	baz=174						
N51A	Ashland	85.55	359	eP	P	10 01 40.7	-1.5
	comp=Z,34nm,1.2s						
N51A				LR	LR		
	comp=Z,5μm,20.0s						
N51A	Ashland	85.55	359	P	P	10 01 41.5	-0.7
	baz=179						
N48A	Decatur	85.57	357	P	P	10 01 42.4	+0.1
	baz=177						
N54A	Moraine State	85.59	1	eP	P	10 01 41.8	-0.6
	comp=Z,45nm,1.5s						
N54A				LR	LR		
	comp=Z,3μm,20.0s						
N54A	Moraine State	85.59	1	P	P	10 01 42.0	-0.4
	baz=180						
N49A	Columbus Grove	85.60	357	eP	P	10 01 41.1	-1.3
	comp=Z,42nm,1.6s						
N49A				LR	LR		
	comp=Z,6μm,22.0s						
N49A	Columbus Grove	85.60	357	P	P	10 01 41.4	-1.0
	baz=178						
N47A	Urbana	85.62	356	P	P	10 01 41.3	-1.3
	baz=176						
CPNY	Central Park	85.63	5	PFAKE		10 01 50.0	+7.5
CPNY				LR	LR		
	comp=Z,4μm,20.0s						
N59A	State Game Lan	85.66	4	eP	P	10 01 42.2	-0.5
	comp=Z,51nm,1.4s						
N59A	State Game Lan	85.66	4	P	P	10 01 42.6	-0.1
	baz=184						
N44A	Piper City	85.68	354	P	P	10 01 42.2	-0.6
	baz=175						
S22A	4UR Ranch, Cre	85.68	340	P	P	10 01 42.1	-1.2
	baz=162						
N45A	Keland	85.69	355	P	P	10 01 42.3	-0.6
	baz=175						
N46A	Monticello	85.69	355	P	P	10 01 42.7	-0.1
	baz=176						
HEC	Hector,Ludlow	85.77	331	P	P	10 01 43.9	+0.3
	baz=156						
N41A	Harden Midland	85.81	352	P	P	10 01 42.9	-0.6
	baz=173						
PAL	Palisades	85.85	5	PFAKE		10 01 50.0	+6.4
PAL				LR	LR		
	comp=Z,4μm,20.0s						
PAL	Palisades	85.85	5	P	P	10 01 43.5	-0.2
	baz=185						
ODNJ	Ogdensburg	85.88	5	eP	P	10 01 42.9	-0.9
	comp=Z,18nm,1.0s						
ODNJ				LR	LR		
	comp=Z,4μm,20.0s						
N43A	Stutzman Famil	85.90	354	P	P	10 01 43.5	-0.4
	baz=174						
KSCO	Kaye Shedlock'	85.93	343	P	P	10 01 43.9	-0.4
	baz=165						
U15A	North Rim	85.94	335	eP	P	10 01 45.5	+0.9
	comp=Z,33nm,1.7s						
M50A	Fremont	86.05	358	PFAKE		10 02 00.0	+15
M50A				LR	LR		
	comp=Z,5μm,22.0s						
M50A	Fremont	86.05	358	P	P	10 01 44.1	-0.6
	baz=178						
N40A	Mertquake, Sal	86.06	352	P	P	10 01 44.4	-0.4
	baz=172						
M53A	WI Miller and	86.06	0	P	P	10 01 44.0	-0.7
	baz=180						
M55A	Ridgway	86.11	1	P	P	10 01 44.6	-0.4
	baz=181						
M54A	Oil Creek Stat	86.14	1	PFAKE		10 02 00.0	+15
M54A				LR	LR		
	comp=Z,3μm,20.0s						
M54A	Oil Creek Stat	86.14	1	P	P	10 01 45.5	+0.4
	baz=181						
M49A	Liberty Center	86.15	358	P	P	10 01 44.0	-1.2
	baz=178						
M52A	Chesterland	86.17	360	PFAKE		10 02 00.0	+15
M52A				LR	LR		
	comp=Z,3μm,22.0s						
M46A	Old House Fiel	86.18	356	PFAKE		10 02 00.0	+15
M46A				LR	LR		
	comp=Z,4μm,21.0s						
M48A	Edgerton	86.18	357	PFAKE		10 02 00.0	+15
M48A				LR	LR		
	comp=Z,5μm,20.0s						
YLE	Yale	86.22	6	PFAKE		10 02 00.0	+15
YLE				LR	LR		
	comp=Z,4μm,19.0s						
M44A	Midewin, Midew	86.26	354	eP	P	10 01 43.4	-2.2
	comp=Z,46nm,1.4s						
M44A				LR	LR		
	comp=Z,3μm,21.0s						
M44A	Midewin, Midew	86.26	354	P	P	10 01 45.0	-0.7
	baz=175						
ALLY	Alegheny Colle	86.27	0	eP	P	10 01 44.8	-1.0
	comp=Z,87nm,1.7s						
GSC	Goldstone, Bar	86.36	331	eP	P	10 01 45.7	-0.8
	comp=Z,49nm,1.5s						
GSC	Goldstone, Bar	86.36	331	eP	P	10 01 45.7	-0.8
GSC				pmax	pmax		
	comp=Z,49nm,1.5s						
GSC	Goldstone, Bar	86.36	331	P	P	10 01 45.7	-0.8
	baz=155						
PLIO	Pelee Island,	86.39	359	P	P	10 01 46.2	-0.1
	baz=179						
EDW2	Edwards Air Fo	86.39	330	P	P	10 01 45.7	-0.9
	baz=155						
Q24A	Divide	86.44	341	P	P	10 01 47.0	-0.1
	baz=163,SNR=5.6						
PV01	Paradox Valley	86.49	338	eP	P	10 01 48.7	+1.4
	comp=Z,18nm,1.1s						
PV01				LR	LR		
	comp=Z,3μm,21.0s						
PV13	Radium Mtn., P	86.58	338	PFAKE		10 02 00.0	+12
PV13				LR	LR		
	comp=Z,3μm,22.0s						
KSCT	Kent School, K	86.59	5	PFAKE		10 02 00.0	+13
KSCT				LR	LR		
	comp=Z,4μm,21.0s						
KNB	Kanab	86.65	335	eP	P	10 01 50.3	+2.4
	comp=Z,98nm,1.8s						
KNB	Kanab	86.65	335	eP	P	10 01 50.3	+2.4
KNB				pmax	pmax		
	comp=Z,98nm,1.8s						
PV03	Paradox Valley	86.68	338	eP	P	10 01 49.4	+1.3
	comp=Z,40nm,1.5s						
PV03				LR	LR		
	comp=Z,3μm,21.0s						
L50A	Kingsville	86.69	358	P	P	10 01 47.3	-0.5
	baz=178						
L47A	Sherwood	86.69	357	P	P	10 01 47.2	-0.6
	baz=177						
PV11	David Mesa, Pa	86.72	338	eP	P	10 01 48.3	0.0
	comp=Z,32nm,1.3s						
PV17	East Wray Mesa	86.73	338	PFAKE		10 02 00.0	+12
PV17				LR	LR		
	comp=Z,3μm,22.0s						
ERPA	Erie	86.74	1	PFAKE		10 02 00.0	+12
ERPA				LR	LR		
	comp=Z,3μm,19.0s						
L46A	Eue Claire	86.78	356	PFAKE		10 02 00.0	+12
L46A				LR	LR		
	comp=Z,4μm,22.0s						
PV20	West Nyswonger	86.79	338	eP	P	10 01 49.4	+0.7
	comp=Z,34nm,1.6s						
L55A	Hinsdale	86.83	2	P	P	10 01 48.2	-0.3
	baz=182						
L54A	Sinclairville	86.87	1	P	P	10 01 48.6	-0.1
	baz=181						
PV23	Carpenter Ridg	86.91	338	eP	P	10 01 49.4	+0.1
	comp=Z,44nm,1.4s						
SHPR	Sheep Range	86.91	333	eP	P	10 01 49.7	+0.5
	comp=Z,58nm,1.7s						
SHPR				LR	LR		
	comp=Z,2μm,21.0s						
PV22	Blue Mesa, Par	86.92	338	eP	P	10 01 49.6	+0.3
	comp=Z,20nm,1.2s						
BINY	Binghamton	86.92	4	P	P	10 01 48.0	-1.0
	baz=183						
BRYW	Bryant College	86.93	7	PFAKE		10 02 00.0	+11
BRYW				LR	LR		
	comp=Z,4μm,20.0s						
AAM	Ann Arbor	86.96	358	PFAKE		10 02 00.0	+11
AAM				LR	LR		
	comp=Z,8μm,22.0s						
PV09	Paradox Valley	86.98	338	eP	P	10 01 50.5	+0.8
L42A	Oliver, Polo	87.00	353	PFAKE		10 02 00.0	+11
L42A				LR	LR		
	comp=Z,4μm,21.0s						
L42A	Oliver, Polo	87.00	353	P	P	10 01 49.0	-0.3
	baz=174						
PV21	Cone Mtn., Par	87.00	338	eP	P	10 01 49.7	0.0
L43A	Garden Prairie	87.10	354	P	P	10 01 49.4	-0.4
	baz=174						
L40A	Anamosa	87.19	352	P	P	10 01 49.9	-0.4
	baz=173						
QUA2	Belchertown	87.22	6	PFAKE		10 02 00.0	+10
QUA2				LR	LR		
	comp=Z,4μm,22.0s						
SCIA	State Center	87.25	351	P	P	10 01 49.9	-0.6
	baz=171						
ISA	Isabella, Lake	87.27	330	eP	P	10 01 52.6	+1.7
	comp=Z,71nm,2.0s						
ISA	Isabella, Lake	87.27	330	eP	P	10 01 52.6	+1.7
ISA				pmax	pmax		
	comp=Z,71nm,2.0s						
MPMC	Manual Prospec	87.28	331	P	P	10 01 50.2	-0.9
	baz=155						
L39A	Vinton	87.33	352	P	P	10 01 50.5	-0.4
	baz=172						
ISCO	Idaho Springs	87.34	341	P	P	10 01 51.0	-0.4
	baz=163						
BCX	Boston College	87.38	7	PFAKE		10 02 00.0	+8.9
BCX				LR	LR		
	comp=Z,3μm,20.0s						
K55A	Perry	87.38	2	P	P	10 01 50.6	-0.5
	baz=182						
MMNY	Mt. Morris Dam	87.39	2	eP	P	10 01 48.7	-2.4
	comp=Z,94nm,1.5s						
MMNY				LR	LR		
	comp=Z,3μm,22.0s						
K52A	Tillsonburg	87.40	0	P	P	10 01 50.7	-0.5
	baz=180						
MTPU	Mount Pierson	87.41	336	eP	P	10 01 52.3	+0.5
	comp=Z,70nm,2.0s						
WES	Weston	87.41	7	PFAKE		10 02 00.0	+8.8
WES				LR	LR		
	comp=Z,4μm,20.0s						
K50A	Casco	87.41	359	PFAKE		10 02 00.0	+8.7
K50A				LR	LR		
	comp=Z,4μm,20.0s						
FURC	Furnace Creek,	87.44	332	P	P	10 01 50.5	-1.0
	baz=155						
BGNE	Belgrade	87.44	347	PFAKE		10 02 00.0	+8.5
BGNE				LR	LR		
	comp=Z,3μm,22.0s						
DAC	Darwin (Calif)	87.51	331	eP	P	10 01 52.7	+0.5
	comp=Z,71nm,1.9s						
DAC	Darwin (Calif)	87.51	331	eP	P	10 01 52.7	+0.5
DAC				pmax	pmax		
	comp=Z,71nm,1.9s						
HRV	Adam Dziewonsk	87.51	7	PFAKE		10 02 00.0	+8.3
HRV				LR	LR		
	comp=Z,4μm,20.0s						
TRY	Troy	87.58	5	PFAKE		10 02 00.0	+7.9
TRY				LR	LR		
	comp=Z,4μm,20.0s						
K43A	Burlington	87.59	354	eP	P	10 01 53.1	+1.0
	comp=Z,201nm,1.5s						
K43A	Burlington	87.59	354	P	P	10 01 52.2	+0.1
	baz=175						
TPNV	Topopah Spring	87.67	332	eP	P	10 01 53.7	+0.8
	comp=Z,82nm,1.8s						
TPNV				LR	LR		
	comp=Z,2μm,22.0s						
TPNV	Topopah Spring	87.67	332	eP	P	10 01 53.7	+0.8
TPNV				pmax	pmax		
	comp=Z,82nm,1.8s						
TPNV				MLR	MLR		
	comp=Z,2μm,22.0s						
OGNE	Ogallala	87.68	344	PFAKE		10 02 00.0	+7.3
OGNE				LR	LR		
	comp=Z,3μm,21.0s						
K42A	Prairie Point,	87.74	354	P	P	10 01 52.3	-0.5
	baz=174,SNR=8.8						
MEDO	Medina	87.81	2	PFAKE		10 02 00.0	+6.8
MEDO				LR	LR		
	comp=Z,3μm,21.0s						
MEDO	Medina	87.81	2	P	P	10 01 53.0	-0.2
	baz=182						
K40A	Colesburg	87.82	352	P	P	10 01 52.4	-0.8
	baz=173,SNR=6.2						
TOO	Toolangi	87.83	215	PFAKE		10 02 10.0	+16
TOO				LR	LR		
	comp=Z,3μm,20.0s						
CWC	Cottonwood Cre	87.83	331	P	P	10 01 52.2	-1.4
	baz=154						
MSU	Marysvale	87.84	336	eP	P	10 01 55.1	+1.4
MSU	Marysvale	87.84	336	eP	P	10 01 55.1	+1.4
J52A	Paris	87.86	0	P	P	10 01 52.7	-0.7
	baz=180						
J54A	Appleton	87.91	2	PFAKE		10 02 00.0	+6.4
J54A				LR	LR		
	comp=Z,2μm,21.0s						
J55A	Hilton	87.93	2	PFAKE		10 02 00.0	+6.3
J55A				LR	LR		
	comp=Z,3μm,22.0s						
J55A	Hilton	87.93	2	P	P	10 01 53.4	-0.3
	baz=182						
J47A	Sunmer	87.94	357	PFAKE		10 02 00.0	+6.2
J47A				LR	LR		
	comp=Z,6μm,22.0s						
J47A	Sunmer	87.94	357	P	P	10 01 53.4	-0.4
	baz=177						
JFWS	Jewell Farm	87.95	353	P	P	10 01 53.6	-0.3
	baz=173,SNR=9.6						
J48A	Bridge Port	87.96	358	PFAKE		10 02 00.0	+6.1
J48A				LR	LR		
	comp=Z,7μm,22.0s						
J48A	Bridge Port	87.96	358	P	P	10 01 53.4	-0.5
	baz=178						
PAGB	Antelope Grade	87.97	329	PFAKE		10 02 00.0	+5.8
PAGB				LR	LR		
	comp=Z,2μm,20.0s						
J49A	Marlette	88.01	358	P	P	10 01 53.0	-1.1
	baz=178						
GRAC	Grapevine Rang	88.08	331	P	P	10 01 53.7	-1.0
	baz=155						
J45A	Montague	88.20	356	PFAKE		10 02 10.0	+15
J45A				LR	LR		
	comp=Z,4μm,22.0s						
ACCN	Adirondack Com	88.23	5	PFAKE		10 02 10.0	+15
ACCN				LR	LR		
	comp=Z,4μm,20.0s						
ACTO	Acton	88.23	0	P	P	10 01 54.8	-0.4
	baz=180						

CAN	Canberra	88.25	219	PFAKE		10 02 10.0	+14	
CAN				LR	LR			
comp=Z,1μm,22.0s								
J42A	Columbus	88.26	354	P	P	10 01 53.4	-1.9	
baz=174,SNR=8.7								
J43A	Natural Harves	88.27	354	P	P	10 01 54.2	-1.2	
baz=175								
TMUT	Trail Mountain	88.29	337	eP	P	10 01 56.8	+0.8	
comp=Z,117nm,1.9s								
P17A	Butcher Ranch,	88.33	337	eP	P	10 01 57.0	+1.0	
comp=Z,60nm,1.5s								
PSUT	Pine Spring	88.36	335	eP	P	10 01 56.7	+0.5	
comp=Z,29nm,1.4s								
J41A	Loganville	88.38	353	P	P	10 01 54.0	-1.9	
baz=173								
I51A	Listowel	88.43	360	P	P	10 01 53.9	-2.2	
baz=180,SNR=7.0								
I53A	Kortright Cn E	88.45	1	P	P	10 01 55.8	-0.4	
baz=181								
N23A	Red Feather La	88.46	341	P	P	10 01 55.5	-1.2	
baz=162								
J40A	Soldiers Grove	88.47	353	P	P	10 01 55.3	-1.0	
baz=173								
J39A	Decorah	88.50	352	P	P	10 01 55.7	-0.7	
baz=172								
DRWO	Darlington Wes	88.51	1	P	P	10 01 55.7	-0.7	
baz=181								
DRCO	St. Marys Ceme	88.52	1	P	P	10 01 56.7	+0.2	
baz=181								
WLVO	Wesleyville	88.57	2	P	P	10 01 56.5	-0.3	
baz=182								
I49A	Point Hope	88.58	358	PFAKE		10 02 10.0	+13	
I49A				LR	LR			
comp=Z,4μm,21.0s								
PKRO	Pickering	88.60	1	P	P	10 01 56.4	-0.5	
baz=181								
PECO	Prince Edward	88.62	3	P	P	10 01 56.6	-0.4	
baz=183								
BASO	Ashfield	88.64	359	P	P	10 01 56.4	-0.6	
baz=179								
HNH	Hanover	88.65	6	PFAKE		10 02 10.0	+13	
HNH				LR	LR			
comp=Z,3μm,20.0s								
I52A	Shelburne	88.69	0	P	P	10 01 56.8	-0.5	
baz=180								
I47A	Gladwin	88.70	357	PFAKE		10 02 10.0	+13	
I47A				LR	LR			
comp=Z,6μm,22.0s								
R11A	Troy Canyon, C	88.73	333	eP	P	10 01 59.2	+1.3	
comp=Z,47nm,1.8s								
R11A				LR	LR			
comp=Z,2μm,20.0s								
R11A	Troy Canyon, C	88.73	333	P	P	10 01 58.1	+0.2	
baz=156								
PHWY	Pilot Hill	88.74	342	eP	P	10 01 56.8	-1.2	
comp=Z,38nm,1.3s								
BWLO	Walkerton	88.74	360	P	P	10 01 56.5	-1.1	
baz=180,SNR=7.8								
I43A	Langenfeld Bro	88.75	355	P	P	10 01 57.0	-0.6	
baz=175								
NCB	Newcomb	88.78	5	PFAKE		10 02 10.0	+12	
NCB				LR	LR			
comp=Z,3μm,20.0s								
I45A	Fountain	88.79	356	PFAKE		10 02 10.0	+12	
I45A				LR	LR			
comp=Z,4μm,22.0s								
I42A	Draeger Farm,	88.81	354	eP	P	10 01 57.4	-0.5	
comp=Z,33nm,1.0s								
I42A				LR	LR			
comp=Z,4μm,22.0s								
I42A	Draeger Farm,	88.81	354	P	P	10 01 57.3	-0.6	
baz=174								
I48A	Sherman Twp	88.85	358	P	P	10 01 57.9	-0.1	
baz=178								
I55A	Frankford	88.88	2	P	P	10 01 58.0	-0.2	
baz=182								
I40A	Norwalk	88.95	353	P	P	10 01 58.4	-0.2	
baz=173								
I39A	Houston	89.00	352	eP	P	10 01 57.5	-1.3	
comp=Z,62nm,1.2s								
I39A				LR	LR			
comp=Z,6μm,22.0s								
I39A	Houston	89.00	352	P	P	10 01 58.4	-0.4	
baz=172								
I41A	Arkdale	89.05	353	eP	P	10 01 58.1	-0.9	
comp=Z,88nm,1.7s								
I41A	Arkdale	89.05	353	P	P	10 01 58.6	-0.4	
baz=174								
MPU	Maple Canyon	89.08	337	eP	P	10 02 00.5	+1.0	
comp=Z,46nm,1.3s								
NLU	North Lily Min	89.15	336	eP	P	10 01 59.9	0.0	
comp=Z,77nm,1.5s								
DELO	Deloro Mine	89.18	2	P	P	10 01 59.0	-0.6	
baz=182								
LBNH	Lisbon	89.20	6	PFAKE		10 02 10.0	+10	
LBNH				LR	LR			
comp=Z,4μm,20.0s								
LBNH	Lisbon	89.20	6	P	P	10 01 59.7	0.0	
baz=186								
BMRO	Meriville Lake	89.22	360	P	P	10 01 58.7	-1.1	
baz=180,SNR=6.6								
H55A	Tweed	89.23	3	P	P	10 01 59.3	-0.5	
baz=182								
VT1	Waterbury	89.23	6	PFAKE		10 02 10.0	+10	
VT1				LR	LR			
comp=Z,4μm,22.0s								
MDPB	Devils Postpil	89.25	330	PFAKE		10 02 10.0	+10	
MDPB				LR	LR			
comp=Z,2μm,19.0s								
H52A	Wyevale	89.27	1	P	P	10 01 59.6	-0.4	
baz=181								
H56A	Elgin	89.30	3	P	P	10 01 60.0	-0.2	
baz=183								
H43A	Windswept, Lux	89.31	355	PFAKE		10 02 10.0	+10	
H43A				LR	LR			
comp=Z,3μm,21.0s								
H48A	Harrisville	89.35	358	PFAKE		10 02 10.0	+10	
H48A				LR	LR			
comp=Z,6μm,22.0s								
H48A	Harrisville	89.35	358	P	P	10 02 00.0	-0.4	
baz=178								
H42A	Shiocton	89.40	354	PFAKE		10 02 10.0	+9.4	
H42A				LR	LR			
comp=Z,4μm,21.0s								
SADO	Sadowa	89.40	1	eP	P	10 02 00.2	-0.4	
comp=Z,23nm,1.1s								
SADO				LR	LR			
comp=Z,3μm,21.0s								
LONY	Lake Ozonia	89.41	4	PFAKE		10 02 10.0	+9.3	
LONY				LR	LR			
comp=Z,4μm,20.0s								
LONY	Lake Ozonia	89.41	4	P	P	10 02 00.1	-0.6	
baz=184								
ECSD	EROS Data Cent	89.48	349	PFAKE		10 02 10.0	+8.9	
ECSD				LR	LR			
comp=Z,3μm,22.0s								
ECSD	EROS Data Cent	89.48	349	P	P	10 02 00.3	-0.8	
baz=169								
GLMI	Grayling	89.51	357	PFAKE		10 02 10.0	+8.8	
GLMI				LR	LR			
comp=Z,6μm,22.0s								
DZM	Mont Dzumac	89.54	239	eS	S	10 12 52.0	+1.3	
comp=Z,3μm,29.1s								
DZM				eSS	SS	10 18 50.4	+4.4	
comp=Z,4μm,33.2s								
DZM	Mont Dzumac	89.54	239	eLR	LR	10 30 30.4		
comp=Z,10μm,46.4s								
DZM	Mont Dzumac	89.54	239	PFAKE		10 02 10.0	+7.8	
DZM				LR	LR			
comp=Z,2μm,22.0s								
DZM	Mont Dzumac	89.54	239	LR	LR	10 34 23.0		
comp=Z,1μm,19.9s,baz=148,slow=30								
DUG	Dugway, Tooele	89.58	336	eP	P	10 02 00.1	-1.7	
comp=Z,61nm,1.4s								
DUG	Dugway, Tooele	89.58	336	eP	P	10 02 00.1	-1.7	
DUG				pmax	pmax			
comp=Z,61nm,1.4s								
DUG	Dugway, Tooele	89.58	336	P	P	10 02 01.7	-0.2	
baz=158								
H41A	Junction City	89.59	354	PFAKE		10 02 10.0	+8.5	
H41A				LR	LR			
comp=Z,4μm,22.0s								
H41A	Junction City	89.59	354	P	P	10 02 00.2	-1.3	
baz=174								
NV11	Mina Array Sit	89.65	331	eP	P	10 02 01.4	-0.7	
comp=Z,2.7nm,2.0s								
NV11				LR	LR			
comp=Z,100nm,18.0s								
H40A	Chili	89.66	353	P	P	10 02 00.9	-1.0	
baz=173								
BANO	Bancroft	89.67	2	P	P	10 02 01.7	-0.2	
baz=182								
FRNY	Flat Rock	89.68	5	eP	P	10 02 01.8	-0.2	
comp=Z,59nm,1.8s								
FRNY				LR	LR			
comp=Z,3μm,20.0s								
NVAR	Mina Array Bea	89.70	331	eP	P	10 02 01.9	-0.5	
NVAR	Mina Array Bea	89.70	331	P	P	10 02 01.5	-1.0	
comp=Z,1.6nm,0.8s,baz=168,slow=6.0,SNR=10								
NVAR				LR	LR	10 35 55.8		
comp=Z,436nm,18.4s,baz=137,slow=31								
PLVO	Plevna	89.72	3	eP	P	10 02 01.1	-1.0	
comp=Z,23nm,1.2s								
PLVO				LR	LR			
comp=Z,3μm,22.0s								
PLVO	Plevna	89.72	3	P	P	10 02 01.6	-0.5	
baz=183,SNR=5.8								
WVL	Waterville	89.73	8	PFAKE		10 02 10.0	+7.9	
WVL				LR	LR			
comp=Z,5μm,20.0s								
G53A	Haliburton	89.76	1	P	P	10 02 01.8	-0.5	
baz=182,SNR=6.7								
G45A	Suttons Bay	89.77	357	PFAKE		10 02 10.0	+7.7	
G45A				LR	LR			
comp=Z,3μm,20.0s								
H39A	Augusta	89.79	352	P	P	10 02 02.3	-0.2	
baz=173								
G47A	Hillman	89.84	358	P	P	10 02 02.4	-0.2	
baz=178								
G55A	Calabogie	89.94	3	P	P	10 02 03.0	-0.2	
baz=183								
RYN	Ryan	89.95	331	PFAKE		10 02 10.0	+6.4	
RYN				LR	LR			
comp=Z,2μm,19.0s								
KLBO	Killbear Provi	89.98	0	P	P	10 02 02.7	-0.6	
baz=180,SNR=6.9								
TCUT	Toone Canyon	90.04	337	eP	P	10 02 04.9	+0.8	
comp=Z,158nm,1.6s								
CMB	Columbia Colle	90.07	330	PFAKE		10 02 10.0	+6.0	
CMB				LR	LR			
comp=Z,1μm,18.0s								
BUKO	Buck Lake	90.07	1	P	P	10 02 03.5	-0.3	
baz=181,SNR=5.9								
G43A	Wallace	90.09	355	PFAKE		10 02 10.0	+6.2	
G43A				LR	LR			
comp=Z,3μm,22.0s								
EMMW	East Machias	90.11	9	PFAKE		10 02 10.0	+6.1	
EMMW				LR	LR			
comp=Z,2μm,22.0s								
G42A	Mountain	90.12	355	PFAKE		10 02 10.0	+6.0	
G42A				LR	LR			
comp=Z,2μm,21.0s								
G42A	Mountain	90.12	355	P	P	10 02 04.2	+0.2	
baz=175								
WAKR	Walker	90.15	331	eP	P	10 02 04.9	+0.3	
comp=Z,24nm,1.3s								
KVN	Kaiserville	90.19	332	PFAKE		10 02 20.0	+15	
KVN				LR	LR			
comp=Z,2μm,19.0s								
K22A	Casper	90.26	341	P	P	10 02 05.1	+0.1	
baz=162,SNR=6.1								
G40A	Rib Lake	90.28	353	PFAKE		10 02 20.0	+15	
G40A				LR	LR			
comp=Z,4μm,22.0s								
G40A	Rib Lake	90.28	353	P	P	10 02 04.8	+0.1	
baz=173								
G38A	Ridgeland	90.33	352	P	P	10 02 05.1	+0.1	
baz=172								
PEMO	Pembroke	90.35	2	P	P	10 02 05.2	+0.2	
baz=182								
G39A	Holcombe	90.38	353	P	P	10 02 05.5	+0.3	
baz=173								
ALFO	Alfred	90.40	4	P	P	10 02 05.2	0.0	
baz=184								
F52A	Sundridge	90.42	1	P	P	10 02 05.3	-0.1	
baz=181								
YERR	Yerington	90.52	331	PFAKE		10 02 20.0	+14	
YERR				LR	LR			
comp=Z,1μm,18.0s								
HWUT	Hardware Ranch	90.54	337	eP	P	10 02 06.0	-0.3	
comp=Z,37nm,1.4s								
HAL	Halifax	90.55	12	PFAKE		10 02 20.0	+14	
HAL				LR	LR			
comp=Z,4μm,21.0s								
F51A	Arnstein	90.55	1	P	P	10 02 05.6	-0.4	
baz=181								
GGN	Saint George	90.58	10	PFAKE		10 02 20.0	+14	
GGN				LR	LR			
comp=Z,3μm,21.0s								
ALGO	Algonquin Park	90.61	2	P	P	10 02 05.5	-0.7	
baz=182								
F41A	Three Lakes	90.66	354	PFAKE		10 02 20.0	+13	
F41A				LR	LR			
comp=Z,2μm,21.0s								
PNTR	Pine Nut	90.73	331	eP	P	10 02 06.4	-1.0	
comp=Z,14nm,0.9s								
ELK	Elko	90.81	334	eP	P	10 02 07.1	-0.5	
comp=Z,38nm,1.8s								
ELK	Elko	90.81	334	eP	P	10 02 07.1	-0.5	
ELK				pmax	pmax			
comp=Z,38nm,1.8s								
E52A	Mattawa	90.92	1	P	P	10 02 07.7	0.0	
baz=182								
F39A	Loretta	90.98	353	P	P	10 02 07.5	-0.5	
baz=173								
HVU	Hansel Valley	91.04	337	eP	P	10 02 09.3	+0.7	
comp=Z,27nm,1.3s								
HVU	Hansel Valley	91.04	337	P	P	10 02 09.3	+0.7	
E53A	Dumoine, Ponti	91.04	2	P	P	10 02 08.1	-0.2	
baz=182								
E46A	Sault Ste Mari	91.04	358	eP	P	10 02 05.7	-2.6	
comp=Z,37nm,1.3s								
E46A				LR	LR			
comp=Z,5μm,21.0s								
E50A	Wahnapitae	91.05	360	P	P	10 02 07.9	-0.4	
baz=180								
MCCM	Marconi Confer	91.08	328	PFAKE		10 02 20.0	+11	
MCCM				LR	LR			
comp=Z,2μm,19.0s								
AFDM	Forest Hills D	91.09	330	eP	P	10 02 05.7	-3.1	
comp=Z,22nm,1.2s								
AFDM				LR	LR			
comp=Z,2μm,22.0s								
BW06	Boulder Array	91.10	339	eP	P	10 02 07.8	-1.1	
comp=Z,18nm,1.4s								
BW06	Boulder Array	91.10	339	P	P	10 02 09.2	+0.2	
baz=160								
PDAR	Pinedale Array	91.10	339	eP	P	10 02 09.0	+0.1	
PDAR	Pinedale Array	91.10	339	P	P	10 02 07.2	-1.8	
comp=Z,2.6nm,1.1s,baz=152,slow=7.8,SNR=8.7								
ARMA	Armidale	91.10	223	PFAKE		10 02 20.0	+11	
ARMA				LR	LR			
comp=Z,900nm,20.0s								
E54A	Lac Daplat, Po	91.11	2	P	P	10 02 08.4	-0.2	
baz=182								
E48A	Lockeyer	91.11	359	P	P	10 02 08.9	+0.3	
baz=179								
RSSD	Black Hills	91.13	343	eP	P	10 02 08.0	-1.0	
comp=Z,29nm,1.7s								
RSSD				LR	LR			
comp=Z,2μm,21.0s								
RSSD	Black Hills	91.13	343	eP	P	10 02 08.0	-1.0	
RSSD				pmax	pmax			
comp=Z,29nm,1.7s								
RSSD				MLR	MLR			
comp=Z,2μm,21.0s								
E51A	G1948 Merrick	91.16	1	P	P	10 02 08.4	-0.4	
baz=181								
E43A	Lone Tree Farm	91.17	356	PFAKE		10 02 20.0	+11	
E43A				LR	LR			
comp=Z,4μm,22.0s								
PAHR	Pah Rah Range	91.21	331	PFAKE		10 02 20.0	+11	
PAHR				LR	LR			
comp=Z,2μm,21.0s								
E44A	Grand Marais A	91.36	356	PFAKE		10 02 20.0	+10	
E44A				LR	LR			
comp=Z,4μm,20.0s								
LMN	Caledonia Moun	91.56	11	PFAKE		10 02 20.0	+9.3	
LMN				LR	LR			
comp=Z,6μm,22.0s								
D52A	ZEK Kipawa Sen	91.62	2	P	P	10 02 10.7	-0.3	
baz=182								
GBN	Guysborough	91.62	13	PFAKE		10 02 20.0	+9.1	
GBN				LR	LR			
comp=Z,5μm,20.0s								
GDXM	Geysers	91.63	328	PFAKE		10 02 20.0	+8.7	
GDXM				LR	LR			
comp=Z,3μm,21.0s								
E38A	The Farm, Brul	91.73	353	PFAKE		10 02 20.0	+8.6	
E38A				LR	LR			
comp=Z,5μm,22.0s								
D53A	Lac Vacive, Po	91.74	2	eP	P	10 02 10.4	-1.1	
comp=Z,17nm,1.3s								
D53A				LR	LR			
comp=Z,3μm,19.0s								
D53A	Lac Vacive, Po	91.74	2	P	P	10 02 11.4	0.0	
baz=182								
D48A	Paudash Townsh	91.80	359	P	P	10 02 11.2	-0.6	
baz=179								
ORV	Oroville	91.82	330	eP	P	10 02 11.4	-0.6	
comp=Z,30nm,1.2s								
ORV				LR	LR			
comp=Z,3μm,21.0s								
ORV	Oroville	91.82	330	eP	P	10 02 11.4	-0.6	
ORV				pmax	pmax			
comp=Z,30nm,1.2s								
ORV				MLR	MLR			
comp=Z,3μm,21.0s								
D54A	Lac Fusel, La	91.84	3	P	P	10 02 11.7	-0.3	
baz=183								
D49A	Beulah Townshi	91.90	360	P	P	10 02 12.2	0.0	
baz=180								
D41A	Chassel	91.94	355	PFAKE		10 02 20.0	+7.6	
D41A				LR	LR			
comp=Z,3μm,22.0s								
PQI	Presque Isle	91.98	9	PFAKE		10 02 20.0	+7.4	
PQI				LR	LR			
comp=Z,3μm,22.0s								
LSZ	Lusaka	92.14	114	PFAKE		10 02 30.0	+16	
LSZ				LR	LR			
comp=Z,8μm,21.0s								
FXWY	Fox Creek	92.29	338	eP	P	10 02 14.3	-0.1	
comp=Z,20nm,1.4s								
MOOW	Moose Ponds	92.32	339	PFAKE		10 02 30.0	+15	
MOOW				LR	LR			
comp=Z,2μm,21.0s								
O03E	Paynes Creek	92.58	330	P	P	10 02 15.5	-0.2	
baz=152								
FLWY	Flagg Ranch	92.62	339	eP	P	10 02 15.1	-0.9	
comp=Z,26nm,1.2s								
FLWY				LR	LR			
comp=Z,2μm,18.0s								
VLDQ	Val d'Or	92.78	2	PFAKE		10 02 30.0	+14	
VLDQ				LR	LR			
comp=Z,4μm,21.0s								
BATG	Bathurst New B	92.80	10	PFAKE		10 02 30.0	+14	
BATG				LR	LR			
comp=Z,3μm,21.0s								
O02D	Mt. Diablo Mer	92.83	329	P	P	10 02 16.2	-0.6	
baz=152								
C40A	Isle Royale Na	92.83	354	PFAKE		10 02 30.0	+14	
C40A				LR	LR			
comp=Z,2μm,22.0s								
H17A	Grant Village	92.88	339	PFAKE		10 02 30.0	+13	
H17A				LR	LR			
comp=Z,4μm,20.0s								
EYMN	Ely	93.05	353	PFAKE		10 02 30.0	+12	
EYMN				LR	LR			
comp=Z,3μm,21.0s								
RLMT	Red Lodge	93.24	340	eP	P	10 02 19.2	+0.4	
comp=Z,9.9nm,1.1s								
AGMN	Agassiz Nation	93.86	350	PFAKE		10 02 30.0	+8.8	
AGMN				LR	LR			
comp=Z,3μm,20.0s								
TOC5	Torodi Ar. Sit	93.88	75	PFAKE		10 02 30.0	+7.8	
TOC5				LR	LR			
comp=Z,8μm,20.0s								
TOC4	Torodi Ar. Sit	93.89	75	PFAKE		10 02 30.0	+7.8	
TOC4				LR	LR			
comp=Z,7μm,20.0s								
TOB4	Torodi Ar. Sit	93.89	75	PFAKE		10 02 30.0	+7.8	
TOB4				LR	LR			
comp=Z,7μm,20.0s								
TORD	Torodi Ar. Bea	93.91	75	P	P	10 02 20.1	-2.2	
comp=Z,2.2nm,0.9s,baz=252,slow=5.5,SNR=6.9								
TORD				PP	PP	10 06 05.1	-3.4	
comp=Z,1.4nm,1.1s,baz=220,slow=6.9,SNR=2.8								
TORD				LR	LR	10 38 14.6		
comp=Z,3μm,21.6s,baz=300,slow=32								
TOC1	Torodi Ar. Sit	93.93	75	PFAKE		10 02 30.0	+7.6	
TOC1				LR	LR			
comp=Z,8μm,19.0s								
TOC2	Torodi Ar. Sit	93.93	75	PFAKE		10 02 30.0	+7.6	
TOC2				LR	LR			
comp=Z,7μm,20.0s								
MDND	Maddock	93.94	347	PFAKE		10 02 30.0	+8.3	
MDND				LR	LR			
comp=Z,4μm,22.0s								
LAO	LASA Array	94.04	343	PFAKE		10 02 30.0	+7.8	
LAO				LR	LR			
comp=Z,2μm,19.0s								
DLMT	Dillon	94.31	338	PFAKE		10 02 30.0	+6.4	
DLMT				LR	LR			
comp=Z,3μm,22.0s								
STKA	Stephens Creek	94.35	215	PFAKE		10 02 40.0	+16	
STKA				LR	LR			
comp=Z,700nm,21.0s								
STKA	Stephens Creek	94.35	215	LR	LR	10 36 12.5		
comp=Z,3μm,21.5s,baz=143,slow=30								
K05A	Summer Lake	94.42	332	PFAKE		10 02 30.0	+5.8	
K05A				LR	LR			
comp=Z,3μm,22.0s								
HUMO	Hull Mountain	95.03	330	PFAKE		10 02 40.0	+13	
HUMO				LR	LR			
comp=Z,2μm,22.0s								
DGMT	Dagmar	95.34	345	PFAKE		10 02 40.0	+12	
DGMT				LR	LR			
comp=Z,3μm,20.0s								
EIDS	Eidsvold	95.54	226	PFAKE		10 02 40.0	+10	
EIDS				LR	LR			
comp=Z,1μm,20.0s								
BBOO	Buckleboo	95.64	210	PFAKE		10 02 40.0	+10	
BBOO				LR	LR			
comp=Z,2μm,20.0s								
ULM	Lac du Bonnet	95.78	350	PFAKE		10 02 40.0	+10	
ULM				LR	LR			
comp=Z,5μm,22.0s								
MSO	Missoula	96.02	338	PFAKE		10 02 40.0	+8.7	
MSO				LR	LR			
comp=Z,2μm,21.0s								
EGMT	Eagleton	96.08	341	PFAKE		10 02 40.0	+8.5	
EGMT				LR	LR			
comp=Z,2μm,20.0s								
CMLA	Cha da Macela	96.25	41	PFAKE		10 02 40.0	+7.5	
CMLA				LR	LR			
comp=Z,5μm,20.0s								
PMOZ	Porto Moniz, M	96.54	49	ePP	PP	10 06 35.2	+6.2	
PMOZ				eS	SKSac	10 13 26.7	+19	
PMOZ				i LQ	LQ	10 15 22.9		
PMOZ				eSS	SS	10 20 34.2	+6.8	
PMOZ				eLQ	LQ	10 28 10.0		
PMOZ				eLR	LR	10 35 01.4		
comp=Z,5μm,20.0s								
COR	Corvallis	96.88	331	PFAKE		10 02 50.0	+15	
COR				LR	LR			
comp=Z,2μm,20.0s								
PMPST	Porto Santo, M	97.20	50	ePP	PP	10 06 46.6	+13	
LTY	Liberty	98.37	334	PFAKE		10 02 50.0	+8.1	
LTY				LR	LR			
comp=Z,2μm,22.0s								
B08A	Colville Reser	98.94	335	PFAKE		10 03 00.0	+16	
B08A				LR	LR			
comp=Z,1μm,20.0s								
NLWA	Neilton Lookou	99.52	332	PFAKE		10 03 00.0	+13	
NLWA				LR	LR			
comp=Z,2μm,20.0s								
B06A	Marblemount	99.74	334	PFAKE		10 03 00.0	+12	
B06A				LR	LR			
comp=Z,2μm,20.0s								
FORT	Forrest	100.15	205	PFAKE		10 03 00.0	+10	
FORT				LR	LR			
comp=Z,2μm,20.0s								
SCHQ	Schefferville	100.16	8	PFAKE		10 03 00.0	+10	
SCHQ				LR	LR			
comp=Z,4μm,21.0s								
ABPO	Ambohimpanom	100.63	131	PFAKE		10 03 00.0	+7.1	
ABPO				LR	LR			
comp=Z,11μm,22.0s								
NWAO	Narrogin (SRO)	100.73	195	PFAKE		10 03 00.0	+7.0	
NWAO				LR	LR			

comp=Z,2μm,20.0s
FFC Flin Flon 100.99 348 PFAKE 10 03 00.0 +6.8
FFC LR LR
comp=Z,4μm,22.0s
CTAO Charters Tower 102.37 225 PFAKE 10 03 10.0 +10
CTAO LR LR
comp=Z,1μm,22.0s
AVE Averroes 102.39 55 *i* PP **PKiKP 10 07 21.6 +0.1**
AVE Averroes 102.39 55 *i* PS PS 10 16 24.8 +5.0
HNR Honiara 103.19 242 PFAKE 10 03 20.0 +16
HNR LR LR
comp=Z,600nm,20.0s
RTC Rabat Centre 103.20 55 PFAKE 10 03 10.0 +6.4
RTC LR LR
comp=Z,44μm,19.0s
TAM Tamanrasset 103.22 71 PFAKE 10 03 20.0 +16
TAM LR LR
comp=Z,6μm,20.0s
FCC Fort Churchill 104.00 353 PFAKE 10 03 20.0 +14
FCC LR LR
comp=Z,3μm,22.0s
PFVI Vila Bisbo 104.33 52 *e*PP PP 10 07 38.5 +11
MORF Marmelete 104.55 52 *e*Pdif **Pdif 10 03 08.6 -1.0**
MORF Marmelete 104.55 52 *e*PP PP 10 07 42.6 +13
MBAR Mbarara 104.61 106 PFAKE 10 03 20.0 +9.3
MBAR LR LR
comp=Z,13μm,21.0s
ASAR Alice Springs 104.71 213 PKiKP **PKiKP 10 07 25.3 -1.0**
comp=Z,0.2nm,0.7s,baz=178,slow=2.4,SNR=3.2
ASAR PKKP **PKKPbc 10 18 55.9 +2.6**
comp=Z,0.4nm,0.8s,baz=345,slow=2.9,SNR=3.7
ASAR PKKPab **PKKPab 10 19 19.7 +3.9**
comp=Z,0.8nm,0.9s,baz=348,slow=5.8,SNR=5.2
MORW Morawa 104.71 195 PFAKE 10 03 20.0 +9.2
MORW LR LR
comp=Z,3μm,20.0s
PBDV Barranco-do-Ve 104.91 52 *e*Pdif **Pdif 10 03 09.3 -1.9**
PBDV Barranco-do-Ve 104.91 52 *e*PP PP 10 07 40.9 +8.7
PCVE Castro Verde 105.12 52 *e*PP PP 10 07 41.4 +7.6
PVAQ Vaqueiros 105.14 52 *e*S **SKSac 10 13 55.1 +5.9**
PVAQ *i* LQ LQ 10 16 46.3
PVAQ *e*SS SS 10 22 10.5 -16
PVAQ Vaqueiros 105.14 52 *e*LQ LQ 10 32 32.2
MESJ Messejana 105.17 51 *e*PP **PP 10 07 41.1 +7.0**
PNCL Nicolau / Gran 105.19 51 *e*PP PP 10 07 47.3 +13
SFS San Fernando 105.33 54 PFAKE 10 07 40.0 +13
SFS LR LR
comp=Z,5μm,19.0s
SFS San Fernando 105.33 54 *e*PP PP 10 07 44.0 +8.6
SFS San Fernando 105.33 54 *i* PS PS 10 16 53.7 +3.2
PMAFR Mafra 105.38 50 *e*PP **PP 10 07 42.6 +6.9**
PVLZ Peæn de 105.53 56 *i* PP **PP 10 07 42.9 +6.2**
PVLZ Peæn de 105.53 56 *i* PS PS 10 16 58.3 +5.7
PMTG Montargil 106.04 51 *e*Pdif **Pdif 10 03 15.3 -0.8**
PMTG Montargil 106.04 51 *e*PP PP 10 07 53.7 +13
MELI Melilla 106.42 56 *i* PP **PP 10 07 49.9 +6.6**
MELI Melilla 106.42 56 *i* PS PS 10 17 05.4 +3.6
EMAL Malaga-Limoner 106.56 54 *i* PP **PP 10 07 50.2 +5.8**
EMAL Malaga-Limoner 106.56 54 *i* PS PS 10 16 53.2 -10
PCAS Casmilo, Conde 106.59 50 *e*PP **PP 10 07 50.8 +6.2**
COI Coimbra 106.75 50 *e*PP PP 10 07 53.7 +8.0
COI Coimbra 106.75 50 PFAKE 10 07 40.0 +11
COI LR LR
comp=Z,8μm,18.0s
PMRV Marv??o 106.75 51 *e*PP **PP 10 07 53.1 +7.3**
PMRV *e*S SKSac 10 14 09.6 +13
PMRV *i* LQ LQ 10 17 12.0
PMRV *e*SS **SS 10 22 58.0 +9.3**
PMRV Marv??o 106.75 51 *e*LQ LQ 10 33 16.6
PMRV *e*LR LR 10 38 15.4
comp=Z,4μm,16.0s
MTE Manteigas 107.35 50 *e*PP **PP 10 07 57.2 +7.0**
MTE *e*S SKSac 10 14 10.6 +12
MTE *i* LQ LQ 10 17 14.9
MTE *e*SS SS 10 23 07.8 +11
MTE Manteigas 107.35 50 *e*LQ LQ 10 33 56.1
MTE *e*LR LR 10 39 45.2
comp=Z,6μm,18.0s
MTE Manteigas 107.35 50 PFAKE 10 07 40.0 +9.5
MTE LR LR
comp=Z,7μm,20.0s
WR4 Warramunga Arr 107.86 215 PFAKE 10 07 40.0 +7.8
WR4 LR LR
comp=Z,2μm,19.0s
WR3 Warramunga Arr 107.87 215 PFAKE 10 07 40.0 +7.8
WR3 LR LR
comp=Z,2μm,20.0s
WC4 Warramunga Arr 107.88 215 PFAKE 10 07 40.0 +7.8
WC4 LR LR
comp=Z,2μm,20.0s
WB2 Warramunga Arr 107.89 215 PFAKE 10 07 40.0 +7.8
WB2 LR LR
comp=Z,3μm,19.0s
WRAB Tennant Creek 107.90 215 PFAKE 10 07 40.0 +7.8
WRAB LR LR
comp=Z,3μm,19.0s
POLO Lamas de Olo 107.90 49 *e*PP **PP 10 08 00.1 +5.8**
WC1 Warramunga Arr 107.91 215 PFAKE 10 07 40.0 +7.7
WC1 LR LR
comp=Z,2μm,20.0s
PGAV Gavieira, Arco 108.06 48 *e*PP **PP 10 08 01.3 +5.9**
PGAV *e*S SKSac 10 14 18.1 +16
PGAV *i* LQ LQ 10 17 22.1
PGAV *e*SS SS 10 23 17.4 +11
PGAV Gavieira, Arco 108.06 48 *e*LQ LQ 10 33 27.9
PGAV *e*LR LR 10 40 13.3
comp=Z,9μm,20.0s
MVO Moncorvo 108.17 50 *e*PP **PP 10 08 00.7 +4.5**
MVO *e*S **SKSac 10 14 08.2 +5.7**
MVO *i* LQ LQ 10 17 19.4
MVO *e*SS **SS 10 23 17.3 +9.4**
MVO Moncorvo 108.17 50 *e*LQ LQ 10 33 47.0
MVO *e*LR LR 10 39 58.8
comp=Z,6μm,20.0s
NAI Nairobi 108.19 111 PFAKE 10 07 50.0 +17
NAI LR LR
comp=Z,9μm,22.0s
PAB San Pablo 108.53 52 PFAKE 10 07 40.0 +7.2
PAB LR LR
comp=Z,8μm,18.0s
KMBO Kilima Mbogo 108.60 111 PFAKE 10 07 50.0 +16
KMBO LR LR
comp=Z,8μm,22.0s
ESLA Sonseca Array 108.83 53 PFAKE 10 07 50.0 +17
ESLA LR LR
comp=Z,7μm,20.0s
IVI Ivigtut 109.10 16 PFAKE 10 07 40.0 +7.1
IVI LR LR
comp=Z,4μm,21.0s
COEN Coen 109.11 225 PFAKE 10 07 50.0 +15
COEN LR LR
comp=Z,2μm,22.0s
CART Cartagena 109.12 56 PFAKE 10 07 50.0 +16
CART LR LR
comp=Z,4μm,20.0s
CART Cartagena 109.12 56 *i* PP **PP 10 08 06.8 +3.7**
CART Cartagena 109.12 56 *i* PS PS 10 17 30.2 +0.8
NRS Narsarsuaq 109.62 17 PFAKE 10 07 50.0 +16
NRS LR LR
comp=Z,6μm,21.0s
NRS Narsarsuaq 109.62 17 *i* P **PS 10 17 36.2 +2.6**
UCM Universidad Co 109.67 52 *i* PP **PP 10 08 11.9 +4.8**
UCM Universidad Co 109.67 52 *i* PS PS 10 17 34.7 -0.3
YKW3 Yellowknife Ar 110.60 344 PFAKE 10 07 50.0 +14
YKW3 LR LR
comp=Z,3μm,20.0s
PMG Port Moresby 110.79 232 PFAKE 10 07 50.0 +12
PMG LR LR
comp=Z,900nm,18.0s
DLBC Dease Lake 110.86 335 PFAKE 10 07 50.0 +13
DLBC LR LR
comp=Z,2μm,22.0s
PSAD2 Pilbara Seismi 111.06 201 PFAKE 10 07 50.0 +12
PSAD2 LR LR
comp=Z,4μm,20.0s
PSAD3 Pilbara Seismi 111.08 200 PFAKE 10 07 50.0 +12
PSAD3 LR LR
comp=Z,3μm,20.0s
PSAC3 Pilbara Seismi 111.09 200 PFAKE 10 07 50.0 +12
PSAC3 LR LR
comp=Z,3μm,19.0s
PSAB3 Pilbara Seismi 111.11 201 PFAKE 10 07 50.0 +12
PSAB3 LR LR
comp=Z,3μm,20.0s
PSAA3 Pilbara Seismi 111.13 201 PFAKE 10 07 50.0 +12
PSAA3 LR LR
comp=Z,3μm,20.0s
PSAC2 Pilbara Seismi 111.13 201 PFAKE 10 07 50.0 +12
PSAC2 LR LR
comp=Z,3μm,21.0s
PSAA1 Pilbara Seismi 111.13 201 PFAKE 10 07 50.0 +12
PSAA1 LR LR
comp=Z,3μm,20.0s
PSA00 Pilbara Seismi 111.14 201 PFAKE 10 07 50.0 +12
PSA00 LR LR
comp=Z,3μm,20.0s
PSAA2 Pilbara Seismi 111.14 201 PFAKE 10 07 50.0 +12
PSAA2 LR LR
comp=Z,3μm,19.0s
PSAB1 Pilbara Seismi 111.14 201 PFAKE 10 07 50.0 +12
PSAB1 LR LR
comp=Z,3μm,20.0s
PSAB2 Pilbara Seismi 111.15 201 PFAKE 10 07 50.0 +12
PSAB2 LR LR
comp=Z,3μm,20.0s
PSAC1 Pilbara Seismi 111.18 201 PFAKE 10 07 50.0 +12
PSAC1 LR LR
comp=Z,3μm,20.0s
PSAD1 Pilbara Seismi 111.25 201 PFAKE 10 07 50.0 +12
PSAD1 LR LR
comp=Z,3μm,20.0s
MBWA Marble Bar 111.56 201 PFAKE 10 07 50.0 +11
MBWA LR LR
comp=Z,3μm,20.0s
MAHO Mahon 113.74 57 *i* PP **PP 10 08 39.6 +3.3**
MAHO Mahon 113.74 57 *i* PS PS 10 18 23.8 +11
SFJD Kangerlussuaq 114.01 12 PFAKE 10 07 50.0 +7.9
SFJD LR LR
comp=Z,3μm,20.0s
SFJD Kangerlussuaq 114.01 12 *i* P **PS 10 18 18.6 +4.5**
KEST Kesra 114.23 63 PFAKE 10 08 00.0 +16
KEST LR LR
comp=Z,18μm,20.0s
ANGG Ammassalik, Gr 115.22 18 PFAKE 10 08 00.0 +16
ANGG LR LR
comp=Z,4μm,20.0s
MTN Manton Dam 115.59 215 PFAKE 10 08 00.0 +13
MTN LR LR
comp=Z,2μm,21.0s
ILULI Ilulissat 115.99 11 PFAKE 10 08 00.0 +14
ILULI LR LR
comp=Z,4μm,20.0s
ILULI Ilulissat 115.99 11 *i* P **PS 10 18 34.9 +2.7**
DSB Dublin 116.64 40 PFAKE 10 08 00.0 +12
DSB LR LR
comp=Z,6μm,21.0s
TGL Tana Glacier 116.81 331 PFAKE 10 08 00.0 +12
TGL LR LR
comp=Z,2μm,21.0s
BALM Baldy 116.84 331 PFAKE 10 08 00.0 +12
BALM LR LR
comp=Z,2μm,22.0s
FURI Furi 116.90 105 PFAKE 10 08 00.0 +10
FURI LR LR
comp=Z,5μm,19.0s
MSEY Mahe Island 116.96 129 PFAKE 10 08 00.0 +10
MSEY LR LR
comp=Z,6μm,18.0s
SSB Saint Sauveur 117.25 52 PFAKE 10 08 00.0 +11
SSB LR LR
comp=Z,8μm,20.0s
WDD Wied Dalam 117.62 66 PFAKE 10 08 00.0 +10
WDD LR LR
comp=Z,10μm,18.0s
CLF Chambon-Foret 117.66 49 PFAKE 10 08 00.0 +10
CLF LR LR
comp=Z,6μm,18.0s
CLTB Caltabellotta 117.82 64 PFAKE 10 08 00.0 +9.4
CLTB LR LR
comp=Z,8μm,21.0s
DAWY Dawson 118.09 335 PFAKE 10 08 00.0 +10
DAWY LR LR
comp=Z,2μm,22.0s
BNI Bardonecchia 118.32 54 PFAKE 10 08 00.0 +8.6
BNI LR LR
comp=Z,8μm,19.0s
SII Sitkinak Islan 118.37 323 PFAKE 10 08 00.0 +9.1
SII LR LR
comp=Z,2μm,19.0s
KDAK Kodiak Island 118.48 325 PFAKE 10 08 00.0 +9.0
KDAK LR LR
comp=Z,2μm,20.0s
H11S2 WAKE ISLAND Hyl 18.72 268 T T 12 17 45.1
baz=132,slow=76,SNR=96
H11S1 WAKE ISLAND Hyl 18.74 268 T T 12 17 19.1
baz=132,slow=76,SNR=71
H11S3 WAKE ISLAND Hyl 18.74 268 T T 12 17 47.8
baz=132,slow=76,SNR=95
BORG Borgarnes 118.80 25 PFAKE 10 08 00.0 +8.6
BORG LR LR
comp=Z,3μm,20.0s
EPYK Eagle Plains 119.02 338 PFAKE 10 08 00.0 +8.1
EPYK LR LR
comp=Z,3μm,21.0s
BRLK Bradley Lake 119.08 327 PFAKE 10 08 00.0 +7.8
BRLK LR LR
comp=Z,1μm,22.0s
SCM Sheep Creek Mo 119.13 330 PFAKE 10 08 00.0 +7.7
SCM LR LR
comp=Z,2μm,22.0s
EGAK Eagle 119.13 335 PFAKE 10 08 00.0 +7.9
EGAK LR LR
comp=Z,2μm,21.0s
KNK Knik Glacier 119.25 329 PFAKE 10 08 00.0 +7.5
KNK LR LR
comp=Z,3μm,22.0s
HOM Homer 119.31 327 PFAKE 10 08 00.0 +7.4
HOM LR LR
comp=Z,1μm,18.0s
ESK Eskdalemuir 119.39 40 PFAKE 10 08 00.0 +7.1
ESK LR LR
comp=Z,4μm,18.0s
H11N3 WAKE ISLAND Hyl 19.39 269 T T 12 18 51.0
baz=131,slow=76,SNR=4.9
H11N1 WAKE ISLAND Hyl 19.40 269 T T 12 18 48.7
baz=131,slow=76,SNR=5.0
H11N2 WAKE ISLAND Hyl 19.40 269 T T 12 18 27.4
baz=131,slow=76,SNR=5.0
SENIN Lac Senin/Sane 119.44 53 PFAKE 10 08 10.0 +16
SENIN LR LR
comp=Z,8μm,19.0s
SML Sawmill 119.47 330 PFAKE 10 08 00.0 +7.1
SML LR LR
comp=Z,2μm,22.0s
GHO Glory Hole Cre 119.66 329 PFAKE 10 08 00.0 +6.6
GHO LR LR
comp=Z,2μm,20.0s
INK Inuvik 119.66 340 PFAKE 10 08 00.0 +7.0
INK LR LR
comp=Z,2μm,19.0s
RES Resolute Bay 119.78 356 PFAKE 10 08 00.0 +6.9
RES LR LR
comp=Z,4μm,20.0s
SAUI Saumlaki 119.90 217 PFAKE 10 08 10.0 +15
SAUI LR LR
comp=Z,2μm,19.0s
CEL Celeste 119.93 64 PFAKE 10 08 10.0 +15
CEL LR LR
comp=Z,8μm,21.0s
VLC Villacollemand 119.95 56 PFAKE 10 08 10.0 +16
VLC LR LR
comp=Z,4μm,19.0s
KULLO Kullorsuaq 120.33 7 *i* P **PS 10 19 15.6 +4.2**
UCC Uccle 120.41 47 PFAKE 10 08 10.0 +15
UCC LR LR
comp=Z,6μm,21.0s
ECH Echery 120.43 51 PFAKE 10 08 10.0 +15
ECH LR LR
comp=Z,6μm,20.0s
TUE Stuetta 120.66 53 PFAKE 10 08 10.0 +14
TUE LR LR
comp=Z,8μm,18.0s
WLF Walferdange 120.70 49 PFAKE 10 08 10.0 +14
WLF LR LR
comp=Z,37μm,21.0s
HDA Harding Lake 120.71 332 PFAKE 10 08 10.0 +15
HDA LR LR
comp=Z,1μm,21.0s
AQU L'Aquila 120.73 59 PFAKE 10 08 10.0 +14
AQU LR LR
comp=Z,6μm,22.0s
ILAR Eielson Array 120.92 333 PKIKP **PKPdf 10 07 55.0 -0.6**
ILAR Eielson Array 120.92 333 PKP **PKPdf 10 07 55.0 -0.6**
comp=Z,0.8nm,0.9s,baz=174,slow=2.9,SNR=4.5
SUMG Summit 120.92 14 PFAKE 10 08 10.0 +14
SUMG LR LR
comp=Z,3μm,19.0s
SUMG Summit 120.92 14 *i* P **PS 10 19 15.6 -2.0**
MCK McKinley 120.93 331 PFAKE 10 08 10.0 +14
MCK LR LR
comp=Z,2μm,22.0s
PRP Porcupine Dome 120.98 334 PFAKE 10 08 10.0 +14
PRP LR LR
comp=Z,2μm,20.0s
SOEI Soe 121.01 209 PFAKE 10 08 10.0 +12
SOEI LR LR
comp=Z,5μm,20.0s
TIP Timpagrande 121.02 64 PFAKE 10 08 10.0 +13
TIP LR LR
comp=Z,6μm,21.0s
WRH Wood River Hil 121.12 332 PFAKE 10 08 10.0 +14
WRH LR LR
comp=Z,1μm,20.0s
BFO Black Forest 121.14 51 PFAKE 10 08 10.0 +13
BFO LR LR
comp=Z,6μm,20.0s
CCB Clear Creek Bu 121.14 332 PFAKE 10 08 10.0 +14
CCB LR LR
comp=Z,1μm,21.0s
FUORN Ofenpass-Fuorn 121.27 54 PFAKE 10 08 10.0 +13
FUORN LR LR
comp=Z,10μm,20.0s
COLA College 121.31 333 PFAKE 10 08 10.0 +14
COLA LR LR
comp=Z,2μm,20.0s
COLA College 121.31 333 *i* PKIKP **PKPdf 10 07 54.8 -1.4**
BWN Browne 121.39 331 PFAKE 10 08 10.0 +13
BWN LR LR
comp=Z,1μm,21.0s
DAVA Damuels 121.42 53 *e*PKiKP **PKiKP 10 07 59.4 +2.0**
comp=Z,2.3nm,0.8s
MDM Murphy Dome 121.48 333 PFAKE 10 08 10.0 +13
MDM LR LR
comp=Z,2μm,22.0s
FYU Fort Yukon 121.59 335 PFAKE 10 08 10.0 +13
FYU LR LR
comp=Z,2μm,21.0s
FETA Feichten 121.76 54 *e*PKPdf **PKPdf 10 07 57.8 -0.1**
comp=Z,3.9nm,1.1s
CAST Castle Rocks 121.83 330 PFAKE 10 08 10.0 +12
CAST LR LR
comp=Z,2μm,22.0s
STU Stuttgart 121.86 51 PFAKE 10 08 10.0 +12
STU LR LR
comp=Z,6μm,19.0s
BPAW Bear Paw Mtn. 121.87 331 PFAKE 10 08 10.0 +12
BPAW LR LR
comp=Z,1μm,21.0s
RETA Reutte 122.03 53 *e*PKPdf **PKiKP 10 07 58.9 +0.5**
comp=Z,0.7nm,0.6s
SQTA Sankt Quirin 122.14 54 *e*PKPdf **PKPdf 10 07 57.4 -1.2**
comp=Z,1.1nm,1.7s
MOTA Moosalm 122.15 53 *e*PKPdf **PKPdf 10 07 57.7 -1.0**
comp=Z,1.5nm,0.7s
MLY Manley 122.36 332 PFAKE 10 08 10.0 +11
MLY LR LR
comp=Z,2μm,20.0s
ABTA Abfaltersbach 122.63 55 *e*PKPdf **PKiKP 10 08 00.2 +0.5**
comp=Z,4.5nm,1.1s
SCO Scoresbysund 122.70 20 PFAKE 10 08 10.0 +11
SCO LR LR
comp=Z,4μm,22.0s
MMRI Maumere 122.73 207 PFAKE 10 08 10.0 +9.1
MMRI LR LR
comp=Z,1μm,20.0s
TRI Trieste 122.80 56 PFAKE 10 08 10.0 +10
TRI LR LR
comp=Z,4μm,22.0s
ITM Ithomi 123.24 69 PFAKE 10 08 10.0 +8.9
ITM LR LR
comp=Z,5μm,21.0s
KBA Koelnbreinsper 123.29 55 *e*PKiKP **PKiKP 10 08 03.0 +1.9**
comp=Z,3.7nm,1.2s
GRFO Grafenberg 123.47 51 PFAKE 10 08 10.0 +8.9
GRFO LR LR
comp=Z,6μm,18.0s
GRA1 Grafenberg Arr 123.48 51 PFAKE 10 08 10.0 +8.8
GRA1 LR LR
comp=Z,7μm,18.0s
IMAR Indian Mountai 123.94 332 *e*PKPdf **PKPdf 10 08 00.8 -0.5**
FAKI Fak Fak 123.97 221 PFAKE 10 08 10.0 +6.7
FAKI LR LR
comp=Z,800nm,22.0s
TOLK Toolik Lake Re 124.20 336 *e*PKPdf **PKPdf 10 07 59.5 -2.3**
TOLK LR LR
comp=Z,2μm,22.0s
TOLK Toolik Lake Re 124.20 336 P **PKPdf 10 08 01.2 -0.6**
baz=127
BLY Banja Luka 124.34 59 PFAKE 10 08 10.0 +7.0
BLY LR LR
comp=Z,4μm,20.0s
TTG Podgorica 124.39 62 PFAKE 10 08 10.0 +6.8
TTG LR LR
comp=Z,5μm,22.0s
GEC2 GERESS Array S 124.42 53 *e*PKPdf **PKPdf 10 08 00.3 -2.5**
GEC2 LR LR
comp=Z,4μm,20.0s
GEC2 GERESS Array S 124.42 53 *e*PKIKP **PKPdf 10 08 00.4 -2.5**
GEC2 MLR MLR
comp=Z,4μm,20.0s
GERES GERESS Array B 124.42 53 *e*PKPdf **PKPdf 10 08 00.5 -2.5**
GERES GERESS Array B 124.42 53 PKP **PKPdf 10 08 00.6 -2.3**
comp=Z,2.7nm,0.9s,baz=113,slow=2.0,SNR=11
NKC Novy Kostel 124.44 51 *e*PP PP 10 09 49.0 -0.9
NKC AMS AMS 10 58 50.0
comp=Z,6μm,21.4s
KHC Kasperske Hory 124.50 53 PFAKE 10 08 10.0 +6.8
KHC LR LR
comp=Z,2μm,20.0s
KHC Kasperske Hory 124.50 53 *e*PP PP 10 09 47.6 -2.8
KHC AMS AMS 11 00 30.0
comp=Z,6μm,19.4s
ARSA Arzberg 124.65 55 *e*PKPdf **PKiKP 10 08 04.4 +0.8**
comp=Z,4.3nm,1.4s
DAMY Dhamar 124.84 105 PFAKE 10 08 20.0 +15
DAMY LR LR
comp=Z,6μm,20.0s
FNA Florina 124.86 65 PFAKE 10 08 20.0 +16
FNA LR LR
comp=Z,2μm,19.0s
JAGI Jajag, Banyuwa 125.11 198 PFAKE 10 08 20.0 +14
JAGI LR LR
comp=Z,1μm,22.0s
CONA Conrad Observa 125.19 55 PKiKP **PKiKP 10 08 05.8 +1.1**
comp=Z,9.0nm,1.3s
LIT Litokhoron 125.21 66 PFAKE 10 08 20.0 +15
LIT LR LR
comp=Z,6μm,22.0s
CLL Collm 125.28 50 PFAKE 10 08 20.0 +15
CLL LR LR
comp=Z,6μm,19.0s
CLL Collm 125.28 50 *e*PKIKP **PKiKP 10 08 07.0 +2.4**
CLL *i* 10 08 16.7
CLL *e* 10 09 54.0
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL MLR MLR
comp=Z,6μm,18.9s
CLL Collm 125.28 50 *e*PKiKP **PKiKP 10 08 07.0 +2.4**
comp=Z,5.0nm,1.1s
CLL *i* 10 08 16.7
comp=Z,18nm,1.6s
CLL *i* 10 08 26.1
comp=Z,39nm,2.0s
CLL *e* 10 08 48.0
CLL *e*PP **PP 10 09 54.0 -1.5**
CLL *e* 10 11 13.0
CLL *e*PPP PPP 10 12 42.0
CLL *e*SKSac **SKSac 10 15 12.0 +6.7**
CLL *e*SKKSac **SKKSac 10 16 58.0 +8.2**
CLL *e*Sdif Sdif 10 18 01.0 +10
CLL *e*SP SP 10 19 47.0 -4.5
CLL *e*PPS PPS 10 21 28.0
CLL *e* 10 22 17.0

CLL				*e*SKKSacre		10 25 17.0	
CLL				*e*SS	**SS**	**10 26 51.0**	**+0.4**
CLL				*e*		10 29 59.0	
CLL				*e*SSS	SSS	10 31 12.0	
CLL				*e*		10 32 30.0	
CLL				*e*SSSS		10 35 12.0	
CLL				LmH		11 01 00.0	
	comp=N,2μm,19.3s						
CLL				LmH		11 01 00.0	
	comp=E,5μm,20.2s						
CLL				LmV		11 02 00.0	
	comp=Z,6μm,18.9s						
CLL				Lmax		11 03 00.0	
PRU	**Pruhonice**	**125.47**	**52**	*e*PP	PP	10 09 56.9	+0.1
PRU				AMS	AMS	11 00 50.0	
	comp=Z,5μm,20.6s						
GOPC	**GO Pecny, Ondr**	**125.58**	**52**	*e*PP	PP	10 09 54.8	-2.7
GOPC				AMS	AMS	11 01 10.0	
	comp=Z,5μm,20.8s						
BRG	**Berggiesshubel**	**125.58**	**51**	*i* PKP	PKiKP	10 08 17.0	+12
	comp=Z,17nm,1.5s						
BRG				PP	**PP**	**10 09 58.0**	**+0.5**
BRG				SS	SS	10 26 50.0	-4.4
BRG	**Berggiesshubel**	**125.58**	**51**	*i* PKIKP	PKiKP	10 08 17.0	+12
BRG						10 09 58.0	
BRG				SS	SS	10 26 50.0	-4.4
BRG				pmax	pmax		
	comp=Z,17nm,1.5s						
TREC	**Trest**	**125.66**	**53**	AMS	AMS	11 01 10.0	
	comp=Z,4μm,20.4s						
PVCC	**Panska Ves**	**125.76**	**52**	AMS	AMS	11 00 20.0	
	comp=Z,4μm,20.6s						
UGM	**Wanagama**	**126.36**	**194**	PFAKE		10 08 20.0	+12
UGM				LR	LR		
	comp=Z,2μm,19.0s						
UPC	**Upice**	**126.55**	**52**	*e*PP	PP	10 10 04.9	+0.9
UPC				AMS	AMS	11 02 00.0	
	comp=Z,5μm,19.3s						
DPC	**Dobruska-Polom**	**126.65**	**52**	*e*PP	PP	10 10 02.5	-2.2
DPC				AMS	AMS	11 01 50.0	
	comp=Z,4μm,19.9s						
KAPI	**Kappang**	**126.93**	**206**	PFAKE		10 08 20.0	+11
KAPI				LR	LR		
	comp=Z,1μm,20.0s						
VTS	**Vitosha**	**127.00**	**64**	PFAKE		10 08 20.0	+11
VTS				LR	LR		
	comp=Z,3μm,18.0s						
RGN	**Rugen**	**127.01**	**47**	PFAKE		10 08 20.0	+12
RGN				LR	LR		
	comp=Z,6μm,21.0s						
MORC	**Moravsky Berou**	**127.07**	**54**	PFAKE		10 08 20.0	+12
MORC				LR	LR		
	comp=Z,4μm,19.0s						
CISI	**Cisompet, Garu**	**127.12**	**191**	PFAKE		10 08 20.0	+10
CISI				LR	LR		
	comp=Z,2μm,20.0s						
VYHS	**Vyhne**	**127.20**	**55**	*e*PKIKP	**PKPdf**	**10 08 07.6**	**-0.5**
VYHS	**Vyhne**	**127.20**	**55**	*e*PKP	**PKPdf**	**10 08 07.6**	**-0.5**
ANM	**Nome**	**127.38**	**327**	PFAKE		10 08 20.0	+12
ANM				LR	LR		
	comp=Z,2μm,20.0s						
OKC	**Ostrava-Krasne**	**127.44**	**54**	AMS	AMS	11 04 20.0	
	comp=Z,3μm,18.0s						
KONO	**Kongsberg**	**127.53**	**40**	PFAKE		10 08 20.0	+11
KONO				LR	LR		
	comp=Z,5μm,21.0s						
PSZ	**Piszkesteto**	**127.55**	**57**	PFAKE		10 08 20.0	+11
PSZ				LR	LR		
	comp=Z,6μm,18.0s						
ALN	**Alexandroupoli**	**127.94**	**67**	PFAKE		10 08 20.0	+10
ALN				LR	LR		
	comp=Z,2μm,21.0s						
RDOG	**Red Dog Mine**	**128.09**	**332**	PFAKE		10 08 20.0	+10
RDOG				LR	LR		
	comp=Z,1μm,20.0s						
BALB	**Balikesir**	**128.51**	**69**	PFAKE		10 08 20.0	+8.5
BALB				LR	LR		
	comp=Z,11μm,19.0s						
NB200	**NORSAR Array S**	**128.86**	**39**	*e*PKPdf	**PKPdf**	**10 08 09.5**	**-1.4**
NOA	**NORSAR Array B**	**128.86**	**39**	PKP	**PKPdf**	**10 08 09.5**	**-1.4**
	comp=Z,1.0nm,0.9s,baz=240,slow=1.7,SNR=2.3						
UZH	**Uzhgorod**	**129.30**	**57**	*i* PKHKP	PKPpre	10 07 57.5	
UZH				*e*		10 15 20.0	
ISP	**Isparta**	**129.34**	**73**	PFAKE		10 08 20.0	+6.6
ISP				LR	LR		
	comp=Z,2μm,21.0s						
TNTI	**Ternate**	**129.44**	**218**	PFAKE		10 08 30.0	+16
TNTI				LR	LR		
	comp=Z,400nm,21.0s						
HFS	**Hagfors**	**129.61**	**40**	PKP	**PKPdf**	**10 08 09.8**	**-2.5**
	comp=Z,2.3nm,1.0s,baz=222,slow=1.9,SNR=2.6						
HFS				PP	**PP**	**10 10 20.8**	**-3.0**
	comp=Z,1.1nm,0.9s,baz=236,slow=7.8,SNR=2.0						
LUWI	**Luwuk**	**129.62**	**211**	PFAKE		10 08 30.0	+15
LUWI				LR	LR		
	comp=Z,1μm,21.0s						
KWP	**Kalwaria Pacla**	**129.99**	**56**	PFAKE		10 08 30.0	+16
KWP				LR	LR		
	comp=Z,31μm,22.0s						
MLR	**Muntele Rosu**	**130.10**	**62**	*e*PKPdf	**PKPdf**	**10 08 13.2**	**-0.7**
MLR				LR	LR		
	comp=Z,8μm,22.0s						
MLR	**Muntele Rosu**	**130.10**	**62**	*e*PKIKP	**PKPdf**	**10 08 13.2**	**-0.7**
MLR				MLR	MLR		
	comp=Z,8μm,22.0s						
MLR	**Muntele Rosu**	**130.10**	**62**	PKP	**PKPdf**	**10 08 11.8**	**-2.1**
	comp=Z,4.7nm,1.0s,baz=28,slow=8.4,SNR=5.1						
BURAR	**Bucovina Array**	**130.60**	**59**	*e*PKPdf	**PKPdf**	**10 08 13.5**	**-1.2**
BURAR	**Bucovina Array**	**130.60**	**59**	PKIKP	**PKPdf**	**10 08 13.5**	**-1.2**
MNAI	**Manna**	**130.74**	**185**	PFAKE		10 08 30.0	+13
MNAI				LR	LR		
	comp=Z,3μm,20.0s						
ANTO	**Ankara**	**131.90**	**71**	PFAKE		10 08 30.0	+12
ANTO				LR	LR		
	comp=Z,3μm,22.0s						
BRTR	**Keskin Array B**	**132.40**	**72**	*e*PKPdf	**PKPdf**	**10 08 16.2**	**-2.2**
BRTR	**Keskin Array B**	**132.40**	**72**	PKP	**PKPdf**	**10 08 16.9**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=247,slow=3.0,SNR=3.3						
BRTR				PP	**PP**	**10 10 46.0**	**+3.4**
	comp=Z,0.3nm,0.6s,baz=235,slow=5.1,SNR=3.7						
KIS	**Kishinev**	**132.55**	**61**	*e*PKP	PKiKP	10 08 31.0	+12
	comp=Z,90nm,1.7s						
KIS				*e*SKP		10 11 40.0	
KIS	**Kishinev**	**132.55**	**61**	*e*PS	PS	10 20 44.0	-15
KIS	**Kishinev**	**132.55**	**61**	*e*PPS	PPS	10 22 30.0	
KIS				*e*SS	SS	10 28 36.0	+15
KIS				*e*SSS	SSS	10 33 07.0	
KIS				*e*L	L	10 46 50.0	
KIS				LRM	MLR	11 04 56.0	
	comp=Z,4μm,24.0s						
KIS	**Kishinev**	**132.55**	**61**	*e*PKIKP	PKiKP	10 08 31.0	+12
KIS				*e*		10 08 40.0	
KIS				*e*PPS	PPS	10 22 30.0	
KIS				pmax	pmax		
	comp=Z,90nm,1.7s						
KIS				MLR	MLR		
	comp=Z,4μm,24.0s						
ILGA	**Ilgaz**	**133.09**	**71**	PFAKE		10 08 30.0	+9.0
ILGA				LR	LR		
	comp=Z,2μm,20.0s						
KIEV	**Kiev**	**134.24**	**57**	PFAKE		10 08 30.0	+7.3
KIEV				LR	LR		
	comp=Z,3μm,18.0s						
KIEV	**Kiev**	**134.24**	**57**	*i* PKIKP	**PKPdf**	**10 08 20.9**	**-0.4**
AKASG	**Malin Array Be**	**134.25**	**57**	PKP	**PKPdf**	**10 08 19.9**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=275,slow=1.5,SNR=5.9						
AKASG				PP	**PP**	**10 10 56.7**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=70,slow=37,SNR=4.1						
KBS	**Kingsbay**	**134.26**	**16**	PFAKE		10 08 30.0	+8.0
KBS				LR	LR		
	comp=Z,2μm,22.0s						
NACGM	**Naroch**	**134.32**	**50**	*e*PP	PP	10 10 52.0	-2.2
NACGM				*e*SKP		10 11 54.0	
NACGM				*e*PPP	PPP	10 13 24.0	
NACGM				*e*SKKS		10 17 44.0	
NACGM				*e*PS	PS	10 20 18.0	-56
NACGM				*e*SS	SS	10 28 28.0	-14
NACGM				*e*SSS	SSS	10 33 16.0	
NACGM				*e*LQ	LQ	10 47 24.0	
NACGM				*e*LR	LR	10 56 08.0	
NACGM				LRM	MLR	11 03 17.0	
	comp=Z,11nm,22.0s						
SNOP	**Sinop**	**134.52**	**70**	PFAKE		10 08 30.0	+6.5
SNOP				LR	LR		
	comp=Z,3μm,22.0s						
SIM	**Simferopol'**	**135.06**	**66**	*i* PKIKP	**PKPdf**	**10 08 22.1**	**-1.0**
SIM				*e*PPP	PPP	10 13 54.0	
SIM				*e*SS	SS	10 29 24.0	+33
SIM				*e*SSS	SSS	10 33 46.0	
BKNI	**Bangkinang**	**135.48**	**183**	PFAKE		10 08 40.0	+14
BKNI				LR	LR		
	comp=Z,3μm,22.0s						
SBUM	**Sibu**	**136.11**	**199**	PFAKE		10 08 40.0	+12
SBUM				LR	LR		
	comp=Z,1μm,22.0s						
GSI	**Gunungsitoli**	**136.46**	**178**	PFAKE		10 08 40.0	+12
GSI				LR	LR		
	comp=Z,3μm,22.0s						
MYKOM	**Kota Tinggi**	**136.78**	**187**	PFAKE		10 08 40.0	+11
MYKOM				LR	LR		
	comp=Z,2μm,21.0s						
ARE0	**ARCESS Array S**	**136.84**	**30**	PFAKE		10 08 40.0	+13
ARE0				LR	LR		
	comp=Z,100nm,20.0s						
ANN	**Anapa**	**137.16**	**67**	*i* PKIKP	**PKPdf**	**10 08 26.9**	**0.0**
ANN				*e*		10 15 38.6	
ANN				*e*SS	SS	10 29 20.9	+4.7
ANN				pmax	pmax		
	comp=Z,11nm,0.7s						
KEV	**Kevo**	**137.39**	**29**	PFAKE		10 08 40.0	+12
KEV				LR	LR		
	comp=Z,3μm,21.0s						
PSI	**Prapat**	**137.97**	**179**	PFAKE		10 08 40.0	+8.4
PSI				LR	LR		
	comp=Z,3μm,21.0s						
SOC	**Sochi**	**138.19**	**70**	*i* PKIKP	**PKPdf**	**10 08 29.4**	**+0.5**
SOC				*e*		10 11 13.6	
SOC				*e*		10 15 26.2	
PALK	**Pallekele**	**139.09**	**151**	PFAKE		10 08 40.0	+6.2
PALK				LR	LR		
	comp=Z,2μm,20.0s						
BILL	**Bilibino**	**139.23**	**328**	PFAKE		10 08 40.0	+7.7
BILL				LR	LR		
	comp=Z,2μm,22.0s						
BILL	**Bilibino**	**139.23**	**328**	*e*PKIKP	**PKPdf**	**10 08 24.5**	**-5.6**
BILL				*i*		10 08 30.0	
BILL				*e*		10 11 21.0	
BILL				*e*		10 15 38.3	
BILL				*e*SS	SS	10 29 39.4	0.0
BILL				*e*SSS	SSS	10 34 50.0	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
IPM	**Ipoh**	**139.61**	**183**	PFAKE		10 08 40.0	+5.1
IPM				LR	LR		
	comp=Z,3μm,20.0s						
APA	**Apatity**	**139.65**	**33⇑**	*i* PKIKP	**PKPdf**	**10 08 25.9**	**-4.9**
APA				*i*		10 11 30.0	
APA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
OBN	**Obninsk**	**139.80**	**52**	PFAKE		10 08 40.0	+6.2
OBN				LR	LR		
	comp=Z,5μm,21.0s						
OBN	**Obninsk**	**139.80**	**52**	*e*PKIKP	**PKPdf**	**10 08 29.4**	**-2.0**
OBN				*e*		10 11 26.9	
OBN				*e*PPP	PPP	10 14 30.6	
OBN				*e*SSS	SSS	10 35 00.4	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AKH	**Akhalkalaki**	**139.86**	**75**	PFAKE		10 08 40.0	+5.3
AKH				LR	LR		
	comp=Z,2μm,20.0s						
NEY	**Neytrino**	**140.07**	**72**	*i* PKIKP	**PKPdf**	**10 08 32.7**	**+0.1**
LVZ	**Lovozero**	**140.12**	**32**	PFAKE		10 08 40.0	+5.8
LVZ				LR	LR		
	comp=Z,5μm,21.0s						
GNI	**Garni**	**140.19**	**77**	PFAKE		10 08 40.0	+4.6
GNI				LR	LR		
	comp=Z,3μm,22.0s						
GNI	**Garni**	**140.19**	**77**	*i* PKIKP	**PKPdf**	**10 08 28.8**	**-4.1**
SHA1	**Shidzhatmaz**	**140.22**	**71**	*i* PKIKP	**PKPdf**	**10 08 30.4**	**-2.5**
KIV	**Kislovodsk**	**140.32**	**71**	*i* PKIKP	**PKPdf**	**10 08 30.5**	**-2.4**
KIV				*e*		10 11 25.7	
KIV				pmax	pmax		
	comp=Z,39nm,1.1s						
KIV				MLR	MLR		
	comp=Z,6μm,24.0s						
KBZ	**Khabaz**	**140.38**	**71**	PKP	**PKPdf**	**10 08 31.4**	**-1.4**
	comp=Z,3.1nm,0.9s,baz=191,slow=5.2,SNR=3.0						
KULM	**Kulim**	**140.42**	**182**	PFAKE		10 08 50.0	+14
KULM				LR	LR		
	comp=Z,3μm,20.0s						
ZEI	**Tsey**	**140.69**	**73**	*i* PKIKP	**PKPdf**	**10 08 28.8**	**-5.0**
ZEI				pmax	pmax		
	comp=Z,17nm,1.3s						
PET	**Petropavlovsk**	**141.26**	**304**	PFAKE		10 08 50.0	+13
PET				LR	LR		
	comp=Z,3μm,19.0s						
PEA0B	**Petropavlovsk-**	**141.84**	**304**	PFAKE		10 08 50.0	+12
PEA0B				LR	LR		
	comp=Z,3μm,19.0s						
PETK	**Petropavlovsk-**	**141.84**	**304**	PKP	**PKPdf**	**10 08 34.2**	**-1.1**
	comp=Z,2.7nm,1.0s,baz=129,slow=5.7,SNR=3.0						
KLMR	**Klimovskoe**	**142.14**	**44**	*e*PKIKP	**PKPdf**	**10 08 33.2**	**-2.3**
KLMR				pmax	pmax		
	comp=Z,19nm,0.9s						
MAK	**Makhachkala**	**143.21**	**74**	*e*PKHKP	PKPpre	10 08 31.9	
MAK				*e*		10 15 39.1	
MAK				*e*SSS	SSS	10 35 42.9	
MAK				pmax	pmax		
	comp=Z,195nm,1.6s						
PRGR	**Permogore**	**145.09**	**42⇑**	*i* PKIKP	**PKPbc**	**10 08 39.5**	**-0.7**
PRGR				pmax	pmax		
	comp=Z,80nm,0.9s						
MA2	**Magadan**	**146.25**	**314**	*e*PKPdf	**PKPbc**	**10 08 43.8**	**-0.1**
MA2				LR	LR		
	comp=Z,2μm,19.0s						
MA2	**Magadan**	**146.25**	**314**	*i* PKIKP	**PKPdf**	**10 08 40.1**	**-2.6**
PBA	**Port Blair**	**146.30**	**168**	PFAKE		10 09 00.0	+12
PBA				LR	LR		
	comp=Z,4μm,19.0s						
YUK	**Yuzh-Kuril'sk**	**147.12**	**285**	*e*PKHKP	PKPpre	10 08 37.1	
YUK				*e*		10 12 18.1	
YUK				*e*SSS	SSS	10 36 52.3	
HYB	**Hyderabad**	**147.47**	**141**	*i* PKP	**PKPbc**	**10 08 49.5**	**+0.8**
GEYT	**Alibeck**	**148.62**	**88**	PKPbc	**PKPbc**	**10 08 49.5**	**-1.7**
	comp=Z,8.1nm,0.9s,baz=268,slow=4.0,SNR=9.3						
GYA0B	**ALIBECK ARRAY**	**148.62**	**88**	*e*PKPbc	**PKiKP**	**10 08 52.4**	**-0.3**
GYA0B				LR	LR		
	comp=Z,4μm,20.0s						
MJAR	**Matsushiro Arr**	**149.57**	**268**	*e*PKPdf	**PKPdf**	**10 08 50.2**	**+1.3**
MJAR	**Matsushiro Arr**	**149.57**	**268**	*e*PKPbc	**PKPdf**	**10 08 50.8**	**+1.8**
	comp=Z,3.6nm,0.9s,baz=133,slow=2.6,SNR=5.8						
MAJO	**Matsushiro**	**149.57**	**268**	*e*PKPdf	**PKPdf**	**10 08 50.8**	**+1.8**
MAJO				LR	LR		
	comp=Z,1μm,21.0s						
MAT	**Matsushiro**	**149.57**	**268**	PKP	**PKPdf**	**10 08 48.8**	**-0.2**
MJB9	**Matsu-Tunnel**	**149.57**	**268**	PFAKE		10 09 00.0	+1.2
MJB9				LR	LR		
	comp=Z,1μm,22.0s						
TIXI	**Tiksi**	**149.76**	**342**	*e*PKPdf	**PKPbc**	**10 08 50.8**	**-2.1**
INU	**Inuyama**	**149.83**	**265**	PFAKE		10 09 00.0	+0.2
INU				LR	LR		
	comp=Z,700nm,20.0s						
YSS	**Yuzh-Sakhalins**	**150.01**	**289**	PFAKE		10 09 00.0	-0.2
YSS				LR	LR		
	comp=Z,1μm,22.0s						
YSS	**Yuzh-Sakhalins**	**150.01**	**289⇓**	*i* PKIKP	**PKPdf**	**10 08 49.0**	**-0.3**
YSS				*e*SS	SS	10 32 30.0	+46
YSS				*e*SSS	SSS	10 37 20.0	
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
JOW	**Kunigami**	**150.56**	**242**	PFAKE		10 09 00.0	-3.0
JOW				LR	LR		
	comp=Z,700nm,22.0s						
TWG	**Pinlang**	**151.59**	**226**	PFAKE		10 09 00.0	+0.8
TWG				LR	LR		
	comp=Z,5μm,22.0s						
NKL	**Nikolayevsk**	**152.02**	**302**	*e*PKIKP	**PKPbc**	**10 08 57.0**	**-1.7**
ARU	**Arti**	**152.22**	**51**	*e*PKPdf	**PKPdf**	**10 08 53.0**	**+0.6**
ARU				LR	LR		
	comp=Z,5μm,21.0s						
ARU	**Arti**	**152.22**	**51**	*i* PKIKP	**PKiKP**	**10 09 02.6**	**+3.2**
ARU				SS	SS	10 32 09.8	+1.9
NACB	**Ninganchiao**	**152.42**	**229**	PFAKE		10 09 10.0	-0.8
NACB				LR	LR		
	comp=Z,2μm,22.0s						
SSLB	**Suanglung**	**152.44**	**227**	PFAKE		10 09 10.0	-0.9
SSLB				LR	LR		
	comp=Z,1μm,22.0s						
QIZ	**Qiongzhong**	**152.64**	**202**	PFAKE		10 09 10.0	-1.8
QIZ				LR	LR		
	comp=Z,2μm,20.0s						
ABKAR	**Akbulak array**	**153.12**	**67**	*e*PKPdf	**PKPdf**	**10 08 53.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**153.53**	**179**	*e*PKPdf	**PKPdf**	**10 08 54.6**	**-0.9**
CMAR				*e*PKPbc	**PKiKP**	**10 09 04.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**153.53**	**179**	*e*PKIKP	**PKPdf**	**10 08 54.6**	**-0.9**
CMAR				*e*		10 09 04.0	
CMAR	**Chiang Mai Arr**	**153.53**	**179**	PKP	**PKPdf**	**10 08 54.2**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=214,slow=3.1,SNR=3.4						
CMAR				PKPbc	**PKPbc**	**10 09 01.4**	**-1.8**
	comp=Z,2.6nm,0.8s,baz=213,slow=3.3,SNR=10						
CMAR				PKPab	**pPKPbc**	**10 09 12.9**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=220,slow=3.4,SNR=7.1						
TEY	**Ternei**	**153.76**	**283**	*e*PKIKP	**PKiKP**	**10 09 07.2**	**+4.3**
HKPS	**Hong Kong Po S**	**154.26**	**213**	PFAKE		10 09 10.0	+5.3
HKPS				LR	LR		
	comp=Z,1μm,22.0s						
QZH	**Quanzhou**	**154.60**	**224**	*e*PKPbc	**PKPdf**	**10 08 50.3**	**-6.5**
QZH				PP	**PP**	**10 12 53.4**	**-1.7**
QZH				SKKS		10 19 48.0	
QZH				SS	**SS**	**10 32 32.4**	**-1.1**
QZH				LR	LR		
	comp=Z,2μm,21.6s						
QZH				LR	LR		
	comp=Z,730nm,22.4s						
QZH				LR	LR		
	comp=Z,3μm,23.2s						
KBL	**Kabul**	**154.66**	**104**	PFAKE		10 09 10.0	+4.5
KBL				LR	LR		
	comp=Z,2μm,20.0s						
YAK	**Yakutsk**	**155.51**	**325**	*i* PKP2	**PKPab**	**10 09 21.0**	**-1.8**
YAK				*e*		10 32 44.2	
YAK				pmax	pmax		
	comp=Z,28nm,0.8s						
SLVN	**Son La**	**156.08**	**191**	PFAKE		10 09 10.0	+11
SLVN				LR	LR		
	comp=Z,2μm,20.0s						
CHGR	**Chuyangaron**	**156.76**	**95**	PFAKE		10 09 10.0	+11
CHGR				LR	LR		
	comp=Z,9μm,22.0s						
USA0B	**Ussuriysk Arra**	**156.78**	**280**	PFAKE		10 09 10.0	+11
USA0B				LR	LR		
	comp=Z,1μm,20.0s						
NIL	**Nilore**	**157.00**	**111**	PFAKE		10 09 10.0	+10
NIL				LR	LR		
	comp=Z,1μm,20.0s						
KSRS	**Korea Array**	**157.25**	**261**	PKPab	**PKPab**	**10 09 29.5**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=117,slow=4.2,SNR=2.8						
GAR	**Garm**	**157.73**	**95**	*e*PKPdf	**PKPdf**	**10 08 56.1**	**-4.6**
GAR				LR	LR		
	comp=Z,11μm,22.0s						
GAR	**Garm**	**157.73**	**95**	*e*PKIKP	**PKPdf**	**10 08 56.1**	**-4.6**
GAR				MLR	MLR		
	comp=Z,11μm,22.0s						
SSE	**Sheshan**	**157.94**	**238**	PKP	**PKPdf**	**10 08 57.8**	**-3.2**
SSE				PP	**PP**	**10 13 13.1**	**-0.9**
SSE				LR	LR		
	comp=Z,590nm,19.9s						
SSE				LR	LR		
	comp=Z,890nm,21.6s						
SSE	**Sheshan**	**157.94**	**238**	PFAKE		10 09 10.0	+9.0
SSE				LR	LR		
	comp=Z,1μm,20.0s						
MDJ	**Mudanjiang**	**158.54**	**280**	PKP	**PKPdf**	**10 09 01.3**	**0.0**
MDJ				LR	LR		
	comp=Z,2μm,20.7s						
MDJ				LR	LR		
	comp=Z,2μm,25.5s						
MDJ				LR	LR		
	comp=Z,3μm,22.3s						
MDJ	**Mudanjiang**	**158.54**	**280**	PFAKE		10 09 10.0	+8.7
MDJ				LR	LR		
	comp=Z,2μm,21.0s						
KKAR	**Karatay Array**	**159.28**	**85**	*e*PKPdf	**PKPdf**	**10 09 03.5**	**+1.3**
KKAR	**Karatay Array**	**159.28**	**85**	*e*PKIKP	**PKPdf**	**10 09 03.6**	**+1.3**
BRVK	**Borovoye**	**159.47**	**57**	PFAKE		10 09 10.0	+7.9
BRVK				LR	LR		
	comp=Z,7μm,21.0s						
SHL	**Shillong**	**159.71**	**160**	PFAKE		10 09 10.0	+6.5
SHL				LR	LR		
	comp=Z,3μm,20.0s						
KMI	**Kunming**	**159.96**	**189**	PKP	**PKPdf**	**10 09 03.0**	**-0.9**
KMI				PP	**PP**	**10 13 28.0**	**+3.6**
KMI				SKKS		10 20 17.3	
KMI				SS	**SS**	**10 33 36.1**	**+5.8**
KMI				LR	LR		
	comp=Z,2μm,22.2s						
KMI				LR	LR		
	comp=Z,1μm,31.5s						
KMI				LR	LR		
	comp=Z,3μm,32.7s						
NJ2	**Nanjing**	**160.02**	**236**	*e*PKP	**PKPdf**	**10 09 03.8**	**+0.4**
GYA	**Guiyang**	**160.56**	**200**	*e*PKP	**PKPdf**	**10 08 58.1**	**-6.3**
GYA				PKS	**PKSdf**	**10 12 31.6**	**-6.3**
GYA				AMB	AMB		
	comp=Z,370nm,13.8s						
GYA				LR	LR		
	comp=Z,1μm,20.0s						
GYA				LR	LR		
	comp=Z,730nm,19.7s						
GYA				LR	LR		
	comp=Z,2μm,18.5s						
WHN	**Wuhan**	**161.33**	**224**	⇓PKP	**PKPdf**	**10 09 08.3**	**+3.4**
WHN				PKPab	**PKPab**	**10 09 48.4**	**-0.5**
WHN				SKKS		10 20 16.9	
WHN				SS	**SS**	**10 33 44.8**	**-0.4**
WHN				LR	LR		
	comp=Z,5μm,20.2s						
WHN				LR	LR		
	comp=Z,1μm,15.3s						
WHN				LR	LR		
	comp=Z,8μm,22.2s						
KSH	**Kashi**	**161.93**	**99**	PKP	**PKPdf**	**10 09 05.5**	**+0.1**
KSH				PP	**PP**	**10 13 36.5**	**+0.4**
KSH				SKS	**SKSdf**	**10 16 08.9**	**+1.4**
KSH				SS	**SS**	**10 33 49.6**	**-3.4**
KSH				LR	LR		
	comp=Z,2μm,17.4s						
KSH				LR	LR		
	comp=Z,1μm,14.6s						
KSH				LR	LR		
	comp=Z,2μm,16.6s						
AAK	**Ala-Archa**	**161.98**	**89**	*e*PKPdf	**PKPdf**	**10 09 06.1**	**+0.7**
SNY	**Shenyang**	**162.08**	**268**	⇑PKP	PKPdf	10 09 18.8	+14
SNY				PP	PP	10 13 50.8	+14
DL2	**Dalian**	**162.32**	**258**	PKP	**PKPdf**	**10 09 03.8**	**-1.8**
DL2				PP	**PP**	**10 13 39.8**	**+1.9**
DL2				SS	SS	10 34 01.5	+4.8
DL2				LR	LR		
	comp=Z,770nm,21.8s						
DL2				LR	LR		
	comp=Z,1μm,23.3s						
DL2				LR	LR		
	comp=Z,2μm,28.5s						
NRN	**Naryn**	**162.68**	**94**	*e*PKPdf	**PKPdf**	**10 09 04.3**	**-2.1**
NRN	**Naryn**	**162.68**	**94**	*e*PKIKP	**PKPdf**	**10 09 04.3**	**-2.1**
BOD	**Bodaibo**	**164.27**	**330**	*e*PKIKP	**PKPdf**	**10 09 14.2**	**+7.4**
BOD				*e*		10 10 00.2	
BOD

MK31	**Makanchi Array**	**168.03**	**75**	*e*PKPdf	**PKPdf**	**10 09 07.9**	**-2.3**
MK31	**Makanchi Array**	**168.03**	**75**	*e*PKIKP	**PKPdf**	**10 09 07.9**	**-2.3**
MKAR	**Makanchi Array**	**168.03**	**75**	*e*PKPdf	**PKPdf**	**10 09 09.1**	**-1.1**
MKAR	**Makanchi Array**	**168.03**	**75**	PKP	**PKPdf**	**10 09 08.8**	**-1.4**
	comp=Z,2.8nm,1.1s,baz=252,slow=2.4,SNR=9.6						
MKAR				PKPab	**PKPab**	**10 10 15.9**	**-2.3**
	comp=Z,4.4nm,0.9s,baz=267,slow=4.3,SNR=9.2						
MKAR				PP	**PP**	**10 14 11.8**	**+4.1**
	comp=Z,0.8nm,1.0s,baz=194,slow=1.0,SNR=3.2						
HHC	**Hu-ho-hao-te**	**170.08**	**250**	*e*PKP	**PKPdf**	**10 09 09.3**	**-2.5**
HHC				PP	**PP**	**10 14 19.9**	**+1.8**
HHC				SKS	**SKSdf**	**10 16 13.3**	**+0.8**
HHC				SKKS	**SKKSac**	**10 20 59.3**	**-2.5**
HHC				LR	LR		
	comp=Z,12μm,19.2s						
HHC				LR	LR		
	comp=Z,12μm,21.8s						
LZH	**Lanzhou**	**170.44**	**203**	*e*PKP	**PKPdf**	**10 09 08.8**	**-3.5**
LZH				pPKP	pPKPdf	10 09 17.5	-5.0
LZH				PP	**PP**	**10 14 20.9**	**+1.9**
LZH				SKKS		10 21 00.4	
LZH				LR	LR		
	comp=Z,2μm,19.2s						
LZH				LR	LR		
	comp=Z,1μm,20.9s						
LZH				LR	LR		
	comp=Z,5μm,22.0s						
WMQ	**Urumqi**	**171.62**	**94**	*e*PKP	**PKPdf**	**10 09 12.5**	**0.0**
WMQ				PKPab	**PKPab**	**10 10 35.4**	**+1.1**
WMQ				PP	**PP**	**10 14 27.0**	**+1.0**
WMQ				SKKS		10 21 11.8	
WMQ				SS	**SS**	**10 35 30.3**	**-0.8**
WMQ				AMB	AMB		
	comp=Z,1μm,8.5s						
WMQ				LR	LR		
	comp=Z,10μm,23.1s						
WMQ				LR	LR		
	comp=Z,10μm,20.1s						
WMQ				LR	LR		
	comp=Z,12μm,20.1s						
ZAK	**Zakamensk**	**173.98**	**335**	*e*PKIKP	**PKPdf**	**10 09 18.9**	**+5.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.8s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s						
SONM	**Songino Array**	**174.32**	**302**	*e*PKPdf	**PKPdf**	**10 09 12.5**	**-1.0**
SONM	**Songino Array**	**174.32**	**302**	PKP	**PKPdf**	**10 09 12.1**	**-1.4**
	comp=Z,1.0nm,1.1s,baz=96,slow=1.4,SNR=3.5						
SONM				PKPab	**PKPab**	**10 10 43.6**	**-2.6**
	comp=Z,0.3nm,0.6s,baz=64,slow=3.4,SNR=2.2						
SONM				PP	**PP**	**10 14 41.5**	**+2.6**
	comp=Z,0.9nm,1.0s,baz=44,slow=6.8,SNR=4.6						
GTA	**Gaotai**	**174.39**	**184**	*e*PKP	PKPdf	10 09 26.8	+13
GTA				PKPab	sPKPab	10 10 59.4	-0.6
GTA				PP	PP	10 14 49.1	+11

MEX 20 10:09:48.7±0.9, 18°.14N×103°.36W, h10km±155km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.15**	**5**	*e*P	Pg	10 09 51.2	-0.9
MMIG				*e*S	Sg	10 09 54.0	-0.4

BEO ***20*** *10:20:13.9±0.9, 42°.99N×18°.74E, h21km±2km, ML1.8/7*
SAR ***20*** *10:20:13.8±0.3, 43°.06N×18°.76E, h4km±3km, ML2.0/7*
PDG ***20*** *10:20:14.0±0.1, 43°.06N×18°.76E, h3km, MD2.2/2, ML2.1/14, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
ISC 20 10:20:13.7±0.9, 43°.07N±0°.02×18°.73E±0°.02, h8km±7km, n37, σ0°68/69, 4C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.19**	**42⇑**	*i*Pg	**Pg**	**10 20 17.1**	**-0.6**
UPM				*e*Sg	**Sg**	**10 20 20.3**	**-0.1**
UPM	**Unac-Piva**	**0.19**	**42**	*e*Pg	**Pg**	**10 20 17.1**	**-0.6**
UPM				*e*Sg	**Sg**	**10 20 20.2**	**-0.1**
BRY	**Bratogost**	**0.22**	**221⇓**	*i*Pg	**Pg**	**10 20 18.1**	**-0.1**
BRY				*e*Sg	**Sg**	**10 20 21.7**	**+0.5**
BRY	**Bratogost**	**0.22**	**221**	*e*Pg	**Pg**	**10 20 18.0**	**-0.1**
BRY				*e*Sg	**Sg**	**10 20 21.9**	**+0.7**
NKY	**Niksic**	**0.32**	**143⇓**	*i*Pg	**Pg**	**10 20 19.4**	**-0.6**
NKY				*e*Sg	**Sg**	**10 20 24.2**	**0.0**
NKME	**Niksic**	**0.34**	**152⇓**	*i*Pg	**Pg**	**10 20 20.3**	**-0.1**
NKME				*e*Sg	**Sg**	**10 20 25.1**	**+0.2**
TREB	**Trebinje**	**0.45**	**219**	*e*Pg	**Pg**	**10 20 21.8**	**-0.6**
TREB				*e*Sg	**Sb**	**10 20 30.0**	**-0.7**
TREB	**Trebinje**	**0.45**	**219**	*e*Pg	**Pg**	**10 20 21.8**	**-0.6**
TREB				*e*Sg	**Sg**	**10 20 29.2**	**+0.9**
CEME	**Cevo**	**0.54**	**165⇓**	*i*Pg	**Pg**	**10 20 23.6**	**-0.5**
CEME				*e*Sg	**Sg**	**10 20 32.0**	**+0.9**
PLE	**Pljevlja**	**0.55**	**61⇓**	*i*Pg	**Pg**	**10 20 24.1**	**-0.3**
PLE				*e*Sg	**Sg**	**10 20 32.6**	**+1.0**
KOME	**Kolasin**	**0.61**	**110⇓**	*i*Pg	**Pg**	**10 20 24.9**	**-0.7**
KOME				*e*Sg	**Sg**	**10 20 34.3**	**+0.7**
HCY	**Herceg Novi**	**0.64**	**196⇓**	*i*Pg	**Pg**	**10 20 26.1**	**0.0**
HCY				*e*Sg	**Sb**	**10 20 36.1**	**-0.2**
HCY	**Herceg Novi**	**0.64**	**196**	*e*Pg	**Pg**	**10 20 25.4**	**-0.7**
HCY				*e*Sg	**Sg**	**10 20 34.5**	**0.0**
PDG	**Podgorica**	**0.74**	**149**	*e*Pg	**Pg**	**10 20 26.8**	**-1.2**
PDG				*e*Sg	**Sg**	**10 20 38.2**	**+0.5**
PDG	**Podgorica**	**0.74**	**149**	*e*Pg	**Pg**	**10 20 26.8**	**-1.2**
PDG				*e*Sg	**Sg**	**10 20 37.6**	**-0.1**
TTG	**Podgorica**	**0.74**	**149⇑**	*i*Pg	**Pg**	**10 20 27.2**	**-0.8**
TTG				*e*Sg	**Sb**	**10 20 38.6**	**-0.5**
BUM	**Brajici-Budva**	**0.77**	**171⇑**	*i*Pg	**Pg**	**10 20 28.1**	**-0.5**
BUM				*e*Sg	**Sb**	**10 20 40.1**	**0.0**
STON	**Ston**	**0.78**	**256**	*e*Pg	**Pg**	**10 20 27.8**	**-1.0**
STON				Sg	**Sb**	**10 20 40.2**	**0.0**
STON	**Ston**	**0.78**	**256**	*e*Pg	**Pg**	**10 20 28.0**	**-0.8**
STON				*e*Sg	**Sg**	**10 20 39.3**	**+0.3**
IVA	**Berane**	**0.87**	**102⇓**	*i*Pg	**Pg**	**10 20 29.8**	**-0.7**
IVA				*e*Sg	**Sb**	**10 20 42.9**	**-0.1**
SJES	**Sjenica**	**0.93**	**77**	*e*Pg	**Pg**	**10 20 31.2**	**-0.4**
SJES				*e*Sg	**Sg**	**10 20 43.6**	**0.0**
BBLS	**Lazići**	**0.94**	**31**	*e*Pg	**Pg**	**10 20 32.0**	**+0.2**
BBLS				*e*Sg	**Sn**	**10 20 46.4**	**-0.5**
BBLS	**Lazići**	**0.94**	**31**	*e*Pg	**Pg**	**10 20 30.3**	**-1.5**
BBLS				*e*Sg	**Sg**	**10 20 43.5**	**-0.5**
DRME	**Dracevica, Mon**	**0.94**	**159⇓**	*i*Pg	**Pg**	**10 20 31.4**	**-0.4**
DRME				*e*Sg	**Sb**	**10 20 45.7**	**+0.9**
DRME	**Dracevica, Mon**	**0.94**	**159**	*e*Pg	**Pg**	**10 20 30.6**	**-1.2**
DRME				*e*Sg	**Sg**	**10 20 43.0**	**-1.0**
PVY	**Plav**	**1.02**	**117⇓**	*i*Pg	**Pg**	**10 20 32.8**	**-0.5**
PVY				*e*Sg	**Sb**	**10 20 47.9**	**+0.8**
HAPS	**Han Pijesak,BI**	**1.03**	**9**	*e*Pg	**Pg**	**10 20 33.3**	**-0.3**
HAPS				*e*Sg	**Sn**	**10 20 49.6**	**+0.3**
HAPS	**Han Pijesak,BI**	**1.03**	**9**	*e*Pg	**Pg**	**10 20 32.6**	**-1.0**
HAPS				*e*Sg	**Sg**	**10 20 47.3**	**+0.3**
ULC	**Ulcinj**	**1.16**	**161⇑**	*i*Pg	**Pg**	**10 20 35.3**	**-0.8**
ULC				*e*Sg	**Sn**	**10 20 53.0**	**+0.7**
DIVS	**Divibare**	**1.38**	**41**	*e*Pg	**Pn**	**10 20 39.5**	**+0.2**
DIVS				*e*Sg	**Sg**	**10 20 59.0**	**+0.9**
DIVS	**Divibare**	**1.38**	**41**	*e*Pg	**Pn**	**10 20 38.6**	**-0.7**
DIVS				*e*Sg	**Sb**	**10 20 57.3**	**-0.3**
GRUS	**Gruza**	**1.66**	**60**	*e*Sg	**Sg**	**10 21 08.3**	**+1.2**
TRUS	**Trudelj**	**1.68**	**46**	*e*Pg	**Pg**	**10 20 45.8**	**-0.1**
TRUS				*e*Sg	**Sg**	**10 21 09.0**	**+1.4**
SELS	**Selova**	**1.75**	**84**	*e*Sg	**Pn**	**10 20 44.7**	**+0.3**
SELS	**Selova**	**1.75**	**84**	*e*Pg	**Sg**	**10 21 09.4**	**-0.6**
ZAPS	**Zavoj**	**2.86**	**84**	*e*Sg	**Pb**	**10 21 05.5**	**+0.5**
ZAPS	**Zavoj**	**2.86**	**84**	*e*Pg	**Sg**	**10 21 44.4**	**-1.2**

DSN ***20*** *10:22:36.5±1.9, 26°.65N×57°.95E, h10km, ML3.6/7, Error ellipse: s-maj=26.4km s-min=7.2km az=5.0*
ISCJB ***20*** *10:22:38.8±0.6, 26°.58N±0°.04×57°.73E±0°.06, h10km, Error ellipse: s-maj=7.8km s-min=5.0km az=165.3*
TEH ***20*** *10:22:39.0, 26°.77N×57°.77E, h8km, ML3.5*
OMAN ***20*** *10:22:40.6±7.4, 26°.63N×57°.90E, h34km±171km, ml3.5/10, Error ellipse: s-maj=146.9km s-min=43.6km az=30.0*
ISC 20 10:22:36.0±0.9, 26°.69N±0°.04×57°.90E±0°.04, h10km, n26, σ1°73/27, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.28**	**313**	*e*Pg	**Pg**	**10 23 01.3**	**+0.6**
NIAN				IAMB	IAmb	10 23 23.2	
	comp=Z,0.0nm,0.3s						
GENO	**Geno**	**1.69**	**295**	*e*Sg	**Sg**	**10 23 32.5**	**+1.9**
GENO				*e*Pn	**Pb**	**10 23 07.3**	**-0.1**
GENO				IAMB	IAmb	10 23 42.2	
	comp=Z,0.0nm,0.4s						
BNDS	**Bandar-Abbas**	**1.69**	**295**	*e*Pg	Pn	10 22 59.5	-6.3
SHME	**Shamm**	**1.70**	**248**	*e*P	**Pb**	**10 23 06.2**	**-1.2**
	SNR=20						
SHME				S	**Sg**	**10 23 29.6**	**-1.1**
MSFE	**Esma-Masafi**	**2.05**	**230**	*e*P	**Pb**	**10 23 11.4**	**-1.9**
	SNR=15						
HATD	**Hatta, Dubai**	**2.44**	**221**	P	**Pn**	**10 23 15.8**	**-0.2**
HATD	**Hatta, Dubai**	**2.44**	**221**	P	**Pn**	**10 23 16.7**	**+0.6**
CHBR	**Chabahar**	**2.56**	**115**	*e*Pn	**Pg**	**10 23 25.6**	**+0.4**
ASHO	**Ashiyiah**	**2.60**	**220**	*e*P	**Pn**	**10 23 18.9**	**+0.8**
	SNR=6.1						
ASHO	**Ashiyiah**	**2.60**	**220**	P	**Pb**	**10 23 21.0**	**-1.7**
	SNR=6.2						
NAZ	**Nazwa, Dubai**	**2.63**	**230**	*e*P	**Pn**	**10 23 19.9**	**+1.3**
	SNR=15						
NAZ	**Nazwa, Dubai**	**2.63**	**230**	P	**Pb**	**10 23 21.6**	**-1.7**
FAQ	**Al Faqa, Dubai**	**2.84**	**228**	P	**Pn**	**10 23 22.3**	**+0.9**
FAQ	**Al Faqa, Dubai**	**2.84**	**228**	P	**Pb**	**10 23 24.4**	**-2.5**
ASUD	**Al Ashush, Dub**	**3.10**	**229**	*i* P	**Pn**	**10 23 25.8**	**+0.8**
	SNR=9.0						
ASUD	**Al Ashush, Dub**	**3.10**	**229**	P	**Pb**	**10 23 28.0**	**-3.2**
	SNR=9.6						
NGRK	**Negar Kerman**	**3.12**	**341**	IAMB	IAmb	10 24 25.2	
	comp=Z,0.0nm,0.6s						
HOQ	**Hoqain**	**3.14**	**190**	P	**Pn**	**10 23 25.5**	**-0.1**
BIDO	**Bidbid**	**3.16**	**176**	P	**Pn**	**10 23 26.6**	**+0.8**
BIDO				S	**Sn**	**10 24 05.5**	**+1.9**
CHMN	**Cheshme madani**	**3.18**	**354**	*e*Pn	**Pb**	**10 23 30.5**	**-2.3**
TVBK	**TV Kerman**	**3.43**	**343**	*e*Pn	**Pb**	**10 23 36.1**	**-1.1**
TVBK				IAMB	IAmb	10 24 39.5	
	comp=Z,0.0nm,0.6s						
ARQ	**Araqi**	**3.56**	**201**	P	**Pn**	**10 23 32.7**	**+1.3**
SMDO	**Samad**	**3.62**	**178**	P	**Pn**	**10 23 34.2**	**+2.0**
ZHSF	**Zahedan**	**3.86**	**40**	*e*Pn	**Pb**	**10 23 43.4**	**-1.0**
KHGB	**Koh Gabri**	**3.88**	**342**	*e*Pn	**Pb**	**10 23 40.6**	**-4.1**
KHGB				IAMB	IAmb	10 24 52.7	
	comp=Z,0.0nm,0.9s						
KLNJ	**Kolanjah**	**7.01**	**309**	*e*Pn	**Pn**	**10 24 19.8**	**+0.8**

MEX 20 10:27:34.3±0.8, 13°.99N×92°.01W, h94km±16km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.95**	**345**	*e*P	Pn	10 27 53.1	-0.6
THIG				*i* S	Sn	10 28 06.2	-2.0
PCIG		**2.07**	**326**	*e*P	Pn	10 28 07.2	-0.3
PCIG				*e*S	Sn	10 28 31.1	-1.8
CCIG	**Comitan**	**2.28**	**357**	*i* P	Pn	10 28 09.8	-0.7
CCIG				*i* S	Sn	10 28 36.6	-1.7
CMIG	**Matias Romero**	**4.14**	**318**	*i* P	Pn	10 28 34.7	-0.7
CMIG				*i* S	Sn	10 29 22.1	-0.6

KRSC 20 10:34:50.0±10.0, 52°.08N×160°.79E, h59km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.12**	**336**	P	Pn	10 35 10.4	+0.8
SPN				S	Sn	10 35 23.5	-0.6
NLC	**Nalytchevo**	**1.40**	**322**	P	Pn	10 35 15.1	+1.8
NLC				S	Sn	10 35 32.4	+1.6
RUS	**Russkaya**	**1.44**	**285**	P	Pn	10 35 15.3	+1.5
RUS				S	Sn	10 35 31.8	+0.1
DALK	**Dalny**	**1.56**	**308**	P	Pn	10 35 17.3	+1.8
DALK				S	Sn	10 35 35.8	+1.1
UGLR	**Uglovaya**	**1.65**	**314**	P	Pn	10 35 19.1	+2.4
UGLR				S	Sn	10 35 39.1	+2.2
MTVR	**Mutnovka**	**1.65**	**285**	P	Pn	10 35 18.6	+1.8
MTVR				S	Sn	10 35 38.1	+1.1
SDLR	**Sedlovina**	**1.67**	**317**	P	Pn	10 35 18.9	+1.9
SDLR				S	Sn	10 35 39.5	+2.1
SMAR	**Somma**	**1.69**	**315**	P	Pn	10 35 18.1	+0.7
KDTR	**Khodutka, Kamc**	**1.70**	**262**	P	Pn	10 35 19.4	+2.1
KDTR				S	Sn	10 35 38.8	+0.9
AVH	**Avacha**	**1.72**	**314**	P	Pn	10 35 20.5	+2.8
AVH				S	Sn	10 35 42.5	+3.8
KRER	**Koryakskii**	**1.75**	**316**	P	Pn	10 35 21.5	+3.4
KRER				S	Sn	10 35 42.9	+3.5
KOK	**Koryaka**	**1.79**	**314**	P	Pn	10 35 21.4	+2.8
KOK				S	Sn	10 35 43.4	+3.2
KRMR	**Karymshinskiy**	**1.79**	**296**	P	Pn	10 35 20.5	+2.0
KRMR				S	Sn	10 35 42.0	+1.8
ASAK	**Asacha**	**1.80**	**281**	P	Pn	10 35 21.5	+2.7
ASAK				S	Sn	10 35 44.2	+3.6
KRX	**Arik**	**1.83**	**315**	P	Pn	10 35 22.2	+3.0
KRX				S	Sn	10 35 45.6	+4.3
APC	**Apacha**	**2.37**	**292**	P	Pn	10 35 30.6	+4.1
APC				S	Sn	10 35 58.3	+3.9
MKZ	**Mys Kozlova**	**2.55**	**12**	P	Pn	10 35 31.3	+2.5
MKZ				S	Sn	10 36 00.1	+1.5
KZV	**Kizimen**	**3.05**	**355**	P	Pn	10 35 38.5	+2.6
KZV				S	Sn	10 36 14.3	+3.0
TUMD	**Tumrok D**	**3.14**	**356**	P	Pn	10 35 40.3	+3.4
TUMD				S	Sn	10 36 15.8	+2.6

IDC ***20*** *10:54:16.8±0.6, 52°.44N×160°.24E, h0km, mb4.1/31, mb1 4.2/35, mb1mx4.1/60, mbtmp4.1/35, ML4.0/4, MS4.3/2, Ms1 4.3/2, ms1mx3.7/44, Error ellipse: s-maj=14.4km s-min=11.0km az=172.0*
KRSC ***20*** *10:54:16.0±10.0, 52°.09N×160°.80E, h66km±10km, ML4.6*
ISCJB ***20*** *10:54:20.9±0.6, 52°.26N±0°.04×160°.49E±0°.06, h51km±3km, mb4.4/75, Error ellipse: s-maj=7.8km s-min=3.9km az=140.9*
MOS ***20*** *10:54:20.9±1.3, 52°.29N×160°.40E, h55km, mb4.9/20, Error ellipse: s-maj=7.4km s-min=3.8km az=100.7*
NEIC ***20*** *10:54:21.6±2.7, 52°.35N×160°.44E, h35km, mb4.7/31, Error ellipse: s-maj=18.1km s-min=11.3km az=139.0*
ISC 20 10:54:20.4±0.6, 52°.22N±0°.04×160°.56E±0°.04, h34km±2km, h35km: pP-P, n238, σ1°56/252, mb4.5/80, 5C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.94**	**340**	*e*P	**Pn**	**10 54 36.3**	**-0.8**
SPN				*e*S	**Sb**	**10 54 51.0**	**+0.6**
SPN	**Mys Shipunski**	**0.94**	**340**	PN	**Pn**	**10 54 36.3**	**-0.8**
SPN				S	**Sb**	**10 54 51.0**	**+0.6**
NLC	**Nalytchevo**	**1.21**	**323**	*e*P	**Pn**	**10 54 40.9**	**+0.1**
NLC	**Nalytchevo**	**1.21**	**323**	PN	**Pn**	**10 54 40.9**	**+0.1**
RUS	**Russkaya**	**1.28**	**280**	*e*P	**Pn**	**10 54 41.6**	**-0.2**
RUS				*e*S	**Sb**	**10 54 59.8**	**-0.2**
RUS	**Russkaya**	**1.28**	**280**	PN	**Pn**	**10 54 41.6**	**-0.2**
RUS				S	**Sb**	**10 54 59.8**	**-0.2**
DALK	**Dalny**	**1.37**	**307**	*e*P	**Pn**	**10 54 43.3**	**+0.2**
DALK				*e*S	**Sb**	**10 55 02.6**	**-0.1**
DALK	**Dalny**	**1.37**	**307**	PN	**Pn**	**10 54 43.3**	**+0.2**
DALK				S	**Sb**	**10 55 02.6**	**-0.1**
PET	**Petropavlovsk**	**1.42**	**305**	*e*Pn	**Pn**	**10 54 43.5**	**-0.2**
PET	**Petropavlovsk**	**1.42**	**305**	*e*P	**Pn**	**10 54 43.9**	**+0.2**
PET	**Petropavlovsk**	**1.42**	**305**	⇑*i*PN	**Pn**	**10 54 44.1**	**+0.4**
PET				*e*S	**Sn**	**10 55 03.3**	**+2.2**
PET				pmax	pmax		
	comp=Z,700nm,3.7s						
PET				pmax	pmax		
	comp=Z,3μm,3.4s						
PET				pmax	pmax		
	comp=Z,1μm,0.4s						
PET				smax	smax		
	comp=E,4μm,0.7s						
PET				smax	smax		
	comp=N,3μm,0.7s						
UGLR	**Uglovaya**	**1.45**	**314**	*e*P	**Pn**	**10 54 45.5**	**+1.2**
UGLR	**Uglovaya**	**1.45**	**314**	PN	**Pn**	**10 54 45.5**	**+1.2**
SDLR	**Sedlovina**	**1.47**	**317**	*e*P	**Pn**	**10 54 45.3**	**+0.7**
SDLR	**Sedlovina**	**1.47**	**317**	PN	**Pn**	**10 54 45.3**	**+0.7**
SMAR	**Somma**	**1.50**	**315**	*e*P	**Pn**	**10 54 46.2**	**+1.2**
SMAR	**Somma**	**1.50**	**315**	PN	**Pn**	**10 54 46.2**	**+1.2**
AVH	**Avacha**	**1.52**	**314**	*e*P	**Pn**	**10 54 46.5**	**+1.2**
AVH	**Avacha**	**1.52**	**314**	PN	**Pn**	**10 54 46.5**	**+1.2**
KRER	**Koryakskii**	**1.55**	**315**	*e*P	**Pn**	**10 54 46.4**	**+0.7**
KRER	**Koryakskii**	**1.55**	**315**	PN	**Pn**	**10 54 46.4**	**+0.7**
GRL	**Gorelyy**	**1.56**	**283**	*e*P	**Pb**	**10 54 47.9**	**-0.9**
GRL	**Gorelyy**	**1.56**	**283**	PN	**Pb**	**10 54 47.9**	**-0.9**
KOK	**Koryaka**	**1.59**	**313**	*e*P	**Pn**	**10 54 47.6**	**+1.4**
KOK	**Koryaka**	**1.59**	**313**	PN	**Pn**	**10 54 47.6**	**+1.4**
KDTR	**Khodutka, Kamc**	**1.59**	**256**	*e*P	**Pn**	**10 54 45.3**	**-0.8**
KDTR				*e*S	**Sn**	**10 55 05.5**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.59**	**256**	PN	**Pn**	**10 54 45.3**	**-0.8**
KDTR				S	**Sn**	**10 55 05.5**	**+0.1**
KRMR	**Karymshinskiy**	**1.61**	**293**	*e*P	**Pn**	**10 54 46.8**	**+0.5**
KRMR				*e*S	**Sn**	**10 55 08.6**	**+2.8**
KRMR	**Karymshinskiy**	**1.61**	**293**	PN	**Pn**	**10 54 46.8**	**+0.5**
KRMR				S	**Sn**	**10 55 08.6**	**+2.8**
KRX	**Arik**	**1.63**	**315**	*e*P	**Pn**	**10 54 48.5**	**+1.7**
KRX	**Arik**	**1.63**	**315**	PN	**Pn**	**10 54 48.5**	**+1.7**
PEA0B	**Petropavlovsk-**	**1.96**	**298**	*e*Pn	**Pn**	**10 54 52.4**	**+1.2**
PEA0B	**Petropavlovsk-**	**1.96**	**298**	*e*PN	**Pn**	**10 54 52.4**	**+1.2**
PETK	**Petropavlovsk-**	**1.96**	**298**	*e*Pn	**Pn**	**10 54 52.0**	**+0.8**
PETK	**Petropavlovsk-**	**1.96**	**298**	Pn	**Pn**	**10 54 52.2**	**+1.1**
	comp=N,41nm,0.3s,baz=110,slow=15,SNR=97						
PETK				Sn	**Sb**	**10 55 19.6**	**+0.1**
	comp=N,50nm,0.3s,baz=101,slow=20,SNR=9.0						
PEA1	**Petropavlovsk-**	**1.96**	**298**	*e*Pn	**Pn**	**10 54 52.2**	**+1.0**
PEA1				*e*Sn	**Sb**	**10 55 19.6**	**+0.1**
MKZ	**Mys Kozlova**	**2.44**	**16**	*e*P	**Pn**	**10 54 57.3**	**-0.5**
MKZ				*e*S	**Sn**	**10 55 26.2**	**-0.2**
MKZ	**Mys Kozlova**	**2.44**	**16**	PN	**Pn**	**10 54 57.3**	**-0.5**
MKZ				S	**Sn**	**10 55 26.2**	**-0.2**
PAU	**Pauzhetka**	**2.45**	**253**	*e*P	**Pn**	**10 54 58.9**	**+1.0**
PAU	**Pauzhetka**	**2.45**	**253**	PN	**Pn**	**10 54 58.9**	**+1.0**
KZV	**Kizimen**	**2.90**	**357**	*e*P	**Pn**	**10 55 05.2**	**+0.9**
KZV	**Kizimen**	**2.90**	**357**	PN	**Pn**	**10 55 05.2**	**+0.9**
TUMD	**Tumrok D**	**2.99**	**358**	*e*P	**Pn**	**10 55 05.5**	**+0.1**
TUMR	**Tumrok**	**3.08**	**356**	*e*P	**Pn**	**10 55 08.0**	**+1.3**
TUMR	**Tumrok**	**3.08**	**356**	PN	**Pn**	**10 55 08.0**	**+1.3**
SKR	**Severo-Kuril's**	**3.18**	**243**	*e*P	**Pn**	**10 55 07.5**	**-0.5**
SKR				*e*S	**Sn**	**10 55 43.4**	**-1.2**
SKR	**Severo-Kuril's**	**3.18**	**243**	*e*PN	**Pn**	**10 55 07.4**	**-0.5**
SKR				*e*S	**Sn**	**10 55 42.9**	**-1.7**
SKR				pmax	pmax		
	comp=Z,66nm,0.4s						
SKR				smax	smax		
	comp=N,623nm,0.6s						
SKR				smax	smax		
	comp=E,713nm,0.5s						
ALID	**Alaid**	**3.41**	**249**	*e*P	**Pn**	**10 55 11.8**	**+0.5**
ALID	**Alaid**	**3.41**	**249**	PN	**Pn**	**10 55 11.8**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**3.73**	**1**	*e*P	**Pn**	**10 55 16.1**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**3.73**	**1**	PN	**Pn**	**10 55 16.1**	**+0.5**
KOZ	**Kozyrevsk**	**3.87**	**354**	*e*P	**Pn**	**10 55 18.4**	**+1.0**
KOZ	**Kozyrevsk**	**3.87**	**354**	PN	**Pn**	**10 55 18.4**	**+1.0**
ESO	**Esso**	**3.87**	**344**	*e*P	**Pn**	**10 55 18.7**	**+1.2**
ESO	**Esso**	**3.87**	**344**	PN	**Pn**	**10 55 18.7**	**+1.2**
LGNR	**Loginova**	**3.87**	**1**	*e*P	**Pn**	**10 55 18.1**	**+0.4**
LGNR	**Loginova**	**3.87**	**1**	PN	**Pn**	**10 55 18.1**	**+0.4**
CIRR	**Tsirk**	**3.90**	**2**	*e*P	**Pn**	**10 55 18.2**	**+0.2**
CIRR	**Tsirk**	**3.90**	**2**	PN	**Pn**	**10 55 18.2**	**+0.2**
KRSR	**Krestovskiy**	**4.00**	**0**	*e*P	**Pn**	**10 55 19.2**	**-0.2**
KRSR	**Krestovskiy**	**4.00**	**0**	PN	**Pn**	**10 55 19.2**	**-0.2**
KLY	**Klyuchi**	**4.10**	**1**	*e*P	**Pn**	**10 55 21.4**	**+0.8**
KLY	**Klyuchi**	**4.10**	**1**	PN	**Pn**	**10 55 21.4**	**+0.8**
SRDR	**Sredinnyy**	**4.13**	**353**	*e*P	**Pn**	**10 55 22.9**	**+1.8**
SRDR	**Sredinnyy**	**4.13**	**353**	PN	**Pn**	**10 55 22.9**	**+1.8**
KBTR	**Krutoberegovo**	**4.21**	**17**	*e*P	**Pn**	**10 55 23.2**	**+1.1**
KBTR	**Krutoberegovo**	**4.21**	**17**	PN	**Pn**	**10 55 23.2**	**+1.1**
KBG	**Krutoberegovo**	**4.23**	**16**	*e*P	**Pn**	**10 55 22.7**	**+0.3**
KBG	**Krutoberegovo**	**4.23**	**16**	PN	**Pn**	**10 55 22.7**	**+0.3**
BKI	**Bering**	**4.39**	**45**	*e*P	**Pn**	**10 55 24.3**	**-0.2**
BKI				*e*S	**Sn**	**10 56 09.2**	**-5.1**
BKI	**Bering**	**4.39**	**45**	PN	**Pn**	**10 55 24.3**	**-0.2**

comp=Z,2.0nm,0.8s
H11S1 WAKE ISLAND Hy 33.99 170 T T 11 38 36.8
baz=350,slow=74
H11S3 WAKE ISLAND Hy 34.00 170 T T 11 38 26.0
baz=350,slow=74
H11S2 WAKE ISLAND Hy 34.01 170 T T 11 38 41.9
baz=350
SONA0 Songino Array 34.39 285 *e*P **P 11 01 02.4 -1.8**
SONM Songino Array 34.39 285 P **P 11 01 02.4 -1.8**
comp=Z,0.5nm,0.4s,baz=44,slow=8.8,SNR=3.1
HHC Hu-ho-hao-te 34.93 271 *e*P **P 11 01 07.3 -1.6**
ZAK Zakamensk 35.06 290 *e*P **P 11 01 08.3 -1.6**
ZAK pmax pmax
comp=Z,5.0nm,1.5s
NJ2 Nanjing 36.26 253 *e*P **P 11 01 21.4 +1.2**
WHN Wuhan 40.01 256 P P 11 01 59.4 +7.6
LZH Lanzhou 42.63 271 *e*P **P 11 02 14.9 +1.4**
LZH pP sP 11 02 30.1 +4.2
LZH sP pwP 11 02 36.0 +10
ZALV Zalesovo Beam 43.49 304 *e*P **P 11 02 17.3 -2.7**
ZALV Zalesovo Beam 43.49 304 P **P 11 02 18.7 -1.3**
comp=Z,0.9nm,0.5s,baz=59,slow=5.6,SNR=4.0
YKA Yellowknife Ar 43.62 42 P **P 11 02 21.9 +1.0**
comp=Z,0.1nm,0.5s,baz=298,slow=8.1,SNR=3.1
NVS Novosibirsk 43.85 305 *e*P **P 11 02 21.7 -1.1**
DGZ Jazzator, Alta 44.32 297 *i*P **P 11 02 24.9 -2.0**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
CD2 Chengdu 46.17 266 *e*P **P 11 02 40.9 -0.8**
WMQ Urumqi 47.53 290 *e*P **P 11 02 53.5 +1.3**
GYA Guiyang 47.60 259 *e*P P 11 03 06.4 +13
SPA0 Spitsbergen Ar 48.04 351 *e*P **P 11 02 56.1 +0.4**
comp=Z,21nm,1.1s
SPITS Spitsbergen Ar 48.04 351 P **P 11 02 56.1 +0.4**
comp=Z,3.4nm,0.5s,baz=67,slow=8.4,SNR=22
KURK Kurchatov 48.44 303 *e*P **P 11 02 57.6 -1.4**
comp=Z,18nm,1.1s
KURK Kurchatov 48.44 303 *i*P **P 11 02 56.4 -2.6**
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURBB Kurchatov Arra 48.54 303 P **P 11 02 58.2 -1.6**
comp=Z,1.5nm,0.3s,baz=61,slow=7.7,SNR=16
GLK Glacier Lake 48.69 64 *e*P P 11 03 05.7 +4.5
MK31 Makanchi Array 48.80 297 *e*P **P 11 03 00.8 -1.1**
comp=Z,2.3nm,0.6s
MKAR Makanchi Array 48.80 297 P **P 11 03 00.5 -1.4**
comp=Z,1.5nm,0.5s,baz=58,slow=7.3,SNR=24
MAKZ Makanchi 48.96 297 *e*P **P 11 03 02.0 -1.1**
comp=Z,3.4nm,0.8s
KMI Kunming 50.96 261 P **P 11 03 17.3 -1.5**
KMI sP pP 11 03 28.4 +0.1
YBH Yreka Blue Hor 51.06 69 P **P 11 03 21.0 +1.8**
YBH Yreka Blue Hor 51.06 69 P **P 11 03 21.0 +1.8**
comp=Z,1.0nm,0.8s,baz=306,slow=14,SNR=1.6
BVAR Borovoye Array 51.16 309 P **P 11 03 18.8 -0.9**
comp=Z,5.7nm,0.6s,baz=53,slow=8.2,SNR=27
BRVK Borovoye 51.19 309 *e*P **P 11 03 19.5 -0.4**
comp=Z,13nm,0.6s
BRVK Borovoye 51.19 309 *i*P **P 11 03 16.4 -3.5**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
QIZ Qiongzhong 51.39 250 P **P 11 03 21.5 -0.3**
QIZ S **S 11 10 38.3 -0.7**
OTUK Ortayu 53.19 303 P **P 11 03 34.6 -0.3**
OTUK pmax pmax
comp=Z,8.0nm,1.0s
ARA0 ARCESS Array S 54.21 342 *e*P **P 11 03 41.6 -0.3**
ARCES ARCESS Array B 54.21 342 P **P 11 03 41.6 -0.3**
comp=Z,3.1nm,0.8s,baz=31,slow=9.9,SNR=6.4
ARU Arti 54.23 318 *e*P **P 11 03 41.6 -0.7**
comp=Z,12nm,0.7s
ARU Arti 54.23 318 *d i*P **P 11 03 38.9 -3.4**
ARU +PP **pP 11 03 50.8 -0.9**
ARU S **S 11 11 15.0 -1.9**
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 54.23 318 P **P 11 03 41.6 -0.7**
comp=Z,2.5nm,0.3s,baz=72,slow=4.0,SNR=12
SUMG Summit 54.79 7 *e*P **P 11 03 48.0 +1.3**
comp=Z,10.0nm,1.1s
AAK Ala-Archa 55.72 297 *i*P P 11 03 47.5 -6.0
AAK pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 55.72 297 P **P 11 03 52.6 -0.9**
comp=Z,0.7nm,0.3s,baz=173,slow=5.8,SNR=3.9
NVAR Mina Array Bea 55.77 70 P **P 11 03 55.9 +2.0**
comp=Z,1.0nm,0.7s,baz=295,slow=6.6,SNR=9.5
ELK Elko 55.95 66 P **P 11 03 57.1 +1.8**
comp=Z,0.5nm,0.5s,baz=299,slow=8.6,SNR=3.7
DPD Davis Peak 56.51 74 *e*P **P 11 03 59.9 +0.9**
KSH Kashi 57.01 293 P **P 11 04 00.3 -2.3**
KSH pP pP 11 04 12.8 +0.4
KSH PP **PP 11 06 09.6 +0.4**
KSH S **S 11 11 50.8 -3.8**
KSH Kashi 57.01 293 SS **SS 11 15 40.9 -2.0**
PHRA Phrae 57.48 258 P **P 11 04 09.3 +3.3**
comp=Z,1.3nm,1.8s,comp=Z,148nm
PDAR Pinedale Array 57.70 6 P **P 11 04 10.9 +3.3**
comp=Z,0.3nm,0.5s,baz=319,slow=6.6,SNR=3.0
KLMR Klimovskoe 57.85 330 *e*P **P 11 04 06.1 -1.9**
KLMR pmax pmax
comp=Z,14nm,0.9s
UTTA Uttaradit 57.87 257 P **P 11 04 12.1 +3.4**
comp=Z,9μm,0.8s
CMMT Chiang Mai 58.01 259 P **P 11 04 11.4 +1.6**
CHTO Chiang Mai 58.02 259 *e*P **P 11 04 10.1 +0.3**
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 58.02 259 P **P 11 04 11.5 +1.7**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CMAR Chiang Mai Arr 58.29 259 P **P 11 04 13.1 +1.4**
comp=Z,2.9nm,0.7s,baz=30,slow=6.8,SNR=14
JOF Joensuu 58.48 335 P **P 11 04 13.6 +1.2**
JOF pmax pmax
comp=Z,16nm,0.9s
AKTO Aktyubinsk 58.62 313 P **P 11 04 13.0 -0.7**
AKTO Aktyubinsk 58.62 313 P **P 11 04 12.9 -0.7**
comp=Z,1.4nm,0.5s,baz=82,slow=6.0,SNR=6.5
JIRN Jiri 59.27 276 *e*P **P 11 04 18.9 0.0**
RAMN Ramite 59.53 276 *e*P **P 11 04 20.4 -0.2**
comp=Z,30nm,0.5s
KKN Kakani 59.73 277 *e*P **P 11 04 21.9 0.0**
comp=Z,21nm,0.6s
PKI Pulchoki 59.81 277 *e*P **P 11 04 22.3 -0.3**
comp=Z,12nm,0.6s
PKIN Phulchoki 59.81 277 *e*P **P 11 04 22.4 -0.1**
SUF Sumiainen 59.91 338 P **P 11 04 23.7 +1.4**
SUF pmax pmax
comp=Z,24nm,0.7s
DMN Daman 59.97 277 *e*P **P 11 04 23.7 +0.1**
comp=Z,22nm,0.7s
DANC Danby, Needles 60.09 71 *e*P **P 11 04 26.4 +2.3**
DANN Dangsing 60.25 279 *e*P **P 11 04 25.5 0.0**
comp=Z,19nm,0.7s
GAR Garm 60.52 296 *e*P **P 11 04 26.4 -0.7**
comp=Z,11nm,1.0s
KOLN Koldanda 60.77 278 *e*P **P 11 04 28.9 -0.1**
comp=Z,9.4nm,0.5s
FINES FINESS Array B 61.03 337 P **P 11 04 30.9 +0.9**
comp=Z,7.0nm,0.6s,baz=46,slow=8.2,SNR=27
NIL Nilore 62.68 290 *e*P **P 11 04 41.0 -0.6**
comp=Z,11nm,0.8s
NIL Nilore 62.68 290 P **P 11 04 41.0 -0.6**
NIL pmax pmax
comp=Z,11nm,0.8s
OBN Obninsk 63.41 328 *e*P P 11 04 41.1 -4.8
OBN *e* 11 05 18.8
OBN pmax pmax
comp=Z,6.0nm,0.8s
VSU Vasula 63.46 335 *i*P P 11 04 39.1 -7.2
VSU pmax pmax
comp=Z,23nm,0.8s
NC405 NORSAR Array S 64.31 344 *e*P **P 11 04 53.1 +1.3**
comp=Z,8.2nm,0.8s
NB2 NORSAR Subarra 64.46 344 P **P 11 04 53.0 0.0**
comp=Z,1.3nm,0.5s,baz=21,slow=6.9
NB2 NORSAR Subarra 64.46 344 P **P 11 04 52.9 0.0**
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 64.46 344 P **P 11 04 52.9 0.0**
comp=Z,2.6nm,0.7s,baz=21,slow=6.6,SNR=12
LPSR Galich'ya Gora 64.66 325 *e*P **P 11 04 52.3 -2.0**
LPSR *e**SP **pP 11 05 04.9 +1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VRH Novokhopyorsk 64.78 322 *e*P **P 11 04 54.0 -1.0**
VRH *e**SP **pP 11 05 05.1 +0.4**
VRH pmax pmax
comp=Z,9.0nm,0.6s
VSR Storozhevoye 65.71 324 *e*P **P 11 04 59.2 -1.9**
VSR *e**SP **pP 11 05 11.6 +0.8**
VSR pmax pmax
comp=Z,6.0nm,0.6s
VORD Divnogorie 65.87 324 *e*P **P 11 04 59.4 -2.7**
VORD *e**SP **pP 11 05 12.7 +0.9**
VORD pmax pmax
comp=Z,2.0nm,0.4s
IZAR Zarasai 65.97 334 *e*P **P 11 05 03.1 +0.5**
IZAR IAmb IAmb 11 05 08.3
comp=Z,13nm,0.5s
ISAL Salakas 66.16 334 *e*P **P 11 05 04.3 +0.4**
ISAL IAmb IAmb 11 05 04.4
comp=Z,17nm,0.3s
IDID Didziasalis 66.21 333 *e*P **P 11 05 04.5 +0.2**
IDID IAmb IAmb 11 05 07.7
comp=Z,4.0nm,0.9s
IIGN Ignalina 66.32 334 *e*P **P 11 05 05.2 +0.2**
IIGN IAmb IAmb 11 05 08.5
comp=Z,5.0nm,0.7s
PABE Paberze 66.79 335 IAmb IAmb 11 05 05.9
comp=Z,10nm,0.3s
GEYT Alibeck 67.81 303 P **P 11 05 15.2 +0.4**
comp=Z,3.5nm,0.5s,baz=345,slow=1.6,SNR=3.6
AKASG Malin Array Be 69.51 329 P **P 11 05 24.9 -0.2**
comp=Z,2.4nm,0.5s,baz=30,slow=6.5,SNR=13
AKBB Malin Array Si 69.51 329 *e*P **P 11 05 24.4 -0.6**
comp=Z,9.5nm,0.8s
KIEV Kiev 69.52 329 *i*P P 11 05 19.8 -5.3
KIEV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 70.37 317 P **P 11 05 30.9 +0.5**
comp=Z,4.6nm,0.8s,baz=45,slow=1.7,SNR=10
ZEI Tsey 70.71 316 *e*P **P 11 05 31.0 -1.8**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
LTX Lajitas 70.72 67 *e*P **P 11 05 34.3 +1.4**
TXAR Lajitas Array 70.72 67 P **P 11 05 34.3 +1.4**
comp=Z,0.5nm,0.7s,baz=305,slow=3.2,SNR=3.4
GNI Garni 72.48 314 *i*P P 11 05 37.4 -6.1
GNI pmax pmax
comp=Z,27nm,1.1s
KOLS Kolonicke sedl 73.15 333 *e*P **P 11 05 48.5 +1.4**
KOLS Kolonicke sedl 73.15 333 *e*P **P 11 05 48.5 +1.4**
CLL Collm 73.27 339 *e*P **P 11 05 48.5 +0.8**
comp=Z,5.4nm,0.7s
CLL Collm 73.27 339 *e*P **P 11 05 49.0 +1.3**
CLL *i* 11 06 00.4
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 73.27 339 *e*P **P 11 05 49.0 +1.3**
comp=Z,4.0nm,0.9s
CLL *i* pP **sP 11 06 00.4 -0.2**
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 73.64 336 P **P 11 05 53.4 +3.4**
MORC pmax pmax
comp=Z,5.0nm,0.9s
LANS Liptovska Anna 73.72 335 *e*P **P 11 05 52.1 +1.6**
LANS Liptovska Anna 73.72 335 *e*P **P 11 05 52.1 +1.6**
VYHS Vyhne 74.49 335 *e*P **P 11 05 57.5 +2.5**
VYHS Vyhne 74.49 335 *e*P **P 11 05 57.5 +2.5**
PSZ Piszkesteto 74.73 334 P **P 11 05 59.7 +3.2**
PSZ pmax pmax
comp=Z,8.0nm,0.9s
MEM Membach 75.30 344 ⇑P **P 11 05 59.6 0.0**
comp=Z,7.7nm,0.8s
MEM ⇑pP **pwP 11 06 13.3 -0.6**
GERES GERESS Array B 75.43 338 P **P 11 06 01.6 +1.1**
comp=Z,0.5nm,0.6s,baz=40,slow=6.9,SNR=5.9
BCLA Clavier 75.61 344 ⇑P **P 11 06 02.7 +1.4**
CONA Conrad Observa 75.77 336 P **P 11 06 04.4 +1.9**
comp=Z,0.6nm,0.4s
ARSA Arzberg 76.49 336 P **P 11 06 06.9 +0.4**
comp=Z,2.5nm,0.9s
Z50A Ashland 77.02 52 *e*P **P 11 06 06.8 -2.8**
comp=Z,6.7nm,1.1s
SOKA Soboth 77.14 336 *e*P **P 11 06 10.6 +0.4**
comp=Z,3.0nm,1.0s
KBA Koelnbreinsper 77.17 338 *e*P **P 11 06 12.8 +2.3**
comp=Z,4.8nm,0.7s
KBA Koelnbreinsper 77.17 338 P **P 11 06 13.1 +2.6**
KBA pmax pmax
comp=Z,16nm,0.8s
BRTR Keskin Array B 77.48 321 P **P 11 06 12.8 +0.5**
comp=Z,1.0nm,0.8s,baz=37,slow=6.4,SNR=5.8
SQTA Sankt Quirin 77.52 339 *e*P **P 11 06 14.5 +2.1**
comp=Z,2.5nm,0.6s
ABTA Abfaltersbach 77.67 338 P **P 11 06 14.9 +1.7**
comp=Z,1.1nm,0.7s
FETA Feichten 77.81 339 *i*P **P 11 06 17.3 +3.2**
ASAR Alice Springs 79.08 205 P **P 11 06 21.7 +0.7**
comp=Z,0.5nm,0.7s,baz=18,slow=5.3,SNR=11
ESDC Sonseca Array 87.49 348 P **P 11 07 05.3 +0.9**
comp=Z,0.1nm,0.3s,baz=51,slow=5.0,SNR=2.8

KRSC 20 11:00:45.6±10.0, 52°.05N×160°.85E, h64km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.16**	**335**	*e*P	Pn	11 01 06.5	+0.7
SPN				*e*S	Sn	11 01 22.2	+1.3
NLC	**Nalytchevo**	**1.45**	**321**	*e*P	Pn	11 01 11.2	+1.6
NLC				*e*S	Sn	11 01 29.2	+1.5
RUS	**Russkaya**	**1.49**	**286**	*e*P	Pn	11 01 11.8	+1.7
RUS				*e*S	Sn	11 01 29.9	+1.3
DALK	**Dalny**	**1.61**	**308**	*e*P	Pn	11 01 13.6	+1.8
PET	**Petropavlovsk**	**1.66**	**307**	*e*P	Pn	11 01 14.6	+2.2
UGLR	**Uglovaya**	**1.69**	**314**	*e*P	Pn	11 01 15.6	+2.6
MTVR	**Mutnovka**	**1.69**	**286**	*e*P	Pn	11 01 15.2	+2.1
MTVR				*e*S	Sn	11 01 35.8	+2.0
SDLR	**Sedlovina**	**1.71**	**316**	*e*P	Pn	11 01 15.4	+2.1
KDTR	**Khodutka, Kamc**	**1.73**	**263**	*e*P	Pn	11 01 15.3	+1.9
KDTR				*e*S	Sn	11 01 35.6	+1.1
SMAR	**Somma**	**1.74**	**315**	*e*P	Pn	11 01 15.8	+2.1
AVH	**Avacha**	**1.77**	**314**	*e*P	Pn	11 01 16.7	+2.7
KRER	**Koryakskii**	**1.79**	**315**	*e*P	Pn	11 01 16.8	+2.4
KOK	**Koryaka**	**1.83**	**313**	*e*P	Pn	11 01 17.6	+2.7
KRMR	**Karymshinskiy**	**1.84**	**296**	*e*P	Pn	11 01 17.1	+2.3
KRMR				*e*S	Sn	11 01 39.2	+2.1
ASAK	**Asacha**	**1.84**	**281**	*e*P	Pn	11 01 17.7	+2.7
KRX	**Arik**	**1.87**	**315**	*e*P	Pn	11 01 17.9	+2.5
APC	**Apacha**	**2.42**	**293**	*e*P	Pn	11 01 26.3	+3.6
MKZ	**Mys Kozlova**	**2.56**	**12**	*e*P	Pn	11 01 26.9	+2.3
KZV	**Kizimen**	**3.08**	**354**	*e*P	Pn	11 01 35.0	+3.1
TUMD	**Tumrok D**	**3.17**	**355**	*e*S	Sn	11 02 12.7	+3.2
TUMR	**Tumrok**	**3.26**	**353**	*e*P	Pn	11 01 38.1	+3.8
SKR	**Severo-Kuril's**	**3.27**	**247**	*e*P	Pn	11 01 37.4	+3.1
SKR				*e*S	Sn	11 02 14.6	+2.7
KBTR	**Krutoberegovo**	**4.32**	**15**	P	Pn	11 01 52.6	+3.9
BKI	**Bering**	**4.39**	**42**	*e*S	Sn	11 02 39.8	+0.5

*SOF **20** 11:03:20.2, 41°.32N×23°.49E, h3km*

ATH 20 11:03:19.7, 41°.28N×23°.50E, h12km±4km, ML1.6/6, Error ellipse: s-maj=4.1km s-min=1.0km az=109.0, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.18**	**157**	P	Pg	11 03 23.9	+0.2
SRS				S	Sg	11 03 26.9	+0.4
SRS				AML	AML	11 03 27.4	
	comp=E,361μm,0.1s						
SRS				AML	AML	11 03 27.5	
	comp=N,558μm,0.1s						
NVR	**Nevrokopi**	**0.28**	**76**	P	Pg	11 03 25.5	-0.1
NVR				S	Sg	11 03 29.5	+0.1
NVR				AML	AML	11 03 29.7	
	comp=E,396μm,0.1s						
NVR				AML	AML	11 03 29.7	
	comp=N,458μm,0.1s						
MMB	**Musomiste**	**0.35**	**29**	*i* Pg	Pg	11 03 26.2	-0.6
KNT	**Kendrikon**	**0.47**	**256**	P	Pg	11 03 29.0	0.0
KNT				S	Sg	11 03 35.5	+0.3
KNT				AML	AML	11 03 35.8	
	comp=E,201μm,0.1s						
KNT				AML	AML	11 03 36.0	
	comp=N,197μm,0.1s						
SOH	**Sokhos**	**0.47**	**194**	P	Pg	11 03 29.0	0.0
SOH				AML	AML	11 03 36.4	
	comp=N,88μm,0.2s						
SOH				AML	AML	11 03 37.9	
	comp=E,84μm,0.3s						
KKB	**Krupnik**	**0.67**	**332**	*i* Pg	Pg	11 03 31.7	-1.0
HORT	**Hortiatis**	**0.75**	**204**	P	Pg	11 03 34.0	-0.2
HORT				S	Sb	11 03 44.4	-0.4
KAVA	**Kavala**	**0.81**	**110**	P	Pb	11 03 35.7	-0.1
KAVA				S	Sb	11 03 46.5	-0.2
PLG	**Polygyros**	**0.91**	**183**	P	Pg	11 03 36.7	-0.5
RZN	**Rozhen**	**1.00**	**66**	P	Pn	11 03 39.8	+0.1
OUR	**Ouranopolis**	**1.01**	**159**	P	Pg	11 03 39.4	+0.2
OUR				AML	AML	11 03 55.5	
	comp=N,225μm,0.4s						
OUR				AML	AML	11 03 55.9	
	comp=E,94μm,0.3s						
THAS	**Thassos island**	**1.14**	**126**	P	Pb	11 03 41.2	-0.1
THAS				S	Sn	11 03 56.8	-0.2
THAS				AML	AML	11 03 59.0	
	comp=N,51μm,0.2s						
THAS				AML	AML	11 03 59.3	
	comp=E,62μm,0.3s						
VTS	**Vitosha**	**1.35**	**352**	P	Pg	11 03 45.4	-0.3
PAIG	**Paliouri**	**1.36**	**174**	P	Pn	11 03 44.2	-0.3

*YARS **20** 11:12:19.0, 67°.66N×143°.66E, h3km*
*ISCJB **20** 11:12:20.1±0.6, 67°.64N±0°.05×142°.9E±0°.2, h10km, mb3.3/3, Error ellipse: s-maj=13.8km s-min=5.3km az=154.2*
*IDC **20** 11:12:20.6±1.5, 67°.55N×142°.94E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/43, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=38.7km s-min=24.3km az=1.0*

ISC 20 11:12:22.3±0.7, 67°.61N±0°.04×142°.90E±0°.09, h10km, n10, σ2°.05/27, mb3.4/3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEPR	**Deputatskiy**	**2.10**	**330**	*e*Pn	**Pn**	**11 12 56.9**	**-0.7**
DEPR				*i* Pg	**Pb**	**11 12 58.7**	**-1.8**
DEPR				*e*Pg	**Pb**	**11 12 58.7**	**-1.8**
	22nm,0.4s						
DEPR				*e*Sn	**Sb**	**11 13 25.5**	**-1.2**
DEPR				*e*Sn	**Sb**	**11 13 25.5**	**-1.2**
DEPR				*e*Sg	**Sg**	**11 13 28.4**	**-1.5**
DEPR				*e*Sg	**Sn**	**11 13 28.5**	**+4.8**
	103nm,0.3s						
UNR	**Ust'-Nera**	**3.06**	**177**	*e*Pn	**Pn**	**11 13 09.6**	**-1.0**
UNR				*i* Pg	**Pb**	**11 13 15.3**	**-1.4**
	18nm,0.5s						
UNR				*i* Pg	**Pb**	**11 13 15.3**	**-1.4**
UNR				*e*Sn	**Sn**	**11 13 47.3**	**+0.1**
UNR				*e*Sn	**Sn**	**11 13 47.3**	**+0.1**
UNR				*e*Sg	**Sb**	**11 13 56.1**	**+2.1**
UNR				*e*Sg	**Sb**	**11 13 56.1**	**+2.1**
	59nm,0.5s						
SEY	**Seymchan**	**6.15**	**135**	Pn	**Pn**	**11 13 52.1**	**-0.9**
	0.2nm,0.3s,baz=258,slow=20,SNR=3.8						
SEY				Lg	Lg	11 15 31.6	
	1.1nm,0.3s,baz=15,slow=17,SNR=5.8						
TIXI	**Tiksi**	**6.35**	**316**	*e*Pn	**Pn**	**11 13 56.4**	**+0.6**
TIXI				*e*Pg	**Pb**	**11 14 16.4**	**+3.7**
	6.9nm,0.2s						
TIXI				*e*Sn	**Sn**	**11 15 10.2**	**+2.1**
TIXI				*e*Sn	**Sn**	**11 15 10.2**	**+2.1**
TIXI				*e*Sg	**Sg**	**11 15 43.0**	**-2.7**
TIXI				*e*Sg	**Sg**	**11 15 43.0**	**-2.7**
	30nm,0.5s						
TIXI	**Tiksi**	**6.35**	**316**	**Pn**	**Pn**	**11 13 57.1**	**+1.3**
	0.7nm,0.3s,baz=119,slow=17,SNR=44						
TIXI				Sn	**Sn**	**11 15 05.2**	**-2.9**
	1.7nm,0.3s,baz=15,slow=15,SNR=6.4						
TIXI				Lg	Lg	11 15 35.6	
	1.1nm,0.3s,baz=27,slow=17,SNR=4.1						
MA2	**Magadan**	**8.78**	**153**	Lg	Lg	11 16 57.1	
	0.2nm,0.3s,baz=85,slow=23,SNR=4.9						
PETK	**Petropavlovsk-**	**16.21**	**147**	Pn	**P**	**11 16 14.7**	**+1.7**
	0.1nm,0.3s,baz=344,slow=4.8,SNR=5.4						
ILAR	**Eielson Array**	**27.11**	**62**	P	**P**	**11 18 04.5**	**-0.3**
	0.8nm,0.9s,baz=296,slow=7.6,SNR=6.3						
MKAR	**Makanchi Array**	**36.84**	**267**	P	**P**	**11 19 29.6**	**-0.6**
	0.6nm,0.7s,baz=50,slow=6.5,SNR=5.5						
YKA	**Yellowknife Ar**	**38.77**	**46**	P	**P**	**11 19 46.3**	**-0.1**
	0.2nm,0.5s,baz=319,slow=8.0,SNR=3.9						

MEX 20 11:21:39.3±0.6, 15°.42N×93°.78W, h78km±14km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.61**	**62**	*e*P	Pn	11 21 52.6	-1.4
PCIG				*e*S	Sn	11 22 03.1	-1.8
THIG		**1.55**	**109**	*i* P	Pn	11 22 04.3	-0.9
THIG				*e*S	Sn	11 22 23.2	-1.6
CCIG	**Comitan**	**1.80**	**61**	*i* P	Pn	11 22 06.9	-1.8
CCIG				*i* S	Sn	11 22 28.8	-2.3
CMIG	**Matias Romero**	**1.97**	**328**	*e*P	Pn	11 22 08.8	-2.1
CMIG				*e*S	Sn	11 22 33.4	-1.4

KRSC 20 11:46:52.9±10.0, 52°.03N×160°.61E, h75km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.12**	**342**	*e*P	Pn	11 47 13.6	+0.5
SPN				*e*S	Sn	11 47 27.8	-0.5
RUS	**Russkaya**	**1.35**	**288**	*e*P	Pn	11 47 17.4	+1.4
RUS				*e*S	Sn	11 47 34.6	+1.2
NLC	**Nalytchevo**	**1.38**	**326**	*e*P	Pn	11 47 18.3	+2.0
NLC				*e*S	Sn	11 47 36.1	+2.1
DALK	**Dalny**	**1.51**	**312**	*e*P	Pn	11 47 19.8	+1.7
DALK				*e*S	Sn	11 47 38.3	+1.2
MTVR	**Mutnovka**	**1.56**	**288**	*e*P	Pn	11 47 20.9	+2.0
MTVR				*e*S	Sn	11 47 40.5	+2.0
KDTR	**Khodutka, Kamc**	**1.59**	**263**	*e*P	Pn	11 47 20.5	+1.5
KDTR				*e*S	Sn	11 47 39.3	+0.4
UGLR	**Uglovaya**	**1.60**	**318**	*e*P	Pn	11 47 21.9	+2.5
SDLR	**Sedlovina**	**1.63**	**321**	*e*P	Pn	11 47 22.4	+2.6
GRL	**Gorelyy**	**1.64**	**289**	*e*P	Pn	11 47 22.0	+2.1
SMAR	**Somma**	**1.65**	**319**	*e*P	Pn	11 47 22.3	+2.1
AVH	**Avacha**	**1.68**	**318**	*e*P	Pn	11 47 23.0	+2.6
KRER	**Koryakskii**	**1.70**	**319**	*e*P	Pn	11 47 24.2	+3.4
ASAK	**Asacha**	**1.71**	**283**	*e*P	Pn	11 47 23.3	+2.6
KRMR	**Karymshinskiy**	**1.72**	**299**	*e*P	Pn	11 47 22.8	+2.0
KRMR				*e*S	Sn	11 47 43.7	+1.7
KOK	**Koryaka**	**1.74**	**317**	*e*P	Pn	11 47 23.6	+2.4
KRX	**Arik**	**1.79**	**319**	*e*P	Pn	11 47 24.7	+2.8
APC	**Apacha**	**2.29**	**294**	*e*P	Pn	11 47 31.8	+3.3
APC				*e*S	Sn	11 47 59.1	+3.4
PAU	**Pauzhetka**	**2.43**	**258**	*e*P	Pn	11 47 33.4	+3.1
MKZ	**Mys Kozlova**	**2.61**	**14**	*e*P	Pn	11 47 34.9	+2.1
MKZ				*e*S	Sn	11 48 04.3	+0.8
KZV	**Kizimen**	**3.09**	**357**	*e*P	Pn	11 47 42.6	+3.2
SKR	**Severo-Kuril's**	**3.12**	**246**	*e*P	Pn	11 47 42.0	+2.3
SKR				*e*S	Sn	11 48 17.0	+1.1
TUMD	**Tumrok D**	**3.18**	**358**	*e*P	Pn	11 47 43.3	+2.8
TUMD				*e*S	Sn	11 48 19.1	+1.9
TUMR	**Tumrok**	**3.27**	**355**	*e*P	Pn	11 47 45.7	+3.9
KBTR	**Krutoberegovo**	**4.38**	**16**	*e*P	Pn	11 48 00.3	+3.5
BKI	**Bering**	**4.50**	**43**	*e*S	Sn	11 48 49.0	-0.4

*IDC **20** 12:03:32.2±3.5, 51°.50N×160°.55E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.3/30, mbtmp3.8/3, ML2.5/1, Error ellipse: s-maj=105.2km s-min=50.1km az=35.0*
*KRSC **20** 12:03:36.1±10.0, 52°.04N×160°.82E, h60km±10km, ML3.9*
*ISCJB **20** 12:03:37.7±0.9, 52°.02N±0°.05×160°.83E±0°.08, h40km±13km, mb4.0/2, Error ellipse: s-maj=10.3km s-min=5.5km az=45.0*

ISC 20 12:03:37.6±3.2, 52°.03N±0°.06×160°.83E±0°.06, h25km±23km, n29, σ1°.09/41, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.18**	**336**	*i* P	**Pn**	**12 03 57.0**	**-1.5**
SPN				*e*S	**Sn**	**12 04 12.7**	**-1.0**
NLC	**Nalytchevo**	**1.46**	**322**	*e*P	**Pn**	**12 04 01.7**	**-0.6**
NLC				*e*S	**Sn**	**12 04 19.4**	**-1.2**
RUS	**Russkaya**	**1.48**	**287**	*e*P	**Pn**	**12 04 02.0**	**-0.6**
RUS				*e*S	**Sn**	**12 04 19.8**	**-1.3**
DALK	**Dalny**	**1.62**	**309**	*e*P	**Pn**	**12 04 04.0**	**-0.5**

DALK				eS	Sn	12 04 23.7	-0.8
MTVR	**Mutnovka**	**1.69**	**287**	*e*P	**Pn**	**12 04 05.6**	**0.0**
MTVR				eS	Sn	12 04 26.2	-0.3
UGLR	**Uglovaya**	**1.70**	**315**	*e*P	**Pn**	**12 04 06.2**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.72**	**264**	*e*P	**Pn**	**12 04 05.5**	**-0.3**
KDTR				eS	Sn	12 04 26.5	-0.4
SDLR	**Sedlovina**	**1.72**	**317**	*e*P	**Pn**	**12 04 06.0**	**-0.1**
SMAR	**Somma**	**1.75**	**316**	*e*P	**Pn**	**12 04 06.4**	**-0.1**
AVH	**Avacha**	**1.78**	**315**	*e*P	**Pn**	**12 04 07.3**	**+0.5**
KRER	**Koryakskii**	**1.80**	**316**	*e*P	**Pn**	**12 04 07.2**	**0.0**
ASAK	**Asacha**	**1.84**	**282**	*e*P	**Pn**	**12 04 07.8**	**+0.2**
KRMR	**Karymshinskiy**	**1.84**	**297**	*e*P	**Pn**	**12 04 07.3**	**-0.2**
KRMR				eS	Sn	12 04 29.8	-0.1
KOK	**Koryaka**	**1.84**	**314**	*e*P	**Pn**	**12 04 07.9**	**+0.2**
KRX	**Arik**	**1.88**	**316**	*e*P	**Pn**	**12 04 08.1**	**-0.2**
PETK	**Petropavlovsk-**	**2.19**	**301**	Pn	**Pn**	**12 04 12.8**	**+0.3**
	6.0nm,0.3s,baz=102,slow=17,SNR=96						
PETK				Sn	**Sb**	**12 04 42.8**	**-0.5**
	10nm,0.3s,baz=94,slow=21,SNR=9.2						
APC	**Apacha**	**2.42**	**293**	*e*P	**Pn**	**12 04 16.5**	**+1.0**
APC				eS	Sn	12 04 45.6	+1.4
PAU	**Pauzhetka**	**2.56**	**259**	*e*P	**Pn**	**12 04 18.3**	**+0.9**
MKZ	**Mys Kozlova**	**2.59**	**12**	*e*P	**Pn**	**12 04 17.5**	**-0.3**
MKZ				eS	Sn	12 04 47.2	-1.3
TUMD	**Tumrok D**	**3.19**	**356**	*e*P	**Pn**	**12 04 25.4**	**-0.8**
TUMD				eS	Sn	12 05 04.8	+1.4
SKR	**Severo-Kuril's**	**3.25**	**247**	*e*P	**Pn**	**12 04 27.4**	**+0.6**
SKR				eS	Sn	12 05 03.7	-0.9
ALID	**Alaid**	**3.50**	**253**	*e*P	**Pn**	**12 04 30.8**	**+0.3**
ESO	**Esso**	**4.10**	**343**	*e*P	**Pn**	**12 04 41.0**	**+2.3**
KBTR	**Krutoberegovo**	**4.35**	**15**	*e*P	**Pn**	**12 04 43.5**	**+1.5**
BKI	**Bering**	**4.42**	**42**	eS	**Sn**	**12 05 30.8**	**-2.7**
SMKR	**Semkarok**	**4.58**	**4**	*e*P	**Pn**	**12 04 47.2**	**+1.9**
SRKR	**Sorokina**	**4.64**	**2**	*e*P	**Pn**	**12 04 48.2**	**+2.1**
MKAR	**Makanchi Array**	**49.03**	**297**	P	**P**	**12 12 21.1**	**-1.0**
	0.2nm,0.5s,baz=58,slow=9.4,SNR=3.8						
FINES	**FINESS Array B**	**61.28**	**337**	P	**P**	**12 13 51.4**	**+1.3**
	4.1nm,1.1s,baz=44,slow=8.3,SNR=5.9						

NSSC ***20*** *12:15:47.0±0.8, 32°.11N×36°.17E, h18km±839km, ML1.9*

JSO 20 12:15:43.0±0.3, 32°N±3°×3°6E±°, h5km, M2.3/9, Mjma2.3/9, ML1.9/6, MLv2.5/9, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSUJ	**Al Zarqa**	**0.21**	**47**	P	Pg	12 15 47.0	-0.2
WALJ	**Wala**	**0.43**	**203**	P	Pb	12 15 52.8	-0.3
SWQJ	**Swaqa**	**0.72**	**177**	P	Pg	12 15 54.7	-2.1
GHAJ	**Ghor Haditha**	**0.76**	**210**	P	Pb	12 15 59.2	+0.6
ASF	**Jabal al Asfar**	**0.78**	**74**	P	Pg	12 15 57.6	-0.4
SHMJ	**Saham**	**0.79**	**345**	P	Pb	12 15 59.5	+0.2
LISJ	**El Lisan**	**0.85**	**212**	P	Pb	12 16 00.6	+0.4
TOTH	**TOTAH**	**1.44**	**14**	*e*P	Pn	12 16 09.6	-0.2
TOTH				eS	Sb	12 16 25.5	-3.6
TOTH				AML	AML	12 16 30.5	
	comp=N,40nm,0.4s						
TOTH				AML	AML	12 16 32.5	
	comp=E,27nm,0.6s						
TOTH				AML	AML	12 16 34.1	
	comp=Z,22nm,0.4s						
BRBR	**Barbar**	**1.45**	**358**	*e*P	Pn	12 16 09.9	-0.2
BRBR				eS	Sb	12 16 26.9	-2.5
BRBR				AML	AML	12 16 32.8	
	comp=N,25nm,0.6s						
BRBR				AML	AML	12 16 34.6	
	comp=E,12nm,0.3s						
BRBR				AML	AML	12 16 38.3	
	comp=Z,22nm,0.4s						
QASN	**Qassioun**	**1.58**	**8**	*e*P	Pb	12 16 13.0	+0.1
QASN				AML	AML	12 16 33.5	
	comp=E,32nm,0.5s						
QASN				AML	AML	12 16 34.5	
	comp=N,51nm,0.2s						
QASN				AML	AML	12 16 36.7	
	comp=Z,87nm,0.4s						

JSN 20 12:16:17.6±0.8, 18°.13N×76°.68W, h16km±4km, MD3.6, 4C-5D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.07**	**219**	⇑*i*P	Pg	12 16 20.8	-0.2
STH	**Stony Hill**	**0.13**	**247**	⇑*i*P	Pg	12 16 21.2	-0.3
HOJ	**Hope**	**0.14**	**208**	⇑*i*P	Pg	12 16 21.3	-0.2
CMJ	**Castle Mountai**	**0.29**	**88**	⇓*i*P	Pg	12 16 23.7	-0.2
BNJ	**Bonny Gate**	**0.32**	**307**	⇓*i*P	Pg	12 16 24.0	-0.4
PCJ	**Portland Cotta**	**0.59**	**230**	⇓*i*P	Pg	12 16 27.9	-1.4
BBJ	**Bamboo Saint A**	**0.61**	**295**	⇓*i*P	Pg	12 16 28.7	-1.0
CVJ	**Coleyville**	**0.82**	**277**	⇓*i*P	Pb	12 16 32.5	-0.9
MCJ	**Malvern**	**0.98**	**258**	⇑*i*P	Pb	12 16 35.0	-1.1
MCJ				*i* S	Sb	12 16 48.6	-0.3
MBJ	**Montego Bay**	**1.16**	**284**	*i* S	Sb	12 16 52.1	-1.8

MEX 20 12:18:42.8±0.6, 15°.27N×92°.01W, h178km±5km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.44**	**214**	*i* P	Pn	12 19 05.3	-1.8
THIG				*i* S	Sn	12 19 23.7	-2.1
CCIG	**Comitan**	**1.01**	**353**	*e*P	Pn	12 19 09.7	-0.9
CCIG				*i* S	Sn	12 19 29.6	-2.6
PCIG		**1.24**	**290**	*e*P	Pn	12 19 11.1	-1.1
PCIG				*i* S	Sn	12 19 32.4	-2.5
CMIG	**Matias Romero**	**3.30**	**304**	*i* P	Pn	12 19 33.2	-1.9
CMIG				*i* S	Sn	12 20 13.9	-2.0

KRSC 20 12:23:32.3±10.0, 52°.03N×161°.07E, h51km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.24**	**330**	*e*P	Pn	12 23 54.1	+0.8
SPN				eS	Sn	12 24 07.3	-1.7
DALK	**Dalny**	**1.73**	**306**	*e*P	Pn	12 24 01.8	+1.9
DALK				eS	Sn	12 24 24.6	+3.8
UGLR	**Uglovaya**	**1.81**	**312**	*e*P	Pn	12 24 03.8	+2.7
SDLR	**Sedlovina**	**1.82**	**314**	*e*P	Pn	12 24 03.4	+2.1
SDLR				eS	Sn	12 24 26.5	+3.2
MTVR	**Mutnovka**	**1.83**	**285**	*e*P	Pn	12 24 03.7	+2.3
MTVR				eS	Sn	12 24 23.9	+0.4
SMAR	**Somma**	**1.85**	**313**	*e*P	Pn	12 24 04.5	+2.7
KDTR	**Khodutka, Kamc**	**1.87**	**264**	*e*P	Pn	12 24 04.0	+2.2
KDTR				eS	Sn	12 24 24.4	+0.3
AVH	**Avacha**	**1.88**	**312**	*e*P	Pn	12 24 04.4	+2.3
AVH				eS	Sn	12 24 30.0	+5.3
KRER	**Koryakskii**	**1.90**	**313**	*e*P	Pn	12 24 05.1	+2.6
KOK	**Koryaka**	**1.94**	**311**	*e*P	Pn	12 24 05.5	+2.5
KRMR	**Karymshinskiy**	**1.97**	**295**	*e*P	Pn	12 24 05.4	+2.2
KRMR				eS	Sn	12 24 26.8	+0.2
ASAK	**Asacha**	**1.98**	**281**	*e*P	Pn	12 24 06.3	+2.9
ASAK				eS	Sn	12 24 32.9	+5.8
KRX	**Arik**	**1.98**	**313**	*e*P	Pn	12 24 06.0	+2.5
APC	**Apacha**	**2.55**	**292**	*e*P	Pn	12 24 14.6	+3.4
APC				eS	Sn	12 24 47.6	+6.6
MKZ	**Mys Kozlova**	**2.56**	**9**	*e*P	Pn	12 24 13.9	+2.7
MKZ				eS	Sn	12 24 42.6	+1.5
PAU	**Pauzhetka**	**2.71**	**260**	*e*P	Pn	12 24 17.8	+4.5
KZV	**Kizimen**	**3.12**	**352**	*e*P	Pn	12 24 22.9	+3.8
KZV				eS	Sn	12 24 58.1	+2.9
TUMD	**Tumrok D**	**3.20**	**353**	eS	Sn	12 24 59.3	+2.3
TUMR	**Tumrok**	**3.30**	**351**	*e*P	Pn	12 24 25.7	+4.1
SKR	**Severo-Kuril's**	**3.38**	**248**	eS	Sn	12 25 03.0	+1.6
ALID	**Alaid**	**3.64**	**254**	*e*P	Pn	12 24 30.3	+4.0
KBTR	**Krutoberegovo**	**4.31**	**13**	*e*P	Pn	12 24 40.2	+5.0

KRSC 20 12:28:21.1±10.0, 51°.97N×160°.73E, h64km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.21**	**340**	*e*P	Pn	12 28 42.9	+0.9
SPN				eS	Sn	12 28 56.8	-0.8
DALK	**Dalny**	**1.61**	**312**	*e*P	Pn	12 28 48.9	+1.6
DALK				eS	Sn	12 29 08.0	+0.9
MTVR	**Mutnovka**	**1.65**	**289**	*e*P	Pn	12 28 49.8	+1.9
MTVR				eS	Sn	12 29 09.9	+1.7
KDTR	**Khodutka, Kamc**	**1.65**	**266**	*e*P	Pn	12 28 49.6	+1.8
KDTR				eS	Sn	12 29 08.4	+0.4
SDLR	**Sedlovina**	**1.73**	**320**	*e*P	Pn	12 28 51.4	+2.4
SDLR				eS	Sn	12 29 14.5	+4.4
SMAR	**Somma**	**1.75**	**319**	*e*P	Pn	12 28 52.5	+3.1
AVH	**Avacha**	**1.78**	**318**	*e*P	Pn	12 28 53.2	+3.6
AVH				eS	Sn	12 29 16.4	+5.1
ASAK	**Asacha**	**1.79**	**285**	*e*P	Pn	12 28 52.2	+2.4
ASAK				eS	Sn	12 29 14.6	+3.0
KRER	**Koryakskii**	**1.80**	**319**	*e*P	Pn	12 28 53.9	+3.8
KRMR	**Karymshinskiy**	**1.81**	**300**	*e*P	Pn	12 28 52.0	+2.0
KRMR				eS	Sn	12 29 15.6	+3.7
KOK	**Koryaka**	**1.84**	**317**	*e*P	Pn	12 28 53.1	+2.6
KRX	**Arik**	**1.88**	**319**	*e*P	Pn	12 28 53.9	+2.8
APC	**Apacha**	**2.38**	**295**	*e*P	Pn	12 29 01.3	+3.5
APC				eS	Sn	12 29 29.3	+3.4
MKZ	**Mys Kozlova**	**2.66**	**13**	*e*P	Pn	12 29 04.1	+2.6
MKZ				eS	Sn	12 29 33.4	+0.8
KZV	**Kizimen**	**3.16**	**355**	*e*P	Pn	12 29 11.9	+3.4
KZV				eS	Sn	12 29 47.1	+2.0
SKR	**Severo-Kuril's**	**3.16**	**248**	eS	Sn	12 29 46.2	+1.3
TUMD	**Tumrok D**	**3.25**	**357**	*e*P	Pn	12 29 12.3	+2.7
TUMD				eS	Sn	12 29 48.3	+1.3
TUMR	**Tumrok**	**3.34**	**354**	*e*P	Pn	12 29 14.8	+3.9
TUMR				eS	Sn	12 29 52.9	+3.5
ALID	**Alaid**	**3.42**	**253**	*e*P	Pn	12 29 15.6	+3.5
KBTR	**Krutoberegovo**	**4.42**	**15**	*e*P	Pn	12 29 29.3	+3.7

ISCJB ***20*** *12:38:59.5±0.7, 39°.77N±0°.03×141°.83E±0°.08, h64km±4km, mb3.5/2, Error ellipse: s-maj=10.3km s-min=5.2km az=14.7*

JMA ***20*** *12:39:00.2, 39°.76N×141°.84E, h58km±1km, M3.1*

IDC ***20*** *12:39:03.1±2.8, 40°.41N×140°.28E, h0km, mb3.6/2, mb1 3.3/4, mb1mx3.2/44, mbtmp3.4/4, ML2.5/2, MS4.0/2, Ms1 4.0/2, ms1mx2.9/42, Error ellipse: s-maj=56.7km s-min=28.2km az=116.0*

ISC 20 12:39:00.3±1.2, 39°.78N±0°.04×141°.84E±0°.08, h56km±7km, n24, σ0s93/27, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.16**	**6**	P	**Pn**	**12 39 09.5**	**+0.3**
JTH				S	**Sn**	**12 39 16.0**	**+0.5**
MIYJ	**Miyakonagasawa**	**0.20**	**184**	P	**Pn**	**12 39 09.5**	**+0.1**
MIYJ				S	**Sn**	**12 39 15.9**	**0.0**
JKEN	**Kujiedanarisaw**	**0.44**	**347**	P	**Pn**	**12 39 11.5**	**+0.2**
JKEN				S	**Sn**	**12 39 19.7**	**+0.4**
JKZ	**Kuzumaki**	**0.44**	**298**	P	**Pn**	**12 39 11.7**	**+0.3**
JKZ				S	**Sn**	**12 39 19.7**	**+0.2**
JOM	**Ohasama**	**0.52**	**234**	P	**Pn**	**12 39 12.0**	**-0.2**
JOM				S	**Sn**	**12 39 20.7**	**-0.2**
JANG	**Nango**	**0.64**	**337**	P	**Pn**	**12 39 13.7**	**0.0**
JANG				S	**Sn**	**12 39 23.3**	**-0.1**
JMK	**Ichinoseki**	**0.96**	**210**	P	**Pn**	**12 39 17.2**	**-0.4**
JMK				S	**Sn**	**12 39 30.0**	**-0.4**
JRG	**Rokugo**	**1.01**	**248**	P	**Pn**	**12 39 18.0**	**-0.3**
JRG				S	**Sn**	**12 39 31.7**	**+0.1**
JAH	**Hinai**	**1.01**	**294**	P	**Pn**	**12 39 18.5**	**+0.2**
JAH				eS	**Sn**	**12 39 32.0**	**+0.3**
JTM	**Tenmabayashi**	**1.17**	**330**	P	**Pn**	**12 39 20.5**	**+0.1**
JTM				S	**Sn**	**12 39 35.6**	**+0.2**
JIO	**Ouri**	**1.38**	**196**	P	**Pn**	**12 39 22.8**	**-0.4**
JYK	**Kaneyama**	**1.44**	**234**	P	**Pn**	**12 39 23.8**	**-0.2**
JYK				S	**Sn**	**12 39 41.6**	**-0.2**
MJAR	**Matsushiro Arr**	**4.32**	**223**	Pn	**Pn**	**12 40 07.4**	**+4.0**
	0.1nm,0.3s,baz=32,slow=13,SNR=5.2						
ASAJ	**Asahikawa**	**4.37**	**7**	Pn	Pn	12 40 06.9	+2.8
	0.5nm,0.3s,baz=214,slow=21,SNR=6.1						
ASAJ				Sn	**Sn**	**12 40 54.3**	**+0.6**
	0.5nm,0.3s,baz=151,slow=10,SNR=2.9						
ASAJ				LR	LR	12 41 41.7	
	comp=Z,94nm,18.1s,baz=22,slow=39						
H11N2	**WAKE ISLAND Hy**	**29.37**	**126**	T	T	13 15 34.8	
	baz=318,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**29.38**	**126**	T	T	13 15 41.1	
	baz=318,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**29.39**	**126**	T	T	13 15 37.9	
	baz=318,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**30.16**	**127**	T	T	13 16 35.1	
	baz=320,slow=76,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**30.17**	**127**	T	T	13 16 38.8	
	baz=320,slow=76,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**30.18**	**127**	T	T	13 16 37.0	
	baz=320,slow=76,SNR=6.8						
ZALV	**Zalesovo Beam**	**40.36**	**310**	P	**P**	**12 46 31.0**	**-1.2**
	0.9nm,0.6s,baz=87,slow=7.9,SNR=4.4						
MKAR	**Makanchi Array**	**43.00**	**300**	P	**P**	**12 46 53.4**	**-0.6**
	0.4nm,0.6s,baz=80,slow=9.9,SNR=4.8						
NOA	**NORSAR Array B**	**71.79**	**337**	LR	LR	13 24 29.9	
	comp=Z,32nm,18.8s,baz=65,slow=38						
PDAR	**Pinedale Array**	**75.51**	**46**	LR	LR	13 21 41.7	
	comp=Z,235nm,20.8s,baz=246,slow=34						

ISCJB ***20*** *12:39:50.8±1.5, 52°.12N±0°.05×160°.72E±0°.07, h7km±11km, mb3.5/7, Error ellipse: s-maj=8.2km s-min=6.4km az=142.1*

KRSC ***20*** *12:39:50.3±10.0, 52°.14N×160°.82E, h16km±10km, ML4.0*

IDC ***20*** *12:39:54.5±1.5, 52°.67N×159°.60E, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.4/45, mbtmp3.5/7, Error ellipse: s-maj=45.3km s-min=24.6km az=149.0*

ISC 20 12:39:51.5±2.1, 52°.26N±0°.06×160°.74E±0°.06, h11km±11km, n33, σ1s19/42, mb3.6/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.94**	**333**	*e*P	**Pn**	**12 40 10.6**	**-0.1**
SPN				eS	**Sn**	**12 40 22.9**	**-1.2**
NLC	**Nalytchevo**	**1.24**	**318**	*e*P	**Pg**	**12 40 15.4**	**0.0**
RUS	**Russkaya**	**1.37**	**278**	*e*P	**Pn**	**12 40 16.1**	**-0.5**
RUS				eS	**Sn**	**12 40 34.0**	**-0.7**
DALK	**Dalny**	**1.43**	**303**	*e*P	**Pn**	**12 40 17.7**	**+0.3**
DALK				eS	**Sg**	**12 40 36.4**	**-1.2**
UGLR	**Uglovaya**	**1.50**	**310**	*e*P	**Pb**	**12 40 19.6**	**+0.2**
UGLR				eS	**Sg**	**12 40 41.5**	**+1.7**
SDLR	**Sedlovina**	**1.52**	**313**	*e*P	**Pb**	**12 40 19.6**	**-0.1**
SMAR	**Somma**	**1.54**	**311**	*e*P	**Pb**	**12 40 20.4**	**+0.2**
AVH	**Avacha**	**1.58**	**310**	*e*P	**Pg**	**12 40 21.3**	**-0.4**
MTVR	**Mutnovka**	**1.58**	**279**	*e*P	**Pn**	**12 40 19.8**	**+0.2**
MTVR				eS	**Sn**	**12 40 40.2**	**+0.2**
KRER	**Koryakskii**	**1.59**	**312**	*e*P	**Pb**	**12 40 21.1**	**0.0**
KOK	**Koryaka**	**1.64**	**310**	*e*P	**Pb**	**12 40 21.6**	**-0.2**
GRL	**Gorelyy**	**1.66**	**281**	*e*P	**Pb**	**12 40 22.2**	**+0.1**
KRX	**Arik**	**1.68**	**312**	*e*P	**Pb**	**12 40 22.2**	**-0.2**
KRMR	**Karymshinskiy**	**1.69**	**291**	*e*P	**Pn**	**12 40 21.3**	**+0.4**
KRMR				eS	**Sb**	**12 40 44.5**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.70**	**256**	*e*P	**Pn**	**12 40 20.3**	**-0.8**
KDTR				eS	**Sn**	**12 40 39.5**	**-3.3**
ASAK	**Asacha**	**1.75**	**275**	*e*P	**Pn**	**12 40 22.1**	**+0.3**
ASAK				eS	**Sb**	**12 40 46.4**	**+0.9**
PETK	**Petropavlovsk-**	**2.03**	**296**	Pn	**Pn**	**12 40 26.6**	**+0.9**
	7.9nm,0.3s,baz=107,slow=17,SNR=176						
PETK				Sn	**Sb**	**12 40 53.0**	**-0.7**
	10.0nm,0.3s,baz=266,slow=19,SNR=9.9						
APC	**Apacha**	**2.28**	**288**	*e*P	**Pn**	**12 40 30.5**	**+1.5**
APC				eS	**Sb**	**12 41 02.1**	**+1.3**
MKZ	**Mys Kozlova**	**2.37**	**14**	*e*P	**Pn**	**12 40 31.6**	**+1.3**
MKZ				eS	**Sn**	**12 40 59.2**	**-0.2**
PAU	**Pauzhetka**	**2.56**	**253**	*e*P	**Pn**	**12 40 33.4**	**+0.5**
KZV	**Kizimen**	**2.87**	**355**	*e*P	**Pb**	**12 40 40.8**	**-1.9**
TUMD	**Tumrok D**	**2.95**	**356**	*e*P	**Pb**	**12 40 42.0**	**-2.1**
TUMD				eS	**Sb**	**12 41 20.6**	**+0.4**
TUMR	**Tumrok**	**3.05**	**354**	*e*P	**Pb**	**12 40 43.3**	**-2.5**
ALID	**Alaid**	**3.52**	**249**	*e*P	**Pn**	**12 40 47.4**	**+1.1**
ESO	**Esso**	**3.86**	**343**	*e*P	Pb	12 40 54.6	-5.0
KBTR	**Krutoberegovo**	**4.14**	**16**	*e*P	**Pn**	**12 40 56.7**	**+2.2**
MJAR	**Matsushiro Arr**	**22.36**	**234**	P	**P**	**12 44 50.1**	**+0.8**
	0.9nm,0.6s,baz=26,slow=9.5,SNR=4.6						
YKA	**Yellowknife Ar**	**43.51**	**42**	P	P	12 47 59.5	+5.0
	0.1nm,0.4s,baz=290,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**48.87**	**297**	P	**P**	**12 48 35.0**	**-1.9**
	0.3nm,0.5s,baz=53,slow=8.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**58.40**	**259**	P	**P**	**12 49 47.9**	**+0.8**
	0.6nm,0.7s,baz=29,slow=7.5,SNR=5.1						
FINES	**FINESS Array B**	**61.04**	**337**	P	**P**	**12 50 05.2**	**+0.7**
	1.9nm,0.8s,baz=46,slow=6.1,SNR=5.2						
AKASG	**Malin Array Be**	**69.53**	**329**	P	**P**	**12 51 00.2**	**+0.5**
	0.3nm,0.3s,baz=33,slow=5.7,SNR=3.1						
TXAR	**Lajitas Array**	**70.60**	**67**	P	P	12 51 15.2	+8.4
	0.2nm,0.7s,baz=306,slow=3.1,SNR=2.7						

KRSC ***20*** *12:43:29.4±10.0, 51°.98N×160°.68E, h60km±10km, ML4.5*

IDC ***20*** *12:43:29.7±0.6, 52°.20N×160°.24E, h0km, mb4.0/31, mb1 4.2/34, mb1mx4.1/50, mbtmp4.0/34, ML4.1/2, MS3.7/4, Ms1 3.7/4, ms1mx3.1/49, Error ellipse: s-maj=14.4km s-min=11.9km az=149.0*

BJI ***20*** *12:43:31.5±0.0, 52°.40N×160°.34E, h32km, mb4.5/27, mB4.8/18, Ms4.4/13, Ms7 4.2/11*

MOS ***20*** *12:43:32.3±1.1, 52°.06N×160°.53E, h39km, mb4.8/29, Error ellipse: s-maj=7.0km s-min=3.8km az=103.4*

ISCJB ***20*** *12:43:32.8±0.5, 52°.07N±0°.03×160°.51E±0°.04, h42km±3km, mb4.4/88, MS4.1/13, Error ellipse: s-maj=6.0km s-min=3.4km az=143.0*

NEIC ***20*** *12:43:32.8±1.3, 52°.19N×160°.26E, h22km±5km, mb4.6/47, Error ellipse: s-maj=16.3km s-min=12.2km az=169.0*

ISC 20 12:43:33.4±0.9, 52°.10N±0°.04×160°.41E±0°.04, h29km±5km, n247, σ1s30/274, mb4.5/88, MS4.1/13, 11C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.03**	**347**	*i* P	**Pn**	**12 43 51.1**	**-0.8**
SPN				eS	**Sb**	**12 44 05.5**	**-0.2**
SPN	**Mys Shipunski**	**1.03**	**347**	PN	**Pn**	**12 43 51.1**	**-0.8**
SPN				S	**Sb**	**12 44 05.5**	**-0.2**
RUS	**Russkaya**	**1.21**	**287**	*e*P	**Pn**	**12 43 54.7**	**+0.3**
RUS				eS	**Sb**	**12 44 11.4**	**+0.4**
RUS	**Russkaya**	**1.21**	**287**	PN	**Pn**	**12 43 54.7**	**+0.3**
RUS				S	**Sb**	**12 44 11.4**	**+0.4**
NLC	**Nalytchevo**	**1.25**	**329**	*e*P	**Pb**	**12 43 55.9**	**-0.5**
NLC				eS	**Sb**	**12 44 13.9**	**+1.7**
NLC	**Nalytchevo**	**1.25**	**329**	PN	**Pb**	**12 43 55.9**	**-0.5**
NLC				S	**Sb**	**12 44 13.9**	**+1.7**
DALK	**Dalny**	**1.38**	**313**	*e*P	**Pn**	**12 43 56.8**	**+0.2**
DALK				eS	**Sb**	**12 44 15.4**	**-0.3**
DALK	**Dalny**	**1.38**	**313**	PN	**Pn**	**12 43 56.8**	**+0.2**
DALK				S	**Sb**	**12 44 15.4**	**-0.3**
PET	**Petropavlovsk**	**1.42**	**311**	*e*Pn	**Pn**	**12 43 57.6**	**+0.4**
PET	**Petropavlovsk**	**1.42**	**311**	⇑*i*PN	**Pn**	**12 43 57.9**	**+0.7**
PET				eS	**Sb**	**12 44 16.7**	**-0.1**
PET				pmax	pmax		
	comp=Z,549nm,0.8s						
PET				smax	smax		
	comp=N,2μm,0.8s						
PET				smax	smax		
	comp=E,2μm,0.8s						
MTVR	**Mutnovka**	**1.42**	**287**	*e*P	**Pn**	**12 43 58.2**	**+0.8**
MTVR				eS	**Sb**	**12 44 17.9**	**+0.8**
MTVR	**Mutnovka**	**1.42**	**287**	PN	**Pn**	**12 43 58.2**	**+0.8**
MTVR				S	**Sb**	**12 44 17.9**	**+0.8**
UGLR	**Uglovaya**	**1.47**	**320**	*e*P	**Pb**	**12 43 59.2**	**-1.0**
UGLR	**Uglovaya**	**1.47**	**320**	PN	**Pb**	**12 43 59.2**	**-1.0**
KDTR	**Khodutka, Kamc**	**1.48**	**260**	*e*P	**Pn**	**12 43 57.7**	**-0.3**
KDTR				eS	**Sn**	**12 44 16.4**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.48**	**260**	PN	**Pn**	**12 43 57.7**	**-0.3**
KDTR				S	**Sn**	**12 44 16.4**	**+0.1**
SDLR	**Sedlovina**	**1.50**	**322**	*e*P	**Pb**	**12 43 59.6**	**-1.1**
SDLR	**Sedlovina**	**1.50**	**322**	PN	**Pb**	**12 43 59.6**	**-1.1**
GRL	**Gorelyy**	**1.51**	**288**	*e*P	**Pn**	**12 43 58.5**	**-0.1**
GRL	**Gorelyy**	**1.51**	**288**	PN	**Pn**	**12 43 58.5**	**-0.1**
SMAR	**Somma**	**1.52**	**321**	*e*P	**Pb**	**12 44 00.1**	**-1.0**
SMAR	**Somma**	**1.52**	**321**	PN	**Pb**	**12 44 00.1**	**-1.0**
AVH	**Avacha**	**1.55**	**320**	*e*P	**Pb**	**12 44 00.6**	**-0.9**
AVH				eS	**Sb**	**12 44 21.8**	**+1.1**
AVH	**Avacha**	**1.55**	**320**	PN	**Pb**	**12 44 00.6**	**-0.9**
AVH				S	**Sb**	**12 44 21.8**	**+1.1**
ASAK	**Asacha**	**1.57**	**281**	*e*P	**Pn**	**12 44 00.3**	**+0.9**
ASAK	**Asacha**	**1.57**	**281**	PN	**Pn**	**12 44 00.3**	**+0.9**
KRER	**Koryakskii**	**1.57**	**321**	*e*P	**Pb**	**12 44 00.9**	**-1.1**
KRER	**Koryakskii**	**1.57**	**321**	PN	**Pb**	**12 44 00.9**	**-1.1**
KRMR	**Karymshinskiy**	**1.58**	**299**	*e*P	**Pn**	**12 44 00.1**	**

comp=E,87nm,1.3s
YAK pmax pmax
comp=N,41nm,1.1s
ZEA Zeya 19.96 288 *e*P Pn 12 48 17.8 +13
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=Z,700nm,14.0s
USRK Ussuriysk Ar. 20.45 259 *e*P **P 12 48 06.8 -1.5**
USRK Ussuriysk Ar. 20.45 259 P **P 12 48 07.3 -0.9**
comp=Z,11nm,1.0s,baz=50,slow=10,SNR=10.0
USRK LR LR 12 56 27.3
comp=Z,113nm,18.8s,baz=88,slow=38
MDJ Mudanjiang 21.68 262 P **P 12 48 20.3 -1.3**
MDJ pmax pmax
comp=Z,13nm,0.7s
MDJ Mudanjiang 21.68 262 *e*P **P 12 48 20.3 -1.3**
comp=Z,9.6nm,0.8s
MJB9 Matsu-Tunnel 22.10 234 *e*P **P 12 48 26.5 +0.3**
comp=Z,11nm,0.7s
MAJO Matsushiro 22.10 234 *e*P **P 12 48 26.5 +0.3**
comp=Z,11nm,0.7s
MAJO Matsushiro 22.10 234 *e*P **P 12 48 26.5 +0.3**
MAJO pmax pmax
comp=Z,11nm,0.7s
MAT Matsushiro 22.10 234 P **P 12 48 27.3 +1.1**
MJAR Matsushiro Arr 22.10 234 *e*P **P 12 48 26.7 +0.5**
MJAR Matsushiro Arr 22.10 234 P **P 12 48 27.4 +1.2**
comp=Z,5.0nm,0.8s,baz=17,slow=11,SNR=13
TIXI Tiksi 24.07 336 *e*P **P 12 48 44.3 -1.4**
TIXI Tiksi 24.07 336 *ce*P **P 12 48 44.3 -1.4**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 24.07 336 P **P 12 48 45.4 -0.4**
comp=Z,6.5nm,0.6s,baz=124,slow=9.5,SNR=30
HIA Hailar 25.69 280 *e*P **P 12 48 59.4 -1.4**
comp=Z,7.8nm,0.5s
HIA Hailar 25.69 280 *i* P **P 12 48 59.0 -1.7**
HIA pmax pmax
comp=Z,37nm,0.9s
BOD Bodaibo 26.81 301 *e*P **P 12 49 08.7 -2.0**
BOD pmax pmax
comp=Z,4.0nm,1.2s
KSRS Korea Array 27.04 250 P **P 12 49 13.4 +0.4**
comp=Z,1.2nm,0.6s,baz=44,slow=9.7,SNR=5.5
KDAK Kodiak Island 27.13 59 *e*P **P 12 49 14.8 +1.3**
comp=Z,32nm,1.5s
SML Sawmill 28.84 50 *e*P **P 12 49 28.7 -0.1**
comp=Z,6.7nm,0.9s
SML Sawmill 28.84 50 P **P 12 49 28.3 -0.5**
SML pmax pmax
comp=Z,7.0nm,0.9s
WRH Wood River Hil 28.86 45 *e*P **P 12 49 28.3 -0.7**
comp=Z,4.8nm,1.4s
SCM Sheep Creek Mo 29.31 50 *e*P **P 12 49 32.7 -0.4**
comp=Z,13nm,1.5s
ILAR Eielson Array 29.39 44 *e*P **P 12 49 33.8 +0.2**
ILAR Eielson Array 29.39 44 P **P 12 49 33.6 0.0**
comp=Z,0.4nm,0.8s,baz=251,slow=7.4,SNR=4.4
PRP Porcupine Dome 29.96 42 *e*P **P 12 49 39.0 +0.1**
comp=Z,9.9nm,1.6s
BCAR Beaver Creek A 31.74 47 *e*P **P 12 49 55.0 +0.5**
CTGM Chitina Glacie 32.28 51 *e*P **P 12 49 59.8 +0.4**
comp=Z,9.1nm,1.4s
H11N2 WAKE ISLAND Hy 32.70 169 T T 13 26 04.7
baz=352,slow=76,SNR=17
H11N3 WAKE ISLAND Hy 32.72 169 T T 13 26 06.3
baz=352,slow=76,SNR=9.9
H11N1 WAKE ISLAND Hy 32.72 169 T T 13 26 06.0
baz=352,slow=76,SNR=14
H11S1 WAKE ISLAND Hy 33.88 169 T T 13 27 31.0
baz=350
H11S3 WAKE ISLAND Hy 33.90 169 T T 13 27 37.4
baz=350
H11S2 WAKE ISLAND Hy 33.90 169 T T 13 27 51.4
baz=350
ULN Ulaanbaatar 33.92 285 *e*P **P 12 50 12.8 -1.1**
comp=Z,2.6nm,1.0s
ULN Ulaanbaatar 33.92 285 *ce*P **P 12 50 12.9 -1.0**
ULN pmax pmax
comp=Z,3.0nm,1.7s
TLY Talaya 34.27 292 *e*P **P 12 50 15.8 -0.9**
comp=Z,4.5nm,1.0s
TLY Talaya 34.27 292 *ce*P **P 12 50 16.8 +0.1**
TLY pmax pmax
comp=Z,11nm,1.0s
SONM Songino Array 34.33 285 P **P 12 50 15.8 -1.6**
comp=Z,0.7nm,0.7s,baz=86,slow=6.1,SNR=3.6
SONM LR LR 13 06 05.6
comp=Z,264nm,18.7s,baz=54,slow=40
INK Inuvik 34.54 37 *e*P **P 12 50 18.7 0.0**
comp=Z,1.8nm,0.9s
INK Inuvik 34.54 37 P **P 12 50 19.3 +0.6**
comp=Z,0.3nm,0.4s,baz=289,slow=10,SNR=3.6
HHC Hu-ho-hao-te 34.84 271 *e*P **P 12 50 19.8 -2.0**
HHC pmax pmax
comp=Z,260nm,4.7s
HHC LR LR
comp=Z,990nm,13.3s
HHC LR LR
comp=Z,670nm,13.8s
HHC LR LR
comp=Z,840nm,12.9s
ZAK Zakamensk 35.02 290 *e*P **P 12 50 20.9 -2.3**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
NJ2 Nanjing 36.13 253 *e*P **P 12 50 33.8 +1.0**
NJ2 pmax pmax
comp=Z,16nm,0.6s
WHN Wuhan 39.89 256 *e*P **P 12 51 00.1 -4.4**
XAN Xi'an 40.76 264 P **P 12 51 15.8 +4.1**
XAN pP pwP 12 51 26.6 +3.8
XAN pmax pmax
comp=Z,4.0nm,0.7s
XAN LR LR
comp=Z,160nm,20.6s
LZH Lanzhou 42.54 271 *e*P **P 12 51 24.3 -2.1**
LZH pP pP 12 51 34.4 +0.1
LZH sP pwP 12 51 38.5 +0.9
LZH pmax pmax
comp=Z,9.0nm,1.1s
LZH LR LR
comp=Z,200nm,15.1s
LZH LR LR
comp=Z,200nm,16.0s
LZH LR LR
comp=Z,190nm,17.3s
ZALV Zalesovo Beam 43.48 304 P **P 12 51 31.5 -2.2**
comp=Z,0.8nm,0.6s,baz=63,slow=6.8,SNR=6.4
YKA Yellowknife Ar 43.77 42 P **P 12 51 36.3 +0.5**
comp=Z,0.4nm,0.9s,baz=301,slow=7.5,SNR=3.7
YKB5 Yellowknife Ar 43.77 42 *e*P **P 12 51 36.3 +0.5**
NVS Novosibirsk 43.84 305 ⇓ *i*P **P 12 51 34.9 -1.6**
NVS *i* 12 51 46.2
NVS pmax pmax
comp=Z,11nm,1.0s
NVS pmax pmax
comp=N,3.0nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.1s
RES Resolute Bay 44.17 22 P **P 12 51 39.6 +0.7**
comp=E,1.0nm,0.5s,baz=341,slow=4.4,SNR=4.0
CD2 Chengdu 46.07 265 *e*P **P 12 51 53.3 -1.3**
CD2 pmax pmax
comp=E,10.0nm,0.5s
CD2 LR LR
comp=E,240nm,22.6s
CD2 LR LR
comp=E,240nm,20.1s
WMQ Urumqi 47.49 290 *e*P **P 12 52 07.3 +1.7**
WMQ LR LR
comp=E,470nm,16.1s
WMQ LR LR
comp=E,330nm,18.5s
WMQ LR LR
comp=E,650nm,16.7s
SPA0 Spitsbergen Ar 48.15 351 *e*P **P 12 52 10.4 +0.2**
comp=E,19nm,1.0s
SPITS Spitsbergen Ar 48.15 351 P **P 12 52 10.7 +0.5**
SPITS pmax pmax
comp=Z,3.0nm,0.4s
KURK Kurchatov 48.43 303 *e*P **P 12 52 11.4 -1.2**
comp=Z,6.8nm,0.8s
KURK Kurchatov 48.43 303 *ce*P **P 12 52 10.5 -2.1**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURBB Kurchatov Arra 48.53 303 P **P 12 52 12.0 -1.4**
comp=Z,3.7nm,0.7s,baz=62,slow=7.5,SNR=12
MK31 Makanchi Array 48.77 297 *e*P **P 12 52 14.1 -1.3**
comp=Z,1.9nm,0.6s
MK32 Makanchi Array 48.77 297 *e*P **P 12 52 14.0 -1.3**
MKAR Makanchi Array 48.77 297 P **P 12 52 14.0 -1.3**
comp=Z,1.9nm,0.5s,baz=57,slow=7.1,SNR=33
WPW White Pass 48.78 64 *e*P **P 12 52 19.5 +4.0**
GLK Glacier Lake 48.83 64 *e*P **P 12 52 12.9 -3.0**
MAKZ Makanchi 48.93 297 *e*P **P 12 52 14.7 -2.0**
comp=Z,2.3nm,0.7s
KMI Kunming 50.85 261 P **P 12 52 34.5 +2.8**
KMI pmax pmax
comp=Z,16nm,0.5s
KMI LR LR
comp=Z,160nm,22.1s
KMI LR LR
comp=Z,150nm,18.6s
KMI LR LR
comp=Z,120nm,16.0s
BVAR Borovoye Array 51.16 309 P **P 12 52 32.6 -0.9**
comp=Z,5.5nm,0.5s,baz=57,slow=7.7,SNR=9.3
BRVK Borovoye 51.19 309 ⇑ *i*P **P 12 52 32.9 -0.8**
comp=Z,7.9nm,0.6s
BRVK Borovoye 51.19 309 ⇑ *i*P **P 12 52 32.5 -1.1**
BRVK pmax pmax
comp=Z,6.0nm,0.5s
DAG Danmarks Havn 51.40 360 *i*P **P 12 52 34.8 0.0**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 51.40 360 *i*P **P 12 52 34.8 0.0**
comp=Z,3.0nm,0.8s
PDGK Podgornoye 52.47 295 P **P 12 52 43.6 +0.1**
PDGK pmax pmax
comp=Z,4.0nm,0.9s
OTUK Ortayu 53.18 303 P **P 12 52 48.2 -0.3**
OTUK pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 54.26 318 *e*P **P 12 52 55.5 -0.7**
comp=Z,5.5nm,0.5s
ARU Arti 54.26 318 *c i*P **P 12 52 55.2 -1.0**
ARU 12 53 54.0
ARU S **S 13 00 30.2 -1.3**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 54.29 342 *e*P **P 12 52 56.0 -0.3**
ARCES ARCESS Array B 54.29 342 *e*P **P 12 52 56.0 -0.3**
ARCES ARCESS Array B 54.29 342 P **P 12 52 56.3 0.0**
comp=Z,4.0nm,0.8s,baz=36,slow=9.0,SNR=6.2
KDJ Kajisay 54.54 295 *e*P **P 12 52 57.9 -0.9**
comp=Z,3.8nm,0.8s
SUMG Summit 54.92 7 *e*P **P 12 53 01.1 -0.2**
comp=Z,8.9nm,1.1s
SUMG Summit 54.92 7 *i*P **P 12 53 00.8 -0.5**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 54.92 7 *i*P **P 12 53 00.8 -0.5**
comp=Z,9.0nm,0.8s
AAK Ala-Archa 55.70 297 *e*P **P 12 53 06.2 -0.8**
comp=Z,4.3nm,1.1s
AAK Ala-Archa 55.70 297 *ce*P **P 12 53 05.4 -1.6**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 55.70 297 P **P 12 53 05.5 -1.5**
comp=Z,0.8nm,0.3s,baz=0.5,slow=2.5,SNR=4.1
NVAR Mina Array Bea 55.90 70 *e*P **P 12 53 09.8 +1.2**
NVAR Mina Array Bea 55.90 70 P **P 12 53 09.4 +0.8**
comp=Z,0.8nm,0.8s,baz=283,slow=7.3,SNR=5.0
MSF Maaselka 56.61 338 P **P 12 53 14.7 +1.7**
MSF pmax pmax
comp=Z,16nm,0.4s
KSH Kashi 56.97 293 P **P 12 53 18.5 +2.4**
KSH pP pwP 12 53 34.4 +6.5
KSH PP **PP 12 55 26.9 +4.4**
KSH S **S 13 01 06.1 -2.3**
KSH SS **SS 13 04 56.8 +0.3**
KSH pmax pmax
comp=Z,180nm,4.6s
KSH LR LR
comp=Z,250nm,8.8s
KSH LR LR
comp=Z,230nm,8.2s
KSH LR LR
comp=Z,250nm,9.6s
PHRA Phrae 57.37 258 P **P 12 53 21.4 +2.4**
comp=Z,1.5nm,1.4s
KKAR Karatay Array 57.54 300 *e*P **P 12 53 19.1 -0.8**
comp=Z,2.2nm,0.8s
PD31 Pinedale Array 57.84 60 *e*P **P 12 53 23.0 +0.7**
comp=Z,2.1nm,1.0s
PDAR Pinedale Array 57.84 60 P **P 12 53 23.9 +1.6**
comp=Z,0.5nm,0.7s,baz=318,slow=2.0,SNR=4.6
CMMT Chiang Mai 57.90 259 P **P 12 53 24.3 +1.6**
comp=Z,4.4nm,0.9s
CHTO Chiang Mai 57.90 259 *e*P **P 12 53 23.4 +0.6**
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 57.90 259 P **P 12 53 23.3 +0.6**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 57.91 330 *e*P **P 12 53 20.8 -1.4**
KLMR pmax pmax
comp=Z,8.0nm,1.0s
OUL Oulu 58.01 339 P **P 12 53 24.5 +1.7**
OUL pmax pmax
comp=Z,16nm,1.5s
CMAR Chiang Mai Arr 58.17 259 P **P 12 53 26.6 +1.9**
comp=Z,2.9nm,0.8s,baz=27,slow=6.9,SNR=18
CMAR LR LR 13 20 47.2
comp=Z,32nm,19.0s,baz=0.0,slow=38
JOF Joensuu 58.55 335 P **P 12 53 27.2 +0.5**
JOF pmax pmax
comp=Z,13nm,1.0s
ABKAR Akbulak array 58.59 311 *e*P **P 12 53 26.7 -0.5**
comp=Z,2.4nm,0.8s
AKTO Aktyubinsk 58.64 313 P **P 12 53 26.8 -0.7**
baz=56,slow=12
BTK Batken 59.48 297 *e*P **P 12 53 33.0 -0.6**
comp=Z,7.0nm,1.0s
SUF Sumiainen 59.99 338 P **P 12 53 38.5 +1.9**
SUF pmax pmax
comp=Z,24nm,0.7s
VAF Ylistaro 60.49 339 P **P 12 53 43.6 +3.6**
VAF pmax pmax
comp=Z,12nm,1.3s
GAR Garm 60.49 296 *e*P **P 12 53 40.3 -0.3**
comp=Z,7.2nm,0.7s
FIA1 FINESS Array S 61.11 337 *e*P **P 12 53 43.8 -0.5**
comp=Z,8.7nm,0.6s
FINES FINESS Array B 61.11 337 P **P 12 53 44.9 +0.6**
comp=Z,6.9nm,0.6s,baz=36,slow=8.3,SNR=25
NIL Nilore 62.64 290 *e*P **P 12 53 54.8 -0.2**
comp=Z,7.9nm,0.8s
NIL Nilore 62.64 290 P **P 12 53 54.9 -0.2**
NIL pmax pmax
comp=Z,8.0nm,0.8s
OBN Obninsk 63.46 328 *e*P **P 12 54 01.2 +1.1**
OBN *e* 12 54 36.0
OBN pmax pmax
comp=Z,4.0nm,0.8s
VSU Vasula 63.53 335 *ce*P **P 12 54 01.3 +0.8**
VSU pmax pmax
comp=Z,15nm,0.7s
NC204 NORSAR Array S 64.41 344 *e*P **P 12 54 06.5 +0.2**
comp=Z,17nm,1.0s
NB201 NORSAR Array S 64.53 344 *e*P **P 12 54 07.1 0.0**
comp=Z,10nm,0.9s
NB2 NORSAR Subarra 64.55 344 P **P 12 54 07.2 -0.1**
comp=Z,1.4nm,0.7s,baz=24,slow=6.9
NB2 NORSAR Subarra 64.55 344 P **P 12 54 07.7 +0.5**
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NB200 NORSAR Array S 64.55 344 *e*P **P 12 54 07.2 -0.1**
NOA NORSAR Array B 64.55 344 P **P 12 54 07.2 -0.1**
comp=Z,2.6nm,0.8s,baz=21,slow=6.6,SNR=11
GEYT Alibeck 67.80 303 P **P 12 54 27.9 -0.5**
comp=Z,7.4nm,1.0s,baz=94,slow=6.4,SNR=3.8
GYA0B ALIBECK ARRAY 67.80 303 *e*P **P 12 54 29.0 +0.5**
comp=Z,6.4nm,0.4s
AKASG Malin Array Be 69.57 329 *ce*P **P 12 54 39.0 -0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 69.57 329 P **P 12 54 39.0 -0.2**
comp=Z,4.7nm,0.7s,baz=31,slow=6.5,SNR=9.7
KIEV Kiev 69.58 329 *e*P **P 12 54 38.7 -0.5**
comp=Z,7.3nm,0.9s
KIEV Kiev 69.58 329 *i*P **P 12 54 38.8 -0.5**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 70.39 317 P **P 12 54 44.3 0.0**
comp=Z,3.2nm,0.8s,baz=86,slow=2.0,SNR=7.7
KBZ LR LR 13 29 27.4
comp=Z,64nm,19.1s,baz=358,slow=39
HHAR Hobbs 70.77 55 *e*P **P 12 54 47.5 +0.6**
comp=Z,3.8nm,1.0s
LTX Lajitas 70.85 67 *e*P **P 12 54 47.9 +0.4**
TXAR Lajitas Array 70.85 67 P **P 12 54 47.9 +0.4**
comp=Z,0.5nm,0.5s,baz=301,slow=4.4,SNR=9.8
EKA Eskdalemuir Ar 72.07 350 P **P 12 54 54.7 +0.4**
comp=Z,0.6nm,0.5s,baz=3.8,slow=4.3,SNR=3.2
KOLS Kolonicke sedl 73.22 333 *e*P **P 12 55 01.9 +0.6**
KOLS Kolonicke sedl 73.22 333 *e*P **P 12 55 01.9 +0.6**
CLL Collm 73.35 339 *e*P **P 12 55 03.0 +1.0**
CLL *i* 12 55 13.2
CLL Collm 73.35 339 *e*P **P 12 55 03.0 +1.0**
CLL *i* sP **pwP 12 55 13.2 -0.4**
UPC Upice 73.41 337 AMS AMS 13 32 20.0
comp=Z,100nm,14.5s
DPC Dobruska-Polom 73.48 337 *e*P **P 12 55 04.1 +1.2**
DPC *e* 12 55 15.1
DPC Dobruska-Polom 73.48 337 *e*P **P 12 55 04.1 +1.2**
DPC *es*P **pwP 12 55 15.1 +0.6**
BUR08 Bucovina Ar. S 73.51 330 *e*P **P 12 55 03.0 -0.1**
comp=Z,4.0nm,0.7s
BURAR Bucovina Array 73.53 330 *e*P **P 12 55 03.2 -0.1**
BURAR Bucovina Array 73.53 330 P **P 12 55 02.8 -0.5**
GOPC GO Pecny, Ondr 74.25 338 AMS AMS 13 31 50.0
comp=Z,100nm,19.7s
VRAC Vranov 74.38 336 P **P 12 55 08.5 +0.4**
comp=Z,2.3nm,0.6s,baz=56,slow=7.3,SNR=4.1
VYHS Vyhne 74.56 335 *e*P **P 12 55 10.2 +1.1**
VYHS Vyhne 74.56 335 *e*P **P 12 55 10.2 +1.1**
MLR Muntele Rosu 75.20 329 *e*P **P 12 55 13.5 +0.5**
comp=Z,5.4nm,0.7s
MLR Muntele Rosu 75.20 329 P **P 12 55 15.8 +2.8**
WR1 Warramunga Arr 75.26 205 *e*P **P 12 55 13.3 -0.1**
WRA Warramunga Arr 75.26 205 *i*P **P 12 55 15.3 +1.9**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 75.26 205 P **P 12 55 13.3 -0.1**
comp=Z,1.0nm,1.1s,baz=31,slow=4.2,SNR=4.8
KHC Kasperske Hory 75.27 338 *e*P **P 12 55 13.0 -0.3**
KHC *e* 12 55 25.5
KHC MLR MLR
comp=Z,100nm,15.0s
KHC Kasperske Hory 75.27 338 *e*P **P 12 55 13.0 -0.3**
KHC *es*P **pwP 12 55 25.5 +0.6**
KHC AMS AMS 13 33 30.0
comp=Z,100nm,15.0s
GEC2 GERESS Array S 75.51 338 *e*P **P 12 55 15.3 +0.6**
comp=Z,1.6nm,0.9s
GERES GERESS Array B 75.51 338 P **P 12 55 15.5 +0.8**
comp=Z,0.4nm,0.4s,baz=51,slow=5.3,SNR=5.3
ILGA Ilgaz 76.34 321 *e*P **P 12 55 20.4 +0.6**
comp=Z,10nm,0.9s
KBA Koelnbreinsper 77.25 338 *ep*P **P 12 55 26.7 +2.0**
comp=Z,6.0nm,0.8s
KBA Koelnbreinsper 77.25 338 P **P 12 55 27.0 +2.3**
KBA pmax pmax
comp=Z,12nm,0.8s
BRTR Keskin Array B 77.51 321 *e*P **P 12 55 26.0 -0.3**
BRTR Keskin Array B 77.51 321 *ce*P **P 12 55 26.8 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 77.51 321 P **P 12 55 26.1 -0.2**
comp=Z,1.8nm,0.8s,baz=28,slow=5.6,SNR=10
MDUB Mudurnu 77.80 323 *e*P **P 12 55 28.1 +0.3**
comp=Z,22nm,0.7s
ASAR Alice Springs 78.93 205 *e*P **P 12 55 34.9 +0.9**
ASAR Alice Springs 78.93 205 P **P 12 55 35.2 +1.3**
comp=Z,0.3nm,0.6s,baz=17,slow=5.4,SNR=5.9
MBWA Marble Bar 81.13 218 *e*P **P 12 55 46.7 +0.9**
ESDC Sonseca Array 87.59 348 *e*P **P 12 56 18.3 -0.3**
comp=Z,3.1nm,1.6s
ESDC Sonseca Array 87.59 348 P **P 12 56 20.0 +1.4**
comp=Z,0.2nm,0.3s,baz=4.3,slow=5.1,SNR=4.7

DDA ***20*** *13:05:35.7, 36°.61N×29°.54E, h11km±4km, ML2.5*
ISK ***20*** *13:05:35.5, 36°.55N×29°.46E, h28km, ML2.6/11*
ISCJB ***20*** *13:05:36.1±0.6, 36°.52N±0°.06×29°.44E±0°.05, h23km, Error ellipse: s-maj=8.6km s-min=5.3km az=20.5*
ISC 20 13:05:36.6±1.0, 36°.50N±0°.04×29°.48E±0°.04, h23km, n20,
σ1§44/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.28**	**160**	PG	**Pb**	**13 05 43.6**	**+0.2**
AKAS				SG	**Sb**	**13 05 50.2**	**+2.2**
AKAS	**Kas**	**0.28**	**160**	*i* P	**Pb**	**13 05 43.2**	**-0.2**
AKAS				*i* S	**Sn**	**13 05 50.5**	**-0.7**
FETY	**Fethiye**	**0.35**	**293**	PG	**Pb**	**13 05 43.9**	**-0.4**
FETY	**Fethiye**	**0.35**	**293**	IAML_P			
	comp=Z,3μm,0.1s						
FETY				*i* P	**Pb**	**13 05 45.0**	**+0.7**
ELL	**Elmali**	**0.42**	**54**	PG	**Pb**	**13 05 45.3**	**-0.3**
AKUM	**Antalya-Kumluc**	**0.72**	**104**	*i* P	**Pb**	**13 05 49.9**	**-0.5**
DALY	**Dalyan (Mula)**	**0.74**	**296**	PG	**Pb**	**13 05 49.4**	**-1.4**
DALY				SG	**Sb**	**13 05 59.9**	**-0.6**
DALY	**Dalyan (Mula)**	**0.74**	**296**	IAML_P			
	comp=Z,840nm,0.1s						
DALY				*i* P	**Pb**	**13 05 49.6**	**-1.2**
TURN	**Turunc**	**0.80**	**298**	PG	**Pn**	**13 05 54.0**	**+1.5**
TURN				SG	**Sn**	**13 06 07.7**	**+4.0**
TURN	**Turunc**	**0.80**	**298**	*i* P	**Pn**	**13 05 54.0**	**+1.5**
KORT	**Korkueli**	**0.86**	**54**	PG	**Pb**	**13 05 51.9**	**-1.0**
TAVA	**DENIZLI_Tavas**	**1.07**	**335**	*i* P	**Pn**	**13 05 55.9**	**-0.3**
ARG	**Arkhangelos**	**1.13**	**256**	PN	**Pn**	**13 05 55.7**	**-1.4**
BBRN	**Bozburun-Marma**	**1.16**	**279**	PN	**Pn**	**13 05 55.8**	**-1.7**
DAT	**Datca**	**1.55**	**279**	PN	**Pn**	**13 06 01.5**	**-1.4**
DAT	**Datca**	**1.55**	**279**	*i* P	**Pn**	**13 06 02.2**	**-0.7**
BDRM	**Kayabasi**	**1.73**	**290**	*i* P	**Pn**	**13 06 04.4**	**-0.9**
BODT	**Bodrum**	**1.83**	**288**	PN	**Pn**	**13 06 05.3**	**-1.4**
KARP	**Karpathos**	**2.11**	**244**	PN	**Pn**	**13 06 09.5**	**-1.0**
USAK	**Uak-Merkez**	**2.24**	**351**	*i* P	**Sn**	**13 06 39.3**	**0.0**

ISCJB ***20*** *13:06:12.2±1.2, 41°.40N±0°.06×127°.1W±0°.1, h11km, mb2.8/3, Error ellipse: s-maj=15.2km s-min=6.7km az=155.1*
IDC ***20*** *13:06:14.7±3.0, 41°.67N×126°.76W, h0km, mb2.9/3, mb1 3.4/5, mb1mx3.3/51, mbtmp3.0/5, ML3.6/2, Error ellipse: s-maj=59.1km s-min=20.9km az=45.0*
NEIC ***20*** *13:06:14.6±1.3, 41°.49N×126°.97W, h10km, ML2.9, Error ellipse: s-maj=17.8km s-min=7.6km az=68.0*
ISC 20 13:06:15.0±1.7, 41°.49N±0°.08×127°.0W±0°.1, h11km, n44,
σ1§86/38, mb2.7/3, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRMB	**Red Mountain**	**2.33**	**88**	*e*Pn	**Pn**	**13 06 52.4**	**-1.0**
JCC	**Jacoby Creek,**	**2.35**	**106**	*e*Pn	**Pn**	**13 06 50.9**	**-2.6**
KEBM	**Edson Butte**	**2.42**	**54**	*e*Pn	**Pn**	**13 06 54.1**	**-0.5**
KHMM	**Horse Mountain**	**2.55**	**103**	*e*Pn	**Pn**	**13 06 55.2**	**-1.3**
KMRM	**Mail Ridge**	**2.81**	**116**	*e*Pn	**Pn**	**13 06 57.9**	**-2.0**
KCPM	**Cahto Peak**	**3.17**	**124**	*e*Pn	**Pn**	**13 07 02.4**	**-2.6**
KCPM				*es*Sn	**Sn**	**13 07 41.9**	**-1.0**
HUMO	**Hull Mountain**	**3.22**	**68**	*e*Pn	**Pn**	**13 07 05.5**	**0.0**
YBH	**Yreka Blue Hor**	**3.23**	**84**	*e*Pn	**Pn**	**13 07 06.4**	**+0.6**
WDC	**Whiskeytown Da**	**3.50**	**104**	*e*Pn	**Pn**	**13 07 07.2**	**-2.1**
HOPS	**Hopland Field**	**3.91**	**128**	*e*Pn	**Pn**	**13 07 12.7**	**-2.3**
GDXM	**Geysers**	**4.20**	**128**	*e*Pn	**Pn**	**13 07 15.3**	**-3.8**
ORV	**Oroville**	**4.62**	**113**	*e*Pn	**Pn**	**13 07 22.9**	**-1.9**
K05A	**Summer Lake**	**4.71**	**73**	*e*Pn	**Pn**	**13 07 22.0**	**-4.2**
H04A	**Detroit Lake**	**4.76**	**46**	*e*Pn	Pn	13 07 20.6	-6.1
PINE	**Pine Mountain**	**5.03**	**61**	*e*Pn	**Pn**	**13 07 30.2**	**-0.4**
MOD	**Modoc Plateau**	**5.04**	**83**	*e*Pn	**Pn**	**13 07 30.8**	**+0.2**
AFDM	**Forest Hills D**	**5.28**	**117**	*e*Pn	**Pn**	**13 07 32.7**	**-1.1**
BEKR	**Beckworth**	**5.31**	**106**	*e*Pn	**Pn**	**13 07 35.6**	**+1.2**
PAHR	**Pah Rah Range**	**6.07**	**105**	*e*Pn	**Pn**	**13 07 46.4**	**+1.6**
PNTR	**Pine Nut**	**6.15**	**111**	*e*Pn	**Pn**	**13 07 46.6**	**+0.6**
CMB	**Columbia Colle**	**6.16**	**122**	*e*Pn	**Pn**	**13 07 45.9**	**-0.1**
WVOR	**Wild Horse Val**	**6.31**	**79**	*e*Pn	**Pn**	**13 07 47.0**	**-1.1**
GLK	**Glacier Lake**	**6.39**	**36**	*e*Pn	**Pn**	**13 07 48.9**	**-0.3**
YERR	**Yerington**	**6.45**	**110**	*e*Pn	**Pn**	**13 07 50.5**	**+0.4**
WPW	**White Pass**	**6.52**	**35**	*e*Pn	**Pn**	**13 07 48.9**	**-2.1**
J08A	**Circle Bar Ran**	**6.58**	**71**	*e*Pn	**Pn**	**13 07 47.5**	**-4.3**
KVN	**Kaiserville**	**7.24**	**107**	*e*Pn	**Pn**	**13 08 01.2**	**+0.4**

NV01	Mina Array Sit	7.35	112	ePn	Pn	13 08 02.6	+0.2
NVAR	Mina Array Bea	7.35	112	Pn	Pn	13 08 02.6	+0.2
	0.1nm,0.3s,baz=286,slow=15,SNR=4.3						
ISA	Isabella, Lake	8.86	128	ePn	Pn	13 08 23.2	+0.2
PASC	Pasadena Art C	10.10	134	ePn	Pn	13 08 40.6	+0.6
LRM	Limekiln Ridge	11.40	63	ePn	Pn	13 09 00.8	+2.9
YHB	Horse Butte	12.01	69	ePn	Pn	13 09 03.9	-2.3
PDAR	Pinedale Array	13.02	79	Pn	Pn	13 09 22.0	+2.0
	0.1nm,0.3s,baz=222,slow=12,SNR=2.1						
YKA	Yellowknife Ar	22.30	15	P	P	13 11 12.7	+0.7
	0.2nm,0.6s,baz=202,slow=11,SNR=3.9						
YKB5	Yellowknife Ar	22.30	15	eP	P	13 11 12.7	+0.6
TXAR	Lajitas Array	22.49	115	P	P	13 11 16.7	+2.2
	0.2nm,0.8s,baz=309,slow=12,SNR=1.6						
ILAR	Eielson Array	25.96	341	P	P	13 11 46.6	-0.6
	0.6nm,0.9s,baz=160,slow=8.2,SNR=3.8						
H11N3	WAKE ISLAND Hy	59.45	270	T	T	14 20 09.5	
	baz=53,slow=75,SNR=100						
H11N2	WAKE ISLAND Hy	59.45	270	T	T	14 20 12.9	
	baz=53,slow=75,SNR=55						
H11N1	WAKE ISLAND Hy	59.47	270	T	T	14 20 11.1	
	baz=53,slow=75,SNR=59						
H11S1	WAKE ISLAND Hy	60.34	269	T	T	14 21 14.1	
	baz=52,slow=75,SNR=132						
H11S2	WAKE ISLAND Hy	60.34	269	T	T	14 21 24.4	
	baz=52,slow=75,SNR=95						
H11S3	WAKE ISLAND Hy	60.35	269	T	T	14 21 17.6	
	baz=52,slow=75,SNR=81						

*IDC **20** 13:07:54.3±3.4, 51°.54N×160°.60E, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.2/57, mbtmp3.6/3, ML2.5/1, Error ellipse: s-maj=99.5km s-min=50.0km az=34.0*
*KRSC **20** 13:07:57.6±10.0, 52°.05N×160°.85E, h62km±10km, ML3.8*
*ISCJB **20** 13:07:59.2±0.9, 52°.05N±0°.05×160°.87E±0°.08, h40km±13km, mb3.8/2, Error ellipse: s-maj=10.2km s-min=5.3km az=139.0*

ISC 20 13:07:60.0±3.2, 52°.06N±0°.07×160°.83E±0°.06, h28km±23km, n28, σ0§91/40, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.15	335	eP	Pn	13 08 18.8	-1.3
SPN				eS	Sn	13 08 33.2	-1.7
NLC	Nalytchevo	1.43	322	eP	Pn	13 08 23.4	-0.6
NLC				eS	Sn	13 08 41.2	-0.7
RUS	Russkaya	1.47	286	eP	Pn	13 08 23.8	-0.7
RUS				eS	Sn	13 08 41.9	-0.9
DALK	Dalny	1.60	308	eP	Pn	13 08 25.9	-0.4
UGLR	Uglovaya	1.68	314	eP	Pn	13 08 27.9	+0.4
MTVR	Mutnovka	1.68	286	eP	Pn	13 08 27.3	-0.2
MTVR				eS	Sn	13 08 47.9	-0.3
SDLR	Sedlovina	1.70	317	eP	Pn	13 08 27.7	-0.1
KDTR	Khodutka, Kamc	1.72	263	eP	Pn	13 08 27.2	-0.8
KDTR				eS	Sn	13 08 47.3	-1.7
SMAR	Somma	1.72	315	eP	Pn	13 08 28.6	+0.4
AVH	Avacha	1.75	314	eP	Pn	13 08 28.6	+0.1
AVH				eS	Sn	13 08 50.5	+0.6
KRER	Koryakskii	1.77	315	eP	Pn	13 08 28.9	0.0
KOK	Koryaka	1.82	314	eP	Pn	13 08 29.7	+0.3
KRMR	Karymshinskiy	1.82	296	eP	Pn	13 08 29.1	-0.3
KRMR				eS	Sn	13 08 50.1	-1.4
ASAK	Asacha	1.83	281	eP	Pn	13 08 29.6	0.0
KRX	Arik	1.86	315	eP	Pn	13 08 30.4	+0.4
PETK	Petropavlovsk-	2.18	300	Pn	Pn	13 08 34.5	+0.2
	5.1nm,0.3s,baz=105,slow=16,SNR=151						
PETK				Sn	Sb	13 09 05.2	0.0
	4.9nm,0.3s,baz=88,slow=40,SNR=10						
APC	Apacha	2.40	293	eP	Pn	13 08 38.3	+0.9
APC				eS	Sn	13 09 07.3	+1.5
MKZ	Mys Kozlova	2.56	12	eP	Pn	13 08 38.9	-0.6
MKZ				eS	Sn	13 09 08.8	-0.8
KZV	Kizimen	3.08	354	eP	Pn	13 08 46.7	-0.1
TUMD	Tumrok D	3.16	356	eP	Pn	13 08 48.1	+0.3
TUMD				eS	Sn	13 09 24.2	-0.3
TUMR	Tumrok	3.25	353	eP	Pn	13 08 50.3	+1.1
SKR	Severo-Kuril's	3.26	247	eP	Pn	13 08 49.3	+0.2
SKR				eS	Sn	13 09 25.8	-1.1
ALID	Alaid	3.51	252	eP	Pn	13 08 53.3	+0.6
ESO	Esso	4.07	343	eP	Pn	13 08 59.7	-0.6
KBTR	Krutoberegovo	4.32	15	eP	Pn	13 09 05.3	+1.6
BKI	Bering	4.39	42	eS	Sn	13 09 52.9	-1.9
MKAR	Makanchi Array	49.01	297	P	P	13 16 43.3	-0.6
	0.3nm,0.5s,baz=73,slow=9.7,SNR=2.5						
FINES	FINESS Array B	61.25	337	P	P	13 18 13.4	+1.6
	0.6nm,0.4s,baz=33,slow=11,SNR=5.3						

*ISCJB **20** 13:10:56.2±1.4, 41°.17N±0°.08×127°.3W±0°.1, h10km, mb2.7/3, Error ellipse: s-maj=17.6km s-min=7.9km az=151.4*
*NEIC **20** 13:10:57.2±1.4, 41°.12N×127°.32W, h10km, ML3.1, Error ellipse: s-maj=18.8km s-min=8.6km az=60.0*
*IDC **20** 13:10:58.9±3.1, 41°.49N×127°.11W, h0km, mb2.8/3, mb1 3.2/5, mb1mx3.2/53, mbtmp2.8/5, ML2.9/2, Error ellipse: s-maj=57.6km s-min=21.2km az=41.0*

ISC 20 13:10:58.3±1.8, 41°.17N±0°.09×127°.3W±0°.2, h10km, n33, σ1§54/27, mb2.7/3, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	Jacoby Creek,	2.49	97	ePn	Pn	13 11 37.1	-1.6
KRMB	Red Mountain	2.56	81	ePn	Pn	13 11 37.9	-2.1
KHMM	Horse Mountain	2.70	95	ePn	Pn	13 11 40.3	-1.6
KMRM	Mail Ridge	2.88	108	ePn	Pn	13 11 43.7	-0.6
KCPM	Cahto Peak	3.19	117	ePn	Pn	13 11 47.7	-0.9
YBH	Yreka Blue Hor	3.48	79	ePn	Pn	13 11 52.4	-0.2
YBH	Yreka Blue Hor	3.48	79	Pn	Pn	13 11 52.7	+0.1
	1.9nm,0.3s,baz=263,slow=13,SNR=22						
HUMO	Hull Mountain	3.53	65	ePn	Pn	13 11 51.9	-1.3
WDC	Whiskeytown Da	3.64	98	ePn	Pn	13 11 52.8	-2.0
HOPS	Hopland Field	3.89	123	ePn	Pn	13 11 55.6	-2.6
MOD	Modoc Plateau	5.29	80	ePn	Pn	13 12 17.3	-0.2
PINE	Pine Mountain	5.37	59	ePn	Pn	13 12 19.0	+0.3
BEKR	Beckworth	5.43	102	ePn	Pn	13 12 20.8	+1.2
YERR	Yerington	6.54	107	ePn	Pn	13 12 35.4	+0.7
WVOR	Wild Horse Val	6.58	76	ePn	Pn	13 12 34.1	-1.1
GLK	Glacier Lake	6.77	35	ePn	Pn	13 12 39.8	+2.1
LON	Longmire	6.83	33	ePn	Pn	13 12 39.8	+1.3
F07A	Phinny Hill Vi	7.13	46	ePn	Pn	13 12 42.9	+0.3
NV01	Mina Array Sit	7.43	109	ePn	Pn	13 12 49.4	+2.4
NVAR	Mina Array Bea	7.43	109	Pn	Pn	13 12 49.4	+2.3
	0.1nm,0.3s,baz=282,slow=13,SNR=3.0						
E07A	Sunnyside	7.60	42	ePn	Pn	13 12 49.7	+0.6
ISA	Isabella, Lake	8.83	126	ePn	Pn	13 13 06.1	+0.1
SPUT	South Promonto	11.17	84	ePn	Pn	13 13 38.0	-0.2
TXAR	Lajitas Array	22.54	114	P	P	13 16 01.0	+2.5
	0.1nm,0.4s,baz=320,slow=11,SNR=2.2						
YKA	Yellowknife Ar	22.66	15	P	P	13 15 57.6	-1.7
	0.1nm,0.5s,baz=203,slow=10,SNR=4.3						
YKB5	Yellowknife Ar	22.66	15	eP	P	13 15 57.6	-1.7
ILAR	Eielson Array	26.19	341	P	P	13 16 32.6	-0.1
	0.3nm,0.6s,baz=158,slow=8.4,SNR=3.2						
H11N3	WAKE ISLAND Hy	59.24	270	T	T	14 24 53.6	
	baz=52						
H11N2	WAKE ISLAND Hy	59.25	270	T	T	14 24 53.9	
	baz=52						
H11N1	WAKE ISLAND Hy	59.26	270	T	T	14 24 56.5	
	baz=52						
H11S1	WAKE ISLAND Hy	60.13	269	T	T	14 26 01.4	
	baz=54						
H11S2	WAKE ISLAND Hy	60.13	269	T	T	14 26 07.1	
	baz=54						
H11S3	WAKE ISLAND Hy	60.15	269	T	T	14 26 06.2	
	baz=54						

*ISCJB **20** 13:11:55.1±2.1, 41°.7N±0°.2×127°.0W±0°.3, h10km, mb3.2/3, Error ellipse: s-maj=39.4km s-min=14.8km az=41.2*
*IDC **20** 13:11:56.1±2.6, 41°.81N×126°.73W, h0km, mb3.3/3, mb1 3.7/6, mb1mx3.5/52, mbtmp3.3/6, ML3.5/3, Error ellipse: s-maj=47.1km s-min=18.4km az=41.0*

ISC 20 13:11:55.9±2.3, 41°.6N±0°.2×127°.1W±0°.2, h10km, n12, σ1§34/6, mb3.2/3, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBH	Yreka Blue Hor	3.30	86	Pn	Pn	13 12 46.4	-1.3
	1.9nm,0.3s,baz=268,slow=15,SNR=7.0						
NVAR	Mina Array Bea	7.47	112	Pn	Pn	13 13 44.2	-0.8
	0.1nm,0.3s,baz=287,slow=14,SNR=4.6						
PDAR	Pinedale Array	13.08	79	Pn	Pn	13 15 02.8	+0.9
	0.1nm,0.3s,baz=289,slow=12,SNR=2.6						
YKA	Yellowknife Ar	22.22	15	P	P	13 16 51.5	-0.7
	0.8nm,0.8s,baz=202,slow=10.0,SNR=9.5						
TXAR	Lajitas Array	22.60	115	P	P	13 16 58.0	+1.3
	0.6nm,0.9s,baz=321,slow=7.0,SNR=3.7						
ILAR	Eielson Array	25.83	341	P	P	13 17 27.3	+0.2
	0.9nm,0.8s,baz=155,slow=8.3,SNR=7.1						
H11N3	WAKE ISLAND Hy	59.37	270	T	T	14 25 54.6	
	baz=54						
H11N2	WAKE ISLAND Hy	59.37	270	T	T	14 25 56.3	
	baz=54						
H11N1	WAKE ISLAND Hy	59.39	270	T	T	14 25 56.7	
	baz=54						
H11S1	WAKE ISLAND Hy	60.26	269	T	T	14 27 05.1	
	baz=54						
H11S2	WAKE ISLAND Hy	60.27	269	T	T	14 27 05.4	
	baz=54						
H11S3	WAKE ISLAND Hy	60.28	269	T	T	14 27 06.4	
	baz=54						

*ISCJB **20** 13:12:42.8±0.4, 41°.42N±0°.03×127°.31W±0°.04, h10km, mb4.1/28, MS3.7/7, Error ellipse: s-maj=6.1km s-min=3.0km az=42.9*
*IDC **20** 13:12:42.9±1.1, 41°.54N×127°.30W, h0km, mb3.9/13, mb1 4.0/17, mb1mx3.8/52, mbtmp3.8/17, ML3.5/4, MS3.9/10, Ms1 3.9/10, ms1mx3.6/30, Error ellipse: s-maj=28.3km s-min=11.2km az=27.0*
*NEIC **20** 13:12:44.0±0.5, 41°.38N×127°.39W, h10km, mb4.3/32, Error ellipse: s-maj=8.3km s-min=3.8km az=45.0*
*NCEDC **20** 13:12:44.9±0.0, 41°.25N×127°.13W, h5km*
*ANF **20** 13:12:48.4±8.2, 41°.41N×126°.53W, ML3.4/9, Error ellipse: s-maj=95.8km s-min=31.3km az=66.0*

ISC 20 13:12:43.5±0.7, 41°.34N±0°.08×127°.38W±0°.07, h10km, n188, σ2§90/170, mb4.2/28, MS4.0/7, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	Jacoby Creek,	2.59	100	ePn	Pn	13 13 22.5	-2.9
KRMB	Red Mountain	2.62	85	ePn	Pn	13 13 23.6	-2.4
KEBM	Edson Butte	2.74	55	ePn	Pn	13 13 25.5	-2.1
KHMM	Horse Mountain	2.80	98	ePn	Pn	13 13 25.6	-2.8
L02E	Cave Junction	2.94	73	P	Pn	13 13 27.6	-2.7
	baz=256,SNR=13						
KMRM	Mail Ridge	3.00	111	ePn	Pn	13 13 29.0	-2.2
K02D	Willamette Mer	3.08	63	P	Pn	13 13 30.3	-2.1
	baz=246,SNR=5.1						
M02C	Callahan	3.41	88	P	Pn	13 13 34.4	-2.4
	baz=271,SNR=8.4						
YBH	Yreka Blue Hor	3.53	82	ePn	Pn	13 13 37.3	-1.2
YBH				Sn	Sn	13 14 22.2	+2.0
YBH	Yreka Blue Hor	3.53	82	Pn	Pn	13 13 37.7	-0.8
	6.6nm,0.3s,baz=277,slow=14,SNR=10						
YBH				Sn	Sn	13 14 22.2	+2.0
	1.5nm,0.3s,baz=175,slow=18,SNR=1.4						
YBH				LR	LR	13 14 42.5	
	comp=Z,2μm,18.9s,baz=289,slow=35						
HUMO	Hull Mountain	3.53	68	ePn	Pn	13 13 37.8	-0.7
N02D	Trinity Center	3.55	94	P	Pn	13 13 36.1	-2.6
	baz=278						
O02D	Mt. Diablo Mer	3.68	107	P	Pn	13 13 38.6	-1.9
	baz=290,SNR=6.3						
O02D				S	Sn	13 14 17.4	-6.5
	baz=290						
WDC	Whiskeytown Da	3.74	100	ePn	Pn	13 13 40.1	-1.3
L04D	Klamath Falls	3.90	75	P	Pn	13 13 40.2	-3.4
	baz=259,SNR=25						
HOPS	Hopland Field	4.05	124	ePn	Pn	13 13 42.2	-3.3
M04C	Macdoel	4.18	82	P	Pn	13 13 44.8	-2.6
	baz=266,SNR=12						
GDXM	Geysers	4.33	124	ePn	Pn	13 13 50.2	+0.7
O03E	Paynes Creek	4.36	102	P	Pn	13 13 47.7	-2.1
	baz=286						
MCCM	Marconi Confer	4.71	131	ePn	Pn	13 13 54.8	+0.1
ORV	Oroville	4.83	110	ePn	Pn	13 13 55.5	-0.7
J05D	Fort Rock, OR	4.96	65	P	Pn	13 13 55.7	-2.5
	baz=249						
K05A	Summer Lake	5.03	72	ePn	Pn	13 14 01.0	+1.9
H04A	Detroit Lake	5.07	47	ePn	Pn	13 13 58.2	-1.3
MOD	Modoc Plateau	5.34	82	ePn	Pn	13 14 02.5	-0.9
PINE	Pine Mountain	5.35	61	ePn	Pn	13 14 03.6	0.0
AFDM	Forest Hills D	5.46	114	ePn	Pn	13 14 04.0	-1.0
BEKR	Beckworth	5.54	103	ePn	Pn	13 14 06.3	0.0
VCNR	Virginia City	6.25	107	ePn	Pn	13 14 17.9	+1.9
E04D	Cinebar	6.27	32	P	Pn	13 14 16.7	+0.7
	baz=216						
PAHR	Pah Rah Range	6.31	102	ePn	Pn	13 14 16.7	0.0
CMB	Columbia Colle	6.32	119	ePn	Pn	13 14 17.4	+0.6
PNTR	Pine Nut	6.37	108	ePn	Pn	13 14 19.2	+1.6
I07A	Izee	6.42	62	ePn	Pn	13 14 19.7	+1.5
SAO	San Andreas Ge	6.49	133	ePn	Pn	13 14 18.3	-0.8
WVOR	Wild Horse Val	6.62	78	ePn	Pn	13 14 18.8	-2.2
YERR	Yerington	6.66	108	ePn	Pn	13 14 21.4	-0.2
WAKR	Walker	6.73	112	ePn	Pn	13 14 24.4	+1.9
LON	Longmire	6.74	35	ePn	Pn	13 14 23.7	+1.2
WPW	White Pass	6.81	36	ePn	Pn	13 14 22.4	-1.2
J08A	Circle Bar Ran	6.90	70	ePn	Pn	13 14 25.3	+0.5
D05A	Enumclaw	7.01	32	ePn	Pn	13 14 25.5	-0.7
RYN	Ryan	7.32	109	ePn	Pn	13 14 33.0	+2.4
KVN	Kaiserville	7.46	105	ePn	Pn	13 14 32.9	+0.3
NV01	Mina Array Sit	7.56	110	ePn	Pn	13 14 34.4	+0.4
NVAR	Mina Array Bea	7.56	110	ePn	Pn	13 14 34.9	+0.9
NVAR	Mina Array Bea	7.56	110	Pn	Pn	13 14 34.4	+0.4
	0.3nm,0.3s,baz=291,slow=14,SNR=5.4						
NVAR				LR	LR	13 17 42.5	
	comp=Z,2μm,18.1s,baz=282,slow=39						
LTY	Liberty	7.63	37	ePn	Pn	13 14 35.7	+1.0
PGC	Sidney	7.82	20	ePn	Pn	13 14 38.1	+0.8
PAGB	Antelope Grade	7.91	133	ePn	Pn	13 14 36.5	-2.1
BMO	Blue Mountains	8.17	61	ePn	Pn	13 14 42.3	+0.2
ISA	Isabella, Lake	8.99	126	ePn	Pn	13 14 55.5	+2.1
B08A	Colville Reser	9.05	36	ePn	Pn	13 14 55.0	+0.8
ELK	Elko	9.20	90	ePn	Pn	13 14 58.6	+2.2
ELK	Elko	9.20	90	Pn	Pn	13 14 58.4	+2.0
	0.1nm,0.3s,baz=278,slow=9.9,SNR=6.7						
R11A	Troy Canyon, C	9.55	104	ePn	Pn	13 15 01.6	+0.4
OSI	Osito Audit: C	9.57	132	ePn	Pn	13 15 04.4	+3.0
CCCA	Chr Cany lake	9.77	123	ePn	Pn	13 15 06.5	+2.5
LLLB	Lilloet	10.03	21	ePn	Pn	13 15 10.2	+2.6
NEW	Newport	10.05	43	LR	LR	13 19 01.2	
	comp=Z,1μm,19.8s,baz=226,slow=38						
GSC	Goldstone, Bar	10.26	123	ePn	Pn	13 15 09.8	-1.1
SHPR	Sheep Range	10.67	113	ePn	Pn	13 15 20.1	+3.6
BGU	Big Grassy Mou	10.84	87	ePn	Pn	13 15 21.2	+2.4
BBB	Bella Bella	10.86	358	LR	LR	13 18 36.4	
	comp=Z,274nm,20.6s,baz=166,slow=33						
DUG	Dugway, Tooele	11.11	91	ePn	Pn	13 15 25.2	+2.7
MCMT	McKenzie Canyo	11.19	67	ePn	Pn	13 15 25.5	+1.9
DEVC	Devers	11.30	127	eSn	Sn	13 17 31.4	-0.1
PFO	Pinyon Flats O	11.60	128	LR	LR	13 19 50.7	
	comp=Z,900nm,19.5s,baz=305,slow=37						
SZCU	Shurtz Canyon	11.66	104	ePn	Pn	13 15 31.8	+1.6
NLU	North Lily Min	11.71	92	ePn	Pn	13 15 28.9	-2.0
LRM	Limekiln Ridge	11.72	63	ePn	Pn	13 15 35.1	+4.2
TCRU	Three Creeks R	11.78	98	ePn	Pn	13 15 31.4	-0.4
LCMT	Little Creek M	11.79	107	ePn	Pn	13 15 34.1	+2.2
MSU	Marysvale	12.01	99	ePn	Pn	13 15 37.0	+2.1
FXWY	Fox Creek	12.29	74	ePn	Pn	13 15 38.6	-0.1
W13A	Hualapai Mount	12.30	116	ePn	Pn	13 15 41.1	+2.2
DIB	Dawson Inlet,	12.36	346	ePn	Pn	13 15 39.0	-0.4
REDW	Red Top Meadow	12.40	75	ePn	Pn	13 15 41.4	+1.1
HRY	Holter Researc	12.41	59	ePn	Pn	13 15 40.5	+0.3
MOOW	Moose Ponds	12.51	73	ePn	Pn	13 15 41.3	-0.4
TMUT	Trail Mountain	12.51	94	ePn	Pn	13 15 43.7	+1.8
Q16A	Castle Valley	12.64	96	ePn	Pn	13 15 45.6	+2.1
Y12C	Blythe	12.70	122	ePn	Pn	13 15 45.6	+1.5
U15A	North Rim	12.73	108	ePn	Pn	13 15 46.1	+1.3
BW06	Boulder Array	13.33	78	ePn	Pn	13 15 55.9	+3.0
PD31	Pinedale Array	13.33	78	ePn	Pn	13 15 56.2	+3.3
PDAR	Pinedale Array	13.33	78	Pn	Pn	13 15 57.6	+4.7
	0.1nm,0.3s,baz=285,slow=10,SNR=1.5						
Y14A	Wickenburg	13.57	118	ePn	Pn	13 15 58.3	+2.3
WUAZ	Wupatki	13.82	110	ePn	Pn	13 16 03.7	+4.1
X16A	Lo Mia Camp, P	14.35	114	ePn	Pn	13 16 10.7	+3.8
PV21	Cone Mtn., Par	14.39	95	ePn	Pn	13 16 10.3	+2.9
PV23	Carpenter Ridg	14.39	96	eP	P	13 16 12.6	-2.0
PV10	Paradox Valley	14.40	96	ePn	Pn	13 16 11.6	+4.1
PV14	Lion Creek, Pa	14.41	96	eP	P	13 16 12.6	-2.2
PV05	Paradox Valley	14.45	97	ePn	P	13 16 13.2	-1.9
PV19	Morning Glory	14.46	96	eP	P	13 16 13.0	-2.3
PV20	West Nyswonger	14.46	96	ePn	Pn	13 16 12.3	+3.9
PV17	East Wray Mesa	14.49	96	ePn	Pn	13 16 12.5	+3.7
PV04	Paradox Valley	14.49	96	eP	P	13 16 13.7	-1.9
PV16	Nyswonger Mesa	14.51	96	eP	P	13 16 13.6	-2.2
PV18	Skein Mesa, Pa	14.53	96	eP	P	13 16 13.8	-2.2
PV22	Blue Mesa, Par	14.54	95	ePn	Pn	13 16 12.6	+3.2
PV11	David Mesa, Pa	14.54	96	ePn	P	13 16 13.6	-2.6
O20A	White River Ci	14.56	88	ePn	Pn	13 16 10.3	+0.5
PV03	Paradox Valley	14.58	96	ePn	Pn	13 16 11.1	+1.1
PV12	Saucer Basin,	14.59	96	eP	P	13 16 15.1	-1.7
PV13	Radium Mtn., P	14.63	96	ePn	Pn	13 16 14.1	+3.4
PV07	Paradox Valley	14.67	95	ePn	Pn	13 16 14.7	+3.4
PV02	Paradox Valley	14.68	96	ePn	Pn	13 16 14.9	+3.6
PV01	Paradox Valley	14.82	96	ePn	Pn	13 16 16.8	+3.5
W18A	Petrified Fore	15.19	108	ePn	Pn	13 16 16.3	-1.9
	22nm,1.5s						
MVCO	Mesa Verde	15.19	100	ePn	Pn	13 16 21.4	+3.1
	38nm,1.8s						
X18A	Snowflake	15.33	111	ePn	P	13 16 24.8	-0.1
	34nm,1.8s						
K22A	Casper	15.56	78	ePn	Pn	13 16 24.8	+1.7
	15nm,1.4s						
N23A	Red Feather La	16.16	84	ePn	Pn	13 16 30.1	-0.9
	35nm,1.9s						
S22A	4UR Ranch, Cre	16.25	96	ePn	P	13 16 34.5	-0.7
	56nm,1.9s						
PHWY	Pilot Hill	16.47	83	ePn	Pn	13 16 32.6	-2.3
	12nm,0.8s						
ISCO	Idaho Springs	16.61	88	ePn	P	13 16 39.1	-0.1
	16nm,1.9s						
DLBC	Dease Lake	17.20	355	ePn	P	13 16 46.0	+0.6
	19nm,1.8s						
DLBC	Dease Lake	17.20	355	P	P	13 16 46.0	+0.6
	baz=183,slow=16,SNR=2.6						
DLBC				LR	LR	13 22 16.6	
	comp=Z,180nm,18.6s,baz=176,slow=34						
SDCO	Great Sand Dun	17.25	95	ePn	P	13 16 46.3	+0.1
	20nm,1.3s						
LAZ	Ladron	17.40	107	ePn	P	13 16 50.3	+2.4
LENM	Lemitar	17.63	107	ePn	P	13 16 51.4	+1.0
ANMO	Albuquerque	17.64	104	P	P	13 16 53.0	+2.6
	0.1nm,0.3s,baz=308,slow=4.6,SNR=3.3						
LPM	Los Pinos Moun	17.81	106	ePn	P	13 16 57.3	+5.0
BNM	Barren Site	17.89	107	ePn	P	13 16 54.8	+1.5
HSIG		18.17	127	ePn	P	13 16 58.2	+2.0
	29nm,1.8s						
T25A	Trinidad	18.27	96	ePn	P	13 16 58.1	+0.7
	48nm,1.5s						
KSCO	Kaye Shedlock'	19.04	89	eP	Pn	13 17 07.9	+1.2
	102nm,1.9s						
MNTX	Cornudas Mount	20.08	112	eP	Pn	13 17 19.2	+0.3
	7.5nm,1.1s						
HYT	Haines Junctio	20.48	346	eP	Pn	13 17 23.9	+0.4
	8.3nm,1.3s						
CTGM	Chitina Glacie	21.42	341	eP	P	13 17 32.0	+0.5
	13nm,1.0s						
FFC	Flin Flon	21.48	43	eP	P	13 17 30.8	-1.2
	10nm,0.9s						
LPIG	La Paz	22.33	135	P	P	13 17 44.5	+3.1
	47nm,0.3s,baz=285,slow=2.2,SNR=7.1						
YKA	Yellowknife Ar	22.52	16	eP	P	13 17 41.4	-1.7
YKA	Yellowknife Ar	22.52	16	P	P	13 17 42.2	-0.9
	3.1nm,0.9s,baz=205,slow=10,SNR=9.5						
YKA				LR	LR	13 25 25.4	
	comp=Z,16nm,21.4s,baz=214,slow=34						
YKB5	Yellowknife Ar	22.52	16	eP	P	13 17 42.2	-0.9
YKW3	Yellowknife Ar	22.58	15	eP	P	13 17 42.4	-1.4
	32nm,2.0s						
TX31	Lajitas Ar. Si	22.67	114	eP	P	13 17 44.9	-0.3
	6.7nm,1.2s						
TXAR	Lajitas Array	22.68	114	eP	P	13 17 44.3	-0.8
TXAR	Lajitas Array	22.68	114	P	P	13 17 47.4	+2.2
	1.5nm,1.1s,baz=296,slow=6.7,SNR=6.3						
DIV	Divide	22.76	337	eP	P	13 17 47.3	+1.5
	24nm,1.5s						
BCAR	Beaver Creek A	23.37	343	eP	P	13 17 52.9	+0.9
ULM	Lac du Bonnet	23.56	57	LR	LR	13 27 25.9	
	comp=Z,194nm,20.4s,baz=260,slow=38						
MENT	Mentasta	23.70	341	eP	P	13 17 57.2	+1.9
	7.7nm,0.9s						
DAWY	Dawson	23.82	347	eP	P	13 17 56.9	+0.5
	7.8nm,1.4s						
EPYK	Eagle

PLP				eS	Sg	13 19 57.2	-3.0
MSLP	Maasin	1.64	223	eP	Pn	13 19 57.1	+0.2
MSLP				eS	Sb	13 20 19.4	+0.3
CNP	Catarman	1.75	312	eP	Pn	13 19 58.2	-0.3
CNP				eS	Sb	13 20 21.9	-0.5

*ISCJB **20** 13:19:29.4±0.7,41°.33N±0°.08×127°.11W±0°.09, h11km, mb3.9/15, Error ellipse: s-maj=13.6km s-min=5.4km az=39.3*
*IDC **20** 13:19:29.9±1.6,41°.44N×127°.35W, h0km, mb3.5/8, mb1 3.7/12, mb1mx3.6/48, mbtmp3.5/12, ML3.2/4, Error ellipse: s-maj=38.9km s-min=13.7km az=27.0*
*NEIC **20** 13:19:30.7±0.4,41°.32N×127°.12W, h10km, mb4.2/11, Error ellipse: s-maj=8.5km s-min=3.3km az=219.0*
ISC 20 13:19:31.5±0.8,41°.36N±0°.08×127°.02W±0°.07,h11km,n60, σ1§19/54,mb4.1/15,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	Jacoby Creek,	2.33	102	ePn	Pn	13 20 09.2	-0.5
KRMB	Red Mountain	2.35	85	ePn	Pn	13 20 10.2	+0.1
KHMM	Horse Mountain	2.53	100	ePn	Pn	13 20 11.7	-1.0
KMRM	Mail Ridge	2.76	113	ePn	Pn	13 20 14.5	-1.3
KCPM	Cahto Peak	3.11	121	ePn	Pn	13 20 21.1	+0.5
YBH	Yreka Blue Hor	3.26	82	ePn	Pn	13 20 23.3	+0.7
YBH				Sn	Sb	13 21 07.3	-1.8
YBH	Yreka Blue Hor	3.26	82	Pn	Pn	13 20 25.1	+2.5
	2.0nm,0.3s,baz=250,slow=13,SNR=27						
YBH				Sn	Sb	13 21 07.3	-1.8
	baz=116,slow=12,SNR=1.8						
HUMO	Hull Mountain	3.28	66	ePn	Pn	13 20 23.9	+1.1
WDC	Whiskeytown Da	3.48	101	ePn	Pn	13 20 26.4	+0.8
HOPS	Hopland Field	3.84	127	ePn	Pn	13 20 30.7	+0.2
MOD	Modoc Plateau	5.07	82	ePn	Pn	13 20 48.5	+1.0
BEKR	Beckworth	5.29	104	ePn	Pn	13 20 50.1	-0.4
RUBR	Rubicon Trail	5.74	111	ePn	Pn	13 20 57.2	+0.3
PAHR	Pah Rah Range	6.05	103	ePn	Pn	13 21 00.0	-1.0
SAO	San Andreas Ge	6.31	135	ePn	Pn	13 21 04.8	+0.3
WVOR	Wild Horse Val	6.35	77	ePn	Pn	13 21 06.0	+0.9
LON	Longmire	6.57	33	ePn	Pn	13 21 07.5	-0.5
NVAR	Mina Array Bea	7.32	111	Pn	Pn	13 21 22.1	+3.6
	0.1nm,0.3s,baz=296,slow=13,SNR=5.6						
ELK	Elko	8.93	90	Pn	Pn	13 21 47.0	+6.5
	0.1nm,0.3s,baz=329,slow=9.8,SNR=8.9						
DUG	Dugway, Tooele	10.84	91	ePn	Pn	13 22 06.7	0.0
TCRU	Three Creeks R	11.52	99	ePn	Pn	13 22 15.9	-0.1
PDAR	Pinedale Array	13.06	78	Pn	P	13 22 44.3	-3.2
	0.0nm,0.3s,baz=234,slow=28,SNR=3.3						
PV05	Paradox Valley	14.18	97	ePn	Pn	13 22 53.0	+0.6
PV19	Morning Glory	14.19	96	eP	P	13 22 58.8	-1.3
PV20	West Nyswonger	14.20	96	eP	P	13 22 59.5	-0.7
PV17	East Wray Mesa	14.22	97	ePn	Pn	13 22 54.2	+1.3
PV16	Nyswonger Mesa	14.24	96	ePn	Pn	13 22 53.7	+0.5
PV18	Skein Mesa, Pa	14.27	97	ePn	Pn	13 22 53.9	+0.2
PV12	Saucer Basin,	14.33	96	eP	P	13 23 01.1	-0.5
PV01	Paradox Valley	14.56	97	eP	P	13 23 03.6	-0.6
319A	Douglas	17.39	119	ePn	Pn	13 23 33.5	-0.7
	32nm,1.8s						
T25A	Trinidad	18.00	96	ePn	Pn	13 23 42.3	+0.5
	18nm,1.1s						
FFC	Flin Flon	21.28	43	eP	P	13 24 17.4	-0.3
	9.1nm,1.1s						
YKA	Yellowknife Ar	22.43	15	eP	P	13 24 29.2	-0.7
YKA	Yellowknife Ar	22.43	15	P	P	13 24 30.3	+0.3
	3.0nm,1.1s,baz=203,slow=10.0,SNR=12						
YKB5	Yellowknife Ar	22.43	15	eP	P	13 24 30.3	+0.3
TXAR	Lajitas Array	22.44	115	P	P	13 24 35.0	+4.6
	0.3nm,0.7s,baz=292,slow=7.4,SNR=3.0						
ECSD	EROS Data Cent	22.47	74	eP	P	13 24 30.8	+0.2
	7.1nm,1.1s						
YKW3	Yellowknife Ar	22.49	15	eP	P	13 24 30.1	-0.5
	14nm,1.6s						
MENT	Mentasta	23.77	341	eP	P	13 24 43.9	+0.1
	7.7nm,1.2s						
ILAR	Eielson Array	26.08	341	eP	P	13 25 04.0	-0.8
ILAR	Eielson Array	26.08	341	P	P	13 25 04.1	-0.7
	1.7nm,1.1s,baz=161,slow=7.4,SNR=9.1						
ILB	Eielson Array	26.08	341	eP	P	13 25 04.1	-0.7
	6.6nm,1.4s						
CCB	Clear Creek Bu	26.21	340	eP	P	13 25 05.4	-0.6
	6.9nm,1.5s						
MLY	Manley	27.30	338	eP	P	13 25 15.6	-0.3
	10nm,1.4s						
IMAR	Indian Mountai	28.86	338	eP	P	13 25 29.2	-0.4
H11N3	WAKE ISLAND Hy	59.44	270	T	T	14 33 32.6	
	baz=53,slow=75,SNR=29						
H11N2	WAKE ISLAND Hy	59.44	270	T	T	14 33 35.5	
	baz=53,slow=75,SNR=18						
H11N1	WAKE ISLAND Hy	59.45	270	T	T	14 33 34.8	
	baz=53,slow=75,SNR=22						
H11S1	WAKE ISLAND Hy	60.32	269	T	T	14 34 43.7	
	baz=51						
H11S2	WAKE ISLAND Hy	60.33	269	T	T	14 34 40.3	
	baz=51,slow=74						
H11S3	WAKE ISLAND Hy	60.34	269	T	T	14 34 45.3	
	baz=51,slow=74						
USRK	Ussuriysk Ar.	69.26	311	P	P	13 30 36.7	-1.7
	0.6nm,0.6s,baz=251,slow=5.8,SNR=4.6						
NB200	NORSAR Array S	72.44	20	eP	P	13 30 57.5	0.0
NOA	NORSAR Array B	72.44	20	P	P	13 30 57.5	0.0
	0.3nm,0.5s,baz=330,slow=5.5,SNR=2.2						
GEC2	GERESS Array S	83.73	25	eP	P	13 32 01.1	+0.7
	6.8nm,1.7s						
GERES	GERESS Array B	83.73	25	P	P	13 32 01.2	+0.7
	0.5nm,0.8s,baz=330,slow=12,SNR=3.4						
ESDC	Sonseca Array	84.17	41	P	P	13 32 04.2	+1.4
	0.1nm,0.3s,baz=310,slow=5.3,SNR=4.8						
AKASG	Malin Array Be	85.99	15	P	P	13 32 10.7	-0.9
	0.2nm,0.3s,baz=11,slow=2.9,SNR=2.9						
AKBB	Malin Array Si	85.99	15	eP	P	13 32 10.7	-0.9
	10nm,1.8s						

*IDC **20** 13:20:51.7±1.1,41°.40N×127°.36W, h0km, mb3.9/16, mb1 4.0/22, mb1mx3.9/51, mbtmp3.8/22, ML3.4/6, Error ellipse: s-maj=23.2km s-min=11.5km az=27.0*
*ISCJB **20** 13:20:52.4±0.4,41°.45N±0°.04×127°.34W±0°.05, h10km, mb4.1/23, Error ellipse: s-maj=6.8km s-min=3.8km az=139.0*
*NEIC **20** 13:20:53.2±4.4,41°.36N×127°.35W, h9km±27km, mb4.3/21, Error ellipse: s-maj=14.8km s-min=5.7km az=67.0*
ISC 20 13:20:53.2±0.7,41°.37N±0°.07×127°.36W±0°.08,h10km, n121,σ1§75/117,mb4.2/23,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	Jacoby Creek,	2.57	101	ePn	Pn	13 21 31.6	-3.3
KRMB	Red Mountain	2.60	85	ePn	Pn	13 21 32.1	-3.3
KEBM	Edson Butte	2.71	55	ePn	Pn	13 21 34.8	-2.0
KHMM	Horse Mountain	2.78	99	ePn	Pn	13 21 35.0	-3.0
KMRM	Mail Ridge	3.00	111	ePn	Pn	13 21 40.0	-0.8
KCPM	Cahto Peak	3.33	119	ePn	Pn	13 21 43.0	-2.5
HUMO	Hull Mountain	3.51	68	ePn	Pn	13 21 45.7	-2.1
YBH	Yreka Blue Hor	3.51	83	ePn	Pn	13 21 46.5	-1.4
YBH	Yreka Blue Hor	3.51	83	Pn	Pn	13 21 46.8	-1.1
	3.3nm,0.3s,baz=257,slow=12,SNR=14						
WDC	Whiskeytown Da	3.73	101	ePn	Pn	13 21 48.7	-2.2
HOPS	Hopland Field	4.05	124	ePn	Pn	13 21 53.1	-2.2
MCCM	Marconi Confer	4.72	132	ePn	Pn	13 22 08.4	+4.0
K05A	Summer Lake	5.00	72	ePn	Pn	13 22 12.0	+3.5
PINE	Pine Mountain	5.32	61	ePn	Pn	13 22 12.0	-0.9
STD	Studebaker Rid	6.12	36	ePg	Pb	13 22 41.1	+1.1
STD				eSn	Sn	13 23 33.6	-0.4
PNTR	Pine Nut	6.36	108	ePn	Pn	13 22 26.3	-0.9
I07A	Izee	6.39	62	ePn	Pn	13 22 28.8	+1.3
NLWA	Neilton Lookou	6.52	21	ePn	Pn	13 22 29.7	+0.4
WVOR	Wild Horse Val	6.59	78	ePn	Pn	13 22 27.8	-2.6
GLK	Glacier Lake	6.65	37	ePn	Pn	13 22 30.2	-0.8
YERR	Yerington	6.66	108	ePn	Pn	13 22 31.3	+0.1
LON	Longmire	6.70	35	ePn	Pn	13 22 32.5	+0.7
NV01	Mina Array Sit	7.55	110	ePn	Pn	13 22 43.6	+0.1
NVAR	Mina Array Bea	7.55	110	ePn	Pn	13 22 44.0	+0.4
NVAR	Mina Array Bea	7.55	110	Pn	Pn	13 22 43.6	+0.1
	0.1nm,0.3s,baz=282,slow=12,SNR=5.7						
LTY	Liberty	7.59	37	ePn	Pn	13 22 44.8	+0.8
PGC	Sidney	7.79	19	ePn	Pn	13 22 46.6	+0.1
BMO	Blue Mountains	8.13	61	ePn	Pn	13 22 54.4	+3.0
B06A	Marblemount	8.27	28	ePn	Pn	13 22 53.5	+0.4
NLW	Nelson Butte	8.36	34	ePn	Pn	13 22 56.4	+1.8
FIGC	Figueroa Mtn.	8.81	136	ePn	Pn	13 23 01.6	+0.9
FIGC				eSn	Sn	13 24 41.2	+1.1
ISA	Isabella, Lake	8.99	126	ePn	Pn	13 23 03.0	-0.2
B08A	Colville Reser	9.01	36	ePn	Pn	13 23 04.1	+0.7
ELK	Elko	9.18	90	ePn	Pn	13 23 08.5	+2.6
ELK	Elko	9.18	90	Pn	Pn	13 23 09.1	+3.3
	0.1nm,0.3s,baz=274,slow=9.3,SNR=8.0						
LLLB	Lillooet	9.99	21	ePn	Pn	13 23 15.8	-1.0
NEW	Newport	10.02	43	Pn	Pn	13 23 18.2	+1.1
	0.1nm,0.3s,baz=141,slow=6.5,SNR=2.3						
SHPR	Sheep Range	10.67	113	ePn	Pn	13 23 29.4	+3.2
BGU	Big Grassy Mou	10.82	88	ePn	Pn	13 23 31.3	+3.0
DUG	Dugway, Tooele	11.09	91	ePn	Pn	13 23 34.0	+2.0
MCMT	McKenzie Canyo	11.16	67	ePn	Pn	13 23 31.7	-1.3
DANC	Danby, Needles	11.59	122	ePn	Pn	13 23 40.6	+1.9
TCRU	Three Creeks R	11.77	99	ePn	Pn	13 23 40.1	-1.2
CTCC	Cactus City	11.86	127	ePn	Pn	13 23 40.1	-2.2
HRY	Holter Researc	12.38	59	ePn	Pn	13 23 51.9	+2.4
YFT	Old Faithful	12.50	70	ePn	Pn	13 23 52.1	+0.8
LOHW	Long Hollow	12.57	74	ePn	Pn	13 23 53.9	+1.6
U15A	North Rim	12.73	108	ePn	Pn	13 23 57.6	+3.1
PDAR	Pinedale Array	13.30	78	Pn	Pn	13 24 06.9	+4.6
	0.1nm,0.3s,baz=280,slow=11,SNR=3.2						
Y14A	Wickenburg	13.56	119	ePn	Pn	13 24 07.8	+2.1
RLMT	Red Lodge	13.71	68	ePn	Pn	13 24 09.0	+1.2
PV23	Carpenter Ridg	14.38	96	ePn	Pn	13 24 20.1	+3.1
PV10	Paradox Valley	14.38	96	ePn	P	13 24 20.9	-3.2
PV14	Lion Creek, Pa	14.39	96	ePn	Pn	13 24 20.3	+3.1
PV19	Morning Glory	14.44	96	ePn	Pn	13 24 21.4	+3.5
PV20	West Nyswonger	14.45	96	ePn	Pn	13 24 19.5	+1.6
PV17	East Wray Mesa	14.47	96	ePn	Pn	13 24 20.6	+2.3
PV04	Paradox Valley	14.48	96	ePn	Pn	13 24 19.0	+0.7
PV16	Nyswonger Mesa	14.49	96	ePn	Pn	13 24 19.9	+1.3
PV22	Blue Mesa, Par	14.52	95	ePn	Pn	13 24 21.1	+2.1
PV11	David Mesa, Pa	14.53	96	ePn	Pn	13 24 19.7	+0.7
O20A	White River Ci	14.54	89	ePn	Pn	13 24 18.9	-0.4
PV03	Paradox Valley	14.56	96	ePn	Pn	13 24 21.8	+2.3
PV12	Saucer Basin,	14.58	96	ePn	Pn	13 24 22.3	+2.6
PV13	Radium Mtn., P	14.61	97	ePn	Pn	13 24 23.4	+3.2
PV07	Paradox Valley	14.66	95	ePn	Pn	13 24 24.0	+3.2
PV02	Paradox Valley	14.66	96	ePn	P	13 24 24.9	-2.3
PV01	Paradox Valley	14.81	96	ePn	P	13 24 26.5	-2.4
W18A	Petrified Fore	15.18	109	ePn	Pn	13 24 29.5	+1.7
	6.5nm,1.1s						
MVCO	Mesa Verde	15.18	100	ePn	Pn	13 24 29.6	+1.8
	42nm,2.0s						
X18A	Snowflake	15.32	111	ePn	Pn	13 24 30.9	+1.1
	32nm,1.8s						
K22A	Casper	15.54	78	ePn	Pn	13 24 32.6	+0.1
	16nm,1.4s						
TUC	Tucson	16.03	119	ePn	Pn	13 24 39.5	+0.6
	8.4nm,1.1s						
N23A	Red Feather La	16.14	85	ePn	Pn	13 24 40.8	+0.4
	39nm,1.8s						
S22A	4UR Ranch, Cre	16.23	96	ePn	Pn	13 24 42.5	+0.8
	38nm,1.8s						
SDCO	Great Sand Dun	17.23	95	ePn	Pn	13 24 54.5	+0.3
	27nm,1.5s						
ANMO	Albuquerque	17.62	105	P	P	13 25 00.7	+0.7
	0.1nm,0.3s,baz=300,slow=14,SNR=2.1						
T25A	Trinidad	18.25	96	ePn	Pn	13 25 06.8	0.0
	21nm,1.2s						
FFC	Flin Flon	21.44	43	eP	P	13 25 41.7	+0.3
	14nm,0.9s						
YKA	Yellowknife Ar	22.49	16	eP	P	13 25 51.2	-1.2
YKA	Yellowknife Ar	22.49	16	P	P	13 25 52.5	0.0
	3.5nm,0.9s,baz=206,slow=10,SNR=5.8						
YKB5	Yellowknife Ar	22.49	16	eP	P	13 25 52.5	0.0
YKW3	Yellowknife Ar	22.55	15	eP	P	13 25 51.5	-1.6
	12nm,1.2s						
TXAR	Lajitas Array	22.67	114	P	P	13 25 56.5	+1.7
	0.7nm,1.0s,baz=312,slow=5.9,SNR=3.0						
BCAR	Beaver Creek A	23.35	343	eP	P	13 26 01.8	+0.2
WMOK	Wichita Mounta	23.39	97	eP	P	13 26 02.4	+0.2
	28nm,1.9s						
ULM	Lac du Bonnet	23.53	57	P	P	13 26 02.6	-0.7
	4.4nm,0.9s,baz=276,slow=16,SNR=2.6						
DOT	Dot Lake	24.37	342	eP	P	13 26 12.0	+0.8
ILAR	Eielson Array	25.99	341	eP	P	13 26 26.0	+0.2
ILAR	Eielson Array	25.99	341	P	P	13 26 26.4	+0.5
	1.7nm,0.9s,baz=156,slow=7.8,SNR=9.4						
ILB	Eielson Array	25.99	341	eP	P	13 26 26.1	+0.3
	10nm,1.5s						
WRH	Wood River Hil	26.05	340	eP	P	13 26 26.9	+0.5
	16nm,1.5s						
MLY	Manley	27.20	338	eP	P	13 26 37.2	+0.4
	7.0nm,1.2s						
IMAR	Indian Mountai	28.76	338	eP	P	13 26 49.5	-1.1
TOLK	Toolik Lake Re	29.79	344	eP	P	13 27 01.1	+1.3
	12nm,1.5s						
SADO	Sadowa	34.98	68	eP	P	13 27 45.5	+0.1
	7.0nm,1.0s						
SADO	Sadowa	34.98	68	P	P	13 27 45.5	+0.1
	4.3nm,0.8s,baz=282,slow=12,SNR=4.1						
RES	Resolute Bay	36.53	14	eP	P	13 27 58.6	+0.1
	6.1nm,1.2s						
RES	Resolute Bay	36.53	14	P	P	13 27 57.9	-0.6
	1.6nm,0.7s,baz=254,slow=9.5,SNR=3.2						
SCHQ	Schefferville	41.30	50	eP	P	13 28 39.9	+1.3
	48nm,1.8s						
SCHQ	Schefferville	41.30	50	P	P	13 28 39.9	+1.3
	6.1nm,0.6s,baz=228,slow=14,SNR=3.2						
SEY	Seychan	49.93	324	P	P	13 29 45.8	-1.0
	0.6nm,0.8s,baz=125,slow=12,SNR=2.9						
H11N3	WAKE ISLAND Hy	59.19	270	T	T	14 34 52.6	
	baz=53,slow=75,SNR=13						
H11N2	WAKE ISLAND Hy	59.19	270	T	T	14 34 55.8	
	baz=53,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	59.20	270	T	T	14 34 54.8	
	baz=53,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	60.07	269	T	T	14 36 00.6	
	baz=52,slow=75,SNR=27						
H11S2	WAKE ISLAND Hy	60.08	269	T	T	14 36 01.2	
	baz=52,slow=75,SNR=30						
H11S3	WAKE ISLAND Hy	60.09	269	T	T	14 36 02.0	
	baz=52,slow=75,SNR=27						
NRIK	Noril'sk	66.64	347	P	P	13 31 43.6	+0.2
	2.3nm,0.6s,baz=279,slow=4.2,SNR=3.8						
NB200	NORSAR Array S	72.51	20	eP	P	13 32 19.2	-0.7
NOA	NORSAR Array B	72.51	20	P	P	13 32 19.2	-0.7
	0.5nm,0.8s,baz=329,slow=5.8,SNR=2.1						
SONA0	Songino Array	79.24	326	eP	P	13 32 59.4	+0.7
SONM	Songino Array	79.24	326	P	P	13 32 59.4	+0.7
	0.7nm,0.7s,baz=60,slow=3.9,SNR=4.2						
LPAZ	La Paz	79.26	123	P	P	13 32 58.7	-0.9
	0.7nm,0.5s,baz=338,slow=5.4,SNR=2.9						
GEC2	GERESS Array S	83.83	25	eP	P	13 33 23.4	+0.6
	12nm,1.9s						
GERES	GERESS Array B	83.83	25	P	P	13 33 23.4	+0.6
	0.5nm,0.8s,baz=252,slow=0.6,SNR=3.6						
ESDC	Sonseca Array	84.32	40	P	P	13 33 24.2	-1.3
	1.6nm,0.9s,baz=285,slow=6.4,SNR=4.6						
AKASG	Malin Array Be	86.05	15	P	P	13 33 32.8	-1.0
	0.2nm,0.3s,baz=345,slow=4.0,SNR=4.9						
AKBB	Malin Array Si	86.05	15	eP	P	13 33 32.8	-1.0
	13nm,1.9s						
MK32	Makanchi Array	88.34	340	eP	P	13 33 45.8	+0.7
MKAR	Makanchi Array	88.34	340	P	P	13 33 45.8	+0.7
	0.3nm,0.7s,baz=8.9,slow=4.7,SNR=2.7						

*ISCJB **20** 13:20:55.6±0.8,23°.74N±0°.03×122°.72E±0°.02, h3km±6km, Error ellipse: s-maj=4.5km s-min=2.6km az=159.0*
*TAP **20** 13:20:57.4,23°.81N×122°.76E, h22km± 1km, ML3.0, D*
*JMA **20** 13:20:58.1±0.2,23°.86N×122°.69E, h31km±5km, M2.8*
ISC 20 13:20:54.9±1.2,23°.70N±0°.03×122°.69E±0°.02,h2km±10km, n61,σ0§63/88,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.78	17	P	Pg	13 21 10.4	+0.5
JYNG				S	Sg	13 21 18.8	-1.3
YOJ	Yonaguni jima	0.81	21	P	Pg	13 21 11.0	+0.6
	baz=19						
YOJ				S	Sg	13 21 20.2	-0.8
	baz=19						
YOJ	Yonaguni jima	0.81	21	P	Pg	13 21 11.1	+0.6
YOJ				eS	Sg	13 21 19.5	-1.5
EOS1	EOS1	0.99	329	P	Pb	13 21 15.1	+0.4
	baz=323						
EOS1				eS	Sb	13 21 28.1	0.0
	baz=323						
HATJ	Hateruma jima	1.08	71	P	Pg	13 21 16.5	+0.9
HATJ				eS	Sg	13 21 30.0	+0.3
NACB	Ninganchiao	1.10	295	P	Pb	13 21 17.2	+0.5
	baz=290						
NACB				eS	Sn	13 21 32.3	-0.9
	baz=290						
NANB	Nanao	1.12	310	P	Pb	13 21 17.5	+0.5
	baz=305						
NANB				S	Sn	13 21 33.1	-0.5
	baz=305						
ENA	Nanau	1.13	310	eP	Pn	13 21 17.9	+0.3
	baz=305						
IRIF	Iriomote-Funau	1.14	56	P	Pg	13 21 16.9	+0.1
IRIF				S	Sg	13 21 30.9	-0.7
ESL	Shilin	1.16	276	eP	Pb	13 21 17.6	0.0
	baz=271						
ESL				eS	Sb	13 21 33.4	+0.4
	baz=271						
EGFH	Guangfu	1.16	269	eP	Pn	13 21 18.7	+0.6
	baz=265						
HGSD	Ruisui	1.18	260	P	Pn	13 21 18.8	+0.5
	baz=257						
HGSD				S	Sn	13 21 34.9	0.0
	baz=257						
TWC	Suao	1.19	320	P	Pb	13 21 18.3	+0.2
	baz=306						
TWC				eS	Sb	13 21 33.8	0.0
	baz=306						
ETLH	Xiulin Townshi	1.21	295	P	Pn	13 21 19.0	+0.1
	baz=290						
EHY	Hungye	1.27	261	i P	Pn	13 21 20.3	+0.7
	baz=258						
EHY				S	Sn	13 21 37.0	-0.2
	baz=258						
YULB	Yu-li	1.31	257	P	Pn	13 21 21.1	+0.9
	baz=254						
YULB				eS	Sn	13 21 38.4	+0.1
	baz=254						
JKRS	Kuro-shima	1.32	66	P	Pg	13 21 20.3	+0.1
JKRS				S	Sg	13 21 37.2	-0.2
TWF1	Yuli	1.32	255	P	Pn	13 21 21.2	+0.8
	baz=252						
TWF1				eS	Sb	13 21 37.9	0.0
	baz=252						
EGS		1.33	329	eP	Pb	13 21 20.9	+0.3
	baz=341						
CHKT	Chengkung	1.36	244	eP	Pb	13 21 21.1	+0.2
	baz=241						
WHF	Hehuan Shan	1.38	289	i P	Pn	13 21 22.0	+0.6
	baz=271						
TWE	Neicheng	1.38	318	P	Pb	13 21 21.9	+0.6
	baz=314						
TWE				eS	Sn	13 21 40.0	+0.1
	baz=314						
ENTT	Nioudou	1.39	313	i P	Pb	13 21 22.0	+0.5
	baz=309						
NTC	Toucheng	1.39	326	P	Pb	13 21 22.1	+0.5
	baz=322						
NTC				eS	Sg	13 21 38.9	-0.7
	baz=322						
NNSB	Datong	1.40	301	P	Pb	13 21 22.0	+0.3
	baz=298						
NDT	Datong Townshi	1.40	310	P	Pb	13 21 21.9	+0.2
	baz=307						
OWD	Renai	1.41	281	P	Pb	13 21 22.6	+0.6
	baz=277						
NNS	Nan Shan	1.41	302	P	Pb	13 21 22.4	+0.4
	baz=298						
VWDT	VWDT	1.42	272	P	Pb	13 21 22.7	+0.7
	baz=256						
VWDT				S	Sn	13 21 41.1	+0.3
	baz=256						
SLBB	Yuanshan	1.42	318	i P	Pb	13 21 22.9	+0.7
	baz=314						
CHGB	Renai	1.43	285	P	Pn	13 21 22.3	+0.3
	baz=269						
TWB1	Santiao Chiao	1.45	334	eP	Pn	13 21 22.2	+0.2
	baz=331						
JIJ	Ishigaki jima	1.48	63	P	Pn	13 21 22.6	0.0
JIJ				S	Sn	13 21 40.2	-2.3
YHNB	Yeheng	1.54	309	P	Pb	13 21 24.3	+0.1
	baz=306						
NSK	Sanguang	1.55	309	P	Pb	13 21 24.4	-0.1
	baz=306						
SSLB	Suanglung	1.59	273	eP	Pn	13 21 23.5	-0.6
	baz=271						
WFSB	Wu-fen Shan	1.59	329	eP	Pn	13 21 24.4	+0.4
	baz=327						
YUS	Yu-Shan	1.61	263	P	Pg	13 21 26.1	+0.4
	baz=260						
ELDTW	Lidau	1.62	252	P	Pb	13 21 25.3	-0.2
	baz=250						
ELDTW				eS	Sn	13 21 45.4	-0.6
	baz=250						
SMLT	Sun Moon Lake	1.65	277	eP	Pn	13 21 25.6	+0.7
	baz=262						
WHYT	Xinyi Township	1.68	270	eP	Pg	13 21 26.9	-0.3
	baz=258						
TYC	Yuchr	1.69	277	eP	Pb	13 21 26.2	-0.4
	baz=263						
WHP	Taichung City	1.69	290	eP	Pg	13 21 27.9	+0.5
	baz=276						
TWGBT	Beinan	1.72	240	eP	Pb	13 21 26.8	-0.4
	baz=227						
TWGBT				eS	Sn	13 21 48.6	+0.3
	baz=227						
JISG	Ishigakijimahi	1.72	59	P	Pn	13 21 25.7	-0.1
JISG				S	Sn	13 21 47.4	-1.0
ALS	Alishan	1.74	264	eP	Pb	13

L02E	Cave Junction	2.92	70	P	Pn	13 24 29.1	-0.7
baz=253							
KCPM	Cahto Peak	3.23	117	*e*Pn	Pn	13 24 34.0	-0.2
M02C	Callahan	3.36	86	P	Pn	13 24 35.4	-0.5
baz=270,SNR=6.7							
N02D	Trinity Center	3.48	93	P	Pn	13 24 36.5	-1.1
baz=277							
YBH	Yreka Blue Hor	3.49	80	Pn	Pn	13 24 38.0	+0.3
2.6nm,0.3s,baz=300,slow=12,SNR=14							
YBH				Sn	Sn	13 25 17.9	-1.1
1.0nm,0.3s,baz=289,slow=18,SNR=1.6							
YBH				LR	LR	13 25 42.2	
comp=Z,619nm,19.6s,baz=303,slow=35							
HUMO	Hull Mountain	3.52	66	*e*Pn	Pn	13 24 37.2	-0.8
O02D	Mt. Diablo Mer	3.59	106	P	Pn	13 24 38.3	-0.8
baz=290,SNR=14							
WDC	Whiskeytown Da	3.67	99	*e*Pn	Pn	13 24 39.4	-0.7
L04D	Klamath Falls	3.87	74	P	Pn	13 24 43.2	+0.3
baz=257,SNR=19							
HOPS	Hopland Field	3.94	123	*e*Pn	Pn	13 24 44.0	+0.2
M04C	Macdoel	4.14	81	P	Pn	13 24 47.3	+0.6
baz=265,SNR=18							
O03E	Paynes Creek	4.28	101	P	Pn	13 24 48.5	-0.1
baz=285							
O03E				Sg	Sn	13 25 40.1	+1.4
baz=285							
MCCM	Marconi Confer	4.60	131	*e*Pn	Pn	13 24 53.0	+0.1
ORV	Oroville	4.74	109	*e*Pn	Pn	13 24 54.0	-0.8
J05D	Fort Rock, OR	4.95	64	P	Pn	13 25 01.5	+3.7
baz=248							
K05A	Summer Lake	5.00	71	*e*Pn	Pn	13 24 56.5	-2.1
MOD	Modoc Plateau	5.29	81	*e*Pn	Pn	13 25 00.6	-2.0
AFDM	Forest Hills D	5.37	113	*e*Pn	Pn	13 25 04.6	+1.1
BEKR	Beckworth	5.46	102	*e*Pn	Pn	13 25 05.9	+0.9
AASM	Arroyo Seco	5.53	118	*e*Pn	Pn	13 25 06.6	+0.9
PAHR	Pah Rah Range	6.23	102	*e*Pn	Pn	13 25 15.9	+0.5
SAO	San Andreas Ge	6.38	133	*e*Pn	Pn	13 25 17.4	0.0
YERR	Yerington	6.58	107	*e*Pn	Pn	13 25 19.6	-0.6
WVOR	Wild Horse Val	6.58	77	*e*Pn	Pn	13 25 19.2	-1.0
LON	Longmire	6.78	34	*e*Pn	Pn	13 25 22.0	-0.9
D05A	Enumclaw	7.07	31	*e*Pn	Pn	13 25 26.3	-0.4
F07A	Phinny Hill Vi	7.09	47	*e*Pn	Pn	13 25 27.5	+0.4
G08A	Pilot Rock	7.31	54	*e*Pn	Pn	13 25 31.0	+0.8
KVN	Kaiserville	7.38	104	*e*Pn	Pn	13 25 31.8	+0.6
NV01	Mina Array Sit	7.47	109	*e*Pn	Pn	13 25 34.4	+1.9
NVAR	Mina Array Bea	7.47	109	*e*Pn	Pn	13 25 33.7	+1.1
NVAR	Mina Array Bea	7.47	109	Pn	Pn	13 25 34.4	+1.9
0.2nm,0.3s,baz=284,slow=13,SNR=8.6							
NVAR				LR	LR	13 28 41.6	
comp=Z,830nm,18.1s,baz=293,slow=39							
NV11	Mina Array Sit	7.58	109	*e*Pn	Pn	13 25 34.9	+1.0
LTY	Liberty	7.67	36	*e*Pn	Pn	13 25 36.0	+0.9
PAGB	Antelope Grade	7.80	133	*e*Pn	Pn	13 25 36.8	-0.1
PGC	Sidney	7.90	19	*e*Pn	Pn	13 25 38.7	+0.6
BMO	Blue Mountains	8.16	60	*e*Pn	Pn	13 25 42.0	+0.2
ISA	Isabella, Lake	8.88	126	*e*Pn	Pn	13 25 51.8	0.0
B08A	Colville Reser	9.09	36	*e*Pn	Pn	13 25 53.6	-1.0
ELK	Elko	9.14	89	Pn	Pn	13 25 58.3	+2.9
0.1nm,0.3s,baz=280,slow=12,SNR=4.5							
ELK				LR	LR	13 29 43.3	
comp=Z,431nm,19.7s,baz=276,slow=40							
NEW	Newport	10.08	42	LR	LR	13 30 01.0	
comp=Z,480nm,19.9s,baz=227,slow=38							
BGU	Big Grassy Mou	10.78	87	*e*Pn	Pn	13 26 18.2	+0.3
PFO	Pinyon Flats O	11.49	128	LR	LR	13 31 07.6	
comp=Z,351nm,18.3s,baz=311,slow=38							
MSU	Marysvale	11.94	98	*e*Pn	Pn	13 26 33.0	-0.7
TCUT	Toone Canyon	11.98	85	*e*Pn	Pn	13 26 32.6	-1.7
JLU	Jordanelle	12.02	88	*e*Pn	Pn	13 26 32.7	-2.1
Q16A	Castle Valley	12.57	95	*e*Pn	Pn	13 26 41.6	-0.8
PDAR	Pinedale Array	13.29	78	Pn	Pn	13 26 55.0	+2.9
0.1nm,0.3s,baz=252,slow=3.0,SNR=4.1							
PV23	Carpenter Ridg	14.33	95	*e*P	P	13 27 12.7	-0.9
PV10	Paradox Valley	14.33	96	*e*P	P	13 27 12.4	-1.2
PV14	Lion Creek, Pa	14.34	96	*e*P	P	13 27 12.4	-1.4
PV05	Paradox Valley	14.38	97	*e*P	P	13 27 13.5	-0.6
PV19	Morning Glory	14.39	96	*e*P	P	13 27 12.9	-1.4
PV20	West Nyswonger	14.39	96	*e*P	P	13 27 12.5	-1.7
PV17	East Wray Mesa	14.42	96	*e*P	P	13 27 13.2	-1.3
PV04	Paradox Valley	14.43	95	*e*P	P	13 27 13.6	-1.0
PV16	Nyswonger Mesa	14.44	96	*e*P	P	13 27 13.7	-1.1
PV18	Skein Mesa, Pa	14.47	96	*e*P	P	13 27 13.9	-1.1
PV22	Blue Mesa, Par	14.47	95	*e*P	P	13 27 14.7	-0.5
PV11	David Mesa, Pa	14.48	96	*e*P	P	13 27 14.1	-1.1
PV03	Paradox Valley	14.51	96	*e*P	P	13 27 14.1	-1.5
PV12	Saucer Basin,	14.52	96	*e*P	P	13 27 14.7	-1.1
PV13	Radium Mtn., P	14.56	96	*e*P	P	13 27 14.9	-1.2
PV07	Paradox Valley	14.61	95	*e*P	P	13 27 15.7	-1.0
PV02	Paradox Valley	14.61	96	*e*P	P	13 27 15.6	-1.1
PV01	Paradox Valley	14.75	96	*e*Pn	P	13 27 16.3	-2.0
W18A	Petrified Fore	15.10	108	*e*Pn	P	13 27 21.7	-0.4
8.7nm,1.1s							
MVCO	Mesa Verde	15.12	99	*e*Pn	P	13 27 21.4	-1.0
29nm,1.8s							
X18A	Snowflake	15.24	110	*e*Pn	P	13 27 23.2	-0.5
37nm,1.7s							
TUC	Tucson	15.94	119	*e*Pn	Pn	13 27 28.4	+0.7
7.9nm,1.0s							
N23A	Red Feather La	16.11	84	*e*Pn	Pn	13 27 31.7	+1.6
11nm,1.3s							
S22A	4UR Ranch, Cre	16.18	96	*e*Pn	P	13 27 35.6	+1.4
55nm,1.9s							
PHWY	Pilot Hill	16.43	83	*e*Pn	Pn	13 27 34.3	+0.2
21nm,1.2s							
SDCO	Great Sand Dun	17.18	95	*e*Pn	P	13 27 47.6	+2.3
30nm,1.4s							
DLBC	Dease Lake	17.30	355	*e*Pn	P	13 27 47.6	+1.4
14nm,1.4s							
DLBC	Dease Lake	17.30	355	P	P	13 27 46.2	-0.1
0.1nm,0.3s,baz=145,slow=6.7,SNR=3.5							
ANMO	Albuquerque	17.55	104	P	P	13 27 52.8	+3.4
0.0nm,0.3s,baz=297,slow=14,SNR=3.6							
ANMO				LR	LR	13 34 58.1	
comp=Z,291nm,20.5s,baz=304,slow=38							
T25A	Trinidad	18.20	96	*e*Pn	P	13 27 59.7	+3.2
30nm,1.3s							
LPIG	La Paz	22.22	135	LR	LR	13 36 30.1	
comp=Z,102nm,18.2s,baz=15,slow=34							
TXAR	Lajitas Array	22.58	114	P	P	13 28 46.1	+2.1
0.9nm,1.0s,baz=316,slow=5.2,SNR=4.2							
YKA	Yellowknife Ar	22.60	15	P	P	13 28 43.3	-0.4
2.2nm,0.9s,baz=203,slow=10,SNR=11							
YKB5	Yellowknife Ar	22.60	15	*e*P	P	13 28 43.3	-0.4
YKW3	Yellowknife Ar	22.66	15	*e*P	P	13 28 43.4	-1.0
7.3nm,1.2s							
ECSD	EROS Data Cent	22.71	73	*e*P	P	13 28 44.1	-1.0
16nm,1.4s							
ULM	Lac du Bonnet	23.56	57	P	P	13 28 54.4	+0.6
6.6nm,1.0s,baz=260,slow=9.1,SNR=4.1							
MENT	Mentasta	23.81	341	*e*P	P	13 28 56.6	+0.5
RIDG	Independent Ri	24.77	341	*e*P	P	13 29 06.0	+1.1
4.8nm,1.0s							
EPYK	Eagle Plains	25.73	351	*e*P	P	13 29 14.2	+0.6
9.5nm,1.3s							
MCK	McKinley	25.84	338	*e*P	P	13 29 15.5	+0.9
33nm,2.0s							
ILAR	Eielson Array	26.12	341	*e*P	P	13 29 17.4	+0.3
ILAR	Eielson Array	26.12	341	P	P	13 29 17.8	+0.6
2.8nm,1.1s,baz=157,slow=7.3,SNR=11							
ILB	Eielson Array	26.12	341	*e*P	P	13 29 17.8	+0.6
5.1nm,1.3s							
WRH	Wood River Hil	26.19	340	*e*P	P	13 29 17.9	+0.3
26nm,1.9s							
PPLA	Purkeypile	26.22	334	*e*P	P	13 29 19.4	+1.3
CCB	Clear Creek Bu	26.25	340	*e*P	P	13 29 18.1	-0.1
6.9nm,1.3s							
MLY	Manley	27.34	338	*e*P	P	13 29 27.7	-0.4
7.7nm,1.2s							
IMAR	Indian Mountai	28.89	338	*e*P	P	13 29 42.4	+0.5
TOLK	Toolik Lake Re	29.92	344	*e*P	P	13 29 52.3	+1.2
7.6nm,1.3s							
RES	Resolute Bay	36.65	14	*e*P	P	13 30 50.0	+0.6
3.8nm,1.0s							
RES	Resolute Bay	36.65	14	P	P	13 30 50.0	+0.6
1.4nm,0.2s,baz=240,slow=8.1,SNR=3.2							
LUPA	Lehigh Univers	38.76	73	*e*P	P	13 31 05.4	-2.4
4.4nm,0.9s							
SEY	Seymchan	50.06	324	P	P	13 32 37.4	-0.4
0.4nm,0.4s,baz=86,slow=10,SNR=3.4							
PEA1	Petropavlovsk-	50.09	311	*e*P	P	13 32 37.5	-0.6
PETK	Petropavlovsk-	50.09	311	P	P	13 32 37.5	-0.6
2.4nm,1.0s,baz=78,slow=13,SNR=2.7							
H11N3	WAKE ISLAND Hy	59.23	270	T	T	14 37 52.9	
baz=51							
H11N2	WAKE ISLAND Hy	59.23	270	T	T	14 38 13.0	
baz=51							
H11N1	WAKE ISLAND Hy	59.24	270	T	T	14 38 21.5	
baz=51							
H11S1	WAKE ISLAND Hy	60.11	269	T	T	14 38 52.9	
baz=52,slow=75,SNR=47							
H11S2	WAKE ISLAND Hy	60.12	269	T	T	14 38 53.8	
baz=52,slow=75,SNR=74							
H11S3	WAKE ISLAND Hy	60.13	269	T	T	14 38 54.6	
baz=52,slow=75,SNR=51							
NB200	NORSAR Array S	72.62	20	*e*P	P	13 35 10.3	-0.2
NOA	NORSAR Array B	72.62	20	P	P	13 35 10.3	-0.2
1.2nm,1.0s,baz=328,slow=5.8,SNR=2.1							
LPAZ	La Paz	79.16	123	P	P	13 35 50.1	+1.0
0.9nm,0.8s,baz=21,slow=7.6,SNR=3.5							
SONA0	Songino Array	79.37	326	*e*P	P	13 35 49.8	+0.4
SONM	Songino Array	79.37	326	P	P	13 35 49.8	+0.4
1.1nm,0.8s,baz=46,slow=4.3,SNR=6.3							
GEC2	GERESS Array S	83.93	25	*e*P	P	13 36 14.3	+0.9
11nm,1.9s							
GERES	GERESS Array B	83.93	25	P	P	13 36 14.3	+0.9
0.6nm,0.8s,baz=284,slow=5.4,SNR=4.7							
ESDC	Sonseca Array	84.39	40	P	P	13 36 16.7	+0.8
0.3nm,0.4s,baz=285,slow=4.8,SNR=4.1							
BVAR	Borovoye Array	84.87	349	P	P	13 36 17.9	-0.1
1.1nm,0.8s,baz=356,slow=2.2,SNR=7.2							
KURBB	Kurchatov Arra	85.76	344	P	P	13 36 22.0	-0.4
1.3nm,0.2s,baz=15,slow=4.4,SNR=5.1							
AKASG	Malin Array Be	86.16	15	P	P	13 36 23.4	-1.0
0.3nm,0.3s,baz=327,slow=3.6,SNR=4.9							
AKBB	Malin Array Si	86.16	15	*e*P	P	13 36 23.4	-1.0
9.3nm,1.7s							
MK32	Makanchi Array	88.48	340	*e*P	P	13 36 35.1	-0.6
MKAR	Makanchi Array	88.48	340	P	P	13 36 35.1	-0.6
0.3nm,0.7s,baz=38,slow=7.3,SNR=2.4							

*ISCJB **20** 13:24:25.4±2.1, 33°.38N±0°.09×35°.6E±0°.1, h15km±11km, Error ellipse: s-maj=20.5km s-min=7.3km az=137.5*
*GRAL **20** 13:24:26.4±0.3, 33°.38N×35°.65E, h10km±1km, MD2.8*
*NSSC **20** 13:24:27.4±1.0, 33°.67N×35°.87E, h1km±11km, ML1.1*

ISC 20 13:24:26.1±1.4, 33°.41N±0°.06×35°.71E±0°.06, h13km±8km, n8, σ1§10/14**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHBL	Chebaa	0.07	156	*e*P	Pg	13 24 28.7	-0.3
SHBL				*e*S	Sg	13 24 30.5	-0.5
RCY	Rachaya	0.14	50	*e*P	Pg	13 24 30.4	+0.6
QRWL	Qaraoun	0.14	350	*e*P	Pg	13 24 29.8	0.0
QRWL				*e*S	Sg	13 24 32.5	+0.2
BRBR	Barbar	0.20	90	*e*P	Pb	13 24 32.3	+0.6
BRBR				*e*S	Sb	13 24 37.6	+2.1
BRBR				AML	AML	13 24 40.7	
comp=E,21nm,0.5s							
BRBR				AML	AML	13 24 42.3	
comp=N,28nm,0.2s							
DQRL	Deir Qamar	0.32	338	*e*P	Pg	13 24 32.6	0.0
DQRL				*e*S	Sg	13 24 37.2	+0.1
QASN	Qassioun	0.49	75	*e*P	Pg	13 24 34.9	-0.8
QASN				*e*S	Sg	13 24 40.1	-2.2
QASN				AML	AML	13 24 44.9	
comp=N,42nm,0.3s							
QASN				AML	AML	13 24 49.5	
comp=E,25nm,0.4s							
TOTH	TOTAH	0.60	94	*e*P	Pn	13 24 39.8	-0.6
TOTH				*e*S	Sg	13 24 46.7	+0.8
TOTH				AML	AML	13 24 52.7	
comp=N,8.4nm,0.6s							
TOTH				AML	AML	13 24 58.8	
comp=E,6.5nm,0.5s							
HWQ	Hawqa	0.89	13	*e*P	Pb	13 24 42.9	-0.5

MEX 20 13:29:26.5±0.4, 16°.29N×98°.14W, h16km±1km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.10	5	*e*P	Pg	13 29 29.1	-0.9
PNIG				*i* S	Sg	13 29 31.7	-0.6

*ISCJB **20** 13:34:01.3±1.2, 41°.23N±0°.05×127°.4W±0°.1, h10km, mb3.0/3, Error ellipse: s-maj=13.4km s-min=6.9km az=170.4*
*NEIC **20** 13:34:02.1±1.3, 41°.15N×127°.42W, h10km, ML2.9, Error ellipse: s-maj=16.5km s-min=8.5km az=68.0*
*IDC **20** 13:34:05.8±2.9, 41°.69N×127°.00W, h0km, mb3.0/3, mb1 3.4/6, mb1mx3.3/36, mbtmp3.0/6, ML3.4/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/12, Error ellipse: s-maj=51.6km s-min=19.8km az=39.0*

ISC 20 13:34:04.1±1.7, 41°.25N±0°.07×127°.4W±0°.1, h10km, n27, σ2§18/23**, mb3.2/3, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	Jacoby Creek,	2.61	98	*e*Pn	Pn	13 34 43.0	-3.3
KHMM	Horse Mountain	2.82	96	*e*Pn	Pn	13 34 46.2	-3.2
KMRM	Mail Ridge	3.01	109	*e*Pn	Pn	13 34 49.8	-2.0
KCPM	Cahto Peak	3.32	117	*e*Pn	Pn	13 34 53.1	-3.1
YBH	Yreka Blue Hor	3.58	81	*e*Pn	Pn	13 34 57.5	-2.2
YBH	Yreka Blue Hor	3.58	81	Pn	Pn	13 34 58.3	-1.4
1.3nm,0.3s,baz=265,slow=16,SNR=15							
YBH				LR	LR	13 35 53.5	
comp=Z,85nm,18.4s,baz=261,slow=34							
HUMO	Hull Mountain	3.60	66	*e*Pn	Pn	13 34 57.0	-3.0
HOPS	Hopland Field	4.03	123	*e*Pn	Pn	13 35 03.8	-1.9
MOD	Modoc Plateau	5.39	81	*e*Pn	Pn	13 35 23.6	-1.0
AFDM	Forest Hills D	5.46	113	*e*Pn	Pn	13 35 24.5	-1.0
STD	Studebaker Rid	6.25	35	*e*Sn	Sn	13 36 49.3	+1.3
GLK	Glacier Lake	6.78	36	*e*Pn	Pn	13 35 43.0	-0.7
GLK				*e*Sn	Sn	13 37 03.1	+2.2
LON	Longmire	6.83	34	*e*Pn	Pn	13 35 44.7	+0.3
WPW	White Pass	6.91	36	*e*Pn	Pn	13 35 43.0	-2.5
WPW				*e*Sn	Sn	13 37 03.1	-1.0
NV01	Mina Array Sit	7.56	109	*e*Pn	Pn	13 35 55.9	+1.4
NVAR	Mina Array Bea	7.56	109	Pn	Pn	13 35 55.9	+1.4
0.1nm,0.3s,baz=286,slow=13,SNR=2.8							
PDAR	Pinedale Array	13.38	78	Pn	Pn	13 37 16.0	+1.8
0.1nm,0.3s,baz=278,slow=17,SNR=2.4							
YKA	Yellowknife Ar	22.62	16	P	P	13 39 02.8	-1.9
1.1nm,1.0s,baz=205,slow=10,SNR=5.2							
YKB5	Yellowknife Ar	22.62	16	*e*P	P	13 39 02.8	-1.9
TXAR	Lajitas Array	22.67	114	P	P	13 39 09.0	+3.3
0.2nm,0.9s,baz=297,slow=8.0,SNR=2.9							
ILAR	Eielson Array	26.09	341	P	P	13 39 37.6	0.0
0.5nm,0.8s,baz=167,slow=8.2,SNR=4.8							
H11N3	WAKE ISLAND Hy	59.13	270	T	T	14 48 03.9	
baz=53,slow=75,SNR=7.0							
H11N2	WAKE ISLAND Hy	59.13	270	T	T	14 48 05.3	
baz=53,slow=75,SNR=4.9							
H11N1	WAKE ISLAND Hy	59.15	270	T	T	14 48 07.2	
baz=53,slow=75,SNR=5.6							
H11S1	WAKE ISLAND Hy	60.02	269	T	T	14 49 12.6	
baz=52,slow=75,SNR=12							
H11S2	WAKE ISLAND Hy	60.02	269	T	T	14 49 13.3	
baz=52,slow=75,SNR=11							
H11S3	WAKE ISLAND Hy	60.03	269	T	T	14 49 13.5	
baz=52,slow=75,SNR=12							

MEX 20 13:46:02.3±0.4, 14°.53N×92°.62W, h68km±35km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.30	334	*i* P	Pn	13 46 23.6	-1.0
PCIG				*e*S	Sn	13 46 39.4	-2.0

*ISCJB **20** 13:56:28.2±0.6, 41°.29N±0°.05×127°.17W±0°.06, h11km, mb3.8/9, MS2.9/1, Error ellipse: s-maj=9.2km s-min=4.8km az=38.8*
*IDC **20** 13:56:29.3±1.7, 41°.39N×127°.20W, h0km, mb3.5/4, mb1 3.8/8, mb1mx3.6/48, mbtmp3.5/8, ML3.3/4, MS3.5/8, Ms1 3.5/8, ms1mx3.2/35, Error ellipse: s-maj=33.1km s-min=13.9km az=26.0*
*NEIC **20** 13:56:30.3±0.4, 41°.39N×127°.00W, h10km, mb4.2/9, Error ellipse: s-maj=6.7km s-min=3.6km az=53.0*
*ANF **20** 13:56:38.4±3.0, 41°.46N×126°.20W, ML2.8/9, Error ellipse: s-maj=33.7km s-min=13.5km az=65.0*

ISC 20 13:56:30.2±1.0, 41°.38N±0°.05×126°.99W±0°.07, h11km, n85, σ1§65/81**, mb4.1/9, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	Jacoby Creek,	2.31	103	*e*Pn	Pn	13 57 08.6	+0.4
KRMB	Red Mountain	2.32	85	*e*Pn	Pn	13 57 09.2	+0.7
KEBM	Edson Butte	2.48	52	*e*Pn	Pn	13 57 11.1	+0.5
KHMM	Horse Mountain	2.52	100	*e*Pn	Pn	13 57 11.6	+0.4
L02E	Cave Junction	2.65	72	P	Pn	13 57 13.8	+0.8
baz=254,SNR=9.8							
KMRM	Mail Ridge	2.75	114	*e*Pn	Pn	13 57 15.7	+1.4
K02D	Willamette Mer	2.81	61	P	Pn	13 57 16.4	+1.3
baz=243,SNR=5.2							
J01E	Myrtle Point	2.89	51	P	Pn	13 57 17.3	+1.2
baz=233							
KCPM	Cahto Peak	3.10	122	*e*Pn	Pn	13 57 19.9	+0.7
M02C	Callahan	3.12	88	P	Pn	13 57 21.0	+1.6
baz=271,SNR=9.6							
YBH	Yreka Blue Hor	3.23	82	*e*Pn	Pn	13 57 23.1	+2.1
YBH				Sn	Sb	13 58 04.6	-2.5
YBH	Yreka Blue Hor	3.23	82	Pn	Pn	13 57 24.1	+3.1
2.4nm,0.3s,baz=254,slow=12,SNR=54							
YBH				Sn	Sb	13 58 04.6	-2.5
0.4nm,0.3s,baz=135,slow=13,SNR=1.5							
YBH				LR	LR	13 58 28.2	
comp=Z,373nm,19.4s,baz=300,slow=35							
HUMO	Hull Mountain	3.25	66	*e*Pn	Pn	13 57 22.1	+0.9
N02D	Trinity Center	3.26	96	P	Pn	13 57 22.8	+1.5
baz=279							
O02D	Mt. Diablo Mer	3.41	109	P	Pn	13 57 25.2	+1.7
baz=292							
O02D				S	Sn	13 58 01.3	-2.6
baz=292							
WDC	Whiskeytown Da	3.46	102	*e*Pn	Pn	13 57 24.2	+0.2
L04D	Klamath Falls	3.60	75	P	Pn	13 57 28.6	+2.5
baz=258,SNR=16							
HOPS	Hopland Field	3.83	127	*e*Pn	Pn	13 57 28.9	-0.2
M04C	Macdoel	3.89	82	P	Pn	13 57 32.8	+2.8
baz=266,SNR=34							
O03E	Paynes Creek	4.08	104	Sb	Sn	13 58 26.5	+6.0
baz=287							
GDXM	Geysers	4.12	127	*e*Pn	Pn	13 57 33.4	+0.3
MOD	Modoc Plateau	5.04	82	*e*Pn	Pn	13 57 48.2	+2.3
PINE	Pine Mountain	5.08	60	*e*Pn	Pn	13 57 46.1	-0.3
AFDM	Forest Hills D	5.21	116	*e*Pn	Pn	13 57 48.1	0.0
BEKR	Beckworth	5.27	104	*e*Pn	Pn	13 57 49.6	+0.5
VCNR	Virginia City	5.98	108	*e*Pn	Pn	13 57 59.6	+0.7
SAO	San Andreas Ge	6.31	135	*e*Pn	Pn	13 58 03.7	+0.5
WVOR	Wild Horse Val	6.32	78	*e*Pn	Pn	13 58 05.2	+1.8
YERR	Yerington	6.40	109	*e*Pn	Pn	13 58 05.4	+0.8
GLK	Glacier Lake	6.48	35	*e*Sn	Sn	13 59 18.2	-1.3
LON	Longmire	6.54	33	*e*Pn	Pn	13 58 06.8	+0.5
WPW	White Pass	6.61	35	*e*Sn	Sn	13 59 21.2	-1.5
J08A	Circle Bar Ran	6.61	70	*e*Pn	Pn	13 58 08.2	+0.8
NVAR	Mina Array Bea	7.30	111	*e*Pn	Pn	13 58 16.4	-0.6
NVAR	Mina Array Bea	7.30	111	Pn	Pn	13 58 20.2	+3.3
0.1nm,0.3s,baz=290,slow=14,SNR=12							
NVAR				LR	LR	14 01 27.4	
comp=Z,492nm,18.4s,baz=250,slow=40							
PAGB	Antelope Grade	7.72	135	*e*Pn	Pn	13 58 21.1	-1.5
ISA	Isabella, Lake	8.78	128	*e*Pn	Pn	13 58 39.0	+1.9
ELK	Elko	8.90	90	Pn	Pn	13 58 42.7	+3.7
0.1nm,0.3s,baz=291,slow=9.9,SNR=8.8							
ELK				LR	LR	14 02 29.3	
comp=Z,253nm,21.9s,baz=276,slow=40							
NEW	Newport	9.82	42	LR	LR	14 02 47.3	
comp=Z,252nm,21.9s,baz=225,slow=38							
DANC	Danby, Needles	11.36	123	*e*Sn	Sn	14 01 19.7	+0.4
PFO	Pinyon Flats O	11.40	129	LR	LR	14 03 36.0	
comp=Z,201nm,18.6s,baz=342,slow=37							
WESC	Westside Schoo	12.44	130	*e*Sn	Sn	14 01 44.8	-0.8
PDAR	Pinedale Array	13.03	78	Pn	P	13 59 43.7	-2.3
0.1nm,0.3s,baz=305,slow=11,SNR=5.0							
PDAR				LR	LR	14 05 05.6	
comp=Z,295nm,19.0s,baz=268,slow=39							
X16A	Lo Mia Camp, P	14.10	115	*e*P	P	13 59 57.2	-0.6
PV21	Cone Mtn., Par	14.10	96	*e*P	P	13 59 56.5	-1.4
PV23	Carpenter Ridg	14.11	96	*e*P	P	13 59 56.5	-1.4
PV10	Paradox Valley	14.11	96	*e*Pn	Pn	13 59 51.0	+0.7
PV10				*e*P	P	13 59 58.6	+0.6
PV14	Lion Creek, Pa	14.12	96	*e*Pn	Pn	13 59 50.6	+0.2
PV14				*e*P	P	13 59 58.0	-0.1
PV20	West Nyswonger	14.18	96	*e*P	P	13 59 58.4	-0.3
PV17	East Wray Mesa	14.20	97	*e*P	P	13 59 57.6	-1.4
PV04	Paradox Valley	14.21	96

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.96**	**345**	*i* P		**Pn**	**Sn**	**13 57 17.6**	**-2.2**
SPN				*e*S		**Sn**	**Sn**	**13 57 31.6**	**-0.7**
SPN	**Mys Shipunski**	**0.96**	**345**	PN		**Pn**	**Sn**	**13 57 17.6**	**-2.2**
SPN				S		**Sn**	**Sn**	**13 57 31.6**	**-0.7**
NLC	**Nalytchevo**	**1.20**	**327**	*e*P		**Pn**	**Sn**	**13 57 22.0**	**-1.0**
NLC				*e*S		**Sn**	**Sn**	**13 57 39.0**	**+0.9**
NLC	**Nalytchevo**	**1.20**	**327**	PN		**Pn**	**Sn**	**13 57 22.0**	**-1.0**
NLC				S		**Sn**	**Sn**	**13 57 39.0**	**+0.9**
RUS	**Russkaya**	**1.21**	**283**	*e*P		**Pn**	**Sn**	**13 57 21.7**	**-1.4**
RUS	**Russkaya**	**1.21**	**283**	PN		**Pn**	**Sn**	**13 57 21.7**	**-1.4**
DALK	**Dalny**	**1.34**	**311**	*e*P		**Pn**	**Sn**	**13 57 23.7**	**-1.2**
DALK				*e*S		**Sn**	**Sn**	**13 57 42.0**	**+0.5**
DALK	**Dalny**	**1.34**	**311**	PN		**Pn**	**Sn**	**13 57 23.7**	**-1.2**
DALK				S		**Sn**	**Sn**	**13 57 42.0**	**+0.5**
PET	**Petropavlovsk**	**1.38**	**309**	*e*Pn		**Pn**	**Sn**	**13 57 24.4**	**-1.0**
PET	**Petropavlovsk**	**1.38**	**309**	⇑*i*PN		**Pn**	**Sn**	**13 57 24.4**	**-1.0**
PET				*e*S		**Sn**	**Sn**	**13 57 42.0**	**-0.5**
PET				pmax		pmax	pmax		
	comp=Z,4.0nm,1.2s								
PET				pmax		pmax	pmax		
	comp=Z,3.0nm,0.9s								
MTVR	**Mutnovka**	**1.42**	**284**	*e*P		**Pn**	**Pn**	**13 57 25.3**	**-0.8**
MTVR	**Mutnovka**	**1.42**	**284**	PN		**Pn**	**Pn**	**13 57 25.3**	**-0.8**
UGLR	**Uglovaya**	**1.43**	**317**	*e*P		**Pn**	**Pn**	**13 57 25.5**	**-0.7**
UGLR	**Uglovaya**	**1.43**	**317**	PN		**Pn**	**Pn**	**13 57 25.5**	**-0.7**
SDLR	**Sedlovina**	**1.46**	**320**	*e*P		**Pn**	**Pn**	**13 57 25.7**	**-0.9**
SDLR	**Sedlovina**	**1.46**	**320**	PN		**Pn**	**Pn**	**13 57 25.7**	**-0.9**
SMAR	**Somma**	**1.48**	**318**	*e*P		**Pn**	**Pn**	**13 57 26.1**	**-0.9**
SMAR	**Somma**	**1.48**	**318**	PN		**Pn**	**Pn**	**13 57 26.1**	**-0.9**
GRL	**Gorelyy**	**1.50**	**286**	*e*P		**Pn**	**Pn**	**13 57 27.2**	**0.0**
GRL	**Gorelyy**	**1.50**	**286**	PN		**Pn**	**Pn**	**13 57 27.2**	**0.0**
KDTR	**Khodutka, Kamc**	**1.50**	**257**	*i* P		**Pn**	**Pn**	**13 57 25.8**	**-1.3**
KDTR				*e*S		**Sn**	**Sn**	**13 57 45.0**	**-0.4**
KDTR	**Khodutka, Kamc**	**1.50**	**257**	PN		**Pn**	**Pn**	**13 57 25.8**	**-1.3**
KDTR				S		**Sn**	**Sn**	**13 57 45.0**	**-0.4**
AVH	**Avacha**	**1.50**	**317**	*e*P		**Pn**	**Pn**	**13 57 27.0**	**-0.2**
AVH				*e*S		**Sn**	**Sn**	**13 57 46.7**	**+1.0**
AVH	**Avacha**	**1.50**	**317**	PN		**Pn**	**Pn**	**13 57 27.0**	**-0.2**
AVH				S		**Sn**	**Sn**	**13 57 46.7**	**+1.0**
KRER	**Koryakskii**	**1.53**	**319**	*e*P		**Pn**	**Pn**	**13 57 27.3**	**-0.4**
KRER	**Koryakskii**	**1.53**	**319**	PN		**Pn**	**Pn**	**13 57 27.3**	**-0.4**
KRMR	**Karymshinskiy**	**1.55**	**296**	*e*P		**Pn**	**Pn**	**13 57 27.1**	**-0.7**
KRMR				*e*S		**Sn**	**Sn**	**13 57 47.6**	**+0.8**
KRMR	**Karymshinskiy**	**1.55**	**296**	PN		**Pn**	**Pn**	**13 57 27.1**	**-0.7**
KRMR				S		**Sn**	**Sn**	**13 57 47.6**	**+0.8**
KOK	**Koryaka**	**1.57**	**317**	*e*P		**Pn**	**Pn**	**13 57 27.9**	**-0.2**
KOK	**Koryaka**	**1.57**	**317**	PN		**Pn**	**Pn**	**13 57 27.9**	**-0.2**
ASAK	**Asacha**	**1.57**	**279**	*e*P		**Pn**	**Pn**	**13 57 27.5**	**-0.6**
ASAK	**Asacha**	**1.57**	**279**	PN		**Pn**	**Pn**	**13 57 27.5**	**-0.6**
KRX	**Arik**	**1.61**	**318**	*e*P		**Pn**	**Pn**	**13 57 28.3**	**-0.5**
KRX	**Arik**	**1.61**	**318**	PN		**Pn**	**Pn**	**13 57 28.3**	**-0.5**
PEA0B	**Petropavlovsk-**	**1.91**	**301**	*e*Pn		**Pn**	**Pn**	**13 57 32.4**	**-0.4**
PEA0B	**Petropavlovsk-**	**1.91**	**301**	*e*PN		**Pn**	**Pn**	**13 57 32.4**	**-0.4**
PETK	**Petropavlovsk-**	**1.91**	**301**	*e*Pn		**Pn**	**Pn**	**13 57 32.2**	**-0.5**
PETK	**Petropavlovsk-**	**1.91**	**301**	Pn		**Pn**	**Pn**	**13 57 32.5**	**-0.3**
	comp=Z,108nm,0.3s,baz=106,slow=19,SNR=740								
PETK				Sn		**Sn**	**Sn**	**13 58 01.6**	**+6.0**
	comp=Z,252nm,0.3s,baz=251,slow=18,SNR=11								
PETK				LR		LR		13 58 30.5	
	comp=Z,7μm,18.3s,baz=38,slow=55								
PEA1	**Petropavlovsk-**	**1.92**	**301**	*e*Pn		**Pn**	**Pn**	**13 57 32.5**	**-0.3**
PEA1				*e*Sn		**Sn**	**Sn**	**13 58 01.6**	**+6.0**
APC	**Apacha**	**2.14**	**292**	*e*P		**Pn**	**Pn**	**13 57 36.2**	**+0.4**
APC				*e*S		**Sn**	**Sn**	**13 58 03.2**	**+2.1**
APC	**Apacha**	**2.14**	**292**	PN		**Pn**	**Pn**	**13 57 36.2**	**+0.4**
APC				S		**Sn**	**Sn**	**13 58 03.2**	**+2.1**
PAU	**Pauzhetka**	**2.35**	**254**	*e*P		**Pn**	**Pn**	**13 57 38.0**	**-0.8**
PAU	**Pauzhetka**	**2.35**	**254**	PN		**Pn**	**Pn**	**13 57 38.0**	**-0.8**
MKZ	**Mys Kozlova**	**2.52**	**18**	*e*P		**Pn**	**Pn**	**13 57 39.2**	**-1.8**
MKZ				*e*S		**Sn**	**Sn**	**13 58 08.4**	**-1.9**
MKZ	**Mys Kozlova**	**2.52**	**18**	PN		**Pn**	**Pn**	**13 57 39.2**	**-1.8**
MKZ				S		**Sn**	**Sn**	**13 58 08.4**	**-1.9**
KZV	**Kizimen**	**2.95**	**358**	*e*P		**Pn**	**Pn**	**13 57 46.6**	**-0.5**
KZV	**Kizimen**	**2.95**	**358**	PN		**Pn**	**Pn**	**13 57 46.6**	**-0.5**
TUMD	**Tumrok D**	**3.04**	**360**	*e*P		**Pn**	**Pn**	**13 57 47.3**	**-0.9**
TUMD				*e*S		**Sn**	**Sn**	**13 58 23.5**	**+0.1**
SKR	**Severo-Kuril's**	**3.08**	**243**	*e*P		**Pn**	**Pn**	**13 57 47.9**	**-0.9**
SKR				*e*S		**Sn**	**Sn**	**13 58 23.1**	**-1.3**
SKR	**Severo-Kuril's**	**3.08**	**243**	*e*PN		**Pn**	**Pn**	**13 57 48.3**	**-0.5**
SKR				*e*S		**Sn**	**Sn**	**13 58 24.9**	**+0.5**
SKR				pmax		pmax	pmax		
	comp=Z,96nm,0.5s								
SKR				smax		smax	smax		
	comp=N,1μm,0.6s								
SKR				smax		smax	smax		
	comp=E,2μm,0.8s								
TUMR	**Tumrok**	**3.12**	**357**	*e*P		**Pn**	**Pn**	**13 57 49.4**	**-0.1**
TUMR	**Tumrok**	**3.12**	**357**	PN		**Pn**	**Pn**	**13 57 49.4**	**-0.1**
ALID	**Alaid**	**3.31**	**249**	*e*P		**Pn**	**Pn**	**13 57 51.9**	**-0.2**
ALID	**Alaid**	**3.31**	**249**	PN		**Pn**	**Pn**	**13 57 51.9**	**-0.2**
BZMR	**Bezymyannaya**	**3.77**	**1**	*e*P		**Pn**	**Pn**	**13 57 58.6**	**+0.2**
BZMR	**Bezymyannaya**	**3.77**	**1**	PN		**Pn**	**Pn**	**13 57 58.6**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**3.78**	**2**	*e*P		**Pn**	**Pn**	**13 57 59.4**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**3.78**	**2**	PN		**Pn**	**Pn**	**13 57 59.4**	**+0.9**
KIRR	**Kirishev**	**3.79**	**359**	*e*P		**Pn**	**Pn**	**13 57 59.9**	**+1.2**
KIRR	**Kirishev**	**3.79**	**359**	PN		**Pn**	**Pn**	**13 57 59.9**	**+1.2**
BZWR	**Bezymyannyi-We**	**3.80**	**1**	*e*P		**Pn**	**Pn**	**13 57 58.6**	**-0.2**
BZWR	**Bezymyannyi-We**	**3.80**	**1**	PN		**Pn**	**Pn**	**13 57 58.6**	**-0.2**
KPT	**Kopyto**	**3.81**	**358**	*e*P		**Pn**	**Pn**	**13 57 58.6**	**-0.2**
KPT	**Kopyto**	**3.81**	**358**	PN		**Pn**	**Pn**	**13 57 58.6**	**-0.2**
ESO	**Esso**	**3.90**	**346**	*e*P		**Pn**	**Pn**	**13 57 59.4**	**-0.6**
ESO	**Esso**	**3.90**	**346**	PN		**Pn**	**Pn**	**13 57 59.4**	**-0.6**
KOZ	**Kozyrevsk**	**3.91**	**355**	*e*P		**Pn**	**Pn**	**13 58 00.4**	**+0.2**
KOZ	**Kozyrevsk**	**3.91**	**355**	PN		**Pn**	**Pn**	**13 58 00.4**	**+0.2**
LGNR	**Loginova**	**3.92**	**2**	*e*P		**Pn**	**Pn**	**13 58 00.4**	**-0.2**
LGNR	**Loginova**	**3.92**	**2**	PN		**Pn**	**Pn**	**13 58 00.4**	**-0.2**
CIRR	**Tsirk**	**3.96**	**3**	*e*P		**Pn**	**Pn**	**13 58 00.8**	**-0.1**
CIRR	**Tsirk**	**3.96**	**3**	PN		**Pn**	**Pn**	**13 58 00.8**	**-0.1**
KRSR	**Krestovskiy**	**4.06**	**1**	*e*P		**Pn**	**Pn**	**13 58 01.9**	**-0.4**
KRSR	**Krestovskiy**	**4.06**	**1**	PN		**Pn**	**Pn**	**13 58 01.9**	**-0.4**
KLY	**Klyuchi**	**4.15**	**2**	*e*P		**Pn**	**Pn**	**13 58 04.2**	**+0.7**
KLY	**Klyuchi**	**4.15**	**2**	PN		**Pn**	**Pn**	**13 58 04.2**	**+0.7**
SRDR	**Sredinnyy**	**4.18**	**355**	*e*P		**Pn**	**Pn**	**13 58 03.3**	**-0.6**
SRDR	**Sredinnyy**	**4.18**	**355**	PN		**Pn**	**Pn**	**13 58 03.3**	**-0.6**
KBTR	**Krutoberegovo**	**4.28**	**18**	*e*P		**Pn**	**Pn**	**13 58 04.6**	**-0.6**
KBTR	**Krutoberegovo**	**4.28**	**18**	PN		**Pn**	**Pn**	**13 58 04.6**	**-0.6**
KBG	**Krutoberegovo**	**4.31**	**17**	*e*P		**Pn**	**Pn**	**13 58 05.1**	**-0.4**
KBG				*e*S		**Sn**	**Sn**	**13 58 53.5**	**-0.9**
KBG	**Krutoberegovo**	**4.31**	**17**	PN		**Pn**	**Pn**	**13 58 05.1**	**-0.4**
BDR	**Baidarnaya**	**4.43**	**6**	*e*P		**Pn**	**Pn**	**13 58 06.6**	**-0.8**
BDR	**Baidarnaya**	**4.43**	**6**	PN		**Pn**	**Pn**	**13 58 06.6**	**-0.8**
SMKR	**Semkarok**	**4.46**	**7**	*e*P		**Pn**	**Pn**	**13 58 06.9**	**-0.9**
SMKR	**Semkarok**	**4.46**	**7**	PN		**Pn**	**Pn**	**13 58 06.9**	**-0.9**
BKI	**Bering**	**4.48**	**45**	*e*P		**Pn**	**Pn**	**13 58 06.6**	**-1.3**
BKI				*e*S		**Sn**	**Sn**	**13 58 53.3**	**-5.4**
BKI	**Bering**	**4.48**	**45**	PN		**Pn**	**Pn**	**13 58 06.6**	**-1.3**
SRKR	**Sorokina**	**4.51**	**5**	*e*P		**Pn**	**Pn**	**13 58 09.3**	**+0.8**
SRKR	**Sorokina**	**4.51**	**5**	PN		**Pn**	**Pn**	**13 58 09.3**	**+0.8**
PALN	**Palana**	**6.94**	**358**	*e*P		**Pn**	**Pn**	**13 58 42.2**	**+0.5**
PALN	**Palana**	**6.94**	**358**	PN		**Pn**	**Pn**	**13 58 42.2**	**+0.5**
OSSR	**Ossora**	**7.25**	**11**	*e*P		**Pn**	**Pn**	**13 58 45.7**	**-0.2**
OSSR	**Ossora**	**7.25**	**11**	PN		**Pn**	**Pn**	**13 58 45.7**	**-0.2**
TILK	**Tilichiki**	**8.88**	**19**	*e*P		**Pn**	**Pn**	**13 59 08.0**	**-0.2**
TILK	**Tilichiki**	**8.88**	**19**	PN		**Pn**	**Pn**	**13 59 08.0**	**-0.2**
MA2	**Magadan**	**9.19**	**328**	*e*Pn		**Pn**	**Pn**	**13 59 08.6**	**-3.9**
MA2	**Magadan**	**9.19**	**328**	*i* PN		**Pn**	**Pn**	**13 59 11.6**	**-0.8**
MA2				pmax		pmax	pmax		
	comp=Z,2.0nm,0.9s								
MA2	**Magadan**	**9.19**	**328**	Pn		**Pn**	**Pn**	**13 59 12.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=134,slow=7.9,SNR=8.7								
MA2				LR		LR	LR	14 03 20.7	
	comp=Z,2μm,19.2s,baz=138,slow=43								
OKH	**Okha**	**10.67**	**284**	*de*PN		Pn	Pn	13 59 42.6	+10
OKH				*e*S		**Sn**	**Sn**	**14 01 38.0**	**+7.3**
OKH				MLR		MLR	MLR		
	comp=Z,2μm,16.0s								
KMSK	**Kamenskaya**	**10.78**	**14**	*e*P		**Pn**	**Pn**	**13 59 35.4**	**+1.2**
KMSK	**Kamenskaya**	**10.78**	**14**	PN		**Pn**	**Pn**	**13 59 35.4**	**+1.2**
SEY	**Seymchan**	**11.61**	**341**	*i* PN		**Pn**	**Pn**	**13 59 45.2**	**-0.3**
SEY	**Seymchan**	**11.61**	**341**	Pn		**Pn**	**Pn**	**13 59 45.7**	**+0.1**
	baz=142,slow=15,SNR=5.4								
NKL	**Nikolayevsk**	**12.03**	**282**	*e*PN		**P**	**P**	**14 00 04.8**	**+1.6**
NKL				pmax		pmax	pmax		
	comp=Z,22nm,1.0s								
NKL				MLR		MLR	MLR		
	comp=E,2μm,15.0s								
NKL				MLR		MLR	MLR		
	comp=Z,4μm,15.0s								
YSS	**Yuzh-Sakhalins**	**12.60**	**253**	*e*Pn		**Pn**	**Pn**	**13 59 57.8**	**-1.3**
YSS	**Yuzh-Sakhalins**	**12.60**	**253**	*e*PN		**Pn**	**Pn**	**13 59 58.5**	**-0.5**
YSS				MLR		MLR	MLR		
	comp=Z,1μm,11.0s								
YSS				MLR		MLR	MLR		
	comp=N,300nm,9.0s								
YSS				MLR		MLR	MLR		
	comp=E,900nm,16.0s								
ASAJ	**Asahikawa**	**14.35**	**243**	Pn		**Pn**	**Pn**	**14 00 22.4**	**-0.5**
	comp=E,1.6nm,0.3s,baz=69,slow=14,SNR=20								
GRNR	**Gornyy**	**15.01**	**274**	*e*P		**P**	**P**	**14 00 35.1**	**-1.2**
GRNR				pmax		pmax	pmax		
	comp=Z,13nm,1.0s								
ERM	**Erimo**	**15.50**	**236**	*e*Pn		**Pn**	**Pn**	**14 00 34.8**	**-3.2**
	comp=Z,29nm,1.0s								
ERM	**Erimo**	**15.50**	**236**	*e*P		**Pn**	**Pn**	**14 00 34.8**	**-3.2**
ERM				pmax		pmax	pmax		
	comp=Z,29nm,1.0s								
BILL	**Bilibino**	**16.17**	**8**	*e*Pn		**Pn**	**Pn**	**14 00 42.4**	**-4.1**
	comp=Z,23nm,0.9s								
BILL	**Bilibino**	**16.17**	**8**	*e*P		**Pn**	**Pn**	**14 00 46.6**	**+0.2**
BILL				pmax		pmax	pmax		
	comp=Z,22nm,1.0s								
BILL				MLR		MLR	MLR		
	comp=Z,946nm,20.0s								
TEY	**Ternei**	**17.25**	**255**	⇓*e*P		**P**	**P**	**14 01 01.2**	**+0.1**
TEY				pmax		pmax	pmax		
	comp=E,30nm,0.8s								
TEY				pmax		pmax	pmax		
	comp=Z,30nm,0.7s								
YAK	**Yakutsk**	**19.21**	**313**	*c i*P		**P**	**P**	**14 01 19.6**	**-2.9**
YAK				*e*S		S	S	14 04 44.9	-13
YAK				pmax		pmax	pmax		
	comp=Z,470nm,1.0s								
YAK				pmax		pmax	pmax		
	comp=E,243nm,1.1s								
YAK				pmax		pmax	pmax		
	comp=N,115nm,1.1s								
YAK				smax		smax	smax		
	comp=N,26nm,1.1s								
YAK				smax		smax	smax		
	comp=E,130nm,2.2s								
YAK				MLR		MLR	MLR		
	comp=Z,2μm,17.0s								
YAK				MLR		MLR	MLR		
	comp=E,2μm,15.0s								
YAK				MLR		MLR	MLR		
	comp=N,2μm,16.0s								
ZEA	**Zeya**	**19.95**	**288**	*e*P		**P**	**P**	**14 01 28.8**	**-1.9**
ZEA				pmax		pmax	pmax		
	comp=Z,12nm,1.0s								
ZEA				MLR		MLR	MLR		
	comp=E,1μm,15.0s								
ZEA				MLR		MLR	MLR		
	comp=Z,2μm,15.0s								
ZEA				MLR		MLR	MLR		
	comp=N,500nm,14.0s								
USA0B	**Ussuriysk Arra**	**20.47**	**258**	*e*P		**P**	**P**	**14 01 34.8**	**-1.6**
	comp=N,22nm,1.0s								
USA0B	**Ussuriysk Arra**	**20.47**	**258**	*e*P		**P**	**P**	**14 01 34.8**	**-1.6**
USA0B				pmax		pmax	pmax		
	comp=Z,22nm,1.0s								
USRK	**Ussuriysk Ar.**	**20.47**	**258**	*e*P		**P**	**P**	**14 01 33.8**	**-2.6**
USRK	**Ussuriysk Ar.**	**20.47**	**258**	P		**P**	**P**	**14 01 34.0**	**-2.3**
	comp=Z,18nm,1.0s,baz=58,slow=12,SNR=17								
USRK				LR		LR	LR	14 10 50.3	
	comp=Z,810nm,18.2s,baz=55,slow=41								
MDJ	**Mudanjiang**	**21.70**	**262**	P		**P**	**P**	**14 01 48.3**	**-1.3**
MDJ				pP		pP	pP	14 01 56.8	-2.9
MDJ				S		**S**	**S**	**14 05 42.6**	**-4.6**
MDJ				sS		Sn	Sn	14 05 55.1	-2.9
MDJ				pmax		pmax	pmax		
	comp=Z,17nm,0.7s								
MDJ				pmax		pmax	pmax		
	comp=Z,120nm,5.3s								
MDJ				LR		LR	LR		
	comp=Z,1μm,18.6s								
MDJ				LR		LR	LR		
	comp=Z,590nm,21.9s								
MDJ				LR		LR	LR		
	comp=Z,860nm,19.0s								
MJAR	**Matsushiro Arr**	**22.15**	**234**	*e*P		**P**	**P**	**14 01 54.2**	**-0.3**
MJAR	**Matsushiro Arr**	**22.15**	**234**	*e*P		**P**	**P**	**14 01 54.2**	**-0.3**
MJAR	**Matsushiro Arr**	**22.15**	**234**	P		**P**	**P**	**14 01 55.8**	**+1.3**
	comp=Z,12nm,0.7s,baz=19,slow=10,SNR=42								
MJB9	**Matsu-Tunnel**	**22.15**	**234**	*e*P		**P**	**P**	**14 01 54.0**	**-0.5**
	comp=Z,29nm,0.8s								
MAJO	**Matsushiro**	**22.15**	**234**	*e*P		**P**	**P**	**14 01 54.0**	**-0.4**
	comp=Z,29nm,0.8s								
MAJO	**Matsushiro**	**22.15**	**234**	⇑*e*P		**P**	**P**	**14 01 55.1**	**+0.6**
MAT	**Matsushiro**	**22.15**	**234**	P		**P**	**P**	**14 01 55.1**	**+0.6**
MAT				S		**S**	**S**	**14 05 57.6**	**+1.8**
INU	**Inuyama**	**23.68**	**234**	*e*P		**P**	**P**	**14 02 10.4**	**+0.3**
	comp=Z,22nm,0.9s								
RDOG	**Red Dog Mine**	**23.68**	**34**	*e*P		**P**	**P**	**14 02 09.2**	**-0.6**
	comp=Z,13nm,1.1s								
TIXI	**Tiksi**	**24.01**	**336**	*ce*P		**P**	**P**	**14 02 10.1**	**-2.6**
TIXI				pmax		pmax	pmax		
	comp=Z,28nm,0.8s								
TIXI	**Tiksi**	**24.01**	**336**	P		**P**	**P**	**14 02 11.8**	**-1.0**
	comp=Z,23nm,0.8s,baz=128,slow=8.6,SNR=88								
CN2	**Changchun**	**24.66**	**264**	*e*P		**P**	**P**	**14 02 17.3**	**-1.7**
CN2				pmax		pmax	pmax		
	comp=Z,10.0nm,0.6s								
CN2				pmax		pmax	pmax		
	comp=Z,130nm,4.0s								
CN2				LR		LR	LR		
	comp=Z,790nm,16.0s								
CN2				LR		LR	LR		
	comp=Z,720nm,16.0s								
CN2				LR		LR	LR		
	comp=Z,1μm,16.0s								
HIA	**Hailar**	**25.69**	**280**	*e*P		**P**	**P**	**14 02 26.3**	**-2.0**
	comp=Z,25nm,0.9s								
HIA	**Hailar**	**25.69**	**280**	*e*P		**P**	**P**	**14 02 26.3**	**-2.0**
HIA				pmax		pmax	pmax		
	comp=Z,25nm,0.9s								
IMAR	**Indian Mountai**	**26.56**	**41**	*e*P		**P**	**P**	**14 02 36.6**	**+0.7**
IMAR				*e*PcP		**PcP**	**PcP**	**14 06 01.2**	**+2.1**
BOD	**Bodaibo**	**26.79**	**301**	*e*P		**P**	**P**	**14 02 36.0**	**-2.0**
BOD				pmax		pmax	pmax		
	comp=Z,10.0nm,1.3s								
KSRS	**Korea Array**	**27.08**	**250**	P		**P**	**P**	**14 02 43.4**	**+2.5**
	comp=Z,4.1nm,0.9s,baz=42,slow=9.0,SNR=14								
KDAK	**Kodiak Island**	**27.09**	**59**	P		**P**	**P**	**14 02 43.1**	**+2.4**
	comp=Z,4.9nm,0.8s,baz=217,slow=5.1,SNR=3.8								
KSAR	**Wonju Array Be**	**27.11**	**250**	*e*P		**P**	**P**	**14 02 40.5**	**-0.6**
KSAR	**Wonju Array Be**	**27.11**	**250**	*e*P		**P**	**P**	**14 02 40.5**	**-0.6**
MLY	**Manley**	**27.70**	**43**	*e*PcP		**PcP**	**PcP**	**14 06 03.8**	**+1.9**
JNU	**Nakatsue**	**28.59**	**240**	*e*P		**P**	**P**	**14 02 55.0**	**+0.6**
	comp=Z,32nm,1.1s								
JNU	**Nakatsue**	**28.59**	**240**	P		**P**	**P**	**14 02 55.9**	**+1.4**
	comp=Z,10nm,0.9s,baz=35,slow=8.7,SNR=4.2								
JNU				LR		LR	LR	14 15 36.2	
	comp=Z,332nm,20.2s,baz=20,slow=39								
SML	**Sawmill**	**28.78**	**50**	*e*P		**P**	**P**	**14 02 56.5**	**+0.6**
	comp=Z,9.6nm,0.9s								
SML	**Sawmill**	**28.78**	**50**	*e*P		**P**	**P**	**14 02 56.5**	**+0.6**
SML				pmax		pmax	pmax		
	comp=Z,10.0nm,0.9s								
ILAR	**Eielson Array**	**29.33**	**44**	P		**P**	**P**	**14 03 00.7**	**0.0**
	comp=Z,1.1nm,0.8s,baz=264,slow=8.4,SNR=9.6								
ILB	**Eielson Array**	**29.33**	**44**	*e*P		**P**	**P**	**14 03 00.5**	**-0.2**
	comp=Z,2.6nm,0.8s								
PRP	**Porcupine Dome**	**29.91**	**43**	*e*P		**P**	**P**	**14 03 06.1**	**+0.2**
	comp=Z,13nm,1.4s								
BCAR	**Beaver Creek A**	**31.69**	**47**	*e*P		**P**	**P**	**14 03 21.6**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**32.77**	**169**	T		T	T	14 39 23.6	
	baz=352,slow=75,SNR=29								
H11N3	**WAKE ISLAND Hy**	**32.78**	**169**	T		T	T	14 39 20.0	
	baz=352,slow=75,SNR=20								
H11N1	**WAKE ISLAND Hy**	**32.78**	**169**	T		T	T	14 39 24.7	
	baz=352,slow=75,SNR=29								
ULN	**Ulaanbaatar**	**33.92**	**284**	*ce*P		**P**	**P**	**14 03 39.1**	**-2.2**
ULN				pmax		pmax	pmax		
	comp=Z,3.0nm,0.8s								
H11S1	**WAKE ISLAND Hy**	**33.95**	**169**	T		T	T	14 41 26.0	
	baz=350								
H11S3	**WAKE ISLAND Hy**	**33.96**	**169**	T		T	T	14 41 27.6	
	baz=350								
H11S2	**WAKE ISLAND Hy**	**33.97**	**169**	T		T	T	14 41 17.6	
	baz=350								
TLY	**Talaya**	**34.26**	**292**	*e*P		**P**	**P**	**14 03 41.7**	**-2.3**
	comp=Z,6.6nm,0.9s								
TLY	**Talaya**	**34.26**	**292**	*e*P		**P**	**P**	**14 03 41.7**	**-2.3**
TLY				pmax		pmax	pmax		
	comp=Z,7.0nm,0.9s								
SONA0	**Songino Array**	**34.32**	**285**	*e*P		**P**	**P**	**14 03 43.6**	**-1.2**
SONM	**Songino Array**	**34.32**	**285**	*e*P		**P**	**P**	**14 03 42.6**	**-2.2**
SONM	**Songino Array**	**34.32**	**285**	P		**P**	**P**	**14 03 43.6**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=70,slow=4.8,SNR=6.2								
SONM				LR		LR	LR	14 19 04.3	
	comp=Z,1μm,19.1s,baz=65,slow=39								
TIA	**Tai'an**	**34.33**	**260**	P		**P**	**P**	**14 03 45.8**	**+1.0**
TIA				pmax		pmax	pmax		
	comp=Z,12nm,0.8s								
INK	**Inuvik**	**34.48**	**37**	*e*P		**P**	**P**	**14 03 46.5**	**+0.8**
	comp=Z,18nm,1.8s								
INK	**Inuvik**	**34.48**	**37**	*e*P		**P**	**P**	**14 03 46.5**	**+0.8**
INK				pmax		pmax	pmax		
	comp=Z,18nm,1.8s								
INK	**Inuvik**	**34.48**	**37**	P		**P**	**P**	**14 03 46.9**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=301,slow=7.3,SNR=9.6								
HHC	**Hu-ho-hao-te**	**34.85**	**271**	*e*P		**P**	**P**	**14 03 46.8**	**-2.6**
HHC				pmax		pmax	pmax		
	comp=Z,72nm,0.8s								
HHC				pmax		pmax	pmax		
	comp=Z,260nm,4.3s								
HHC				LR		LR	LR		
	comp=Z,760nm,12.1s								
HHC				LR		LR	LR		
	comp=Z,510nm,12.1s								
HHC				LR		LR	LR		
	comp=Z,820nm,11.6s								
ZAK	**Zakamensk**	**35.01**	**290**	*e*P		**P**	**P**	**14 03 49.2**	**-1.4**
ZAK				pmax		pmax	pmax		
	comp=Z,7.0nm,1.1s								
MOY	**Mondy**	**35.77**	**293**	*e*P		**P**	**P**	**14 03 56.3**	**-0.8**
MOY				pmax		pmax	pmax		
	comp=Z,12nm,1.7s								
NJ2	**Nanjing**	**36.17**	**253**	*e*P		**P**	**P**	**14 03 59.3**	**-1.

OTUK pmax pmax
comp=Z,8.0nm,1.0s
LVZ Lovozero 53.63 338 *eP* **P 14 06 18.0 -0.9**
comp=Z,29nm,1.0s
LVZ Lovozero 53.63 338 *eP* **P 14 06 18.0 -0.9**
LVZ pmax pmax
comp=Z,29nm,1.0s
BEKR Beckworth 53.72 70 *eP* **P 14 06 22.2 +2.1**
comp=Z,4.3nm,0.5s
FCC Fort Churchill 54.08 38 *eP* **P 14 06 22.8 +0.6**
comp=Z,16nm,1.6s
FCC Fort Churchill 54.08 38 *eP* **P 14 06 22.8 +0.6**
FCC pmax pmax
comp=Z,16nm,1.6s
ARU Arti 54.22 318 *eP* **P 14 06 22.5 -0.9**
comp=Z,12nm,1.0s
ARU Arti 54.22 318 *d iP* **P 14 06 22.4 -0.9**
ARU *PP **pP** 14 06 35.0 -0.3
ARU S **S** 14 13 54.0 -2.9
ARU pmax pmax
comp=Z,12nm,1.0s
ARA0 ARCESS Array S 54.23 342 *eP* **P 14 06 23.4 +0.2**
ARCES ARCESS Array B 54.23 342 *eP* **P 14 06 22.9 -0.3**
ARCES ARCESS Array B 54.23 342 P **P 14 06 23.4 +0.2**
comp=Z,14nm,1.0s,baz=20,slow=8.1,SNR=15
ARE0 ARCESS Array S 54.23 342 *eP* **P 14 06 23.2 0.0**
comp=Z,1.7nm,1.2s
KDJ Kajisay 54.52 295 *eP* **P 14 06 24.8 -1.2**
comp=Z,8.1nm,0.8s
KDJ Kajisay 54.52 295 *eP* **P 14 06 24.8 -1.2**
KDJ pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 54.69 274 *eP* **P 14 06 26.6 -1.1**
comp=Z,6.2nm,0.8s
LSA Lhasa 54.69 274 *eP* **P 14 06 26.6 -1.1**
LSA pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 54.85 7 *eP* **P 14 06 28.5 +0.3**
comp=Z,17nm,1.0s
SUMG Summit 54.85 7 *eP* **P 14 06 28.5 +0.3**
SUMG pmax pmax
comp=Z,17nm,1.0s
SUMG Summit 54.85 7 *i* P **P 14 06 28.7 +0.5**
comp=Z,46nm,1.0s
PRGR Permogore 55.33 328 *eP* **P 14 06 29.2 -2.1**
PRGR pmax pmax
comp=Z,22nm,0.9s
KVN Kaiserville 55.56 69 *eP* **P 14 06 34.6 +1.0**
comp=Z,7.4nm,1.3s
KVN Kaiserville 55.56 69 *eP* **P 14 06 34.6 +1.0**
KVN pmax pmax
comp=Z,7.0nm,1.3s
AAK Ala-Archa 55.67 297 *eP* **P 14 06 32.7 -1.6**
comp=Z,7.8nm,0.9s
AAK Ala-Archa 55.67 297 *ceP* **P 14 06 32.5 -1.7**
AAK pmax pmax
comp=Z,9.0nm,1.0s
TMCR Tamitsa 55.70 333 *eP* **P 14 06 33.6 -0.2**
TMCR pmax pmax
comp=Z,44nm,0.9s
SGF Sodankyl 55.80 340 P **P 14 06 35.3 +0.7**
SGF pmax pmax
comp=Z,21nm,1.4s
NV01 Mina Array Sit 55.87 70 *eP* **P 14 06 38.0 +2.3**
NVAR Mina Array Bea 55.87 70 *eP* **P 14 06 37.6 +1.9**
NVAR Mina Array Bea 55.87 70 P **P 14 06 38.0 +2.3**
comp=Z,1.2nm,0.7s,baz=293,slow=7.5,SNR=6.8
ELK Elko 56.05 66 P **P 14 06 38.7 +1.6**
comp=Z,0.6nm,0.7s,baz=301,slow=7.6,SNR=3.7
RLMT Red Lodge 56.35 58 *eP* **P 14 06 40.9 +1.7**
comp=Z,6.9nm,1.2s
MSF Maaselka 56.55 338 P **P 14 06 40.6 +0.7**
MSF pmax pmax
comp=Z,53nm,1.1s
KSH Kashi 56.95 293 P **P 14 06 45.1 +1.7**
KSH sP sP 14 07 07.3 +7.1
KSH PP **PP 14 08 52.6 +2.7**
KSH S **S 14 14 27.5 -6.7**
KSH pmax pmax
comp=Z,230nm,6.9s
KSH LR LR
comp=Z,270nm,11.3s
KSH LR LR
comp=Z,240nm,9.6s
KSH LR LR
comp=Z,730nm,10.0s
SHL Shillong 57.21 270 P **P 14 06 46.6 +1.2**
ARSB Arslanbob 57.39 297 *eP* **P 14 06 46.0 -0.5**
comp=Z,7.3nm,0.8s
KK31 Karatay Array 57.52 300 *eP* **P 14 06 46.1 -1.0**
comp=Z,5.5nm,0.9s
KK31 Karatay Array 57.52 300 *eP* **P 14 06 46.2 -1.0**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 57.52 300 *eP* **P 14 06 46.0 -1.1**
KKAR Karatay Array 57.52 300 *eP* **P 14 06 46.0 -1.1**
UTTA Uttaradit 57.78 257 P **P 14 06 53.7 +4.5**
comp=Z,18μm,0.8s
BW06 Boulder Array 57.80 60 *eP* **P 14 06 51.3 +1.9**
comp=Z,5.6nm,1.1s
PD31 Pinedale Array 57.80 60 *eP* **P 14 06 51.2 +1.8**
comp=Z,5.7nm,1.1s
PDAR Pinedale Array 57.80 60 *eP* **P 14 06 50.9 +1.5**
PDAR Pinedale Array 57.80 60 P **P 14 06 51.7 +2.3**
comp=Z,1.1nm,0.6s,baz=324,slow=2.8,SNR=10
KLMR Klimovskoe 57.85 330 *eP* **P 14 06 48.3 -0.9**
KLMR pmax pmax
comp=Z,25nm,1.0s
CMMT Chiang Mai 57.92 259 P **P 14 06 51.7 +1.4**
comp=Z,9.2nm,1.1s
CHTO Chiang Mai 57.92 259 *eP* **P 14 06 51.0 +0.7**
comp=Z,13nm,0.9s
CHTO Chiang Mai 57.92 259 *eP* **P 14 06 51.0 +0.7**
CHTO pmax pmax
comp=Z,13nm,0.9s
OUL Oulu 57.95 339 P **P 14 06 51.1 +1.3**
OUL pmax pmax
comp=Z,35nm,1.1s
CM31 Chiang Mai Arr 58.20 259 *eP* **P 14 06 52.6 +0.4**
comp=Z,8.2nm,0.9s
CMAR Chiang Mai Arr 58.20 259 *eP* **P 14 06 53.0 +0.9**
CMAR Chiang Mai Arr 58.20 259 *eP* **P 14 06 53.1 +0.9**
CMAR Chiang Mai Arr 58.20 259 P **P 14 06 53.8 +1.6**
comp=Z,5.5nm,0.8s,baz=27,slow=7.0,SNR=36
JOF Joensuu 58.49 335 P **P 14 06 54.0 +0.4**
JOF pmax pmax
comp=Z,23nm,1.2s
ABKAR Akbulak array 58.55 311 *eP* **P 14 06 53.1 -1.1**
JIRN Jiri 59.19 276 *eP* **P 14 06 59.2 -0.3**
comp=Z,20nm,0.7s
RAMN Ramite 59.45 275 *eP* **P 14 07 00.7 -0.4**
comp=Z,26nm,0.4s
KKN Kakani 59.65 277 *eP* **P 14 07 02.2 -0.3**
comp=Z,22nm,0.5s
PKI Pulchoki 59.73 277 *eP* **P 14 07 02.6 -0.5**
comp=Z,18nm,0.7s
PKIN Phulchoki 59.74 277 *eP* **P 14 07 02.6 -0.5**
comp=Z,13nm,0.6s
RSSD Black Hills 59.75 56 *eP* **P 14 07 04.6 +1.7**
comp=Z,6.5nm,0.8s
RSSD Black Hills 59.75 56 *eP* **P 14 07 04.6 +1.7**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
DMN Daman 59.89 277 *eP* **P 14 07 04.0 -0.1**
comp=Z,29nm,0.7s
SUF Sumiainen 59.93 338 P **P 14 07 05.0 +1.5**
SUF pmax pmax
comp=Z,42nm,1.0s
DANN Dangsing 60.18 279 *eP* **P 14 07 05.6 -0.5**
comp=Z,32nm,0.7s
VAF Ylistaro 60.43 339 P **P 14 07 08.7 +1.7**
VAF pmax pmax
comp=Z,39nm,1.4s
GAR Garm 60.47 296 *eP* **P 14 07 06.3 -1.5**
comp=Z,28nm,1.2s
GAR Garm 60.47 296 *eP* **P 14 07 06.3 -1.5**
GAR pmax pmax
comp=Z,28nm,1.2s
KOLN Koldanda 60.69 278 *eP* **P 14 07 09.2 -0.4**
comp=Z,16nm,0.6s
PYUN Piuthan 60.83 279 *eP* **P 14 07 09.4 -1.1**
comp=Z,21nm,0.8s
FIA1 FINESS Array S 61.05 337 *eP* **P 14 07 11.1 -0.1**
comp=Z,27nm,1.0s
FIA0 FINESS Array S 61.05 337 *eP* **P 14 07 11.7 +0.5**
FIA0 FINESS Array S 61.05 337 *eP* **P 14 07 11.7 +0.5**
FINES FINESS Array B 61.05 337 *eP* **P 14 07 11.2 0.0**
FINES FINESS Array B 61.05 337 *eP* **P 14 07 11.2 0.0**
FINES FINESS Array B 61.05 337 P **P 14 07 11.7 +0.5**
comp=Z,11nm,0.7s,baz=31,slow=8.7,SNR=62
PV17 East Wray Mesa 61.26 64 *eP* **P 14 07 15.0 +1.8**
comp=Z,21nm,1.5s
PV18 Skein Mesa, Pa 61.31 64 *eP* **P 14 07 15.4 +1.8**
comp=Z,5.8nm,0.9s
PV03 Paradox Valley 61.34 64 *eP* **P 14 07 14.8 +1.0**
comp=Z,8.8nm,1.4s
PV13 Radium Mtn., P 61.42 64 *eP* **P 14 07 15.5 +1.1**
comp=Z,6.1nm,1.0s
NIL Nilore 62.63 290 *eP* **P 14 07 21.6 -0.7**
comp=Z,14nm,0.8s
NIL Nilore 62.63 290 *eP* **P 14 07 21.6 -0.7**
NIL pmax pmax
comp=Z,14nm,0.8s
OBN Obninsk 63.41 328 *eP* **P 14 07 24.7 -2.3**
OBN *e* 14 08 02.1
OBN *e* 14 09 43.5
OBN pmax pmax
comp=Z,38nm,1.7s
OBN MLR MLR
comp=Z,290nm,22.0s
VSU Vasula 63.48 335 *ceP* **P 14 07 28.1 +0.7**
VSU pmax pmax
comp=Z,55nm,1.3s
NC303 NORSAR Array S 64.29 344 *eP* **P 14 07 33.1 +0.3**
comp=Z,54nm,1.5s
NC405 NORSAR Array S 64.33 344 *eP* **P 14 07 33.1 0.0**
comp=Z,63nm,1.9s
NC204 NORSAR Array S 64.34 344 *eP* **P 14 07 33.3 +0.1**
comp=Z,78nm,1.8s
SPMN Marine on St. 64.42 49 *eP* **P 14 07 35.3 +1.4**
SPMN *ePcP* **PcP 14 08 09.8 +1.9**
NB201 NORSAR Array S 64.47 344 *eP* **P 14 07 33.6 -0.4**
comp=Z,40nm,1.4s
NB2 NORSAR Subarra 64.49 344 P **P 14 07 34.2 +0.1**
comp=Z,6.7nm,1.0s,baz=23,slow=6.9
NB2 NORSAR Subarra 64.49 344 P **P 14 07 32.0 -2.1**
NB2 pmax pmax
comp=Z,7.0nm,1.0s
NB200 NORSAR Array S 64.49 344 *eP* **P 14 07 34.2 +0.1**
NOA NORSAR Array B 64.49 344 P **P 14 07 34.2 +0.1**
comp=Z,3.0nm,0.6s,baz=22,slow=6.6,SNR=22
NORES NORESS Array B 64.72 344 P **P 14 07 39.7 +4.1**
VSR Storozhevoye 65.70 324 *eP* **P 14 07 39.7 -2.4**
VSR pmax pmax
comp=Z,20nm,1.2s
SCHQ Schefferville 66.37 28 *eP* **P 14 07 47.4 +1.0**
comp=Z,23nm,1.6s
SCHQ Schefferville 66.37 28 P **P 14 07 47.6 +1.3**
comp=Z,4.1nm,0.5s,baz=284,slow=17,SNR=2.4
GEYT Alibeck 67.77 303 P **P 14 07 55.1 -0.5**
comp=Z,3.1nm,0.6s,baz=352,slow=3.0,SNR=6.9
L42A Oliver, Polo 68.35 49 *ePcP* **PcP 14 08 25.3 +1.0**
AKASG Malin Array Be 69.51 329 P **P 14 08 05.8 -0.3**
comp=Z,2.7nm,0.4s,baz=32,slow=6.7,SNR=28
AKBB Malin Array Si 69.51 329 *eP* **P 14 08 05.5 -0.6**
comp=Z,23nm,1.3s
KIEV Kiev 69.52 329 *eP* **P 14 08 05.5 -0.7**
comp=Z,22nm,1.3s
KIEV Kiev 69.52 329 ⇑*iP* **P 14 08 05.9 -0.3**
KIEV Kiev 69.52 329 *i* P **P 14 08 05.7 -0.5**
KIEV pmax pmax
comp=Z,19nm,1.3s
NCK Nalchik 70.25 316 *i* P **P 14 08 11.4 +0.6**
NCK pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 70.25 317 *eP* **P 14 08 11.5 +0.6**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,571nm,18.0s
KBZ Khabaz 70.35 317 P **P 14 08 11.5 +0.2**
comp=Z,7.0nm,1.0s,baz=61,slow=1.6,SNR=10.0
PSI Prapat 70.63 249 *eP* **P 14 08 13.2 -0.3**
comp=Z,6.2nm,1.1s
PSI Prapat 70.63 249 *eP* **P 14 08 13.3 -0.3**
PSI pmax pmax
comp=Z,6.0nm,1.1s
PSI Prapat 70.63 249 P **P 14 08 14.9 +1.4**
comp=Z,1.1nm,0.4s,baz=282,slow=0.9,SNR=3.5
ZEI Tsey 70.69 316 *eP* **P 14 08 11.5 -2.3**
ZEI pmax pmax
comp=Z,7.0nm,1.2s
TX31 Lajitas Ar. Si 70.81 67 *eP* **P 14 08 16.0 +1.5**
comp=Z,3.2nm,1.0s
TXAR Lajitas Array 70.81 67 *eP* **P 14 08 16.1 +1.6**
TXAR Lajitas Array 70.81 67 *eP* **P 14 08 16.1 +1.6**
TXAR Lajitas Array 70.81 67 P **P 14 08 16.4 +1.8**
comp=Z,1.7nm,0.9s,baz=286,slow=4.8,SNR=8.2
HYB Hyderabad 71.49 275 *i* P **P 14 08 19.0 +0.3**
EKA Eskdalemuir Ar 72.00 350 P **P 14 08 21.6 +0.4**
EKA pmax pmax
comp=Z,5.0nm,0.6s
ESK Eskdalemuir 72.02 350 *ceP* **P 14 08 23.4 +2.1**
KSP Ksiaz 72.97 337 P **P 14 08 28.7 +1.6**
KOLS Kolonicke sedl 73.16 333 *eP* **P 14 08 29.6 +1.4**
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 73.16 333 *eP* **P 14 08 29.6 +1.4**
CLL Collm 73.29 339 *eP* **P 14 08 29.0 +0.1**
comp=Z,7.7nm,0.8s
CLL Collm 73.29 339 *eP* **P 14 08 29.0 +0.1**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 73.29 339 *i* P **P 14 08 29.6 +0.7**
comp=Z,10.0nm,1.0s
CLL *e*(pP) **pP 14 08 42.0 +0.8**
CLL LmV 14 46 00.0
comp=Z,100nm,18.5s
UPC Upice 73.35 337 AMS AMS 14 46 50.0
comp=Z,400nm,15.6s
DPC Dobruska-Polom 73.42 337 *eP* **P 14 08 30.8 +1.0**
DPC MLR MLR
comp=Z,300nm,16.2s
DPC Dobruska-Polom 73.42 337 *eP* **P 14 08 30.8 +1.0**
DPC AMS AMS 14 46 50.0
comp=Z,300nm,16.2s
OKC Ostrava-Krasne 73.44 336 AMS AMS 14 45 00.0
comp=Z,400nm,15.6s
BUR08 Bucovina Ar. S 73.46 330 *eP* **P 14 08 30.1 0.0**
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 73.48 330 *eP* **P 14 08 30.2 0.0**
BURAR Bucovina Array 73.48 330 ‖*iP* **P 14 08 31.2 +1.0**
BURAR Bucovina Array 73.48 330 P **P 14 08 31.2 +1.0**
BRG Berggiesshubel 73.49 339 *eP* **P 14 08 30.3 +0.2**
comp=Z,3.2nm,1.1s
BRG Berggiesshubel 73.49 339 *eP* **P 14 08 30.3 +0.2**
BRG pmax pmax
comp=Z,3.0nm,1.1s
MORC Moravsky Berou 73.65 336 *eP* **P 14 08 31.4 +0.2**
comp=Z,6.1nm,0.8s
MORC Moravsky Berou 73.65 336 ⇑*iP* **P 14 08 32.2 +1.0**
MORC Moravsky Berou 73.65 336 *eP* **P 14 08 31.4 +0.2**
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 73.65 336 *eP* **P 14 08 32.0 +0.8**
PVCC Panska Ves 73.67 338 AMS AMS 14 47 10.0
comp=Z,300nm,14.4s
LANS Liptovska Anna 73.73 334 *eP* **P 14 08 33.9 +2.3**
LANS Liptovska Anna 73.73 334 *eP* **P 14 08 33.9 +2.3**
BIZ Bicaz 73.81 329 ⇑*iP* **P 14 08 31.9 -0.1**
TRPA Tarpa 73.81 332 ⇑*iP* **P 14 08 32.9 +0.9**
TRPA Tarpa 73.81 332 *eP* **P 14 08 33.0 +1.0**
PRU Pruhonice 74.18 338 *eP* **P 14 08 35.6 +1.4**
PRU MLR MLR
comp=Z,300nm,15.1s
PRU Pruhonice 74.18 338 *eP* **P 14 08 35.6 +1.4**
PRU AMS AMS 14 47 30.0
comp=Z,300nm,15.1s
GOPC GO Pecny, Ondr 74.19 338 AMS AMS 14 45 40.0
comp=Z,300nm,15.5s
MOX Moxa 74.21 340 P **P 14 08 37.4 +3.0**
MOX pmax pmax
comp=Z,4.0nm,1.0s
VRAC Vranov 74.32 336 ‖*iP* **P 14 08 36.6 +1.5**
VRAC Vranov 74.32 336 P **P 14 08 36.5 +1.5**
VRAC Vranov 74.32 336 *eP* **P 14 08 36.3 +1.3**
NKC Novy Kostel 74.42 339 AMS AMS 14 47 10.0
comp=Z,200nm,14.2s
JAVC Velka Javorina 74.47 335 *eP* **P 14 08 37.9 +2.0**
VYHS Vyhne 74.50 335 *eP* **P 14 08 37.7 +1.6**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 74.50 335 *eP* **P 14 08 37.7 +1.6**
VRI Vrincioaia 74.56 328 ⇑*iP* **P 14 08 37.7 +1.2**
VRI Vrincioaia 74.56 328 P **P 14 08 37.7 +1.2**
KRUC Moravsky 74.60 336 *eP* **P 14 08 37.6 +1.0**
TREC Trest 74.61 337 AMS AMS 14 48 50.0
comp=Z,300nm,15.3s
PSZ Piszkesteto 74.75 334 *eP* **P 14 08 38.1 +0.5**
DRGR 74.97 331 ⇑*iP* **P 14 08 38.5 -0.4**
DRGR 74.97 331 P **P 14 08 38.4 -0.4**
MODS Modra-Piesok 75.02 336 *eP* **P 14 08 40.5 +1.4**
MODS Modra-Piesok 75.02 336 *eP* **P 14 08 40.5 +1.4**
MLR Muntele Rosu 75.14 329 *eP* **P 14 08 39.5 -0.5**
comp=Z,29nm,1.6s
MLR Muntele Rosu 75.14 329 ‖*iP* **P 14 08 41.3 +1.3**
MLR Muntele Rosu 75.14 329 *eP* **P 14 08 39.5 -0.5**
MLR pmax pmax
comp=Z,29nm,1.6s
GRA1 Grafenberg Arr 75.20 340 *eP* **P 14 08 40.7 +0.6**
comp=Z,12nm,1.0s
GRF Grafenberg Arr 75.20 340 *eP* **P 14 08 40.7 +0.6**
GRF pmax pmax
comp=Z,12nm,1.0s
GRFO Grafenberg 75.20 340 *eP* **P 14 08 40.7 +0.7**
comp=Z,13nm,1.1s
GRFO Grafenberg 75.20 340 *eP* **P 14 08 40.7 +0.7**
GRFO pmax pmax
comp=Z,13nm,1.1s
KHC Kasperske Hory 75.21 338 *eP* **P 14 08 41.0 +0.8**
comp=Z,3.4nm,1.0s
KHC Kasperske Hory 75.21 338 *eP* **P 14 08 41.0 +0.8**
KHC pmax pmax
comp=Z,3.0nm,1.0s
KHC Kasperske Hory 75.21 338 *eP* **P 14 08 41.7 +1.5**
KHC *ex* x 14 08 48.3
KHC AMS AMS 14 48 00.0
comp=Z,400nm,13.5s
ZST Bratislava 75.23 336 *eP* **P 14 08 41.0 +0.8**
ZST Bratislava 75.23 336 *eP* **P 14 08 41.0 +0.8**
WR1 Warramunga Arr 75.33 205 *eP* **P 14 08 42.1 +1.1**
WRA Warramunga Arr 75.33 205 P **P 14 08 42.1 +1.1**
comp=Z,1.5nm,0.7s,baz=25,slow=5.2,SNR=13
MEM Membach 75.33 343 ⇑P **P 14 08 41.8 +1.1**
comp=Z,18nm,1.1s
MEM ⇑pP **pwP 14 08 56.6 +0.4**
WET Wettzell 75.35 339 P **P 14 08 43.6 +2.6**
WET pmax pmax
comp=Z,8.0nm,1.3s
GEC2 GERESS Array S 75.45 338 *eP* **P 14 08 41.7 +0.1**
comp=Z,7.5nm,1.1s
GEC2 GERESS Array S 75.45 338 *eP* **P 14 08 41.7 +0.1**
GEC2 pmax pmax
comp=Z,8.0nm,1.1s
GERES GERESS Array B 75.45 338 *eP* **P 14 08 42.1 +0.5**
GERES GERESS Array B 75.45 338 *eP* **P 14 08 42.1 +0.5**
GERES GERESS Array B 75.45 338 P **P 14 08 42.8 +1.1**
comp=Z,2.1nm,0.9s,baz=51,slow=4.3,SNR=17
VOIR 75.48 329 ⇑*iP* **P 14 08 42.7 +0.9**
VOIR 75.48 329 P **P 14 08 42.6 +0.8**
BCLA Clavier 75.64 344 ⇑P **P 14 08 41.7 -0.9**
comp=Z,7.6nm,1.4s
ARR Arges 75.67 330 ⇑*iP* **P 14 08 44.6 +1.7**
CSKK Cskako 75.69 335 *eP* **P 14 08 39.1 -3.9**
SIRR Siria 75.75 332 ⇑*iP* **P 14 08 44.2 +0.9**
CONA Conrad Observa 75.79 336 *eP* **P 14 08 45.6 +2.0**
comp=Z,6.0nm,0.9s
SOP Sopron 75.84 336 P **P 14 08 47.3 +3.5**
SOP pmax pmax
comp=Z,10.0nm,1.3s
DOU Dourbes 76.07 344 ‖P **P 14 08 45.0 +0.1**
BAIF Baives 76.17 344 *eP* **P 14 08 46.2 +0.6**
BAIF pmax pmax
comp=Z,6.0nm,1.0s
GZR Gura Zlata 76.22 331 ⇑*iP* **P 14 08 45.9 -0.1**
GZR Gura Zlata 76.22 331 P **P 14 08 45.8 -0.2**
MOA Molln 76.25 337 *i* P **P 14 08 47.6 +1.5**
comp=Z,4.3nm,1.0s
BZS Buzias 76.36 332 ⇑*iP* **P 14 08 47.1 +0.4**
BZS Buzias 76.36 332 P **P 14 08 47.1 +0.4**
ARSA Arzberg 76.50 336 *i* P **P 14 08 49.0 +1.4**
comp=Z,4.5nm,1.0s
HERR Herculane 76.79 331 ⇑*iP* **P 14 08 49.5 +0.3**
BFO Black Forest 77.08 341 *eP* **P 14 08 51.0 +0.2**
comp=Z,8.8nm,1.3s
BFO Black Forest 77.08 341 *ceP* **P 14 08 52.6 +1.8**
MDVR Moldovita 77.09 331 ⇑*iP* **P 14 08 50.6 -0.3**
SOKA Soboth 77.16 336 *i* P **P 14 08 52.6 +1.3**
comp=Z,12nm,1.3s
KBA Koelnbreinsper 77.19 338 *eP* **P 14 08 53.9 +2.2**
comp=Z,20nm,0.9s
KBA Koelnbreinsper 77.19 338 P **P 14 08 54.5 +2.9**
KBA pmax pmax
comp=Z,23nm,0.9s
CDF Champ du Feu 77.21 342 *eP* **P 14 08 52.2 +0.6**
CDF pmax pmax
comp=Z,9.0nm,1.0s
WATA Walderalm 77.35 339 *eP* **P 14 08 54.9 +2.4**
comp=Z,6.1nm,1.0s
RETA Reutte 77.39 339 *eP* **P 14 08 54.3 +1.7**
comp=Z,3.2nm,0.7s
WTTA Wattenberg 77.40 339 *eP* **P 14 08 54.9 +2.0**
comp=Z,14nm,1.2s
ECH Echery 77.42 342 P **P 14 08 54.7 +2.0**
MOTA Moosalm 77.44 339 *eP* **P 14 08 54.9 +1.9**
comp=Z,13nm,1.3s
BR101 Keskin Array S 77.47 321 *eP* **P 14 08 53.5 +0.3**
BR131 Keskin Array S 77.47 321 *eP* **P 14 08 53.1 -0.2**
comp=Z,6.8nm,1.3s
BR131 Keskin Array S 77.47 321 *eP* **P 14 08 53.1 -0.2**
BR131 pmax pmax
comp=Z,7.0nm,1.3s
BRTR Keskin Array B 77.47 321 *eP* **P 14 08 52.8 -0.5**
BRTR Keskin Array B 77.47 321 *eP* **P 14 08 52.8 -0.5**
BRTR Keskin Array B 77.47 321 P **P 14 08 53.5 +0.3**
comp=Z,2.5nm,1.0s,baz=64,slow=2.9,SNR=15
SQTA Sankt Quirin 77.54 339 *i* P **P 14 08 55.1 +1.5**
comp=Z,16nm,1.5s
ABTA Abfaltersbach 77.69 338 *i* P **P 14 08 55.4 +1.0**
comp=Z,9.5nm,1.0s
DAVA Damuels 77.76 340 *eP* **P 14 08 56.4 +1.5**
comp=Z,5.5nm,0.9s
HAU Haudompre 77.78 343 *eP* **P 14 08 55.2 +0.5**
HAU pmax pmax
comp=Z,20nm,1.3s
FETA Feichten 77.83 339 *i* P **P 14 08 57.1 +1.9**
comp=Z,9.9nm,1.3s
HINF Hinteralfeld 77.86 342 *eP* **P 14 08 55.5 +0.3**
HINF pmax pmax
comp=Z,4.0nm,0.8s
VTS Vitosha 78.58 329 *eP* **P 14 08 58.4 -1.0**
comp=Z,6.9nm,1.0s
VTS Vitosha 78.58 329 ‖*iP* **P 14 09 00.0 +0.6**
VTS Vitosha 78.58 329 *eP* **P 14 08 58.4 -1.0**
VTS pmax pmax
comp=Z,7.0nm,1.0s
TUE Stuetta 78.65 340 *eP* **P 14 09 00.8 +1.0**
comp=Z,7.7nm,0.7s
SGMF Saint Gilles 78.90 349 *eP* **P 14 09 01.5 +0.6**
SGMF pmax pmax
comp=Z,29nm,1.2s
LOR Lormes 78.93 344 *eP* **P 14 09 01.6 +0.5**
LOR pmax pmax
comp=Z,7.0nm,1.0s
AS31 Alice Springs 79.00 205 *eP* **P 14 09 03.0 +1.4**
comp=Z,2.6nm,1.4s
ASAR Alice Springs 79.00 205 *eP* **P 14 09 03.0 +1.4**
ASAR Alice Springs 79.00 205 P **P 14 09 03.6 +2.1**
comp=Z,1.7nm,0.6s,baz=16,slow=5.4,SNR=29
SSF Saint Saulge 79.19 344 *eP* **P 14 09 03.1 +0.6**
SSF pmax pmax
comp=Z,10.0nm,1.2s
ALN Alexandroupoli 79.21 327 *eP* **P 14 09 02.5 -0.2**
comp=Z,7.3nm,1.0s
ALN Alexandroupoli 79.21 327 *eP* **P 14 09 02.5 -0.2**
ALN pmax pmax
comp=Z,7.0nm,1.0s
AVF Avril sur Loir 79.48 344 *eP* **P 14 09 04.8 +0.8**
AVF pmax pmax
comp=Z,12nm,1.0s
SMF Signal de Mont 79.53 344 *eP* **P 14 09 05.1 +0.7**
SMF pmax pmax
comp=Z,35nm,1.8s
SRS Serrai 79.82 328 P **P 14 09 08.1 +2.1**
PDG Podgorica 79.96 332 ⇑*iP* **P 14 09 07.1 +0.4**
KNT Kendrikon 80.01 329 P **P 14 09 08.9 +1.9**

LPL	La Plagne	80.09	342	eP		P	14 09 09.2	+1.5
LPL				pmax		pmax		
comp=Z,18nm,1.1s								
LPG	La Plagne	80.11	342	eP		P	14 09 09.4	+1.5
LPG				pmax		pmax		
comp=Z,15nm,1.0s								
MFF	Saint Martin d	80.20	347	eP		P	14 09 08.9	+0.9
MFF				pmax		pmax		
comp=Z,32nm,1.7s								
GRG	Griva	80.35	329	eP		P	14 09 11.2	+2.3
MANT	Manisa	80.46	324	eP		P	14 09 08.9	-0.9
comp=Z,36nm,1.1s								
ORIF	Oris-en-Rattie	80.83	342	eP		P	14 09 13.0	+1.5
ORIF				pmax		pmax		
comp=Z,20nm,1.2s								
VIVF	Saint-Julien-l	81.12	343	eP		P	14 09 14.3	+1.3
VIVF				pmax		pmax		
comp=Z,7.0nm,1.0s								
RJF	Les Rejaudoux	81.22	345	eP		P	14 09 14.7	+1.2
RJF				pmax		pmax		
comp=Z,7.0nm,1.0s								
CAF	Calviac	81.50	345	eP		P	14 09 16.5	+1.5
CAF				pmax		pmax		
comp=Z,11nm,1.0s								
SBF	Sospel	81.54	341	eP		P	14 09 16.3	+1.0
SBF				pmax		pmax		
comp=Z,31nm,1.0s								
CSS	Mathiatis	81.70	319	eP		P	14 09 15.9	-0.3
comp=Z,19nm,0.9s								
MTLF	Montolieu	83.02	344	eP		P	14 09 24.4	+1.5
MTLF				pmax		pmax		
comp=Z,9.0nm,1.2s								
EPF	Esparros	83.62	345	eP		P	14 09 27.0	+0.9
EPF				pmax		pmax		
comp=Z,9.0nm,1.1s								
ETSF	Etsaut	83.89	346	eP		P	14 09 29.1	+1.6
ETSF				pmax		pmax		
comp=Z,9.0nm,0.8s								
ESDC	Sonseca Array	87.53	348	eP		P	14 09 45.5	-0.1
ESDC	Sonseca Array	87.53	348	P		P	14 09 46.5	+1.0
comp=Z,1.5nm,0.7s,baz=4.7,slow=5.3,SNR=10								
KEST	Kesra	88.89	337	P		P	14 09 53.6	+1.5
comp=Z,3.9nm,0.9s,baz=12,slow=9.3,SNR=2.8								
TOA1	Torodi Ar. Sit	112.39	338	ePP		PP	14 16 18.6	-0.3
TORD	Torodi Ar. Bea	112.40	338	PP		PP	14 16 18.6	-0.3
comp=Z,0.8nm,0.9s,baz=350,slow=8.1,SNR=7.9								

*IDC **20** 13:58:04.1±3.8, 51°.44N×160°.48E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.8/51, mbtmp4.2/9, ML3.6/1, MS3.9/2, Ms1 3.8/2, ms1mx3.2/24, Error ellipse: s-maj=78.6km s-min=36.7km az=144.0*
*MOS **20** 13:58:06.7±1.8, 51°.56N×160°.77E, h35km, mb4.6/1, Error ellipse: s-maj=17.9km s-min=7.3km az=119.2*
*NEIC **20** 13:58:07.6±3.5, 51°.48N×160°.53E, h24km±23km, mb4.5/3, Error ellipse: s-maj=16.8km s-min=10.7km az=142.0*
*KRSC **20** 13:58:09.8±10.0, 52°.12N×160°.64E, h61km±10km, ML4.9*
ISC 20 13:58:07.5±3.1, 52°.03N±0°.05×160°.66E±0°.05, h9km±20km, n58, σ1§83/72, mb4.3/8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.14	340	eP	Pn	13 58 29.7	0.0
SPN				eS	Sb	13 58 43.0	-1.4
SPN	Mys Shipunski	1.14	340	PN	Pn	13 58 29.7	0.0
RUS	Russkaya	1.39	288	eP	Pn	13 58 33.9	+0.9
RUS				eS	Sn	13 58 50.1	-1.2
RUS	Russkaya	1.39	288	PN	Pn	13 58 33.9	+0.9
RUS				S	Sn	13 58 50.1	-1.2
NLC	Nalytchevo	1.40	325	eP	Pn	13 58 34.0	+0.8
NLC				eS	Sn	13 58 50.3	-1.5
NLC	Nalytchevo	1.40	325	PN	Pn	13 58 34.0	+0.8
DALK	Dalny	1.54	312	eP	Pn	13 58 35.8	+0.7
DALK				eS	Sn	13 58 53.3	-1.9
DALK	Dalny	1.54	312	PN	Pn	13 58 35.8	+0.7
PET	Petropavlovsk	1.58	310	ePn	Pn	13 58 37.2	+1.5
PET	Petropavlovsk	1.58	310	ePN	Pn	13 58 37.2	+1.5
PET				pmax	pmax		
comp=Z,2μm,0.5s							
MTVR	Mutnovka	1.59	288	eP	Pn	13 58 37.4	+1.4
MTVR				eS	Sn	13 58 56.1	-0.6
MTVR	Mutnovka	1.59	288	PN	Pn	13 58 37.4	+1.4
MTVR				S	Sn	13 58 56.1	-0.6
KDTR	Khodutka, Kamc	1.62	263	eP	Pb	13 58 38.5	+1.0
KDTR				eS	Sn	13 58 57.2	+0.1
KDTR	Khodutka, Kamc	1.62	263	PN	Pb	13 58 38.5	+1.0
KDTR				S	Sn	13 58 57.2	+0.1
GRL	Gorelyy	1.68	289	eP	Pn	13 58 38.5	+1.4
GRL	Gorelyy	1.68	289	PN	Pn	13 58 38.5	+1.4
AVH	Avacha	1.71	317	eS	Sn	13 58 57.7	-1.8
KRER	Koryakskii	1.73	318	eS	Sn	13 59 00.6	+0.3
KRMR	Karymshinskiy	1.75	298	eP	Pn	13 58 39.6	+1.6
KRMR				eS	Sn	13 59 00.5	+0.2
KRMR	Karymshinskiy	1.75	298	PN	Pn	13 58 39.6	+1.6
KRMR				S	Sn	13 59 00.5	+0.2
KOK	Koryaka	1.77	317	eS	Sn	13 58 58.9	-2.2
PEA0B	Petropavlovsk-	2.11	302	ePn	Pb	13 58 46.6	+0.7
PEA0B	Petropavlovsk-	2.11	302	ePN	Pb	13 58 46.6	+0.7
PETK	Petropavlovsk-	2.11	302	PN	Pn	13 58 45.0	+2.0
PETK	Petropavlovsk-	2.11	302	Pn	Pn	13 58 45.0	+2.0
comp=Z,68nm,0.3s,baz=107,slow=19,SNR=1.4							
PETK				Sn	Sn	13 59 09.5	+0.2
comp=Z,87nm,0.3s,baz=90,slow=18,SNR=1.7							
PEA1	Petropavlovsk-	2.11	302	ePn	Pn	13 58 45.0	+2.0
PEA1				eSn	Sn	13 59 09.5	+0.2
APC	Apacha	2.33	294	eP	Pn	13 58 48.5	+2.6
APC				eS	Sn	13 59 15.5	+0.9
APC	Apacha	2.33	294	PN	Pn	13 58 48.5	+2.6
APC				S	Sn	13 59 15.5	+0.9
PAU	Pauzhetka	2.46	258	eS	Sn	13 59 19.9	+2.0
MKZ	Mys Kozlova	2.62	14	eS	Sn	13 59 22.2	+0.5
SKR	Severo-Kuril's	3.15	247	eS	Sn	13 59 35.8	+0.9
TUMD	Tumrok D	3.19	357	eS	Sn	13 59 35.2	-0.7
BKI	Bering	4.49	43	eS	Sn	14 00 06.2	-1.6
ERM	Erimo	15.54	237	ePn	Pn	14 01 41.0	-5.7
comp=Z,41nm,1.4s							
ERM	Erimo	15.54	237	eP	Pn	14 01 41.0	-5.7
ERM				pmax	pmax		
comp=Z,41nm,1.4s							
BILL	Bilibino	16.30	8	ePn	P	14 02 02.8	+3.5
comp=Z,14nm,0.9s							
BILL	Bilibino	16.30	8	eP	P	14 02 02.8	+3.5
BILL				pmax	pmax		
comp=Z,14nm,0.9s							
USRK	Ussuriysk Ar.	20.58	259	P	P	14 02 41.9	-4.6
comp=Z,2.0nm,0.7s,baz=34,slow=16,SNR=1.1							
RSO	Redoubt South	26.70	53	eP	P	14 03 48.3	+1.5
SONA0	Songino Array	34.50	285	eP	P	14 04 55.2	-0.5
SONM	Songino Array	34.50	285	P	P	14 04 55.2	-0.5
comp=Z,0.6nm,0.4s,baz=65,slow=8.6,SNR=1.8							
ZAA1	Zalesovo Array	43.65	304	eP	P	14 06 10.0	-2.0
ZALV	Zalesovo Beam	43.65	304	P	P	14 06 10.0	-2.0
comp=Z,0.9nm,0.5s,baz=61,slow=6.8,SNR=1.6							
GLK	Glacier Lake	48.72	64	eP	P	14 06 51.3	-0.9
MK32	Makanchi Array	48.94	297	eP	P	14 06 53.0	-0.7
MKAR	Makanchi Array	48.94	297	P	P	14 06 53.0	-0.7
comp=Z,1.7nm,0.4s,baz=52,slow=6.8,SNR=11							
ARA0	ARCESS Array S	54.41	342	eP	P	14 07 35.9	+1.7
ARCES	ARCESS Array B	54.41	342	P	P	14 07 35.9	+1.7
comp=Z,1.2nm,0.7s,baz=17,slow=8.9,SNR=3.8							
PDAR	Pinedale Array	57.74	61	LR	LR	14 29 40.2	
comp=Z,53nm,21.4s,baz=320,slow=33							
FIA0	FINESS Array S	61.24	337	eP	P	14 08 23.8	+1.5
FIA0	FINESS Array S	61.24	337	eP	P	14 08 23.8	+1.5
FINES	FINESS Array B	61.24	337	P	P	14 08 23.8	+1.5
comp=Z,4.6nm,0.5s,baz=30,slow=9.2,SNR=9.9							
FINES				LR	LR	14 41 37.9	
comp=Z,166nm,18.8s,baz=22,slow=42							
NB2	NORSAR Subarra	64.67	344	P	P	14 08 46.9	+1.8
comp=Z,1.6nm,0.6s,baz=23,slow=6.9							
NB200	NORSAR Array S	64.67	344	eP	P	14 08 47.2	+2.1
NOA	NORSAR Array B	64.67	344	P	P	14 08 47.2	+2.1
comp=Z,0.7nm,0.4s,baz=28,slow=6.0,SNR=4.9							
AKASG	Malin Array Be	69.71	329	P	P	14 09 17.7	+0.5
comp=Z,2.1nm,0.4s,baz=29,slow=6.7,SNR=5.8							
AKBB	Malin Array Si	69.71	329	eP	P	14 09 17.6	+0.4
comp=Z,1.0nm,1.3s							
AKBB	Malin Array Si	69.71	329	eP	P	14 09 17.6	+0.4
AKBB				pmax	pmax		
comp=Z,10.0nm,1.3s							

*IDC **20** 14:04:17.7±1.3, 52°.17N×160°.68E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.5/56, mbtmp3.6/10, ML3.1/1, Error ellipse: s-maj=33.0km s-min=19.9km az=85.0*
*KRSC **20** 14:04:18.7±10.0, 52°.07N×160°.83E, h58km±10km, ML4.3*
*ISCJB **20** 14:04:20.7±0.9, 52°.11N±0°.05×160°.85E±0°.07, h37km±8km, mb3.6/9, Error ellipse: s-maj=10.0km s-min=6.3km az=148.5*
ISC 20 14:04:21.4±2.3, 52°.13N±0°.07×160°.67E±0°.07, h26km±15km, n39, σ1§07/45, mb3.6/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.05	338	eP	Pn	14 04 39.0	-1.4
SPN				S	Sn	14 04 52.9	-1.3
NLC	Nalytchevo	1.32	323	P	Pn	14 04 44.2	+0.1
RUS	Russkaya	1.36	284	eP	Pn	14 04 43.9	-0.7
DALK	Dalny	1.48	309	eP	Pn	14 04 45.9	-0.4
DALK				eS	Sn	14 05 05.4	+0.6
UGLR	Uglovaya	1.56	315	eP	Pn	14 04 47.9	+0.3
UGLR				S	Sb	14 05 09.8	+0.8
MTVR	Mutnovka	1.57	284	eP	Pn	14 04 47.6	-0.1
MTVR				eS	Sb	14 05 08.5	-0.7
SDLR	Sedlovina	1.59	317	eP	Pn	14 04 48.0	+0.1
SMAR	Somma	1.61	316	eP	Pn	14 04 49.2	+0.9
KDTR	Khodutka, Kamc	1.64	260	eP	Pn	14 04 48.0	-0.4
AVH	Avacha	1.64	315	eP	Pn	14 04 48.9	+0.3
GRL	Gorelyy	1.65	286	eP	Pb	14 04 51.7	+0.6
KRER	Koryakskii	1.66	316	eP	Pn	14 04 49.4	+0.4
KOK	Koryaka	1.70	314	eP	Pn	14 04 50.2	+0.7
KRMR	Karymshinskiy	1.71	295	eP	Pn	14 04 49.4	0.0
KRMR				eS	Sb	14 05 12.6	-0.4
ASAK	Asacha	1.72	280	eP	Pn	14 04 50.3	+0.6
ASAK				eS	Sb	14 05 13.3	-0.3
KRX	Arik	1.74	316	eP	Pn	14 04 50.5	+0.4
PETK	Petropavlovsk-	2.06	300	Pn	Pn	14 04 54.1	-0.2
32nm,0.3s,baz=104,slow=15,SNR=86							
PETK				Sn	Sn	14 05 20.0	+0.8
19nm,0.3s,baz=93,slow=19,SNR=8.3							
APC	Apacha	2.29	292	P	Pn	14 04 58.6	+1.2
APC				S	Sb	14 05 27.7	-2.1
MKZ	Mys Kozlova	2.52	14	P	Pn	14 04 59.5	-1.0
MKZ				eS	Sn	14 05 28.0	-2.3
KZV	Kizimen	3.00	356	P	Pn	14 05 08.0	+0.6
TUMD	Tumrok D	3.09	357	P	Pn	14 05 09.1	+0.7
TUMR	Tumrok	3.18	355	P	Pn	14 05 10.7	+0.9
ALID	Alaid	3.44	251	P	Pn	14 05 12.7	-0.7
ESO	Esso	3.98	344	P	Pn	14 05 19.7	-1.0
KLY	Klyuchi	4.20	360	P	Pn	14 05 26.3	+2.7
KBTR	Krutoberegovo	4.28	16	P	Pn	14 05 24.8	0.0
SRKR	Sorokina	4.55	3	P	Pn	14 05 31.0	+2.5
MJAR	Matsushiro Arr	22.24	234	P	P	14 09 16.7	+0.7
0.3nm,0.3s,baz=13,slow=10,SNR=3.0							
TIXI	Tiksi	24.11	336	P	P	14 09 32.5	-2.0
0.8nm,0.5s,baz=139,slow=10.0,SNR=4.1							
H11N2	WAKE ISLAND Hy	32.69	169	T	T	14 46 29.3	
baz=359,slow=76,SNR=12							
H11N3	WAKE ISLAND Hy	32.71	169	T	T	14 46 29.3	
baz=359,slow=76,SNR=10							
H11N1	WAKE ISLAND Hy	32.71	169	T	T	14 46 29.3	
baz=359,slow=76,SNR=14							
KURBB	Kurchatov Arra	48.65	303	P	P	14 13 02.0	-0.7
0.5nm,0.8s,baz=62,slow=8.2,SNR=3.3							
MKAR	Makanchi Array	48.90	297	P	P	14 13 04.8	+0.1
0.2nm,0.5s,baz=54,slow=7.5,SNR=4.0							
ARCES	ARCESS Array B	54.32	342	P	P	14 13 46.2	+1.3
3.0nm,0.9s,baz=44,slow=10,SNR=2.7							
FINES	FINESS Array B	61.15	337	P	P	14 14 33.2	+0.3
0.6nm,0.6s,baz=60,slow=8.7,SNR=4.1							
NOA	NORSAR Array B	64.57	344	P	P	14 14 55.8	0.0
0.3nm,0.6s,baz=4.3,slow=10,SNR=2.7							
WRA	Warramunga Arr	75.35	206	P	P	14 16 02.3	0.0
0.6nm,0.9s,baz=30,slow=5.1,SNR=2.8							
ASAR	Alice Springs	79.02	205	P	P	14 16 24.0	+1.1
0.3nm,0.7s,baz=19,slow=5.5,SNR=4.5							

*SAR **20** 14:07:54.2±0.8, 44°.05N×19°.13E, h7km±5km, ML1.3/4*
BEO 20 14:07:55.0±0.5, 44°.06N×19°.10E, h4km±3km, ML1.3/8, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAPS	Han Pijesak,BI	0.11	284	ePg	Pg	14 07 56.9	-0.4
HAPS				eSg	Sg	14 08 00.3	+1.5
HAPS	Han Pijesak,BI	0.11	284	ePg	Pg	14 07 56.7	-0.6
HAPS				eSg	Sg	14 08 00.2	+1.4
BBLS	Lazići	0.29	131	ePg	Pg	14 07 59.8	-0.9
BBLS				eSg	Sg	14 08 04.5	-0.1
BBLS	Lazići	0.29	131	ePg	Pg	14 07 59.5	-1.2
BBLS				eSg	Sg	14 08 04.1	-0.1
TEKS	Tekeris	0.58	32	ePg	Pg	14 08 05.1	-1.0
TEKS				eSg	Sg	14 08 14.0	+0.4
DIVS	Divibare	0.65	86	ePg	Pg	14 08 06.8	-0.6
DIVS				eSg	Sg	14 08 15.8	0.0
DIVS	Divibare	0.65	86	ePg	Pg	14 08 05.0	-2.4
DIVS				eSg	Sg	14 08 14.1	-1.7
TRUS	Trudelj	0.96	80	ePg	Pg	14 08 12.6	-0.7
TRUS				eSg	Sg	14 08 26.0	+0.3
SJES	Sjenica	1.02	141	ePg	Pg	14 08 13.5	-1.1
SJES				eSg	Sg	14 08 27.0	-0.8
GRUS	Gruza	1.18	98	ePg	Pg	14 08 16.9	-0.7
GRUS				eSg	Sg	14 08 33.2	+0.3
FRGS	Fruska Gora	1.21	25	ePg	Pg	14 08 16.4	-1.8
FRGS				eSg	Sg	14 08 32.5	-1.4
FRGS	Fruska Gora	1.21	25	ePg	Pg	14 08 16.2	-2.0
FRGS				eSg	Sg	14 08 32.9	-1.0

*ANF **20** 14:07:55.3±1.6, 41°.33N×127°.16W, ML3.5/15, Error ellipse: s-maj=16.8km s-min=8.2km az=49.0*
*ISCJB **20** 14:07:56.7±0.4, 41°.44N±0°.03×127°.12W±0°.04, h11km, mb4.2/27, MS4.0/11, Error ellipse: s-maj=5.6km s-min=3.0km az=137.2*
*IDC **20** 14:07:56.2±1.8, 41°.53N×127°.12W, h0km, mb3.7/9, mb1 3.9/15, mb1mx3.8/47, mbtmp3.7/15, ML3.5/6, MS3.9/14, Ms1 3.9/14, ms1mx3.7/43, Error ellipse: s-maj=39.0km s-min=12.1km az=33.0*
*NEIC **20** 14:07:58.5±0.5, 41°.47N×127°.06W, h10km, mb4.4/35, Error ellipse: s-maj=8.1km s-min=3.7km az=50.0*
ISC 20 14:07:57.4±0.8, 41°.40N±0°.07×127°.19W±0°.08, h11km, n182, σ1§61/165, mb4.4/27, MS4.0/11, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	Jacoby Creek,	2.46	103	ePn	Pn	14 08 35.3	-2.1
KRMB	Red Mountain	2.47	86	ePn	Pn	14 08 36.7	-1.0
KEBM	Edson Butte	2.59	54	ePn	Pn	14 08 37.7	-1.6
KHMM	Horse Mountain	2.67	100	ePn	Pn	14 08 38.2	-2.2
L02E	Cave Junction	2.79	73	P	Pn	14 08 40.3	-1.7
baz=256,SNR=9.2							
KOMM	Orleans Mounta	2.82	91	ePn	Pn	14 08 41.4	-1.1
KMRM	Mail Ridge	2.89	113	ePn	Pn	14 08 42.8	-0.7
K02D	Willamette Mer	2.93	63	P	Pn	14 08 43.1	-0.9
baz=245							
K02D				S	Sn	14 09 19.4	+0.2
baz=245							
J01E	Myrtle Point	2.99	53	P	Pn	14 08 43.8	-1.0
baz=235							
KCPM	Cahto Peak	3.24	121	ePn	Pn	14 08 46.4	-1.8
M02C	Callahan	3.26	89	P	Pn	14 08 47.1	-1.5
baz=273,SNR=18							
LGPM	Granite Peak	3.33	97	ePn	Pn	14 08 48.2	-1.3
YBH	Yreka Blue Hor	3.38	83	ePn	Pn	14 08 49.6	-0.6
YBH	Yreka Blue Hor	3.38	83	Pn	Pn	14 08 50.2	+0.1
6.6nm,0.3s,baz=264,slow=11,SNR=73							
YBH				LR	LR	14 09 55.1	
comp=Z,1μm,19.5s,baz=300,slow=36							
HUMO	Hull Mountain	3.38	68	ePn	Pn	14 08 47.5	-2.6
N02D	Trinity Center	3.41	96	P	Pn	14 08 49.0	-1.6
baz=280,SNR=16							
N02D				S	Sn	14 09 31.7	+0.6
baz=280							
O02D	Mt. Diablo Mer	3.56	109	P	Pn	14 08 50.5	-2.1
baz=293,SNR=15							
O02D				S	Sn	14 09 34.9	+0.2
baz=293							
B040	Montague	3.60	82	ePn	Pn	14 08 53.9	+0.7
WDC	Whiskeytown Da	3.61	102	ePn	Pn	14 08 51.8	-1.5
I03D	Drain, OR	3.65	50	P	Pn	14 08 52.6	-1.2
baz=232							
HSO	Harness Mounta	3.71	54	ePn	Pn	14 08 54.7	0.0
L04D	Klamath Falls	3.75	76	P	Pn	14 08 55.4	+0.2
baz=260,SNR=28							
LMPM	Military Pass	3.78	87	ePn	Pn	14 08 57.2	+1.4
HOPS	Hopland Field	3.96	126	ePn	Pn	14 08 56.7	-1.4
M04C	Macdoel	4.03	83	P	Pn	14 08 59.3	+0.1
baz=267,SNR=41							
M04C				S	Sn	14 09 48.5	+2.0
baz=267							
J04D	Umpqua Nationa	4.20	62	P	Pn	14 09 02.0	+0.5
baz=246							
O03E	Paynes Creek	4.23	103	P	Pn	14 09 00.2	-1.7
baz=288,SNR=10							
O03E				S	Sn	14 09 51.8	+0.5
baz=288							
GDXM	Geysers	4.25	126	ePn	Pn	14 09 01.5	-0.6
I04A	Tendick Farm,	4.27	54	P	Pn	14 09 02.4	+0.1
baz=237							
H04D	Lebanon	4.52	45	P	Pn	14 09 06.6	+0.8
baz=228							
ORV	Oroville	4.71	111	ePn	Pn	14 09 08.1	-0.3
G03D	McMinnville, O	4.77	36	P	Pn	14 09 09.8	+0.6
baz=218							
J05D	Fort Rock, OR	4.80	65	P	Pn	14 09 09.6	-0.2
baz=249,SNR=8.4							
H04A	Detroit Lake	4.92	46	ePn	Pn	14 09 09.9	-1.4
MOD	Modoc Plateau	5.19	82	ePn	Pn	14 09 14.2	-0.8
PINE	Pine Mountain	5.20	60	ePn	Pn	14 09 14.8	-0.4
I05D	Terrebonne, OR	5.21	54	P	Pn	14 09 15.9	+0.6
baz=236							
AFDM	Forest Hills D	5.36	115	ePn	Pn	14 09 16.9	-0.4
BEKR	Beckworth	5.42	104	ePn	Pn	14 09 17.6	-0.7
E04D	Cinebar	6.14	31	P	Pn	14 09 29.9	+1.9
baz=214							
PAHR	Pah Rah Range	6.18	103	ePn	Pn	14 09 28.9	+0.2
CMB	Columbia Colle	6.23	120	ePn	Pn	14 09 29.6	+0.4
PNTR	Pine Nut	6.25	109	ePn	Pn	14 09 31.8	+2.0
I07A	Izee	6.26	62	ePn	Pn	14 09 28.8	-1.1
SAO	San Andreas Ge	6.43	134	ePn	Pn	14 09 30.3	-1.7
NLWA	Neilton Lookou	6.45	21	ePn	Pn	14 09 32.0	-0.3
WVOR	Wild Horse Val	6.47	78	ePn	Pn	14 09 31.3	-1.3
YERR	Yerington	6.55	109	ePn	Pn	14 09 34.6	+0.8
GLK	Glacier Lake	6.55	36	ePn	Pn	14 09 36.0	+2.2
D04E	Lakebay	6.59	27	P	Pn	14 09 35.7	+1.5
baz=210							
LON	Longmire	6.61	34	ePn	Pn	14 09 35.9	+1.4
WAKR	Walker	6.62	113	ePn	Pn	14 09 36.8	+2.0
WPW	White Pass	6.68	36	ePn	Pn	14 09 36.0	+0.5
J08A	Circle Bar Ran	6.75	70	ePn	Pn	14 09 36.4	0.0
D03D	Eldon	6.80	24	P	Pn	14 09 38.6	+1.5
baz=206							
D05A	Enumclaw	6.89	31	ePn	Pn	14 09 38.3	0.0
RYN	Ryan	7.21	110	ePn	Pn	14 09 43.4	+0.6
KVN	Kaiserville	7.34	106	ePn	Pn	14 09 44.7	0.0
NV01	Mina Array Sit	7.45	111	ePn	Pn	14 09 47.0	+0.9
NVAR	Mina Array Bea	7.45	111	eP	Pn	14 09 47.8	+1.6
NVAR	Mina Array Bea	7.45	111	Pn	Pn	14 09 47.0	+0.8
0.5nm,0.3s,baz=279,slow=14,SNR=7.8							
NVAR				LR	LR	14 12 54.5	
comp=Z,2μm,18.2s,baz=280,slow=40							
NV11	Mina Array Sit	7.55	110	ePn	Pn	14 09 49.0	+1.4
BMO	Blue Mountains	8.01	61	ePn	Pn	14 09 53.3	-0.5
ISA	Isabella, Lake	8.91	127	ePn	Pn	14 10 07.1	+1.0
B08A	Colville Reser	8.92	36	ePn	Pn	14 10 06.9	+0.8
ELK	Elko	9.05	90	ePn	Pn	14 10 09.6	+1.4
ELK	Elko	9.05	90	Pn	Pn	14 10 09.9	+1.7
0.1nm,0.3s,baz=287,slow=9.5,SNR=11							
ELK				LR	LR	14 13 55.8	
comp=Z,1μm,18.6s,baz=268,slow=40							
RCWM	Renegade Canyo	9.23	123	ePn	Pn	14 10 13.6	+3.1
NEW	Newport	9.91	43	LR	LR	14 14 22.7	
comp=Z,1μm,18.1s,baz=228,slow=40							
LLLB	Lillooet	9.92	20	ePn	Pn	14 10 20.0	+0.1
SHPR	Sheep Range	10.56	114	ePn	Pn	14 10 33.0	+4.2
BGU	Big Grassy Mou	10.69	88	ePn	Pn	14 10 29.9	-0.6
BBB	Bella Bella	10.81	357	LR	LR	14 13 49.0	
comp=Z,272nm,21.0s,baz=82,slow=33							
PFO	Pinyon Flats O	11.53	129	LR	LR	14 15 02.3	
comp=Z,682nm,19.2s,baz=306,slow=37							
BOZ	Bozeman (W)	12.05	64	ePn	Pn	14 10 49.3	+0.1
PKCU	Pink Cliffs	12.16	104	ePn	Pn	14 10 52.2	+1.3
W13A	Hualapai Mount	12.20	117	ePn	Pn	14 10 52.0	+0.8
MOOW	Moose Ponds	12.35	74	ePn	Pn	14 10 51.0	-2.3
Y12C	Blythe	12.61	123	ePn	Pn	14 10 59.4	+2.7
U15A	North Rim	12.62	108	ePn	Pn	14 11 01.0	+4.0
PDAR	Pinedale Array	13.18	78	Pn	Pn	14 11 07.6	+3.0
0.1nm,0.3s,baz=272,slow=10,SNR=6.7							
WUAZ	Wupatki	13.71	110	ePn	Pn	14 11 12.9	+1.1
PV09	Paradox Valley	14.15	96	ePn	Pn	14 11 18.5	+0.5
X16A	Lo Mia Camp, P	14.24	114	ePn	Pn	14 11 20.8	+1.6
PV23	Carpenter Ridg	14.26	96	eP	P	14 11 24.4	-2.4
PV10	Paradox Valley	14.26	96	eP	P	14 11 24.6	-2.3
PV14	Lion Creek, Pa	14.28	96	eP	P	14 11 24.4	-2

YKB5	Yellowknife Ar	22.43	15	eP	P	14 12 54.9	-1.0
YKW3	Yellowknife Ar	22.49	15	eP	P	14 12 56.0	-0.5
	15nm,1.3s						
TXAR	Lajitas Array	22.57	115	eP	P	14 12 59.9	+2.2
TXAR	Lajitas Array	22.57	115	P	P	14 13 00.1	+2.3
	0.4nm,0.6s,baz=270,slow=5.0,SNR=3.9						
TXAR				LR	LR	14 22 30.6	
	comp=Z,171nm,22.0s,baz=0.0,slow=39						
HPIG		22.84	122	eP	P	14 13 03.0	+2.3
	63nm,2.0s						
AGMN	Agassiz Nation	23.15	62	eP	P	14 13 04.8	+1.2
	20nm,1.2s						
WMOK	Wichita Mounta	23.27	97	eP	P	14 13 06.7	+1.7
	28nm,1.5s						
BCAR	Beaver Creek A	23.36	343	eP	P	14 13 07.2	+1.6
ULM	Lac du Bonnet	23.41	57	LR	LR	14 22 20.2	
	comp=Z,286nm,19.4s,baz=248,slow=37						
DAWY	Dawson	23.79	347	eP	P	14 13 11.1	+1.2
	5.1nm,1.1s						
SCRK	Sand Creek	24.64	342	eP	P	14 13 20.4	+2.6
	4.2nm,1.0s						
RIDG	Independent Ri	24.64	341	eP	P	14 13 19.1	+1.4
	6.8nm,0.9s						
EPYK	Eagle Plains	25.58	351	eP	P	14 13 27.0	+0.8
	29nm,1.6s						
ILAR	Eielson Array	26.00	341	eP	P	14 13 30.1	+0.1
ILAR	Eielson Array	26.00	341	P	P	14 13 30.4	+0.5
	1.5nm,0.7s,baz=156,slow=8.5,SNR=17						
ILB	Eielson Array	26.00	341	eP	P	14 13 30.1	+0.1
	5.8nm,1.2s						
WRH	Wood River Hil	26.07	339	eP	P	14 13 31.9	+1.4
	25nm,1.6s						
PPLA	Purkeypile	26.11	334	eP	P	14 13 33.5	+2.3
W39A	Magazine	26.83	92	eP	P	14 13 36.0	-1.7
	19nm,1.1s						
MLY	Manley	27.22	338	eP	P	14 13 41.5	+0.5
	15nm,1.5s						
WHAR	Wooly Hollow	27.92	91	eP	P	14 13 46.9	-0.6
	48nm,1.8s						
IMAR	Indian Mountai	28.78	338	eP	P	14 13 54.3	-0.5
TOLK	Toolik Lake Re	29.79	344	eP	P	14 14 05.4	+1.5
	9.8nm,1.3s						
RES	Resolute Bay	36.48	14	P	P	14 15 02.3	+0.4
	0.9nm,0.4s,baz=221,slow=10						
SCHQ	Schefferville	41.19	50	LR	LR	14 32 52.7	
	comp=Z,168nm,20.2s,baz=324,slow=36						
TAOE	Nuku Hiva Isla	51.40	196	eLR	LR	14 31 35.7	
	comp=Z,124nm,22.8s						
TAOE	Nuku Hiva Isla	51.40	196	eT	T	15 11 49.2	
	50nm,0.4s						
PMOR	Pomariorio Ree	59.29	203	eT	T	15 21 40.5	
	7.8nm,0.3s						
H11N3	WAKE ISLAND Hy	59.31	270	T	T	15 21 58.6	
	baz=53,slow=75,SNR=122						
H11N2	WAKE ISLAND Hy	59.31	270	T	T	15 22 00.8	
	baz=53,slow=75,SNR=120						
H11N1	WAKE ISLAND Hy	59.33	270	T	T	15 22 00.5	
	baz=53,slow=75,SNR=132						
H11S1	WAKE ISLAND Hy	60.20	269	T	T	15 23 07.7	
	baz=52,slow=75,SNR=917						
H11S2	WAKE ISLAND Hy	60.20	269	T	T	15 23 08.0	
	baz=52,slow=75,SNR=183						
H11S3	WAKE ISLAND Hy	60.22	269	T	T	15 23 09.0	
	baz=52,slow=75,SNR=178						
TIAR	Tiarei	62.15	204	eT	T	15 25 13.7	
	4.8nm,0.2s						
PPT2	Papeete2	62.25	204	eLR	LR	14 36 28.0	
	comp=Z,334nm,25.5s						
RKT	Rikitea	64.59	188	eT	T	15 28 18.2	
	2.2nm,0.3s						
NRIK	Noril'sk	66.64	347	P	P	14 18 46.9	-0.5
	0.9nm,0.4s,baz=20,slow=3.3,SNR=7.4						
TBI	Tubuai	67.65	202	eLR	LR	14 39 24.3	
	comp=Z,394nm,25.5s						
MJAR	Matsushiro Arr	70.00	301	LR	LR	14 43 45.6	
	comp=Z,122nm,21.0s,baz=95,slow=31						
NB200	NORSAR Array S	72.44	20	eP	P	14 19 22.7	-0.7
NOA	NORSAR Array B	72.44	20	P	P	14 19 22.7	-0.7
	0.5nm,0.8s,baz=337,slow=5.1,SNR=2.3						
KSRS	Korea Array	75.81	308	LR	LR	14 50 49.1	
	comp=Z,69nm,18.4s,baz=72,slow=34						
CLL	Collm	81.37	24	e(P)	P	14 20 17.0	+3.2
GEC2	GERESS Array S	83.75	25	eP	P	14 20 26.7	+0.3
	5.8nm,1.6s						
GERES	GERESS Array B	83.75	25	P	P	14 20 26.4	0.0
	0.5nm,0.8s,baz=307,slow=7.3,SNR=3.3						
ESDC	Sonseca Array	84.22	40	P	P	14 20 28.0	-1.0
	0.1nm,0.3s,baz=301,slow=4.9,SNR=4.2						
ESDC				LR	LR	14 55 58.2	
	comp=Z,117nm,18.8s,baz=350,slow=34						
AKASG	Malin Array Be	85.99	15	P	P	14 20 36.6	-0.9
	0.3nm,0.3s,baz=347,slow=4.0,SNR=6.3						
AKBB	Malin Array Si	85.99	15	eP	P	14 20 38.2	+0.7
	26nm,0.9s						
DZM	Mont Dzumac	88.07	238	eLR	LR	14 48 43.8	
	comp=Z,195nm,25.1s						
WHN	Wuhan	88.64	311	P	P	14 20 49.5	-1.2

IDC ***20*** *14:12:38.1±0.5,52°.35N×160°.38E,h0km,mb4.5/32, mb1 4.6/35,mb1mx4.5/50,mbtmp4.5/35,ML4.2/2,MS4.2/7, Ms1 4.2/7,ms1mx3.7/33,Error ellipse: s-maj=12.4km s-min=10.1km az=146.0*

KRSC ***20*** *14:12:38.9±10.0,52°.18N×160°.76E,h61km±10km,ML5.1*

BJI ***20*** *14:12:41.0±0.0,52°.30N×160°.50E,h45km,mb4.9/49, mB4.9/32,Ms4.9/39,Ms7 4.7/38*

ISCJB ***20*** *14:12:41.7±0.4,52°.24N±0°.03×160°.62E±0°.04,h42km±3km, mb4.9/205,MS4.5/29,Error ellipse: s-maj=5.2km s-min=2.8km az=143.3*

MOS ***20*** *14:12:41.3±1.1,52°.20N×160°.58E,h40km,mb5.1/89, MS4.5/13,Error ellipse: s-maj=5.6km s-min=2.7km az=99.6*

NEIC ***20*** *14:12:42.5±0.2,52°.29N×160°.50E,h35km,mb4.8/91,Error ellipse: s-maj=5.5km s-min=3.2km az=160.0*

ISC 20 14:12:43.5±0.6,52°.27N±0°.04×160°.63E±0°.04,h48km±5km, n594,σ1§44/631,mb4.8/211,MS4.6/29,45C-12D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.91	336	eP	Pn	14 12 57.8	-2.2
SPN				eS	Sn	14 13 10.7	-1.4
SPN	Mys Shipunski	0.91	336	PN	Pn	14 12 57.8	-2.2
SPN				S	Sn	14 13 10.7	-1.4
NLC	Nalytchevo	1.20	320	eP	Pn	14 13 02.5	-1.3
NLC				eS	Sn	14 13 18.9	0.0
NLC	Nalytchevo	1.20	320	PN	Pn	14 13 02.5	-1.3
NLC				S	Sn	14 13 18.9	0.0
RUS	Russkaya	1.31	278	eP	Pn	14 13 04.1	-1.2
RUS				eS	Sn	14 13 21.8	+0.2
RUS	Russkaya	1.31	278	PN	Pn	14 13 04.1	-1.2
RUS				S	Sn	14 13 21.8	+0.2
DALK	Dalny	1.38	305	eP	Pn	14 13 05.2	-1.1
DALK				eS	Sn	14 13 23.3	0.0
DALK	Dalny	1.38	305	PN	Pn	14 13 05.2	-1.1
DALK				S	Sn	14 13 23.3	0.0
PET	Petropavlovsk	1.42	303	ePn	Pn	14 13 06.1	-0.8
PET	Petropavlovsk	1.42	303	α iPN	Pn	14 13 06.1	-0.8
PET				eS	Sn	14 13 29.0	+4.6
PET				pmax	pmax		
	comp=Z,4μm,2.6s						
PET				pmax	pmax		
	comp=Z,24nm,0.7s						
PET				smax	smax		
	comp=N,571nm,0.5s						
PET				smax	smax		
	comp=E,1μm,0.7s						
PET				smax	smax		
	comp=E,2μm,1.4s						
UGLR	Uglovaya	1.45	311	i P	Pn	14 13 07.2	-0.2
UGLR	Uglovaya	1.45	311	PN	Pn	14 13 07.2	-0.2
SDLR	Sedlovina	1.47	314	i P	Pn	14 13 07.1	-0.5
SDLR	Sedlovina	1.47	314	PN	Pn	14 13 07.1	-0.5
SMAR	Somma	1.49	313	eP	Pn	14 13 07.1	-1.0
SMAR	Somma	1.49	313	PN	Pn	14 13 07.1	-1.0
MTVR	Mutnovka	1.52	279	eP	Pn	14 13 07.5	-0.8
MTVR	Mutnovka	1.52	279	PN	Pn	14 13 07.5	-0.8
AVH	Avacha	1.52	312	eP	Pn	14 13 07.8	-0.6
AVH				eS	Sn	14 13 28.3	+1.2
AVH	Avacha	1.52	312	PN	Pn	14 13 07.8	-0.6
AVH				S	Sn	14 13 28.3	+1.2
KRER	Koryakskii	1.54	313	eP	Pn	14 13 08.6	-0.2
KRER	Koryakskii	1.54	313	PN	Pn	14 13 08.6	-0.2
KOK	Koryaka	1.59	311	eP	Pn	14 13 09.2	-0.1
KOK	Koryaka	1.59	311	PN	Pn	14 13 09.2	-0.1
GRL	Gorelyy	1.59	281	eP	Pn	14 13 09.5	+0.2
GRL	Gorelyy	1.59	281	PN	Pn	14 13 09.5	+0.2
KRX	Arik	1.63	313	eP	Pn	14 13 09.1	-0.7
KRX	Arik	1.63	313	PN	Pn	14 13 09.1	-0.7
KRMR	Karymshinskiy	1.63	291	eP	Pn	14 13 09.2	-0.5
KRMR				eS	Sn	14 13 30.7	+1.3
KRMR	Karymshinskiy	1.63	291	PN	Pn	14 13 09.2	-0.5
KRMR				S	Sn	14 13 30.7	+1.3
KDTR	Khodutka, Kamc	1.64	255	eP	Pn	14 13 07.9	-2.0
KDTR				eS	Sn	14 13 28.2	-1.6
KDTR	Khodutka, Kamc	1.64	255	PN	Pn	14 13 07.9	-2.0
KDTR				S	Sn	14 13 28.2	-1.6
ASAK	Asacha	1.68	275	eP	Pn	14 13 10.0	-0.5
ASAK	Asacha	1.68	275	PN	Pn	14 13 10.0	-0.5
PEA0B	Petropavlovsk-	1.97	296	ePn	Pn	14 13 14.5	0.0
PEA0B	Petropavlovsk-	1.97	296	ePN	Pn	14 13 14.5	0.0
PETK	Petropavlovsk-	1.97	296	ePn	Pn	14 13 13.9	-0.6
PETK	Petropavlovsk-	1.97	296	ePN	Pn	14 13 13.9	-0.6
PETK	Petropavlovsk-	1.97	296	Pn	Pn	14 13 14.3	-0.1
	comp=E,155nm,0.3s,baz=106,slow=18,SNR=1110						
PETK				Sn	Sn	14 13 42.0	+4.1
	comp=E,102nm,0.3s,baz=111,slow=22,SNR=5.6						
PETK				LR	LR	14 13 46.2	
	comp=E,2μm,19.5s,baz=57,slow=38						
PEA1	Petropavlovsk-	1.98	297	ePn	Pn	14 13 14.3	-0.2
PEA1				eSn	Sn	14 13 42.0	+4.0
APC	Apacha	2.22	289	eP	Pn	14 13 17.9	+0.1
APC				eS	Sn	14 13 44.9	+1.0
APC	Apacha	2.22	289	PN	Pn	14 13 17.9	+0.1
APC				S	Sn	14 13 44.9	+1.0
MKZ	Mys Kozlova	2.39	16	eP	Pn	14 13 18.1	-2.0
MKZ				eS	Sn	14 13 46.4	-1.7
MKZ	Mys Kozlova	2.39	16	PN	Pn	14 13 18.1	-2.0
MKZ				S	Sn	14 13 46.4	-1.7
PAU	Pauzhetka	2.50	253	eP	Pn	14 13 20.1	-1.5
PAU	Pauzhetka	2.50	253	PN	Pn	14 13 20.1	-1.5
KZV	Kizimen	2.86	356	eP	Pn	14 13 26.3	-0.4
KZV	Kizimen	2.86	356	PN	Pn	14 13 26.3	-0.4
TUMD	Tumrok D	2.95	357	eP	Pn	14 13 26.8	-1.0
TUMD				eS	Sn	14 14 01.3	-0.6
TUMR	Tumrok	3.04	355	eP	Pn	14 13 29.4	+0.3
TUMR	Tumrok	3.04	355	PN	Pn	14 13 29.4	+0.3
SKR	Severo-Kuril's	3.23	242	eP	Pn	14 13 29.7	-2.0
SKR				eS	Sn	14 14 07.0	-1.9
SKR	Severo-Kuril's	3.23	242	ePN	Pn	14 13 30.2	-1.5
SKR				eS	Sn	14 14 05.9	-3.0
SKR				smax	smax		
	comp=N,2μm,0.9s						
SKR				smax	smax		
	comp=E,2μm,0.8s						
ALID	Alaid	3.46	248	eP	Pn	14 13 34.0	-1.0
ALID	Alaid	3.46	248	PN	Pn	14 13 34.0	-1.0
BZMR	Bezymyannaya	3.68	359	eP	Pn	14 13 39.5	+1.6
BZMR	Bezymyannaya	3.68	359	PN	Pn	14 13 39.5	+1.6
BZGR	Bezymyannyi-Gr	3.68	1	eP	Pn	14 13 38.9	+0.9
BZGR	Bezymyannyi-Gr	3.68	1	PN	Pn	14 13 38.9	+0.9
KIRR	Kirishev	3.70	358	eP	Pn	14 13 38.4	+0.2
KIRR	Kirishev	3.70	358	PN	Pn	14 13 38.4	+0.2
BZWR	Bezymyannyi-We	3.71	359	eP	Pn	14 13 40.0	+1.6
BZWR	Bezymyannyi-We	3.71	359	PN	Pn	14 13 40.0	+1.6
KPT	Kopyto	3.72	356	eP	Pn	14 13 38.5	+0.1
KPT	Kopyto	3.72	356	PN	Pn	14 13 38.5	+0.1
LGNR	Loginova	3.83	1	eP	Pn	14 13 41.1	+1.0
LGNR	Loginova	3.83	1	PN	Pn	14 13 41.1	+1.0
KOZ	Kozyrevsk	3.83	354	eP	Pn	14 13 40.0	+0.2
KOZ	Kozyrevsk	3.83	354	PN	Pn	14 13 40.0	+0.2
ESO	Esso	3.84	344	eP	Pn	14 13 39.7	-0.3
ESO	Esso	3.84	344	PN	Pn	14 13 39.7	-0.3
CIRR	Tsirk	3.86	1	eP	Pn	14 13 41.2	+0.8
CIRR	Tsirk	3.86	1	PN	Pn	14 13 41.2	+0.8
KRSR	Krestovskiy	3.96	359	eP	Pn	14 13 41.6	-0.2
KRSR	Krestovskiy	3.96	359	PN	Pn	14 13 41.6	-0.2
KLY	Klyuchi	4.06	0	eP	Pn	14 13 43.9	+0.9
KLY	Klyuchi	4.06	0	PN	Pn	14 13 43.9	+0.9
SRDR	Sredinnyy	4.09	353	eP	Pn	14 13 43.8	+0.2
SRDR	Sredinnyy	4.09	353	PN	Pn	14 13 43.8	+0.2
KBTR	Krutoberegovo	4.15	17	eP	Pn	14 13 43.0	-1.3
KBTR	Krutoberegovo	4.15	17	PN	Pn	14 13 43.0	-1.3
KBG	Krutoberegovo	4.18	16	eP	Pn	14 13 44.5	-0.1
KBG	Krutoberegovo	4.18	16	PN	Pn	14 13 44.5	-0.1
BDR	Baidarnaya	4.33	4	eP	Pn	14 13 47.7	+1.0
BDR	Baidarnaya	4.33	4	PN	Pn	14 13 47.7	+1.0
BKI	Bering	4.33	45	eP	Pn	14 13 44.5	-2.2
BKI				eS	Sn	14 14 29.3	-6.5
BKI	Bering	4.33	45	PN	Pn	14 13 44.5	-2.2
SMKR	Semkarok	4.35	6	eP	Pn	14 13 48.0	+0.9
SMKR	Semkarok	4.35	6	PN	Pn	14 13 48.0	+0.9
SRKR	Sorokina	4.41	4	eP	Pn	14 13 49.2	+1.3
SRKR	Sorokina	4.41	4	PN	Pn	14 13 49.2	+1.3
PALN	Palana	6.85	357	eP	Pn	14 14 21.3	+0.1
PALN	Palana	6.85	357	PN	Pn	14 14 21.3	+0.1
OSSR	Ossora	7.13	10	eP	Pn	14 14 25.7	+0.6
OSSR	Ossora	7.13	10	PN	Pn	14 14 25.7	+0.6
SMY	Shemya	8.24	81	ePn	Pn	14 14 39.0	-1.3
SMY	Shemya	8.24	81	ePN	Pn	14 14 39.0	-1.3
TILK	Tilichiki	8.75	18	eP	Pn	14 14 49.1	+1.9
TILK	Tilichiki	8.75	18	PN	Pn	14 14 49.1	+1.9
MA2	Magadan	9.17	327	ePn	Pn	14 14 53.0	-0.1
MA2	Magadan	9.17	327	cePN	Pn	14 14 52.6	-0.4
MA2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MA2	Magadan	9.17	327	Pn	Pn	14 14 53.2	+0.1
	comp=Z,0.2nm,0.3s,baz=126,slow=10.0,SNR=11						
MA2				LR	LR	14 19 10.9	
	comp=Z,897nm,18.5s,baz=148,slow=44						
KMSK	Kamenskaya	10.66	14	eP	Pn	14 15 13.9	+0.6
KMSK	Kamenskaya	10.66	14	PN	Pn	14 15 13.9	+0.6
OKH	Okha	10.77	284	dePN	Pn	14 15 03.8	-11
OKH				MLR	MLR		
	comp=Z,2μm,14.0s						
TYV	Tymovskoe	11.28	270	ePN	Pn	14 15 25.0	+3.2
TYV				pmax	pmax		
	comp=Z,17nm,1.1s						
SEY	Seymchan	11.56	341	cePN	Pn	14 15 26.7	+1.1
SEY	Seymchan	11.56	341	Pn	Pn	14 15 26.3	+0.7
	comp=Z,0.1nm,0.3s,baz=138,slow=12,SNR=9.8						
NKL	Nikolayevsk	12.13	282	ePN	Pn	14 15 34.0	+0.6
NKL				MLR	MLR		
	comp=N,800nm,14.0s						
NKL				MLR	MLR		
	comp=E,1μm,14.0s						
NKL				MLR	MLR		
	comp=Z,3μm,14.0s						
YSS	Yuzh-Sakhalins	12.74	252	ePn	Pn	14 15 41.4	-0.4
YSS	Yuzh-Sakhalins	12.74	252	ePN	Pn	14 15 42.3	+0.5
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
YSS				MLR	MLR		
	comp=Z,1μm,11.0s						
YSS				MLR	MLR		
	comp=N,300nm,13.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
ASAJ	Asahikawa	14.50	243	Pn	Pn	14 16 04.2	-1.4
	comp=E,1.9nm,0.3s,baz=71,slow=12,SNR=24						
GRNR	Gornyy	15.13	274	eP	P	14 16 17.9	-0.3
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
ERM	Erimo	15.66	236	ePn	Pn	14 16 18.5	-2.2
	comp=Z,102nm,1.7s						
ERM	Erimo	15.66	236	i P	Pn	14 16 17.9	-2.8
BILL	Bilibino	16.06	8	ePn	Pn	14 16 23.3	-2.4
	comp=Z,45nm,0.9s						
BILL	Bilibino	16.06	8	eP	Pn	14 16 25.6	-0.1
BILL				pmax	pmax		
	comp=Z,70nm,1.3s						
BILL				MLR	MLR		
	comp=Z,416nm,18.0s						
TEY	Ternei	17.39	255	eP	P	14 16 44.9	+1.7
TEY				pmax	pmax		
	comp=Z,50nm,0.8s						
TEY				pmax	pmax		
	comp=E,50nm,0.9s						
YAK	Yakutsk	19.23	313	eP	P	14 17 00.6	-2.7
YAK				eS	S	14 20 29.9	-8.4
YAK				pmax	pmax		
	comp=Z,826nm,0.8s						
YAK				pmax	pmax		
	comp=N,137nm,0.9s						
YAK				pmax	pmax		
	comp=E,308nm,1.3s						
YAK				smax	smax		
	comp=E,54nm,1.3s						
YAK				smax	smax		
	comp=N,75nm,1.6s						
YAK				MLR	MLR		
	comp=Z,3μm,17.0s						
YAK				MLR	MLR		
	comp=E,2μm,15.0s						
YAK				MLR	MLR		
	comp=N,1μm,16.0s						
ZEA	Zeya	20.04	287	eP	P	14 17 10.5	-1.7
ZEA				pmax	pmax		
	comp=N,12nm,1.0s						
ZEA				pmax	pmax		
	comp=E,18nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA				MLR	MLR		
	comp=N,500nm,14.0s						
ZEA				MLR	MLR		
	comp=E,800nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,14.0s						
USA0B	Ussuriysk Arra	20.61	258	eP	P	14 17 16.9	-1.5
	comp=Z,29nm,0.9s						
USA0B	Ussuriysk Arra	20.61	258	eP	P	14 17 16.9	-1.5
USA0B				pmax	pmax		
	comp=Z,29nm,0.9s						
USRK	Ussuriysk Ar.	20.61	258	eP	P	14 17 16.0	-2.5
USRK	Ussuriysk Ar.	20.61	258	P	P	14 17 17.2	-1.2
	comp=Z,24nm,0.9s,baz=58,slow=9.9,SNR=38						
USRK				LR	LR	14 26 10.0	
	comp=Z,439nm,18.6s,baz=58,slow=40						
MDJ	Mudanjiang	21.84	262	P	P	14 17 29.9	-1.7
MDJ				sP	pwP	14 17 44.0	-1.3
MDJ				S	S	14 21 29.9	-0.2
MDJ				sS	Sn	14 21 41.6	-0.3
MDJ				pmax	pmax		
	comp=Z,26nm,1.0s						
MDJ				LR	LR		
	comp=Z,1μm,14.9s						
MDJ				LR	LR		
	comp=Z,770nm,15.5s						
MDJ				LR	LR		
	comp=Z,770nm,17.9s						
MDJ	Mudanjiang	21.84	262	eP	P	14 17 29.6	-2.0
	comp=Z,34nm,1.2s						
MJB9	Matsu-Tunnel	22.30	234	eP	P	14 17 37.0	+0.3
	comp=Z,35nm,0.8s						
MAJO	Matsushiro	22.30	234	eP	P	14 17 36.8	0.0
	comp=Z,34nm,0.8s						
MAJO	Matsushiro	22.30	234	i P	P	14 17 36.6	-0.1
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MAT	Matsushiro	22.30	234	P	P	14 17 36.8	+0.1
MAT				S	S	14 21 35.4	-3.5
MJAR	Matsushiro Arr	22.30	234	P	P	14 17 37.7	+1.0
	comp=Z,19nm,0.8s,baz=26,slow=8.3,SNR=62						
MJAR				LR	LR	14 26 47.6	
	comp=Z,574nm,21.7s,baz=50,slow=38						
RDOG	Red Dog Mine	23.54	34	eP	P	14 17 49.7	+0.7
	comp=Z,16nm,1.0s						
INU	Inuyama	23.84	234	eP	P	14 17 51.9	-0.1
	comp=Z,25nm,0.9s						
TIXI	Tiksi	23.97	336	d iP	P	14 17 51.9	-1.0
TIXI				pmax	pmax		
	comp=Z,32nm,0.9s						
TIXI	Tiksi	23.97	336	P	P	14 17 52.1	-0.7
	comp=Z,32nm,0.8s,baz=122,slow=8.7,SNR=94						
TIXI				PcP	PcP	14 21 34.8	+1.3
	comp=Z,1.4nm,0.4s,baz=103,slow=2.1,SNR=3.6						
CN2	Changchun	24.80	264	eP	P	14 17 58.5	-2.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,110nm,4.0s						
CN2				LR	LR		
	comp=Z,690nm,13.0s						
CN2				LR	LR		
	comp=Z,620nm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
HIA	Hailar	25.79	280	eP	P	14 18 07.9	-1.8
	comp=Z,42nm,0.8s						
HIA	Hailar	25.79	280	c iP	P	14 18 07.2	-2.5
HIA				pmax	pmax		
	comp=Z,220nm,0.8s						
IMAR	Indian Mountai	26.40	41	eP	P	14 18 15.1	0.0
RSO	Redoubt South	26.57	54	eP	P	14 18 17.7	+0.9
BOD	Bodaibo	26.84	301	eP	P	14 18 17.6	-1.4
BOD				pmax	pmax		
	comp=Z,30nm,1.1s						
KDAK	Kodiak Island	26.93	60	eP	P	14 18 19.8	0.0
	comp=Z,82nm,1.9s						
KDAK	Kodiak Island	26.93	60	i P	P	14 18 22.7	+2.8
KDAK	Kodiak Island	26.93	60	P	P	14 18 23.2	+3.3
	comp=Z,8.3nm,0.9s,baz=194,slow=5.9,SNR=6.9						
KSRS	Korea Array	27.22	250	P	P	14 18 23.5	+0.9
	comp=Z,5.4nm,0.8s,baz=43,slow=9.3,SNR=22						
KSAR	Wonju Array Be	27.25	250	eP	P	14 18 22.4	-0.5
KSAR	Wonju Array Be	27.25	250	eP	P	14 18 22.4	-0.5
BPAW	Bear Paw Mtn.	27.38	46	eP	P	14 18 24.6	+0.8
	comp=Z,17nm,1.5s						
TOLK	Toolik Lake Re	28.44	36	eP	P	14 18 34.2	+0.9
	comp=Z,7.3nm,1.0s						
WRH	Wood River Hil	28.66	45	eP	P	14 18 36.3	+1.1
	comp=Z,13nm,1.1s						
JNU	Nakatsue	28.74	240	eP	P	14 18 37.0	+0.7
	comp=Z,40nm,0.8s						
JNU	Nakatsue	28.74	240	P	P	14 18 37.3	+1.0
	comp=Z,17nm,0.9s,baz=56,slow=18,SNR=9.3						
COLA	College	28.76	44	i P	P	14 18 37.4	+1.3
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CCB	Clear Creek Bu	28.78	44	eP	P	14 18 37.5	+1.2
	comp=Z,22nm,1.7s						
ILAR	Eielson Array	29.18	44	eP	P	14 18 41.3	+1.4
ILAR	Eielson Array	29.18	44	eP	P	14 18 41.3	+1.4
ILAR	Eielson Array	29.18	44	P	P	14 18 40.8	+1.0
	comp=Z,0.7nm,0.7s,baz=270,slow=6.8,SNR=9.5						
ILB	Eielson Array	29.18	44	eP	P	14 18 41.2	+1.4
	comp=Z,5.4nm,1.0s						
PRP	Porcupine Dome	29.75

comp=Z,87nm,0.8s
HHC pmax pmax
comp=Z,290nm,4.7s
HHC LR LR
comp=Z,780nm,11.9s
HHC LR LR
comp=Z,510nm,12.6s
HHC LR LR
comp=Z,800nm,13.8s
ZAK Zakamensk 35.09 290 *e*P **P 14 19 30.2 -1.6**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
MOY Mondy 35.84 293 *e*P **P 14 19 37.8 -0.5**
MOY pmax pmax
comp=Z,17nm,1.5s
NJ2 Nanjing 36.31 253 *e*P **P 14 19 42.1 -0.2**
NJ2 pmax pmax
comp=Z,16nm,0.6s
NRIK Noril'sk 36.77 325 P **P 14 19 44.7 -1.1**
comp=Z,2.5nm,0.6s,baz=118,slow=7.8,SNR=6.1
NRIK LR LR 14 36 20.7
comp=Z,777nm,18.2s,baz=60,slow=39
DLBC Dease Lake 38.28 53 P **P 14 20 00.7 +1.8**
comp=Z,3.5nm,0.8s,baz=298,slow=9.4,SNR=5.2
WHN Wuhan 40.06 256 ⇓P **P 14 20 16.6 +2.7**
WHN LR LR
comp=Z,670nm,10.8s
WHN LR LR
comp=Z,2μm,17.9s
WHN LR LR
comp=Z,670nm,15.3s
XAN Xi'an 40.91 264 P P 14 20 33.8 +13
XAN pP sP 14 20 42.3 +3.8
XAN sP pwP 14 20 46.4 +10
LZH Lanzhou 42.67 271 *e*P **P 14 20 35.1 -0.3**
LZH pP pP 14 20 48.5 -1.8
LZH sP sP 14 20 52.6 -0.6
LZH pmax pmax
comp=Z,22nm,1.3s
LZH LR LR
comp=Z,510nm,15.4s
LZH LR LR
comp=Z,630nm,15.9s
LZH LR LR
comp=Z,750nm,16.5s
GTA Gaotai 43.03 278 P **P 14 20 38.3 0.0**
GTA pP pP 14 20 49.3 -1.4
GTA sP sP 14 20 54.3 -1.8
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,91nm,4.2s
GTA LR LR
comp=Z,540nm,15.6s
GTA LR LR
comp=Z,420nm,16.1s
GTA LR LR
comp=Z,730nm,16.6s
ENH Enshi 43.18 260 *e*P **P 14 20 38.9 -0.5**
comp=Z,9.9nm,0.6s
ZAA1 Zalesovo Array 43.50 304 *e*P **P 14 20 39.6 -2.1**
ZAA0 Zalesovo Array 43.50 304 *e*P **P 14 20 39.8 -2.0**
comp=Z,8.3nm,1.1s
ZALV Zalesovo Beam 43.50 304 *e*P **P 14 20 39.1 -2.6**
ZALV Zalesovo Beam 43.50 304 *i* P **P 14 20 39.9 -1.8**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 43.50 304 P **P 14 20 39.6 -2.1**
comp=Z,2.3nm,0.6s,baz=58,slow=5.6,SNR=12
ZALV LR LR 14 40 16.9
comp=Z,227nm,18.4s,baz=70,slow=38
YKW3 Yellowknife Ar 43.52 42 *e*P **P 14 20 41.1 -0.7**
comp=Z,16nm,2.0s
YKA Yellowknife Ar 43.56 42 P **P 14 20 43.0 +1.0**
YKA Yellowknife Ar 43.56 42 P **P 14 20 43.0 +1.0**
comp=Z,1.4nm,0.8s,baz=300,slow=7.9,SNR=8.7
YKB5 Yellowknife Ar 43.56 42 *e*P **P 14 20 43.0 +0.9**
NVS Novosibirsk 43.86 305 ⇓*i*P **P 14 20 43.6 -0.9**
NVS *i* 14 20 51.6
NVS *e* 14 22 25.0
NVS *e*S **S 14 27 07.3 -4.5**
NVS pmax pmax
comp=N,14nm,1.1s
NVS pmax pmax
comp=E,42nm,1.1s
NVS pmax pmax
comp=Z,67nm,1.1s
NVS smax smax
comp=N,8.0nm,1.5s
NVS smax smax
comp=E,7.0nm,1.6s
RES Resolute Bay 43.97 22 *e*P **P 14 20 44.8 -0.4**
comp=E,33nm,2.0s
RES Resolute Bay 43.97 22 *e*P **P 14 20 44.8 -0.4**
RES pmax pmax
comp=Z,33nm,2.0s
RES Resolute Bay 43.97 22 P **P 14 20 45.7 +0.4**
comp=Z,2.7nm,0.7s,baz=312,slow=12,SNR=8.4
DGZ Jazzator, Alta 44.33 297 *i* P **P 14 20 47.3 -1.4**
DGZ pmax pmax
comp=Z,14nm,0.9s
CD2 Chengdu 46.22 266 *e*P **P 14 21 01.9 -1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,610nm,17.9s
CD2 LR LR
comp=Z,560nm,18.0s
CD2 LR LR
comp=Z,740nm,17.8s
WMQ Urumqi 47.56 290 *e*P **P 14 21 14.3 +0.3**
WMQ pP pP 14 21 25.1 -1.4
WMQ sP sP 14 21 31.4 -0.4
WMQ pmax pmax
comp=Z,50nm,1.1s
WMQ pmax pmax
comp=Z,360nm,4.5s
WMQ LR LR
comp=Z,1μm,13.7s
WMQ LR LR
comp=Z,2μm,15.5s
WMQ LR LR
comp=Z,2μm,15.5s
GYA Guiyang 47.65 259 *e*P **P 14 21 16.3 +1.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
KBS Kingsbay 47.74 352 *e*P **P 14 21 14.5 -0.4**
comp=Z,21nm,0.9s
KBS Kingsbay 47.74 352 *ce*P **P 14 21 14.9 0.0**
KBS pmax pmax
comp=Z,181nm,1.7s
KBS Kingsbay 47.74 352 *e*P **P 14 21 16.1 +1.3**
SPA0 Spitsbergen Ar 48.01 351 *e*P **P 14 21 17.2 +0.2**
comp=Z,79nm,1.1s
SPA0 Spitsbergen Ar 48.01 351 *e*P **P 14 21 17.9 +0.9**
SPITS Spitsbergen Ar 48.01 351 P **P 14 21 18.1 +1.1**
SPITS pmax pmax
comp=Z,2.0nm,0.3s
KURK Kurchatov 48.45 303 *e*P **P 14 21 19.2 -1.5**
comp=Z,54nm,0.9s
KURK Kurchatov 48.45 303 *e*P **P 14 21 19.2 -1.5**
KURK pmax pmax
comp=Z,54nm,0.9s
KURK Kurchatov 48.45 303 P **P 14 21 19.5 -1.2**
SNR=17
MK31 Makanchi Array 48.81 297 *e*P **P 14 21 21.9 -1.7**
comp=Z,15nm,1.4s
MK31 Makanchi Array 48.81 297 *e*P **P 14 21 21.9 -1.7**
MK31 pmax pmax
comp=Z,15nm,1.4s
MK32 Makanchi Array 48.81 297 *e*P **P 14 21 22.4 -1.2**
MKAR Makanchi Array 48.81 297 *e*P **P 14 21 21.9 -1.7**
MKAR Makanchi Array 48.81 297 P **P 14 21 22.4 -1.2**
comp=Z,3.6nm,0.7s,baz=52,slow=7.9,SNR=26
MAKZ Makanchi 48.98 297 *e*P **P 14 21 23.0 -1.8**
comp=Z,11nm,1.0s
MAKZ Makanchi 48.98 297 *e*P **P 14 21 23.0 -1.8**
MAKZ pmax pmax
comp=Z,11nm,1.0s
BJO Bjornoya 50.90 348 *e*P **P 14 21 40.0 +1.0**
KMI Kunming 51.01 261 P **P 14 21 43.3 +2.6**
KMI pP pP 14 21 52.4 -0.8
KMI sP sP 14 21 59.6 +1.1
KMI pmax pmax
comp=Z,17nm,0.7s
KMI pmax pmax
comp=Z,55nm,4.9s
KMI LR LR
comp=Z,460nm,17.0s
KMI LR LR
comp=Z,310nm,16.6s
KMI LR LR
comp=Z,320nm,13.5s
BRVK Borovoye 51.19 309 *e*P **P 14 21 40.5 -1.0**
comp=Z,24nm,0.8s
BRVK Borovoye 51.19 309 *d i*P **P 14 21 40.7 -0.8**
BRVK pmax pmax
comp=Z,22nm,0.9s
BRVK Borovoye 51.19 309 P **P 14 21 41.1 -0.4**
SNR=6.9
DAG Danmarks Havn 51.23 360 *e*P P 14 21 34.9 -6.6
DAG Danmarks Havn 51.23 360 *i* P P 14 21 34.9 -6.6
PDGK Podgornoye 52.52 295 P **P 14 21 51.3 -0.4**
PDGK pmax pmax
comp=Z,9.0nm,1.0s
OTUK Ortayu 53.20 303 P **P 14 21 56.4 -0.1**
FFC Flin Flon 53.37 46 *i* P **P 14 22 02.1 +4.5**
LVZ Lovozero 53.59 338 *e*P **P 14 21 59.1 0.0**
comp=Z,27nm,0.8s
LVZ Lovozero 53.59 338 *ce*P **P 14 21 59.0 0.0**
LVZ pmax pmax
comp=Z,20nm,0.8s
FCC Fort Churchill 53.93 38 *e*P **P 14 22 02.0 +0.4**
comp=Z,10nm,1.3s
FCC Fort Churchill 53.93 38 *e*P **P 14 22 02.0 +0.4**
FCC pmax pmax
comp=Z,10.0nm,1.3s
ARA0 ARCESS Array S 54.18 342 *e*P **P 14 22 03.9 +0.5**
ARCES ARCESS Array B 54.18 342 *e*P **P 14 22 03.5 +0.2**
ARCES ARCESS Array B 54.18 342 P **P 14 22 03.9 +0.5**
comp=Z,17nm,0.8s,baz=28,slow=8.9,SNR=34
ARE0 ARCESS Array S 54.18 342 *e*P **P 14 22 03.6 +0.3**
comp=Z,1.0nm,0.8s
ARE0 ARCESS Array S 54.18 342 *e*P **P 14 22 03.6 +0.3**
ARU Arti 54.23 318 *e*P **P 14 22 02.8 -1.1**
comp=Z,20nm,0.8s
ARU Arti 54.23 318 *d i*P **P 14 22 03.4 -0.5**
ARU *PP **pP 14 22 16.8 +0.3**
ARU S **S 14 29 36.5 -0.8**
ARU pmax pmax
comp=Z,17nm,0.7s
ARU MLR MLR
comp=Z,279nm,16.0s
KDJ Kajisay 54.59 295 *e*P **P 14 22 06.1 -0.8**
comp=Z,7.7nm,0.7s
KDJ Kajisay 54.59 295 *e*P **P 14 22 06.1 -0.8**
KDJ pmax pmax
comp=Z,8.0nm,0.7s
BOZ Bozeman (W) 54.64 59 *e*P **P 14 22 07.8 +0.6**
comp=Z,3.2nm,1.0s
BOZ Bozeman (W) 54.64 59 *e*P **P 14 22 07.8 +0.6**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
SUMG Summit 54.74 7 *e*P **P 14 22 08.8 +0.9**
comp=Z,33nm,0.9s
SUMG Summit 54.74 7 *e*P **P 14 22 08.8 +0.9**
SUMG pmax pmax
comp=Z,33nm,0.9s
SUMG Summit 54.74 7 *i* P **P 14 22 09.2 +1.3**
comp=Z,94nm,1.0s
LSA Lhasa 54.81 274 P **P 14 22 10.0 +1.0**
KTK1 Kautokeino 55.05 343 *e*P **P 14 22 10.5 +0.9**
TRO Tromso 55.24 345 *e*P **P 14 22 11.6 +0.6**
PRGR Permogore 55.31 328 *e*P **P 14 22 09.6 -2.0**
PRGR pmax pmax
comp=Z,27nm,0.7s
KVN Kaiserville 55.42 69 *e*P **P 14 22 14.4 +1.4**
comp=Z,5.7nm,1.1s
KVN Kaiserville 55.42 69 *e*P **P 14 22 14.0 +1.0**
KVN pmax pmax
comp=Z,6.0nm,1.1s
TMCR Tamitsa 55.66 333 *e*P **P 14 22 14.6 +0.5**
TMCR pmax pmax
comp=Z,60nm,0.8s
NV01 Mina Array Sit 55.72 70 *e*P **P 14 22 17.4 +2.2**
NVAR Mina Array Bea 55.72 70 *e*P **P 14 22 16.5 +1.3**
NVAR Mina Array Bea 55.72 70 P **P 14 22 17.4 +2.2**
comp=Z,1.9nm,0.7s,baz=295,slow=7.6,SNR=8.5
AAK Ala-Archa 55.74 297 *e*P **P 14 22 14.2 -1.0**
comp=Z,33nm,1.9s
AAK Ala-Archa 55.74 297 *i* P **P 14 22 14.7 -0.5**
SNR=6.2
AAK Ala-Archa 55.74 297 *ce*P **P 14 22 14.4 -0.8**
AAK pmax pmax
comp=Z,5.0nm,0.7s
SGF Sodankyl 55.75 340 P **P 14 22 16.3 +1.6**
SGF pmax pmax
comp=Z,16nm,1.1s
ELK Elko 55.90 66 *e*P **P 14 22 18.1 +1.6**
comp=Z,2.7nm,0.9s
ELK Elko 55.90 66 *e*P **P 14 22 18.1 +1.6**
ELK pmax pmax
comp=Z,3.0nm,0.9s
SKNT Sakolnakorn 56.48 254 P **P 14 22 22.6 +2.1**
comp=Z,36nm,1.2s
MSF Maaselka 56.50 338 P **P 14 22 21.3 +1.2**
MSF pmax pmax
comp=Z,56nm,0.9s
KSH Kashi 57.03 293 P **P 14 22 26.8 +2.4**
KSH sP sP 14 22 49.3 +6.9
KSH PP **PP 14 24 35.3 +4.2**
KSH S **S 14 30 12.4 -2.9**
KSH pmax pmax
comp=Z,170nm,5.4s
KSH LR LR
comp=Z,260nm,8.3s
KSH LR LR
comp=Z,240nm,9.7s
KSH LR LR
comp=Z,870nm,12.7s
SHL Shillong 57.33 270 P **P 14 22 27.6 +0.9**
LOF Lofoten 57.44 346 *e*P **P 14 22 27.7 +1.1**
KK31 Karatay Array 57.58 300 *e*P **P 14 22 26.9 -1.2**
comp=Z,9.1nm,0.8s
KK31 Karatay Array 57.58 300 *e*P **P 14 22 26.9 -1.2**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 57.58 300 *e*P **P 14 22 26.9 -1.2**
comp=Z,9.1nm,0.8s
KKAR Karatay Array 57.58 300 *e*P **P 14 22 26.9 -1.2**
KKAR pmax pmax
comp=Z,9.0nm,0.8s
BW06 Boulder Array 57.64 61 *e*P **P 14 22 28.2 -0.6**
comp=Z,4.5nm,1.0s
PD31 Pinedale Array 57.64 61 *e*P **P 14 22 28.3 -0.5**
comp=Z,4.6nm,1.1s
PDAR Pinedale Array 57.64 61 *e*P **P 14 22 29.8 +1.0**
PDAR Pinedale Array 57.64 61 P **P 14 22 30.9 +2.1**
comp=Z,2.2nm,0.8s,baz=328,slow=2.3,SNR=13
KHON Khomkaen 57.66 254 P **P 14 22 31.7 +2.8**
comp=Z,32μm,1.0s
KLMR Klimovskoe 57.83 330 ⇑*i*P **P 14 22 30.1 +0.6**
KLMR pmax pmax
comp=Z,29nm,0.7s
LAMP Lampang 57.87 258 P **P 14 22 32.4 +2.0**
comp=Z,54μm,0.9s,comp=Z,382μm
OUL Oulu 57.90 339 P **P 14 22 30.9 +1.0**
OUL pmax pmax
comp=Z,28nm,1.0s
UTTA Uttaradit 57.92 257 P **P 14 22 32.8 +2.2**
comp=Z,48μm,0.8s,comp=Z,427μm
CMMT Chiang Mai 58.06 259 P **P 14 22 33.3 +1.6**
comp=Z,20nm,1.0s,comp=Z,196nm
CHTO Chiang Mai 58.06 259 *e*P **P 14 22 33.0 +1.3**
comp=Z,29nm,0.8s
CHTO Chiang Mai 58.06 259 *e*P **P 14 22 33.0 +1.3**
CHTO pmax pmax
comp=Z,29nm,0.8s
CHTO Chiang Mai 58.06 259 P **P 14 22 33.6 +1.9**
SNR=7.5
CHTO P **P 14 22 33.6 +1.9**
SNR=7.5
CM31 Chiang Mai Arr 58.34 259 P **P 14 22 36.2 +2.6**
SNR=5.6
CMAR Chiang Mai Arr 58.34 259 *e*P **P 14 22 34.9 +1.3**
CMAR Chiang Mai Arr 58.34 259 *e*P **P 14 22 34.9 +1.3**
CMAR Chiang Mai Arr 58.34 259 P **P 14 22 35.6 +2.0**
comp=Z,16nm,0.8s,baz=24,slow=7.1,SNR=73
JOF Joensuu 58.45 335 P **P 14 22 34.5 +0.7**
JOF pmax pmax
comp=Z,33nm,1.1s
PBKT Sadao Pong 58.58 256 P **P 14 22 38.0 +2.7**
comp=Z,3.1nm,0.8s,comp=Z,505nm
ABKAR Akbulak array 58.58 311 *e*P **P 14 22 34.4 -0.6**
JIRN Jiri 59.30 276 *e*P **P 14 22 40.9 +0.2**
comp=Z,29nm,0.7s
BTK Batken 59.52 297 *e*P **P 14 22 41.0 -0.6**
comp=Z,13nm,0.9s
BTK Batken 59.52 297 *e*P **P 14 22 41.1 -0.6**
BTK pmax pmax
comp=Z,13nm,0.9s
RAMN Ramite 59.56 276 *e*P **P 14 22 42.4 0.0**
comp=Z,55nm,0.7s
RSSD Black Hills 59.59 56 *e*P **P 14 22 42.6 +0.3**
comp=Z,6.8nm,0.8s
RSSD Black Hills 59.59 56 *e*P **P 14 22 42.6 +0.3**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
KKN Kakani 59.76 277 *e*P **P 14 22 44.6 +0.9**
comp=Z,33nm,0.6s
PKI Pulchoki 59.84 277 *e*P **P 14 22 44.6 +0.2**
comp=Z,17nm,0.6s
PKIN Phulchoki 59.84 277 *e*P **P 14 22 44.4 +0.1**
comp=Z,18nm,0.7s
SUF Sumiainen 59.89 338 P **P 14 22 44.8 +1.1**
SUF pmax pmax
comp=Z,50nm,1.1s
DMN Daman 60.00 277 *e*P **P 14 22 45.9 +0.5**
comp=Z,30nm,0.6s
UMPA Umpang Tak 60.12 257 P **P 14 22 49.9 +3.9**
comp=Z,44μm,0.9s
DANN Dangsing 60.28 279 *e*P **P 14 22 48.3 +1.0**
comp=Z,36nm,0.7s
VAF Ylistaro 60.39 339 P **P 14 22 49.7 +2.6**
VAF pmax pmax
comp=Z,25nm,0.8s
GAR Garm 60.54 297 *e*P **P 14 22 48.0 -0.7**
comp=Z,26nm,0.7s
GAR Garm 60.54 297 *e*P **P 14 22 48.0 -0.7**
GAR pmax pmax
comp=Z,27nm,0.7s
KOLN Koldanda 60.80 278 *e*P **P 14 22 50.8 0.0**
comp=Z,19nm,0.6s
PYUN Piuthan 60.93 279 *e*P **P 14 22 51.8 +0.2**
comp=Z,27nm,0.8s
FIA1 FINESS Array S 61.01 337 *e*P **P 14 22 51.9 +0.5**
comp=Z,24nm,0.9s
FIA0 FINESS Array S 61.01 337 *e*P **P 14 22 52.5 +1.1**
FIA0 FINESS Array S 61.01 337 *e*P **P 14 22 52.5 +1.1**
FINES FINESS Array B 61.01 337 *e*P **P 14 22 51.8 +0.4**
FINES FINESS Array B 61.01 337 P **P 14 22 52.5 +1.1**
comp=Z,13nm,0.7s,baz=42,slow=8.8,SNR=48
NSS Namsos 61.03 345 *e*P **P 14 22 52.1 +0.6**
PV17 East Wray Mesa 61.11 64 *e*P **P 14 22 53.7 +1.0**
comp=Z,5.0nm,0.8s
PV05 Paradox Valley 61.17 64 *e*P **P 14 22 54.2 +1.1**
comp=Z,5.3nm,0.8s
PV03 Paradox Valley 61.19 64 *e*P **P 14 22 54.1 +0.8**
comp=Z,5.7nm,1.1s
PV13 Radium Mtn., P 61.27 64 *e*P **P 14 22 55.5 +1.7**
comp=Z,4.6nm,0.8s
MOS Moscow 62.53 328 *e*P **P 14 23 01.1 -0.6**
MOS *e* 14 23 10.1
MOS pmax pmax
comp=Z,55nm,0.7s
MOS pmax pmax
comp=N,33nm,0.6s
NIL Nilore 62.71 290 *e*P **P 14 23 03.5 +0.2**
comp=N,29nm,0.8s
NIL Nilore 62.71 290 *e*P **P 14 23 03.5 +0.2**
NIL pmax pmax
comp=Z,29nm,0.8s
OBN Obninsk 63.39 328 *e*P **P 14 23 06.7 -0.7**
OBN *e* 14 23 42.0
OBN *e* 14 25 26.2
OBN pmax pmax
comp=Z,26nm,0.7s
OBN MLR MLR
comp=Z,81nm,18.0s
VSU Vasula 63.44 335 *ce*P **P 14 23 08.6 +0.9**
VSU pmax pmax
comp=Z,58nm,0.7s
VSU Vasula 63.44 335 *e*P **P 14 23 07.8 +0.1**
VSU IAmb IAmb 14 23 10.2
comp=Z,84nm,0.9s
DOMB Dombas 63.83 346 *e*P **P 14 23 10.8 +0.5**
AKN Aaknes 64.00 347 *e*P **P 14 23 12.2 +0.8**
NC303 NORSAR Array S 64.23 344 *e*P **P 14 23 12.3 -0.5**
comp=Z,24nm,1.0s
NC405 NORSAR Array S 64.28 344 *e*P **P 14 23 12.9 -0.2**
comp=Z,26nm,0.9s
NC204 NORSAR Array S 64.28 344 *e*P **P 14 23 13.3 0.0**
comp=Z,28nm,0.8s
NB201 NORSAR Array S 64.41 344 *e*P **P 14 23 14.0 0.0**
comp=Z,29nm,0.9s
NB2 NORSAR Subarra 64.43 344 P **P 14 23 14.7 +0.5**
comp=Z,8.8nm,0.7s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.43 344 P **P 14 23 14.7 +0.5**
baz=22,slow=6.9
NB200 NORSAR Array S 64.43 344 *e*P **P 14 23 14.8 +0.5**
NOA NORSAR Array B 64.43 344 P **P 14 23 14.8 +0.5**
comp=Z,7.5nm,0.7s,baz=21,slow=6.6,SNR=48
KBL Kabul 64.46 294 *e*P **P 14 23 13.5 -1.5**
comp=Z,8.8nm,0.8s
KBL Kabul 64.46 294 *e*P **P 14 23 13.5 -1.5**
KBL pmax pmax
comp=Z,9.0nm,0.8s
NBO00 NORSAR Array S 64.51 344 *e*P **P 14 23 14.8 +0.1**
comp=Z,15nm,0.8s
LPSR Galich'ya Gora 64.65 325 *e*P **P 14 23 15.8 +0.1**
LPSR pmax pmax
comp=Z,60nm,0.8s
NC602 NORSAR Array S 64.66 344 *e*P **P 14 23 15.7 0.0**
comp=Z,80nm,2.0s
NC602 NORSAR Array S 64.66 344 *e*P **P 14 23 16.5 +0.8**
NAO01 NORSAR Array S 64.67 344 *e*P **P 14 23 15.9 +0.2**
comp=Z,25nm,1.0s
VRH Novokhopyorsk 64.77 322 *e*P **P 14 23 15.8 -0.7**
VRH pmax pmax
comp=Z,40nm,0.6s
ANMO Albuquerque 64.90 65 *i* P **P 14 23 21.4 +3.5**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
HYA Hoyanger 65.09 347 *e*P **P 14 23 19.3 +0.9**
SKAR Skarslia 65.24 345 *e*P **P 14 23 20.2 +0.7**
SLIT Slitere, Latvi 65.29 337 *e*P **P 14 23 19.0 -0.8**
SLIT IAmb IAmb 14 23 22.2
comp=Z,165nm,0.9s
VSR Storozhevoye 65.70 324 *c i*P **P 14 23 21.9 -0.6**
VSR pmax pmax
comp=Z,40nm,0.8s
IZAR Zarasai 65.94 334 *e*P **P 14 23 25.0 +1.0**
IZAR IAmb IAmb 14 23 26.4
comp=Z,10nm,0.7s
BER Bergen 65.96 347 *e*P **P 14 23 24.9 +0.8**
ISAL Salakas 66.13 334 *e*P **P 14 23 26.4 +1.2**
ISAL IAmb IAmb 14 23 27.9
comp=Z,13nm,1.1s
IDID Didziasalis 66.19 333 *e*P **P 14 23 26.8 +1.2**
IDID IAmb IAmb 14 23 28.2
comp=Z,13nm,1.0s
IIGN Ignalina 66.30 334 *e*P **P 14 23 27.6 +1.3**
IIGN IAmb IAmb 14 23 29.9
comp=Z,13nm,0.6s
MICGM Minsk 66.58 332 *e* **P 14 23 30.0 +1.9**
MNK Minsk 66.58 332 *e*P **P 14 23 30.0 +1.9**
BLS5 Blasjo 66.72 346 *e*P **P 14 23 29.9 +0.9**
PABE Paberze 66.77 335 *e*P **P 14 23 29.4 +0.1**
PABE IAmb IAmb 14 23 31.7
comp=Z,46nm,1.0s
GEYT Alibeck 67.81 304 P **P 14 23 36.3 0.0**
comp=Z,11nm,0.8s,baz=346,slow=3.1,SNR=22
GYA0B ALIBECK ARRAY 67.81 304 *e*P **P 14 23 36.0 -0.3**
comp=Z,17nm,0.9s
WMOK Wichita Mounta 69.24 60 *e*P **P 14 23 46.6 +1.3**
comp=Z,7.9nm,1.1s
AKASG Malin Array Be 69.49 329 *e*P **P 14 23 46.6 +0.1**
AKASG Malin Array Be 69.49 329 P **P 14 23 47.1 +0.6**
comp=Z,40nm,1.0s,baz=31,slow=6.5,SNR=56
AKBB Malin Array Si 69.49 329 *e*P **P 14 23 46.3 -0.2**
comp=Z,26nm,0.9s
KIEV Kiev 69.50 329 *e*P **P 14 23 46.3 -0.1**
comp=Z,25nm,0.9s
KIEV Kiev 69.50 329 ⇑*i*P **P 14 23 46.9 +0.4**
KIEV Kiev 69.50 329 *i* P **P 14 23 46.8 +0.3**
SNR=15
KIEV Kiev 69.50 329 *c i*P **P 14 23 46.4 -0.1**
KIEV pmax pmax

comp=Z,26nm,0.9s
NCK Nalchik 70.26 316 *i* P **P 14 23 52.0 +0.7**
NCK pmax pmax
comp=Z,17nm,0.9s
KIV Kislovodsk 70.27 317 *e*P **P 14 23 52.5 +1.0**
KIV pmax pmax
comp=Z,37nm,1.1s
KBZ Khabaz 70.36 317 P **P 14 23 53.5 +1.6**
comp=Z,16nm,0.8s,baz=63,slow=3.7,SNR=37
TX31 Lajitas Ar. Si 70.66 67 *e*P **P 14 23 55.1 +1.0**
comp=Z,4.3nm,1.0s
TXAR Lajitas Array 70.66 67 *e*P **P 14 23 55.5 +1.4**
TXAR Lajitas Array 70.66 67 *e*P **P 14 23 55.5 +1.4**
TXAR Lajitas Array 70.66 67 P **P 14 23 55.8 +1.7**
comp=Z,2.9nm,0.8s,baz=300,slow=4.6,SNR=17
ZEI Tsey 70.70 316 *e*P **P 14 23 53.4 -0.9**
ZEI pmax pmax
comp=Z,13nm,0.9s
NEY Neytrino 70.83 317 *i* P **P 14 23 55.9 +0.9**
NEY pmax pmax
comp=Z,1.0nm,0.9s
HYB Hyderabad 71.60 275 *i* P **P 14 24 00.0 +0.1**
HYB *e* 14 24 11.5
HORU Horodok 71.66 330 P **P 14 24 00.2 +0.5**
ANN Anapa 71.67 321 *e*P **P 14 23 57.4 -2.4**
ANN *e**PP **pwP 14 24 14.7 -1.5**
ANN *e*S **S 14 33 10.4 -5.2**
ANN pmax pmax
comp=Z,23nm,1.3s
ANN MLR MLR
comp=Z,295nm,19.0s
ANN MLR MLR
comp=E,424nm,19.0s
ANN MLR MLR
comp=N,623nm,19.0s
ESK Eskdalemuir 71.95 350 *i* P **P 14 24 03.6 +2.3**
AKH Akhalkalaki 72.00 315 *e*P **P 14 24 01.6 -0.6**
comp=N,16nm,0.8s
AKH Akhalkalaki 72.00 315⇑*i*P **P 14 24 03.6 +1.5**
AKH Akhalkalaki 72.00 315 *e*P **P 14 24 01.6 -0.6**
AKH pmax pmax
comp=Z,17nm,0.8s
KWP Kalwaria Pacla 72.38 333 *e*P **P 14 24 05.8 +1.8**
KWP Kalwaria Pacla 72.38 333 *e*P **P 14 24 04.1 +0.1**
comp=Z,260nm,0.8s
KWP Kalwaria Pacla 72.38 333 *e*P **P 14 24 05.8 +1.8**
GNI Garni 72.48 314 P **P 14 24 04.9 -0.1**
GNI Garni 72.48 314*ce*P **P 14 24 05.4 +0.4**
GNI pmax pmax
comp=Z,153nm,1.3s
OJC Ojcow 72.63 335 *e*P **P 14 24 07.2 +1.6**
OJC Ojcow 72.63 335 *e*P **P 14 24 05.6 +0.1**
comp=Z,9.3nm,0.9s
OJC Ojcow 72.63 335 *e*P **P 14 24 05.6 +0.1**
OJC pmax pmax
comp=Z,9.0nm,0.9s
BCA Borcka 72.77 316⇑*i*P **P 14 24 06.7 +0.2**
KIS Kishinev 72.86 328 *e*P **P 14 24 08.0 +1.1**
KIS Kishinev 72.86 328 *e*PcP **PcP 14 24 22.0 -1.8**
KIS *e*S S 14 33 16.0 -13
KIS LRM MLR 15 00 16.0
KIS Kishinev 72.86 328 *e*P **P 14 24 08.0 +1.1**
KIS *e* 14 24 22.0
KIS MLR MLR
comp=Z,500nm,16.0s
KSV Kosov 72.88 331 P **P 14 24 07.2 +0.2**
KSP Ksiaz 72.93 337 *e*P **P 14 24 08.6 +1.3**
KSP Ksiaz 72.93 337 *e*P **P 14 24 08.6 +1.3**
KOLS Kolonicke sedl 73.13 333 *e*P **P 14 24 10.1 +1.6**
KOLS pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 73.13 333 *e*P **P 14 24 10.1 +1.6**
CLL Collm 73.24 339 *e*P **P 14 24 09.2 +0.1**
comp=Z,16nm,1.0s
CLL Collm 73.24 339 *e*P **P 14 24 09.2 +0.1**
CLL pmax pmax
comp=Z,16nm,1.0s
CLL Collm 73.24 339 *i* P **P 14 24 09.6 +0.5**
comp=Z,18nm,1.1s
CLL *e* 14 24 16.0
CLL *ep*P **pP 14 24 22.0 0.0**
UPC Upice 73.31 337 *e*P **P 14 24 11.3 +1.8**
UPC MLR MLR
comp=Z,300nm,15.3s
UPC Upice 73.31 337 *e*P **P 14 24 11.3 +1.8**
UPC AMS AMS 15 03 10.0
comp=Z,300nm,15.3s
DPC Dobruska-Polom 73.38 337 *e*P **P 14 24 12.0 +2.0**
DPC *e* 14 24 23.9
DPC MLR MLR
comp=Z,200nm,14.6s
DPC Dobruska-Polom 73.38 337 *e*P **P 14 24 12.0 +2.0**
DPC *ep*P **pP 14 24 23.9 +1.0**
DPC AMS AMS 15 03 00.0
comp=Z,200nm,14.6s
OKC Ostrava-Krasne 73.41 336 *e*P **P 14 24 11.9 +1.8**
OKC MLR MLR
comp=Z,200nm,15.9s
OKC Ostrava-Krasne 73.41 336 *e*P **P 14 24 11.9 +1.8**
OKC AMS AMS 15 01 40.0
comp=Z,200nm,15.9s
BUR08 Bucovina Ar. S 73.43 330 *e*P **P 14 24 11.0 +0.6**
comp=Z,12nm,0.7s
BRG Berggiesshubel 73.45 339 *e*P **P 14 24 11.1 +0.8**
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 73.45 339 *e*P **P 14 24 11.1 +0.8**
BRG pmax pmax
comp=Z,5.0nm,0.9s
BURAR Bucovina Array 73.45 330 *e*P **P 14 24 11.2 +0.6**
BURAR Bucovina Array 73.45 330⇑*i*P **P 14 24 11.6 +1.0**
BURAR Bucovina Array 73.45 330 P **P 14 24 11.5 +1.0**
KRLC Kraliky 73.53 337 *e*P **P 14 24 12.6 +1.7**
KRLC Kraliky 73.53 337 *e*P **P 14 24 12.6 +1.7**
MORC Moravsky Berou 73.62 336 *e*P **P 14 24 12.0 +0.6**
comp=Z,11nm,0.9s
MORC Moravsky Berou 73.62 336⇑*i*P **P 14 24 12.3 +0.9**
MORC Moravsky Berou 73.62 336 *e*P **P 14 24 12.0 +0.6**
MORC pmax pmax
comp=Z,11nm,0.9s
MORC Moravsky Berou 73.62 336 *e*P **P 14 24 12.1 +0.7**
PVCC Panska Ves 73.63 338 AMS AMS 15 02 10.0
comp=Z,300nm,16.3s
LANS Liptovska Anna 73.70 335 *e*P **P 14 24 14.2 +2.3**
LANS Liptovska Anna 73.70 335 *e*P **P 14 24 14.2 +2.3**
TRPA Tarpa 73.78 332⇑*i*P **P 14 24 14.0 +1.7**
TRPA Tarpa 73.78 332⇑*e*P **P 14 24 13.1 +0.8**
BIZ Bicaz 73.78 329⇑*i*P **P 14 24 13.3 +0.9**
TESR Tescani 73.99 329||*i*P **P 14 24 13.8 +0.2**
KECS Kecovo 74.04 334 *e*P **P 14 24 15.5 +1.7**
KECS Kecovo 74.04 334 *e*P **P 14 24 15.5 +1.7**
PRU Pruhonice 74.14 338 *e*P **P 14 24 16.3 +1.9**
PRU MLR MLR
comp=Z,300nm,16.5s
PRU Pruhonice 74.14 338 *e*P **P 14 24 16.3 +1.9**
PRU AMS AMS 15 03 10.0
comp=Z,300nm,16.5s
GOPC GO Pecny, Ondr 74.15 338 *e*P **P 14 24 16.0 +1.5**
GOPC MLR MLR
comp=Z,200nm,13.7s
GOPC GO Pecny, Ondr 74.15 338 *e*P **P 14 24 16.0 +1.5**
GOPC AMS AMS 15 02 10.0
comp=Z,200nm,13.7s
ARCR ARCALIA 74.19 331⇑*i*P **P 14 24 14.2 -0.5**
VRAC Vranov 74.28 336⇑*i*P **P 14 24 17.2 +2.0**
VRAC Vranov 74.28 336 P **P 14 24 17.2 +2.0**
VRAC Vranov 74.28 336 *e*P **P 14 24 16.0 +0.8**
JAVC Velka Javorina 74.43 336 *e*P **P 14 24 17.9 +1.7**
VYHS Vyhne 74.47 335 *e*P **P 14 24 18.0 +1.7**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 74.47 335 *e*P **P 14 24 18.0 +1.7**
VRI Vrincioaia 74.54 329⇑*i*P **P 14 24 18.0 +1.2**
VRI Vrincioaia 74.54 329 P **P 14 24 17.9 +1.2**
KRUC Moravsky 74.56 336 *e*P **P 14 24 18.0 +1.2**
TREC Trest 74.56 337 AMS AMS 15 03 50.0
comp=Z,200nm,11.7s
CFR Carcaliu 74.69 327||*i*P **P 14 24 19.0 +1.4**
CFR Carcaliu 74.69 327 P **P 14 24 19.0 +1.4**
PSZ Piszkesteto 74.71 334 *e*P **P 14 24 18.9 +1.0**
comp=Z,8.9nm,0.9s
PSZ Piszkesteto 74.71 334⇑*i*P **P 14 24 19.7 +1.9**
PSZ Piszkesteto 74.71 334 *e*P **P 14 24 18.9 +1.0**
PSZ pmax pmax
comp=Z,9.0nm,0.9s
PSZ Piszkesteto 74.71 334 *e*P **P 14 24 18.1 +0.3**
SMOL Smolenice 74.81 336 P **P 14 24 21.9 +3.6**
DOPR Dopca 74.87 329⇑*i*P **P 14 24 20.2 +1.5**
DRGR 74.94 332⇑*i*P **P 14 24 20.3 +1.1**
DRGR 74.94 332 P **P 14 24 20.3 +1.1**
MODS Modra-Piesok 74.98 336 *e*P **P 14 24 20.9 +1.6**
MODS pmax pmax
comp=Z,10.0nm,1.0s
MODS Modra-Piesok 74.98 336 *e*P **P 14 24 20.9 +1.6**
MLR Muntele Rosu 75.12 329⇑*i*P **P 14 24 22.2 +1.9**
GRA1 Grafenberg Arr 75.15 340 *e*P **P 14 24 20.9 +0.7**
comp=Z,14nm,0.9s
GRF Grafenberg Arr 75.15 340 *e*P **P 14 24 20.9 +0.7**
GRF pmax pmax
comp=Z,14nm,0.9s
GRFO Grafenberg 75.15 340 *e*P **P 14 24 21.1 +0.9**
comp=Z,11nm,0.8s
GRFO Grafenberg 75.15 340 P **P 14 24 22.6 +2.4**
KHC Kasperske Hory 75.16 338 *e*P **P 14 24 21.1 +0.7**
comp=Z,4.3nm,1.0s
KHC Kasperske Hory 75.16 338*c i*P **P 14 24 21.7 +1.3**
KHC pmax pmax
comp=Z,21nm,1.1s
KHC Kasperske Hory 75.16 338 *e*P **P 14 24 22.0 +1.6**
KHC *ex* x 14 24 36.3
KHC AMS AMS 15 03 50.0
comp=Z,300nm,13.8s
DIKM Dikmen 75.19 321⇑*i*P **P 14 24 22.2 +1.6**
ZST Bratislava 75.19 336 *e*P **P 14 24 21.9 +1.4**
ZST Bratislava 75.19 336 *e*P **P 14 24 21.9 +1.4**
TLB Topalu 75.24 327⇑*i*P **P 14 24 22.0 +1.1**
TLB Topalu 75.24 327 P **P 14 24 21.9 +1.1**
MEM Membach 75.27 344⇑P **P 14 24 22.5 +1.6**
comp=Z,26nm,0.9s
GEC2 GERESS Array S 75.40 338 *e*P **P 14 24 22.1 +0.3**
comp=Z,4.3nm,0.7s
GEC2 GERESS Array S 75.40 338 *e*P **P 14 24 22.2 +0.3**
GEC2 pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 75.40 338 *e*P **P 14 24 22.5 +0.7**
GERES GERESS Array B 75.40 338 *e*P **P 14 24 22.5 +0.7**
GERES GERESS Array B 75.40 338 P **P 14 24 23.1 +1.3**
comp=Z,2.5nm,0.6s,baz=34,slow=5.3,SNR=26
VOIR 75.45 329⇑*i*P **P 14 24 23.2 +1.0**
VOIR 75.45 329 P **P 14 24 23.2 +1.0**
WRAB Tennant Creek 75.46 205*ce*P **P 14 24 21.8 -0.4**
WRAB pmax pmax
comp=Z,10.0nm,1.7s
WB2 Warramunga Arr 75.47 205 *e*P **P 14 24 23.0 +0.7**
comp=Z,14nm,1.3s
WR1 Warramunga Arr 75.47 205 *e*P **P 14 24 22.3 0.0**
WRA Warramunga Arr 75.47 205 P **P 14 24 22.3 0.0**
comp=Z,2.3nm,1.0s,baz=23,slow=5.4,SNR=7.5
BCLA Clavier 75.58 344⇑P **P 14 24 23.9 +1.2**
comp=Z,8.1nm,1.1s
ARR Arges 75.65 330⇑*i*P **P 14 24 25.0 +1.8**
SIRR Siria 75.72 332⇑*i*P **P 14 24 25.7 +2.1**
CONA Conrad Observa 75.75 336 *i* P **P 14 24 25.9 +2.1**
comp=Z,8.1nm,0.9s,SNR=7.0
SOP Sopron 75.80 336 P **P 14 24 26.8 +2.8**
SOP Sopron 75.80 336⇑*e*P **P 14 24 25.0 +1.0**
GIVF Givet 75.96 344 *e*P **P 14 24 25.6 +0.7**
GIVF pmax pmax
comp=Z,6.0nm,0.8s
DOU Dourbes 76.01 344⇑P **P 14 24 26.3 +1.2**
comp=Z,4.8nm,0.9s
BAIF Baives 76.11 345 *e*P **P 14 24 26.6 +0.9**
BAIF pmax pmax
comp=Z,8.0nm,0.8s
GZR Gura Zlata 76.19 331⇑*i*P **P 14 24 27.6 +1.2**
GZR Gura Zlata 76.19 331 P **P 14 24 27.5 +1.2**
MOA Molln 76.20 337 *e*P **P 14 24 27.8 +1.4**
comp=Z,3.3nm,0.7s
BZS Buzias 76.33 332||*i*P **P 14 24 27.7 +0.7**
BZS Buzias 76.33 332 P **P 14 24 27.7 +0.7**
ARSA Arzberg 76.46 336 *i* P **P 14 24 29.9 +2.1**
comp=Z,7.3nm,0.8s
HERR Herculane 76.76 331⇑*i*P **P 14 24 30.3 +0.8**
BFO Black Forest 77.03 341 *e*P **P 14 24 31.1 +0.1**
comp=Z,5.8nm,0.9s
BFO Black Forest 77.03 341 *i* P **P 14 24 32.6 +1.6**
SOKA Sobotn 77.12 336 *e*P **P 14 24 33.3 +1.8**
comp=Z,14nm,1.1s,SNR=5.9
PERS Pernice 77.14 336 *i* P **P 14 24 33.5 +1.9**
KBA Koelnbreinsper 77.14 338 *e*P **P 14 24 34.2 +2.4**
comp=Z,33nm,0.7s,SNR=21
KBA Koelnbreinsper 77.14 338 P **P 14 24 34.2 +2.4**
PUNG Punghina 77.15 330||*i*P **P 14 24 32.8 +1.1**
CDF Champ du Feu 77.16 342 *e*P **P 14 24 32.7 +0.9**
CDF pmax pmax
comp=Z,14nm,1.0s
WATA Walderalm 77.30 339 *i* P **P 14 24 34.9 +2.2**
comp=Z,9.8nm,1.2s
RETA Reutte 77.34 340 *i* P **P 14 24 34.5 +1.7**
comp=Z,5.6nm,0.8s
WTTA Wattenberg 77.36 339 *e*P **P 14 24 35.2 +2.2**
comp=Z,13nm,1.0s,SNR=5.9
ECH Echery 77.37 342 *e*P **P 14 24 32.6 -0.3**
comp=Z,8.9nm,1.0s
ECH Echery 77.37 342 *e*P **P 14 24 32.6 -0.3**
ECH pmax pmax
comp=Z,9.0nm,1.0s
OBKA Obir 77.39 337 *i* P **P 14 24 35.6 +2.4**
comp=Z,15nm,1.0s
MOTA Moosalm 77.40 339 *e*P **P 14 24 34.9 +1.7**
comp=Z,5.8nm,0.7s,SNR=7.2
BR101 Keskin Array S 77.47 321 *e*P **P 14 24 34.6 +0.9**
BR131 Keskin Array S 77.47 321 *e*P **P 14 24 34.1 +0.4**
comp=Z,10.0nm,0.9s
BR131 Keskin Array S 77.47 321 *e*P **P 14 24 34.1 +0.4**
BR131 pmax pmax
comp=Z,10.0nm,0.9s
BR131 Keskin Array S 77.47 321 P **P 14 24 35.0 +1.2**
SNR=7.7
BR131 P **P 14 24 35.0 +1.2**
SNR=7.7
BRTR Keskin Array B 77.47 321 *e*P **P 14 24 33.8 0.0**
BRTR Keskin Array B 77.47 321 P **P 14 24 34.6 +0.9**
comp=Z,7.0nm,0.9s,baz=46,slow=3.6,SNR=23
SQTA Sankt Quirin 77.49 339 *e*P **P 14 24 35.8 +2.1**
comp=Z,11nm,0.8s,SNR=6.5
MYKA Terra Mystica 77.50 337 *e*P **P 14 24 35.0 +1.3**
comp=Z,6.1nm,1.0s
ABTA Abfaltersbach 77.65 338 *e*P **P 14 24 35.5 +1.0**
comp=Z,11nm,0.9s,SNR=7.1
DAVA Damuels 77.71 340 *i* P **P 14 24 36.7 +1.7**
comp=Z,11nm,1.1s
HAU Haudompre 77.72 343 *e*P **P 14 24 35.8 +1.0**
HAU pmax pmax
comp=Z,8.0nm,0.7s
MDUB Mudurnu 77.75 323 *e*P **P 14 24 35.7 +0.5**
comp=Z,75nm,0.6s
FETA Feichten 77.79 339 *i* P **P 14 24 37.0 +1.6**
comp=Z,10nm,0.9s
HINF Hinteralfeld 77.81 342 *e*P **P 14 24 36.0 +0.6**
HINF pmax pmax
comp=Z,7.0nm,1.0s
VISS Visnje 77.98 336 *i* P **P 14 24 36.0 -0.3**
FLN La Foliniere 78.07 347 *e*P **P 14 24 37.3 +0.6**
FLN pmax pmax
comp=Z,14nm,0.9s
JAVS Javornik 78.09 337 *i* P **P 14 24 32.6 -4.4**
SHME Shamm 78.10 297 *i* P **P 14 24 37.9 +0.6**
SNR=5.6
BOJS Bojanci 78.16 336 *i* P **P 14 24 39.0 +1.7**
FUORN Ofenpass-Fuorn 78.27 340 *e*P **P 14 24 39.4 +1.2**
comp=Z,9.3nm,0.8s
GRR Gorron 78.49 348 *e*P **P 14 24 39.9 +0.9**
GRR pmax pmax
comp=Z,39nm,1.2s
VTS Vitosha 78.56 329 *e*P **P 14 24 40.0 +0.2**
comp=Z,8.0nm,0.7s
VTS Vitosha 78.56 329⇑*i*P **P 14 24 41.0 +1.2**
VTS Vitosha 78.56 329 *e*P **P 14 24 40.0 +0.2**
VTS pmax pmax
comp=Z,8.0nm,0.7s
TUE Stuetta 78.60 340 *e*P **P 14 24 40.9 +0.9**
comp=Z,14nm,0.8s
MSFE Esma-Masafi 78.63 297 P **P 14 24 40.6 +0.4**
SGMF Saint Gilles 78.83 349 *e*P **P 14 24 41.9 +1.0**
SGMF pmax pmax
comp=Z,10.0nm,0.8s
ROSF Rostrenen 78.84 349 *e*P **P 14 24 45.2 +4.2**
ROSF pmax pmax
comp=Z,33nm,1.2s
LOR Lormes 78.87 344 *e*P **P 14 24 42.1 +0.9**
LOR pmax pmax
comp=Z,9.0nm,0.8s
HATD Hatta, Dubai 79.07 296 *i* P **P 14 24 43.7 +1.0**
SNR=9.3
HATD Hatta, Dubai 79.07 296 P **P 14 24 44.0 +1.3**
SNR=5.3
HATD P **P 14 24 44.0 +1.3**
SNR=5.3
CABF La Chapelle 79.11 342 *e*P **P 14 24 44.0 +1.4**
CABF pmax pmax
comp=Z,11nm,1.0s
SSF Saint Saulge 79.13 344 *e*P **P 14 24 44.3 +1.7**
SSF pmax pmax
comp=Z,7.0nm,0.8s
AS31 Alice Springs 79.14 205 *e*P **P 14 24 44.4 +1.6**
comp=Z,1.8nm,0.6s
ASAR Alice Springs 79.14 205 *e*P **P 14 24 43.6 +0.8**
ASAR Alice Springs 79.14 205 P **P 14 24 44.4 +1.6**
comp=Z,1.5nm,0.7s,baz=11,slow=6.1,SNR=18
ALN Alexandroupoli 79.19 327 *e*P **P 14 24 43.0 0.0**
comp=Z,8.8nm,1.0s
ALN Alexandroupoli 79.19 327 *e*P **P 14 24 43.0 0.0**
ALN pmax pmax
comp=Z,9.0nm,1.0s
NAZ Nazwa, Dubai 79.20 297 P **P 14 24 44.7 +1.4**
ASHO Ashiyiah 79.22 296 *i* P **P 14 24 44.4 +0.9**
SNR=6.9
ASHO Ashiyiah 79.22 296 P **P 14 24 44.4 +0.9**
ASHO P **P 14 24 44.4 +0.9**
QUIF Quistinic 79.24 349 *e*P **P 14 24 44.1 +1.0**
QUIF pmax pmax
comp=Z,23nm,1.0s
SOHO SOHO 79.40 296 P **P 14 24 45.0 +0.6**
SOHO P **P 14 24 45.0 +0.6**
AVF Avril sur Loir 79.42 344 *e*P **P 14 24 45.3 +1.2**
AVF pmax pmax
comp=Z,13nm,0.8s
FAQ Al Faqa, Dubai 79.43 297 P **P 14 24 45.0 +0.5**
ASUD Al Ashush, Dub 79.67 297 P **P 14 24 47.0 +1.1**
BGF Bois d'Agland 79.73 345 *e*P **P 14 24 47.0 +1.1**
BGF pmax pmax
comp=Z,7.0nm,0.9s
STIP Stip 79.73 330 *i* P **P 14 24 45.7 -0.2**
SRS Serrai 79.81 328 P **P 14 24 47.8 +1.4**
PDG Podgorica 79.93 332||*i*P **P 14 24 45.2 -1.8**
LPL La Plagne 80.04 342 *e*P **P 14 24 49.8 +1.9**
LPL pmax pmax
comp=Z,19nm,0.8s
LPG La Plagne 80.06 342 *e*P **P 14 24 50.0 +2.0**
LPG pmax pmax
comp=Z,18nm,0.8s
EZN Ezine 80.06 326⇑*i*P **P 14 24 47.9 +0.2**
EZN Ezine 80.06 326 P **P 14 24 47.9 +0.2**
TCF Toulx Ste Croi 80.09 345 *e*P **P 14 24 49.1 +1.2**
TCF pmax pmax
comp=Z,8.0nm,0.8s
MFF Saint Martin d 80.14 347 *e*P **P 14 24 50.1 +2.0**
MFF pmax pmax
comp=Z,11nm,1.2s
MANT Manisa 80.46 324 *e*P **P 14 24 49.8 -0.4**
comp=Z,51nm,1.1s
SSB Saint Sauveur 80.68 343 *e*P **P 14 24 52.4 +1.4**
comp=Z,11nm,0.8s
SSB Saint Sauveur 80.68 343 *e*P **P 14 24 52.4 +1.4**
SSB pmax pmax
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 80.78 342 *e*P **P 14 24 54.4 +2.7**
ORIF pmax pmax
comp=Z,15nm,0.8s
VIVF Saint-Julien-l 81.06 343 *e*P **P 14 24 54.9 +1.8**
VIVF pmax pmax
comp=Z,8.0nm,0.8s
MHTO MHTO 81.08 293 P **P 14 24 54.7 +1.2**
MHTO P **P 14 24 54.7 +1.2**
RJF Les Rejaudoux 81.16 345 *e*P **P 14 24 55.1 +1.5**
RJF pmax pmax
comp=Z,13nm,1.2s
CAF Calviac 81.44 345 *e*P **P 14 24 57.0 +1.9**
CAF pmax pmax
comp=Z,11nm,0.9s
LFF La Frestale 81.64 346 *e*P **P 14 24 57.8 +1.7**
LFF pmax pmax
comp=Z,12nm,1.0s
CSS Mathiatis 81.71 319 *e*P **P 14 24 57.1 +0.5**
comp=Z,25nm,0.8s
PPT Papeete 81.85 133 LR LR 14 53 37.5
comp=Z,54nm,19.3s,baz=322,slow=30
MZR Muzera 81.98 297 P **P 14 24 58.7 +0.5**
MTLF Montolieu 82.96 344 *e*P **P 14 25 05.0 +2.0**
MTLF pmax pmax
comp=Z,11nm,1.0s
EPF Esparros 83.56 346 *e*P **P 14 25 07.5 +1.3**
EPF pmax pmax
comp=Z,13nm,1.1s
ETSF Etsaut 83.83 346 *e*P **P 14 25 09.6 +2.0**
STKA Stephens Creek 85.43 196 P **P 14 25 16.6 +1.2**
comp=Z,1.6nm,0.7s,baz=356,slow=14,SNR=2.6
ESDC Sonseca Array 87.46 348 *e*P **P 14 25 26.1 +0.5**
ESDC Sonseca Array 87.46 348 P **P 14 25 26.2 +0.6**
comp=Z,3.8nm,0.9s,baz=1.1,slow=4.8,SNR=15
KEST Kesra 88.85 337 *e*P **P 14 25 33.1 +0.7**
comp=Z,9.3nm,1.0s
KEST Kesra 88.85 337 P **P 14 25 33.1 +0.7**
comp=Z,5.8nm,0.9s,baz=246,slow=9.6,SNR=4.2
TOA1 Torodi Ar. Sit 112.35 338 *e*PP **PP 14 31 58.5 -0.5**
TORD Torodi Ar. Bea 112.36 338 PP **PP 14 31 58.5 -0.5**
comp=Z,2.6nm,0.9s,baz=6.3,slow=11,SNR=12

SJA 20 14:18:17.2±1.1, 29°43'S×71°08'W, h36km±3km, ML3.4, MW3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.53**	**39**	*e*P	Pn	14 18 29.4	+0.9
LCO				*e*S	Sn	14 18 38.0	+1.6
GO04	**Tololo Observa**	**0.78**	**162**	*e*P	Pn	14 18 33.2	+1.2
GO04				*e*S	Sn	14 18 45.6	+3.0
AROD	**Rodeo**	**1.58**	**118**	*e*P	Pn	14 18 44.6	+1.7
ACDV	**Cuesta del Vie**	**1.86**	**114**	*e*P	Pn	14 18 48.7	+2.0
ACDV				IAML		14 19 13.7	
ACCO	**Cerro Coronel**	**2.10**	**124**	*e*P	Pn	14 18 52.6	+2.6
AGUA	**GUANDACOL**	**2.26**	**92**	*e*P	Pn	14 18 54.9	+2.8
VCA	**Vinchina**	**2.61**	**75**	*e*P	Pn	14 19 00.2	+3.3
VCA				IAML		14 19 36.8	
AMOG	**MOGNA**	**2.70**	**125**	*e*P	Pn	14 19 00.5	+2.3
RTLS	**Leoncito**	**2.82**	**147**	*e*P	Pn	14 19 03.3	+3.3
AUSP	**Uspallata**	**3.15**	**153**	*e*P	Pn	14 19 07.5	+3.0
CFA	**Coronel Fontan**	**3.28**	**132**	*e*P	Pn	14 19 07.9	+1.9
ACLC	**CERRO LA CRUZ**	**3.60**	**91**	*e*P	Pn	14 19 11.5	+0.9
APLL	**PUNTA DE LOS L**	**4.07**	**105**	*e*P	Pn	14 19 17.6	+0.6

DJA 20 14:20:50.9±1.8, 3°S±3°×13°0E±°, h13km±13km, M3.5/5, MLv3.5/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.75**	**176**	P	Pn	14 21 21.1	+0.2
BNDI				S	Sn	14 21 43.5	+0.5
SWI	**Sorong**	**2.40**	**38**	P	Pn	14 21 30.2	+0.3
SWI				S	Sn	14 22 00.3	+1.2
FAKI	**Fak Fak**	**2.46**	**94**	P	Pn	14 21 30.5	-0.3
SANI	**Sanana**	**3.87**	**281**	P	Pn	14 21 49.3	-0.8
SANI				S	Sn	14 22 30.7	-4.7

KRSC 20 14:22:53.6±10.0, 52°13N×160°46E, h17km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.01**	**345**	*e*P	Pb	14 23 12.1	-0.5
SPN				*e*S	Sb	14 23 24.6	-1.0
RUS	**Russkaya**	**1.23**	**285**	*e*P	Pb	14 23 16.2	-0.2
RUS				*e*S	Sb	14 23 31.8	-0.2
NLC	**Nalytchevo**	**1.25**	**328**	*e*P	Pb	14 23 16.6	0.0
NLC				*e*S	Sn	14 23 33.1	+0.5
DALK	**Dalny**	**1.38**	**312**	*e*P	Pn	14 23 18.2	+0.2
DALK				S	Sn	14 23 36.0	+0.2
MTVR	**Mutnovka**	**1.44**	**285**	*e*P	Pb	14 23 19.9	-0.1
MTVR				S	Sb	14 23 38.6	+0.5

UGLR	**Uglovaya**	**1.47 318**	*e*P	Pb	14 23 20.2	-0.4
UGLR			S	Sb	14 23 39.5	+0.5
SDLR	**Sedlovina**	**1.50 321**	*e*P	Pb	14 23 20.5	-0.5
KDTR	**Khodutka, Kamc**	**1.51 259**	*e*P	Pn	14 23 20.2	+0.5
KDTR			S	Sn	14 23 39.2	+0.3
KRER	**Koryakskii**	**1.57 319**	P	Pb	14 23 22.2	-0.1
KRMR	**Karymshinskiy**	**1.59 297**	*e*P	Pn	14 23 21.4	+0.5
KRMR			S	Sb	14 23 41.6	-0.6
ASAK	**Asacha**	**1.59 280**	*e*P	Pb	14 23 22.3	-0.3
ASAK			S	Sb	14 23 43.4	+1.0
KOK	**Koryaka**	**1.61 317**	P	Pb	14 23 22.9	0.0
APC	**Apacha**	**2.17 293**	P	Pn	14 23 30.1	+1.3

IDC ***20*** *14:27:26.2±0.7, 52°.39N×159°.94E, h0km, mb3.8/19, mb1 4.0/22, mb1mx3.9/37, mbtmp3.8/22, ML3.7/3, MS3.6/5, Ms1 3.6/5, ms1mx3.1/46, Error ellipse: s-maj=15.2km s-min=14.1km az=130.0*
KRSC ***20*** *14:27:26.4±10.0, 52°.11N×160°.54E, h64km±10km, ML4.5*
ISCJB ***20*** *14:27:29.3±0.6, 52°.18N±0°.04×160°.44E±0°.06, h56km±4km, mb4.2/44, MS3.8/5, Error ellipse: s-maj=7.3km s-min=4.0km az=138.4*
MOS ***20*** *14:27:30.5±1.1, 52°.28N×160°.25E, h56km, mb4.6/21, Error ellipse: s-maj=7.5km s-min=3.9km az=101.2*
NEIC ***20*** *14:27:31.4±0.5, 52°.28N×159°.82E, h35km, mb4.3/17, Error ellipse: s-maj=11.1km s-min=7.5km az=147.0*
ISC 20 14:27:30.1±0.7,**52°.19N**±0°.04×**160°.42E**±0°.04,**h40**km±7km,
n177,σ1§50/197,**mb4.3**/44,**MS3.7**/5,**8C-1D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.95 345**		*i* P	**Pn**	**14 27 45.9**	**-1.0**
SPN				*e*S	**Sn**	**14 27 58.6**	**-0.6**
SPN	**Mys Shipunski**	**0.95 345**		PN	**Pn**	**14 27 45.9**	**-1.0**
SPN				S	**Sn**	**14 27 58.6**	**-0.6**
NLC	**Nalytchevo**	**1.19 327**		*e*P	**Pn**	**14 27 50.1**	**-0.1**
NLC				*e*S	**Sn**	**14 28 06.8**	**+1.7**
NLC	**Nalytchevo**	**1.19 327**		PN	**Pn**	**14 27 50.1**	**-0.1**
NLC				S	**Sn**	**14 28 06.8**	**+1.7**
RUS	**Russkaya**	**1.20 283**		*e*P	**Pn**	**14 27 49.8**	**-0.6**
RUS				*e*S	**Sn**	**14 28 05.6**	**+0.2**
RUS	**Russkaya**	**1.20 283**		PN	**Pn**	**14 27 49.8**	**-0.6**
RUS				S	**Sn**	**14 28 05.6**	**+0.2**
DALK	**Dalny**	**1.32 310**		*e*P	**Pn**	**14 27 51.9**	**-0.2**
DALK				*e*S	**Sn**	**14 28 09.8**	**+1.3**
DALK	**Dalny**	**1.32 310**		PN	**Pn**	**14 27 51.9**	**-0.2**
DALK				S	**Sn**	**14 28 09.8**	**+1.3**
PET	**Petropavlovsk**	**1.37 309**		*e*Pn	**Pn**	**14 27 52.5**	**-0.2**
PET	**Petropavlovsk**	**1.37 309**	α	*i* PN	**Pn**	**14 27 52.7**	**0.0**
PET				*e*S	Sn	14 28 01.0	-8.6
PET	comp=Z,1μm,1.0s			pmax	pmax		
PET	comp=Z,1μm,0.7s			pmax	pmax		
PET	comp=E,4μm,2.0s			smax	smax		
PET	comp=E,2μm,0.9s			smax	smax		
PET	comp=N,1μm,0.4s			smax	smax		
MTVR	**Mutnovka**	**1.41 283**		*e*P	**Pn**	**14 27 53.1**	**-0.3**
MTVR				*e*S	**Sn**	**14 28 11.9**	**+1.1**
MTVR	**Mutnovka**	**1.41 283**		PN	**Pn**	**14 27 53.1**	**-0.3**
MTVR				S	**Sn**	**14 28 11.9**	**+1.1**
UGLR	**Uglovaya**	**1.41 317**		*e*P	**Pn**	**14 27 53.8**	**+0.4**
UGLR				*e*S	**Sn**	**14 28 12.8**	**+1.9**
UGLR	**Uglovaya**	**1.41 317**		PN	**Pn**	**14 27 53.8**	**+0.4**
UGLR				S	**Sn**	**14 28 12.8**	**+1.9**
SDLR	**Sedlovina**	**1.44 320**		*e*P	**Pn**	**14 27 53.6**	**-0.2**
SDLR				*e*S	**Sn**	**14 28 12.7**	**+1.1**
SDLR	**Sedlovina**	**1.44 320**		PN	**Pn**	**14 27 53.6**	**-0.2**
SDLR				S	**Sn**	**14 28 12.7**	**+1.1**
SMAR	**Somma**	**1.46 318**		*e*P	**Pn**	**14 27 54.1**	**-0.1**
SMAR	**Somma**	**1.46 318**		PN	**Pn**	**14 27 54.1**	**-0.1**
GRL	**Gorelyy**	**1.49 285**		*e*P	**Pn**	**14 27 54.8**	**+0.3**
GRL	**Gorelyy**	**1.49 285**		PN	**Pn**	**14 27 54.8**	**+0.3**
AVH	**Avacha**	**1.49 317**		*e*P	**Pn**	**14 27 55.0**	**+0.5**
AVH				*e*S	**Sn**	**14 28 14.8**	**+2.1**
AVH	**Avacha**	**1.49 317**		PN	**Pn**	**14 27 55.0**	**+0.5**
AVH				S	**Sn**	**14 28 14.8**	**+2.1**
KDTR	**Khodutka, Kamc**	**1.50 256**		*e*P	**Pn**	**14 27 53.7**	**-0.8**
KDTR				*e*S	**Sn**	**14 28 11.9**	**-0.9**
KDTR	**Khodutka, Kamc**	**1.50 256**		PN	**Pn**	**14 27 53.7**	**-0.8**
KDTR				S	**Sn**	**14 28 11.9**	**-0.9**
KRER	**Koryakskii**	**1.51 318**		*e*P	**Pn**	**14 27 55.3**	**+0.4**
KRER	**Koryakskii**	**1.51 318**		PN	**Pn**	**14 27 55.3**	**+0.4**
KRMR	**Karymshinskiy**	**1.54 296**		*e*P	**Pn**	**14 27 55.1**	**0.0**
KRMR				*e*S	**Sn**	**14 28 14.5**	**+0.6**
KRMR	**Karymshinskiy**	**1.54 296**		PN	**Pn**	**14 27 55.1**	**0.0**
KRMR				S	**Sn**	**14 28 14.5**	**+0.6**
KOK	**Koryaka**	**1.55 316**		*e*P	**Pn**	**14 27 55.7**	**+0.4**
KOK	**Koryaka**	**1.55 316**		PN	**Pn**	**14 27 55.7**	**+0.4**
ASAK	**Asacha**	**1.56 278**		*e*P	**Pn**	**14 27 55.6**	**+0.1**
ASAK				*e*S	**Sn**	**14 28 16.1**	**+1.6**
ASAK	**Asacha**	**1.56 278**		PN	**Pn**	**14 27 55.6**	**+0.1**
ASAK				S	**Sn**	**14 28 16.1**	**+1.6**
KRX	**Arik**	**1.59 318**		*e*P	**Pn**	**14 27 56.4**	**+0.4**
KRX	**Arik**	**1.59 318**		PN	**Pn**	**14 27 56.4**	**+0.4**
PEA0B	**Petropavlovsk-**	**1.90 300**		*e*Pn	**Pn**	**14 28 00.6**	**+0.6**
PEA0B	**Petropavlovsk-**	**1.90 300**		*e*PN	**Pn**	**14 28 00.6**	**+0.6**
PETK	**Petropavlovsk-**	**1.90 300**		*e*Pn	**Pn**	**14 27 60.0**	**0.0**
PETK	**Petropavlovsk-**	**1.90 300**		Pn	**Pn**	**14 28 00.6**	**+0.6**
PETK	comp=N,32nm,0.3s,baz=100,slow=18,SNR=323			Sn	**Sn**	**14 28 25.1**	**+2.4**
PETK	comp=N,63nm,0.3s,baz=105,slow=20,SNR=15			LR	LR	14 28 58.0	
PEA1	**Petropavlovsk-**	**1.90 300**		*e*Pn	**Pn**	**14 28 00.6**	**+0.5**
PEA1	comp=N,925nm,18.9s,baz=63,slow=60			*e*Sn	**Sn**	**14 28 25.1**	**+2.4**
APC	**Apacha**	**2.13 292**		*e*P	**Pn**	**14 28 03.9**	**+0.8**
APC				*e*S	**Sn**	**14 28 29.7**	**+1.4**
APC	**Apacha**	**2.13 292**		PN	**Pn**	**14 28 03.9**	**+0.8**
APC				S	**Sn**	**14 28 29.7**	**+1.4**
PAU	**Pauzhetka**	**2.35 254**		*e*P	**Pn**	**14 28 05.9**	**-0.3**
PAU	**Pauzhetka**	**2.35 254**		PN	**Pn**	**14 28 05.9**	**-0.3**
MKZ	**Mys Kozlova**	**2.50 18**		*e*P	**Pn**	**14 28 07.6**	**-0.6**
MKZ				*e*S	**Sn**	**14 28 36.2**	**-1.2**
MKZ	**Mys Kozlova**	**2.50 18**		PN	**Pn**	**14 28 07.6**	**-0.6**
MKZ				S	**Sn**	**14 28 36.2**	**-1.2**
KZV	**Kizimen**	**2.93 359**		*e*P	**Pn**	**14 28 15.4**	**+1.1**
KZV	**Kizimen**	**2.93 359**		PN	**Pn**	**14 28 15.4**	**+1.1**
TUMD	**Tumrok D**	**3.02 360**		*e*P	**Pn**	**14 28 15.3**	**-0.1**
TUMD				*e*S	**Sn**	**14 28 50.2**	**-0.2**
SKR	**Severo-Kuril's**	**3.09 243**		*e*P	**Pn**	**14 28 15.5**	**-0.8**
SKR				*e*S	**Sn**	**14 28 50.5**	**-1.4**
SKR	**Severo-Kuril's**	**3.09 243**		*e*PN	Pn	14 28 21.6	+5.3
SKR				*e*S	**Sn**	**14 28 58.2**	**+6.3**
SKR	comp=Z,143nm,0.8s			pmax	pmax		
SKR	comp=N,315nm,0.6s			smax	smax		
SKR	comp=E,324nm,0.6s			smax	smax		
TUMR	**Tumrok**	**3.11 357**		*e*P	**Pn**	**14 28 17.1**	**+0.4**
TUMR	**Tumrok**	**3.11 357**		PN	**Pn**	**14 28 17.1**	**+0.4**
ALID	**Alaid**	**3.32 248**		*e*P	**Pn**	**14 28 19.7**	**+0.1**
ALID	**Alaid**	**3.32 248**		PN	**Pn**	**14 28 19.7**	**+0.1**
ESO	**Esso**	**3.88 346**		*e*P	**Pn**	**14 28 27.5**	**+0.3**
ESO	**Esso**	**3.88 346**		PN	**Pn**	**14 28 27.5**	**+0.3**
KOZ	**Kozyrevsk**	**3.89 355**		*e*P	**Pn**	**14 28 26.7**	**-0.7**
KOZ	**Kozyrevsk**	**3.89 355**		PN	**Pn**	**14 28 26.7**	**-0.7**
LGNR	**Loginova**	**3.91 2**		*e*P	**Pn**	**14 28 28.4**	**+0.6**
LGNR	**Loginova**	**3.91 2**		PN	**Pn**	**14 28 28.4**	**+0.6**
KLY	**Klyuchi**	**4.14 2**		*e*P	**Pn**	**14 28 32.6**	**+1.9**
KLY	**Klyuchi**	**4.14 2**		PN	**Pn**	**14 28 32.6**	**+1.9**
SRDR	**Sredinnyy**	**4.16 355**		*e*P	**Pn**	**14 28 32.9**	**+1.8**
SRDR	**Sredinnyy**	**4.16 355**		PN	**Pn**	**14 28 32.9**	**+1.8**
KBTR	**Krutoberegovo**	**4.27 18**		*e*P	**Pn**	**14 28 33.2**	**+0.7**
KBTR	**Krutoberegovo**	**4.27 18**		PN	**Pn**	**14 28 33.2**	**+0.7**
BDR	**Baidarnaya**	**4.42 6**		*e*P	**Pn**	**14 28 36.9**	**+2.3**
BDR	**Baidarnaya**	**4.42 6**		PN	**Pn**	**14 28 36.9**	**+2.3**
SMKR	**Semkarok**	**4.45 7**		*e*P	**Pn**	**14 28 35.3**	**+0.3**
SMKR	**Semkarok**	**4.45 7**		PN	**Pn**	**14 28 35.3**	**+0.3**
BKI	**Bering**	**4.47 45**		*e*P	**Pn**	**14 28 34.9**	**-0.4**
BKI				*e*S	**Sn**	**14 29 21.3**	**-4.7**
BKI	**Bering**	**4.47 45**		PN	**Pn**	**14 28 34.9**	**-0.4**
SRKR	**Sorokina**	**4.50 5**		*e*P	**Pn**	**14 28 37.6**	**+1.9**
SRKR	**Sorokina**	**4.50 5**		PN	**Pn**	**14 28 37.6**	**+1.9**
PALN	**Palana**	**6.92 358**		*e*P	**Pn**	**14 29 11.1**	**+2.2**
PALN	**Palana**	**6.92 358**		PN	**Pn**	**14 29 11.1**	**+2.2**
OSSR	**Ossora**	**7.24 11**		*e*P	**Pn**	**14 29 13.6**	**+0.4**
OSSR	**Ossora**	**7.24 11**		PN	**Pn**	**14 29 13.6**	**+0.4**
MA2	**Magadan**	**9.17 328**		Pn	**Pn**	**14 29 38.8**	**-0.9**
MA2	comp=E,0.3nm,0.3s,baz=156,slow=5.8,SNR=4.3			LR	LR	14 33 15.7	
SEY	**Seymchan**	**11.60 341**		Pn	**Pn**	**14 30 11.8**	**-1.0**
ASAJ	**Asahikawa**	**14.35 243**		Pn	**Pn**	**14 30 49.4**	**-1.1**
GRNR	**Gornyy**	**15.01 274**		*e*P	P	14 31 07.3	+3.2
ERM	**Erimo**	**15.51 236**		*e*Pn	**Pn**	**14 31 02.9**	**-2.9**
ERM	**Erimo**	**15.51 236**		*e*P	**Pn**	**14 31 02.9**	**-2.9**
BILL	**Bilibino**	**16.16 8**		*e*Pn	**P**	**14 31 16.6**	**0.0**
BILL	**Bilibino**	**16.16 8**		*e*P	**P**	**14 31 17.1**	**+0.4**
USA0B	**Ussuriysk Arra**	**20.47 258**		*e*P	**P**	**14 32 02.0**	**-2.2**
USA0B	**Ussuriysk Arra**	**20.47 258**		*e*P	**P**	**14 32 02.0**	**-2.2**
USRK	**Ussuriysk Ar.**	**20.47 258**		*e*P	**P**	**14 32 01.9**	**-2.2**
USRK	**Ussuriysk Ar.**	**20.47 258**		P	**P**	**14 32 02.2**	**-2.0**
MJB9	**Matsu-Tunnel**	**22.16 234**		*e*P	**P**	**14 32 23.0**	**+0.6**
MAJO	**Matsushiro**	**22.16 234**		*e*P	**P**	**14 32 23.1**	**+0.7**
MAJO	**Matsushiro**	**22.16 234**		*i* P	**P**	**14 32 23.5**	**+1.1**
MAT	**Matsushiro**	**22.16 234**		P	**P**	**14 32 23.5**	**+1.1**
MJAR	**Matsushiro Arr**	**22.16 234**		P	**P**	**14 32 23.6**	**+1.2**
TIXI	**Tiksi**	**23.99 336**		*e*eP	**P**	**14 32 39.3**	**-1.2**
TIXI	**Tiksi**	**23.99 336**		P	**P**	**14 32 39.7**	**-0.8**
HIA	**Hailar**	**25.68 280**		*e*P	**P**	**14 32 54.1**	**-2.0**
HIA	**Hailar**	**25.68 280**		*e*P	**P**	**14 32 54.1**	**-2.0**
ILAR	**Eielson Array**	**29.32 44**		P	**P**	**14 33 30.2**	**+1.7**
ULN	**Ulaanbaatar**	**33.91 284**		*c*eP	**P**	**14 34 06.8**	**-2.4**
TLY	**Talaya**	**34.24 292**		*c*eP	**P**	**14 34 12.3**	**+0.4**
SONA0	**Songino Array**	**34.31 285**		*e*P	**P**	**14 34 11.8**	**-0.8**
SONM	**Songino Array**	**34.31 285**		P	**P**	**14 34 11.8**	**-0.8**
HHC	**Hu-ho-hao-te**	**34.84 271**		*e*P	**P**	**14 34 14.4**	**-2.9**
ZAK	**Zakamensk**	**35.00 290**		*e*P	**P**	**14 34 17.2**	**-1.3**
WHN	**Wuhan**	**39.92 256**		*e*P	P	14 35 04.6	+4.4
XAN	**Xi'an**	**40.77 264**		P	**P**	**14 35 06.3**	**-1.0**
XAN				pP	pP	14 35 15.0	-2.6
LZH	**Lanzhou**	**42.54 271**		*e*P	**P**	**14 35 18.6**	**-3.3**
LZH				pP	sP	14 35 39.6	+2.7
LZH				sP	pwP	14 35 50.4	+15
ZAA1	**Zalesovo Array**	**43.44 304**		*e*P	**P**	**14 35 26.8**	**-1.9**
ZALV	**Zalesovo Beam**	**43.44 304**		P	**P**	**14 35 26.8**	**-1.9**
ZALV	comp=Z,1.1nm,0.7s,baz=40,slow=7.8,SNR=5.4			LR	LR	14 54 32.7	
NVS	**Novosibirsk**	**43.80 305**		*e*P	**P**	**14 35 27.7**	**-3.9**
MK31	**Makanchi Array**	**48.73 297**		*e*P	**P**	**14 36 08.5**	**-2.0**
MK31	**Makanchi Array**	**48.73 297**		*e*P	**P**	**14 36 08.5**	**-2.0**
MK32	**Makanchi Array**	**48.73 297**		*e*P	**P**	**14 36 09.0**	**-1.5**
MKAR	**Makanchi Array**	**48.73 297**		*e*P	**P**	**14 36 08.1**	**-2.4**
MKAR	**Makanchi Array**	**48.73 297**		P	**P**	**14 36 09.0**	**-1.5**
GLK	**Glacier Lake**	**48.78 64**		*e*P	P	14 36 15.4	+4.5
MAKZ	**Makanchi**	**48.90 297**		*e*P	**P**	**14 36 09.7**	**-2.1**
MAKZ	**Makanchi**	**48.90 297**		*e*P	**P**	**14 36 09.7**	**-2.1**
TGY	**Tagaytay City**	**49.32 234**		LR	LR	14 56 18.2	
BRVK	**Borovoye**	**51.15 309**		*c*eP	**P**	**14 36 28.2**	**-0.4**
F10A	**Beach Ranch, E**	**51.54 62**		*e*P	P	14 36 36.6	+4.8
ARU	**Arti**	**54.20 318**		*d i*P	**P**	**14 36 50.2**	**-1.0**
ARCES	**ARCESS Array S**	**54.21 342**		*e*P	**P**	**14 36 49.9**	**-1.2**
ARCES	**ARCESS Array B**	**54.21 342**		P	**P**	**14 36 49.9**	**-1.2**
AAK	**Ala-Archa**	**55.66 297**		*e*P	**P**	**14 37 00.9**	**-1.2**
AAK	**Ala-Archa**	**55.66 297**		*c*eP	**P**	**14 37 01.3**	**-0.9**
NV01	**Mina Array Sit**	**55.87 70**		*e*P	P	14 37 08.4	+4.7
NVAR	**Mina Array Bea**	**55.87 70**		P	P	14 37 08.4	+4.7
MSF	**Maaselka**	**56.53 338**		P	**P**	**14 37 08.3**	**+0.5**
KSH	**Kashi**	**56.95 293**		P	P	14 37 15.3	+4.0
KKAR	**Karatay Array**	**57.51 300**		*e*P	**P**	**14 37 13.3**	**-1.8**
KKAR	**Karatay Array**	**57.51 300**		*e*P	**P**	**14 37 13.3**	**-1.8**
PD31	**Pinedale Array**	**57.79 60**		*e*P	**P**	**14 37 20.6**	**+3.2**
PDAR	**Pinedale Array**	**57.79 60**		P	**P**	**14 37 21.1**	**+3.7**
KLMR	**Klimovskoe**	**57.84 330**		*e*P	**P**	**14 37 15.7**	**-1.4**
OUL	**Oulu**	**57.93 339**		P	**P**	**14 37 18.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**58.20 259**		P	**P**	**14 37 21.6**	**+1.4**
JOF	**Joensuu**	**58.48 335**		P	**P**	**14 37 22.0**	**+0.5**
ABKAR	**Akbulak array**	**58.54 311**		*e*P	**P**	**14 37 21.2**	**-1.0**
LCGC	**La Cienega, Cu**	**58.88 74**		*e*P	**P**	**14 37 26.3**	**+1.6**
SUF	**Sumiainen**	**59.91 338**		P	**P**	**14 37 31.5**	**+0.1**
DEVC	**Devers**	**59.98 72**		*e*P	P	14 37 38.7	+6.3
GAR	**Garm**	**60.46 296**		*e*P	**P**	**14 37 33.5**	**-2.3**
GAR	**Garm**	**60.46 296**		*e*P	**P**	**14 37 33.5**	**-2.3**
FIA0	**FINESS Array S**	**61.03 337**		*e*P	**P**	**14 37 38.8**	**-0.3**
FIA0	**FINESS Array S**	**61.03 337**		*e*P	**P**	**14 37 38.8**	**-0.3**
FINES	**FINESS Array B**	**61.03 337**		*e*P	**P**	**14 37 39.2**	**+0.1**
FINES	**FINESS Array B**	**61.03 337**		*i* P	**P**	**14 37 39.7**	**+0.6**
FINES	**FINESS Array B**	**61.03 337**		P	**P**	**14 37 38.8**	**-0.3**
OBN	**Obninsk**	**63.39 328**		*e*P	**P**	**14 37 55.4**	**+0.5**
NB2	**NORSAR Subarra**	**64.47 344**		P	**P**	**14 38 02.7**	**+0.7**
NB200	**NORSAR Array S**	**64.47 344**		*e*P	**P**	**14 38 02.7**	**+0.7**
NOA	**NORSAR Array B**	**64.47 344**		P	**P**	**14 38 02.7**	**+0.7**
I39A	**Houston**	**66.05 49**		*e*P	**P**	**14 38 15.1**	**+2.6**
KAPI	**Kappang**	**66.62 225**		LR	LR	15 05 10.8	
GEYT	**Alibeck**	**67.75 303**		P	**P**	**14 38 23.4**	**-0.1**
AKASG	**Malin Array Be**	**69.50 329**		P	**P**	**14 38 33.7**	**-0.3**
AKBB	**Malin Array Si**	**69.50 329**		*e*P	**P**	**14 38 33.3**	**-0.7**
TXAR	**Lajitas Array**	**70.81 67**		P	**P**	**14 38 45.2**	**+2.6**
BUR08	**Bucovina Ar. S**	**73.44 330**		*e*P	**P**	**14 38 58.5**	**+0.4**
BURAR	**Bucovina Array**	**73.46 330**		*e*P	**P**	**14 38 58.6**	**+0.4**
BURAR	**Bucovina Array**	**73.46 330**		*e*P	**P**	**14 38 58.6**	**+0.4**
DZM	**Mont Dzumac**	**74.12 174**		*e*LR	LR	14 39 09.2	
VYHS	**Vyhne**	**74.49 335**		*e*P	**P**	**14 39 06.0**	**+2.0**
VYHS	**Vyhne**	**74.49 335**		*e*P	**P**	**14 39 06.0**	**+2.0**
WR1	**Warramunga Arr**	**75.34 205**		*e*P	**P**	**14 39 10.6**	**+1.4**
WRA	**Warramunga Arr**	**75.34 205**		P	**P**	**14 39 10.6**	**+1.4**
GERES	**GERESS Array B**	**75.43 338**		P	**P**	**14 39 09.4**	**-0.2**
KBA	**Koelnbreinsper**	**77.17 338**		P	**P**	**14 39 21.1**	**+1.5**
ASAR	**Alice Springs**	**79.01 205**		P	**P**	**14 39 31.4**	**+1.7**
PPT	**Papeete**	**81.89 132**		LR	LR	15 07 24.8	

ISCJB ***20*** *14:38:01.2±0.6, 34°.94N±0°.03×135°.93E±0°.03, h10km±5km, mb3.1/2, Error ellipse: s-maj=4.6km s-min=3.9km az=28.1*
JMA ***20*** *14:38:01.8, 34°.95N×135°.92E, h11km, M3.6 Broadband fault plane solution: P waves. NP1:φs16.00000°, δ61.00000°, λ103.00000°. NP2:φs171.00000°, δ31.00000°, λ68.00000°. Principal axes: T Plg71.0000°, Azm315.0000°; N Plg11.0000°, Azm190.0000°; P Plg15.0000°, Azm97.0000°;*
JMA Felt III J1.
IDC ***20*** *14:38:01.3±2.1, 35°.05N×135°.91E, h0km, mb3.5/2, mb1 3.4/5, mb1mx3.2/37, mbtmp3.4/5, ML2.8/3 Error ellipse: s-maj=38.0km s-min=14.4km az=158.0*
ISC 20 14:38:00.9±1.2,**34°.98N**±0°.04×**135°.93E**±0°.03,**h2**km±13km,
n16,σ0§82/28,**8D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHE	**Heguri**	**0.38 211**		⇓P	**Pg**	**14 38 08.8**	**+0.6**
JHE				S	**Sg**	**14 38 13.5**	**+0.3**
TSUJ	**Tsu 2**	**0.49 124**		⇓P	**Pg**	**14 38 10.8**	**+0.6**
TSUJ				S	**Sg**	**14 38 17.1**	**+0.5**
JWT	**Wachi**	**0.53 305**		⇓P	**Pb**	**14 38 12.3**	**-0.6**
JWT				S	**Sb**	**14 38 19.3**	**-1.6**
JKN2	**Miekihoku**	**0.79 159**		⇓P	**Pg**	**14 38 15.7**	**-0.4**
JKN2				S	**Sg**	**14 38 25.7**	**-0.7**
JWY	**Kouya**	**0.81 200**		P	**Pg**	**14 38 16.4**	**0.0**
JWY				S	**Sg**	**14 38 26.5**	**-0.4**
JIE	**Ise**	**0.87 132**		⇓P	**Pg**	**14 38 17.1**	**-0.5**
JIE				S	**Sg**	**14 38 28.3**	**-0.6**
JKS	**Kasai**	**0.89 270**		⇓P	**Pb**	**14 38 18.5**	**-0.6**
JKS				S	**Sg**	**14 38 30.0**	**+0.5**
JYTA	**Yamagatataniai**	**0.90 47**		P	**Pb**	**14 38 19.4**	**+0.1**
JYTA				S	**Sb**	**14 38 31.3**	**-0.4**
JKY	**Yasaka**	**0.93 314**		⇓P	**Pb**	**14 38 19.8**	**0.0**
JKY				S	**Sb**	**14 38 32.4**	**-0.3**
JAJ2	**Tsuna**	**1.02 237**		⇓P	**Pg**	**14 38 20.1**	**-0.5**
JAJ2				S	**Sg**	**14 38 33.7**	**-0.1**
MAT	**Matsushiro**	**2.42 49**		P	**Pn**	**14 38 42.6**	**+1.0**
MAT				S	**Sg**	**14 39 18.0**	**-0.7**
MJAR	**Matsushiro Arr**	**2.42 49**		Pn	**Pn**	**14 38 42.9**	**+1.3**
MJAR	0.7nm,0.3s,baz=238,slow=14,SNR=47			Pg	**Pg**	**14 38 47.0**	**-0.3**
MJAR	3.0nm,0.3s,baz=245,slow=17,SNR=64			Lg	Lg	14 39 15.8	
JNU	**Nakatsue**	**4.58 248**		Pn	**Pn**	**14 39 12.2**	**+0.9**
KSRS	**Korea Array**	**6.92 293**		Pn	**Pn**	**14 39 45.5**	**+2.1**
SONM	**Songino Array**	**25.43 309**		P	**P**	**14 43 30.5**	**+0.4**
MKAR	**Makanchi Array**	**41.48 303**		P	**P**	**14 45 48.3**	**-1.0**

NORS ***20*** *14:39:28.4±0.0, 42°.47N×45°.77E, h26km, MPVA3.7*
TIF ***20*** *14:39:29.9, 42°.51N×45°.76E, h21km±2km*
DRS ***20*** *14:39:30.0±0.0, 42°.53N×45°.65E, h18km, ML2.8/2*
ISCJB ***20*** *14:39:31.0±0.3, 42°.50N±0°.03×45°.79E±0°.03, h15km±5km, Error ellipse: s-maj=4.3km s-min=3.1km az=10.0*
ISC 20 14:39:28.6±1.2,**42°.51N**±0°.03×**45°.80E**±0°.02,**h10**km±10km,
n32,σ1§02/64,**1C-1D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.35 64**		*e*Pg	**Pb**	**14 39 37.9**	**+0.9**
BTLR	99nm,0.2s			⇓*e*Sg	**Sb**	**14 39 43.9**	**+1.3**
XNZR	**Khunzakh**	**0.67 87**		*e*Pg	**Pn**	**14 39 43.1**	**-1.2**
XNZR				*e*Sg	**Sn**	**14 39 53.4**	**-1.6**
LGD	**Lagodekhi**	**0.75 154**		P	**Pn**	**14 39 45.6**	**+0.3**
LGD				S	**Sn**	**14 39 56.4**	**-0.4**
LGD	**Lagodekhi**	**0.75 154**		*e*Pg	**Pn**	**14 39 45.6**	**+0.3**
LGD				*e*Sg	**Sn**	**14 39 56.4**	**-0.4**
GNBR	**Gunib**	**0.87 98**		*e*Pg	**Pn**	**14 39 46.9**	**0.0**
GNBR	32nm,0.3s			⇑*e*Sg	**Sn**	**14 40 00.1**	**+0.4**
KMGR	**Komgaron**	**0.88 309**		*e*Pg	**Pn**	**14 39 47.4**	**+0.3**
KMGR				*e*Sg	**Sn**	**14 39 59.9**	**-0.1**
ARKR	**Arakani**	**0.89 84**		*e*Pg	**Pn**	**14 39 46.5**	**-0.7**
ARKR	312nm,0.2s			*i* Sg	**Sn**	**14 39 59.5**	**-0.7**
DBC	**Dubki**	**0.92 56**		*e*Pg	**Pn**	**14 39 47.5**	**-0.1**
DBC				*e*Pg	**Pn**	**14 39 47.5**	**-0.1**
DBC				*e*Sg	**Sn**	**14 40 01.4**	**+0.6**
DBC				*e*Sg	**Sn**	**14 40 01.4**	**+0.6**
GUDG	**Gudauri**	**0.98 268**		P	**Pn**	**14 39 48.2**	**-0.4**
VLKR	**Vladikavkaz**	**0.98 303**		*e*Pg	**Pn**	**14 39 48.9**	**+0.3**
VLKR				*e*Sg	**Sn**	**14 40 02.8**	**+0.2**
DDFL	**Dedoflistskaro**	**1.09 167**		P	**Pg**	**14 39 49.3**	**-0.2**
DDFL				S	**Sn**	**14 40 09.4**	**+4.2**
TBLG	**Delisi**	**1.11 226**		P	**Pn**	**14 39 50.4**	**+0.2**
TBLG				S	**Sn**	**14 40 06.0**	**+0.4**
TBLG	**Delisi**	**1.11 226**		*e*Pg	**Pn**	**14 39 50.4**	**+0.2**
TBLG				*e*Sg	**Sn**	**14 40 06.0**	**+0.4**
BTNK	**Botanikuri**	**1.11 222**		P	**Pn**	**14 39 50.5**	**+0.2**
BTNK				S	**Sn**	**14 40 06.1**	**+0.4**
LACR	**Lac**	**1.15 286**		*e*Pg	**Pg**	**14 39 49.9**	**-0.8**
LACR				*e*Sg	**Sg**	**14 40 05.2**	**-0.5**
BTKR	**Batakoyurt**	**1.26 313**		*e*Pg	**Pg**	**14 39 54.0**	**+1.1**
BTKR				*e*Sg	**Sn**	**14 40 11.2**	**+1.8**
ARNR	**Ardon**	**1.30 302**		*e*Pg	**Pg**	**14 39 54.2**	**+0.7**
ARNR				*i* Sg	**Sn**

DIGR	**Digorskoe uzhe**	**1.68 284**	*e*Pg	**Pn**	**14 39 58.8**	**+0.5**
DIGR			*e*Sg	**Sn**	**14 40 20.2**	**+0.2**
ONI	**Oni**	**1.74 273**	P	**Pb**	**14 40 00.7**	**+0.1**
ONI			S	**Sg**	**14 40 24.0**	**-0.4**
ONI	**Oni**	**1.74 273**	*e*Pg	**Pb**	**14 40 00.7**	**+0.1**
ONI			*e*Sg	**Sg**	**14 40 24.0**	**-0.4**
AKT	**Akhty**	**1.77 125**	*e*Pg	Pn	14 39 54.1	-5.3
AKT			*e*Sg	**Sn**	**14 40 19.0**	**-3.0**
NCK	**Nalchik**	**1.89 302**	*e*Pg	**Pb**	**14 40 03.4**	**+0.1**
NCK			*e*Sg	**Sb**	**14 40 27.5**	**+0.5**
TKB	**Tkibuli**	**2.08 267**	P	**Pg**	**14 40 07.7**	**-0.8**
TKB			S	**Sb**	**14 40 32.9**	**+0.5**
KBTC	**Kuba-Taba**	**2.18 308**	*e*Pg	**Pb**	**14 40 08.7**	**+0.5**
KBTC			*i* Sg	**Sb**	**14 40 35.8**	**+0.5**
NEY	**Neytrino**	**2.38 289**	*e*Pn	**Pb**	**14 40 11.8**	**+0.2**
NEY			*e*Sn	**Sb**	**14 40 41.5**	**+0.4**
PYA1	**Pyatigorsk**	**2.51 309**	*e*Pn	**Pn**	**14 40 07.5**	**-2.0**
PYA1			*e*Sn	**Sn**	**14 40 37.8**	**-2.4**
SHA1	**Shidzhatmaz**	**2.61 299**	*e*Pn	**Pn**	**14 40 11.0**	**0.0**
SHA1			*e*Sn	**Sb**	**14 40 46.4**	**-1.3**

GUC 20 14:44:56.0±0.4, 23°.99S×67°.42W, h222km±9km, ML3.7, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**2.03**	**292**	↑*i*P	Pn	14 45 36.5	-0.2
PB15				*i* S	S	14 46 07.4	-0.9
PB06	**IPOC Station P**	**2.35**	**302**	↑*i*P	Pn	14 45 40.0	+0.1
PB06				*i* S	S	14 46 13.6	-0.5
PB06				IAML		14 46 16.1	
	comp=E,264nm,0.3s						
PB09	**IPOC Station P**	**2.75**	**322**	*e*P	Pn	14 45 44.7	+0.4
PB09				*e*S	S	14 46 21.2	-0.6
PB09				IAML		14 46 25.5	
	comp=E,40nm,0.3s						
PB05	**IPOC Station P**	**2.79**	**293**	↑*i*P	Pn	14 45 44.9	+0.3
PB05				*i* S	S	14 46 21.5	-1.0
PB05				IAML		14 46 25.9	
	comp=E,90nm,0.2s						
PB03	**IPOC Station P**	**2.88**	**311**	↑*i*P	Pn	14 45 45.8	+0.1
PB03				*e*S	S	14 46 23.7	-0.8
PB03				IAML		14 46 26.1	
	comp=N,116nm,0.3s						
PB10	**IPOC Station P**	**2.91**	**279**	↑*i*P	Pn	14 45 45.8	0.0
PB10				*i* S	S	14 46 23.7	-0.9
PB10				IAML		14 46 29.2	
	comp=E,72nm,0.2s						
PB04	**IPOC Station P**	**3.00**	**303**	*e*P	Pn	14 45 47.0	0.0
PB04				*i* S	S	14 46 26.3	-0.5
PB04				IAML		14 46 28.2	
	comp=N,134nm,0.4s						
PB07	**IPOC Station P**	**3.20**	**314**	↑*i*P	Pn	14 45 49.4	+0.1
PB07				*i* S	S	14 46 30.3	-0.6
PB07				IAML		14 46 32.5	
	comp=N,111nm,0.4s						
PB02	**IPOC Station P**	**3.50**	**319**	*e*P	Pn	14 45 52.8	+0.1
PB02				*i* S	S	14 46 36.0	-1.2
PB02				IAML		14 46 41.5	
	comp=N,74nm,0.4s						

MEX 20 14:47:53.0±0.5, 14°.18N×92°.53W, h26km±19km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.76**	**20**	*e*P	Pb	14 48 04.9	-2.8
THIG				*e*S	Sb	14 48 15.0	-2.7
PCIG		**1.65**	**336**	*e*P	Pn	14 48 18.1	-2.2
PCIG				*i* S	Sn	14 48 37.3	-3.4
CCIG	**Comitan**	**2.12**	**10**	*e*P	Pn	14 48 25.5	-1.4
CCIG				*e*S	Sn	14 48 48.9	-3.6
TGIG		**2.64**	**348**	*e*P	Pn	14 48 32.0	-2.0
TGIG				*i* S	Sn	14 49 02.4	-2.8

*ISCJB **20** 14:55:46.4±0.3, 0°.50N±0°.03×123°.82E±0°.04, h220km±3km, mb4.5/49, Error ellipse: s-maj=6.3km s-min=4.9km az=163.0*
*NEIC **20** 14:55:46.8±0.5, 0°.49N×123°.77E, h212km±5km, mb4.6/29, Error ellipse: s-maj=5.8km s-min=4.1km az=61.0*
*DJA **20** 14:55:48.9±0.2, 0°.N±3°×12°.4E±°, h196km±3km, M4.3/16, mb4.6/16, mB4.8/6, MLv4.4/16, Mw(mB)4.0/6*
*IDC **20** 14:55:49.0±1.6, 0°.47N×123°.73E, h230km±15km, mb4.0/20, mb1 4.0/22, mb1mx3.9/36, mbtmp4.5/22, Error ellipse: s-maj=16.3km s-min=7.2km az=75.0*
ISC 20 14:55:47.1±0.5, 0°.48N±0°.04×123°.82E±0°.05, h210km±4km, n122, σ1§51/143, mb4.4/49, 3C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.18**	**59**	P	**Pn**	**14 56 16.3**	**+1.8**
KMSI				S	**S**	**14 56 35.8**	**-0.2**
LUWI	**Luwuk**	**1.84**	**215**	*e*Pn	**Pn**	**14 56 24.9**	**+0.2**
LUWI				*e*S	**S**	**14 56 50.3**	**-3.6**
LUWI	**Luwuk**	**1.84**	**215**	P	**Pn**	**14 56 24.8**	**0.0**
LUWI				S	**S**	**14 56 51.8**	**-2.0**
MRSI	**Marisa**	**1.88**	**270**	P	**Pn**	**14 56 25.8**	**+0.6**
MRSI				S	**S**	**14 56 53.9**	**-0.5**
APSI	**Ampana**	**2.58**	**238**	P	**Pn**	**14 56 33.2**	**+0.8**
APSI				S	**S**	**14 57 06.4**	**-1.0**
SANI	**Sanana**	**3.31**	**139**	P	**Pn**	**14 56 39.7**	**-1.3**
TNTI	**Ternate**	**3.56**	**85**	*e*Pn	**Pn**	**14 56 43.2**	**-0.6**
TNTI	**Ternate**	**3.56**	**85**	P	**Pn**	**14 56 44.1**	**+0.3**
SGSI	**Sangihe**	**3.61**	**28**	P	**Pn**	**14 56 47.2**	**+2.7**
MPSI	**Mapaga**	**3.93**	**268**	P	**Pn**	**14 56 50.0**	**+1.6**
KDI	**Kendari**	**4.57**	**195**	P	**Pn**	**14 56 57.2**	**+0.9**
TTSI	**Tana Toraja**	**5.32**	**229**	P	**Pn**	**14 57 06.8**	**+1.0**
SPSI	**Sidrap Palu**	**5.99**	**223**	P	**Pn**	**14 57 15.0**	**+0.6**
	43nm,0.6s,550nm0.2nm						
BNSI	**Bone**	**6.11**	**217**	P	**Pn**	**14 57 16.8**	**+0.9**
CTBH	**Cotabato--PC H**	**6.71**	**4**	↑*i*P	**Pn**	**14 57 25.3**	**+1.6**
KAPI	**Kappang**	**6.80**	**217**	*e*Pn	**Pn**	**14 57 23.2**	**-1.7**
KAPI				S	**S**	**14 58 45.9**	**+3.3**
KAPI	**Kappang**	**6.80**	**217**	P	**Pn**	**14 57 26.4**	**+1.5**
	2.6nm,0.3s,baz=42,slow=1.5,SNR=10						
KAPI				S	**S**	**14 58 45.9**	**+3.3**
	1.8nm,0.3s,baz=143,slow=20,SNR=3.7						
BSSI	**Bau Bau, Buton**	**7.37**	**207**	P	**Pn**	**14 57 34.8**	**+2.6**
FAKI	**Fak Fak**	**9.07**	**112**	*e*Pn	**Pn**	**14 57 54.1**	**-0.3**
SOEI	**Soe**	**10.18**	**178**	*e*Pn	**Pn**	**14 58 07.7**	**-0.9**
SOEI	**Soe**	**10.18**	**178**	P	**Pn**	**14 58 10.6**	**+2.0**
PLAI	**Plampang**	**11.03**	**213**	P	**Pn**	**14 58 20.9**	**+1.4**
SBUM	**Sibu**	**11.76**	**280**	*e*Pn	**Pn**	**14 58 28.1**	**-0.7**
IGBI	**Denpasar**	**12.65**	**223**	P	**P**	**14 58 41.7**	**-1.7**
JAGI	**Jajag, Banyuwa**	**13.11**	**227**	*e*Pn	**Pn**	**14 58 45.1**	**-0.7**
KSM	**Kuching**	**13.55**	**274**	*e*P	**P**	**14 58 52.8**	**-0.6**
MTN	**Manton Dam**	**15.09**	**152**	*e*Pn	**Pn**	**14 59 09.3**	**-0.8**
	46nm,0.6s						
CISI	**Cisompet, Garu**	**17.85**	**243**	*e*P	**P**	**14 59 38.9**	**-1.9**
	85nm,1.7s						
FITZ	**Fitzroy Crossi**	**18.55**	**175**	*e*P	**P**	**14 59 48.1**	**-0.2**
	31nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.55**	**175**	P	**P**	**14 59 48.2**	**-0.1**
	4.1nm,0.3s,baz=0.1,slow=9.9,SNR=246						
WRAB	**Tennant Creek**	**22.76**	**154**	*e*P	**P**	**15 00 31.6**	**0.0**
	42nm,0.8s						
WR1	**Warramunga Arr**	**22.76**	**154**	*e*P	**P**	**15 00 31.6**	**0.0**
WR1				*e*S	**S**	**15 04 27.0**	**+2.5**
WRA	**Warramunga Arr**	**22.76**	**154**	P	**P**	**15 00 31.6**	**0.0**
	53nm,0.6s,baz=344,slow=13,SNR=712						
WRA				S	**S**	**15 04 27.0**	**+2.5**
	2.4nm,0.9s,baz=330,slow=18,SNR=4.6						
WB2	**Warramunga Arr**	**22.77**	**154**	*e*P	**P**	**15 00 31.8**	**+0.1**
	55nm,0.6s						
YULB	**Yu-li**	**22.91**	**354**	*e*P	**P**	**15 00 32.1**	**-0.8**
	15nm,0.6s						
SKNT	**Sakolnakorn**	**25.51**	**311**	P	**P**	**15 00 59.6**	**+3.1**
	8.2nm,1.2s						
AS31	**Alice Springs**	**25.92**	**158**	*e*P	**P**	**15 01 00.2**	**0.0**
	3.6nm,0.6s						
ASAR	**Alice Springs**	**25.92**	**158**	P	**P**	**15 01 00.6**	**+0.4**
	6.1nm,0.7s,baz=334,slow=6.8,SNR=119						
ASAR				ScP	**ScP**	**15 07 41.5**	**-1.6**
	1.4nm,0.7s,baz=343,slow=2.6,SNR=11						
JOW	**Kunigami**	**26.55**	**9**	P	**P**	**15 01 07.3**	**+1.6**
	1.1nm,0.7s,baz=190,slow=15,SNR=4.6						
UTTA	**Uttaradit**	**28.60**	**308**	P	**P**	**15 01 26.4**	**+2.4**
	17μm,0.8s						
CMAR	**Chiang Mai Arr**	**30.27**	**308**	*e*P	**P**	**15 01 38.3**	**-0.5**
CMAR				PcP	**PcP**	**15 04 34.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**30.27**	**308**	P	**P**	**15 01 39.6**	**+0.9**
	2.1nm,0.8s,baz=137,slow=8.1,SNR=12						
CMAR				PcP	**PcP**	**15 04 34.2**	**+0.1**
	1.1nm,0.9s,baz=168,slow=2.7,SNR=5.4						
CMMT	**Chiang Mai**	**30.46**	**308**	P	**P**	**15 01 42.0**	**+1.5**
	6.5nm,0.8s						
CHTO	**Chiang Mai**	**30.46**	**308**	*e*P	**P**	**15 01 40.2**	**-0.3**
	9.8nm,0.8s						
WHN	**Wuhan**	**31.23**	**344**	↑*i*P	**P**	**15 01 50.1**	**+3.1**
FORT	**Forrest**	**31.34**	**173**	*e*P	**P**	**15 01 48.1**	**+0.1**
	99nm,0.6s						
NJ2	**Nanjing**	**31.75**	**352**	*e*P	**P**	**15 01 53.3**	**+1.7**
NWAO	**Narrogin (SRO)**	**33.80**	**190**	P	**P**	**15 02 09.4**	**0.0**
	11nm,0.8s,baz=23,slow=8.5,SNR=6.2						
CD2	**Chengdu**	**35.75**	**330**	*e*P	**P**	**15 02 25.6**	**-0.6**
XAN	**Xi'an**	**36.19**	**339**	P	**P**	**15 02 31.4**	**+1.6**
XAN				pP	pP	15 02 49.3	-22
XAN	**Xi'an**	**36.19**	**339**	*e*P	**P**	**15 02 30.6**	**+0.8**
	21nm,1.3s						
STKA	**Stephens Creek**	**36.31**	**154**	*e*P	**P**	**15 02 31.1**	**+0.2**
	1.9nm,0.6s						
STKA	**Stephens Creek**	**36.31**	**154**	P	**P**	**15 02 31.5**	**+0.7**
	7.6nm,0.5s,baz=323,slow=9.0,SNR=27						
KSAR	**Wonju Array Be**	**36.97**	**5**	*e*P	**P**	**15 02 36.4**	**+0.1**
KSRS	**Korea Array**	**36.99**	**5**	P	**P**	**15 02 37.0**	**+0.6**
	5.2nm,0.7s,baz=183,slow=9.8,SNR=20						
MAJO	**Matsushiro**	**38.28**	**19**	*e*P	**P**	**15 02 46.6**	**-0.7**
	10nm,0.9s						
MAT	**Matsushiro**	**38.28**	**19**	P	**P**	**15 02 46.8**	**-0.5**
MJAR	**Matsushiro Arr**	**38.28**	**19**	P	**P**	**15 02 46.8**	**-0.5**
	6.9nm,0.8s,baz=197,slow=9.6,SNR=22						
MJB9	**Matsu-Tunnel**	**38.28**	**19**	*e*P	**P**	**15 02 46.5**	**-0.9**
	11nm,0.9s						
SHL	**Shillong**	**39.65**	**312**	*e*P	**P**	**15 02 57.4**	**-1.6**
	12nm,0.6s						
LZH	**Lanzhou**	**40.00**	**334**	*e*P	P	15 03 06.4	+4.7
LZH				pP	pwP	15 03 50.8	+0.2
LZH				sP	sP	15 04 13.4	+5.7
HHC	**Hu-ho-hao-te**	**41.70**	**346**	*e*P	**P**	**15 03 16.8**	**+1.3**
HHC				S	**S**	**15 09 21.9**	**+5.5**
HHC				sS	sS	15 10 39.4	+4.0
HHC				ScS	**ScS**	**15 12 54.3**	**-1.4**
CAN	**Canberra**	**42.67**	**149**	*e*P	**P**	**15 03 25.0**	**+1.7**
	30nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.14**	**8**	*e*P	**P**	**15 03 35.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**44.14**	**8**	P	**P**	**15 03 35.3**	**+0.5**
	8.4nm,0.6s,baz=197,slow=6.6,SNR=25						
RAMN	**Ramite**	**44.40**	**309**	*e*P	**P**	**15 03 38.2**	**+0.7**
	34nm,0.6s						
GTA	**Gaotai**	**44.53**	**333**	⇓P	**P**	**15 03 39.8**	**+1.6**
GTA				pP	pwP	15 04 31.8	+4.0
GTA				sP	sP	15 04 59.4	+14
JIRN	**Jiri**	**45.07**	**310**	*e*P	**P**	**15 03 42.9**	**0.0**
	27nm,0.5s						
PKI	**Pulchoki**	**45.62**	**309**	*e*P	**P**	**15 03 47.3**	**+0.1**
	19nm,0.8s						
PKIN	**Phulchoki**	**45.64**	**309**	*e*P	**P**	**15 03 47.5**	**+0.2**
	6.5nm,0.4s						
KOLN	**Koldanda**	**47.13**	**309**	*e*P	**P**	**15 03 59.5**	**+0.7**
	35nm,0.7s						
DZM	**Mont Dzumac**	**47.20**	**121**	P	**P**	**15 04 00.9**	**+1.6**
	3.9nm,0.8s,baz=298,slow=18,SNR=3.6						
DANN	**Dangsing**	**47.28**	**309**	*e*P	**P**	**15 04 00.5**	**+0.5**
	40nm,0.6s						
PYUN	**Piuthan**	**47.76**	**309**	*e*P	**P**	**15 04 03.8**	**+0.2**
	35nm,0.5s						
HIA	**Hailar**	**48.73**	**356**	*e*P	**P**	**15 04 09.7**	**-0.7**
	9.4nm,0.6s						
ULN	**Ulaanbaatar**	**49.40**	**345**	*e*P	**P**	**15 04 15.1**	**-0.6**
	10nm,0.9s						
SONA0	**Songino Array**	**49.54**	**345**	*e*P	**P**	**15 04 16.7**	**0.0**
SONM	**Songino Array**	**49.54**	**345**	*e*P	**P**	**15 04 16.2**	**-0.5**
SONM	**Songino Array**	**49.54**	**345**	P	**P**	**15 04 16.7**	**0.0**
	11nm,0.7s,baz=159,slow=8.2,SNR=46						
WMQ	**Urumqi**	**53.82**	**328**	*e*P	**P**	**15 04 50.0**	**+1.6**
WMQ				sP	sP	15 06 00.4	+3.3
KSH	**Kashi**	**58.38**	**318**	P	P	15 05 25.5	+4.7
KSH				pP	pwP	15 06 13.0	+5.0
KSH				PP	**PP**	**15 07 38.5**	**+5.9**
KSH				S	**S**	**15 13 08.8**	**+1.7**
KSH	**Kashi**	**58.38**	**318**	SS	SS	15 17 09.1	+6.1
MK31	**Makanchi Array**	**58.65**	**328**	*e*P	**P**	**15 05 21.8**	**-0.6**
	11nm,0.6s						
MK31				*e*pP	**pP**	**15 06 08.8**	**0.0**
MK32	**Makanchi Array**	**58.65**	**328**	*e*P	**P**	**15 05 21.9**	**-0.4**
MK32				*e*pP	**PcP**	**15 06 09.4**	**-0.7**
MK32				*e*ScP	**ScP**	**15 09 47.4**	**-3.1**
MKAR	**Makanchi Array**	**58.65**	**328**	*e*P	**P**	**15 05 21.5**	**-0.9**
MKAR				*e*pP	**pP**	**15 06 08.8**	**0.0**
MKAR				ScP	**ScP**	**15 09 47.4**	**-3.1**
MKAR	**Makanchi Array**	**58.65**	**328**	P	**P**	**15 05 21.9**	**-0.4**
	15nm,0.5s,baz=125,slow=8.3,SNR=151						
MKAR				PcP	**PcP**	**15 06 09.4**	**-0.7**
	1.9nm,0.5s,baz=163,slow=2.5,SNR=6.3						
MKAR				ScP	**ScP**	**15 09 47.4**	**-3.1**
	0.8nm,0.8s,baz=115,slow=5.5,SNR=5.0						
MAKZ	**Makanchi**	**58.82**	**328**	*e*P	**P**	**15 05 22.8**	**-0.8**
	14nm,0.5s						
MAKZ				*e*PcP	**pP**	**15 06 09.9**	**-0.1**
KDJ	**Kajisay**	**58.92**	**321**	*e*P	**P**	**15 05 24.4**	**-0.1**
	10nm,0.8s						
PETK	**Petropavlovsk-**	**59.53**	**23**	*e*P	**P**	**15 05 28.0**	**-0.3**
PETK	**Petropavlovsk-**	**59.53**	**23**	P	**P**	**15 05 28.6**	**+0.4**
	6.0nm,0.7s,baz=190,slow=4.9,SNR=17						
PEA1	**Petropavlovsk-**	**59.53**	**23**	*e*P	**P**	**15 05 28.6**	**+0.4**
RPZ	**Rata Peaks**	**60.88**	**142**	P	**P**	**15 05 38.0**	**+0.3**
	6.2nm,0.8s,baz=9.3,slow=2.0,SNR=6.3						
AAK	**Ala-Archa**	**60.89**	**320**	*e*P	**P**	**15 05 37.1**	**-0.8**
	5.4nm,0.8s						
ARSB	**Arslanbob**	**61.25**	**318**	*e*P	**P**	**15 05 39.6**	**-0.7**
	5.9nm,0.8s						
GAR	**Garm**	**62.06**	**315**	*e*P	**P**	**15 05 44.6**	**-1.2**
	14nm,1.0s						
ZAA0	**Zalesovo Array**	**62.22**	**335**	*e*P	**P**	**15 05 44.6**	**-1.8**
	5.5nm,0.9s						
ZALV	**Zalesovo Beam**	**62.22**	**335**	*e*P	**P**	**15 05 44.4**	**-2.0**
ZALV	**Zalesovo Beam**	**62.22**	**335**	P	**P**	**15 05 44.8**	**-1.6**
	2.9nm,0.4s,baz=124,slow=6.3,SNR=15						
ZAA1	**Zalesovo Array**	**62.23**	**335**	*e*P	**P**	**15 05 44.8**	**-1.6**
URZ	**Urewera**	**62.26**	**135**	P	**P**	**15 05 46.8**	**-0.2**
	4.4nm,0.7s,baz=251,slow=7.2,SNR=5.8						
KURK	**Kurchatov**	**62.98**	**330**	*e*P	**P**	**15 05 50.4**	**-1.1**
	34nm,0.6s						
KKAR	**Karatay Array**	**63.69**	**319**	*e*P	**P**	**15 05 55.1**	**-1.2**
BRVK	**Borovoye**	**68.58**	**329**	*e*P	**P**	**15 06 25.9**	**-1.2**
	13nm,1.1s						
TIXI	**Tiksi**	**71.13**	**2**	*e*P	**P**	**15 06 41.3**	**-1.0**
NRIK	**Noril'sk**	**72.91**	**347**	P	**P**	**15 06 52.6**	**-0.3**
	6.1nm,0.6s,baz=131,slow=5.0,SNR=19						
ARU	**Arti**	**76.15**	**329**	*e*P	**P**	**15 07 10.3**	**-1.5**
	12nm,0.9s						
VNDA	**Vanda**	**80.60**	**172**	*e*P	**P**	**15 07 35.4**	**-0.4**
	2.3nm,0.9s						
VNDA	**Vanda**	**80.60**	**172**	P	**P**	**15 07 36.2**	**+0.4**
	1.7nm,0.8s,baz=296,slow=6.0,SNR=13						
RDOG	**Red Dog Mine**	**83.34**	**21**	*e*P	**P**	**15 07 50.4**	**+0.1**
	12nm,1.2s						
SYO	**Syowa Base**	**88.37**	**201**	↑*e*PcP	**PcP**	**15 08 18.4**	**+2.2**
ILAR	**Eielson Array**	**89.27**	**25**	P	**P**	**15 08 17.9**	**-1.2**
	0.3nm,0.6s,baz=252,slow=5.0,SNR=6.0						
ILB	**Eielson Array**	**89.27**	**25**	*e*P	**P**	**15 08 17.7**	**-1.4**
	8.8nm,1.8s						
BR101	**Keskin Array S**	**89.84**	**310**	*e*P	**P**	**15 08 20.5**	**-2.1**
BRTR	**Keskin Array B**	**89.84**	**310**	P	**P**	**15 08 20.5**	**-2.1**
	0.5nm,0.6s,baz=139,slow=3.1,SNR=3.3						
BCAR	**Beaver Creek A**	**91.58**	**27**	*e*P	**P**	**15 08 30.1**	**+0.1**
ARA0	**ARCESS Array S**	**92.47**	**340**	*e*P	**P**	**15 08 32.3**	**-1.5**
ARCES	**ARCESS Array B**	**92.47**	**340**	P	**P**	**15 08 32.3**	**-1.5**
	1.4nm,0.7s,baz=90,slow=7.3,SNR=5.5						
FIA0	**FINESS Array S**	**93.30**	**332**	*e*P	**P**	**15 08 36.4**	**-1.4**
FINES	**FINESS Array B**	**93.30**	**332**	P	**P**	**15 08 36.4**	**-1.4**
	0.9nm,0.7s,baz=98,slow=10.0,SNR=3.5						
BURAR	**Bucovina Array**	**95.46**	**318**	*e*P	**P**	**15 08 46.7**	**-1.5**
TORD	**Torodi Ar. Bea**	**121.08**	**286**	PKP	**PKiKP**	**15 14 15.1**	**-0.8**
	0.4nm,0.7s,baz=97,slow=1.0,SNR=3.5						
TOA1	**Torodi Ar. Sit**	**121.08**	**286**	*e*PKPdf	**PKiKP**	**15 14 15.1**	**-0.8**

*IDC **20** 15:02:02.8±1.9, 54°.10S×134°.30W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/25, mbtmp3.9/3, MS3.7/1, Ms1 3.7/1, ms1mx3.0/18, Error ellipse: s-maj=65.6km s-min=38.0km az=37.0*

*ISCJB **20** 15:02:05.1±1.1, 54°.6S±0°.2×134°.8W±0°.4, h10km, mb4.0/4, MS3.6/1, Error ellipse: s-maj=34.7km s-min=31.9km az=31.3*
*NEIC **20** 15:02:05.7±0.9, 54°.45S×134°.60W, h10km, mb4.3/2, Error ellipse: s-maj=32.2km s-min=30.6km az=170.0*
ISC 20 15:02:06.0±1.1, 54°.5S±0°.2×134°.7W±0°.3, h10km, n14, σ1§19/10, mb4.0/4, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**38.23**	**320**	LR	LR	15 21 12.1	
	comp=Z,109nm,21.1s,baz=274,slow=30						
SNAA	**Sanae**	**49.69**	**162**	*e*P	**P**	**15 10 57.3**	**-0.1**
	12nm,1.7s						
SNAA	**Sanae**	**49.69**	**162**	P	**P**	**15 10 57.8**	**+0.4**
	1.0nm,0.8s,baz=214,slow=7.3,SNR=4.3						
ASAR	**Alice Springs**	**71.86**	**255**	P	**P**	**15 13 29.9**	**+0.8**
	1.1nm,0.7s,baz=139,slow=6.9,SNR=20						
AS31	**Alice Springs**	**71.86**	**255**	*e*P	**P**	**15 13 29.9**	**+0.8**
	1.7nm,1.3s						
WR1	**Warramunga Arr**	**74.55**	**257**	*e*P	**P**	**15 13 45.3**	**+0.3**
WRA	**Warramunga Arr**	**74.55**	**257**	P	**P**	**15 13 45.3**	**+0.3**
	1.0nm,0.7s,baz=141,slow=5.6,SNR=12						
H11S2	**WAKE ISLAND Hy**	**88.11**	**306**	T	T	16 52 38.5	
	baz=152,slow=74,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**88.12**	**306**	T	T	16 52 38.5	
	baz=152,slow=74,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**88.13**	**306**	T	T	16 52 41.6	
	baz=152						
DREC	**Desert Rsrch C**	**88.50**	**16**	*e*P	**P**	**15 14 59.2**	**+1.2**
ILAR	**Eielson Array**	**119.28**	**354**	PKP	**PKPdf**	**15 20 51.4**	**-2.4**
	0.2nm,0.7s,baz=197,slow=2.7,SNR=3.8						
MK32	**Makanchi Array**	**155.53**	**267**	*e*PKPab	**PKPab**	**15 22 24.1**	**-0.7**
MKAR	**Makanchi Array**	**155.53**	**267**	PKPab	**PKPab**	**15 22 24.1**	**-0.7**
	0.4nm,0.7s,baz=106,slow=4.7,SNR=3.2						

*ISCJB **20** 15:44:36.1±1.9, 33°.98N±0°.04×36°.15E±0°.07, h28km±21km, Error ellipse: s-maj=10.4km s-min=6.7km az=159.8*
*GRAL **20** 15:44:36.9±0.3, 33°.95N×36°.21E, h3km±21km, MD3.0*
*NSSC **20** 15:44:36.1±0.6, 33°.99N×36°.21E, h15km±2km, ML1.5*
ISC 20 15:44:36.5±1.2, 33°.96N±0°.04×36°.13E±0°.06, h17km±12km, n8, σ0§46/15, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.35**	**334**	*e*P	**Pg**	**15 44 44.0**	**+0.1**
HWQ				*e*S	**Sb**	**15 44 49.4**	**-0.3**
BHL	**Bhannes**	**0.40**	**262**	*e*P	**Pb**	**15 44 45.3**	**+0.1**
QASN	**Qassioun**	**0.45**	**164**	*e*P	**Pb**	**15 44 46.1**	**+0.2**
QASN				*e*S	**Sg**	**15 44 52.0**	**+0.4**
QASN				AML	AML	15 44 53.9	
	comp=E,45nm,0.3s						
QASN				AML	AML	15 44 56.5	
	comp=N,97nm,0.2s						
RCY	**Rachaya**	**0.53**	**208**	*e*P	**Pg**	**15 44 46.6**	**-0.4**
RCY				*e*S	**Sg**	**15 44 54.0**	**-0.1**
DQRL	**Deir Qamar**	**0.53**	**241**	*e*P	**Pb**	**15 44 47.4**	**0.0**
DQRL				*e*S	**Sb**	**15 44 55.1**	**+0.3**
BRBR	**Barbar**	**0.57**	**195**	*e*P	**Pg**	**15 44 47.9**	**+0.1**
BRBR				*e*S	**Sb**	**15 44 57.1**	**+1.1**
BRBR				AML	AML	15 45 01.9	
	comp=E,13nm,0.5s						
BRBR				AML	AML	15 45 03.2	
	comp=N,26nm,0.4s						
TOTH	**TOTAH**	**0.65**	**157**	*e*P	**Pb**	**15 44 49.0**	**-0.4**
TOTH				*e*S	**Sg**	**15 44 57.9**	**0.0**
TOTH				AML	AML	15 45 03.0	
	comp=N,16nm,0.4s						
TOTH				AML	AML	15 45 05.6	
	comp=E,16nm,0.4s						
SHBL	**Chebaa**	**0.69**	**208**	*e*P	**Pb**	**15 44 49.7**	**-0.5**
SHBL				*e*S	**Sb**	**15 44 59.2**	**-0.3**

IDC 20 15:55:18.4±27.0, 22°.94S×174°.42W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/28, mbtmp4.0/4, Error ellipse: s-maj=502.6km s-min=147.9km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**

RUS				*e*S	Sn	16 28 16.1	+1.8
KRMR	**Karymshinskiy**	**1.77**	**10**	*e*P	Pn	16 27 58.5	+1.2
KRMR				*e*S	Sn	16 28 21.2	+0.3
APC	**Apacha**	**1.86**	**351**	*e*P	Pn	16 27 59.0	+0.7
APC				*e*S	Sn	16 28 21.9	-0.9
DALK	**Dalny**	**2.07**	**19**	*e*P	Pn	16 28 02.7	+1.8
DALK				*e*S	Sn	16 28 28.9	+1.6
UGLR	**Uglovaya**	**2.25**	**19**	*e*P	Pn	16 28 05.6	+2.3
UGLR				*e*S	Sn	16 28 33.3	+1.7
AVH	**Avacha**	**2.29**	**17**	*e*P	Pn	16 28 06.1	+2.4
AVH				*e*S	Sn	16 28 35.1	+2.8
KOK	**Koryaka**	**2.30**	**15**	*e*P	Pn	16 28 06.3	+2.5
SMAR	**Somma**	**2.30**	**18**	*e*P	Pn	16 28 06.0	+2.0
KRER	**Koryakskii**	**2.33**	**17**	*e*P	Pn	16 28 06.4	+2.1
SDLR	**Sedlovina**	**2.33**	**19**	*e*P	Pn	16 28 06.2	+1.9
SDLR				*e*S	Sn	16 28 34.3	+1.0
NLC	**Nalytchevo**	**2.34**	**26**	*e*S	Sn	16 28 33.8	+0.4
KRX	**Arik**	**2.36**	**15**	*e*P	Pn	16 28 06.6	+1.9
SPN	**Mys Shipunski**	**2.50**	**35**	*e*P	Pn	16 28 08.3	+2.0
SPN				*e*S	Sn	16 28 37.9	+0.9
MKZ	**Mys Kozlova**	**4.28**	**34**	*e*P	Pn	16 28 31.1	+1.5
MKZ				*e*S	Sn	16 29 18.2	-0.5
KZV	**Kizimen**	**4.34**	**21**	*e*P	Pn	16 28 34.1	+3.4
KZV				*e*S	Sn	16 29 23.6	+3.0
KBTR	**Krutoberegovo**	**5.99**	**29**	*e*P	Pn	16 28 54.4	+1.8
BKI	**Bering**	**6.50**	**47**	*e*S	Sn	16 30 08.8	-3.3

*IDC **20** 16:32:01.8±1.2,2˚.38N×125˚.34E,h0km,mb3.9/6,*
mb1 4.1/6,mb1mx3.6/43,mbtmp4.0/6,Error ellipse:
s-maj=104.6km s-min=17.4km az=68.0
*ISCJB **20** 16:32:25.1±0.9,1˚.7N±0˚.1×124˚.98E±0˚.07,h198km,*
mb3.7/5,Error ellipse: s-maj=14.3km s-min=9.7km
az=170.8
*DJA **20** 16:32:25.5±0.6,2˚N±6˚×12˚5E±˚,h199km±5km,M3.9/13,*
mb3.8/6,MLv3.9/13
ISC 20 16:32:24.5±1.0,1˚.87N±0˚.10×124˚.94E±0˚.07,h198km,n18,
σ1§11/18,mb3.7/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.61**	**217**	P	**Pn**	**16 33 00.4**	**+1.4**
SGSI	**Sangihe**	**1.90**	**18**	P	**Pn**	**16 33 03.5**	**+1.6**
TNTI	**Ternate**	**2.66**	**114**	P	**Pn**	**16 33 11.2**	**+1.1**
MRSI	**Marisa**	**3.30**	**245**	P	**Pn**	**16 33 18.8**	**+1.1**
LUWI	**Luwuk**	**3.62**	**217**	P	**Pn**	**16 33 21.7**	**+0.2**
SANI	**Sanana**	**4.03**	**165**	P	**Pn**	**16 33 26.2**	**-0.5**
APSI	**Ampana**	**4.30**	**230**	P	**Pn**	**16 33 30.8**	**+0.8**
MPSI	**Mapaga**	**5.27**	**253**	P	**Pn**	**16 33 43.3**	**+1.0**
PCI	**Palu**	**5.80**	**242**	P	**Pn**	**16 33 50.1**	**+0.8**
TTSI	**Tana Toraja**	**7.08**	**226**	P	**Pn**	**16 34 06.4**	**+0.6**
SPSI	**Sidrap Palu**	**7.77**	**222**	P	**Pn**	**16 34 15.0**	**+0.2**
BNSI	**Bone**	**7.88**	**218**	P	**Pn**	**16 34 16.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.86**	**178**	P	**P**	**16 36 40.9**	**+0.3**
	1.5nm,0.4s,baz=6.5,slow=11,SNR=10						
WRA	**Warramunga Arr**	**23.56**	**157**	P	**P**	**16 37 17.3**	**0.0**
	5.4nm,0.6s,baz=336,slow=11,SNR=56						
ASAR	**Alice Springs**	**26.84**	**162**	P	**P**	**16 37 47.3**	**+0.4**
	0.6nm,0.6s,baz=342,slow=7.6,SNR=40						
STKA	**Stephens Creek**	**37.10**	**156**	P	**P**	**16 39 16.9**	**+0.9**
	1.2nm,0.6s,baz=328,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**58.09**	**327**	P	**P**	**16 41 55.5**	**-1.7**
	1.5nm,0.6s,baz=120,slow=7.9,SNR=18						
ZALV	**Zalesovo Beam**	**61.45**	**334**	P	**P**	**16 42 17.7**	**-2.2**
	0.4nm,0.3s,baz=114,slow=6.8,SNR=2.3						

*ISCJB **20** 16:33:47.2±0.8,40˚.60N±0˚.04×142˚.66E±0˚.09,h54km±8km,*
mb3.5/4,Error ellipse: s-maj=11.3km s-min=6.2km
az=19.4
*JMA **20** 16:33:47.0±0.1,40˚.59N×142˚.68E,h30km±3km,M3.7*
*IDC **20** 16:33:48.4±2.5,40˚.60N×142˚.54E,h45km±26km,mb3.4/4,*
mb1 3.5/6,mb1mx3.2/40,mbtmp3.6/6,ML3.1/2,Error
ellipse: s-maj=40.6km s-min=17.2km az=93.0
ISC 20 16:33:47.8±1.5,40˚.59N±0˚.05×142˚.66E±0˚.08,h43km±16km,
n22,σ0§77/26,mb3.5/4,3C-4D,Near east coast of
eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.82**	**242**	P	**Pn**	**16 34 02.4**	**-0.6**
JKEN				S	**Sn**	**16 34 13.3**	**-0.7**
JTH	**Tanohata**	**0.90**	**223**	⇑P	**Pn**	**16 34 03.6**	**-0.4**
JTH				*e*S	**Sn**	**16 34 15.3**	**-0.4**
JANG	**Nango**	**0.90**	**256**	⇓P	**Pn**	**16 34 03.9**	**-0.2**
JANG				S	**Sn**	**16 34 15.1**	**-0.8**
JTM	**Tenmabayashi**	**1.23**	**280**	⇓P	**Pn**	**16 34 08.8**	**+0.3**
JTM				S	**Sn**	**16 34 24.2**	**+0.3**
JOT	**Ohata**	**1.46**	**303**	⇓P	**Pn**	**16 34 11.6**	**0.0**
JOT				S	**Sn**	**16 34 29.3**	**-0.1**
JEM	**Erimo**	**1.47**	**15**	P	**Pn**	**16 34 11.7**	**-0.1**
JOM	**Ohasama**	**1.54**	**224**	⇑P	**Pn**	**16 34 13.7**	**+1.0**
JAH	**Hinai**	**1.60**	**256**	⇓P	**Pn**	**16 34 14.8**	**+1.2**
JAH				S	**Sn**	**16 34 34.7**	**+1.7**
JNBK	**Urakawa-nobuka**	**1.69**	**2**	P	**Pn**	**16 34 15.0**	**+0.2**
JKB	**Kayabe**	**1.79**	**317**	P	**Pn**	**16 34 16.2**	**+0.1**
JSR	**Shiriuchi**	**1.94**	**300**	P	**Pn**	**16 34 18.7**	**+0.5**
JRG	**Rokugo**	**1.96**	**233**	P	**Pn**	**16 34 20.2**	**+1.6**
JMK	**Ichinoseki**	**1.98**	**215**	⇑P	**Pn**	**16 34 19.9**	**+1.1**
ASAJ	**Asahikawa**	**3.52**	**359**	P	**Pn**	**16 34 40.6**	**+0.6**
	2.2nm,0.3s,baz=206,slow=11,SNR=26						
ASAJ				S	**Sn**	**16 35 21.3**	**+0.9**
	1.8nm,0.3s,baz=325,slow=29,SNR=6.3						
MJAR	**Matsushiro Arr**	**5.34**	**222**	P	**Pn**	**16 35 04.9**	**-0.1**
	0.3nm,0.3s,baz=34,slow=12,SNR=18						
SONM	**Songino Array**	**26.80**	**298**	P	**P**	**16 39 23.4**	**-0.4**
	0.4nm,0.4s,baz=100,slow=8.9,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**29.35**	**128**	T	T	17 10 45.4	
	baz=319,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**29.36**	**128**	T	T	17 10 49.7	
	baz=319,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**29.37**	**128**	T	T	17 10 50.3	
	baz=319,slow=75,SNR=16						
ZALV	**Zalesovo Beam**	**40.33**	**309**	P	**P**	**16 41 20.5**	**-0.4**
	1.0nm,0.5s,baz=93,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**43.15**	**299**	P	**P**	**16 41 43.8**	**-0.3**
	0.7nm,0.8s,baz=78,slow=10,SNR=7.1						
ASAR	**Alice Springs**	**64.45**	**189**	P	**P**	**16 44 19.6**	**-0.1**
	0.2nm,0.4s,baz=4.0,slow=6.7,SNR=8.4						

*ISCJB **20** 16:35:39.5±1.1,16˚.6S±0˚.1×168˚.2E±0˚.2,h250km,*
mb3.7/10,Error ellipse: s-maj=34.3km s-min=14.2km
az=21.8
*IDC **20** 16:35:39.7±3.5,16˚.58S×168˚.21E,h237km±41km,*
mb3.4/10,mb1 3.6/11,mb1mx3.3/31,mbtmp4.0/11,MS3.7/1,
Ms1 3.7/1,ms1mx2.5/22,Error ellipse: s-maj=50.7km
s-min=20.3km az=139.0
ISC 20 16:35:40.5±1.2,16˚.7S±0˚.1×168˚.3E±0˚.3,h250km,n13,
σ0§64/12,mb3.6/10,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.64**	**198**	P	**Pn**	**16 37 04.0**	**-0.3**
	1.1nm,0.3s,baz=37,slow=20,SNR=16						
STKA	**Stephens Creek**	**28.54**	**233**	P	**P**	**16 41 13.7**	**+0.4**
	1.1nm,0.6s,baz=64,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**32.35**	**259**	P	**P**	**16 41 46.6**	**-0.3**
	0.8nm,0.7s,baz=86,slow=6.5,SNR=9.6						
ASAR	**Alice Springs**	**32.94**	**252**	P	**P**	**16 41 52.3**	**+0.2**
	8.0nm,0.5s,baz=76,slow=9.1,SNR=286						
JHJ	**Hachijo jima 2**	**56.50**	**331**	LR	LR	17 06 49.4	
	comp=Z,58nm,19.2s,baz=90,slow=33						
MJAR	**Matsushiro Arr**	**60.07**	**332**	P	**P**	**16 45 20.3**	**-1.2**
	1.4nm,0.8s,baz=171,slow=8.7,SNR=4.4						
PETK	**Petropavlovsk-**	**70.09**	**353**	P	**P**	**16 46 26.1**	**+0.7**
	1.4nm,0.7s,baz=111,slow=8.0,SNR=4.1						
CMAR	**Chiang Mai Arr**	**76.62**	**294**	P	**P**	**16 47 04.2**	**0.0**
	0.4nm,0.3s,baz=104,slow=6.0,SNR=4.6						
MA2	**Magadan**	**77.31**	**351**	P	**P**	**16 47 06.6**	**-0.5**
	0.5nm,0.4s,baz=172,slow=6.8,SNR=4.0						
SEY	**Seymchan**	**80.32**	**353**	P	**P**	**16 47 23.9**	**+0.5**
	3.8nm,0.3s,baz=262,slow=0.9,SNR=38						
SONM	**Songino Array**	**84.63**	**323**	P	**P**	**16 47 46.8**	**+0.7**
	0.5nm,0.5s,baz=133,slow=3.6,SNR=5.8						
ILAR	**Eielson Array**	**88.07**	**18**	P	**P**	**16 48 01.7**	**-0.6**
	0.3nm,0.6s,baz=236,slow=6.5,SNR=4.3						
ARCES	**ARCESS Array B**	**122.37**	**345**	PKP	**PKiKP**	**16 54 05.6**	**+0.1**
	1.8nm,0.9s,baz=73,slow=4.1,SNR=3.7						

*ISCJB **20** 16:47:58.4±0.3,23˚.73N±0˚.02×122˚.05E±0˚.02,h20km±3km,*
Error ellipse: s-maj=3.3km s-min=2.3km az=137.2
*JMA **20** 16:47:58.5±0.1,23˚.74N×122˚.01E,h22km±3km,M2.4*
*TAP **20** 16:47:59.5,23˚.74N×121˚.98E,h27km,ML2.6,C*
ISC 20 16:47:58.9±1.1,23˚.74N±0˚.02×122˚.00E±0˚.03,h26km±11km,
n57,σ0§61/99,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.40**	**294**	*e*P	**Pb**	**16 48 07.9**	**+0.4**
	baz=295						
ENLB				*e*S	**Sn**	**16 48 14.8**	**-0.9**
	baz=295						
HWA	**Hwalien**	**0.43**	**303**	*e*S	**Sn**	**16 48 16.3**	**-0.2**
	baz=304						
TWD	**Chiawan**	**0.50**	**312**	P	**Pb**	**16 48 09.2**	**0.0**
	baz=314						
TWD				*e*S	**Sb**	**16 48 16.6**	**+0.5**
	baz=314						
ESL	**Shilin**	**0.53**	**278**	P	**Pb**	**16 48 09.3**	**-0.3**
	baz=278						
ESL				S	**Sb**	**16 48 16.3**	**-0.6**
	baz=278						
EGFH	**Guangfu**	**0.53**	**262**	P	**Pb**	**16 48 09.7**	**0.0**
	baz=261						
EGFH				*e*S	**Sb**	**16 48 17.2**	**+0.2**
	baz=261						
NACB	**Ninganchiao**	**0.57**	**319**	P	**Pb**	**16 48 10.0**	**-0.3**
	baz=320						
NACB				*e*S	**Sb**	**16 48 18.0**	**-0.1**
	baz=320						
HGSD	**Ruisui**	**0.59**	**245**	P	**Pb**	**16 48 10.4**	**-0.2**
	baz=243						
HGSD				*e*S	**Sb**	**16 48 18.9**	**+0.3**
	baz=243						
ETLH	**Xiulin Townshi**	**0.66**	**314**	P	**Pb**	**16 48 11.8**	**-0.1**
	baz=315						
ETLH				*e*S	**Sb**	**16 48 21.1**	**+0.3**
	baz=315						
EHY	**Hungye**	**0.67**	**249**	P	**Pb**	**16 48 11.7**	**-0.2**
	baz=248						
EHY				*e*S	**Sb**	**16 48 20.8**	**0.0**
	baz=248						
NANB	**Nanao**	**0.72**	**341**	P	**Pb**	**16 48 12.7**	**-0.1**
	baz=343						
NANB				*e*S	**Sb**	**16 48 22.6**	**+0.3**
	baz=343						
ENA	**Nanau**	**0.72**	**341**	P	**Pb**	**16 48 12.8**	**-0.1**
	baz=342						
ENA				*e*S	**Sb**	**16 48 23.2**	**+0.7**
	baz=342						
YULB	**Yu-li**	**0.73**	**242**	P	**Pb**	**16 48 12.7**	**-0.4**
	baz=240						
YULB				S	**Sb**	**16 48 22.9**	**+0.1**
	baz=240						
TWF1	**Yuli**	**0.75**	**239**	*e*P	**Pb**	**16 48 13.6**	**+0.2**
	baz=237						
TWF1				*e*S	**Sn**	**16 48 23.9**	**-0.5**
	baz=237						
WHF	**Hehuan Shan**	**0.78**	**301**	P	**Pb**	**16 48 13.7**	**-0.6**
	baz=301						
WHF				*e*S	**Sb**	**16 48 23.9**	**-0.7**
	baz=301						
OWD	**Renai**	**0.79**	**286**	P	**Pb**	**16 48 13.5**	**-0.5**
	baz=286						
OWD				*e*S	**Sb**	**16 48 23.8**	**-0.5**
	baz=286						
VWDT	**VWDT**	**0.79**	**271**	P	**Pb**	**16 48 13.9**	**-0.1**
	baz=270						
VWDT				*e*S	**Sb**	**16 48 24.4**	**+0.1**
	baz=270						
EOS1	**EOS1**	**0.81**	**8**	*e*P	**Pn**	**16 48 14.8**	**+0.2**
	baz=9.0						
EOS1				*e*S	**Sn**	**16 48 26.5**	**+0.7**
	baz=9.0						
CHGB	**Renai**	**0.82**	**293**	P	**Pb**	**16 48 14.4**	**-0.3**
	baz=293						
CHGB				*e*S	**Sb**	**16 48 25.3**	**-0.2**
	baz=293						
CHKT	**Chengkung**	**0.87**	**222**	*e*P	**Pb**	**16 48 15.2**	**-0.2**
	baz=220						
TWC	**Suao**	**0.87**	**351**	P	**Pn**	**16 48 15.8**	**+0.2**
	baz=352						
TWC				*e*S	**Sn**	**16 48 27.5**	**+0.1**
	baz=352						
NNSB	**Datong**	**0.89**	**320**	P	**Pb**	**16 48 15.4**	**-0.4**
	baz=321						
NNSB				*e*S	**Sb**	**16 48 27.1**	**-0.1**
	baz=321						
NNS	**Nan Shan**	**0.90**	**321**	P	**Pb**	**16 48 15.7**	**-0.3**
	baz=321						
NNS				*e*S	**Sb**	**16 48 27.8**	**+0.1**
	baz=321						
TWT	**Tachien**	**0.91**	**304**	P	**Pb**	**16 48 16.1**	**-0.1**
	baz=304						
TWT				S	**Sb**	**16 48 28.2**	**+0.2**
	baz=304						
SSLB	**Suanglung**	**0.96**	**273**	*e*P	**Pb**	**16 48 17.0**	**0.0**
	baz=272						
SSLB				*e*S	**Sb**	**16 48 29.2**	**-0.1**
	baz=272						
NDT	**Datong Townshi**	**0.96**	**333**	*e*P	**Pn**	**16 48 16.8**	**0.0**
	baz=333						
NDT				*e*S	**Sb**	**16 48 29.6**	**+0.2**
	baz=333						
ENTT	**Nioudou**	**0.98**	**336**	P	**Pn**	**16 48 17.0**	**0.0**
	baz=337						
ENTT				*e*S	**Sb**	**16 48 29.7**	**0.0**
	baz=337						
SMLT	**Sun Moon Lake**	**1.02**	**278**	*e*P	**Pn**	**16 48 17.6**	**0.0**
	baz=278						
SMLT				*e*S	**Sb**	**16 48 29.9**	**-1.1**
	baz=278						
TWE	**Neicheng**	**1.02**	**343**	P	**Pb**	**16 48 18.3**	**+0.3**
	baz=344						
TWE				S	**Sb**	**16 48 30.9**	**-0.1**
	baz=344						
WHYT	**Xinyi Township**	**1.05**	**268**	*e*P	**Pn**	**16 48 18.3**	**+0.3**
	baz=267						
WHYT				*e*S	**Sb**	**16 48 31.0**	**-1.0**
	baz=267						
ELDTW	**Lidau**	**1.06**	**239**	*e*P	**Pn**	**16 48 17.9**	**-0.3**
	baz=237						
TYC	**Yuchr**	**1.06**	**279**	*e*P	**Pn**	**16 48 18.2**	**+0.1**
	baz=279						
YHNB	**Yeheng**	**1.08**	**328**	P	**Pn**	**16 48 18.5**	**0.0**
	baz=329						
YHNB				*e*S	**Sb**	**16 48 32.4**	**-0.5**
	baz=329						
NSK	**Sanguang**	**1.10**	**328**	*e*P	**Pn**	**16 48 18.6**	**-0.1**
	baz=328						
NSK				*e*S	**Sb**	**16 48 32.9**	**-0.4**
	baz=328						
WHP	**Taichung City**	**1.10**	**299**	*e*P	**Pb**	**16 48 20.1**	**+0.7**
	baz=299						
JYNG	**Yonagunijimaku**	**1.11**	**51**	P	**Pn**	**16 48 18.9**	**+0.1**
JYNG				*e*S	**Sn**	**16 48 33.0**	**-0.3**
YOJ	**Yonaguni jima**	**1.17**	**52**	*e*S	**Sn**	**16 48 35.2**	**+0.6**
	baz=52						
YOJ	**Yonaguni jima**	**1.17**	**52**	P	**Pn**	**16 48 19.9**	**+0.3**
YOJ				*e*S	**Sn**	**16 48 34.3**	**-0.3**
WNT	**Mingjian**	**1.21**	**277**	*e*P	**Pn**	**16 48 20.0**	**-0.2**
	baz=276						
TWGBT	**Beinan**	**1.25**	**223**	*e*P	**Pn**	**16 48 20.6**	**-0.1**
	baz=221						
TWGBT				S	**Sn**	**16 48 36.0**	**-0.7**
	baz=221						
TWG	**Pinlang**	**1.25**	**223**	*e*P	**Pn**	**16 48 20.6**	**-0.2**
	baz=221						
TWG				*e*S	**Sn**	**16 48 36.4**	**-0.4**
	baz=221						
CHN4	**Tsaushan**	**1.35**	**253**	*e*S	**Sb**	**16 48 42.5**	**+2.1**
	baz=252						
WTP	**Ta-pu**	**1.37**	**249**	*e*S	**Sb**	**16 48 41.4**	**+0.5**
	baz=248						
SLGT	**Liugui**	**1.45**	**239**	*e*P	**Pb**	**16 48 25.5**	**+0.3**
	baz=238						
SLGT				*e*S	**Sb**	**16 48 46.0**	**+2.6**
	baz=238						
YM01	**YM01**	**1.45**	**344**	*e*P	**Pb**	**16 48 24.7**	**-0.6**
	baz=345						
YM01				*e*S	**Sb**	**16 48 43.1**	**-0.2**
	baz=345						
CHN1	**Nanshi**	**1.46**	**248**	*e*S	**Sb**	**16 48 44.7**	**+1.0**
	baz=247						
YM10	**YM10**	**1.46**	**344**	*e*S	**Sn**	**16 48 42.4**	**+0.3**
	baz=344						
YM07	**YM07**	**1.47**	**346**	*e*S	**Sn**	**16 48 42.7**	**+0.6**
	baz=347						
YM11	**YM11**	**1.47**	**345**	*e*P	**Pn**	**16 48 24.0**	**+0.2**
	baz=345						
YM11				*e*S	**Sn**	**16 48 42.7**	**+0.4**
	baz=345						
YM05	**YM05**	**1.47**	**344**	*e*S	**Sn**	**16 48 42.9**	**+0.7**
	baz=345						
SNST	**Tainan City**	**1.48**	**250**	*e*S	**Sb**	**16 48 45.4**	**+1.4**
	baz=249						
RLNB	**Erlin**	**1.51**	**276**	*e*S	**Sb**	**16 48 46.9**	**+1.9**
	baz=275						
SSD	**Sandimen**	**1.60**	**232**	*e*P	**Pb**	**16 48 27.4**	**-0.5**
	baz=231						
SSD				*e*S	**Sb**	**16 48 47.5**	**-0.1**
	baz=231						
HATJ	**Hateruma jima**	**1.68**	**79**	P	**Pn**	**16 48 26.5**	**-0.1**
HATJ				*e*S	**Sn**	**16 48 46.5**	**-0.8**
IRIF	**Iriomote-Funau**	**1.69**	**69**	P	**Pn**	**16 48 26.9**	**+0.2**
IRIF				*e*S	**Sn**	**16 48 48.1**	**+0.6**
JKRS	**Kuro-shima**	**1.90**	**75**	P	**Pn**	**16 48 30.3**	**+0.7**
JKRS				*e*S	**Sn**	**16 48 53.0**	**+0.2**
JIJ	**Ishigaki jima**	**2.05**	**72**	P	**Pn**	**16 48 31.7**	**0.0**
JIJ				S	**Sn**	**16 48 55.3**	**-1.2**
JISG	**Ishigakijimahi**	**2.27**	**68**	P	**Pn**	**16 48 34.4**	**-0.3**
JISG				*e*S	**Sn**	**16 49 00.9**	**-1.0**

*STR **20** 16:50:30.2±1.3,49˚N±3˚×±1˚1,h35km,M1.8/4,MLv1.8/4*
LDG 20 16:50:29.4±0.0,49˚.41N×6˚.97E,h1km,Md2.4/2,Ml2.2/15,
Error ellipse: s-maj=0.9km s-min=0.7km az=93.0,
Suspected Mining induced.,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABH	**Alteburg**	**0.60**	**38**	Pg	Pg	16 50 40.5	-0.4
ABH				Sg	Sg	16 50 48.5	-0.3
LANF	**Langenberg**	**0.70**	**128**	Pg	Pg	16 50 43.2	+0.4
LANF				Sg	Sb	16 50 53.7	-0.7
CDF	**Champ du Feu**	**1.02**	**168**	*e*Pg	Pg	16 50 48.5	-0.4
CDF				*e*Sg	Sg	16 51 02.0	-0.1
	3.2nm,0.2s						
PAGF	**Fort de Pagny**	**1.18**	**224**	*e*Pg	Pg	16 50 51.9	-0.2
	baz=52						
PAGF				*e*Sg	Sg	16 51 07.1	-0.3
	9.6nm,0.2s						
ECH	**Echery**	**1.20**	**174**	Pg	Pg	16 50 51.0	-1.3
ECH				Sg	Sg	16 51 06.8	-1.1
HAU	**Haudompre**	**1.46**	**197**	*e*Pn	Pn	16 50 55.2	-1.8
HAU	**Haudompre**	**1.46**	**197**	*e*Pg	Pn	16 50 56.8	-0.2
HAU				*e*Sn	Sg	16 51 13.7	-2.7
	2.2nm,0.2s						
HAU				*e*Sg	Sb	16 51 15.7	-0.8
	6.4nm,0.2s						
GIVF	**Givet**	**1.56**	**297**	*e*Pn	Pn	16 50 56.7	-1.5
GIVF				*e*Sn	Sn	16 51 16.4	-2.6
	3.6nm,0.2s						
MEZF	**Maizieres J'vi**	**1.56**	**235**	*e*Pg	Pn	16 50 58.4	+0.2
	baz=55						
MEZF				*e*Sn	Sn	16 51 16.0	-3.0
MEZF				*e*Sg	Sb	16 51 18.8	-0.3
	1.4nm,0.2s						
HINF	**Hinteralfeld**	**1.60**	**183**	*e*Pg	Pn	16 50 59.0	+0.2
HINF				*e*Sn	Sn	16 51 17.0	-3.1
	4.6nm,0.2s						
HINF				*e*Sg	Sb	16 51 19.8	-0.5
	7.1nm,0.2s						
SFTF	**Sexfontaines**	**1.75**	**227**	*e*Pn	Pn	16 51 00.6	-0.4
SFTF	**Sexfontaines**	**1.75**	**227**	*e*Pg	Pg	16 51 03.5	+0.5
SFTF				*e*Sn	Sn	16 51 21.1	-2.8
	1.0nm,0.2s						
SFTF				*e*Sg	Sb	16 51 24.8	-0.1
	3.5nm,0.2s						
BAIF	**Baives**	**1.91**	**291**	*e*Pn	Pn	16 51 01.5	-1.5
BAIF	**Baives**	**1.91**	**291**	*e*Pg	Pb	16 51 05.4	+0.5
BAIF				*e*Sn	Sn	16 51 24.6	-3.0
	2.1nm,0.2s						
CABF	**La Chapelle**	**2.86**	**192**	*e*Pn	Pn	16 51 14.3	-1.9
CABF	**La Chapelle**	**2.86**	**192**	*e*Pg	Pg	16 51 22.9	-1.3
CABF				*e*Sn	Sn	16 51 47.2	-4.2
CABF				*e*Sg	Sg	16 51 59.3	-2.0
	3.0nm,0.4s						
LOR	**Lormes**	**2.98**	**225**	*e*Pn	Pn	16 51 16.1	-1.7
LOR	**Lormes**	**2.98**	**225**	*e*Pg	Pg	16 51 25.0	-1.5
LOR				*e*Sn	Sn	16 51 50.3	-3.9
LOR				*e*Sg	Sg	16 52 03.0	-2.1
	0.7nm,0.2s						
SSF	**Saint Saulge**	**3.30**	**226**	*e*Pn	Pn	16 51 20.2	-2.0
SSF	**Saint Saulge**	**3.30**	**226**	*e*Pg	Pb	16 51 30.6	+1.9
SSF				*e*Sn	Sn	16 51 57.7	-4.3
SSF				*e*Sg	Sg	16 52 12.8	-2.5
	0.7nm,0.3s						
SMF	**Signal de Mont**	**3.47**	**218**	*e*Sg	Sg	16 52 18.0	-2.9
	2.3nm,0.3s						

*IDC **20** 16:54:26.9±3.1,9˚.54S×112˚.01E,h0km,mb3.7/7,*
mb1 3.9/8,mb1mx3.6/39,mbtmp3.7/8,ML3.7/1,MS3.0/2,
Ms1 3.0/2,ms1mx2.5/40,Error ellipse: s-maj=193.0km
s-min=16.4km az=49.0
*ISCJB **20** 16:54:27.9±0.7,10˚.25S±0˚.07×111˚.43E±0˚.06,h33km,*
mb3.7/7,MS2.9/1,Error ellipse: s-maj=11.5km
s-min=6.3km az=36.0
*DJA **20** 16:54:27.4±1.7,10˚S±4˚×11˚1E±˚,h11km±14km,M4.4/13,*
mb4.6/5,mB5.2/1,MLv4.3/13,Mw(mB)4.5/1
ISC 20 16:54:30.4±1.0,10˚.1S±0˚.1×111˚.47E±0˚.08,h35km,n23,
σ1§08/22,mb3.8/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.96**	**351**	P	**Pn**	**16 55 00.5**	**-0.6**
WOJI	**Wonogiri, Jawa**	**2.35**	**347**	P	**Pn**	**16 55 07.1**	**+0.6**
UGM	**Wanagama**	**2.40**	**337**	P	**Pn**	**16 55 07.5**	**+0.2**
UGM				S	**Sn**	**16 55 35.9**	**+0.4**
YOGI	**Yogy

σ1º50/29, mb3.7/10, MS3.4/5, 1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**7.06**	**32**	⇓Pn	**Pn**	**16 57 48.6**	**+1.3**
GTA				Sn	**Sn**	**16 59 09.9**	**+2.2**
GTA				LR	LR		
	comp=N,250nm,9.0s						
GTA				LR	LR		
	comp=E,180nm,9.6s						
GTA				LR	LR		
	comp=Z,430nm,9.0s						
LZH	**Lanzhou**	**7.75**	**68**	*e*Pn	**Pn**	**16 57 58.8**	**+2.0**
LZH				LR	LR		
	comp=N,540nm,12.2s						
LZH				LR	LR		
	comp=E,220nm,11.1s						
LZH				LR	LR		
	comp=Z,220nm,14.9s						
JIRN	**Jiri**	**9.54**	**235**	*e*P	**Pn**	**16 58 22.5**	**+1.0**
	32nm,0.9s						
RAMN	**Ramite**	**9.74**	**230**	*e*P	**Pn**	**16 58 26.8**	**+2.6**
	12nm,0.5s						
KKN	**Kakani**	**10.09**	**238**	*e*P	**Pn**	**16 58 29.3**	**+0.3**
	23nm,0.7s						
PKI	**Pulchoki**	**10.13**	**237**	*e*P	**Pn**	**16 58 30.3**	**+0.7**
	34nm,0.4s						
PKIN	**Phulchoki**	**10.14**	**237**	*e*P	**Pn**	**16 58 30.3**	**+0.6**
	22nm,0.4s						
DMN	**Daman**	**10.32**	**238**	*e*P	**Pn**	**16 58 32.8**	**+0.6**
	11nm,0.4s						
GKN	**Gorkha**	**10.43**	**241**	*e*P	**Pn**	**16 58 34.0**	**+0.4**
	29nm,0.7s						
DANN	**Dangsing**	**10.90**	**245**	*e*P	**Pn**	**16 58 41.5**	**+1.4**
	32nm,0.6s						
KOLN	**Koldanda**	**11.32**	**243**	*e*P	**Pn**	**16 58 47.4**	**+1.6**
	20nm,0.6s						
PYUN	**Piuthan**	**11.61**	**245**	*e*P	**Pn**	**16 58 51.2**	**+1.5**
	16nm,0.7s						
XAN	**Xi'an**	**11.64**	**84**	P	**Pn**	**16 58 50.3**	**+0.3**
XAN				LR	LR		
	comp=N,340nm,15.2s						
XAN				LR	LR		
	comp=E,160nm,13.0s						
XAN				LR	LR		
	comp=Z,150nm,12.7s						
WMQ	**Urumqi**	**11.73**	**333**	*e*P	**Pn**	**16 58 52.8**	**+1.6**
GYA	**Guiyang**	**12.35**	**122**	*e*P	Pn	16 59 05.8	+6.0
CMAR	**Chiang Mai Arr**	**15.43**	**166**	Pn	**P**	**16 59 45.0**	**-1.2**
	0.1nm,0.3s,baz=350,slow=9.2,SNR=4.7						
CMAR				LR	LR	17 06 17.0	
	comp=Z,38nm,18.8s,baz=360,slow=40						
MKAR	**Makanchi Array**	**16.38**	**328**	Pn	**Pn**	**16 59 50.2**	**-3.5**
	0.2nm,0.3s,baz=137,slow=13,SNR=11						
SONM	**Songino Array**	**16.70**	**28**	Pn	**Pn**	**16 59 56.4**	**-1.5**
	0.6nm,0.3s,baz=215,slow=13,SNR=37						
SONM				LR	LR	17 06 55.3	
	comp=Z,57nm,20.0s,baz=245,slow=40						
KURBB	**Kurchatov Arra**	**20.91**	**330**	P	**P**	**17 00 45.6**	**-0.5**
	2.8nm,0.7s,baz=137,slow=11,SNR=22						
ZALV	**Zalesovo Beam**	**21.65**	**344**	P	**P**	**17 00 54.4**	**+0.3**
	0.7nm,0.3s,baz=146,slow=9.0,SNR=4.9						
ZALV				LR	LR	17 09 29.2	
	comp=Z,27nm,18.9s,baz=254,slow=38						
KSRS	**Korea Array**	**27.06**	**72**	P	**P**	**17 01 44.9**	**-1.4**
	0.6nm,0.5s,baz=277,slow=8.9,SNR=3.8						
KSRS				LR	LR	17 11 47.8	
	comp=Z,11nm,18.6s,baz=255,slow=35						
KVAR	**Kislovodsk Arr**	**41.45**	**300**	LR	LR	17 26 01.5	
	comp=Z,50nm,19.7s,baz=102,slow=43						
BRTR	**Keskin Array B**	**48.76**	**296**	P	**P**	**17 04 48.4**	**-0.6**
	0.5nm,0.7s,baz=86,slow=6.4,SNR=2.5						
FINES	**FINESS Array B**	**51.19**	**325**	P	**P**	**17 05 07.1**	**+0.2**
	0.9nm,0.8s,baz=77,slow=6.0,SNR=3.5						
ARCES	**ARCESS Array B**	**51.85**	**335**	P	**P**	**17 05 12.7**	**+1.0**
	1.5nm,0.8s,baz=93,slow=4.9,SNR=3.7						
VRAC	**Vranov**	**58.26**	**311**	LR	LR	17 33 35.8	
	comp=Z,30nm,18.9s,baz=321,slow=39						
NOA	**NORSAR Array B**	**58.36**	**325**	P	**P**	**17 05 59.9**	**+1.0**
	0.4nm,0.5s,baz=77,slow=7.2,SNR=2.7						
JMIC	**Jan Mayen**	**62.89**	**339**	LR	LR	17 40 13.0	
	comp=Z,34nm,18.2s,baz=86,slow=42						
WRA	**Warramunga Arr**	**65.11**	**139**	P	**P**	**17 06 45.5**	**+0.7**
	0.8nm,0.7s,baz=312,slow=6.8,SNR=2.9						
ASAR	**Alice Springs**	**67.90**	**142**	P	**P**	**17 07 03.6**	**+1.0**
	0.7nm,0.5s,baz=326,slow=6.4,SNR=4.7						
ILAR	**Eielson Array**	**70.88**	**24**	P	**P**	**17 07 18.2**	**-2.3**
	0.7nm,0.9s,baz=299,slow=4.1,SNR=7.0						
YKA	**Yellowknife Ar**	**81.41**	**13**	P	**P**	**17 08 18.7**	**-1.7**
	0.2nm,0.5s,baz=332,slow=4.9,SNR=4.3						

*ISCJB **20** 17:02:00.1±1.1, 38°.28N±0°.05×141°.9E±0°.1, h64km±6km, mb3.4/3, Error ellipse: s-maj=15.4km s-min=6.3km az=20.3*
*JMA **20** 17:02:00.8±0.1, 38°.29N×141°.86E, h61km±1km, M3.6*
JMA Felt I J1.
*IDC **20** 17:02:01.9±4.8, 38°.92N×140°.94E, h0km, mb3.6/3, mb1 3.4/5, mb1mx3.2/50, mbtmp3.4/5, ML2.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/45, Error ellipse: s-maj=89.5km s-min=27.8km az=117.0*

ISC 20 17:01:59.6±1.6, 38°.27N±0°.06×142°.0E±0°.1, h57km±10km, n20, σ0º98/29, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.44**	**275**	P	**Pn**	**17 02 11.2**	**+0.5**
JIKH				*e*S	**Sn**	**17 02 18.6**	**-0.2**
JIO	**Ouri**	**0.56**	**289**	P	**Pn**	**17 02 12.3**	**+0.3**
JIO				*e*S	**Sn**	**17 02 20.5**	**-0.6**
JKMT	**Kesennumamotoy**	**0.69**	**322**	P	**Pn**	**17 02 14.1**	**+0.5**
JKMT				*e*S	**Sn**	**17 02 23.6**	**-0.2**
OFUJ	**Ofunato**	**0.85**	**341**	P	**Pn**	**17 02 16.4**	**+0.7**
JMK	**Ichinoseki**	**0.93**	**317**	P	**Pn**	**17 02 17.1**	**+0.5**
JMK				*e*S	**Sn**	**17 02 28.8**	**-0.3**
JMM	**Marumori**	**1.05**	**248**	P	**Pn**	**17 02 17.8**	**-0.4**
JMM				*e*S	**Sn**	**17 02 30.4**	**-1.6**
JOU	**Okura**	**1.07**	**275**	P	**Pn**	**17 02 18.4**	**-0.1**
JOU				*e*S	**Sn**	**17 02 31.3**	**-1.3**
JFK	**Kawauchi**	**1.28**	**226**	P	**Pn**	**17 02 21.3**	**0.0**
JFK				*e*S	**Sn**	**17 02 36.5**	**-1.1**
JOM	**Ohasama**	**1.33**	**335**	P	**Pn**	**17 02 22.5**	**+0.5**
JOM				*e*S	**Sn**	**17 02 38.7**	**0.0**
JYK	**Kaneyama**	**1.46**	**297**	P	**Pn**	**17 02 23.6**	**0.0**
JFT	**Otama**	**1.53**	**241**	*e*S	**Sn**	**17 02 42.2**	**-1.3**
JYS	**Shiratake**	**1.54**	**269**	P	**Pn**	**17 02 24.8**	**0.0**
JYS				*e*S	**Sn**	**17 02 42.7**	**-1.1**
JRG	**Rokugo**	**1.56**	**316**	P	**Pn**	**17 02 25.5**	**+0.4**
JYA	**Atsumi**	**1.84**	**281**	P	**Pn**	**17 02 28.7**	**-0.2**
MJAR	**Matsushiro Arr**	**3.49**	**242**	Pn	**Pn**	**17 02 53.9**	**+2.4**
	0.2nm,0.3s,baz=54,slow=12,SNR=8.6						
ASAJ	**Asahikawa**	**5.86**	**4**	Pn	**Pn**	**17 03 23.1**	**-0.7**
	0.9nm,0.3s,baz=196,slow=17,SNR=13						
ASAJ				Sn	**Sn**	**17 04 27.4**	**-2.2**
	0.3nm,0.3s,baz=346,slow=9.2,SNR=2.7						
SONM	**Songino Array**	**27.52**	**302**	P	**P**	**17 07 42.2**	**+1.4**
	0.3nm,0.4s,baz=101,slow=9.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**41.45**	**311**	P	**P**	**17 09 40.0**	**-0.5**
	0.4nm,0.3s,baz=96,slow=7.4,SNR=3.5						
MKAR	**Makanchi Array**	**43.88**	**301**	P	**P**	**17 10 00.7**	**+0.4**
	0.4nm,0.5s,baz=81,slow=9.8,SNR=6.4						
BRDH	**Bariadhala**	**45.57**	**265**	LR	LR	17 31 20.5	
	comp=Z,55nm,18.7s,baz=226,slow=39						

*IDC **20** 17:05:34.5±1.8, 4°.86N×127°.05E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/52, mbtmp3.7/5, MS3.3/2, Ms1 3.3/2, ms1mx2.5/43, Error ellipse: s-maj=104.0km s-min=23.2km az=68.0*
*DJA **20** 17:05:43.2±0.4, 4°N±5°×12°7E±°, h10km, M4.1/7, mb4.2/6, mB4.6/2, MLv4.1/7, Mw(mB)3.8/2*
*ISCJB **20** 17:05:45.7±1.0, 4°.42N±0°.09×126°.97E±0°.08, h81km, mb3.5/5, Error ellipse: s-maj=13.6km s-min=11.6km az=26.4*

ISC 20 17:05:46.0±1.2, 4°.48N±0°.10×126°.9E±0°.1, h81km, n13, σ1º88/12, mb3.6/5, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.61**	**241**	P	**Pn**	**17 06 11.2**	**-1.6**
SGSI				S	**Sn**	**17 06 34.0**	**+0.9**
DMPH	**Davao City--Mi**	**2.94**	**331**	⇑*e*P	**Pn**	**17 06 32.6**	**+1.9**
DMPH				*e*S	Sn	17 07 14.8	+10
TNTI	**Ternate**	**3.71**	**173**	P	**Pn**	**17 06 41.3**	**+0.2**
MRSI	**Marisa**	**6.38**	**232**	P	**Pn**	**17 07 17.7**	**+0.3**
SANI	**Sanana**	**6.56**	**188**	P	**Pn**	**17 07 17.3**	**-2.6**
	8.0nm,0.5s,661nm0.1nm						
APSI	**Ampana**	**7.52**	**225**	P	**Pn**	**17 07 35.5**	**+2.4**
	18nm,1.1s,0.1nm						
FITZ	**Fitzroy Crossi**	**22.47**	**183**	P	**P**	**17 10 39.9**	**+1.1**
	1.2nm,0.6s,baz=14,slow=9.3,SNR=7.7						
WRA	**Warramunga Arr**	**25.34**	**164**	P	**P**	**17 11 06.2**	**+0.6**
	1.7nm,0.6s,baz=344,slow=11,SNR=29						
ASAR	**Alice Springs**	**28.79**	**167**	P	**P**	**17 11 37.0**	**+0.4**
	0.3nm,0.5s,baz=346,slow=7.0,SNR=10.0						
STKA	**Stephens Creek**	**38.76**	**160**	P	**P**	**17 13 03.8**	**+1.1**
	1.2nm,0.6s,baz=324,slow=12,SNR=3.6						
PALK	**Pallekele**	**46.05**	**276**	LR	LR	17 32 41.0	
	comp=Z,35nm,21.4s,baz=297,slow=35						
MKAR	**Makanchi Array**	**57.06**	**325**	P	**P**	**17 15 20.8**	**-3.0**
	0.2nm,0.4s,baz=120,slow=7.4,SNR=5.9						
URZ	**Urewera**	**62.95**	**137**	LR	LR	17 40 56.3	
	comp=Z,29nm,20.6s,baz=165,slow=34						

IDC 20 17:09:14.7±27.0, 23°.16S×173°.88W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/24, mbtmp4.2/4, Error ellipse: s-maj=498.6km s-min=146.0km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.11**	**267**	P	P	17 16 27.9	+0.7
	2.2nm,0.3s,baz=107,slow=10,SNR=6.2						
STKA	**Stephens Creek**	**40.20**	**248**	P	P	17 16 52.2	-0.9
	0.9nm,0.3s,baz=75,slow=9.1,SNR=8.0						
ASAR	**Alice Springs**	**47.69**	**258**	P	P	17 17 53.1	-0.3
	0.5nm,0.3s,baz=91,slow=6.9,SNR=20						
WRA	**Warramunga Arr**	**48.07**	**263**	P	P	17 17 56.3	0.0
	1.4nm,0.3s,baz=101,slow=8.0,SNR=41						

*NNC **20** 17:18:06.2±2.5, 36°.77N×70°.22E, h0km, mb5.8, mpv5.4, Error ellipse: s-maj=26.8km s-min=15.2km az=150.0*
*ISCJB **20** 17:18:10.0±0.2, 36°.49N±0°.01×70°.44E±0°.02, h205km±2km, mb4.7/248, Error ellipse: s-maj=2.6km s-min=2.2km az=41.6*
*MOS **20** 17:18:10.1±0.9, 36°.49N×70°.45E, h205km, mb4.6/59, Error ellipse: s-maj=4.4km s-min=3.1km az=110.7*
*GCMT **20** 17:18:11.4±0.4, 36°.49N±0°.03×70°.25E±0°.03, h198km±4km, MW4.9/78, Moment Tensor Solution. s14,c14; s78,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.46±.13; Mθθ0.34±.19; Mφφ-0.79±.17; Mrθ2.56±.10; Mφφ-0.38±.14; Mφr0.59±.09; Best double couple: M0 2.70500×10^16 NP1:φs72.00000°, δ87.00000°, λ104.00000°. NP2: φs173.00000°, δ14.00000°, λ11.00000°. Principal axes: T 2.9670, Plg46.0000°, Azm356.0000°; N -0.5240, Plg14.0000°, Azm252.0000°; P -2.4430, Plg41.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **20** 17:18:11.9±0.0, 36°.61N×70°.57E, h208km, mb4.7/50, mB4.7/28*
*NEIC **20** 17:18:11.3±0.1, 36°.49N×70°.44E, mb4.8/119, Error ellipse: s-maj=3.0km s-min=2.7km az=194.0*
*IDC **20** 17:18:11.2±0.5, 36°.41N×70°.44E, h205km±4km, mb4.3/51, mb1 4.4/56, mb1mx4.4/66, mbtmp4.9/56, Error ellipse: s-maj=6.7km s-min=5.7km az=174.0*

ISC 20 17:18:11.1±0.3, 36°.49N±0°.03×70°.43E±0°.03, h205km±2km, h205km:pP-P, n665, σ1º30/807, mb4.8/261, 60C-17D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.25**	**210**	*e*Pn	**Pn**	**17 18 52.2**	**-0.6**
KBL	**Kabul**	**2.25**	**210**	*e*PN	**Pn**	**17 18 52.2**	**-0.6**
GAR	**Garm**	**2.50**	**358**	*e*Pn	**Pn**	**17 18 54.7**	**-0.7**
GAR	**Garm**	**2.50**	**358**	*e*PN	**Pn**	**17 18 54.7**	**-0.7**
CEP	**Cherat**	**2.93**	**155**	P	**Pn**	**17 19 00.7**	**+0.4**
CEP				S	**S**	**17 19 38.0**	**-0.2**
BTK	**Batken**	**3.57**	**5**	*e*Pn	**Pn**	**17 19 08.4**	**+0.6**
BTK	**Batken**	**3.57**	**5**	*e*PN	**Pn**	**17 19 08.4**	**+0.6**
CHCP	**Chirah Chowk**	**3.66**	**140**	P	**Pn**	**17 19 10.0**	**+1.0**
NIL	**Nilore**	**3.66**	**140**	*e*Pn	**Pn**	**17 19 09.8**	**+0.9**
NIL	**Nilore**	**3.66**	**140**	*e*PN	**Pn**	**17 19 09.8**	**+0.9**
THW	**Thamme Wali**	**3.85**	**163**	P	**Pn**	**17 19 11.6**	**+0.4**
SARP	**Sargodha**	**4.92**	**157**	P	**Pn**	**17 19 24.4**	**-0.3**
ARSB	**Arslanbob**	**5.22**	**22**	*e*Pn	**Pn**	**17 19 27.4**	**-1.0**
KSH	**Kashi**	**5.32**	**54**	P	**Pn**	**17 19 25.3**	**-4.4**
KSH				S	S	17 20 14.0	-18
DHRM	**DHARAMSHALA**	**6.44**	**129**	*e*P	**Pn**	**17 19 43.9**	**-0.4**
DHRM				*e*S	**S**	**17 20 54.6**	**-3.4**
DHRM				IAML		17 20 57.2	
	comp=N,6μm,0.6s						
DHRM				IAML		17 20 59.7	
	comp=E,10μm,1.0s						
UCH	**Uchtor**	**6.54**	**28**	P	**Pn**	**17 19 45.4**	**-0.3**
	SNR=1373						
NRN	**Naryn**	**6.57**	**40**	*e*Pn	**Pn**	**17 19 44.0**	**-2.0**
NRN	**Naryn**	**6.57**	**40**	*e*PN	**Pn**	**17 19 44.0**	**-2.0**
KK31	**Karatay Array**	**6.60**	**1**	*e*Pn	**Pn**	**17 19 45.2**	**-0.9**
KK31	**Karatay Array**	**6.60**	**1**	⇑Pn	**Pn**	**17 19 43.3**	**-2.7**
	comp=E,272nm,0.7s,baz=189,slow=12,SNR=2540						
KK31				⇓Pg		17 20 01.3	
	comp=E,68nm,0.3s,baz=192,slow=15,SNR=7.0						
KK31				⇑Sn	**S**	**17 20 56.9**	**-4.5**
	comp=E,262nm,0.5s,baz=191,slow=25,SNR=9.5						
KK31	**Karatay Array**	**6.60**	**1**	*e*PN	**Pn**	**17 19 45.2**	**-0.9**
KKAR	**Karatay Array**	**6.60**	**1**	*e*Pn	**Pn**	**17 19 45.1**	**-1.0**
KKAR	**Karatay Array**	**6.60**	**1**	*e*PN	**Pn**	**17 19 45.1**	**-1.0**
EKS2	**Erkin-Say**	**6.68**	**22**	P	**Pn**	**17 19 47.1**	**-0.2**
	SNR=368						
KZA	**Kyzart**	**6.71**	**32**	P	**Pn**	**17 19 47.1**	**-0.8**
	SNR=78						
AAK	**Ala-Archa**	**6.89**	**26**	P	**Pn**	**17 19 50.1**	**0.0**
	SNR=402						
AAK	**Ala-Archa**	**6.89**	**26**	⇓Pn	**Pn**	**17 19 47.5**	**-2.5**
	comp=E,202nm,0.6s						
AAK				⇑Sn	**S**	**17 21 03.4**	**-5.1**
	comp=E,2μm,0.8s						
AAK	**Ala-Archa**	**6.89**	**26**	*i* P	**Pn**	**17 19 50.0**	**0.0**
	SNR=679						
AAK	**Ala-Archa**	**6.89**	**26**	*d i* PN	**Pn**	**17 19 49.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,135nm,0.5s						
AAK	**Ala-Archa**	**6.89**	**26**	P	**Pn**	**17 19 50.2**	**+0.2**
	SNR=71						
AAK	**Ala-Archa**	**6.89**	**26**	P	**Pn**	**17 19 50.0**	**0.0**
	comp=Z,93nm,0.3s,baz=189,slow=7.0,SNR=743						
AAK				S	**S**	**17 21 04.8**	**-3.6**
	comp=Z,75nm,0.3s,baz=357,slow=20,SNR=30						
KBK	**Karagaybulak**	**7.08**	**28**	P	**Pn**	**17 19 52.7**	**+0.4**
	SNR=198						
FRU1	**Bishkek**	**7.09**	**26**	*e*Pn	**Pn**	**17 19 52.8**	**+0.3**
FRU1	**Bishkek**	**7.09**	**26**	*e*PN	**Pn**	**17 19 52.8**	**+0.3**
BHK	**Bhakra**	**7.10**	**134**	*e*P	**Pn**	**17 19 52.4**	**-0.2**
BHK				*ex*	x	17 21 09.0	
ULHL	**Ulahol**	**7.30**	**36**	P	**Pn**	**17 19 55.5**	**+0.2**
	SNR=11						
CHMS	**Chumysh**	**7.30**	**26**	P	**Pn**	**17 19 54.9**	**-0.2**
	SNR=34						
BOOM	**Boomskoye usch**	**7.35**	**34**	*e*Pn	**Pn**	**17 19 55.1**	**-0.8**
BOOM	**Boomskoye usch**	**7.35**	**34**	*e*PN	**Pn**	**17 19 55.1**	**-0.8**
USP	**Ospenovka**	**7.45**	**24**	P	**Pn**	**17 19 57.2**	**0.0**
	SNR=20						
TKM2	**Tokmak 2**	**7.55**	**30**	P	**Pn**	**17 19 58.5**	**-0.1**
	SNR=70						
TKM2	**Tokmak 2**	**7.55**	**30**	⇑Pn	**Pn**	**17 19 58.1**	**-0.5**
	comp=Z,295nm,0.5s						
TKM2				⇓Sn	**S**	**17 21 20.8**	**-3.3**
	comp=Z,527nm,0.8s						
TKM2	**Tokmak 2**	**7.55**	**30**	PN	**Pn**	**17 19 58.1**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,295nm,0.4s						
KDJ	**Kajisay**	**7.69**	**41**	*e*Pn	**Pn**	**17 19 59.3**	**-1.0**
KDJ	**Kajisay**	**7.69**	**41**	*e*PN	**Pn**	**17 19 59.3**	**-1.0**
SMLA	**Simla**	**7.75**	**132**	*e*P	**Pn**	**17 20 00.3**	**-0.8**
SMLA				*e*S	**S**	**17 21 22.4**	**-6.3**
SMLA				IAML		17 21 28.1	
	comp=N,2μm,0.6s						
SMLA				IAML		17 21 28.1	
	comp=E,3μm,0.5s						
AAA	**Alma-Ata**	**8.36**	**35**	*e*PN	**Pn**	**17 20 09.6**	**+0.7**
AAA				pmax	pmax		
	comp=Z,58nm,0.7s						
MDOK	**Medeo**	**8.38**	**35**	⇑Pn	**Pn**	**17 20 09.1**	**-0.2**
	comp=Z,64nm,0.6s						
MDOK				⇓Sn	**S**	**17 21 40.4**	**-3.4**
	comp=Z,178nm,0.8s						
MDOK	**Medeo**	**8.38**	**35**	PN	**Pn**	**17 20 09.8**	**+0.5**
MDOK				pmax	pmax		
	comp=Z,64nm,0.6s						
KNDC	**Almaty**	**8.39**	**35**	⇑Pn	**Pn**	**17 20 09.6**	**+0.3**
	comp=Z,144nm,0.7s						
KNDC				⇑Sn	**S**	**17 21 41.9**	**-1.8**
	comp=Z,562nm,0.8s						
DDI	**Dehra Dun**	**8.86**	**132**	*e*P	**Pn**	**17 20 15.2**	**-0.3**
DDI				*e*P	**Pn**	**17 20 15.5**	**0.0**
DDI				*e*S	**S**	**17 21 47.1**	**-8.1**
DDI				*e*S	S	17 21 50.8	-4.4
DDI				IAML		17 21 52.4	
	comp=N,1μm,0.6s						
DDI				IAML		17 21 53.7	
	comp=E,2μm,0.4s						
JOSI	**Joshimath**	**9.65**	**125**	*e*P	**Pn**	**17 20 25.5**	**-0.5**
JOSI				*e*S	**S**	**17 22 07.7**	**-6.6**
JOSI				IAML		17 22 18.8	
	comp=N,3μm,0.7s						
JOSI				IAML		17 22 18.8	
	comp=E,2μm,0.2s						
NDI	**New Delhi**	**9.66**	**142**	*e*P	**Pn**	**17 20 26.0**	**+0.1**
NDI				*e*S	**S**	**17 22 08.0**	**-6.3**
PDGK	**Podgornoye**	**9.75**	**43**	⇑Pn	**Pn**	**17 20 25.6**	**-1.4**
	comp=E,26nm,0.6s						
PDGK				⇓Sn	**S**	**17 22 18.1**	**+1.9**
	comp=E,216nm,1.2s						
PDGK	**Podgornoye**	**9.75**	**43**	P	**Pn**	**17 20 25.6**	**-1.4**
PDGK				S	**S**	**17 22 18.1**	**+1.9**
PDGK				pmax	pmax		
	comp=Z,25nm,0.6s						
PDGK				smax	smax		
	comp=N,216nm,1.2s						
KUDL	**Kundal**	**9.78**	**147**	*e*P	Pn	17 20 19.2	-8.1
KUDL				*e*S	S	17 21 59.3	-18
KUDL				IAML		17 22 02.9	
	comp=E,667nm,0.2s						
KUDL				IAML		17 22 05.0	
	comp=N,416nm,0.6s						
GEYT	**Alibeck**	**9.92**	**282**	*e*Pn	**Pn**	**17 20 27.1**	**-2.2**
GEYT				S	**S**	**17 22 15.3**	**-5.0**
GEYT	**Alibeck**	**9.92**	**282**	P	**Pn**	**17 20 26.6**	**-2.6**
	comp=N,3.5nm,0.3s,baz=104,slow=11,SNR=45						
GEYT				S	**S**	**17 22 15.3**	**-5.0**
	comp=N,4.7nm,0.3s,baz=149,slow=20,SNR=3.6						
GYA0B	**ALIBECK ARRAY**	**9.92**	**282**	*e*Pn	**Pn**	**17 20 27.1**	**-2.2**
GYA0B	**ALIBECK ARRAY**	**9.92**	**282**	⇓P	**Pn**	**17 20 26.1**	**-3.1**
SONA	**Sohna**	**9.96**	**144**	*e*P	**Pn**	**17 20 27.0**	**-2.7**
SONA				*e*S	S	17 22 12.1	-9.2
SONA				IAML		17 22 15.2	
	comp=E,1μm,0.5s						
OTUK	**Ortayu**	**11.83**	**6**	⇓Pn	**Pn**	**17 20 52.1**	**-1.4**
	comp=E,100nm,0.7s						
OTUK	**Ortayu**	**11.83**	**6**	P	**Pn**	**17 20 52.1**	**-1.4**
OTUK				pmax	pmax		
	comp=Z,100nm,0.7s						
JHNI	**Jhansi**	**13.00**	**145**	*e*P	**Pn**	**17 21 09.5**	**+1.0**
JHNI				*ex*	x	17 23 26.0	
BHJ	**Bhuj**	**13.21**	**183**	*e*P	**Pn**	**17 21 10.8**	**-0.2**
BHJ				IAmb	IAmb	17 21 13.4	
	comp=Z,93nm,0.9s						
MAKZ	**Makanchi**	**13.43**	**36**	*e*Pn	**Pn**	**17 21 12.6**	**-1.0**
MAKZ	**Makanchi**	**13.43**	**36**	⇑P	**Pn**	**17 21 14.5**	**+0.9**
	comp=Z,472nm,0.9s						
MAKZ	**Makanchi**	**13.43**	**36**	*e*P	**Pn**	**17 21 12.6**	**-1.0**
PYUN	**Piuthan**	**13.52**	**125**	*e*P	**Pn**	**17 21 13.1**	**-1.9**
	comp=Z,688nm,0.6s						
MK31	**Makanchi Array**	**13.57**	**37**	*e*Pn	**Pn**	**17 21 14.9**	**-0.5**
MK31	**Makanchi Array**	**13.57**	**37**	P	**P**	**17 21 17.1**	**-0.5**
	comp=Z,314nm,0.9s,baz=221,slow=8.1,SNR=1475						
MK31	**Makanchi Array**	**13.57**	**37**	*e*P	**Pn**	**17 21 14.9**	**-0.5**
MK32	**Makanchi Array**	**13.57**	**37**	*e*Pn	**Pn**	**17 21 14.9**	**-0.4**
MKAR	**Makanchi Array**	**13.57**	**37**	*e*Pn	**Pn**	**17 21 14.4**	**-0.9**
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**17 21 15.0**	**-0.4**
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**17 21 14.9**	**-0.4**
	comp=Z,4.4nm,0.3s,baz=218,slow=13,SNR=330						
DANN	**Dangsing**	**13.87**	**122**	*e*P	**Pn**	**17 21 18.0**	**-1.6**
	comp=Z,955nm,0.8s						
KOLN	**Koldanda**	**14.14**	**124**	*e*P	**Pn**	**17 21 20.9**	**-1.8**
	comp=Z,211nm,0.5s						
BHPL	**Bhopal**	**14.53**	**153**	*e*P	**Pn**	**17 21 27.4**	**0.0**
BHPL				*ex*	x	17 23 59.5	
GKN	**Gorkha**	**14.69**	**121**	*e*P	**Pn**	**17 21 28.2**	**-1.3**
	comp=Z,974nm,0.6s						
AB31	**Akbulak array**	**14.87**	**332**	⇑P	**Pn**	**17 21 29.8**	**-1.4**
	comp=Z,84nm,0.6s,baz=145,slow=12,SNR=1568						
AB31	**Akbulak array**	**14.87**	**332**	P	**Pn**	**17 21 29.8**	**-1.4**
AB31				pmax	pmax		
	comp=Z,84nm,0.5s						
ABKAR	**Akbulak array**	**14.87**	**332**	*e*Pn	**Pn**	**17 21 29.2**	**-2.1**
ABKAR				*e*Pn	**P**	**17 21 29.9**	**-2.0**
WMQ	**Urumqi**	**15.08**	**56**	*e*P	**P**	**17 21 34.6**	**+0.1**
WMQ			

WBK	**Wadi Bani Khal**	**17.03 219**	P	**Pn**	**17 21 59.0 +1.5**
	SNR=7.7				
ASHO	**Ashiyiah**	**17.05 230**	*i* P	**Pn**	**17 21 57.5 -0.3**
	SNR=46				
ASHO	**Ashiyiah**	**17.05 230**	P	**Pn**	**17 21 57.5 -0.3**
	SNR=28				
ASHO			S	**S**	**17 25 02.5 -1.0**
NAZ	**Nazwa, Dubai**	**17.08 232**	*i* P	**P**	**17 21 57.0 +0.4**
	SNR=10				
NAZ	**Nazwa, Dubai**	**17.08 232**	P	**Pn**	**17 21 60.0 +1.9**
	SNR=7.7				
NAZ			S	**S**	**17 25 06.2 +2.2**
JLN	**Jalan Bani Buh**	**17.20 217**	P	**Pn**	**17 21 59.3 -0.1**
	SNR=9.8				
FAQ	**Al Faqa, Dubai**	**17.30 232**	P	**Pn**	**17 22 00.0 -0.6**
ASUD	**Al Ashush, Dub**	**17.55 232**	*i* P	**Pn**	**17 22 03.1 -0.4**
	SNR=9.2				
ALNE	**Al Ain**	**17.70 230**	*i* P	**P**	**17 22 04.1 +0.8**
	SNR=19				
ARQ	**Araqi**	**17.78 226**	P	**Pn**	**17 22 06.1 -0.3**
	SNR=5.8				
AJN	**Ajban**	**17.81 232**	P	**P**	**17 22 05.5 +1.0**
	SNR=5.1				
AJN			S	**S**	**17 25 15.9 -2.7**
BSY	**Bisya**	**17.86 224**	P	**Pn**	**17 22 08.5 +1.3**
	SNR=5.2				
DGZ	**Jazzator, Alta**	**18.07 38***c*	*i* P	**Pn**	**17 22 08.9 -0.7**
POO	**Poona**	**18.15 170**	*e*P	**P**	**17 22 08.9 +0.6**
POO			IAmb	IAmb	17 22 10.8
	comp=Z,124nm,0.6s				
AKT	**Akhty**	**18.32 293**	*i* P	**P**	**17 22 10.7 +0.7**
BOK	**Bokaro**	**18.38 129**	*e*P	**P**	**17 22 11.7 +1.0**
LSA	**Lhasa**	**18.62 105**	*e*P	**Pn**	**17 22 16.5 -0.1**
	comp=Z,83nm,0.6s				
LSA	**Lhasa**	**18.62 105**	*i* P	**Pn**	**17 22 16.0 -0.6**
	SNR=35				
LSA	**Lhasa**	**18.62 105**	*e*P	**Pn**	**17 22 16.5 -0.1**
LSA			pmax	pmax	
	comp=Z,83nm,0.6s				
MAK	**Makhachkala**	**18.75 297**	*e*P	**Pn**	**17 22 16.0 -1.4**
MAK			*e*S	**S**	**17 25 38.9 +2.1**
MAK			pmax	pmax	
	comp=Z,443nm,1.6s				
MAK			MLR	MLR	
	comp=Z,80nm,12.0s				
MHTO	**MHTO**	**18.89 219**	P	**Pn**	**17 22 18.2 -1.1**
	SNR=14				
GNBR	**Gunib**	**19.03 295**	*i* P	**Pn**	**17 22 19.6 -1.2**
BTLR	**Botlikh**	**19.61 296**	*i* P	**P**	**17 22 25.5 +1.6**
DVE	**Vedeno**	**19.74 297***d*	*i*P	**P**	**17 22 26.9 +1.7**
GROC	**Groznyy**	**20.02 297**	*e*P	**P**	**17 22 29.3 +1.1**
GROC			*e**PP	**pP**	**17 23 01.2 -1.0**
GROC			*e**SP	**sP**	**17 23 26.8 -1.5**
GROC			*e*S	**S**	**17 26 03.9 +2.1**
GROC			pmax	pmax	
	comp=Z,211nm,1.6s				
ZAA0	**Zalesovo Array**	**20.12 25**	*e*P	**P**	**17 22 29.4 +0.4**
	comp=Z,198nm,0.6s				
ZALV	**Zalesovo Beam**	**20.12 25**	*e*P	**P**	**17 22 28.4 -0.6**
ZALV			S	**S**	**17 26 02.3 -1.0**
ZALV	**Zalesovo Beam**	**20.12 25**	P	**P**	**17 22 29.5 +0.5**
	comp=Z,185nm,0.6s,baz=220,slow=12,SNR=776				
ZALV			S	**S**	**17 26 02.3 -1.0**
	comp=Z,20nm,0.8s,baz=216,slow=19,SNR=6.7				
ZAA1	**Zalesovo Array**	**20.12 25**	*e*P	**P**	**17 22 29.5 +0.4**
ZAA1			*e*S	**S**	**17 26 02.3 -1.1**
HYB	**Hyderabad**	**20.32 157**	*i* P	**P**	**17 22 32.5 +0.9**
	comp=Z,269nm,0.8s				
HYB			*e*S	**S**	**17 26 10.5 +2.5**
HYB	**Hyderabad**	**20.32 157**	*e*P	**P**	**17 22 32.3 +0.7**
HYB			IAmb	IAmb	17 22 35.9
	comp=Z,334nm,1.2s				
NVS	**Novosibirsk**	**20.36 22**⇊	*i*P	**P**	**17 22 32.6 +1.0**
NVS			*e*		17 23 01.4
NVS			*e*		17 23 34.8
NVS			*i* S	**S**	**17 26 08.3 +0.4**
NVS			pmax	pmax	
	comp=Z,252nm,1.1s				
NVS			pmax	pmax	
	comp=N,194nm,1.2s				
NVS			pmax	pmax	
	comp=E,83nm,1.0s				
NVS			smax	smax	
	comp=N,58nm,1.6s				
NVS			smax	smax	
	comp=E,62nm,1.3s				
GNI	**Garni**	**20.45 288**	*e*P	**P**	**17 22 33.4 +0.4**
	comp=E,141nm,1.0s				
GNI	**Garni**	**20.45 288**	*i* P	**P**	**17 22 35.1 +2.1**
	SNR=24				
GNI	**Garni**	**20.45 288***ce*	P	**P**	**17 22 35.5 +2.5**
GNI			pmax	pmax	
	comp=Z,327nm,1.1s				
GNI	**Garni**	**20.45 288**	P	Pn	17 22 36.0 -2.3
	SNR=9.4				
GNI	**Garni**	**20.45 288**	P	**P**	**17 22 34.6 +1.6**
	comp=Z,89nm,0.8s,baz=303,slow=1.1,SNR=47				
TBLG	**Delisi**	**20.57 293**	*e*P	**P**	**17 22 34.8 +0.7**
	comp=Z,85nm,0.7s				
TBLG	**Delisi**	**20.57 293**	*e*P	**P**	**17 22 34.8 +0.7**
TBLG			pmax	pmax	
	comp=Z,85nm,0.7s				
GOA	**Goa**	**21.13 171**	*e*P	**P**	**17 22 41.6 +1.4**
GOA			IAmb	IAmb	17 22 43.5
	comp=Z,138nm,0.8s				
ZEI	**Tsey**	**21.32 295**	*e*P	**P**	**17 22 43.2 +1.0**
ZEI			pmax	pmax	
	comp=Z,21nm,0.8s				
SHL	**Shillong**	**21.32 115**	*e*P	**P**	**17 22 42.2 -0.1**
	comp=Z,401nm,1.2s				
SHL	**Shillong**	**21.32 115**	*e*P	**P**	**17 22 42.2 -0.1**
SHL			pmax	pmax	
	comp=Z,401nm,1.2s				
SHL	**Shillong**	**21.32 115**⇊	*i*P	**P**	**17 22 42.0 -0.3**
SHL			*e*S	**S**	**17 26 29.0 +2.7**
SVE	**Sverdlovsk**	**21.38 345***d*	*i*P	**P**	**17 22 43.0 +0.7**
SVE			*e*S	**S**	**17 26 26.3 +0.1**
SVE			pmax	pmax	
	comp=Z,177nm,1.1s				
AKH	**Akhalkalaki**	**21.47 291**	*e*P	**P**	**17 22 45.6 +1.9**
	comp=Z,151nm,1.4s				
ARU	**Arti**	**21.49 342**	*e*P	**P**	**17 22 43.6 +0.2**
	comp=Z,282nm,0.9s				
ARU	**Arti**	**21.49 342***c*	*i*P	**P**	**17 22 43.9 +0.4**
ARU			*PP	**pP**	**17 23 16.7 -2.0**
ARU			S	**S**	**17 26 29.8 +1.8**
ARU			pmax	pmax	
	comp=Z,378nm,1.1s				
ARU	**Arti**	**21.49 342**	P	**P**	**17 22 43.8 +0.3**
	comp=Z,72nm,0.6s,baz=138,slow=6.0,SNR=153				
NCK	**Nalchik**	**21.65 297**	*i* P	**P**	**17 22 45.1 -0.2**
NCK			pmax	pmax	
	comp=Z,56nm,1.0s				
PYA1	**Pyatigorsk**	**22.11 298**	*i* P	**P**	**17 22 49.3 -0.5**
KBZ	**Khabaz**	**22.19 297**	P	**P**	**17 22 50.6 +0.1**
	comp=Z,19nm,0.9s,baz=115,slow=6.7,SNR=38				
NEY	**Neytrino**	**22.24 296**	*i* P	**P**	**17 22 53.2 +2.0**
NEY			pmax	pmax	
	comp=Z,5.0nm,1.0s				
SHA1	**Shidzhatmaz**	**22.37 297**	*i* P	**P**	**17 22 52.9 +0.5**
KIV	**Kislovodsk**	**22.38 298**	*e*P	**P**	**17 22 52.5 +0.1**
	comp=Z,35nm,0.9s				
KIV	**Kislovodsk**	**22.38 298**	*i* P	**P**	**17 22 52.9 +0.5**
	SNR=6.1				
KIV	**Kislovodsk**	**22.38 298**	*e*P	**P**	**17 22 52.6 +0.2**
KIV			*e*		17 26 44.0
KIV			pmax	pmax	
	comp=Z,85nm,1.0s				
KIV			MLR	MLR	
	comp=Z,101nm,15.0s				
KIV	**Kislovodsk**	**22.38 298**	P	**P**	**17 22 53.2 +0.8**
	SNR=10				
DOMR	**Dombai**	**23.05 296**	*i* P	**P**	**17 22 59.2 +0.8**
DOMR			pmax	pmax	
	comp=Z,35nm,0.9s				
GTA	**Gaotai**	**23.31 74**	*e*P	**P**	**17 23 02.3 +1.5**
GTA			pP	pP	17 23 46.3 +6.6
GTA			sP	sP	17 24 10.3 +4.1
GTA			S	**S**	**17 27 00.6 +2.7**
GTA			ScP	**ScP**	**17 29 59.4 -0.7**
GTA			ScS	**ScS**	**17 33 44.1 -2.6**
GTA			pmax	pmax	
	comp=Z,12nm,1.1s				
GTA			pmax	pmax	
	comp=Z,91nm,5.0s				
GTA			LR	LR	
	comp=Z,100nm,19.2s				
GTA			LR	LR	
	comp=Z,120nm,19.9s				
GTA			LR	LR	
	comp=Z,100nm,19.9s				
WHFO	**Wadi Hawf**	**23.63 223**	P	**P**	**17 23 04.1 +0.3**
	SNR=10				
ABTO	**Aybut**	**24.35 223**	P	**P**	**17 23 10.3 -0.1**
	SNR=11				
KRAR	**Krasnoyarsk**	**24.74 31**	*i* P	**P**	**17 23 13.8 +0.4**
MDRS	**Chennai**	**24.94 157**	*e*P	**P**	**17 23 13.7 -1.9**
MDRS			IAmb	IAmb	17 23 17.9
	comp=Z,31nm,1.0s				
VRH	**Novokhopyorsk**	**25.18 315**	*e*P	**P**	**17 23 17.7 +0.2**
VRH			*e**PP	**pP**	**17 23 58.8 +0.7**
VRH			pmax	pmax	
	comp=Z,70nm,1.6s				
KIRV	**Kirov**	**26.05 335**	P	**P**	**17 23 26.5 +1.4**
	comp=Z,115nm,0.6s,baz=142,slow=4.4,SNR=67				
ANN	**Anapa**	**26.23 299**	*e*P	**P**	**17 23 27.0 0.0**
ANN			*e**PP	**pP**	**17 24 12.0 +3.8**
ANN			*e*S	**S**	**17 27 45.2 +1.5**
ANN			*e**SS	**sS**	**17 28 59.7 +0.1**
ANN			pmax	pmax	
	comp=Z,25nm,1.1s				
MOY	**Mondy**	**26.44 45**	*e*P	**P**	**17 23 31.3 +2.4**
MOY			pmax	pmax	
	comp=Z,34nm,1.7s				
VORD	**Divnogorie**	**26.50 313**	*e*P	**P**	**17 23 29.3 0.0**
VORD			*e**PP	**pP**	**17 24 10.6 0.0**
VORD			pmax	pmax	
	comp=Z,10.0nm,0.6s				
VSR	**Storozhevoye**	**26.67 313***c*	*i*P	**P**	**17 23 29.9 -0.9**
VSR			pmax	pmax	
	comp=Z,44nm,1.0s				
VORR	**Voronezh**	**26.81 314**	P	**P**	**17 23 32.0 -0.1**
VORR			pmax	pmax	
	comp=Z,250nm,1.2s				
LZH	**Lanzhou**	**26.87 81**	*e*P	**P**	**17 23 35.0 +2.0**
LZH			pP	pP	17 24 15.6 +0.1
LZH			sP	sP	17 24 40.8 +0.9
LZH			pmax	pmax	
	comp=Z,28nm,1.0s				
LPSR	**Galich'ya Gora**	**27.34 316**	*e*P	**P**	**17 23 37.0 +0.3**
LPSR			*e**PP	**pP**	**17 24 18.1 -0.1**
LPSR			pmax	pmax	
	comp=Z,80nm,0.9s				
ZAK	**Zakamensk**	**27.34 49**	*e*P	**P**	**17 23 38.9 +1.9**
ZAK			pmax	pmax	
	comp=Z,6.0nm,1.1s				
ASF	**Jabal al Asfar**	**27.94 271**	P	**P**	**17 23 43.7 +1.3**
	comp=Z,1.8nm,0.6s,baz=38,slow=9.9,SNR=3.9				
TLY	**Talaya**	**27.98 47**	*e*P	**P**	**17 23 42.4 -0.1**
	comp=Z,10nm,0.8s				
TLY	**Talaya**	**27.98 47**	*i* P	**P**	**17 23 44.0 +1.5**
TLY	**Talaya**	**27.98 47**	P	**P**	**17 23 45.3 +2.8**
	SNR=6.2				
CD2	**Chengdu**	**28.20 92**	*e*P	**P**	**17 23 43.8 -0.9**
CD2			pmax	pmax	
	comp=Z,20nm,0.5s				
TRD	**Trivandrum**	**28.48 166**	*e*P	**P**	**17 23 48.8 +1.5**
IRK	**Irkutsk**	**28.54 46**	*e*P	**P**	**17 23 48.8 +1.4**
IRK			pmax	pmax	
	comp=Z,34nm,1.7s				
SONA0	**Songino Array**	**28.72 55**	*e*P	**P**	**17 23 51.1 +1.9**
SONA0			*e*PP	**sP**	**17 24 56.0 -0.4**
SONA0			*e*ScP	**ScP**	**17 30 14.0 -1.8**
SONM	**Songino Array**	**28.72 55**	*e*P	**P**	**17 23 49.9 +0.6**
SONM			PP	**sP**	**17 24 56.0 -0.4**
SONM			ScP	**ScP**	**17 30 14.0 -1.8**
SONM	**Songino Array**	**28.72 55**	P	**P**	**17 23 51.1 +1.9**
	comp=Z,4.9nm,0.6s,baz=257,slow=9.9,SNR=34				
SONM			PP	**sP**	**17 24 56.0 -0.4**
	comp=Z,2.5nm,0.7s,baz=258,slow=10,SNR=3.9				
SONM			ScP	**ScP**	**17 30 14.0 -1.8**
	comp=Z,1.8nm,0.9s,baz=248,slow=2.7,SNR=5.2				
ILGA	**Ilgaz**	**28.84 290**	*e*P	**P**	**17 23 51.0 +0.5**
ILGA			*e*pP	**pP**	**17 24 34.2 +2.1**
MMAI	**Mount Meron Ar**	**28.89 274**	P	**P**	**17 23 51.8 +0.9**
	comp=Z,1.7nm,0.6s,baz=75,slow=11,SNR=6.0				
MMAI			PcP	**PcP**	**17 26 55.4 +0.7**
	comp=Z,1.4nm,0.5s,baz=68,slow=5.3,SNR=6.7				
MMAI			ScP	**ScP**	**17 30 15.5 -1.1**
	comp=Z,1.3nm,0.6s,baz=70,slow=4.8,SNR=4.1				
BR101	**Keskin Array S**	**29.00 288**	*e*P	**P**	**17 23 52.8 +1.0**
BR101			*e*pP	**pP**	**17 24 34.5 +1.1**
BR101			*e*ScP	**ScP**	**17 30 15.0 -1.9**
BR131	**Keskin Array S**	**29.00 288**	*e*P	**P**	**17 23 52.0 +0.3**
	comp=Z,5.9nm,0.6s				
BR131	**Keskin Array S**	**29.00 288**	*e*P	**P**	**17 23 52.1 +0.3**
BR131			pmax	pmax	
	comp=Z,6.0nm,0.6s				
BR131	**Keskin Array S**	**29.00 288**	P	**P**	**17 23 53.1 +1.4**
	SNR=6.4				
BRTR	**Keskin Array B**	**29.00 288**	*e*P	**P**	**17 23 52.0 +0.3**
BRTR			pP	**pP**	**17 24 34.5 +1.1**
BRTR			ScP	**ScP**	**17 30 15.0 -1.9**
BRTR	**Keskin Array B**	**29.00 288**	P	**P**	**17 23 52.8 +1.0**
	comp=Z,4.2nm,0.6s,baz=102,slow=9.3,SNR=33				
BRTR			pP	**pP**	**17 24 34.5 +1.1**
	comp=Z,3.8nm,0.6s,baz=102,slow=9.0,SNR=4.3				
BRTR			ScP	**ScP**	**17 30 15.0 -1.9**
	comp=Z,0.9nm,0.8s,baz=140,slow=6.4,SNR=3.8				
ULN	**Ulaanbaatar**	**29.16 56**	*e*P	**P**	**17 23 53.9 +0.7**
	comp=Z,6.9nm,0.6s				
ULN	**Ulaanbaatar**	**29.16 56***ce*	P	**P**	**17 23 54.7 +1.5**
ULN			pmax	pmax	
	comp=Z,6.0nm,0.9s				
ULN	**Ulanbaatar**	**29.16 56**	P	**P**	**17 23 55.2 +2.0**
	SNR=5.1				
MOS	**Moscow**	**29.38 321**	*e*P	**P**	**17 23 54.9 +0.2**
MOS			*e*		17 24 34.8
MOS			*e*S	**S**	**17 28 32.6 -0.2**
MOS			pmax	pmax	
	comp=Z,149nm,1.2s				
PRGR	**Permogore**	**29.59 336**⇑	*i*P	**P**	**17 23 57.4 +0.9**
PRGR			*e*		17 24 36.2
PRGR			pmax	pmax	
	comp=Z,102nm,0.7s				
OBN	**Obninsk**	**29.64 320**	*e*P	**P**	**17 23 57.8 +0.8**
	comp=Z,111nm,1.0s				
OBN	**Obninsk**	**29.64 320**⇑	*i*P	**P**	**17 23 58.1 +1.0**
OBN	**Obninsk**	**29.64 320**	*e*P	**P**	**17 23 57.3 +0.2**
OBN			*e**PP	**pP**	**17 24 38.9 0.0**
OBN			*e**SP	**PP**	**17 25 06.9 -1.3**
OBN			pmax	pmax	
	comp=Z,75nm,0.9s				
OBN	**Obninsk**	**29.64 320**	P	**P**	**17 23 57.6 +0.6**
	comp=Z,14nm,0.5s,baz=124,slow=3.4,SNR=29				
KMI	**Kunming**	**29.85 103**	P	**P**	**17 24 02.4 +2.9**
KMI			pmax	pmax	
	comp=Z,14nm,0.9s				
EIL	**Elat**	**30.37 267**	P	**P**	**17 24 03.8 0.0**
	comp=Z,4.2nm,0.6s,baz=45,slow=9.0,SNR=4.5				
PALK	**Pallekele**	**30.56 160**	P	**P**	**17 24 05.6 -0.1**
	comp=Z,20nm,0.7s,baz=296,slow=8.1,SNR=12				
CHTO	**Chiang Mai**	**30.63 117**	*e*P	**P**	**17 24 05.9 -0.3**
	comp=Z,13nm,0.8s				
CHTO	**Chiang Mai**	**30.63 117**	*e*P	**P**	**17 24 05.9 -0.3**
CHTO			pmax	pmax	
	comp=Z,13nm,0.8s				
CHTO	**Chiang Mai**	**30.63 117**	P	**P**	**17 24 06.7 +0.5**
	SNR=5.1				
CMMT	**Chiang Mai**	**30.63 117**	P	**P**	**17 24 07.5 +1.3**
	comp=Z,9.2nm,0.5s,comp=Z,171nm				
CM31	**Chiang Mai Arr**	**30.86 118**	*e*P	**P**	**17 24 08.6 +0.3**
	comp=Z,59nm,1.3s				
CM31			*e*ScP	**ScP**	**17 30 21.7 -1.3**
CM31	**Chiang Mai Arr**	**30.86 118**	P	**P**	**17 24 09.2 +1.0**
	SNR=13				
CMAR	**Chiang Mai Arr**	**30.86 118**	*e*P	**P**	**17 24 08.8 +0.6**
CMAR			ScP	**ScP**	**17 30 21.7 -1.3**
CMAR	**Chiang Mai Arr**	**30.86 118**	*e*P	**P**	**17 24 08.8 +0.6**
CMAR	**Chiang Mai Arr**	**30.86 118**	P	**P**	**17 24 08.3 +0.1**
	comp=Z,18nm,0.9s,baz=294,slow=8.7,SNR=138				
CMAR			ScP	**ScP**	**17 30 21.7 -1.3**
	comp=Z,4.6nm,1.0s,baz=292,slow=5.2,SNR=10.0				
KLMR	**Klimovskoe**	**31.26 331**⇑	*i*P	**P**	**17 24 11.8 +0.6**
KLMR			pmax	pmax	
	comp=Z,83nm,0.9s				
LAMP	**Lampang**	**31.31 117**	P	**P**	**17 24 12.9 +0.7**
	comp=Z,33µm,0.8s,comp=Z,337µm				
XAN	**Xi'an**	**31.39 83**	P	**P**	**17 24 14.0 +1.2**
XAN			pmax	pmax	
	comp=Z,9.0nm,1.1s				
PBA	**Port Blair**	**31.88 135**	*e*P	P	17 24 19.1 +1.9
PBA			IAmb	IAmb	17 24 19.9
	comp=Z,62nm,0.5s				
HHC	**Hu-ho-hao-te**	**32.20 69**	*e*P	**P**	**17 24 19.1 -0.8**
HHC			S	**S**	**17 29 16.4 -1.1**
HHC			pmax	pmax	
	comp=Z,95nm,0.8s				
HHC			pmax	pmax	
	comp=Z,300nm,4.5s				
GYA	**Guiyang**	**32.32 98**⇑	*i*P	**P**	**17 24 22.4 +1.3**
GYA			pP	pP	17 25 04.6 +0.7
GYA			sP	sP	17 25 27.8 0.0
GYA			S	**S**	**17 29 20.6 +0.9**
GYA			ScP	**ScP**	**17 30 26.5 -1.6**
GYA			sS	sS	17 30 37.0 +0.6
GYA			ScS	**ScS**	**17 34 24.0 -3.9**
GYA			pmax	pmax	
	comp=Z,20nm,0.8s				
GYA			pmax	pmax	
	comp=Z,120nm,4.8s				
UMPA	**Umpang Tak**	**32.32 121**	P	**P**	**17 24 23.7 +2.7**
	comp=Z,63µm,0.8s,comp=Z,607µm				
KIS	**Kishinev**	**32.42 302**	*e*P	**P**	**17 24 21.5 -0.1**
	comp=Z,40nm,1.0s				
KIS			*e*pP	**pP**	**17 25 04.0 +0.4**
KIS			*e*SP		17 25 20.0
KIS			*e*S	**S**	**17 29 20.0 -0.6**
KIS			*e*sS	**ScP**	**17 30 28.0 +0.1**
KIS			LRM	MLR	17 40 54.0
	comp=Z,300nm,18.0s				
KIS	**Kishinev**	**32.42 302**	*e*P	**P**	**17 24 21.5 -0.1**
KIS			*e**PP	**pP**	**17 25 04.0 +0.4**
KIS			*e*S	**S**	**17 29 20.0 -0.6**
KIS			pmax	pmax	
	comp=Z,40nm,1.0s				
UTTA	**Uttaradit**	**32.48 117**	P	**P**	**17 24 23.4 +1.1**
	comp=Z,161µm,0.6s				
AKASG	**Malin Array Be**	**32.59 309**	P	**P**	**17 24 22.8 -0.2**
	comp=Z,8.8nm,0.6s,baz=82,slow=6.9,SNR=63				
AKASG			PP	**PP**	**17 25 39.4 -1.5**
	comp=Z,6.1nm,0.7s,baz=88,slow=10,SNR=4.5				
AKASG			ScP	**ScP**	**17 30 25.9 -2.5**
	comp=Z,2.9nm,0.8s,baz=71,slow=4.2,SNR=6.4				
AKBB	**Malin Array Si**	**32.59 309**	*e*P	**P**	**17 24 23.1 +0.2**
AKBB			*e*PP	**PP**	**17 25 39.4 -1.5**
AKBB			*e*ScP	**ScP**	**17 30 25.9 -2.5**
KIEV	**Kiev**	**32.60 309**	*e*P	**P**	**17 24 22.9 -0.2**
	comp=Z,60nm,1.6s				
KIEV	**Kiev**	**32.60 309**⇑	*i*P	**P**	**17 24 23.7 +0.7**
KIEV	**Kiev**	**32.60 309**	*i* P	**P**	**17 24 23.3 +0.3**
	SNR=16				
KIEV	**Kiev**	**32.60 309***c*	*i*P	**P**	**17 24 22.8 -0.2**
KIEV			pmax	pmax	
	comp=Z,11nm,0.9s				
SLVN	**Son La**	**32.78 108**	*e*P	**P**	**17 24 26.9 +1.9**
	comp=Z,16nm,0.8s				
CFR	**Carcaliu**	**32.84 299**⇑	*i*P	**P**	**17 24 27.1 +1.9**
CFR	**Carcaliu**	**32.84 299**	P	**P**	**17 24 27.1 +1.9**
CFR			pmax	pmax	
	comp=Z,9.0nm,1.0s				
ENH	**Enshi**	**33.04 89**	*e*P	**P**	**17 24 28.1 +0.9**
	comp=Z,14nm,0.9s				
PBKT	**Sadao Pong**	**33.55 118**	P	**P**	**17 24 33.0 +1.4**
	comp=Z,33nm,0.9s,comp=Z,323nm				
SRDT	**SRDT**	**33.81 123**	P	**P**	**17 24 35.4 +1.5**
	comp=Z,39nm,0.8s				
VRI	**Vrincioaia**	**33.83 300**⇑	*i*P	**P**	**17 24 36.2 +2.4**
VRI	**Vrincioaia**	**33.83 300**	P	**P**	**17 24 36.5 +2.7**
VRI			pmax	pmax	
	comp=Z,13nm,1.3s				
TMCR	**Tamitsa**	**33.86 335**	*e*P	**P**	**17 24 33.2 -0.5**
TMCR			pmax	pmax	
	comp=Z,111nm,0.6s				
PLOR	**Plostina**	**33.88 300**⇑	*i*P	**P**	**17 24 36.3 +2.0**
PLOR	**Plostina**	**33.88 300**	P	**P**	**17 24 36.2 +2.0**
TESR	**Tescani**	**33.89 301**⇑	*i*P	**P**	**17 24 35.5 +1.2**
CIT	**Chita**	**34.01 49**	*e*P	**P**	**17 24 36.5 +1.2**
CIT			pmax	pmax	
	comp=Z,88nm,1.3s				
MICGM	**Minsk**	**34.18 315**	*e*	**P**	**17 24 37.0 +0.4**
MNK	**Minsk**	**34.18 315**	*e*P	**P**	**17 24 37.0 +0.4**
HORU	**Horodok**	**34.19 306**	P	**P**	**17 24 37.9 +1.1**
NRIK	**Noril'sk**	**34.22 11**	P	**P**	**17 24 38.7 +1.9**
	comp=Z,116nm,0.5s,baz=203,slow=5.9,SNR=121				
BIZ	**Bicaz**	**34.28 302**⇑	*i*P	**P**	**17 24 39.7 +2.1**
MLR	**Muntele Rosu**	**34.38 299**	*e*P	**P**	**17 24 40.5 +1.8**
	comp=Z,54nm,1.4s				
MLR	**Muntele Rosu**	**34.38 299**⇑	*i*P	**P**	**17 24 41.1 +2.4**
MLR	**Muntele Rosu**	**34.38 299**	*e*P	**P**	**17 24 40.5 +1.8**
MLR			pmax	pmax	
	comp=Z,54nm,1.4s				
MLR	**Muntele Rosu**	**34.38 299**	P	**P**	**17 24 40.1 +1.4**
	comp=Z,16nm,1.0s,baz=77,slow=4.2,SNR=24				
EZN	**Ezine**	**34.57 289**⇑	*i*P	**P**	**17 24 41.4 +1.2**
EZN	**Ezine**	**34.57 289**	P	**P**	**17 24 41.3 +1.1**
PUL	**Pulkovo**	**34.65 325***ce*	P	**P**	**17 24 41.4 +0.8**
PUL			pmax	pmax	
	comp=Z,158nm,1.1s				
DOPR	**Dopca**	**34.76 300**⇓	*i*P	**P**	**17 24 43.2 +1.4**
KARP	**Karpathos**	**34.79 282**	*e*P	**P**	**17 24 42.7 +0.5**
	comp=Z,49nm,1.0s				
BURAR	**Bucovina Array**	**34.90 303**	*e*P	**P**	**17 24 43.7 +0.6**
BURAR	**Bucovina Array**	**34.90 303**⇑	*i*P	**P**	**17 24 44.7 +1.6**
BURAR	**Bucovina Array**	**34.90 303**	P	**P**	**17 24 43.7 +0.6**
BUR08	**Bucovina Ar. S**	**34.91 303**	*e*P	**P**	**17 24 43.9 +0.7**
	comp=Z,5.7nm,1.0s				
VOIR		**35.01 299**⇑	*i*P	**P**	**17 24 45.7 +1.7**
VOIR		**35.01 299**	P	**P**	**17 24 45.6 +1.6**
IDID	**Didziasalis**	**35.02 317**	*e*P	**P**	**17 24 44.6 +0.8**
IDID			IAmb	IAmb	17 24 46.3
	comp=Z,16nm,0.8s				
KHON	**Khomkaen**	**35.03 116**	P	**P**	**17 24 45.3 +0.9**
	comp=Z,246µm,0.7s				
ATD	**Arta Tunnel**	**35.15 232**	P	**P**	**17 24 46.7 +1.2**
	comp=Z,5.8nm,0.7s,baz=311,slow=7.9,SNR=5.3				
ARR	**Arges**	**35.31 299**⇑	*i*P	**P**	**17 24 47.9 +1.4**
IZAR	**Zarasai**	**35.40 317**	*e*P	**P**	**17 24 48.1 +1.1**
IZAR			IAmb	IAmb	17 24 49.6
	comp=Z,21nm,0.8s				
SKNT	**Sakolnakorn**	**35.47 114**	P	**P**	**17 24 48.5 +0.4**
	comp=Z,108nm,0.8s				
BOD	**Bodaibo**	**35.65 39**	*e*P	**P**	**17 24 50.2 +1.1**
BOD			pmax	pmax	
	comp=Z,45nm,1.1s				
APE	**Apeiranthos**	**35.71 285**⇑	*i*P	**P**	**17 24 50.5 +0.5**
APE	**Apeiranthos**	**35.71 285***c*	*i*P	**P**	**17 24 50.2 +0.2**
APE			pmax	pmax	
	comp=Z,7.0nm,0.9s				
LVV	**L'vov**	**35.79 307**	*e*P	**P**	**17 24 51.8 +1.3**
PANO	**Nakornpanom**	**35.82 113**	P	**P**	**17 24 51.8 +0.7**
	comp=Z,1.5nm,1.1s				
VSU	**Vasula**	**35.90 322***ce*	P	**P**	**17 24 51.3 +0.1**
VSU			pmax	pmax	
	comp=Z,188nm,0.9s				
VSU	**Vasula**	**35.90 322**	*e*P	**P**	**17 24 51.4 +0.1**
VSU			IAmb	IAmb	17 24 52.5
	comp=

comp=Z,92nm,0.7s
LVZ Lovozero 37.30 339 *ce*P **P 17 25 03.5 +0.5**
LVZ pmax pmax
comp=Z,58nm,0.8s
MDVR Moldovita 37.41 298⇑ *i*P **P 17 25 05.6 +1.3**
BZS Buzias 37.41 300⇑ *i*P **P 17 25 05.8 +1.6**
BZS Buzias 37.41 300 P **P 17 25 05.8 +1.6**
APA Apatity 37.47 338⇑ *i*P **P 17 25 04.7 +0.3**
APA *i* *PP **pP 17 25 47.0 -0.3**
APA pmax pmax
comp=Z,39nm,0.7s
APA MLR MLR
comp=Z,200nm,14.0s
PBUR Paburg 37.83 317 *e*P **P 17 25 06.7 -0.9**
PBUR IAmb IAmb 17 25 09.7
comp=Z,94nm,1.1s
SLIT Slitere, Latvi 37.96 319 *e*P **P 17 25 08.3 -0.3**
SLIT IAmb IAmb 17 25 09.2
comp=Z,146nm,0.7s
PKDT Phuket 38.17 131 P **P 17 25 12.7 +1.9**
comp=Z,69nm,1.1s
NIE Niedzica 38.20 306 *e*P **P 17 25 12.6 +1.8**
NIE Niedzica 38.20 306 *e*P **P 17 25 12.6 +1.8**
BSI Banda Aceh 38.36 138 P P 17 25 18.3 +5.8
KRAB Krabi 38.44 130 P **P 17 25 14.3 +1.2**
comp=Z,421µm,0.7s
PSZ Piszkesteto 38.49 303⇑ *i*P **P 17 25 14.8 +1.4**
PSZ Piszkesteto 38.49 303 P **P 17 25 14.7 +1.4**
PSZ Piszkesteto 38.49 303 *e*P **P 17 25 14.0 +0.7**
OJC Ojcow 38.54 307 *e*P **P 17 25 14.6 +1.0**
OJC Ojcow 38.54 307 *e*P **P 17 25 13.2 -0.3**
comp=Z,23nm,1.2s
OJC Ojcow 38.54 307 *e*P **P 17 25 14.6 +1.0**
TRTT Trang 39.04 130 P **P 17 25 19.1 +1.0**
comp=Z,56nm,1.0s
VYHS Vyhne 39.18 304 *e*P **P 17 25 20.9 +2.0**
VYHS pmax pmax
comp=Z,8.0nm,1.5s
VYHS Vyhne 39.18 304 *e*P **P 17 25 20.9 +2.0**
VYHS *e*PP **PnPn 17 26 57.4 -0.7**
OKC Ostrava-Krasne 39.60 307 *e*P **P 17 25 24.5 +2.1**
OKC Ostrava-Krasne 39.60 307 *e*P **P 17 25 24.5 +2.1**
NJ2 Nanjing 39.93 82 *e*P **P 17 25 25.6 +0.3**
NJ2 pmax pmax
comp=Z,14nm,0.9s
JAVC Velka Javorina 39.94 305 *e*P **P 17 25 26.4 +1.2**
MORC Moravsky Berou 39.99 306 *e*P **P 17 25 26.4 +0.8**
comp=Z,9.8nm,1.0s
MORC Moravsky Berou 39.99 306⇑ *i*P **P 17 25 27.1 +1.4**
MORC Moravsky Berou 39.99 306 *e*P **P 17 25 26.5 +0.8**
MORC pmax pmax
comp=Z,10.0nm,1.0s
MORC Moravsky Berou 39.99 306 *e*P **P 17 25 26.2 +0.5**
SKLT Songkhla 40.13 129 P **P 17 25 27.9 +0.8**
comp=Z,35nm,0.8s,comp=Z,313nm
KRLC Kraliky 40.48 307 *e*P **P 17 25 30.8 +1.1**
KRLC *e* 17 26 13.9
KRLC Kraliky 40.48 307 *e*P **P 17 25 30.8 +1.1**
KRLC *e*pP **pP 17 26 13.9 +0.8**
VRAC Vranov 40.63 306 *e*P **P 17 25 31.4 +0.6**
VRAC Vranov 40.63 306 P **P 17 25 31.7 +0.9**
comp=Z,6.2nm,0.8s,baz=86,slow=10,SNR=12
KEV Kevo 40.64 338 *e*P **P 17 25 31.3 +0.8**
comp=Z,89nm,0.9s
KEV Kevo 40.64 338 *e*P **P 17 25 31.3 +0.8**
KEV pmax pmax
comp=Z,89nm,0.9s
DPC Dobruska-Polom 40.77 307 *e*P **P 17 25 33.5 +1.5**
DPC *e* 17 26 17.5
DPC Dobruska-Polom 40.77 307 *e*P **P 17 25 33.5 +1.5**
DPC *e*pP **pP 17 26 17.5 +1.9**
KRUC Moravsky 40.77 305 *e*P **P 17 25 32.0 0.0**
KSP Ksiaz 40.78 308 *e*P **P 17 25 33.4 +1.3**
KSP Ksiaz 40.78 308 *e*P **P 17 25 33.3 +1.3**
UPC Upice 40.96 308 *e*P **P 17 25 34.1 +0.6**
UPC *e* 17 26 18.7
UPC Upice 40.96 308 *e*P **P 17 25 34.1 +0.6**
UPC *e*pP **pP 17 26 18.7 +1.5**
ARA0 ARCESS Array S 40.98 338 *e*P **P 17 25 34.6 +1.3**
ARA0 *e*pP **pP 17 26 16.4 -0.7**
ARCES ARCESS Array B 40.98 338 *e*P **P 17 25 34.2 +0.8**
ARCES pP **pP 17 26 16.4 -0.7**
ARCES ARCESS Array B 40.98 338 *e*P **P 17 25 34.2 +0.8**
ARCES *PP **pP 17 26 16.4 -0.7**
ARCES ARCESS Array B 40.98 338 P **P 17 25 34.6 +1.2**
comp=Z,114nm,0.8s,baz=112,slow=8.1,SNR=398
ARCES pP **pP 17 26 16.4 -0.7**
comp=Z,20nm,0.8s,baz=120,slow=7.2,SNR=3.3
ARE0 ARCESS Array S 40.98 338 *e*P **P 17 25 34.2 +0.8**
comp=Z,5.5nm,0.8s
ARE0 ARCESS Array S 40.98 338 *e*P **P 17 25 34.7 +1.3**
CONA Conrad Observa 41.20 304 *i*P **P 17 25 36.9 +1.4**
comp=Z,16nm,1.1s
KTK1 Kautokeino 41.44 336 *e*P **P 17 25 38.1 +0.9**
ARSA Arzberg 41.48 303 *i*P **P 17 25 39.2 +1.3**
comp=Z,3.3nm,1.1s
KULM Kulim 41.62 131 *e*P **P 17 25 38.8 -0.4**
comp=Z,20nm,0.8s
GOPC GO Pecny, Ondr 41.77 307 *e*P **P 17 25 41.8 +1.7**
GOPC GO Pecny, Ondr 41.77 307 *e*P **P 17 25 41.8 +1.7**
SOKA Soboth 41.88 302 *i*P **P 17 25 41.4 +0.3**
comp=Z,5.8nm,0.9s
PRU Pruhonice 41.93 307 *e*P **P 17 25 42.7 +1.3**
PRU *e* 17 26 26.7
PRU Pruhonice 41.93 307 *e*P **P 17 25 42.7 +1.3**
PRU *e*pP **pP 17 26 26.7 +1.6**
HAMF Hammerfest 42.06 339 *e*P **P 17 25 43.8 +1.6**
BRG Berggiesshubel 42.26 308 *e*P **P 17 25 45.1 +1.0**
comp=Z,12nm,1.1s
BRG *e*pP **pP 17 26 28.3 +0.4**
comp=Z,14nm,1.2s
BRG *e*PCP **PcP 17 27 41.5 +7.6**
comp=Z,8.0nm,1.2s
BRG Berggiesshubel 42.26 308 *e*P **P 17 25 45.1 +1.0**
BRG *e**PP **pP 17 26 28.3 +0.4**
BRG *e* 17 27 41.5
BRG pmax pmax
comp=Z,13nm,1.1s
MOA Molln 42.27 304 *i*P **P 17 25 45.3 +1.1**
comp=Z,11nm,1.2s
ZEA Zeya 42.41 47 *e*P **P 17 25 47.0 +1.8**
ZEA *e* 17 26 32.0
ZEA pmax pmax
comp=Z,36nm,1.2s
IPM Ipoh 42.48 131 *e*P **P 17 25 46.1 -0.2**
comp=Z,73nm,0.8s
GEC2 GERESS Array S 42.55 305 *e*P **P 17 25 46.3 -0.3**
comp=Z,4.9nm,1.1s
GEC2 *e*PP **PP 17 27 28.2 -1.3**
GEC2 *e*ScP **ScP 17 31 05.2 -0.9**
GEC2 GERESS Array S 42.55 305 *e*P **P 17 25 46.3 -0.3**
GEC2 *e* 17 27 28.2
GEC2 pmax pmax
comp=Z,5.0nm,1.1s
GERES GERESS Array B 42.55 305 *e*P **P 17 25 46.6 +0.1**
GERES PP **PP 17 27 28.2 -1.3**
GERES ScP **ScP 17 31 05.2 -0.9**
GERES GERESS Array B 42.55 305 P **P 17 25 47.5 +1.0**
comp=Z,1.6nm,1.0s,baz=77,slow=7.0,SNR=13
GERES PP **PP 17 27 28.2 -1.3**
comp=Z,4.3nm,1.1s,baz=79,slow=7.2,SNR=6.3
GERES ScP **ScP 17 31 05.2 -0.9**
comp=Z,0.5nm,0.6s,baz=98,slow=2.7,SNR=3.8
PSI Prapat 42.60 135 *e*P **P 17 25 46.7 -0.6**
comp=Z,26nm,0.8s
PSI Prapat 42.60 135 P **P 17 25 46.8 -0.5**
comp=Z,22nm,0.8s,baz=319,slow=9.2,SNR=35
KHC Kasperske Hory 42.61 306 *e*P **P 17 25 46.8 -0.1**
comp=Z,3.7nm,1.4s
KHC Kasperske Hory 42.61 306 *e*P **P 17 25 47.7 +0.7**
KHC *e* 17 26 32.9
KHC *e* 17 27 31.0
KHC Kasperske Hory 42.61 306 *e*P **P 17 25 47.7 +0.7**
KHC *e*pP **pP 17 26 32.9 +2.1**
KHC *e*PP **PP 17 27 31.0 +1.0**
HFS Hagfors 42.79 322 P **P 17 25 48.1 0.0**
comp=Z,39nm,0.7s,baz=98,slow=11,SNR=106
HFS pP **pP 17 26 32.2 +0.2**
comp=Z,15nm,0.6s,baz=98,slow=11,SNR=3.8
CLL Collm 42.84 309 *e*P **P 17 25 48.4 -0.3**
CLL *e*pP **pP 17 26 33.2 +0.6**
CLL Collm 42.84 309⇑ *i*P **P 17 25 48.9 +0.3**
CLL *i* *PP **pP 17 26 33.4 +0.8**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 42.84 309⇑ *i*P **P 17 25 48.9 +0.3**
comp=Z,7.0nm,1.1s
CLL *i* pP **pP 17 26 33.4 +0.8**
CLL *i* 17 26 41.8
CLL *e*sP **sP 17 26 57.0 +1.1**
CLL *e*PP **PP 17 27 32.0 -0.3**
CLL *i* PcP **PcP 17 27 36.9 +1.2**
CLL *e*SS SS 17 35 18.0 +1.6
TRO Tromso 43.09 336 *e*P **P 17 25 51.3 +0.9**
GSI Gunungsitoli 43.09 138 *e*P **P 17 25 51.1 0.0**
comp=Z,65nm,0.8s
GSI Gunungsitoli 43.09 138 P **P 17 25 52.3 +1.2**
comp=Z,99nm,0.8s
NKC Novy Kostel 43.26 307 *e*P **P 17 25 54.2 +2.1**
NKC *e* 17 26 38.1
NKC Novy Kostel 43.26 307 *e*P **P 17 25 54.2 +2.1**
NKC *e*pP **pP 17 26 38.1 +2.1**
MSEY Mahe Island 43.27 202 *i*P **P 17 25 52.0 -0.6**
STEI Steigen 43.77 333 *e*P **P 17 25 56.9 +1.0**
NC405 NORSAR Array S 43.87 323 *e*P **P 17 25 57.2 +0.4**
comp=Z,130nm,1.0s
NC602 NORSAR Array S 43.92 323 *e*P **P 17 25 56.9 -0.2**
comp=Z,48nm,1.0s
NORES NORESS Array B 43.92 323 P **P 17 25 57.5 +0.4**
NORES pmax pmax
comp=Z,2.0nm,0.3s
NC303 NORSAR Array S 44.05 323 *e*P **P 17 25 58.4 +0.1**
comp=Z,144nm,0.9s
NB201 NORSAR Array S 44.07 323 *e*P **P 17 25 58.4 0.0**
comp=Z,62nm,0.9s
NB2 NORSAR Subarra 44.11 323 P **P 17 25 58.9 +0.2**
comp=Z,40nm,0.8s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.11 323 P **P 17 25 58.9 +0.2**
baz=96,slow=7.9
NB200 NORSAR Array S 44.11 323 *e*P **P 17 25 58.7 0.0**
NB200 *e*pP **pP 17 26 43.4 +0.5**
NB200 *e*PP **PP 17 27 44.2 -1.4**
NOA NORSAR Array B 44.11 323 P **P 17 25 58.7 0.0**
comp=Z,29nm,0.7s,baz=97,slow=7.8,SNR=139
NOA pP **pP 17 26 43.4 +0.5**
comp=Z,6.0nm,0.7s,baz=96,slow=8.2,SNR=3.0
NOA PP **PP 17 27 44.2 -1.4**
comp=Z,4.3nm,0.8s,baz=98,slow=9.0,SNR=4.1
WTTA Wattenberg 44.11 303 *e*P **P 17 25 59.4 +0.3**
comp=Z,9.6nm,1.3s
KONS Konsvik 44.19 331 *e*P **P 17 26 00.2 +1.0**
YAK Yakutsk 44.24 36 *e*P **P 17 26 00.0 +0.3**
YAK *e**PP **pP 17 26 44.9 -0.1**
YAK *e* 17 27 46.0
YAK *e*S **S 17 32 17.8 +0.6**
YAK *e**SS **sS 17 33 34.9 -1.9**
YAK *e* 17 35 30.5
YAK pmax pmax
comp=Z,375nm,0.8s
YAK pmax pmax
comp=E,143nm,1.3s
YAK pmax pmax
comp=N,64nm,1.0s
YAK pmax pmax
comp=Z,69nm,0.9s
YAK pmax pmax
comp=N,13nm,0.6s
YAK pmax pmax
comp=E,74nm,0.9s
YAK smax smax
comp=N,503nm,1.2s
YAK smax smax
comp=E,1µm,1.8s
NAO01 NORSAR Array S 44.25 323 *e*P **P 17 25 59.5 -0.2**
comp=E,80nm,1.0s
NAO01 NORSAR Array S 44.25 323 *e*P **P 17 26 00.2 +0.4**
OSL Oslo 44.25 321 *e*P **P 17 26 00.9 +1.2**
NSS Namsos 44.26 328 *e*P **P 17 26 00.0 +0.3**
NBO00 NORSAR Array S 44.32 323 *e*P **P 17 26 00.5 +0.2**
comp=E,73nm,0.8s
NC204 NORSAR Array S 44.35 323 *e*P **P 17 26 00.8 +0.1**
comp=E,89nm,0.8s
SQTA Sankt Quirin 44.41 303 *i*P **P 17 26 02.1 +0.7**
comp=E,4.7nm,0.9s
LOF Lofoten 44.44 333 *e*P **P 17 26 01.5 +0.3**
MOTA Moosalm 44.46 303 *i*P **P 17 26 01.9 0.0**
comp=E,4.8nm,1.0s
FETA Feichten 44.76 303 *i*P **P 17 26 04.4 +0.1**
comp=E,9.0nm,1.4s
KONO Kongsberg 44.80 321 *e*P **P 17 26 04.3 +0.2**
comp=E,20nm,0.8s
KONO Kongsberg 44.80 321 *ce*P **P 17 26 04.0 -0.1**
KONO pmax pmax
comp=Z,21nm,0.9s
KONO Kongsberg 44.80 321 *e*P **P 17 26 04.6 +0.5**
HOPEN Hopen 44.90 346 *e*P **P 17 26 07.1 +2.4**
BJO Bjornoya 45.09 343 *e*P **P 17 26 07.8 +1.6**
DOMB Dombas 45.23 324 *e*P **P 17 26 08.3 +0.7**
DAVA Damuels 45.29 303 *e*P **P 17 26 08.9 +0.5**
comp=Z,14nm,1.0s
KS15 Wonju Array Si 45.29 71 *e*P **P 17 26 08.8 +0.5**
comp=Z,14nm,1.2s
KSAR Wonju Array Be 45.29 71 *e*P **P 17 26 08.7 +0.3**
KSAR Wonju Array Be 45.29 71 *e*P **P 17 26 08.7 +0.3**
KSRS Korea Array 45.32 71 P **P 17 26 08.8 +0.3**
comp=Z,1.9nm,0.5s,baz=272,slow=6.7,SNR=11
DAVOX Davos/Dischmat 45.37 303 P **P 17 26 09.3 +0.2**
comp=Z,3.7nm,0.7s,baz=158,slow=18,SNR=6.4
TIXI Tiksi 45.95 22 P **P 17 26 13.7 +0.7**
comp=Z,36nm,0.4s,baz=266,slow=4.4,SNR=303
SISI Saibi 46.11 138 P **P 17 26 15.3 +0.4**
AKN Aaknes 46.21 324 *e*P **P 17 26 16.6 +1.4**
MYKOM Kota Tinggi 46.32 130 *e*P **P 17 26 17.1 +0.6**
comp=Z,52nm,1.0s
USRK Ussuriysk Ar. 46.58 61 *e*P **P 17 26 18.7 +0.5**
USRK Ussuriysk Ar. 46.58 61 *e*P **P 17 26 18.7 +0.5**
USRK Ussuriysk Ar. 46.58 61 P **P 17 26 18.4 +0.2**
comp=Z,3.5nm,0.8s,baz=297,slow=4.6,SNR=8.8
CDF Champ du Feu 46.84 305 *e*P **P 17 26 20.7 +0.3**
CDF pmax pmax
comp=Z,3.0nm,0.9s
HSPB Hornsund (broa 47.02 345 *e*P **P 17 26 23.3 +2.0**
HSPB Hornsund (broa 47.02 345 *e*P **P 17 26 23.2 +2.0**
SENIN Lac Senin/Sane 47.20 303 *e*P **P 17 26 23.3 0.0**
comp=Z,12nm,1.1s
HINF Hinteralfeld 47.22 305 *e*P **P 17 26 23.1 -0.2**
HINF pmax pmax
comp=Z,6.0nm,1.0s
MEM Membach 47.31 309⇓ *i*P **P 17 26 24.9 +1.1**
comp=Z,8.2nm,1.0s
WLF Walferdange 47.36 307 *e*P **P 17 26 25.2 +1.0**
comp=Z,53nm,0.8s
WLF Walferdange 47.36 307 *e*P **P 17 26 25.2 +1.0**
WLF pmax pmax
comp=Z,53nm,0.8s
WLF Walferdange 47.36 307⇑ P **P 17 26 25.9 +1.7**
comp=Z,12nm,1.0s
SPA0 Spitsbergen Ar 47.39 347 *e*P **P 17 26 25.9 +1.8**
comp=Z,89nm,1.0s
SPA0 Spitsbergen Ar 47.39 347 *e*P **P 17 26 26.0 +1.8**
SPITS Spitsbergen Ar 47.39 347 P **P 17 26 25.8 +1.7**
comp=Z,56nm,0.6s,baz=116,slow=11,SNR=265
TPRI Tanjung Pinang 47.42 130 P **P 17 26 26.0 +0.9**
comp=Z,60nm,0.9s
LPG La Plagne 47.76 302 *e*P **P 17 26 28.0 +0.3**
LPG pmax pmax
comp=Z,8.0nm,1.1s
LPL La Plagne 47.77 302 *e*P **P 17 26 28.0 +0.3**
LPL pmax pmax
comp=Z,11nm,1.1s
MBDF Montbardon 47.92 301 *e*P **P 17 26 30.1 +1.3**
MBDF pmax pmax
comp=Z,99nm,2.2s
CABF La Chapelle 47.97 303 *e*P **P 17 26 29.6 +0.5**
CABF pmax pmax
comp=Z,22nm,1.6s
GRNR Gornyy 48.27 51 *e*P **P 17 26 34.9 +3.7**
GRNR pmax pmax
comp=Z,13nm,1.0s
DOU Dourbes 48.28 308⇓ *i*P **P 17 26 30.9 -0.4**
SNF Seneffe 48.41 309⇑ *i*P **P 17 26 33.0 +0.8**
KMBO Kilima Mbogo 48.49 227 *i*P **P 17 26 34.9 +1.3**
SNR=13
KMBO Kilima Mbogo 48.49 227 *i*P **P 17 26 35.2 +1.6**
KMBO pmax pmax
comp=Z,13nm,0.6s
KMBO Kilima Mbogo 48.49 227 P **P 17 26 34.4 +0.8**
comp=Z,13nm,0.6s,baz=34,slow=12,SNR=38
KBS Kingsbay 48.52 347 *e*P **P 17 26 33.9 +1.2**
comp=Z,103nm,0.8s
KBS Kingsbay 48.52 347 *ce*P **P 17 26 34.6 +1.9**
KBS pmax pmax
comp=Z,394nm,0.9s
KBS Kingsbay 48.52 347 *e*P **P 17 26 34.5 +1.9**
BAIF Baives 48.53 308 *e*P **P 17 26 34.1 +0.9**
BAIF pmax pmax
comp=Z,13nm,1.0s
KEST Kesra 48.60 288 *e*P **P 17 26 34.9 +0.9**
KEST *e*pP **pP 17 27 20.6 +1.6**
KEST Kesra 48.60 288 P **P 17 26 35.1 +1.1**
comp=Z,5.8nm,0.7s,baz=308,slow=2.6,SNR=4.5
VIVF Saint-Julien-l 49.34 301 *e*P **P 17 26 39.9 +0.5**
VIVF pmax pmax
comp=Z,7.0nm,1.1s
SMF Signal de Mont 49.47 304 *e*P **P 17 26 40.4 0.0**
SMF pmax pmax
comp=Z,12nm,0.8s
SSF Saint Saulge 49.60 304 *e*P **P 17 26 40.4 -1.0**
SSF pmax pmax
comp=Z,18nm,1.6s
AVF Avril sur Loir 49.77 304 *e*P **P 17 26 42.5 -0.1**
AVF pmax pmax
comp=Z,11nm,0.8s
CLF Chambon-Foret 50.20 306 *e*pP pP 17 27 31.5 +0.4
NKL Nikolayevsk 50.46 47 *i*P **P 17 26 48.6 +1.0**
NKL pmax pmax
comp=Z,37nm,0.6s
TCF Toulx Ste Croi 50.65 304 *e*P **P 17 26 49.6 +0.3**
TCF pmax pmax
comp=Z,10.0nm,0.9s
KSM Kuching 50.71 124 *e*P **P 17 26 50.5 +0.4**
comp=Z,20nm,1.0s
CAF Calviac 51.11 302 *e*P **P 17 26 53.1 +0.4**
CAF pmax pmax
comp=Z,22nm,1.5s
SBUM Sibu 51.29 121 *e*P **P 17 26 54.3 0.0**
comp=Z,9.8nm,0.9s
HPK Haverah Park 51.36 314 *e*P **P 17 26 54.8 +0.5**
HPK IAmb IAmb 17 26 55.3
comp=Z,27nm,0.6s
EDMD Edmundbyers 51.39 315 *e*P **P 17 26 55.0 +0.4**
EDMD IAmb IAmb 17 26 55.5
comp=Z,17nm,0.6s
MTLF Montolieu 51.45 300 *e*P **P 17 26 55.3 +0.1**
MTLF pmax pmax
comp=Z,10.0nm,1.3s
LDF La Druitiere 51.61 307 *e*P **P 17 26 56.1 -0.3**
LDF pmax pmax
comp=Z,24nm,1.4s
FLN La Foliniere 51.80 307 *e*P **P 17 26 57.2 -0.5**
FLN pmax pmax
comp=Z,25nm,1.3s
EKA Eskdalemuir Ar 51.97 316 P **P 17 26 58.6 -0.2**
comp=Z,8.0nm,0.8s,baz=95,slow=7.0,SNR=16
EKA pP **pP 17 27 44.0 -0.4**
comp=Z,12nm,0.9s,baz=85,slow=9.3,SNR=6.2
ESK Eskdalemuir 52.00 316 *e*P **P 17 26 59.3 +0.2**
ESK IAmb IAmb 17 26 59.8
comp=Z,21nm,1.1s
ESK Eskdalemuir 52.00 316 *i*P **P 17 26 59.8 +0.7**
LFF La Frestale 52.01 302 *e*P **P 17 26 59.9 +0.6**
LFF pmax pmax
comp=Z,5.0nm,0.5s
KESW Keswick, Cumbr 52.09 315 *e*P **P 17 27 00.4 +0.7**
MBAR Mbarara 52.13 234 *e*P **P 17 27 00.8 0.0**
comp=Z,12nm,0.6s
MBAR Mbarara 52.13 234 *e*P **P 17 27 00.8 0.0**
MBAR pmax pmax
comp=Z,12nm,0.6s
MBAR Mbarara 52.13 234 P **P 17 27 00.8 0.0**
comp=Z,11nm,0.5s,baz=47,slow=9.4,SNR=19
GRR Gorron 52.14 307 *e*P **P 17 26 59.7 -0.5**
GRR pmax pmax
comp=Z,10.0nm,1.0s
MFF Saint Martin d 52.14 305 *e*P **P 17 27 00.1 -0.2**
MFF pmax pmax
comp=Z,18nm,1.3s
MCH1 Michaelchurch 52.59 312 *e*P **P 17 27 03.4 -0.1**
MCH1 IAmb IAmb 17 27 04.2
comp=Z,23nm,0.7s
PGBU Glenifferbraes 52.61 317 *e*P **P 17 27 04.0 +0.4**
KAC Achnashellach 52.72 319 *e*P **P 17 27 04.8 +0.4**
LLW Llanuwychllyn 52.79 313 *e*P **P 17 27 05.1 +0.2**
EPF Esparros 52.85 300 *e*P **P 17 27 05.7 +0.1**
EPF pmax pmax
comp=Z,2.0nm,0.6s
KPL Plockton 52.94 319 *e*P **P 17 27 06.2 +0.3**
KPL IAmb IAmb 17 27 06.9
comp=Z,12nm,0.8s
YSS Yuzh-Sakhalins 53.21 55 *e*P **P 17 27 08.4 +0.4**
comp=Z,26nm,0.8s
YSS Yuzh-Sakhalins 53.21 55 *e*P **P 17 27 09.0 +1.0**
YSS pmax pmax
comp=Z,20nm,0.8s
SGMF Saint Gilles 53.27 307 *e*P **P 17 27 08.7 +0.2**
SGMF pmax pmax
comp=Z,11nm,0.9s
MJB9 Matsu-Tunnel 53.38 68 *e*P **P 17 27 09.3 -0.2**
comp=Z,7.8nm,0.8s
MAJO Matsushiro 53.38 68 *e*P **P 17 27 09.5 -0.1**
comp=Z,7.6nm,0.8s
MAJO Matsushiro 53.38 68 *i*P **P 17 27 09.1 -0.5**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MAT Matsushiro 53.38 68 P **P 17 27 09.2 -0.4**
MJAR Matsushiro Arr 53.39 68 P **P 17 27 09.7 +0.1**
comp=Z,4.5nm,0.8s,baz=286,slow=10,SNR=13
ETSF Etsaut 53.52 300 *e*P **P 17 27 10.9 +0.4**
ETSF pmax pmax
comp=Z,6.0nm,0.5s
DAG Danmarks Havn 54.60 344⇑ *i*P **P 17 27 18.8 +1.1**
DAG pmax pmax
comp=Z,54nm,0.8s
DAG Danmarks Havn 54.60 344⇑ *i*P **P 17 27 18.8 +1.1**
comp=Z,72nm,0.8s
MA2 Magadan 54.65 38 *e*P **P 17 27 18.1 -0.2**
comp=Z,19nm,1.1s
MA2 Magadan 54.65 38 *ce*P **P 17 27 19.0 +0.7**
MA2 pmax pmax
comp=Z,15nm,1.1s
MA2 Magadan 54.65 38 P **P 17 27 19.0 +0.7**
comp=Z,7.5nm,0.8s,baz=293,slow=8.4,SNR=22
SEY Seymchan 54.68 34 *ce*P **P 17 27 19.7 +1.2**
SEY Seymchan 54.68 34 P **P 17 27 19.5 +1.0**
comp=Z,23nm,0.9s,baz=278,slow=6.4,SNR=86
CTBH Cotabato--PC H 56.91 107⇑ *i*P **P 17 27 36.4 +1.4**
ESDC Sonseca Array 57.05 298 *e*P **P 17 27 34.9 -0.9**
ESDC *e*pP **pP 17 28 21.7 -0.4**
ESDC Sonseca Array 57.05 298 P **P 17 27 36.1 +0.3**
comp=Z,1.7nm,0.6s,baz=62,slow=7.5,SNR=14
ESDC pP **pP 17 28 21.7 -0.4**
comp=Z,3.4nm,0.7s,baz=62,slow=7.4,SNR=5.3
MPSI Mapaga 58.19 117 P **P 17 27 45.1 +1.2**
comp=Z,33nm,1.0s,comp=Z,268nm
MVO Moncorvo 58.64 300 *e*P **P 17 27 47.5 +0.7**
BILL Bilibino 58.82 26 *e*P **P 17 27 48.1 +0.6**
comp=Z,28nm,0.9s
BILL Bilibino 58.82 26 *e*P **P 17 27 48.5 +1.0**
BILL *e**PP **pP 17 28 36.4 +1.3**
BILL *e**SP **sP 17 28 59.9 +2.0**
BILL *e* 17 30 01.0
BILL pmax pmax
comp=Z,29nm,1.0s
MTE Manteigas 59.30 300 *e*P **P 17 27 52.8 +1.5**
comp=Z,28nm,2.0s
ABPO Ambohimpanom 59.41 206 *e*P **P 17 27 53.1 +0.9**
comp=Z,18nm,0.8s
ABPO Ambohimpanom 59.41 206 *e*P **P 17 27 53.1 +0.9**
ABPO pmax pmax
comp=Z,18nm,0.8s
PVIS Viseu 59.42 300 *e*P **P 17 27 53.0 +0.9**
MRSI Marisa 59.58 115 P **P 17 27 54.2 +0.8**
comp=Z,80nm,1.0s,comp=Z,633nm
PMRV Marv??o 59.58 299 *e*P **P 17 27 53.1 -0.1**
comp=Z,18nm,1.7s
PEA1 Petropavlovsk- 60.29 44 *e*P **P 17 27 57.9 +0.1**
PETK Petropavlovsk- 60.30 44 *e*P **P 17 27 58.0 +0.2**
PETK Petropavlovsk- 60.30 44 *e*P **P 17 27 58.0 +0.2**
PETK Petropavlovsk- 60.30 44 P **P 17 27 57.9 +0.1**
comp=Z,2.0nm,0.6s,baz=335,slow=1.3,SNR=6.8
APSI Ampana 60.31 116 P **P 17 27 58.7 +0.3**
comp=Z,72nm,1.3s,comp=Z,567nm
MDT Midelt 60.35 291 P **P 17 27 59.0 +0.3**
comp=Z,3.2nm,0.9s,baz=97,slow=5.6,SNR=3.8

TTSI	**Tana Toraja**	**60.49**	**119**	P		**P**	**17 27 59.1 -0.5**
	comp=Z,23nm,1.1s						
SUMG	**Summit**	**60.92**	**341**	*e*P		**P**	**17 28 02.4 +0.3**
	comp=Z,57nm,0.9s						
SUMG	**Summit**	**60.92**	**341**	*i* P		**P**	**17 28 03.1 +0.9**
SUMG				pmax	pmax		
	comp=Z,140nm,0.9s						
SUMG	**Summit**	**60.92**	**341**	*i* P		**P**	**17 28 03.1 +0.9**
	comp=Z,144nm,0.9s						
KMSI	**Cibinong**	**61.02**	**113**	P		**P**	**17 28 03.9 +0.7**
	comp=Z,65nm,0.7s,comp=Z,1μm						
KAPI	**Kappang**	**61.85**	**121**	*e*P		**P**	**17 28 09.4 +0.7**
	comp=Z,18nm,1.1s						
KAPI	**Kappang**	**61.85**	**121**	*e*P		**P**	**17 28 09.4 +0.7**
KAPI				pmax	pmax		
	comp=Z,18nm,1.1s						
TNTI	**Ternate**	**63.42**	**110**	*e*P		**P**	**17 28 18.7 -0.4**
	comp=Z,97nm,1.3s						
TNTI	**Ternate**	**63.42**	**110**	P		**P**	**17 28 19.8 +0.7**
	comp=Z,59nm,0.8s,comp=Z,505nm						
SANI	**Sanana**	**64.25**	**114**	P		**P**	**17 28 24.0 -0.6**
	comp=Z,64nm,0.7s						
LSZ	**Lusaka**	**65.12**	**226**	*e*P		**P**	**17 28 30.2 0.0**
	comp=Z,5.3nm,0.6s						
LSZ	**Lusaka**	**65.12**	**226**	*e*P		**P**	**17 28 30.2 0.0**
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TOA0	**Torodi Ar. Sit**	**65.25**	**268**	*e*P		**P**	**17 28 29.8 -1.3**
	comp=Z,10nm,0.5s						
TOA1	**Torodi Ar. Sit**	**65.25**	**268**	*e*P		**P**	**17 28 29.4 -1.7**
TOA1				*e*pP		**pP**	**17 29 18.3 -0.7**
TORD	**Torodi Ar. Bea**	**65.25**	**268**	*e*P		**P**	**17 28 29.9 -1.1**
TORD				pP		**pP**	**17 29 18.3 -0.7**
TORD	**Torodi Ar. Bea**	**65.25**	**268**	P		**P**	**17 28 29.4 -1.7**
	comp=Z,6.5nm,0.5s,baz=52,slow=4.7,SNR=54						
TORD				pP		**pP**	**17 29 18.3 -0.7**
	comp=Z,3.8nm,0.6s,baz=40,slow=6.2,SNR=2.1						
ILULI	**Ilulissat**	**66.25**	**341**	*e*P		**P**	**17 28 37.1 +0.5**
	comp=Z,32nm,0.7s						
ILULI				*e*pP		**pP**	**17 29 25.7 +1.1**
ILULI	**Ilulissat**	**66.25**	**341**	*e*P		**P**	**17 28 37.1 +0.5**
ILULI				*e**PP		**pP**	**17 29 25.7 +1.1**
ILULI				pmax	pmax		
	comp=Z,32nm,0.7s						
SFJD	**Kangerlussuaq**	**67.59**	**339**	*e*P		**P**	**17 28 45.4 +0.3**
	comp=Z,19nm,1.0s						
SFJD				*e*pP		**pP**	**17 29 33.1 -0.3**
SFJD	**Kangerlussuaq**	**67.59**	**339**	*e*P		**P**	**17 28 45.4 +0.3**
SFJD				*e**PP		**pP**	**17 29 33.1 -0.3**
SFJD				pmax	pmax		
	comp=Z,19nm,1.0s						
SOEI	**Soe**	**68.35**	**121**	*e*P		**P**	**17 28 48.7 -2.0**
	comp=Z,32nm,0.8s						
SOEI	**Soe**	**68.35**	**121**	P		**P**	**17 28 50.9 +0.3**
RDOG	**Red Dog Mine**	**68.42**	**19**	*e*P		**P**	**17 28 50.4 +0.2**
	comp=Z,22nm,1.2s						
RES	**Resolute Bay**	**68.67**	**356**	*e*P		**P**	**17 28 52.2 +0.6**
	comp=Z,4.3nm,1.0s						
RES	**Resolute Bay**	**68.67**	**356**	*e*P		**P**	**17 28 52.3 +0.6**
RES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
RES	**Resolute Bay**	**68.67**	**356**	P		**P**	**17 28 51.6 -0.1**
	comp=Z,2.7nm,0.7s,baz=40,slow=6.2,SNR=13						
BNDI	**Bandanaira**	**68.80**	**113**	P		**P**	**17 28 52.6 -0.7**
MATP	**Matopo**	**69.09**	**222**	*i* P		**P**	**17 28 55.8 +0.7**
MATP	**Matopo**	**69.09**	**222**	*i* P		**P**	**17 28 55.8 +0.7**
FAKI	**Fak Fak**	**69.51**	**110**	*e*P		**P**	**17 28 57.3 -0.4**
	comp=Z,47nm,1.0s						
TOLK	**Toolik Lake Re**	**71.05**	**14**	*e*P		**P**	**17 29 07.1 +0.8**
	comp=Z,59nm,1.2s						
COLD	**Coldfoot**	**72.10**	**15**	*e*P		**P**	**17 29 13.6 +1.1**
	comp=Z,12nm,0.8s						
SAUI	**Saumlaki**	**72.14**	**115**	*e*P		**P**	**17 29 13.4 -0.1**
	comp=Z,463nm,1.4s						
IMAR	**Indian Mountai**	**72.32**	**17**	*e*P		**P**	**17 29 13.7 -0.1**
MLY	**Manley**	**73.82**	**17**	*e*P		**P**	**17 29 22.8 +0.1**
	comp=Z,11nm,0.8s						
INK	**Inuvik**	**73.98**	**9**	*e*P		**P**	**17 29 24.3 +0.9**
	comp=Z,23nm,0.7s						
INK	**Inuvik**	**73.98**	**9**	P		**P**	**17 29 24.6 +1.2**
	comp=Z,14nm,0.5s,baz=345,slow=6.4,SNR=109						
DBIC	**Dimbokro**	**74.23**	**267**	*e*P		**P**	**17 29 25.4 -0.5**
	comp=Z,22nm,1.4s						
DBIC	**Dimbokro**	**74.23**	**267**	*e*P		**P**	**17 29 25.4 -0.5**
DBIC				pmax	pmax		
	comp=Z,22nm,1.4s						
DBIC	**Dimbokro**	**74.23**	**267**	P		**P**	**17 29 25.4 -0.5**
	comp=Z,6.5nm,0.5s,baz=13,slow=4.4,SNR=12						
KIC	**Kosan Boka**	**74.32**	**266**	*e*P		**P**	**17 29 24.2 -2.2**
	comp=Z,69nm,1.3s						
LBTB	**Lobatse**	**74.36**	**222**	*e*P		**P**	**17 29 26.6 +0.2**
	comp=Z,8.7nm,0.7s						
LBTB	**Lobatse**	**74.36**	**222**	*e*P		**P**	**17 29 26.6 +0.2**
LBTB				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TIC	**Toumodi**	**74.38**	**267**	*e*P		**P**	**17 29 25.7 -1.0**
MDM	**Murphy Dome**	**74.45**	**16**	*e*P		**P**	**17 29 26.0 -0.4**
	comp=Z,25nm,1.0s						
BPAW	**Bear Paw Mtn.**	**74.54**	**18**	*e*P		**P**	**17 29 27.2 +0.3**
	comp=Z,12nm,0.9s						
PRP	**Porcupine Dome**	**74.55**	**15**	*e*P		**P**	**17 29 27.1 +0.1**
	comp=Z,5.2nm,0.9s						
TSUM	**Tsumeb**	**74.55**	**231**	*e*P		**P**	**17 29 27.1 -0.5**
	comp=Z,8.7nm,0.6s						
COLA	**College**	**74.61**	**16**	*e*P		**P**	**17 29 27.6 +0.4**
	comp=Z,31nm,0.9s						
COLA	**College**	**74.61**	**16**	*c i*P		**P**	**17 29 27.9 +0.8**
COLA				pmax	pmax		
	comp=Z,30nm,1.0s						
LIC	**Lamto**	**74.63**	**266**	*e*P		**P**	**17 29 26.5 -1.7**
	comp=Z,38nm,0.9s						
CCB	**Clear Creek Bu**	**74.82**	**16**	*e*P		**P**	**17 29 28.6 +0.2**
	comp=Z,4.2nm,0.7s						
CAST	**Castle Rocks**	**74.83**	**18**	*e*P		**P**	**17 29 29.3 +0.7**
	comp=Z,51nm,1.2s						
BWN	**Browne**	**74.84**	**17**	*e*P		**P**	**17 29 28.2 -0.3**
ILAR	**Eielson Array**	**74.91**	**16**	*e*P		**P**	**17 29 28.3 -0.6**
ILAR				pP		**pP**	**17 30 18.3 -0.2**
ILAR				PP		**PP**	**17 32 19.9 +1.3**
ILAR	**Eielson Array**	**74.91**	**16**	P		**P**	**17 29 28.9 0.0**
	comp=Z,8.3nm,1.0s,baz=316,slow=4.6,SNR=62						
ILAR				pP		**pP**	**17 30 18.3 -0.2**
	comp=Z,3.2nm,1.0s,baz=316,slow=5.4,SNR=3.3						
ILAR				PP		**PP**	**17 32 19.9 +1.3**
	comp=Z,2.6nm,0.9s,baz=321,slow=8.9,SNR=5.4						
ILB	**Eielson Array**	**74.91**	**16**	*e*P		**P**	**17 29 28.6 -0.3**
	comp=Z,15nm,1.1s						
ILB				*e*pP		**pP**	**17 30 18.3 -0.2**
ILB				*e*PP		**PP**	**17 32 19.9 +1.3**
HDA	**Harding Lake**	**75.21**	**16**	*e*P		**P**	**17 29 30.2 -0.5**
	comp=Z,7.1nm,0.8s						
PPLA	**Purkeypile**	**75.24**	**19**	*e*P		**P**	**17 29 30.5 -0.5**
	comp=Z,42nm,1.7s						
MCK	**McKinley**	**75.34**	**17**	*e*P		**P**	**17 29 31.8 +0.4**
	comp=Z,33nm,1.5s						
MCK	**McKinley**	**75.34**	**17**	*e*P		**P**	**17 29 31.8 +0.4**
MCK				pmax	pmax		
	comp=Z,33nm,1.5s						
EPYK	**Eagle Plains**	**75.35**	**11**	*e*P		**P**	**17 29 31.8 +0.4**
	comp=Z,9.7nm,0.7s						
EGAK	**Eagle**	**76.06**	**13**	*e*P		**P**	**17 29 36.3 +0.9**
	comp=Z,19nm,1.3s						
SCRK	**Sand Creek**	**76.22**	**15**	*e*P		**P**	**17 29 37.1 +0.6**
	comp=Z,20nm,1.1s						
RIDG	**Independent Ri**	**76.25**	**15**	*e*P		**P**	**17 29 36.8 +0.2**
	comp=Z,21nm,1.2s						
DOT	**Dot Lake**	**76.50**	**15**	*e*P		**P**	**17 29 37.8 -0.2**
	comp=Z,12nm,1.1s						
PAX	**Paxson**	**76.79**	**16**	*e*P		**P**	**17 29 40.1 +0.4**
	comp=Z,30nm,1.3s						
PAX	**Paxson**	**76.79**	**16**	*e*P		**P**	**17 29 40.1 +0.4**
PAX				pmax	pmax		
	comp=Z,30nm,1.3s						
GHO	**Glory Hole Cre**	**77.02**	**18**	*e*P		**P**	**17 29 41.1 +0.2**
	comp=Z,25nm,1.2s						
DAWY	**Dawson**	**77.03**	**13**	*e*P		**P**	**17 29 41.6 +0.6**
	comp=Z,24nm,1.3s						
RSO	**Redoubt South**	**77.11**	**20**	*e*P		**P**	**17 29 42.5 +0.9**
SML	**Sawmill**	**77.13**	**18**	*e*P		**P**	**17 29 42.0 +0.5**
	comp=Z,54nm,1.2s						
SML	**Sawmill**	**77.13**	**18**	*e*P		**P**	**17 29 42.0 +0.5**
SML				pmax	pmax		
	comp=Z,55nm,1.2s						
SCM	**Sheep Creek Mo**	**77.36**	**17**	*e*P		**P**	**17 29 43.2 +0.4**
	comp=Z,36nm,1.3s						
SCM	**Sheep Creek Mo**	**77.36**	**17**	*e*P		**P**	**17 29 43.2 +0.4**
SCM				pmax	pmax		
	comp=Z,36nm,1.3s						
HARP	**HAARP**	**77.36**	**16**	*e*P		**P**	**17 29 43.9 +1.1**
	comp=Z,101nm,1.2s						
RC01	**Rabbit Creek A**	**77.39**	**19**	*e*P		**P**	**17 29 43.1 +0.1**
	comp=Z,22nm,1.3s						
KNK	**Knik Glacier**	**77.44**	**18**	*e*P		**P**	**17 29 43.5 +0.3**
	comp=Z,27nm,1.1s						
BOSA	**Boshof**	**77.44**	**220**	*e*P		**P**	**17 29 43.4 -0.4**
	comp=Z,20nm,1.4s						
BOSA	**Boshof**	**77.44**	**220**	*e*P		**P**	**17 29 43.4 -0.4**
BOSA				pmax	pmax		
	comp=Z,20nm,1.4s						
BOSA	**Boshof**	**77.44**	**220**	P		**P**	**17 29 42.8 -0.9**
	comp=Z,3.6nm,0.5s,baz=34,slow=2.0,SNR=12						
BCAR	**Beaver Creek A**	**77.49**	**14**	*e*P		**P**	**17 29 44.4 +0.9**
KLU	**Klutina**	**77.98**	**17**	*e*P		**P**	**17 29 46.9 +0.5**
	comp=Z,18nm,1.1s						
BRLK	**Bradley Lake**	**78.21**	**20**	*e*P		**P**	**17 29 47.0 -0.6**
	comp=Z,22nm,1.2s						
GLI	**Glacier Island**	**78.24**	**18**	*e*P		**P**	**17 29 48.0 +0.4**
	comp=Z,23nm,1.1s						
DIV	**Divide**	**78.34**	**17**	*e*P		**P**	**17 29 48.0 -0.2**
	comp=Z,18nm,1.2s						
BALM	**Baldy**	**79.20**	**16**	*e*P		**P**	**17 29 53.5 +0.5**
	comp=Z,7.1nm,0.7s						
BALM	**Baldy**	**79.20**	**16**	*e*P		**P**	**17 29 53.5 +0.5**
BALM				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TGL	**Tana Glacier**	**79.34**	**16**	*e*P		**P**	**17 29 55.2 +1.5**
	comp=Z,14nm,1.2s						
KDAK	**Kodiak Island**	**79.38**	**22**	*e*P		**P**	**17 29 54.1 +0.3**
	comp=Z,29nm,1.1s						
KDAK	**Kodiak Island**	**79.38**	**22**	*i* P		**P**	**17 29 54.6 +0.8**
KDAK	**Kodiak Island**	**79.38**	**22**	P		**P**	**17 29 53.8 0.0**
	comp=Z,14nm,0.8s,baz=357,slow=6.4,SNR=8.9						
CTGM	**Chitina Glacie**	**79.48**	**15**	*e*P		**P**	**17 29 55.2 +0.7**
	comp=Z,27nm,1.4s						
OHAK	**Old Harbor**	**79.63**	**22**	*e*P		**P**	**17 29 55.4 +0.2**
	comp=Z,14nm,0.9s						
HYT	**Haines Junctio**	**80.37**	**13**	*e*P		**P**	**17 30 00.4 +1.1**
	comp=Z,12nm,1.1s						
WHY	**Whitehorse**	**80.99**	**12**	*e*P		**P**	**17 30 02.0 -0.6**
	comp=Z,4.3nm,0.8s						
YKW3	**Yellowknife Ar**	**81.20**	**2**	*e*P		**P**	**17 30 03.7 +0.2**
	comp=Z,19nm,1.3s						
YKW3				*e*pP		**pP**	**17 30 54.3 +0.6**
YKA	**Yellowknife Ar**	**81.27**	**2**	P		**P**	**17 30 04.2 +0.4**
	comp=Z,3.9nm,0.5s,baz=351,slow=5.4,SNR=72						
YKA				pP		**pP**	**17 30 53.6 -0.5**
	comp=Z,6.0nm,0.7s,baz=350,slow=5.6,SNR=6.7						
YKA				PP		**PP**	**17 33 11.0 -0.5**
	comp=Z,2.3nm,0.9s,baz=355,slow=8.1,SNR=6.9						
YKA				PKKPbc		**PKKPbc**	**17 48 36.9 -0.7**
	comp=Z,0.4nm,0.6s,baz=164,slow=2.1,SNR=5.8						
YKB5	**Yellowknife Ar**	**81.27**	**2**	*e*P		**P**	**17 30 04.2 +0.4**
YKB5				*e*pP		**pP**	**17 30 53.6 -0.5**
YKB5				*e*PP		**PP**	**17 33 11.0 -0.5**
YKB5				*e*PKKPbc		**PKKPbc**	**17 48 36.9 -0.7**
SCHQ	**Schefferville**	**81.92**	**337**	*e*P		**P**	**17 30 07.5 0.0**
	comp=Z,7.1nm,0.6s						
SCHQ	**Schefferville**	**81.92**	**337**	P		**P**	**17 30 07.0 -0.5**
	comp=Z,5.3nm,0.8s,baz=70,slow=18,SNR=4.4						
WR1	**Warramunga Arr**	**82.38**	**122**	*e*P		**P**	**17 30 09.2 -1.1**
WR1				*e*PKKPbc		**PKKPbc**	**17 48 35.6 +0.4**
WRA	**Warramunga Arr**	**82.38**	**122**	P		**P**	**17 30 09.2 -1.1**
	comp=Z,12nm,0.7s,baz=320,slow=4.4,SNR=128						
WRA				PKKPbc		**PKKPbc**	**17 48 35.6 +0.4**
	comp=Z,0.3nm,0.7s,baz=142,slow=2.9,SNR=5.6						
WRAB	**Tennant Creek**	**82.38**	**122**	*e*P		**P**	**17 30 08.7 -1.6**
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**82.38**	**122**	*e*P		**P**	**17 30 08.7 -1.6**
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s						
WB2	**Warramunga Arr**	**82.39**	**122**	*e*P		**P**	**17 30 09.2 -1.2**
	comp=Z,18nm,0.9s						
DLBC	**Dease Lake**	**83.89**	**11**	*e*P		**P**	**17 30 16.5 -1.0**
	comp=Z,17nm,1.5s						
FCC	**Fort Churchill**	**84.22**	**352**	*e*P		**P**	**17 30 19.4 +0.3**
FCC				*e*pP		**pP**	**17 31 10.0 +0.5**
FCC	**Fort Churchill**	**84.22**	**352**	*e*P		**P**	**17 30 19.4 +0.3**
FCC				*e**PP		**pP**	**17 31 10.0 +0.5**
AS31	**Alice Springs**	**84.63**	**125**	*e*P		**P**	**17 30 20.3 -1.4**
	comp=Z,3.9nm,0.6s						
AS31				*e*PKKPbc		**PKKPbc**	**17 48 30.0 -0.1**
ASAR	**Alice Springs**	**84.63**	**125**	P		**P**	**17 30 20.6 -1.0**
	comp=Z,11nm,0.6s,baz=311,slow=4.9,SNR=207						
ASAR				PKKPbc		**PKKPbc**	**17 48 30.0 -0.1**
	comp=Z,0.2nm,0.7s,baz=117,slow=3.0,SNR=5.5						
FORT	**Forrest**	**86.00**	**133**	*e*P		**P**	**17 30 27.3 -0.9**
	comp=Z,35nm,0.6s						
FFC	**Flin Flon**	**88.91**	**356**	*e*P		**P**	**17 30 42.2 +0.3**
FFC				*e*pP		**pP**	**17 31 33.7 +0.8**
FFC	**Flin Flon**	**88.91**	**356**	*i* P		**P**	**17 30 42.6 +0.7**
CTA	**Charters Tower**	**90.96**	**114**	P		**P**	**17 30 51.4 -0.5**
	comp=Z,4.8nm,0.5s,baz=319,slow=5.4,SNR=12						
VLDQ	**Val d'Or**	**91.02**	**339**	*e*pP		pP	17 31 43.8 +1.0
STKA	**Stephens Creek**	**95.16**	**126**	*e*P		**P**	**17 31 11.4 +0.4**
	comp=Z,9.3nm,1.9s						
STKA	**Stephens Creek**	**95.16**	**126**	*e*P		**P**	**17 31 11.4 +0.4**
STKA				pmax	pmax		
	comp=Z,9.0nm,1.9s						
STKA	**Stephens Creek**	**95.16**	**126**	P		**P**	**17 31 11.4 +0.4**
	comp=Z,0.6nm,0.4s,baz=322,slow=6.7,SNR=5.0						
GLK	**Glacier Lake**	**96.61**	**8**	*e*P		**P**	**17 31 16.2 -1.5**
STD	**Studebaker Rid**	**96.86**	**9**	*e*P		**P**	**17 31 20.8 +2.0**
PD31	**Pinedale Array**	**101.12**	**360**	*e*PP		**PP**	**17 35 46.7 -1.3**
PDAR	**Pinedale Array**	**101.12**	**360**	PP		**PP**	**17 35 46.7 -1.3**
	comp=Z,0.3nm,0.3s,baz=35,slow=5.4,SNR=4.1						
RWWY	**Rawlins**	**102.16**	**358**	*e*Pdif		**Pdif**	**17 31 41.9 -0.9**
PLAL	**Pickwick Lake**	**106.12**	**342**	*e*Pdif		**Pdif**	**17 31 57.5 -2.6**
LTX	**Lajitas**	**114.29**	**354**	*e*PKKPbc		PKKPbc	17 47 06.0 -0.4
TXAR	**Lajitas Array**	**114.29**	**354**	PKKPbc		PKKPbc	17 47 06.0 -0.4
	comp=Z,0.6nm,0.8s,baz=176,slow=6.1,SNR=4.9						
SNAA	**Sanae**	**119.23**	**200**	PKPdf		**PKPdf**	**17 36 33.1 -1.5**
VNA2	**Neumayer--Watz**	**120.22**	**202**	PKPdf		**PKiKP**	**17 36 36.6 +0.1**
	baz=14,slow=0.7						
VNA3	**Neumayer Olymp**	**121.03**	**202**	PKPdf		**PKiKP**	**17 36 38.0 -0.1**
VNDA	**Vanda**	**125.61**	**164**	*e*PKPdf		**PKPdf**	**17 36 46.2 -0.4**
VNDA	**Vanda**	**125.61**	**164**	PKP		**PKPdf**	**17 36 46.3 -0.3**
	comp=Z,1.0nm,0.6s,baz=296,slow=5.5,SNR=6.0						
ESPN	**Las Esperanzas**	**126.03**	**329**	*e*PKPdf		**PKPdf**	**17 36 47.2 -2.0**
QSPA	**South Pole Qui**	**126.29**	**180**	*e*PKPdf		**PKPdf**	**17 36 48.2 0.0**
CPUP	**Villa Florida**	**134.75**	**268**	PKP		**PKPdf**	**17 37 03.9 -1.5**
	comp=Z,2.2nm,0.7s,baz=64,slow=4.0,SNR=5.7						
CPUP				SKPbc		**SKPbc**	**17 40 15.7 -0.5**
	comp=Z,2.0nm,0.7s,baz=45,slow=5.2,SNR=3.8						
TRQA	**Tornquist**	**142.42**	**253**	*e*PKPdf		**PKPdf**	**17 37 19.5 +0.4**
TRQA	**Tornquist**	**142.42**	**253**	*e*PKIKP		**PKPdf**	**17 37 19.5 +0.4**
GO03	**Copiap**	**145.69**	**274**	*e*PKPdf		**PKPdf**	**17 37 24.7 -0.5**
PLCA	**Paso Flores**	**149.39**	**250**	*e*PKPbc		**PKPbc**	**17 37 35.8 +0.2**
PLCA	**Paso Flores**	**149.39**	**250**	*e*PKP2		**PKPbc**	**17 37 35.8 +0.2**
PLCA	**Paso Flores**	**149.39**	**250**	PKPbc		**PKiKP**	**17 37 36.1 -0.5**
	comp=Z,6.8nm,0.8s,baz=100,slow=1.7,SNR=14						
GO06	**Curarrehue**	**149.98**	**252**	*e*PKPbc		**PKPbc**	**17 37 37.3 +0.2**

*DDA **20** 17:23:36.0, 37°.03N×28°.41E, h7km±2km, ML2.2*
ISK 20 17:23:35.9, 36°.92N×28°.49E, h25km, ML1.6/4,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.10**	**117**	PG	Pn	17 23 41.9	-0.1
TURN				SG	Sb	17 23 47.1	+3.5
TURN	**Turunc**	**0.10**	**117**	IAML_P			
	comp=Z,2μm,0.1s						
TURN				*i* P	Pn	17 23 42.5	+0.5
TURN				*i* S	Sb	17 23 47.1	+3.5
DALY	**Dalyan (Mula)**	**0.17**	**128**	PG	Pb	17 23 41.7	+0.6
DALY				SG	Sb	17 23 45.8	+1.1
DALY	**Dalyan (Mula)**	**0.17**	**128**	IAML_P			
	comp=Z,680nm,0.1s						
DALY				*i* P	Pn	17 23 42.5	-0.4
DALY				*i* S	Sb	17 23 47.4	+2.7
TAVA	**DENIZLI_Tavas**	**0.64**	**32**	IAML_P			
	comp=Z,197nm,0.1s						
TAVA				*i* P	Pb	17 23 47.9	-0.7
TAVA				*i* S	Sb	17 23 57.1	-0.1
DAT	**Datca**	**0.76**	**256**	PG	Pn	17 23 51.8	+0.7
DAT				SG	Sn	17 24 02.9	+1.1
AYDN	**Tasoluk**	**0.88**	**327**	IAML_P			
	comp=Z,402nm,0.1s						
AYDN				*i* P	Pb	17 23 51.4	-1.2
AYDN				*i* S	Sb	17 24 03.0	-1.1
AYDB	**Zeytinkoy-Aydi**	**1.13**	**335**	PN	Pn	17 23 56.5	+0.2

VIE 20 17:24:56.2±0.2, 47°.94N×16°.39E, h8km±2km, mb1.3/1,
ml0.9/4, Error ellipse: s-maj=2.0km s-min=1.2km
az=172.0, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.36**	**269**	*e*Pg	Pg	17 25 03.5	+0.3
	0.2nm,0.1s						
CONA				*e*Sg	Sg	17 25 08.5	+0.7
	0.4nm,0.1s						
ARSA	**Arzberg**	**0.90**	**221**	Pg	Pg	17 25 13.6	+0.1
	0.2nm,0.1s						
ARSA				*e*Sg	Sg	17 25 25.7	+0.4
	0.5nm,0.2s						
MOA	**Molln**	**1.43**	**267**	*e*Pn	Pn	17 25 22.7	+0.2
	0.2nm,0.1s						
MOA				*e*Sn	Sn	17 25 41.1	-0.4
	0.4nm,0.1s						

*IDC **20** 17:27:48.6±1.0, 12°.42S×166°.88E, h210km±8km, mb3.8/23, mb1 4.0/23, mb1mx3.9/38, mbtmp4.3/23, Error ellipse: s-maj=15.5km s-min=10.1km az=117.0*
*NEIC **20** 17:27:48.6±0.1, 12°.38S×166°.91E, mb4.5/30, Error ellipse: s-maj=5.9km s-min=3.7km az=117.0*
*ISCJB **20** 17:27:50.1±2.3, 12°.44S±0°.07×166°.85E±0°.08, h242km±22km, mb4.2/48, Error ellipse: s-maj=12.3km s-min=10.5km az=4.6*
ISC 20 17:27:49.2±0.8, 12°.39S±0°.08×166°.9E±0°.1, h220km±7km,
h219km:pP-P, n98, σ0.90/105, mb4.4/48, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.64**	**183**	*e*Pn	**Pn**	**17 30 04.1**	**+0.4**
DZM	**Mont Dzumac**	**9.64**	**183**	P	**Pn**	**17 30 06.3**	**+2.6**
	0.5nm,0.3s,baz=307,slow=19,SNR=18						
EIDS	**Eidsvold**	**19.75**	**227**	*e*P	**P**	**17 32 03.5**	**+0.9**
	27nm,0.6s						
CTA	**Charters Tower**	**21.25**	**246**	P	**P**	**17 32 17.8**	**-0.8**
	16nm,0.8s,baz=77,slow=12,SNR=13						
CTAO	**Charters Tower**	**21.25**	**246**	*e*P	**P**	**17 32 18.7**	**+0.1**
	15nm,0.8s						
STKA	**Stephens Creek**	**30.30**	**226**	*e*P	**P**	**17 33 40.7**	**+0.5**
	4.6nm,1.8s						
STKA	**Stephens Creek**	**30.30**	**226**	P	**P**	**17 33 40.8**	**+0.6**
	1.6nm,0.6s,baz=52,slow=12,SNR=5.4						
LTZ	**Lake Taylor**	**30.64**	**172**	*e*P	**P**	**17 33 42.4**	**-0.6**
	21nm,0.7s						
OXZ	**Oxford**	**31.15**	**173**	*e*P	**P**	**17 33 47.1**	**-0.3**
	22nm,0.9s						
RPZ	**Rata Peaks**	**31.42**	**174**	P	**P**	**17 33 49.8**	**0.0**
	10nm,0.5s,baz=336,slow=2.6,SNR=13						
WR1	**Warramunga Arr**	**32.13**	**252**	*e*P	**P**	**17 33 55.5**	**-0.9**
WR1				*e*pP	**pP**	**17 34 39.3**	**-0.5**
WRA	**Warramunga Arr**	**32.13**	**252**	P	**P**	**17 33 55.5**	**-0.9**
	1.4nm,0.4s,baz=80,slow=9.0,SNR=14						
WRA				pP	**pP**	**17 34 39.3**	**-0.6**
	1.1nm,0.9s,baz=88,slow=7.6,SNR=2.3						
AS31	**Alice Springs**	**33.25**	**246**	*e*P	**P**	**17 34 05.2**	**-0.9**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**33.25**	**246**	P	**P**	**17 34 05.2**	**-0.9**
	1.7nm,0.6s,baz=68,slow=10,SNR=18						
ASAR				pP	**pP**	**17 34 48.2**	**-1.7**
	3.7nm,0.7s,baz=73,slow=9.4,SNR=11						
ASAR				ScP	**ScP**	**17 40 07.9**	**+1.2**
	1.0nm,0.9s,baz=104,slow=3.8,SNR=5.0						
FITZ	**Fitzroy Crossi**	**40.16**	**257**	P	**P**	**17 35 04.1**	**-0.3**
	2.4nm,0.5s,baz=40,slow=8.1,SNR=8.1						
MJAR	**Matsushiro Arr**	**55.68**	**332**	P	**P**	**17 37 02.8**	**-0.1**
	2.5nm,0.8s,baz=169,slow=8.3,SNR=9.9						
MAJO	**Matsushiro**	**55.68**	**332**	*e*P	**P**	**17 37 02.8**	**-0.1**
ASAJ	**Asahikawa**	**60.43**	**340**	P	**P**	**17 37 37.0**	**+1.4**
	5.6

0.4nm,0.7s,baz=216,slow=5.3,SNR=5.5
MAKZ Makanchi 95.49 317 *e*P **P 17 40 48.3 -0.9**
2.7nm,1.0s
YKA Yellowknife Ar 95.63 27 P **P 17 40 48.3 -1.1**
0.8nm,0.7s,baz=254,slow=4.8,SNR=9.6
YKB5 Yellowknife Ar 95.63 27 *e*P **P 17 40 48.3 -1.1**
SNAA Sanae 95.86 183 PKPdf **P 17 40 49.1 -1.3**
VNA3 Neumayer Olymp 96.54 181 PKPdf **P 17 40 52.1 -1.4**
VNA2 Neumayer--Watz 96.80 182 PKPdf **P 17 40 53.7 -0.9**
baz=358,slow=1.9
KURBB Kurchatov Arra 98.44 320 PKKPbc PKKPbc 17 57 30.3 -3.6
0.1nm,0.2s,baz=267,slow=3.1,SNR=4.5
ARA0 ARCESS Array S 117.91 346 *e*PKPdf **PKPdf 17 46 08.9 -0.2**
ARCES ARCESS Array B 117.91 346 PKP **PKPdf 17 46 08.9 -0.2**
3.2nm,0.6s,baz=81,slow=2.0,SNR=22
FIA0 FINESS Array S 123.43 339 *e*PKPdf **PKPdf 17 46 19.8 -0.1**
FINES FINESS Array B 123.43 339 PKP **PKPdf 17 46 19.8 -0.1**
0.5nm,0.4s,baz=44,slow=2.6,SNR=5.5
NB2 NORSAR Subarra128.28 345 PKPdf **PKPdf 17 46 29.0 -0.2**
comp=Z,3.5nm,1.2s,baz=31,slow=1.9
NB200 NORSAR Array S 128.28 345 *e*PKPdf **PKiKP 17 46 29.7 -0.2**
NOA NORSAR Array B 128.28 345 PKP **PKiKP 17 46 29.7 -0.2**
comp=Z,1.0nm,0.7s,baz=32,slow=2.0,SNR=5.2
KEST Kesra 149.17 323 *e*PKPbc **PKPbc 17 47 13.1 +0.9**
KEST Kesra 149.17 323 PKPbc **PKPbc 17 47 12.9 +0.7**
comp=Z,4.9nm,0.6s,baz=203,slow=2.8,SNR=7.5
PBRG Braganca 150.17 350 *e*P **PKPbc 17 47 14.5 +0.1**
comp=Z,18nm,1.9s
PGAV Gavieira, Arco 150.23 353 *e*P **PKiKP 17 47 15.4 +0.1**
comp=Z,38nm,1.6s
POLO Lamas de Olo 150.75 352 *e*P **PKPbc 17 47 16.0 +0.2**
comp=Z,12nm,1.9s
MVO Moncorvo 150.84 351 *e*P **PKPbc 17 47 16.0 0.0**
comp=Z,20nm,1.1s
PVIS Viseu 151.41 352 *e*P **PKiKP 17 47 18.1 +0.3**
ESDC Sonseca Array 151.65 345 PKPbc **PKPbc 17 47 18.3 +0.4**
comp=Z,3.3nm,0.8s,baz=18,slow=2.7,SNR=14
ESDC PKPab **PKPab 17 47 27.9 +0.5**
comp=Z,2.8nm,0.7s,baz=16,slow=3.9,SNR=9.2
MTE Manteigas 151.67 351 *e*P **PKPbc 17 47 17.8 -0.2**
comp=Z,22nm,0.8s
PCBR Castelo Branco 152.21 351 *e*P **PKiKP 17 47 19.4 +0.1**
comp=Z,16nm,1.6s
PTOM Tomar 152.56 352 *e*P **PKiKP 17 47 20.5 +0.4**
comp=Z,31nm,1.1s
PMRV Marv??o 152.60 350 *e*P **PKiKP 17 47 21.0 +0.8**
comp=Z,14nm,1.6s
PMTG Montargil 153.08 352 *e*P **PKiKP 17 47 21.0 -0.1**
comp=Z,17nm,2.0s
PMAFR Mafra 153.32 353 *e*P **PKPdf 17 47 15.4 +1.5**
comp=Z,135nm,1.8s
PNCL Nicolau / Gran 154.06 352 *e*P **PKPdf 17 47 17.6 +2.7**
comp=Z,24nm,1.9s
PTEO Sao Teotonio 154.64 352 *e*P **PKPbc 17 47 20.5 -3.9**
comp=Z,60nm,1.2s
TORD Torodi Ar. Bea 165.56 275 PKPab **PKPab 17 48 28.2 -0.2**
comp=Z,0.5nm,0.5s,baz=180,slow=1.4,SNR=5.6
TOA1 Torodi Ar. Sit 165.56 275 *e*PKPab **PKPab 17 48 28.2 -0.2**

*ISCJB **20** 17:42:30.9±0.5, 16°.38S±0°.04×69°.74W±0°.06, h207km±5km, mb3.8/10, Error ellipse: s-maj=9.4km s-min=7.3km az=5.5*
*IDC **20** 17:42:32.6±1.1, 16°.29S×69°.56W, h203km±9km, mb3.7/11, mb1 3.9/15, mb1mx3.7/31, mbtmp4.3/15, Error ellipse: s-maj=15.1km s-min=12.3km az=53.0*
*GUC **20** 17:42:33.6±0.5, 16°.63S×70°.08W, h223km±5km, ML4.6*
ISC 20 17:42:31.5±0.6, 16°.40S±0°.05×69°.79W±0°.06, h198km±5km, n51, σ1°38/65, mb4.0/10, 6C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.60**	**86**	*e*P		**Pn**		**17 43 08.1**	**+1.6**
LPAZ				*e*S		**Sn**		**17 43 34.6**	**+0.9**
LPAZ	**La Paz**	**1.60**	**86**	P		**Pn**		**17 43 07.3**	**+0.8**
243nm,0.3s,baz=328,slow=6.2,SNR=5.1									
LPAZ				LR		LR		17 43 16.0	
comp=Z,30nm,20.9s,baz=223,slow=32									
LPAZ				S		**Sn**		**17 43 33.0**	**-0.6**
31nm,0.3s,baz=348,slow=25,SNR=7.8									
PB16	**IPOC Station P**	**1.94**	**172**	*e*P		**Pn**		**17 43 12.3**	**+2.5**
PB16	**IPOC Station P**	**1.94**	**172**	↑*i*P		**Pn**		**17 43 12.3**	**+2.5**
PB16				*i* S		**Sn**		**17 43 42.8**	**+3.0**
PB12	**IPOC Station P**	**2.26**	**193**	*e*P		**Pn**		**17 43 13.2**	**+0.4**
PB12				*e*S		**Sn**		**17 43 44.4**	**-0.6**
PB12	**IPOC Station P**	**2.26**	**193**	↑*i*P		**Pn**		**17 43 13.0**	**+0.3**
PB12				*i* S		**Sn**		**17 43 43.6**	**-1.4**
PB12				IAML				17 43 44.7	
comp=E,2μm,0.2s									
MNMC	**Minye Minye**	**2.72**	**176**	↑*i*P		**Pn**		**17 43 19.5**	**+1.4**
MNMC				*i* S		**Sn**		**17 43 54.1**	**-0.5**
MNMC				IAML				17 44 01.3	
comp=N,2μm,0.2s									
MNMCX	**Minye Minye**	**2.72**	**176**	*e*P		**Pn**		**17 43 19.5**	**+1.4**
PSGC	**Pisagua**	**3.20**	**186**	↓*i*P		**Pn**		**17 43 23.4**	**0.0**
PSGC				*i* S		**Sn**		**17 44 01.8**	**-2.4**
PSGC				IAML				17 44 05.0	
comp=E,330nm,0.3s									
PSGCX	**Pisagua**	**3.20**	**186**	*e*P		**Pn**		**17 43 24.2**	**+0.8**
GO01	**Chusmiza**	**3.30**	**170**	↑*i*P		**Pn**		**17 43 26.7**	**+1.6**
GO01				*i* S		**Sn**		**17 44 07.0**	**0.0**
GO01				IAML				17 44 13.1	
comp=N,1μm,0.1s									
PB11	**IPOC Station P**	**3.34**	**178**	↑*i*P		**Pn**		**17 43 26.2**	**+1.0**
PB11	**IPOC Station P**	**3.34**	**178**	↑*i*P		**Pn**		**17 43 26.0**	**+0.7**
PB11				*i* S		**Sn**		**17 44 06.3**	**-1.2**
PB11				IAML				17 44 09.6	
comp=E,786nm,0.3s									
PB08	**IPOC Station P**	**3.77**	**171**	*e*P		**Pn**		**17 43 32.2**	**+1.4**
PB08	**IPOC Station P**	**3.77**	**171**	↑*i*P		**Pn**		**17 43 32.1**	**+1.4**
PB08				*i* S		**Sn**		**17 44 16.9**	**-0.3**
PB08				IAML				17 44 18.1	
comp=E,429nm,0.5s									
PB02	**IPOC Station P**	**4.89**	**181**	*e*P		**Pn**		**17 43 45.1**	**+0.5**
PB07	**IPOC Station P**	**5.30**	**181**	*e*P		**Pn**		**17 43 50.3**	**+0.5**
PB09	**IPOC Station P**	**5.39**	**175**	*e*P		**Pn**		**17 43 51.8**	**+0.7**
PB03	**IPOC Station P**	**5.62**	**180**	*e*P		**Pn**		**17 43 54.8**	**+0.9**
PB04	**IPOC Station P**	**5.91**	**183**	*e*P		**Pn**		**17 43 58.2**	**+0.4**
LVC	**Limon Verde**	**6.23**	**172**	*e*P		**Pn**		**17 44 03.4**	**+1.3**
LVC				IAML				17 45 15.5	
comp=Z,47nm,0.3s									
LVC	**Limon Verde**	**6.23**	**172**	P		**Pn**		**17 44 02.5**	**+0.4**
comp=Z,8.0nm,0.3s,baz=23,slow=10,SNR=139									
LVC				S		**Sn**		**17 45 09.6**	**-4.2**
comp=Z,22nm,0.3s,baz=180,slow=22,SNR=28									
PB06	**IPOC Station P**	**6.28**	**178**	*e*P		**Pn**		**17 44 02.8**	**+0.4**
PB05	**IPOC Station P**	**6.43**	**183**	*e*P		**Pn**		**17 44 04.3**	**-0.1**
PB15	**IPOC Station P**	**6.78**	**178**	*e*P		**Pn**		**17 44 10.0**	**+0.9**
PB10	**IPOC Station P**	**7.11**	**186**	*e*P		**Pn**		**17 44 13.3**	**+0.1**
NNA	**Nana**	**8.12**	**302**	P		**Pn**		**17 44 26.4**	**-0.1**
comp=Z,11nm,0.3s,baz=128,slow=11,SNR=23									
NNA				S		**Sn**		**17 45 55.1**	**-2.9**
comp=Z,12nm,0.3s,baz=206,slow=19,SNR=5.0									
SIV	**San Ignacio**	**8.38**	**88**	P		**Pn**		**17 44 27.7**	**-2.1**
comp=Z,3.2nm,0.3s,baz=289,slow=9.6,SNR=27									
SIV				S		Sn		17 45 51.8	-12
comp=Z,0.2nm,0.3s,baz=246,slow=16,SNR=3.5									
AZAP	**Zapla**	**8.96**	**151**	*e*P		**Pn**		**17 44 36.2**	**-1.3**
CPUP	**Villa Florida**	**15.23**	**133**	P		**Pn**		**17 45 55.3**	**-1.3**
comp=Z,0.4nm,0.3s,baz=305,slow=9.7,SNR=6.0									
PTGA	**Pitinga**	**18.34**	**33**	P		**P**		**17 46 30.1**	**-1.2**
comp=Z,5.5nm,0.3s,baz=212,slow=9.2,SNR=36									
BDFB	**Brasilia**	**20.94**	**91**	P		**P**		**17 46 58.1**	**-1.2**
comp=Z,8.9nm,0.5s,baz=256,slow=14,SNR=13									
PLCA	**Paso Flores**	**24.26**	**181**	P		**P**		**17 47 31.6**	**+1.1**
comp=Z,2.2nm,0.7s,baz=24,slow=14,SNR=4.8									
APG	**El Apazote**	**37.29**	**326**	P		**P**		**17 49 26.2**	**+1.3**
comp=Z,3.1nm,0.7s,baz=108,slow=11,SNR=4.6									
TXAR	**Lajitas Array**	**56.01**	**324**	P		**P**		**17 51 50.1**	**+0.2**
comp=Z,0.5nm,0.5s,baz=151,slow=9.2,SNR=11									
TXAR				PcP		**PcP**		**17 52 45.4**	**-0.4**
comp=Z,0.2nm,0.4s,baz=145,slow=5.5,SNR=5.1									
DBIC	**Dimbokro**	**68.19**	**76**	P		**P**		**17 53 09.8**	**-1.3**
comp=Z,4.2nm,0.5s,baz=225,slow=4.2,SNR=15									
ULM	**Lac du Bonnet**	**70.23**	**343**	P		**P**		**17 53 21.3**	**-1.5**
comp=Z,2.7nm,0.4s,baz=184,slow=4.2,SNR=5.3									
NVAR	**Mina Array Bea**	**70.99**	**322**	P		**P**		**17 53 29.3**	**+1.3**
comp=Z,0.5nm,0.6s,baz=120,slow=5.8,SNR=4.8									
TORD	**Torodi Ar. Bea**	**76.50**	**72**	P		**P**		**17 53 59.0**	**-1.2**
comp=Z,2.6nm,0.5s,baz=278,slow=5.0,SNR=20									
VNDA	**Vanda**	**81.70**	**190**	P		**P**		**17 54 29.1**	**+1.8**
comp=Z,0.3nm,0.5s,baz=171,slow=2.1,SNR=5.5									
YKA	**Yellowknife Ar**	**86.12**	**341**	P		**P**		**17 54 50.0**	**+0.3**
comp=Z,1.4nm,0.6s,baz=136,slow=4.6,SNR=22									
MAW	**Mawson**	**89.43**	**164**	P		**P**		**17 55 06.8**	**+1.3**

comp=Z,1.8nm,0.7s,baz=247,slow=7.7,SNR=5.2
BVAR Borovoye Array 131.98 31 SKPbc **SKPbc 18 04 29.3 +0.4**
comp=Z,0.6nm,0.6s,baz=2.1,slow=2.5,SNR=5.9
ASAR Alice Springs 133.94 211 PKhKP PKPpre 18 01 18.0
comp=Z,0.1nm,0.4s,baz=136,slow=1.4,SNR=7.7
ASAR PKP **PKPdf 18 01 26.4 +0.4**
comp=Z,0.5nm,0.7s,baz=135,slow=2.0,SNR=11
ASAR SKPbc **SKPbc 18 04 37.8 +1.2**
comp=Z,0.3nm,0.7s,baz=133,slow=3.5,SNR=4.6
WRA Warramunga Arr 136.80 214 PKhKP PKPpre 18 01 25.1
comp=Z,0.5nm,0.5s,baz=138,slow=1.2,SNR=7.3
WRA PKP **PKPdf 18 01 31.7 +0.4**
comp=Z,0.9nm,0.5s,baz=140,slow=1.8,SNR=19
KURBB Kurchatov Arra 137.44 30 PKP **PKPdf 18 01 31.9 +0.4**
comp=Z,0.1nm,0.5s,baz=305,slow=2.5,SNR=4.1
ZALV Zalesovo Beam 137.64 22 PKP **PKPdf 18 01 32.9 +1.1**
comp=Z,1.3nm,0.5s,baz=263,slow=2.4,SNR=6.9
MKAR Makanchi Array 141.87 31 PKP **PKPdf 18 01 39.9 +0.2**
comp=Z,0.2nm,0.4s,baz=14,slow=0.6,SNR=3.5
MKAR SKPbc **SKPbc 18 04 56.0 -2.6**
comp=Z,0.8nm,0.7s,baz=340,slow=3.1,SNR=7.2
FITZ Fitzroy Crossi 142.50 205 PKhKP PKPpre 18 01 38.5
comp=Z,2.6nm,0.6s,baz=173,slow=0.3,SNR=6.7
USRK Ussuriysk Ar. 146.72 331 PKPbc **PKPbc 18 01 50.7 +0.5**
comp=Z,3.4nm,0.7s,baz=68,slow=4.6,SNR=9.1
SONM Songino Array 148.50 5 PKPbc **PKPbc 18 01 56.0 +1.1**
comp=Z,2.6nm,0.3s,baz=328,slow=2.1,SNR=19

*ISCJB **20** 17:45:22.6±1.2, 35°.9N±0°.3×137°.4E±0°.3, h260km±11km, mb2.8/2, Error ellipse: s-maj=60.7km s-min=15.8km az=150.4*
*JMA **20** 17:45:22.9±0.4, 36°.08N×137°.25E, h262km±4km, M2.5*
*IDC **20** 17:45:22.4±3.2, 35°.88N×136°.75E, h235km±54km, mb2.7/2, mb1 3.0/2, mb1mx2.5/39, mbtmp3.3/2, Error ellipse: s-maj=119.0km s-min=98.1km az=40.0*
ISC 20 17:45:23.3±1.6, 36°.0N±0°.3×137°.3E±0°.2, h258km±12km, n12, σ0°.26/15, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.22**	**356**	P		**Pn**		**17 45 56.5**	**0.0**
JYTA	**Yamagatataniai**	**0.64**	**230**	P		**Pn**		**17 45 57.6**	**+0.1**
JYTA				*e*S		**S**		**17 46 24.2**	**-0.3**
JNG	**Nsakai**	**0.74**	**57**	P		**Pn**		**17 45 58.4**	**+0.4**
JKG	**Kaga**	**0.85**	**289**	P		**Pn**		**17 45 58.4**	**0.0**
MAT	**Matsushiro**	**0.89**	**53**	P		**Pn**		**17 45 58.7**	**+0.1**
MAT				*e*S		**S**		**17 46 26.2**	**-0.2**
MAT	**Matsushiro**	**0.89**	**53**	P		**Pn**		**17 45 58.7**	**+0.1**
MJAR	**Matsushiro Arr**	**0.89**	**53**	P		**Pn**		**17 45 59.0**	**+0.5**
0.7nm,0.3s,baz=246,slow=7.4,SNR=64									
MJAR				S		**S**		**17 46 26.4**	**0.0**
baz=178,slow=31,SNR=4.3									
JWT	**Wachi**	**1.73**	**246**	P		**Pn**		**17 46 04.0**	**-0.1**
JAG	**Ashikaga**	**1.77**	**76**	P		**Pn**		**17 46 04.4**	**0.0**
JFK	**Kawauchi**	**3.15**	**63**	P		**Pn**		**17 46 17.5**	**-0.4**
WRA	**Warramunga Arr**	**55.72**	**183**	P		**P**		**17 54 33.3**	**0.0**
0.5nm,0.9s,baz=0.4,slow=7.0,SNR=4.9									
ASAR	**Alice Springs**	**59.44**	**184**	P		**P**		**17 54 59.4**	**+0.2**
0.2nm,0.8s,baz=354,slow=6.4,SNR=4.9									

*IDC **20** 17:55:52.8±0.8, 55°.42N×163°.86E, h0km, mb3.7/14, mb1 3.9/16, mb1mx3.6/49, mbtmp3.7/16, ML4.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/48, Error ellipse: s-maj=19.7km s-min=14.0km az=172.0*
*KRSC **20** 17:55:54.5±10.0, 55°.22N×163°.85E, h63km±10km, ML4.3*
*MOS **20** 17:55:55.7±0.7, 55°.26N×163°.99E, h38km, mb4.1/2, Error ellipse: s-maj=6.4km s-min=5.1km az=69.1*
*NEIC **20** 17:55:58.3±1.1, 55°.42N×163°.81E, h39km±11km, mb4.1/4, Error ellipse: s-maj=12.1km s-min=8.4km az=154.0*
ISC 20 17:55:54.4±3.2, 55°.28N±0°.04×163°.91E±0°.03, h15km±20km, n124, σ1°55/158, mb3.8/17, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.12**	**327**	*e*P		**Pb**		**17 56 14.4**	**-1.0**
KBTR				*e*S		**Sb**		**17 56 27.7**	**-2.1**
KBTR	**Krutoberegovo**	**1.12**	**327**	PN		**Pb**		**17 56 14.4**	**-1.0**
KBTR				S		**Sb**		**17 56 27.7**	**-2.1**
BKI	**Bering**	**1.19**	**93**	*e*P		**Pn**		**17 56 16.5**	**0.0**
BKI				*e*S		**Sb**		**17 56 31.3**	**-0.5**
BKI	**Bering**	**1.19**	**93**	PN		**Pn**		**17 56 16.5**	**0.0**
BKI				S		**Sb**		**17 56 31.3**	**-0.5**
KBG	**Krutoberegovo**	**1.19**	**326**	*e*P		**Pn**		**17 56 15.4**	**-1.2**
KBG				*e*S		**Sb**		**17 56 30.4**	**-1.5**
KBG	**Krutoberegovo**	**1.19**	**326**	PN		**Pn**		**17 56 15.4**	**-1.2**
KBG				S		**Sb**		**17 56 30.4**	**-1.5**
MKZ	**Mys Kozlova**	**1.45**	**241**	*e*P		**Pn**		**17 56 19.7**	**-0.4**
MKZ				*e*S		**Sn**		**17 56 36.1**	**-2.8**
MKZ	**Mys Kozlova**	**1.45**	**241**	PN		**Pn**		**17 56 19.7**	**-0.4**
MKZ				S		**Sn**		**17 56 36.1**	**-2.8**
SMKR	**Semkarok**	**1.89**	**315**	*e*P		**Pn**		**17 56 27.0**	**+0.7**
SMKR				*e*S		**Sb**		**17 56 52.1**	**-0.2**
SMKR	**Semkarok**	**1.89**	**315**	PN		**Pn**		**17 56 27.0**	**+0.7**
SMKR				S		**Sb**		**17 56 52.1**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**1.94**	**291**	*e*P		**Pn**		**17 56 28.1**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**1.94**	**291**	PN		**Pn**		**17 56 28.1**	**+1.1**
CIRR	**Tsirk**	**1.97**	**296**	*e*P		**Pn**		**17 56 28.8**	**+1.3**
CIRR	**Tsirk**	**1.97**	**296**	PN		**Pn**		**17 56 28.8**	**+1.3**
LGNR	**Loginova**	**1.99**	**295**	*e*P		**Pn**		**17 56 29.2**	**+1.3**
LGNR	**Loginova**	**1.99**	**295**	PN		**Pn**		**17 56 29.2**	**+1.3**
BDR	**Baidarnaya**	**1.99**	**312**	*e*P		**Pn**		**17 56 28.8**	**+1.1**
BDR	**Baidarnaya**	**1.99**	**312**	PN		**Pn**		**17 56 28.8**	**+1.1**
TUMD	**Tumrok D**	**2.01**	**269**	*e*P		**Pn**		**17 56 28.6**	**+0.7**
TUMD				*e*S		**Sn**		**17 56 51.4**	**-1.3**
BZMR	**Bezymyannaya**	**2.05**	**290**	*e*P		**Pn**		**17 56 29.9**	**+1.4**
BZMR	**Bezymyannaya**	**2.05**	**290**	PN		**Pn**		**17 56 29.9**	**+1.4**
BZWR	**Bezymyannyi-We**	**2.05**	**291**	*e*P		**Pn**		**17 56 30.3**	**+1.7**
BZWR	**Bezymyannyi-We**	**2.05**	**291**	PN		**Pn**		**17 56 30.3**	**+1.7**
SRKR	**Sorokina**	**2.07**	**313**	*e*P		**Pn**		**17 56 29.7**	**+1.0**
SRKR				*e*S		**Sb**		**17 56 56.2**	**-1.0**
SRKR	**Sorokina**	**2.07**	**313**	PN		**Pn**		**17 56 29.7**	**+1.0**
SRKR				S		**Sb**		**17 56 56.2**	**-1.0**
KZV	**Kizimen**	**2.08**	**267**	*e*P		**Pn**		**17 56 29.6**	**+0.7**
KZV				*e*S		**Sn**		**17 56 53.9**	**-0.7**
KZV	**Kizimen**	**2.08**	**267**	PN		**Pn**		**17 56 29.6**	**+0.7**
KZV				S		**Sn**		**17 56 53.9**	**-0.7**
KLY	**Klyuchi**	**2.11**	**301**	*e*P		**Pn**		**17 56 28.7**	**-0.5**
KLY				*e*S		**Sn**		**17 56 53.8**	**-1.3**
KLY	**Klyuchi**	**2.11**	**301**	PN		**Pn**		**17 56 28.7**	**-0.5**
KLY				S		**Sn**		**17 56 53.8**	**-1.3**
KRSR	**Krestovskiy**	**2.11**	**298**	*e*P		**Pn**		**17 56 29.8**	**+0.5**
KRSR	**Krestovskiy**	**2.11**	**298**	PN		**Pn**		**17 56 29.8**	**+0.5**
KIRR	**Kirishev**	**2.13**	**290**	*e*P		**Pn**		**17 56 31.3**	**+1.6**
KIRR	**Kirishev**	**2.13**	**290**	PN		**Pn**		**17 56 31.3**	**+1.6**
TUMR	**Tumrok**	**2.15**	**272**	*e*P		**Pn**		**17 56 31.1**	**+1.2**
TUMR				*e*S		**Sn**		**17 56 54.7**	**-1.7**
TUMR	**Tumrok**	**2.15**	**272**	PN		**Pn**		**17 56 31.1**	**+1.2**
TUMR				S		**Sn**		**17 56 54.7**	**-1.7**
KPT	**Kopyto**	**2.20**	**290**	*e*P		**Pn**		**17 56 32.3**	**+1.8**
KPT	**Kopyto**	**2.20**	**290**	PN		**Pn**		**17 56 32.3**	**+1.8**
KOZ	**Kozyrevsk**	**2.41**	**291**	*e*P		**Pn**		**17 56 35.3**	**+1.9**
KOZ	**Kozyrevsk**	**2.41**	**291**	PN		**Pn**		**17 56 35.3**	**+1.9**
SRDR	**Sredinnyy**	**2.58**	**295**	*e*P		**Pn**		**17 56 37.5**	**+1.7**
SRDR	**Sredinnyy**	**2.58**	**295**	PN		**Pn**		**17 56 37.5**	**+1.7**
ESO	**Esso**	**3.02**	**284**	*e*P		**Pn**		**17 56 42.9**	**+1.1**
ESO	**Esso**	**3.02**	**284**	PN		**Pn**		**17 56 42.9**	**+1.1**
SPN	**Mys Shipunski**	**3.16**	**228**	*e*P		**Pn**		**17 56 43.0**	**-0.6**
SPN				*e*S		**Sn**		**17 57 16.7**	**-4.3**
SPN	**Mys Shipunski**	**3.16**	**228**	PN		**Pn**		**17 56 43.0**	**-0.6**
NLC	**Nalytchevo**	**3.41**	**234**	*e*P		**Pn**		**17 56 48.0**	**+1.0**
NLC				*e*S		**Sn**		**17 57 25.0**	**-2.2**
NLC	**Nalytchevo**	**3.41**	**234**	PN		**Pn**		**17 56 48.0**	**+1.0**
SDLR	**Sedlovina**	**3.56**	**238**	*e*P		**Pn**		**17 56 50.5**	**+1.2**
SDLR				*e*S		**Sn**		**17 57 29.3**	**-1.8**
SDLR	**Sedlovina**	**3.56**	**238**	PN		**Pn**		**17 56 50.5**	**+1.2**
SMAR	**Somma**	**3.61**	**238**	P		**Pn**		**17 56 51.4**	**+1.4**
SMAR				*e*S		**Sn**		**17 57 30.5**	**-2.0**
SMAR	**Somma**	**3.61**	**238**	PN		**Pn**		**17 56 51.4**	**+1.4**
KRER	**Koryakskii**	**3.61**	**239**	*e*P		**Pn**		**17 56 51.5**	**+1.5**
KRER				*e*S		**Sn**		**17 57 31.3**	**-1.2**
KRER	**Koryakskii**	**3.61**	**239**	PN		**Pn**		**17 56 51.5**	**+1.5**
KRX	**Arik**	**3.63**	**240**	P		**Pn**		**17 56 51.9**	**+1.7**
KRX	**Arik**	**3.63**	**240**	PN		**Pn**		**17 56 51.9**	**+1.7**
UGLR	**Uglovaya**	**3.63**	**237**	P		**Pn**		**17 56 51.7**	**+1.5**
UGLR	**Uglovaya**	**3.63**	**237**	PN		**Pn**		**17 56 51.7**	**+1.5**
AVH	**Avacha**	**3.64**	**238**	*e*P		**Pn**		**17 56 52.2**	**+1.9**
AVH				*e*S		**Sn**		**17 57 32.1**	**-0.9**
AVH	**Avacha**	**3.64**	**238**	PN		**Pn**		**17 56 52.2**	**+1.9**
KOK	**Koryaka**	**3.67**	**239**	P		**Pn**		**17 56 52.6**	**+1.8**
KOK	**Koryaka**	**3.67**	**239**	PN		**Pn**		**17 56 52.6**	**+1.8**
DALK	**Dalny**	**3.77**	**235**	*e*P		**Pn**		**17 56 53.3**	**+1.2**
DALK				*e*S		**Sn**		**17 57 33.4**	**-2.8**
DALK	**Dalny**	**3.77**	**235**	PN		**Pn**		**17 56 53.3**	**+1.2**
PET	**Petropavlovsk**	**3.83**	**236**	*e*Pn		**Pn**		**17 56 53.9**	**+1.1**
PET	**Petropavlovsk**	**3.83**	**236**	*e*PN		**Pn**		**17 56 54.0**	**+1.2**
PET				pmax		pmax			
comp=Z,36nm,0.4s									
OSSR	**Ossora**	**4.01**	**354**	*e*P		**Pn**		**17 56 55.9**	**+0.7**
OSSR				*e*S		**Sn**		**17 57 39.9**	**-2.0**
OSSR	**Ossora**	**4.01**	**354**	PN		**Pn**		**17 56 55.9**	**+0.7**
KRMR	**Karymshinskiy**	**4.20**	**237**	*e*P		**Pn**		**17 56 59.5**	**+1.7**
KRMR				*e*S		**Sn**		**17 57 44.3**	**-2.3**
KRMR	**Karymshinskiy**	**4.20**	**237**	PN		**Pn**		**17 56 59.5**	**+1.7**
PEA1	**Petropavlovsk-**	**4.24**	**242**	*e*Pn		**Pn**		**17 57 00.2**	**+1.7**
PEA1				*e*Sn		**Sn**		**17 57 48.5**	**+0.7**
PEA0B	**Petropavlovsk-**	**4.25**	**242**	*e*Pn		**Pn**		**17 57 00.4**	**+1.9**
PEA0B	**Petropavlovsk-**	**4.25**	**242**	*e*PN		**Pn**		**17 57 00.4**	**+1.9**
PETK	**Petropavlovsk-**	**4.25**	**242**	*e*Pn		**Pn**		**17 57 00.9**	**+2.3**
PETK				Sn		**Sn**		**17 57 48.5**	**+0.7**
PETK	**Petropavlovsk-**	**4.25**	**242**	Pn		**Pn**		**17 57 00.2**	**+1.7**
comp=Z,2.4nm,0.3s,baz=75,slow=19,SNR=27									
PETK				Sn		**Sn**		**17 57 48.5**	**+0.7**
comp=Z,3.2nm,0.3s,baz=64,slow=15,SNR=7.9									
RUS	**Russkaya**	**4.28**	**230**	*e*P		**Pn**		**17 57 00.1**	**+1.1**
RUS	**Russkaya**	**4.28**	**230**	PN		**Pn**		**17 57 00.1**	**+1.1**
MTVR	**Mutnovka**	**4.39**	**233**	*e*P		**Pn**		**17 57 02.3**	**+1.6**
MTVR				*e*S		**Sn**		**17 57 50.2**	**-1.5**
MTVR	**Mutnovka**	**4.39**	**233**	PN		**Pn**		**17 57 02.3**	**+1.6**
ASAK	**Asacha**	**4.59**	**233**	*e*P		**Pn**		**17 57 05.6**	**+2.2**
ASAK				*e*S		**Sn**		**17 57 56.2**	**-0.2**
ASAK	**Asacha**	**4.59**	**233**	PN		**Pn**		**17 57 05.6**	**+2.2**
APC	**Apacha**	**4.62**	**242**	P		**Pn**		**17 57 05.6**	**+1.9**
APC	**Apacha**	**4.62**	**242**	PN		**Pn**		**17 57 05.6**	**+1.9**
KDTR	**Khodutka, Kamc**	**4.92**	**227**	*e*P		**Pn**		**17 57 08.4**	**+0.7**
KDTR				*e*S		**Sn**		**17 57 59.5**	**-4.8**
KDTR	**Khodutka, Kamc**	**4.92**	**227**	PN		**Pn**		**17 57 08.4**	**+0.7**
PAU	**Pauzhetka**	**5.71**	**231**	*e*P		**Pn**		**17 57 19.8**	**+1.2**
PAU	**Pauzhetka**	**5.71**	**231**	PN		**Pn**		**17 57 19.8**	**+1.2**
SKR	**Severo-Kuril's**	**6.58**	**229**	*e*P		**Pn**		**17 57 31.3**	**+0.7**
SKR				*e

MTVR S **Sb** **18 09 33.3 +0.3**
AVH Avacha 1.57 312 *e*P **Pb** **18 09 13.4 -0.7**
AVH Avacha 1.57 312 PN **Pb** **18 09 13.4 -0.7**
KRER Koryakskii 1.60 313 *e*P **Pb** **18 09 13.9 -0.6**
KRER Koryakskii 1.60 313 PN **Pb** **18 09 13.9 -0.6**
GRL Gorelyy 1.63 283 *e*P **Pb** **18 09 14.8 -0.3**
GRL Gorelyy 1.63 283 PN **Pb** **18 09 14.8 -0.3**
KOK Koryaka 1.64 312 *e*P **Pb** **18 09 14.2 -1.0**
KOK Koryaka 1.64 312 PN **Pb** **18 09 14.2 -1.0**
KDTR Khodutka, Kamc 1.66 257 *e*P **Pn** **18 09 12.8 -0.8**
KDTR *e*S **Sn** **18 09 33.9 -0.3**
KDTR Khodutka, Kamc 1.66 257 PN **Pn** **18 09 12.8 -0.8**
KDTR S **Sn** **18 09 33.9 -0.3**
KRMR Karymshinskiy 1.67 292 *e*P **Pn** **18 09 14.3 +0.6**
KRMR *e*S **Sb** **18 09 35.7 -0.6**
KRMR Karymshinskiy 1.67 292 PN **Pn** **18 09 14.3 +0.6**
KRMR S **Sb** **18 09 35.7 -0.6**
KRX Arik 1.68 314 *e*P **Pb** **18 09 15.3 -0.6**
KRX Arik 1.68 314 PN **Pb** **18 09 15.3 -0.6**
ASAK Asacha 1.71 276 *e*P **Pn** **18 09 15.1 +0.7**
ASAK Asacha 1.71 276 PN **Pn** **18 09 15.1 +0.7**
PEA0B Petropavlovsk- 2.02 297 *e*Pn **Pn** **18 09 18.6 0.0**
PEA0B Petropavlovsk- 2.02 297 *e*PN **Pn** **18 09 18.6 0.0**
PETK Petropavlovsk- 2.02 297 *e*Pn **Pn** **18 09 18.7 +0.1**
PETK Sn **Sn** **18 09 43.7 +0.5**
PETK Petropavlovsk- 2.02 297 *e*PN **Pn** **18 09 18.7 +0.1**
PETK 18 09 43.7
PETK Petropavlovsk- 2.02 297 Pn **Pn** **18 09 19.5 +1.0**
comp=N,50nm,0.3s,baz=104,slow=17,SNR=438
PETK Sn **Sn** **18 09 43.7 +0.5**
comp=N,44nm,0.3s,baz=121,slow=26,SNR=5.8
PETK LR LR 18 09 52.0
comp=N,648nm,20.0s,baz=57,slow=38
PEA1 Petropavlovsk- 2.02 297 *e*Pn **Pn** **18 09 19.5 +0.9**
PEA1 *e*Sn **Sn** **18 09 43.7 +0.5**
APC Apacha 2.26 290 *e*P **Pn** **18 09 22.6 +0.8**
APC Apacha 2.26 290 PN **Pn** **18 09 22.6 +0.8**
MKZ Mys Kozlova 2.42 15 *e*P **Pn** **18 09 23.1 -0.9**
MKZ *e*S **Sn** **18 09 50.1 -2.9**
MKZ Mys Kozlova 2.42 15 PN **Pn** **18 09 23.1 -0.9**
PAU Pauzhetka 2.52 254 *e*P **Pn** **18 09 25.4 +0.1**
PAU Pauzhetka 2.52 254 PN **Pn** **18 09 25.4 +0.1**
KZV Kizimen 2.91 356 *e*P **Pn** **18 09 31.8 +1.0**
KZV Kizimen 2.91 356 PN **Pn** **18 09 31.8 +1.0**
TUMD Tumrok D 2.99 357 *e*P **Pn** **18 09 32.5 +0.6**
TUMR Tumrok 3.08 354 *e*P **Pn** **18 09 34.5 +1.3**
TUMR Tumrok 3.08 354 PN **Pn** **18 09 34.5 +1.3**
SKR Severo-Kuril's 3.24 243 *e*P **Pn** **18 09 34.7 -0.6**
SKR *e*S **Sn** **18 10 11.4 -1.9**
SKR Severo-Kuril's 3.24 243 *e*PN **Pn** **18 09 34.1 -1.2**
SKR pmax pmax
comp=Z,84nm,0.5s
ALID Alaid 3.48 249 *e*P **Pn** **18 09 39.1 +0.4**
ALID Alaid 3.48 249 PN **Pn** **18 09 39.1 +0.4**
LGNR Loginova 3.87 0 *e*P **Pn** **18 09 46.3 +2.1**
LGNR Loginova 3.87 0 PN **Pn** **18 09 46.3 +2.1**
KOZ Kozyrevsk 3.87 353 *e*P **Pn** **18 09 46.9 +2.9**
KOZ Kozyrevsk 3.87 353 PN **Pn** **18 09 46.9 +2.9**
ESO Esso 3.89 343 *e*P **Pn** **18 09 45.8 +1.6**
ESO Esso 3.89 343 PN **Pn** **18 09 45.8 +1.6**
KLY Klyuchi 4.10 360 *e*P **Pn** **18 09 49.9 +2.8**
KLY Klyuchi 4.10 360 PN **Pn** **18 09 49.9 +2.8**
SRDR Sredinnyy 4.14 353 *e*P **Pn** **18 09 48.6 +0.9**
SRDR Sredinnyy 4.14 353 PN **Pn** **18 09 48.6 +0.9**
KBTR Krutoberegovo 4.19 17 *e*P **Pn** **18 09 48.4 +0.1**
KBTR Krutoberegovo 4.19 17 PN **Pn** **18 09 48.4 +0.1**
BKI Bering 4.34 44 *e*P **Pn** **18 09 49.6 -0.7**
BKI *e*S **Sn** **18 10 34.5 -5.7**
BKI Bering 4.34 44 PN **Pn** **18 09 49.6 -0.7**
BDR Baidarnaya 4.37 4 *e*P **Pn** **18 09 53.4 +2.6**
BDR Baidarnaya 4.37 4 PN **Pn** **18 09 53.4 +2.6**
SMKR Semkarok 4.39 6 *e*P **Pn** **18 09 53.5 +2.3**
SMKR Semkarok 4.39 6 PN **Pn** **18 09 53.5 +2.3**
SRKR Sorokina 4.45 3 *e*P **Pn** **18 09 51.7 -0.3**
SRKR Sorokina 4.45 3 PN **Pn** **18 09 51.7 -0.3**
MA2 Magadan 9.22 327 *e*Pn **Pn** **18 10 57.2 -0.2**
MA2 Magadan 9.22 327 *i* PN **Pn** **18 10 58.2 +0.8**
MA2 pmax pmax
comp=Z,1.0nm,0.9s
MA2 Magadan 9.22 327 Pn **Pn** **18 10 58.1 +0.8**
comp=Z,0.2nm,0.3s,baz=151,slow=4.1,SNR=4.1
MA2 LR LR 18 15 17.3
comp=Z,262nm,19.0s,baz=146,slow=44
SEY Seymchan 11.61 341 *i* PN **Pn** **18 11 32.0 +2.0**
SEY Seymchan 11.61 341 Pn **Pn** **18 11 30.9 +0.9**
comp=Z,0.0nm,0.3s,baz=163,slow=12,SNR=4.6
NKL Nikolayevsk 12.17 282 *e*PN **P** **18 11 51.0 +0.9**
NKL MLR MLR
comp=N,700nm,14.0s
NKL MLR MLR
comp=Z,2μm,14.0s
YSS Yuzh-Sakhalins 12.76 253 *e*PN **Pn** **18 11 43.4 -2.3**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,800nm,15.0s
YSS MLR MLR
comp=E,500nm,12.0s
ASAJ Asahikawa 14.51 243 Pn **Pn** **18 12 09.4 -0.2**
comp=E,1.1nm,0.3s,baz=74,slow=12,SNR=14
ASAJ LR LR 18 18 39.4
comp=E,278nm,18.5s,baz=54,slow=41
GRNR Gornyy 15.16 274 *e*P **P** **18 12 22.3 -1.1**
GRNR pmax pmax
comp=Z,13nm,1.0s
BILL Bilibino 16.10 8 *e*Pn **Pn** **18 12 30.9 +0.5**
comp=Z,16nm,0.8s
BILL Bilibino 16.10 8 *e*P **Pn** **18 12 31.6 +1.2**
BILL pmax pmax
comp=Z,24nm,1.1s
BILL MLR MLR
comp=Z,236nm,17.0s
TEY Ternei 17.41 255‖ *e*P **P** **18 12 50.2 +1.9**
TEY pmax pmax
comp=Z,20nm,1.1s
TEY pmax pmax
comp=E,20nm,0.9s
YAK Yakutsk 19.29 313 *e*P **P** **18 13 06.1 -2.7**
YAK *e*S Sn 18 16 33.1 -12
YAK pmax pmax
comp=Z,356nm,0.9s
YAK pmax pmax
comp=E,154nm,1.1s
YAK pmax pmax
comp=N,86nm,1.0s
YAK smax smax
comp=N,368nm,4.0s
YAK smax smax
comp=E,105nm,1.7s
YAK MLR MLR
comp=Z,1μm,16.0s
YAK MLR MLR
comp=E,846nm,16.0s
YAK MLR MLR
comp=N,805nm,17.0s
ZEA Zeya 20.08 288 *e*P **P** **18 13 15.8 -1.8**
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA MLR MLR
comp=Z,800nm,15.0s
ZEA MLR MLR
comp=E,400nm,16.0s
USA0B Ussuriysk Arra 20.63 259 *e*P **P** **18 13 21.7 -1.9**
comp=E,15nm,1.0s
USA0B Ussuriysk Arra 20.63 259 *e*P **P** **18 13 21.7 -1.9**
USA0B pmax pmax
comp=Z,15nm,1.0s
USRK Ussuriysk Ar. 20.63 259 *e*P **P** **18 13 21.9 -1.7**
USRK Ussuriysk Ar. 20.63 259 *e*P **P** **18 13 21.9 -1.7**
USRK Ussuriysk Ar. 20.63 259 P **P** **18 13 22.2 -1.4**
comp=Z,9.3nm,0.8s,baz=59,slow=9.2,SNR=19
USRK LR LR 18 22 23.9
comp=Z,237nm,18.2s,baz=62,slow=40
MDJ Mudanjiang 21.86 262 P **P** **18 13 35.3 -1.5**
MDJ pP pP 18 13 42.3 +0.6
MDJ sP pwP 18 13 48.6 +3.0
MDJ S **S** **18 17 33.4 -3.9**
MDJ sS Sn 18 17 46.3 -1.1
MDJ Mudanjiang 21.86 262 *e*P **P** **18 13 35.1 -1.7**
comp=Z,14nm,1.1s
MAJO Matsushiro 22.30 234 *e*P **P** **18 13 41.8 +0.2**
comp=Z,22nm,0.9s
MAJO Matsushiro 22.30 234 *c i*P **P** **18 13 43.6 +1.9**
MAT Matsushiro 22.30 234 P **P** **18 13 41.9 +0.2**
MAT S **S** **18 17 45.4 -0.5**
MJAR Matsushiro Arr 22.30 234 *e*P **P** **18 13 41.8 +0.1**
MJAR Matsushiro Arr 22.30 234 *e*P **P** **18 13 41.8 +0.1**
MJAR Matsushiro Arr 22.30 234 P **P** **18 13 42.4 +0.7**
comp=Z,9.7nm,0.8s,baz=28,slow=8.4,SNR=33
MJAR LR LR 18 22 52.2
comp=Z,244nm,21.7s,baz=50,slow=38
MJB9 Matsu-Tunnel 22.30 234 *e*P **P** **18 13 41.9 +0.2**
comp=Z,22nm,0.9s
INU Inuyama 23.84 234 *e*P **P** **18 13 56.9 -0.4**
comp=Z,15nm,0.9s
TIXI Tiksi 24.02 336 *e*P **P** **18 13 56.8 -1.8**
TIXI Tiksi 24.02 336 *ce*P **P** **18 13 56.5 -2.2**
TIXI pmax pmax
comp=Z,15nm,1.0s
TIXI Tiksi 24.02 336 P **P** **18 13 57.7 -0.9**
comp=Z,11nm,0.8s,baz=125,slow=8.9,SNR=45
HIA Hailar 25.83 280 *e*P **P** **18 14 13.2 -2.1**
comp=Z,21nm,0.9s
HIA Hailar 25.83 280 *e*P **P** **18 14 13.2 -2.1**
HIA pmax pmax
comp=Z,21nm,0.9s
BOD Bodaibo 26.89 301 *e*P **P** **18 14 23.0 -1.8**
BOD pmax pmax
comp=Z,14nm,1.4s
KDAK Kodiak Island 26.93 59 LR LR 18 25 53.2
comp=Z,113nm,18.7s,baz=139,slow=38
KSRS Korea Array 27.24 250 P **P** **18 14 28.8 +0.8**
comp=Z,2.5nm,0.8s,baz=43,slow=9.2,SNR=10.0
KSRS LR LR 18 24 13.7
comp=Z,78nm,21.3s,baz=70,slow=34
KS15 Wonju Array Si 27.27 250 *e*P **P** **18 14 28.6 +0.2**
comp=Z,13nm,1.2s
KSAR Wonju Array Be 27.27 250 *e*P **P** **18 14 29.5 +1.1**
KSAR Wonju Array Be 27.27 250 *e*P **P** **18 14 29.5 +1.1**
SML Sawmill 28.63 50 *e*P **P** **18 14 41.6 +1.2**
comp=Z,6.1nm,0.7s
SML Sawmill 28.63 50 *e*P **P** **18 14 41.6 +1.2**
SML pmax pmax
comp=Z,6.0nm,0.7s
JNU Nakatsue 28.75 240 P **P** **18 14 44.6 +2.9**
comp=Z,3.9nm,0.7s,baz=25,slow=13,SNR=3.5
ILAR Eielson Array 29.18 44 P **P** **18 14 46.3 +1.0**
comp=Z,0.2nm,0.6s,baz=271,slow=10,SNR=3.1
BCAR Beaver Creek A 31.54 47 *e*P **P** **18 15 06.2 0.0**
H11N2 WAKE ISLAND Hy 32.79 169 T T 18 50 01.8
baz=350
H11N3 WAKE ISLAND Hy 32.80 169 T T 18 50 01.8
baz=350
H11N1 WAKE ISLAND Hy 32.81 169 T T 18 50 05.3
baz=350
ULN Ulaanbaatar 34.05 284 *ce*P **P** **18 15 26.7 -1.7**
ULN pmax pmax
comp=Z,4.0nm,1.3s
INK Inuvik 34.35 37 *e*P **P** **18 15 30.8 +0.3**
comp=Z,2.4nm,1.0s
INK Inuvik 34.35 37 *e*P **P** **18 15 30.8 +0.3**
INK pmax pmax
comp=Z,2.0nm,1.0s
INK Inuvik 34.35 37 P **P** **18 15 31.3 +0.9**
comp=Z,0.6nm,0.6s,baz=182,slow=5.6,SNR=3.8
TLY Talaya 34.38 292 *i* P **P** **18 15 29.7 -1.3**
SONA0 Songino Array 34.46 285 *e*P **P** **18 15 31.0 -0.8**
SONA0 *e*PcP **PcP** **18 18 07.8 +1.1**
SONM Songino Array 34.46 285 *e*P **P** **18 15 29.9 -2.0**
SONM PcP **PcP** **18 18 07.8 +1.1**
SONM Songino Array 34.46 285 *e*P **P** **18 15 29.9 -2.0**
SONM 18 18 07.8
SONM Songino Array 34.46 285 P **P** **18 15 31.0 -0.8**
comp=Z,0.9nm,0.6s,baz=85,slow=5.8,SNR=6.6
SONM PcP **PcP** **18 18 07.8 +1.1**
comp=Z,1.2nm,0.9s,baz=50,slow=2.3,SNR=4.4
SONM LR LR 18 31 20.9
comp=Z,425nm,18.8s,baz=63,slow=40
TIA Tai'an 34.48 260 P **P** **18 15 32.8 +0.8**
HHC Hu-ho-hao-te 35.00 271 *e*P **P** **18 15 36.5 -0.1**
HHC S **S** **18 21 07.4 0.0**
ZAK Zakamensk 35.13 290 *e*P **P** **18 15 36.2 -1.4**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
NJ2 Nanjing 36.33 253 *e*P **P** **18 15 47.1 -0.8**
NRIK Noril'sk 36.83 325 LR LR 18 31 51.7
comp=Z,124nm,19.9s,baz=58,slow=38
WHN Wuhan 40.08 256 *e*P **P** **18 16 21.8 +2.3**
XAN Xi'an 40.93 265 P P 18 16 17.8 -8.8
XAN pP pP 18 16 27.0 -4.7
LZH Lanzhou 42.70 271 *e*P **P** **18 16 37.8 -3.4**
LZH pP pwP 18 16 50.8 -0.4
LZH sP sP 18 16 55.4 +6.9
GTA Gaotai 43.07 278 *e*P **P** **18 16 43.0 -1.1**
GTA pP pwP 18 16 54.8 +0.7
GTA sP sP 18 16 59.5 +8.1
ZAA1 Zalesovo Array 43.55 304 *e*P **P** **18 16 45.7 -1.9**
ZAA0 Zalesovo Array 43.55 304 *e*P **P** **18 16 44.7 -2.9**
comp=Z,3.0nm,1.1s
ZALV Zalesovo Beam 43.55 304 *e*P **P** **18 16 45.1 -2.5**
ZALV Zalesovo Beam 43.55 304 P **P** **18 16 45.7 -1.9**
comp=Z,1.0nm,0.6s,baz=46,slow=8.5,SNR=7.9
ZALV LR LR 18 36 14.2
comp=Z,69nm,18.8s,baz=70,slow=38
YKA Yellowknife Ar 43.57 42 P **P** **18 16 47.8 +0.2**
comp=Z,0.9nm,1.1s,baz=300,slow=9.1,SNR=4.3
YKB5 Yellowknife Ar 43.57 42 *e*P **P** **18 16 47.8 +0.2**
NVS Novosibirsk 43.91 305‖ *i*P **P** **18 16 49.0 -1.4**
NVS pmax pmax
comp=Z,31nm,1.1s
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=E,20nm,1.2s
RES Resolute Bay 44.00 22 P **P** **18 16 52.0 +1.0**
RES Resolute Bay 44.00 22 P **P** **18 16 52.0 +1.0**
comp=E,0.7nm,0.6s,baz=334,slow=8.7,SNR=3.7
DGZ Jazzator, Alta 44.38 297 *d i*P **P** **18 16 53.8 -0.7**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
CD2 Chengdu 46.24 266 *e*P **P** **18 17 07.3 -2.1**
CMW Cultus Mountai 47.25 62 *e*P P 18 17 23.3 +6.2
WMQ Urumqi 47.60 290 *e*P **P** **18 17 21.3 +1.4**
WMQ pP pwP 18 17 31.0 +1.8
SPA0 Spitsbergen Ar 48.05 351 *e*P **P** **18 17 22.2 -0.7**
comp=Z,34nm,1.3s
SPITS Spitsbergen Ar 48.05 351 P **P** **18 17 23.2 +0.3**
SPITS pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 48.50 303 *e*P **P** **18 17 24.6 -2.0**
comp=Z,24nm,0.9s
KURK Kurchatov 48.50 303 *ce*P **P** **18 17 24.2 -2.4**
KURK pmax pmax
comp=Z,35nm,1.3s
MK31 Makanchi Array 48.86 297 *e*P **P** **18 17 27.4 -2.1**
comp=Z,2.6nm,1.0s
MK31 Makanchi Array 48.86 297 *e*P **P** **18 17 27.4 -2.1**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK32 Makanchi Array 48.86 297 *e*P **P** **18 17 28.3 -1.2**
MKAR Makanchi Array 48.86 297 *e*P **P** **18 17 27.4 -2.1**
MKAR Makanchi Array 48.86 297 P **P** **18 17 28.3 -1.2**
comp=Z,0.8nm,0.4s,baz=53,slow=6.2,SNR=20
MAKZ Makanchi 49.02 297 *e*P **P** **18 17 28.7 -2.0**
comp=Z,6.4nm,1.2s
MAKZ Makanchi 49.02 297 *e*P **P** **18 17 28.7 -2.0**
MAKZ pmax pmax
comp=Z,6.0nm,1.2s
KMI Kunming 51.03 261 P **P** **18 17 45.8 -0.7**
KMI pP pP 18 17 51.4 -0.4
BRVK Borovoye 51.24 309 *e*P **P** **18 17 46.1 -1.3**
comp=Z,10.0nm,0.8s
BRVK Borovoye 51.24 309‖ *i*P **P** **18 17 46.4 -1.0**
BRVK pmax pmax
comp=Z,12nm,0.9s
DAG Danmarks Havn 51.28 360 P **P** **18 17 48.7 +1.3**
DAG pmax pmax
comp=Z,6.0nm,0.9s
PDGK Podgornoye 52.57 295 P **P** **18 17 57.4 -0.2**
PDGK pmax pmax
comp=Z,5.0nm,1.0s
SLVN Son La 53.17 257 *e*P **P** **18 18 01.4 -0.8**
comp=Z,12nm,1.0s
OTUK Ortayu 53.25 304 P **P** **18 18 01.9 -0.6**
OTUK pmax pmax
comp=Z,11nm,0.9s
LVZ Lovozero 53.64 338 *e*P **P** **18 18 03.6 -1.4**
comp=Z,17nm,1.0s
LVZ Lovozero 53.64 338 *ce*P **P** **18 18 04.3 -0.8**
LVZ pmax pmax
comp=Z,37nm,2.5s
ARA0 ARCESS Array S 54.23 342 *e*P **P** **18 18 09.5 +0.2**
ARCES ARCESS Array B 54.23 342 P **P** **18 18 09.5 +0.2**
comp=Z,5.9nm,0.8s,baz=24,slow=9.3,SNR=10
ARU Arti 54.28 318 *e*P **P** **18 18 08.6 -1.2**
comp=Z,8.6nm,0.8s
ARU Arti 54.28 318 *d i*P **P** **18 18 09.2 -0.6**
ARU S **S** **18 25 43.6 -2.4**
ARU SS **SS** **18 29 24.6 -2.7**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU MLR MLR
comp=Z,100nm,14.0s
KDJ Kajisay 54.64 295 *e*P **P** **18 18 11.7 -1.2**
comp=Z,3.3nm,0.9s
KDJ Kajisay 54.64 295 *e*P **P** **18 18 11.7 -1.2**
KDJ pmax pmax
comp=Z,3.0nm,0.9s
BOOM Boomskoye usch 55.09 296 *e*P **P** **18 18 14.8 -1.4**
BOOM Boomskoye usch 55.09 296 *e*P **P** **18 18 14.8 -1.4**
NV01 Mina Array Sit 55.71 70 *e*P **P** **18 18 23.3 +2.6**
NVAR Mina Array Bea 55.71 70 *e*P **P** **18 18 20.9 +0.2**
NVAR Mina Array Bea 55.71 70 P **P** **18 18 23.3 +2.6**
comp=Z,1.5nm,0.7s,baz=288,slow=8.9,SNR=8.6
TMCR Tamitsa 55.72 333 *e*P **P** **18 18 20.4 +0.3**
TMCR pmax pmax
comp=Z,27nm,0.8s
AAK Ala-Archa 55.78 297 *i* P **P** **18 18 20.8 -0.3**
AAK pmax pmax
comp=Z,2.0nm,1.0s
AAK Ala-Archa 55.78 297 LR LR 18 43 36.7
comp=Z,107nm,18.5s,baz=20,slow=38
SKNT Sakolnakorn 56.50 254 P **P** **18 18 28.2 +1.9**
comp=Z,12nm,1.0s
MSF Maaselka 56.55 338 P **P** **18 18 26.8 +0.7**
MSF pmax pmax
comp=Z,20nm,1.2s
KSH Kashi 57.07 293 P **P** **18 18 32.1 +1.8**
KSH PcP **PcP** **18 19 29.1 +4.0**
KSH PP **PP** **18 20 41.4 +4.6**
KSH S **S** **18 26 24.1 +0.1**
KSH Kashi 57.07 293 SS **SS** **18 30 14.6 +2.4**
PAYA Payao 57.11 259 P **P** **18 18 32.5 +1.9**
comp=Z,28μm,0.8s,comp=Z,225μm
WORM Onyx Ranch 57.61 72 *e*P **P** **18 18 35.5 +1.4**
KK31 Karatay Array 57.62 300 *e*P **P** **18 18 32.6 -1.3**
comp=Z,4.3nm,1.0s
KK31 Karatay Array 57.62 300 *e*P **P** **18 18 32.7 -1.3**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 57.62 300 *e*P **P** **18 18 31.9 -2.1**
KKAR Karatay Array 57.62 300 *e*P **P** **18 18 31.9 -2.1**
PD31 Pinedale Array 57.64 61 *e*P **P** **18 18 35.3 +0.9**
comp=Z,2.6nm,1.0s
PDAR Pinedale Array 57.64 61 *e*P **P** **18 18 35.7 +1.3**
PDAR Pinedale Array 57.64 61 P **P** **18 18 36.3 +1.9**
comp=Z,0.5nm,0.5s,baz=316,slow=4.1,SNR=6.2
KHON Khomkaen 57.68 254 P **P** **18 18 37.4 +2.8**
KLMR Klimovskoe 57.88 330 *e*P **P** **18 18 34.7 -0.8**
KLMR pmax pmax
comp=Z,13nm,0.8s
UTTA Uttaradit 57.94 257 P **P** **18 18 38.1 +1.7**
comp=Z,23μm,0.9s
OUL Oulu 57.95 339 P **P** **18 18 36.6 +0.7**
OUL pmax pmax
comp=Z,16nm,2.2s
CMMT Chiang Mai 58.08 259 P **P** **18 18 38.6 +1.1**
CHTO Chiang Mai 58.09 259 *e*P **P** **18 18 38.0 +0.5**
comp=Z,13nm,0.8s
CHTO Chiang Mai 58.09 259 *e*P **P** **18 18 38.0 +0.5**
CHTO pmax pmax
comp=Z,13nm,0.8s
CM31 Chiang Mai Arr 58.36 259 *e*P **P** **18 18 39.4 0.0**
comp=Z,9.9nm,0.8s
CMAR Chiang Mai Arr 58.36 259 *e*P **P** **18 18 39.4 0.0**
CMAR Chiang Mai Arr 58.36 259 *e*P **P** **18 18 39.4 0.0**
CMAR Chiang Mai Arr 58.36 259 P **P** **18 18 40.9 +1.5**
comp=Z,7.7nm,0.8s,baz=23,slow=7.0,SNR=53
CMAR LR LR 18 46 15.6
comp=Z,78nm,18.7s,baz=46,slow=39
JOF Joensuu 58.51 335 P **P** **18 18 40.3 +0.5**
JOF pmax pmax
comp=Z,16nm,1.1s
ABKAR Akbulak array 58.63 311 *e*P **P** **18 18 39.2 -1.7**
JIRN Jiri 59.34 276 *e*P **P** **18 18 45.8 -0.8**
comp=Z,18nm,0.9s
RAMN Ramite 59.60 276 *e*P **P** **18 18 47.4 -0.8**
comp=Z,20nm,0.6s
BRDH Bariadhala 59.63 268 LR LR 18 45 22.5
comp=Z,113nm,18.2s,baz=174,slow=37
KKN Kakani 59.80 277 *e*P **P** **18 18 49.7 +0.1**
comp=Z,15nm,0.6s
PKI Pulchoki 59.88 277 *e*P **P** **18 18 49.8 -0.5**
comp=Z,6.9nm,0.6s
PKIN Phulchoki 59.88 277 *e*P **P** **18 18 49.8 -0.4**
comp=Z,6.8nm,0.6s
SUF Sumiainen 59.94 338 P **P** **18 18 50.6 +0.9**
SUF pmax pmax
comp=Z,27nm,1.1s
DMN Daman 60.04 277 *e*P **P** **18 18 51.2 -0.1**
comp=Z,14nm,0.6s
GKN Gorkha 60.04 278 *e*P **P** **18 18 51.2 +0.1**
comp=Z,12nm,0.7s
DANN Dangsing 60.32 279 *e*P **P** **18 18 53.1 -0.1**
comp=Z,16nm,0.7s
GAR Garm 60.59 297 *e*P **P** **18 18 51.7 -3.0**
comp=Z,10nm,0.8s
GAR Garm 60.59 297 *e*P **P** **18 18 51.7 -3.0**
GAR pmax pmax
comp=Z,10.0nm,0.8s
PYUN Piuthan 60.97 279 *e*P **P** **18 18 57.3 -0.3**
comp=Z,13nm,0.7s
FIA1 FINESS Array S 61.06 337 *e*P **P** **18 18 56.9 -0.5**
comp=Z,17nm,1.0s
FIA0 FINESS Array S 61.06 337 *e*P **P** **18 18 58.0 +0.6**
FIA0 FINESS Array S 61.06 337 *e*P **P** **18 18 58.0 +0.6**
FINES FINESS Array B 61.06 337 P **P** **18 18 58.0 +0.6**
FINES FINESS Array B 61.06 337 *i* P **P** **18 18 57.7 +0.3**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 61.06 337 P **P** **18 18 58.0 +0.6**
comp=Z,7.9nm,0.8s,baz=43,slow=8.6,SNR=22
FINES LR LR 18 49 04.1
comp=Z,69nm,18.1s,baz=26,slow=40
HNR Honiara 61.41 181 LR LR 18 42 18.5
comp=Z,34nm,19.6s,baz=54,slow=33
NIL Nilore 62.75 290 *e*P **P** **18 19 07.5 -1.7**
comp=Z,9.9nm,0.8s
NIL Nilore 62.75 290 *e*P **P** **18 19 07.6 -1.7**
NIL pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 63.44 328 *e*P **P** **18 19 12.7 -0.7**
OBN *e* 18 19 49.0
OBN *e* 18 21 32.6
OBN pmax pmax
comp=Z,14nm,0.5s
OBN MLR MLR
comp=Z,51nm,17.0s
VSU Vasula 63.49 335 *ce*P **P** **18 19 14.0 +0.3**
VSU pmax pmax
comp=Z,39nm,1.0s
NC405 NORSAR Array S 64.32 344 *e*P **P** **18 19 18.9 -0.3**
comp=Z,65nm,1.9s
NC204 NORSAR Array S 64.33 344 *e*P **P** **18 19 18.9 -0.4**
comp=Z,14nm,0.9s
NB201 NORSAR Array S 64.45 344 *e*P **P** **18 19 20.1 0.0**
comp=Z,85nm,1.8s
NB2 NORSAR Subarra 64.48 344 P **P** **18 19 20.1 -0.1**
comp=Z,2.2nm,0.7s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.48 344 P **P** **18 19 20.3 +0.1**
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NB200 NORSAR Array S 64.48 344 *e*P **P** **18 19 20.1 -0.1**
NOA NORSAR Array B 64.48 344 P **P** **18 19 20.1 -0.1**
comp=Z,3.0nm,0.8s,baz=22,slow=6.6,SNR=15
NOA LR LR 18 49 32.0
comp=Z,44nm,20.7s,baz=20,slow=38
LPSR Galich'ya Gora 64.70 325 *e*P **P** **18 19 21.3 -0.5**
LPSR pmax pmax
comp=Z,30nm,1.0s
VRH Novokhopyorsk 64.82 323 *e*P **P** **18 19 21.6 -0.9**
VRH pmax pmax
comp=Z,20nm,0.7s
KSM Kuching 65.65 238 *e*P **P** **18 19 27.6 -0.8**

comp=Z,5.7nm,1.0s
VSR Storozhevoye 65.75 324 *e*P **P 18 19 27.2 -1.4**
VSR pmax pmax
comp=Z,7.0nm,0.5s
GEYT Alibeck 67.86 304 P **P 18 19 42.2 -0.2**
comp=Z,3.6nm,0.7s,baz=343,slow=3.1,SNR=9.6
GYA0B ALIBECK ARRAY 67.86 304 *e*P **P 18 19 41.8 -0.6**
comp=Z,5.5nm,0.6s
AKASG Malin Array Be 69.54 329 P **P 18 19 52.5 -0.1**
comp=Z,7.2nm,0.7s,baz=30,slow=6.6,SNR=26
KIEV Kiev 69.56 329 *e*P **P 18 19 51.6 -1.0**
comp=Z,14nm,1.0s
KIEV Kiev 69.56 329⇑*i*P **P 18 19 52.1 -0.5**
KIEV Kiev 69.56 329*c i*P **P 18 19 52.0 -0.5**
KIEV pmax pmax
comp=Z,18nm,1.2s
KIV Kislovodsk 70.32 317 *e*P **P 18 19 58.8 +1.3**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,167nm,18.0s
KBZ Khabaz 70.42 317 P **P 18 19 58.8 +0.8**
comp=Z,7.4nm,0.9s,baz=83,slow=1.8,SNR=18
LTX Lajitas 70.65 67 *e*P **P 18 20 01.4 +1.7**
LTX Lajitas 70.65 67 *e*P **P 18 20 01.5 +1.7**
TXAR Lajitas Array 70.65 67 *e*P **P 18 20 00.1 +0.3**
TXAR Lajitas Array 70.65 67 *e*P **P 18 20 00.1 +0.3**
TXAR Lajitas Array 70.65 67 P **P 18 20 01.5 +1.7**
comp=Z,0.6nm,0.5s,baz=297,slow=5.4,SNR=9.6
ZEI Tsey 70.76 316 *e*P **P 18 19 57.2 -3.2**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
HYB Hyderabad 71.64 275 *i*P **P 18 20 06.0 +0.2**
AKH Akhalkalaki 72.06 315 *e*P **P 18 20 06.9 -1.3**
comp=Z,11nm,1.1s
AKH Akhalkalaki 72.06 315⇑*i*P **P 18 20 08.4 +0.2**
AKH Akhalkalaki 72.06 315 *e*P **P 18 20 06.9 -1.3**
AKH pmax pmax
comp=Z,11nm,1.1s
KWP Kalwaria Pacla 72.43 333 *e*P **P 18 20 10.6 +0.5**
comp=Z,356nm,0.4s
KWP Kalwaria Pacla 72.43 333 *e*P **P 18 20 10.6 +0.5**
KWP pmax pmax
comp=Z,356nm,0.4s
GNI Garni 72.53 314*ce*P **P 18 20 11.8 +0.7**
GNI pmax pmax
comp=Z,50nm,1.0s
GNI Garni 72.53 314 P **P 18 20 12.5 +1.5**
comp=Z,3.9nm,0.6s,baz=325,slow=11,SNR=2.3
BCA Borcka 72.83 317⇑*i*P **P 18 20 11.9 -0.7**
KOLS Kolonicke sedl 73.18 333 *e*P **P 18 20 15.0 +0.4**
KOLS pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 73.18 333 *e*P **P 18 20 15.0 +0.4**
CLL Collm 73.30 339 *e*P **P 18 20 15.5 +0.3**
comp=Z,7.6nm,1.0s
CLL Collm 73.30 339 *e*P **P 18 20 15.5 +0.3**
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 73.30 339⇑*i*P **P 18 20 15.5 +0.3**
comp=Z,9.0nm,1.0s
CLL *i*pP **pwP 18 20 26.4 +1.0**
CLL *i* 18 20 35.0
DPC Dobruska-Polom 73.43 337 *e*P **P 18 20 17.2 +1.1**
DPC *e* 18 20 28.6
DPC MLR MLR
comp=Z,100nm,16.4s
DPC Dobruska-Polom 73.43 337 *e*P **P 18 20 17.2 +1.1**
DPC *ep*P **pwP 18 20 28.6 +2.3**
DPC AMS AMS 18 59 00.0
comp=Z,100nm,16.4s
BUR08 Bucovina Ar. S 73.49 330 *e*P **P 18 20 15.8 -0.7**
comp=Z,5.7nm,0.8s
BRG Berggiesshubel 73.50 339 *e*P **P 18 20 16.2 -0.2**
comp=Z,5.2nm,1.2s
BRG Berggiesshubel 73.50 339 *e*P **P 18 20 16.2 -0.2**
BRG pmax pmax
comp=Z,5.0nm,1.2s
BURAR Bucovina Array 73.51 330 *e*P **P 18 20 16.2 -0.4**
BURAR Bucovina Array 73.51 330⇑*i*P **P 18 20 17.0 +0.4**
MORC Moravsky Berou 73.67 336 *e*P **P 18 20 17.6 +0.1**
comp=Z,5.8nm,0.9s
MORC Moravsky Berou 73.67 336⇑*i*P **P 18 20 18.6 +1.1**
MORC Moravsky Berou 73.67 336 *e*P **P 18 20 17.6 +0.1**
MORC pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 73.67 336 *e*P **P 18 20 18.2 +0.7**
PVCC Panska Ves 73.68 338 AMS AMS 18 58 10.0
comp=Z,100nm,15.0s
LANS Liptovska Anna 73.75 335 *e*P **P 18 20 20.0 +2.1**
LANS Liptovska Anna 73.75 335 *e*P **P 18 20 20.0 +2.1**
TRPA Tarpa 73.83 332⇑*i*P **P 18 20 19.0 +0.6**
TRPA Tarpa 73.83 332 *e*P **P 18 20 19.0 +0.6**
TESR Tescani 74.04 329⇑*i*P **P 18 20 19.5 -0.2**
PRU Pruhonice 74.19 338 *e*P **P 18 20 21.3 +0.9**
PRU MLR MLR
comp=Z,100nm,14.4s
PRU Pruhonice 74.19 338 *e*P **P 18 20 21.3 +0.9**
PRU AMS AMS 18 59 20.0
comp=Z,100nm,14.4s
GOPC GO Pecny, Ondr 74.20 338 AMS AMS 18 59 10.0
comp=Z,100nm,13.2s
MOX Moxa 74.22 340 P **P 18 20 23.2 +2.6**
MOX pmax pmax
comp=Z,4.0nm,1.0s
VRAC Vranov 74.34 337⇑*i*P **P 18 20 21.9 +0.6**
VRAC Vranov 74.34 337 *e*P **P 18 20 21.9 +0.6**
JAVC Velka Javorina 74.48 336 *e*P **P 18 20 23.9 +1.6**
VYHS Vyhne 74.52 335 *e*P **P 18 20 23.3 +0.9**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 74.52 335 *e*P **P 18 20 23.3 +0.9**
VRI Vrincioaia 74.59 329⇓*i*P **P 18 20 23.4 +0.5**
KRUC Moravsky 74.61 337 *e*P **P 18 20 23.5 +0.6**
TREC Trest 74.62 337 AMS AMS 18 59 50.0
comp=Z,200nm,17.2s
PSZ Piszkesteto 74.77 334 *e*P **P 18 20 24.8 +0.9**
comp=Z,4.1nm,0.8s
PSZ Piszkesteto 74.77 334 *e*P **P 18 20 24.8 +0.9**
PSZ pmax pmax
comp=Z,4.0nm,0.8s
PSZ Piszkesteto 74.77 334 *e*P **P 18 20 25.1 +1.1**
DOPR Dopca 74.93 329⇑*i*P **P 18 20 24.6 -0.2**
DRGR 75.00 332⇑*i*P **P 18 20 25.8 +0.5**
MODS Modra-Piesok 75.03 336 *e*P **P 18 20 26.4 +1.0**
MODS Modra-Piesok 75.03 336 *e*P **P 18 20 26.4 +1.0**
MLR Muntele Rosu 75.18 329 *e*P **P 18 20 25.4 -1.0**
comp=Z,6.9nm,0.7s
MLR Muntele Rosu 75.18 329⇑*i*P **P 18 20 26.6 +0.2**
MLR Muntele Rosu 75.18 329 *e*P **P 18 20 25.4 -1.0**
MLR pmax pmax
comp=Z,7.0nm,0.7s
KHC Kasperske Hory 75.21 338 *e*P **P 18 20 26.1 -0.4**
comp=Z,4.1nm,1.3s
KHC Kasperske Hory 75.21 338 *e*P **P 18 20 26.1 -0.4**
KHC pmax pmax
comp=Z,4.0nm,1.3s
KHC Kasperske Hory 75.21 338 *e*P **P 18 20 27.5 +1.1**
KHC *ep*P **PcP 18 20 39.1 -0.8**
KHC AMS AMS 18 59 10.0
comp=Z,200nm,13.8s
MEM Membach 75.32 344⇓P **P 18 20 28.1 +1.1**
comp=Z,14nm,0.9s
WET Wettzell 75.36 339 P **P 18 20 29.4 +2.1**
WET pmax pmax
comp=Z,7.0nm,1.0s
WR1 Warramunga Arr 75.44 206 *e*P **P 18 20 28.4 +0.4**
WRA Warramunga Arr 75.44 206 P **P 18 20 28.4 +0.4**
comp=Z,1.5nm,1.1s,baz=197,slow=19,SNR=4.9
GEC2 GERESS Array S 75.45 338 *e*P **P 18 20 28.1 +0.2**
comp=Z,6.1nm,1.4s
GEC2 GERESS Array S 75.45 338 *e*P **P 18 20 28.1 +0.2**
GEC2 pmax pmax
comp=Z,6.0nm,1.4s
GERES GERESS Array B 75.45 338 *e*P **P 18 20 27.6 -0.3**
GERES GERESS Array B 75.45 338 *e*P **P 18 20 27.6 -0.3**
GERES GERESS Array B 75.45 338 P **P 18 20 28.1 +0.2**
comp=Z,0.9nm,0.5s,baz=36,slow=5.4,SNR=13
GERES LR LR 18 58 11.0
comp=Z,37nm,18.0s,baz=38,slow=39
VOIR 75.51 329⇑*i*P **P 18 20 29.2 +0.9**
BCLA Clavier 75.63 344⇓P **P 18 20 28.1 -0.6**
CSKK Cskako 75.71 335 *e*P **P 18 20 29.1 -0.2**
SIRR Siria 75.78 332⇑*i*P **P 18 20 29.7 0.0**
CONA Conrad Observa 75.80 336 *i*P **P 18 20 31.9 +2.0**
comp=Z,6.5nm,1.2s
GIVF Givet 76.01 344 *e*P **P 18 20 31.0 +0.1**
GIVF pmax pmax
comp=Z,1.0nm,0.2s
BAIF Baives 76.16 345 *e*P **P 18 20 32.0 +0.3**
BAIF pmax pmax
comp=Z,28nm,1.7s
GZR Gura Zlata 76.24 331⇑*i*P **P 18 20 32.9 +0.5**
MOA Molln 76.26 337 *i*P **P 18 20 33.3 +0.9**
comp=Z,2.5nm,0.9s
147A Livingston 76.28 54 *e*P **P 18 20 33.9 +1.2**
comp=Z,2μm,1.1s
ILGA Ilgaz 76.35 322 *e*P **P 18 20 33.2 -0.1**
comp=Z,16nm,0.9s
BZS Buzias 76.38 332⇑*i*P **P 18 20 33.5 +0.4**
ARSA Arzberg 76.51 336 *e*P **P 18 20 34.8 +1.0**
comp=Z,4.0nm,1.2s
HERR Herculane 76.81 331⇑*i*P **P 18 20 36.1 +0.5**
BEHE Becsehely 76.92 335 *e*P P 18 20 46.1 +10
BFO Black Forest 77.08 341 *i*P **P 18 20 38.4 +1.3**
SOKA Soboth 77.17 337 *i*P **P 18 20 38.6 +1.0**
comp=Z,5.4nm,0.9s
KBA Koelnbreinsper 77.20 338 *i*P **P 18 20 39.5 +1.5**
comp=Z,16nm,0.8s
CDF Champ du Feu 77.21 342 *e*P **P 18 20 38.1 +0.3**
CDF pmax pmax
comp=Z,8.0nm,1.0s
WATA Walderalm 77.35 339 *i*P **P 18 20 40.8 +2.0**
comp=Z,3.8nm,0.8s
WTTA Wattenberg 77.41 339 *e*P **P 18 20 39.9 +0.7**
comp=Z,4.8nm,0.9s
ECH Echery 77.42 342 *e*P **P 18 20 38.3 -0.7**
comp=Z,4.7nm,0.9s
ECH Echery 77.42 342 *e*P **P 18 20 38.3 -0.7**
ECH pmax pmax
comp=Z,5.0nm,0.9s
MOTA Moosalm 77.45 339 *i*P **P 18 20 40.3 +1.0**
comp=Z,18nm,1.5s
BR101 Keskin Array S 77.52 321 *e*P **P 18 20 40.3 +0.5**
BR131 Keskin Array S 77.52 321 *e*P **P 18 20 39.5 -0.3**
comp=Z,4.6nm,0.9s
BR131 Keskin Array S 77.52 321 *e*P **P 18 20 39.5 -0.3**
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 77.52 321 *e*P **P 18 20 39.0 -0.8**
BRTR Keskin Array B 77.52 321 P **P 18 20 40.3 +0.5**
comp=Z,3.4nm,1.0s,baz=46,slow=3.6,SNR=18
BRTR LR LR 19 01 10.8
comp=Z,23nm,18.3s,baz=40,slow=41
SQTA Sankt Quirin 77.54 339 *e*P **P 18 20 41.0 +1.2**
comp=Z,7.7nm,1.0s
MYKA Terra Mystica 77.55 337 *i*P **P 18 20 41.1 +1.3**
comp=Z,5.4nm,1.3s
ABTA Abfaltersbach 77.70 338 *i*P **P 18 20 42.1 +1.5**
comp=Z,9.7nm,1.2s
HAU Haudompre 77.77 343 *e*P **P 18 20 41.1 +0.2**
HAU pmax pmax
comp=Z,5.0nm,0.8s
FETA Feichten 77.84 339 *e*P **P 18 20 41.6 +0.1**
comp=Z,6.3nm,1.0s
PALK Pallekele 78.15 267 *e*P **P 18 20 44.8 +1.3**
comp=Z,44nm,1.4s
PALK Pallekele 78.15 267 *e*P **P 18 20 44.8 +1.3**
PALK pmax pmax
comp=Z,44nm,1.4s
PALK Pallekele 78.15 267 P **P 18 20 44.9 +1.3**
VTS Vitosha 78.61 329 *e*P **P 18 20 45.5 -0.4**
comp=Z,4.1nm,0.8s
VTS Vitosha 78.61 329⇑*i*P **P 18 20 45.0 -0.9**
VTS Vitosha 78.61 329 *e*P **P 18 20 45.5 -0.4**
VTS pmax pmax
comp=Z,4.0nm,0.8s
TUE Stuetta 78.65 340 *e*P **P 18 20 46.7 +0.6**
comp=Z,7.2nm,0.8s
SGMF Saint Gilles 78.88 349 *e*P **P 18 20 47.2 +0.2**
SGMF pmax pmax
comp=Z,33nm,1.4s
ROSF Rostrenen 78.89 349 *e*P **P 18 20 45.3 -1.7**
ROSF pmax pmax
comp=Z,35nm,1.3s
LOR Lormes 78.92 344 *e*P **P 18 20 47.4 +0.1**
LOR pmax pmax
comp=Z,5.0nm,0.9s
ASAR Alice Springs 79.11 205 P **P 18 20 49.1 +0.6**
comp=Z,0.6nm,0.8s,baz=12,slow=5.0,SNR=7.8
SSF Saint Saulge 79.18 344 *e*P **P 18 20 48.9 +0.2**
SSF pmax pmax
comp=Z,4.0nm,0.9s
ALN Alexandroupoli 79.25 327 *e*P **P 18 20 49.1 0.0**
comp=Z,5.0nm,1.2s
ALN Alexandroupoli 79.25 327 *e*P **P 18 20 49.1 0.0**
ALN pmax pmax
comp=Z,5.0nm,1.2s
AVF Avril sur Loir 79.47 344 *e*P **P 18 20 50.6 +0.4**
AVF pmax pmax
comp=Z,6.0nm,0.9s
SMF Signal de Mont 79.53 344 *e*P **P 18 20 50.9 +0.3**
SMF pmax pmax
comp=Z,5.0nm,1.0s
SRS Serrai 79.86 328 P **P 18 20 54.6 +2.1**
LPL La Plagne 80.09 342 *e*P **P 18 20 55.1 +1.1**
LPL pmax pmax
comp=Z,14nm,1.0s
LPG La Plagne 80.11 342 *e*P **P 18 20 55.3 +1.2**
LPG pmax pmax
comp=Z,8.0nm,0.8s
TCF Toulx Ste Croi 80.14 345 *e*P **P 18 20 54.4 +0.4**
TCF pmax pmax
comp=Z,6.0nm,1.1s
GRG Griva 80.38 329 P **P 18 20 58.4 +3.0**
ORIF Oris-en-Rattie 80.83 342 *e*P **P 18 20 58.9 +1.1**
ORIF pmax pmax
comp=Z,9.0nm,0.9s
MBDF Montbardon 80.84 341 *e*P **P 18 20 59.9 +2.0**
MBDF pmax pmax
comp=Z,59nm,2.1s
VIVF Saint-Julien-l 81.11 343 *e*P **P 18 21 00.2 +1.0**
VIVF pmax pmax
comp=Z,6.0nm,1.0s
CAF Calviac 81.49 345 *e*P **P 18 21 02.4 +1.2**
CAF pmax pmax
comp=Z,11nm,1.1s
LFF La Frestale 81.68 346 *e*P **P 18 21 03.5 +1.3**
LFF pmax pmax
comp=Z,3.0nm,0.5s
MMAI Mount Meron Ar 82.58 316 P **P 18 21 07.9 +0.7**
comp=Z,6.4nm,0.8s,baz=32,slow=6.9,SNR=11
ASF Jabal al Asfar 82.66 315 P **P 18 21 08.2 +0.6**
comp=Z,1.3nm,0.4s,baz=57,slow=0.8,SNR=6.4
MTLF Montolieu 83.01 344 *e*P **P 18 21 10.3 +1.2**
MTLF pmax pmax
comp=Z,8.0nm,1.0s
ETSF Etsaut 83.87 346 *e*P **P 18 21 15.0 +1.3**
ETSF pmax pmax
comp=Z,16nm,1.4s
ESDC Sonseca Array 87.51 348 *e*P **P 18 21 31.8 0.0**
ESDC Sonseca Array 87.51 348 P **P 18 21 32.2 +0.5**
comp=Z,1.4nm,0.8s,baz=6.1,slow=4.7,SNR=8.5
TOA1 Torodi Ar. Sit 112.40 338 *e*PP **PP 18 28 02.6 -2.4**
TORD Torodi Ar. Bea 112.41 338 PP **PP 18 28 02.6 -2.5**
comp=Z,0.4nm,0.8s,baz=349,slow=5.9,SNR=5.2

NEIC ***20*** *18:17:40.6±0.0, 19°.19N×66°.66W, h28km, MD3.2(RSPR), After RSPR.*
RSPR 20 18:17:40.6, 19°.19N×66°.66W, h28km±6km, MD3.2/8, 7C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.72**	**170**	⇑*e*P	Pb	18 17 52.9	-1.6
EMPR	**Esperanza - Ma**	**0.72**	**170**	*e*S	Sb	18 18 02.5	-1.6
EMPR	**Esperanza - Ma**	**0.72**	**170**	*e*Pg	Pb	18 17 52.8	-1.8
EMPR				*e*Pg	Pn	18 17 52.9	-1.9
EMPR				*e*Sn	Sb	18 18 02.5	-1.6
AOPR	**Arecibo Observ**	**0.84**	**186**	⇑*e*P	Pn	18 17 54.5	-2.1
AOPR	**Arecibo Observ**	**0.84**	**186**	*e*S	Sb	18 18 05.3	-2.4
AOPR	**Arecibo Observ**	**0.84**	**186**	*e*Pn	Pn	18 17 54.5	-2.1
AOPR				*e*S	Sb	18 18 05.3	-2.4
AGP	**Aguadilla**	**0.90**	**211**	*e*Pn	Pn	18 17 54.4	-2.9
MPR	**Mayaguez**	**1.07**	**205**	*e*Pn	Pn	18 17 55.9	-3.8
CELP	**Cerrillos**	**1.11**	**176**	⇑*e*P	Pn	18 17 58.3	-1.9
CELP	**Cerrillos**	**1.11**	**176**	*e*Pn	Pn	18 17 58.3	-1.9
OBIP	**Obispado Ponce**	**1.14**	**177**	*e*Pn	Pn	18 17 58.4	-2.2
SJG	**San Juan**	**1.18**	**156**	*e*Pn	Pn	18 17 59.6	-1.5
CBYP	**Canovanas**	**1.19**	**140**⇑	*e*P	Pn	18 17 59.0	-2.3
CBYP	**Canovanas**	**1.19**	**140**	*e*Pn	Pn	18 17 58.9	-2.4
CRPR	**Cabo Rojo, PR**	**1.25**	**200**	*e*Pn	Pn	18 18 00.2	-2.0
HUMP	**Col San Antoni**	**1.29**	**143**⇑	*e*P	Pn	18 18 01.0	-1.7
HUMP	**Col San Antoni**	**1.29**	**143**	*e*S	Sn	18 18 16.7	-2.4
HUMP	**Col San Antoni**	**1.29**	**143**	*e*Pn	Pn	18 18 00.7	-2.0
HUMP				*e*S	Sn	18 18 16.7	-2.4
MTP	**Monte Pirata**	**1.51**	**136**	*e*S	Sn	18 18 22.4	-2.1
MTP	**Monte Pirata**	**1.51**	**136**⇑	*e*P	Pn	18 18 03.8	-1.9
MTP	**Monte Pirata**	**1.51**	**136**	*e*Pn	Pn	18 18 03.5	-2.2
MTP				*e*S	Sn	18 18 22.4	-2.1
CUPR	**Culebra, Puert**	**1.57**	**124**	*e*Pn	Pn	18 18 05.0	-1.6
STVI	**Saint Thomas**	**1.82**	**117**	*e*S	Sn	18 18 30.0	-2.1
STVI	**Saint Thomas**	**1.82**	**117**⇑	*e*P	Pn	18 18 08.3	-1.7
STVI	**Saint Thomas**	**1.82**	**117**	*e*Pn	Pn	18 18 08.1	-1.9
STVI				*e*S	Sn	18 18 30.0	-2.1
SDDR	**Presa de Saban**	**4.38**	**268**	*e*Pn	Pn	18 18 43.8	-1.5

DSN ***20*** *18:20:22.1±3.2, 26°.78N×58°.03E, h10km, ML3.8/8, Error ellipse: s-maj=46.1km s-min=12.9km az=1.0*
OMAN ***20*** *18:20:23.6±3.0, 26°.70N×58°.08E, h18km, ml3.7/10, Error ellipse: s-maj=29.6km s-min=18.9km az=66.0*
IDC ***20*** *18:20:24.1±1.3, 26°.43N×57°.41E, h0km, mb3.6/13, mb1 3.7/14, mb1mx3.5/60, mbtmp3.6/14, ML3.7/1, Error ellipse: s-maj=26.4km s-min=20.0km az=160.0*
ISCJB ***20*** *18:20:25.1±0.4, 26°.64N±0°.03×57°.74E±0°.05, h10km, mb3.7/17, Error ellipse: s-maj=6.3km s-min=3.7km az=2.1*
TEH ***20*** *18:20:26.5, 26°.66N×57°.68E, h23km, ML3.8*
ISC 20 18:20:24.5±0.6, 26°.62N±0°.04×57°.91E±0°.05, h10km, n60, σ1§94/63, mb3.7/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**0.98**	**187**	*e*Pg	**Pn**	**18 20 46.5**	**+2.1**
NIAN	**Nian**	**1.34**	**315**	*e*Pg	**Pn**	**18 20 48.9**	**-0.4**
NIAN				IAMB	IAmb	18 21 15.6	
comp=Z,0.0nm,0.6s							
SHME	**Shamm**	**1.69**	**251**	*e*P	**Pn**	**18 20 53.9**	**-0.2**
SNR=44							
SHME				S	**Sn**	**18 21 18.1**	**+2.3**
SHME	**Shamm**	**1.69**	**251**	*e*Pn	**Pn**	**18 20 56.5**	**+2.4**
GENO	**Geno**	**1.74**	**297**	*e*Pn	**Pn**	**18 20 55.0**	**+0.1**
GENO				IAMB	IAmb	18 20 58.1	
comp=Z,0.0nm,0.4s							
GENO				*e*Sg	**Sb**	**18 21 20.5**	**+2.0**
MSFE	**Esma-Masafi**	**2.02**	**232**	*e*P	**Pn**	**18 20 57.1**	**-1.5**
SNR=16							
MSFE	**Esma-Masafi**	**2.02**	**232**	*e*Pn	**Pn**	**18 20 59.7**	**+1.1**
UMQ	**Umm Al-Quwin**	**2.30**	**242**	*e*Pn	**Pn**	**18 21 05.2**	**+2.8**
HATD	**Hatta, Dubai**	**2.40**	**222**	*e*P	**Pn**	**18 21 03.4**	**-0.5**
SNR=8.2							
CHBR	**Chabahar**	**2.52**	**113**	*e*Pn	**Pg**	**18 21 13.0**	**+0.1**
ASHO	**Ashiyiah**	**2.55**	**221**	*e*P	**Pn**	**18 21 05.7**	**-0.2**
SNR=8.8							
ASHO	**Ashiyiah**	**2.55**	**221**	P	**Pn**	**18 21 06.9**	**+0.9**
SNR=12							
ASHO	**Ashiyiah**	**2.55**	**221**	*e*Pn	**Pn**	**18 21 05.2**	**-0.8**
NAZ	**Nazwa, Dubai**	**2.60**	**232**	*e*P	**Pn**	**18 21 07.3**	**+0.7**
SNR=12							
NAZ	**Nazwa, Dubai**	**2.60**	**232**	P	**Pn**	**18 21 09.2**	**+2.6**
SNR=7.9							
NAZ	**Nazwa, Dubai**	**2.60**	**232**	*e*Pn	**Pn**	**18 21 09.9**	**+3.3**
SOHO	**SOHO**	**2.77**	**207**	P	**Pn**	**18 21 07.1**	**-1.9**
FAQ	**Al Faqa, Dubai**	**2.80**	**229**	*e*P	**Pn**	**18 21 09.2**	**-0.2**
SNR=15							
FAQ	**Al Faqa, Dubai**	**2.80**	**229**	P	**Pn**	**18 21 10.6**	**+1.2**
SNR=5.3							
FAQ	**Al Faqa, Dubai**	**2.80**	**229**	*e*Pn	**Pn**	**18 21 11.4**	**+2.0**
ASUD	**Al Ashush, Dub**	**3.06**	**230**	*i*P	**Pn**	**18 21 15.1**	**+2.1**
SNR=12							
ASUD	**Al Ashush, Dub**	**3.06**	**230**	P	**Pn**	**18 21 14.9**	**+1.9**
SNR=12							
ASUD	**Al Ashush, Dub**	**3.06**	**230**	*e*Pn	**Pn**	**18 21 15.1**	**+2.1**
NGRK	**Negar Kerman**	**3.19**	**341**	*e*Pn	**Pn**	**18 21 16.5**	**+1.4**
NGRK				IAMB	IAmb	18 21 22.4	
comp=Z,0.0nm,0.3s							
ALNE	**Al Ain**	**3.21**	**218**	*i*P	**Pn**	**18 21 16.2**	**+1.1**
SNR=8.8							
ALNE	**Al Ain**	**3.21**	**218**	*e*Pn	**Pn**	**18 21 16.5**	**+1.4**
CHMN	**Cheshme madani**	**3.25**	**354**	*e*Pn	**Pn**	**18 21 18.4**	**+2.6**
CHMN				IAMB	IAmb	18 22 17.0	
comp=Z,0.0nm,1.1s							
WSAR	**Wadi Sarin**	**3.43**	**169**	Pn	**Pn**	**18 21 18.9**	**+0.9**
comp=Z,8.2nm,0.3s,baz=344,slow=6.7,SNR=93							
WSAR				Sn	**Sn**	**18 21 56.9**	**-1.8**
comp=Z,10nm,0.3s,baz=238,slow=23,SNR=11							
ARQ	**Araqi**	**3.50**	**201**	P	**Pn**	**18 21 21.2**	**+2.2**
ARQ				S	**Sn**	**18 22 03.3**	**+2.7**
TVBK	**TV Kerman**	**3.50**	**343**	*e*Pn	**Pn**	**18 21 21.6**	**+2.2**
TVBK				IAMB	IAmb	18 21 33.8	
comp=Z,0.0nm,0.3s							
SMDO	**Samad**	**3.55**	**178**	P	**Pn**	**18 21 20.6**	**+0.9**
SNR=9.7							
SMDO				S	**Sn**	**18 22 01.8**	**0.0**
SZD1	**Zahaedan-tmp**	**3.87**	**42**	*e*Pn	**Pb**	**18 21 29.1**	**-3.9**
ZHSF	**Zahedan**	**3.91**	**40**	*e*Pn	**Pb**	**18 21 30.1**	**-3.5**
KHGB	**Koh Gabri**	**3.95**	**342**	*e*Pn	**Pn**	**18 21 27.3**	**+1.9**
KHGB				IAMB	IAmb	18 22 42.6	
comp=Z,0.0nm,1.0s							
IMEH	**Mehriz**	**5.56**	**329**	*e*Pn	**Pn**	**18 21 49.7**	**+2.1**
IKOO	**Kooshah**	**5.86**	**9**	*e*Pn	**Pn**	**18 21 52.6**	**+0.9**
IKAZ	**Kazeroun**	**6.21**	**302**	*e*Pn	**Pn**	**18 21 55.0**	**-1.6**
ISAD	**Sadrabad**	**6.44**	**326**	*e*Pn	**Pn**	**18 22 00.7**	**+1.0**
TPRV	**Parvadeh(Tabas**	**6.48**	**351**	*e*Pn	**Pn**	**18 22 01.8**	**+1.8**
TKDS	**Koohdasht(Taba**	**7.00**	**355**	*e*Pn	**Pn**	**18 22 10.2**	**+2.9**
IRAM	**Ramesheh**	**7.08**	**318**	*e*Pn	**Pn**	**18 22 08.5**	**+0.1**
IPIR	**Pirpir**	**8.59**	**316**	*e*Pn	**Pn**	**18 22 29.5**	**+0.3**
MMAI	**Mount Meron Ar**	**20.52**	**293**	P	**P**	**18 25 02.5**	**-0.6**
comp=Z,0.3nm,0.3s,baz=101,slow=15,SNR=3.7							
AAK	**Ala-Archa**	**20.95**	**36**	P	Pn	18 25 13.7	+3.4
comp=Z,0.9nm,0.3s,baz=225,slow=9.1,SNR=3.6							
AKTO	**Aktyubinsk**	**23.78**	**0**	P	**P**	**18 25 40.8**	**+3.6**
comp=Z,1.7nm,0.7s,baz=167,slow=12,SNR=9.7							
BRTR	**Keskin Array B**	**24.07**	**309**	P	**P**	**18 25 39.2**	**-1.0**
comp=Z,1.0nm,0.6s,baz=135,slow=11,SNR=8.0							
MKAR	**Makanchi Array**	**27.87**	**37**	P	**P**	**18 26 19.3**	**+5.0**
comp=Z,0.2nm,0.6s,baz=248,slow=6.1,SNR=3.2							
KURBB	**Kurchatov Arra**	**28.69**	**28**	P	**P**	**18 26 24.6**	**+3.0**
comp=Z,0.2nm,0.3s,baz=230,slow=8.1,SNR=5.3							
IDI	**Anoyia**	**29.50**	**295**	P	**P**	**18 26 27.5**	**-1.5**
comp=Z,1.9nm,0.6s,baz=127,slow=10,SNR=2.1							
AKASG	**Malin Array Be**	**32.51**	**325**	P	**P**	**18 26 55.4**	**+0.2**
comp=Z,0.4nm,0.5s,baz=130,slow=8.7,SNR=3.5							
ZALV	**Zalesovo Beam**	**33.76**	**29**	P	P	18 27 11.0	+4.8
comp=Z,0.6nm,0.4s,baz=240,slow=9.2,SNR=3.7							
GERES	**GERESS Array B**	**40.67**	**315**	P	**P**	**18 28 04.7**	**-0.4**
comp=Z,0.5nm,0.7s,baz=99,slow=8.6,SNR=6.4							
FINES	**FINESS Array B**	**40.86**	**337**	P	**P**	**18 28 07.5**	**+1.2**
comp=Z,0.7nm,0.5s,baz=126,slow=9.7,SNR=4.8							
WTTA	**Wattenberg**	**41.61**	**312**	*e*P	**P**	**18 28 11.6**	**-1.2**
comp=Z,3.0nm,0.5s							
SQTA	**Sankt Quirin**	**41.88**	**312**	*i*P	**P**	**18 28 14.2**	**-0.9**
comp=Z,5.0nm,0.5s							
MOTA	**Moosalm**	**41.98**	**312**	*i*P	**P**	**18 28 14.9**	**-0.9**
comp=Z,1.7nm,0.5s							
FETA	**Feichten**	**42.16**	**312**	*e*P	**P**	**18 28 16.8**	**-0.6**
comp=Z,4.7nm,0.9s							
DAVA	**Damuels**	**42.78**	**312**	*e*P	**P**	**18 28 21.6**	**-0.8**
comp=Z,6.6nm,0.5s							
ESDC	**Sonseca Array**	**52.48**	**301**	P	**P**	**18 29 35.6**	**-2.1**
comp=Z,0.1nm,0.3s,baz=82,slow=9.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**54.15**	**267**	P	**P**	**18 29 47.5**	**-2.8**
comp=Z,0.2nm,0.4s,baz=79,slow=7.5,SNR=4.6							

IDC ***20*** *18:31:26.9±3.5, 10°.82S×113°.92E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/43, mbtmp3.6/7, ML3.3/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/27, Error ellipse: s-maj=169.5km s-min=18.4km az=47.0*
ISCJB ***20*** *18:31:28.7±0.6, 10°.96S±0°.05×113°.88E±0°.05, h33km, mb3.6/6, Error ellipse: s-maj=8.1km s-min=6.3km az=25.8*
DJA ***20*** *18:31:29.3±0.3, 11°S±3°×11°4E±°, h20km, M4.1/5, mb4.2/5, mB4.7/1, MLv4.0/5, Mw(mB)3.

GMJI	**Gumukmas**	**2.71**	**350**	P	**Pn**	**18 32 11.1**	**-0.9**
SRBI	**Singaraja**	**3.13**	**24**	P	**Pn**	**18 32 17.6**	**-0.2**
PWJI	**Pagerwojo**	**3.58**	**324**	P	**Pn**	**18 32 22.3**	**-1.7**
PCJI	**Pacitan**	**3.85**	**315**	P	**Pn**	**18 32 28.4**	**+0.7**
KMMI	**Kalianget**	**3.88**	**1**	P	**Pn**	**18 32 27.5**	**-0.7**
WOJI	**Wonogiri, Jawa**	**4.28**	**316**	P	**Pn**	**18 32 32.6**	**-1.0**
PLAI	**Plampang**	**4.36**	**61**	P	**Pn**	**18 32 34.4**	**-0.3**
UGM	**Wanagama**	**4.51**	**312**	P	**Pn**	**18 32 36.2**	**-0.6**
CISI	**Cisompet, Garu**	**6.90**	**299**	P	**Pn**	**18 33 09.2**	**-0.5**
BSSI	**Bau Bau, Buton**	**8.08**	**54**	P	**Pn**	**18 33 25.4**	**-0.4**
KAPI	**Kappang**	**8.27**	**45**	LR	LR	18 37 32.2	
	comp=Z,35nm,18.3s,baz=180,slow=45						
BKSI	**Bulukumba**	**8.32**	**48**	P	**Pn**	**18 33 28.7**	**-0.4**
CGJI	**Cibinong**	**9.20**	**297**	P	**Pn**	**18 33 40.3**	**-0.9**
BATI	**Baumata**	**9.62**	**86**	P	**Pn**	**18 33 47.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**13.39**	**123**	Pn	**Pn**	**18 34 37.8**	**-0.7**
	0.1nm,0.3s,baz=321,slow=11,SNR=9.3						
FITZ				Sn	Sn	18 36 56.3	-10
	0.1nm,0.3s,baz=184,slow=22,SNR=5.0						
WRA	**Warramunga Arr**	**21.60**	**117**	P	**P**	**18 36 19.9**	**+1.8**
	2.1nm,0.8s,baz=295,slow=12,SNR=19						
WRA				S	**S**	**18 40 12.8**	**-2.9**
	0.6nm,1.0s,baz=291,slow=17,SNR=2.6						
ASAR	**Alice Springs**	**22.85**	**126**	P	**P**	**18 36 32.9**	**+1.5**
	0.8nm,0.5s,baz=302,slow=9.6,SNR=36						
CMAR	**Chiang Mai Arr**	**32.75**	**333**	P	**P**	**18 38 01.6**	**+0.9**
	0.3nm,0.6s,baz=162,slow=9.5,SNR=3.0						
SONM	**Songino Array**	**58.91**	**354**	P	**P**	**18 41 26.8**	**+0.2**
	0.3nm,0.4s,baz=184,slow=4.3,SNR=2.6						
MKAR	**Makanchi Array**	**64.07**	**336**	P	**P**	**18 42 01.6**	**+0.3**
	0.3nm,0.5s,baz=152,slow=6.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**69.21**	**342**	P	**P**	**18 42 34.2**	**+0.3**
	0.5nm,0.4s,baz=154,slow=6.1,SNR=3.6						

GCMT ***20*** *18:36:51.0±0.2, 55.°56S±0.°02×124.°84W±0.°02, h22km±1km, MW5.0/74, Moment Tensor Solution. s31,c48; s74,c105; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.09±.15; Mθθ2.35±.17; Mφφ-2.43±.15; Mrθ0.28±.21; Mθφ2.89±.09; Mφr1.74±.26; Best double couple: Mo4.13500×10^16 NP1:φs200.00000°, δ88.00000°, λ-155.00000°. NP2: φs109.00000°, δ65.00000°, λ-3.00000°. Principal axes: T 3.9820, Plg15.0000°, Azm332.0000°; N 0.3160, Plg65.0000°, Azm205.0000°; P -4.2880, Plg19.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC ***20*** *18:36:52.5±22.0, 53.°96S×128.°88W, h0km, mb4.0/3, mb1 4.4/3, mb1mx3.9/21, mbtmp4.0/3, MS4.0/11, Ms1 4.0/11, ms1mx3.9/14 Error ellipse: s-maj=1439.0km s-min=39.0km az=138.0*

ISC 20 18:36:42.8±2.1, 55.°0S±0.°4×124.°5W±0.°5, h10km, n26, σ0.°36/7, mb4.1/3, MS4.1/14, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**32.82**	**342**	*e*T	T	19 18 00.5	
	6.7nm,0.2s						
TBI	**Tubuai**	**36.70**	**319**	*e*LR	LR	18 53 39.3	
	comp=Z,533nm,28.2s,baz=163						
TBI	**Tubuai**	**36.70**	**319**	*e*T	T	19 22 41.5	
	87nm,0.4s						
PPT2	**Papeete2**	**42.03**	**323**	*e*S	**S**	**18 50 53.2**	**-0.1**
	114nm,26.5s						
PPT2				*e*LR	LR	18 56 11.8	
	comp=Z,591nm,26.2s,baz=167						
VAH	**Vaihoa**	**43.57**	**327**	*e*T	T	19 31 19.6	
	165nm,0.3s						
PMOR	**Pomariorio Ree**	**43.88**	**326**	*e*T	T	19 31 42.2	
	8.6nm,0.3s						
VNA3	**Neumayer Olymp**	**45.93**	**156**	P	**P**	**18 45 04.8**	**-0.3**
VNA1	**Neumayer--Stat**	**46.67**	**156**	P	**P**	**18 45 11.2**	**+0.4**
VNA2	**Neumayer--Watz**	**46.68**	**156**	P	**P**	**18 45 11.2**	**+0.3**
	baz=215,slow=10.0						
SNAA	**Sanae**	**47.15**	**158**	P	**P**	**18 45 14.2**	**-0.4**
CPUP	**Villa Florida**	**55.85**	**88**	LR	LR	19 07 11.3	
	comp=Z,136nm,18.7s,baz=228,slow=31						
MAW	**Mawson**	**57.55**	**183**	LR	LR	19 08 28.3	
	comp=Z,181nm,21.7s,baz=168,slow=32						
LPAZ	**La Paz**	**57.71**	**71**	LR	LR	19 05 53.8	
	comp=Z,121nm,20.4s,baz=194,slow=29						
DZM	**Mont Dzumac**	**60.25**	**274**	*e*LR	LR	19 04 30.4	
	comp=Z,267nm,25.6s						
STKA	**Stephens Creek**	**66.66**	**248**	LR	LR	19 12 09.0	
	comp=Z,63nm,18.2s,baz=201,slow=33						
BDFB	**Brasilia**	**69.58**	**88**	LR	LR	19 15 48.7	
	comp=Z,139nm,20.7s,baz=179,slow=32						
ROSC	**El Rosal**	**72.60**	**53**	LR	LR	19 14 54.5	
	comp=Z,52nm,18.6s,baz=233,slow=31						
ASAR	**Alice Springs**	**77.28**	**247**	P	**P**	**18 48 37.4**	**0.0**
	1.3nm,0.8s,baz=134,slow=5.8,SNR=12						
ASAR				LR	LR	19 16 41.2	
	comp=Z,89nm,21.7s,baz=116,slow=32						
H01W1	**Cape Leeuwin H**	**77.33**	**226**	T	T	20 13 55.0	
	baz=150,slow=76,SNR=326						
H01W2	**Cape Leeuwin H**	**77.33**	**226**	T	T	20 13 52.0	
	baz=150,slow=76,SNR=317						
H01W3	**Cape Leeuwin H**	**77.35**	**226**	T	T	20 13 56.2	
	baz=150,slow=76,SNR=275						
WRA	**Warramunga Arr**	**80.08**	**250**	P	**P**	**18 48 52.8**	**+0.1**
	2.7nm,0.9s,baz=150,slow=5.4,SNR=12						
TXAR	**Lajitas Array**	**85.91**	**18**	P	P	18 49 33.3	+11
	0.5nm,1.0s,baz=181,slow=7.0,SNR=2.7						
TXAR				LR	LR	19 19 57.0	
	comp=Z,58nm,18.9s,baz=0.0,slow=30						
BOSA	**Boshof**	**92.73**	**154**	LR	LR	19 29 42.9	
	comp=Z,75nm,18.1s,baz=187,slow=34						
NVAR	**Mina Array Bea**	**93.25**	**5**	LR	LR	19 22 43.5	
	comp=Z,83nm,21.4s,baz=190,slow=30						
PDAR	**Pinedale Array**	**98.25**	**11**	LR	LR	19 26 54.5	
	comp=Z,60nm,19.4s,baz=205,slow=31						

NIED ***20*** *18:48:00, 37.°20N×141.°60E, h5km, Mw4.0 Best double couple: Mo9.76000×10^14 NP1:φs19.00000°, δ42.00000°, λ-88.00000°. NP2:φs196.00000°, δ48.00000°, λ-92.00000°.*

JMA ***20*** *18:48:15.1±0.2, 37.°19N×141.°50E, h29km±2km, M4.4 JMA Felt II J1.*

ISCJB ***20*** *18:48:15.5±0.7, 37.°19N±0.°03×141.°45E±0.°05, h24km±4km, mb4.2/49, MS3.0/3, Error ellipse: s-maj=6.5km s-min=4.1km az=21.9*

MOS ***20*** *18:48:16.3±1.0, 37.°28N×141.°35E, h27km, mb4.5/17, Error ellipse: s-maj=9.3km s-min=6.5km az=107.5*

NEIC ***20*** *18:48:17.7±1.3, 37.°23N×141.°37E, h24km±9km, mb4.4/20, Error ellipse: s-maj=6.0km s-min=3.6km az=138.0*

NEIC Recorded [1 JMA] in Fukushima.

IDC ***20*** *18:48:18.7±3.6, 37.°17N×141.°42E, h33km±27km, mb3.8/22, mb1 4.0/29, mb1mx4.0/37, mbtmp4.0/29, ML3.2/7, MS3.0/7, Ms1 3.0/7, ms1mx2.8/32, Error ellipse: s-maj=16.2km s-min=11.9km az=117.0*

ISC 20 18:48:17.5±1.4, 37.°22N±0.°04×141.°36E±0.°06, h23km±9km, n136, σ0.°95/147, mb4.2/49, MS3.1/3, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.42**	**291**	P	**Pb**	**18 48 25.3**	**-1.0**
JFK				*e*S	**Sb**	**18 48 32.5**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.47**	**256**	P	**Pb**	**18 48 26.0**	**-1.1**
ONAJ				S	**Sb**	**18 48 33.8**	**+0.1**
JFFD	**Fukushimafurud**	**0.65**	**259**	P	**Pn**	**18 48 29.1**	**-2.3**
JFFD				S	**Sb**	**18 48 39.2**	**+0.2**
JMM	**Marumori**	**0.79**	**325**	P	**Pn**	**18 48 31.3**	**-1.9**
JMM				S	**Sb**	**18 48 43.0**	**+0.1**
JFT	**Otama**	**0.87**	**290**	P	**Pn**	**18 48 33.5**	**-0.9**
JFT				S	**Sb**	**18 48 46.4**	**+1.2**
JHO	**Hitachi**	**0.88**	**227**	P	**Pn**	**18 48 31.5**	**-2.9**
JHO				*e*S	**Sn**	**18 48 43.9**	**-2.6**
JSB	**Shiboa**	**1.18**	**258**	P	**Pn**	**18 48 38.5**	**-0.1**
JSB				*e*S	**Sb**	**18 48 55.9**	**+1.8**
JIO	**Ouri**	**1.23**	**359**	P	**Pn**	**18 48 37.3**	**-2.0**
JIO				S	**Sn**	**18 48 53.5**	**-1.8**
JOU	**Okura**	**1.27**	**334**	P	**Pn**	**18 48 39.4**	**-0.5**
JOU				S	**Sb**	**18 48 57.3**	**+0.5**
MJAR	**Matsushiro Arr**	**2.62**	**256**	*e*Pn	**Pn**	**18 48 57.9**	**-0.5**
MJAR				Sn	**Sb**	**18 49 36.8**	**+1.3**
MJAR	**Matsushiro Arr**	**2.62**	**256**	Pn	**Pn**	**18 48 58.8**	**+0.4**
	1.8nm,0.3s,baz=72,slow=9.3,SNR=88						
MJAR				Sn	**Sb**	**18 49 36.8**	**+1.3**
	4.2nm,0.3s,baz=61,slow=39,SNR=5.1						
MJAR				LR	LR	18 50 05.6	
	comp=Z,176nm,19.1s,baz=70,slow=41						
MAJO	**Matsushiro**	**2.62**	**256**	*e*Pn	**Pn**	**18 48 58.7**	**+0.3**
MAJO				*e*Sn	**Sb**	**18 49 36.8**	**+1.3**
MAJO	**Matsushiro**	**2.62**	**256**	*d i*P	**Pn**	**18 48 58.1**	**-0.3**
MJB9	**Matsu-Tunnel**	**2.62**	**256**	*e*Pn	**Pn**	**18 48 59.2**	**+0.7**
INU	**Inuyama**	**3.98**	**243**	*e*Pn	**Pn**	**18 49 17.6**	**+0.5**
JHJ	**Hachijo jima 2**	**4.29**	**198**	Pn	**Pn**	**18 49 21.2**	**-0.2**
	15nm,0.3s,baz=70,slow=22,SNR=8.9						
JHJ				Sn	**Sn**	**18 50 10.9**	**+0.3**
	17nm,0.3s,baz=243,slow=22,SNR=3.0						
ERM	**Erimo**	**4.99**	**16**	*e*Pn	**Pn**	**18 49 30.0**	**-0.9**
ERM	**Erimo**	**4.99**	**16**	*i* P	**Pn**	**18 49 29.7**	**-1.2**
ASAJ	**Asahikawa**	**6.96**	**7**	Pn	**Pn**	**18 49 56.8**	**-1.1**
	1.9nm,0.3s,baz=198,slow=11,SNR=13						
ASAJ				Sn	**Sn**	**18 51 19.5**	**+3.3**
	baz=25,slow=27,SNR=2.4						
JNU	**Nakatsue**	**9.51**	**248**	Pn	**Pn**	**18 50 35.5**	**+2.5**
	0.1nm,0.3s,baz=59,slow=5.9,SNR=2.3						
JNU				LR	LR	18 54 39.3	
	comp=Z,79nm,19.8s,baz=3.5,slow=40						
USRK	**Ussuriysk Ar.**	**9.96**	**317**	*e*Pn	**Pn**	**18 50 38.4**	**-0.7**
USRK	**Ussuriysk Ar.**	**9.96**	**317**	Pn	**Pn**	**18 50 41.7**	**+2.6**
	0.2nm,0.3s,baz=130,slow=13,SNR=9.3						
KSRS	**Korea Array**	**10.71**	**275**	Pn	**Pn**	**18 50 51.2**	**+1.8**
	0.2nm,0.3s,baz=90,slow=16,SNR=4.9						
KSRS				LR	LR	18 54 57.6	
	comp=Z,123nm,18.2s,baz=88,slow=37						
KS15	**Wonju Array Si**	**10.74**	**275**	*e*Pn	**Pn**	**18 50 50.4**	**+0.6**
KSAR	**Wonju Array Be**	**10.74**	**275**	Pn	**Pn**	**18 50 51.2**	**+1.4**
KSAR	**Wonju Array Be**	**10.74**	**275**	P	**Pn**	**18 50 51.2**	**+1.4**
ZEA	**Zeya**	**19.20**	**334**	*e*P	**P**	**18 52 39.0**	**-0.5**
PETK	**Petropavlovsk-**	**19.55**	**30**	P	**P**	**18 52 43.3**	**0.0**
	0.2nm,0.3s,baz=208,slow=12,SNR=3.8						
PETK				LR	LR	19 00 41.9	
	comp=Z,28nm,18.1s,baz=151,slow=38						
PEA1	**Petropavlovsk-**	**19.55**	**30**	*e*P	**P**	**18 52 43.3**	**-0.1**
MA2	**Magadan**	**23.18**	**12**	*e*P	**P**	**18 53 21.2**	**-1.0**
	4.0nm,0.7s						
MA2	**Magadan**	**23.18**	**12**	*c e*P	**P**	**18 53 21.1**	**-1.1**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MA2	**Magadan**	**23.18**	**12**	P	**P**	**18 53 22.7**	**+0.4**
	comp=Z,4.5nm,0.7s,baz=206,slow=9.7,SNR=13						
WHN	**Wuhan**	**23.35**	**261**	P	**P**	**18 53 25.8**	**+1.7**
HHC	**Hu-ho-hao-te**	**23.38**	**288**	*e*P	**P**	**18 53 24.4**	**-0.1**
HHC				S	S	18 57 23.0	-13
HHC				SS	**SnSn**	**18 58 11.3**	**-0.4**
SEY	**Seymchan**	**26.62**	**11**	*c e*P	**P**	**18 53 54.1**	**+0.2**
SEY	**Seymchan**	**26.62**	**11**	P	**P**	**18 53 54.4**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=194,slow=6.6,SNR=16						
ULN	**Ulaanbaatar**	**27.22**	**304**	*i* P	**P**	**18 53 59.8**	**+0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BOD	**Bodaibo**	**27.35**	**328**	*e*P	**P**	**18 53 59.5**	**-1.0**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONA0	**Songino Array**	**27.65**	**304**	*e*P	**P**	**18 54 04.0**	**+0.5**
SONM	**Songino Array**	**27.65**	**304**	P	**P**	**18 54 04.0**	**+0.5**
SONM	**Songino Array**	**27.65**	**304**	P	**P**	**18 54 04.0**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=102,slow=9.1,SNR=10.0						
SONM				LR	LR	19 06 36.7	
	comp=Z,16nm,18.8s,baz=88,slow=40						
H11N2	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	19 23 36.8	
	baz=314,slow=75,SNR=630						
H11N1	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	19 23 37.4	
	baz=314,slow=75,SNR=673						
H11N3	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	19 23 38.1	
	baz=314,slow=75,SNR=637						
H11S1	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	19 24 31.1	
	baz=316,slow=76,SNR=323						
H11S3	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	19 24 28.4	
	baz=316,slow=76,SNR=246						
H11S2	**WAKE ISLAND Hy**	**29.01**	**123**	T	T	19 24 35.9	
	baz=316,slow=76,SNR=175						
CD2	**Chengdu**	**31.63**	**270**	*e*P	**P**	**18 54 37.9**	**-1.0**
BILL	**Bilibino**	**33.86**	**17**	*e*P	**P**	**18 54 57.1**	**-0.8**
BILL				*e*		18 56 13.4	
BILL				*e*PPP	PPP	18 56 25.4	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TIXI	**Tiksi**	**35.10**	**353**	*i* P	**P**	**18 55 06.6**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TIXI	**Tiksi**	**35.10**	**353**	P	**P**	**18 55 07.5**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=147,slow=6.5,SNR=5.2						
DGZ	**Jazzator, Alta**	**40.25**	**306**	*i* P	**P**	**18 55 51.5**	**-1.1**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WMQ	**Urumqi**	**40.72**	**297**	*e*P	**P**	**18 55 57.3**	**+0.9**
WMQ				pP	sP	18 56 08.1	+1.8
CM31	**Chiang Mai Arr**	**41.51**	**255**	*e*P	**P**	**18 56 02.4**	**-0.7**
	comp=Z,11nm,1.7s						
CMAR	**Chiang Mai Arr**	**41.51**	**255**	P	**P**	**18 56 02.4**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=54,slow=9.1,SNR=3.5						
ZAA0	**Zalesovo Array**	**41.76**	**312**	*e*P	**P**	**18 56 04.5**	**-0.2**
	comp=Z,3.6nm,0.9s						
ZAA1	**Zalesovo Array**	**41.76**	**312**	*e*P	**P**	**18 56 05.0**	**+0.3**
ZALV	**Zalesovo Beam**	**41.76**	**312**	*e*P	**P**	**18 56 04.4**	**-0.3**
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**18 56 05.0**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=88,slow=7.0,SNR=14						
MK31	**Makanchi Array**	**43.99**	**302**	*e*P	**P**	**18 56 22.9**	**0.0**
	comp=Z,2.4nm,0.9s						
MK31	**Makanchi Array**	**43.99**	**302**	*e*P	**P**	**18 56 22.9**	**0.0**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MK32	**Makanchi Array**	**43.99**	**302**	*e*P	**P**	**18 56 23.1**	**+0.2**
MKAR	**Makanchi Array**	**43.99**	**302**	*e*P	**P**	**18 56 22.8**	**-0.2**
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**18 56 23.1**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=90,slow=10.0,SNR=22						
MKAR				LR	LR	19 13 57.3	
	comp=Z,33nm,19.0s,baz=22,slow=35						
MAKZ	**Makanchi**	**44.20**	**302**	*e*P	**P**	**18 56 24.7**	**+0.1**
	comp=Z,2.9nm,0.9s						
MAKZ	**Makanchi**	**44.20**	**302**	*e*P	**P**	**18 56 24.7**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSM	**Kuching**	**45.65**	**226**	*e*P	**P**	**18 56 37.5**	**+1.1**
	comp=Z,6.6nm,1.0s						
KURK	**Kurchatov**	**45.79**	**308**	*e*P	**P**	**18 56 36.8**	**-0.4**
	comp=Z,7.4nm,0.8s						
KURK	**Kurchatov**	**45.79**	**308**	*c e*P	**P**	**18 56 35.9**	**-1.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MDM	**Murphy Dome**	**48.78**	**32**	*e*P	**P**	**18 57 00.8**	**+0.5**
	comp=Z,4.1nm,1.0s						
COLA	**College**	**48.95**	**32**	*i* P	**P**	**18 57 03.3**	**+1.9**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**49.36**	**32**	P	**P**	**18 57 04.8**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=269,slow=6.4,SNR=22						
ILB	**Eielson Array**	**49.36**	**32**	*e*P	**P**	**18 57 04.8**	**+0.2**
	comp=Z,2.2nm,0.7s						
KSH	**Kashi**	**50.30**	**294**	P	**P**	**18 57 13.3**	**+1.0**
BRVK	**Borovoye**	**50.48**	**312**	*i* P	**P**	**18 57 11.9**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SCRK	**Sand Creek**	**50.67**	**33**	*e*P	**P**	**18 57 14.8**	**0.0**
	comp=Z,2.9nm,0.9s						
BMRM	**Bremner River**	**50.74**	**37**	*e*P	**P**	**18 57 16.0**	**+0.7**
	comp=Z,9.0nm,0.6s						
BCAR	**Beaver Creek A**	**51.77**	**34**	*e*P	**P**	**18 57 23.8**	**+0.8**
EPYK	**Eagle Plains**	**53.39**	**30**	*e*P	**P**	**18 57 36.3**	**+1.5**
	comp=Z,8.3nm,0.8s						
SVE	**Sverdlovsk**	**54.98**	**319**	*e*P	**P**	**18 57 47.2**	**+0.6**
ARU	**Arti**	**56.20**	**318**	*e*P	**P**	**18 57 55.0**	**-0.3**
	comp=Z,6.3nm,0.9s						
ARU	**Arti**	**56.20**	**318**	*c i*P	**P**	**18 57 54.8**	**-0.5**
ARU						18 58 54.6	
ARU						18 59 57.4	
ARU				S	**S**	**19 05 41.9**	**-1.3**
ARU				SS	**SS**	**19 09 27.5**	**-1.8**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WR1	**Warramunga Arr**	**57.24**	**188**	*e*P	**P**	**18 58 02.0**	**-1.0**
WRA	**Warramunga Arr**	**57.24**	**188**	P	**P**	**18 58 02.0**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=6.7,slow=6.1,SNR=10.0						
ABKAR	**Akbulak array**	**57.79**	**310**	*e*P	**P**	**18 58 06.2**	**-0.5**
PRGR	**Permogore**	**60.59**	**327**	*e*P	**P**	**18 58 25.7**	**-0.1**
PRGR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AS31	**Alice Springs**	**60.96**	**188**	*e*P	**P**	**18 58 28.2**	**-0.6**
ASAR	**Alice Springs**	**60.96**	**188**	P	**P**	**18 58 28.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=11,slow=5.7,SNR=8.6						
YKA	**Yellowknife Ar**	**63.67**	**30**	P	**P**	**18 58 46.7**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=300,slow=6.7,SNR=8.1						
YKB5	**Yellowknife Ar**	**63.67**	**30**	*e*P	**P**	**18 58 46.7**	**+0.2**
GEYT	**Alibeck**	**63.71**	**299**	P	**P**	**18 58 47.9**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=20,slow=4.7,SNR=6.8						
ARA0	**ARCESS Array S**	**63.81**	**339**	*e*P	**P**	**18 58 47.7**	**+0.3**
ARCES	**ARCESS Array B**	**63.81**	**339**	P	**P**	**18 58 47.7**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=54,slow=8.2,SNR=6.5						
OBN	**Obninsk**	**67.92**	**323**	*e*P	**P**	**18 59 14.3**	**+0.3**
OBN				*e*		18 59 40.5	
OBN				*e*		19 01 43.3	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FIA0	**FINESS Array S**	**68.63**	**332**	*e*P	**P**	**18 59 18.4**	**+0.1**
FIA0	**FINESS Array S**	**68.63**	**332**	*e*P	**P**	**18 59 18.4**	**+0.1**
FINES	**FINESS Array B**	**68.63**	**332**	*i* P	**P**	**18 59 18.3**	**0.0**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**68.63**	**332**	P	**P**	**18 59 18.4**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=76,slow=8.0,SNR=16						
KBZ	**Khabaz**	**70.75**	**311**	P	**P**	**18 59 32.6**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=52,slow=5.7,SNR=7.6						
KIV	**Kislovodsk**	**70.76**	**311**	*e*P	**P**	**18 59 31.8**	**-0.1**
KIV				pmax	pmax		
	comp=Z,19nm,1.1s						
NEY	**Neytrino**	**71.12**	**310**	*i* P	**P**	**18 59 34.7**	**+0.5**
NEY				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BMO	**Blue Mountains**	**71.83**	**47**	*e*P	**P**	**18 59 39.3**	**+0.9**
	comp=Z,1.8nm,0.9s						
BMO	**Blue Mountains**	**71.83**	**47**	*e*P	**P**	**18 59 39.3**	**+0.9**
BMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FFC	**Flin Flon**	**73.57**	**33**	*e*P	**P**	**18 59 48.7**	**+0.3**
	comp=Z,3.7nm,0.9s						
FFC	**Flin Flon**	**73.57**	**33**	*i* P	**P**	**18 59 49.3**	**+0.9**
NB2	**NORSAR Subarra**	**74.00**	**337**	P	**P**	**18 59 50.7**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=38,slow=5.9						
NB200	**NORSAR Array S**	**74.00**	**337**	*e*P	**P**	**18 59 51.3**	**+0.5**
NOA	**NORSAR Array B**	**74.00**	**337**	P	**P**	**18 59 51.3**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=39,slow=5.8,SNR=4.8						
NOA				LR	LR	19 36 16.3	
	comp=Z,9.4nm,18.2s,baz=270,slow=39						
AKASG	**Malin Array Be**	**74.13**	**322**	*i* P	**P**	**18 59 51.2**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**74.13**	**322**	P	**P**	**18 59 51.6**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=46,slow=7.6,SNR=7.6						
AKBB	**Malin Array Si**	**74.13**	**322**	*e*P	**P**	**18 59 51.6**	**-0.1**
	comp=Z,3.8nm,0.8s						
AKBB	**Malin Array Si**	**74.13**	**322**	*e*P	**P**	**18 59 51.6**	**-0.1**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIEV	**Kiev**	**74.14**	**322**	*e*P	**P**	**18 59 51.7**	**-0.1**
	comp=Z,3.9nm,0.9s						
KIEV	**Kiev**	**74.14**	**322**	*i* P	**P**	**18 59 51.5**	**-0.3**
KIEV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NV01	**Mina Array Sit**	**74.91**	**53**	*e*P	**P**	**18 59 56.3**	**-0.5**
NVAR	**Mina Array Bea**	**74.91**	**53**	*e*P	**P**	**18 59 57.9**	**+1.1**
NVAR	**Mina Array Bea**	**74.91**	**53**	P	**P**	**18 59 56.3**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=286,slow=7.2,SNR=5.8						
PD31	**Pinedale Array**	**77.57**	**45**	*e*P	**P**	**19 00 12.0**	**+0.2**
	comp=Z,5.2nm,1.6s						
PDAR	**Pinedale Array**	**77.57**	**45**	P	**P**	**19 00 12.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=90,slow=1.5,SNR=3.9						
BURAR	**Bucovina Array**	**78.14**	**322**	*e*P	**P**	**19 00 14.9**	**+0.1**
BURAR	**Bucovina Array**	**78.14**	**322**	P	**P**	**19 00 14.9**	**+0.1**
BR101	**Keskin Array S**	**78.70**	**311**	*e*P	**P**	**19 00 17.7**	**-0.3**
BRTR	**Keskin Array B**	**78.70**	**311**	P	**P**	**19 00 17.7**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=96,slow=3.7,SNR=4.2						
PV04	**Paradox Valley**	**80.75**	**49**

NLC	**Nalytchevo**	**1.42 323**	*e*P	Pn	19 24 56.7	+1.6
NLC			*e*S	Sn	19 25 14.3	+1.3
RUS	**Russkaya**	**1.43 287**	*e*P	Pn	19 24 57.1	+1.8
RUS			*e*S	Sn	19 25 14.9	+1.5
DALK	**Dalny**	**1.57 310**	*e*P	Pn	19 24 59.1	+2.0
DALK			*e*S	Sn	19 25 17.9	+1.3
PET	**Petropavlovsk**	**1.61 308**	*e*P	Pn	19 24 59.8	+2.1
PET			*e*S	Sn	19 25 19.2	+1.5
MTVR	**Mutnovka**	**1.64 286**	*e*P	Pn	19 25 00.3	+2.1
UGLR	**Uglovaya**	**1.66 315**	*e*P	Pn	19 25 01.4	+3.0
KDTR	**Khodutka, Kamc**	**1.68 263**	*e*P	Pn	19 25 00.4	+1.9
KDTR			*e*S	Sn	19 25 19.7	+0.6
SDLR	**Sedlovina**	**1.68 318**	*e*P	Pn	19 25 01.3	+2.6
SMAR	**Somma**	**1.70 316**	*e*P	Pn	19 25 01.9	+2.8
AVH	**Avacha**	**1.73 316**	*e*P	Pn	19 25 02.2	+2.8
KRER	**Koryakskii**	**1.75 317**	*e*P	Pn	19 25 03.0	+3.2
KRMR	**Karymshinskiy**	**1.79 297**	*e*P	Pn	19 25 02.6	+2.6
ASAK	**Asacha**	**1.79 282**	*e*P	Pn	19 25 03.0	+2.9
KOK	**Koryaka**	**1.79 315**	*e*P	Pn	19 25 03.4	+3.2
KRX	**Arik**	**1.84 317**	*e*P	Pn	19 25 02.8	+2.0
APC	**Apacha**	**2.37 293**	*e*P	Pn	19 25 11.4	+3.6
MKZ	**Mys Kozlova**	**2.58 13**	*e*P	Pn	19 25 12.3	+1.6
MKZ			*e*S	Sn	19 25 41.5	+0.6
KZV	**Kizimen**	**3.08 355**	*e*P	Pn	19 25 21.3	+3.6
KZV			*e*S	Sn	19 25 56.2	+2.7
SKR	**Severo-Kuril's**	**3.21 247**	*e*P	Pn	19 25 22.0	+2.7
SKR			*e*S	Sn	19 25 57.2	+0.8
TUMR	**Tumrok**	**3.26 354**	*e*P	Pn	19 25 24.3	+4.2
ALID	**Alaid**	**3.46 252**	*e*P	Pn	19 25 26.0	+3.1
KBTR	**Krutoberegovo**	**4.34 15**	*e*P	Pn	19 25 38.2	+3.5
BKI	**Bering**	**4.43 42**	*e*S	Sn	19 26 26.0	-0.1

*ISCJB **20** 19:24:35.7±0.5, 17°.00N±0°.08×94°.36W±0°.04, h129km±8km, Error ellipse: s-maj=13.8km s-min=6.0km az=2.5*
*MEX **20** 19:24:39.1±0.6, 16°.90N×94°.39W, h119km±8km, MD4.0*
*NEIC **20** 19:24:39.3±0.0, 16°.91N×94°.37W, h120km, MD4.0(MEX), After MEX.*

ISC 20 19:24:36.1±0.8, **17°.09N**±0°.06×**94°.38W**±0°.04, **h112**km±9km, **n19**, σ1°.**82**/30, **Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.24**	**104**	*e*Sn	**Sn**	**19 25 19.9**	**+1.5**
TGIG		**1.24**	**104**	*e*P	**Pn**	**19 25 02.2**	**+2.1**
TGIG				*i* S	**Sn**	**19 25 19.9**	**+1.5**
PCIG		**1.77**	**141**	*e*Pn	**Pn**	**19 25 07.3**	**+0.9**
PCIG				*e*Sn	**Sn**	**19 25 29.6**	**+0.1**
PCIG		**1.77**	**141**	*e*P	**Pn**	**19 25 07.3**	**+0.9**
PCIG				*i* S	**Sn**	**19 25 28.6**	**-0.8**
HUIG	**Huatulco**	**2.12**	**232**	*e*Pn	**Pn**	**19 25 10.9**	**+0.1**
HUIG				*e*Sn	**Sn**	**19 25 36.3**	**-1.0**
HUIG	**Huatulco**	**2.12**	**232**	*e*P	**Pn**	**19 25 10.9**	**+0.1**
HUIG				*e*S	**Sn**	**19 25 36.3**	**-1.0**
CCIG	**Comitan**	**2.29**	**110**	*e*Pn	**Pn**	**19 25 14.0**	**+0.9**
CCIG				*e*Sn	**Sn**	**19 25 40.8**	**-0.7**
CCIG	**Comitan**	**2.29**	**110**	*e*P	**Pn**	**19 25 14.3**	**+1.1**
CCIG				*i* S	**Sn**	**19 25 41.3**	**-0.2**
TPIG	**Tehuac#an**	**3.13**	**295**	*i* S	**Sn**	**19 26 04.8**	**+3.6**
LVIG	**Laguna Verde**	**3.25**	**324**	*e*Pn	**Pn**	**19 25 25.9**	**+0.3**
LVIG				*e*Sn	**Sn**	**19 26 02.1**	**-1.7**
PNIG	**Pinotepa**	**3.66**	**260**	*e*Pn	**Pn**	**19 25 32.4**	**+1.3**
PNIG	**Pinotepa**	**3.66**	**260**	*e*P	**Pn**	**19 25 32.4**	**+1.3**
PNIG				*i* S	**Sn**	**19 26 14.7**	**+1.2**
TLIG	**Tlapa**	**4.03**	**277**	*e*Pn	**Pn**	**19 25 40.3**	**+4.2**
TEIG	**Tepich**	**6.57**	**61**	*e*Pn	**Pn**	**19 26 09.7**	**-0.5**
RPV	**Rancho Palos V**	**27.20**	**312**	*e*P	**P**	**19 30 10.6**	**+1.2**
VPDC	**Valencia Peak**	**29.72**	**313**	*e*P	**P**	**19 30 33.9**	**+2.1**
VPDC				*e*PcP	**PcP**	**19 33 33.6**	**+0.4**
GLK	**Glacier Lake**	**37.04**	**328**	*e*P	**P**	**19 31 34.4**	**-0.8**
GLK				*e*pP	**pP**	**19 31 56.2**	**-4.3**
GLK				*e*S	**S**	**19 37 10.2**	**-2.6**
STD	**Studebaker Rid**	**37.13**	**328**	*e*P	**P**	**19 31 36.3**	**+0.3**
CMW	**Cultus Mountai**	**38.58**	**330**	*e*P	P	19 31 53.9	+5.7

*SKO **20** 19:27:38.8, 40°.95N×20°.87E, h15km, M1.7, ML1.8*
*THE **20** 19:27:38.9, 40°.96N×20°.87E, h0km±1km, ML2.4/4, Error ellipse: s-maj=1.5km s-min=0.4km az=254.0*
*ATH **20** 19:27:38.6, 41°.00N×20°.88E, h16km±5km, ML2.5/2, Error ellipse: s-maj=8.1km s-min=2.5km az=128.0*
*TIR **20** 19:27:38.8, 41°.01N×20°.96E, h3km, Md2.9/3*
*ISCJB **20** 19:27:39.5±0.4, 40°.96N±0°.02×20°.89E±0°.03, h5km±3km, Error ellipse: s-maj=4.0km s-min=3.0km az=153.1*
*BEO **20** 19:27:42.0±0.3, 40°.94N×21°.10E, h20km±4km, ML2.1/6*

ISC 20 19:27:39.4±0.9, **40°.96N**±0°.02×**20°.86E**±0°.02, **h9**km±8km, **n41**, σ1°.**51**/61, **4C, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.16**	**345**	⇑*i*Pg	**Pg**	**19 27 42.9**	**0.0**
OHR				*i* Sg	**Sg**	**19 27 45.9**	**+0.6**
OHR				*e*Lg	Lg	19 27 46.0	
	comp=E,607nm,0.4s						
OHR				*e*Lg	Lg	19 27 46.1	
	comp=N,390nm,0.3s						
BIA	**Bitola**	**0.36**	**80**	*i* Pg	**Pg**	**19 27 46.7**	**+0.2**
BIA				*i* Sg	**Sb**	**19 27 52.7**	**-1.1**
BIA				*e*Lg	Lg	19 27 53.5	
	comp=E,325nm,0.2s						
BIA				*e*Lg	Lg	19 27 53.5	
	comp=N,164nm,0.2s						
FNA	**Florina**	**0.43**	**114**	*e*Pg	**Pg**	**19 27 47.6**	**-0.3**
FNA				*e*Sg	**Sg**	**19 27 54.0**	**+0.5**
FNA	**Florina**	**0.43**	**114**	P	**Pg**	**19 27 47.5**	**-0.3**
FNA				S	**Sg**	**19 27 53.6**	**+0.1**
FNA	**Florina**	**0.43**	**114**	⇑*i*Pg	**Pg**	**19 27 47.5**	**-0.3**
FNA				*i* Sg	**Sb**	**19 27 54.6**	**-1.2**
FNA	**Florina**	**0.43**	**114**	P	**Pg**	**19 27 47.5**	**-0.3**
FNA				S	**Sg**	**19 27 54.1**	**+0.5**
FNA				AML	AML	19 27 56.0	
	comp=E,2653μm,0.2s						
FNA				AML	AML	19 27 57.6	
	comp=N,2523μm,0.3s						
KRUS	**Krusevo**	**0.51**	**36**	⇑*i*Pg	**Pg**	**19 27 49.1**	**-0.2**
KRUS				*i* Sg	**Sb**	**19 27 57.4**	**-0.7**
KRUS				*e*Lg	Lg	19 27 59.1	
	comp=E,51nm,0.3s						
KRUS				*e*Lg	Lg	19 27 59.2	
	comp=N,49nm,0.3s						
NEST	**Nestorio**	**0.56**	**165**	P	**Pg**	**19 27 49.6**	**-0.7**
NEST				S	**Sg**	**19 27 58.0**	**+0.3**
NEST	**Nestorio**	**0.56**	**165**	P	**Pg**	**19 27 49.6**	**-0.7**
NEST				S	**Sb**	**19 27 59.5**	**-0.1**
NEST				AML	AML	19 28 00.5	
	comp=E,620μm,0.1s						
NEST				AML	AML	19 28 02.2	
	comp=N,660μm,0.3s						
PHP	**Peshkopia**	**0.79**	**337**	P	**Pg**	**19 27 53.6**	**-1.0**
PHP				S	**Sb**	**19 28 05.8**	**-0.3**
PHP	**Peshkopia**	**0.79**	**337**	*i* PG	Pg	19 27 47.5	-7.1
PHP				*i* SG	Sg	19 27 53.5	-11
TIR	**Tirane**	**0.84**	**298**	*e*Pg	**Pn**	**19 28 00.6**	**+3.2**
TIR	**Tirane**	**0.84**	**298**	*i* PG	**Pg**	**19 27 53.6**	**-2.0**
TIR				*i* SG	**Sg**	**19 28 05.6**	**-0.9**
KZN	**Kozani**	**0.95**	**133**	P	**Pg**	**19 27 56.7**	**-1.0**
KZN				S	**Sb**	**19 28 11.1**	**+0.3**
KZN	**Kozani**	**0.95**	**133**	P	**Pg**	**19 27 56.7**	**-1.0**
KPRO	**Kipourio**	**1.07**	**159**	P	**Pb**	**19 27 59.0**	**-1.1**
KPRO				S	**Sn**	**19 28 14.9**	**-0.8**
KPRO	**Kipourio**	**1.07**	**159**	P	**Pb**	**19 27 59.3**	**-0.8**
SKO	**Skopje**	**1.10**	**23**	*e*Pg	**Pn**	**19 28 01.0**	**0.0**
SKO				*e*Sg	**Sn**	**19 28 16.7**	**+0.3**
GRG	**Griva**	**1.17**	**90**	P	**Pb**	**19 28 00.8**	**-1.0**
GRG	**Griva**	**1.17**	**90**	⇑*i*Pg	**Pb**	**19 28 00.7**	**-1.0**
GRG	**Griva**	**1.17**	**90**	P	**Pb**	**19 28 00.8**	**-1.0**
STIP	**Stip**	**1.24**	**53**	*i* Pg	**Pg**	**19 28 05.7**	**+2.5**
STIP				*i* Sg	**Sg**	**19 28 25.9**	**+6.5**
STIP				*e*Lg	Lg	19 28 26.5	
	comp=E,11nm,0.3s						
STIP				*e*Lg	Lg	19 28 26.6	
	comp=N,8.1nm,0.3s						
VAY	**Valandovo**	**1.35**	**74**	*e*Pg	**Pb**	**19 28 04.3**	**-0.4**
VAY				*e*Sg	**Sb**	**19 28 20.0**	**-2.0**
IGT	**Igoumenitsa**	**1.48**	**196**	*e*Pg	**Pg**	**19 28 09.3**	**+1.6**
IGT				*e*Sg	**Sg**	**19 28 30.8**	**+3.9**
IGT	**Igoumenitsa**	**1.48**	**196**	P	**Pg**	**19 28 08.0**	**+0.2**
BCI	**Bajram Curri**	**1.53**	**338**	*i* PN	Pn	19 27 56.2	-11
KNT	**Kendrikon**	**1.56**	**82**	P	**Pn**	**19 28 07.2**	**0.0**
KNT				S	**Sg**	**19 28 28.4**	**-1.1**
KNT	**Kendrikon**	**1.56**	**82**	*i* Pg	**Pb**	**19 28 07.5**	**-0.8**
KNT				*i* Sg	**Sg**	**19 28 29.2**	**-0.3**
THL	**Klokotos Trika**	**1.65**	**147**	P	**Pn**	**19 28 08.4**	**-0.1**
THL	**Klokotos Trika**	**1.65**	**147**	P	**Pb**	**19 28 09.1**	**-0.8**
PDG	**Podgorica**	**1.90**	**321**	*e*Pn	**Pg**	**19 28 15.7**	**0.0**
PDG				*e*Sn	**Sg**	**19 28 39.4**	**-0.9**
BARS	**Barje**	**1.99**	**21**	*e*Pn	**Pb**	**19 28 14.4**	**-1.3**
BARS				*e*Sn	**Sn**	**19 28 37.2**	**-1.1**
SELS	**Selova**	**2.27**	**5**	*e*Pn	**Pb**	**19 28 19.2**	**-1.3**
SJES	**Sjenica**	**2.39**	**344**	*e*Pn	**Pb**	**19 28 21.0**	**-1.7**
TREB	**Trebinje**	**2.57**	**314**	*e*Pn	**Pb**	**19 28 25.2**	**-0.4**
BOVS	**Bovan**	**2.75**	**13**	*e*Pn	**Pn**	**19 28 24.1**	**+0.5**
GRUS	**Gruza**	**2.93**	**358**	*e*Pn	**Pn**	**19 28 27.9**	**+1.8**
STON	**Ston**	**3.03**	**310**	*e*Pn	**Pb**	**19 28 31.0**	**-2.5**
STON	**Ston**	**3.03**	**310**	*i* Pn	**Pn**	**19 28 28.6**	**+1.1**
STON				S	**Sn**	**19 29 05.2**	**+1.3**
DIVS	**Divibare**	**3.20**	**349**	*e*Pn	**Pn**	**19 28 32.3**	**+2.4**
NVLJ	**Novalja**	**5.69**	**311**	*i* Pn	**Pn**	**19 29 05.0**	**+1.0**

KRSC 20 19:31:41.0±10.0, **52°.03N**×**160°.89E**, **h60**km±10km, **ML3.7,**
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.19**	**334**	P	Pn	19 32 02.6	+1.1
SPN				S	Sn	19 32 16.0	-0.8
NLC	**Nalytchevo**	**1.48**	**321**	P	Pn	19 32 07.4	+2.1
NLC				S	Sn	19 32 24.3	+0.6
RUS	**Russkaya**	**1.52**	**286**	P	Pn	19 32 07.3	+1.5
RUS				S	Sn	19 32 24.4	-0.1
DALK	**Dalny**	**1.64**	**308**	*e*P	Pn	19 32 09.2	+1.6
DALK				S	Sn	19 32 29.4	+1.7
MTVR	**Mutnovka**	**1.72**	**286**	*e*P	Pn	19 32 10.9	+2.1
MTVR				S	Sn	19 32 31.6	+1.8
UGLR	**Uglovaya**	**1.73**	**314**	P	Pn	19 32 11.4	+2.6
UGLR				S	Sn	19 32 33.5	+3.7
KDTR	**Khodutka, Kamc**	**1.76**	**264**	P	Pn	19 32 11.0	+1.9
KDTR				S	Sn	19 32 31.3	+1.0
SMAR	**Somma**	**1.77**	**315**	P	Pn	19 32 12.1	+2.6
AVH	**Avacha**	**1.80**	**314**	*e*P	Pn	19 32 12.7	+2.9
KRER	**Koryakskii**	**1.82**	**315**	*e*P	Pn	19 32 13.9	+3.7
KRER				S	Sn	19 32 36.6	+4.3
KOK	**Koryaka**	**1.86**	**314**	P	Pn	19 32 13.5	+2.8
KOK				S	Sn	19 32 36.3	+3.1
ASAK	**Asacha**	**1.87**	**282**	*e*P	Pn	19 32 13.3	+2.6
ASAK				S	Sn	19 32 36.1	+2.8
KRX	**Arik**	**1.90**	**315**	*e*P	Pn	19 32 14.3	+3.1
MKZ	**Mys Kozlova**	**2.58**	**11**	*e*S	Sn	19 32 51.4	+1.0
PAU	**Pauzhetka**	**2.60**	**259**	P	Pn	19 32 23.7	+3.2
TUMD	**Tumrok D**	**3.19**	**355**	P	Pn	19 32 32.4	+3.7
TUMD				S	Sn	19 33 07.4	+1.9
TUMR	**Tumrok**	**3.29**	**353**	P	Pn	19 32 34.1	+4.0
TUMR				S	Sn	19 33 11.1	+3.1
ALID	**Alaid**	**3.54**	**253**	*e*P	Pn	19 32 36.1	+2.6
BKI	**Bering**	**4.39**	**42**	*e*S	Sn	19 33 36.6	+1.9

*JMA **20** 19:32:40.9±0.3, 21°.75N×121°.37E, h3km, M3.2*
*ISCJB **20** 19:32:43.9±0.7, 21°.81N±0°.04×121°.46E±0°.03, h15km±5km, Error ellipse: s-maj=6.6km s-min=4.4km az=174.3*
*TAP **20** 19:32:45.3, 21°.96N×121°.30E, h2km±1km, ML2.6, D*

ISC 20 19:32:44.5±1.6, **21°.86N**±0°.06×**121°.39E**±0°.03, **h15**km±9km, **n34**, σ0°.**76**/62, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.23**	**40**	P	**Pb**	**19 32 51.1**	**+0.8**
	baz=71						
LAY				S	**Sb**	**19 32 56.1**	**+1.8**
	baz=71						
TSEB	**Hengchuen, Pin**	**0.46**	**275**	P	**Pb**	**19 32 55.1**	**+0.8**
	baz=262						
TSEB				S	**Sn**	**19 33 02.8**	**-1.6**
	baz=262						
TWKBT	**Hengchun**	**0.55**	**278**	*e*P	**Pb**	**19 32 55.7**	**0.0**
	baz=268						
TWKBT				*e*S	**Sb**	**19 33 02.6**	**-0.8**
	baz=268						
TWK1	**Hengchun**	**0.55**	**279**	*i* P	**Pb**	**19 32 55.7**	**-0.1**
	baz=267						
TWK1				*i* S	**Sg**	**19 33 02.6**	**-0.2**
	baz=267						
HEN	**Hengchun**	**0.62**	**283**	*e*P	**Pb**	**19 32 56.8**	**-0.2**
	baz=275						
HEN				*e*S	**Sb**	**19 33 05.9**	**+0.2**
	baz=275						
TAW	**Tawu**	**0.68**	**317**	P	**Pg**	**19 32 57.6**	**-0.2**
	baz=317						
TAW				*e*S	**Sb**	**19 33 07.6**	**+0.5**
	baz=317						
EAST	**Anshuo**	**0.72**	**316**	P	**Pg**	**19 32 58.5**	**-0.1**
	baz=315						
EAST				S	**Sg**	**19 33 07.8**	**-0.4**
	baz=315						
ECL	**Taimali**	**0.84**	**331**	P	**Pg**	**19 33 00.2**	**-0.6**
	baz=333						
ECL				S	**Sb**	**19 33 12.0**	**+0.2**
	baz=333						
SCZT	**Fangliau**	**0.88**	**306**	P	**Pb**	**19 33 01.6**	**+0.2**
	baz=303						
SCZT				*e*S	**Sb**	**19 33 12.9**	**-0.1**
	baz=303						
SSPT	**Xinbi**	**0.98**	**309**	*e*P	**Pn**	**19 33 04.9**	**+1.2**
	baz=307						
SSPT				*e*S	**Sn**	**19 33 17.8**	**+0.4**
	baz=307						
TWGBT	**Beinan**	**0.99**	**343**	*e*P	**Pb**	**19 33 02.2**	**-1.2**
	baz=346						
TWGBT				*e*S	**Sg**	**19 33 16.8**	**0.0**
	baz=346						
TWG	**Pinlang**	**1.00**	**343**	*e*P	**Pb**	**19 33 02.2**	**-1.4**
	baz=346						
TWG				S	**Sb**	**19 33 16.8**	**+0.3**
	baz=346						
WLCH	**Liuqiu**	**1.06**	**298**	*e*P	**Pn**	**19 33 05.1**	**+0.3**
	baz=294						
WLCH				*e*S	**Sb**	**19 33 17.9**	**-0.3**
	baz=294						
SSD	**Sandimen**	**1.13**	**321**	*e*P	**Pg**	**19 33 06.9**	**+0.6**
	baz=322						
SSD				*e*S	**Sb**	**19 33 20.1**	**0.0**
	baz=322						
CHKT	**Chengkung**	**1.23**	**359**	*e*P	**Pn**	**19 33 07.5**	**+0.4**
	baz=3.0						
CHKT				*e*S	**Sg**	**19 33 24.7**	**+0.3**
	baz=3.0						
TWM1	**Shoushan**	**1.31**	**317**	*e*P	**Pb**	**19 33 09.2**	**+0.4**
	baz=316						
SLGT	**Liugui**	**1.32**	**329**	*e*P	**Pg**	**19 33 09.6**	**-0.3**
	baz=329						
TWF1	**Yuli**	**1.49**	**357**	*e*P	**Pn**	**19 33 11.3**	**+0.7**
YULB	**Yu-li**	**1.53**	**357**	*e*P	**Pb**	**19 33 12.3**	**-0.2**
	baz=359						
CHN1	**Nanshi**	**1.54**	**329**	*e*P	**Pb**	**19 33 13.4**	**+0.7**
	baz=329						
CHN1				*e*S	**Sb**	**19 33 32.2**	**+0.1**
	baz=329						
WTP	**Ta-pu**	**1.56**	**333**	P	**Pb**	**19 33 13.1**	**+0.1**
	baz=333						
WTP				*e*S	**Sb**	**19 33 32.9**	**+0.4**
	baz=333						
SNST	**Tainan City**	**1.59**	**329**	*e*P	**Pb**	**19 33 13.2**	**-0.3**
	baz=329						
HGSD	**Ruisui**	**1.62**	**1**	*e*P	**Pb**	**19 33 13.8**	**-0.3**
	baz=4.0						
HGSD				*e*S	**Sb**	**19 33 34.7**	**+0.2**
	baz=4.0						
CHN4	**Tsaushan**	**1.66**	**334**	P	**Pb**	**19 33 14.8**	**0.0**
	baz=334						
CHN4				*e*S	**Sb**	**19 33 36.0**	**+0.6**
	baz=334						
EGFH	**Guangfu**	**1.80**	**1**	*e*P	**Pb**	**19 33 16.9**	**-0.2**
	baz=3.0						
EGFH				*e*S	**Sb**	**19 33 39.8**	**+0.3**
	baz=3.0						
VWDT	**VWDT**	**1.90**	**353**	*e*P	**Pb**	**19 33 18.4**	**-0.4**
	baz=355						
VWDT				*e*S	**Sb**	**19 33 42.1**	**-0.2**
	baz=355						
ESL	**Shilin**	**1.94**	**1**	*e*P	**Pn**	**19 33 18.0**	**+1.1**
	baz=4.0						
ESL				*e*S	**Sb**	**19 33 43.2**	**-0.5**
	baz=4.0						
SMLT	**Sun Moon Lake**	**2.06**	**347**	*e*P	**Pb**	**19 33 20.6**	**-1.1**
	baz=349						
SMLT				*e*S	**Sn**	**19 33 46.0**	**+1.8**
	baz=349						
HATJ	**Hateruma jima**	**3.12**	**45**	P	**Pn**	**19 33 33.6**	**+0.5**
HATJ				*e*S	**Sn**	**19 34 09.0**	**-1.0**
IRIF	**Iriomote-Funau**	**3.27**	**41**	P	**Pn**	**19 33 36.1**	**+0.9**
JKRS	**Kuro-shima**	**3.38**	**45**	P	**Pn**	**19 33 37.4**	**+0.8**
JKRS				*e*S	**Sn**	**19 34 15.6**	**-0.8**
JIJ	**Ishigaki jima**	**3.55**	**45**	P	**Pn**	**19 33 39.0**	**-0.1**
JIJ				*e*S	**Sn**	**19 34 19.5**	**-1.3**
JISG	**Ishigakijimahi**	**3.82**	**44**	P	**Pn**	**19 33 43.3**	**+0.6**
JISG				*e*S	**Sn**	**19 34 26.2**	**-1.1**
JTJ	**Tarama**	**4.11**	**47**	P	**Pn**	**19 33 47.4**	**+0.6**
JTJ				*e*S	**Sn**	**19 34 32.7**	**-1.9**

*YARS **20** 19:48:31.8±0.1, 56°.670N±0°.008×121°.66E±0°.02, h12km±2km*
*BYKL **20** 19:48:31.4±0.6, 56°.69N×121°.73E, h7km±5km*

ISC 20 19:48:31.3±0.8, **56°.65N**±0°.03×**121°.65E**±0°.02, **h6**km±6km, **n42**, σ3°.**55**/66, **3C-5D, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKLR	**Yuktali**	**0.06**	**176**	⇓*i*Pg	**Pg**	**19 48 35.0**	**+2.1**
YKLR				*i* Sg	**Sg**	**19 48 36.0**	**+2.0**
YKLR	**Yuktali**	**0.06**	**176**	*i* P	**Pg**	**19 48 34.8**	**+1.9**
YKLR				*e*S	**Sg**	**19 48 35.6**	**+1.6**
KHNR	**Khani**	**0.96**	**287**	⇓*i*Pg	**Pg**	**19 48 50.2**	**+0.6**
KHNR				*e*Sg	**Sg**	**19 49 02.8**	**+0.8**
KHN	**Khani**	**1.06**	**286**	*i* P	**Pb**	**19 48 50.1**	**-1.9**
KHN				*e*S	**Sb**	**19 49 02.3**	**-3.8**
CRS	**Chara**	**1.88**	**279**	⇓*i*Pg	**Pb**	**19 49 06.4**	**+0.5**
CRS				*e*Sg	**Sb**	**19 49 30.7**	**+1.1**
CRS				*e*		19 49 33.0	
CRS				Pmax			
	516nm,0.6s						
CRS				max			
	804nm,0.7s						
TNDR	**Tynda**	**2.29**	**130**	⇓*i*Pg	**Pb**	**19 49 12.7**	**-0.3**
TNDR				*e*Sg	**Sb**	**19 49 41.8**	**+0.2**
TNDR				*e*		19 49 45.1	
TNDR	**Tynda**	**2.29**	**130**	*i* P	**Pb**	**19 49 12.8**	**-0.3**
TNDR				*e*S	**Sb**	**19 49 43.6**	**+2.0**
TUP	**Tupik**	**2.43**	**204**	⇑*i*Pn	**Pn**	**19 49 12.6**	**+1.1**
TUP				*e*Pg	**Pb**	**19 49 15.4**	**+0.1**
TUP				*e*		19 49 16.3	
TUP				*e*Sg	**Sb**	**19 49 47.1**	**+1.6**
TUP				max			
	118nm,0.3s						
TUP				Smax			
	743nm,0.6s						
TUP	**Tupik**	**2.43**	**204**	*e*P	**Pn**	**19 49 12.1**	**+0.6**
TUP				*e*P	**Pb**	**19 49 15.4**	**+0.1**
TUP				*e*S	**Sn**	**19 49 41.7**	**+0.2**
TUP				*e*S	**Sb**	**19 49 47.0**	**+1.6**
ALDR	**Aldan**	**2.82**	**44**	*e*P	**Pb**	**19 49 22.3**	**+0.3**
ALDR				*e*S	**Sb**	**19 49 58.6**	**+1.8**
NLYR	**Nelyaty**	**3.29**	**270**	⇑*i*Pn	**Pn**	**19 49 25.7**	**+2.4**
NLYR				⇓*i*Pg	**Pb**	**19 49 31.0**	**+1.0**
NLYR				*e*Sg	**Sb**	**19 50 13.0**	**+2.7**
NLYR				Pmax			
	42nm,0.4s						
NLYR				Smax			
	318nm,0.8s						
OLMR	**Olekminsk**	**3.79**	**351**	*e*P	**Pn**	**19 49 30.0**	**-0.1**
OLMR				*e*P	**Pb**	**19 49 40.3**	**+1.9**
OLMR				*e*S	**Sn**	**19 50 12.8**	**-2.0**
OLMR				*e*S	**Sb**	**19 50 27.9**	**+3.4**
BOD	**Bodaibo**	**4.32**	**289**	*e*Pn	**Pn**	**19 49 39.1**	**+1.8**
BOD				*e*Pg	**Pb**	**19 49 48.8**	**+1.4**
BOD				*e*Sg	**Sb**	**19 50 43.9**	**+4.2**
BOD				Pmax			
	10.0nm,0.5s						
BOD				Smax			
	90nm,0.7s						
SVKR	**Severomuysk**	**4.53**	**267**	*e*	**Pb**	**19 49 51.8**	**+0.7**
SVKR				*e*		19 50 24.5	
SVKR				*e*Sg	**Sg**	**19 50 52.6**	**-3.9**
SVKR				*e*		19 51 02.4	
SVKR				max			
	227nm,0.5s						
UKT	**Uakit**	**4.64**	**259**	*e*Pn	**Pn**	**19 49 43.1**	**+1.2**
UKT				⇑*i*Pg	**Pb**	**19 49 54.7**	**+1.6**
UKT				*e*Sg	**Sb**	**19 50 55.0**	**+5.8**
UKT				Pmax			
	14nm,0.7s						
UKT				Smax			
	94nm,0.6s						
CGD	**Chagda**	**5.25**	**63**	*e*P	**Pn**	**19 49 50.5**	**+0.3**
CGD				*e*P	**Pb**	**19 50 06.4**	**+3.0**
CGD				*e*S	**Sn**	**19 50 48.2**	**-2.7**
CGD				*e*S	**Sg**	**19 51 13.2**	**-6.5**
YOA	**Uoyan**	**5.54**	**269**	*e*Pn	**Pn**	**19 49 57.1**	**+3.0**
YOA				*e*Pg	**Pb**	**19 50 11.8**	**+3.5**
YOA				*e*Sg	**Sg**	**19 51 22.4**	**-6.5**
YOA				Pmax			
	29nm,0.7s						
YOA				Smax			
	366nm,1.8s						
KMO	**Kumora**	**5.87**	**267**	*e*Pn	**Pn**	**19 49 59.0**	**+0.3**
KMO				*e*Pg	**Pb**	**19 50 17.3**	**+3.3**
KMO				*e*Sg	**Sg**	**19 51 33.5**	**-6.1**
KMO				Pmax			
	6.0nm,0.5s						
KMO			

173nm,1.9s
UUDB Ulan-Yde 9.48 246 *e* Pn 19 50 59.6 +11
UUDB *e*Sg Sn 19 53 26.7 +52
UUDB *e* 19 53 34.8
UUDB max
3.0nm,0.3s
UUDB max
112nm,1.2s
TRG Tyrgan 9.67 253 *e* Pn 19 51 45.9 +55
TRG *e* 19 53 19.4
TRG Sg Sn 19 53 34.1 +54
TRG Smax
26nm,1.2s
KAB Kabansk 9.88 249 Sg Sn 19 53 40.2 +55
KAB Smax
161nm,1.1s
STDB Stepnoy Dvoret 9.97 250 *e* 19 53 35.3
STDB *e*Sg Sn 19 53 44.2 +57
HRMR Khuramsha 9.97 246 *e*Sg Sn 19 53 43.3 +56
HRMR Smax
177nm,1.1s
LSTR Listvyanka 10.93 251 *e* 19 52 48.8
LSTR *e*Sg 19 54 11.9
LSTR *e* 19 54 24.9
LSTR max
19nm,1.9s
TLY Talaya 11.65 252 *e* 19 54 08.6
TLY Sg 19 54 34.2
TLY *e* 19 54 47.2
TLY max
10.0nm,1.0s
ARS Arshan 12.18 255 *e* 19 53 20.7
ARS *e*Sg 19 54 49.8
ARS *e* 19 54 59.4
ARS max
31nm,1.5s
ZAK Zakamensk 12.58 248 Sg 19 55 01.3
ZAK *e* 19 55 04.5
ZAK max
23nm,1.4s
MOY Mondy 13.07 256 *e*Sg S 19 55 18.5 +50
MOY Smax
15nm,1.7s
ORL Orlik 13.29 261 *e* 19 55 03.5
ORL *e*Sg S 19 55 23.1 +50
ORL Smax
11nm,2.2s
TDJR Todzha 15.39 265 *e* 19 56 07.8
TDJR Sg 19 56 28.3

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*NNC **20** 19:48:53.3±0.3,44°.52N×79°.39E,h0km,mb4.0,mpv4.1,*
Error ellipse: s-maj=2.6km s-min=2.2km az=100.0
*SOME **20** 19:48:54.1,44°.53N×79°.47E,h25km*
ISC 20 19:48:53.4±1.2,44°.51N±0°.02×79°.42E±0°.02,h3km±10km,
n62,σ0s91/99,11C-10D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.32**	**123**	P	**Pb**	**19 49 01.2**	**-0.5**
	1μm,0.1s						
DJR				S	**Sb**	**19 49 06.1**	**-1.3**
	3μm,0.2s						
DJR	**Jarkent**	**0.32**	**123**	*e*P	**Pb**	**19 49 01.2**	**-0.5**
	1μm,0.1s						
DJR				*e*S	**Sb**	**19 49 06.0**	**-1.3**
	3μm,0.2s						
KAPS	**Kapalarasan**	**0.78**	**357**	P	**Pg**	**19 49 08.5**	**+0.2**
	304nm,0.2s						
KAPS				S	**Sg**	**19 49 18.7**	**+0.2**
	809nm,0.1s						
KAPS	**Kapalarasan**	**0.78**	**357**	*e*P	**Pg**	**19 49 08.5**	**+0.2**
	304nm,0.2s						
KAPS				*e*S	**Sg**	**19 49 18.7**	**+0.2**
	809nm,0.1s						
MNBS	**Baschi**	**0.85**	**240**	P	**Pg**	**19 49 09.8**	**+0.2**
	134nm,0.1s						
MNBS				S	**Sg**	**19 49 20.9**	**+0.3**
	1μm,0.3s						
MNBS	**Baschi**	**0.85**	**240**	*e*P	**Pg**	**19 49 09.8**	**+0.2**
	134nm,0.1s						
MNBS				*e*S	**Sg**	**19 49 20.9**	**+0.3**
	1μm,0.3s						
TDK	**Taldyqorghan**	**0.88**	**305**	P	**Pg**	**19 49 10.3**	**+0.1**
	102nm,0.2s						
TDK				S	**Sg**	**19 49 21.6**	**0.0**
	524nm,0.3s						
TDK	**Taldyqorghan**	**0.88**	**305**	*e*P	**Pg**	**19 49 10.3**	**+0.1**
	102nm,0.2s						
TDK				*e*S	**Sg**	**19 49 21.6**	**0.0**
	524nm,0.3s						
PDGK	**Podgornoye**	**1.18**	**178**	P	**Pn**	**19 49 16.0**	**-0.9**
	63nm,0.1s						
PDGK				S	**Sb**	**19 49 32.0**	**-0.1**
	196nm,0.3s						
PDGK	**Podgornoye**	**1.18**	**178**	⇑P	**Pn**	**19 49 16.0**	**-0.9**
	53nm,0.4s						
PDGK				⇓S	**Sb**	**19 49 31.9**	**-0.3**
	245nm,0.6s						
ARXS	**Arharly**	**1.18**	**256**	P	**Pn**	**19 49 16.2**	**-0.7**
	157nm,0.1s						
ARXS				S	**Sb**	**19 49 31.7**	**-0.5**
	627nm,0.2s						
ARXS	**Arharly**	**1.18**	**256**	*e*P	**Pn**	**19 49 16.2**	**-0.7**
	157nm,0.1s						
ARXS				*e*S	**Sb**	**19 49 31.7**	**-0.5**
	627nm,0.2s						
KTMS	**Ketmen**	**1.25**	**147**	P	**Pn**	**19 49 17.2**	**-0.7**
	140nm,0.2s						
KTMS				S	**Sb**	**19 49 34.1**	**-0.3**
	443nm,0.3s						
KTMS	**Ketmen**	**1.25**	**147**	*e*P	**Pn**	**19 49 17.2**	**-0.7**
	140nm,0.2s						
KTMS				*e*S	**Sb**	**19 49 34.1**	**-0.3**
	443nm,0.3s						
SHLS	**Shalkode**	**1.35**	**179**	P	**Pb**	**19 49 19.6**	**+0.2**
	179nm,0.2s						
SHLS				S	**Sg**	**19 49 37.8**	**+1.1**
	763nm,0.3s						
SHLS	**Shalkode**	**1.35**	**179**	*e*P	**Pb**	**19 49 19.6**	**+0.2**
	179nm,0.2s						
SHLS				*e*S	**Sg**	**19 49 37.8**	**+1.1**
	763nm,0.3s						
KURS	**Kuram**	**1.36**	**222**	P	**Pb**	**19 49 19.3**	**-0.2**
	43nm,0.2s						
KURS				S	**Sb**	**19 49 37.3**	**0.0**
	277nm,0.3s						
KURS	**Kuram**	**1.36**	**222**	*e*P	**Pb**	**19 49 19.3**	**-0.2**
	43nm,0.2s						
KURS				*e*S	**Sb**	**19 49 37.3**	**0.0**
	277nm,0.3s						
UZB	**Uzynbulak**	**1.39**	**192**	P	**Pn**	**19 49 19.6**	**-0.2**
	134nm,0.1s						
UZB				S	**Sb**	**19 49 38.4**	**+0.1**
	850nm,0.3s						
UZB	**Uzynbulak**	**1.39**	**192**	*e*P	**Pn**	**19 49 19.6**	**-0.2**
	134nm,0.1s						
UZB				*e*S	**Sb**	**19 49 38.2**	**0.0**
	850nm,0.3s						
SATY	**Saty**	**1.62**	**207**	P	**Pb**	**19 49 24.2**	**+0.2**
	336nm,0.1s						
SATY				S	**Sg**	**19 49 46.1**	**+0.6**
	3μm,0.3s						
SATY	**Saty**	**1.62**	**207**	*e*P	**Pb**	**19 49 24.2**	**+0.2**
	336nm,0.1s						
SATY				*e*S	**Sg**	**19 49 46.1**	**+0.6**
	3μm,0.3s						
CHKK	**Chushkaly**	**1.87**	**250**	P	**Pb**	**19 49 27.2**	**-1.0**
	87nm,0.2s						
CHKK				S	**Sb**	**19 49 51.1**	**-0.8**
	1μm,0.2s						
CHKK	**Chushkaly**	**1.87**	**250**	*e*P	**Pb**	**19 49 27.2**	**-1.0**
	87nm,0.2s						
CHKK				*e*S	**Sb**	**19 49 51.1**	**-0.8**
	1μm,0.2s						
KOTS	**Kotyrbulak**	**2.10**	**234**	Pg	**Pb**	**19 49 32.0**	**-0.2**
	48nm,0.2s						
KOTS				Lg	Lg	19 49 59.1	
	2μm,0.3s						
KOTS	**Kotyrbulak**	**2.10**	**234**	*e*P	**Pb**	**19 49 32.0**	**-0.2**
	48nm,0.2s						
KOTS				*e*S	**Sb**	**19 49 59.1**	**+0.4**
	2μm,0.3s						
KTBS	**Karatobe**	**2.13**	**249**	Pg	**Pb**	**19 49 31.4**	**-1.1**
	53nm,0.2s						
KTBS				Lg	Lg	19 49 58.3	
	430nm,0.3s						
KTBS	**Karatobe**	**2.13**	**249**	*e*P	**Pb**	**19 49 31.4**	**-1.1**
	53nm,0.2s						
KTBS				*e*S	**Sb**	**19 49 58.3**	**-1.1**
	430nm,0.3s						
MDOK	**Medeo**	**2.18**	**233**	⇓Pn	**Pn**	**19 49 30.8**	**+0.1**
	53nm,0.8s						
MDOK				⇓Lg	Lg	19 50 01.1	
	111nm,0.3s						
MDOK	**Medeo**	**2.18**	**233**	Pg	**Pb**	**19 49 32.9**	**-0.7**
	40nm,0.4s						
MDOK				Lg	Lg	19 50 01.0	
	362nm,0.2s						
MDOK	**Medeo**	**2.18**	**233**	*e*P	**Pb**	**19 49 32.9**	**-0.7**
	40nm,0.4s						
MDOK				*e*S	**Sb**	**19 50 01.0**	**0.0**
	362nm,0.2s						
KNDC	**Almaty**	**2.19**	**235**	⇓P	**Pb**	**19 49 33.0**	**-0.8**
	18nm,0.3s						
KNDC				⇑S	**Sb**	**19 50 02.5**	**+1.1**
	596nm,0.9s						
AAA	**Alma-Ata**	**2.23**	**235**	Pg	**Pb**	**19 49 34.3**	**-0.1**
	71nm,0.2s						
AAA				Lg	Lg	19 50 03.4	
	372nm,0.3s						
KUU	**Kurty**	**2.30**	**256**	Pg	**Pb**	**19 49 34.1**	**-1.5**
	21nm,0.2s						
KUU				Lg	Lg	19 50 03.3	
	298nm,0.4s						
KUU	**Kurty**	**2.30**	**256**	*e*P	**Pb**	**19 49 34.2**	**-1.3**
	21nm,0.2s						
KUU				*e*S	**Sb**	**19 50 03.3**	**-1.1**
	298nm,0.4s						
TNSS	**Tian-Shan**	**2.32**	**232**	Pg	**Pb**	**19 49 35.7**	**-0.4**
	36nm,0.3s						
TNSS				Lg	Lg	19 50 05.3	
	225nm,0.4s						
TNSS	**Tian-Shan**	**2.32**	**232**	*e*P	**Pb**	**19 49 35.7**	**-0.4**
	36nm,0.3s						
TNSS				*e*S	**Sb**	**19 50 05.3**	**+0.1**
	225nm,0.4s						
IZV	**Izvestkoviy**	**2.51**	**235**	Pg	**Pb**	**19 49 39.1**	**-0.1**
	15nm,0.1s						
IZV				Lg	Lg	19 50 11.4	
	161nm,0.4s						
IZV	**Izvestkoviy**	**2.51**	**235**	*e*P	**Pb**	**19 49 39.1**	**-0.1**
	15nm,0.1s						
IZV				*e*S	**Sb**	**19 50 11.4**	**+0.8**
	161nm,0.4s						
MTBS	**Maitube**	**2.56**	**239**	Pg	**Pb**	**19 49 39.8**	**-0.3**
	25nm,0.2s						
MTBS				Lg	Lg	19 50 12.6	
	604nm,0.3s						
MTBS	**Maitube**	**2.56**	**239**	*e*P	**Pb**	**19 49 39.8**	**-0.3**
	25nm,0.2s						
MTBS				*e*S	**Sb**	**19 50 12.6**	**+0.5**
	604nm,0.3s						
KST	**Kastek**	**2.90**	**241**	Pg	**Pb**	**19 49 45.1**	**-0.7**
	25nm,0.4s						
KST				Lg	Lg	19 50 21.9	
	76nm,0.3s						
KST	**Kastek**	**2.90**	**241**	*e*P	**Pb**	**19 49 45.1**	**-0.7**
	25nm,0.4s						
KST				*e*S	**Sb**	**19 50 21.9**	**+0.1**
	76nm,0.3s						
MAKZ	**Makanchi**	**2.92**	**37**	⇑Pn	**Pn**	**19 49 41.1**	**+0.4**
	3.5nm,0.4s						
MAKZ				⇓Pg	**Pb**	**19 49 47.0**	**+0.9**
	9.7nm,0.8s						
MAKZ				⇑Sn	**Sn**	**19 50 17.1**	**+0.8**
	9.5nm,0.4s						
DGS	**Degeres**	**2.92**	**246**	Pg	**Pb**	**19 49 45.6**	**-0.7**
	20nm,0.4s						
DGS				Lg	Lg	19 50 22.6	
	188nm,0.4s						
DGS	**Degeres**	**2.92**	**246**	*e*P	**Pb**	**19 49 45.6**	**-0.7**
	20nm,0.4s						
DGS				*e*S	**Sb**	**19 50 22.6**	**+0.1**
	188nm,0.4s						
MK31	**Makanchi Array**	**3.05**	**40**	Pn	**Pn**	**19 49 43.2**	**+0.7**
	4.8nm,0.3s,baz=214,slow=15,SNR=471						
MK31				Pg	**Pg**	**19 49 50.2**	**-1.5**
	6.0nm,0.3s,baz=216,slow=16,SNR=34						
MK31				⇓Sn	**Sn**	**19 50 20.1**	**+0.6**
	10nm,0.3s,baz=216,slow=27,SNR=8.5						
TKM2	**Tokmak 2**	**3.19**	**242**	P	**Pb**	**19 49 50.0**	**-0.9**
	SNR=6.9						
TKM2	**Tokmak 2**	**3.19**	**242**	⇓Pn	**Pn**	**19 49 45.7**	**+1.0**
	4.5nm,0.3s						
TKM2				⇑Lg	Lg	19 50 33.9	
	44nm,0.5s						
ULHL	**Ulahol**	**3.24**	**227**	P	**Pn**	**19 49 47.4**	**+2.1**
	SNR=5.5						
CHMS	**Chumysh**	**3.70**	**248**	P	**Pb**	**19 50 01.6**	**+2.2**
	SNR=10						
KBK	**Karagaybulak**	**3.74**	**242**	P	**Pn**	**19 49 53.4**	**+1.2**
	SNR=6.8						
USP	**Ospenovka**	**3.77**	**253**	P	**Pb**	**19 50 02.2**	**+1.6**
	SNR=23						
KZA	**Kyzart**	**3.89**	**233**	P	**Pg**	**19 50 07.2**	**-0.8**
	SNR=10						
AAK	**Ala-Archa**	**4.04**	**244**	P	**Pb**	**19 50 07.2**	**+1.9**
	SNR=13						
AAK	**Ala-Archa**	**4.04**	**244**	⇑Pg	**Pb**	**19 50 06.1**	**+0.9**
	5.4nm,0.3s						
AAK				⇓Lg	Lg	19 51 00.5	
	50nm,0.6s						
UCH	**Uchtor**	**4.24**	**239**	P	**Pb**	**19 50 11.6**	**+2.7**
	SNR=13						
EKS2	**Erkin-Say**	**4.50**	**248**	P	**Pn**	**19 50 03.5**	**+1.0**
	SNR=6.2						
AML	**Almayashu**	**4.80**	**242**	P	Pn	19 50 12.3	+5.2
	SNR=13						
KURBB	**Kurchatov Arra**	**6.15**	**355**	⇑Pg	Pb	19 50 45.6	+4.5
	5.9nm,0.9s						
KURBB				⇑Sn	**Sn**	**19 51 35.2**	**-0.7**
	14nm,0.8s						
KURBB				⇑Lg	Lg	19 52 05.5	
	47nm,0.8s						
KURK	**Kurchatov**	**6.24**	**355**	⇑Sn	**Sn**	**19 51 36.8**	**-1.2**
	2.9nm,0.4s						
KURK				⇑Lg	Lg	19 52 09.0	
	37nm,1.1s						
KK31	**Karatay Array**	**6.60**	**261**	⇓Pg	**Pg**	**19 50 56.2**	**-3.6**
	0.5nm,0.3s,baz=70,slow=16,SNR=4.1						
KK31				⇓Lg	Lg	19 52 23.0	
	4.9nm,0.5s,baz=78,slow=26,SNR=11						

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*ISCJB **20** 19:57:29.5±1.1,20°.53S±0°.03×69°.1W±0°.1,h115km±9km,*
Error ellipse: s-maj=17.1km s-min=5.2km az=176.3
*GUC **20** 19:57:30.0±0.7,20°.55S×68°.99W,h109km±3km,ML3.6*
ISC 20 19:57:29.8±2.1,20°.53S±0°.04×69°.1W±0°.1,h112km±12km,
n18,σ0s79/31,8C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.40**	**348**	⇑*i*P	**Pn**	**19 57 46.5**	**-0.3**
PB08				*i* S	**Sn**	**19 57 58.8**	**-0.5**
PB08				IAML		19 57 59.7	
	comp=N,8μm,0.3s						
PB01	**IPOC Station P**	**0.64**	**218**	*e*S	**Sn**	**19 58 02.5**	**+0.9**
PB01	**IPOC Station P**	**0.64**	**218**	*e*P	**Pn**	**19 57 47.9**	**-0.1**
PB01				*i* S	**Sn**	**19 58 01.0**	**-0.7**
PB01				IAML		19 58 03.1	
	comp=N,3μm,0.4s						
PB11	**IPOC Station P**	**0.95**	**324**	*e*P	**Pn**	**19 57 50.8**	**0.0**
PB11				*e*S	**Sn**	**19 58 06.2**	**-0.3**
PB11				*i*		19 58 06.2	
PB11	**IPOC Station P**	**0.95**	**324**	⇑*i*P	**Pn**	**19 57 50.9**	**+0.1**
PB11				*i* S	**Sn**	**19 58 07.1**	**+0.6**
PB11				IAML		19 58 07.8	
	comp=N,3μm,0.4s						
PB02	**IPOC Station P**	**1.10**	**225**	*e*P	**Pn**	**19 57 51.7**	**-0.6**
PB02	**IPOC Station P**	**1.10**	**225**	⇑*i*P	**Pn**	**19 57 52.7**	**+0.4**
PB02				*e*S	**Sn**	**19 58 09.7**	**+0.4**
PB02				IAML		19 58 12.1	
	comp=E,3μm,0.2s						
PB09	**IPOC Station P**	**1.27**	**187**	⇑*i*P	**Pn**	**19 57 54.3**	**+0.1**
PB09				*i* S	**Sn**	**19 58 12.9**	**+0.2**
PB09				IAML		19 58 15.7	
	comp=E,881nm,0.4s						
PSGC	**Pisagua**	**1.36**	**313**	⇑*i*P	**Pn**	**19 57 55.3**	**+0.1**
PSGC				*i* S	**Sn**	**19 58 15.1**	**+0.7**
PSGC				IAML		19 58 16.8	
	comp=N,897nm,0.3s						
PB07	**IPOC Station P**	**1.41**	**213**	*e*P	**Pn**	**19 57 55.7**	**-0.2**
PB07	**IPOC Station P**	**1.41**	**213**	⇑*i*P	**Pn**	**19 57 56.0**	**+0.1**
PB07				*i* S	**Sn**	**19 58 16.1**	**+0.5**
PB07				IAML		19 58 18.2	
	comp=E,1μm,0.6s						
PB03	**IPOC Station P**	**1.64**	**203**	*e*P	**Pn**	**19 57 58.3**	**-0.2**
PB03				*i* S	**Sn**	**19 58 20.4**	**0.0**
PB03				IAML		19 58 21.4	
	comp=E,639nm,0.3s						
PB04	**IPOC Station P**	**2.06**	**209**	*e*P	**Pn**	**19 58 05.0**	**+1.3**
PB04	**IPOC Station P**	**2.06**	**209**	*e*P	**Pn**	**19 58 04.4**	**+0.6**
PB04				*i* S	**Sn**	**19 58 30.0**	**+0.3**
PB04				IAML		19 58 36.1	
	comp=N,409nm,0.2s						
LVC	**Limon Verde**	**2.07**	**176**	*e*P	**Pn**	**19 58 05.2**	**+1.0**
PB06	**IPOC Station P**	**2.21**	**192**	*e*P	**Pn**	**19 58 06.0**	**+0.2**
PB06				*i* S	**Sn**	**19 58 32.7**	**-0.6**
PB06				IAML		19 58 36.1	
	comp=E,399nm,0.2s						
PB12	**IPOC Station P**	**2.25**	**328**	⇑*i*P	**Pn**	**19 58 05.6**	**-0.6**
PB12				*i* S	**Sn**	**19 58 34.4**	**+0.4**
PB05	**IPOC Station P**	**2.54**	**204**	⇑*i*P	**Pn**	**19 58 09.8**	**-0.1**
PB05				*i* S	**Sn**	**19 58 37.6**	**-3.1**
PB05				IAML		19 58 40.3	
	comp=E,184nm,0.3s						

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*ISCJB **20** 20:10:41.5±0.6,30°.90S±0°.04×138°.80E±0°.05,h33km,*
Error ellipse: s-maj=7.0km s-min=5.0km az=137.9
*AUST **20** 20:10:41.3±0.0,31°.14S×138°.84E,h10km,Error ellipse:*
s-maj=0.4km s-min=0.1km az=344.0
*IDC **20** 20:10:42.7±3.0,30°.61S×139°.27E,h0km,mb1 3.1/3,*
mb1mx3.1/29,mbtmp2.9/3,ML2.6/3,Error ellipse:
s-maj=80.0km s-min=22.9km az=45.0
ISC 20 20:10:43.7±1.0,30°.98S±0°.06×138°.82E±0°.05,h33km,n7,
σ0s85/13,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**2.45**	**178**	P	**Pn**	**20 11 20.9**	**-0.5**
	baz=2.3						
HTT				S	**Sn**	**20 11 49.8**	**-0.5**
	baz=2.3						
STKA	**Stephens Creek**	**2.54**	**111**	P	**Pn**	**20 11 22.5**	**0.0**
	baz=2.5						
STKA				S	**Sn**	**20 11 52.4**	**+0.1**
	baz=2.5						
STKA	**Stephens Creek**	**2.54**	**111**	Pn	**Pn**	**20 11 22.8**	**+0.2**
	0.2nm,0.3s,baz=297,slow=14,SNR=12						
STKA				Sn	**Sn**	**20 11 53.2**	**+0.8**
	1.6nm,0.3s,baz=303,slow=14,SNR=6.1						
BBOO	**Buckleboo**	**2.98**	**231**	P	**Pn**	**20 11 28.4**	**-0.1**
	baz=2.9						
BBOO				S	**Sn**	**20 12 03.4**	**+0.3**
	baz=2.9						
CMSA	**Cobar Meteorol**	**5.91**	**97**	P	**Pn**	**20 12 08.2**	**-0.7**
	baz=5.9						
ASAR	**Alice Springs**	**8.49**	**328**	Pn	**Pn**	**20 12 46.1**	**+1.7**
	0.1nm,0.3s,baz=152,slow=12,SNR=6.2						
ASAR				Sn	**Sn**	**20 14 19.0**	**-0.1**
	0.2nm,0.3s,baz=152,slow=22,SNR=7.1						
WRA	**Warramunga Arr**	**11.71**	**339**	Pn	**Pn**	**20 13 28.1**	**-0.3**
	0.2nm,0.3s,baz=152,slow=13,SNR=14						
WRA				Sn	**Sn**	**20 15 36.4**	**-1.6**
	0.1nm,0.3s,baz=170,slow=24,SNR=4.7						

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*ISCJB **20** 20:12:43.5±0.5,35°.36N±0°.07×136°.97E±0°.09,*
h307km±4km,mb3.2/4,Error ellipse: s-maj=12.5km
s-min=10.2km az=20.6
*IDC **20** 20:12:43.7±1.0,35°.26N×137°.11E,h299km±16km,mb3.0/4,*
mb1 3.1/5,mb1mx2.7/47,mbtmp3.7/5,Error ellipse:
s-maj=48.4km s-min=17.1km az=76.0
*JMA **20** 20:12:44.2±0.1,35°.39N×136°.97E,h303km±2km,M2.8*
ISC 20 20:12:44.3±0.9,35°.36N±0°.07×136°.98E±0°.08,h301km±7km,
n23,σ0s65/28,mb3.3/4,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.31**	**320**	P	**Pn**	**20 13 23.0**	**+0.5**
JYTA				S	**S**	**20 13 52.9**	**0.0**
JGF	**Kuroka**	**0.39**	**52**	P	**Pn**	**20 13 22.8**	**0.0**
JGF				*e*S	**S**	**20 13 52.7**	**-0.6**
JIE	**Ise**	**0.99**	**193**	P	**Pn**	**20 13 25.2**	**+0.4**
JKG	**Kaga**	**1.06**	**330**	P	**Pn**	**20 13 25.2**	**+0.3**
JYN	**Shimob**	**1.28**	**83**	P	**Pn**	**20 13 26.5**	**+0.2**
JWT	**Wachi**	**1.29**	**267**	P	**Pn**	**20 13 26.6**	**+0.3**
JWT				S	**S**	**20 13 59.4**	**-0.2**
MAT	**Matsushiro**	**1.54**	**40**	P	**Pn**	**20 13 28.0**	**+0.2**
MAT				*e*S	**S**	**20 14 02.2**	**-0.2**
MAT	**Matsushiro**	**1.54**	**40**	P	**Pn**	**20 13 28.0**	**+0.2**
MJAR	**Matsushiro Arr**	**1.54**	**40**	P	**Pn**	**20 13 27.2**	**-0.6**
	1.1nm,0.3s,baz=215,slow=7.5,SNR=65						
MJAR				S	**S**	**20 14 01.9**	**-0.5**
	baz=221,slow=11,SNR=3.6						
TK02	**Tokai 2**	**1.55**	**155**	P	**Pn**	**20 13 28.5**	**+0.9**
JWY	**Kouya**	**1.61**	**225**	P	**Pn**	**20 13 28.3**	**-0.1**
JRY	**Ryogami san**	**1.70**	**67**	P	**Pn**	**20 13 29.1**	**+0.3**
TTO1	**TONANKAI O.B.S**	**1.74**	**185**	P	**Pn**	**20 13 29.9**	**+1.0**
JTNC	**Tanabenakahech**	**1.91**	**217**	P	**Pn**	**20 13 30.6**	**+0.1**
JSZ	**Suzu**	**2.11**	**8**	P	**Pn**	**20 13 32.2**	**+0.3**
JAG	**Ashikaga**	**2.27**	**61**	P	**Pn**	**20 13 32.7**	**-0.6**
JSD	**Sado**	**2.86**	**21**	P	**Pn**	**20 13 38.8**	**+0.1**
JHJ	**Hachijo jima 2**	**3.22**	**133**	S	**S**	**20 14 29.5**	**+0.8**
	6.9nm,0.3s,baz=320,slow=23,SNR=9.0						
ASAJ	**Asahikawa**	**9.75**	**25**	P	**Pn**	**20 15 00.4**	**+1.2**
	0.4nm,0.3s,baz=215,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**41.99**	**303**	P	**P**	**20 20 07.7**	**+1.2**
	0.2nm,0.7s,baz=68,slow=8.1,SNR=3.3						
WRA	**Warramunga Arr**	**55.05**	**183**	P	**P**	**20 21 44.2**	**-1.4**
	0.8nm,0.3s,baz=0.5,slow=7.1,SNR=58						
ASAR	**Alice Springs**	**58.78**	**183**	P	**P**	**20 22 10.6**	**-0.9**
	0.2nm,0.3s,baz=0.1,slow=6.3,SNR=8.3						
FINES	**FINESS Array B**	**68.58**	**331**	P	**P**	**20 23 14.6**	**-0.1**
	0.5nm,0.4s,baz=68,slow=6.8,SNR=7.2						

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*KRSC **20** 20:13:49.8±10.0,52°.09N×160°.81E,h42km±10km,ML5.2*
*IDC **20** 20:13:50.6±0.5,52°.35N×160°.26E,h0km,mb4.6/36,*
mb1 4.7/37,mb1mx4.7/46,mbtmp4.6/37,ML4.5/1,MS4.7/27,
Ms1 4.7/27,ms1mx4.6/43,Error ellipse: s-maj=14.2km
s-min=9.5km az=153.0
*ISCJB **20** 20:13:53.8±0.3,52°.17N±0°.02×160°.52E±0°.02,h40km±2km,*
mb5.0/354,MS5.0/62,Error ellipse: s-maj=4.1km
s-min=2.3km az=163.8
*MOS **20** 20:13:54.4±1.0,52°.22N×160°.41E,h52km,mb5.3/117,*
MS5.1/25,Error ellipse: s-maj=5.7km s-min=3.3km
az=100.1
*BJI **20** 20:13:54.6±0.0,52°.71N×159°.96E,h35km,mb5.0/61,*
mB5.1/49,Ms5.3/64,Ms7 5.2/57
*NEIC **20** 20:13:54.9±0.6,52°.26N×160°.38E,h35km±5km,mb5.0/215,*
Error ellipse: s-maj=4.5km s-min=2.2km az=170.0
*GCMT **20** 20:13:56.9±0.2,52°.20N±0°.01×160°.85E±0°.02,h22km,*
MW5.1/95,Moment Tensor Solution. s68,c107;
s95,c172; Duration: 0 Moment tensor: Scale 10^{16}Nm;
M_{rr}4.81±.17; $M_{\theta\theta}$-2.13±.11; $M_{\phi\phi}$-2.68±.11; $M_{r\theta}$1.89±.18;
$M_{\theta\phi}$-2.34±.07; $M_{\phi r}$1.76±.17; Best double couple:
M_o5.43800×10^{16} NP1:ϕ_s44.00000°,δ59.00000°,
λ93.00000°. NP2:ϕ_s219.00000°,δ31.00000°,λ86.00000°.
Principal axes: T 5.4670, Plg76.0000°, Azm322.0000°; N
-0.0580, Plg2.0000°, Azm223.0000°; P -5.4090,
Plg14.0000°, Azm132.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
ISC 20 20:13:54.6±0.5,52°.26N±0°.03×160°.47E±0°.03,h32km±2km,
h32km:pP-P,n911,σ1s53/974,mb5.0/361,MS5.0/61,
58C-15D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.89**	**342**	*e*P	**Pn**	**20 14 09.3**	**-1.5**
SPN				*e*S	**Sb**	**20 14 22.9**	**-0.1**
SPN	**Mys Shipunski**	**0.89**	**342**	PN	**Pn**	**20 14 09.3**	**-1.5**
SPN				S	**Sb**	**20 14 22.9**	**-0.1**
NLC	**Nalytchevo**	**1.14**	**324**	*e*P	**Pn**	**20 14 14.2**	**-0.1**
NLC				*e*S	**Sb**	**20 14 31.7**	**+1.5**
NLC	**

RUS S **Sb** **20 14 33.0 +0.8**
DALK Dalny 1.30 307 *e*P **Pn** **20 14 17.0 +0.5**
DALK *e*S **Sb** **20 14 34.8 +0.1**
DALK Dalny 1.30 307 PN **Pn** **20 14 17.0 +0.5**
DALK S **Sb** **20 14 34.8 +0.1**
PET Petropavlovsk 1.35 306 *e*Pn **Pn** **20 14 16.7 -0.4**
PET Petropavlovsk 1.35 306 *e*PN **Pn** **20 14 17.0 -0.1**
PET *e*S **Sb** **20 14 36.9 +0.9**
PET pmax pmax
comp=Z,13μm,2.9s
PET pmax pmax
comp=Z,3μm,0.8s
PET smax smax
comp=E,15μm,0.8s
PET smax smax
comp=N,17μm,0.6s
UGLR Uglovaya 1.38 314 *e*P **Pn** **20 14 18.3 +0.6**
UGLR Uglovaya 1.38 314 PN **Pn** **20 14 18.3 +0.6**
SDLR Sedlovina 1.41 317 *e*P **Pn** **20 14 18.2 +0.2**
SDLR Sedlovina 1.41 317 PN **Pn** **20 14 18.2 +0.2**
MTVR Mutnovka 1.42 280 *e*P **Pn** **20 14 18.5 +0.3**
MTVR Mutnovka 1.42 280 PN **Pn** **20 14 18.5 +0.3**
SMAR Somma 1.43 316 *e*P **Pn** **20 14 19.4 +0.9**
SMAR Somma 1.43 316 PN **Pn** **20 14 19.4 +0.9**
AVH Avacha 1.46 315 *i*P **Pn** **20 14 19.4 +0.7**
AVH Avacha 1.46 315 PN **Pn** **20 14 19.4 +0.7**
KRER Koryakskii 1.48 316 *e*P **Pb** **20 14 21.0 -0.6**
KRER Koryakskii 1.48 316 PN **Pb** **20 14 21.0 -0.6**
GRL Gorelyy 1.50 282 *e*P **Pb** **20 14 21.5 -0.3**
GRL Gorelyy 1.50 282 PN **Pb** **20 14 21.5 -0.3**
KOK Koryaka 1.52 314 *e*P **Pn** **20 14 20.4 +0.8**
KOK Koryaka 1.52 314 PN **Pn** **20 14 20.4 +0.8**
KRMR Karymshinskiy 1.54 293 *e*P **Pn** **20 14 20.3 +0.6**
KRMR Karymshinskiy 1.54 293 PN **Pn** **20 14 20.3 +0.6**
KDTR Khodutka, Kamc 1.54 254 *e*P **Pn** **20 14 19.1 -0.7**
KDTR *e*S **Sn** **20 14 39.7 +1.0**
KDTR Khodutka, Kamc 1.54 254 PN **Pn** **20 14 19.1 -0.7**
KDTR S **Sn** **20 14 39.7 +1.0**
KRX Arik 1.56 316 *e*P **Pb** **20 14 21.6 -1.3**
KRX Arik 1.56 316 PN **Pb** **20 14 21.6 -1.3**
ASAK Asacha 1.58 276 *e*P **Pn** **20 14 20.9 +0.5**
ASAK Asacha 1.58 276 PN **Pn** **20 14 20.9 +0.5**
PEA0B Petropavlovsk- 1.89 298 *e*Pn **Pn** **20 14 25.2 +0.6**
PEA0B Petropavlovsk- 1.89 298 *e*PN **Pn** **20 14 25.2 +0.6**
PETK Petropavlovsk- 1.89 298 *e*Pn **Pn** **20 14 24.6 0.0**
PETK Sn **Sb** **20 14 55.1 +3.5**
PETK Petropavlovsk- 1.89 298 *e*PN **Pn** **20 14 24.6 0.0**
PETK Petropavlovsk- 1.89 298 Pn **Pb** **20 14 26.5 -1.9**
comp=N,167nm,0.3s,baz=106,slow=18,SNR=533
PETK Sn **Sb** **20 14 55.1 +3.5**
comp=N,229nm,0.3s,baz=102,slow=41,SNR=11
PETK LR LR 20 14 58.2
comp=N,8μm,19.6s,baz=50,slow=39
PEA1 Petropavlovsk- 1.89 298 *e*Pn **Pb** **20 14 26.5 -2.0**
APC Apacha 2.13 290 *e*P **Pb** **20 14 30.2 -2.2**
APC Apacha 2.13 290 PN **Pb** **20 14 30.2 -2.2**
PAU Pauzhetka 2.40 252 *e*P **Pn** **20 14 32.0 +0.4**
PAU Pauzhetka 2.40 252 PN **Pn** **20 14 32.0 +0.4**
MKZ Mys Kozlova 2.42 18 *e*P **Pn** **20 14 31.1 -0.8**
MKZ *e*S **Sn** **20 14 59.1 -1.4**
MKZ Mys Kozlova 2.42 18 PN **Pn** **20 14 31.1 -0.8**
MKZ S **Sn** **20 14 59.1 -1.4**
KZV Kizimen 2.87 358 *e*P **Pn** **20 14 38.4 +0.3**
KZV Kizimen 2.87 358 PN **Pn** **20 14 38.4 +0.3**
TUMD Tumrok D 2.95 359 *e*P **Pn** **20 14 39.7 +0.5**
TUMR Tumrok 3.04 357 *e*P **Pn** **20 14 41.3 +0.8**
TUMR Tumrok 3.04 357 PN **Pn** **20 14 41.3 +0.8**
SKR Severo-Kuril's 3.14 242 *e*P **Pn** **20 14 41.9 +0.1**
SKR Severo-Kuril's 3.14 242 *e*PN **Pn** **20 14 41.5 -0.3**
SKR *e*S **Sn** **20 15 15.0 -3.2**
SKR pmax pmax
comp=Z,210nm,0.5s
SKR smax smax
comp=E,1μm,0.7s
SKR smax smax
comp=N,3μm,0.6s
ALID Alaid 3.37 248 *e*P **Pn** **20 14 45.0 0.0**
ALID Alaid 3.37 248 PN **Pn** **20 14 45.0 0.0**
BZGR Bezymyannyi-Gr 3.69 2 *e*P **Pn** **20 14 51.7 +2.2**
BZGR Bezymyannyi-Gr 3.69 2 PN **Pn** **20 14 51.7 +2.2**
KIRR Kirishev 3.71 359 *e*P **Pn** **20 14 52.4 +2.7**
KIRR Kirishev 3.71 359 PN **Pn** **20 14 52.4 +2.7**
BZWR Bezymyannyi-We 3.72 0 *e*P **Pn** **20 14 53.0 +3.2**
BZWR Bezymyannyi-We 3.72 0 PN **Pn** **20 14 53.0 +3.2**
ESO Esso 3.82 345 *e*P **Pn** **20 14 53.1 +2.0**
ESO Esso 3.82 345 PN **Pn** **20 14 53.1 +2.0**
LGNR Loginova 3.84 2 *e*P **Pn** **20 14 54.2 +2.6**
LGNR Loginova 3.84 2 PN **Pn** **20 14 54.2 +2.6**
CIRR Tsirk 3.87 2 *e*P **Pn** **20 14 55.7 +3.8**
CIRR Tsirk 3.87 2 PN **Pn** **20 14 55.7 +3.8**
KRSR Krestovskiy 3.97 1 *e*P **Pn** **20 14 55.6 +2.3**
KRSR Krestovskiy 3.97 1 PN **Pn** **20 14 55.6 +2.3**
KLY Klyuchi 4.07 1 *e*P **Pn** **20 14 57.3 +2.8**
KLY Klyuchi 4.07 1 PN **Pn** **20 14 57.3 +2.8**
SRDR Sredinnyy 4.09 354 *e*P **Pn** **20 14 56.4 +1.5**
SRDR Sredinnyy 4.09 354 PN **Pn** **20 14 56.4 +1.5**
KBTR Krutoberegovo 4.19 18 *e*P **Pn** **20 14 55.2 -1.0**
KBTR Krutoberegovo 4.19 18 PN **Pn** **20 14 55.2 -1.0**
BDR Baidarnaya 4.34 5 *e*P **Pn** **20 15 00.7 +2.3**
BDR Baidarnaya 4.34 5 PN **Pn** **20 15 00.7 +2.3**
SMKR Semkarok 4.38 7 *e*P **Pn** **20 14 59.9 +1.1**
SMKR Semkarok 4.38 7 PN **Pn** **20 14 59.9 +1.1**
BKI Bering 4.41 46 *e*P **Pn** **20 14 57.3 -1.8**
BKI *e*S **Sn** **20 15 43.3 -5.9**
BKI Bering 4.41 46 PN **Pn** **20 14 57.3 -1.8**
SRKR Sorokina 4.43 5 *e*P **Pn** **20 15 01.6 +2.1**
SRKR Sorokina 4.43 5 PN **Pn** **20 15 01.6 +2.1**
SMY Shemya 8.34 81 *e*Pn **Pn** **20 15 51.0 -2.0**
SMY Shemya 8.34 81 *e*PN **Pn** **20 15 51.1 -2.0**
MA2 Magadan 9.13 327 *e*Pn **Pn** **20 16 00.6 -3.3**
MA2 Magadan 9.13 327 *e*PN **Pn** **20 16 00.6 -3.3**
OKH Okha 10.67 284*c i*PN **Pn** **20 16 29.3 +4.3**
OKH *e*S Sn 20 18 37.8 +15
OKH pmax pmax
comp=Z,500nm,11.3s
OKH smax smax
comp=E,1μm,11.5s
OKH MLR MLR
comp=Z,10μm,13.0s
TYV Tymovskoe 11.18 270 *e*PN **Pn** **20 16 35.7 +3.7**
TYV *e* 20 18 45.3
TYV pmax pmax
comp=Z,600nm,4.3s
TYV pmax pmax
comp=Z,22nm,1.7s
TYV MLR MLR
comp=N,6μm,14.0s
TYV MLR MLR
comp=Z,12μm,14.0s
SEY Seymchan 11.54 341 ⇑ *i*PN **Pn** **20 16 39.8 +3.0**
SEY Seymchan 11.54 341 Pn **Pn** **20 16 40.2 +3.4**
comp=Z,0.2nm,0.3s,baz=139,slow=12,SNR=8.5
NKL Nikolayevsk 12.04 282 *e*PN **Pn** **20 16 48.0 +4.3**
NKL pmax pmax
comp=Z,140nm,2.0s
NKL pmax pmax
comp=Z,1μm,8.0s
NKL MLR MLR
comp=N,2μm,14.0s
NKL MLR MLR
comp=E,6μm,14.0s
NKL MLR MLR
comp=Z,14μm,14.0s
UGL Uglegorsk 12.10 262 PN **Pn** **20 16 41.5 -3.0**
UGL pmax pmax
comp=Z,58nm,0.8s
UGL pmax pmax
comp=Z,1μm,4.3s
UGL MLR MLR
comp=N,4μm,15.0s
UGL MLR MLR
comp=Z,6μm,15.0s
UGL MLR MLR
comp=E,5μm,14.0s
YSS Yuzh-Sakhalins 12.64 252 *e*PN **Pn** **20 16 50.2 -1.8**
YSS *e*S **Sn** **20 19 14.7 +3.2**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS pmax pmax
comp=Z,500nm,6.0s
YSS pmax pmax
comp=N,400nm,8.0s
YSS pmax pmax
comp=E,500nm,5.0s
YSS MLR MLR
comp=Z,6μm,13.0s
YSS MLR MLR
comp=N,3μm,15.0s
YSS MLR MLR
comp=E,5μm,14.0s
YUK Yuzh-Kuril'sk 12.74 236 *e*PN Pn 20 16 58.4 +5.1
YUK *e*S **Sn** **20 19 16.8 +2.9**
YUK MLR MLR
comp=Z,6μm,18.0s
YUK MLR MLR
comp=N,4μm,16.0s
YUK MLR MLR
comp=E,9μm,18.0s
ASAJ Asahikawa 14.41 243 Pn **Pn** **20 17 15.9 -0.2**
comp=E,3.6nm,0.3s,baz=72,slow=10,SNR=28
ASAJ LR LR 20 23 45.6
comp=E,4μm,18.1s,baz=52,slow=42
GRNR Gornyy 15.03 274 *e*P **P** **20 17 29.1 -0.4**
GRNR pmax pmax
comp=Z,13nm,1.0s
ERM Erimo 15.57 236 *e*Pn **Pn** **20 17 27.9 -3.6**
comp=Z,120nm,1.6s
ERM Erimo 15.57 236 *i*P **Pn** **20 17 31.5 0.0**
BILL Bilibino 16.08 8 *e*Pn **Pn** **20 17 37.5 -0.4**
comp=Z,67nm,0.9s
BILL Bilibino 16.08 8 *e*P **Pn** **20 17 39.4 +1.4**
BILL pmax pmax
comp=Z,125nm,1.7s
BILL MLR MLR
comp=Z,3μm,18.0s
TEY Ternei 17.29 255 ⇓ *e*P **P** **20 17 54.8 +0.3**
TEY pmax pmax
comp=E,20nm,1.8s
TEY pmax pmax
comp=Z,30nm,1.7s
YAK Yakutsk 19.17 313*c i*P **P** **20 18 13.1 -1.9**
YAK *e*S **Sn** **20 21 48.8 -0.8**
YAK pmax pmax
comp=Z,1μm,0.9s
YAK pmax pmax
comp=N,209nm,1.1s
YAK pmax pmax
comp=E,370nm,1.1s
YAK smax smax
comp=N,195nm,1.5s
YAK smax smax
comp=E,364nm,1.5s
YAK MLR MLR
comp=Z,11μm,15.0s
YAK MLR MLR
comp=E,7μm,14.0s
YAK MLR MLR
comp=N,6μm,15.0s
ZEA Zeya 19.95 287 *e*P **P** **20 18 22.2 -1.4**
ZEA pmax pmax
comp=N,16nm,0.8s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA pmax pmax
comp=Z,400nm,9.0s
ZEA MLR MLR
comp=N,3μm,14.0s
ZEA MLR MLR
comp=E,4μm,14.0s
ZEA MLR MLR
comp=Z,9μm,14.0s
USA0B Ussuriysk Arra 20.51 258 *e*P **P** **20 18 27.6 -2.2**
comp=Z,28nm,0.9s
USA0B Ussuriysk Arra 20.51 258 *e*P **P** **20 18 27.6 -2.2**
USA0B pmax pmax
comp=Z,28nm,0.9s
USRK Ussuriysk Ar. 20.51 258 *e*P **P** **20 18 27.5 -2.3**
USRK Ussuriysk Ar. 20.51 258 P **P** **20 18 28.6 -1.2**
comp=Z,17nm,0.8s,baz=62,slow=8.4,SNR=27
USRK LR LR 20 27 20.6
comp=Z,2μm,18.1s,baz=58,slow=40
MDJ Mudanjiang 21.74 262 P **P** **20 18 41.4 -1.6**
MDJ S **S** **20 22 34.3 -7.3**
MDJ pmax pmax
comp=Z,170nm,2.4s
MDJ LR LR
comp=Z,6μm,18.8s
MDJ LR LR
comp=Z,1μm,17.4s
MDJ LR LR
comp=Z,4μm,18.7s
MDJ Mudanjiang 21.74 262 *e*P **P** **20 18 41.6 -1.3**
comp=Z,34nm,1.3s
MJAR Matsushiro Arr 22.22 234 *e*P **P** **20 18 48.3 0.0**
MJAR Matsushiro Arr 22.22 234 *e*P **P** **20 18 48.3 0.0**
MJAR Matsushiro Arr 22.22 234 P **P** **20 18 49.1 +0.9**
comp=Z,21nm,0.8s,baz=25,slow=8.6,SNR=68
MJAR LR LR 20 27 58.4
comp=Z,3μm,21.3s,baz=60,slow=38
MJB9 Matsu-Tunnel 22.22 234 *e*P **P** **20 18 47.7 -0.6**
comp=Z,72nm,1.0s
MAJO Matsushiro 22.22 234 *e*P **P** **20 18 46.9 -1.4**
comp=Z,75nm,1.0s
MAJO Matsushiro 22.22 234 *i*P **P** **20 18 48.8 +0.5**
MAJO pmax pmax
comp=Z,36nm,0.7s
MAT Matsushiro 22.22 234 P **P** **20 18 48.6 +0.3**
MAT S **S** **20 22 50.6 -0.3**
RDOG Red Dog Mine 23.60 34 *e*P **P** **20 19 02.0 -0.1**
comp=Z,27nm,1.0s
INU Inuyama 23.75 234 *e*P **P** **20 19 02.1 -1.8**
comp=Z,34nm,0.8s
TIXI Tiksi 23.94 336 *e*P **P** **20 19 03.6 -1.7**
TIXI Tiksi 23.94 336*ce*P **P** **20 19 03.9 -1.4**
TIXI pmax pmax
comp=Z,30nm,0.7s
TIXI Tiksi 23.94 336 P **P** **20 19 04.3 -1.0**
comp=Z,28nm,0.7s,baz=121,slow=9.9,SNR=111
CN2 Changchun 24.70 264 *e*P **P** **20 19 10.3 -2.2**
CN2 *e*S **S** **20 23 35.4 +3.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,170nm,8.0s
CN2 LR LR
comp=Z,3μm,14.0s
CN2 LR LR
comp=Z,3μm,14.0s
CN2 LR LR
comp=Z,5μm,14.0s
SVW2 Sparrevohn 25.25 52 *e*P **P** **20 19 17.6 +0.1**
comp=Z,33nm,1.4s
HIA Hailar 25.69 280 *e*P **P** **20 19 19.6 -1.9**
comp=Z,53nm,0.8s
HIA Hailar 25.69 280 *e*P **P** **20 19 19.6 -1.9**
HIA pmax pmax
comp=Z,53nm,0.8s
IMAR Indian Mountai 26.48 41 *e*P **P** **20 19 28.6 +0.2**
RSO Redoubt South 26.66 54 *e*P **P** **20 19 30.2 -0.1**
BOD Bodaibo 26.76 300 *e*P **P** **20 19 29.6 -1.4**
BOD pmax pmax
comp=Z,42nm,1.6s
PPLA Purkeypile 26.88 48 *e*P **P** **20 19 32.4 +0.1**
comp=Z,78nm,1.6s
SNY Shenyang 26.94 262 ⇓ P **P** **20 19 32.9 +0.1**
SNY S **S** **20 24 06.5 -1.1**
SNY pmax pmax
comp=Z,27nm,1.2s
SNY pmax pmax
comp=Z,370nm,8.2s
SNY LR LR
comp=Z,6μm,18.8s
SNY LR LR
comp=Z,4μm,19.4s
SNY LR LR
comp=Z,4μm,15.7s
CAST Castle Rocks 26.95 47 *e*P **P** **20 19 32.5 -0.2**
comp=Z,30nm,1.6s
KDAK Kodiak Island 27.02 59 *e*P **P** **20 19 33.1 -0.3**
comp=Z,39nm,1.3s
KDAK Kodiak Island 27.02 59 *e*P **P** **20 19 33.1 -0.3**
KDAK pmax pmax
comp=Z,39nm,1.3s
KDAK Kodiak Island 27.02 59 P **P** **20 19 33.8 +0.4**
comp=Z,10nm,0.9s,baz=251,slow=4.7,SNR=6.3
KSRS Korea Array 27.13 250 P **P** **20 19 35.5 +1.0**
comp=Z,6.1nm,0.8s,baz=43,slow=9.4,SNR=23
KSRS LR LR 20 31 24.9
comp=Z,2μm,18.5s,baz=60,slow=39
KS15 Wonju Array Si 27.16 250 *e*P **P** **20 19 30.7 -4.1**
comp=Z,68nm,1.8s
KSAR Wonju Array Be 27.16 250 *e*P **P** **20 19 33.8 -1.0**
KSAR Wonju Array Be 27.16 250 *e*P **P** **20 19 33.8 -1.0**
BPAW Bear Paw Mtn. 27.46 46 *e*P **P** **20 19 37.8 +0.5**
comp=Z,31nm,1.4s
MLY Manley 27.62 44 *e*P **P** **20 19 39.4 +0.7**
comp=Z,14nm,1.1s
BWN Browne 28.13 45 *e*P **P** **20 19 45.3 +2.0**
comp=Z,73nm,1.2s
SEW Seward 28.33 54 *e*P **P** **20 19 45.2 +0.2**
comp=Z,25nm,1.2s
MCK McKinley 28.36 46 *e*P **P** **20 19 46.3 +1.0**
comp=Z,20nm,1.0s
MCK McKinley 28.36 46 *e*P **P** **20 19 46.3 +1.0**
MCK pmax pmax
comp=Z,20nm,1.0s
TOLK Toolik Lake Re 28.50 36 *e*P **P** **20 19 46.3 -0.3**
comp=Z,10nm,0.9s
TOLK Toolik Lake Re 28.50 36 P **P** **20 19 47.7 +1.1**
baz=261
JNU Nakatsue 28.65 240 *e*P **P** **20 19 47.4 -0.8**
comp=Z,43nm,1.0s
JNU Nakatsue 28.65 240 P **P** **20 19 49.0 +0.8**
comp=Z,21nm,0.8s,baz=36,slow=8.6,SNR=12
MDM Murphy Dome 28.68 44 *e*P **P** **20 19 49.2 +1.1**
comp=Z,12nm,1.2s
KNK Knik Glacier 28.68 51 *e*P **P** **20 19 48.2 0.0**
comp=Z,24nm,1.0s
SML Sawmill 28.71 50 *e*P **P** **20 19 48.0 -0.5**
comp=Z,22nm,0.8s
SML Sawmill 28.71 50 *e*P **P** **20 19 48.0 -0.5**
SML pmax pmax
comp=Z,23nm,0.8s
WRH Wood River Hil 28.73 45 *e*P **P** **20 19 49.3 +0.7**
comp=Z,27nm,1.3s
COLA College 28.84 44 *i*P P 20 19 54.4 +4.9
COLA pmax pmax
comp=Z,8.0nm,1.2s
DHY Denali Highway 29.08 48 *e*P **P** **20 19 51.2 -0.6**
comp=Z,24nm,1.2s
SCM Sheep Creek Mo 29.18 50 *e*P **P** **20 19 52.5 -0.2**
comp=Z,19nm,0.9s
SCM Sheep Creek Mo 29.18 50 *e*P **P** **20 19 52.5 -0.2**
SCM pmax pmax
comp=Z,19nm,0.9s
HDA Harding Lake 29.23 45 *e*P **P** **20 19 53.0 0.0**
comp=Z,5.2nm,0.6s
HDA Harding Lake 29.23 45 P **P** **20 19 53.2 +0.2**
baz=271
ILAR Eielson Array 29.25 44 *e*P **P** **20 19 53.2 0.0**
ILAR Eielson Array 29.25 44 P **P** **20 19 53.1 -0.1**
comp=Z,1.0nm,0.8s,baz=257,slow=8.1,SNR=13
ILAR LR LR 20 33 15.9
comp=Z,1μm,19.0s,baz=276,slow=40
ILB Eielson Array 29.25 44 *e*P **P** **20 19 52.8 -0.4**
comp=Z,25nm,1.7s
PRP Porcupine Dome 29.83 43 *e*P **P** **20 19 58.5 +0.1**
comp=Z,8.8nm,0.9s
KLU Klutina 29.89 51 *e*P **P** **20 19 59.8 +0.8**
comp=Z,14nm,1.3s
DL2 Dalian 29.90 259 *e*P **P** **20 19 59.6 +0.5**
DL2 *e*S **S** **20 24 56.4 +2.3**
DL2 pmax pmax
comp=Z,31nm,0.8s
DL2 pmax pmax
comp=Z,180nm,4.2s
DL2 LR LR
comp=Z,2μm,14.8s
DL2 LR LR
comp=Z,2μm,15.1s
DL2 LR LR
comp=Z,2μm,13.6s
PAX Paxson 29.95 48 *e*P **P** **20 20 00.3 +0.8**
comp=Z,5.7nm,1.0s
PAX Paxson 29.95 48 *e*P **P** **20 20 00.3 +0.8**
PAX pmax pmax
comp=Z,6.0nm,1.0s
RIDG Independent Ri 30.18 46 *e*P **P** **20 20 02.0 +0.5**
comp=Z,16nm,1.2s
DOT Dot Lake 30.53 46 *e*P **P** **20 20 04.8 +0.3**
comp=Z,5.2nm,1.0s
SCRK Sand Creek 30.54 46 *e*P **P** **20 20 05.0 +0.3**
comp=Z,21nm,1.5s
BCAR Beaver Creek A 31.61 47 *e*P **P** **20 20 13.9 -0.2**
EGAK Eagle 31.70 44 *e*P **P** **20 20 13.0 -1.8**
comp=Z,13nm,0.8s
CTGM Chitina Glacie 32.16 51 *e*P **P** **20 20 18.9 -0.2**
comp=Z,8.4nm,0.8s
DAWY Dawson 32.54 45 *e*P **P** **20 20 22.9 +0.6**
comp=Z,25nm,1.8s
H11N2 WAKE ISLAND Hy 32.85 169 T T 20 56 17.0
baz=352,slow=76,SNR=104
H11N3 WAKE ISLAND Hy 32.86 169 T T 20 56 18.1
baz=352,slow=76,SNR=113
H11N1 WAKE ISLAND Hy 32.86 169 T T 20 56 14.0
baz=352,slow=76,SNR=80
PCA Pinnacle 32.86 53 *e*P **P** **20 20 25.8 +0.6**
comp=Z,127nm,2.0s
BCPM Bancas Point 33.20 53 *e*P **P** **20 20 27.8 -0.2**
comp=Z,46nm,1.0s
EPYK Eagle Plains 33.38 41 P **P** **20 20 30.9 +1.4**
baz=276
ULN Ulaanbaatar 33.92 284 *e*P **P** **20 20 33.1 -1.4**
comp=Z,7.6nm,0.9s
ULN Ulaanbaatar 33.92 284*ce*P **P** **20 20 33.4 -1.1**
ULN pmax pmax
comp=Z,17nm,1.7s
ULN Ulaanbaatar 33.92 284 P **P** **20 20 34.3 -0.2**
SNR=5.8
HYT Haines Junctio 34.02 51 *e*P **P** **20 20 36.2 +1.0**
comp=Z,12nm,1.1s
H11S1 WAKE ISLAND Hy 34.03 169 T T 20 57 50.6
baz=352,slow=76,SNR=3.6
H11S3 WAKE ISLAND Hy 34.04 169 T T 20 57 53.4
baz=352,slow=76,SNR=10
H11S2 WAKE ISLAND Hy 34.05 169 T T 20 58 00.2
baz=352,slow=76,SNR=7.7
TLY Talaya 34.24 292 *e*P **P** **20 20 36.1 -1.1**
comp=Z,21nm,1.2s
TLY Talaya 34.24 292*c i*P **P** **20 20 36.2 -1.0**
TLY Talaya 34.24 292 P **P** **20 20 36.6 -0.5**
SNR=18
SONA0 Songino Array 34.32 285 *e*P **P** **20 20 37.1 -0.9**
SONM Songino Array 34.32 285 *e*P **P** **20 20 36.5 -1.6**
SONM Songino Array 34.32 285 *e*P **P** **20 20 36.5 -1.6**
SONM Songino Array 34.32 285 P **P** **20 20 37.1 -0.9**
comp=Z,5.0nm,0.9s,baz=60,slow=7.8,SNR=20
SONM LR LR 20 36 17.6
comp=Z,5μm,18.7s,baz=64,slow=39
TIA Tai'an 34.36 260 P **P** **20 20 38.8 +0.5**
TIA pmax pmax
comp=Z,26nm,0.8s
INK Inuvik 34.40 37 *e*P **P** **20 20 37.7 -0.6**
comp=Z,31nm,1.8s
INK Inuvik 34.40 37 *e*P **P** **20 20 37.7 -0.6**
INK pmax pmax
comp=Z,31nm,1.8s
INK Inuvik 34.40 37 P **P** **20 20 38.1 -0.1**
comp=Z,2.6nm,0.8s,baz=280,slow=8.0,SNR=8.9
HHC Hu-ho-hao-te 34.87 271 *e*P **P** **20 20 40.6 -2.2**
HHC pmax pmax
comp=Z,120nm,0.8s
HHC pmax pmax
comp=Z,340nm,4.3s
HHC LR LR
comp=Z,1μm,13.0s
HHC LR LR
comp=Z,2μm,12.8s
HHC LR LR
comp=Z,3μm,13.0s
ZAK Zakamensk 35.00 290 *e*P **P** **20 20 42.7 -1.1**
ZAK pmax pmax
comp=Z,11nm,1.4s
WHY Whitehorse 35.31 50 *e*P **P** **20 20 47.0 +0.7**
comp=Z,37nm,1.9s
SSE Sheshan 35.56 249 P **P** **20 20 48.3 -0.3**
SSE S **S** **20 26 18.6 -3.6**
SSE pmax pmax
comp=Z,13nm,0.7s
SSE pmax pmax
comp=Z,150nm,3.9s
SSE LR LR
comp=Z,610nm,17.7s
SSE LR LR
comp=Z,600nm,15.3s

MOY	**Mondy**	**35.75 293**	*e*P	**P**	**20 20 49.8**	**-0.5**
MOY			pmax	pmax		
	comp=Z,37nm,1.7s					
NJ2	**Nanjing**	**36.21 253**	*e*P	**P**	**20 20 54.3**	**+0.1**
NJ2			pmax	pmax		
	comp=Z,17nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,290nm,4.3s					
NJ2			LR	LR		
	comp=Z,3μm,16.8s					
NJ2			LR	LR		
	comp=Z,2μm,14.1s					
NJ2			LR	LR		
	comp=Z,2μm,19.5s					
NRIK	**Noril'sk**	**36.73 325**	P	**P**	**20 20 58.2**	**0.0**
	comp=Z,4.3nm,0.5s,baz=90,slow=8.2,SNR=18					
NRIK			LR	LR	20 37 33.2	
	comp=Z,4μm,18.4s,baz=75,slow=39					
DLBC	**Dease Lake**	**38.37 53**	*e*P	**P**	**20 21 11.7**	**-0.7**
	comp=Z,18nm,1.4s					
DLBC	**Dease Lake**	**38.37 53**	P	**P**	**20 21 13.9**	**+1.6**
	comp=Z,3.7nm,0.7s,baz=288,slow=8.9,SNR=7.1					
WHN	**Wuhan**	**39.96 255**	⇑P	**P**	**20 21 25.6**	**-0.3**
WHN			pP	**sP**	**20 21 39.3**	**+1.2**
WHN			ScS	ScS	20 31 29.8	-0.5
WHN			pmax	pmax		
	comp=Z,36nm,0.7s					
WHN			pmax	pmax		
	comp=Z,400nm,4.9s					
WHN			LR	LR		
	comp=Z,8μm,20.4s					
WHN			LR	LR		
	comp=Z,5μm,16.8s					
WHN			LR	LR		
	comp=Z,4μm,14.1s					
XAN	**Xi'an**	**40.81 264**	P	P	20 21 41.1	+8.2
XAN			pP	pwP	20 21 54.0	+9.4
XAN			S	**S**	**20 27 41.1**	**-0.5**
QZH	**Quanzhou**	**41.73 246**	P	**P**	**20 21 39.8**	**-0.6**
QZH			S	**S**	**20 27 49.6**	**-5.7**
QZH			LR	LR		
	comp=Z,560nm,19.0s					
QZH			LR	LR		
	comp=Z,920nm,18.9s					
QZH			LR	LR		
	comp=Z,790nm,17.5s					
LZH	**Lanzhou**	**42.57 271**	*e*P	**P**	**20 21 48.0**	**+0.6**
LZH			pP	pP	20 21 55.6	-0.7
LZH			sP	pwP	20 21 58.4	-0.4
LZH			SS	SS	20 31 08.6	-9.4
LZH			pmax	pmax		
	comp=Z,32nm,1.2s					
LZH			LR	LR		
	comp=Z,3μm,17.1s					
LZH			LR	LR		
	comp=Z,3μm,17.6s					
LZH			LR	LR		
	comp=Z,3μm,17.9s					
GTA	**Gaotai**	**42.93 278**	P	**P**	**20 21 49.9**	**-0.4**
GTA			pP	pwP	20 22 00.3	-1.4
GTA			sP	sP	20 22 04.5	+1.7
GTA			S	**S**	**20 28 15.6**	**+2.4**
GTA			sS	sS	20 28 31.8	+4.1
GTA			pmax	pmax		
	comp=Z,7.0nm,1.6s					
GTA			pmax	pmax		
	comp=Z,95nm,4.7s					
GTA			LR	LR		
	comp=Z,3μm,16.6s					
GTA			LR	LR		
	comp=Z,2μm,16.6s					
GTA			LR	LR		
	comp=Z,3μm,17.5s					
ENH	**Enshi**	**43.08 260**	*e*P	**P**	**20 21 50.9**	**-0.6**
	comp=Z,16nm,0.9s					
ZAA1	**Zalesovo Array**	**43.42 304**	*e*P	**P**	**20 21 51.8**	**-2.1**
ZAA0	**Zalesovo Array**	**43.42 304**	*e*P	**P**	**20 21 51.7**	**-2.2**
	comp=Z,5.5nm,0.9s					
ZALV	**Zalesovo Beam**	**43.42 304**	*e*P	**P**	**20 21 51.6**	**-2.3**
ZALV	**Zalesovo Beam**	**43.42 304**	P	**P**	**20 21 51.8**	**-2.1**
	comp=Z,4.1nm,0.6s,baz=59,slow=7.4,SNR=18					
ZALV			LR	LR	20 41 28.4	
	comp=Z,2μm,18.2s,baz=69,slow=38					
YKW3	**Yellowknife Ar**	**43.59 42**	*e*P	**P**	**20 21 55.3**	**+0.1**
	comp=Z,7.9nm,1.3s					
YKA	**Yellowknife Ar**	**43.63 42**	*e*P	**P**	**20 21 54.2**	**-1.3**
YKA	**Yellowknife Ar**	**43.63 42**	*e*P	**P**	**20 21 54.2**	**-1.3**
YKA	**Yellowknife Ar**	**43.63 42**	P	**P**	**20 21 55.5**	**0.0**
	comp=Z,1.4nm,0.8s,baz=300,slow=8.1,SNR=12					
YKB5	**Yellowknife Ar**	**43.63 42**	*e*P	**P**	**20 21 55.5**	**0.0**
NVS	**Novosibirsk**	**43.78 305**	⇓*i*P	**P**	**20 21 55.6**	**-1.2**
NVS			*i*		20 22 09.8	
NVS			*e*		20 23 38.0	
NVS			*e*S	S	20 28 13.2	-12
NVS			pmax	pmax		
	comp=Z,117nm,1.3s					
NVS			pmax	pmax		
	comp=N,36nm,1.7s					
NVS			pmax	pmax		
	comp=E,79nm,1.5s					
NVS			pmax	pmax		
	comp=Z,19nm,1.7s					
NVS			pmax	pmax		
	comp=N,13nm,1.4s					
NVS			pmax	pmax		
	comp=E,11nm,1.3s					
NVS			smax	smax		
	comp=N,40nm,2.5s					
NVS			smax	smax		
	comp=E,24nm,1.8s					
RES	**Resolute Bay**	**44.02 22**	*e*P	**P**	**20 21 59.5**	**+1.1**
	comp=E,14nm,1.3s					
RES	**Resolute Bay**	**44.02 22**	P	**P**	**20 21 59.4**	**+1.0**
	comp=E,5.9nm,1.1s,baz=300,slow=9.2,SNR=12					
DGZ	**Jazzator, Alta**	**44.25 297**	*d i*P	**P**	**20 22 00.3**	**-0.5**
DGZ			pmax	pmax		
	comp=Z,15nm,0.8s					
CD2	**Chengdu**	**46.12 265**	*e*P	**P**	**20 22 14.3**	**-1.4**
CD2			S	**S**	**20 28 57.3**	**-2.1**
CD2			pmax	pmax		
	comp=Z,30nm,0.5s					
CD2			pmax	pmax		
	comp=Z,190nm,5.3s					
CD2			LR	LR		
	comp=Z,3μm,20.6s					
CD2			LR	LR		
	comp=Z,3μm,23.0s					
CD2			LR	LR		
	comp=Z,3μm,18.6s					
LLLB	**Lillooet**	**46.24 60**	*e*P	**P**	**20 22 16.7**	**+0.3**
	comp=Z,20nm,1.3s					
WMQ	**Urumqi**	**47.47 290**	*e*P	**P**	**20 22 26.6**	**+0.4**
WMQ			pP	sP	20 22 37.8	-0.9
WMQ			pmax	pmax		
	comp=Z,51nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,450nm,6.1s					
WMQ			LR	LR		
	comp=Z,3μm,13.1s					
WMQ			LR	LR		
	comp=Z,1μm,17.3s					
WMQ			LR	LR		
	comp=Z,1μm,17.3s					
GYA	**Guiyang**	**47.55 259**	P	**P**	**20 22 26.8**	**-0.2**
GYA			pP	sP	20 22 38.8	-0.5
GYA			PP	**PP**	**20 24 15.8**	**-2.8**
GYA			S	S	20 29 08.8	-11
GYA			sS	pS	20 29 30.0	-0.2
GYA			SS	SS	20 32 33.6	-14
GYA			pmax	pmax		
	comp=Z,30nm,0.8s					
GYA			pmax	pmax		
	comp=Z,130nm,5.3s					
GYA			LR	LR		
	comp=Z,1μm,19.3s					
GYA			LR	LR		
	comp=Z,2μm,18.7s					
GYA			LR	LR		
	comp=Z,780nm,18.7s					
KBS	**Kingsbay**	**47.74 352**	*e*P	**P**	**20 22 29.4**	**+1.7**
	comp=Z,138nm,1.9s					
KBS	**Kingsbay**	**47.74 352**	*ce*P	**P**	**20 22 29.7**	**+2.0**
KBS			pmax	pmax		
	comp=Z,174nm,1.7s					
SPA0	**Spitsbergen Ar**	**48.00 351**	*e*P	**P**	**20 22 30.1**	**+0.4**
	comp=Z,130nm,1.2s					
SPA0	**Spitsbergen Ar**	**48.00 351**	*e*P	**P**	**20 22 30.4**	**+0.6**
SPITS	**Spitsbergen Ar**	**48.00 351**	P	**P**	**20 22 30.2**	**+0.4**
SPITS			pmax	pmax		
	comp=Z,11nm,0.4s					
SPITS	**Spitsbergen Ar**	**48.00 351**	LR	LR	20 43 52.2	
	comp=Z,894nm,19.1s,baz=20,slow=38					
KURK	**Kurchatov**	**48.37 303**	*e*P	**P**	**20 22 30.6**	**-2.3**
	comp=Z,60nm,0.9s					
KURK	**Kurchatov**	**48.37 303**	*ce*P	**P**	**20 22 31.4**	**-1.6**
KURK			pmax	pmax		
	comp=Z,97nm,1.3s					
KURK	**Kurchatov**	**48.37 303**	P	**P**	**20 22 31.3**	**-1.7**
	SNR=39					
KURBB	**Kurchatov Arra**	**48.47 303**	P	**P**	**20 22 32.1**	**-1.6**
	comp=Z,29nm,0.8s,baz=58,slow=7.8,SNR=112					
PANH	**Panhandle Gap,**	**48.53 64**	*e*P	**P**	**20 22 37.8**	**+3.3**
MK31	**Makanchi Array**	**48.73 297**	*e*P	**P**	**20 22 33.5**	**-2.3**
	comp=Z,18nm,1.3s					
MK31	**Makanchi Array**	**48.73 297**	*e*P	**P**	**20 22 33.5**	**-2.3**
MK31			pmax	pmax		
	comp=Z,18nm,1.3s					
MK32	**Makanchi Array**	**48.73 297**	*e*P	**P**	**20 22 34.7**	**-1.1**
MKAR	**Makanchi Array**	**48.73 297**	*e*P	**P**	**20 22 34.0**	**-1.8**
MKAR	**Makanchi Array**	**48.73 297**	P	**P**	**20 22 34.7**	**-1.1**
	comp=Z,6.1nm,0.5s,baz=53,slow=6.5,SNR=187					
MKAR			LR	LR	20 44 29.1	
	comp=Z,1μm,21.0s,baz=43,slow=38					
MAKZ	**Makanchi**	**48.89 297**	*e*P	**P**	**20 22 35.7**	**-1.3**
	comp=Z,24nm,1.3s					
MAKZ	**Makanchi**	**48.89 297**	*e*P	**P**	**20 22 35.7**	**-1.3**
MAKZ			pmax	pmax		
	comp=Z,24nm,1.3s					
NEW	**Newport**	**50.13 60**	P	**P**	**20 22 48.3**	**+1.8**
	comp=Z,2.0nm,0.7s,baz=253,slow=22,SNR=2.2					
J04D	**Umpqua Nationa**	**50.49 68**	P	**P**	**20 22 50.2**	**+0.8**
	baz=309					
E09A	**Wood Farm, Sta**	**50.65 62**	*e*P	**P**	**20 22 51.0**	**+0.7**
	comp=Z,19nm,1.3s					
PINE	**Pine Mountain**	**50.80 66**	*e*P	**P**	**20 22 52.1**	**+0.3**
	comp=Z,9.6nm,1.0s					
BJO	**Bjornoya**	**50.89 347**	*e*P	**P**	**20 22 51.9**	**+0.1**
KMI	**Kunming**	**50.91 261**	P	**P**	**20 22 53.0**	**+0.2**
KMI			pP	pP	20 23 02.5	+0.8
KMI			sP	sP	20 23 06.5	+1.3
KMI			S	**S**	**20 30 04.8**	**-2.6**
KMI			sS	sS	20 30 21.9	-0.1
KMI			SS	**SS**	**20 33 37.5**	**-4.6**
KMI			pmax	pmax		
	comp=Z,14nm,1.7s					
KMI			pmax	pmax		
	comp=Z,210nm,5.0s					
KMI			LR	LR		
	comp=Z,2μm,18.0s					
KMI			LR	LR		
	comp=Z,2μm,18.6s					
KMI			LR	LR		
	comp=Z,1μm,13.7s					
J05D	**Fort Rock, OR**	**50.96 67**	P	**P**	**20 22 54.1**	**+1.1**
	baz=309					
KULLO	**Kullorsuaq**	**50.96 12**	*e*P	**P**	**20 22 55.0**	**+2.7**
KULLO	**Kullorsuaq**	**50.96 12**	*i*P	**P**	**20 22 55.0**	**+2.7**
L04D	**Klamath Falls**	**51.02 69**	P	**P**	**20 22 54.7**	**+1.3**
	baz=310					
YBH	**Yreka Blue Hor**	**51.10 69**	*e*P	**P**	**20 22 55.0**	**+1.0**
	comp=Z,16nm,1.3s					
YBH	**Yreka Blue Hor**	**51.10 69**	*e*P	**P**	**20 22 55.0**	**+1.0**
YBH			pmax	pmax		
	comp=Z,16nm,1.3s					
YBH	**Yreka Blue Hor**	**51.10 69**	P	**P**	**20 22 56.3**	**+2.3**
	comp=Z,2.0nm,0.6s,baz=23,slow=3.2,SNR=5.3					
BRVK	**Borovoye**	**51.12 309**	*e*P	**P**	**20 22 52.4**	**-1.4**
	comp=Z,33nm,0.8s					
BRVK	**Borovoye**	**51.12 309**	*e*P	**P**	**20 22 52.4**	**-1.4**
BRVK			pmax	pmax		
	comp=Z,33nm,0.8s					
BRVK	**Borovoye**	**51.12 309**	P	**P**	**20 22 53.2**	**-0.7**
	SNR=20					
DAG	**Danmarks Havn**	**51.24 360**	⇑*i*P	**P**	**20 22 54.4**	**0.0**
DAG			pmax	pmax		
	comp=Z,12nm,0.9s					
DAG	**Danmarks Havn**	**51.24 360**	⇑*i*P	**P**	**20 22 54.4**	**0.0**
	comp=Z,14nm,0.9s					
QIZ	**Qiongzhong**	**51.35 249**	P	**P**	**20 22 54.8**	**-1.1**
QIZ			sP	**pwP**	**20 23 06.9**	**-0.9**
QIZ			S	**S**	**20 30 12.4**	**-0.7**
QIZ			sS	**sS**	**20 30 27.3**	**-0.6**
QIZ			pmax	pmax		
	comp=Z,19nm,1.5s					
QIZ			pmax	pmax		
	comp=Z,220nm,6.1s					
QIZ			LR	LR		
	comp=Z,910nm,16.7s					
QIZ			LR	LR		
	comp=Z,1μm,16.7s					
QIZ			LR	LR		
	comp=Z,840nm,17.6s					
F10A	**Beach Ranch, E**	**51.49 62**	*e*P	**P**	**20 22 57.8**	**+0.9**
	comp=Z,14nm,1.5s					
K05A	**Summer Lake**	**51.51 67**	*e*P	**P**	**20 22 58.1**	**+1.0**
	comp=Z,17nm,1.1s					
N02D	**Trinity Center**	**51.59 70**	P	**P**	**20 22 59.4**	**+1.8**
	baz=310					
WDC	**Whiskeytown Da**	**51.94 70**	*e*P	**P**	**20 23 00.6**	**+0.5**
	comp=Z,8.8nm,1.0s					
WDC	**Whiskeytown Da**	**51.94 70**	*e*P	**P**	**20 23 00.6**	**+0.5**
WDC			pmax	pmax		
	comp=Z,9.0nm,1.0s					
BMO	**Blue Mountains**	**52.15 63**	*e*P	**P**	**20 23 01.1**	**-0.7**
	comp=Z,11nm,1.4s					
BMO	**Blue Mountains**	**52.15 63**	*e*P	**P**	**20 23 01.1**	**-0.7**
BMO			pmax	pmax		
	comp=Z,11nm,1.4s					
MOD	**Mooloo Plateau**	**52.37 68**	*e*P	**P**	**20 23 03.3**	**-0.2**
	comp=Z,31nm,1.5s					
PDGK	**Podgornoye**	**52.44 295**	P	**P**	**20 23 04.2**	**+0.3**
PDGK			pmax	pmax		
	comp=Z,10.0nm,1.0s					
J08A	**Circle Bar Ran**	**52.46 65**	*e*P	**P**	**20 23 04.4**	**+0.3**
MSO	**Missoula**	**52.71 59**	*e*P	**P**	**20 23 06.7**	**+0.9**
	comp=Z,7.7nm,1.0s					
PLID	**Pearl Lake**	**52.72 62**	*e*P	**P**	**20 23 06.3**	**+0.1**
	comp=Z,5.5nm,0.9s					
SVE	**Sverdlovsk**	**53.05 317**	*e*P	**P**	**20 23 08.3**	**+0.2**
SVE			pmax	pmax		
	comp=Z,18nm,0.9s					
SVE			MLR	MLR		
	comp=Z,2μm,15.0s					
SLVN	**Son La**	**53.05 257**	*e*P	**P**	**20 23 09.1**	**+0.4**
	comp=Z,19nm,1.0s					
OTUK	**Ortayu**	**53.12 303**	P	**P**	**20 23 08.2**	**-0.6**
OTUK			pmax	pmax		
	comp=Z,32nm,0.9s					
FFC	**Flin Flon**	**53.44 46**	*i*P	P	20 23 16.4	+5.4
HAMF	**Hammerfest**	**53.54 344**	*e*P	**P**	**20 23 10.6**	**-0.9**
LVZ	**Lovozero**	**53.56 338**	*e*P	**P**	**20 23 11.2**	**-0.5**
	comp=Z,36nm,0.9s					
LVZ	**Lovozero**	**53.56 338**	*ce*P	**P**	**20 23 11.5**	**-0.3**
LVZ			pmax	pmax		
	comp=Z,38nm,1.7s					
KEV	**Kevo**	**53.68 342**	*e*P	**P**	**20 23 11.9**	**-0.6**
	comp=Z,74nm,1.7s					
KEV	**Kevo**	**53.68 342**	*e*P	**P**	**20 23 11.9**	**-0.6**
KEV			pmax	pmax		
	comp=Z,74nm,1.7s					
HRY	**Holter Researc**	**53.89 58**	*e*P	**P**	**20 23 15.8**	**+1.2**
FCC	**Fort Churchill**	**53.99 38**	*e*P	**P**	**20 23 15.1**	**+0.1**
	comp=Z,6.6nm,0.8s					
FCC	**Fort Churchill**	**53.99 38**	*e*P	**P**	**20 23 15.1**	**+0.1**
FCC			pmax	pmax		
	comp=Z,7.0nm,0.8s					
EGMT	**Eagleton**	**54.11 56**	P	**P**	**20 23 17.4**	**+1.3**
	baz=311					
APA	**Apatity**	**54.11 338**	⇓*i*P	**P**	**20 23 16.0**	**+0.3**
APA			pmax	pmax		
	comp=Z,15nm,0.8s					
ARA0	**ARCESS Array S**	**54.16 342**	*e*P	**P**	**20 23 16.1**	**+0.1**
ARCES	**ARCESS Array B**	**54.16 342**	P	**P**	**20 23 16.1**	**+0.1**
	comp=Z,18nm,0.8s,baz=38,slow=8.4,SNR=26					
ARE0	**ARCESS Array S**	**54.16 342**	*e*P	**P**	**20 23 15.6**	**-0.4**
	comp=Z,1.2nm,0.9s					
ARU	**Arti**	**54.17 318**	*e*P	**P**	**20 23 15.7**	**-0.6**
	comp=Z,39nm,0.6s					
ARU	**Arti**	**54.17 318**	*c i*P	**P**	**20 23 15.6**	**-0.7**
ARU			*PP	**sP**	**20 23 29.0**	**+0.2**
ARU					20 24 19.4	
ARU					20 25 15.2	
ARU			S	**S**	**20 30 50.6**	**-0.1**
ARU			SS	**SS**	**20 34 34.9**	**+3.0**
ARU			pmax	pmax		
	comp=Z,26nm,0.5s					
ARU			MLR	MLR		
	comp=Z,1μm,16.0s					
ARU	**Arti**	**54.17 318**	LR	LR	20 49 52.4	
	comp=Z,2μm,18.1s,baz=37,slow=40					
PAHR	**Pah Rah Range**	**54.34 69**	*e*P	**P**	**20 23 18.6**	**+0.6**
	comp=Z,64nm,1.5s					
TARG	**Taragay, Kyrgy**	**54.42 294**	*e*P	**P**	**20 23 17.9**	**-1.0**
	comp=Z,8.2nm,1.2s					
KDJ	**Kajisay**	**54.51 295**	*e*P	**P**	**20 23 18.4**	**-0.8**
	comp=Z,10nm,0.8s					
KDJ	**Kajisay**	**54.51 295**	*e*P	**P**	**20 23 18.4**	**-0.8**
KDJ			pmax	pmax		
	comp=Z,10.0nm,0.8s					
HLID	**Hailey**	**54.57 63**	*e*P	**P**	**20 23 19.2**	**-0.4**
HLID	**Hailey**	**54.57 63**	P	**P**	**20 23 20.7**	**+1.0**
	baz=311					
MCMT	**McKenzie Canyo**	**54.59 61**	*e*P	**P**	**20 23 19.0**	**-0.9**
PNTR	**Pine Nut**	**54.62 70**	*e*P	**P**	**20 23 20.1**	**0.0**
	comp=Z,15nm,0.8s					
LSA	**Lhasa**	**54.71 274**	*e*P	**P**	**20 23 21.2**	**0.0**
	comp=Z,11nm,0.8s					
LSA	**Lhasa**	**54.71 274**	P	**P**	**20 23 21.3**	**+0.2**
BOZ	**Bozeman (W)**	**54.73 59**	*e*P	**P**	**20 23 20.4**	**-0.4**
	comp=Z,11nm,1.3s					
BOZ	**Bozeman (W)**	**54.73 59**	*e*P	**P**	**20 23 20.4**	**-0.4**
BOZ			pmax	pmax		
	comp=Z,11nm,1.3s					
BOZ	**Bozeman (W)**	**54.73 59**	P	**P**	**20 23 20.9**	**+0.1**
	baz=311					
SUMG	**Summit**	**54.77 7**	*e*P	**P**	**20 23 20.8**	**-0.1**
	comp=Z,29nm,0.9s					
SUMG	**Summit**	**54.77 7**	*e*P	**P**	**20 23 20.8**	**-0.1**
SUMG			pmax	pmax		
	comp=Z,29nm,0.9s					
SUMG	**Summit**	**54.77 7**	*i*P	**P**	**20 23 23.1**	**+2.2**
	comp=Z,7.1nm,0.9s					
CMB	**Columbia Colle**	**54.88 71**	*e*P	**P**	**20 23 21.9**	**+0.1**
	comp=Z,11nm,1.1s					
CMB	**Columbia Colle**	**54.88 71**	*e*P	**P**	**20 23 21.9**	**+0.1**
CMB			pmax	pmax		
	comp=Z,11nm,1.1s					
YERR	**Yerington**	**54.90 70**	*e*P	**P**	**20 23 21.3**	**-0.8**
	comp=Z,28nm,1.3s					
BOOM	**Boomskoye usch**	**54.96 296**	*e*P	**P**	**20 23 21.7**	**-0.7**
	comp=Z,37nm,1.8s					
BOOM	**Boomskoye usch**	**54.96 296**	*e*P	**P**	**20 23 21.7**	**-0.7**
BOOM			pmax	pmax		
	comp=Z,37nm,1.8s					
KTK1	**Kautokeino**	**55.02 343**	*e*P	**P**	**20 23 22.6**	**+0.3**
BMN	**Battle Mountai**	**55.09 67**	*e*P	**P**	**20 23 23.5**	**+0.1**
	comp=Z,22nm,1.1s					
BMN	**Battle Mountai**	**55.09 67**	*e*P	**P**	**20 23 23.5**	**+0.1**
BMN			pmax	pmax		
	comp=Z,22nm,1.1s					
WAKR	**Walker**	**55.11 70**	*e*P	**P**	**20 23 25.4**	**+1.7**
	comp=Z,12nm,0.8s					
TRO	**Tromso**	**55.23 345**	*e*P	**P**	**20 23 23.8**	**0.0**
PRGR	**Permogore**	**55.27 328**	⇓*i*P	**P**	**20 23 24.4**	**+0.2**
PRGR			*e*PP	**sP**	**20 23 36.6**	**-0.1**
PRGR			pmax	pmax		
	comp=Z,48nm,1.0s					
QLMT	**Earthquake Lak**	**55.34 60**	*e*P	**P**	**20 23 24.5**	**-0.7**
FRU1	**Bishkek**	**55.47 297**	*e*P	**P**	**20 23 25.5**	**-0.5**
	comp=Z,10.0nm,0.8s					
FRU1	**Bishkek**	**55.47 297**	*e*P	**P**	**20 23 25.5**	**-0.5**
FRU1			pmax	pmax		
	comp=Z,10.0nm,0.8s					
KVN	**Kaiserville**	**55.51 69**	*e*P	**P**	**20 23 28.0**	**+1.5**
	comp=Z,20nm,1.1s					
TMCR	**Tamitsa**	**55.63 333**	*e*P	**P**	**20 23 24.7**	**-2.0**
TMCR			pmax	pmax		
	comp=Z,98nm,1.0s					
NRN	**Naryn**	**55.63 295**	*e*P	**P**	**20 23 27.6**	**+0.1**
	comp=Z,14nm,1.5s					
AAK	**Ala-Archa**	**55.66 297**	*e*P	**P**	**20 23 26.4**	**-1.0**
	comp=Z,10nm,1.0s					
AAK	**Ala-Archa**	**55.66 297**	*i*P	**P**	**20 23 26.8**	**-0.7**
	SNR=10					
AAK	**Ala-Archa**	**55.66 297**	*ce*P	**P**	**20 23 26.5**	**-1.0**
AAK			pmax	pmax		
	comp=Z,18nm,1.7s					
AAK	**Ala-Archa**	**55.66 297**	P	**P**	**20 23 27.2**	**-0.3**
	SNR=8.4					
AAK			P	**P**	**20 23 27.2**	**-0.3**
	SNR=8.4					
YHH	**Holmes Hill**	**55.68 60**	*e*P	**P**	**20 23 28.1**	**+0.4**
	comp=Z,6.4nm,0.9s					
SGF	**Sodankyl**	**55.73 340**	P	**P**	**20 23 29.0**	**+1.6**
SGF			pmax	pmax		
	comp=Z,25nm,1.8s					
NV01	**Mina Array Sit**	**55.82 70**	*e*P	**P**	**20 23 31.1**	**+2.3**
NVAR	**Mina Array Bea**	**55.82 70**	*e*P	**P**	**20 23 29.9**	**+1.1**
NVAR	**Mina Array Bea**	**55.82 70**	P	**P**	**20 23 31.1**	**+2.3**
	comp=Z,2.5nm,0.6s,baz=300,slow=7.3,SNR=22					
NVAR			LR	LR	20 44 48.1	
	comp=Z,167nm,19.8s,baz=318,slow=33					
NV11	**Mina Array Sit**	**55.90 70**	*e*P	**P**	**20 23 30.7**	**+1.4**
	comp=Z,0.9nm,1.1s					
MDPB	**Devils Postpil**	**55.91 71**	*e*P	**P**	**20 23 28.3**	**-1.2**
MDPB			*ep*P	**P**	**20 23 29.5**	**0.0**
YFT	**Old Faithful**	**55.91 60**	*e*P	**P**	**20 23 29.8**	**+0.5**
	comp=Z,8.3nm,0.6s					
OMMB	**Old Mammoth Mi**	**55.97 71**	*e*P	**P**	**20 23 30.1**	**+0.1**
	comp=Z,13nm,1.3s					
ELK	**Elko**	**55.99 66**	*e*P	**P**	**20 23 30.3**	**+0.3**
	comp=Z,10nm,0.6s					
ELK	**Elko**	**55.99 66**	*e*P	**P**	**20 23 30.3**	**+0.3**
ELK			pmax	pmax		
	comp=Z,10.0nm,0.6s					
YPP	**Pitchstone Pla**	**56.05 60**	*e*P	**P**	**20 23 30.3**	**-0.1**
	comp=Z,8.7nm,1.1s					
KIRV	**Kirov**	**56.20 324**	LR	LR	20 50 49.6	
	comp=Z,1μm,18.2s,baz=45,slow=40					
IMW	**Indian Meadow**	**56.23 60**	*e*P	**P**	**20 23 31.0**	**-0.8**
	comp=Z,9.3nm,1.1s					
FLWY	**Flagg Ranch**	**56.23 60**	*e*P	**P**	**20 23 32.2**	**+0.5**
	comp=Z,9.3nm,0.9s					
FXWY	**Fox Creek**	**56.35 61**	*e*P	**P**	**20 23 32.4**	**-0.2**
	comp=Z,4.6nm,1.0s					
SKNT	**Sakolnakorn**	**56.38 253**	P	**P**	**20 23 34.7**	**+2.0**
	comp=Z,34nm,0.8s					
MSF	**Maaselka**	**56.47 338**	P	**P**	**20 23 33.4**	**+0.6**
MSF			pmax	pmax		
	comp=Z,80nm,1.3s					
TPAW	**Teton Pass**	**56.50 61**	*e*P	**P**	**20 23 32.6**	**-1.0**
	comp=Z,9.1nm,1.0s					
LOHW	**Long Hollow**	**56.60 60**	*e*P	**P**	**20 23 34.6**	**+0.3**
	comp=Z,17nm,1.5s					
REDW	**Red Top Meadow**	**56.63 61**	*e*P	**P**	**20 23 34.9**	**+0.3**
	comp=Z,34nm,1.6s					
AHID	**Auburn Hatcher**	**56.91 61**	*e*P	**P**	**20 23 37.9**	**+1.4**
	comp=Z,8.7nm,0.7s					
KSH	**Kashi**	**56.94 293**	P	**P**	**20 23 40.8**	**+4.2**
KSH			PP	**PP**	**20 25 50.1**	**+7.1**
KSH			S	**S**	**20 31 27.8**	**-0.6**
KSH			SS	**SS**	**20 35 16.4**	**-0.1**
KSH			pmax	pmax		
	comp=Z,6.0nm,0.7s					
KSH			pmax	pmax		
	comp=Z,430nm,5.6s					
KSH			LR	LR		
	comp=Z,900nm,12.1s					
KSH			LR	LR		
	comp=Z,720nm,9.3s					
KSH			LR	LR		
	comp=Z,2μm,12.7s					
SHL	**Shillong**	**57.23 270**	*e*P	**P**	**20 23 38.1**	**-0.8**
	comp=Z,12nm,0.6s					
SHL	**Shillong**	**57.23 270**	*e*P	**P**	**20 23 38.1**	**-0.8**
SHL			pmax	pmax		
	comp=Z,12nm,0.6s					
CWC	**Cottonwood Cre**	**57.31 71**	P	**P**	**20 23 40.9**	**+1.6**
	baz=314					
ARSB	**Arslanbob**	**57.37 297**	*e*P	**P**	**20 23 40.2**	**+0.6**
	comp=Z,12nm,1.1s					
LOF	**Lofoten**	**57.43 346**	*e*

KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 57.49 300 *e*P **P 20 23 38.5 -1.9**
KKAR Karatay Array 57.49 300 *e*P **P 20 23 38.5 -1.9**
KHON Khomkaen 57.56 254 P **P 20 23 44.1 +3.0**
comp=Z,33µm,0.7s
ISA Isabella, Lake 57.61 72 *e*P **P 20 23 41.0 -0.4**
comp=Z,9.4nm,1.2s
ISA Isabella, Lake 57.61 72 *e*P **P 20 23 41.0 -0.4**
ISA pmax pmax
comp=Z,9.0nm,1.2s
DUG Dugway, Tooele 57.72 65 *e*P **P 20 23 43.5 +1.3**
comp=Z,12nm,1.1s
DUG Dugway, Tooele 57.72 65 *e*P **P 20 23 43.5 +1.3**
DUG pmax pmax
comp=Z,13nm,1.1s
BW06 Boulder Array 57.73 61 *e*P **P 20 23 43.7 +1.3**
comp=Z,34nm,0.7s
BW06 Boulder Array 57.73 61 P **P 20 23 43.6 +1.3**
baz=314
PD31 Pinedale Array 57.73 61 *e*P **P 20 23 42.9 +0.6**
comp=Z,10nm,1.0s
PDAR Pinedale Array 57.73 61 *e*P **P 20 23 42.6 +0.3**
PDAR Pinedale Array 57.73 61 P **P 20 23 43.8 +1.5**
comp=Z,2.7nm,0.7s,baz=311,slow=2.3,SNR=23
PDAR LR LR 20 45 41.1
comp=Z,183nm,21.9s,baz=334,slow=33
KLMR Klimovskoe 57.79 330⇑ *i*P **P 20 23 42.3 +0.2**
KLMR pmax pmax
comp=Z,55nm,1.3s
MPMC Manual Prospec 57.91 71 P **P 20 23 45.2 +1.6**
baz=314
CMMT Chiang Mai 57.96 259 P **P 20 23 45.0 +1.1**
comp=Z,24nm,0.9s,comp=Z,266nm
CHTO Chiang Mai 57.96 259 *e*P **P 20 23 44.5 +0.7**
comp=Z,34nm,0.9s
CHTO Chiang Mai 57.96 259 *e*P **P 20 23 44.6 +0.7**
CHTO pmax pmax
comp=Z,34nm,0.9s
CHTO Chiang Mai 57.96 259 P **P 20 23 45.0 +1.0**
SNR=13
CHTO P **P 20 23 45.0 +1.0**
SNR=13
FURC Furnace Creek, 57.99 71 P **P 20 23 46.2 +2.4**
baz=314
TPNV Topopah Spring 58.02 70 *e*P **P 20 23 44.7 +0.4**
comp=Z,12nm,1.0s
TPNV Topopah Spring 58.02 70 *e*P **P 20 23 44.7 +0.4**
TPNV pmax pmax
comp=Z,12nm,1.0s
TPNV Topopah Spring 58.02 70 P **P 20 23 45.2 +0.9**
baz=314
LRMC Laurel Mtn Rad 58.20 72 P **P 20 23 47.2 +1.6**
baz=314
CM31 Chiang Mai Arr 58.24 259 *e*P **P 20 23 47.3 +1.4**
comp=Z,22nm,0.8s
CM31 Chiang Mai Arr 58.24 259 P **P 20 23 48.0 +2.1**
SNR=8.0
CM31 P **P 20 23 48.0 +2.1**
SNR=8.0
CMAR Chiang Mai Arr 58.24 259 *e*P **P 20 23 46.9 +1.1**
CMAR Chiang Mai Arr 58.24 259 *e*P **P 20 23 46.9 +1.1**
CMAR Chiang Mai Arr 58.24 259 P **P 20 23 47.2 +1.4**
comp=Z,15nm,0.8s,baz=27,slow=6.8,SNR=81
CMAR LR LR 20 51 12.0
comp=Z,969nm,18.6s,baz=51,slow=39
NLU North Lily Min 58.30 64 *e*P **P 20 23 46.7 +0.4**
comp=Z,8.0nm,1.0s
JOF Joensuu 58.42 335 P **P 20 23 47.0 +0.5**
JOF pmax pmax
comp=Z,60nm,1.0s
EDW2 Edwards Air Fo 58.44 73 P **P 20 23 49.2 +2.0**
baz=315
PBKT Sadao Pong 58.48 256 P **P 20 23 50.2 +2.7**
comp=Z,9.8nm,1.3s
MPU Maple Canyon 58.50 64 *e*P **P 20 23 48.9 +1.2**
comp=Z,7.3nm,0.9s
ABKAR Akbulak array 58.51 311 *e*P **P 20 23 46.1 -1.3**
comp=Z,15nm,0.7s
AKTO Aktyubinsk 58.56 313 LR LR 20 50 36.8
comp=Z,297nm,19.4s,baz=25,slow=38
GSC Goldstone, Bar 58.84 71 *e*P **P 20 23 48.7 -1.3**
comp=Z,6.1nm,0.9s
GSC Goldstone, Bar 58.84 71 *e*P **P 20 23 48.7 -1.3**
GSC pmax pmax
comp=Z,6.0nm,0.9s
JIRN Jiri 59.20 276 *e*P **P 20 23 52.7 -0.2**
comp=Z,48nm,0.7s
TMUT Trail Mountain 59.24 65 *e*P **P 20 23 50.1 -2.8**
comp=Z,9.5nm,0.9s
MSU Marysvale 59.24 66 *e*P **P 20 23 52.6 -0.3**
MSU Marysvale 59.24 66 *e*P **P 20 23 52.6 -0.3**
CCUT Cedar City 59.25 67 *e*P **P 20 23 53.9 +0.9**
comp=Z,6.5nm,0.6s
K22A Casper 59.43 59 *e*P **P 20 23 52.9 -1.1**
comp=Z,12nm,1.2s
K22A Casper 59.43 59 P **P 20 23 56.1 +2.1**
baz=315
HEC Hector,Ludlow 59.45 72 P **P 20 23 55.7 +1.5**
baz=315
RAMN Ramite 59.47 275 *e*P **P 20 23 54.0 -0.6**
comp=Z,88nm,0.6s
Q16A Castle Valley 59.52 65 *e*P **P 20 23 53.8 -1.0**
comp=Z,7.0nm,0.9s
MTPU Mount Pierson 59.57 66 *e*P **P 20 23 54.8 -0.5**
comp=Z,16nm,1.6s
KKN Kakani 59.67 277 *e*P **P 20 23 55.7 -0.2**
comp=Z,61nm,0.7s
RSSD Black Hills 59.68 56 *e*P **P 20 23 56.5 +0.6**
comp=Z,20nm,0.9s
RSSD Black Hills 59.68 56 P **P 20 23 57.3 +1.5**
baz=315
LCMT Little Creek M 59.69 68 *e*P **P 20 23 55.7 -0.2**
comp=Z,11nm,1.0s
PKI Pulchoki 59.74 277 *e*P **P 20 23 55.9 -0.7**
comp=Z,34nm,0.6s
SRU San Rafael Swe 59.75 64 *e*P **P 20 23 55.8 -0.5**
comp=Z,17nm,0.9s
SRU San Rafael Swe 59.75 64 *e*P **P 20 23 55.8 -0.5**
SRU pmax pmax
comp=Z,17nm,0.9s
PKIN Phulchoki 59.75 277 *e*P **P 20 23 55.9 -0.7**
comp=Z,29nm,0.6s
DMN Daman 59.90 277 *e*P **P 20 23 57.4 -0.2**
comp=Z,55nm,0.6s
GKN Gorkha 59.90 278 *e*P **P 20 23 57.0 -0.5**
comp=Z,41nm,0.7s
KNB Kanab 59.93 67 *e*P **P 20 23 58.9 +1.3**
comp=Z,40nm,1.8s
KNB Kanab 59.93 67 *e*P **P 20 23 58.9 +1.3**
KNB pmax pmax
comp=Z,40nm,1.8s
UMPA Umpang Tak 60.03 257 P **P 20 24 01.5 +3.3**
comp=Z,50µm,0.8s,comp=Z,495µm
DANN Dangsing 60.19 279 *e*P **P 20 23 59.4 -0.2**
comp=Z,63nm,0.7s
BELC Belle Mtn. Jos 60.23 72 P **P 20 24 03.4 +3.7**
baz=315
O20A White River Ci 60.28 62 *e*P **P 20 24 01.2 +1.3**
comp=Z,10nm,1.1s
GAR Garm 60.45 296 *e*P **P 20 23 60.0 -1.1**
comp=Z,34nm,1.1s
GAR Garm 60.45 296 *e*P **P 20 24 00.0 -1.1**
GAR pmax pmax
comp=Z,34nm,1.1s
U15A North Rim 60.65 68 *e*P **P 20 24 02.3 -0.3**
comp=Z,9.5nm,1.3s
KOLN Koldanda 60.70 278 *e*P **P 20 24 02.6 -0.4**
comp=Z,32nm,0.6s
PYUN Piuthan 60.84 279 *e*P **P 20 24 03.3 -0.6**
comp=Z,41nm,0.7s
N23A Red Feather La 60.97 60 P **P 20 24 06.6 +1.8**
baz=316
FIA1 FINESS Array S 60.98 337 *e*P **P 20 24 03.6 -0.5**
comp=Z,44nm,0.8s
FIA0 FINESS Array S 60.98 337 *e*P **P 20 24 04.8 +0.7**
FIA0 FINESS Array S 60.98 337 *e*P **P 20 24 04.8 +0.7**
FINES FINESS Array B 60.98 337 *e*P **P 20 24 03.5 -0.6**
FINES FINESS Array B 60.98 337 *e*P **P 20 24 03.5 -0.6**
FINES FINESS Array B 60.98 337 P **P 20 24 04.8 +0.7**
comp=Z,25nm,0.6s,baz=38,slow=6.5,SNR=108
FINES LR LR 20 54 02.8
comp=Z,757nm,19.9s,baz=28,slow=40
PV23 Carpenter Ridg 61.05 64 *e*P **P 20 24 05.1 -0.2**
comp=Z,12nm,0.9s
PV22 Blue Mesa, Par 61.11 64 *e*P **P 20 24 04.6 -1.1**
PV04 Paradox Valley 61.15 64 *e*P **P 20 24 05.2 -0.7**
comp=Z,12nm,0.9s
PV20 West Nyswonger 61.15 64 *e*P **P 20 24 04.8 -1.1**
comp=Z,41nm,1.7s
PV17 East Wray Mesa 61.20 64 *e*P **P 20 24 06.7 +0.4**
comp=Z,25nm,1.0s
PV16 Nyswonger Mesa 61.20 64 *e*P **P 20 24 07.0 +0.8**
comp=Z,11nm,0.9s
PV11 David Mesa, Pa 61.23 64 *e*P **P 20 24 05.8 -0.7**
comp=Z,19nm,1.1s
PV18 Skein Mesa, Pa 61.25 64 *e*P **P 20 24 06.6 0.0**
comp=Z,17nm,0.9s
PV07 Paradox Valley 61.26 64 *e*P **P 20 24 05.6 -1.1**
comp=Z,28nm,1.6s
PV12 Saucer Basin, 61.26 64 *e*P **P 20 24 06.2 -0.4**
comp=Z,14nm,0.9s
PV05 Paradox Valley 61.27 64 *e*P **P 20 24 07.7 +1.0**
comp=Z,19nm,0.9s
PV03 Paradox Valley 61.28 64 *e*P **P 20 24 06.1 -0.7**
comp=Z,12nm,0.9s
CHGR Chuyangaron 61.34 297 *e*P **P 20 24 05.9 -1.1**
comp=Z,18nm,0.8s
PV13 Radium Mtn., P 61.36 64 *e*P **P 20 24 07.9 +0.5**
comp=Z,18nm,0.9s
SMCO Snowmass 61.65 62 *e*P **P 20 24 08.1 -1.4**
comp=Z,7.4nm,1.0s
WUAZ Wupatki 61.82 68 *e*P **P 20 24 10.1 -0.3**
comp=Z,10.0nm,1.1s
ISCO Idaho Springs 61.93 61 *e*P **P 20 24 11.0 -0.3**
comp=Z,9.1nm,1.0s
ISCO Idaho Springs 61.93 61 *e*P **P 20 24 11.0 -0.3**
ISCO pmax pmax
comp=Z,9.0nm,1.0s
ISCO Idaho Springs 61.93 61 P **P 20 24 12.9 +1.6**
baz=316
113A Mohawk Valley, 62.41 71 *e*P **P 20 24 14.0 -0.2**
comp=Z,14nm,1.4s
MOS Moscow 62.49 328 *e*P **P 20 24 12.2 -2.1**
MOS *e* 20 24 24.4
MOS *e* 20 24 29.9
MOS *e*S **S 20 32 37.1 -2.0**
MOS pmax pmax
comp=Z,53nm,0.9s
NIL Nilore 62.62 290 *e*P **P 20 24 15.4 -0.2**
comp=Z,26nm,0.7s
NIL Nilore 62.62 290 *e*P **P 20 24 15.4 -0.2**
NIL pmax pmax
comp=Z,26nm,0.7s
S22A 4UR Ranch, Cre 62.75 63 *e*P **P 20 24 16.6 -0.2**
comp=Z,19nm,1.4s
S22A 4UR Ranch, Cre 62.75 63 P **P 20 24 19.0 +2.2**
baz=316
X18A Snowflake 63.34 67 *e*P **P 20 24 20.2 -0.4**
comp=Z,8.8nm,0.9s
OBN Obninsk 63.34 328 *e*P **P 20 24 19.7 -0.3**
comp=Z,41nm,0.9s
OBN Obninsk 63.34 328 *e*P **P 20 24 19.8 -0.2**
OBN *e* 20 24 30.7
OBN *e* 20 24 56.1
OBN *e* 20 26 35.1
OBN pmax pmax
comp=Z,54nm,1.0s
OBN MLR MLR
comp=Z,658nm,19.0s
VSU Vasula 63.41 335 *ce*P **P 20 24 20.7 +0.3**
VSU pmax pmax
comp=Z,110nm,0.6s
VSU Vasula 63.41 335 *e*P **P 20 24 19.8 -0.6**
VSU IAmb IAmb 20 24 22.9
comp=Z,140nm,0.8s
ECSD EROS Data Cent 63.66 52 *e*P **P 20 24 22.1 -0.3**
comp=Z,7.3nm,0.8s
SBUM Sibu 63.74 236 *e*P **P 20 24 22.9 -0.2**
comp=Z,8.9nm,1.3s
DOMB Dombas 63.81 345 *e*P **P 20 24 23.6 +0.5**
AKN Aaknes 63.99 347 *e*P **P 20 24 25.0 +0.8**
NC303 NORSAR Array S 64.21 344 *e*P **P 20 24 25.7 0.0**
comp=Z,108nm,1.7s
NC405 NORSAR Array S 64.26 344 *e*P **P 20 24 25.9 -0.1**
comp=Z,23nm,0.8s
NC204 NORSAR Array S 64.26 344 *e*P **P 20 24 24.4 -1.7**
comp=Z,26nm,0.8s
KBL Kabul 64.37 294 *e*P **P 20 24 24.1 -3.3**
comp=Z,8.0nm,0.8s
KBL Kabul 64.37 294 P **P 20 24 25.1 -2.3**
KBL pmax pmax
comp=Z,8.0nm,0.8s
NB201 NORSAR Array S 64.39 344 *e*P **P 20 24 26.3 -0.6**
comp=Z,134nm,1.8s
NB2 NORSAR Subarra 64.41 344 P **P 20 24 26.9 -0.1**
comp=Z,21nm,1.0s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.41 344 P **P 20 24 26.9 -0.1**
baz=22,slow=6.9
NB200 NORSAR Array S 64.41 344 *e*P **P 20 24 27.0 -0.1**
NOA NORSAR Array B 64.41 344 P **P 20 24 27.0 -0.1**
comp=Z,9.7nm,0.7s,baz=21,slow=6.6,SNR=63
NOA LR LR 20 54 28.8
comp=Z,472nm,20.9s,baz=40,slow=38
TUC Tucson 64.47 70 *e*P **P 20 24 28.0 0.0**
comp=Z,7.6nm,1.2s
TUC Tucson 64.47 70 *e*P **P 20 24 28.0 0.0**
TUC pmax pmax
comp=Z,8.0nm,1.2s
NBO00 NORSAR Array S 64.49 344 *e*P **P 20 24 28.4 +0.9**
comp=Z,62nm,1.6s
LPSR Galich'ya Gora 64.60 325 *e*P **P 20 24 27.8 -0.5**
LPSR pmax pmax
comp=Z,60nm,0.8s
LPSR MLR MLR
comp=Z,790nm,20.0s
NC602 NORSAR Array S 64.64 344 *e*P **P 20 24 29.2 +0.8**
comp=Z,78nm,1.9s
NORES NORESS Array B 64.64 344 P **P 20 24 29.2 +0.7**
NORES pmax pmax
comp=Z,5.0nm,0.6s
NAO01 NORSAR Array S 64.65 344 *e*P **P 20 24 28.6 0.0**
comp=Z,108nm,1.9s
NAO01 NORSAR Array S 64.65 344 *e*P **P 20 24 28.4 -0.2**
VRH Novokhopyorsk 64.72 322 *e*P **P 20 24 28.3 -0.8**
VRH pmax pmax
comp=Z,60nm,0.8s
VRH MLR MLR
comp=Z,2µm,17.0s
ANMO Albuquerque 65.00 65 *e*P **P 20 24 31.6 +0.1**
comp=Z,5.8nm,1.0s
ANMO Albuquerque 65.00 65 *e*P **P 20 24 31.6 +0.1**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
HYA Hoyanger 65.08 347 *e*P **P 20 24 31.4 +0.2**
SKAR Skarslia 65.22 345 *e*P **P 20 24 32.8 +0.4**
SLIT Slitere, Latvi 65.26 337 *e*P **P 20 24 31.5 -1.1**
SLIT IAmb IAmb 20 24 35.0
comp=Z,399nm,1.0s
BNM Barren Site 65.49 66 *e*P **P 20 24 35.4 +0.7**
KSM Kuching 65.55 237 *e*P **P 20 24 35.4 +0.4**
comp=Z,19nm,1.3s
VSR Storozhevoye 65.65 324 *c i*P **P 20 24 33.9 -1.3**
VSR pmax pmax
comp=Z,61nm,0.9s
VORD Divnogorie 65.81 324 *e*P **P 20 24 35.8 -0.4**
VORD pmax pmax
comp=Z,20nm,0.8s
IZAR Zarasai 65.91 334 *e*P **P 20 24 37.7 +0.9**
IZAR IAmb IAmb 20 24 39.2
comp=Z,11nm,0.8s
BER Bergen 65.95 347 *e*P **P 20 24 37.3 +0.4**
KONO Kongsberg 66.00 344 *ce*P **P 20 24 39.4 +2.1**
KONO pmax pmax
comp=Z,14nm,1.7s
319A Douglas 66.03 69 *e*P **P 20 24 38.4 +0.4**
comp=Z,32nm,1.3s
IDID Didziasalis 66.15 333 *e*P **P 20 24 38.9 +0.5**
IDID IAmb IAmb 20 24 40.9
comp=Z,19nm,1.0s
IIGN Ignalina 66.27 333 *e*P **P 20 24 39.8 +0.7**
IIGN IAmb IAmb 20 24 41.6
comp=Z,21nm,0.9s
NACGM Naroch 66.50 333 *e* **P 20 24 44.0 +3.4**
MICGM Minsk 66.54 332 *e*P **P 20 24 41.0 +0.2**
MICGM *e*LR LR 20 55 30.0
MNK Minsk 66.54 332 *e*P **P 20 24 41.0 +0.2**
KAPI Kappang 66.69 225 LR LR 20 54 44.3
comp=Z,55nm,19.7s,baz=41,slow=37
PABE Paberze 66.73 335 *e*P **P 20 24 41.8 -0.2**
PABE IAmb IAmb 20 24 44.4
comp=Z,75nm,1.0s
PBUR Paburg 66.79 336 *e*P **P 20 24 42.1 -0.3**
PBUR IAmb IAmb 20 24 44.8
comp=Z,31nm,0.9s
SNART Snartemo 67.63 345 *e*P **P 20 24 48.2 +0.5**
GEYT Alibeck 67.74 303 *e*P **P 20 24 48.5 -0.3**
GEYT Alibeck 67.74 303 P **P 20 24 48.9 +0.2**
comp=Z,13nm,0.7s,baz=42,slow=3.4,SNR=35
GEYT LR LR 20 57 17.2
comp=Z,1µm,18.6s,baz=35,slow=39
GYA0B ALIBECK ARRAY 67.74 303 *e*P **P 20 24 48.5 -0.3**
comp=Z,17nm,0.8s
MSTX Muleshoe 67.76 63 *e*P **P 20 24 49.1 +0.1**
comp=Z,18nm,1.1s
MSTX Muleshoe 67.76 63 P **P 20 24 49.3 +0.2**
baz=319
LSQQ Lebel-sur-Quev 67.88 37 P **P 20 24 49.9 +0.4**
baz=326
MNTX Cornudas Mount 68.01 66 *e*P **P 20 24 51.7 +1.1**
comp=Z,6.6nm,0.9s
MNTX Cornudas Mount 68.01 66 P **P 20 24 52.0 +1.5**
baz=319
N41A Harden Midland 68.73 51 *e*P **P 20 24 55.0 +0.1**
comp=Z,34nm,1.1s
N41A Harden Midland 68.73 51 P **P 20 24 55.3 +0.4**
baz=322
COP Copenhagen 69.22 341 *e*P **P 20 24 58.3 +0.7**
COP pmax pmax
comp=Z,15nm,0.6s
COP Copenhagen 69.22 341 *i* P **P 20 24 58.3 +0.7**
comp=Z,15nm,0.6s
BSD Bornholm Skovb 69.25 340 *e*P **P 20 24 59.3 +1.5**
BSD Bornholm Skovb 69.25 340 *i* P **P 20 24 59.3 +1.5**
WMOK Wichita Mounta 69.33 60 *e*P **P 20 24 59.1 +0.3**
comp=Z,12nm,0.9s
AKASG Malin Array Be 69.45 329 *i* P **P 20 24 58.7 -0.5**
AKASG pmax pmax
comp=Z,22nm,0.6s
AKASG Malin Array Be 69.45 329 P **P 20 24 58.8 -0.3**
comp=Z,33nm,0.8s,baz=30,slow=6.5,SNR=77
AKASG LR LR 21 00 51.5
comp=Z,757nm,18.2s,baz=15,slow=41
AKBB Malin Array Si 69.45 329 *e*P **P 20 24 58.7 -0.4**
comp=Z,41nm,0.9s
KIEV Kiev 69.46 329 *e*P **P 20 24 58.2 -1.1**
comp=Z,43nm,1.0s
KIEV Kiev 69.46 329⇑ *i*P **P 20 24 59.8 +0.6**
KIEV Kiev 69.46 329 *i* P **P 20 24 59.3 +0.1**
SNR=25
KIEV Kiev 69.46 329 *c i*P **P 20 24 58.6 -0.6**
KIEV pmax pmax
comp=Z,45nm,1.0s
NCK Nalchik 70.20 316 *i* P **P 20 25 04.6 +0.7**
NCK pmax pmax
comp=Z,14nm,0.8s
KIV Kislovodsk 70.20 317 *e*P **P 20 25 03.9 -0.2**
comp=Z,78nm,1.8s
KIV Kislovodsk 70.20 317 *i* P **P 20 25 05.4 +1.3**
SNR=10
KIV Kislovodsk 70.20 317 *e*P **P 20 25 04.5 +0.4**
KIV pmax pmax
comp=Z,39nm,1.0s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV Kislovodsk 70.20 317 P **P 20 25 05.2 +1.1**
SNR=11
KIV P **P 20 25 05.2 +1.1**
SNR=11
KBZ Khabaz 70.30 317 P **P 20 25 05.0 +0.5**
KBZ Khabaz 70.30 317 P **P 20 25 05.0 +0.5**
comp=Z,17nm,0.8s,baz=58,slow=5.3,SNR=43
KBZ LR LR 21 00 05.9
comp=Z,823nm,20.6s,baz=12,slow=40
ZKTA Zakatala 70.38 313 P **P 20 25 05.9 +0.8**
GKP Gorka Klasztor 70.44 338 *e*P **P 20 25 05.7 +0.5**
GKP Gorka Klasztor 70.44 338 *e*P **P 20 25 05.7 +0.5**
SEKA Sheki 70.46 313 P **P 20 25 06.2 +0.5**
ZEI Tsey 70.64 316 *e*P **P 20 25 03.4 -3.5**
ZEI pmax pmax
comp=Z,14nm,0.9s
HHAR Hobbs 70.66 56 *e*P **P 20 25 07.4 +0.5**
comp=Z,98nm,0.3s
S41A Jillco Farms, 70.74 53 P **P 20 25 07.7 +0.4**
baz=322
LTX Lajitas 70.76 67 *e*P **P 20 25 08.8 +1.2**
LTX Lajitas 70.76 67 *e*P **P 20 25 08.9 +1.2**
TX31 Lajitas Ar. Si 70.76 67 *e*P **P 20 25 08.2 +0.5**
comp=Z,9.9nm,0.9s
TXAR Lajitas Array 70.76 67 *e*P **P 20 25 07.8 +0.1**
TXAR Lajitas Array 70.76 67 *e*P **P 20 25 07.8 +0.1**
TXAR Lajitas Array 70.76 67 P **P 20 25 08.8 +1.2**
comp=Z,2.3nm,0.7s,baz=296,slow=4.5,SNR=28
TXAR LR LR 20 55 59.9
comp=Z,149nm,19.5s,baz=0.0,slow=36
NEY Neytrino 70.77 317 *i* P **P 20 25 09.4 +1.8**
MNGR Mingechevir, A 70.86 312 P **P 20 25 08.9 +0.9**
TBLG Delisi 71.14 315 *e*P **P 20 25 10.3 +0.6**
comp=Z,29nm,0.9s
TBLG Delisi 71.14 315 *e*P **P 20 25 10.3 +0.6**
TBLG pmax pmax
comp=Z,29nm,0.9s
U40A Yellville 71.15 55 P **P 20 25 10.1 +0.2**
baz=322
HYB Hyderabad 71.51 275 *i* P **P 20 25 12.5 +0.2**
HYB *e* 20 25 24.5
ANN Anapa 71.62 321 *e*P **P 20 25 09.2 -3.3**
ANN *e**PP **sP 20 25 26.2 +1.0**
ANN *e* 20 27 49.0
ANN *e*PPP PPP 20 29 33.5
ANN *e*S **S 20 34 22.5 -6.9**
ANN *e*SS **SS 20 39 05.9 +2.0**
ANN pmax pmax
comp=Z,44nm,1.8s
LKRN Lenkeran, Azer 71.73 310 P **P 20 25 14.3 +1.1**
SOC Sochi 71.73 319 *c i*P **P 20 25 12.2 -1.0**
SOC *e* 20 27 53.8
SOC *e*PPP PPP 20 29 34.4
SOC *e*S **S 20 34 28.0 -2.8**
SOC *e*SS **SS 20 39 10.5 +4.7**
SOC pmax pmax
comp=Z,19nm,0.6s
LVV L'vov 71.80 332 *e*P **P 20 25 14.2 +0.7**
LVV *e* 20 25 30.6
LVV *e* 20 28 01.1
LVV *e*S **S 20 34 35.1 +3.8**
LVV *e*SS **SS 20 39 06.1 -0.3**
AKH Akhalkalaki 71.94 315 *e*P **P 20 25 14.6 -0.1**
comp=Z,25nm,1.0s
AKH Akhalkalaki 71.94 315⇑ *i*P **P 20 25 15.6 +0.9**
AKH Akhalkalaki 71.94 315 *e*P **P 20 25 14.6 -0.1**
AKH pmax pmax
comp=Z,25nm,1.0s
RUE Ruedersdorf 71.95 339 *e*P **P 20 25 14.6 +0.3**
RUE IAmb IAmb 20 25 17.1
comp=Z,34nm,1.1s
JCT Junction City 72.04 63 P **P 20 25 16.1 +0.7**
baz=321
KWP Kalwaria Pacla 72.34 333 *e*P **P 20 25 17.8 +1.0**
KWP Kalwaria Pacla 72.34 333 *e*P **P 20 25 17.1 +0.3**
comp=Z,654nm,1.1s
KWP Kalwaria Pacla 72.34 333 *e*P **P 20 25 17.1 +0.3**
GNI Garni 72.42 314 *e*P **P 20 25 17.4 -0.2**
comp=Z,29nm,1.0s
GNI Garni 72.42 314 P **P 20 25 18.5 +0.9**
GNI Garni 72.42 314 *c i*P **P 20 25 18.8 +1.2**
GNI pmax pmax
comp=Z,82nm,1.1s
BATM Batumi 72.55 316⇑ *i*P **P 20 25 19.7 +1.5**
OJC Ojcow 72.60 335 *e*P **P 20 25 18.8 +0.5**
OJC Ojcow 72.60 335 *e*P **P 20 25 18.5 +0.2**
comp=Z,19nm,0.9s
OJC Ojcow 72.60 335 *e*P **P 20 25 18.5 +0.2**
OJC pmax pmax
comp=Z,19nm,0.9s
BCA Borcka 72.71 316⇓ *i*P **P 20 25 19.2 0.0**
SIM Simferopol' 72.75 323 *d i*P **P 20 25 20.1 +0.9**
SIM pmax pmax
comp=Z,39nm,1.7s
KIS Kishinev 72.82 328 *e*P **P 20 25 18.0 -1.6**
comp=Z,160nm,2.0s
KIS Kishinev 72.82 328 *e*PcP **PcP 20 25 29.0 -7.7**
KIS Kishinev 72.82 328 *e*PP PP 20 28 05.0 +3.8
KIS *e*S **S 20 34 38.0 -5.1**
KIS *e*LR LR 20 56 10.0
comp=Z,1µm,17.0s
KIS Kishinev 72.82 328 *e*P **P 20 25 18.0 -1.6**
KIS *e* 20 25 29.0

KIS e 20 28 05.0
KIS eS S 20 34 38.0 -5.1
KIS pmax pmax
comp=Z,160nm,2.0s
NAX Nakhchivan 72.87 312 P P 20 25 21.0 +0.8
KSP Ksiaz 72.90 337 P P 20 25 21.6 +1.5
KOLS Kolonicke sedl 73.09 333 eP P 20 25 22.1 +0.8
KOLS pmax pmax
comp=Z,13nm,0.8s
KOLS Kolonicke sedl 73.09 333 eP P 20 25 22.1 +0.8
NIE Niedzica 73.20 334 eP P 20 25 23.0 +1.1
NIE Niedzica 73.20 334 eP P 20 25 23.0 +1.1
CLL Collm 73.22 339 eP P 20 25 20.9 -0.9
comp=Z,19nm,1.0s
CLL Collm 73.22 339 eP P 20 25 21.0 -0.9
CLL pmax pmax
comp=Z,19nm,1.0s
CLL Collm 73.22 339 i P P 20 25 22.2 +0.3
comp=Z,22nm,1.0s
CLL e(pP) pP 20 25 30.0 -1.2
CLL e 20 25 35.0
CLL i sP PcP 20 25 37.3 -1.0
CLL epPcP 20 25 48.0
CLL ePP PP 20 28 00.0 -4.4
CLL e 20 34 12.0
CLL eS S 20 34 44.0 -3.5
CLL ePPS PPS 20 35 36.0
CLL eSS SS 20 39 36.0 +8.0
CLL eSSS SSS 20 42 48.0
CLL eSSSS 20 44 36.0
SEVA Sevastopol 73.26 323⇑ i P P 20 25 23.6 +1.3
UPC Upice 73.28 337 eP P 20 25 24.1 +1.8
UPC eS SKiKP 20 34 52.1 +1.3
UPC MLR MLR
comp=Z,1μm,14.3s
UPC Upice 73.28 337 eP P 20 25 24.1 +1.8
UPC eS SKiKP 20 34 52.1 +1.3
UPC AMS AMS 21 04 10.0
comp=Z,1μm,14.3s
P51A Williamsport 73.30 46 eP P 20 25 21.9 -0.7
comp=Z,32nm,0.6s
DPC Dobruska-Polom 73.35 337 eP P 20 25 24.9 +2.1
DPC e 20 25 32.5
DPC eS SKiKP 20 34 53.8 +2.8
DPC MLR MLR
comp=Z,1μm,15.5s
DPC Dobruska-Polom 73.35 337 eP P 20 25 24.9 +2.1
DPC epP pP 20 25 32.5 +0.4
DPC eS SKiKP 20 34 53.8 +2.8
DPC AMS AMS 21 04 10.0
comp=Z,1μm,15.5s
UZH Uzhgorod 73.36 333 eP P 20 25 22.4 -0.4
UZH e 20 25 39.7
OKC Ostrava-Krasne 73.38 336 eP P 20 25 24.6 +1.7
OKC MLR MLR
comp=Z,800nm,18.0s
OKC Ostrava-Krasne 73.38 336 eP P 20 25 24.6 +1.7
OKC AMS AMS 21 00 10.0
comp=Z,800nm,18.0s
BUR08 Bucovina Ar. S 73.39 330 eP P 20 25 23.0 -0.2
comp=Z,14nm,0.7s
BURAR Bucovina Array 73.41 330 eP P 20 25 23.1 -0.2
BURAR Bucovina Array 73.41 330⇑ i P P 20 25 24.3 +1.0
BURAR Bucovina Array 73.41 330 P P 20 25 24.2 +1.0
BRG Berggiesshubel 73.42 339 eP P 20 25 24.4 +1.3
comp=Z,10nm,1.2s
BRG PP PP 20 28 04.0 -2.2
BRG S SKiKP 20 34 51.0 0.0
BRG SS SS 20 39 34.0 +2.9
BRG Berggiesshubel 73.42 339 eP P 20 25 24.4 +1.3
BRG 20 28 04.0
BRG S SKiKP 20 34 51.0 0.0
BRG SS SS 20 39 34.0 +2.9
BRG pmax pmax
comp=Z,10.0nm,1.2s
LEOM Leova 73.47 328⇑ i P P 20 25 24.3 +0.8
LEOM Leova 73.47 328 P P 20 25 24.2 +0.8
KRLC Kraliky 73.50 337 eP P 20 25 25.7 +2.0
KRLC Kraliky 73.50 337 eP P 20 25 25.7 +2.0
Q51A Peebles 73.54 47 eP P 20 25 23.8 -0.3
comp=Z,44nm,0.7s
MORC Moravsky Berou 73.58 336 eP P 20 25 25.1 +0.9
comp=Z,17nm,0.9s
MORC Moravsky Berou 73.58 336⇑ i P P 20 25 25.4 +1.2
MORC Moravsky Berou 73.58 336 eP P 20 25 25.1 +0.9
MORC pmax pmax
comp=Z,17nm,0.9s
MORC Moravsky Berou 73.58 336 eP P 20 25 24.9 +0.7
PVCC Panska Ves 73.60 338 eP P 20 25 25.1 +0.9
PVCC MLR MLR
comp=Z,1μm,14.9s
PVCC Panska Ves 73.60 338 eP P 20 25 25.1 +0.9
PVCC AMS AMS 21 03 30.0
comp=Z,1μm,14.9s
LANS Liptovska Anna 73.66 334 eP P 20 25 26.7 +2.0
LANS Liptovska Anna 73.66 334 eP P 20 25 26.7 +2.0
BIZ Bicaz 73.74 329⇑ i P P 20 25 25.5 +0.4
TRPA Tarpa 73.75 332⇓ i P P 20 25 26.2 +1.1
TRPA Tarpa 73.75 332 eP P 20 25 26.0 +0.9
WTSB Winterswijk 73.81 343 eP P 20 25 26.6 +1.2
comp=Z,26nm,0.8s
TESR Tescani 73.95 329⇑ i P P 20 25 26.5 +0.2
KECS Kecovo 74.00 334 eP P 20 25 28.0 +1.4
KECS pmax pmax
comp=Z,32nm,0.9s
KECS Kecovo 74.00 334 eP P 20 25 28.0 +1.4
PRU Pruhonice 74.11 338 eP P 20 25 28.3 +1.1
PRU e 20 25 37.1
PRU eS S 20 34 56.8 -0.8
PRU MLR MLR
comp=Z,1μm,13.1s
PRU Pruhonice 74.11 338 eP P 20 25 28.3 +1.1
PRU epP pP 20 25 37.1 +0.7
PRU eS S 20 34 56.8 -0.8
PRU AMS AMS 21 04 20.0
comp=Z,1μm,13.1s
GOPC GO Pecny, Ondr 74.12 338 eP P 20 25 28.3 +1.0
GOPC eS S 20 34 58.8 +1.0
GOPC MLR MLR
comp=Z,1μm,13.6s
GOPC GO Pecny, Ondr 74.12 338 eP P 20 25 28.3 +1.0
GOPC eS S 20 34 58.8 +1.0
GOPC AMS AMS 21 04 10.0
comp=Z,1μm,13.6s
ARCR ARCALIA 74.15 330⇑ i P P 20 25 29.4 +1.9
DZM Mont Dzumac 74.19 174 eS S 20 35 06.8 +7.7
comp=Z,153nm,22.9s
DZM Mont Dzumac 74.19 174 eLR LR 20 48 29.7
comp=Z,443nm,21.5s
VRAC Vranov 74.25 336⇑ i P P 20 25 29.5 +1.4
VRAC Vranov 74.25 336 P P 20 25 29.4 +1.4
VRAC Vranov 74.25 336 eP P 20 25 28.9 +0.8
NKC Novy Kostel 74.35 339 eP P 20 25 29.7 +1.1
NKC MLR MLR
comp=Z,700nm,12.5s
NKC Novy Kostel 74.35 339 eP P 20 25 29.7 +1.1
NKC eS S 20 35 06.8 +6.4
NKC AMS AMS 21 04 20.0
comp=Z,700nm,12.5s
JAVC Velka Javorina 74.40 336 eP P 20 25 30.8 +1.8
VYHS Vyhne 74.43 335 eP P 20 25 30.3 +1.2
VYHS pmax pmax
comp=Z,8.0nm,0.8s
VYHS Vyhne 74.43 335 eP P 20 25 30.3 +1.2
ODBI Odobesti 74.48 328⇑ i P P 20 25 31.4 +2.0
VRI Vrincioaia 74.50 328⇑ i P P 20 25 30.8 +1.2
VRI Vrincioaia 74.50 328 P P 20 25 30.7 +1.2
KRUC Moravsky 74.53 336 eP P 20 25 30.4 +0.7
PLOR Plostina 74.53 328⇑ i P P 20 25 30.9 +1.1
PLOR Plostina 74.53 328 P P 20 25 30.8 +1.0
TREC Trest 74.53 337 eP P 20 25 30.9 +1.2
TREC MLR MLR
comp=Z,2μm,14.6s
TREC Trest 74.53 337 eP P 20 25 30.9 +1.2
TREC AMS AMS 21 05 00.0
comp=Z,2μm,14.6s
OZUR 74.59 329⇑ i P P 20 25 31.0 +0.9
LTVH Ltavrtes, Hu 74.60 332 eP P 20 25 30.1 0.0
CFR Carcaliu 74.64 327⇑ i P P 20 25 31.3 +1.0
CFR Carcaliu 74.64 327 P P 20 25 31.3 +1.0
PSZ Piszkesteto 74.68 334 eP P 20 25 30.3 -0.3
comp=Z,18nm,1.0s
PSZ Piszkesteto 74.68 334⇑ i P P 20 25 31.2 +0.6
PSZ Piszkesteto 74.68 334 eP P 20 25 30.3 -0.3
PSZ pmax pmax
comp=Z,18nm,1.0s
PSZ Piszkesteto 74.68 334 eP P 20 25 30.1 -0.5
CJR Cluj-Napoca 74.71 331⇑ i P P 20 25 31.6 +0.8
CJR Cluj-Napoca 74.71 331 P P 20 25 31.6 +0.8
SMOL Smolenice 74.78 336 P P 20 25 34.5 +3.4
DOPR Dopca 74.83 329⇑ i P P 20 25 33.2 +1.7
DRGR 74.91 331⇑ i P P 20 25 33.0 +1.0
DRGR 74.91 331 P P 20 25 33.0 +1.0
MODS Modra-Piesok 74.95 336 eP P 20 25 33.9 +1.8
MODS pmax pmax
comp=Z,18nm,1.0s
MODS Modra-Piesok 74.95 336 eP P 20 25 33.9 +1.8
MLR Muntele Rosu 75.08 329 eP P 20 25 33.6 +0.6
comp=Z,26nm,0.8s
MLR Muntele Rosu 75.08 329⇑ i P P 20 25 35.0 +1.9
MLR Muntele Rosu 75.08 329 P P 20 25 34.9 +1.9
HGN Heimansgroeve 75.12 344 eP P 20 25 34.1 +1.1
comp=Z,58nm,1.3s
GRA1 Grafenberg Arr 75.12 340 eP P 20 25 33.6 +0.5
comp=Z,21nm,0.9s
GRFO Grafenberg 75.12 340 eP P 20 25 33.4 +0.3
comp=Z,18nm,0.9s
GRFO Grafenberg 75.12 340 P P 20 25 33.4 +0.3
GRFO pmax pmax
comp=Z,18nm,0.9s
BEBN Eben Emael 75.13 344⇓ P P 20 25 34.0 +1.0
DIKM Dikmen 75.13 321⇑ i P P 20 25 35.0 +1.7
KHC Kasperske Hory 75.14 338 eP P 20 25 33.3 +0.1
comp=Z,5.2nm,1.0s
KHC Kasperske Hory 75.14 338 eP P 20 25 33.3 +0.1
KHC pmax pmax
comp=Z,5.0nm,1.0s
KHC Kasperske Hory 75.14 338 eP P 20 25 34.6 +1.4
KHC ex x 20 25 42.1
KHC eS S 20 35 04.0 -5.2
KHC AMS AMS 21 05 00.0
comp=Z,2μm,13.5s
ZST Bratislava 75.16 336 eP P 20 25 34.8 +1.5
ZST Bratislava 75.16 336 eP P 20 25 34.8 +1.5
SRO Srobarova 75.20 335 eP P 20 25 35.8 +2.3
SRO Srobarova 75.20 335 eP P 20 25 35.8 +2.3
SRO2 Moca 75.22 335 eP P 20 25 35.1 +1.5
SRO2 Moca 75.22 335 eP P 20 25 35.1 +1.5
MEM Membach 75.25 343⇑ P P 20 25 34.7 +0.9
comp=Z,32nm,0.9s
GEC2 GERESS Array S 75.38 338 eP P 20 25 34.8 +0.1
comp=Z,41nm,1.9s
GEC2 GERESS Array S 75.38 338 eP P 20 25 34.8 +0.2
GEC2 pmax pmax
comp=Z,41nm,1.9s
GERES GERESS Array B 75.38 338 eP P 20 25 34.9 +0.2
GERES GERESS Array B 75.38 338 eP P 20 25 34.9 +0.2
GERES GERESS Array B 75.38 338 P P 20 25 35.5 +0.8
comp=Z,2.8nm,0.6s,baz=33,slow=5.5,SNR=33
GERES LR LR 21 01 04.9
comp=Z,392nm,21.5s,baz=34,slow=38
WRAB Tennant Creek 75.41 205 eP P 20 25 35.5 +0.6
comp=Z,14nm,1.0s
WRAB Tennant Creek 75.41 205 ceP P 20 25 37.3 +2.4
WRAB pmax pmax
comp=Z,7.0nm,1.3s
VOIR 75.41 329⇑ i P P 20 25 36.1 +1.1
VOIR 75.41 329 P P 20 25 36.0 +1.1
WB2 Warramunga Arr 75.42 205 eP P 20 25 35.2 +0.3
comp=Z,38nm,1.6s
WR1 Warramunga Arr 75.42 205 eP P 20 25 35.1 +0.1
WRA Warramunga Arr 75.42 205 P P 20 25 35.1 +0.1
comp=Z,3.2nm,0.8s,baz=20,slow=5.8,SNR=5.9
BCLA Clavier 75.56 344⇑ P P 20 25 36.2 +0.7
comp=Z,9.5nm,1.2s
ARR Arges 75.61 330⇑ i P P 20 25 37.9 +1.9
CSKK Cskako 75.63 335 eP P 20 25 36.1 +0.1
SNF Seneffe 75.64 345⇓ P P 20 25 36.3 +0.3
comp=Z,18nm,0.9s
SIRR Siria 75.69 332⇑ i P P 20 25 37.1 +0.7
ICOR Ion Corvin 75.69 327⇑ i P P 20 25 37.2 +0.8
CONA Conrad Observa 75.72 336 i P P 20 25 38.0 +1.4
comp=Z,17nm,1.2s,SNR=12
W50A Signal Mountai 75.75 50 eP P 20 25 36.1 -0.9
comp=Z,17nm,0.7s
SOP Sopron 75.77 336 P P 20 25 39.2 +2.4
SOP Sopron 75.77 336 eP P 20 25 38.1 +1.3
LOT Lotru 75.80 330⇑ i P P 20 25 38.4 +1.2
GIVF Givet 75.95 344 eP P 20 25 38.3 +0.5
GIVF pmax pmax
comp=Z,14nm,0.9s
DOU Dourbes 75.99 344⇓ P P 20 25 38.9 +0.9
BAIF Baives 76.09 344 eP P 20 25 39.3 +0.7
BAIF pmax pmax
comp=Z,13nm,0.9s
WLF Walferdange 76.14 343⇑ P P 20 25 40.1 +1.2
GZR Gura Zlata 76.15 331⇑ i P P 20 25 39.7 +0.6
MOA Molln 76.18 337 eP P 20 25 39.9 +0.7
comp=Z,6.9nm,0.9s
ILGA Ilgaz 76.24 321 eP P 20 25 41.1 +1.2
comp=Z,40nm,0.9s
BZS Buzias 76.29 332⇑ i P P 20 25 40.8 +1.0
BZS Buzias 76.29 332 P P 20 25 40.8 +1.0
FITZ Fitzroy Crossi 76.33 214 eP P 20 25 39.7 -0.5
FITZ Fitzroy Crossi 76.33 214 P P 20 25 39.9 -0.2
comp=Z,4.6nm,1.0s,baz=353,slow=2.6,SNR=6.6
ARSA Arzberg 76.43 336 eP P 20 25 42.1 +1.4
comp=Z,14nm,1.2s,SNR=6.0
S57A Dark Hollow, R 76.52 45 eP P 20 25 41.3 +0.1
comp=Z,17nm,0.8s
HERR Herculane 76.72 331⇑ i P P 20 25 42.9 +0.6
BFO Black Forest 77.01 341 eP P 20 25 43.1 -0.8
comp=Z,12nm,1.1s
BFO Black Forest 77.01 341 eP P 20 25 43.1 -0.8
BFO pmax pmax
comp=Z,12nm,1.1s
MDVR Moldovita 77.02 331⇓ i P P 20 25 44.3 +0.3
T57A Hurt 77.03 45 eP P 20 25 43.8 -0.3
comp=Z,17nm,0.6s
SOKA Soboth 77.09 336 eP P 20 25 45.4 +1.0
comp=Z,22nm,1.1s,SNR=9.3
PERS Pernice 77.11 336 P P 20 25 44.8 +0.4
KBA Koelnbreinsper 77.12 338 i P P 20 25 46.4 +1.7
comp=Z,50nm,0.7s,SNR=31
KBA Koelnbreinsper 77.12 338 P P 20 25 46.7 +2.0
CDF Champ du Feu 77.14 342 eP P 20 25 44.6 -0.1
CDF pmax pmax
comp=Z,15nm,0.8s
WATA Walderalm 77.28 339 i P P 20 25 47.0 +1.4
comp=Z,7.2nm,0.9s,SNR=5.3
RETA Reutte 77.31 339 i P P 20 25 47.4 +1.7
comp=Z,7.4nm,1.0s
WTTA Wattenberg 77.33 339 eP P 20 25 47.2 +1.3
comp=Z,29nm,1.5s,SNR=8.5
ECH Echery 77.34 342 eP P 20 25 46.6 +0.8
comp=Z,14nm,0.9s
OBKA Obir 77.36 337 i P P 20 25 47.1 +1.1
comp=Z,21nm,1.1s
MOTA Moosalm 77.37 339 eP P 20 25 46.9 +0.8
comp=Z,9.4nm,0.7s,SNR=10
BR101 Keskin Array S 77.41 321 eP P 20 25 46.9 +0.5
BR131 Keskin Array S 77.41 321 eP P 20 25 46.5 +0.1
comp=Z,17nm,1.1s
BR131 Keskin Array S 77.41 321 eP P 20 25 46.5 +0.1
BR131 pmax pmax
comp=Z,17nm,1.1s
BR131 Keskin Array S 77.41 321 P P 20 25 46.8 +0.4
SNR=19
BR131 P P 20 25 46.8 +0.4
SNR=19
BRTR Keskin Array B 77.41 321 eP P 20 25 46.5 +0.1
BRTR Keskin Array B 77.41 321 i P P 20 25 46.9 +0.4
BRTR pmax pmax
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 77.41 321 P P 20 25 46.9 +0.4
comp=Z,7.4nm,0.9s,baz=40,slow=3.6,SNR=39
BRTR LR LR 21 05 19.5
comp=Z,421nm,19.5s,baz=13,slow=40
SQTA Sankt Quirin 77.47 339 eP P 20 25 47.7 +1.1
comp=Z,20nm,0.8s,SNR=10
MYKA Terra Mystica 77.47 337 eP P 20 25 48.4 +1.9
comp=Z,10nm,1.1s
ANTO Ankara 77.61 321 eP P 20 25 48.2 +0.7
comp=Z,30nm,1.1s
ANTO Ankara 77.61 321 eP P 20 25 48.2 +0.7
ANTO pmax pmax
comp=Z,30nm,1.1s
ANTO Ankara 77.61 321 P P 20 25 48.7 +1.2
SNR=11
ABTA Abfaltersbach 77.62 338 i P P 20 25 49.1 +1.7
comp=Z,16nm,1.0s,SNR=6.7
DAVA Damuels 77.69 340 i P P 20 25 48.9 +1.1
comp=Z,17nm,1.3s
MDUB Mudurnu 77.69 323 eP P 20 25 47.5 -0.5
comp=Z,119nm,0.9s
HAU Haudompre 77.70 343 eP P 20 25 48.4 +0.7
HAU pmax pmax
comp=Z,16nm,0.8s
FETA Feichten 77.76 339 eP P 20 25 49.6 +1.4
comp=Z,12nm,0.7s,SNR=6.7
HINF Hinteralfeld 77.79 342 eP P 20 25 48.6 +0.4
HINF pmax pmax
comp=Z,5.0nm,0.7s
VISS Visnje 77.95 336 eP P 20 25 49.4 +0.3
PHSR Pinarhisar 77.99 326⇓ i P P 20 25 50.6 +1.2
FLN La Foliniere 78.06 347 eP P 20 25 50.1 +0.4
FLN pmax pmax
comp=Z,18nm,0.9s
JAVS Javornik 78.06 337 i P P 20 25 50.6 +0.8
BOJS Bojanci 78.13 336 i P P 20 25 50.9 +0.8
LDF La Druitiere 78.17 347 eP P 20 25 49.9 -0.4
LDF pmax pmax
comp=Z,15nm,1.1s
FUORN Ofenpass-Fuorn 78.24 340 eP P 20 25 51.0 0.0
comp=Z,17nm,0.8s
CLF Chambon-Foret 78.38 345 eP P 20 25 52.5 +1.0
comp=Z,34nm,1.2s
GRR Gorron 78.47 347 eP P 20 25 52.6 +0.6
GRR pmax pmax
comp=Z,19nm,0.9s
PLD Plovdiv 78.51 328 P P 20 25 54.4 +2.1
VTS Vitosha 78.52 329 eP P 20 25 51.1 -1.4
VTS Vitosha 78.52 329 P P 20 25 51.1 -1.4
VTS Vitosha 78.52 329⇓ i P P 20 25 53.1 +0.6
VTS Vitosha 78.52 329 eP P 20 25 51.1 -1.4
MSFE Esma-Masafi 78.55 297 i P P 20 25 53.3 +0.5
SNR=5.2
TUE Stuetta 78.58 340 eP P 20 25 54.2 +1.4
comp=Z,22nm,0.7s
SGMF Saint Gilles 78.82 349 eP P 20 25 54.6 +0.7
SGMF pmax pmax
comp=Z,23nm,0.9s
ROSF Rostrenen 78.83 349 eP P 20 25 54.7 +0.8
ROSF pmax pmax
comp=Z,21nm,0.9s
LOR Lormes 78.85 344 eP P 20 25 54.8 +0.7
LOR pmax pmax
comp=Z,21nm,0.9s
HATD Hatta, Dubai 78.99 296 i P P 20 25 55.5 +0.3
SNR=8.4
HATD Hatta, Dubai 78.99 296 P P 20 25 55.5 +0.3
SNR=11
HATD P P 20 25 55.5 +0.3
SNR=11
AS31 Alice Springs 79.09 205 eP P 20 25 55.4 -0.2
comp=Z,1.2nm,0.6s
ASAR Alice Springs 79.09 205 eP P 20 25 56.1 +0.6
ASAR Alice Springs 79.09 205 P P 20 25 56.3 +0.8
comp=Z,1.9nm,0.7s,baz=14,slow=5.4,SNR=29
ASAR LR LR 20 59 00.0
comp=Z,238nm,21.9s,baz=22,slow=34
CABF La Chapelle 79.09 342 eP P 20 25 56.6 +1.1
CABF pmax pmax
comp=Z,28nm,1.2s
SENIN Lac Senin/Sane 79.10 341 eP P 20 25 56.7 +0.9
comp=Z,8.8nm,0.9s
RDO Rodhopi 79.10 327 P P 20 25 55.7 +0.2
SSF Saint Saulge 79.11 344 eP P 20 25 56.2 +0.7
SSF pmax pmax
comp=Z,11nm,0.8s
NAZ Nazwa, Dubai 79.12 297 P P 20 25 56.2 +0.3
ASHO Ashiyiah 79.14 296 i P P 20 25 56.2 +0.1
SNR=8.2
ASHO Ashiyiah 79.14 296 P P 20 25 56.2 +0.1
SNR=9.8
ASHO P P 20 25 56.2 +0.1
SNR=9.8
ALN Alexandroupoli 79.15 327 eP P 20 25 56.0 +0.2
comp=Z,32nm,1.5s
ALN Alexandroupoli 79.15 327 P P 20 25 55.3 -0.5
ALN Alexandroupoli 79.15 327 eP P 20 25 56.0 +0.2
ALN pmax pmax
comp=Z,32nm,1.5s
QUIF Quistinic 79.23 349 eP P 20 25 56.7 +0.6
QUIF pmax pmax
comp=Z,23nm,1.2s
SOHO SOHO 79.31 296 P P 20 25 56.5 -0.5
SNR=6.6
SOHO P P 20 25 56.5 -0.5
SNR=6.6
FAQ Al Faqa, Dubai 79.35 297 P P 20 25 57.2 +0.1
AVF Avril sur Loir 79.40 344 eP P 20 25 57.9 +0.8
AVF pmax pmax
comp=Z,23nm,0.9s
SMF Signal de Mont 79.46 344 eP P 20 25 58.2 +0.8
SMF pmax pmax
comp=Z,28nm,1.2s
NVR Nevrokopi 79.47 328 P P 20 25 57.3 -0.3
NVR Nevrokopi 79.47 328 P P 20 25 57.3 -0.3
BALB Balikesir 79.63 325 eP P 20 25 58.6 +0.2
comp=Z,117nm,1.2s
STIP Stip 79.69 330 i P P 20 25 57.3 -1.4
SMTH Samothraki Isl 79.70 327 eP P 20 25 58.3 -0.6
SMTH Samothraki Isl 79.70 327 P P 20 25 58.3 -0.6
BGF Bois d'Agland 79.71 345 eP P 20 25 59.7 +0.9
BGF pmax pmax
comp=Z,13nm,1.0s
SRS Serrai 79.76 328 P P 20 25 59.1 -0.1
SRS Serrai 79.76 328 P P 20 25 59.1 -0.1
SRS Serrai 79.76 328 P P 20 25 59.1 -0.1
ALNE Al Ain 79.81 296 i P P 20 26 00.5 +0.9
SNR=5.5
THAS Thassos island 79.85 327 P P 20 25 59.7 +0.1
TTG Podgorica 79.89 332 eP P 20 25 59.2 -0.6
comp=Z,21nm,0.9s
TTG Podgorica 79.89 332 eP P 20 25 59.2 -0.6
TTG pmax pmax
comp=Z,21nm,0.9s
KNT Kendrikon 79.94 329 P P 20 26 00.6 +0.4
KNT Kendrikon 79.94 329 P P 20 26 00.6 +0.4
KNT Kendrikon 79.94 329 P P 20 26 00.6 +0.4
LPL La Plagne 80.02 342 eP P 20 26 02.4 +1.6
LPL pmax pmax
comp=Z,27nm,0.8s
LPG La Plagne 80.03 342 eP P 20 26 02.6 +1.7
LPG pmax pmax
comp=Z,30nm,0.9s
TCF Toulx Ste Croi 80.08 345 eP P 20 26 01.8 +1.0
TCF pmax pmax
comp=Z,11nm,0.8s
MFF Saint Martin d 80.13 347 eP P 20 26 02.0 +1.0
MFF pmax pmax
comp=Z,9.0nm,0.9s
PHP Peshkopia 80.23 331 P P 20 26 02.6 +0.9
PHP Peshkopia 80.23 331 P P 20 26 02.6 +0.9
ISP Isparta 80.26 322 P P 20 26 02.2 +0.1
KRUS Krusevo 80.27 330 i P P 20 26 02.3 +0.3
GRG Griva 80.29 329 P P 20 26 03.3 +1.3
GRG Griva 80.29 329 P P 20 26 03.3 +1.3
LIA Limnos Island 80.33 327 P P 20 26 02.0 -0.2
LIA Limnos Island 80.33 327 P P 20 26 02.0 -0.2
OUR Ouranopolis 80.34 328 P P 20 26 02.4 +0.1
KULA Kula-Manisa 80.35 324 P P 20 26 02.1 -0.4
KULA Kula-Manisa 80.35 324 P P 20 26 02.1 -0.4
BNI Bardonecchia 80.48 341 eP P 20 26 04.0 +0.9
comp=Z,17nm,1.0s
BNI Bardonecchia 80.48 341 eP P 20 26 04.0 +0.9
BNI pmax pmax
comp=Z,17nm,1.0s
PLG Polygyros 80.48 328 P P 20 26 02.5 -0.6
PLG Polygyros 80.48 328 P P 20 26 02.5 -0.6
PLG Polygyros 80.48 328 P P 20 26 02.5 -0.6
SSB Saint Sauveur 80.66 343 eP P 20 26 05.5 +1.5
comp=Z,16nm,0.9s
ORIF Oris-en-Rattie 80.76 342 eP P 20 26 06.3 +1.7
ORIF pmax pmax
comp=Z,30nm,0.9s
FNA Florina 80.77 330 eP P 20 26 05.0 +0.4
comp=Z,9.9nm,0.9s
FNA Florina 80.77 330 eP P 20 26 05.0 +0.4
FNA pmax pmax
comp=Z,10.0nm,0.9s
MBDF Montbardon 80.77 341 eP P 20 26 08.1 +3.4

MBDF pmax pmax
comp=Z,8.0nm,0.7s
PAIG Paliouri 80.81 328 P **P 20 26 05.1 +0.3**
PAIG Paliouri 80.81 328 P **P 20 26 05.1 +0.3**
PAIG Paliouri 80.81 328 P **P 20 26 05.1 +0.3**
MHTO MHTO 81.00 293 P **P 20 26 06.7 +0.6**
SNR=12
MHTO P **P 20 26 06.7 +0.6**
SNR=12
VIVF Saint-Julien-l 81.04 343 *e*P **P 20 26 07.5 +1.5**
VIVF pmax pmax
comp=Z,16nm,1.0s
RJF Les Rejaudoux 81.14 345 *e*P **P 20 26 07.8 +1.3**
RJF pmax pmax
comp=Z,16nm,1.3s
CHOS Chios island 81.39 325 P **P 20 26 08.4 +0.4**
CHOS Chios island 81.39 325 P **P 20 26 08.4 +0.4**
CAF Calviac 81.42 345 *e*P **P 20 26 09.7 +1.7**
CAF pmax pmax
comp=Z,22nm,1.0s
XOR Xorichti 81.48 328 P **P 20 26 08.7 +0.3**
XOR Xorichti 81.48 328 P **P 20 26 08.7 +0.3**
KPRO Kipourio 81.53 329 P **P 20 26 08.4 -0.3**
AQU L'Aquila 81.55 336 *e*P **P 20 26 09.9 +1.2**
comp=Z,19nm,0.9s
AQU L'Aquila 81.55 336 *e*P **P 20 26 09.9 +1.2**
AQU pmax pmax
comp=Z,19nm,0.9s
LFF La Frestale 81.62 346 *e*P **P 20 26 10.5 +1.5**
LFF pmax pmax
comp=Z,16nm,1.0s
CSS Mathiatis 81.65 319 *e*P **P 20 26 09.4 +0.1**
comp=Z,32nm,0.8s
CSS Mathiatis 81.65 319 P **P 20 26 09.5 +0.1**
PPT2 Papeete2 81.93 132 *e*S **S 20 36 23.3 +0.8**
comp=Z,94nm,23.4s
PPT2 Papeete2 81.93 132 *e*LR LR 20 51 44.6
comp=Z,631nm,25.8s,baz=321
DION Dionisos Attik 82.39 327 P **P 20 26 11.9 -1.4**
PZUN Potenza 82.52 334 S **S 20 36 31.0 +2.9**
DSF Desfina 82.56 328 P **P 20 26 13.2 -0.9**
DSF Desfina 82.56 328 P **P 20 26 13.2 -0.9**
ARG Arkhangelos 82.58 323 P **P 20 26 14.0 -0.2**
APE Apeiranthos 82.75 325 *e*P **P 20 26 13.1 -2.1**
APE Apeiranthos 82.75 325 P **P 20 26 13.1 -2.1**
APE Apeiranthos 82.75 325 *e*P **P 20 26 13.1 -2.1**
MTLF Montolieu 82.94 344 *e*P **P 20 26 17.6 +1.6**
MTLF pmax pmax
comp=Z,18nm,1.0s
GUR Goura 83.05 328 *e*P **P 20 26 15.8 -1.0**
GUR Goura 83.05 328 P **P 20 26 15.8 -1.0**
DID Didima 83.15 327 *e*P **P 20 26 15.3 -1.9**
DID Didima 83.15 327 P **P 20 26 15.3 -1.9**
KARP Karpathos 83.53 323 *e*P **P 20 26 18.3 -0.8**
comp=Z,27nm,0.8s
KARP Karpathos 83.53 323 P **P 20 26 18.7 -0.5**
EPF Esparros 83.55 345 *e*P **P 20 26 20.2 +1.0**
EPF pmax pmax
comp=Z,11nm,0.9s
TIP Timpagrande 83.62 332 *e*P **P 20 26 20.3 +0.7**
comp=Z,23nm,1.1s
SJPF Ste Jean 83.70 347 *e*P **P 20 26 21.9 +2.0**
SJPF pmax pmax
comp=Z,15nm,1.0s
ETSF Etsaut 83.81 346 *e*P **P 20 26 22.3 +1.7**
ETSF pmax pmax
comp=Z,24nm,0.9s
ZKR Zakros 84.26 324 P **P 20 26 22.8 -0.1**
LAST Lasithi 84.48 324 P **P 20 26 24.0 -0.1**
STKA Stephens Creek 85.39 196 P **P 20 26 30.3 +2.0**
comp=Z,1.2nm,0.8s,baz=2.8,slow=17,SNR=2.4
STKA LR LR 21 04 29.0
comp=Z,119nm,19.6s,baz=19,slow=36
PGAV Gavieira, Arco 85.65 352 *e*LR LR 21 02 11.0
comp=Z,226nm,18.0s
PBRG Braganca 85.66 350 *e*P **P 20 26 33.0 +3.1**
comp=Z,26nm,1.7s
PVRL Vila Real 86.28 351 *e*P **P 20 26 35.1 +2.2**
comp=Z,30nm,2.1s
MVO Moncorvo 86.33 351 *e*P **P 20 26 35.3 +2.1**
comp=Z,31nm,1.8s
MVO Moncorvo 86.33 351 *e*S **S 20 37 09.1 +2.8**
MVO Moncorvo 86.33 351 *e*LR LR 21 01 08.4
comp=Z,279nm,20.0s
PVIS Viseu 86.85 351 *e*P **P 20 26 37.7 +1.9**
comp=Z,35nm,1.9s
TBI Tubuai 87.03 135 *e*LR LR 20 54 06.3
comp=Z,543nm,25.0s,baz=324
MTE Manteigas 87.13 351 *e*P **P 20 26 39.6 +2.5**
comp=Z,35nm,1.8s
MTE Manteigas 87.13 351 *e*S **S 20 37 15.8 +1.7**
MTE Manteigas 87.13 351 *e*LR LR 21 02 12.6
comp=Z,362nm,18.0s
ESDC Sonseca Array 87.45 348 *e*P **P 20 26 38.6 0.0**
ESDC Sonseca Array 87.45 348 P **P 20 26 39.3 +0.6**
comp=Z,3.2nm,0.7s,baz=1.8,slow=4.5,SNR=18
PMRV Marv??o 88.08 351 *e*S **S 20 37 27.3 +4.2**
PMRV Marv??o 88.08 351 *e*LR LR 21 02 54.8
comp=Z,284nm,18.0s
KEST Kesra 88.82 337 *e*P **P 20 26 45.7 +0.4**
comp=Z,19nm,1.3s
KEST Kesra 88.82 337 P **P 20 26 46.0 +0.7**
comp=Z,6.6nm,1.0s,baz=14,slow=6.4,SNR=4.2
KEST LR LR 21 11 57.2
comp=Z,588nm,18.6s,baz=348,slow=39
PVAQ Vaqueiros 90.12 351 *e*S **SKSac 20 37 13.9 -5.8**
PVAQ *e*SS SS 20 43 51.3 +12
TORD Torodi Ar. Bea 112.33 338 PP **PP 20 33 10.7 -1.1**
comp=Z,2.6nm,0.9s,baz=3.0,slow=8.1,SNR=12
DBIC Dimbokro 119.98 343 PKIKP **PKiKP 20 32 43.0 +0.9**
DBIC Dimbokro 119.98 343 PKP **PKiKP 20 32 43.0 +0.9**
comp=Z,2.8nm,0.7s,baz=355,slow=4.1,SNR=4.4
SYO Syowa Base 148.15 216⇑ *e*P **PKPdf 20 33 24.8 -7.3**
SYO Syowa Base 148.15 216⇑ *e*PKPdf **PKPbc 20 33 34.2 -1.3**
SYO Syowa Base 148.15 216⇑ *e*PKPab **PKPab 20 33 42.4 +3.9**

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*KRSC **20** 20:20:06.4±10.0, 52.°07N×160.°81E, h59km±10km, ML4.4*
*IDC **20** 20:20:07.5±0.7, 52.°42N×160.°19E, h0km, mb3.9/25, mb1 4.1/26, mb1mx4.0/44, mbtmp3.9/26, ML3.6/1, Error ellipse: s-maj=19.2km s-min=13.7km az=146.0*
*MOS **20** 20:20:09.9±1.0, 52.°18N×160.°62E, h43km, mb4.7/8, Error ellipse: s-maj=8.5km s-min=4.9km az=109.9*
*ISCJB **20** 20:20:11.0±0.8, 52.°23N±0.°04×160.°57E±0.°07, h49km±5km, mb4.2/47, Error ellipse: s-maj=8.9km s-min=4.7km az=42.3*
*NEIC **20** 20:20:12.0±0.3, 52.°35N×160.°37E, h35km, mb4.5/23, Error ellipse: s-maj=8.2km s-min=5.7km az=150.0*
ISC 20 20:20:11.4±0.5, 52.°17N±0.°06×160.°63E±0.°06, h39km±2km, n160, σ1°37/182, mb4.3/47, 8C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.00**	**339**	*e*P	**Pn**	**20 20 26.9**	**-1.9**
SPN				*e*S	**Sn**	**20 20 40.3**	**-1.4**
SPN	**Mys Shipunski**	**1.00**	**339**	PN	**Pn**	**20 20 26.9**	**-1.9**
SPN				S	**Sn**	**20 20 40.3**	**-1.4**
NLC	**Nalytchevo**	**1.27**	**323**	*e*P	**Pn**	**20 20 31.3**	**-1.2**
NLC				*e*S	**Sn**	**20 20 48.0**	**-0.3**
NLC	**Nalytchevo**	**1.27**	**323**	PN	**Pn**	**20 20 31.3**	**-1.2**
NLC				S	**Sn**	**20 20 48.0**	**-0.3**
RUS	**Russkaya**	**1.32**	**282**	*e*P	**Pn**	**20 20 32.0**	**-1.3**
RUS				*e*S	**Sn**	**20 20 49.9**	**+0.2**
RUS	**Russkaya**	**1.32**	**282**	PN	**Pn**	**20 20 32.0**	**-1.3**
RUS				S	**Sn**	**20 20 49.9**	**+0.2**
DALK	**Dalny**	**1.43**	**308**	*e*P	**Pn**	**20 20 34.0**	**-0.7**
DALK				*e*S	**Sn**	**20 20 54.0**	**+1.7**
DALK	**Dalny**	**1.43**	**308**	PN	**Pn**	**20 20 34.0**	**-0.7**
DALK				S	**Sn**	**20 20 54.0**	**+1.7**
PET	**Petropavlovsk**	**1.48**	**306**	*e*Pn	**Pn**	**20 20 33.9**	**-1.5**
PET	**Petropavlovsk**	**1.48**	**306**	*e*P	**Pn**	**20 20 34.8**	**-0.6**
PET				*e*S	**Sn**	**20 20 55.4**	**+2.0**
PET	**Petropavlovsk**	**1.48**	**306**	*e*PN	**Pn**	**20 20 34.9**	**-0.5**
PET				*e*S	**Sn**	**20 20 55.9**	**+2.5**
PET				pmax	pmax		
	comp=Z,717nm,0.6s						
PET				smax	smax		
	comp=E,1μm,0.7s						
PET				smax	smax		
	comp=N,1μm,0.7s						
UGLR	**Uglovaya**	**1.51**	**314**	*e*P	**Pn**	**20 20 35.7**	**-0.3**
UGLR	**Uglovaya**	**1.51**	**314**	PN	**Pn**	**20 20 35.7**	**-0.3**
MTVR	**Mutnovka**	**1.53**	**283**	*e*P	**Pn**	**20 20 35.5**	**-0.8**
MTVR				*e*S	**Sn**	**20 20 55.7**	**+0.7**
MTVR	**Mutnovka**	**1.53**	**283**	PN	**Pn**	**20 20 35.5**	**-0.8**
MTVR				S	**Sn**	**20 20 55.7**	**+0.7**
SDLR	**Sedlovina**	**1.53**	**317**	*e*P	**Pn**	**20 20 35.7**	**-0.6**
SDLR	**Sedlovina**	**1.53**	**317**	PN	**Pn**	**20 20 35.7**	**-0.6**
SMAR	**Somma**	**1.56**	**315**	*e*P	**Pn**	**20 20 36.1**	**-0.6**
SMAR	**Somma**	**1.56**	**315**	PN	**Pn**	**20 20 36.1**	**-0.6**
AVH	**Avacha**	**1.59**	**314**	*e*P	**Pn**	**20 20 36.8**	**-0.2**
AVH	**Avacha**	**1.59**	**314**	PN	**Pn**	**20 20 36.8**	**-0.2**
KRER	**Koryakskii**	**1.61**	**316**	*e*P	**Pn**	**20 20 36.5**	**-0.9**
KRER	**Koryakskii**	**1.61**	**316**	PN	**Pn**	**20 20 36.5**	**-0.9**
GRL	**Gorelyy**	**1.61**	**285**	*e*P	**Pn**	**20 20 38.1**	**+0.7**
GRL	**Gorelyy**	**1.61**	**285**	PN	**Pn**	**20 20 38.1**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.62**	**258**	*e*P	**Pn**	**20 20 35.8**	**-1.5**
KDTR				*e*S	**Sn**	**20 20 55.9**	**-1.0**
KDTR	**Khodutka, Kamc**	**1.62**	**258**	PN	**Pn**	**20 20 35.8**	**-1.5**
KDTR				S	**Sn**	**20 20 55.9**	**-1.0**
KOK	**Koryaka**	**1.65**	**314**	*e*P	**Pn**	**20 20 37.5**	**-0.4**
KOK	**Koryaka**	**1.65**	**314**	PN	**Pn**	**20 20 37.5**	**-0.4**
KRMR	**Karymshinskiy**	**1.66**	**294**	*e*P	**Pn**	**20 20 37.4**	**-0.5**
KRMR				*e*S	**Sn**	**20 21 00.3**	**+2.3**
KRMR	**Karymshinskiy**	**1.66**	**294**	PN	**Pn**	**20 20 37.4**	**-0.5**
KRMR				S	**Sn**	**20 21 00.3**	**+2.3**
ASAK	**Asacha**	**1.69**	**278**	*e*P	**Pn**	**20 20 37.8**	**-0.6**
ASAK	**Asacha**	**1.69**	**278**	PN	**Pn**	**20 20 37.8**	**-0.6**
KRX	**Arik**	**1.69**	**315**	*e*P	**Pn**	**20 20 37.9**	**-0.6**
KRX	**Arik**	**1.69**	**315**	PN	**Pn**	**20 20 37.9**	**-0.6**
PETK	**Petropavlovsk-**	**2.02**	**299**	Pn	**Pn**	**20 20 42.7**	**-0.1**
	comp=N,28nm,0.3s,baz=100,slow=16,SNR=48						
PETK				Sn	**Sn**	**20 21 11.7**	**+5.0**
	comp=N,33nm,0.3s,baz=93,slow=30,SNR=11						
PEA1	**Petropavlovsk-**	**2.02**	**299**	*e*Pn	**Pn**	**20 20 42.7**	**-0.2**
PEA1				*e*Sn	**Sn**	**20 21 11.7**	**+4.9**
APC	**Apacha**	**2.25**	**291**	*e*P	**Pn**	**20 20 46.5**	**+0.5**
APC				*e*S	**Sn**	**20 21 16.2**	**+3.8**
APC	**Apacha**	**2.25**	**291**	PN	**Pn**	**20 20 46.5**	**+0.5**
APC				S	**Sn**	**20 21 16.2**	**+3.8**
PAU	**Pauzhetka**	**2.47**	**255**	*e*P	**Pn**	**20 20 49.0**	**0.0**
PAU	**Pauzhetka**	**2.47**	**255**	PN	**Pn**	**20 20 49.0**	**0.0**
KZV	**Kizimen**	**2.95**	**356**	*e*P	**Pn**	**20 20 55.6**	**-0.2**
KZV				*e*S	**Sn**	**20 21 30.2**	**+0.1**
KZV	**Kizimen**	**2.95**	**356**	PN	**Pn**	**20 20 55.6**	**-0.2**
KZV				S	**Sn**	**20 21 30.2**	**+0.1**
TUMD	**Tumrok D**	**3.04**	**358**	*e*P	**Pn**	**20 20 55.0**	**-1.9**
TUMD				*e*S	**Sn**	**20 21 30.3**	**-1.7**
TUMR	**Tumrok**	**3.13**	**355**	*e*P	**Pn**	**20 20 58.5**	**+0.3**
TUMR	**Tumrok**	**3.13**	**355**	PN	**Pn**	**20 20 58.5**	**+0.3**
SKR	**Severo-Kuril's**	**3.19**	**244**	*e*PN	Pn	20 21 06.4	+7.5
SKR				pmax	pmax		
	comp=Z,67nm,0.5s						
ALID	**Alaid**	**3.43**	**250**	*e*P	**Pn**	**20 20 59.7**	**-2.6**
ALID	**Alaid**	**3.43**	**250**	PN	**Pn**	**20 20 59.7**	**-2.6**
KOZ	**Kozyrevsk**	**3.92**	**354**	*e*P	**Pn**	**20 21 08.9**	**-0.1**
KOZ	**Kozyrevsk**	**3.92**	**354**	PN	**Pn**	**20 21 08.9**	**-0.1**
LGNR	**Loginova**	**3.92**	**1**	*e*P	**Pn**	**20 21 10.2**	**+1.0**
LGNR	**Loginova**	**3.92**	**1**	PN	**Pn**	**20 21 10.2**	**+1.0**
ESO	**Esso**	**3.93**	**344**	*e*P	**Pn**	**20 21 10.9**	**+1.8**
ESO	**Esso**	**3.93**	**344**	PN	**Pn**	**20 21 10.9**	**+1.8**
KBTR	**Krutoberegovo**	**4.25**	**17**	*e*P	**Pn**	**20 21 13.0**	**-0.4**
KBTR	**Krutoberegovo**	**4.25**	**17**	PN	**Pn**	**20 21 13.0**	**-0.4**
ASAJ	**Asahikawa**	**14.46**	**243**	Pn	**Pn**	**20 23 32.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=78,slow=9.9,SNR=4.5						
GRNR	**Gornyy**	**15.13**	**274**	*e*P	**P**	**20 23 49.1**	**+2.3**
GRNR				pmax	pmax		
	comp=Z,20nm,1.0s						
BILL	**Bilibino**	**16.15**	**8**	*e*Pn	**Pn**	**20 23 54.9**	**-0.3**
	comp=Z,9.3nm,0.8s						
BILL	**Bilibino**	**16.15**	**8**	*e*P	**Pn**	**20 23 54.1**	**-1.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**20.59**	**259**	P	**P**	**20 24 45.4**	**-1.4**
	comp=Z,4.2nm,0.9s,baz=57,slow=7.0,SNR=5.0						
MJB9	**Matsu-Tunnel**	**22.25**	**234**	*e*P	**P**	**20 25 05.4**	**+0.7**
	comp=Z,10nm,0.9s						
MAJO	**Matsushiro**	**22.25**	**234**	*e*P	**P**	**20 25 05.5**	**+0.8**
MAJO				*e*pP	**P**	**20 25 05.8**	**+1.1**
MAJO	**Matsushiro**	**22.25**	**234**	*e*P	**P**	**20 25 05.5**	**+0.8**
MJAR	**Matsushiro Arr**	**22.25**	**234**	P	**P**	**20 25 05.8**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=27,slow=7.5,SNR=6.2						
TIXI	**Tiksi**	**24.06**	**336**	*e*P	**P**	**20 25 20.8**	**-1.6**
TIXI	**Tiksi**	**24.06**	**336**	*e*P	**P**	**20 25 20.8**	**-1.6**
TIXI	**Tiksi**	**24.06**	**336**	P	**P**	**20 25 21.0**	**-1.5**
	comp=Z,3.8nm,0.5s,baz=118,slow=11,SNR=15						
KSRS	**Korea Array**	**27.19**	**250**	P	**P**	**20 25 51.7**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=52,slow=10,SNR=3.8						
KSAR	**Wonju Array Be**	**27.22**	**250**	P	**P**	**20 25 51.7**	**+0.3**
KSAR	**Wonju Array Be**	**27.22**	**250**	P	**P**	**20 25 51.7**	**+0.3**
SML	**Sawmill**	**28.69**	**50**	*e*P	**P**	**20 26 04.6**	**+0.3**
	comp=Z,26nm,1.8s						
SML	**Sawmill**	**28.69**	**50**	*e*P	**P**	**20 26 04.6**	**+0.3**
SML				pmax	pmax		
	comp=Z,26nm,1.8s						
JNU	**Nakatsue**	**28.70**	**240**	P	**P**	**20 26 05.5**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=37,slow=5.1,SNR=2.2						
SONA0	**Songino Array**	**34.44**	**285**	*e*P	**P**	**20 26 53.7**	**-1.4**
SONM	**Songino Array**	**34.44**	**285**	P	**P**	**20 26 53.7**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=56,slow=8.9,SNR=3.6						
ZAA1	**Zalesovo Array**	**43.55**	**304**	*e*P	**P**	**20 28 08.3**	**-2.7**
ZALV	**Zalesovo Beam**	**43.55**	**304**	P	**P**	**20 28 08.3**	**-2.7**
	comp=Z,0.4nm,0.4s,baz=51,slow=7.4,SNR=3.2						
YKA	**Yellowknife Ar**	**43.63**	**42**	*e*P	**P**	**20 28 12.5**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=294,slow=7.7,SNR=2.4						
YKB5	**Yellowknife Ar**	**43.63**	**42**	*e*P	**P**	**20 28 12.5**	**+1.0**
KURK	**Kurchatov**	**48.50**	**303**	*e*P	**P**	**20 28 47.9**	**-2.1**
	comp=Z,6.2nm,1.0s						
KURK	**Kurchatov**	**48.50**	**303**	*e*P	**P**	**20 28 47.9**	**-2.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MK31	**Makanchi Array**	**48.85**	**297**	*e*P	**P**	**20 28 51.2**	**-1.6**
	comp=Z,1.2nm,0.6s						
MK31	**Makanchi Array**	**48.85**	**297**	*e*P	**P**	**20 28 51.2**	**-1.6**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**48.85**	**297**	P	**P**	**20 28 51.0**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=53,slow=6.8,SNR=14						
BRVK	**Borovoye**	**51.25**	**309**	*e*P	**P**	**20 29 09.8**	**-1.0**
	comp=Z,4.4nm,0.8s						
BRVK	**Borovoye**	**51.25**	**309**	*e*P	**P**	**20 29 09.8**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARA0	**ARCESS Array S**	**54.27**	**342**	*e*P	**P**	**20 29 30.7**	**-2.2**
ARCES	**ARCESS Array B**	**54.27**	**342**	P	**P**	**20 29 30.7**	**-2.2**
	comp=Z,2.5nm,0.8s,baz=20,slow=8.7,SNR=5.1						
ARU	**Arti**	**54.30**	**318**	*e*P	**P**	**20 29 31.9**	**-1.4**
	comp=Z,4.9nm,0.6s						
ARU	**Arti**	**54.30**	**318**	P	**P**	**20 29 32.4**	**-0.8**
SUMG	**Summit**	**54.84**	**7**	*e*P	**P**	**20 29 37.2**	**-0.2**
	comp=Z,6.9nm,1.0s						
SUMG	**Summit**	**54.84**	**7**	*e*P	**P**	**20 29 37.2**	**-0.2**
SUMG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NVAR	**Mina Array Bea**	**55.75**	**70**	P	**P**	**20 29 47.0**	**+2.7**
	comp=Z,0.4nm,0.6s,baz=299,slow=8.5,SNR=3.4						
PD31	**Pinedale Array**	**57.69**	**61**	*e*P	**P**	**20 29 58.9**	**+0.9**
	comp=Z,4.0nm,1.4s						
PDAR	**Pinedale Array**	**57.69**	**61**	P	**P**	**20 30 00.7**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=305,slow=3.2,SNR=3.1						
CHTO	**Chiang Mai**	**58.04**	**259**	*e*P	**P**	**20 30 01.4**	**+0.9**
	comp=Z,4.1nm,0.9s						
CHTO	**Chiang Mai**	**58.04**	**259**	*e*P	**P**	**20 30 01.4**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CM31	**Chiang Mai Arr**	**58.32**	**259**	*e*P	**P**	**20 30 03.6**	**+1.2**
	comp=Z,3.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.32**	**259**	*e*P	**P**	**20 30 03.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**58.32**	**259**	P	**P**	**20 30 03.5**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=21,slow=7.1,SNR=11						
ABKAR	**Akbulak array**	**58.64**	**311**	*e*P	**P**	**20 30 03.6**	**-0.6**
	comp=Z,2.2nm,0.8s						
GSC	**Goldstone, Bar**	**58.77**	**72**	*e*P	**P**	**20 30 04.9**	**-0.6**
	comp=Z,14nm,0.4s						
GSC	**Goldstone, Bar**	**58.77**	**72**	*e*P	**P**	**20 30 04.9**	**-0.6**
GSC				pmax	pmax		
	comp=Z,14nm,0.4s						
JIRN	**Jiri**	**59.31**	**276**	*e*P	**P**	**20 30 09.5**	**-0.1**
	comp=Z,8.8nm,0.7s						
RAMN	**Ramite**	**59.57**	**276**	*e*P	**P**	**20 30 10.7**	**-0.6**
	comp=Z,12nm,0.5s						
KKN	**Kakani**	**59.77**	**277**	*e*P	**P**	**20 30 12.2**	**-0.5**
	comp=Z,12nm,0.7s						
PKI	**Pulchoki**	**59.85**	**277**	*e*P	**P**	**20 30 12.8**	**-0.5**
	comp=Z,5.6nm,0.6s						
PKIN	**Phulchoki**	**59.86**	**277**	*e*P	**P**	**20 30 13.0**	**-0.3**
	comp=Z,10nm,0.8s						
DMN	**Daman**	**60.01**	**277**	*e*P	**P**	**20 30 13.6**	**-0.7**
	comp=Z,10nm,0.7s						
DANN	**Dangsing**	**60.30**	**279**	*e*P	**P**	**20 30 15.9**	**-0.4**
	comp=Z,9.0nm,0.6s						
PYUN	**Piuthan**	**60.95**	**279**	*e*P	**P**	**20 30 20.6**	**0.0**
	comp=Z,4.2nm,0.5s						
FINES	**FINESS Array B**	**61.10**	**337**	P	**P**	**20 30 21.4**	**+0.5**
	comp=Z,7.2nm,0.7s,baz=38,slow=8.7,SNR=24						
NIL	**Nilore**	**62.74**	**290**	*e*P	**P**	**20 30 31.9**	**-0.5**
	comp=Z,5.8nm,0.9s						
NIL	**Nilore**	**62.74**	**290**	*e*P	**P**	**20 30 31.9**	**-0.5**
NIL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NB2	**NORSAR Subarra**	**64.52**	**344**	P	**P**	**20 30 43.4**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=22,slow=6.5						
NOA	**NORSAR Array B**	**64.52**	**344**	P	**P**	**20 30 43.7**	**0.0**
	comp=Z,5.5nm,1.1s,baz=22,slow=6.6,SNR=8.8						
GEYT	**Alibeck**	**67.87**	**304**	P	**P**	**20 31 05.0**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=90,slow=1.5,SNR=3.7						
AKASG	**Malin Array Be**	**69.57**	**329**	*e*P	**P**	**20 31 15.8**	**-0.1**
AKASG	**Malin Array Be**	**69.57**	**329**	P	**P**	**20 31 15.7**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=30,slow=6.7,SNR=9.7						
AKBB	**Malin Array Si**	**69.57**	**329**	*e*P	**P**	**20 31 15.6**	**-0.3**
	comp=Z,4.7nm,0.9s						
AKBB	**Malin Array Si**	**69.57**	**329**	*e*P	**P**	**20 31 15.6**	**-0.3**
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIEV	**Kiev**	**69.58**	**329**	*e*P	**P**	**20 31 15.6**	**-0.3**
	comp=Z,5.4nm,1.0s						
KIEV	**Kiev**	**69.58**	**329⇑**	*i*P	**P**	**20 31 16.3**	**+0.3**
KBZ	**Khabaz**	**70.43**	**317**	P	**P**	**20 31 21.6**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=294,slow=2.7,SNR=5.7						
TXAR	**Lajitas Array**	**70.70**	**67**	P	**P**	**20 31 27.0**	**+3.7**
TXAR	**Lajitas Array**	**70.70**	**67**	P	**P**	**20 31 27.0**	**+3.7**
	comp=Z,0.2nm,0.6s,baz=316,slow=6.3,SNR=2.8						
KWP	**Kalwaria Pacla**	**72.46**	**333**	*e*P	**P**	**20 31 34.0**	**+0.6**
	comp=Z,59nm,0.8s						
KWP	**Kalwaria Pacla**	**72.46**	**333**	*e*P	**P**	**20 31 34.1**	**+0.6**
KWP				pmax	pmax		
	comp=Z,59nm,0.8s						
P51A	**Williamsport**	**73.28**	**46**	*e*P	**P**	**20 31 40.2**	**+1.8**
	comp=Z,34nm,0.8s						
CLL	**Collm**	**73.33**	**339**	*i* P	**P**	**20 31 38.8**	**+0.2**
	comp=Z,4.0nm,0.9s						
CLL				*i* pP	**pwP**	**20 31 51.5**	**-1.8**
BUR08	**Bucovina Ar. S**	**73.52**	**330**	*e*P	**P**	**20 31 40.1**	**+0.3**
	comp=Z,2.3nm,0.6s						
Q51A	**Peebles**	**73.53**	**47**	*e*P	**P**	**20 31 40.4**	**+0.5**
	comp=Z,46nm,1.2s						
BURAR	**Bucovina Array**	**73.54**	**330**	*e*P	**P**	**20 31 40.0**	**0.0**
BURAR	**Bucovina Array**	**73.54**	**330⇓**	*i*P	**P**	**20 31 39.9**	**-0.1**
MORC	**Moravsky Berou**	**73.70**	**336⇑**	*i*P	**P**	**20 31 41.5**	**+0.7**
BIZ	**Bicaz**	**73.86**	**329⇑**	*i*P	**P**	**20 31 42.2**	**+0.4**
TRPA	**Tarpa**	**73.87**	**332⇑**	*i*P	**P**	**20 31 41.3**	**-0.4**
DRGR		**75.03**	**332⇑**	*i*P	**P**	**20 31 48.8**	**+0.2**
MLR	**Muntele Rosu**	**75.20**	**329**	*e*P	**P**	**20 31 50.3**	**+0.6**
	comp=Z,3.0nm,0.6s						
MLR	**Muntele Rosu**	**75.20**	**329⇑**	*i*P	**P**	**20 31 50.4**	**+0.6**
MLR	**Muntele Rosu**	**75.20**	**329**	*e*P	**P**	**20 31 50.3**	**+0.6**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KHC	**Kasperske Hory**	**75.25**	**338**	*e*P	P	20 31 37.0	-13
KHC				*e*		20 31 50.0	
KHC	**Kasperske Hory**	**75.25**	**338**	*e*P	P	20 31 37.0	-13
KHC				*ex*	x	20 31 50.0	
T52A	**Hallie**	**75.26**	**48**	*e*P	**P**	**20 31 50.3**	**+0.3**
	comp=Z,28nm,0.8s						
WR1	**Warramunga Arr**	**75.38**	**206**	*e*P	**P**	**20 31 53.1**	**+2.3**
WRA	**Warramunga Arr**	**75.38**	**206**	P	**P**	**20 31 53.1**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=20,slow=6.2,SNR=2.7						
GERES	**GERESS Array B**	**75.49**	**338**	P	**P**	**20 31 51.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=28,slow=6.0,SNR=6.1						
VOIR		**75.54**	**329⇑**	*i*P	**P**	**20 31 52.5**	**+0.9**
GZR	**Gura Zlata**	**76.27**	**331⇑**	*i*P	**P**	**20 31 55.9**	**+0.1**
S57A	**Dark Hollow, R**	**76.51**	**45**	*e*P	**P**	**20 31 55.0**	**-2.2**
	comp=Z,14nm,0.9s						
BRTR	**Keskin Array B**	**77.54**	**321**	*e*P	**P**	**20 32 01.7**	**-1.4**
BRTR	**Keskin Array B**	**77.54**	**321**	*e*P	**P**	**20 32 01.7**	**-1.4**
BRTR	**Keskin Array B**	**77.54**	**321**	P	**P**	**20 32 03.3**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=40,slow=2.1,SNR=5.8						
AS31	**Alice Springs**	**79.05**	**205**	*e*P	**P**	**20 32 12.3**	**+1.1**
	comp=Z,5.8nm,1.9s						
ASAR	**Alice Springs**	**79.05**	**205**	P	**P

FAQ	**Al Faqa, Dubai**	**2.60**	**226**	P	**Pn**	**20 28 26.5**	**+1.7**
FAQ	**Al Faqa, Dubai**	**2.60**	**226**	*e*Pn	**Pn**	**20 28 26.1**	**+1.3**
SOHO	**SOHO**	**2.63**	**203**	P	**Pn**	**20 28 22.5**	**-2.8**
	SNR=16						
ASUD	**Al Ashush, Dub**	**2.86**	**228**	*e*P	**Pn**	**20 28 28.0**	**-0.3**
	SNR=11						
ASUD	**Al Ashush, Dub**	**2.86**	**228**	P	**Pn**	**20 28 30.4**	**+2.1**
	SNR=11						
ASUD	**Al Ashush, Dub**	**2.86**	**228**	*e*Pn	**Pn**	**20 28 30.3**	**+2.0**
HOQ	**Hoqain**	**3.00**	**186**	*e*Pn	**Pn**	**20 28 28.6**	**-1.7**
ALNE	**Al Ain**	**3.04**	**215**	*e*Pn	**Pn**	**20 28 31.3**	**+0.4**
NGRK	**Negar Kerman**	**3.16**	**345**	*e*Pn	**Pn**	**20 28 32.5**	**-0.3**
NGRK				IAMB	IAmb	20 29 21.4	
	comp=Z,0.0nm,0.6s						
CHMN	**Cheshme madani**	**3.27**	**358**	*e*Pn	**Pn**	**20 28 34.9**	**+0.5**
TVBK	**TV Kerman**	**3.48**	**347**	*e*Pn	**Pn**	**20 28 37.9**	**+0.6**
TVBK				IAMB	IAmb	20 29 43.7	
	comp=Z,0.0nm,0.7s						
KHGB	**Koh Gabri**	**3.92**	**345**	*e*Pn	**Pn**	**20 28 43.2**	**0.0**
KHGB				IAMB	IAmb	20 29 51.6	
	comp=Z,0.0nm,0.7s						
SZD1	**Zahaedan-tmp**	**4.06**	**44**	*e*Pn	**Pn**	**20 28 46.9**	**+1.9**
IMEH	**Mehriz**	**5.48**	**332**	*e*Pn	**Pn**	**20 29 05.7**	**+1.1**
IKOO	**Kooshah**	**5.95**	**11**	*e*Pn	**Pn**	**20 29 09.2**	**-1.8**
IKAZ	**Kazeroun**	**6.04**	**303**	*e*Pn	**Pn**	**20 29 10.3**	**-2.0**
ITEG	**Tejag**	**6.37**	**8**	*e*Pn	**Pn**	**20 29 16.0**	**-0.8**
KLNJ	**Kolanjah**	**6.91**	**311**	*e*Pn	**Pn**	**20 29 23.9**	**-0.4**
IRAM	**Ramesheh**	**6.95**	**320**	*e*Pn	**Pn**	**20 29 24.5**	**-0.3**

IDC ***20*** *20:32:52.4±6.6, 35°.07N×21°.62E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.4/53, mbtmp3.7/6, ML2.7/1, MS2.3/1, Ms1 2.3/1, ms1mx2.2/40, Error ellipse: s-maj=130.0km s-min=49.6km az=24.0*

ATH ***20*** *20:33:02.4, 35°.68N×22°.11E, h30km±6km, ML3.0/21, Error ellipse: s-maj=6.4km s-min=1.5km az=205.0*

THE ***20*** *20:33:03.5, 35°.78N×22°.07E, h7km±1km, ML3.1/3, Error ellipse: s-maj=1.8km s-min=0.7km az=64.0*

ISCJB ***20*** *20:33:04.1±0.9, 35°.69N±0°.07×22°.15E±0°.07, h65km±7km, mb3.7/5, Error ellipse: s-maj=13.6km s-min=5.0km az=37.8*

ISC 20 20:33:03.6±1.7**, 35°.69N**±0°.08×**22°.03E**±0°.07**, h49**km±15km**, n73**, σ2**04**/83**, mb3.8**/5**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTHR	**Kythira**	**0.98**	**54**	P	**Pn**	**20 33 20.1**	**-0.9**
KTHR				S	**Sn**	**20 33 33.2**	**-0.6**
KYTH	**Kithira**	**1.01**	**55**	P	**Pn**	**20 33 21.0**	**-0.5**
KYTH				S	**Sn**	**20 33 33.9**	**-0.7**
KYTH	**Kithira**	**1.01**	**55**	P	**Pn**	**20 33 20.9**	**-0.5**
KYTH				S	**Sn**	**20 33 34.3**	**-0.3**
KYTH				AML	AML	20 33 36.9	
	comp=E,3083μm,0.6s						
KYTH				AML	AML	20 33 39.9	
	comp=N,2436μm,0.4s						
ANKY	**Antikythira Is**	**1.05**	**80**	P	**Pn**	**20 33 22.7**	**+0.7**
ANKY				S	**Sn**	**20 33 36.9**	**+1.4**
ANKY	**Antikythira Is**	**1.05**	**80**	P	**Pn**	**20 33 22.1**	**+0.1**
ANKY				S	**Sn**	**20 33 35.3**	**-0.2**
ANKY				AML	AML	20 33 42.0	
	comp=N,2402μm,0.7s						
ANKY				AML	AML	20 33 42.1	
	comp=E,2318μm,0.8s						
DYR	**Agios Nikonas**	**1.10**	**13**	P	**Pn**	**20 33 22.6**	**-0.1**
DYR				S	**Sn**	**20 33 39.3**	**+2.5**
DYR				AML	AML	20 33 40.0	
	comp=E,759μm,0.5s						
DYR				AML	AML	20 33 47.6	
	comp=N,357μm,0.4s						
PYL	**PYLOS**	**1.23**	**349**	P	**Pn**	**20 33 24.4**	**0.0**
PYL	**PYLOS**	**1.23**	**349**	P	**Pn**	**20 33 24.7**	**+0.3**
VLI	**Veliai**	**1.26**	**35**	P	**Pn**	**20 33 25.4**	**+0.5**
VLI	**Veliai**	**1.26**	**35**	P	**Pn**	**20 33 25.6**	**+0.7**
VLI				S	**Sn**	**20 33 43.1**	**+2.3**
VLI				AML	AML	20 33 47.6	
	comp=N,1288μm,0.6s						
VLI				AML	AML	20 33 54.6	
	comp=E,1547μm,0.7s						
MNVA	**Monemvasia**	**1.29**	**39**	P	**Pn**	**20 33 26.7**	**+1.5**
ITM	**Ithomi**	**1.49**	**357**	P	**Pn**	**20 33 28.6**	**+0.6**
ITM				S	**Sn**	**20 33 48.1**	**+1.8**
ITM	**Ithomi**	**1.49**	**357**	P	**Pn**	**20 33 29.3**	**+1.3**
ITM				S	**Sn**	**20 33 49.1**	**+2.8**
ITM				AML	AML	20 33 56.7	
	comp=E,1032μm,0.6s						
ITM				AML	AML	20 33 58.7	
	comp=N,749μm,0.5s						
IMMV	**Iera Moni Meta**	**1.61**	**98**	P	**Pn**	**20 33 30.9**	**+1.4**
IMMV	**Iera Moni Meta**	**1.61**	**98**	P	**Pn**	**20 33 31.0**	**+1.4**
IMMV				AML	AML	20 34 02.5	
	comp=E,889μm,0.5s						
IMMV				AML	AML	20 34 03.3	
	comp=N,865μm,0.5s						
VLX	**Vlachokerasia**	**1.70**	**9**	P	**Pn**	**20 33 32.4**	**+1.4**
VLX				AML	AML	20 34 05.7	
	comp=E,1292μm,0.6s						
VLX				AML	AML	20 34 07.2	
	comp=N,1296μm,0.6s						
VAM	**Vamos**	**1.79**	**98**	P	**Pn**	**20 33 33.4**	**+1.3**
VAM	**Vamos**	**1.79**	**98**	P	**Pn**	**20 33 33.4**	**+1.3**
VAM				AML	AML	20 34 12.1	
	comp=E,778μm,0.6s						
VAM				AML	AML	20 34 13.2	
	comp=N,762μm,0.6s						
TRIP	**Tripoli**	**1.85**	**6**	P	**Pn**	**20 33 34.0**	**+1.1**
TRIP	**Tripoli**	**1.85**	**6**	P	**Pn**	**20 33 34.5**	**+1.6**
TRIP				AML	AML	20 34 12.7	
	comp=E,461μm,0.7s						
TRIP				AML	AML	20 34 12.9	
	comp=N,480μm,0.9s						
AMT	**Artemida-Makis**	**1.86**	**352**	P	**Pn**	**20 33 34.8**	**+1.8**
AMT				S	**Sn**	**20 33 57.2**	**+1.8**
AMT				AML	AML	20 34 12.0	
	comp=E,1522μm,0.6s						
AMT				AML	AML	20 34 21.6	
	comp=N,1190μm,0.6s						
KRND	**KRANIDI**	**1.92**	**28**	P	**Pn**	**20 33 34.3**	**+0.5**
KRND	**KRANIDI**	**1.92**	**28**	P	**Pn**	**20 33 33.6**	**-0.2**
DID	**Didima**	**2.06**	**28**	P	**Pn**	**20 33 36.3**	**+0.5**
DID	**Didima**	**2.06**	**28**	P	**Pn**	**20 33 36.7**	**+0.9**
DID				AML	AML	20 34 13.5	
	comp=E,607μm,0.6s						
DID				AML	AML	20 34 16.4	
	comp=N,563μm,0.7s						
EPID	**Epidavros**	**2.11**	**24**	P	**Pn**	**20 33 37.0**	**+0.5**
MHLO	**Agia Marina, M**	**2.17**	**62**	P	**Pn**	**20 33 36.7**	**-0.5**
MHLA	**Plaka, Milos I**	**2.21**	**61**	P	**Pn**	**20 33 37.5**	**-0.2**
GUR	**Goura**	**2.26**	**6**	P	**Pn**	**20 33 40.5**	**+1.9**
DRO	**Drossia**	**2.27**	**354**	P	**Pn**	**20 33 41.5**	**+2.7**
DRO				AML	AML	20 34 27.8	
	comp=E,913μm,0.6s						
DRO				AML	AML	20 34 30.6	
	comp=N,502μm,0.6s						
KLV	**Kalavryta, Ach**	**2.35**	**2**	P	**Pn**	**20 33 42.4**	**+2.6**
KLV				AML	AML	20 34 33.4	
	comp=N,298μm,0.8s						
KLV				AML	AML	20 34 34.9	
	comp=E,224μm,0.8s						
IDI	**Anoyia**	**2.37**	**99**	LR	LR	20 35 03.7	
	comp=E,64nm,21.7s,baz=300,slow=49						
IDI	**Anoyia**	**2.37**	**99**	P	**Pn**	**20 33 40.7**	**+0.6**
IDI				AML	AML	20 34 34.3	
	comp=E,172μm,0.5s						
IDI				AML	AML	20 34 35.6	
	comp=N,185μm,0.6s						
RLS	**Riolos of Patr**	**2.41**	**349**	P	**Pn**	**20 33 41.7**	**+1.2**
SERI	**Serifos**	**2.47**	**53**	P	**Pn**	**20 33 40.6**	**-0.8**
SERI				AML	AML	20 34 21.9	
	comp=E,128μm,0.6s						
SERI				AML	AML	20 34 26.6	
	comp=N,117μm,0.5s						
LAKA	**Lakka**	**2.55**	**359**	P	**Pn**	**20 33 45.1**	**+2.6**
VLY	**Voula,Athens**	**2.58**	**33**	P	**Pn**	**20 33 43.7**	**+0.8**
PROD	**Prodromos**	**2.66**	**15**	P	**Pn**	**20 33 46.3**	**+2.3**
KALE	**Kalithea**	**2.70**	**2**	P	**Pn**	**20 33 46.3**	**+1.7**
VIL2	**Platees**	**2.71**	**21**	P	**Pn**	**20 33 45.5**	**+0.8**
VIL2				AML	AML	20 34 38.2	
	comp=N,290μm,0.8s						
VIL2				AML	AML	20 34 40.5	
	comp=E,358μm,0.8s						
EFP	**Efpalio**	**2.74**	**358**	P	**Pn**	**20 33 47.3**	**+2.3**
VLS	**Valsamata**	**2.74**	**336**	P	**Pn**	**20 33 46.0**	**+0.9**
DSF	**Desfina**	**2.75**	**8**	P	**Pn**	**20 33 46.7**	**+1.4**
PTL	**Penteli**	**2.78**	**31**	P	**Pn**	**20 33 45.4**	**-0.2**
PTL				AML	AML	20 34 42.4	
	comp=N,170μm,0.7s						
PTL				AML	AML	20 34 42.9	
	comp=E,256μm,0.8s						
DION	**Dionisos Attik**	**2.83**	**32**	P	**Pn**	**20 33 47.4**	**+1.1**
DION				AML	AML	20 34 31.9	
	comp=N,156μm,0.7s						
DION				AML	AML	20 34 33.0	
	comp=E,186μm,0.9s						
CMBO	**Columbo, Santo**	**2.84**	**73**	P	**Pn**	**20 33 46.4**	**-0.1**
LAST	**Lasithi**	**2.87**	**100**	P	**Pn**	**20 33 48.3**	**+1.4**
ANX	**Ano Chora**	**2.90**	**358**	P	**Pn**	**20 33 50.4**	**+3.0**
ANX				AML	AML	20 34 48.4	
	comp=N,245μm,0.7s						
ANX				AML	AML	20 34 52.8	
	comp=E,220μm,0.6s						
PVO	**Paravola**	**2.95**	**352**	P	**Pn**	**20 33 51.0**	**+3.0**
LKR	**Lokris**	**3.06**	**14**	P	**Pn**	**20 33 50.9**	**+1.5**
ATAL	**Atalanti**	**3.10**	**15**	P	**Pn**	**20 33 51.3**	**+1.2**
ANAF	**Anafi Island**	**3.11**	**76**	P	**Pn**	**20 33 49.8**	**-0.3**
EREA	**Eretria**	**3.12**	**29**	P	**Pn**	**20 33 51.2**	**+0.9**
EREA				AML	AML	20 34 43.8	
	comp=N,104μm,0.8s						
EREA				AML	AML	20 34 46.7	
	comp=E,143μm,0.9s						
EVGI	**Lefkada island**	**3.13**	**340**	P	**Pn**	**20 33 51.6**	**+1.3**
APE	**Apeiranthos**	**3.15**	**63**	P	**Pn**	**20 33 50.1**	**-0.6**
EVR	**Evrytania**	**3.23**	**357**	P	**Pn**	**20 33 54.8**	**+2.9**
MRKA	**Markates**	**3.26**	**22**	P	**Pn**	**20 33 53.3**	**+1.1**
LKD2	**Lefkada island**	**3.28**	**341**	P	**Pn**	**20 33 54.8**	**+2.3**
AMGA	**Amorgos Island**	**3.33**	**69**	P	**Pn**	**20 33 52.7**	**-0.4**
AMGA				AML	AML	20 34 54.2	
	comp=N,169μm,0.6s						
AMGA				AML	AML	20 35 02.6	
	comp=E,82μm,0.7s						
NEO	**Neokhori**	**3.74**	**14**	P	**Pn**	**20 33 59.8**	**+1.1**
THL	**Klokotos Trika**	**3.87**	**360**	P	**Pn**	**20 34 01.6**	**+1.0**
KARP	**Karpathos**	**4.18**	**90**	P	**Pn**	**20 34 05.5**	**+0.6**
KPRO	**Kipourio**	**4.29**	**353**	P	**Pn**	**20 34 09.1**	**+2.6**
NEST	**Nestorio**	**4.78**	**351**	P	**Pn**	**20 34 14.5**	**+1.4**
SGTA	**Sant Agata di**	**7.54**	**318**	S	**Sn**	**20 36 14.0**	**-1.2**
STON	**Ston**	**7.92**	**336**	*i* Pn	**Pn**	**20 34 53.6**	**-2.4**
STON				Sn	**Sn**	**20 36 15.6**	**-8.6**
BRTR	**Keskin Array B**	**10.04**	**63**	Pn	**Pn**	**20 35 28.8**	**+3.5**
	comp=E,0.1nm,0.3s,baz=243,slow=9.4,SNR=3.6						
NVLJ	**Novalja**	**10.42**	**330**	Sn	**Sn**	**20 37 16.4**	**-9.0**
ARCES	**ARCESS Array B**	**33.96**	**2**	P	**P**	**20 39 42.5**	**+0.6**
	comp=E,2.5nm,0.7s,baz=186,slow=9.6,SNR=10						
KURBB	**Kurchatov Arra**	**42.79**	**51**	P	**P**	**20 40 56.1**	**-0.1**
	comp=E,0.3nm,0.4s,baz=276,slow=8.3,SNR=3.8						
MKAR	**Makanchi Array**	**45.62**	**57**	P	**P**	**20 41 18.9**	**0.0**
	comp=E,1.6nm,0.6s,baz=270,slow=7.7,SNR=16						
ZALV	**Zalesovo Beam**	**46.49**	**46**	P	**P**	**20 41 25.6**	**-0.1**
	comp=E,0.5nm,0.4s,baz=282,slow=7.2,SNR=3.0						
SONM	**Songino Array**	**61.12**	**50**	P	**P**	**20 43 13.6**	**+0.8**
	comp=E,0.3nm,0.5s,baz=273,slow=8.2,SNR=2.7						

ISCJB ***20*** *20:33:43.7±0.3, 26°.70N±0°.02×57°.90E±0°.04, h10km, mb4.0/33, MS3.4/1, Error ellipse: s-maj=5.0km s-min=3.3km az=12.5*

MOS ***20*** *20:33:44.2±1.3, 26°.49N×57°.97E, h23km, mb4.3/8, Error ellipse: s-maj=10.9km s-min=6.8km az=104.9*

DSN ***20*** *20:33:44.0±2.7, 26°.66N×57°.95E, h10km, ML4.1/9, Error ellipse: s-maj=37.8km s-min=11.8km az=5.0*

NEIC ***20*** *20:33:45.4±0.0, 26°.71N×57°.74E, h12km, mb3.9/12, ML4.1(THR), MN4.1(TEH), After TEH.*

TEH ***20*** *20:33:45.5, 26°.71N×57°.75E, h11km, ML4.2*

OMAN ***20*** *20:33:48.2±1.9, 26°.40N×57°.92E, h12km, ml4.0/16, Error ellipse: s-maj=20.9km s-min=12.7km az=20.0*

IDC ***20*** *20:33:49.5±2.5, 26°.49N×57°.85E, h51km±31km, mb3.5/21, mb1 3.6/23, mb1mx3.5/61, mbtmp3.8/23, ML4.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/28, Error ellipse: s-maj=16.1km s-min=13.8km az=1.0*

ISC 20 20:33:44.8±0.5**, 26°.60N**±0°.04×**57°.82E**±0°.05**, h10**km**, n142,** σ1**59**/144**, mb4.1**/35**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**0.96**	**183**	*e*Sg	**Sn**	**20 34 22.8**	**+4.8**
JSK1				*e*Pg	**Pn**	**20 34 06.0**	**+1.7**
JSK1				IAMB	IAmb	20 34 38.8	
	comp=Z,0.0nm,1.0s						
NIAN	**Nian**	**1.30**	**318**	IAMB	IAmb	20 34 34.3	
	comp=Z,0.0nm,0.3s						
NIAN				*e*Pg	**Pn**	**20 34 08.9**	**-0.1**
SHME	**Shamm**	**1.60**	**250**	*e*P	**Pn**	**20 34 13.9**	**+0.7**
	SNR=17						
SHME				S	**Sn**	**20 34 37.2**	**+3.2**
SHME	**Shamm**	**1.60**	**250**	*e*Pn	**Pn**	**20 34 14.2**	**+0.9**
GENO	**Geno**	**1.67**	**299**	*e*Pn	**Pn**	**20 34 15.0**	**+0.7**
GENO				IAMB	IAmb	20 34 46.7	
	comp=Z,0.0nm,0.5s						
MSFE	**Esma-Masafi**	**1.94**	**231**	*e*P	**Pn**	**20 34 17.2**	**-0.7**
	SNR=11						
MSFE	**Esma-Masafi**	**1.94**	**231**	*e*Pn	**Pn**	**20 34 18.7**	**+0.8**
UMQ	**Umm Al-Quwin**	**2.22**	**242**	*e*P	**Pn**	**20 34 23.0**	**+1.4**
	SNR=5.5						
UMQ	**Umm Al-Quwin**	**2.22**	**242**	*e*Pn	**Pn**	**20 34 25.0**	**+3.4**
HATD	**Hatta, Dubai**	**2.33**	**221**	*e*P	**Pn**	**20 34 22.8**	**-0.5**
	SNR=29						
HATD	**Hatta, Dubai**	**2.33**	**221**	P	**Pn**	**20 34 23.1**	**-0.2**
	SNR=12						
HATD	**Hatta, Dubai**	**2.33**	**221**	*e*Pn	**Pn**	**20 34 24.2**	**+0.9**
ASHO	**Ashiyiah**	**2.48**	**220**	*e*P	**Pn**	**20 34 26.1**	**+0.8**
	SNR=86						
ASHO	**Ashiyiah**	**2.48**	**220**	P	**Pn**	**20 34 26.6**	**+1.2**
	SNR=26						
ASHO	**Ashiyiah**	**2.48**	**220**	*e*Pn	**Pn**	**20 34 26.6**	**+1.2**
NAZ	**Nazwa, Dubai**	**2.52**	**231**	*e*P	**Pn**	**20 34 27.3**	**+1.4**
	SNR=35						
NAZ	**Nazwa, Dubai**	**2.52**	**231**	P	**Pn**	**20 34 28.7**	**+2.8**
	SNR=20						
NAZ				S	**Sb**	**20 35 03.0**	**+1.7**
NAZ	**Nazwa, Dubai**	**2.52**	**231**	*e*Pn	**Pn**	**20 34 28.6**	**+2.8**
CHBR	**Chabahar**	**2.59**	**112**	*e*Pn	**Pg**	**20 34 34.5**	**0.0**
SOHO	**SOHO**	**2.72**	**206**	P	**Pn**	**20 34 27.2**	**-1.3**
	SNR=38						
SOHO				S	**Sn**	**20 34 59.1**	**-2.3**
FAQ	**Al Faqa, Dubai**	**2.73**	**228**	*e*P	**Pn**	**20 34 30.5**	**+1.8**
	SNR=75						
FAQ	**Al Faqa, Dubai**	**2.73**	**228**	P	**Pn**	**20 34 31.2**	**+2.5**
	SNR=15						
FAQ	**Al Faqa, Dubai**	**2.73**	**228**	*e*Pn	**Pn**	**20 34 31.2**	**+2.5**
ASUD	**Al Ashush, Dub**	**2.99**	**229**	*i* P	**Pn**	**20 34 34.5**	**+2.3**
	SNR=31						
ASUD	**Al Ashush, Dub**	**2.99**	**229**	P	**Pn**	**20 34 35.0**	**+2.7**
	SNR=31						
ASUD	**Al Ashush, Dub**	**2.99**	**229**	*e*Pn	**Pn**	**20 34 34.7**	**+2.5**
HOQ	**Hoqain**	**3.04**	**189**	P	**Pn**	**20 34 32.7**	**-0.3**
	SNR=6.4						
HOQ	**Hoqain**	**3.04**	**189**	*e*Pn	**Pn**	**20 34 32.7**	**-0.3**
BIDO	**Bidbid**	**3.08**	**175**	P	**Pn**	**20 34 33.5**	**0.0**
	SNR=7.8						
BIDO	**Bidbid**	**3.08**	**175**	*e*Pn	**Pn**	**20 34 33.5**	**0.0**
ALNE	**Al Ain**	**3.15**	**217**	*i* P	**Pn**	**20 34 36.0**	**+1.5**
	SNR=19						
ALNE	**Al Ain**	**3.15**	**217**	*e*Pn	**Pn**	**20 34 36.8**	**+2.3**
NGRK	**Negar Kerman**	**3.18**	**343**	*e*Pn	**Pn**	**20 34 36.8**	**+1.5**
NGRK				IAMB	IAmb	20 35 25.8	
	comp=Z,0.0nm,0.4s						
CHMN	**Cheshme madani**	**3.26**	**356**	*e*Pn	**Pn**	**20 34 39.2**	**+2.9**
CHMN				IAMB	IAmb	20 35 44.1	
	comp=N,0.0nm,1.0s						
AJN	**Ajban**	**3.27**	**232**	P	**Pn**	**20 34 38.9**	**+2.8**
	SNR=5.8						
AJN	**Ajban**	**3.27**	**232**	*e*Pn	**Pn**	**20 34 37.8**	**+1.7**
WSAR	**Wadi Sarin**	**3.42**	**167**	P	**Pn**	**20 34 39.3**	**+1.0**
	SNR=8.7						
WSAR	**Wadi Sarin**	**3.42**	**167**	P	**Pn**	**20 34 38.9**	**+0.6**
	comp=N,29nm,0.3s,baz=11,slow=11,SNR=171						
WSAR				S	**Sn**	**20 35 17.7**	**-1.3**
	comp=N,47nm,0.3s,baz=311,slow=16,SNR=13						
ARQ	**Araqi**	**3.46**	**200**	P	**Pn**	**20 34 41.3**	**+2.6**
	SNR=13						
TVBK	**TV Kerman**	**3.50**	**345**	*e*Pn	**Pn**	**20 34 42.4**	**+2.8**
TVBK				IAMB	IAmb	20 35 42.7	
	comp=Z,0.0nm,0.6s						
SMDO	**Samad**	**3.53**	**177**	P	**Pn**	**20 34 40.9**	**+1.1**
	SNR=30						
BSY	**Bisya**	**3.88**	**189**	P	**Pn**	**20 34 47.4**	**+2.9**
	SNR=14						
SZD1	**Zahaedan-tmp**	**3.94**	**42**	*e*Pn	**Pn**	**20 34 48.3**	**+2.9**
KHGB	**Koh Gabri**	**3.94**	**343**	*e*Pn	**Pn**	**20 34 48.3**	**+2.7**
KHGB				IAMB	IAmb	20 35 58.0	
	comp=Z,0.0nm,1.1s						
ZHSF	**Zahedan**	**3.98**	**40**	*e*Pn	**Pn**	**20 34 48.8**	**+2.8**
JMDO	**Jabal Madar**	**4.22**	**176**	P	**Pn**	**20 34 51.3**	**+2.1**
	SNR=6.0						
GHIR	**Ghir-Karzin**	**4.61**	**292**	*e*Pn	**Pn**	**20 34 56.7**	**+2.0**
IPAR	**Pars**	**5.31**	**309**	*e*Pn	**Pn**	**20 35 04.1**	**-0.3**
IMEH	**Mehriz**	**5.54**	**330**	*e*Pn	**Pn**	**20 35 07.7**	**+0.2**
IKOO	**Kooshah**	**5.89**	**10**	*e*Pn	**Pn**	**20 35 13.5**	**+1.0**
IKAZ	**Kazeroun**	**6.16**	**302**	*e*Pn	**Pn**	**20 35 14.5**	**-1.6**
ITEG	**Tejag**	**6.33**	**7**	*e*Pn	**Pn**	**20 35 19.4**	**+1.1**
YZKH	**Yazd**	**6.42**	**335**	*e*Pn	**Pn**	**20 35 20.1**	**+0.6**
KLNJ	**Kolanjah**	**7.01**	**310**	*e*Pn	**Pn**	**20 35 26.9**	**-1.0**
IRAM	**Ramesheh**	**7.04**	**319**	*e*Pn	**Pn**	**20 35 27.8**	**-0.3**
IZEF	**Zefreh**	**7.88**	**324**	*e*Pn	**Pn**	**20 35 39.9**	**+0.1**
ZNGN	**Zangian**	**8.20**	**314**	*e*Pn	**Pn**	**20 35 44.3**	**+0.2**
JHBN	**Jahan bin**	**8.39**	**314**	*e*Pn	**Pn**	**20 35 47.6**	**+0.8**
IPIR	**Pirpir**	**8.55**	**317**	*e*Pn	**Pn**	**20 35 49.1**	**+0.2**
IKLH	**Kolahrood**	**8.61**	**323**	*e*Pn	**Pn**	**20 35 50.2**	**+0.5**
GNI	**Garni**	**17.35**	**324**	P	**Pn**	**20 37 48.5**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=359,slow=20,SNR=2.7						
ASF	**Jabal al Asfar**	**19.05**	**292**	P	**P**	**20 38 07.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=142,slow=3.3,SNR=3.4						
ASF				S	Sn	20 41 31.7	-10
	comp=Z,0.0nm,0.3s,baz=105,slow=20,SNR=2.4						
KK31	**Karatay Array**	**19.44**	**29**	*e*P	**P**	**20 38 10.6**	**-0.9**
	comp=Z,3.3nm,0.6s						
KK31	**Karatay Array**	**19.44**	**29**	*e*P	**P**	**20 38 10.6**	**-0.9**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KKAR	**Karatay Array**	**19.44**	**29**	*e*P	**P**	**20 38 10.6**	**-0.9**
	comp=Z,3.3nm,0.6s						
KKAR	**Karatay Array**	**19.44**	**29**	*e*P	**P**	**20 38 10.6**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZEI	**Tsey**	**19.75**	**328**	*e*P	**Pn**	**20 38 17.1**	**+0.6**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
EIL	**Elat**	**20.39**	**284**	P	**P**	**20 38 22.9**	**+0.9**
	comp=Z,4.5nm,0.8s,baz=5.6,slow=6.7,SNR=2.6						
EIL				LR	LR	20 48 05.6	
	comp=Z,174nm,21.6s,baz=292,slow=42						
MMAI	**Mount Meron Ar**	**20.46**	**294**	P	**P**	**20 38 24.5**	**+1.8**
	comp=Z,1.5nm,0.5s,baz=102,slow=16,SNR=6.4						
KBZ	**Khabaz**	**20.94**	**329**	P	Pn	20 38 30.0	-0.2
KBZ	**Khabaz**	**20.94**	**329**	P	Pn	20 38 29.9	-0.3
	comp=Z,0.8nm,0.5s,baz=164,slow=3.8,SNR=2.4						
AAK	**Ala-Archa**	**21.02**	**36**	*e*P	**P**	**20 38 28.5**	**-0.2**
	comp=Z,2.8nm,0.6s						
AAK	**Ala-Archa**	**21.02**	**36**	P	**P**	**20 38 29.4**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=194,slow=12,SNR=3.9						
NRN	**Naryn**	**21.05**	**41**	*e*P	**P**	**20 38 29.2**	**-0.1**
	comp=Z,5.2nm,1.0s						
NRN	**Naryn**	**21.05**	**41**	*e*P	**P**	**20 38 29.2**	**-0.1**
NRN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KVAR	**Kislovodsk Arr**	**21.21**	**329**	P	**P**	**20 38 32.7**	**+2.0**
	comp=Z,1.2nm,0.5s,baz=77,slow=22,SNR=1.9						
KIV	**Kislovodsk**	**21.21**	**329**	*e*P	**P**	**20 38 27.4**	**-3.3**
	comp=Z,6.2nm,0.7s						
KIV	**Kislovodsk**	**21.21**	**329**	*e*P	**P**	**20 38 34.9**	**+4.2**
KIV				pmax	pmax		
	comp=Z,29nm,1.1s						
BOOM	**Boomskoye usch**	**21.70**	**38**	*e*P	**P**	**20 38 34.7**	**-1.4**
	comp=Z,3.4nm,0.8s						
BOOM	**Boomskoye usch**	**21.70**	**38**	*e*P	**P**	**20 38 34.7**	**-1.4**
BOOM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KDJ	**Kajisay**	**22.18**	**41**	*e*P	**P**	**20 38 40.4**	**-0.9**
	comp=Z,11nm,1.2s						
KDJ	**Kajisay**	**22.18**	**41**	*e*P	**P**	**20 38 40.4**	**-0.9**
KDJ				pmax	pmax		
	comp=Z,11nm,1.2s						
ABKAR	**Akbulak array**	**22.68**	**4**	*e*P	**P**	**20 38 42.9**	**-3.4**
AKTO	**Aktyubinsk**	**23.80**	**0**	P	**P**	**20 38 58.0**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=166,slow=9.5,SNR=10						
BR131	**Keskin Array S**	**24.02**	**309**

comp=Z,1.1nm,0.8s,baz=350,slow=14,SNR=2.9
BOD Bodaibo 49.99 35 *eP* **P 20 42 37.1 -1.9**
BOD pmax pmax
comp=Z,4.0nm,1.6s
ESDC Sonseca Array 52.42 301 P **P 20 42 57.3 -0.3**
comp=Z,0.3nm,0.5s,baz=79,slow=7.0,SNR=5.1
TOA0 Torodi Ar. Sit 54.07 267 *eP* **P 20 43 08.9 -1.1**
comp=Z,8.2nm,1.4s
TOA1 Torodi Ar. Sit 54.07 267 *eP* **P 20 43 08.5 -1.5**
TORD Torodi Ar. Bea 54.07 267 *eP* **P 20 43 08.5 -1.5**
comp=Z,1.6nm,0.7s,baz=74,slow=6.8,SNR=12
INK Inuvik 85.01 4 P **P 20 46 20.5 +0.5**
comp=Z,0.3nm,0.4s,baz=312,slow=6.9,SNR=2.1

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*IDC **20** 20:34:32.1±1.0, 14°.02N×147°.68E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/56, mbtmp3.6/9, ML4.0/1, Error ellipse: s-maj=29.0km s-min=20.4km az=98.0*
*ISCJB **20** 20:34:35.1±0.9, 14°.0N±0°.1×147°.71E±0°.09, h33km, mb3.5/8, Error ellipse: s-maj=18.3km s-min=11.6km az=155.7*
ISC 20 20:34:37.1±1.0, 14°.0N±0°.2×147°.7E±0°.1, h35km, n10, σ0.96/11, mb3.6/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.75 262**		Pn	**Pn**	**20 35 17.5**	**-1.2**
	22nm,0.3s,baz=80,slow=7.2,SNR=11						
GUMO				Sn	**Sn**	**20 35 51.5**	**+0.8**
	47nm,0.3s,baz=332,slow=23,SNR=9.4						
MJAR	**Matsushiro Arr**	**23.99 341**		P	**P**	**20 39 49.1**	**+0.6**
	0.5nm,0.5s,baz=159,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**36.19 202**		P	**P**	**20 41 36.7**	**+0.1**
	1.0nm,0.6s,baz=26,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**39.78 200**		P	**P**	**20 42 07.2**	**+0.3**
	0.3nm,0.7s,baz=20,slow=8.2,SNR=6.5						
MKAR	**Makanchi Array**	**63.09 316**		P	**P**	**20 45 01.9**	**+0.8**
	0.2nm,0.4s,baz=90,slow=7.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**66.07 319**		P	**P**	**20 45 21.3**	**+0.8**
	0.5nm,0.6s,baz=95,slow=7.4,SNR=6.8						
BVAR	**Borovoye Array**	**71.29 322**		P	**P**	**20 45 53.7**	**+0.7**
	0.3nm,0.5s,baz=104,slow=6.1,SNR=3.4						
YKA	**Yellowknife Ar**	**81.24 28**		P	**P**	**20 46 48.6**	**-0.6**
	0.1nm,0.3s,baz=284,slow=5.5,SNR=3.3						
FINES	**FINESS Array B**	**91.92 336**		P	**P**	**20 47 40.4**	**-1.3**
	0.6nm,0.7s,baz=65,slow=3.7,SNR=4.6						
LPAZ	**La Paz**	**145.40 98**		PKPbc	**PKPbc**	**20 54 13.9**	**+0.9**
	0.6nm,0.6s,baz=270,slow=1.0,SNR=2.7						

KRSC 20 20:49:48.5±10.0, 52°.03N×160°.40E, h40km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.09 348**		*eP*	Pn	20 50 07.8	+0.5
SPN				*eS*	Sn	20 50 21.9	+0.8
RUS	**Russkaya**	**1.23 290**		*eP*	Pn	20 50 09.6	+0.5
RUS				*eS*	Sn	20 50 24.7	+0.3
NLC	**Nalytchevo**	**1.31 331**		*eP*	Pn	20 50 11.7	+1.5
NLC				*eS*	Sn	20 50 28.4	+2.0
DALK	**Dalny**	**1.42 316**		*eP*	Pn	20 50 12.7	+1.0
DALK				*eS*	Sn	20 50 30.9	+1.8
MTVR	**Mutnovka**	**1.43 289**		*eP*	Pn	20 50 13.3	+1.2
MTVR				*eS*	Sn	20 50 32.2	+2.4
KDTR	**Khodutka, Kamc**	**1.45 262**		*eP*	Pn	20 50 13.7	+1.5
KDTR				*eS*	Sn	20 50 32.5	+2.5
PET	**Petropavlovsk**	**1.46 314**		*eP*	Pn	20 50 13.4	+1.2
PET				*eS*	Sn	20 50 32.2	+2.1
GRL	**Gorelyy**	**1.52 291**		*eP*	Pn	20 50 16.3	+3.1
UGLR	**Uglovaya**	**1.52 322**		*eP*	Pn	20 50 14.9	+1.7
UGLR				*eS*	Sn	20 50 34.0	+2.2
SDLR	**Sedlovina**	**1.55 324**		*eP*	Pn	20 50 15.0	+1.3
SDLR				*eS*	Sn	20 50 34.2	+1.6
SMAR	**Somma**	**1.57 322**		*eP*	Pn	20 50 15.4	+1.4
ASAK	**Asacha**	**1.57 284**		*eP*	Pn	20 50 16.0	+2.0
AVH	**Avacha**	**1.59 321**		*eP*	Pn	20 50 16.0	+1.7
AVH				*eS*	Sn	20 50 36.5	+2.8
KRMR	**Karymshinskiy**	**1.60 301**		*eP*	Pn	20 50 15.4	+1.2
KRMR				*eS*	Sn	20 50 35.2	+1.5
KRER	**Koryakskii**	**1.62 322**		*eP*	Pn	20 50 16.5	+1.8
KOK	**Koryaka**	**1.66 320**		*eP*	Pn	20 50 16.8	+1.7
KRX	**Arik**	**1.70 322**		*eP*	Pn	20 50 17.5	+1.7
APC	**Apacha**	**2.17 296**		*eP*	Pn	20 50 25.3	+3.2
APC				*eS*	Sn	20 50 52.2	+4.5
PAU	**Pauzhetka**	**2.30 257**		*eP*	Pn	20 50 27.2	+3.4
KZV	**Kizimen**	**3.09 359**		*eP*	Pn	20 50 40.2	+5.4
TUMD	**Tumrok D**	**3.18 0**		*eP*	Pn	20 50 39.5	+3.6
TUMD				*eS*	Sn	20 51 17.2	+4.7
ALID	**Alaid**	**3.25 251**		P	Pn	20 50 40.8	+3.8
TUMR	**Tumrok**	**3.26 357**		P	Pn	20 50 41.8	+4.7
KBTR	**Krutoberegovo**	**4.42 18**		*eP*	Pn	20 50 55.8	+2.9

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*ISCJB **20** 21:03:48.0±0.5, 17°.45S±0°.08×173°.96W±0°.08, h10km, mb4.5/15, Error ellipse: s-maj=12.5km s-min=10.8km az=144.3*
*IDC **20** 21:03:48.4±1.0, 17°.44S×173°.99W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.0/29, mbtmp4.3/7, ML3.7/1, Error ellipse: s-maj=37.3km s-min=23.4km az=131.0*
*NEIC **20** 21:03:50.5±1.8, 17°.47S×173°.98W, h14km±4km, mb4.4/11, Error ellipse: s-maj=19.1km s-min=18.2km az=149.0*
ISC 20 21:03:49.0±0.6, 17°.5S±0°.1×173°.87W±0°.08, h10km, n32, σ1.91/33, mb4.5/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.07 114**		*ePn*	**Pn**	**21 04 53.8**	**+2.5**
NIUE				*eSn*	**Sn**	**21 05 33.6**	**-5.4**
RAR	**Rarotonga**	**13.81 108**		*ePn*	**Pn**	**21 07 04.6**	**-0.4**
RAR	**Rarotonga**	**13.81 108**		**Pn**	**Pn**	**21 07 05.1**	**+0.2**
	3.3nm,0.3s,baz=299,slow=19,SNR=4.0						
URZ	**Urewera**	**22.16 199**		P	**P**	**21 08 46.5**	**+1.4**
	6.7nm,0.4s,baz=63,slow=2.8,SNR=7.8						
BKZ	**Black Stump Fm**	**23.19 199**		*eP*	**P**	**21 08 55.9**	**0.0**
	5.9nm,1.1s						
BFZ	**Birch Farm**	**24.65 198**		*eP*	**P**	**21 09 09.6**	**-0.2**
	22nm,1.2s						
HNR	**Honiara**	**26.66 284**		*eP*	**P**	**21 09 22.6**	**-5.8**
	46nm,0.9s						
THZ	**Tophouse**	**26.73 202**		*eP*	**P**	**21 09 31.1**	**+2.4**
	17nm,1.2s						
MQZ	**McQueen's Vall**	**28.53 201**		*eP*	**P**	**21 09 45.6**	**+0.9**
	24nm,1.2s						
FOZ	**Fox Glacier**	**29.42 205**		*eP*	**P**	**21 09 53.7**	**+1.0**
	61nm,1.2s						
STKA	**Stephens Creek**	**42.64 242**		P	**P**	**21 11 47.0**	**+1.2**
	0.9nm,0.6s,baz=75,slow=9.4,SNR=3.2						
WR1	**Warramunga Arr**	**48.96 259**		*eP*	**P**	**21 12 35.4**	**-0.6**
WRA	**Warramunga Arr**	**48.96 259**		P	**P**	**21 12 35.4**	**-0.6**
	1.7nm,0.4s,baz=97,slow=6.8,SNR=87						
AS31	**Alice Springs**	**49.07 254**		*eP*	**P**	**21 12 36.5**	**-0.3**
	3.9nm,0.8s						
ASAR	**Alice Springs**	**49.07 254**		P	**P**	**21 12 36.2**	**-0.5**
	14nm,0.6s,baz=90,slow=8.1,SNR=263						
QSPA	**South Pole Qui**	**72.58 180**		*eP*	**P**	**21 15 17.1**	**+0.8**
	5.1nm,1.0s						
MAC	**Mark West Spri**	**73.49 40**		*eP*	**P**	**21 15 23.1**	**+1.2**
PETK	**Petropavlovsk-**	**74.46 343**		P	**P**	**21 15 27.9**	**+0.7**
	1.7nm,0.7s,baz=119,slow=8.6,SNR=4.6						
PEA1	**Petropavlovsk-**	**74.47 343**		*eP*	**P**	**21 15 27.9**	**+0.6**
GLK	**Glacier Lake**	**79.22 34**		*eP*	**P**	**21 15 56.4**	**+2.0**
ILAR	**Eielson Array**	**84.56 11**		P	**P**	**21 16 23.1**	**+1.2**
	0.2nm,0.6s,baz=239,slow=5.7,SNR=5.1						
ILB	**Eielson Array**	**84.56 11**		*eP*	**P**	**21 16 23.1**	**+1.2**
	0.9nm,0.7s						
T49A	**Edmonton**	**99.04 54**		*eP*	**Pdif**	**21 17 27.0**	**-3.4**
	6.2nm,0.6s						
ARA0	**ARCESS Array S**	**126.59 352**		*ePKPdif*	**PKiKP**	**21 22 52.0**	**-0.3**
ARCES	**ARCESS Array B**	**126.59 352**		PKP	**PKiKP**	**21 22 52.0**	**-0.3**
	0.8nm,0.7s,baz=9.9,slow=2.8,SNR=5.4						
FIA0	**FINESS Array S**	**133.85 347**		*ePKPdif*	**PKiKP**	**21 23 07.4**	**+0.3**
FINES	**FINESS Array B**	**133.85 347**		PKP	**PKiKP**	**21 23 07.4**	**+0.3**
	2.0nm,1.1s,baz=32,slow=7.5,SNR=4.0						
CLL	**Collm**	**145.80 352**		*ePKPbc*	**PKPab**	**21 23 29.0**	**+0.3**
BR101	**Keskin Array S**	**147.44 319**		*ePKPbc*	**PKPab**	**21 23 33.9**	**-1.8**
BRTR	**Keskin Array B**	**147.44 319**		PKPbc	**PKPab**	**21 23 33.9**	**-1.8**
	0.8nm,0.8s,baz=102,slow=2.3,SNR=5.3						
GEC2	**GERESS Array S**	**148.11 351**		*ePKPbc*	**PKiKP**	**21 23 36.2**	**-0.6**
GERES	**GERESS Array B**	**148.11 351**		PKPbc	**PKiKP**	**21 23 36.2**	**-0.6**
	0.7nm,0.6s,baz=341,slow=2.8,SNR=4.5						

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*IDC **20** 21:38:50.8±1.5, 52°.23N×161°.39E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/34, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=38.4km s-min=23.4km az=161.0*
*KRSC **20** 21:38:54.7±10.0, 52°.16N×160°.87E, h60km±10km, ML3.7*
ISC 20 21:38:54.0±2.8, 52°.17N±0°.07×160°.94E±0°.05, h16km±16km, n27, σ1.34/36, mb3.8/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.08 329**		*eP*	**Pb**	**21 39 14.1**	**-0.2**
SPN				*eS*	**Sb**	**21 39 27.3**	**-0.9**
NLC	**Nalytchevo**	**1.39 316**		*eP*	**Pb**	**21 39 19.8**	**+0.2**
NLC				*eS*	**Sb**	**21 39 37.2**	**0.0**
RUS	**Russkaya**	**1.51 281**		*eP*	**Pn**	**21 39 20.5**	**+0.1**
RUS				*eS*	**Sn**	**21 39 38.4**	**-1.4**
DALK	**Dalny**	**1.59 304**		*eP*	**Pn**	**21 39 22.1**	**+0.7**
DALK				*eS*	**Sn**	**21 39 41.4**	**-0.2**
PET	**Petropavlovsk**	**1.64 302**		*eP*	**Pn**	**21 39 22.8**	**+0.7**
UGLR	**Uglovaya**	**1.66 310**		*eP*	**Pb**	**21 39 23.6**	**-0.5**
SDLR	**Sedlovina**	**1.67 312**		*eP*	**Pn**	**21 39 23.5**	**+0.8**
SMAR	**Somma**	**1.70 311**		*eP*	**Pb**	**21 39 25.0**	**0.0**
MTVR	**Mutnovka**	**1.72 281**		*eP*	**Pn**	**21 39 24.2**	**+0.8**
MTVR				*eS*	**Sn**	**21 39 44.5**	**-0.6**
AVH	**Avacha**	**1.73 310**		*eP*	**Pb**	**21 39 24.7**	**-0.7**
KRER	**Koryakskii**	**1.75 311**		*eP*	**Pn**	**21 39 24.8**	**+1.0**
KOK	**Koryaka**	**1.79 310**		*eP*	**Pb**	**21 39 25.5**	**-1.0**
KDTR	**Khodutka, Kamc**	**1.81 259**		*eP*	**Pn**	**21 39 24.8**	**+0.3**
KDTR				*eS*	**Sn**	**21 39 45.4**	**-1.7**
KRX	**Arik**	**1.83 311**		*eP*	**Pn**	**21 39 25.8**	**+0.9**
KRMR	**Karymshinskiy**	**1.84 292**		*eP*	**Pn**	**21 39 25.6**	**+0.7**
KRMR				*eS*	**Sn**	**21 39 47.4**	**-0.4**
ASAK	**Asacha**	**1.88 278**		*eP*	**Pn**	**21 39 26.7**	**+1.2**
PETK	**Petropavlovsk-**	**2.19 297**		Pn	**Pn**	**21 39 30.9**	**+1.2**
	16nm,0.3s,baz=106,slow=18,SNR=174						
PETK				Sn	**Sg**	**21 40 04.0**	**-0.2**
	7.9nm,0.3s,baz=82,slow=32,SNR=7.2						
APC	**Apacha**	**2.43 290**		*eP*	**Pn**	**21 39 34.8**	**+1.8**
APC				*eS*	**Sn**	**21 40 03.0**	**+0.6**
KZV	**Kizimen**	**2.97 353**		*eP*	**Pn**	**21 39 42.9**	**+2.3**
TUMD	**Tumrok D**	**3.05 354**		*eP*	**Pb**	**21 39 45.4**	**-2.5**
KBTR	**Krutoberegovo**	**4.19 14**		*eP*	**Pn**	**21 39 59.9**	**+2.7**
BKI	**Bering**	**4.26 43**		*eS*	**Sn**	**21 40 46.2**	**-1.2**
MJAR	**Matsushiro Arr**	**22.41 235**		P	**P**	**21 43 54.0**	**+2.3**
	0.3nm,0.4s,baz=18,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**49.03 297**		P	**P**	**21 47 38.8**	**-1.1**
	0.2nm,0.5s,baz=45,slow=5.6,SNR=4.8						
CMAR	**Chiang Mai Arr**	**58.51 259**		P	**P**	**21 48 50.9**	**+1.4**
	0.6nm,0.6s,baz=18,slow=9.3,SNR=4.6						
ULM	**Lac du Bonnet**	**59.07 47**		P	**P**	**21 48 50.2**	**-2.8**
	3.4nm,0.7s,baz=294,slow=10.0,SNR=2.9						
FINES	**FINESS Array B**	**61.17 337**		P	**P**	**21 49 08.4**	**+1.3**
	1.4nm,0.9s,baz=21,slow=8.1,SNR=6.1						

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*NIED **20** 22:12:00, 38°.70N×144°.50E, h5km, Mw4.3 Best double couple: M0=3.15000×10^15 NP1:φs=39.00000°, δ=23.00000°, λ=-18.00000°. NP2:φs=146.00000°, δ=83.00000°, λ=-112.00000°.*
*IDC **20** 22:12:29.0±0.8, 38°.63N×144°.78E, h0km, mb3.7/9, mb1 3.9/15, mb1mx3.7/43, mbtmp3.8/15, ML3.4/6, MS3.3/7, Ms1 3.3/7, ms1mx3.0/51, Error ellipse: s-maj=22.5km s-min=15.1km az=116.0*
*ISCJB **20** 22:12:31.4±0.6, 38°.70N±0°.04×144°.67E±0°.05, h29km, mb3.6/9, Error ellipse: s-maj=6.7km s-min=4.7km az=42.6*
*JMA **20** 22:12:33.3±0.2, 38°.69N×144°.55E, h44km, M4.0*
ISC 20 22:12:33.2±0.8, 38°.69N±0°.05×144°.68E±0°.08, h29km, n42, σ2.04/45, mb3.7/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.38 280**		P	**Pn**	**22 13 09.8**	**-0.4**
MIYJ	**Miyakonagasawa**	**2.39 293**		P	**Pn**	**22 13 09.8**	**-0.6**
MIYJ				*eS*	**Sn**	**22 13 37.0**	**-1.8**
JKMT	**Kesennumamotoy**	**2.51 274**		P	**Pn**	**22 13 11.6**	**-0.4**
JMK	**Ichinoseki**	**2.71 277**		P	**Pn**	**22 13 14.8**	**0.0**
JOM	**Ohasama**	**2.75 288**		P	**Pn**	**22 13 15.3**	**0.0**
JOM				*eS*	**Sn**	**22 13 46.5**	**-1.1**
JANG	**Nango**	**2.97 306**		P	**Pn**	**22 13 17.2**	**-1.1**
JYK	**Kaneyama**	**3.38 275**		P	**Pn**	**22 13 24.4**	**+0.4**
JFT	**Otama**	**3.62 253**		P	**Pn**	**22 13 27.4**	**+0.1**
JFT				*eS*	**Sn**	**22 14 07.6**	**-1.4**
JOT	**Ohata**	**3.87 315**		P	**Pn**	**22 13 31.7**	**+1.0**
JCH	**Churui**	**4.05 346**		P	**Pn**	**22 13 31.1**	**-2.0**
JCH				S	**Sn**	**22 14 16.2**	**-3.3**
JKB	**Kayabe**	**4.24 320**		P	**Pn**	**22 13 36.2**	**+0.4**
JKB				*eS*	**Sn**	**22 14 22.1**	**-2.2**
NEM2	**Nemuro 2**	**4.74 9**		P	**Pn**	**22 13 39.1**	**-3.6**
BSO1	**Boso 1**	**5.00 218**		P	**Pn**	**22 13 43.9**	**-1.9**
JOSM	**Okushiri--Mats**	**5.22 312**		P	**Pn**	**22 13 50.3**	**+1.0**
JTKR	**Abashiri--Toko**	**5.31 354**		P	**Pn**	**22 13 48.8**	**-1.7**
JTKR				*eS*	**Sn**	**22 14 46.5**	**-4.1**
JRY	**Ryogami san**	**5.32 242**		P	**Pn**	**22 13 49.8**	**-0.9**
JRY				*eS*	**Sn**	**22 14 47.6**	**-3.4**
MJAR	**Matsushiro Arr**	**5.56 249**		Pn	**Pn**	**22 13 54.6**	**+0.5**
	1.0nm,0.3s,baz=59,slow=10,SNR=40						
MJAR				Sn	**Sn**	**22 14 60.0**	**+2.9**
	0.0nm,0.3s,baz=93,slow=27,SNR=3.5						
MJAR				LR	LR	22 16 21.3	
	comp=Z,348nm,19.9s,baz=40,slow=42						
MAT	**Matsushiro**	**5.57 249**		P	**Pn**	**22 13 55.0**	**+1.0**
MAT				S	**Sn**	**22 14 59.0**	**+2.0**
JOD2	**Odawara 2**	**5.63 234**		P	**Pn**	**22 13 54.5**	**-0.4**
JOD2				*eS*	**Sn**	**22 14 54.5**	**-4.1**
ASAJ	**Asahikawa**	**5.64 345**		Pn	**Pn**	**22 13 53.8**	**-1.3**
	2.2nm,0.3s,baz=215,slow=9.6,SNR=9.1						
ASAJ				Sn	**Sn**	**22 15 00.6**	**+1.7**
	1.8nm,0.3s,baz=22,slow=19,SNR=3.6						
ASAJ				LR	LR	22 16 53.3	
	comp=Z,257nm,19.2s,baz=162,slow=46						
JHJ	**Hachijo jima 2**	**6.83 217**		Pn	**Pn**	**22 14 08.8**	**-2.6**
	9.4nm,0.3s,baz=164,slow=23,SNR=8.0						
JHJ				Sn	**Sn**	**22 15 21.4**	**-6.7**
	9.6nm,0.3s,baz=73,slow=19,SNR=3.3						
USRK	**Ussuriysk Ar.**	**11.00 304**		Pn	**Pn**	**22 15 08.2**	**-0.3**
	0.8nm,0.3s,baz=105,slow=14,SNR=13						
JNU	**Nakatsue**	**12.49 248**		LR	LR	22 20 31.5	
	comp=Z,192nm,21.2s,baz=55,slow=38						
KSRS	**Korea Array**	**13.26 270**		Pn	**Pn**	**22 15 41.5**	**+2.0**
	0.3nm,0.3s,baz=79,slow=13,SNR=7.5						
KSRS				LR	LR	22 20 30.1	
	comp=Z,106nm,21.3s,baz=101,slow=36						
PETK	**Petropavlovsk-**	**16.99 28**		P	**P**	**22 16 29.9**	**-0.4**
	0.1nm,0.3s,baz=168,slow=7.6,SNR=7.4						
SEY	**Seymchan**	**24.72 8**		P	**P**	**22 17 52.2**	**+0.6**
	1.0nm,0.5s,baz=174,slow=8.4,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**26.95 128**		T	T	22 46 11.0	
	baz=320,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**26.96 128**		T	T	22 46 10.8	
	baz=320,slow=75,SNR=8.3						
H11N3	**WAKE ISLAND Hy**	**26.97 128**		T	T	22 46 14.9	
	baz=320,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**27.77 130**		T	T	22 47 12.5	
	baz=321						
H11S3	**WAKE ISLAND Hy**	**27.77 130**		T	T	22 47 15.7	
	baz=321						
H11S2	**WAKE ISLAND Hy**	**27.78 130**		T	T	22 47 14.2	
	baz=321						
ZALV	**Zalesovo Beam**	**42.74 311**		P	**P**	**22 20 29.0**	**+1.4**
	0.5nm,0.4s,baz=93,slow=8.4,SNR=4.0						
ZALV				LR	LR	22 37 48.8	
	comp=Z,16nm,21.3s,baz=70,slow=36						
NRIK	**Noril'sk**	**42.88 334**		LR	LR	22 40 15.1	
	comp=Z,83nm,18.9s,baz=38,slow=39						
CMAR	**Chiang Mai Arr**	**44.41 256**		LR	LR	22 40 38.7	
	comp=Z,34nm,18.3s,baz=36,slow=38						
MKAR	**Makanchi Array**	**45.45 301**		P	**P**	**22 20 50.0**	**+0.5**
	0.2nm,0.6s,baz=79,slow=9.0,SNR=5.5						
ILAR	**Eielson Array**	**46.71 33**		P	**P**	**22 20 59.1**	**0.0**
	0.5nm,0.8s,baz=258,slow=7.5,SNR=5.4						
INK	**Inuvik**	**51.73 28**		P	**P**	**22 21 37.5**	**+0.2**
	0.5nm,0.6s,baz=313,slow=7.5,SNR=4.2						
WRA	**Warramunga Arr**	**59.12 191**		P	**P**	**22 22 30.3**	**-0.7**
	2.2nm,0.8s,baz=14,slow=7.2,SNR=12						
YKA	**Yellowknife Ar**	**61.07 31**		P	**P**	**22 22 44.3**	**+0.3**
	0.1nm,0.5s,baz=290,slow=7.8,SNR=2.7						
ASAR	**Alice Springs**	**62.84 191**		P	**P**	**22 22 57.2**	**+0.9**
	0.9nm,0.8s,baz=13,slow=7.3,SNR=8.4						
FINES	**FINESS Array B**	**68.54 333**		P	**P**	**22 23 33.4**	**+0.9**
	0.7nm,0.5s,baz=46,slow=8.2,SNR=9.5						

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*ISCJB **20** 22:14:46.0±0.5, 6°.84N±0°.02×73°.12W±0°.03, h159km±4km, mb3.4/2, Error ellipse: s-maj=5.6km s-min=3.9km az=14.3*
*IDC **20** 22:14:46.7±1.2, 6°.88N×73°.08W, h159km±44km, mb3.1/2, mb1 3.5/4, mb1mx3.0/27, mbtmp3.6/4, Error ellipse: s-maj=110.7km s-min=8.1km az=133.0*
*RSNC **20** 22:14:47.6±0.8, 6°.80N×73°.14W, h152km±3km, ML3.3, Mw3.6*
ISC 20 22:14:46.4±1.0, 6°.84N±0°.03×73°.13W±0°.04, h157km±6km, n27, σ1.01/52, 3C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25 192**		⇑*iP*	**Pn**	**22 15 07.9**	**-0.1**
BARC				*eS*	**Sn**	**22 15 23.6**	**-0.8**
BARC				*i*		22 15 24.9	
	comp=Z,519nm,0.3s						
GIRC	**Giron, Santand**	**0.25 346**		*eP*	**Pn**	**22 15 08.0**	**+0.1**
GIRC				*eS*	**Sn**	**22 15 23.4**	**-0.9**
GIRC				*i*		22 15 25.2	
	comp=Z,402nm,0.3s						
BRRC	**Barranca, Sant**	**0.64 295**		⇑*iP*	**Pn**	**22 15 09.8**	**+0.5**
BRRC				*eS*	**Sn**	**22 15 27.4**	**+0.7**
BRRC				*i*		22 15 30.3	
	comp=Z,369nm,0.4s						
PAMC	**Pamplona, Colo**	**0.66 41**		⇑*iP*	**Pn**	**22 15 10.8**	**+0.8**
PAMC				*eS*	**Sn**	**22 15 28.0**	**0.0**
PAMC				*i*		22 15 30.2	
	comp=Z,706nm,0.5s						
RUSC	**La Rusia**	**0.94 177**		⇓*iP*	**Pn**	**22 15 11.7**	**-0.3**
RUSC				*eS*	**Sn**	**22 15 30.8**	**-0.6**
RUSC				*i*		22 15 32.2	
	comp=Z,188nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.35 258**		*eP*	**Pn**	**22 15 14.9**	**-0.1**
PTBC				*eS*	**Sn**	**22 15 36.3**	**-0.6**
PTBC				*i*		22 15 43.2	
	comp=Z,593nm,0.4s						
TAMC	**Tame, Arauca**	**1.39 107**		⇓*iP*	**Pn**	**22 15 16.0**	**+0.6**
TAMC				*eS*	**Sn**	**22 15 37.9**	**+0.2**
TAMC				*i*		22 15 44.9	
	comp=Z,84nm,0.4s						
OCAC	**Ocana**	**1.41 352**		*eP*	**Pn**	**22 15 15.9**	**+0.2**
OCAC				*eS*	**Sn**	**22 15 39.3**	**+1.0**
OCAC				*i*		22 15 46.9	
	comp=Z,229nm,0.5s						
YOPC	**Yopal, Colombi**	**1.63 154**		*eP*	**Pn**	**22 15 18.3**	**+0.2**
YOPC				*eS*	**Sn**	**22 15 41.7**	**-0.6**
YOPC				*i*		22 15 46.3	
	comp=Z,140nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.83 291**		*eP*	**Pn**	**22 15 20.3**	**+0.2**
ZARC				*eS*	**Sn**	**22 15 46.0**	**0.0**
ZARC				*i*		22 15 56.8	
	comp=Z,272nm,0.3s						
NORC	**Norcasia**	**2.14 234**		*eP*	**Pn**	**22 15 23.7**	**0.0**
NORC				*eS*	**Sn**	**22 15 52.0**	**-0.4**
NORC				*i*		22 15 58.1	
	comp=Z,112nm,0.2s						
SMLC	**San Martn de**	**2.16 335**		*eP*	**Pn**	**22 15 24.2**	**+0.3**
SMLC				*eS*	**Sn**	**22 15 52.9**	**0.0**
SMLC				*i*		22 16 00.3	
	comp=Z,275nm,0.3s						
CHIC	**Chingaza**	**2.27 195**		*eP*	**Pn**	**22 15 25.8**	**+0.3**
CHIC				*eS*	**Sn**	**22 15 54.9**	**-0.9**
CHIC				*i*		22 16 03.0	
	comp=Z,86nm,0.5s						
ROSC	**El Rosal**	**2.31 211**		P	**Pn**	**22 15 27.4**	**+1.5**
	comp=Z,21nm,0.3s,baz=69,slow=11,SNR=27						
ROSC				S	**Sn**	**22 15 58.8**	**+2.3**
	comp=Z,16nm,0.3s,baz=122,slow=19,SNR=7.5						
HELC	**Santa Helena**	**2.47 255**		*eP*	**Pn**	**22 15 28.9**	**+1.0**
HELC				*eS*	**Sn**	**22 15 59.6**	**-0.1**
HELC				*i*		22 16 06.7	
	comp=Z,170nm,0.3s						
UREC	**San Jos de Ur**	**2.55 291**		*eP*	**Pn**	**22 15 28.5**	**0.0**
UREC				*eS*	**Sn**	**22 15 57.2**	**-3.8**
UREC				*i*		22 16 09.8	
	comp=Z,189nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.74 234**		*eP*	**Pn**	**22 15 32.5**	**+1.3**
GUY2C				*eS*	**S

s-min=11.7km az=150.0
MOS ***20*** *22:36:24.5±1.3, 52°.25N×160°.57E, h43km, mb4.9/46, Error ellipse: s-maj=6.8km s-min=3.6km az=106.6*
NEIC ***20*** *22:36:25.9±2.6, 52°.48N×160°.49E, h34km±6km, mb4.6/71, Error ellipse: s-maj=17.5km s-min=10.8km az=176.0*
ISCJB ***20*** *22:36:26.1±0.6, 52°.34N±0°.04×160°.44E±0°.06, h50km±3km, mb4.5/117, MS4.7/1, Error ellipse: s-maj=8.1km s-min=3.8km az=135.1*
ISC 20 22:36:24.6±0.8, 52°.36N±0°.04×160°.65E±0°.03, h28km±5km, n298, σ1§65/317, mb4.6/117, 32C-5D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.84**	**333**	*e*P		**Pb**		**22 36 40.1**	**-0.4**
SPN				*e*S		**Sn**		**22 36 52.6**	**+0.8**
SPN	**Mys Shipunski**	**0.84**	**333**	PN		**Pb**		**22 36 40.1**	**-0.4**
SPN				S		**Sn**		**22 36 52.6**	**+0.8**
NLC	**Nalytchevo**	**1.14**	**316**	*e*P		**Pb**		**22 36 44.9**	**-0.7**
NLC				*e*S		**Sn**		**22 37 03.6**	**+4.4**
NLC	**Nalytchevo**	**1.14**	**316**	PN		**Pb**		**22 36 44.9**	**-0.7**
NLC				S		**Sn**		**22 37 03.6**	**+4.4**
RUS	**Russkaya**	**1.31**	**274**	*e*P		**Pn**		**22 36 46.7**	**-0.3**
RUS	**Russkaya**	**1.31**	**274**	PN		**Pn**		**22 36 46.7**	**-0.3**
DALK	**Dalny**	**1.34**	**301**	*e*P		**Pn**		**22 36 47.8**	**+0.5**
DALK				*e*S		**Sb**		**22 37 08.7**	**+3.0**
DALK	**Dalny**	**1.34**	**301**	PN		**Pn**		**22 36 47.8**	**+0.5**
DALK				S		**Sb**		**22 37 08.7**	**+3.0**
PET	**Petropavlovsk**	**1.39**	**300**	*e*Pn		**Pn**		**22 36 48.5**	**+0.4**
PET				*e*Sn		**Sn**		**22 36 57.8**	**-7.6**
PET	**Petropavlovsk**	**1.39**	**300**	α *i*PN		**Pn**		**22 36 48.4**	**+0.4**
PET				pmax		pmax			
	comp=Z,987nm,0.5s								
UGLR	**Uglovaya**	**1.40**	**308**	*i* P		**Pb**		**22 36 49.5**	**-0.6**
UGLR	**Uglovaya**	**1.40**	**308**	PN		**Pb**		**22 36 49.5**	**-0.6**
SDLR	**Sedlovina**	**1.42**	**311**	*i* P		**Pb**		**22 36 49.3**	**-1.1**
SDLR	**Sedlovina**	**1.42**	**311**	PN		**Pb**		**22 36 49.3**	**-1.1**
SMAR	**Somma**	**1.44**	**310**	*i* P		**Pb**		**22 36 49.8**	**-1.1**
SMAR	**Somma**	**1.44**	**310**	PN		**Pb**		**22 36 49.8**	**-1.1**
AVH	**Avacha**	**1.48**	**309**	*i* P		**Pb**		**22 36 50.5**	**-0.9**
AVH	**Avacha**	**1.48**	**309**	PN		**Pb**		**22 36 50.5**	**-0.9**
KRER	**Koryakskii**	**1.49**	**310**	*e*P		**Pb**		**22 36 51.4**	**-0.4**
KRER	**Koryakskii**	**1.49**	**310**	PN		**Pb**		**22 36 51.4**	**-0.4**
MTVR	**Mutnovka**	**1.52**	**276**	*e*P		**Pn**		**22 36 50.2**	**+0.3**
MTVR	**Mutnovka**	**1.52**	**276**	PN		**Pn**		**22 36 50.2**	**+0.3**
KOK	**Koryaka**	**1.54**	**308**	*i* P		**Pb**		**22 36 51.4**	**-1.1**
KOK	**Koryaka**	**1.54**	**308**	PN		**Pb**		**22 36 51.4**	**-1.1**
KRX	**Arik**	**1.57**	**310**	*i* P		**Pb**		**22 36 52.5**	**-0.6**
KRX	**Arik**	**1.57**	**310**	PN		**Pb**		**22 36 52.5**	**-0.6**
GRL	**Gorelyy**	**1.59**	**278**	*i* P		**Pb**		**22 36 52.6**	**-0.7**
GRL	**Gorelyy**	**1.59**	**278**	PN		**Pb**		**22 36 52.6**	**-0.7**
KRMR	**Karymshinskiy**	**1.61**	**288**	*e*P		**Pn**		**22 36 51.7**	**+0.6**
KRMR				*e*S		**Sb**		**22 37 14.3**	**+0.9**
KRMR	**Karymshinskiy**	**1.61**	**288**	PN		**Pn**		**22 36 51.7**	**+0.6**
KRMR				S		**Sb**		**22 37 14.3**	**+0.9**
KDTR	**Khodutka, Kamc**	**1.68**	**252**	*e*P		**Pn**		**22 36 50.8**	**-1.2**
KDTR				*e*S		**Sn**		**22 37 11.0**	**-1.6**
KDTR	**Khodutka, Kamc**	**1.68**	**252**	PN		**Pn**		**22 36 50.8**	**-1.2**
KDTR				S		**Sn**		**22 37 11.0**	**-1.6**
ASAK	**Asacha**	**1.69**	**272**	*e*P		**Pn**		**22 36 52.7**	**+0.5**
ASAK	**Asacha**	**1.69**	**272**	PN		**Pn**		**22 36 52.7**	**+0.5**
PEA0B	**Petropavlovsk-**	**1.95**	**294**	*e*Pn		**Pn**		**22 36 56.9**	**+1.1**
PEA0B				*e*Sn		Sn		22 37 08.2	-11
PEA0B	**Petropavlovsk-**	**1.95**	**294**	*e*PN		**Pn**		**22 36 56.9**	**+1.1**
PETK	**Petropavlovsk-**	**1.95**	**294**	*e*Pn		**Pn**		**22 36 56.5**	**+0.8**
PETK	**Petropavlovsk-**	**1.95**	**294**	*e*PN		**Pn**		**22 36 56.5**	**+0.8**
PETK	**Petropavlovsk-**	**1.95**	**294**	Pn		**Pn**		**22 36 56.9**	**+1.2**
	comp=Z,70nm,0.3s,baz=108,slow=17,SNR=748								
PETK				Sn		**Sb**		**22 37 23.0**	**-0.2**
	comp=Z,83nm,0.3s,baz=238,slow=31,SNR=6.8								
PETK				LR		LR		22 37 28.7	
	comp=Z,684nm,20.1s,baz=59,slow=39								
PEA1	**Petropavlovsk-**	**1.95**	**294**	*e*Pn		**Pn**		**22 36 56.9**	**+1.1**
PEA1				*e*Sn		**Sb**		**22 37 23.0**	**-0.2**
APC	**Apacha**	**2.20**	**286**	*e*P		**Pn**		**22 37 00.9**	**+1.7**
APC				*e*S		**Sb**		**22 37 31.3**	**+0.8**
APC	**Apacha**	**2.20**	**286**	PN		**Pn**		**22 37 00.9**	**+1.7**
APC				S		**Sb**		**22 37 31.3**	**+0.8**
MKZ	**Mys Kozlova**	**2.30**	**16**	*e*S		**Sn**		**22 37 27.8**	**0.0**
KZV	**Kizimen**	**2.77**	**356**	*i* P		**Pn**		**22 37 08.8**	**+1.6**
KZV	**Kizimen**	**2.77**	**356**	PN		**Pn**		**22 37 08.8**	**+1.6**
TUMD	**Tumrok D**	**2.86**	**357**	*e*P		**Pn**		**22 37 09.1**	**+0.8**
TUMD				*e*S		**Sn**		**22 37 43.8**	**+2.1**
TUMR	**Tumrok**	**2.95**	**354**	*i* P		**Pn**		**22 37 11.6**	**+2.0**
TUMR	**Tumrok**	**2.95**	**354**	PN		**Pn**		**22 37 11.6**	**+2.0**
SKR	**Severo-Kuril's**	**3.29**	**241**	*e*PN		**Pn**		**22 37 12.6**	**-1.5**
SKR				*e*S		**Sn**		**22 37 49.1**	**-3.2**
SKR				pmax		pmax			
	comp=Z,63nm,0.6s								
SKR				smax		smax			
	comp=E,630nm,0.6s								
SKR				smax		smax			
	comp=N,1μm,0.8s								
ALID	**Alaid**	**3.51**	**247**	*i* P		**Pn**		**22 37 17.0**	**-0.3**
ALID	**Alaid**	**3.51**	**247**	PN		**Pn**		**22 37 17.0**	**-0.3**
LGNR	**Loginova**	**3.73**	**0**	*i* P		**Pb**		**22 37 25.4**	**-4.5**
LGNR	**Loginova**	**3.73**	**0**	PN		**Pb**		**22 37 25.4**	**-4.5**
KRSR	**Krestovskiy**	**3.87**	**359**	*e*P		**Pn**		**22 37 25.9**	**+3.7**
KRSR	**Krestovskiy**	**3.87**	**359**	PN		**Pn**		**22 37 25.9**	**+3.7**
SRDR	**Sredinnyy**	**4.01**	**353**	*e*P		**Pn**		**22 37 26.3**	**+2.2**
SRDR	**Sredinnyy**	**4.01**	**353**	PN		**Pn**		**22 37 26.3**	**+2.2**
KBTR	**Krutoberegovo**	**4.07**	**17**	*i* P		**Pn**		**22 37 25.7**	**+0.9**
KBTR	**Krutoberegovo**	**4.07**	**17**	PN		**Pn**		**22 37 25.7**	**+0.9**
BDR	**Baidarnaya**	**4.23**	**4**	*e*P		**Pn**		**22 37 29.4**	**+2.2**
BDR	**Baidarnaya**	**4.23**	**4**	PN		**Pn**		**22 37 29.4**	**+2.2**
BKI	**Bering**	**4.26**	**46**	*e*P		**Pn**		**22 37 26.6**	**-0.8**
BKI				*e*S		**Sn**		**22 38 11.5**	**-4.6**
BKI	**Bering**	**4.26**	**46**	PN		**Pn**		**22 37 26.6**	**-0.8**
SMKR	**Semkarok**	**4.26**	**6**	*e*P		**Pn**		**22 37 29.6**	**+2.0**
SMKR	**Semkarok**	**4.26**	**6**	PN		**Pn**		**22 37 29.6**	**+2.0**
SRKR	**Sorokina**	**4.32**	**4**	*e*P		**Pn**		**22 37 30.5**	**+2.1**
SRKR	**Sorokina**	**4.32**	**4**	PN		**Pn**		**22 37 30.5**	**+2.1**
SMY	**Shemya**	**8.21**	**82**	*e*Pn		**Pn**		**22 38 21.3**	**-0.4**
SMY				*e*Sn		**Sn**		**22 39 47.7**	**-5.7**
SMY	**Shemya**	**8.21**	**82**	*e*PN		**Pn**		**22 38 21.3**	**-0.4**
MA2	**Magadan**	**9.10**	**327**	*i* PN		**Pn**		**22 38 36.2**	**+2.3**
MA2	**Magadan**	**9.10**	**327**	LR		LR		22 42 44.4	
	comp=N,351nm,19.4s,baz=152,slow=43								
OKH	**Okha**	**10.76**	**283**	*de*PN		**Pn**		**22 38 57.6**	**+1.1**
OKH				MLR		MLR			
	comp=Z,900nm,14.0s								
SEY	**Seymchan**	**11.48**	**341**	*i* PN		**Pn**		**22 39 08.8**	**+2.4**
SEY	**Seymchan**	**11.48**	**341**	Pn		**Pn**		**22 39 05.8**	**-0.6**
	baz=343,slow=19,SNR=1.8								
YUK	**Yuzh-Kuril'sk**	**12.89**	**236**	*e*PN		**P**		**22 39 36.6**	**+0.5**
YUK				pmax		pmax			
	comp=Z,216nm,0.3s								
YUK				pmax		pmax			
	comp=E,77nm,0.1s								
YUK				pmax		pmax			
	comp=N,124nm,0.2s								
ASAJ	**Asahikawa**	**14.55**	**243**	LR		LR		22 46 17.4	
	comp=N,346nm,18.1s,baz=16,slow=41								
GRNR	**Gornyy**	**15.13**	**274**	*e*P		**P**		**22 40 03.9**	**+2.8**
GRNR				pmax		pmax			
	comp=Z,32nm,1.0s								
BILL	**Bilibino**	**15.97**	**8**	*e*Pn		**Pn**		**22 40 06.8**	**-0.1**
	comp=Z,17nm,0.9s								
BILL				*e*				22 42 47.5	
BILL	**Bilibino**	**15.97**	**8**	*e*P		**Pn**		**22 40 08.5**	**+1.6**
BILL				pmax		pmax			
	comp=Z,16nm,0.9s								
BILL				MLR		MLR			
	comp=Z,209nm,17.0s								
TEY	**Ternei**	**17.43**	**255**	⇓*e*P		**Pn**		**22 40 25.3**	**-0.1**
TEY				pmax		pmax			
	comp=E,20nm,0.4s								
TEY				pmax		pmax			
	comp=Z,10.0nm,0.4s								
YAK	**Yakutsk**	**19.18**	**312**	*e*P		**P**		**22 40 43.8**	**-1.8**
YAK				*e*SS		**Sn**		**22 44 19.2**	**-1.3**
YAK				pmax		pmax			
	comp=Z,143nm,0.8s								
YAK				pmax		pmax			
	comp=N,26nm,0.8s								
YAK				pmax		pmax			
	comp=E,93nm,0.9s								
YAK				pmax		pmax			
	comp=Z,255nm,1.1s								
YAK				pmax		pmax			
	comp=N,77nm,1.2s								
YAK				pmax		pmax			
	comp=E,59nm,1.1s								
ZEA	**Zeya**	**20.03**	**287**	*e*P		**P**		**22 40 52.6**	**-2.3**
ZEA				pmax		pmax			
	comp=Z,17nm,1.0s								
ZEA				MLR		MLR			
	comp=E,500nm,15.0s								
ZEA				MLR		MLR			
	comp=Z,900nm,15.0s								
USA0B	**Ussuriysk Arra**	**20.64**	**258**	*e*P		**P**		**22 40 59.8**	**-1.8**
	comp=Z,10nm,0.8s								
USA0B	**Ussuriysk Arra**	**20.64**	**258**	*e*P		**P**		**22 40 59.8**	**-1.8**
USA0B				pmax		pmax			
	comp=Z,10.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**20.64**	**258**	*e*P		**P**		**22 40 59.5**	**-2.2**
USRK	**Ussuriysk Ar.**	**20.64**	**258**	*e*P		**P**		**22 40 59.5**	**-2.2**
USRK	**Ussuriysk Ar.**	**20.64**	**258**	P		**P**		**22 40 59.8**	**-1.8**
	comp=Z,9.6nm,0.9s,baz=61,slow=10,SNR=14								
MDJ	**Mudanjiang**	**21.86**	**262**	P		**P**		**22 41 12.4**	**-2.4**
MDJ				S		**S**		**22 45 07.4**	**-7.4**
MDJ	**Mudanjiang**	**21.86**	**262**	*e*P		**P**		**22 41 12.2**	**-2.6**
	comp=Z,13nm,1.0s								
MJB9	**Matsu-Tunnel**	**22.37**	**234**	*e*P		**P**		**22 41 20.0**	**-0.3**
	comp=Z,36nm,1.1s								
MAJO	**Matsushiro**	**22.37**	**234**	*e*P		**P**		**22 41 19.7**	**-0.6**
	comp=Z,34nm,1.0s								
MAJO	**Matsushiro**	**22.37**	**234**	*i* P		**P**		**22 41 19.4**	**-0.9**
MAJO				pmax		pmax			
	comp=Z,15nm,0.9s								
MAT	**Matsushiro**	**22.37**	**234**	P		**P**		**22 41 20.9**	**+0.6**
MAT				S		**S**		**22 45 27.8**	**+3.4**
MJAR	**Matsushiro Arr**	**22.37**	**234**	*e*P		**P**		**22 41 20.4**	**+0.1**
MJAR	**Matsushiro Arr**	**22.37**	**234**	P		**P**		**22 41 19.6**	**-0.8**
	comp=Z,7.6nm,0.8s,baz=26,slow=8.9,SNR=8.5								
TIXI	**Tiksi**	**23.89**	**336**	*e*P		**P**		**22 41 33.9**	**-1.5**
TIXI				*e*P		**P**		**22 41 34.0**	**-1.3**
TIXI	**Tiksi**	**23.89**	**336**	*i* P		**P**		**22 41 33.7**	**-1.7**
TIXI				pmax		pmax			
	comp=Z,12nm,0.9s								
TIXI	**Tiksi**	**23.89**	**336**	P		**P**		**22 41 33.9**	**-1.5**
	comp=Z,7.5nm,0.5s,baz=123,slow=9.5,SNR=18								
INU	**Inuyama**	**23.90**	**234**	*e*P		**P**		**22 41 32.2**	**-3.5**
	comp=Z,11nm,0.8s								
HIA	**Hailar**	**25.79**	**280**	*e*P		**P**		**22 41 51.6**	**-1.2**
	comp=Z,17nm,0.8s								
HIA	**Hailar**	**25.79**	**280**	*i* P		**P**		**22 41 50.2**	**-2.7**
HIA				pmax		pmax			
	comp=Z,100nm,0.9s								
IMAR	**Indian Mountai**	**26.33**	**41**	*e*P		**P**		**22 42 00.2**	**+2.6**
RSO	**Redoubt South**	**26.51**	**54**	*e*P		**P**		**22 42 02.5**	**+3.0**
OHAK	**Old Harbor**	**26.59**	**61**	*e*P		**P**		**22 42 01.1**	**+1.2**
	comp=Z,16nm,1.2s								
PPLA	**Purkeypile**	**26.73**	**48**	*e*P		**P**		**22 42 02.5**	**+1.0**
	comp=Z,0.7nm,0.6s								
BOD	**Bodaibo**	**26.81**	**300**	*e*P		**P**		**22 42 00.1**	**-1.8**
BOD				pmax		pmax			
	comp=Z,42nm,1.3s								
KSRS	**Korea Array**	**27.27**	**250**	P		**P**		**22 42 06.7**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=41,slow=9.9,SNR=9.8								
KS15	**Wonju Array Si**	**27.30**	**250**	*e*P		**P**		**22 42 06.1**	**-0.4**
	comp=Z,5.3nm,0.9s								
KSAR	**Wonju Array Be**	**27.30**	**250**	*e*P		**P**		**22 42 06.6**	**+0.1**
JNU	**Nakatsue**	**28.80**	**240**	P		**P**		**22 42 21.9**	**+1.9**
	comp=Z,6.7nm,0.9s,baz=36,slow=11,SNR=5.4								
ILAR	**Eielson Array**	**29.10**	**44**	P		**P**		**22 42 25.4**	**+3.1**
	comp=Z,0.5nm,0.8s,baz=257,slow=8.3,SNR=5.5								
ILB	**Eielson Array**	**29.10**	**44**	*e*P		**P**		**22 42 25.4**	**+3.1**
	comp=Z,1.5nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**32.92**	**169**	T		T		23 18 45.8	
	baz=353,slow=76,SNR=61								
H11N3	**WAKE ISLAND Hy**	**32.94**	**169**	T		T		23 18 47.1	
	baz=353,slow=76,SNR=52								
H11N1	**WAKE ISLAND Hy**	**32.94**	**169**	T		T		23 18 47.2	
	baz=353,slow=76,SNR=67								
ULN	**Ulaanbaatar**	**34.00**	**284**	*ce*P		**P**		**22 43 03.4**	**-2.4**
ULN				pmax		pmax			
	comp=Z,1.0nm,0.5s								
INK	**Inuvik**	**34.25**	**37**	*e*P		**P**		**22 43 08.5**	**+1.0**
	comp=Z,3.0nm,1.1s								
INK	**Inuvik**	**34.25**	**37**	P		**P**		**22 43 08.5**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=281,slow=7.1,SNR=6.0								
TLY	**Talaya**	**34.31**	**292**	*i* P		**P**		**22 43 06.2**	**-2.0**
SONA0	**Songino Array**	**34.41**	**285**	*e*P		**P**		**22 43 08.4**	**-0.9**
SONM	**Songino Array**	**34.41**	**285**	*e*P		**P**		**22 43 06.5**	**-2.7**
SONM	**Songino Array**	**34.41**	**285**	P		**P**		**22 43 08.4**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=58,slow=7.0,SNR=6.6								
HHC	**Hu-ho-hao-te**	**34.98**	**271**	*e*P		P		22 43 09.1	-5.2
HHC				S		S		22 48 26.6	-18
ZAK	**Zakamensk**	**35.07**	**290**	*e*P		**P**		**22 43 13.2**	**-1.7**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.3s								
NJ2	**Nanjing**	**36.35**	**253**	*e*P		**P**		**22 43 25.0**	**-0.9**
NRIK	**Noril'sk**	**36.71**	**325**	P		**P**		**22 43 27.2**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=91,slow=3.1,SNR=3.8								
LZH	**Lanzhou**	**42.68**	**271**	*e*P		**P**		**22 44 19.4**	**+0.6**
LZH				pP		pwP		22 44 30.8	+0.9
LZH				sP		sP		22 44 35.4	+6.2
GTA	**Gaotai**	**43.03**	**278**	*e*P		**P**		**22 44 22.4**	**+0.8**
GTA				pP		pwP		22 44 34.3	+1.6
GTA				sP		sP		22 44 39.3	+7.3
ZALV	**Zalesovo Beam**	**43.46**	**304**	P		**P**		**22 44 22.1**	**-2.6**
	comp=Z,1.2nm,0.6s,baz=57,slow=5.5,SNR=6.8								
YKA	**Yellowknife Ar**	**43.48**	**42**	P		**P**		**22 44 26.0**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=300,slow=7.6,SNR=3.9								
NVS	**Novosibirsk**	**43.81**	**305**	*e*P		**P**		**22 44 25.4**	**-2.2**
NVS				*i*				22 44 34.2	
NVS				*e*				22 46 06.0	
NVS				pmax		pmax			
	comp=N,7.0nm,1.2s								
NVS				pmax		pmax			
	comp=Z,29nm,1.2s								
NVS				pmax		pmax			
	comp=E,16nm,1.1s								
RES	**Resolute Bay**	**43.88**	**22**	P		**P**		**22 44 28.0**	**+0.2**
	comp=E,1.3nm,0.8s,baz=312,slow=9.1,SNR=3.2								
DGZ	**Jazzator, Alta**	**44.30**	**297**	*d*P		**P**		**22 44 30.9**	**-0.9**
DGZ				pmax		pmax			
	comp=Z,6.0nm,0.9s								
CD2	**Chengdu**	**46.24**	**265**	*e*P		**P**		**22 44 45.3**	**-1.9**
WMQ	**Urumqi**	**47.54**	**290**	*e*P		**P**		**22 44 56.8**	**-0.4**
WMQ				pP		pwP		22 45 07.3	-0.9
WMQ				sP		sP		22 45 13.5	+5.8
SPA0	**Spitsbergen Ar**	**47.92**	**351**	*e*P		**P**		**22 45 00.5**	**+0.8**
	comp=Z,19nm,0.9s								
SPITS	**Spitsbergen Ar**	**47.92**	**351**	P		**P**		**22 45 00.7**	**+1.0**
SPITS				pmax		pmax			
	comp=Z,2.0nm,0.3s								
KURK	**Kurchatov**	**48.41**	**303**	*e*P		**P**		**22 45 01.9**	**-1.9**
	comp=Z,22nm,0.9s								
KURK	**Kurchatov**	**48.41**	**303**	*c i*P		**P**		**22 45 01.6**	**-2.2**
KURK				pmax		pmax			
	comp=Z,24nm,1.0s								
MKAR	**Makanchi Array**	**48.78**	**297**	P		**P**		**22 45 05.6**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=55,slow=5.6,SNR=31								
KMI	**Kunming**	**51.03**	**261**	P		**P**		**22 45 25.1**	**+0.8**
BRVK	**Borovoye**	**51.14**	**309**	*e*P		**P**		**22 45 24.0**	**-0.6**
	comp=Z,7.7nm,0.8s								
BRVK	**Borovoye**	**51.14**	**309**	*d i*P		**P**		**22 45 22.9**	**-1.6**
BRVK				pmax		pmax			
	comp=Z,8.0nm,0.8s								
DAG	**Danmarks Havn**	**51.15**	**360**	*i* P		**P**		**22 45 24.2**	**0.0**
DAG				pmax		pmax			
	comp=Z,4.0nm,0.9s								
DAG	**Danmarks Havn**	**51.15**	**360**	*i* P		**P**		**22 45 24.2**	**0.0**
	comp=Z,5.0nm,0.9s								
PDGK	**Podgornoye**	**52.49**	**295**	P		**P**		**22 45 34.7**	**-0.2**
PDGK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ARA0	**ARCESS Array S**	**54.09**	**342**	*e*P		**P**		**22 45 45.6**	**-0.5**
ARCES	**ARCESS Array B**	**54.09**	**342**	P		**P**		**22 45 45.6**	**-0.5**
	comp=Z,5.8nm,0.8s,baz=45,slow=9.3,SNR=9.2								
ARU	**Arti**	**54.17**	**318**	*e*P		**P**		**22 45 45.2**	**-1.6**
	comp=Z,6.5nm,0.7s								
ARU	**Arti**	**54.17**	**318**	*d i*P		**P**		**22 45 45.9**	**-0.9**
ARU				*PP		**pwP**		**22 45 59.0**	**+0.7**
ARU								22 47 45.0	
ARU				S		**S**		**22 53 20.5**	**-1.1**
ARU				SS		**SKiKP**		**22 56 56.6**	**+0.9**
ARU				pmax		pmax			
	comp=Z,7.0nm,0.8s								
SUMG	**Summit**	**54.65**	**7**	*e*P		**P**		**22 45 50.0**	**-0.6**
	comp=Z,12nm,0.9s								
SUMG	**Summit**	**54.65**	**7**	*i* P		**P**		**22 45 51.3**	**+0.7**
SUMG				pmax		pmax			
	comp=Z,37nm,1.0s								
SUMG	**Summit**	**54.65**	**7**	*i* P		**P**		**22 45 51.3**	**+0.7**
	comp=Z,37nm,1.0s								
PRGR	**Permogore**	**55.24**	**328**	*e*P		**P**		**22 45 54.1**	**-0.4**
PRGR				*e*PP		**pwP**		**22 46 04.6**	**-1.3**
PRGR				*e*SP		sP		22 46 12.6	+7.8
PRGR				pmax		pmax			
	comp=Z,11nm,0.6s								
KVN	**Kaiserville**	**55.37**	**69**	*e*P		**P**		**22 45 57.7**	**+1.7**
	comp=Z,3.3nm,1.1s								
KVN	**Kaiserville**	**55.37**	**69**	P		**P**		**22 46 00.5**	**+4.4**
KVN				pmax		pmax			
	comp=Z,3.0nm,1.1s								
TMCR	**Tamitsa**	**55.59**	**333**	*e*P		**P**		**22 45 57.4**	**+0.4**
TMCR				pmax		pmax			
	comp=Z,33nm,0.9s								
NVAR	**Mina Array Bea**	**55.68**	**70**	P		**P**		**22 45 59.7**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=291,slow=6.3,SNR=8.3								
AAK	**Ala-Archa**	**55.71**	**297**	*e*P		**P**		**22 45 55.8**	**-2.6**
	comp=Z,2.7nm,0.9s								
AAK	**Ala-Archa**	**55.71**	**297**	*ce*P		**P**		**22 45 57.3**	**-1.1**
AAK				pmax		pmax			
	comp=Z,4.0nm,1.0s								
MSF	**Maaselka**	**56.42**	**338**	P		**P**		**22 46 04.1**	**+1.2**
MSF				pmax		pmax			
	comp=Z,17nm,1.2s								
KSH	**Kashi**	**57.00**	**293**	P		P		22 46 12.4	+4.8
SHL	**Shillong**	**57.34**	**270**	*e*P		**P**		**22 46 09.3**	**-1.0**
	comp=Z,6.0nm,1.0s								
SHL	**Shillong**	**57.34**	**270**	P		**P**		**22 46 10.5**	**+0.3**
PD31	**Pinedale Array**	**57.59**	**61**	*e*P		**P**		**22 46 13.7**	**+1.9**
	comp=Z,1.9nm,0.9s								
PDAR	**Pinedale Array**	**57.59**	**61**	P		**P**		**22 46 13.2**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=317,slow=3.8,SNR=9.4								
KLMR	**Klimovskoe**	**57.76**	**330**	*e*P		**P**		**22 46 11.6**	**-0.8**
KLMR				pmax		pmax			
	comp=Z,13nm,0.9s								
LAMP	**Lampang**	**57.90**	**258**	P		**P**		**22 46 15.7**	**+1.7**
	comp=Z,20μm,0.9s								
UTTA	**Uttaradit**	**57.95**	**257**	P		**P**		**22 46 15.6**	**+1.3**
	comp=Z,21μm,0.9s,comp=Z,180μm								
CMMT	**Chiang Mai**	**58.09**	**259**	P		**P**		**22 46 16.1**	**+0.7**
	comp=Z,8.2nm,0.9s								
CHTO	**Chiang Mai**	**58.09**	**259**	*e*P		**P**		**22 46 16.2**	**+0.8**
	comp=Z,12nm,0.8s								
CHTO	**Chiang Mai**	**58.09**	**259**	P		**P**		**22 46 16.2**	**+0.8**
CHTO				pmax		pmax			
	comp=Z,17nm,1.0s								
CM31	**Chiang Mai Arr**	**58.37**	**259**	*e*P		**P**		**22 46 18.2**	**+0.9**
	comp=Z,8.8nm,0.6s								
CMAR	**Chiang Mai Arr**	**58.37**	**259**	P		**P**		**22 46 18.2**	**+0.9**
	comp=Z,6.0nm,0.8s,baz=24,slow=6.9,SNR=29								
JOF	**Joensuu**	**58.38**	**335**	P		**P**		**22 46 17.8**	**+1.1**
JOF				pmax		pmax			
	comp=Z,16nm,1.1s								
RSSD	**Black Hills**	**59.53**	**56**	*e*P		**P**		**22 46 25.0**	**-0.3**
	comp=Z,4.1nm,0.8s								
FINES	**FINESS Array B**	**60.93**	**337**	P		**P**		**22 46 34.9**	**+0.

PSZ	Piszkesteto	74.64 334	⇑	*i*P	P	22 48 02.3	+1.3
PSZ	Piszkesteto	74.64 334	⇑	P	P	22 48 02.3	+1.3
DRGR		74.87 332	⇑	*i*P	P	22 48 02.7	+0.4
DRGR		74.87 332	⇑	P	P	22 48 02.7	+0.4
MLR	Muntele Rosu	75.05 329	⇑	*i*P	P	22 48 05.3	+1.8
MLR	Muntele Rosu	75.05 329		P	P	22 48 04.1	+0.7
	comp=Z,5.5nm,0.7s,baz=197,slow=5.5,SNR=16						
KHC	Kasperske Hory	75.08 338		*e*P	P	22 48 04.4	+0.9
KHC	Kasperske Hory	75.08 338		*e*P	P	22 48 04.4	+0.9
ZST	Bratislava	75.11 336		*e*P	P	22 48 05.1	+1.5
ZST	Bratislava	75.11 336		*e*P	P	22 48 05.1	+1.5
MEM	Membach	75.19 344	⇑	P	P	22 48 04.9	+0.9
	comp=Z,9.9nm,1.0s						
WET	Wettzell	75.23 339		P	P	22 48 06.9	+2.6
WET				pmax	pmax		
	comp=Z,4.0nm,1.9s						
GERES	GERESS Array B	75.32 338		P	P	22 48 05.1	+0.2
	comp=Z,0.6nm,0.4s,baz=28,slow=6.0,SNR=5.4						
VOIR		75.38 329	⇑	*i*P	P	22 48 06.1	+0.8
VOIR		75.38 329	⇑	P	P	22 48 06.1	+0.8
ARR	Arges	75.58 330	⇑	*i*P	P	22 48 07.7	+1.3
SIRR	Siria	75.65 332	⇑	*i*P	P	22 48 07.6	+0.8
CONA	Conrad Observa	75.67 336		*e*P	P	22 48 08.2	+1.3
	comp=Z,3.9nm,1.3s						
BAIF	Baives	76.02 345		*e*P	P	22 48 13.2	+4.4
BAIF				pmax	pmax		
	comp=Z,17nm,1.6s						
GZR	Gura Zlata	76.12 331	⇑	*i*P	P	22 48 10.4	+0.9
GZR	Gura Zlata	76.12 331	⇑	P	P	22 48 10.4	+0.9
MOA	Molln	76.13 337		*e*P	P	22 48 09.6	+0.1
	comp=Z,3.8nm,0.9s						
BZS	Buzias	76.26 332	⇑	*i*P	P	22 48 10.2	0.0
BZS	Buzias	76.26 332	⇑	P	P	22 48 10.2	0.0
SOKA	Soboth	77.04 336		*e*P	P	22 48 15.8	+1.1
	comp=Z,5.4nm,1.0s						
KBA	Koelnbreinsper	77.07 338		*e*P	P	22 48 16.5	+1.5
	comp=Z,17nm,1.0s						
KBA	Koelnbreinsper	77.07 338		P	P	22 48 17.1	+2.1
KBA				pmax	pmax		
	comp=Z,18nm,0.9s						
CDF	Champ du Feu	77.07 342		*e*P	P	22 48 15.1	+0.2
CDF				pmax	pmax		
	comp=Z,14nm,1.4s						
WATA	Walderalm	77.22 339		*e*P	P	22 48 17.5	+1.7
	comp=Z,1.1nm,0.6s						
WTTA	Wattenberg	77.28 339		*e*P	P	22 48 17.3	+1.1
	comp=Z,7.3nm,1.1s						
MOTA	Moosalm	77.32 339		*e*P	P	22 48 17.9	+1.6
	comp=Z,2.8nm,0.8s						
BRTR	Keskin Array B	77.41 321		*i*P	P	22 48 17.5	+0.5
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRTR	Keskin Array B	77.41 321		P	P	22 48 16.9	0.0
	comp=Z,2.9nm,1.0s,baz=54,slow=3.2,SNR=14						
ABTA	Abfaltersbach	77.57 338		*e*P	P	22 48 16.1	-1.6
	comp=Z,7.5nm,1.1s						
HAU	Haudompre	77.64 343		*e*P	P	22 48 18.6	+0.6
HAU				pmax	pmax		
	comp=Z,7.0nm,1.1s						
DAVOX	Davos/Dischmat	78.12 340		P	P	22 48 21.8	+1.0
	comp=Z,2.2nm,0.7s,baz=222,slow=1.2,SNR=4.3						
PLD	Plovdiv	78.49 328		P	P	22 48 24.3	+1.6
VTS	Vitosha	78.49 329	⇑	*i*P	P	22 48 22.9	0.0
VTS	Vitosha	78.49 329	⇑	P	P	22 48 22.9	0.0
LOR	Lormes	78.79 344		*e*P	P	22 48 24.5	+0.2
LOR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WSAR	Wadi Sarin	78.91 294		LR	LR	23 24 45.3	
	comp=Z,333nm,19.1s,baz=236,slow=37						
SSF	Saint Saulge	79.05 344		*e*P	P	22 48 26.0	+0.3
SSF				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AS31	Alice Springs	79.22 205		*e*P	P	22 48 28.5	+1.7
	comp=Z,1.2nm,1.0s						
ASAR	Alice Springs	79.23 205		P	P	22 48 28.5	+1.7
	comp=Z,0.9nm,0.8s,baz=354,slow=8.4,SNR=5.2						
AVF	Avril sur Loir	79.33 344		*e*P	P	22 48 27.6	+0.3
AVF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SMF	Signal de Mont	79.39 344		*e*P	P	22 48 30.9	+3.3
SMF				pmax	pmax		
	comp=Z,16nm,1.6s						
SRS	Serrai	79.74 328		P	P	22 48 30.6	+1.0
LPL	La Plagne	79.96 342		*e*P	P	22 48 32.2	+1.2
LPL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LPG	La Plagne	79.97 342		*e*P	P	22 48 32.4	+1.2
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ORIF	Oris-en-Rattie	80.70 342		*e*P	P	22 48 36.0	+1.2
ORIF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VIVF	Saint-Julien-I	80.98 343		*e*P	P	22 48 37.3	+1.0
VIVF				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RJF	Les Rejaudoux	81.08 345		*e*P	P	22 48 37.5	+0.8
RJF				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CAF	Calviac	81.36 345		*e*P	P	22 48 39.4	+1.1
CAF				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CSS	Mathiatis	81.65 319		*e*P	P	22 48 39.8	-0.1
	comp=Z,6.8nm,0.7s						
FRF	La Foret Royal	81.86 341		*e*P	P	22 48 38.0	-2.9
FRF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MMAI	Mount Meron Ar	82.48 316		P	P	22 48 44.7	+0.3
	comp=Z,7.7nm,0.8s,baz=30,slow=6.8,SNR=22						
ASF	Jabal al Asfar	82.56 315		P	P	22 48 45.1	+0.2
	comp=Z,3.8nm,0.8s,baz=131,slow=1.0,SNR=9.8						
MTLF	Montolieu	82.88 344		*e*P	P	22 48 47.3	+1.1
MTLF				pmax	pmax		
	comp=Z,9.0nm,1.1s						
DWPF	Disney Wildern	83.31 52		*e*P	P	22 48 50.2	+1.6
	comp=Z,102nm,0.3s						
EPF	Esparros	83.48 346		*e*P	P	22 48 49.9	+0.5
EPF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ETSF	Etsaut	83.74 346		*e*P	P	22 48 52.0	+1.2
ETSF				pmax	pmax		
	comp=Z,19nm,1.5s						
ESDC	Sonseca Array	87.37 348		*e*P	P	22 49 07.8	-1.1
	comp=Z,1.6nm,1.0s						
ESDC	Sonseca Array	87.37 348		P	P	22 49 08.8	0.0
	comp=Z,1.0nm,0.8s,baz=2.8,slow=5.5,SNR=6.0						

NIED ***20*** *22:38:00, 38.70N×144.60E, h5km, Mw3.9 Best double couple: M0 9.01000×10^14 NP1:φs 29.00000°, δ 19.00000°, λ -23.00000°. NP2:φs 141.00000°, δ 83.00000°, λ -108.00000°.*

JMA 20 22:38:18.7±0.2, 38.68N×144.60E, h54km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.32	281	P	Pn	22 38 55.5	+1.0
OFUJ				S	Sn	22 39 22.7	+0.9
MIYJ	Miyakonagasawa	2.34	293	P	Pn	22 38 55.5	+0.8
JKMT	Kesennumamotoy	2.45	274	P	Pn	22 38 57.5	+1.3
JOM	Ohasama	2.69	288	P	Pn	22 39 01.3	+1.8
JOM				*e*S	Sn	22 39 32.4	+1.5
JANG	Nango	2.92	306	P	Pn	22 39 03.2	+0.5
JOT	Ohata	3.84	316	*e*S	Sn	22 39 58.7	-0.3
JCH	Churui	4.04	347	P	Pn	22 39 16.9	-1.1
JCH				S	Sn	22 40 02.1	-1.9
JKB	Kayabe	4.21	321	*e*S	Sn	22 40 07.7	-0.4
NEM2	Nemuro 2	4.76	10	P	Pn	22 39 25.0	-2.8
NEM2				S	Sn	22 40 16.1	-5.5
BSO1	Boso 1	4.96	217	P	Pn	22 39 29.6	-0.6
BSO1				S	Sn	22 40 26.0	+0.1
JOSM	Okushiri--Mats	5.18	313	P	Pn	22 39 35.5	+1.9
JRY	Ryogami san	5.26	241	*e*S	Sn	22 40 33.7	-0.4
JTKR	Abashiri--Toko	5.31	355	P	Pn	22 39 34.4	-1.0
JTKR				*e*S	Sn	22 40 30.9	-4.3
MAT	Matsushiro	5.50	249	P	Pn	22 39 40.5	+2.4
MAT				S	Sn	22 40 45.2	+5.1
JOD2	Odawara 2	5.58	234	*e*S	Sn	22 40 40.2	-1.7

KRSC ***20*** *22:44:13.0±10.0, 50.15N×157.00E, h94km±10km, ML3.9*
IDC ***20*** *22:44:23.1±5.7, 51.24N×155.70E, h159km±25km, mb3.2/6, mb1 3.3/7, mb1mx2.9/60, mbtmp3.5/7, Error ellipse: s-maj=101.7km s-min=23.2km az=169.0*

ISC 20 22:44:11.8±1.7, 50.1N±0.1×156.7E±0.1, h115km±9km, n27, σ2§34/41, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.71	330	*e*P	Pn	22 44 31.6	+0.9
SKR				*e*S	Sn	22 44 43.8	-1.1
ALID	Alaid	1.07	318	*e*P	Pn	22 44 34.5	+0.2
PAU	Pauzhetka	1.40	3	*e*S	Sn	22 44 56.4	-0.9
KDTR	Khodutka, Kamc	1.95	26	P	Pn	22 44 45.2	+0.9
KDTR				*e*S	Sn	22 45 07.8	-1.4
ASAK	Asacha	2.44	18	P	Pn	22 44 51.8	+1.2
MTVR	Mutnovka	2.59	21	*e*P	Pn	22 44 54.2	+1.5
MTVR				*e*S	Sn	22 45 23.6	-0.4
RUS	Russkaya	2.63	25	*e*P	Pn	22 44 53.8	+0.8
RUS				*e*S	Sn	22 45 22.3	-2.4
APC	Apacha	2.87	6	*e*P	Pn	22 44 57.3	+1.2
APC				*e*S	Sn	22 45 29.0	-1.3
KRMR	Karymshinskiy	2.91	18	P	Pn	22 44 57.8	+1.2
KRMR				*e*S	Sn	22 45 31.9	+0.8
PETK	Petropavlovsk-	3.10	11	P	Pn	22 45 01.6	+2.3
	0.9nm,0.3s,baz=183,slow=12,SNR=19						
PETK				S	Sn	22 45 33.1	-2.8
	1.1nm,0.3s,baz=151,slow=14,SNR=5.4						
DALK	Dalny	3.23	23	*e*P	Pn	22 45 02.2	+1.3
DALK				*e*S	Sn	22 45 37.7	-1.1
UGLR	Uglovaya	3.41	22	*e*P	Pn	22 45 05.6	+2.2
UGLR				*e*S	Sn	22 45 43.2	-0.1
AVH	Avacha	3.44	21	*e*P	Pn	22 45 06.1	+2.3
AVH				S	Sn	22 45 43.9	-0.1
KOK	Koryaka	3.44	20	P	Pn	22 45 06.3	+2.5
KOK				*e*S	Sn	22 45 45.1	+1.0
SMAR	Somma	3.46	22	*e*P	Pn	22 45 05.9	+1.8
KRER	Koryakskii	3.48	21	P	Pn	22 45 06.3	+1.9
KRER				*e*S	Sn	22 45 44.7	-0.4
SDLR	Sedlovina	3.49	22	*e*P	Pn	22 45 05.9	+1.4
SDLR				*e*S	Sn	22 45 43.7	-1.5
SPN	Mys Shipunski	3.68	33	*e*P	Pn	22 45 08.3	+1.5
SPN				*e*S	Sn	22 45 46.6	-2.8
MKZ	Mys Kozlova	5.45	33	S	Sn	22 46 27.0	-5.1
KBTR	Krutoberegovo	7.17	29	P	Pn	22 45 54.8	+1.0
BKI	Bering	7.63	44	S	Sn	22 47 17.6	-7.3
ILAR	Eielson Array	32.47	42	P	P	22 50 33.1	+2.4
	0.3nm,0.6s,baz=262,slow=7.4,SNR=4.3						
INK	Inuvik	37.57	35	P	P	22 51 17.1	+2.8
	0.5nm,0.5s,baz=302,slow=6.0,SNR=8.3						
YKA	Yellowknife Ar	46.84	40	P	P	22 52 32.6	+3.1
	0.3nm,0.6s,baz=298,slow=7.3,SNR=3.4						
MKAR	Makanchi Array	47.56	296	P	P	22 52 34.0	-1.5
	0.2nm,0.3s,baz=53,slow=6.2,SNR=5.2						
ARCES	ARCESS Array B	55.48	341	P	P	22 53 29.4	-4.6
	2.1nm,1.0s,baz=35,slow=8.9,SNR=3.5						
MMAI	Mount Meron Ar	82.32	314	P	P	22 56 21.1	+0.4
	0.7nm,0.5s,baz=37,slow=7.4,SNR=4.1						

IDC ***20*** *22:48:14.3±1.4, 11.96N×85.71W, h0km, mb3.6/4, mb1 4.1/4, mb1mx3.6/41, mbtmp3.6/4, Error ellipse: s-maj=110.9km s-min=18.7km az=62.0*
UCR ***20*** *22:48:16.1±1.4, 10.98N×86.76W, h21km±6km, MD4.3, ML3.5, mb4.1(NEIC)*
NEIC ***20*** *22:48:19.3±2.7, 11.06N×86.65W, h58km±15km, mb4.1/27, Error ellipse: s-maj=24.5km s-min=14.9km az=60.0*

ISC 20 22:48:14.6±0.8, 10.94N±0.06×86.82W±0.08, h22km±5km, n57, σ1§39/65, mb4.2/19, 3C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASN	Masaya	1.23	32	*e*P	Pb	22 48 36.7	-0.5
NY14	Universidad de	1.29	103	*i*P	Pb	22 48 38.5	+0.2
NY14				*i*S	Sn	22 48 55.4	+1.3
CONN	Concepcion	1.33	62	*e*P	Pb	22 48 37.8	-1.0
MGAN	Managua	1.33	25	*e*P	Pb	22 48 38.8	0.0
GBS3	Finca Las Img	1.35	96	*i*P	Pb	22 48 39.1	-0.1
BUEV	Buena Vista	1.39	95	*i*P	Pb	22 48 39.4	-0.6
BUEV				⇑*i*P	Pn	22 48 39.7	+0.8
BUEV				*i*S	Sb	22 48 57.5	+0.1
GB1A	Borinquen Arri	1.40	95	*i*P	Pb	22 48 39.8	-0.3
GB1A				⇑*e*P	Pb	22 48 39.8	-0.3
GPS2	Hotel Rincn d	1.45	97	*i*P	Pb	22 48 40.6	-0.4
MOMN	Momotombo	1.49	11	*e*P	Pb	22 48 40.1	-1.5
LIM1	Limonal	1.56	99	*i*P	Pb	22 48 41.8	-1.0
CNGN	Cerro Negro	1.56	4	*e*P	Pn	22 48 40.8	-0.3
CNGN				*e*S	Sb	22 49 03.2	+1.1
CNGN				IAML		22 49 19.6	
	comp=N,469nm,0.5s						
MESS	Mesas	1.61	97	*i*P	Pb	22 48 42.5	-1.0
MESS				⇑*e*P	Pb	22 48 42.6	-1.0
CUI	Cuipilapa	1.65	99	*e*P	Pb	22 48 43.4	-1.0
CRIN	San Cristobal	1.77	353	*e*P	Pb	22 48 45.0	-1.3
CRIN				IAML		22 49 22.2	
	comp=N,780nm,0.3s						
AMAS	Alto Masis	1.82	100	*i*P	Pb	22 48 45.8	-1.5
ACON	Acoyapa	1.91	57	*e*Pn	Pn	22 48 46.0	+0.1
ACON	Acoyapa	1.91	57	*e*P	Pn	22 48 45.9	0.0
ACON				*e*S	Sb	22 49 14.4	+2.2
JTS	Las Juntas de	1.94	109	*e*Pn	Pb	22 48 47.6	-1.7
JTS	Las Juntas de	1.94	109	Pn	Pn	22 48 47.1	+0.8
	comp=N,36nm,0.3s,baz=6.2,slow=9.4,SNR=55						
JTS				Sn	Sb	22 49 10.9	-2.3
	comp=N,44nm,0.3s,baz=358,slow=20,SNR=7.2						
JTS				Lg	Lg	22 49 18.8	
	comp=N,30nm,0.3s,baz=143,slow=14,SNR=6.5						
JTS	Las Juntas de	1.94	109	*e*P	Pn	22 48 47.2	+0.9
ARE1	Arenal 1	2.12	103	*e*P	Pb	22 48 53.9	+1.6
CEDE	Laguna Cedeo	2.13	102	*e*P	Pb	22 48 50.4	-2.1
MATN	Matagalpa	2.17	24	*e*P	Pn	22 48 50.2	+0.7
ESTN	Estel	2.20	12	*e*Pn	Pn	22 48 50.5	+0.6
ESTN	Estel	2.20	12	*e*P	Pn	22 48 50.5	+0.6
SOMN	Somoto	2.48	5	*e*P	Pb	22 48 56.6	-1.9
CNCH	Conchagua	2.53	337	*e*P	Pn	22 48 55.8	+1.3
ESPN	Las Esperanzas	2.77	63	*e*Pn	Pn	22 48 58.7	+1.0
HDC	Heredia	2.82	109	*e*Pn	Pn	22 49 00.1	+1.6
TGUH	Tegucigalpa,Un	3.13	352	*e*Pn	Pn	22 49 05.1	+2.3
DRK0	Durika	3.89	115	*e*P	Pn	22 49 15.1	+1.8
LNIG	Linares	18.35	321	*e*P	Pn	22 52 29.6	+1.7
	comp=N,4.6nm,0.9s						
656A	Willston	18.77	12	*e*P	P	22 52 29.5	-2.9
	comp=N,20nm,1.1s						
LRAL	Lakeview Retre	22.00	360	*e*P	P	22 53 09.3	+2.0
	comp=N,5.0nm,0.9s						
Y49A	Blount Mountai	22.82	1	*e*P	P	22 53 17.0	+0.8
	comp=N,9.7nm,0.9s						
TXAR	Lajitas Array	24.14	322	*e*P	P	22 53 29.8	+0.6
TXAR	Lajitas Array	24.14	322	P	P	22 53 30.7	+1.4
	comp=N,2.0nm,0.8s,baz=135,slow=9.9,SNR=27						
TX31	Lajitas Ar. Si	24.14	322	*e*P	P	22 53 31.1	+1.8
	comp=N,2.9nm,0.9s						
SWET	Sewanee	24.18	2	*e*P	P	22 53 30.2	+0.6
	comp=N,5.8nm,0.6s						
W50A	Signal Mountai	24.19	3	*e*P	P	22 53 30.1	+0.5
	comp=N,6.7nm,0.7s						
MIAR	Mount Ida	24.30	346	*e*P	P	22 53 31.0	+0.4
	comp=N,3.3nm,0.7s						
CPCT	Cooper Cave	24.49	5	*e*P	P	22 53 33.4	+1.1
	comp=N,5.9nm,0.7s						
V48A	Smith Brothers	24.69	360	*e*P	P	22 53 35.6	+1.5
	comp=N,5.2nm,0.8s						
WHAR	Wooly Hollow	24.75	349	*e*P	P	22 53 34.8	+0.2
	comp=N,5.8nm,0.9s						
X37A	Clayton	24.81	343	*e*P	P	22 53 35.3	+0.1
	comp=N,4.7nm,0.8s						
T47A	Sharon Grove	25.94	359	*e*P	P	22 53 44.1	-1.3
	comp=N,3.6nm,0.6s						
T47A				*e*PcP	PcP	22 57 10.9	-3.0
WCI	Wyandotte Cave	27.18	1	*e*P	P	22 53 55.3	-1.3
	comp=N,5.1nm,0.8s						
O52A	Adamsville	29.40	8	*e*P	P	22 54 15.9	-0.5
	comp=N,8.3nm,0.7s						
PV18	Skein Mesa, Pa	33.62	328	*e*P	P	22 54 55.5	+1.6
	comp=N,3.8nm,0.6s						
LCMT	Little Creek M	35.22	322	*e*P	P	22 55 08.2	+0.6
	comp=N,2.5nm,1.1s						
PDAR	Pinedale Array	37.39	332	P	P	22 55 26.4	+0.2
	comp=N,0.5nm,0.5s,baz=123,slow=11,SNR=5.9						
NVAR	Mina Array Bea	39.25	320	P	P	22 55 44.8	+2.9
	comp=N,0.6nm,0.8s,baz=137,slow=8.4,SNR=4.8						
MINS	Minaret Summit	39.29	318	*e*P	P	22 55 42.8	+0.4
GDR	Gold River	50.45	328	*e*P	P	22 57 07.2	-3.5
YKA	Yellowknife Ar	55.23	345	P	P	22 57 43.8	-1.9
	comp=N,0.3nm,0.6s,baz=138,slow=7.6,SNR=7.5						
LZH	Lanzhou	132.16	348	*e*PKP	PKPdf	23 07 24.9	-2.7
LZH				sPKP		23 07 37.8	
CD2	Chengdu	137.17	347	PKP	PKPdf	23 07 35.8	-1.1

DDA ***20*** *22:48:30.3, 35.32N×26.23E, h6km±2km, ML3.9*
IDC ***20*** *22:48:35.3±0.6, 35.58N×26.49E, h0km, mb4.0/15, mb1 4.0/28, mb1mx3.9/64, mbtmp4.0/28, ML3.5/11, MS2.9/1, Ms1 2.9/1, ms1mx2.3/45, Error ellipse: s-maj=14.1km s-min=9.4km az=163.0*
ISK ***20*** *22:48:37.5, 35.59N×26.45E, h10km, ML4.0/23*
ISCJB ***20*** *22:48:38.0±0.2, 35.35N±0.02×26.60E±0.01, h47km±2km, mb4.1/30, Error ellipse: s-maj=3.0km s-min=1.7km az=17.8*
NEIC ***20*** *22:48:38.2±0.0, 35.49N×26.52E, h10km, mb4.0/14, ML4.0(THE), ML4.2(ATH), After ATH.*
ATH ***20*** *22:48:38.1, 35.51N×26.53E, h31km±1km, ML4.2/9, Error ellipse: s-maj=2.1km s-min=0.7km az=157.0*
THE ***20*** *22:48:39.0, 35.52N×26.52E, h8km±2km, ML4.0/15, Error ellipse: s-maj=2.5km s-min=0.7km az=155.0*
NIC ***20*** *22:48:39.3±0.3, 35.87N×26.54E, h27km, mb4.7, ML4.4*
MOS ***20*** *22:48:40.0±1.3, 35.51N×26.50E, h24km, mb4.3/17, Error ellipse: s-maj=6.3km s-min=3.9km az=102.4*
GII ***20*** *22:48:42.7±0.2, 35.13N×26.79E, h40km, mb4.3/1, MD4.1/1*
HLW ***20*** *22:48:45.2, 34.88N×26.95E, h11km±18km, Md4.1, Ml4.1*

ISC 20 22:48:39.2±0.8, 35.42N±0.03×26.57E±0.02, h32km±6km, n398, σ1§66/474, mb4.1/29, 16C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.42	223	PG	Pb	22 48 48.2	-0.3
ZKR				SG	Sb	22 48 54.8	0.0
ZKR	Zakros	0.42	223	*e*Pg	Pb	22 48 48.1	-0.3
ZKR				*e*Sg	Sb	22 48 54.8	0.0
ZKR	Zakros	0.42	223	P	Pb	22 48 48.1	-0.3
ZKR				S	Sb	22 48 54.8	0.0
ZKR	Zakros	0.42	223	P	Pb	22 48 48.1	-0.3
ZKR				S	Sb	22 48 54.9	0.0
ZKR				AML	AML	22 48 55.0	
ZKR				AML	AML	22 48 55.8	
	comp=N,58210μm,0.3s						
STIA	Sitia Lasithi	0.45	240	P	Pb	22 48 48.4	-0.5
KARP	Karpathos	0.50	76	PG	Pb	22 48 49.7	0.0
KARP				SG	Sb	22 48 57.4	+0.4
KARP	Karpathos	0.50	76	*e*Pg	Pb	22 48 49.8	0.0
KARP				*e*Sg	Sb	22 48 55.8	-1.2
KARP	Karpathos	0.50	76	P	Pb	22 48 49.6	-0.1
KARP				S	Sb	22 48 56.8	-0.2
KARP	Karpathos	0.50	76	P	Pb	22 48 49.6	0.0
KARP				S	Sb	22 48 56.7	-0.2
KARP				AML	AML	22 48 57.8	
	comp=N,60833μm,0.4s						
KARP				AML	AML	22 48 59.1	
	comp=E,64968μm,0.2s						
NPS	Neapolis	0.80	259	P	Pb	22 48 54.6	0.0
NPS				S	Sb	22 49 04.3	-0.8
NPS	Neapolis	0.80	259	P	Pb	22 48 54.6	0.0
NPS				S	Sb	22 49 04.3	-0.8
NPS	Neapolis	0.80	259	P	Pb	22 48 54.5	0.0
NPS				S	Sb	22 49 04.4	-0.6
NPS				AML	AML	22 49 05.3	
	comp=N,32946μm,0.4s						
NPS				AML	AML	22 49 06.3	
	comp=E,45993μm,0.3s						
LAST	Lasithi	0.93	254	*e*P	Pb	22 48 56.7	-0.1
LAST	Lasithi	0.93	254	*e*Pn	Pb	22 48 56.7	-0.1
LAST	Lasithi	0.93	254	P	Pb	22 48 56.7	-0.1
LAST				S	Sb	22 49 09.0	+0.1
LAST	Lasithi	0.93	254	P	Pb	22 48 56.5	-0.3
LAST				S	Sb	22 49 08.9	+0.1
LAST				AML	AML	22 49 11.2	
	comp=N,21086μm,0.3s						
LAST				AML	AML	22 49 12.0	
	comp=E,12937μm,0.5s						
ANAF	Anafi Island	1.13	326	P	Pn	22 48 58.4	-0.5
ANAF				S	Sn	22 49 11.9	-1.4
ANAF	Anafi Island	1.13	326	P	Pn	22 48 58.4	-0.5
ANAF				S	Sn	22 49 13.4	0.0
ANAF				AML	AML	22 49 16.1	
	comp=E,54318μm,0.3s						
ANAF				AML	AML	22 49 19.7	
	comp=N,63594μm,0.3s						
IACM	Heraklion	1.23	265	P	Pn	22 49 00.6	+0.5
KSTL	Kastelli Herak	1.23	265	P	Pn	22 48 58.3	-1.8
KSTL				S	Sn	22 49 13.1	-2.5
NISR	Nisiros	1.27	21	*e*Pn	Pn	22 49 00.2	-0.5
NISR	Nisiros	1.27	21	P	Pn	22 49 00.2	-0.5
NISR	Nisiros	1.27	21	P	Pn	22 49 00.2	-0.5
NISR				S	Sb	22 49 17.9	-0.6
NISR				AML	AML	22 49 20.5	
	comp=N,27510μm,0.5s						
NISR				AML	AML	22 49 22.2	
	comp=E,31617μm,0.4s						
THR6	Thira Island,	1.33	315	*e*Pn	Pn	22 49 01.3	-0.2
THR6	Thira Island,	1.33	315	P	Pn	22 49 01.3	-0.2
THT1	Athinios (Pele	1.33	316	P	Pn	22 49 01.4	-0.2
THR9	Santorini-Faro	1.35	314	P	Pn	22 49 01.7	-0.2
THR7	Fira-Santorini	1.36	318	P	Pn	22 49 01.9	-0.1
THR3	Thira Island,	1.36	316	*e*Pn	Pn	22 49 01.6	-0.4
THR3	Thira Island,	1.36	316	P	Pn	22 49 01.6	-0.4
THT2	Imerovigli	1.37	318	P	Pn	22 49 02.1	-0.1
THR2	Thira island,	1.37	318	*e*Pn	Pn	22 49 02.1	-0.1
THR2	Thira island

APE AML AML 22 49 35.8
comp=E,2182µm,0.3s
MRSB Marmaris-Mugla 1.85 45 PN **Pn 22 49 09.5 +0.8**
VAM Vamos 1.93 270 P **Pn 22 49 09.5 -0.3**
VAM Vamos 1.93 270 P **Pn 22 49 09.5 -0.3**
VAM Vamos 1.93 270 P **Pn 22 49 09.6 -0.3**
CHAN Chania 2.06 273 P **Pn 22 49 11.4 -0.2**
IMMV Iera Moni Meta 2.11 272 PN **Pn 22 49 12.9 +0.6**
IMMV Iera Moni Meta 2.11 272 P **Pn 22 49 12.2 -0.1**
IMMV Iera Moni Meta 2.11 272 P **Pn 22 49 12.3 0.0**
GVD Gavdhos 2.11 255 PN **Pn 22 49 13.8 +1.5**
GVD Gavdhos 2.11 255 *e*Pn **Pb 22 49 15.0 -1.8**
GVD Gavdhos 2.11 255 P **Pb 22 49 15.0 -1.8**
MHLO Agia Marina, M 2.16 306 P **Pn 22 49 14.3 +1.3**
MHLO Agia Marina, M 2.16 306 P **Pn 22 49 14.0 +1.0**
MHLA Plaka, Milos I 2.18 308 P **Pn 22 49 13.7 +0.4**
DALY Dalyan (Mula) 2.19 50 PN **Pn 22 49 14.4 +1.0**
DALY Dalyan (Mula) 2.19 50 *i* P **Pn 22 49 14.5 +1.2**
DALY *i* S **Sn 22 49 41.3 +1.9**
TURN Turunc 2.19 48 PN **Pn 22 49 10.1 -3.3**
TURN Turunc 2.19 48 IAML_P
comp=Z,4µm,0.1s
TURN *i* P **Pn 22 49 09.5 -3.9**
SMG Samos 2.29 5 P **Pn 22 49 14.1 -0.7**
SMG Samos 2.29 5 P **Pn 22 49 14.0 -0.7**
GCAM G?zelcaml? 2.33 13 PN **Pn 22 49 15.1 -0.3**
GCAM G?zelcaml? 2.33 13 *i* P **Pn 22 49 15.8 +0.4**
FETY Fethiye 2.37 59 PN **Pn 22 49 18.1 +2.2**
FETY Fethiye 2.37 59 *e*Pn **Pn 22 49 17.5 +1.6**
FETY Fethiye 2.37 59 IAML_P
comp=Z,6µm,0.2s
FETY *i* P **Pn 22 49 17.5 +1.6**
TNSA Tinos 2.40 332 P **Pn 22 49 17.2 +1.0**
SERI Serifos 2.41 316 P **Pn 22 49 16.6 +0.1**
AYDN Tasoluk 2.47 25 IAML_P
comp=Z,3µm,0.2s
AYDN *i* P **Pn 22 49 19.8 +2.5**
AYDN *i* S **Sb 22 49 52.2 -0.8**
KSL Kastellorizon 2.56 73 P **Pn 22 49 20.7 +2.2**
KSL Kastellorizon 2.56 73 P **Pn 22 49 20.3 +1.9**
KSL S **Sn 22 49 51.5 +3.0**
AKAS Kas 2.60 71 PN **Pn 22 49 21.8 +2.7**
AKAS Kas 2.60 71 *i* P **Pn 22 49 21.2 +2.1**
ANKY Antikythira Is 2.69 280 P **Pn 22 49 19.9 -0.4**
AYDB Zeytinkoy-Aydi 2.73 23 PN **Pn 22 49 21.3 +0.3**
TAVA DENIZLI_Tavas 2.78 42 *i* P **Pn 22 49 24.7 +3.0**
TAVA *i* S **Sb 22 49 58.9 -3.0**
ZEY zmir 2.81 359 *i* P **Pn 22 49 21.8 -0.1**
ZEY *i* S Sb 22 50 11.4 +8.8
URLA Izmir 2.93 0 PN **Pn 22 49 23.2 -0.4**
URLA Izmir 2.93 0 IAML_P
comp=Z,3µm,0.4s
URLA *i* P **Pn 22 49 23.5 -0.1**
URLA *i* S Sb 22 50 15.1 +8.9
KYTH Kithira 2.98 287 P **Pn 22 49 24.3 +0.1**
CHOS Chios island 2.98 352 PN **Pn 22 49 24.1 -0.4**
CHOS Chios island 2.98 352 P **Pn 22 49 24.0 -0.4**
CHOS Chios island 2.98 352 P **Pn 22 49 23.8 -0.7**
KTHR Kythira 3.01 287 P **Pn 22 49 25.0 +0.3**
ELL Elmali 3.01 63 PN **Pn 22 49 27.2 +2.4**
ELL Elmali 3.01 63 P **Pn 22 49 28.0 +3.2**
AKUM Antalya-Kumluc 3.20 73 *i* P **Pn 22 49 30.5 +3.3**
AKUM *i* S **Sb 22 50 09.8 -4.0**
VLI Veliai 3.21 295 *e*Pn **Pn 22 49 27.6 +0.2**
VLI Veliai 3.21 295 P **Pn 22 49 27.6 +0.2**
VLI S **Sn 22 50 03.7 -0.9**
VLI Veliai 3.21 295 P **Pn 22 49 27.5 0.0**
PSRA Psara 3.21 346 P **Pn 22 49 28.3 +0.9**
VLY Voula,Athens 3.29 318 *e*Pn **Pn 22 49 29.2 +0.6**
VLY Voula,Athens 3.29 318 P **Pn 22 49 29.2 +0.6**
VLY Voula,Athens 3.29 318 P **Pn 22 49 29.1 +0.6**
KRND KRANIDI 3.38 306 P **Pn 22 49 30.9 +1.2**
KRND S **Sn 22 50 11.5 +2.8**
KRND KRANIDI 3.38 306 P **Pn 22 49 30.8 +1.1**
ATHU Athens Univers 3.38 319 *e*Pn **Pn 22 49 30.6 +0.8**
ATHU Athens Univers 3.38 319 P **Pn 22 49 30.6 +0.8**
ATHU Athens Univers 3.38 319 P **Pn 22 49 30.6 +0.8**
DION Dionisos Attik 3.39 322 P **Pn 22 49 30.7 +0.8**
DION Dionisos Attik 3.39 322 P **Pn 22 49 30.7 +0.8**
DID Didima 3.39 309 *e*Pn **Pn 22 49 31.2 +1.2**
DID Didima 3.39 309 P **Pn 22 49 31.2 +1.2**
DID Didima 3.39 309 P **Pn 22 49 30.6 +0.7**
PTL Penteli 3.40 321 *e*Pn **Pn 22 49 31.7 +1.6**
PTL Penteli 3.40 321 P **Pn 22 49 31.7 +1.6**
PTL Penteli 3.40 321 P **Pn 22 49 31.0 +0.9**
KORT Korkueli 3.44 62 PN **Pn 22 49 33.3 +2.6**
KORT Korkueli 3.44 62 *i* P **Pn 22 49 33.9 +3.2**
KORT *i* S **Sb 22 50 17.2 -3.7**
MANT Manisa 3.45 27 *e*Pn **Pn 22 49 32.9 +1.9**
MANT *e*Sn **Sn 22 50 05.5 -5.4**
MANT Manisa 3.45 27 *i* P **Pn 22 49 33.1 +2.2**
MANT *i* S **Sn 22 50 12.6 +1.7**
KULA Kula-Manisa 3.51 28 PN **Pn 22 49 32.8 +1.2**
KULA Kula-Manisa 3.51 28 P **Pn 22 49 33.4 +1.8**
EPID Epidavros 3.53 309 P **Pn 22 49 33.1 +1.2**
ZEDA zmir-Bergama 3.56 6 IAML_P
comp=Z,980nm,0.3s
ZEDA *i* P **Pn 22 49 32.1 -0.1**
AKHS Akhisar 3.59 16 IAML_P
comp=Z,3µm,0.3s
AKHS *i* P **Pn 22 49 35.1 +2.5**
BRDR BURDUR-Merkez 3.61 50 IAML_P
comp=Z,711nm,0.2s
BRDR *i* P **Pn 22 49 34.0 +1.0**
EREA Eretria 3.66 326 P **Pn 22 49 34.6 +1.0**
EREA Eretria 3.66 326 P **Pn 22 49 34.7 +1.0**
DYR Agios Nikonas 3.68 293 P **Pn 22 49 35.4 +1.5**
KHAL Karahalli 3.76 38 *i* P **Pn 22 49 36.6 +1.5**
KHAL *i* S **Sn 22 50 19.7 +1.4**
PRK Paraskevi 3.82 357 P **Pn 22 49 36.5 +0.7**
PRK Paraskevi 3.82 357 P **Pn 22 49 36.5 +0.7**
SIGR SIGRI 3.82 352 PN **Pn 22 49 35.5 -0.3**
SIGR SIGRI 3.82 352 P **Pn 22 49 35.6 -0.3**
SIGR SIGRI 3.82 352 P **Pn 22 49 35.5 -0.3**
USAK Uak-Merkez 3.83 30 *i* P **Pn 22 49 38.5 +2.6**
BCK Bucak 3.83 57 PN **Pn 22 49 38.2 +2.2**
BCK Bucak 3.83 57 P **Pn 22 49 38.1 +2.1**
VIL2 Platees 3.84 317 P **Pn 22 49 36.5 +0.4**
LTK Loutraki 3.88 313 P **Pn 22 49 38.5 +1.8**
VLX Vlachokerasia 3.90 301 *e*Pn **Pn 22 49 38.3 +1.4**
VLX *e*Sn **Sn 22 50 20.2 -1.4**
VLX Vlachokerasia 3.90 301 P **Pn 22 49 38.3 +1.4**
VLX S **Sn 22 50 20.2 -1.4**
VLX Vlachokerasia 3.90 301 P **Pn 22 49 37.9 +1.0**
ISP Isparta 3.98 52 PN **Pn 22 49 40.7 +2.6**
ISP Isparta 3.98 52 *e*Pn **Pn 22 49 39.4 +1.2**
ISP Isparta 3.98 52 *e*P **Pn 22 49 39.4 +1.2**
ISP Isparta 3.98 52 Pn **Pn 22 49 40.4 +2.3**
KZIL AFYON_Kizioren 4.03 44 IAML_P
comp=Z,277nm,0.1s
KZIL *i* P **Pn 22 49 39.9 +1.1**
TRIP Tripoli 4.05 302 P **Pn 22 49 40.3 +1.3**
MRKA Markates 4.05 325 P **Pn 22 49 39.7 +0.7**
MRKA Markates 4.05 325 P **Pn 22 49 39.9 +0.9**
STEP BALIKESIR_Sava 4.05 13 *i* P **Pn 22 49 39.4 +0.4**
PROD Prodromos 4.08 315 P **Pn 22 49 41.0 +1.6**
ITM Ithomi 4.14 296 *e*Pn **Pn 22 49 42.8 +2.7**
ITM *e*Sn **Sn 22 50 20.1 -7.3**
ITM Ithomi 4.14 296 P **Pn 22 49 42.5 +2.4**
PYL PYLOS 4.17 292 P **Pn 22 49 41.8 +1.2**
GUR Goura 4.22 308 *e*Pn **Pn 22 49 43.5 +2.1**
GUR *e*Sn **Sn 22 50 30.3 +0.7**
GUR Goura 4.22 308 P **Pn 22 49 43.5 +2.1**
GUR S **Sn 22 50 30.3 +0.7**
GUR Goura 4.22 308 P **Pn 22 49 43.2 +1.8**
LKR Lokris 4.30 320 P **Pn 22 49 43.4 +1.0**
ATAL Atalanti 4.32 320 *e*Pn **Pn 22 49 44.0 +1.3**
ATAL Atalanti 4.32 320 P **Pn 22 49 44.0 +1.3**
ATAL Atalanti 4.32 320 P **Pn 22 49 43.9 +1.3**
GDZ Gediz 4.33 32 *i* P **Pn 22 49 45.1 +2.1**
BALB Balikesir 4.34 14 PN **Pn 22 49 43.6 +0.7**
BALB Balikesir 4.34 14 *e*Pn **Pn 22 49 45.2 +2.3**
SMIA Simia 4.37 323 P **Pn 22 49 45.0 +1.6**
SMIA Simia 4.37 323 P **Pn 22 49 44.8 +1.4**
EZN Ezine 4.40 358 PN **Pn 22 49 44.1 +0.4**
EZN Ezine 4.40 358 P **Pn 22 49 43.7 0.0**
DSF Desfina 4.40 314 P **Pn 22 49 45.6 +1.8**
KLV Kalavryta, Ach 4.41 308 P **Pn 22 49 46.0 +2.1**
KLV S **Sn 22 50 34.4 +0.2**
KLV Kalavryta, Ach 4.41 308 P **Pn 22 49 45.8 +1.9**

BOZC Bozcaada 4.43 355 PN **Pn 22 49 43.8 -0.4**
SHUT Suhut-Afyon 4.46 44 PN **Pn 22 49 46.9 +2.1**
LIA Limnos Island 4.60 347 P **Pn 22 49 46.3 -0.2**
TVSB Tavsanli 4.63 29 PN **Pn 22 49 48.5 +1.4**
DRO Drossia 4.65 304 P **Pn 22 49 49.5 +2.3**
DRO S **Sn 22 50 42.0 +2.0**
DRO Drossia 4.65 304 P **Pn 22 49 49.3 +2.2**
NEO Neokhori 4.70 327 P **Pn 22 49 49.2 +1.3**
XOR Xorichti 4.76 327 P **Pn 22 49 49.9 +1.1**
XOR Xorichti 4.76 327 P **Pn 22 49 49.7 +0.9**
PPCY Paphos 4.77 95 P **Pn 22 49 49.7 +0.9**
baz=283
EFP Efpalio 4.79 310 P **Pn 22 49 51.5 +2.4**
EFP S **Sn 22 50 43.3 -0.2**
EFP Efpalio 4.79 310 P **Pn 22 49 51.2 +2.1**
ANX Ano Chora 4.88 312 P **Pn 22 49 52.8 +2.3**
ALFC Alefka 4.94 91 P **Pn 22 49 51.6 +0.3**
baz=279
ALFC S **Sn 22 50 48.5 +1.1**
LPK Lapseki 4.94 2 PN **Pn 22 49 52.1 +0.9**
GELI Tayfur-Gelibol 4.97 359 PN **Pn 22 49 51.9 +0.4**
EVR Evrytania 5.16 314 P **Pn 22 49 57.2 +3.0**
SZAC Souni 5.22 96 P **Pn 22 49 55.8 +0.7**
baz=283
SZAC S **Sn 22 50 55.5 +1.2**
THAS Thassos island 5.38 345 P **Pn 22 49 56.8 -0.3**
MAMC Mammari 5.45 91 P **Pn 22 49 58.4 +0.2**
baz=279
ALN Alexandroupoli 5.48 356 *e*Pn **Pn 22 49 58.5 -0.1**
ALN Alexandroupoli 5.48 356 P **Pn 22 49 58.5 -0.1**
ALN Alexandroupoli 5.48 356 *e*P **Pn 22 49 58.5 -0.1**
THL Klokotos Trika 5.49 320 P **Pn 22 50 01.0 +2.2**
CSS Mathiatis 5.56 93 *e*Pn **Pn 22 50 00.7 +1.0**
CSS *e*Sn **Sn 22 50 56.8 -5.7**
CSS Mathiatis 5.56 93 P **Pn 22 50 00.7 +1.0**
CSS Mathiatis 5.56 93 P **Pn 22 50 01.1 +1.4**
comp=Z,5.0nm,0.7s,comp=Z,0.1nm
RDO Rodhopi 5.77 352 *e*Pn **Pn 22 50 02.8 +0.2**
RDO Rodhopi 5.77 352 P **Pn 22 50 02.8 +0.2**
SOH Sokhos 5.95 336 P Pn 22 50 10.2 +5.0
SOH pmax pmax
comp=Z,5.0nm,0.7s
PHNC Paralimni 6.13 92 P **Pn 22 50 07.5 0.0**
baz=280
MDUB Mudurnu 6.23 35 *e*Pn **Pn 22 50 10.9 +1.9**
KDZ Kurdzhali 6.28 352 *e*P **Pn 22 50 13.6 +4.0**
RZN Rozhen 6.42 348 *e*P **Pn 22 50 12.4 +0.7**
GRG Griva 6.42 331 P **Pn 22 50 13.4 +1.8**
GRG Griva 6.42 331 P **Pn 22 50 15.4 +3.8**
GRG pmax pmax
comp=Z,19nm,0.7s
MMB Musomiste 6.54 341 *e*P **Pn 22 50 13.9 +0.6**
BR231 Keskin MP Arra 6.61 46 *e*Pn **Pn 22 50 15.8 +1.5**
ANTO Ankara 6.64 46 *e*Pn **Pn 22 50 15.8 +1.3**
ANTO Ankara 6.64 46 *e*P **Pn 22 50 15.9 +1.3**
FNA Florina 6.73 324 *e*Pn **Pn 22 50 20.0 +4.1**
FNA Florina 6.73 324 *e*P **Pn 22 50 20.0 +4.1**
PLD Plovdiv 6.83 348 P **Pn 22 50 21.6 +4.5**
PLD pmax pmax
comp=Z,2.0nm,0.8s
KKB Krupnik 6.99 338 *e*P **Pn 22 50 20.8 +1.5**
BR131 Keskin Array S 7.07 51 *e*Pn **Pn 22 50 22.1 +1.6**
BRTR Keskin Array B 7.07 51 *e*Pn **Pn 22 50 21.1 +0.5**
BRTR Keskin Array B 7.07 51 *i* P **Pn 22 50 22.2 +1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.5s
BRTR Keskin Array B 7.07 51 Pn **Pn 22 50 22.1 +1.6**
comp=Z,0.8nm,0.3s,baz=233,slow=13,SNR=24
BRTR Sn **Sn 22 51 40.3 +0.4**
comp=Z,0.2nm,0.3s,baz=229,slow=30,SNR=2.7
HHAG Hagoal 7.18 138 AMP 22 51 00.0
baz=137
HNTI Hanita 7.50 106 Pn **Pn 22 50 27.1 +0.7**
HNTI Sn **Sn 22 51 48.2 -2.2**
OFRI `Ofer 7.53 109 Pn **Pn 22 50 26.5 -0.3**
OFRI Sn **Sn 22 51 48.6 -2.5**
VTS Vitosha 7.64 341 *e*Pn **Pn 22 50 30.1 +1.8**
VTS *e*Pn **Pn 22 50 30.3 +1.9**
VTS Vitosha 7.64 341 P **Pn 22 50 30.1 +1.8**
VTS Vitosha 7.64 341 P **Pn 22 50 30.2 +1.9**
VTS pmax pmax
comp=Z,11nm,0.8s
VTS Vitosha 7.64 341 *e*P **Pn 22 50 30.2 +1.9**
MMA0B Mount Meron ar 7.70 106 Pn **Pn 22 50 28.5 -0.8**
MMA0B Sn **Sn 22 51 53.4 -2.1**
MMAI Mount Meron Ar 7.70 106 Pn **Pn 22 50 29.6 +0.4**
comp=Z,3.4nm,0.3s,baz=313,slow=12,SNR=34
MMAI Sn **Sn 22 51 54.1 -1.4**
comp=Z,6.7nm,0.3s,baz=314,slow=28,SNR=3.8
SLTI Sal'it 7.73 112 Pn **Pn 22 50 29.2 -0.4**
SLTI Sn **Sn 22 51 53.3 -2.8**
GEM Giv'at Ha'Em 7.84 104 Pn **Pn 22 50 31.0 -0.1**
GEM Sn **Sn 22 51 56.9 -1.9**
KSDI Kefar Szold 7.85 104 Pn **Pn 22 50 31.5 +0.4**
KSDI Sn **Sn 22 51 56.7 -2.1**
SHBL Chebaa 7.87 103 *e*P **Pn 22 50 31.0 -0.5**
NATI Neve Ativ 7.89 103 Pn **Pn 22 50 31.1 -0.5**
NATI Sn **Sn 22 51 58.3 -1.5**
MMLI Mount Malkishu 7.94 110 Pn **Pn 22 50 32.2 -0.2**
MMLI Sn **Sn 22 51 59.1 -2.1**
KZIT Kziot 7.96 122 Pn **Pn 22 50 31.8 -0.9**
KZIT Sn **Sn 22 51 57.4 -4.3**
AMAZ Amatzia 7.98 117 P **Pn 22 50 33.3 +0.3**
comp=Z,68nm,0.7s,comp=Z,0.8nm
AMAZ Amatzia 7.98 117 P **Sn 22 51 59.8 -2.4**
AMAZ Amatzia 7.98 117 Pn **Pn 22 50 32.7 -0.3**
AMAZ Sn **Sn 22 51 58.8 -3.4**
KSHT Keshet 8.04 105 Pn **Pn 22 50 34.2 +0.4**
SHMJ Saham 8.09 107 P **Pn 22 50 36.0 +1.5**
comp=Z,30nm,0.5s,comp=Z,0.4nm
SHMJ Saham 8.09 107 P **Sn 22 52 04.8 -0.1**
HMDT Nahal Hemdat 8.10 110 Pn **Pn 22 50 34.6 0.0**
HMDT Sn **Sn 22 52 02.4 -2.6**
YTIR Yattir 8.22 117 Pn **Pn 22 50 36.2 -0.1**
YTIR Sn **Sn 22 52 04.9 -3.2**
DSI Dead Sea 8.30 115 Pn **Pn 22 50 37.7 +0.3**
DSI Sn **Sn 22 52 07.1 -3.0**
MZDA Masada 8.42 117 Pn **Pn 22 50 39.0 0.0**
MZDA Sn **Sn 22 52 09.7 -3.3**
LISJ El Lisan 8.55 117 P **Pn 22 50 41.2 +0.5**
comp=Z,41nm,0.6s
LISJ El Lisan 8.55 117 P **Sn 22 52 12.5 -3.5**
GHAJ Ghor Haditha 8.58 116 P **Pn 22 50 42.5 +1.4**
comp=Z,81nm,0.6s
GHAJ Ghor Haditha 8.58 116 P **Sn 22 52 16.4 -0.4**
GHAJ Ghor Haditha 8.58 116 Pn **Pn 22 50 40.9 -0.2**
WALJ Wala 8.63 114 P **Pn 22 50 42.2 +0.4**
comp=Z,74nm,0.5s
WALJ Wala 8.63 114 P **Sn 22 52 18.0 -0.1**
TIP Timpagrande 8.66 299 *e*Pn **Pn 22 50 42.1 -0.3**
TIP *e*Sn Sn 22 52 08.9 -10
KRMI Paran Flat 8.67 125 Pn **Pn 22 50 41.4 -1.1**
ZFRI Zfri 8.71 121 Pn **Pn 22 50 41.9 -1.1**
ZFRI Sn **Sn 22 52 15.8 -4.3**
PRNI Paran 8.71 123 Pn **Pn 22 50 42.6 -0.4**
PRNI Sn **Sn 22 52 15.8 -4.4**
HRFI Mount Harif 8.93 125 Pn **Pn 22 50 45.5 -0.5**
HRFI Sn **Sn 22 52 21.5 -4.1**
MBRI Mt Berech 9.00 126 Pn **Pn 22 50 47.2 +0.1**
MBRI Sn **Sn 22 52 23.4 -4.0**
TTG Podgorica 9.02 323 *e*Pn **Pn 22 50 47.7 +0.6**
TTG Podgorica 9.02 323 *e*P **Pn 22 50 47.7 +0.6**
EIL Elat 9.11 127 Pn **Pn 22 50 48.4 -0.1**
EIL Sn **Sn 22 52 25.2 -4.7**
EIL Elat 9.11 127 Pn **Pn 22 50 48.6 +0.2**
comp=Z,1.8nm,0.3s,baz=258,slow=1.3,SNR=35
EIL Sn **Sn 22 52 24.6 -5.3**
comp=Z,4,6nm,0.3s,baz=330,slow=7.5,SNR=10
ASF Jabal al Asfar 9.19 108 P **Pn 22 50 50.6 +1.0**
comp=Z,7.7nm,1.2s
ASF Jabal al Asfar 9.19 108 Pn **Pn 22 50 49.6 0.0**
comp=Z,0.7nm,0.3s,baz=252,slow=6.2,SNR=9.5
ASF Sn **Sn 22 52 35.2 +3.2**
comp=Z,1.0nm,0.3s,baz=59,slow=12,SNR=3.5
VAE Valguarnera 10.00 285 Pn **Pn 22 51 01.3 +0.6**
comp=Z,0.2nm,0.3s,baz=204,slow=18,SNR=2.0
VAE Sn **Sn 22 52 48.4 -3.5**
comp=Z,1.2nm,0.3s,baz=289,slow=12,SNR=4.5
ARR Arges 10.04 352 ⇓*i*P **Pn 22 51 03.5 +2.3**
MLR Muntele Rosu 10.07 358 ⇑*i*P **Pn 22 51 03.1 +1.5**
MLR Muntele Rosu 10.07 358 ⇑P **Pn 22 51 03.1 +1.5**
MLR Muntele Rosu 10.07 358 Pn **Pn 22 51 00.1 -1.5**
comp=Z,0.1nm,0.3s,baz=43,slow=8.2,SNR=1.9
MLR LR LR 22 55 05.8
comp=Z,67nm,18.3s,baz=304,slow=39
VOIR 10.07 354 ⇑*i*P **Pn 22 51 03.1 +1.5**
VOIR 10.07 354 ⇑P **Pn 22 51 03.1 +1.5**
STON Ston 10.13 320 *e*Pn **Pn 22 51 02.3 0.0**
STON Sn **Sn 22 52 49.5 -5.3**
GZR Gura Zlata 10.37 345 ⇑*i*P **Pn 22 51 06.2 +0.5**
GZR Gura Zlata 10.37 345 ⇑P **Pn 22 51 06.2 +0.5**
DOPR Dopca 10.57 356 ⇑*i*P **Pn 22 51 10.4 +2.0**
SEVA Sevastopol 10.60 29 ⇑*i*P **Pn 22 51 11.4 +2.6**
BIZ Bicaz 11.51 358 ⇑*i*P **Pn 22 51 23.3 +2.0**
DRGR 11.72 347 ⇑*i*P **Pn 22 51 27.7 +3.5**
DRGR 11.72 347 ⇑P **Pn 22 51 27.7 +3.5**
BURAR Bucovina Array 12.22 356 ⇑*i*P **Pn 22 51 33.8 +2.7**
BURAR Bucovina Array 12.22 356 ⇑P **Pn 22 51 33.8 +2.7**
TRPA Tarpa 13.04 348 ⇑*i*P **P 22 51 52.5 +0.4**
KOLS Kolonicke sedl 13.87 348 *e*P **P 22 52 02.5 +1.2**
KOLS Kolonicke sedl 13.87 348 *e*PN **P 22 52 02.5 +1.2**
KEST Kesra 14.02 276 Pn **Pn 22 51 55.0 -0.7**
comp=Z,0.1nm,0.3s,baz=7.6,slow=19,SNR=2.2
LANS Liptovska Anna 14.68 341 *e*P **P 22 52 12.2 +1.8**
LANS Liptovska Anna 14.68 341 *e*P **P 22 52 12.2 +1.8**
KIV Kislovodsk 15.04 51 *e*Pn **P 22 52 13.0 -1.4**
comp=Z,7.4nm,0.8s
KIV Kislovodsk 15.04 51 ⇓*i*P **P 22 52 14.4 0.0**
KIV Kislovodsk 15.04 51 *e*P **Pn 22 52 09.5 +0.1**
KIV pmax pmax
comp=Z,32nm,1.1s
KIV MLR MLR
comp=Z,51nm,12.0s
KVAR Kislovodsk Arr 15.04 51 Pn **P 22 52 14.5 0.0**
baz=269,slow=22,SNR=6.8
KBZ Khabaz 15.06 52 Pn **P 22 52 14.7 +0.1**
comp=Z,0.4nm,0.3s,baz=245,slow=9.1,SNR=23
GNI Garni 15.12 66 Pn **P 22 52 13.4 -2.1**
comp=Z,0.2nm,0.3s,baz=280,slow=18,SNR=1.9
ZEI Tsey 15.32 56 *e*P **Pn 22 52 12.0 -1.3**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 15.38 6 *e*Pn **P 22 52 16.3 -1.8**
comp=Z,5.4nm,0.8s
KIEV Kiev 15.38 6 ⇑*i*P **P 22 52 17.0 -1.1**
KIEV Kiev 15.38 6 *i* P **Pn 22 52 12.6 -1.2**
PGF Pioggiola 15.39 303 *e*P **P 22 52 23.0 +4.7**
PGF pmax pmax
comp=Z,18nm,1.0s
AKASG Malin Array Be 15.39 6 Pn **Pn 22 52 11.0 -2.9**
comp=Z,0.1nm,0.3s,baz=194,slow=15,SNR=3.2
AKBB Malin Array Si 15.39 6 *e*Pn **P 22 52 16.1 -2.1**
comp=Z,5.4nm,0.7s
NCK Nalchik 15.41 53 *i* P **Pn 22 52 14.5 +0.3**
NCK pmax pmax
comp=Z,3.0nm,0.7s
KRUC Moravsky 15.55 334 P **P 22 52 20.1 +0.1**
KRUC pmax pmax
comp=Z,4.0nm,1.2s
KRUC Moravsky 15.55 334 *e*P **P 22 52 19.0 -1.0**
OJC Ojcow 15.59 344 P **P 22 52 20.8 +0.4**
OJC pmax pmax
comp=Z,11nm,0.7s
OKC Ostrava-Krasne 15.66 339 *e*P **P 22 52 21.3 +0.1**
OKC Ostrava-Krasne 15.66 339 *e*P **P 22 52 21.3 +0.1**
VRAC Vranov 15.69 335 ⇑*i*P **P 22 52 20.6 -1.0**
VRAC Vranov 15.69 335 *e*P **P 22 52 21.0 -0.6**
VRAC Vranov 15.69 335 Pn **P 22 52 21.7 +0.1**
comp=Z,0.4nm,0.3s,baz=135,slow=11,SNR=4.8
MORC Moravsky Berou 15.79 338 ⇓*i*P **P 22 52 22.3 -0.4**
MORC Moravsky Berou 15.79 338 P **P 22 52 22.8 +0.1**
MORC pmax pmax
comp=Z,9.0nm,0.7s
MORC Moravsky Berou 15.79 338 *e*P **P 22 52 22.3 -0.4**
TREC Trest 16.07 333 P **P 22 52 27.3 +1.5**
TREC pmax pmax
comp=Z,1.0nm,0.7s
GEC2 GERESS Array S 16.43 329 *e*Pn **P 22 52 29.4 -0.4**
comp=Z,1.6nm,0.8s
GEC2 GERESS Array S 16.43 329 *e*P **P 22 52 29.4 -0.4**
GEC2 pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 16.43 329 Pn **Pn 22 52 26.4 -0.9**
comp=Z,0.1nm,0.3s,baz=134,slow=2.8,SNR=4.7
DPC Dobruska-Polom 16.67 337 *e*P **P 22 52 33.2 +0.7**
DPC Dobruska-Polom 16.67 337 *e*P **P 22 52 33.2 +0.7**
KHC Kasperske Hory 16.70 329 *e*Pn **P 22 52 32.0 -0.8**
comp=Z,1.4nm,1.1s
KHC Kasperske Hory 16.70 329 *e*P **P 22 52 31.7 -1.1**
KHC Kasperske Hory 16.70 329 *e*P **P 22 52 31.7 -1.1**
DAVOX Davos/Dischmat 16.90 317 Pn **Pn 22 52 32.3 -1.1**
baz=212,slow=13,SNR=2.0
PRU Pruhonice 16.99 333 *e*P **P 22 52 36.2 +0.2**
PRU Pruhonice 16.99 333 *e*P **P 22 52 36.2 +0.2**
MBDF Montbardon 17.73 308 *e*P **P 22 52 46.8 +2.4**
MBDF pmax pmax
comp=Z,10.0nm,1.1s
SENIN Lac Senin/Sane 18.16 313 *e*Pn **P 22 52 49.5 +0.3**
comp=Z,4.4nm,1.0s
VSR Storozhevoye 18.21 26 *i* P **P 22 52 49.6 +0.2**
VSR pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 18.64 333 *e*P **P 22 52 52.0 -2.1**
CLL Collm 18.64 333 *e*P **P 22 52 52.0 -2.1**
CLL Lm MLR 23 03 00.0
comp=Z,100nm,20.2s
CABF La Chapelle 19.01 312 *e*P **Pn 22 52 59.4 +0.2**
CABF pmax pmax
comp=Z,7.0nm,0.8s
GKP Gorka Klasztor 19.02 343 P **Pn 22 52 59.3 +0.2**
GKP pmax pmax
comp=Z,26nm,0.7s
CDF Champ du Feu 19.28 318 *e*P **P 22 53 01.2 -0.1**
CDF pmax pmax
comp=Z,2.0nm,0.6s
SMF Signal de Mont 20.41 310 *e*P **P 22 53 12.7 -0.8**
SMF pmax pmax
comp=Z,4.0nm,0.4s
LOR Lormes 20.67 312 *e*P **P 22 53 15.6 -0.7**
LOR pmax pmax
comp=Z,21nm,1.5s
AVF Avril sur Loir 20.77 310 *e*P **P 22 53 16.1 -1.3**
AVF pmax pmax
comp=Z,5.0nm,0.8s
SSF Saint Saulge 20.79 311 *e*P **P 22 53 16.5 -1.1**
SSF pmax pmax
comp=Z,6.0nm,0.5s
OBN Obninsk 20.87 16 *e*P **P 22 53 18.4 +0.1**
OBN *e* 22 53 36.5
OBN pmax pmax
comp=Z,8.0nm,0.9s
CAF Calviac 20.92 304 *e*P **P 22 53 19.3 +0.2**
CAF pmax pmax
comp=Z,4.0nm,1.2s
BGF Bois d'Agland 21.00 309 *e*P Pn 22 53 21.9 -0.6
BGF pmax pmax
comp=Z,3.0nm,0.4s
BSD Bornholm Skovb 21.27 341 *i* P **P 22 53 20.1 -2.6**
BSD Bornholm Skovb 21.27 341 *i* P **P 22 53 20.1 -2.6**
RJF Les Rejaudoux 21.41 305 *e*P **P 22 53 24.1 -0.2**
RJF pmax pmax
comp=Z,4.0nm,0.7s
GIVF Givet 21.57 320 *e*P **P 22 53 25.2 -0.7**
GIVF pmax pmax
comp=Z,4.0nm,0.5s
BAIF Baives 21.87 319 *e*P **P 22 53 28.4 -0.8**
BAIF pmax pmax
comp=Z,5.0nm,0.7s
TAM Tamanrasset 22.23 241 P **P 22 53 36.5 +3.1**
MFF Saint Martin d 22.93 307 *e*P **P 22 53 39.4 -1.1**
MFF pmax pmax
comp=Z,36nm,1.7s
LDF La Druitiere 23.66 312 *e*P **P 22 53 45.7 -1.9**
LDF pmax pmax
comp=Z,8.0nm,0.9s
FLN La Foliniere 23.94 312 *e*P **P 22 53 49.1 -1.2**
FLN pmax pmax
comp=Z,6.0nm,0.6s
GRR Gorron 24.02 311 *e*P **P 22 53 49.3 -1.8**
GRR pmax pmax
comp=Z,5.0nm,0.4s
ESDC Sonseca Array 24.51 289 P **P 22 53 56.2 +0.5**
comp=Z,1.5nm,0.6s,baz=77,slow=9.9,SNR=12
SGMF Saint Gilles 25.03 310 *e*P **P 22 53 59.3 -1.0**
SGMF pmax pmax
comp=Z,28nm,1.5s

QUIF	**Quistinic**	**25.30**	**309**	*e*P	**P**	**22 54 01.9**	**-0.8**
QUIF				pmax	pmax		
comp=Z,33nm,1.4s							
GEYT	**Alibeck**	**25.37**	**75**	P	**P**	**22 54 04.7**	**+1.2**
comp=Z,2.9nm,0.6s,baz=284,slow=6.0,SNR=8.2							
ROSF	**Rostrenen**	**25.51**	**310**	*e*P	**P**	**22 54 03.1**	**-1.5**
ROSF				pmax	pmax		
comp=Z,34nm,1.3s							
MDT	**Midelt**	**25.89**	**273**	P	**P**	**22 54 08.9**	**+0.6**
comp=Z,2.2nm,0.8s,baz=101,slow=8.8,SNR=3.8							
FIA0	**FINESS Array S**	**26.04**	**359**	*e*P	**P**	**22 54 07.8**	**-1.5**
FINES	**FINESS Array B**	**26.04**	**359**	*i* P	**P**	**22 54 08.3**	**-1.0**
FINES				pmax	pmax		
comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**26.04**	**359**	P	**P**	**22 54 07.8**	**-1.5**
comp=Z,0.6nm,0.5s,baz=159,slow=11,SNR=5.9							
HFS	**Hagfors**	**26.10**	**345**	P	**P**	**22 54 07.8**	**-2.0**
comp=Z,0.3nm,0.3s,baz=144,slow=11,SNR=9.0							
AKTO	**Aktyubinsk**	**27.23**	**47**	P	**P**	**22 54 20.1**	**0.0**
comp=Z,1.2nm,0.4s,baz=255,slow=9.7,SNR=3.2							
NC204	**NORSAR Array S**	**27.77**	**344**	*e*P	**P**	**22 54 26.0**	**+1.1**
comp=Z,4.4nm,0.8s							
ABKAR	**Akbulak array**	**28.02**	**50**	*e*P	**P**	**22 54 27.5**	**+0.2**
ABKAR				*e*PcP	**PcP**	**22 57 42.2**	**+0.8**
EKA	**Eskdalemuir Ar**	**28.50**	**324**	P	**P**	**22 54 30.0**	**-1.4**
EKA	**Eskdalemuir Ar**	**28.50**	**324**	P	**P**	**22 54 30.0**	**-1.4**
comp=Z,1.3nm,0.6s,baz=119,slow=8.4,SNR=6.3							
TOA1	**Torodi Ar. Sit**	**31.54**	**232**	*e*P	**P**	**22 54 58.8**	**0.0**
TORD	**Torodi Ar. Bea**	**31.55**	**232**	P	**P**	**22 54 58.8**	**0.0**
comp=Z,1.8nm,0.5s,baz=45,slow=8.3,SNR=32							
ARA0	**ARCESS Array S**	**34.17**	**359**	*e*P	**P**	**22 55 19.1**	**-2.1**
ARCES	**ARCESS Array B**	**34.17**	**359**	P	**P**	**22 55 19.1**	**-2.1**
comp=Z,1.5nm,0.8s,baz=170,slow=8.1,SNR=6.1							
AAK	**Ala-Archa**	**37.51**	**64**	*e*P	**P**	**22 55 52.4**	**+2.1**
comp=Z,1.9nm,0.7s							
AAK	**Ala-Archa**	**37.51**	**64**	P	**P**	**22 55 51.5**	**+1.2**
comp=Z,1.5nm,0.5s,baz=240,slow=2.1,SNR=8.1							
NRN	**Naryn**	**38.76**	**66**	*e*P	**P**	**22 56 03.0**	**+2.0**
comp=Z,3.0nm,0.9s							
NRN	**Naryn**	**38.76**	**66**	P	**P**	**22 56 03.0**	**+2.0**
NRN				pmax	pmax		
comp=Z,3.0nm,0.9s							
KURBB	**Kurchatov Arra**	**40.06**	**51**	P	**P**	**22 56 12.0**	**+0.7**
comp=Z,2.3nm,0.4s,baz=273,slow=8.6,SNR=24							
KURK	**Kurchatov**	**40.12**	**51**	*e*P	**P**	**22 56 12.6**	**+0.8**
comp=Z,3.4nm,0.6s							
KURK	**Kurchatov**	**40.12**	**51**	P	**P**	**22 56 12.0**	**+0.2**
DBIC	**Dimbokro**	**40.63**	**233**	*e*P	**P**	**22 56 17.4**	**+1.0**
comp=Z,7.7nm,1.1s							
DBIC	**Dimbokro**	**40.63**	**233**	P	**P**	**22 56 17.4**	**+1.0**
comp=Z,1.2nm,0.5s,baz=22,slow=10,SNR=4.2							
MK32	**Makanchi Array**	**42.67**	**57**	*e*P	**P**	**22 56 33.8**	**+1.0**
MKAR	**Makanchi Array**	**42.67**	**57**	P	**P**	**22 56 33.8**	**+1.0**
comp=Z,3.6nm,0.4s,baz=271,slow=8.3,SNR=98							
ZAA0	**Zalesovo Array**	**43.99**	**46**	*e*P	**P**	**22 56 43.0**	**-0.3**
comp=Z,1.9nm,0.6s							
ZALV	**Zalesovo Beam**	**43.99**	**46**	P	**P**	**22 56 43.1**	**-0.2**
comp=Z,2.0nm,0.4s,baz=267,slow=8.0,SNR=12							
WMQ	**Urumqi**	**46.88**	**60**	*e*P	**P**	**22 57 11.0**	**+4.5**
CD2	**Chengdu**	**63.22**	**70**	*e*P	**P**	**22 59 04.9**	**+0.2**
BOSA	**Boshof**	**63.71**	**181**	P	**P**	**22 59 10.2**	**+2.5**
comp=Z,0.8nm,0.5s,baz=355,slow=5.8,SNR=5.5							
HHC	**Hu-ho-hao-te**	**64.53**	**57**	*e*P	**P**	**22 59 16.5**	**+3.3**
YKA	**Yellowknife Ar**	**77.55**	**343**	*i* P	**P**	**23 00 31.7**	**+0.2**
YKA				pmax	pmax		
comp=Z,2.0nm,0.6s							

LJU 20 22:50:44.1, 46°.03N×15°.50E, 8^{km}, ML0.1, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESS	**Cesta pri Krsk**	**0.07**	**204**	*i* Pg	Pg	22 50 46.1	0.0
CESS				*i* Sg	Sg	22 50 47.5	+0.1
comp=Z,6.0nm,0.1s							
GOLS	**Golise**	**0.09**	**105**	*i* Pg	Pg	22 50 46.5	+0.1
GOLS				*i* Sg	Sg	22 50 48.1	+0.1
comp=Z,3.0nm,0.1s							
LEGS	**Legarje**	**0.15**	**236**	*i* Pg	Pg	22 50 47.5	+0.2
LEGS				*i* Sg	Sg	22 50 49.9	+0.3
CRES	**Cresnjev**	**0.21**	**188**	*i* Pg	Pg	22 50 48.4	0.0
CRES				*e*Sg	Sg	22 50 51.7	+0.5

IDC ***20*** *22:51:40.9±0.4, 52°.43N×160°.13E, h0^{km}, mb5.0/42, mb1 5.1/44, mb1mx5.1/49, mbtmp5.0/44, ML4.8/2, MS5.0/4, Ms1 5.0/4, ms1mx4.0/48, Error ellipse: s-maj=11.5km s-min=9.3km az=159.0*

KRSC ***20*** *22:51:41.5±10.0, 52°.14N×160°.60E, h59^{km}±10^{km}, ML5.7*

ISCJB ***20*** *22:51:44.7±0.3, 52°.23N±0°.02×160°.43E±0°.02, h44^{km}±2^{km}, mb5.3/246, MS5.1/24, Error ellipse: s-maj=3.8km s-min=2.0km az=166.4*

MOS ***20*** *22:51:44.2±1.1, 52°.20N×160°.42E, h52^{km}, mb5.7/30, MS4.8/12, Error ellipse: s-maj=5.8km s-min=3.1km az=95.5*

MOS Felt (II) at Petropavlovsk-Kamchatskiy.

NEIC ***20*** *22:51:45.6±2.3, 52°.36N×160°.26E, h34^{km}±3^{km}, mb5.0/329, Error ellipse: s-maj=14.0km s-min=10.4km az=168.0*

BJI ***20*** *22:51:46.1±0.0, 52°.61N×159°.75E, h45^{km}, mb5.2/55, mB5.1/35, Ms5.3/48, Ms7 5.2/46*

GCMT ***20*** *22:51:47.6±0.3, 52°.28N±0°.02×160°.56E±0°.04, h26^{km}, MW5.1/67, Moment Tensor Solution. s52,c80; s67,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.25±.19; $M_{\theta\theta}$=-2.18±.14; $M_{\phi\phi}$=-2.07±.14; $M_{r\theta}$=2.23±.32; $M_{\theta\phi}$=-2.01±.09; $M_{r\phi}$=2.29±.29; Best double couple: M_0=5.27200×10^{16} NP1:φ=45.00000°, δ=64.00000°, λ=89.00000°. NP2: φ=227.00000°, δ=26.00000°, λ=92.00000°. Principal axes: T 5.3300, Plg71.0000°, Azm313.0000°; N -0.1150, Plg1.0000°, Azm45.0000°; P -5.2150, Plg19.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 22:51:45.4±0.3, 52°.29N±0°.04×160°.39E±0°.03, h37^{km}±1^{km}, h38^{km}: pP-P, n1284, σ1°.40/1395, mb5.3/253, MS5.1/25, 107C-22D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.84**	**345**	*e*P	**Pn**	**22 52 00.4**	**-0.3**
SPN				*e*S	**Sn**	**22 52 12.6**	**+0.6**
SPN	**Mys Shipunski**	**0.84**	**345**	PN	**Pn**	**22 52 00.4**	**-0.3**
SPN				S	**Sn**	**22 52 12.6**	**+0.6**
NLC	**Nalytchevo**	**1.09**	**325**	*e*P	**Pn**	**22 52 04.7**	**+0.6**
NLC				*e*S	**Sn**	**22 52 20.7**	**+2.8**
NLC	**Nalytchevo**	**1.09**	**325**	PN	**Pn**	**22 52 04.7**	**+0.6**
NLC				S	**Sn**	**22 52 20.7**	**+2.8**
RUS	**Russkaya**	**1.16**	**278**	*e*P	**Pn**	**22 52 05.4**	**+0.4**
RUS				*e*S	**Sn**	**22 52 21.3**	**+1.7**
RUS	**Russkaya**	**1.16**	**278**	PN	**Pn**	**22 52 05.4**	**+0.4**
RUS				S	**Sn**	**22 52 21.3**	**+1.7**
DALK	**Dalny**	**1.25**	**308**	*e*P	**Pn**	**22 52 07.0**	**+0.8**
DALK				*e*S	**Sn**	**22 52 24.3**	**+2.6**
DALK	**Dalny**	**1.25**	**308**	PN	**Pn**	**22 52 07.0**	**+0.8**
DALK				S	**Sn**	**22 52 24.3**	**+2.6**
PET	**Petropavlovsk**	**1.29**	**306**	*e*Pn	**Pn**	**22 52 07.6**	**+0.8**
PET	**Petropavlovsk**	**1.29**	**306**	⇑*i*PN	**Pn**	**22 52 07.0**	**+0.2**
PET				*e*S	**Sn**	**22 52 25.7**	**+2.9**
PET				pmax	pmax		
comp=Z,23μm,1.1s							
PET				pmax	pmax		
comp=Z,4μm,4.6s							
PET				pmax	pmax		
comp=Z,23μm,0.6s							
PET				smax	smax		
comp=E,117μm,1.5s							
PET				smax	smax		
comp=E,61μm,0.9s							
PET				smax	smax		
comp=N,28μm,0.7s							
UGLR	**Uglovaya**	**1.33**	**315**	*e*P	**Pn**	**22 52 08.7**	**+1.2**
UGLR	**Uglovaya**	**1.33**	**315**	PN	**Pn**	**22 52 08.7**	**+1.2**
SDLR	**Sedlovina**	**1.35**	**318**	*e*P	**Pn**	**22 52 08.7**	**+0.9**
SDLR	**Sedlovina**	**1.35**	**318**	PN	**Pn**	**22 52 08.7**	**+0.9**
MTVR	**Mutnovka**	**1.37**	**279**	*e*P	**Pn**	**22 52 08.8**	**+0.8**
MTVR	**Mutnovka**	**1.37**	**279**	PN	**Pn**	**22 52 08.8**	**+0.8**
SMAR	**Somma**	**1.38**	**316**	*i* P	**Pn**	**22 52 09.0**	**+0.8**
SMAR	**Somma**	**1.38**	**316**	PN	**Pn**	**22 52 09.0**	**+0.8**
AVH	**Avacha**	**1.40**	**315**	*i* P	**Pn**	**22 52 09.8**	**+1.3**
AVH	**Avacha**	**1.40**	**315**	PN	**Pn**	**22 52 09.8**	**+1.3**
KRER	**Koryakskii**	**1.43**	**316**	*e*P	**Pn**	**22 52 10.8**	**+1.9**
KRER	**Koryakskii**	**1.43**	**316**	PN	**Pn**	**22 52 10.8**	**+1.9**
GRL	**Gorelyy**	**1.44**	**282**	*i* P	**Pn**	**22 52 10.7**	**+1.6**
GRL	**Gorelyy**	**1.44**	**282**	PN	**Pn**	**22 52 10.7**	**+1.6**
KOK	**Koryaka**	**1.47**	**314**	*i* P	**Pn**	**22 52 10.7**	**+1.3**
KOK	**Koryaka**	**1.47**	**314**	PN	**Pn**	**22 52 10.7**	**+1.3**
KRMR	**Karymshinskiy**	**1.48**	**292**	*e*P	**Pn**	**22 52 10.6**	**+1.1**
KRMR				*e*S	**Sn**	**22 52 30.8**	**+3.2**
KRMR	**Karymshinskiy**	**1.48**	**292**	PN	**Pn**	**22 52 10.6**	**+1.1**
KRMR				S	**Sn**	**22 52 30.8**	**+3.2**
KDTR	**Khodutka, Kamc**	**1.50**	**252**	*e*P	**Pn**	**22 52 09.6**	**-0.2**
KDTR				*e*S	**Sn**	**22 52 28.6**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.50**	**252**	PN	**Pn**	**22 52 09.6**	**-0.2**
KDTR				S	**Sn**	**22 52 28.6**	**+0.5**
KRX	**Arik**	**1.51**	**316**	*i* P	**Pn**	**22 52 11.3**	**+1.3**
KRX	**Arik**	**1.51**	**316**	PN	**Pn**	**22 52 11.3**	**+1.3**
ASAK	**Asacha**	**1.53**	**275**	P	**Pn**	**22 52 11.4**	**+1.2**
ASAK	**Asacha**	**1.53**	**275**	PN	**Pn**	**22 52 11.4**	**+1.2**
I44RU	**PETROPAVLOVSK-**	**1.82**	**298**	Pn	**Pn**	**22 52 15.5**	**+1.3**
baz=106,slow=21,SNR=1.9							
I44RU				Sn	**Sn**	**22 52 41.0**	**+5.0**
baz=155,slow=17,SNR=10							
PEA0B	**Petropavlovsk-**	**1.83**	**298**	*e*Pn	**Pn**	**22 52 15.8**	**+1.5**
PEA0B				*e*Sn	Sn	22 52 26.6	-10
PEA0B	**Petropavlovsk-**	**1.83**	**298**	*e*PN	**Pn**	**22 52 15.8**	**+1.5**
PETK	**Petropavlovsk-**	**1.83**	**298**	*e*Pn	**Pn**	**22 52 15.6**	**+1.3**
PETK				*e*Sn	**Sn**	**22 52 28.5**	**-7.7**
PETK	**Petropavlovsk-**	**1.83**	**298**	Pn	**Pn**	**22 52 15.8**	**+1.4**
comp=N,682nm,0.3s,baz=111,slow=18,SNR=3425							
PETK				Sn	**Sn**	**22 52 41.8**	**+5.5**
comp=N,601nm,0.3s,baz=140,slow=27,SNR=21							
PETK				LR	LR	22 53 12.8	
comp=N,40μm,20.3s,baz=142,slow=56							
PEA1	**Petropavlovsk-**	**1.83**	**298**	*e*Pn	**Pn**	**22 52 15.8**	**+1.4**
PEA1				*e*Sn	**Sn**	**22 52 41.8**	**+5.4**
APC	**Apacha**	**2.07**	**289**	*e*P	**Pn**	**22 52 19.7**	**+2.1**
APC				*e*S	**Sn**	**22 52 46.4**	**+4.3**
APC	**Apacha**	**2.07**	**289**	PN	**Pn**	**22 52 19.7**	**+2.1**
APC				S	**Sn**	**22 52 46.4**	**+4.3**
PAU	**Pauzhetka**	**2.36**	**251**	*e*P	**Pn**	**22 52 22.1**	**+0.5**
PAU	**Pauzhetka**	**2.36**	**251**	PN	**Pn**	**22 52 22.1**	**+0.5**
MKZ	**Mys Kozlova**	**2.41**	**19**	*e*P	**Pn**	**22 52 21.8**	**-0.4**
MKZ	**Mys Kozlova**	**2.41**	**19**	PN	**Pn**	**22 52 21.8**	**-0.4**
KZV	**Kizimen**	**2.83**	**359**	*e*P	**Pn**	**22 52 29.6**	**+1.4**
KZV	**Kizimen**	**2.83**	**359**	PN	**Pn**	**22 52 29.6**	**+1.4**
TUMD	**Tumrok D**	**2.92**	**0**	*e*P	**Pn**	**22 52 30.2**	**+0.9**
TUMD				*e*S	**Sn**	**22 53 03.9**	**+0.7**
TUMR	**Tumrok**	**3.01**	**357**	*i* P	**Pn**	**22 52 32.3**	**+1.8**
TUMR	**Tumrok**	**3.01**	**357**	PN	**Pn**	**22 52 32.3**	**+1.8**
SKR	**Severo-Kuril's**	**3.12**	**241**	*e*P	**Pn**	**22 52 31.8**	**-0.1**
SKR				*e*S	**Sn**	**22 53 06.9**	**-0.9**
SKR	**Severo-Kuril's**	**3.12**	**241**	⇑*i*PN	**Pn**	**22 52 31.8**	**-0.1**
SKR				*e*S	**Sn**	**22 53 07.5**	**-0.3**
SKR				pmax	pmax		
comp=Z,406nm,0.7s							
SKR				smax	smax		
comp=E,5μm,0.7s							
ALID	**Alaid**	**3.33**	**247**	*e*P	**Pn**	**22 52 35.5**	**+0.4**
ALID	**Alaid**	**3.33**	**247**	PN	**Pn**	**22 52 35.5**	**+0.4**
BZMR	**Bezymyannaya**	**3.66**	**1**	*e*P	**Pn**	**22 52 42.1**	**+2.6**
BZMR	**Bezymyannaya**	**3.66**	**1**	PN	**Pn**	**22 52 42.1**	**+2.6**
BZGR	**Bezymyannyi-Gr**	**3.67**	**3**	*e*P	**Pn**	**22 52 41.6**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**3.67**	**3**	PN	**Pn**	**22 52 41.6**	**+2.0**
KIRR	**Kirishev**	**3.68**	**360**	*e*P	**Pn**	**22 52 41.2**	**+1.4**
KIRR	**Kirishev**	**3.68**	**360**	PN	**Pn**	**22 52 41.2**	**+1.4**
BZWR	**Bezymyannyi-We**	**3.69**	**1**	*e*P	**Pn**	**22 52 42.4**	**+2.5**
BZWR	**Bezymyannyi-We**	**3.69**	**1**	PN	**Pn**	**22 52 42.4**	**+2.5**
KPT	**Kopyto**	**3.69**	**359**	*e*P	**Pn**	**22 52 42.1**	**+2.2**
KPT	**Kopyto**	**3.69**	**359**	PN	**Pn**	**22 52 42.1**	**+2.2**
ESO	**Esso**	**3.78**	**345**	*e*P	**Pn**	**22 52 42.7**	**+1.6**
ESO	**Esso**	**3.78**	**345**	PN	**Pn**	**22 52 42.7**	**+1.6**
KOZ	**Kozyrevsk**	**3.79**	**356**	*e*P	**Pn**	**22 52 43.2**	**+2.0**
KOZ	**Kozyrevsk**	**3.79**	**356**	PN	**Pn**	**22 52 43.2**	**+2.0**
LGNR	**Loginova**	**3.81**	**3**	*e*P	**Pn**	**22 52 44.2**	**+2.5**
LGNR	**Loginova**	**3.81**	**3**	PN	**Pn**	**22 52 44.2**	**+2.5**
CIRR	**Tsirk**	**3.84**	**3**	*e*P	**Pn**	**22 52 45.3**	**+3.2**
CIRR	**Tsirk**	**3.84**	**3**	PN	**Pn**	**22 52 45.3**	**+3.2**
KRSR	**Krestovskiy**	**3.94**	**1**	*e*P	**Pn**	**22 52 45.1**	**+1.7**
KRSR	**Krestovskiy**	**3.94**	**1**	PN	**Pn**	**22 52 45.1**	**+1.7**
KLY	**Klyuchi**	**4.04**	**2**	*e*P	**Pn**	**22 52 47.1**	**+2.5**
KLY	**Klyuchi**	**4.04**	**2**	PN	**Pn**	**22 52 47.1**	**+2.5**
SRDR	**Sredinnyy**	**4.06**	**355**	*e*P	**Pn**	**22 52 46.6**	**+1.7**
SRDR	**Sredinnyy**	**4.06**	**355**	PN	**Pn**	**22 52 46.6**	**+1.7**
KBTR	**Krutoberegovo**	**4.18**	**19**	*i* P	**Pn**	**22 52 46.8**	**+0.3**
KBTR	**Krutoberegovo**	**4.18**	**19**	PN	**Pn**	**22 52 46.8**	**+0.3**
KBG	**Krutoberegovo**	**4.20**	**18**	*e*P	**Pn**	**22 52 48.3**	**+1.5**
KBG	**Krutoberegovo**	**4.20**	**18**	PN	**Pn**	**22 52 48.3**	**+1.5**
BDR	**Baidarnaya**	**4.32**	**6**	*e*P	**Pn**	**22 52 51.3**	**+2.8**
BDR	**Baidarnaya**	**4.32**	**6**	PN	**Pn**	**22 52 51.3**	**+2.8**
SMKR	**Semkarok**	**4.35**	**8**	*e*P	**Pn**	**22 52 50.8**	**+1.8**
SMKR	**Semkarok**	**4.35**	**8**	PN	**Pn**	**22 52 50.8**	**+1.8**
SRKR	**Sorokina**	**4.40**	**6**	*e*P	**Pn**	**22 52 52.4**	**+2.8**
SRKR	**Sorokina**	**4.40**	**6**	PN	**Pn**	**22 52 52.4**	**+2.8**
BKI	**Bering**	**4.42**	**46**	*e*P	**Pn**	**22 52 48.7**	**-1.1**
BKI				*e*S	**Sn**	**22 53 34.4**	**-5.5**
BKI	**Bering**	**4.42**	**46**	PN	**Pn**	**22 52 48.7**	**-1.1**
PALN	**Palana**	**6.83**	**358**	*e*P	**Pn**	**22 53 26.6**	**+3.8**
PALN	**Palana**	**6.83**	**358**	PN	**Pn**	**22 53 26.6**	**+3.8**
OSSR	**Ossora**	**7.14**	**11**	*e*P	**Pn**	**22 53 27.5**	**+0.4**
OSSR	**Ossora**	**7.14**	**11**	PN	**Pn**	**22 53 27.5**	**+0.4**
SMY	**Shemya**	**8.38**	**82**	*e*Pn	**Pn**	**22 53 43.7**	**-0.4**
SMY				*e*Sn	**Sn**	**22 55 11.6**	**-5.7**
SMY	**Shemya**	**8.38**	**82**	*e*PN	**Pn**	**22 53 43.7**	**-0.4**
TILK	**Tilichiki**	**8.78**	**19**	*e*P	**Pn**	**22 53 50.8**	**+1.3**
TILK	**Tilichiki**	**8.78**	**19**	PN	**Pn**	**22 53 50.8**	**+1.3**
MA2	**Magadan**	**9.08**	**327**	*e*Pn	**Pn**	**22 53 55.5**	**+1.9**
MA2	**Magadan**	**9.08**	**327**	*c i*PN	**Pn**	**22 53 55.0**	**+1.3**
MA2	**Magadan**	**9.08**	**327**	Pn	**Pn**	**22 53 53.1**	**-0.6**
comp=E,1.8nm,0.3s,baz=139,slow=19,SNR=9.3							
MA2				LR	LR	22 58 01.5	
comp=E,6μm,18.6s,baz=138,slow=43							
OKH	**Okha**	**10.62**	**284**	*c i*PN	**Pn**	**22 54 12.9**	**-1.9**
OKH				MLR	MLR		
comp=Z,8μm,14.0s							
KUR	**Kuril'sk**	**10.86**	**234**	PN	**Pn**	**22 54 18.5**	**+0.4**
KUR				MLR	MLR		
comp=N,9μm,16.0s							
KUR				MLR	MLR		
comp=Z,4μm,16.0s							
KUR				MLR	MLR		
comp=E,4μm,14.0s							
TYV	**Tymovskoe**	**11.13**	**270**	*e*PN	**Pn**	**22 54 26.0**	**+4.2**
TYV				pmax	pmax		
comp=Z,53nm,1.4s							
TYV				pmax	pmax		
comp=Z,400nm,3.5s							
TYV				MLR	MLR		
comp=N,4μm,16.0s							
TYV				MLR	MLR		
comp=Z,9μm,16.0s							
SEY	**Seymchan**	**11.49**	**341**	*i* PN	**Pn**	**22 54 27.5**	**+0.8**
SEY	**Seymchan**	**11.49**	**341**	Pn	**Pn**	**22 54 29.0**	**+2.3**
comp=Z,0.9nm,0.3s,baz=140,slow=12,SNR=16							
NKL	**Nikolayevsk**	**11.98**	**282**	*e*PN	**Pn**	**22 54 35.5**	**+2.1**
NKL				pmax	pmax		
comp=N,10.0nm,1.0s							
NKL				pmax	pmax		
comp=E,25nm,1.0s							
NKL				pmax	pmax		
comp=Z,43nm,1.0s							
NKL				pmax	pmax		
comp=E,1μm,8.0s							
NKL				pmax	pmax		
comp=Z,1μm,8.0s							
NKL				MLR	MLR		
comp=N,2μm,14.0s							
NKL				MLR	MLR		
comp=E,5μm,14.0s							
UGL	**Uglegorsk**	**12.05**	**262**	*d i*PN	**Pn**	**22 54 39.2**	**+4.8**
UGL				MLR	MLR		
comp=E,5μm,12.0s							
YSS	**Yuzh-Sakhalins**	**12.61**	**252**	*e*Pn	**Pn**	**22 54 43.7**	**+1.8**
YSS	**Yuzh-Sakhalins**	**12.61**	**252**	⇑*e*PN	**Pn**	**22 54 43.6**	**+1.6**
YSS				*e*S	**Sn**	**22 57 07.6**	**+6.7**
YSS				pmax	pmax		
comp=Z,50nm,1.1s							
YSS				pmax	pmax		
comp=Z,500nm,6.0s							
ADK	**Adak**	**14.10**	**83**	*e*Pn	**Pn**	**22 55 01.2**	**-1.0**
ADK	**Adak**	**14.10**	**83**	*e*P	**Pn**	**22 55 01.2**	**-1.0**
ASAJ	**Asahikawa**	**14.38**	**242**	P	**Pn**	**22 55 06.0**	**-0.2**
ASAJ	**Asahikawa**	**14.38**	**242**	Pn	**Pn**	**22 55 06.0**	**-0.2**
comp=Z,4.3nm,0.3s,baz=66,slow=13,SNR=28							
GRNR	**Gornyy**	**14.98**	**274**	*e*P	**P**	**22 55 18.2**	**-1.0**
GRNR				pmax	pmax		
comp=Z,30nm,1.0s							
ERM	**Erimo**	**15.55**	**235**	*e*Pn	**Pn**	**22 55 18.0**	**-3.7**
comp=Z,49nm,0.5s							
ERM	**Erimo**	**15.55**	**235**	*i* P	**Pn**	**22 55 18.7**	**-2.9**
BILL	**Bilibino**	**16.06**	**8**	*e*Pn	**Pn**	**22 55 28.4**	**+0.4**
comp=Z,150nm,0.8s							
BILL	**Bilibino**	**16.06**	**8**	*e*P	**Pn**	**22 55 27.8**	**-0.3**
BILL				pmax	pmax		
comp=Z,216nm,1.7s							
BILL				MLR	MLR		
comp=Z,3μm,19.0s							
TEY	**Ternei**	**17.25**	**255**	⇓*e*P	**P**	**22 55 44.1**	**-0.3**
TEY				*e*S	**Sn**	**22 58 49.8**	**-4.1**
TEY				pmax	pmax		
comp=E,70nm,0.8s							
TEY				pmax	pmax		
comp=N,30nm,0.7s							
TEY				pmax	pmax		
comp=Z,80nm,0.7s							
TEY				MLR	MLR		
comp=N,1μm,14.0s							
TEY				MLR	MLR		
comp=E,2μm,14.0s							
TEY				MLR	MLR		
comp=Z,4μm,14.0s							
YAK	**Yakutsk**	**19.11**	**313**	⇑*i*P	**P**	**22 56 02.9**	**-1.8**
YAK				*e*S	**Sn**	**22 59 29.7**	**-8.9**
YAK				pmax	pmax		
comp=Z,950nm,0.6s							
YAK				pmax	pmax		
comp=N,334nm,0.9s							
YAK				pmax	pmax		
comp=E,1μm,0.9s							
YAK				smax	smax		
comp=N,258nm,1.7s							
YAK				smax	smax		
comp=E,280nm,1.5s							
YAK				MLR	MLR		
comp=Z,7μm,15.0s							
YAK				MLR	MLR		
comp=N,6μm,15.0s							
YAK				MLR	MLR		
comp=E,7μm,14.0s							
ZEA	**Zeya**	**19.89**	**287**	*e*P	**P**	**22 56 12.1**	**-1.2**
ZEA				pmax	pmax		
comp=N,26nm,0.8s							
ZEA				pmax	pmax		
comp=E,41nm,1.0s							
ZEA				pmax	pmax		
comp=Z,58nm,1.0s							
ZEA				pmax	pmax		
comp=Z,600nm,11.0s							
ZEA				MLR	MLR		
comp=E,3μm,15.0s							
ZEA				MLR	MLR		
comp=Z,6μm,15.0s							
ZEA				MLR	MLR		
comp=N,2μm,14.0s							
USA0B	**Ussuriysk Arra**	**20.47**	**258**	*e*P	**P**	**22 56 17.3**	**-2.3**
comp=N,88nm,1.0s							
USA0B	**Ussuriysk Arra**	**20.47**	**258**	*e*P	**P**	**22 56 17.3**	**-2.3**
USA0B				pmax	pmax		
comp=Z,88nm,1.0s							
USRK	**Ussuriysk Ar.**	**20.47**	**258**	*e*P	**P**	**22 56 16.7**	**-2.9**
USRK	**Ussuriysk Ar.**	**20.47**	**258**	P	**P**	**22 56 17.9**	**-1.8**
comp=Z,62nm,0.9s,baz=60,slow=10,SNR=54							
ANM	**Nome**	**21.41**	**42**	*e*P	**P**	**22 56 30.6**	**+1.0**
comp=Z,47nm,1.1s							
ANM	**Nome**	**21.41**	**42**	*e*P	**P**	**22 56 30.6**	**+1.0**
ANM				pmax	pmax		
comp=Z,47nm,1.1s							
MDJ	**Mudanjiang**	**21.69**	**262**	P	**P**	**22 56 31.4**	**-1.4**
MDJ				sP	pwP	22 56 45.3	0.0
MDJ				S	**S**	**23 00 27.8**	**-2.9**
MDJ				sS	Sn	23 00 41.3	+0.4
MDJ				pmax	pmax		
comp=Z,52nm,0.9s							
MDJ				LR	LR		
comp=Z,3μm,19.5s							
MDJ				LR	LR		
comp=Z,2μm,16.3s							
MDJ				LR	LR		
comp=Z,3μm,18.7s							
MDJ	**Mudanjiang**	**21.69**	**262**

CIT pmax pmax
comp=Z,114nm,1.1s
SEW Seward 28.35 54 *e*P **P 22 57 34.4 -1.0**
comp=Z,15nm,1.0s
MCK McKinley 28.37 46 *e*P **P 22 57 35.5 -0.2**
comp=Z,11nm,1.2s
TOLK Toolik Lake Re 28.51 36 *e*P **P 22 57 37.8 +1.0**
comp=Z,14nm,0.9s
TOLK Toolik Lake Re 28.51 36 P **P 22 57 37.2 +0.3**
baz=261
JNU Nakatsue 28.63 240 P **P 22 57 39.1 +0.9**
comp=Z,31nm,0.8s,baz=18,slow=10,SNR=10
WRH Wood River Hil 28.75 45 *e*P **P 22 57 39.9 +1.0**
comp=Z,12nm,0.9s
WRH *e*PcP **PcP 23 00 48.3 +0.3**
TCOL CIGO, UAF Yank 28.85 44 P **P 22 57 41.2 +1.4**
baz=269
COLA College 28.85 44 *e*P **P 22 57 40.2 +0.3**
comp=Z,16nm,0.9s
COLA College 28.85 44 *i* P **P 22 57 41.1 +1.3**
COLA pmax pmax
comp=Z,7.0nm,0.9s
POKR Poker Plat Res 29.03 44 P **P 22 57 41.7 +0.2**
baz=269
HDA Harding Lake 29.24 45 P **P 22 57 43.6 +0.3**
baz=271
ILAR Eielson Array 29.26 44 *e*P **P 22 57 43.6 +0.1**
ILAR *e*PcP **PcP 23 00 49.2 -0.2**
ILAR Eielson Array 29.26 44 P **P 22 57 43.7 +0.1**
comp=Z,3.5nm,0.8s,baz=257,slow=7.4,SNR=29
ILAR PcP **PcP 23 00 49.5 +0.2**
comp=Z,4.0nm,0.9s,baz=272,slow=2.8,SNR=7.7
PRP Porcupine Dome 29.84 43 *e*P **P 22 57 49.4 +0.6**
comp=Z,13nm,1.0s
DL2 Dalian 29.85 259 P **P 22 57 49.4 +0.4**
DL2 sP **sP 22 58 06.3 +3.4**
DL2 *e*S **S 23 02 42.3 -1.0**
DL2 pmax pmax
comp=Z,53nm,0.9s
DL2 LR LR
comp=Z,1μm,16.0s
DL2 LR LR
comp=Z,1μm,15.9s
DL2 LR LR
comp=Z,2μm,12.7s
KLU Klutina 29.91 51 *e*P **P 22 57 50.0 +0.7**
comp=Z,5.2nm,0.9s
PAX Paxson 29.97 48 *e*P **P 22 57 48.0 -1.9**
comp=Z,5.8nm,1.2s
PAX *e*PcP **PcP 23 00 52.1 +0.8**
BALM Baldy 31.68 51 *e*P **P 22 58 04.1 -0.9**
comp=Z,3.9nm,1.0s
BALM *e*PcP **PcP 23 00 57.1 +1.1**
H11N2 WAKE ISLAND Hy 32.88 169 T T 23 33 54.6
baz=353,slow=76,SNR=1277
H11N3 WAKE ISLAND Hy 32.90 169 T T 23 34 03.9
baz=353,slow=76,SNR=1335
H11N1 WAKE ISLAND Hy 32.90 169 T T 23 33 38.3
baz=353,slow=76,SNR=1591
EPYK Eagle Plains 33.39 41 P **P 22 58 20.5 +0.7**
baz=277
IRK Irkutsk 33.61 293 *e*P **P 22 58 19.3 -2.5**
IRK pmax pmax
comp=Z,46nm,1.6s
ULN Ulaanbaatar 33.86 284 *e*P **P 22 58 23.0 -1.3**
comp=Z,21nm,0.9s
ULN Ulaanbaatar 33.86 284 *ce*P **P 22 58 23.0 -1.3**
ULN pmax pmax
comp=Z,34nm,1.3s
ULN Ulaanbaatar 33.86 284 P **P 22 58 23.2 -1.1**
SNR=16
ULN P **P 22 58 23.2 -1.1**
SNR=16
H11S1 WAKE ISLAND Hy 34.07 169 T T 23 35 06.1
baz=350,SNR=54
H11S3 WAKE ISLAND Hy 34.08 169 T T 23 35 41.8
baz=350,slow=74,SNR=73
H11S2 WAKE ISLAND Hy 34.09 169 T T 23 35 38.3
baz=350,slow=74,SNR=27
TLY Talaya 34.19 292 *e*P **P 22 58 26.8 -0.1**
comp=Z,43nm,1.1s
TLY *e*PP **PP 22 59 47.3 +2.8**
TLY Talaya 34.19 292 *e*P **P 22 58 26.2 -0.7**
TLY pmax pmax
comp=Z,81nm,1.1s
TLY Talaya 34.19 292 P **P 22 58 26.4 -0.5**
SNR=16
TLY P **P 22 58 26.4 -0.5**
SNR=16
SONA0 Songino Array 34.27 285 *e*P **P 22 58 27.0 -0.8**
SONA0 *e*PcP **PcP 23 01 04.3 +0.8**
SONM Songino Array 34.27 285 P **P 22 58 27.0 -0.8**
comp=Z,4.9nm,0.4s,baz=62,slow=8.2,SNR=40
SONM PcP **PcP 23 01 04.3 +0.8**
comp=Z,2.5nm,0.7s,baz=117,slow=1.7,SNR=3.6
TIA Tai'an 34.32 259 P **P 22 58 27.3 -0.9**
TIA pmax pmax
comp=Z,61nm,0.8s
INK Inuvik 34.41 37 *e*P **P 22 58 29.5 +1.0**
comp=Z,10.0nm,0.8s
INK *e*PcP **PcP 23 01 04.7 +1.5**
INK Inuvik 34.41 37 P **P 22 58 29.5 +1.0**
comp=Z,9.1nm,0.8s,baz=286,slow=7.0,SNR=43
INK PcP **PcP 23 01 04.7 +1.5**
comp=Z,6.3nm,0.8s,baz=301,slow=3.6,SNR=5.6
HHC Hu-ho-hao-te 34.82 271 *e*P **P 22 58 28.8 -3.8**
HHC pP pP 22 58 38.8 -3.6
HHC S **S 23 04 01.5 +0.7**
HHC ScS **ScS 23 08 42.0 -8.8**
HHC pmax pmax
comp=Z,82nm,0.9s
HHC pmax pmax
comp=Z,310nm,4.4s
HHC LR LR
comp=Z,1μm,12.0s
HHC LR LR
comp=Z,2μm,12.2s
HHC LR LR
comp=Z,1μm,13.1s
ZAK Zakamensk 34.94 290 *e*P **P 22 58 31.3 -2.2**
ZAK pmax pmax
comp=Z,35nm,1.1s
MOY Mondy 35.70 293 *e*P **P 22 58 39.0 -1.0**
MOY pmax pmax
comp=Z,53nm,1.4s
BTO Baotou 35.91 271 *e*P **P 22 58 40.1 -1.9**
NJ2 Nanjing 36.18 253 *e*P **P 22 58 43.8 -0.3**
NJ2 pmax pmax
comp=Z,18nm,0.8s
NRIK Noril'sk 36.67 325 P **P 22 58 47.4 -0.6**
comp=Z,31nm,0.9s,baz=92,slow=9.5,SNR=39
WHN Wuhan 39.92 255⇑ *i*P **P 22 59 17.4 +1.7**
WHN pmax pmax
comp=Z,98nm,1.0s
WHN LR LR
comp=Z,2μm,14.4s
WHN LR LR
comp=Z,4μm,16.2s
WHN LR LR
comp=Z,2μm,14.8s
LZH Lanzhou 42.52 271 *e*P **P 22 59 36.9 -0.3**
LZH pP pP 22 59 46.5 -0.8
LZH sP sP 22 59 51.4 +0.2
LZH pmax pmax
comp=Z,64nm,1.0s
LZH pmax pmax
comp=Z,160nm,5.2s
LZH LR LR
comp=Z,2μm,18.4s
LZH LR LR
comp=Z,2μm,16.5s
LZH LR LR
comp=Z,3μm,19.3s
GTA Gaotai 42.88 277⇑P **P 22 59 39.6 -0.5**
GTA pP pP 22 59 51.5 +1.3
GTA sP sP 22 59 56.8 +2.8
GTA pmax pmax
comp=Z,21nm,1.2s
GTA pmax pmax
comp=Z,140nm,5.3s
GTA LR LR
comp=Z,2μm,18.9s
GTA LR LR
comp=Z,2μm,15.3s
GTA LR LR
comp=Z,3μm,18.5s
ENH Enshi 43.03 260 *e*P **P 22 59 39.7 -1.6**
comp=Z,25nm,0.8s
ZALV Zalesovo Beam 43.37 304 P **P 22 59 41.6 -2.1**
comp=Z,26nm,0.9s,baz=62,slow=6.9,SNR=76
ZALV PcP **PcP 23 01 31.8 +0.2**
comp=Z,7.3nm,0.9s,baz=57,slow=5.3,SNR=3.3
YKA Yellowknife Ar 43.64 42 P **P 22 59 46.6 +0.9**
comp=Z,5.8nm,0.9s,baz=299,slow=8.2,SNR=41
YKA PcP **PcP 23 01 33.1 +0.8**
comp=Z,1.4nm,0.9s,baz=321,slow=2.7,SNR=6.3
NVS Novosibirsk 43.73 305⇓ *i*P **P 22 59 45.5 -1.0**
NVS *i* 23 01 26.5
NVS *i* S **S 23 06 08.9 -4.9**
NVS pmax pmax
comp=N,61nm,1.2s
NVS pmax pmax
comp=E,142nm,1.2s
NVS pmax pmax
comp=Z,258nm,1.2s
NVS smax smax
comp=N,28nm,1.8s
NVS smax smax
comp=E,23nm,1.6s
RES Resolute Bay 44.01 22 P **P 22 59 49.1 +0.6**
comp=E,16nm,0.8s,baz=302,slow=8.0,SNR=36
DGZ Jazzator, Alta 44.19 297 *c i*P **P 22 59 49.9 -0.6**
DGZ pmax pmax
comp=Z,36nm,0.9s
CD2 Chengdu 46.07 265⇑ *i*P **P 23 00 04.4 -1.2**
CD2 sP sP 23 00 23.3 +3.9
CD2 S **S 23 06 46.9 -1.6**
CD2 sS sS 23 07 08.1 +4.5
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,190nm,7.3s
CD2 LR LR
comp=Z,2μm,21.7s
CD2 LR LR
comp=Z,2μm,21.5s
CD2 LR LR
comp=Z,2μm,14.3s
LLLB Lillooet 46.26 60 *e*P **P 23 00 07.3 +0.5**
comp=Z,9.4nm,1.0s
WMQ Urumqi 47.41 290 P **P 23 00 16.1 +0.2**
WMQ pP pP 23 00 25.9 -0.2
WMQ sP sP 23 00 35.4 +5.1
WMQ pmax pmax
comp=Z,240nm,4.3s
WMQ LR LR
comp=Z,4μm,14.5s
WMQ LR LR
comp=Z,6μm,13.5s
WMQ LR LR
comp=Z,7μm,14.9s
B05A Bryant 47.48 62 P **P 23 00 18.2 +1.9**
baz=306
GYA Guiyang 47.51 259⇑ *i*P **P 23 00 16.1 -0.8**
GYA S S 23 06 58.4 -11
GYA SS **SS 23 10 27.3 -10**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.3s
GYA LR LR
comp=Z,1μm,19.0s
GYA LR LR
comp=Z,1μm,18.9s
GYA LR LR
comp=Z,780nm,18.7s
KBS Kingsbay 47.70 352 *e*P **P 23 00 18.9 +1.2**
comp=Z,95nm,1.0s
KBS Kingsbay 47.70 352 *ce*P **P 23 00 17.8 +0.2**
KBS pmax pmax
comp=Z,494nm,1.3s
KBS Kingsbay 47.70 352 *e*P **P 23 00 18.8 +1.1**
SPA0 Spitsbergen Ar 47.96 351 *e*P **P 23 00 20.1 +0.4**
SPITS Spitsbergen Ar 47.96 351 P **P 23 00 20.1 +0.4**
SPITS pmax pmax
comp=Z,17nm,0.3s
E04D Cinebar 48.23 64 P **P 23 00 24.0 +1.9**
baz=307
KURK Kurchatov 48.32 303 *e*P **P 23 00 21.1 -1.6**
comp=Z,152nm,1.0s
KURK Kurchatov 48.32 303 *ce*P **P 23 00 20.3 -2.4**
KURK pmax pmax
comp=Z,262nm,1.3s
KURK Kurchatov 48.32 303 P **P 23 00 21.2 -1.6**
SNR=88
KURK P **P 23 00 21.2 -1.6**
SNR=88
HOPEN Hopen 48.37 347 *e*P **P 23 00 23.1 +0.4**
KURBB Kurchatov Arra 48.42 303 P **P 23 00 21.8 -1.7**
comp=Z,107nm,1.0s,baz=60,slow=7.7,SNR=234
MKAR Makanchi Array 48.67 296 P **P 23 00 23.9 -1.7**
comp=Z,13nm,0.5s,baz=57,slow=6.5,SNR=188
LTY Liberty 48.85 63 *e*P **P 23 00 26.4 -0.6**
comp=Z,2.0nm,0.8s
HSPB Hornsund (broa 49.09 350 *e*P **P 23 00 28.8 +0.5**
HSPB Hornsund (broa 49.09 350 *e*P **P 23 00 29.1 +0.8**
I03D Drain, OR 49.53 68 P **P 23 00 33.1 +1.0**
baz=309
H04A Detroit Lake 49.58 66 *e*P **P 23 00 34.2 +1.7**
comp=Z,11nm,1.1s
K02D Willamette Mer 49.98 69 P **P 23 00 35.8 +0.2**
baz=309
I04A Tendick Farm, 50.00 67 P **P 23 00 36.5 +0.7**
baz=309
NEW Newport 50.15 60 P **P 23 00 37.3 +0.4**
baz=308
BJO Bjornoya 50.85 347 *e*P **P 23 00 42.5 +0.8**
KMI Kunming 50.87 261 P **P 23 00 42.5 -0.2**
KMI pP pP 23 00 52.0 -1.0
KMI sP sP 23 00 59.6 +3.0
KMI pmax pmax
comp=Z,22nm,1.2s
KMI pmax pmax
comp=Z,130nm,3.2s
KMI LR LR
comp=Z,2μm,18.4s
KMI LR LR
comp=Z,1μm,17.6s
KMI LR LR
comp=Z,690nm,22.2s
J05D Fort Rock, OR 50.99 67 P **P 23 00 43.8 +0.4**
baz=310
L04D Klamath Falls 51.06 69 P **P 23 00 44.0 +0.1**
baz=310
BRVK Borovoye 51.06 309 *e*P **P 23 00 42.1 -1.5**
comp=Z,95nm,0.7s
BRVK Borovoye 51.06 309 *c i*P **P 23 00 41.4 -2.2**
BRVK pmax pmax
comp=Z,92nm,0.9s
BRVK Borovoye 51.06 309 P **P 23 00 42.0 -1.6**
SNR=41
BRVK P **P 23 00 42.0 -1.6**
SNR=41
DAG Danmarks Havn 51.22 360⇑ *i*P **P 23 00 44.5 +0.1**
DAG pmax pmax
comp=Z,23nm,1.0s
DAG Danmarks Havn 51.22 360⇑ *i*P **P 23 00 44.5 +0.1**
comp=Z,23nm,1.0s
M02C Callahan 51.27 70 P **P 23 00 46.0 +0.6**
baz=310
M04C Macdoel 51.60 69 P **P 23 00 48.2 +0.3**
baz=310
N02D Trinity Center 51.63 70 P **P 23 00 48.9 +0.8**
baz=310
O02D Mt. Diablo Mer 52.09 71 P **P 23 00 53.1 +1.5**
baz=311
BMO Blue Mountains 52.18 63 *e*P **P 23 00 53.5 +1.3**
BMO Blue Mountains 52.18 63 P **P 23 00 53.5 +1.3**
PDGK Podgornoye 52.38 295 P **P 23 00 52.4 -1.3**
PDGK pmax pmax
comp=Z,45nm,1.0s
MSO Missoula 52.73 59 P **P 23 00 56.8 +0.5**
baz=310
SVE Sverdlovsk 52.99 317 *de*P **P 23 00 57.2 -0.7**
SVE pmax pmax
comp=Z,58nm,1.3s
SVE MLR MLR
comp=Z,2μm,16.0s
FFC Flin Flon 53.46 46 *e*P **P 23 01 01.2 -0.1**
comp=Z,6.0nm,0.8s
FFC Flin Flon 53.46 46 *i* P **P 23 01 03.0 +1.7**
HAMF Hammerfest 53.50 343 *e*P **P 23 01 01.2 -0.2**
LVZ Lovozero 53.52 338 *e*P **P 23 01 01.8 +0.1**
comp=Z,106nm,0.8s
LVZ Lovozero 53.52 338 *ce*P **P 23 01 01.2 -0.4**
LVZ pmax pmax
comp=Z,120nm,1.0s
KEV Kevo 53.64 342 *e*P **P 23 01 01.8 -0.6**
comp=Z,44nm,0.9s
KEV Kevo 53.64 342 P **P 23 01 02.5 +0.1**
KEV pmax pmax
comp=Z,57nm,0.9s
FCC Fort Churchill 54.00 38 *e*P **P 23 01 06.1 +0.9**
comp=Z,14nm,0.8s
ARCES ARCESS Array B 54.11 342 *e*P **P 23 01 05.4 -0.5**
ARCES ARCESS Array B 54.11 342 *e*P **P 23 01 05.4 -0.5**
ARCES ARCESS Array B 54.11 342 P **P 23 01 06.2 +0.3**
comp=Z,63nm,0.8s,baz=32,slow=7.7,SNR=91
ARE0 ARCESS Array S 54.11 342 *e*P **P 23 01 06.0 +0.1**
ARU Arti 54.12 318 *e*P **P 23 01 05.0 -1.1**
comp=Z,86nm,0.9s
ARU Arti 54.12 318 *c i*P **P 23 01 04.8 -1.3**
ARU *PP **pwP 23 01 20.0 +1.0**
ARU 23 02 09.4
ARU 23 03 05.6
ARU S **S 23 08 37.6 -2.1**
ARU SS **SKiKP 23 12 16.8 +2.6**
ARU pmax pmax
comp=Z,60nm,0.6s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 54.12 318 P **P 23 01 05.4 -0.7**
comp=Z,26nm,0.4s,baz=54,slow=3.8,SNR=153
ARU LR LR 23 26 15.3
comp=Z,2μm,18.6s,baz=196,slow=38
EGMT Eagleton 54.13 56 P **P 23 01 07.0 +0.5**
baz=311
HLID Hailey 54.60 63 P **P 23 01 10.4 +0.3**
baz=312
LSA Lhasa 54.66 274 P **P 23 01 11.6 +0.6**
SUMG Summit 54.74 7 *e*P **P 23 01 11.9 +1.0**
comp=Z,78nm,1.0s
SUMG Summit 54.74 7⇑ *i*P **P 23 01 11.9 +1.0**
SUMG pmax pmax
comp=Z,200nm,1.0s
SUMG Summit 54.74 7⇑ *i*P **P 23 01 11.9 +1.0**
comp=Z,197nm,1.0s
BOZ Bozeman (W) 54.76 59 P **P 23 01 11.7 +0.6**
baz=312,SNR=8.2
TKM2 Tokmak 2 54.80 296 P **P 23 01 10.7 -0.9**
SNR=26
ULHL Ulahol 54.90 295 P **P 23 01 11.0 -1.2**
SNR=7.6
KTK1 Kautokeino 54.98 343 *e*P **P 23 01 12.6 +0.4**
USP Ospenovka 55.17 297 P **P 23 01 13.4 -0.7**
SNR=52
TRO Tromso 55.19 345 *e*P **P 23 01 13.9 +0.3**
CHMS Chumysh 55.22 297 P **P 23 01 13.3 -1.0**
SNR=22
PRGR Permogore 55.22 328⇑ *i*P **P 23 01 14.0 0.0**
PRGR *e**PP **pwP 23 01 27.7 +0.2**
PRGR *e*S **S 23 08 52.5 -1.9**
PRGR pmax pmax
comp=Z,125nm,0.7s
KBK Karagaybulak 55.34 297 P **P 23 01 14.7 -0.7**
SNR=21
KZA Kyzart 55.56 296 P **P 23 01 17.1 -0.2**
SNR=5.4
TMCR Tamitsa 55.58 333 *e*P **P 23 01 17.3 +0.8**
TMCR *e*S **S 23 08 58.4 -0.7**
TMCR pmax pmax
comp=Z,311nm,0.9s
AAK Ala-Archa 55.60 297 P **P 23 01 16.5 -0.7**
SNR=33
AAK Ala-Archa 55.60 297 *e*P **P 23 01 16.5 -0.7**
comp=Z,49nm,1.0s
AAK Ala-Archa 55.60 297 *i* P **P 23 01 16.3 -1.0**
SNR=7.6
AAK Ala-Archa 55.60 297 *ce*P **P 23 01 16.1 -1.1**
AAK pmax pmax
comp=Z,68nm,1.3s
AAK Ala-Archa 55.60 297 P **P 23 01 15.4 -1.9**
SNR=25
AAK P **P 23 01 15.4 -1.9**
SNR=25
AAK Ala-Archa 55.60 297 P **P 23 01 16.5 -0.7**
AAK LR LR 23 26 28.3
comp=Z,1μm,19.3s,baz=25,slow=38
SGF Sodankyl 55.69 340 P **P 23 01 17.9 +0.6**
SGF pmax pmax
comp=Z,84nm,1.2s
NVAR Mina Array Bea 55.85 70 P **P 23 01 21.4 +2.2**
comp=Z,2.7nm,0.7s,baz=295,slow=7.1,SNR=20
UCH Uchtor 55.86 296 P **P 23 01 18.7 -0.8**
SNR=11
EKS2 Erkin-Say 55.97 297 P **P 23 01 19.3 -0.6**
SNR=50
H17A Grant Village 56.11 60 P **P 23 01 22.1 +1.1**
baz=312
KIRV Kirov 56.15 324 P **P 23 01 21.2 +0.5**
comp=Z,93nm,0.6s,baz=31,slow=2.0,SNR=31
KIRV LR LR 23 28 37.0
comp=Z,2μm,18.3s,baz=44,slow=40
RLMT Red Lodge 56.31 58 P **P 23 01 23.0 +0.6**
baz=313,SNR=11
SKNT Sakolnakorn 56.34 253 P **P 23 01 24.1 +1.5**
comp=Z,85nm,1.0s
AML Almayashu 56.38 297 P **P 23 01 22.6 -0.5**
SNR=16
MSF Maaselka 56.43 338 P **P 23 01 23.2 +0.6**
MSF pmax pmax
comp=Z,303nm,1.1s
ILULI Ilulissat 56.63 13⇑ *i*P **P 23 01 24.0 0.0**
ILULI pmax pmax
comp=Z,25nm,0.8s
ILULI Ilulissat 56.63 13⇑ *i*P **P 23 01 24.0 0.0**
comp=Z,25nm,0.8s
KSH Kashi 56.88 293 P **P 23 01 29.5 +3.1**
KSH pP sP 23 01 44.9 +3.8
KSH PP **PP 23 03 37.8 +5.1**
KSH S **S 23 09 16.1 -1.3**
KSH pmax pmax
comp=Z,24nm,1.0s
KSH LR LR
comp=Z,350nm,7.5s
KSH LR LR
comp=Z,450nm,5.9s
KSH LR LR
comp=Z,2μm,10.7s
PAYA Payao 56.94 259 P **P 23 01 28.4 +1.5**
comp=Z,120μm,0.8s
SHL Shillong 57.18 270 *e*P **P 23 01 28.6 -0.2**
comp=Z,31nm,0.6s
SHL Shillong 57.18 270 P **P 23 01 28.1 -0.6**
SHL pmax pmax
comp=Z,49nm,0.7s
STEI Steigen 57.31 345 *e*P **P 23 01 28.7 -0.1**
CWC Cottonwood Cre 57.34 71 P **P 23 01 31.1 +1.4**
baz=314
GRAC Grapevine Rang 57.37 70 P **P 23 01 32.3 +2.5**
baz=314
LOF Lofoten 57.39 346 *e*P **P 23 01 29.5 +0.1**
PKM Mcpherson Peak 57.40 74 P **P 23 01 31.9 +1.7**
baz=314
R11A Troy Canyon, C 57.46 68 P **P 23 01 31.8 +1.2**
baz=314
KHON Khomkaen 57.52 254 P **P 23 01 32.9 +1.9**
comp=Z,54μm,1.0s
ISA Isabella, Lake 57.65 72 P **P 23 01 33.6 +1.8**
baz=314
LAMP Lampang 57.73 258 P **P 23 01 33.9 +1.5**
comp=Z,97μm,0.9s,comp=Z,809μm
KLMR Klimovskoe 57.74 330⇑ *i*P **P 23 01 32.1 +0.2**
KLMR pmax pmax
comp=Z,124nm,0.8s
DUG Dugway, Tooele 57.76 65 P **P 23 01 34.0 +1.4**
baz=314
BW06 Boulder Array 57.76 61 P **P 23 01 33.9 +1.2**
baz=314,SNR=12
PDAR Pinedale Array 57.76 61 P **P 23 01 34.6 +1.9**
comp=Z,4.7nm,0.9s,baz=321,slow=2.6,SNR=22
UTTA Uttaradit 57.78 257 P **P 23 01 34.1 +1.3**
comp=Z,99μm,0.9s,comp=Z,719μm
CMMT Chiang Mai 57.92 259 P **P 23 01 34.8 +1.0**
comp=Z,45nm,1.0s,comp=Z,416nm
CHTO Chiang Mai 57.92 259 *e*P **P 23 01 35.0 +1.2**
comp=Z,77nm,1.0s
CHTO Chiang Mai 57.92 259 P **P 23 01 34.9 +1.2**
CHTO pmax pmax
comp=Z,94nm,1.1s

CHTO	Chiang Mai	57.92	259	P		P	23 01 35.0 +1.2
	SNR=20						
CHTO				P		P	23 01 35.0 +1.2
	SNR=20						
MPMC	Manual Prospec	57.95	71	P		P	23 01 34.9 +0.8
	baz=314						
FURC	Furnace Creek,	58.03	70	P		P	23 01 35.9 +1.6
	baz=314						
TPNV	Topopah Spring	58.05	70	P		P	23 01 36.5 +1.8
	baz=314						
CM31	Chiang Mai Arr	58.20	259	P		P	23 01 37.2 +1.5
	SNR=13						
CM31				P		P	23 01 37.2 +1.5
	SNR=13						
CMAR	Chiang Mai Arr	58.20	259	P		P	23 01 37.2 +1.5
	comp=Z,27nm,0.8s,baz=23,slow=7.2,SNR=100						
CHAI	Chaiyaphum	58.36	254	P		P	23 01 38.2 +1.3
	comp=Z,74µm,1.0s,comp=Z,674µm						
PBKT	Sadao Pong	58.44	256	P		P	23 01 38.8 +1.4
	comp=Z,17nm,1.2s,comp=Z,657nm						
EDW2	Edwards Air Fo	58.48	73	P		P	23 01 39.9 +2.3
	baz=315						
AKTO	Aktyubinsk	58.50	313	P		P	23 01 36.6 -0.9
	comp=Z,24nm,0.5s,baz=70,slow=8.2,SNR=127						
SFJD	Kangerlussuaq	58.76	14	*e*P		P	23 01 38.2 -0.7
	comp=Z,15nm,0.8s						
SFJD	Kangerlussuaq	58.76	14	P		P	23 01 39.0 +0.1
	comp=Z,14nm,0.8s,baz=359,slow=7.3,SNR=9.6						
SFJD	Kangerlussuaq	58.76	14	*i* P		P	23 01 39.2 +0.3
	comp=Z,12nm,0.7s						
SHOC	Shoshone, Teco	58.77	71	P		P	23 01 41.3 +1.8
	baz=315						
GSC	Goldstone, Bar	58.88	71	P		P	23 01 40.6 +0.2
	baz=315						
KONS	Konsvik	58.96	345	*e*P		P	23 01 41.2 +0.9
ODAN	Odare	59.00	275	*e*P		P	23 01 41.2 -0.3
	comp=Z,64nm,0.7s						
JIRN	Jiri	59.15	276	*e*P		P	23 01 42.3 -0.4
	comp=Z,96nm,0.7s						
ULM	Lac du Bonnet	59.25	47	P		P	23 01 43.5 +0.8
	comp=Z,8.8nm,0.8s,baz=304,slow=7.6,SNR=7.4						
TAS	Tashkent	59.32	299	P		P	23 01 43.7 +0.4
TAS				pmax		pmax	
	comp=Z,36nm,0.6s						
RAMN	Ramite	59.42	275	*e*P		P	23 01 44.1 -0.3
	comp=Z,142nm,0.6s						
K22A	Casper	59.45	59	P		P	23 01 45.5 +1.1
	baz=315						
KKN	Kakani	59.61	277	*e*P		P	23 01 45.4 -0.3
	comp=Z,88nm,0.6s						
PKI	Pulchoki	59.69	277	*e*P		P	23 01 45.8 -0.6
	comp=Z,91nm,0.8s						
PKIN	Phulchoki	59.70	277	*e*P		P	23 01 45.8 -0.6
	comp=Z,69nm,0.7s						
RSSD	Black Hills	59.71	56	*e*P		P	23 01 47.6 +1.5
	comp=Z,27nm,0.8s						
RSSD	Black Hills	59.71	56	P		P	23 01 47.9 +1.7
RSSD				pmax		pmax	
	comp=Z,27nm,0.8s						
RSSD	Black Hills	59.71	56	P		P	23 01 46.9 +0.7
	baz=315						
DMN	Daman	59.85	277	*e*P		P	23 01 47.1 -0.3
	comp=Z,129nm,0.7s						
GKN	Gorkha	59.85	278	*e*P		P	23 01 46.6 -0.7
	comp=Z,110nm,0.7s						
GMRC	Granite Mounta	59.91	71	P		P	23 01 48.7 +1.2
	baz=315						
KNB	Kanab	59.96	67	P		P	23 01 51.0 +3.0
KNB				pmax		pmax	
	comp=Z,13nm,1.2s						
UMPA	Umpang Tak	59.98	257	P		P	23 01 51.3 +3.2
	comp=Z,135µm,1.0s						
DANN	Dangsing	60.13	279	*e*P		P	23 01 48.8 -0.6
	comp=Z,167nm,0.8s						
BELC	Belle Mtn. Jos	60.27	72	P		P	23 01 51.7 +1.7
	baz=316						
O20A	White River Ci	60.31	62	P		P	23 01 51.8 +1.5
	baz=315						
IRM	Iron Mountain	60.65	71	P		P	23 01 53.8 +1.3
	baz=316						
KOLN	Koldanda	60.65	278	*e*P		P	23 01 52.1 -0.7
	comp=Z,70nm,0.7s						
AGMN	Agassiz Nation	60.67	48	P		P	23 01 52.6 +0.2
	baz=317						
PYUN	Piuthan	60.78	279	*e*P		P	23 01 52.8 -0.9
	comp=Z,110nm,0.8s						
MRSI	Marisa	60.82	225	P		P	23 01 55.3 +1.6
	comp=Z,22nm,1.3s						
BC3	Big Chuckawall	60.83	72	P		P	23 01 54.1 +0.2
	baz=316						
FINES	FINESS Array B	60.94	337	*i* P		P	23 01 54.4 +0.4
FINES				pmax		pmax	
	comp=Z,98nm,0.7s						
FINES	FINESS Array B	60.94	337	P		P	23 01 54.8 +0.9
	comp=Z,98nm,0.7s,baz=38,slow=7.8,SNR=555						
NSS	Namsos	60.98	345	*e*P		P	23 01 55.1 +0.9
N23A	Red Feather La	61.00	60	P		P	23 01 54.2 -0.9
	baz=316						
CHGR	Chuyangaron	61.28	297	*e*P		P	23 01 57.8 +0.9
	comp=Z,37nm,0.8s						
CHGR				*e*PcP		PcP	23 02 41.2 +2.2
SRDT	SRDT	61.28	256	P		P	23 01 59.7 +2.8
	comp=Z,20nm,1.6s						
PUL	Pulkovo	61.28	334	*ce*P		P	23 01 56.8 +0.4
PUL				pmax		pmax	
	comp=Z,167nm,0.9s						
PUL	Pulkovo	61.28	334	*e*P		P	23 01 55.5 -0.8
PUL				IAmb		IAmb	23 01 57.9
	comp=Z,162nm,0.8s						
SANI	Sanana	61.41	220	P		P	23 01 57.3 -0.5
GLA	Glamis	61.63	72	P		P	23 02 01.5 +2.3
	baz=316						
MPSI	Mapaga	61.85	227	P		P	23 02 01.7 +1.0
WUAZ	Wupatki	61.85	68	P		P	23 02 02.8 +2.0
	baz=316						
ISCO	Idaho Springs	61.96	61	P		P	23 02 04.1 +2.4
ISCO				pmax		pmax	
	comp=Z,11nm,1.0s						
ISCO	Idaho Springs	61.96	61	P		P	23 02 02.4 +0.8
	baz=316						
MVCO	Mesa Verde	62.25	64	P		P	23 02 05.1 +1.5
	baz=316						
MOS	Moscow	62.44	328	*e*P		P	23 02 03.6 -0.6
MOS				*e*			23 02 15.7
MOS				*e*			23 04 20.1
MOS				*e*S		S	23 10 25.4 -2.7
MOS				pmax		pmax	
	comp=Z,195nm,1.2s						
NIL	Nilore	62.56	290	*e*P		P	23 02 05.3 -0.2
	comp=Z,70nm,0.8s						
S22A	4UR Ranch, Cre	62.78	63	P		P	23 02 09.3 +2.2
	baz=317						
EYMN	Ely	62.89	46	P		P	23 02 08.0 +0.6
	baz=319						
OBN	Obninsk	63.30	328	*e*P		P	23 02 09.5 -0.4
	comp=Z,155nm,1.1s						
OBN	Obninsk	63.30	328	*e*P		P	23 02 09.0 -0.9
OBN				*e*			23 02 46.6
OBN				*e*			23 04 27.0
OBN				*e*PPP		PPP	23 06 03.6
OBN				*e*S		S	23 10 37.4 -1.5
OBN				*e*SS		SS	23 14 50.4 +5.7
OBN				pmax		pmax	
	comp=Z,179nm,1.3s						
OBN				MLR		MLR	
	comp=Z,787nm,21.0s						
OBN	Obninsk	63.30	328	P		P	23 02 08.6 -1.3
	comp=Z,15nm,0.6s,baz=101,slow=3.1,SNR=41						
VSU	Vasula	63.36	335	*ce*P		P	23 02 10.8 +0.6
VSU				pmax		pmax	
	comp=Z,373nm,0.9s						
VSU	Vasula	63.36	335	*e*P		P	23 02 10.7 +0.4
VSU				IAmb		IAmb	23 02 11.5
	comp=Z,377nm,0.9s						
MOL	Molde	63.50	346	*e*P		P	23 02 12.7 +1.6
SDCO	Great Sand Dun	63.51	62	P		P	23 02 14.1 +2.1
	baz=317,SNR=8.7						
214A	Organ Pipe Nat	63.59	71	P		P	23 02 15.1 +2.8
	baz=317						
ECSD	EROS Data Cent	63.68	52	P		P	23 02 13.1 +0.4
	baz=318,SNR=6.7						
DOMB	Dombas	63.77	345	*e*P		P	23 02 12.8 -0.2
E38A	The Farm, Brul	63.88	47	P		P	23 02 14.9 +1.0
	baz=320						
AKN	Aaknes	63.95	346	*e*P		P	23 02 15.1 +0.9
F38A	Pierce - Schro	64.22	48	P		P	23 02 16.8 +0.6
	baz=320,SNR=8.4						
KBL	Kabul	64.31	294	*e*P		P	23 02 15.3 -1.9
	comp=Z,25nm,0.8s						
KBL	Kabul	64.31	294	P		P	23 02 15.3 -1.9
KBL				pmax		pmax	
	comp=Z,25nm,0.8s						
SPMN	Marine on St.	64.36	49	P		P	23 02 17.6 +0.5
	baz=320						
NB2	NORSAR Subarra	64.37	344	P		P	23 02 16.8 -0.1
	comp=Z,17nm,0.7s,baz=22,slow=6.9						
NB2	NORSAR Subarra	64.37	344	P		P	23 02 16.8 -0.1
	baz=22,slow=6.9						
NOA	NORSAR Array B	64.37	344	P		P	23 02 17.1 +0.1
	comp=Z,11nm,0.6s,baz=23,slow=6.7,SNR=64						
T25A	Trinidad	64.54	62	P		P	23 02 20.6 +2.0
	baz=318						
LPSR	Galich'ya Gora	64.55	325	*e*P		P	23 02 17.3 -0.9
LPSR				pmax		pmax	
	comp=Z,170nm,0.8s						
LPSR				pmax		pmax	
	comp=Z,180nm,0.8s						
LPSR				MLR		MLR	
	comp=Z,690nm,18.0s						
IVI	Ivigtut	64.58	15	*e*P		P	23 02 19.2 +1.0
	comp=Z,23nm,0.9s						
NAO01	NORSAR Array S	64.61	344	*e*P		P	23 02 18.6 +0.2
VRH	Novokhopyorsk	64.66	322	*e*P		P	23 02 17.7 -1.2
VRH				pmax		pmax	
	comp=Z,100nm,0.6s						
VRH				MLR		MLR	
	comp=Z,2µm,17.0s						
F39A	Loretta	64.69	47	P		P	23 02 20.2 +0.9
	baz=320						
E40A	Wakefield	64.74	46	P		P	23 02 20.1 +0.6
	baz=320,SNR=6.3						
HFS	Hagfors	64.78	342	P		P	23 02 19.8 +0.2
	comp=Z,14nm,0.4s,baz=36,slow=5.5,SNR=80						
G38A	Ridgeland	64.84	48	P		P	23 02 20.4 +0.2
	baz=320,SNR=5.7						
H38A	Maiden Rock	65.02	49	P		P	23 02 21.6 +0.3
	baz=320						
TASM	ASL Pad, Albuq	65.03	65	P		P	23 02 23.5 +1.6
	baz=318						
TASM	ASL Pad, Albuq	65.03	65	P		P	23 02 23.5 +1.6
	baz=318						
ANMO	Albuquerque	65.03	65	*e*P		P	23 02 23.6 +1.7
	comp=Z,6.2nm,1.1s						
ANMO	Albuquerque	65.03	65	*i* P		P	23 02 24.0 +2.1
ANMO				pmax		pmax	
	comp=Z,3.0nm,1.0s						
ANMO	Albuquerque	65.03	65	P		P	23 02 23.2 +1.4
	baz=318						
ANMO	Albuquerque	65.03	65	P		P	23 02 23.8 +2.0
	comp=Z,2.2nm,0.9s,baz=301,slow=7.8,SNR=5.2						
HYA	Hoyanger	65.04	347	*e*P		P	23 02 22.4 +1.2
F40A	Park Falls	65.05	47	P		P	23 02 21.7 +0.2
	baz=320						
G39A	Holcombe	65.06	48	P		P	23 02 21.4 -0.3
	baz=320						
E41A	Kenton	65.14	45	P		P	23 02 22.3 +0.2
	baz=321						
SKAR	Skarslia	65.18	345	*e*P		P	23 02 23.1 +0.8
VORR	Voronezh	65.21	324	P		P	23 02 20.0 -2.5
VORR				pmax		pmax	
	comp=Z,250nm,1.4s						
SLIT	Slitere, Latvi	65.22	337	*e*P		P	23 02 22.6 +0.2
SLIT				IAmb		IAmb	23 02 24.4
	comp=Z,1µm,0.9s						
SUE	Sulen	65.34	347	*e*P		P	23 02 23.9 +0.7
OSL	Oslo	65.49	344	*e*P		P	23 02 25.4 +1.3
KSM	Kuching	65.53	237	*e*P		P	23 02 25.1 0.0
	comp=Z,16nm,0.9s						
VSR	Storozhevoye	65.59	324	*c i* P		P	23 02 23.6 -1.4
VSR				pmax		pmax	
	comp=Z,138nm,1.0s						
E42A	Champion	65.62	45	P		P	23 02 25.4 +0.1
	baz=321						
F41A	Three Lakes	65.64	46	P		P	23 02 25.8 +0.4
	baz=321						
SPSI	Sidrap Palu	65.73	225	P		P	23 02 27.8 +1.5
VORD	Divnogorie	65.75	324	*e*P		P	23 02 25.2 -0.8
VORD				pmax		pmax	
	comp=Z,60nm,0.7s						
IZAR	Zarasai	65.86	334	*e*P		P	23 02 27.3 +0.7
IZAR				IAmb		IAmb	23 02 28.7
	comp=Z,45nm,1.1s						
BER	Bergen	65.91	347	*e*P		P	23 02 27.7 +0.9
H40A	Chili	65.92	48	P		P	23 02 28.0 +0.7
	baz=321						
KONO	Kongsberg	65.95	344	*e*P		P	23 02 27.3 +0.1
	comp=Z,15nm,0.8s						
KONO	Kongsberg	65.95	344	*ce*P		P	23 02 27.9 +0.7
KONO				pmax		pmax	
	comp=Z,18nm,1.0s						
KONO	Kongsberg	65.95	344	*e*P		P	23 02 28.2 +1.0
I39A	Houston	66.00	49	P		P	23 02 27.7 0.0
	baz=320						
IDID	Didziasalis	66.11	333	*e*P		P	23 02 28.8 +0.6
IDID				IAmb		IAmb	23 02 30.3
	comp=Z,46nm,0.9s						
TRTT	Trang	66.12	251	P		P	23 02 34.8 +5.9
ODD1	Odda	66.17	346	*e*P		P	23 02 30.2 +1.6
IIGN	Ignalina	66.22	333	*e*P		P	23 02 29.8 +0.8
IIGN				IAmb		IAmb	23 02 31.1
	comp=Z,64nm,0.7s						
H41A	Junction City	66.26	47	P		P	23 02 29.9 +0.5
	baz=321						
J39A	Decorah	66.31	49	P		P	23 02 29.3 -0.4
	baz=321,SNR=5.2						
I40A	Norwalk	66.38	48	P		P	23 02 30.2 0.0
	baz=321,SNR=5.3						
NACGM	Naroch	66.45	333	*e*P		P	23 02 30.0 -0.4
NACGM				PM			23 02 31.0
	comp=Z,0.2nm,1.0s						
NACGM				*e*LQ		LQ	23 30 48.0
NACGM				*e*LR		LR	23 41 53.0
NACGM				LRM		MLR	23 44 49.0
	comp=Z,15nm,17.0s						
MICGM	Minsk	66.49	332⇓	*e*P		P	23 02 31.0 +0.3
MICGM				PM			23 02 32.0
	comp=Z,0.7nm,1.0s						
MNK	Minsk	66.49	332⇓	*i* P		P	23 02 31.0 +0.3
MNK				pmax		pmax	
	comp=Z,730nm,1.0s						
F44A	Big Bay de Noc	66.62	44	P		P	23 02 32.1 +0.4
	baz=322						
G43A	Wallace	66.64	46	P		P	23 02 31.2 -0.6
	baz=322						
BLS5	Blasjo	66.67	346	*e*P		P	23 02 32.9 +1.1
PABE	Paberze	66.69	335	*e*P		P	23 02 32.4 +0.5
PABE				IAmb		IAmb	23 02 33.9
	comp=Z,248nm,0.9s						
SCIA	State Center	66.69	51	P		P	23 02 32.8 +0.6
	baz=320						
K39A	Oelwein	66.71	50	P		P	23 02 32.9 +0.6
	baz=321						
PBUR	Paburg	66.75	336	*e*P		P	23 02 32.6 +0.3
PBUR				IAmb		IAmb	23 02 34.2
	comp=Z,140nm,0.7s						
KMY	Karmoy	67.05	346	*e*P		P	23 02 35.3 +1.2
K40A	Colesburg	67.07	49	P		P	23 02 35.4 +0.8
	baz=321						
MATQ	Matagami	67.07	37	P		P	23 02 34.6 +0.1
	baz=326						
J41A	Loganville	67.07	48	P		P	23 02 34.8 +0.2
	baz=321						
L39A	Vinton	67.11	50	P		P	23 02 34.9 +0.1
	baz=321,SNR=8.3						
I42A	Draeger Farm,	67.16	47	P		P	23 02 35.4 +0.2
	baz=322						
E46A	Sault Ste Mari	67.20	43	P		P	23 02 35.2 -0.2
	baz=323						
F45A	CMU Biological	67.24	44	P		P	23 02 35.5 -0.1
	baz=323						
F46A	Macinaw City C	67.49	43	P		P	23 02 36.8 -0.4
	baz=323						
I43A	Langenfeld Bro	67.51	47	P		P	23 02 36.8 -0.5
	baz=322						
J42A	Columbus	67.51	48	P		P	23 02 36.8 -0.6
	baz=322,SNR=5.7						
L40A	Anamosa	67.52	50	P		P	23 02 37.0 -0.4
	baz=321						
SNART	Snartemo	67.59	345	*e*P		P	23 02 38.5 +1.0
KULM	Kulim	67.63	248	*e*P		P	23 02 40.0 +1.5
	comp=Z,13nm,0.9s						
D49A	Beulah Townshi	67.68	40	P		P	23 02 38.4 0.0
	baz=324						
GEYT	Alibeck	67.68	303	P		P	23 02 38.3 -0.3
	comp=Z,39nm,0.8s,baz=11,slow=2.3,SNR=74						
GEYT				PP		PP	23 05 06.2 -1.4
	comp=Z,7.0nm,0.9s,baz=22,slow=8.2,SNR=3.6						
MSTX	Muleshoe	67.79	63	*e*P		P	23 02 40.7 +1.3
	comp=Z,10nm,0.9s						
K42A	Prairie Point,	67.83	48	P		P	23 02 39.2 -0.2
	baz=322						
LSQQ	Lebel-sur-Quev	67.89	37	P		P	23 02 39.3 -0.4
	baz=326						
MNTX	Cornudas Mount	68.04	66	P		P	23 02 42.3 +1.4
	baz=319						
IPM	Ipoh	68.08	248	*e*P		P	23 02 40.5 -0.8
	comp=Z,17nm,0.9s						
CHGQ	Chibougamau	68.11	35	P		P	23 02 40.4 -0.7
	baz=328,SNR=7.2						
N40A	Mertquake, Sal	68.26	51	P		P	23 02 42.5 +0.4
	baz=321						
L42A	Oliver, Polo	68.29	49	P		P	23 02 42.3 0.0
	baz=322						
K43A	Burlington	68.35	48	P		P	23 02 43.4 +0.8
	baz=322						
M41A	Milan	68.37	50	P		P	23 02 43.4 +0.6
	baz=322						
VLDQ	Val d'Or	68.50	38	*e*P		P	23 02 42.9 -0.5
	comp=Z,18nm,0.8s						
L43A	Garden Prairie	68.58	48	P		P	23 02 43.8 -0.2
	baz=322						
I46A	Reed City	68.66	45	P		P	23 02 45.4 +0.9
	baz=323						
N41A	Harden Midland	68.75	51	P		P	23 02 46.3 +1.1
	baz=322						
MAK	Makhachkala	68.87	314	*c i* P		P	23 02 47.5 +1.6
MAK				*e*S		S	23 11 47.3 +0.3
MAK				pmax		pmax	
	comp=Z,246nm,1.8s						
MAK				MLR		MLR	
	comp=Z,856nm,16.0s						
L44A	Lake County Fo	68.96	48	P		P	23 02 45.5 -1.0
	baz=322						
E51A	G1948 Merrick	69.02	40	P		P	23 02 46.5 -0.3
	baz=326						
MUD	Monsted U'grnd	69.06	343⇑	*i* P		P	23 02 47.8 +1.0
MUD				pmax		pmax	
	comp=Z,16nm,0.9s						
MUD	Monsted U'grnd	69.06	343⇑	*i* P		P	23 02 47.8 +1.0
	comp=Z,16nm,0.9s						
M43A	Waltham Townsh	69.06	49	P		P	23 02 47.2 +0.1
	baz=322						
D52A	ZEK Kipawa Sen	69.07	39	P		P	23 02 47.3 +0.2
	baz=326						
COP	Copenhagen	69.18	341	*i* P		P	23 02 48.4 +0.9
COP				pmax		pmax	
	comp=Z,45nm,0.8s						
COP	Copenhagen	69.18	341	*i* P		P	23 02 48.4 +0.9
	comp=Z,45nm,0.8s						
BSD	Bornholm Skovb	69.20	340	*i* P		P	23 02 49.3 +1.6
BSD				pmax		pmax	
	comp=Z,39nm,0.6s						
BSD	Bornholm Skovb	69.20	340	*i* P		P	23 02 49.3 +1.6
	comp=Z,39nm,0.6s						
D53A	Lac Vacive, Po	69.26	38	P		P	23 02 47.4 -0.8
	baz=326						
WMOK	Wichita Mounta	69.36	60	P		P	23 02 49.3 +0.2
	baz=320,SNR=14						
AKASG	Malin Array Be	69.40	329	P		P	23 02 48.8 -0.2
	comp=Z,14nm,0.4s,baz=31,slow=6.5,SNR=177						
KIEV	Kiev	69.41	329	*e*P		P	23 02 48.4 -0.6
	comp=Z,101nm,1.0s						
KIEV	Kiev	69.41	329⇑	*i* P		P	23 02 49.0 -0.1
KIEV	Kiev	69.41	329	*i* P		P	23 02 48.9 -0.1
	SNR=14						
KIEV	Kiev	69.41	329	*c i* P		P	23 02 48.7 -0.4
KIEV				pmax		pmax	
	comp=Z,94nm,1.1s						
GROC	Groznyy	69.43	315	*e*P		P	23 02 47.8 -1.6
GROC				*e*PP		sP	23 03 04.1 -0.7
GROC				*e*SP		PcP	23 03 11.0 -1.5
GROC				*e*			23 05 23.2
GROC				*e*S		S	23 11 49.5 -4.2
GROC				pmax		pmax	
	comp=Z,35nm,1.5s						
J47A	Sunmer	69.49	45	P		P	23 02 48.9 -0.8
	baz=324						
M44A	Midewin, Midew	69.53	48	P		P	23 02 49.2 -0.7
	baz=323						
D54A	Lac Fusel, La	69.60	38	P		P	23 02 50.2 -0.1
	baz=327						
HDIL	Hopedale	69.60	50	P		P	23 02 50.8 +0.3
	baz=322						
KLBO	Killbear Provi	69.70	41	P		P	23 02 51.0 +0.1
	baz=325						
E53A	Dumoine, Ponti	69.86	39	P		P	23 02 50.9 -1.0
	baz=326						
E54A	Lac Daplat, Po	70.00	38	P		P	23 02 52.5 -0.3
	baz=327						
TUL1	Leonard	70.02	57	P		P	23 02 53.2 +0.1
	baz=321						
ALGO	Algonquin Park	70.06	39	P		P	23 02 52.7 -0.5
	baz=326						
NCK	Nalchik	70.14	316	*c i* P		P	23 02 53.9 +0.1
NCK				pmax		pmax	
	comp=Z,39nm,1.0s						
K48A	Perry	70.14	45	P		P	23 02 52.9 -0.8
	baz=324						
KIV	Kislovodsk	70.15	317	*e*P		P	23 02 54.0 +0.1
	comp=Z,19nm,0.8s						
KIV	Kislovodsk	70.15	317⇑	*i* P		P	23 02 54.0 +0.1
KIV	Kislovodsk	70.15	317	*i* P		P	23 02 54.2 +0.3
	SNR=9.6						
KIV	Kislovodsk	70.15	317	*e*P		P	23 02 54.3 +0.3
KIV				*e*			23 05 28.7
KIV				pmax		pmax	
	comp=Z,71nm,1.0s						
KIV				MLR		MLR	
	comp=Z,1µm,17.0s						
KIV	Kislovodsk	70.15	317	P		P	23 02 54.2 +0.3
	SNR=12						
KIV				P		P	23 02 54.2 +0.3
	SNR=12						
P43A	Skaggs, Pawnee	70.22	50	P		P	23 02 54.9 +0.6
	baz=322						
KBZ	Khabaz	70.25	317	P		P	23 02 54.9 +0.5
	comp=Z,41nm,0.9s,baz=53,slow=4.0,SNR=84						
Q42A	Golden Eagle	70.31	52	P		P	23 02 55.5 +0.7
	baz=322						
ZKTA	Zakatala	70.32	313	P		P	23 02 54.7 -0.2
L47A	Sherwood	70.34	46	P		P	23 02 54.9 0.0
	baz=324						
R41A	Rosebud	70.38	53	P		P	23 02 55.1 -0.2
	baz=322,SNR=6.7						
GKP	Gorka Klasztor	70.39	338	*e*P		P	23 02 55.9 +0.8
GKP	Gorka Klasztor	70.39	338	*e*P		P	23 02 55.8 +0.8
SEKA	Sheki	70.41	313	P		P	23 02 54.9 -0.6
ABTX	Abilene, Hawle	70.51	62	*e*P		P	23 02 56.4 +0.2
	comp=Z,12nm,1.0s						
ABTX				*e*PcP		PcP	23 03 26.1 +8.7
N46A	Monticello	70.52	48	P		P	23 02 56.1 0.0
	baz=323						
G53A	Haliburton	70.53	40	P		P	23 02 56.1 0.0
	baz=326						
ZEI	Tsey	70.59	316	*e*P		P	23 02 52.3 -4.4
ZEI				pmax		pmax	
	comp=Z,31nm,1.0s						
CCM	Cathedral Cave	70.64	53	*e*P		P	23 02 57.4 +0.5
	comp=Z,11nm,1.0s						
CCM	Cathedral Cave	70.64	53	P		P	23 02 57.3 +0.5
	baz=322						
NEY	Neytrino	70.71	317	*i* P		P	23 02 58.0 +0.5
S41A	Jillco Farms,	70.76	53	P		P	23 02 57.2 -0.4
	baz=322,SNR=7.6						
TXAR	Lajitas Array	70.79	67	P		P	23 02 59.6 +1.5
	comp=Z,11nm,1.1s,baz=299,slow=4.4,SNR=40						
MNGR	Mingechevir, A	70.81	312	P		P	23 02 57.6 -0.2
LATQ	La Tuque	70.81	35	P		P	23 02 58.1 +0.4
	baz=329						
F55A	Otter Lake	70.81	38	P		P	23 02 57.8 0.0
	baz=327						
BEL	Belsk	70.82

G55A	Calabogie	71.16	39	P	P	23 02 59.1	-0.8
	baz=327						
U40A	Yellville	71.17	55	P	P	23 02 59.9	-0.2
	baz=322,SNR=15						
PLVO	Plevna	71.20	39	P	P	23 02 59.1	-1.0
	baz=327						
M49A	Liberty Center	71.28	46	P	P	23 03 00.9	+0.2
	baz=324						
N48A	Decatur	71.31	47	P	P	23 03 01.1	+0.2
	baz=324						
L50A	Kingsville	71.33	45	P	P	23 03 01.4	+0.4
	baz=325						
J52A	Paris	71.33	42	P	P	23 03 01.8	+0.8
	baz=326						
Q45A	Warren Harvey,	71.45	50	P	P	23 03 02.1	+0.4
	baz=323						
ORIO	Orleans, Innes	71.45	38	P	P	23 03 01.4	-0.3
	baz=328						
HYB	Hyderabad	71.46	275	*i* P	P	23 03 02.0	-0.1
ALFO	Alfred	71.54	37	P	P	23 03 01.9	-0.3
	baz=328						
ANN	Anapa	71.57	321	*e*P	P	23 03 00.2	-2.1
ANN				*e**PP	pwP	23 03 14.8	-0.9
ANN				*e*		23 03 19.3	
ANN				*e*		23 05 38.6	
ANN				*e*S	S	23 12 15.2	-3.3
ANN				pmax	pmax		
	comp=Z,65nm,1.5s						
H55A	Tweed	71.57	40	P	P	23 03 02.1	-0.2
	baz=327						
HORU	Horodok	71.57	330	P	P	23 03 02.5	+0.2
W39A	Magazine	71.61	56	P	P	23 03 03.8	+1.1
	baz=322						
K52A	Tillsonburg	71.61	43	P	P	23 03 03.0	+0.4
	baz=326						
WLVO	Wesleyville	71.61	41	P	P	23 03 03.4	+0.8
	baz=327						
U41A	Viola	71.65	54	P	P	23 03 03.7	+0.7
	baz=322						
LKRN	Lenkeran, Azer	71.67	310	P	P	23 03 02.8	-0.3
SOC	Sochi	71.68	319	*e*P	P	23 03 00.9	-2.1
SOC				*e**PP	sP	23 03 18.8	+0.5
SOC				*e*		23 05 38.9	
SOC				*e*S	S	23 12 14.7	-5.1
SOC				*e*SS	SS	23 16 47.2	-7.5
SOC				pmax	pmax		
	comp=Z,41nm,0.8s						
SOC				MLR	MLR		
	comp=Z,1μm,16.0s						
O48A	Farmland	71.74	47	P	P	23 03 03.5	0.0
	baz=324						
LVV	L'vov	71.75	332	*e*P	P	23 03 03.6	+0.2
LVV				MLR	MLR		
	comp=Z,800nm,16.0s						
M50A	Fremont	71.75	45	P	P	23 03 04.7	+1.2
	baz=325						
P47A	Martinsville	71.86	48	P	P	23 03 04.5	+0.3
	baz=324						
R45A	Skylar, Fairfi	71.87	50	P	P	23 03 04.7	+0.4
	baz=323						
EKA	Eskdalemuir Ar	71.88	350	P	P	23 03 04.8	+0.7
	comp=Z,4.2nm,0.4s,baz=17,slow=5.4,SNR=21						
AKH	Akhalkalaki	71.89	315	⇑*i*P	P	23 03 05.5	+0.9
AKH	Akhalkalaki	71.89	315	P	P	23 03 05.4	+0.9
S44A	Carbondale	71.89	51	P	P	23 03 04.2	-0.2
	baz=323,SNR=6.4						
H56A	Elgin	71.89	39	P	P	23 03 04.1	-0.2
	baz=328						
ESK	Eskdalemuir	71.91	350	*i* P	P	23 03 06.4	+2.2
RUE	Ruedersdorf	71.91	339	*e*P	P	23 03 04.9	+0.7
RUE				IAmb	IAmb	23 03 06.6	
	comp=Z,49nm,0.8s						
PECO	Prince Edward	72.16	40	P	P	23 03 04.9	-1.0
	baz=327						
WHTX	Lake Whitney,	72.17	61	P	P	23 03 06.0	-0.2
	baz=321						
N50A	Nevada	72.22	46	P	P	23 03 06.8	+0.5
	baz=325						
MIAR	Mount Ida	72.22	56	P	P	23 03 06.8	+0.3
	baz=322						
S45A	Carrier Mills	72.22	51	P	P	23 03 06.4	0.0
	baz=323,SNR=5.3						
Q47A	Bedord North L	72.23	49	P	P	23 03 06.7	+0.3
	baz=324						
P48A	Milroy	72.26	48	P	P	23 03 06.4	-0.2
	baz=324						
KWP	Kalwaria Pacla	72.29	333	*e*P	P	23 03 07.7	+1.1
KWP	Kalwaria Pacla	72.29	333	*e*P	P	23 03 07.7	+1.1
M52A	Chesterland	72.36	44	P	P	23 03 06.3	-0.9
	baz=326						
GNI	Garni	72.36	314	*e*P	P	23 03 07.4	0.0
	comp=Z,44nm,0.9s						
GNI	Garni	72.36	314	*i* P	P	23 03 08.5	+1.1
	SNR=7.9						
GNI	Garni	72.36	314	*c*e*P	P	23 03 08.3	+0.9
GNI				pmax	pmax		
	comp=Z,144nm,1.0s						
J55A	Hilton	72.39	41	P	P	23 03 07.6	+0.3
	baz=327						
MORS	Morshin	72.40	332	P	P	23 03 07.6	+0.3
W41B	Gary Mavity, V	72.40	55	P	P	23 03 07.5	0.0
	baz=322,SNR=8.5						
N51A	Ashland	72.44	45	P	P	23 03 07.8	+0.2
	baz=325						
ERPA	Erie	72.46	43	P	P	23 03 08.6	+0.9
	baz=326						
L53A	Girard	72.48	43	P	P	23 03 07.8	-0.1
	baz=326						
BATM	Batumi	72.50	316	⇑*i*P	P	23 03 08.4	+0.4
LONY	Lake Ozonia	72.51	38	P	P	23 03 07.5	-0.6
	baz=328						
P49A	Miami Univ. Ec	72.53	47	P	P	23 03 08.2	0.0
	baz=324						
IDGL	Inch Island, C	72.54	353	*e*P	P	23 03 04.1	-3.9
IDGL				*i* PP	P	23 03 08.9	+0.9
OJC	Ojcow	72.55	335	*e*P	P	23 03 08.9	+0.7
OJC	Ojcow	72.55	335	*e*P	P	23 03 08.9	+0.7
Q48A	North Vernon	72.55	48	P	P	23 03 08.2	-0.2
	baz=324						
S46A	Don Dixon Farm	72.63	50	P	P	23 03 08.9	+0.1
	baz=324						
GSI	Gunungsitoli	72.64	249	*e*P	P	23 03 09.8	+0.7
	comp=Z,30nm,1.1s						
L54A	Sinclairville	72.64	42	P	P	23 03 09.7	+0.8
	baz=326						
X40A	Basin Creek Fa	72.65	56	P	P	23 03 08.8	-0.2
	baz=322						
BCA	Borcka	72.66	316	*e*P	P	23 03 09.1	+0.1
BCA	Borcka	72.66	316	⇑*i*P	P	23 03 08.9	-0.1
SIM	Simferopol'	72.69	323	*c i*P	P	23 03 09.2	+0.1
SIM				pmax	pmax		
	comp=Z,52nm,1.1s						
R47A	Wooly Knot Far	72.69	49	P	P	23 03 09.3	+0.1
	baz=324						
KARS	Kars	72.70	315	*e*P	P	23 03 10.9	+1.5
DBOC	Borcka	72.72	316	*i* P	P	23 03 10.8	+1.4
TASB	TASBURUN-IGDIR	72.72	314	*e*P	P	23 03 11.1	+1.7
ACSO	Alum Creek Sta	72.73	46	P	P	23 03 09.6	+0.2
	baz=325						
M53A	WI Miller and	72.74	44	P	P	23 03 09.5	+0.1
	baz=326						
K55A	Perry	72.74	41	P	P	23 03 09.2	-0.2
	baz=327						
KIS	Kishinev	72.77	328	*e*P	P	23 03 08.0	-1.5
	comp=Z,230nm,2.0s						
KIS	Kishinev	72.77	328	*e*PP	PP	23 05 55.0	+4.1
KIS				*e*S	S	23 12 33.0	+0.8
KIS	Kishinev	72.77	328	*e*PS		23 13 00.0	
KIS				LRM	MLR	23 39 05.0	
	comp=Z,1μm,19.0s						
KIS	Kishinev	72.77	328	*e*P	P	23 03 08.0	-1.5
KIS				*e*		23 05 55.0	
KIS				*e*S	S	23 12 33.0	+0.8
KIS				*e*PS	PnS	23 13 00.0	-6.2
KIS				pmax	pmax		
	comp=Z,230nm,2.0s						
KIS				MLR	MLR		
	comp=Z,1μm,19.0s						
NAX	Nakhchivan	72.82	312	P	P	23 03 09.5	-0.5
N52A	McGinn's Farm,	72.82	45	P	P	23 03 10.3	+0.4
	baz=326						
DAGI	Agillar	72.84	316	*i* P	P	23 03 11.9	+1.8
WCI	Wyandotte Cave	72.86	49	*e*P	P	23 03 10.0	-0.2
	comp=Z,18nm,0.8s						
WCI	Wyandotte Cave	72.86	49	P	P	23 03 10.5	+0.3
	baz=324						
KSP	Ksiaz	72.86	337	*e*P	P	23 03 10.9	+0.9
KSP	Ksiaz	72.86	337	*e*P	P	23 03 10.9	+0.9
Q49A	Aurora	72.87	48	P	P	23 03 11.3	+1.0
	baz=324						
P50A	Jamestown	72.88	47	P	P	23 03 10.5	+0.2
	baz=325						
R48A	Northridge Ran	72.92	49	P	P	23 03 11.3	+0.8
	baz=324						
DBAD	Bademkaya	72.98	316	*i* P	P	23 03 12.2	+1.2
IAS	Iasi	73.00	328	⇑*i*P	P	23 03 11.8	+0.9
IAS	Iasi	73.00	328	P	P	23 03 11.7	+0.9
KOLS	Kolonicke sedl	73.05	333	*e*P	P	23 03 12.0	+0.9
KOLS				pmax	pmax		
	comp=Z,40nm,1.2s						
KOLS	Kolonicke sedl	73.05	333	*e*P	P	23 03 12.0	+0.9
T46A	Princeton	73.06	51	P	P	23 03 11.6	+0.3
	baz=324,SNR=7.1						
SENK	Senkaya-Erzuru	73.08	315	*e*P	P	23 03 12.3	+0.6
S47A	Hartford	73.09	50	P	P	23 03 12.5	+0.9
	baz=324						
M54A	Oil Creek Stat	73.10	43	P	P	23 03 11.7	+0.1
	baz=326						
NIE	Niedzica	73.15	334	*e*P	P	23 03 12.9	+1.2
NIE	Niedzica	73.15	334	*e*P	P	23 03 13.0	+1.2
CLL	Collm	73.17	339	⇑*i*P	P	23 03 12.4	+0.6
CLL				*i*		23 03 25.0	
CLL				*e*		23 03 33.0	
CLL				pmax	pmax		
	comp=Z,50nm,0.9s						
CLL	Collm	73.17	339	⇑*i*P	P	23 03 12.4	+0.6
	comp=Z,50nm,0.9s						
CLL				*i* (pP)	pwP	23 03 25.0	-0.2
CLL				*e*		23 03 33.0	
CLL				*e*S	SKiKP	23 12 48.0	+7.8
CLL				*e*SS	SS	23 17 18.0	+0.9
N53A	Lisbon	73.19	44	P	P	23 03 11.3	-0.9
	baz=326						
SEVA	Sevastopol	73.21	323	⇑*i*P	P	23 03 12.2	+0.1
DPC	Dobruska-Polom	73.31	337	*e*P	P	23 03 14.1	+1.4
DPC	Dobruska-Polom	73.31	337	*e*P	P	23 03 14.1	+1.4
UZH	Uzhgorod	73.31	332	⇑*i*P	P	23 03 12.3	-0.4
UZH				*e*		23 03 30.9	
UZH				*e*		23 03 39.1	
R49A	Shelbyville	73.33	48	P	P	23 03 13.5	+0.6
	baz=324						
O52A	Adamsville	73.33	45	P	P	23 03 13.0	0.0
	baz=326,SNR=6.6						
OKC	Ostrava-Krasne	73.33	336	*e*P	P	23 03 13.9	+1.1
OKC	Ostrava-Krasne	73.33	336	*e*P	P	23 03 13.9	+1.1
BURAR	Bucovina Array	73.36	330	⇑*i*P	P	23 03 13.6	+0.4
BURAR	Bucovina Array	73.36	330	P	P	23 03 13.5	+0.4
BRG	Berggiesshubel	73.37	339	*i* P	P	23 03 13.4	+0.4
	comp=Z,18nm,1.0s						
BRG				S	SKiKP	23 12 48.0	+7.5
BRG				SS	SS	23 17 07.0	-13
BRG	Berggiesshubel	73.37	339	*i* P	P	23 03 13.4	+0.4
BRG				pmax	pmax		
	comp=Z,18nm,1.0s						
LEOM	Leova	73.42	328	⇓*i*P	P	23 03 13.3	0.0
LEOM	Leova	73.42	328	P	P	23 03 13.3	0.0
Q50A	Georgetown	73.42	47	P	P	23 03 14.0	+0.5
	baz=325						
N54A	Moraine State	73.42	43	P	P	23 03 14.3	+0.9
	baz=326						
S48A	Wiedeman Farm,	73.43	49	P	P	23 03 13.6	+0.1
	baz=324,SNR=8.1						
KRLC	Kraliky	73.45	336	*e*P	P	23 03 14.8	+1.2
KRLC				*e*		23 03 27.0	
KRLC	Kraliky	73.45	336	*e*P	P	23 03 14.8	+1.2
KRLC				*e*pP	pwP	23 03 27.0	0.0
T47A	Sharon Grove	73.47	50	P	P	23 03 13.7	-0.1
	baz=324,SNR=7.5						
O53A	New Philadelph	73.49	45	P	P	23 03 13.3	-0.6
	baz=326,SNR=6.5						
M55A	Ridgway	73.51	42	P	P	23 03 14.1	+0.1
	baz=327						
MORC	Moravsky Berou	73.54	336	⇑*i*P	P	23 03 15.3	+1.2
MORC	Moravsky Berou	73.54	336	P	P	23 03 15.2	+1.2
MORC	Moravsky Berou	73.54	336	*e*P	P	23 03 15.1	+1.0
CLDR	Caldiran	73.55	313	*e*P	P	23 03 15.4	+0.8
PVCC	Panska Ves	73.56	338	*e*P	P	23 03 15.2	+1.1
PVCC	Panska Ves	73.56	338	*e*P	P	23 03 15.2	+1.1
Q51A	Peebles	73.56	47	P	P	23 03 14.8	+0.5
	baz=325						
EATA	Eleskirt	73.59	315	*i* P	P	23 03 17.4	+2.5
P52A	Corning	73.59	46	P	P	23 03 14.7	+0.2
	baz=326						
AGRB	Hanur-Agry	73.61	314	*e*P	P	23 03 16.4	+1.6
TRSU	Trosnyk	73.61	332	P	P	23 03 15.5	+1.1
LANS	Liptovska Anna	73.62	334	*e*P	P	23 03 16.5	+2.0
LANS	Liptovska Anna	73.62	334	*e*P	P	23 03 16.5	+2.0
S49A	Springfield	73.68	49	P	P	23 03 14.9	-0.2
	baz=325,SNR=6.0						
BIZ	Bicaz	73.69	329	⇑*i*P	P	23 03 15.5	+0.5
TRPA	Tarpa	73.70	332	⇓*i*P	P	23 03 16.5	+1.6
TRPA	Tarpa	73.70	332	⇑*e*P	P	23 03 15.1	+0.2
T48A	Bowling Green	73.71	50	P	P	23 03 15.6	+0.3
	baz=324,SNR=6.7						
R50A	Paris	73.72	48	P	P	23 03 15.8	+0.5
	baz=325						
KOPR	Koprukoy-ERZUR	73.76	315	*e*P	P	23 03 16.9	+1.2
WTSB	Winterswijk	73.77	343	*e*P	P	23 03 16.1	+0.8
	comp=Z,52nm,0.9s						
KTUT	Trabzon	73.82	317	⇓*i*P	P	23 03 15.7	-0.1
LBNH	Lisbon	73.82	36	P	P	23 03 16.2	+0.4
	baz=330						
WVT	Waverly	73.82	52	*e*P	P	23 03 16.8	+0.9
	comp=Z,12nm,0.8s						
WVT	Waverly	73.82	52	P	P	23 03 16.8	+0.9
	baz=324						
U47A	Clarksville	73.83	51	P	P	23 03 15.7	-0.2
	baz=324,SNR=5.6						
MACK	Trabzon	73.86	317	*i* P	P	23 03 17.0	+0.9
PKME	Peaks-Kenny Pk	73.86	34	P	P	23 03 16.3	+0.4
	baz=331						
KRIK	Erzurum-spir	73.87	316	*i* P	P	23 03 18.4	+2.0
AKDA	Akdag	73.88	316	*i* P	P	23 03 18.9	+2.5
O54A	Avella	73.90	44	P	P	23 03 16.5	+0.1
	baz=326						
V46A	Holladay	73.94	52	P	P	23 03 16.3	-0.3
	baz=324,SNR=7.6						
KECS	Kecovo	73.95	334	*e*P	P	23 03 17.6	+1.1
KECS				pmax	pmax		
	comp=Z,70nm,1.2s						
KECS	Kecovo	73.95	334	*e*P	P	23 03 17.6	+1.1
833A	Chaparral WMA,	73.96	65	P	P	23 03 19.5	+2.7
	baz=321						
N55A	Marion Center	73.99	43	P	P	23 03 16.4	-0.4
	baz=327,SNR=6.1						
BINY	Binghamton	74.02	40	P	P	23 03 16.2	-0.8
	baz=328						
R51A	Hillsboro	74.04	47	P	P	23 03 17.3	+0.1
	baz=325,SNR=5.7						
PRU	Pruhonice	74.07	338	*e*P	P	23 03 18.5	+1.4
PRU				*e*		23 03 30.6	
PRU	Pruhonice	74.07	338	*e*P	P	23 03 18.5	+1.4
PRU				*e*pP	pwP	23 03 30.6	+0.1
GOPC	GO Pecny, Ondr	74.08	338	*e*P	P	23 03 18.5	+1.3
GOPC	GO Pecny, Ondr	74.08	338	*e*P	P	23 03 18.5	+1.3
Q52A	Bidwell	74.09	46	P	P	23 03 17.1	-0.3
	baz=326						
ARCR	ARCALIA	74.10	330	⇓*i*P	P	23 03 18.8	+1.4
T49A	Edmonton	74.12	49	P	P	23 03 18.2	+0.6
	baz=325						
U48A	Cassie Pea, Po	74.13	50	P	P	23 03 17.7	0.0
	baz=324,SNR=6.8						
MLAZ	Malazgirt-MUS	74.16	314	*e*P	P	23 03 19.6	+1.6
S50A	Richmond	74.18	48	P	P	23 03 18.0	+0.1
	baz=325						
VRAC	Vranov	74.21	336	⇑*i*P	P	23 03 19.4	+1.5
VRAC	Vranov	74.21	336	*e*P	P	23 03 19.1	+1.2
V47A	Nunnelly	74.21	51	P	P	23 03 18.3	+0.2
	baz=324						
BAYB	BAYBURT	74.22	317	*i* P	P	23 03 20.4	+2.0
VANB	Van	74.24	313	*e*P	P	23 03 21.0	+2.6
DSB	Dublin	74.26	352	*e*P	P	23 03 14.6	-3.5
DSB				*i* PP	P	23 03 19.0	+0.9
NKC	Novy Kostel	74.31	339	*e*P	P	23 03 19.7	+1.2
NKC	Novy Kostel	74.31	339	*e*P	P	23 03 19.7	+1.2
IGLA	Glengowla, Co	74.32	354	*e*P	P	23 03 13.9	-4.5
IGLA				*i* PP	P	23 03 18.9	+0.5
KOPT	Kop Dagi	74.32	316	*i* P	P	23 03 21.0	+1.9
O55A	Ligonier	74.34	43	P	P	23 03 19.0	+0.1
	baz=327						
P54A	Burton	74.34	44	P	P	23 03 18.6	-0.3
	baz=326,SNR=7.5						
OXF	Oxford	74.34	54	P	P	23 03 19.2	+0.3
	baz=324						
JAVC	Velka Javorina	74.35	335	*e*P	P	23 03 20.8	+1.9
TLCR		74.36	327	⇓*i*P	P	23 03 19.5	+0.7
VYHS	Vyhne	74.39	335	*e*P	P	23 03 20.3	+1.3
VYHS				pmax	pmax		
	comp=Z,17nm,1.0s						
VYHS	Vyhne	74.39	335	*e*P	P	23 03 20.3	+1.3
PETR	Petresti	74.41	328	⇑*i*P	P	23 03 20.6	+1.5
R52A	Catlettsburg	74.43	47	P	P	23 03 19.7	+0.2
	baz=326						
VRI	Vrincioaia	74.45	328	⇑*i*P	P	23 03 20.7	+1.3
VRI	Vrincioaia	74.45	328	P	P	23 03 20.6	+1.2
KRUC	Moravsky	74.48	336	*e*P	P	23 03 20.5	+1.0
PLOR	Plostina	74.48	328	⇑*i*P	P	23 03 19.9	+0.2
PLOR	Plostina	74.48	328	P	P	23 03 19.8	+0.1
U49A	Red Boiling Sp	74.48	50	P	P	23 03 19.6	-0.1
	baz=325,SNR=7.4						
TREC	Trest	74.49	337	*e*P	P	23 03 20.6	+1.0
TREC				*e*		23 03 33.1	
TREC	Trest	74.49	337	*e*P	P	23 03 20.6	+1.0
TREC				*e*pP	pwP	23 03 33.1	+0.1
Q53A	Leroy	74.50	46	P	P	23 03 19.1	-0.7
	baz=326,SNR=8.2						
T50A	Nancy	74.51	49	P	P	23 03 19.7	-0.2
	baz=325,SNR=6.6						
OZUR		74.54	329	⇑*i*P	P	23 03 20.1	+0.1
LTVH	Ltavrtes, Hu	74.56	332	⇑*e*P	P	23 03 21.0	+1.1
MCWV	Mont Chateau	74.56	44	P	P	23 03 19.7	-0.4
	baz=327,SNR=5.5						
SSPA	Standing Stone	74.57	42	*e*P	P	23 03 18.8	-1.3
	comp=Z,13nm,0.9s						
SSPA	Standing Stone	74.57	42	P	P	23 03 20.5	+0.4
	baz=327						
S51A	Beattyville	74.58	48	P	P	23 03 20.3	0.0
	baz=325						
CFR	Carcaliu	74.59	327	⇑*i*P	P	23 03 20.5	+0.3
CFR	Carcaliu	74.59	327	P	P	23 03 20.4	+0.3
O56A	Blue Knob Stat	74.60	43	P	P	23 03 19.6	-0.8
	baz=327,SNR=7.5						
V48A	Smith Brothers	74.62	51	P	P	23 03 20.9	+0.4
	baz=324,SNR=8.3						
VRTB	Varto-Mus	74.62	315	*e*P	P	23 03 23.9	+3.2
PSZ	Piszkesteto	74.63	334	⇑*i*P	P	23 03 22.2	+1.7
PSZ	Piszkesteto	74.63	334	⇑*e*P	P	23 03 21.1	+0.6
AKDM	Akdamar-Van	74.64	314	*e*P	P	23 03 21.9	+1.1
W47A	Westpoint	74.64	52	P	P	23 03 20.9	+0.2
	baz=324						
CJR	Cluj-Napoca	74.66	331	⇑*i*P	P	23 03 21.8	+1.1
CJR	Cluj-Napoca	74.66	331	P	P	23 03 21.7	+1.1
KARO	Karliova-Bingo	74.67	315	*e*P	P	23 03 22.1	+1.0
P55A	Reedsville	74.70	44	P	P	23 03 21.2	+0.2
	baz=327,SNR=11						
Q54A	Coxs Mills	74.70	45	P	P	23 03 21.7	+0.7
	baz=326						
X46A	Booneville	74.72	53	P	P	23 03 22.1	+1.0
	baz=324						
KELT	Kelkit	74.73	317	*i* P	P	23 03 22.6	+1.2
SMOL	Smolenice	74.73	335	*e*P	P	23 03 23.5	+2.5
SMOL	Smolenice	74.73	335	*e*P	P	23 03 23.5	+2.5
R53A	Hurricane	74.75	46	P	P	23 03 21.5	+0.2
	baz=326						
SNOP	Sinop	74.78	321	*e*P	P	23 03 21.3	-0.1
YEDI	Yedisu-Bingol	74.78	316	*e*P	P	23 03 21.3	-0.3
DOPR	Dopca	74.78	329	⇑*i*P	P	23 03 22.6	+1.2
LMN	Caledonia Moun	74.82	31	*e*P	P	23 03 22.3	+0.7
	comp=Z,21nm,0.8s						
DRGR		74.86	331	⇑*i*P	P	23 03 22.4	+0.6
DRGR		74.86	331	P	P	23 03 22.4	+0.6
MODS	Modra-Piesok	74.90	336	*e*P	P	23 03 22.6	+0.6
MODS				pmax	pmax		
	comp=Z,34nm,1.1s						
MODS	Modra-Piesok	74.90	336	*e*P	P	23 03 22.6	+0.6
EUZM	Uzumlu	74.92	317	*i* P	P	23 03 24.5	+2.2
BNGL	BINGOL	74.92	315	*i* P	P	23 03 24.6	+2.0
MUSM	Mu-Merkez	74.96	315	*i* P	P	23 03 23.5	+0.9
U50A	Jamestown	75.00	49	P	P	23 03 22.8	+0.1
	baz=325,SNR=8.5						
Q55A	Buckhannon	75.02	45	P	P	23 03 23.2	+0.4
	baz=327						
MLR	Muntele Rosu	75.03	329	⇓*i*P	P	23 03 23.8	+0.9
V49A	McMinnville	75.03	50	P	P	23 03 23.3	+0.4
	baz=325						
W48A	Pulaski	75.05	52	P	P	23 03 22.9	-0.2
	baz=324,SNR=7.6						
HGN	Heimansgroeve	75.08	344	*e*P	P	23 03 23.5	+0.7
	comp=Z,96nm,1.1s						
DIKM	Dikmen	75.08	321	*e*P	P	23 03 24.3	+1.2
DIKM	Dikmen	75.08	321	⇑*i*P	P	23 03 24.0	+0.9
GRF	Grafenberg Arr	75.08	340	P	P	23 03 24.7	+1.7
GRFO	Grafenberg	75.08	340	*e*P	P	23 03 24.4	+1.5
	comp=Z,48nm,1.0s						
GRFO	Grafenberg	75.08	340	P	P	23 03 24.6	+1.6
BEBN	Eben Emael	75.09	344	⇑P	P	23 03 23.9	+1.0
KHC	Kasperske Hory	75.09	338	*e*P	P	23 03 24.2	+1.1
KHC				*e*		23 03 36.5	
KHC	Kasperske Hory	75.09	338	*e*P	P	23 03 24.2	+1.1
KHC				*e*pP	pwP	23 03 36.5	-0.1
BNGB	Bingl	75.10	316	*e*P	P	23 03 24.7	+1.3
BGOL	Bingol	75.10	316	*i* P	P	23 03 25.7	+2.2
X47A	Russelville	75.10	53	P	P	23 03 23.8	+0.5
	baz=324						
ZST	Bratislava	75.11	336	*e*P	P	23 03 24.2	+1.0
ZST	Bratislava	75.11	336	*e*P	P	23 03 24.2	+1.0
TNS	Taunus Mts	75.14	342	P	P	23 03 24.7	+1.3
TLB	Topalu	75.15	327	⇑*i*P	P	23 03 23.5	+0.1
TLB	Topalu	75.15	327	P	P	23 03 23.5	+0.1
SRO	Srobarova	75.15	335	*e*P	P	23 03 25.2	+1.8
SRO	Srobarova	75.15	335	*e*P	P	23 03 25.2	+1.8
IWEX	Carrickbyrne,	75.16	352	*e*P	P	23 03 19.5	-3.8
IWEX				*e*PP	P	23 03 24.3	+1.0
SRO2	Moca	75.18	335	*e*P	P	23 03 24.7	+1.2
SRO2	Moca	75.18	335	*e*P	P	23 03 24.7	+1.2
N59A	State Game Lan	75.19	41	P	P	23 03 24.1	+0.3
	baz=328						
MEM	Membach	75.21	343	P	P	23 03 25.0	+1.3
MEM	Membach	75.21	343	⇑P	P	23 03 24.8	+1.1
	comp=Z,79nm,1.0s						
MEM				⇑pP	PcP	23

comp=Z,24nm,0.9s
SNF ⇑pP PcP 23 03 38.1 -0.6
DEV Deva 75.62 331 ⇑*i*P P 23 03 27.1 +1.0
DEV Deva 75.62 331 P P 23 03 27.1 +1.0
SIRR Siria 75.64 332 ⇑*i*P P 23 03 27.1 +0.8
ICOR Ion Corvin 75.64 327 ⇑*i*P P 23 03 27.3 +1.0
CONA Conrad Observa 75.67 336 *i* P P 23 03 28.1 +1.6
comp=Z,35nm,1.0s,SNR=25
GRC1 Grafenberg Arr 75.67 339 P P 23 03 27.6 +1.2
Q57A Strasburg 75.69 43 P P 23 03 27.1 +0.4
baz=327
TOKT Tokat 75.70 319 *e*P P 23 03 27.9 +1.1
U52A Thorn Hill 75.70 48 P P 23 03 27.1 +0.3
baz=326
SOP Sopron 75.72 336 P P 23 03 28.5 +1.8
SOP Sopron 75.72 336⇑*e*P P 23 03 28.1 +1.4
V51A Loudon 75.73 49 P P 23 03 26.9 0.0
baz=325,SNR=6.2
LOT Lotru 75.75 330 ⇓*i*P P 23 03 27.2 +0.2
W50A Signal Mountai 75.77 50 P P 23 03 27.2 0.0
baz=325,SNR=11
X49A Woodville 75.85 51 P P 23 03 27.8 +0.2
baz=325,SNR=5.5
O60A Telford 75.85 41 P P 23 03 27.4 -0.1
baz=329
S55A Lewisburg 75.85 46 P P 23 03 27.8 +0.2
baz=327
PAL Palisades 75.85 39 P P 23 03 27.1 -0.4
baz=329
SVSK Karacayir 75.86 319 *e*P P 23 03 29.0 +1.4
GIVF Givet 75.91 344 *e*P P 23 03 27.8 +0.1
GIVF pmax pmax
comp=Z,20nm,1.0s
Y48A Jasper 75.92 52 P P 23 03 28.6 +0.5
baz=324
DOU Dourbes 75.95 344 ⇑P P 23 03 28.6 +0.7
comp=Z,17nm,1.1s
DOU ⇓pP PcP 23 03 39.8 -0.5
T54A Tazewell 75.96 47 P P 23 03 28.6 +0.2
baz=326,SNR=5.4
P59A Jarrettsville 76.03 42 P P 23 03 28.7 +0.1
baz=328
BAIF Baives 76.05 344 *e*P P 23 03 28.8 +0.3
BAIF pmax pmax
comp=Z,26nm,1.0s
V52A Sevierville 76.05 49 P P 23 03 29.1 +0.3
baz=326,SNR=6.2
W51A Cleveland 76.06 50 P P 23 03 29.0 +0.1
baz=325
U53A Fall Branch 76.09 48 P P 23 03 28.8 -0.2
baz=326
WLF Walferdange 76.10 343 ⇓P P 23 03 30.0 +1.2
GZR Gura Zlata 76.10 331 ⇑*i*P P 23 03 29.6 +0.6
TIH Tihany 76.10 335 *e*P P 23 03 29.1 +0.2
MOA Molln 76.13 337 *i* P P 23 03 30.3 +1.2
comp=Z,17nm,0.9s,SNR=10.0
SVRC Sivrice-ELAZID 76.20 316 *e*P P 23 03 31.4 +1.6
X50B Fort Payne 76.21 51 P P 23 03 29.8 0.0
baz=325,SNR=7.1
BZS Buzias 76.24 332 ⇑*i*P P 23 03 30.0 +0.3
R57A Stanardsville 76.27 44 P P 23 03 30.4 +0.4
baz=327
T55A Pulaski 76.27 46 P P 23 03 29.7 -0.3
baz=327
FITZ Fitzroy Crossi 76.32 214 *e*P P 23 03 31.7 +1.4
comp=Z,23nm,1.0s
Y49A Blount Mountai 76.34 52 P P 23 03 31.1 +0.7
baz=325
BLA Blacksburg 76.35 46 P P 23 03 30.7 +0.2
baz=327
STU Stuttgart 76.37 341 P P 23 03 36.1 +5.7
147A Livingston 76.38 54 P P 23 03 31.5 +0.8
baz=324
ARSA Arzberg 76.39 336 *i* P P 23 03 32.1 +1.5
comp=Z,24nm,0.8s,SNR=11
R58A Rapidan 76.49 44 P P 23 03 31.4 +0.2
baz=328
X51A Calhoun 76.50 50 P P 23 03 32.3 +0.9
baz=325
W52A Murphy 76.51 49 P P 23 03 32.5 +1.1
baz=326
S57A Dark Hollow, R 76.53 45 P P 23 03 31.7 +0.2
baz=327
V53A Saluda 76.55 48 P P 23 03 31.7 0.0
baz=326
CORM Corum 76.58 320 *e*P P 23 03 33.5 +1.6
PRD Provadia 76.59 327 *e*P P 23 03 33.0 +1.3
BANR Banloc 76.60 332 ⇑*i*P P 23 03 33.5 +1.8
CANT Cankiri 76.61 321 *e*P P 23 03 33.5 +1.6
Y50A Piedmont 76.64 51 P P 23 03 31.6 -0.6
baz=325
U55A TA2, Sparta 76.66 47 P P 23 03 32.0 -0.3
baz=327
HERR Herculane 76.67 331 ⇑*i*P P 23 03 32.1 0.0
LRAL Lakeview Retre 76.72 53 P P 23 03 32.1 -0.5
baz=325
BEHE Becsehely 76.79 335 *e*P P 23 03 33.8 +1.0
BEHE Becsehely 76.79 335⇑*e*P P 23 03 33.1 +0.3
DARE Darende-Malaty 76.80 317 *e*P P 23 03 34.7 +1.6
W53A Cullowhee 76.80 49 P P 23 03 33.6 +0.5
baz=326
Z49A Columbiana 76.82 52 P P 23 03 33.9 +0.7
baz=325
R58B Mineral 76.82 44 P P 23 03 33.0 -0.1
baz=328
VLAD Vladila 76.86 329 ⇓*i*P P 23 03 33.9 +0.7
V54A Nebo 76.86 48 P P 23 03 33.9 +0.5
baz=326
X52A Dahlonega 76.93 50 P P 23 03 34.1 +0.3
baz=326
R59A King George, V 76.94 43 P P 23 03 34.2 +0.4
baz=328
Y51A Rockmart 76.95 51 P P 23 03 33.8 -0.1
baz=325,SNR=5.9
BFO Black Forest 76.97 341 *e*P P 23 03 33.3 -0.5
comp=Z,16nm,0.9s
BFO Black Forest 76.97 341 *i* P P 23 03 35.0 +1.2
MDVR Moldovita 76.97 331 ⇑*i*P P 23 03 34.1 +0.2
SOKA Soboth 77.04 336 *i* P P 23 03 35.6 +1.3
comp=Z,42nm,1.1s,SNR=17
T57A Hurt 77.04 45 P P 23 03 34.3 0.0
baz=327
Z50A Ashland 77.06 52 P P 23 03 34.5 0.0
baz=325,SNR=11
KBA Koelnbreinsper 77.07 338 *i* P P 23 03 36.5 +1.8
comp=Z,131nm,1.0s,SNR=55
KBA Koelnbreinsper 77.07 338 P P 23 03 36.4 +1.8
CDF Champ du Feu 77.09 342 *e*P P 23 03 34.8 +0.2
CDF pmax pmax
comp=Z,52nm,1.1s
V55A Taylorsville 77.13 47 P P 23 03 35.2 +0.3
baz=327
149A Jones 77.17 53 P P 23 03 35.7 +0.5
baz=325
FRGS Fruska Gora 77.18 333 *e*P P 23 03 35.9 +0.9
URFA Urfa 77.19 316 *e*P P 23 03 36.4 +1.1
WATA Walderalm 77.23 339 *i* P P 23 03 36.7 +1.3
comp=Z,25nm,0.8s,SNR=17
RETA Reutte 77.27 339 *i* P P 23 03 36.7 +1.2
comp=Z,24nm,1.0s,SNR=12
WTTA Wattenberg 77.29 339 *i* P P 23 03 37.4 +1.6
comp=Z,54nm,1.0s,SNR=20
X53A Estanollee 77.29 49 P P 23 03 34.9 -0.9
baz=326
ECH Echery 77.30 342 P P 23 03 36.8 +1.1
OBKA Obir 77.32 337 *i* P P 23 03 37.1 +1.2
comp=Z,36nm,1.1s,SNR=7.6
W54A Cherokee Point 77.32 48 P P 23 03 34.8 -1.2
baz=326
MOTA Moosalm 77.33 339 *i* P P 23 03 37.2 +1.2
comp=Z,40nm,0.9s,SNR=30
BR131 Keskin Array S 77.36 321 P P 23 03 36.7 +0.4
SNR=33
BR131 P P 23 03 36.7 +0.4
SNR=33
BRTR Keskin Array B 77.36 321 *i* P P 23 03 36.7 +0.4
BRTR pmax pmax
comp=Z,15nm,0.9s
BRTR Keskin Array B 77.36 321 P P 23 03 36.7 +0.4
comp=Z,14nm,0.9s,baz=46,slow=3.6,SNR=94
BRTR PP PP 23 06 29.6 -0.5
comp=Z,3.1nm,0.8s,baz=56,slow=5.1,SNR=4.9
T58A Grand View Acr 77.40 45 P P 23 03 36.6 +0.2
baz=328
MYKA Terra Mystica 77.42 337 *i* P P 23 03 37.2 +0.8
comp=Z,23nm,1.4s
SQTA Sankt Quirin 77.42 339 *i* P P 23 03 37.9 +1.5
comp=Z,44nm,0.9s,SNR=24
Y52A Lilburn 77.45 50 P P 23 03 37.9 +1.2
baz=326
SLE Schleitheim 77.47 341 P P 23 03 37.8 +1.2
U57A Blanch 77.48 46 P P 23 03 37.8 +1.0
baz=327
V56A Mocksville 77.49 47 P P 23 03 37.6 +0.8
baz=327
249A Camden 77.52 54 P P 23 03 38.1 +1.1
baz=325
150A Eclectic 77.54 52 P P 23 03 37.5 +0.2
baz=325
LOD Lodumlu 77.56 321 *e*P P 23 03 38.5 +1.2
ANTO Ankara 77.56 321 *e*P P 23 03 37.9 +0.5
comp=Z,32nm,0.9s
ANTO Ankara 77.56 321 ⇑*i*P P 23 03 37.6 +0.3
ANTO Ankara 77.56 321 P P 23 03 37.6 +0.3
ANTO Ankara 77.56 321 P P 23 03 37.9 +0.5
SNR=16
ANTO P P 23 03 37.9 +0.5
SNR=16
ABTA Abfaltersbach 77.58 338 *i* P P 23 03 38.2 +0.9
comp=Z,56nm,1.1s,SNR=18
ZAG Zagreb 77.59 335 *e*P P 23 03 38.7 +1.4
MDUB Mudurnu 77.64 323 *e*P P 23 03 38.7 +0.9
MPEP Malo Peshtene 77.64 329 P P 23 03 37.0 -0.6
DAVA Damuels 77.65 340 *i* P P 23 03 38.9 +1.1
comp=Z,39nm,1.1s,SNR=12
HAU Haudompre 77.66 342 *e*P P 23 03 37.9 +0.3
HAU pmax pmax
comp=Z,46nm,1.1s
KMSC Kings Mountain 77.66 48 P P 23 03 38.2 +0.3
baz=327
X54A Belton 77.68 49 P P 23 03 38.1 +0.1
baz=326,SNR=5.5
Y53A Monroe 77.69 50 P P 23 03 39.2 +1.2
baz=326
FETA Feichten 77.72 339 *i* P P 23 03 39.7 +1.5
comp=Z,43nm,1.1s,SNR=19
SAUV Serdivan-Sakar 77.73 323 *e*P P 23 03 38.0 -0.1
CRES Cresnjev 77.73 336 *e*P P 23 03 39.0 +0.9
KLYT Kilyos 77.74 325 *e*P P 23 03 38.7 +0.6
KLYT Kilyos 77.74 325 ⇑*i*P P 23 03 38.6 +0.5
V57A Coltrane Farms 77.74 46 P P 23 03 38.6 +0.3
baz=327
HINF Hinteralfeld 77.74 342 *e*P P 23 03 38.1 -0.1
HINF pmax pmax
comp=Z,18nm,1.0s
LJU Ljubljana 77.76 336 *e*P P 23 03 38.7 +0.5
SPNC Sapanca-Adapaz 77.78 323 *e*P P 23 03 39.4 +1.0
CTYL Yalikoy Yolu 77.81 325 *e*P P 23 03 39.3 +0.8
AFSR Afar-Bala (An 77.82 321 *e*P P 23 03 39.6 +0.8
Z52A Williamson 77.84 51 P P 23 03 39.8 +0.9
baz=326
U58A Oxford 77.85 45 P P 23 03 39.1 +0.2
baz=328
HRT Hereke 77.90 324 *e*P P 23 03 39.9 +0.8
BGKT Bogazkoy 77.90 325 *e*P P 23 03 39.5 +0.5
ISK Istanbul-Kandi 77.90 324 *e*P P 23 03 39.5 +0.4
ISK Istanbul-Kandi 77.90 324 P P 23 03 39.3 +0.2
OZLJ Ozalj 77.92 336 *i* P P 23 03 39.6 +0.5
GULT Gulveren 77.93 323 *e*P P 23 03 40.3 +0.9
PHSR Pinarhisar 77.94 326 *e*P P 23 03 40.5 +1.2
PHSR Pinarhisar 77.94 326 ⇓*i*P P 23 03 40.0 +0.7
CTKS Kestanelik-??a 77.94 325 *e*P P 23 03 39.8 +0.5
KMRS Kahramanmaras 77.95 317 *e*P P 23 03 40.6 +1.1
SHME Shamm 77.96 297 *i* P P 23 03 39.3 -0.4
SNR=6.8
EDRB Edirne 78.01 326 *e*P P 23 03 40.4 +0.7
EDRB Edirne 78.01 326 P P 23 03 40.0 +0.3
FLN La Foliniere 78.02 347 *e*P P 23 03 39.6 0.0
FLN pmax pmax
comp=Z,42nm,1.0s
SLVT Silivri 78.06 325 *e*P P 23 03 39.4 -0.5
SERE Sereflikochisa 78.06 320 *e*P P 23 03 40.7 +0.5
CEY Cerknica 78.07 336 *e*P P 23 03 40.7 +0.7
X55A Gracelyn & Ava 78.08 48 P P 23 03 39.8 -0.4
baz=327
GAZ Gaziantep 78.10 317 *e*P P 23 03 41.6 +1.2
DIVS Divibare 78.10 332 *e*P P 23 03 40.6 +0.3
Y54A Tignall 78.10 49 P P 23 03 41.2 +0.9
baz=326
V58A Windy Hill, Pi 78.11 46 P P 23 03 40.3 0.0
baz=328
LDF La Druitiere 78.13 347 *e*P P 23 03 40.2 0.0
LDF pmax pmax
comp=Z,36nm,1.2s
Z53A Monticello 78.17 50 P P 23 03 40.9 +0.2
baz=326
KULU Kulu 78.20 321 *e*P P 23 03 42.1 +1.2
U59A Littleton 78.22 44 P P 23 03 40.9 0.0
baz=328
SRCK Saricakaya, Es 78.23 323 *e*P P 23 03 41.4 +0.5
PGB Panagyurishte 78.23 329 *e*P P 23 03 42.0 +1.0
DIM Dimitrovgrad 78.24 327 *e*P P 23 03 41.8 +0.9
W57A Gilead 78.26 47 P P 23 03 40.7 -0.4
baz=327
251A Midway 78.26 52 P P 23 03 41.5 +0.2
baz=325
BLY Banja Luka 78.28 334 ⇓*i*P P 23 03 41.2 +0.1
BLY Banja Luka 78.28 334 *e*P P 23 03 41.1 0.0
X56A White Oak 78.34 48 P P 23 03 41.7 +0.1
baz=327
CAVI Cavuskoy 78.38 324 *e*P P 23 03 42.7 +0.9
U60A Pendleton 78.39 44 P P 23 03 42.1 +0.2
baz=328
HAPS Han Pijesak,Bl 78.41 333 *e*P P 23 03 42.3 +0.3
ARMT Armutlu 78.41 324 *e*P P 23 03 42.3 +0.4
KOZT Kozan 78.41 318 *e*P P 23 03 43.1 +1.1
SVRH Sivrihisar-ESK 78.41 322 *e*P P 23 03 42.4 +0.3
Y55A Saluda 78.42 49 P P 23 03 42.5 +0.4
baz=326
GRR Gorron 78.44 347 *e*P P 23 03 42.1 +0.2
GRR pmax pmax
comp=Z,52nm,1.0s
PLD Plovdiv 78.46 328 P P 23 03 42.5 +0.3
VTS Vitosha 78.47 329 *e*P P 23 03 42.8 +0.4
VTS Vitosha 78.47 329 P P 23 03 42.8 +0.4
VTS Vitosha 78.47 329 ⇑*i*P P 23 03 42.7 +0.4
VTS Vitosha 78.47 329 P P 23 03 42.7 +0.4
VTS Vitosha 78.47 329 *e*P P 23 03 42.8 +0.4
BBLS Lazići 78.48 332 *e*P P 23 03 43.5 +1.1
MSFE Esma-Masafi 78.49 296 *i* P P 23 03 42.2 -0.5
SNR=13
V59A Middlesex 78.52 45 P P 23 03 43.3 +0.8
baz=328
Z54A Sparta 78.55 50 P P 23 03 43.4 +0.7
baz=326
MDNY Mudanya-Bursa 78.58 324 *e*P P 23 03 43.6 +0.8
KDZ Kurdzhali 78.64 327 *e*P P 23 03 48.3 +5.1
CIFT Ciftele, Eski 78.66 322 *e*P P 23 03 43.6 +0.2
W58A Raeford 78.71 46 P P 23 03 44.2 +0.6
baz=328
SULT Sultanhani-AKS 78.73 320 *e*P P 23 03 44.6 +0.8
KIZT Kizilcal 78.77 321 *e*P P 23 03 44.2 +0.1
SGMF Saint Gilles 78.79 348 *e*P P 23 03 44.1 +0.3
SGMF pmax pmax
comp=Z,57nm,1.0s
WSAR Wadi Sarin 78.79 293 P P 23 03 44.8 +0.6
SNR=7.9
ROSF Rostrenen 78.79 349 *e*P P 23 03 44.2 +0.3
ROSF pmax pmax
comp=Z,67nm,1.0s
LOR Lormes 78.81 344 *e*P P 23 03 44.2 +0.2
LOR pmax pmax
comp=Z,44nm,1.0s
RZN Rozhen 78.83 328 *e*P P 23 03 44.9 +0.4
CEYT Ceyhan 78.85 318 *e*P P 23 03 45.8 +1.4
BIDO Bidbid 78.85 294 P P 23 03 46.0 +1.4
SNR=8.1
BIDO P P 23 03 46.0 +1.4
SNR=8.1
KCTX Karacabey (Bur 78.86 325 *e*P P 23 03 45.3 +0.9
UDBI Udbina 78.86 335 *i* P P 23 03 44.8 +0.4
RKY Sarkoy-Tekirda 78.90 326 *e*P P 23 03 44.2 -0.5
KARA Karaisali 78.92 318 *e*P P 23 03 45.9 +1.1
HATD Hatta, Dubai 78.93 296 *i* P P 23 03 45.0 0.0
SNR=36
HATD Hatta, Dubai 78.93 296 P P 23 03 45.3 +0.2
SNR=23
HATD P P 23 03 45.3 +0.2
SNR=23
V60A Jim Taylor Roa 78.94 44 P P 23 03 43.6 -1.2
baz=328
EDC Edincik 78.96 325 *e*P P 23 03 45.9 +1.0
PLE Pljevlja 78.98 332 ⇑*i*P P 23 03 45.6 +0.4
RDO Rodhopi 79.05 327 *e*P P 23 03 46.2 +0.8
RDO Rodhopi 79.05 327 P P 23 03 46.2 +0.8
CABF La Chapelle 79.05 342 *e*P P 23 03 46.1 +0.7
CABF pmax pmax
comp=Z,47nm,1.1s
X58A Rowland 79.05 47 P P 23 03 46.1 +0.6
baz=328
NVLJ Novalja 79.06 336 *i* P P 23 03 45.5 +0.2
NAZ Nazwa, Dubai 79.06 297 *i* P P 23 03 45.5 -0.2
SNR=17
NAZ Nazwa, Dubai 79.06 297 P P 23 03 45.7 -0.1
SNR=9.7
NAZ P P 23 03 45.7 -0.1
SNR=9.7
SSF Saint Saulge 79.07 344 *e*P P 23 03 45.7 +0.3
SSF pmax pmax
comp=Z,19nm,0.8s
ASHO Ashiyiah 79.08 296 *i* P P 23 03 45.7 -0.3
SNR=38
ASHO Ashiyiah 79.08 296 P P 23 03 45.6 -0.3
SNR=25
ASHO P P 23 03 45.6 -0.3
SNR=25
ASAR Alice Springs 79.09 205 P P 23 03 46.9 +1.2
comp=Z,5.7nm,0.7s,baz=16,slow=5.5,SNR=48
ALN Alexandroupoli 79.10 326 P P 23 03 46.0 +0.3
ERIK Erikli-Kesan 79.14 326 *e*P P 23 03 46.6 +0.7
LADK Ladik-KONYA 79.17 321 *e*P P 23 03 46.7 +0.4
TVSB Tavsanli 79.18 323 *e*P P 23 03 46.8 +0.5
QUIF Quistinic 79.19 349 *e*P P 23 03 46.2 +0.2
QUIF pmax pmax
comp=Z,35nm,1.0s
KKB Krupnik 79.20 329 *e*P P 23 03 47.1 +0.9
JLN Jalan Bani Buh 79.20 292 P P 23 03 47.5 +1.0
SNR=6.7
ENEZ Enez 79.20 326 *e*P P 23 03 47.0 +0.8
TAHT Tahtakopru-Hat 79.21 317 *e*P P 23 03 47.6 +1.2
UPM Unac-Piva 79.23 332 ⇑*i*P P 23 03 46.5 -0.1
UPM Unac-Piva 79.23 332 *e*P P 23 03 47.0 +0.4
MMB Musomiste 79.24 328 *e*P P 23 03 47.3 +0.8
IVA Berane 79.25 332 ⇑*i*P P 23 03 47.1 +0.5
SOHO SOHO 79.25 295 P P 23 03 46.0 -0.7
SNR=22
SOHO P P 23 03 46.0 -0.7
SNR=22
SMDO Samad 79.26 294 P P 23 03 47.8 +0.9
SNR=6.0
HOQ Hoqain 79.26 295 P P 23 03 47.3 +0.4
SNR=7.6
FAQ Al Faqa, Dubai 79.29 297 *i* P P 23 03 46.5 -0.5
SNR=15
FAQ Al Faqa, Dubai 79.29 297 P P 23 03 46.4 -0.5
SNR=6.3
LPK Lapseki 79.32 326 *e*P P 23 03 47.9 +1.0
AVF Avril sur Loir 79.36 344 *e*P P 23 03 47.4 +0.4
AVF pmax pmax
comp=Z,50nm,0.9s
KOME Kolasin 79.38 332 ⇑*i*P P 23 03 47.8 +0.5
GELI Tayfur-Gelibol 79.40 326 *e*P P 23 03 48.1 +0.8
KONT Konya--Tatoy 79.40 321 *e*P P 23 03 47.9 +0.5
NVR Nevrokopi 79.42 328 P P 23 03 48.0 +0.5
SMF Signal de Mont 79.42 344 *e*P P 23 03 47.7 +0.4
SMF pmax pmax
comp=Z,27nm,0.9s
Y58A Scranton 79.45 47 P P 23 03 47.8 +0.1
baz=327
Z57A Bowman 79.49 48 P P 23 03 47.8 -0.1
baz=327
PVY Plav 79.49 331 ⇑*i*P P 23 03 48.1 +0.1
KAVA Kavala 79.52 328 *e*P P 23 03 48.6 +0.6
KAVA Kavala 79.52 328 P P 23 03 48.6 +0.6
ASUD Al Ashush, Dub 79.53 297 *i* P P 23 03 48.3 0.0
SNR=8.3
SHUT Suhut-Afyon 79.56 322 *e*P P 23 03 49.3 +0.9
NKY Niksic 79.57 332 ⇑*i*P P 23 03 48.3 -0.1
BALB Balikesir 79.58 325 *e*P P 23 03 48.9 +0.6
SKO Skopje 79.61 330 *e*P P 23 03 49.1 +0.6
SKO Skopje 79.61 330 P P 23 03 49.1 +0.6
SKO Skopje 79.61 330 *i* P P 23 03 49.1 +0.6
BRY Bratogost 79.62 333 ⇑*i*P P 23 03 48.3 -0.4
BRY Bratogost 79.62 333 *e*P P 23 03 48.5 -0.2
NKME Niksic 79.62 332 ⇑*i*P P 23 03 48.4 -0.2
STIP Stip 79.64 330 *i* P P 23 03 48.3 -0.3
SMTH Samothraki Isl 79.65 327 *e*P P 23 03 48.5 -0.2
SMTH Samothraki Isl 79.65 327 P P 23 03 48.5 -0.2
BGF Bois d'Agland 79.67 344 *e*P P 23 03 49.1 +0.4
BGF pmax pmax
comp=Z,24nm,1.0s
TIGA Tifton 79.68 51 P P 23 03 50.2 +1.2
baz=326
SRS Serrai 79.71 328 P P 23 03 49.2 +0.1
ALNE Al Ain 79.75 296 *i* P P 23 03 49.2 -0.3
SNR=24
JMDO Jabal Madar 79.77 293 P P 23 03 50.6 +0.9
SNR=5.6
THAS Thassos island 79.80 327 P P 23 03 49.5 0.0
453A Whigham 79.81 52 P P 23 03 51.5 +1.8
baz=326
CEME Cevo 79.83 332 ⇑*i*P P 23 03 49.5 -0.3
TREB Trebinje 79.84 333 *e*P P 23 03 49.2 -0.5
PDG Podgorica 79.84 332 *e*P P 23 03 49.6 -0.1
TTG Podgorica 79.84 332 ⇑*i*P P 23 03 49.5 -0.1
STON Ston 79.88 333 *i* P P 23 03 49.4 -0.5
STON Ston 79.88 333 *e*P P 23 03 49.3 -0.5
KNT Kendrikon 79.89 329 P P 23 03 50.7 +0.7
KIZK Mersin 79.96 319 *e*P P 23 03 50.5 +0.1
EZN Ezine 79.96 326 *e*P P 23 03 50.8 +0.4
EZN Ezine 79.96 326 *e*P P 23 03 50.4 0.0
EZN Ezine 79.96 326 P P 23 03 50.4 0.0
LPL La Plagne 79.98 342 *e*P P 23 03 51.9 +1.2
LPL pmax pmax
comp=Z,51nm,0.8s
BSY Bisya 79.98 294 P P 23 03 51.7 +0.9
SNR=10
LPG La Plagne 79.99 342 *e*P P 23 03 52.1 +1.3
LPG pmax pmax
comp=Z,56nm,0.7s
TCF Toulx Ste Croi 80.03 345 *e*P P 23 03 51.2 +0.5
TCF pmax pmax
comp=Z,28nm,0.9s
BOZC Bozcaada 80.04 326 *e*P P 23 03 50.8 0.0
HCY Herceg Novi 80.05 332 ⇑*i*P P 23 03 50.3 -0.5
HCY Herceg Novi 80.05 332 *e*P P 23 03 50.4 -0.4
BUM Brajici-Budva 80.07 332 ⇑*i*P P 23 03 50.8 -0.2
MFF Saint Martin d 80.09 347 *e*P P 23 03 51.5 +0.6
MFF pmax pmax
comp=Z,31nm,1.1s
DRME Dracevica, Mon 80.09 332 ⇑*i*P P 23 03 51.4 +0.3
DRME Dracevica, Mon 80.09 332 *e*P P 23 03 51.1 0.0
KEBE Keben-Mersin 80.16 319 *e*P P 23 03 51.3 -0.3
PHP Peshkopia 80.18 331 P P 23 03 51.8 +0.2
ISP Isparta 80.21 322 *e*P P 23 03 51.6 -0.3
ISP Isparta 80.21 322 P P 23 03 51.6 -0.3
KRUS Krusevo 80.22 330 *i* P P 23 03 52.1 +0.2
GRG Griva 80.24 329 P P 23 03 52.4 +0.5
ULC Ulcinj 80.28 332 ⇑*i*P P 23 03 53.2 +1.1
TEVE Tevekalti-Mers 80.28 319 *e*P P 23 03 52.9 +0.6
LIA Limnos Island 80.28 327 P P 23 03 52.3 +0.2
OUR Ouranopolis 80.29 328 *e*P P 23 03 52.1 0.0
OUR Ouranopolis 80.29 328 P P 23 03 52.1 0.0
KULA Kula-Manisa 80.30 324 *e*P P 23 03 52.7 +0.4
KULA Kula-Manisa 80.30 324 P P 23 03 52.7 +0.4
IKL Isikli 80.35 319 *e*P P 23 03 52.9 +0.4
PLG Polygyros 80.43 328 P P 23 03 52.9 +0.1
BERE Bereket-Mersin 80.44 319 *e*P P 23 03 52.8 -0.4
AKKU Akkuyu-Mersin 80.48 319 *e*P P 23 03 53.2 0.0
PRK Paraskevi 80.50 326 P P 23 03 54.1 +0.8
BCK Bucak 80.50 322 *e*P P 23 03 53.4 -0.1
BIA Bitola 80.52 330 *i* P P 23 03 54.0 +0.6
455A Stateville 80.52 51 P P 23 03 53.0 -0.5
baz=326
OHR Ohrid 80.59 330 *i* P P 23 03 54.1 +0.3
TIR Tirane 80.66 331 *e*P P 23 03 52.3 -1.8
comp=Z,57nm,1.0s
TIR *e*PP PP 23 06 53.8 -3.6
TIR Tirane 80.66 331 P P 23 03 54.7 +0.6
TIR Tirane 80.66 331 ⇑*i*P P 23 03 54.3 +0.1
TIR Tirane 80.66 331 P P 23 03 54.2 +0.1
TEKE Tekeli-Mersin 80.67 319 *e*P P 23 03 53.9 -0.3
FNA Florina 80.72 330 P P 23 03 54.4 -0.1

FNA	Florina	80.72 330	P		P	23 03 54.5	-0.1
ORIF	Oris-en-Rattie	80.72 342	eP		P	23 03 55.7	+1.2
ORIF			pmax	pmax			
	comp=Z,54nm,0.9s						
MBDF	Montbardon	80.73 341	eP		P	23 03 55.3	+0.7
MBDF			pmax	pmax			
	comp=Z,24nm,0.8s						
554A	Perry	80.75 52	P		P	23 03 56.0	+1.3
	baz=326						
PAIG	Paliouri	80.76 328	P		P	23 03 54.4	-0.3
MHTO	MHTO	80.94 292	P		P	23 03 56.2	+0.3
	SNR=26						
MHTO			P		P	23 03 56.2	+0.3
	SNR=26						
KORT	Korkueli	81.00 322	eP		P	23 03 55.9	-0.3
VIVF	Saint-Julien-I	81.00 343	eP		P	23 03 57.0	+1.1
VIVF			pmax	pmax			
	comp=Z,35nm,1.0s						
555A	McAlpin	81.07 52	P		P	23 03 58.2	+1.8
	baz=326						
AYDB	Zeytinkoy-Aydi	81.08 324	eP		P	23 03 57.0	+0.4
RJF	Les Rejaudoux	81.10 345	eP		P	23 03 57.3	+0.9
RJF			pmax	pmax			
	comp=Z,23nm,1.0s						
NEST	Nestorio	81.16 330	P		P	23 03 57.1	+0.2
URLA	Izmir	81.17 325	eP		P	23 03 56.9	-0.1
CHOS	Chios island	81.34 325	P		P	23 03 57.8	-0.1
CAF	Calviac	81.38 345	eP		P	23 03 59.2	+1.2
CAF			pmax	pmax			
	comp=Z,42nm,0.9s						
ELL	Elmali	81.39 322	eP		P	23 03 58.5	+0.3
SBF	Sospel	81.42 341	eP		P	23 03 59.9	+1.7
SBF			pmax	pmax			
	comp=Z,40nm,1.0s						
XOR	Xorichti	81.43 328	P		P	23 03 57.7	-0.6
556A	Lake Butler	81.44 51	P		P	23 04 00.2	+1.7
	baz=327						
MAMC	Mammari	81.47 319	P		P	23 03 58.2	-0.3
FYTO	Fytoko, Volos	81.47 328	eP		P	23 03 58.7	+0.2
FYTO	Fytoko, Volos	81.47 328	P		P	23 03 58.7	+0.2
NEO	Neokhori	81.47 328	P		P	23 03 58.0	-0.5
KPRO	Kipourio	81.48 329	P		P	23 03 58.3	-0.3
AQU	L'Aquila	81.50 336	P		P	23 04 01.0	+2.3
AQU	L'Aquila	81.50 336	eP		P	23 04 00.2	+1.5
GCAM	G?zelcaml?	81.53 324	eP		P	23 03 58.9	+0.1
BHL	Bhannes	81.55 316	eP		P	23 03 59.3	+0.2
LFF	La Frestale	81.58 346	eP		P	23 03 59.9	+1.0
LFF			pmax	pmax			
	comp=Z,38nm,1.0s						
CSS	Mathiatis	81.60 319	eP		P	23 03 58.8	-0.5
	comp=Z,72nm,0.9s						
CSS			ePP		PP	23 07 01.6	-3.7
CSS	Mathiatis	81.60 319	P		P	23 03 59.5	+0.2
ALFC	Alefka	81.73 319	P		P	23 03 59.9	-0.1
DQRL	Deir Qamar	81.75 316	eP		P	23 04 00.8	+0.6
TURN	Turunc	81.77 323	eP		P	23 04 01.8	+1.7
FETY	Fethiye	81.80 322	eP		P	23 04 00.7	+0.4
FETY	Fethiye	81.80 322	eP		P	23 04 00.5	+0.2
FETY	Fethiye	81.80 322	P		P	23 04 00.5	+0.2
QRWL	Qaraoun	81.84 316	eP		P	23 04 01.2	+0.6
SMIA	Simia	81.86 328	P		P	23 04 00.1	-0.5
MRKA	Markates	81.89 327	P		P	23 04 00.3	-0.4
JAN	Janina	81.91 330	eP		P	23 04 01.4	+0.6
JAN	Janina	81.91 330	P		P	23 04 01.4	+0.6
AKAS	Kas	81.96 322	eP		P	23 04 00.9	-0.4
SZAC	Souni	81.96 319	P		P	23 04 01.2	0.0
SRN	Sarande	81.97 330	P		P	23 04 01.1	+0.1
SHBL	Chebaa	81.98 316	eP		P	23 04 01.9	+0.4
EREA	Eretria	82.04 327	P		P	23 04 01.1	-0.4
KSL	Kastellorizon	82.04 322	P		P	23 04 01.3	-0.2
PPCY	Paphos	82.07 319	P		P	23 04 01.5	-0.2
BODT	Bodrum	82.07 324	eP		P	23 04 00.9	-0.8
BODT	Bodrum	82.07 324	eP		P	23 04 01.3	-0.4
BODT	Bodrum	82.07 324	P		P	23 04 01.3	-0.4
ATAL	Atalanti	82.09 328	eP		P	23 04 00.7	-1.1
ATAL	Atalanti	82.09 328	P		P	23 04 00.7	-1.1
LMR	La Mourre	82.12 341	eP		P	23 04 02.3	+0.5
LMR			pmax	pmax			
	comp=Z,35nm,1.2s						
KEK	Kerkira	82.18 330	eP		P	23 04 00.5	-1.7
KEK			eP		P	23 04 00.5	-1.7
KEK	Kerkira	82.18 330	P		P	23 04 00.5	-1.7
IGT	Igoumenitsa	82.18 330	eP		P	23 04 02.2	0.0
IGT	Igoumenitsa	82.18 330	P		P	23 04 02.2	0.0
IGT	Igoumenitsa	82.18 330	P		P	23 04 02.2	0.0
DAT	Datca	82.27 324	eP		P	23 04 02.8	-0.1
DION	Dionisos Attik	82.34 327	P		P	23 04 02.3	-0.8
PGF	Pioggiola	82.35 339	eP		P	23 04 04.5	+1.3
PGF			pmax	pmax			
	comp=Z,18nm,0.9s						
PTL	Penteli	82.39 327	eP		P	23 04 02.5	-0.9
PTL	Penteli	82.39 327	P		P	23 04 02.5	-0.9
ATHU	Athens Univers	82.50 327	eP		P	23 04 03.2	-0.7
ATHU	Athens Univers	82.50 327	P		P	23 04 03.2	-0.7
ATH	Athens Observa	82.51 327	P		P	23 04 03.0	-0.9
ARG	Arkhangelos	82.53 323	eP		P	23 04 04.0	-0.1
ARG	Arkhangelos	82.53 323	P		P	23 04 04.0	-0.1
ANX	Ano Chora	82.54 328	P		P	23 04 03.4	-0.8
APE	Apeiranthos	82.70 325	P		P	23 04 03.8	-1.2
AMGA	Amorgos Island	82.79 325	P		P	23 04 03.6	-1.8
MTLF	Montolieu	82.90 344	eP		P	23 04 07.1	+1.2
MTLF			pmax	pmax			
	comp=Z,39nm,1.0s						
GUR	Goura	83.00 328	eP		P	23 04 05.5	-1.1
GUR	Goura	83.00 328	P		P	23 04 05.5	-1.1
DID	Didima	83.09 327	eP		P	23 04 04.7	-2.4
DID	Didima	83.09 327	P		P	23 04 04.7	-2.4
DRO	Drossia	83.19 328	P		P	23 04 07.6	+0.4
ANAF	Anafi Island	83.26 325	P		P	23 04 05.6	-2.3
EPF	Esparros	83.51 345	eP		P	23 04 09.6	+0.5
EPF			pmax	pmax			
	comp=Z,31nm,0.9s						
TIP	Timpagrande	83.57 332	P		P	23 04 09.5	0.0
TIP	Timpagrande	83.57 332	‖ iP		P	23 04 10.4	+0.9
AMT	Artemida-Makis	83.58 328	P		P	23 04 09.4	-0.1
SJPF	Ste Jean	83.66 347	eP		P	23 04 11.3	+1.5
SJPF			pmax	pmax			
	comp=Z,21nm,0.8s						
ETSF	Etsaut	83.77 346	eP		P	23 04 11.8	+1.3
ETSF			pmax	pmax			
	comp=Z,41nm,0.8s						
ITM	Ithomi	83.83 328	P		P	23 04 10.3	-0.5
ZKR	Zakros	84.21 324	eP		P	23 04 12.3	-0.5
ZKR			eP		P	23 04 12.3	-0.5
ZKR	Zakros	84.21 324	P		P	23 04 12.3	-0.5
NPS	Neapolis	84.29 324	P		P	23 04 11.3	-1.9
LAST	Lasithi	84.43 324	eP		P	23 04 13.2	-0.8
LAST			eP		P	23 04 13.2	-0.8
LAST	Lasithi	84.43 324	P		P	23 04 13.2	-0.8
IMMV	Iera Moni Meta	84.69 326	P		P	23 04 14.3	-0.9
STKA	Stephens Creek	85.41 196	eP		P	23 04 20.0	+1.5
	comp=Z,1.4nm,1.0s						
STKA	Stephens Creek	85.41 196	P		P	23 04 20.0	+1.5
	comp=Z,3.4nm,0.7s,baz=341,slow=11,SNR=5.0						
PGAV	Gavieira, Arco	85.61 352	eP		P	23 04 21.9	+2.1
	comp=Z,45nm,1.6s						
PBRG	Braganca	85.62 350	eP		P	23 04 21.1	+1.3
	comp=Z,31nm,1.4s						
PCAB	Cabril	85.84 351	eP		P	23 04 22.7	+1.8
	comp=Z,53nm,1.8s						
POLO	Lamas de Olo	86.16 351	eP		P	23 04 24.2	+1.7
	comp=Z,15nm,0.9s						
PVRL	Vila Real	86.25 351	eP		P	23 04 24.5	+1.6
	comp=Z,50nm,1.0s						
MVO	Moncorvo	86.29 351	eP		P	23 04 24.5	+1.4
	comp=Z,42nm,0.9s						
PTO	Porto	86.46 352	eP		P	23 04 25.6	+1.7
	comp=Z,54nm,1.3s						
PVIS	Viseu	86.82 351	eP		P	23 04 27.4	+1.7
	comp=Z,37nm,1.0s						
MTE	Manteigas	87.10 351	eP		P	23 04 28.2	+1.1
ESDC	Sonseca Array	87.41 348	P		P	23 04 29.2	+0.6
	comp=Z,16nm,1.0s,baz=3.4,slow=4.9,SNR=56						
PCAS	Casmilo, Conde	87.53 351	eP		P	23 04 30.4	+1.3
	comp=Z,54nm,1.1s						
PAB	San Pablo	87.58 348	eP		P	23 04 29.3	-0.2
	comp=Z,11nm,1.0s						
PCBR	Castelo Branco	87.64 351	eP		P	23 04 30.4	+0.8
	comp=Z,27nm,1.9s						
PTOM	Tomar	87.95 351	eP		P	23 04 32.5	+1.4
	comp=Z,56nm,1.3s						
PMRV	Marv??o	88.04 351	eP		P	23 04 32.8	+1.2
PMTG	Montargil	88.48 351	eP		P	23 04 34.0	+0.4
	comp=Z,37nm,1.8s						
KEST	Kesra	88.77 337	P		P	23 04 35.6	+0.4
	comp=Z,26nm,1.0s,baz=294,slow=1.0,SNR=13						
MDT	Midelt	94.25 347	P		P	23 05 01.1	+0.5
	comp=Z,3.7nm,0.9s,baz=48,slow=5.9,SNR=6.4						
TORD	Torodi Ar. Bea	112.28 338	PKiKP		PKiKP	23 10 17.8	+0.5
	comp=Z,0.6nm,0.8s,baz=7.6,slow=2.8,SNR=3.3						
TORD			PP		PP	23 11 00.2	-1.4
	comp=Z,9.6nm,1.0s,baz=4.4,slow=6.8,SNR=16						
DBIC	Dimbokro	119.94 343	PKP		PKiKP	23 10 32.5	+0.4
	comp=Z,5.1nm,0.7s,baz=234,slow=0.7,SNR=5.2						
DBIC			PP		PP	23 11 53.2	-1.9
	comp=Z,23nm,1.2s,baz=9.0,slow=4.7,SNR=3.9						
LPAZ	La Paz	127.64 65	PKP		PKiKP	23 10 47.9	0.0
	comp=Z,1.6nm,0.8s,baz=24,slow=6.7,SNR=8.3						
VNDA	Vanda	129.54 180	PKP		PKiKP	23 10 49.1	-0.1
	comp=Z,0.6nm,0.9s,baz=292,slow=9.9,SNR=3.5						
BDFB	Brasília	137.06 42	PKP		PKPdf	23 11 04.6	+0.1
	comp=Z,2.4nm,0.7s,baz=163,slow=0.7,SNR=5.1						
QSPA	South Pole Qui	142.03 180	ePKPpre		PKPpre	23 11 08.3	
PLCA	Paso Flores	143.81 92	PKP		PKPdf	23 11 16.6	+0.6
	comp=Z,1.5nm,0.7s,baz=35,slow=2.1,SNR=3.3						
SPB	Sao Paulo	144.34 47	ePKPdf		PKPab	23 11 15.4	+0.1
TRQA	Tornquist	147.42 81	ePKPbc		PKPab	23 11 25.8	-0.9
TRQA	Tornquist	147.42 81	ePKP2		PKPab	23 11 25.8	-0.9
SYO	Syowa Base	148.15 216	‖ eP		PKPdf	23 11 19.4	-2.8
SYO	Syowa Base	148.15 216	‖ eP		PKPab	23 11 37.5	+8.9
SNAA	Sanae	159.17 195	PKPdf		PKPdf	23 11 37.2	-0.8
VNA3	Neumayer Olymp	160.46 190	PKPdf		PKPdf	23 11 38.6	-0.8
VNA2	Neumayer-Watz	160.49 192	PKPdf		PKPdf	23 11 39.5	+0.1
	baz=5.6,slow=0.4						

CRAAG ***20*** *22:52:38.0,36˚.52N×1˚.48E,MI3.0*
MDD ***20*** *22:52:39.3±0.7,36˚.52N×1˚.51E,h10km,mb4.3/13,Error ellipse: s-maj=8.8km s-min=4.2km az=101.0,PRXIMO*

ISC 20 22:52:38.3±1.3,36˚.52N±0˚.06×1˚.54E±0˚.07,h24km±15km, n35,σ1§85/62,1C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	Beni Rached	0.23	183	P	Pb	22 52 44.0	-0.3
ECHA	Ech Chlef	0.40	201	P	Pb	22 52 46.0	-0.7
ECHF	Ech Chlef	0.40	204	P	Pb	22 52 46.0	-0.8
EANR	'Ain N'Sour	0.67	212	P	Pb	22 52 51.5	+0.1
EANR	'Ain N'Sour	0.67	212	P	Pb	22 52 51.5	+0.1
OKGL	Djebel Kef Gue	0.87	237	P	Pn	22 52 56.0	+0.9
	90nm,0.1s,SNR=7.9						
OKGL				S	Sn	22 53 08.8	+1.7
	277nm,0.2s,SNR=7.9						
EIBI	Ibiza	2.51	356	⇑P	Pn	22 53 19.1	+1.5
	15nm,0.1s,SNR=18						
EIBI				S	Sn	22 53 46.7	-0.6
	15nm,0.1s,SNR=6.4						
EBEN2	Beniarda presa	2.56	328	P	Pn	22 53 19.1	+0.9
	4.9nm,0.1s,SNR=7.9						
EBEN2				S	Sn	22 53 47.6	-0.9
	4.8nm,0.1s,SNR=7.9						
EMUR	La Murta	2.58	302	P	Pn	22 53 20.0	+1.3
	0.5nm,0.1s,SNR=4.6						
EMUR				S	Sn	22 53 48.2	-1.1
	1.8nm,0.2s,SNR=7.9						
AFON	Font Roja	2.71	323	P	Pn	22 53 21.8	+1.4
	0.6nm,0.1s,SNR=7.9						
AFON				S	Sn	22 53 51.5	-1.0
	4.7nm,0.2s,SNR=7.9						
ENIJ	Nijar	3.04	280	P	Pn	22 53 26.1	+1.1
	0.3nm,0.1s,SNR=7.9						
ENIJ				S	Sn	22 53 57.9	-2.8
	3.5nm,0.3s,SNR=7.9						
ETOB	Tobarra	3.24	312	P	Pn	22 53 29.5	+1.8
	0.8nm,0.1s,SNR=10						
ETOB				S	Sn	22 54 04.9	-0.7
	1.3nm,0.2s						
ETOS	Mallorca	3.39	17	P	Pn	22 53 30.4	+0.7
	3.3nm,0.1s,SNR=7.5						
ETOS				S	Sn	22 54 08.4	-0.9
	1.5nm,0.1s						
EBER	Berja	3.58	277	P	Pn	22 53 32.9	+0.4
	1.2nm,0.1s,SNR=16						
EBER				S	Sn	22 54 13.0	-1.2
	0.3nm,0.1s,SNR=6.2						
SESP	Santiago Espad	3.63	297	P	Pn	22 53 36.6	+3.5
	SNR=7.9						
SESP				S	Sn	22 54 15.1	-0.1
	1.8nm,0.2s,SNR=7.9						
ECHE	Chera	3.65	328	P	Pn	22 53 35.0	+1.7
	0.5nm,0.1s,SNR=7.9						
ECHE				S	Sn	22 54 15.7	+0.1
	2.3nm,0.1s,SNR=7.9						
EQES	Quesada	3.90	291	P	Pn	22 53 38.4	+1.6
	0.5nm,0.1s,SNR=14						
EQES				S	Sn	22 54 22.0	0.0
	0.6nm,0.2s						
EMOS	Mosqueruela	4.15	338	P	Pn	22 53 42.3	+2.0
	4.5nm,0.1s,SNR=72						
EMOS				S	Sn	22 54 27.2	-0.9
	12nm,0.2s,SNR=14						
ELGU	Los Guajares,	4.17	276	P	Pn	22 53 41.4	+0.9
	0.9nm,0.1s,SNR=7.9						
ELGU				S	Sn	22 54 27.1	-1.4
	0.5nm,0.1s,SNR=7.9						
ERTA	Horta de San J	4.53	348	P	Pn	22 53 47.3	+2.0
	1.8nm,0.1s,SNR=18						
ERTA				S	Sn	22 54 36.1	-1.2
	2.8nm,0.2s						
EGOR	Sierra Gorda,	4.57	279	P	Pn	22 53 48.8	+2.7
	0.6nm,0.3s,SNR=7.9						
EGOR				S	Sn	22 54 39.2	+0.7
	5.5nm,0.7s,SNR=7.9						
EPOB	Poblet	4.84	356	P	Pn	22 53 51.0	+1.3
	4.5nm,0.2s,SNR=23						
EPOB				S	Sn	22 54 42.9	-2.1
	0.2nm,0.1s						
EMIJ	Mijas	5.09	272	P	Pn	22 53 52.6	-0.4
	0.3nm,0.1s,SNR=4.0						
EMIJ				S	Sn	22 54 46.9	-4.1
	0.8nm,0.2s,SNR=4.0						
CFON	Fontmartina	5.28	7	P	Pn	22 53 56.9	+1.1
	7.8nm,0.2s,SNR=34						
CFON				S	Sn	22 54 52.2	-3.6
	0.4nm,0.1s						
EMIR	Miracle	5.39	360	P	Pn	22 53 59.5	+2.4
	3.0nm,0.1s,SNR=28						
EMIR				S	Sn	22 54 57.8	-0.6
	1.1nm,0.1s						
ESAC	San Caprasio	5.42	344	P	Pn	22 53 59.4	+1.7
	1.9nm,0.3s,SNR=7.9						
ESAC				S	Sn	22 54 57.6	-1.7
	0.5nm,0.1s,SNR=7.9						
PAB	San Pablo	5.54	305	P	Pn	22 54 00.7	+1.3
	0.2nm,0.1s,SNR=7.9						
PAB				S	Sn	22 54 59.2	-3.2
	0.1nm,0.1s,SNR=7.9						
ECAB	El Cabril	5.76	288	P	Pn	22 54 03.1	+0.8
	0.8nm,0.2s,SNR=7.9						
ECAB				S	Sn	22 55 05.7	-2.0
	0.1nm,0.1s,SNR=7.9						
CSOR	Sort	5.86	357	P	Pn	22 54 06.0	+2.3
	1.5nm,0.2s,SNR=9.6						
CSOR				S	Sn	22 55 07.8	-2.3
	12nm,1.2s						
CLLI	Llivia	5.96	3	P	Pn	22 54 07.3	+2.2
	1.3nm,0.2s,SNR=14						
CLLI				S	Sn	22 55 11.0	-1.7
	6.5nm,1.2s						
EJON	La Jonquera	6.01	10	P	Pn	22 54 07.7	+2.0
	0.8nm,0.1s,SNR=7.9						
SJAF	Saint Jean de	6.04	9	P	Pn	22 54 07.7	+1.5
	0.2nm,0.1s,SNR=7.9						
ATE	Arette	6.78	346	P	Pn	22 54 18.9	+2.7
	0.5nm,0.1s,SNR=7.9						
ATE				S	Sn	22 55 30.2	-2.5
	0.2nm,0.2s,SNR=7.9						
EALK	Alkurruntz	7.09	342	P	Pn	22 54 23.2	+2.6
	0.3nm,0.1s,SNR=7.9						
EALK				S	Sn	22 55 37.4	-3.0
	1.0nm,0.3s,SNR=4.0						
ELAN	Lanestosa	7.72	332	P	Pn	22 54 32.2	+3.0
	0.2nm,0.1s,SNR=7.9						

WEL ***20*** *22:58:29.6,36˚S±22˚×18˚0E±˚,h180km±20km*
IDC ***20*** *22:58:31.2±5.6,33˚.73S×178˚.48E,h0km,mb3.8/2, mb1 4.1/2,mb1mx3.7/27,mbtmp3.8/2,Error ellipse: s-maj=234.0km s-min=59.4km az=163.0*

ISC 20 22:58:30.6±1.9,35˚.86S±0˚.09×180˚.0E±0˚.1,h100km,n76, σ1§89/81,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.18	218	P	Pn	22 59 05.0	-0.4
MXZ				S	Sn	22 59 31.8	-0.2
WMGZ	Waiomatatini S	2.33	212	P	Pn	22 59 08.4	+0.9
WMGZ				S	Sn	22 59 37.6	+1.9
PKGZ	Pakihiroa	2.55	217	P	Pn	22 59 10.5	+0.2
HAZ	Te Kaha	2.60	223	P	Pn	22 59 11.3	+0.4
PUZ	Puketiti	2.61	212	P	Pn	22 59 11.7	+0.5
RUGZ	Raukumara Rang	2.81	221	P	Pn	22 59 13.6	-0.2
TWGZ	Tauwhareparae	2.82	214	P	Pn	22 59 14.3	+0.3
TWGZ				S	Sn	22 59 48.6	+1.3
CNGZ	Carnagh Statio	2.99	208	P	Pn	22 59 16.8	+0.7
CNGZ				S	Sn	22 59 54.0	+2.9
TKGZ	Te Karaka	3.10	213	P	Pn	22 59 17.3	-0.3
TKGZ				S	Sn	22 59 54.4	+0.6
WHRZ	Whale Island	3.14	230	P	Pn	22 59 18.7	+0.6
MWZ	Matawai	3.16	218	P	Pn	22 59 18.0	-0.5
URZ	Urewera	3.33	223	P	Pn	22 59 20.2	-0.5
RAGZ	Rawiri	3.34	217	P	Pn	22 59 20.7	-0.2
RIGZ	Rimuhau	3.36	211	P	Pn	22 59 20.9	-0.2
OPRZ	Ohinepanea	3.40	233	P	Pn	22 59 20.3	-1.3
MARZ	Manawahe	3.41	230	P	Pn	22 59 20.7	-1.1
PRGZ	Paritu Road	3.49	208	P	Pn	22 59 23.0	+0.1
TGRZ	Tauranga	3.53	237	P	Pn	22 59 22.8	-0.6
KUZ	Kuaotunu	3.57	254	P	Pn	22 59 22.0	-1.8
SNGZ	Shannon Statio	3.61	215	P	Pn	22 59 23.7	-0.7
KNZ	Kokohu	3.66	210	P	Pn	22 59 24.2	-0.9
TARZ	Mount Tarawera	3.67	229	P	Pn	22 59 25.4	+0.1
OMRZ	Omania	3.67	231	P	Pn	22 59 24.1	-1.2
MUGZ	Murupara	3.67	224	P	Pn	22 59 23.7	-1.6
MHGZ	Mahia Peninsul	3.69	206	P	Pn	22 59 25.3	-0.2
KMRZ	Kaimai	3.81	237	P	Pn	22 59 26.2	-1.0
RAHZ	Arahi	3.83	216	P	Pn	22 59 26.9	-0.6
WHHZ	Waihua	3.89	214	P	Pn	22 59 28.5	+0.3
MTHZ	Maungataniwha	3.91	219	P	Pn	22 59 27.9	-0.6
ALRZ	Allen Road	3.98	226	P	Pn	22 59 27.0	-2.3
WIAZ	Waiheke Island	4.04	255	P	Pn	22 59 29.0	-1.2
TOZ	Tahuroa Road	4.06	241	P	Pn	22 59 29.6	-1.0
MKAZ	Moumakai	4.09	251	P	Pn	22 59 29.5	-1.4
NMHZ	Naumai	4.11	217	P	Pn	22 59 31.2	-0.1
MRHZ	Matea Rd	4.12	223	P	Pn	22 59 29.9	-1.5
ARHZ	Aropaoanui	4.15	214	P	Pn	22 59 31.5	-0.3
ETAZ	East Tamaki Re	4.23	254	P	Pn	22 59 33.4	+0.6
BKZ	Black Stump Fm	4.32	219	P	Pn	22 59 32.7	-1.4
TLZ	Tolley Road	4.33	234	P	Pn	22 59 33.5	-0.8
HATZ	Hinemaiaia	4.34	225	P	Pn	22 59 33.2	-1.2
MCHZ	McNeill Hill	4.44	215	P	Pn	22 59 34.1	-1.5
CKHZ	Cape Kidnapper	4.44	210	P	Pn	22 59 33.7	-2.0
RATZ	Rangitukua	4.51	227	P	Pn	22 59 36.0	-0.6
KWHZ	Kaweka Forest	4.55	217	P	Pn	22 59 35.6	-1.6
WCZ	Waipu Caves	4.59	267	P	Pn	22 59 35.4	-2.3
KATZ	Kakaramea	4.63	226	P	Pn	22 59 37.5	-0.8
KAHZ	Kahuranaki	4.64	211	P	Pn	22 59 36.2	-2.2
KRHZ	Kereru	4.75	216	P	Pn	22 59 37.9	-1.9
OTVZ	Oturere	4.77	225	P	Pn	22 59 38.3	-1.9
WTVZ	West Tongariro	4.78	226	P	Pn	22 59 39.2	-1.2
BHHZ	Black Hill Sta	4.78	220	P	Pn	22 59 39.0	-1.4
NGZ	Ngauruhoe	4.81	225	P	Pn	22 59 39.7	-1.2
TUVZ	Tukino	4.85	224	P	Pn	22 59 40.1	-1.2
HIZ	Hauiti	4.89	236	P	Pn	22 59 40.8	-0.9
MOVZ	Moawhango	4.89	222	P	Pn	22 59 39.2	-2.6
FWVZ	Far West T-bar	4.90	225	P	Pn	22 59 40.8	-1.2
PNHZ	Pukenui	5.04	215	P	Pn	22 59 41.1	-2.7
PRHZ	Porangahau	5.14	210	P	Pn	22 59 42.8	-2.3
TSZ	Takapari Road	5.27	216	P	Pn	22 59 44.3	-2.6
VRZ	Vera Road	5.29	230	P	Pn	22 59 46.3	-0.8
DVHZ	Dannevirke	5.37	213	P	Pn	22 59 45.5	-2.7
ANWZ	Angora Road	5.37	210	P	Pn	22 59 45.6	-2.6
BFZ	Birch Farm	5.65	210	P	Pn	22 59 48.4	-3.6
PRWZ	Pori Road	5.66	213	P	Pn	22 59 50.1	-2.0
TIWZ	Tintock	5.88	212	P	Pn	22 59 52.3	-2.9
MRZ	Mangatainoka R	5.92	215	P	Pn	22 59 52.3	-3.4
HOWZ	Holdsworth Sta	6.14	214	P	Pn	22 59 54.9	-3.8
TMWZ	Te Maipa	6.15	210	P	Pn	22 59 54.9	-3.9
MTW	Mount Morrison	6.36	212	P	Pn	22 59 58.2	-3.5
KIW	Kapiti Island	6.40	217	P	Pn	22 59 58.3	-3.9
PAWZ	Paruwai Farm	6.57	212	P	Pn	23 00 00.4	-4.3
MSWZ	Moikau Station	6.68	212	P	Pn	23 00 02.3	-3.7
PLWZ	Palliser	6.80	212	P	Pn	23 00 03.4	-4.4
ASAR	Alice Springs	41.47	274	P	P	23 06 09.6	+1.8
	0.4nm,0.3s,baz=117,slow=7.8,SNR=4.4						
WRA	Warramunga Arr	42.96	279	P	P	23 06 18.6	-1.3
	0.8nm,0.3s,baz=118,slow=7.8,SNR=17						
FINES	FINESS Array B	149.55	335	PKPbc	PKPab	23 18 14.5	+1.8
	1.6nm,0.9s,baz=76,slow=4.2,SNR=5.1						

BJI ***20*** *23:01:21.8±0.0,52˚.64N×159˚.84E,h5km,mb5.4/73, mB5.5/45,Ms5.7/73,Ms7 5.6/64*
IDC ***20*** *23:01:22.2±0.4,52˚.36N×160˚.15E,h0km,mb5.3/44, mb1 5.4/47,mb1mx5

comp=Z,47μm,0.7s
PET smax smax
comp=E,340μm,1.6s
PET smax smax
comp=E,75μm,2.6s
PET smax smax
comp=E,118μm,0.8s
PET smax smax
comp=N,98μm,0.6s
UGLR Uglovaya 1.35 315 *e*P **Pn 23 01 49.4 -0.2**
UGLR Uglovaya 1.35 315 PN **Pn 23 01 49.4 -0.2**
SDLR Sedlovina 1.38 318 *e*P **Pn 23 01 49.0 -0.9**
SDLR Sedlovina 1.38 318 PN **Pn 23 01 49.0 -0.9**
MTVR Mutnovka 1.38 280 *e*P **Pn 23 01 50.1 0.0**
MTVR Mutnovka 1.38 280 PN **Pn 23 01 50.1 0.0**
SMAR Somma 1.40 316 *e*P **Pn 23 01 50.2 -0.1**
SMAR Somma 1.40 316 PN **Pn 23 01 50.2 -0.1**
AVH Avacha 1.43 315 *e*P **Pn 23 01 50.9 +0.3**
AVH Avacha 1.43 315 PN **Pn 23 01 50.9 +0.3**
GRL Gorelyy 1.46 282 *i*P **Pn 23 01 51.9 +0.8**
GRL Gorelyy 1.46 282 PN **Pn 23 01 51.9 +0.8**
KOK Koryaka 1.49 314 *e*P **Pn 23 01 51.3 -0.2**
KOK Koryaka 1.49 314 PN **Pn 23 01 51.3 -0.2**
KRMR Karymshinskiy 1.50 293 *e*P **Pn 23 01 51.8 +0.2**
KRMR *e*S **Sn 23 02 12.3 +2.4**
KRMR Karymshinskiy 1.50 293 PN **Pn 23 01 51.8 +0.2**
KRMR S **Sn 23 02 12.3 +2.4**
KDTR Khodutka, Kamc 1.51 253 *e*P **Pn 23 01 51.0 -0.7**
KDTR *e*S **Sn 23 02 09.9 -0.2**
KDTR Khodutka, Kamc 1.51 253 PN **Pn 23 01 51.0 -0.7**
KDTR S **Sn 23 02 09.9 -0.2**
KRX Arik 1.53 316 *i*P **Pn 23 01 52.9 +0.8**
KRX Arik 1.53 316 PN **Pn 23 01 52.9 +0.8**
I44RU PETROPAVLOVSK- 1.84 298 Pn **Pn 23 01 57.7 +1.4**
baz=113,slow=21,SNR=1.5
I44RU Sn **Sn 23 02 22.7 +4.3**
baz=104,slow=32
PEA0B Petropavlovsk- 1.85 298 *e*Pn **Pn 23 01 56.8 +0.4**
PEA0B Petropavlovsk- 1.85 298 *e*PN **Pn 23 01 56.8 +0.4**
PETK Petropavlovsk- 1.85 298 Pn **Pn 23 01 57.7 +1.3**
comp=N,1μm,0.3s,baz=109,slow=19,SNR=2092
PETK LR LR 23 02 18.4
comp=N,24μm,18.9s,baz=48,slow=34
PETK Sn **Sn 23 02 22.2 +3.6**
comp=N,2μm,0.3s,baz=104,slow=35,SNR=21
PEA1 Petropavlovsk- 1.86 298 *e*Pn **Pn 23 01 57.7 +1.3**
APC Apacha 2.09 290 *e*P **Pn 23 02 01.0 +1.4**
APC S **Sn 23 02 28.3 +3.9**
APC Apacha 2.09 290 PN **Pn 23 02 01.0 +1.4**
APC S **Sn 23 02 28.3 +3.9**
PAU Pauzhetka 2.37 252 *e*P **Pn 23 02 03.5 0.0**
PAU Pauzhetka 2.37 252 PN **Pn 23 02 03.5 0.0**
MKZ Mys Kozlova 2.43 18 *i*P **Pn 23 02 03.7 -0.5**
MKZ Mys Kozlova 2.43 18 PN **Pn 23 02 03.7 -0.5**
KZV Kizimen 2.85 359 *i*P **Pn 23 02 11.1 +0.8**
KZV Kizimen 2.85 359 PN **Pn 23 02 11.1 +0.8**
TUMD Tumrok D 2.94 360 *e*P **Pn 23 02 11.7 +0.3**
TUMD *e*S **Sn 23 02 46.8 +1.4**
TUMR Tumrok 3.03 357 *i*P **Pn 23 02 13.6 +1.0**
TUMR Tumrok 3.03 357 PN **Pn 23 02 13.6 +1.0**
SKR Severo-Kuril's 3.12 241 *e*P **Pn 23 02 13.4 -0.3**
SKR Severo-Kuril's 3.12 241 *i*PN **Pn 23 02 13.0 -0.7**
ALID Alaid 3.34 247 *i*P **Pn 23 02 17.1 +0.2**
ALID Alaid 3.34 247 PN **Pn 23 02 17.1 +0.2**
KMNR Kamenistaya 3.50 358 *i*P **Pn 23 02 20.9 +1.8**
KMNR Kamenistaya 3.50 358 PN **Pn 23 02 20.9 +1.8**
BZMR Bezymyannaya 3.68 1 *e*P **Pn 23 02 24.2 +2.6**
BZMR Bezymyannaya 3.68 1 PN **Pn 23 02 24.2 +2.6**
BZGR Bezymyannyi-Gr 3.69 2 P **Pn 23 02 24.0 +2.3**
BZGR Bezymyannyi-Gr 3.69 2 PN **Pn 23 02 24.0 +2.3**
KIRR Kirishev 3.70 359 *e*P **Pn 23 02 23.2 +1.4**
KIRR Kirishev 3.70 359 PN **Pn 23 02 23.2 +1.4**
BZWR Bezymyannyi-We 3.71 1 *e*P **Pn 23 02 24.8 +2.8**
BZWR Bezymyannyi-We 3.71 1 PN **Pn 23 02 24.8 +2.8**
KPT Kopyto 3.71 358 *e*P **Pn 23 02 22.9 +0.9**
KPT Kopyto 3.71 358 PN **Pn 23 02 22.9 +0.9**
ESO Esso 3.80 345 *e*P **Pn 23 02 24.5 +1.3**
ESO Esso 3.80 345 PN **Pn 23 02 24.5 +1.3**
KOZ Kozyrevsk 3.81 355 *e*P **Pn 23 02 24.8 +1.5**
KOZ Kozyrevsk 3.81 355 PN **Pn 23 02 24.8 +1.5**
LGNR Loginova 3.83 2 *i*P **Pn 23 02 25.9 +2.1**
LGNR Loginova 3.83 2 PN **Pn 23 02 25.9 +2.1**
CIRR Tsirk 3.86 3 *e*P **Pn 23 02 26.5 +2.4**
CIRR Tsirk 3.86 3 PN **Pn 23 02 26.5 +2.4**
KRSR Krestovskiy 3.96 1 *e*P **Pn 23 02 27.0 +1.6**
KRSR Krestovskiy 3.96 1 PN **Pn 23 02 27.0 +1.6**
KLY Klyuchi 4.06 2 *e*P **Pn 23 02 28.7 +2.1**
KLY Klyuchi 4.06 2 PN **Pn 23 02 28.7 +2.1**
SRDR Sredinnyy 4.08 355 *e*P **Pn 23 02 28.6 +1.6**
SRDR Sredinnyy 4.08 355 PN **Pn 23 02 28.6 +1.6**
KBTR Krutoberegovo 4.20 19 *i*P **Pn 23 02 28.4 -0.1**
KBTR Krutoberegovo 4.20 19 PN **Pn 23 02 28.4 -0.1**
KBG Krutoberegovo 4.22 18 *e*P **Pn 23 02 29.7 +0.9**
KBG Krutoberegovo 4.22 18 PN **Pn 23 02 29.7 +0.9**
BDR Baidarnaya 4.34 6 P **Pn 23 02 32.9 +2.3**
BDR Baidarnaya 4.34 6 PN **Pn 23 02 32.9 +2.3**
BKI Bering 4.42 46 P **Pn 23 02 30.9 -0.7**
BKI *e*S **Sn 23 03 17.1 -4.7**
BKI Bering 4.42 46 PN **Pn 23 02 30.9 -0.7**
PALN Palana 6.84 358 *e*P **Pn 23 03 08.1 +3.3**
PALN Palana 6.84 358 PN **Pn 23 03 08.1 +3.3**
OSSR Ossora 7.16 11 *e*P **Pn 23 03 09.3 +0.2**
OSSR Ossora 7.16 11 PN **Pn 23 03 09.3 +0.2**
SMY Shemya 8.37 81 *e*Pn **Pn 23 03 26.0 +0.3**
SMY Shemya 8.37 81 *e*PN **Pn 23 03 26.0 +0.3**
TILK Tilichiki 8.79 19 *e*P **Pn 23 03 32.3 +0.8**
TILK Tilichiki 8.79 19 PN **Pn 23 03 32.3 +0.8**
MA2 Magadan 9.10 327 *e*Pn **Pn 23 03 37.1 +1.4**
MA2 Magadan 9.10 327 *c i*PN **Pn 23 03 36.4 +0.6**
MA2 Magadan 9.10 327 Pn **Pn 23 03 36.7 +0.9**
comp=N,0.9nm,0.3s,baz=133,slow=8.9,SNR=17
MA2 LR LR 23 07 43.0
comp=N,29μm,18.4s,baz=136,slow=43
OKH Okha 10.64 284 *de*PN Pn 23 04 14.1 +17
OKH pmax pmax
comp=Z,2μm,9.4s
OKH MLR MLR
comp=Z,33μm,14.0s
KMSK Kamenskaya 10.69 15 *e*P **Pn 23 03 58.6 +1.1**
KMSK Kamenskaya 10.69 15 PN **Pn 23 03 58.6 +1.1**
KUR Kuril'sk 10.86 235 PN Pn 23 04 04.8 +4.9
KUR S **Sn 23 06 06.4 +6.5**
KUR pmax pmax
comp=Z,167nm,0.8s
KUR smax smax
comp=N,148nm,0.6s
KUR smax smax
comp=E,81nm,0.5s
KUR MLR MLR
comp=E,17μm,18.0s
SEY Seymchan 11.52 341 *i*PN **Pn 23 04 10.3 +1.5**
SEY Seymchan 11.52 341 Pn **Pn 23 04 09.5 +0.7**
comp=E,0.3nm,0.3s,baz=138,slow=11,SNR=18
SEY LR LR 23 09 02.0
comp=E,16μm,19.3s,baz=148,slow=40
NKL Nikolayevsk 12.00 282 *i*PN Pn 23 04 08.0 -7.4
NKL pmax pmax
comp=E,340nm,1.8s
NKL pmax pmax
comp=Z,430nm,1.8s
NKL pmax pmax
comp=E,3μm,7.0s
NKL pmax pmax
comp=Z,2μm,7.0s
NKL MLR MLR
comp=Z,48μm,14.0s
UGL Uglegorsk 12.06 262 *c i*PN **Pn 23 04 19.1 +2.8**
UGL *e* 23 06 42.0
UGL pmax pmax
comp=Z,3μm,5.0s
UGL pmax pmax
comp=Z,187nm,1.0s
UGL MLR MLR
comp=Z,20μm,16.0s
UGL MLR MLR
comp=N,17μm,16.0s
UGL MLR MLR
comp=E,19μm,13.0s
YSS Yuzh-Sakhalins 12.61 252 *e*Pn **Pn 23 04 25.7 +1.9**
YSS Yuzh-Sakhalins 12.61 252 *α i*PN **Pn 23 04 25.4 +1.6**
YSS *e*S **Sn 23 06 47.6 +4.8**
YSS pmax pmax
comp=Z,120nm,1.3s
YSS pmax pmax
comp=Z,2μm,5.0s
YSS pmax pmax
comp=N,2μm,5.7s
YSS MLR MLR
comp=Z,20μm,13.0s
YSS MLR MLR
comp=Z,13μm,15.0s
ADK Adak 14.08 82 *e*Pn **Pn 23 04 43.1 -0.8**
ADK *e*Sn **Sn 23 07 12.2 -6.5**
ADK Adak 14.08 82 *e*P **Pn 23 04 43.1 -0.8**
ADK *e* 23 07 12.2
ASAJ Asahikawa 14.38 243 Pn **Pn 23 04 46.9 -1.0**
comp=E,6.5nm,0.3s,baz=62,slow=11,SNR=26
GRNR Gornyy 14.99 274 *e*P **P 23 05 01.2 +0.1**
GRNR pmax pmax
comp=Z,32nm,1.0s
ERM Erimo 15.55 236 *e*Pn **Pn 23 04 59.1 -4.2**
comp=Z,287nm,1.3s
ERM Erimo 15.55 236 *ce*P **Pn 23 04 57.9 -5.5**
ERM pmax pmax
comp=Z,134nm,1.3s
BILL Biilibino 16.08 8 *e*Pn **Pn 23 05 09.8 -0.2**
comp=Z,174nm,0.8s
BILL Biilibino 16.08 8 *ce*P **P 23 05 13.1 +0.1**
BILL *e*S **Sn 23 08 10.4 +3.4**
BILL pmax pmax
comp=Z,352nm,1.7s
BILL MLR MLR
comp=Z,12μm,20.0s
TEY Ternei 17.26 255⇑ *e*P **Pn 23 05 25.6 +0.5**
TEY *e*S **Sn 23 08 31.3 -4.6**
TEY pmax pmax
comp=E,170nm,1.0s
TEY pmax pmax
comp=Z,200nm,0.9s
TEY pmax pmax
comp=N,70nm,1.6s
TEY MLR MLR
comp=E,8μm,14.0s
TEY MLR MLR
comp=N,6μm,15.0s
TEY MLR MLR
comp=Z,12μm,14.0s
GAMB Gambell 18.55 41 *e*P **P 23 05 40.2 0.0**
comp=Z,117nm,1.4s
YAK Yakutsk 19.14 313⇑ *i*P **P 23 05 44.3 -2.4**
YAK *e*S **Sn 23 09 18.0 -2.9**
YAK pmax pmax
comp=Z,2μm,0.8s
YAK pmax pmax
comp=N,677nm,0.9s
YAK pmax pmax
comp=E,3μm,1.0s
YAK smax smax
comp=N,751nm,1.8s
YAK smax smax
comp=E,1μm,1.6s
YAK MLR MLR
comp=Z,16μm,12.0s
YAK MLR MLR
comp=N,21μm,14.0s
YAK MLR MLR
comp=E,22μm,15.0s
ZEA Zeya 19.91 287 *e*P **P 23 05 53.2 -2.1**
ZEA *e*S **S 23 09 28.0 -9.1**
ZEA pmax pmax
comp=E,77nm,1.0s
ZEA pmax pmax
comp=N,38nm,0.9s
ZEA pmax pmax
comp=Z,180nm,1.2s
ZEA smax smax
comp=N,1μm,14.0s
ZEA MLR MLR
comp=E,13μm,15.0s
ZEA MLR MLR
comp=Z,24μm,15.0s
ZEA MLR MLR
comp=N,6μm,13.0s
USA0B Ussuriysk Arra 20.48 258 *e*P **P 23 05 59.0 -2.5**
comp=N,252nm,1.1s
USA0B LR LR
comp=Z,10μm,18.0s
USA0B Ussuriysk Arra 20.48 258 *e*P **P 23 05 59.0 -2.5**
USA0B pmax pmax
comp=Z,252nm,1.1s
USA0B MLR MLR
comp=Z,10μm,18.0s
USRK Ussuriysk Ar. 20.48 258 P **P 23 05 58.9 -2.5**
comp=Z,163nm,1.0s,baz=60,slow=9.1,SNR=105
USRK LR LR 23 14 40.7
comp=Z,7μm,18.7s,baz=57,slow=39
ANM Nome 21.41 42 *e*P **P 23 06 13.9 +2.5**
comp=Z,188nm,1.3s
ANM LR LR
comp=Z,5μm,18.0s
ANM Nome 21.41 42 *e*P **P 23 06 13.9 +2.5**
ANM pmax pmax
comp=Z,188nm,1.3s
ANM MLR MLR
comp=Z,5μm,18.0s
FALS False Pass 21.49 69 PFAKE 23 06 30.0 +18
FALS LR LR
comp=Z,4μm,21.0s
MDJ Mudanjiang 21.70 262 P **P 23 06 12.6 -2.0**
MDJ pP pP 23 06 19.8 -3.9
MDJ S **S 23 10 13.3 +0.7**
MDJ sS Sn 23 10 17.8 -5.1
MDJ pmax pmax
comp=Z,120nm,1.1s
MDJ LR LR
comp=Z,12μm,18.7s
MDJ LR LR
comp=Z,6μm,21.1s
MDJ LR LR
comp=Z,23μm,16.3s
MDJ Mudanjiang 21.70 262 *e*P **P 23 06 13.1 -1.5**
comp=Z,210nm,1.2s
MDJ LR LR
comp=Z,9μm,19.0s
MSHR Mys Shultsa 21.90 255 *i*P **P 23 06 13.0 -3.7**
MJB9 Matsu-Tunnel 22.20 234 *e*P **P 23 06 20.4 +0.4**
comp=Z,370nm,1.0s
MJB9 LR LR
comp=Z,11μm,21.0s
MAJO Matsushiro 22.20 234 *e*P **P 23 06 20.3 +0.2**
comp=Z,377nm,1.0s
MAJO *e*S **S 23 10 23.9 +1.8**
MAJO LR LR
comp=Z,11μm,21.0s
MAJO Matsushiro 22.20 234 *c i*P **P 23 06 20.0 0.0**
MAJO pmax pmax
comp=Z,361nm,1.0s
MAT Matsushiro 22.20 234 P **P 23 06 19.5 -0.5**
MAT S **S 23 10 24.4 +2.3**
MJAR Matsushiro Arr 22.20 234 P **P 23 06 19.9 -0.2**
comp=Z,238nm,1.1s,baz=21,slow=8.5,SNR=127
MJAR S **S 23 10 23.9 +1.8**
comp=Z,1.4nm,0.4s,baz=26,slow=16,SNR=5.5
MJAR LR LR 23 15 29.9
comp=Z,11μm,21.3s,baz=50,slow=38
RDOG Red Dog Mine 23.61 34 *e*P **P 23 06 32.9 -1.4**
comp=Z,311nm,1.4s
RDOG LR LR
comp=Z,2μm,20.0s
INU Inuyama 23.73 234 *e*P **P 23 06 35.4 -0.2**
comp=Z,354nm,1.1s
INU LR LR
comp=Z,8μm,21.0s
TIXI Tiksi 23.92 336 *e*P **P 23 06 34.9 -2.2**
TIXI *e*P **P 23 06 35.1 -1.9**
TIXI Tiksi 23.92 336 *ce*P **P 23 06 34.8 -2.2**
TIXI pmax pmax
comp=Z,265nm,0.8s
TIXI Tiksi 23.92 336 P **P 23 06 35.1 -1.9**
comp=Z,255nm,0.8s,baz=125,slow=9.1,SNR=158
CHGN Chignik 24.11 64 PFAKE 23 06 50.0 +11
CHGN LR LR
comp=Z,5μm,20.0s
JHJ Hachijo jima 2 24.26 226 LR LR 23 16 16.9
comp=Z,1μm,21.6s,baz=117,slow=37
CN2 Changchun 24.66 264 ⇓P **P 23 06 41.8 -2.3**
CN2 pmax pmax
comp=Z,110nm,1.0s
CN2 pmax pmax
comp=Z,760nm,5.0s
CN2 LR LR
comp=Z,11μm,17.0s
CN2 LR LR
comp=Z,12μm,17.0s
CN2 LR LR
comp=Z,16μm,17.0s
SVW2 Sparrevohn 25.28 52 *e*P **P 23 06 50.9 +1.3**
comp=Z,92nm,1.6s
SVW2 LR LR
comp=Z,2μm,20.0s
HIA Hailar 25.66 280 *e*P **P 23 06 51.2 -1.9**
comp=Z,444nm,1.0s
HIA LR LR
comp=Z,15μm,18.0s
HIA Hailar 25.66 280 *c i*P **P 23 06 50.5 -2.6**
SII Sitkinak Islan 26.39 63 *e*P **P 23 06 58.7 -1.0**
comp=Z,88nm,1.0s
SII LR LR
comp=Z,6μm,20.0s
BOD Bodaibo 26.73 300⇑ *i*P **P 23 07 00.5 -2.1**
BOD pmax pmax
comp=Z,227nm,1.3s
OHAK Old Harbor 26.76 61 *e*P **P 23 07 04.7 +1.7**
comp=Z,64nm,1.0s
OHAK LR LR
comp=Z,3μm,20.0s
PPLA Purkeypile 26.90 48 PFAKE 23 07 20.0 +16
PPLA LR LR
comp=Z,3μm,19.0s
SNY Shenyang 26.91 262 ⇑P **P 23 07 02.4 -2.0**
SNY S **S 23 11 35.5 -3.0**
SNY pmax pmax
comp=Z,57nm,1.2s
SNY pmax pmax
comp=Z,540nm,3.7s
SNY LR LR
comp=Z,14μm,19.8s
SNY LR LR
comp=Z,10μm,18.4s
SNY LR LR
comp=Z,10μm,17.0s
CAST Castle Rocks 26.96 47 PFAKE 23 07 20.0 +15
CAST LR LR
comp=Z,3μm,18.0s
KDAK Kodiak Island 27.05 60 *e*P **P 23 07 08.7 +3.2**
comp=Z,36nm,1.1s
KDAK LR LR
comp=Z,4μm,19.0s
KDAK Kodiak Island 27.05 60 *ce*P **P 23 07 09.2 +3.7**
KDAK Kodiak Island 27.05 60 P **P 23 07 08.0 +2.5**
comp=Z,6.9nm,0.5s,baz=266,slow=4.3,SNR=9.0
KSRS Korea Array 27.10 250 P **P 23 07 06.2 +0.1**
comp=Z,57nm,1.0s,baz=45,slow=8.6,SNR=49
KSRS LR LR 23 18 45.5
comp=Z,7μm,18.7s,baz=58,slow=39
BPAW Bear Paw Mtn. 27.48 46 PFAKE 23 07 20.0 +11
BPAW LR LR
comp=Z,2μm,19.0s
MLY Manley 27.64 44 PFAKE 23 07 20.0 +9.2
MLY LR LR
comp=Z,4μm,18.0s
COLD Coldfoot 28.07 39 *e*P **P 23 07 18.9 +4.3**
comp=Z,14nm,1.0s
COLD LR LR
comp=Z,4μm,19.0s
BWN Browne 28.15 45 PFAKE 23 07 30.0 +15
BWN LR LR
comp=Z,3μm,19.0s
TJN Taejon 28.17 249 *ce*P **P 23 07 16.0 +0.3**
SEW Seward 28.35 54 PFAKE 23 07 30.0 +13
SEW LR LR
comp=Z,2μm,19.0s
PMR Palmer 28.37 51 PFAKE 23 07 30.0 +13
PMR LR LR
comp=Z,3μm,21.0s
CIT Chita 28.37 288 *e*P **P 23 07 14.5 -3.0**
CIT *e* 23 07 24.9
CIT *e* 23 07 34.0
CIT *e* 23 08 30.0
CIT pmax pmax
comp=Z,266nm,1.2s
TOLK Toolik Lake Re 28.52 36 P **P 23 07 19.0 +0.4**
baz=261
JNU Nakatsue 28.63 240 PFAKE 23 07 30.0 +10
JNU LR LR
comp=Z,4μm,20.0s
JNU Nakatsue 28.63 240 P **P 23 07 20.8 +0.9**
comp=Z,74nm,1.1s,baz=49,slow=4.7,SNR=20
JNU LR LR 23 20 43.9
comp=Z,4μm,19.2s,baz=40,slow=41
MDM Murphy Dome 28.70 44 PFAKE 23 07 30.0 +10
MDM LR LR
comp=Z,4μm,18.0s
KNK Knik Glacier 28.70 51 PFAKE 23 07 30.0 +10
KNK LR LR
comp=Z,3μm,19.0s
SML Sawmill 28.73 50 PFAKE 23 07 30.0 +9.4
SML LR LR
comp=Z,3μm,20.0s
WRH Wood River Hil 28.75 45 PFAKE 23 07 30.0 +9.3
WRH LR LR
comp=Z,4μm,19.0s
TCOL CIGO, UAF Yank 28.85 44 P **P 23 07 21.9 +0.3**
baz=269
COLA College 28.86 44 PFAKE 23 07 30.0 +8.4
COLA LR LR
comp=Z,4μm,18.0s
COLA College 28.86 44 *i*P **P 23 07 21.4 -0.2**
COLA pmax pmax
comp=Z,11nm,0.9s
CCB Clear Creek Bu 28.87 44 PFAKE 23 07 30.0 +8.3
CCB LR LR
comp=Z,4μm,18.0s
POKR Poker Plat Res 29.04 43 P **P 23 07 24.1 +0.8**
baz=269
DHY Denali Highway 29.10 48 PFAKE 23 07 40.0 +16
DHY LR LR
comp=Z,2μm,19.0s
SCM Sheep Creek Mo 29.20 50 PFAKE 23 07 40.0 +15
SCM LR LR
comp=Z,2μm,19.0s
HDA Harding Lake 29.25 45 PFAKE 23 07 40.0 +15
HDA LR LR
comp=Z,4μm,18.0s
HDA Harding Lake 29.25 45 P **P 23 07 25.0 0.0**
baz=271
ILAR Eielson Array 29.27 44 P **P 23 07 25.8 +0.5**
comp=Z,4.6nm,0.8s,baz=258,slow=8.0,SNR=24
ILAR PcP **PcP 23 10 31.0 -0.1**
comp=Z,4.3nm,1.0s,baz=284,slow=3.1,SNR=7.0
ILAR LR LR 23 21 09.7
comp=Z,4μm,18.2s,baz=276,slow=40
GLI Glacier Island 29.42 52 PFAKE 23 07 40.0 +13
GLI LR LR
comp=Z,2μm,20.0s
PRP Porcupine Dome 29.84 43 PFAKE 23 07 40.0 +9.5
PRP LR LR
comp=Z,2μm,20.0s
DL2 Dalian 29.86 259 P **P 23 07 29.3 -1.5**
DL2 *e*S **S 23 12 22.9 -2.1**
DL2 pmax pmax
comp=Z,140nm,1.1s
DL2 pmax pmax
comp=Z,540nm,8.0s
DL2 LR LR
comp=Z,3μm,14.3s
DL2 LR LR
comp=Z,4μm,16.5s
DL2 LR LR
comp=Z,6μm,13.2s
KLU Klutina 29.91 51 PFAKE 23 07 40.0 +8.9
KLU LR LR
comp=Z,3μm,22.0s
PAX Paxson 29.97 48 PFAKE 23 07 40.0 +8.4
PAX LR LR
comp=Z,2μm,20.0s
DIV Divide 30.02 52 PFAKE 23 07 50.0 +18
DIV LR LR
comp=Z,2μm,20.0s
EYAK Cordova Ski Ar 30.12 53 PFAKE 23 07 50.0 +17
EYAK LR LR
comp=Z,3μm,19.0s
HARP HAARP 30.17 49 PFAKE 23 07 50.0 +17
HARP LR LR
comp=Z,2μm,20.0s
SCRK Sand Creek 30.56 46 PFAKE 23 07 50.0 +13

SCRK				LR	LR		
	comp=Z,2μm,19.0s						
TGL	**Tana Glacier**	**31.50**	**52**	PFAKE		23 08 00.0	+15
TGL				LR	LR		
	comp=Z,4μm,20.0s						
BALM	**Baldy**	**31.68**	**51**	PFAKE		23 08 00.0	+13
BALM				LR	LR		
	comp=Z,2μm,20.0s						
EGAK	**Eagle**	**31.72**	**44**	PFAKE		23 08 00.0	+13
EGAK				LR	LR		
	comp=Z,3μm,18.0s						
CTGM	**Chitina Glacie**	**32.18**	**51**	PFAKE		23 08 00.0	+8.8
CTGM				LR	LR		
	comp=Z,2μm,19.0s						
BJT	**Baijiatuau**	**32.50**	**266**	PFAKE		23 08 10.0	+16
BJT				LR	LR		
	comp=Z,10μm,20.0s						
DAWY	**Dawson**	**32.56**	**45**	PFAKE		23 08 10.0	+16
DAWY				LR	LR		
	comp=Z,4μm,19.0s						
H11N2	**WAKE ISLAND Hy**	**32.86**	**169**	T	T	23 43 39.3	
	baz=352,slow=76,SNR=99						
H11N3	**WAKE ISLAND Hy**	**32.88**	**169**	T	T	23 43 59.9	
	baz=352,slow=76,SNR=45						
H11N1	**WAKE ISLAND Hy**	**32.88**	**169**	T	T	23 43 52.4	
	baz=352,slow=76,SNR=49						
PCA	**Pinnacle**	**32.89**	**53**	PFAKE		23 08 10.0	+13
PCA				LR	LR		
	comp=Z,3μm,19.0s						
BCPM	**Bancas Point**	**33.22**	**53**	PFAKE		23 08 10.0	+10
BCPM				LR	LR		
	comp=Z,3μm,21.0s						
EPYK	**Eagle Plains**	**33.40**	**41**	PFAKE		23 08 10.0	+8.4
EPYK				LR	LR		
	comp=Z,2μm,18.0s						
EPYK	**Eagle Plains**	**33.40**	**41**	P	**P**	**23 08 01.8**	**+0.2**
	baz=277						
IRK	**Irkutsk**	**33.63**	**293**	*e*P	**P**	**23 08 01.0**	**-2.7**
IRK				pmax	pmax		
	comp=Z,155nm,2.0s						
ULN	**Ulaanbaatar**	**33.88**	**284**	*e*P	**P**	**23 08 04.5**	**-1.7**
	comp=Z,68nm,1.1s						
ULN				LR	LR		
	comp=Z,18μm,18.0s						
ULN	**Ulaanbaatar**	**33.88**	**284**	*e*P	**P**	**23 08 04.5**	**-1.7**
ULN				pmax	pmax		
	comp=Z,68nm,1.1s						
ULN				MLR	MLR		
	comp=Z,18μm,18.0s						
ULN	**Ulaanbaatar**	**33.88**	**284**	P	**P**	**23 08 04.5**	**-1.7**
	SNR=29						
H11S1	**WAKE ISLAND Hy**	**34.05**	**169**	T	T	23 45 18.6	
	baz=352,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**34.06**	**169**	T	T	23 45 17.7	
	baz=352,slow=76,SNR=59						
H11S2	**WAKE ISLAND Hy**	**34.06**	**169**	T	T	23 45 14.8	
	baz=352,slow=76,SNR=22						
TLY	**Talaya**	**34.21**	**292**	*e*P	**P**	**23 08 07.6**	**-1.2**
TLY				LR	LR		
	comp=Z,131nm,1.2s						
TLY				LR	LR		
	comp=Z,7μm,18.0s						
TLY	**Talaya**	**34.21**	**292**	*c i*P	**P**	**23 08 07.4**	**-1.4**
TLY				pmax	pmax		
	comp=Z,226nm,1.1s						
TLY	**Talaya**	**34.21**	**292**	P	**P**	**23 08 07.4**	**-1.4**
	SNR=50						
SONA0	**Songino Array**	**34.29**	**285**	*e*P	**P**	**23 08 08.5**	**-1.1**
SONA0				*e*ScP	**ScP**	**23 14 31.0**	**+4.1**
SONM	**Songino Array**	**34.29**	**285**	P	**P**	**23 08 08.5**	**-1.1**
	comp=Z,14nm,0.9s,baz=53,slow=10.0,SNR=50						
SONM				ScP	**ScP**	**23 14 31.0**	**+4.1**
	comp=Z,3.0nm,1.1s,baz=79,slow=3.2,SNR=3.5						
SONM				LR	LR	23 23 36.5	
	comp=Z,20μm,18.5s,baz=64,slow=39						
TIA	**Tai'an**	**34.33**	**259**	P	**P**	**23 08 08.9**	**-1.1**
TIA				pmax	pmax		
	comp=Z,130nm,0.8s						
TIA				LR	LR		
	comp=Z,3μm,14.7s						
TIA				LR	LR		
	comp=Z,4μm,14.1s						
TIA				LR	LR		
	comp=Z,6μm,12.7s						
INK	**Inuvik**	**34.41**	**37**	*e*P	**P**	**23 08 11.0**	**+0.7**
	comp=Z,66nm,1.4s						
INK				*e*PcP	**PcP**	**23 10 45.8**	**+0.9**
INK	**Inuvik**	**34.41**	**37**	*e*P	**P**	**23 08 11.0**	**+0.7**
INK				*e*		23 10 45.8	
INK				pmax	pmax		
	comp=Z,66nm,1.4s						
INK	**Inuvik**	**34.41**	**37**	P	**P**	**23 08 11.0**	**+0.7**
	comp=Z,6.7nm,0.6s,baz=282,slow=7.3,SNR=28						
INK				PcP	**PcP**	**23 10 45.8**	**+0.9**
	comp=Z,10nm,0.8s,baz=294,slow=4.6,SNR=7.7						
HHC	**Hu-ho-hao-te**	**34.84**	**271**	*e*P	**P**	**23 08 12.6**	**-1.8**
HHC				sP	pP	23 08 21.6	-2.9
HHC				PP	**PnPn**	**23 09 23.6**	**-7.7**
HHC				SS	SS	23 15 53.3	-21
HHC				pmax	pmax		
	comp=Z,38nm,0.9s						
HHC				pmax	pmax		
	comp=Z,350nm,4.1s						
HHC				LR	LR		
	comp=Z,4μm,12.1s						
HHC				LR	LR		
	comp=Z,2μm,11.9s						
HHC				LR	LR		
	comp=Z,3μm,12.0s						
ZAK	**Zakamensk**	**34.96**	**290**	*e*P	**P**	**23 08 13.8**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,88nm,1.1s						
JOW	**Kunigami**	**35.00**	**236**	P	**P**	**23 08 16.2**	**+0.4**
	comp=Z,10nm,0.9s,baz=106,slow=16,SNR=17						
WHY	**Whitehorse**	**35.33**	**50**	PFAKE		23 08 30.0	+12
WHY				LR	LR		
	comp=Z,2μm,20.0s						
SKAG	**Skagway**	**35.46**	**52**	PFAKE		23 08 30.0	+11
SKAG				LR	LR		
	comp=Z,2μm,21.0s						
SSE	**Sheshan**	**35.53**	**249**	P	**P**	**23 08 21.4**	**+1.1**
SSE				S	**S**	**23 13 58.3**	**+5.2**
SSE				pmax	pmax		
	comp=Z,15nm,0.7s						
SSE				LR	LR		
	comp=Z,2μm,18.2s						
SSE				LR	LR		
	comp=Z,2μm,22.3s						
SSE	**Sheshan**	**35.53**	**249**	PFAKE		23 08 30.0	+10
SSE				LR	LR		
	comp=Z,4μm,19.0s						
MOY	**Mondy**	**35.72**	**293**	*e*P	**P**	**23 08 20.4**	**-1.5**
MOY				pmax	pmax		
	comp=Z,145nm,1.6s						
BTO	**Baotou**	**35.93**	**272**	*e*P	**P**	**23 08 21.5**	**-2.3**
BESE	**Bessie Mountai**	**35.97**	**54**	PFAKE		23 08 40.0	+16
BESE				LR	LR		
	comp=Z,1μm,20.0s						
NJ2	**Nanjing**	**36.18**	**253**	*e*P	**P**	**23 08 27.4**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,120nm,1.2s						
NJ2				LR	LR		
	comp=Z,9μm,17.3s						
NJ2				LR	LR		
	comp=Z,5μm,14.1s						
NJ2				LR	LR		
	comp=Z,8μm,20.1s						
TIY	**Taiyuan**	**36.22**	**266**	*e*P	**P**	**23 08 26.3**	**+0.1**
TIY				PP	**PnPn**	**23 09 43.9**	**-4.5**
TIY				pmax	pmax		
	comp=Z,280nm,4.1s						
TIY				LR	LR		
	comp=Z,9μm,14.0s						
TIY				LR	LR		
	comp=Z,4μm,13.8s						
TIY				LR	LR		
	comp=Z,7μm,16.7s						
SIT	**Sitka**	**36.24**	**56**	PFAKE		23 08 40.0	+14
SIT				LR	LR		
	comp=Z,2μm,20.0s						
JIS	**Juneau Island**	**36.30**	**54**	PFAKE		23 08 40.0	+13
JIS				LR	LR		
	comp=Z,1μm,19.0s						
NRIK	**Noril'sk**	**36.70**	**325**	P	**P**	**23 08 28.5**	**-1.4**
	comp=Z,89nm,1.1s,baz=90,slow=8.4,SNR=65						
NRIK				LR	LR	23 24 52.3	
	comp=Z,14μm,20.8s,baz=76,slow=39						
CRAG	**Craig**	**37.98**	**58**	PFAKE		23 08 50.0	+9.1
CRAG				LR	LR		
	comp=Z,3μm,20.0s						
WRAK	**Wrangell Islan**	**38.01**	**56**	PFAKE		23 08 50.0	+8.9
WRAK				LR	LR		
	comp=Z,2μm,20.0s						
KRAR	**Krasnoyarsk**	**38.32**	**303**	*i* P	**P**	**23 08 40.3**	**-3.4**
YOJ	**Yonaguni jima**	**39.67**	**240**	PFAKE		23 09 10.0	+15
YOJ				LR	LR		
	comp=Z,4μm,22.0s						
WHN	**Wuhan**	**39.93**	**255**	⇑P	**P**	**23 08 56.5**	**-1.0**
WHN				PP	**PP**	**23 10 31.3**	**+1.7**
WHN				S	**S**	**23 15 00.8**	**+0.9**
WHN				pmax	pmax		
	comp=Z,200nm,1.0s						
WHN				pmax	pmax		
	comp=Z,1μm,9.5s						
WHN				LR	LR		
	comp=Z,7μm,12.9s						
WHN				LR	LR		
	comp=Z,9μm,13.8s						
WHN				LR	LR		
	comp=Z,10μm,14.4s						
TATO	**Taipei**	**40.08**	**242**	PFAKE		23 09 10.0	+11
TATO				LR	LR		
	comp=Z,4μm,20.0s						
YHNB	**Yeheng**	**40.38**	**242**	PFAKE		23 09 10.0	+8.6
YHNB				LR	LR		
	comp=Z,5μm,20.0s						
NACB	**Ninganchiao**	**40.66**	**241**	PFAKE		23 09 10.0	+6.4
NACB				LR	LR		
	comp=Z,3μm,20.0s						
XAN	**Xi'an**	**40.77**	**264**	PFAKE		23 09 20.0	+15
XAN				LR	LR		
	comp=Z,5μm,18.0s						
SSLB	**Suanglung**	**41.32**	**242**	PFAKE		23 09 20.0	+11
SSLB				LR	LR		
	comp=Z,4μm,20.0s						
QZH	**Quanzhou**	**41.70**	**245**	⇑*i*P	**P**	**23 09 13.3**	**+1.2**
QZH				S	**S**	**23 15 33.6**	**+7.3**
QZH				LR	LR		
	comp=Z,2μm,18.0s						
QZH				LR	LR		
	comp=Z,2μm,18.9s						
QZH				LR	LR		
	comp=Z,2μm,22.3s						
TPUB	**Ta-pu**	**41.88**	**242**	*e*P	**P**	**23 09 14.0**	**+0.3**
	comp=Z,130nm,1.2s						
TPUB				LR	LR		
	comp=Z,3μm,20.0s						
TWG	**Pinlang**	**42.03**	**241**	*e*P	**P**	**23 09 15.4**	**+0.6**
	comp=Z,530nm,1.2s						
TWG				LR	LR		
	comp=Z,9μm,21.0s						
BBB	**Bella Bella**	**42.11**	**61**	PFAKE		23 09 30.0	+15
BBB				LR	LR		
	comp=Z,2μm,21.0s						
KNMB	**Chin-men Tao**	**42.19**	**245**	PFAKE		23 09 30.0	+14
KNMB				LR	LR		
	comp=Z,2μm,21.0s						
LZH	**Lanzhou**	**42.53**	**271**	*e*P	**P**	**23 09 18.3**	**-0.7**
LZH				pP	pP	23 09 22.0	-7.2
LZH				sP	pwP	23 09 25.5	-6.9
LZH				PP	**PP**	**23 10 58.9**	**+1.0**
LZH				*e*S	**S**	**23 15 38.8**	**0.0**
LZH				sS	sS	23 15 46.1	-8.0
LZH				pmax	pmax		
	comp=Z,140nm,1.1s						
LZH				pmax	pmax		
	comp=Z,690nm,5.5s						
LZH				LR	LR		
	comp=Z,9μm,17.0s						
LZH				LR	LR		
	comp=Z,10μm,15.7s						
LZH				LR	LR		
	comp=Z,16μm,17.6s						
JOHN	**Johnston Islan**	**42.66**	**135**	PFAKE		23 09 30.0	+10
JOHN				LR	LR		
	comp=Z,6μm,18.0s						
GTA	**Gaotai**	**42.90**	**277**	⇑P	**P**	**23 09 20.8**	**-1.1**
GTA				pP	pP	23 09 25.8	-6.3
GTA				sP	pwP	23 09 28.8	-6.5
GTA				pmax	pmax		
	comp=Z,63nm,1.3s						
GTA				pmax	pmax		
	comp=Z,470nm,5.7s						
GTA				LR	LR		
	comp=Z,7μm,18.0s						
GTA				LR	LR		
	comp=Z,9μm,15.6s						
GTA				LR	LR		
	comp=Z,12μm,17.1s						
ENH	**Enshi**	**43.05**	**260**	PFAKE		23 09 30.0	+6.9
ENH				LR	LR		
	comp=Z,4μm,20.0s						
ZAA0	**Zalesovo Array**	**43.39**	**304**	PFAKE		23 09 40.0	+14
ZAA0				LR	LR		
	comp=Z,7μm,18.0s						
ZALV	**Zalesovo Beam**	**43.39**	**304**	P	**P**	**23 09 22.6**	**-3.0**
	comp=Z,54nm,0.9s,baz=59,slow=6.0,SNR=112						
ZALV				PcP	**PcP**	**23 11 15.4**	**+2.1**
	comp=Z,27nm,1.0s,baz=64,slow=3.4,SNR=6.1						
ZALV				LR	LR	23 28 46.7	
	comp=Z,7μm,18.8s,baz=64,slow=38						
YKA	**Yellowknife Ar**	**43.65**	**42**	P	**P**	**23 09 28.1**	**+0.6**
	comp=Z,4.9nm,0.8s,baz=299,slow=8.0,SNR=36						
NVS	**Novosibirsk**	**43.75**	**305**	⇓*i*P	**P**	**23 09 26.8**	**-1.6**
NVS				*i*		23 11 09.2	
NVS				*i* S	**S**	**23 15 48.6**	**-7.2**
NVS				pmax	pmax		
	comp=N,140nm,1.2s						
NVS				pmax	pmax		
	comp=E,387nm,1.2s						
NVS				pmax	pmax		
	comp=Z,562nm,1.2s						
NVS				pmax	pmax		
	comp=N,46nm,1.4s						
NVS				pmax	pmax		
	comp=E,70nm,1.4s						
NVS				pmax	pmax		
	comp=Z,94nm,1.4s						
NVS				smax	smax		
	comp=N,62nm,1.6s						
NVS				smax	smax		
	comp=E,25nm,1.4s						
RES	**Resolute Bay**	**44.02**	**22**	PFAKE		23 09 40.0	+10
RES				LR	LR		
	comp=Z,1μm,22.0s						
RES	**Resolute Bay**	**44.02**	**22**	P	**P**	**23 09 32.0**	**+1.7**
RES				pmax	pmax		
	comp=Z,34nm,1.3s						
DGZ	**Jazzator, Alta**	**44.21**	**297**	*c i*P	**P**	**23 09 30.3**	**-2.1**
DGZ				pmax	pmax		
	comp=Z,75nm,0.9s						
APYP	**Conner**	**46.03**	**237**	*e*P	**P**	**23 09 46.4**	**-0.5**
CD2	**Chengdu**	**46.08**	**265**	⇑*i*P	**P**	**23 09 46.3**	**-1.0**
CD2				S	**S**	**23 16 28.5**	**-1.8**
CD2				pmax	pmax		
	comp=Z,40nm,1.2s						
CD2				pmax	pmax		
	comp=Z,600nm,7.1s						
CD2				LR	LR		
	comp=Z,7μm,25.5s						
CD2				LR	LR		
	comp=Z,2μm,21.5s						
CD2				LR	LR		
	comp=Z,2μm,14.3s						
LLLB	**Lillooet**	**46.26**	**60**	PFAKE		23 10 00.0	+12
LLLB				LR	LR		
	comp=Z,2μm,20.0s						
HKPS	**Hong Kong Po S**	**46.30**	**248**	PFAKE		23 10 00.0	+11
HKPS				LR	LR		
	comp=Z,4μm,18.0s						
MCO	**Taipa Grande**	**46.76**	**248**	P	**P**	**23 09 54.0**	**+1.4**
ZSN	**Zaisan**	**46.88**	**296**	*e*LR	LR	23 31 14.8	
	comp=Z,735nm,12.6s						
A04D	**Lummi Island**	**46.89**	**62**	P	**P**	**23 09 54.1**	**+0.7**
	baz=305						
NLWA	**Neilton Lookou**	**47.02**	**64**	PFAKE		23 10 10.0	+16
NLWA				LR	LR		
	comp=Z,2μm,21.0s						
D03D	**Eldon**	**47.36**	**64**	P	**P**	**23 09 57.8**	**+0.8**
	baz=306						
WMQ	**Urumqi**	**47.43**	**290**	P	**P**	**23 09 57.5**	**-0.3**
WMQ				pP	pP	23 10 04.6	-3.6
WMQ				PcP	**PcP**	**23 11 32.6**	**+4.9**
WMQ				S	**S**	**23 16 51.4**	**+2.1**
WMQ	**Urumqi**	**47.43**	**290**	PFAKE		23 10 10.0	+12
WMQ				LR	LR		
	comp=Z,11μm,18.0s						
B05A	**Bryant**	**47.48**	**62**	P	**P**	**23 09 58.8**	**+0.8**
	baz=306						
UWB	**Uwekahuna B**	**47.48**	**117**	PFAKE		23 10 10.0	+12
UWB				LR	LR		
	comp=Z,2μm,18.0s						
OBL	**Observatory Le**	**47.48**	**117**	PFAKE		23 10 10.0	+12
OBL				LR	LR		
	comp=Z,3μm,20.0s						
WRMHI	**West Rim**	**47.48**	**117**	PFAKE		23 10 10.0	+12
WRMHI				LR	LR		
	comp=Z,2μm,19.0s						
HATHI	**Halema'uma'u T**	**47.49**	**117**	PFAKE		23 10 10.0	+11
HATHI				LR	LR		
	comp=Z,4μm,20.0s						
SDHHI	**Sand Hill**	**47.50**	**117**	PFAKE		23 10 10.0	+11
SDHHI				LR	LR		
	comp=Z,3μm,20.0s						
GYA	**Guiyang**	**47.52**	**259**	⇑*i*P	**P**	**23 09 57.9**	**-0.8**
GYA				pP	pP	23 10 02.8	-6.2
GYA				PP	**PP**	**23 11 47.9**	**-2.3**
GYA				S	**S**	**23 16 50.0**	**-0.9**
GYA				sS	sS	23 16 57.8	-8.3
GYA				SS	**SS**	**23 20 10.9**	**-7.9**
GYA				pmax	pmax		
	comp=Z,40nm,1.2s						
GYA				pmax	pmax		
	comp=Z,340nm,7.1s						
GYA				LR	LR		
	comp=Z,3μm,14.8s						
GYA				LR	LR		
	comp=Z,4μm,16.3s						
GYA				LR	LR		
	comp=Z,7μm,15.8s						
HLP	**Hilina Pali**	**47.57**	**117**	PFAKE		23 10 10.0	+11
HLP				LR	LR		
	comp=Z,3μm,20.0s						
BALP	**Baler**	**47.65**	**235**	*e*P	**P**	**23 10 00.3**	**+0.8**
B06A	**Marblemount**	**47.66**	**62**	PFAKE		23 10 10.0	+11
B06A				LR	LR		
	comp=Z,2μm,22.0s						
KBS	**Kingsbay**	**47.73**	**352**	*e*P	**P**	**23 09 59.9**	**+0.5**
	comp=Z,187nm,1.0s						
KBS				LR	LR		
	comp=Z,3μm,19.0s						
KBS	**Kingsbay**	**47.73**	**352**	*ce*P	**P**	**23 10 00.1**	**+0.6**
KBS				pmax	pmax		
	comp=Z,1μm,1.3s						
KBS	**Kingsbay**	**47.73**	**352**	*e*P	**P**	**23 10 00.7**	**+1.2**
D04E	**Lakebay**	**47.75**	**64**	P	**P**	**23 10 00.3**	**+0.2**
	baz=306						
SMPP	**San Manuel, Pa**	**47.76**	**236**	*e*P	**P**	**23 10 00.1**	**-0.4**
SPA0	**Spitsbergen Ar**	**47.98**	**351**	*e*P	**P**	**23 10 02.0**	**+0.4**
SPITS	**Spitsbergen Ar**	**47.98**	**351**	P	**P**	**23 10 01.6**	**+0.1**
SPITS				pmax	pmax		
	comp=Z,61nm,0.5s						
F03A	**Seaside**	**48.05**	**66**	PFAKE		23 10 20.0	+18
F03A				LR	LR		
	comp=Z,2μm,21.0s						
E04D	**Cinebar**	**48.23**	**64**	P	**P**	**23 10 04.6**	**+0.8**
	baz=307						
KURK	**Kurchatov**	**48.34**	**303**	*e*P	**P**	**23 10 02.4**	**-2.2**
	comp=Z,435nm,1.0s						
KURK				LR	LR		
	comp=Z,9μm,18.0s						
KURK	**Kurchatov**	**48.34**	**303**	*ce*P	**P**	**23 10 02.3**	**-2.2**
KURK				pmax	pmax		
	comp=Z,431nm,1.1s						
KURK	**Kurchatov**	**48.34**	**303**	P	**P**	**23 10 02.5**	**-2.1**
	SNR=164						
KURK				P	**P**	**23 10 02.5**	**-2.1**
	SNR=164						
HOPEN	**Hopen**	**48.39**	**347**	*e*P	**P**	**23 10 05.9**	**+1.3**
LON	**Longmire**	**48.53**	**64**	PFAKE		23 10 20.0	+14
LON				LR	LR		
	comp=Z,1μm,19.0s						
G03D	**McMinnville, O**	**48.65**	**66**	P	**P**	**23 10 07.4**	**+0.4**
	baz=308						
MKAR	**Makanchi Array**	**48.69**	**296**	P	**P**	**23 10 05.2**	**-2.2**
	comp=Z,34nm,0.7s,baz=56,slow=6.9,SNR=223						
MKAR				LR	LR	23 31 57.1	
	comp=Z,6μm,18.8s,slow=38						
LTY	**Liberty**	**48.85**	**63**	PFAKE		23 10 20.0	+11
LTY				LR	LR		
	comp=Z,2μm,22.0s						
B08A	**Colville Reser**	**48.92**	**61**	PFAKE		23 10 20.0	+11
B08A				LR	LR		
	comp=Z,1μm,20.0s						
I02D	**Swisshome**	**48.99**	**68**	P	**P**	**23 10 10.4**	**+0.7**
	baz=308						
COR	**Corvallis**	**49.01**	**67**	PFAKE		23 10 20.0	+10
COR				LR	LR		
	comp=Z,1μm,19.0s						
HSPB	**Hornsund (broa**	**49.11**	**350**	*e*P	**P**	**23 10 10.2**	**0.0**
HSPB	**Hornsund (broa**	**49.11**	**350**	*e*P	**P**	**23 10 11.0**	**+0.8**
TGY	**Tagaytay City**	**49.36**	**234**	P	**P**	**23 10 13.4**	**+0.5**
	comp=Z,124nm,0.3s,baz=359,slow=7.0,SNR=5.3						
J01E	**Myrtle Point**	**49.53**	**69**	P	**P**	**23 10 15.0**	**+1.2**
	baz=309						
H04A	**Detroit Lake**	**49.58**	**66**	PFAKE		23 10 30.0	+16
H04A				LR	LR		
	comp=Z,800nm,20.0s						
G05D	**Wamic, OR**	**49.72**	**65**	P	**P**	**23 10 15.6**	**+0.3**
	baz=306						
C09A	**Chrisman Ranch**	**49.82**	**61**	PFAKE		23 10 30.0	+14
C09A				LR	LR		
	comp=Z,1μm,20.0s						
D08A	**Wollman Farm,**	**49.92**	**62**	PFAKE		23 10 30.0	+13
D08A				LR	LR		
	comp=Z,1μm,20.0s						
K02D	**Willamette Mer**	**49.97**	**69**	P	**P**	**23 10 17.8**	**+0.5**
	baz=309						
HAWA	**Hanford**	**50.00**	**63**	PFAKE		23 10 30.0	+13
HAWA				LR	LR		
	comp=Z,2μm,21.0s						
I04A	**Tendick Farm,**	**50.00**	**67**	P	**P**	**23 10 17.2**	**-0.2**
	baz=309						
F07A	**Phinny Hill Vi**	**50.09**	**64**	PFAKE		23 10 30.0	+12
F07A				LR	LR		
	comp=Z,1μm,21.0s						
G06A	**Carlson Farm,**	**50.10**	**65**	PFAKE		23 10 30.0	+12
G06A				LR	LR		
	comp=Z,2μm,22.0s						
NEW	**Newport**	**50.15**	**60**	PFAKE		23 10 30.0	+11
NEW				LR	LR		
	comp=Z,1μm,22.0s						
NEW	**Newport**	**50.15**	**60**	P	**P**	**23 10 19.2**	**+0.7**
	baz=308						
E08A	**Dider Farm, El**	**50.20**	**63**	PFAKE		23 10 30.0	+11
E08A				LR	LR		
	comp=Z,1μm,21.0s						
I05D	**Terrebonne, OR**	**50.27**	**66**	P	**P**	**23 10 20.3**	**+0.9**
	baz=309						
L02E	**Cave Junction**	**50.35**	**70**	P	**P**	**23 10 20.9**	**+0.8**
	baz=310						
HUMO	**Hull Mountain**	**50.43**	**69**	PFAKE		23 10 30.0	+9.3
HUMO				LR	LR		
	comp=Z,900nm,20.0s						
J04D	**Umpqua Nationa**	**50.52**	**68**	P	**P**	**23 10 20.9**	**-0.6**
	baz=309						
KRMB	**Red Mountain**	**50.57**	**70**	PFAKE		23 10 40.0	+18
KRMB				LR	LR		
	comp=Z,1μm,19.0s						
E09A	**Wood Farm, Sta**	**50.68**	**62**	PFAKE		23 10 40.0	+18
E09A				LR	LR		
	comp=Z,2μm,21.0s						
PINE	**Pine Mountain**	**50.83**	**66**	PFAKE		23 10 40.0	+16
PINE				LR	LR		
	comp=Z,1μm,19.0s						
BJO	**Bjornoya**	**50.88**	**347**	*e*P	**P**	**23 10 24.6**	**+1.1**
KMI	**Kunming**	**50.88**	**261**	P	**P**	**23 10 24.1**	**-0.4**
KMI				pP	pP	23 10 31.3	-3.6
KMI				sP	pwP	23 10 33.8	-4.1
KMI				PP	**PP**	**23 12 23.6**	**+2.8**
KMI				S	**S**	**23 17 38.0**	**-0.3**
KMI				pmax	pmax		
	comp=Z,49nm,1.3s						
KMI				pmax	pmax		
	comp=Z,610nm,4.5s						
KMI				LR	LR		
	comp=Z,5μm,17.9s						
KMI				LR	LR		
	comp=Z,4μm,18.7s						

KMI LR LR
comp=Z,4μm,13.3s
KMI Kunming 50.88 261 PFAKE 23 10 40.0 +16
KMI LR LR
comp=Z,3μm,20.0s
JCC Jacoby Creek, 50.95 71 PFAKE 23 10 40.0 +15
JCC LR LR
comp=Z,1μm,21.0s
KULLO Kullorsuaq 50.96 12⇑ *i*P **P 23 10 24.5 +0.3**
KULLO MLR MLR
comp=Z,2μm,15.0s
KULLO Kullorsuaq 50.96 12⇑ *i*P **P 23 10 24.5 +0.3**
J05D Fort Rock, OR 50.98 67 P **P 23 10 25.6 +0.6**
baz=310
L04D Klamath Falls 51.05 69 P **P 23 10 26.2 +0.6**
baz=310
BRVK Borovoye 51.09 309 *e*P **P 23 10 24.0 -1.4**
comp=Z,174nm,0.8s
BRVK LR LR
comp=Z,6μm,19.0s
BRVK Borovoye 51.09 309*c i*P **P 23 10 23.0 -2.5**
BRVK pmax pmax
comp=Z,180nm,0.9s
BRVK Borovoye 51.09 309 P **P 23 10 23.3 -2.1**
SNR=68
BRVK P **P 23 10 23.3 -2.1**
SNR=68
K04D Chiloquin, OR 51.11 68 P **P 23 10 26.8 +0.9**
baz=310
YBH Yreka Blue Hor 51.13 69 PFAKE 23 10 40.0 +14
YBH LR LR
comp=Z,1μm,19.0s
DAG Danmarks Havn 51.23 360 *i*P **P 23 10 26.1 -0.1**
DAG *i* 23 10 36.8
DAG MLR MLR
comp=Z,1μm,17.0s
DAG Danmarks Havn 51.23 360 *i*P **P 23 10 26.1 -0.1**
DAG *i* 23 10 36.8
M02C Callahan 51.27 70 P **P 23 10 28.7 +1.7**
baz=310
QIZ Qiongzhong 51.32 249 P **P 23 10 28.9 +1.3**
QIZ sP **pP 23 10 33.4 -4.7**
QIZ S **S 23 17 48.1 +4.0**
QIZ sS sS 23 17 52.9 -6.4
QIZ pmax pmax
comp=Z,50nm,1.4s
QIZ pmax pmax
comp=Z,670nm,3.5s
QIZ LR LR
comp=Z,2μm,14.7s
QIZ LR LR
comp=Z,3μm,13.7s
QIZ LR LR
comp=Z,2μm,16.7s
QIZ Qiongzhong 51.32 249 PFAKE 23 10 40.0 +12
QIZ LR LR
comp=Z,2μm,18.0s
I07A Izee 51.45 65 PFAKE 23 10 40.0 +12
I07A LR LR
comp=Z,1μm,20.0s
F10A Beach Ranch, E 51.51 62 PFAKE 23 10 40.0 +11
F10A LR LR
comp=Z,1μm,22.0s
K05A Summer Lake 51.53 67 PFAKE 23 10 40.0 +11
K05A LR LR
comp=Z,1μm,18.0s
M04C Macdoel 51.60 69 P **P 23 10 30.6 +1.0**
baz=310
N02D Trinity Center 51.62 70 P **P 23 10 29.8 +0.1**
baz=310
TARA Tarawa 51.80 164 PFAKE 23 10 40.0 +8.8
TARA LR LR
comp=Z,2μm,18.0s
TDK Taldyqorghan 51.93 297 *i*P **P 23 10 30.3 -1.6**
TDK pmax pmax
comp=Z,274nm,1.2s
TDK MLR MLR
comp=Z,6μm,16.0s
TDK Taldyqorghan 51.93 297 *i*P **P 23 10 30.4 -1.5**
comp=Z,274nm,1.2s
TDK *e*LR LR 23 32 46.9
comp=Z,6μm,16.2s
WDC Whiskeytown Da 51.97 70 PFAKE 23 10 50.0 +18
WDC LR LR
comp=Z,900nm,20.0s
O02D Mt. Diablo Mer 52.09 71 P **P 23 10 34.7 +1.5**
baz=311
BMO Blue Mountains 52.18 63 PFAKE 23 10 50.0 +16
BMO LR LR
comp=Z,1μm,21.0s
MOD Modoc Plateau 52.40 68 PFAKE 23 10 50.0 +14
MOD LR LR
comp=Z,1μm,19.0s
PDGK Podgornoye 52.40 295 P **P 23 10 33.9 -1.7**
PDGK pmax pmax
comp=Z,108nm,1.1s
J08A Circle Bar Ran 52.49 65 PFAKE 23 10 50.0 +14
J08A LR LR
comp=Z,1μm,20.0s
SHLS Shalkode 52.53 294 *e*P **P 23 10 32.5 -4.0**
SHLS pmax pmax
comp=Z,80nm,1.4s
SHLS MLR MLR
comp=Z,466nm,12.0s
SHLS Shalkode 52.53 294 *e*P **P 23 10 32.5 -4.0**
comp=Z,80nm,1.4s
SHLS *e*LR LR 23 34 51.3
comp=Z,466nm,11.7s
O03E Paynes Creek 52.58 70 P **P 23 10 37.9 +1.0**
baz=311
HOPS Hopland Field 52.70 72 PFAKE 23 10 50.0 +12
HOPS LR LR
comp=Z,2μm,20.0s
MSO Missoula 52.73 59 PFAKE 23 10 50.0 +12
MSO LR LR
comp=Z,900nm,18.0s
MSO Missoula 52.73 59 P **P 23 10 38.6 +0.7**
baz=310,SNR=9.0
KPKS Kokpek 52.76 295*c i*P **P 23 10 36.3 -1.9**
KPKS pmax pmax
comp=Z,72nm,1.2s
KPKS MLR MLR
comp=Z,2μm,16.0s
KPKS Kokpek 52.76 295⇑ *i*P **P 23 10 36.3 -1.9**
comp=Z,72nm,1.2s
KPKS *e*LR LR 23 33 41.5
comp=Z,2μm,16.3s
GDXM Geysers 52.98 72 PFAKE 23 10 50.0 +10
GDXM LR LR
comp=Z,2μm,18.0s
WVOR Wild Horse Val 53.00 66 PFAKE 23 10 50.0 +10
WVOR LR LR
comp=Z,900nm,20.0s
SVE Sverdlovsk 53.02 317*de*P **P 23 10 38.7 -1.0**
SVE *e* 23 12 38.3
SVE *e*S **S 23 18 05.2 -1.2**
SVE pmax pmax
comp=Z,101nm,1.3s
SVE MLR MLR
comp=Z,8μm,16.0s
SLVN Son La 53.02 257 PFAKE 23 10 50.0 +10
SLVN LR LR
comp=Z,4μm,19.0s
SATY Saty 53.18 295*c i*P **P 23 10 39.8 -1.5**
SATY pmax pmax
comp=Z,89nm,1.3s
SATY MLR MLR
comp=Z,1μm,15.0s
SATY Saty 53.18 295⇑ *i*P **P 23 10 39.8 -1.5**
comp=Z,89nm,1.3s
SATY *e*LR LR 23 33 59.5
comp=Z,1μm,15.4s
ORV Oroville 53.24 71 PFAKE 23 11 00.0 +18
ORV LR LR
comp=Z,800nm,19.0s
DAV Davao City (W) 53.34 225 PFAKE 23 10 50.0 +7.5
DAV LR LR
comp=Z,1μm,20.0s
MCCM Marconi Confer 53.37 73 PFAKE 23 11 00.0 +17
MCCM LR LR
comp=Z,2μm,21.0s
FFC Flin Flon 53.46 46 *e*P **P 23 10 44.1 +1.0**
comp=Z,20nm,1.0s
FFC LR LR
comp=Z,2μm,20.0s
FFC Flin Flon 53.46 46*ce*P **P 23 10 45.5 +2.5**

HAMF Hammerfest 53.52 343 *e*P **P 23 10 42.5 -0.7**
LVZ Lovozero 53.54 338 *e*P **P 23 10 43.0 -0.4**
comp=Z,233nm,0.9s
LVZ LR LR
comp=Z,2μm,19.0s
LVZ Lovozero 53.54 338*c i*P **P 23 10 42.3 -1.2**
LVZ pmax pmax
comp=Z,150nm,0.8s
KEV Kevo 53.66 342 *e*P **P 23 10 43.0 -1.2**
comp=Z,81nm,0.9s
KEV LR LR
comp=Z,2μm,20.0s
KEV Kevo 53.66 342 *e*P **P 23 10 43.1 -1.2**
KEV pmax pmax
comp=Z,81nm,0.9s
KEV MLR MLR
comp=Z,2μm,20.0s
KUU Kurty 53.78 297*c i*P **P 23 10 43.0 -2.5**
KUU pmax pmax
comp=Z,112nm,1.1s
KUU MLR MLR
comp=Z,5μm,16.0s
KUU Kurty 53.78 297⇑ *i*P **P 23 10 43.0 -2.5**
comp=Z,112nm,1.1s
KUU *e*LR LR 23 34 38.2
comp=Z,5μm,16.1s
MDOK Medeo 53.87 296 *e*P **P 23 10 44.4 -2.0**
MDOK pmax pmax
comp=Z,639nm,1.3s
MDOK MLR MLR
comp=Z,4μm,17.0s
MDOK Medeo 53.87 296 *e*P **P 23 10 44.4 -2.0**
comp=Z,639nm,1.3s
MDOK *e*LR LR 23 33 54.8
comp=Z,4μm,16.8s
AAA Alma-Ata 53.91 296 *e*P **P 23 10 45.4 -1.2**
AAA *e*S **S 23 18 22.1 +3.0**
AAA pmax pmax
comp=Z,200nm,1.9s
AAA smax smax
comp=E,400nm,10.4s
AAA MLR MLR
comp=Z,3μm,15.0s
AAA Alma-Ata 53.91 296 *e*LR LR 23 33 59.9
comp=Z,4μm,18.7s
FCC Fort Churchill 54.01 38 *e*P **P 23 10 47.8 +0.9**
comp=Z,18nm,0.8s
FCC LR LR
comp=Z,1μm,20.0s
APA Apatity 54.09 338⇑ *i*P **P 23 10 46.2 -1.2**
APA pmax pmax
comp=Z,9.0nm,0.8s
EGMT Eagleton 54.13 56 PFAKE 23 11 00.0 +12
EGMT LR LR
comp=Z,2μm,20.0s
EGMT Eagleton 54.13 56 P **P 23 10 48.6 +0.4**
baz=311
ARCES ARCESS Array B 54.14 342 *e*P **P 23 10 47.0 -0.8**
ARCES ARCESS Array B 54.14 342 P **P 23 10 47.4 -0.4**
comp=Z,111nm,0.8s,baz=39,slow=7.8,SNR=148
ARCES LR LR 23 37 58.2
comp=Z,2μm,18.2s,baz=34,slow=41
ARE0 ARCESS Array S 54.14 342 *e*P **P 23 10 47.7 -0.1**
ARU Arti 54.14 318 *e*P **P 23 10 45.7 -2.3**
comp=Z,104nm,0.7s
ARU LR LR
comp=Z,4μm,18.0s
ARU Arti 54.14 318*c i*P **P 23 10 46.2 -1.8**
ARU 23 11 53.5
ARU 23 12 45.8
ARU PPP PPP 23 13 58.4
ARU S **S 23 18 21.5 -0.2**
ARU 23 20 28.5
ARU SS **SKiKP 23 21 54.3 -1.5**
ARU pmax pmax
comp=Z,127nm,0.8s
ARU MLR MLR
comp=Z,5μm,17.0s
RUBR Rubicon Trail 54.36 70 PFAKE 23 11 00.0 +10
RUBR LR LR
comp=Z,900nm,18.0s
PAHR Pah Rah Range 54.37 69 PFAKE 23 11 00.0 +10
PAHR LR LR
comp=Z,900nm,19.0s
TARG Taragay, Kyrgy 54.39 294 PFAKE 23 11 00.0 +9.5
TARG LR LR
comp=Z,3μm,18.0s
DLMT Dillon 54.40 60 PFAKE 23 11 00.0 +10
DLMT LR LR
comp=Z,1μm,19.0s
VCNR Virginia City 54.49 70 PFAKE 23 11 00.0 +9.0
VCNR LR LR
comp=Z,1μm,19.0s
HLID Hailey 54.60 63 PFAKE 23 11 10.0 +18
HLID LR LR
comp=Z,2μm,21.0s
HLID Hailey 54.60 63 P **P 23 10 52.2 +0.5**
baz=312
PNTR Pine Nut 54.65 70 PFAKE 23 11 10.0 +18
PNTR LR LR
comp=Z,800nm,21.0s
LSA Lhasa 54.67 274 PFAKE 23 11 00.0 +7.2
LSA LR LR
comp=Z,5μm,19.0s
LSA Lhasa 54.67 274 P **P 23 10 53.4 +0.6**
BOZ Bozeman (W) 54.75 59 *e*P **P 23 10 54.3 +1.5**
comp=Z,23nm,1.0s
BOZ LR LR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 54.75 59 P **P 23 10 54.3 +1.5**
BOZ Bozeman (W) 54.75 59 P **P 23 10 53.4 +0.6**
baz=312,SNR=12
SUMG Summit 54.76 7 *e*P **P 23 10 53.3 +0.6**
comp=Z,136nm,1.0s
SUMG LR LR
comp=Z,3μm,18.0s
SUMG Summit 54.76 7 *i*P **P 23 10 53.4 +0.6**
SUMG pmax pmax
comp=Z,340nm,1.0s
SUMG MLR MLR
comp=Z,9μm,16.0s
SUMG Summit 54.76 7 *i*P **P 23 10 53.4 +0.6**
comp=Z,338nm,1.0s
TKM2 Tokmak 2 54.83 296 P **P 23 10 52.0 -1.5**
SNR=62
CMB Columbia Colle 54.91 71 PFAKE 23 11 10.0 +16
CMB LR LR
comp=Z,2μm,22.0s
CMB Columbia Colle 54.91 71 P **P 23 10 57.3 +3.4**
ULHL Ulahol 54.92 295 P **P 23 10 53.0 -1.0**
SNR=14
BOOM Boomskoye usch 54.92 296 PFAKE 23 11 10.0 +16
BOOM LR LR
comp=Z,10μm,18.0s
YERR Yerington 54.93 70 PFAKE 23 11 10.0 +16
YERR LR LR
comp=Z,1μm,21.0s
KTK1 Kautokeino 55.01 343 *e*P **P 23 10 54.2 +0.1**
BMN Battle Mountai 55.12 67 PFAKE 23 11 10.0 +15
BMN LR LR
comp=Z,1μm,19.0s
WAKR Walker 55.14 70 PFAKE 23 11 10.0 +14
WAKR LR LR
comp=Z,2μm,21.0s
SAO San Andreas Ge 55.14 73 PFAKE 23 11 10.0 +14
SAO LR LR
comp=Z,1μm,20.0s
USP Ospenovka 55.20 297 P **P 23 10 54.7 -1.2**
SNR=136
TRO Tromso 55.21 345 *e*P **P 23 10 55.7 +0.2**
MANU Manus Island 55.22 196 PFAKE 23 11 10.0 +14
MANU LR LR
comp=Z,2μm,20.0s
CHMS Chumysh 55.24 297 P **P 23 10 54.5 -1.7**
SNR=59
PRGR Permogore 55.24 328⇑ *i*P **P 23 10 55.5 -0.4**
PRGR *e*S **S 23 18 33.8 -2.5**
PRGR pmax pmax
comp=Z,238nm,0.7s
KBK Karagaybulak 55.36 297 P **P 23 10 56.0 -1.2**
SNR=42
FRU1 Bishkek 55.43 297 PFAKE 23 11 10.0 +12
FRU1 LR LR
comp=Z,8μm,18.0s
KZA Kyzart 55.58 296 P **P 23 10 58.8 -0.3**
SNR=16

NRN Naryn 55.59 295 PFAKE 23 11 10.0 +11
NRN LR LR
comp=Z,5μm,21.0s
TMCR Tamitsa 55.60 333 *e*P **P 23 10 57.4 -1.0**
TMCR pmax pmax
comp=Z,806nm,1.1s
AAK Ala-Archa 55.62 297 P **P 23 10 57.9 -1.3**
SNR=88
AAK Ala-Archa 55.62 297 *e*P **P 23 10 57.8 -1.3**
comp=Z,123nm,1.0s
AAK LR LR
comp=Z,6μm,18.0s
AAK Ala-Archa 55.62 297 *i*P **P 23 10 58.1 -1.0**
SNR=120
AAK Ala-Archa 55.62 297*ce*P **P 23 10 57.8 -1.3**
AAK pmax pmax
comp=Z,162nm,1.3s
AAK Ala-Archa 55.62 297 P **P 23 10 57.8 -1.3**
SNR=68
AAK P **P 23 10 57.8 -1.3**
SNR=68
PANO Nakornpanom 55.84 253 P **P 23 11 02.4 +1.7**
comp=Z,4.9nm,1.1s
NVAR Mina Array Bea 55.85 70 P **P 23 11 02.9 +2.1**
comp=Z,4.1nm,0.8s,baz=294,slow=6.9,SNR=24
NVAR LR LR 23 33 21.8
comp=Z,507nm,19.8s,baz=300,slow=34
UCH Uchtor 55.88 297 P **P 23 10 59.9 -1.5**
SNR=24
MDPB Devils Postpil 55.94 71 PFAKE 23 11 20.0 +18
MDPB LR LR
comp=Z,2μm,21.0s
EKS2 Erkin-Say 56.00 297 P **P 23 11 01.0 -0.8**
SNR=5.4
OMMB Old Mammoth Mi 56.00 71 PFAKE 23 11 20.0 +18
OMMB LR LR
comp=Z,2μm,21.0s
MLAC Mammoth, Mammo 56.08 71 P **P 23 11 03.3 +0.8**
baz=313
H17A Grant Village 56.11 60 P **P 23 11 02.6 -0.2**
baz=312
RLMT Red Lodge 56.31 58 PFAKE 23 11 20.0 +16
RLMT LR LR
comp=Z,1μm,22.0s
RLMT Red Lodge 56.31 58 P **P 23 11 05.3 +1.2**
baz=313
SKNT Sakolnakorn 56.35 253 P **P 23 11 05.5 +1.1**
comp=Z,219nm,0.9s
AML Almayashu 56.40 297 P **P 23 11 05.1 +0.2**
SNR=35
TPAW Teton Pass 56.52 61 PFAKE 23 11 20.0 +14
TPAW LR LR
comp=Z,1μm,22.0s
DGMT Dagmar 56.61 53 PFAKE 23 11 20.0 +14
DGMT LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 56.61 53 P **P 23 11 06.2 +0.3**
baz=313
LOHW Long Hollow 56.62 60 PFAKE 23 11 20.0 +14
LOHW LR LR
comp=Z,800nm,21.0s
ILULI Ilulissat 56.65 13 PFAKE 23 11 20.0 +14
ILULI LR LR
comp=Z,2μm,20.0s
ILULI Ilulissat 56.65 13⇑ *i*P **P 23 11 06.0 +0.2**
ILULI MLR MLR
comp=Z,2μm,16.0s
ILULI Ilulissat 56.65 13⇑ *i*P **P 23 11 06.0 +0.2**
SNOW Snow King Moun 56.65 61 PFAKE 23 11 20.0 +13
SNOW LR LR
comp=Z,1μm,22.0s
REDW Red Top Meadow 56.66 61 PFAKE 23 11 20.0 +13
REDW LR LR
comp=Z,1μm,22.0s
RABL Rabaul 56.68 190 PFAKE 23 11 20.0 +13
RABL LR LR
comp=Z,1μm,22.0s
LAO LASA Array 56.82 55 PFAKE 23 11 20.0 +13
LAO LR LR
comp=Z,2μm,20.0s
KSH Kashi 56.91 293 P **P 23 11 11.0 +2.7**
KSH pP pP 23 11 16.4 -2.5
KSH PP **PP 23 13 20.4 +5.8**
KSH S **S 23 19 00.8 +1.5**
KSH pmax pmax
comp=Z,67nm,1.1s
KSH pmax pmax
comp=Z,840nm,3.1s
KSH LR LR
comp=Z,2μm,11.7s
KSH LR LR
comp=Z,870nm,8.5s
KSH LR LR
comp=Z,1μm,9.5s
AHID Auburn Hatcher 56.93 61 PFAKE 23 11 20.0 +12
AHID LR LR
comp=Z,1μm,20.0s
PAYA Payao 56.95 259 P **P 23 11 10.1 +1.4**
comp=Z,198μm,0.9s
SHL Shillong 57.20 270 PFAKE 23 11 20.0 +9.5
SHL LR LR
comp=Z,6μm,18.0s
SHL Shillong 57.20 270 *e*P **P 23 11 09.7 -0.9**
SHL IAmb IAmb 23 11 11.0
comp=Z,36nm,0.6s
SHL *ex* x 23 18 58.0
STEI Steigen 57.34 345 *e*P **P 23 11 10.9 +0.2**
CWC Cottonwood Cre 57.34 71 P **P 23 11 13.0 +1.6**
baz=314
LOF Lofoten 57.41 346 *e*P **P 23 11 11.7 +0.5**
R11A Troy Canyon, C 57.46 68 P **P 23 11 13.4 +1.2**
baz=314,SNR=5.7
KHON Khomkaen 57.53 254 P **P 23 11 14.4 +1.7**
comp=Z,180μm,1.1s
SCO Scoresbysund 57.55 1 PFAKE 23 11 20.0 +7.9
SCO LR LR
comp=Z,2μm,18.0s
SCO Scoresbysund 57.55 1 *i*P **P 23 11 12.4 +0.3**
SCO pmax pmax
comp=Z,33nm,1.2s
SCO MLR MLR
comp=Z,2μm,17.0s
SCO Scoresbysund 57.55 1 *i*P **P 23 11 12.4 +0.3**
comp=Z,33nm,1.2s
DAC Darwin (Calif) 57.73 71 PFAKE 23 11 30.0 +16
DAC LR LR
comp=Z,900nm,20.0s
LAMP Lampang 57.74 258 P **P 23 11 15.8 +1.6**
comp=Z,213μm,1.1s
DUG Dugway, Tooele 57.75 65 P **P 23 11 14.7 +0.4**
baz=314,SNR=11
BW06 Boulder Array 57.76 61 PFAKE 23 11 30.0 +16
BW06 LR LR
comp=Z,2μm,22.0s
BW06 Boulder Array 57.76 61 P **P 23 11 15.2 +0.8**
baz=314,SNR=14
PDAR Pinedale Array 57.76 61 P **P 23 11 15.9 +1.5**
comp=Z,8.3nm,0.9s,baz=321,slow=3.2,SNR=31
PDAR LR LR 23 33 18.4
comp=Z,815nm,22.0s,baz=334,slow=33
KLMR Klimovskoe 57.77 330⇑ *i*P **P 23 11 13.4 -0.4**
KLMR pmax pmax
comp=Z,415nm,1.0s
SBC Santa Barbara 57.77 74 P **P 23 11 16.0 +1.8**
baz=315
DLV T Lat 57.78 246 *e*P **P 23 11 16.3 +1.5**
comp=Z,72nm,1.2s
DLV LR LR
comp=Z,1μm,19.0s
UTTA Uttaradit 57.79 257 P **P 23 11 15.6 +1.1**
comp=Z,196μm,1.0s
JBG Jabagly 57.91 299*ce*P **P 23 11 13.5 -1.8**
JBG pmax pmax
comp=Z,97nm,1.5s
JBG MLR MLR
comp=Z,1μm,15.0s
CMMT Chiang Mai 57.93 259 P **P 23 11 16.2 +0.7**
comp=Z,91nm,1.3s,comp=Z,1μm
CHTO Chiang Mai 57.93 259 *e*P **P 23 11 16.3 +0.7**
comp=Z,183nm,1.0s
CHTO LR LR
comp=Z,3μm,18.0s
CHTO Chiang Mai 57.93 259 P **P 23 11 16.3 +0.7**
CHTO Chiang Mai 57.93 259 P **P 23 11 16.4 +0.9**
SNR=47
CHTO P **P 23 11 16.4 +0.9**
SNR=47

MPMC **Manual Prospec** 57.95 71 P P 23 11 17.0 +1.3
baz=314
FURC **Furnace Creek,** 58.02 70 P P 23 11 17.0 +1.0
baz=314,SNR=9.4
TPNV **Topopah Spring** 58.05 70 PFAKE 23 11 30.0 +14
TPNV LR LR
comp=Z,2μm,22.0s
TPNV **Topopah Spring** 58.05 70 P P 23 11 17.9 +1.5
baz=314,SNR=9.8
FRB **Frobisher Bay** 58.19 23 P P 23 11 17.1 +0.4
CM31 **Chiang Mai Arr** 58.20 259 P P 23 11 18.8 +1.3
SNR=29
CM31 P P 23 11 18.8 +1.3
SNR=29
CMAR **Chiang Mai Arr** 58.20 259 P P 23 11 18.5 +1.0
comp=Z,65nm,0.9s,baz=24,slow=7.0,SNR=185
CMAR LR LR 23 39 23.8
comp=Z,3μm,19.6s,baz=51,slow=39
OSI **Osito Audit: C** 58.23 73 PFAKE 23 11 30.0 +12
OSI LR LR
comp=Z,1μm,20.0s
LRMC **Laurel Mtn Rad** 58.23 72 P P 23 11 19.1 +1.4
baz=315
TNTI **Ternate** 58.29 220 PFAKE 23 11 30.0 +12
TNTI LR LR
comp=Z,500nm,20.0s
CHAI **Chaiyaphum** 58.37 254 P P 23 11 19.9 +1.3
comp=Z,138μm,1.2s
BLG **Laguna Peak, P** 58.38 74 P P 23 11 19.5 +1.0
baz=315
PBKT **Sadao Pong** 58.45 256 P P 23 11 20.4 +1.3
comp=Z,46nm,1.4s,comp=Z,760nm
EDW2 **Edwards Air Fo** 58.47 73 P P 23 11 20.0 +0.7
baz=315
CHM **Chimkent** 58.48 300 *e*P P 23 11 18.0 -1.1
CHM pmax pmax
comp=Z,136nm,2.3s
CHM MLR MLR
comp=Z,904nm,17.0s
CHM **Chimkent** 58.48 300 *e*P P 23 11 18.1 -1.1
comp=Z,136nm,2.3s
CHM *e*LR LR 23 37 55.9
comp=Z,904nm,17.0s
SFJD **Kangerlussuaq** 58.77 14 *e*P P 23 11 20.4 -0.3
comp=Z,27nm,0.9s
SFJD LR LR
comp=Z,2μm,21.0s
SFJD **Kangerlussuaq** 58.77 14⇑ *i*P P 23 11 20.7 0.0
comp=Z,36nm,1.2s
PASC **Pasadena Art C** 58.85 73 PFAKE 23 11 40.0 +18
PASC LR LR
comp=Z,2μm,22.0s
GSC **Goldstone, Bar** 58.87 71 P P 23 11 24.0 +1.9
baz=315
MWC **Mount Wilson** 58.89 73 PFAKE 23 11 40.0 +18
MWC LR LR
comp=Z,1μm,21.0s
SHPR **Sheep Range** 58.98 69 PFAKE 23 11 40.0 +17
SHPR LR LR
comp=Z,2μm,22.0s
KONS **Konsvik** 58.98 345 *e*P P 23 11 23.0 +0.8
ODAN **Odare** 59.01 275 *e*P P 23 11 22.6 -0.7
comp=Z,135nm,0.7s
BFSC **Mount Baldy Ra** 59.12 73 P P 23 11 23.8 0.0
baz=315
JIRN **Jiri** 59.17 276 *e*P P 23 11 23.8 -0.7
comp=Z,189nm,0.8s
ULM **Lac du Bonnet** 59.25 47 P P 23 11 25.0 +0.7
comp=Z,5.9nm,0.5s,baz=312,slow=7.0,SNR=10
TUQ **Turquoise Moun** 59.29 71 P P 23 11 26.1 +1.2
baz=315
RAMN **Ramite** 59.43 275 *e*P P 23 11 25.4 -0.8
comp=Z,405nm,0.8s
K22A **Casper** 59.45 59 P P 23 11 26.5 +0.4
baz=315
HEC **Hector,Ludlow** 59.48 72 P P 23 11 27.5 +1.3
baz=315
KKN **Kakani** 59.63 277 *e*P P 23 11 26.9 -0.6
comp=Z,140nm,0.6s
KNTN **Kanton** 59.69 147 PFAKE 23 11 40.0 +12
KNTN LR LR
comp=Z,3μm,20.0s
RSSD **Black Hills** 59.71 56 *e*P P 23 11 29.4 +1.6
comp=Z,36nm,0.8s
RSSD LR LR
comp=Z,1μm,20.0s
RSSD **Black Hills** 59.71 56 P P 23 11 28.9 +1.1
baz=315
PKI **Pulchoki** 59.71 277 *e*P P 23 11 27.2 -1.0
comp=Z,175nm,0.7s
PKIN **Phulchoki** 59.71 277 *e*P P 23 11 27.3 -0.9
comp=Z,139nm,0.7s
DMN **Daman** 59.87 277 *e*P P 23 11 28.8 -0.4
comp=Z,270nm,0.7s
GKN **Gorkha** 59.87 278 *e*P P 23 11 28.4 -0.7
comp=Z,249nm,0.8s
GMRC **Granite Mounta** 59.90 71 P P 23 11 30.4 +1.2
baz=315
FAKI **Fak Fak** 59.92 213 PFAKE 23 11 40.0 +11
FAKI LR LR
comp=Z,1μm,21.0s
UMPA **Umpang Tak** 59.99 257 P P 23 11 33.0 +3.1
comp=Z,259μm,1.1s
LDFC **Landfair** 60.01 70 PFAKE 23 11 40.0 +10
LDFC LR LR
comp=Z,800nm,20.0s
DANN **Dangsing** 60.15 279 *e*P P 23 11 30.3 -0.9
comp=Z,294nm,0.8s
BELC **Belle Mtn. Jos** 60.26 72 P P 23 11 30.6 -1.1
baz=316
PFO **Pinyon Flats O** 60.27 73 PFAKE 23 11 50.0 +18
PFO LR LR
comp=Z,2μm,22.0s
O20A **White River Ci** 60.30 62 PFAKE 23 11 50.0 +18
O20A LR LR
comp=Z,1μm,21.0s
O20A **White River Ci** 60.30 62 P P 23 11 33.1 +1.1
baz=315
GAR **Garm** 60.42 296 PFAKE 23 11 40.0 +7.3
GAR LR LR
comp=Z,12μm,18.0s
IRM **Iron Mountain** 60.65 71 P P 23 11 35.6 +1.4
baz=316
KOLN **Koldanda** 60.67 278 *e*P P 23 11 33.7 -0.9
comp=Z,124nm,0.7s
AGMN **Agassiz Nation** 60.67 48 PFAKE 23 11 50.0 +16
AGMN LR LR
comp=Z,1μm,21.0s
AGMN **Agassiz Nation** 60.67 48 P P 23 11 34.7 +0.6
baz=317
U15A **North Rim** 60.67 68 PFAKE 23 11 50.0 +15
U15A LR LR
comp=Z,1μm,18.0s
W13A **Hualapai Mount** 60.71 70 PFAKE 23 11 50.0 +15
W13A LR LR
comp=Z,800nm,20.0s
PYUN **Piuthan** 60.80 279 *e*P P 23 11 34.6 -0.9
comp=Z,349nm,1.0s
BC3 **Big Chuckawall** 60.82 72 P P 23 11 37.4 +1.9
baz=316
FINES **FINESS Array B** 60.96 337 P P 23 11 35.7 -0.1
comp=Z,174nm,0.7s,baz=39,slow=6.6,SNR=579
FINES LR LR 23 41 42.4
comp=Z,3μm,18.4s,baz=29,slow=40
NSS **Namsos** 61.00 345 *e*P P 23 11 36.4 +0.4
N23A **Red Feather La** 61.00 60 PFAKE 23 11 50.0 +13
N23A LR LR
comp=Z,700nm,20.0s
N23A **Red Feather La** 61.00 60 P P 23 11 37.9 +1.1
baz=316
PV23 **Carpenter Ridg** 61.08 64 PFAKE 23 11 50.0 +13
PV23 LR LR
comp=Z,800nm,19.0s
PV10 **Paradox Valley** 61.11 64 PFAKE 23 11 50.0 +12
PV10 LR LR
comp=Z,900nm,20.0s
PV14 **Lion Creek, Pa** 61.12 64 PFAKE 23 11 50.0 +12
PV14 LR LR
comp=Z,1μm,19.0s
PV04 **Paradox Valley** 61.17 64 PFAKE 23 11 50.0 +12
PV04 LR LR
comp=Z,1μm,19.0s
PV20 **West Nyswonger** 61.18 64 PFAKE 23 11 50.0 +12
PV20 LR LR
comp=Z,700nm,20.0s
PV19 **Morning Glory** 61.19 64 PFAKE 23 11 50.0 +12
PV19 LR LR
comp=Z,1μm,22.0s
PV12 **Saucer Basin,** 61.29 64 PFAKE 23 11 50.0 +11
PV12 LR LR
comp=Z,1μm,19.0s
SRDT **SRDT** 61.29 256 P P 23 11 40.7 +2.0
comp=Z,34nm,1.6s,comp=Z,2μm
PV05 **Paradox Valley** 61.29 64 PFAKE 23 11 50.0 +11
PV05 LR LR
comp=Z,900nm,21.0s
Y12C **Blythe** 61.30 71 *e*P P 23 11 40.4 +1.8
comp=Z,18nm,0.9s
Y12C **Blythe** 61.30 71 P P 23 11 38.7 +0.2
baz=316
CHGR **Chuyangaron** 61.30 297 PFAKE 23 11 50.0 +11
CHGR LR LR
comp=Z,9μm,19.0s
PUL **Pulkovo** 61.31 334 *ce*P P 23 11 37.4 -0.8
PUL pmax pmax
comp=Z,464nm,1.3s
PUL **Pulkovo** 61.31 334 *e*P P 23 11 37.9 -0.3
PUL IAmb IAmb 23 11 39.8
comp=Z,346nm,0.8s
HNR **Honiara** 61.45 181 PFAKE 23 11 50.0 +10
HNR LR LR
comp=Z,2μm,19.0s
HNR **Honiara** 61.45 181 LR LR 23 34 30.9
comp=Z,2μm,21.2s,baz=7.0,slow=32
GLA **Glamis** 61.62 72 P P 23 11 43.2 +2.4
baz=316
ANGG **Ammassalik, Gr** 61.64 8 PFAKE 23 11 50.0 +10
ANGG LR LR
comp=Z,3μm,20.0s
DHRM **DHARAMSHALA** 61.81 287 *e*P P 23 11 40.8 -1.5
DHRM IAMs_20 IAMs_20 23 42 01.1
comp=Z,4μm,13.0s
WUAZ **Wupatki** 61.84 68 PFAKE 23 12 00.0 +18
WUAZ LR LR
comp=Z,1μm,22.0s
WUAZ **Wupatki** 61.84 68 P P 23 11 44.5 +2.1
baz=316
ISCO **Idaho Springs** 61.96 61 PFAKE 23 12 00.0 +17
ISCO LR LR
comp=Z,1μm,22.0s
ISCO **Idaho Springs** 61.96 61 P P 23 11 43.8 +0.5
baz=316,SNR=9.8
SMLA **Simla** 62.11 286 *e*P P 23 11 42.4 -1.7
SMLA IAMs_20 IAMs_20 23 40 41.7
comp=Z,4μm,15.0s
PHET **Kaeng Krachan** 62.12 254 P P 23 11 46.6 +2.3
comp=Z,319μm,0.9s
DDI **Dehra Dun** 62.16 284 *e*P P 23 11 43.5 -1.0
BOK **Bokaro** 62.18 273 *e*P P 23 11 43.2 -1.5
MVCO **Mesa Verde** 62.25 64 PFAKE 23 12 00.0 +15
MVCO LR LR
comp=Z,900nm,22.0s
MVCO **Mesa Verde** 62.25 64 P P 23 11 46.8 +1.6
baz=316
113A **Mohawk Valley,** 62.44 71 PFAKE 23 12 00.0 +14
113A LR LR
comp=Z,1μm,22.0s
MOS **Moscow** 62.46 328 *e*P P 23 11 42.9 -3.1
MOS *e* 23 12 23.1
MOS *e*S S 23 20 07.1 -2.9
MOS pmax pmax
comp=Z,467nm,1.2s
MOS pmax pmax
comp=N,247nm,1.0s
PMG **Port Moresby** 62.47 195 *i*P P 23 11 45.4 -1.1
PMG pmax pmax
comp=Z,69nm,1.0s
PMG **Port Moresby** 62.47 195 LR LR 23 35 14.6
comp=Z,804nm,21.9s,baz=20,slow=32
NIL **Nilore** 62.58 290 *e*P P 23 11 46.6 -0.7
comp=Z,165nm,0.8s
NIL LR LR
comp=Z,6μm,19.0s
X16A **Lo Mia Camp, P** 62.60 69 PFAKE 23 12 00.0 +12
X16A LR LR
comp=Z,1μm,22.0s
S22A **4UR Ranch, Cre** 62.78 63 P P 23 11 50.1 +1.3
baz=317,SNR=8.2
Q24A **Divide** 62.81 61 PFAKE 23 12 00.0 +11
Q24A LR LR
comp=Z,1μm,22.0s
EYMN **Ely** 62.89 46 PFAKE 23 12 00.0 +11
EYMN LR LR
comp=Z,2μm,20.0s
EYMN **Ely** 62.89 46 P P 23 11 50.4 +1.4
baz=319
OGNE **Ogallala** 63.02 57 PFAKE 23 12 00.0 +10
OGNE LR LR
comp=Z,1μm,21.0s
W18A **Petrified Fore** 63.06 67 PFAKE 23 12 00.0 +9.4
W18A LR LR
comp=Z,1μm,19.0s
OBN **Obninsk** 63.32 328 *e*P P 23 11 51.0 -0.7
comp=Z,307nm,1.0s
OBN LR LR
comp=Z,3μm,21.0s
OBN **Obninsk** 63.32 328⇑ *i*P P 23 11 51.0 -0.7
OBN **Obninsk** 63.32 328 *c i*P P 23 11 51.0 -0.7
OBN *i* 23 12 27.6
OBN *e* 23 14 10.3
OBN *e*PPP PPP 23 15 39.3
OBN *e*S S 23 20 17.8 -3.0
OBN *e*SS SS 23 24 25.7 -1.0
OBN pmax pmax
comp=Z,448nm,1.3s
OBN MLR MLR
comp=Z,3μm,21.0s
OBN **Obninsk** 63.32 328 P P 23 11 51.3 -0.4
comp=Z,45nm,0.8s
X18A **Snowflake** 63.37 67 *e*P P 23 11 54.9 +2.2
comp=Z,29nm,1.0s
X18A LR LR
comp=Z,2μm,22.0s
VSU **Vasula** 63.38 335 *ce*P P 23 11 52.5 +0.4
VSU pmax pmax
comp=Z,715nm,0.9s
VSU **Vasula** 63.38 335 *e*P P 23 11 52.0 -0.1
VSU IAmb IAmb 23 11 54.2
comp=Z,774nm,0.8s
MOL **Molde** 63.52 346 *e*P P 23 11 53.8 +0.8
214A **Organ Pipe Nat** 63.59 71 P P 23 11 55.3 +1.4
baz=317
ECSD **EROS Data Cent** 63.68 52 PFAKE 23 12 10.0 +16
ECSD LR LR
comp=Z,2μm,21.0s
ECSD **EROS Data Cent** 63.68 52 P P 23 11 54.8 +0.4
baz=318,SNR=8.6
SBUM **Sibu** 63.72 236 PFAKE 23 12 10.0 +15
SBUM LR LR
comp=Z,700nm,20.0s
DOMB **Dombas** 63.80 345 *e*P P 23 11 55.5 +0.6
E38A **The Farm, Brul** 63.88 47 PFAKE 23 12 10.0 +14
E38A LR LR
comp=Z,2μm,21.0s
E38A **The Farm, Brul** 63.88 47 P P 23 11 55.9 +0.3
baz=320
C40A **Isle Royale Na** 63.94 45 PFAKE 23 12 10.0 +14
C40A LR LR
comp=Z,2μm,20.0s
AKN **Aaknes** 63.97 346 *e*P P 23 11 57.3 +1.3
KSCO **Kaye Shedlock'** 64.12 59 PFAKE 23 12 10.0 +13
KSCO LR LR
comp=Z,1μm,22.0s
F38A **Pierce - Schro** 64.23 48 P P 23 11 58.3 +0.4
baz=320,SNR=10
KBL **Kabul** 64.33 294 *e*P P 23 11 57.1 -2.0
comp=Z,55nm,0.9s
KBL LR LR
comp=Z,3μm,21.0s
SPMN **Marine on St.** 64.36 49 PFAKE 23 12 10.0 +11
SPMN LR LR
comp=Z,1μm,20.0s
SPMN **Marine on St.** 64.36 49 P P 23 11 59.3 +0.5
baz=320
NB2 **NORSAR Subarra** 64.39 344 P P 23 11 58.8 0.0
comp=Z,294nm,1.7s,baz=22,slow=6.9
NB2 **NORSAR Subarra** 64.39 344 P P 23 11 58.8 0.0
baz=22,slow=6.9
NOA **NORSAR Array B** 64.39 344 P P 23 11 58.5 -0.3
comp=Z,26nm,0.7s,baz=22,slow=6.7,SNR=95
NOA LR LR 23 46 09.3
comp=Z,1μm,18.4s,baz=15,slow=42
TUC **Tucson** 64.50 70 *e*P P 23 12 01.9 +1.9
comp=Z,18nm,1.3s
TUC **Tucson** 64.50 70 P P 23 12 01.4 +1.4
baz=317
E39A **Mellen** 64.50 46 P P 23 12 00.3 +0.6
baz=320
T25A **Trinidad** 64.54 62 P P 23 12 01.7 +1.3
baz=318
LPSR **Galich'ya Gora** 64.57 325 *e*P P 23 11 59.0 -1.0
LPSR *e* 23 11 59.4
LPSR pmax pmax
comp=Z,330nm,0.8s
LPSR MLR MLR
comp=Z,4μm,19.0s
IVI **Ivigtut** 64.60 15 PFAKE 23 12 10.0 +10
IVI LR LR
comp=Z,2μm,21.0s
NORES **NORESS Array B** 64.62 344 P P 23 12 01.9 +1.7
NAO01 **NORSAR Array S** 64.63 344 *e*P P 23 12 00.5 +0.2
BGNE **Belgrade** 64.65 55 PFAKE 23 12 10.0 +9.2
BGNE LR LR
comp=Z,2μm,20.0s
BGNE **Belgrade** 64.65 55 P P 23 12 01.2 +0.4
baz=318
VRH **Novokhopyorsk** 64.69 322 *e*P P 23 11 59.3 -1.5
VRH *e* 23 11 59.7
VRH pmax pmax
comp=Z,490nm,1.4s
VRH MLR MLR
comp=Z,10μm,18.0s
F39A **Loretta** 64.69 47 P P 23 12 01.9 +1.0
baz=320
E40A **Wakefield** 64.74 46 P P 23 12 01.0 -0.3
baz=320,SNR=5.4
BWNR **Bhubaneshwar** 64.84 271 *ex* P 23 11 58.8 -3.4
G38A **Ridgeland** 64.84 48 P P 23 12 02.1 +0.2
baz=320,SNR=5.3
D41A **Chassel** 64.85 45 PFAKE 23 12 10.0 +8.1
D41A LR LR
comp=Z,2μm,20.0s
TASM **ASL Pad, Albuq** 65.02 65 P P 23 12 04.0 +0.5
baz=318,SNR=8.3
TASM **ASL Pad, Albuq** 65.02 65 P P 23 12 04.3 +0.8
baz=318,SNR=7.8
ANMO **Albuquerque** 65.02 65 *e*P P 23 12 06.5 +3.0
comp=Z,15nm,1.1s
ANMO LR LR
comp=Z,900nm,18.0s
ANMO **Albuquerque** 65.02 65 *ce*P P 23 12 06.9 +3.4
ANMO **Albuquerque** 65.02 65 P P 23 12 04.4 +0.9
baz=318
F40A **Park Falls** 65.05 47 P P 23 12 03.3 +0.1
baz=320
NRS **Narsarsuaq** 65.06 13 PFAKE 23 12 20.0 +17
NRS LR LR
comp=Z,3μm,18.0s
HYA **Hoyanger** 65.06 347 *e*P P 23 12 03.8 +0.8
G39A **Holcombe** 65.06 48 P P 23 12 03.5 +0.1
baz=320
E41A **Kenton** 65.14 45 P P 23 12 04.0 +0.2
baz=321
SKAR **Skarslia** 65.21 345 *e*P P 23 12 05.2 +1.1
VORR **Voronezh** 65.23 324 P P 23 12 02.0 -2.3
VORR pmax pmax
comp=Z,300nm,1.2s
SLIT **Slitere, Latvi** 65.24 337 *e*P P 23 12 03.8 -0.4
SLIT IAmb IAmb 23 12 06.2
comp=Z,2μm,0.9s
COWI **Conover** 65.35 46 PFAKE 23 12 20.0 +15
COWI LR LR
comp=Z,2μm,20.0s
SUE **Sulen** 65.36 347 *e*P P 23 12 06.3 +1.3
Y22D **IRIS PASSCAL I** 65.41 66 PFAKE 23 12 20.0 +14
Y22D LR LR
comp=Z,1μm,20.0s
G40A **Rib Lake** 65.51 47 PFAKE 23 12 20.0 +14
G40A LR LR
comp=Z,2μm,21.0s
OSL **Oslo** 65.52 344 *e*P P 23 12 07.6 +1.6
KSM **Kuching** 65.53 237 PFAKE 23 12 20.0 +13
KSM LR LR
comp=Z,500nm,21.0s
VSR **Storozhevoye** 65.62 324 *c i*P P 23 12 05.0 -1.8
VSR pmax pmax
comp=Z,282nm,1.0s
F41A **Three Lakes** 65.64 46 PFAKE 23 12 20.0 +13
F41A LR LR
comp=Z,2μm,20.0s
F41A **Three Lakes** 65.64 46 P P 23 12 07.6 +0.5
baz=321
CBKS **Cedar Bluff** 65.78 58 PFAKE 23 12 20.0 +12
CBKS LR LR
comp=Z,800nm,21.0s
IZAR **Zarasai** 65.89 334 *e*P P 23 12 08.2 -0.2
IZAR IAmb IAmb 23 12 10.5
comp=Z,67nm,0.9s
DGPR **DIGLIPUR** 65.92 260 *e*P P 23 12 10.2 +1.0
H40A **Chili** 65.93 48 P P 23 12 08.8 -0.1
baz=321
BER **Bergen** 65.93 347 *e*P P 23 12 10.1 +1.5
KONO **Kongsberg** 65.98 344 *e*P P 23 12 08.0 -1.0
comp=Z,32nm,0.9s
KONO LR LR
comp=Z,2μm,20.0s
KONO **Kongsberg** 65.98 344 *ce*P P 23 12 08.7 -0.3
KONO pmax pmax
comp=Z,127nm,2.5s
KONO **Kongsberg** 65.98 344 *e*P P 23 12 10.2 +1.2
I39A **Houston** 66.00 49 PFAKE 23 12 20.0 +11
I39A LR LR
comp=Z,1μm,19.0s
I39A **Houston** 66.00 49 P P 23 12 09.0 -0.4
baz=320
319A **Douglas** 66.05 69 PFAKE 23 12 20.0 +10
319A LR LR
comp=Z,700nm,21.0s
121A **Cookes Peak, D** 66.06 67 P P 23 12 10.5 +0.3
baz=318
E43A **Lone Tree Farm** 66.06 44 PFAKE 23 12 20.0 +10
E43A LR LR
comp=Z,1μm,20.0s
SKLT **Songkhla** 66.13 250 P P 23 12 13.9 +3.3
comp=Z,41nm,1.4s,comp=Z,639nmcomp=Z,45μm
TRTT **Trang** 66.13 251 P P 23 12 13.0 +2.4
comp=Z,67nm,1.3s
IDID **Didziasalis** 66.13 333 *e*P P 23 12 10.1 +0.1
IDID IAmb IAmb 23 12 12.1
comp=Z,103nm,1.0s
ODD1 **Odda** 66.20 346 *e*P P 23 12 10.8 +0.3
IIGN **Ignalina** 66.24 333 *e*P P 23 12 11.0 +0.2
IIGN IAmb IAmb 23 12 12.9
comp=Z,131nm,0.9s
H41A **Junction City** 66.27 47 PFAKE 23 12 20.0 +8.9
H41A LR LR
comp=Z,2μm,21.0s
H41A **Junction City** 66.27 47 P P 23 12 12.1 +1.0
baz=321
SCHQ **Schefferville** 66.30 28 P P 23 12 11.5 +0.3
comp=Z,16nm,0.8s,baz=353,slow=7.3,SNR=12
J39A **Decorah** 66.31 49 P P 23 12 11.4 0.0
baz=321,SNR=7.0
G42A **Mountain** 66.33 46 PFAKE 23 12 20.0 +8.5
G42A LR LR
comp=Z,2μm,20.0s
E44A **Grand Marais A** 66.33 44 PFAKE 23 12 20.0 +8.5
E44A LR LR
comp=Z,2μm,20.0s
I40A **Norwalk** 66.39 48 P P 23 12 11.3 -0.7
baz=321
F43A **Flat Rock, Esc** 66.42 45 P P 23 12 10.3 -1.8
baz=322
NACGM **Naroch** 66.48 333 *e*P P 23 12 12.0 -0.3
NACGM PM 23 12 14.0
comp=Z,0.8nm,1.0s
MICGM **Minsk** 66.52 332⇓ *i*P P 23 12 13.0 +0.5
MICGM PM 23 12 14.0
comp=N,0.8nm,1.2s
MICGM PM 23 12 14.0
comp=Z,1.5nm,1.0s
MICGM PM 23 12 14.0
comp=E,0.6nm,1.5s
MICGM *e*LR LR 23 35 05.0
MICGM LRM MLR 23 45 22.0
comp=Z,9.8nm,16.0s
MNK **Minsk** 66.52 332⇓ *i*P P 23 12 13.0 +0.5
I41A **Arkdale** 66.60 48 PFAKE 23 12 30.0 +17
I41A LR LR

comp=Z,1μm,20.0s
G43A Wallace 66.64 46 PFAKE 23 12 30.0 +17
G43A LR LR
comp=Z,2μm,20.0s
G43A Wallace 66.64 46 P **P 23 12 12.9 -0.6**
baz=322
KAPI Kappang 66.67 225 *e*P **P 23 12 13.2 -0.8**
comp=Z,40nm,1.1s
KAPI Kappang 66.67 225 P **P 23 12 15.0 +1.0**
KAPI Kappang 66.67 225 P **P 23 12 15.0 +1.0**
comp=Z,7.0nm,0.7s,baz=28,slow=5.3,SNR=8.9
BLS5 Blasjo 66.69 346 *e*P **P 23 12 14.9 +1.3**
SCIA State Center 66.70 51 PFAKE 23 12 30.0 +16
SCIA LR LR
comp=Z,2μm,22.0s
SCIA State Center 66.70 51 P **P 23 12 14.1 +0.1**
baz=320
PABE Paberze 66.71 335 *e*P **P 23 12 13.7 0.0**
PABE IAmb IAmb 23 12 15.7
comp=Z,451nm,0.9s
J40A Soldiers Grove 66.71 49 P **P 23 12 13.9 -0.1**
baz=321
K39A Oelwein 66.71 50 P **P 23 12 13.6 -0.4**
baz=321
PBUR Paburg 66.77 336 *e*P **P 23 12 14.1 0.0**
PBUR IAmb IAmb 23 12 16.1
comp=Z,299nm,0.9s
HSIG 66.83 72 PFAKE 23 12 30.0 +15
HSIG LR LR
comp=Z,1μm,19.0s
H42A Shiocton 66.85 47 PFAKE 23 12 30.0 +15
H42A LR LR
comp=Z,2μm,20.0s
E45A Wooded Hills, 66.85 43 P **P 23 12 14.6 -0.2**
baz=323
PKDT Phuket 66.88 252 P P 23 12 20.2 +4.9
D46A Sault St. Mari 66.90 42 P **P 23 12 14.6 -0.6**
baz=323
K40A Colesburg 67.07 49 P **P 23 12 16.2 0.0**
baz=321
J41A Loganville 67.07 48 P **P 23 12 16.2 -0.1**
baz=321
KMY Karmoy 67.07 346 *e*P **P 23 12 17.5 +1.5**
MATQ Matagami 67.07 37 P **P 23 12 16.2 +0.1**
baz=326,SNR=6.4
L39A Vinton 67.11 50 P **P 23 12 16.0 -0.6**
baz=321,SNR=6.5
D47A Chapleau 67.16 42 P **P 23 12 16.6 -0.2**
baz=324
I42A Draeger Farm, 67.16 47 PFAKE 23 12 30.0 +13
I42A LR LR
comp=Z,1μm,20.0s
I42A Draeger Farm, 67.16 47 P **P 23 12 17.2 +0.4**
baz=322
KSU1 Kansas State U 67.16 55 PFAKE 23 12 30.0 +13
KSU1 LR LR
comp=Z,1μm,20.0s
E46A Sault Ste Mari 67.21 43 PFAKE 23 12 30.0 +13
E46A LR LR
comp=Z,1μm,19.0s
E46A Sault Ste Mari 67.21 43 P **P 23 12 17.3 +0.2**
baz=323
H43A Windswept, Lux 67.22 46 PFAKE 23 12 30.0 +13
H43A LR LR
comp=Z,2μm,21.0s
PBA Port Blair 67.22 259 *e*P P 23 12 18.2 +0.6
F45A CMU Biological 67.24 44 P **P 23 12 17.0 -0.3**
baz=323
JFWS Jewell Farm 67.31 49 PFAKE 23 12 30.0 +12
JFWS LR LR
comp=Z,1μm,19.0s
JFWS Jewell Farm 67.31 49 P **P 23 12 17.8 0.0**
baz=321
HOMB Homborsund 67.47 344 *e*P **P 23 12 19.2 +0.8**
I43A Langenfeld Bro 67.51 47 P **P 23 12 18.8 -0.2**
baz=322
J42A Columbus 67.52 48 P **P 23 12 19.0 -0.1**
baz=322
L40A Anamosa 67.52 50 PFAKE 23 12 30.0 +11
L40A LR LR
comp=Z,2μm,19.0s
L40A Anamosa 67.52 50 P **P 23 12 19.1 0.0**
baz=321,SNR=6.1
E47A Iron Bridge 67.57 42 P **P 23 12 19.2 -0.2**
baz=324
D48A Paudash Townsh 67.58 41 P **P 23 12 19.2 -0.3**
baz=324
SNART Snartemo 67.61 345 *e*P **P 23 12 20.7 +1.3**
KULM Kulim 67.64 248 PFAKE 23 12 30.0 +10
KULM LR LR
comp=Z,1μm,21.0s
AMTX Amarillo 67.69 62 PFAKE 23 12 30.0 +10
AMTX LR LR
comp=Z,800nm,19.0s
G45A Suttons Bay 67.69 44 PFAKE 23 12 30.0 +10
G45A LR LR
comp=Z,1μm,19.0s
GEYT Alibeck 67.70 303 P **P 23 12 19.7 -0.7**
comp=Z,53nm,0.9s,baz=27,slow=3.6,SNR=73
GEYT PP **PP 23 14 45.5 -4.0**
comp=Z,18nm,1.1s,baz=30,slow=7.2,SNR=4.5
GEYT LR LR 23 44 25.9
comp=Z,6μm,18.1s,baz=30,slow=38
GYA0B ALIBECK ARRAY 67.70 303 PFAKE 23 12 30.0 +10
GYA0B LR LR
comp=Z,6μm,18.0s
BHPL Bhopal 67.76 279 *e*P **P 23 12 19.6 -1.4**
BHPL IAmb IAmb 23 12 21.5
comp=Z,63nm,1.1s
MSTX Muleshoe 67.78 63 P **P 23 12 21.5 +0.5**
baz=319
G46A Petoskey 67.81 44 P **P 23 12 21.2 +0.3**
baz=323
K42A Prairie Point, 67.84 48 P **P 23 12 20.6 -0.5**
baz=322,SNR=6.0
LSQQ Lebel-sur-Quev 67.90 37 P **P 23 12 21.1 -0.3**
baz=326
U32A Winter Ranch, 67.99 59 PFAKE 23 12 40.0 +18
U32A LR LR
comp=Z,900nm,19.0s
MNTX Cornudas Mount 68.03 66 PFAKE 23 12 40.0 +17
MNTX LR LR
comp=Z,900nm,21.0s
MNTX Cornudas Mount 68.03 66 P **P 23 12 22.9 +0.4**
baz=319,SNR=13
IPM Ipoh 68.08 248 PFAKE 23 12 40.0 +17
IPM LR LR
comp=Z,1μm,20.0s
CHGQ Chibougamau 68.12 35 P **P 23 12 22.1 -0.7**
baz=328,SNR=8.7
I45A Fountain 68.24 45 PFAKE 23 12 40.0 +16
I45A LR LR
comp=Z,2μm,19.0s
N40A Mertquake, Sal 68.27 51 P **P 23 12 24.0 +0.2**
baz=321,SNR=6.3
L42A Oliver, Polo 68.29 49 PFAKE 23 12 40.0 +16
L42A LR LR
comp=Z,1μm,19.0s
L42A Oliver, Polo 68.29 49 P **P 23 12 23.4 -0.6**
baz=322
GLMI Grayling 68.31 44 PFAKE 23 12 40.0 +16
GLMI LR LR
comp=Z,2μm,20.0s
K43A Burlington 68.36 48 PFAKE 23 12 40.0 +16
K43A LR LR
comp=Z,1μm,21.0s
M41A Milan 68.38 50 P **P 23 12 24.8 +0.3**
baz=322
VLDQ Val d'Or 68.50 38 *e*P **P 23 12 24.3 -0.9**
comp=Z,26nm,0.8s
D51A Lot 18 Range I 68.61 39 P **P 23 12 25.9 0.0**
baz=326
J45A Montague 68.65 46 PFAKE 23 12 40.0 +14
J45A LR LR
comp=Z,2μm,21.0s
MYKOM Kota Tinggi 68.72 244 PFAKE 23 12 40.0 +13
MYKOM LR LR
comp=Z,1μm,18.0s
N41A Harden Midland 68.75 51 PFAKE 23 12 40.0 +13
N41A LR LR
comp=Z,2μm,21.0s
N41A Harden Midland 68.75 51 P **P 23 12 27.0 +0.2**
baz=322,SNR=10
MMRI Maumere 68.89 221 *e*P **P 23 12 28.6 +0.6**
comp=Z,143nm,1.1s
MAK Makhachkala 68.90 314*d i*P **P 23 12 25.6 -2.1**
MAK *e* 23 14 56.4
MAK *e*S **S 23 21 28.5 -0.4**
MAK pmax pmax
comp=Z,276nm,1.3s
MAK MLR MLR
comp=Z,3μm,16.0s
H48A Harrisville 68.96 43 PFAKE 23 12 40.0 +12
H48A LR LR
comp=Z,2μm,18.0s
I47A Gladwin 69.00 44 PFAKE 23 12 40.0 +12
I47A LR LR
comp=Z,2μm,20.0s
E51A G1948 Merrick 69.03 40 P **P 23 12 28.4 -0.1**
baz=326
M43A Waltham Townsh 69.07 49 P **P 23 12 28.5 -0.3**
baz=322
D52A ZEK Kipawa Sen 69.08 39 P **P 23 12 28.3 -0.6**
baz=326
MUD Monsted U'grnd 69.08 343⇑*i*P **P 23 12 29.4 +0.8**
MUD pmax pmax
comp=Z,39nm,0.9s
MUD MLR MLR
comp=Z,3μm,19.0s
MUD Monsted U'grnd 69.08 343⇑*i*P **P 23 12 29.4 +0.8**
comp=Z,39nm,0.9s
COP Copenhagen 69.20 341⇑*i*P **P 23 12 30.1 +0.7**
COP pmax pmax
comp=Z,82nm,0.8s
COP MLR MLR
comp=Z,2μm,17.0s
COP Copenhagen 69.20 341⇑*i*P **P 23 12 30.1 +0.7**
comp=Z,82nm,0.8s
BSD Bornholm Skovb 69.23 340⇑*i*P **P 23 12 29.9 +0.4**
BSD pmax pmax
comp=Z,75nm,0.7s
BSD MLR MLR
comp=Z,2μm,15.0s
BSD Bornholm Skovb 69.23 340⇑*i*P **P 23 12 29.9 +0.4**
comp=Z,75nm,0.7s
D53A Lac Vacive, Po 69.27 38 *e*P **P 23 12 30.9 +1.0**
comp=Z,31nm,1.1s
D53A LR LR
comp=Z,2μm,20.0s
D53A Lac Vacive, Po 69.27 38 P **P 23 12 29.3 -0.7**
baz=326
WMOK Wichita Mounta 69.36 60 P **P 23 12 31.3 +0.6**
baz=320
AKASG Malin Array Be 69.42 329 P **P 23 12 30.1 -0.7**
comp=Z,107nm,0.8s,baz=32,slow=6.6,SNR=252
AKASG LR LR 23 48 14.2
comp=Z,4μm,18.4s,baz=20,slow=41
KIEV Kiev 69.44 329 *e*P **P 23 12 30.2 -0.7**
comp=Z,244nm,1.1s
KIEV LR LR
comp=Z,4μm,18.0s
KIEV Kiev 69.44 329⇓*i*P **P 23 12 30.6 -0.3**
KIEV Kiev 69.44 329 *i* P **P 23 12 30.7 -0.3**
SNR=32
GROC Groznyy 69.46 315 *e*P **P 23 12 30.0 -1.2**
GROC *e* 23 12 53.5
GROC *e* 23 15 03.6
GROC pmax pmax
comp=Z,91nm,1.4s
J47A Sunmer 69.50 45 PFAKE 23 12 40.0 +8.6
J47A LR LR
comp=Z,2μm,20.0s
J47A Sunmer 69.50 45 P **P 23 12 31.7 +0.2**
baz=324
K46A Dorr 69.51 46 P **P 23 12 31.2 -0.3**
baz=323
M44A Midewin, Midew 69.53 48 PFAKE 23 12 40.0 +8.3
M44A LR LR
comp=Z,1μm,20.0s
D54A Lac Fusel, La 69.60 38 P **P 23 12 32.0 0.0**
baz=327
HDIL Hopedale 69.61 50 PFAKE 23 12 40.0 +7.8
HDIL LR LR
comp=Z,1μm,18.0s
HDIL Hopedale 69.61 50 P **P 23 12 32.5 +0.4**
baz=322
F52A Sundridge 69.70 40 P **P 23 12 32.5 -0.2**
baz=326
KLBO Killbear Provi 69.71 41 P **P 23 12 32.7 0.0**
baz=325
I49A Point Hope 69.78 43 PFAKE 23 12 50.0 +17
I49A LR LR
comp=Z,2μm,19.0s
L46A Eue Claire 69.82 47 PFAKE 23 12 50.0 +17
L46A LR LR
comp=Z,1μm,20.0s
LHMI Lhok Sumawe 69.83 252 PFAKE 23 12 50.0 +16
LHMI LR LR
comp=Z,2μm,20.0s
E53A Dumoine, Ponti 69.87 39 P **P 23 12 33.1 -0.5**
baz=326
K47A Vermontville 69.87 46 P **P 23 12 33.0 -0.8**
baz=324
J48A Bridge Port 69.89 44 PFAKE 23 12 50.0 +16
J48A LR LR
comp=Z,2μm,19.0s
N44A Piper City 69.96 49 P **P 23 12 34.1 -0.2**
baz=323
BUKO Buck Lake 69.96 40 P **P 23 12 34.0 -0.3**
baz=326
E54A Lac Daplat, Po 70.00 38 P **P 23 12 34.4 -0.1**
baz=327
TUL1 Leonard 70.02 57 PFAKE 23 12 50.0 +15
TUL1 LR LR
comp=Z,1μm,20.0s
TUL1 Leonard 70.02 57 P **P 23 12 35.8 +1.0**
baz=321
ALGO Algonquin Park 70.07 39 P **P 23 12 34.4 -0.5**
baz=326
RGN Rugen 70.09 340 PFAKE 23 12 50.0 +15
RGN LR LR
comp=Z,2μm,20.0s
K48A Perry 70.15 45 P **P 23 12 35.8 +0.3**
baz=324
NCK Nalchik 70.17 316*c i*P **P 23 12 35.3 -0.3**
NCK pmax pmax
comp=Z,70nm,1.1s
KIV Kislovodsk 70.18 317 *e*P **P 23 12 35.6 -0.1**
comp=Z,48nm,1.1s
KIV LR LR
comp=Z,3μm,20.0s
KIV Kislovodsk 70.18 317⇓*i*P **P 23 12 36.1 +0.4**
KIV Kislovodsk 70.18 317 *i* P **P 23 12 35.7 0.0**
SNR=17
KIV Kislovodsk 70.18 317 *e*P **P 23 12 35.3 -0.4**
KIV *e* 23 15 10.2
KIV *e* 23 21 44.0
KIV pmax pmax
comp=Z,120nm,1.1s
KIV MLR MLR
comp=Z,7μm,17.0s
KIV Kislovodsk 70.18 317 P **P 23 12 35.6 -0.1**
SNR=29
KIV P **P 23 12 35.6 -0.1**
SNR=29
CMBY CAMPBELL BAY 70.18 255 *e*P **P 23 12 35.3 -0.7**
BASO Ashfield 70.21 43 P **P 23 12 36.3 +0.5**
baz=325
P43A Skaggs, Pawnee 70.22 50 P **P 23 12 36.6 +0.6**
baz=322
KBZ Khabaz 70.27 317 P **P 23 12 36.1 0.0**
comp=Z,83nm,1.0s,baz=48,slow=7.7,SNR=107
KBZ LR LR 23 48 22.7
comp=Z,3μm,18.2s,baz=15,slow=40
M46A Old House Fiel 70.28 47 PFAKE 23 12 50.0 +14
M46A LR LR
comp=Z,2μm,21.0s
Q42A Golden Eagle 70.31 52 P **P 23 12 36.5 0.0**
baz=322,SNR=6.8
R41A Rosebud 70.38 53 P **P 23 12 36.5 -0.4**
baz=322,SNR=8.3
GKP Gorka Klasztor 70.41 338 *e*P **P 23 12 37.3 +0.4**
GKP Gorka Klasztor 70.41 338 *e*P **P 23 12 37.3 +0.4**
ABTX Abilene, Hawle 70.51 62 PFAKE 23 12 50.0 +12
ABTX LR LR
comp=Z,1μm,18.0s
G53A Haliburton 70.53 40 P **P 23 12 37.1 -0.7**
baz=326
PEMO Pembroke 70.61 39 P **P 23 12 37.5 -0.7**
baz=327
ZEI Tsey 70.61 316 *e*P P 23 12 33.4 -5.2
ZEI pmax pmax
comp=Z,54nm,1.0s
SADO Sadowa 70.62 41 LR LR 23 46 22.0
comp=Z,1μm,18.9s,baz=356,slow=38
CCM Cathedral Cave 70.64 53 *e*P **P 23 12 38.8 +0.3**
comp=Z,26nm,1.0s
CCM LR LR
comp=Z,2μm,22.0s
CCM Cathedral Cave 70.64 53 P **P 23 12 39.0 +0.5**
baz=322
PSI Prapat 70.65 248 *e*P **P 23 12 39.9 +0.9**
comp=Z,30nm,0.9s
PSI LR LR
comp=Z,1μm,21.0s
PSI Prapat 70.65 248 P **P 23 12 39.3 +0.3**
comp=Z,13nm,0.8s,baz=17,slow=4.8,SNR=15
SLM Saint Louis 70.67 52 PFAKE 23 12 50.0 +11
SLM LR LR
comp=Z,2μm,19.0s
HHAR Hobbs 70.68 56 PFAKE 23 12 50.0 +11
HHAR LR LR
comp=Z,1μm,19.0s
L48A N Adams 70.71 46 P **P 23 12 38.9 0.0**
baz=324
NEY Neytrino 70.74 317*d i*P **P 23 12 38.3 -1.0**
AAM Ann Arbor 70.76 45 PFAKE 23 12 50.0 +11
AAM LR LR
comp=Z,1μm,19.0s
AAM Ann Arbor 70.76 45 P **P 23 12 39.5 +0.4**
baz=324
S41A Jillco Farms, 70.76 53 P **P 23 12 39.2 -0.1**
baz=322,SNR=11
SFIN Lafayette 70.77 48 PFAKE 23 12 50.0 +11
SFIN LR LR
comp=Z,1μm,20.0s
SFIN Lafayette 70.77 48 P **P 23 12 39.2 -0.1**
baz=323
I52A Shelburne 70.78 42 P **P 23 12 39.5 +0.2**
baz=326
TXAR Lajitas Array 70.78 67 P **P 23 12 40.9 +1.2**
comp=Z,11nm,0.8s,baz=302,slow=4.2,SNR=41
TXAR LR LR 23 42 29.6
comp=Z,500nm,19.6s,baz=0.0,slow=35
K50A Casco 70.82 44 PFAKE 23 12 50.0 +10
K50A LR LR
comp=Z,2μm,19.0s
LATQ La Tuque 70.82 35 P **P 23 12 39.1 -0.4**
baz=329
F55A Otter Lake 70.82 38 P **P 23 12 39.1 -0.4**
baz=327
BEL Belsk 70.84 335 *e*P **P 23 12 40.3 +0.8**
BEL Belsk 70.84 335 *e*P **P 23 12 40.3 +0.8**
LPIG La Paz 70.89 75 LR LR 23 37 01.4
comp=Z,357nm,21.1s,baz=310,slow=30
BANO Bancroft 70.89 40 P **P 23 12 39.6 -0.4**
baz=327
M48A Edgerton 70.95 46 PFAKE 23 12 50.0 +10
M48A LR LR
comp=Z,1μm,19.0s
N47A Urbana 71.00 47 P **P 23 12 40.5 -0.1**
baz=324
P45A Graceland, Par 71.14 49 PFAKE 23 12 50.0 +8.4
P45A LR LR
comp=Z,1μm,18.0s
P45A Graceland, Par 71.14 49 P **P 23 12 41.4 -0.2**
baz=323
G55A Calabogie 71.17 39 P **P 23 12 40.5 -1.1**
baz=327
U40A Yellville 71.17 55 P **P 23 12 41.2 -0.6**
baz=322,SNR=23
PLVO Plevna 71.21 39 PFAKE 23 12 50.0 +8.1
PLVO LR LR
comp=Z,1μm,20.0s
X37A Clayton 71.26 58 PFAKE 23 13 00.0 +18
X37A LR LR
comp=Z,900nm,18.0s
M49A Liberty Center 71.29 46 P **P 23 12 43.1 +0.7**
baz=324
N48A Decatur 71.32 47 P **P 23 12 41.3 -1.3**
baz=324,SNR=5.5
P46A Rosedale 71.32 49 P **P 23 12 42.7 0.0**
baz=323
L50A Kingsville 71.33 45 P **P 23 12 42.6 -0.1**
baz=325
DELO Deloro Mine 71.43 40 P **P 23 12 43.0 -0.2**
baz=327
Q45A Warren Harvey, 71.45 50 P **P 23 12 43.8 +0.3**
baz=323
ORIO Orleans, Innes 71.46 38 P **P 23 12 43.2 -0.2**
baz=328
HYB Hyderabad 71.47 275⇑*i*P **P 23 12 43.5 -0.4**
comp=Z,240nm,1.0s
BKNI Bangkinang 71.48 245 *e*P **P 23 12 43.5 -0.4**
comp=Z,204nm,1.2s
BKNI LR LR
comp=Z,1μm,20.0s
ALFO Alfred 71.55 37 P **P 23 12 43.7 -0.2**
baz=328
H55A Tweed 71.58 40 P **P 23 12 44.0 -0.1**
baz=327
ANN Anapa 71.59 321 *e*P **P 23 12 41.6 -2.5**
ANN *e**PP **pP 23 12 52.0 -3.0**
ANN *e* 23 15 18.4
ANN *e*S **S 23 21 59.4 -0.9**
ANN pmax pmax
comp=Z,168nm,1.6s
W39A Magazine 71.61 56 PFAKE 23 13 00.0 +16
W39A LR LR
comp=Z,1μm,20.0s
W39A Magazine 71.61 56 P **P 23 12 44.5 +0.1**
baz=322
WLVO Wesleyville 71.62 41 P **P 23 12 44.4 0.0**
baz=327
N49A Columbus Grove 71.64 46 PFAKE 23 13 00.0 +15
N49A LR LR
comp=Z,1μm,20.0s
N49A Columbus Grove 71.64 46 P **P 23 12 43.6 -1.0**
baz=324
U41A Viola 71.65 54 P **P 23 12 44.8 +0.1**
baz=322,SNR=5.7
I55A Frankford 71.66 40 P **P 23 12 43.0 -1.6**
baz=327
SOC Sochi 71.70 319*c i*P **P 23 12 44.3 -0.6**
SOC *e* 23 15 24.3
SOC *e*S **S 23 22 01.6 -0.1**
SOC *e*SS **SS 23 26 37.2 +0.5**
SOC pmax pmax
comp=Z,123nm,1.0s
SOC MLR MLR
comp=Z,5μm,16.0s
O48A Farmland 71.75 47 P **P 23 12 44.6 -0.6**
baz=324
M50A Fremont 71.75 45 PFAKE 23 13 00.0 +15
M50A LR LR
comp=Z,1μm,18.0s
LVV L'vov 71.77 332*d i*P **P 23 12 45.3 +0.1**
LVV *e*S **S 23 22 01.5 -0.8**
P47A Martinsville 71.86 48 P **P 23 12 45.3 -0.5**
baz=324
S44A Carbondale 71.89 52 P **P 23 12 46.0 -0.1**
baz=323,SNR=7.7
SIUC Southern Illin 71.89 51 PFAKE 23 13 00.0 +14
SIUC LR LR
comp=Z,2μm,20.0s
H56A Elgin 71.90 39 P **P 23 12 45.8 -0.2**
baz=328
EKA Eskdalemuir Ar 71.91 350 P **P 23 12 45.9 0.0**
EKA pmax pmax
comp=Z,4.0nm,0.4s
AKH Akhalkalaki 71.91 315 PFAKE 23 13 00.0 +14
AKH LR LR
comp=Z,5μm,18.0s
AKH Akhalkalaki 71.91 315⇓*i*P **P 23 12 46.1 -0.3**
ESK Eskdalemuir 71.93 350 *e*P **P 23 12 46.9 +0.9**
comp=Z,68nm,1.1s
ESK Eskdalemuir 71.93 350*c e*P **P 23 12 47.4 +1.4**
RUE Ruedersdorf 71.93 339 *e*P **P 23 12 46.3 +0.3**
RUE IAmb IAmb 23 12 48.6
comp=Z,90nm,0.8s
BLO Bloomington 72.00 49 PFAKE 23 13 00.0 +13
BLO LR LR
comp=Z,2μm,21.0s
PBMO Poplar Bluff 72.04 53 PFAKE 23 13 00.0 +13
PBMO LR LR
comp=Z,1μm,19.0s
J54A Appleton 72.06 41 PFAKE 23 13 00.0 +13
J54A LR LR
comp=Z,1μm,19.0s

J54A	**Appleton**	**72.06**	**41**	P	**P**	**23 12 46.2**	**-0.9**
	baz=327						
JCT	**Junction City**	**72.06**	**63**	PFAKE		23 13 00.0	+13
JCT				LR	LR		
	comp=Z,900nm,19.0s						
JCT	**Junction City**	**72.06**	**63**	P	**P**	**23 12 47.3**	**0.0**
	baz=321						
PECO	**Prince Edward**	**72.17**	**40**	P	**P**	**23 12 46.4**	**-1.2**
	baz=327						
O49A	**Covington**	**72.17**	**47**	PFAKE		23 13 00.0	+12
O49A				LR	LR		
	comp=Z,1μm,20.0s						
O49A	**Covington**	**72.17**	**47**	P	**P**	**23 12 47.2**	**-0.6**
	baz=324						
M51A	**Elyria**	**72.18**	**45**	P	**P**	**23 12 47.6**	**-0.2**
	baz=325						
MIAR	**Mount Ida**	**72.22**	**56**	PFAKE		23 13 00.0	+12
MIAR				LR	LR		
	comp=Z,1μm,19.0s						
MIAR	**Mount Ida**	**72.22**	**56**	P	**P**	**23 12 46.7**	**-1.4**
	baz=322,SNR=6.7						
N50A	**Nevada**	**72.22**	**46**	P	**P**	**23 12 46.8**	**-1.2**
	baz=325						
S45A	**Carrier Mills**	**72.22**	**51**	P	**P**	**23 12 47.4**	**-0.7**
	baz=323,SNR=5.7						
MEDO	**Medina**	**72.23**	**41**	PFAKE		23 13 00.0	+12
MEDO				LR	LR		
	comp=Z,1μm,20.0s						
MEDO	**Medina**	**72.23**	**41**	P	**P**	**23 12 47.2**	**-0.9**
	baz=327						
Q47A	**Bedord North L**	**72.23**	**49**	P	**P**	**23 12 47.9**	**-0.2**
	baz=324,SNR=5.6						
P48A	**Milroy**	**72.27**	**48**	P	**P**	**23 12 48.0**	**-0.3**
	baz=324						
WHAR	**Wooly Hollow**	**72.29**	**55**	PFAKE		23 13 00.0	+11
WHAR				LR	LR		
	comp=Z,1μm,18.0s						
R46A	**Gibon Southern**	**72.30**	**50**	P	**P**	**23 12 49.4**	**+0.8**
	baz=324						
KWP	**Kalwaria Pacla**	**72.32**	**333**	*e*P	**P**	**23 12 49.3**	**+0.8**
KWP	**Kalwaria Pacla**	**72.32**	**333**	PFAKE		23 13 00.0	+12
KWP				LR	LR		
	comp=Z,45μm,19.0s						
KWP	**Kalwaria Pacla**	**72.32**	**333**	*e*P	**P**	**23 12 49.3**	**+0.8**
M52A	**Chesterland**	**72.37**	**44**	PFAKE		23 13 00.0	+11
M52A				LR	LR		
	comp=Z,2μm,18.0s						
M52A	**Chesterland**	**72.37**	**44**	P	**P**	**23 12 48.8**	**-0.1**
	baz=326						
GNI	**Garni**	**72.39**	**314**	*e*P	**P**	**23 12 49.8**	**+0.5**
	comp=Z,130nm,1.1s						
GNI				LR	LR		
	comp=Z,3μm,18.0s						
GNI	**Garni**	**72.39**	**314**	*i* P	**P**	**23 12 50.3**	**+1.1**
	SNR=10						
GNI	**Garni**	**72.39**	**314**	*ce*P	**P**	**23 12 50.1**	**+0.9**
GNI				pmax	pmax		
	comp=Z,1μm,1.7s						
GNI	**Garni**	**72.39**	**314**	P	**P**	**23 12 50.1**	**+0.9**
	SNR=10						
GNI				P	**P**	**23 12 50.1**	**+0.9**
	SNR=10						
GNI	**Garni**	**72.39**	**314**	P	**P**	**23 12 48.8**	**-0.4**
	comp=Z,49nm,0.9s,baz=356,slow=0.4,SNR=27						
J55A	**Hilton**	**72.40**	**41**	PFAKE		23 13 00.0	+11
J55A				LR	LR		
	comp=Z,2μm,19.0s						
J55A	**Hilton**	**72.40**	**41**	P	**P**	**23 12 48.7**	**-0.3**
	baz=327						
W41B	**Gary Mavity, V**	**72.40**	**55**	PFAKE		23 13 00.0	+11
W41B				LR	LR		
	comp=Z,1μm,19.0s						
W41B	**Gary Mavity, V**	**72.40**	**55**	P	**P**	**23 12 48.3**	**-0.8**
	baz=322,SNR=13						
BHJ	**Bhuj**	**72.41**	**285**	*e*P	**P**	**23 12 48.9**	**-0.5**
USIN	**University of**	**72.43**	**50**	PFAKE		23 13 00.0	+11
USIN				LR	LR		
	comp=Z,2μm,20.0s						
N51A	**Ashland**	**72.44**	**45**	PFAKE		23 13 00.0	+11
N51A				LR	LR		
	comp=Z,1μm,20.0s						
N51A	**Ashland**	**72.44**	**45**	P	**P**	**23 12 49.4**	**0.0**
	baz=325						
PARMO	**Parma**	**72.46**	**52**	PFAKE		23 13 00.0	+10
PARMO				LR	LR		
	comp=Z,1μm,21.0s						
ERPA	**Erie**	**72.47**	**43**	PFAKE		23 13 00.0	+11
ERPA				LR	LR		
	comp=Z,1μm,18.0s						
ERPA	**Erie**	**72.47**	**43**	P	**P**	**23 12 48.0**	**-1.5**
	baz=326						
L53A	**Girard**	**72.49**	**43**	P	**P**	**23 12 49.3**	**-0.4**
	baz=326						
LONY	**Lake Ozonia**	**72.52**	**38**	*e*P	**P**	**23 12 49.3**	**-0.4**
	comp=Z,18nm,1.2s						
LONY				LR	LR		
	comp=Z,1μm,22.0s						
LONY	**Lake Ozonia**	**72.52**	**38**	P	**P**	**23 12 49.4**	**-0.3**
	baz=328						
BATM	**Batumi**	**72.52**	**316**	⇑*i*P	**P**	**23 12 49.3**	**-0.5**
P49A	**Miami Univ. Ec**	**72.53**	**47**	P	**P**	**23 12 49.6**	**-0.3**
	baz=324						
IDGL	**Inch Island, C**	**72.56**	**353**	*i* PP	**P**	**23 12 50.7**	**+0.9**
OJC	**Ojcow**	**72.58**	**335**	*e*P	**P**	**23 12 50.6**	**+0.6**
OJC	**Ojcow**	**72.58**	**335**	*e*P	**P**	**23 12 50.6**	**+0.6**
S46A	**Don Dixon Farm**	**72.63**	**50**	P	**P**	**23 12 50.5**	**0.0**
	baz=324						
GSI	**Gunungsitoli**	**72.64**	**249**	*e*P	**P**	**23 12 51.8**	**+0.9**
	comp=Z,342nm,1.8s						
GSI				LR	LR		
	comp=Z,2μm,21.0s						
X40A	**Basin Creek Fa**	**72.65**	**56**	PFAKE		23 13 00.0	+9.3
X40A				LR	LR		
	comp=Z,1μm,20.0s						
X40A	**Basin Creek Fa**	**72.65**	**56**	P	**P**	**23 12 50.3**	**-0.4**
	baz=322						
L54A	**Sinclairville**	**72.65**	**42**	P	**P**	**23 12 49.4**	**-1.1**
	baz=326						
UALR	**University of**	**72.67**	**55**	PFAKE		23 13 00.0	+9.2
UALR				LR	LR		
	comp=Z,1μm,21.0s						
BCA	**Borcka**	**72.68**	**316**	P	**P**	**23 12 50.5**	**-0.4**
BCA	**Borcka**	**72.68**	**316**	⇑*i*P	**P**	**23 12 50.4**	**-0.4**
PVMO	**Portageville**	**72.69**	**53**	PFAKE		23 13 00.0	+9.1
PVMO				LR	LR		
	comp=Z,2μm,20.0s						
R47A	**Wooly Knot Far**	**72.70**	**49**	P	**P**	**23 12 50.5**	**-0.4**
	baz=324						
FRNY	**Flat Rock**	**72.71**	**37**	PFAKE		23 13 00.0	+9.2
FRNY				LR	LR		
	comp=Z,2μm,19.0s						
SIM	**Simferopol'**	**72.72**	**323**	*c i*P	**P**	**23 12 50.3**	**-0.6**
SIM				*e*S	**S**	**23 22 13.5**	**+0.2**
SIM				pmax	pmax		
	comp=Z,159nm,1.4s						
T45A	**Paducah**	**72.72**	**52**	PFAKE		23 13 00.0	+9.0
T45A				LR	LR		
	comp=Z,2μm,20.0s						
ACSO	**Alum Creek Sta**	**72.74**	**46**	PFAKE		23 13 00.0	+8.9
ACSO				LR	LR		
	comp=Z,1μm,22.0s						
ACSO	**Alum Creek Sta**	**72.74**	**46**	P	**P**	**23 12 51.2**	**+0.1**
	baz=325						
M53A	**WI Miller and**	**72.74**	**44**	P	**P**	**23 12 50.4**	**-0.7**
	baz=326						
DBOC	**Borcka**	**72.75**	**316**	*i* P	**P**	**23 12 52.1**	**+0.9**
TASB	**TASBURUN-IGDIR**	**72.75**	**314**	P	**P**	**23 12 51.9**	**+0.6**
K55A	**Perry**	**72.75**	**41**	P	**P**	**23 12 50.7**	**-0.4**
	baz=327,SNR=6.2						
ALLY	**Alegheny Colle**	**72.79**	**43**	*e*P	**P**	**23 12 49.2**	**-2.2**
	comp=Z,67nm,1.3s						
ALLY				LR	LR		
	comp=Z,1μm,20.0s						
KIS	**Kishinev**	**72.79**	**328**	⇑*i*P	**P**	**23 12 50.0**	**-1.3**
	comp=Z,710nm,2.0s						
KIS	**Kishinev**	**72.79**	**328**	*e*PcP	**P**	**23 12 55.0**	**+3.7**
KIS	**Kishinev**	**72.79**	**328**	*e*PP	PP	23 15 37.0	+4.2
KIS				*e*S	**S**	**23 22 13.0**	**-1.1**
KIS	**Kishinev**	**72.79**	**328**	*e*PS		23 22 30.0	
KIS				*e*SS	SS	23 26 22.0	-31
KIS				LRM	MLR	23 48 35.0	
	comp=Z,5μm,18.0s						
KIS	**Kishinev**	**72.79**	**328**	α *i*P	**P**	**23 12 50.0**	**-1.3**
KIS				*e*		23 12 55.0	
KIS				*e*		23 15 37.0	
KIS				*e*S	**S**	**23 22 13.0**	**-1.1**
KIS				*e*		23 23 05.0	
KIS				pmax	pmax		
	comp=Z,710nm,2.0s						
KIS				pmax	pmax		
	comp=N,500nm,2.0s						
N52A	**McGinn's Farm,**	**72.82**	**45**	P	**P**	**23 12 51.5**	**-0.1**
	baz=326						
WCI	**Wyandotte Cave**	**72.86**	**49**	*e*P	**P**	**23 12 52.8**	**+0.9**
	comp=N,27nm,0.9s						
WCI				LR	LR		
	comp=Z,1μm,20.0s						
WCI	**Wyandotte Cave**	**72.86**	**49**	P	**P**	**23 12 51.9**	**+0.1**
	baz=324						
DAGI	**Agillar**	**72.86**	**316**	*i* P	**P**	**23 12 53.3**	**+1.3**
Q49A	**Aurora**	**72.88**	**48**	P	**P**	**23 12 52.3**	**+0.3**
	baz=324						
P50A	**Jamestown**	**72.88**	**47**	P	**P**	**23 12 52.4**	**+0.4**
	baz=325						
KSP	**Ksiaz**	**72.88**	**337**	*e*P	**P**	**23 12 52.3**	**+0.5**
KSP	**Ksiaz**	**72.88**	**337**	*e*P	**P**	**23 12 52.3**	**+0.5**
GNAR	**Gosnell**	**72.89**	**53**	PFAKE		23 13 00.0	+7.9
GNAR				LR	LR		
	comp=Z,1μm,19.0s						
HBAR	**Harrisburg**	**72.90**	**54**	PFAKE		23 13 00.0	+7.9
HBAR				LR	LR		
	comp=Z,1μm,22.0s						
R48A	**Northridge Ran**	**72.92**	**49**	P	**P**	**23 12 52.2**	**-0.1**
	baz=324						
DBAD	**Bademkaya**	**73.00**	**316**	*i* P	**P**	**23 12 54.0**	**+1.2**
GLAT	**Glass**	**73.00**	**52**	PFAKE		23 13 10.0	+17
GLAT				LR	LR		
	comp=Z,1μm,20.0s						
IAS	**Iasi**	**73.03**	**328**	⇓*i*P	**P**	**23 12 53.0**	**+0.4**
IAS	**Iasi**	**73.03**	**328**	P	**P**	**23 12 53.1**	**+0.4**
435B	**Jarrell**	**73.04**	**62**	PFAKE		23 13 10.0	+17
435B				LR	LR		
	comp=Z,900nm,22.0s						
L55A	**Hinsdale**	**73.06**	**42**	P	**P**	**23 12 52.9**	**-0.1**
	baz=327						
T46A	**Princeton**	**73.06**	**51**	P	**P**	**23 12 54.0**	**+0.9**
	baz=324,SNR=12						
KOLS	**Kolonicke sedl**	**73.07**	**333**	*e*P	**P**	**23 12 53.6**	**+0.6**
KOLS				pmax	pmax		
	comp=Z,106nm,1.4s						
KOLS	**Kolonicke sedl**	**73.07**	**333**	*e*P	**P**	**23 12 53.6**	**+0.6**
PQI	**Presque Isle**	**73.07**	**33**	PFAKE		23 13 10.0	+17
PQI				LR	LR		
	comp=Z,2μm,19.0s						
CTA	**Charters Tower**	**73.10**	**194**	P	**P**	**23 12 54.0**	**+0.7**
CTA	**Charters Tower**	**73.10**	**194**	P	**P**	**23 12 54.0**	**+0.7**
	comp=Z,5.5nm,0.8s,baz=17,slow=11,SNR=4.5						
CTAO	**Charters Tower**	**73.10**	**194**	PFAKE		23 13 10.0	+17
CTAO				LR	LR		
	comp=Z,800nm,19.0s						
S47A	**Hartford**	**73.10**	**50**	P	**P**	**23 12 52.6**	**-0.7**
	baz=324						
SENK	**Senkaya-Erzuru**	**73.10**	**315**	P	**P**	**23 12 54.3**	**+0.8**
M54A	**Oil Creek Stat**	**73.11**	**43**	PFAKE		23 13 10.0	+17
M54A				LR	LR		
	comp=Z,1μm,18.0s						
M54A	**Oil Creek Stat**	**73.11**	**43**	P	**P**	**23 12 52.6**	**-0.7**
	baz=326						
RAC	**Raciborz**	**73.11**	**336**	*e*P	**P**	**23 12 54.2**	**+1.0**
RAC				MLR	MLR		
	comp=Z,6μm,18.4s						
WLAR	**White Oak Lake**	**73.13**	**57**	PFAKE		23 13 10.0	+16
WLAR				LR	LR		
	comp=Z,1μm,18.0s						
NIE	**Niedzica**	**73.17**	**334**	*e*P	**P**	**23 12 54.4**	**+0.8**
NIE	**Niedzica**	**73.17**	**334**	*e*P	**P**	**23 12 54.4**	**+0.8**
N53A	**Lisbon**	**73.19**	**44**	PFAKE		23 13 10.0	+16
N53A				LR	LR		
	comp=Z,2μm,18.0s						
N53A	**Lisbon**	**73.19**	**44**	P	**P**	**23 12 53.5**	**-0.3**
	baz=326						
CLL	**Collm**	**73.20**	**339**	PFAKE		23 13 10.0	+16
CLL				LR	LR		
	comp=Z,2μm,18.0s						
CLL	**Collm**	**73.20**	**339**	⇑*i*P	**P**	**23 12 53.6**	**0.0**
CLL				*e*		23 12 58.0	
CLL				*e*		23 13 02.0	
CLL				*e*S	**S**	**23 22 20.0**	**+1.5**
CLL				pmax	pmax		
	comp=Z,88nm,1.0s						
CLL	**Collm**	**73.20**	**339**	⇑*i*P	**P**	**23 12 53.6**	**0.0**
	comp=Z,88nm,1.0s						
CLL				*e*Pmax		23 12 56.0	
CLL				*e*(pP)	**pP**	**23 12 58.0**	**-6.5**
CLL				*es*P	**pwP**	**23 13 02.0**	**-5.5**
CLL				*e*		23 13 05.0	
CLL				*e*		23 13 07.0	
CLL				*e*PP	**PP**	**23 15 42.0**	**+5.8**
CLL				*e*S	**S**	**23 22 20.0**	**+1.5**
CLL				*es*S	**pS**	**23 22 35.0**	**+2.7**
CLL				*e*(SP)		23 22 54.0	
CLL				*e*(PPS)		23 23 14.0	
CLL				*e*SS	SS	23 27 18.0	+19
CLL				*e*SSS	SSS	23 30 54.0	
CLL				LmH		23 48 00.0	
	comp=N,2μm,19.2s						
CLL				LmH		23 48 00.0	
	comp=E,2μm,18.4s						
CLL				Lmax		23 52 00.0	
NCB	**Newcomb**	**73.20**	**38**	PFAKE		23 13 10.0	+16
NCB				LR	LR		
	comp=Z,800nm,20.0s						
SEVA	**Sevastopol**	**73.24**	**323**	⇑*i*P	**P**	**23 12 53.6**	**-0.4**
UPC	**Upice**	**73.26**	**337**	*e*P	**P**	**23 12 54.4**	**+0.4**
UPC				*e*		23 13 04.3	
UPC				*e*S	**SKiKP**	**23 22 22.0**	**+0.1**
UPC				MLR	MLR		
	comp=Z,5μm,15.9s						
UPC	**Upice**	**73.26**	**337**	*e*P	**P**	**23 12 54.4**	**+0.4**
UPC				*ep*P	**pP**	**23 13 04.3**	**-0.6**
UPC				*e*S	**SKiKP**	**23 22 22.0**	**+0.1**
UPC				AMS	AMS	23 51 20.0	
	comp=Z,5μm,15.9s						
HALT	**Halls**	**73.26**	**53**	PFAKE		23 13 10.0	+16
HALT				LR	LR		
	comp=Z,1μm,20.0s						
PRAR	**RASCA**	**73.30**	**329**	⇑*i*P	**P**	**23 12 55.0**	**+0.6**
P51A	**Williamsport**	**73.31**	**46**	PFAKE		23 13 10.0	+15
P51A				LR	LR		
	comp=Z,2μm,21.0s						
P51A	**Williamsport**	**73.31**	**46**	P	**P**	**23 12 53.8**	**-0.7**
	baz=325						
R49A	**Shelbyville**	**73.33**	**48**	P	**P**	**23 12 53.9**	**-0.7**
	baz=324						
DPC	**Dobruska-Polom**	**73.33**	**337**	*e*P	**P**	**23 12 55.3**	**+0.8**
DPC				MLR	MLR		
	comp=Z,4μm,16.5s						
DPC	**Dobruska-Polom**	**73.33**	**337**	*e*P	**P**	**23 12 55.3**	**+0.8**
DPC				*e*S	S	23 22 06.5	-14
DPC				AMS	AMS	23 51 10.0	
	comp=Z,4μm,16.5s						
O52A	**Adamsville**	**73.33**	**45**	PFAKE		23 13 10.0	+15
O52A				LR	LR		
	comp=Z,2μm,19.0s						
O52A	**Adamsville**	**73.33**	**45**	P	**P**	**23 12 53.7**	**-1.0**
	baz=326						
UZH	**Uzhgorod**	**73.34**	**332**	⇓*i*P	**P**	**23 12 53.0**	**-1.5**
UZH				*e*		23 13 00.1	
UZH				*e*		23 13 16.5	
UZH				*e*S	**S**	**23 22 16.3**	**-3.9**
UZH				*e*PS	**PnS**	**23 23 07.0**	**+12**
UZH				MLR	MLR		
	comp=N,700nm,16.0s						
UZH				MLR	MLR		
	comp=E,500nm,16.0s						
UZH				MLR	MLR		
	comp=Z,600nm,16.0s						
OKC	**Ostrava-Krasne**	**73.35**	**336**	*e*P	**P**	**23 12 55.6**	**+1.0**
OKC				*e*S	**S**	**23 22 17.4**	**-3.0**
OKC				MLR	MLR		
	comp=Z,5μm,16.7s						
OKC	**Ostrava-Krasne**	**73.35**	**336**	*e*P	**P**	**23 12 55.6**	**+1.0**
OKC				*e*S	**S**	**23 22 17.4**	**-3.0**
OKC				AMS	AMS	23 49 00.0	
	comp=Z,5μm,16.7s						
BURAR	**Bucovina Array**	**73.39**	**330**	⇑*i*P	**P**	**23 12 54.9**	**-0.1**
BURAR	**Bucovina Array**	**73.39**	**330**	P	**P**	**23 12 55.9**	**+0.9**
BRG	**Berggiesshubel**	**73.40**	**339**	*i* P	**P**	**23 12 55.1**	**+0.3**
	comp=Z,85nm,1.6s						
BRG	**Berggiesshubel**	**73.40**	**339**	*i* P	**P**	**23 12 55.1**	**+0.3**
BRG				pmax	pmax		
	comp=Z,85nm,1.6s						
N54A	**Moraine State**	**73.43**	**43**	PFAKE		23 13 10.0	+15
N54A				LR	LR		
	comp=Z,1μm,19.0s						
N54A	**Moraine State**	**73.43**	**43**	P	**P**	**23 12 54.2**	**-1.0**
	baz=326						
S48A	**Wiedeman Farm,**	**73.43**	**49**	P	**P**	**23 12 55.2**	**0.0**
	baz=324,SNR=7.6						
LEOM	**Leova**	**73.44**	**328**	⇑*i*P	**P**	**23 12 55.1**	**0.0**
LEOM	**Leova**	**73.44**	**328**	P	**P**	**23 12 55.1**	**0.0**
VT1	**Waterbury**	**73.44**	**37**	PFAKE		23 13 10.0	+15
VT1				LR	LR		
	comp=Z,1μm,19.0s						
KRLC	**Kraliky**	**73.47**	**337**	*e*P	**P**	**23 12 56.6**	**+1.2**
KRLC				*e*		23 13 07.4	
KRLC	**Kraliky**	**73.47**	**337**	*e*P	**P**	**23 12 56.6**	**+1.2**
KRLC				*ex*	x	23 13 07.4	
T47A	**Sharon Grove**	**73.48**	**51**	PFAKE		23 13 10.0	+14
T47A				LR	LR		
	comp=Z,2μm,21.0s						
T47A	**Sharon Grove**	**73.48**	**51**	P	**P**	**23 12 55.7**	**+0.1**
	baz=324,SNR=9.2						
POO	**Poona**	**73.49**	**279**	*e*P	**P**	**23 12 55.5**	**-0.4**
O53A	**New Philadelph**	**73.49**	**45**	P	**P**	**23 12 55.4**	**-0.2**
	baz=326						
M55A	**Ridgway**	**73.52**	**42**	P	**P**	**23 12 55.6**	**-0.2**
	baz=327						
Q51A	**Peebles**	**73.56**	**47**	PFAKE		23 13 10.0	+14
Q51A				LR	LR		
	comp=Z,1μm,20.0s						
Q51A	**Peebles**	**73.56**	**47**	P	**P**	**23 12 56.4**	**+0.4**
	baz=325						
MORC	**Moravsky Berou**	**73.56**	**336**	PFAKE		23 13 10.0	+14
MORC				LR	LR		
	comp=Z,5μm,18.0s						
MORC	**Moravsky Berou**	**73.56**	**336**	⇑*i*P	**P**	**23 12 56.6**	**+0.7**
MORC	**Moravsky Berou**	**73.56**	**336**	⇑*i*P	**P**	**23 12 56.3**	**+0.4**
MORC				*e*S	**S**	**23 22 24.7**	**+1.8**
CLDR	**Caldiran**	**73.58**	**313**	P	**P**	**23 12 57.5**	**+1.1**
PVCC	**Panska Ves**	**73.58**	**338**	*e*P	**P**	**23 12 57.4**	**+1.5**
PVCC				MLR	MLR		
	comp=Z,4μm,16.3s						
PVCC	**Panska Ves**	**73.58**	**338**	*e*P	**P**	**23 12 57.4**	**+1.5**
PVCC				AMS	AMS	23 50 30.0	
	comp=Z,4μm,16.3s						
P52A	**Corning**	**73.60**	**46**	P	**P**	**23 12 57.3**	**+1.1**
	baz=326						
MET	**Memphis--Engin**	**73.60**	**54**	PFAKE		23 13 10.0	+14
MET				LR	LR		
	comp=Z,2μm,22.0s						
X43A	**Marvell**	**73.61**	**55**	PFAKE		23 13 10.0	+14
X43A				LR	LR		
	comp=Z,2μm,19.0s						
EATA	**Eleskirt**	**73.61**	**315**	*i* P	**P**	**23 12 58.4**	**+1.7**
Z41A	**Richland Creek**	**73.63**	**57**	PFAKE		23 13 10.0	+14
Z41A				LR	LR		
	comp=Z,1μm,18.0s						
AGRB	**Hanur-Agry**	**73.63**	**314**	P	**P**	**23 12 57.7**	**+1.0**
CCAR	**Cane Creek**	**73.64**	**56**	PFAKE		23 13 10.0	+14
CCAR				LR	LR		
	comp=Z,1μm,20.0s						
LANS	**Liptovska Anna**	**73.64**	**334**	*e*P	**P**	**23 12 58.7**	**+2.3**
LANS	**Liptovska Anna**	**73.64**	**334**	*e*P	**P**	**23 12 58.7**	**+2.3**
S49A	**Springfield**	**73.69**	**49**	P	**P**	**23 12 57.2**	**+0.4**
	baz=325,SNR=6.4						
BIZ	**Bicaz**	**73.72**	**329**	⇑*i*P	**P**	**23 12 57.1**	**+0.3**
T48A	**Bowling Green**	**73.72**	**50**	P	**P**	**23 12 57.2**	**+0.2**
	baz=324						
TRPA	**Tarpa**	**73.72**	**332**	⇑*i*P	**P**	**23 12 57.6**	**+0.9**
TRPA	**Tarpa**	**73.72**	**332**	⇑*e*P	**P**	**23 12 57.0**	**+0.3**
R50A	**Paris**	**73.72**	**48**	P	**P**	**23 12 57.1**	**+0.2**
	baz=325						
MDRS	**Chennai**	**73.77**	**270**	*e*P	**P**	**23 12 56.4**	**-1.1**
MDRS				IAMs_20	IAMs_20	23 50 40.5	
	comp=Z,2μm,13.5s						
KOPR	**Koprukoy-ERZUR**	**73.78**	**315**	P	**P**	**23 12 58.5**	**+1.0**
WTSB	**Winterswijk**	**73.79**	**343**	*e*P	**P**	**23 12 57.5**	**+0.4**
	comp=Z,115nm,1.0s						
WVT	**Waverly**	**73.82**	**52**	*e*P	**P**	**23 12 58.6**	**+1.0**
	comp=Z,94nm,1.8s						
WVT				LR	LR		
	comp=Z,2μm,21.0s						
WVT	**Waverly**	**73.82**	**52**	P	**P**	**23 12 57.4**	**-0.2**
	baz=324						
BIR	**Birlad**	**73.83**	**328**	⇑*i*P	**P**	**23 12 57.9**	**+0.5**
LBNH	**Lisbon**	**73.83**	**36**	PFAKE		23 13 10.0	+13
LBNH				LR	LR		
	comp=Z,2μm,18.0s						
LBNH	**Lisbon**	**73.83**	**36**	P	**P**	**23 12 57.0**	**-0.4**
	baz=330						
U47A	**Clarksville**	**73.83**	**51**	P	**P**	**23 12 58.5**	**+0.8**
	baz=324,SNR=6.3						
NATX	**Nacogdoches**	**73.84**	**59**	P	**P**	**23 12 58.3**	**+0.6**
	baz=322						
KTUT	**Trabzon**	**73.84**	**317**	P	**P**	**23 12 57.3**	**-0.3**
KTUT	**Trabzon**	**73.84**	**317**	⇑*i*P	**P**	**23 12 57.1**	**-0.5**
BMR	**Baia Mare**	**73.85**	**331**	⇑*i*P	**P**	**23 12 59.3**	**+1.7**
PKME	**Peaks-Kenny Pk**	**73.87**	**34**	P	**P**	**23 12 57.0**	**-0.7**
	baz=331						
KRIK	**Erzurum-spir**	**73.89**	**316**	*i* P	**P**	**23 13 00.1**	**+1.9**
AKDA	**Akdag**	**73.90**	**316**	*i* P	**P**	**23 13 00.3**	**+2.0**
O54A	**Avella**	**73.91**	**44**	P	**P**	**23 12 57.5**	**-0.5**
	baz=326						
ACCN	**Adirondack Com**	**73.92**	**38**	*e*P	**P**	**23 12 58.1**	**+0.1**
	comp=Z,26nm,1.1s						
ACCN				LR	LR		
	comp=Z,1μm,20.0s						
TESR	**Tescani**	**73.92**	**329**	⇑*i*P	**P**	**23 12 57.8**	**-0.2**
V46A	**Holladay**	**73.95**	**52**	P	**P**	**23 12 59.2**	**+0.9**
	baz=324,SNR=7.8						
KECS	**Kecovo**	**73.98**	**334**	*e*P	**P**	**23 12 59.3**	**+1.0**
KECS				pmax	pmax		
	comp=Z,167nm,1.3s						
KECS	**Kecovo**	**73.98**	**334**	*e*P	**P**	**23 12 59.3**	**+1.0**
N55A	**Marion Center**	**74.00**	**43**	PFAKE		23 13 10.0	+11
N55A				LR	LR		
	comp=Z,1μm,20.0s						
N55A	**Marion Center**	**74.00**	**43**	P	**P**	**23 12 58.1**	**-0.5**
	baz=327,SNR=6.6						
BINY	**Binghamton**	**74.03**	**40**	PFAKE		23 13 10.0	+11
BINY				LR	LR		
	comp=Z,2μm,20.0s						
BINY	**Binghamton**	**74.03**	**40**	P	**P**	**23 12 58.6**	**-0.1**
	baz=328						
P53A	**Whipple**	**74.05**	**45**	PFAKE		23 13 10.0	+11
P53A				LR	LR		
	comp=Z,1μm,18.0s						
P53A	**Whipple**	**74.05**	**45**	P	**P**	**23 12 58.2**	**-0.6**
	baz=326						
R51A	**Hillsboro**	**74.05**	**47**	P	**P**	**23 12 59.3**	**+0.5**
	baz=325						
PRU	**Pruhonice**	**74.09**	**338**	*e*P	**P**	**23 12 59.7**	**+0.8**
PRU				*e*S	**S**	**23 22 34.3**	**+5.6**
PRU				MLR	MLR		
	comp=Z,4μm,15.5s						
PRU	**Pruhonice**	**74.09**	**338**	*e*P	**P**	**23 12 59.7**	**

comp=Z,2µm,26.8s
DZM Mont Dzumac 74.20 174 *e*LR LR 23 35 55.5
comp=Z,2µm,21.5s
DZM Mont Dzumac 74.20 174 PFAKE 23 13 10.0 +10
DZM LR LR
comp=Z,1µm,20.0s
DZM Mont Dzumac 74.20 174 LR LR 23 41 10.2
comp=Z,1µm,20.6s,baz=2.5,slow=32
V47A Nunnelly 74.21 52 P **P 23 13 00.2 +0.3**
baz=324,SNR=5.4
VRAC Vranov 74.23 336⇓*i*P **P 23 13 01.5 +1.7**
VRAC Vranov 74.23 336⇑*i*P **P 23 13 00.5 +0.7**
VRAC Vranov 74.23 336 P **P 23 13 01.5 +1.7**
BAYB BAYBURT 74.24 317 *i* P **P 23 13 01.7 +1.4**
VANB Van 74.26 314 P **P 23 13 01.4 +1.1**
DSB Dublin 74.28 352 PFAKE 23 13 10.0 +10
DSB LR LR
comp=Z,800nm,20.0s
DSB Dublin 74.28 352 *i* PP **P 23 13 00.8 +0.9**
NKC Novy Kostel 74.33 339 *e*P **P 23 13 01.5 +1.2**
NKC MLR MLR
comp=Z,2µm,14.1s
NKC Novy Kostel 74.33 339 *e*P **P 23 13 01.5 +1.2**
NKC AMS AMS 23 52 20.0
comp=Z,2µm,14.1s
IGLA Glengowla, Co 74.34 354 *i* PP **P 23 13 00.8 +0.6**
O55A Ligonier 74.34 43 P **P 23 13 00.0 -0.6**
baz=327
KOPT Kop Dagi 74.34 316 *i* P **P 23 13 02.6 +1.7**
P54A Burton 74.34 45 P **P 23 13 00.3 -0.4**
baz=326
OXF Oxford 74.35 54 PFAKE 23 13 10.0 +9.4
OXF LR LR
comp=Z,1µm,22.0s
OXF Oxford 74.35 54 P **P 23 13 01.3 +0.6**
baz=324
WVL Waterville 74.36 35 PFAKE 23 13 10.0 +9.5
WVL LR LR
comp=Z,2µm,20.0s
JAVC Velka Javorina 74.38 335⇑*i*P **P 23 13 02.0 +1.3**
JAVC *e*S **S 23 22 36.2 +4.1**
TLCR 74.38 327⇓*i*P **P 23 13 01.1 +0.4**
TLCR 74.38 327 P **P 23 13 01.4 +0.7**
VYHS Vyhne 74.41 335 *e*P **P 23 13 01.7 +0.9**
VYHS pmax pmax
comp=Z,385nm,2.9s
VYHS Vyhne 74.41 335 *e*P **P 23 13 01.7 +0.9**
PETR Petresti 74.44 328⇑*i*P **P 23 13 02.5 +1.5**
ODBI Odobesti 74.46 328⇑*i*P **P 23 13 02.4 +1.3**
VRI Vrincioaia 74.47 328⇑*i*P **P 23 13 01.3 +0.1**
VRI Vrincioaia 74.47 328 P **P 23 13 02.1 +0.9**
TRY Troy 74.47 38 PFAKE 23 13 10.0 +8.8
TRY LR LR
comp=Z,1µm,20.0s
ECAT Cat-ERZURUM 74.48 316 *i* P **P 23 13 03.8 +2.2**
U49A Red Boiling Sp 74.49 50 P **P 23 13 01.9 +0.5**
baz=325,SNR=6.5
Q53A Leroy 74.50 46 P **P 23 13 01.6 +0.1**
baz=326
KRUC Moravsky 74.51 336 P **P 23 13 02.0 +0.6**
KRUC Moravsky 74.51 336⇑*i*P **P 23 13 01.9 +0.6**
KRUC *e*S **S 23 22 36.3 +2.9**
PLOR Plostina 74.51 328⇓*i*P **P 23 13 02.2 +0.8**
PLOR Plostina 74.51 328 P **P 23 13 02.3 +0.8**
TREC Trest 74.51 337 *e*P **P 23 13 01.8 +0.4**
TREC MLR MLR
comp=Z,5µm,15.8s
TREC Trest 74.51 337 *e*P **P 23 13 01.8 +0.4**
TREC AMS AMS 23 52 10.0
comp=Z,5µm,15.8s
T50A Nancy 74.52 49 P **P 23 13 01.6 0.0**
baz=325,SNR=6.3
OZUR 74.57 329⇓*i*P **P 23 13 02.4 +0.6**
CLTN Cedars of Leba 74.57 51 PFAKE 23 13 10.0 +8.1
CLTN LR LR
comp=Z,900nm,20.0s
MCWV Mont Chateau 74.57 44 PFAKE 23 13 10.0 +8.1
MCWV LR LR
comp=Z,700nm,18.0s
MCWV Mont Chateau 74.57 44 P **P 23 13 01.9 0.0**
baz=327
SSPA Standing Stone 74.58 42 *e*P **P 23 13 02.9 +1.0**
comp=Z,39nm,1.1s
SSPA LR LR
comp=Z,1µm,19.0s
SSPA Standing Stone 74.58 42 P **P 23 13 01.5 -0.3**
baz=327
LTVH Ltavrtes, Hu 74.58 332⇑*e*P **P 23 13 02.0 +0.3**
S51A Beattyville 74.58 48 PFAKE 23 13 10.0 +8.0
S51A LR LR
comp=Z,1µm,19.0s
S51A Beattyville 74.58 48 P **P 23 13 02.3 +0.3**
baz=325
O56A Blue Knob Stat 74.60 43 PFAKE 23 13 10.0 +7.9
O56A LR LR
comp=Z,1µm,18.0s
O56A Blue Knob Stat 74.60 43 P **P 23 13 01.7 -0.4**
baz=327,SNR=8.4
CFR Carcaliu 74.62 327⇑*i*P **P 23 13 02.6 +0.6**
CFR Carcaliu 74.62 327 P **P 23 13 01.9 -0.1**
V48A Smith Brothers 74.62 51 PFAKE 23 13 10.0 +7.8
V48A LR LR
comp=Z,2µm,20.0s
V48A Smith Brothers 74.62 51 P **P 23 13 02.4 +0.2**
baz=324,SNR=8.5
PLAL Pickwick Lake 74.62 52 PFAKE 23 13 10.0 +7.7
PLAL LR LR
comp=Z,1µm,21.0s
HKT Hockley 74.63 61 PFAKE 23 13 20.0 +18
HKT LR LR
comp=Z,1µm,21.0s
W47A Westpoint 74.64 52 P **P 23 13 02.0 -0.4**
baz=324
VRTB Varto-Mus 74.64 315 P **P 23 13 04.8 +2.3**
PSZ Piszkesteto 74.66 334 PFAKE 23 13 10.0 +7.7
PSZ LR LR
comp=Z,7µm,18.0s
PSZ Piszkesteto 74.66 334⇓*i*P **P 23 13 03.7 +1.4**
PSZ Piszkesteto 74.66 334 P **P 23 13 03.2 +0.9**
PSZ Piszkesteto 74.66 334⇑*e*P **P 23 13 03.1 +0.7**
AKDM Akdamar-Van 74.66 314 P **P 23 13 03.3 +0.6**
CJR Cluj-Napoca 74.69 331⇑*i*P **P 23 13 04.2 +1.7**
CJR Cluj-Napoca 74.69 331 P **P 23 13 03.8 +1.3**
KARO Karliova-Bingo 74.70 315 P **P 23 13 03.4 +0.5**
P55A Reedsville 74.70 44 P **P 23 13 02.4 -0.3**
baz=327,SNR=7.7
Q54A Coxs Mills 74.70 45 PFAKE 23 13 20.0 +17
Q54A LR LR
comp=Z,1µm,19.0s
Q54A Coxs Mills 74.70 45 P **P 23 13 02.5 -0.1**
baz=326
R53A Hurricane 74.75 46 PFAKE 23 13 20.0 +17
R53A LR LR
comp=Z,2µm,20.0s
R53A Hurricane 74.75 46 P **P 23 13 02.8 -0.1**
baz=326
KELT Kelkit 74.76 317 *i* P **P 23 13 04.5 +1.3**
SMOL Smolenice 74.76 335 *e*P **P 23 13 05.2 +2.4**
SMOL Smolenice 74.76 335 *e*P **P 23 13 05.2 +2.4**
S52A Salyersville 74.78 47 P **P 23 13 03.5 +0.4**
baz=326
YEDI Yedisu-Bingol 74.81 316 P **P 23 13 04.2 +0.7**
DOPR Dopca 74.81 329⇓*i*P **P 23 13 04.9 +1.7**
SNOP Sinop 74.81 321 P **P 23 13 03.0 -0.2**
SNOP Sinop 74.81 321 PFAKE 23 13 10.0 +6.8
SNOP LR LR
comp=Z,2µm,18.0s
LMN Caledonia Moun 74.83 31 *e*P **P 23 13 04.1 +0.8**
comp=Z,25nm,1.0s
DRGR 74.88 331⇑*i*P **P 23 13 05.0 +1.3**
DRGR 74.88 331 P **P 23 13 03.9 +0.2**
MODS Modra-Piesok 74.93 336 *e*P **P 23 13 04.3 +0.5**
MODS pmax pmax
comp=Z,66nm,1.0s
MODS Modra-Piesok 74.93 336 *e*P **P 23 13 04.3 +0.5**
EUZM Uzumlu 74.94 317 *i* P **P 23 13 06.6 +2.4**
BNGL BINGOL 74.95 315 *i* P **P 23 13 06.2 +1.9**
MDB Medias 74.96 330⇑*i*P **P 23 13 05.7 +1.6**
T51A Gray 74.97 48 P **P 23 13 04.6 +0.3**
baz=325
MUSM Mu-Merkez 74.98 315 *i* P **P 23 13 05.3 +0.9**
EMMW East Machias 74.98 33 PFAKE 23 13 20.0 +16
EMMW LR LR
comp=Z,2µm,20.0s

U50A Jamestown 75.00 49 P **P 23 13 04.9 +0.4**
baz=325,SNR=8.4
Q55A Buckhannon 75.02 45 P **P 23 13 04.2 -0.3**
baz=327
W48A Pulaski 75.05 52 P **P 23 13 05.0 +0.3**
baz=324,SNR=8.3
MLR Muntele Rosu 75.06 329 PFAKE 23 13 20.0 +15
MLR LR LR
comp=Z,4µm,18.0s
MLR Muntele Rosu 75.06 329⇑*i*P **P 23 13 06.3 +1.5**
MLR Muntele Rosu 75.06 329 P **P 23 13 04.9 +0.2**
comp=Z,40nm,0.6s,baz=0.5,slow=5.7,SNR=94
HGN Heimansgroeve 75.10 344 *e*P **P 23 13 05.3 +0.6**
comp=Z,190nm,1.2s
HGN *e*S S 23 22 51.4 +12
DIKM Dikmen 75.10 321 P **P 23 13 05.7 +0.8**
DIKM Dikmen 75.10 321⇑*i*P **P 23 13 05.6 +0.7**
GRA1 Grafenberg Arr 75.10 340 PFAKE 23 13 20.0 +15
GRA1 LR LR
comp=Z,2µm,19.0s
GRF Grafenberg Arr 75.10 340 P **P 23 13 06.0 +1.2**
X47A Russelville 75.10 53 P **P 23 13 05.4 +0.3**
baz=324
GRFO Grafenberg 75.11 340 *e*P **P 23 13 05.7 +0.9**
comp=Z,125nm,1.2s
GRFO LR LR
comp=Z,2µm,19.0s
GRFO Grafenberg 75.11 340 P **P 23 13 06.4 +1.6**
BEBN Eben Emael 75.11 344⇑P **P 23 13 05.3 +0.5**
comp=Z,8.2nm,1.2s
BEBN ⇑*s*P **pP 23 13 11.3 -4.4**
KHC Kasperske Hory 75.11 338 PFAKE 23 13 20.0 +15
KHC LR LR
comp=Z,1µm,22.0s
KHC Kasperske Hory 75.11 338 *e*P **P 23 13 05.9 +1.0**
KHC *e* 23 13 16.0
KHC *e*S **S 23 22 35.0 -5.2**
KHC MLR MLR
comp=Z,4µm,13.7s
KHC Kasperske Hory 75.11 338 *e*P **P 23 13 05.9 +1.0**
KHC *e*pP **pP 23 13 16.0 +0.2**
KHC *e*x x 23 13 29.5
KHC *e*S **S 23 22 35.0 -5.2**
KHC AMS AMS 23 52 20.0
comp=Z,4µm,13.7s
HARR Harsova 75.12 327⇓*i*P **P 23 13 06.0 +1.1**
BNGB Bingl 75.12 316 P **P 23 13 06.0 +0.8**
BGOL Bingol 75.13 316 *i* P **P 23 13 07.8 +2.6**
ZST Bratislava 75.14 336 *e*P **P 23 13 05.4 +0.4**
ZST Bratislava 75.14 336 *e*P **P 23 13 05.4 +0.4**
TNS Taunus Mts 75.16 342 P **P 23 13 05.0 -0.2**
TLB Topalu 75.17 327⇑*i*P **P 23 13 05.8 +0.6**
TLB Topalu 75.17 327 P **P 23 13 06.9 +1.7**
SRO Srobarova 75.17 335 *e*P **P 23 13 07.3 +2.1**
SRO Srobarova 75.17 335 *e*P **P 23 13 07.3 +2.1**
IWEX Carrickbyrne, 75.18 352 *i* PP **P 23 13 06.2 +1.1**
N59A State Game Lan 75.20 41 PFAKE 23 13 20.0 +14
N59A LR LR
comp=Z,2µm,20.0s
N59A State Game Lan 75.20 41 P **P 23 13 05.1 -0.4**
baz=328,SNR=5.7
SRO2 Moca 75.20 335 *e*P **P 23 13 06.5 +1.2**
SRO2 Moca 75.20 335 *e*P **P 23 13 06.5 +1.2**
MEM Membach 75.24 343 P **P 23 13 06.3 +0.8**
MEM Membach 75.24 343⇑P **P 23 13 06.0 +0.5**
comp=Z,129nm,1.0s
WET Wettzell 75.26 339 P **P 23 13 06.7 +1.0**
CUKT Cukurca 75.27 313 P **P 23 13 06.2 +0.1**
KVT Kavak 75.28 320 P **P 23 13 06.9 +0.9**
T52A Hallie 75.29 48 PFAKE 23 13 20.0 +14
T52A LR LR
comp=Z,1µm,20.0s
T52A Hallie 75.29 48 P **P 23 13 06.4 +0.3**
baz=326
R54A Victor 75.30 46 P **P 23 13 06.0 -0.2**
baz=326
BZK Bozkurt 75.32 322 P **P 23 13 06.3 +0.2**
BZK Bozkurt 75.32 322⇓*i*P **P 23 13 06.8 +0.7**
UCC Uccle 75.33 345 PFAKE 23 13 20.0 +14
UCC LR LR
comp=Z,3µm,18.0s
UCC Uccle 75.33 345⇑P **P 23 13 06.4 +0.3**
RSDY Resadiye-TOKAT 75.34 319 P **P 23 13 07.1 +0.7**
GEC2 GERESS Array S 75.35 338 PFAKE 23 13 20.0 +14
GEC2 LR LR
comp=Z,2µm,18.0s
GERES GERESS Array B 75.35 338 P **P 23 13 06.8 +0.5**
comp=Z,19nm,0.8s,baz=35,slow=4.9,SNR=101
GERES LR LR 23 49 48.4
comp=Z,2µm,21.9s,baz=26,slow=39
QUA2 Belchertown 75.36 38 PFAKE 23 13 20.0 +14
QUA2 LR LR
comp=Z,2µm,21.0s
W49A Belvidere 75.39 51 P **P 23 13 06.8 +0.2**
baz=325
VOIR 75.39 329⇑*i*P **P 23 13 07.5 +0.9**
PAGS Pennsylvania G 75.40 42 PFAKE 23 13 20.0 +13
PAGS LR LR
comp=Z,1µm,19.0s
WRAB Tennant Creek 75.40 205 *e*P **P 23 13 07.0 +0.2**
comp=Z,40nm,1.0s
WRAB Tennant Creek 75.40 205 *i* P **P 23 13 06.1 -0.6**
WRAB pmax pmax
comp=Z,28nm,1.2s
MFTR Murfatlar 75.40 326⇑*i*P **P 23 13 07.7 +1.1**
KSCT Kent School, K 75.41 39 PFAKE 23 13 20.0 +13
KSCT LR LR
comp=Z,2µm,19.0s
WRA Warramunga Arr 75.41 205 P **P 23 13 07.2 +0.4**
comp=Z,9.2nm,0.8s,baz=20,slow=6.3,SNR=14
U51A La Follette 75.42 49 P **P 23 13 07.2 +0.3**
baz=325
HRV Adam Dziewonsk 75.46 37 PFAKE 23 13 20.0 +13
HRV LR LR
comp=Z,2µm,20.0s
HRV Adam Dziewonsk 75.46 37 P **P 23 13 07.2 +0.2**
baz=330
SWET Sewanee 75.47 51 PFAKE 23 13 20.0 +13
SWET LR LR
comp=Z,2µm,20.0s
V50A Pikevile 75.49 50 P **P 23 13 08.0 +0.7**
baz=325,SNR=9.2
TZTN Tazewell 75.50 48 PFAKE 23 13 20.0 +13
TZTN LR LR
comp=Z,2µm,20.0s
TZTN Tazewell 75.50 48 P **P 23 13 06.9 -0.4**
baz=326
TNCL Tunceli-Merkez 75.50 316 *i* P **P 23 13 09.5 +2.1**
ODNJ Ogdensburg 75.52 40 PFAKE 23 13 20.0 +13
ODNJ LR LR
comp=Z,1µm,20.0s
BCLA Clavier 75.54 344⇑P **P 23 13 07.6 +0.3**
comp=Z,54nm,1.4s
O59A Robesonia 75.55 41 P **P 23 13 07.1 -0.4**
baz=328
X48A Hartselle 75.55 52 PFAKE 23 13 20.0 +12
X48A LR LR
comp=Z,1µm,21.0s
X48A Hartselle 75.55 52 P **P 23 13 06.9 -0.7**
baz=324
ARR Arges 75.58 329⇑*i*P **P 23 13 08.9 +1.2**
SVAN Silvan-Diyarba 75.59 315 P **P 23 13 08.8 +0.9**
T53A Wise 75.60 47 P **P 23 13 07.1 -0.8**
baz=326
VBMS Vicksburg 75.62 56 PFAKE 23 13 20.0 +12
VBMS LR LR
comp=Z,1µm,19.0s
SNF Seneffe 75.62 345⇑P **P 23 13 08.1 +0.3**
comp=Z,46nm,1.3s
LUPA Lehigh Univers 75.63 41 PFAKE 23 13 20.0 +12
LUPA LR LR
comp=Z,100nm,20.0s
WES Weston 75.65 37 PFAKE 23 13 20.0 +12
WES LR LR
comp=Z,1µm,21.0s
SIRR Siria 75.66 332⇑*i*P **P 23 13 08.9 +0.8**
ICOR Ion Corvin 75.67 327⇓*i*P **P 23 13 09.0 +0.9**
LEHL Lehliu 75.68 328⇑*i*P P 23 13 01.6 -6.5
SULR 75.68 328⇑*i*P **P 23 13 09.2 +1.1**
CONA Conrad Observa 75.69 336 *i* P **P 23 13 09.5 +1.2**
comp=Z,64nm,0.9s,SNR=41
GRC1 Grafenberg Arr 75.70 339 P **P 23 13 09.1 +0.9**
Q57A Strasburg 75.70 43 P **P 23 13 08.7 +0.3**
baz=327
U52A Thorn Hill 75.71 48 P **P 23 13 08.9 +0.4**

baz=326
HANI Diyarbakir_Han 75.72 315 *i* P **P 23 13 09.8 +1.1**
TOKT Tokat 75.72 319 P **P 23 13 09.3 +0.7**
V51A Loudon 75.73 49 PFAKE 23 13 20.0 +11
V51A LR LR
comp=Z,1µm,20.0s
V51A Loudon 75.73 49 P **P 23 13 08.7 0.0**
baz=325
MVL Millersville 75.74 42 PFAKE 23 13 20.0 +11
MVL LR LR
comp=Z,1µm,21.0s
SOP Sopron 75.75 336⇑*e*P **P 23 13 09.0 +0.5**
BCX Boston College 75.75 37 PFAKE 23 13 20.0 +11
BCX LR LR
comp=Z,1µm,21.0s
W50A Signal Mountai 75.77 50 PFAKE 23 13 20.0 +11
W50A LR LR
comp=Z,2µm,21.0s
W50A Signal Mountai 75.77 50 P **P 23 13 09.3 +0.3**
baz=325,SNR=13
LOT Lotru 75.78 330⇑*i*P **P 23 13 09.6 +0.7**
GOA Goa 75.84 277 *e*P **P 23 13 08.6 -0.9**
X49A Woodville 75.85 51 P **P 23 13 09.5 +0.2**
baz=325,SNR=5.3
S55A Lewisburg 75.85 46 P **P 23 13 09.6 +0.2**
baz=327
PAL Palisades 75.86 39 PFAKE 23 13 20.0 +11
PAL LR LR
comp=Z,800nm,19.0s
PAL Palisades 75.86 39 P **P 23 13 08.9 -0.4**
baz=329
BRNJ Basking Ridge 75.88 40 PFAKE 23 13 20.0 +11
BRNJ LR LR
comp=Z,2µm,20.0s
SVSK Karacayir 75.88 319 P **P 23 13 10.3 +0.9**
KURC Kurucasile-Bar 75.89 322 P **P 23 13 09.3 -0.1**
PSN Preselentsi 75.92 326 *e*P **P 23 13 10.5 +0.9**
Y48A Jasper 75.93 52 P **P 23 13 09.3 -0.4**
baz=324
GIVF Givet 75.93 344 *e*P **P 23 13 09.7 +0.2**
GIVF pmax pmax
comp=Z,51nm,1.1s
CPCT Cooper Cave 75.94 50 PFAKE 23 13 20.0 +10
CPCT LR LR
comp=Z,1µm,20.0s
T54A Tazewell 75.97 47 P **P 23 13 09.3 -0.7**
baz=326
YLE Yale 75.97 39 PFAKE 23 13 20.0 +10
YLE LR LR
comp=Z,2µm,21.0s
DOU Dourbes 75.97 344⇑P **P 23 13 10.0 +0.2**
comp=Z,29nm,1.2s
BRYW Bryant College 75.98 37 PFAKE 23 13 20.0 +10
BRYW LR LR
comp=Z,2µm,21.0s
P59A Jarrettsville 76.04 42 P **P 23 13 10.2 -0.1**
baz=328,SNR=5.3
SDMD Soldier's Deli 76.04 42 PFAKE 23 13 20.0 +10
SDMD LR LR
comp=Z,500nm,18.0s
V52A Sevierville 76.05 49 PFAKE 23 13 20.0 +10
V52A LR LR
comp=Z,2µm,20.0s
V52A Sevierville 76.05 49 P **P 23 13 10.1 -0.3**
baz=326
W51A Cleveland 76.07 50 P **P 23 13 10.4 -0.2**
baz=325,SNR=5.8
BAIF Baives 76.07 344 *e*P **P 23 13 10.7 +0.4**
BAIF pmax pmax
comp=Z,48nm,1.0s
KTD Kalmit 76.09 342 P **P 23 13 11.4 +0.9**
U53A Fall Branch 76.09 48 P **P 23 13 10.0 -0.8**
baz=326
WLF Walferdange 76.12 343 PFAKE 23 13 20.0 +9.4
WLF LR LR
comp=Z,10µm,20.0s
WLF Walferdange 76.12 343 P **P 23 13 12.5 +1.9**
WLF Walferdange 76.12 343⇑P **P 23 13 12.1 +1.5**
GZR Gura Zlata 76.13 331⇓*i*P **P 23 13 11.4 +0.6**
TIH Tihany 76.13 335⇑*e*P **P 23 13 11.1 +0.4**
MOA Molln 76.16 337 *i* P **P 23 13 11.7 +0.8**
comp=Z,34nm,0.9s,SNR=25
PSUB Penn St. - Bra 76.17 41 PFAKE 23 13 20.0 +9.0
PSUB LR LR
comp=Z,2µm,20.0s
P60A Greenville 76.19 41 P **P 23 13 10.2 -1.0**
baz=329
ILGA Ilgaz 76.21 321 PFAKE 23 13 20.0 +8.4
ILGA LR LR
comp=Z,3µm,20.0s
X50B Fort Payne 76.22 51 P **P 23 13 11.3 -0.2**
baz=325,SNR=8.7
SVRC Sivrice-ELAZID 76.22 316 P **P 23 13 12.8 +1.2**
HUMR Humele 76.22 329⇓*i*P **P 23 13 11.4 +0.1**
BZS Buzias 76.27 332⇑*i*P **P 23 13 11.3 -0.2**
BZS Buzias 76.27 332 P **P 23 13 11.4 -0.1**
R57A Stanardsville 76.27 44 P **P 23 13 11.4 -0.3**
baz=327,SNR=7.5
T55A Pulaski 76.27 46 P **P 23 13 09.3 -2.4**
baz=327
HAL Halifax 76.30 31 PFAKE 23 13 20.0 +8.3
HAL LR LR
comp=Z,2µm,19.0s
U54A Nelsons Funny 76.31 47 PFAKE 23 13 20.0 +8.0
U54A LR LR
comp=Z,2µm,20.0s
U54A Nelsons Funny 76.31 47 P **P 23 13 12.1 +0.1**
baz=326
FITZ Fitzroy Crossi 76.31 214 *e*P **P 23 13 11.8 -0.1**
FITZ Fitzroy Crossi 76.31 214 P **P 23 13 12.9 +1.0**
comp=Z,26nm,1.1s,baz=29,slow=8.6,SNR=7.5
Y49A Blount Mountai 76.34 52 PFAKE 23 13 20.0 +7.9
Y49A LR LR
comp=Z,2µm,21.0s
Y49A Blount Mountai 76.34 52 P **P 23 13 12.8 +0.7**
baz=325
BLA Blacksburg 76.36 46 PFAKE 23 13 20.0 +7.8
BLA LR LR
comp=Z,900nm,19.0s
BLA Blacksburg 76.36 46 P **P 23 13 12.3 +0.1**
baz=327
147A Livingston 76.39 54 P **P 23 13 13.3 +0.9**
baz=324
STU Stuttgart 76.40 341 PFAKE 23 13 20.0 +7.8
STU LR LR
comp=Z,2µm,18.0s
STU Stuttgart 76.40 341 P **P 23 13 13.4 +1.2**
ARSA Arzberg 76.41 336 *i* P **P 23 13 13.5 +1.2**
comp=Z,51nm,0.9s,SNR=29
R58A Rapidan 76.49 44 P **P 23 13 13.4 +0.5**
baz=328
X51A Calhoun 76.51 50 PFAKE 23 13 30.0 +17
X51A LR LR
comp=Z,2µm,19.0s
X51A Calhoun 76.51 50 P **P 23 13 13.8 +0.8**
baz=325
W52A Murphy 76.51 49 PFAKE 23 13 30.0 +17
W52A LR LR
comp=Z,2µm,22.0s
FUR Furstenfeldbru 76.54 339 P **P 23 13 14.6 +1.6**
S57A Dark Hollow, R 76.54 45 PFAKE 23 13 30.0 +17
S57A LR LR
comp=Z,2µm,19.0s
S57A Dark Hollow, R 76.54 45 P **P 23 13 14.0 +0.8**
baz=327
V53A Saluda 76.56 48 PFAKE 23 13 30.0 +17
V53A LR LR
comp=Z,2µm,20.0s
V53A Saluda 76.56 48 P **P 23 13 13.7 +0.3**
baz=326
Q59A Harwood 76.58 42 P **P 23 13 13.9 +0.5**
baz=328
CORM Corum 76.61 320 P **P 23 13 14.9 +1.2**
PRD Provadia 76.61 327 *e*P **P 23 13 14.1 +0.6**
BANR Banloc 76.62 332⇑*i*P **P 23 13 15.2 +1.7**
CANT Cankiri 76.63 321 P **P 23 13 14.9 +1.1**
Y50A Piedmont 76.64 51 P **P 23 13 14.1 +0.3**
baz=325
SRE Strehaia 76.66 330⇓*i*P **P 23 13 14.7 +1.0**
U55A TA2, Sparta 76.67 47 P **P 23 13 14.7 +0.6**
baz=327
HERR Herculane 76.70 331⇑*i*P **P 23 13 15.0 +1.0**
LRAL Lakeview Retre 76.72 53 PFAKE 23 13 30.0 +16
LRAL LR LR
comp=Z,1µm,21.0s

LRAL	Lakeview Retre	76.72	53	P	P	23 13 14.2	-0.1
	baz=325,SNR=5.9						
YOZ	Yozgat	76.80	320	P	P	23 13 14.4	-0.4
W53A	Cullowhee	76.81	49	P	P	23 13 14.4	-0.5
	baz=326						
BEHE	Becsehely	76.82	335	eP	P	23 13 15.7	+1.1
BEHE	Becsehely	76.82	335⇑	eP	P	23 13 15.1	+0.5
Z49A	Columbiana	76.82	52	P	P	23 13 15.0	+0.2
	baz=325,SNR=5.1						
DARE	Darende-Malaty	76.82	317	P	P	23 13 16.4	+1.5
R58B	Mineral	76.83	44	PFAKE		23 13 30.0	+15
R58B				LR	LR		
	comp=Z,2μm,18.0s						
R58B	Mineral	76.83	44	P	P	23 13 15.0	+0.2
	baz=328						
CBN	Corbin Frederi	76.84	43	PFAKE		23 13 30.0	+15
CBN				LR	LR		
	comp=Z,2μm,19.0s						
V54A	Nebo	76.86	48	P	P	23 13 15.0	0.0
	baz=326						
VLAD	Vladila	76.88	329⇑	iP	P	23 13 16.0	+1.0
X52A	Dahlonega	76.93	50	P	P	23 13 16.0	+0.5
	baz=326,SNR=6.4						
R59A	King George, V	76.95	43	P	P	23 13 15.9	+0.5
	baz=328						
Y51A	Rockmart	76.95	51	P	P	23 13 15.5	-0.2
	baz=325,SNR=6.3						
BFO	Black Forest	76.99	341	eP	P	23 13 15.9	+0.3
	comp=Z,67nm,1.2s						
BFO				LR	LR		
	comp=Z,2μm,19.0s						
BFO	Black Forest	76.99	341	eP	P	23 13 16.5	+0.9
MDVR	Moldovita	77.00	331⇑	iP	P	23 13 16.7	+1.0
SZH	Strazhica	77.04	328	eP	P	23 13 15.8	-0.1
T57A	Hurt	77.05	45	PFAKE		23 13 30.0	+14
T57A				LR	LR		
	comp=Z,1μm,19.0s						
T57A	Hurt	77.05	45	P	P	23 13 16.4	+0.3
	baz=327						
S58A	Poland Farm, P	77.05	44	PFAKE		23 13 30.0	+14
S58A				LR	LR		
	comp=Z,1μm,18.0s						
BG3	Lake Jocassee	77.06	49	PFAKE		23 13 30.0	+14
BG3				LR	LR		
	comp=Z,2μm,20.0s						
SOKA	Soboth	77.06	336	iP	P	23 13 17.0	+0.9
	comp=Z,82nm,1.0s,SNR=44						
Z50A	Ashland	77.07	52	PFAKE		23 13 30.0	+14
Z50A				LR	LR		
	comp=Z,2μm,22.0s						
Z50A	Ashland	77.07	52	P	P	23 13 16.4	+0.1
	baz=325,SNR=12						
PERS	Pernice	77.08	336	iP	P	23 13 17.0	+0.8
PUNG	Punghina	77.09	330⇑	iP	P	23 13 17.0	+0.9
KBA	Koelnbreinsper	77.10	338	ipP	P	23 13 17.8	+1.4
	comp=Z,233nm,1.1s,SNR=89						
KBA	Koelnbreinsper	77.10	338	P	P	23 13 17.8	+1.4
CDF	Champ du Feu	77.12	342	eP	P	23 13 16.7	+0.3
CDF				pmax	pmax		
	comp=Z,102nm,1.2s						
V55A	Taylorsville	77.13	47	P	P	23 13 16.1	-0.5
	baz=327						
149A	Jones	77.18	53	P	P	23 13 16.8	0.0
	baz=325,SNR=5.6						
FRGS	Fruska Gora	77.21	333	eP	P	23 13 17.0	+0.2
URFA	Urfa	77.22	316	P	P	23 13 18.3	+1.2
S59A	Mechanicsville	77.24	43	P	P	23 13 18.5	+1.4
	baz=328						
WATA	Walderalm	77.26	339	iP	P	23 13 18.1	+0.8
	comp=Z,40nm,0.8s,SNR=36						
X53A	Estanollee	77.29	49	P	P	23 13 18.1	+0.6
	baz=326,SNR=5.6						
RETA	Reutte	77.29	339	iP	P	23 13 18.2	+0.8
	comp=Z,50nm,1.1s,SNR=20						
WTTA	Wattenberg	77.31	339	iP	P	23 13 18.8	+1.2
	comp=Z,136nm,1.2s,SNR=37						
W54A	Cherokee Point	77.33	48	P	P	23 13 17.3	-0.3
	baz=326						
ECH	Echery	77.33	342	PFAKE		23 13 30.0	+13
ECH				LR	LR		
	comp=Z,1μm,20.0s						
ECH	Echery	77.33	342	P	P	23 13 18.5	+1.0
OBKA	Obir	77.34	337	iP	P	23 13 18.5	+0.9
	comp=Z,97nm,1.3s,SNR=17						
MOTA	Moosalm	77.35	339	iP	P	23 13 18.6	+0.8
	comp=Z,81nm,1.0s,SNR=54						
BR131	Keskin Array S	77.38	321	P	P	23 13 18.3	+0.2
	SNR=65						
BR131				P	P	23 13 18.3	+0.2
	SNR=65						
BRTR	Keskin Array B	77.38	321	P	P	23 13 18.1	0.0
	comp=Z,27nm,0.9s,baz=60,slow=3.0,SNR=162						
BRTR				PP	PP	23 16 11.2	-0.8
	comp=Z,6.6nm,0.9s,baz=51,slow=4.1,SNR=5.4						
BRTR				LR	LR	23 52 39.8	
	comp=Z,2μm,19.8s,baz=14,slow=40						
T58A	Grand View Acr	77.40	45	P	P	23 13 18.1	0.0
	baz=328						
SQTA	Sankt Quirin	77.45	339	iP	P	23 13 19.4	+1.1
	comp=Z,120nm,1.1s,SNR=40						
MYKA	Terra Mystica	77.45	337	iP	P	23 13 18.9	+0.6
	comp=Z,55nm,1.5s,SNR=15						
Y52A	Lilburn	77.46	50	PFAKE		23 13 30.0	+12
Y52A				LR	LR		
	comp=Z,2μm,20.0s						
U57A	Blanch	77.48	46	P	P	23 13 18.9	+0.4
	baz=327						
V56A	Mocksville	77.49	47	PFAKE		23 13 30.0	+11
V56A				LR	LR		
	comp=Z,2μm,20.0s						
V56A	Mocksville	77.49	47	P	P	23 13 18.6	+0.1
	baz=327						
249A	Camden	77.52	54	P	P	23 13 18.4	-0.3
	baz=325						
150A	Eclectic	77.55	52	P	P	23 13 19.5	+0.6
	baz=325,SNR=6.5						
S60A	Water View	77.56	43	P	P	23 13 20.5	+1.6
	baz=328						
LOD	Lodumlu	77.58	321	P	P	23 13 19.8	+0.7
ANTO	Ankara	77.59	321	eP	P	23 13 20.3	+1.1
	comp=Z,232nm,1.4s						
ANTO				LR	LR		
	comp=Z,2μm,20.0s						
ANTO	Ankara	77.59	321⇑	iP	P	23 13 20.8	+1.7
ANTO	Ankara	77.59	321	P	P	23 13 19.7	+0.5
	SNR=50						
ANTO				P	P	23 13 19.7	+0.5
	SNR=50						
ABTA	Abfaltersbach	77.60	338	iP	P	23 13 19.8	+0.7
	comp=Z,97nm,1.0s,SNR=42						
ZAG	Zagreb	77.62	335	eP	P	23 13 20.1	+1.0
MDUB	Mudurnu	77.67	323	P	P	23 13 20.1	+0.5
MDUB	Mudurnu	77.67	323	PFAKE		23 13 30.0	+10
MDUB				LR	LR		
	comp=Z,12μm,19.0s						
KMSC	Kings Mountain	77.67	48	PFAKE		23 13 30.0	+10
KMSC				LR	LR		
	comp=Z,2μm,21.0s						
KMSC	Kings Mountain	77.67	48	P	P	23 13 19.5	-0.1
	baz=327						
MPEP	Malo Peshtene	77.67	329	P	P	23 13 19.0	-0.4
DAVA	Damuels	77.67	340	iP	P	23 13 20.4	+0.8
	comp=Z,69nm,1.1s,SNR=24						
HAU	Haudompre	77.68	343	eP	P	23 13 19.8	+0.3
HAU				pmax	pmax		
	comp=Z,108nm,1.2s						
MOF	Molkenrain	77.68	342	P	P	23 13 20.4	+0.9
X54A	Belton	77.68	49	P	P	23 13 19.6	-0.1
	baz=326						
Y53A	Monroe	77.69	50	P	P	23 13 19.7	0.0
	baz=326						
PAULI	Pauline	77.72	48	PFAKE		23 13 30.0	+10
PAULI				LR	LR		
	comp=Z,2μm,20.0s						
FETA	Feichten	77.74	339	iP	P	23 13 21.1	+1.1
	comp=Z,90nm,1.2s,SNR=37						
V57A	Coltrane Farms	77.75	46	P	P	23 13 20.1	+0.1
	baz=327						
SAUV	Serdivan-Sakar	77.75	323	P	P	23 13 19.7	-0.2
CRES	Cresnjev	77.75	336	eP	P	23 13 20.0	+0.1
KLYT	Kilyos	77.77	325	P	P	23 13 20.1	+0.1
KLYT	Kilyos	77.77	325⇓	iP	P	23 13 20.6	+0.6
HINF	Hinteralfeld	77.77	342	eP	P	23 13 20.0	0.0
HINF				pmax	pmax		
	comp=Z,76nm,1.3s						
LJU	Ljubljana	77.78	336	eP	P	23 13 20.2	+0.2
T59A	Double "B" Far	77.80	44	PFAKE		23 13 30.0	+10
T59A				LR	LR		
	comp=Z,2μm,18.0s						
T59A	Double "B" Far	77.80	44	P	P	23 13 20.0	-0.2
	baz=328						
SPNC	Sapanca-Adapaz	77.81	323	P	P	23 13 20.7	+0.5
CTYL	Yalikoy Yolu	77.83	325	P	P	23 13 20.1	-0.3
CTYL	Yalikoy Yolu	77.83	325⇓	iP	P	23 13 20.7	+0.3
Z52A	Williamson	77.84	51	P	P	23 13 20.9	+0.3
	baz=326						
TEKS	Tekeris	77.84	333	eP	P	23 13 18.4	-2.0
AFSR	Afar-Bala (An	77.84	321	P	P	23 13 21.0	+0.4
U58A	Oxford	77.86	45	P	P	23 13 19.7	-0.9
	baz=328						
HRT	Hereke	77.92	324	P	P	23 13 21.4	+0.5
BGKT	Bogazkoy	77.92	325	P	P	23 13 21.0	+0.1
ISK	Istanbul-Kandi	77.92	325	P	P	23 13 20.8	-0.1
ISK	Istanbul-Kandi	77.92	325	P	P	23 13 20.8	-0.1
KAVV	Kandilli-Istan	77.92	325	P	P	23 13 19.7	-1.2
VISS	Visnje	77.93	336	iP	P	23 13 21.1	+0.2
250A	Grady	77.94	53	PFAKE		23 13 30.0	+8.9
250A				LR	LR		
	comp=Z,1μm,21.0s						
250A	Grady	77.94	53	P	P	23 13 21.9	+0.8
	baz=325						
151A	Opelika	77.95	52	P	P	23 13 21.7	+0.5
	baz=325						
GULT	Gulveren	77.95	323	P	P	23 13 21.5	+0.3
PHSR	Pinarhisar	77.96	326	P	P	23 13 22.0	+0.9
PHSR	Pinarhisar	77.96	326⇓	iP	P	23 13 22.0	+0.9
CTKS	Kestanelik-??a	77.97	325	P	P	23 13 21.2	+0.1
KMRS	Kahramanmaras	77.97	317	P	P	23 13 21.9	+0.6
SHME	Shamm	77.98	297	iP	P	23 13 20.9	-0.6
	SNR=18						
PALK	Pallekele	77.99	266	eP	P	23 13 21.4	-0.2
	comp=Z,128nm,1.1s						
PALK				LR	LR		
	comp=Z,2μm,20.0s						
PALK	Pallekele	77.99	266	P	P	23 13 22.4	+0.7
YAYX	Yaylak	78.00	320	P	P	23 13 22.2	+0.7
HODGE	Hodges	78.00	49	PFAKE		23 13 30.0	+8.6
HODGE				LR	LR		
	comp=Z,2μm,20.0s						
T60A	Surry	78.01	43	PFAKE		23 13 30.0	+8.6
T60A				LR	LR		
	comp=Z,1μm,18.0s						
JAVS	Javornik	78.04	337	eP	P	23 13 21.4	-0.1
EDRB	Edirne	78.04	326	P	P	23 13 21.8	+0.3
EDRB	Edirne	78.04	326	P	P	23 13 21.3	-0.2
FLN	La Foliniere	78.04	347	eP	P	23 13 21.4	0.0
FLN				pmax	pmax		
	comp=Z,78nm,1.0s						
DOB	Doboj	78.07	334	eP	P	23 13 21.3	-0.3
SLVT	Silivri	78.08	325	P	P	23 13 22.1	+0.4
SERE	Sereflikochisa	78.08	320	P	P	23 13 23.5	+1.5
X55A	Gracelyn & Ava	78.09	48	P	P	23 13 20.3	-1.6
	baz=327						
BUY	Buyukada	78.09	324	P	P	23 13 21.8	0.0
CEY	Cerknica	78.09	336	eP	P	23 13 21.5	-0.3
Y54A	Tignall	78.11	49	P	P	23 13 22.5	+0.5
	baz=326,SNR=12						
BOJS	Bojanci	78.11	336	eP	P	23 13 22.3	+0.4
GOGA	Godfrey	78.11	50	PFAKE		23 13 30.0	+8.0
GOGA				LR	LR		
	comp=Z,2μm,20.0s						
GOGA	Godfrey	78.11	50	P	P	23 13 21.7	-0.3
	baz=326						
V58A	Windy Hill, Pi	78.11	46	P	P	23 13 21.5	-0.5
	baz=328						
GAZ	Gaziantep	78.12	317	P	P	23 13 23.0	+0.8
152A	Waverly Hall	78.12	51	PFAKE		23 13 30.0	+7.9
152A				LR	LR		
	comp=Z,2μm,21.0s						
152A	Waverly Hall	78.12	51	P	P	23 13 22.2	0.0
	baz=326,SNR=5.4						
DIVS	Divibare	78.12	332	eP	P	23 13 22.0	-0.1
LDF	La Druitiere	78.16	347	eP	P	23 13 22.1	+0.1
LDF				pmax	pmax		
	comp=Z,65nm,1.2s						
Z53A	Monticello	78.17	50	P	P	23 13 22.3	-0.1
	baz=326						
BRAL	Brewton	78.21	54	PFAKE		23 13 40.0	+17
BRAL				LR	LR		
	comp=Z,2μm,22.0s						
LOMF	Lomont	78.22	342	P	P	23 13 24.2	+1.7
KULU	Kulu	78.22	321	P	P	23 13 23.2	+0.5
U59A	Littleton	78.22	44	PFAKE		23 13 30.0	+7.4
U59A				LR	LR		
	comp=Z,1μm,19.0s						
U59A	Littleton	78.22	44	P	P	23 13 21.2	-1.4
	baz=328						
FUORN	Ofenpass-Fuorn	78.22	339	PFAKE		23 13 30.0	+7.2
FUORN				LR	LR		
	comp=Z,2μm,19.0s						
ADVT	Abdulvahap	78.24	324	P	P	23 13 22.8	+0.2
SRCK	Saricakaya, Es	78.25	323	P	P	23 13 22.8	+0.1
251A	Midway	78.26	52	P	P	23 13 23.2	+0.3
	baz=325,SNR=5.2						
W57A	Gilead	78.26	47	PFAKE		23 13 40.0	+17
W57A				LR	LR		
	comp=Z,1μm,19.0s						
W57A	Gilead	78.26	47	P	P	23 13 21.2	-1.7
	baz=327						
TRI	Trieste	78.28	337	PFAKE		23 13 30.0	+7.2
TRI				LR	LR		
	comp=Z,3μm,18.0s						
BLY	Banja Luka	78.31	334	PFAKE		23 13 30.0	+7.1
BLY				LR	LR		
	comp=Z,6μm,19.0s						
BLY	Banja Luka	78.31	334⇑	iP	P	23 13 23.6	+0.7
BLY	Banja Luka	78.31	334	eP	P	23 13 22.7	-0.2
X56A	White Oak	78.34	48	P	P	23 13 23.0	-0.3
	baz=327						
350A	Dozier	78.36	53	P	P	23 13 24.7	+1.2
	baz=325						
CLF	Chambon-Foret	78.36	345	PFAKE		23 13 30.0	+6.9
CLF				LR	LR		
	comp=Z,2μm,20.0s						
U60A	Pendleton	78.39	44	P	P	23 13 23.5	-0.1
	baz=328						
CAVI	Cavuskoy	78.40	324	P	P	23 13 24.3	+0.7
JSC	Jenkinsville	78.42	48	PFAKE		23 13 40.0	+16
JSC				LR	LR		
	comp=Z,2μm,20.0s						
Y55A	Saluda	78.43	49	P	P	23 13 23.8	+0.1
	baz=326						
GEMT	Gemlik	78.43	324	P	P	23 13 24.1	+0.4
HAPS	Han Pijesak,Bl	78.43	333	eP	P	23 13 23.7	-0.1
ARMT	Armutlu	78.44	324	P	P	23 13 23.6	-0.2
KOZT	Kozan	78.44	318	P	P	23 13 24.4	+0.6
SVRH	Sivrihisar-ESK	78.44	322	P	P	23 13 23.7	-0.2
GRR	Gorron	78.46	347	eP	P	23 13 24.0	+0.3
GRR				pmax	pmax		
	comp=Z,137nm,1.2s						
RIY	Rijeka	78.47	336	eP	P	23 13 24.1	+0.3
BIRD	Birdtown, Kers	78.48	47	PFAKE		23 13 40.0	+16
BIRD				LR	LR		
	comp=Z,2μm,20.0s						
VTS	Vitosha	78.49	329	eP	P	23 13 23.9	-0.3
VTS				LR	LR		
	comp=Z,5μm,19.0s						
VTS	Vitosha	78.49	329	P	P	23 13 23.9	-0.3
VTS	Vitosha	78.49	329⇑	iP	P	23 13 24.5	+0.3
VTS	Vitosha	78.49	329	P	P	23 13 24.2	0.0
VTS	Vitosha	78.49	329	eP	P	23 13 24.0	-0.3
BBLS	Lazići	78.51	332	eP	P	23 13 24.8	+0.6
MSFE	Esma-Masafi	78.51	297	iP	P	23 13 24.4	-0.1
	SNR=22						
V59A	Middlesex	78.52	45	P	P	23 13 24.2	0.0
	baz=328						
Z54A	Sparta	78.55	50	P	P	23 13 24.7	+0.2
	baz=326						
TUE	Stuetta	78.56	340	PFAKE		23 13 40.0	+15
TUE				LR	LR		
	comp=Z,2μm,18.0s						
MDNY	Mudanya-Bursa	78.60	324	P	P	23 13 24.7	+0.1
UMQ	Umm Al-Quwin	78.66	297	iP	P	23 13 25.9	+0.8
	SNR=8.3						
UMQ	Umm Al-Quwin	78.66	297	P	P	23 13 25.5	+0.3
	SNR=8.1						
UMQ				P	P	23 13 25.5	+0.3
	SNR=8.1						
CIFT	Cifteler, Eski	78.69	322	P	P	23 13 25.1	-0.1
W58A	Raeford	78.71	46	P	P	23 13 25.3	0.0
	baz=328						
SULT	Sultanhani-AKS	78.75	320	P	P	23 13 25.9	+0.3
KIZT	Kizilcal	78.80	322	P	P	23 13 26.0	+0.1
SGMF	Saint Gilles	78.81	348	eP	P	23 13 26.0	+0.4
SGMF				pmax	pmax		
	comp=Z,91nm,1.0s						
WSAR	Wadi Sarin	78.81	293	P	P	23 13 26.3	+0.3
	SNR=24						
ROSF	Rostrenen	78.81	349	eP	P	23 13 26.1	+0.4
ROSF				pmax	pmax		
	comp=Z,120nm,1.0s						
U61A	Possum Corner	78.81	44	PFAKE		23 13 40.0	+14
U61A				LR	LR		
	comp=Z,2μm,18.0s						
U61A	Possum Corner	78.81	44	P	P	23 13 25.0	-0.9
	baz=329						
LOR	Lormes	78.83	344	eP	P	23 13 26.2	+0.4
LOR				pmax	pmax		
	comp=Z,129nm,1.2s						
351A	Pinckard	78.84	53	P	P	23 13 26.3	+0.2
	baz=325						
RZN	Rozhen	78.86	328	eP	P	23 13 26.6	+0.3
BIDO	Bidbid	78.87	294	P	P	23 13 27.0	+0.6
	SNR=26						
BIDO				P	P	23 13 27.0	+0.6
	SNR=26						
CEYT	Ceyhan	78.87	318	P	P	23 13 27.3	+1.1
KCTX	Karacabey (Bur	78.88	325	P	P	23 13 26.6	+0.4
Z55A	Blythe	78.89	49	P	P	23 13 26.8	+0.5
	baz=326						
253A	Americus	78.91	51	PFAKE		23 13 40.0	+14
253A				LR	LR		
	comp=Z,2μm,21.0s						
RKY	Sarkoy-Tekirda	78.92	326	P	P	23 13 26.9	+0.4
154A	Montrose	78.94	50	PFAKE		23 13 40.0	+13
154A				LR	LR		
	comp=Z,1μm,20.0s						
KARA	Karaisali	78.94	318	P	P	23 13 27.2	+0.6
V60A	Jim Taylor Roa	78.95	44	PFAKE		23 13 40.0	+13
V60A				LR	LR		
	comp=Z,1μm,18.0s						
V60A	Jim Taylor Roa	78.95	44	P	P	23 13 25.9	-0.7
	baz=328						
HATD	Hatta, Dubai	78.95	296	iP	P	23 13 27.0	+0.1
	SNR=90						
HATD	Hatta, Dubai	78.95	296	P	P	23 13 26.3	-0.5
	SNR=60						
HATD				P	P	23 13 26.3	-0.5
	SNR=60						
EDC	Edincik	78.98	325	P	P	23 13 27.3	+0.6
352A	Blakely	79.00	52	PFAKE		23 13 40.0	+13
352A				LR	LR		
	comp=Z,1μm,19.0s						
PLE	Pljevlja	79.00	332⇑	iP	P	23 13 27.7	+0.7
PLE	Pljevlja	79.00	332	P	P	23 13 29.4	+2.4
Y57A	Sumter	79.03	48	PFAKE		23 13 40.0	+13
Y57A				LR	LR		
	comp=Z,1μm,21.0s						
X58A	Rowland	79.06	47	PFAKE		23 13 40.0	+13
X58A				LR	LR		
	comp=Z,1μm,18.0s						
CABF	La Chapelle	79.07	342	eP	P	23 13 28.0	+0.8
CABF				pmax	pmax		
	comp=Z,98nm,1.2s						
RDO	Rodhopi	79.07	327	eP	P	23 13 27.0	-0.2
RDO	Rodhopi	79.07	327	P	P	23 13 27.0	-0.2
SENIN	Lac Senin/Sane	79.08	341	PFAKE		23 13 40.0	+13
SENIN				LR	LR		
	comp=Z,1μm,19.0s						
NAZ	Nazwa, Dubai	79.08	297	iP	P	23 13 28.0	+0.5
	SNR=20						
NAZ	Nazwa, Dubai	79.08	297	P	P	23 13 27.0	-0.6
	SNR=23						
NAZ				P	P	23 13 27.0	-0.6
	SNR=23						
ASAR	Alice Springs	79.08	205	P	P	23 13 28.4	+1.1
	comp=Z,9.4nm,0.7s,baz=20,slow=5.3,SNR=16						
ASAR				LR	LR	23 46 43.1	
	comp=Z,429nm,21.7s,baz=15,slow=34						
SSF	Saint Saulge	79.09	344	eP	P	23 13 27.7	+0.5
SSF				pmax	pmax		
	comp=Z,46nm,0.9s						
ASHO	Ashiyiah	79.10	296	iP	P	23 13 27.7	0.0
	SNR=98						
ASHO	Ashiyiah	79.10	296	P	P	23 13 27.1	-0.6
	SNR=68						
ASHO				P	P	23 13 27.1	-0.6
	SNR=68						
WBK	Wadi Bani Khal	79.11	293	P	P	23 13 30.0	+2.2
	SNR=9.8						
CNNC	Cliffs of the	79.12	45	PFAKE		23 13 40.0	+12
CNNC				LR	LR		
	comp=Z,2μm,19.0s						
ALN	Alexandroupoli	79.12	327	PFAKE		23 13 40.0	+13
ALN				LR	LR		
	comp=Z,2μm,18.0s						
ALN	Alexandroupoli	79.12	327	P	P	23 13 26.9	-0.6
Z56A	Williston	79.16	49	PFAKE		23 13 40.0	+12
Z56A				LR	LR		
	comp=Z,2μm,20.0s						
ERIK	Erikli-Kesan	79.17	326	P	P	23 13 27.9	+0.2
LADK	Ladik-KONYA	79.20	321	P	P	23 13 28.1	0.0
TVSB	Tavsanli	79.20	323	P	P	23 13 28.3	+0.2
QUIF	Quistinic	79.21	349	eP	P	23 13 28.2	+0.4
QUIF				pmax	pmax		
	comp=Z,64nm,1.0s						
V61A	Roper	79.22	44	PFAKE		23 13 40.0	+12
V61A				LR	LR		
	comp=Z,2μm,18.0s						
JLN	Jalan Bani Buh	79.22	292	P	P	23 13 29.1	+0.8
	SNR=21						
KKB	Krupnik	79.22	329	eP	P	23 13 28.6	+0.5
ENEZ	Enez	79.23	326	P	P	23 13 28.4	+0.3
TAHT	Tahtakopru-Hat	79.23	317	P	P	23 13 29.1	+0.9
UPM	Unac-Piva	79.26	332⇑	iP	P	23 13 27.9	-0.5
UPM	Unac-Piva	79.26	332	eP	P	23 13 28.4	0.0
MMB	Musomiste	79.27	328	eP	P	23 13 28.9	+0.6
SOHO	SOHO	79.28	295	P	P	23 13 28.0	-0.6
	SNR=51						
SOHO				P	P	23 13 28.0	-0.6
	SNR=51						
IVA	Berane	79.28	332⇑	iP	P	23 13 28.4	0.0
SMDO	Samad	79.28	294	P	P	23 13 30.0	+1.2
	SNR=16						
HOQ	Hoqain	79.28	295	P	P	23 13 29.0	+0.4
	SNR=15						
451A	Vernon	79.31	53	PFAKE		23 13 40.0	+11
451A				LR	LR		
	comp=Z,1μm,20.0s						
FAQ	Al Faqa, Dubai	79.31	297	iP	P	23 13 29.0	+0.2
	SNR=15						
FAQ	Al Faqa, Dubai	79.31	297	P	P	23 13 29.0	+0.2
	SNR=18						
TRD	Trivandrum	79.32	270	eP	P	23 13 29.2	+0.3
LPK	Lapseki	79.34	326	P	P	23 13 29.3	+0.6
W60A	Pink Hill	79.35	45	P	P	23 13 28.4	-0.5
	baz=328						
AVF	Avril sur Loir	79.38	344	eP	P	23 13 29.3	+0.5
AVF				pmax	pmax		
	comp=Z,106nm,1.0s						
KRTS	Karatas	79.40	318	P	P	23 13 29.9	+0.8
254A	Abbeville	79.40	51	P	P	23 13 30.1	+1.0
	baz=326						
KOME	Kolasin	79.41	332⇑	iP	P	23 13 29.0	-0.1
GELI	Tayfur-Gelibol	79.42	326	P	P	23 13 29.4	+0.3
KONT	Konya--Tatoy	79.42	321	P	P	23 13 29.4	+0.2
NVR	Nevrokopi	79.44	328	P	P	23 13 29.0	-0.3
SMF	Signal de Mont	79.44	344	eP	P	23 13 29.7	+0.5
SMF				pmax	pmax		
	comp=Z,137nm,1.4s						
353A	Camilla	79.45	52	P	P	23 13 30.8	+1.3
	baz=326						
Y58A	Scranton	79.45	47	PFAKE		23 13 40.0	+11

SHUT Suhut-Afyon 79.58 322 P **P 23 13 30.7 +0.5**
NKY Niksic 79.59 332⇑ *i*P **P 23 13 29.9 -0.3**
NKY Niksic 79.59 332 P **P 23 13 32.9 +2.7**
BALB Balikesir 79.60 325 P **P 23 13 30.2 +0.1**
BALB Balikesir 79.60 325 PFAKE 23 13 40.0 +10
BALB LR LR
comp=Z,6μm,18.0s
SKO Skopje 79.64 330 *e*P **P 23 13 30.6 +0.3**
SKO Skopje 79.64 330 P **P 23 13 30.6 +0.3**
SKO Skopje 79.64 330 *i* P **P 23 13 30.6 +0.3**
BRY Bratogost 79.64 333⇑ *i*P **P 23 13 29.8 -0.7**
BRY Bratogost 79.64 333 P **P 23 13 31.0 +0.5**
BRY Bratogost 79.64 333 *e*P **P 23 13 30.0 -0.5**
NKME Niksic 79.65 332⇑ *i*P **P 23 13 29.9 -0.5**
STIP Stip 79.66 330 *i* P **P 23 13 29.6 -0.8**
SMTH Samothraki Isl 79.68 327 *e*P **P 23 13 29.8 -0.7**
SMTH Samothraki Isl 79.68 327 P **P 23 13 29.8 -0.7**
TIGA Tifton 79.68 51 PFAKE 23 13 40.0 +9.3
TIGA LR LR
comp=Z,2μm,20.0s
BGF Bois d'Agland 79.69 344 *e*P **P 23 13 31.0 +0.5**
BGF pmax pmax
comp=Z,58nm,1.2s
SRS Serrai 79.74 328 P **P 23 13 30.8 -0.1**
ALNE Al Ain 79.77 296 *i* P **P 23 13 31.0 -0.3**
SNR=20
AJN Ajban 79.79 297 *i* P **P 23 13 30.9 -0.5**
SNR=13
AJN Ajban 79.79 297 P **P 23 13 30.8 -0.5**
SNR=14
AJN P **P 23 13 30.8 -0.5**
SNR=14
JMDO Jabal Madar 79.79 293 P **P 23 13 31.9 +0.4**
SNR=12
255A Hazlehurst 79.81 50 PFAKE 23 13 40.0 +8.7
255A LR LR
comp=Z,2μm,18.0s
453A Whigham 79.81 52 PFAKE 23 13 40.0 +8.6
453A LR LR
comp=Z,2μm,20.0s
THAS Thassos island 79.83 327 P **P 23 13 30.9 -0.4**
CEME Cevo 79.86 332⇑ *i*P **P 23 13 31.1 -0.5**
TREB Trebinje 79.86 333 *e*P **P 23 13 30.5 -1.0**
PDG Podgorica 79.87 332⇓ *i*P **P 23 13 31.9 +0.4**
PDG Podgorica 79.87 332 *e*P **P 23 13 31.2 -0.3**
TTG Podgorica 79.87 332⇑ *i*P **P 23 13 31.3 -0.3**
TTG Podgorica 79.87 332 PFAKE 23 13 40.0 +8.5
TTG LR LR
comp=Z,5μm,19.0s
NHSC New Hope 79.89 48 PFAKE 23 13 40.0 +8.2
NHSC LR LR
comp=Z,2μm,20.0s
STON Ston 79.90 333 *e*P **P 23 13 30.8 -0.9**
ARQ Araqi 79.91 295 P **P 23 13 32.5 +0.4**
SNR=13
KNT Kendrikon 79.92 329 P **P 23 13 32.3 +0.5**
KIZK Mersin 79.98 319 P **P 23 13 31.8 -0.4**
EZN Ezine 79.98 326 P **P 23 13 32.4 +0.2**
EZN Ezine 79.98 326 *e*P **P 23 13 32.2 0.0**
EZN Ezine 79.98 326 P **P 23 13 32.2 0.0**
EZN Ezine 79.98 326⇑ *i*P **P 23 13 33.2 +1.0**
BSY Bisya 80.00 294 P **P 23 13 33.1 +0.5**
SNR=21
LPG La Plagne 80.02 342 *e*P **P 23 13 34.0 +1.4**
LPG pmax pmax
comp=Z,111nm,0.8s
Y60A Bolivia 80.02 46 PFAKE 23 13 40.0 +7.6
Y60A LR LR
comp=Z,2μm,18.0s
TCF Toulx Ste Croi 80.06 345 *e*P **P 23 13 33.2 +0.7**
TCF pmax pmax
comp=Z,45nm,0.9s
BOZC Bozcaada 80.06 326 P **P 23 13 32.2 -0.4**
HCY Herceg Novi 80.07 332⇑ *i*P **P 23 13 32.3 -0.3**
HCY Herceg Novi 80.07 332 P **P 23 13 33.1 +0.5**
HCY Herceg Novi 80.07 332 *e*P **P 23 13 32.5 -0.1**
SOH Sokhos 80.08 328 P **P 23 13 32.5 -0.3**
BUM Brajici-Budva 80.09 332⇑ *i*P **P 23 13 32.5 -0.3**
MFF Saint Martin d 80.11 347 *e*P **P 23 13 33.5 +0.8**
MFF pmax pmax
comp=Z,73nm,1.2s
DRME Dracevica, Mon 80.11 332⇑ *i*P **P 23 13 32.9 0.0**
DRME Dracevica, Mon 80.11 332 *e*P **P 23 13 32.9 0.0**
SILI Silifke-Mersin 80.17 319 P **P 23 13 32.8 -0.4**
KEBE Keben-Mersin 80.19 319 P **P 23 13 33.2 -0.2**
PHP Peshkopia 80.20 331 P **P 23 13 33.1 -0.3**
ISP Isparta 80.24 322 *e*P **P 23 13 33.1 -0.6**
ISP LR LR
comp=Z,2μm,20.0s
ISP Isparta 80.24 322 P **P 23 13 33.1 -0.6**
ISP Isparta 80.24 322 P **P 23 13 36.2 +2.5**
KRUS Krusevo 80.25 330 *i* P **P 23 13 33.1 -0.6**
GRG Griva 80.26 329 P **P 23 13 34.0 +0.3**
ULC Ulcinj 80.30 332⇑ *i*P **P 23 13 33.8 -0.1**
ULC Ulcinj 80.30 332 P **P 23 13 36.3 +2.4**
TEVE Tevekalti-Mers 80.30 319 P **P 23 13 33.8 -0.3**
LIA Limnos Island 80.31 327 P **P 23 13 34.0 +0.1**
OUR Ouranopolis 80.32 328 *e*P **P 23 13 33.7 -0.2**
OUR Ouranopolis 80.32 328 P **P 23 13 33.7 -0.2**
KULA Kula-Manisa 80.32 324 P **P 23 13 34.2 +0.1**
KULA Kula-Manisa 80.32 324 P **P 23 13 33.8 -0.3**
HORT Hortiatis 80.36 328 P **P 23 13 33.9 -0.5**
IKL Isikli 80.38 319 P **P 23 13 32.4 -2.0**
MANT Manisa 80.38 324 PFAKE 23 13 50.0 +15
MANT LR LR
comp=Z,6μm,18.0s
THE Thessaloniki 80.38 329 P **P 23 13 34.6 +0.3**
257A Skidaway Islan 80.45 49 PFAKE 23 13 50.0 +15
257A LR LR
comp=Z,2μm,19.0s
PLG Polygyros 80.46 328 P **P 23 13 34.3 -0.5**
BNI Bardonecchia 80.46 341 PFAKE 23 13 50.0 +15
BNI LR LR
comp=Z,1μm,19.0s
BNI Bardonecchia 80.46 341 P **P 23 13 36.8 +2.0**
BERE Bereket-Mersin 80.47 319 P **P 23 13 34.7 -0.4**
PMOR Pomariorio Ree 80.49 130 *e*T T 00 41 50.4
comp=Z,4.5nm,0.2s
AKKU Akkuyu-Mersin 80.50 319 P **P 23 13 34.9 -0.1**
PRK Paraskevi 80.52 326 P **P 23 13 35.6 +0.5**
455A Stateville 80.53 51 P **P 23 13 35.8 +0.6**
baz=326
BCK Bucak 80.53 322 P **P 23 13 34.7 -0.6**
VLC Villacollemand 80.53 339 PFAKE 23 13 50.0 +15
VLC LR LR
comp=Z,2μm,18.0s
BIA Bitola 80.54 330 *i* P **P 23 13 35.6 +0.3**
OHR Ohrid 80.62 330 *i* P **P 23 13 35.5 -0.2**
SSB Saint Sauveur 80.64 343 PFAKE 23 13 50.0 +14
SSB LR LR
comp=Z,2μm,19.0s
TIR Tirane 80.68 331 *e*P **P 23 13 35.8 -0.1**
comp=Z,106nm,0.9s
TIR LR LR
comp=Z,5μm,19.0s
TIR Tirane 80.68 331 P **P 23 13 35.8 -0.1**
TIR Tirane 80.68 331⇓ *i*P **P 23 13 36.7 +0.8**
TEKE Tekeli-Mersin 80.69 319 P **P 23 13 35.3 -0.7**
SIGR SIGRI 80.69 326 P **P 23 13 35.5 -0.5**
ORIF Oris-en-Rattie 80.74 342 *e*P **P 23 13 37.6 +1.3**
ORIF pmax pmax
comp=Z,86nm,1.0s
FNA Florina 80.74 330 PFAKE 23 13 50.0 +14
FNA LR LR
comp=Z,3μm,21.0s
FNA Florina 80.74 330 P **P 23 13 35.9 -0.4**
MBDF Montbardon 80.75 341 *e*P **P 23 13 37.2 +0.8**
MBDF pmax pmax
comp=Z,33nm,0.9s
PAIG Paliouri 80.78 328 P **P 23 13 35.9 -0.6**
EREN Erenkoy 80.79 318 P **P 23 13 36.9 +0.3**
MHTO MHTO 80.96 292 P **P 23 13 37.8 +0.1**
SNR=77
MHTO P **P 23 13 37.8 +0.1**
SNR=77
LIT Litokhoron 81.01 329 P **P 23 13 36.7 -1.0**
456A Hilliard 81.02 51 PFAKE 23 13 50.0 +12
456A LR LR
comp=Z,2μm,20.0s
KORT Korkueli 81.02 322 P **P 23 13 37.3 -0.7**
VIVF Saint-Julien-l 81.03 343 *e*P **P 23 13 38.9 +1.2**
VIVF pmax pmax
comp=Z,64nm,1.0s
KZN Kozani 81.05 329 P **P 23 13 37.0 -1.0**
555A McAlpin 81.07 52 PFAKE 23 13 50.0 +12
555A LR LR
comp=Z,1μm,21.0s
555A McAlpin 81.07 52 P **P 23 13 38.7 +0.6**
baz=326,SNR=5.3
AYDB Zeytinkoy-Aydi 81.10 324 P **P 23 13 38.3 -0.1**
RJF Les Rejaudoux 81.13 345 *e*P **P 23 13 39.1 +0.9**
RJF pmax pmax
comp=Z,80nm,1.2s
NEST Nestorio 81.18 330 P **P 23 13 38.6 -0.1**
URLA Izmir 81.20 325 P **P 23 13 38.3 -0.5**
CHOS Chios island 81.36 325 P **P 23 13 39.1 -0.6**
CAF Calviac 81.41 345 *e*P **P 23 13 41.0 +1.2**
CAF pmax pmax
comp=Z,94nm,1.0s
ELL Elmali 81.41 322 P **P 23 13 39.8 -0.3**
SKY Skiros Island 81.44 327 *e*P **P 23 13 40.9 +0.9**
SKY Skiros Island 81.44 327 P **P 23 13 40.9 +0.9**
SBF Sospel 81.45 341 *e*P **P 23 13 40.3 +0.3**
SBF pmax pmax
comp=Z,79nm,1.0s
XOR Xorichti 81.45 328 P **P 23 13 39.1 -1.0**
MAMC Mammari 81.49 319 P **P 23 13 39.5 -0.8**
FYTO Fytoko, Volos 81.49 328 *e*P **P 23 13 39.7 -0.6**
FYTO Fytoko, Volos 81.49 328 P **P 23 13 39.7 -0.6**
NEO Neokhori 81.49 328 P **P 23 13 39.4 -0.9**
KPRO Kipourio 81.50 329 P **P 23 13 39.7 -0.7**
AQU L'Aquila 81.52 336 PFAKE 23 13 50.0 +10
AQU LR LR
comp=Z,4μm,18.0s
AQU L'Aquila 81.52 336 P **P 23 13 42.1 +1.6**
AQU L'Aquila 81.52 336 *e*P **P 23 13 41.7 +1.2**
GCAM G?zelcaml? 81.56 324 P **P 23 13 40.4 -0.2**
BHL Bhannes 81.57 316 *e*P **P 23 13 40.2 -0.7**
PSAD2 Pilbara Seismi 81.59 218 PFAKE 23 13 50.0 +9.2
PSAD2 LR LR
comp=Z,1μm,21.0s
LFF La Frestale 81.60 346 *e*P **P 23 13 41.9 +1.2**
LFF pmax pmax
comp=Z,96nm,1.2s
CSS Mathiatis 81.62 319 *e*P **P 23 13 40.9 -0.2**
comp=Z,149nm,1.0s
CSS LR LR
comp=Z,2μm,18.0s
CSS Mathiatis 81.62 319 P **P 23 13 40.9 -0.2**
THL Klokotos Trika 81.65 329 P **P 23 13 39.8 -1.3**
LEF Lefka 81.67 319 P **P 23 13 40.8 -0.4**
LEF Lefka 81.67 319⇑ *i*P **P 23 13 41.4 +0.2**
SMG Samos 81.69 325 P **P 23 13 40.5 -0.9**
ALFC Alefka 81.75 319 P **P 23 13 41.5 -0.3**
DQRL Deir Qamar 81.78 316 *e*P **P 23 13 42.0 0.0**
TURN Turunc 81.79 323 P **P 23 13 43.2 +1.3**
DALY Dalyan (Mula) 81.82 323 P **P 23 13 42.1 +0.1**
FETY Fethiye 81.82 322 P **P 23 13 41.8 -0.3**
FETY Fethiye 81.82 322 *e*P **P 23 13 41.6 -0.5**
FETY Fethiye 81.82 322 P **P 23 13 41.6 -0.5**
QRWL Qaraoun 81.86 316 *e*P **P 23 13 42.0 -0.5**
SMIA Simia 81.89 328 P **P 23 13 41.7 -0.7**
FRF La Foret Royal 81.90 341 *e*P **P 23 13 42.7 +0.4**
FRF pmax pmax
comp=Z,75nm,1.5s
656A Willston 81.90 52 PFAKE 23 13 50.0 +7.4
656A LR LR
comp=Z,1μm,20.0s
MRKA Markates 81.92 327 P **P 23 13 41.7 -0.9**
JAN Janina 81.93 330 *e*P **P 23 13 43.0 +0.4**
JAN Janina 81.93 330 P **P 23 13 43.0 +0.4**
PPT Papeete 81.95 132 LR LR 23 44 22.6
comp=Z,1μm,18.7s,baz=314,slow=31
PPT2 Papeete2 81.97 132 *e*S **S 23 23 54.5 +0.4**
comp=Z,1μm,33.0s
PPT2 Papeete2 81.97 132 *e*LR LR 23 39 37.4
comp=Z,2μm,23.2s,baz=328
AKAS Kas 81.98 322 P **P 23 13 40.5 -2.6**
SZAC Souni 81.99 319 P **P 23 13 43.0 0.0**
SRN Sarande 81.99 330 P **P 23 13 42.4 -0.5**
SHBL Chebaa 82.01 316 *e*P **P 23 13 43.3 0.0**
DQM DQM 82.04 292 P **P 23 13 43.6 +0.1**
SNR=11
DQM P **P 23 13 43.6 +0.1**
SNR=11
EREA Eretria 82.06 327 P **P 23 13 42.7 -0.6**
KSL Kastellorizon 82.06 322 P **P 23 13 42.7 -0.6**
PPCY Paphos 82.09 319 P **P 23 13 42.8 -0.7**
BODT Bodrum 82.10 324 P **P 23 13 42.8 -0.8**
BODT Bodrum 82.10 324 *e*P **P 23 13 42.7 -0.8**
BODT Bodrum 82.10 324 P **P 23 13 42.7 -0.8**
ATAL Atalanti 82.12 328 *e*P **P 23 13 42.3 -1.3**
ATAL Atalanti 82.12 328 P **P 23 13 42.3 -1.3**
LMR La Mourre 82.14 341 *e*P **P 23 13 44.2 +0.6**
LMR pmax pmax
comp=Z,130nm,1.4s
LKR Lokris 82.16 328 P **P 23 13 42.5 -1.3**
KEK Kerkira 82.20 330 *e*P **P 23 13 43.7 -0.3**
KEK *e*P **P 23 13 43.7 -0.3**
KEK Kerkira 82.20 330 P **P 23 13 43.7 -0.3**
IGT Igoumenitsa 82.21 330 *e*P **P 23 13 43.6 -0.4**
IGT Igoumenitsa 82.21 330 P **P 23 13 43.6 -0.4**
MATE Matera 82.24 333⇑ *i*P **P 23 13 45.1 +1.0**
DAT Datca 82.30 324 P **P 23 13 43.6 -1.1**
EVR Evrytania 82.31 329 P **P 23 13 42.9 -1.8**
DION Dionisos Attik 82.37 327 P **P 23 13 43.5 -1.4**
PGF Pioggiola 82.37 339 *e*P **P 23 13 46.5 +1.5**
PGF pmax pmax
comp=Z,45nm,1.0s
PTL Penteli 82.42 327 *e*P **P 23 13 43.8 -1.4**
PTL Penteli 82.42 327 P **P 23 13 43.8 -1.4**
MMAI Mount Meron Ar 82.44 316 P **P 23 13 45.9 +0.4**
comp=Z,97nm,0.8s,baz=30,slow=6.8,SNR=148
MMAI PP **PP 23 16 55.0 +1.0**
comp=Z,10nm,1.1s,baz=32,slow=7.9,SNR=4.2
658A Bunnell 82.47 51 PFAKE 23 14 00.0 +14
658A LR LR
comp=Z,2μm,20.0s
VILL Villia 82.50 327 P **P 23 13 44.3 -1.3**
ASF Jabal al Asfar 82.52 315 P **P 23 13 46.4 +0.5**
comp=Z,59nm,0.9s,baz=291,slow=1.2,SNR=98
ASF PP **PP 23 16 55.2 +0.5**
comp=Z,3.1nm,0.5s,baz=53,slow=3.2,SNR=3.0
ATHU Athens Univers 82.52 327 *e*P **P 23 13 44.4 -1.3**
ATHU Athens Univers 82.52 327 P **P 23 13 44.4 -1.3**
DSF Desfina 82.53 328 P **P 23 13 44.6 -1.2**
ATH Athens Observa 82.54 327 P **P 23 13 45.4 -0.4**
PROD Prodromos 82.55 328 P **P 23 13 44.0 -1.9**
ARG Arkhangelos 82.55 323 *e*P **P 23 13 45.3 -0.6**
ARG Arkhangelos 82.55 323 P **P 23 13 45.3 -0.6**
ANX Ano Chora 82.56 328 P **P 23 13 44.8 -1.2**
VLY Voula,Athens 82.62 327 *e*P **P 23 13 44.8 -1.4**
VLY Voula,Athens 82.62 327 P **P 23 13 44.8 -1.4**
PVO Paravola 82.67 329 P **P 23 13 47.0 +0.6**
SERG Sergoula 82.69 328 P **P 23 13 44.8 -1.8**
EFP Efpalio 82.72 328 P **P 23 13 44.9 -1.8**
APE Apeiranthos 82.73 325 *e*P **P 23 13 44.8 -2.0**
APE Apeiranthos 82.73 325 P **P 23 13 44.8 -2.0**
LKD2 Lefkada island 82.79 329 P **P 23 13 46.3 -0.8**
AMGA Amorgos Island 82.81 325 P **P 23 13 45.3 -1.9**
LAKA Lakka 82.87 328 *e*P **P 23 13 46.9 -0.6**
LAKA Lakka 82.87 328 P **P 23 13 46.9 -0.6**
MTLF Montolieu 82.92 344 *e*P **P 23 13 49.0 +1.3**
MTLF pmax pmax
comp=Z,98nm,1.2s
EVGI Lefkada island 82.94 329 P **P 23 13 48.5 +0.6**
KLV Kalavryta, Ach 82.99 328 P **P 23 13 46.9 -1.3**
SERI Serifos 83.01 326 P **P 23 13 46.2 -2.1**
GUR Goura 83.03 328 *e*P **P 23 13 45.0 -3.5**
GUR Goura 83.03 328 P **P 23 13 45.0 -3.5**
DID Didima 83.12 327 *e*P **P 23 13 45.5 -3.4**
DID Didima 83.12 327 P **P 23 13 45.5 -3.4**
RLS Riolos of Patr 83.20 329 P **P 23 13 49.0 -0.2**
DRO Drossia 83.22 328 P **P 23 13 48.7 -0.6**
ANAF Anafi Island 83.28 325 P **P 23 13 47.9 -1.8**
CMBO Columbo, Santo 83.31 325 P **P 23 13 49.3 -0.5**
KFL Anninata 83.37 329 P **P 23 13 48.9 -1.2**
VLS Valsamata 83.37 329 P **P 23 13 49.6 -0.5**
957A Wimauma 83.46 52 PFAKE 23 14 00.0 +9.3
957A LR LR
comp=Z,2μm,21.0s
DWPF Disney Wildern 83.48 52 PFAKE 23 14 00.0 +9.2
DWPF LR LR
comp=Z,1μm,20.0s
KARP Karpathos 83.50 323 PFAKE 23 14 00.0 +9.1
KARP LR LR
comp=Z,1μm,19.0s
KARP Karpathos 83.50 323 P **P 23 13 49.7 -1.2**
VLX Vlachokerasia 83.53 328 *e*P **P 23 13 49.9 -1.1**
VLX Vlachokerasia 83.53 328 P **P 23 13 49.9 -1.1**
EPF Esparros 83.53 345 *e*P **P 23 13 51.5 +0.6**
EPF pmax pmax
comp=Z,104nm,1.2s
TIP Timpagrande 83.59 332 PFAKE 23 14 00.0 +8.7
TIP LR LR
comp=Z,2μm,20.0s
TIP Timpagrande 83.59 332 P **P 23 13 51.7 +0.4**
TIP Timpagrande 83.59 332⇓ *i*P **P 23 13 52.2 +0.9**
AMT Artemida-Makis 83.60 328 P **P 23 13 51.2 -0.1**
SJPF Ste Jean 83.68 347 *e*P **P 23 13 53.3 +1.7**
SJPF pmax pmax
comp=Z,58nm,1.1s
ETSF Etsaut 83.79 346 *e*P **P 23 13 53.7 +1.4**
ETSF pmax pmax
comp=Z,94nm,1.0s
ITM Ithomi 83.85 328 PFAKE 23 14 00.0 +7.4
ITM LR LR
comp=Z,2μm,20.0s
ITM Ithomi 83.85 328 P **P 23 13 51.8 -0.8**
ZKR Zakros 84.23 324 *e*P **P 23 13 53.7 -0.9**
ZKR *e*P **P 23 13 53.7 -0.9**
ZKR Zakros 84.23 324 P **P 23 13 53.7 -0.9**
NPS Neapolis 84.32 324 P **P 23 13 53.5 -1.5**
LAST Lasithi 84.46 324 *e*P **P 23 13 55.8 0.0**
LAST *e*P **P 23 13 55.8 0.0**
LAST Lasithi 84.46 324 P **P 23 13 55.8 0.0**
IDI Anoyia 84.55 325 P **P 23 13 54.8 -1.5**
comp=Z,30nm,0.6s,baz=29,slow=12,SNR=42
059A Moore Haven 84.57 52 PFAKE 23 14 10.0 +14
059A LR LR
comp=Z,1μm,20.0s
ANKY Antikythira Is 84.58 326 *e*P **P 23 13 54.3 -2.0**
ANKY Antikythira Is 84.58 326 P **P 23 13 54.3 -2.0**
VAM Vamos 84.69 325 P **P 23 13 56.9 +0.1**
CEL Celeste 84.69 333 PFAKE 23 14 10.0 +13
CEL LR LR
comp=Z,3μm,18.0s
IMMV Iera Moni Meta 84.72 326 P **P 23 13 57.0 0.0**
SIVA Sivas 84.82 325 P **P 23 13 57.6 +0.1**
060A Indiantown 84.89 51 PFAKE 23 14 10.0 +12
060A LR LR
comp=Z,2μm,20.0s
MYIG Mrida 85.10 62 PFAKE 23 14 10.0 +11
MYIG LR LR
comp=Z,900nm,18.0s
STKA Stephens Creek 85.39 196 *e*P **P 23 14 00.6 +0.5**
comp=Z,4.4nm,1.1s
STKA Stephens Creek 85.39 196 P **P 23 14 01.1 +1.0**
comp=Z,7.3nm,0.9s,baz=32,slow=0.6,SNR=8.6
STKA LR LR 23 51 53.0
comp=Z,518nm,20.0s,baz=5.7,slow=36
EIL Elat 85.52 315 P **P 23 14 01.1 0.0**
comp=Z,117nm,1.1s,baz=8.0,slow=2.7,SNR=49
EIL PP **PP 23 17 22.0 +2.9**
comp=Z,9.7nm,1.0s,baz=22,slow=4.1,SNR=3.6
061Z Ochoppi 85.61 52 PFAKE 23 14 10.0 +8.4
061Z LR LR
comp=Z,1μm,20.0s
PGAV Gavieira, Arco 85.64 352 *e*P **P 23 14 03.9 +2.3**
comp=Z,89nm,1.9s
PGAV Gavieira, Arco 85.64 352 *e*PP PP 23 17 22.1 +2.4
PGAV *e*S **S 23 24 34.3 +3.5**
PGAV Gavieira, Arco 85.64 352 *e*LR LR 23 49 08.3
comp=Z,1μm,20.0s
PBRG Braganca 85.65 350 *e*P **P 23 14 02.9 +1.3**
comp=Z,100nm,1.9s
CLTB Caltabellotta 86.06 334 PFAKE 23 14 10.0 +6.2
CLTB LR LR
comp=Z,6μm,18.0s
POLO Lamas de Olo 86.18 351 *e*P **P 23 14 05.2 +0.9**
comp=Z,40nm,1.5s
PVRL Vila Real 86.27 351 *e*P **P 23 14 06.5 +1.8**
comp=Z,115nm,1.4s
MVO Moncorvo 86.31 351 *e*P **P 23 14 06.6 +1.7**
comp=Z,80nm,1.3s
MVO Moncorvo 86.31 351 *e*S **S 23 24 43.9 +6.5**
MVO *e*SS **SS 23 30 21.5 +6.0**
MVO Moncorvo 86.31 351 *e*LR LR 23 49 22.2
comp=Z,2μm,20.0s
TEIG Tepich 86.48 61 PFAKE 23 14 20.0 +14
TEIG LR LR
comp=Z,1μm,22.0s
PTO Porto 86.48 352 *e*P **P 23 14 07.6 +1.9**
comp=Z,78nm,2.2s
PVIS Viseu 86.84 351 *e*P **P 23 14 09.3 +1.8**
comp=Z,59nm,1.7s
BBSR BB Station 86.95 37 PFAKE 23 14 20.0 +12
BBSR LR LR
comp=Z,700nm,18.0s
TBI Tubuai 87.06 135 *e*S **S 23 24 45.9 +1.4**
comp=Z,1μm,25.5s
TBI Tubuai 87.06 135 *e*LR LR 23 41 45.8
comp=Z,2μm,24.5s,baz=334
TBI Tubuai 87.06 135 *e*T T 00 50 06.1
comp=Z,8.2nm,0.3s
MTE Manteigas 87.12 351 *e*P **P 23 14 10.7 +1.8**
comp=Z,75nm,1.2s
MTE Manteigas 87.12 351 *e*S **S 23 24 50.0 +4.8**
MTE *e*SS SS 23 30 15.7 -12
MTE Manteigas 87.12 351 *e*LR LR 23 50 09.5
comp=Z,2μm,18.0s
MTE Manteigas 87.12 351 PFAKE 23 14 20.0 +11
MTE LR LR
comp=Z,2μm,20.0s
WDD Wied Dalam 87.34 333 PFAKE 23 14 20.0 +10
WDD LR LR
comp=Z,1μm,19.0s
COI Coimbra 87.39 351 *e*P **P 23 14 12.5 +2.4**
comp=Z,63nm,1.3s
COI Coimbra 87.39 351 PFAKE 23 14 20.0 +10
COI LR LR
comp=Z,1μm,21.0s
ESDC Sonseca Array 87.43 348 P **P 23 14 10.5 +0.1**
comp=Z,32nm,1.0s,baz=4.8,slow=4.7,SNR=83
ESDC LR LR 23 58 51.8
comp=Z,719nm,18.1s,baz=30,slow=40
ESLA Sonseca Array 87.43 348 PFAKE 23 14 20.0 +10
ESLA LR LR
comp=Z,2μm,19.0s
PCAS Casmilo, Conde 87.55 352 *e*P **P 23 14 12.4 +1.5**
comp=Z,88nm,1.2s
PAB San Pablo 87.61 348 *e*P **P 23 14 10.3 -1.0**
comp=Z,31nm,1.2s
PAB LR LR
comp=Z,2μm,19.0s
PCBR Castelo Branco 87.67 351 *e*P **P 23 14 12.8 +1.4**
comp=Z,46nm,1.1s
OUZ Omahuta 87.88 169 PFAKE 23 14 20.0 +7.9
OUZ LR LR
comp=Z,2μm,22.0s
PTOM Tomar 87.98 351 *e*P **P 23 14 15.5 +2.6**
comp=Z,59nm,1.2s
PMRV Marv??o 88.07 351 *e*P **P 23 14 14.5 +1.1**
comp=Z,34nm,1.6s
PMRV Marv??o 88.07 351 *e*PP PP 23 17 37.8 -1.5
PMRV *e*S **S 23 24 59.3 +5.1**
PMRV Marv??o 88.07 351 *e*LR LR 23 48 48.5
comp=Z,1μm,18.0s
PMTG Montargil 88.50 351 *e*P **P 23 14 14.8 -0.6**
comp=Z,47nm,1.6s
KEST Kesra 88.80 337 PFAKE 23 14 30.0 +13
KEST LR LR
comp=Z,2μm,20.0s
KEST Kesra 88.80 337 P **P 23 14 17.3 +0.4**
comp=Z,39nm,0.9s,baz=333,slow=2.0,SNR=22
KEST LR LR 23 59 54.9
comp=Z,3μm,18.0s,baz=344,slow=40
LIS Lisbon 88.94 352 *e*P **P 23 14 17.7 +0.3**
LIS AMb AMB 23 14 20.4
comp=Z,89nm,1.8s
LIS Lisbon 88.94 352 *e*P **P 23 14 17.7 +0.3**
CART Cartagena 89.06 345 PFAKE 23 14 30.0 +12
CART LR LR
comp=Z,900nm,19.0s
PNCL Nicolau / Gran 89.48 351 *e*P **P 23 14 20.4 +0.4**
comp=Z,49nm,1.6s
MESJ Messejana 89.72 351 *e*P **P 23 14 21.4 +0.3**
MESJ AMb AMB 23 14 24.6
comp=Z,32nm,1.8s
MESJ Messejana 89.72 351 *e*P **P 23 14 21.4 +0.3**

PVAQ	**Vaqueiros**	**90.10 351**	*e*S	**S**	**23 25 10.2**	**-3.1**
PVAQ			*e*SS	**SS**	**23 31 12.2**	**+1.6**
MORF	**Marmelete**	**90.29 351**	*e*P	**P**	**23 14 24.1**	**+0.1**
MORF			AMb	AMB	23 14 30.4	
	comp=Z,70nm,2.1s					
MORF	**Marmelete**	**90.29 351**	*e*P	**P**	**23 14 24.0**	**+0.1**
PFVI	**Vila Bisbo**	**90.48 351**	PFAKE		23 14 40.0	+15
PFVI			LR	LR		
	comp=Z,1μm,19.0s					
SFS	**San Fernando**	**90.87 349**	PFAKE		23 14 40.0	+14
SFS			LR	LR		
	comp=Z,1μm,18.0s					
HIZ	**Hauiti**	**91.28 169**	PFAKE		23 14 40.0	+12
HIZ			LR	LR		
	comp=Z,1μm,20.0s					
URZ	**Urewera**	**91.32 167**	PFAKE		23 14 40.0	+12
URZ			LR	LR		
	comp=Z,700nm,20.0s					
TGUH	**Tegucigalpa,Un**	**92.07 64**	PFAKE		23 14 40.0	+7.7
TGUH			LR	LR		
	comp=Z,2μm,20.0s					
ESTN	**Estel**	**93.35 64**	PFAKE		23 14 50.0	+12
ESTN			LR	LR		
	comp=Z,2μm,22.0s					
RTC	**Rabat Centre**	**93.39 349**	PFAKE		23 14 50.0	+12
RTC			LR	LR		
	comp=Z,4μm,19.0s					
DAMY	**Dhamar**	**93.66 299**	PFAKE		23 14 50.0	+10
DAMY			LR	LR		
	comp=Z,4μm,20.0s					
RKT	**Rikitea**	**93.75 124**	*e*LR	LR	23 45 10.5	
	comp=Z,2μm,25.0s					
SNZO	**South Karori**	**94.02 169**	PFAKE		23 14 50.0	+9.5
SNZO			LR	LR		
	comp=Z,1μm,20.0s					
ACON	**Acoyapa**	**94.94 63**	PFAKE		23 15 00.0	+14
ACON			LR	LR		
	comp=Z,700nm,21.0s					
OXZ	**Oxford**	**95.74 171**	PFAKE		23 15 00.0	+12
OXZ			LR	LR		
	comp=Z,900nm,21.0s					
RPZ	**Rata Peaks**	**96.04 172**	PFAKE		23 15 00.0	+10
RPZ			LR	LR		
	comp=Z,1μm,18.0s					
SDD	**Santo Domingo**	**97.13 47**	PFAKE		23 15 10.0	+14
SDD			LR	LR		
	comp=Z,1μm,21.0s					
HDC	**Heredia**	**97.14 64**	PFAKE		23 15 10.0	+14
HDC			LR	LR		
	comp=Z,900nm,21.0s					
ICMP	**Isla Caja de M**	**99.14 45**	PFAKE		23 15 20.0	+15
ICMP			LR	LR		
	comp=Z,600nm,18.0s					
SKI	**Saint Kitts**	**101.23 42**	PFAKE		23 15 30.0	+16
SKI			LR	LR		
	comp=Z,900nm,19.0s					
FURI	**Furi**	**101.43 301**	PFAKE		23 15 30.0	+15
FURI			LR	LR		
	comp=Z,1μm,19.0s					
TAM	**Tamanrasset**	**102.11 336**	*e*Pdif	**Pdif**	**23 15 18.1**	**+0.2**
TAM			LR	LR		
	comp=Z,800nm,20.0s					
KMBO	**Kilima Mbogo**	**110.58 297**	PFAKE		23 20 10.0	+14
KMBO			LR	LR		
	comp=Z,2μm,20.0s					
NAI	**Nairobi**	**110.95 297**	PFAKE		23 20 10.0	+13
NAI			LR	LR		
	comp=Z,2μm,19.0s					
TOC1	**Torodi Ar. Sit**	**112.28 338**	PFAKE		23 20 10.0	+11
TOC1			LR	LR		
	comp=Z,2μm,18.0s					
TOC2	**Torodi Ar. Sit**	**112.29 338**	PFAKE		23 20 10.0	+11
TOC2			LR	LR		
	comp=Z,2μm,19.0s					
TOC7	**Torodi Ar. Sit**	**112.29 338**	PFAKE		23 20 10.0	+11
TOC7			LR	LR		
	comp=Z,1μm,19.0s					
TOB2	**Torodi Ar. Sit**	**112.30 338**	PFAKE		23 20 10.0	+11
TOB2			LR	LR		
	comp=Z,200nm,21.0s					
TOA1	**Torodi Ar. Sit**	**112.30 338**	PFAKE		23 20 10.0	+11
TOA1			LR	LR		
	comp=Z,1μm,18.0s					
TOB5	**Torodi Ar. Sit**	**112.30 338**	PFAKE		23 20 10.0	+11
TOB5			LR	LR		
	comp=Z,2μm,19.0s					
TOA2	**Torodi Ar. Sit**	**112.31 338**	PFAKE		23 20 10.0	+11
TOA2			LR	LR		
	comp=Z,2μm,19.0s					
TOA0	**Torodi Ar. Sit**	**112.31 338**	PFAKE		23 20 10.0	+11
TOA0			LR	LR		
	comp=Z,2μm,19.0s					
TORD	**Torodi Ar. Bea**	**112.31 338**	PKiKP	**PKiKP**	**23 19 59.1**	**+0.1**
	comp=Z,1.2nm,1.1s,baz=356,slow=2.3,SNR=4.0					
TORD			PP	**PP**	**23 20 43.0**	**-0.4**
	comp=Z,20nm,1.0s,baz=8.8,slow=6.9,SNR=20					
TOC3	**Torodi Ar. Sit**	**112.31 338**	PFAKE		23 20 10.0	+11
TOC3			LR	LR		
	comp=Z,1μm,19.0s					
TOA3	**Torodi Ar. Sit**	**112.31 338**	PFAKE		23 20 10.0	+11
TOA3			LR	LR		
	comp=Z,2μm,19.0s					
TOB3	**Torodi Ar. Sit**	**112.31 338**	PFAKE		23 20 10.0	+11
TOB3			LR	LR		
	comp=Z,1μm,18.0s					
TOB4	**Torodi Ar. Sit**	**112.32 338**	PFAKE		23 20 10.0	+11
TOB4			LR	LR		
	comp=Z,1μm,19.0s					
TOC5	**Torodi Ar. Sit**	**112.33 338**	PFAKE		23 20 10.0	+11
TOC5			LR	LR		
	comp=Z,1μm,19.0s					
TOC4	**Torodi Ar. Sit**	**112.33 338**	PFAKE		23 20 10.0	+11
TOC4			LR	LR		
	comp=Z,1μm,19.0s					
MBAR	**Mbarara**	**113.61 303**	PFAKE		23 20 10.0	+8.3
MBAR			LR	LR		
	comp=Z,2μm,19.0s					
DBIC	**Dimbokro**	**119.96 343**	PKP	**PKPdf**	**23 20 13.4**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=54,slow=2.9,SNR=5.9					
DBIC			PP	**PP**	**23 21 34.6**	**-2.4**
	comp=Z,30nm,1.2s,baz=360,slow=8.7,SNR=6.7					
LSZ	**Lusaka**	**127.24 296**	PFAKE		23 20 40.0	+12
LSZ			LR	LR		
	comp=Z,1μm,18.0s					
LPAZ	**La Paz**	**127.64 65**	*e*PKPdf	**PKPdf**	**23 20 28.5**	**-0.5**
LPAZ	**La Paz**	**127.64 65**	*e*PKIKP	**PKPdf**	**23 20 28.5**	**-0.5**
LPAZ	**La Paz**	**127.64 65**	PKP	**PKPdf**	**23 20 29.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=2.7,slow=7.6,SNR=8.2					
LPAZ	**La Paz**	**127.64 65**	*e*P	**PKiKP**	**23 20 31.5**	**+1.9**
CLDB	**Colider**	**129.42 49**	*e*P	**PKiKP**	**23 20 34.7**	**+2.2**
SBA	**Scott Base**	**129.91 178**	*e*PKPdf	**PKiKP**	**23 20 33.7**	**+2.2**
SBA	**Scott Base**	**129.91 178**	*e*PKIKP	**PKiKP**	**23 20 33.7**	**+2.2**
TSUM	**Tsumeb**	**136.11 305**	PFAKE		23 21 00.0	+14
TSUM			LR	LR		
	comp=Z,1μm,20.0s					
LBTB	**Lobatse**	**136.45 291**	*e*PKPdf	**PKiKP**	**23 20 46.7**	**+0.2**
BDFB	**Brasilia**	**137.06 42**	PKP	**PKPdf**	**23 20 45.5**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=141,slow=2.4,SNR=5.0					
AQDB	**Aquidauana**	**137.72 55**	*e*P	**PKiKP**	**23 20 50.0**	**+0.9**
JANB	**Januaria**	**137.99 37**	*e*P	**PKiKP**	**23 20 51.6**	**+1.7**
BOSA	**Boshof**	**139.37 288**	*e*PKPdf	**PKPdf**	**23 20 49.0**	**-1.1**
BOSA	**Boshof**	**139.37 288**	*e*PKIKP	**PKPdf**	**23 20 49.0**	**-1.1**
BOSA	**Boshof**	**139.37 288**	PKP	**PKPdf**	**23 20 50.2**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=355,slow=2.4,SNR=4.8					
MCI9	**Montes Claros**	**139.65 38**	*e*P	**PKiKP**	**23 20 54.6**	**+1.4**
CPUP	**Villa Florida**	**141.64 62**	PKP	**PKPdf**	**23 20 53.5**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=327,slow=2.3,SNR=4.4					
QSPA	**South Pole Qui**	**142.01 180**	*e*PKPpre	PKPpre	23 20 49.7	
SJMB	**Sao Joao De Ma**	**142.47 35**	*e*P	**PKiKP**	**23 20 59.2**	**+0.3**
BSFB	**Barra de Sao F**	**142.71 35**	*e*P	**PKiKP**	**23 20 59.9**	**+0.6**
PTGB	**Pitanga**	**143.09 54**	*e*P	**PKiKP**	**23 21 00.1**	**0.0**
BSCB	**Bom Sucesso**	**143.20 42**	*e*P	**PKiKP**	**23 20 59.9**	**-0.4**
PLCA	**Paso Flores**	**143.80 92**	*e*PKPpre	PKPbc	23 20 56.4	+1.0
PLCA	**Paso Flores**	**143.80 92**	*e*PKIKP	PKPbc	23 20 56.4	+1.1
PLCA	**Paso Flores**	**143.80 92**	*e*P	**PKiKP**	**23 21 02.8**	**+1.7**
SPB	**Sao Paulo**	**144.34 47**	*e*PKPdf	PKPbc	23 20 58.0	+0.7
SPB	**Sao Paulo**	**144.34 47**	*e*P	**PKiKP**	**23 21 02.8**	**+0.2**
ALF01	**Guarapari-ES**	**144.40 35**	*e*P	**PKiKP**	**23 21 02.0**	**-0.7**
SUR	**Sutherland**	**144.73 288**	*e*PKPdf	**PKPdf**	**23 20 60.0**	**+0.4**
TIJ01	**Guaruva-PR**	**145.09 51**	*e*P	**PKiKP**	**23 21 02.7**	**-1.5**
ITAB	**Concordia**	**145.12 57**	*e*P	**PKiKP**	**23 21 02.7**	**-1.4**
CPSB	**Cacapava Do Su**	**146.95 62**	*e*P	**PKiKP**	**23 21 07.4**	**-0.4**
TRQA	**Tornquist**	**147.41 81**	*e*PKPdf	**PKPbc**	**23 21 05.3**	**-1.0**
TRQA	**Tornquist**	**147.41 81**	*e*P	**PKPab**	**23 21 08.1**	**-0.3**
CNLB	**Canela**	**147.46 57**	*e*P	**PKPbc**	**23 21 07.8**	**+1.1**
TER01	**Tubaro-SC**	**147.71 54**	*e*P	**PKiKP**	**23 21 08.5**	**-0.9**
PLTB	**Pedras Altas**	**147.91 64**	*e*P	**PKPbc**	**23 21 08.3**	**+0.5**
SYO	**Syowa Base**	**148.14 216** ‖	*e*PKPdf	**PKPdf**	**23 21 04.0**	**+0.1**
PMSA	**Palmer Station**	**154.25 136**	*e*P	**PKPbc**	**23 21 18.3**	**-3.3**
SNAA	**Sanae**	**159.15 195**	PKPdf	**PKPdf**	**23 21 20.0**	**+0.4**
SNAA	**Sanae**	**159.15 195**	*e*PKPdf	**PKPdf**	**23 21 18.7**	**-0.9**
VNA3	**Neumayer Olymp**	**160.44 190**	PKPdf	**PKPdf**	**23 21 23.5**	**+2.5**
VNA2	**Neumayer--Watz**	**160.47 192**	PKPdf	**PKPdf**	**23 21 24.9**	**+3.8**
	baz=1.6,slow=0.3					

IDC 20 23:02:59.8±2.1, 6°.36S×129°.22E, h0km, mb4.4/1, mb1 4.1/3, mb1mx3.6/44, mbtmp4.0/3, ML4.0/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/28, Error ellipse: s-maj=117.0km s-min=31.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.18**	**196**	Sn	Sn	23 08 07.8	-3.4
	2.4nm,0.3s,baz=283,slow=22,SNR=8.1						
DAV	**Davao City (W)**	**13.83**	**345**	LR	LR	23 11 08.6	
	comp=Z,227nm,19.3s,baz=264,slow=35						
WRA	**Warramunga Arr**	**14.39**	**160**	Pn	Pn	23 06 25.5	+0.7
	0.9nm,0.3s,baz=339,slow=14,SNR=37						
WRA				Sn	Sn	23 08 49.3	-16
	1.8nm,0.3s,baz=338,slow=21,SNR=14						
ASAR	**Alice Springs**	**17.79**	**166**	P	Pn	23 07 08.4	-0.5
	0.3nm,0.3s,baz=350,slow=11,SNR=8.7						
ASAR				S	Sn	23 10 12.3	-16
	0.4nm,0.3s,baz=340,slow=24,SNR=6.8						
MKAR	**Makanchi Array**	**67.27**	**327**	P	P	23 13 56.3	0.0
	1.8nm,0.5s,baz=115,slow=7.3,SNR=5.9						

ATH 20 23:04:15.0, 39°.08N×25°.92E, h12km±5km, ML1.3/1, Error ellipse: s-maj=6.3km s-min=1.3km az=307.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.14**	**339**	P	Pg	23 04 18.3	0.0
SIGR				S	Sg	23 04 20.8	+0.1
SIGR				AML	AML	23 04 21.0	
	comp=E,394μm,0.3s						
SIGR				AML	AML	23 04 21.2	
	comp=N,338μm,0.1s						
PRK	**Paraskevi**	**0.32**	**59**	P	Pg	23 04 21.4	-0.1
CHOS	**Chios island**	**0.70**	**171**	P	Pg	23 04 28.3	-0.4
CHOS				S	Sb	23 04 38.5	-0.4
LIA	**Limnos Island**	**0.99**	**325**	P	Pb	23 04 33.9	-0.2

*ISCJB **20** 23:07:34.2±0.3, 2°.84N±0°.03×128°.66E±0°.04, h236km, mb4.5/67, Error ellipse: s-maj=5.9km s-min=3.9km az=8.1*
*IDC **20** 23:07:34.9±1.3, 2°.78N×128°.59E, h231km±12km, mb4.2/38, mb1 4.2/39, mb1mx4.1/52, mbtmp4.7/39, Error ellipse: s-maj=13.6km s-min=7.3km az=75.0*
*BJI **20** 23:07:34.0±0.0, 2°.80N×128°.60E, h229km, mb4.8/38, mB4.7/15*
*NEIC **20** 23:07:35.4±2.0, 2°.76N×128°.60E, h236km±4km, mb4.6/34, Error ellipse: s-maj=14.1km s-min=12.3km az=224.0*
*DJA **20** 23:07:36.2±0.4, 3°.N±4°.×12°.9E±°, h212km±4km, M4.3/25, mB4.8/13, mb4.4/25, MLv4.9/12, Mw(mB)4.0/13*
ISC 20 23:07:35.4±0.3, 2°.73N±0°.05×128°.56E±0°.06, h236km, n145, σ1§59/151, mb4.5/63, 3C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.28**	**211**	*e*Pn	**Pn**	**23 08 19.4**	**-0.1**
TNTI				*e*S	**S**	**23 08 52.5**	**-1.5**
TNTI	**Ternate**	**2.28**	**211**	P	**Pn**	**23 08 18.9**	**-0.6**
SGSI	**Sangihe**	**3.17**	**288**	P	**Pn**	**23 08 27.1**	**-1.9**
KMSI	**Cibinong**	**5.05**	**245**	P	**Pn**	**23 08 53.4**	**+2.0**
	146nm,0.4s,2.4nm						
DAV	**Davao City (W)**	**5.24**	**326**	*e*Pn	**Pn**	**23 08 52.9**	**-0.9**
DAV	**Davao City (W)**	**5.24**	**326**	P	**Pn**	**23 08 52.2**	**-1.5**
	68nm,0.3s,baz=215,slow=1.4,SNR=5.8						
SANI	**Sanana**	**5.39**	**208**	P	**Pn**	**23 08 53.7**	**-2.0**
	136nm,0.8s,3μm0.8nm						
SKMP	**Bagumbayan, Su**	**5.50**	**313**	*e*P	**Pn**	**23 08 55.5**	**-1.5**
BUKP	**Musuan**	**6.19**	**326**	*e*P	**Pn**	**23 09 03.7**	**-2.1**
CTBH	**Cotabato--PC H**	**6.19**	**316** ‖	*i*P	**Pn**	**23 09 03.3**	**-2.4**
FAKI	**Fak Fak**	**6.71**	**147**	*e*Pn	**Pn**	**23 09 13.1**	**+0.7**
FAKI	**Fak Fak**	**6.71**	**147**	P	**Pn**	**23 09 13.3**	**+0.9**
	94nm,0.9s,696nm0.3nm						
LUWI	**Luwuk**	**6.89**	**237**	*e*Pn	**Pn**	**23 09 13.9**	**-0.7**
LUWI				*e*S	**S**	**23 10 26.5**	**-7.4**
LUWI	**Luwuk**	**6.89**	**237**	P	**Pn**	**23 09 16.4**	**+1.8**
MRSI	**Marisa**	**6.98**	**251**	P	**Pn**	**23 09 18.2**	**+2.5**
PAGZ	**Pagadian**	**7.24**	**315**	*e*P	**Pn**	**23 09 17.2**	**-1.9**
BNDI	**Bandanaira**	**7.33**	**169**	P	**Pn**	**23 09 22.6**	**+2.5**
APSI	**Ampana**	**7.79**	**242**	P	**Pn**	**23 09 25.6**	**-0.5**
MPSI	**Mapaga**	**8.97**	**255**	P	**Pn**	**23 09 41.4**	**+0.2**
TTSI	**Tana Toraja**	**10.45**	**237**	P		23 10 13.6	+8.0
CNP	**Catarman**	**10.46**	**339**	*e*P		23 09 51.8	-8.2
SPSI	**Sidrap Palu**	**11.01**	**233**	P	**Pn**	**23 10 09.2**	**+2.1**
BKSI	**Bulukumba**	**11.61**	**227**	P	**P**	**23 10 18.4**	**-0.2**
KAPI	**Kappang**	**11.68**	**229**	*e*Pn	**Pn**	**23 10 15.2**	**-0.3**
GENI	**Genyem**	**12.75**	**114**	P	**P**	**23 10 32.1**	**+0.8**
MMRI	**Maumere**	**12.93**	**209**	*e*Pn	**Pn**	**23 10 31.6**	**+0.6**
MMRI	**Maumere**	**12.93**	**209**	P	**P**	**23 10 33.5**	**+0.3**
SOEI	**Soe**	**13.12**	**199**	*e*Pn	**Pn**	**23 10 33.8**	**+0.4**
SOEI	**Soe**	**13.12**	**199**	P	**P**	**23 10 36.0**	**+0.6**
	59nm,0.9s,1μm						
MTKI	**Muara Teweh, K**	**14.13**	**255**	P	**P**	**23 10 47.9**	**+1.3**
PLAI	**Plampang**	**15.72**	**223**	P	**Pn**	**23 11 07.6**	**+2.6**
SBUM	**Sibu**	**16.32**	**269**	*e*P	**Pn**	**23 11 13.9**	**+1.8**
	14nm,0.8s						
KMMI	**Kalianget**	**17.50**	**236**	P	**Pn**	**23 11 29.7**	**+3.8**
	26nm,0.8s						
KSM	**Kuching**	**18.28**	**266**	*e*P	**Pn**	**23 11 34.4**	**-0.7**
	54nm,1.0s						
PWJI	**Pagerwojo**	**19.83**	**237**	P	**Pn**	**23 11 52.7**	**-0.7**
PCJI	**Pacitan**	**20.45**	**238**	P	**P**	**23 11 56.9**	**+1.6**
WOJI	**Wonogiri, Jawa**	**20.48**	**239**	P	**P**	**23 11 59.0**	**+3.3**
SMRI	**Semarang**	**20.52**	**242**	*e*P	**P**	**23 11 55.9**	**-0.3**
	66nm,1.1s						
UGM	**Wanagama**	**20.86**	**239**	P	**P**	**23 12 03.2**	**+3.4**
FITZ	**Fitzroy Crossi**	**20.89**	**188**	*e*P	**P**	**23 12 00.6**	**+0.6**
	7.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.89**	**188**	P	**P**	**23 12 00.5**	**+0.6**
	7.4nm,0.5s,baz=14,slow=11,SNR=9.8						
TPI	**Tanjungpandan**	**21.59**	**256**	P	**P**	**23 12 07.3**	**+0.4**
	20nm,1.1s,530nm						
YULB	**Yu-li**	**21.71**	**342**	*e*P	**P**	**23 12 05.7**	**-2.3**
	7.6nm,0.7s						
PMG	**Port Moresby**	**22.11**	**123**	*e*P	**P**	**23 12 05.7**	**-6.0**
	43nm,1.1s						
YHNB	**Yeheng**	**22.89**	**343**	*e*P	**P**	**23 12 18.7**	**-0.1**
	34nm,0.8s						
WRAB	**Tennant Creek**	**23.23**	**166**	*e*P	**P**	**23 12 22.9**	**+1.1**
	15nm,0.4s						
WR1	**Warramunga Arr**	**23.23**	**166**	*e*P	**P**	**23 12 21.7**	**-0.2**
WR1				*e*ScP	**ScP**	**23 19 17.7**	**-0.4**
WRA	**Warramunga Arr**	**23.23**	**166**	P	**P**	**23 12 21.7**	**-0.2**
	8.6nm,0.4s,baz=346,slow=10,SNR=25						
WRA				ScP	**ScP**	**23 19 17.7**	**-0.4**
	1.5nm,0.7s,baz=322,slow=1.8,SNR=5.9						
CBJI	**Citeko**	**23.50**	**247**	P	**P**	**23 12 29.4**	**+5.0**
PSA00	**Pilbara Seismi**	**25.61**	**199**	*e*P	**P**	**23 12 42.9**	**-0.5**
	13nm,1.1s						
ASAR	**Alice Springs**	**26.75**	**169**	*e*P	**P**	**23 12 53.8**	**+0.2**
ASAR	**Alice Springs**	**26.75**	**169**	P	**P**	**23 12 53.6**	**+0.1**
	6.9nm,0.4s,baz=352,slow=7.3,SNR=31						
ASAR				ScP	**ScP**	**23 19 27.9**	**-0.1**
	1.7nm,0.6s,baz=343,slow=2.7,SNR=11						
PSI	**Prapat**	**29.60**	**271**	P	**P**	**23 13 18.9**	**-0.2**
	27nm,1.0s,baz=77,slow=0.9,SNR=5.2						
JNU	**Nakatsue**	**30.32**	**4**	*e*P	**P**	**23 13 24.1**	**-1.0**
	16nm,1.0s						
JNU	**Nakatsue**	**30.32**	**4**	P	**P**	**23 13 24.1**	**-1.0**
	8.0nm,0.7s,baz=157,slow=2.0,SNR=6.1						
NJ2	**Nanjing**	**30.57**	**344**	*e*P	**P**	**23 13 30.6**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WHN	**Wuhan**	**30.76**	**336**	P	**P**	**23 13 30.1**	**+1.2**
CM31	**Chiang Mai Arr**	**32.95**	**300**	*e*P	**P**	**23 13 49.7**	**+1.5**
	24nm,0.9s						
CMAR	**Chiang Mai Arr**	**32.95**	**300**	P	**P**	**23 13 49.7**	**+1.5**
	11nm,0.7s,baz=115,slow=7.2,SNR=13						
CMAR				ScP	**ScP**	**23 19 49.6**	**+1.3**
	1.0nm,0.4s,baz=139,slow=2.0,SNR=6.9						
KMI	**Kunming**	**33.38**	**314**	P	**P**	**23 13 53.9**	**+1.8**
KMI				pmax	pmax		
	comp=Z,17nm,1.3s						
KS15	**Wonju Array Si**	**34.55**	**359**	*e*P	**P**	**23 14 02.2**	**+0.5**
	11nm,0.9s						
KSAR	**Wonju Array Be**	**34.55**	**359**	*e*P	**P**	**23 14 02.2**	**+0.5**
KSRS	**Korea Array**	**34.56**	**359**	P	**P**	**23 14 01.9**	**+0.1**
	7.4nm,0.7s,baz=174,slow=9.5,SNR=26						
MAJO	**Matsushiro**	**34.81**	**14**	*e*P	**P**	**23 14 02.6**	**-1.4**
	16nm,0.8s						
MAT	**Matsushiro**	**34.81**	**14**	P	**P**	**23 14 02.1**	**-1.9**
MJAR	**Matsushiro Arr**	**34.81**	**14**	P	**P**	**23 14 02.2**	**-1.7**
	8.2nm,0.6s,baz=190,slow=9.9,SNR=32						
MJB9	**Matsu-Tunnel**	**34.81**	**14**	*e*P	**P**	**23 14 03.3**	**-0.7**
	16nm,0.8s						
XAN	**Xi'an**	**36.14**	**332**	*e*P	**P**	**23 14 15.5**	**+0.1**
	13nm,0.6s						
CD2	**Chengdu**	**36.53**	**323** ‖	*i*P	**P**	**23 14 18.5**	**-0.2**
CD2				pmax	pmax		
	comp=Z,50nm,0.8s						
STKA	**Stephens Creek**	**36.58**	**161**	P	**P**	**23 14 19.0**	**0.0**
	7.8nm,0.5s,baz=346,slow=7.8,SNR=17						
BJT	**Baijiatuau**	**38.78**	**345**	*e*P	**P**	**23 14 37.1**	**-0.2**
	20nm,0.8s						
BJI	**Beijing**	**38.80**	**345**	P	**P**	**23 14 37.4**	**-0.1**
BJI				pmax	pmax		
	comp=Z,24nm,0.7s						
BJI				LR	LR		
	comp=N,7μm,16.7s						
BJI				LR	LR		
	comp=E,10μm,15.2s						
BJI				LR	LR		
	comp=Z,6μm,20.6s						
LZH	**Lanzhou**	**40.30**	**328**	*e*P	**P**	**23 14 51.6**	**+1.5**
LZH				pP	pP	23 15 39.6	+0.6
LZH				pmax	pmax		
	comp=Z,38nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**40.49**	**64**	T	T	23 58 55.7	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**40.50**	**64**	T	T	23 59 00.4	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**40.51**	**64**	T	T	23 58 58.6	
	baz=252						
HHC	**Hu-ho-hao-te**	**40.94**	**340**	*e*P	**P**	**23 14 55.9**	**+0.8**
HHC				pmax	pmax		
	comp=Z,71nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,4.0s						
H11N1	**WAKE ISLAND Hy**	**41.06**	**63**	T	T	23 59 28.1	
	baz=250,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**41.07**	**63**	T	T	23 59 27.8	
	baz=250,slow=75,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**41.08**	**63**	T	T	23 59 32.4	
	baz=250,slow=75,SNR=14						
USRK	**Ussuriysk Ar.**	**41.41**	**4**	P	**P**	**23 14 57.9**	**-0.8**
	7.0nm,0.7s,baz=172,slow=5.7,SNR=11						
SHL	**Shillong**	**41.94**	**306**	*e*P	**P**	**23 15 04.6**	**+1.0**
	78nm,0.6s						
LSA	**Lhasa**	**44.47**	**311**	*e*P	**P**	**23 15 26.0**	**+1.9**
	23nm,1.1s						
DZM	**Mont Dzumac**	**44.47**	**126**	*e*P	**P**	**23 15 24.2**	**+0.5**
	6.6nm,0.8s						
DZM	**Mont Dzumac**	**44.47**	**126**	P	**P**	**23 15 24.2**	**+0.5**
	4.5nm,0.6s,baz=276,slow=6.3,SNR=7.0						
GTA	**Gaotai**	**44.90**	**328**	P	**P**	**23 15 27.8**	**+0.9**
GTA				pP	pP	23 16 18.0	+1.1
GTA				sP	sP	23 16 40.3	-3.1
GTA				PcP	**PcP**	**23 17 05.6**	**+1.4**
GTA				pmax	pmax		
	comp=Z,19nm,0.9s						
ODAN	**Odare**	**46.13**	**305**	*e*P	**P**	**23 15 37.8**	**+0.9**
	96nm,0.7s						
RAMN	**Ramite**	**46.81**	**305**	*e*P	**P**	**23 15 43.3**	**+1.1**
	136nm,0.6s						
JIRN	**Jiri**	**47.43**	**306**	*e*P	**P**	**23 15 47.7**	**+0.6**
	107nm,0.5s						
PKI	**Pulchoki**	**48.03**	**305**	*e*P	**P**	**23 15 51.9**	**+0.2**
	20nm,0.5s						
PKIN	**Phulchoki**	**48.05**	**305**	*e*P	**P**	**23 15 51.9**	**+0.2**
	29nm,0.7s						
KKN	**Kakani**	**48.22**	**305**	*e*P	**P**	**23 15 53.4**	**+0.4**
	46nm,0.8s						
DMN	**Daman**	**48.30**	**305**	*e*P	**P**	**23 15 54.2**	**+0.6**
	61nm,0.9s						
ULN	**Ulaanbaatar**	**48.65**	**341**	*e*P	**P**	**23 15 56.1**	**+0.4**
	11nm,0.7s						
GKN	**Gorkha**	**48.83**	**305**	*e*P	**P**	**23 15 57.9**	**+0.4**
	10nm,0.2s						
SONA0	**Songino Array**	**48.84**	**340**	*e*P	**P**	**23 15 57.5**	**+0.3**
SONM	**Songino Array**	**48.84**	**340**	P	**P**	**23 15 57.5**	**+0.3**
	4.8nm,0.7s,baz=150,slow=8.2,SNR=8.9						
KOLN	**Koldanda**	**49.59**	**305**	*e*P	**P**	**23 16 04.2**	**+0.9**
	98nm,0.6s						
DANN	**Dangsing**	**49.68**	**305**	*e*P	**P**	**23 16

15nm,0.9s
KDAK Kodiak Island 81.76 32 P P 23 19 28.8 +1.1
66nm,1.3s,baz=239,slow=3.2,SNR=14
KIRV Kirov 82.02 329 P P 23 19 29.1 +0.1
19nm,0.9s,baz=293,slow=3.8,SNR=7.7
VNDA Vanda 82.21 173 P P 23 19 30.6 +1.0
0.7nm,0.5s,baz=326,slow=7.3,SNR=7.9
RC01 Rabbit Creek A 83.61 29 eP P 23 19 37.5 +0.4
8.8nm,0.8s
KBZ Khabaz 84.99 313 P P 23 19 44.5 +0.2
2.2nm,0.8s,baz=108,slow=5.1,SNR=3.9
ILAR Eielson Array 85.22 25 P P 23 19 44.1 -1.0
0.6nm,0.5s,baz=242,slow=5.2,SNR=9.1
ILB Eielson Array 85.22 25 eP P 23 19 44.1 -1.0
1.0nm,0.6s
ASF Jabal al Asfar 89.97 302 P P 23 20 09.3 +0.7
0.8nm,0.6s,baz=105,slow=5.3,SNR=5.2
ARCES ARCESS Array B 92.01 340 P P 23 20 16.1 -1.0
4.2nm,0.6s,baz=85,slow=5.8,SNR=35
BRTR Keskin Array B 92.06 310 P P 23 20 17.0 -1.2
1.2nm,0.9s,baz=133,slow=3.2,SNR=4.2
SYO Syowa Base 92.15 201 eX P 23 20 16.0 -1.7
SYO Syowa Base 92.15 201 eX P 23 20 23.8 +6.1
FINES FINESS Array B 93.57 332 P P 23 20 23.1 -1.3
0.9nm,0.4s,baz=56,slow=4.6,SNR=7.7
AKASG Malin Array Be 93.81 321 P P 23 20 24.7 -1.1
0.5nm,0.4s,baz=334,slow=23,SNR=4.1
AKBB Malin Array Si 93.81 321 eP P 23 20 24.7 -1.1
2.4nm,0.6s
MLR Muntele Rosu 96.88 316 P P 23 20 39.6 -0.5
2.9nm,0.9s,baz=230,slow=5.2,SNR=4.6
IDI Anoyia 99.55 306 P Pdif 23 20 51.5 -0.6
4.4nm,0.9s,baz=36,slow=12,SNR=3.4
YKA Yellowknife Ar 99.64 25 P Pdif 23 20 51.8 0.0
0.3nm,0.6s,baz=299,slow=5.0,SNR=3.5
HFS Hagfors 99.75 333 P Pdif 23 20 51.0 -1.3
1.7nm,0.5s,baz=108,slow=4.8,SNR=12
CLL Collm 103.51 324 ePdif Pdif 23 21 07.0 -2.3
TXAR Lajitas Array 120.75 53 PKP PKiKP 23 26 00.5 +0.3
0.2nm,0.7s,baz=198,slow=1.2,SNR=4.2
TORD Torodi Ar. Bea 124.96 288 PKP PKPdf 23 26 08.1 -0.3
0.7nm,0.3s,baz=73,slow=1.8,SNR=10
TOA1 Torodi Ar. Sit 124.96 288 ePKPdf PKPdf 23 26 08.2 -0.3

*DSN **20** 23:27:52.4±3.3, 26°.58N×58°.06E, h10km, ML3.3/5, Error ellipse: s-maj=52.3km s-min=13.3km az=4.0*
*TEH **20** 23:27:56.0, 26°.57N×57°.58E, h8km, ML3.3*
ISC 20 23:27:52.2±1.0, 26°.94N±0°.05×57°.96E±0°.05, h10km, n15, σ2§43/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIAN	Nian	1.18	302	ePg	Pg	23 28 18.8	+3.9
NIAN				IAMB	IAmb	23 28 45.1	
	comp=Z,0.0nm,0.3s						
JSK1	Jask	1.30	188	ePg	Pn	23 28 14.0	-2.5
BNDS	Bandar-Abbas	1.66	287	ePn	Pn	23 28 17.5	-4.0
GENO	Geno	1.66	287	ePn	Pg	23 28 25.1	+1.0
GENO				eSg	Sg	23 28 47.3	+1.7
GENO				IAMB	IAmb	23 28 53.3	
	comp=Z,0.0nm,0.5s						
SHME	Shamm	1.85	242	eP	Pn	23 28 23.7	-0.3
	SNR=10.0						
SHME				S	Sb	23 28 47.4	-2.1
MSFE	Esma-Masafi	2.25	226	eP	Pn	23 28 26.5	-3.1
	SNR=12						
CHBR	Chabahar	2.63	120	ePn	Pg	23 28 43.6	+1.0
NAZ	Nazwa, Dubai	2.84	227	eP	Pn	23 28 36.2	-1.4
	SNR=9.8						
NGRK	Negar Kerman	2.91	338	ePn	Pg	23 28 49.0	+1.0
CHMN	Cheshme madani	2.94	353	IAMB	IAmb	23 29 55.7	
	comp=Z,0.0nm,0.9s						
FAQ	Al Faqa, Dubai	3.05	225	eP	Pn	23 28 40.2	-0.4
	SNR=12						
TVBK	TV Kerman	3.22	341	ePn	Pg	23 28 52.9	-1.0
ASUD	Al Ashush, Dub	3.30	226	P	Pn	23 28 41.3	-2.7
ZHSF	Zahedan	3.64	42	ePn	Pb	23 28 59.3	+2.5
KHGB	Koh Gabri	3.67	340	ePn	Pg	23 29 00.9	-1.6
KHGB				IAMB	IAmb	23 30 12.1	
	comp=Z,0.0nm,0.7s						

*IDC **20** 23:33:39.3±0.4, 18°.61N×62°.82W, h0km, mb4.4/24, mb1 4.6/28, mb1mx4.5/37, mbtmp4.5/28, ML4.0/3, MS4.4/21, Ms1 4.4/21, ms1mx4.2/42, Error ellipse: s-maj=12.0km s-min=10.7km az=120.0*
*TRN **20** 23:33:42.8, 18°.61N×62°.85W, h22km, MD4.6*
*NEIC **20** 23:33:43.3±2.8, 18°.71N×62°.85W, h27km±4km, mb4.7/180, MD4.6(TRN), Error ellipse: s-maj=13.0km s-min=9.7km az=215.0*
NEIC Felt at Blowing Point. Felt [IV] at Simpson Bay and [III] at Marigot, Saint Martin. Also felt at Cole Bay and Duth Cul de Sac.
*ISCJB **20** 23:33:44.4±0.3, 18°.63N±0°.02×62°.84W±0°.02, h51km±3km, mb4.5/64, MS4.4/16, Error ellipse: s-maj=4.1km s-min=2.1km az=141.0*
*GCMT **20** 23:33:47.3±0.3, 19°.01N±0°.02×62°.75W±0°.02, h35km±1km, MW5.0/73, Moment Tensor Solution. s30,c39; s73,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.12±.22; $M_{\theta\theta}$-1.10±.14; $M_{\phi\phi}$-1.02±.14; $M_{r\theta}$-1.33±.15; $M_{\theta\phi}$2.30±.10; $M_{\phi r}$2.15±.16; Best double couple: $M_0$3.76400×10^{16} NP1:ϕ_s328.00000°, δ67.00000°, λ105.00000°. NP2: ϕ_s113.00000°, δ27.00000°, λ58.00000°. Principal axes: T 3.2190, Plg64.0000°, Azm264.0000°; N 1.0890, Plg14.0000°, Azm142.0000°; P -4.3080, Plg21.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 23:33:43.0±0.9, 18°.71N±0°.03×62°.87W±0°.03, h25km±6km, n600, σ1§41/622, mb4.6/64, MS4.5/16, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRT	St. Maarten	0.68	196	ePg	Pb	23 33 56.5	+0.1
SMRT				eSn	Sb	23 34 05.1	-0.3
SMRT	St. Maarten	0.68	196	eP	Pb	23 33 56.5	+0.1
SMRT				eS	Sb	23 34 05.7	+0.3
SEUS	St. Eustatius	1.22	185	ePn	Pn	23 34 04.5	+0.1
SEUS	St. Eustatius	1.22	185	eP	Pn	23 34 04.6	+0.1
SEUS				eS	Sb	23 34 22.1	+1.5
SKDB	Saint Kitts 2	1.31	177	eS	Sb	23 34 23.6	+0.3
SKI	Saint Kitts	1.38	175	ePn	Pn	23 34 06.5	-0.1
SKI	Saint Kitts	1.38	175	eP	Pn	23 34 06.6	-0.1
SKI				eS	Sn	23 34 24.5	+0.4
ABVI	Anegada Island	1.38	271	ePn	Pb	23 34 08.0	-0.2
ABVI				eSn	Sn	23 34 20.7	-3.6
ANWB	Willy Bob	1.46	135	ePn	Pn	23 34 06.5	-1.3
ANWB				eSn	Sn	23 34 18.7	-7.5
ANWB	Willy Bob	1.46	135	eP	Pn	23 34 06.5	-1.3
ANWB	Willy Bob	1.46	135	eP	Pn	23 34 06.8	-1.1
ANWB				eS	Sb	23 34 28.5	+0.7
SKTB	Turtle Beach	1.51	171	eP	Pn	23 34 09.1	+0.6
SKTB				eS	Sn	23 34 27.4	-0.1
NVRH	Round Hill, Ne	1.54	170	eP	Pb	23 34 10.0	-0.9
NVRH				eS	Sn	23 34 28.8	+0.6
NEV	Hard Times	1.59	170	eP	Pb	23 34 10.8	-1.0
NEV				eS	Sn	23 34 30.0	+0.6
NVDO	Nevis, Disaste	1.60	171	eP	Pn	23 34 09.7	-0.1
NVBH	Bath Hotel, Ne	1.60	171	eP	Pn	23 34 10.8	+1.0
NVBH				eS	Sn	23 34 29.9	+0.3
BPA	Boggy Peak	1.92	150	eP	Pn	23 34 14.9	+0.8
BPA				eS	Sn	23 34 38.1	+0.6
STVI	Saint Thomas	2.01	260	ePn	Pn	23 34 16.8	+1.4
CDVI	St. Croix	2.04	242	ePn	Pn	23 34 17.1	+1.3
MLYT	Lee's Yard	2.08	162	eP	Pn	23 34 16.9	+0.5
MLYT				eS	Sn	23 34 41.3	-0.3
CUPR	Culebra, Puert	2.32	260	ePn	Pn	23 34 21.0	+1.3
ABD	La Joyeuse, An	2.59	149	eP	Pn	23 34 23.5	+0.2
MTP	Monte Pirata	2.62	257	ePn	Pn	23 34 25.2	+1.5
CBYP	Canovanas	2.87	262	ePn	Pn	23 34 27.9	+0.7
CBYP				eSn	Sn	23 34 58.4	-2.5
HUMP	Col San Antoni	2.88	259	ePn	Pn	23 34 28.8	+1.5
CBE	Ff, Capester	2.89	155	eP	Pn	23 34 28.6	+1.1
DEG	La Desirade	2.95	144	eP	Pn	23 34 28.9	+0.6
DEG				eS	Sn	23 35 02.1	-0.8
TBG	Guadaloupe-3	3.08	157	eP	Pn	23 34 31.0	+1.0
TBG				eS	Sn	23 35 05.2	-0.8
TDBA	Terre de Bas,	3.08	157	eP	Pn	23 34 31.5	+1.4
MAGL	Barre de l'ile	3.14	151	eP	Pn	23 34 31.7	+0.8
MAGL	Barre de l'ile	3.14	151	eP	Pn	23 34 31.8	+0.8
SJG	San Juan	3.17	260	eP	Pn	23 34 33.1	+1.8
SJG	San Juan	3.17	260	eP	Pn	23 34 33.1	+1.8
SJG	San Juan	3.17	260	Pn	Pn	23 34 32.6	+1.3
	44nm,0.3s,baz=88,slow=14,SNR=69						
SJG				Sn	Sn	23 35 11.3	+3.0
	42nm,0.3s,baz=110,slow=16,SNR=5.4						
SJG				LR	LR	23 36 01.5	
	comp=Z,8μm,19.2s,baz=60,slow=44						
MDPV	Dominica, Penn	3.37	155	eP	Pn	23 34 34.6	+0.5
MDPO	Dominica; Chan	3.40	156	eP	Pn	23 34 35.0	+0.5
MDPO				eS	Sn	23 35 13.5	-0.6
BBL	Barber's Block	3.44	157	eP	Pn	23 34 35.6	+0.5
BBL				eS	Sn	23 35 13.7	-1.3
DWS	Wesley	3.46	154	eP	Pn	23 34 35.3	-0.1
DWS				eS	Sn	23 35 14.2	-1.4
EMPR	Esperanza - Ma	3.48	267	ePn	Pn	23 34 35.7	+0.2
ICMP	Isla Caja de M	3.57	257	ePn	Pn	23 34 38.9	+2.1
MDN	Morne-Daniel	3.66	157	eP	Pn	23 34 38.7	+0.6
MDN				eS	Sn	23 35 19.5	-1.0
AOPR	Arecibo Observ	3.70	265	ePn	Pn	23 34 39.5	+0.9
DLPL	La Plaine	3.70	155	eP	Pn	23 34 39.5	+0.9
DLPL				eS	Sn	23 35 20.7	-0.8
DPMT	Pointe Michel	3.72	157	eP	Pn	23 34 39.6	+0.7
DPMT				eS	Sn	23 35 21.5	-0.4
DBCT	Belle View Cho	3.72	157	eP	Pn	23 34 39.6	+0.6
DBCT				eS	Sn	23 35 21.2	-0.8
DSHT	Scott's Head	3.76	157	eP	Pn	23 34 40.4	+0.9
DSHT				eS	Sn	23 35 21.5	-1.5
AGP	Aguadilla	4.06	266	ePn	Pn	23 34 43.9	+0.3
MPR	Mayaguez	4.08	264	ePn	Pn	23 34 45.0	+1.1
PCM	Pelee Case Pet	4.19	157	eP	Pn	23 34 45.6	+0.3
PCM	Pelee Case Pet	4.19	157	eP	Pn	23 34 46.0	+0.6
CXM	Morne La Croix	4.21	157	eP	Pn	23 34 47.5	+1.7
CXM	Morne La Croix	4.21	157	eP	Pn	23 34 48.7	+2.9
BAMF	Morne Balai	4.21	157	eP	Pn	23 34 46.5	+0.8
BAMF	Morne Balai	4.21	157	eP	Pn	23 34 46.6	+0.9
GBMF	Grand Be	4.22	157	eP	Pn	23 34 46.7	+0.8
GBMF	Grand Be	4.22	157	eP	Pn	23 34 49.0	+3.1
PML	Morne Lenard	4.23	157	eP	Pn	23 34 47.4	+1.4
PML	Morne Lenard	4.23	157	eP	Pn	23 34 47.5	+1.6
FDF	Fort de France	4.29	157	ePn	Pn	23 34 47.2	+0.4
FDF	Fort de France	4.29	157	eP	Pn	23 34 46.7	0.0
FDF	Fort de France	4.29	157	eP	Pn	23 34 47.4	+0.6
FDF	Fort de France	4.29	157	eS	Sn	23 35 34.9	-1.7
ILAM	Ilet Lapin Mar	4.36	154	eP	Pn	23 34 48.3	+0.7
ZAM	Aeronautique	4.48	156	eP	Pn	23 34 49.4	+0.1
ZAM	Aeronautique	4.48	156	eP	Pn	23 34 49.4	+0.1
LPMF	Morne Lapointe	4.50	156	eP	Pn	23 34 49.0	-0.6
LPMF	Morne Lapointe	4.50	156	eP	Pn	23 34 49.5	-0.1
TRMF	Trois Ilets	4.50	157	eP	Pn	23 34 50.4	+0.7
TRMF	Trois Ilets	4.50	157	eP	Pn	23 34 50.4	+0.7
BIM	Bigot	4.51	157	eP	Pn	23 34 51.1	+1.2
MVM	Montagne Vaucl	4.55	155	eP	Pn	23 34 51.4	+1.1
MVM	Montagne Vaucl	4.55	155	eP	Pn	23 34 51.9	+1.5
MPOM	Morne Pois Mar	4.66	155	eP	Pn	23 34 52.3	+0.5
MPOM	Morne Pois Mar	4.66	155	eP	Pn	23 34 52.4	+0.5
SLBI	Saint Lucia, B	5.00	158	eP	Pn	23 34 56.9	+0.3
SLBI	Saint Lucia, B	5.00	158	eP	Pn	23 34 59.3	+2.7
SLBI	Saint Lucia, B	5.00	158	eS	Sn	23 35 51.7	-1.9
SLW	Petit Monier	5.02	158	eP	Pn	23 34 57.1	+0.3
SLW	Petit Monier	5.02	158	eS	Sn	23 35 52.7	-1.4
SLB	Belfond	5.16	160	eP	Pn	23 35 00.7	+1.8
SLB	Belfond	5.16	160	eS	Sn	23 35 55.5	-2.2
SLDE	Delcer	5.18	160	eP	Pn	23 35 01.2	+2.1
SLDE	Delcer	5.18	160	eS	Sn	23 35 56.0	-2.1
SLPA	Patience	5.18	158	eP	Pn	23 35 00.3	+1.3
SLPA	Patience	5.18	158	eS	Sn	23 35 57.1	-1.0
PCDR	Punta Cana, DR	5.23	269	ePn	Pn	23 35 01.8	+2.1
MCLT	Moule a Chique	5.31	159	eP	Pn	23 35 02.4	+1.6
MCLT	Moule a Chique	5.31	159	eP	Pn	23 35 04.5	+3.7
MCLT	Moule a Chique	5.31	159	eS	Sn	23 35 59.3	-1.9
SFAN	Fancy Village	5.54	163	eP	Pn	23 35 05.6	+1.6
SFAN	Fancy Village	5.54	163	eS	Sn	23 36 05.9	-1.0
SSV	Crater Summit	5.59	163	eP	Pn	23 35 06.4	+1.7
SSV	Crater Summit	5.59	163	eS	Sn	23 36 06.7	-1.6
SVV	Soufriere Volc	5.59	163	eP	Pn	23 35 06.5	+1.8
SVV	Soufriere Volc	5.59	163	eS	Sn	23 36 06.7	-1.6
SVB	Belmont	5.63	164	ePn	Pn	23 35 06.9	+1.8
SVB	Belmont	5.63	164	eP	Pn	23 35 07.3	+2.1
SVB	Belmont	5.63	164	eS	Sn	23 36 07.8	-1.3
SVCV	St. Vincent, C	5.66	163	eP	Pn	23 35 06.9	+1.3
SVCV	St. Vincent, C	5.66	163	eS	Sn	23 36 08.4	-1.4
FCV	Fort Charlotte	5.74	164	eP	Pn	23 35 07.0	+0.3
FCV	Fort Charlotte	5.74	164	eS	Sn	23 36 09.5	-2.3
BBGH	Gun Hill	6.39	150	eP	Pn	23 35 17.3	+1.7
BBGH	Gun Hill	6.39	150	eS	Sn	23 36 25.8	-2.0
GRSS	Sisters	6.49	169	eS	Sn	23 36 27.5	-2.8
GRHS	Sauteurs	6.56	169	eP	Pn	23 35 19.4	+1.5
GRHS	Sauteurs	6.56	169	eS	Sn	23 36 29.8	-2.2
GRGR	Grenville	6.64	170	eP	Pn	23 35 20.7	+1.5
GRGR	Grenville	6.64	170	eS	Sn	23 36 31.1	-3.0
BANI	BANI	7.11	269	ePn	Pn	23 35 29.3	+3.7
TOSP	Speyside	7.71	163	eP	Pn	23 35 35.6	+1.9
TOSP	Speyside	7.71	163	eS	Sn	23 36 57.0	-3.3
SDDR	Presa de Saban	7.97	273	ePn	Pn	23 35 38.0	+0.6
SDDR				eSn	Sn	23 37 05.5	-1.4
SDDR	Presa de Saban	7.97	273	eP	Pn	23 35 38.6	+1.2
SDDR	Presa de Saban	7.97	273	eS	Sb	23 37 22.5	-13
TRN	Trinidad (W)	8.14	170	eP	Pn	23 35 43.3	+3.6
TRN	Trinidad (W)	8.14	170	eS	Sn	23 37 07.3	-3.7
GRTK	Grand Turk	8.24	291	ePn	Pn	23 35 39.0	-2.1
GRTK				eSn	Sn	23 37 05.3	-8.2
LGNH	Logne	9.23	270	ePn	Pn	23 35 52.0	-2.6
SDV	Santo Domingo	12.33	219	ePn	Pn	23 36 39.4	+2.1
SDV	Santo Domingo	12.33	219	eP	Pn	23 36 42.0	+4.8
SDV	Santo Domingo	12.33	219	eP	Pn	23 36 42.0	+4.8
SDV	Santo Domingo	12.33	219	Pn	Pn	23 36 37.1	-0.2
	0.2nm,0.3s,baz=78,slow=20,SNR=2.3						
SDV				Sn	Sn	23 38 53.7	-0.4
	0.7nm,0.3s,baz=336,slow=19,SNR=3.1						
SDV				LR	LR	23 41 33.4	
	comp=Z,902nm,21.6s,baz=28,slow=39						
SDV	Santo Domingo	12.33	219	eP	Pn	23 36 42.4	+5.1
SDV				eS	Sn	23 38 44.4	-10
CODC	Agustn Codazz	13.45	231	eP	P	23 36 59.9	-1.6
CODC	Agustn Codazz	13.45	231	eP	P	23 36 59.9	-1.6
BBSR	BB Station	13.70	353	ePn	Pn	23 36 52.4	-3.3
OCAC	Ocana	14.54	226	eP	P	23 37 13.6	-0.2
OCAC	Ocana	14.54	226	eP	P	23 37 13.6	-0.2
SMLC	San Martn de	14.66	229	eP	Pn	23 37 10.0	+0.9
SMLC	San Martn de	14.66	229	eP	Pn	23 37 10.0	+0.9
SJCC	San Jacinto, C	14.79	235	eP	Pn	23 37 12.6	+1.9
SJCC	San Jacinto, C	14.79	235	eP	Pn	23 37 12.6	+1.9
PAMC	Pamplona, Colo	14.80	221	eP	Pn	23 37 12.0	+0.7
PAMC	Pamplona, Colo	14.80	221	eP	Pn	23 37 12.0	+0.7
GIRC	Giron, Santand	15.31	222	eP	P	23 37 20.8	-1.6
GIRC	Giron, Santand	15.31	222	eP	P	23 37 20.8	-1.6
BRRC	Barranca, Sant	15.63	224	eP	Pn	23 37 23.3	+1.5
BRRC	Barranca, Sant	15.63	224	eP	Pn	23 37 23.3	+1.5
BARC	Barichara	15.68	221	eP	Pn	23 37 23.9	+1.3
BARC	Barichara	15.68	221	eP	Pn	23 37 23.9	+1.3
ZARC	Zaragoza, Cauc	16.13	228	eP	P	23 37 30.7	-0.6
ZARC	Zaragoza, Cauc	16.13	228	eP	P	23 37 30.7	-0.6
RUSC	La Rusia	16.17	219	eP	Pn	23 37 29.9	+0.7
RUSC	La Rusia	16.17	219	eP	Pn	23 37 29.9	+0.7
UREC	San Jos de Ur	16.43	230	eP	Pn	23 37 32.7	+0.6
UREC	San Jos de Ur	16.43	230	eP	Pn	23 37 32.7	+0.6
PTBC	PUERTO BERRIO,	16.54	224	eP	Pn	23 37 32.6	-0.9
PTBC	PUERTO BERRIO,	16.54	224	eP	Pn	23 37 32.6	-0.9
MDP	Montagnes des	16.81	142	LR	LR	23 44 15.4	
	comp=Z,587nm,21.4s,baz=328,slow=38						
FSCY	Frank Sound, G	17.33	275	ePn	Pn	23 37 40.3	-3.0
	95nm,1.0s						
HELC	Santa Helena	17.52	226	eP	P	23 37 46.9	-0.2
HELC	Santa Helena	17.52	226	eP	P	23 37 46.9	-0.2
NORC	Norcasia	17.54	223	eP	P	23 37 47.2	+0.2
NORC	Norcasia	17.54	223	eP	P	23 37 47.2	+0.2
CHIC	Chingaza	17.56	218	eP	P	23 37 47.4	-0.2
CHIC	Chingaza	17.56	218	eP	P	23 37 47.4	-0.2
ROSC	El Rosal	17.75	220	ePn	P	23 37 50.9	+1.3
	34nm,0.8s						
ROSC	El Rosal	17.75	220	P	Pn	23 37 49.3	+0.3
	3.0nm,0.3s,baz=61,slow=7.3,SNR=16						
ROSC				LR	LR	23 45 30.5	
	comp=Z,2μm,21.0s,baz=20,slow=40						
VILC	Villavicencio,	17.95	217	eP	P	23 37 52.9	+1.2
VILC	Villavicencio,	17.95	217	eP	P	23 37 52.9	+1.2
GUY2C	Guyana, Caldas	18.12	224	eP	Pn	23 37 53.1	-0.5
GUY2C	Guyana, Caldas	18.12	224	eP	Pn	23 37 53.1	-0.5
SOLC	Bahia Solano	18.83	231	eP	Pn	23 38 03.1	+1.3
SOLC	Bahia Solano	18.83	231	eP	Pn	23 38 03.1	+1.3
PLMC	San Jos del P	18.96	225	eP	P	23 38 02.7	0.0
PLMC	San Jos del P	18.96	225	eP	P	23 38 02.7	0.0
PRAC	Prado	18.98	220	eP	P	23 38 01.8	-1.1
PRAC	Prado	18.98	220	eP	P	23 38 01.8	-1.1
BCIP	Isla Barro Col	18.99	242	eP	Pn	23 38 03.7	0.0
	45nm,1.0s						
PTGA	Pitinga	19.53	171	eP	P	23 38 08.6	-0.3
	9.5nm,0.7s						
PTGA	Pitinga	19.53	171	P	P	23 38 07.6	-1.2
	1.1nm,0.3s,baz=0.9,slow=13,SNR=21						
PTGA				LR	LR	23 46 31.4	
	comp=Z,395nm,18.5s,baz=346,slow=40						
PTGA	Pitinga	19.53	171	eP	P	23 38 08.7	-0.1
YOTC	Yotoco, Valle	19.69	224	eP	P	23 38 10.3	-0.4
YOTC	Yotoco, Valle	19.69	224	eP	P	23 38 10.3	-0.4
MARP	Paez Belalcaza	20.32	221	eP	P	23 38 17.2	-0.5
MARP	Paez Belalcaza	20.32	221	eP	P	23 38 17.2	-0.5
PCON	Cinco Dias	20.99	221	eP	P	23 38 25.9	+0.6
PCON	Cinco Dias	20.99	221	eP	P	23 38 25.9	+0.6
POPC	Popayan, Colom	21.00	222	eP	P	23 38 24.3	-0.7
POPC	Popayan, Colom	21.00	222	eP	P	23 38 24.3	-0.7
FLOC	Florencia	21.14	218	eP	P	23 38 31.5	+5.2
FLOC	Florencia	21.14	218	eP	P	23 38 31.5	+5.2
SOTA	Rioblanco	21.27	221	eP	P	23 38 28.4	+0.1
SOTA	Rioblanco	21.27	221	eP	P	23 38 28.4	+0.1
Y58A	Scranton	21.30	319	P	P	23 38 28.6	+0.8
	baz=131						
157A	Early Branch	21.41	314	P	P	23 38 29.5	+0.5
	baz=126						
655A	Horseshoe Beac	21.45	304	P	P	23 38 30.8	+1.3
	baz=116						
555A	McAlpin	21.50	306	P	P	23 38 31.0	+0.9
	baz=117						
X58A	Rowland	21.53	320	eP	P	23 38 30.2	-0.2
	11nm,0.6s						
X58A	Rowland	21.53	320	P	P	23 38 31.0	+0.7
	baz=133						
Z57A	Bowman	21.58	316	P	P	23 38 32.5	+1.6
	baz=128						
U60A	Pendleton	21.71	327	P	P	23 38 33.0	+0.8
	baz=141						
BBAC	Balboa, Cauca	21.76	222	eP	P	23 38 31.5	-1.7
BBAC	Balboa, Cauca	21.76	222	eP	P	23 38 31.5	-1.7
W58A	Raeford	21.79	321	P	P	23 38 33.5	+0.5
	baz=134						
255A	Hazlehurst	22.02	310	P	P	23 38 36.3	+0.6
	baz=122						
554A	Perry	22.04	305	P	P	23 38 37.0	+1.1
	baz=116						
V58A	Windy Hill, Pi	22.26	323	P	P	23 38 39.7	+1.4
	baz=136						
454A	Quitman	22.28	306	P	P	23 38 40.3	+1.8
	baz=118						
T59A	Double "B" Far	22.30	328	P	P	23 38 39.7	+1.2
	baz=141						
W57A	Gilead	22.33	321	P	P	23 38 39.8	+0.8
	baz=133						
U58A	Oxford	22.38	325	P	P	23 38 40.8	+1.3
	baz=138						
155A	Kite	22.39	312	P	P	23 38 40.8	+1.2
	baz=124						
GCUF	Volcan Galeras	22.44	221	eP	P	23 38 41.2	+0.4
GCUF	Volcan Galeras	22.44	221	eP	P	23 38 41.2	+0.4
X56A	White Oak	22.54	318	P	P	23 38 41.9	+0.7
	baz=130						
JSC	Jenkinsville	22.55	317	eP	P	23 38 41.4	0.0
	5.6nm,1.0s						
254A	Abbeville	22.62	310	P	P	23 38 42.9	+0.8
	baz=121						
W56A	Indian Trail	22.68	320	P	P	23 38 43.7	+1.0
	baz=132						
V57A	Coltrane Farms	22.71	322	P	P	23 38 43.8	+0.8
	baz=134						
Y55A	Saluda	22.73	316	P	P	23 38 44.4	+1.1
	baz=127						
T58A	Grand View Acr	22.79	326	P	P	23 38 45.1	+1.3
	baz=139						
154A	Montrose	22.84	311	eP	P	23 38 46.1	+1.7
	15nm,0.6s						
154A	Montrose	22.84	311	P	P	23 38 45.5	+1.1
	baz=122						
U57A	Blanch	22.84	324	P	P	23 38 45.1	+0.8
	baz=136						
R60A	Leonardtown, M	22.86	331	P	P	23 38 46.1	+1.6
	baz=145						
453A	Whigham	22.87	306	P	P	23 38 46.1	+1.3
	baz=117						
X55A	Gracelyn & Ava	22.91	317	P	P	23 38 46.1	+1.0
	baz=128						
JTS	Las Juntas de	22.93	252	eP	P	23 38 44.8	-0.8
	14nm,0.7s						
JTS	Las Juntas de	22.93	252	P	P	23 38 45.2	-0.4

	baz=147				
V54A	Nebo	23.94 319	P	P	23 38 56.1 +0.8
	baz=130				
TEIG	Tepich	23.99 278	eP	P	23 38 55.1 -0.8
	28nm,0.6s				
BLA	Blacksburg	24.01 324	P	P	23 38 56.7 +0.7
	baz=135				
X53A	Estanollee	24.03 315	P	P	23 38 57.1 +1.0
	baz=126,SNR=5.1				
Z52A	Williamson	24.08 311	P	P	23 38 57.2 +0.6
	baz=122				
O60A	Telford	24.09 336	P	P	23 38 57.4 +0.9
	baz=150				
PAL	Palisades	24.15 339	P	P	23 38 58.2 +1.1
	baz=154				
Y52A	Lilburn	24.19 313	P	P	23 38 58.7 +1.1
	baz=123				
251A	Midway	24.27 308	P	P	23 38 59.4 +1.1
	baz=118				
LUPA	Lehigh Univers	24.32 336	eP	P	23 38 59.9 +1.3
	1.2nm,0.9s				
Q57A	Strasburg	24.33 330	P	P	23 38 60.0 +1.2
	baz=142				
W53A	Cullowhee	24.33 316	P	P	23 39 00.2 +1.2
	baz=127				
O59A	Robesonia	24.39 335	P	P	23 39 00.7 +1.3
	baz=148				
151A	Opelika	24.41 309	P	P	23 39 00.9 +1.3
	baz=119				
V53A	Saluda	24.41 318	P	P	23 39 01.0 +1.3
	baz=129				
S55A	Lewisburg	24.45 325	P	P	23 39 01.4 +1.4
	baz=136				
X52A	Dahlonega	24.49 314	P	P	23 39 01.5 +1.2
	baz=125				
T54A	Tazewell	24.57 322	P	P	23 39 02.1 +1.0
	baz=133				
U53A	Fall Branch	24.71 319	P	P	23 39 03.8 +1.5
	baz=130				
W52A	Murphy	24.79 315	eP	P	23 39 01.5 -1.6
	8.6nm,0.8s				
HRV	Adam Dziewonsk	24.84 345	P	P	23 39 05.6 +2.2
	baz=160				
250A	Grady	24.86 307	P	P	23 39 05.4 +1.7
	baz=116				
Y51A	Rockmart	24.91 312	P	P	23 39 05.6 +1.4
	baz=122				
R54A	Victor	25.02 325	P	P	23 39 07.2 +2.1
	baz=136				
V52A	Sevierville	25.02 317	P	P	23 39 06.5 +1.4
	baz=128				
T53A	Wise	25.08 321	P	P	23 39 07.8 +2.0
	baz=131				
449A	Pace	25.09 303	P	P	23 39 07.4 +1.6
	baz=113				
Q55A	Buckhannon	25.13 327	P	P	23 39 08.6 +2.5
	baz=139				
Z50A	Ashland	25.20 310	P	P	23 39 08.8 +2.0
	baz=119				
U52A	Thorn Hill	25.22 318	P	P	23 39 09.0 +2.1
	baz=129				
SSPA	Standing Stone	25.38 333	eP	P	23 39 08.4 +0.1
	18nm,1.0s				
SSPA	Standing Stone	25.38 333	P	P	23 39 09.7 +1.5
	baz=145				
O56A	Blue Knob Stat	25.38 331	P	P	23 39 09.4 +1.0
	baz=143				
Y50A	Piedmont	25.38 311	P	P	23 39 08.8 +0.4
	baz=121				
P55A	Reedsville	25.39 328	P	P	23 39 09.9 +1.5
	baz=140				
W51A	Cleveland	25.39 315	P	P	23 39 09.3 +0.8
	baz=125				
TZTN	Tazewell	25.43 319	P	P	23 39 10.0 +1.2
	baz=129				
T52A	Hallie	25.44 320	P	P	23 39 10.1 +1.2
	baz=131				
V51A	Loudon	25.49 316	eP	P	23 39 10.0 +0.6
	6.6nm,0.8s				
V51A	Loudon	25.49 316	P	P	23 39 10.6 +1.3
	baz=126				
Q54A	Coxs Mills	25.51 326	P	P	23 39 11.2 +1.6
	baz=137				
Z49A	Columbiana	25.62 309	P	P	23 39 11.7 +1.2
	baz=118				
X50B	Fort Payne	25.62 312	P	P	23 39 11.8 +1.2
	baz=122				
R53A	Hurricane	25.66 324	P	P	23 39 12.1 +1.2
	baz=134				
O55A	Ligonier	25.68 330	P	P	23 39 12.2 +1.2
	baz=142				
W50A	Signal Mountai	25.79 314	P	P	23 39 13.0 +0.8
	baz=124				
Q53A	Leroy	25.79 325	P	P	23 39 13.1 +1.0
	baz=136				
LRAL	Lakeview Retre	25.89 308	P	P	23 39 14.3 +1.3
	baz=118				
V50A	Pikevile	25.91 315	P	P	23 39 14.5 +1.4
	baz=125				
N55A	Marion Center	25.98 331	P	P	23 39 14.4 +0.6
	baz=143				
X49A	Woodville	26.12 312	P	P	23 39 16.2 +1.1
	baz=121				
S51A	Beattyville	26.15 320	P	P	23 39 16.4 +1.1
	baz=130				
U50A	Jamestown	26.17 317	P	P	23 39 16.7 +1.1
	baz=127				
P53A	Whipple	26.18 326	P	P	23 39 17.0 +1.5
	baz=137				
O54A	Avella	26.18 329	P	P	23 39 17.2 +1.6
	baz=140				
Q52A	Bidwell	26.27 324	P	P	23 39 17.9 +1.5
	baz=135				
W49A	Belvidere	26.40 313	P	P	23 39 18.7 +1.1
	baz=122				
M55A	Ridgway	26.44 332	P	P	23 39 19.1 +1.2
	baz=144				
T50A	Nancy	26.53 318	P	P	23 39 19.6 +0.8
	baz=128				
R51A	Hillsboro	26.58 322	P	P	23 39 20.0 +0.9
	baz=132				
N54A	Moraine State	26.59 330	P	P	23 39 20.5 +1.2
	baz=142				
APG	El Apazote	26.65 266	P	P	23 39 21.5 +1.2
	41nm,1.2s,baz=125,slow=7.0,SNR=10				
APG			LR	LR	23 50 26.4
	comp=Z,780nm,19.4s,baz=61,slow=38				
S50A	Richmond	26.67 320	P	P	23 39 21.1 +1.1
	baz=129				
U49A	Red Boiling Sp	26.84 316	P	P	23 39 22.4 +0.8
	baz=125				
O52A	Adamsville	26.87 327	P	P	23 39 23.0 +1.1
	baz=137				
M54A	Oil Creek Stat	26.87 331	P	P	23 39 22.8 +0.9
	baz=143				
W48A	Pulaski	26.87 312	P	P	23 39 22.6 +0.7
	baz=121				
L55A	Hinsdale	26.88 334	P	P	23 39 22.5 +0.6
	baz=146				
Q51A	Peebles	26.93 323	P	P	23 39 23.4 +1.1
	baz=133				
R50A	Paris	27.01 321	P	P	23 39 24.4 +1.3
	baz=130				
Q50A	Georgetown	27.17 322	P	P	23 39 24.9 +0.4
	baz=132				
K55A	Perry	27.18 335	P	P	23 39 25.8 +1.2
	baz=147				
X47A	Russelville	27.22 310	P	P	23 39 26.0 +0.9
	baz=119				
S49A	Springfield	27.28 319	P	P	23 39 26.6 +1.1
	baz=128				
M53A	WI Miller and	27.29 330	P	P	23 39 26.3 +0.7
	baz=141				
L54A	Sinclairville	27.30 333	P	P	23 39 26.9 +1.2
	baz=144				
U48A	Cassie Pea, Po	27.34 315	P	P	23 39 27.0 +0.9
	baz=124				
W47A	Westpoint	27.40 312	P	P	23 39 27.4 +0.8
	baz=121				
R49A	Shelbyville	27.52 320	P	P	23 39 28.4 +0.7
	baz=129				
J55A	Hilton	27.54 336	P	P	23 39 28.2 +0.5
	baz=148				
T48A	Bowling Green	27.59 316	P	P	23 39 29.5 +1.2
	baz=125				
PLIO	Pelee Island,	28.48 328	P	P	23 39 37.6 +1.4
	baz=138				
T46A	Princeton	28.54 315	P	P	23 39 37.9 +1.1
	baz=123				
J52A	Paris	28.62 333	P	P	23 39 38.4 +1.0
	baz=143				
ALFO	Alfred	28.64 342	P	P	23 39 38.6 +1.1
	baz=156				
ACTO	Acton	28.73 333	P	P	23 39 39.9 +1.4
	baz=144				
I52A	Shelburne	29.16 334	P	P	23 39 43.1 +0.9
	baz=145				
SADO	Sadowa	29.32 336	P	P	23 39 43.6 0.0
	7.0nm,0.6s,baz=138,slow=3.5,SNR=5.9				
S45A	Carrier Mills	29.35 315	P	P	23 39 44.9 +1.0
	baz=123				
R45A	Skylar, Fairfi	29.49 317	P	P	23 39 46.2 +1.0
	baz=124				
N47A	Urbana	29.51 323	P	P	23 39 45.9 +0.5
	baz=132				
P46A	Rosedale	29.59 320	P	P	23 39 47.1 +1.1
	baz=128				
S44A	Carbondale	29.81 315	P	P	23 39 49.3 +1.3
	baz=122				
ATAH	Atahualpa	29.90 212	P	P	23 39 49.4 -0.1
	5.8nm,0.6s,baz=327,slow=0.1,SNR=4.9				
N46A	Monticello	30.11 322	P	P	23 39 52.0 +1.3
	baz=130				
CLDB	Colider	30.21 166	eP	P	23 39 52.2 +0.4
K47A	Vermontville	30.36 327	P	P	23 39 53.6 +0.8
	baz=135				
W41B	Gary Mavity, V	30.74 308	P	P	23 39 57.1 +0.8
	baz=115				
X40A	Basin Creek Fa	30.91 307	P	P	23 39 59.0 +1.2
	baz=113,SNR=6.4				
U41A	Viola	31.01 310	P	P	23 39 59.6 +1.0
	baz=117				
P43A	Skaggs, Pawnee	31.05 318	P	P	23 40 00.1 +1.1
	baz=125				
Q42A	Golden Eagle	31.31 316	P	P	23 40 02.3 +1.1
	baz=122				
CCM	Cathedral Cave	31.34 314	eP	P	23 40 01.9 +0.4
	4.8nm,0.6s				
CCM	Cathedral Cave	31.34 314	P	P	23 40 02.4 +0.8
	baz=120				
NATX	Nacogdoches	31.43 301	P	P	23 40 03.6 +1.2
	baz=107				
HDIL	Hopedale	31.43 319	P	P	23 40 03.8 +1.5
	baz=126				
S41A	Jillco Farms,	31.46 313	P	P	23 40 03.8 +1.1
	baz=119,SNR=5.4				
I46A	Reed City	31.49 328	P	P	23 40 04.3 +1.5
	baz=136				
MIAR	Mount Ida	31.50 306	P	P	23 40 04.1 +1.1
	baz=112				
R41A	Rosebud	31.56 314	P	P	23 40 04.5 +1.0
	baz=120				
F48A	Evansville	31.60 333	P	P	23 40 04.8 +1.1
	baz=142				
U40A	Yellville	31.69 310	P	P	23 40 05.5 +0.8
	baz=116				
GLMI	Grayling	31.73 330	P	P	23 40 06.2 +1.2
	baz=138				
M43A	Waltham Townsh	31.76 321	P	P	23 40 06.5 +1.3
	baz=128				
H46A	Fife Lake	31.80 329	P	P	23 40 06.8 +1.2
	baz=137				
W39A	Magazine	31.90 307	P	P	23 40 07.1 +0.5
	baz=113,SNR=5.6				
L43A	Garden Prairie	32.09 322	P	P	23 40 09.2 +1.0
	baz=129				
G46A	Petoskey	32.22 330	P	P	23 40 10.4 +1.3
	baz=138				
LSQQ	Lebel-sur-Quev	32.35 343	P	P	23 40 11.9 +1.6
	baz=154				
E47A	Iron Bridge	32.38 333	P	P	23 40 11.9 +1.3
	baz=142				
CHGQ	Chibougamau	32.47 346	P	P	23 40 12.7 +1.4
	baz=159				
N41A	Harden Midland	32.49 318	P	P	23 40 12.7 +1.1
	baz=124				
L42A	Oliver, Polo	32.52 321	P	P	23 40 12.9 +1.0
	baz=127				
M41A	Milan	32.68 320	P	P	23 40 13.9 +0.6
	baz=126				
E46A	Sault Ste Mari	32.76 332	P	P	23 40 15.2 +1.3
	baz=140				
D47A	Chapleau	32.78 334	P	P	23 40 15.3 +1.1
	baz=143				
K42A	Prairie Point,	32.81 323	P	P	23 40 15.1 +0.7
	baz=129				
D46A	Sault St. Mari	33.05 333	P	P	23 40 17.7 +1.3
	baz=141				
N40A	Mertquake, Sal	33.05 318	P	P	23 40 17.4 +0.8
	baz=124				
MATQ	Matagami	33.17 342	P	P	23 40 18.9 +1.5
	baz=154				
I42A	Draeger Farm,	33.28 325	P	P	23 40 19.2 +0.7
	baz=131				
JFWS	Jewell Farm	33.42 322	P	P	23 40 20.4 +0.6
	baz=128				
NNA	Nana	33.47 205	eP	P	23 40 20.2 -0.2
	22nm,0.6s				
L40A	Anamosa	33.49 320	P	P	23 40 20.9 +0.5
	baz=125				
J41A	Loganville	33.56 323	P	P	23 40 22.0 +1.0
	baz=129				
E44A	Grand Marais A	33.68 331	P	P	23 40 22.1 +0.2
	baz=138				
TUL1	Leonard	33.69 307	P	P	23 40 23.2 +1.1
	baz=112				
WHTX	Lake Whitney,	33.78 300	P	P	23 40 24.6 +1.5
	baz=105				
K40A	Celesburg	33.81 321	P	P	23 40 23.3 +0.2
	baz=126				
G42A	Mountain	33.92 327	P	P	23 40 25.0 +0.9
	baz=133				
J40A	Soldiers Grove	34.00 322	P	P	23 40 25.4 +0.6
	baz=128				
L39A	Vinton	34.00 320	P	P	23 40 25.2 +0.3
	baz=124,SNR=5.9				
H41A	Junction City	34.16 325	P	P	23 40 27.0 +0.9
	baz=130				
I40A	Norwalk	34.23 323	P	P	23 40 27.6 +0.7
	baz=128				
K39A	Oelwein	34.27 321	P	P	23 40 27.6 +0.5
	baz=125				
H40A	Chili	34.57 324	P	P	23 40 30.5 +0.9
	baz=130				
F41A	Three Lakes	34.61 327	P	P	23 40 30.8 +0.8
	baz=132				
833A	Chaparral WMA,	34.71 293	P	P	23 40 31.5 +0.3
	baz=98				
I39A	Houston	34.73 322	P	P	23 40 31.2 +0.1
	baz=127				
G40A	Rib Lake	34.88 325	P	P	23 40 33.1 +0.7
	baz=130				
E41A	Kenton	35.03 328	P	P	23 40 34.5 +0.8
	baz=134				
H39A	Augusta	35.10 324	P	P	23 40 35.0 +0.7
	baz=128				
LPAZ	La Paz	35.16 189	eP	P	23 40 33.8 -2.0
	9.3nm,0.8s				
LPAZ	La Paz	35.16 189	P	P	23 40 34.3 -1.4
	8.5nm,0.8s,baz=309,slow=1.9,SNR=25				
LPAZ			LR	LR	23 55 55.4
	comp=Z,871nm,19.5s,baz=350,slow=38				
LPAZ	La Paz	35.16 189	eP	P	23 40 33.6 -2.1
F40A	Park Falls	35.26 326	P	P	23 40 36.9 +1.2
	baz=131				
JCT	Junction City	35.41 296	P	P	23 40 37.9 +0.7
	baz=101				
G39A	Holcombe	35.41 325	P	P	23 40 37.9 +1.0
	baz=129				
E40A	Wakefield	35.50 327	P	P	23 40 38.7 +1.0
	baz=132				
KSU1	Kansas State U	35.55 312	P	P	23 40 38.4 +0.2
	baz=115				
WMOK	Wichita Mounta	35.60 304	P	P	23 40 39.4 +0.6
	baz=107				
H38A	Maiden Rock	35.66 323	P	P	23 40 40.0 +0.9
	baz=127				
F39A	Loretta	35.68 326	P	P	23 40 40.1 +0.8
	baz=130				
G38A	Ridgeland	35.72 324	P	P	23 40 40.6 +0.9
	baz=128				
ABTX	Abilene, Hawle	35.73 300	P	P	23 40 40.6 +0.7
	baz=104,SNR=8.0				
E39A	Mellen	35.79 327	P	P	23 40 41.5 +1.3
	baz=131				
RCBR	Riachuelo	36.08 130	eP	P	23 40 48.3 +5.3
SCHQ	Schefferville	36.18 356	P	P	23 40 44.7 +1.2
	4.3nm,0.5s,baz=212,slow=9.5,SNR=2.9				
F38A	Pierce - Schro	36.22 325	P	P	23 40 44.7 +0.8
	baz=129				
SPMN	Marine on St.	36.28 323	P	P	23 40 45.1 +0.7
	baz=127				
BDFB	Brasilia	37.14 156	P	P	23 40 52.9 +0.8
	1.9nm,0.5s,baz=334,slow=14,SNR=4.1				
BGNE	Belgrade	37.62 315	eP	P	23 40 55.0 -0.9
	39nm,0.6s				
BGNE	Belgrade	37.62 315	P	P	23 40 56.7 +0.8
	baz=116				
CBKS	Cedar Bluff	37.68 310	P	P	23 40 57.2 +0.7
	baz=112				
ECSD	EROS Data Cent	37.72 319	eP	P	23 40 57.3 +0.6
	10nm,0.7s				
ECSD	EROS Data Cent	37.72 319	P	P	23 40 57.3 +0.6
	baz=121,SNR=12				
AMTX	Amarillo	37.93 303	P	P	23 40 59.3 +0.5
	baz=105				
MNMC	Minye Minye	38.18 190	eP	P	23 40 57.3 -3.7
	11nm,0.7s				
TXAR	Lajitas Array	38.56 294	P	P	23 41 04.7 +0.7
	4.2nm,0.7s,baz=113,slow=8.7,SNR=47				
TXAR			PcP	PcP	23 43 18.0 +1.5
	2.0nm,0.7s,baz=118,slow=6.1,SNR=7.5				
TXAR			LR	LR	00 00 05.5
	comp=Z,282nm,21.0s,baz=0.0,slow=41				
MSTX	Muleshoe	38.59 301	P	P	23 41 04.8 +0.5
	baz=103				
GO01	Chusmiza	38.64 190	eP	P	23 41 02.1 -3.0
	23nm,0.6s				
SUSD	Miller	39.54 318	P	P	23 41 12.8 +0.8
	baz=119				
AQDB	Aquidauana	39.57 169	eP	P	23 41 12.3 0.0
MCI8	Montes Claros	39.79 151	eP	P	23 41 14.8 +0.5
AGMN	Agassiz Nation	39.81 325	P	P	23 41 15.1 +1.0
	baz=126				
MCI9	Montes Claros	39.83 151	eP	P	23 41 15.0 +0.4
KSCO	Kaye Shedlock'	39.86 309	P	P	23 41 15.8 +0.9
	baz=109				
MCI6	Montes Claros	39.93 151	eP	P	23 41 16.1 +0.6
ITRB	Iturama	40.10 162	eP	P	23 41 17.8 +1.0
MNTX	Cornudas Mount	40.33 297	P	P	23 41 19.4 +0.7
	baz=98,SNR=5.9				
T25A	Trinidad	40.66 306	P	P	23 41 22.9 +1.3
	baz=105,SNR=7.0				
ULM	Lac du Bonnet	40.99 328	eP	P	23 41 24.0 +0.1
	15nm,0.6s				
ULM	Lac du Bonnet	40.99 328	P	P	23 41 24.0 +0.1
	13nm,0.5s,baz=130,slow=8.5,SNR=25				
LVC	Limon Verde	41.49 188	eP	P	23 41 26.1 -2.5
	15nm,0.7s				
LVC	Limon Verde	41.49 188	eP	P	23 41 26.1 -2.5
MDND	Maddock	41.64 323	P	P	23 41 30.0 +0.8
	baz=122				
SDCO	Great Sand Dun	41.65 306	P	P	23 41 31.1 +1.2
	baz=105,SNR=13				
Q24A	Divide	41.72 308	P	P	23 41 31.2 +0.8
	baz=107				
ANMO	Albuquerque	41.77 302	eP	P	23 41 32.4 +1.7
	10.0nm,0.8s				
ANMO	Albuquerque	41.77 302	P	P	23 41 32.2 +1.4
	baz=101				
TASM	ASL Pad, Albuq	41.77 302	P	P	23 41 32.2 +1.4
	baz=101,SNR=16				
TASM	ASL Pad, Albuq	41.77 302	P	P	23 41 32.2 +1.4
	baz=101,SNR=16				
LPM	Los Pinos Moun	41.79 301	eP	P	23 41 32.7 +1.7
BB19B	Bebedouro	41.95 160	eP	P	23 41 32.3 +0.2
LENM	Lemitar	42.05 301	eP	P	23 41 33.4 +0.4
ISCO	Idaho Springs	42.31 309	P	P	23 41 36.7 +1.5
	baz=107				
121A	Cookes Peak, D	42.47 298	P	P	23 41 38.3 +1.8
	baz=98,SNR=6.0				
S22A	4UR Ranch, Cre	42.67 306	P	P	23 41 38.9 +0.7
	baz=104				
RSSD	Black Hills	42.68 316	P	P	23 41 38.9 +0.8
	baz=113				
SJMB	Sao Joao De Ma	42.85 149	eP	P	23 41 40.3 +0.9
BSFB	Barra de Sao F	43.12 149	eP	P	23 41 44.5 +3.0
BSCB	Bom Sucesso	43.26 155	eP	P	23 41 44.4 +1.6
FRTB	Fartura	43.77 162	eP	P	23 41 48.2 +1.4
MVCO	Mesa Verde	43.85 305	eP	P	23 41 48.0 +0.4
	3.5nm,0.6s				
MVCO			ePP	PcP	23 43 35.5 +1.7
MVCO	Mesa Verde	43.85 305	P	P	23 41 49.1 +1.5
	baz=102				
K22A	Casper	43.85 313	P	P	23 41 48.5 +1.0
	baz=109				
PTGB	Pitanga	44.43 166	eP	P	23 41 51.4 -0.7
W18A	Petrified Fore	44.45 301	P	P	23 41 52.9 +0.5
	baz=99				
DGMT	Dagmar	44.63 321	P	P	23 41 54.5 +1.1
	baz=117				
SPB	Sao Paulo	44.66 160	eP	P	23 41 54.4 +0.5
ALF01	Guarapari-ES	44.71 150	eP	P	23 41 55.5 +1.3
VAS01	Vassouras-RJ	44.95 154	eP	P	23 41 56.5 +0.2
TUC	Tucson	44.96 297	eP	P	23 41 58.7 +2.3
	13nm,1.1s				
TUC	Tucson	44.96 297	P	P	23 41 58.1 +1.7
	baz=96				
CPUP	Villa Florida	45.09 173	eP	P	23 41 55.4 -1.9
	7.4nm,0.6s				
CPUP	Villa Florida	45.09 173	P	P	23 41 55.4 -1.9
	8.2nm,0.5s,baz=354,slow=7.2,SNR=50				
CPUP	Villa Florida	45.09 173	eP	P	23 41 55.2 -2.1
ESAR	Angra dos Reis	45.22 156	eP	P	23 42 00.4 +2.1
DUB01	Friburgo-RJ	45.23 153	eP	P	23 42 00.2 +1.8
CAM01	Campos-RJ	45.32 152	eP	P	23 42 01.4 +2.3
WUAZ	Wupatki	45.83 302	P	P	23 42 05.1 +1.7
	baz=98,SNR=6.3				
PD31	Pinedale Array	46.01 312	eP	P	23 42 05.8 +1.0
	8.1nm,0.9s				
PD31			ePcP	PcP	23 43 41.7 +0.6
PDAR	Pinedale Array	46.01 312	P	P	23 42 05.8 +1.0
	3.8nm,0.6s,baz=113,slow=8.4,SNR=34				
PDAR			PcP	PcP	23 43 41.7 +0.6
	1.3nm,0.6s,baz=116,slow=4.9,SNR=4.4				
PDAR			LR	LR	00 01 43.5
	comp=Z,279nm,19.6s,baz=117,slow=36				
BW06	Boulder Array	46.01 312	P	P	23 42 05.7 +0.9
	baz=107,SNR=10				
RLMT	Red Lodge	46.53 315	P	P	23 42 10.0 +1.2
	baz=109,SNR=11				
214A	Organ Pipe Nat	46.65 297	P	P	23 42 11.3 +1.6
	baz=94				
FFC	Flin Flon	46.66 330	eP	P	23 42 09.8 +0.5
	3.0nm,0.8s				
ITAB	Concordia	46.84 167	eP	P	23 42 10.7 -0.3
H17A	Grant Village	47.19 314	P	P	23 42 15.0 +1.0
	baz=107				
DUG	Dugway, Tooele	47.76 308	P	P	23 42 19.8 +1.4
	baz=102,SNR=8.2				
EGMT	Eagleton	47.84 319	P	P	23 42 20.2 +1.4
	baz=111,SNR=5.1				
PDMCI	Parker Dam,Lak	47.95 300	P	P	23 42 20.7 +1.0
	baz=95				
LCO	Las Campanas	48.04 189	eP	P	23 42 19.5 -1.2
Y12C	Blythe	48.22 299	P	P	23 42 22.9 +1.1
	baz=95				
BOZ	Bozeman (W)	48.26 315	P	P	23 42 23.5 +1.3
	baz=107,SNR=6.3				
IRM	Iron Mountain	48.77 299	P	P	23 42 28.2 +2.1
	baz=94,SNR=6.4				
TER01	Tubaro-SC	48.81 164	eP	P	23 42 26.6 +0.3
BC3	Big Chuckawall	48.98 299	P	P	23 42 29.2 +1.4
	baz=94				
SWSC	Sam W. Stewart	49.23 298	P	P	23 42 31.4 +1.7
	baz=93				
GMRC	Granite Mounta	49.24 300	P	P	23 42 31.7 +1.8
	baz=95				
TUQ	Turquoise Moun	49.51 301	P	P	23 42 33.7 +1.8
	baz=95				
R11A	Troy Canyon, C	49.57 305	P	P	23 42 34.1 +1.7
	baz=98,SNR=7.5				
HLID	Hailey	49.65 312	P	P	23 42 34.4 +1.5
	baz=103,SNR=7.1				
CPSB	Cacapava Do Su	49.67 169	eP	P	23 42 31.1 -1.7
MONP2	Monument Peak	49.75 298	P	P	23 42 36.0 +2.1
	baz=93,SNR=5.4				
HEC	Hector,Ludlow	49.80 300	P	P	23 42 35.7 +1.6
	baz=94				
PFO	Pinyon Flats O	49.82 298	P	P	23 42 35.7 +1.5
	baz=93				
SHOC	Shoshone, Teco	49.84 301	P	P	23 42 35.9 +1.6
	baz=95				
TPNV	Topopah Spring	49.92 303	P	P	23 42 37.3 +2.2

	baz=96,SNR=8.9					
MSO	Missoula	50.15 316	P	P	23 42 38.2	+1.6
	baz=106					
GSC	Goldstone, Bar	50.22 301	P	P	23 42 38.7	+1.5
	baz=94					
FURC	Furnace Creek,	50.37 302	P	P	23 42 39.9	+1.7
	baz=95					
MPMC	Manual Prospec	50.83 302	P	P	23 42 42.9	+0.9
	baz=95					
LRMC	Laurel Mtn Rad	50.95 301	P	P	23 42 44.1	+1.3
	baz=94					
PLTB	Pedras Altas	50.97 170	eP	P	23 42 41.1	-1.5
EDW2	Edwards Air Fo	51.16 300	P	P	23 42 46.0	+1.6
	baz=93					
CWC	Cottonwood Cre	51.34 302	P	P	23 42 47.4	+1.6
	baz=95					
FMP	Fort Macarthur	51.35 299	P	P	23 42 47.5	+1.8
	baz=92					
CIS	Catalina Islan	51.44 298	P	P	23 42 48.1	+1.7
	baz=92					
SCI2	San Clemente I	51.54 298	P	P	23 42 48.6	+1.5
	baz=92					
ISA	Isabella, Lake	51.60 301	P	P	23 42 49.1	+1.5
	baz=94					
NVAR	Mina Array Bea	51.70 305	P	P	23 42 50.0	+1.5
	5.2nm,0.7s,baz=91,slow=7.4,SNR=41					
NVAR			PcP	PcP	23 44 03.6	+1.8
	1.7nm,0.7s,baz=123,slow=4.2,SNR=4.4					
NVAR			LR	LR	00 05 12.1	
	comp=Z,376nm,21.2s,baz=92,slow=37					
NEW	Newport	52.61 317	P	P	23 42 55.3	+0.4
	baz=104,SNR=8.6					
J05D	Fort Rock, OR	54.49 310	P	P	23 43 09.9	+1.0
	baz=98,SNR=6.7					
H10N3	ASCENSION HYDR	54.51 115	T	T	00 41 31.6	
	baz=299,slow=75,SNR=51					
H10N2	ASCENSION HYDR	54.51 115	T	T	00 41 33.4	
	baz=299,slow=75,SNR=70					
ESDC	Sonseca Array	54.52 54	P	P	23 43 09.8	+0.8
	0.6nm,0.5s,baz=270,slow=7.5,SNR=7.2					
H10N1	ASCENSION HYDR	54.53 115	T	T	00 41 34.6	
	baz=299,slow=75,SNR=65					
O03E	Paynes Creek	54.58 306	P	P	23 43 10.7	+1.2
	baz=95					
M04C	Macdoel	54.75 308	P	P	23 43 11.7	+0.9
	baz=96,SNR=5.9					
K04D	Chiloquin, OR	54.78 309	P	P	23 43 12.3	+1.3
	baz=97					
G05D	Wamic, OR	54.82 313	P	P	23 43 12.6	+1.4
	baz=99					
H10S3	ASCENSION HYDR	54.92 116	T	T	00 42 13.7	
	baz=300,slow=75,SNR=199					
H10S1	ASCENSION HYDR	54.93 116	T	T	00 42 15.9	
	baz=300,slow=75,SNR=220					
H10S2	ASCENSION HYDR	54.94 116	T	T	00 42 15.4	
	baz=300,slow=75,SNR=206					
J04D	Umpqua Nationa	55.11 310	P	P	23 43 14.6	+1.1
	baz=97					
L04D	Klamath Falls	55.14 309	P	P	23 43 14.5	+0.9
	baz=96,SNR=6.1					
N02D	Trinity Center	55.32 307	P	P	23 43 15.5	+0.6
	baz=95					
O02D	Mt. Diablo Mer	55.32 306	P	P	23 43 14.8	-0.1
	baz=94					
M02C	Callahan	55.47 308	P	P	23 43 16.0	0.0
	baz=95					
I03D	Drain, OR	56.06 310	P	P	23 43 20.7	+0.7
	baz=96					
L02E	Cave Junction	56.10 309	P	P	23 43 20.7	+0.4
	baz=95					
G03D	McMinnville, O	56.18 312	P	P	23 43 22.2	+1.4
	baz=97					
K02D	Willamette Mer	56.19 309	P	P	23 43 22.0	+1.0
	baz=95					
YKA	Yellowknife Ar	56.29 334	P	P	23 43 21.4	+0.1
	4.2nm,0.6s,baz=107,slow=7.5,SNR=84					
YKW3	Yellowknife Ar	56.33 334	eP	P	23 43 21.6	+0.1
	4.4nm,0.7s					
D03D	Eldon	56.39 315	P	P	23 43 22.3	0.0
	baz=99					
TRQA	Tornquist	56.47 179	eP	P	23 43 23.3	+0.5
	5.8nm,0.8s					
DBIC	Dimbokro	57.62 94	eP	P	23 43 31.1	-0.5
	16nm,1.1s					
DBIC	Dimbokro	57.62 94	P	P	23 43 31.1	-0.5
	3.1nm,0.6s,baz=287,slow=4.7,SNR=6.7					
RES	Resolute Bay	58.60 350	LR	LR	00 08 24.1	
	comp=Z,310nm,19.8s,baz=158,slow=36					
PLCA	Paso Flores	59.57 187	P	P	23 43 43.5	-1.1
	5.5nm,0.6s,baz=29,slow=8.4,SNR=29					
PLCA			LR	LR	00 13 49.5	
	comp=Z,678nm,19.1s,baz=354,slow=40					
PLCA	Paso Flores	59.57 187	eP	P	23 43 43.1	-1.5
TOA1	Torodi Ar. Sit	62.05 85	eP	P	23 44 00.1	-2.0
TOA1			ePcP	PcP	23 44 43.8	+1.4
TOA0	Torodi Ar. Sit	62.06 85	eP	P	23 44 00.1	-2.0
	4.0nm,0.8s					
TORD	Torodi Ar. Bea	62.06 85	P	P	23 44 00.1	-2.0
	2.6nm,0.6s,baz=282,slow=6.3,SNR=35					
TORD			PcP	PcP	23 44 43.8	+1.4
	1.2nm,0.9s,baz=293,slow=3.7,SNR=3.8					
DLBC	Dease Lake	62.31 327	LR	LR	00 10 46.4	
	comp=Z,317nm,19.9s,baz=94,slow=36					
DAVA	Damuels	64.86 46	eP	P	23 44 21.3	+1.0
	7.3nm,1.1s					
KEST	Kesra	65.11 59	P	P	23 44 23.4	+1.4
	2.9nm,0.8s,baz=20,slow=5.1,SNR=3.4					
FETA	Feichten	65.44 46	eP	P	23 44 25.2	+1.1
	11nm,1.8s					
INK	Inuvik	65.62 337	eP	P	23 44 24.9	+0.4
	5.2nm,0.8s					
MOTA	Moosalm	65.69 46	eP	P	23 44 26.3	+0.6
	4.5nm,0.9s					
SQTA	Sankt Quirin	65.76 46	eP	P	23 44 26.7	+0.7
	4.7nm,1.2s					
NB2	NORSAR Subarra	66.11 31	P	P	23 44 29.1	+1.1
	comp=Z,3.7nm,1.0s,baz=265,slow=6.5					
NB200	NORSAR Array S	66.11 31	eP	P	23 44 29.1	+1.1
NOA	NORSAR Array B	66.11 31	P	P	23 44 29.1	+1.1
	comp=Z,0.7nm,0.7s,baz=266,slow=6.4,SNR=4.6					
NOA			LR	LR	00 11 15.2	
	comp=Z,261nm,18.6s,baz=105,slow=34					
EPYK	Eagle Plains	66.54 335	P	P	23 44 31.5	+0.8
	baz=97					
CLL	Collm	66.83 41	eP	P	23 44 33.0	+0.3
CLL			epP	pP	23 44 39.0	0.0
GEC2	GERESS Array S	67.37 44	eP	P	23 44 34.4	-1.9
	comp=Z,0.7nm,0.8s					
GERES	GERESS Array B	67.37 44	P	P	23 44 37.7	+1.4
	comp=Z,0.5nm,0.5s,baz=277,slow=5.2,SNR=6.7					
GERES			LR	LR	00 09 22.9	
	comp=Z,402nm,20.0s,baz=88,slow=32					
BRG	Berggiesshubel	67.44 42	eP	P	23 44 45.0	+8.4
	comp=Z,3.5nm,1.1s					
RIDG	Independent Ri	69.85 332	eP	P	23 44 51.2	-0.3
	comp=Z,10.0nm,1.1s					
ILAR	Eielson Array	70.70 333	P	P	23 44 56.3	-0.2
	comp=Z,1.8nm,0.7s,baz=116,slow=4.1,SNR=1.7					
ILB	Eielson Array	70.70 333	eP	P	23 44 56.3	-0.2
	comp=Z,4.4nm,0.8s					
TOLK	Toolik Lake Re	71.54 337	P	P	23 45 01.8	+0.2
	baz=86					
ARA0	ARCESS Array S	72.07 22	eP	P	23 45 04.7	0.0
ARCES	ARCESS Array B	72.07 22	P	P	23 45 04.7	0.0
	comp=Z,1.8nm,0.9s,baz=270,slow=5.4,SNR=3.3					
ARCES			LR	LR	00 10 04.6	
	comp=Z,205nm,21.7s,baz=170,slow=30					
BPAW	Bear Paw Mtn.	72.53 333	eP	P	23 45 06.7	-1.0
	comp=Z,8.2nm,0.9s					
FIA0	FINESS Array S	73.26 30	eP	P	23 45 13.2	+1.3
FINES	FINESS Array B	73.26 30	P	P	23 45 13.2	+1.3
	comp=Z,1.7nm,0.8s,baz=358,slow=9.5,SNR=6.5					
FINES			LR	LR	00 13 42.2	
	comp=Z,385nm,20.0s,baz=206,slow=33					
KDAK	Kodiak Island	74.23 326	LR	LR	00 19 16.4	
	comp=Z,271nm,19.5s,baz=104,slow=37					
MLR	Muntele Roua	76.09 46	eP	P	23 45 28.0	-0.8
	comp=Z,7.1nm,1.1s					
AKASG	Malin Array Be	77.06 41	LR	LR	00 18 36.5	
	comp=Z,308nm,18.7s,baz=330,slow=35					
BR131	Keskin Array S	83.10 51	eP	P	23 46 07.7	+0.6
	comp=Z,2.2nm,1.0s					
BRTR	Keskin Array B	83.10 51	P	P	23 46 08.8	+1.7
	comp=Z,1.2nm,0.7s,baz=261,slow=4.1,SNR=7.6					
KBZ	Khabaz	88.11 44	LR	LR	00 22 15.3	
	comp=Z,162nm,21.2s,baz=1.0,slow=33					
LZH	Lanzhou	124.07 13	ePKP	PKPdf	23 52 36.9	-3.1
LZH			sPKP		23 52 51.6	
CD2	Chengdu	129.02 15	PKP	PKPdf	23 52 47.8	-1.6
STKA	Stephens Creek	154.36 235	PKPbc	PKPbc	23 53 41.6	-0.1
	comp=Z,1.1nm,0.4s,baz=136,slow=3.0,SNR=3.6					
AS31	Alice Springs	163.60 250	ePKPab	PKPab	23 54 35.6	-0.6
ASAR	Alice Springs	163.60 250	PKP	PKPdf	23 53 42.8	-1.8
	comp=Z,0.6nm,0.8s,baz=132,slow=1.4,SNR=3.6					
ASAR			PKPab	PKPab	23 54 35.6	-0.6
	comp=Z,1.0nm,0.6s,baz=111,slow=4.5,SNR=14					
WR1	Warramunga Arr	163.71 263	ePKPab	PKPab	23 54 36.8	0.0
WRA	Warramunga Arr	163.71 263	PKP	PKPdf	23 53 43.2	-1.4
	comp=Z,0.7nm,0.7s,baz=117,slow=0.8,SNR=6.6					
WRA			PKPab	PKPab	23 54 36.8	-0.1
	comp=Z,0.9nm,0.7s,baz=90,slow=4.1,SNR=9.7					

KRSC 20 23:53:23.0±10.0, 52°20'N×160°68'E, h15km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.99**	**336**	*eP*	Pb	23 53 41.6	-0.1
SPN				*eS*	Sb	23 53 53.6	-0.9
NLC	**Nalytchevo**	**1.27**	**321**	*eP*	Pb	23 53 46.3	-0.2
NLC				*eS*	Sn	23 54 02.7	-0.1
RUS	**Russkaya**	**1.35**	**281**	*eP*	Pn	23 53 46.8	-0.4
DALK	**Dalny**	**1.44**	**306**	*eP*	Pn	23 53 48.2	-0.2
DALK				*eS*	Sn	23 54 06.2	-0.8
PET	**Petropavlovsk**	**1.49**	**305**	*eP*	Pn	23 53 49.1	0.0
PET				*eS*	Sn	23 54 07.9	-0.3
UGLR	**Uglovaya**	**1.52**	**313**	*eP*	Pb	23 53 50.6	-0.2
UGLR				*eS*	Sb	23 54 10.3	+0.4
SDLR	**Sedlovina**	**1.54**	**315**	*eP*	Pb	23 53 50.7	-0.5
SDLR				*eS*	Sb	23 54 10.3	-0.2
MTVR	**Mutnovka**	**1.56**	**281**	*eP*	Pn	23 53 50.7	+0.5
MTVR				*eS*	Sn	23 54 10.0	-0.2
SMAR	**Somma**	**1.56**	**314**	*eP*	Pb	23 53 51.2	-0.5
AVH	**Avacha**	**1.59**	**313**	*eP*	Pb	23 53 51.8	-0.3
AVH				*eS*	Sb	23 54 12.7	+0.7
KRER	**Koryakskii**	**1.61**	**314**	*eP*	Pn	23 53 51.7	+0.7
KRER				*eS*	Sn	23 54 12.1	+0.5
KDTR	**Khodutka, Kamc**	**1.66**	**257**	*eP*	Pn	23 53 51.8	+0.4
KDTR				*eS*	Sb	23 54 13.2	-0.5
KOK	**Koryaka**	**1.66**	**312**	*eP*	Pb	23 53 52.7	-0.5
KRMR	**Karymshinskiy**	**1.68**	**293**	*eP*	Pn	23 53 52.1	+0.3
KRMR				*eS*	Sn	23 54 13.2	+0.2
KRX	**Arik**	**1.69**	**314**	*eP*	Pn	23 53 52.9	+0.8
KRX				S	Sb	23 54 14.7	-0.3
ASAK	**Asacha**	**1.72**	**277**	P	Pb	23 53 54.3	+0.1
APC	**Apacha**	**2.27**	**290**	*eP*	Pb	23 54 02.5	-1.1
APC				*eS*	Sb	23 54 31.6	+0.2
KZV	**Kizimen**	**2.93**	**356**	*eP*	Pb	23 54 12.3	-2.6
TUMR	**Tumrok**	**3.11**	**354**	P	Pb	23 54 15.0	-2.9
KBTR	**Krutoberegovo**	**4.21**	**17**	P	Pn	23 54 29.0	+2.5

KRSC 21 00:00:04.1±10.0, 52°27'N×160°85'E, h40km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97**	**329**	*eP*	Pn	00 00 22.2	+0.9
SPN				*eS*	Sn	00 00 34.5	+0.6
NLC	**Nalytchevo**	**1.29**	**315**	*eP*	Pn	00 00 26.8	+1.2
NLC				*eS*	Sn	00 00 43.9	+2.3
RUS	**Russkaya**	**1.44**	**278**	*eP*	Pn	00 00 29.2	+1.5
RUS				*eS*	Sn	00 00 46.8	+1.4
DALK	**Dalny**	**1.49**	**302**	*eP*	Pn	00 00 30.0	+1.6
UGLR	**Uglovaya**	**1.55**	**308**	*eP*	Pn	00 00 31.6	+2.2
SDLR	**Sedlovina**	**1.57**	**311**	*eP*	Pn	00 00 31.5	+1.9
SMAR	**Somma**	**1.60**	**310**	*eP*	Pn	00 00 31.6	+1.5
AVH	**Avacha**	**1.63**	**309**	*eP*	Pn	00 00 32.7	+2.3
KRER	**Koryakskii**	**1.65**	**310**	P	Pn	00 00 33.9	+3.2
MTVR	**Mutnovka**	**1.65**	**279**	*eP*	Pn	00 00 32.7	+2.0
MTVR				*eS*	Sn	00 00 51.9	+1.2
KOK	**Koryaka**	**1.69**	**308**	*eP*	Pn	00 00 33.7	+2.4
KRX	**Arik**	**1.73**	**310**	*eP*	Pn	00 00 34.3	+2.5
KRMR	**Karymshinskiy**	**1.75**	**290**	*eP*	Pn	00 00 34.2	+2.2
KDTR	**Khodutka, Kamc**	**1.77**	**256**	*eP*	Pn	00 00 33.4	+1.2
KDTR				*eS*	Sn	00 00 53.9	+0.4
ASAK	**Asacha**	**1.81**	**275**	*eP*	Pn	00 00 35.2	+2.3
APC	**Apacha**	**2.35**	**288**	*eP*	Pn	00 00 43.4	+3.3
MKZ	**Mys Kozlova**	**2.36**	**13**	*eP*	Pn	00 00 42.5	+2.3
MKZ				*eS*	Sn	00 01 08.9	+1.0
KZV	**Kizimen**	**2.87**	**354**	*eP*	Pn	00 00 50.8	+3.3
KZV				*eS*	Sn	00 01 25.4	+4.5
TUMD	**Tumrok D**	**2.96**	**355**	*eP*	Pn	00 00 51.7	+3.2
TUMR	**Tumrok**	**3.05**	**352**	*eP*	Pn	00 00 53.7	+3.8

KRSC ***21*** *00:00:59.8±10.0, 52°.26N×160°.79E, h71km±10km, ML4.7*
ISCJB ***21*** *00:01:03.7±0.6, 52°.33N±0°.03×160°.55E±0°.06, h46km±4km, mb4.6/91, MS3.9/2, Error ellipse: s-maj=7.2km s-min=3.8km az=43.4*
NEIC ***21*** *00:01:04.5±0.4, 52°.37N×160°.48E, h35km, mb4.7/32, Error ellipse: s-maj=9.6km s-min=6.0km az=158.0*
MOS ***21*** *00:01:05.3±1.1, 52°.43N×160°.35E, h59km, mb4.9/29, Error ellipse: s-maj=7.1km s-min=4.2km az=105.1*
IDC ***21*** *00:01:07.2±1.9, 52°.43N×160°.32E, h60km±15km, mb3.9/30, mb1 4.1/32, mb1mx4.0/46, mbtmp4.2/32, MS3.8/2, Ms1 3.8/2, ms1mx3.1/38, Error ellipse: s-maj=14.4km s-min=10.1km az=153.0*

ISC 21 00:01:01.3±1.4, 52°.34N±0°.04×160°.62E±0°.04, h16km±8km, n266, σ1§38/278, mb4.7/94, 33C-5D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.84**	**335**	*eP*	**Pn**	**00 01 18.3**	**-0.1**
SPN				*eS*	**Sn**	**00 01 30.8**	**+0.4**
SPN	**Mys Shipunski**	**0.84**	**335**	PN	**Pn**	**00 01 18.3**	**-0.1**
SPN				S	**Sn**	**00 01 30.8**	**+0.4**
NLC	**Nalytchevo**	**1.13**	**318**	*eP*	**Pg**	**00 01 23.1**	**-0.1**
NLC				*eS*	**Sn**	**00 01 39.8**	**+2.1**
NLC	**Nalytchevo**	**1.13**	**318**	PN	**Pg**	**00 01 23.1**	**-0.1**
NLC				S	**Sn**	**00 01 39.8**	**+2.1**
RUS	**Russkaya**	**1.29**	**275**	P	**Pb**	**00 01 25.5**	**+0.3**
RUS				*eS*	**Sg**	**00 01 42.4**	**-0.6**
RUS	**Russkaya**	**1.29**	**275**	PN	**Pb**	**00 01 25.5**	**+0.3**
RUS				S	**Sg**	**00 01 42.4**	**-0.6**
DALK	**Dalny**	**1.33**	**302**	*eP*	**Pb**	**00 01 26.0**	**+0.2**
DALK				*eS*	**Sg**	**00 01 44.0**	**-0.1**
DALK	**Dalny**	**1.33**	**302**	PN	**Pb**	**00 01 26.0**	**+0.2**
DALK				S	**Sg**	**00 01 44.0**	**-0.1**
PET	**Petropavlovsk**	**1.38**	**300**	*ePn*	**Pb**	**00 01 26.6**	**0.0**
PET	**Petropavlovsk**	**1.38**	**300**	*eiPN*	**Pb**	**00 01 26.8**	**+0.2**
PET				pmax	pmax		
	comp=Z,1μm,1.4s						
PET				pmax	pmax		
	comp=Z,1μm,0.6s						
UGLR	**Uglovaya**	**1.39**	**309**	*eP*	**Pg**	**00 01 28.0**	**-0.1**
UGLR	**Uglovaya**	**1.39**	**309**	PN	**Pg**	**00 01 28.0**	**-0.1**
SDLR	**Sedlovina**	**1.41**	**312**	P	**Pb**	**00 01 27.3**	**0.0**
SDLR	**Sedlovina**	**1.41**	**312**	PN	**Pb**	**00 01 27.3**	**0.0**
INSR	**Institute**	**1.42**	**301**	*eP*	**Pg**	**00 01 28.3**	**-0.3**
INSR	**Institute**	**1.42**	**301**	PN	**Pg**	**00 01 28.3**	**-0.3**
SMAR	**Somma**	**1.44**	**311**	*eP*	**Pg**	**00 01 28.7**	**-0.2**
SMAR	**Somma**	**1.44**	**311**	PN	**Pg**	**00 01 28.7**	**-0.2**
AVH	**Avacha**	**1.47**	**310**	*eP*	**Pg**	**00 01 29.1**	**-0.4**
AVH	**Avacha**	**1.47**	**310**	PN	**Pg**	**00 01 29.1**	**-0.4**
KRER	**Koryakskii**	**1.49**	**311**	*eP*	**Pg**	**00 01 29.3**	**-0.6**
KRER	**Koryakskii**	**1.49**	**311**	PN	**Pg**	**00 01 29.3**	**-0.6**
MTVR	**Mutnovka**	**1.50**	**276**	*eP*	**Pb**	**00 01 28.9**	**+0.1**
MTVR				*eS*	**Sb**	**00 01 47.7**	**+0.1**
MTVR	**Mutnovka**	**1.50**	**276**	PN	**Pb**	**00 01 28.9**	**+0.1**
MTVR				S	**Sb**	**00 01 47.7**	**+0.1**
KOK	**Koryaka**	**1.53**	**309**	*eP*	**Pb**	**00 01 29.0**	**-0.4**
KOK	**Koryaka**	**1.53**	**309**	PN	**Pb**	**00 01 29.0**	**-0.4**
KRX	**Arik**	**1.57**	**311**	P	**Pb**	**00 01 30.2**	**+0.2**
KRX	**Arik**	**1.57**	**311**	PN	**Pb**	**00 01 30.2**	**+0.2**
GRL	**Gorelyy**	**1.57**	**279**	P	**Pb**	**00 01 30.4**	**+0.4**
GRL	**Gorelyy**	**1.57**	**279**	PN	**Pb**	**00 01 30.4**	**+0.4**
KRMR	**Karymshinskiy**	**1.59**	**289**	*eP*	**Pb**	**00 01 30.2**	**-0.1**
KRMR	**Karymshinskiy**	**1.59**	**289**	PN	**Pb**	**00 01 30.2**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.66**	**252**	*eP*	**Pn**	**00 01 29.6**	**-0.1**
KDTR				*eS*	**Sn**	**00 01 49.7**	**-0.9**
KDTR	**Khodutka, Kamc**	**1.66**	**252**	PN	**Pn**	**00 01 29.6**	**-0.1**
KDTR				S	**Sn**	**00 01 49.7**	**-0.9**
ASAK	**Asacha**	**1.67**	**272**	P	**Pb**	**00 01 31.1**	**-0.5**
ASAK	**Asacha**	**1.67**	**272**	PN	**Pb**	**00 01 31.1**	**-0.5**
PEA0B	**Petropavlovsk-**	**1.93**	**295**	*ePn*	**Pb**	**00 01 35.1**	**-1.0**
PEA0B				*eSn*	Sn	00 01 46.1	-11
PETK	**Petropavlovsk-**	**1.93**	**295**	*ePn*	**Pb**	**00 01 35.1**	**-1.0**
PETK				*eSn*	**Sn**	**00 01 48.7**	**-8.7**
PETK	**Petropavlovsk-**	**1.93**	**295**	P	**Pb**	**00 01 34.8**	**-1.3**
	comp=Z,88nm,0.3s,baz=107,slow=18,SNR=46						
PETK				S	**Sn**	**00 01 56.5**	**-0.9**
	comp=Z,48nm,0.3s,baz=102,slow=21,SNR=6.9						
PETK				LR	LR	00 02 06.9	
	comp=Z,850nm,18.3s,baz=70,slow=34						
PEA1	**Petropavlovsk-**	**1.93**	**295**	*ePn*	**Pb**	**00 01 34.8**	**-1.3**
PEA1				*eSn*	**Sn**	**00 01 56.5**	**-1.0**
APC	**Apacha**	**2.19**	**287**	*eP*	**Pb**	**00 01 39.5**	**-0.9**
APC	**Apacha**	**2.19**	**287**	PN	**Pb**	**00 01 39.5**	**-0.9**
MKZ	**Mys Kozlova**	**2.31**	**16**	*eP*	**Pn**	**00 01 38.6**	**-0.1**
MKZ				*eS*	**Sn**	**00 02 05.6**	**-1.2**
MKZ	**Mys Kozlova**	**2.31**	**16**	PN	**Pn**	**00 01 38.6**	**-0.1**
MKZ				S	**Sn**	**00 02 05.6**	**-1.2**
PAU	**Pauzhetka**	**2.52**	**251**	P	**Pn**	**00 01 41.9**	**+0.4**
PAU	**Pauzhetka**	**2.52**	**251**	PN	**Pn**	**00 01 41.9**	**+0.4**
KZV	**Kizimen**	**2.78**	**356**	*eP*	**Pn**	**00 01 46.8**	**+1.5**
KZV	**Kizimen**	**2.78**	**356**	PN	**Pn**	**00 01 46.8**	**+1.5**
TUMD	**Tumrok D**	**2.87**	**358**	P	**Pn**	**00 01 45.8**	**-0.6**
TUMR	**Tumrok**	**2.96**	**355**	*eP*	**Pn**	**00 01 49.6**	**+1.9**
TUMR	**Tumrok**	**2.96**	**355**	PN	**Pn**	**00 01 45.8**	**-1.9**
SKR	**Severo-Kuril's**	**3.27**	**241**	*eP*	**Pn**	**00 01 51.8**	**0.0**
SKR				*eS*	**Sn**	**00 02 28.4**	**-1.9**
SKR	**Severo-Kuril's**	**3.27**	**241**	*ePN*	**Pn**	**00 01 51.7**	**0.0**
SKR				*eS*	**Sn**	**00 02 27.7**	**-2.6**
SKR				pmax	pmax		
	comp=Z,78nm,0.5s						
SKR				smax	smax		
	comp=N,1μm,0.6s						
SKR				smax	smax		
	comp=E,1μm,0.7s						
ALID	**Alaid**	**3.49**	**247**	P	**Pn**	**00 01 55.4**	**+0.4**
ALID	**Alaid**	**3.49**	**247**	PN	**Pn**	**00 01 55.4**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**3.60**	**1**	P	**Pn**	**00 01 58.2**	**+1.6**
BZGR	**Bezymyannyi-Gr**	**3.60**	**1**	PN	**Pn**	**00 01 58.2**	**+1.6**
ESO	**Esso**	**3.76**	**343**	P	**Pn**	**00 01 59.8**	**+1.2**
ESO	**Esso**	**3.76**	**343**	PN	**Pn**	**00 01 59.8**	**+1.2**
KBTR	**Krutoberegovo**	**4.08**	**18**	*eP*	**Pn**	**00 02 03.6**	**+0.6**
KBTR	**Krutoberegovo**	**4.08**	**18**	PN	**Pn**	**00 02 03.6**	**+0.6**
BDR	**Baidarnaya**	**4.25**	**4**	P	**Pn**	**00 02 07.2**	**+1.8**
BDR	**Baidarnaya**	**4.25**	**4**	PN	**Pn**	**00 02 07.2**	**+1.8**
SMKR	**Semkarok**	**4.28**	**6**	P	**Pn**	**00 02 07.0**	**+1.2**
SMKR	**Semkarok**	**4.28**	**6**	PN	**Pn**	**00 02 07.0**	**+1.2**
BKI	**Bering**	**4.28**	**46**	P	**Pn**	**00 02 04.9**	**-0.8**
BKI				S	**Sn**	**00 02 49.5**	**-5.7**
BKI	**Bering**	**4.28**	**46**	PN	**Pn**	**00 02 04.9**	**-0.8**
SMY	**Shemya**	**8.23**	**82**	*ePn*	**Pn**	**00 03 00.1**	**+0.2**
SMY				*eSn*	**Sn**	**00 04 27.4**	**-5.2**
SMY	**Shemya**	**8.23**	**82**	*ePN*	**Pn**	**00 03 00.1**	**+0.2**
MA2	**Magadan**	**9.10**	**327**	*cePN*	**Pn**	**00 03 15.1**	**+3.2**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
OKH	**Okha**	**10.74**	**283**	*dePN*	Pn	00 03 53.1	+19
OKH				MLR	MLR		
	comp=Z,1μm,14.0s						
SEY	**Seymchan**	**11.48**	**341**	*cePN*	**Pn**	**00 03 48.3**	**+3.9**
SEY	**Seymchan**	**11.48**	**341**	P	**Pn**	**00 03 47.1**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=2.9						
YSS	**Yuzh-Sakhalins**	**12.76**	**252**	*ePN*	**Pn**	**00 04 02.9**	**+1.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
ASAJ	**Asahikawa**	**14.53**	**243**	P	**Pn**	**00 04 26.2**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=82,slow=16,SNR=4.7						
ASAJ				LR	LR	00 10 56.0	
	comp=Z,451nm,18.1s,baz=107,slow=41						
GRNR	**Gornyy**	**15.12**	**274**	*eP*	**P**	**00 04 42.5**	**+3.4**
GRNR				pmax	pmax		
	comp=Z,32nm,1.0s						
BILL	**Bilibino**	**15.98**	**8**	*ePn*	**Pn**	**00 04 46.7**	**+1.6**
	comp=Z,21nm,0.8s						
BILL	**Bilibino**	**15.98**	**8**	*diP*	**P**	**00 04 50.2**	**+1.6**
BILL				*eS*	**Sn**	**00 07 43.7**	**+1.9**
BILL				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK	**Yakutsk**	**19.18**	**312**	*eP*	**P**	**00 05 22.0**	**-1.8**
YAK				pmax	pmax		
	comp=Z,76nm,0.6s						
YAK				pmax	pmax		
	comp=N,20nm,0.9s						
YAK				pmax	pmax		
	comp=E,78nm,0.9s						
ZEA	**Zeya**	**20.01**	**287**	*eP*	**P**	**00 05 29.2**	**-3.8**
USRK	**Ussuriysk Ar.**	**20.62**	**258**	P	**P**	**00 05 37.7**	**-1.9**
	comp=E,11nm,1.0s,baz=59,slow=10,SNR=20						
USRK				LR	LR	00 14 42.1	
	comp=E,189nm,18.6s,baz=301,slow=40						
MJB9	**Matsu-Tunnel**	**22.34**	**234**	*eP*	**P**	**00 05 59.2**	**+0.9**
	comp=E,19nm,0.8s						
MAJO	**Matsushiro**	**22.34**	**234**	*eP*	**P**	**00 05 59

comp=Z,1.7nm,0.7s,baz=71,slow=6.4,SNR=7.6
YKA Yellowknife Ar 43.50 42 P P 00 09 03.8 +0.4
comp=Z,0.5nm,0.8s,baz=290,slow=8.0,SNR=2.9
YKB5 Yellowknife Ar 43.50 42 eP P 00 09 03.9 +0.4
NVS Novosibirsk 43.80 305⇑iP P 00 09 04.7 -1.2
NVS pmax pmax
comp=Z,25nm,1.1s
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,11nm,0.7s
RES Resolute Bay 43.90 22 eP P 00 09 07.2 +0.8
comp=E,4.1nm,1.1s
RES Resolute Bay 43.90 22 eP P 00 09 07.3 +0.8
RES pmax pmax
comp=Z,4.0nm,1.1s
RES Resolute Bay 43.90 22 P P 00 09 07.2 +0.8
comp=Z,1.8nm,0.9s,baz=318,slow=12,SNR=4.5
CD2 Chengdu 46.22 265 eP P 00 09 23.1 -2.4
WMQ Urumqi 47.52 290 eP P 00 09 35.8 +0.2
KBS Kingsbay 47.66 352ceP P 00 09 36.0 -0.1
KBS pmax pmax
comp=Z,58nm,1.3s
SPA0 Spitsbergen Ar 47.93 351 eP P 00 09 38.0 -0.2
comp=Z,34nm,1.1s
SPITS Spitsbergen Ar 47.93 351 P P 00 09 37.5 -0.7
comp=Z,6.2nm,0.4s,baz=58,slow=7.0,SNR=52
KURK Kurchatov 48.40 303 eP P 00 09 40.2 -2.0
comp=Z,20nm,0.9s
KURK Kurchatov 48.40 303ceP P 00 09 40.5 -1.7
KURK pmax pmax
comp=Z,33nm,1.3s
KURBB Kurchatov Arra 48.50 303 P P 00 09 41.0 -1.9
comp=Z,16nm,0.9s,baz=58,slow=7.8,SNR=52
MKAR Makanchi Array 48.77 297 P P 00 09 43.2 -1.9
comp=Z,2.2nm,0.5s,baz=54,slow=5.8,SNR=22
KMI Kunming 51.01 261 P P 00 10 05.1 +2.4
BVAR Borovoye Array 51.11 309 P P 00 10 00.9 -1.9
comp=Z,6.0nm,0.6s,baz=55,slow=8.2,SNR=38
BRVK Borovoye 51.14 309 eP P 00 10 01.9 -1.1
comp=Z,8.7nm,0.6s
BRVK Borovoye 51.14 309ceP P 00 10 02.0 -1.0
BRVK pmax pmax
comp=Z,12nm,1.0s
DAG Danmarks Havn 51.16 360 iP P 00 10 02.6 -0.2
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 51.16 360 iP P 00 10 02.6 -0.2
comp=Z,5.9nm,0.9s
ARCES ARCESS Array B 54.10 342 P P 00 10 24.3 -0.4
comp=Z,8.0nm,0.8s,baz=35,slow=8.9,SNR=13
ARU Arti 54.16 318 eP P 00 10 23.6 -1.7
comp=Z,12nm,1.1s
ARU Arti 54.16 318ceP P 00 10 25.1 -0.2
ARU pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 54.67 7 eP P 00 10 29.5 +0.2
comp=Z,19nm,1.0s
SUMG Summit 54.67 7 iP P 00 10 30.6 +1.4
SUMG pmax pmax
comp=Z,41nm,0.9s
SUMG Summit 54.67 7 iP P 00 10 30.6 +1.4
comp=Z,41nm,0.9s
PRGR Permogore 55.24 328 eP P 00 10 27.3 -5.7
PRGR pmax pmax
comp=Z,12nm,0.8s
AAK Ala-Archa 55.70 297 eP P 00 10 35.5 -1.3
comp=Z,3.6nm,0.8s
AAK Ala-Archa 55.70 297ceP P 00 10 36.2 -0.6
AAK pmax pmax
comp=Z,6.0nm,1.3s
NVAR Mina Array Bea 55.70 70 P P 00 10 38.2 +1.2
comp=Z,1.0nm,0.7s,baz=296,slow=7.3,SNR=10
KSH Kashi 56.99 293 P P 00 10 49.1 +3.1
PD31 Pinedale Array 57.61 61 eP P 00 10 51.5 +1.0
comp=Z,1.0nm,0.8s
PDAR Pinedale Array 57.61 61 P P 00 10 51.5 +1.0
comp=Z,0.6nm,0.6s,baz=308,slow=1.9,SNR=5.9
KLMR Klimovskoe 57.76 330 eP P 00 10 49.9 -1.1
KLMR pmax pmax
comp=Z,11nm,0.8s
LAMP Lampang 57.88 258 P P 00 10 54.0 +1.6
comp=Z,19μm,0.9s
UTTA Uttaradit 57.93 257 P P 00 10 54.2 +1.5
comp=Z,18μm,0.9s
CMMT Chiang Mai 58.07 259 P P 00 10 54.7 +1.0
comp=Z,7.7nm,0.8s
CHTO Chiang Mai 58.07 259 eP P 00 10 54.8 +1.1
comp=Z,9.3nm,0.8s
CHTO Chiang Mai 58.07 259 eP P 00 10 54.8 +1.1
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CM31 Chiang Mai Arr 58.34 259 eP P 00 10 56.1 +0.4
comp=Z,15nm,1.0s
CMAR Chiang Mai Arr 58.34 259 P P 00 10 56.1 +0.4
comp=Z,5.9nm,0.8s,baz=24,slow=7.0,SNR=21
RSSD Black Hills 59.56 56 eP P 00 11 05.0 +1.0
comp=Z,4.9nm,1.0s
RSSD Black Hills 59.56 56 eP P 00 11 05.1 +1.0
RSSD pmax pmax
comp=Z,5.0nm,1.0s
FINES FINESS Array B 60.94 337 P P 00 11 12.9 0.0
comp=Z,5.2nm,0.6s,baz=36,slow=7.6,SNR=25
CHGR Chuyangaron 61.38 297 eP P 00 11 17.0 +0.6
comp=Z,12nm,0.8s
MOS Moscow 62.46 328 eP P 00 11 32.4 +9.2
NIL Nilore 62.67 290 eP P 00 11 24.9 -0.2
comp=Z,14nm,0.8s
NIL Nilore 62.67 290 eP P 00 11 24.9 -0.2
NIL pmax pmax
comp=Z,14nm,0.8s
OBN Obninsk 63.32 328c iP P 00 11 28.2 -0.7
OBN 00 12 00.0
OBN 00 13 52.0
OBN ePPP PPP 00 15 29.0
OBN pmax pmax
comp=Z,8.0nm,0.7s
OBN MLR MLR
comp=Z,131nm,15.0s
VSU Vasula 63.37 335ceP P 00 11 30.5 +1.3
VSU pmax pmax
comp=Z,24nm,1.3s
VSU Vasula 63.37 335 eP P 00 11 27.9 -1.3
VSU IAmb IAmb 00 11 40.5
comp=Z,31nm,0.9s
NC204 NORSAR Array S 64.20 344 eP P 00 11 34.0 -0.8
comp=Z,17nm,0.9s
NB2 NORSAR Subarra 64.35 344 P P 00 11 35.3 -0.5
comp=Z,4.5nm,0.7s,baz=22,slow=6.5
NOA NORSAR Array B 64.35 344 P P 00 11 35.4 -0.3
comp=Z,4.8nm,0.8s,baz=21,slow=6.6,SNR=24
LPSR Galich'ya Gora 64.58 325 eP P 00 11 36.0 -1.3
LPSR pmax pmax
comp=Z,20nm,0.7s
VRH Novokhopyorsk 64.70 322 eP P 00 11 36.8 -1.3
VRH pmax pmax
comp=Z,20nm,0.6s
VSR Storozhevoye 65.63 324 eP P 00 11 42.4 -1.7
VSR pmax pmax
comp=Z,10,0nm,0.7s
VORD Divnogorie 65.79 324 eP P 00 11 44.1 -1.1
VORD pmax pmax
comp=Z,10.0nm,0.8s
IDID Didziasalis 66.12 333 eP P 00 11 46.1 -1.1
IDID IAmb IAmb 00 11 48.8
comp=Z,5.1nm,0.9s
IIGN Ignalina 66.23 334 eP P 00 11 47.1 -0.8
IIGN IAmb IAmb 00 11 49.4
comp=Z,5.3nm,0.6s
PABE Paberze 66.69 335 eP P 00 11 47.8 -3.1
PABE IAmb IAmb 00 11 52.3
comp=Z,17nm,0.9s
GEYT Alibeck 67.77 303 P P 00 11 57.4 -0.6
comp=Z,5.0nm,0.8s,baz=14,slow=3.1,SNR=12
GYA0B ALIBECK ARRAY 67.77 303 eP P 00 11 56.1 -1.9
comp=Z,6.3nm,1.0s
WMOK Wichita Mounta 69.21 60 eP P 00 12 08.1 +0.9
comp=Z,8.0nm,1.0s
AKASG Malin Array Be 69.42 329 P P 00 12 07.5 -0.6
comp=Z,8.3nm,0.7s,baz=31,slow=6.4,SNR=28
KIEV Kiev 69.43 329 eP P 00 12 07.8 -0.4
comp=Z,12nm,1.0s
KIEV Kiev 69.43 329⇑iP P 00 12 08.3 +0.1
KIEV Kiev 69.43 329 eP P 00 12 07.8 -0.4
KIEV pmax pmax
comp=Z,12nm,1.0s

KIV Kislovodsk 70.20 317 eP P 00 12 12.6 -0.6
KIV pmax pmax
comp=Z,17nm,1.0s
KBZ Khabaz 70.30 317 P P 00 12 13.6 0.0
comp=Z,6.0nm,0.8s,baz=48,slow=1.7,SNR=15
TX31 Lajitas Ar. Si 70.64 67 eP P 00 12 16.9 +0.8
comp=Z,1.2nm,0.8s
TXAR Lajitas Array 70.64 67 P P 00 12 16.5 +0.5
comp=Z,0.6nm,0.5s,baz=297,slow=4.7,SNR=17
ZEI Tsey 70.64 316 eP P 00 12 14.7 -1.3
ZEI pmax pmax
comp=Z,6.0nm,1.0s
AKH Akhalkalaki 71.94 315 eP P 00 12 23.5 -0.4
comp=Z,6.9nm,0.9s
AKH Akhalkalaki 71.94 315⇑iP P 00 12 25.1 +1.2
AKH Akhalkalaki 71.94 315 eP P 00 12 23.5 -0.4
AKH pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 73.06 333 eP P 00 12 30.6 +0.4
KOLS pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 73.06 333 eP P 00 12 30.6 +0.4
CLL Collm 73.17 339 iP P 00 12 31.0 +0.2
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 73.17 339 iP P 00 12 31.0 +0.2
comp=Z,7.0nm,1.0s
UPC Upice 73.24 337 eP P 00 12 32.4 +1.2
UPC Upice 73.24 337 eP P 00 12 32.4 +1.2
DPC Dobruska-Polom 73.31 337 eP P 00 12 32.5 +0.8
DPC Dobruska-Polom 73.31 337 eP P 00 12 32.5 +0.8
BRG Berggiesshubel 73.37 339 eP P 00 12 31.9 -0.1
comp=Z,7.6nm,1.6s
BRG Berggiesshubel 73.37 339 eP P 00 12 31.9 -0.1
BRG pmax pmax
comp=Z,8.0nm,1.6s
BURAR Bucovina Array 73.38 330⇑iP P 00 12 32.5 +0.3
MORC Moravsky Berou 73.54 336⇑iP P 00 12 33.8 +0.7
MORC Moravsky Berou 73.54 336 eP P 00 12 33.5 +0.4
LANS Liptovska Anna 73.62 335 eP P 00 12 35.2 +1.6
LANS Liptovska Anna 73.62 335 eP P 00 12 35.2 +1.6
TRPA Tarpa 73.71 332⇑iP P 00 12 34.7 +0.7
BIZ Bicaz 73.71 329⇓iP P 00 12 34.8 +0.7
TESR Tescani 73.92 329⇑iP P 00 12 35.0 -0.3
PRU Pruhonice 74.06 338 eP P 00 12 36.5 +0.5
PRU Pruhonice 74.06 338 eP P 00 12 36.5 +0.5
VRAC Vranov 74.21 336⇓iP P 00 12 37.7 +0.8
VRAC Vranov 74.21 336 eP P 00 12 37.4 +0.5
JAVC Velka Javorina 74.36 336 eP P 00 12 39.4 +1.5
VYHS Vyhne 74.39 335 eP P 00 12 38.6 +0.6
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 74.39 335 eP P 00 12 38.6 +0.6
KRUC Moravsky 74.49 336 eP P 00 12 39.0 +0.5
TREC Trest 74.49 337 eP P 00 12 39.2 +0.6
TREC Trest 74.49 337 eP P 00 12 39.2 +0.6
PLOR Plostina 74.51 329⇑iP P 00 12 41.2 +2.4
DOPR Dopca 74.80 329⇑iP P 00 12 41.6 +1.1
DRGR 74.87 332⇑iP P 00 12 41.0 +0.1
MODS Modra-Piesok 74.91 336 eP P 00 12 41.9 +0.9
MODS pmax pmax
comp=Z,5.0nm,1.0s
MODS Modra-Piesok 74.91 336 eP P 00 12 41.8 +0.8
MLR Muntele Rosu 75.05 329 eP P 00 12 42.5 +0.4
comp=Z,6.3nm,0.8s
MLR Muntele Rosu 75.05 329⇑iP P 00 12 43.0 +0.9
MLR Muntele Rosu 75.05 329 eP P 00 12 42.5 +0.4
MLR pmax pmax
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 75.09 338 eP P 00 12 42.6 +0.5
KHC Kasperske Hory 75.09 338 eP P 00 12 42.6 +0.5
ZST Bratislava 75.11 336 eP P 00 12 42.6 +0.4
ZST Bratislava 75.11 336 eP P 00 12 42.6 +0.4
MEM Membach 75.20 344⇑P P 00 12 42.8 +0.2
comp=Z,7.7nm,1.0s
GERES GERESS Array B 75.33 338 P P 00 12 43.8 +0.3
comp=Z,0.9nm,0.6s,baz=32,slow=5.2,SNR=11
VOIR 75.38 329⇑iP P 00 12 44.5 +0.6
BCLA Clavier 75.50 344⇑P P 00 12 44.5 +0.2
WR1 Warramunga Arr 75.54 205 eP P 00 12 45.3 +0.5
WRA Warramunga Arr 75.54 205 P P 00 12 45.3 +0.5
comp=Z,1.2nm,0.9s,baz=26,slow=4.6,SNR=5.8
ARR Arges 75.58 330⇑iP P 00 12 45.9 +0.9
CONA Conrad Observa 75.67 336 eP P 00 12 46.9 +1.4
comp=Z,4.3nm,1.0s
WLF Walferdange 76.08 343⇑PcP PcP 00 12 59.0 -0.8
GZR Gura Zlata 76.12 331⇑iP P 00 12 48.7 +0.6
BZS Buzias 76.26 332⇑iP P 00 12 48.6 -0.2
ARSA Arzberg 76.39 336 iP P 00 12 50.5 +0.9
comp=Z,5.1nm,1.1s
SOKA Soboth 77.04 336 iP P 00 12 54.0 +0.7
comp=Z,2.4nm,0.5s
KBA Koelnbreinsper 77.07 338 eP P 00 12 54.9 +1.3
comp=Z,13nm,0.8s
PUNG Punghina 77.08 330⇑iP P 00 12 53.6 +0.2
WATA Walderalm 77.23 339 eP P 00 12 55.8 +1.3
comp=Z,1.9nm,0.7s
RETA Reutte 77.26 340 eP P 00 12 55.4 +0.9
comp=Z,5.5nm,1.3s
WTTA Wattenberg 77.28 339 eP P 00 12 56.5 +1.7
comp=Z,5.8nm,1.2s
MOTA Moosalm 77.32 339 iP P 00 12 55.7 +0.7
comp=Z,4.1nm,1.0s
BRTR Keskin Array B 77.40 321 P P 00 12 55.2 -0.3
comp=Z,2.6nm,0.9s,baz=44,slow=4.1,SNR=16
SQTA Sankt Quirin 77.42 339 eP P 00 12 54.9 -0.5
comp=Z,5.6nm,1.0s
ABTA Abfaltersbach 77.57 338 eP P 00 12 56.8 +0.5
comp=Z,6.9nm,1.1s
FETA Feichten 77.71 339 iP P 00 12 57.6 +0.5
comp=Z,3.9nm,1.0s
PHSR Pinarhisar 77.97 326⇑iP P 00 12 59.3 +0.8
VTS Vitosha 78.49 329⇓iP P 00 13 01.5 0.0
AS31 Alice Springs 79.20 205 eP P 00 13 05.9 +0.6
comp=Z,1.1nm,1.1s
ASAR Alice Springs 79.21 205 P P 00 13 05.9 +0.6
comp=Z,0.7nm,0.7s,baz=16,slow=5.8,SNR=7.1
STIP Stip 79.66 330 iP P 00 13 06.4 -1.4
CSS Mathiatis 81.65 319 eP P 00 13 18.6 0.0
comp=Z,9.7nm,0.8s
ESDC Sonseca Array 87.38 348 P P 00 13 47.7 +0.2
comp=Z,1.8nm,0.9s,baz=1.0,slow=5.2,SNR=8.0

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*IDC **21** 00:03:01.9±0.9, 38°.78N×136°.92E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.6/40, mbtmp3.7/8, ML2.4/3, Error ellipse: s-maj=30.6km s-min=17.6km az=95.0*
*ISCJB **21** 00:03:04.8±1.0, 38°.77N±0°.05×136°.67E±0°.09, h34km±11km, mb3.8/7, Error ellipse: s-maj=12.8km s-min=8.0km az=155.0*
*JMA **21** 00:03:04.2±0.3, 38°.82N×136°.73E, h41km±4km, M3.6*
ISC 21 00:03:05.2±3.0, 38°.75N±0°.07×136°.79E±0°.08, h23km±22km, n17, σ0°.75/23, mb3.8/7, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**0.91**	**173**	P		**Pn**	**00 03 21.7**	**-0.8**
JHG				eS		**Sb**	**00 03 33.9**	**+0.1**
JSZ	**Suzu**	**1.38**	**161**	P		**Pn**	**00 03 29.0**	**0.0**
JSZ				eS		**Sn**	**00 03 46.8**	**+0.3**
MAT	**Matsushiro**	**2.47**	**152**	P		**Pn**	**00 03 44.3**	**+0.2**
MAT				S		**Sn**	**00 04 14.5**	**+0.9**
MAT	**Matsushiro**	**2.47**	**152**	P		**Pn**	**00 03 44.1**	**0.0**
MJAR	**Matsushiro Arr**	**2.48**	**152**	Pn		**Pn**	**00 03 44.5**	**+0.3**
	0.3nm,0.3s,baz=59,slow=11,SNR=5.7							
MJAR				Sn		**Sn**	**00 04 13.9**	**+0.2**
	0.6nm,0.3s,baz=339,slow=17,SNR=3.8							
JKG	**Kaga**	**2.50**	**189**	P		**Pn**	**00 03 44.0**	**-0.4**
JKG				eS		**Sn**	**00 04 14.1**	**0.0**
JYTA	**Yamagatataniai**	**3.15**	**181**	P		**Pn**	**00 03 54.0**	**+0.6**
JWT	**Wachi**	**3.63**	**198**	P		**Pn**	**00 03 59.9**	**-0.2**
JWT				eS		**Sn**	**00 04 40.7**	**-1.5**
USRK	**Ussuriysk Ar.**	**6.53**	**328**	Pn		**Pn**	**00 04 39.5**	**-0.3**
	0.2nm,0.3s,baz=137,slow=14,SNR=2.2							
KSRS	**Korea Array**	**7.11**	**262**	Pn		**Pn**	**00 04 48.5**	**+0.7**
	0.6nm,0.3s,baz=75,slow=14,SNR=3.7							
ILAR	**Eielson Array**	**50.03**	**33**	P		**P**	**00 11 55.8**	**-1.7**
	0.5nm,0.9s,baz=256,slow=7.3,SNR=2.8							
INK	**Inuvik**	**54.53**	**27**	P		**P**	**00 12 31.6**	**+0.8**
	0.6nm,0.6s,baz=258,slow=5.5,SNR=3.2							
WRA	**Warramunga Arr**	**58.43**	**183**	P		**P**	**00 12 59.9**	**+0.8**
	1.6nm,0.5s,baz=359,slow=6.8,SNR=31							
ASAR	**Alice Springs**	**62.15**	**183**	P		**P**	**00 13 25.0**	**+0.5**
	1.1nm,0.7s,baz=17,slow=6.2,SNR=5.7							
NVAR	**Mina Array Bea**	**76.83**	**51**	P		**P**	**00 14 54.5**	**-1.0**
	0.6nm,0.7s,baz=302,slow=5.1,SNR=4.5							
PDAR	**Pinedale Array**	**79.01**	**43**	P		**P**	**00 15 08.0**	**+0.4**
	0.3nm,0.6s,baz=327,slow=6.5,SNR=2.2							
TXAR	**Lajitas Array**	**91.88**	**49**	P		**P**	**00 16 12.2**	**+0.3**
	0.3nm,0.6s,baz=278,slow=2.9,SNR=4.4							

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*IDC **21** 00:15:46.2±3.9, 51°.72N×160°.62E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.2/39, mbtmp3.6/3, ML2.4/1, Error ellipse: s-maj=114.3km s-min=49.2km az=27.0*
*KRSC **21** 00:15:48.3±10.0, 52°.07N×160°.87E, h16km±10km, ML3.6*
ISC 21 00:15:49.5±3.5, 52°.13N±0°.08×160°.77E±0°.08, h12km±22km, n21, σ1°.14/32, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.07**	**335**	eP		**Pb**	**00 16 09.9**	**-0.1**
SPN				S		**Sb**	**00 16 22.4**	**-1.6**
NLC	**Nalytchevo**	**1.36**	**321**	eP		**Pb**	**00 16 14.4**	**-0.4**
RUS	**Russkaya**	**1.42**	**283**	eP		**Pb**	**00 16 15.6**	**-0.3**
RUS				S		**Sn**	**00 16 32.4**	**-1.3**
DALK	**Dalny**	**1.53**	**307**	eP		**Pb**	**00 16 17.1**	**-0.6**
DALK				S		**Sn**	**00 16 37.0**	**+0.6**
PET	**Petropavlovsk**	**1.57**	**306**	eP		**Pb**	**00 16 17.9**	**-0.6**
PET				S		**Sb**	**00 16 38.3**	**-0.1**
UGLR	**Uglovaya**	**1.61**	**313**	P		**Pb**	**00 16 18.7**	**-0.4**
SDLR	**Sedlovina**	**1.63**	**316**	eP		**Pb**	**00 16 18.7**	**-0.8**
MTVR	**Mutnovka**	**1.63**	**284**	eP		**Pb**	**00 16 19.1**	**-0.4**
MTVR				S		**Sn**	**00 16 39.3**	**+0.2**
SMAR	**Somma**	**1.65**	**314**	eP		**Pb**	**00 16 19.2**	**-0.8**
AVH	**Avacha**	**1.68**	**313**	eP		**Pb**	**00 16 19.9**	**-0.5**
AVH				S		**Sb**	**00 16 41.7**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.70**	**260**	eP		**Pb**	**00 16 19.5**	**-1.1**
KDTR				S		**Sn**	**00 16 39.5**	**-1.0**
KRER	**Koryakskii**	**1.71**	**315**	eP		**Pb**	**00 16 20.3**	**-0.6**
KOK	**Koryaka**	**1.75**	**313**	eP		**Pb**	**00 16 20.8**	**-0.7**
KRMR	**Karymshinskiy**	**1.76**	**295**	eP		**Pb**	**00 16 20.7**	**-1.0**
KRMR				S		**Sb**	**00 16 45.1**	**+1.3**
PETK	**Petropavlovsk-**	**2.12**	**299**	Pn		**Pb**	**00 16 26.1**	**-1.6**
	5.4nm,0.3s,baz=104,slow=18,SNR=41							
PETK				Sn		**Sb**	**00 16 52.8**	**-1.2**
	5.7nm,0.3s,baz=236,slow=11,SNR=2.5							
APC	**Apacha**	**2.35**	**291**	eP		**Pb**	**00 16 30.0**	**-1.7**
APC				S		**Sb**	**00 17 02.2**	**+1.6**
MKZ	**Mys Kozlova**	**2.50**	**13**	S		**Sn**	**00 16 58.6**	**-1.7**
KZV	**Kizimen**	**3.01**	**355**	eP		**Pn**	**00 16 39.0**	**+2.0**
KZV				S		**Sb**	**00 17 18.5**	**-1.2**
TUMR	**Tumrok**	**3.19**	**354**	P		**Pn**	**00 16 41.4**	**+2.0**
MKAR	**Makanchi Array**	**48.95**	**297**	P		**P**	**00 24 34.4**	**-0.9**
	0.2nm,0.5s,baz=54,slow=7.3,SNR=1.9							
FINES	**FINESS Array B**	**61.17**	**337**	P		**P**	**00 26 04.2**	**+0.8**
	0.9nm,0.7s,baz=51,slow=7.3,SNR=5.6							

SVSA 21 00:18:54.2±0.4, 39°.61N×29°.67W, h10km, MD3.7, ML2.6, Error ellipse: s-maj=4.5km s-min=2.8km az=72.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.24**	**142**	eS		Sb	00 19 26.6	-7.1
PCED				A		A	00 19 27.5	
	46nm,0.2s							
CALA	**Caldeira**	**1.27**	**144**	eP		Pn	00 19 13.6	-4.5
CALA				eS		Sb	00 19 28.2	-6.6
HOR	**Horta**	**1.35**	**143**	eP		Pn	00 19 14.3	-4.8
HOR				eS		Sb	00 19 29.6	-7.3
HOR				A		A	00 19 31.1	
	175nm,0.1s							
ROSA	**Rosais**	**1.42**	**128**	eP		Pn	00 19 15.5	-4.6
ROSA				eS		Sn	00 19 31.4	-7.5
ROSA				A		A	00 19 32.5	
	28nm,0.2s							
PGRA	**Graciosa**	**1.43**	**114**	eP		Pn	00 19 15.6	-4.6
PGRA				eS		Sn	00 19 31.6	-7.5
PGRA				A		A	00 19 35.2	
	26nm,0.3s							
PCAN	**Candelaria**	**1.47**	**141**	eP		Pn	00 19 16.1	-4.7
PCAN				eS		Sn	00 19 32.7	-7.4
PCAN				A		A	00 19 34.2	
	102nm,0.2s							

KRSC 21 00:19:28.6±10.0, 52°.16N×160°.86E, h61km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.07**	**332**	eP		Pn	00 19 48.6	+1.0
SPN				eS		Sn	00 20 01.4	-0.3
NLC	**Nalytchevo**	**1.37**	**318**	eP		Pn	00 19 53.9	+2.4
NLC				eS		Sn	00 20 11.2	+2.4
RUS	**Russkaya**	**1.47**	**282**	eP		Pn	00 19 54.7	+1.9
RUS				eS		Sn	00 20 12.9	+1.9
DALK	**Dalny**	**1.56**	**305**	eP		Pn	00 19 56.0	+2.0
DALK				eS		Sn	00 20 14.5	+1.4
UGLR	**Uglovaya**	**1.63**	**311**	eP		Pn	00 19 57.7	+2.6
UGLR				eS		Sn	00 20 18.2	+3.1
SDLR	**Sedlovina**	**1.65**	**314**	eP		Pn	00 19 57.6	+2.2
SDLR				eS		Sn	00 20 17.6	+2.0
SMAR	**Somma**	**1.67**	**312**	eP		Pn	00 19 57.7	+1.9
MTVR	**Mutnovka**	**1.68**	**282**	eP		Pn	00 19 58.2	+2.4
MTVR				eS		Sn	00 20 18.6	+2.3
AVH	**Avacha**	**1.70**	**312**	eP		Pn	00 19 58.7	+2.6
KRER	**Koryakskii**	**1.72**	**313**	eP		Pn	00 19 59.1	+2.6
KDTR	**Khodutka, Kamc**	**1.75**	**260**	eP		Pn	00 19 58.7	+2.0
KDTR				eS		Sn	00 20 19.3	+1.3
KOK	**Koryaka**	**1.77**	**311**	eP		Pn	00 19 59.5	+2.5
KRMR	**Karymshinskiy**	**1.80**	**293**	eP		Pn	00 19 59.7	+2.4
KRMR				eS		Sn	00 20 21.5	+2.4
KRX	**Arik**	**1.81**	**313**	eP		Pn	00 19 59.7	+2.2
ASAK	**Asacha**	**1.83**	**278**	eP		Pn	00 20 00.6	+2.8
APC	**Apacha**	**2.39**	**290**	eP		Pn	00 20 08.7	+3.4
APC				eS		Sn	00 20 35.7	+2.3
MKZ	**Mys Kozlova**	**2.46**	**12**	eS		Sn	00 20 37.1	+2.0
KZV	**Kizimen**	**2.98**	**354**	eP		Pn	00 20 17.1	+3.5
KZV				eS		Sn	00 20 51.3	+3.1
TUMR	**Tumrok**	**3.16**	**353**	eP		Pn	00 20 19.8	+3.8
ALID	**Alaid**	**3.56**	**251**	eP		Pn	00 20 24.6	+3.2
KBTR	**Krutoberegovo**	**4.22**	**15**	eP		Pn	00 20 34.3	+4.0
BKI	**Bering**	**4.31**	**43**	eS		Sn	00 21 20.7	+0.3

SJA 21 00:20:09.1±0.7, 30°.60S×71°.80W, h6km±8km, ML2.6, MW3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.96**	**64**	eP		Pb	00 20 28.4	+0.1
GO04				eS		Sn	00 20 42.5	-1.0
AROD	**Rodeo**	**2.05**	**79**	eP		Pb	00 20 47.0	0.0
AROD				eS		Sg	00 21 15.0	-0.1
ACDV	**Cuesta del Vie**	**2.35**	**80**	eP		Pb	00 20 51.3	-0.7
ACDV				eS		Sb	00 21 22.2	+0.8
ACCO	**Cerro Coronel**	**2.35**	**91**	eP		Pb	00 20 51.5	-0.6
ACCO				eS		Sb	00 21 23.0	+1.3
RTLS	**Leoncito**	**2.46**	**120**	eP		Pb	00 20 53.0	-0.8
RTLS				eS		Sb	00 21 25.1	+0.6
RTLS				IAML			00 21 31.6	
	comp=Z,40nm,0.4s							
AUSP	**Uspallata**	**2.62**	**129**	eP		Pb	00 20 55.4	-1.3
AUSP				eS		Sb	00 21 29.7	+0.3
RTCV	**Cerro Valdivia**	**3.06**	**115**	eP		Pn	00 21 01.1	+2.9
RTCV				eS		Sb	00 21 39.4	-2.3
AGUA	**GUANDACOL**	**3.07**	**70**	eP		Pn	00 21 01.3	+2.9
AGUA				eS		Sb	00 21 40.0	-2.1
ARCO	**CERRO ARCO**	**3.31**	**133**	eP		Pn	00 21 04.3	+2.6
ARCO				eS		Sb	00 21 45.8	-3.3
ARCO				IAML			00 22 02.4	
	comp=Z,9.9nm,0.6s							
APLL	**PUNTA DE LOS L**	**4.55**	**89**	eP		Pn	00 21 21.5	+2.8
APLL				IAML			00 22 36.3	
	comp=Z,6.1nm,0.5s							

SVSA 21 00:22:07.2±0.3, 39°.40N×29°.85W, h10km, MD3.6, ML2.4, Error ellipse: s-maj=7.0km s-min=2.7km az=51.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.18**	**131**	eP		Pb	00 22 25.1	-4.6

PCED *eS* Sb 00 22 38.5 -6.5
PCED A A 00 22 39.2
31nm,0.3s
CALA Caldeira 1.21 132 *eS* Sb 00 22 39.4 -6.6
PCAN Candelaria 1.42 131 *eP* Pn 00 22 28.3 -4.8
PCAN *eS* Sn 00 22 44.3 -7.5
PCAN A A 00 22 46.3
42nm,0.2s
ROSA Rosais 1.43 118 *eP* Pn 00 22 28.5 -4.6
ROSA *eS* Sn 00 22 44.3 -7.6
ROSA A A 00 22 49.5
7.5nm,0.2s

IDC 21 00:25:09.9±5.6, 5°.66S×147°.55E, h170km×39km, mb3.3/3, mb1 3.6/5, mb1mx3.2/26, mbtmp3.9/5, Error ellipse: s-maj=51.1km s-min=42.0km az=12.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.74**	**186**	P	Pn	00 26 09.2	+1.7
	3.8nm,0.3s,baz=339,slow=6.6,SNR=3.0						
PMG				S	Sn	00 26 52.3	-0.1
	4.2nm,0.3s,baz=29,slow=20,SNR=9.5						
WRA	**Warramunga Arr**	**19.15**	**221**	P	P	00 29 20.5	+0.2
	baz=48,slow=11						
ASAR	**Alice Springs**	**22.21**	**215**	P	P	00 29 53.5	+0.8
	2.1nm,0.5s,baz=48,slow=8.7,SNR=27						
FITZ	**Fitzroy Crossi**	**24.71**	**238**	P	P	00 30 15.2	-0.4
	2.2nm,0.7s,baz=49,slow=11,SNR=7.4						
VNDA	**Vanda**	**72.22**	**177**	P	P	00 36 16.1	+0.2
	0.2nm,0.3s,baz=56,slow=3.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**145.54**	**285**	PKPbc	PKPdf	00 44 27.6	-1.3
	0.1nm,0.4s,baz=64,slow=3.3,SNR=4.2						

KRSC 21 00:34:03.5±10.0, 52°.12N×160°.90E, h61km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.11**	**332**	*eP*	Pn	00 34 24.2	+1.1
SPN				*eS*	Sn	00 34 37.2	-0.4
NLC	**Nalytchevo**	**1.41**	**319**	*eP*	Pn	00 34 28.8	+1.8
NLC				*eS*	Sn	00 34 45.4	+0.7
RUS	**Russkaya**	**1.50**	**283**	*eP*	Pn	00 34 29.6	+1.4
RUS				*eS*	Sn	00 34 47.8	+1.1
DALK	**Dalny**	**1.59**	**306**	*eP*	Pn	00 34 31.7	+2.2
DALK				*eS*	Sn	00 34 51.0	+2.0
UGLR	**Uglovaya**	**1.67**	**312**	*eP*	Pn	00 34 33.2	+2.6
SDLR	**Sedlovina**	**1.69**	**314**	*eP*	Pn	00 34 33.5	+2.7
MTVR	**Mutnovka**	**1.71**	**283**	*eP*	Pn	00 34 33.5	+2.4
MTVR				*eS*	Sn	00 34 53.8	+1.8
SMAR	**Somma**	**1.71**	**313**	*eP*	Pn	00 34 34.4	+3.1
AVH	**Avacha**	**1.74**	**312**	*eP*	Pn	00 34 34.6	+3.0
KRER	**Koryakskii**	**1.76**	**313**	*eP*	Pn	00 34 34.8	+2.8
KDTR	**Khodutka, Kamc**	**1.77**	**261**	*eP*	Pn	00 34 34.1	+2.2
KDTR				*eS*	Sn	00 34 54.5	+1.1
KOK	**Koryaka**	**1.81**	**311**	*eP*	Pn	00 34 35.4	+2.9
KRMR	**Karymshinskiy**	**1.84**	**294**	*eP*	Pn	00 34 35.1	+2.4
KRMR				*eS*	Sn	00 34 57.2	+2.3
KRX	**Arik**	**1.84**	**313**	*eP*	Pn	00 34 35.8	+2.8
APC	**Apacha**	**2.42**	**291**	*eP*	Pn	00 34 44.5	+3.8
APC				*eS*	Sn	00 35 12.5	+3.3
MKZ	**Mys Kozlova**	**2.49**	**11**	*eS*	Sn	00 35 11.3	+0.6
KZV	**Kizimen**	**3.02**	**353**	*eP*	Pn	00 34 52.5	+3.5
KZV				*eS*	Sn	00 35 27.2	+3.2
TUMD	**Tumrok D**	**3.10**	**355**	*eS*	Sn	00 35 28.3	+2.5
TUMR	**Tumrok**	**3.20**	**352**	*eP*	Pn	00 34 55.7	+4.3
KBTR	**Krutoberegovo**	**4.25**	**15**	P	Pn	00 35 10.1	+4.5
BKI	**Bering**	**4.32**	**42**	P	Pn	00 35 11.0	+4.5
BKI				*eS*	Sn	00 35 54.7	-0.8

IDC 21 00:36:55.4±11.0, 3°.71S×145°.80E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=413.3km s-min=33.1km az=98.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.63**	**214**	P	P	00 41 24.6	-1.1
	0.1nm,0.3s,baz=39,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**22.93**	**209**	P	P	00 42 02.1	+0.8
	0.2nm,0.4s,baz=35,slow=13,SNR=4.6						
SONM	**Songino Array**	**61.83**	**331**	P	P	00 47 16.4	0.0
	0.3nm,0.4s,baz=145,slow=5.3,SNR=2.0						

*ISCJB **21** 00:51:03.6±0.5, 0°.9S±0°.1×24°.47W±0°.08, h10km, mb3.8/12, MS4.0/16, Error ellipse: s-maj=16.3km s-min=10.8km az=171.1*
*IDC **21** 00:51:03.9±0.7, 0°.88S×24°.57W, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/40, mbtmp3.8/11, MS4.0/16, Ms1 4.0/16, ms1mx3.7/39, Error ellipse: s-maj=27.3km s-min=18.1km az=148.0*
*NEIC **21** 00:51:05.2±2.3, 0°.89S×24°.61W, h10km±2km, mb4.4/3, Error ellipse: s-maj=33.4km s-min=15.4km az=154.0*
ISC 21 00:51:04.7±0.6, 1°.0S±0°.1×24°.64W±0°.09, h10km, n41, σ1§20/26, mb3.9/13, MS3.9/16, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**12.20**	**124**	T	T	01 06 13.1	
	baz=304,slow=74,SNR=260						
H10N2	**ASCENSION HYDR**	**12.20**	**124**	T	T	01 06 13.2	
	baz=304,slow=74,SNR=314						
H10N1	**ASCENSION HYDR**	**12.22**	**124**	T	T	01 06 17.6	
	baz=304,slow=74,SNR=265						
RCBR	**Riachuelo**	**12.24**	**246**	*e*Pn	**Pn**	**00 53 56.3**	**-3.0**
RCBR				*e*Sn	Sn	00 56 01.3	-15
ASCN	**Ascension**	**12.36**	**124**	*e*Pn	**Pn**	**00 54 00.3**	**-0.6**
H10S3	**ASCENSION HYDR**	**12.71**	**129**	T	T	01 06 52.8	
	baz=308,slow=74,SNR=221						
H10S1	**ASCENSION HYDR**	**12.72**	**129**	T	T	01 06 56.5	
	baz=308,slow=74,SNR=251						
H10S2	**ASCENSION HYDR**	**12.73**	**129**	T	T	01 06 47.6	
	baz=308,slow=74,SNR=130						
DBIC	**Dimbokro**	**21.15**	**69**	*e*P	**P**	**00 55 49.3**	**-0.9**
	22nm,1.0s						
DBIC	**Dimbokro**	**21.15**	**69**	P	**P**	**00 55 49.6**	**-0.5**
	9.9nm,0.8s,baz=235,slow=12,SNR=7.7						
DBIC				LR	LR	01 02 10.1	
	comp=Z,485nm,20.9s,baz=198,slow=32						
BDFB	**Brasilia**	**27.29**	**236**	LR	LR	01 06 55.9	
	comp=Z,775nm,19.2s,baz=77,slow=35						
MDP	**Montagnes des**	**28.61**	**282**	LR	LR	01 06 17.3	
	comp=Z,168nm,21.2s,baz=119,slow=32						
TOA0	**Torodi Ar. Sit**	**29.64**	**61**	*e*P	**P**	**00 57 10.1**	**-0.6**
	19nm,1.9s						
TOA1	**Torodi Ar. Sit**	**29.64**	**61**	*e*P	**P**	**00 57 10.7**	**0.0**
TORD	**Torodi Ar. Bea**	**29.64**	**61**	P	**P**	**00 57 10.7**	**0.0**
	2.0nm,1.0s,baz=262,slow=10,SNR=7.4						
TORD				LR	LR	01 07 30.2	
	comp=Z,229nm,19.4s,baz=300,slow=33						
TAM	**Tamanrasset**	**37.69**	**49**	*e*P	**P**	**00 58 18.9**	**-1.9**
	4.1nm,1.3s						
SIV	**San Ignacio**	**38.90**	**245**	P	**P**	**00 58 33.2**	**+2.2**
	0.6nm,0.8s,baz=100,slow=14,SNR=3.0						
CPUP	**Villa Florida**	**40.31**	**229**	LR	LR	01 14 20.1	
	comp=Z,244nm,19.0s,baz=78,slow=34						
ESDC	**Sonseca Array**	**44.65**	**23**	P	**P**	**00 59 18.9**	**+1.2**
	0.6nm,0.8s,baz=240,slow=7.9,SNR=3.5						
LPAZ	**La Paz**	**45.47**	**248**	P	**P**	**00 59 27.1**	**+1.9**
	1.1nm,0.7s,baz=32,slow=4.2,SNR=6.4						
KEST	**Kesra**	**48.33**	**38**	LR	LR	01 21 26.6	
	comp=Z,462nm,18.1s,baz=212,slow=38						
ROSC	**El Rosal**	**49.96**	**277**	LR	LR	01 21 55.5	
	comp=Z,225nm,18.9s,baz=126,slow=37						
VAE	**Valguarnera**	**52.58**	**39**	LR	LR	01 23 27.3	
	comp=Z,181nm,19.7s,baz=183,slow=37						
BOSA	**Boshof**	**54.95**	**125**	P	**P**	**01 00 37.6**	**+1.1**
	0.8nm,0.7s,baz=286,slow=9.1,SNR=3.6						
BOSA				LR	LR	01 19 06.8	
	comp=Z,134nm,19.8s,baz=264,slow=31						
DAVOX	**Davos/Dischmat**	**56.35**	**28**	LR	LR	01 24 16.7	
	comp=Z,92nm,18.9s,baz=233,slow=35						
IDI	**Anoyia**	**58.58**	**47**	LR	LR	01 26 50.6	
	comp=Z,51nm,19.1s,baz=246,slow=37						
GERES	**GERESS Array B**	**59.63**	**28**	P	**P**	**01 01 09.2**	**+0.1**
	0.4nm,0.7s,baz=223,slow=5.5,SNR=5.4						
GERES				LR	LR	01 26 48.0	
	comp=Z,66nm,20.0s,baz=246,slow=36						
KMBO	**Kilima Mbogo**	**61.88**	**91**	LR	LR	01 25 29.2	
	comp=Z,388nm,18.6s,baz=228,slow=33						
SCHQ	**Schefferville**	**65.48**	**335**	LR	LR	01 26 13.2	
	comp=Z,66nm,19.8s,baz=54,slow=32						
BORG	**Borgarnes**	**65.60**	**2**	LR	LR	01 22 22.2	
	comp=Z,54nm,19.4s,baz=185,slow=29						
BR101	**Keskin Array S**	**66.74**	**46**	*e*P	**P**	**01 01 56.9**	**+0.3**
BRTR	**Keskin Array B**	**66.74**	**46**	P	**P**	**01 01 56.9**	**+0.3**
	0.7nm,0.8s,baz=216,slow=6.1,SNR=5.2						
BRTR				LR	LR	01 32 07.3	
	comp=Z,88nm,21.1s,baz=194,slow=37						
AKASG	**Malin Array Be**	**68.77**	**33**	P	**P**	**01 02 08.4**	**-0.5**
	0.4nm,0.3s,baz=240,slow=6.4,SNR=5.5						
LTX	**Lajitas**	**80.91**	**300**	*e*P	**P**	**01 03 20.4**	**+0.5**
TXAR	**Lajitas Array**	**80.91**	**300**	P	**P**	**01 03 20.4**	**+0.5**
	0.2nm,0.6s,baz=122,slow=6.9,SNR=3.8						
YKA	**Yellowknife Ar**	**90.83**	**332**	P	**P**	**01 04 08.1**	**0.0**
	0.5nm,0.7s,baz=97,slow=5.1,SNR=10						
YKB5	**Yellowknife Ar**	**90.83**	**332**	*e*P	**P**	**01 04 08.2**	**0.0**
VPDC	**Valencia Peak**	**95.65**	**305**	*e*P	**P**	**01 04 30.8**	**-0.3**
ASAR	**Alice Springs**	**147.84**	**141**	PKPbc	**PKPbc**	**01 10 49.6**	**-1.4**
	1.7nm,0.6s,baz=207,slow=2.3,SNR=15						
WRA	**Warramunga Arr**	**150.74**	**136**	PKPbc	**PKPbc**	**01 10 59.4**	**+1.1**
	1.0nm,0.7s,baz=224,slow=3.8,SNR=4.4						
WRA				PKPab	**PKPab**	**01 11 06.2**	**+1.0**
	0.9nm,0.7s,baz=214,slow=4.0,SNR=6.4						
WR1	**Warramunga Arr**	**150.74**	**136**	*e*PKPbc	**PKPbc**	**01 10 59.4**	**+1.1**
WR1				*e*PKPab	**PKPab**	**01 11 06.2**	**+1.0**

KRSC 21 00:51:11.5±10.0, 52°.10N×160°.95E, h61km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.15**	**331**	*e*P	Pn	00 51 32.7	+1.3
SPN				*e*S	Sn	00 51 46.2	-0.1
NLC	**Nalytchevo**	**1.45**	**318**	*e*P	Pn	00 51 37.4	+2.0
NLC				*e*S	Sn	00 51 55.0	+1.5
DALK	**Dalny**	**1.63**	**306**	*e*P	Pn	00 51 40.6	+2.7
DALK				*e*S	Sn	00 52 00.4	+2.6
PET	**Petropavlovsk**	**1.68**	**304**	*e*P	Pn	00 51 38.8	+0.3
UGLR	**Uglovaya**	**1.70**	**311**	*e*P	Pn	00 51 41.8	+2.8
SDLR	**Sedlovina**	**1.72**	**314**	*e*P	Pn	00 51 41.7	+2.5
MTVR	**Mutnovka**	**1.74**	**284**	*e*P	Pn	00 51 41.5	+2.0
MTVR				*e*S	Sn	00 52 02.3	+1.5
SMAR	**Somma**	**1.75**	**312**	*e*P	Pn	00 51 42.4	+2.7
AVH	**Avacha**	**1.78**	**312**	*e*P	Pn	00 51 43.0	+3.0
AVH				*e*S	Sn	00 52 04.7	+3.1
KDTR	**Khodutka, Kamc**	**1.80**	**262**	*e*P	Pn	00 51 42.3	+2.1
KDTR				*e*S	Sn	00 52 02.9	+0.9
KOK	**Koryaka**	**1.84**	**311**	*e*P	Pn	00 51 43.8	+2.9
KRMR	**Karymshinskiy**	**1.87**	**294**	*e*P	Pn	00 51 43.6	+2.5
KRMR				*e*S	Sn	00 52 05.7	+2.0
KRX	**Arik**	**1.88**	**313**	*e*P	Pn	00 51 44.2	+2.8
APC	**Apacha**	**2.46**	**291**	*e*P	Pn	00 51 52.7	+3.6
MKZ	**Mys Kozlova**	**2.50**	**10**	*e*S	Sn	00 52 20.7	+1.7
TUMD	**Tumrok D**	**3.12**	**354**	*e*S	Sn	00 52 36.4	+2.1
TUMR	**Tumrok**	**3.22**	**352**	*e*P	Pn	00 52 04.4	+4.8
KBTR	**Krutoberegovo**	**4.26**	**14**	*e*P	Pn	00 52 17.8	+4.1
BKI	**Bering**	**4.31**	**42**	*e*S	Sn	00 53 04.0	+0.7

*KRSC **21** 01:03:17.8±10.0, 52°.21N×160°.80E, h60km±10km, ML4.1*
*IDC **21** 01:03:26.1±3.6, 52°.38N×160°.34E, h64km±25km, mb3.6/10, mb1 3.7/10, mb1mx3.3/60, mbtmp3.9/10, MS3.9/1, Ms1 3.8/1, ms1mx2.9/30, Error ellipse: s-maj=43.6km s-min=22.2km az=4.0*
ISC 21 01:03:19.3±3.7, 52°.25N±0°.06×160°.71E±0°.05, h17km±22km, n37, σ1§35/47, mb3.9/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.95**	**334**	*e*P	**Pb**	**01 03 36.7**	**-0.7**
SPN				*e*S	**Sb**	**01 03 49.0**	**-0.7**
NLC	**Nalytchevo**	**1.25**	**319**	*e*P	**Pn**	**01 03 41.4**	**-0.5**
NLC				*e*S	**Sb**	**01 03 57.4**	**-0.7**
RUS	**Russkaya**	**1.36**	**279**	*e*P	**Pn**	**01 03 43.4**	**-0.1**
RUS				*e*S	**Sn**	**01 04 00.1**	**-1.1**
DALK	**Dalny**	**1.43**	**304**	*e*P	**Pn**	**01 03 44.2**	**-0.3**
DALK				*e*S	**Sn**	**01 04 02.5**	**-0.3**
UGLR	**Uglovaya**	**1.50**	**311**	*e*P	**Pn**	**01 03 45.9**	**+0.3**
SDLR	**Sedlovina**	**1.52**	**314**	*e*P	**Pn**	**01 03 45.7**	**-0.1**
SMAR	**Somma**	**1.54**	**312**	*e*P	**Pn**	**01 03 46.1**	**-0.2**
MTVR	**Mutnovka**	**1.57**	**280**	*e*P	**Pn**	**01 03 46.8**	**+0.3**
MTVR				*e*S	**Sn**	**01 04 06.3**	**-0.2**
AVH	**Avacha**	**1.57**	**311**	*e*P	**Pn**	**01 03 47.0**	**+0.4**
KRER	**Koryakskii**	**1.59**	**312**	*e*P	**Pn**	**01 03 47.3**	**+0.3**
KOK	**Koryaka**	**1.64**	**311**	*e*P	**Pn**	**01 03 47.9**	**+0.4**
KRX	**Arik**	**1.68**	**313**	*e*P	**Pn**	**01 03 48.7**	**+0.7**
KRMR	**Karymshinskiy**	**1.68**	**291**	*e*P	**Pn**	**01 03 48.1**	**+0.2**
KRMR				*e*S	**Sn**	**01 04 09.9**	**+0.8**
KDTR	**Khodutka, Kamc**	**1.68**	**256**	*e*P	**Pn**	**01 03 47.9**	**-0.1**
KDTR				*e*S	**Sn**	**01 04 08.1**	**-1.0**
ASAK	**Asacha**	**1.73**	**276**	*e*P	**Pn**	**01 03 49.4**	**+0.7**
PETK	**Petropavlovsk-**	**2.03**	**296**	P	**Pn**	**01 03 53.3**	**+0.6**
	20nm,0.3s,baz=104,slow=16,SNR=135						
PETK				S	**Sn**	**01 04 16.7**	**-1.0**
	11nm,0.3s,baz=96,slow=17,SNR=3.8						
PETK				LR	LR	01 04 51.6	
	comp=Z,530nm,18.3s,baz=72,slow=48						
APC	**Apacha**	**2.27**	**289**	*e*P	**Pn**	**01 03 57.5**	**+1.5**
MKZ	**Mys Kozlova**	**2.39**	**14**	*e*S	**Sn**	**01 04 24.2**	**-2.4**
PAU	**Pauzhetka**	**2.54**	**254**	*e*P	**Pn**	**01 04 00.4**	**+0.7**
KZV	**Kizimen**	**2.88**	**355**	*e*P	**Pn**	**01 04 05.2**	**+0.6**
KZV				*e*S	**Sn**	**01 04 39.0**	**0.0**
TUMD	**Tumrok D**	**2.97**	**357**	*e*P	**Pn**	**01 04 07.5**	**+1.8**
TUMD				*e*S	**Sn**	**01 04 40.4**	**-0.5**
TUMR	**Tumrok**	**3.06**	**354**	*e*P	**Pn**	**01 04 08.7**	**+1.7**
ALID	**Alaid**	**3.50**	**249**	*e*P	**Pn**	**01 04 12.2**	**-0.9**
ESO	**Esso**	**3.87**	**343**	*e*P	**Pn**	**01 04 20.5**	**+2.4**
KBTR	**Krutoberegovo**	**4.16**	**16**	*e*P	**Pn**	**01 04 22.9**	**+0.9**
BKI	**Bering**	**4.31**	**44**	*e*P	**Pn**	**01 04 24.4**	**+0.4**
BKI				*e*S	**Sn**	**01 05 08.6**	**-5.2**
KURBB	**Kurchatov Arra**	**48.60**	**303**	P	**P**	**01 11 59.6**	**-2.0**
	1.6nm,0.8s,baz=58,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**48.87**	**297**	P	**P**	**01 12 01.4**	**-2.3**
	0.4nm,0.4s,baz=54,slow=7.1,SNR=7.1						
NVAR	**Mina Array Bea**	**55.68**	**70**	P	**P**	**01 12 56.8**	**+2.1**
	0.1nm,0.3s,baz=318,slow=7.3,SNR=1.7						
PDAR	**Pinedale Array**	**57.61**	**61**	LR	LR	01 37 17.9	
	comp=Z,94nm,20.2s,baz=110,slow=35						
CMAR	**Chiang Mai Arr**	**58.38**	**259**	P	**P**	**01 13 14.1**	**+0.3**
	1.2nm,0.4s,baz=26,slow=6.8,SNR=4.6						
FINES	**FINESS Array B**	**61.05**	**337**	P	**P**	**01 13 31.5**	**0.0**
	0.7nm,0.5s,baz=29,slow=6.5,SNR=7.2						
NOA	**NORSAR Array B**	**64.46**	**344**	P	**P**	**01 13 53.7**	**-0.7**
	0.6nm,0.7s,baz=21,slow=6.5,SNR=3.4						
GEYT	**Alibeck**	**67.87**	**304**	P	**P**	**01 14 16.9**	**+0.4**
	2.0nm,0.6s,baz=46,slow=11,SNR=3.8						
AKASG	**Malin Array Be**	**69.53**	**329**	P	**P**	**01 14 26.2**	**-0.5**
	0.8nm,0.5s,baz=29,slow=6.5,SNR=6.5						
TXAR	**Lajitas Array**	**70.62**	**67**	P	**P**	**01 14 36.4**	**+2.5**
	0.2nm,0.5s,baz=294,slow=4.4,SNR=2.5						
MMAI	**Mount Meron Ar**	**82.58**	**316**	P	**P**	**01 15 42.0**	**+0.6**
	0.3nm,0.4s,baz=29,slow=6.6,SNR=2.7						

*NIED **21** 01:04:00, 39°.20N×144°.30E, h8km, Mw4.4 Best double couple: M0:5.00000×10^15 NP1:φs 11.00000°, δ25.00000°, λ-51.00000°. NP2:φs 149.00000°, δ71.00000°, λ-106.00000°.*
*IDC **21** 01:04:11.4±0.5, 39°.02N×144°.53E, h0km, mb4.5/42, mb1 4.6/49, mb1mx4.6/62, mbtmp4.5/49, ML4.2/5, MS3.3/10, Ms1 3.3/10, ms1mx3.2/32, Error ellipse: s-maj=14.2km s-min=10.4km az=158.0*
*ISCJB **21** 01:04:13.1±0.9, 39°.21N±0°.03×144°.36E±0°.02, h13km±5km, mb4.6/212, MS3.8/15, Error ellipse: s-maj=4.3km s-min=2.6km az=170.0*
*JMA **21** 01:04:16.6±0.1, 39°.20N×144°.28E, h55km, M4.5*
*BJI **21** 01:04:17.2±0.0, 39°.27N×144°.17E, h32km, mb4.6/46, mB4.9/30, Ms4.1/22, Ms7 3.9/23*
*MOS **21** 01:04:18.5±0.8, 39°.58N×144°.44E, h40km, mb4.8/31, Error ellipse: s-maj=9.8km s-min=4.6km az=102.6*
*NEIC **21** 01:04:18.0±1.0, 39°.12N×144°.41E, h39km±6km, mb4.8/151, Error ellipse: s-maj=15.5km s-min=11.3km az=112.0*
ISC 21 01:04:14.7±1.9, 39°.15N±0°.04×144°.45E±0°.05, h17km±11km, n380, σ1§65/421, mb4.7/222, MS4.0/15, 25C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.08**	**283**	P	**Pn**	**01 04 48.1**	**-0.7**
MIYJ				S	**Sn**	**01 05 11.5**	**-2.9**
JTH	**Tanohata**	**2.15**	**292**	P	**Pn**	**01 04 48.9**	**-0.8**
JTH				S	**Sn**	**01 05 12.8**	**-3.2**
OFUJ	**Ofunato**	**2.16**	**269**	P	**Pn**	**01 04 49.2**	**-0.8**
OFUJ				S	**Sn**	**01 05 13.2**	**-3.2**
JOM	**Ohasama**	**2.47**	**278**	P	**Pn**	**01 04 53.8**	**-0.4**
JOM				S	**Sn**	**01 05 21.7**	**-2.2**
JMK	**Ichinoseki**	**2.52**	**266**	P	**Pn**	**01 04 54.4**	**-0.5**
JMK				S	**Sn**	**01 05 22.5**	**-2.7**
JANG	**Nango**	**2.57**	**299**	P	**Pn**	**01 04 54.5**	**-1.0**
JANG				S	**Sn**	**01 05 23.5**	**-2.9**
ERM	**Erimo**	**3.02**	**341**	*e*Pn	**Pn**	**01 05 01.0**	**-0.8**
ERM				*e*Sn	**Sn**	**01 05 36.4**	**-1.2**
ERM	**Erimo**	**3.02**	**341**	*e*P	**Pn**	**01 05 01.0**	**-0.8**
ERM				*e*		01 05 36.4	
JYK	**Kaneyama**	**3.19**	**267**	P	**Pn**	**01 05 04.0**	**-0.1**
JNBK	**Urakawa-nobuka**	**3.38**	**338**	P	**Pn**	**01 05 06.2**	**-0.5**
JNBK				S	**Sn**	**01 05 44.3**	**-2.1**
JOT	**Ohata**	**3.42**	**312**	P	**Pn**	**01 05 07.0**	**-0.3**
JOT				*e*S	**Sn**	**01 05 43.4**	**-4.1**
JCH	**Churui**	**3.56**	**347**	P	**Pn**	**01 05 07.5**	**-1.6**
JCH				S	**Sn**	**01 05 46.0**	**-4.7**
JFT	**Otama**	**3.62**	**245**	P	**Pn**	**01 05 09.4**	**-0.6**
JFT				S	**Sn**	**01 05 50.0**	**-2.4**
JKB	**Kayabe**	**3.77**	**317**	P	**Pn**	**01 05 11.4**	**-0.7**
JKB				S	**Sn**	**01 05 52.8**	**-3.3**
NEM2	**Nemuro 2**	**4.32**	**13**	P	**Pn**	**01 05 16.9**	**-2.7**
NEM2				S	Sn	01 06 02.7	-6.9
JOSM	**Okushiri--Mats**	**4.78**	**309**	S	**Sn**	**01 06 17.4**	**-3.6**
JTKR	**Abashiri--Toko**	**4.83**	**355**	P	**Pn**	**01 05 24.9**	**-1.7**
JTKR				S	**Sn**	**01 06 17.0**	**-5.2**
GRPR	**Tuman**	**4.94**	**11**	*i*P	**Pn**	**01 05 24.7**	**-3.4**
GRPR				*i* S	Sn	01 06 16.8	-8.0
GRPR				pmax	pmax		
	comp=Z,295nm,0.4s						
GRPR				smax	smax		
	comp=N,463nm,0.4s						
GRPR				smax	smax		
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.99**	**12**	*e*P	**Pn**	**01 05 26.9**	**-1.9**
YUK				*e*S	**Sn**	**01 06 20.6**	**-5.5**
YUK				pmax	pmax		
	comp=Z,305nm,0.5s						
YUK				pmax	pmax		
	comp=E,208nm,0.4s						
YUK				pmax	pmax		
	comp=N,100nm,0.3s						
YUK				smax	smax		
	comp=N,947nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
LAGR	**Lagunnoye**	**5.00**	**11**	*e*P	**Pn**	**01 05 26.4**	**-2.6**
LAGR				*e*S	**Sn**	**01 06 20.1**	**-6.3**
LAGR				pmax	pmax		
	comp=N,665nm,0.4s						
LAGR				pmax	pmax		
	comp=E,1μm,0.4s						
LAGR				pmax	pmax		
	comp=Z,1μm,0.4s						
LAGR				smax	smax		
	comp=N,2μm,0.6s						
LAGR				smax	smax		
	comp=E,3μm,0.5s						
JHR	**Hokuryu**	**5.02**	**337**	P	**Pn**	**01 05 30.3**	**+1.0**
JHR				S	**Sn**	**01 06 26.4**	**-0.5**
ASAJ	**Asahikawa**	**5.15**	**345**	Pn	**Pn**	**01 05 30.2**	**-0.8**
	comp=E,7.0nm,0.3s,baz=198,slow=14,SNR=16						
ASAJ				Sn	**Sn**	**01 06 26.4**	**-3.7**
	comp=E,5.2nm,0.3s,baz=207,slow=31,SNR=2.1						
ASAJ				LR	LR	01 07 46.2	
	comp=E,314nm,21.6s,baz=219,slow=40						
BSO1	**Boso 1**	**5.28**	**213**	P	**Pn**	**01 05 29.3**	**-3.0**
BSO1				S	**Sn**	**01 06 26.9**	**-5.6**
JRY	**Ryogami san**	**5.40**	**236**	P	**Pn**	**01 05 33.0**	**-1.5**
JRY				S	**Sn**	**01 06 32.1**	**-4.3**
MJAR	**Matsushiro Arr**	**5.58**	**244**	*e*Pn	**Pn**	**01 05 36.9**	**-0.1**
MJAR	**Matsushiro Arr**	**5.58**	**244**	Pn	**Pn**	**01 05 35.7**	**-1.3**
	comp=E,9.9nm,0.3s,baz=62,slow=11,SNR=499						
MJAR				LR	LR	01 08 06.8	
	comp=E,810nm,18.3s,baz=65,slow=42						
MAJO	**Matsushiro**	**5.58**	**244**	*e*Pn	**Pn**	**01 05 36.8**	**-0.2**
MAJO	**Matsushiro**	**5.58**	**244**	*c i*P	**Pn**	**01 05 36.8**	**-0.2**
MAT	**Matsushiro**	**5.58**	**244**	P	**Pn**	**01 05 37.3**	**+0.3**
MAT				S	**Sn**	**01 06 40.7**	**-0.1**
MJB9	**Matsu-Tunnel**	**5.58**	**244**	*e*Pn	**Pn**	**01 05 37.4**	**+0.4**
JOD2	**Odawara 2**	**5.78**	**229**	P	**Pn**	**01 05 37

comp=Z,34nm,0.9s
MA2 Magadan 20.84 9 *e*P **P 01 08 55.6 +0.4**
comp=Z,61nm,1.0s
MA2 Magadan 20.84 9*ce*P **P 01 08 54.9 -0.4**
MA2 pmax pmax
comp=Z,85nm,1.3s
MA2 Magadan 20.84 9 P **P 01 08 55.4 +0.1**
comp=Z,41nm,0.9s,baz=196,slow=9.5,SNR=36
MA2 LR LR 01 16 29.0
comp=Z,71nm,19.8s,baz=204,slow=35
BJT Baijiatuau 21.78 281 *e*P **P 01 09 02.9 -2.7**
comp=Z,9.5nm,0.6s
TIA Tai'an 21.79 271 P **P 01 08 59.0 -6.8**
NJ2 Nanjing 21.94 259 *e*P **P 01 09 07.6 +0.2**
NJ2 pmax pmax
comp=Z,27nm,0.6s
SEY Seymchan 24.29 9*ce*P **P 01 09 29.8 -1.1**
SEY Seymchan 24.29 9 P **P 01 09 30.8 -0.1**
comp=Z,35nm,0.9s,baz=187,slow=6.7,SNR=60
YAK Yakutsk 24.63 343 *e*P **P 01 09 33.4 -0.6**
YAK *e**PP 01 09 44.1
YAK *e* 01 10 02.6
YAK *e*PPP PPP 01 10 14.8
YAK *e* 01 13 09.5
YAK *e*S **S 01 13 52.3 -2.0**
YAK *e**SS 01 14 10.4
YAK *e*SS **SnSn 01 14 36.5 -3.5**
YAK *e*SSS SSS 01 14 51.3
YAK *e* 01 20 28.7
YAK pmax pmax
comp=Z,126nm,0.6s
YAK pmax pmax
comp=N,49nm,0.7s
YAK pmax pmax
comp=E,26nm,0.9s
YAK pmax pmax
comp=Z,212nm,1.3s
YAK pmax pmax
comp=N,110nm,1.8s
YAK pmax pmax
comp=E,95nm,1.8s
YAK smax smax
comp=N,237nm,1.9s
YAK smax smax
comp=E,236nm,1.8s
YULB Yu-li 25.16 238 *e*P **P 01 09 38.7 -0.5**
comp=E,17nm,1.2s
HHC Hu-ho-hao-te 25.17 284 *e*P **P 01 09 40.3 +1.1**
HHC sP sP 01 09 53.8 +10
HHC S **S 01 14 00.0 -3.7**
HHC pmax pmax
comp=E,110nm,0.8s
HHC pmax pmax
comp=E,380nm,4.0s
HHC LR LR
comp=E,1μm,11.8s
HHC LR LR
comp=E,880nm,12.9s
HHC LR LR
comp=E,1μm,13.6s
WHN Wuhan 26.06 260 P **P 01 09 47.8 +0.6**
WHN S **S 01 14 15.8 -1.8**
WHN pmax pmax
comp=E,52nm,0.8s
WHN LR LR
comp=E,520nm,18.6s
BOD Bodaibo 27.13 324 *e*P **P 01 09 56.0 -0.7**
BOD pmax pmax
comp=Z,12nm,1.4s
ULN Ulaanbaatar 28.25 300 *i* P **P 01 10 08.5 +1.5**
ULN pmax pmax
comp=Z,3.0nm,0.9s
SONA0 Songino Array 28.69 300 *e*P **P 01 10 11.5 +0.6**
SONM Songino Array 28.69 300 *e*P **P 01 10 09.8 -1.1**
SONM Songino Array 28.69 300 P **P 01 10 11.5 +0.6**
comp=Z,1.3nm,0.9s,baz=73,slow=5.1,SNR=7.3
SONM LR LR 01 21 55.9
comp=Z,126nm,19.6s,baz=84,slow=37
XAN Xi'an 28.85 271 P **P 01 10 15.4 +3.0**
XAN pP PP 01 10 24.0 -53
XAN PcP **PcP 01 13 27.6 +6.0**
XAN S **S 01 14 57.6 -4.2**
XAN SS **SnSn 01 16 22.8 -1.0**
XAN pmax pmax
comp=Z,5.0nm,0.7s
XAN pmax pmax
comp=Z,82nm,4.1s
XAN LR LR
comp=Z,220nm,14.5s
XAN LR LR
comp=Z,110nm,13.7s
XAN LR LR
comp=Z,130nm,13.7s
ENH Enshi 29.92 264 *e*P **P 01 10 24.5 +2.7**
comp=Z,47nm,1.1s
TLY Talaya 30.85 307 *i* P **P 01 10 30.3 +0.5**
TLY pmax pmax
comp=Z,5.0nm,0.8s
ZAK Zakamensk 30.93 305 *e*P **P 01 10 31.0 +0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
BILL Bilibino 31.33 16 *i* P **P 01 10 33.4 -0.5**
BILL *e* 01 11 40.7
BILL pmax pmax
comp=Z,10.0nm,1.1s
BILL MLR MLR
comp=Z,116nm,20.0s
LZH Lanzhou 32.12 277 *e*P **P 01 10 43.6 +2.3**
LZH pP pP 01 10 51.4 +7.0
LZH sP PP 01 10 55.6 -58
LZH pmax pmax
comp=Z,14nm,1.0s
LZH LR LR
comp=Z,180nm,14.6s
LZH LR LR
comp=Z,230nm,16.0s
LZH LR LR
comp=Z,260nm,16.3s
GYA Guiyang 33.95 260⇑ *i*P **P 01 10 56.8 -0.5**
GYA pP pP 01 11 06.3 +5.9
GYA sP sP 01 11 08.8 +7.2
GYA S **S 01 16 17.1 -4.5**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,9.3s
GYA LR LR
comp=Z,180nm,15.2s
GYA LR LR
comp=Z,190nm,15.0s
GYA LR LR
comp=Z,160nm,14.8s
CD2 Chengdu 34.09 269 P **P 01 10 57.9 -0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 LR LR
comp=Z,310nm,14.1s
CD2 LR LR
comp=Z,270nm,17.3s
CD2 LR LR
comp=Z,280nm,14.7s
GTA Gaotai 34.28 285 *e*P **P 01 11 02.8 +2.7**
GTA pP pP 01 11 09.3 +6.1
GTA sP sP 01 11 12.1 +7.7
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,85nm,6.0s
GTA LR LR
comp=Z,160nm,18.4s
GTA LR LR
comp=Z,130nm,18.7s
GTA LR LR
comp=Z,210nm,20.6s
RDOG Red Dog Mine 40.53 27 *e*P **P 01 11 53.7 +1.2**
comp=Z,20nm,1.0s
DGZ Jazzator, Alta 41.14 304 *i* P **P 01 11 58.4 +0.4**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
WMQ Urumqi 42.06 295 *e*P **P 01 12 07.0 +1.5**
ZAA1 Zalesovo Array 42.30 311 *e*P **P 01 12 07.5 +0.2**
ZAA1 *e*PcP **PcP 01 14 00.3 -0.3**
ZAA0 Zalesovo Array 42.30 311 *e*P **P 01 12 07.7 +0.5**
comp=Z,4.6nm,0.9s
ZALV Zalesovo Beam 42.30 311 *e*P **P 01 12 07.2 0.0**
ZALV Zalesovo Beam 42.30 311 P **P 01 12 07.5 +0.2**
comp=Z,3.3nm,0.5s,baz=88,slow=7.3,SNR=14
ZALV PcP **PcP 01 14 00.3 -0.3**
comp=Z,1.5nm,0.7s,baz=82,slow=3.2,SNR=2.6
SVW2 Sparrevohn 42.38 39 *e*P **P 01 12 09.1 +1.2**
comp=Z,22nm,1.2s
NRIK Noril'sk 42.39 334 P **P 01 12 07.5 -0.2**
comp=Z,2.5nm,0.5s,baz=123,slow=8.3,SNR=6.7
OHAK Old Harbor 43.57 44 *e*P **P 01 12 16.9 -0.6**
comp=Z,13nm,0.8s
IMAR Indian Mountai 43.60 32 *e*P **P 01 12 17.7 0.0**
RABL Rabaul 43.71 169 *e*P **P 01 12 20.4 +1.4**
comp=Z,188nm,0.4s
RSO Redoubt South 43.75 40 *e*P **P 01 12 19.5 +0.3**
KDAK Kodiak Island 43.92 43 *e*P **P 01 12 19.8 -0.4**
comp=Z,37nm,0.9s
KDAK Kodiak Island 43.92 43 P **P 01 12 19.4 -0.9**
comp=Z,28nm,0.9s,baz=319,slow=1.6,SNR=16
PPLA Purkeypile 44.06 36 *e*P **P 01 12 22.9 +1.4**
comp=Z,17nm,1.0s
CAST Castle Rocks 44.12 35 *e*P **P 01 12 22.8 +0.9**
comp=Z,11nm,0.8s
CM31 Chiang Mai Arr 44.34 256 *e*P **P 01 12 24.3 +0.1**
comp=Z,13nm,0.3s
CMAR Chiang Mai Arr 44.34 256 P **P 01 12 24.3 +0.1**
comp=Z,1.2nm,0.3s,baz=45,slow=6.7,SNR=5.0
CMAR LR LR 01 34 24.3
comp=Z,42nm,18.9s,baz=59,slow=41
BPAW Bear Paw Mtn. 44.63 34 *e*P **P 01 12 26.4 +0.4**
comp=Z,5.6nm,0.8s
MLY Manley 44.78 33 *e*P **P 01 12 27.9 +0.8**
comp=Z,16nm,0.9s
MK31 Makanchi Array 45.06 301 *e*P **P 01 12 30.4 +0.9**
comp=Z,4.0nm,0.9s
MK32 Makanchi Array 45.06 301 *e*P **P 01 12 29.9 +0.3**
MKAR Makanchi Array 45.06 301 P **P 01 12 29.9 +0.3**
comp=Z,2.4nm,0.8s,baz=81,slow=11,SNR=11
COLD Coldfoot 45.13 30 *e*P **P 01 12 31.5 +1.6**
comp=Z,3.7nm,1.0s
BWN Browne 45.30 34 *e*P **P 01 12 32.9 +1.6**
comp=Z,66nm,1.0s
TOLK Toolik Lake Re 45.49 28 *e*P **P 01 12 33.4 +0.6**
comp=Z,10nm,0.9s
MCK McKinley 45.54 35 *e*P **P 01 12 33.3 +0.2**
comp=Z,13nm,0.9s
MDM Murphy Dome 45.84 33 *e*P **P 01 12 35.9 +0.3**
comp=Z,28nm,0.9s
WRH Wood River Hil 45.90 34 *e*P **P 01 12 35.7 -0.3**
comp=Z,9.4nm,0.7s
COLA College 46.01 33 *i* P **P 01 12 36.7 0.0**
COLA pmax pmax
comp=Z,7.0nm,0.8s
CCB Clear Creek Bu 46.03 34 *e*P **P 01 12 36.2 -0.7**
comp=Z,8.1nm,1.0s
DHY Denali Highway 46.26 36 *e*P **P 01 12 38.9 -0.1**
comp=Z,14nm,0.8s
HDA Harding Lake 46.40 34 *e*P **P 01 12 39.7 -0.2**
comp=Z,16nm,0.7s
ILAR Eielson Array 46.42 33 P **P 01 12 39.6 -0.4**
comp=Z,13nm,0.7s,baz=262,slow=6.7,SNR=128
ILAR PcP **PcP 01 14 13.3 -1.2**
comp=Z,0.5nm,0.9s,baz=264,slow=3.3,SNR=2.7
ILB Eielson Array 46.42 33 *e*P **P 01 12 39.6 -0.4**
comp=Z,17nm,0.8s
ILB *e*PcP **PcP 01 14 13.3 -1.2**
KURK Kurchatov 46.54 307 *e*P **P 01 12 41.2 +0.1**
comp=Z,15nm,0.7s
KURK Kurchatov 46.54 307*ce*P **P 01 12 40.6 -0.6**
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURBB Kurchatov Arra 46.62 307 P **P 01 12 41.9 +0.1**
comp=Z,6.0nm,0.7s,baz=81,slow=8.2,SNR=36
PRP Porcupine Dome 46.98 32 *e*P **P 01 12 44.5 -0.1**
comp=Z,15nm,0.9s
MENT Mentasta 47.93 36 *e*P **P 01 12 52.7 +0.8**
comp=Z,12nm,0.9s
TGL Tana Glacier 48.61 39 *e*P **P 01 12 58.0 +0.8**
comp=Z,19nm,1.0s
BALM Baldy 48.80 38 *e*P **P 01 12 59.0 +0.3**
comp=Z,10nm,1.0s
EGAK Eagle 48.87 33 *e*P **P 01 12 59.0 -0.1**
comp=Z,17nm,1.1s
CTGM Chitina Glacie 49.30 38 *e*P **P 01 13 03.3 +0.7**
comp=Z,18nm,1.2s
EPYK Eagle Plains 50.49 31 *e*P **P 01 13 12.3 +0.9**
comp=Z,36nm,1.1s
BVAR Borovoye Array 50.94 312 P **P 01 13 15.7 +0.7**
comp=Z,2.6nm,0.7s,baz=86,slow=7.6,SNR=10
BRVK Borovoye 50.99 312 *i* P **P 01 13 15.6 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
HYT Haines Junctio 51.17 38 *e*P **P 01 13 18.5 +1.8**
comp=Z,32nm,1.0s
INK Inuvik 51.41 28 *e*P **P 01 13 18.6 +0.5**
comp=Z,11nm,0.6s
INK Inuvik 51.41 28 P **P 01 13 18.6 +0.5**
comp=Z,8.3nm,0.5s,baz=299,slow=6.5,SNR=61
AAK Ala-Archa 51.61 298 *i* P **P 01 13 21.3 +1.0**
AAK pmax pmax
comp=Z,3.0nm,0.9s
KSH Kashi 51.74 294 P **P 01 13 25.5 +4.2**
KSH PP **PP 01 15 25.3 +6.5**
KSH S **S 01 20 47.9 +5.4**
KSH SS **SS 01 24 23.3 +4.7**
KSH pmax pmax
comp=Z,4.0nm,0.3s
KSH pmax pmax
comp=Z,110nm,5.6s
KSH LR LR
comp=Z,150nm,8.7s
KSH LR LR
comp=Z,130nm,8.7s
KSH LR LR
comp=Z,220nm,12.6s
WHY Whitehorse 52.46 38 *e*P **P 01 13 27.6 +1.3**
comp=Z,6.2nm,0.9s
SVE Sverdlovsk 55.15 318⇓ *e*P **P 01 13 47.2 +1.3**
SVE pmax pmax
comp=Z,16nm,1.2s
DLBC Dease Lake 55.48 40 *e*P **P 01 13 49.7 +1.3**
comp=Z,6.3nm,0.8s
DLBC Dease Lake 55.48 40 P **P 01 13 49.2 +0.9**
comp=Z,4.5nm,0.7s,baz=296,slow=7.7,SNR=8.6
ARU Arti 56.37 318 *e*P **P 01 13 55.0 +0.3**
comp=Z,20nm,1.2s
ARU Arti 56.37 318*d i*P **P 01 13 54.8 +0.1**
ARU 01 15 56.9
ARU S **S 01 21 45.1 +0.9**
ARU SS SS 01 25 22.5 -8.1
ARU pmax pmax
comp=Z,19nm,1.2s
ARU MLR MLR
comp=Z,129nm,14.0s
ARU Arti 56.37 318 P **P 01 13 54.7 +0.1**
comp=Z,2.8nm,0.7s,baz=80,slow=4.3,SNR=16
GSI Gunungsitoli 56.93 241 *e*P **P 01 13 59.6 +0.4**
comp=Z,24nm,1.1s
ABKAR Akbulak array 58.41 310 *e*P **P 01 14 09.5 +0.3**
comp=Z,7.8nm,0.6s
KBS Kingsbay 58.98 350 *e*P **P 01 14 14.0 +1.3**
comp=Z,19nm,0.8s
KBS Kingsbay 58.98 350*ce*P **P 01 14 13.0 +0.3**
KBS pmax pmax
comp=Z,76nm,0.8s
AKTO Aktyubinsk 59.04 312 P **P 01 14 13.5 -0.1**
comp=Z,4.8nm,0.7s,baz=70,slow=13,SNR=14
WRAB Tennant Creek 59.53 191 *e*P **P 01 14 18.0 +0.9**
comp=Z,9.3nm,1.1s
WRAB Tennant Creek 59.53 191*ce*P **P 01 14 16.5 -0.7**
WRAB pmax pmax
comp=Z,7.0nm,1.3s
WR1 Warramunga Arr 59.54 191 *e*P **P 01 14 15.1 -2.2**
WRA Warramunga Arr 59.54 191 P **P 01 14 15.1 -2.2**
comp=Z,4.7nm,1.1s,baz=13,slow=5.6,SNR=9.7
RES Resolute Bay 59.94 15 *e*P **P 01 14 19.4 0.0**
comp=Z,24nm,0.8s
RES Resolute Bay 59.94 15 P **P 01 14 19.4 0.0**
comp=Z,19nm,0.6s,baz=319,slow=6.5,SNR=84
KIRV Kirov 60.00 323 P **P 01 14 20.5 +0.5**
comp=Z,13nm,0.7s,baz=98,slow=6.2,SNR=4.5
PRGR Permogore 60.29 327 *e*P **P 01 14 20.2 -1.8**
PRGR *e**SP PcP 01 14 33.7 -33
PRGR pmax pmax
comp=Z,12nm,0.9s
YKW3 Yellowknife Ar 60.73 31 *e*P **P 01 14 24.7 -0.2**
comp=Z,18nm,1.5s
YKA Yellowknife Ar 60.77 31 P **P 01 14 24.7 -0.4**
comp=Z,3.3nm,0.7s,baz=301,slow=6.7,SNR=48
YKA LR LR 01 39 59.7
comp=Z,8.9nm,21.9s,baz=116,slow=35
YKB5 Yellowknife Ar 60.77 31 *e*P **P 01 14 24.7 -0.4**
ARCES ARCESS Array B 62.85 340 P **P 01 14 39.1 -0.1**
comp=Z,3.2nm,0.8s,baz=38,slow=11,SNR=5.5
KLMR Klimovskoe 63.24 328 *e*P **P 01 14 40.5 -1.3**
KLMR pmax pmax
comp=Z,6.0nm,0.9s
AS31 Alice Springs 63.26 191 *e*P **P 01 14 41.1 -1.3**
comp=Z,0.9nm,0.7s
ASAR Alice Springs 63.26 191 P **P 01 14 41.1 -1.3**
comp=Z,1.6nm,0.8s,baz=15,slow=6.8,SNR=11
DAG Danmarks Havn 63.86 356⇓ *i*P **P 01 14 45.5 -0.2**
DAG pmax pmax
comp=Z,21nm,1.0s
DAG Danmarks Havn 63.86 356⇓ *i*P **P 01 14 45.5 -0.2**
comp=Z,21nm,1.0s
GEYT Alibeck 64.89 299 P **P 01 14 53.4 +0.3**
comp=Z,5.4nm,0.8s,baz=343,slow=4.6,SNR=11
GLK Glacier Lake 65.28 49 *e*P **P 01 14 57.6 +2.0**
H04A Detroit Lake 65.91 51 *e*P **P 01 15 00.4 +0.7**
comp=Z,6.3nm,0.8s
NEW Newport 66.94 46 *e*P **P 01 15 06.5 +0.3**
comp=Z,12nm,1.2s
NEW Newport 66.94 46 P **P 01 15 06.2 0.0**
comp=Z,4.0nm,0.9s,baz=287,slow=5.1,SNR=7.2
MOS Moscow 66.96 324 *e*P **P 01 15 06.3 +0.2**
PINE Pine Mountain 67.15 52 *e*P **P 01 15 08.9 +1.2**
comp=Z,11nm,0.9s
YBH Yreka Blue Hor 67.16 54 P **P 01 15 07.6 -0.2**
comp=Z,2.7nm,1.1s,baz=211,slow=0.4,SNR=3.7
K05A Summer Lake 67.76 53 *e*P **P 01 15 12.4 +0.7**
comp=Z,9.3nm,0.9s
OBN Obninsk 67.82 324⇑ *e*P **P 01 15 11.7 +0.2**
OBN *PP PcP 01 15 23.0 -15
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,76nm,16.0s
FIA1 FINESS Array S 68.04 333 *e*P **P 01 15 12.8 +0.1**
comp=Z,16nm,0.8s
FIA0 FINESS Array S 68.04 333 *e*P **P 01 15 12.8 0.0**
FINES FINESS Array B 68.04 333 P **P 01 15 12.8 0.0**
comp=Z,11nm,0.7s,baz=49,slow=8.8,SNR=32
SUMG Summit 68.55 1 *e*P **P 01 15 16.9 +0.6**
comp=Z,12nm,0.8s
SUMG Summit 68.55 1 *i* P **P 01 15 16.7 +0.4**
SUMG pmax pmax
comp=Z,31nm,0.8s
SUMG Summit 68.55 1 *i* P **P 01 15 16.7 +0.4**
comp=Z,31nm,0.8s
MOD Modoc Plateau 68.57 53 *e*P **P 01 15 17.3 +0.5**
comp=Z,6.1nm,1.1s
BMO Blue Mountains 68.74 49 *e*P **P 01 15 18.1 +0.5**
comp=Z,2.1nm,1.2s
VSR Storozhevoye 68.90 319 *i* P **P 01 15 16.1 -2.3**
VSR pmax pmax
comp=Z,8.0nm,0.9s
WVOR Wild Horse Val 69.30 52 *e*P **P 01 15 21.7 +0.5**
comp=Z,5.4nm,1.1s
MSO Missoula 69.53 46 *e*P **P 01 15 22.6 +0.1**
comp=Z,2.7nm,0.8s
VSU Vasula 69.83 330*ce*P **P 01 15 23.0 -0.9**
VSU pmax pmax
comp=Z,49nm,2.5s
VSU Vasula 69.83 330 *e*P **P 01 15 23.8 -0.1**
VSU IAmb IAmb 01 15 25.0
comp=Z,58nm,1.1s
PAHR Pah Rah Range 70.39 55 *e*P **P 01 15 28.3 +0.4**
comp=Z,7.2nm,1.2s
FFC Flin Flon 70.62 34 *e*P **P 01 15 28.6 -0.3**
comp=Z,12nm,0.9s
FFC Flin Flon 70.62 34 *i* P **P 01 15 28.8 -0.1**
CMB Columbia Colle 70.70 56 *e*P **P 01 15 30.1 +0.3**
comp=Z,6.6nm,1.3s
HRY Holter Researc 70.77 45 *e*P **P 01 15 30.3 +0.1**
YERR Yerington 70.89 55 *e*P **P 01 15 31.7 +0.6**
comp=Z,10.0nm,1.3s
LRM Limekiln Ridge 70.96 46 *e*P **P 01 15 31.4 0.0**
FCC Fort Churchill 71.03 28 *e*P **P 01 15 30.7 -0.6**
comp=Z,22nm,1.4s
NCK Nalchik 71.05 311 *i* P **P 01 15 32.4 +0.6**
NCK pmax pmax
comp=Z,11nm,1.0s
EGMT Eagleton 71.10 43 *e*P **P 01 15 32.2 +0.2**
comp=Z,19nm,1.1s
DLMT Dillon 71.15 47 *e*P **P 01 15 33.0 +0.5**
comp=Z,6.0nm,0.9s
HLID Hailey 71.18 49 *e*P **P 01 15 33.2 +0.5**
comp=Z,4.0nm,1.0s
ZEI Tsey 71.29 310 *e*P **P 01 15 31.1 -2.3**
ZEI pmax pmax
comp=Z,5.0nm,0.7s
KVAR Kislovodsk Arr 71.30 312 P **P 01 15 34.9 +1.5**
comp=Z,6.8nm,0.9s,baz=32,slow=9.5,SNR=6.0
KIV Kislovodsk 71.31 312 *e*P **P 01 15 35.5 +2.1**
comp=Z,15nm,0.8s
KIV Kislovodsk 71.31 312⇓ *i*P **P 01 15 35.7 +2.3**
KIV Kislovodsk 71.31 312 *e*P **P 01 15 34.3 +0.9**
KIV pmax pmax
comp=Z,61nm,1.0s
KBZ Khabaz 71.32 311 P **P 01 15 34.6 +1.3**
comp=Z,9.7nm,0.9s,baz=46,slow=3.9,SNR=20
BMN Battle Mountai 71.32 53 *e*P **P 01 15 34.1 +0.4**
comp=Z,6.3nm,1.0s
BOZ Bozeman (W) 71.55 46 *e*P **P 01 15 35.0 +0.1**
comp=Z,5.5nm,0.8s
KVN Kaiserville 71.58 54 *e*P **P 01 15 35.7 +0.5**
comp=Z,10nm,1.2s
NEY Neytrino 71.71 311 *i* P **P 01 15 36.9 +1.0**
NEY pmax pmax
comp=Z,2.0nm,0.9s
NV01 Mina Array Sit 71.81 55 *e*P **P 01 15 36.9 +0.2**
NVAR Mina Array Bea 71.81 55 P **P 01 15 36.9 +0.2**
comp=Z,3.4nm,0.8s,baz=283,slow=6.3,SNR=20
IDID Didziasalis 71.98 328 *e*P **P 01 15 37.3 +0.2**
IDID IAmb IAmb 01 15 38.5
comp=Z,3.5nm,0.8s
IIGN Ignalina 72.17 328 *e*P **P 01 15 38.7 +0.5**
IIGN IAmb IAmb 01 15 39.6
comp=Z,6.8nm,1.0s
GNI Garni 72.34 308 *i* P **P 01 15 41.8 +2.0**
GNI pmax pmax
comp=Z,27nm,1.2s
ELK Elko 72.36 52 P **P 01 15 40.2 +0.2**
comp=Z,0.5nm,0.4s,baz=309,slow=9.8,SNR=3.9
YHH Holmes Hill 72.48 46 *e*P **P 01 15 41.3 +0.6**
comp=Z,3.5nm,1.0s
NC405 NORSAR Array S 72.93 338 *e*P **P 01 15 43.1 +0.4**
comp=Z,26nm,1.4s
NC303 NORSAR Array S 72.94 338 *e*P **P 01 15 43.1 +0.3**
comp=Z,20nm,1.1s
PABE Paberze 72.98 329 *e*P **P 01 15 42.2 -0.8**
PABE IAmb IAmb 01 15 44.0
comp=Z,19nm,1.0s
IMW Indian Meadow 72.98 47 *e*P **P 01 15 44.8 +1.2**
comp=Z,6.0nm,0.9s
NC204 NORSAR Array S 73.07 339 *e*P **P 01 15 43.9 +0.3**
comp=Z,19nm,0.8s
FXWY Fox Creek 73.09 47 *e*P **P 01 15 45.4 +1.1**
comp=Z,6.0nm,1.0s
NB201 NORSAR Array S 73.11 338 *e*P **P 01 15 44.0 +0.2**
comp=Z,21nm,1.0s
HFS Hagfors 73.12 337 P **P 01 15 43.8 0.0**
comp=Z,5.3nm,0.7s,baz=64,slow=6.8,SNR=14
NB2 NORSAR Subarra 73.14 338 P **P 01 15 43.4 -0.6**
comp=Z,12nm,1.0s,baz=37,slow=6.2
NB200 NORSAR Array S 73.14 338 *e*P **P 01 15 43.8 -0.2**
NOA NORSAR Array B 73.14 338 P **P 01 15 43.8 -0.2**
comp=Z,4.9nm,0.8s,baz=37,slow=6.0,SNR=16
RLMT Red Lodge 73.16 45 *e*P **P 01 15 45.3 +0.7**
comp=Z,6.1nm,1.4s
HVU Hansel Valley 73.22 50 *e*P **P 01 15 45.8 +0.8**
comp=Z,5.8nm,1.1s
TPAW Teton Pass 73.23 47 *e*P **P 01 15 46.3 +1.2**
comp=Z,9.1nm,1.2s
SFJD Kangerlussuaq 73.55 6 *i* P **P 01 15 45.3 -0.9**
SFJD pmax pmax
comp=Z,9.0nm,1.0s
SFJD Kangerlussuaq 73.55 6 *i* P **P 01 15 45.3 -0.9**
comp=Z,9.1nm,1.0s
R11A Troy Canyon, C 73.58 54 *e*P **P 01 15 47.2 +0.1**
comp=Z,4.9nm,1.1s
BGU Big Grassy Mou 73.58 50 *e*P **P 01 15 47.8 +0.7**
comp=Z,2.5nm,1.0s
TPNV Topopah Spring 74.00 55 *e*P **P 01 15 49.6 0.0**
comp=Z,4.8nm,1.0s

AKASG **Malin Array Be** 74.06 323 P P 01 15 49.4 -0.1
comp=Z,2.4nm,0.5s,baz=42,slow=6.4,SNR=21
AKBB **Malin Array Si** 74.06 323 *e*P P 01 15 49.7 +0.2
comp=Z,9.8nm,1.0s
KIEV **Kiev** 74.07 323 *e*P P 01 15 49.0 -0.5
comp=Z,9.6nm,1.0s
KIEV **Kiev** 74.07 323 ⇑*i*P P 01 15 48.4 -1.2
KIEV **Kiev** 74.07 323 *i* P P 01 15 49.5 -0.1
KIEV pmax pmax
comp=Z,9.0nm,1.0s
DUG **Dugway, Tooele** 74.16 51 *e*P P 01 15 50.9 +0.4
comp=Z,8.0nm,1.0s
PD31 **Pinedale Array** 74.47 47 *e*P P 01 15 52.3 -0.1
comp=Z,3.0nm,0.8s
PDAR **Pinedale Array** 74.47 47 P P 01 15 52.0 -0.4
comp=Z,2.0nm,0.6s,baz=303,slow=1.0,SNR=21
PSUT **Pine Spring** 74.55 53 *e*P P 01 15 53.3 +0.5
comp=Z,5.0nm,1.0s
GSC **Goldstone, Bar** 74.63 57 *e*P P 01 15 53.3 +0.1
comp=Z,9.9nm,1.3s
NLU **North Lily Min** 74.76 51 *e*P P 01 15 54.2 +0.1
comp=Z,3.4nm,0.9s
SHPR **Sheep Range** 74.96 55 *e*P P 01 15 56.0 +0.8
comp=Z,4.9nm,1.1s
CCUT **Cedar City** 75.46 53 *e*P P 01 15 58.9 +0.8
comp=Z,7.3nm,1.1s
SIM **Simferopol'** 75.47 317 *e*P P 01 15 58.1 +0.3
SIM *e* 01 16 10.0
SIM pmax pmax
comp=Z,6.0nm,1.0s
MSU **Marysvale** 75.59 52 *e*P P 01 15 59.9 +1.0
P17A **Butcher Ranch,** 75.86 51 *e*P P 01 16 01.0 +0.6
comp=Z,13nm,1.0s
MTPU **Mount Pierson** 75.88 52 *e*P P 01 16 01.8 +1.1
comp=Z,4.7nm,0.9s
Q16A **Castle Valley** 75.95 51 *e*P P 01 16 01.7 +0.8
comp=Z,6.6nm,1.1s
KNB **Kanab** 76.12 54 *e*P P 01 16 02.9 +1.0
comp=Z,6.6nm,0.9s
SRU **San Rafael Swe** 76.22 51 *e*P P 01 16 02.5 +0.1
comp=Z,12nm,0.8s
RSSD **Black Hills** 76.65 44 *e*P P 01 16 04.5 -0.3
comp=Z,4.3nm,0.9s
U15A **North Rim** 76.83 54 *e*P P 01 16 06.5 +0.5
comp=Z,5.2nm,1.0s
O20A **White River Ci** 76.92 49 *e*P P 01 16 06.4 0.0
comp=Z,6.8nm,1.0s
LVV **L'vov** 77.05 325 *e*P P 01 16 06.4 -0.3
PV09 **Paradox Valley** 77.45 50 *e*P P 01 16 10.1 +0.6
PV21 **Cone Mtn., Par** 77.50 50 *e*P P 01 16 10.1 +0.3
comp=Z,9.8nm,0.7s
PV23 **Carpenter Ridg** 77.55 50 *e*P P 01 16 10.5 +0.5
comp=Z,9.9nm,0.7s
PV10 **Paradox Valley** 77.58 50 *e*P P 01 16 11.1 +0.9
comp=Z,28nm,0.8s
PV22 **Blue Mesa, Par** 77.63 50 *e*P P 01 16 10.8 +0.4
comp=Z,7.1nm,0.9s
PV20 **West Nyswonger** 77.65 50 *e*P P 01 16 11.0 +0.5
PV04 **Paradox Valley** 77.65 50 *e*P P 01 16 11.6 +1.1
comp=Z,8.3nm,0.8s
PV17 **East Wray Mesa** 77.69 51 *e*P P 01 16 11.3 +0.6
comp=Z,18nm,0.8s
PV16 **Nyswonger Mesa** 77.70 50 *e*P P 01 16 11.0 +0.2
comp=Z,9.4nm,0.8s
PV11 **David Mesa, Pa** 77.73 50 *e*P P 01 16 11.6 +0.6
comp=Z,12nm,0.6s
PV05 **Paradox Valley** 77.74 51 *e*P P 01 16 11.7 +0.6
comp=Z,19nm,1.0s
PV18 **Skein Mesa, Pa** 77.74 51 *e*P P 01 16 11.6 +0.5
comp=Z,10nm,0.8s
PV12 **Saucer Basin,** 77.76 50 *e*P P 01 16 12.5 +1.3
comp=Z,7.8nm,1.0s
KWP **Kalwaria Pacla** 77.77 326 *e*P P 01 16 11.6 +0.8
KWP **Kalwaria Pacla** 77.77 326 *e*P P 01 16 11.5 +0.8
comp=Z,173nm,1.1s
KWP **Kalwaria Pacla** 77.77 326 *e*P P 01 16 11.6 +0.8
PV03 **Paradox Valley** 77.77 50 *e*P P 01 16 11.6 +0.4
comp=Z,7.4nm,0.8s
PV07 **Paradox Valley** 77.78 50 *e*P P 01 16 11.9 +0.7
comp=Z,10nm,1.3s
PV13 **Radium Mtn., P** 77.85 51 *e*P P 01 16 12.2 +0.5
comp=Z,14nm,0.9s
Y14A **Wickenburg** 77.94 56 *e*P P 01 16 12.0 0.0
comp=Z,4.2nm,0.8s
WUAZ **Wupatki** 77.98 54 *e*P P 01 16 13.1 +0.7
comp=Z,8.3nm,1.1s
PV01 **Paradox Valley** 78.02 50 *e*P P 01 16 12.9 +0.3
comp=Z,8.1nm,1.1s
BUR08 **Bucovina Ar. S** 78.09 323 *e*P P 01 16 13.4 +0.8
comp=Z,4.5nm,0.8s
BURAR **Bucovina Array** 78.10 323 ⇑*i*P P 01 16 13.4 +0.7
BIZ **Bicaz** 78.17 322 ⇑*i*P P 01 16 13.9 +0.9
113A **Mohawk Valley,** 78.17 57 *e*P P 01 16 13.3 +0.1
comp=Z,3.9nm,1.1s
TESR **Tescani** 78.21 321 ⇑*i*P P 01 16 13.2 0.0
SMCO **Snowmass** 78.28 49 *e*P P 01 16 14.3 0.0
comp=Z,4.5nm,1.1s
KOLS **Kolonicke sedl** 78.48 325 *e*P P 01 16 15.1 +0.4
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS **Kolonicke sedl** 78.48 325 *e*P P 01 16 15.1 +0.4
OJC **Ojcow** 78.58 327 *e*P P 01 16 15.8 +0.6
OJC **Ojcow** 78.58 327 *e*P P 01 16 15.2 -0.1
comp=Z,14nm,1.0s
OJC **Ojcow** 78.58 327 *e*P P 01 16 15.8 +0.6
VRI **Vrincioaia** 78.63 321 ⇑*i*P P 01 16 17.2 +1.6
X16A **Lo Mia Camp, P** 78.63 55 *e*P P 01 16 16.5 +0.5
comp=Z,3.9nm,0.9s
ISCO **Idaho Springs** 78.66 48 *e*P P 01 16 16.8 +0.5
comp=Z,2.3nm,0.8s
MVCO **Mesa Verde** 78.66 51 *e*P P 01 16 16.3 +0.1
comp=Z,5.9nm,0.9s
OZUR 78.92 322 ⇑*i*P P 01 16 18.6 +1.4
TRPA **Tarpa** 78.96 325 ⇓*i*P P 01 16 18.0 +0.7
NIE **Niedzica** 78.98 327 *e*P P 01 16 18.7 +1.3
NIE **Niedzica** 78.98 327 *e*P P 01 16 18.7 +1.3
BR101 **Keskin Array S** 79.21 313 *e*P P 01 16 19.2 +0.2
BR131 **Keskin Array S** 79.21 313 *e*P P 01 16 19.2 +0.2
comp=Z,3.7nm,1.2s
BRTR **Keskin Array B** 79.21 313 P P 01 16 19.2 +0.2
comp=Z,1.1nm,0.6s,baz=72,slow=3.5,SNR=8.0
DOPR **Dopca** 79.21 322 ⇑*i*P P 01 16 20.3 +1.5
S22A **4UR Ranch, Cre** 79.31 50 *e*P P 01 16 20.4 +0.6
comp=Z,3.9nm,0.8s
KSP **Ksiaz** 79.53 330 *e*P P 01 16 21.2 +0.8
KSP **Ksiaz** 79.53 330 *e*P P 01 16 21.2 +0.8
VOIR 79.76 321 ⇑*i*P P 01 16 22.2 +0.4
MORC **Moravsky Berou** 79.86 328 *e*P P 01 16 22.5 +0.2
comp=Z,7.1nm,0.9s
MORC **Moravsky Berou** 79.86 328 ⇓*i*P P 01 16 22.6 +0.4
MORC **Moravsky Berou** 79.86 328 *e*P P 01 16 22.1 -0.1
DPC **Dobruska-Polom** 79.90 329 *e*P P 01 16 23.4 +0.9
DPC *e* 01 16 35.1
DPC **Dobruska-Polom** 79.90 329 *e*P P 01 16 23.4 +0.9
DPC *e*pP PcP 01 16 35.1 +5.1
UPC **Upice** 79.90 329 *e*P P 01 16 23.5 +1.1
UPC **Upice** 79.90 329 *e*P P 01 16 23.5 +1.1
ARR **Arges** 80.01 322 ⇑*i*P P 01 16 24.9 +1.7
SDCO **Great Sand Dun** 80.10 49 *e*P P 01 16 24.5 +0.4
comp=Z,3.3nm,1.1s
PSZ **Piszkesteto** 80.29 326 *e*P P 01 16 25.8 +1.1
comp=Z,8.3nm,1.1s
VYHS **Vyhne** 80.31 327 *e*P P 01 16 25.5 +0.8
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS **Vyhne** 80.31 327 *e*P P 01 16 25.5 +0.8
BRG **Berggiesshubel** 80.41 331 *e*P P 01 16 25.1 0.0
comp=Z,6.8nm,1.1s
BRG **Berggiesshubel** 80.41 331 *e*P P 01 16 25.1 0.0
BRG pmax pmax
comp=Z,7.0nm,1.1s
CLL **Collm** 80.42 331 *e*P P 01 16 25.2 0.0
comp=Z,6.6nm,0.7s
CLL **Collm** 80.42 331 ⇓*i*P P 01 16 25.0 -0.1
CLL *i* *SP PcP 01 16 36.6 +4.4
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL **Collm** 80.42 331 ⇓*i*P P 01 16 25.0 -0.1
comp=Z,8.0nm,0.8s
CLL *e*PcP PcP 01 16 33.0 +0.8
CLL *i* pP pP 01 16 36.6 +8.1
PVCC **Panska Ves** 80.45 330 *e*P P 01 16 26.0 +0.7
PVCC **Panska Ves** 80.45 330 *e*P P 01 16 26.0 +0.7
JAVC **Velka Javorina** 80.52 328 *e*P P 01 16 26.8 +1.0
VRAC **Vranov** 80.61 328 *e*P P 01 16 26.6 +0.4
VRAC **Vranov** 80.61 328 P P 01 16 26.7 +0.4
comp=Z,4.0nm,0.8s,baz=60,slow=4.8,SNR=7.1
ECSD **EROS Data Cent** 80.77 40 *e*P P 01 16 26.8 -0.5
comp=Z,9.6nm,0.9s
KRUC **Moravsky** 80.89 328 *e*P P 01 16 27.8 +0.1
PRU **Pruhonice** 80.89 330 *e*P P 01 16 28.3 +0.6
PRU *e* 01 16 39.7
PRU **Pruhonice** 80.89 330 *e*P P 01 16 28.3 +0.6
PRU *e*pP PcP 01 16 39.7 +5.4
MODS **Modra-Piesok** 81.06 327 *e*P P 01 16 29.0 +0.3
MODS pmax pmax
comp=Z,7.0nm,1.1s
MODS **Modra-Piesok** 81.06 327 *e*P P 01 16 29.0 +0.3
TREC **Trest** 81.07 329 *e*P P 01 16 29.3 +0.6
TREC **Trest** 81.07 329 *e*P P 01 16 29.3 +0.6
T25A **Trinidad** 81.15 49 *e*P P 01 16 29.9 +0.3
comp=Z,7.6nm,1.0s
BZS **Buzias** 81.25 323 ⇑*i*P P 01 16 29.8 +0.1
ANMO **Albuquerque** 81.40 52 *e*P P 01 16 31.6 +0.6
comp=Z,4.4nm,1.0s
ANMO **Albuquerque** 81.40 52 *ce*P P 01 16 31.3 +0.3
ANMO pmax pmax
comp=Z,4.0nm,1.3s
EKA **Eskdalemuir Ar** 81.90 342 P P 01 16 33.2 +0.2
comp=Z,0.5nm,0.4s,baz=25,slow=4.6,SNR=6.3
KHC **Kasperske Hory** 81.95 330 *e*P P 01 16 33.5 0.0
comp=Z,2.5nm,1.0s
KHC **Kasperske Hory** 81.95 330 *e*P P 01 16 33.3 -0.1
KHC *e* 01 16 45.4
KHC **Kasperske Hory** 81.95 330 *e*P P 01 16 33.3 -0.1
KHC *e*pP PcP 01 16 45.4 +6.4
319A **Douglas** 81.98 56 *e*P P 01 16 32.9 -1.2
comp=Z,9.8nm,0.9s
CONA **Conrad Observa** 82.00 328 *e*P P 01 16 33.8 +0.1
comp=Z,6.0nm,1.3s
GERES **GERESS Array B** 82.14 330 P P 01 16 34.5 0.0
comp=Z,1.4nm,0.8s,baz=38,slow=5.0,SNR=13
ASF **Jabal al Asfar** 82.28 305 P P 01 16 35.7 +0.2
comp=Z,1.3nm,0.7s,baz=324,slow=19,SNR=4.5
SCHQ **Schefferville** 82.62 18 *e*P P 01 16 36.6 -0.2
comp=Z,11nm,1.3s
SCHQ **Schefferville** 82.62 18 P P 01 16 36.6 -0.2
comp=Z,2.8nm,0.8s,baz=326,slow=11,SNR=3.1
MMAI **Mount Meron Ar** 82.66 307 P P 01 16 38.1 +0.7
comp=Z,3.3nm,0.7s,baz=43,slow=7.4,SNR=10.0
MOA **Molln** 82.71 329 *e*PcP P 01 16 39.4 +2.0
comp=Z,6.2nm,1.6s
VTS **Vitosha** 82.72 320 *e*P P 01 16 37.8 +0.2
comp=Z,5.5nm,1.0s
SOKA **Soboth** 83.33 328 *e*P P 01 16 41.2 +0.5
comp=Z,11nm,1.4s
MEM **Membach** 83.46 335 ⇑P P 01 16 41.1 -0.1
WATA **Walderalm** 84.19 330 *e*PcP P 01 16 45.6 +0.4
comp=Z,2.3nm,0.7s
WTTA **Wattenberg** 84.23 330 *i* PcP P 01 16 45.8 +0.4
comp=Z,5.0nm,1.1s
AMTX **Amarillo** 84.30 49 *e*P P 01 16 46.2 +0.3
comp=Z,8.5nm,0.8s
MOTA **Moosalm** 84.37 330 *i* P P 01 16 46.3 +0.2
comp=Z,6.5nm,0.9s
RETA **Reutte** 84.38 330 *e*PcP P 01 16 46.7 +0.7
comp=Z,6.8nm,0.7s
SQTA **Sankt Quirin** 84.43 330 *i* PcP P 01 16 46.9 +0.5
comp=Z,5.3nm,0.7s
BFO **Black Forest** 84.59 332 *e*P P 01 16 47.4 +0.3
comp=Z,8.2nm,1.1s
BFO **Black Forest** 84.59 332 *i* P P 01 16 47.8 +0.8
FETA **Feichten** 84.78 330 *e*PcP P 01 16 48.7 +0.5
comp=Z,7.1nm,0.9s
DAVA **Damuels** 84.89 331 *e*PcP P 01 16 49.2 +0.5
comp=Z,10nm,0.9s
ECH **Echery** 85.10 333 *e*P P 01 16 49.8 +0.2
comp=Z,5.8nm,0.9s
FUORN **Ofenpass-Fuorn** 85.29 330 *e*P P 01 16 51.6 +0.7
comp=Z,14nm,0.7s
DAVOX **Davos/Dischmat** 85.31 331 P P 01 16 51.0 +0.2
comp=Z,4.7nm,0.8s,baz=77,slow=2.1,SNR=7.6
TUE **Stuetta** 85.77 331 *e*P P 01 16 53.0 -0.2
comp=Z,6.6nm,0.9s
WMOK **Wichita Mounta** 86.09 47 *e*P P 01 16 54.4 -0.4
comp=Z,4.9nm,1.0s
TX31 **Lajitas Ar. Si** 86.94 54 *e*P P 01 16 58.9 -0.3
comp=Z,4.7nm,1.1s
LTX **Lajitas** 86.94 54 *e*P P 01 16 58.6 -0.5
TXAR **Lajitas Array** 86.94 54 P P 01 16 58.6 -0.6
comp=Z,1.3nm,0.6s,baz=299,slow=3.2,SNR=17
CCM **Cathedral Cave** 87.70 41 *e*P P 01 17 02.1 -0.5
comp=Z,6.6nm,0.8s
TOA1 **Torodi Ar. Sit** 117.44 318 *e*PKPdf PKPdf 01 22 58.2 -1.7
TORD **Torodi Ar. Bea** 117.44 318 PKP PKPdf 01 22 58.2 -1.7
comp=Z,0.4nm,0.9s,baz=16,slow=2.6,SNR=6.1
SNAA **Sanae** 143.47 197 PKPdf PKPbc 01 23 44.3 -0.3
VNA2 **Neumayer--Watz** 145.01 196 PKPdf PKPbc 01 23 48.6 -0.6
VNA3 **Neumayer Olymp** 145.22 194 PKPdf PKPbc 01 23 48.3 -1.6
VNA1 **Neumayer--Stat** 145.41 196 PKPdf PKPbc 01 23 49.6 -0.8

*IDC **21** 01:06:22.8±3.5, 36°.22N×70°.91E, h271km±26km, mb3.0/7, mb1 3.1/13, mb1mx2.8/53, mbtmp3.7/13, Error ellipse: s-maj=42.8km s-min=18.5km az=147.0*
*ISCJB **21** 01:06:26.2±0.5, 36°.65N±0°.05×70°.71E±0°.09, h300km, mb3.2/6, Error ellipse: s-maj=10.6km s-min=5.8km az=156.8*
ISC 21 01:06:27.1±0.6, **36°.70N**±0°.06×**70°.84E**±0°.09, **h300**km, **n25, σ2°41/29, mb3.3/6, 1C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CEP	**Cherat**	3.00	163	P	P	**Pn**	01 07 21.8	-1.3
CEP				S	S	**S**	01 08 04.0	-3.8
THW	**Thamme Wali**	3.97	169	P	P	**Pn**	01 07 31.8	-1.3
SARP	**Sargodha**	5.00	162	P	P	**Pn**	01 07 43.4	-1.3
KK31	**Karatay Array**	6.40	358	P	P	**Pn**	01 07 59.8	-1.4
	3.3nm,0.3s,baz=177,slow=11,SNR=64							
KK31				S	S	**S**	01 09 12.2	-4.8
	1.0nm,0.3s,baz=177,slow=24,SNR=4.2							
AAK	**Ala-Archa**	6.56	24	⇑P	P	**Pn**	01 08 02.5	-0.8
	3.1nm,0.5s							
AAK				⇓S	S	**S**	01 09 17.7	-3.1
	1.9nm,0.5s							
AAK	**Ala-Archa**	6.56	24	P	P	**Pn**	01 08 02.5	-0.8
	1.3nm,0.3s,baz=180,slow=5.3,SNR=12							
AAK				S	S	**S**	01 09 13.7	-7.1
	0.3nm,0.3s,baz=200,slow=16,SNR=1.7							
GEYT	**Alibeck**	10.21	281	P	P	**Pn**	01 08 46.7	-1.1
	0.1nm,0.3s,baz=101,slow=13,SNR=1.8							
MKAR	**Makanchi Array**	13.21	37	P	P	**P**	01 09 26.1	+1.8
	0.2nm,0.3s,baz=202,slow=8.5,SNR=8.9							
PYUN	**Piuthan**	13.37	126	*e*P	P	**P**	01 09 27.1	+0.7
	11nm,0.3s							
DANN	**Dangsing**	13.71	124	*e*P	P	**Pn**	01 09 31.5	+1.0
	17nm,0.2s							
KOLN	**Koldanda**	13.98	126	*e*P	P	**Pn**	01 09 34.0	+0.2
	6.6nm,0.4s							
GKN	**Gorkha**	14.52	123	*e*P	P	**Pn**	01 09 41.6	+1.5
	11nm,0.2s							
KURBB	**Kurchatov Arra**	14.97	19	P	P	**Pn**	01 09 45.4	+0.4
	0.1nm,0.3s,baz=214,slow=8.5,SNR=8.7							
PKIN	**Phulchoki**	15.31	122	*e*P	P	**Pn**	01 09 50.6	+1.1
	9.2nm,0.4s							
PKI	**Pulchoki**	15.32	122	*e*P	P	**Pn**	01 09 51.0	+1.3
	7.5nm,0.4s							
JIRN	**Jiri**	15.80	120	*e*P	P	**Pn**	01 09 56.5	+1.2
	25nm,0.4s							
BVAR	**Borovoye Array**	16.33	359	P	P	**P**	01 10 00.3	+1.9
	0.4nm,0.3s,baz=156,slow=9.1,SNR=5.9							
AKTO	**Aktyubinsk**	16.54	330	P	P	**P**	01 10 01.6	+0.8
	0.5nm,0.3s,baz=141,slow=10,SNR=11							
ZALV	**Zalesovo Beam**	19.79	25	P	P	**P**	01 10 36.5	+1.0
	1.1nm,0.3s,baz=229,slow=11,SNR=6.8							
ARU	**Arti**	21.40	341	P	P	**P**	01 10 54.2	+2.8
	1.0nm,0.5s,baz=202,slow=3.3,SNR=4.8							
FINES	**FINESS Array B**	37.25	326	P	P	**P**	01 13 12.0	+1.7
	1.2nm,0.7s,baz=111,slow=11,SNR=4.5							
ARCES	**ARCESS Array B**	40.91	338	P	P	**P**	01 13 42.5	+2.2
	0.9nm,0.6s,baz=107,slow=6.6,SNR=6.1							
TORD	**Torodi Ar. Bea**	65.59	268	P	P	**P**	01 16 38.0	-1.7
	0.6nm,0.5s,baz=34,slow=6.2,SNR=17							
ILAR	**Eielson Array**	74.62	16	P	P	**P**	01 17 35.2	+1.9
	0.1nm,0.4s,baz=312,slow=4.3,SNR=1.8							
YKA	**Yellowknife Ar**	81.05	3	P	P	**P**	01 18 10.5	+2.0
	0.2nm,0.5s,baz=347,slow=5.4,SNR=4.5							

*DDA **21** 01:08:28.4, 38°.99N×26°.06E, h26km, ML2.8*
*ATH **21** 01:08:28.6, 38°.98N×26°.07E, h27km±1km, ML2.5/8, Error ellipse: s-maj=2.1km s-min=1.2km az=89.0*
*ISCJB **21** 01:08:29.2±0.3, 38°.98N±0°.01×26°.03E±0°.03, h7km±3km, Error ellipse: s-maj=3.4km s-min=2.4km az=171.5*
*ISK **21** 01:08:29.2, 39°.00N×26°.07E, h8km, ML2.9/23*
*THE **21** 01:08:29.3, 38°.96N×26°.04E, h10km, ML2.6/3, Error ellipse: s-maj=0.9km s-min=0.5km az=84.0*
ISC 21 01:08:27.8±1.1, **38°.99N**±0°.02×**26°.09E**±0°.02, **h10**km±10km, **n58, σ0°94/88, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SIGR	**SIGRI**	0.29	320	PG	P	**Pb**	01 08 35.1	0.0
SIGR				SG	S	**Sb**	01 08 39.7	-0.3
SIGR	**SIGRI**	0.29	320	P	P	**Pb**	01 08 35.1	0.0
SIGR				S	S	**Sb**	01 08 39.5	-0.5
SIGR	**SIGRI**	0.29	320	P	P	**Pb**	01 08 35.1	0.0
SIGR				S	S	**Sb**	01 08 39.6	-0.5
SIGR				AML	AML		01 08 40.2	
	comp=N,5546μm,0.4s							
SIGR				AML	AML		01 08 40.5	
	comp=E,6185μm,0.5s							
PRK	**Paraskevi**	0.29	28	P	P	**Pb**	01 08 36.0	+0.8
PRK				S	S	**Sb**	01 08 41.3	+1.2
PRK	**Paraskevi**	0.29	28	P	P	**Pn**	01 08 36.5	-1.7
PRK				S	S	**Sb**	01 08 40.9	+0.8
PRK				AML	AML		01 08 41.8	
	comp=N,4199μm,0.4s							
PRK				AML	AML		01 08 42.1	
	comp=E,2706μm,0.5s							
GPNR	**Gulpinar-Canak**	0.47	4	PG	P	**Pb**	01 08 38.9	+0.7
GPNR				SG	S	**Sb**	01 08 45.8	+0.6
KRBN	**Karaburun**	0.53	137	PG	P	**Pn**	01 08 40.4	-1.1
AYVA	**Ayvalik**	0.56	55	*i* P	P	**Pn**	01 08 41.0	-0.9
AYVA				*i* S	S	**Sn**	01 08 49.8	-1.4
FOCM	**Foa**	0.57	119	PG	P	**Pn**	01 08 40.7	-1.2
FOCM				SG	S	**Sn**	01 08 49.9	-1.4
CHOS	**Chios island**	0.60	183	PG	P	**Pn**	01 08 41.3	-1.2
CHOS	**Chios island**	0.60	183	P	P	**Pb**	01 08 40.5	0.0
CHOS	**Chios island**	0.60	183	P	P	**Pb**	01 08 40.6	+0.2
CHOS				S	S	**Sb**	01 08 48.9	-0.1
CHOS				AML	AML		01 08 53.6	
	comp=N,804μm,0.3s							
CHOS				AML	AML		01 08 54.0	
	comp=E,1703μm,0.4s							
PSRA	**Psara**	0.61	223	P	P	**Pn**	01 08 41.6	-0.9
PSRA				S	S	**Sb**	01 08 48.8	-0.3
CESE	**eme**	0.68	166	PG	P	**Pn**	01 08 43.4	0.0
CESE				SG	S	**Sn**	01 08 53.2	-0.8
URLA	**Izmir**	0.74	148	PG	P	**Pn**	01 08 43.5	-0.8
URLA	**Izmir**	0.74	148	IAML_P				
	comp=Z,3μm,0.2s							
URLA				*i* P	P	**Pn**	01 08 43.8	-0.5
URLA				*i* S	S	**Sn**	01 08 57.2	+1.6
ZEDA	**zmir-Bergama**	0.77	91	*i* P	P	**Pn**	01 08 44.5	-0.2
ZEDA				*i* S	S	**Sn**	01 08 57.0	+0.7
ZEY	**zmir**	0.81	157	IAML_P				
	comp=Z,2μm,0.2s							
ZEY				*i* P	P	**Pb**	01 08 44.2	+0.2
ZEY				*i* S	S	**Sn**	01 08 57.9	+0.5
BAYC	**CANAKKALE_Bayr**	0.83	25	*i* P	P	**Pn**	01 08 45.9	+0.3
BOZC	**Bozcaada**	0.85	358	PG	P	**Pn**	01 08 45.6	-0.3
BOZC				SG	S	**Sn**	01 08 57.9	-0.6
BOZC	**Bozcaada**	0.85	358	*i* P	P	**Pn**	01 08 45.8	-0.1
BOZC				*i* S	S	**Sn**	01 08 58.2	-0.3
EZN	**Ezine**	0.86	12	PG	P	**Pn**	01 08 45.9	0.0
EZN				SG	S	**Sn**	01 08 58.1	-0.4
EZN	**Ezine**	0.86	12	P	P	**Pn**	01 08 45.9	0.0
EZN				S	S	**Sn**	01 08 58.8	+0.3
LIA	**Limnos Island**	1.15	323	P	P	**Pn**	01 08 50.4	+0.4
LIA				S	S	**Sn**	01 09 06.8	+1.0
LIA	**Limnos Island**	1.15	323	P	P	**Pn**	01 08 50.7	+0.7
LIA				S	S	**Sn**	01 09 05.8	0.0
LIA				AML	AML		01 09 07.9	
	comp=N,354μm,0.5s							
LIA				AML	AML		01 09 09.1	
	comp=E,485μm,0.4s							
SKY	**Skiros Island**	1.21	265	P	P	**Pn**	01 08 51.6	+0.8
SKY				S	S	**Sn**	01 09 08.2	+1.0
SKY				AML	AML		01 09 10.1	
	comp=E,266μm,0.5s							
SKY				AML	AML		01 09 11.6	
	comp=N,309μm,0.2s							
STEP	**BALIKESIR_Sava**	1.32	72	*i* P	P	**Pg**	01 08 54.7	+1.5
STEP				*i* S	S	**Sn**	01 09 13.0	+3.0
SMG	**Samos**	1.40	155	P	P	**Pb**	01 08 53.6	-0.5
SMG	**Samos**	1.40	155	P	P	**Pg**	01 08 54.2	-0.6
SMG				S	S	**Sg**	01 09 14.1	+1.1
SMG				AML	AML		01 09 18.5	
	comp=N,218μm,0.4s							
SMG				AML	AML		01 09 19.5	
	comp=E,269μm,0.2s							
GELI	**Tayfur-Gelibol**	1.44	12	PN	P	**Pg**	01 08 55.5	0.0
LPK	**Lapseki**	1.48	20	PN	P	**Pg**	01 08 56.4	+0.2
LPK				SN	S	**Sg**	01 09 17.1	+1.7
BALB	**Balikesir**	1.53	64	PN	P	**Pg**	01 08 57.0	-0.2
SMTH	**Samothraki Isl**	1.54	344	P	P	**Pb**	01 08 56.3	-0.2
SMTH				S	S	**Sg**	01 09 17.2	-0.3
SMTH	**Samothraki Isl**	1.54	344	P	P	**Pb**	01 08 56.3	-0.2
SMTH				S	S	**Sg**	01 09 16.9	-0.7
SMTH				AML	AML		01 09 19.9	
	comp=E,93μm,0.3s							
SMTH				AML	AML		01 09 21.9	
	comp=N,132μm,0.4s							
GCAM	**G?zelcaml?**	1.57	145	PN	**Pg**		**01 08 58.9**	**+1.1**
GCAM	**G?zelcaml?**	1.57	145	IAML_P				
	comp=Z,243nm,0.2s							
GCAM				*i* P	**Pg**		**01 08 59.0**	**+1.1**
KNL	**Balıkesir**	1.69	40	IAML_P				
	comp=Z,355nm,0.2s							
KNL				*i* P	**Pb**		01 08 59.2	+0.2
ERIK	**Erikli-Kesan**	1.71	11	PN	**Pg**		01 08 59.9	-0.8
ENEZ	**Enez**	1.75	1	PN	**Pg**		01 09 00.1	-1.3
AYDB	**Zeytinkoy-Aydi**	1.75	126	PN	**Pg**		01 09 01.4	-0.1
EREA	**Eretria**	1.78	252	P	**Pn**		01 08 58.6	-0.1
KESN	**Edirne-Kesan**	1.89	14	IAML_P				
	comp=Z,104nm,0.1s							
KESN				*i* P	**Pg**		01 09 03.0	-1.2
KESN				*i* S	**Sg**		01 09 28.1	-0.6
RKY	**Sarkoy-Tekirda**	1.89	26	PN	**Pb**		01 09 02.5	0.0
SART	**Tekirdag**	1.89	26	IAML_P				
	comp=Z,620nm,0.1s							
SART				*i* P	**Pb**		01 09 02.8	+0.2
SART				*i* S	**Sg**		01 09 31.0	+2.2
ALN	**Alexandroupoli**	1.91	359	PN	**Pb**		01 09 02.1	-0.6
ALN	**Alexandroupoli**	1.91	359	P	**Pn**		01 09 01.0	+0.6
ALN	**Alexandroupoli**	1.91	359	P	**Pb**		01 09 01.9	-0.8
ALN				S	**Sb**		01 09 26.7	+0.1
ALN				AML	AML		01 09 31.2	
	comp=E,86μm,0.4s							
ALN				AML	AML		01 09 32.1	
	comp=N,109μm,0.4s							
EDC	**Edincik**	1.93	45	PN	**Pb**		01 09 02.5	-0.5
THAS	**Thassos island**	1.93	327	P	**Pn**		01 09 01.2	+0.5
DURS	**Dursunbey**	1.95	71	IAML_P				
	comp=Z,240nm,0.3s							
DURS				*i* P	**Pb**		01 09 02.5	-1.0
DURS				*i* S	**Sg**		01 09 29.2	-1.2
APE	**Apeiranthos**	1.97	193	P	**Pn**		01 09 01.2	0.0
KULA	**Kula-Manisa**	2.06	102	PN	**Pb**		01 09 05.4	0.0
OUR	**Ouranopolis**	2.11	310	PN	**Pb**		01 09 05.1	-1.1
KCTX	**Karacabey (Bur**	2.16	53	PN	**Pb**		01 09 05.7	-1.4
RDO	**Rodhopi**	2.20	349

KSP	**Ksiaz**	**0.72 174**	*i* Pg		**Pb**	**01 17 09.4**	**-0.5**
KSP			*e*Sg		**Sg**	**01 17 18.5**	**+0.9**
UPC	**Upice**	**1.05 186**	*e*PG		**Pb**	**01 17 15.7**	**0.0**
UPC			*e*SG		**Sg**	**01 17 28.5**	**+0.1**
	comp=Z,73nm,0.3s						
DPC	**Dobruska-Polom**	**1.21 176**	*e*PG		**Pb**	**01 17 18.4**	**0.0**
DPC			*e*SG		**Sb**	**01 17 33.7**	**-0.9**
	comp=Z,43nm,0.2s						
PVCC	**Panska Ves**	**1.45 225**	*e*PG		**Pb**	**01 17 23.2**	**+0.8**
PVCC			*e*SG		**Sn**	**01 17 42.6**	**+1.0**
	comp=Z,120nm,0.5s						
KRLC	**Kraliky**	**1.53 165**	*e*PG		**Pn**	**01 17 23.6**	**+0.4**
KRLC			*e*SG		**Sg**	**01 17 43.2**	**-0.5**
	comp=Z,7.3nm,0.3s						
BRG	**Berggiesshubel**	**1.56 245**	PN		**Pb**	**01 17 24.5**	**+0.1**
BRG			PG		**Pg**	**01 17 25.4**	**+0.8**
BRG			SG		**Sg**	**01 17 45.9**	**+1.1**
	74nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.86 209**	*e*PG		**Pb**	**01 17 29.9**	**+0.4**
GOPC			*e*SG		**Sg**	**01 17 54.4**	**-0.1**
	comp=Z,23nm,0.9s						
PRU	**Pruhonice**	**1.88 214**	*e*PG		**Pb**	**01 17 30.3**	**+0.5**
PRU			*e*SG		**Sg**	**01 17 55.6**	**+0.6**
	comp=Z,27nm,0.6s						
MORC	**Moravsky Berou**	**1.98 153**	*e*PN		**Pn**	**01 17 29.5**	**+0.1**
MORC			*e*SG		**Sg**	**01 17 57.4**	**-0.8**
CLL	**Collm**	**2.00 264**	*e*Pn		**Pn**	**01 17 30.0**	**+0.3**
CLL			*e*Pg		**Pg**	**01 17 33.0**	**0.0**
CLL			*e*			01 17 36.0	
CLL			*e*Sg		**Sg**	**01 17 59.0**	**+0.1**
	comp=Z,29nm,0.6s						
OKC	**Ostrava-Krasne**	**2.13 143**	*e*PG		**Pg**	**01 17 35.5**	**+0.2**
OKC			*e*SG		**Sg**	**01 18 02.7**	**-0.2**
	comp=Z,38nm,0.8s						
CHZP	**Chorzow**	**2.19 124**	*e*Pg		**Pg**	**01 17 38.4**	**+1.9**
CHZP			*e*Sg		**Sg**	**01 18 06.6**	**+1.8**
VRAC	**Vranov**	**2.27 173**	*e*PN		**Pn**	**01 17 34.1**	**+0.8**
VRAC			*e*SG		**Sg**	**01 18 06.2**	**-1.1**
VRAC	**Vranov**	**2.27 173**	Pn		**Pn**	**01 17 34.5**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=349,slow=18,SNR=17						
VRAC			Pg		**Pg**	**01 17 37.7**	**-0.3**
	comp=Z,2.5nm,0.3s,baz=348,slow=18,SNR=8.1						
VRAC			Lg		Lg	01 18 06.5	
	comp=Z,3.6nm,0.3s,baz=76,slow=23,SNR=9.7						
TREC	**Trest**	**2.31 191**	*e*PN		**Pn**	**01 17 34.6**	**+0.7**
TREC			*e*PG		**Pg**	**01 17 38.1**	**-0.7**
TREC			*e*SG		**Sg**	**01 18 07.9**	**-0.7**
	comp=Z,16nm,0.3s						
KRUC	**Moravsky**	**2.50 177**	*e*PN		**Pn**	**01 17 36.9**	**+0.4**
KRUC			*e*SG		**Sg**	**01 18 13.8**	**-1.1**
OJC	**Ojcow**	**2.65 119**	*e*Pn		**Pn**	**01 17 37.1**	**-1.6**
OJC			*e*Pg		**Pg**	**01 17 45.8**	**+0.4**
OJC			*e*Sg		**Sg**	**01 18 20.9**	**+1.1**
NKC	**Novy Kostel**	**2.71 242**	*e*PN		**Pn**	**01 17 40.7**	**+1.3**
NKC			*e*PG		**Pg**	**01 17 46.5**	**0.0**
NKC			*e*SG		**Sg**	**01 18 22.2**	**+0.7**
	comp=Z,41nm,0.6s						
JAVC	**Velka Javorina**	**2.86 160**	*e*PN		**Pn**	**01 17 43.1**	**+1.5**
KHC	**Kasperske Hory**	**2.94 215**	*e*PN		**Pn**	**01 17 43.2**	**+0.6**
KHC			*e*PG		**Pb**	**01 17 49.4**	**+1.5**
KHC			*e*SN		**Sn**	**01 18 17.5**	**-1.2**
KHC			*e*SG		**Sg**	**01 18 28.8**	**-0.3**
	comp=Z,16nm,0.7s						
GERES	**GERESS Array B**	**3.15 211**	Pn		**Pn**	**01 17 47.0**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=12						
GERES			Pg		**Pb**	**01 17 52.7**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=30,slow=17,SNR=18						
GERES			Lg		Lg	01 18 32.5	
	comp=Z,4.0nm,0.3s,baz=40,slow=30,SNR=15						
LANS	**Liptovska Anna**	**3.20 138**	*e*PG		**Pg**	**01 17 56.2**	**+0.3**
LANS			*e*SG		**Sg**	**01 18 36.4**	**-0.9**
MODS	**Modra-Piesok**	**3.26 167**	*e*PG		**Pg**	**01 17 56.0**	**-1.1**
MODS			*e*SG		**Sg**	**01 18 39.1**	**-0.3**
NIE	**Niedzica**	**3.39 127**	*e*P		**Pg**	**01 17 59.8**	**+0.3**
NIE			*e*S		**Sg**	**01 18 45.4**	**+1.9**
VYHS	**Vyhne**	**3.51 150**	*e*PN		**Pn**	**01 17 50.7**	**+0.3**
VYHS			*e*PG		**Pg**	**01 18 03.7**	**+1.8**
VYHS			*e*SG		**Sg**	**01 18 45.7**	**-1.6**
CONA	**Conrad Observa**	**3.64 183**	*i* Pn		**Pn**	**01 17 53.7**	**+1.5**
	comp=Z,0.3nm,0.1s						
CONA			*e*Sg		**Sg**	**01 18 50.0**	**-1.4**
	comp=Z,4.2nm,0.3s						
BSD	**Bornholm Skovb**	**3.65 349**	*i* P		**Pn**	**01 17 52.3**	**+0.1**
BSD			*i* S		**Sn**	**01 18 34.4**	**-1.5**
MOA	**Molln**	**3.91 199**	*i* Pn		**Pn**	**01 17 56.9**	**+1.0**
	comp=Z,1.4nm,0.3s						
MOA			*e*Sg		**Sg**	**01 18 59.7**	**-0.4**
	comp=Z,9.8nm,0.5s						
ARSA	**Arzberg**	**4.33 186**	Sg		**Sg**	**01 19 12.5**	**-1.1**
	comp=Z,7.1nm,0.6s						
KOLS	**Kolonicke sedl**	**4.71 121**	*e*PN		**Pn**	**01 18 07.0**	**+0.1**
KOLS			*e*PG		**Pg**	**01 18 26.4**	**+1.6**
KOLS			*e*SG		**Sg**	**01 19 28.1**	**+2.3**
DAVOX	**Davos/Dischmat**	**6.31 223**	Lg		Lg	01 20 16.6	
	comp=Z,0.1nm,0.3s,baz=336,slow=3.8,SNR=3.1						
FINES	**FINESS Array B**	**11.30 25**	Pn		**Pn**	**01 19 34.6**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=201,slow=11,SNR=2.2						
ARCES	**ARCESS Array B**	**18.57 10**	Pn		**P**	**01 21 12.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=194,slow=14,SNR=2.5						

NIED ***21*** *01:40:00,42°.90N×146°.40E,h32km,Mw3.6 Best double couple: M₀2.61000×10¹⁴ NP1:φs161.00000°,δ48.00000°, λ42.00000°. NP2:φs40.00000°,δ60.00000°,λ129.00000°.*
SKHL ***21*** *01:40:12.8±0.2,42°.76N×146°.24E,h53km±2km,mb3.9/4*
JMA ***21*** *01:40:12.9±0.1,42°.86N×146°.36E,h46km±2km,M3.6*
ISCJB ***21*** *01:40:13.5±1.2,42°.89N±0°.07×146°.33E±0°.08,h50km±9km, mb3.7/5, Error ellipse: s-maj=13.8km s-min=6.4km az=138.1*
MOS ***21*** *01:40:16.8±1.4,43°.20N×146°.33E,h68km,mb4.2/1, Error ellipse: s-maj=22.0km s-min=14.5km az=91.4*
IDC ***21*** *01:40:20.8±3.2,43°.05N×146°.29E,h93km±26km,mb3.4/5, mb1 3.5/7,mb1mx3.1/42,mbtmp3.7/7,MS2.2/1,Ms1 2.2/1, ms1mx1.9/36,Error ellipse: s-maj=31.5km s-min=25.9km az=180.0*

ISC 21 01:40:14.8±2.0,42°.92N±0°.09×146°.30E±0°.08,h41km±16km, n24,σ1.934/36,mb3.6/5,3C,Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.60**	**318**	P	**Pn**	**01 40 26.3**	**-0.6**
NEM2				*e*S	**Sn**	**01 40 35.9**	**+0.3**
JKHN	**Kushirohamanak**	**0.85**	**282**	P	**Pn**	**01 40 29.3**	**-1.0**
JKHN				*e*S	**Sn**	**01 40 41.7**	**+0.1**
GRPR	**Tuman**	**1.14**	**341**	⇑*i*PN	**Pn**	**01 40 33.5**	**-0.8**
GRPR				*i* S	**Sn**	**01 40 48.4**	**-0.3**
GRPR				pmax	pmax		
	comp=Z,864nm,0.3s						
GRPR				smax	smax		
	comp=E,1μm,0.2s						
GRPR				smax	smax		
	comp=N,2μm,0.4s						
GRPR	**Tuman**	**1.14**	**341**	*i* P	**Pn**	**01 40 33.0**	**-1.3**
GRPR				AMB	AMB	01 40 36.0	
	comp=N,50nm,0.3s						
GRPR				*i* S	**Sn**	**01 40 48.0**	**-0.7**
GRPR				A	A	01 40 51.0	
	comp=N,480nm,0.4s						
GRPR				A	A	01 40 51.0	
	comp=N,630nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.16**	**344***c*	*i*PN	**Pn**	**01 40 34.6**	**+0.1**
YUK				*i* S	**Sn**	**01 40 50.3**	**+1.1**
YUK				pmax	pmax		
	comp=Z,910nm,0.2s						
YUK				pmax	pmax		
	comp=N,234nm,0.1s						
YUK				pmax	pmax		
	comp=E,62nm,0.1s						
YUK				smax	smax		
	comp=N,871nm,0.6s						
YUK				smax	smax		
	comp=E,587nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.16**	**344**	*i* P	**Pn**	**01 40 34.0**	**-0.5**
YUK				AMB	AMB	01 40 38.9	
	comp=E,20nm,0.3s						
YUK				AMB	AMB	01 40 38.9	
	comp=E,60nm,0.3s						
YUK				AMB	AMB	01 40 38.9	
	comp=E,40nm,0.3s						
YUK				*i* S	**Sn**	**01 40 50.0**	**+0.8**
YUK				A	A	01 40 53.0	
	comp=E,870nm,0.6s						
YUK				A	A	01 40 53.0	
	comp=E,590nm,0.6s						
JAK	**Akkeshi**	**1.18**	**274**	P	**Pn**	**01 40 33.8**	**-1.0**
LAGR	**Lagunnoye**	**1.20**	**342***c*	*i*PN	**Pn**	**01 40 34.5**	**-0.5**
LAGR				*i* S	**Sn**	**01 40 50.1**	**0.0**
LAGR				pmax	pmax		
	comp=Z,914nm,0.2s						
LAGR				smax	smax		
	comp=N,2μm,0.6s						
LAGR				smax	smax		
	comp=E,4μm,0.6s						
LAGR	**Lagunnoye**	**1.20**	**342**	*i* P	**Pn**	**01 40 34.0**	**-1.0**
LAGR				AMB	AMB	01 40 36.0	
	comp=E,30nm,0.4s						
LAGR				*i* S	**Sn**	**01 40 50.0**	**0.0**
LAGR				A	A	01 40 53.0	
	comp=E,200nm,0.3s						
LAGR				A	A	01 40 53.0	
	comp=E,360nm,0.3s						
JRA	**Rausu**	**1.33**	**320**	P	**Pn**	**01 40 36.6**	**-0.3**
JRA				*e*S	**Sn**	**01 40 54.3**	**+0.9**
JNK	**Nakash**	**1.33**	**301**	P	**Pn**	**01 40 36.2**	**-0.7**
JNK				*e*S	**Sn**	**01 40 53.2**	**-0.2**
JOB	**Onbets**	**1.81**	**270**	P	**Pn**	**01 40 42.9**	**-0.5**
JAR	**Ashorobuto**	**1.89**	**282**	P	**Pn**	**01 40 44.1**	**-0.4**
JAR				*e*S	**Sn**	**01 41 08.0**	**+0.9**
JTKR	**Abashiri--Toko**	**2.03**	**302**	P	**Pn**	**01 40 46.9**	**+0.4**
JCH	**Churui**	**2.18**	**263**	P	**Pn**	**01 40 48.7**	**+0.1**
JCH				*e*S	**Sn**	**01 41 15.2**	**+0.9**
KUR	**Kuril'sk**	**2.58**	**25**	*e*PN	**Pn**	**01 40 54.7**	**+0.8**
KUR				pmax	pmax		
	comp=Z,42nm,0.2s						
KUR	**Kuril'sk**	**2.58**	**25**	*e*P	**Pn**	**01 40 54.8**	**+0.8**
KUR				AMB	AMB	01 40 56.0	
	comp=Z,20nm,0.4s						
KUR				*e*S	**Sn**	**01 41 25.2**	**+1.2**
KUR				A	A	01 41 27.0	
	comp=Z,100nm,0.3s						
KUR				A	A	01 41 27.0	
	comp=Z,50nm,0.3s						
ASAJ	**Asahikawa**	**2.95**	**295**	P	Pn	01 41 04.0	+5.0
	comp=Z,3.0nm,0.3s,baz=110,slow=18,SNR=6.5						
ASAJ				S	**Sn**	**01 41 39.6**	**+6.4**
	comp=Z,4.5nm,0.3s,baz=22,slow=30,SNR=8.8						
ASAJ				LR	LR	01 42 06.9	
	comp=Z,38nm,20.1s,baz=344,slow=37						
MJAR	**Matsushiro Arr**	**8.91**	**227**	P	Pn	01 42 28.1	+7.2
	comp=Z,0.2nm,0.3s,baz=33,slow=18,SNR=2.8						
SONM	**Songino Array**	**28.23**	**294**	P	**P**	**01 46 03.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=87,slow=8.9,SNR=3.6						
ILAR	**Eielson Array**	**42.52**	**36**	P	**P**	**01 48 05.0**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=280,slow=9.9,SNR=3.6						
MKAR	**Makanchi Array**	**44.42**	**298**	P	**P**	**01 48 21.5**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=79,slow=7.5,SNR=5.1						
RES	**Resolute Bay**	**55.94**	**16**	P	**P**	**01 49 48.1**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=332,slow=4.5,SNR=8.7						
FINES	**FINESS Array B**	**65.33**	**333**	P	**P**	**01 50 51.8**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=45,slow=8.5,SNR=16						

MEX 21 01:48:23.8±0.8,16°.67N×100°.44W,h2km±4km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.41**	**24**	*e*P	Pg	01 48 30.9	-0.8
CAIG				*i* S	Sg	01 48 38.0	+0.9
MEIG	**Mezcala**	**1.47**	**32**	*e*P	Pn	01 48 48.2	-3.3
MEIG				*i* S	Sb	01 49 06.4	-4.8
ARIG	**Puente Sto Nin**	**1.60**	**3**	*e*P	Pn	01 48 50.0	-3.2
ARIG				*i* S	Sn	01 49 09.4	-5.0
PLIG	**Platanillo**	**1.93**	**27**	*e*P	Pn	01 48 54.2	-3.6
PLIG				*i* S	Sn	01 49 17.2	-5.5
TLIG	**Tlapa**	**2.00**	**63**	*e*P	Pn	01 48 55.4	-3.3
TLIG				*e*S	Sn	01 49 20.4	-4.0

MEX 21 01:51:40.8±0.7,16°.62N×100°.41W,h2km±4km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.45**	**18**	*e*P	Pg	01 51 49.0	-0.4
CAIG				*e*S	Sg	01 51 56.0	+0.7
ACP2	**Acapulco**	**0.56**	**63**	*e*P	Pg	01 51 51.0	-0.6
ACP2				*e*S	Sg	01 51 59.3	+0.4
ARIG	**Puente Sto Nin**	**1.66**	**2**	*e*P	Pn	01 52 07.8	-3.2
ARIG				*e*S	Sn	01 52 28.0	-4.9
PLIG	**Platanillo**	**1.97**	**26**	*e*P	Pn	01 52 12.2	-3.1
PLIG				*e*S	Sn	01 52 35.4	-5.2
TLIG	**Tlapa**	**2.00**	**62**	*e*P	Pn	01 52 12.1	-3.7
TLIG				*e*S	Sn	01 52 37.4	-4.0
YAIG	**Yautepec**	**2.57**	**30**	*e*P	Pn	01 52 20.9	-2.8
YAIG				*e*S	Sn	01 52 50.8	-4.9

DJA 21 01:52:17.8±1.0,8°.S±5°.×10°.7E±°,h15km±6km,M3.9/7, MLv3.9/7,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.74**	**36**	P	Pb	01 52 33.0	+0.5
CISI				S	Sg	01 52 42.2	0.0
LEM	**Lembang**	**1.35**	**11**	P	Pb	01 52 43.1	+0.2
LEM				S	Sg	01 53 01.4	0.0
SKJI	**Sukabumi**	**1.40**	**325**	P	Pn	01 52 42.1	-0.8
SKJI				S	Sn	01 52 59.5	-1.6
CGJI	**Cibinong**	**2.26**	**313**	P	Pn	01 52 54.3	-0.4
UGM	**Wanagama**	**3.13**	**86**	P	Pn	01 53 07.1	+0.4

BJI ***21*** *01:55:03.0±0.0,52°.47N×160°.48E,h20km,mb5.8/83, mB5.9/64,Ms6.5/94,Ms7 6.5/88*
IDC ***21*** *01:55:03.2±0.4,52°.50N×160°.39E,h0km,mb5.4/37, mb1 5.5/39,mb1mx5.4/42,mbtmp5.4/39,ML5.0/2,MS5.8/42, Ms1 5.8/42,ms1mx5.7/48,Error ellipse: s-maj=11.4km s-min=8.5km az=144.0*
KRSC ***21*** *01:55:03.4±10.0,52°.22N×160°.89E,h59km±10km,ML6.1*
ISCJB ***21*** *01:55:07.8±0.3,52°.40N±0°.02×160°.59E±0°.02,h46km±2km, mb5.6/655,MS5.9/773,Error ellipse: s-maj=2.9km s-min=1.5km az=169.4*
NEIC ***21*** *01:55:08.4±0.1,52°.52N×160°.36E,h30km,mb5.6/298, ME5.8,MS5.7/298,MW5.9,MW6.0,Error ellipse: s-maj=3.9km s-min=2.0km az=164.0,Moment Tensor Solution. s120 Moment tensor: Scale 10¹⁷Nm; Mrr5.00; Mθθ-0.23; Mφφ-4.77; Mrθ3.23; Mrφ-2.74; Mθφ5.22; Best double couple: M₀8.30000×10¹⁷ NP1:φs198.00000°, δ21.00000°,λ78.00000°. NP2:φs31.00000°,δ69.00000°, λ95.00000°. Principal axes: T 7.7600, Plg66.0000°, Azm309.0000°; N 1.0100, Plg4.0000°, Azm209.0000°; P -8.7700, Plg24.0000°, Azm117.0000°; Broadband fault plane solution: P waves. NP1:φs210.00000°,δ10.00000°, λ90.00000°. NP2:φs30.00000°,δ80.00000°,λ90.00000°. Principal axes: T Plg55.0000°, Azm300.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm120.0000°; Apparent Stress 0.47 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Vilyuchinsk.
MOS ***21*** *01:55:08.7±0.9,52°.46N×160°.41E,h59km,mb5.9/120, MS5.7/108 Error ellipse: s-maj=5.3km s-min=3.0km az=94.3*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
NEIC ***21*** *01:55:08.0±0.0,52°.51N×160°.30E,h30km,Moment Tensor Solution. s60 Moment tensor: Scale 10¹⁸Nm; Mrr0.48; Mθθ-0.17; Mφφ-0.31; Mrθ0.50; Mθφ-0.10; Mφr1.04; Best double couple: M₀1.20000×10¹⁸ NP1:φs25.00000°, δ80.00000°,λ90.00000°. NP2:φs207.00000°,δ10.00000°, λ91.00000°. Principal axes: T 1.2900, Plg55.0000°, Azm295.0000°; N -0.1200, Plg0.0000°, Azm25.0000°; P -1.1700, Plg34.0000°, Azm115.0000°;*
GCMT ***21*** *01:55:12.4±0.1,52°.34N×160°.81E,h18km,MW6.0/136, Moment Tensor Solution. s123,c287; s136,c476; Duration: 2s4 Moment tensor: Scale 10¹⁸Nm; Mrr0.93±.01; Mθθ-0.37±.01; Mφφ-0.56±.01; Mrθ0.55±.02; Mθφ-0.46±.00; Mφr0.66±.02; Best double couple: M₀1.26900×10¹⁸ NP1:φs39.00000°,δ66.00000°, λ90.00000°. NP2:φs219.00000°,δ24.00000°,λ90.00000°. Principal axes: T 1.2680, Plg69.0000°, Azm310.0000°; N 0.0030, Plg0.0000°, Azm219.0000°; P -1.2700, Plg21.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 21 01:55:06.7±0.4,52°.41N±0°.03×160°.57E±0°.02,h23km±2km, h24km:pP-P,n2457,σ1.958/2420,mb5.7/679,MS5.9/791, 164C-21D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.76**	**334**	*e*P	**Pn**	**01 55 22.0**	**0.0**
SPN				*e*S	**Sn**	**01 55 33.9**	**+1.2**
SPN	**Mys Shipunski**	**0.76**	**334**	PN	**Pn**	**01 55 22.0**	**0.0**
SPN				S	**Sn**	**01 55 33.9**	**+1.2**
NLC	**Nalytchevo**	**1.06**	**316**	*e*P	**Pb**	**01 55 26.9**	**+0.5**
NLC				*e*S	**Sn**	**01 55 44.4**	**+4.3**
NLC	**Nalytchevo**	**1.06**	**316**	PN	**Pb**	**01 55 26.9**	**+0.5**
NLC				S	**Sn**	**01 55 44.4**	**+4.3**
RUS	**Russkaya**	**1.26**	**272**	*e*P	**Pb**	**01 55 29.8**	**+0.1**
RUS				*e*S	**Sb**	**01 55 47.5**	**+2.0**
RUS	**Russkaya**	**1.26**	**272**	PN	**Pb**	**01 55 29.8**	**+0.1**
RUS				S	**Sb**	**01 55 47.5**	**+2.0**
DALK	**Dalny**	**1.27**	**300**	*e*P	**Pb**	**01 55 30.3**	**+0.5**
DALK				*e*S	**Sb**	**01 55 48.7**	**+3.0**
DALK	**Dalny**	**1.27**	**300**	PN	**Pb**	**01 55 30.3**	**+0.5**
DALK				S	**Sb**	**01 55 48.7**	**+3.0**
PET	**Petropavlovsk**	**1.32**	**298**	*e*Pn	**Pb**	**01 55 31.0**	**+0.2**
PET				*e*Sn	**Sn**	**01 55 46.0**	**-0.4**
PET	**Petropavlovsk**	**1.32**	**298**	PN	**Pb**	**01 55 30.9**	**+0.2**
UGLR	**Uglovaya**	**1.33**	**308**	*i* P	**Pb**	**01 55 31.6**	**+0.7**
UGLR	**Uglovaya**	**1.33**	**308**	PN	**Pb**	**01 55 31.6**	**+0.7**
SDLR	**Sedlovina**	**1.34**	**311**	*e*P	**Pb**	**01 55 31.4**	**+0.2**
SDLR	**Sedlovina**	**1.34**	**311**	PN	**Pb**	**01 55 31.4**	**+0.2**
SMAR	**Somma**	**1.37**	**309**	*i* P	**Pb**	**01 55 31.8**	**+0.1**
SMAR	**Somma**	**1.37**	**309**	PN	**Pb**	**01 55 31.8**	**+0.1**
AVH	**Avacha**	**1.40**	**308**	*i* P	**Pb**	**01 55 32.7**	**+0.5**
AVH	**Avacha**	**1.40**	**308**	PN	**Pb**	**01 55 32.7**	**+0.5**
MTVR	**Mutnovka**	**1.47**	**274**	*e*P	**Pb**	**01 55 33.1**	**-0.2**
MTVR	**Mutnovka**	**1.47**	**274**	PN	**Pb**	**01 55 33.1**	**-0.2**
KOK	**Koryaka**	**1.47**	**308**	*i* P	**Pb**	**01 55 33.5**	**+0.2**
KOK	**Koryaka**	**1.47**	**308**	PN	**Pb**	**01 55 33.5**	**+0.2**
KRX	**Arik**	**1.50**	**310**	*i* P	**Pb**	**01 55 34.5**	**+0.6**
KRX	**Arik**	**1.50**	**310**	PN	**Pb**	**01 55 34.5**	**+0.6**
GRL	**Gorelyy**	**1.54**	**276**	*i* P	**Pb**	**01 55 34.7**	**+0.2**
GRL	**Gorelyy**	**1.54**	**276**	PN	**Pb**	**01 55 34.7**	**+0.2**
KRMR	**Karymshinskiy**	**1.55**	**287**	*e*P	**Pb**	**01 55 34.2**	**-0.4**
KRMR				*e*S	**Sb**	**01 55 58.4**	**+4.7**
KRMR	**Karymshinskiy**	**1.55**	**287**	PN	**Pb**	**01 55 34.2**	**-0.4**
KDTR	**Khodutka, Kamc**	**1.65**	**249**	*e*P	**Pn**	**01 55 34.3**	**+0.1**
KDTR				*e*S	**Sn**	**01 55 55.4**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.65**	**249**	PN	**Pn**	**01 55 34.3**	**+0.1**
KDTR				S	**Sn**	**01 55 55.4**	**+0.7**
I44RU	**PETROPAVLOVSK-**	**1.87**	**293**	Pn	**Pb**	**01 55 40.0**	**-0.1**
	baz=109,slow=16,SNR=1.7						
PEA0B	**Petropavlovsk-**	**1.88**	**293**	*e*Pn	**Pb**	**01 55 39.2**	**-1.1**
PEA0B				*e*Sn	**Sn**	**01 56 00.2**	**-0.1**
PETK	**Petropavlovsk-**	**1.88**	**293**	*e*Sn	**Sb**	**01 56 02.5**	**-0.9**
PETK	**Petropavlovsk-**	**1.88**	**293**	Pn	**Pb**	**01 55 39.1**	**-1.2**
	874nm,0.3s,baz=107,slow=17,SNR=3019						
PETK				Sn	**Sn**	**01 56 01.3**	**+1.0**
	913nm,0.3s,baz=29,slow=26,SNR=3.0						
PETK				LR	LR	01 56 12.8	
	comp=Z,146μm,19.9s,baz=294,slow=40						
PEA1	**Petropavlovsk-**	**1.88**	**293**	*e*Pn	**Pb**	**01 55 39.1**	**-1.2**
PEA1				*e*Sn	**Sn**	**01 56 01.4**	**+1.0**
APC	**Apacha**	**2.14**	**285**	*e*P	**Pb**	**01 55 43.7**	**-1.0**
APC	**Apacha**	**2.14**	**285**	PN	**Pb**	**01 55 43.7**	**-1.0**
MKZ	**Mys Kozlova**	**2.25**	**17**	*e*P	**Pn**	**01 55 42.4**	**-0.1**
MKZ	**Mys Kozlova**	**2.25**	**17**	PN	**Pn**	**01 55 42.4**	**-0.1**
PAU	**Pauzhetka**	**2.51**	**249**	*e*P	**Pn**	**01 55 46.6**	**+0.6**
PAU	**Pauzhetka**	**2.51**	**249**	PN	**Pn**	**01 55 46.6**	**+0.6**
KZV	**Kizimen**	**2.71**	**357**	*i* P	**Pn**	**01 55 50.5**	**+1.6**
KZV	**Kizimen**	**2.71**	**357**	PN	**Pn**	**01 55 50.5**	**+1.6**
TUMD	**Tumrok D**	**2.80**	**358**	*e*P	**Pn**	**01 55 51.2**	**+1.2**
TUMD				*e*S	**Sn**	**01 56 25.5**	**+2.6**
TUMR	**Tumrok**	**2.89**	**355**	*i* P	**Pn**	**01 55 53.4**	**+2.1**
TUMR	**Tumrok**	**2.89**	**355**	PN	**Pn**	**01 55 51.2**	**-0.1**
TUMR				S	**Sn**	**01 56 25.5**	**+0.2**
SKR	**Severo-Kuril's**	**3.28**	**240**	*e*P	**Pn**	**01 55 56.5**	**-0.1**
SKR				*e*S	**Sn**	**01 56 33.9**	**-0.8**
SKR	**Severo-Kuril's**	**3.28**	**240**	⇑*i*PN	**Pn**	**01 55 56.4**	**-0.1**
SKR				*e*S	**Sn**	**01 56 34.3**	**-0.4**
SKR				pmax	pmax		
	comp=Z,1μm,0.8s						
SKR				pmax	pmax		
	comp=Z,12μm,6.4s						
SKR				smax	smax		
	comp=E,24μm,0.8s						
SKR				smax	smax		
	comp=N,36μm,1.0s						
SKR				MLR	MLR		
	comp=Z,230μm,13.0s						
KMNR	**Kamenistaya**	**3.35**	**357**	*i* P	**Pb**	**01 56 02.3**	**-3.2**
KMNR	**Kamenistaya**	**3.35**	**357**	PN	**Pb**	**01 56 02.3**	**-3.2**
ALID	**Alaid**	**3.49**	**246**	*e*P	**Pn**	**01 56 00.2**	**+0.6**
ALID	**Alaid**	**3.49**	**246**	PN	**Pn**	**01 56 00.2**	**+0.6**
BZMR	**Bezymyannaya**	**3.53**	**359**	*e*P	**Pn**	**01 56 02.4**	**+2.3**
BZMR	**Bezymyannaya**	**3.53**	**359**	PN	**Pn**	**01 56 02.4**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**3.53**	**1**	*e*P	**Pn**	**01 56

comp=Z,262nm,0.6s
KUR pmax pmax
comp=E,31nm,0.4s
KUR pmax pmax
comp=N,66nm,0.3s
KUR pmax pmax
comp=Z,5μm,12.4s
KUR MLR MLR
comp=Z,115μm,19.0s
KUR MLR MLR
comp=N,232μm,18.0s
KUR MLR MLR
comp=E,94μm,16.0s
TYV Tymovskoe 11.24 269 *e*PN **Pn 01 57 50.5 +4.7**
TYV *e*S **Sn 01 59 58.7 +8.1**
TYV pmax pmax
comp=Z,2μm,3.5s
TYV pmax pmax
comp=Z,227nm,1.4s
TYV smax smax
comp=N,33nm,1.1s
TYV MLR MLR
comp=N,81μm,16.0s
TYV MLR MLR
comp=Z,176μm,16.0s
SEY Seymchan 11.41 341 *i* PN **Pn 01 57 49.4 +1.5**
SEY Seymchan 11.41 341 Pn **Pn 01 57 50.8 +2.8**
comp=Z,0.3nm,0.3s,baz=139,slow=12,SNR=41
SEY LR LR 02 02 43.4
comp=Z,49μm,18.4s,baz=146,slow=41
NKL Nikolayevsk 12.07 281 *i* PN **Pn 01 58 01.0 +4.0**
NKL pmax pmax
comp=Z,810nm,2.0s
NKL pmax pmax
comp=E,8μm,7.0s
NKL pmax pmax
comp=Z,10μm,7.0s
NKL MLR MLR
comp=Z,140μm,14.0s
NKL MLR MLR
comp=E,89μm,16.0s
UGL Uglegorsk 12.19 261 *e*PN **Pn 01 58 02.0 +3.4**
UGL *e*S **Sn 02 00 16.2 +2.6**
UGL pmax pmax
comp=Z,383nm,0.9s
UGL pmax pmax
comp=Z,12μm,9.3s
UGL smax smax
comp=E,3μm,9.3s
UGL MLR MLR
comp=Z,112μm,14.0s
UGL MLR MLR
comp=N,57μm,13.0s
UGL MLR MLR
comp=E,172μm,13.0s
YSS Yuzh-Sakhalins 12.75 252 *e*Pn **Pn 01 58 03.8 -2.6**
YSS Yuzh-Sakhalins 12.75 252α *i*PN **Pn 01 58 08.5 +2.1**
YSS pmax pmax
comp=Z,300nm,1.1s
YSS pmax pmax
comp=Z,5μm,8.0s
YSS pmax pmax
comp=N,3μm,8.7s
YSS pmax pmax
comp=E,4μm,7.7s
YSS MLR MLR
comp=Z,116μm,13.0s
YSS MLR MLR
comp=N,41μm,13.5s
YSS MLR MLR
comp=E,81μm,13.5s
YUK Yuzh-Kuril'sk 12.88 235*c i*PN **Pn 01 58 07.2 -1.0**
YUK pmax pmax
comp=Z,624nm,0.5s
YUK pmax pmax
comp=N,176nm,0.6s
YUK pmax pmax
comp=E,139nm,0.3s
YUK MLR MLR
comp=Z,6μm,17.0s
YUK MLR MLR
comp=N,4μm,16.0s
YUK MLR MLR
comp=E,8μm,16.0s
KIWB Kanaga Island 13.69 84 *e*Pn **Pn 01 58 15.4 -3.7**
ADK Adak 13.97 83 *e*Pn **Pn 01 58 23.2 +0.3**
ADK Adak 13.97 83 *e*P **Pn 01 58 23.2 +0.3**
GSTR Great Sitkin T 14.31 82 *e*Pn **Pn 01 58 28.7 +1.1**
ASAJ Asahikawa 14.54 242 Pn **Pn 01 58 30.1 -0.7**
comp=E,20nm,0.3s,baz=69,slow=11,SNR=73
ASAJ LR LR 02 05 03.6
comp=E,80μm,18.3s,baz=52,slow=42
GRNR Gornyy 15.09 273 *e*P **P 01 58 42.9 -0.3**
GRNR pmax pmax
comp=Z,21nm,1.0s
ERM Erimo 15.71 235 *e*Pn **Pn 01 58 42.0 -4.3**
comp=Z,223nm,0.4s
ERM Erimo 15.71 235 *e*P **Pn 01 58 42.0 -4.3**
ERM pmax pmax
comp=Z,223nm,0.4s
BILL Bilibino 15.92 8 *e*Pn **Pn 01 58 49.8 +1.0**
comp=Z,561nm,1.1s
BILL Biiibino 15.92 8*c i*P **Pn 01 58 49.1 +0.3**
BILL pmax pmax
comp=Z,247nm,1.7s
BILL MLR MLR
comp=Z,45μm,20.0s
TEY Ternei 17.40 254⇓ *e*P **P 01 59 09.5 +0.7**
TEY *e*S **Sn 02 02 15.2 -5.2**
TEY pmax pmax
comp=N,110nm,1.6s
TEY pmax pmax
comp=Z,320nm,1.3s
TEY pmax pmax
comp=E,280nm,1.3s
TEY smax smax
comp=N,30nm,1.3s
TEY MLR MLR
comp=N,69μm,14.0s
TEY MLR MLR
comp=E,68μm,14.0s
TEY MLR MLR
comp=Z,99μm,14.0s
GAMB Gambell 18.37 41 *e*P **Pn 01 59 20.5 +1.0**
comp=Z,289nm,1.4s
NIKH Nikolski High 18.48 76 *e*P **P 01 59 17.6 -3.0**
comp=Z,974nm,1.3s
YAK Yakutsk 19.11 312 *e*P **P 01 59 25.8 -1.7**
YAK *e*S **Sn 02 02 57.7 -3.8**
YAK pmax pmax
comp=Z,1μm,1.0s
YAK pmax pmax
comp=N,202nm,1.0s
YAK pmax pmax
comp=E,644nm,0.9s
YAK pmax pmax
comp=Z,5μm,1.2s
YAK pmax pmax
comp=N,1μm,1.3s
YAK pmax pmax
comp=E,3μm,1.4s
YAK smax smax
comp=N,2μm,2.5s
YAK smax smax
comp=E,2μm,2.7s
YAK MLR MLR
comp=Z,178μm,18.0s
YAK MLR MLR
comp=N,155μm,15.0s
YAK MLR MLR
comp=E,199μm,15.0s
UNV Unalaska Valle 19.71 73 *e*P **Pn 01 59 36.5 +0.8**
comp=E,420nm,1.3s
ZEA Zeya 19.96 287*ce*P **P 01 59 35.8 -1.1**
ZEA *e* 02 03 18.0
ZEA pmax pmax
comp=N,55nm,0.7s
ZEA pmax pmax
comp=E,120nm,1.0s
ZEA pmax pmax
comp=Z,240nm,1.0s
ZEA pmax pmax
comp=Z,5μm,13.0s
ZEA pmax pmax
comp=E,7μm,17.0s
ZEA pmax pmax
comp=N,1μm,16.0s
ZEA MLR MLR
comp=Z,100μm,15.0s
ZEA MLR MLR
comp=E,32μm,16.0s
ZEA MLR MLR
comp=N,24μm,14.0s
AKUT Akutan 20.09 72 *e*P Pn 01 59 43.0 +2.8
comp=N,864nm,1.2s
USA0B Ussuriysk Arra 20.61 258 *e*P **P 01 59 41.6 -2.3**
comp=N,271nm,1.0s
USA0B LR LR
comp=Z,62μm,18.0s
USRK Ussuriysk Ar. 20.61 258 *e*P **P 01 59 40.7 -3.3**
USRK Ussuriysk Ar. 20.61 258 P **P 01 59 41.5 -2.4**
comp=Z,208nm,0.9s,baz=62,slow=9.2,SNR=132
USRK LR LR 02 08 28.7
comp=Z,44μm,18.7s,baz=58,slow=39
ANM Nome 21.23 42 *e*P **P 01 59 51.5 +0.9**
comp=Z,414nm,1.2s
ANM LR LR
comp=Z,24μm,19.0s
ANM Nome 21.23 42 *e*P **P 01 59 51.5 +0.9**
ANM pmax pmax
comp=Z,414nm,1.2s
ANM MLR MLR
comp=Z,24μm,19.0s
MDJ Mudanjiang 21.82 261 P **P 01 59 55.3 -1.7**
MDJ pmax pmax
comp=Z,190nm,1.3s
MDJ LR LR
comp=Z,43μm,14.6s
MDJ LR LR
comp=Z,64μm,17.1s
MDJ LR LR
comp=Z,119μm,13.6s
MDJ Mudanjiang 21.82 261 *e*P **P 01 59 55.4 -1.7**
comp=Z,214nm,1.0s
MDJ LR LR
comp=Z,60μm,19.0s
MSHR Mys Shultsa 22.03 255 *i* P **P 01 59 56.2 -3.1**
MJB9 Matsu-Tunnel 22.36 234 *e*P **P 02 00 03.1 +0.2**
comp=Z,397nm,0.9s
MJB9 *e*S **S 02 04 11.9 +4.5**
MJB9 LR LR
comp=Z,63μm,21.0s
MAJO Matsushiro 22.36 234 *e*P **P 02 00 02.5 -0.4**
comp=Z,390nm,0.9s
MAJO *e*S **S 02 04 10.1 +2.7**
MAJO LR LR
comp=Z,59μm,21.0s
MAJO Matsushiro 22.36 234*c i*P **P 02 00 02.5 -0.4**
MAJO pmax pmax
comp=Z,299nm,0.8s
MAT Matsushiro 22.36 234 P **P 02 00 02.3 -0.7**
MAT S **S 02 04 05.8 -1.6**
MJAR Matsushiro Arr 22.36 234 P **P 02 00 03.2 +0.3**
comp=Z,191nm,0.8s,baz=28,slow=8.9,SNR=104
MJAR LR LR 02 09 16.1
comp=Z,62μm,21.4s,baz=60,slow=38
SDPT Sand Point 22.94 67 *e*P **P 02 00 09.6 +0.8**
comp=Z,96nm,0.9s
SDPT *e*S **S 02 04 21.9 +4.6**
SDPT LR LR
comp=Z,13μm,18.0s
RDOG Red Dog Mine 23.43 34 *e*P **P 02 00 14.2 +0.5**
comp=Z,495nm,1.2s
RDOG LR LR
comp=Z,10μm,19.0s
TIXI Tiksi 23.82 336 *e*P **P 02 00 15.2 -2.2**
TIXI Tiksi 23.82 336*ce*P **P 02 00 15.4 -2.0**
TIXI pmax pmax
comp=Z,380nm,1.3s
TIXI Tiksi 23.82 336 LR LR 02 10 41.6
comp=Z,36μm,18.7s,baz=136,slow=40
INU Inuyama 23.90 234 *e*P **P 02 00 17.9 -0.6**
comp=Z,520nm,1.1s
INU LR LR
comp=Z,43μm,20.0s
CHGN Chignik 23.95 64 *e*P **P 02 00 18.7 0.0**
comp=Z,243nm,1.2s
CHGN LR LR
comp=Z,23μm,19.0s
JHJ2 Mitsune 24.43 226 *e*P **P 02 00 24.1 +0.8**
comp=Z,412nm,1.1s
JHJ Hachijo jima 2 24.44 226 P **P 02 00 24.0 +0.6**
comp=Z,220nm,1.0s,baz=260,slow=11,SNR=5.1
JHJ LR LR 02 13 29.0
comp=Z,12μm,18.6s,baz=76,slow=45
CN2 Changchun 24.78 264 *e*P **P 02 00 24.3 -2.1**
CN2 *es*P pwP 02 00 37.4 +1.9
CN2 *e*S **S 02 04 40.3 -7.0**
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 pmax pmax
comp=Z,2μm,5.0s
CN2 LR LR
comp=Z,62μm,17.0s
CN2 LR LR
comp=Z,61μm,17.0s
CN2 LR LR
comp=Z,74μm,18.0s
SVW2 Sparrevohn 25.11 52 *e*P **P 02 00 30.3 +1.0**
comp=Z,175nm,1.1s
SVW2 LR LR
comp=Z,8μm,18.0s
HIA Hailar 25.73 279 *e*P **P 02 00 33.3 -1.8**
comp=Z,556nm,1.0s
HIA LR LR
comp=Z,67μm,18.0s
HIA Hailar 25.73 279*c i*P **P 02 00 32.8 -2.3**
SII Sitkinak Islan 26.23 63 *e*P **P 02 00 41.3 +1.7**
comp=Z,494nm,0.8s
SII LR LR
comp=Z,24μm,20.0s
IMAR Indian Mountai 26.31 41 *e*P **P 02 00 40.4 +0.2**
RSO Redoubt South 26.51 54 *e*P **P 02 00 44.3 +2.1**
OHAK Old Harbor 26.60 61 *e*P **P 02 00 41.8 -1.0**
comp=Z,270nm,0.9s
OHAK LR LR
comp=Z,12μm,20.0s
PPLA Purkeypile 26.73 48 *e*P **P 02 00 45.4 +1.3**
comp=Z,279nm,1.2s
PPLA LR LR
comp=Z,13μm,20.0s
BOD Bodaibo 26.74 300 *e*P **P 02 00 42.6 -1.4**
BOD pmax pmax
comp=Z,263nm,1.4s
CAST Castle Rocks 26.79 47 *e*P **P 02 00 44.3 -0.2**
comp=Z,108nm,1.2s
CAST LR LR
comp=Z,15μm,18.0s
KDAK Kodiak Island 26.89 60 *e*P **P 02 00 44.5 -0.9**
comp=Z,137nm,0.9s
KDAK LR LR
comp=Z,20μm,19.0s
KDAK Kodiak Island 26.89 60 *i* P **P 02 00 44.5 -0.9**
KDAK Kodiak Island 26.89 60 P **P 02 00 45.6 +0.2**
comp=Z,24nm,0.8s,baz=198,slow=6.5,SNR=11
SNY Shenyang 27.02 262 ⇑P **P 02 00 46.1 -0.7**
SNY pmax pmax
comp=Z,110nm,1.1s
SNY pmax pmax
comp=Z,2μm,8.0s
SNY LR LR
comp=Z,89μm,19.1s
SNY LR LR
comp=Z,70μm,18.6s
SNY LR LR
comp=Z,88μm,16.7s
KSRS Korea Array 27.24 250 P **P 02 00 48.8 +0.1**
comp=Z,59nm,0.9s,baz=44,slow=9.0,SNR=55
KSRS PcP **PcP 02 04 08.6 +0.5**
comp=Z,15nm,1.0s,baz=29,slow=2.7,SNR=7.5
KSRS ScP **ScP 02 07 48.0 +1.2**
comp=Z,0.5nm,0.3s,baz=53,slow=5.2,SNR=4.8
KSRS LR LR 02 12 51.2
comp=Z,35μm,18.1s,baz=60,slow=39
KS15 Wonju Array Si 27.27 250 *e*P **P 02 00 50.3 +1.3**
comp=Z,77nm,0.9s
KS15 *e*PcP **PcP 02 04 08.6 +0.4**
KS15 *e*ScP **ScP 02 07 48.0 +1.1**
BPAW Bear Paw Mtn. 27.30 46 PFAKE 02 01 00.0 +11
BPAW LR LR
comp=Z,11μm,21.0s
MLY Manley 27.46 44 *e*P **P 02 00 51.3 +0.8**
comp=Z,78nm,1.0s
MLY LR LR
comp=Z,15μm,18.0s
BRLK Bradley Lake 27.50 55 *e*P **P 02 00 50.4 -0.5**
comp=Z,76nm,1.0s
BRLK LR LR
comp=Z,10μm,20.0s
COLD Coldfoot 27.89 39 *e*P **P 02 00 56.6 +2.3**
comp=Z,60nm,1.2s
COLD LR LR
comp=Z,14μm,20.0s
RC01 Rabbit Creek A 27.94 52 *e*P **P 02 00 55.9 +1.0**
comp=Z,83nm,1.3s
RC01 LR LR
comp=Z,12μm,18.0s
BWN Browne 27.97 46 *e*P **P 02 00 56.7 +1.7**
comp=Z,967nm,1.4s
BWN LR LR
comp=Z,13μm,18.0s
SEW Seward 28.18 54 *e*P **P 02 00 57.7 +0.7**
comp=Z,185nm,1.0s
SEW LR LR
comp=Z,12μm,19.0s
PMR Palmer 28.20 51 *e*P **P 02 00 57.3 +0.2**
comp=Z,42nm,1.1s
PMR LR LR
comp=Z,10μm,21.0s
PMR Palmer 28.20 51 *e*P **P 02 00 57.3 +0.2**
PMR pmax pmax
comp=Z,42nm,1.1s
PMR MLR MLR
comp=Z,10μm,21.0s
MCK McKinley 28.20 47 *e*P **P 02 00 57.9 +0.8**
comp=Z,147nm,1.2s
MCK LR LR
comp=Z,14μm,18.0s
GHO Glory Hole Cre 28.28 51 *e*P **P 02 00 57.6 -0.4**
comp=Z,79nm,1.4s
TJN Taejon 28.31 249*c i*P **P 02 00 57.9 -0.4**
TOLK Toolik Lake Re 28.34 36 *e*P **P 02 00 58.6 +0.3**
comp=Z,70nm,0.8s
TOLK LR LR
comp=Z,14μm,19.0s
TOLK Toolik Lake Re 28.34 36 P **P 02 00 58.1 -0.2**
baz=261,SNR=13
CIT Chita 28.42 288 *e*P **P 02 00 57.9 -1.3**
CIT *e* 02 01 10.9
CIT *e* 02 01 16.3
CIT *e* 02 01 46.7
CIT pmax pmax
comp=Z,361nm,1.4s
MDM Murphy Dome 28.52 44 *e*P **P 02 01 00.0 +0.1**
comp=Z,136nm,1.5s
MDM LR LR
comp=Z,18μm,18.0s
KNK Knik Glacier 28.53 51 *e*P **P 02 00 56.8 -3.3**
comp=Z,199nm,1.1s
KNK LR LR
comp=Z,12μm,19.0s
SML Sawmill 28.56 51 *e*P **P 02 01 00.3 -0.1**
comp=Z,202nm,0.9s
SML LR LR
comp=Z,10μm,18.0s
SML Sawmill 28.56 51 *e*P **P 02 01 00.3 -0.1**
SML pmax pmax
comp=Z,202nm,0.9s
SML MLR MLR
comp=Z,10μm,18.0s
WRH Wood River Hil 28.57 45 *e*P **P 02 01 00.7 +0.3**
comp=Z,308nm,1.3s
WRH LR LR
comp=Z,14μm,20.0s
TCOL CIGO, UAF Yank 28.68 44 P **P 02 01 01.3 +0.1**
baz=270
COLA College 28.68 44 *e*P **P 02 01 02.5 +1.2**
comp=Z,125nm,1.1s
COLA LR LR
comp=Z,17μm,18.0s
COLA College 28.68 44 *e*P **P 02 01 00.0 -1.3**
COLA pmax pmax
comp=Z,36nm,1.2s
CCB Clear Creek Bu 28.70 45 *e*P **P 02 01 01.7 +0.2**
comp=Z,136nm,1.1s
CCB LR LR
comp=Z,16μm,18.0s
JNU Nakatsue 28.79 240 *e*P **P 02 01 02.8 +0.1**
comp=Z,326nm,0.8s
JNU Nakatsue 28.79 240 P **P 02 01 03.1 +0.4**
comp=Z,61nm,0.8s,baz=39,slow=7.8,SNR=28
JNU LR LR 02 13 58.2
comp=Z,27μm,19.0s,baz=42,slow=40
POKR Poker Plat Res 28.86 44 P **P 02 01 03.1 +0.1**
baz=270,SNR=8.4
DHY Denali Highway 28.92 48 *e*P **P 02 01 03.4 -0.3**
comp=Z,202nm,1.3s
DHY LR LR
comp=Z,10μm,18.0s
SCM Sheep Creek Mo 29.03 50 *e*P **P 02 01 04.7 +0.1**
comp=Z,251nm,1.2s
SCM LR LR
comp=Z,8μm,19.0s
HDA Harding Lake 29.07 45 *e*P **P 02 01 04.8 0.0**
comp=Z,36nm,0.7s
HDA LR LR
comp=Z,12μm,19.0s
HDA Harding Lake 29.07 45 P **P 02 01 04.0 -0.8**
baz=271,SNR=17
ILAR Eielson Array 29.09 44 *e*P **P 02 01 03.8 -1.2**
ILAR Eielson Array 29.09 44 *e*P **P 02 01 03.8 -1.2**
ILAR Eielson Array 29.09 44 P **P 02 01 05.0 0.0**
comp=Z,6.0nm,0.7s,baz=252,slow=7.0,SNR=45
ILAR PcP **PcP 02 04 10.5 -1.7**
comp=Z,5.5nm,1.1s,baz=288,slow=3.7,SNR=2.9
ILAR LR LR 02 14 29.9
comp=Z,16μm,18.6s,baz=274,slow=40
ILAR P3KPbc 02 33 14.9
comp=Z,0.9nm,0.9s,baz=85,slow=3.0,SNR=6.4
ILB Eielson Array 29.09 44 *e*P **P 02 01 05.0 0.0**
comp=Z,108nm,1.5s
ILB *e*PcP **PcP 02 04 10.5 -1.7**
MIDW Midway 29.22 137 PFAKE 02 01 20.0 +14
MIDW LR LR
comp=Z,21μm,21.0s
GLI Glacier Island 29.25 52 *e*P **P 02 01 06.6 +0.2**
comp=Z,70nm,1.1s
GLI LR LR
comp=Z,12μm,22.0s
PRP Porcupine Dome 29.67 43 *e*P **P 02 01 10.5 +0.2**
comp=Z,116nm,1.1s
PRP LR LR
comp=Z,8μm,19.0s
KLU Klutina 29.74 51 *e*P **P 02 01 09.0 -1.9**
KLU LR LR
comp=Z,12μm,21.0s
FYU Fort Yukon 29.80 41 *e*P **P 02 01 13.0 +1.8**
comp=Z,180nm,1.1s
FYU LR LR
comp=Z,7μm,18.0s
PAX Paxson 29.80 48 *e*P **P 02 01 12.0 +0.6**
comp=Z,65nm,1.3s
PAX LR LR
comp=Z,10μm,18.0s
PAX Paxson 29.80 48 *e*P **P 02 01 12.0 +0.6**
PAX pmax pmax
comp=Z,65nm,1.3s
PAX MLR MLR
comp=Z,10μm,18.0s
MID Middleton Isla 29.84 55 PFAKE 02 01 30.0 +18
MID LR LR
comp=Z,10μm,18.0s
DIV Divide 29.85 52 *e*P **P 02 01 12.6 +0.8**
comp=Z,93nm,1.1s
DIV LR LR
comp=Z,13μm,22.0s
EYAK Cordova Ski Ar 29.95 53 *e*P **P 02 01 14.3 +1.7**
comp=Z,41nm,0.8s
EYAK LR LR
comp=Z,12μm,18.0s
DL2 Dalian 29.99 259⇑ *i*P **P 02 01 11.8 -1.4**
DL2 S **S 02 06 07.6 -2.0**
DL2 pmax pmax
comp=Z,190nm,1.0s
DL2 pmax pmax
comp=Z,1μm,10.0s
DL2 LR LR
comp=Z,37μm,16.2s
DL2 LR LR
comp=Z,24μm,16.7s
DL2 LR LR
comp=Z,33μm,12.9s

HARP	**HAARP**	**29.99**	**49**	*e*P	**P**	**02 01 14.4**	**+1.3**
	comp=Z,67nm,0.7s						
HARP				LR	LR		
	comp=Z,10μm,20.0s						
RIDG	**Independent Ri**	**30.02**	**46**	*e*P	**P**	**02 01 12.7**	**-0.6**
	comp=Z,189nm,1.4s						
RIDG				LR	LR		
	comp=Z,10μm,18.0s						
DOT	**Dot Lake**	**30.38**	**47**	*e*P	**P**	**02 01 15.9**	**-0.5**
	comp=Z,19nm,0.9s						
DOT				LR	LR		
	comp=Z,12μm,20.0s						
SCRK	**Sand Creek**	**30.38**	**46**	*e*P	**P**	**02 01 15.8**	**-0.8**
	comp=Z,152nm,1.3s						
SCRK				LR	LR		
	comp=Z,9μm,18.0s						
MENT	**Mentasta**	**30.60**	**48**	*e*P	**P**	**02 01 18.0**	**-0.4**
	comp=Z,36nm,1.2s						
MENT				LR	LR		
	comp=Z,13μm,19.0s						
HMT	**Hamilton**	**30.71**	**53**	*e*P	**P**	**02 01 21.5**	**+2.1**
	comp=Z,99nm,1.0s						
HMT				LR	LR		
	comp=Z,13μm,19.0s						
CRQM	**Cirque**	**31.18**	**52**	*e*P	**P**	**02 01 25.2**	**+1.5**
	comp=Z,389nm,1.4s						
TGL	**Tana Glacier**	**31.33**	**52**	*e*P	**P**	**02 01 26.0**	**+1.0**
	comp=Z,116nm,1.4s						
TGL				LR	LR		
	comp=Z,14μm,20.0s						
BCAR	**Beaver Creek A**	**31.46**	**47**	*e*P	**P**	**02 01 26.3**	**+0.3**
BALM	**Baldy**	**31.51**	**51**	*e*P	**P**	**02 01 27.4**	**+0.8**
	comp=Z,46nm,1.0s						
BALM				LR	LR		
	comp=Z,10μm,21.0s						
BALM	**Baldy**	**31.51**	**51**	*e*P	**P**	**02 01 27.4**	**+0.8**
BALM				pmax	pmax		
	comp=Z,46nm,1.0s						
BALM				MLR	MLR		
	comp=Z,10μm,21.0s						
EGAK	**Eagle**	**31.54**	**44**	*e*P	**P**	**02 01 25.9**	**-0.7**
	comp=Z,44nm,0.8s						
EGAK				LR	LR		
	comp=Z,13μm,18.0s						
CTGM	**Chitina Glacie**	**32.01**	**51**	*e*P	**P**	**02 01 31.7**	**+0.7**
	comp=Z,155nm,1.2s						
CTGM				LR	LR		
	comp=Z,14μm,20.0s						
DAWY	**Dawson**	**32.39**	**45**	*e*P	**P**	**02 01 34.3**	**+0.2**
	comp=Z,62nm,1.3s						
DAWY				LR	LR		
	comp=Z,16μm,20.0s						
BJT	**Baijiatuau**	**32.61**	**266**	*e*P	**P**	**02 01 37.7**	**+1.4**
	comp=Z,53nm,1.1s						
BJT				LR	LR		
	comp=Z,65μm,20.0s						
BJT	**Baijiatuau**	**32.61**	**266**	*e*P	**P**	**02 01 37.7**	**+1.4**
BJT				pmax	pmax		
	comp=Z,53nm,1.1s						
BJT				MLR	MLR		
	comp=Z,65μm,20.0s						
PCA	**Pinnacle**	**32.72**	**53**	*e*P	**P**	**02 01 36.9**	**-0.2**
PCA				LR	LR		
	comp=Z,13μm,19.0s						
H11N2	**WAKE ISLAND Hy**	**32.99**	**169**	T	T	02 37 39.4	
	baz=284,slow=74,SNR=464						
H11N3	**WAKE ISLAND Hy**	**33.01**	**169**	T	T	02 37 21.0	
	baz=350,slow=74,SNR=520						
H11N1	**WAKE ISLAND Hy**	**33.01**	**169**	T	T	02 37 55.8	
	SNR=347						
BCPM	**Bancas Point**	**33.05**	**53**	*e*P	**P**	**02 01 39.7**	**-0.2**
BCPM				LR	LR		
	comp=Z,13μm,18.0s						
YKU2	**Yakutat**	**33.15**	**54**	PFAKE		02 01 50.0	+9.3
YKU2				LR	LR		
	comp=Z,11μm,20.0s						
EPYK	**Eagle Plains**	**33.22**	**41**	*e*P	**P**	**02 01 41.9**	**+0.6**
	comp=Z,216nm,1.4s						
EPYK				LR	LR		
	comp=Z,11μm,19.0s						
EPYK	**Eagle Plains**	**33.22**	**41**	P	**P**	**02 01 41.1**	**-0.3**
	baz=277,SNR=20						
WAKE	**Wake Island**	**33.40**	**170**	PFAKE		02 02 00.0	+17
WAKE				LR	LR		
	comp=Z,18μm,18.0s						
IRK	**Irkutsk**	**33.66**	**293**	*e*P	**P**	**02 01 43.1**	**-2.2**
IRK				*e*		02 03 05.3	
IRK				pmax	pmax		
	comp=Z,214nm,1.8s						
HYT	**Haines Junctio**	**33.87**	**51**	*e*P	**P**	**02 01 46.5**	**-0.7**
ULN	**Ulaanbaatar**	**33.94**	**284**	*e*P	**P**	**02 01 46.5**	**-1.4**
	comp=Z,136nm,1.1s						
ULN				LR	LR		
	comp=Z,81μm,18.0s						
ULN	**Ulaanbaatar**	**33.94**	**284**	*ce*P	**P**	**02 01 46.6**	**-1.4**
ULN				pmax	pmax		
	comp=Z,158nm,1.3s						
ULN	**Ulaanbaatar**	**33.94**	**284**	P	**P**	**02 01 46.8**	**-1.2**
	SNR=72						
ULN				P	**P**	**02 01 46.8**	**-1.2**
	SNR=72						
H11S1	**WAKE ISLAND Hy**	**34.17**	**170**	T	T	02 38 46.8	
	baz=352,slow=76,SNR=194						
H11S3	**WAKE ISLAND Hy**	**34.19**	**170**	T	T	02 38 44.4	
	baz=352,slow=76,SNR=270						
H11S2	**WAKE ISLAND Hy**	**34.19**	**170**	T	T	02 38 42.2	
	baz=352,slow=76,SNR=183						
INK	**Inuvik**	**34.23**	**37**	*e*P	**P**	**02 01 50.4**	**+0.3**
	comp=Z,104nm,1.1s						
INK				LR	LR		
	comp=Z,6μm,19.0s						
INK	**Inuvik**	**34.23**	**37**	*e*P	**P**	**02 01 50.4**	**+0.3**
INK				pmax	pmax		
	comp=Z,104nm,1.1s						
INK				MLR	MLR		
	comp=Z,6μm,19.0s						
INK	**Inuvik**	**34.23**	**37**	P	**P**	**02 01 50.4**	**+0.3**
	comp=Z,16nm,0.7s,baz=278,slow=6.6,SNR=26						
TLY	**Talaya**	**34.24**	**292**	*e*P	**P**	**02 01 49.6**	**-0.8**
	comp=Z,137nm,1.3s						
TLY				LR	LR		
	comp=Z,19μm,20.0s						
TLY	**Talaya**	**34.24**	**292**	*c i*P	**P**	**02 01 48.3**	**-2.1**
TLY				pmax	pmax		
	comp=Z,231nm,1.3s						
TLY	**Talaya**	**34.24**	**292**	P	**P**	**02 01 49.8**	**-0.6**
	SNR=44						
TLY				P	**P**	**02 01 49.8**	**-0.6**
	SNR=44						
SONA0	**Songino Array**	**34.35**	**284**	*e*P	**P**	**02 01 50.4**	**-1.1**
SONA0				*e*PcP	**PcP**	**02 04 24.8**	**-2.2**
SONM	**Songino Array**	**34.35**	**284**	P	**P**	**02 01 50.4**	**-1.1**
	comp=Z,37nm,1.0s,baz=56,slow=8.5,SNR=95						
SONM				PcP	**PcP**	**02 04 24.8**	**-2.2**
	comp=Z,14nm,0.8s,baz=83,slow=1.7,SNR=4.3						
SONM				LR	LR	02 17 32.7	
	comp=Z,88μm,18.6s,baz=64,slow=39						
TIA	**Tai'an**	**34.46**	**259**	P	**P**	**02 01 51.3**	**-1.1**
TIA				pP	**pP**	**02 01 54.9**	**-3.9**
TIA				sP	**sP**	**02 01 58.5**	**-2.7**
TIA				S	**S**	**02 07 24.8**	**+5.6**
TIA				pmax	pmax		
	comp=Z,26nm,1.0s						
TIA				LR	LR		
	comp=Z,19μm,18.2s						
TIA				LR	LR		
	comp=Z,37μm,17.9s						
TIA				LR	LR		
	comp=Z,22μm,18.5s						
HHC	**Hu-ho-hao-te**	**34.93**	**271**	*e*P	**P**	**02 01 54.9**	**-1.7**
HHC				sP	pP	02 02 02.3	-0.7
HHC				S	**S**	**02 07 30.6**	**+3.9**
HHC				SS	**SnSn**	**02 09 33.5**	**-8.5**
HHC				pmax	pmax		
	comp=Z,840nm,0.9s						
HHC				pmax	pmax		
	comp=Z,3μm,4.6s						
HHC				LR	LR		
	comp=Z,8μm,12.5s						
HHC				LR	LR		
	comp=Z,6μm,12.6s						
HHC				LR	LR		
	comp=Z,8μm,12.8s						
ZAK	**Zakamensk**	**35.00**	**290**	*e*P	**P**	**02 01 55.9**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,98nm,1.2s						
WHY	**Whitehorse**	**35.16**	**51**	*e*P	**P**	**02 01 59.8**	**+1.5**
	comp=Z,74nm,1.1s						
WHY				LR	LR		
	comp=Z,8μm,20.0s						
JOW	**Kunigami**	**35.16**	**236**	*e*P	**P**	**02 01 59.7**	**+1.2**
	comp=Z,84nm,1.2s						
JOW				LR	LR		
	comp=Z,12μm,18.0s						
JOW	**Kunigami**	**35.16**	**236**	P	**P**	**02 01 58.8**	**+0.3**
	comp=Z,12nm,1.0s,baz=106,slow=16,SNR=12						
SKAG	**Skagway**	**35.29**	**53**	*e*P	**P**	**02 02 01.0**	**+1.7**
	comp=Z,108nm,1.0s						
SKAG				LR	LR		
	comp=Z,9μm,21.0s						
SSE	**Sheshan**	**35.67**	**249**	P	**P**	**02 02 04.5**	**+1.6**
SSE				S	**S**	**02 07 39.3**	**+1.3**
SSE				pmax	pmax		
	comp=Z,54nm,0.8s						
SSE				pmax	pmax		
	comp=Z,910nm,8.7s						
SSE				LR	LR		
	comp=Z,8μm,20.1s						
SSE	**Sheshan**	**35.67**	**249**	*e*P	**P**	**02 02 02.4**	**-0.5**
SSE				LR	LR		
	comp=Z,26μm,20.0s						
MOY	**Mondy**	**35.75**	**293**	*e*P	**P**	**02 02 02.4**	**-1.1**
MOY				pmax	pmax		
	comp=Z,220nm,1.8s						
BESE	**Bessie Mountai**	**35.80**	**54**	*e*P	**P**	**02 02 06.6**	**+2.8**
	comp=Z,193nm,1.5s						
BESE				LR	LR		
	comp=Z,6μm,18.0s						
BTO	**Baotou**	**36.02**	**271**	*e*P	**P**	**02 02 04.3**	**-1.6**
BTO				S	**S**	**02 07 47.8**	**+4.4**
SIT	**Sitka**	**36.08**	**57**	*e*P	**P**	**02 02 09.4**	**+3.3**
	comp=Z,105nm,1.1s						
SIT				LR	LR		
	comp=Z,8μm,19.0s						
SIT	**Sitka**	**36.08**	**57**	*e*P	**P**	**02 02 09.4**	**+3.3**
SIT				pmax	pmax		
	comp=Z,105nm,1.1s						
SIT				MLR	MLR		
	comp=Z,8μm,19.0s						
JIS	**Juneau Island**	**36.13**	**54**	*e*P	**P**	**02 02 09.5**	**+3.0**
	comp=Z,92nm,1.0s						
JIS				LR	LR		
	comp=Z,6μm,20.0s						
NJ2	**Nanjing**	**36.32**	**253**	*e*P	**P**	**02 02 09.4**	**+1.0**
NJ2				pP	**pP**	**02 02 10.4**	**-4.4**
NJ2				S	**S**	**02 07 50.6**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,210nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,2μm,7.4s						
NJ2				LR	LR		
	comp=Z,50μm,18.1s						
NJ2				LR	LR		
	comp=Z,25μm,16.7s						
NJ2				LR	LR		
	comp=Z,40μm,20.6s						
TIY	**Taiyuan**	**36.33**	**266**	*e*P	**P**	**02 02 08.1**	**-0.4**
TIY				pP	**pwP**	**02 02 18.9**	**+1.3**
TIY				S	**S**	**02 07 47.4**	**-0.6**
TIY				pmax	pmax		
	comp=Z,45nm,0.9s						
TIY				pmax	pmax		
	comp=Z,1μm,9.1s						
TIY				LR	LR		
	comp=Z,37μm,13.8s						
TIY				LR	LR		
	comp=Z,22μm,14.4s						
TIY				LR	LR		
	comp=Z,36μm,17.7s						
NRIK	**Noril'sk**	**36.63**	**325**	P	**P**	**02 02 09.3**	**-1.3**
	comp=Z,32nm,0.9s,baz=89,slow=7.9,SNR=49						
NRIK				LR	LR	02 18 45.4	
	comp=Z,88μm,18.4s,baz=76,slow=39						
SARN	**Sarigan**	**37.51**	**204**	*e*P	**P**	**02 02 18.9**	**+0.3**
	comp=Z,77nm,0.9s						
SARN				LR	LR		
	comp=Z,7μm,20.0s						
CRAG	**Craig**	**37.82**	**58**	PFAKE		02 02 30.0	+9.1
CRAG				LR	LR		
	comp=Z,12μm,20.0s						
WRAK	**Wrangell Islan**	**37.84**	**57**	*e*P	**P**	**02 02 24.2**	**+3.1**
	comp=Z,45nm,0.9s						
WRAK				LR	LR		
	comp=Z,9μm,18.0s						
ANA2	**Anatahan**	**37.87**	**204**	*e*P	**P**	**02 02 20.6**	**-1.0**
DLBC	**Dease Lake**	**38.22**	**53**	*e*P	**P**	**02 02 26.5**	**+2.1**
	comp=Z,86nm,0.9s						
DLBC				LR	LR		
	comp=Z,8μm,20.0s						
DLBC	**Dease Lake**	**38.22**	**53**	P	**P**	**02 02 26.0**	**+1.7**
	comp=Z,21nm,0.8s,baz=296,slow=8.9,SNR=27						
DLBC				LR	LR	02 18 07.0	
	comp=Z,7μm,21.7s,baz=304,slow=36						
KRAR	**Krasnoyarsk**	**38.32**	**303**	*i* P	**P**	**02 02 22.4**	**-2.7**
DIB	**Dawson Inlet,**	**39.13**	**61**	PFAKE		02 02 50.0	+18
DIB				LR	LR		
	comp=Z,8μm,20.0s						
YOJ	**Yonaguni jima**	**39.83**	**240**	*e*P	**P**	**02 02 36.2**	**-1.8**
	comp=Z,86nm,0.7s						
YOJ				LR	LR		
	comp=Z,23μm,22.0s						
YOJ	**Yonaguni jima**	**39.83**	**240**	*e*P	**P**	**02 02 36.2**	**-1.8**
YOJ				pmax	pmax		
	comp=Z,86nm,0.7s						
YOJ				MLR	MLR		
	comp=Z,23μm,22.0s						
WHN	**Wuhan**	**40.07**	**255**	P	**P**	**02 02 38.3**	**-1.7**
WHN				PP	**PP**	**02 04 13.8**	**+1.7**
WHN				S	**S**	**02 08 35.8**	**-8.7**
WHN				LR	LR		
	comp=Z,91μm,18.9s						
WHN				LR	LR		
	comp=Z,86μm,17.7s						
WHN				LR	LR		
	comp=Z,78μm,14.7s						
TATO	**Taipei**	**40.23**	**242**	PFAKE		02 02 50.0	+8.6
TATO				LR	LR		
	comp=Z,32μm,19.0s						
YHNB	**Yeheng**	**40.54**	**242**	PFAKE		02 03 00.0	+16
YHNB				LR	LR		
	comp=Z,42μm,19.0s						
GUMO	**Guam**	**40.72**	**204**	PFAKE		02 03 00.0	+15
GUMO				LR	LR		
	comp=Z,7μm,20.0s						
NACB	**Ninganchiao**	**40.82**	**242**	PFAKE		02 03 00.0	+14
NACB				LR	LR		
	comp=Z,30μm,19.0s						
XAN	**Xi'an**	**40.89**	**264**	P	**P**	**02 02 45.3**	**-1.5**
XAN				pP	pP	02 02 54.3	+1.0
XAN				PP	**PP**	**02 04 22.0**	**+0.9**
XAN				PcP	**PcP**	**02 04 45.8**	**-1.3**
XAN				S	**S**	**02 08 55.3**	**-1.5**
XAN				SS	**SS**	**02 11 56.6**	**-1.8**
XAN				pmax	pmax		
	comp=Z,31nm,1.2s						
XAN				pmax	pmax		
	comp=Z,1μm,9.8s						
XAN				LR	LR		
	comp=Z,33μm,17.2s						
XAN				LR	LR		
	comp=Z,43μm,16.2s						
XAN				LR	LR		
	comp=Z,49μm,16.7s						
XAN	**Xi'an**	**40.89**	**264**	*e*P	**P**	**02 02 46.0**	**-0.8**
	comp=Z,54nm,1.3s						
XAN				LR	LR		
	comp=Z,47μm,18.0s						
XAN	**Xi'an**	**40.89**	**264**	*e*P	**P**	**02 02 46.0**	**-0.8**
XAN				pmax	pmax		
	comp=Z,54nm,1.3s						
XAN				MLR	MLR		
	comp=Z,47μm,18.0s						
SSLB	**Suanglung**	**41.48**	**242**	*e*P	**P**	**02 02 52.3**	**+0.6**
	comp=Z,90nm,1.2s						
SSLB				LR	LR		
	comp=Z,35μm,19.0s						
YULB	**Yu-li**	**41.61**	**241**	*e*P	**P**	**02 02 52.5**	**-0.3**
	comp=Z,122nm,1.3s						
YULB				LR	LR		
	comp=Z,14μm,22.0s						
QZH	**Quanzhou**	**41.85**	**246⇑**	*i*P	**P**	**02 02 55.3**	**+0.6**
QZH				S	**S**	**02 09 10.8**	**-0.4**
QZH				pmax	pmax		
	comp=Z,3μm,10.9s						
QZH				LR	LR		
	comp=Z,12μm,21.8s						
QZH				LR	LR		
	comp=Z,15μm,19.4s						
QZH				LR	LR		
	comp=Z,11μm,19.0s						
BBB	**Bella Bella**	**41.95**	**61**	PFAKE		02 03 10.0	+15
BBB				LR	LR		
	comp=Z,7μm,20.0s						
BBB	**Bella Bella**	**41.95**	**61**	LR	LR	02 18 58.1	
	comp=Z,5μm,21.7s,baz=318,slow=34						
TPUB	**Ta-pu**	**42.04**	**242**	*e*P	**P**	**02 02 56.9**	**+0.5**
	comp=Z,220nm,1.3s						
TPUB				LR	LR		
	comp=Z,26μm,19.0s						
TWG	**Pinlang**	**42.19**	**241**	*e*P	**P**	**02 02 59.6**	**+2.0**
	comp=Z,337nm,0.9s						
TWG				LR	LR		
	comp=Z,52μm,19.0s						
KNMB	**Chin-men Tao**	**42.34**	**245**	PFAKE		02 03 10.0	+11
KNMB				LR	LR		
	comp=Z,9μm,20.0s						
LZH	**Lanzhou**	**42.63**	**271**	*e*P	**P**	**02 03 00.8**	**-0.4**
LZH				pP	pP	02 03 03.8	-3.9
LZH				sP	sP	02 03 06.3	-3.8
LZH				PP	**PP**	**02 04 38.9**	**-1.1**
LZH				*e*S	**S**	**02 09 18.3**	**-4.6**
LZH				pmax	pmax		
	comp=Z,190nm,1.0s						
LZH				pmax	pmax		
	comp=Z,1μm,5.2s						
LZH				LR	LR		
	comp=Z,41μm,17.6s						
LZH				LR	LR		
	comp=Z,37μm,17.9s						
LZH				LR	LR		
	comp=Z,73μm,19.2s						
JOHN	**Johnston Islan**	**42.69**	**135**	PFAKE		02 03 20.0	+18
JOHN				LR	LR		
	comp=Z,14μm,19.0s						
GTA	**Gaotai**	**42.98**	**277**	⇑P	**P**	**02 03 02.9**	**-1.0**
GTA				pP	pP	02 03 10.3	-0.1
GTA				sP	pwP	02 03 14.6	+1.3
GTA				PcP	**PcP**	**02 04 56.3**	**+2.3**
GTA				S	**S**	**02 09 27.3**	**-0.5**
GTA				pmax	pmax		
	comp=Z,54nm,1.6s						
GTA				pmax	pmax		
	comp=Z,1μm,8.4s						
GTA				LR	LR		
	comp=Z,41μm,17.8s						
GTA				LR	LR		
	comp=Z,39μm,15.6s						
GTA				LR	LR		
	comp=Z,60μm,17.1s						
KEKH	**Kekaha**	**42.99**	**120**	PFAKE		02 03 20.0	+16
KEKH				LR	LR		
	comp=Z,8μm,20.0s						
ENH	**Enshi**	**43.17**	**260**	*e*P	**P**	**02 03 05.2**	**-0.2**
	comp=Z,184nm,1.0s						
ENH				LR	LR		
	comp=Z,24μm,20.0s						
ZAA1	**Zalesovo Array**	**43.39**	**303**	*e*P	**P**	**02 03 04.2**	**-2.7**
ZAA1				*e*PP	**PcP**	**02 04 52.4**	**-2.6**
ZAA0	**Zalesovo Array**	**43.39**	**303**	*e*P	**P**	**02 03 04.6**	**-2.3**
	comp=Z,67nm,1.0s						
ZALV	**Zalesovo Beam**	**43.39**	**303**	P	**P**	**02 03 04.2**	**-2.8**
	comp=Z,59nm,1.0s,baz=60,slow=5.8,SNR=74						
ZALV				PcP	**PcP**	**02 04 52.4**	**-2.6**
	comp=Z,33nm,1.0s,baz=19,slow=6.3,SNR=3.9						
ZALV				LR	LR	02 22 33.6	
	comp=Z,22μm,18.1s,baz=60,slow=38						
YKW3	**Yellowknife Ar**	**43.43**	**42**	*e*P	**P**	**02 03 07.3**	**+0.2**
	comp=Z,85nm,1.1s						
YKA	**Yellowknife Ar**	**43.47**	**42**	*e*P	**P**	**02 03 07.5**	**+0.1**
YKA	**Yellowknife Ar**	**43.47**	**42**	P	**P**	**02 03 07.2**	**-0.2**
	comp=Z,7.5nm,0.8s,baz=299,slow=7.7,SNR=65						
YKB5	**Yellowknife Ar**	**43.47**	**42**	*e*P	**P**	**02 03 07.2**	**-0.2**
NVS	**Novosibirsk**	**43.74**	**305⇑**	*i*P	**P**	**02 03 08.8**	**-0.9**
NVS				*i*		02 04 52.5	
NVS				*i* S	**S**	**02 09 34.1**	**-4.2**
NVS				pmax	pmax		
	comp=N,104nm,1.1s						
NVS				pmax	pmax		
	comp=E,369nm,1.1s						
NVS				pmax	pmax		
	comp=Z,515nm,1.1s						
NVS				pmax	pmax		
	comp=Z,117nm,1.3s						
NVS				pmax	pmax		
	comp=N,17nm,0.5s						
NVS				pmax	pmax		
	comp=E,58nm,1.1s						
NVS				smax	smax		
	comp=N,18nm,0.5s						
NVS				smax	smax		
	comp=E,36nm,0.9s						
RES	**Resolute Bay**	**43.85**	**22**	*e*P	**P**	**02 03 10.9**	**+0.6**
	comp=E,103nm,0.9s						
RES				LR	LR		
	comp=Z,7μm,22.0s						
RES	**Resolute Bay**	**43.85**	**22**	*e*P	**P**	**02 03 10.9**	**+0.6**
RES				pmax	pmax		
	comp=Z,103nm,0.9s						
RES				MLR	MLR		
	comp=Z,7μm,22.0s						
RES	**Resolute Bay**	**43.85**	**22**	P	**P**	**02 03 10.9**	**+0.6**
	comp=Z,29nm,0.9s,baz=304,slow=7.3,SNR=53						
RES				LR	LR	02 23 02.6	
	comp=Z,5μm,21.4s,baz=311,slow=38						
KWAJ	**Kwajalein Atol**	**43.86**	**170**	PFAKE		02 03 20.0	+9.0
KWAJ				LR	LR		
	comp=Z,13μm,18.0s						
OPA	**Opana**	**44.14**	**118**	PFAKE		02 03 30.0	+17
OPA				LR	LR		
	comp=Z,11μm,20.0s						
DGZ	**Jazzator, Alta**	**44.23**	**297** *c i*P		**P**	**02 03 13.0**	**-1.0**
DGZ				pmax	pmax		
	comp=Z,129nm,1.0s						
KIP	**Kipapa**	**44.35**	**118**	PFAKE		02 03 30.0	+15
KIP				LR	LR		
	comp=Z,10μm,19.0s						
KIP	**Kipapa**	**44.35**	**118** *ce*P		**P**	**02 03 16.5**	**+1.5**
KIP				pmax	pmax		
	comp=Z,98nm,1.3s						
HON	**Honolulu**	**44.44**	**118**	PFAKE		02 03 30.0	+14
HON				LR	LR		
	comp=Z,11μm,20.0s						
PATS	**Pohnpei**	**45.48**	**183**	PFAKE		02 03 40.0	+16
PATS				LR	LR		
	comp=Z,13μm,18.0s						
KHLH	**Kahului Airpor**	**45.64**	**117**	PFAKE		02 03 40.0	+15
KHLH				LR	LR		
	comp=Z,10μm,20.0s						
HLK	**Haleakala**	**45.85**	**117**	PFAKE		02 03 40.0	+13
HLK				LR	LR		
	comp=Z,9μm,20.0s						
LLLB	**Lilloоet**	**46.10**	**60**	*e*P	**P**	**02 03 30.5**	**+1.9**
	comp=Z,38nm,0.9s						
LLLB				LR	LR		
	comp=Z,8μm,21.0s						
CD2	**Chengdu**	**46.20**	**265⇑**	*i*P	**P**	**02 03 28.9**	**-0.7**
CD2				sP	pwP	02 03 41.8	+2.2
CD2				PP	**PP**	**02 05 14.4**	**-3.6**
CD2				S	**S**	**02 10 15.1**	**+0.6**
CD2				pmax	pmax		
	comp=Z,160nm,1.0s						
CD2				LR	LR		
	comp=Z,52μm,20.6s						
CD2				LR	LR		
	comp=Z,48μm,18.2s						
CD2				LR	LR		
	comp=Z,53μm,17.1s						
PGC	**Sidney**	**46.36**	**63**	*e*P	**P**	**02 03 29.1**	**-1.5**
HKC	**Hong Kong Obse**	**46.41**	**248**	⇓P	P	02 03 37.0	+5.7
HKPS	**Hong Kong Po S**	**46.45**	**248**	*e*P	**P**	**02 03 33.8**	**+2.2**
	comp=Z,112nm,1.0s						
HKPS				LR	LR		
	comp=Z,20μm,18.0s						
MHA	**Mahukona**	**46.50**	**117**	*e*P	**P**	**02 03 32.6**	**+0.6**
MHA	**Mahukona**	**46.50**	**117**	*e*P	**P**	**02 03 32.6**	**+0.6**
A04D	**Lummi Island**	**46.73**	**62**	P	**P**	**02 03 32.7**	**-0.7**
	baz=305						
HPAH	**Hawaii Prepara**	**46.74**	**117**	PFAKE		02 03 50.0	+16
HPAH				LR	LR		
	comp=Z,8μm,20.0s						

NLWA	**Neilton Lookou**	**46.86**	**64**	*e*P	**P**	**02 03 37.2 +2.6**
	comp=Z,66nm,1.1s					
NLWA				LR	LR	
	comp=Z,9μm,22.0s					
ZSN	**Zaisan**	**46.91**	**296**	*e*P	**P**	**02 03 39.5 +4.5**
ZSN				pmax	pmax	
	comp=Z,19nm,0.8s					
ZSN				MLR	MLR	
	comp=Z,3μm,13.0s					
ZSN	**Zaisan**	**46.91**	**296**	*e*P	**P**	**02 03 39.5 +4.5**
	comp=Z,19nm,0.8s					
ZSN				*e*LR	LR	02 25 06.1
	comp=Z,3μm,13.2s					
HUH	**Hualalai**	**46.95**	**117**	PFAKE		02 03 50.0 +14
HUH				LR	LR	
	comp=Z,12μm,18.0s					
KHLU	**Kahalu`u**	**46.99**	**117**	PFAKE		02 03 50.0 +14
KHLU				LR	LR	
	comp=Z,10μm,20.0s					
POHA	**Pohakuloa**	**47.05**	**117**	*e*P	**P**	**02 03 38.9 +2.3**
	comp=Z,166nm,1.0s					
POHA				LR	LR	
	comp=Z,9μm,19.0s					
HMH	**Humu'ula Sheep**	**47.20**	**117**	PFAKE		02 03 50.0 +12
HMH				LR	LR	
	comp=Z,11μm,19.0s					
D03D	**Eldon**	**47.21**	**64**	P	**P**	**02 03 36.9 -0.4**
	baz=306,SNR=5.4					
MLOA	**Mauna Loa Obse**	**47.21**	**117**	PFAKE		02 03 50.0 +12
MLOA				LR	LR	
	comp=Z,12μm,20.0s					
MWH	**Moku'aweowe**	**47.24**	**117**	PFAKE		02 03 50.0 +12
MWH				LR	LR	
	comp=Z,10μm,19.0s					
B05A	**Bryant**	**47.32**	**62**	P	**P**	**02 03 37.5 -0.6**
	baz=306,SNR=6.4					
MLH	**Mauna Loa**	**47.34**	**117**	PFAKE		02 03 50.0 +11
MLH				LR	LR	
	comp=Z,10μm,20.0s					
AIN	**Ainahou**	**47.40**	**117**	*e*P	**P**	**02 03 41.1 +1.8**
AIN				LR	LR	
	comp=Z,12μm,20.0s					
KHU	**Kahuku**	**47.42**	**117**	PFAKE		02 03 50.0 +11
KHU				LR	LR	
	comp=Z,11μm,18.0s					
UWE	**Uwekahuna**	**47.45**	**117**	PFAKE		02 03 50.0 +10
UWE				LR	LR	
	comp=Z,10μm,19.0s					
OBL	**Observatory Le**	**47.46**	**117**	PFAKE		02 03 50.0 +10
OBL				LR	LR	
	comp=Z,10μm,20.0s					
SBLHI	**Steaming Bluff**	**47.46**	**117**	PFAKE		02 03 50.0 +10
SBLHI				LR	LR	
	comp=Z,2μm,20.0s					
WRMHI	**West Rim**	**47.46**	**117**	PFAKE		02 03 50.0 +10
WRMHI				LR	LR	
	comp=Z,11μm,21.0s					
NPH	**North Pit**	**47.47**	**117**	PFAKE		02 03 50.0 +10
NPH				LR	LR	
	comp=Z,9μm,20.0s					
HATHI	**Halema'uma'u T**	**47.47**	**117**	PFAKE		02 03 50.0 +10
HATHI				LR	LR	
	comp=Z,9μm,20.0s					
WMQ	**Urumqi**	**47.47**	**290**	P	**P**	**02 03 40.3 +0.8**
WMQ				pP	pP	02 03 44.4 -1.5
WMQ				sP	sP	02 03 48.6 +0.1
WMQ				PcP	**PcP**	**02 05 11.8 +2.4**
WMQ				ScP	**ScP**	**02 09 04.8 +3.0**
WMQ				S	**S**	**02 10 34.4 +1.8**
WMQ				SS	**SS**	**02 13 55.6 -4.4**
WMQ				pmax	pmax	
	comp=Z,460nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,5μm,7.9s					
WMQ				LR	LR	
	comp=Z,94μm,16.5s					
WMQ				LR	LR	
	comp=Z,110μm,17.1s					
WMQ				LR	LR	
	comp=Z,136μm,17.9s					
WMQ	**Urumqi**	**47.47**	**290**	*e*P	**P**	**02 03 39.3 -0.2**
	comp=Z,147nm,0.9s					
WMQ				LR	LR	
	comp=Z,38μm,18.0s					
WMQ	**Urumqi**	**47.47**	**290**	*e*P	**P**	**02 03 39.3 -0.2**
WMQ				pmax	pmax	
	comp=Z,147nm,0.9s					
WMQ				MLR	MLR	
	comp=Z,38μm,18.0s					
SDHHI	**Sand Hill**	**47.48**	**117**	PFAKE		02 03 50.0 +10
SDHHI				LR	LR	
	comp=Z,10μm,20.0s					
RIM	**Rim**	**47.49**	**117**	PFAKE		02 03 50.0 +10
RIM				LR	LR	
	comp=Z,10μm,19.0s					
B06A	**Marblemount**	**47.51**	**62**	*e*P	**P**	**02 03 41.6 +2.1**
	comp=Z,37nm,0.9s					
B06A				LR	LR	
	comp=Z,7μm,22.0s					
PUH	**Pauahi**	**47.53**	**117**	PFAKE		02 03 50.0 +10
PUH				LR	LR	
	comp=Z,9μm,20.0s					
STCH	**Steam Cracks**	**47.58**	**117**	PFAKE		02 03 50.0 +10
STCH				LR	LR	
	comp=Z,8μm,20.0s					
KBS	**Kingsbay**	**47.59**	**352**	*e*P	**P**	**02 03 40.6 +0.8**
	comp=Z,246nm,0.9s					
KBS				LR	LR	
	comp=Z,12μm,19.0s					
KBS	**Kingsbay**	**47.59**	**352**	*ce*P	**P**	**02 03 40.6 +0.8**
KBS	**Kingsbay**	**47.59**	**352**	*e*P	**P**	**02 03 41.0 +1.2**
D04E	**Lakebay**	**47.59**	**64**	P	**P**	**02 03 39.8 -0.4**
	baz=306					
GYA	**Guiyang**	**47.64**	**259⇑**	*i*P	**P**	**02 03 40.4 -0.6**
GYA				pP	pP	02 03 46.4 -1.0
GYA				PcP	**PcP**	**02 05 11.8 +1.4**
GYA				S	**S**	**02 10 34.3 -1.1**
GYA				pmax	pmax	
	comp=Z,120nm,1.0s					
GYA				pmax	pmax	
	comp=Z,2μm,12.1s					
GYA				LR	LR	
	comp=Z,22μm,15.8s					
GYA				LR	LR	
	comp=Z,29μm,17.1s					
GYA				LR	LR	
	comp=Z,48μm,18.3s					
SEM	**Semipalatinsk**	**47.67**	**301**	*e*P	**P**	**02 03 37.7 -3.4**
SEM				pmax	pmax	
	comp=Z,144nm,1.8s					
SEM				MLR	MLR	
	comp=Z,7μm,17.0s					
SEM	**Semipalatinsk**	**47.67**	**301**	*e*P	**P**	**02 03 37.8 -3.4**
	comp=Z,144nm,1.8s					
SEM				*e*LR	LR	02 23 54.6
	comp=Z,7μm,16.7s					
SPA0	**Spitsbergen Ar**	**47.85**	**351**	*e*P	**P**	**02 03 42.1 +0.1**
	comp=Z,1μm,1.3s					
SPA0	**Spitsbergen Ar**	**47.85**	**351**	*e*P	**P**	**02 03 42.3 +0.3**
SPITS	**Spitsbergen Ar**	**47.85**	**351**	P	**P**	**02 03 42.0 +0.1**
SPITS	**Spitsbergen Ar**	**47.85**	**351**	P	**P**	**02 03 42.0 +0.1**
	comp=Z,321nm,0.9s,baz=61,slow=8.9,SNR=384					
F03A	**Seaside**	**47.90**	**66**	*e*P	**P**	**02 03 43.8 +1.2**
F03A				LR	LR	
	comp=Z,7μm,21.0s					
SMPP	**San Manuel, Pa**	**47.92**	**236**	*e*P	**P**	**02 03 43.7 +0.6**
D05A	**Enumclaw**	**48.02**	**64**	*e*P	**P**	**02 03 46.1 +2.6**
	comp=Z,54nm,1.0s					
E04D	**Cinebar**	**48.07**	**65**	P	**P**	**02 03 43.7 -0.3**
	baz=307					
F04D	**Rainier, OR**	**48.11**	**65**	P	**P**	**02 03 44.1 -0.1**
	baz=307					
C06D	**Leavenworth**	**48.18**	**62**	P	**P**	**02 03 43.9 -0.9**
	baz=307					
KURK	**Kurchatov**	**48.34**	**303**	*e*P	**P**	**02 03 44.2 -1.8**
	comp=Z,621nm,1.1s					
KURK				LR	LR	
	comp=Z,30μm,18.0s					
KURK	**Kurchatov**	**48.34**	**303**	*ce*P	**P**	**02 03 44.1 -1.9**
KURK				pmax	pmax	
	comp=Z,730nm,1.3s					
KURK	**Kurchatov**	**48.34**	**303**	P	**P**	**02 03 44.4 -1.6**
	SNR=247					
KURK				P	**P**	**02 03 44.4 -1.6**
	SNR=247					
KURK				P	**P**	**02 03 44.4 -1.6**
	SNR=247					
LON	**Longmire**	**48.38**	**64**	*e*P	**P**	**02 03 50.0 +3.6**
	comp=Z,22nm,1.2s					
LON				LR	LR	
	comp=Z,4μm,18.0s					
PANH	**Panhandle Gap,**	**48.40**	**64**	*e*P	**P**	**02 03 50.2 +3.4**
PVCP	**Virac**	**48.40**	**231**	*e*P	**P**	**02 03 47.4 +0.6**
G03D	**McMinnville, O**	**48.50**	**66**	P	**P**	**02 03 45.9 -1.4**
	baz=308					
POLP	**Polillo Island**	**48.50**	**234**	*e*P	**P**	**02 03 50.2 +2.7**
GLK	**Glacier Lake**	**48.60**	**64**	*e*P	**P**	**02 03 51.2 +3.0**
LTY	**Liberty**	**48.70**	**63**	*e*P	**P**	**02 03 50.0 +1.1**
	comp=Z,43nm,1.5s					
LTY				LR	LR	
	comp=Z,7μm,22.0s					
MK31	**Makanchi Array**	**48.72**	**296**	*e*P	**P**	**02 03 46.9 -2.1**
	comp=Z,203nm,1.3s					
MK31	**Makanchi Array**	**48.72**	**296**	*e*P	**P**	**02 03 46.9 -2.1**
MK31				pmax	pmax	
	comp=Z,203nm,1.3s					
MK32	**Makanchi Array**	**48.72**	**296**	*e*P	**P**	**02 03 47.2 -1.8**
MKAR	**Makanchi Array**	**48.72**	**296**	P	**P**	**02 03 47.2 -1.8**
	comp=Z,40nm,0.6s,baz=58,slow=7.6,SNR=155					
MKAR				LR	LR	02 26 01.4
	comp=Z,23μm,18.2s,baz=44,slow=38					
B08A	**Colville Reser**	**48.76**	**61**	*e*P	**P**	**02 03 49.8 +0.5**
	comp=Z,43nm,1.0s					
B08A				LR	LR	
	comp=Z,7μm,22.0s					
I02D	**Swisshome**	**48.84**	**68**	P	**P**	**02 03 49.9 -0.1**
	baz=308					
COR	**Corvallis**	**48.86**	**67**	PFAKE		02 04 00.0 +10
COR				LR	LR	
	comp=Z,5μm,20.0s					
HSPB	**Hornsund (broa**	**48.98**	**350**	*e*P	**P**	**02 03 50.6 0.0**
HSPB				*e*S	**S**	**02 10 52.8 -0.1**
HSPB	**Hornsund (broa**	**48.98**	**350**	*e*P	**P**	**02 03 50.6 0.0**
F05D	**White Salmon**	**49.09**	**65**	P	**P**	**02 03 51.2 -0.7**
	baz=308					
CNP	**Catarman**	**49.11**	**229**	*e*P	**P**	**02 03 52.2 0.0**
H04D	**Lebanon**	**49.21**	**67**	P	**P**	**02 03 51.5 -1.3**
	baz=308					
I03D	**Drain, OR**	**49.38**	**68**	P	**P**	**02 03 52.5 -1.6**
	baz=309					
J01E	**Myrtle Point**	**49.38**	**69**	P	**P**	**02 03 53.0 -1.1**
	baz=309					
H04A	**Detroit Lake**	**49.42**	**66**	*e*P	**P**	**02 03 56.5 +2.0**
	comp=Z,75nm,1.2s					
H04A				LR	LR	
	comp=Z,4μm,20.0s					
TGY	**Tagaytay City**	**49.53**	**234**	P	**P**	**02 03 56.2 +0.7**
	comp=Z,144nm,0.3s,baz=149,slow=0.5,SNR=5.0					
E07A	**Sunnyside**	**49.56**	**63**	PFAKE		02 04 10.0 +15
E07A				LR	LR	
	comp=Z,6μm,22.0s					
G05D	**Wamic, OR**	**49.56**	**65**	P	**P**	**02 03 54.7 -0.8**
	baz=308					
C09A	**Chrisman Ranch**	**49.66**	**61**	*e*P	**P**	**02 03 57.3 +1.1**
	comp=Z,72nm,1.3s					
C09A				LR	LR	
	comp=Z,4μm,20.0s					
D08A	**Wollman Farm,**	**49.77**	**62**	*e*P	**P**	**02 03 59.6 +2.6**
	comp=Z,21nm,1.1s					
D08A				LR	LR	
	comp=Z,4μm,22.0s					
HAWA	**Hanford**	**49.84**	**63**	*e*P	**P**	**02 03 59.5 +1.9**
	comp=Z,49nm,1.3s					
HAWA				LR	LR	
	comp=Z,6μm,22.0s					
I04A	**Tendick Farm,**	**49.85**	**67**	P	**P**	**02 03 56.4 -1.3**
	baz=309					
F07A	**Phinny Hill Vi**	**49.93**	**64**	*e*P	**P**	**02 04 00.5 +2.3**
	comp=Z,44nm,0.7s					
F07A				LR	LR	
	comp=Z,4μm,20.0s					
G06A	**Carlson Farm,**	**49.95**	**65**	PFAKE		02 04 10.0 +12
G06A				LR	LR	
	comp=Z,7μm,22.0s					
NEW	**Newport**	**49.99**	**60**	*e*P	**P**	**02 03 59.1 +0.3**
	comp=Z,54nm,1.4s					
NEW				LR	LR	
	comp=Z,4μm,18.0s					
NEW	**Newport**	**49.99**	**60**	*e*P	**P**	**02 03 59.1 +0.3**
NEW				pmax	pmax	
	comp=Z,55nm,1.4s					
NEW				MLR	MLR	
	comp=Z,4μm,18.0s					
NEW	**Newport**	**49.99**	**60**	P	**P**	**02 03 58.2 -0.6**
	baz=308,SNR=8.8					
NEW	**Newport**	**49.99**	**60**	P	**P**	**02 03 59.0 +0.3**
	comp=Z,6.7nm,1.0s,baz=311,slow=8.3,SNR=9.8					
NEW				LR	LR	02 25 40.5
	comp=Z,4μm,18.6s,baz=305,slow=37					
E08A	**Dider Farm, El**	**50.04**	**63**	*e*P	**P**	**02 04 02.4 +3.4**
	comp=Z,28nm,1.1s					
E08A				LR	LR	
	comp=Z,7μm,21.0s					
I05D	**Terrebonne, OR**	**50.11**	**66**	P	**P**	**02 03 59.0 -0.7**
	baz=309					
PLP	**Palo**	**50.15**	**228⇑**	*e*P	**P**	**02 04 00.1 -0.1**
L02E	**Cave Junction**	**50.20**	**70**	P	**P**	**02 03 59.6 -0.8**
	baz=310					
HUMO	**Hull Mountain**	**50.29**	**69**	*e*P	**P**	**02 04 03.7 +2.7**
	comp=Z,34nm,1.0s					
HUMO				LR	LR	
	comp=Z,4μm,20.0s					
J04D	**Umpqua Nationa**	**50.37**	**68**	P	**P**	**02 04 01.8 0.0**
	baz=309,SNR=8.5					
OTRP	**Odiongan**	**50.49**	**232**	*e*P	**P**	**02 04 03.9 +1.2**
E09A	**Wood Farm, Sta**	**50.52**	**62**	*e*P	**P**	**02 04 04.4 +1.7**
	comp=Z,70nm,1.1s					
E09A				LR	LR	
	comp=Z,5μm,22.0s					
PINE	**Pine Mountain**	**50.68**	**67**	*e*P	**P**	**02 04 06.8 +2.6**
	comp=Z,44nm,0.9s					
PINE				LR	LR	
	comp=Z,5μm,18.0s					
BJO	**Bjornoya**	**50.75**	**347**	*e*P	**P**	**02 04 04.9 +0.9**
KULLO	**Kullorsuaq**	**50.79**	**12⇑**	*i*P	**P**	**02 04 04.5 +0.2**
KULLO				MLR	MLR	
	comp=Z,12μm,20.0s					
KULLO	**Kullorsuaq**	**50.79**	**12⇑**	*i*P	**P**	**02 04 04.5 +0.2**
JCC	**Jacoby Creek,**	**50.81**	**71**	PFAKE		02 04 20.0 +15
JCC				LR	LR	
	comp=Z,5μm,22.0s					
J05D	**Fort Rock, OR**	**50.84**	**67**	P	**P**	**02 04 04.6 -0.7**
	baz=310,SNR=25					
G08A	**Pilot Rock**	**50.84**	**64**	*e*P	**P**	**02 04 07.0 +1.7**
	comp=Z,16nm,1.0s					
G08A				LR	LR	
	comp=Z,5μm,22.0s					
SJMP	**San Jose**	**50.84**	**233**	*e*P	**P**	**02 04 07.1 +1.7**
L04D	**Klamath Falls**	**50.91**	**69**	P	**P**	**02 04 05.3 -0.5**
	baz=310,SNR=22					
K04D	**Chiloquin, OR**	**50.96**	**68**	P	**P**	**02 04 05.8 -0.4**
	baz=310					
YBH	**Yreka Blue Hor**	**50.98**	**70**	*e*P	**P**	**02 04 07.9 +1.5**
	comp=Z,106nm,1.3s					
YBH				LR	LR	
	comp=Z,5μm,20.0s					
YBH	**Yreka Blue Hor**	**50.98**	**70**	*e*P	**P**	**02 04 07.9 +1.5**
YBH				pmax	pmax	
	comp=Z,106nm,1.3s					
YBH				MLR	MLR	
	comp=Z,5μm,20.0s					
YBH	**Yreka Blue Hor**	**50.98**	**70**	LR	LR	02 23 27.7
	comp=Z,4μm,21.0s,baz=306,slow=33					
KMI	**Kunming**	**51.00**	**261**	P	**P**	**02 04 06.5 -0.3**
KMI				pP	pwP	02 04 17.8 +1.0
KMI				PcP	**PcP**	**02 05 25.6 +2.9**
KMI				PP	**PP**	**02 06 00.1 -3.1**
KMI				S	**S**	**02 11 17.9 -4.7**
KMI				sS	sS	02 11 37.6 +4.0
KMI				ScS	**ScS**	**02 13 53.8 -2.3**
KMI				SS	**SS**	**02 14 47.3 -10**
KMI				pmax	pmax	
	comp=Z,2μm,14.2s					
KMI				LR	LR	
	comp=Z,37μm,19.1s					
KMI				LR	LR	
	comp=Z,20μm,18.7s					
KMI				LR	LR	
	comp=Z,22μm,17.8s					
KMI	**Kunming**	**51.00**	**261**	PFAKE		02 04 20.0 +13
KMI				LR	LR	
	comp=Z,23μm,18.0s					
BRVK	**Borovoye**	**51.07**	**309**	*e*P	**P**	**02 04 05.0 -1.7**
	comp=Z,143nm,0.8s					
BRVK				LR	LR	
	comp=Z,19μm,19.0s					
BRVK	**Borovoye**	**51.07**	**309**	*i*P	**P**	**02 04 04.9 -1.8**
BRVK				pmax	pmax	
	comp=Z,142nm,1.0s					
BRVK	**Borovoye**	**51.07**	**309**	P	**P**	**02 04 05.0 -1.7**
	SNR=120					
BRVK				P	**P**	**02 04 05.0 -1.7**
	SNR=120					
DAG	**Danmarks Havn**	**51.09**	**360⇑**	*i*P	**P**	**02 04 06.0 -0.5**
DAG				*i*		02 04 18.9
DAG				pmax	pmax	
	comp=Z,130nm,1.0s					
DAG	**Danmarks Havn**	**51.09**	**360⇑**	*i*P	**P**	**02 04 06.0 -0.5**
	comp=Z,126nm,1.0s					
DAG				*i*		02 04 18.9
M02C	**Callahan**	**51.12**	**70**	P	**P**	**02 04 07.1 -0.3**
	baz=310,SNR=18					
I07A	**Izee**	**51.30**	**65**	*e*P	**P**	**02 04 10.9 +2.1**
	comp=Z,36nm,1.4s					
I07A				LR	LR	
	comp=Z,5μm,20.0s					
F10A	**Beach Ranch, E**	**51.36**	**62**	*e*P	**P**	**02 04 10.3 +1.2**
	comp=Z,27nm,1.0s					
F10A				LR	LR	
	comp=Z,5μm,22.0s					
K05A	**Summer Lake**	**51.38**	**68**	*e*P	**P**	**02 04 10.9 +1.4**
	comp=Z,118nm,1.4s					
K05A				LR	LR	
	comp=Z,6μm,18.0s					
M04C	**Macdoel**	**51.45**	**69**	P	**P**	**02 04 09.6 -0.4**
	baz=310,SNR=15					
QIZ	**Qiongzhong**	**51.47**	**249**	P	**P**	**02 04 11.9 +1.8**
QIZ				S	**S**	**02 11 30.6 +1.8**
QIZ				sS	**pS**	**02 11 36.6 -0.2**
QIZ				pmax	pmax	
	comp=Z,2μm,6.7s					
QIZ				LR	LR	
	comp=Z,13μm,16.7s					
QIZ				LR	LR	
	comp=Z,20μm,16.7s					
QIZ				LR	LR	
	comp=Z,14μm,17.7s					
QIZ	**Qiongzhong**	**51.47**	**249**	*e*P	**P**	**02 04 12.5 +2.4**
	comp=Z,136nm,1.0s					
QIZ				LR	LR	
	comp=Z,16μm,20.0s					
N02D	**Trinity Center**	**51.48**	**70**	P	**P**	**02 04 09.4 -0.6**
	baz=311					
WDC	**Whiskeytown Da**	**51.83**	**71**	*e*P	**P**	**02 04 14.8 +2.3**
	comp=Z,54nm,1.2s					
WDC				LR	LR	
	comp=Z,4μm,21.0s					
TARA	**Tarawa**	**51.92**	**164**	PFAKE		02 04 30.0 +17
TARA				LR	LR	
	comp=Z,8μm,20.0s					
O02D	**Mt. Diablo Mer**	**51.95**	**71**	P	**P**	**02 04 13.0 -0.6**
	baz=311					
TDK	**Taldyqorghan**	**51.95**	**297**	*e*P	**P**	**02 04 12.3 -1.2**
TDK				pmax	pmax	
	comp=Z,396nm,1.2s					
TDK				MLR	MLR	
	comp=Z,28μm,16.0s					
TDK	**Taldyqorghan**	**51.95**	**297**	*e*P	**P**	**02 04 12.3 -1.2**
	comp=Z,396nm,1.2s					
TDK				*e*LR	LR	02 27 10.1
	comp=Z,28μm,15.8s					
BMO	**Blue Mountains**	**52.02**	**63**	*e*P	**P**	**02 04 14.4 +0.3**
	comp=Z,42nm,1.1s					
BMO				LR	LR	
	comp=Z,5μm,22.0s					
BMO	**Blue Mountains**	**52.02**	**63**	*e*P	**P**	**02 04 14.4 +0.3**
BMO				pmax	pmax	
	comp=Z,42nm,1.1s					
BMO				MLR	MLR	
	comp=Z,5μm,22.0s					
MOD	**Modoc Plateau**	**52.25**	**68**	*e*P	**P**	**02 04 17.1 +1.2**
	comp=Z,98nm,1.2s					
MOD				LR	LR	
	comp=Z,5μm,19.0s					
J08A	**Circle Bar Ran**	**52.34**	**65**	*e*P	**P**	**02 04 18.9 +2.4**
	comp=Z,16nm,1.0s					
J08A				LR	LR	
	comp=Z,5μm,20.0s					
PDGK	**Podgornoye**	**52.43**	**295**	P	P	02 04 25.1 +7.9
PDGK				pmax	pmax	
	comp=Z,182nm,1.1s					
O03E	**Paynes Creek**	**52.44**	**70**	P	**P**	**02 04 17.0 -0.3**
	baz=311,SNR=31					
SHLS	**Shalkode**	**52.56**	**294**	*e*P	**P**	**02 04 14.6 -3.5**
SHLS				pmax	pmax	
	comp=Z,88nm,1.3s					
SHLS				MLR	MLR	
	comp=Z,3μm,14.0s					
SHLS	**Shalkode**	**52.56**	**294**	*e*P	**P**	**02 04 14.7 -3.5**
	comp=Z,88nm,1.2s					
SHLS				*e*LR	LR	02 28 36.4
	comp=Z,3μm,13.6s					
HOPS	**Hopland Field**	**52.56**	**73**	PFAKE		02 04 30.0 +12
HOPS				LR	LR	
	comp=Z,8μm,22.0s					
MSO	**Missoula**	**52.57**	**60**	*e*P	**P**	**02 04 18.5 +0.3**
	comp=Z,65nm,1.1s					
MSO				LR	LR	
	comp=Z,4μm,21.0s					
MSO	**Missoula**	**52.57**	**60**	P	**P**	**02 04 17.6 -0.5**
	baz=310,SNR=33					
PLID	**Pearl Lake**	**52.59**	**62**	*e*P	**P**	**02 04 19.4 +0.9**
	comp=Z,47nm,1.0s					
KPKS	**Kokpek**	**52.79**	**295**	*i*P	**P**	**02 04 18.3 -1.5**
KPKS				pmax	pmax	
	comp=Z,96nm,1.5s					
KPKS				MLR	MLR	
	comp=Z,11μm,16.0s					
KPKS	**Kokpek**	**52.79**	**295⇑**	*i*P	**P**	**02 04 18.3 -1.5**
	comp=Z,96nm,1.5s					
KPKS				*e*LR	LR	02 27 23.7
	comp=Z,11μm,16.0s					
GDXM	**Geysers**	**52.84**	**73**	PFAKE		02 04 30.0 +10
GDXM				LR	LR	
	comp=Z,6μm,19.0s					
WVOR	**Wild Horse Val**	**52.84**	**66**	*e*P	**P**	**02 04 21.7 +1.4**
	comp=Z,60nm,1.3s					
WVOR				LR	LR	
	comp=Z,4μm,21.0s					
WVOR	**Wild Horse Val**	**52.84**	**66**	*e*P	**P**	**02 04 21.7 +1.4**
WVOR				pmax	pmax	
	comp=Z,60nm,1.3s					
WVOR				MLR	MLR	
	comp=Z,4μm,21.0s					
SVE	**Sverdlovsk**	**52.97**	**317**	*de*P	**P**	**02 04 20.4 -0.4**
SVE				*e*		02 06 22.6
SVE				*e*S	**S**	**02 11 50.3 +1.7**
SVE				*e*		02 15 25.1
SVE				pmax	pmax	
	comp=Z,89nm,1.4s					
SVE				MLR	MLR	
	comp=E,20μm,18.0s					
SVE				MLR	MLR	
	comp=N,11μm,15.0s					
SVE				MLR	MLR	
	comp=Z,25μm,16.0s					
BUKP	**Musuan**	**53.02**	**226**	*e*P	**P**	**02 04 23.4 +1.7**
ORV	**Oroville**	**53.10**	**71**	*e*P	**P**	**02 04 24.0 +2.0**
	comp=Z,56nm,1.1s					
ORV				LR	LR	
	comp=Z,3μm,21.0s					
SLVN	**Son La**	**53.15**	**257**	*e*P	**P**	**02 04 23.2 +0.5**
	comp=Z,151nm,1.0s					
SLVN				LR	LR	
	comp=Z,17μm,20.0s					
SATY	**Saty**	**53.21**	**295**	*ce*P	**P**	**02 04 21.3 -1.6**
SATY				pmax	pmax	
	comp=Z,147nm,1.4s					
SATY				MLR	MLR	
	comp=Z,5μm,15.0s					
SATY	**Saty**	**53.21**	**295⇑**	*e*P	**P**	**02 04 21.3 -1.6**
	comp=Z,147nm,1.4s					
SATY				*e*LR	LR	02 27 44.7
	comp=Z,5μm,15.2s					
MCCM	**Marconi Confer**	**53.23**	**73**	PFAKE		02 04 40.0 +17
MCCM				LR	LR	
	comp=Z,5μm,20.0s					
FFC	**Flin Flon**	**53.29**	**46**	*e*P	**P**	**02 04 23.6 +0.4**
	comp=Z,59nm,1.1s					
FFC				LR	LR	

comp=Z,5μm,19.0s
FFC Flin Flon 53.29 46 *e*P **P 02 04 23.6 +0.4**
FFC pmax pmax
comp=Z,59nm,1.1s
FFC MLR MLR
comp=Z,5μm,19.0s
HAMF Hammerfest 53.41 344 *e*P **P 02 04 23.5 -0.3**
LVZ Lovozero 53.44 338 *e*P **P 02 04 23.4 -0.8**
comp=Z,188nm,0.9s
LVZ LR LR
comp=Z,11μm,19.0s
LVZ Lovozero 53.44 338 *c e*P **P 02 04 23.4 -0.8**
LVZ pmax pmax
comp=Z,266nm,1.3s
DAV Davao City (W) 53.51 225 PFAKE 02 04 40.0 +15
DAV LR LR
comp=Z,6μm,21.0s
DAV Davao City (W) 53.51 225⇑ *e*P **P 02 04 25.2 -0.1**
BEKR Beckworth 53.55 70 PFAKE 02 04 40.0 +14
BEKR LR LR
comp=Z,4μm,20.0s
KEV Kevo 53.55 342 *e*P **P 02 04 24.6 -0.3**
comp=Z,102nm,1.1s
KEV Kevo 53.55 342 *e*P **P 02 04 24.6 -0.3**
KEV pmax pmax
comp=Z,102nm,1.1s
HRY Holter Researc 53.76 58 *e*P **P 02 04 27.7 +0.8**
KUU Kurty 53.80 297 *c i*P **P 02 04 24.8 -2.3**
KUU pmax pmax
comp=Z,192nm,1.5s
KUU MLR MLR
comp=Z,19μm,16.0s
KUU Kurty 53.80 297⇑ *i*P **P 02 04 24.8 -2.3**
comp=Z,192nm,1.5s
KUU *e*LR LR 02 28 17.9
comp=Z,19μm,16.0s
AFDM Forest Hills D 53.81 71 *e*P **P 02 04 29.4 +2.1**
comp=Z,48nm,1.1s
AFDM LR LR
comp=Z,5μm,22.0s
FCC Fort Churchill 53.83 39 *e*P **P 02 04 27.1 0.0**
comp=Z,47nm,0.8s
FCC LR LR
comp=Z,7μm,21.0s
MDOK Medeo 53.89 296 *e*P **P 02 04 26.1 -1.9**
MDOK *e*S **S 02 12 09.4 +7.7**
MDOK pmax pmax
comp=Z,695nm,1.5s
MDOK MLR MLR
comp=Z,20μm,18.0s
MDOK Medeo 53.89 296 *e*P **P 02 04 26.1 -1.9**
comp=Z,695nm,1.5s
MDOK *e*S **S 02 12 09.5 +7.7**
MDOK *e*LR LR 02 27 35.3
comp=Z,20μm,18.5s
AAA Alma-Ata 53.93 296 *c i*P **P 02 04 26.4 -1.8**
AAA pmax pmax
comp=Z,188nm,2.8s
AAA MLR MLR
comp=Z,19μm,18.0s
AAA Alma-Ata 53.93 296⇑ *i*P **P 02 04 26.4 -1.8**
comp=Z,188nm,2.8s
AAA *e*LR LR 02 28 09.1
comp=Z,19μm,17.9s
EGMT Eagleton 53.97 56 *e*P **P 02 04 28.6 +0.2**
comp=Z,34nm,0.9s
EGMT LR LR
comp=Z,7μm,20.0s
EGMT Eagleton 53.97 56 P **P 02 04 27.7 -0.7**
baz=311,SNR=17
APA Apatity 53.99 338⇓ *i*P **P 02 04 27.4 -0.7**
APA *i* 02 05 40.0
APA *i* S **S 02 11 58.0 -4.1**
APA pmax pmax
comp=Z,93nm,0.8s
APA MLR MLR
comp=Z,16μm,17.0s
ARCES ARCESS Array B 54.02 342 *e*P **P 02 04 27.8 -0.6**
ARCES ARCESS Array B 54.02 342 P **P 02 04 28.1 -0.3**
comp=Z,116nm,0.9s,baz=43,slow=7.5,SNR=78
ARCES LR LR 02 30 50.3
comp=Z,6μm,19.0s,baz=28,slow=40
ARE0 ARCESS Array S 54.02 342 *e*P **P 02 04 28.6 +0.2**
comp=Z,10nm,1.0s
ARE0 ARCESS Array S 54.02 342 *e*P **P 02 04 28.4 0.0**
TNSS Tian-Shan 54.03 296 *e*P **P 02 04 27.1 -2.2**
TNSS pmax pmax
comp=Z,95nm,1.2s
TNSS Tian-Shan 54.03 296 *e*P **P 02 04 27.2 -2.2**
comp=Z,95nm,1.2s
ARU Arti 54.10 318 *e*P **P 02 04 27.1 -2.0**
comp=Z,202nm,1.1s
ARU LR LR
comp=Z,27μm,18.0s
ARU Arti 54.10 318 *d i*P **P 02 04 27.5 -1.6**
ARU *PP **pwP 02 04 40.9 +2.1**
ARU 02 05 28.9
ARU 02 06 27.9
ARU PPP PPP 02 07 39.2
ARU S **S 02 12 01.2 -2.6**
ARU pmax pmax
comp=Z,71nm,0.8s
ARU MLR MLR
comp=Z,25μm,17.0s
RUBR Rubicon Trail 54.21 71 *e*P **P 02 04 34.3 +3.9**
comp=Z,44nm,0.8s
RUBR LR LR
comp=Z,3μm,20.0s
PAHR Pah Rah Range 54.22 69 *e*P **P 02 04 31.5 +1.1**
comp=Z,52nm,0.9s
PAHR LR LR
comp=Z,5μm,19.0s
DLMT Dillon 54.23 60 *e*P **P 02 04 32.4 +2.0**
comp=Z,26nm,1.0s
DLMT LR LR
comp=Z,3μm,18.0s
DDMP Don Marcelino, 54.32 224 *e*P **P 02 04 30.0 -1.2**
VCNR Virginia City 54.34 70 *e*P **P 02 04 33.1 +1.8**
comp=Z,57nm,0.9s
VCNR LR LR
comp=Z,4μm,21.0s
TARG Taragay, Kyrgy 54.42 294 PFAKE 02 04 40.0 +7.9
TARG LR LR
comp=Z,13μm,18.0s
HLID Hailey 54.44 63 *e*P **P 02 04 32.8 +0.8**
comp=Z,21nm,1.2s
HLID LR LR
comp=Z,7μm,22.0s
HLID Hailey 54.44 63 P **P 02 04 31.7 -0.3**
baz=312,SNR=9.4
MCMT McKenzie Canyo 54.45 61 *e*P **P 02 04 33.2 +1.1**
PNTR Pine Nut 54.51 70 *e*P **P 02 04 34.5 +1.9**
comp=Z,103nm,0.8s
PNTR LR LR
comp=Z,4μm,20.0s
BOZ Bozeman (W) 54.59 59 *e*P **P 02 04 33.3 +0.3**
comp=Z,40nm,0.9s
BOZ LR LR
comp=Z,5μm,18.0s
BOZ Bozeman (W) 54.59 59 *e*P **P 02 04 33.3 +0.3**
BOZ pmax pmax
comp=Z,40nm,0.9s
BOZ MLR MLR
comp=Z,5μm,18.0s
BOZ Bozeman (W) 54.59 59 P **P 02 04 32.4 -0.6**
baz=312,SNR=32
SUMG Summit 54.60 7 *e*P **P 02 04 33.1 +0.1**
comp=Z,341nm,1.1s
SUMG LR LR
comp=Z,12μm,19.0s
SUMG Summit 54.60 7⇑ *i*P **P 02 04 33.6 +0.6**
SUMG MLR MLR
comp=Z,30μm,18.0s
SUMG Summit 54.60 7⇑ *i*P **P 02 04 33.6 +0.6**
comp=Z,886nm,1.1s
LSA Lhasa 54.76 274 P **P 02 04 35.0 +0.1**
LSA LR LR
comp=Z,103μm,18.7s
LSA Lhasa 54.76 274 *e*P **P 02 04 35.5 +0.7**
comp=Z,74nm,1.0s
LSA LR LR
comp=Z,28μm,19.0s
LSA Lhasa 54.76 274 P **P 02 04 35.9 +1.1**
CMB Columbia Colle 54.76 72 PFAKE 02 04 50.0 +16
CMB LR LR
comp=Z,8μm,22.0s
YERR Yerington 54.79 70 *e*P **P 02 04 37.4 +2.8**
comp=Z,134nm,1.4s
YERR LR LR
comp=Z,5μm,20.0s
TKM2 Tokmak 2 54.85 296 P **P 02 04 34.0 -1.0**
SNR=79
TKM2 Tokmak 2 54.85 296 P **P 02 04 33.4 -1.6**
TKM2 pmax pmax
comp=Z,115nm,1.3s
KTK1 Kautokeino 54.89 343 *e*P **P 02 04 34.9 +0.2**
ULHL Ulahol 54.94 295 P **P 02 04 35.0 -0.8**
SNR=33
BOOM Boomskoye usch 54.95 296 *e*P **P 02 04 34.9 -0.8**
comp=Z,124nm,1.1s
BOOM Boomskoye usch 54.95 296 *e*P **P 02 04 34.9 -0.8**
BOOM pmax pmax
comp=Z,124nm,1.1s
BMN Battle Mountai 54.97 67 *e*P **P 02 04 37.3 +1.4**
comp=Z,69nm,0.9s
BMN LR LR
comp=Z,6μm,19.0s
BMN Battle Mountai 54.97 67 *e*P **P 02 04 37.3 +1.4**
BMN pmax pmax
comp=Z,69nm,0.9s
BMN MLR MLR
comp=Z,6μm,19.0s
WAKR Walker 55.00 71 *e*P **P 02 04 37.8 +1.6**
comp=Z,50nm,0.7s
WAKR LR LR
comp=Z,8μm,22.0s
SAO San Andreas Ge 55.01 73 PFAKE 02 04 50.0 +14
SAO LR LR
comp=Z,6μm,22.0s
TRO Tromso 55.09 345 *e*P **P 02 04 35.8 -0.3**
PRGR Permogore 55.17 328⇑ *i*P **P 02 04 36.7 0.0**
PRGR *e**PP **pwP 02 04 49.5 +3.1**
PRGR pmax pmax
comp=Z,198nm,0.8s
USP Ospenovka 55.22 297 P **P 02 04 36.6 -0.8**
SNR=96
CHMS Chumysh 55.26 297 P **P 02 04 36.8 -1.0**
SNR=52
KBK Karagaybulak 55.38 297 P **P 02 04 38.0 -0.8**
SNR=34
YHB Horse Butte 55.38 60 *e*P **P 02 04 39.9 +1.1**
comp=Z,48nm,0.8s
MANU Manus Island 55.39 196 *e*P **P 02 04 39.4 +0.6**
comp=Z,63nm,1.1s
MANU LR LR
comp=Z,10μm,21.0s
KVN Kaiserville 55.40 69 *e*P **P 02 04 40.4 +1.4**
comp=Z,162nm,1.5s
KVN LR LR
comp=Z,6μm,18.0s
KVN Kaiserville 55.40 69 *e*P **P 02 04 40.4 +1.4**
KVN pmax pmax
comp=Z,162nm,1.5s
KVN MLR MLR
comp=Z,6μm,18.0s
RYN Ryan 55.44 70 *e*P **P 02 04 40.6 +1.3**
comp=Z,47nm,1.0s
RYN LR LR
comp=Z,4μm,20.0s
FRU1 Bishkek 55.45 297 *e*P **P 02 04 38.4 -0.8**
comp=Z,234nm,1.0s
FRU1 LR LR
comp=Z,35μm,18.0s
FRU1 Bishkek 55.45 297 *e*P **P 02 04 38.4 -0.8**
FRU1 pmax pmax
comp=Z,234nm,1.0s
FRU1 MLR MLR
comp=Z,35μm,18.0s
GCMT Greycliff 55.49 58 *e*P **P 02 04 41.5 +2.0**
TMCR Tamitsa 55.52 333 *e*P **P 02 04 39.6 +0.4**
TMCR *e*S **S 02 12 23.5 +0.9**
YHH Holmes Hill 55.54 60 *e*P **P 02 04 41.0 +0.9**
comp=Z,36nm,0.8s
YMR Madison River 55.56 60 *e*P **P 02 04 42.1 +2.0**
comp=Z,54nm,0.8s
KZA Kyzart 55.60 296 P **P 02 04 40.0 -0.7**
SNR=16
NRN Naryn 55.62 295 *e*P **P 02 04 39.8 -0.9**
comp=Z,15nm,0.8s
NRN LR LR
comp=Z,19μm,20.0s
AAK Ala-Archa 55.64 297 P **P 02 04 39.8 -0.9**
SNR=87
AAK Ala-Archa 55.64 297 *e*P **P 02 04 39.7 -0.9**
comp=Z,132nm,0.9s
AAK LR LR
comp=Z,22μm,19.0s
AAK Ala-Archa 55.64 297 *i* P **P 02 04 39.8 -0.9**
SNR=124
AAK Ala-Archa 55.64 297 P **P 02 04 39.5 -1.2**
AAK pmax pmax
comp=Z,158nm,1.1s
AAK Ala-Archa 55.64 297 P **P 02 04 39.7 -0.9**
SNR=74
AAK P **P 02 04 39.7 -0.9**
SNR=74
YNR Norris Junctio 55.68 60 *e*P **P 02 04 43.5 +2.5**
comp=Z,54nm,1.1s
NV01 Mina Array Sit 55.70 70 *e*P **P 02 04 42.5 +1.3**
NVAR Mina Array Bea 55.70 70 P **P 02 04 42.5 +1.3**
comp=Z,12nm,0.7s,baz=291,slow=7.2,SNR=41
NVAR LR LR 02 25 53.2
comp=Z,3μm,20.4s,baz=304,slow=33
NVAR PKPPKP P'P'df 02 34 28.5 -19
comp=Z,0.4nm,0.6s,baz=175,slow=4.9,SNR=3.7
YFT Old Faithful 55.77 60 *e*P **P 02 04 45.4 +3.7**
comp=Z,105nm,1.2s
NV11 Mina Array Sit 55.78 70 *e*P **P 02 04 43.1 +1.3**
comp=Z,3.4nm,0.9s
NV11 LR LR
comp=Z,300nm,22.0s
MDPB Devils Postpil 55.80 71 *e*P **P 02 04 41.8 -0.2**
comp=Z,45nm,1.0s
MDPB LR LR
comp=Z,6μm,22.0s
OMMB Old Mammoth Mi 55.85 71 *e*P **P 02 04 45.4 +2.9**
comp=Z,36nm,1.0s
OMMB LR LR
comp=Z,8μm,22.0s
ELK Elko 55.87 66 *e*P **P 02 04 43.9 +1.5**
comp=Z,34nm,1.0s
ELK LR LR
comp=Z,5μm,19.0s
ELK Elko 55.87 66 *e*P **P 02 04 43.9 +1.5**
ELK pmax pmax
comp=Z,34nm,1.0s
ELK MLR MLR
comp=Z,5μm,19.0s
UCH Uchtor 55.91 297 P **P 02 04 42.1 -0.9**
SNR=32
YPP Pitchstone Pla 55.91 60 *e*P **P 02 04 45.6 +2.8**
comp=Z,41nm,1.1s
LKWY Lake 55.93 60 PFAKE 02 05 00.0 +17
LKWY LR LR
comp=Z,7μm,22.0s
MLAC Mammoth, Mammo 55.94 71 P **P 02 04 42.8 -0.2**
baz=313
H17A Grant Village 55.95 60 *e*P **P 02 04 46.4 +3.4**
comp=Z,52nm,0.9s
H17A LR LR
comp=Z,7μm,18.0s
H17A Grant Village 55.95 60 P **P 02 04 42.1 -0.9**
baz=313
PANO Nakornpanom 55.98 253 P **P 02 04 44.7 +1.5**
comp=Z,6.5nm,1.1s,comp=Z,121nm
EKS2 Erkin-Say 56.02 297 P **P 02 04 42.5 -0.8**
SNR=142
IMW Indian Meadow 56.09 61 *e*P **P 02 04 45.6 +1.6**
comp=Z,47nm,1.0s
IMW LR LR
comp=Z,3μm,20.0s
FLWY Flagg Ranch 56.10 60 *e*P **P 02 04 45.8 +1.9**
comp=Z,66nm,0.9s
RLMT Red Lodge 56.15 58 *e*P **P 02 04 45.4 +1.1**
comp=Z,84nm,0.8s
RLMT LR LR
comp=Z,4μm,19.0s
RLMT Red Lodge 56.15 58 P **P 02 04 44.4 +0.1**
baz=313,SNR=23
FXWY Fox Creek 56.22 61 *e*P **P 02 04 46.4 +1.5**
comp=Z,26nm,0.8s
MOOW Moose Ponds 56.30 61 *e*P **P 02 04 49.6 +4.2**
comp=Z,24nm,0.9s
MOOW LR LR
comp=Z,3μm,20.0s
TPAW Teton Pass 56.36 61 *e*P **P 02 04 48.3 +2.4**
comp=Z,36nm,0.9s
TPAW LR LR
comp=Z,4μm,20.0s
PAGB Antelope Grade 56.42 74 *e*P **P 02 04 50.1 +3.9**
comp=Z,75nm,1.4s
PAGB LR LR
comp=Z,4μm,20.0s
AML Almayashu 56.42 297 P **P 02 04 45.8 -0.8**
SNR=44
DGMT Dagmar 56.44 53 *e*P **P 02 04 47.4 +1.3**
comp=Z,83nm,1.1s
DGMT LR LR
comp=Z,6μm,20.0s
DGMT Dagmar 56.44 53 P **P 02 04 44.2 -1.9**
baz=313
LOHW Long Hollow 56.46 61 *e*P **P 02 04 48.2 +1.5**
comp=Z,39nm,1.0s
LOHW LR LR
comp=Z,3μm,20.0s
ILULI Ilulissat 56.48 13 PFAKE 02 05 00.0 +14
ILULI LR LR
comp=Z,12μm,20.0s
ILULI Ilulissat 56.48 13⇑ *i*P **P 02 04 45.4 -0.6**
ILULI MLR MLR
comp=Z,12μm,21.0s
ILULI Ilulissat 56.48 13⇑ *i*P **P 02 04 45.4 -0.6**
SNOW Snow King Moun 56.48 61 *e*P **P 02 04 49.3 +2.5**
comp=Z,56nm,1.2s
SNOW LR LR
comp=Z,4μm,19.0s
SKNT Sakolnakorn 56.49 253 P **P 02 04 47.8 +1.0**
comp=Z,214nm,1.7s
REDW Red Top Meadow 56.50 61 *e*P **P 02 04 48.5 +1.6**
comp=Z,66nm,1.1s
REDW LR LR
comp=Z,6μm,22.0s
VOG Valley Oaks Go 56.52 72 P **P 02 04 46.2 -0.6**
baz=314
HVU Hansel Valley 56.53 64 *e*P **P 02 04 48.5 +1.5**
comp=Z,39nm,0.9s
HVU Hansel Valley 56.53 64 *e*P **P 02 04 48.5 +1.5**
HVU pmax pmax
comp=Z,39nm,0.9s
LAO LASA Array 56.65 55 *e*P **P 02 04 48.9 +1.2**
comp=Z,105nm,1.1s
LAO LR LR
comp=Z,6μm,18.0s
LAO LASA Array 56.65 55 P **P 02 04 47.8 +0.1**
baz=313,SNR=6.0
JMIC Jan Mayen 56.66 356 *e*P **P 02 04 49.8 +2.5**
TIN Tinemaha, Big 56.68 71 P **P 02 04 48.5 +0.4**
baz=314
AHID Auburn Hatcher 56.77 62 *e*P **P 02 04 50.1 +1.3**
comp=Z,77nm,0.9s
AHID LR LR
comp=Z,6μm,22.0s
RABL Rabaul 56.84 190 PFAKE 02 05 00.0 +11
RABL LR LR
comp=Z,9μm,22.0s
SMMC Simmler 56.85 74 P **P 02 04 49.8 +0.5**
baz=314
KSH Kashi 56.94 293 P **P 02 04 52.8 +2.9**
KSH pP sP 02 04 57.9 -1.2
KSH PP **PP 02 07 01.3 +5.1**
KSH S **S 02 12 44.6 +2.1**
KSH SS **SS 02 16 35.6 +5.2**
KSH pmax pmax
comp=Z,120nm,1.0s
KSH pmax pmax
comp=Z,1μm,3.0s
KSH LR LR
comp=Z,6μm,12.6s
KSH LR LR
comp=Z,7μm,11.0s
KSH LR LR
comp=Z,5μm,9.1s
BGU Big Grassy Mou 56.98 64 *e*P **P 02 04 52.3 +2.1**
comp=Z,28nm,1.0s
VES Vestal, Richgr 57.02 73 P **P 02 04 50.2 -0.2**
baz=314
SPUT South Promonto 57.03 64 *e*P **P 02 04 53.4 +2.8**
comp=Z,53nm,0.9s
PAYA Payao 57.08 259 P **P 02 04 52.1 +1.1**
comp=Z,382μm,0.7s
CWC Cottonwood Cre 57.20 72 P **P 02 04 53.7 +1.9**
baz=314
STEI Steigen 57.22 345 *e*P **P 02 04 51.0 -0.3**
GRAC Grapevine Rang 57.22 71 P **P 02 04 51.8 -0.1**
baz=314,SNR=5.9
PKM Mcpherson Peak 57.26 74 P **P 02 04 55.1 +2.7**
baz=314
LOF Lofoten 57.29 346 *e*P **P 02 04 51.9 +0.1**
SHL Shillong 57.30 270 *e*P **P 02 04 52.0 -0.7**
comp=Z,135nm,1.0s
SHL LR LR
comp=Z,42μm,18.0s
SHL Shillong 57.30 270 *e*P **P 02 04 52.0 -0.7**
SHL pmax pmax
comp=Z,135nm,1.0s
SHL MLR MLR
comp=Z,42μm,18.0s
SHL Shillong 57.30 270 *e*P **P 02 04 51.0 -1.7**
SHL *ex* x 02 13 20.0
R11A Troy Canyon, C 57.31 68 *e*P **P 02 04 53.5 +0.9**
comp=Z,37nm,1.1s
R11A Troy Canyon, C 57.31 68 P **P 02 04 52.5 -0.2**
baz=314,SNR=26
HWUT Hardware Ranch 57.31 63 *e*P **P 02 04 54.1 +1.5**
comp=Z,51nm,1.0s
ARSB Arslanbob 57.36 297 *e*P **P 02 04 52.2 -0.7**
comp=Z,109nm,1.1s
SCO Scoresbysund 57.40 1 PFAKE 02 05 00.0 +7.5
SCO LR LR
comp=Z,7μm,18.0s
SCO Scoresbysund 57.40 1 *i* P **P 02 04 52.3 -0.2**
SCO MLR MLR
comp=Z,7μm,17.0s
SCO Scoresbysund 57.40 1 *i* P **P 02 04 52.3 -0.2**
KK31 Karatay Array 57.47 300 *e*P **P 02 04 52.0 -1.5**
comp=Z,144nm,0.9s
KK31 Karatay Array 57.47 300 *i* P **P 02 04 52.0 -1.5**
KK31 pmax pmax
comp=Z,117nm,0.9s
KKAR Karatay Array 57.47 300 *e*P **P 02 04 52.0 -1.5**
comp=Z,144nm,0.9s
KKAR Karatay Array 57.47 300 *e*P **P 02 04 52.0 -1.5**
KKAR pmax pmax
comp=Z,144nm,0.9s
ISA Isabella, Lake 57.50 72 *e*P **P 02 04 54.3 +0.4**
comp=Z,24nm,1.0s
ISA LR LR
comp=Z,5μm,22.0s
ISA Isabella, Lake 57.50 72 *e*P **P 02 04 54.3 +0.4**
ISA pmax pmax
comp=Z,24nm,1.0s
ISA MLR MLR
comp=Z,5μm,22.0s
ISA Isabella, Lake 57.50 72 P **P 02 04 54.0 +0.1**
baz=314
DAC Darwin (Calif) 57.59 71 *e*P **P 02 04 58.2 +3.6**
comp=Z,44nm,1.4s
DUG Dugway, Tooele 57.60 65 *e*P **P 02 04 56.0 +1.4**
comp=Z,74nm,1.1s
DUG Dugway, Tooele 57.60 65 *e*P **P 02 04 56.0 +1.4**
DUG pmax pmax
comp=Z,74nm,1.1s
DUG Dugway, Tooele 57.60 65 P **P 02 04 55.3 +0.7**
baz=314,SNR=23
BW06 Boulder Array 57.60 61 *e*P **P 02 04 55.3 +0.6**
comp=Z,71nm,0.8s
BW06 LR LR
comp=Z,6μm,22.0s
BW06 Boulder Array 57.60 61 P **P 02 04 54.9 +0.2**
baz=314,SNR=29
PD31 Pinedale Array 57.60 61 *e*P **P 02 04 55.6 +1.0**
comp=Z,62nm,0.8s
PDAR Pinedale Array 57.60 61 P **P 02 04 55.2 +0.6**
comp=Z,22nm,1.1s,baz=302,slow=2.8,SNR=46
PDAR LR LR 02 26 44.8
comp=Z,3μm,21.8s,baz=334,slow=33
PDAR PKPPKP **P'P'df 02 34 40.1 -5.2**
comp=Z,0.3nm,0.4s,baz=81,slow=4.7,SNR=3.6
SBC Santa Barbara 57.63 74 P **P 02 04 53.7 -1.0**
baz=315
KHON Khomkaen 57.67 254 P **P 02 04 56.5 +1.4**
comp=Z,433μm,1.0s

KLMR	Klimovskoe	57.69	330	*c*	*i*P	P	02 04 54.3 -0.4
KLMR					pmax	pmax	
	comp=Z,389nm,1.0s						
TCUT	Toone Canyon	57.73	63		*e*P	P	02 04 58.0 +2.3
	comp=Z,57nm,1.0s						
MPMC	Manual Prospec	57.80	71		P	P	02 04 56.2 0.0
	baz=314,SNR=24						
CTU	Camp Tracy	57.84	64		*e*P	P	02 04 58.8 +2.5
	comp=Z,33nm,1.0s						
LAMP	Lampang	57.87	258		P	P	02 04 57.6 +1.1
	comp=Z,376μm,0.9s						
FURC	Furnace Creek,	57.88	71		P	P	02 04 56.3 -0.1
	baz=314,SNR=35						
TPNV	Topopah Spring	57.90	70		*e*P	P	02 04 57.9 +1.1
	comp=Z,69nm,1.1s						
TPNV					LR	LR	
	comp=Z,8μm,22.0s						
TPNV	Topopah Spring	57.90	70		*e*P	P	02 04 57.9 +1.1
TPNV					pmax	pmax	
	comp=Z,69nm,1.1s						
TPNV					MLR	MLR	
	comp=Z,8μm,22.0s						
TPNV	Topopah Spring	57.90	70		P	P	02 04 56.8 0.0
	baz=314,SNR=22						
UTTA	Uttaradit	57.92	257		P	P	02 04 57.8 +0.9
	comp=Z,429μm,0.9s						
JBG	Jabagly	57.92	299		*e*P	P	02 04 55.3 -1.5
JBG					pmax	pmax	
	comp=Z,129nm,1.6s						
JBG					MLR	MLR	
	comp=Z,5μm,16.0s						
DLV	T Lat	57.94	246		*e*P	P	02 05 00.9 +3.7
	comp=Z,77nm,1.1s						
DLV					LR	LR	
	comp=Z,7μm,20.0s						
SCZ2	Santa Cruz Isl	57.99	75		P	P	02 04 56.3 -1.0
	baz=315						
CMMT	Chiang Mai	58.05	259		P	P	02 04 58.5 +0.6
	comp=Z,151nm,1.0s,comp=Z,2μm						
CHTO	Chiang Mai	58.06	259		*e*P	P	02 04 58.8 +1.0
	comp=Z,280nm,1.0s						
CHTO					LR	LR	
	comp=Z,13μm,19.0s						
CHTO	Chiang Mai	58.06	259		P	P	02 04 58.8 +1.0
	SNR=63						
CHTO					P	P	02 04 58.8 +1.0
	SNR=63						
CHTO					P	P	02 04 58.8 +1.0
	SNR=63						
JLU	Jordanelle	58.07	64		*e*P	P	02 05 00.0 +2.0
	comp=Z,35nm,1.1s						
OSI	Osito Audit: C	58.09	74		PFAKE		02 05 10.0 +12
OSI					LR	LR	
	comp=Z,4μm,22.0s						
OSI	Osito Audit: C	58.09	74		P	P	02 04 55.8 -2.3
	baz=315						
PSUT	Pine Spring	58.16	67		*e*P	P	02 04 59.8 +1.1
	comp=Z,39nm,1.3s						
NLU	North Lily Min	58.17	65		*e*P	P	02 05 00.1 +1.4
	comp=Z,24nm,0.8s						
BLG	Laguna Peak, P	58.24	74		P	P	02 04 57.6 -1.4
	baz=315						
CM31	Chiang Mai Arr	58.33	259		*e*P	P	02 05 01.5 +1.7
	comp=Z,212nm,1.0s						
CM31	Chiang Mai Arr	58.33	259		P	P	02 05 01.1 +1.3
	SNR=47						
CMAR	Chiang Mai Arr	58.33	259		P	P	02 05 01.0 +1.2
CMAR	Chiang Mai Arr	58.33	259		P	P	02 05 00.9 +1.2
	comp=Z,152nm,1.0s,baz=24,slow=7.1,SNR=194						
CMAR					LR	LR	02 33 20.9
	comp=Z,18μm,18.5s,baz=52,slow=40						
CMAR					PKP2ab		02 35 03.6
	comp=Z,1.1nm,0.4s,baz=247,slow=4.0,SNR=6.0						
EDW2	Edwards Air Fo	58.33	73		P	P	02 04 59.7 0.0
	baz=315,SNR=28						
MPU	Maple Canyon	58.37	64		*e*P	P	02 05 01.5 +1.4
	comp=Z,33nm,0.9s						
IUG	Iuzhnay	58.39	299	*c*	*i*P	P	02 04 59.0 -1.0
IUG					pmax	pmax	
	comp=Z,108nm,1.0s						
IUG					MLR	MLR	
	comp=Z,5μm,16.0s						
IUG	Iuzhnay	58.39	299	⇑	*i*P	P	02 04 59.1 -1.0
	comp=Z,108nm,1.0s						
IUG					*e*LR	LR	02 31 10.2
	comp=Z,5μm,15.9s						
AB31	Akbulak array	58.46	311		*i*P	P	02 04 58.5 -1.8
AB31					pmax	pmax	
	comp=Z,43nm,0.7s						
ABKAR	Akbulak array	58.46	311		*e*P	P	02 04 58.8 -1.5
	comp=Z,79nm,0.9s						
TNTI	Ternate	58.46	220		PFAKE		02 05 10.0 +9.3
TNTI					LR	LR	
	comp=Z,4μm,22.0s						
CHM	Chimkent	58.50	300		*e*P	P	02 04 59.8 -0.9
CHM					pmax	pmax	
	comp=Z,169nm,2.2s						
CHM					MLR	MLR	
	comp=Z,3μm,15.0s						
CHM	Chimkent	58.50	300		*e*P	P	02 04 59.9 -0.9
	comp=Z,170nm,2.2s						
CHM					*e*LR	LR	02 31 05.7
	comp=Z,3μm,15.1s						
DECC	Green Verdugo	58.57	74		P	P	02 05 01.9 +0.6
	baz=315						
SNCC	San Nicolas Is	58.58	75		PFAKE		02 05 20.0 +19
SNCC					LR	LR	
	comp=Z,4μm,22.0s						
SNCC	San Nicolas Is	58.58	75		P	P	02 04 59.6 -1.7
	baz=315						
PBKT	Sadao Pong	58.58	256		P	P	02 05 02.5 +1.0
	comp=Z,53nm,1.2s,comp=Z,1μm						
SFJD	Kangerlussuaq	58.61	14		PFAKE		02 05 10.0 +9.0
SFJD					LR	LR	
	comp=Z,10μm,20.0s						
SFJD	Kangerlussuaq	58.61	14		*i*P	P	02 05 00.7 -0.3
SFJD					MLR	MLR	
	comp=Z,9μm,20.0s						
SFJD	Kangerlussuaq	58.61	14		*i*P	P	02 05 00.7 -0.3
SHOC	Shoshone, Teco	58.62	71		P	P	02 05 01.0 -0.6
	baz=315,SNR=11						
PASC	Pasadena Art C	58.72	74		*e*P	P	02 05 05.5 +3.2
	comp=Z,46nm,1.2s						
PASC					LR	LR	
	comp=Z,4μm,22.0s						
GSC	Goldstone, Bar	58.73	72		*e*P	P	02 05 03.4 +0.9
	comp=Z,40nm,1.0s						
GSC	Goldstone, Bar	58.73	72		*e*P	P	02 05 03.4 +0.9
GSC					pmax	pmax	
	comp=Z,40nm,1.0s						
GSC	Goldstone, Bar	58.73	72		P	P	02 05 03.6 +1.1
	baz=315,SNR=14						
MWC	Mount Wilson	58.76	73		*e*P	P	02 05 04.8 +2.0
	comp=Z,92nm,1.3s						
MWC					LR	LR	
	comp=Z,4μm,21.0s						
SHPR	Sheep Range	58.84	70		*e*P	P	02 05 05.9 +2.6
	comp=Z,17nm,1.0s						
SHPR					LR	LR	
	comp=Z,6μm,22.0s						
KONS	Konsvik	58.87	345		*e*P	P	02 05 03.3 +0.5
RRX	Edison Barstow	58.92	72		P	P	02 05 03.5 -0.3
	baz=315						
FMP	Fort Macarthur	58.98	74		P	P	02 05 04.0 -0.1
	baz=315						
BFSC	Mount Baldy Ra	58.98	73		P	P	02 05 06.3 +2.0
	baz=315						
ULM	Lac du Bonnet	59.08	47		*e*P	P	02 05 04.5 0.0
	comp=Z,80nm,1.4s						
ULM					LR	LR	
	comp=Z,8μm,20.0s						
ULM	Lac du Bonnet	59.08	47		*e*P	P	02 05 04.5 0.0
ULM					pmax	pmax	
	comp=Z,80nm,1.4s						
ULM					MLR	MLR	
	comp=Z,8μm,20.0s						
ULM	Lac du Bonnet	59.08	47		P	P	02 05 04.9 +0.3
	comp=Z,11nm,0.7s,baz=311,slow=6.0,SNR=8.7						
ULM					LR	LR	02 32 45.1
	comp=Z,6μm,18.6s,baz=321,slow=38						
MDND	Maddock	59.08	51		PFAKE		02 05 20.0 +15
MDND					LR	LR	
	comp=Z,8μm,20.0s						
MDND	Maddock	59.08	51		P	P	02 05 05.1 +0.5
	baz=316						
TMUT	Trail Mountain	59.11	65		*e*P	P	02 05 06.7 +1.3
	comp=Z,42nm,0.8s						
MSU	Marysvale	59.12	66		*e*P	P	02 05 06.8 +1.5
CIS	Catalina Islan	59.12	74		P	P	02 05 07.8 +2.6
	baz=316						
CCUT	Cedar City	59.13	67		*e*P	P	02 05 06.7 +1.3
	comp=Z,37nm,1.0s						
TUQ	Turquoise Moun	59.15	71		P	P	02 05 05.4 0.0
	baz=315						
P17A	Butcher Ranch,	59.25	64		*e*P	P	02 05 07.5 +1.4
	comp=Z,41nm,1.0s						
JIRN	Jiri	59.25	276		*e*P	P	02 05 06.1 -0.5
	comp=Z,356nm,1.1s						
SZCU	Shurtz Canyon	59.25	67		*e*P	P	02 05 08.7 +2.5
	comp=Z,33nm,1.1s						
K22A	Casper	59.29	59		*e*P	P	02 05 07.3 +0.9
	comp=Z,48nm,0.9s						
K22A	Casper	59.29	59		P	P	02 05 05.2 -1.2
	baz=315						
HEC	Hector,Ludlow	59.34	72		*e*P	P	02 05 08.1 +1.4
HEC	Hector,Ludlow	59.34	72		P	P	02 05 06.8 +0.1
	baz=315,SNR=22						
Q16A	Castle Valley	59.40	65		*e*P	P	02 05 08.6 +1.3
	comp=Z,34nm,0.9s						
BTK	Batken	59.42	297		*e*P	P	02 05 06.2 -1.0
	comp=Z,86nm,0.8s						
BTK					LR	LR	
	comp=Z,33μm,19.0s						
BTK	Batken	59.42	297		*e*P	P	02 05 06.3 -1.0
BTK					pmax	pmax	
	comp=Z,86nm,0.8s						
BTK					MLR	MLR	
	comp=Z,33μm,19.0s						
MTPU	Mount Pierson	59.45	66		*e*P	P	02 05 09.4 +1.6
	comp=Z,31nm,1.0s						
RAMN	Ramite	59.52	275		*e*P	P	02 05 07.7 -0.5
	comp=Z,274nm,0.6s						
RSSD	Black Hills	59.54	56		*e*P	P	02 05 08.9 +0.8
	comp=Z,96nm,0.9s						
RSSD					LR	LR	
	comp=Z,6μm,20.0s						
RSSD	Black Hills	59.54	56		*e*P	P	02 05 08.9 +0.8
RSSD					pmax	pmax	
	comp=Z,96nm,0.9s						
RSSD					MLR	MLR	
	comp=Z,6μm,20.0s						
RSSD	Black Hills	59.54	56		P	P	02 05 06.5 -1.7
	baz=315						
LCMT	Little Creek M	59.57	68		*e*P	P	02 05 10.3 +1.9
	comp=Z,60nm,1.0s						
RWWY	Rawlins	59.60	60		*e*P	P	02 05 09.5 +0.8
	comp=Z,54nm,1.1s						
RWWY					LR	LR	
	comp=Z,5μm,19.0s						
SRU	San Rafael Swe	59.62	64		*e*P	P	02 05 09.8 +1.1
	comp=Z,75nm,0.9s						
SRU	San Rafael Swe	59.62	64		*e*P	P	02 05 09.9 +1.1
SRU					pmax	pmax	
	comp=Z,75nm,0.9s						
MURC	Murrieta	59.70	73		P	P	02 05 07.4 -1.8
	baz=316						
KKN	Kakani	59.71	277		*e*P	P	02 05 09.1 -0.4
	comp=Z,173nm,0.6s						
KNTN	Kanton	59.76	147		PFAKE		02 05 20.0 +10
KNTN					LR	LR	
	comp=Z,7μm,19.0s						
GMRC	Granite Mounta	59.76	71		P	P	02 05 09.7 0.0
	baz=316,SNR=20						
PKI	Pulchoki	59.79	277		*e*P	P	02 05 09.7 -0.5
	comp=Z,288nm,1.1s						
PKIN	Phulchoki	59.79	277		*e*P	P	02 05 09.5 -0.7
	comp=Z,121nm,0.7s						
PKCU	Pink Cliffs	59.80	67		*e*P	P	02 05 14.1 +3.9
	comp=Z,39nm,0.9s						
KNB	Kanab	59.81	68		*e*P	P	02 05 11.6 +1.5
	comp=Z,89nm,1.2s						
KNB	Kanab	59.81	68		*e*P	P	02 05 11.6 +1.5
KNB					pmax	pmax	
	comp=Z,89nm,1.2s						
LDFC	Landfair	59.87	71		*e*P	P	02 05 11.3 +0.9
	comp=Z,102nm,1.0s						
LDFC					LR	LR	
	comp=Z,3μm,19.0s						
GKN	Gorkha	59.95	278		*e*P	P	02 05 10.6 -0.5
DMN	Daman	59.95	277		*e*P	P	02 05 11.0 -0.2
	comp=Z,149nm,0.6s						
FAKI	Fak Fak	60.10	213		*e*P	P	02 05 13.0 +1.0
	comp=Z,48nm,0.9s						
FAKI					LR	LR	
	comp=Z,7μm,21.0s						
BELC	Belle Mtn. Jos	60.12	72		P	P	02 05 11.6 -0.6
	baz=316,SNR=7.1						
UMPA	Umpang Tak	60.12	257		P	P	02 05 14.9 +2.7
	comp=Z,436μm,1.0s						
PFO	Pinyon Flats O	60.12	73		*e*P	P	02 05 14.4 +2.2
	comp=Z,25nm,1.1s						
PFO					LR	LR	
	comp=Z,6μm,21.0s						
PFO	Pinyon Flats O	60.12	73		P	P	02 05 11.5 -0.7
	baz=316						
O20A	White River Ci	60.15	62		*e*P	P	02 05 12.7 +0.4
	comp=Z,51nm,0.9s						
O20A					LR	LR	
	comp=Z,4μm,22.0s						
O20A	White River Ci	60.15	62		P	P	02 05 11.7 -0.6
	baz=315						
DANN	Dangsing	60.23	279		*e*P	P	02 05 12.7 -0.5
	comp=Z,190nm,0.7s						
CPE	Camp Elliot	60.26	74		PFAKE		02 05 30.0 +17
CPE					LR	LR	
	comp=Z,2μm,19.0s						
NEE2	Needles Airpor	60.37	71		P	P	02 05 13.1 -0.6
	baz=316						
GAR	Garm	60.44	296		*e*P	P	02 05 13.3 -1.0
	comp=Z,175nm,0.9s						
GAR					LR	LR	
	comp=Z,45μm,19.0s						
GAR	Garm	60.44	296		*e*P	P	02 05 13.3 -1.0
GAR					pmax	pmax	
	comp=Z,175nm,0.9s						
GAR					MLR	MLR	
	comp=Z,45μm,19.0s						
AGMN	Agassiz Nation	60.50	48		*e*P	P	02 05 15.6 +1.2
	comp=Z,29nm,0.9s						
AGMN					LR	LR	
	comp=Z,6μm,20.0s						
AGMN	Agassiz Nation	60.50	48		P	P	02 05 13.6 -0.8
	baz=317,SNR=7.0						
IRM	Iron Mountain	60.50	71		P	P	02 05 14.6 -0.1
	baz=316,SNR=25						
U15A	North Rim	60.53	68		*e*P	P	02 05 16.4 +1.3
	comp=Z,25nm,1.0s						
U15A					LR	LR	
	comp=Z,5μm,18.0s						
W13A	Hualapai Mount	60.56	70		*e*P	P	02 05 16.1 +0.9
	comp=Z,30nm,1.1s						
W13A					LR	LR	
	comp=Z,4μm,21.0s						
MONP2	Monument Peak	60.66	73		P	P	02 05 16.0 0.0
	baz=316						
BAR	Barrett	60.66	74		*e*P	P	02 05 18.0 +2.2
	comp=Z,37nm,1.3s						
BAR					LR	LR	
	comp=Z,2μm,21.0s						
BC3	Big Chuckawall	60.68	72		P	P	02 05 15.4 -0.6
	baz=316,SNR=11						
KOLN	Koldanda	60.74	278		*e*P	P	02 05 16.0 -0.6
	comp=Z,72nm,0.5s						
PV09	Paradox Valley	60.82	64		*e*P	P	02 05 18.7 +1.6
N23A	Red Feather La	60.84	60		*e*P	P	02 05 18.1 +0.9
	comp=Z,59nm,0.8s						
N23A					LR	LR	
	comp=Z,4μm,22.0s						
N23A	Red Feather La	60.84	60		P	P	02 05 16.8 -0.3
	baz=316,SNR=10						
FIA1	FINESS Array S	60.86	337		*e*P	P	02 05 16.8 +0.2
	comp=Z,481nm,1.4s						
FIA0	FINESS Array S	60.86	337		*e*P	P	02 05 16.7 +0.1
FIA0	FINESS Array S	60.86	337		*e*P	P	02 05 16.7 +0.1
FINES	FINESS Array B	60.86	337		P	P	02 05 16.7 +0.1
	comp=Z,123nm,0.9s,baz=33,slow=6.4,SNR=123						
FINES					LR	LR	02 35 25.1
	comp=Z,13μm,19.4s,baz=31,slow=40						
PV21	Cone Mtn., Par	60.86	64		*e*P	P	02 05 18.5 +1.2
	comp=Z,66nm,0.9s						
PYUN	Piuthan	60.88	279		*e*P	P	02 05 16.9 -0.6
	comp=Z,296nm,1.0s						
NSS	Namsos	60.88	345		*e*P	P	02 05 17.0 +0.3
PV23	Carpenter Ridg	60.92	64		*e*P	P	02 05 19.2 +1.5
	comp=Z,93nm,0.9s						
PV10	Paradox Valley	60.96	64		*e*P	P	02 05 20.6 +2.6
	comp=Z,114nm,1.0s						
PV14	Lion Creek, Pa	60.97	64		*e*P	P	02 05 19.2 +1.2
	comp=Z,62nm,1.0s						
PDMCI	Parker Dam,Lak	60.98	71		P	P	02 05 17.6 -0.2
	baz=316						
PV22	Blue Mesa, Par	60.98	64		*e*P	P	02 05 19.0 +0.9
	comp=Z,64nm,0.9s						
SWSC	Sam W. Stewart	60.99	73		P	P	02 05 18.9 +1.0
	baz=316						
IKP	In-Ko-Pah, Jac	61.02	73		P	P	02 05 18.4 +0.2
	baz=316						
PV04	Paradox Valley	61.02	64		*e*P	P	02 05 19.7 +1.4
	comp=Z,93nm,0.9s						
PV20	West Nyswonger	61.02	64		*e*P	P	02 05 19.3 +0.9
	comp=Z,63nm,0.9s						
PV19	Morning Glory	61.04	64		*e*P	P	02 05 20.2 +1.7
	comp=Z,101nm,1.2s						
PV17	East Wray Mesa	61.07	64		*e*P	P	02 05 19.6 +0.9
	comp=Z,114nm,0.8s						
PV16	Nyswonger Mesa	61.07	64		*e*P	P	02 05 19.6 +0.9
	comp=Z,65nm,0.8s						
PV11	David Mesa, Pa	61.10	64		*e*P	P	02 05 20.4 +1.4
	comp=Z,98nm,0.8s						
XMAS	Kiritimati	61.12	130		PFAKE		02 05 30.0 +11
XMAS					LR	LR	
	comp=Z,8μm,19.0s						
PV18	Skein Mesa, Pa	61.12	64		*e*P	P	02 05 20.1 +1.0
	comp=Z,93nm,0.8s						
PV18					LR	LR	
	comp=Z,4μm,21.0s						
PV07	Paradox Valley	61.13	64		*e*P	P	02 05 20.6 +1.5
	comp=Z,70nm,1.0s						
PV12	Saucer Basin,	61.13	64		*e*P	P	02 05 20.6 +1.5
	comp=Z,88nm,0.9s						
PV12					LR	LR	
	comp=Z,4μm,20.0s						
PV05	Paradox Valley	61.14	64		*e*P	P	02 05 20.3 +1.1
	comp=Z,105nm,0.8s						
PV05					LR	LR	
	comp=Z,4μm,21.0s						
PV03	Paradox Valley	61.15	64		*e*P	P	02 05 20.1 +0.8
	comp=Z,116nm,1.2s						
Y12C	Blythe	61.15	71		*e*P	P	02 05 20.4 +1.4
	comp=Z,34nm,1.0s						
Y12C					LR	LR	
	comp=Z,3μm,22.0s						
Y12C	Blythe	61.15	71		P	P	02 05 19.5 +0.4
	baz=316						
PUL	Pulkovo	61.22	334	*ce*	P	P	02 05 20.0 +1.0
PUL					pmax	pmax	
	comp=Z,501nm,1.3s						
PUL	Pulkovo	61.22	334		*e*P	P	02 05 19.1 0.0
PUL					IAmb	IAmb	02 05 34.3
	comp=Z,221nm,0.8s						
PV13	Radium Mtn., P	61.23	64		*e*P	P	02 05 20.8 +0.9
	comp=Z,94nm,0.9s						
PV02	Paradox Valley	61.24	64		*e*P	P	02 05 21.3 +1.4
	comp=Z,108nm,1.4s						
CHGR	Chuyangaron	61.32	297		*e*P	P	02 05 21.7 +1.5
	comp=Z,127nm,0.8s						
CHGR					LR	LR	
	comp=Z,38μm,18.0s						
PV01	Paradox Valley	61.39	64		*e*P	P	02 05 22.3 +1.4
	comp=Z,58nm,1.2s						
SRDT	SRDT	61.42	256		P	P	02 05 23.2 +2.2
	comp=Z,56nm,1.3s,comp=Z,3μm						
ANGG	Ammassalik, Gr	61.47	8		*e*P	P	02 05 20.6 -0.1
	comp=Z,118nm,1.2s						
ANGG					LR	LR	
	comp=Z,9μm,21.0s						
GLA	Glamis	61.48	72		*e*P	P	02 05 23.2 +1.9
	comp=Z,60nm,1.0s						
GLA					LR	LR	
	comp=Z,4μm,21.0s						
GLA	Glamis	61.48	72		*e*P	P	02 05 23.2 +1.9
GLA					pmax	pmax	
	comp=Z,60nm,1.0s						
GLA					MLR	MLR	
	comp=Z,4μm,21.0s						
GLA	Glamis	61.48	72		P	P	02 05 21.7 +0.4
	baz=316,SNR=7.6						
SMCO	Snowmass	61.51	62		*e*P	P	02 05 22.7 +0.8
	comp=Z,34nm,0.8s						
HNR	Honiara	61.60	181		PFAKE		02 05 40.0 +18
HNR					LR	LR	
	comp=Z,8μm,20.0s						
WUAZ	Wupatki	61.70	68		*e*P	P	02 05 25.0 +2.1
	comp=Z,40nm,0.9s						
WUAZ					LR	LR	
	comp=Z,4μm,20.0s						
WUAZ	Wupatki	61.70	68		P	P	02 05 23.5 +0.6
	baz=316,SNR=38						
ISCO	Idaho Springs	61.80	61		*e*P	P	02 05 24.6 +0.9
	comp=Z,47nm,0.9s						
ISCO					LR	LR	
	comp=Z,5μm,18.0s						
ISCO	Idaho Springs	61.80	61		*e*P	P	02 05 24.6 +0.9
ISCO					pmax	pmax	
	comp=Z,47nm,0.9s						
ISCO					MLR	MLR	
	comp=Z,5μm,18.0s						
ISCO	Idaho Springs	61.80	61		P	P	02 05 23.2 -0.5
	baz=316,SNR=22						
SUSD	Miller	61.85	53		P	P	02 05 23.7 +0.1
	baz=317						
DHRM	DHARAMSHALA	61.86	287		*e*P	P	02 05 22.7 -1.4
DHRM					IAMs_20	IAMs_20	02 58 42.0
	comp=Z,2μm,18.2s						
Y14A	Wickenburg	61.90	70		*e*P	P	02 05 25.1 +1.0
	comp=Z,34nm,1.2s						
MVCO	Mesa Verde	62.09	65		*e*P	P	02 05 26.5 +0.9
	comp=Z,48nm,1.0s						
MVCO					LR	LR	
	comp=Z,3μm,20.0s						
MVCO	Mesa Verde	62.09	65		P	P	02 05 25.7 +0.1
	baz=316,SNR=30						
SMLA	Simla	62.16	286		*e*P	P	02 05 25.1 -0.7
DDI	Dehra Dun	62.22	284		*e*P	P	02 05 25.8 -0.6
BOK	Bokaro	62.27	274		*e*P	P	02 05 26.2 -0.5
BOK					IAmb	IAmb	02 05 29.4
	comp=Z,59nm,1.1s						
113A	Mohawk Valley,	62.30	72		*e*P	P	02 05 29.2 +2.4
	comp=Z,28nm,1.1s						
113A					LR	LR	
	comp=Z,3μm,22.0s						
MOS	Moscow	62.39	328		*e*P	P	02 05 25.8 -1.2
MOS					*e*		02 05 37.9
MOS					*e*		02 06 03.9
MOS					*e*		02 09 24.0
MOS					*e*S	S	02 13 47.9 -4.0
MOS					pmax	pmax	
	comp=N,270nm,1.1s						
MOS					pmax	pmax	
	comp=Z,364nm,1.1s						
MOS					MLR	MLR	
	comp=N,7μm,16.0s						
MOS					MLR	MLR	
	comp=Z,9μm,16.0s						
X16A	Lo Mia Camp, P	62.45	69		*e*P	P	02 05 29.4 +1.4
	comp=Z,31nm,1.0s						
X16A					LR	LR	
	comp=Z,4μm,22.0s						
NIL	Nilore	62.62	290		*e*P	P	02 05 28.6 -0.4
	comp=Z,248nm,0.9s						
NIL					LR	LR	
	comp=Z,22μm,20.0s						
NIL	Nilore	62.62	290		*e*P	P	02 05 28.6 -0.4
NIL					pmax	pmax	
	comp=Z,248nm,0.9s						
NIL					MLR	MLR	
	comp=Z,22μm,20.0s						
S22A	4UR Ranch, Cre	62.62	63		*e*P	P	02 05 30.7 +1.4
	comp=Z,55nm,1.0s						
S22A	4UR Ranch, Cre	62.62	63		P	P	02 05 29.5 +0.3
	baz=317,SNR=27						
PMG	Port Moresby	62.64	195		PFAKE		02 05 40.0 +11
PMG					LR	LR	
	comp=Z,4μm,18.0s						
PMG	Port Moresby	62.64	195		*i*P	P	02 05 30.6 +1.5
PMG					pmax	pmax	
	comp=Z,176nm,1.3s						
Q24A	Divide	62.65	61		*e*P	P	02 05 31.9 +2.4
	comp=Z,19nm,0.9s						
Q24A					LR	LR	
	comp=Z,6μm,22.0s						
Q24A	Divide	62.65	61		P	P	02 05 29.8 +0.3

	baz=317							
EYMN	**Ely**	**62.72**	**46**	PFAKE			02 05 40.0	+11
EYMN				LR	LR			
	comp=Z,8μm,20.0s							
EYMN	**Ely**	**62.72**	**46**	P	**P**		**02 05 29.4**	**0.0**
	baz=319							
OGNE	**Ogallala**	**62.85**	**58**	*e*P	**P**		**02 05 32.2**	**+1.7**
	comp=Z,64nm,0.9s							
OGNE				LR	LR			
	comp=Z,4μm,21.0s							
OGNE	**Ogallala**	**62.85**	**58**	P	**P**		**02 05 30.1**	**-0.3**
	baz=317							
W18A	**Petrified Fore**	**62.91**	**67**	PFAKE			02 05 40.0	+8.9
W18A				LR	LR			
	comp=Z,6μm,22.0s							
W18A	**Petrified Fore**	**62.91**	**67**	P	**P**		**02 05 30.5**	**-0.5**
	baz=317							
BORG	**Borgarnes**	**63.16**	**1**	*e*P	**P**		**02 05 35.6**	**+3.6**
	comp=Z,119nm,1.1s							
BORG				LR	LR			
	comp=Z,5μm,22.0s							
BORG	**Borgarnes**	**63.16**	**1**	*e*P	**P**		**02 05 35.6**	**+3.6**
BORG				pmax	pmax			
	comp=Z,119nm,1.1s							
BORG				MLR	MLR			
	comp=Z,5μm,22.0s							
X18A	**Snowflake**	**63.22**	**68**	*e*P	**P**		**02 05 35.0**	**+1.9**
	comp=Z,46nm,1.0s							
X18A				LR	LR			
	comp=Z,4μm,19.0s							
OBN	**Obninsk**	**63.25**	**328**	*e*P	**P**		**02 05 29.8**	**-2.9**
	comp=Z,299nm,1.0s							
OBN				LR	LR			
	comp=Z,10μm,19.0s							
OBN	**Obninsk**	**63.25**	**328**	*c i*P	**P**		**02 05 32.1**	**-0.6**
OBN				*i* *PP	**pwP**		**02 05 44.2**	**+0.9**
OBN				*e**SP	sP		02 05 52.1	+11
OBN				*e*S	**S**		**02 13 59.9**	**-2.7**
OBN				*e*PS	**PnS**		**02 14 15.4**	**-4.6**
OBN				*i*			02 15 12.8	
OBN				*i* SS	**SS**		**02 18 09.2**	**+1.1**
OBN				pmax	pmax			
	comp=Z,532nm,1.7s							
OBN				MLR	MLR			
	comp=Z,8μm,17.0s							
VSU	**Vasula**	**63.29**	**335**	*ce*P	**P**		**02 05 33.6**	**+0.7**
VSU				pmax	pmax			
	comp=Z,607nm,1.0s							
VSU	**Vasula**	**63.29**	**335**	*e*P	**P**		**02 05 33.0**	**+0.1**
VSU				IAmb	IAmb		02 05 35.3	
	comp=Z,571nm,0.9s							
SDCO	**Great Sand Dun**	**63.35**	**62**	*e*P	**P**		**02 05 34.5**	**+0.4**
	comp=Z,19nm,0.9s							
SDCO	**Great Sand Dun**	**63.35**	**62**	P	**P**		**02 05 33.9**	**-0.2**
	baz=317,SNR=47							
MOL	**Molde**	**63.40**	**346**	*e*P	**P**		**02 05 34.5**	**+0.9**
214A	**Organ Pipe Nat**	**63.44**	**72**	P	**P**		**02 05 34.5**	**+0.1**
	baz=317,SNR=13							
ECSD	**EROS Data Cent**	**63.51**	**52**	*e*P	**P**		**02 05 34.3**	**-0.4**
	comp=Z,30nm,0.8s							
ECSD				LR	LR			
	comp=Z,6μm,20.0s							
ECSD	**EROS Data Cent**	**63.51**	**52**	P	**P**		**02 05 34.4**	**-0.3**
	baz=318,SNR=21							
DOMB	**Dombas**	**63.67**	**345**	*e*P	**P**		**02 05 35.3**	**-0.2**
E38A	**The Farm, Brul**	**63.71**	**47**	*e*P	**P**		**02 05 37.1**	**+1.2**
	comp=Z,111nm,1.2s							
E38A				LR	LR			
	comp=Z,9μm,20.0s							
E38A	**The Farm, Brul**	**63.71**	**47**	P	**P**		**02 05 35.3**	**-0.6**
	baz=320							
C40A	**Isle Royale Na**	**63.76**	**45**	PFAKE			02 05 50.0	+14
C40A				LR	LR			
	comp=Z,7μm,20.0s							
C40A	**Isle Royale Na**	**63.76**	**45**	P	**P**		**02 05 35.3**	**-1.0**
	baz=320							
AKN	**Aaknes**	**63.85**	**347**	*e*P	**P**		**02 05 37.2**	**+0.5**
SBUM	**Sibu**	**63.88**	**236**	*e*P	**P**		**02 05 39.1**	**+1.7**
	comp=Z,92nm,1.3s							
SBUM				LR	LR			
	comp=Z,4μm,20.0s							
SBUM	**Sibu**	**63.88**	**236**	P	**P**		**02 05 40.0**	**+2.6**
F37A	**Hinrichs Farm,**	**63.89**	**48**	P	**P**		**02 05 37.1**	**-0.1**
	baz=320							
KSCO	**Kaye Shedlock'**	**63.96**	**59**	*e*P	**P**		**02 05 39.7**	**+1.8**
	comp=Z,44nm,0.9s							
KSCO				LR	LR			
	comp=Z,5μm,22.0s							
KSCO	**Kaye Shedlock'**	**63.96**	**59**	P	**P**		**02 05 38.0**	**+0.1**
	baz=318							
F38A	**Pierce - Schro**	**64.05**	**48**	P	**P**		**02 05 37.7**	**-0.6**
	baz=320,SNR=12							
NC303	**NORSAR Array S**	**64.08**	**344**	*e*P	**P**		**02 05 38.1**	**0.0**
	comp=Z,341nm,1.4s							
NC405	**NORSAR Array S**	**64.12**	**344**	*e*P	**P**		**02 05 38.4**	**0.0**
	comp=Z,160nm,0.9s							
NC204	**NORSAR Array S**	**64.13**	**344**	*e*P	**P**		**02 05 37.9**	**-0.7**
	comp=Z,221nm,1.0s							
SPMN	**Marine on St.**	**64.19**	**49**	*e*P	**P**		**02 05 39.3**	**+0.2**
	comp=Z,38nm,0.8s							
SPMN				LR	LR			
	comp=Z,8μm,19.0s							
SPMN	**Marine on St.**	**64.19**	**49**	P	**P**		**02 05 38.7**	**-0.4**
	baz=320,SNR=6.4							
NB201	**NORSAR Array S**	**64.25**	**344**	*e*P	**P**		**02 05 39.3**	**-0.1**
	comp=Z,204nm,0.9s							
NB2	**NORSAR Subarra**	**64.28**	**344**	P	**P**		**02 05 39.3**	**-0.2**
	comp=Z,421nm,2.0s,baz=22,slow=6.9							
NB2	**NORSAR Subarra**	**64.28**	**344**	P	**P**		**02 05 39.3**	**-0.2**
	baz=22,slow=6.9							
NB200	**NORSAR Array S**	**64.28**	**344**	*e*P	**P**		**02 05 39.2**	**-0.2**
NOA	**NORSAR Array B**	**64.28**	**344**	P	**P**		**02 05 39.2**	**-0.2**
	comp=Z,46nm,0.8s,baz=21,slow=6.6,SNR=136							
NOA				LR	LR		02 35 41.3	
	comp=Z,5μm,21.2s,baz=25,slow=38							
E39A	**Mellen**	**64.33**	**47**	P	**P**		**02 05 39.7**	**-0.3**
	baz=320							
TUC	**Tucson**	**64.36**	**70**	*e*P	**P**		**02 05 41.9**	**+1.4**
	comp=Z,26nm,1.1s							
TUC				LR	LR			
	comp=Z,2μm,21.0s							
TUC	**Tucson**	**64.36**	**70**	*e*P	**P**		**02 05 41.9**	**+1.4**
TUC				pmax	pmax			
	comp=Z,26nm,1.1s							
TUC				MLR	MLR			
	comp=Z,2μm,21.0s							
TUC	**Tucson**	**64.36**	**70**	P	**P**		**02 05 40.4**	**-0.1**
	baz=318							
NBO00	**NORSAR Array S**	**64.36**	**344**	*e*P	**P**		**02 05 40.1**	**+0.1**
	comp=Z,271nm,1.4s							
KBL	**Kabul**	**64.36**	**294**	*e*P	**P**		**02 05 38.6**	**-2.1**
	comp=Z,124nm,0.9s							
KBL				LR	LR			
	comp=Z,13μm,19.0s							
KBL	**Kabul**	**64.36**	**294**	*e*P	**P**		**02 05 38.6**	**-2.1**
KBL				pmax	pmax			
	comp=Z,124nm,0.9s							
KBL				MLR	MLR			
	comp=Z,13μm,19.0s							
T25A	**Trinidad**	**64.38**	**62**	*e*P	**P**		**02 05 41.6**	**+0.8**
	comp=Z,29nm,0.9s							
T25A	**Trinidad**	**64.38**	**62**	P	**P**		**02 05 40.3**	**-0.5**
	baz=318,SNR=9.9							
IVI	**Ivigtut**	**64.43**	**15**	*e*P	**P**		**02 05 40.8**	**+0.5**
	comp=Z,86nm,0.9s							
IVI				LR	LR			
	comp=Z,9μm,21.0s							
BGNE	**Belgrade**	**64.48**	**55**	*e*P	**P**		**02 05 42.6**	**+1.4**
	comp=Z,122nm,1.0s							
BGNE				LR	LR			
	comp=Z,6μm,20.0s							
BGNE	**Belgrade**	**64.48**	**55**	P	**P**		**02 05 40.9**	**-0.3**
	baz=319							
NC602	**NORSAR Array S**	**64.51**	**344**	*e*P	**P**		**02 05 41.4**	**+0.4**
	comp=Z,71nm,0.9s							
LPSR	**Galich'ya Gora**	**64.51**	**325**	*e*P	**P**		**02 05 40.6**	**-0.5**
LPSR				*e**PP	**pwP**		**02 05 52.4**	**+0.7**
LPSR				*e*			02 08 06.2	
LPSR				*e*SP	S		02 14 28.6	+10
LPSR				pmax	pmax			
	comp=Z,500nm,1.0s							
LPSR				pmax	pmax			
	comp=Z,520nm,0.9s							
LPSR				MLR	MLR			
	comp=Z,8μm,15.0s							
NAO01	**NORSAR Array S**	**64.52**	**344**	*e*P	**P**		**02 05 40.7**	**-0.3**
	comp=Z,127nm,1.0s							
NAO01	**NORSAR Array S**	**64.52**	**344**	*e*P	**P**		**02 05 40.8**	**-0.3**
F39A	**Loretta**	**64.52**	**47**	P	**P**		**02 05 40.6**	**-0.7**
	baz=320,SNR=7.3							
E40A	**Wakefield**	**64.57**	**46**	P	**P**		**02 05 40.2**	**-1.4**
	baz=320,SNR=9.6							
VRH	**Novokhopyorsk**	**64.63**	**322**	*e*P	**P**		**02 05 40.7**	**-1.2**
VRH				*e**PP	**pwP**		**02 05 52.8**	**+1.2**
VRH				*e*			02 08 06.2	
VRH				*e*SP	S		02 14 30.5	+11
VRH				pmax	pmax			
	comp=Z,380nm,0.8s							
VRH				MLR	MLR			
	comp=Z,42μm,18.0s							
G38A	**Ridgeland**	**64.67**	**48**	P	**P**		**02 05 41.2**	**-1.0**
	baz=320,SNR=11							
D41A	**Chassel**	**64.68**	**45**	PFAKE			02 06 00.0	+18
D41A				LR	LR			
	comp=Z,8μm,18.0s							
D41A	**Chassel**	**64.68**	**45**	P	**P**		**02 05 41.6**	**-0.6**
	baz=321							
H38A	**Maiden Rock**	**64.85**	**49**	P	**P**		**02 05 42.9**	**-0.5**
	baz=320,SNR=9.6							
TASM	**ASL Pad, Albuq**	**64.87**	**65**	P	**P**		**02 05 42.8**	**-1.1**
	baz=318							
TASM	**ASL Pad, Albuq**	**64.87**	**65**	P	**P**		**02 05 43.3**	**-0.7**
	baz=318							
ANMO	**Albuquerque**	**64.87**	**65**	*e*P	**P**		**02 05 45.0**	**+1.0**
	comp=Z,41nm,1.1s							
ANMO				LR	LR			
	comp=Z,3μm,18.0s							
ANMO	**Albuquerque**	**64.87**	**65**	*ce*P	**P**		**02 05 45.6**	**+1.6**
ANMO				pmax	pmax			
	comp=Z,18nm,1.3s							
ANMO	**Albuquerque**	**64.87**	**65**	P	**P**		**02 05 43.0**	**-1.0**
	baz=318							
F40A	**Park Falls**	**64.87**	**47**	P	**P**		**02 05 43.0**	**-0.7**
	baz=321							
G39A	**Holcombe**	**64.89**	**48**	P	**P**		**02 05 42.5**	**-1.2**
	baz=320							
NRS	**Narsarsuaq**	**64.89**	**14**	PFAKE			02 06 00.0	+17
NRS				LR	LR			
	comp=Z,14μm,19.0s							
NRS	**Narsarsuaq**	**64.89**	**14**	*e*P	**P**		**02 05 43.4**	**0.0**
NRS				MLR	MLR			
	comp=Z,13μm,18.0s							
NRS	**Narsarsuaq**	**64.89**	**14**	*i* P	**P**		**02 05 43.4**	**0.0**
LAZ	**Ladron**	**64.89**	**66**	*e*P	**P**		**02 05 45.6**	**+1.4**
BWNR	**Bhubaneshwar**	**64.94**	**271**	*ex*	**P**		**02 05 40.2**	**-4.0**
HYA	**Hoyanger**	**64.94**	**347**	*e*P	**P**		**02 05 44.0**	**+0.3**
E41A	**Kenton**	**64.96**	**46**	P	**P**		**02 05 42.8**	**-1.4**
	baz=321							
SKAR	**Skarslia**	**65.09**	**345**	*e*P	**P**		**02 05 45.3**	**+0.5**
SLIT	**Slitere, Latvi**	**65.14**	**337**	*e*P	**P**		**02 05 44.8**	**-0.3**
SLIT				IAmb	IAmb		02 05 47.2	
	comp=Z,1μm,0.8s							
LENM	**Lemitar**	**65.16**	**66**	*e*P	**P**		**02 05 48.1**	**+2.3**
VORR	**Voronezh**	**65.17**	**324**	*e*P	**P**		**02 05 43.0**	**-2.4**
VORR				pmax	pmax			
	comp=Z,500nm,1.2s							
COWI	**Conover**	**65.17**	**46**	*e*P	**P**		**02 05 46.5**	**+1.0**
	comp=Z,58nm,1.1s							
COWI				LR	LR			
	comp=Z,8μm,20.0s							
SUE	**Sulen**	**65.24**	**347**	*e*P	**P**		**02 05 46.3**	**+0.7**
Y22D	**IRIS PASSCAL I**	**65.25**	**66**	PFAKE			02 06 00.0	+14
Y22D				LR	LR			
	comp=Z,6μm,19.0s							
Y22D	**IRIS PASSCAL I**	**65.25**	**66**	P	**P**		**02 05 45.8**	**-0.6**
	baz=318							
H39A	**Augusta**	**65.30**	**48**	P	**P**		**02 05 45.5**	**-0.9**
	baz=320							
G40A	**Rib Lake**	**65.34**	**47**	*e*P	**P**		**02 05 47.7**	**+1.1**
	comp=Z,42nm,1.1s							
G40A				LR	LR			
	comp=Z,8μm,20.0s							
G40A	**Rib Lake**	**65.34**	**47**	P	**P**		**02 05 45.7**	**-1.0**
	baz=321							
BNM	**Barren Site**	**65.36**	**66**	*e*P	**P**		**02 05 49.4**	**+2.2**
OSL	**Oslo**	**65.40**	**344**	*e*P	**P**		**02 05 47.5**	**+0.8**
E42A	**Champion**	**65.45**	**45**	P	**P**		**02 05 46.5**	**-0.8**
	baz=322							
F41A	**Three Lakes**	**65.46**	**46**	PFAKE			02 06 00.0	+13
F41A				LR	LR			
	comp=Z,8μm,21.0s							
F41A	**Three Lakes**	**65.46**	**46**	P	**P**		**02 05 46.8**	**-0.7**
	baz=321							
VSR	**Storozhevoye**	**65.56**	**324**	*e*P	**P**		**02 05 46.6**	**-1.3**
VSR				*e**PP	**pwP**		**02 05 58.4**	**-0.1**
VSR				*e*			02 08 09.0	
VSR				*e*SP	**S**		**02 14 40.0**	**+8.6**
VSR				pmax	pmax			
	comp=Z,380nm,1.1s							
VSR				pmax	pmax			
	comp=Z,630nm,1.3s							
VSR				MLR	MLR			
	comp=Z,26μm,18.0s							
CBKS	**Cedar Bluff**	**65.61**	**58**	P	**P**		**02 05 47.4**	**-1.1**
	baz=319							
KSM	**Kuching**	**65.69**	**238**	*e*P	**P**		**02 05 50.3**	**+1.1**
	comp=Z,104nm,1.1s							
KSM				LR	LR			
	comp=Z,3μm,19.0s							
KSM	**Kuching**	**65.69**	**238**	P	**P**		**02 05 51.0**	**+1.8**
VORD	**Divnogorie**	**65.72**	**324**	*e*P	**P**		**02 05 48.4**	**-0.5**
VORD				*e**PP	**pwP**		**02 06 00.2**	**+0.6**
VORD				pmax	pmax			
	comp=Z,300nm,1.1s							
VORD				pmax	pmax			
	comp=Z,300nm,1.1s							
VORD				MLR	MLR			
	comp=Z,18μm,17.0s							
H40A	**Chili**	**65.75**	**48**	P	**P**		**02 05 48.7**	**-0.6**
	baz=321							
IZAR	**Zarasai**	**65.80**	**334**	*e*P	**P**		**02 05 49.5**	**+0.2**
IZAR				IAmb	IAmb		02 05 52.6	
	comp=Z,110nm,1.1s							
BER	**Bergen**	**65.81**	**347**	*e*P	**P**		**02 05 50.8**	**+1.5**
I39A	**Houston**	**65.83**	**49**	PFAKE			02 06 00.0	+10
I39A				LR	LR			
	comp=Z,8μm,19.0s							
I39A	**Houston**	**65.83**	**49**	P	**P**		**02 05 48.0**	**-1.8**
	baz=321,SNR=9.7							
KONO	**Kongsberg**	**65.86**	**344**	*e*P	**P**		**02 05 49.9**	**+0.2**
	comp=Z,58nm,1.0s							
KONO				LR	LR			
	comp=Z,7μm,20.0s							
KONO	**Kongsberg**	**65.86**	**344**	*ce*P	**P**		**02 05 50.3**	**+0.5**
KONO				pmax	pmax			
	comp=Z,164nm,2.5s							
KONO	**Kongsberg**	**65.86**	**344**	*e*P	**P**		**02 05 50.2**	**+0.5**
F42A	**Maple Grove Fa**	**65.88**	**46**	P	**P**		**02 05 49.7**	**-0.4**
	baz=322							
E43A	**Lone Tree Farm**	**65.89**	**45**	PFAKE			02 06 00.0	+10
E43A				LR	LR			
	comp=Z,6μm,18.0s							
E43A	**Lone Tree Farm**	**65.89**	**45**	P	**P**		**02 05 49.9**	**-0.2**
	baz=322							
121A	**Cookes Peak, D**	**65.91**	**68**	P	**P**		**02 05 50.4**	**-0.3**
	baz=318							
319A	**Douglas**	**65.91**	**70**	*e*P	**P**		**02 05 53.1**	**+2.5**
	comp=Z,70nm,0.9s							
319A				LR	LR			
	comp=Z,3μm,20.0s							
IDID	**Didziasalis**	**66.04**	**333**	*e*P	**P**		**02 05 51.2**	**+0.3**
IDID				IAmb	IAmb		02 05 54.2	
	comp=Z,100nm,0.9s							
DGPR	**DIGLIPUR**	**66.05**	**260**	*e*P	**P**		**02 05 50.6**	**-0.9**
ODD1	**Odda**	**66.08**	**346**	*e*P	**P**		**02 05 52.9**	**+1.7**
H41A	**Junction City**	**66.09**	**47**	PFAKE			02 06 00.0	+8.5
H41A				LR	LR			
	comp=Z,8μm,20.0s							
H41A	**Junction City**	**66.09**	**47**	P	**P**		**02 05 51.2**	**-0.3**
	baz=321							
SCHQ	**Schefferville**	**66.12**	**28**	*e*P	**P**		**02 05 51.9**	**+0.4**
	comp=Z,103nm,1.0s							
SCHQ				LR	LR			
	comp=Z,4μm,20.0s							
SCHQ	**Schefferville**	**66.12**	**28**	P	**P**		**02 05 51.6**	**+0.1**
	comp=Z,27nm,0.8s,baz=351,slow=6.3,SNR=13							
SCHQ				LR	LR		02 40 06.7	
	comp=Z,3μm,18.1s,baz=348,slow=41							
J39A	**Decorah**	**66.14**	**49**	P	**P**		**02 05 50.9**	**-1.0**
	baz=321,SNR=6.8							
G42A	**Mountain**	**66.15**	**46**	PFAKE			02 06 00.0	+8.2
G42A				LR	LR			
	comp=Z,8μm,21.0s							
G42A	**Mountain**	**66.15**	**46**	P	**P**		**02 05 50.8**	**-1.1**
	baz=322							
E44A	**Grand Marais A**	**66.15**	**44**	PFAKE			02 06 00.0	+8.2
E44A				LR	LR			
	comp=Z,7μm,19.0s							
IIGN	**Ignalina**	**66.15**	**333**	*e*P	**P**		**02 05 52.0**	**+0.4**
IIGN				IAmb	IAmb		02 05 54.9	
	comp=Z,131nm,0.9s							
I40A	**Norwalk**	**66.21**	**48**	P	**P**		**02 05 51.0**	**-1.3**
	baz=321,SNR=5.6							
F43A	**Flat Rock, Esc**	**66.24**	**45**	P	**P**		**02 05 50.9**	**-1.5**
	baz=322							
KRAB	**Krabi**	**66.25**	**252**	P	**P**		**02 05 55.3**	**+2.5**
	comp=Z,813μm,0.8s							
TRTT	**Trang**	**66.27**	**251**	P	**P**		**02 05 55.6**	**+2.6**
	comp=Z,90nm,1.2s,comp=Z,2μm							
SKLT	**Songkhla**	**66.28**	**250**	P	**P**		**02 05 55.5**	**+2.5**
	comp=Z,60nm,1.6s,comp=Z,1μm							
JBP	**Jabalpur**	**66.34**	**278**	*e*P	**P**		**02 05 54.5**	**+1.2**
JBP				AMB	AMB		02 05 55.3	
	comp=Z,184nm,2.5s							
JBP				*ex*	x		02 14 36.4	
NACGM	**Naroch**	**66.39**	**333**	*e*P	**P**		**02 05 52.0**	**-1.2**
NACGM				PM			02 05 54.0	
	comp=Z,0.5nm,1.0s							
NACGM				*e*PP	PP		02 07 44.0	-35
NACGM				*e*PPP	PPP		02 10 12.0	
NACGM				*e*S	**S**		**02 14 40.0**	**-1.4**
NACGM				*e*SS	**SS**		**02 18 56.0**	**-1.0**
NACGM				*e*SSS	SSS		02 22 08.0	
NACGM				*e*LQ	LQ		02 29 26.0	
NACGM				*e*LR	LR		02 34 10.0	
NACGM				LRM	MLR		02 38 32.0	
	comp=Z,56nm,17.0s							
I41A	**Arkdale**	**66.42**	**48**	PFAKE			02 06 10.0	+16
I41A				LR	LR			
	comp=Z,6μm,20.0s							
I41A	**Arkdale**	**66.42**	**48**	P	**P**		**02 05 53.1**	**-0.5**
	baz=321							
MICGM	**Minsk**	**66.43**	**332**	⇓*i*P	**P**		**02 05 54.0**	**+0.5**
MICGM				PM			02 05 55.0	
	comp=N,0.6nm,1.2s							
MICGM				PM			02 05 55.0	
	comp=Z,1.5nm,1.0s							
MICGM				PM			02 05 55.0	
	comp=E,0.5nm,1.0s							
MICGM				*e*pP	**pwP**		**02 06 05.0**	**+1.0**
MICGM				*e*PP	**PP**		**02 08 20.0**	**+0.8**
MICGM				*e*PPP	PPP		02 10 15.0	
MICGM				*e*S	**S**		**02 14 42.0**	**+0.1**
MICGM				*e*PS			02 15 03.0	
MICGM				*e*SSS	SSS		02 22 21.0	
MICGM				*e*LQ	LQ		02 29 17.0	
MICGM				LQM			02 32 30.0	
	comp=E,13nm,25.0s							
MICGM				LQM			02 32 30.0	
	comp=N,14nm,24.0s							
MICGM				*e*LR	LR		02 33 30.0	
MICGM				LRM	MLR		02 39 30.0	
	comp=Z,28nm,16.0s							
MICGM				LRM	MLR		02 39 40.0	
	comp=E,28nm,14.0s							
MNK	**Minsk**	**66.43**	**332**	⇓*i*P	**P**		**02 05 54.0**	**+0.5**
MNK				*e**PP	**pwP**		**02 06 05.0**	**+1.0**
MNK				*e*			02 08 20.0	
MNK				*e*S	**S**		**02 14 42.0**	**+0.1**
MNK				*e*PS	**PnS**		**02 15 03.0**	**-0.6**
MNK				pmax	pmax			
	comp=N,610nm,1.2s							
MNK				pmax	pmax			
	comp=E,470nm,1.0s							
MNK				MLR	MLR			
	comp=Z,28μm,16.0s							
MNK				MLR	MLR			
	comp=E,28μm,14.0s							
F44A	**Big Bay de Noc**	**66.45**	**44**	P	**P**		**02 05 52.9**	**-0.9**
	baz=322							
G43A	**Wallace**	**66.46**	**46**	PFAKE			02 06 10.0	+16
G43A				LR	LR			
	comp=Z,8μm,20.0s							
G43A	**Wallace**	**66.46**	**46**	P	**P**		**02 05 53.4**	**-0.4**
	baz=322							
SCIA	**State Center**	**66.53**	**51**	*e*P	**P**		**02 05 56.0**	**+1.7**
	comp=Z,194nm,0.8s							
SCIA				LR	LR			
	comp=Z,10μm,21.0s							
SCIA	**State Center**	**66.53**	**51**	P	**P**		**02 05 53.2**	**-1.1**
	baz=320							
J40A	**Soldiers Grove**	**66.54**	**49**	P	**P**		**02 05 52.9**	**-1.4**
	baz=321							
K39A	**Oelwein**	**66.54**	**50**	P	**P**		**02 05 52.4**	**-2.0**
	baz=321,SNR=6.9							
BLS5	**Blasjo**	**66.57**	**346**	*e*P	**P**		**02 05 55.1**	**+0.8**
PABE	**Paberze**	**66.62**	**335**	*e*P	**P**		**02 05 54.9**	**+0.3**
PABE				IAmb	IAmb		02 05 57.8	
	comp=Z,579nm,1.1s							
PBUR	**Paburg**	**66.67**	**336**	*e*P	**P**		**02 05 54.9**	**-0.1**
PBUR				IAmb	IAmb		02 06 08.4	
	comp=Z,433nm,1.1s							
E45A	**Wooded Hills,**	**66.67**	**43**	P	**P**		**02 05 53.5**	**-1.6**
	baz=323							
H42A	**Shiocton**	**66.68**	**47**	PFAKE			02 06 10.0	+15
H42A				LR	LR			
	comp=Z,8μm,19.0s							
H42A	**Shiocton**	**66.68**	**47**	P	**P**		**02 05 53.2**	**-2.0**
	baz=322							
HSIG		**66.69**	**72**	PFAKE			02 06 10.0	+14
HSIG				LR	LR			
	comp=Z,3μm,22.0s							
D46A	**Sault St. Mari**	**66.73**	**42**	P	**P**		**02 05 53.7**	**-1.8**
	baz=323							
KAPI	**Kappang**	**66.85**	**225**	*e*P	**P**		**02 05 57.5**	**+0.9**
	comp=Z,74nm,1.2s							
KAPI	**Kappang**	**66.85**	**225**	P	**P**		**02 05 57.6**	**+1.0**
	SNR=20							
KAPI				P	**P**		**02 05 57.6**	**+1.0**
	SNR=20							
KAPI				P	**P**		**02 05 57.6**	**+1.0**
	SNR=20							
K40A	**Colesburg**	**66.89**	**50**	P	**P**		**02 05 54.8**	**-1.8**
	baz=321,SNR=6.9							
MATQ	**Matagami**	**66.89**	**37**	P	**P**		**02 05 54.3**	**-2.2**
	baz=326							
J41A	**Loganville**	**66.90**	**48**	P	**P**		**02 05 55.7**	**-1.0**
	baz=321,SNR=8.4							
L39A	**Vinton**	**66.94**	**50**	P	**P**		**02 05 56.0**	**-0.9**
	baz=321,SNR=9.5							
KMY	**Karmoy**	**66.95**	**347**	*e*P	**P**		**02 05 58.1**	**+1.4**
D47A	**Chapleau**	**66.98**	**42**	P	**P**		**02 05 55.3**	**-1.8**
	baz=324							
I42A	**Draeger Farm,**	**66.99**	**47**	*e*P	**P**		**02 05 58.2**	**+1.0**
	comp=Z,43nm,0.9s							
I42A				LR	LR			
	comp=Z,7μm,19.0s							
I42A	**Draeger Farm,**	**66.99**	**47**	P	**P**		**02 05 56.7**	**-0.5**
	baz=322							
KSU1	**Kansas State U**	**67.00**	**56**	PFAKE			02 06 10.0	+13
KSU1				LR	LR			
	comp=Z,5μm,19.0s						

baz=321
SRIG Santa Rosalia 67.19 75 PFAKE 02 06 10.0 +11
SRIG LR LR
comp=Z,4μm,22.0s
EPT El Paso 67.19 67 PFAKE 02 06 10.0 +11
EPT LR LR
comp=Z,4μm,21.0s
F46A Macinaw City C 67.32 44 P **P 02 05 58.5 -0.7**
baz=323
I43A Langenfeld Bro 67.34 47 P **P 02 05 58.4 -1.0**
baz=322
J42A Columbus 67.34 48 P **P 02 05 58.3 -1.2**
baz=322,SNR=6.3
L40A Anamosa 67.35 50 *e*P **P 02 06 00.1 +0.6**
comp=Z,52nm,0.9s
L40A LR LR
comp=Z,9μm,20.0s
L40A Anamosa 67.35 50 P **P 02 05 58.6 -0.9**
baz=321,SNR=7.1
PBA Port Blair 67.35 259 PFAKE 02 06 10.0 +10
PBA LR LR
comp=Z,15μm,19.0s
PBA Port Blair 67.35 259 *e*P P 02 05 59.9 0.0
HOMB Homborsund 67.35 344 *e*P **P 02 06 00.7 +1.4**
E47A Iron Bridge 67.39 42 P **P 02 05 59.0 -0.7**
baz=324
D48A Paudash Townsh 67.41 41 P **P 02 05 58.8 -1.0**
baz=324
SNART Snartemo 67.50 345 *e*P **P 02 06 00.9 +0.7**
D49A Beulah Townshi 67.51 41 P **P 02 05 59.6 -0.8**
baz=324
G45A Suttons Bay 67.52 45 PFAKE 02 06 10.0 +9.5
G45A LR LR
comp=Z,5μm,20.0s
AMTX Amarillo 67.53 62 *e*P **P 02 06 02.2 +1.3**
comp=Z,42nm,0.8s
AMTX LR LR
comp=Z,3μm,18.0s
AMTX Amarillo 67.53 62 P **P 02 06 00.9 -0.1**
baz=319
J43A Natural Harves 67.61 47 P **P 02 06 00.8 -0.4**
baz=322
MSTX Muleshoe 67.63 63 *e*P **P 02 06 01.4 -0.2**
comp=Z,62nm,0.9s
MSTX LR LR
comp=Z,4μm,18.0s
MSTX Muleshoe 67.63 63 P **P 02 06 01.2 -0.3**
baz=319,SNR=16
K42A Prairie Point, 67.66 48 P **P 02 06 00.9 -0.6**
baz=322,SNR=7.9
H45A Beulah 67.68 45 P **P 02 06 01.2 -0.4**
baz=323
GEYT Alibeck 67.70 303 P **P 02 06 01.4 -0.5**
comp=Z,102nm,0.9s,baz=13,slow=3.2,SNR=107
GEYT PP **PP 02 08 29.4 -1.4**
comp=Z,27nm,1.0s,baz=46,slow=4.3,SNR=3.7
GEYT LR LR 02 39 20.7
comp=Z,15μm,18.2s,baz=25,slow=39
GYA0B ALIBECK ARRAY 67.70 303 *e*P **P 02 06 01.6 -0.3**
comp=Z,168nm,0.9s
GYA0B LR LR
comp=Z,15μm,18.0s
LSQQ Lebel-sur-Quev 67.72 37 P **P 02 06 00.8 -1.0**
baz=326
KULM Kulim 67.79 249 *e*P **P 02 06 03.5 +0.9**
comp=Z,74nm,1.1s
KULM LR LR
comp=Z,9μm,19.0s
KULM Kulim 67.79 249 P **P 02 06 04.0 +1.4**
E48A Lockeyer 67.82 42 P **P 02 06 02.0 -0.5**
baz=324
BHPL Bhopal 67.83 280 *e*P **P 02 06 01.0 -1.8**
U32A Winter Ranch, 67.83 59 PFAKE 02 06 20.0 +17
U32A LR LR
comp=Z,4μm,20.0s
MNTX Cornudas Mount 67.88 67 *e*P **P 02 06 03.5 +0.4**
MNTX LR LR
comp=Z,4μm,20.0s
MNTX Cornudas Mount 67.88 67 P **P 02 06 03.0 -0.1**
baz=319,SNR=30
CHGQ Chibougamau 67.94 35 P **P 02 06 02.5 -0.6**
baz=328
I45A Fountain 68.06 46 PFAKE 02 06 20.0 +16
I45A LR LR
comp=Z,8μm,20.0s
I45A Fountain 68.06 46 P **P 02 06 03.4 -0.6**
baz=323
N40A Mertquake, Sal 68.09 51 P **P 02 06 03.5 -0.8**
baz=321,SNR=14
H46A Fife Lake 68.11 45 P **P 02 06 03.9 -0.4**
baz=323
L42A Oliver, Polo 68.12 49 *e*P **P 02 06 03.5 -0.9**
comp=Z,61nm,0.8s
L42A LR LR
comp=Z,7μm,20.0s
L42A Oliver, Polo 68.12 49 P **P 02 06 04.1 -0.2**
baz=322,SNR=7.9
GLMI Grayling 68.13 44 *e*P **P 02 06 06.2 +1.7**
comp=Z,107nm,1.2s
GLMI LR LR
comp=Z,7μm,20.0s
GLMI Grayling 68.13 44 P **P 02 06 03.4 -1.1**
baz=324
F48A Evansville 68.17 42 P **P 02 06 03.6 -1.0**
baz=324
G47A Hillman 68.18 43 P **P 02 06 04.5 -0.2**
baz=324
K43A Burlington 68.18 48 *e*P **P 02 06 05.5 +0.7**
comp=Z,86nm,1.0s
K43A LR LR
comp=Z,6μm,20.0s
K43A Burlington 68.18 48 P **P 02 06 04.4 -0.3**
baz=322
M41A Milan 68.20 50 P **P 02 06 04.8 -0.1**
baz=322
IPM Ipoh 68.23 248 *e*P **P 02 06 05.7 +0.3**
comp=Z,64nm,0.8s
IPM LR LR
comp=Z,8μm,20.0s
VLDQ Val d'Or 68.33 38 *e*P **P 02 06 04.1 -1.4**
comp=Z,79nm,1.2s
VLDQ LR LR
comp=Z,6μm,21.0s
L43A Garden Prairie 68.41 48 P **P 02 06 06.2 0.0**
baz=322
D51A Lot 18 Range I 68.44 39 P **P 02 06 05.9 -0.4**
baz=326
E50A Wahnapitae 68.44 41 P **P 02 06 06.2 -0.1**
baz=325
F49A Sandfield 68.45 42 P **P 02 06 06.2 -0.2**
baz=324
J45A Montague 68.47 46 PFAKE 02 06 20.0 +13
J45A LR LR
comp=Z,7μm,20.0s
I46A Reed City 68.48 45 P **P 02 06 06.3 -0.3**
baz=323
N41A Harden Midland 68.58 51 *e*P **P 02 06 08.4 +1.1**
comp=Z,140nm,1.0s
N41A LR LR
comp=Z,8μm,20.0s
N41A Harden Midland 68.58 51 P **P 02 06 06.9 -0.4**
baz=322
H48A Harrisville 68.78 43 PFAKE 02 06 20.0 +12
H48A LR LR
comp=Z,5μm,20.0s
H48A Harrisville 68.78 43 P **P 02 06 07.4 -1.1**
baz=324
L44A Lake County Fo 68.79 48 P **P 02 06 07.8 -0.8**
baz=323
I47A Gladwin 68.83 45 PFAKE 02 06 20.0 +11
I47A LR LR
comp=Z,7μm,19.0s
E51A G1948 Merrick 68.85 40 P **P 02 06 07.0 -1.9**
baz=326
MAK Makhachkala 68.86 314 *e*P **P 02 06 04.3 -4.7**
MAK *e* 02 08 38.5
MAK *e*PPP PPP 02 10 17.8
MAK *e*S **S 02 15 05.4 -6.0**
MAK *e*SS **SS 02 19 34.3 -1.5**
MAK pmax pmax
comp=Z,248nm,1.2s
MAK MLR MLR
comp=Z,13μm,16.0s
MYKOM Kota Tinggi 68.87 244 *e*P **P 02 06 11.0 +1.6**
comp=Z,62nm,1.1s
MYKOM LR LR
comp=Z,6μm,18.0s

M43A Waltham Townsh 68.89 49 P **P 02 06 08.9 -0.3**
baz=322
D52A ZEK Kipawa Sen 68.90 39 P **P 02 06 08.5 -0.7**
baz=326
MUD Monsted U'grnd 68.97 343 *i* P **P 02 06 10.1 +0.7**
MUD *i* 02 06 22.5
MUD MLR MLR
comp=Z,8μm,18.0s
MUD Monsted U'grnd 68.97 343 *i* P **P 02 06 10.1 +0.7**
MUD *i* 02 06 22.5
MMRI Maumere 69.07 221 *e*P **P 02 06 10.3 -0.2**
comp=Z,155nm,1.2s
D53A Lac Vacive, Po 69.09 38 *e*P **P 02 06 10.9 +0.5**
comp=Z,64nm,1.4s
D53A LR LR
comp=Z,7μm,20.0s
D53A Lac Vacive, Po 69.09 38 P **P 02 06 09.5 -0.8**
baz=326
COP Copenhagen 69.09 341⇑ *i*P **P 02 06 10.7 +0.5**
COP *i* 02 06 23.0
COP MLR MLR
comp=Z,7μm,17.0s
COP Copenhagen 69.09 341⇑ *i*P **P 02 06 10.7 +0.5**
COP *i* 02 06 23.0
BSD Bornholm Skovb 69.12 340⇑ *i*P **P 02 06 10.1 -0.3**
BSD MLR MLR
comp=Z,12μm,14.0s
BSD Bornholm Skovb 69.12 340⇑ *i*P **P 02 06 10.1 -0.3**
F51A Arnstein 69.18 41 P **P 02 06 09.7 -1.2**
baz=326
N43A Stutzman Famil 69.19 49 P **P 02 06 10.4 -0.6**
baz=322
WMOK Wichita Mounta 69.19 60 *e*P **P 02 06 11.1 -0.2**
comp=Z,64nm,1.0s
WMOK Wichita Mounta 69.19 60 *e*P **P 02 06 11.1 -0.2**
WMOK pmax pmax
comp=Z,64nm,1.0s
WMOK Wichita Mounta 69.19 60 P **P 02 06 10.9 -0.4**
baz=320,SNR=56
OK023 East Waterloo 69.29 58 PFAKE 02 06 20.0 +8.2
OK023 LR LR
comp=Z,3μm,21.0s
SOEI Soe 69.30 219 *e*P **P 02 06 11.6 -0.5**
comp=Z,86nm,1.0s
J47A Sunmer 69.32 45 *e*P **P 02 06 11.9 +0.1**
comp=Z,74nm,0.9s
J47A LR LR
comp=Z,8μm,18.0s
J47A Sunmer 69.32 45 P **P 02 06 10.9 -0.9**
baz=324
K46A Dorr 69.34 46 P **P 02 06 11.6 -0.4**
baz=323
OK024 West corner E0 69.34 58 PFAKE 02 06 30.0 +18
OK024 LR LR
comp=Z,4μm,19.0s
AKASG Malin Array Be 69.35 329 P **P 02 06 11.3 -0.6**
comp=Z,181nm,0.9s,baz=32,slow=6.8,SNR=205
AKASG PKP2bc 02 34 20.8
comp=Z,0.2nm,0.3s,baz=217,slow=4.6,SNR=4.1
AKASG LR LR 02 42 13.9
comp=Z,13μm,18.1s,baz=10.0,slow=41
AKBB Malin Array Si 69.35 329 *e*P **P 02 06 11.3 -0.6**
comp=Z,316nm,1.0s
AKBB LR LR
comp=Z,21μm,18.0s
M44A Midewin, Midew 69.35 48 *e*P **P 02 06 12.9 +0.8**
comp=Z,41nm,0.9s
M44A LR LR
comp=Z,7μm,20.0s
M44A Midewin, Midew 69.35 48 P **P 02 06 10.9 -1.2**
baz=323
KIEV Kiev 69.36 329 PFAKE 02 06 20.0 +8.1
KIEV LR LR
comp=Z,19μm,18.0s
KIEV Kiev 69.36 329⇓ *i*P **P 02 06 11.9 0.0**
KIEV Kiev 69.36 329 *i* P **P 02 06 11.6 -0.3**
SNR=64
KIEV Kiev 69.36 329*c* *i*P **P 02 06 11.3 -0.6**
KIEV pmax pmax
comp=Z,297nm,1.1s
E52A Mattawa 69.38 40 P **P 02 06 11.1 -1.0**
baz=326
GROC Groznyy 69.42 315 *e*P **P 02 06 11.4 -1.1**
GROC *e**SP **PcP 02 06 30.3 -5.4**
GROC *e* 02 06 33.6
GROC *e* 02 08 44.2
GROC *e*S **S 02 15 12.1 -5.9**
GROC *e**SS sS 02 15 37.5 +8.6
GROC pmax pmax
comp=Z,112nm,1.5s
D54A Lac Fusel, La 69.42 38 P **P 02 06 11.9 -0.6**
baz=327,SNR=5.4
HDIL Hopedale 69.43 50 *e*P **P 02 06 13.7 +1.1**
comp=Z,112nm,0.9s
HDIL LR LR
comp=Z,8μm,20.0s
HDIL Hopedale 69.43 50 P **P 02 06 12.2 -0.4**
baz=322
F52A Sundridge 69.52 40 P **P 02 06 11.8 -1.2**
baz=326
RRR Rubha Reidh 69.53 352 *e*P **P 02 06 12.6 -0.2**
KLBO Killbear Provi 69.53 41 P **P 02 06 11.8 -1.3**
baz=326
RRH Rhenigidale 69.53 353⇑ *e*P **P 02 06 14.2 +1.3**
MCD Coleburn Disti 69.57 351 *e*P **P 02 06 13.0 -0.1**
I49A Point Hope 69.61 44 PFAKE 02 06 30.0 +16
I49A LR LR
comp=Z,6μm,19.0s
I49A Point Hope 69.61 44 P **P 02 06 12.2 -1.4**
baz=324
L46A Eue Claire 69.65 47 *e*P **P 02 06 14.8 +0.9**
comp=Z,72nm,1.0s
L46A LR LR
comp=Z,7μm,21.0s
L46A Eue Claire 69.65 47 P **P 02 06 13.0 -0.9**
baz=323
E53A Dumoine, Ponti 69.69 39 P **P 02 06 12.9 -1.2**
baz=326
K47A Vermontville 69.70 46 P **P 02 06 13.5 -0.7**
baz=324
J48A Bridge Port 69.72 45 PFAKE 02 06 30.0 +16
J48A LR LR
comp=Z,7μm,19.0s
BUKO Buck Lake 69.78 41 P **P 02 06 13.9 -0.8**
baz=326
N44A Piper City 69.78 49 P **P 02 06 13.8 -1.0**
baz=323
MDO Dochfour 69.81 351 *e*P **P 02 06 15.4 +0.8**
E54A Lac Daplat, Po 69.82 39 P **P 02 06 13.5 -1.4**
baz=327
KAC Achnashellach 69.84 352⇑ *e*P **P 02 06 15.9 +1.1**
TUL1 Leonard 69.86 57 *e*P **P 02 06 15.1 -0.2**
comp=Z,40nm,1.0s
TUL1 LR LR
comp=Z,4μm,19.0s
TUL1 Leonard 69.86 57 P **P 02 06 14.7 -0.6**
baz=321,SNR=11
LHMI Lhok Sumawe 69.97 252 PFAKE 02 06 30.0 +14
LHMI LR LR
comp=Z,15μm,19.0s
K48A Perry 69.97 45 P **P 02 06 14.9 -1.0**
baz=324,SNR=6.9
RGN Rugen 69.98 340 *e*P **P 02 06 17.0 +1.3**
comp=Z,211nm,1.0s
RGN LR LR
comp=Z,10μm,18.0s
KPL Plockton 70.03 352 *e*P **P 02 06 17.3 +1.4**
KPL IAmb IAmb 02 06 20.8
comp=Z,62nm,1.1s
KPL IAMs_20 IAMs_20 02 47 57.2
comp=Z,4μm,18.1s
N45A Kentland 70.03 48 P **P 02 06 15.8 -0.4**
baz=323
P43A Skaggs, Pawnee 70.05 51 P **P 02 06 15.7 -0.7**
baz=322
M46A Old House Fiel 70.11 47 *e*P **P 02 06 17.6 +0.9**
comp=Z,57nm,1.0s
M46A LR LR
comp=Z,7μm,20.0s
M46A Old House Fiel 70.11 47 P **P 02 06 16.4 -0.3**
baz=324
NCK Nalchik 70.13 316 *i* P **P 02 06 16.8 -0.1**
NCK pmax pmax
comp=Z,116nm,1.0s
KIV Kislovodsk 70.13 317 *e*P **P 02 06 17.1 +0.2**
comp=Z,67nm,0.7s
KIV LR LR

comp=Z,12μm,19.0s
KIV Kislovodsk 70.13 317⇑ *i*P **P 02 06 17.4 +0.4**
KIV Kislovodsk 70.13 317 *i* P **P 02 06 17.2 +0.2**
SNR=29
KIV Kislovodsk 70.13 317 *e*P **P 02 06 17.1 +0.2**
KIV *e* 02 08 52.3
KIV *e* 02 15 24.6
KIV pmax pmax
comp=Z,208nm,1.0s
KIV MLR MLR
comp=Z,31μm,18.0s
KIV Kislovodsk 70.13 317 P **P 02 06 17.2 +0.2**
SNR=54
KIV P **P 02 06 17.2 +0.2**
SNR=54
KIV P **P 02 06 17.2 +0.2**
SNR=54
O44A Mansfield 70.14 50 P **P 02 06 16.2 -0.7**
baz=323
Q42A Golden Eagle 70.14 52 P **P 02 06 16.3 -0.6**
baz=322,SNR=16
L47A Sherwood 70.17 46 P **P 02 06 16.0 -1.1**
baz=324
BWLO Walkerton 70.17 42 P **P 02 06 16.5 -0.5**
baz=325
R41A Rosebud 70.21 53 P **P 02 06 16.6 -0.8**
baz=322,SNR=15
KBZ Khabaz 70.23 317 P **P 02 06 17.4 0.0**
comp=Z,153nm,1.1s,baz=52,slow=4.9,SNR=85
KBZ LR LR 02 41 29.4
comp=Z,14μm,20.3s,baz=14,slow=40
H52A Wyevale 70.25 41 P **P 02 06 16.1 -1.4**
baz=326
K49A Clarkson 70.28 45 P **P 02 06 17.4 -0.3**
baz=324,SNR=9.9
GKP Gorka Klasztor 70.31 338 *e*P **P 02 06 18.1 +0.3**
GKP *e*S **S 02 15 29.6 +1.5**
GKP Gorka Klasztor 70.31 338 *e*P **P 02 06 18.1 +0.3**
GKP *e*S **S 02 15 29.6 +1.5**
CMBY CAMPBELL BAY 70.31 255 *e*P **P 02 06 19.4 +1.1**
N46A Monticello 70.34 48 P **P 02 06 17.5 -0.6**
baz=323
ABTX Abilene, Hawle 70.35 62 *e*P **P 02 06 18.8 +0.4**
comp=Z,74nm,1.2s
ABTX LR LR
comp=Z,3μm,20.0s
ABTX Abilene, Hawle 70.35 62 P **P 02 06 18.2 -0.2**
baz=320,SNR=15
G53A Haliburton 70.36 40 P **P 02 06 17.3 -0.9**
baz=326
O45A Potomac 70.41 49 P **P 02 06 17.6 -0.9**
baz=323
PEMO Pembroke 70.43 39 P **P 02 06 17.4 -1.2**
baz=327
CCM Cathedral Cave 70.47 53 *e*P **P 02 06 18.4 -0.6**
comp=Z,32nm,1.0s
CCM LR LR
comp=Z,7μm,19.0s
CCM Cathedral Cave 70.47 53 *e*P **P 02 06 18.4 -0.6**
CCM pmax pmax
comp=Z,32nm,1.0s
CCM MLR MLR
comp=Z,7μm,19.0s
CCM Cathedral Cave 70.47 53 P **P 02 06 17.9 -1.1**
baz=322
I51A Listowel 70.47 43 P **P 02 06 17.7 -1.2**
baz=325
M47A Cromwell 70.47 47 P **P 02 06 17.8 -1.2**
baz=324
SLM Saint Louis 70.50 52 *e*P **P 02 06 20.3 +1.2**
comp=Z,52nm,0.8s
SLM LR LR
comp=Z,9μm,22.0s
SLM Saint Louis 70.50 52 *e*P **P 02 06 20.3 +1.2**
SLM pmax pmax
comp=Z,52nm,0.8s
SLM MLR MLR
comp=Z,9μm,22.0s
HHAR Hobbs 70.52 56 *e*P **P 02 06 18.8 -0.6**
comp=Z,32nm,0.7s
HHAR LR LR
comp=Z,5μm,19.0s
L48A N Adams 70.53 46 P **P 02 06 18.8 -0.5**
baz=324,SNR=7.9
EDU Dundee 70.56 350⇑ *e*P **P 02 06 18.5 -0.7**
ZEI Tsey 70.57 316 *e*P **P 02 06 16.6 -3.2**
ZEI pmax pmax
comp=Z,71nm,0.9s
AAM Ann Arbor 70.58 45 *e*P **P 02 06 21.0 +1.4**
comp=Z,84nm,1.1s
AAM LR LR
comp=Z,6μm,19.0s
AAM Ann Arbor 70.58 45 P **P 02 06 18.9 -0.7**
baz=324
S41A Jillco Farms, 70.59 53 P **P 02 06 18.6 -1.2**
baz=322,SNR=20
SFIN Lafayette 70.59 49 *e*P **P 02 06 20.1 +0.4**
comp=Z,48nm,1.2s
SFIN LR LR
comp=Z,8μm,20.0s
SFIN Lafayette 70.59 49 P **P 02 06 19.2 -0.5**
baz=323
TX31 Lajitas Ar. Si 70.63 67 *e*P **P 02 06 20.6 +0.3**
comp=Z,54nm,0.9s
LTX Lajitas 70.64 67 *e*P **P 02 06 20.5 +0.2**
LTX Lajitas 70.64 67 *e*P **P 02 06 20.5 +0.2**
TXAR Lajitas Array 70.64 67 P **P 02 06 20.5 +0.2**
comp=Z,9.6nm,0.8s,baz=299,slow=5.3,SNR=84
TXAR PKP2bc 02 34 14.3
comp=Z,0.8nm,1.0s,baz=134,slow=3.6,SNR=4.7
TXAR LR LR 02 37 59.9
comp=Z,2μm,18.3s,baz=0.0,slow=36
K50A Casco 70.64 44 PFAKE 02 06 30.0 +10
K50A LR LR
comp=Z,9μm,18.0s
LATQ La Tuque 70.64 35 P **P 02 06 18.7 -1.2**
baz=329
F55A Otter Lake 70.64 38 P **P 02 06 18.5 -1.5**
baz=327
L49A Milan 70.69 45 P **P 02 06 19.5 -0.8**
baz=324
NEY Neytrino 70.70 317 *i* P **P 02 06 19.6 -0.9**
NEY pmax pmax
comp=Z,8.0nm,1.0s
BANO Bancroft 70.72 40 P **P 02 06 19.5 -0.9**
baz=327
BEL Belsk 70.75 335 *e*P **P 02 06 21.4 +0.9**
BEL *e*S **S 02 15 35.8 +2.5**
BEL Belsk 70.75 335 *e*P **P 02 06 21.4 +0.9**
BEL *e*S **S 02 15 35.8 +2.5**
M48A Edgerton 70.78 46 *e*P **P 02 06 22.4 +1.6**
comp=Z,121nm,1.2s
M48A LR LR
comp=Z,6μm,20.0s
M48A Edgerton 70.78 46 P **P 02 06 19.7 -1.1**
baz=324
INVG Invergeldie, C 70.78 351 *e*P **P 02 06 20.1 -0.5**
INVG IAmb IAmb 02 06 22.6
comp=Z,160nm,1.7s
PSI Prapat 70.80 249 *e*P **P 02 06 21.2 -0.2**
comp=Z,43nm,0.9s
PSI LR LR
comp=Z,8μm,20.0s
PSI Prapat 70.80 249 *e*P **P 02 06 21.2 -0.2**
PSI pmax pmax
comp=Z,43nm,0.9s
PSI MLR MLR
comp=Z,8μm,20.0s
N47A Urbana 70.83 47 P **P 02 06 19.8 -1.3**
baz=324
FVM French Village 70.92 52 *e*P **P 02 06 22.3 +0.5**
comp=Z,85nm,1.5s
FVM French Village 70.92 52 *e*P **P 02 06 22.3 +0.5**
FVM pmax pmax
comp=Z,85nm,1.5s
P45A Graceland, Par 70.97 49 *e*P **P 02 06 23.0 +1.0**
comp=Z,49nm,1.2s
P45A LR LR
comp=Z,8μm,20.0s
P45A Graceland, Par 70.97 49 P **P 02 06 20.9 -1.1**
baz=323
G55A Calabogie 70.99 39 P **P 02 06 20.8 -1.2**
baz=327
U40A Yellville 71.00 55 P **P 02 06 21.2 -1.1**
baz=322,SNR=36
ACTO Acton 71.03 42 P **P 02 06 21.4 -0.9**
baz=326

PLVO	**Plevna**	**71.03**	**39**	*e*P	**P**	**02 06 23.2**	**+0.9**
	comp=Z,18nm,0.9s						
PLVO				LR	LR		
	comp=Z,8μm,20.0s						
PLVO	**Plevna**	**71.03**	**39**	P	**P**	**02 06 21.3**	**-1.0**
	baz=327						
I53A	**Kortright Cn E**	**71.04**	**42**	P	**P**	**02 06 21.5**	**-0.9**
	baz=326						
EAB	**Aberfoyle**	**71.05**	**351⇑**	*e*P	**P**	**02 06 21.7**	**-0.5**
TBLG	**Delisi**	**71.07**	**315**	*e*P	**P**	**02 06 23.0**	**+0.4**
	comp=Z,105nm,0.9s						
LAWE	**Loch Awe, Argy**	**71.07**	**352**	*e*P	**P**	**02 06 22.1**	**-0.2**
LAWE				IAmb	IAmb	02 06 24.1	
	comp=Z,104nm,1.2s						
LAWE				IAMs_20	IAMs_20	02 47 16.5	
	comp=Z,4μm,14.8s						
X37A	**Clayton**	**71.10**	**58**	*e*P	**P**	**02 06 25.8**	**+2.9**
	comp=Z,21nm,1.1s						
X37A				LR	LR		
	comp=Z,4μm,19.0s						
M49A	**Liberty Center**	**71.11**	**46**	P	**P**	**02 06 21.5**	**-1.3**
	baz=324						
O47A	**Sheridan**	**71.13**	**48**	P	**P**	**02 06 22.2**	**-0.7**
	baz=324						
PKRO	**Pickering**	**71.14**	**41**	P	**P**	**02 06 22.2**	**-0.8**
	baz=326						
ESY	**Stoneypath**	**71.14**	**350⇑**	*e*P	**P**	**02 06 22.6**	**-0.2**
N48A	**Decatur**	**71.14**	**47**	P	**P**	**02 06 22.0**	**-1.1**
	baz=324,SNR=9.1						
P46A	**Rosedale**	**71.15**	**49**	P	**P**	**02 06 22.1**	**-1.0**
	baz=324						
K51A	**Iona Station**	**71.16**	**43**	P	**P**	**02 06 21.6**	**-1.5**
	baz=325						
L50A	**Kingsville**	**71.16**	**45**	P	**P**	**02 06 21.9**	**-1.2**
	baz=325						
J52A	**Paris**	**71.16**	**43**	P	**P**	**02 06 21.9**	**-1.2**
	baz=326						
DELO	**Deloro Mine**	**71.25**	**40**	P	**P**	**02 06 23.3**	**-0.3**
	baz=327						
Q45A	**Warren Harvey,**	**71.28**	**50**	P	**P**	**02 06 22.6**	**-1.3**
	baz=323						
ORIO	**Orleans, Innes**	**71.28**	**38**	P	**P**	**02 06 22.9**	**-0.9**
	baz=328						
SLBS	**Sierra La Lagu**	**71.29**	**75**	PFAKE		02 06 40.0	+16
SLBS				LR	LR		
	comp=Z,2μm,18.0s						
HPIG		**71.32**	**70**	*e*P	**P**	**02 06 27.2**	**+2.7**
	comp=Z,22nm,0.9s						
HPIG				LR	LR		
	comp=Z,2μm,20.0s						
EBL	**Broad Law**	**71.33**	**350⇑**	*e*P	**P**	**02 06 25.1**	**+1.2**
ALFO	**Alfred**	**71.37**	**38**	P	**P**	**02 06 22.9**	**-1.4**
	baz=328						
H55A	**Tweed**	**71.40**	**40**	P	**P**	**02 06 24.1**	**-0.4**
	baz=327						
PGBU	**Glenifferbraes**	**71.43**	**351**	*e*P	**P**	**02 06 24.8**	**+0.2**
PGBU				IAmb	IAmb	02 06 30.2	
	comp=Z,233nm,1.2s						
PGBU				IAMs_20	IAMs_20	02 49 38.5	
	comp=Z,4μm,13.9s						
K52A	**Tillsonburg**	**71.44**	**43**	P	**P**	**02 06 24.0**	**-0.8**
	baz=326						
W39A	**Magazine**	**71.44**	**56**	*e*P	**P**	**02 06 25.4**	**+0.5**
	comp=Z,19nm,0.9s						
W39A				LR	LR		
	comp=Z,4μm,18.0s						
W39A	**Magazine**	**71.44**	**56**	P	**P**	**02 06 24.5**	**-0.4**
	baz=322						
WLVO	**Wesleyville**	**71.44**	**41**	P	**P**	**02 06 23.8**	**-1.0**
	baz=327						
N49A	**Columbus Grove**	**71.47**	**46**	*e*P	**P**	**02 06 25.4**	**+0.4**
	comp=Z,91nm,1.3s						
N49A				LR	LR		
	comp=Z,6μm,20.0s						
N49A	**Columbus Grove**	**71.47**	**46**	P	**P**	**02 06 23.8**	**-1.2**
	baz=324						
PLIO	**Pelee Island,**	**71.47**	**45**	P	**P**	**02 06 23.9**	**-1.1**
	baz=325						
U41A	**Viola**	**71.48**	**54**	P	**P**	**02 06 24.1**	**-1.0**
	baz=322						
I55A	**Frankford**	**71.48**	**40**	P	**P**	**02 06 23.8**	**-1.2**
	baz=327						
TYNO	**Tyneside**	**71.53**	**42**	P	**P**	**02 06 24.5**	**-0.8**
	baz=326						
ANN	**Anapa**	**71.54**	**321**	*e*P	**P**	**02 06 24.5**	**-0.8**
ANN				*e**PP	**pwP**	**02 06 36.6**	**+0.6**
ANN				*e*		02 09 04.2	
ANN				*e*S	**S**	**02 15 41.1**	**-1.5**
ANN				pmax	pmax		
	comp=Z,195nm,1.5s						
ANN				MLR	MLR		
	comp=E,8μm,17.0s						
ANN				MLR	MLR		
	comp=N,11μm,17.0s						
ANN				MLR	MLR		
	comp=Z,9μm,17.0s						
HYB	**Hyderabad**	**71.56**	**275⇑**	*i*P	**P**	**02 06 25.5**	**-0.4**
	comp=Z,285nm,1.0s						
HYB				*e*S	**S**	**02 15 46.0**	**+2.4**
HYB				LR	LR		
	comp=Z,11nm,16.0s						
O48A	**Farmland**	**71.57**	**47**	P	**P**	**02 06 24.4**	**-1.3**
	baz=324,SNR=8.3						
M50A	**Fremont**	**71.58**	**45**	PFAKE		02 06 40.0	+14
M50A				LR	LR		
	comp=Z,5μm,21.0s						
M50A	**Fremont**	**71.58**	**45**	P	**P**	**02 06 24.5**	**-1.1**
	baz=325						
BKNI	**Bangkinang**	**71.64**	**245**	PFAKE		02 06 40.0	+14
BKNI				LR	LR		
	comp=Z,6μm,21.0s						
SOC	**Sochi**	**71.66**	**319***c*	*i*P	**P**	**02 06 25.5**	**-0.6**
SOC				*e**PP	**pwP**	**02 06 37.7**	**+0.9**
SOC				*e**SP	**PcP**	**02 06 45.1**	**-0.1**
SOC				*e*		02 09 03.9	
SOC				*e*PPP	PPP	02 10 48.8	
SOC				*e*S	**S**	**02 15 35.1**	**-8.9**
SOC				*e*SS	**SS**	**02 20 22.9**	**+4.3**
SOC				*e*SSS	SSS	02 23 25.1	
SOC				pmax	pmax		
	comp=Z,62nm,0.6s						
SOC				MLR	MLR		
	comp=Z,17μm,16.0s						
LVV	**L'vov**	**71.69**	**332**	*i* P	**P**	**02 06 26.1**	**-0.1**
LVV				*i*		02 09 06.4	
LVV				*i*		02 10 48.7	
LVV				*i* S	**S**	**02 15 43.2**	**-1.0**
LVV				*i*		02 16 25.3	
LVV				*i*		02 20 22.6	
LVV				pmax	pmax		
	comp=Z,690nm,1.5s						
LVV				MLR	MLR		
	comp=N,13μm,17.0s						
LVV				MLR	MLR		
	comp=E,7μm,17.0s						
LVV				MLR	MLR		
	comp=Z,13μm,17.0s						
P47A	**Martinsville**	**71.69**	**49**	P	**P**	**02 06 25.5**	**-0.8**
	baz=324						
R45A	**Skylar, Fairfi**	**71.70**	**51**	P	**P**	**02 06 26.1**	**-0.3**
	baz=323						
S44A	**Carbondale**	**71.72**	**52**	P	**P**	**02 06 25.7**	**-0.8**
	baz=323,SNR=8.7						
SIUC	**Southern Illin**	**71.72**	**52**	*e*P	**P**	**02 06 27.3**	**+0.7**
	comp=Z,39nm,0.8s						
SIUC				LR	LR		
	comp=Z,8μm,21.0s						
H56A	**Elgin**	**71.72**	**39**	P	**P**	**02 06 24.7**	**-1.8**
	baz=328						
ESK	**Eskdalemuir**	**71.80**	**350**	*e*P	**P**	**02 06 27.2**	**+0.5**
	comp=Z,85nm,1.1s						
ESK				LR	LR		
	comp=Z,4μm,20.0s						
ESK	**Eskdalemuir**	**71.80**	**350**	*e*P	**P**	**02 06 26.8**	**+0.1**
ESK				IAmb	IAmb	02 06 31.5	
	comp=Z,81nm,1.1s						
ESK				IAMs_20	IAMs_20	02 47 11.7	
	comp=Z,21μm,15.0s						
ESK	**Eskdalemuir**	**71.80**	**350**	*i* P	**P**	**02 06 28.4**	**+1.7**
BLO	**Bloomington**	**71.82**	**49**	*e*P	**P**	**02 06 28.1**	**+0.9**
	comp=Z,33nm,0.8s						
BLO				LR	LR		
	comp=Z,7μm,21.0s						
RUE	**Ruedersdorf**	**71.83**	**339**	*e*P	**P**	**02 06 27.3**	**+0.4**
RUE				IAmb	IAmb	02 06 41.4	
	comp=Z,305nm,1.2s						
PBMO	**Poplar Bluff**	**71.87**	**53**	*e*P	**P**	**02 06 27.2**	**-0.3**
	comp=Z,86nm,1.3s						
PBMO				LR	LR		
	comp=Z,6μm,19.0s						
AKH	**Akhalkalaki**	**71.87**	**315**	*e*P	**P**	**02 06 28.4**	**+0.8**
	comp=Z,146nm,1.1s						
AKH				LR	LR		
	comp=Z,15μm,19.0s						
AKH	**Akhalkalaki**	**71.87**	**315⇑**	*i*P	**P**	**02 06 28.3**	**+0.6**
J54A	**Appleton**	**71.89**	**41**	*e*P	**P**	**02 06 28.9**	**+1.5**
	comp=Z,30nm,0.9s						
J54A				LR	LR		
	comp=Z,6μm,20.0s						
J54A	**Appleton**	**71.89**	**41**	P	**P**	**02 06 26.5**	**-0.9**
	baz=327						
JCT	**Junction City**	**71.91**	**64**	*e*P	**P**	**02 06 27.6**	**-0.2**
	comp=Z,47nm,1.0s						
JCT				LR	LR		
	comp=Z,3μm,21.0s						
JCT	**Junction City**	**71.91**	**64**	*e*P	**P**	**02 06 27.6**	**-0.2**
JCT				pmax	pmax		
	comp=Z,47nm,1.0s						
JCT				MLR	MLR		
	comp=Z,3μm,21.0s						
JCT	**Junction City**	**71.91**	**64**	P	**P**	**02 06 27.7**	**-0.2**
	baz=321						
PECO	**Prince Edward**	**71.99**	**40**	P	**P**	**02 06 26.7**	**-1.4**
	baz=327						
O49A	**Covington**	**72.00**	**47**	*e*P	**P**	**02 06 28.4**	**+0.2**
	comp=Z,70nm,1.1s						
O49A				LR	LR		
	comp=Z,6μm,20.0s						
O49A	**Covington**	**72.00**	**47**	P	**P**	**02 06 27.3**	**-0.9**
	baz=325						
M51A	**Elyria**	**72.01**	**45**	P	**P**	**02 06 27.2**	**-1.0**
	baz=325						
WHTX	**Lake Whitney,**	**72.01**	**61**	*e*P	**P**	**02 06 31.4**	**+3.0**
	comp=Z,25nm,0.8s						
WHTX				LR	LR		
	comp=Z,4μm,19.0s						
WHTX	**Lake Whitney,**	**72.01**	**61**	P	**P**	**02 06 27.3**	**-1.1**
	baz=321						
BHH	**Howats Hill**	**72.02**	**350**	*e*P	**P**	**02 06 28.1**	**0.0**
N50A	**Nevada**	**72.05**	**46**	P	**P**	**02 06 27.6**	**-0.8**
	baz=325,SNR=6.5						
MEDO	**Medina**	**72.05**	**41**	*e*P	**P**	**02 06 29.4**	**+0.9**
	comp=Z,33nm,0.9s						
MEDO	**Medina**	**72.05**	**41**	P	**P**	**02 06 27.3**	**-1.2**
	baz=327						
S45A	**Carrier Mills**	**72.05**	**51**	P	**P**	**02 06 27.0**	**-1.5**
	baz=323						
MIAR	**Mount Ida**	**72.06**	**57**	*e*P	**P**	**02 06 28.5**	**-0.1**
MIAR				LR	LR		
	comp=Z,5μm,18.0s						
MIAR	**Mount Ida**	**72.06**	**57**	*e*P	**P**	**02 06 28.5**	**-0.1**
MIAR				MLR	MLR		
	comp=Z,5μm,18.0s						
MIAR	**Mount Ida**	**72.06**	**57**	P	**P**	**02 06 28.0**	**-0.6**
	baz=322,SNR=20						
Q47A	**Bedord North L**	**72.06**	**49**	P	**P**	**02 06 27.9**	**-0.7**
	baz=324						
P48A	**Milroy**	**72.09**	**48**	P	**P**	**02 06 27.9**	**-0.9**
	baz=324,SNR=7.1						
WHAR	**Wooly Hollow**	**72.12**	**55**	*e*P	**P**	**02 06 28.5**	**-0.6**
	comp=Z,74nm,1.3s						
WHAR				LR	LR		
	comp=Z,6μm,22.0s						
R46A	**Gibon Southern**	**72.13**	**50**	P	**P**	**02 06 28.8**	**-0.2**
	baz=324						
EDMD	**Edmundbyers**	**72.14**	**349**	*e*P	**P**	**02 06 29.4**	**+0.5**
EDMD				IAmb	IAmb	02 06 31.1	
	comp=Z,148nm,1.6s						
EDMD				IAMs_20	IAMs_20	02 45 04.2	
	comp=Z,5μm,19.9s						
M52A	**Chesterland**	**72.19**	**44**	*e*P	**P**	**02 06 29.4**	**0.0**
	comp=Z,77nm,1.1s						
M52A				LR	LR		
	comp=Z,6μm,18.0s						
M52A	**Chesterland**	**72.19**	**44**	P	**P**	**02 06 28.6**	**-0.7**
	baz=326						
J55A	**Hilton**	**72.22**	**41**	*e*P	**P**	**02 06 30.2**	**+0.8**
	comp=Z,22nm,0.8s						
J55A				LR	LR		
	comp=Z,6μm,19.0s						
J55A	**Hilton**	**72.22**	**41**	P	**P**	**02 06 28.7**	**-0.8**
	baz=327,SNR=5.3						
KWP	**Kalwaria Pacla**	**72.23**	**333**	*e*P	**P**	**02 06 30.2**	**+0.7**
KWP				*e*S	**S**	**02 15 53.7**	**+3.2**
KWP	**Kalwaria Pacla**	**72.23**	**333**	*e*P	**P**	**02 06 30.2**	**+0.7**
	comp=Z,7μm,1.2s						
KWP				LR	LR		
	comp=Z,162μm,18.0s						
KWP	**Kalwaria Pacla**	**72.23**	**333**	*e*P	**P**	**02 06 30.2**	**+0.7**
KWP				*e*S	**S**	**02 15 53.7**	**+3.2**
W41B	**Gary Mavity, V**	**72.24**	**55**	*e*P	**P**	**02 06 29.3**	**-0.4**
	comp=Z,32nm,0.8s						
W41B				LR	LR		
	comp=Z,6μm,22.0s						
W41B	**Gary Mavity, V**	**72.24**	**55**	P	**P**	**02 06 29.0**	**-0.7**
	baz=322,SNR=19						
USIN	**University of**	**72.26**	**50**	*e*P	**P**	**02 06 31.1**	**+1.3**
	comp=Z,209nm,1.3s						
USIN				LR	LR		
	comp=Z,7μm,19.0s						
N51A	**Ashland**	**72.26**	**45**	*e*P	**P**	**02 06 29.4**	**-0.3**
	comp=Z,83nm,0.9s						
N51A				LR	LR		
	comp=Z,6μm,19.0s						
N51A	**Ashland**	**72.26**	**45**	P	**P**	**02 06 28.4**	**-1.4**
	baz=325,SNR=7.3						
ERPA	**Erie**	**72.29**	**43**	*e*P	**P**	**02 06 31.1**	**+1.2**
	comp=Z,37nm,0.9s						
ERPA				LR	LR		
	comp=Z,4μm,19.0s						
ERPA	**Erie**	**72.29**	**43**	P	**P**	**02 06 28.8**	**-1.2**
	baz=326						
PARMO	**Parma**	**72.29**	**53**	*e*P	**P**	**02 06 32.6**	**+2.6**
	comp=Z,234nm,0.8s						
PARMO				LR	LR		
	comp=Z,7μm,19.0s						
L53A	**Girard**	**72.31**	**43**	P	**P**	**02 06 28.3**	**-1.8**
	baz=326						
LONY	**Lake Ozonia**	**72.34**	**38**	*e*P	**P**	**02 06 30.5**	**+0.3**
	comp=Z,16nm,1.2s						
LONY				LR	LR		
	comp=Z,4μm,22.0s						
LONY	**Lake Ozonia**	**72.34**	**38**	P	**P**	**02 06 28.8**	**-1.4**
	baz=328						
O50A	**Cable**	**72.35**	**46**	P	**P**	**02 06 29.0**	**-1.3**
	baz=325						
P49A	**Miami Univ. Ec**	**72.36**	**47**	P	**P**	**02 06 29.1**	**-1.3**
	baz=325,SNR=8.4						
GNI	**Garni**	**72.36**	**314**	*e*P	**P**	**02 06 31.8**	**+1.1**
	comp=Z,343nm,1.4s						
GNI	**Garni**	**72.36**	**314**	*i* P	**P**	**02 06 31.5**	**+0.9**
	SNR=27						
GNI	**Garni**	**72.36**	**314***ce*	P	**P**	**02 06 31.4**	**+0.9**
GNI				pmax	pmax		
	comp=Z,427nm,1.2s						
GNI	**Garni**	**72.36**	**314**	P	**P**	**02 06 31.7**	**+1.1**
	SNR=23						
GNI				P	**P**	**02 06 31.7**	**+1.1**
	SNR=23						
Q48A	**North Vernon**	**72.38**	**49**	P	**P**	**02 06 29.7**	**-0.8**
	baz=324						
GAL1	**Galloway**	**72.39**	**351**	*e*P	**P**	**02 06 30.9**	**+0.6**
GAL1				IAmb	IAmb	02 06 32.0	
	comp=Z,41nm,1.2s						
GAL1				IAMs_20	IAMs_20	02 46 40.4	
	comp=Z,2μm,17.9s						
IDGL	**Inch Island, C**	**72.42**	**353**	*e*P	**P**	**02 06 26.7**	**-3.8**
IDGL				*i* PP	**pP**	**02 06 31.5**	**-5.5**
IDGL				*e*S	**S**	**02 15 48.9**	**-3.5**
IDGL	**Inch Island, C**	**72.42**	**353**	*e*P	**P**	**02 06 30.9**	**+0.4**
IDGL				IAmb	IAmb	02 06 32.8	
	comp=Z,140nm,1.2s						
S46A	**Don Dixon Farm**	**72.46**	**51**	P	**P**	**02 06 30.4**	**-0.5**
	baz=324						
BHJ	**Bhuj**	**72.47**	**285**	*e*P	**P**	**02 06 30.4**	**-0.8**
L54A	**Sinclairville**	**72.47**	**42**	P	**P**	**02 06 30.1**	**-1.0**
	baz=326						
X40A	**Basin Creek Fa**	**72.48**	**56**	*e*P	**P**	**02 06 31.7**	**+0.5**
	comp=Z,24nm,1.1s						
X40A				LR	LR		
	comp=Z,5μm,20.0s						
X40A	**Basin Creek Fa**	**72.48**	**56**	P	**P**	**02 06 30.2**	**-0.9**
	baz=322,SNR=8.8						
BATM	**Batumi**	**72.48**	**316⇑**	*i*P	**P**	**02 06 30.8**	**-0.3**
OJC	**Ojcow**	**72.48**	**335**	*e*P	**P**	**02 06 31.6**	**+0.6**
OJC				*e*S	**S**	**02 15 53.6**	**+0.2**
OJC	**Ojcow**	**72.48**	**335**	*e*P	**P**	**02 06 31.4**	**+0.4**
	comp=Z,257nm,1.2s						
OJC	**Ojcow**	**72.48**	**335**	*e*P	**P**	**02 06 31.4**	**+0.4**
OJC				pmax	pmax		
	comp=Z,257nm,1.2s						
UALR	**University of**	**72.50**	**56**	PFAKE		02 06 40.0	+8.7
UALR				LR	LR		
	comp=Z,4μm,22.0s						
KESW	**Keswick, Cumbr**	**72.50**	**350**	*e*P	**P**	**02 06 30.9**	**0.0**
KESW				IAmb	IAmb	02 06 36.5	
	comp=Z,172nm,1.0s						
KESW				IAMs_20	IAMs_20	02 48 01.9	
	comp=Z,5μm,15.5s						
PVMO	**Portageville**	**72.52**	**53**	PFAKE		02 06 40.0	+8.6
PVMO				LR	LR		
	comp=Z,7μm,19.0s						
R47A	**Wooly Knot Far**	**72.53**	**49**	P	**P**	**02 06 30.6**	**-0.8**
	baz=324						
FRNY	**Flat Rock**	**72.53**	**37**	PFAKE		02 06 40.0	+8.7
FRNY				LR	LR		
	comp=Z,7μm,19.0s						
T45A	**Paducah**	**72.55**	**52**	PFAKE		02 06 40.0	+8.5
T45A				LR	LR		
	comp=Z,7μm,20.0s						
T45A	**Paducah**	**72.55**	**52**	P	**P**	**02 06 30.4**	**-1.1**
	baz=323						
ACSO	**Alum Creek Sta**	**72.56**	**46**	*e*P	**P**	**02 06 32.3**	**+0.7**
	comp=Z,87nm,1.1s						
ACSO				LR	LR		
	comp=Z,6μm,20.0s						
ACSO	**Alum Creek Sta**	**72.56**	**46**	P	**P**	**02 06 30.5**	**-1.1**
	baz=325						
M53A	**WI Miller and**	**72.56**	**44**	P	**P**	**02 06 30.7**	**-0.9**
	baz=326,SNR=9.4						
K55A	**Perry**	**72.57**	**41**	P	**P**	**02 06 30.7**	**-1.0**
	baz=327,SNR=8.0						
MOQ	**Mont Orford**	**72.61**	**36**	*e*P	**P**	**02 06 31.8**	**0.0**
ALLY	**Alegheny Colle**	**72.61**	**43**	*e*P	**P**	**02 06 33.1**	**+1.2**
	comp=Z,72nm,1.2s						
ALLY				LR	LR		
	comp=Z,5μm,19.0s						
MMNY	**Mt. Morris Dam**	**72.63**	**41**	*e*P	**P**	**02 06 31.4**	**-0.6**
	comp=Z,29nm,0.8s						
BCA	**Borcka**	**72.64**	**316**	P	**P**	**02 06 31.4**	**-0.7**
BCA	**Borcka**	**72.64**	**316⇑**	*i*P	**P**	**02 06 31.9**	**-0.2**
N52A	**McGinn's Farm,**	**72.65**	**45**	P	**P**	**02 06 31.3**	**-0.8**
	baz=326						
SIM	**Simferopol'**	**72.66**	**323***ce*	P	**P**	**02 06 32.1**	**0.0**
SIM				*e*		02 06 44.0	
SIM				*e*		02 09 16.0	
SIM				*e*S	**S**	**02 15 57.0**	**+1.5**
SIM				pmax	pmax		
	comp=Z,104nm,1.0s						
SIM				MLR	MLR		
	comp=Z,12μm,17.6s						
WCI	**Wyandotte Cave**	**72.69**	**49**	*e*P	**P**	**02 06 32.3**	**0.0**
	comp=Z,56nm,0.8s						
WCI				LR	LR		
	comp=Z,6μm,20.0s						
WCI	**Wyandotte Cave**	**72.69**	**49**	*e*P	**P**	**02 06 32.3**	**0.0**
WCI				pmax	pmax		
	comp=Z,56nm,0.8s						
WCI				MLR	MLR		
	comp=Z,6μm,20.0s						
WCI	**Wyandotte Cave**	**72.69**	**49**	P	**P**	**02 06 31.3**	**-1.0**
	baz=324						
KARS	**Kars**	**72.69**	**315**	P	P	02 06 39.0	+6.5
Q49A	**Aurora**	**72.70**	**48**	P	**P**	**02 06 31.9**	**-0.5**
	baz=325						
P50A	**Jamestown**	**72.71**	**47**	P	**P**	**02 06 31.4**	**-1.1**
	baz=325						
TASB	**TASBURUN-IGDIR**	**72.71**	**314**	P	**P**	**02 06 33.4**	**+0.8**
KIS	**Kishinev**	**72.72**	**328⇑**	*i*P	**P**	**02 06 31.0**	**-1.4**
	comp=Z,840nm,2.0s						
KIS	**Kishinev**	**72.72**	**328**	*e*PcP	**PcP**	**02 06 43.0**	**-6.6**
KIS	**Kishinev**	**72.72**	**328**	*e*PP	PP	02 09 15.0	+1.4
KIS				*e*S	S	02 15 47.0	-9.1
KIS	**Kishinev**	**72.72**	**328⇑**	*i*P	**P**	**02 06 31.0**	**-1.4**
KIS				*e*		02 06 43.0	
KIS				*e*		02 06 50.0	
KIS				*e*		02 09 15.0	
KIS				*e*S	S	02 15 47.0	-9.1
KIS				pmax	pmax		
	comp=Z,840nm,2.0s						
KIS				MLR	MLR		
	comp=Z,24μm,17.5s						
KIS				MLR	MLR		
	comp=N,20μm,17.5s						
GNAR	**Gosnell**	**72.72**	**53**	PFAKE		02 06 50.0	+17
GNAR				LR	LR		
	comp=Z,5μm,21.0s						
HBAR	**Harrisburg**	**72.73**	**54**	*e*P	**P**	**02 06 35.7**	**+3.1**
	comp=Z,78nm,1.0s						
HBAR				LR	LR		
	comp=Z,5μm,18.0s						
R48A	**Northridge Ran**	**72.75**	**49**	P	**P**	**02 06 32.0**	**-0.7**
	baz=324						
KSP	**Ksiaz**	**72.78**	**337**	*e*P	**P**	**02 06 33.1**	**+0.4**
KSP				*e*S	**SKiKP**	**02 16 02.0**	**-2.3**
KSP	**Ksiaz**	**72.78**	**337**	*e*P	**P**	**02 06 33.1**	**+0.4**
GSI	**Gunungsitoli**	**72.79**	**249**	*e*P	**P**	**02 06 33.6**	**+0.4**
	comp=Z,261nm,1.5s						
GSI				LR	LR		
	comp=Z,11μm,20.0s						
GLAT	**Glass**	**72.83**	**53**	PFAKE		02 06 50.0	+17
GLAT				LR	LR		
	comp=Z,6μm,20.0s						
L55A	**Hinsdale**	**72.88**	**42**	P	**P**	**02 06 32.7**	**-0.8**
	baz=327						
435B	**Jarrell**	**72.88**	**62**	*e*P	**P**	**02 06 36.1**	**+2.5**
	comp=Z,38nm,1.0s						
435B				LR	LR		
	comp=Z,3μm,20.0s						
435B	**Jarrell**	**72.88**	**62**	P	**P**	**02 06 33.5**	**-0.1**
	baz=321						
T46A	**Princeton**	**72.89**	**51**	P	**P**	**02 06 33.2**	**-0.4**
	baz=324,SNR=29						
PQI	**Presque Isle**	**72.89**	**33**	*e*P	**P**	**02 06 34.5**	**+1.1**
	comp=Z,33nm,1.1s						
PQI				LR	LR		
	comp=Z,8μm,20.0s						
S47A	**Hartford**	**72.92**	**50**	P	**P**	**02 06 33.3**	**-0.5**
	baz=324,SNR=9.4						
M54A	**Oil Creek Stat**	**72.93**	**43**	*e*P	**P**	**02 06 33.4**	**-0.4**
	comp=Z,36nm,1.0s						
M54A				LR	LR		
	comp=Z,4μm,18.0s						
M54A	**Oil Creek Stat**	**72.93**	**43**	P	**P**	**02 06 32.9**	**-0.9**
	baz=326						
IAS	**Iasi**	**72.95**	**329⇑**	*i*P	**P**	**02 06 34.8**	**+1.0**
WLAR	**White Oak Lake**	**72.97**	**57**	*e*P	**P**	**02 06 35.5**	**+1.5**
	comp=Z,54nm,1.1s						
WLAR				LR	LR		
	comp=Z,4μm,18.0s						
KOLS	**Kolonicke sedl**	**72.98**	**333**	*e*P	**P**	**02 06 34.5**	**+0.5**
KOLS				pmax	pmax		
	comp=Z,124nm,1.7s						
KOLS	**Kolonicke sedl**	**72.98**	**333**	*e*P	**P**	**02 06 34.5**	**+0.5**
KOLS				*e*S	**S**	**02 15 59.3**	**+0.2**
KOLS				*e*L	L	02 42 48.1	
N53A	**Lisbon**	**73.02**	**44**	*e*P	**P**	**02 06 34.0**	**-0.3**
	comp=Z,169nm,1.5s						
N53A				LR	LR		
	comp=Z,6μm,18.0s						
N53A	**Lisbon**	**73.02**	**44**	P	**P**	**02 06 33.2**	**-1.1**
	baz=326,SNR=11						
RAC	**Raciborz**	**73.02**	**336**	*e*P	**P**	**02 06 35.4**	**+1.3**
RAC				*e*S	**S**	**02 16 00.8**	**+1.4**
RAC				MLR	MLR		
	comp=Z,18μm,18.9s						
NCB	**Newcomb**	**73.03**	**38**	*e*P	**P**	**02 06 34.6**	**+0.3**
	comp=Z,35nm,1.4s						
NCB				LR	LR		
	comp=Z,3μm,20.0s						
SENK	**Senkaya-Erzuru**	**73.06**	**315**	P	**P**	**02 06 36.2**	**+1.4**
NIE	**Niedzica**	**

CLL				pmax	pmax		
	comp=Z,142nm,1.2s						
CLL	**Collm**	**73.09**	**339**	⇑*i*P	**P**	**02 06 34.7**	**+0.2**
	comp=Z,142nm,1.2s						
CLL				*e*Pmax		02 06 39.0	
CLL				*i* pP	**pwP**	**02 06 46.4**	**+1.4**
	comp=Z,364nm,1.6s						
CLL				*e*PcP	**PcP**	**02 06 54.0**	**+2.8**
CLL				*e*PP	**PP**	**02 09 16.0**	**-0.6**
CLL				*e*PPP	PPP	02 11 00.0	
CLL				*e*PPPP		02 11 54.0	
CLL				*ep*PPPP		02 12 12.0	
CLL				*e*S	**S**	**02 15 57.0**	**-3.2**
CLL				*es*S	**sS**	**02 16 18.0**	**+6.7**
CLL				*e*PPS	PPS	02 16 41.0	
CLL				*e*		02 17 28.0	
CLL				*e*SS	**SS**	**02 20 36.0**	**-4.1**
CLL				*e*SSS	SSS	02 24 06.0	
CLL				*e*		02 25 00.0	
CLL				*e*SSSS		02 25 42.0	
CLL				Lmax		02 44 00.0	
HALT	**Halls**	**73.09**	**53**	PFAKE		02 06 50.0	+15
HALT				LR	LR		
	comp=Z,6μm,19.0s						
P51A	**Williamsport**	**73.14**	**46**	*e*P	**P**	**02 06 35.8**	**+0.7**
	comp=Z,31nm,1.0s						
P51A				LR	LR		
	comp=Z,7μm,20.0s						
P51A	**Williamsport**	**73.14**	**46**	P	**P**	**02 06 33.9**	**-1.1**
	baz=325						
R49A	**Shelbyville**	**73.16**	**49**	P	**P**	**02 06 34.4**	**-0.8**
	baz=325,SNR=8.1						
O52A	**Adamsville**	**73.16**	**45**	*e*P	**P**	**02 06 34.8**	**-0.4**
	comp=Z,75nm,0.8s						
O52A				LR	LR		
	comp=Z,6μm,19.0s						
O52A	**Adamsville**	**73.16**	**45**	P	**P**	**02 06 34.3**	**-0.8**
	baz=326,SNR=14						
UPC	**Upice**	**73.16**	**337**	*e*P	**P**	**02 06 35.4**	**+0.4**
UPC				*e*		02 06 46.5	
UPC				*e*S	S	02 15 46.5	-15
UPC				MLR	MLR		
	comp=Z,23μm,15.2s						
UPC	**Upice**	**73.16**	**337**	*e*P	**P**	**02 06 35.4**	**+0.4**
UPC				*ep*P	**pwP**	**02 06 46.5**	**+1.0**
UPC				*e*S	S	02 15 46.5	-15
UPC				AMS	AMS	02 45 20.0	
	comp=Z,23μm,15.2s						
SEVA	**Sevastopol**	**73.18**	**323**	⇑*i*P	**P**	**02 06 35.0**	**-0.1**
PRAR	**RASCA**	**73.22**	**329**	⇑*i*P	**P**	**02 06 35.9**	**+0.5**
DPC	**Dobruska-Polom**	**73.23**	**337**	*e*P	**P**	**02 06 36.6**	**+1.2**
DPC				*e*		02 06 47.5	
DPC				*e*S	**S**	**02 15 59.1**	**-2.9**
DPC				MLR	MLR		
	comp=Z,19μm,15.6s						
DPC	**Dobruska-Polom**	**73.23**	**337**	*e*P	**P**	**02 06 36.6**	**+1.2**
DPC				*ep*P	**pwP**	**02 06 47.5**	**+1.5**
DPC				*e*S	**S**	**02 15 59.1**	**-2.9**
DPC				AMS	AMS	02 45 10.0	
	comp=Z,19μm,15.6s						
N54A	**Moraine State**	**73.25**	**44**	*e*P	**P**	**02 06 35.9**	**+0.2**
	comp=Z,118nm,1.4s						
N54A				LR	LR		
	comp=Z,4μm,18.0s						
N54A	**Moraine State**	**73.25**	**44**	P	**P**	**02 06 34.4**	**-1.2**
	baz=326,SNR=12						
Q50A	**Georgetown**	**73.25**	**47**	P	**P**	**02 06 35.3**	**-0.4**
	baz=325						
UZH	**Uzhgorod**	**73.25**	**333**	*e*P	**P**	**02 06 35.6**	**+0.1**
UZH				*i*		02 06 47.5	
UZH				*i*		02 06 53.3	
UZH				*e*		02 07 03.4	
UZH				*e*		02 09 13.4	
UZH				*e*S	**S**	**02 16 00.0**	**-2.1**
UZH				*i* PS	**PnS**	**02 16 28.2**	**-6.8**
UZH				MLR	MLR		
	comp=N,2μm,17.0s						
UZH				MLR	MLR		
	comp=E,1μm,17.0s						
UZH				MLR	MLR		
	comp=Z,2μm,17.0s						
OKC	**Ostrava-Krasne**	**73.26**	**336**	*e*P	**P**	**02 06 36.1**	**+0.6**
OKC				*e*		02 06 48.9	
OKC				MLR	MLR		
	comp=Z,13μm,19.0s						
OKC	**Ostrava-Krasne**	**73.26**	**336**	*e*P	**P**	**02 06 36.1**	**+0.6**
OKC				*ex*	x	02 06 48.9	
OKC				*e*S	**SKiKP**	**02 16 13.1**	**+8.0**
OKC				AMS	AMS	02 42 20.0	
	comp=Z,13μm,19.0s						
S48A	**Wiedeman Farm,**	**73.26**	**50**	P	**P**	**02 06 35.0**	**-0.7**
	baz=324,SNR=9.2						
VT1	**Waterbury**	**73.27**	**37**	PFAKE		02 06 50.0	+14
VT1				LR	LR		
	comp=Z,6μm,19.0s						
CTAO	**Charters Tower**	**73.27**	**194**	*e*P	**P**	**02 06 36.6**	**+0.8**
	comp=Z,39nm,1.0s						
CTAO				LR	LR		
	comp=Z,3μm,20.0s						
CTAO	**Charters Tower**	**73.27**	**194**	*e*P	**P**	**02 06 36.6**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,39nm,1.0s						
CTAO				MLR	MLR		
	comp=Z,3μm,20.0s						
BUR08	**Bucovina Ar. S**	**73.29**	**330**	*e*P	**P**	**02 06 36.0**	**+0.2**
	comp=Z,141nm,0.9s						
BRG	**Berggiesshubel**	**73.30**	**339**	*i* P	**P**	**02 06 35.8**	**+0.1**
	comp=Z,44nm,1.1s						
BRG				*i*		02 06 48.8	
	comp=Z,154nm,1.5s						
BRG				PP	**PP**	**02 09 17.0**	**-1.4**
BRG				S	**S**	**02 16 02.0**	**-0.5**
BRG				SS	**SS**	**02 20 44.0**	**+0.8**
BRG	**Berggiesshubel**	**73.30**	**339**	*i* P	**P**	**02 06 35.8**	**+0.1**
BRG				*i*		02 06 48.8	
BRG						02 09 17.0	
BRG				S	**S**	**02 16 02.0**	**-0.5**
BRG				SS	**SS**	**02 20 44.0**	**+0.8**
BRG				pmax	pmax		
	comp=Z,45nm,1.1s						
BRG				MLR	MLR		
	comp=N,9μm,14.4s						
BRG				MLR	MLR		
	comp=E,6μm,14.2s						
BRG				MLR	MLR		
	comp=Z,14μm,13.9s						
U46A	**Springville**	**73.30**	**52**	P	**P**	**02 06 35.4**	**-0.6**
	baz=324						
T47A	**Sharon Grove**	**73.31**	**51**	*e*P	**P**	**02 06 36.3**	**+0.3**
	comp=Z,173nm,1.3s						
T47A				LR	LR		
	comp=Z,8μm,20.0s						
T47A	**Sharon Grove**	**73.31**	**51**	P	**P**	**02 06 35.5**	**-0.5**
	baz=324,SNR=21						
BURAR	**Bucovina Array**	**73.31**	**330**	⇓*i*P	**P**	**02 06 36.0**	**0.0**
O53A	**New Philadelph**	**73.32**	**45**	P	**P**	**02 06 35.3**	**-0.7**
	baz=326,SNR=8.0						
M55A	**Ridgway**	**73.34**	**42**	P	**P**	**02 06 35.2**	**-1.0**
	baz=327						
LEOM	**Leova**	**73.37**	**328**	⇑*i*P	**P**	**02 06 37.0**	**+0.8**
KRLC	**Kraliky**	**73.38**	**337**	*e*P	**P**	**02 06 36.8**	**+0.5**
KRLC				*e*		02 06 47.6	
KRLC				MLR	MLR		
	comp=Z,3μm,14.6s						
KRLC	**Kraliky**	**73.38**	**337**	*e*P	**P**	**02 06 36.8**	**+0.5**
KRLC				*ep*P	**pwP**	**02 06 47.6**	**+0.8**
KRLC				*e*S	SKiKP	02 16 17.3	+12
KRLC				AMS	AMS	02 45 00.0	
	comp=Z,3μm,14.6s						
Q51A	**Peebles**	**73.38**	**47**	*e*P	**P**	**02 06 37.1**	**+0.7**
	comp=Z,36nm,0.8s						
Q51A				LR	LR		
	comp=Z,6μm,20.0s						
Q51A	**Peebles**	**73.38**	**47**	P	**P**	**02 06 35.1**	**-1.4**
	baz=325						
P52A	**Corning**	**73.42**	**46**	P	**P**	**02 06 35.7**	**-1.0**
	baz=326						
MET	**Memphis--Engin**	**73.43**	**54**	PFAKE		02 06 50.0	+13
MET				LR	LR		
	comp=Z,6μm,22.0s						
X43A	**Marvell**	**73.44**	**55**	PFAKE		02 06 50.0	+13
X43A				LR	LR		
	comp=Z,6μm,18.0s						
X43A	**Marvell**	**73.44**	**55**	P	**P**	**02 06 36.3**	**-0.5**
	baz=323						
Z41A	**Richland Creek**	**73.46**	**57**	PFAKE		02 06 50.0	+13
Z41A				LR	LR		
	comp=Z,5μm,18.0s						
Z41A	**Richland Creek**	**73.46**	**57**	P	**P**	**02 06 36.4**	**-0.6**
	baz=322						
MORC	**Moravsky Berou**	**73.47**	**336**	*e*P	**P**	**02 06 36.7**	**-0.1**
	comp=Z,187nm,1.2s						
MORC				LR	LR		
	comp=Z,17μm,18.0s						
MORC	**Moravsky Berou**	**73.47**	**336**	⇓*i*P	**P**	**02 06 37.3**	**+0.5**
MORC	**Moravsky Berou**	**73.47**	**336**	⇑*i*P	**P**	**02 06 37.4**	**+0.6**
MORC				*e*PCP	**pwP**	**02 06 49.9**	**+2.5**
MORC				*e*S	**S**	**02 16 03.4**	**-1.2**
CCAR	**Cane Creek**	**73.47**	**56**	*e*P	**P**	**02 06 39.6**	**+2.6**
	comp=Z,104nm,1.3s						
CCAR				LR	LR		
	comp=Z,5μm,19.0s						
PVCC	**Panska Ves**	**73.48**	**338**	*e*P	**P**	**02 06 37.1**	**+0.3**
PVCC				*e*		02 06 49.8	
PVCC				*e*S	**SKiKP**	**02 16 07.8**	**+2.4**
PVCC				MLR	MLR		
	comp=Z,18μm,16.0s						
PVCC	**Panska Ves**	**73.48**	**338**	*e*P	**P**	**02 06 37.1**	**+0.3**
PVCC				*ep*P	**pwP**	**02 06 49.8**	**+2.5**
PVCC				*e*S	**SKiKP**	**02 16 07.8**	**+2.4**
PVCC				AMS	AMS	02 44 10.0	
	comp=Z,18μm,16.0s						
S49A	**Springfield**	**73.51**	**49**	P	**P**	**02 06 36.8**	**-0.4**
	baz=325,SNR=12						
LBWR	**Ladybower, Pea**	**73.52**	**349**	*e*P	**P**	**02 06 36.7**	**-0.3**
LBWR				IAmb	IAmb	02 06 39.4	
	comp=Z,144nm,1.2s						
LBWR				IAMs_20	IAMs_20	02 48 19.4	
	comp=Z,9μm,14.7s						
T48A	**Bowling Green**	**73.54**	**50**	P	**P**	**02 06 36.8**	**-0.6**
	baz=324,SNR=6.8						
CLDR	**Caldiran**	**73.55**	**314**	P	**P**	**02 06 38.9**	**+1.2**
R50A	**Paris**	**73.55**	**48**	P	**P**	**02 06 36.8**	**-0.6**
	baz=325						
LANS	**Liptovska Anna**	**73.55**	**335**	*e*P	**P**	**02 06 38.8**	**+1.5**
LANS	**Liptovska Anna**	**73.55**	**335**	*e*P	**P**	**02 06 38.8**	**+1.5**
POO	**Poona**	**73.57**	**279**	*e*P	**P**	**02 06 36.9**	**-1.0**
AGRB	**Hanur-Agry**	**73.60**	**314**	P	**P**	**02 06 39.2**	**+1.2**
TRPA	**Tarpa**	**73.64**	**332**	⇑*i*P	**P**	**02 06 38.7**	**+0.9**
TRPA	**Tarpa**	**73.64**	**332**	*e*P	**P**	**02 06 38.0**	**+0.3**
TRPA	**Tarpa**	**73.64**	**332**	*e*S	**S**	**02 16 09.1**	**+2.7**
BIZ	**Bicaz**	**73.64**	**329**	⇑*i*P	**P**	**02 06 38.3**	**+0.5**
LBNH	**Lisbon**	**73.65**	**36**	*e*P	**P**	**02 06 39.9**	**+1.9**
	comp=Z,32nm,1.1s						
LBNH				LR	LR		
	comp=Z,5μm,21.0s						
LBNH	**Lisbon**	**73.65**	**36**	P	**P**	**02 06 36.7**	**-1.3**
	baz=330						
UGM	**Wanagama**	**73.65**	**232**	*e*P	**P**	**02 06 39.1**	**+0.8**
	comp=Z,252nm,1.3s						
UGM				LR	LR		
	comp=Z,5μm,20.0s						
WVT	**Waverly**	**73.65**	**52**	*e*P	**P**	**02 06 38.1**	**+0.1**
	comp=Z,37nm,0.8s						
WVT				LR	LR		
	comp=Z,7μm,21.0s						
WVT	**Waverly**	**73.65**	**52**	*e*P	**P**	**02 06 38.1**	**+0.1**
WVT				pmax	pmax		
	comp=Z,37nm,0.8s						
WVT				MLR	MLR		
	comp=Z,7μm,21.0s						
WVT	**Waverly**	**73.65**	**52**	P	**P**	**02 06 37.2**	**-0.8**
	baz=324						
U47A	**Clarksville**	**73.66**	**51**	P	**P**	**02 06 37.6**	**-0.5**
	baz=324,SNR=11						
NATX	**Nacogdoches**	**73.68**	**59**	*e*P	**P**	**02 06 39.8**	**+1.5**
	comp=Z,41nm,0.7s						
NATX				LR	LR		
	comp=Z,6μm,22.0s						
NATX	**Nacogdoches**	**73.68**	**59**	P	**P**	**02 06 37.6**	**-0.7**
	baz=322						
WTSB	**Winterswijk**	**73.68**	**343**	*e*P	**P**	**02 06 38.1**	**+0.2**
	comp=Z,400nm,1.6s						
WTSB				*e*X		02 06 50.9	
PKME	**Peaks-Kenny Pk**	**73.69**	**34**	PFAKE		02 06 50.0	+12
PKME				LR	LR		
	comp=Z,7μm,19.0s						
PKME	**Peaks-Kenny Pk**	**73.69**	**34**	P	**P**	**02 06 37.5**	**-0.7**
	baz=331,SNR=5.9						
ETX06	**Route 59 and C**	**73.70**	**59**	PFAKE		02 06 50.0	+12
ETX06				LR	LR		
	comp=Z,2μm,20.0s						
ACCN	**Adirondack Com**	**73.74**	**38**	*e*P	**P**	**02 06 38.9**	**+0.4**
ACCN				LR	LR		
	comp=Z,5μm,20.0s						
KOPR	**Koprukoy-ERZUR**	**73.75**	**315**	P	**P**	**02 06 39.6**	**+0.8**
BIR	**Birlad**	**73.75**	**328**	⇑*i*P	**P**	**02 06 39.5**	**+1.0**
BMR	**Baia Mare**	**73.77**	**331**	⇓*i*P	**P**	**02 06 40.5**	**+1.9**
V46A	**Holladay**	**73.78**	**52**	P	**P**	**02 06 38.1**	**-0.7**
	baz=324,SNR=12						
833A	**Chaparral WMA,**	**73.80**	**65**	*e*P	**P**	**02 06 42.8**	**+3.7**
	comp=Z,38nm,1.0s						
833A				LR	LR		
	comp=Z,3μm,19.0s						
833A	**Chaparral WMA,**	**73.80**	**65**	P	**P**	**02 06 37.0**	**-2.0**
	baz=321						
KTUT	**Trabzon**	**73.80**	**317**	P	**P**	**02 06 38.2**	**-0.7**
KTUT	**Trabzon**	**73.80**	**317**	⇑*i*P	**P**	**02 06 38.5**	**-0.4**
WPS	**Cemaes, Angles**	**73.82**	**351**	⇑*e*P	**P**	**02 06 39.7**	**+1.0**
WPS				IAmb	IAmb	02 06 40.8	
	comp=Z,74nm,1.1s						
WPS				IAMs_20	IAMs_20	02 48 32.7	
	comp=Z,4μm,16.2s						
N55A	**Marion Center**	**73.82**	**43**	*e*P	**P**	**02 06 38.8**	**-0.3**
	comp=Z,73nm,1.1s						
N55A				LR	LR		
	comp=Z,4μm,19.0s						
N55A	**Marion Center**	**73.82**	**43**	P	**P**	**02 06 37.8**	**-1.3**
	baz=327,SNR=11						
TESR	**Tescani**	**73.85**	**329**	⇑*i*P	**P**	**02 06 39.2**	**+0.1**
BINY	**Binghamton**	**73.85**	**40**	*e*P	**P**	**02 06 39.8**	**+0.6**
	comp=Z,52nm,1.4s						
BINY				LR	LR		
	comp=Z,7μm,20.0s						
BINY	**Binghamton**	**73.85**	**40**	P	**P**	**02 06 37.6**	**-1.6**
	baz=328						
MARNC	**Mare, Loyalty**	**73.87**	**173**	PFAKE		02 06 50.0	+11
MARNC				LR	LR		
	comp=Z,10μm,21.0s						
MDRS	**Chennai**	**73.87**	**270**	*e*P	**P**	**02 06 40.0**	**+0.4**
MDRS				IAmb	IAmb	02 06 44.4	
	comp=Z,46nm,0.4s						
MDRS				IAMs_20	IAMs_20	02 44 28.6	
	comp=Z,11μm,31.6s						
P53A	**Whipple**	**73.87**	**45**	*e*P	**P**	**02 06 38.8**	**-0.5**
	comp=Z,54nm,1.1s						
P53A				LR	LR		
	comp=Z,6μm,19.0s						
P53A	**Whipple**	**73.87**	**45**	P	**P**	**02 06 38.4**	**-0.9**
	baz=326						
R51A	**Hillsboro**	**73.87**	**47**	P	**P**	**02 06 38.7**	**-0.7**
	baz=325,SNR=10						
KECS	**Kecovo**	**73.89**	**334**	*e*P	**P**	**02 06 40.1**	**+0.8**
KECS	**Kecovo**	**73.89**	**334**	*e*P	**P**	**02 06 40.1**	**+0.8**
Q52A	**Bidwell**	**73.92**	**46**	P	**P**	**02 06 37.9**	**-1.7**
	baz=326						
WLF1	**Llynfaes**	**73.92**	**351**	*e*P	**P**	**02 06 40.3**	**+1.0**
WLF1				IAmb	IAmb	02 06 41.4	
	comp=Z,454nm,1.8s						
WLF1				IAMs_20	IAMs_20	02 48 35.0	
	comp=Z,9μm,14.9s						
T49A	**Edmonton**	**73.95**	**50**	*e*P	**P**	**02 06 39.9**	**0.0**
	comp=Z,35nm,0.8s						
T49A				LR	LR		
	comp=Z,8μm,20.0s						
T49A	**Edmonton**	**73.95**	**50**	P	**P**	**02 06 39.1**	**-0.7**
	baz=325,SNR=9.7						
U48A	**Cassie Pea, Po**	**73.96**	**51**	P	**P**	**02 06 38.5**	**-1.4**
	baz=324,SNR=9.0						
HNH	**Hanover**	**73.98**	**37**	*e*P	**P**	**02 06 42.0**	**+2.2**
	comp=Z,30nm,1.0s						
HNH				LR	LR		
	comp=Z,6μm,19.0s						
PRU	**Pruhonice**	**73.99**	**338**	*e*P	**P**	**02 06 40.5**	**+0.7**
PRU				*e*		02 06 51.2	
PRU				*e*S	**S**	**02 16 08.8**	**-1.6**
PRU				MLR	MLR		
	comp=Z,17μm,13.5s						
PRU	**Pruhonice**	**73.99**	**338**	*e*P	**P**	**02 06 40.5**	**+0.7**
PRU				*ep*P	**pwP**	**02 06 51.2**	**+0.9**
PRU				*e*S	**S**	**02 16 08.8**	**-1.6**
PRU				AMS	AMS	02 45 40.0	
	comp=Z,17μm,13.5s						
GOPC	**GO Pecny, Ondr**	**74.00**	**338**	*e*P	**P**	**02 06 40.1**	**+0.2**
GOPC				*e*		02 06 51.4	
GOPC				*e*S	**S**	**02 16 12.6**	**+2.0**
GOPC				MLR	MLR		
	comp=Z,13μm,13.8s						
GOPC	**GO Pecny, Ondr**	**74.00**	**338**	*e*P	**P**	**02 06 40.1**	**+0.2**
GOPC				*ep*P	**pwP**	**02 06 51.4**	**+0.9**
GOPC				*e*S	**S**	**02 16 12.6**	**+2.0**
GOPC				AMS	AMS	02 46 00.0	
	comp=Z,13μm,13.8s						
S50A	**Richmond**	**74.01**	**48**	P	**P**	**02 06 39.4**	**-0.7**
	baz=325						
V47A	**Nunnelly**	**74.04**	**52**	P	**P**	**02 06 39.5**	**-0.8**
	baz=324						
ARCR	**ARCALIA**	**74.05**	**331**	⇑*i*P	**P**	**02 06 41.5**	**+1.3**
CWF	**Charnwood Fore**	**74.12**	**349**	*e*P	**P**	**02 06 40.6**	**0.0**
CWF				IAmb	IAmb	02 06 43.1	
	comp=Z,147nm,1.4s						
CWF				IAMs_20	IAMs_20	02 47 02.3	
	comp=Z,5μm,17.8s						
VRAC	**Vranov**	**74.14**	**336**	⇑*i*P	**P**	**02 06 41.8**	**+1.1**
VRAC	**Vranov**	**74.14**	**336**	⇑*i*P	**P**	**02 06 41.5**	**+0.8**
VRAC				*e*PCP	**PcP**	**02 06 53.8**	**-1.9**
VRAC				*e*S	**S**	**02 16 10.8**	**-1.3**
DSB	**Dublin**	**74.15**	**352**	*e*P	**P**	**02 06 36.5**	**-4.2**
DSB				*i* PP	**pP**	**02 06 41.7**	**-5.6**
DSB				*e*S	**SKiKP**	**02 16 06.9**	**+0.6**
DSB	**Dublin**	**74.15**	**352**	*e*P	**P**	**02 06 41.1**	**+0.5**
	comp=Z,64nm,1.2s						
DSB				LR	LR		
	comp=Z,3μm,19.0s						
MLAZ	**Malazgirt-MUS**	**74.15**	**314**	P	**P**	**02 06 42.4**	**+1.2**
O55A	**Ligonier**	**74.17**	**44**	P	**P**	**02 06 40.2**	**-0.9**
	baz=327,SNR=9.6						
P54A	**Burton**	**74.17**	**45**	P	**P**	**02 06 40.0**	**-1.1**
	baz=326,SNR=11						
WVL	**Waterville**	**74.17**	**35**	*e*P	**P**	**02 06 43.1**	**+2.2**
	comp=Z,94nm,1.1s						
WVL				LR	LR		
	comp=Z,7μm,20.0s						
OXF	**Oxford**	**74.18**	**54**	*e*P	**P**	**02 06 41.1**	**-0.1**
	comp=Z,60nm,0.9s						
OXF				LR	LR		
	comp=Z,6μm,22.0s						
OXF	**Oxford**	**74.18**	**54**	*e*P	**P**	**02 06 41.1**	**-0.1**
OXF				pmax	pmax		
	comp=Z,60nm,0.9s						
OXF				MLR	MLR		
	comp=Z,6μm,22.0s						
OXF	**Oxford**	**74.18**	**54**	P	**P**	**02 06 40.5**	**-0.6**
	baz=324,SNR=14						
W46A	**Michie**	**74.19**	**53**	P	**P**	**02 06 40.3**	**-0.9**
	baz=324						
IGLA	**Glengowla, Co**	**74.20**	**354**	*e*P	**P**	**02 06 36.8**	**-4.2**
IGLA				*i* PP	**pP**	**02 06 41.5**	**-6.1**
IGLA				*e*S	**S**	**02 16 10.6**	**-2.0**
NKC	**Novy Kostel**	**74.22**	**339**	*e*P	**P**	**02 06 41.8**	**+0.6**
NKC				*e*		02 06 52.8	
NKC				*e*S	**S**	**02 16 13.5**	**+0.4**
NKC				MLR	MLR		
	comp=Z,11μm,15.0s						
NKC	**Novy Kostel**	**74.22**	**339**	*e*P	**P**	**02 06 41.8**	**+0.6**
NKC				*ex*	x	02 06 52.8	
NKC				*e*S	**S**	**02 16 13.5**	**+0.4**
NKC				AMS	AMS	02 45 20.0	
	comp=Z,11μm,15.0s						
VANB	**Van**	**74.23**	**314**	P	**P**	**02 06 42.8**	**+1.2**
R52A	**Catlettsburg**	**74.26**	**47**	P	**P**	**02 06 40.8**	**-0.8**
	baz=326						
LLW	**Llanuwychllyn**	**74.28**	**350**	*e*P	**P**	**02 06 41.1**	**-0.3**
JAVC	**Velka Javorina**	**74.28**	**336**	⇑*i*P	**P**	**02 06 43.2**	**+1.6**
JAVC				*e*PCP	**PcP**	**02 06 55.5**	**-0.9**
JAVC				*e*S	**S**	**02 16 14.4**	**+0.5**
TRY	**Troy**	**74.30**	**38**	PFAKE		02 06 50.0	+8.3
TRY				LR	LR		
	comp=Z,5μm,19.0s						
TLCR		**74.31**	**327**	⇑*i*P	**P**	**02 06 42.5**	**+0.7**
U49A	**Red Boiling Sp**	**74.31**	**50**	P	**P**	**02 06 41.4**	**-0.6**
	baz=325,SNR=12						
VYHS	**Vyhne**	**74.32**	**335**	*e*P	**P**	**02 06 42.6**	**+0.8**
VYHS				pmax	pmax		
	comp=Z,290nm,2.5s						
VYHS	**Vyhne**	**74.32**	**335**	*e*P	**P**	**02 06 42.6**	**+0.8**
VYHS				*e*S	**SKiKP**	**02 16 07.2**	**+0.4**
VYHS				*e*L	L	02 42 55.4	
Q53A	**Leroy**	**74.33**	**46**	P	**P**	**02 06 41.4**	**-0.6**
	baz=326,SNR=10						
T50A	**Nancy**	**74.34**	**49**	P	**P**	**02 06 41.4**	**-0.7**
	baz=325,SNR=11						
DZM	**Mont Dzumac**	**74.34**	**174**	*e*P	**P**	**02 06 42.9**	**+0.8**
	comp=Z,91nm,1.1s						
DZM				*e*S	**S**	**02 16 12.2**	**-2.7**
	comp=Z,7μm,26.4s						
DZM				*e*LQ	LQ	02 26 06.7	
	comp=Z,7μm,28.2s						
DZM				*e*LR	LR	02 29 30.9	
	comp=Z,8μm,21.2s						
DZM	**Mont Dzumac**	**74.34**	**174**	*e*P	**P**	**02 06 44.9**	**+2.7**
	comp=Z,35nm,1.0s						
DZM				LR	LR		
	comp=Z,6μm,20.0s						
ODBI	**Odobesti**	**74.38**	**328**	⇑*i*P	**P**	**02 06 43.9**	**+1.7**
MCWV	**Mont Chateau**	**74.39**	**44**	*e*P	**P**	**02 06 43.9**	**+1.5**
	comp=Z,38nm,1.1s						
MCWV				LR	LR		
	comp=Z,3μm,19.0s						
MCWV	**Mont Chateau**	**74.39**	**44**	P	**P**	**02 06 41.6**	**-0.8**
	baz=327						
CLTN	**Cedars of Leba**	**74.40**	**51**	*e*P	**P**	**02 06 42.7**	**+0.2**
	comp=Z,43nm,0.9s						
CLTN				LR	LR		
	comp=Z,4μm,20.0s						
VRI	**Vrincioaia**	**74.40**	**328**	⇑*i*P	**P**	**02 06 42.6**	**+0.3**
SSPA	**Standing Stone**	**74.40**	**42**	*e*P	**P**	**02 06 42.0**	**-0.4**
	comp=Z,62nm,1.2s						
SSPA				LR	LR		
	comp=Z,4μm,19.0s						
SSPA	**Standing Stone**	**74.40**	**42**	P	**P**	**02 06 42.0**	**-0.4**
	baz=327						
S51A	**Beattyville**	**74.41**	**48**	*e*P	**P**	**02 06 43.1**	**+0.6**
	comp=Z,61nm,1.2s						
S51A				LR	LR		
	comp=Z,7μm,20.0s						
S51A	**Beattyville**	**74.41**	**48**	P	**P**	**02 06 41.8**	**-0.7**
	baz=325						
KRUC	**Moravsky**	**74.41**	**336**	⇑*i*P	**P**	**02 06 43.0**	**+0.7**
KRUC				*e*PCP	**PcP**	**02 06 55.5**	**-1.4**
KRUC				*e*S	**S**	**02 16 15.4**	**+0.2**
TREC	**Trest**	**74.42**	**337**	*e*P	**P**	**02 06 42.7**	**+0.3**
TREC				*e*		02 06 53.9	
TREC				*e*S	**S**	**02 16 15.8**	**+0.5**
TREC				MLR	MLR		
	comp=Z,21μm,15.1s						
TREC	**Trest**	**74.42**	**337**	*e*P	**P**	**02 06 42.7**	**+0.3**
TREC				*ep*P	**pwP**	**02 06 53.9**	**+1.0**
TREC				*e*S	**S**	**02 16 15.8**	**+0.5**
TREC				AMS	AMS	02 46 00.0	
	comp=Z,21μm,15.1s						
O56A	**Blue Knob Stat**	**74.42**	**43**	*e*P	**P**	**02 06 42.3**	**-0.3**
	comp=Z,72nm,1.1s						
O56

HKT MLR MLR
comp=Z,6μm,22.0s
MNAI Manna 74.49 241 PFAKE 02 07 00.0 +17
MNAI LR LR
comp=Z,6μm,18.0s
OZUR 74.49 329⇑*i*P **P 02 06 44.5 +1.6**
LTVH Ltavrtes, Hu 74.49 332 *e*P **P 02 06 43.1 +0.3**
LTVH *e*S S 02 16 26.0 +10
P55A Reedsville 74.53 44 P **P 02 06 42.8 -0.4**
baz=327,SNR=17
Q54A Coxs Mills 74.53 45 *e*P **P 02 06 43.8 +0.7**
comp=Z,64nm,1.4s
Q54A LR LR
comp=Z,6μm,19.0s
Q54A Coxs Mills 74.53 45 P **P 02 06 42.2 -1.0**
baz=326
CFR Carcaliu 74.55 327⇑*i*P **P 02 06 43.0 -0.1**
X46A Booneville 74.55 53 P **P 02 06 42.5 -0.8**
baz=324
PSZ Piszkesteto 74.56 334 *e*P **P 02 06 44.2 +0.9**
PSZ LR LR
comp=Z,22μm,18.0s
PSZ Piszkesteto 74.56 334⇑*i*P **P 02 06 44.5 +1.2**
PSZ Piszkesteto 74.56 334 *e*P **P 02 06 44.2 +0.9**
PSZ MLR MLR
comp=Z,22μm,18.0s
PSZ Piszkesteto 74.56 334 *e*P **P 02 06 44.1 +0.8**
R53A Hurricane 74.58 46 *e*P **P 02 06 44.6 +1.2**
comp=Z,52nm,0.8s
R53A LR LR
comp=Z,7μm,20.0s
R53A Hurricane 74.58 46 P **P 02 06 42.2 -1.3**
baz=326
CJR Cluj-Napoca 74.61 331⇑*i*P **P 02 06 45.4 +1.9**
S52A Salyersville 74.61 48 P **P 02 06 43.0 -0.6**
baz=326
VRTB Varto-Mus 74.61 315 P **P 02 06 45.9 +2.1**
AKDM Akdamar-Van 74.63 314 P **P 02 06 44.9 +0.9**
GGN Saint George 74.65 33 PFAKE 02 07 00.0 +16
GGN LR LR
comp=Z,7μm,20.0s
LMN Caledonia Moun 74.66 31 *e*P **P 02 06 45.4 +1.6**
comp=Z,35nm,0.8s
LMN LR LR
comp=Z,5μm,21.0s
KARO Karliova-Bingo 74.66 316 P **P 02 06 45.5 +1.3**
SMOL Smolenice 74.66 336 *e*P **P 02 06 45.7 +1.9**
SMOL Smolenice 74.66 336 *e*P **P 02 06 45.7 +1.9**
CISI Cisompet, Garu 74.68 235 PFAKE 02 07 00.0 +16
CISI LR LR
comp=Z,4μm,20.0s
BISRR Bisoca 74.68 328⇑*i*P **P 02 06 45.6 +1.6**
DOPR Dopca 74.73 329⇑*i*P **P 02 06 45.0 +0.8**
SNOP Sinop 74.75 321 P **P 02 06 44.5 +0.1**
SNOP Sinop 74.75 321 PFAKE 02 07 00.0 +16
SNOP LR LR
comp=Z,6μm,20.0s
YEDI Yedisu-Bingol 74.77 316 P **P 02 06 45.5 +0.8**
DRGR 74.80 331⇓*i*P **P 02 06 45.2 +0.5**
T51A Gray 74.80 49 P **P 02 06 43.7 -1.0**
baz=325
EMMW East Machias 74.80 33 PFAKE 02 07 00.0 +15
EMMW LR LR
comp=Z,7μm,19.0s
MODS Modra-Piesok 74.83 336 *e*P **P 02 06 45.1 +0.3**
MODS pmax pmax
comp=Z,625nm,2.6s
MODS Modra-Piesok 74.83 336 *e*P **P 02 06 45.1 +0.3**
MODS *e*S **S 02 16 21.9 +2.0**
MODS *e*L L 02 43 34.3
U50A Jamestown 74.83 49 P **P 02 06 44.5 -0.5**
baz=325,SNR=9.4
Q55A Buckhannon 74.84 45 P **P 02 06 44.6 -0.4**
baz=327,SNR=8.6
V49A McMinnville 74.86 51 P **P 02 06 44.3 -0.8**
baz=325,SNR=9.5
W48A Pulaski 74.88 52 P **P 02 06 44.8 -0.5**
baz=324,SNR=14
X47A Russelville 74.93 53 P **P 02 06 44.3 -1.2**
baz=324
PINNC Pines Island, 74.95 173 PFAKE 02 07 00.0 +15
PINNC LR LR
comp=Z,9μm,20.0s
MLR Muntele Rosu 74.98 329 *e*P **P 02 06 46.5 +0.7**
comp=Z,317nm,1.5s
MLR LR LR
comp=Z,17μm,19.0s
MLR Muntele Rosu 74.98 329⇑*i*P **P 02 06 47.0 +1.2**
HGN Heimansgroeve 74.98 344 *e*P **P 02 06 45.7 +0.1**
comp=Z,365nm,1.3s
HGN *e*X **PcP 02 06 58.6 -0.7**
HGN *e*S **S 02 16 20.6 -0.9**
HGN *e*SS SS 02 21 56.8 +48
BEBN Eben Emael 75.00 344⇑P **P 02 06 46.2 +0.6**
BEBN ⇓PcP **PcP 02 06 58.7 -0.6**
GRA1 Grafenberg Arr 75.00 340 *e*P **P 02 06 46.7 +1.0**
comp=Z,169nm,1.2s
GRA1 LR LR
comp=Z,8μm,18.0s
GRFO Grafenberg 75.00 340 *e*P **P 02 06 46.0 +0.4**
comp=Z,154nm,1.2s
GRFO LR LR
comp=Z,8μm,18.0s
GRFO Grafenberg 75.00 340 *e*P **P 02 06 46.1 +0.4**
GRFO pmax pmax
comp=Z,154nm,1.2s
GRFO MLR MLR
comp=Z,8μm,18.0s
KHC Kasperske Hory 75.01 338 *e*P **P 02 06 46.7 +0.9**
comp=Z,50nm,1.1s
KHC LR LR
comp=Z,3μm,21.0s
KHC Kasperske Hory 75.01 338 *e*P **P 02 06 46.7 +0.9**
KHC *e* 02 06 59.0
KHC *e*S **S 02 16 23.7 +1.7**
KHC MLR MLR
comp=Z,21μm,13.9s
KHC Kasperske Hory 75.01 338 *e*P **P 02 06 46.7 +0.9**
KHC *e*pP **PcP 02 06 59.0 -0.5**
KHC *e*S **S 02 16 23.7 +1.7**
KHC AMS AMS 02 46 20.0
comp=Z,21μm,13.9s
N59A State Game Lan 75.02 41 *e*P **P 02 06 45.5 -0.5**
comp=Z,32nm,1.0s
N59A LR LR
comp=Z,7μm,19.0s
N59A State Game Lan 75.02 41 P **P 02 06 45.0 -1.0**
baz=328
S53A Williamson 75.03 47 P **P 02 06 45.3 -0.9**
baz=326
ZST Bratislava 75.04 336 *e*P **P 02 06 46.2 +0.3**
ZST Bratislava 75.04 336 *e*P **P 02 06 46.2 +0.3**
ZST *e*S **S 02 16 25.7 +3.5**
IWEX Carrickbyrne, 75.04 352 *e*P **P 02 06 42.5 -3.4**
IWEX *i* PP **pP 02 06 47.0 -5.5**
IWEX *e*S **S 02 16 17.1 -5.0**
MCH1 Michaelchurch 75.05 350 *e*P **P 02 06 45.8 -0.1**
MCH1 IAmb IAmb 02 06 47.8
comp=Z,37nm,0.9s
MCH1 IAMs_20 IAMs_20 02 50 38.8
comp=Z,6μm,15.6s
DIKM Dikmen 75.05 321 P **P 02 06 46.9 +0.8**
DIKM Dikmen 75.05 321⇓*i*P **P 02 06 47.3 +1.2**
SRO Srobarova 75.08 335 *e*P **P 02 06 45.7 -0.5**
SRO Srobarova 75.08 335 *e*P **P 02 06 45.7 -0.5**
BNGB Bingl 75.08 316 P **P 02 06 47.5 +1.0**
TLB Topalu 75.10 327⇓*i*P **P 02 06 46.8 +0.5**
SRO2 Moca 75.11 335 *e*P **P 02 06 46.5 +0.2**
SRO2 Moca 75.11 335 *e*P **P 02 06 46.5 +0.2**
T52A Hallie 75.12 48 *e*P **P 02 06 48.2 +1.6**
comp=Z,109nm,1.1s
T52A LR LR
comp=Z,7μm,20.0s
T52A Hallie 75.12 48 P **P 02 06 46.3 -0.3**
baz=326,SNR=8.3
MEM Membach 75.12 344⇑P **P 02 06 47.0 +0.6**
comp=Z,188nm,1.2s
R54A Victor 75.12 46 P **P 02 06 45.7 -1.0**
baz=326
QUA2 Belchertown 75.18 38 PFAKE 02 07 00.0 +13
QUA2 LR LR
comp=Z,6μm,18.0s
MONM Monmouth 75.18 349 *e*P **P 02 06 46.4 -0.3**
MONM IAmb IAmb 02 06 49.3
comp=Z,308nm,1.7s
MONM IAMs_20 IAMs_20 02 49 29.4
comp=Z,6μm,15.1s
UCC Uccle 75.21 345 *e*P **P 02 06 47.2 +0.3**
comp=Z,50nm,1.0s
UCC LR LR
comp=Z,11μm,19.0s
UCC Uccle 75.21 345 *e*P **P 02 06 47.2 +0.3**
UCC pmax pmax
comp=Z,50nm,1.0s
UCC MLR MLR
comp=Z,11μm,19.0s
UCC Uccle 75.21 345⇑P **P 02 06 47.1 +0.2**
comp=Z,34nm,1.5s
W49A Belvidere 75.22 51 P **P 02 06 47.0 -0.2**
baz=325,SNR=9.0
PAGS Pennsylvania G 75.22 42 *e*P **P 02 06 48.0 +0.8**
comp=Z,23nm,0.8s
PAGS LR LR
comp=Z,5μm,19.0s
KSCT Kent School, K 75.23 39 PFAKE 02 07 00.0 +13
KSCT LR LR
comp=Z,7μm,19.0s
KVT Kavak 75.23 320 P **P 02 06 48.2 +1.0**
CUKT Cukurca 75.24 313 P **P 02 06 47.8 +0.3**
U51A La Follette 75.25 49 P **P 02 06 46.8 -0.6**
baz=325
GEC2 GERESS Array S 75.25 338 *e*P **P 02 06 47.8 +0.5**
comp=Z,98nm,1.4s
GEC2 LR LR
comp=Z,10μm,19.0s
GEC2 GERESS Array S 75.25 338 *e*P **P 02 06 47.8 +0.5**
GEC2 pmax pmax
comp=Z,98nm,1.4s
GEC2 MLR MLR
comp=Z,10μm,19.0s
GERES GERESS Array B 75.25 338 P **P 02 06 47.5 +0.2**
comp=Z,20nm,1.0s,baz=35,slow=4.9,SNR=90
GERES LR LR 02 44 39.0
comp=Z,8μm,18.3s,baz=27,slow=40
BZK Bozkurt 75.27 322 P **P 02 06 47.7 +0.4**
BZK Bozkurt 75.27 322⇑*i*P **P 02 06 47.8 +0.4**
HRV Adam Dziewonsk 75.28 37 PFAKE 02 07 00.0 +13
HRV LR LR
comp=Z,7μm,22.0s
HRV Adam Dziewonsk 75.28 37 P **P 02 06 46.5 -0.9**
baz=330
SWET Sewanee 75.30 51 *e*P **P 02 06 47.2 -0.5**
comp=Z,86nm,0.9s
SWET LR LR
comp=Z,7μm,20.0s
RSDY Resadiye-TOKAT 75.30 319 P **P 02 06 48.7 +1.1**
VOIR 75.31 329⇑*i*P **P 02 06 48.6 +0.9**
V50A Pikevile 75.32 50 P **P 02 06 47.1 -0.7**
baz=325,SNR=11
TZTN Tazewell 75.33 49 *e*P **P 02 06 49.2 +1.3**
comp=Z,55nm,0.9s
TZTN LR LR
comp=Z,7μm,20.0s
TZTN Tazewell 75.33 49 P **P 02 06 46.4 -1.5**
baz=326
ODNJ Ogdensburg 75.34 40 PFAKE 02 07 00.0 +12
ODNJ LR LR
comp=Z,5μm,19.0s
O59A Robesonia 75.37 41 P **P 02 06 46.5 -1.5**
baz=328
X48A Hartselle 75.38 52 *e*P **P 02 06 48.3 +0.2**
comp=Z,47nm,1.3s
X48A LR LR
comp=Z,5μm,20.0s
X48A Hartselle 75.38 52 P **P 02 06 47.3 -0.9**
baz=324,SNR=6.1
SWN1 Swindon 75.39 349 *e*P **P 02 06 48.0 +0.1**
SWN1 IAmb IAmb 02 06 50.6
comp=Z,416nm,1.5s
SWN1 IAMs_20 IAMs_20 02 49 52.6
comp=Z,5μm,14.5s
BCLA Clavier 75.42 344⇑P **P 02 06 48.6 +0.5**
comp=Z,82nm,1.3s
BCLA ⇑PcP **PcP 02 07 00.6 -0.6**
T53A Wise 75.43 48 P **P 02 06 47.5 -1.0**
baz=326
LUPA Lehigh Univers 75.45 41 *e*P **P 02 06 51.1 +2.7**
comp=Z,3.4nm,1.1s
LUPA LR LR
comp=Z,600nm,19.0s
VBMS Vicksburg 75.45 56 *e*P **P 02 06 50.5 +2.0**
comp=Z,32nm,0.8s
VBMS LR LR
comp=Z,5μm,20.0s
VBMS Vicksburg 75.45 56 P **P 02 06 47.9 -0.7**
baz=324
WES Weston 75.47 37 PFAKE 02 07 00.0 +11
WES LR LR
comp=Z,7μm,20.0s
ARR Arges 75.50 330⇑*i*P **P 02 06 50.0 +1.2**
SNF Seneffe 75.51 345⇑P **P 02 06 48.8 +0.2**
comp=Z,53nm,1.0s
CSKK Cskako 75.51 335 *e*P **P 02 06 50.0 +1.3**
CSKK Cskako 75.51 335 *e*S **S 02 16 28.1 +0.6**
Q57A Strasburg 75.52 44 P **P 02 06 48.0 -0.9**
baz=327
U52A Thorn Hill 75.53 48 P **P 02 06 48.5 -0.6**
baz=326,SNR=13
SVAN Silvan-Diyarba 75.56 315 P **P 02 06 50.3 +1.1**
V51A Loudon 75.56 49 *e*P **P 02 06 49.1 0.0**
comp=Z,76nm,0.9s
V51A LR LR
comp=Z,8μm,20.0s
V51A Loudon 75.56 49 P **P 02 06 48.6 -0.6**
baz=325,SNR=9.7
DEV Deva 75.56 331⇑*i*P **P 02 06 44.7 -4.3**
MVL Millersville 75.56 42 *e*P **P 02 06 50.6 +1.5**
comp=Z,18nm,0.8s
MVL LR LR
comp=Z,5μm,20.0s
WRAB Tennant Creek 75.58 205 *e*P **P 02 06 48.6 -0.6**
comp=Z,46nm,1.0s
WRAB LR LR
comp=Z,5μm,21.0s
WRAB Tennant Creek 75.58 205 *ce*P **P 02 06 49.6 +0.4**
WRAB pmax pmax
comp=Z,77nm,1.7s
SIRR Siria 75.58 332⇓*i*P **P 02 06 49.8 +0.7**
WR3 Warramunga Arr 75.58 205 PFAKE 02 07 00.0 +11
WR3 LR LR
comp=Z,4μm,21.0s
WB2 Warramunga Arr 75.59 205 *e*P **P 02 06 49.1 -0.2**
comp=Z,71nm,1.2s
WR1 Warramunga Arr 75.59 205 *e*P **P 02 06 48.6 -0.7**
WRA Warramunga Arr 75.59 205 *i* P **P 02 06 48.5 -0.8**
WRA pmax pmax
comp=Z,24nm,1.1s
WRA Warramunga Arr 75.59 205 P **P 02 06 48.6 -0.7**
comp=Z,24nm,1.1s,baz=24,slow=5.0,SNR=49
ICOR Ion Corvin 75.60 327⇓*i*P **P 02 06 50.3 +1.1**
WC3 Warramunga Arr 75.60 205 PFAKE 02 07 00.0 +11
WC3 LR LR
comp=Z,4μm,21.0s
CONA Conrad Observa 75.60 336 *i* P **P 02 06 50.4 +1.1**
comp=Z,65nm,1.0s,SNR=49
W50A Signal Mountai 75.60 51 *e*P **P 02 06 49.2 -0.3**
comp=Z,78nm,0.8s
W50A LR LR
comp=Z,8μm,20.0s
W50A Signal Mountai 75.60 51 P **P 02 06 48.7 -0.7**
baz=325,SNR=12
SULR 75.61 328⇑*i*P **P 02 06 49.8 +0.6**
WC4 Warramunga Arr 75.61 205 PFAKE 02 07 00.0 +11
WC4 LR LR
comp=Z,4μm,21.0s
NIUE Niue 75.68 151 PFAKE 02 07 00.0 +10
NIUE LR LR
comp=Z,9μm,20.0s
O60A Telford 75.68 41 P **P 02 06 47.7 -2.0**
baz=329
TOKT Tokat 75.68 319 P **P 02 06 50.7 +0.9**
S55A Lewisburg 75.68 46 P **P 02 06 48.0 -1.9**
baz=327
X49A Woodville 75.68 52 P **P 02 06 49.4 -0.4**
baz=325,SNR=10.0
PAL Palisades 75.68 39 *e*P **P 02 06 49.7 0.0**
comp=Z,32nm,0.8s
PAL LR LR
comp=Z,5μm,19.0s
PAL Palisades 75.68 39 *e*P **P 02 06 49.7 0.0**
PAL pmax pmax
comp=Z,33nm,0.8s
PAL MLR MLR
comp=Z,5μm,19.0s
PAL Palisades 75.68 39 P **P 02 06 48.4 -1.4**
baz=329
BRNJ Basking Ridge 75.70 40 PFAKE 02 07 00.0 +10
BRNJ LR LR
comp=Z,6μm,20.0s
Y48A Jasper 75.76 53 P **P 02 06 49.1 -1.2**
baz=324
CPCT Cooper Cave 75.77 50 *e*P **P 02 06 50.5 +0.1**
comp=Z,64nm,1.0s
CPCT LR LR
comp=Z,7μm,19.0s
YLE Yale 75.79 39 PFAKE 02 07 00.0 +10
YLE LR LR
comp=Z,7μm,19.0s
T54A Tazewell 75.79 47 P **P 02 06 49.8 -0.8**
baz=326,SNR=8.0
BRYW Bryant College 75.80 37 PFAKE 02 07 00.0 +10
BRYW LR LR
comp=Z,5μm,20.0s
SVSK Karacayir 75.84 319 P **P 02 06 51.7 +1.1**
KURC Kurucasile-Bar 75.84 323 P **P 02 06 50.3 -0.3**
CPNY Central Park 75.84 40 *e*P **P 02 06 52.2 +1.5**
comp=Z,36nm,0.8s
CPNY LR LR
comp=Z,5μm,21.0s
PSN Preselentsi 75.85 326 *e*P **P 02 06 50.9 +0.2**
DOU Dourbes 75.86 344⇑P **P 02 06 50.9 +0.3**
comp=Z,41nm,1.4s
P59A Jarrettsville 75.86 42 P **P 02 06 49.4 -1.4**
baz=328
SDMD Soldier's Deli 75.86 42 *e*P **P 02 06 51.9 +1.1**
comp=Z,29nm,1.2s
SDMD LR LR
comp=Z,2μm,18.0s
V52A Sevierville 75.88 49 *e*P **P 02 06 50.9 -0.1**
comp=Z,68nm,1.1s
V52A LR LR
comp=Z,6μm,21.0s
V52A Sevierville 75.88 49 P **P 02 06 50.4 -0.6**
baz=326,SNR=8.5
W51A Cleveland 75.89 50 P **P 02 06 50.0 -1.1**
baz=325
U53A Fall Branch 75.92 48 P **P 02 06 50.6 -0.7**
baz=326,SNR=13
GOA Goa 75.92 277 *e*P **P 02 06 50.2 -1.2**
PSUB Penn St. - Bra 75.99 41 *e*P **P 02 06 52.7 +1.2**
comp=Z,14nm,0.9s
PSUB LR LR
comp=Z,7μm,20.0s
WLF Walferdange 76.00 343 *e*P **P 02 06 52.1 +0.6**
comp=Z,415nm,1.2s
WLF LR LR
comp=Z,46μm,18.0s
WLF Walferdange 76.00 343 *e*P **P 02 06 52.1 +0.6**
WLF pmax pmax
comp=Z,415nm,1.2s
WLF Walferdange 76.00 343⇓P **P 02 06 52.1 +0.6**
WLF ⇓PcP **PcP 02 07 05.2 +1.4**
comp=Z,114nm,2.3s
P60A Greenville 76.01 41 P **P 02 06 50.2 -1.4**
baz=329
TIH Tihany 76.04 335 *e*P **P 02 06 52.0 +0.3**
TIH *e*S **S 02 16 33.0 -0.2**
GZR Gura Zlata 76.04 331⇑*i*P **P 02 06 52.2 +0.3**
X50B Fort Payne 76.04 51 P **P 02 06 51.1 -0.9**
baz=325,SNR=8.0
MOA Molln 76.06 337 *i* P **P 02 06 52.6 +0.8**
comp=Z,46nm,1.2s,SNR=28
GBN Guysborough 76.07 29 PFAKE 02 07 00.0 +8.2
GBN LR LR
comp=Z,10μm,19.0s
R57A Stanardsville 76.09 44 P **P 02 06 51.9 -0.2**
baz=328,SNR=8.8
T55A Pulaski 76.10 46 P **P 02 06 51.2 -1.1**
baz=327
SGRR Singureni 76.10 328⇑*i*P **P 02 06 52.3 +0.2**
HAL Halifax 76.12 31 *e*P **P 02 06 54.1 +1.9**
comp=Z,38nm,0.8s
HAL LR LR
comp=Z,6μm,20.0s
U54A Nelsons Funny 76.13 47 *e*P **P 02 06 53.8 +1.3**
comp=Z,89nm,1.2s
U54A LR LR
comp=Z,6μm,19.0s
U54A Nelsons Funny 76.13 47 P **P 02 06 52.1 -0.3**
baz=326
ILGA Ilgaz 76.16 321 *e*P **P 02 06 54.0 +1.3**
comp=Z,307nm,1.0s
ILGA LR LR
comp=Z,9μm,20.0s
S56A Natural Bridge 76.17 45 P **P 02 06 51.9 -0.8**
baz=327
Y49A Blount Mountai 76.17 52 *e*P **P 02 06 53.0 +0.3**
comp=Z,33nm,1.0s
Y49A LR LR
comp=Z,6μm,21.0s
Y49A Blount Mountai 76.17 52 P **P 02 06 51.9 -0.8**
baz=325
BLA Blacksburg 76.18 46 *e*P **P 02 06 54.0 +1.2**
comp=Z,33nm,0.8s
BLA LR LR
comp=Z,6μm,18.0s
BLA Blacksburg 76.18 46 *e*P **P 02 06 54.0 +1.2**
BLA pmax pmax
comp=Z,33nm,0.8s
BLA MLR MLR
comp=Z,6μm,18.0s
BLA Blacksburg 76.18 46 P **P 02 06 51.6 -1.1**
baz=327
SVRC Sivrice-ELAZID 76.18 316 P **P 02 06 54.3 +1.4**
BZS Buzias 76.18 332⇑*i*P **P 02 06 52.7 +0.2**
STU Stuttgart 76.29 341 *e*P **P 02 06 53.8 +0.7**
comp=Z,149nm,1.3s
STU LR LR
comp=Z,6μm,18.0s
STU Stuttgart 76.29 341 *e*P **P 02 06 53.8 +0.7**
STU pmax pmax
comp=Z,149nm,1.3s
STU MLR MLR
comp=Z,6μm,18.0s
ZAIG Zacatecas 76.31 71 *e*P **P 02 06 56.3 +2.3**
comp=Z,28nm,1.0s
ZAIG LR LR
comp=Z,3μm,20.0s
ARSA Arzberg 76.31 336 *i* P **P 02 06 54.4 +1.1**
comp=Z,26nm,1.2s,SNR=30
R58A Rapidan 76.31 44 P **P 02 06 52.7 -0.7**
baz=328
X51A Calhoun 76.33 51 *e*P **P 02 06 54.8 +1.2**
comp=Z,37nm,0.9s
X51A LR LR
comp=Z,7μm,20.0s
X51A Calhoun 76.33 51 P **P 02 06 52.7 -0.9**
baz=325
W52A Murphy 76.34 50 *e*P **P 02 06 53.7 0.0**
comp=Z,52nm,1.0s
W52A LR LR
comp=Z,6μm,20.0s
W52A Murphy 76.34 50 P **P 02 06 52.7 -1.0**
baz=326
S57A Dark Hollow, R 76.36 45 *e*P **P 02 06 54.0 +0.3**
comp=Z,31nm,0.9s
S57A LR LR
comp=Z,8μm,19.0s
S57A Dark Hollow, R 76.36 45 P **P 02 06 53.0 -0.7**
baz=327
V53A Saluda 76.38 49 *e*P **P 02 06 54.7 +0.8**
comp=Z,40nm,1.0s
V53A LR LR
comp=Z,9μm,19.0s
V53A Saluda 76.38 49 P **P 02 06 53.5 -0.4**
baz=326
Q59A Harwood 76.40 42 P **P 02 06 53.3 -0.5**
baz=328
LNIG Linares 76.42 67 *e*P **P 02 06 56.2 +2.0**
comp=Z,12nm,1.0s
LNIG LR LR
comp=Z,3μm,21.0s
Y50A Piedmont 76.47 52 P **P 02 06 53.5 -0.9**
baz=325,SNR=9.0
U55A TA2, Sparta 76.49 47 P **P 02 06 53.8 -0.7**
baz=327,SNR=6.4
FITZ Fitzroy Crossi 76.49 214 *e*P **P 02 06 55.2 +0.7**
T56A Rocky Mt 76.50 46 P **P 02 06 53.1 -1.4**
baz=327

PRD	Provadia	76.54	327	eP		P	02 06 55.4 +0.8
LRAL	Lakeview Retre	76.55	53	eP		P	02 06 55.1 +0.2
	comp=Z,19nm,0.8s						
LRAL				LR		LR	
	comp=Z,5µm,18.0s						
LRAL	Lakeview Retre	76.55	53	P		P	02 06 53.7 -1.1
	baz=325						
CORM	Corum	76.56	320	P		P	02 06 56.1 +1.2
SRE	Strehaia	76.58	330⇑	iP		P	02 06 56.0 +1.2
CANT	Cankiri	76.58	321	P		P	02 06 56.2 +1.2
148A	Greensboro	76.58	54	P		P	02 06 54.7 -0.3
	baz=324						
HERR	Herculane	76.62	331⇓	iP		P	02 06 54.9 -0.1
W53A	Cullowhee	76.63	49	P		P	02 06 54.2 -1.2
	baz=326,SNR=5.7						
R58B	Mineral	76.65	44	eP		P	02 06 55.4 +0.1
	comp=Z,63nm,1.5s						
R58B				LR		LR	
	comp=Z,6µm,18.0s						
R58B	Mineral	76.65	44	P		P	02 06 54.7 -0.6
	baz=328						
Z49A	Columbiana	76.65	53	P		P	02 06 54.9 -0.5
	baz=325,SNR=9.8						
CBN	Corbin Frederi	76.66	43	PFAKE			02 07 10.0 +15
CBN				LR		LR	
	comp=Z,5µm,18.0s						
CBN	Corbin Frederi	76.66	43	P		P	02 06 54.6 -0.7
	baz=328						
V54A	Nebo	76.69	48	P		P	02 06 54.7 -0.9
	baz=326,SNR=11						
BEHE	Becsehely	76.72	335⇑	iP		P	02 06 56.4 +0.8
BEHE	Becsehely	76.72	335⇑	eP		P	02 06 55.0 -0.6
YOZ	Yozgat	76.75	320	P		P	02 06 56.5 +0.5
X52A	Dahlonega	76.76	50	P		P	02 06 55.4 -0.6
	baz=326,SNR=8.1						
R59A	King George, V	76.77	43	P		P	02 06 54.8 -1.2
	baz=328						
DARE	Darende-Malaty	76.78	318	P		P	02 06 57.6 +1.4
Y51A	Rockmart	76.78	51	P		P	02 06 55.3 -0.9
	baz=325,SNR=11						
VLAD	Vladila	76.80	329⇑	iP		P	02 06 56.8 +0.7
T57A	Hurt	76.87	45	eP		P	02 06 57.6 +1.0
	comp=Z,18nm,0.8s						
T57A				LR		LR	
	comp=Z,6µm,18.0s						
T57A	Hurt	76.87	45	P		P	02 06 55.6 -0.9
	baz=327						
S58A	Poland Farm, P	76.87	44	eP		P	02 06 57.8 +1.2
	comp=Z,18nm,0.9s						
S58A				LR		LR	
	comp=Z,6µm,18.0s						
S58A	Poland Farm, P	76.87	44	P		P	02 06 55.4 -1.2
	baz=328						
KOGS	Kog	76.88	336⇑	iP		P	02 06 56.9 +0.5
BFO	Black Forest	76.88	341	eP		P	02 06 57.0 +0.5
	comp=Z,124nm,1.3s						
BFO				LR		LR	
	comp=Z,4µm,18.0s						
BFO	Black Forest	76.88	341	eP		P	02 06 57.0 +0.5
BFO				pmax		pmax	
	comp=Z,124nm,1.3s						
BFO				MLR		MLR	
	comp=Z,4µm,18.0s						
BG3	Lake Jocassee	76.89	49	PFAKE			02 07 10.0 +13
BG3				LR		LR	
	comp=Z,6µm,20.0s						
Z50A	Ashland	76.90	52	eP		P	02 06 56.3 -0.5
	comp=Z,69nm,1.0s						
Z50A				LR		LR	
	comp=Z,5µm,20.0s						
Z50A	Ashland	76.90	52	P		P	02 06 55.8 -1.0
	baz=325,SNR=19						
MDVR	Moldovita	76.92	331⇑	iP		P	02 06 56.6 -0.2
U56A	King	76.92	46	P		P	02 06 56.2 -0.7
	baz=327						
R60A	Leonardtown, M	76.94	43	P		P	02 06 56.4 -0.5
	baz=328						
V55A	Taylorsville	76.96	47	P		P	02 06 56.3 -0.8
	baz=327						
SOKA	Soboth	76.97	336	iP		P	02 06 57.9 +0.8
	comp=Z,112nm,1.3s,SNR=50						
SZH	Strazhica	76.97	328	eP		P	02 06 57.1 +0.1
PERS	Pernice	76.99	336⇑	iP		P	02 06 58.0 +0.8
PERS				iS		S	02 16 46.0 +2.2
PERS				e			02 17 42.1
PERS				eSS		SS	02 21 57.3 +18
KBA	Koelnbreinsper	77.00	338	iP		P	02 06 58.8 +1.4
	comp=Z,485nm,1.2s,SNR=226						
149A	Jones	77.01	53	P		P	02 06 57.5 +0.1
	baz=325,SNR=6.9						
PUNG	Punghina	77.01	330⇑	iP		P	02 06 56.9 -0.3
S59A	Mechanicsville	77.07	44	P		P	02 06 58.7 +1.0
	baz=328						
X53A	Estanollee	77.12	50	P		P	02 06 57.6 -0.5
	baz=326,SNR=8.4						
FRGS	Fruska Gora	77.12	333⇑	iP		P	02 06 58.0 +0.1
W54A	Cherokee Point	77.15	48	P		P	02 06 57.4 -0.8
	baz=326						
WATA	Walderalm	77.15	339	iP		P	02 06 59.2 +1.0
	comp=Z,91nm,1.2s,SNR=45						
URFA	Urfa	77.18	316	P		P	02 06 59.7 +1.3
RETA	Reutte	77.19	340	iP		P	02 06 59.2 +0.9
	comp=Z,64nm,1.2s,SNR=25						
Z51A	Franklin	77.20	52	P		P	02 06 57.9 -0.6
	baz=325						
WTTA	Wattenberg	77.21	339	iP		P	02 06 59.7 +1.2
	comp=Z,158nm,1.3s,SNR=59						
BNN	Bunyan	77.21	319	P		P	02 06 59.5 +0.9
ECH	Echery	77.22	342	eP		P	02 06 57.7 -0.7
	comp=Z,226nm,1.4s						
ECH				LR		LR	
	comp=Z,6µm,18.0s						
ECH	Echery	77.22	342	eP		P	02 06 57.7 -0.7
ECH				pmax		pmax	
	comp=Z,226nm,1.4s						
ECH				MLR		MLR	
	comp=Z,6µm,18.0s						
T58A	Grand View Acr	77.23	45	P		P	02 06 58.0 -0.6
	baz=328						
OBKA	Obir	77.24	337	iP		P	02 06 59.5 +0.9
	comp=Z,123nm,1.4s,SNR=33						
MOTA	Moosalm	77.25	339	iP		P	02 06 59.5 +0.7
	comp=Z,137nm,1.1s,SNR=89						
Y52A	Lilburn	77.29	50	eP		P	02 06 59.8 +0.8
	comp=Z,48nm,0.9s						
Y52A				LR		LR	
	comp=Z,7µm,19.0s						
Y52A	Lilburn	77.29	50	P		P	02 06 57.9 -1.0
	baz=326						
U57A	Blanch	77.31	46	P		P	02 06 58.3 -0.7
	baz=327						
V56A	Mocksville	77.31	47	eP		P	02 06 59.0 -0.1
	comp=Z,46nm,1.0s						
V56A				LR		LR	
	comp=Z,5µm,18.0s						
V56A	Mocksville	77.31	47	P		P	02 06 58.1 -1.0
	baz=327						
BR101	Keskin Array S	77.33	321	eP		P	02 06 58.7 -0.6
BR101				ePP		PP	02 09 52.4 -0.6
BR131	Keskin Array S	77.33	321	eP		P	02 06 59.4 +0.1
	comp=Z,119nm,1.0s						
BR131	Keskin Array S	77.33	321	P		P	02 06 59.5 +0.1
	SNR=120						
BRTR	Keskin Array B	77.33	321	iP		P	02 06 59.4 +0.1
BRTR				pmax		pmax	
	comp=Z,80nm,1.1s						
BRTR	Keskin Array B	77.33	321	P		P	02 06 58.7 -0.6
	comp=Z,80nm,1.1s,baz=64,slow=2.9,SNR=11						
BRTR				PP		PP	02 09 52.4 -0.6
	comp=Z,11nm,1.0s,baz=64,slow=5.6,SNR=3.9						
BRTR				LR		LR	02 47 03.6
	comp=Z,6µm,19.0s,baz=14,slow=40						
SQTA	Sankt Quirin	77.34	339	iP		P	02 07 00.4 +1.2
	comp=Z,160nm,1.3s,SNR=50						
MYKA	Terra Mystica	77.35	337	iP		P	02 06 59.8 +0.6
	comp=Z,57nm,1.0s,SNR=18						
249A	Camden	77.35	54	P		P	02 06 59.0 -0.3
	baz=325,SNR=9.3						
150A	Eclectic	77.38	53	P		P	02 06 58.5 -1.0
	baz=325,SNR=6.5						
S60A	Water View	77.38	43	P		P	02 06 59.3 -0.1
	baz=328						
JMB	Yambol	77.47	327	eP		P	02 07 00.1 +0.3
KMSC	Kings Mountain	77.49	48	eP		P	02 06 59.7 -0.4
	comp=Z,39nm,0.9s						
KMSC				LR		LR	
	comp=Z,7µm,20.0s						
KMSC	Kings Mountain	77.49	48	P		P	02 06 59.3 -0.8
	baz=327,SNR=6.5						
ABTA	Abfaltersbach	77.50	338	iP		P	02 07 00.7 +0.6
	comp=Z,162nm,1.2s,SNR=58						
X54A	Belton	77.51	49	P		P	02 06 59.7 -0.5
	baz=326,SNR=8.3						
Y53A	Monroe	77.52	50	P		P	02 06 59.8 -0.5
	baz=326						
ZAG	Zagreb	77.52	335⇑	iP		P	02 07 00.9 +0.8
LOD	Lodumlu	77.53	321	P		P	02 07 01.1 +0.8
ANTO	Ankara	77.53	321	eP		P	02 07 01.6 +1.2
	comp=Z,218nm,1.2s						
ANTO				eS		S	02 16 45.8 -4.2
ANTO				LR		LR	
	comp=Z,8µm,20.0s						
ANTO	Ankara	77.53	321	iP		P	02 07 01.5 +1.2
ANTO	Ankara	77.53	321	eP		P	02 07 01.6 +1.2
ANTO				eS		S	02 16 45.8 -4.2
ANTO				pmax		pmax	
	comp=Z,218nm,1.2s						
ANTO				MLR		MLR	
	comp=Z,8µm,20.0s						
ANTO	Ankara	77.53	321	P		P	02 07 00.9 +0.5
	SNR=60						
ANTO				P		P	02 07 00.9 +0.5
	SNR=60						
PAULI	Pauline	77.54	48	eP		P	02 07 01.5 +1.1
	comp=Z,34nm,1.1s						
PAULI				LR		LR	
	comp=Z,9µm,19.0s						
BR231	Keskin MP Arra	77.56	321	eP		P	02 07 01.7 +1.1
	comp=Z,203nm,1.2s						
BR231				eS		S	02 16 49.4 -1.1
DAVA	Damuels	77.56	340	iP		P	02 07 01.2 +0.7
	comp=Z,100nm,1.1s,SNR=38						
V57A	Coltrane Farms	77.57	46	P		P	02 06 59.6 -0.9
	baz=327						
MDUB	Mudurnu	77.61	323	P		P	02 07 01.3 +0.5
MDUB	Mudurnu	77.61	323	eP		P	02 07 00.9 +0.1
	comp=Z,1µm,1.1s						
MDUB				LR		LR	
	comp=Z,48µm,19.0s						
BLJ	Bijeljina	77.62	333	eP		P	02 07 01.8 +1.2
T59A	Double "B" Far	77.62	44	eP		P	02 07 02.2 +1.5
	comp=Z,53nm,1.2s						
T59A				LR		LR	
	comp=Z,6µm,18.0s						
T59A	Double "B" Far	77.62	44	P		P	02 06 59.6 -1.1
	baz=328						
FETA	Feichten	77.64	339	iP		P	02 07 01.9 +1.0
	comp=Z,103nm,1.1s,SNR=50						
JLP	Les Platons	77.65	348	eP		P	02 07 00.9 +0.2
CRES	Cresnjev	77.66	336⇑	iP		P	02 07 01.2 +0.3
Z52A	Williamson	77.67	51	P		P	02 07 00.6 -0.5
	baz=326,SNR=8.4						
U58A	Oxford	77.68	45	P		P	02 06 60.0 -1.1
	baz=328						
LJU	Ljubljana	77.69	337⇑	eP		P	02 07 01.0 0.0
LJU				e			02 07 13.7
LJU				ePP		PP	02 09 57.9 +2.4
LJU				e			02 12 04.0
LJU				eS		S	02 16 52.6 +1.3
LJU	Ljubljana	77.69	337⇑	iP		P	02 07 00.8 -0.2
SAUV	Serdivan-Sakar	77.69	324	P		P	02 07 01.5 +0.4
JVM	Valle D.L. Mar	77.69	349	eP		P	02 07 00.9 0.0
KLYT	Kilyos	77.70	325	P		P	02 07 01.2 +0.1
KLYT	Kilyos	77.70	325⇑	iP		P	02 07 01.1 0.0
SPNC	Sapanca-Adapaz	77.75	324	P		P	02 07 02.3 +0.9
TEKS	Tekeris	77.76	333	eP		P	02 07 01.9 +0.4
250A	Grady	77.77	53	eP		P	02 07 02.6 +1.0
	comp=Z,43nm,0.9s						
250A				LR		LR	
	comp=Z,5µm,18.0s						
250A	Grady	77.77	53	P		P	02 07 00.7 -1.0
	baz=325						
CTYL	Yalikoy Yolu	77.77	325	P		P	02 07 01.8 +0.3
151A	Opelika	77.78	52	P		P	02 07 00.6 -1.1
	baz=325						
AFSR	Afar-Bala (An	77.79	321	P		P	02 07 02.4 +0.6
349A	Repton	77.82	54	P		P	02 07 01.2 -0.8
	baz=325						
HODGE	Hodges	77.83	49	eP		P	02 07 02.0 0.0
	comp=Z,52nm,1.0s						
HODGE				LR		LR	
	comp=Z,6µm,20.0s						
T60A	Surry	77.83	43	PFAKE			02 07 10.0 +8.1
T60A				LR		LR	
	comp=Z,5µm,18.0s						
T60A	Surry	77.83	43	P		P	02 07 01.0 -0.9
	baz=328						
W56A	Indian Trail	77.84	47	P		P	02 07 00.4 -1.6
	baz=327						
OZLJ	Ozalj	77.85	336	P		P	02 07 02.2 +0.3
HRT	Hereke	77.86	324	P		P	02 07 02.5 +0.4
BGKT	Bogazkoy	77.86	325	P		P	02 07 02.3 +0.3
ISK	Istanbul-Kandi	77.86	325	P		P	02 07 02.1 +0.1
KAVV	Kandilli-Istan	77.86	325	P		P	02 07 02.1 +0.1
GULT	Gulveren	77.89	323	P		P	02 07 02.8 +0.4
PHSR	Pinarhisar	77.89	326	P		P	02 07 02.9 +0.7
CTKS	Kestanelik-??a	77.90	325	P		P	02 07 02.4 +0.1
X55A	Gracelyn & Ava	77.92	48	P		P	02 07 02.4 -0.1
	baz=327						
KMRS	Kahramanmaras	77.93	317	P		P	02 07 03.3 +0.7
Y54A	Tignall	77.93	49	P		P	02 07 02.2 -0.3
	baz=326,SNR=20						
GOGA	Godfrey	77.94	50	eP		P	02 07 03.2 +0.6
	comp=Z,45nm,1.4s						
GOGA				LR		LR	
	comp=Z,6µm,20.0s						
GOGA	Godfrey	77.94	50	eP		P	02 07 03.2 +0.6
GOGA				pmax		pmax	
	comp=Z,45nm,1.4s						
GOGA				MLR		MLR	
	comp=Z,6µm,20.0s						
GOGA	Godfrey	77.94	50	P		P	02 07 02.4 -0.3
	baz=326						
V58A	Windy Hill, Pi	77.94	46	P		P	02 07 02.4 -0.2
	baz=328,SNR=10.0						
YAYX	Yaylak	77.94	320	P		P	02 07 02.7 0.0
152A	Waverly Hall	77.95	52	eP		P	02 07 03.5 +0.8
	comp=Z,39nm,1.0s						
152A				LR		LR	
	comp=Z,6µm,20.0s						
152A	Waverly Hall	77.95	52	P		P	02 07 01.6 -1.1
	baz=326						
EDRB	Edirne	77.97	327	P		P	02 07 02.9 +0.3
EDRB	Edirne	77.97	327	P		P	02 07 03.5 +0.9
DOB	Doboj	77.98	334	eP		P	02 07 01.8 -0.9
CEY	Cerknica	78.00	336⇑	iP		P	02 07 02.7 -0.1
Z53A	Monticello	78.00	50	P		P	02 07 02.6 -0.3
	baz=326,SNR=5.7						
SHME	Shamm	78.00	297	iP		P	02 07 02.6 -0.5
	SNR=42						
BOJS	Bojanci	78.01	336⇑	iP		P	02 07 03.2 +0.4
BOJS				e			02 07 15.5
BOJS				iS		S	02 16 56.5 +1.7
SLVT	Silivri	78.01	325	P		P	02 07 03.4 +0.5
BUY	Buyukada	78.03	324	P		P	02 07 02.3 -0.7
SERE	Serefikochisa	78.03	320	P		P	02 07 03.8 +0.6
DIVS	Divibare	78.04	332⇑	iP		P	02 07 03.0 -0.1
BRAL	Brewton	78.04	54	PFAKE			02 07 20.0 +17
BRAL				LR		LR	
	comp=Z,4µm,21.0s						
BRAL	Brewton	78.04	54	P		P	02 07 02.8 -0.4
	baz=325						
U59A	Littleton	78.05	45	eP		P	02 07 04.5 +1.4
	comp=Z,36nm,1.2s						
U59A				LR		LR	
	comp=Z,7µm,18.0s						
U59A	Littleton	78.05	45	P		P	02 07 02.6 -0.6
	baz=328						
GAZ	Gaziantep	78.08	317	P		P	02 07 04.4 +0.9
W57A	Gilead	78.09	47	eP		P	02 07 04.4 +1.0
	comp=Z,31nm,0.8s						
W57A				LR		LR	
	comp=Z,4µm,20.0s						
W57A	Gilead	78.09	47	P		P	02 07 03.1 -0.3
	baz=327						
251A	Midway	78.09	52	P		P	02 07 02.9 -0.6
	baz=325,SNR=9.6						
PALK	Pallekele	78.10	266	eP		P	02 07 04.0 +0.2
	comp=Z,86nm,0.9s						
PALK				LR		LR	
	comp=Z,10µm,20.0s						
PALK	Pallekele	78.10	266	P		P	02 07 03.8 0.0
PALK	Pallekele	78.10	266	eP		P	02 07 04.0 +0.2
PALK				pmax		pmax	
	comp=Z,86nm,0.9s						
PALK				MLR		MLR	
	comp=Z,10µm,20.0s						
FUORN	Ofenpass-Fuorn	78.12	340	eP		P	02 07 05.0 +1.3
	comp=Z,139nm,1.1s						
FUORN				LR		LR	
	comp=Z,6µm,19.0s						
KULU	Kulu	78.17	321	P		P	02 07 04.8 +0.9
X56A	White Oak	78.17	48	P		P	02 07 03.9 0.0
	baz=327						
ADVT	Abdulvahap	78.17	324	P		P	02 07 06.0 +2.2
TRI	Trieste	78.18	337	PFAKE			02 07 20.0 +16
TRI				LR		LR	
	comp=Z,7µm,20.0s						
350A	Dozier	78.19	53	P		P	02 07 03.4 -0.6
	baz=325						
SRCK	Saricakaya, Es	78.19	323	P		P	02 07 04.1 +0.2
BLY	Banja Luka	78.22	334	eP		P	02 07 04.3 +0.3
	comp=Z,32nm,1.0s						
BLY				LR		LR	
	comp=Z,13µm,19.0s						
BLY	Banja Luka	78.22	334⇑	iP		P	02 07 03.9 -0.1
BLY	Banja Luka	78.22	334⇑	iP		P	02 07 03.9 -0.1
U60A	Pendleton	78.22	44	P		P	02 07 03.7 -0.4
	baz=328						
CLF	Chambon-Foret	78.24	345	eP		P	02 07 05.1 +1.1
	comp=Z,315nm,1.4s						
CLF				LR		LR	
	comp=Z,12µm,18.0s						
JSC	Jenkinsville	78.24	48	eP		P	02 07 05.3 +1.1
	comp=Z,25nm,0.9s						
JSC				LR		LR	
	comp=Z,7µm,19.0s						
Y55A	Saluda	78.25	49	P		P	02 07 03.7 -0.6
	baz=327						
449A	Pace	78.29	54	P		P	02 07 03.2 -1.3
	baz=325						
BIRD	Birdtown, Kers	78.30	47	eP		P	02 07 05.5 +0.9
	comp=Z,50nm,1.1s						
BIRD				LR		LR	
	comp=Z,7µm,20.0s						
CAVI	Cavuskoy	78.34	324	P		P	02 07 05.3 +0.5
HAPS	Han Pijesak,BI	78.34	333	eP		P	02 07 04.3 -0.5
V59A	Middlesex	78.35	45	P		P	02 07 04.5 -0.3
	baz=328						
RIY	Rijeka	78.37	336⇑	iP		P	02 07 04.6 -0.2
GEMT	Gemlik	78.37	324	P		P	02 07 07.0 +2.1
ARMT	Armutlu	78.37	325	P		P	02 07 04.8 -0.1
Z54A	Sparta	78.38	50	P		P	02 07 04.5 -0.5
	baz=326,SNR=5.9						
SVRH	Sivrihisar-ESK	78.38	322	P		P	02 07 05.1 0.0
KOZT	Kozan	78.39	318	P		P	02 07 05.7 +0.6
153A	Fort Valley	78.39	51	P		P	02 07 03.5 -1.7
	baz=326						
VTS	Vitosha	78.42	329	eP		P	02 07 05.0 -0.4
VTS				LR		LR	
	comp=Z,18µm,18.0s						
VTS	Vitosha	78.42	329	P		P	02 07 04.9 -0.4
VTS	Vitosha	78.42	329⇑	iP		P	02 07 05.4 +0.1
VTS	Vitosha	78.42	329	eP		P	02 07 05.0 -0.4
VTS				MLR		MLR	
	comp=Z,18µm,18.0s						
VTS	Vitosha	78.42	329	eP		P	02 07 05.6 +0.3
BBLS	Lazići	78.42	332⇑	iP		P	02 07 05.6 +0.4
TUE	Stuetta	78.45	340	eP		P	02 07 06.5 +1.0
	comp=Z,106nm,0.7s						
TUE				LR		LR	
	comp=Z,11µm,19.0s						
252A	Lumpkin	78.50	52	P		P	02 07 05.0 -0.8
	baz=326						
MSFE	Esma-Masafi	78.54	297	iP		P	02 07 05.8 -0.3
	SNR=52						
W58A	Raeford	78.54	46	P		P	02 07 05.6 -0.3
	baz=328,SNR=7.5						
MDNY	Mudanya-Bursa	78.54	324	P		P	02 07 05.5 -0.3
450A	Crestview	78.57	54	P		P	02 07 04.9 -1.2
	baz=325						
X57A	Johnson Farm,	78.62	47	P		P	02 07 06.0 -0.3
	baz=327						
CIFT	Cifteler, Eski	78.63	322	P		P	02 07 06.4 0.0
Y56A	Pelion	78.63	49	P		P	02 07 05.5 -0.9
	baz=327						
U61A	Possum Corner	78.64	44	PFAKE			02 07 20.0 +14
U61A				LR		LR	
	comp=Z,6µm,18.0s						
U61A	Possum Corner	78.64	44	P		P	02 07 05.6 -0.8
	baz=329						
351A	Pinckard	78.67	53	P		P	02 07 06.5 -0.2
	baz=325						
UMQ	Umm Al-Quwin	78.68	297	iP		P	02 07 07.5 +0.7
	SNR=13						
UMQ	Umm Al-Quwin	78.68	297	P		P	02 07 07.2 +0.4
	SNR=11						
UMQ				P		P	02 07 07.2 +0.4
	SNR=11						
SULT	Sultanhani-AKS	78.70	320	P		P	02 07 07.3 +0.4
Z55A	Blythe	78.72	49	P		P	02 07 06.7 -0.3
	baz=327						
253A	Americus	78.74	52	eP		P	02 07 09.4 +2.4
	comp=Z,92nm,1.1s						
253A				LR		LR	
	comp=Z,6µm,21.0s						
253A	Americus	78.74	52	P		P	02 07 06.6 -0.4
	baz=326						
KIZT	Kizilcal	78.74	322	P		P	02 07 07.2 +0.1
W59A	Clinton	78.76	46	P		P	02 07 06.6 -0.5
	baz=328						
154A	Montrose	78.77	50	eP		P	02 07 08.7 +1.5
	comp=Z,180nm,1.1s						
154A				LR		LR	
	comp=Z,7µm,20.0s						
154A	Montrose	78.77	50	P		P	02 07 06.6 -0.6
	baz=326						
V60A	Jim Taylor Roa	78.77	45	eP		P	02 07 07.5 +0.3
	comp=Z,48nm,0.6s						
V60A				LR		LR	
	comp=Z,7µm,18.0s						
V60A	Jim Taylor Roa	78.77	45	P		P	02 07 06.6 -0.6
	baz=328						
UDBI	Udbina	78.79	335	P		P	02 07 06.8 -0.5
KCTX	Karacabey (Bur	78.82	325	P		P	02 07 07.8 +0.4
CEYT	Ceyhan	78.83	318	P		P	02 07 08.5 +1.1
352A	Blakely	78.83	52	eP		P	02 07 09.5 +1.9
352A				LR		LR	
	comp=Z,6µm,20.0s						
352A	Blakely	78.83	52	P		P	02 07 06.4 -1.2
	baz=326						
WSAR	Wadi Sarin	78.84	293	P		P	02 07 08.1 +0.3
	SNR=39						
RKY	Sarkoy-Tekirda	78.85	326	P		P	02 07 08.2 +0.6
Y57A	Sumter	78.86	48	PFAKE			02 07 20.0 +12
Y57A				LR		LR	
	comp=Z,7µm,20.0s						
Y57A	Sumter	78.86	48	P		P	02 07 06.6 -1.1
	baz=327						
X58A	Rowland	78.88	47	eP		P	02 07 09.7 +1.9
	comp=Z,67nm,1.0s						
X58A				LR		LR	
	comp=Z,5µm,18.0s						
X58A	Rowland	78.88	47	P		P	02 07 07.8 0.0
	baz=328						
KARA	Karaisali	78.89	319	P		P	02 07 08.6 +0.7
BIDO	Bidbid	78.90	294	P		P	02 07 08.1 +0.1
	SNR=43						
BIDO				P		P	02 07 08.1 +0.1
	SNR=43						
EDC	Edincik	78.92	325	P		P	02 07 08.4 +0.5
PLE	Pljevlja	78.92	332⇑	iP		P	02 07 08.3 +0.3
CNNC	Cliffs of the	78.94	45	PFAKE			02 07 20.0 +12
CNNC				LR		LR	
	comp=Z,6µm,19.0s						
CNNC	Cliffs of the	78.94	45	P		P	02 07 07.9 -0.2
	baz=328						
SENIN	Lac Senin/Sane	78.97	342	eP		P	02 07 09.5 +1.2
	comp=Z,92nm,1.1s						
SENIN				LR		LR	
	comp=Z,6µm,19.0s						
HATD	Hatta, Dubai	78.97	296	iP		P	02 07 08.1 -0.4
	SNR=139						
HATD	Hatta, Dubai	78.97	296	P		P	02 07 08.0 -0.4
	SNR=97						
HATD				P		P	02 07 08.0 -0.4
	SNR=97						
NVLJ	Novalja	78.99	336	P		P	02 07 07.3 -0.9

Z56A	**Williston**	**78.99**	**49**	PFAKE		02 07 20.0	+12
Z56A				LR	LR		
	comp=Z,7μm,20.0s						
Z56A	**Williston**	**78.99**	**49**	P	**P**	**02 07 07.8**	**-0.6**
	baz=327						
RDO	**Rodhopi**	**79.00**	**327**	*e*P	**P**	**02 07 07.6**	**-0.7**
RDO	**Rodhopi**	**79.00**	**327**	P	**P**	**02 07 07.6**	**-0.7**
YURE	**YUREGIR**	**79.03**	**318**	P	**P**	**02 07 10.1**	**+1.5**
V61A	**Roper**	**79.04**	**44**	PFAKE		02 07 20.0	+11
V61A				LR	LR		
	comp=Z,5μm,18.0s						
ALN	**Alexandroupoli**	**79.05**	**327**	*e*P	**P**	**02 07 08.6**	**0.0**
	comp=Z,76nm,1.1s						
ALN				LR	LR		
	comp=Z,7μm,19.0s						
ALN	**Alexandroupoli**	**79.05**	**327**	P	**P**	**02 07 06.6**	**-2.0**
ALN	**Alexandroupoli**	**79.05**	**327**	*e*P	**P**	**02 07 08.6**	**0.0**
ALN				pmax	pmax		
	comp=Z,76nm,1.1s						
ALN				MLR	MLR		
	comp=Z,7μm,19.0s						
155A	**Kite**	**79.06**	**50**	P	**P**	**02 07 08.1**	**-0.7**
	baz=326,SNR=8.0						
ERIK	**Erikli-Kesan**	**79.10**	**326**	P	**P**	**02 07 09.2**	**+0.4**
NAZ	**Nazwa, Dubai**	**79.10**	**297**	*i* P	**P**	**02 07 08.8**	**-0.4**
	SNR=95						
NAZ	**Nazwa, Dubai**	**79.10**	**297**	P	**P**	**02 07 08.7**	**-0.5**
	SNR=38						
NAZ				P	**P**	**02 07 08.7**	**-0.5**
	SNR=38						
ASHO	**Ashiyiah**	**79.13**	**296**	*i* P	**P**	**02 07 08.9**	**-0.5**
	SNR=134						
ASHO	**Ashiyiah**	**79.13**	**296**	P	**P**	**02 07 08.8**	**-0.5**
	SNR=96						
ASHO				P	**P**	**02 07 08.8**	**-0.5**
	SNR=96						
451A	**Vernon**	**79.14**	**54**	PFAKE		02 07 20.0	+11
451A				LR	LR		
	comp=Z,4μm,19.0s						
451A	**Vernon**	**79.14**	**54**	P	**P**	**02 07 09.2**	**0.0**
	baz=326						
TVSB	**Tavsanli**	**79.14**	**324**	P	**P**	**02 07 09.5**	**+0.2**
KKB	**Krupnik**	**79.14**	**329**	*e*P	**P**	**02 07 09.9**	**+0.7**
LADK	**Ladik-KONYA**	**79.15**	**321**	P	**P**	**02 07 09.5**	**+0.1**
WBK	**Wadi Bani Khal**	**79.15**	**293**	P	**P**	**02 07 10.2**	**+0.7**
	SNR=22						
ENEZ	**Enez**	**79.16**	**326**	P	**P**	**02 07 09.5**	**+0.3**
UPM	**Unac-Piva**	**79.17**	**333⇑**	*i*P	**P**	**02 07 08.9**	**-0.6**
W60A	**Pink Hill**	**79.18**	**45**	P	**P**	**02 07 08.5**	**-0.9**
	baz=328						
TAHT	**Tahtakopru-Hat**	**79.19**	**317**	P	**P**	**02 07 10.4**	**+0.9**
X59A	**McDuffie Farm,**	**79.19**	**46**	P	**P**	**02 07 08.8**	**-0.6**
	baz=328						
IVA	**Berane**	**79.19**	**332⇑**	*i*P	**P**	**02 07 09.5**	**0.0**
452A	**Marianna**	**79.22**	**53**	P	**P**	**02 07 09.2**	**-0.5**
	baz=326						
254A	**Abbeville**	**79.23**	**51**	P	**P**	**02 07 09.2**	**-0.5**
	baz=326						
AS31	**Alice Springs**	**79.26**	**205**	*e*P	**P**	**02 07 10.2**	**+0.4**
	comp=Z,8.1nm,0.8s						
AS31				*e*PKKPbc	**PKKPbc**	**02 26 03.8**	**+4.2**
JLN	**Jalan Bani Buh**	**79.26**	**292**	P	**P**	**02 07 10.6**	**+0.5**
	SNR=31						
JLN				P	**P**	**02 07 10.6**	**+0.5**
	SNR=31						
ASAR	**Alice Springs**	**79.26**	**205**	P	**P**	**02 07 10.0**	**+0.2**
ASAR	**Alice Springs**	**79.26**	**205**	P	**P**	**02 07 09.9**	**+0.2**
	comp=Z,9.1nm,0.8s,baz=15,slow=5.3,SNR=54						
ASAR				PKKPbc	**PKKPbc**	**02 26 03.8**	**+4.2**
	comp=Z,0.6nm,0.7s,baz=201,slow=1.1,SNR=5.4						
ASAR				PKPPKP	P'P'df	02 34 13.8	+16
	comp=Z,2.2nm,1.1s,baz=202,slow=3.7,SNR=6.1						
ASAR				LR	LR	02 40 28.8	
	comp=Z,4μm,21.8s,baz=14,slow=34						
LPK	**Lapseki**	**79.28**	**326**	P	**P**	**02 07 10.3**	**+0.4**
Y58A	**Scranton**	**79.28**	**47**	*e*P	**P**	**02 07 11.4**	**+1.5**
	comp=Z,96nm,0.8s						
Y58A				LR	LR		
	comp=Z,6μm,19.0s						
Y58A	**Scranton**	**79.28**	**47**	P	**P**	**02 07 09.5**	**-0.5**
	baz=328						
353A	**Camilla**	**79.28**	**52**	P	**P**	**02 07 09.2**	**-0.8**
	baz=326						
SOHO	**SOHO**	**79.30**	**296**	P	**P**	**02 07 09.3**	**-1.0**
	SNR=98						
SOHO				P	**P**	**02 07 09.3**	**-1.0**
	SNR=98						
HOQ	**Hoqain**	**79.31**	**295**	P	**P**	**02 07 11.3**	**+0.9**
	SNR=22						
SMDO	**Samad**	**79.31**	**294**	P	**P**	**02 07 10.4**	**-0.1**
	SNR=24						
Z57A	**Bowman**	**79.32**	**48**	P	**P**	**02 07 10.0**	**-0.2**
	baz=327						
KOME	**Kolasin**	**79.32**	**332⇑**	*i*P	**P**	**02 07 09.9**	**-0.3**
FAQ	**Al Faqa, Dubai**	**79.33**	**297**	*i* P	**P**	**02 07 09.8**	**-0.6**
	SNR=44						
FAQ	**Al Faqa, Dubai**	**79.33**	**297**	P	**P**	**02 07 09.7**	**-0.7**
	SNR=25						
FAQ				P	**P**	**02 07 09.7**	**-0.7**
	SNR=25						
GELI	**Tayfur-Gelibol**	**79.35**	**326**	P	**P**	**02 07 10.5**	**+0.2**
KRTS	**Karatas**	**79.36**	**318**	P	**P**	**02 07 13.3**	**+3.0**
NVR	**Nevrokopi**	**79.36**	**328**	P	**P**	**02 07 09.6**	**-0.8**
KONT	**Konya--Tatoy**	**79.37**	**321**	P	**P**	**02 07 10.4**	**-0.1**
TRD	**Trivandrum**	**79.42**	**270**	*e*P	**P**	**02 07 11.1**	**+0.1**
PVY	**Plav**	**79.43**	**332⇑**	*i*P	**P**	**02 07 10.4**	**-0.4**
MERS	**Mersin**	**79.45**	**319**	P	**P**	**02 07 10.9**	**-0.1**
X60A	**Albert Glenn T**	**79.46**	**46**	P	**P**	**02 07 10.2**	**-0.8**
	baz=328						
156A	**Sylvania**	**79.49**	**49**	P	**P**	**02 07 10.8**	**-0.4**
	baz=327						
V62A	**Hyde County Ai**	**79.50**	**44**	PFAKE		02 07 20.0	+8.9
V62A				LR	LR		
	comp=Z,6μm,18.0s						
NKY	**Niksic**	**79.51**	**332⇑**	*i*P	**P**	**02 07 10.7**	**-0.5**
TIGA	**Tifton**	**79.51**	**51**	*e*P	**P**	**02 07 12.2**	**+0.9**
	comp=Z,109nm,0.9s						
TIGA				LR	LR		
	comp=Z,6μm,21.0s						
TIGA	**Tifton**	**79.51**	**51**	P	**P**	**02 07 11.1**	**-0.2**
	baz=326						
GEDZ	**Gediz**	**79.52**	**323**	P	**P**	**02 07 11.8**	**+0.5**
MOIG	**Morelia**	**79.52**	**72**	PFAKE		02 07 20.0	+8.2
MOIG				LR	LR		
	comp=Z,3μm,21.0s						
SHUT	**Suhut-Afyon**	**79.53**	**322**	P	**P**	**02 07 11.9**	**+0.5**
BALB	**Balikesir**	**79.54**	**325**	P	**P**	**02 07 11.4**	**+0.1**
BALB	**Balikesir**	**79.54**	**325**	*e*P	**P**	**02 07 11.4**	**+0.1**
	comp=Z,1μm,1.2s						
BALB				LR	LR		
	comp=Z,20μm,20.0s						
BRY	**Bratogost**	**79.55**	**333⇑**	*i*P	**P**	**02 07 10.8**	**-0.7**
BRY	**Bratogost**	**79.55**	**333**	*e*P	**P**	**02 07 09.5**	**-2.0**
SKO	**Skopje**	**79.56**	**330**	*i* P	**P**	**02 07 11.7**	**+0.3**
NKME	**Niksic**	**79.56**	**332⇑**	*i*P	**P**	**02 07 10.9**	**-0.5**
ASUD	**Al Ashush, Dub**	**79.57**	**297**	*i* P	**P**	**02 07 11.4**	**-0.3**
	SNR=39						
ASUD	**Al Ashush, Dub**	**79.57**	**297**	P	**P**	**02 07 11.4**	**-0.3**
	SNR=19						
ASUD				P	**P**	**02 07 11.4**	**-0.3**
	SNR=19						
STIP	**Stip**	**79.58**	**330**	*i* P	**P**	**02 07 10.7**	**-0.8**
SMTH	**Samothraki Isl**	**79.61**	**327**	P	**P**	**02 07 07.7**	**-4.0**
255A	**Hazlehurst**	**79.63**	**50**	*e*P	**P**	**02 07 13.7**	**+1.7**
	comp=Z,129nm,1.1s						
255A				LR	LR		
	comp=Z,6μm,20.0s						
255A	**Hazlehurst**	**79.63**	**50**	P	**P**	**02 07 11.4**	**-0.5**
	baz=327,SNR=5.6						
453A	**Whigham**	**79.64**	**52**	*e*P	**P**	**02 07 14.1**	**+2.1**
	comp=Z,148nm,1.2s						
453A				LR	LR		
	comp=Z,7μm,20.0s						
453A	**Whigham**	**79.64**	**52**	P	**P**	**02 07 11.6**	**-0.4**
	baz=326						
SRS	**Serrai**	**79.66**	**328**	P	**P**	**02 07 11.5**	**-0.5**
Z58A	**St. Stephen**	**79.69**	**48**	P	**P**	**02 07 10.5**	**-1.7**
	baz=328						
NHSC	**New Hope**	**79.72**	**48**	PFAKE		02 07 20.0	+7.6
NHSC				LR	LR		
	comp=Z,6μm,20.0s						
NHSC	**New Hope**	**79.72**	**48**	P	**P**	**02 07 12.4**	**+0.1**
	baz=327						
552A	**Lynn Haven**	**79.75**	**53**	P	**P**	**02 07 12.5**	**-0.1**
	baz=326						
THAS	**Thassos island**	**79.76**	**327**	P	**P**	**02 07 10.5**	**-1.9**
CEME	**Cevo**	**79.77**	**332⇑**	*i*P	**P**	**02 07 12.0**	**-0.6**
TREB	**Trebinje**	**79.78**	**333**	*e*P	**P**	**02 07 11.7**	**-0.9**
PDG	**Podgorica**	**79.78**	**332⇑**	*i*P	**P**	**02 07 12.2**	**-0.4**
TTG	**Podgorica**	**79.78**	**332⇑**	*i*P	**P**	**02 07 12.1**	**-0.5**
TTG	**Podgorica**	**79.78**	**332**	*e*P	**P**	**02 07 11.4**	**-1.2**
	comp=Z,99nm,0.8s						
TTG				LR	LR		
	comp=Z,15μm,20.0s						
TTG	**Podgorica**	**79.78**	**332**	*e*P	**P**	**02 07 11.4**	**-1.2**
TTG				pmax	pmax		
	comp=Z,99nm,0.8s						
TTG				MLR	MLR		
	comp=Z,15μm,20.0s						
ALNE	**Al Ain**	**79.80**	**296**	*i* P	**P**	**02 07 12.4**	**-0.6**
	SNR=39						
AJN	**Ajban**	**79.81**	**297**	*i* P	**P**	**02 07 12.1**	**-0.9**
	SNR=8.9						
AJN	**Ajban**	**79.81**	**297**	P	**P**	**02 07 12.1**	**-0.9**
	SNR=17						
STON	**Ston**	**79.81**	**333**	P	**P**	**02 07 11.9**	**-0.8**
STON	**Ston**	**79.81**	**333⇑**	*i*P	**P**	**02 07 11.6**	**-1.1**
JMDO	**Jabal Madar**	**79.82**	**293**	P	**P**	**02 07 13.7**	**+0.5**
	SNR=24						
KNT	**Kendrikon**	**79.84**	**329**	P	**P**	**02 07 12.1**	**-0.9**
Y60A	**Bolivia**	**79.84**	**46**	PFAKE		02 07 30.0	+17
Y60A				LR	LR		
	comp=Z,5μm,18.0s						
Y60A	**Bolivia**	**79.84**	**46**	P	**P**	**02 07 12.5**	**-0.5**
	baz=328						
256A	**Glennville**	**79.87**	**50**	P	**P**	**02 07 12.0**	**-1.2**
	baz=327						
EZN	**Ezine**	**79.92**	**326**	P	**P**	**02 07 13.4**	**+0.1**
KIZK	**Mersin**	**79.94**	**319**	P	**P**	**02 07 13.3**	**-0.2**
355A	**Pearson**	**79.94**	**51**	P	**P**	**02 07 13.3**	**-0.3**
	baz=326						
ARQ	**Araqi**	**79.94**	**295**	P	**P**	**02 07 13.4**	**-0.3**
	SNR=26						
HCY	**Herceg Novi**	**79.99**	**332⇑**	*i*P	**P**	**02 07 12.8**	**-0.9**
BOZC	**Bozcaada**	**79.99**	**326**	P	**P**	**02 07 13.4**	**-0.4**
SOH	**Sokhos**	**80.01**	**328**	P	**P**	**02 07 13.8**	**-0.1**
BUM	**Brajici-Budva**	**80.01**	**332⇑**	*i*P	**P**	**02 07 13.2**	**-0.7**
DRME	**Dracevica, Mon**	**80.03**	**332⇑**	*i*P	**P**	**02 07 13.8**	**-0.1**
DRME	**Dracevica, Mon**	**80.03**	**332⇑**	*i*P	**P**	**02 07 13.8**	**-0.1**
BSY	**Bisya**	**80.03**	**294**	P	**P**	**02 07 14.3**	**+0.1**
	SNR=46						
454A	**Quitman**	**80.09**	**52**	P	**P**	**02 07 13.3**	**-1.1**
	baz=326						
PHP	**Peshkopia**	**80.12**	**331**	P	**P**	**02 07 14.1**	**-0.4**
SILI	**Silifke-Mersin**	**80.12**	**319**	P	**P**	**02 07 14.4**	**-0.1**
KEBE	**Keben-Mersin**	**80.14**	**319**	P	**P**	**02 07 14.8**	**+0.1**
KRUS	**Krusevo**	**80.17**	**330**	*i* P	**P**	**02 07 14.8**	**0.0**
ISP	**Isparta**	**80.18**	**322**	*e*P	**P**	**02 07 15.0**	**0.0**
	comp=Z,173nm,1.3s						
ISP				LR	LR		
	comp=Z,9μm,19.0s						
ISP	**Isparta**	**80.18**	**322⇑**	*i*P	**P**	**02 07 15.9**	**+0.9**
ISP	**Isparta**	**80.18**	**322**	*e*P	**P**	**02 07 15.0**	**0.0**
ISP				pmax	pmax		
	comp=Z,173nm,1.3s						
ISP				MLR	MLR		
	comp=Z,9μm,19.0s						
GRG	**Griva**	**80.19**	**329**	P	**P**	**02 07 14.8**	**0.0**
ULC	**Ulcinj**	**80.22**	**332⇑**	*i*P	**P**	**02 07 15.7**	**+0.7**
LIA	**Limnos Island**	**80.24**	**327**	P	**P**	**02 07 14.2**	**-0.9**
OUR	**Ouranopolis**	**80.24**	**328**	P	**P**	**02 07 14.8**	**-0.3**
TEVE	**Tevekalti-Mers**	**80.25**	**319**	P	**P**	**02 07 14.8**	**-0.6**
KULA	**Kula-Manisa**	**80.26**	**324**	P	**P**	**02 07 14.6**	**-0.7**
KULA	**Kula-Manisa**	**80.26**	**324**	P	**P**	**02 07 14.9**	**-0.4**
257A	**Skidaway Islan**	**80.27**	**49**	PFAKE		02 07 30.0	+15
257A				LR	LR		
	comp=Z,7μm,20.0s						
257A	**Skidaway Islan**	**80.27**	**49**	P	**P**	**02 07 13.7**	**-1.6**
	baz=327						
MANT	**Manisa**	**80.32**	**324**	*e*P	**P**	**02 07 15.8**	**0.0**
	comp=Z,703nm,1.2s						
IKL	**Isikli**	**80.33**	**319**	P	**P**	**02 07 15.3**	**-0.3**
BNI	**Bardonecchia**	**80.35**	**342**	*e*P	**P**	**02 07 17.3**	**+1.5**
	comp=Z,154nm,1.2s						
BNI				LR	LR		
	comp=Z,7μm,19.0s						
455A	**Stateville**	**80.35**	**51**	P	**P**	**02 07 15.3**	**-0.5**
	baz=326						
PLG	**Polygyros**	**80.38**	**328**	P	**P**	**02 07 14.8**	**-1.1**
BERE	**Bereket-Mersin**	**80.42**	**319**	P	**P**	**02 07 15.8**	**-0.5**
VLC	**Villacollemand**	**80.43**	**339**	*e*P	**P**	**02 07 17.4**	**+1.3**
	comp=Z,228nm,1.5s						
VLC				LR	LR		
	comp=Z,11μm,18.0s						
AKKU	**Akkuyu-Mersin**	**80.45**	**319**	P	**P**	**02 07 16.0**	**-0.3**
PRK	**Paraskevi**	**80.45**	**326**	P	**P**	**02 07 16.0**	**-0.2**
BIA	**Bitola**	**80.46**	**330**	*i* P	**P**	**02 07 16.4**	**+0.1**
BCK	**Bucak**	**80.47**	**322**	P	**P**	**02 07 16.5**	**0.0**
PMOR	**Pomariorio Ree**	**80.51**	**130**	*e*T	T	03 35 38.7	
	comp=Z,4.0nm,0.3s						
SSB	**Saint Sauveur**	**80.53**	**343**	*e*P	**P**	**02 07 17.2**	**+0.6**
	comp=Z,247nm,1.5s						
SSB				LR	LR		
	comp=Z,5μm,20.0s						
OHR	**Ohrid**	**80.54**	**330**	*i* P	**P**	**02 07 15.5**	**-1.2**
TIR	**Tirane**	**80.60**	**331**	*e*P	**P**	**02 07 17.1**	**+0.2**
	comp=Z,101nm,0.8s						
TIR				LR	LR		
	comp=Z,13μm,19.0s						
TIR	**Tirane**	**80.60**	**331**	P	**P**	**02 07 16.4**	**-0.6**
TIR	**Tirane**	**80.60**	**331⇑**	*i*P	**P**	**02 07 17.2**	**+0.2**
SIGR	**SIGRI**	**80.63**	**326**	P	**P**	**02 07 16.3**	**-0.9**
TEKE	**Tekeli-Mersin**	**80.64**	**319**	P	**P**	**02 07 16.6**	**-0.7**
FNA	**Florina**	**80.66**	**330**	*e*P	**P**	**02 07 17.1**	**-0.3**
	comp=Z,115nm,1.3s						
FNA				LR	LR		
	comp=Z,14μm,19.0s						
FNA	**Florina**	**80.66**	**330**	P	**P**	**02 07 16.0**	**-1.4**
FNA	**Florina**	**80.66**	**330**	*e*P	**P**	**02 07 17.1**	**-0.3**
FNA				pmax	pmax		
	comp=Z,115nm,1.3s						
FNA				MLR	MLR		
	comp=Z,14μm,19.0s						
PAIG	**Paliouri**	**80.71**	**328**	P	**P**	**02 07 16.2**	**-1.4**
EREN	**Erenkoy**	**80.75**	**318**	P	**P**	**02 07 18.4**	**+0.5**
456A	**Hilliard**	**80.85**	**51**	PFAKE		02 07 30.0	+12
456A				LR	LR		
	comp=Z,7μm,20.0s						
456A	**Hilliard**	**80.85**	**51**	P	**P**	**02 07 17.9**	**-0.6**
	baz=327						
555A	**McAlpin**	**80.90**	**52**	*e*P	**P**	**02 07 20.7**	**+2.0**
	comp=Z,104nm,0.9s						
555A				LR	LR		
	comp=Z,5μm,21.0s						
555A	**McAlpin**	**80.90**	**52**	P	**P**	**02 07 18.4**	**-0.4**
	baz=327						
LIT	**Litokhoron**	**80.94**	**329**	*e*P	**P**	**02 07 18.4**	**-0.5**
	comp=Z,99nm,1.4s						
LIT	**Litokhoron**	**80.94**	**329**	P	**P**	**02 07 17.2**	**-1.7**
LIT	**Litokhoron**	**80.94**	**329**	*e*P	**P**	**02 07 18.4**	**-0.5**
LIT				pmax	pmax		
	comp=Z,99nm,1.4s						
KORT	**Korkueli**	**80.97**	**322**	P	**P**	**02 07 18.7**	**-0.5**
KZN	**Kozani**	**80.97**	**329**	P	**P**	**02 07 17.2**	**-1.9**
MHTO	**MHTO**	**80.99**	**293**	P	**P**	**02 07 19.3**	**-0.1**
	SNR=130						
MHTO				P	**P**	**02 07 19.3**	**-0.1**
	SNR=130						
AYDB	**Zeytinkoy-Aydi**	**81.04**	**324**	P	**P**	**02 07 19.5**	**-0.1**
RAR	**Rarotonga**	**81.04**	**143**	PFAKE		02 07 30.0	+11
RAR				LR	LR		
	comp=Z,5μm,19.0s						
RAR	**Rarotonga**	**81.04**	**143**	LR	LR	02 40 10.4	
	comp=Z,3μm,18.7s,baz=336,slow=33						
NEST	**Nestorio**	**81.10**	**330**	P	**P**	**02 07 19.4**	**-0.4**
URLA	**Izmir**	**81.13**	**325**	P	**P**	**02 07 19.5**	**-0.5**
PHNC	**Paralimni**	**81.26**	**318**	P	**P**	**02 07 20.9**	**+0.3**
655A	**Horseshoe Beac**	**81.26**	**52**	P	**P**	**02 07 19.9**	**-0.9**
	baz=326						
556A	**Lake Butler**	**81.27**	**51**	P	**P**	**02 07 21.2**	**+0.5**
	baz=327						
CHOS	**Chios island**	**81.30**	**325**	P	**P**	**02 07 19.8**	**-1.1**
ELL	**Elmali**	**81.36**	**322**	P	**P**	**02 07 20.0**	**-1.3**
XOR	**Xorichti**	**81.38**	**328**	P	**P**	**02 07 20.1**	**-1.1**
FYTO	**Fytoko, Volos**	**81.42**	**328**	P	**P**	**02 07 20.1**	**-1.3**
NEO	**Neokhori**	**81.42**	**328**	P	**P**	**02 07 20.1**	**-1.4**
KPRO	**Kipourio**	**81.42**	**329**	P	**P**	**02 07 20.8**	**-0.7**
AQU	**L'Aquila**	**81.43**	**336**	*e*P	**P**	**02 07 22.8**	**+1.3**
	comp=Z,276nm,1.2s						
AQU				LR	LR		
	comp=Z,14μm,19.0s						
AQU	**L'Aquila**	**81.43**	**336⇑**	*i*P	**P**	**02 07 22.3**	**+0.8**
MAMC	**Mammari**	**81.44**	**319**	P	**P**	**02 07 20.9**	**-0.7**
GCAM	**G?zelcaml?**	**81.50**	**324**	P	**P**	**02 07 21.6**	**-0.2**
BHL	**Bhannes**	**81.53**	**316**	*e*P	**P**	**02 07 22.1**	**-0.1**
557A	**Orange Park**	**81.58**	**51**	P	**P**	**02 07 23.6**	**+1.2**
	baz=327						
CSS	**Mathiatis**	**81.58**	**319**	*e*P	**P**	**02 07 22.4**	**0.0**
	comp=Z,192nm,1.0s						
CSS				LR	LR		
	comp=Z,8μm,18.0s						
CSS	**Mathiatis**	**81.58**	**319**	P	**P**	**02 07 21.5**	**-0.9**
LEF	**Lefka**	**81.62**	**319**	P	**P**	**02 07 22.0**	**-0.5**
BAI	**Bari**	**81.68**	**333**	*e*P	**P**	**02 07 23.9**	**+1.2**
ALFC	**Alefka**	**81.70**	**319**	P	**P**	**02 07 22.1**	**-0.9**
656A	**Willston**	**81.73**	**52**	*e*P	**P**	**02 07 25.2**	**+2.0**
	comp=Z,137nm,1.0s						
656A				LR	LR		
	comp=Z,5μm,19.0s						
656A	**Willston**	**81.73**	**52**	P	**P**	**02 07 23.5**	**+0.3**
	baz=327						
TURN	**Turunc**	**81.73**	**323**	P	**P**	**02 07 24.4**	**+1.3**
DQRL	**Deir Qamar**	**81.74**	**316**	*e*P	**P**	**02 07 23.6**	**+0.3**
DALY	**Dalyan (Mula)**	**81.76**	**323**	P	**P**	**02 07 23.4**	**+0.2**
FETY	**Fethiye**	**81.77**	**322**	P	**P**	**02 07 23.1**	**-0.2**
FETY	**Fethiye**	**81.77**	**322**	P	**P**	**02 07 22.0**	**-1.3**
PSAD2	**Pilbara Seismi**	**81.77**	**218**	PFAKE		02 07 40.0	+17
PSAD2				LR	LR		
	comp=Z,2μm,21.0s						
PSA00	**Pilbara Seismi**	**81.77**	**218**	*e*P	**P**	**02 07 24.4**	**+1.1**
	comp=Z,120nm,1.4s						
RCY	**Rachaya**	**81.81**	**316**	*e*P	**P**	**02 07 23.9**	**+0.2**
SMIA	**Simia**	**81.81**	**328**	P	**P**	**02 07 22.4**	**-1.1**
QRWL	**Qaraoun**	**81.83**	**316**	*e*P	**P**	**02 07 23.9**	**+0.2**
MRKA	**Markates**	**81.84**	**327**	P	**P**	**02 07 22.3**	**-1.4**
JAN	**Janina**	**81.85**	**330**	P	**P**	**02 07 23.2**	**-0.6**
657A	**Interlachen**	**81.87**	**51**	P	**P**	**02 07 24.1**	**+0.2**
	baz=327						
SRN	**Sarande**	**81.91**	**330**	P	**P**	**02 07 23.2**	**-0.8**
AKAS	**Kas**	**81.92**	**322**	P	**P**	**02 07 23.8**	**-0.5**
CGL1	**Ceglie Messapi**	**81.93**	**333**	*e*P	**P**	**02 07 23.8**	**-0.3**
SZAC	**Souni**	**81.94**	**319**	P	**P**	**02 07 23.9**	**-0.4**
SHBL	**Chebaa**	**81.97**	**316**	*e*P	**P**	**02 07 24.4**	**-0.2**
PPT	**Papeete**	**81.97**	**133**	LR	LR	02 37 51.9	
	comp=Z,4μm,20.1s,baz=298,slow=31						
MNCI	**Minicoy**	**81.99**	**273**	PFAKE		02 07 40.0	+15
MNCI				LR	LR		
	comp=Z,10μm,18.0s						
EREA	**Eretria**	**81.99**	**327**	P	**P**	**02 07 22.7**	**-1.8**
PPT2	**Papeete2**	**81.99**	**133**	*e*S	**S**	**02 17 33.7**	**-3.6**
	comp=Z,9μm,31.8s						
PPT2	**Papeete2**	**81.99**	**133**	*e*LR	LR	02 32 59.8	
	comp=Z,12μm,24.8s						
PPTF	**Pamatai, Papee**	**82.00**	**133**	PFAKE		02 07 40.0	+15
PPTF				LR	LR		
	comp=Z,5μm,20.0s						
KSL	**Kastellorizon**	**82.01**	**322**	P	**P**	**02 07 21.3**	**-3.2**
BODT	**Bodrum**	**82.04**	**324**	P	**P**	**02 07 24.2**	**-0.5**
BODT	**Bodrum**	**82.04**	**324**	P	**P**	**02 07 22.5**	**-2.2**
PPCY	**Paphos**	**82.04**	**319**	P	**P**	**02 07 23.5**	**-1.3**
MASS	**Massafra**	**82.05**	**333**	*e*P	**P**	**02 07 24.3**	**-0.4**
DQM	**DQM**	**82.08**	**292**	P	**P**	**02 07 24.5**	**-0.7**
	SNR=20						
DQM				P	**P**	**02 07 24.5**	**-0.7**
	SNR=20						
LKR	**Lokris**	**82.09**	**328**	P	**P**	**02 07 22.2**	**-2.7**
TAR1	**Taranto**	**82.11**	**333**	*e*P	**P**	**02 07 24.8**	**-0.2**
KEK	**Kerkira**	**82.12**	**330**	P	**P**	**02 07 22.9**	**-2.2**
IGT	**Igoumenitsa**	**82.13**	**330**	P	**P**	**02 07 23.4**	**-1.8**
MATE	**Matera**	**82.15**	**333⇑**	*i*P	**P**	**02 07 25.5**	**+0.3**
LVIG	**Laguna Verde**	**82.22**	**68**	PFAKE		02 07 40.0	+14
LVIG				LR	LR		
	comp=Z,2μm,20.0s						
EVR	**Evrytania**	**82.23**	**329**	P	**P**	**02 07 23.9**	**-1.9**
DAT	**Datca**	**82.24**	**324**	P	**P**	**02 07 24.8**	**-1.1**
658A	**Bunnell**	**82.30**	**51**	PFAKE		02 07 40.0	+14
658A				LR	LR		
	comp=Z,6μm,20.0s						
DION	**Dionisos Attik**	**82.30**	**327**	P	**P**	**02 07 22.7**	**-3.4**
757A	**Oxford**	**82.31**	**52**	P	**P**	**02 07 26.4**	**+0.2**
	baz=327						
PTL	**Penteli**	**82.35**	**327**	P	**P**	**02 07 23.3**	**-3.1**
VILL	**Villia**	**82.43**	**327**	P	**P**	**02 07 23.2**	**-3.6**
ATHU	**Athens Univers**	**82.45**	**327**	P	**P**	**02 07 24.3**	**-2.6**
ANX	**Ano Chora**	**82.49**	**329**	P	**P**	**02 07 24.4**	**-2.8**
ARG	**Arkhangelos**	**82.49**	**323**	P	**P**	**02 07 24.3**	**-2.8**
VLY	**Voula,Athens**	**82.55**	**327**	P	**P**	**02 07 24.3**	**-3.1**
PVO	**Paravola**	**82.59**	**329**	P	**P**	**02 07 24.2**	**-3.4**
KALE	**Kalithea**	**82.60**	**328**	P	**P**	**02 07 25.4**	**-2.3**
EFP	**Efpalio**	**82.65**	**328**	P	**P**	**02 07 25.6**	**-2.3**
APE	**Apeiranthos**	**82.66**	**325**	P	**P**	**02 07 24.9**	**-3.1**
TLIG	**Tlapa**	**82.70**	**71**	PFAKE		02 07

061Z LR LR
comp=Z,6µm,19.0s
PGAV Gavieira, Arco 85.50 352 *e*P **P 02 07 43.3 +0.8**
comp=Z,178nm,1.7s
PGAV Gavieira, Arco 85.50 352 *e*S **S 02 18 16.0 +3.6**
PGAV *e*SS SS 02 23 59.5 +13
PGAV *e*LQ LQ 02 32 17.4
PGAV *e*LR LR 02 38 24.7
comp=Z,3µm,18.0s
PBRG Braganca 85.52 351 *e*P **P 02 07 42.9 +0.4**
comp=Z,131nm,1.8s
STKA Stephens Creek 85.56 196 *e*P **P 02 07 43.3 +0.9**
comp=Z,8.6nm,1.0s
STKA LR LR
comp=Z,900nm,18.0s
STKA Stephens Creek 85.56 196 P **P 02 07 42.8 +0.3**
comp=Z,4.9nm,0.8s,baz=342,slow=9.6,SNR=5.7
STKA LR LR 02 49 24.9
comp=Z,2µm,18.0s,baz=358,slow=38
PCAB Cabril 85.73 351 *e*P **P 02 07 46.4 +2.8**
comp=Z,132nm,1.8s
MAHO Mahon 85.79 342 P **P 02 07 43.4 -0.4**
MAHO S **S 02 18 16.2 +1.2**
CLTB Caltabellotta 85.97 335 *e*P **P 02 07 46.1 +1.2**
comp=Z,37nm,0.8s
CLTB LR LR
comp=Z,13µm,18.0s
POLO Lamas de Olo 86.05 351 *e*P **P 02 07 45.5 +0.3**
comp=Z,66nm,1.5s
PVRL Vila Real 86.14 351 *e*P **P 02 07 46.5 +0.9**
comp=Z,164nm,1.7s
MVO Moncorvo 86.18 351 *e*P **P 02 07 46.6 +0.8**
comp=Z,116nm,1.7s
MVO Moncorvo 86.18 351 *e*PP PP 02 11 11.1 +5.6
MVO *e*S **S 02 18 22.5 +3.5**
MVO *e*SS SS 02 24 09.5 +13
MVO *e*LQ LQ 02 33 14.9
MVO *e*LR LR 02 41 26.2
comp=Z,4µm,18.0s
MVO *e*LR LR 02 41 29.8
comp=Z,4µm,18.0s
TEIG Tepich 86.32 61 PFAKE 02 08 00.0 +13
TEIG LR LR
comp=Z,3µm,21.0s
PTO Porto 86.35 352 *e*P **P 02 07 48.4 +1.9**
comp=Z,99nm,1.9s
UCM Universidad Co 86.59 348 *i*P **P 02 07 49.4 +1.6**
UCM *i*S **S 02 18 26.5 +3.5**
PVIS Viseu 86.71 351 *e*P **P 02 07 49.3 +0.9**
comp=Z,76nm,1.6s
MTE Manteigas 86.99 351 *e*P **P 02 07 50.0 +0.2**
comp=Z,83nm,1.0s
MTE Manteigas 86.99 351 *e*PP PP 02 11 13.4 +1.4
MTE *e*S **S 02 18 29.2 +2.3**
MTE *e*SS SS 02 24 19.9 +12
MTE *e*LQ LQ 02 31 33.8
MTE *e*LR LR 02 41 11.7
comp=Z,5µm,18.0s
MTE Manteigas 86.99 351 *e*P **P 02 07 50.9 +1.1**
comp=Z,69nm,1.0s
MTE LR LR
comp=Z,6µm,18.0s
TBI Tubuai 87.10 135 *e*S **S 02 18 24.0 -3.8**
comp=Z,3µm,26.2s
TBI Tubuai 87.10 135 *e*LR LR 02 35 23.4
comp=Z,9µm,24.5s
WDD Wied Dalam 87.25 333 PFAKE 02 08 00.0 +9.0
WDD LR LR
comp=Z,3µm,20.0s
COI Coimbra 87.26 352 *e*P **P 02 07 52.1 +1.1**
comp=Z,112nm,1.1s
COI Coimbra 87.26 352 *e*P **P 02 07 51.7 +0.7**
comp=Z,100nm,0.9s
COI LR LR
comp=Z,4µm,19.0s
COI Coimbra 87.26 352 *e*P **P 02 07 51.7 +0.7**
COI pmax pmax
comp=Z,100nm,0.9s
COI MLR MLR
comp=Z,4µm,19.0s
ESDC Sonseca Array 87.31 348 P **P 02 07 51.4 +0.1**
comp=Z,46nm,1.0s,baz=4.9,slow=4.1,SNR=100
ESDC LR LR 02 52 08.5
comp=Z,3µm,18.4s,baz=70,slow=39
ESLA Sonseca Array 87.31 348 *e*P **P 02 07 51.9 +0.5**
comp=Z,77nm,1.1s
ESLA LR LR
comp=Z,6µm,20.0s
CCIG Comitan 87.40 67 *e*P **P 02 07 54.4 +2.2**
comp=Z,34nm,1.3s
CCIG LR LR
comp=Z,2µm,21.0s
PCAS Casmilo, Conde 87.42 352 *e*P **P 02 07 51.3 -0.5**
comp=Z,118nm,1.2s
PAB San Pablo 87.48 348 *e*P **P 02 07 52.7 +0.5**
comp=Z,51nm,1.1s
PAB LR LR
comp=Z,9µm,20.0s
PAB San Pablo 87.48 348 *e*P **P 02 07 52.7 +0.5**
PAB pmax pmax
comp=Z,51nm,1.1s
PAB MLR MLR
comp=Z,9µm,20.0s
BBOO Buckleboo 87.53 200 PFAKE 02 08 00.0 +7.9
BBOO LR LR
comp=Z,3µm,21.0s
PCBR Castelo Branco 87.53 351 *e*P **P 02 07 53.3 +1.0**
comp=Z,74nm,1.2s
PTOM Tomar 87.84 352 *e*P **P 02 07 55.4 +1.6**
comp=Z,78nm,1.1s
PMRV Marv??o 87.94 351 *e*P **P 02 07 54.0 -0.3**
comp=Z,46nm,1.7s
PMRV Marv??o 87.94 351 *e*S **S 02 18 39.8 +3.9**
PMRV *e*SS **SS 02 24 25.9 +4.1**
PMRV *e*LQ LQ 02 33 45.0
PMRV *e*LR LR 02 40 27.4
comp=Z,4µm,18.0s
CAN Canberra 87.95 189 PFAKE 02 08 10.0 +16
CAN LR LR
comp=Z,5µm,18.0s
OUZ Omahuta 88.01 169 PFAKE 02 08 10.0 +16
OUZ LR LR
comp=Z,7µm,21.0s
CAEH 'Ain El Ouahch 88.27 339 P **P 02 07 58.3 +2.4**
CMAH Djebel Manchou 88.29 339 P **P 02 07 55.1 -1.0**
PMTG Montargil 88.37 351 *e*P **P 02 07 57.1 +0.8**
comp=Z,55nm,1.4s
PMAFR Mafra 88.58 352 *e*P **P 02 07 58.3 +1.0**
comp=Z,123nm,1.5s
ABSA Djebel Ababsia 88.61 339 P **P 02 07 56.7 -1.0**
CKFL Kef-Lekhel 88.66 339 P **P 02 07 58.1 +0.2**
KEST Kesra 88.70 337 *e*P **P 02 07 58.5 +0.4**
comp=Z,96nm,1.1s
KEST LR LR
comp=Z,10µm,19.0s
KEST Kesra 88.70 337 P **P 02 07 58.1 +0.1**
comp=Z,71nm,1.0s,baz=278,slow=2.9,SNR=26
KEST LR LR 02 53 10.7
comp=Z,9µm,18.9s,baz=338,slow=39
DFRA Djebel Bou Aff 88.70 340 P **P 02 07 57.5 -0.6**
LIS Lisbon 88.80 352 *e*P **P 02 07 58.5 +0.2**
LIS *e*PP **PP 02 11 27.8 +1.3**
LIS AMS AMS 02 50 50.8
comp=E,8µm,19.8s
LIS Lisbon 88.80 352 *e*P **P 02 07 58.5 +0.2**
LIS *e* 02 11 27.8
CASM Ain Smara 88.84 339 P **P 02 07 58.7 0.0**
ROSA Rosais 88.92 7 PFAKE 02 08 10.0 +11
ROSA LR LR
comp=Z,4µm,19.0s
CART Cartagena 88.94 345 PFAKE 02 08 10.0 +11
CART LR LR
comp=Z,4µm,21.0s
CART Cartagena 88.94 345 P **P 02 07 56.8 -2.2**
CART S **S 02 18 47.2 +1.8**
CKHR Kef el Ahmar 89.28 340 P **P 02 08 02.0 +1.1**
PNCL Nicolau / Gran 89.35 351 *e*P **P 02 08 05.4 +4.5**
comp=Z,53nm,1.8s
PBEJ Beja 89.37 351 *e*P **P 02 08 03.1 +2.0**
comp=Z,48nm,1.4s
MESJ Messejana 89.59 351 *e*P **P 02 08 02.2 +0.1**
MESJ *e*PP **PP 02 11 34.2 +1.4**
MESJ AMS AMS 02 58 50.8
comp=Z,4µm,14.9s
MESJ Messejana 89.59 351 *e*P **P 02 08 05.8 +3.7**
comp=Z,47nm,2.0s
MESJ Messejana 89.59 351 *e*P **P 02 08 02.2 +0.1**
MESJ *e* 02 11 34.2
PCVE Castro Verde 89.78 351 *e*P **P 02 08 04.5 +1.5**
comp=Z,66nm,1.4s
PVAQ Vaqueiros 89.97 351 *e*PP PP 02 11 36.3 +0.4
PVAQ *e*S **S 02 18 51.7 -3.4**
PVAQ *e*SS SS 02 25 03.8 +12
PVAQ *e*LQ LQ 02 34 31.2
PVAQ *e*LR LR 02 38 45.9
PBDV Barranco-do-Ve 90.15 351 *e*P **P 02 08 05.6 +0.8**
comp=Z,79nm,1.5s
MORF Marmelete 90.16 351 *e*P **P 02 08 05.0 +0.1**
MORF *e*SKSac **SKSac 02 18 35.6 +1.3**
MORF AMS AMS 02 54 33.7
comp=Z,5µm,18.4s
MORF Marmelete 90.16 351 *e*P **P 02 08 06.2 +1.4**
comp=Z,95nm,1.8s
MORF Marmelete 90.16 351 *e*P **P 02 08 04.9 +0.1**
EMAL Malaga-Limoner 90.23 348 *i*P **P 02 08 04.8 -0.3**
EMAL *i*S **SKSac 02 18 39.3 +4.6**
PFVI Vila Bisbo 90.35 352 *e*P **P 02 08 10.4 +4.8**
PFVI Vila Bisbo 90.35 352 PFAKE 02 08 20.0 +14
PFVI LR LR
comp=Z,4µm,19.0s
SFS San Fernando 90.74 349 PFAKE 02 08 20.0 +13
SFS LR LR
comp=Z,6µm,18.0s
SFS San Fernando 90.74 349 *i*P **P 02 08 08.8 +1.3**
SFS *i*S **SKSac 02 18 44.5 +6.9**
MXZ Matakaoa Point 90.93 166 PFAKE 02 08 20.0 +12
MXZ LR LR
comp=Z,6µm,19.0s
HIZ Hauiti 91.40 169 PFAKE 02 08 20.0 +10
HIZ LR LR
comp=Z,5µm,22.0s
URZ Urewera 91.44 167 PFAKE 02 08 20.0 +10
URZ LR LR
comp=Z,4µm,18.0s
URZ Urewera 91.44 167 LR LR 02 43 26.0
comp=Z,3µm,20.4s,baz=9.0,slow=32
MELI Melilla 91.48 347 *i*P **P 02 08 10.9 0.0**
MELI *e*S **SKSac 02 18 51.8 +10**
PVLZ Peæn de 91.78 348 *e*P **P 02 08 09.8 -2.6**
PVLZ *i*S **SKSac 02 18 46.6 +3.0**
TGUH Tegucigalpa,Un 91.91 64 PFAKE 02 08 30.0 +17
TGUH LR LR
comp=Z,3µm,22.0s
BKZ Black Stump Fm 92.25 168 PFAKE 02 08 30.0 +16
BKZ LR LR
comp=Z,4µm,19.0s
NWAO Narrogin (SRO) 93.04 215 *e*P **P 02 08 19.1 +1.3**
comp=Z,85nm,1.4s
NWAO LR LR
comp=Z,3µm,21.0s
NWAO Narrogin (SRO) 93.04 215 *e*P **P 02 08 19.1 +1.3**
NWAO pmax pmax
comp=Z,85nm,1.4s
NWAO MLR MLR
comp=Z,3µm,21.0s
RTC Rabat Centre 93.26 350 PFAKE 02 08 30.0 +11
RTC LR LR
comp=Z,15µm,19.0s
GTBY Guantanamo Bay 93.27 51 PFAKE 02 08 30.0 +11
GTBY LR LR
comp=Z,4µm,22.0s
MTDJ Mount Denham 93.55 54 PFAKE 02 08 30.0 +9.2
MTDJ LR LR
comp=Z,4µm,20.0s
DAMY Dhamar 93.67 299 *e*P **P 02 08 22.6 +0.8**
comp=Z,48nm,1.2s
DAMY LR LR
comp=Z,13µm,19.0s
BFZ Birch Farm 93.71 168 PFAKE 02 08 30.0 +9.3
BFZ LR LR
comp=Z,7µm,20.0s
GRTK Grand Turk 93.74 47 PFAKE 02 08 30.0 +8.4
GRTK LR LR
comp=Z,3µm,20.0s
RKT Rikitea 93.75 124 *e*SKSac **SKSac 02 18 54.4 +0.1**
comp=Z,3µm,24.5s
RKT *e*SP SP 02 20 40.5 -2.6
comp=Z,4µm,24.8s
RKT Rikitea 93.75 124 *e*LR LR 02 38 36.9
comp=Z,4µm,26.2s
AVE Averroes 94.00 350 *i*P **P 02 08 23.6 +1.0**
AVE *i*S **S 02 19 35.9 +4.4**
SNZO South Karori 94.15 169 PFAKE 02 08 40.0 +17
SNZO LR LR
comp=Z,6µm,20.0s
THZ Tophouse 94.41 171 PFAKE 02 08 40.0 +16
THZ LR LR
comp=Z,4µm,19.0s
DGAR Diego Garcia 94.67 264 PFAKE 02 08 40.0 +14
DGAR LR LR
comp=Z,6µm,18.0s
ESPN Las Esperanzas 95.07 63 PFAKE 02 08 40.0 +12
ESPN LR LR
comp=Z,1µm,20.0s
PMOZ Porto Moniz, M 95.10 358 *e*PP **PP 02 12 20.6 +4.3**
PMOZ *e*S **S 02 19 42.5 +1.2**
PMOZ *e*SS SS 02 26 20.3 +15
PMOZ Porto Moniz, M 95.10 358 *e*LR LR 02 47 53.1
comp=Z,2µm,20.0s
KHZ Kahutara 95.12 170 PFAKE 02 08 40.0 +13
KHZ LR LR
comp=Z,6µm,21.0s
LTZ Lake Taylor 95.36 171 PFAKE 02 08 40.0 +12
LTZ LR LR
comp=Z,6µm,20.0s
TAU Tasmania Unive 95.64 190 PFAKE 02 08 40.0 +11
TAU LR LR
comp=Z,4µm,20.0s
OXZ Oxford 95.88 172 PFAKE 02 08 40.0 +9.4
OXZ LR LR
comp=Z,5µm,19.0s
SDDR Presa de Saban 95.88 48 PFAKE 02 08 40.0 +8.5
SDDR LR LR
comp=Z,4µm,22.0s
FOZ Fox Glacier 95.90 173 PFAKE 02 08 40.0 +9.4
FOZ LR LR
comp=Z,5µm,19.0s
CRLZ Canterbury Las 96.17 171 PFAKE 02 08 40.0 +8.1
CRLZ LR LR
comp=Z,6µm,20.0s
RPZ Rata Peaks 96.18 172 PFAKE 02 08 40.0 +8.0
RPZ LR LR
comp=Z,6µm,19.0s
RPZ Rata Peaks 96.18 172 LR LR 02 45 45.7
comp=Z,2µm,21.5s,baz=352,slow=32
JTS Las Juntas de 96.28 64 PFAKE 02 08 50.0 +17
JTS LR LR
comp=Z,1µm,20.0s
MQZ McQueen's Vall 96.31 171 PFAKE 02 08 50.0 +18
MQZ LR LR
comp=Z,4µm,20.0s
LBZ Lake Benmore 96.78 173 PFAKE 02 08 50.0 +15
LBZ LR LR
comp=Z,5µm,20.0s
SDD Santo Domingo 96.96 48 PFAKE 02 08 50.0 +14
SDD LR LR
comp=Z,5µm,22.0s
HDC Heredia 96.98 64 PFAKE 02 08 50.0 +13
HDC LR LR
comp=Z,2µm,20.0s
ATD Arta Tunnel 97.03 299 LR LR 02 58 24.5
comp=Z,7µm,18.3s,baz=35,slow=39
WKZ Wanaka 97.14 174 PFAKE 02 08 50.0 +14
WKZ LR LR
comp=Z,6µm,19.0s
ODZ Otahua Downs 97.47 173 PFAKE 02 08 50.0 +12
ODZ LR LR
comp=Z,4µm,20.0s
MLZ Mavora Lakes 97.62 175 PFAKE 02 08 50.0 +11
MLZ LR LR
comp=Z,7µm,22.0s
DCZ Deep Cove 97.66 175 PFAKE 02 08 50.0 +11
DCZ LR LR
comp=Z,5µm,22.0s
MPR Mayaguez 98.41 45 PFAKE 02 08 50.0 +7.2
MPR LR LR
comp=Z,3µm,21.0s
EMPR Esperanza - Ma 98.44 45 PFAKE 02 08 50.0 +7.1
EMPR LR LR
comp=Z,4µm,21.0s
CRPR Cabo Rojo, PR 98.60 45 PFAKE 02 09 00.0 +16
CRPR LR LR
comp=Z,3µm,21.0s
OBIP Obispado Ponce 98.79 45 PFAKE 02 09 00.0 +15
OBIP LR LR
comp=Z,800nm,22.0s
CBYP Canovanas 98.91 44 PFAKE 02 09 00.0 +15
CBYP LR LR
comp=Z,2µm,19.0s
SJG San Juan 98.92 44 PFAKE 02 09 00.0 +15
SJG LR LR
comp=Z,2µm,20.0s
ICMP Isla Caja de M 98.96 45 PFAKE 02 09 00.0 +15
ICMP LR LR
comp=Z,1µm,22.0s
HUMP Col San Antoni 99.03 44 PFAKE 02 09 00.0 +14
HUMP LR LR
comp=Z,2µm,20.0s
CUPR Culebra, Puert 99.12 44 PFAKE 02 09 00.0 +14
CUPR LR LR
comp=Z,3µm,22.0s
ABVI Anegada Island 99.14 43 PFAKE 02 09 00.0 +14
ABVI LR LR
comp=Z,3µm,22.0s
MTP Monte Pirata 99.19 44 PFAKE 02 09 00.0 +14
MTP LR LR
comp=Z,3µm,18.0s
STVI Saint Thomas 99.22 43 PFAKE 02 09 00.0 +14
STVI LR LR
comp=Z,3µm,22.0s
BCIP Isla Barro Col 99.99 61 PFAKE 02 09 00.0 +10
BCIP LR LR
comp=Z,2µm,20.0s
SMRT St. Maarten 100.27 42 PFAKE 02 09 00.0 +8.9
SMRT LR LR
comp=Z,4µm,20.0s
SEUS St. Eustatius 100.81 42 PFAKE 02 09 10.0 +16
SEUS LR LR
comp=Z,5µm,20.0s
SKI Saint Kitts 101.05 42 PFAKE 02 09 10.0 +15
SKI LR LR
comp=Z,5µm,21.0s
ANWB Willy Bob 101.13 41 PFAKE 02 09 10.0 +15
ANWB LR LR
comp=Z,2µm,20.0s
FURI Furi 101.44 301 PFAKE 02 09 10.0 +13
FURI LR LR
comp=Z,6µm,20.0s
TAM Tamanrasset 102.01 337 PFAKE 02 09 10.0 +11
TAM LR LR
comp=Z,4µm,19.0s
MSEY Mahe Island 102.88 279 PFAKE 02 09 10.0 +7.2
MSEY LR LR
comp=Z,7µm,20.0s
FDF Fort de France 104.04 42 PFAKE 02 09 20.0 +12
FDF LR LR
comp=Z,3µm,20.0s
SDV Santo Domingo 104.95 53 PFAKE 02 09 20.0 +7.8
SDV LR LR
comp=Z,3µm,22.0s
GRGR Grenville 106.17 43 PFAKE 02 13 40.0 +11
GRGR LR LR
comp=Z,2µm,20.0s
ROSC El Rosal 106.55 58 PFAKE 02 13 40.0 +10
ROSC LR LR
comp=Z,300nm,22.0s
MCQ Macquarie Isla 106.55 181 PFAKE 02 13 40.0 +12
MCQ LR LR
comp=Z,5µm,20.0s
KMBO Kilima Mbogo 110.60 297 *e*PP PP 02 14 03.9 -10
KMBO LR LR
comp=Z,6µm,19.0s
KMBO Kilima Mbogo 110.60 297 PP PP 02 14 03.9 -10
comp=Z,1.5nm,0.7s,baz=45,slow=5.9,SNR=3.6
NAI Nairobi 110.97 297 PFAKE 02 13 50.0 +12
NAI LR LR
comp=Z,6µm,18.0s
TOC1 Torodi Ar. Sit 112.18 338 PFAKE 02 13 50.0 +10
TOC1 LR LR
comp=Z,6µm,18.0s
TOA1 Torodi Ar. Sit 112.20 338 *e*PP **PP 02 14 17.7 -6.4**
TOA1 LR LR
comp=Z,5µm,18.0s
TOB5 Torodi Ar. Sit 112.20 338 PFAKE 02 13 50.0 +10
TOB5 LR LR
comp=Z,5µm,18.0s
TOA2 Torodi Ar. Sit 112.20 338 PFAKE 02 13 50.0 +10
TOA2 LR LR
comp=Z,6µm,18.0s
TOA0 Torodi Ar. Sit 112.21 338 PFAKE 02 13 50.0 +10
TOA0 LR LR
comp=Z,5µm,18.0s
TORD Torodi Ar. Bea 112.21 338 Pdiff **Pdif 02 09 44.7 +0.5**
comp=Z,0.4nm,0.8s,baz=2.2,slow=7.4,SNR=2.7
TORD PKIKP **PKiKP 02 13 40.4 -0.1**
comp=Z,2.2nm,0.9s,baz=29,slow=1.7,SNR=8.9
TORD PP **PP 02 14 17.7 -6.4**
comp=Z,14nm,1.2s,baz=33,slow=4.7,SNR=10
TORD PKKPbc **PKKPab 02 24 41.4 -0.9**
comp=Z,0.8nm,0.9s,baz=303,slow=3.0,SNR=3.7
TOC3 Torodi Ar. Sit 112.21 338 PFAKE 02 13 50.0 +10
TOC3 LR LR
comp=Z,5µm,18.0s
TOA3 Torodi Ar. Sit 112.21 338 PFAKE 02 13 50.0 +10
TOA3 LR LR
comp=Z,5µm,18.0s
TOB3 Torodi Ar. Sit 112.21 338 PFAKE 02 13 50.0 +10
TOB3 LR LR
comp=Z,5µm,18.0s
TOB4 Torodi Ar. Sit 112.22 338 PFAKE 02 13 50.0 +10
TOB4 LR LR
comp=Z,5µm,18.0s
TOC5 Torodi Ar. Sit 112.23 338 PFAKE 02 13 50.0 +10
TOC5 LR LR
comp=Z,6µm,19.0s
TOC4 Torodi Ar. Sit 112.23 338 PFAKE 02 13 50.0 +10
TOC4 LR LR
comp=Z,5µm,18.0s
MBAR Mbarara 113.62 303 PFAKE 02 14 00.0 +17
MBAR LR LR
comp=Z,6µm,19.0s
PTGA Pitinga 118.39 48 PFAKE 02 14 00.0 +7.7
PTGA LR LR
comp=Z,2µm,22.0s
ABPO Ambohimpanom 119.06 276 PFAKE 02 14 10.0 +16
ABPO LR LR
comp=Z,5µm,20.0s
DBIC Dimbokro 119.84 343 *e*PKIKP **PKPdf 02 13 55.0 -0.1**
DBIC *e* 02 15 17.0
DBIC Dimbokro 119.84 343 PKP **PKPdf 02 13 55.0 -0.1**
comp=Z,13nm,0.8s,baz=0.6,slow=3.0,SNR=14
DBIC PP **PP 02 15 16.9 -0.8**
comp=Z,33nm,1.2s,baz=5.2,slow=8.5,SNR=6.2
CASY Casey 124.31 202 PFAKE 02 14 10.0 +7.8
CASY LR LR
comp=Z,2µm,19.0s
LSZ Lusaka 127.26 296 PFAKE 02 14 20.0 +10
LSZ LR LR
comp=Z,5µm,19.0s
LPAZ La Paz 127.48 65 *e*PKPdf **PKiKP 02 14 12.6 +1.7**
LPAZ La Paz 127.48 65 PKP **PKiKP 02 14 11.0 +0.1**
comp=Z,2.2nm,0.8s,baz=6.9,slow=5.7,SNR=9.5
LPAZ La Paz 127.48 65 *e*P **PKiKP 02 14 10.6 -0.3**
MNMC Minye Minye 128.94 69 *e*PKPdf **PKiKP 02 14 14.7 +1.4**
CLDB Colíder 129.24 49 *e*P **PKiKP 02 14 13.7 -0.1**
GO01 Chusmiza 129.59 69 PFAKE 02 14 30.0 +15
GO01 LR LR
comp=Z,1µm,21.0s
VNDA Vanda 129.67 180 *e*PKPdf **PKiKP 02 14 13.4 +0.7**
VNDA Vanda 129.67 180 PKP **PKiKP 02 14 12.4 -0.3**
comp=Z,0.7nm,0.8s,baz=320,slow=5.6,SNR=6.3
SBA Scott Base 130.06 178 *e*PKPdf **PKiKP 02 14 15.0 +1.6**
SBA LR LR
comp=Z,3µm,21.0s
SBA Scott Base 130.06 178 *e*PKIKP **PKiKP 02 14 15.0 +1.6**
SBA MLR MLR
comp=Z,3µm,21.0s
RCBR Riachuelo 131.61 22 PFAKE 02 14 30.0 +11
RCBR LR LR
comp=Z,2µm,19.0s
RCBR Riachuelo 131.61 22 *e*P **PKiKP 02 14 18.6 0.0**
LVC Limon Verde 132.06 71 *e*P **PKiKP 02 14 19.2 -0.5**
LCO Las Campanas 135.81 79 *e*P **PKiKP 02 14 27.5 +0.5**
TSUM Tsumeb 136.11 305 *e*PKPdf **PKiKP 02 14 28.3 +0.7**
TSUM LR LR
comp=Z,5µm,19.0s

LBTB	Lobatse	136.49	291	*e*PKPdf	PKiKP	02 14 27.8	-0.4
LBTB				*e*PP	PP	02 17 05.0	-3.1
LBTB	Lobatse	136.49	291	PP	PP	02 17 05.0	-3.1
	comp=Z,7.4nm,1.0s,baz=40,slow=4.4,SNR=4.1						
GO04	Tololo Observa	136.59	80	PFAKE		02 14 40.0	+12
GO04				LR	LR		
	comp=Z,3μm,21.0s						
BDFB	Brasilia	136.88	42	*e*PKPdf	PKPdf	02 14 27.6	+0.1
BDFB				LR	LR		
	comp=Z,4μm,22.0s						
BDFB	Brasilia	136.88	42	PKP	PKPdf	02 14 27.6	+0.1
	comp=Z,7.4nm,1.0s,baz=32,slow=2.8,SNR=7.3						
C2SB	Chapadao do Su	137.50	51	*e*P	PKiKP	02 14 29.9	-0.4
AQDB	Aquidauana	137.55	55	*e*P	PKiKP	02 14 30.0	-0.4
BOSA	Boshof	139.42	288	*e*PKPpre	PKPpre	02 14 26.6	
BOSA	Boshof	139.42	288	PKhKP	PKPpre	02 14 24.6	
	comp=Z,3.5nm,0.8s,baz=96,slow=2.3,SNR=6.2						
MCI8	Montes Claros	139.42	38	*e*P	PKiKP	02 14 33.5	-0.8
ITRB	Iturama	139.46	48	*e*P	PKPdf	02 14 33.1	+1.1
MCI9	Montes Claros	139.47	38	*e*P	PKPdf	02 14 33.0	+0.9
MCI6	Montes Claros	139.57	38	*e*P	PKiKP	02 14 33.8	-0.9
MAW	Mawson	139.60	216	*e*PKPpre	PKPpre	02 14 23.0	
MAW				*e*PKPdf	PKiKP	02 14 32.8	-0.2
MAW	Mawson	139.60	216	PKhKP	PKPpre	02 14 23.0	
	comp=Z,2.2nm,1.0s,baz=317,slow=5.6,SNR=3.7						
MAW				PKP	PKiKP	02 14 32.2	-0.8
	comp=Z,7.4nm,1.0s,baz=112,slow=3.3,SNR=9.0						
BB19B	Bebedouro	141.47	47	*e*P	PKiKP	02 14 37.2	-1.2
CPUP	Villa Florida	141.49	62	*e*PKPdf	PKPdf	02 14 36.0	+0.5
CPUP	Villa Florida	141.49	62	PKP	PKPdf	02 14 34.1	-1.3
	comp=Z,4.3nm,1.1s,baz=17,slow=7.1,SNR=4.3						
CPUP	Villa Florida	141.49	62	*e*P	PKiKP	02 14 37.8	-0.4
QSPA	South Pole Qui	142.16	180	*e*PKPpre	PKPpre	02 14 31.4	
QSPA				LR	LR		
	comp=Z,2μm,19.0s						
BSFB	Barra de Sao F	142.53	35	*e*P	PKPdf	02 14 39.0	+1.5
PTGB	Pitanga	142.92	54	*e*P	PKPdf	02 14 39.7	+1.5
FRTB	Fartura	142.97	50	*e*P	PKPdf	02 14 39.4	+1.2
BSCB	Bom Sucesso	143.02	42	*e*P	PKPdf	02 14 39.9	+1.4
PLCA	Paso Flores	143.70	92	*e*PKPdf	PKPdf	02 14 38.9	-0.1
PLCA	Paso Flores	143.70	92	PKP	PKPdf	02 14 38.7	-0.4
	comp=Z,9.3nm,0.9s,baz=303,slow=3.8,SNR=12						
SPB	Sao Paulo	144.16	47	*e*PKPdf	PKPdf	02 14 40.8	+0.6
SPB				LR	LR		
	comp=Z,2μm,21.0s						
SPB	Sao Paulo	144.16	47	*e*P	PKPdf	02 14 41.3	+1.1
ALF01	Guarapari-ES	144.22	36	*e*P	PKiKP	02 14 42.4	-1.6
VAS01	Vassouras-RJ	144.71	41	*e*P	PKPbc	02 14 40.6	+0.5
SUR	Sutherland	144.78	289	*e*PKPdf	PKPdf	02 14 41.5	+0.2
SUR				LR	LR		
	comp=Z,6μm,20.0s						
TIJ01	Guaruva-PR	144.92	51	*e*P	PKPdf	02 14 41.9	+0.2
DUB01	Friburgo-RJ	144.94	39	*e*P	PKPdf	02 14 42.2	+0.5
ESAR	Angra dos Reis	144.96	43	*e*P	PKPdf	02 14 42.0	+0.3
CAM01	Campos-RJ	144.99	38	*e*P	PKPbc	02 14 41.2	+0.2
TRQA	Tornquist	147.29	81	*e*PKPdf	PKPbc	02 14 48.0	+0.4
TRQA	Tornquist	147.29	81	*e*PKP2	PKPbc	02 14 48.0	+0.4
TER01	Tubaro-SC	147.54	54	*e*P	PKPdf	02 14 44.8	-1.1
SYO	Syowa Base	148.32	216	*e*P	PKPdf	02 14 46.6	+0.8
EFI	East Falkland	156.41	104	PFAKE		02 15 10.0	+12
EFI				LR	LR		
	comp=Z,5μm,20.0s						
SNAA	Sanae	159.32	195	PKPab	PKPab	02 15 39.7	+0.5
SNAA	Sanae	159.32	195	PKPdf	PKPdf	02 15 00.8	-0.6
SNAA	Sanae	159.32	195	*e*PKPdf	PKPdf	02 15 02.5	+1.0
SNAA				*e*PKPab	PKPab	02 15 39.2	0.0
SNAA				LR	LR		
	comp=Z,4μm,22.0s						
SNAA	Sanae	159.32	195	PKP	PKPdf	02 15 01.0	-0.5
	comp=Z,4.0nm,1.2s,baz=267,slow=1.2,SNR=8.2						
SNAA				PKPab	PKPab	02 15 39.2	0.0
	comp=Z,5.2nm,1.0s,baz=104,slow=2.4,SNR=3.7						
VNA3	Neumayer Olymp	160.60	190	PKPab	PKPab	02 15 48.1	+3.5
VNA3	Neumayer Olymp	160.60	190	PKPdf	PKPdf	02 15 02.2	-0.6
VNA2	Neumayer--Watz	160.64	192	PKPab	PKPab	02 15 47.3	+2.4
VNA2	Neumayer--Watz	160.64	192	PKPdf	PKPdf	02 15 03.3	+0.5
VNA1	Neumayer--Stat	161.01	191	PKPab	PKPab	02 15 50.9	+4.5
VNA1	Neumayer--Stat	161.01	191	PKPdf	PKPdf	02 15 03.4	+0.2

ISCJB ***21*** *01:55:07.3±0.9, 60°.8S±0°.2×33°.5W±0°.7, h10km, mb3.8/5, Error ellipse: s-maj=55.8km s-min=11.5km az=147.1*
IDC ***21*** *01:55:10.6±0.9, 60°.18S×33°.60W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.9/17, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx3.1/23, Error ellipse: s-maj=44.0km s-min=22.8km az=62.0*

ISC 21 01:55:09.0±0.9, 60°.8S±0°.3×33°.4W±0°.4, h10km, n12, σ1§12/10, mb3.9/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	14.13	148	P	Pn	01 58 29.1	+0.3
VNA1	Neumayer--Stat	14.18	145	P	Pn	01 58 29.8	+0.4
VNA2	Neumayer--Watz	14.57	145	P	Pn	01 58 34.8	0.0
	baz=289,slow=16						
SNAA	Sanae	16.22	145	P	P	01 58 59.0	-0.7
SNAA	Sanae	16.22	145	Pn	P	01 58 58.6	-1.1
	0.2nm,0.3s,baz=300,slow=13,SNR=16						
SNAA				LR	LR	02 03 55.2	
	comp=Z,109nm,19.8s,baz=290,slow=31						
CPUP	Villa Florida	38.09	324	P	P	02 02 26.4	-1.3
	1.8nm,0.9s,baz=161,slow=9.1,SNR=3.0						
MAW	Mawson	38.35	142	P	P	02 02 38.4	+9.0
	1.6nm,0.5s,baz=221,slow=9.3,SNR=10						
VNDA	Vanda	41.65	185	P	P	02 03 02.6	+5.9
	0.6nm,0.9s,baz=236,slow=3.6,SNR=3.3						
LPAZ	La Paz	50.94	315	P	P	02 04 11.4	+0.4
	1.3nm,0.9s,baz=169,slow=8.5,SNR=6.0						
TORD	Torodi Ar. Bea	78.77	35	P	P	02 07 11.8	+0.3
	1.7nm,0.9s,baz=201,slow=5.0,SNR=10						
INK	Inuvik	147.24	317	PKPbc	PKPbc	02 14 50.7	+0.1
	1.3nm,1.1s,baz=89,slow=5.7,SNR=1.4						
ILAR	Eielson Array	150.59	307	PKPbc	PKPbc	02 15 01.6	+2.2
	1.6nm,0.9s,baz=169,slow=2.2,SNR=7.0						

KRSC 21 02:00:32.8±10.0, 52°.20N×160°.51E, h16km±10km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.94	342	*e*P	Pb	02 00 50.0	-0.7
SPN				*e*S	Sb	02 01 02.0	-0.9
NLC	Nalytchevo	1.20	324	*e*P	Pn	02 00 54.4	-0.4
RUS	Russkaya	1.25	281	*e*P	Pb	02 00 55.7	-0.1
RUS				*e*S	Sn	02 01 11.8	0.0
DALK	Dalny	1.35	309	*e*P	Pn	02 00 57.1	+0.2
DALK				*e*S	Sn	02 01 14.5	0.0
PET	Petropavlovsk	1.40	307	*e*P	Pn	02 00 57.8	+0.3
PET				*e*S	Sn	02 01 15.6	0.0
UGLR	Uglovaya	1.44	315	*e*P	Pb	02 00 58.8	-0.4
MTVR	Mutnovka	1.45	282	*e*P	Pb	02 00 59.1	-0.3
MTVR				*e*S	Sb	02 01 18.0	+0.3
SDLR	Sedlovina	1.46	318	*e*P	Pn	02 00 58.7	+0.2
SMAR	Somma	1.48	316	*e*P	Pb	02 01 00.0	0.0
AVH	Avacha	1.51	315	*e*P	Pb	02 00 59.9	-0.5
KDTR	Khodutka, Kamc	1.55	256	*e*P	Pn	02 01 00.0	+0.4
KDTR				*e*S	Sn	02 01 19.1	-0.3
KOK	Koryaka	1.58	315	*e*P	Pb	02 01 01.0	-0.5
KRMR	Karymshinskiy	1.58	294	*e*P	Pn	02 01 00.7	+0.7
KRMR				*e*S	Sb	02 01 20.8	-0.5
ASAK	Asacha	1.61	277	P	Pn	02 01 01.3	+0.8
KRX	Arik	1.62	316	P	Pb	02 01 01.7	-0.5

KRSC ***21*** *02:02:39.2±10.0, 52°.19N×160°.78E, h71km±10km, ML4.9*
MOS ***21*** *02:02:40.6±0.7, 52°.15N×160°.77E, h57km, mb5.3/23, Error ellipse: s-maj=8.0km s-min=4.0km az=96.9*
ISCJB ***21*** *02:02:42.6±0.4, 52°.28N±0°.03×160°.64E±0°.04, h40km±3km, mb4.8/136, MS5.7/1, Error ellipse: s-maj=5.1km s-min=2.9km az=143.2*
IDC ***21*** *02:02:44.0±0.6, 52°.38N×160°.52E, h34km±4km, mb4.3/24, mb1 4.5/25, mb1mx4.3/39, mbtmp4.5/25, ML4.4/1, Error ellipse: s-maj=15.4km s-min=11.2km az=147.0*
NEIC ***21*** *02:02:44.7±2.1, 52°.34N×160°.50E, h38km±2km, mb4.9/84, Error ellipse: s-maj=13.5km s-min=10.1km az=185.0*
BJI ***21*** *02:02:44.8±0.0, 52°.82N×159°.96E, h38km, mb4.9/33, mB5.0/7*

ISC 21 02:02:43.2±0.4, 52°.25N±0°.04×160°.69E±0°.03, h34km±2km, h34km:pP-P, n360, σ1§48/416, mb4.8/139, 33C-4D, Off

east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.94	335	*e*P	Pn	02 02 58.4	-1.6
SPN				*e*S	Sn	02 03 11.1	-1.1
SPN	Mys Shipunski	0.94	335	PN	Pn	02 02 58.4	-1.6
SPN				S	Sn	02 03 11.1	-1.1
NLC	Nalytchevo	1.23	319	*e*P	Pn	02 03 03.1	-0.9
NLC				*e*S	Sn	02 03 20.3	+0.9
NLC	Nalytchevo	1.23	319	PN	Pn	02 03 03.1	-0.9
NLC				S	Sn	02 03 20.3	+0.9
RUS	Russkaya	1.34	279	*e*P	Pn	02 03 04.9	-0.6
RUS				*e*S	Sn	02 03 22.3	+0.1
RUS	Russkaya	1.34	279	PN	Pn	02 03 04.9	-0.6
RUS				S	Sn	02 03 22.3	+0.1
DALK	Dalny	1.41	304	*e*P	Pn	02 03 05.9	-0.6
DALK				*e*S	Sn	02 03 24.7	+0.8
DALK	Dalny	1.41	304	PN	Pn	02 03 05.9	-0.6
DALK				S	Sn	02 03 24.7	+0.8
PET	Petropavlovsk	1.46	303	*e*Pn	Pn	02 03 07.0	-0.1
PET				*e*Sn	Sn	02 03 21.3	-3.7
PET	Petropavlovsk	1.46	303	*e*P	Pn	02 03 06.8	-0.3
PET				*e*S	Sn	02 03 26.5	+1.5
PET	Petropavlovsk	1.46	303	*i*PN	Pn	02 03 07.1	0.0
PET				*e*S	Sn	02 03 26.6	+1.5
PET				pmax	pmax		
	comp=Z,2μm,0.5s						
PET				smax	smax		
	comp=N,4μm,0.7s						
PET				smax	smax		
	comp=E,7μm,0.7s						
UGLR	Uglovaya	1.48	311	*e*P	Pn	02 03 07.7	+0.1
UGLR	Uglovaya	1.48	311	PN	Pn	02 03 07.7	+0.1
SDLR	Sedlovina	1.50	314	*e*P	Pn	02 03 07.6	-0.2
SDLR	Sedlovina	1.50	314	PN	Pn	02 03 07.6	-0.2
SMAR	Somma	1.53	312	*e*P	Pn	02 03 07.9	-0.4
SMAR	Somma	1.53	312	PN	Pn	02 03 07.9	-0.4
MTVR	Mutnovka	1.55	280	*e*P	Pn	02 03 08.3	-0.2
MTVR				*e*S	Sn	02 03 27.9	+0.4
MTVR	Mutnovka	1.55	280	PN	Pn	02 03 08.3	-0.2
MTVR				S	Sn	02 03 27.9	+0.4
AVH	Avacha	1.56	311	*e*P	Pn	02 03 08.9	+0.3
AVH	Avacha	1.56	311	PN	Pn	02 03 08.9	+0.3
KRER	Koryakskii	1.58	313	P	Pn	02 03 08.5	-0.5
KRER	Koryakskii	1.58	313	PN	Pn	02 03 08.5	-0.5
KOK	Koryaka	1.62	311	*e*P	Pn	02 03 09.7	+0.2
KOK	Koryaka	1.62	311	PN	Pn	02 03 09.7	+0.2
GRL	Gorelyy	1.63	282	P	Pn	02 03 09.5	-0.1
GRL	Gorelyy	1.63	282	PN	Pn	02 03 09.5	-0.1
KRX	Arik	1.66	313	*e*P	Pn	02 03 10.0	-0.1
KRX	Arik	1.66	313	PN	Pn	02 03 10.0	-0.1
KRMR	Karymshinskiy	1.67	291	*e*P	Pn	02 03 09.9	0.0
KRMR				*e*S	Sn	02 03 31.4	+1.3
KRMR	Karymshinskiy	1.67	291	PN	Pn	02 03 09.9	0.0
KRMR				S	Sn	02 03 31.4	+1.3
KDTR	Khodutka, Kamc	1.67	256	*e*P	Pn	02 03 08.8	-1.2
KDTR				*e*S	Sn	02 03 29.0	-1.2
KDTR	Khodutka, Kamc	1.67	256	PN	Pn	02 03 08.8	-1.2
KDTR				S	Sn	02 03 29.0	-1.2
ASAK	Asacha	1.71	276	*e*P	Pn	02 03 10.6	-0.1
ASAK				*e*S	Sn	02 03 32.6	+1.1
ASAK	Asacha	1.71	276	PN	Pn	02 03 10.6	-0.1
ASAK				S	Sn	02 03 32.6	+1.1
PEA0B	Petropavlovsk-	2.01	296	*e*Pn	Pn	02 03 14.8	+0.1
PEA0B				*e*Sn	Sn	02 03 33.4	-5.3
PETK	Petropavlovsk-	2.01	296	*e*Pn	Pn	02 03 14.8	+0.1
PETK				*e*Sn	Sn	02 03 35.2	-3.4
PETK	Petropavlovsk-	2.01	296	*e*PN	Pn	02 03 14.8	+0.1
PETK				*e*		02 03 35.2	
PETK	Petropavlovsk-	2.01	296	Pn	Pn	02 03 15.1	+0.4
	comp=E,355nm,0.3s,baz=106,slow=18,SNR=137						
PETK				Sn	Sb	02 03 41.9	-2.0
	comp=E,115nm,0.3s,baz=104,slow=23,SNR=6.0						
PEA1	Petropavlovsk-	2.01	297	*e*Pn	Pn	02 03 15.1	+0.3
PEA1				*e*Sn	Sb	02 03 41.9	-2.0
APC	Apacha	2.25	289	*e*P	Pn	02 03 19.1	+1.0
APC	Apacha	2.25	289	PN	Pn	02 03 19.1	+1.0
MKZ	Mys Kozlova	2.39	15	*e*P	Pn	02 03 18.8	-1.1
MKZ				*e*S	Sn	02 03 45.8	-2.2
MKZ	Mys Kozlova	2.39	15	PN	Pn	02 03 18.8	-1.1
MKZ				S	Sn	02 03 45.8	-2.2
PAU	Pauzhetka	2.53	253	*e*P	Pn	02 03 21.2	-0.6
PAU				*e*S	Sn	02 03 51.2	-0.2
PAU	Pauzhetka	2.53	253	PN	Pn	02 03 21.2	-0.6
PAU				S	Sn	02 03 51.2	-0.2
KZV	Kizimen	2.88	356	*e*P	Pn	02 03 26.9	+0.1
KZV				*e*S	Sn	02 04 00.7	+0.5
KZV	Kizimen	2.88	356	PN	Pn	02 03 26.9	+0.1
KZV				S	Sn	02 04 00.7	+0.5
TUMD	Tumrok D	2.96	357	*e*P	Pn	02 03 27.7	-0.1
TUMD				*e*S	Sn	02 04 01.6	-0.5
TUMR	Tumrok	3.05	354	*e*P	Pn	02 03 30.0	+0.8
TUMR				*e*S	Sn	02 04 03.9	-0.6
TUMR	Tumrok	3.05	354	PN	Pn	02 03 27.7	-1.5
TUMR				S	Sn	02 04 01.6	-2.9
SKR	Severo-Kuril's	3.26	243	*e*P	Pn	02 03 30.9	-1.0
SKR				*e*S	Sn	02 04 06.7	-2.7
SKR	Severo-Kuril's	3.26	243	*e*PN	Pn	02 03 30.7	-1.2
SKR				pmax	pmax		
	comp=Z,178nm,0.5s						
ALID	Alaid	3.49	249	*e*P	Pn	02 03 35.0	-0.2
ALID				*e*S	Sn	02 04 12.8	-2.6
ALID	Alaid	3.49	249	PN	Pn	02 03 35.0	-0.2
ALID				S	Sn	02 04 12.8	-2.6
BZMR	Bezymyannaya	3.69	358	*e*P	Pn	02 03 39.4	+1.4
BZMR	Bezymyannaya	3.69	358	PN	Pn	02 03 39.4	+1.4
BZGR	Bezymyannyi-Gr	3.70	0	*e*P	Pn	02 03 38.7	+0.7
BZGR	Bezymyannyi-Gr	3.70	0	PN	Pn	02 03 38.7	+0.7
KIRR	Kirishev	3.71	357	*e*P	Pn	02 03 37.1	-1.2
KIRR	Kirishev	3.71	357	PN	Pn	02 03 37.1	-1.2
BZWR	Bezymyannyi-We	3.72	358	P	Pn	02 03 39.8	+1.4
BZWR	Bezymyannyi-We	3.72	358	PN	Pn	02 03 39.8	+1.4
KPT	Kopyto	3.73	356	P	Pn	02 03 39.5	+1.1
KPT	Kopyto	3.73	356	PN	Pn	02 03 39.5	+1.1
KOZ	Kozyrevsk	3.84	353	*e*P	Pn	02 03 40.6	+0.7
KOZ	Kozyrevsk	3.84	353	PN	Pn	02 03 40.6	+0.7
ESO	Esso	3.86	343	*e*P	Pn	02 03 40.5	+0.3
ESO	Esso	3.86	343	PN	Pn	02 03 40.5	+0.3
CIRR	Tsirk	3.87	1	*e*P	Pn	02 03 41.7	+1.3
CIRR	Tsirk	3.87	1	PN	Pn	02 03 41.7	+1.3
KRSR	Krestovskiy	3.97	359	*e*P	Pn	02 03 40.5	-1.3
KRSR	Krestovskiy	3.97	359	PN	Pn	02 03 40.5	-1.3
KLY	Klyuchi	4.07	360	*e*P	Pn	02 03 43.2	+0.2
KLY	Klyuchi	4.07	360	PN	Pn	02 03 43.2	+0.2
SRDR	Sredinnyy	4.11	352	*e*P	Pn	02 03 44.2	+0.6
SRDR	Sredinnyy	4.11	352	PN	Pn	02 03 44.2	+0.6
KBTR	Krutoberegovo	4.16	17	P	Pn	02 03 44.1	-0.1
KBTR				S	Sn	02 04 30.3	-1.2
KBTR	Krutoberegovo	4.16	17	PN	Pn	02 03 44.1	-0.1
KBTR				S	Sn	02 04 30.3	-1.2
KBG	Krutoberegovo	4.18	16	*e*P	Pn	02 03 44.4	-0.1
KBG				S	Sn	02 04 31.2	-0.9
KBG	Krutoberegovo	4.18	16	PN	Pn	02 03 44.4	-0.1
KBG				S	Sn	02 04 31.2	-0.9
BKI	Bering	4.31	45	*e*P	Pn	02 03 45.7	-0.6
BKI				S	Sn	02 04 29.8	-5.5
BKI	Bering	4.31	45	PN	Pn	02 03 45.7	-0.6
BDR	Baidarnaya	4.34	4	*e*P	Pn	02 03 48.4	+1.7
BDR	Baidarnaya	4.34	4	PN	Pn	02 03 48.4	+1.7
SMKR	Semkarok	4.36	6	*e*P	Pn	02 03 47.7	+0.6
SMKR	Semkarok	4.36	6	PN	Pn	02 03 47.7	+0.6
SRKR	Sorokina	4.42	3	P	Pn	02 03 49.3	+1.4
SRKR	Sorokina	4.42	3	PN	Pn	02 03 49.3	+1.4
OSSR	Ossora	7.14	10	P	Pn	02 04 24.0	-1.1
OSSR	Ossora	7.14	10	PN	Pn	02 04 24.0	-1.1
SMY	Shemya	8.20	81	*e*Pn	Pn	02 04 39.3	-0.4
SMY				*e*Sn	Sn	02 06 06.6	-4.4
SMY	Shemya	8.20	81	*e*PN	Pn	02 04 39.3	-0.4
KUR	Kuril'sk	10.99	235	*i*PN	Pn	02 05 16.3	-1.5
SEY	Seymchan	11.59	341	*i*PN	Pn	02 05 28.4	+2.5
YSS	Yuzh-Sakhalins	12.77	253	*e*PN	Pn	02 05 36.6	-5.6
ADK	Adak	13.92	83	*e*Pn	Pn	02 05 57.2	-0.6
ADK	Adak	13.92	83	*e*P	Pn	02 05 57.2	-0.6
ASAJ	Asahikawa	14.53	243	Pn	Pn	02 06 05.1	-1.0
	comp=Z,2.6nm,0.3s,baz=89,slow=14,SNR=6.5						
ERM	Erimo	15.68	236	*e*Pn	Pn	02 06 16.5	-4.9
	comp=Z,28nm,0.9s						
ERM	Erimo	15.68	236	*e*P	Pn	02 06 16.5	-4.9
ERM				pmax	pmax		
	comp=Z,28nm,0.9s						

BILL	Bilibino	16.07	8	*e*Pn	Pn	02 06 27.2	+1.0
	comp=Z,32nm,0.7s						
BILL	Bilibino	16.07	8	*i*P	P	02 06 30.0	+0.7
BILL				pmax	pmax		
	comp=Z,35nm,0.8s						
USA0B	Ussuriysk Arra	20.64	258	*e*P	P	02 07 17.6	-2.0
	comp=Z,19nm,0.9s						
USRK	Ussuriysk Ar.	20.64	258	*e*P	P	02 07 17.9	-1.6
USRK	Ussuriysk Ar.	20.64	258	P	P	02 07 17.8	-1.8
	comp=Z,12nm,0.8s,baz=55,slow=11,SNR=15						
MJB9	Matsu-Tunnel	22.32	234	*e*P	P	02 07 39.2	+1.4
	comp=Z,26nm,0.6s						
MAJO	Matsushiro	22.32	234	*e*P	P	02 07 38.9	+1.1
	comp=Z,26nm,0.6s						
MAJO	Matsushiro	22.32	234	*i*P	P	02 07 36.8	-1.0
MAJO				pmax	pmax		
	comp=Z,23nm,0.8s						
MAT	Matsushiro	22.32	234	P	P	02 07 38.2	+0.4
MJAR	Matsushiro Arr	22.32	234	*e*P	P	02 07 38.4	+0.6
MJAR	Matsushiro Arr	22.32	234	P	P	02 07 37.8	0.0
	comp=Z,15nm,0.9s,baz=26,slow=8.5,SNR=20						
INU	Inuyama	23.86	234	*e*P	P	02 07 55.9	+2.7
	comp=Z,18nm,0.7s						
TIXI	Tiksi	24.00	336	*e*P	P	02 07 52.0	-2.1
TIXI	Tiksi	24.00	336	*i*P	P	02 07 51.7	-2.5
TIXI				pmax	pmax		
	comp=Z,21nm,0.6s						
CN2	Changchun	24.83	264	*e*P	P	02 07 59.3	-2.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HIA	Hailar	25.83	280	*i*P	P	02 08 08.2	-2.9
HIA				pmax	pmax		
	comp=Z,170nm,0.8s						
IMAR	Indian Mountai	26.39	41	*e*P	P	02 08 19.1	+3.1
CAST	Castle Rocks	26.85	47	*e*P	P	02 08 22.1	+1.9
	comp=Z,6.9nm,1.0s						
KDAK	Kodiak Island	26.91	60	*e*P	P	02 08 21.7	+0.9
	comp=Z,17nm,1.1s						
KDAK	Kodiak Island	26.91	60	P	P	02 08 21.6	+0.9
	comp=Z,10nm,1.0s,baz=263,slow=17,SNR=4.2						
KSRS	Korea Array	27.25	250	P	P	02 08 25.4	+1.4
	comp=Z,3.9nm,0.7s,baz=45,slow=9.1,SNR=9.6						
KS15	Wonju Array Si	27.28	250	*e*P	P	02 08 25.4	+1.1
	comp=Z,12nm,1.0s						
BRLK	Bradley Lake	27.54	55	*e*P	P	02 08 26.4	0.0
	comp=Z,14nm,1.3s						
SML	Sawmill	28.61	50	*e*P	P	02 08 36.6	+0.7
	comp=Z,12nm,0.9s						
CCB	Clear Creek Bu	28.77	44	*e*P	P	02 08 39.1	+1.9
	comp=Z,7.7nm,1.3s						
JNU	Nakatsue	28.77	240	*e*P	P	02 08 40.9	+3.3
	comp=Z,25nm,0.8s						
JNU	Nakatsue	28.77	240	P	P	02 08 39.9	+2.3
	comp=Z,12nm,0.8s,baz=36,slow=13,SNR=7.3						
ILAR	Eielson Array	29.16	44	*e*P	P	02 08 41.8	+1.0
ILAR	Eielson Array	29.16	44	P	P	02 08 44.5	+3.7
	comp=Z,1.1nm,0.7s,baz=249,slow=7.8,SNR=5.2						
ILB	Eielson Array	29.16	44	*e*P	P	02 08 44.5	+3.7
	comp=Z,9.9nm,1.5s						
SCRK	Sand Creek	30.45	46	*e*P	P	02 08 52.8	+0.5
	comp=Z,8.6nm,1.3s						
BCAR	Beaver Creek A	31.52	47	*e*P	P	02 09 01.4	-0.3
H11N2	WAKE ISLAND Hy	32.82	169	T	T	02 44 48.3	
	baz=359,slow=76,SNR=5.4						
H11N3	WAKE ISLAND Hy	32.83	169	T	T	02 44 47.9	
	baz=359,slow=76,SNR=5.9						
H11N1	WAKE ISLAND Hy	32.83	169	T	T	02 44 50.1	
	baz=359,slow=76,SNR=7.2						
ULN	Ulaanbaatar	34.05	284	*i*P	P	02 09 23.0	-1.1
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INK	Inuvik	34.32	37	*e*P	P	02 09 26.2	+0.3
	comp=Z,3.2nm,0.8s						
TLY

comp=Z,14nm,0.7s
MCMT McKenzie Canyo 54.47 61 *e*P **P 02 12 10.8 +3.4**
PNTR Pine Nut 54.50 70 *e*P **P 02 12 10.3 +2.7**
comp=Z,7.7nm,1.1s
SUMG Summit 54.75 7 *e*P **P 02 12 10.0 +0.9**
comp=Z,27nm,1.0s
SUMG Summit 54.75 7 *i*P **P 02 12 10.0 +0.9**
SUMG pmax pmax
comp=Z,66nm,1.0s
SUMG Summit 54.75 7 *i*P **P 02 12 10.0 +0.9**
comp=Z,66nm,1.0s
WAKR Walker 54.98 71 *e*P **P 02 12 13.6 +2.5**
comp=Z,5.4nm,0.9s
QLMT Earthquake Lak 55.23 60 *e*P **P 02 12 10.8 -2.0**
PRGR Permogore 55.35 328 *e*P **P 02 12 11.5 -1.6**
PRGR pmax pmax
comp=Z,22nm,0.6s
KVN Kaiserville 55.39 69 *e*P **P 02 12 16.6 +2.6**
comp=Z,8.4nm,1.5s
MMIM Miami Mountain 55.54 72 *e*P **P 02 12 16.8 +1.8**
NVAR Mina Array Bea 55.69 70 P **P 02 12 17.9 +1.7**
comp=Z,2.6nm,0.9s,baz=292,slow=7.4,SNR=8.8
NV01 Mina Array Sit 55.69 70 *e*P **P 02 12 17.9 +1.7**
TMCR Tamitsa 55.69 333 *e*P **P 02 12 15.6 +0.1**
TMCR pmax pmax
comp=Z,43nm,0.8s
AAK Ala-Archa 55.78 297 *e*P **P 02 12 15.7 -1.0**
comp=Z,12nm,1.2s
AAK Ala-Archa 55.78 297 *ce*P **P 02 12 16.2 -0.5**
AAK pmax pmax
comp=Z,5.0nm,1.0s
PANO Nakornpanom 56.00 253 P P 02 12 33.0 +15
comp=Z,0.5nm,1.1s
SKNT Sakolnakorn 56.51 254 P P 02 12 36.1 +14
comp=Z,21nm,1.4s
KSH Kashi 57.07 293 P **P 02 12 29.3 +3.4**
KSH pP pwP 02 12 42.1 +3.4
KSH PP **PP 02 14 37.3 +4.8**
KSH S **S 02 20 18.0 -0.2**
KSH SS **SS 02 24 11.1 +4.5**
SHL Shillong 57.37 270 *e*P **P 02 12 27.9 -0.4**
comp=Z,11nm,0.9s
PHRA Phrae 57.56 258 P **P 02 12 31.0 +1.6**
comp=Z,4.0nm,1.0s,comp=Z,608nm
KK31 Karatay Array 57.61 300 *e*P **P 02 12 28.3 -1.2**
comp=Z,7.1nm,0.7s
KKAR Karatay Array 57.61 300 *e*P **P 02 12 28.3 -1.2**
comp=Z,7.1nm,0.7s
PD31 Pinedale Array 57.62 61 *e*P **P 02 12 31.2 +1.4**
comp=Z,2.7nm,0.9s
PDAR Pinedale Array 57.62 61 P **P 02 12 31.2 +1.4**
comp=Z,1.9nm,0.7s,baz=333,slow=3.4,SNR=7.3
KLMR Klimovskoe 57.86 330 *e*P **P 02 12 29.5 -1.4**
KLMR pmax pmax
comp=Z,23nm,0.6s
LAMP Lampang 57.90 259 P **P 02 12 33.5 +1.7**
comp=Z,40μm,0.8s
UTTA Uttaradit 57.95 257 P **P 02 12 33.8 +1.7**
CMMT Chiang Mai 58.09 259 P **P 02 12 34.2 +1.0**
comp=Z,16nm,1.1s
CHTO Chiang Mai 58.09 259 *e*P **P 02 12 34.1 +0.9**
comp=Z,20nm,0.8s
CM31 Chiang Mai Arr 58.37 259 *e*P **P 02 12 36.1 +1.1**
comp=Z,13nm,0.8s
CM31 *ep*P **sP 02 12 46.7 -1.0**
CMAR Chiang Mai Arr 58.37 259 P **P 02 12 36.1 +1.1**
comp=Z,11nm,0.8s,baz=26,slow=6.9,SNR=30
CMAR pP **sP 02 12 46.7 -1.0**
comp=Z,5.0nm,0.6s,baz=34,slow=5.8,SNR=4.7
ABKAR Akbulak array 58.62 311 *e*P **P 02 12 35.4 -1.0**
comp=Z,8.8nm,0.8s
JIRN Jiri 59.34 276 *e*P **P 02 12 41.7 -0.5**
comp=Z,27nm,0.7s
RSSD Black Hills 59.57 56 *e*P **P 02 12 44.9 +1.5**
comp=Z,4.8nm,0.8s
RAMN Ramite 59.60 276 *e*P **P 02 12 43.3 -0.6**
comp=Z,48nm,0.5s
PKI Pulchoki 59.88 277 *e*P **P 02 12 45.0 -0.9**
comp=Z,22nm,0.7s
PKIN Phulchoki 59.88 277 *e*P **P 02 12 45.1 -0.7**
comp=Z,18nm,0.6s
DMN Daman 60.04 277 *e*P **P 02 12 46.4 -0.5**
comp=Z,33nm,0.6s
DANN Dangsing 60.32 279 *e*P **P 02 12 48.1 -0.7**
comp=Z,32nm,0.7s
GAR Garm 60.58 297 *e*P **P 02 12 49.6 -0.7**
comp=Z,27nm,0.6s
KOLN Koldanda 60.84 278 *e*P **P 02 12 51.6 -0.7**
comp=Z,15nm,0.5s
PYUN Puthan 60.97 279 *e*P **P 02 12 52.8 -0.4**
comp=Z,30nm,0.8s
FIA1 FINESS Array S 61.04 337 *e*P **P 02 12 53.1 +0.3**
comp=Z,16nm,0.7s
FIA0 FINESS Array S 61.04 337 *e*P **P 02 12 52.9 0.0**
FIA0 *ep*P **pP 02 13 02.3 +0.2**
FINES FINESS Array B 61.04 337 P **P 02 12 52.9 0.0**
comp=Z,11nm,0.6s,baz=38,slow=6.7,SNR=50
FINES pP **pP 02 13 02.3 +0.2**
comp=Z,11nm,0.7s,baz=45,slow=7.2,SNR=9.5
PV17 East Wray Mesa 61.08 64 *e*P **P 02 12 58.5 +4.7**
comp=Z,9.1nm,0.6s
PV05 Paradox Valley 61.15 64 *e*P **P 02 12 57.1 +2.9**
comp=Z,4.4nm,0.8s
PV13 Radium Mtn., P 61.24 64 *e*P **P 02 12 58.1 +3.2**
comp=Z,4.0nm,0.8s
CHGR Chuyangaron 61.46 297 *e*P **P 02 12 58.2 +2.0**
comp=Z,22nm,0.9s
NIL Nilore 62.74 290 *e*P **P 02 13 04.7 -0.1**
comp=Z,22nm,0.8s
OBN Obninsk 63.42 328 *ce*P **P 02 13 08.0 -0.9**
OBN *e**PP **sP 02 13 22.1 +0.7**
OBN *SP **pwP 02 13 29.0 +6.8**
OBN *i*S S 02 21 27.9 -11
OBN *e* 02 22 08.5
OBN SS **SS 02 25 41.0 -4.0**
OBN pmax pmax
comp=Z,18nm,0.7s
OBN MLR MLR
comp=Z,4μm,15.0s
VSU Vasula 63.47 335 *ce*P **P 02 13 08.0 -1.1**
VSU pmax pmax
comp=Z,34nm,0.7s
VSU Vasula 63.47 335 *e*P **P 02 13 08.4 -0.8**
VSU IAmb IAmb 02 13 10.7
comp=Z,54nm,0.7s
NC405 NORSAR Array S 64.30 344 *e*P **P 02 13 14.7 +0.1**
comp=Z,15nm,0.6s
NC204 NORSAR Array S 64.31 344 *e*P **P 02 13 14.8 +0.1**
comp=Z,18nm,0.6s
NB201 NORSAR Array S 64.43 344 *e*P **P 02 13 15.6 +0.1**
comp=Z,22nm,0.9s
NB2 NORSAR Subarra 64.45 344 P **P 02 13 15.2 -0.5**
comp=Z,4.7nm,0.6s,baz=23,slow=6.9
NB200 NORSAR Array S 64.45 344 *e*P **P 02 13 15.3 -0.3**
NOA NORSAR Array B 64.45 344 P **P 02 13 15.3 -0.3**
comp=Z,5.8nm,0.6s,baz=22,slow=6.6,SNR=26
LPSR Galich'ya Gora 64.68 325 *e*P **P 02 13 16.7 -0.5**
LPSR pmax pmax
comp=Z,40nm,0.7s
VRH Novokhopyorsk 64.80 323 *e*P **P 02 13 16.7 -1.3**
VRH pmax pmax
comp=Z,40nm,0.6s
ANMO Albuquerque 64.88 65 *i*P **P 02 13 22.0 +3.0**
VSR Storozhevoye 65.73 324 *i*P **P 02 13 22.0 -2.0**
VSR pmax pmax
comp=Z,30nm,0.9s
IDID Didziasalis 66.22 333 *e*P **P 02 13 26.2 -0.9**
IDID IAmb IAmb 02 13 28.7
comp=Z,7.7nm,0.9s
IIGN Ignalina 66.33 334 *e*P **P 02 13 27.0 -0.8**
IIGN IAmb IAmb 02 13 29.4
comp=Z,12nm,0.6s
PABE Paberze 66.80 335 *e*P **P 02 13 30.0 -0.8**
PABE IAmb IAmb 02 13 32.2
comp=Z,57nm,1.4s
GEYT Alibeck 67.85 304 P **P 02 13 37.4 -0.4**
comp=Z,7.3nm,0.8s,baz=22,slow=1.6,SNR=10
GYA0B ALIBECK ARRAY 67.85 304 *e*P **P 02 13 38.0 +0.1**
comp=Z,9.3nm,0.8s
AKASG Malin Array Be 69.52 329 P **P 02 13 47.3 -0.6**
comp=Z,6.9nm,0.4s,baz=30,slow=6.6,SNR=16
AKBB Malin Array Si 69.52 329 *e*P **P 02 13 47.6 -0.3**
comp=Z,15nm,0.8s
KIEV Kiev 69.53 329 *e*P **P 02 13 47.6 -0.4**
comp=Z,14nm,0.7s
KIEV Kiev 69.53 329 ⇓*i*P **P 02 13 47.8 -0.2**
KIEV Kiev 69.53 329 *i*P **P 02 13 47.4 -0.6**
KIEV pmax pmax
comp=Z,18nm,1.0s
NCK Nalchik 70.29 317 *i*P **P 02 13 53.2 +0.3**
NCK pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 70.30 317 ⇓*i*P **P 02 13 53.0 0.0**
KIV Kislovodsk 70.30 317 *e*P **P 02 13 52.1 -0.9**
KIV pmax pmax
comp=Z,31nm,1.0s
KBZ Khabaz 70.40 317 P **P 02 13 53.2 -0.2**
comp=Z,12nm,0.9s,baz=62,slow=4.2,SNR=9.9
LTX Lajitas 70.63 67 *e*P **P 02 13 56.3 +1.0**
TX31 Lajitas Ar. Si 70.63 67 *e*P **P 02 13 56.7 +1.4**
comp=Z,2.8nm,0.8s
TXAR Lajitas Array 70.63 67 P **P 02 13 56.3 +1.0**
comp=Z,1.5nm,0.6s,baz=300,slow=5.0,SNR=23
ZEI Tsey 70.74 316 *e*P **P 02 13 54.6 -1.2**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
TBLG Delisi 71.23 315 *e*P **P 02 13 59.3 +0.6**
comp=Z,12nm,0.9s
HYB Hyderabad 71.64 275 *i*P **P 02 14 01.0 -0.4**
ESK Eskdalemuir 71.97 350 *i*P **P 02 14 03.7 +0.9**
AKH Akhalkalaki 72.04 315 *e*P **P 02 14 04.8 +1.1**
comp=Z,9.8nm,0.9s
AKH *ep*P **sP 02 14 15.7 -0.8**
AKH Akhalkalaki 72.04 315 ⇑*i*P **P 02 14 04.6 +0.9**
KWP Kalwaria Pacla 72.41 333 *e*P **P 02 14 06.5 +1.0**
comp=Z,214nm,0.9s
GNI Garni 72.52 314 *ce*P **P 02 14 07.3 +0.8**
GNI pmax pmax
comp=Z,96nm,1.7s
KOLS Kolonicke sedl 73.16 333 *e*P **P 02 14 10.4 +0.4**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 73.16 333 *e*P **P 02 14 10.4 +0.4**
CLL Collm 73.27 339 *e*P **P 02 14 10.1 -0.4**
comp=Z,13nm,1.1s
CLL Collm 73.27 339 *e*P **P 02 14 11.0 +0.4**
CLL *e* 02 14 30.0
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 73.27 339 *e*P **P 02 14 11.0 +0.4**
comp=Z,9.0nm,0.8s
DPC Dobruska-Polom 73.41 337 *e*P **P 02 14 12.4 +0.9**
DPC Dobruska-Polom 73.41 337 *e*P **P 02 14 12.4 +0.9**
OKC Ostrava-Krasne 73.44 336 *e*P **P 02 14 11.9 +0.3**
OKC Ostrava-Krasne 73.44 336 *e*P **P 02 14 11.9 +0.3**
BURAR Bucovina Array 73.48 330 ⇓*i*P **P 02 14 12.4 +0.4**
LEOM Leova 73.54 328 ⇑*i*P **P 02 14 11.9 -0.3**
MORC Moravsky Berou 73.64 336 *e*P **P 02 14 13.9 +1.1**
comp=Z,8.9nm,0.9s
MORC Moravsky Berou 73.64 336 ⇑*i*P **P 02 14 13.4 +0.5**
MORC Moravsky Berou 73.64 336 *e*P **P 02 14 13.3 +0.4**
LANS Liptovska Anna 73.73 335 *e*P **P 02 14 14.7 +1.3**
LANS Liptovska Anna 73.73 335 *e*P **P 02 14 14.7 +1.3**
TRPA Tarpa 73.81 332 ⇑*i*P **P 02 14 14.8 +1.0**
TRPA Tarpa 73.81 332 *e*P **P 02 14 14.0 +0.3**
TRPA *e*S **SKSac 02 24 19.0 +1.2**
BIZ Bicaz 73.81 329 ⇓*i*P **P 02 14 14.0 +0.1**
BIR Birlad 73.93 328 ⇑*i*P **P 02 14 16.0 +1.5**
TESR Tescani 74.02 329 ⇑*i*P **P 02 14 15.1 0.0**
ARCR ARCALIA 74.22 331 ⇑*i*P **P 02 14 17.4 +1.2**
VRAC Vranov 74.31 337 ⇑*i*P **P 02 14 17.5 +0.8**
VRAC Vranov 74.31 337 *e*P **P 02 14 17.5 +0.8**
JAVC Velka Javorina 74.46 336 *e*P **P 02 14 19.3 +1.6**
VYHS Vyhne 74.50 335 *e*P **P 02 14 18.4 +0.6**
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 74.50 335 *e*P **P 02 14 18.4 +0.6**
PETR Petresti 74.54 328 ⇑*i*P **P 02 14 18.9 +0.9**
VRI Vrincioaia 74.57 329 ⇑*i*P **P 02 14 18.6 +0.3**
KRUC Moravsky 74.59 337 *e*P **P 02 14 19.0 +0.7**
TREC Trest 74.59 337 *e*P **P 02 14 19.1 +0.7**
TREC Trest 74.59 337 *e*P **P 02 14 19.1 +0.7**
CFR Carcaliu 74.72 327 ⇑*i*P **P 02 14 19.0 -0.1**
PSZ Piszkesteto 74.74 334 *e*P **P 02 14 20.5 +1.2**
comp=Z,7.1nm,0.8s
PSZ Piszkesteto 74.74 334 ⇑*i*P **P 02 14 20.5 +1.2**
DOPR Dopca 74.91 329 ⇑*i*P **P 02 14 21.4 +1.2**
DRGR 74.97 332 ⇑*i*P **P 02 14 21.0 +0.3**
MODS Modra-Piesok 75.01 336 *e*P **P 02 14 21.5 +0.7**
MODS pmax pmax
comp=Z,9.0nm,1.0s
MODS Modra-Piesok 75.01 336 *e*P **P 02 14 21.5 +0.7**
MLR Muntele Rosu 75.16 329 *e*P **P 02 14 21.7 -0.1**
comp=Z,14nm,0.6s
MLR Muntele Rosu 75.16 329 ⇑*i*P **P 02 14 21.7 -0.1**
GRA1 Grafenberg Arr 75.17 340 *e*P **P 02 14 22.6 +0.9**
comp=Z,12nm,0.8s
GRFO Grafenberg 75.17 340 *e*P **P 02 14 22.7 +0.9**
comp=Z,11nm,0.9s
KHC Kasperske Hory 75.19 338 *e*P **P 02 14 22.8 +0.9**
comp=Z,2.1nm,0.8s
KHC Kasperske Hory 75.19 338 *e*P **P 02 14 22.5 +0.7**
KHC Kasperske Hory 75.19 338 *e*P **P 02 14 22.5 +0.7**
MEM Membach 75.30 344 ⇑P **P 02 14 23.0 +0.7**
comp=Z,17nm,0.9s
GERES GERESS Array B 75.43 338 P **P 02 14 23.4 0.0**
comp=Z,2.6nm,0.6s,baz=34,slow=5.8,SNR=24
WR1 Warramunga Arr 75.47 206 *e*P **P 02 14 23.8 +0.1**
WR1 *ep*P **PcP 02 14 34.9 -1.7**
WRA Warramunga Arr 75.47 206 P **P 02 14 23.8 +0.1**
comp=Z,1.5nm,0.9s,baz=21,slow=5.6,SNR=4.9
WRA pP **PcP 02 14 34.9 -1.7**
comp=Z,3.2nm,1.0s,baz=19,slow=5.3,SNR=7.1
VOIR 75.48 329 ⇑*i*P **P 02 14 24.5 +0.8**
BCLA Clavier 75.60 344 ⇑P **P 02 14 24.4 +0.3**
ARR Arges 75.68 330 ⇑*i*P **P 02 14 26.0 +1.2**
CSKK Cskako 75.69 335 *e*P **P 02 14 25.0 +0.3**
ICOR Ion Corvin 75.77 327 ⇑*i*P **P 02 14 24.5 -0.7**
CONA Conrad Observa 75.77 336 *i*P **P 02 14 26.5 +1.2**
comp=Z,8.8nm,1.2s
GZR Gura Zlata 76.22 331 ⇑*i*P **P 02 14 27.5 -0.3**
MOA Molln 76.23 337 *e*P **P 02 14 28.7 +0.9**
comp=Z,3.7nm,0.8s
ILGA Ilgaz 76.33 322 *e*P **P 02 14 30.3 +1.5**
comp=Z,20nm,0.8s
BZS Buzias 76.36 332 ⇑*i*P **P 02 14 28.6 +0.1**
ARSA Arzberg 76.49 336 *e*P **P 02 14 30.4 +1.1**
comp=Z,3.9nm,0.8s
BFO Black Forest 77.06 341 *i*P **P 02 14 33.6 +1.1**
MDVR Moldovita 77.09 331 ⇑*i*P **P 02 14 33.2 +0.5**
SOKA Soboth 77.14 337 *i*P **P 02 14 33.9 +0.9**
comp=Z,5.5nm,0.5s
KBA Koelnbreinsper 77.17 338 *i*P **P 02 14 34.9 +1.6**
comp=Z,25nm,0.7s
RETA Reutte 77.36 340 *e*P **P 02 14 35.3 +1.1**
comp=Z,5.2nm,0.8s,SNR=4.5
WTTA Wattenberg 77.38 339 *e*P **P 02 14 35.9 +1.4**
comp=Z,16nm,1.6s,SNR=4.1
ECH Echery 77.39 342 *e*P **P 02 14 34.0 -0.3**
comp=Z,8.9nm,1.0s
MOTA Moosalm 77.42 339 *i*P **P 02 14 35.6 +0.9**
comp=Z,6.1nm,0.8s,SNR=5.4
BR101 Keskin Array S 77.50 321 *e*P **P 02 14 35.5 +0.3**
BR131 Keskin Array S 77.50 321 *e*P **P 02 14 35.6 +0.4**
comp=Z,5.5nm,0.9s
BRTR Keskin Array B 77.50 321 *i*P **P 02 14 35.5 +0.3**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 77.50 321 P **P 02 14 35.5 +0.3**
comp=Z,4.4nm,0.9s,baz=37,slow=4.1,SNR=9.4
SQTA Sankt Quirin 77.52 339 *e*P **P 02 14 36.4 +1.2**
comp=Z,8.7nm,0.8s,SNR=5.3
ABTA Abfaltersbach 77.68 338 *i*P **P 02 14 36.6 +0.5**
comp=Z,11nm,1.1s
MDUB Mudurnu 77.78 323 *e*P **P 02 14 37.5 +0.8**
comp=Z,59nm,0.8s
FUORN Ofenpass-Fuorn 78.29 340 *e*P **P 02 14 41.3 +1.6**
comp=Z,5.5nm,0.8s
VTS Vitosha 78.59 329 *e*P **P 02 14 41.3 +0.1**
comp=Z,6.8nm,0.7s
TUE Stuetta 78.63 340 *e*P **P 02 14 42.8 +1.3**
comp=Z,12nm,0.7s
AS31 Alice Springs 79.14 205 *e*P **P 02 14 45.1 +1.0**
AS31 *ep*P **sP 02 14 56.3 -0.6**
ASAR Alice Springs 79.14 205 P **P 02 14 45.1 +1.0**
comp=Z,1.1nm,0.8s,baz=11,slow=4.8,SNR=5.4
ASAR pP **sP 02 14 56.3 -0.6**
comp=Z,2.3nm,0.8s,baz=20,slow=5.3,SNR=5.8
ALN Alexandroupoli 79.23 327 *e*P **P 02 14 44.9 +0.4**
comp=Z,6.8nm,1.1s
BALB Balikesir 79.71 325 *e*P **P 02 14 47.6 +0.4**
comp=Z,34nm,0.8s
TTG Podgorica 79.96 332 *e*P **P 02 14 48.3 -0.2**
comp=Z,13nm,0.6s
MANT Manisa 80.49 324 *e*P **P 02 14 52.3 +0.5**
comp=Z,31nm,1.0s
CSS Mathiatis 81.75 319 *e*P **P 02 14 57.8 -0.4**
comp=Z,19nm,0.8s
TIP Timpagrande 83.68 333 *e*P **P 02 15 09.1 +0.9**
comp=Z,8.2nm,0.9s
ESDC Sonseca Array 87.48 348 P **P 02 15 27.2 0.0**
comp=Z,1.1nm,0.6s,baz=2.4,slow=4.8,SNR=6.9
KEST Kesra 88.87 337 *e*P **P 02 15 34.0 +0.1**
comp=Z,11nm,1.0s
KEST Kesra 88.87 337 P **P 02 15 34.0 +0.1**
comp=Z,4.8nm,0.8s,baz=3.5,slow=6.5,SNR=5.0
TOA1 Torodi Ar. Sit 112.38 338 *e*PKiKP **PKiKP 02 21 15.8 +0.1**
TOA1 *e*PP **PP 02 21 56.0 -4.5**
TORD Torodi Ar. Bea 112.38 338 PKiKP **PKiKP 02 21 15.8 +0.1**
comp=Z,0.4nm,0.9s,baz=42,slow=1.1,SNR=4.1
TORD PP **PP 02 21 56.0 -4.5**
comp=Z,1.5nm,0.8s,baz=1.0,slow=11,SNR=7.3

KRSC 21 02:04:48.0±10.0, 52°21'N×160°88'E, h60km±10km, ML4.2,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.03**	**330**	*e*P	Pn	02 05 06.6	+0.2
SPN				*e*S	Sn	02 05 18.8	-1.3
NLC	**Nalytchevo**	**1.34**	**317**	*e*P	Pn	02 05 11.6	+1.1
NLC				*e*S	Sn	02 05 28.3	+0.9
RUS	**Russkaya**	**1.47**	**280**	*e*P	Pn	02 05 13.9	+1.7
RUS				*e*S	Sn	02 05 30.7	+0.3
DALK	**Dalny**	**1.54**	**303**	*e*P	Pn	02 05 14.5	+1.4
DALK				*e*S	Sn	02 05 32.7	+0.7
UGLR	**Uglovaya**	**1.60**	**310**	*e*P	Pn	02 05 16.8	+2.7
SDLR	**Sedlovina**	**1.62**	**312**	*e*P	Pn	02 05 16.4	+2.1
SDLR				*e*S	Sn	02 05 36.0	+1.8
SMAR	**Somma**	**1.65**	**311**	*e*P	Pn	02 05 18.4	+3.6
SMAR				*e*S	Sn	02 05 37.4	+2.3
MTVR	**Mutnovka**	**1.68**	**280**	*e*P	Pn	02 05 17.3	+2.1
MTVR				*e*S	Sn	02 05 37.9	+2.2
AVH	**Avacha**	**1.68**	**310**	*e*P	Pn	02 05 18.0	+2.9
KRER	**Koryakskii**	**1.70**	**311**	*e*S	Sn	02 05 41.5	+5.2
KOK	**Koryaka**	**1.74**	**309**	*e*P	Pn	02 05 19.8	+3.8
KDTR	**Khodutka, Kamc**	**1.78**	**258**	*e*P	Pn	02 05 19.3	+2.9
KDTR				*e*S	Sn	02 05 40.3	+2.4
KRX	**Arik**	**1.78**	**311**	*e*P	Pn	02 05 20.1	+3.6
KRMR	**Karymshinskiy**	**1.79**	**291**	*e*P	Pn	02 05 19.5	+3.0
KRMR				*e*S	Sn	02 05 41.5	+3.3
ASAK	**Asacha**	**1.84**	**277**	*e*P	Pn	02 05 20.5	+3.2
APC	**Apacha**	**2.38**	**289**	*e*P	Pn	02 05 29.5	+4.9
APC				*e*S	Sn	02 05 56.3	+3.7
MKZ	**Mys Kozlova**	**2.41**	**12**	*e*S	Sn	02 05 55.2	+2.0
PAU	**Pauzhetka**	**2.63**	**255**	*e*S	Sn	02 05 59.9	+1.2
KZV	**Kizimen**	**2.93**	**353**	*e*P	Pn	02 05 36.0	+3.8
KZV				*e*S	Sn	02 06 09.5	+3.2
TUMR	**Tumrok**	**3.11**	**352**	*e*P	Pn	02 05 38.6	+4.0
SKR	**Severo-Kuril's**	**3.35**	**245**	*e*S	Sn	02 06 17.4	+1.2
BKI	**Bering**	**4.26**	**43**	*e*S	Sn	02 06 39.0	+0.4

KRSC 21 02:06:49.2±10.0, 52°10'N×160°87'E, h69km±10km, ML3.9,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.12**	**333**	*e*P	Pn	02 07 09.9	+0.7
SPN				*e*S	Sn	02 07 23.5	-0.6
NLC	**Nalytchevo**	**1.42**	**320**	*e*P	Pn	02 07 14.7	+1.7
NLC				*e*S	Sn	02 07 32.6	+1.7
RUS	**Russkaya**	**1.49**	**284**	*e*P	Pn	02 07 15.7	+1.8
RUS				*e*S	Sn	02 07 33.9	+1.4
DALK	**Dalny**	**1.59**	**307**	*e*P	Pn	02 07 17.4	+2.1
DALK				*e*S	Sn	02 07 36.9	+1.8
UGLR	**Uglovaya**	**1.67**	**312**	*e*P	Pn	02 07 19.3	+2.8
UGLR				*e*S	Sn	02 07 40.7	+3.6
SDLR	**Sedlovina**	**1.69**	**315**	*e*P	Pn	02 07 19.1	+2.4
MTVR	**Mutnovka**	**1.69**	**284**	*e*P	Pn	02 07 19.0	+2.2
MTVR				*e*S	Sn	02 07 40.2	+2.5
SMAR	**Somma**	**1.71**	**313**	*e*P	Pn	02 07 19.6	+2.4
SMAR				*e*S	Sn	02 07 41.3	+3.0
AVH	**Avacha**	**1.74**	**313**	*e*P	Pn	02 07 20.1	+2.7
AVH				*e*S	Sn	02 07 41.6	+2.8
KDTR	**Khodutka, Kamc**	**1.75**	**261**	*e*P	Pn	02 07 19.2	+1.7
KDTR				*e*S	Sn	02 07 39.9	+1.0
KRER	**Koryakskii**	**1.77**	**314**	*e*P	Pn	02 07 21.3	+3.5
KOK	**Koryaka**	**1.81**	**312**	*e*P	Pn	02 07 21.1	+2.8
KOK				*e*S	Sn	02 07 43.8	+3.4
KRMR	**Karymshinskiy**	**1.83**	**295**	*e*P	Pn	02 07 21.0	+2.5
KRMR				*e*S	Sn	02 07 43.2	+2.5
KRX	**Arik**	**1.85**	**314**	*e*P	Pn	02 07 21.5	+2.6
ASAK	**Asacha**	**1.85**	**280**	*e*P	Pn	02 07 21.6	+2.8
APC	**Apacha**	**2.41**	**291**	*e*P	Pn	02 07 30.0	+3.6
MKZ	**Mys Kozlova**	**2.51**	**11**	*e*P	Pn	02 07 29.4	+1.7
MKZ				*e*S	Sn	02 07 57.6	+0.4
KZV	**Kizimen**	**3.04**	**354**	*e*S	Sn	02 08 12.5	+2.3
TUMD	**Tumrok D**	**3.12**	**355**	*e*P	Pn	02 07 38.9	+2.9
TUMD				*e*S	Sn	02 08 13.8	+1.8
TUMR	**Tumrok**	**3.21**	**353**	*e*P	Pn	02 07 40.4	+3.0
SKR	**Severo-Kuril's**	**3.30**	**246**	*e*P	Pn	02 07 41.0	+2.6
SKR				*e*S	Sn	02 08 17.9	+1.5
ALID	**Alaid**	**3.55**	**252**	*e*P	Pn	02 07 44.6	+2.6
KBTR	**Krutoberegovo**	**4.27**	**15**	*e*P	Pn	02 07 55.0	+3.4

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*IDC **21** 02:09:37.0±3.2, 52°26'N×160°30'E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.5/47, mbtmp3.6/6, Error ellipse: s-maj=103.5km s-min=26.8km az=14.0*
*KRSC **21** 02:09:38.2±10.0, 52°23'N×160°80'E, h61km±10km, ML4.3*
*MOS **21** 02:09:39.1±0.6, 52°17'N×160°90'E, h46km, mb3.9/1, Error ellipse: s-maj=11.7km s-min=6.1km az=116.6*
ISC 21 02:09:38.8±3.4, 52°24'N±0'04×160°78'E±0'04, h15km±21km, n56, σ1°30/90, mb3.7/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.98**	**332**	*e*P	**Pb**	**02 09 56.9**	**-0.5**
SPN				*e*S	**Sb**	**02 10 08.3**	**-1.8**
SPN	**Mys Shipunski**	**0.98**	**332**	PN	**Pb**	**02 09 56.9**	**-0.5**
SPN				S	**Sb**	**02 10 08.3**	**-1.8**
NLC	**Nalytchevo**	**1.28**	**317**	*e*P	**Pn**	**02 10 01.9**	**-0.2**
NLC				*e*S	**Sn**	**02 10 16.7**	**-2.3**
NLC	**Nalytchevo**	**1.28**	**317**	PN	**Pn**	**02 10 01.9**	**-0.2**
NLC				S	**Sn**	**02 10 16.7**	**-2.3**
RUS	**Russkaya**	**1.41**	**279**	*e*P	**Pn**	**02 10 03.9**	**+0.1**
RUS				*e*S	**Sn**	**02 10 20.7**	**-1.4**
RUS	**Russkaya**	**1.41**	**279**	PN	**Pn**	**02 10 03.9**	**+0.1**
RUS				S	**Sn**	**02 10 20.7**	**-1.4**
DALK	**Dalny**	**1.47**	**304**	*e*P	**Pn**	**02 10 04.6**	**-0.1**
DALK				*e*S	**Sn**	**02 10 21.8**	**-1.9**
DALK	**Dalny**	**1.47**	**304**	PN	**Pn**	**02 10 04.6**	**-0.1**
DALK				S	**Sn**	**02 10 21.8**	**-1.9**
PET	**Petropavlovsk**	**1.52**	**302**	*e*PN	**Pn**	**02 10 05.6**	**+0.2**
PET				*e*S	**Sn**	**02 10 24.1**	**-0.8**
PET				pmax	pmax		
	comp=Z,153nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.7s						
UGLR	**Uglovaya**	**1.54**	**310**	*e*P	**Pn**	**02 10 06.4**	**+0.6**
UGLR	**Uglovaya**	**1.54**	**310**	PN	**Pn**	**02 10 06.4**	**+0.6**
SDLR	**Sedlovina**	**1.56**	**313**	*e*P	**Pn**	**02 10 06.5**	**+0.5**
SDLR	**Sedlovina**	**1.56**	**313**	PN	**Pn**	**02 10 06.5**	**+0.5**
SMAR	**Somma**	**1.58**	**311**	*e*P	**Pn**	**02 10 06.7**	**+0.2**
SMAR				*e*S	**Sn**	**02 10 25.6**	**-1.2**
SMAR	**Somma**	**1.58**	**311**	PN	**Pn**	**02 10 06.7**	**+0.2**
SMAR				S	**Sn**	**02 10 25.6**	**-1.2**
AVH	**Avacha**	**1.61**	**310**	*e*P	**Pn**	**02 10 07.6**	**+0.8**
AVH	**Avacha**	**1.61**	**310**	PN	**Pn**	**02 10 07.6**	**+0.8**
MTVR	**Mutnovka**	**1.61**	**280**	*e*P	**Pn**	**02 10 07.4**	**+0.6**
MTVR				*e*S	**Sn**	**02 10 26.8**	**-0.6**
MTVR	**Mutnovka**	**1.61**	**280**	PN	**Pn**	**02 10 07.4**	**+0.6**
MTVR				S	**Sn**	**02 10 26.8**	**-0.6**
KRER	**Koryakskii**	**1.63**	**312**	*e*P	**Pn**	**02 10 06.9**	**-0.3**
KRER	**Koryakskii**	**1.63**	**312**	PN	**Pn**	**02 10 06.9**	**-0.3**
KOK	**Koryaka**	**1.68**	**310**	*e*P	**Pn**	**02 10 09.1**	**+1.4**
KOK				*e*S	**Sn**	**02 10 30.

KOK	Koryaka	1.68 310	PN	Pn	02 10 09.1	+1.4
KOK			S	Sn	02 10 30.2	+1.2
KRX	Arik	1.71 312	eP	Pn	02 10 08.7	+0.5
KRX	Arik	1.71 312	PN	Pn	02 10 08.7	+0.5
KRMR	Karymshinskiy	1.73 291	eP	Pn	02 10 08.9	+0.7
KRMR			eS	Sn	02 10 29.7	-0.3
KRMR	Karymshinskiy	1.73 291	PN	Pn	02 10 08.9	+0.7
KRMR			S	Sn	02 10 29.7	-0.3
KDTR	Khodutka, Kamc	1.73 257	eP	Pn	02 10 08.4	+0.2
KDTR			eS	Sn	02 10 28.4	-1.6
KDTR	Khodutka, Kamc	1.73 257	PN	Pn	02 10 08.4	+0.2
KDTR			S	Sn	02 10 28.4	-1.6
ASAK	Asacha	1.77 276	eP	Pn	02 10 09.8	+0.8
ASAK			eS	Sn	02 10 31.4	0.0
ASAK	Asacha	1.77 276	PN	Pn	02 10 09.8	+0.8
ASAK			S	Sn	02 10 31.4	0.0
PETK	Petropavlovsk-	2.07 296	Pn	Pn	02 10 13.9	+0.9
	comp=E,46nm,0.3s,baz=104,slow=20,SNR=31					
PETK			Sn	Sn	02 10 38.4	-0.1
	comp=E,17nm,0.3s,baz=95,slow=18,SNR=5.6					
APC	Apacha	2.32 289	eP	Pn	02 10 18.0	+1.7
APC			eS	Sn	02 10 45.2	+0.7
APC	Apacha	2.32 289	PN	Pn	02 10 18.0	+1.7
APC			S	Sn	02 10 45.2	+0.7
MKZ	Mys Kozlova	2.39 13	eP	Pn	02 10 17.7	+0.3
MKZ			eS	Sn	02 10 43.9	-2.5
MKZ	Mys Kozlova	2.39 13	PN	Pn	02 10 17.7	+0.3
MKZ			S	Sn	02 10 43.9	-2.5
KZV	Kizimen	2.90 354	eP	Pn	02 10 25.9	+1.4
KZV			eS	Sn	02 10 58.3	-0.8
KZV	Kizimen	2.90 354	PN	Pn	02 10 25.9	+1.4
KZV			S	Sn	02 10 58.3	-0.8
TUMD	Tumrok D	2.98 356	eP	Pn	02 10 26.4	+0.9
TUMD			eS	Sn	02 11 00.0	-1.0
TUMR	Tumrok	3.08 353	eP	Pn	02 10 29.5	+2.6
TUMR			eS	Sn	02 11 04.6	+1.2
TUMR	Tumrok	3.08 353	PN	Pn	02 10 26.4	-0.5
SKR	Severo-Kuril's	3.31 244	eP	Pn	02 10 30.4	+0.4
SKR			eS	Sn	02 11 06.8	-2.2
SKR	Severo-Kuril's	3.31 244	ePN	Pn	02 10 29.7	-0.3
SKR			eS	Sn	02 11 06.9	-2.1
SKR			pmax	pmax		
	comp=Z,24nm,0.7s					
SKR			smax	smax		
	comp=N,209nm,0.8s					
SKR			smax	smax		
	comp=E,169nm,0.8s					
ALID	Alaid	3.54 249	eP	Pn	02 10 34.1	+0.8
ALID			eS	Sn	02 11 13.4	-1.6
ALID	Alaid	3.54 249	PN	Pn	02 10 34.1	+0.8
ALID			S	Sn	02 11 13.4	-1.6
SRDR	Sredinnyy	4.13 352	eP	Pn	02 10 43.4	+2.0
SRDR	Sredinnyy	4.13 352	PN	Pn	02 10 43.4	+2.0
KBTR	Krutoberegovo	4.15 16	eP	Pn	02 10 42.4	+0.8
KBTR	Krutoberegovo	4.15 16	PN	Pn	02 10 42.4	+0.8
BKI	Bering	4.28 44	eS	Sn	02 11 28.5	-4.5
MKAR	Makanchi Array	48.91 297	P	P	02 18 22.1	-1.8
	comp=E,0.3nm,0.5s,baz=52,slow=6.3,SNR=5.5					
NVAR	Mina Array Bea	55.64 70	P	P	02 19 17.1	+2.9
	comp=E,0.2nm,0.5s,baz=54,slow=14,SNR=4.0					
FINES	FINESS Array B	61.07 337	P	P	02 19 51.3	-0.2
	comp=E,1.1nm,0.8s,baz=35,slow=7.0,SNR=5.5					
NOA	NORSAR Array B	64.48 344	P	P	02 20 13.9	-0.4
	comp=E,0.3nm,0.6s,baz=24,slow=6.8,SNR=2.5					
AKASG	Malin Array Be	69.56 329	P	P	02 20 46.7	+0.1
	comp=E,0.3nm,0.3s,baz=22,slow=5.7,SNR=3.3					
TXAR	Lajitas Array	70.58 67	P	P	02 20 55.4	+2.0
	comp=E,0.3nm,0.5s,baz=306,slow=4.8,SNR=9.0					

KRSC 21 02:12:01.1±10.0, 52°.19N×160°.65E, h16km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.99	338	P	Pb	02 12 18.6	-1.2
SPN				S	Sb	02 12 30.6	-2.0
NLC	Nalytchevo	1.26	322	P	Pn	02 12 23.8	-0.3
NLC				S	Sb	02 12 40.2	-0.4
RUS	Russkaya	1.33	281	P	Pn	02 12 25.4	+0.3
RUS				S	Sn	02 12 42.3	-0.2
DALK	Dalny	1.43	307	P	Pn	02 12 25.8	-0.6
DALK				S	Sn	02 12 43.8	-1.1
PET	Petropavlovsk	1.48	305	P	Pn	02 12 26.8	-0.2
PET				S	Sn	02 12 45.5	-0.5
UGLR	Uglovaya	1.51	313	P	Pg	02 12 29.5	-0.7
SDLR	Sedlovina	1.53	316	P	Pn	02 12 28.2	+0.3
MTVR	Mutnovka	1.54	282	P	Pn	02 12 28.7	+0.6
MTVR				S	Sb	02 12 49.6	+0.9
AVH	Avacha	1.58	314	P	Pn	02 12 28.6	0.0
KRER	Koryakskii	1.61	315	P	Pg	02 12 31.8	-0.2
KDTR	Khodutka, Kamc	1.64	258	P	Pn	02 12 28.9	-0.3
KDTR				S	Sn	02 12 49.5	-0.4
KOK	Koryaka	1.65	313	P	Pg	02 12 32.3	-0.5
KRMR	Karymshinskiy	1.67	294	P	Pb	02 12 30.8	-0.6
KRMR				S	Sb	02 12 53.0	+0.8
APC	Apacha	2.25	290	P	Pb	02 12 40.8	-0.6
APC				S	Sb	02 13 09.6	+0.5

*IDC **21** 02:14:40.5±0.7, 52°.24N×160°.12E, h0km, mb3.8/20, mb1 4.0/20, mb1mx3.9/45, mbtmp3.8/20, Error ellipse: s-maj=20.1km s-min=14.5km az=147.0*
*KRSC **21** 02:14:40.2±10.0, 51°.96N×160°.60E, h39km±10km, ML4.6*
*ISCJB **21** 02:14:42.3±0.3, 52°.00N±0°.03×160°.54E±0°.03, h30km, mb4.0/32, Error ellipse: s-maj=3.7km s-min=2.9km az=10.8*
*MOS **21** 02:14:43.8±1.0, 52°.06N×160°.42E, h43km, mb4.4/7, Error ellipse: s-maj=8.0km s-min=4.2km az=98.5*
*NEIC **21** 02:14:44.8±2.6, 52°.18N×160°.37E, h34km±6km, mb4.2/15, Error ellipse: s-maj=17.8km s-min=11.3km az=179.0*

ISC 21 02:14:44.2±0.4, 52°.11N±0°.03×160°.40E±0°.03, h30km, n143, σ1§48/170, mb4.1/32, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.02	347	eP	Pb	02 15 01.9	-1.3
SPN				eS	Sb	02 15 16.2	0.0
SPN	Mys Shipunski	1.02	347	PN	Pb	02 15 01.9	-1.3
SPN				S	Sb	02 15 16.2	0.0
RUS	Russkaya	1.21	286	eP	Pb	02 15 04.6	-1.8
RUS				eS	Sb	02 15 20.6	-1.0
RUS	Russkaya	1.21	286	PN	Pb	02 15 04.6	-1.8
RUS				S	Sb	02 15 20.6	-1.0
NLC	Nalytchevo	1.24	329	eP	Pb	02 15 05.8	-1.2
NLC				eS	Sb	02 15 22.7	+0.1
NLC	Nalytchevo	1.24	329	PN	Pb	02 15 05.8	-1.2
NLC				S	Sb	02 15 22.7	+0.1
DALK	Dalny	1.37	313	eP	Pb	02 15 07.0	-2.1
DALK				eS	Sb	02 15 25.0	-1.1
DALK	Dalny	1.37	313	PN	Pb	02 15 07.0	-2.1
DALK				S	Sb	02 15 25.0	-1.1
PET	Petropavlovsk	1.41	311	ePn	Pb	02 15 07.6	-2.2
PET				eSn	Sb	02 15 25.8	-1.5
PET	Petropavlovsk	1.41	311	¶ePN	Pb	02 15 08.0	-1.8
PET				*i* S	Sb	02 15 28.0	+0.7
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax	smax		
	comp=E,3μm,0.6s						
PET				smax	smax		
	comp=N,2μm,0.5s						
MTVR	Mutnovka	1.41	286	eP	Pb	02 15 08.3	-1.7
MTVR				eS	Sb	02 15 26.8	-0.9
MTVR	Mutnovka	1.41	286	PN	Pb	02 15 08.3	-1.7
MTVR				S	Sb	02 15 26.8	-0.9
UGLR	Uglovaya	1.46	319	eP	Pb	02 15 09.2	-1.6
UGLR				eS	Sb	02 15 29.0	0.0
UGLR	Uglovaya	1.46	319	PN	Pb	02 15 09.2	-1.6
UGLR				S	Sb	02 15 29.0	0.0
KDTR	Khodutka, Kamc	1.47	259	eP	Pn	02 15 08.3	-0.3
KDTR				eS	Sn	02 15 26.6	-0.2
KDTR	Khodutka, Kamc	1.47	259	PN	Pn	02 15 08.3	-0.3
KDTR				S	Sn	02 15 26.6	-0.2
SDLR	Sedlovina	1.49	322	eP	Pb	02 15 09.6	-1.7
SDLR				eS	Sb	02 15 29.2	-0.7
SDLR	Sedlovina	1.49	322	PN	Pb	02 15 09.6	-1.7
SDLR				S	Sb	02 15 29.2	-0.7
GRL	Gorelyy	1.50	288	eP	Pb	02 15 09.8	-1.6
GRL				eS	Sb	02 15 29.4	-0.6
GRL	Gorelyy	1.50	288	PN	Pb	02 15 09.8	-1.6
GRL				S	Sb	02 15 29.4	-0.6
SMAR	Somma	1.51	320	eP	Pb	02 15 10.1	-1.6
SMAR	Somma	1.51	320	PN	Pb	02 15 10.1	-1.6
AVH	Avacha	1.54	319	eP	Pb	02 15 10.5	-1.5
AVH				eS	Sb	02 15 32.3	+1.1
AVH	Avacha	1.54	319	PN	Pb	02 15 10.5	-1.5
AVH				S	Sb	02 15 32.3	+1.1
KRER	Koryakskii	1.56	321	eP	Pb	02 15 10.3	-2.2
KRER				eS	Sb	02 15 32.4	+0.4
KRER	Koryakskii	1.56	321	PN	Pb	02 15 10.3	-2.2
KRER				S	Sb	02 15 32.4	+0.4
ASAK	Asacha	1.56	281	eP	Pb	02 15 11.1	-1.4
ASAK	Asacha	1.56	281	PN	Pb	02 15 11.1	-1.4
KRMR	Karymshinskiy	1.57	298	eP	Pb	02 15 10.3	-2.2
KRMR				eS	Sb	02 15 32.2	+0.3
KRMR	Karymshinskiy	1.57	298	PN	Pb	02 15 10.3	-2.2
KRMR				S	Sb	02 15 32.2	+0.3
KOK	Koryaka	1.60	318	eP	Pb	02 15 11.1	-2.0
KOK				eS	Sb	02 15 33.3	+0.4
KOK	Koryaka	1.60	318	PN	Pb	02 15 11.1	-2.0
KOK				S	Sb	02 15 33.3	+0.4
KRX	Arik	1.64	320	eP	Pb	02 15 11.6	-2.3
KRX				eS	Sb	02 15 33.2	-1.1
KRX	Arik	1.64	320	PN	Pb	02 15 11.6	-2.3
KRX				S	Sb	02 15 33.2	-1.1
PEA0B	Petropavlovsk-	1.93	302	ePn	Pb	02 15 15.3	-3.3
PEA0B				eSn	Sn	02 15 34.0	-4.1
PETK	Petropavlovsk-	1.93	302	ePn	Pn	02 15 14.8	-0.1
PETK	Petropavlovsk-	1.93	302	ePN	Pn	02 15 14.8	-0.1
PETK	Petropavlovsk-	1.93	302	Pn	Pb	02 15 15.8	-2.9
	comp=N,45nm,0.3s,baz=106,slow=20,SNR=48						
PETK				Sn	Sb	02 15 41.2	-1.1
	comp=N,49nm,0.3s,baz=196,slow=21,SNR=9.0						
PEA1	Petropavlovsk-	1.93	302	ePn	Pb	02 15 15.8	-2.9
PEA1				eSn	Sb	02 15 41.2	-1.1
APC	Apacha	2.15	294	eP	Pb	02 15 19.2	-3.1
APC				eS	Sb	02 15 47.5	-0.9
APC	Apacha	2.15	294	PN	Pb	02 15 19.2	-3.1
APC				S	Sb	02 15 47.5	-0.9
PAU	Pauzhetka	2.32	255	eP	Pn	02 15 21.1	+0.8
PAU	Pauzhetka	2.32	255	PN	Pn	02 15 21.1	+0.8
MKZ	Mys Kozlova	2.58	17	eP	Pn	02 15 22.8	-1.0
MKZ				eS	Sn	02 15 52.6	-1.4
MKZ	Mys Kozlova	2.58	17	PN	Pn	02 15 22.8	-1.0
MKZ				S	Sn	02 15 52.6	-1.4
KZV	Kizimen	3.01	359	eP	Pb	02 15 31.7	-5.4
KZV				eS	Sn	02 16 05.1	+0.1
KZV	Kizimen	3.01	359	PN	Pb	02 15 31.7	-5.4
KZV				S	Sn	02 16 05.1	+0.1
SKR	Severo-Kuril's	3.04	244	eP	Pn	02 15 29.5	-0.7
SKR				eS	Sn	02 16 04.3	-1.2
SKR	Severo-Kuril's	3.04	244	ePN	Pn	02 15 30.6	+0.4
SKR				eS	Sn	02 16 03.7	-1.8
SKR				pmax	pmax		
	comp=Z,34nm,0.7s						
SKR				smax	smax		
	comp=N,343nm,0.8s						
SKR				smax	smax		
	comp=E,396nm,0.6s						
TUMD	Tumrok D	3.10	360	eP	Pb	02 15 34.5	-4.0
TUMD				eS	Sb	02 16 13.3	-2.6
TUMR	Tumrok	3.18	357	eP	Pb	02 15 34.4	-5.6
TUMR	Tumrok	3.18	357	PN	Pb	02 15 34.4	-5.6
ALID	Alaid	3.28	250	eP	Pn	02 15 34.5	+0.9
ALID	Alaid	3.28	250	PN	Pn	02 15 34.5	+0.9
BZGR	Bezymyannyi-Gr	3.84	2	eP	Pb	02 15 44.7	-6.5
BZGR	Bezymyannyi-Gr	3.84	2	PN	Pb	02 15 44.7	-6.5
ESO	Esso	3.95	346	eP	Pn	02 15 44.3	+1.6
ESO	Esso	3.95	346	PN	Pn	02 15 44.3	+1.6
LGNR	Loginova	3.98	2	eP	Pn	02 15 43.5	+0.1
LGNR	Loginova	3.98	2	PN	Pn	02 15 43.5	+0.1
CIRR	Tsirk	4.02	3	eP	Pn	02 15 46.3	+2.6
CIRR	Tsirk	4.02	3	PN	Pn	02 15 46.3	+2.6
KLY	Klyuchi	4.21	2	eS	Sb	02 16 45.7	-2.1
KBTR	Krutoberegovo	4.34	18	eP	Pn	02 15 48.2	+0.1
KBTR	Krutoberegovo	4.34	18	PN	Pn	02 15 48.2	+0.1
KBG	Krutoberegovo	4.37	17	eP	Pb	02 15 52.4	-7.7
KBG	Krutoberegovo	4.37	17	PN	Pb	02 15 52.4	-7.7
BDR	Baidarnaya	4.49	6	eP	Pb	02 15 55.0	-7.3
BDR	Baidarnaya	4.49	6	PN	Pb	02 15 55.0	-7.3
SMKR	Semkarok	4.52	7	eP	Pn	02 15 53.4	+2.8
SMKR	Semkarok	4.52	7	PN	Pn	02 15 53.4	+2.8
BKI	Bering	4.54	45	eP	Pn	02 15 50.3	-0.4
BKI				eS	Sn	02 16 37.6	-4.7
BKI	Bering	4.54	45	PN	Pn	02 15 50.3	-0.4
SRKR	Sorokina	4.58	5	eP	Pn	02 15 54.3	+3.0
SRKR	Sorokina	4.58	5	PN	Pn	02 15 54.3	+3.0
SMY	Shemya	8.40	80	ePn	Pn	02 16 43.8	+0.1
SMY				eSn	Sn	02 18 15.2	-2.1
SMY	Shemya	8.40	80	ePN	Pn	02 16 43.8	+0.1
USRK	Ussuriysk Ar.	20.44	259	eP	P	02 19 16.7	-2.1
USRK	Ussuriysk Ar.	20.44	259	P	P	02 19 17.5	-1.4
	comp=E,3.0nm,0.8s,baz=60,slow=11,SNR=5.7						
MAJO	Matsushiro	22.10	234	eP	P	02 19 37.3	+0.5
MAJO	Matsushiro	22.10	234	eP	P	02 19 37.3	+0.5
MJAR	Matsushiro Arr	22.10	234	P	P	02 19 37.3	+0.5
	comp=E,1.7nm,0.3s,baz=29,slow=10.0,SNR=7.3						
MJB9	Matsu-Tunnel	22.10	234	eP	P	02 19 36.4	-0.4
	comp=E,8.3nm,0.8s						
TIXI	Tiksi	24.06	336	eP	P	02 19 55.0	-1.1
TIXI	Tiksi	24.06	336	eP	P	02 19 55.1	-1.1
TIXI	Tiksi	24.06	336	P	P	02 19 54.9	-1.3
	comp=E,4.7nm,0.5s,baz=120,slow=11,SNR=14						
KDAK	Kodiak Island	27.13	59	eP	P	02 20 21.6	-2.6
	comp=E,15nm,1.2s						
KDAK	Kodiak Island	27.13	59	eP	P	02 20 21.6	-2.6
KDAK				pmax	pmax		
	comp=Z,15nm,1.2s						
BWN	Browne	28.26	45	eS	S	02 25 15.7	-2.3
SML	Sawmill	28.83	50	eP	P	02 20 38.9	-0.5
	comp=Z,2.2nm,1.2s						
SML	Sawmill	28.83	50	eP	P	02 20 38.9	-0.5
SML				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SCM	Sheep Creek Mo	29.31	50	eP	P	02 20 45.3	+1.6
	comp=Z,4.3nm,0.6s						
SCM	Sheep Creek Mo	29.31	50	eP	P	02 20 45.3	+1.6
SCM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ILAR	Eielson Array	29.38	44	P	P	02 20 45.6	+1.4
	comp=Z,0.2nm,0.9s,baz=268,slow=8.9,SNR=3.3						
ILB	Eielson Array	29.38	44	eP	P	02 20 41.5	-2.8
	comp=Z,4.5nm,1.5s						
GLI	Glacier Island	29.52	52	eP	P	02 20 44.5	-0.9
	comp=Z,12nm,1.4s						
PRP	Porcupine Dome	29.96	43	eP	P	02 20 51.8	+2.4
	comp=Z,3.6nm,1.4s						
KLU	Klutina	30.01	51	eP	P	02 20 49.7	-0.2
	comp=Z,2.7nm,0.9s						
H11N2	WAKE ISLAND Hy	32.71	169	T	T	02 57 10.6	
	baz=352,slow=76,SNR=19						
H11N3	WAKE ISLAND Hy	32.73	169	T	T	02 57 02.2	
	baz=352,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	32.73	169	T	T	02 57 15.5	
	baz=352,slow=76,SNR=18						
SONA0	Songino Array	34.32	285	eP	P	02 21 27.2	-0.7
SONM	Songino Array	34.32	285	P	P	02 21 27.2	-0.7
	comp=Z,0.6nm,0.3s,baz=57,slow=7.3,SNR=4.2						
ZAA1	Zalesovo Array	43.47	304	eP	P	02 22 41.9	-2.3
ZALV	Zalesovo Beam	43.47	304	P	P	02 22 41.9	-2.3
	comp=Z,0.8nm,0.5s,baz=66,slow=4.9,SNR=3.5						
YKA	Yellowknife Ar	43.76	42	P	P	02 22 47.4	+1.1
	comp=Z,0.1nm,0.5s,baz=299,slow=8.1,SNR=4.0						
YKB5	Yellowknife Ar	43.76	42	eP	P	02 22 47.4	+1.1
RES	Resolute Bay	44.17	22	eP	P	02 22 49.5	0.0
	comp=Z,2.0nm,1.1s						
RES	Resolute Bay	44.17	22	eP	P	02 22 49.5	0.0
RES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
RES	Resolute Bay	44.17	22	P	P	02 22 49.5	0.0
	comp=Z,0.8nm,0.8s,baz=329,slow=5.2,SNR=2.8						
SPA0	Spitsbergen Ar	48.14	351	eP	P	02 23 20.7	0.0
	comp=Z,28nm,1.5s						
MK31	Makanchi Array	48.76	297	eP	P	02 23 24.4	-1.5
	comp=Z,3.5nm,1.4s						
MK31	Makanchi Array	48.76	297	eP	P	02 23 24.4	-1.5
MK31				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MK32	Makanchi Array	48.76	297	eP	P	02 23 24.1	-1.8
MKAR	Makanchi Array	48.76	297	P	P	02 23 24.1	-1.8
	comp=Z,1.0nm,0.5s,baz=57,slow=7.0,SNR=16						
BRVK	Borovoye	51.18	309	eP	P	02 23 43.6	-0.6
	comp=Z,3.8nm,0.7s						
BRVK	Borovoye	51.18	309	eP	P	02 23 43.6	-0.6
BRVK			pmax	pmax			
	comp=Z,4.0nm,0.7s						
ARCES	ARCESS Array B	54.28	342	P	P	02 24 06.6	-0.2
	comp=Z,2.0nm,0.6s,baz=36,slow=8.5,SNR=7.9						
NV01	Mina Array Sit	55.90	70	eP	P	02 24 21.4	+2.1
NVAR	Mina Array Bea	55.90	70	P	P	02 24 21.4	+2.1
	comp=Z,0.2nm,0.5s,baz=301,slow=7.3,SNR=2.9						
CM31	Chiang Mai Arr	58.17	259	eP	P	02 24 36.0	+0.7
	comp=Z,7.2nm,1.0s						
CMAR	Chiang Mai Arr	58.17	259	P	P	02 24 36.0	+0.7
CMAR	Chiang Mai Arr	58.17	259	P	P	02 24 36.0	+0.7
	comp=Z,1.0nm,0.3s,baz=27,slow=7.0,SNR=5.0						
FIA0	FINESS Array S	61.10	337	eP	P	02 24 55.0	+0.2
FIA0	FINESS Array S	61.10	337	eP	P	02 24 55.0	+0.2
FINES	FINESS Array B	61.10	337	P	P	02 24 55.0	+0.2
	comp=Z,2.6nm,0.5s,baz=34,slow=8.0,SNR=30						
NB2	NORSAR Subarra	64.54	344	P	P	02 25 18.2	+0.4
	comp=Z,0.5nm,0.3s,baz=20,slow=6.9						
NB200	NORSAR Array S	64.54	344	eP	P	02 25 18.4	+0.6
NOA	NORSAR Array B	64.54	344	P	P	02 25 18.4	+0.6
	comp=Z,0.7nm,0.4s,baz=23,slow=6.7,SNR=11						
AKASG	Malin Array Be	69.56	329	P	P	02 25 49.3	-0.4
	comp=Z,1.2nm,0.3s,baz=30,slow=6.6,SNR=7.0						
AKBB	Malin Array Si	69.56	329	eP	P	02 25 49.3	-0.4
	comp=Z,2.2nm,0.8s						
AKBB	Malin Array Si	69.56	329	eP	P	02 25 49.3	-0.4
AKBB			pmax	pmax			
	comp=Z,2.0nm,0.8s						
LTX	Lajitas	70.85	67	eP	P	02 25 58.9	+0.8
LTX	Lajitas	70.85	67	eP	P	02 25 58.9	+0.8
TXAR	Lajitas Array	70.85	67	P	P	02 25 58.9	+0.8
	comp=Z,0.2nm,0.4s,baz=294,slow=5.2,SNR=6.0						
CLL	Collm	73.34	339	eP	P	02 26 13.0	+0.5
WR1	Warramunga Arr	75.27	205	eP	P	02 26 24.8	+0.8
WRA	Warramunga Arr	75.27	205	P	P	02 26 24.8	+0.8
	comp=Z,0.6nm,0.8s,baz=22,slow=5.4,SNR=5.3						
GERES	GERESS Array B	75.50	338	P	P	02 26 25.6	+0.3
	comp=Z,0.6nm,0.8s,baz=90,slow=2.7,SNR=5.8						
BR101	Keskin Array S	77.50	321	eP	P	02 26 37.1	+0.3
BRTR	Keskin Array B	77.50	321	P	P	02 26 37.1	+0.3
	comp=Z,0.6nm,0.8s,baz=108,slow=2.7,SNR=4.9						
AS31	Alice Springs	78.94	205	eP	P	02 26 45.0	+0.4
	comp=Z,1.9nm,1.3s						
ASAR	Alice Springs	78.94	205	P	P	02 26 46.2	+1.7
	comp=Z,0.4nm,0.5s,baz=17,slow=5.6,SNR=4.8						

*DDA **21** 02:18:40.5, 38°.74N×43°.23E, h7km±2km, ML2.6*
*ISK **21** 02:18:40.3, 38°.75N×43°.30E, h7km, ML2.0/5*
*ISCJB **21** 02:18:41.5±0.7, 38°.73N±0°.03×43°.31E±0°.05, h22km±9km, Error ellipse: s-maj=6.8km s-min=4.9km az=25.1*

ISC 21 02:18:41.1±1.1, 38°.75N±0°.03×43°.29E±0°.03, h18km±4km, n12, σ0§72/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.17	153	PG	Pg	02 18 45.8	0.0
VANB				SG	Sg	02 18 49.9	+1.0
TVAN	Van	0.24	157	*i* P	Pb	02 18 46.5	-0.3
TVAN				*i* S	Sg	02 18 51.0	+0.3
VMUR	Van-Muradiye	0.33	42	IAML_P			
	comp=Z,890nm,0.2s						
VMUR				*i* P	Pg	02 18 48.2	0.0
VMUR				*i* S	Sb	02 18 54.5	+0.9
GEVA	Gevas	0.47	203	IAML_P			
	comp=Z,1μm,0.1s						
GEVA				*i* P	Pg	02 18 50.1	-0.6
GEVA				*i* S	Sb	02 18 58.1	+0.5
AKDM	Akdamar-Van	0.48	210	PG	Pg	02 18 49.9	-1.1
AKDM				SG	Sb	02 18 57.9	-0.1
CLDR	Caldiran	0.63	51	PG	Pb	02 18 52.4	-1.3
CLDR				SG	Sb	02 19 02.0	-0.2
MLAZ	Malazgirt-MUS	0.70	304	PG	Pb	02 18 54.0	-0.9
MLAZ				SG	Sb	02 19 04.7	+0.5
TUTA	Tutak	0.75	331	*i* P	Pb	02 18 55.1	-0.7
BLIS	Bitlis-Merkez	0.98	251	IAML_P			
	comp=Z,1μm,0.2s						
BLIS				*i* P	Pb	02 18 59.1	-0.5
BLIS				*i* S	Sb	02 19 12.7	+0.4
EATA	Eleskirt	1.27	331	IAML_P			
	comp=Z,371nm,0.2s						
EATA				*i* P	Pb	02 19 04.9	+0.1
EATA				*i* S	Sg	02 19 23.7	+1.1
SRTM	Siirt_Merkez	1.31	235	IAML_P			
	comp=Z,384nm,0.3s						
SRTM				*i* P	Pb	02 19 05.7	+0.4
CUKT	Cukurca	1.52	170	PN	Pb	02 19 08.7	-0.1

KRSC 21 02:19:39.7±10.0, 52°.21N×160°.82E, h58km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.01	332	P	Pn	02 19 58.5	+0.7
SPN				S	Sn	02 20 10.5	-0.7
NLC	Nalytchevo	1.31	318	P	Pn	02 20 03.5	+1.7
NLC				S	Sn	02 20 18.6

KRSC 21 02:28:23.5±10.0, 52.30N×160.81E, h41km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.93**	**330**	P	Pn	02 28 40.7	+0.6
SPN				S	Sn	02 28 52.9	+0.6
NLC	**Nalytchevo**	**1.25**	**315**	P	Pn	02 28 46.7	+2.3
NLC				S	Sn	02 29 02.4	+2.4
RUS	**Russkaya**	**1.41**	**276**	P	Pn	02 28 47.8	+1.1
RUS				S	Sn	02 29 04.8	+0.8
DALK	**Dalny**	**1.45**	**301**	P	Pn	02 28 49.1	+1.9
DALK				S	Sn	02 29 06.5	+1.5
MTVR	**Mutnovka**	**1.62**	**278**	P	Pn	02 28 51.6	+2.0
MTVR				S	Sn	02 29 11.5	+2.2
KRMR	**Karymshinskiy**	**1.72**	**289**	P	Pn	02 28 54.4	+3.5
KRMR				S	Sn	02 29 15.5	+3.9
KDTR	**Khodutka, Kamc**	**1.76**	**255**	S	Sn	02 29 12.1	-0.3
MKZ	**Mys Kozlova**	**2.33**	**13**	S	Sn	02 29 28.8	+2.2
TUMD	**Tumrok D**	**2.92**	**355**	S	Sn	02 29 44.9	+3.7

MOS ***21*** *02:33:50.3±0.8, 21.90N×143.07E, h290km, mb5.1/35, Error ellipse: s-maj=16.0km s-min=5.7km az=113.6*
ISCJB ***21*** *02:33:50.1±0.4, 21.93N±0.02×142.93E±0.02, h279km±3km, mb4.8/321, Error ellipse: s-maj=3.6km s-min=3.4km az=1.4*
IDC ***21*** *02:33:51.4±1.0, 21.87N×143.00E, h283km±9km, mb4.4/40, mb1 4.6/43, mb1mx4.5/57, mbtmp5.1/43, Error ellipse: s-maj=8.6km s-min=5.3km az=86.0*
JMA ***21*** *02:33:51.2±0.4, 22.00N×142.75E, h285km±2km, M5.6*
NEIC ***21*** *02:33:51.6±1.2, 21.84N×142.99E, h283km±4km, mb4.9/269, Error ellipse: s-maj=14.1km s-min=10.0km az=87.0*
BJI ***21*** *02:33:52.0±0.0, 22.06N×142.95E, h296km, mb4.7/39, mB4.9/2*

ISC 21 02:33:51.5±0.5, 21.93N±0.03×143.11E±0.05, h285km±4km, n678, σ1°38/734, mb4.8/322, 40C-9D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.76**	**350**	P	**Pn**	**02 35 04.6**	**-1.0**
JHH2				*e*S	**S**	**02 36 02.5**	**-2.5**
CBIJ	**Chichi jima**	**5.21**	**351**	P	**Pn**	**02 35 09.6**	**-1.3**
CBIJ				*e*S	**S**	**02 36 11.3**	**-3.4**
SARN	**Sarigan**	**5.78**	**154**	*e*Pn	**Pn**	**02 35 17.2**	**-0.6**
ANA2	**Anatahan**	**6.08**	**156**	*e*Pn	**Pn**	**02 35 21.1**	**-0.3**
GUMO	**Guam**	**8.46**	**168**	*e*Pn	**Pn**	**02 35 50.8**	**+0.1**
GUMO	**Guam**	**8.46**	**168**	*e*P	**Pn**	**02 35 50.8**	**+0.1**
GUMO	**Guam**	**8.46**	**168**	P	**Pn**	**02 35 50.4**	**-0.3**
	24nm,0.3s,baz=141,slow=3.2,SNR=28						
JHCJ	**Hachijojimakas**	**11.48**	**346**	P	**Pn**	**02 36 25.7**	**-2.2**
JHJ2	**Mitsune**	**11.52**	**346**	*e*Pn	**Pn**	**02 36 26.9**	**-1.4**
JHJ2				*e*S	**S**	**02 38 37.7**	**+0.9**
JHJ2	**Mitsune**	**11.52**	**346**	P	**Pn**	**02 36 26.9**	**-1.4**
JHJ	**Hachijo jima 2**	**11.53**	**346**	P	**Pn**	**02 36 27.0**	**-1.5**
	52nm,0.3s,baz=91,slow=15,SNR=17						
JHJ				S	**S**	**02 38 37.8**	**+0.6**
	37nm,0.3s,baz=116,slow=21,SNR=4.7						
JMKN	**Mikurajimanish**	**12.32**	**346**	P	**Pn**	**02 36 36.0**	**-2.1**
JKO	**Kozu shima**	**12.71**	**345**	P	**Pn**	**02 36 41.9**	**-0.9**
BSO1	**Boso 1**	**12.82**	**352**	P	**Pn**	**02 36 43.5**	**-0.1**
TTO1	**TONANKAI O.B.S**	**12.92**	**336**	P	**P**	**02 36 46.1**	**+0.1**
BSO3	**Boso 3**	**13.03**	**350**	P	**Pn**	**02 36 45.6**	**-0.8**
BSO3				*e*S	**S**	**02 39 04.7**	**-6.0**
BSO4	**Boso 4**	**13.24**	**350**	P	**Pn**	**02 36 48.6**	**-0.6**
BSO4				*e*S	**S**	**02 39 07.2**	**-8.6**
JIE	**Ise**	**13.64**	**337**	P	**Pn**	**02 36 53.7**	**-0.3**
JIE				S	**S**	**02 39 22.9**	**-1.9**
JHMK	**Hamakita**	**13.67**	**341**	P	**Pn**	**02 36 53.9**	**-0.5**
JOD2	**Odawara 2**	**13.75**	**346**	P	**P**	**02 36 54.8**	**-0.7**
JOD2				*e*S	**S**	**02 39 20.1**	**-7.2**
JTO	**Tosashimizu**	**14.22**	**322**	P	**Pn**	**02 37 02.8**	**+1.8**
JTO				S	**S**	**02 39 35.2**	**-2.2**
JMN	**Monobe**	**14.30**	**327**	P	**Pn**	**02 37 04.5**	**+2.4**
INU	**Inuyama**	**14.40**	**340**	*e*P	**P**	**02 37 02.7**	**+0.1**
JEG	**Eigenji**	**14.42**	**337**	P	**Pn**	**02 37 04.3**	**+0.9**
JYT	**Yasato**	**14.48**	**351**	P	**Pn**	**02 37 04.3**	**+0.2**
JRY	**Ryogami san**	**14.51**	**346**	P	**P**	**02 37 03.5**	**-0.4**
JGF	**Kuroka**	**14.52**	**341**	P	**P**	**02 37 04.4**	**+0.4**
JWT	**Wachi**	**14.92**	**335**	P	**Pn**	**02 37 09.6**	**+0.2**
JGN	**Niukaw**	**15.11**	**342**	P	**P**	**02 37 10.3**	**-0.3**
JAD	**Aida**	**15.15**	**331**	P	**Pn**	**02 37 13.6**	**+1.5**
MJAR	**Matsushiro Arr**	**15.18**	**345**	*e*P	**P**	**02 37 10.8**	**-0.4**
MJAR				*e*S	**S**	**02 39 56.3**	**-0.8**
MJAR	**Matsushiro Arr**	**15.18**	**345**	*e*P	**P**	**02 37 10.8**	**-0.4**
MJAR				*e*S	**S**	**02 39 56.3**	**-0.8**
MJAR	**Matsushiro Arr**	**15.18**	**345**	P	**P**	**02 37 11.4**	**+0.2**
	2.3nm,0.3s,baz=156,slow=5.8,SNR=34						
MJAR				S	**S**	**02 39 50.6**	**-6.5**
	0.4nm,0.3s,baz=148,slow=7.3,SNR=4.1						
MAJO	**Matsushiro**	**15.18**	**345**	*e*P	**P**	**02 37 11.4**	**+0.2**
	38nm,0.7s						
MAJO				*e*S	**S**	**02 39 50.6**	**-6.5**
MAJO	**Matsushiro**	**15.18**	**345**	*i* P	**P**	**02 37 11.7**	**+0.5**
MAT	**Matsushiro**	**15.18**	**345**	P	**P**	**02 37 11.9**	**-0.3**
MAT				S	**S**	**02 39 51.0**	**-6.1**
MAT	**Matsushiro**	**15.18**	**345**	P	**P**	**02 37 11.6**	**+0.4**
MJB9	**Matsu-Tunnel**	**15.18**	**345**	*e*P	**P**	**02 37 11.5**	**+0.3**
	39nm,0.7s						
MJB9				*e*S	**S**	**02 39 52.7**	**-4.5**
JSJ	**Shimokoshiki**	**15.39**	**312**	P	**Pn**	**02 37 14.8**	**-0.2**
JNU	**Nakatsue**	**15.54**	**318**	*e*P	**Pn**	**02 37 17.1**	**+0.3**
	119nm,1.1s						
JNU				*e*S	**S**	**02 40 07.5**	**+2.9**
JNU	**Nakatsue**	**15.54**	**318**	P	**Pn**	**02 37 16.9**	**+0.1**
JNU	**Nakatsue**	**15.54**	**318**	P	**Pn**	**02 37 17.5**	**+0.7**
	9.2nm,0.3s,baz=129,slow=3.9,SNR=52						
JNU				S	**S**	**02 40 07.5**	**+2.9**
	0.1nm,0.3s,baz=118,slow=22,SNR=9.8						
JHS	**Saijyo**	**15.70**	**328**	P	**Pn**	**02 37 19.4**	**+0.8**
JHS				S	**S**	**02 40 10.8**	**+3.2**
JMM	**Marumori**	**16.01**	**353**	P	**Pn**	**02 37 22.9**	**+0.7**
JSD	**Sado**	**16.59**	**346**	P	**P**	**02 37 27.1**	**+0.5**
JFU	**Fukue jima 2**	**16.63**	**313**	P	**P**	**02 37 28.0**	**+0.9**
JYA	**Atsumi**	**16.87**	**351**	P	**Pn**	**02 37 32.0**	**-0.2**
JMK	**Ichinoseki**	**17.05**	**355**	P	**Pn**	**02 37 33.6**	**-0.7**
JOM	**Ohasama**	**17.56**	**355**	P	**Pn**	**02 37 39.2**	**-1.1**
JTM	**Tenmabayashi**	**18.88**	**355**	P	**Pn**	**02 37 59.6**	**+4.0**
JOT	**Ohata**	**19.48**	**355**	P	**P**	**02 37 58.8**	**+1.2**
TJN	**Taejon**	**19.87**	**320**	*ce*P	**P**	**02 38 01.2**	**-0.6**
ERM	**Erimo**	**20.03**	**0**	*e*P	**P**	**02 38 06.0**	**+2.5**
	61nm,0.9s						
ERM	**Erimo**	**20.03**	**0**	*i* P	**P**	**02 38 04.6**	**+1.2**
JEM	**Erimo**	**20.03**	**0**	P	**P**	**02 38 05.6**	**+2.2**
YHNB	**Yeheng**	**20.14**	**282**	*e*P	**P**	**02 38 03.4**	**-1.6**
	69nm,1.3s						
KSRS	**Korea Array**	**20.29**	**323**	P	**P**	**02 38 04.4**	**-1.8**
	44nm,0.6s,baz=145,slow=9.9,SNR=95						
KSRS				S	**S**	**02 41 39.1**	**+2.5**
	6.7nm,1.0s,baz=141,slow=30,SNR=5.6						
KSRS				ScP	**ScP**	**02 45 17.4**	**+1.7**
	5.2nm,0.9s,baz=135,slow=2.0,SNR=16						
KS15	**Wonju Array Si**	**20.30**	**323**	*e*P	**P**	**02 38 04.9**	**-1.5**
	58nm,0.6s						
KS15				*e*S	**S**	**02 41 39.1**	**+2.3**
KS15				*e*ScP	**ScP**	**02 45 17.4**	**+1.6**
KSAR	**Wonju Array Be**	**20.30**	**323**	*e*P	**P**	**02 38 05.2**	**-1.2**
SSLB	**Suanglung**	**20.50**	**279**	*e*P	**P**	**02 38 08.5**	**-0.1**
	47nm,1.0s						
JEW	**Eniwo**	**20.90**	**357**	P	**P**	**02 38 13.8**	**+1.5**
PATS	**Pohnpei**	**20.99**	**133**	*e*P	**P**	**02 38 13.5**	**-0.1**
	85nm,1.2s						
ASAJ	**Asahikawa**	**22.14**	**359**	P	**P**	**02 38 25.0**	**+1.3**
	16nm,0.4s,baz=213,slow=19,SNR=10						
TGY	**Tagaytay City**	**22.45**	**253**	P	**P**	**02 38 27.1**	**0.0**
	214nm,0.3s,baz=51,slow=0.5,SNR=10						
MSHR	**Mys Shultsa**	**22.89**	**337**	*i* P	**P**	**02 38 30.5**	**-0.1**
USA0B	**Ussuriysk Arra**	**24.04**	**340**	*e*P	**P**	**02 38 40.8**	**-0.2**
	5.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**24.04**	**340**	*e*P	**P**	**02 38 39.8**	**-1.2**
USRK	**Ussuriysk Ar.**	**24.04**	**340**	P	**P**	**02 38 41.4**	**+0.4**
	3.2nm,0.5s,baz=161,slow=10,SNR=11						
GENI	**Genyem**	**24.54**	**187**	P	**P**	**02 38 44.0**	**-1.8**
TIA	**Tai'an**	**26.70**	**308**	P	**P**	**02 39 04.8**	**-0.2**
TIA				pmax	pmax		
	comp=Z,18nm,1.0s						
FAKI	**Fak Fak**	**26.88**	**205**	*e*P	**P**	**02 39 04.2**	**-2.6**
	7.6nm,0.8s						
WHN	**Wuhan**	**27.13**	**294**	P	P	02 39 21.6	+13
XAN	**Xi'an**	**32.36**	**299**	P	**P**	**02 39 53.5**	**-1.4**
XAN				pmax	pmax		
	comp=Z,12nm,0.6s						
HIA	**Hailar**	**32.98**	**331**	*i* P	**P**	**02 39 59.8**	**-0.1**
HIA				pmax	pmax		
	comp=Z,169nm,1.0s						
ZEA	**Zeya**	**33.98**	**343**	*e*P	**P**	**02 40 08.1**	**-0.3**
ZEA				pmax	pmax		
	comp=E,22nm,0.9s						
ZEA				pmax	pmax		
	comp=N,50nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,64nm,0.7s						
SPSI	**Sidrap Palu**	**34.41**	**224**	P	**P**	**02 40 12.3**	**-0.2**
BNSI	**Bone**	**34.52**	**223**	P	**P**	**02 40 14.4**	**+0.9**
KAPI	**Kappang**	**35.22**	**223**	*e*P	**P**	**02 40 19.0**	**-0.5**
	comp=Z,5.8nm,0.7s						
KAPI	**Kappang**	**35.22**	**223**	P	**P**	**02 40 19.4**	**-0.1**
	comp=Z,4.3nm,0.3s,baz=41,slow=4.8,SNR=6.5						
SBUM	**Sibu**	**35.72**	**241**	*e*P	**P**	**02 40 22.8**	**-0.9**
	comp=Z,4.3nm,0.8s						
SLVN	**Son La**	**36.38**	**277**	*e*P	**P**	**02 40 29.6**	**+0.2**
	comp=Z,15nm,0.9s						
LZH	**Lanzhou**	**36.87**	**301**	*e*P	**P**	**02 40 32.8**	**-0.6**
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
KMI	**Kunming**	**37.06**	**283**	P	**P**	**02 40 35.9**	**+0.7**
KMI				pmax	pmax		
	comp=Z,17nm,0.8s						
MA2	**Magadan**	**38.01**	**6**	*e*P	**P**	**02 40 42.9**	**+0.5**
	comp=Z,22nm,0.7s						
MA2	**Magadan**	**38.01**	**6**	*ce*P	**P**	**02 40 42.8**	**+0.5**
MA2				pmax	pmax		
	comp=Z,17nm,0.9s						
MA2	**Magadan**	**38.01**	**6**	P	**P**	**02 40 42.8**	**+0.5**
	comp=Z,16nm,0.5s,baz=190,slow=7.9,SNR=16						
ULN	**Ulaanbaatar**	**38.74**	**321**	*e*P	**P**	**02 40 49.1**	**+0.3**
	comp=Z,32nm,1.4s						
ULN	**Ulaanbaatar**	**38.74**	**321**	*ce*P	**P**	**02 40 48.7**	**-0.1**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ULN	**Ulaanbaatar**	**38.74**	**321**	P	**P**	**02 40 49.4**	**+0.6**
	SNR=8.8						
SONA0	**Songino Array**	**39.12**	**320**	*e*P	**P**	**02 40 52.0**	**+0.2**
SONA0				*e*PcP	**PcP**	**02 42 55.6**	**+0.4**
SONM	**Songino Array**	**39.12**	**320**	*e*P	**P**	**02 40 51.8**	**-0.1**
SONM	**Songino Array**	**39.12**	**320**	P	**P**	**02 40 52.0**	**+0.2**
	comp=Z,12nm,0.4s,baz=130,slow=7.7,SNR=108						
SONM				PcP	**PcP**	**02 42 55.6**	**+0.4**
	comp=Z,4.1nm,0.6s,baz=131,slow=3.3,SNR=6.2						
PBKT	**Sadao Pong**	**40.05**	**270**	P	**P**	**02 41 00.5**	**+0.8**
	comp=Z,3.6nm,1.4s						
UTTA	**Uttaradit**	**40.15**	**272**	P	**P**	**02 41 01.0**	**+0.4**
PHRA	**Phrae**	**40.29**	**273**	P	**P**	**02 41 03.9**	**+2.2**
	comp=Z,1.3nm,1.4s						
GTA	**Gaotai**	**40.68**	**305**	*e*P	**P**	**02 41 04.8**	**0.0**
GTA				PcP	**PcP**	**02 43 00.9**	**+0.5**
GTA				pmax	pmax		
	comp=Z,24nm,0.9s						
GTA				LR	LR		
	comp=Z,2μm,15.9s						
GTA				LR	LR		
	comp=Z,2μm,15.2s						
GTA				LR	LR		
	comp=Z,4μm,14.9s						
YAK	**Yakutsk**	**41.13**	**350**	*e*P	**P**	**02 41 06.6**	**-1.3**
YAK				*e**PP	**pP**	**02 42 04.1**	**-0.6**
YAK				*e*		02 42 47.0	
YAK				*e*		02 43 02.6	
YAK				*e*S	**S**	**02 46 57.6**	**-1.2**
YAK				*e*SS	**SS**	**02 50 14.8**	**+0.8**
YAK				*e*		02 50 34.6	
YAK				pmax	pmax		
	comp=Z,116nm,0.9s						
YAK				pmax	pmax		
	comp=N,99nm,1.0s						
YAK				pmax	pmax		
	comp=E,46nm,0.9s						
YAK				pmax	pmax		
	comp=Z,4μm,8.0s						
YAK				pmax	pmax		
	comp=N,6μm,7.6s						
YAK				pmax	pmax		
	comp=E,6μm,8.1s						
YAK				smax	smax		
	comp=N,3μm,11.2s						
YAK				smax	smax		
	comp=E,4μm,10.8s						
CMMT	**Chiang Mai**	**41.41**	**274**	P	**P**	**02 41 11.5**	**+0.7**
	comp=E,6.1nm,1.2s						
SEY	**Seymchan**	**41.47**	**6**	P	**P**	**02 41 11.8**	**+1.2**
	comp=E,16nm,0.7s,baz=183,slow=7.3,SNR=63						
SEY				PcP	**PcP**	**02 43 02.6**	**+0.3**
	comp=E,1.8nm,0.6s,baz=179,slow=5.1,SNR=3.9						
CM31	**Chiang Mai Arr**	**41.49**	**273**	*e*P	**P**	**02 41 11.5**	**0.0**
	comp=E,11nm,0.9s						
CM31				*e*PcP	**PcP**	**02 43 03.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**41.49**	**273**	P	**P**	**02 41 11.5**	**0.0**
	comp=E,4.6nm,0.7s,baz=55,slow=7.7,SNR=21						
CMAR				PcP	**PcP**	**02 43 03.7**	**+0.4**
	comp=E,2.0nm,0.7s,baz=80,slow=1.2,SNR=6.1						
BOD	**Bodaibo**	**41.60**	**337**	*e*P	**P**	**02 41 11.4**	**-0.4**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CTA	**Charters Tower**	**41.87**	**176**	P	**P**	**02 41 14.1**	**-0.3**
	comp=Z,20nm,0.8s,baz=360,slow=8.3,SNR=20						
CTAO	**Charters Tower**	**41.87**	**176**	*e*P	**P**	**02 41 14.4**	**0.0**
	comp=Z,37nm,1.0s						
ZAK	**Zakamensk**	**42.12**	**322**	*e*P	**P**	**02 41 15.8**	**-0.4**
ZAK				*e*		02 43 05.0	
ZAK				pmax	pmax		
	comp=Z,24nm,0.9s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PHET	**Kaeng Krachan**	**42.32**	**265**	P	**P**	**02 41 20.1**	**+1.9**
	comp=Z,36μm,1.0s						
WRAB	**Tennant Creek**	**42.48**	**192**	*e*P	**P**	**02 41 18.5**	**-0.8**
	comp=Z,41nm,0.6s						
WRAB	**Tennant Creek**	**42.48**	**192**	*ce*P	**P**	**02 41 17.6**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,25nm,0.9s						
WB2	**Warramunga Arr**	**42.48**	**192**	*e*P	**P**	**02 41 18.6**	**-0.7**
	comp=Z,53nm,1.0s						
WR1	**Warramunga Arr**	**42.49**	**192**	*e*P	**P**	**02 41 18.6**	**-0.8**
WR1				*e*ScP	**ScP**	**02 46 31.3**	**+1.7**
WR1				*e*S	**S**	**02 47 17.1**	**-2.5**
WRA	**Warramunga Arr**	**42.49**	**192**	P	**P**	**02 41 18.6**	**-0.8**
	comp=Z,31nm,0.5s,baz=17,slow=8.8,SNR=307						
WRA				ScP	**ScP**	**02 46 31.3**	**+1.7**
	comp=Z,5.2nm,0.8s,baz=12,slow=2.6,SNR=13						
WRA				S	**S**	**02 47 17.1**	**-2.5**
	comp=Z,5.2nm,1.0s,baz=5.3,slow=14,SNR=9.1						
WRA				PKiKP	**PKiKP**	**02 50 09.2**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=281,slow=0.9,SNR=9.2						
TLY	**Talaya**	**42.54**	**324**	*e*P	**P**	**02 41 20.2**	**+0.8**
	comp=Z,26nm,1.2s						
TLY	**Talaya**	**42.54**	**324**	*i* P	**P**	**02 41 19.9**	**+0.5**
TLY				pmax	pmax		
	comp=Z,42nm,1.1s						
TLY	**Talaya**	**42.54**	**324**	P	**P**	**02 41 19.9**	**+0.5**
	SNR=6.8						
ADK	**Adak**	**43.04**	**36**	*e*P	**P**	**02 41 23.9**	**+0.5**
	comp=Z,54nm,0.8s						
FITZ	**Fitzroy Crossi**	**43.30**	**205**	*e*P	**P**	**02 41 25.2**	**-0.7**
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**43.30**	**205**	P	**P**	**02 41 25.1**	**-0.7**
	comp=Z,12nm,0.4s,baz=28,slow=9.6,SNR=50						
GSTR	**Great Sitkin T**	**43.48**	**36**	*e*P	**P**	**02 41 27.9**	**+1.0**
UGM	**Wanagama**	**43.59**	**231**	*e*P	**P**	**02 41 26.0**	**-2.4**
	comp=Z,94nm,1.3s						
MOY	**Mondy**	**43.99**	**323**	*e*P	**P**	**02 41 31.2**	**+0.1**
MOY				pmax	pmax		
	comp=Z,28nm,1.6s						
KULM	**Kulim**	**44.26**	**254**	*e*P	**P**	**02 41 33.1**	**-0.5**
	comp=Z,29nm,0.7s						
KRAB	**Krabi**	**44.37**	**259**	P	**P**	**02 41 35.3**	**+0.9**
AS31	**Alice Springs**	**46.19**	**192**	*e*P	**P**	**02 41 47.5**	**-1.0**
	comp=Z,5.4nm,0.5s						
AS31				*e*PP	**PP**	**02 43 44.5**	**+3.3**
AS31				*e*ScP	**ScP**	**02 46 46.5**	**+1.7**
AS31				*e*S	**S**	**02 48 10.3**	**-2.5**
ASAR	**Alice Springs**	**46.20**	**192**	P	**P**	**02 41 47.4**	**-1.2**
	comp=Z,6.4nm,0.5s,baz=16,slow=12,SNR=88						
ASAR				PP	**PP**	**02 43 44.5**	**+3.3**
	comp=Z,1.9nm,0.7s,baz=18,slow=11,SNR=4.5						
ASAR				ScP	**ScP**	**02 46 46.5**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=12,slow=3.8,SNR=5.2						
ASAR				S	**S**	**02 48 10.3**	**-2.5**
	comp=Z,2.4nm,0.8s,baz=18,slow=18,SNR=12						
ASAR				PKiKP	**PKiKP**	**02 50 12.6**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=96,slow=1.3,SNR=4.3						
SHL	**Shillong**	**46.80**	**285**	*e*P	**P**	**02 41 53.0**	**-0.5**
	comp=Z,60nm,0.6s						
SHL	**Shillong**	**46.80**	**285**	*e*P	**P**	**02 41 52.0**	**-1.5**
PSI	**Prapat**	**46.91**	**252**	*e*P	**P**	**02 41 54.4**	**0.0**
	comp=Z,25nm,1.0s						
LSA	**Lhasa**	**47.09**	**291**	*e*P	**P**	**02 41 57.3**	**+1.3**
	comp=Z,49nm,0.6s						
LSA	**Lhasa**	**47.09**	**291**	P	**P**	**02 41 57.1**	**+1.1**
NIKH	**Nikolski High**	**47.84**	**37**	*e*P	**P**	**02 42 01.1**	**+0.3**
	comp=Z,209nm,1.2s						
BILL	**Bilibino**	**48.31**	**11**	*e*P	**P**	**02 42 04.9**	**+0.8**
	comp=Z,28nm,0.7s						
BILL	**Bilibino**	**48.31**	**11**	*c i*P	**P**	**02 42 04.8**	**+0.7**
BILL				*e**PP	**pwP**	**02 43 06.7**	**-3.5**
BILL				*e*		02 44 03.4	
BILL				*e*S	**S**	**02 48 40.1**	**-1.4**
BILL				pmax	pmax		
	comp=Z,24nm,0.9s						
GSI	**Gunungsitoli**	**48.80**	**251**	*e*P	**P**	**02 42 07.5**	**-1.2**
	comp=Z,39nm,0.6s						
SPIA	**Saint Paul Isl**	**48.81**	**32**	*e*P	**P**	**02 42 09.4**	**+1.3**
	comp=Z,799nm,1.4s						
PSA00	**Pilbara Seismi**	**48.83**	**209**	*e*P	**P**	**02 42 08.1**	**-0.6**
	comp=Z,38nm,1.4s						
DZM	**Mont Dzumac**	**49.30**	**151**	*e*P	**P**	**02 42 12.1**	**-0.2**
	comp=Z,11nm,0.8s						
DZM	**Mont Dzumac**	**49.30**	**151**	P	**P**	**02 42 12.1**	**-0.2**
	comp=Z,8.6nm,0.7s,baz=347,slow=6.8,SNR=11						
UNV	**Unalaska Valle**	**49.47**	**37**	*e*P	**P**	**02 42 13.6**	**+0.5**
	comp=Z,56nm,0.8s						
AKUT	**Akutan**	**49.97**	**37**	*e*P	**P**	**02 42 17.9**	**+1.0**
	comp=Z,251nm,1.3s						
WMQ	**Urumqi**	**50.38**	**309**	*e*P	**P**	**02 42 21.8**	**+1.6**
	comp=Z,48nm,1.2s						
TIXI	**Tiksi**	**50.42**	**354**	*ce*P	**P**	**02 42 19.4**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TIXI	**Tiksi**	**50.42**	**354**	P	**P**	**02 42 19.4**	**-0.5**
	comp=Z,12nm,0.6s,baz=142,slow=5.8,SNR=36						
ODAN	**Odare**	**50.65**	**287**	*e*P	**P**	**02 42 22.7**	**0.0**
	comp=Z,125nm,0.5s						
RAMN	**Ramite**	**51.34**	**288**	*e*P	**P**	**02 42 27.6**	**-0.2**
	comp=Z,72nm,0.5s						
GAMB	**Gambell**	**51.44**	**24**	*e*P	**P**	**02 42 28.2**	**+0.7**
	comp=Z,15nm,0.8s						
DGZ	**Jazzator, Alta**	**51.52**	**317**	*c i*P	**P**	**02 42 28.7**	**+0.1**
DGZ				pmax	pmax		
	comp=Z,12nm,1.0s						
JIRN	**Jiri**	**51.61**	**289**	*e*P	**P**	**02 42 30.2**	**+0.2**
	comp=Z,413nm,0.6s						
PKI	**Pulchoki**	**52.31**	**289**	*e*P	**P**	**02 42 34.5**	**-0.5**
	comp=Z,99nm,0.5s						
PKIN	**Phulchoki**	**52.32**	**289**	*e*P	**P**	**02 42 34.5**	**-0.5**
	comp=Z,78nm,0.5s						
KKN	**Kakani**	**52.40**	**289**	*e*P	**P**	**02 42 35.2**	**-0.3**
	comp=Z,42nm,0.3s						
DMN	**Daman**	**52.57**	**289**	*e*P	**P**	**02 42 36.6**	**-0.3**
	comp=Z,64nm,0.5s						
GKN	**Gorkha**	**52.93**	**289**	*e*P	**P**	**02 42 39.3**	**-0.1**
	comp=Z,150nm,0.5s						
SDPT	**Sand Point**	**53.27**	**36**	*e*P	**P**	**02 42 41.6**	**+0.6**
	comp=Z,153nm,0.9s						
STKA	**Stephens Creek**	**53.52**	**182**	*e*P	**P**	**02 42 42.6**	**-0.5**
	comp=Z,4.3nm,0.6s						
STKA	**Stephens Creek**	**53.52**	**182**	P	**P**	**02 42 42.7**	**-0.5**
	comp=Z,20nm,0.6s,baz=358,slow=8.1,SNR=44						
DANN	**Dangsing**	**53.66**	**290**	*e*P	**P**	**02 42 45.1**	**+0.3**
	comp=Z,943nm,0.5s						
KOLN	**Koldanda**	**53.87**	**289**	*e*P	**P**	**02 42 46.0**	**-0.2**
	comp=Z,65nm,0.5s						
ZAA0	**Zalesovo Array**	**53.99**	**322**	*e*P	**P**	**02 42 46.0**	**-0.3**
	comp=Z,51nm,0.6s						
ZALV	**Zalesovo Beam**	**53.99**	**322**	*e*P	**P**	**02 42 46.4**	**0.0**
ZALV	**Zalesovo Beam**	**53.99**	**322**	P	**P**	**02 42 46.0**	**-0.3**
	comp=Z,54nm,0.6s,baz=103,slow=6.9,SNR=158						
ZALV				PcP	**PcP**	**02 43 46.9**	**-0.7**
	comp=Z,13nm,0.5s,baz=127,slow=3.8,SNR=8.3						
ZALV				S	**S**	**02 49 58.0**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=92,slow=10,SNR=3.9						
ZAA1	**Zalesovo Array**	**53.99**	**322**	*e*P	**P**	**02 42 46.0**	**-0.3**
ZAA1				*e*pP	**PcP**	**02 43 46.9

comp=Z,4.7nm,0.8s
AAK Ala-Archa 59.97 307 *i* P P 02 43 29.0 +0.5
SNR=6.3
AAK Ala-Archa 59.97 307*ce*P P 02 43 29.0 +0.5
AAK pmax pmax
comp=Z,7.0nm,1.1s
AAK Ala-Archa 59.97 307 P P 02 43 29.0 +0.5
SNR=5.1
UCH Uchtor 59.98 307 P P 02 43 30.1 +1.1
SNR=24
BPAW Bear Paw Mtn. 60.00 28 *e*P P 02 43 29.5 +1.3
comp=Z,54nm,0.7s
SEW Seward 60.02 32 *e*P P 02 43 28.9 +0.7
comp=Z,51nm,0.8s
RC01 Rabbit Creek A 60.02 31 *e*P P 02 43 28.7 +0.4
comp=Z,47nm,0.9s
MLY Manley 60.30 27 *e*P P 02 43 31.7 +1.5
comp=Z,35nm,0.8s
EKS2 Erkin-Say 60.50 308 P P 02 43 32.4 +0.4
SNR=6.1
GHO Glory Hole Cre 60.51 30 *e*P P 02 43 31.0 -0.7
HYB Hyderabad 60.57 278 *i* P P 02 43 33.0 +0.2
AML Almayashu 60.59 307 P P 02 43 33.5 +0.4
SNR=8.1
BWN Browne 60.67 28 *e*P P 02 43 34.2 +1.6
comp=Z,61nm,0.8s
MCK McKinley 60.82 28 *e*P P 02 43 34.1 +0.4
comp=Z,44nm,0.9s
COLD Coldfoot 60.99 24 *e*P P 02 43 36.4 +1.7
comp=Z,5.6nm,1.0s
ARSB Arslanbob 61.19 306 *e*P P 02 43 37.4 +0.7
comp=Z,36nm,1.2s
WRH Wood River Hil 61.31 27 *e*P P 02 43 37.3 +0.4
comp=Z,17nm,0.8s
MDM Murphy Dome 61.33 27 *e*P P 02 43 37.5 +0.4
comp=Z,18nm,1.3s
DHY Denali Highway 61.41 29 *e*P P 02 43 38.5 +0.7
comp=Z,13nm,0.7s
CCB Clear Creek Bu 61.46 27 *e*P P 02 43 38.0 +0.2
comp=Z,8.5nm,0.8s
COLA College 61.48 27 *e*P P 02 43 35.7 -2.2
comp=Z,54nm,0.3s
COLA College 61.48 27 *i* P P 02 43 38.2 +0.2
COLA pmax pmax
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 61.54 23 *e*P P 02 43 40.1 +1.7
comp=Z,31nm,0.7s
TOLK Toolik Lake Re 61.54 23 P P 02 43 40.2 +1.8
baz=257
POKR Poker Plat Res 61.69 27 P P 02 43 39.8 +0.3
baz=261
PALK Pallekele 61.75 266 P P 02 43 40.6 -0.1
HDA Harding Lake 61.79 28 *e*P P 02 43 40.0 -0.1
comp=Z,26nm,0.8s
HDA Harding Lake 61.79 28 P P 02 43 40.0 -0.1
baz=262
ILAR Eielson Array 61.87 27 P P 02 43 40.3 -0.3
comp=Z,5.7nm,0.8s,baz=259,slow=5.8,SNR=13
ILB Eielson Array 61.87 27 *e*P P 02 43 39.5 -1.1
comp=Z,34nm,0.8s
NIL Nilore 61.87 297 *e*P P 02 43 41.7 +0.5
comp=Z,84nm,1.1s
EYAK Cordova Ski Ar 61.90 32 *e*P P 02 43 42.3 +1.4
comp=Z,29nm,0.7s
DIV Divide 61.94 31 *e*P P 02 43 42.0 +0.8
comp=Z,16nm,0.9s
PAX Paxson 62.26 29 *e*P P 02 43 44.2 +0.9
comp=Z,21nm,0.6s
HARP HAARP 62.35 30 *e*P P 02 43 45.3 +1.4
comp=Z,79nm,0.7s
BVAR Borovoye Array 62.45 319 S S 02 51 48.1 -0.4
comp=Z,0.7nm,0.5s,baz=77,slow=6.5,SNR=8.8
BRVK Borovoye 62.52 319 *e*P P 02 43 45.2 +0.1
comp=Z,51nm,0.8s
BRVK Borovoye 62.52 319 P P 02 43 43.9 -1.2
BRVK pmax pmax
comp=Z,47nm,0.8s
BRVK Borovoye 62.52 319 P P 02 43 45.6 +0.6
SNR=18
PRP Porcupine Dome 62.54 26 *e*P P 02 43 44.4 -0.9
comp=Z,10nm,0.7s
HMT Hamilton 62.62 32 *e*P P 02 43 46.9 +1.3
comp=Z,30nm,0.9s
RIDG Independent Ri 62.63 28 *e*P P 02 43 46.4 +0.6
comp=Z,46nm,0.8s
KK31 Karatay Array 62.86 308 *e*P P 02 43 48.0 +0.5
comp=Z,22nm,0.9s
KK31 Karatay Array 62.86 308 *i* P P 02 43 47.8 +0.2
KK31 pmax pmax
comp=Z,21nm,1.0s
KKAR Karatay Array 62.86 308 *e*P P 02 43 48.0 +0.5
comp=Z,22nm,0.9s
BTK Batken 62.95 305 *e*P P 02 43 48.3 0.0
comp=Z,6.7nm,0.6s
DOT Dot Lake 62.96 29 *e*P P 02 43 45.1 -2.8
comp=Z,29nm,1.0s
SCRK Sand Creek 63.03 28 *e*P P 02 43 47.8 -0.6
comp=Z,46nm,0.8s
MENT Mentasta 63.06 29 *e*P P 02 43 50.1 +1.5
comp=Z,11nm,0.7s
GAR Garm 63.47 304 *e*P P 02 43 51.9 +0.2
comp=Z,20nm,0.8s
BALM Baldy 63.59 32 *e*P P 02 43 53.1 +1.0
comp=Z,24nm,0.8s
CTGM Chitina Glacie 64.08 32 *e*P P 02 43 56.6 +1.3
comp=Z,18nm,0.9s
EGAK Eagle 64.31 27 *e*P P 02 43 57.1 +0.5
comp=Z,9.8nm,0.8s
DAWY Dawson 65.05 28 *e*P P 02 44 02.7 +1.3
comp=Z,16nm,0.8s
KBL Kabul 65.17 299 *e*P P 02 44 02.9 -0.1
comp=Z,46nm,1.1s
HYT Haines Junctio 65.96 32 *e*P P 02 44 09.3 +1.9
comp=Z,31nm,0.9s
EPYK Eagle Plains 66.19 26 *e*P P 02 44 10.0 +1.3
comp=Z,45nm,1.0s
EPYK Eagle Plains 66.19 26 P P 02 44 09.8 +1.1
baz=270
SKAG Skagway 67.12 33 *e*P P 02 44 16.6 +2.1
comp=Z,19nm,1.0s
WHY Whitehorse 67.25 32 *e*P P 02 44 17.1 +1.6
comp=Z,14nm,0.8s
INK Inuvik 67.39 24 *e*P P 02 44 16.5 +0.5
comp=Z,25nm,1.1s
INK Inuvik 67.39 24 P P 02 44 16.5 +0.5
comp=Z,16nm,0.8s,baz=294,slow=5.6,SNR=52
JIS Juneau Island 67.72 34 *e*P P 02 44 20.0 +1.8
comp=Z,34nm,0.8s
URZ Urewera 67.85 152 P P 02 44 18.4 -0.8
comp=Z,6.6nm,0.4s,baz=240,slow=3.7,SNR=7.9
SVE Sverdlovsk 67.85 324⇓*e*P P 02 44 19.5 +0.4
SVE pmax pmax
comp=Z,76nm,0.8s
BKZ Black Stump Fm 68.33 153 *e*P P 02 44 21.6 -0.7
comp=Z,44nm,1.5s
ARU Arti 69.04 324 *e*P P 02 44 26.2 -0.2
comp=Z,80nm,0.9s
ARU Arti 69.04 324*d i*P P 02 44 26.3 -0.2
ARU 02 44 47.1
ARU 02 47 00.1
ARU S S 02 53 09.6 +1.9
ARU pmax pmax
comp=Z,80nm,0.9s
WRAK Wrangell Islan 69.04 36 *e*P P 02 44 28.4 +2.0
comp=Z,30nm,1.0s
AB31 Akbulak array 69.34 316 *i* P P 02 44 28.3 -0.1
AB31 pmax pmax
comp=Z,21nm,0.5s
ABKAR Akbulak array 69.34 316 *e*P P 02 44 28.3 -0.1
comp=Z,43nm,0.8s
DLBC Dease Lake 69.97 34 *e*P P 02 44 34.1 +1.9
comp=Z,27nm,0.9s
DLBC Dease Lake 69.97 34 P P 02 44 33.9 +1.7
comp=Z,19nm,0.8s,baz=292,slow=6.1,SNR=31
AKTO Aktyubinsk 70.35 317 P P 02 44 33.8 -0.8
AKTO pmax pmax
comp=Z,11nm,0.6s
GEYT Alibeck 73.06 305 P P 02 44 51.5 +0.6
comp=Z,15nm,0.8s,baz=96,slow=1.5,SNR=23
GYA0B ALIBECK ARRAY 73.06 305 *e*P P 02 44 51.7 +0.7
comp=Z,18nm,0.8s
PRGR Permogore 74.43 331⇑*i*P P 02 44 58.2 -0.1
PRGR pmax pmax
comp=Z,53nm,0.7s
SPA0 Spitsbergen Ar 75.60 350 *e*P P 02 45 04.9 +0.2
comp=Z,13nm,1.0s
SPA0 Spitsbergen Ar 75.60 350 *e*P P 02 45 04.4 -0.3
KBS Kingsbay 75.75 351 *e*P P 02 45 06.2 +0.7
comp=Z,16nm,0.8s
KBS Kingsbay 75.75 351*ce*P P 02 45 05.4 -0.1
KBS pmax pmax
comp=Z,53nm,0.9s
KBS Kingsbay 75.75 351 *e*P P 02 45 06.0 +0.5
NLWA Neilton Lookou 76.17 44 *e*P P 02 45 10.7 +2.2
comp=Z,57nm,1.4s
YKW3 Yellowknife Ar 76.26 28 *e*P P 02 45 08.5 -0.1
comp=Z,19nm,0.6s
YKA Yellowknife Ar 76.29 28 P P 02 45 09.2 +0.5
comp=Z,20nm,0.5s,baz=292,slow=5.9,SNR=260
YKB5 Yellowknife Ar 76.29 28 *e*P P 02 45 09.2 +0.5
LLLB Lillooet 76.44 41 *e*P P 02 45 11.7 +1.7
comp=Z,22nm,0.9s
A04D Lummi Island 76.51 43 P P 02 45 11.8 +1.6
baz=288
LVZ Lovozero 76.56 338*ce*P P 02 45 08.6 -1.7
LVZ pmax pmax
comp=Z,17nm,0.9s
D03D Eldon 76.63 44 P P 02 45 13.1 +2.1
baz=288
TMCR Tamitsa 76.83 334 *e*P P 02 45 09.9 -1.8
TMCR pmax pmax
comp=Z,92nm,0.6s
RES Resolute Bay 76.87 13 *e*P P 02 45 12.3 +0.5
comp=Z,18nm,0.7s
RES Resolute Bay 76.87 13 P P 02 45 12.2 +0.4
comp=Z,15nm,0.7s,baz=358,slow=6.0,SNR=77
B05A Bryant 77.04 43 P P 02 45 14.9 +1.7
baz=288
I02D Swisshome 77.18 48 P P 02 45 16.0 +1.9
baz=288
G03D McMinnville, O 77.23 46 P P 02 45 16.1 +1.8
baz=288
E04D Cinebar 77.27 45 P P 02 45 16.4 +1.8
baz=288
J01E Myrtle Point 77.41 48 P P 02 45 17.3 +1.9
baz=288
KLMR Klimovskoe 77.47 331 *e*P P 02 45 13.9 -1.5
KLMR *e* 02 48 15.1
KLMR pmax pmax
comp=Z,22nm,0.8s
I03D Drain, OR 77.65 48 P P 02 45 18.4 +1.7
baz=288,SNR=5.5
LON Longmire 77.70 45 *e*P P 02 45 18.0 +0.9
comp=Z,4.4nm,0.9s
K02D Willamette Mer 77.74 49 P P 02 45 18.8 +1.4
baz=288,SNR=5.7
H04D Lebanon 77.80 47 P P 02 45 19.2 +1.7
baz=289
L02E Cave Junction 77.96 49 P P 02 45 20.2 +1.7
baz=289
KCTM Capetown 77.97 51 *e*P P 02 45 21.6 +3.0
SHME Shamm 78.09 293 P P 02 45 20.4 +0.8
KEV Kevo 78.12 341 *e*P P 02 45 18.9 +0.1
comp=Z,38nm,0.7s
H04A Detroit Lake 78.12 47 *e*P P 02 45 20.6 +1.2
comp=Z,20nm,0.8s
MHTO MHTO 78.13 288 P P 02 45 19.5 -0.3
F05D White Salmon 78.21 45 P P 02 45 21.2 +1.4
baz=289
I04A Tendick Farm, 78.26 48 P P 02 45 21.3 +1.2
baz=289,SNR=7.7
HUMO Hull Mountain 78.27 49 *e*P P 02 45 22.1 +1.9
comp=Z,27nm,1.4s
MSFE Esma-Masafi 78.30 293 P P 02 45 21.1 +0.4
SOHO SOHO 78.37 291 P P 02 45 21.0 0.0
SNR=5.7
HATD Hatta, Dubai 78.49 292 *i* P P 02 45 21.7 0.0
SNR=7.5
G05D Wamic, OR 78.52 46 P P 02 45 22.8 +1.3
baz=290
ASHO Ashiyiah 78.60 292 P P 02 45 22.2 -0.1
J04D Umpqua Nationa 78.65 48 P P 02 45 23.8 +1.3
baz=289,SNR=9.5
ARCES ARCESS Array B 78.68 341 P P 02 45 22.1 +0.1
comp=Z,48nm,0.7s,baz=70,slow=7.8,SNR=146
ARE0 ARCESS Array S 78.68 341 *e*P P 02 45 22.2 +0.3
comp=Z,2.6nm,0.8s
ARE0 ARCESS Array S 78.68 341 *e*P P 02 45 22.1 +0.3
YBH Yreka Blue Hor 78.72 50 *e*P P 02 45 24.5 +1.7
comp=Z,12nm,0.8s
M02C Callahan 78.73 50 P P 02 45 24.6 +1.7
baz=289,SNR=7.6
B08A Colville Reser 78.75 42 *e*P P 02 45 23.8 +1.1
comp=Z,19nm,0.7s
I05D Terrebonne, OR 78.81 47 P P 02 45 24.1 +1.0
baz=290
NAZ Nazwa, Dubai 78.84 292 P P 02 45 23.4 -0.2
L04D Klamath Falls 78.85 49 P P 02 45 24.9 +1.4
baz=289,SNR=10.0
N02D Trinity Center 78.98 50 P P 02 45 25.9 +1.8
baz=289,SNR=6.4
WDC Whiskeytown Da 79.23 51 *e*P P 02 45 26.8 +1.4
comp=Z,13nm,1.1s
J05D Fort Rock, OR 79.23 48 P P 02 45 27.1 +1.5
baz=290,SNR=23
PINE Pine Mountain 79.26 47 *e*P P 02 45 27.6 +1.8
comp=Z,43nm,0.8s
HAWA Hanford 79.30 44 *e*P P 02 45 27.1 +1.4
comp=Z,15nm,1.0s
M04C Macdoel 79.32 49 P P 02 45 27.4 +1.4
baz=290,SNR=10
D08A Wollman Farm, 79.46 44 *e*P P 02 45 27.7 +1.2
comp=Z,24nm,1.0s
E08A Dider Farm, El 79.57 44 *e*P P 02 45 28.6 +1.4
comp=Z,8.9nm,0.8s
C09A Chrisman Ranch 79.61 43 *e*P P 02 45 28.4 +1.1
comp=Z,20nm,0.9s
KTK1 Kautokeino 79.65 341 *e*P P 02 45 27.0 -0.1
K05A Summer Lake 79.66 48 *e*P P 02 45 29.4 +1.4
comp=Z,25nm,1.0s
O03E Paynes Creek 79.85 51 P P 02 45 29.6 +0.7
baz=290,SNR=7.3
VRH Novokhopyorsk 80.02 321 *e*P P 02 45 29.2 -0.2
VRH pmax pmax
comp=Z,30nm,0.8s
G08A Pilot Rock 80.07 45 *e*P P 02 45 31.0 +1.1
comp=Z,6.1nm,0.8s
I07A Izee 80.13 47 *e*P P 02 45 31.4 +1.1
comp=Z,6.3nm,0.9s
E09A Wood Farm, Sta 80.15 44 *e*P P 02 45 31.6 +1.4
comp=Z,20nm,0.8s
NEW Newport 80.16 42 *e*P P 02 45 31.4 +1.1
comp=Z,20nm,0.9s
NEW Newport 80.16 42 P P 02 45 31.3 +0.9
baz=292
NEW Newport 80.16 42 P P 02 45 31.2 +0.9
comp=Z,18nm,0.8s,baz=290,slow=4.8,SNR=27
ORV Oroville 80.33 51 *e*P P 02 45 32.4 +1.1
comp=Z,16nm,1.1s
MOD Modoc Plateau 80.36 49 *e*P P 02 45 32.7 +1.0
comp=Z,7.9nm,1.0s
GROC Groznyy 80.40 313 *e*P P 02 45 30.6 -1.0
GROC *e*PP pwP 02 46 40.4 -1.1
GROC *e*SP sP 02 47 13.3 +6.3
GROC *e* 02 48 41.4
GROC pmax pmax
comp=Z,30nm,0.6s
MOS Moscow 80.44 326 *e*P P 02 45 29.8 -1.8
MOS pmax pmax
comp=Z,40nm,0.7s
TRO Tromso 80.50 343 *e*P P 02 45 31.1 -0.4
DAG Danmarks Havn 80.90 356 *i* P P 02 45 32.8 -0.8
DAG pmax pmax
comp=Z,30nm,0.6s
DAG Danmarks Havn 80.90 356 *i* P P 02 45 32.8 -0.8
comp=Z,45nm,0.6s
AFDM Forest Hills D 80.92 52 *e*P P 02 45 35.8 +1.3
comp=Z,21nm,1.5s
F10A Beach Ranch, E 80.95 44 *e*P P 02 45 35.8 +1.2
comp=Z,17nm,1.4s
BEKR Beckworth 81.04 51 *e*P P 02 45 36.5 +1.2
comp=Z,16nm,0.8s
LPSR Galich'ya Gora 81.06 323 *e*P P 02 45 34.7 -0.1
LPSR pmax pmax
comp=Z,90nm,1.3s
J08A Circle Bar Ran 81.09 47 *e*P P 02 45 36.1 +0.7
comp=Z,20nm,0.8s
OBN Obninsk 81.26 326⇓*e*P P 02 45 35.3 -0.5
OBN *e* 02 47 08.7
OBN pmax pmax
comp=Z,35nm,1.0s
BMO Blue Mountains 81.32 45 *e*P P 02 45 37.5 +1.0
WVOR Wild Horse Val 81.32 48 *e*P P 02 45 37.7 +1.0
comp=Z,12nm,0.9s
VSR Storozhevoye 81.49 322 *e*P P 02 45 36.0 -1.2
VSR pmax pmax
comp=Z,60nm,0.7s
TBLG Delisi 81.66 312 *e*P P 02 45 39.0 +0.7
comp=Z,18nm,0.6s
CMB Columbia Colle 81.68 52 *e*P P 02 45 39.5 +1.0
comp=Z,22nm,0.7s
VCNR Virginia City 81.76 51 *e*P P 02 45 40.6 +1.5
comp=Z,5.6nm,0.8s
NCK Nalchik 81.78 314 *i* P P 02 45 39.0 +0.1
NCK pmax pmax
comp=Z,47nm,1.2s
PAHR Pah Rah Range 81.80 51 *e*P P 02 45 40.4 +1.2
comp=Z,7.8nm,1.0s
ZEI Tsey 81.84 313 *e*P P 02 45 36.0 -3.5
ZEI pmax pmax
comp=Z,33nm,0.6s
PNTR Pine Nut 81.87 51 *e*P P 02 45 41.3 +1.6
comp=Z,15nm,0.8s
KBZ Khabaz 82.16 314 P P 02 45 41.4 +0.6
comp=Z,92nm,0.8s,baz=115,slow=2.5,SNR=205
YERR Yerington 82.17 51 *e*P P 02 45 42.7 +1.4
comp=Z,15nm,0.9s
WAKR Walker 82.20 52 *e*P P 02 45 42.9 +1.5
comp=Z,12nm,0.8s
KIV Kislovodsk 82.21 314 *e*P P 02 45 41.6 +0.4
comp=Z,58nm,0.9s
KIV Kislovodsk 82.21 314⇑*i*P P 02 45 41.6 +0.4
KIV Kislovodsk 82.21 314 *i* P P 02 45 41.8 +0.6
SNR=24
KIV Kislovodsk 82.21 314 *e*P P 02 45 41.4 +0.2
KIV pmax pmax
comp=Z,211nm,1.1s
KIV Kislovodsk 82.21 314 P P 02 45 41.9 +0.6
SNR=18
GNI Garni 82.25 310 *e*P P 02 45 42.8 +1.2
comp=Z,52nm,1.4s
GNI Garni 82.25 310*ce*P P 02 45 40.8 -0.8
GNI pmax pmax
comp=Z,76nm,1.2s
GNI Garni 82.25 310 P P 02 45 42.2 +0.7
comp=Z,14nm,0.9s,baz=171,slow=9.9,SNR=6.3
NEY Neytrino 82.46 314 *i* P P 02 45 43.1 +0.5
NEY pmax pmax
comp=Z,7.0nm,0.7s
PAGB Antelope Grade 82.62 55 *e*P P 02 45 45.1 +1.7
comp=Z,18nm,0.7s
STEI Steigen 82.63 342 *e*P P 02 45 42.4 -0.3
AKH Akhalkalaki 82.65 312 *e*P P 02 45 44.7 +1.1
comp=Z,64nm,0.9s
AKH Akhalkalaki 82.65 312⇑*i*P P 02 45 44.7 +1.1
MSO Missoula 82.70 42 *e*P P 02 45 44.1 +0.4
comp=Z,4.9nm,0.9s
MSO Missoula 82.70 42 P P 02 45 44.3 +0.6
baz=294
MDPB Devils Postpil 82.79 52 *e*P P 02 45 46.0 +1.5
comp=Z,9.5nm,1.0s
RYN Ryan 82.82 51 *e*P P 02 45 45.7 +1.2
comp=Z,13nm,0.9s
OMMB Old Mammoth Mi 82.85 52 *e*P P 02 45 46.2 +1.3
comp=Z,8.1nm,1.0s
FIA1 FINESS Array S 82.94 334 *e*P P 02 45 43.0 -1.4
comp=Z,58nm,0.6s
FIA0 FINESS Array S 82.94 334 *e*P P 02 45 43.8 -0.7
FINES FINESS Array B 82.94 334 *i* P P 02 45 43.5 -0.9
FINES pmax pmax
comp=Z,46nm,0.5s
FINES FINESS Array B 82.94 334 P P 02 45 43.8 -0.7
comp=Z,46nm,0.5s,baz=65,slow=5.0,SNR=294
KVN Kaiserville 82.97 51 *e*P P 02 45 46.3 +1.0
comp=Z,34nm,1.4s
MLAC Mammoth, Mammo 82.97 52 P P 02 45 46.5 +1.1
baz=292
VOG Valley Oaks Go 83.05 54 P P 02 45 46.3 +0.7
baz=292
NV01 Mina Array Sit 83.06 51 *e*P P 02 45 46.9 +1.1
NVAR Mina Array Bea 83.06 51 P P 02 45 46.9 +1.1
comp=Z,19nm,0.7s,baz=270,slow=5.6,SNR=139
BMN Battle Mountai 83.06 49 *e*P P 02 45 47.0 +1.3
comp=Z,10nm,0.6s
NV11 Mina Array Sit 83.16 51 *e*P P 02 45 47.3 +1.0
comp=Z,0.8nm,0.8s
PKM Mcpherson Peak 83.26 55 P P 02 45 48.0 +1.1
baz=292
VES Vestal, Richgr 83.46 54 P P 02 45 48.4 +0.8
baz=292
TIN Tinemaha, Big 83.63 53 P P 02 45 49.9 +1.2
baz=293
HLID Hailey 83.74 46 *e*P P 02 45 50.2 +1.1
comp=Z,11nm,1.0s
HLID Hailey 83.74 46 P P 02 45 50.1 +0.9
baz=294
BATM Batumi 83.81 312⇑*i*P P 02 45 49.7 +0.4
BCA Borcka 83.93 312⇑*i*P P 02 45 49.9 0.0
CWC Cottonwood Cre 83.98 53 P P 02 45 51.2 +0.7
baz=293
ISA Isabella, Lake 83.98 54 *e*P P 02 45 50.8 +0.4
comp=Z,7.5nm,0.9s
ISA Isabella, Lake 83.98 54 P P 02 45 50.4 0.0
baz=293
LRM Limekiln Ridge 84.06 43 *e*P P 02 45 51.6 +0.8
HRY Holter Researc 84.07 42 *e*P P 02 45 51.7 +1.0
DLMT Dillon 84.17 43 *e*P P 02 45 52.0 +0.8
comp=Z,11nm,0.7s
KONS Konsvik 84.21 342 *e*P P 02 45 51.1 +0.3
MCMT McKenzie Canyo 84.23 44 *e*P P 02 45 52.6 +1.0
GRAC Grapevine Rang 84.29 53 P P 02 45 53.0 +1.2
baz=293
VSU Vasula 84.32 332*ce*P P 02 45 49.6 -1.8
VSU pmax pmax
comp=Z,104nm,0.9s
VSU Vasula 84.32 332 *e*P P 02 45 50.2 -1.2
VSU IAmb IAmb 02 45 51.2
comp=Z,98nm,0.8s
ELK Elko 84.33 48 *e*P P 02 45 53.3 +1.1
comp=Z,35nm,1.2s
DAC Darwin (Calif) 84.41 53 *e*P P 02 45 55.5 +2.9
comp=Z,15nm,1.3s
MPMC Manual Prospec 84.57 53 P P 02 45 54.3 +0.9
baz=293,SNR=17
DECC Green Verdugo 84.63 55 P P 02 45 54.1 +0.5
baz=293
EDW2 Edwards Air Fo 84.65 55 P P 02 45 54.6 +1.0
baz=293,SNR=7.5
LRMC Laurel Mtn Rad 84.65 54 P P 02 45 54.6 +0.8
baz=293,SNR=16
BOZ Bozeman (W) 84.68 43 *e*P P 02 45 54.6 +0.9
comp=Z,18nm,0.6s
BOZ Bozeman (W) 84.68 43 P P 02 45 54.7 +0.9
baz=296
EGMT Eagleton 84.75 40 *e*P P 02 45 54.6 +0.6
comp=Z,25nm,1.0s
EGMT Eagleton 84.75 40 P P 02 45 54.5 +0.5
baz=297
MWC Mount Wilson 84.85 55 *e*P P 02 45 55.6 +0.7
comp=Z,11nm,0.9s
FURC Furnace Creek, 84.87 53 P P 02 45 55.7 +1.1
baz=293,SNR=15
R11A Troy Canyon, C 85.05 51 P P 02 45 56.8 +1.0
baz=294,SNR=16
TPNV Topopah Spring 85.13 52 P P 02 45 56.9 +0.7
baz=294,SNR=15
QLMT Earthquake Lak 85.14 43 *e*P P 02 45 57.6 +1.5
YHB Horse Butte 85.33 43 *e*P P 02 45 59.1 +2.0
comp=Z,29nm,0.7s
GSC Goldstone, Bar 85.38 54 *e*P P 02 45 58.2 +0.9
comp=Z,22nm,1.1s
GSC Goldstone, Bar 85.38 54 P P 02 45 58.1 +0.8
baz=294,SNR=11
YMR Madison River 85.51 43 *e*P P 02 46 00.2 +2.2
comp=Z,43nm,0.7s
YHH Holmes Hill 85.53 43 *e*P P 02 46 00.0 +1.9
comp=Z,28nm,1.4s
SHOC Shoshone, Teco 85.54 53 P P 02 45 58.7 +0.7
baz=294
HVU Hansel Valley 85.58 47 *e*P P 02 45 59.5 +1.2
comp=Z,12nm,0.8s
FFC Flin Flon 85.67 32 *e*P P 02 45 58.8 +0.6
comp=Z,25nm,0.8s
FFC Flin Flon 85.67 32 *i* P P 02 45 58.8 +0.6
YNR Norris Junctio 85.67 43 *e*P P 02 46 01.5 +2.7
comp=Z,22nm,1.0s
YFT Old Faithful 85.69 44 *e*P P 02 46 02.1 +3.2
comp=Z,16nm,0.8s
SUMG Summit 85.73 0 *e*P P 02 45 59.1 +0.4
comp=Z,21nm,0.6s
SUMG Summit 85.73 0⇑*i*P P 02 45 59.4 +0.7
SUMG pmax pmax

comp=Z,52nm,0.6s
SUMG **Summit** 85.73 0⇑*i*P P 02 45 59.4 +0.7
comp=Z,52nm,0.6s
MURC **Murrieta** 85.76 56 P P 02 45 59.5 +0.3
baz=294
BGU **Big Grassy Mou** 85.77 48 *e*P P 02 46 00.2 +0.9
comp=Z,9.1nm,0.8s
YPP **Pitchstone Pla** 85.79 44 *e*P P 02 46 02.4 +3.0
comp=Z,5.7nm,1.0s
GCMT **Greycliff** 85.82 42 *e*P P 02 46 00.6 +1.2
IMW **Indian Meadow** 85.87 44 *e*P P 02 46 01.6 +1.7
comp=Z,14nm,0.8s
H17A **Grant Village** 85.88 44 *e*P P 02 46 03.5 +3.6
comp=Z,11nm,0.8s
H17A **Grant Village** 85.88 44 P P 02 46 02.4 +2.6
baz=297
LKWY **Lake** 85.92 43 *e*P P 02 46 03.2 +3.2
comp=Z,15nm,0.8s
HEC **Hector,Ludlow** 85.92 54 P P 02 46 00.8 +0.8
baz=294
FXWY **Fox Creek** 85.93 44 *e*P P 02 46 01.4 +1.3
comp=Z,9.3nm,1.0s
FLWY **Flagg Ranch** 85.94 44 *e*P P 02 46 02.2 +2.1
comp=Z,21nm,0.8s
NSS **Namsos** 85.95 341 *e*P P 02 45 58.4 -1.0
TUQ **Turquoise Moun** 85.98 53 P P 02 46 01.3 +1.0
baz=294,SNR=15
SPUT **South Promonto** 86.00 47 *e*P P 02 46 01.9 +1.5
comp=Z,14nm,0.9s
IZAR **Zarasai** 86.04 330 *e*P P 02 45 58.7 -1.3
IZAR IAmb IAmb 02 46 00.8
comp=Z,14nm,0.7s
TPAW **Teton Pass** 86.04 45 *e*P P 02 46 01.8 +1.1
comp=Z,6.6nm,0.7s
IDID **Didziasalis** 86.05 329 *e*P P 02 45 58.8 -1.2
IDID IAmb IAmb 02 46 00.9
comp=Z,10nm,1.0s
CPE **Camp Elliot** 86.11 56 *e*P P 02 46 01.8 +1.0
comp=Z,17nm,1.0s
SHPR **Sheep Range** 86.11 52 *e*P P 02 46 02.6 +1.6
comp=Z,14nm,0.8s
PSUT **Pine Spring** 86.21 50 *e*P P 02 46 02.6 +1.1
comp=Z,20nm,1.1s
LOHW **Long Hollow** 86.21 44 *e*P P 02 46 02.4 +1.0
comp=Z,6.6nm,1.1s
DUG **Dugway, Tooele** 86.24 48 *e*P P 02 46 02.5 +1.0
comp=Z,21nm,0.8s
DUG **Dugway, Tooele** 86.24 48 P P 02 46 02.4 +1.0
baz=296
AHID **Auburn Hatcher** 86.27 45 *e*P P 02 46 02.8 +1.1
comp=Z,11nm,1.0s
IIGN **Ignalina** 86.28 329 *e*P P 02 45 60.0 -1.2
IIGN IAmb IAmb 02 46 01.2
comp=Z,5.5nm,0.7s
PFO **Pinyon Flats O** 86.32 55 *e*P P 02 46 02.8 +0.7
comp=Z,20nm,0.8s
PFO **Pinyon Flats O** 86.32 55 P P 02 46 02.7 +0.7
baz=294,SNR=13
RLMT **Red Lodge** 86.38 43 *e*P P 02 46 03.7 +1.5
comp=Z,26nm,0.6s
RLMT **Red Lodge** 86.38 43 P P 02 46 03.6 +1.4
baz=298
GMRC **Granite Mounta** 86.45 54 P P 02 46 03.5 +0.9
baz=294,SNR=18
HWUT **Hardware Ranch** 86.47 46 *e*P P 02 46 03.8 +1.2
comp=Z,11nm,1.0s
BELC **Belle Mtn. Jos** 86.51 55 P P 02 46 03.4 +0.5
baz=294,SNR=10
BAR **Barrett** 86.53 56 *e*P P 02 46 03.7 +0.8
comp=Z,8.0nm,0.8s
MONP2 **Monument Peak** 86.64 56 P P 02 46 04.3 +0.6
baz=294,SNR=10
LDFC **Landfair** 86.74 54 *e*P P 02 46 05.0 +1.0
comp=Z,34nm,0.8s
CTU **Camp Tracy** 86.75 47 *e*P P 02 46 05.0 +1.0
comp=Z,13nm,1.0s
TCUT **Toone Canyon** 86.79 47 *e*P P 02 46 05.3 +1.0
comp=Z,11nm,0.8s
NLU **North Lily Min** 86.85 48 *e*P P 02 46 05.7 +1.1
comp=Z,10nm,0.8s
FCC **Fort Churchill** 86.86 26 *e*P P 02 46 04.0 +0.1
comp=Z,18nm,0.8s
IKP **In-Ko-Pah, Jac** 86.97 56 P P 02 46 05.9 +0.7
baz=294,SNR=5.4
CCUT **Cedar City** 86.98 51 *e*P P 02 46 06.8 +1.5
comp=Z,4.7nm,0.8s
JLU **Jordanelle** 86.99 47 *e*P P 02 46 06.4 +1.1
comp=Z,14nm,1.1s
BC3 **Big Chuckawall** 87.06 55 P P 02 46 06.5 +0.9
baz=294,SNR=22
IRM **Iron Mountain** 87.09 54 P P 02 46 06.6 +1.0
baz=295,SNR=8.4
SWSC **Sam W. Stewart** 87.09 56 P P 02 46 06.2 +0.6
baz=294,SNR=5.3
MPU **Maple Canyon** 87.13 48 *e*P P 02 46 06.7 +0.9
comp=Z,8.8nm,0.9s
NEE2 **Needles Airpor** 87.23 54 P P 02 46 07.1 +0.8
baz=295
PABE **Paberze** 87.24 330 *e*P P 02 46 04.7 -1.1
PABE IAmb IAmb 02 46 06.2
comp=Z,30nm,0.7s
AKASG **Malin Array Be** 87.28 324 *i*P P 02 46 04.6 -1.4
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG **Malin Array Be** 87.28 324 P P 02 46 04.7 -1.4
comp=Z,7.2nm,0.6s,baz=49,slow=5.4,SNR=37
AKBB **Malin Array Si** 87.28 324 *e*P P 02 46 04.7 -1.3
comp=Z,13nm,0.7s
BW06 **Boulder Array** 87.28 45 *e*P P 02 46 07.0 +0.4
comp=Z,2.5nm,0.8s
BW06 **Boulder Array** 87.28 45 P P 02 46 06.9 +0.3
baz=298
PD31 **Pinedale Array** 87.28 45 *e*P P 02 46 06.9 +0.3
comp=Z,2.2nm,0.8s
PDAR **Pinedale Array** 87.28 45 P P 02 46 06.6 0.0
comp=Z,2.0nm,0.7s,baz=224,slow=2.0,SNR=16
KIEV **Kiev** 87.29 324⇑*i*P P 02 46 04.6 -1.5
KIEV **Kiev** 87.29 324 *i*P P 02 46 04.8 -1.3
SNR=7.5
KIEV **Kiev** 87.29 324 *i*P P 02 46 03.7 -2.4
KIEV pmax pmax
comp=Z,9.0nm,0.8s
LCMT **Little Creek M** 87.30 51 *e*P P 02 46 08.1 +1.5
comp=Z,11nm,0.8s
SIM **Simferopol'** 87.32 318*de*P P 02 46 05.5 -0.9
SIM pmax pmax
comp=Z,22nm,0.8s
MSU **Marysvale** 87.41 49 *e*P P 02 46 08.5 +1.2
LAO **LASA Array** 87.50 40 *e*P P 02 46 08.6 +1.3
comp=Z,24nm,0.9s
LAO **LASA Array** 87.50 40 P P 02 46 08.2 +0.9
baz=300
KNB **Kanab** 87.60 51 *e*P P 02 46 09.9 +1.8
comp=Z,29nm,0.9s
MTPU **Mount Pierson** 87.61 50 *e*P P 02 46 10.0 +1.6
comp=Z,4.1nm,0.8s
Y12C **Blythe** 87.73 55 *e*P P 02 46 09.7 +1.1
comp=Z,16nm,1.0s
Y12C **Blythe** 87.73 55 P P 02 46 09.6 +1.1
baz=295,SNR=8.4
TMUT **Trail Mountain** 87.74 48 *e*P P 02 46 10.0 +1.1
comp=Z,5.8nm,0.8s
DGMT **Dagmar** 87.78 38 P P 02 46 08.8 +0.2
baz=301
PDMCI **Parker Dam,Lak** 87.79 54 P P 02 46 09.8 +1.0
baz=295
SEVA **Sevastopol** 87.79 318⇑*i*P P 02 46 07.5 -1.1
GLA **Glamis** 87.79 55 *e*P P 02 46 10.3 +1.3
comp=Z,24nm,0.8s
GLA **Glamis** 87.79 55 P P 02 46 10.1 +1.1
baz=295,SNR=7.4
Q16A **Castle Valley** 87.94 49 *e*P P 02 46 11.2 +1.5
comp=Z,13nm,0.7s
P17A **Butcher Ranch,** 87.99 48 *e*P P 02 46 11.1 +1.2
comp=Z,13nm,0.8s
U15A **North Rim** 88.24 51 *e*P P 02 46 12.8 +1.5
comp=Z,13nm,1.3s
SRU **San Rafael Swe** 88.30 48 *e*P P 02 46 12.1 +0.7
comp=Z,17nm,0.7s
NC405 **NORSAR Array S** 88.49 339 *e*P P 02 46 10.3 -1.2
comp=Z,60nm,0.8s
NC303 **NORSAR Array S** 88.52 339 *e*P P 02 46 10.8 -0.9
comp=Z,35nm,0.9s
DOMB **Dombas** 88.67 340 *e*P P 02 46 11.7 -0.8
NB201 **NORSAR Array S** 88.67 339 *e*P P 02 46 11.1 -1.4
comp=Z,28nm,0.6s
NC204 **NORSAR Array S** 88.69 339 *e*P P 02 46 11.8 -0.8
comp=Z,48nm,0.8s
NB2 **NORSAR Subarra** 88.71 339 P P 02 46 11.2 -1.4
comp=Z,18nm,0.8s,baz=45,slow=5.1
NB2 **NORSAR Subarra** 88.71 339 P P 02 46 11.2 -1.4
baz=45,slow=5.1
NB200 **NORSAR Array S** 88.71 339 *e*P P 02 46 11.3 -1.4
NOA **NORSAR Array B** 88.71 339 P P 02 46 11.3 -1.4
comp=Z,13nm,0.7s,baz=51,slow=4.2,SNR=58
113A **Mohawk Valley,** 88.72 55 *e*P P 02 46 14.1 +0.8
comp=Z,8.6nm,0.7s
Y14A **Wickenburg** 88.80 54 *e*P P 02 46 14.8 +1.1
comp=Z,15nm,0.7s
NC602 **NORSAR Array S** 88.82 338 *e*P P 02 46 11.2 -1.8
comp=Z,22nm,0.9s
NAO01 **NORSAR Array S** 88.96 339 *e*P P 02 46 12.6 -1.2
comp=Z,26nm,0.8s
AKN **Aaknes** 89.20 341 *e*P P 02 46 14.8 -0.1
K22A **Casper** 89.30 44 *e*P P 02 46 16.7 +0.7
comp=Z,7.0nm,0.8s
WUAZ **Wupatki** 89.31 52 *e*P P 02 46 17.7 +1.6
comp=Z,8.3nm,0.8s
WUAZ **Wupatki** 89.31 52 P P 02 46 17.3 +1.2
baz=297
O20A **White River Ci** 89.39 47 *e*P P 02 46 16.4 -0.1
comp=Z,13nm,0.8s
O20A **White River Ci** 89.39 47 P P 02 46 17.0 +0.5
baz=298
PV09 **Paradox Valley** 89.55 48 *e*P P 02 46 18.5 +1.1
PV21 **Cone Mtn., Par** 89.63 48 *e*P P 02 46 18.9 +1.2
comp=Z,18nm,1.0s
PV23 **Carpenter Ridg** 89.65 48 *e*P P 02 46 18.9 +1.1
comp=Z,24nm,0.8s
PV10 **Paradox Valley** 89.67 48 *e*P P 02 46 19.5 +1.6
comp=Z,24nm,0.9s
PV14 **Lion Creek, Pa** 89.68 48 *e*P P 02 46 18.7 +0.8
comp=Z,26nm,0.7s
PV20 **West Nyswonger** 89.73 48 *e*P P 02 46 19.1 +1.0
comp=Z,19nm,0.9s
PV19 **Morning Glory** 89.74 48 *e*P P 02 46 19.2 +1.1
comp=Z,24nm,0.9s
X16A **Lo Mia Camp, P** 89.75 53 *e*P P 02 46 19.6 +1.3
comp=Z,11nm,1.5s
PV04 **Paradox Valley** 89.75 48 *e*P P 02 46 19.3 +1.1
comp=Z,13nm,0.9s
PV05 **Paradox Valley** 89.77 49 *e*P P 02 46 19.4 +1.1
comp=Z,14nm,0.9s
PV17 **East Wray Mesa** 89.77 48 *e*P P 02 46 19.3 +1.0
comp=Z,21nm,0.8s
PV22 **Blue Mesa, Par** 89.77 48 *e*P P 02 46 19.2 +0.9
comp=Z,6.0nm,1.1s
PV16 **Nyswonger Mesa** 89.78 48 *e*P P 02 46 19.2 +0.8
comp=Z,17nm,0.9s
214A **Organ Pipe Nat** 89.80 56 P P 02 46 19.5 +1.1
baz=296
PV18 **Skein Mesa, Pa** 89.82 48 *e*P P 02 46 19.5 +0.9
comp=Z,15nm,0.8s
PV11 **David Mesa, Pa** 89.82 48 *e*P P 02 46 19.6 +1.0
comp=Z,20nm,0.7s
PV03 **Paradox Valley** 89.86 48 *e*P P 02 46 19.6 +0.9
comp=Z,18nm,1.1s
PV12 **Saucer Basin,** 89.86 48 *e*P P 02 46 19.7 +1.0
comp=Z,18nm,1.0s
PV07 **Paradox Valley** 89.91 48 *e*P P 02 46 20.2 +1.2
comp=Z,9.8nm,1.2s
PV13 **Radium Mtn., P** 89.92 49 *e*P P 02 46 19.9 +0.8
comp=Z,13nm,0.7s
PV02 **Paradox Valley** 89.96 48 *e*P P 02 46 19.9 +0.6
comp=Z,12nm,0.8s
PV01 **Paradox Valley** 90.11 48 *e*P P 02 46 20.8 +0.8
comp=Z,9.3nm,0.7s
RSSD **Black Hills** 90.12 42 *e*P P 02 46 20.2 +0.3
comp=Z,11nm,0.6s
RSSD **Black Hills** 90.12 42 P P 02 46 20.0 +0.2
baz=301
BR101 **Keskin Array S** 90.13 313 *e*P P 02 46 18.6 -1.3
BR131 **Keskin Array S** 90.13 313 *e*P P 02 46 18.7 -1.2
comp=Z,8.2nm,0.8s
BR131 **Keskin Array S** 90.13 313 P P 02 46 18.9 -1.0
SNR=9.3
BRTR **Keskin Array B** 90.14 313 P P 02 46 18.6 -1.3
comp=Z,6.0nm,0.8s,baz=89,slow=3.0,SNR=45
TLCR 90.44 320⇑*i*P P 02 46 19.9 -1.0
N23A **Red Feather La** 90.55 45 *e*P P 02 46 23.4 +1.4
comp=Z,20nm,0.9s
N23A **Red Feather La** 90.55 45 P P 02 46 23.1 +1.2
baz=300
MVCO **Mesa Verde** 90.59 49 *e*P P 02 46 23.1 +0.9
comp=Z,14nm,1.4s
MVCO **Mesa Verde** 90.59 49 P P 02 46 22.8 +0.6
baz=298
W18A **Petrified Fore** 90.68 52 *e*P P 02 46 23.7 +1.1
comp=Z,4.5nm,0.6s
W18A **Petrified Fore** 90.68 52 P P 02 46 23.5 +0.9
baz=298
SMCO **Snowmass** 90.70 47 *e*P P 02 46 23.7 +0.9
comp=Z,13nm,0.8s
X18A **Snowflake** 90.80 52 *e*P P 02 46 24.6 +1.4
comp=Z,6.6nm,0.6s
TESR **Tescani** 90.99 322⇑*i*P P 02 46 22.9 -0.6
BIZ **Bicaz** 91.06 322⇑*i*P P 02 46 22.9 -0.9
BUR08 **Bucovina Ar. S** 91.17 323 *e*P P 02 46 23.8 -0.7
comp=Z,5.5nm,0.8s
TUC **Tucson** 91.18 54 *e*P P 02 46 26.5 +1.7
comp=Z,7.6nm,1.2s
TUC **Tucson** 91.18 54 P P 02 46 26.0 +1.2
baz=297
TLB **Topalu** 91.22 320⇑*i*P P 02 46 23.8 -0.8
ULM **Lac du Bonnet** 91.29 33 P P 02 46 24.3 -0.5
comp=Z,6.1nm,0.8s,baz=246,slow=5.2,SNR=5.7
VRI **Vrincioaia** 91.30 321⇑*i*P P 02 46 24.6 -0.4
ISCO **Idaho Springs** 91.31 46 *e*P P 02 46 26.8 +1.2
comp=Z,9.1nm,0.8s
ISCO **Idaho Springs** 91.31 46 P P 02 46 26.5 +0.9
baz=300
ASF **Jabal al Asfar** 91.32 305 P P 02 46 24.7 -0.8
comp=Z,3.1nm,0.8s,baz=321,slow=1.3,SNR=6.6
KWP **Kalwaria Pacla** 91.34 326 *e*P P 02 46 23.9 -1.2
KWP **Kalwaria Pacla** 91.34 326 *e*P P 02 46 24.7 -0.4
comp=Z,162nm,1.2s
KWP **Kalwaria Pacla** 91.34 326 *e*P P 02 46 23.9 -1.2
BSD **Bornholm Skovb** 91.49 333 *i*P P 02 46 24.1 -1.5
BSD **Bornholm Skovb** 91.49 333 *i*P P 02 46 24.1 -1.5
S22A **4UR Ranch, Cre** 91.50 48 *e*P P 02 46 27.8 +1.3
comp=Z,5.8nm,0.8s
S22A **4UR Ranch, Cre** 91.50 48 P P 02 46 27.3 +0.9
baz=299
DOPR **Dopca** 92.02 322⇓*i*P P 02 46 27.8 -0.5
Q24A **Divide** 92.04 46 P P 02 46 29.6 +0.6
baz=300
MMAI **Mount Meron Ar** 92.06 307 P P 02 46 28.1 -0.8
comp=Z,5.7nm,0.8s,baz=13,slow=4.4,SNR=9.9
TRPA **Tarpa** 92.33 325⇑*i*P P 02 46 29.1 -0.5
SDCO **Great Sand Dun** 92.42 48 *e*P P 02 46 31.4 +0.7
comp=Z,6.0nm,1.1s
SDCO **Great Sand Dun** 92.42 48 P P 02 46 31.2 +0.5
baz=300
OJC **Ojcow** 92.47 327 *e*P P 02 46 29.2 -1.0
OJC **Ojcow** 92.47 327 *e*P P 02 46 29.2 -1.0
AGMN **Agassiz Nation** 92.48 35 P P 02 46 31.0 +0.7
baz=307
NIE **Niedzica** 92.72 327 *e*P P 02 46 31.1 -0.4
NIE **Niedzica** 92.72 327 *e*P P 02 46 31.1 -0.4
DRGR 93.04 324⇓*i*P P 02 46 31.9 -1.2
TASM **ASL Pad, Albuq** 93.13 50 P P 02 46 34.6 +0.7
baz=300
TASM **ASL Pad, Albuq** 93.13 50 P P 02 46 34.6 +0.7
baz=300
ANMO **Albuquerque** 93.13 50 *e*P P 02 46 35.0 +1.1
comp=Z,4.1nm,0.9s
ANMO **Albuquerque** 93.13 50 *i*P P 02 46 31.1 -2.8
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO **Albuquerque** 93.13 50 P P 02 46 34.6 +0.7
baz=300
121A **Cookes Peak, D** 93.33 53 P P 02 46 35.9 +1.1
baz=299
T25A **Trinidad** 93.47 48 P P 02 46 36.1 +0.6
baz=301
KSP **Ksiaz** 93.77 329 *e*P P 02 46 35.3 -0.9
KSP **Ksiaz** 93.77 329 *e*P P 02 46 35.3 -0.9
VYHS **Vyhne** 94.05 327 *e*P P 02 46 37.2 -0.4
VYHS pmax pmax
comp=Z,20nm,2.6s
VYHS **Vyhne** 94.05 327 *e*P P 02 46 37.2 -0.4
DPC **Dobruska-Polom** 94.08 329 *e*P P 02 46 37.0 -0.7
DPC **Dobruska-Polom** 94.08 329 *e*P P 02 46 37.0 -0.7
PVCC **Panska Ves** 94.79 330 *e*P P 02 46 40.1 -0.8
PVCC **Panska Ves** 94.79 330 *e*P P 02 46 40.1 -0.8
ECSD **EROS Data Cent** 94.80 39 P P 02 46 41.3 +0.2
baz=307
BRG **Berggiesshubel** 94.84 330 *e*P P 02 46 40.2 -0.9
comp=Z,6.7nm,1.2s
BRG **Berggiesshubel** 94.84 330 *e*P P 02 46 40.2 -0.9
BRG pmax pmax
comp=Z,7.0nm,1.2s
CLL **Collm** 94.96 331 *e*P P 02 46 41.0 -0.6
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL **Collm** 94.96 331 *e*P P 02 46 41.0 -0.6
comp=Z,9.0nm,1.1s
PRU **Pruhonice** 95.17 330 *e*P P 02 46 42.3 -0.3
PRU **Pruhonice** 95.17 330 *e*P P 02 46 42.3 -0.3
VTS **Vitosha** 95.22 320 *e*P P 02 46 41.7 -1.5
comp=Z,5.5nm,0.8s
VTS **Vitosha** 95.22 320⇑*i*P P 02 46 42.3 -0.9
MNTX **Cornudas Mount** 95.51 53 *e*P P 02 46 45.6 +1.0
comp=Z,3.2nm,1.0s
MNTX **Cornudas Mount** 95.51 53 P P 02 46 45.4 +0.8
baz=300
CBKS **Cedar Bluff** 95.70 44 P P 02 46 46.6 +1.2
baz=304
NKC **Novy Kostel** 95.97 331 *e*P P 02 46 45.3 -1.0
NKC **Novy Kostel** 95.97 331 *e*P P 02 46 45.3 -1.0
KHC **Kasperske Hory** 96.22 329 *e*P P 02 46 46.0 -1.4
KHC **Kasperske Hory** 96.22 329 *e*P P 02 46 46.0 -1.4
GERES **GERESS Array B** 96.35 329 P P 02 46 47.0 -1.2
comp=Z,1.3nm,0.6s,baz=39,slow=5.6,SNR=14
TX31 **Lajitas Ar. Si** 97.98 54 *e*P Pdif 02 46 56.9 +1.0
comp=Z,2.1nm,1.0s
LTX **Lajitas** 97.98 54 *e*P Pdif 02 46 56.5 +0.7
LTX *e*PKKPbc **PKKPbc** 03 03 28.6 +0.4
TXAR **Lajitas Array** 97.98 54 P Pdif 02 46 56.5 +0.7
comp=Z,1.6nm,0.9s,baz=310,slow=2.9,SNR=17
TXAR PKKPbc **PKKPbc** 03 03 28.6 +0.4
comp=Z,0.3nm,0.6s,baz=126,slow=6.4,SNR=6.3
MDT **Midelt** 117.44 330 PKP **PKiKP** 02 52 04.3 +0.4
comp=Z,1.9nm,0.7s,baz=329,slow=7.3,SNR=4.2
LSZ **Lusaka** 118.35 264 *e*PKPdif **PKiKP** 02 52 06.5 +0.4
LBTB **Lobatse** 123.04 254 PKP **PKPdf** 02 52 14.3 -0.4
comp=Z,6.0nm,0.5s,baz=138,slow=14,SNR=3.1
SNAA **Sanae** 126.55 193 P **PKPdf** 02 52 20.0 -0.1
SNAA **Sanae** 126.55 193 *e*PKPdif **PKPdf** 02 52 20.0 -0.1
SNAA **Sanae** 126.55 193 PKP **PKPdf** 02 52 19.9 -0.1
comp=Z,5.1nm,0.8s,baz=192,slow=3.9,SNR=24
VNA2 **Neumayer--Watz** 128.05 192 P **PKiKP** 02 52 23.2 -0.3
VNA3 **Neumayer Olymp** 128.20 191 P **PKPdf** 02 52 23.2 0.0
VNA1 **Neumayer--Stat** 128.44 192 P **PKiKP** 02 52 24.7 +0.5
TOA1 **Torodi Ar. Sit** 128.54 309 *e*PKPdif **PKPdf** 02 52 24.9 -0.5
TORD **Torodi Ar. Bea** 128.54 309 PKP **PKPdf** 02 52 24.9 -0.5
comp=Z,1.7nm,0.5s,baz=83,slow=1.3,SNR=19
SDV **Santo Domingo** 134.91 51 *e*PKPdif **PKPdf** 02 52 38.1 +0.3
MCLT **Moule a Chique** 137.45 36 *e* **PKPdf** 02 52 36.5 -5.7
DBIC **Dimbokro** 137.65 309 PKP **PKiKP** 02 52 43.8 -0.8
comp=Z,2.2nm,0.5s,baz=288,slow=0.5,SNR=4.6
GO06 **Curarrehue** 145.73 129 *e*PKPdif **PKPab** 02 52 59.3 +1.0
PLCA **Paso Flores** 145.96 131 PKPbc **PKPab** 02 52 58.9 -0.2
comp=Z,18nm,0.9s,baz=262,slow=3.9,SNR=25
ROC1 **El Roble** 147.91 117 *e*PKPbc **PKPbc** 02 53 03.3 -0.5
PEL **Peldehue** 148.15 118 *e*PKPbc **PKPbc** 02 53 03.9 -0.3
PEL **Peldehue** 148.15 118 *e*PKP2 **PKPbc** 02 53 03.9 -0.3
GO04 **Tololo Observa** 148.54 112 *e*PKPbc **PKPbc** 02 53 05.9 +0.4
PTGA **Pitinga** 149.19 50 *e*PKPdif **PKPdf** 02 53 03.5 +0.8
MNMC **Minye Minye** 149.28 91 *e*PKPbc **PKiKP** 02 53 08.4 -0.2
PB11 **IPOC Station P** 149.34 92 *e*PKPbc **PKiKP** 02 53 08.2 -0.4
AUSP **Uspallata** 149.41 117⇑*i*P **PKiKP** 02 53 08.8 +0.2
RTLS **Leoncito** 149.56 116⇑*i*P **PKiKP** 02 53 08.9 0.0
AROD **Rodeo** 149.68 113⇑*i*P **PKiKP** 02 53 09.6 +0.3
PB01 **IPOC Station P** 149.69 94 *e*PKPbc **PKiKP** 02 53 09.4 +0.1
ASAL **Salagasta** 149.79 117⇑*e*P **PKiKP** 02 53 09.0 -0.2
GO02 **Mina Guanaco** 149.89 103 *e*PKPbc **PKiKP** 02 53 09.9 +0.1
ACCO **Cerro Coronel** 149.97 113⇑*i*P **PKiKP** 02 53 09.8 -0.1
ACDV **Cuesta del Vie** 149.98 113⇑*i*P **PKiKP** 02 53 09.9 +0.2
LPAZ **La Paz** 149.99 85 PKP **PKPdf** 02 53 05.6 +1.0
comp=Z,9.1nm,1.1s,baz=309,slow=2.5,SNR=43
LPAZ PKPbc **PKiKP** 02 53 10.7 +0.1
comp=Z,20nm,0.6s,baz=291,slow=2.6,SNR=65
RTCV **Cerro Valdivia** 150.18 116⇑*e*P **PKiKP** 02 53 09.7 -0.2
LVC **Limon Verde** 150.39 97 *e*PKPbc **PKiKP** 02 53 11.7 +0.7
LVC **Limon Verde** 150.39 97 *e*PKIKP **PKiKP** 02 53 11.7 +0.7
AMOG **MOGNA** 150.40 114⇓*i*P **PKiKP** 02 53 10.7 +0.3
AGUA **GUANDACOL** 150.62 111⇑*e*P **PKiKP** 02 53 11.6 +0.7
VCA **Vinchina** 150.95 110⇑*e*P **PKiKP** 02 53 12.3 +0.6
ACAN **Cantantal** 151.22 117⇑*i*P **PKiKP** 02 53 12.1 +0.1
ACLC **CERRO LA CRUZ** 151.95 112⇓*i*P **PKiKP** 02 53 14.1 +0.3
CYA **Choya** 153.09 110⇑*i*P **PKiKP** 02 53 16.4 +0.4

IDC 21 02:34:28.4±7.2, 6°.19S×146°.86E, h130km±74km, mb3.4/2, mb1 3.5/4, mb1mx3.2/44, mbtmp3.8/4, Error ellipse: s-maj=89.3km s-min=52.9km az=129.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.21	175	P	Pn	02 35 18.0	+0.2
8.9nm,0.3s,baz=5.2,slow=5.4,SNR=10							
PMG				S	Sn	02 35 56.3	+0.4
11nm,0.3s,baz=30,slow=6.0,SNR=4.3							
WRA	**Warramunga Arr**	18.30	221	P	P	02 38 32.6	+0.1
0.3nm,0.3s,baz=42,slow=12,SNR=16							
ASAR	**Alice Springs**	21.38	214	P	P	02 39 05.8	0.0
1.0nm,0.5s,baz=42,slow=8.0,SNR=14							
FITZ	**Fitzroy Crossi**	23.84	238	P	P	02 39 28.8	-1.1
1.7nm,0.3s,baz=48,slow=11,SNR=23							
TORD	**Torodi Ar. Bea**	145.00	284	PKPbc	PKPbc	02 53 50.8	-0.2
0.8nm,1.1s,baz=60,slow=3.1,SNR=2.4							

*IDC **21** 02:38:28.4±1.4, 52°.22N×160°.65E, h0km, mb4.2/18, mb1 4.4/19, mb1mx4.1/60, mbtmp4.2/19, ML3.3/1, Error ellipse: s-maj=35.6km s-min=22.3km az=161.0*
*KRSC **21** 02:38:29.2±10.0, 52°.13N×160°.79E, h75km±10km, ML4.3*
*ISCJB **21** 02:38:31.2±0.7, 52°.13N±0°.04×160°.79E±0°.06, h34km±5km, mb4.2/20, Error ellipse: s-maj=8.4km s-min=4.3km az=137.8*
*MOS **21** 02:38:31.2±0.9, 52°.12N×160°.79E, h39km, mb4.6/4, Error ellipse: s-maj=8.7km s-min=4.6km az=107.5*
*NEIC **21** 02:38:34.1±0.8, 52°.31N×160°.67E, h35km, mb4.6/4, Error ellipse: s-maj=21.2km s-min=10.8km az=10.0*

ISC 21 02:38:31.8±1.1, 52°.13N±0°.05×160°.83E±0°.05, h30km±7km, n123, σ1°34/152, mb4.3/20, 13C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	1.09	333	*e*P	Pn	02 38 49.5	-1.6
SPN				*e*S	Sn	02 39 02.8	-2.3
SPN	**Mys Shipunski**	1.09	333	PN	Pn	02 38 49.5	-1.6
SPN				S	Sn	02 39 02.8	-2.3
NLC	**Nalytchevo**	1.38	320	*e*P	Pn	02 38 54.1	-1.0
NLC	**Nalytchevo**	1.38	320	PN	Pn	02 38 54.1	-1.0
RUS	**Russkaya**	1.46	283	*e*P	Pn	02 38 54.8	-1.3
RUS				*e*S	Sn	02 39 12.3	-1.8
RUS	**Russkaya**	1.46	283	PN	Pn	02 38 54.8	-1.3
RUS				S	Sn	02 39 12.3	-1.8
DALK	**Dalny**	1.56	306	*e*P	Pn	02 38 56.8	-0.7
DALK	**Dalny**	1.56	306	PN	Pn	02 38 56.8	-0.7
PET	**Petropavlovsk**	1.60	305	*e*Pn	Pn	02 38 57.5	-0.6
PET				*e*Sn	Sn	02 39 13.4	-4.4
PET	**Petropavlovsk**	1.60	305	*e*P	Pn	02 38 57.4	-0.7
PET	**Petropavlovsk**	1.60	305	⇑*i*PN	Pn	02 38 57.5	-0.6
PET				*e*S	Sn	02 39 20.2	+2.4
PET				pmax	pmax		
comp=Z,316nm,0.4s							
PET				smax	smax		
comp=E,1μm,0.6s							
PET				smax	smax		
comp=N,2μm,0.8s							
UGLR	**Uglovaya**	1.63	312	*e*P	Pn	02 38 58.5	-0.1
UGLR	**Uglovaya**	1.63	312	PN	Pn	02 38 58.5	-0.1
SDLR	**Sedlovina**	1.65	315	*e*P	Pn	02 38 58.6	-0.3
SDLR	**Sedlovina**	1.65	315	PN	Pn	02 38 58.6	-0.3
MTVR	**Mutnovka**	1.67	283	*e*P	Pn	02 38 58.3	-0.8
MTVR				*e*S	Sn	02 39 17.8	-1.7
MTVR	**Mutnovka**	1.67	283	PN	Pn	02 38 58.3	-0.8
MTVR				S	Sn	02 39 17.8	-1.7
SMAR	**Somma**	1.68	313	*e*P	Pn	02 38 58.8	-0.6
SMAR	**Somma**	1.68	313	PN	Pn	02 38 58.8	-0.6
AVH	**Avacha**	1.71	313	*e*P	Pn	02 38 59.7	0.0
AVH	**Avacha**	1.71	313	PN	Pn	02 38 59.7	0.0

KRER	Koryakskii	1.73	314	*e*P		Pn	02 39 00.0 -0.1
KRER				*e*S		Sn	02 39 20.8 -0.4
KRER	Koryakskii	1.73	314	PN		Pn	02 39 00.0 -0.1
KRER				S		Sn	02 39 20.8 -0.4
KDTR	Khodutka, Kamc	1.73	261	*e*P		Pn	02 38 58.6 -1.3
KDTR				*e*S		Sn	02 39 19.1 -1.8
KDTR	Khodutka, Kamc	1.73	261	PN		Pn	02 38 58.6 -1.3
KDTR				S		Sn	02 39 19.1 -1.8
GRL	Gorelyy	1.75	285	P		Pn	02 39 00.0 -0.2
GRL	Gorelyy	1.75	285	PN		Pn	02 39 00.0 -0.2
KOK	Koryaka	1.77	312	*e*P		Pn	02 39 00.6 0.0
KOK	Koryaka	1.77	312	PN		Pn	02 39 00.6 0.0
KRMR	Karymshinskiy	1.80	294	*e*P		Pn	02 39 00.2 -0.5
KRMR				*e*S		Sn	02 39 22.2 -0.3
KRMR	Karymshinskiy	1.80	294	PN		Pn	02 39 00.2 -0.5
KRMR				S		Sn	02 39 22.2 -0.3
KRX	Arik	1.81	314	*e*P		Pn	02 39 00.7 -0.4
KRX	Arik	1.81	314	PN		Pn	02 39 00.7 -0.4
ASAK	Asacha	1.82	279	*e*P		Pn	02 39 01.0 -0.2
ASAK	Asacha	1.82	279	PN		Pn	02 39 01.0 -0.2
PEA0B	Petropavlovsk-	2.15	298	*e*Pn		Pn	02 39 05.7 +0.1
PEA0B				*e*Sn		Sn	02 39 26.3 -4.9
PETK	Petropavlovsk-	2.15	298	*e*Pn		Pn	02 39 05.4 -0.2
PETK				*e*Sn		Sn	02 39 26.8 -4.4
PETK	Petropavlovsk-	2.15	298	*e*PN		Pn	02 39 05.4 -0.2
PETK				*e*			02 39 26.8
PETK	Petropavlovsk-	2.15	298	Pn		Pn	02 39 05.5 -0.1
	comp=N,51nm,0.3s,baz=108,slow=18,SNR=275						
PETK				Sn		Sn	02 39 33.3 +2.1
	comp=N,37nm,0.3s,baz=117,slow=32,SNR=8.4						
PEA1	Petropavlovsk-	2.15	299	*e*Pn		Pn	02 39 05.5 -0.1
PEA1				*e*Sn		Sn	02 39 33.3 +2.0
APC	Apacha	2.38	291	*e*P		Pn	02 39 09.3 +0.5
APC	Apacha	2.38	291	PN		Pn	02 39 09.3 +0.5
MKZ	Mys Kozlova	2.49	12	*e*P		Pn	02 39 09.4 -0.9
MKZ				*e*S		Sn	02 39 37.5 -2.2
MKZ	Mys Kozlova	2.49	12	PN		Pn	02 39 09.4 -0.9
MKZ				S		Sn	02 39 37.5 -2.2
PAU	Pauzhetka	2.58	257	*e*P		Pn	02 39 11.4 -0.1
PAU	Pauzhetka	2.58	257	PN		Pn	02 39 11.4 -0.1
KZV	Kizimen	3.01	354	*e*P		Pn	02 39 17.8 +0.2
KZV				*e*S		Sn	02 39 51.2 -1.5
KZV	Kizimen	3.01	354	PN		Pn	02 39 17.8 +0.2
KZV				S		Sn	02 39 51.2 -1.5
TUMD	Tumrok D	3.09	355	*e*P		Pn	02 39 18.2 -0.4
TUMD				*e*S		Sn	02 39 51.7 -2.9
TUMR	Tumrok	3.19	353	*e*P		Pn	02 39 20.6 +0.6
TUMR				*e*S		Sn	02 39 56.8 -0.2
TUMR	Tumrok	3.19	353	PN		Pn	02 39 18.2 -1.8
SKR	Severo-Kuril's	3.29	246	*e*PN		Pn	02 39 20.2 -1.0
SKR				*e*S		Sn	02 39 57.0 -2.2
SKR	Severo-Kuril's	3.29	246	*e*PN		Pn	02 39 20.4 -0.8
SKR				pmax		pmax	
	comp=Z,64nm,0.5s						
ALID	Alaid	3.53	251	*e*P		Pn	02 39 24.2 -0.6
ALID				S		Sn	02 40 04.2 -1.4
ALID	Alaid	3.53	251	PN		Pn	02 39 24.2 -0.6
ALID				S		Sn	02 40 04.2 -1.4
CIRR	Tsirk	4.00	359	P		Pn	02 39 32.6 +1.5
CIRR	Tsirk	4.00	359	PN		Pn	02 39 32.6 +1.5
ESO	Esso	4.01	343	*e*P		Pn	02 39 31.5 +0.3
ESO	Esso	4.01	343	PN		Pn	02 39 31.5 +0.3
SRDR	Sredinnyy	4.25	352	*e*P		Pn	02 39 35.6 +1.1
SRDR	Sredinnyy	4.25	352	PN		Pn	02 39 35.6 +1.1
KBTR	Krutoberegovo	4.25	15	P		Pn	02 39 34.2 -0.3
KBTR	Krutoberegovo	4.25	15	PN		Pn	02 39 34.2 -0.3
KBG	Krutoberegovo	4.28	14	P		Pn	02 39 36.5 +1.6
KBG	Krutoberegovo	4.28	14	PN		Pn	02 39 36.5 +1.6
BKI	Bering	4.34	43	*e*P		Pn	02 39 35.2 -0.5
BKI				*e*S		Sn	02 40 20.1 -5.1
BKI	Bering	4.34	43	PN		Pn	02 39 35.2 -0.5
BDR	Baidarnaya	4.46	3	*e*P		Pn	02 39 38.5 +1.1
BDR	Baidarnaya	4.46	3	PN		Pn	02 39 38.5 +1.1
SRKR	Sorokina	4.54	2	*e*P		Pn	02 39 39.5 +1.0
SRKR	Sorokina	4.54	2	PN		Pn	02 39 39.5 +1.0
MA2	Magadan	9.36	327	*e*Pn		Pn	02 40 42.3 -2.2
GRNR	Gornyy	15.26	275	*e*P		P	02 42 12.0 +2.4
GRNR				pmax		pmax	
	comp=Z,23nm,1.0s						
USRK	Ussuriysk Ar.	20.70	259	P		P	02 43 08.2 -1.2
	comp=Z,4.8nm,0.9s,baz=59,slow=9.4,SNR=5.2						
TIXI	Tiksi	24.15	336	P		P	02 43 43.4 -1.4
	comp=Z,5.9nm,0.5s,baz=127,slow=12,SNR=3.6						
SONA0	Songino Array	34.57	285	*e*P		P	02 45 16.8 -0.9
SONM	Songino Array	34.57	285	P		P	02 45 16.8 -0.9
	comp=Z,0.6nm,0.4s,baz=52,slow=8.7,SNR=4.0						
ZAK	Zakamensk	35.25	291	*e*P		P	02 45 22.3 -1.2
ZAK				pmax		pmax	
	comp=Z,2.0nm,1.0s						
NVS	Novosibirsk	44.04	306	*i*P		P	02 46 36.1 -0.3
MK32	Makanchi Array	48.99	297	*e*P		P	02 47 14.4 -1.0
MKAR	Makanchi Array	48.99	297	P		P	02 47 14.4 -1.0
	comp=Z,0.7nm,0.5s,baz=58,slow=7.2,SNR=5.4						
ARCES	ARCESS Array B	54.35	342	P		P	02 47 55.1 +0.1
	comp=Z,2.3nm,0.8s,baz=23,slow=8.7,SNR=5.9						
ARU	Arti	54.42	318	*e*P		P	02 47 54.8 -0.8
	comp=Z,6.9nm,0.9s						
ARU	Arti	54.42	318	*e*P		P	02 47 54.8 -0.8
ARU				pmax		pmax	
	comp=Z,7.0nm,0.9s						
ARU	Arti	54.42	318	P		P	02 47 54.8 -0.8
	comp=Z,4.0nm,0.2s,baz=89,slow=3.0,SNR=4.8						
CM31	Chiang Mai Arr	58.43	259	*e*P		P	02 48 25.9 +1.1
	comp=Z,6.1nm,0.8s						
CMAR	Chiang Mai Arr	58.43	259	P		P	02 48 25.9 +1.1
	comp=Z,2.4nm,0.7s,baz=22,slow=7.9,SNR=9.8						
FIA0	FINESS Array S	61.19	337	*e*P		P	02 48 44.0 +1.0
FIA0	FINESS Array S	61.19	337	*e*P		P	02 48 44.1 +1.0
FINES	FINESS Array B	61.19	337	P		P	02 48 44.0 +1.0
	comp=Z,3.2nm,0.4s,baz=47,slow=6.5,SNR=9.2						
NB2	NORSAR Subarra	64.60	344	P		P	02 49 05.9 +0.1
	comp=Z,1.4nm,0.5s,baz=30,slow=6.5						
NB200	NORSAR Array S	64.60	344	*e*P		P	02 49 06.2 +0.3
NOA	NORSAR Array B	64.60	344	P		P	02 49 06.2 +0.3
	comp=Z,1.0nm,0.5s,baz=21,slow=6.7,SNR=7.2						
GEYT	Alibeck	68.00	304	P		P	02 49 27.8 -0.1
	comp=Z,1.7nm,0.6s,baz=119,slow=1.9,SNR=3.7						
AKASG	Malin Array Be	69.68	330	P		P	02 49 37.7 -0.4
	comp=Z,2.3nm,0.4s,baz=30,slow=6.6,SNR=7.3						
AKBB	Malin Array Si	69.68	330	*e*P		P	02 49 37.7 -0.4
	comp=Z,6.0nm,1.1s						
AKBB	Malin Array Si	69.68	330	*e*P		P	02 49 37.7 -0.4
AKBB				pmax		pmax	
	comp=Z,6.0nm,1.1s						
KBZ	Khabaz	70.55	317	P		P	02 49 44.5 +0.9
	comp=Z,4.3nm,0.9s,baz=180,slow=9.3,SNR=4.0						
LTX	Lajitas	70.60	67	*e*P		P	02 49 46.0 +1.7
LTX	Lajitas	70.60	67	*e*P		P	02 49 46.0 +1.7
TXAR	Lajitas Array	70.60	67	P		P	02 49 46.0 +1.7
	comp=Z,0.2nm,0.4s,baz=300,slow=5.0,SNR=5.1						
CLL	Collm	73.42	340	*e*P		P	02 50 01.0 +0.3
CLL				*e*pP		sP	02 50 12.0 +0.3
BURAR	Bucovina Array	73.64	330⇑	*i*P		P	02 50 02.9 +0.7
BURAR	Bucovina Array	73.64	330⇑	P		P	02 50 02.9 +0.7
MORC	Moravsky Berou	73.79	336⇑	*i*P		P	02 50 04.0 +1.0
MORC	Moravsky Berou	73.79	336⇑	P		P	02 50 04.0 +1.0
TRPA	Tarpa	73.96	332⇑	*i*P		P	02 50 05.3 +1.4
TESR	Tescani	74.18	329⇑	*i*P		P	02 50 05.5 +0.3
MLR	Muntele Rosu	75.31	329	*e*P		P	02 50 12.7 +0.8
	comp=Z,3.3nm,0.7s						
MLR	Muntele Rosu	75.31	329⇑	*i*P		P	02 50 13.1 +1.1
MLR	Muntele Rosu	75.31	329	*e*P		P	02 50 12.7 +0.8
MLR				pmax		pmax	
	comp=Z,3.0nm,0.7s						
MLR	Muntele Rosu	75.31	329	P		P	02 50 12.9 +1.0
	comp=Z,3.1nm,0.5s,baz=307,slow=2.9,SNR=12						
GERES	GERESS Array B	75.58	338	P		P	02 50 14.3 +0.9
	comp=Z,0.6nm,0.5s,baz=38,slow=6.8,SNR=5.4						
VOIR		75.64	330⇑	*i*P		P	02 50 14.2 +0.4
VOIR		75.64	330⇑	P		P	02 50 14.2 +0.4
ARR	Arges	75.83	330⇑	*i*P		P	02 50 16.9 +2.0
GZR	Gura Zlata	76.37	331⇑	*i*P		P	02 50 18.7 +0.8
GZR	Gura Zlata	76.37	331⇑	P		P	02 50 18.7 +0.8
BR101	Keskin Array S	77.66	321	*e*P		P	02 50 25.9 +0.5
BRTR	Keskin Array B	77.66	321	P		P	02 50 25.9 +0.5
	comp=Z,0.8nm,0.7s,baz=28,slow=3.1,SNR=4.0						
VTS	Vitosha	78.75	330⇑	*i*P		P	02 50 32.0 +0.7
MMAI	Mount Meron Ar	82.72	316	P		P	02 50 53.3 +0.7
	comp=Z,1.1nm,0.4s,baz=28,slow=6.5,SNR=3.7						
ESDC	Sonseca Array	87.62	348	P		P	02 51 17.8 +0.7
	comp=Z,0.5nm,0.7s,baz=13,slow=3.1,SNR=3.5						

*ISCJB **21** 02:38:31.0±0.4, 60°.50S±0°.08×33°.0W±0°.2, h10km, mb4.6/23, Error ellipse: s-maj=16.6km s-min=6.8km az=138.5*
*IDC **21** 02:38:34.5±0.6, 59°.95S×33°.62W, h0km, mb4.6/10, mb1 4.7/10, mb1mx4.5/19, mbtmp4.6/10, MS4.5/2, Ms1 4.5/2, ms1mx4.1/20, Error ellipse: s-maj=26.2km s-min=18.8km az=47.0*
*NEIC **21** 02:38:35.9±3.0, 60°.15S×32°.90W, h14km±3km, mb4.8/18, Error ellipse: s-maj=20.2km s-min=13.9km az=59.0*
ISC 21 02:38:35.4±0.4, 60°.17S±0°.08×33°.0W±0°.1, h10km, n106, σ2.9 01/97, mb4.8/22, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.19	341	*e*Pn	Pn	02 40 07.1	+0.4
VNA3	Neumayer Olymp	14.54	149	P	Pn	02 41 52.3	-8.6
VNA3				S	Sn	02 44 23.5	-18
VNA1	Neumayer--Stat	14.57	146	P	Pn	02 41 53.3	-7.9
VNA1				S	Sn	02 44 25.1	-17
VNA2	Neumayer--Watz	14.96	147	P	Pn	02 41 58.4	-8.2
	baz=309,slow=15						
VNA2				S	Sn	02 44 34.9	-17
	baz=298,slow=20						
PMSA	Palmer Station	14.97	239	LR	LR	02 46 48.2	
	comp=Z,2μm,19.5s,baz=52,slow=33						
EFI	East Falkland	16.32	290	*e*Pn	Pn	02 42 24.4	+0.1
	50nm,0.9s						
SNAA	Sanae	16.61	146	P	Pn	02 42 22.1	-5.8
SNAA				S	Sn	02 45 14.9	-17
SNAA	Sanae	16.61	146	*e*Pn	Pn	02 42 22.2	-5.8
	113nm,1.5s						
SNAA	Sanae	16.61	146	Pn	Pn	02 42 21.5	-6.4
	1.0nm,0.3s,baz=308,slow=14,SNR=46						
SNAA				PcP	PcP	02 47 20.8	+3.4
	0.1nm,0.3s,baz=355,slow=0.8,SNR=4.6						
SNAA				LR	LR	02 47 26.1	
	comp=Z,1μm,18.9s,baz=274,slow=31						
TRQA	Tornquist	28.72	307	*e*P	P	02 44 31.9	-0.7
	16nm,1.4s						
QSPA	South Pole Qui	30.07	180	*e*P	P	02 44 43.4	-1.1
	23nm,1.0s						
SYO	Syowa Base	30.49	137⇑	*e*P	P	02 44 43.4	-4.5
CPUP	Villa Florida	37.73	323	P	P	02 45 48.9	-2.1
	8.4nm,1.0s,baz=176,slow=8.6,SNR=10						
CPUP				PcP	PcP	02 48 09.1	+1.3
	3.1nm,0.9s,baz=248,slow=0.1,SNR=5.7						
MAW	Mawson	38.71	142	*e*P	P	02 45 55.9	-2.9
	1.9nm,0.9s						
SBA	Scott Base	41.70	186	*e*P	P	02 46 24.7	+1.2
	14nm,1.1s						
VNDA	Vanda	42.26	185	P	P	02 46 27.1	-1.0
	4.4nm,1.1s,baz=187,slow=7.5,SNR=13						
VNDA				PcP	PcP	02 48 24.7	+3.1
	5.0nm,1.1s,baz=203,slow=2.4,SNR=4.0						
GO02	Mina Guanaco	43.11	308	*e*P	P	02 46 34.9	-1.0
	24nm,1.0s						
BDFB	Brasilia	45.79	340	P	P	02 46 55.3	-1.9
	0.9nm,0.3s,baz=131,slow=9.3,SNR=3.0						
PB01	IPOC Station P	46.79	310	*e*P	P	02 47 04.5	-0.4
	25nm,1.2s						
GO01	Chusmiza	47.93	311	*e*P	P	02 47 14.2	-0.1
	20nm,1.1s						
MNMC	Minye Minye	48.57	311	*e*P	P	02 47 19.0	0.0
	32nm,1.0s						
BOSA	Boshof	49.92	78	*e*P	P	02 47 27.0	-2.1
	4.9nm,0.9s						
BOSA	Boshof	49.92	78	P	P	02 47 32.6	+3.5
	3.1nm,0.8s,baz=198,slow=8.5,SNR=7.7						
LPAZ	La Paz	50.64	314	P	P	02 47 34.6	-0.6
	3.7nm,1.0s,baz=141,slow=8.2,SNR=12						
LPAZ				PcP	PcP	02 48 56.9	+4.2
	3.8nm,0.8s,baz=121,slow=0.6,SNR=5.0						
H10S2	ASCENSION HYDR	52.93	23	T	T	03 45 13.6	
	baz=191,slow=75,SNR=389						
H10S3	ASCENSION HYDR	52.93	23	T	T	03 45 18.4	
	baz=191,slow=75,SNR=300						
H10S1	ASCENSION HYDR	52.95	23	T	T	03 45 19.6	
	baz=191,slow=75,SNR=333						
LBTB	Lobatse	53.10	76	*e*P	P	02 47 51.9	-1.0
	3.3nm,0.8s						
LBTB	Lobatse	53.10	76	P	P	02 47 56.6	+3.7
	3.0nm,0.7s,baz=211,slow=9.1,SNR=5.2						
H10N1	ASCENSION HYDR	54.05	23	T	T	03 46 42.4	
	baz=190,slow=75,SNR=171						
H10N3	ASCENSION HYDR	54.05	23	T	T	03 46 42.2	
	baz=190,slow=75,SNR=230						
H10N2	ASCENSION HYDR	54.06	23	T	T	03 46 43.8	
	baz=190,slow=75,SNR=170						
OTAV	Otavalo	69.68	311	*e*P	P	02 49 44.6	-1.0
OTAV	Otavalo	69.68	311	*e*P	P	02 49 44.6	-1.0
DBIC	Dimbokro	70.25	30	*e*P	P	02 49 47.7	-0.7
	22nm,1.4s						
DBIC	Dimbokro	70.25	30	P	P	02 49 48.7	+0.3
	4.4nm,0.8s,baz=174,slow=14,SNR=3.0						
SOTA	Rioblanco	70.74	313	*e*P	P	02 49 50.5	-1.6
SOTA	Rioblanco	70.74	313	*e*P	P	02 49 50.5	-1.6
PCON	Cinco Dias	70.84	313	*e*P	P	02 49 50.5	-2.3
PCON	Cinco Dias	70.84	313	*e*P	P	02 49 50.5	-2.3
POPC	Popayan, Colom	71.14	313	*e*P	P	02 49 53.9	-0.3
POPC	Popayan, Colom	71.14	313	*e*P	P	02 49 53.9	-0.3
PRAC	Prado	71.59	315	*e*P	P	02 49 53.9	-2.8
PRAC	Prado	71.59	315	*e*P	P	02 49 53.9	-2.8
YOTC	Yotoco, Valle	72.36	314	*e*P	P	02 50 03.1	+1.7
YOTC	Yotoco, Valle	72.36	314	*e*P	P	02 50 03.1	+1.7
GUY2C	Guyana, Caldas	73.16	315	*e*P	P	02 50 04.0	-2.6
GUY2C	Guyana, Caldas	73.16	315	*e*P	P	02 50 04.0	-2.6
SDV	Santo Domingo	75.02	321	*e*P	P	02 50 15.7	-1.4
	11nm,0.9s						
SMLC	San Martn de	76.06	318	*e*P	P	02 50 18.3	-4.4
SMLC	San Martn de	76.06	318	*e*P	P	02 50 18.3	-4.4
TOA0	Torodi Ar. Sit	78.19	35	*e*P	P	02 50 33.9	-0.8
	8nm,0.7s						
TORD	Torodi Ar. Bea	78.19	35	P	P	02 50 34.1	-0.6
	12nm,0.8s,baz=194,slow=7.2,SNR=42						
TOA1	Torodi Ar. Sit	78.19	35	*e*P	P	02 50 34.1	-0.7
STKA	Stephens Creek	88.19	175	*e*P	P	02 51 27.4	+1.1
	1.4nm,0.9s						
STKA	Stephens Creek	88.19	175	P	P	02 51 28.9	+2.6
	5.2nm,0.8s,baz=141,slow=6.3,SNR=6.6						
TAM	Tamanrasset	88.43	35	*e*P	P	02 51 27.7	+0.2
	15nm,1.5s						
ASAR	Alice Springs	95.79	168	P	P	02 52 03.4	+1.7
	4.9nm,1.0s,baz=184,slow=4.1,SNR=5.4						
ASAR				PP	PP	02 55 55.9	+3.4
	0.9nm,0.9s,baz=180,slow=8.3,SNR=5.0						
AS31	Alice Springs	95.79	168	*e*P	P	02 52 01.6	-0.1
	3.7nm,1.4s						
AS31				*e*PP	PP	02 55 55.9	+3.4
WR1	Warramunga Arr	99.52	168	*e*P	Pdif	02 52 19.0	+0.5
WRA	Warramunga Arr	99.52	168	P	Pdif	02 52 19.0	+0.5
	2.0nm,1.0s,baz=191,slow=6.3,SNR=6.5						
ESDC	Sonseca Array	102.32	23	P	Pdif	02 52 33.9	+3.6
	0.1nm,0.3s,baz=40,slow=6.6,SNR=5.0						
EMT	Emmet	120.09	292	*e*PKPdf	PKPdf	02 57 25.4	-0.1
NV01	Mina Array Sit	120.25	295	*e*PKPdf	PKPdf	02 57 25.7	-0.3
NVAR	Mina Array Bea	120.25	295	PKP	PKPdf	02 57 25.7	-0.3
	0.1nm,0.3s,baz=174,slow=2.7,SNR=3.8						
NB2	NORSAR Subarra	125.60	25	PKPdf	PKiKP	02 57 38.1	+2.4
	comp=Z,0.5nm,0.7s,baz=202,slow=1.9						
NB200	NORSAR Array S	125.60	25	*e*PKPdf	PKPdf	02 57 35.2	-0.1
NOA	NORSAR Array B	125.60	25	PKP	PKPdf	02 57 35.2	-0.1
	comp=Z,1.4nm,0.7s,baz=204,slow=1.8,SNR=9.4						
CM31	Chiang Mai Arr	126.14	119	*e*PKPdf	PKiKP	02 57 38.4	+0.4
CMAR	Chiang Mai Arr	126.14	119	PKP	PKiKP	02 57 39.4	+1.4
	comp=Z,2.1nm,0.5s,baz=224,slow=4.1,SNR=12						
FIA0	FINESS Array S	129.50	32	*e*PKPdf	PKPdf	02 57 40.9	-1.8
FINES	FINESS Array B	129.50	32	PKP	PKPdf	02 57 40.9	-1.8
	comp=Z,1.6nm,0.9s,baz=116,slow=3.2,SNR=3.5						
ABKAR	Akbulak array	132.15	62	*e*PKPdf	PKiKP	02 57 49.6	+0.5
ARCES	ARCESS Array B	135.96	26	PKP	PKiKP	02 57 56.0	-0.3
	comp=Z,2.3nm,0.7s,baz=259,slow=1.2,SNR=7.3						
YKA	Yellowknife Ar	137.15	318	PKiKP	PKPpre	02 57 46.2	
	comp=Z,0.3nm,0.7s,baz=123,slow=3.3,SNR=7.7						
YKA				PKP	PKiKP	02 57 59.0	+0.2
	comp=Z,2.3nm,1.1s,baz=123,slow=2.1,SNR=7.4						
YKB5	Yellowknife Ar	137.15	318	*e*PKPpre	PKPpre	02 57 46.2	
YKB5				*e*PKPdf	PKiKP	02 57 59.0	+0.2
BVAR	Borovoye Array	139.48	65	PKhKP	PKPpre	02 57 55.8	
	comp=Z,1.2nm,0.6s,baz=241,slow=38,SNR=5.2						
BVAR				PKP	PKiKP	02 58 04.2	+0.2
	comp=Z,1.9nm,0.8s,baz=174,slow=2.7,SNR=6.9						
MK32	Makanchi Array	140.90	80	*e*PKPpre	PKPpre	02 58 01.1	
MKAR	Makanchi Array	140.90	80	PKhKP	PKPpre	02 58 01.1	
	comp=Z,1.2nm,0.7s,baz=172,slow=3.6,SNR=6.5						
KURBB	Kurchatov Arra	141.68	73	PKhKP	PKPpre	02 58 01.8	
	comp=Z,0.7nm,0.6s,baz=225,slow=2.7,SNR=6.6						
WHY	Whitehorse	143.55	306	*e*PKPdf	PKPdf	02 58 09.7	+0.8
HYT	Haines Junctio	144.71	305	*e*PKPdf	PKPab	02 58 09.3	-0.5
ZAA0	Zalesovo Array	146.77	73	*e*PKPbc	PKPbc	02 58 17.7	+1.5
ZALV	Zalesovo Beam	146.77	73	PKP	PKPdf	02 58 13.2	-1.2
	comp=Z,1.4nm,0.5s,baz=209,slow=2.6,SNR=5.3						
ZALV				PKPbc	PKPbc	02 58 17.5	+1.3
	comp=Z,9.1nm,0.6s,baz=239,slow=4.1,SNR=29						
ZAA1	Zalesovo Array	146.78	73	*e*PKPdf	PKPdf	02 58 13.2	-1.2
ZAA1				*e*PKPbc	PKPbc	02 58 17.5	+1.2
INK	Inuvik	146.91	318	PKPbc	PKPbc	02 58 13.7	-2.4
	comp=Z,4.0nm,0.9s,baz=122,slow=5.3,SNR=8.9						
DAWY	Dawson	147.12	309	*e*PKPdf	PKPdf	02 58 14.9	+0.2
EPYK	Eagle Plains	147.17	314	*e*PKPdf	PKPdf	02 58 15.4	+0.6
MENT	Mentasta	148.32	305	*e*PKPdf	PKPdf	02 58 18.2	+1.5
DOT	Dot Lake	148.78	307	*e*PKPdf	PKPdf	02 58 18.9	+1.4
SCRK	Sand Creek	148.89	307	*e*PKPdf	PKPdf	02 58 19.7	+1.9
PAX	Paxson	149.05	305	*e*PKPdf	PKPdf	02 58 18.9	+0.9
RIDG	Independent Ri	149.13	306	*e*PKPdf	PKPdf	02 58 18.6	+0.6
SML	Sawmill	149.73	302	*e*PKPdf	PKPdf	02 58 21.0	+1.9
HDA	Harding Lake	150.25	307	*e*PKPbc	PKiKP	02 58 26.4	+0.6
ILAR	Eielson Array	150.37	308	PKPbc	PKPbc	02 58 23.3	-1.9
	comp=Z,6.6nm,1.1s,baz=148,slow=1.6,SNR=31						
ILB	Eielson Array	150.37	308	*e*PKPdf	PKPbc	02 58 22.5	-2.7
CCB	Clear Creek Bu	150.68	307	*e*pPKPdf	pPKPdf	02 58 24.3	+0.7
MCK	McKinley	150.79	305	*e*PKPdf	PKPbc	02 58 23.5	-2.7
JNU	Nakatsue	150.94	151	PKPbc	PKPbc	02 58 28.5	+0.9
	comp=Z,5.0nm,0.8s,baz=137,slow=4.2,SNR=4.6						
MDM	Murphy Dome	150.97	307	*e*pPKPdf	pPKPdf	02 58 24.9	+0.8
TOLK	Toolik Lake Re	152.59	315	*e*PKPbc	PKPbc	02 58 28.9	-1.4
SONA0	Songino Array	153.61	100	*e*PKPbc	PKPbc	02 58 35.3	+2.0
SONA0				*e*PKPab	pPKPab	02 58 48.2	-0.6
SONM	Songino Array	153.61	100	PKPbc	PKPbc	02 58 35.3	+2.0
	comp=Z,2.0nm,0.9s,baz=230,slow=2.4,SNR=8.1						
SONM				PKPab	pPKPab	02 58 48.2	-0.6
	comp=Z,4.8nm,0.8s,baz=237,slow=3.3,SNR=14						
MJAR	Matsushiro Arr	155.69	163	PKPbc	PKPbc	02 58 40.9	
	comp=Z,1.2nm,0.3s,baz=199,slow=2.6,SNR=4.4						
MJAR				PKPab	pPKPab	02 58 57.0	-0.9
	comp=Z,1.3nm,0.7s,baz=189,slow=5.0,SNR=6.5						
MAJO	Matsushiro	155.69	163	*e*PKPdif	PKPdf	02 58 40.9	+12
MAJO				*e*PKPab	pPKPab	02 58 57.0	-0.9

*ISK **21** 02:41:42.2, 38°.67N×43°.25E, h5km, ML2.4/8*
*ISCJB **21** 02:41:44.0±0.5, 38°.69N±0°.03×43°.22E±0°.04, h9km±5km, Error ellipse: s-maj=5.5km s-min=4.1km az=36.6*
*DDA **21** 02:41:43.0, 38°.69N×43°.24E, h7km±6km, ML2.8*
ISC 21 02:41:43.8±0.9, 38°.69N±0°.03×43°.25E±0°.03, h9km±9km, n19, σ1.9 04/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.14	130	PG	Pg	02 41 46.8	-0.

*IDC **21** 03:05:48.7±0.3,52.'40N×160.'27E,h0km,mb5.1/47, mb1 5.1/50,mb1mx5.1/52,mbtmp5.1/50,ML4.8/2,MS5.6/19, Ms1 5.6/19,ms1mx5.4/41,Error ellipse: s-maj=9.5km s-min=7.5km az=143.0*

*KRSC **21** 03:05:48.5±10.0,52.'12N×160.'76E,h61km±10km,ML5.8*

*NEIC **21** 03:05:50.8±2.1,52.'39N×160.'29E,h11km±3km,mb5.5/534, MS5.8/714,MW5.8,MW5.9,Error ellipse: s-maj=11.8km s-min=9.9km az=185.0,Moment Tensor Solution. s66 Moment tensor: Scale 10^17^Nm; Mrr4.56; Mθθ-2.47; Mφφ-2.09; Mrθ3.30; Mθφ-1.78; Mrφ3.62; Best double couple: M0=6.50000×10^17^ NP1:φs=231.00000°,δ21.00000°, λ97.00000°. NP2:φs=44.00000°,δ69.00000°,λ87.00000°. Principal axes: T 6.7800, Plg66.0000°, Azm310.0000°; N -0.5100, Plg2.0000°, Azm45.0000°; P -6.2700, Plg24.0000°, Azm136.0000°;*

*NEIC **21** 03:05:50.0±0.0,52.'37N×160.'19E,h35km,Moment Tensor Solution. s34 Moment tensor: Scale 10^17^Nm; Mrr2.48; Mθθ-1.16; Mφφ-1.32; Mrθ3.19; Mθφ-0.76; Mφrδ.48; Best double couple: M0=7.60000×10^17^ NP1:φs=27.00000°, δ82.00000°,λ87.00000°. NP2:φs=226.00000°,δ9.00000°, λ109.00000°. Principal axes: T 7.8500, Plg53.0000°, Azm293.0000°; N -0.5800, Plg2.0000°, Azm27.0000°; P -7.2700, Plg36.0000°, Azm119.0000°;*

*ISCJB **21** 03:05:52.5±0.3,52.'26N±0.'02×160.'49E±0.'02,h46km±2km, mb5.5/641,MS5.8/724 Error ellipse: s-maj=2.7km s-min=1.5km az=164.0*

*MOS **21** 03:05:53.4±1.1,52.'33N×160.'32E,h57km,mb6.0/54, MS5.9/35,Error ellipse: s-maj=5.7km s-min=3.1km az=95.3*

MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.

*GCMT **21** 03:05:54.8±0.1,52.'20N±0.'01×160.'82E±0.'01,h20km, MW5.8/134,Moment Tensor Solution. s110,c234; s134,c380; Duration: 1#9 Moment tensor: Scale 10^17^ Nm; Mrr4.89±.08; Mθθ-1.99±.06; Mφφ-2.90±.06; Mrθ2.84±.13; Mφφ-2.24±.04; Mφr2.97±.13; Best double couple: M0=6.32600×10^17^ NP1:φs=42.00000°,δ65.00000°, λ92.00000°. NP2:φs=217.00000°,δ25.00000°,λ85.00000°. Principal axes: T 6.4120, Plg70.0000°, Azm317.0000°; N -0.1710, Plg2.0000°, Azm221.0000°; P -6.2410, Plg20.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 21 03:05:52.3±0.4,52.'27N±0.'03×160.'44E±0.'02,h27km±2km, h27km:pP-P,n2380,σ1#68/2207,mb5.5/666,MS5.8/729, 183C-16D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.87**	**343**	*eP*	**Pb**	**03 06 08.1**	**-0.7**
SPN				*eS*	**Sn**	**03 06 21.3**	**+0.7**
SPN	**Mys Shipunski**	**0.87**	**343**	PN	**Pb**	**03 06 08.1**	**-0.7**
SPN				S	**Sn**	**03 06 21.3**	**+0.7**
NLC	**Nalytchevo**	**1.12**	**324**	*eP*	**Pb**	**03 06 12.6**	**-0.5**
NLC				*eS*	**Sb**	**03 06 27.3**	**0.0**
NLC	**Nalytchevo**	**1.12**	**324**	PN	**Pb**	**03 06 12.6**	**-0.5**
NLC				S	**Sb**	**03 06 27.3**	**0.0**
RUS	**Russkaya**	**1.20**	**279**	*eP*	**Pb**	**03 06 13.8**	**-0.5**
RUS				*eS*	**Sb**	**03 06 32.1**	**+2.8**
RUS	**Russkaya**	**1.20**	**279**	PN	**Pb**	**03 06 13.8**	**-0.5**
RUS				S	**Sb**	**03 06 32.1**	**+2.8**
DALK	**Dalny**	**1.28**	**307**	*eP*	**Pb**	**03 06 15.3**	**-0.5**
DALK				*eS*	**Sb**	**03 06 33.5**	**+1.7**
DALK	**Dalny**	**1.28**	**307**	PN	**Pb**	**03 06 15.3**	**-0.5**
DALK				S	**Sb**	**03 06 33.5**	**+1.7**
PET	**Petropavlovsk**	**1.33**	**305**	*ePn*	**Pb**	**03 06 15.9**	**-0.6**
PET				*eSn*	**Sb**	**03 06 33.4**	**+0.3**
PET	**Petropavlovsk**	**1.33**	**305**	*α iPN*	**Pb**	**03 06 15.8**	**-0.7**
PET				pmax	pmax		
	comp=Z,110μm,4.0s						
PET				pmax	pmax		
	comp=Z,50μm,6.2s						
PET				pmax	pmax		
	comp=Z,10μm,0.6s						
UGLR	**Uglovaya**	**1.36**	**314**	*eP*	**Pb**	**03 06 16.8**	**-0.4**
UGLR	**Uglovaya**	**1.36**	**314**	PN	**Pb**	**03 06 16.8**	**-0.4**
SDLR	**Sedlovina**	**1.39**	**318**	*i P*	**Pb**	**03 06 16.9**	**-0.7**
SDLR	**Sedlovina**	**1.39**	**318**	PN	**Pb**	**03 06 16.9**	**-0.7**
MTVR	**Mutnovka**	**1.40**	**280**	*eP*	**Pb**	**03 06 17.1**	**-0.8**
MTVR	**Mutnovka**	**1.40**	**280**	PN	**Pb**	**03 06 17.1**	**-0.8**
SMAR	**Somma**	**1.41**	**316**	*i P*	**Pb**	**03 06 17.2**	**-0.9**
SMAR	**Somma**	**1.41**	**316**	PN	**Pb**	**03 06 17.2**	**-0.9**
AVH	**Avacha**	**1.44**	**315**	*i P*	**Pb**	**03 06 18.1**	**-0.4**
AVH	**Avacha**	**1.44**	**315**	PN	**Pb**	**03 06 18.1**	**-0.4**
GRL	**Gorelyy**	**1.48**	**282**	*i P*	**Pb**	**03 06 19.2**	**0.0**
GRL	**Gorelyy**	**1.48**	**282**	PN	**Pb**	**03 06 19.2**	**0.0**
KOK	**Koryaka**	**1.50**	**314**	*i P*	**Pb**	**03 06 19.0**	**-0.6**
KOK	**Koryaka**	**1.50**	**314**	PN	**Pb**	**03 06 19.0**	**-0.6**
KRMR	**Karymshinskiy**	**1.52**	**293**	*eP*	**Pb**	**03 06 19.0**	**-0.8**
KRMR				*eS*	**Sb**	**03 06 42.5**	**+3.9**
KRMR	**Karymshinskiy**	**1.52**	**293**	PN	**Pb**	**03 06 19.0**	**-0.8**
KDTR	**Khodutka, Kamc**	**1.53**	**253**	*eP*	**Pn**	**03 06 17.9**	**0.0**
KDTR				*eS*	**Sn**	**03 06 37.6**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.53**	**253**	PN	**Pn**	**03 06 17.9**	**0.0**
KDTR				S	**Sn**	**03 06 37.6**	**+0.7**
KRX	**Arik**	**1.54**	**316**	*i P*	**Pb**	**03 06 20.0**	**-0.3**
KRX	**Arik**	**1.54**	**316**	PN	**Pb**	**03 06 20.0**	**-0.3**
I44RU	**PETROPAVLOVSK-**	**1.86**	**298**	Pn	**Pb**	**03 06 23.8**	**-1.8**
	baz=117,slow=16,SNR=3.7						
I44RU				Sn	**Sb**	**03 06 52.1**	**+3.6**
	baz=93,slow=41						
PEA0B	**Petropavlovsk-**	**1.87**	**298**	*ePn*	**Pb**	**03 06 24.2**	**-1.6**
PEA0B				*eSn*	**Sb**	**03 06 47.7**	**-1.0**
PETK	**Petropavlovsk-**	**1.87**	**298**	*ePn*	**Pn**	**03 06 21.0**	**-1.5**
PETK				*eSn*	**Sb**	**03 06 47.2**	**-1.5**
PETK	**Petropavlovsk-**	**1.87**	**298**	*ePN*	**Pn**	**03 06 21.0**	**-1.5**
PETK				*e*		03 06 47.2	
PETK	**Petropavlovsk-**	**1.87**	**298**	Pn	**Pb**	**03 06 24.1**	**-1.7**
	comp=Z,294nm,0.3s,baz=108,slow=19,SNR=1094						
PETK				Sn	**Sb**	**03 06 52.5**	**+3.8**
	comp=Z,1μm,0.3s,baz=116,slow=21,SNR=18						
PEA1	**Petropavlovsk-**	**1.87**	**298**	*ePn*	**Pb**	**03 06 24.1**	**-1.8**
PEA1				*eSn*	**Sb**	**03 06 52.5**	**+3.7**
APC	**Apacha**	**2.11**	**289**	*eP*	**Pb**	**03 06 28.0**	**-1.8**
APC	**Apacha**	**2.11**	**289**	PN	**Pb**	**03 06 28.0**	**-1.8**
PAU	**Pauzhetka**	**2.39**	**252**	*eP*	**Pn**	**03 06 30.0**	**+0.3**
PAU				*eS*	**Sn**	**03 06 58.3**	**+0.3**
PAU	**Pauzhetka**	**2.39**	**252**	PN	**Pn**	**03 06 30.0**	**+0.3**
PAU				S	**Sn**	**03 06 58.3**	**+0.3**
MKZ	**Mys Kozlova**	**2.42**	**18**	*eP*	**Pn**	**03 06 29.1**	**-0.9**
MKZ	**Mys Kozlova**	**2.42**	**18**	PN	**Pn**	**03 06 29.1**	**-0.9**
KZV	**Kizimen**	**2.85**	**358**	*eP*	**Pn**	**03 06 37.5**	**+1.3**
KZV	**Kizimen**	**2.85**	**358**	PN	**Pn**	**03 06 37.5**	**+1.3**
TUMD	**Tumrok D**	**2.94**	**360**	*eP*	**Pn**	**03 06 37.7**	**+0.4**
TUMD				*eS*	**Sn**	**03 07 12.7**	**+1.0**
TUMR	**Tumrok**	**3.03**	**357**	*eP*	**Pn**	**03 06 39.8**	**+1.3**
TUMR	**Tumrok**	**3.03**	**357**	PN	**Pn**	**03 06 37.7**	**-0.8**
TUMR				S	**Sn**	**03 07 12.7**	**-1.2**
SKR	**Severo-Kuril's**	**3.14**	**241**	*eP*	**Pn**	**03 06 39.8**	**-0.1**
SKR				*eS*	**Sn**	**03 07 15.1**	**-1.3**
SKR	**Severo-Kuril's**	**3.14**	**241**	PN	**Pn**	**03 06 39.8**	**-0.1**
SKR				S	**Sn**	**03 07 15.1**	**-1.3**
ALID	**Alaid**	**3.36**	**247**	*eP*	**Pn**	**03 06 44.0**	**+0.9**
ALID	**Alaid**	**3.36**	**247**	PN	**Pn**	**03 06 44.0**	**+0.9**
BZMR	**Bezymyannaya**	**3.67**	**0**	*eP*	**Pn**	**03 06 49.0**	**+1.5**
BZMR	**Bezymyannaya**	**3.67**	**0**	PN	**Pn**	**03 06 49.0**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**3.68**	**2**	*eP*	**Pn**	**03 06 48.8**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**3.68**	**2**	PN	**Pn**	**03 06 48.8**	**+1.3**
KIRR	**Kirishev**	**3.69**	**359**	*eP*	**Pn**	**03 06 49.3**	**+1.6**
KIRR				*eS*	**Sn**	**03 07 33.5**	**+3.1**
KIRR	**Kirishev**	**3.69**	**359**	PN	**Pn**	**03 06 49.3**	**+1.6**
KIRR				S	**Sn**	**03 07 33.5**	**+3.1**
BZWR	**Bezymyannyi-We**	**3.70**	**0**	*eP*	**Pn**	**03 06 49.6**	**+1.7**
BZWR	**Bezymyannyi-We**	**3.70**	**0**	PN	**Pn**	**03 06 49.6**	**+1.7**
KPT	**Kopyto**	**3.71**	**358**	*eP*	**Pn**	**03 06 49.1**	**+1.2**
KPT	**Kopyto**	**3.71**	**358**	PN	**Pn**	**03 06 49.1**	**+1.2**
ESO	**Esso**	**3.81**	**345**	*eP*	**Pn**	**03 06 50.6**	**+1.5**
ESO	**Esso**	**3.81**	**345**	PN	**Pn**	**03 06 50.6**	**+1.5**
KOZ	**Kozyrevsk**	**3.81**	**355**	*eP*	**Pn**	**03 06 50.8**	**+1.6**
KOZ	**Kozyrevsk**	**3.81**	**355**	PN	**Pn**	**03 06 50.8**	**+1.6**
LGNR	**Loginova**	**3.83**	**2**	*i P*	**Pn**	**03 06 51.4**	**+1.7**
LGNR	**Loginova**	**3.83**	**2**	PN	**Pn**	**03 06 51.4**	**+1.7**
CIRR	**Tsirk**	**3.86**	**3**	*eP*	**Pn**	**03 06 51.8**	**+1.8**
CIRR	**Tsirk**	**3.86**	**3**	PN	**Pn**	**03 06 51.8**	**+1.8**
KRSR	**Krestovskiy**	**3.96**	**1**	*eP*	**Pn**	**03 06 52.5**	**+1.2**
KRSR	**Krestovskiy**	**3.96**	**1**	PN	**Pn**	**03 06 52.5**	**+1.2**
KLY	**Klyuchi**	**4.05**	**2**	*eP*	**Pn**	**03 06 53.5**	**+1.0**
KLY	**Klyuchi**	**4.05**	**2**	PN	**Pn**	**03 06 53.5**	**+1.0**
SRDR	**Sredinnyy**	**4.08**	**354**	*eP*	**Pn**	**03 06 54.0**	**+1.1**
SRDR	**Sredinnyy**	**4.08**	**354**	PN	**Pn**	**03 06 54.0**	**+1.1**
KBTR	**Krutoberegovo**	**4.19**	**18**	*i P*	**Pn**	**03 06 53.9**	**-0.4**
KBTR	**Krutoberegovo**	**4.19**	**18**	PN	**Pn**	**03 06 53.9**	**-0.4**
KBG	**Krutoberegovo**	**4.21**	**17**	*eP*	**Pn**	**03 06 54.3**	**-0.3**
KBG	**Krutoberegovo**	**4.21**	**17**	PN	**Pn**	**03 06 54.3**	**-0.3**
BDR	**Baidarnaya**	**4.33**	**6**	*eP*	**Pn**	**03 06 57.6**	**+1.2**
BDR	**Baidarnaya**	**4.33**	**6**	PN	**Pn**	**03 06 57.6**	**+1.2**
SMKR	**Semkarok**	**4.36**	**7**	*eP*	**Pn**	**03 06 57.5**	**+0.6**
SMKR	**Semkarok**	**4.36**	**7**	PN	**Pn**	**03 06 57.5**	**+0.6**
BKI	**Bering**	**4.41**	**46**	*eP*	**Pn**	**03 06 55.6**	**-1.7**
BKI				*eS*	**Sn**	**03 07 41.3**	**-6.4**
BKI	**Bering**	**4.41**	**46**	PN	**Pn**	**03 06 55.6**	**-1.7**
SRKR	**Sorokina**	**4.42**	**5**	*eP*	**Pn**	**03 06 58.5**	**+0.9**
SRKR	**Sorokina**	**4.42**	**5**	PN	**Pn**	**03 06 58.5**	**+0.9**
PALN	**Palana**	**6.84**	**358**	*eP*	**Pn**	**03 07 32.3**	**+1.5**
PALN				*eS*	**Sn**	**03 08 50.5**	**+2.9**
PALN	**Palana**	**6.84**	**358**	PN	**Pn**	**03 07 32.3**	**+1.5**
PALN				S	**Sn**	**03 08 50.5**	**+2.9**
OSSR	**Ossora**	**7.15**	**11**	*eP*	**Pn**	**03 07 34.4**	**-0.6**
OSSR	**Ossora**	**7.15**	**11**	PN	**Pn**	**03 07 34.4**	**-0.6**
SMY	**Shemya**	**8.35**	**81**	*ePn*	**Pn**	**03 07 50.0**	**-1.4**
SMY				*eSn*	**Sn**	**03 09 18.3**	**-6.4**
SMY	**Shemya**	**8.35**	**81**	*ePN*	**Pn**	**03 07 50.0**	**-1.4**
TILK	**Tilichiki**	**8.78**	**19**	*eP*	**Pn**	**03 07 58.4**	**+1.0**
TILK	**Tilichiki**	**8.78**	**19**	PN	**Pn**	**03 07 58.4**	**+1.0**
MA2	**Magadan**	**9.11**	**327**	*ePn*	**Pn**	**03 08 03.2**	**+1.4**
MA2	**Magadan**	**9.11**	**327**	*c iPN*	**Pn**	**03 08 03.6**	**+1.8**
MA2	**Magadan**	**9.11**	**327**	Pn	**Pn**	**03 08 03.1**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=144,slow=11,SNR=18						
OKH	**Okha**	**10.65**	**284**	*dePN*	Pn	03 08 28.7	+5.7
OKH				pmax	pmax		
	comp=Z,8μm,9.4s						
OKH				MLR	MLR		
	comp=Z,110μm,13.0s						
KUR	**Kuril'sk**	**10.88**	**235**	*ePN*	**Pn**	**03 08 27.1**	**+1.0**
KUR				pmax	pmax		
	comp=E,82nm,0.8s						
KUR				pmax	pmax		
	comp=Z,159nm,0.8s						
KUR				pmax	pmax		
	comp=N,33nm,0.7s						
KUR				MLR	MLR		
	comp=Z,75μm,20.0s						
KUR				MLR	MLR		
	comp=N,142μm,17.0s						
KUR				MLR	MLR		
	comp=E,65μm,18.0s						
TYV	**Tymovskoe**	**11.16**	**270**	*ePN*	Pn	03 08 34.8	+4.8
TYV				*e*		03 10 44.4	
TYV				pmax	pmax		
	comp=Z,230nm,1.4s						
TYV				pmax	pmax		
	comp=Z,3μm,6.8s						
TYV				MLR	MLR		
	comp=E,131μm,16.0s						
TYV				MLR	MLR		
	comp=Z,131μm,16.0s						
SEY	**Seymchan**	**11.52**	**341**	*c iPN*	**Pn**	**03 08 37.2**	**+2.4**
SEY	**Seymchan**	**11.52**	**341**	Pn	**Pn**	**03 08 36.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=137,slow=12,SNR=32						
NKL	**Nikolayevsk**	**12.02**	**282**	*ePN*	**Pn**	**03 08 44.8**	**+3.2**
NKL				pmax	pmax		
	comp=E,580nm,2.0s						
NKL				pmax	pmax		
	comp=Z,690nm,2.0s						
NKL				MLR	MLR		
	comp=E,56μm,14.0s						
NKL				MLR	MLR		
	comp=Z,160μm,14.0s						
UGL	**Uglegorsk**	**12.09**	**262**	*ePN*	**Pn**	**03 08 46.2**	**+3.6**
UGL				pmax	pmax		
	comp=Z,12μm,13.4s						
UGL				pmax	pmax		
	comp=Z,252nm,2.1s						
YSS	**Yuzh-Sakhalins**	**12.63**	**252**	*ePn*	**Pn**	**03 08 51.5**	**+1.4**
YSS				*eSn*	**Sn**	**03 11 13.7**	**+4.0**
YSS	**Yuzh-Sakhalins**	**12.63**	**252**	*c iPN*	**Pn**	**03 08 52.1**	**+2.0**
YSS				*eS*	**Sn**	**03 11 13.2**	**+3.5**
YSS				pmax	pmax		
	comp=Z,220nm,1.1s						
YSS				pmax	pmax		
	comp=Z,3μm,6.4s						
YSS				pmax	pmax		
	comp=N,2μm,5.3s						
YSS				pmax	pmax		
	comp=E,2μm,5.3s						
YSS				MLR	MLR		
	comp=Z,63μm,15.0s						
YSS				MLR	MLR		
	comp=N,43μm,17.0s						
YSS				MLR	MLR		
	comp=E,77μm,16.0s						
YUK	**Yuzh-Kuril'sk**	**12.73**	**235**	*c iPN*	**Pn**	**03 08 49.5**	**-2.0**
YUK				pmax	pmax		
	comp=Z,342nm,0.5s						
YUK				pmax	pmax		
	comp=E,140nm,0.4s						
YUK				pmax	pmax		
	comp=N,157nm,0.2s						
LAGR	**Lagunnoye**	**12.76**	**236**	*ePN*	**Pn**	**03 08 51.8**	**0.0**
GRPR	**Tuman**	**12.81**	**236**	*ePN*	**Pn**	**03 08 52.2**	**-0.3**
KIWB	**Kanaga Island**	**13.79**	**83**	*ePn*	**Pn**	**03 09 03.2**	**-2.6**
ADK	**Adak**	**14.06**	**82**	*ePn*	**Pn**	**03 09 06.3**	**-3.3**
ADK				*eSn*	Sn	03 11 34.6	-10
ADK	**Adak**	**14.06**	**82**	*eP*	**Pn**	**03 09 06.3**	**-3.3**
ASAJ	**Asahikawa**	**14.40**	**243**	Pn	**Pn**	**03 09 14.6**	**+0.4**
	comp=N,5.0nm,0.3s,baz=44,slow=13,SNR=46						
ASAJ				LR	LR	03 15 44.8	
	comp=N,50μm,18.4s,baz=54,slow=42						
GSTR	**Great Sitkin T**	**14.41**	**81**	*ePn*	**Pn**	**03 09 09.9**	**-4.4**
GRNR	**Gornyy**	**15.01**	**274**	*eP*	**P**	**03 09 27.5**	**-0.1**
GRNR				*eS*	Sn	03 11 56.8	-11
GRNR				pmax	pmax		
	comp=Z,75nm,1.1s						
GRNR				smax	smax		
	comp=E,330nm,1.1s						
ERM	**Erimo**	**15.56**	**236**	*ePn*	**Pn**	**03 09 25.3**	**-4.4**
	comp=E,158nm,1.1s						
ERM	**Erimo**	**15.56**	**236**	*eP*	**Pn**	**03 09 25.3**	**-4.4**
ERM				pmax	pmax		
	comp=Z,158nm,1.1s						
BILL	**Bilibino**	**16.07**	**8**	*ePn*	**Pn**	**03 09 35.6**	**-0.5**
	comp=Z,298nm,1.2s						
BILL	**Bilibino**	**16.07**	**8**	*c iP*	**Pn**	**03 09 35.7**	**-0.4**
BILL				*eS*	**Sn**	**03 12 35.0**	**+1.8**
BILL				pmax	pmax		
	comp=Z,307nm,1.7s						
BILL				MLR	MLR		
	comp=Z,37μm,16.0s						
TEY	**Ternei**	**17.28**	**255⇑**	*eP*	**P**	**03 09 52.1**	**-0.7**
TEY				*eS*	**Sn**	**03 12 59.8**	**-3.0**
TEY				pmax	pmax		
	comp=Z,5μm,2.9s						
TEY				pmax	pmax		
	comp=E,5μm,2.9s						
TEY				pmax	pmax		
	comp=N,2μm,3.1s						
TEY				pmax	pmax		
	comp=N,120nm,2.1s						
TEY				smax	smax		
	comp=N,100nm,1.3s						
TEY				smax	smax		
	comp=E,320nm,1.0s						
TEY				MLR	MLR		
	comp=E,51μm,16.0s						
TEY				MLR	MLR		
	comp=N,44μm,15.0s						
TEY				MLR	MLR		
	comp=Z,69μm,15.0s						
GAMB	**Gambell**	**18.53**	**41**	*eP*	**Pn**	**03 10 07.2**	**+0.5**
	comp=Z,48nm,1.0s						
NIKH	**Nikolski High**	**18.59**	**76**	*eP*	**P**	**03 10 05.5**	**-1.6**
	comp=Z,275nm,1.2s						
YAK	**Yakutsk**	**19.15**	**313**	*c iP*	**P**	**03 10 11.3**	**-1.9**
YAK				*eS*	**Sn**	**03 13 43.7**	**-3.9**
YAK				pmax	pmax		
	comp=Z,2μm,0.8s						
YAK				pmax	pmax		
	comp=N,854nm,1.0s						
YAK				pmax	pmax		
	comp=E,2μm,1.0s						
YAK				smax	smax		
	comp=N,2μm,1.5s						
YAK				smax	smax		
	comp=E,825nm,1.0s						
UNV	**Unalaska Valle**	**19.83**	**72**	*eP*	**P**	**03 10 20.4**	**-0.2**
	comp=E,251nm,1.4s						
ZEA	**Zeya**	**19.93**	**287**	*eP*	**P**	**03 10 20.6**	**-1.2**
ZEA				pmax	pmax		
	comp=E,170nm,1.4s						
ZEA				pmax	pmax		
	comp=N,85nm,1.6s						
ZEA				pmax	pmax		
	comp=Z,210nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,6μm,12.0s						
ZEA				pmax	pmax		
	comp=E,3μm,10.0s						
ZEA				pmax	pmax		
	comp=N,2μm,13.0s						
ZEA				MLR	MLR		
	comp=N,36μm,14.0s						
ZEA				MLR	MLR		
	comp=E,47μm,14.0s						
ZEA				MLR	MLR		
	comp=Z,98μm,14.0s						
USA0B	**Ussuriysk Arra**	**20.50**	**258**	*eP*	**P**	**03 10 25.8**	**-2.2**
	comp=Z,334nm,1.1s						
USA0B				LR	LR		
	comp=Z,63μm,18.0s						
USRK	**Ussuriysk Ar.**	**20.50**	**258**	P	**P**	**03 10 26.2**	**-1.8**
	comp=Z,202nm,1.1s,baz=61,slow=8.9,SNR=134						
ANM	**Nome**	**21.40**	**42**	*eP*	**P**	**03 10 38.0**	**+0.4**
	comp=Z,164nm,1.2s						
ANM				LR	LR		
	comp=Z,21μm,20.0s						
ANM	**Nome**	**21.40**	**42**	*eP*	**P**	**03 10 38.0**	**+0.4**
ANM				pmax	pmax		
	comp=Z,164nm,1.2s						
ANM				MLR	MLR		
	comp=Z,21μm,20.0s						
MDJ	**Mudanjiang**	**21.72**	**262**	P	**P**	**03 10 39.8**	**-1.4**
MDJ				pmax	pmax		
	comp=Z,120nm,1.5s						
MDJ				LR	LR		
	comp=Z,18μm,19.0s						
MDJ				LR	LR		
	comp=Z,69μm,14.6s						
MDJ	**Mudanjiang**	**21.72**	**262**	*eP*	**P**	**03 10 39.8**	**-1.4**
	comp=Z,425nm,1.4s						
MDJ				LR	LR		
	comp=Z,44μm,19.0s						
MSHR	**Mys Shultsa**	**21.92**	**255**	*eP*	**P**	**03 10 40.6**	**-2.7**
MJB9	**Matsu-Tunnel**	**22.21**	**234**	*eP*	**P**	**03 10 46.7**	**+0.1**
	comp=Z,500nm,1.1s						
MJB9				LR	LR		
	comp=Z,45μm,21.0s						
MAJO	**Matsushiro**	**22.21**	**234**	*eP*	**P**	**03 10 46.5**	**0.0**
	comp=Z,509nm,1.1s						
MAJO				LR	LR		
	comp=Z,42μm,21.0s						
MAJO	**Matsushiro**	**22.21**	**234**	*c iP*	**P**	**03 10 46.4**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,756nm,1.5s						
MAT	**Matsushiro**	**22.21**	**234**	P	**P**	**03 10 46.3**	**-0.3**
MAT				S	**S**	**03 14 47.0**	**-2.6**
MJAR	**Matsushiro Arr**	**22.21**	**234**	*eP*	**P**	**03 10 45.8**	**-0.7**
MJAR	**Matsushiro Arr**	**22.21**	**234**	*eP*	**P**	**03 10 45.8**	**-0.7**
MJAR	**Matsushiro Arr**	**22.21**	**234**	P	**P**	**03 10 46.6**	**+0.1**
	comp=Z,255nm,1.0s,baz=23,slow=8.0,SNR=105						
MJAR				LR	LR	03 20 07.6	
	comp=Z,41μm,21.0s,baz=50,slow=39						
RDOG	**Red Dog Mine**	**23.60**	**34**	*eP*	**P**	**03 11 00.3**	**-0.2**
	comp=Z,160nm,1.4s						
RDOG				LR	LR		
	comp=Z,10μm,20.0s						
INU	**Inuyama**	**23.75**	**234**	*eP*	**P**	**03 11 01.9**	**-0.3**
	comp=Z,304nm,1.1s						
INU				LR	LR		
	comp=Z,33μm,22.0s						
TIXI	**Tiksi**	**23.92**	**336**	*c iP*	**P**	**03 11 01.6**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,209nm,1.6s						
TIXI	**Tiksi**	**23.92**	**336**	P	**P**	**03 11 01.4**	**-2.1**
	comp=Z,61nm,0.7s,baz=125,slow=12,SNR=139						
CHGN	**Chignik**	**24.09**	**64**	*eP*	**P**	**03 11 05.8**	**+0.6**
	comp=Z,87nm,1.1s						
CHGN				LR	LR		
	comp=Z,17μm,20.0s						
JHJ2	**Mitsune**	**24.27**	**226**	*eP*	**P**	**03 11 06.1**	**-1.0**
	comp=Z,725nm,1.5s						
JHJ	**Hachijo jima 2**	**24.28**	**226**	P	**P**	**03 11 07.3**	**+0.2**
	comp=Z,96nm,0.8s,baz=91,slow=4.4,SNR=3.5						
JHJ				LR	LR	03 24 09.1	
	comp=Z,9μm,18.5s,baz=66,slow=45						
CN2	**Changchun**	**24.68**	**264**	*eP*	**P**	**03 11 06.8**	**-4.0**
CN2				*eS*	**S**	**03 15 24.5**	**-6.1**
CN2				pmax	pmax		
	comp=Z,100nm,1.3s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,39μm,16.0s						
CN2				LR	LR		
	comp=Z,78μm,16.0s						
SVW2	**Sparrevohn**	**25.26**	**52**	*eP*	**P**	**03 11 16.6**	**+0.8**
	comp=Z,135nm,1.1s						
SVW2				LR	LR		
	comp=Z,10μm,20.0s						
HIA	**Hailar**	**25.68**	**280**	*eP*	**P**	**03 11 17.8**	**-2.0**
	comp=Z,305nm,1.3s						
HIA				LR	LR		
	comp=Z,46μm,18.0s						
HIA	**Hailar**	**25.68**	**280**	*c iP*	**P**	**03 11 17.4**	**-2.4**
HIA				pmax	pmax		
	comp=Z,2μm,1.4s						
SII	**Sitkinak Islan**	**26.37**	**63**	*eP*	**P**	**03 11 26.9**	**+1.0**
	comp=Z,253nm,1.0s						
SII				LR	LR		
	comp=Z,22μm,20.0s						
IMAR	**Indian Mountai**	**26.48**	**41**	*eP*	**P**	**03 11 25.8**	**-1.0**
RSO	**Redoubt South**	**26.66**	**54**	*eP*	**P**	**03

BRLK	**Bradley Lake**	**27.65**	**55**	*e*P	**P**	**03 11 37.0**	**-0.5**
	comp=Z,37nm,0.9s						
BRLK				LR	LR		
	comp=Z,11μm,20.0s						
COLD	**Coldfoot**	**28.06**	**39**	*e*P	**P**	**03 11 41.6**	**+0.6**
	comp=Z,4.4nm,0.9s						
COLD				LR	LR		
	comp=Z,12μm,18.0s						
RC01	**Rabbit Creek A**	**28.10**	**52**	*e*P	P	03 11 46.1	+4.7
	comp=Z,63nm,1.3s						
RC01				LR	LR		
	comp=Z,8μm,18.0s						
BWN	**Browne**	**28.13**	**45**	*e*P	**P**	**03 11 42.9**	**+1.3**
	comp=Z,335nm,1.2s						
BWN				LR	LR		
	comp=Z,15μm,18.0s						
TJN	**Taejon**	**28.19**	**249***c*	*i*P	**P**	**03 11 42.7**	**+0.3**
SEW	**Seward**	**28.33**	**54**	*e*P	**P**	**03 11 43.1**	**-0.4**
	comp=Z,57nm,1.0s						
SEW				LR	LR		
	comp=Z,13μm,20.0s						
PMR	**Palmer**	**28.35**	**51**	*e*P	**P**	**03 11 46.2**	**+2.6**
	comp=Z,28nm,1.3s						
PMR				LR	LR		
	comp=Z,13μm,22.0s						
MCK	**McKinley**	**28.36**	**46**	*e*P	**P**	**03 11 43.7**	**0.0**
	comp=Z,54nm,1.0s						
MCK				LR	LR		
	comp=Z,9μm,19.0s						
CIT	**Chita**	**28.39**	**288**	*e*P	**P**	**03 11 42.6**	**-1.5**
CIT				*e*		03 11 53.8	
CIT				*e*		03 12 06.1	
CIT				*e*		03 12 37.8	
CIT				pmax	pmax		
	comp=Z,312nm,1.5s						
TOLK	**Toolik Lake Re**	**28.50**	**36**	*e*P	**P**	**03 11 45.1**	**+0.1**
	comp=Z,12nm,1.0s						
TOLK				LR	LR		
	comp=Z,15μm,19.0s						
TOLK	**Toolik Lake Re**	**28.50**	**36**	P	**P**	**03 11 44.7**	**-0.3**
	baz=261						
JNU	**Nakatsue**	**28.65**	**240**	*e*P	**P**	**03 11 47.3**	**+0.7**
	comp=Z,131nm,0.9s						
JNU				LR	LR		
	comp=Z,23μm,20.0s						
JNU	**Nakatsue**	**28.65**	**240**	P	**P**	**03 11 47.2**	**+0.7**
	comp=Z,128nm,1.1s,baz=56,slow=4.6,SNR=30						
MDM	**Murphy Dome**	**28.68**	**44**	*e*P	**P**	**03 11 46.7**	**+0.2**
	comp=Z,47nm,1.4s						
MDM				LR	LR		
	comp=Z,18μm,18.0s						
KNK	**Knik Glacier**	**28.69**	**51**	*e*P	**P**	**03 11 46.2**	**-0.4**
	comp=Z,96nm,1.0s						
KNK				LR	LR		
	comp=Z,10μm,19.0s						
SML	**Sawmill**	**28.71**	**50**	*e*P	**P**	**03 11 46.6**	**-0.3**
	comp=Z,129nm,1.0s						
SML				LR	LR		
	comp=Z,12μm,21.0s						
WRH	**Wood River Hil**	**28.73**	**45**	*e*P	**P**	**03 11 47.0**	**0.0**
	comp=Z,104nm,1.3s						
WRH				LR	LR		
	comp=Z,14μm,20.0s						
TCOL	**CIGO, UAF Yank**	**28.84**	**44**	P	**P**	**03 11 47.5**	**-0.4**
	baz=269						
COLA	**College**	**28.84**	**44**	*e*P	**P**	**03 11 48.1**	**+0.2**
	comp=Z,82nm,1.3s						
COLA				LR	LR		
	comp=Z,18μm,18.0s						
COLA	**College**	**28.84**	**44***c*	*i*P	**P**	**03 11 47.7**	**-0.2**
COLA				pmax	pmax		
	comp=Z,48nm,1.9s						
CCB	**Clear Creek Bu**	**28.86**	**44**	*e*P	**P**	**03 11 45.5**	**-2.6**
	comp=Z,36nm,1.4s						
CCB				LR	LR		
	comp=Z,14μm,19.0s						
POKR	**Poker Flat Res**	**29.02**	**44**	P	**P**	**03 11 48.5**	**-1.1**
	baz=269,SNR=17						
DHY	**Denali Highway**	**29.08**	**48**	*e*P	**P**	**03 11 49.9**	**-0.4**
	comp=Z,70nm,1.2s						
DHY				LR	LR		
	comp=Z,6μm,18.0s						
MIDW	**Midway**	**29.17**	**137**	PFAKE		03 12 10.0	+19
MIDW				LR	LR		
	comp=Z,22μm,20.0s						
SCM	**Sheep Creek Mo**	**29.19**	**50**	*e*P	**P**	**03 11 51.0**	**-0.2**
	comp=Z,78nm,1.0s						
SCM				LR	LR		
	comp=Z,10μm,20.0s						
HDA	**Harding Lake**	**29.23**	**45**	*e*P	**P**	**03 11 51.0**	**-0.4**
	comp=Z,21nm,1.0s						
HDA				LR	LR		
	comp=Z,12μm,20.0s						
HDA	**Harding Lake**	**29.23**	**45**	P	**P**	**03 11 50.2**	**-1.3**
	baz=271,SNR=18						
ILAR	**Eielson Array**	**29.25**	**44**	*e*P	**P**	**03 11 49.5**	**-2.2**
ILAR	**Eielson Array**	**29.25**	**44**	P	**P**	**03 11 50.5**	**-1.1**
	comp=Z,3.7nm,0.9s,baz=254,slow=7.7,SNR=29						
ILB	**Eielson Array**	**29.25**	**44**	*e*P	**P**	**03 11 50.5**	**-1.1**
	comp=Z,44nm,1.5s						
GLI	**Glacier Island**	**29.40**	**52**	*e*P	**P**	**03 11 56.6**	**+3.6**
	comp=Z,43nm,1.0s						
GLI				LR	LR		
	comp=Z,9μm,20.0s						
PRP	**Porcupine Dome**	**29.83**	**43**	*e*P	**P**	**03 11 56.0**	**-0.8**
PRP				LR	LR		
	comp=Z,11μm,18.0s						
DL2	**Dalian**	**29.88**	**259**	P	**P**	**03 11 57.8**	**+0.4**
DL2				S	**S**	**03 16 57.6**	**+4.8**
DL2				pmax	pmax		
	comp=Z,130nm,1.2s						
DL2				pmax	pmax		
	comp=Z,2μm,9.5s						
DL2				LR	LR		
	comp=Z,26μm,13.9s						
DL2				LR	LR		
	comp=Z,19μm,20.6s						
KLU	**Klutina**	**29.89**	**51**	*e*P	**P**	**03 11 56.2**	**-1.2**
	comp=Z,76nm,1.3s						
KLU				LR	LR		
	comp=Z,12μm,21.0s						
PAX	**Paxson**	**29.95**	**48**	*e*P	**P**	**03 11 59.0**	**+1.0**
	comp=Z,32nm,1.2s						
PAX				LR	LR		
	comp=Z,7μm,20.0s						
FYU	**Fort Yukon**	**29.96**	**41**	PFAKE		03 12 10.0	+12
FYU				LR	LR		
	comp=Z,9μm,18.0s						
MID	**Middleton Isla**	**29.99**	**55**	PFAKE		03 12 10.0	+12
MID				LR	LR		
	comp=Z,9μm,18.0s						
DIV	**Divide**	**30.01**	**52**	*e*P	**P**	**03 11 59.0**	**+0.5**
	comp=Z,39nm,1.0s						
DIV				LR	LR		
	comp=Z,14μm,18.0s						
EYAK	**Cordova Ski Ar**	**30.10**	**53**	*e*P	**P**	**03 11 59.7**	**+0.6**
	comp=Z,34nm,0.9s						
EYAK				LR	LR		
	comp=Z,11μm,20.0s						
HARP	**HAARP**	**30.15**	**49**	*e*P	**P**	**03 12 01.4**	**+1.8**
	comp=Z,28nm,1.0s						
HARP				LR	LR		
	comp=Z,7μm,19.0s						
RIDG	**Independent Ri**	**30.18**	**46**	*e*P	**P**	**03 11 58.8**	**-1.1**
	comp=Z,45nm,1.2s						
RIDG				LR	LR		
	comp=Z,10μm,20.0s						
DOT	**Dot Lake**	**30.53**	**46**	*e*P	**P**	**03 12 01.1**	**-1.9**
	comp=Z,9.7nm,1.0s						
DOT				LR	LR		
	comp=Z,12μm,21.0s						
SCRK	**Sand Creek**	**30.54**	**46**	*e*P	**P**	**03 12 02.3**	**-0.9**
	comp=Z,61nm,1.4s						
SCRK				LR	LR		
	comp=Z,12μm,18.0s						
MENT	**Mentasta**	**30.75**	**48**	*e*P	**P**	**03 12 08.0**	**+3.0**
	comp=Z,13nm,0.9s						
MENT				LR	LR		
	comp=Z,8μm,19.0s						
HMT	**Hamilton**	**30.86**	**53**	*e*P	**P**	**03 12 07.4**	**+1.5**
	comp=Z,40nm,1.0s						
HMT				LR	LR		
	comp=Z,15μm,18.0s						
TGL	**Tana Glacier**	**31.48**	**52**	*e*P	**P**	**03 12 11.9**	**+0.4**
	comp=Z,88nm,1.4s						
TGL				LR	LR		
	comp=Z,12μm,19.0s						
BCAR	**Beaver Creek A**	**31.62**	**47**	*e*P	**P**	**03 12 12.1**	**-0.4**
BALM	**Baldy**	**31.67**	**51**	*e*P	**P**	**03 12 14.1**	**+1.0**
	comp=Z,34nm,1.2s						
BALM				LR	LR		
	comp=Z,10μm,21.0s						
EGAK	**Eagle**	**31.70**	**44**	*e*P	**P**	**03 12 12.2**	**-1.1**
	comp=Z,14nm,0.8s						
EGAK				LR	LR		
	comp=Z,15μm,19.0s						
CTGM	**Chitina Glacie**	**32.16**	**51**	*e*P	**P**	**03 12 17.8**	**+0.3**
	comp=Z,65nm,1.4s						
CTGM				LR	LR		
	comp=Z,10μm,20.0s						
BJT	**Baijiatuau**	**32.52**	**266**	*e*P	**P**	**03 12 18.4**	**-2.3**
	comp=Z,17nm,1.1s						
BJT				LR	LR		
	comp=Z,40μm,20.0s						
DAWY	**Dawson**	**32.55**	**45**	*e*P	**P**	**03 12 19.8**	**-0.9**
	comp=Z,12nm,0.9s						
DAWY				LR	LR		
	comp=Z,14μm,19.0s						
H11N2	**WAKE ISLAND Hy**	**32.86**	**169**	T	T	03 47 02.4	
	baz=353						
PCA	**Pinnacle**	**32.87**	**53**	*e*P	**P**	**03 12 23.8**	**+0.2**
	comp=Z,109nm,1.2s						
PCA				LR	LR		
	comp=Z,12μm,20.0s						
H11N3	**WAKE ISLAND Hy**	**32.88**	**169**	T	T	03 47 03.2	
	baz=353						
H11N1	**WAKE ISLAND Hy**	**32.88**	**169**	T	T	03 47 01.8	
	baz=353						
BCPM	**Bancas Point**	**33.21**	**53**	PFAKE		03 12 40.0	+14
BCPM				LR	LR		
	comp=Z,13μm,19.0s						
WAKE	**Wake Island**	**33.28**	**169**	PFAKE		03 12 40.0	+13
WAKE				LR	LR		
	comp=Z,16μm,20.0s						
YKU2	**Yakutat**	**33.30**	**53**	PFAKE		03 12 40.0	+13
YKU2				LR	LR		
	comp=Z,13μm,20.0s						
EPYK	**Eagle Plains**	**33.38**	**41**	*e*P	**P**	**03 12 27.9**	**0.0**
	comp=Z,31nm,1.3s						
EPYK				LR	LR		
	comp=Z,9μm,20.0s						
EPYK	**Eagle Plains**	**33.38**	**41**	P	**P**	**03 12 27.5**	**-0.4**
	baz=277,SNR=11						
IRK	**Irkutsk**	**33.64**	**293**	*e*P	**P**	**03 12 27.2**	**-3.2**
IRK				*e*		03 13 50.9	
IRK				pmax	pmax		
	comp=Z,288nm,1.8s						
ULN	**Ulaanbaatar**	**33.90**	**284**	*e*P	**P**	**03 12 31.4**	**-1.5**
	comp=Z,158nm,1.5s						
ULN				LR	LR		
	comp=Z,56μm,20.0s						
ULN	**Ulaanbaatar**	**33.90**	**284***c*	*e*P	**P**	**03 12 31.3**	**-1.5**
ULN				pmax	pmax		
	comp=Z,133nm,1.7s						
ULN	**Ulaanbaatar**	**33.90**	**284**	P	**P**	**03 12 31.6**	**-1.2**
	SNR=61						
HYT	**Haines Junctio**	**34.02**	**51**	*e*P	**P**	**03 12 34.6**	**+0.9**
	comp=Z,52nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**34.05**	**169**	T	T	03 48 36.2	
	baz=352,slow=76						
H11S3	**WAKE ISLAND Hy**	**34.06**	**169**	T	T	03 48 42.3	
	baz=352,slow=76						
H11S2	**WAKE ISLAND Hy**	**34.06**	**169**	T	T	03 48 36.7	
	baz=352,slow=76						
TLY	**Talaya**	**34.22**	**292**	*e*P	**P**	**03 12 34.5**	**-0.9**
	comp=Z,238nm,1.5s						
TLY				LR	LR		
	comp=Z,18μm,20.0s						
TLY	**Talaya**	**34.22**	**292***c*	*i*P	**P**	**03 12 34.3**	**-1.1**
TLY	**Talaya**	**34.22**	**292**	P	**P**	**03 12 34.6**	**-0.9**
	SNR=108						
SONA0	**Songino Array**	**34.30**	**285**	*e*P	**P**	**03 12 35.0**	**-1.3**
SONM	**Songino Array**	**34.30**	**285**	*e*P	**P**	**03 12 34.1**	**-2.2**
SONM	**Songino Array**	**34.30**	**285**	P	**P**	**03 12 35.0**	**-1.3**
	comp=Z,35nm,1.1s,baz=48,slow=8.4,SNR=78						
SONM				LR	LR	03 28 07.0	
	comp=Z,66μm,19.0s,baz=63,slow=39						
TIA	**Tai'an**	**34.35**	**260**	P	**P**	**03 12 35.3**	**-1.4**
TIA				sP	**pP**	**03 12 43.5**	**-0.4**
TIA				pmax	pmax		
	comp=Z,18nm,1.2s						
TIA				pmax	pmax		
	comp=Z,960nm,4.6s						
TIA				LR	LR		
	comp=Z,22μm,16.9s						
TIA				LR	LR		
	comp=Z,22μm,17.6s						
INK	**Inuvik**	**34.40**	**37**	*e*P	**P**	**03 12 36.8**	**+0.1**
	comp=Z,9.4nm,0.8s						
INK				LR	LR		
	comp=Z,7μm,22.0s						
INK	**Inuvik**	**34.40**	**37**	P	**P**	**03 12 36.7**	**+0.1**
	comp=Z,8.5nm,0.7s,baz=286,slow=7.3,SNR=36						
HHC	**Hu-ho-hao-te**	**34.86**	**271**	*e*P	**P**	**03 12 39.0**	**-2.1**
HHC				sP	pP	03 12 49.1	+0.6
HHC				PP	**PnPn**	**03 13 56.6**	**-1.2**
HHC				S	S	03 18 01.3	-9.1
HHC				pmax	pmax		
	comp=Z,100nm,0.9s						
HHC				pmax	pmax		
	comp=Z,820nm,4.4s						
ZAK	**Zakamensk**	**34.98**	**290**	*e*P	**P**	**03 12 40.6**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,98nm,1.5s						
JOW	**Kunigami**	**35.02**	**236**	*e*P	**P**	**03 12 43.5**	**+1.1**
	comp=Z,83nm,1.3s						
JOW				LR	LR		
	comp=Z,12μm,19.0s						
JOW	**Kunigami**	**35.02**	**236**	P	**P**	**03 12 43.5**	**+1.1**
	comp=Z,15nm,1.2s,baz=94,slow=16,SNR=16						
WHY	**Whitehorse**	**35.31**	**50**	*e*P	**P**	**03 12 46.1**	**+1.3**
	comp=Z,74nm,1.4s						
WHY				LR	LR		
	comp=Z,8μm,20.0s						
SKAG	**Skagway**	**35.44**	**52**	*e*P	**P**	**03 12 47.3**	**+1.6**
	comp=Z,58nm,1.0s						
SKAG				LR	LR		
	comp=Z,10μm,19.0s						
SSE	**Sheshan**	**35.55**	**249**	P	**P**	**03 12 47.3**	**+0.3**
SSE				S	**S**	**03 18 23.8**	**+2.9**
SSE				pmax	pmax		
	comp=Z,29nm,1.3s						
SSE				pmax	pmax		
	comp=Z,770nm,6.2s						
SSE				LR	LR		
	comp=Z,5μm,20.3s						
SSE				LR	LR		
	comp=Z,5μm,21.7s						
SSE	**Sheshan**	**35.55**	**249**	PFAKE		03 13 00.0	+13
SSE				LR	LR		
	comp=Z,16μm,20.0s						
MOY	**Mondy**	**35.73**	**293**	*e*P	**P**	**03 12 47.4**	**-1.1**
MOY				pmax	pmax		
	comp=Z,356nm,2.3s						
BTO	**Baotou**	**35.95**	**272**	*e*P	**P**	**03 12 48.8**	**-1.7**
BTO				S	**S**	**03 18 35.0**	**+7.9**
BESE	**Bessie Mountai**	**35.95**	**54**	PFAKE		03 13 00.0	+10
BESE				LR	LR		
	comp=Z,6μm,18.0s						
NJ2	**Nanjing**	**36.20**	**253**	*e*P	**P**	**03 12 51.9**	**-0.7**
NJ2				pP	**pP**	**03 12 54.8**	**-5.1**
NJ2				S	**S**	**03 18 30.8**	**-0.1**
NJ2				sS	**pS**	**03 18 38.9**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,120nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,2μm,7.4s						
NJ2				LR	LR		
	comp=Z,29μm,15.2s						
NJ2				LR	LR		
	comp=Z,43μm,17.2s						
SIT	**Sitka**	**36.23**	**56**	PFAKE		03 13 10.0	+18
SIT				LR	LR		
	comp=Z,8μm,19.0s						
JIS	**Juneau Island**	**36.28**	**54**	*e*P	**P**	**03 12 55.6**	**+2.6**
	comp=Z,59nm,1.1s						
JIS				LR	LR		
	comp=Z,5μm,22.0s						
NRIK	**Noril'sk**	**36.71**	**325**	P	**P**	**03 12 55.1**	**-1.4**
	comp=Z,24nm,1.0s,baz=83,slow=8.9,SNR=55						
SARN	**Sarigan**	**37.34**	**204**	*e*P	**P**	**03 13 06.6**	**+4.2**
	comp=Z,174nm,1.2s						
SARN				LR	LR		
	comp=Z,6μm,22.0s						
ANA2	**Anatahan**	**37.70**	**204**	PFAKE		03 13 20.0	+15
ANA2				LR	LR		
	comp=Z,7μm,22.0s						
CRAG	**Craig**	**37.96**	**58**	PFAKE		03 13 20.0	+13
CRAG				LR	LR		
	comp=Z,8μm,19.0s						
WRAK	**Wrangell Islan**	**37.99**	**56**	*e*P	**P**	**03 13 09.3**	**+1.9**
	comp=Z,48nm,1.1s						
WRAK				LR	LR		
	comp=Z,8μm,18.0s						
DLBC	**Dease Lake**	**38.37**	**53**	*e*P	**P**	**03 13 12.3**	**+1.5**
	comp=Z,113nm,1.5s						
DLBC				LR	LR		
	comp=Z,7μm,20.0s						
DLBC	**Dease Lake**	**38.37**	**53**	P	**P**	**03 13 11.8**	**+1.0**
	comp=Z,19nm,0.8s,baz=300,slow=7.4,SNR=29						
DLBC				LR	LR	03 30 50.7	
	comp=Z,5μm,18.6s,baz=306,slow=39						
DIB	**Dawson Inlet,**	**39.27**	**61**	PFAKE		03 13 30.0	+12
DIB				LR	LR		
	comp=Z,7μm,19.0s						
YOJ	**Yonaguni jima**	**39.69**	**240**	PFAKE		03 13 30.0	+8.0
YOJ				LR	LR		
	comp=Z,14μm,20.0s						
WHN	**Wuhan**	**39.95**	**255**	P	**P**	**03 13 23.3**	**-0.9**
WHN				S	**S**	**03 19 25.6**	**-2.1**
WHN				pmax	pmax		
	comp=Z,5μm,11.8s						
WHN				LR	LR		
	comp=Z,52μm,16.2s						
WHN				LR	LR		
	comp=Z,63μm,17.7s						
WHN				LR	LR		
	comp=Z,57μm,15.6s						
TATO	**Taipei**	**40.09**	**242**	PFAKE		03 13 40.0	+15
TATO				LR	LR		
	comp=Z,27μm,20.0s						
YHNB	**Yeheng**	**40.40**	**242**	PFAKE		03 13 40.0	+12
YHNB				LR	LR		
	comp=Z,33μm,20.0s						
GUMO	**Guam**	**40.55**	**204**	PFAKE		03 13 40.0	+11
GUMO				LR	LR		
	comp=Z,7μm,21.0s						
GUMO	**Guam**	**40.55**	**204**	LR	LR	03 27 54.6	
	comp=Z,4μm,21.9s,baz=12,slow=33						
NACB	**Ninganchiao**	**40.68**	**242**	PFAKE		03 13 40.0	+10
NACB				LR	LR		
	comp=Z,20μm,20.0s						
XAN	**Xi'an**	**40.79**	**264**	P	**P**	**03 13 29.8**	**-1.4**
XAN				pP	pwP	03 13 40.1	-1.2
XAN				PP	**PnPn**	**03 15 08.3**	**-1.2**
XAN				PcP	**PcP**	**03 15 32.1**	**+0.2**
XAN				S	**S**	**03 19 37.1**	**-3.2**
XAN				SS	**SS**	**03 22 34.1**	**-7.4**
XAN				ScS	**ScS**	**03 23 27.9**	**-6.4**
XAN				pmax	pmax		
	comp=Z,31nm,1.4s						
XAN				pmax	pmax		
	comp=Z,2μm,10.6s						
XAN				LR	LR		
	comp=Z,41μm,21.1s						
XAN				LR	LR		
	comp=Z,30μm,17.7s						
XAN	**Xi'an**	**40.79**	**264**	*e*P	**P**	**03 13 30.7**	**-0.5**
	comp=Z,74nm,1.5s						
XAN				LR	LR		
	comp=Z,32μm,18.0s						
SSLB	**Suanglung**	**41.34**	**242**	*e*P	**P**	**03 13 36.1**	**+0.4**
	comp=Z,112nm,1.4s						
SSLB				LR	LR		
	comp=Z,24μm,20.0s						
YULB	**Yu-li**	**41.47**	**241**	*e*P	**P**	**03 13 36.8**	**0.0**
	comp=Z,77nm,1.3s						
YULB				LR	LR		
	comp=Z,14μm,19.0s						
QZH	**Quanzhou**	**41.72**	**246**	⇑*i*P	**P**	**03 13 39.0**	**+0.2**
QZH				S	**S**	**03 19 56.8**	**+2.8**
QZH				pmax	pmax		
	comp=Z,77nm,1.8s						
QZH				pmax	pmax		
	comp=Z,2μm,4.8s						
QZH				LR	LR		
	comp=Z,12μm,17.1s						
QZH				LR	LR		
	comp=Z,9μm,18.0s						
QZH				LR	LR		
	comp=Z,9μm,17.5s						
TPUB	**Ta-pu**	**41.90**	**242**	*e*P	**P**	**03 13 40.9**	**+0.5**
	comp=Z,176nm,1.2s						
TPUB				LR	LR		
	comp=Z,17μm,19.0s						
TWG	**Pinlang**	**42.05**	**241**	*e*P	**P**	**03 13 41.5**	**-0.1**
	comp=Z,745nm,1.5s						
TWG				LR	LR		
	comp=Z,56μm,20.0s						
BBB	**Bella Bella**	**42.09**	**61**	*e*P	**P**	**03 13 43.4**	**+1.9**
	comp=Z,74nm,1.4s						
BBB				LR	LR		
	comp=Z,6μm,19.0s						
BBB	**Bella Bella**	**42.09**	**61**	P	**P**	**03 13 43.4**	**+1.9**
	comp=Z,23nm,1.1s,baz=323,slow=5.1,SNR=2.6						
KNMB	**Chin-men Tao**	**42.21**	**245**	PFAKE		03 13 50.0	+7.2
KNMB				LR	LR		
	comp=Z,9μm,19.0s						
LZH	**Lanzhou**	**42.55**	**271**	*e*P	**P**	**03 13 45.3**	**-0.4**
LZH				pP	pP	03 13 51.8	-1.4
LZH				sP	sP	03 13 55.6	-0.7
LZH				*e*S	**S**	**03 20 10.0**	**+3.4**
LZH				sS	sS	03 20 18.8	-0.2
LZH				pmax	pmax		
	comp=Z,87nm,1.3s						
LZH				pmax	pmax		
	comp=Z,2μm,6.8s						
LZH				LR	LR		
	comp=Z,33μm,17.9s						
LZH				LR	LR		
	comp=Z,28μm,17.6s						
LZH				LR	LR		
	comp=Z,48μm,18.2s						
JOHN	**Johnston Islan**	**42.65**	**135**	PFAKE		03 14 00.0	+14
JOHN				LR	LR		
	comp=Z,18μm,19.0s						
GTA	**Gaotai**	**42.92**	**277**	⇑P	**P**	**03 13 47.6**	**-1.0**
GTA				pP	pP	03 13 54.4	-1.7
GTA				sP	sP	03 13 58.4	-0.8
GTA				S	**S**	**03 20 08.6**	**-3.2**
GTA				pmax	pmax		
	comp=Z,53nm,1.6s						
GTA				pmax	pmax		
	comp=Z,1μm,5.7s						
GTA				LR	LR		
	comp=Z,31μm,16.8s						
GTA				LR	LR		
	comp=Z,30μm,16.8s						
GTA				LR	LR		
	comp=Z,47μm,17.5s						
ENH	**Enshi**	**43.06**	**260**	*e*P	**P**	**03 13 50.6**	**+0.8**
	comp=Z,252nm,1.5s						
ENH				LR	LR		
	comp=Z,23μm,19.0s						
ZAA1	**Zalesovo Array**	**43.40**	**304**	*e*P	**P**	**03 13 49.6**	**-2.6**
ZAA0	**Zalesovo Array**	**43.41**	**304**	*e*P	**P**	**03 13 49.5**	**-2.7**
	comp=Z,75nm,1.3s						
ZAA0				LR	LR		
	comp=Z,22μm,18.0s						
ZALV	**Zalesovo Beam**	**43.41**	**304**	P	**P**	**03 13 49.6**	**-2.6**
	comp=Z,16nm,0.8s,baz=60,slow=5.8,SNR=61						
YKW3	**Yellowknife Ar**	**43.59**	**42**	*e*P	**P**	**03 13 53.6**	**0.0**
	comp=Z,13nm,1.1s						
YKW3				LR	LR		
	comp=Z,6μm,18.0s						
YKA	**Yellowknife Ar**	**43.63**	**42**	P	**P**	**03 13 53.6**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=299,slow=8.1,SNR=32						
YKB5	**Yellowknife Ar**	**43.63**	**42**	*e*P	**P**	**03 13 53.6**	**-0.2**
KWAJ	**Kwajalein Atol**	**43.73**	**170**	PFAKE		03 14 10.0	+15
KWAJ				LR	LR		
	comp=Z,10μm,20.0s						
NVS	**Novosibirsk**	**43.76**	**305**	⇑*i*P	**P**	**03 13 54.1**	**-0.9**
NVS				pmax	pmax		
	comp=Z,685nm,1.5s						
NVS				pmax	pmax		
	comp=N,162nm,1.4s						
NVS				pmax	pmax		
	comp=E,455nm,1.4s						
RES	**Resolute Bay**	**44.01**	**22**	*e*P	**P**	**03 13 57.0**	**+0.2**
	comp=E,35nm,1.2s						
RES				LR	LR		
	comp=Z,4μm,20.0s						

RES	Resolute Bay	44.01	22	LR	LR	03 33 49.4
	comp=Z,4μm,21.5s,baz=305,slow=38					
OPA	Opana	44.14	118	eP	P	03 14 00.0 +1.5
	comp=Z,194nm,1.4s					
OPA				LR	LR	
	comp=Z,13μm,20.0s					
DGZ	Jazzator, Alta	44.23	297	c iP	P	03 13 58.4 -0.7
DGZ				pmax	pmax	
	comp=Z,102nm,1.5s					
KIP	Kipapa	44.35	118	eP	P	03 14 01.6 +1.4
	comp=Z,226nm,1.2s					
KIP				LR	LR	
	comp=Z,10μm,20.0s					
KIP	Kipapa	44.35	118	ceP	P	03 14 01.4 +1.2
KIP				pmax	pmax	
	comp=Z,188nm,1.5s					
HON	Honolulu	44.44	118	PFAKE		03 14 10.0 +9.2
HON				LR	LR	
	comp=Z,12μm,19.0s					
PATS	Pohnpei	45.32	183	PFAKE		03 14 20.0 +12
PATS				LR	LR	
	comp=Z,10μm,18.0s					
KHLH	Kahului Airpor	45.65	117	PFAKE		03 14 20.0 +10
KHLH				LR	LR	
	comp=Z,13μm,20.0s					
HLK	Haleakala	45.86	117	PFAKE		03 14 30.0 +18
HLK				LR	LR	
	comp=Z,13μm,20.0s					
CD2	Chengdu	46.10	265⇑	iP	P	03 14 13.0 -1.1
CD2				sP	pP	03 14 20.6 -1.0
CD2				PP	PP	03 15 58.5 -3.8
CD2				S	S	03 20 56.4 -1.7
CD2				sS	sS	03 21 09.4 -1.1
CD2				pmax	pmax	
	comp=Z,90nm,1.2s					
CD2				pmax	pmax	
	comp=Z,4μm,10.8s					
CD2				LR	LR	
	comp=Z,52μm,20.2s					
CD2				LR	LR	
	comp=Z,48μm,19.6s					
CD2				LR	LR	
	comp=Z,37μm,16.3s					
PALP	Palanan	46.12	235	eP	P	03 14 27.5 +13
LLLB	Lilloоet	46.24	60	eP	P	03 14 16.0 +1.1
	comp=Z,90nm,1.5s					
LLLB				LR	LR	
	comp=Z,8μm,20.0s					
HKPS	Hong Kong Po S	46.32	248	PFAKE		03 14 30.0 +14
HKPS				LR	LR	
	comp=Z,16μm,20.0s					
MHA	Mahukona	46.51	117	eP	P	03 14 19.2 +2.0
HPAH	Hawaii Prepara	46.75	117	PFAKE		03 14 30.0 +11
HPAH				LR	LR	
	comp=Z,10μm,20.0s					
A04D	Lummi Island	46.87	62	P	P	03 14 17.9 -1.8
	baz=305					
ZSN	Zaisan	46.90	296	eP	P	03 14 23.2 +3.2
ZSN				pmax	pmax	
	comp=Z,85nm,3.2s					
ZSN	Zaisan	46.90	296	eP	P	03 14 23.3 +3.2
	comp=Z,85nm,3.2s					
HUH	Hualalai	46.95	117	PFAKE		03 14 30.0 +9.0
HUH				LR	LR	
	comp=Z,13μm,19.0s					
KHLU	Kahalu`u	46.99	117	PFAKE		03 14 30.0 +8.8
KHLU				LR	LR	
	comp=Z,12μm,20.0s					
NLWA	Neilton Lookou	47.00	64	eP	P	03 14 22.3 +1.5
	comp=Z,33nm,1.0s					
NLWA				LR	LR	
	comp=Z,8μm,20.0s					
POHA	Pohakuloa	47.06	117	eP	P	03 14 22.8 +1.0
	comp=Z,547nm,1.5s					
POHA				LR	LR	
	comp=Z,11μm,20.0s					
HMH	Humu'ula Sheep	47.21	117	PFAKE		03 14 40.0 +17
HMH				LR	LR	
	comp=Z,12μm,20.0s					
MLOA	Mauna Loa Obse	47.21	117	eP	P	03 14 25.8 +2.5
	comp=Z,108nm,1.0s					
MLOA				LR	LR	
	comp=Z,14μm,19.0s					
MWH	Moku'aweowe	47.24	117	eP	P	03 14 25.1 +1.5
	comp=Z,178nm,1.2s					
MWH				LR	LR	
	comp=Z,14μm,19.0s					
D03D	Eldon	47.34	64	P	P	03 14 22.6 -0.8
	baz=306,SNR=6.0					
MLH	Mauna Loa	47.35	117	eP	P	03 14 25.2 +1.1
	comp=Z,166nm,1.1s					
MLH				LR	LR	
	comp=Z,12μm,20.0s					
AIN	Ainahou	47.41	117	eP	P	03 14 26.9 +2.4
	comp=Z,193nm,1.1s					
AIN				LR	LR	
	comp=Z,14μm,20.0s					
KHU	Kahuku	47.42	117	PFAKE		03 14 40.0 +15
KHU				LR	LR	
	comp=Z,13μm,20.0s					
WMQ	Urumqi	47.45	290	P	P	03 14 24.8 +0.3
WMQ				pP	pP	03 14 32.8 +0.8
WMQ				pmax	pmax	
	comp=Z,330nm,1.3s					
WMQ				pmax	pmax	
	comp=Z,4μm,7.1s					
WMQ				LR	LR	
	comp=Z,27μm,19.1s					
WMQ				LR	LR	
	comp=Z,20μm,17.5s					
WMQ				LR	LR	
	comp=Z,23μm,22.1s					
WMQ	Urumqi	47.45	290	eP	P	03 14 24.1 -0.3
	comp=Z,384nm,1.5s					
WMQ				LR	LR	
	comp=Z,32μm,18.0s					
UWE	Uwekahuna	47.46	117	PFAKE		03 14 40.0 +15
UWE				LR	LR	
	comp=Z,12μm,20.0s					
B05A	Bryant	47.46	62	P	P	03 14 24.1 -0.3
	baz=306					
OBL	Observatory Le	47.47	117	PFAKE		03 14 40.0 +15
OBL				LR	LR	
	comp=Z,13μm,20.0s					
WRMHI	West Rim	47.47	117	PFAKE		03 14 40.0 +15
WRMHI				LR	LR	
	comp=Z,12μm,19.0s					
SBLHI	Steaming Bluff	47.47	117	PFAKE		03 14 40.0 +15
SBLHI				LR	LR	
	comp=Z,12μm,20.0s					
NPH	North Pit	47.47	117	PFAKE		03 14 40.0 +15
NPH				LR	LR	
	comp=Z,12μm,20.0s					
SDHHI	Sand Hill	47.48	117	PFAKE		03 14 40.0 +15
SDHHI				LR	LR	
	comp=Z,13μm,20.0s					
BYL	Byron's Ledge	47.49	117	PFAKE		03 14 40.0 +15
BYL				LR	LR	
	comp=Z,12μm,20.0s					
RIM	Rim	47.49	117	PFAKE		03 14 40.0 +15
RIM				LR	LR	
	comp=Z,12μm,19.0s					
KKO	Keanakako`i	47.49	117	PFAKE		03 14 40.0 +15
KKO				LR	LR	
	comp=Z,12μm,20.0s					
GYA	Guiyang	47.54	259⇑	iP	P	03 14 24.5 -0.9
GYA				pP	pP	03 14 30.8 -2.0
GYA				PP	PP	03 16 14.5 -2.3
GYA				S	S	03 21 20.9 +2.2
GYA				sS	pS	03 21 24.8 -2.7
GYA				SS	SS	03 24 37.0 -10
GYA				pmax	pmax	
	comp=Z,60nm,1.0s					
GYA				pmax	pmax	
	comp=Z,180nm,5.6s					
GYA				LR	LR	
	comp=Z,3μm,18.6s					
GYA				LR	LR	
	comp=Z,2μm,16.5s					
GYA				LR	LR	
	comp=Z,2μm,14.3s					
PUH	Pauahi	47.54	117	PFAKE		03 14 40.0 +15
PUH				LR	LR	
	comp=Z,11μm,20.0s					
HLP	Hilina Pali	47.55	117	PFAKE		03 14 40.0 +15
HLP				LR	LR	
	comp=Z,13μm,20.0s					
STCH	Steam Cracks	47.58	116	PFAKE		03 14 40.0 +14
STCH				LR	LR	
	comp=Z,10μm,19.0s					
JCUZ	Jacuzzi	47.59	116	PFAKE		03 14 40.0 +14
JCUZ				LR	LR	
	comp=Z,9μm,21.0s					
B06A	Marblemount	47.65	62	eP	P	03 14 30.6 +4.8
	comp=Z,51nm,1.4s					
B06A				LR	LR	
	comp=Z,5μm,20.0s					
KBS	Kingsbay	47.72	352	eP	P	03 14 26.7 +0.7
	comp=Z,193nm,1.3s					
KBS				LR	LR	
	comp=Z,11μm,20.0s					
KBS	Kingsbay	47.72	352	ceP	P	03 14 26.4 +0.4
KBS				pmax	pmax	
	comp=Z,1μm,1.9s					
KBS	Kingsbay	47.72	352	eP	P	03 14 26.5 +0.4
D04E	Lakebay	47.73	64	P	P	03 14 25.2 -1.2
	baz=306					
SMPP	San Manuel, Pa	47.77	236	eP	P	03 14 26.2 -0.9
SPA0	Spitsbergen Ar	47.98	351	eP	P	03 14 28.0 0.0
	comp=Z,587nm,1.4s					
SPA0	Spitsbergen Ar	47.98	351	eP	P	03 14 28.1 0.0
F03A	Seaside	48.03	66	eP	P	03 14 30.3 +1.5
	comp=Z,53nm,0.9s					
D05A	Enumclaw	48.15	63	eP	P	03 14 35.3 +5.5
	comp=Z,46nm,1.0s					
D05A				LR	LR	
	comp=Z,5μm,22.0s					
E04D	Cinebar	48.21	64	P	P	03 14 29.1 -1.1
	baz=307					
F04D	Rainier, OR	48.24	65	P	P	03 14 28.4 -2.1
	baz=307					
PVCP	Virac	48.25	230	eP	P	03 14 31.5 +0.8
KURK	Kurchatov	48.35	303	eP	P	03 14 29.1 -2.1
	comp=Z,495nm,1.2s					
KURK				LR	LR	
	comp=Z,30μm,18.0s					
KURK	Kurchatov	48.35	303	ceP	P	03 14 29.1 -2.1
KURK				pmax	pmax	
	comp=Z,533nm,1.3s					
KURK	Kurchatov	48.35	303	P	P	03 14 29.4 -1.9
	SNR=246					
HOPEN	Hopen	48.39	347	eP	P	03 14 31.5 +0.3
KURBB	Kurchatov Arra	48.45	303	PKPPKP		03 45 44.0
	comp=Z,0.2nm,0.4s,baz=313,slow=2.4,SNR=4.3					
LON	Longmire	48.51	64	eP	P	03 14 37.7 +5.1
	comp=Z,5.8nm,0.8s					
LON				LR	LR	
	comp=Z,4μm,19.0s					
G03D	McMinnville, O	48.63	66	P	P	03 14 31.4 -2.0
	baz=308					
MK31	Makanchi Array	48.71	296	eP	P	03 14 32.1 -2.0
	comp=Z,73nm,1.3s					
MK32	Makanchi Array	48.71	296	eP	P	03 14 32.0 -2.1
MKAR	Makanchi Array	48.71	296	P	P	03 14 32.0 -2.1
	comp=Z,11nm,0.5s,baz=57,slow=8.8,SNR=107					
LTY	Liberty	48.83	63	eP	P	03 14 35.6 +0.5
	comp=Z,19nm,1.1s					
LTY				LR	LR	
	comp=Z,5μm,21.0s					
B08A	Colville Reser	48.90	61	eP	P	03 14 35.9 +0.4
	comp=Z,37nm,1.0s					
B08A				LR	LR	
	comp=Z,5μm,21.0s					
I02D	Swisshome	48.97	68	P	P	03 14 34.5 -1.6
	baz=308					
COR	Corvallis	48.99	67	PFAKE		03 14 50.0 +14
COR				LR	LR	
	comp=Z,5μm,19.0s					
HSPB	Hornsund (broa	49.11	350	eP	P	03 14 36.4 -0.3
HSPB	Hornsund (broa	49.11	350	eP	P	03 14 36.8 +0.1
F05D	White Salmon	49.23	64	P	P	03 14 37.1 -1.0
	baz=308					
H04D	Lebanon	49.34	67	P	P	03 14 36.1 -2.9
	baz=308					
TGY	Tagaytay City	49.38	234	P	P	03 14 40.7 +1.1
	comp=Z,101nm,0.3s,baz=7.0,slow=6.7,SNR=6.1					
TGY				LR	LR	03 35 46.2
	comp=Z,4μm,21.9s,baz=20,slow=36					
I03D	Drain, OR	49.51	68	P	P	03 14 40.1 -0.1
	baz=309					
J01E	Myrtle Point	49.51	69	P	P	03 14 39.1 -1.1
	baz=309					
H04A	Detroit Lake	49.56	66	eP	P	03 14 41.5 +0.9
	comp=Z,47nm,1.1s					
H04A				LR	LR	
	comp=Z,4μm,19.0s					
G05D	Wamic, OR	49.70	65	P	P	03 14 42.4 +0.7
	baz=308					
E07A	Sunnyside	49.70	63	PFAKE		03 14 50.0 +8.3
E07A				LR	LR	
	comp=Z,4μm,20.0s					
C09A	Chrisman Ranch	49.80	61	eP	P	03 14 44.7 +2.3
	comp=Z,45nm,1.1s					
C09A				LR	LR	
	comp=Z,6μm,18.0s					
D08A	Wollman Farm,	49.91	62	eP	P	03 14 45.4 +2.2
	comp=Z,30nm,1.4s					
D08A				LR	LR	
	comp=Z,4μm,18.0s					
K02D	Willamette Mer	49.95	69	P	P	03 14 46.2 +2.5
	baz=309					
HAWA	Hanford	49.98	63	eP	P	03 14 46.3 +2.5
	comp=Z,25nm,1.0s					
I04A	Tendick Farm,	49.98	67	P	P	03 14 43.3 -0.6
	baz=309					
PLP	Palo	49.99	228⇑	eP	P	03 14 44.7 +0.6
LUBP	Lubang	50.04	235	eP	P	03 14 44.9 +0.4
F07A	Phinny Hill Vi	50.07	64	eP	P	03 14 48.4 +4.0
	comp=Z,51nm,1.0s					
G06A	Carlson Farm,	50.08	65	PFAKE		03 15 00.0 +15
G06A				LR	LR	
	comp=Z,5μm,22.0s					
NEW	Newport	50.13	60	eP	P	03 14 46.4 +1.4
	comp=Z,70nm,1.4s					
NEW				LR	LR	
	comp=Z,6μm,20.0s					
NEW	Newport	50.13	60	P	P	03 14 44.2 -0.7
	baz=308,SNR=15					
NEW	Newport	50.13	60	P	P	03 14 46.3 +1.3
	comp=Z,21nm,1.1s,baz=313,slow=7.4,SNR=9.9					
NEW				LR	LR	03 36 26.8
	comp=Z,3μm,18.6s,baz=316,slow=37					
E08A	Dider Farm, El	50.18	63	eP	P	03 14 50.1 +4.8
	comp=Z,43nm,1.4s					
E08A				LR	LR	
	comp=Z,5μm,21.0s					
I05D	Terrebonne, OR	50.25	66	P	P	03 14 45.3 -0.6
	baz=309					
L02E	Cave Junction	50.33	70	P	P	03 14 45.0 -1.5
	baz=310					
OTRP	Odiongan	50.34	232	eP	P	03 14 46.4 -0.4
HUMO	Hull Mountain	50.41	69	eP	P	03 14 48.4 +1.3
	comp=Z,22nm,1.1s					
HUMO				LR	LR	
	comp=Z,4μm,20.0s					
J04D	Umpqua Nationa	50.50	68	P	P	03 14 42.9 -5.1
	baz=309,SNR=15					
E09A	Wood Farm, Sta	50.66	62	eP	P	03 14 49.2 +0.3
	comp=Z,70nm,1.3s					
E09A				LR	LR	
	comp=Z,4μm,22.0s					
SJMP	San Jose	50.69	233	eP	P	03 14 50.7 +1.3
PINE	Pine Mountain	50.81	66	eP	P	03 14 51.9 +1.6
	comp=Z,31nm,1.0s					
PINE				LR	LR	
	comp=Z,6μm,19.0s					
BJO	Bjornoya	50.88	347	eP	P	03 14 50.7 +0.6
KMI	Kunming	50.90	261	P	P	03 14 51.3 +0.1
KMI				pP	sP	03 15 01.3 -0.4
KMI				S	S	03 22 06.0 -0.1
KMI				pmax	pmax	
	comp=Z,74nm,1.3s					
KMI				pmax	pmax	
	comp=Z,2μm,9.9s					
KMI				LR	LR	
	comp=Z,23μm,17.5s					
KMI				LR	LR	
	comp=Z,26μm,17.5s					
KMI				LR	LR	
	comp=Z,14μm,21.9s					
KMI	Kunming	50.90	261	eP	P	03 14 51.8 +0.6
	comp=Z,124nm,1.3s					
KMI				LR	LR	
	comp=Z,14μm,20.0s					
JCC	Jacoby Creek,	50.93	71	PFAKE		03 15 00.0 +9.0
JCC				LR	LR	
	comp=Z,4μm,20.0s					
MSLP	Maasin	50.95	228	eP	P	03 15 02.1 +11
KULLO	Kullorsuaq	50.95	12⇑	iP	P	03 14 50.5 -0.2
KULLO				MLR	MLR	
	comp=Z,10μm,21.0s					
KULLO	Kullorsuaq	50.95	12⇑	iP	P	03 14 50.5 -0.2
J05D	Fort Rock, OR	50.97	67	P	P	03 14 48.5 -2.9
	baz=310,SNR=38					
G08A	Pilot Rock	50.98	64	eP	P	03 14 53.8 +2.4
	comp=Z,18nm,1.3s					
G08A				LR	LR	
	comp=Z,4μm,21.0s					
L04D	Klamath Falls	51.03	69	P	P	03 14 47.7 -4.3
	baz=310,SNR=25					
K04D	Chiloquin, OR	51.09	68	P	P	03 14 51.7 -0.6
	baz=310					
BRVK	Borovoye	51.10	309	eP	P	03 14 50.3 -1.9
	comp=Z,117nm,0.9s					
BRVK				LR	LR	
	comp=Z,22μm,18.0s					
BRVK	Borovoye	51.10	309	c iP	P	03 14 50.3 -1.9
BRVK				pmax	pmax	
	comp=Z,242nm,1.5s					
BRVK	Borovoye	51.10	309	P	P	03 14 50.2 -1.9
	SNR=122					
YBH	Yreka Blue Hor	51.11	69	eP	P	03 14 54.1 +1.6
	comp=Z,27nm,1.0s					
YBH				LR	LR	
	comp=Z,6μm,21.0s					
YBH	Yreka Blue Hor	51.11	69	P	P	03 14 53.5 +1.0
	comp=Z,16nm,0.8s,baz=313,slow=2.4,SNR=19					
DAG	Danmarks Havn	51.23	360⇑	iP	P	03 14 52.3 -0.5
DAG				pmax	pmax	
	comp=Z,84nm,1.1s					
DAG				MLR	MLR	
	comp=Z,8μm,18.0s					
DAG	Danmarks Havn	51.23	360⇑	iP	P	03 14 52.3 -0.5
	comp=Z,67nm,1.1s					
M02C	Callahan	51.24	70	P	P	03 14 53.3 -0.2
	baz=310					
QIZ	Qiongzhong	51.34	249	P	P	03 14 55.0 +0.7
QIZ				sP	pP	03 14 58.0 -3.8
QIZ				S	S	03 22 13.1 +1.2
QIZ				sS	pS	03 22 20.3 -0.3
QIZ				pmax	pmax	
	comp=Z,100nm,1.4s					
QIZ				pmax	pmax	
	comp=Z,2μm,3.5s					
QIZ				LR	LR	
	comp=Z,13μm,17.7s					
QIZ				LR	LR	
	comp=Z,15μm,17.7s					
QIZ				LR	LR	
	comp=Z,11μm,20.6s					
QIZ	Qiongzhong	51.34	249	eP	P	03 14 56.9 +2.6
	comp=Z,192nm,1.3s					
QIZ				LR	LR	
	comp=Z,14μm,21.0s					
I07A	Izee	51.43	65	eP	P	03 14 57.3 +2.4
	comp=Z,23nm,1.4s					
I07A				LR	LR	
	comp=Z,5μm,19.0s					
F10A	Beach Ranch, E	51.49	62	eP	P	03 14 57.0 +1.7
	comp=Z,19nm,1.0s					
F10A				LR	LR	
	comp=Z,4μm,19.0s					
K05A	Summer Lake	51.51	67	eP	P	03 14 57.2 +1.5
	comp=Z,39nm,1.0s					
K05A				LR	LR	
	comp=Z,5μm,19.0s					
M04C	Macdoel	51.58	69	P	P	03 14 55.1 -1.0
	baz=310					
N02D	Trinity Center	51.60	70	P	P	03 14 54.6 -1.5
	baz=310					
BSMT	Bassoo Peak	51.62	59	eP	P	03 14 57.3 +1.0
TARA	Tarawa	51.80	164	PFAKE		03 15 10.0 +12
TARA				LR	LR	
	comp=Z,7μm,20.0s					
TDK	Taldyqorghan	51.95	297	eP	P	03 14 57.1 -1.5
TDK				pmax	pmax	
	comp=Z,348nm,1.4s					
TDK				MLR	MLR	
	comp=Z,32μm,20.0s					
TDK	Taldyqorghan	51.95	297	eP	P	03 14 57.2 -1.5
	comp=Z,348nm,1.4s					
TDK				eLR	LR	03 37 56.6
	comp=Z,32μm,20.3s					
WDC	Whiskeytown Da	51.95	70	eP	P	03 14 60.0 +1.3
	comp=Z,54nm,1.4s					
O02D	Mt. Diablo Mer	52.07	71	P	P	03 14 56.5 -3.2
	baz=311					
BMO	Blue Mountains	52.16	63	eP	P	03 15 00.8 +0.5
	comp=Z,51nm,1.4s					
BMO				LR	LR	
	comp=Z,5μm,22.0s					
MOD	Modoc Plateau	52.38	68	eP	P	03 15 03.2 +1.2
	comp=Z,153nm,1.5s					
MOD				LR	LR	
	comp=Z,5μm,19.0s					
J08A	Circle Bar Ran	52.47	65	eP	P	03 15 04.0 +1.4
	comp=Z,42nm,1.5s					
J08A				LR	LR	
	comp=Z,4μm,21.0s					
SHLS	Shalkode	52.54	294	c iP	P	03 14 59.7 -3.5
SHLS				pmax	pmax	
	comp=Z,187nm,2.2s					
SHLS	Shalkode	52.54	294⇑	iP	P	03 14 59.7 -3.5
	comp=Z,187nm,2.2s					
O03E	Paynes Creek	52.56	70	P	P	03 15 01.6 -1.7
	baz=311,SNR=20					
ENPP	El Nido	52.61	234	eP	P	03 15 04.6 +0.8
HOPS	Hopland Field	52.68	72	PFAKE		03 15 20.0 +16
HOPS				LR	LR	
	comp=Z,6μm,18.0s					
MSO	Missoula	52.71	59	eP	P	03 15 04.7 +0.3
	comp=Z,51nm,1.3s					
MSO				LR	LR	
	comp=Z,4μm,18.0s					
MSO	Missoula	52.71	59	P	P	03 15 02.9 -1.5
	baz=310,SNR=31					
PLID	Pearl Lake	52.72	62	eP	P	03 15 05.3 +0.7
	comp=Z,36nm,1.1s					
KPKS	Kokpek	52.78	295	c iP	P	03 15 03.1 -1.8
KPKS				pmax	pmax	
	comp=Z,178nm,2.5s					
KPKS				MLR	MLR	
	comp=Z,12μm,16.0s					
KPKS	Kokpek	52.78	295⇑	iP	P	03 15 03.1 -1.8
	comp=Z,178nm,2.5s					
KPKS				eLR	LR	03 38 31.3
	comp=Z,12μm,16.3s					
BUKP	Musuan	52.86	226	eP	P	03 15 05.8 +0.1
GDXM	Geysers	52.96	72	eP	P	03 15 10.4 +4.1
	comp=Z,66nm,1.4s					
GDXM				LR	LR	
	comp=Z,6μm,18.0s					
WVOR	Wild Horse Val	52.98	66	eP	P	03 15 07.3 +0.9
	comp=Z,28nm,1.2s					
WVOR				LR	LR	
	comp=Z,5μm,19.0s					
MGL	Magalia	53.02	71	eP	P	03 15 07.5 +0.7
SVE	Sverdlovsk	53.03	317	deP	P	03 15 05.6 -0.8
SVE				pmax	pmax	
	comp=Z,99nm,1.5s					
SLVN	Son La	53.04	257	eP	P	03 15 08.0 +0.9
	comp=Z,258nm,1.4s					
SLVN				LR	LR	
	comp=Z,19μm,19.0s					
SATY	Saty	53.20	295	c iP	P	03 15 06.3 -1.7
SATY				pmax	pmax	
	comp=Z,237nm,2.5s					
SATY				MLR	MLR	
	comp=Z,5μm,14.0s					
SATY	Saty	53.20	295⇑	iP	P	03 15 06.3 -1.7
	comp=Z,237nm,2.5s					
SATY				eLR	LR	03 38 50.6
	comp=Z,5μm,14.3s					
ORV	Oroville	53.22	71	eP	P	03 15 09.0 +0.9
	comp=Z,46nm,1.4s					
ORV				LR	LR	
	comp=Z,3μm,21.0s					
DAV	Davao City (W)	53.35	225	eP	P	03 15 09.9 +0.7
	comp=Z,153nm,0.8s					
DAV				LR	LR	

comp=Z,5μm,21.0s
DAV Davao City (W) 53.35 225⇑ iP P 03 15 08.7 -0.5
DAV Davao City (W) 53.35 225 P P 03 15 09.9 +0.7
comp=Z,159nm,0.4s,baz=116,slow=2.6,SNR=4.4
MCCM Marconi Confer 53.35 73 PFAKE 03 15 20.0 +11
MCCM LR LR
comp=Z,6μm,21.0s
FFC Flin Flon 53.45 46 *e*P **P 03 15 09.8 +0.3**
comp=Z,34nm,1.4s
FFC LR LR
comp=Z,7μm,19.0s
FFC Flin Flon 53.45 46 *i* P **P 03 15 09.8 +0.3**
HAMF Hammerfest 53.53 343 *e*P **P 03 15 09.3 -0.6**
LVZ Lovozero 53.54 338 *e*P **P 03 15 09.6 -0.5**
comp=Z,83nm,0.9s
LVZ LR LR
comp=Z,7μm,20.0s
LVZ Lovozero 53.54 338*c i*P **P 03 15 09.0 -1.1**
LVZ pmax pmax
comp=Z,224nm,1.7s
KEV Kevo 53.67 342 *e*P **P 03 15 10.2 -0.7**
comp=Z,37nm,0.9s
BEKR Beckworth 53.68 70 *e*P **P 03 15 12.6 +0.9**
comp=Z,86nm,1.3s
BEKR LR LR
comp=Z,4μm,21.0s
KUU Kurty 53.80 297*ce*P **P 03 15 09.5 -2.7**
KUU pmax pmax
comp=Z,254nm,2.0s
KUU MLR MLR
comp=Z,17μm,16.0s
KUU Kurty 53.80 297⇑*e*P **P 03 15 09.5 -2.7**
comp=Z,254nm,1.9s
KUU *e*LR LR 03 39 01.9
comp=Z,17μm,15.6s
CTBH Cotabato--PC H 53.80 227⇑ *i*P **P 03 15 14.1 +1.6**
MDOK Medeo 53.88 296 *e*P **P 03 15 09.7 -3.3**
MDOK pmax pmax
comp=Z,870nm,2.7s
MDOK MLR MLR
comp=Z,16μm,17.0s
MDOK Medeo 53.88 296 *e*P **P 03 15 09.8 -3.3**
comp=Z,870nm,2.7s
MDOK *e*LR LR 03 38 38.7
comp=Z,16μm,16.7s
HRY Holter Researc 53.90 58 *e*P **P 03 15 13.5 +0.4**
AAA Alma-Ata 53.92 296 *e*P **P 03 15 11.1 -2.2**
AAA pmax pmax
comp=Z,141nm,1.7s
AAA MLR MLR
comp=Z,16μm,18.0s
AAA Alma-Ata 53.92 296 *e*P **P 03 15 11.1 -2.2**
comp=Z,141nm,1.7s
AAA *e*LR LR 03 38 49.6
comp=Z,16μm,17.5s
AFDM Forest Hills D 53.93 71 *e*P **P 03 15 14.6 +1.2**
comp=Z,42nm,1.2s
AFDM LR LR
comp=Z,5μm,20.0s
FCC Fort Churchill 53.99 38 *e*P **P 03 15 13.2 -0.2**
comp=Z,52nm,1.4s
FCC LR LR
comp=Z,6μm,20.0s
APA Apatity 54.10 338⇓ *i*P **P 03 15 12.1 -2.0**
APA *i* 03 16 18.0
APA *i* 03 17 20.0
APA *i* S **S 03 22 41.0 -7.3**
APA *i* 03 24 56.0
APA *i* SS **SKiKP 03 26 18.0 -5.4**
APA *i* SSS SSS 03 28 27.0
APA pmax pmax
comp=Z,35nm,1.0s
APA MLR MLR
comp=Z,13μm,18.0s
EGMT Eagleton 54.12 56 *e*P **P 03 15 14.8 +0.1**
comp=Z,38nm,1.1s
EGMT LR LR
comp=Z,9μm,21.0s
EGMT Eagleton 54.12 56 P **P 03 15 13.1 -1.5**
baz=311,SNR=21
ARCES ARCESS Array B 54.14 342 *e*P **P 03 15 13.1 -1.3**
ARCES ARCESS Array B 54.14 342 *e*P **P 03 15 13.1 -1.3**
ARCES ARCESS Array B 54.14 342 P **P 03 15 13.7 -0.7**
comp=Z,41nm,0.8s,baz=37,slow=8.9,SNR=68
ARE0 ARCESS Array S 54.14 342 *e*P **P 03 15 14.4 0.0**
comp=Z,4.5nm,1.0s
ARE0 ARCESS Array S 54.14 342 *e*P **P 03 15 14.1 -0.3**
ARU Arti 54.15 318 *e*P **P 03 15 13.2 -1.4**
comp=Z,88nm,0.5s
ARU LR LR
comp=Z,12μm,19.0s
ARU Arti 54.15 318*c i*P **P 03 15 13.0 -1.6**
ARU *PP **pwP 03 15 26.5 +1.3**
ARU 03 16 17.9
ARU 03 17 12.1
ARU S **S 03 22 46.9 -2.5**
ARU 03 24 53.6
ARU SS **SS 03 26 31.6 +1.2**
ARU pmax pmax
comp=Z,274nm,2.2s
DDMP Don Marcelino, 54.16 224 *e*P **P 03 15 14.2 -1.0**
RUBR Rubicon Trail 54.34 70 PFAKE 03 15 30.0 +13
RUBR LR LR
comp=Z,4μm,20.0s
PAHR Pah Rah Range 54.35 69 *e*P **P 03 15 17.6 +1.1**
comp=Z,35nm,1.0s
PAHR LR LR
comp=Z,4μm,18.0s
DLMT Dillon 54.38 60 *e*P **P 03 15 19.2 +2.5**
comp=Z,32nm,1.3s
DLMT LR LR
comp=Z,3μm,19.0s
TARG Taragay, Kyrgy 54.40 294 PFAKE 03 15 30.0 +13
TARG LR LR
comp=Z,12μm,18.0s
VCNR Virginia City 54.47 70 *e*P **P 03 15 18.8 +1.4**
comp=Z,38nm,0.9s
VCNR LR LR
comp=Z,3μm,18.0s
KDJ Kajisay 54.49 295 PFAKE 03 15 30.0 +12
KDJ LR LR
comp=Z,14μm,18.0s
HLID Hailey 54.58 63 *e*P **P 03 15 18.6 +0.5**
comp=Z,24nm,1.4s
HLID LR LR
comp=Z,6μm,22.0s
HLID Hailey 54.58 63 P **P 03 15 18.3 +0.1**
baz=312,SNR=17
MCMT McKenzie Canyo 54.59 61 *e*P **P 03 15 18.6 +0.2**
PNTR Pine Nut 54.63 70 *e*P **P 03 15 20.2 +1.5**
comp=Z,58nm,0.9s
PNTR LR LR
comp=Z,4μm,21.0s
LSA Lhasa 54.69 274 *e*P **P 03 15 19.9 +0.3**
comp=Z,31nm,0.8s
LSA LR LR
comp=Z,18μm,18.0s
LSA Lhasa 54.69 274 P **P 03 15 19.7 +0.2**
LSA *i* P **P 03 15 19.8 +0.3**
SNR=19
LSA *i* P **P 03 15 20.0 +0.5**
SNR=5.9
BOZ Bozeman (W) 54.73 59 *e*P **P 03 15 19.6 +0.3**
comp=Z,27nm,1.0s
BOZ LR LR
comp=Z,4μm,19.0s
BOZ Bozeman (W) 54.73 59 P **P 03 15 18.5 -0.7**
baz=312,SNR=41
SUMG Summit 54.76 7 *e*P **P 03 15 18.9 -0.4**
comp=Z,143nm,1.2s
SUMG LR LR
comp=Z,11μm,19.0s
SUMG Summit 54.76 7⇑ *i*P **P 03 15 19.6 +0.3**
SUMG MLR MLR
comp=Z,31μm,17.0s
SUMG Summit 54.76 7⇑ *i*P **P 03 15 19.6 +0.3**
TKM2 Tokmak 2 54.84 297 P **P 03 15 18.8 -1.3**
SNR=19
CMB Columbia Colle 54.89 71 *e*P **P 03 15 21.4 +1.1**
comp=Z,68nm,1.3s
CMB LR LR
comp=Z,5μm,21.0s
YERR Yerington 54.91 70 *e*P **P 03 15 22.0 +1.3**
comp=Z,43nm,1.0s
YERR LR LR
comp=Z,5μm,20.0s

ULHL Ulahol 54.93 296 P **P 03 15 19.9 -1.0**
SNR=27
BOOM Boomskoye usch 54.94 296 *e*P **P 03 15 19.8 -1.0**
comp=Z,86nm,1.2s
BOOM LR LR
comp=Z,39μm,18.0s
KTK1 Kautokeino 55.01 343 *e*P **P 03 15 20.3 -0.4**
BMN Battle Mountai 55.10 67 *e*P **P 03 15 23.3 +1.4**
comp=Z,122nm,1.4s
BMN LR LR
comp=Z,5μm,19.0s
WAKR Walker 55.12 70 *e*P **P 03 15 23.8 +1.6**
comp=Z,46nm,1.0s
WAKR LR LR
comp=Z,5μm,21.0s
SAO San Andreas Ge 55.12 73 PFAKE 03 15 40.0 +18
SAO LR LR
comp=Z,5μm,20.0s
TRO Tromso 55.21 345 *e*P **P 03 15 21.9 -0.2**
USP Ospenovka 55.21 297 P **P 03 15 21.6 -1.0**
SNR=64
MANU Manus Island 55.23 196 PFAKE 03 15 40.0 +17
MANU LR LR
comp=Z,7μm,20.0s
PRGR Permogore 55.25 328⇑ *i*P **P 03 15 22.3 -0.2**
PRGR *e**PP **pwP 03 15 35.1 +2.0**
PRGR pmax pmax
comp=Z,87nm,0.6s
CHMS Chumysh 55.25 297 P **P 03 15 21.8 -1.1**
SNR=27
QLMT Earthquake Lak 55.35 60 *e*P **P 03 15 24.8 +1.0**
KBK Karagaybulak 55.37 297 P **P 03 15 23.0 -1.0**
SNR=29
FRU1 Bishkek 55.45 297 *e*P **P 03 15 24.2 -0.1**
comp=Z,224nm,1.3s
FRU1 LR LR
comp=Z,32μm,18.0s
BATP Bataraza 55.48 234 *e*P **P 03 15 25.3 +0.5**
KVN Kaiserville 55.52 69 *e*P **P 03 15 26.4 +1.4**
comp=Z,147nm,1.5s
KVN LR LR
comp=Z,6μm,20.0s
YHB Horse Butte 55.53 60 *e*P **P 03 15 26.1 +1.1**
comp=Z,51nm,1.2s
RYN Ryan 55.56 70 *e*P **P 03 15 26.6 +1.3**
comp=Z,87nm,1.5s
RYN LR LR
comp=Z,4μm,21.0s
KZA Kyzart 55.59 296 P **P 03 15 25.7 -0.1**
SNR=7.8
NRN Naryn 55.61 295 *e*P **P 03 15 24.9 -0.9**
comp=Z,34nm,1.4s
NRN LR LR
comp=Z,16μm,20.0s
TMCR Tamitsa 55.61 333 *e*P **P 03 15 23.0 -2.0**
TMCR *e*S **S 03 23 07.3 -1.4**
TMCR pmax pmax
comp=Z,628nm,1.5s
AAK Ala-Archa 55.64 297 P **P 03 15 24.7 -1.1**
SNR=45
AAK Ala-Archa 55.64 297 *e*P **P 03 15 24.6 -1.1**
comp=Z,113nm,1.2s
AAK LR LR
comp=Z,18μm,20.0s
AAK Ala-Archa 55.64 297 P **P 03 15 24.6 -1.1**
AAK P **P 03 15 24.6 -1.1**
AAK Ala-Archa 55.64 297 LR LR 03 40 40.4
comp=Z,18μm,19.6s,baz=36,slow=38
GCMT Greycliff 55.64 58 *e*P **P 03 15 26.5 +0.8**
YHH Holmes Hill 55.68 60 *e*P **P 03 15 27.2 +1.0**
comp=Z,19nm,1.0s
YMR Madison River 55.70 60 *e*P **P 03 15 27.5 +1.2**
comp=Z,35nm,1.1s
YNR Norris Junctio 55.82 60 *e*P **P 03 15 30.3 +3.1**
comp=Z,38nm,1.2s
NV01 Mina Array Sit 55.83 70 *e*P **P 03 15 28.5 +1.2**
NVAR Mina Array Bea 55.83 70 P **P 03 15 28.5 +1.2**
comp=Z,17nm,0.8s,baz=294,slow=7.2,SNR=72
NVAR LR LR 03 37 25.0
comp=Z,3μm,21.6s,baz=306,slow=34
NVAR PKP2bc 03 45 46.5
comp=Z,0.9nm,0.8s,baz=159,slow=1.6,SNR=5.7
PANO Nakornpanom 55.86 253 P **P 03 15 29.1 +1.6**
comp=Z,5.0nm,1.9s,comp=Z,119nm
UCH Uchtor 55.90 297 P **P 03 15 26.9 -1.2**
SNR=21
NV11 Mina Array Sit 55.91 70 *e*P **P 03 15 29.2 +1.4**
comp=Z,4.7nm,1.3s
NV11 LR LR
comp=Z,300nm,21.0s
YFT Old Faithful 55.92 60 *e*P **P 03 15 30.6 +2.7**
comp=Z,18nm,0.9s
MDPB Devils Postpil 55.92 71 *e*P **P 03 15 29.8 +1.8**
comp=Z,59nm,1.3s
MDPB LR LR
comp=Z,5μm,21.0s
OMMB Old Mammoth Mi 55.98 71 *e*P **P 03 15 30.3 +1.8**
comp=Z,17nm,1.2s
OMMB LR LR
comp=Z,6μm,21.0s
ELK Elko 56.00 66 *e*P **P 03 15 30.0 +1.4**
comp=Z,22nm,0.9s
ELK LR LR
comp=Z,4μm,20.0s
ELK Elko 56.00 66 P **P 03 15 29.5 +1.0**
comp=Z,7.1nm,0.9s,baz=301,slow=7.7,SNR=23
EKS2 Erkin-Say 56.01 297 P **P 03 15 27.5 -0.9**
SNR=56
YPP Pitchstone Pla 56.05 60 *e*P **P 03 15 31.8 +2.9**
comp=Z,28nm,1.1s
MLAC Mammoth, Mammo 56.06 71 P **P 03 15 28.0 -1.0**
baz=313
LKWY Lake 56.07 59 *e*P **P 03 15 31.3 +2.3**
comp=Z,28nm,0.9s
LKWY LR LR
comp=Z,7μm,22.0s
H17A Grant Village 56.09 60 *e*P **P 03 15 31.7 +2.5**
comp=Z,80nm,1.3s
H17A LR LR
comp=Z,5μm,22.0s
H17A Grant Village 56.09 60 P **P 03 15 29.6 +0.5**
baz=312,SNR=15
IMW Indian Meadow 56.23 60 *e*P **P 03 15 31.8 +1.5**
comp=Z,70nm,1.4s
IMW LR LR
comp=Z,3μm,22.0s
FLWY Flagg Ranch 56.24 60 *e*P **P 03 15 32.0 +1.8**
comp=Z,35nm,1.0s
RLMT Red Lodge 56.29 58 *e*P **P 03 15 31.5 +1.0**
comp=Z,100nm,1.4s
RLMT LR LR
comp=Z,5μm,19.0s
RLMT Red Lodge 56.29 58 P **P 03 15 30.5 0.0**
baz=313,SNR=50
FXWY Fox Creek 56.36 61 *e*P **P 03 15 32.4 +1.4**
comp=Z,43nm,1.5s
SKNT Sakolnakorn 56.37 253 P **P 03 15 32.1 +1.0**
comp=Z,192nm,1.4s,comp=Z,7μm
SGSI Sangihe 56.41 223 P **P 03 15 30.6 -0.8**
AML Almayashu 56.41 297 P **P 03 15 29.3 -2.4**
SNR=6.2
MOOW Moose Ponds 56.44 60 *e*P **P 03 15 34.0 +2.4**
comp=Z,33nm,1.4s
MOOW LR LR
comp=Z,4μm,22.0s
TPAW Teton Pass 56.50 61 *e*P **P 03 15 34.6 +2.5**
comp=Z,62nm,1.4s
TPAW LR LR
comp=Z,4μm,22.0s
PAGB Antelope Grade 56.53 73 *e*P **P 03 15 35.3 +3.2**
comp=Z,59nm,1.5s
DGMT Dagmar 56.59 53 *e*P **P 03 15 34.0 +1.7**
comp=Z,36nm,1.1s
DGMT LR LR
comp=Z,7μm,18.0s
DGMT Dagmar 56.59 53 P **P 03 15 30.1 -2.2**
baz=313
LOHW Long Hollow 56.61 60 *e*P **P 03 15 34.2 +1.4**
comp=Z,52nm,1.4s
LOHW LR LR
comp=Z,4μm,20.0s
SNOW Snow King Moun 56.63 61 *e*P **P 03 15 35.9 +2.9**
comp=Z,25nm,1.1s
ILULI Ilulissat 56.64 13 *e*P **P 03 15 31.8 -0.5**
comp=Z,32nm,1.0s
ILULI LR LR
comp=Z,10μm,21.0s
ILULI Ilulissat 56.64 13⇑ *i*P **P 03 15 31.5 -0.8**

ILULI MLR MLR
comp=Z,10μm,21.0s
ILULI Ilulissat 56.64 13⇑ *i*P **P 03 15 31.5 -0.8**
VOG Valley Oaks Go 56.64 72 P **P 03 15 30.8 -2.0**
baz=314
REDW Red Top Meadow 56.64 61 *e*P **P 03 15 34.7 +1.6**
comp=Z,85nm,1.4s
REDW LR LR
comp=Z,3μm,20.0s
HVU Hansel Valley 56.67 63 *e*P **P 03 15 34.6 +1.4**
comp=Z,66nm,1.3s
RABL Rabaul 56.68 190 PFAKE 03 15 50.0 +17
RABL LR LR
comp=Z,6μm,21.0s
JMIC Jan Mayen 56.80 356 *e*P **P 03 15 34.3 +0.9**
LAO LASA Array 56.80 55 *e*P **P 03 15 35.0 +1.1**
comp=Z,42nm,1.1s
LAO LR LR
comp=Z,9μm,18.0s
LAO LASA Array 56.80 55 P **P 03 15 32.9 -1.0**
baz=313,SNR=11
TIN Tinemaha, Big 56.81 71 P **P 03 15 33.0 -1.2**
baz=314
AHID Auburn Hatcher 56.91 61 *e*P **P 03 15 36.1 +1.1**
comp=Z,65nm,1.2s
AHID LR LR
comp=Z,5μm,20.0s
KSH Kashi 56.92 293 P **P 03 15 37.8 +2.8**
KSH sP pwP 03 15 44.6 -0.6
KSH PP **PP 03 17 46.8 +5.6**
KSH S **S 03 23 30.8 +3.7**
KSH SS **SS 03 27 19.5 +4.5**
KSH pmax pmax
comp=Z,130nm,1.1s
KSH pmax pmax
comp=Z,4μm,6.4s
KSH LR LR
comp=Z,3μm,9.9s
KSH LR LR
comp=Z,3μm,9.3s
KSH LR LR
comp=Z,5μm,10.6s
SMMC Simmler 56.97 74 P **P 03 15 34.9 -0.3**
baz=314
PAYA Payao 56.97 259 P **P 03 15 36.7 +1.3**
comp=Z,193μm,1.1s
BGU Big Grassy Mou 57.11 64 *e*P **P 03 15 37.9 +1.6**
comp=Z,22nm,1.2s
VES Vestal, Richgr 57.14 73 P **P 03 15 35.4 -0.9**
baz=314
SPUT South Promonto 57.17 64 *e*P **P 03 15 40.6 +3.9**
comp=Z,84nm,1.3s
SHL Shillong 57.22 270 *e*P **P 03 15 36.6 -0.7**
comp=Z,192nm,1.4s
SHL LR LR
comp=Z,19μm,18.0s
SHL Shillong 57.22 270 *e*P **P 03 15 37.5 +0.2**
GENI Genyem 57.29 204 P **P 03 15 38.0 +0.5**
comp=Z,148nm,1.6s,comp=Z,4μm
CWC Cottonwood Cre 57.32 71 P **P 03 15 36.6 -1.2**
baz=314
STEI Steigen 57.34 345 *e*P **P 03 15 37.0 -0.3**
GRAC Grapevine Rang 57.35 70 P **P 03 15 40.6 +2.7**
baz=314,SNR=14
ARSB Arslanbob 57.35 297 *e*P **P 03 15 37.1 -0.9**
comp=Z,83nm,1.2s
PKM Mcpherson Peak 57.38 74 P **P 03 15 35.5 -2.8**
baz=314
LOF Lofoten 57.41 346 *e*P **P 03 15 37.5 -0.3**
PHRA Phrae 57.42 258 P **P 03 15 39.7 +1.2**
comp=Z,45nm,1.6s,comp=Z,982nm
R11A Troy Canyon, C 57.44 68 *e*P **P 03 15 39.6 +0.9**
comp=Z,56nm,1.4s
R11A Troy Canyon, C 57.44 68 P **P 03 15 35.3 -3.4**
baz=314,SNR=27
HWUT Hardware Ranch 57.45 63 *e*P **P 03 15 40.2 +1.5**
comp=Z,29nm,1.1s
KK31 Karatay Array 57.48 300 *e*P **P 03 15 37.0 -1.6**
comp=Z,92nm,1.1s
KKAR Karatay Array 57.48 300 *e*P **P 03 15 37.0 -1.6**
comp=Z,92nm,1.1s
SCO Scoresbysund 57.54 1 PFAKE 03 15 50.0 +11
SCO LR LR
comp=Z,9μm,18.0s
SCO Scoresbysund 57.54 1⇑ *i*P **P 03 15 39.3 +0.6**
SCO MLR MLR
comp=Z,9μm,18.0s
SCO Scoresbysund 57.54 1⇑ *i*P **P 03 15 39.3 +0.6**
ISA Isabella, Lake 57.62 72 *e*P **P 03 15 40.0 +0.1**
comp=Z,28nm,1.3s
ISA LR LR
comp=Z,4μm,19.0s
ISA Isabella, Lake 57.62 72 P **P 03 15 36.8 -3.1**
baz=314
DAC Darwin (Calif) 57.71 71 *e*P **P 03 15 45.3 +4.7**
comp=Z,38nm,1.4s
DAC LR LR
comp=Z,3μm,20.0s
DUG Dugway, Tooele 57.73 65 *e*P **P 03 15 42.1 +1.4**
comp=Z,72nm,1.4s
DUG LR LR
comp=Z,4μm,19.0s
DUG Dugway, Tooele 57.73 65 P **P 03 15 38.8 -1.9**
baz=314,SNR=24
BW06 Boulder Array 57.74 61 *e*P **P 03 15 41.4 +0.5**
comp=Z,81nm,1.4s
BW06 LR LR
comp=Z,4μm,20.0s
BW06 Boulder Array 57.74 61 P **P 03 15 38.2 -2.7**
baz=314,SNR=19
PD31 Pinedale Array 57.74 61 *e*P **P 03 15 41.8 +1.0**
comp=Z,75nm,1.4s
PDAR Pinedale Array 57.74 61 P **P 03 15 41.4 +0.6**
comp=Z,9.3nm,0.8s,baz=311,slow=2.8,SNR=58
PDAR LR LR 03 39 38.6
comp=Z,3μm,21.9s,baz=336,slow=35
SBC Santa Barbara 57.74 74 P **P 03 15 39.1 -1.6**
baz=315
LAMP Lampang 57.76 258 P **P 03 15 42.2 +1.3**
comp=Z,223μm,1.2s
KLMR Klimovskoe 57.77 330*c i*P **P 03 15 40.0 -0.4**
KLMR pmax pmax
comp=Z,339nm,1.4s
ARVC Arvin 57.79 73 P **P 03 15 38.0 -3.0**
baz=314
DLV T Lat 57.80 246 *e*P **P 03 15 43.3 +1.8**
comp=Z,99nm,1.5s
DLV LR LR
comp=Z,8μm,20.0s
UTTA Uttaradit 57.81 257 P **P 03 15 42.4 +1.2**
comp=Z,205μm,0.9s
TCUT Toone Canyon 57.87 63 *e*P **P 03 15 43.9 +2.1**
comp=Z,73nm,1.2s
JBG Jabagly 57.92 299*c i*P **P 03 15 40.6 -1.4**
JBG pmax pmax
comp=Z,144nm,1.8s
JBG MLR MLR
comp=Z,5μm,14.0s
MPMC Manual Prospec 57.93 71 P **P 03 15 41.9 -0.3**
baz=314,SNR=14
CMMT Chiang Mai 57.95 259 P **P 03 15 43.0 +0.7**
comp=Z,123nm,1.5s,comp=Z,2μm
CHTO Chiang Mai 57.95 259 *e*P **P 03 15 43.2 +0.9**
comp=Z,468nm,1.4s
CHTO LR LR
comp=Z,9μm,18.0s
CHTO Chiang Mai 57.95 259 P **P 03 15 43.2 +0.9**
SNR=62
CHTO P **P 03 15 43.2 +0.9**
SNR=62
CTU Camp Tracy 57.98 64 *e*P **P 03 15 45.7 +3.3**
comp=Z,57nm,1.4s
FURC Furnace Creek, 58.01 71 P **P 03 15 43.1 +0.7**
baz=314,SNR=41
TPNV Topopah Spring 58.03 70 *e*P **P 03 15 43.5 +0.7**
comp=Z,84nm,1.4s
TPNV LR LR
comp=Z,5μm,21.0s
TPNV Topopah Spring 58.03 70 P **P 03 15 43.0 +0.2**
baz=314,SNR=36
SCZ2 Santa Cruz Isl 58.10 74 P **P 03 15 43.0 -0.2**
baz=315
JLU Jordanelle 58.21 64 *e*P **P 03 15 46.4 +2.2**
comp=Z,37nm,1.5s
OSI Osito Audit: C 58.21 73 P **P 03 15 43.0 -1.0**
baz=315
LRMC Laurel Mtn Rad 58.22 72 P **P 03 15 42.6 -1.5**
baz=315

CM31	**Chiang Mai Arr**	**58.23**	**259**	*e*P	**P**	**03 15 45.5**	**+1.3**
	comp=Z,372nm,1.5s						
CM31	**Chiang Mai Arr**	**58.23**	**259**	P	**P**	**03 15 45.5**	**+1.3**
	SNR=34						
CMAR	**Chiang Mai Arr**	**58.23**	**259**	P	**P**	**03 15 45.5**	**+1.2**
	comp=Z,100nm,1.1s,baz=24,slow=7.2,SNR=158						
PSUT	**Pine Spring**	**58.29**	**67**	*e*P	**P**	**03 15 45.9**	**+1.1**
	comp=Z,21nm,1.1s						
TNTI	**Ternate**	**58.30**	**220**	PFAKE		03 16 00.0	+15
TNTI				LR	LR		
	comp=Z,2μm,19.0s						
TNTI	**Ternate**	**58.30**	**220**	P	**P**	**03 15 45.1**	**+0.4**
	comp=Z,116nm,1.9s,comp=Z,2μm						
NLU	**North Lily Min**	**58.31**	**64**	*e*P	**P**	**03 15 46.1**	**+1.3**
	comp=Z,44nm,1.2s						
SWI	**Sorong**	**58.35**	**215**	P	**P**	**03 15 45.4**	**+0.4**
BLG	**Laguna Peak, P**	**58.36**	**74**	P	**P**	**03 15 42.7**	**-2.3**
	baz=315						
CHAI	**Chaiyaphum**	**58.39**	**254**	P	**P**	**03 15 46.4**	**+1.1**
	comp=Z,120μm,1.0s						
IUG	**Iuzhnay**	**58.39**	**299***c*	*i*P	**P**	**03 15 43.8**	**-1.4**
IUG				pmax	pmax		
	comp=Z,160nm,1.8s						
IUG				MLR	MLR		
	comp=Z,3μm,13.0s						
IUG	**Iuzhnay**	**58.39**	**299**⇑	*i*P	**P**	**03 15 43.8**	**-1.4**
	comp=Z,160nm,1.8s						
IUG				*e*LR	LR	03 42 13.6	
	comp=Z,3μm,13.1s						
EDW2	**Edwards Air Fo**	**58.45**	**73**	P	**P**	**03 15 46.0**	**+0.3**
	baz=315,SNR=28						
PBKT	**Sadao Pong**	**58.47**	**256**	P	**P**	**03 15 47.1**	**+1.2**
	comp=Z,67nm,1.6s,comp=Z,2μm						
ABKAR	**Akbulak array**	**58.49**	**311**	*e*P	**P**	**03 15 43.9**	**-1.8**
	comp=Z,41nm,0.9s						
CHM	**Chimkent**	**58.50**	**300**	*e*P	**P**	**03 15 45.0**	**-0.9**
CHM				pmax	pmax		
	comp=Z,206nm,2.3s						
CHM				MLR	MLR		
	comp=Z,3μm,15.0s						
CHM	**Chimkent**	**58.50**	**300**	*e*P	**P**	**03 15 45.0**	**-0.9**
	comp=Z,206nm,2.3s						
CHM				*e*LR	LR	03 42 30.4	
	comp=Z,3μm,15.1s						
MPU	**Maple Canyon**	**58.51**	**64**	*e*P	**P**	**03 15 47.6**	**+1.4**
	comp=Z,24nm,0.9s						
DECC	**Green Verdugo**	**58.69**	**73**	P	**P**	**03 15 45.7**	**-1.6**
	baz=315						
SNCC	**San Nicolas Is**	**58.69**	**75**	P	**P**	**03 15 45.8**	**-1.5**
	baz=315						
SHOC	**Shoshone, Teco**	**58.74**	**71**	P	**P**	**03 15 46.6**	**-1.0**
	baz=315						
SFJD	**Kangerlussuaq**	**58.77**	**14**	PFAKE		03 16 00.0	+13
SFJD				LR	LR		
	comp=Z,10μm,20.0s						
SFJD	**Kangerlussuaq**	**58.77**	**14**⇑	*i*P	**P**	**03 15 46.7**	**-0.6**
SFJD				*i*		03 15 58.2	
SFJD				MLR	MLR		
	comp=Z,9μm,20.0s						
SFJD	**Kangerlussuaq**	**58.77**	**14**⇑	*i*P	**P**	**03 15 46.7**	**-0.6**
SFJD				*i*		03 15 58.2	
PASC	**Pasadena Art C**	**58.84**	**73**	*e*P	P	03 15 53.3	+5.0
	comp=Z,72nm,1.4s						
PASC				LR	LR		
	comp=Z,4μm,22.0s						
GSC	**Goldstone, Bar**	**58.85**	**71**	*e*P	**P**	**03 15 49.4**	**+0.9**
	comp=Z,46nm,1.3s						
GSC	**Goldstone, Bar**	**58.85**	**71**	P	**P**	**03 15 48.2**	**-0.3**
	baz=315,SNR=14						
MWC	**Mount Wilson**	**58.87**	**73**	*e*P	**P**	**03 15 49.9**	**+1.1**
	comp=Z,81nm,1.3s						
MWC				LR	LR		
	comp=Z,4μm,21.0s						
SHPR	**Sheep Range**	**58.96**	**69**	*e*P	**P**	**03 15 51.1**	**+1.7**
	comp=Z,19nm,1.1s						
SHPR				LR	LR		
	comp=Z,5μm,20.0s						
KONS	**Konsvik**	**58.99**	**345**	*e*P	**P**	**03 15 49.3**	**+0.5**
RRX	**Edison Barstow**	**59.04**	**72**	P	**P**	**03 15 48.1**	**-1.7**
	baz=315						
FMP	**Fort Macarthur**	**59.09**	**74**	P	**P**	**03 15 49.5**	**-0.5**
	baz=315						
BFSC	**Mount Baldy Ra**	**59.10**	**73**	P	**P**	**03 15 50.2**	**-0.1**
	baz=315						
STOK	**Stokkvaagen**	**59.16**	**345**	*e*P	**P**	**03 15 50.5**	**+0.5**
JIRN	**Jiri**	**59.19**	**276**	*e*P	**P**	**03 15 49.2**	**-2.1**
	comp=Z,109nm,0.8s						
MDND	**Maddock**	**59.23**	**51**	PFAKE		03 16 00.0	+9.1
MDND				LR	LR		
	comp=Z,8μm,21.0s						
MDND	**Maddock**	**59.23**	**51**	P	**P**	**03 15 48.6**	**-2.2**
	baz=316						
ULM	**Lac du Bonnet**	**59.23**	**47**	*e*P	**P**	**03 15 50.9**	**0.0**
	comp=Z,18nm,1.0s						
ULM				LR	LR		
	comp=Z,7μm,19.0s						
ULM	**Lac du Bonnet**	**59.23**	**47**	P	**P**	**03 15 50.7**	**-0.1**
	comp=Z,4.3nm,0.4s,baz=323,slow=7.4,SNR=17						
ULM				LR	LR	03 43 21.1	
	comp=Z,6μm,18.7s,baz=321,slow=38						
CIS	**Catalina Islan**	**59.24**	**74**	P	**P**	**03 15 51.6**	**+0.4**
	baz=315						
TMUT	**Trail Mountain**	**59.25**	**64**	*e*P	**P**	**03 15 52.7**	**+1.2**
	comp=Z,25nm,0.8s						
MSU	**Marysvale**	**59.25**	**66**	*e*P	**P**	**03 15 53.0**	**+1.5**
CCUT	**Cedar City**	**59.26**	**67**	*e*P	**P**	**03 15 53.3**	**+1.8**
	comp=Z,46nm,1.4s						
TUQ	**Turquoise Moun**	**59.27**	**71**	P	**P**	**03 15 50.7**	**-0.8**
	baz=315,SNR=15						
P17A	**Butcher Ranch,**	**59.38**	**64**	*e*P	**P**	**03 15 53.4**	**+1.2**
	comp=Z,79nm,1.5s						
SZCU	**Shurtz Canyon**	**59.38**	**67**	*e*P	**P**	**03 15 53.5**	**+1.2**
	comp=Z,44nm,1.4s						
BTK	**Batken**	**59.42**	**297**	*e*P	**P**	**03 15 51.2**	**-1.1**
	comp=Z,72nm,0.9s						
BTK				LR	LR		
	comp=Z,28μm,19.0s						
K22A	**Casper**	**59.43**	**59**	*e*P	**P**	**03 15 53.3**	**+0.8**
	comp=Z,23nm,0.9s						
K22A	**Casper**	**59.43**	**59**	P	**P**	**03 15 50.0**	**-2.6**
	baz=315						
RAMN	**Ramite**	**59.45**	**275**	*e*P	**P**	**03 15 51.9**	**-1.0**
	comp=Z,122nm,0.5s						
HEC	**Hector,Ludlow**	**59.46**	**72**	P	**P**	**03 15 52.3**	**-0.4**
	baz=315,SNR=14						
SCI2	**San Clemente I**	**59.46**	**75**	P	**P**	**03 15 53.5**	**+0.8**
	baz=316						
BBRC	**Big Bear Solar**	**59.51**	**72**	P	**P**	**03 15 53.1**	**-0.2**
	baz=315						
Q16A	**Castle Valley**	**59.53**	**65**	*e*P	**P**	**03 15 54.5**	**+1.2**
	comp=Z,59nm,1.5s						
MTPU	**Mount Pierson**	**59.58**	**66**	*e*P	**P**	**03 15 55.4**	**+1.6**
	comp=Z,21nm,1.0s						
KKN	**Kakani**	**59.65**	**277**	*e*P	**P**	**03 15 52.7**	**-1.6**
	comp=Z,124nm,0.7s						
KNTN	**Kanton**	**59.68**	**147**	PFAKE		03 16 10.0	+16
KNTN				LR	LR		
	comp=Z,9μm,19.0s						
RSSD	**Black Hills**	**59.69**	**56**	*e*P	**P**	**03 15 54.7**	**+0.4**
	comp=Z,57nm,0.9s						
RSSD				LR	LR		
	comp=Z,6μm,21.0s						
RSSD	**Black Hills**	**59.69**	**56**	P	**P**	**03 15 53.0**	**-1.4**
	baz=315						
LCMT	**Little Creek M**	**59.70**	**68**	*e*P	**P**	**03 15 55.8**	**+1.4**
	comp=Z,42nm,1.2s						
PKI	**Pulchoki**	**59.73**	**277**	*e*P	**P**	**03 15 53.0**	**-2.0**
	comp=Z,96nm,0.7s						
PKIN	**Phulchoki**	**59.73**	**277**	*e*P	**P**	**03 15 53.0**	**-1.9**
	comp=Z,92nm,0.7s						
RWWY	**Rawlins**	**59.74**	**60**	*e*P	**P**	**03 15 55.4**	**+0.6**
	comp=Z,44nm,1.4s						
RWWY				LR	LR		
	comp=Z,4μm,20.0s						
SRU	**San Rafael Swe**	**59.76**	**64**	*e*P	**P**	**03 15 56.0**	**+1.2**
	comp=Z,55nm,1.1s						
MURC	**Murrieta**	**59.82**	**73**	P	**P**	**03 15 54.2**	**-1.0**
	baz=316						
KMSI	**Cibinong**	**59.86**	**223**	P	**P**	**03 15 54.5**	**-1.0**
GMRC	**Granite Mounta**	**59.88**	**71**	P	**P**	**03 15 55.1**	**-0.6**
	baz=315,SNR=27						
DMN	**Daman**	**59.89**	**277**	*e*P	**P**	**03 15 54.3**	**-1.7**
	comp=Z,164nm,0.7s						
GKN	**Gorkha**	**59.89**	**278**	*e*P	**P**	**03 15 53.9**	**-1.9**
PKCU	**Pink Cliffs**	**59.93**	**67**	*e*P	**P**	**03 16 00.1**	**+3.9**
	comp=Z,98nm,1.5s						
FAKI	**Fak Fak**	**59.93**	**213**	*e*P	**P**	**03 15 55.7**	**-0.3**
	comp=Z,36nm,1.2s						
FAKI				LR	LR		
	comp=Z,6μm,22.0s						
FAKI	**Fak Fak**	**59.93**	**213**	P	**P**	**03 15 55.7**	**-0.3**
	comp=Z,79nm,1.7s,comp=Z,2μm						
KNB	**Kanab**	**59.94**	**67**	*e*P	**P**	**03 15 57.6**	**+1.5**
	comp=Z,80nm,1.4s						
LDFC	**Landfair**	**59.99**	**71**	*e*P	**P**	**03 15 57.2**	**+0.8**
	comp=Z,40nm,0.9s						
LDFC				LR	LR		
	comp=Z,3μm,19.0s						
UMPA	**Umpang Tak**	**60.01**	**257**	P	**P**	**03 15 59.5**	**+2.9**
	comp=Z,271μm,1.1s						
DANN	**Dangsing**	**60.17**	**279**	*e*P	**P**	**03 15 56.1**	**-1.8**
	comp=Z,106nm,0.7s						
BELC	**Belle Mtn. Jos**	**60.24**	**72**	P	**P**	**03 15 59.0**	**+0.9**
	baz=316						
PFO	**Pinyon Flats O**	**60.24**	**73**	*e*P	**P**	**03 16 00.0**	**+1.9**
	comp=Z,18nm,1.3s						
PFO				LR	LR		
	comp=Z,4μm,18.0s						
PFO	**Pinyon Flats O**	**60.24**	**73**	P	**P**	**03 15 56.1**	**-2.1**
	baz=316						
PFO	**Pinyon Flats O**	**60.24**	**73**	P	**P**	**03 15 59.4**	**+1.2**
	comp=Z,6.9nm,0.9s,baz=303,slow=6.1,SNR=7.1						
O20A	**White River Ci**	**60.28**	**62**	*e*P	**P**	**03 15 59.3**	**+0.8**
	comp=Z,55nm,1.3s						
O20A				LR	LR		
	comp=Z,4μm,21.0s						
O20A	**White River Ci**	**60.28**	**62**	P	**P**	**03 15 57.6**	**-0.9**
	baz=315,SNR=19						
109C	**Camp Elliot, M**	**60.38**	**74**	P	**P**	**03 15 57.7**	**-1.2**
	baz=316						
CPE	**Camp Elliot**	**60.38**	**74**	*e*P	**P**	**03 16 02.1**	**+3.2**
	comp=Z,68nm,1.5s						
CPE				LR	LR		
	comp=Z,2μm,20.0s						
GAR	**Garm**	**60.44**	**296**	*e*P	**P**	**03 15 58.2**	**-1.2**
	comp=Z,217nm,1.3s						
GAR				LR	LR		
	comp=Z,40μm,19.0s						
NEE2	**Needles Airpor**	**60.50**	**70**	P	**P**	**03 15 59.4**	**-0.3**
	baz=316						
IRM	**Iron Mountain**	**60.62**	**71**	P	**P**	**03 16 00.7**	**0.0**
	baz=316						
AGMN	**Agassiz Nation**	**60.65**	**48**	*e*P	**P**	**03 15 58.8**	**-1.8**
	comp=Z,15nm,0.8s						
AGMN	**Agassiz Nation**	**60.65**	**48**	P	**P**	**03 15 59.8**	**-0.8**
	baz=317,SNR=5.4						
U15A	**North Rim**	**60.66**	**68**	*e*P	**P**	**03 16 02.3**	**+1.1**
	comp=Z,26nm,1.3s						
U15A				LR	LR		
	comp=Z,5μm,22.0s						
W13A	**Hualapai Mount**	**60.69**	**70**	*e*P	**P**	**03 16 01.7**	**+0.4**
	comp=Z,48nm,1.4s						
W13A				LR	LR		
	comp=Z,4μm,22.0s						
KOLN	**Koldanda**	**60.69**	**278**	*e*P	**P**	**03 15 59.7**	**-1.7**
	comp=Z,68nm,0.7s						
MONP2	**Monument Peak**	**60.78**	**73**	P	**P**	**03 16 01.1**	**-0.8**
	baz=316						
BAR	**Barrett**	**60.78**	**74**	*e*P	**P**	**03 16 03.8**	**+2.1**
	comp=Z,14nm,1.1s						
BAR				LR	LR		
	comp=Z,2μm,21.0s						
BC3	**Big Chuckawall**	**60.80**	**72**	P	**P**	**03 16 01.3**	**-0.7**
	baz=316,SNR=17						
PYUN	**Piuthan**	**60.82**	**279**	*e*P	**P**	**03 16 00.4**	**-1.9**
	comp=Z,150nm,0.9s						
MRSI	**Marisa**	**60.83**	**225**	P	**P**	**03 16 02.3**	**+0.2**
	comp=Z,98nm,1.7s,comp=Z,2μm						
PHWY	**Pilot Hill**	**60.95**	**59**	PFAKE		03 16 20.0	+17
PHWY				LR	LR		
	comp=Z,4μm,20.0s						
PV09	**Paradox Valley**	**60.95**	**64**	*e*P	**P**	**03 16 04.7**	**+1.5**
FIA1	**FINESS Array S**	**60.96**	**337**	*e*P	**P**	**03 16 02.4**	**0.0**
	comp=Z,206nm,1.1s						
FIA0	**FINESS Array S**	**60.96**	**337**	*e*P	**P**	**03 16 02.3**	**-0.1**
FINES	**FINESS Array B**	**60.96**	**337**	*i*P	**P**	**03 16 02.2**	**-0.3**
FINES				pmax	pmax		
	comp=Z,35nm,0.5s						
FINES	**FINESS Array B**	**60.96**	**337**	P	**P**	**03 16 02.3**	**-0.1**
	comp=Z,35nm,0.5s,baz=39,slow=6.9,SNR=167						
N23A	**Red Feather La**	**60.98**	**60**	*e*P	**P**	**03 16 04.5**	**+1.2**
	comp=Z,22nm,0.9s						
N23A	**Red Feather La**	**60.98**	**60**	P	**P**	**03 16 03.0**	**-0.3**
	baz=316,SNR=12						
PV21	**Cone Mtn., Par**	**61.00**	**64**	*e*P	**P**	**03 16 04.4**	**+1.0**
	comp=Z,41nm,1.2s						
NSS	**Namsos**	**61.00**	**345**	*e*P	**P**	**03 16 03.1**	**+0.4**
PV23	**Carpenter Ridg**	**61.06**	**64**	*e*P	**P**	**03 16 06.2**	**+2.3**
	comp=Z,69nm,1.2s						
XMAS	**Kiritimati**	**61.08**	**130**	PFAKE		03 16 20.0	+16
XMAS				LR	LR		
	comp=Z,8μm,19.0s						
PV10	**Paradox Valley**	**61.09**	**64**	*e*P	**P**	**03 16 06.4**	**+2.4**
	comp=Z,82nm,1.3s						
PDMCI	**Parker Dam,Lak**	**61.10**	**70**	P	**P**	**03 16 01.2**	**-2.6**
	baz=316						
PV14	**Lion Creek, Pa**	**61.11**	**64**	*e*P	**P**	**03 16 04.9**	**+0.8**
	comp=Z,33nm,0.9s						
SWSC	**Sam W. Stewart**	**61.11**	**73**	P	**P**	**03 16 02.0**	**-1.9**
	baz=316						
PV22	**Blue Mesa, Par**	**61.12**	**64**	*e*P	**P**	**03 16 05.0**	**+0.8**
	comp=Z,56nm,1.2s						
PV22				LR	LR		
	comp=Z,4μm,19.0s						
IKP	**In-Ko-Pah, Jac**	**61.13**	**73**	P	**P**	**03 16 02.5**	**-1.7**
	baz=316						
PV04	**Paradox Valley**	**61.16**	**64**	*e*P	**P**	**03 16 05.3**	**+0.9**
	comp=Z,104nm,1.3s						
PV20	**West Nyswonger**	**61.16**	**64**	*e*P	**P**	**03 16 05.3**	**+0.8**
	comp=Z,50nm,1.0s						
PV19	**Morning Glory**	**61.17**	**64**	*e*P	**P**	**03 16 06.4**	**+1.8**
	comp=Z,81nm,1.2s						
PV17	**East Wray Mesa**	**61.21**	**64**	*e*P	**P**	**03 16 05.7**	**+0.9**
	comp=Z,133nm,1.4s						
PV17				LR	LR		
	comp=Z,4μm,21.0s						
PV16	**Nyswonger Mesa**	**61.21**	**64**	*e*P	**P**	**03 16 05.7**	**+0.9**
	comp=Z,72nm,1.2s						
PV11	**David Mesa, Pa**	**61.24**	**64**	*e*P	**P**	**03 16 06.1**	**+1.1**
	comp=Z,101nm,1.2s						
PV18	**Skein Mesa, Pa**	**61.26**	**64**	*e*P	**P**	**03 16 06.0**	**+0.9**
	comp=Z,64nm,1.1s						
PV07	**Paradox Valley**	**61.27**	**64**	*e*P	**P**	**03 16 06.5**	**+1.3**
	comp=Z,37nm,1.1s						
PV12	**Saucer Basin,**	**61.27**	**64**	*e*P	**P**	**03 16 07.0**	**+1.8**
	comp=Z,148nm,1.4s						
PV05	**Paradox Valley**	**61.27**	**64**	*e*P	**P**	**03 16 06.3**	**+1.1**
	comp=Z,150nm,1.5s						
PV05				LR	LR		
	comp=Z,3μm,18.0s						
Y12C	**Blythe**	**61.28**	**71**	*e*P	**P**	**03 16 06.0**	**+1.0**
Y12C	**Blythe**	**61.28**	**71**	P	**P**	**03 16 05.1**	**+0.1**
	baz=316						
PV03	**Paradox Valley**	**61.29**	**64**	*e*P	**P**	**03 16 06.2**	**+0.8**
	comp=Z,56nm,1.1s						
PV03				LR	LR		
	comp=Z,4μm,19.0s						
SRDT	**SRDT**	**61.31**	**256**	P	**P**	**03 16 06.8**	**+1.4**
	comp=Z,56nm,2.2s						
PUL	**Pulkovo**	**61.31**	**334**	*e*P	**P**	**03 16 04.3**	**-0.5**
CHGR	**Chuyangaron**	**61.32**	**297**	*e*P	**P**	**03 16 06.4**	**+1.0**
	comp=Z,125nm,1.3s						
CHGR				LR	LR		
	comp=Z,28μm,19.0s						
PV13	**Radium Mtn., P**	**61.37**	**64**	*e*P	**P**	**03 16 06.9**	**+0.9**
	comp=Z,95nm,1.2s						
PV13				LR	LR		
	comp=Z,3μm,21.0s						
PV02	**Paradox Valley**	**61.38**	**64**	*e*P	**P**	**03 16 07.8**	**+1.8**
	comp=Z,70nm,1.3s						
PV02				LR	LR		
	comp=Z,5μm,22.0s						
SANI	**Sanana**	**61.42**	**220**	P	**P**	**03 16 05.5**	**-0.6**
	comp=Z,136nm,1.4s,comp=Z,2μm						
HNR	**Honiara**	**61.45**	**181**	PFAKE		03 16 20.0	+14
HNR				LR	LR		
	comp=Z,7μm,21.0s						
PV01	**Paradox Valley**	**61.52**	**64**	*e*P	**P**	**03 16 07.9**	**+0.9**
	comp=Z,26nm,1.3s						
GLA	**Glamis**	**61.60**	**72**	*e*P	**P**	**03 16 08.3**	**+1.0**
	comp=Z,71nm,1.3s						
GLA				LR	LR		
	comp=Z,4μm,20.0s						
GLA	**Glamis**	**61.60**	**72**	P	**P**	**03 16 06.3**	**-1.0**
	baz=316						
ANGG	**Ammassalik, Gr**	**61.63**	**8**	*e*P	**P**	**03 16 06.1**	**-0.8**
	comp=Z,39nm,1.3s						
ANGG				LR	LR		
	comp=Z,12μm,19.0s						
SMCO	**Snowmass**	**61.65**	**62**	*e*P	**P**	**03 16 08.9**	**+0.9**
	comp=Z,53nm,1.5s						
SMCO				LR	LR		
	comp=Z,4μm,22.0s						
WUAZ	**Wupatki**	**61.83**	**68**	*e*P	**P**	**03 16 10.4**	**+1.4**
	comp=Z,53nm,1.2s						
WUAZ				LR	LR		
	comp=Z,6μm,22.0s						
WUAZ	**Wupatki**	**61.83**	**68**	P	**P**	**03 16 08.9**	**-0.1**
	baz=316,SNR=23						
LUWI	**Luwuk**	**61.83**	**224**	PFAKE		03 16 20.0	+11
LUWI				LR	LR		
	comp=Z,3μm,19.0s						
LUWI	**Luwuk**	**61.83**	**224**	P	**P**	**03 16 08.5**	**-0.4**
	comp=Z,200nm,1.2s,comp=Z,9μm						
DHRM	**DHARAMSHALA**	**61.83**	**287**	*e*P	**P**	**03 16 07.6**	**-1.5**
MPSI	**Mapaga**	**61.86**	**227**	P	**P**	**03 16 09.2**	**+0.1**
	comp=Z,45nm,1.7s,comp=Z,1μm						
ISCO	**Idaho Springs**	**61.94**	**61**	*e*P	**P**	**03 16 10.9**	**+1.1**
	comp=Z,55nm,1.4s						
ISCO				LR	LR		
	comp=Z,5μm,21.0s						
ISCO	**Idaho Springs**	**61.94**	**61**	P	**P**	**03 16 09.9**	**+0.1**
	baz=316,SNR=50						
SUSD	**Miller**	**62.00**	**53**	P	**P**	**03 16 08.0**	**-1.8**
	baz=317						
Y14A	**Wickenburg**	**62.02**	**70**	*e*P	**P**	**03 16 11.1**	**+0.9**
	comp=Z,56nm,1.5s						
SMLA	**Simla**	**62.13**	**286**	*e*P	**P**	**03 16 09.8**	**-1.0**
DDI	**Dehra Dun**	**62.18**	**284**	*e*P	**P**	**03 16 10.0**	**-1.2**
APSI	**Ampana**	**62.20**	**225**	P	**P**	**03 16 11.6**	**+0.3**
	comp=Z,103nm,1.1s,comp=Z,2μm						
BOK	**Bokaro**	**62.20**	**274**	*e*P	**P**	**03 16 10.9**	**-0.5**
BOK				IAMs_20	IAMs_20	04 12 35.7	
	comp=Z,2μm,10.2s						
MVCO	**Mesa Verde**	**62.23**	**64**	*e*P	**P**	**03 16 12.6**	**+0.9**
	comp=Z,24nm,1.0s						
MVCO				LR	LR		
	comp=Z,3μm,19.0s						
MVCO	**Mesa Verde**	**62.23**	**64**	P	**P**	**03 16 11.9**	**+0.2**
	baz=316,SNR=25						
BNDI	**Bandanaira**	**62.23**	**215**	P	**P**	**03 16 12.3**	**+0.7**
	comp=Z,301nm,1.9s,comp=Z,5μm						
113A	**Mohawk Valley,**	**62.42**	**71**	*e*P	**P**	**03 16 13.4**	**+0.7**
	comp=Z,14nm,1.1s						
113A				LR	LR		
	comp=Z,3μm,21.0s						
MOS	**Moscow**	**62.47**	**328**	*e*P	**P**	**03 16 08.7**	**-4.0**
MOS				*e*		03 16 20.1	
MOS				*e*S	**S**	**03 24 32.5**	**-5.2**
MOS				pmax	pmax		
	comp=N,247nm,1.5s						
MOS				pmax	pmax		
	comp=Z,474nm,1.5s						
PMG	**Port Moresby**	**62.48**	**195**	*e*P	**P**	**03 16 15.4**	**+2.3**
PMG				LR	LR		
	comp=Z,4μm,21.0s						
PMG	**Port Moresby**	**62.48**	**195**	P	**P**	**03 16 15.4**	**+2.3**
	comp=Z,20nm,0.9s,baz=5.1,slow=11,SNR=3.0						
X16A	**Lo Mia Camp, P**	**62.58**	**69**	*e*P	**P**	**03 16 15.4**	**+1.4**
	comp=Z,17nm,0.9s						
X16A				LR	LR		
	comp=Z,4μm,20.0s						
NIL	**Nilore**	**62.60**	**290**	*e*P	**P**	**03 16 13.5**	**-0.4**
	comp=Z,82nm,0.8s						
NIL				LR	LR		
	comp=Z,19μm,19.0s						
S22A	**4UR Ranch, Cre**	**62.76**	**63**	*e*P	**P**	**03 16 16.8**	**+1.5**
	comp=Z,65nm,1.4s						
S22A				LR	LR		
	comp=Z,3μm,19.0s						
S22A	**4UR Ranch, Cre**	**62.76**	**63**	P	**P**	**03 16 15.2**	**-0.1**
	baz=317,SNR=22						
Q24A	**Divide**	**62.79**	**61**	PFAKE		03 16 30.0	+14
Q24A				LR	LR		
	comp=Z,4μm,21.0s						
Q24A	**Divide**	**62.79**	**61**	P	**P**	**03 16 14.9**	**-0.6**
	baz=317						
EYMN	**Ely**	**62.88**	**46**	PFAKE		03 16 30.0	+14
EYMN				LR	LR		
	comp=Z,8μm,21.0s						
EYMN	**Ely**	**62.88**	**46**	P	**P**	**03 16 15.3**	**-0.3**
	baz=319						
OGNE	**Ogallala**	**63.00**	**57**	*e*P	**P**	**03 16 18.3**	**+1.8**
	comp=Z,186nm,1.5s						
OGNE	**Ogallala**	**63.00**	**57**	P	**P**	**03 16 15.8**	**-0.8**
	baz=317						
W18A	**Petrified Fore**	**63.04**	**67**	*e*P	**P**	**03 16 20.8**	**+3.7**
	comp=Z,47nm,1.4s						
W18A				LR	LR		
	comp=Z,5μm,21.0s						
W18A	**Petrified Fore**	**63.04**	**67**	P	**P**	**03 16 16.8**	**-0.3**
	baz=317						
BORG	**Borgarnes**	**63.31**	**1**	PFAKE		03 16 30.0	+12
BORG				LR	LR		
	comp=Z,4μm,18.0s						
BORG	**Borgarnes**	**63.31**	**1**	*i*P	**P**	**03 16 21.2**	**+3.1**
BORG	**Borgarnes**	**63.31**	**1**	LR	LR	03 44 36.4	
	comp=Z,3μm,19.0s,baz=358,slow=37						
OBN	**Obninsk**	**63.33**	**328**	*e*P	**P**	**03 16 17.9**	**-0.5**
	comp=Z,191nm,1.1s						
OBN				LR	LR		
	comp=Z,11μm,19.0s						
OBN	**Obninsk**	**63.33**	**328**⇑	*i*P	**P**	**03 16 17.9**	**-0.5**
OBN	**Obninsk**	**63.33**	**328***c*	*i*P	**P**	**03 16 17.6**	**-0.8**
OBN				*e**SP	pwP	03 16 38.4	+9.3
OBN				*e*PPP	PPP	03 20 09.8	
OBN				*i*S	**S**	**03 24 48.3**	**-0.2**
OBN				*i*		03 24 58.7	
OBN				pmax	pmax		
	comp=Z,480nm,1.7s						
OBN				MLR	MLR		
	comp=Z,11μm,20.0s						
X18A	**Snowflake**	**63.35**	**67**	*e*P	**P**	**03 16 20.5**	**+1.4**
	comp=Z,62nm,1.3s						
X18A				LR	LR		
	comp=Z,5μm,20.0s						
VSU	**Vasula**	**63.39**	**335***c*	*e*P	**P**	**03 16 18.8**	**+0.1**
VSU				pmax	pmax		
	comp=Z,1μm,1.8s						
VSU	**Vasula**	**63.39**	**335**	*e*P	**P**	**03 16 18.4**	**-0.4**
VSU				IAmb	IAmb	03 16 19.7	
	comp=Z,499nm,1.1s						
**SDCO

KSCO Kaye Shedlock' 64.10 59 P P 03 16 23.9 -0.1
baz=318
NC303 NORSAR Array S 64.19 344 *e*P P 03 16 23.8 -0.2
comp=Z,46nm,0.8s
F38A Pierce - Schro 64.21 48 P P 03 16 23.9 -0.5
baz=320
NC405 NORSAR Array S 64.24 344 *e*P P 03 16 24.3 -0.1
comp=Z,40nm,0.8s
NC204 NORSAR Array S 64.25 344 *e*P P 03 16 24.4 -0.1
comp=Z,141nm,1.1s
SPMN Marine on St. 64.34 49 *e*P P 03 16 25.4 +0.1
comp=Z,43nm,1.3s
SPMN LR LR
comp=Z,5μm,19.0s
SPMN Marine on St. 64.34 49 P P 03 16 24.1 -1.2
baz=320
KBL Kabul 64.35 294 *e*P P 03 16 24.1 -1.7
comp=Z,38nm,1.0s
KBL LR LR
comp=Z,16μm,20.0s
NB201 NORSAR Array S 64.37 344 *e*P P 03 16 24.9 -0.3
comp=Z,50nm,0.9s
NB2 NORSAR Subarra 64.39 344 P P 03 16 24.8 -0.6
comp=Z,782nm,2.5s,baz=23,slow=6.9
NB2 NORSAR Subarra 64.39 344 P P 03 16 24.8 -0.6
baz=23,slow=6.9
NB200 NORSAR Array S 64.39 344 *e*P P 03 16 25.0 -0.4
NOA NORSAR Array B 64.39 344 P P 03 16 25.0 -0.4
comp=Z,17nm,0.8s,baz=21,slow=6.7,SNR=94
NBO00 NORSAR Array S 64.48 344 *e*P P 03 16 25.6 -0.3
comp=Z,39nm,0.8s
TUC Tucson 64.48 70 *e*P P 03 16 27.5 +1.0
comp=Z,35nm,1.3s
TUC LR LR
comp=Z,2μm,20.0s
TUC Tucson 64.48 70 P P 03 16 25.5 -1.0
baz=317
E39A Mellen 64.49 46 P P 03 16 25.3 -0.9
baz=320
T25A Trinidad 64.52 62 *e*P P 03 16 27.6 +0.7
comp=Z,61nm,1.3s
T25A Trinidad 64.52 62 P P 03 16 26.8 0.0
baz=318,SNR=27
KDI Kendari 64.52 223 P P 03 16 27.5 +0.8
comp=Z,73nm,1.9s,comp=Z,2μm
LPSR Galich'ya Gora 64.58 325 *e*P P 03 16 25.7 -1.0
LPSR pmax pmax
comp=Z,120nm,0.6s
IVI Ivigtut 64.59 15 *e*P P 03 16 26.4 -0.1
comp=Z,65nm,1.2s
IVI LR LR
comp=Z,7μm,20.0s
NC602 NORSAR Array S 64.62 344 *e*P P 03 16 26.2 -0.6
comp=Z,15nm,0.9s
NAO01 NORSAR Array S 64.63 344 *e*P P 03 16 26.4 -0.5
comp=Z,30nm,0.8s
BGNE Belgrade 64.64 55 *e*P P 03 16 28.9 +1.6
comp=Z,61nm,1.0s
BGNE LR LR
comp=Z,7μm,18.0s
BGNE Belgrade 64.64 55 P P 03 16 25.5 -1.8
baz=318
BKB Balikpapan 64.65 230 P P 03 16 29.7 +2.1
F39A Loretta 64.68 47 P P 03 16 26.6 -0.9
baz=320
VRH Novokhopyorsk 64.70 322 *e*P P 03 16 25.8 -1.6
VRH pmax pmax
comp=Z,290nm,1.6s
E40A Wakefield 64.73 46 P P 03 16 27.2 -0.6
baz=320
HFS Hagfors 64.80 342 LR LR 03 47 60.0
comp=Z,6μm,20.4s,baz=22,slow=39
G38A Ridgeland 64.82 48 P P 03 16 26.2 -2.2
baz=320
D41A Chassel 64.84 45 PFAKE 03 16 40.0 +12
D41A LR LR
comp=Z,7μm,18.0s
D41A Chassel 64.84 45 P P 03 16 26.9 -1.6
baz=321
BWNR Bhubaneshwar 64.86 271 *ex* P 03 16 23.5 -5.4
BWNR IAmb IAmb 03 16 26.8
comp=Z,56nm,0.9s
TTSI Tana Toraja 64.90 226 P P 03 16 28.9 -0.3
SAUI Saumlaki 64.99 212 P P 03 16 30.6 +0.9
comp=Z,413nm,1.9s
H38A Maiden Rock 65.00 49 P P 03 16 28.1 -1.5
baz=320
TASM ASL Pad, Albuq 65.00 65 P P 03 16 29.9 -0.1
baz=318,SNR=16
TASM ASL Pad, Albuq 65.00 65 P P 03 16 29.8 -0.2
baz=318,SNR=15
ANMO Albuquerque 65.00 65 *e*P P 03 16 31.0 +1.0
comp=Z,35nm,1.4s
ANMO LR LR
comp=Z,3μm,20.0s
ANMO Albuquerque 65.00 65 *ce*P P 03 16 31.0 +1.0
ANMO pmax pmax
comp=Z,17nm,1.7s
ANMO Albuquerque 65.00 65 P P 03 16 30.0 0.0
baz=318
ANMO Albuquerque 65.00 65 P P 03 16 31.0 +1.0
comp=Z,5.9nm,1.1s,baz=301,slow=6.2,SNR=13
LAZ Ladron 65.02 66 *e*P P 03 16 31.6 +1.5
F40A Park Falls 65.03 47 P P 03 16 28.9 -0.9
baz=320
G39A Holcombe 65.05 48 P P 03 16 27.3 -2.5
baz=320
NRS Narsarsuaq 65.05 13 PFAKE 03 16 40.0 +10
NRS LR LR
comp=Z,14μm,19.0s
HYA Hoyanger 65.06 347 *e*P P 03 16 30.0 +0.3
E41A Kenton 65.12 45 P P 03 16 28.4 -1.9
baz=321
SKAR Skarslia 65.21 345 *e*P P 03 16 31.1 +0.3
VORR Voronezh 65.24 324 *e*P P 03 16 28.0 -3.0
VORR pmax pmax
comp=Z,350nm,1.4s
SLIT Slitere, Latvi 65.25 337 *e*P P 03 16 30.4 -0.5
SLIT IAmb IAmb 03 16 31.7
comp=Z,886nm,0.9s
LENM Lemitar 65.29 66 *e*P P 03 16 33.9 +2.0
MTKI Muara Teweh, K 65.33 232 P P 03 16 32.0 0.0
COWI Conover 65.33 46 *e*P P 03 16 33.3 +1.6
comp=Z,22nm,1.1s
COWI LR LR
comp=Z,7μm,20.0s
SUE Sulen 65.36 347 *e*P P 03 16 31.8 +0.2
Y22D IRIS PASSCAL I 65.39 66 PFAKE 03 16 50.0 +18
Y22D LR LR
comp=Z,5μm,21.0s
Y22D IRIS PASSCAL I 65.39 66 P P 03 16 31.5 -0.9
baz=318
H39A Augusta 65.46 48 P P 03 16 31.0 -1.5
baz=320
BNM Barren Site 65.50 66 *e*P P 03 16 35.4 +2.2
G40A Rib Lake 65.50 47 PFAKE 03 16 50.0 +17
G40A LR LR
comp=Z,7μm,20.0s
G40A Rib Lake 65.50 47 P P 03 16 31.6 -1.2
baz=321
KSM Kuching 65.55 237 *e*P P 03 16 35.0 +1.6
comp=Z,241nm,1.5s
KSM LR LR
comp=Z,2μm,18.0s
KSM Kuching 65.55 237 P P 03 16 36.0 +2.6
E42A Champion 65.61 45 P P 03 16 31.6 -1.9
baz=321
F41A Three Lakes 65.62 46 PFAKE 03 16 50.0 +16
F41A LR LR
comp=Z,5μm,20.0s
F41A Three Lakes 65.62 46 P P 03 16 32.0 -1.6
baz=321
VSR Storozhevoye 65.63 324 *c i*P P 03 16 32.3 -1.2
VSR pmax pmax
comp=Z,491nm,1.7s
SPSI Sidrap Palu 65.75 225 P P 03 16 34.3 -0.4
comp=Z,80nm,1.4s,comp=Z,1μm
CBKS Cedar Bluff 65.76 58 *e*P P 03 16 38.5 +3.9
comp=Z,70nm,1.1s
CBKS LR LR
comp=Z,4μm,20.0s
CBKS Cedar Bluff 65.76 58 P P 03 16 33.0 -1.7
baz=319
VORD Divnogorie 65.79 324 *e*P P 03 16 33.8 -0.7
VORD pmax pmax
comp=Z,270nm,1.8s
IZAR Zarasai 65.89 334 *e*P P 03 16 35.0 -0.1
IZAR IAmb IAmb 03 16 36.0
comp=Z,50nm,1.0s
H40A Chili 65.91 48 P P 03 16 32.6 -2.9
baz=321
BER Bergen 65.93 347 *e*P P 03 16 35.7 +0.4
DGPR DIGLIPUR 65.94 260 *e*P P 03 16 36.6 +0.6
KONO Kongsberg 65.98 344 *e*P P 03 16 36.2 +0.6
comp=Z,56nm,1.4s
KONO LR LR
comp=Z,7μm,18.0s
KONO Kongsberg 65.98 344 *c i*P P 03 16 35.7 +0.1
KONO pmax pmax
comp=Z,121nm,2.5s
KONO Kongsberg 65.98 344 *e*P P 03 16 35.8 +0.1
I39A Houston 65.98 49 PFAKE 03 16 50.0 +14
I39A LR LR
comp=Z,5μm,20.0s
I39A Houston 65.98 49 P P 03 16 33.4 -2.5
baz=320
BNSI Bone 65.99 225 P P 03 16 36.5 +0.3
comp=Z,105nm,1.4s,comp=Z,2μm
319A Douglas 66.03 69 *e*P P 03 16 37.8 +1.1
comp=Z,53nm,1.0s
319A LR LR
comp=Z,3μm,18.0s
F42A Maple Grove Fa 66.03 45 P P 03 16 34.3 -1.9
baz=322
121A Cookes Peak, D 66.04 68 P P 03 16 37.1 +0.5
baz=318,SNR=13
E43A Lone Tree Farm 66.05 44 PFAKE 03 16 50.0 +14
E43A LR LR
comp=Z,6μm,18.0s
E43A Lone Tree Farm 66.05 44 P P 03 16 34.4 -1.9
baz=322
IDID Didziasalis 66.14 333 *e*P P 03 16 36.3 -0.4
IDID IAmb IAmb 03 16 37.6
comp=Z,65nm,1.1s
SKLT Songkhla 66.15 250 P P 03 16 43.3 +6.0
TRTT Trang 66.15 251 P P 03 16 39.5 +2.2
comp=Z,63nm,1.7s,comp=Z,3μm
ODD1 Odda 66.20 346 *e*P P 03 16 37.3 +0.2
H41A Junction City 66.25 47 PFAKE 03 16 50.0 +12
H41A LR LR
comp=Z,6μm,20.0s
H41A Junction City 66.25 47 P P 03 16 34.8 -2.9
baz=321
IIGN Ignalina 66.25 333 *e*P P 03 16 37.6 +0.1
IIGN IAmb IAmb 03 16 39.2
comp=Z,37nm,0.6s
JBP Jabalpur 66.28 278 *e*P P 03 16 37.8 -0.3
JBP *ex* S 03 25 25.8 +0.2
SCHQ Schefferville 66.28 28 *e*P P 03 16 37.5 -0.2
comp=Z,36nm,1.0s
SCHQ LR LR
comp=Z,5μm,20.0s
SCHQ Schefferville 66.28 28 P P 03 16 37.5 -0.2
comp=Z,17nm,0.8s,baz=356,slow=6.4,SNR=11
J39A Decorah 66.30 49 P P 03 16 36.8 -1.2
baz=321
G42A Mountain 66.31 46 PFAKE 03 16 50.0 +12
G42A LR LR
comp=Z,6μm,21.0s
G42A Mountain 66.31 46 P P 03 16 35.1 -2.9
baz=322
E44A Grand Marais A 66.31 44 PFAKE 03 16 50.0 +12
E44A LR LR
comp=Z,7μm,19.0s
E44A Grand Marais A 66.31 44 P P 03 16 36.1 -1.9
baz=322
I40A Norwalk 66.37 48 P P 03 16 36.2 -2.2
baz=321
F43A Flat Rock, Esc 66.40 45 P P 03 16 36.7 -1.9
baz=322
NACGM Naroch 66.48 333 *e*P P 03 16 38.0 -0.9
NACGM PM 03 16 39.0
comp=Z,0.3nm,1.0s
NACGM *e*S S 03 25 31.0 +3.7
NACGM *e*LR LR 03 49 18.0
comp=Z,48nm,17.0s
MICGM Minsk 66.52 332⇑ *i*P P 03 16 39.0 -0.2
MICGM PM 03 16 41.0
comp=Z,1.4nm,2.0s
MICGM PM 03 16 42.0
comp=N,0.9nm,1.5s
MICGM PM 03 16 42.0
comp=E,1.0nm,1.5s
MICGM *e*pP **pwP** 03 16 54.0 +4.1
MICGM *e*PP **PP** 03 19 07.0 +1.8
MICGM *e*PPP PPP 03 21 06.0
MICGM *e*S **S** 03 25 26.0 -1.8
MICGM *e*PS **PnS** 03 25 42.0 -8.1
MICGM *e*SS SS 03 29 25.0 -19
MICGM *e*SSS SSS 03 33 05.0
MICGM *e*LQ LQ 03 39 25.0
MICGM *e*LR LR 03 45 22.0
MICGM LRM MLR 03 49 56.0
comp=E,13nm,14.0s
MICGM LRM MLR 03 49 57.0
comp=Z,25nm,16.0s
MNK Minsk 66.52 332⇑ *i*P P 03 16 39.0 -0.2
MNK *e**PP **pwP** 03 16 54.0 +4.1
MNK *e* 03 19 07.0
MNK *e*S **S** 03 25 26.0 -1.8
MNK *e*PS **PnS** 03 25 42.0 -8.1
MNK pmax pmax
comp=Z,1μm,2.0s
MNK pmax pmax
comp=N,850nm,1.5s
MNK pmax pmax
comp=E,950nm,1.5s
MNK MLR MLR
comp=E,13μm,14.0s
MNK MLR MLR
comp=Z,25μm,16.0s
I41A Arkdale 66.58 48 PFAKE 03 16 50.0 +10
I41A LR LR
comp=Z,7μm,21.0s
I41A Arkdale 66.58 48 P P 03 16 38.3 -1.5
baz=321
F44A Big Bay de Noc 66.61 44 P P 03 16 38.0 -1.9
baz=322
G43A Wallace 66.62 46 PFAKE 03 16 50.0 +10
G43A LR LR
comp=Z,7μm,20.0s
G43A Wallace 66.62 46 P P 03 16 38.8 -1.2
baz=322
SCIA State Center 66.68 51 *e*P P 03 16 40.7 +0.3
comp=Z,72nm,0.8s
SCIA LR LR
comp=Z,9μm,20.0s
SCIA State Center 66.68 51 P P 03 16 39.7 -0.8
baz=320
KAPI Kappang 66.69 225 *e*P P 03 16 41.3 +0.6
comp=Z,123nm,1.4s
KAPI Kappang 66.69 225 P P 03 16 41.3 +0.6
SNR=32
KAPI P P 03 16 41.3 +0.6
SNR=32
KAPI Kappang 66.69 225 P P 03 16 41.5 +0.8
comp=Z,44nm,1.2s,baz=18,slow=3.6,SNR=38
BLS5 Blasjo 66.69 346 *e*P P 03 16 40.4 +0.1
K39A Oelwein 66.70 50 P P 03 16 38.1 -2.5
baz=321
J40A Soldiers Grove 66.70 49 P P 03 16 38.7 -1.8
baz=321
PABE Paberze 66.72 335 *e*P P 03 16 40.1 -0.3
PABE IAmb IAmb 03 16 41.2
comp=Z,338nm,1.1s
PBUR Paburg 66.77 336 *e*P P 03 16 40.5 -0.3
PBUR IAmb IAmb 03 16 41.5
comp=Z,336nm,1.3s
BKSI Bulukumba 66.81 225 P P 03 16 41.2 -0.2
comp=Z,33nm,1.5s,comp=Z,964nm
HSIG 66.81 72 PFAKE 03 16 50.0 +8.6
HSIG LR LR
comp=Z,2μm,22.0s
H42A Shiocton 66.83 47 PFAKE 03 16 50.0 +8.6
H42A LR LR
comp=Z,6μm,20.0s
H42A Shiocton 66.83 47 P P 03 16 40.8 -0.5
baz=322
E45A Wooded Hills, 66.84 43 P P 03 16 39.7 -1.6
baz=323
D46A Sault St. Mari 66.89 42 P P 03 16 38.7 -3.0
baz=323
K40A Colesburg 67.05 49 P P 03 16 38.0 -4.8
baz=321
J41A Loganville 67.06 48 P P 03 16 37.9 -4.9
baz=321
MATQ Matagami 67.06 37 P P 03 16 41.7 -1.0
baz=326,SNR=5.9
KMY Karmoy 67.07 346 *e*P P 03 16 42.9 +0.3
L39A Vinton 67.09 50 P P 03 16 41.9 -1.1
baz=321
D47A Chapleau 67.14 42 P P 03 16 41.0 -2.3
baz=324
KSU1 Kansas State U 67.15 55 PFAKE 03 17 00.0 +17
KSU1 LR LR
comp=Z,7μm,18.0s
KSU1 Kansas State U 67.15 55 P P 03 16 42.8 -0.7
baz=320
I42A Draeger Farm, 67.15 47 *e*P P 03 16 43.0 -0.3
comp=Z,24nm,1.1s
I42A LR LR
comp=Z,6μm,20.0s
I42A Draeger Farm, 67.15 47 P P 03 16 41.5 -1.9
baz=322
E46A Sault Ste Mari 67.19 43 *e*P P 03 16 47.0 +3.4
comp=Z,66nm,1.5s
E46A LR LR
comp=Z,6μm,19.0s
E46A Sault Ste Mari 67.19 43 P P 03 16 41.3 -2.3
baz=323
H43A Windswept, Lux 67.20 46 PFAKE 03 17 00.0 +16
H43A LR LR
comp=Z,5μm,21.0s
H43A Windswept, Lux 67.20 46 P P 03 16 41.5 -2.2
baz=322
F45A CMU Biological 67.23 44 P P 03 16 42.3 -1.6
baz=323
PBA Port Blair 67.24 259 PFAKE 03 17 00.0 +16
PBA LR LR
comp=Z,13μm,19.0s
PBA Port Blair 67.24 259 *e*P P 03 16 43.5 -0.8
PBA IAmb IAmb 03 16 47.0
comp=Z,41nm,0.8s
JFWS Jewell Farm 67.30 49 *e*P P 03 16 44.5 +0.1
comp=Z,44nm,1.5s
JFWS LR LR
comp=Z,6μm,19.0s
JFWS Jewell Farm 67.30 49 P P 03 16 43.2 -1.2
baz=321
EPT El Paso 67.33 67 PFAKE 03 17 00.0 +15
EPT LR LR
comp=Z,4μm,19.0s
BSSI Bau Bau, Buton 67.38 224 P P 03 16 45.4 +0.3
comp=Z,159nm,1.3s,comp=Z,3μm
HOMB Homborsund 67.47 344 *e*P P 03 16 45.7 +0.6
F46A Macinaw City C 67.48 43 P P 03 16 43.8 -1.6
baz=323
I43A Langenfeld Bro 67.50 47 P P 03 16 44.4 -1.2
baz=322
J42A Columbus 67.50 48 P P 03 16 44.1 -1.5
baz=322
L40A Anamosa 67.50 50 *e*P P 03 16 45.0 -0.6
comp=Z,41nm,1.3s
L40A LR LR
comp=Z,8μm,18.0s
L40A Anamosa 67.50 50 P P 03 16 43.9 -1.8
baz=321
E47A Iron Bridge 67.55 42 P P 03 16 43.2 -2.6
baz=324
D48A Paudash Townsh 67.57 41 P P 03 16 43.7 -2.3
baz=324
SNART Snartemo 67.61 345 *e*P P 03 16 46.2 +0.1
KULM Kulim 67.66 249 *e*P P 03 16 47.4 +0.5
comp=Z,68nm,1.3s
KULM LR LR
comp=Z,6μm,20.0s
KULM Kulim 67.66 249 P P 03 16 49.0 +2.1
D49A Beulah Townshi 67.67 40 P P 03 16 44.0 -2.7
baz=324
AMTX Amarillo 67.67 62 *e*P P 03 16 48.4 +1.5
comp=Z,68nm,1.4s
AMTX LR LR
comp=Z,3μm,21.0s
AMTX Amarillo 67.67 62 P P 03 16 45.4 -1.6
baz=319
G45A Suttons Bay 67.68 44 PFAKE 03 17 00.0 +13
G45A LR LR
comp=Z,7μm,18.0s
G45A Suttons Bay 67.68 44 P P 03 16 43.8 -2.9
baz=323
GEYT Alibeck 67.72 303 P P 03 16 46.6 -0.5
comp=Z,55nm,1.0s,baz=29,slow=3.4,SNR=85
GEYT LR LR 03 51 09.5
comp=Z,16μm,18.1s,baz=60,slow=40
GYA0B ALIBECK ARRAY 67.72 303 *e*P P 03 16 46.8 -0.4
comp=Z,113nm,1.1s
GYA0B LR LR
comp=Z,14μm,18.0s
MSTX Muleshoe 67.76 63 *e*P P 03 16 48.1 +0.5
comp=Z,70nm,1.3s
MSTX Muleshoe 67.76 63 P P 03 16 47.2 -0.4
baz=319,SNR=16
J43A Natural Harves 67.77 47 P P 03 16 45.8 -1.5
baz=322
BHPL Bhopal 67.78 280 *e*P P 03 16 48.2 +0.5
G46A Petoskey 67.80 44 P P 03 16 45.9 -1.6
baz=323
K42A Prairie Point, 67.82 48 P P 03 16 45.8 -1.8
baz=322
H45A Beulah 67.84 45 P P 03 16 45.5 -2.2
baz=323
LSQQ Lebel-sur-Quev 67.88 37 P P 03 16 46.5 -1.4
baz=326
U32A Winter Ranch, 67.97 59 *e*P P 03 16 48.8 0.0
comp=Z,30nm,0.8s
U32A LR LR
comp=Z,4μm,20.0s
E48A Lockeyer 67.98 41 P P 03 16 45.6 -3.0
baz=324
MNTX Cornudas Mount 68.02 66 *e*P P 03 16 50.0 +0.9
comp=Z,59nm,1.4s
MNTX LR LR
comp=Z,3μm,20.0s
MNTX Cornudas Mount 68.02 66 P P 03 16 49.1 +0.1
baz=319,SNR=26
CHGQ Chibougamau 68.10 35 P P 03 16 47.2 -2.1
baz=328
IPM Ipoh 68.10 248 *e*P P 03 16 50.0 +0.2
comp=Z,52nm,1.3s
IPM LR LR
comp=Z,5μm,21.0s
IPM Ipoh 68.10 248 P P 03 16 51.0 +1.2
I45A Fountain 68.22 45 PFAKE 03 17 00.0 +10
I45A LR LR
comp=Z,6μm,20.0s
I45A Fountain 68.22 45 P P 03 16 49.3 -0.9
baz=323
N40A Mertquake, Sal 68.25 51 P P 03 16 48.6 -1.7
baz=321
H46A Fife Lake 68.27 45 P P 03 16 47.2 -3.2
baz=323
L42A Oliver, Polo 68.28 49 *e*P P 03 16 51.7 +1.2
comp=Z,30nm,0.9s
L42A LR LR
comp=Z,6μm,18.0s
L42A Oliver, Polo 68.28 49 P P 03 16 48.7 -1.8
baz=322
GLMI Grayling 68.30 44 *e*P P 03 16 52.4 +1.8
comp=Z,72nm,1.3s
GLMI LR LR
comp=Z,7μm,18.0s
GLMI Grayling 68.30 44 P P 03 16 48.7 -1.9
baz=323
F48A Evansville 68.33 42 P P 03 16 48.8 -1.9
baz=324
VIS Vishakhapatnam 68.33 271 *i* P P 03 16 51.6 +0.5
G47A Hillman 68.34 43 P P 03 16 48.9 -1.9
baz=324
K43A Burlington 68.34 48 *e*P P 03 16 52.1 +1.2
comp=Z,30nm,0.9s
K43A LR LR
comp=Z,6μm,19.0s
K43A Burlington 68.34 48 P P 03 16 49.4 -1.5
baz=322
M41A Milan 68.36 50 P P 03 16 49.9 -1.1
baz=322
VLDQ Val d'Or 68.49 38 *e*P P 03 16 49.9 -1.8
comp=Z,37nm,1.2s
VLDQ LR LR
comp=Z,5μm,22.0s
L43A Garden Prairie 68.56 48 P P 03 16 49.2 -3.1

baz=322
D51A Lot 18 Range I 68.60 39 P **P** 03 16 50.5 -2.0
baz=326
E50A Wahnapitae 68.61 41 P **P** 03 16 50.2 -2.3
baz=325
F49A Sandfield 68.62 42 P **P** 03 16 47.9 -4.6
baz=324
J45A Montague 68.63 46 PFAKE 03 17 10.0 +17
J45A LR LR
comp=Z,6μm,21.0s
J45A Montague 68.63 46 P **P** 03 16 50.2 -2.5
baz=323
I46A Reed City 68.64 45 P **P** 03 16 51.6 -1.2
baz=323
H47A Mio 68.65 44 P **P** 03 16 50.6 -2.2
baz=324
N41A Harden Midland 68.73 51 *e*P **P** 03 16 53.1 -0.2
comp=Z,84nm,1.0s
N41A LR LR
comp=Z,6μm,18.0s
N41A Harden Midland 68.73 51 P **P** 03 16 52.3 -1.1
baz=322,SNR=9.4
MYKOM Kota Tinggi 68.74 244 *e*P **P** 03 16 55.1 +1.4
comp=Z,55nm,1.5s
MYKOM LR LR
comp=Z,6μm,18.0s
MAK Makhachkala 68.91 314 *e*P **P** 03 16 53.5 -0.9
MAK *e*PPP PPP 03 21 04.5
MAK *e*S **S** 03 25 57.3 +0.6
MAK *e*SS **SS** 03 30 22.4 +1.1
MAK pmax pmax
comp=Z,189nm,1.3s
MAK MLR MLR
comp=Z,9μm,15.0s
MMRI Maumere 68.91 221 P **P** 03 16 53.0 -1.7
H48A Harrisville 68.94 43 PFAKE 03 17 10.0 +15
H48A LR LR
comp=Z,8μm,19.0s
H48A Harrisville 68.94 43 P **P** 03 16 51.7 -2.9
baz=324
L44A Lake County Fo 68.95 48 P **P** 03 16 53.2 -1.5
baz=322
I47A Gladwin 68.99 44 PFAKE 03 17 10.0 +15
I47A LR LR
comp=Z,8μm,18.0s
I47A Gladwin 68.99 44 P **P** 03 16 50.7 -4.2
baz=324
E51A G1948 Merrick 69.01 40 P **P** 03 16 52.7 -2.3
baz=326
J46A Howard City 69.03 46 P **P** 03 16 55.0 -0.2
baz=323
D52A ZEK Kipawa Sen 69.07 39 P **P** 03 16 53.4 -2.0
baz=326
MUD Monsted U'grnd 69.08 343⇑ *i*P **P** 03 16 55.8 +0.5
MUD MLR MLR
comp=Z,12μm,15.0s
MUD Monsted U'grnd 69.08 343⇑ *i*P **P** 03 16 55.8 +0.5
TPRI Tanjung Pinang 69.09 242 P **P** 03 16 56.9 +1.0
SOEI Soe 69.13 219 *e*P **P** 03 16 56.1 -0.1
comp=Z,62nm,1.2s
SOEI Soe 69.13 219 P **P** 03 16 55.8 -0.4
comp=Z,143nm,1.7s,comp=Z,3μm
I48A Sherman Twp 69.20 44 P **P** 03 16 55.7 -0.5
baz=324
COP Copenhagen 69.21 341⇑ *i*P **P** 03 16 56.7 +0.7
COP MLR MLR
comp=Z,6μm,16.0s
COP Copenhagen 69.21 341⇑ *i*P **P** 03 16 56.7 +0.7
BSD Bornholm Skovb 69.23 340⇑ *i*P **P** 03 16 56.2 0.0
BSD MLR MLR
comp=Z,12μm,14.0s
BSD Bornholm Skovb 69.23 340⇑ *i*P **P** 03 16 56.2 0.0
D53A Lac Vacive, Po 69.25 38 *e*P **P** 03 16 55.6 -0.9
comp=Z,30nm,1.3s
D53A LR LR
comp=Z,6μm,20.0s
D53A Lac Vacive, Po 69.25 38 P **P** 03 16 54.8 -1.7
baz=326
TOBO Tobermory, Bru 69.27 42 P **P** 03 16 54.3 -2.3
baz=325
WMOK Wichita Mounta 69.34 60 *e*P **P** 03 16 57.2 -0.1
comp=Z,45nm,1.0s
WMOK Wichita Mounta 69.34 60 P **P** 03 16 56.7 -0.6
baz=320,SNR=37
F51A Arnstein 69.34 40 P **P** 03 16 55.1 -2.0
baz=325
N43A Stutzman Famil 69.34 49 P **P** 03 16 56.4 -0.8
baz=322
AKASG Malin Array Be 69.43 329 P **P** 03 16 56.8 -0.8
comp=Z,31nm,0.5s,baz=32,slow=6.8,SNR=313
AKBB Malin Array Si 69.43 329 *e*P **P** 03 16 56.2 -1.4
comp=Z,209nm,1.2s
AKBB LR LR
comp=Z,19μm,18.0s
OK023 East Waterloo 69.44 58 PFAKE 03 17 10.0 +12
OK023 LR LR
comp=Z,4μm,19.0s
KIEV Kiev 69.44 329 PFAKE 03 17 10.0 +12
KIEV LR LR
comp=Z,19μm,19.0s
KIEV Kiev 69.44 329⇑ *i*P **P** 03 16 57.1 -0.6
KIEV Kiev 69.44 329 *i* P **P** 03 16 57.0 -0.6
SNR=50
KIEV Kiev 69.44 329 *c i*P **P** 03 16 57.0 -0.6
KIEV pmax pmax
comp=Z,396nm,1.8s
GROC Groznyy 69.47 315 *e*P **P** 03 16 54.9 -3.0
GROC *e**PP **pwP** 03 17 10.0 +1.2
GROC *e**SP **PcP** 03 17 14.7 -6.3
GROC *e* 03 17 18.5
GROC pmax pmax
comp=Z,126nm,1.6s
J47A Sunmer 69.48 45 *e*P **P** 03 17 00.1 +2.1
comp=Z,108nm,1.4s
J47A LR LR
comp=Z,6μm,18.0s
J47A Sunmer 69.48 45 P **P** 03 16 56.4 -1.5
baz=324
OK024 West corner E0 69.49 58 PFAKE 03 17 10.0 +12
OK024 LR LR
comp=Z,4μm,19.0s
K46A Dorr 69.50 46 P **P** 03 16 56.6 -1.5
baz=323
M44A Midewin, Midew 69.51 48 *e*P **P** 03 16 59.7 +1.5
comp=Z,42nm,1.3s
M44A LR LR
comp=Z,5μm,20.0s
M44A Midewin, Midew 69.51 48 P **P** 03 16 56.7 -1.4
baz=323
E52A Mattawa 69.54 39 P **P** 03 16 57.0 -1.3
baz=326
HDIL Hopedale 69.59 50 *e*P **P** 03 16 58.2 -0.4
comp=Z,60nm,1.0s
HDIL LR LR
comp=Z,7μm,20.0s
HDIL Hopedale 69.59 50 P **P** 03 16 56.6 -2.1
baz=322
D54A Lac Fusel, La 69.59 38 P **P** 03 16 56.6 -2.0
baz=327
F52A Sundridge 69.69 40 P **P** 03 16 57.2 -2.0
baz=326
KLBO Killbear Provi 69.69 41 P **P** 03 16 56.3 -2.9
baz=325
I49A Point Hope 69.77 43 PFAKE 03 17 10.0 +10
I49A LR LR
comp=Z,8μm,18.0s
I49A Point Hope 69.77 43 P **P** 03 16 58.2 -1.6
baz=324
BATI Baumata 69.78 219 P **P** 03 16 59.2 -0.9
L46A Eue Claire 69.81 47 *e*P **P** 03 17 01.6 +1.6
comp=Z,39nm,1.1s
L46A LR LR
comp=Z,5μm,19.0s
L46A Eue Claire 69.81 47 P **P** 03 16 59.2 -0.8
baz=323
LHMI Lhok Sumawe 69.85 252 PFAKE 03 17 10.0 +9.4
LHMI LR LR
comp=Z,12μm,19.0s
LHMI Lhok Sumawe 69.85 252 P **P** 03 16 58.8 -1.8
E53A Dumoine, Ponti 69.85 39 P **P** 03 16 58.2 -2.0
baz=326
K47A Vermontville 69.86 46 P **P** 03 16 58.8 -1.5
baz=324
M45A Boilermakers S 69.87 48 P **P** 03 16 58.6 -1.8
baz=323
J48A Bridge Port 69.88 44 PFAKE 03 17 20.0 +20
J48A LR LR
comp=Z,7μm,18.0s
J48A Bridge Port 69.88 44 P **P** 03 17 00.2 -0.2
baz=324
BMRO Meriville Lake 69.91 42 P **P** 03 16 59.7 -0.9
baz=325
N44A Piper City 69.94 49 P **P** 03 16 58.4 -2.4
baz=323
BUKO Buck Lake 69.95 40 P **P** 03 16 59.5 -1.3
baz=326
E54A Lac Daplat, Po 69.99 38 P **P** 03 16 59.0 -2.0
baz=327
TUL1 Leonard 70.00 57 *e*P **P** 03 17 02.2 +0.9
comp=Z,71nm,1.3s
TUL1 LR LR
comp=Z,4μm,20.0s
TUL1 Leonard 70.00 57 P **P** 03 17 00.7 -0.6
baz=321,SNR=11
ALGO Algonquin Park 70.05 39 P **P** 03 16 58.5 -3.0
baz=326
RGN Rugen 70.09 340 *e*P **P** 03 17 02.4 +0.9
comp=Z,169nm,1.0s
RGN LR LR
comp=Z,11μm,20.0s
BRCO Bruce Peninsul 70.10 42 P **P** 03 16 59.2 -2.6
baz=325
J49A Marlette 70.11 44 P **P** 03 16 59.9 -1.9
baz=324
K48A Perry 70.13 45 P **P** 03 17 01.9 -0.1
baz=324,SNR=8.2
NCK Nalchik 70.18 316 *c i*P **P** 03 17 02.3 0.0
NCK pmax pmax
comp=Z,175nm,1.6s
N45A Kentland 70.18 48 P **P** 03 17 00.9 -1.4
baz=323
KIV Kislovodsk 70.19 317 *e*P **P** 03 17 01.9 -0.5
comp=Z,39nm,0.9s
KIV LR LR
comp=Z,10μm,20.0s
KIV Kislovodsk 70.19 317⇑ *i*P **P** 03 17 02.4 -0.1
KIV Kislovodsk 70.19 317 *i* P **P** 03 17 02.1 -0.3
SNR=14
KIV Kislovodsk 70.19 317 *e*P **P** 03 17 02.4 -0.1
KIV pmax pmax
comp=Z,122nm,1.1s
KIV MLR MLR
comp=Z,23μm,18.0s
KIV Kislovodsk 70.19 317 P **P** 03 17 02.3 -0.1
SNR=57
KIV P **P** 03 17 02.3 -0.1
SNR=57
BASO Ashfield 70.20 43 P **P** 03 16 59.5 -2.9
baz=325
CMBY CAMPBELL BAY 70.20 255 *e*P **P** 03 17 02.9 +0.1
P43A Skaggs, Pawnee 70.20 50 P **P** 03 17 01.4 -1.0
baz=322
M46A Old House Fiel 70.27 47 *e*P **P** 03 17 04.4 +1.6
comp=Z,57nm,1.3s
M46A LR LR
comp=Z,7μm,20.0s
M46A Old House Fiel 70.27 47 P **P** 03 17 00.4 -2.5
baz=323
KBZ Khabaz 70.28 317 P **P** 03 17 03.1 +0.2
comp=Z,51nm,0.9s,baz=46,slow=5.8,SNR=91
O44A Mansfield 70.29 49 P **P** 03 17 01.9 -1.1
baz=323
L47A Sherwood 70.33 46 P **P** 03 17 00.0 -3.2
baz=324,SNR=6.1
BWLO Walkerton 70.33 42 P **P** 03 16 59.6 -3.6
baz=325
R41A Rosebud 70.36 53 P **P** 03 17 02.2 -1.3
baz=322
H52A Wyevale 70.41 41 P **P** 03 16 59.7 -3.9
baz=326
GKP Gorka Klasztor 70.42 338 *e*P **P** 03 17 03.8 +0.3
GKP Gorka Klasztor 70.42 338 *e*P **P** 03 17 03.8 +0.3
K49A Clarkson 70.44 45 P **P** 03 17 03.7 -0.2
baz=324,SNR=7.9
ABTX Abilene, Hawle 70.49 62 *e*P **P** 03 17 04.8 +0.5
comp=Z,71nm,1.4s
ABTX LR LR
comp=Z,3μm,20.0s
ABTX Abilene, Hawle 70.49 62 P **P** 03 17 04.2 -0.1
baz=320,SNR=9.7
N46A Monticello 70.50 48 P **P** 03 17 02.5 -1.8
baz=323
TPI Tanjungpandan 70.52 238 P **P** 03 17 04.1 -0.5
comp=Z,51nm,1.8s,comp=Z,2μm
G53A Haliburton 70.52 40 P **P** 03 17 02.0 -2.3
baz=326
O45A Potomac 70.56 49 P **P** 03 17 02.2 -2.4
baz=323
PEMO Pembroke 70.59 39 P **P** 03 17 02.8 -2.0
baz=327
SADO Sadowa 70.61 41 *e*P **P** 03 17 07.0 +2.1
comp=Z,15nm,1.1s
SADO LR LR
comp=Z,5μm,19.0s
SADO Sadowa 70.61 41 P **P** 03 17 07.0 +2.1
comp=Z,5.8nm,0.9s,baz=331,slow=3.4,SNR=2.9
CCM Cathedral Cave 70.62 53 *e*P **P** 03 17 06.3 +1.2
comp=Z,48nm,1.3s
CCM LR LR
comp=Z,6μm,19.0s
CCM Cathedral Cave 70.62 53 P **P** 03 17 03.1 -2.0
baz=322
ZEI Tsey 70.62 316 *e*P **P** 03 17 00.9 -4.4
ZEI pmax pmax
comp=Z,74nm,1.5s
M47A Cromwell 70.63 47 P **P** 03 17 02.9 -2.1
baz=324
I51A Listowel 70.63 42 P **P** 03 17 04.1 -0.9
baz=325
SLM Saint Louis 70.65 52 PFAKE 03 17 20.0 +15
SLM LR LR
comp=Z,8μm,20.0s
HHAR Hobbs 70.66 56 *e*P **P** 03 17 04.7 -0.6
comp=Z,50nm,1.2s
HHAR LR LR
comp=Z,6μm,20.0s
PSI Prapat 70.67 248 *e*P **P** 03 17 06.1 +0.3
comp=Z,47nm,1.5s
PSI LR LR
comp=Z,7μm,20.0s
L48A N Adams 70.69 46 P **P** 03 17 02.9 -2.5
baz=324
AAM Ann Arbor 70.74 45 *e*P **P** 03 17 07.9 +2.2
comp=Z,108nm,1.5s
AAM LR LR
comp=Z,5μm,18.0s
AAM Ann Arbor 70.74 45 P **P** 03 17 04.2 -1.5
baz=324
S41A Jillco Farms, 70.74 53 P **P** 03 17 02.5 -3.3
baz=322
NEY Neytrino 70.75 317 *d i*P **P** 03 17 06.9 +0.9
NEY pmax pmax
comp=Z,20nm,1.7s
SFIN Lafayette 70.75 48 *e*P **P** 03 17 06.2 +0.4
comp=Z,29nm,1.2s
SFIN LR LR
comp=Z,5μm,20.0s
SFIN Lafayette 70.75 48 P **P** 03 17 01.3 -4.4
baz=323
LTX Lajitas 70.77 67 *e*P **P** 03 17 06.8 +0.6
TX31 Lajitas Ar. Si 70.77 67 *e*P **P** 03 17 06.8 +0.7
comp=Z,70nm,1.4s
TXAR Lajitas Array 70.77 67 P **P** 03 17 06.8 +0.6
comp=Z,4.9nm,0.5s,baz=298,slow=5.4,SNR=96
TXAR LR LR 03 48 45.4
comp=Z,2μm,19.0s,baz=0.0,slow=36
K50A Casco 70.80 44 PFAKE 03 17 20.0 +14
K50A LR LR
comp=Z,10μm,18.0s
K50A Casco 70.80 44 P **P** 03 17 04.2 -1.9
baz=325
F55A Otter Lake 70.81 38 P **P** 03 17 02.1 -4.0
baz=327
LATQ La Tuque 70.81 35 P **P** 03 17 03.3 -2.7
baz=329
L49A Milan 70.85 45 P **P** 03 17 05.4 -1.0
baz=324,SNR=6.0
BEL Belsk 70.85 335 *e*P **P** 03 17 07.0 +0.8
BEL Belsk 70.85 335 *e*P **P** 03 17 07.0 +0.8
BANO Bancroft 70.88 40 P **P** 03 17 04.2 -2.3
baz=327
M48A Edgerton 70.94 46 *e*P **P** 03 17 08.7 +1.7
comp=Z,46nm,1.2s
M48A LR LR
comp=Z,4μm,20.0s
M48A Edgerton 70.94 46 P **P** 03 17 05.1 -1.8
baz=324
PLAI Plampang 70.95 225 P **P** 03 17 05.6 -1.6
comp=Z,118nm,1.7s,comp=Z,2μm
N47A Urbana 70.98 47 P **P** 03 17 04.8 -2.5
baz=324
FVM French Village 71.07 52 *e*P **P** 03 17 09.2 +1.4
comp=Z,58nm,1.4s
FVM LR LR
comp=Z,7μm,20.0s
TBLG Delisi 71.12 315 *e*P **P** 03 17 08.2 +0.2
comp=Z,24nm,1.0s
P45A Graceland, Par 71.13 49 *e*P **P** 03 17 12.3 +4.2
comp=Z,51nm,1.4s
P45A LR LR
comp=Z,8μm,18.0s
P45A Graceland, Par 71.13 49 P **P** 03 17 06.4 -1.7
baz=323
U40A Yellville 71.15 55 P **P** 03 17 07.4 -1.0
baz=322,SNR=13
G55A Calabogie 71.15 39 P **P** 03 17 05.2 -3.0
baz=327
ACTO Acton 71.19 42 P **P** 03 17 06.5 -1.9
baz=326
PLVO Plevna 71.19 39 P **P** 03 17 06.1 -2.3
baz=327
I53A Kortright Cn E 71.20 41 P **P** 03 17 06.9 -1.6
baz=326
M49A Liberty Center 71.27 46 P **P** 03 17 09.1 +0.2
baz=324
O47A Sheridan 71.28 48 P **P** 03 17 06.6 -2.4
baz=324
PKRO Pickering 71.30 41 P **P** 03 17 07.2 -1.9
baz=326
N48A Decatur 71.30 47 P **P** 03 17 07.9 -1.3
baz=324,SNR=7.0
P46A Rosedale 71.31 49 P **P** 03 17 07.1 -2.1
baz=323
K51A Iona Station 71.32 43 P **P** 03 17 07.0 -2.2
baz=325
L50A Kingsville 71.32 45 P **P** 03 17 08.0 -1.2
baz=325
J52A Paris 71.32 42 P **P** 03 17 07.0 -2.2
baz=326
DELO Deloro Mine 71.42 40 P **P** 03 17 07.8 -1.9
baz=327
Q45A Warren Harvey, 71.44 50 P **P** 03 17 09.6 -0.4
baz=323
HPIG 71.44 70 PFAKE 03 17 20.0 +10
HPIG LR LR
comp=Z,3μm,18.0s
ORIO Orleans, Innes 71.45 38 P **P** 03 17 07.6 -2.3
baz=328
TORO Toronto--Lesli 71.48 41 P **P** 03 17 07.9 -2.2
baz=326
HYB Hyderabad 71.49 275⇑ *i*P **P** 03 17 10.0 -0.6
comp=Z,220nm,1.0s
HYB *e*S **S** 03 26 28.0 +0.3
HYB Hyderabad 71.49 275 *e*P **P** 03 17 09.5 -1.1
BKNI Bangkinang 71.50 245 PFAKE 03 17 20.0 +9.4
BKNI LR LR
comp=Z,4μm,18.0s
DRWO Darlington Wes 71.51 41 P **P** 03 17 08.5 -1.9
baz=326
ALFO Alfred 71.53 37 P **P** 03 17 08.1 -2.3
baz=328
H55A Tweed 71.56 40 P **P** 03 17 08.4 -2.3
baz=327
W39A Magazine 71.59 56 *e*P **P** 03 17 10.8 -0.2
comp=Z,54nm,1.5s
W39A LR LR
comp=Z,6μm,19.0s
W39A Magazine 71.59 56 P **P** 03 17 09.1 -1.9
baz=322
ANN Anapa 71.60 321 *e*P **P** 03 17 09.9 -0.9
ANN *e**PP **pwP** 03 17 23.1 +1.4
ANN *e*S **S** 03 26 25.3 -2.8
ANN pmax pmax
comp=Z,321nm,2.1s
ANN MLR MLR
comp=N,12μm,18.0s
ANN MLR MLR
comp=Z,13μm,18.0s
ANN MLR MLR
comp=E,14μm,18.0s
K52A Tillsonburg 71.60 43 P **P** 03 17 09.7 -1.2
baz=326
WLVO Wesleyville 71.61 41 P **P** 03 17 09.3 -1.6
baz=327
N49A Columbus Grove 71.63 46 *e*P **P** 03 17 12.8 +1.7
comp=E,65nm,1.4s
N49A LR LR
comp=Z,5μm,19.0s
N49A Columbus Grove 71.63 46 P **P** 03 17 10.3 -0.8
baz=324,SNR=6.9
U41A Viola 71.63 54 P **P** 03 17 09.6 -1.6
baz=322
PLIO Pelee Island, 71.63 45 P **P** 03 17 08.6 -2.5
baz=325
I55A Frankford 71.64 40 P **P** 03 17 08.9 -2.3
baz=327
TYNO Tyneside 71.69 42 P **P** 03 17 09.9 -1.6
baz=326
Q46A CEJHS Indians, 71.71 49 P **P** 03 17 10.6 -1.0
baz=324
SOC Sochi 71.71 319 *c i*P **P** 03 17 11.0 -0.6
SOC *e**SP **PcP** 03 17 29.8 -0.8
SOC *e* 03 19 48.3
SOC *e*PPP PPP 03 21 36.7
SOC *e*S **S** 03 26 26.8 -2.7
SOC pmax pmax
comp=Z,177nm,1.3s
SOC MLR MLR
comp=Z,18μm,16.0s
O48A Farmland 71.73 47 P **P** 03 17 10.5 -1.3
baz=324,SNR=6.3
M50A Fremont 71.74 45 PFAKE 03 17 20.0 +8.3
M50A LR LR
comp=Z,5μm,20.0s
M50A Fremont 71.74 45 P **P** 03 17 09.3 -2.5
baz=325
LVV L'vov 71.78 332 *i* P **P** 03 17 11.1 -0.8
LVV *i* 03 19 52.6
LVV *i* 03 21 36.7
LVV *i* S **S** 03 26 26.2 -3.9
LVV *i* 03 27 09.3
LVV *i* 03 34 12.7
LVV pmax pmax
comp=Z,620nm,1.5s
P47A Martinsville 71.84 48 P **P** 03 17 11.0 -1.4
baz=324
R45A Skylar, Fairfi 71.86 50 P **P** 03 17 11.2 -1.3
baz=323
S44A Carbondale 71.87 52 P **P** 03 17 11.6 -1.0
baz=323
SIUC Southern Illin 71.87 51 *e*P **P** 03 17 13.4 +0.8
comp=Z,49nm,1.3s
SIUC LR LR
comp=Z,6μm,20.0s
H56A Elgin 71.89 39 P **P** 03 17 10.0 -2.6
baz=328
STCO Saint Catharin 71.89 42 P **P** 03 17 10.4 -2.2
baz=326
AKH Akhalkalaki 71.92 315 *e*P **P** 03 17 13.8 +0.7
comp=Z,115nm,1.2s
AKH LR LR
comp=Z,10μm,18.0s
AKH Akhalkalaki 71.92 315⇑ *i*P **P** 03 17 14.1 +1.0
ESK Eskdalemuir 71.93 350 *e*P **P** 03 17 11.8 -0.9
comp=Z,74nm,1.4s
ESK LR LR
comp=Z,3μm,20.0s
ESK Eskdalemuir 71.93 350 *i* P **P** 03 17 12.7 0.0
RUE Ruedersdorf 71.93 339 *e*P **P** 03 17 13.1 +0.4
RUE IAmb IAmb 03 17 13.9
comp=Z,124nm,1.1s
BLO Bloomington 71.98 49 PFAKE 03 17 30.0 +17
BLO LR LR
comp=Z,6μm,20.0s
PBMO Poplar Bluff 72.02 53 *e*P **P** 03 17 13.4 -0.1
comp=Z,63nm,1.3s
PBMO LR LR
comp=Z,9μm,22.0s
JCT Junction City 72.05 63 *e*P **P** 03 17 15.2 +1.3
comp=Z,49nm,1.1s
JCT LR LR
comp=Z,4μm,20.0s

JCT	Junction City	72.05	63	P	P	03 17 12.5	-1.4	
	baz=321							
J54A	Appleton	72.05	41	PFAKE		03 17 30.0	+16	
J54A				LR	LR			
	comp=Z,5μm,19.0s							
J54A	Appleton	72.05	41	P	P	03 17 11.7	-1.9	
	baz=327							
PECO	Prince Edward	72.15	40	P	P	03 17 11.9	-2.2	
	baz=327							
O49A	Covington	72.15	47	eP	P	03 17 15.8	+1.5	
	comp=Z,34nm,1.3s							
O49A				LR	LR			
	comp=Z,5μm,18.0s							
O49A	Covington	72.15	47	P	P	03 17 13.2	-1.1	
	baz=324							
WHTX	Lake Whitney,	72.15	61	PFAKE		03 17 30.0	+16	
WHTX				LR	LR			
	comp=Z,3μm,20.0s							
WHTX	Lake Whitney,	72.15	61	P	P	03 17 13.3	-1.1	
	baz=321							
M51A	Elyria	72.17	45	P	P	03 17 12.5	-1.8	
	baz=325							
MIAR	Mount Ida	72.20	56	eP	P	03 17 14.2	-0.4	
	comp=Z,37nm,1.2s							
MIAR				LR	LR			
	comp=Z,6μm,18.0s							
MIAR	Mount Ida	72.20	56	P	P	03 17 14.2	-0.4	
	baz=322,SNR=12							
N50A	Nevada	72.21	46	P	P	03 17 13.5	-1.1	
	baz=325,SNR=7.0							
S45A	Carrier Mills	72.21	51	P	P	03 17 13.3	-1.3	
	baz=323							
MEDO	Medina	72.21	41	PFAKE		03 17 30.0	+15	
MEDO				LR	LR			
	comp=Z,5μm,20.0s							
MEDO	Medina	72.21	41	P	P	03 17 13.3	-1.2	
	baz=327							
Q47A	Bedford North L	72.21	49	P	P	03 17 12.6	-2.1	
	baz=324							
P48A	Milroy	72.25	48	P	P	03 17 13.7	-1.1	
	baz=324,SNR=6.8							
JAGI	Jajag, Banyuwa	72.26	229	PFAKE		03 17 30.0	+15	
JAGI				LR	LR			
	comp=Z,2μm,21.0s							
JAGI	Jajag, Banyuwa	72.26	229	P	P	03 17 12.6	-2.5	
	comp=Z,39nm,1.1s,comp=Z,1μm							
WHAR	Wooly Hollow	72.27	55	eP	P	03 17 15.6	+0.5	
	comp=Z,77nm,1.4s							
WHAR				LR	LR			
	comp=Z,6μm,19.0s							
R46A	Gibon Southern	72.29	50	P	P	03 17 13.1	-2.0	
	baz=324							
KWP	Kalwaria Pacla	72.32	333	eP	P	03 17 15.4	+0.2	
KWP	Kalwaria Pacla	72.32	333	eP	P	03 17 14.8	-0.4	
	comp=Z,3μm,1.2s							
KWP				LR	LR			
	comp=Z,116μm,19.0s							
KWP	Kalwaria Pacla	72.32	333	eP	P	03 17 15.4	+0.2	
M52A	Chesterland	72.35	44	eP	P	03 17 18.0	+2.5	
	comp=Z,54nm,1.1s							
M52A				LR	LR			
	comp=Z,10μm,18.0s							
M52A	Chesterland	72.35	44	P	P	03 17 14.3	-1.2	
	baz=326							
W41B	Gary Mavity, V	72.39	55	eP	P	03 17 15.4	-0.4	
	comp=Z,47nm,1.1s							
W41B				LR	LR			
	comp=Z,6μm,19.0s							
W41B	Gary Mavity, V	72.39	55	P	P	03 17 14.6	-1.1	
	baz=322,SNR=16							
J55A	Hilton	72.39	41	eP	P	03 17 14.8	-0.8	
	comp=Z,20nm,0.9s							
J55A				LR	LR			
	comp=Z,6μm,19.0s							
J55A	Hilton	72.39	41	P	P	03 17 13.4	-2.2	
	baz=327							
GNI	Garni	72.40	314	eP	P	03 17 16.9	+1.0	
	comp=Z,219nm,1.4s							
GNI	Garni	72.40	314	i P	P	03 17 17.0	+1.0	
	SNR=18							
GNI	Garni	72.40	314	c iP	P	03 17 16.8	+1.0	
GNI				pmax	pmax			
	comp=Z,1μm,1.8s							
GNI	Garni	72.40	314	P	P	03 17 17.0	+1.0	
	SNR=24							
GNI				P	P	03 17 17.0	+1.0	
	SNR=24							
GNI	Garni	72.40	314	LR	LR	03 54 12.6		
	comp=Z,8μm,18.1s,baz=32,slow=40							
USIN	University of	72.41	50	eP	P	03 17 16.7	+0.8	
USIN				LR	LR			
	comp=Z,6μm,19.0s							
N51A	Ashland	72.42	45	eP	P	03 17 15.4	-0.4	
	comp=Z,72nm,1.2s							
N51A				LR	LR			
	comp=Z,4μm,19.0s							
N51A	Ashland	72.42	45	P	P	03 17 14.9	-1.0	
	baz=325,SNR=6.2							
BHJ	Bhuj	72.43	285	eP	P	03 17 14.6	-1.6	
PARMO	Parma	72.45	53	PFAKE		03 17 30.0	+14	
PARMO				LR	LR			
	comp=Z,7μm,19.0s							
ERPA	Erie	72.45	43	eP	P	03 17 15.9	-0.1	
	comp=Z,56nm,1.4s							
ERPA				LR	LR			
	comp=Z,6μm,20.0s							
ERPA	Erie	72.45	43	P	P	03 17 15.2	-0.9	
	baz=326							
L53A	Girard	72.47	43	P	P	03 17 15.0	-1.2	
	baz=326							
LONY	Lake Ozonia	72.50	38	PFAKE		03 17 30.0	+14	
LONY				LR	LR			
	comp=Z,4μm,20.0s							
LONY	Lake Ozonia	72.50	38	P	P	03 17 12.6	-3.7	
	baz=326							
O50A	Cable	72.51	46	P	P	03 17 15.6	-0.8	
	baz=325,SNR=5.7							
P49A	Miami Univ. Ec	72.51	47	P	P	03 17 15.3	-1.1	
	baz=324,SNR=8.3							
BATM	Batumi	72.53	316	⇑i iP	P	03 17 16.1	-0.4	
Q48A	North Vernon	72.54	48	P	P	03 17 14.9	-1.7	
	baz=324							
IDGL	Inch Island, C	72.56	353	eP	P	03 17 11.2	-5.2	
IDGL				i PP	P	03 17 16.6	+0.2	
OJC	Ojcow	72.58	335	eP	P	03 17 16.8	+0.1	
OJC	Ojcow	72.58	335	eP	P	03 17 17.0	+0.3	
	comp=Z,148nm,1.3s							
OJC	Ojcow	72.58	335	eP	P	03 17 16.8	+0.1	
S46A	Don Dixon Farm	72.61	51	P	P	03 17 15.7	-1.3	
	baz=324							
X40A	Basin Creek Fa	72.63	56	eP	P	03 17 17.0	-0.2	
	comp=Z,26nm,1.3s							
X40A				LR	LR			
	comp=Z,7μm,19.0s							
X40A	Basin Creek Fa	72.63	56	P	P	03 17 15.7	-1.5	
	baz=322							
L54A	Sinclairville	72.64	42	P	P	03 17 15.9	-1.2	
	baz=326							
UALR	University of	72.65	55	PFAKE		03 17 30.0	+13	
UALR				LR	LR			
	comp=Z,5μm,19.0s							
GSI	Gunungsitoli	72.66	249	eP	P	03 17 17.6	0.0	
	comp=Z,136nm,1.4s							
GSI				LR	LR			
	comp=Z,12μm,20.0s							
PVMO	Portageville	72.67	53	PFAKE		03 17 30.0	+13	
PVMO				LR	LR			
	comp=Z,7μm,19.0s							
R47A	Wooly Knot Far	72.68	49	P	P	03 17 15.1	-2.4	
	baz=324							
FRNY	Flat Rock	72.69	37	PFAKE		03 17 30.0	+13	
FRNY				LR	LR			
	comp=Z,5μm,20.0s							
BCA	Borcka	72.69	316	P	P	03 17 17.5	0.0	
BCA	Borcka	72.69	316	⇑i iP	P	03 17 17.2	-0.3	
T45A	Paducah	72.70	52	PFAKE		03 17 30.0	+12	
T45A				LR	LR			
	comp=Z,7μm,19.0s							
T45A	Paducah	72.70	52	P	P	03 17 16.6	-1.0	
	baz=323							
ACSO	Alum Creek Sta	72.72	46	eP	P	03 17 19.9	+2.3	
	comp=Z,66nm,1.3s							
ACSO				LR	LR			
	comp=Z,5μm,20.0s							
ACSO	Alum Creek Sta	72.72	46	P	P	03 17 15.9	-1.8	
	baz=325							
M53A	WI Miller and	72.72	44	P	P	03 17 17.5	-0.2	
	baz=326,SNR=6.4							
SIM	Simferopol'	72.73	323	deP	P	03 17 17.4	-0.2	
SIM				e		03 19 58.0		
SIM				pmax	pmax			
	comp=Z,390nm,2.0s							
SIM				pmax	pmax			
	comp=Z,900nm,8.6s							
SIM				MLR	MLR			
	comp=Z,8μm,15.4s							
K55A	Perry	72.73	41	P	P	03 17 16.1	-1.6	
	baz=327							
KARS	Kars	72.74	315	P	P	03 17 25.1	+7.1	
TASB	TASBURUN-IGDIR	72.76	314	P	P	03 17 18.9	+0.9	
MOQ	Mont Orford	72.77	36	eP	P	03 17 17.7	-0.3	
ALLY	Alegheny Colle	72.78	43	eP	P	03 17 20.3	+2.3	
	comp=Z,108nm,1.5s							
ALLY				LR	LR			
	comp=Z,5μm,19.0s							
MMNY	Mt. Morris Dam	72.80	41	eP	P	03 17 17.4	-0.6	
	comp=Z,39nm,1.1s							
KIS	Kishinev	72.80	328	⇑i iP	P	03 17 17.0	-1.0	
	comp=Z,900nm,2.0s							
KIS	Kishinev	72.80	328	i PcP	PcP	03 17 28.0	-7.1	
KIS				eS	S	03 26 31.0	-11	
KIS	Kishinev	72.80	328	⇑i iP	P	03 17 17.0	-1.0	
KIS				i		03 17 28.0		
KIS				e		03 17 37.0		
KIS				eS	S	03 26 31.0	-11	
KIS				pmax	pmax			
	comp=Z,900nm,2.0s							
KIS				MLR	MLR			
	comp=Z,16μm,17.0s							
KIS				MLR	MLR			
	comp=N,12μm,17.0s							
N52A	McGinn's Farm,	72.81	45	P	P	03 17 15.3	-2.8	
	baz=326							
WCI	Wyandotte Cave	72.84	49	eP	P	03 17 18.0	-0.4	
	comp=N,46nm,1.3s							
WCI				LR	LR			
	comp=Z,6μm,20.0s							
WCI	Wyandotte Cave	72.84	49	P	P	03 17 17.0	-1.4	
	baz=324							
Q49A	Aurora	72.86	48	P	P	03 17 17.4	-1.1	
	baz=324							
P50A	Jamestown	72.86	47	P	P	03 17 17.8	-0.7	
	baz=325,SNR=6.5							
GNAR	Gosnell	72.87	53	PFAKE		03 17 30.0	+11	
GNAR				LR	LR			
	comp=Z,7μm,22.0s							
HBAR	Harrisburg	72.88	54	PFAKE		03 17 30.0	+11	
HBAR				LR	LR			
	comp=Z,7μm,18.0s							
KSP	Ksiaz	72.89	337	eP	P	03 17 18.6	+0.1	
KSP	Ksiaz	72.89	337	eP	P	03 17 18.6	+0.1	
R48A	Northridge Ran	72.90	49	P	P	03 17 17.0	-1.7	
	baz=324							
GLAT	Glass	72.99	52	PFAKE		03 17 30.0	+11	
GLAT				LR	LR			
	comp=Z,8μm,18.0s							
435B	Jarrell	73.02	62	PFAKE		03 17 30.0	+10	
435B				LR	LR			
	comp=Z,3μm,22.0s							
435B	Jarrell	73.02	62	P	P	03 17 18.2	-1.4	
	baz=321							
IAS	Iasi	73.04	329	⇑i iP	P	03 17 19.3	-0.1	
L55A	Hinsdale	73.04	42	P	P	03 17 17.6	-1.9	
	baz=327							
T46A	Princeton	73.04	51	P	P	03 17 19.3	-0.3	
	baz=324,SNR=26							
PQI	Presque Isle	73.06	33	eP	P	03 17 20.1	+0.5	
	comp=Z,12nm,1.1s							
PQI				ePcP	PcP	03 17 39.6	+3.4	
PQI				LR	LR			
	comp=Z,7μm,19.0s							
KOLS	Kolonicke sedl	73.08	333	eP	P	03 17 20.0	+0.4	
KOLS				pmax	pmax			
	comp=Z,176nm,1.8s							
KOLS	Kolonicke sedl	73.08	333	eP	P	03 17 20.0	+0.4	
S47A	Hartford	73.08	50	P	P	03 17 19.7	-0.1	
	baz=324,SNR=8.3							
M54A	Oil Creek Stat	73.09	43	eP	P	03 17 19.5	-0.4	
	comp=Z,65nm,1.4s							
M54A				LR	LR			
	comp=Z,6μm,19.0s							
M54A	Oil Creek Stat	73.09	43	P	P	03 17 17.7	-2.2	
	baz=326							
CTA	Charters Tower	73.10	194	P	P	03 17 20.4	+0.5	
	comp=Z,10nm,0.9s,baz=4.5,slow=8.2,SNR=5.4							
CTAO	Charters Tower	73.10	194	eP	P	03 17 19.8	-0.2	
	comp=Z,44nm,1.4s							
CTAO				LR	LR			
	comp=Z,3μm,20.0s							
SENK	Senkaya-Erzuru	73.11	315	P	P	03 17 21.4	+1.2	
WLAR	White Oak Lake	73.11	57	eP	P	03 17 23.0	+2.9	
	comp=Z,52nm,1.2s							
WLAR				LR	LR			
	comp=Z,6μm,18.0s							
RAC	Raciborz	73.12	336	eP	P	03 17 20.6	+0.8	
N53A	Lisbon	73.18	44	eP	P	03 17 22.1	+1.8	
	comp=Z,81nm,1.4s							
N53A				LR	LR			
	comp=Z,8μm,18.0s							
N53A	Lisbon	73.18	44	P	P	03 17 20.0	-0.4	
	baz=326,SNR=5.9							
NIE	Niedzica	73.18	334	eP	P	03 17 20.7	+0.4	
NIE	Niedzica	73.18	334	eP	P	03 17 20.7	+0.4	
NCB	Newcomb	73.19	38	eP	P	03 17 20.4	0.0	
	comp=Z,24nm,1.4s							
NCB				LR	LR			
	comp=Z,4μm,20.0s							
CLL	Collm	73.20	339	eP	P	03 17 20.2	0.0	
	comp=Z,84nm,1.1s							
CLL				LR	LR			
	comp=Z,7μm,19.0s							
CLL	Collm	73.20	339	⇑i iP	P	03 17 20.3	0.0	
CLL				i		03 17 32.5		
CLL				eS	S	03 26 45.0	-1.3	
CLL				pmax	pmax			
	comp=Z,121nm,1.3s							
CLL	Collm	73.20	339	⇑i iP	P	03 17 20.3	0.0	
	comp=Z,121nm,1.3s							
CLL				ePmax		03 17 22.0		
CLL				i		03 17 28.5		
CLL				i		03 17 32.5		
CLL				i PcP	PcP	03 17 38.1	+1.3	
CLL				ePPP	PPP	03 21 36.0		
CLL				eS	S	03 26 45.0	-1.3	
CLL				esS	sS	03 26 59.0	-0.2	
CLL				ePPS	PPS	03 27 32.0		
CLL				e		03 27 42.0		
CLL				eSS	SS	03 31 30.0	+3.4	
CLL				eSSS	SSS	03 34 42.0		
CLL				eSSSS		03 36 42.0		
CLL				Lmax		03 55 00.0		
WOJI	Wonogiri, Jawa	73.24	232	P	P	03 17 19.9	-1.0	
	comp=Z,83nm,1.7s							
SEVA	Sevastopol	73.25	323	⇑i iP	P	03 17 20.5	-0.2	
HALT	Halls	73.25	53	PFAKE		03 17 30.0	+9.2	
HALT				LR	LR			
	comp=Z,6μm,19.0s							
UPC	Upice	73.27	337	eP	P	03 17 20.7	0.0	
UPC	Upice	73.27	337	eP	P	03 17 20.7	0.0	
UPC				eS	SKiKP	03 26 52.5	+2.7	
P51A	Williamsport	73.30	46	eP	P	03 17 25.1	+4.0	
	comp=Z,14nm,0.8s							
P51A				LR	LR			
	comp=Z,5μm,19.0s							
P51A	Williamsport	73.30	46	P	P	03 17 20.6	-0.4	
	baz=325							
PRAR	RASCA	73.31	329	⇑i iP	P	03 17 20.9	-0.1	
R49A	Shelbyville	73.31	48	P	P	03 17 20.8	-0.4	
	baz=324,SNR=6.6							
O52A	Adamsville	73.32	45	eP	P	03 17 20.8	-0.4	
	comp=Z,62nm,1.1s							
O52A				LR	LR			
	comp=Z,6μm,18.0s							
O52A	Adamsville	73.32	45	P	P	03 17 20.6	-0.6	
	baz=326,SNR=7.3							
DPC	Dobruska-Polom	73.34	337	eP	P	03 17 21.6	+0.4	
DPC				e		03 17 34.2		
DPC				eS	SKiKP	03 26 51.5	+1.5	
DPC	Dobruska-Polom	73.34	337	eP	P	03 17 21.6	+0.4	
DPC				ex	x	03 17 34.2		
DPC				eS	SKiKP	03 26 51.5	+1.5	
UZH	Uzhgorod	73.34	332	eP	P	03 17 19.5	-1.7	
UZH				e		03 17 34.2		
UZH				eS	S	03 26 44.0	-3.9	
UZH				MLR	MLR			
	comp=N,2μm,16.0s							
UZH				MLR	MLR			
	comp=E,1μm,16.0s							
UZH				MLR	MLR			
	comp=Z,2μm,16.0s							
OKC	Ostrava-Krasne	73.36	336	eP	P	03 17 21.6	+0.3	
OKC	Ostrava-Krasne	73.36	336	eP	P	03 17 21.6	+0.3	
OKC				ex	x	03 26 57.8		
BUR08	Bucovina Ar. S	73.38	330	eP	P	03 17 21.6	0.0	
	comp=Z,67nm,1.0s							
BURAR	Bucovina Array	73.40	330	⇑i iP	P	03 17 21.9	+0.2	
BRG	Berggiesshubel	73.40	339	i P	P	03 17 21.7	+0.2	
	comp=Z,241nm,2.1s							
BRG	Berggiesshubel	73.40	339	i P	P	03 17 21.7	+0.2	
BRG				pmax	pmax			
	comp=Z,241nm,2.1s							
BRG	Berggiesshubel	73.40	339	S	SKiKP	03 26 54.0	+4.0	
N54A	Moraine State	73.41	43	eP	P	03 17 21.6	-0.1	
	comp=Z,79nm,1.4s							
N54A				LR	LR			
	comp=Z,5μm,18.0s							
N54A	Moraine State	73.41	43	P	P	03 17 21.1	-0.7	
	baz=326,SNR=7.2							
S48A	Wiedeman Farm,	73.41	49	P	P	03 17 20.8	-1.0	
	baz=324,SNR=8.4							
VT1	Waterbury	73.43	37	eP	P	03 17 23.9	+2.1	
	comp=Z,39nm,1.5s							
VT1				LR	LR			
	comp=Z,4μm,20.0s							
LEOM	Leova	73.45	328	⇑i iP	P	03 17 21.7	-0.1	
U46A	Springville	73.45	52	P	P	03 17 20.7	-1.3	
	baz=324							
T47A	Sharon Grove	73.46	51	eP	P	03 17 22.0	-0.1	
	comp=Z,56nm,1.1s							
T47A				LR	LR			
	comp=Z,7μm,20.0s							
T47A	Sharon Grove	73.46	51	P	P	03 17 21.8	-0.2	
	baz=324,SNR=15							
O53A	New Philadelph	73.48	45	P	P	03 17 21.4	-0.7	
	baz=326,SNR=6.0							
KRLC	Kraliky	73.48	337	eP	P	03 17 22.3	+0.3	
KRLC	Kraliky	73.48	337	eP	P	03 17 22.3	+0.3	
M55A	Ridgway	73.50	42	P	P	03 17 22.0	-0.3	
	baz=327,SNR=8.4							
POO	Poona	73.51	279	eP	P	03 17 22.1	-0.6	
Q51A	Peebles	73.54	47	eP	P	03 17 24.0	+1.4	
	comp=Z,14nm,1.1s							
Q51A				LR	LR			
	comp=Z,4μm,18.0s							
Q51A	Peebles	73.54	47	P	P	03 17 20.1	-2.5	
	baz=325							
MORC	Moravsky Berou	73.57	336	eP	P	03 17 23.0	+0.4	
	comp=Z,61nm,1.0s							
MORC				LR	LR			
	comp=Z,16μm,18.0s							
MORC	Moravsky Berou	73.57	336	⇑i iP	P	03 17 23.3	+0.7	
MORC	Moravsky Berou	73.57	336	⇑i iP	P	03 17 23.0	+0.4	
MORC				e		03 17 33.6		
MORC				eS	S	03 26 58.7	+8.1	
MET	Memphis--Engin	73.58	54	PFAKE		03 17 40.0	+17	
MET				LR	LR			
	comp=Z,6μm,20.0s							
P52A	Corning	73.58	46	P	P	03 17 20.6	-2.1	
	baz=326							
PVCC	Panska Ves	73.58	338	eP	P	03 17 22.7	+0.1	
PVCC	Panska Ves	73.58	338	eP	P	03 17 22.7	+0.1	
CLDR	Caldiran	73.59	314	P	P	03 17 24.2	+1.1	
X43A	Marvell	73.59	55	PFAKE		03 17 40.0	+17	
X43A				LR	LR			
	comp=Z,6μm,18.0s							
X43A	Marvell	73.59	55	P	P	03 17 21.3	-1.5	
	baz=323							
Z41A	Richland Creek	73.61	57	PFAKE		03 17 40.0	+17	
Z41A				LR	LR			
	comp=Z,6μm,19.0s							
Z41A	Richland Creek	73.61	57	P	P	03 17 21.9	-1.1	
	baz=322							
CCAR	Cane Creek	73.62	56	PFAKE		03 17 40.0	+17	
CCAR				LR	LR			
	comp=Z,6μm,19.0s							
AGRB	Hanur-Agry	73.64	314	P	P	03 17 24.6	+1.2	
LANS	Liptovska Anna	73.65	334	eP	P	03 17 24.4	+1.4	
LANS	Liptovska Anna	73.65	334	eP	P	03 17 24.4	+1.4	
S49A	Springfield	73.67	49	P	P	03 17 22.9	-0.4	
	baz=325,SNR=12							
T48A	Bowling Green	73.70	50	P	P	03 17 22.5	-1.0	
	baz=324							
R50A	Paris	73.71	48	P	P	03 17 22.4	-1.1	
	baz=325							
BIZ	Bicaz	73.72	329	⇑i iP	P	03 17 23.8	+0.3	
TRPA	Tarpa	73.73	332	⇑i iP	P	03 17 24.2	+0.8	
TRPA	Tarpa	73.73	332	⇑i iP	P	03 17 23.1	-0.4	
TRPA	Tarpa	73.73	332	eS	S	03 26 53.0	+0.8	
MARNC	Mare, Loyalty	73.73	173	PFAKE		03 17 40.0	+16	
MARNC				LR	LR			
	comp=Z,9μm,21.0s							
MDRS	Chennai	73.79	270	eP	P	03 17 24.0	-0.3	
MDRS				IAmb	IAmb	03 17 26.6		
	comp=Z,116nm,1.3s							
WTSB	Winterswijk	73.79	343	eP	P	03 17 23.9	+0.1	
	comp=Z,646nm,2.0s							
WTSB				eX		03 17 35.5		
KOPR	Koprukoy-ERZUR	73.80	315	P	P	03 17 25.2	+1.0	
WVT	Waverly	73.80	52	eP	P	03 17 23.8	-0.3	
WVT				LR	LR			
	comp=Z,6μm,21.0s							
WVT	Waverly	73.80	52	P	P	03 17 23.1	-1.0	
	baz=324							
LBNH	Lisbon	73.81	36	PFAKE		03 17 40.0	+16	
LBNH				LR	LR			
	comp=Z,5μm,22.0s							
LBNH	Lisbon	73.81	36	P	P	03 17 23.4	-0.7	
	baz=330							
U47A	Clarksville	73.81	51	P	P	03 17 24.0	-0.1	
	baz=324,SNR=11							
NATX	Nacogdoches	73.82	59	eP	P	03 17 25.9	+1.6	
	comp=Z,67nm,1.2s							
NATX				LR	LR			
	comp=Z,5μm,19.0s							
NATX	Nacogdoches	73.82	59	P	P	03 17 23.2	-1.1	
	baz=322							
ETX06	Route 59 and C	73.84	59	PFAKE		03 17 40.0	+16	
ETX06				LR	LR			
	comp=Z,3μm,19.0s							
KTUT	Trabzon	73.85	317	P	P	03 17 23.9	-0.4	
KTUT	Trabzon	73.85	317	⇑i iP	P	03 17 23.2	-1.1	
PKME	Peaks-Kenny Pk	73.86	34	PFAKE		03 17 40.0	+16	
PKME				LR	LR			
	comp=Z,6μm,20.0s							
PKME	Peaks-Kenny Pk	73.86	34	P	P	03 17 22.9	-1.3	
	baz=331							
BMR	Baia Mare	73.86	331	⇑i iP	P	03 17 24.7	+0.5	
O54A	Avella	73.89	44	P	P	03 17 23.9	-0.6	
	baz=326,SNR=7.5							
ACCN	Adirondack Com	73.90	38	eP	P	03 17 26.4	+1.8	
	comp=Z,12nm,0.9s							
ACCN				LR	LR			
	comp=Z,5μm,20.0s							
V46A	Holladay	73.93	52	P	P	03 17 24.4	-0.4	
	baz=324,SNR=11							
TESR	Tescani	73.93	329	⇑i iP	P	03 17 24.6	-0.1	
833A	Chaparral WMA,	73.93	65	eP	P	03 17 27.5	+2.5	
	comp=Z,61nm,1.4s							
833A				LR	LR			
	comp=Z,4μm,19.0s							
833A	Chaparral WMA,	73.93	65	P	P	03 17 23.7	-1.2	
	baz=321							
N55A	Marion Center	73.98	43	eP	P	03 17 24.4	-0.8	
	comp=Z,72nm,1.4s							
N55A				LR	LR			
	comp=Z,6μm,20.0s							
N55A	Marion Center	73.98	43	P	P	03 17 24.5	-0.6	
	baz=327,SNR=10							
KECS	Kecovo	73.98	334	eP	P	03 17 25.7	+0.7	
KECS				pmax	pmax			
	comp=Z,401nm,1.9s							
KECS	Kecovo	73.98	334	eP	P	03 17 25.7	+0.7	
BINY	Binghamton	74.01	40	eP	P	03 17 26.0	+0.7	
	comp=Z,37nm,1.3s							
BINY				LR	LR			
	comp=Z,6μm,21.0s							
BINY	Binghamton	74.01	40	P	P	03 17 23.0	-2.3	
	baz=328							

P53A	**Whipple**	**74.03**	**45**	*e*P	**P**	**03 17 22.8**	**-2.6**
	comp=Z,44nm,1.4s						
P53A				LR	LR		
	comp=Z,5μm,18.0s						
P53A	**Whipple**	**74.03**	**45**	P	**P**	**03 17 23.6**	**-1.8**
	baz=326						
R51A	**Hillsboro**	**74.03**	**47**	P	**P**	**03 17 22.7**	**-2.7**
	baz=325,SNR=8.2						
Q52A	**Bidwell**	**74.08**	**46**	P	**P**	**03 17 24.6**	**-1.1**
	baz=326						
PRU	**Pruhonice**	**74.09**	**338**	*e*P	**P**	**03 17 26.1**	**+0.5**
PRU	**Pruhonice**	**74.09**	**338**	*e*P	**P**	**03 17 26.1**	**+0.5**
PRU				*e*S	**S**	**03 27 00.3**	**+3.9**
GOPC	**GO Pecny, Ondr**	**74.11**	**338**	*e*P	**P**	**03 17 26.0**	**+0.3**
GOPC				*e*S	**S**	**03 26 53.9**	**-2.7**
GOPC	**GO Pecny, Ondr**	**74.11**	**338**	*e*P	**P**	**03 17 26.0**	**+0.3**
GOPC				*e*S	**S**	**03 26 53.9**	**-2.7**
T49A	**Edmonton**	**74.11**	**49**	*e*P	**P**	**03 17 25.6**	**-0.3**
	comp=Z,27nm,1.1s						
T49A				LR	LR		
	comp=Z,7μm,19.0s						
T49A	**Edmonton**	**74.11**	**49**	P	**P**	**03 17 25.5**	**-0.4**
	baz=325,SNR=10						
U48A	**Cassie Pea, Po**	**74.11**	**50**	P	**P**	**03 17 25.7**	**-0.2**
	baz=324,SNR=8.4						
ARCR	**ARCALIA**	**74.13**	**330**	⇑*i*P	**P**	**03 17 27.1**	**+1.2**
HNH	**Hanover**	**74.14**	**37**	PFAKE		03 17 40.0	+14
HNH				LR	LR		
	comp=Z,4μm,20.0s						
S50A	**Richmond**	**74.16**	**48**	P	**P**	**03 17 24.8**	**-1.4**
	baz=325						
MLAZ	**Malazgirt-MUS**	**74.19**	**314**	P	**P**	**03 17 27.7**	**+1.1**
V47A	**Nunnelly**	**74.19**	**52**	P	**P**	**03 17 25.9**	**-0.6**
	baz=324,SNR=8.4						
DZM	**Mont Dzumac**	**74.20**	**174**	*e*P	**P**	**03 17 29.4**	**+2.9**
	comp=Z,121nm,1.4s						
DZM	**Mont Dzumac**	**74.20**	**174**	*e*LR	LR	03 40 15.7	
	comp=Z,7μm,21.8s						
DZM	**Mont Dzumac**	**74.20**	**174**	*e*P	**P**	**03 17 29.9**	**+3.4**
	comp=Z,83nm,1.3s						
DZM				LR	LR		
	comp=Z,5μm,21.0s						
VRAC	**Vranov**	**74.24**	**336**	⇑*i*P	**P**	**03 17 27.4**	**+1.0**
VRAC	**Vranov**	**74.24**	**336**	⇑*i*P	**P**	**03 17 27.2**	**+0.8**
VRAC				*e*		03 17 37.6	
VRAC				*e*S	**S**	**03 27 01.0**	**+2.9**
VANB	**Van**	**74.27**	**314**	P	**P**	**03 17 28.2**	**+1.2**
DSB	**Dublin**	**74.28**	**352**	*e*P	P	03 17 21.6	-5.0
DSB				*i* PP	pP	03 17 26.7	-7.6
DSB	**Dublin**	**74.28**	**352**	PFAKE		03 17 40.0	+13
DSB				LR	LR		
	comp=Z,4μm,21.0s						
O55A	**Ligonier**	**74.33**	**43**	P	**P**	**03 17 24.6**	**-2.5**
	baz=327						
OXF	**Oxford**	**74.33**	**54**	*e*P	**P**	**03 17 28.6**	**+1.4**
	comp=Z,134nm,1.4s						
OXF				LR	LR		
	comp=Z,7μm,20.0s						
OXF	**Oxford**	**74.33**	**54**	P	**P**	**03 17 25.6**	**-1.6**
	baz=324						
P54A	**Burton**	**74.33**	**45**	P	**P**	**03 17 26.3**	**-0.9**
	baz=326,SNR=7.0						
NKC	**Novy Kostel**	**74.33**	**339**	*e*P	**P**	**03 17 27.3**	**+0.3**
NKC				*e*S	**S**	**03 26 59.7**	**+0.6**
NKC	**Novy Kostel**	**74.33**	**339**	*e*P	**P**	**03 17 27.3**	**+0.3**
NKC				*e*S	**S**	**03 26 59.7**	**+0.6**
W46A	**Michie**	**74.34**	**53**	P	**P**	**03 17 26.6**	**-0.6**
	baz=324						
IGLA	**Glengowla, Co**	**74.34**	**354**	*e*P	P	03 17 21.5	-5.4
IGLA				*e*PP	**P**	**03 17 26.7**	**-0.2**
WVL	**Waterville**	**74.34**	**35**	*e*P	**P**	**03 17 27.6**	**+0.5**
	comp=Z,18nm,1.1s						
WVL				LR	LR		
	comp=Z,6μm,20.0s						
MNAI	**Manna**	**74.35**	**241**	PFAKE		03 17 40.0	+13
MNAI				LR	LR		
	comp=Z,4μm,20.0s						
JAVC	**Velka Javorina**	**74.38**	**335**	⇑*i*P	**P**	**03 17 28.9**	**+1.5**
JAVC				*e*		03 17 39.5	
TLCR		**74.39**	**327**	⇓*i*P	**P**	**03 17 27.8**	**+0.4**
VYHS	**Vyhne**	**74.42**	**335**	*e*P	**P**	**03 17 28.1**	**+0.6**
VYHS				pmax	pmax		
	comp=Z,859nm,3.5s						
VYHS	**Vyhne**	**74.42**	**335**	*e*P	**P**	**03 17 28.1**	**+0.6**
R52A	**Catlettsburg**	**74.42**	**47**	P	**P**	**03 17 24.6**	**-3.1**
	baz=326						
TRY	**Troy**	**74.46**	**38**	PFAKE		03 17 40.0	+12
TRY				LR	LR		
	comp=Z,5μm,19.0s						
ODBI	**Odobesti**	**74.46**	**328**	⇑*i*P	**P**	**03 17 29.2**	**+1.4**
U49A	**Red Boiling Sp**	**74.47**	**50**	P	**P**	**03 17 27.2**	**-0.8**
	baz=325,SNR=7.2						
VRI	**Vrincioaia**	**74.48**	**328**	⇑*i*P	**P**	**03 17 28.2**	**+0.3**
Q53A	**Leroy**	**74.49**	**46**	P	**P**	**03 17 27.7**	**-0.4**
	baz=326,SNR=7.9						
T50A	**Nancy**	**74.50**	**49**	P	**P**	**03 17 27.7**	**-0.5**
	baz=325,SNR=13						
KRUC	**Moravsky**	**74.51**	**336**	⇑*i*P	**P**	**03 17 28.7**	**+0.7**
KRUC				*e*		03 17 39.2	
KRUC				*e*S	**S**	**03 27 04.0**	**+2.9**
PLOR	**Plostina**	**74.52**	**328**	⇑*i*P	**P**	**03 17 28.5**	**+0.3**
TREC	**Trest**	**74.52**	**337**	*e*P	**P**	**03 17 28.5**	**+0.4**
TREC				*e*S	**S**	**03 26 58.7**	**-2.5**
TREC	**Trest**	**74.52**	**337**	*e*P	**P**	**03 17 28.5**	**+0.4**
TREC				*e*S	**S**	**03 26 58.7**	**-2.5**
CISI	**Cisompet, Garu**	**74.53**	**235**	PFAKE		03 17 40.0	+11
CISI				LR	LR		
	comp=Z,5μm,20.0s						
CLTN	**Cedars of Leba**	**74.55**	**51**	*e*P	**P**	**03 17 28.7**	**+0.2**
	comp=Z,22nm,1.1s						
CLTN				LR	LR		
	comp=Z,4μm,20.0s						
MCWV	**Mont Chateau**	**74.55**	**44**	*e*P	**P**	**03 17 28.7**	**+0.2**
	comp=Z,25nm,1.1s						
MCWV				LR	LR		
	comp=Z,4μm,18.0s						
MCWV	**Mont Chateau**	**74.55**	**44**	P	**P**	**03 17 27.0**	**-1.5**
	baz=327						
SSPA	**Standing Stone**	**74.56**	**42**	*e*P	**P**	**03 17 29.4**	**+0.9**
	comp=Z,62nm,1.4s						
SSPA				LR	LR		
	comp=Z,5μm,20.0s						
SSPA	**Standing Stone**	**74.56**	**42**	P	**P**	**03 17 27.6**	**-0.8**
	baz=327						
S51A	**Beattyville**	**74.56**	**48**	*e*P	**P**	**03 17 30.2**	**+1.7**
	comp=Z,32nm,1.4s						
S51A				LR	LR		
	comp=Z,7μm,18.0s						
S51A	**Beattyville**	**74.56**	**48**	P	**P**	**03 17 26.1**	**-2.4**
	baz=325						
OZUR		**74.57**	**329**	⇑*i*P	**P**	**03 17 29.2**	**+0.7**
LTVH	**Ltavrtes, Hu**	**74.58**	**332**	⇑*i*P	**P**	**03 17 29.1**	**+0.6**
LTVH	**Ltavrtes, Hu**	**74.58**	**332**	*e*S	S	03 27 15.1	+13
O56A	**Blue Knob Stat**	**74.59**	**43**	*e*P	**P**	**03 17 28.4**	**-0.3**
	comp=Z,36nm,1.0s						
O56A				LR	LR		
	comp=Z,7μm,19.0s						
O56A	**Blue Knob Stat**	**74.59**	**43**	P	**P**	**03 17 28.2**	**-0.5**
	baz=327,SNR=6.6						
V48A	**Smith Brothers**	**74.60**	**51**	*e*P	**P**	**03 17 28.4**	**-0.4**
	comp=Z,46nm,1.5s						
V48A				LR	LR		
	comp=Z,7μm,20.0s						
V48A	**Smith Brothers**	**74.60**	**51**	P	**P**	**03 17 28.1**	**-0.7**
	baz=324,SNR=11						
PLAL	**Pickwick Lake**	**74.61**	**52**	*e*P	**P**	**03 17 28.1**	**-0.6**
	comp=Z,48nm,1.4s						
PLAL				LR	LR		
	comp=Z,7μm,18.0s						
HKT	**Hockley**	**74.61**	**61**	PFAKE		03 17 40.0	+11
HKT				LR	LR		
	comp=Z,5μm,21.0s						
W47A	**Westpoint**	**74.62**	**52**	P	**P**	**03 17 26.0**	**-3.0**
	baz=324						
CFR	**Carcaliu**	**74.63**	**327**	⇑*i*P	**P**	**03 17 28.8**	**+0.1**
VRTB	**Varto-Mus**	**74.66**	**315**	P	**P**	**03 17 31.3**	**+2.1**
PSZ	**Piszkesteto**	**74.66**	**334**	*e*P	**P**	**03 17 29.7**	**+0.7**
	comp=Z,113nm,1.3s						
PSZ				LR	LR		
	comp=Z,18μm,19.0s						
PSZ	**Piszkesteto**	**74.66**	**334**	⇑*i*P	**P**	**03 17 29.9**	**+0.9**
AKDM	**Akdamar-Van**	**74.67**	**314**	P	**P**	**03 17 30.1**	**+0.7**
P55A	**Reedsville**	**74.69**	**44**	P	**P**	**03 17 28.6**	**-0.7**
	baz=327,SNR=8.0						
Q54A	**Coxs Mills**	**74.69**	**45**	*e*P	**P**	**03 17 30.8**	**+1.6**
	comp=Z,35nm,1.4s						
Q54A				LR	LR		
	comp=Z,5μm,19.0s						
Q54A	**Coxs Mills**	**74.69**	**45**	P	**P**	**03 17 27.8**	**-1.4**
	baz=326						
CJR	**Cluj-Napoca**	**74.69**	**331**	⇓*i*P	**P**	**03 17 30.1**	**+0.9**
X46A	**Booneville**	**74.70**	**53**	P	**P**	**03 17 27.8**	**-1.6**
	baz=324						
KARO	**Karliova-Bingo**	**74.71**	**316**	P	**P**	**03 17 30.2**	**+0.6**
R53A	**Hurricane**	**74.73**	**46**	*e*P	**P**	**03 17 29.6**	**+0.1**
	comp=Z,18nm,0.8s						
R53A				LR	LR		
	comp=Z,6μm,20.0s						
R53A	**Hurricane**	**74.73**	**46**	P	**P**	**03 17 28.8**	**-0.8**
	baz=326						
SMOL	**Smolenice**	**74.76**	**336**	*e*P	**P**	**03 17 30.9**	**+1.4**
SMOL	**Smolenice**	**74.76**	**336**	*e*P	**P**	**03 17 30.8**	**+1.3**
S52A	**Salyersville**	**74.77**	**47**	P	**P**	**03 17 28.3**	**-1.4**
	baz=326						
BISRR	**Bisoca**	**74.77**	**328**	⇑*i*P	**P**	**03 17 31.2**	**+1.5**
CGJI	**Cibinong**	**74.81**	**237**	P	**P**	**03 17 27.0**	**-3.1**
PINNC	**Pines Island,**	**74.81**	**173**	*e*PcP	**PcP**	**03 17 42.6**	**-1.1**
PINNC				LR	LR		
	comp=Z,8μm,20.0s						
DOPR	**Dopca**	**74.81**	**329**	⇑*i*P	**P**	**03 17 30.6**	**+0.7**
GGN	**Saint George**	**74.81**	**33**	PFAKE		03 17 40.0	+10
GGN				LR	LR		
	comp=Z,6μm,19.0s						
SNOP	**Sinop**	**74.82**	**321**	P	**P**	**03 17 29.8**	**-0.1**
SNOP	**Sinop**	**74.82**	**321**	PFAKE		03 17 40.0	+10
SNOP				LR	LR		
	comp=Z,6μm,20.0s						
YEDI	**Yedisu-Bingol**	**74.82**	**316**	P	**P**	**03 17 30.8**	**+0.6**
LMN	**Caledonia Moun**	**74.82**	**31**	*e*P	**P**	**03 17 30.1**	**+0.2**
	comp=Z,14nm,0.8s						
LMN				LR	LR		
	comp=Z,6μm,21.0s						
DRGR		**74.89**	**331**	⇑*i*P	**P**	**03 17 30.5**	**+0.2**
MODS	**Modra-Piesok**	**74.93**	**336**	*e*P	**P**	**03 17 30.7**	**+0.2**
MODS				pmax	pmax		
	comp=Z,2μm,3.4s						
MODS	**Modra-Piesok**	**74.93**	**336**	*e*P	**P**	**03 17 30.7**	**+0.2**
T51A	**Gray**	**74.95**	**48**	P	**P**	**03 17 29.4**	**-1.4**
	baz=325						
EMMW	**East Machias**	**74.97**	**33**	PFAKE		03 17 40.0	+9.3
EMMW				LR	LR		
	comp=Z,6μm,19.0s						
U50A	**Jamestown**	**74.99**	**49**	P	**P**	**03 17 29.8**	**-1.2**
	baz=325,SNR=7.8						
Q55A	**Buckhannon**	**75.00**	**45**	P	**P**	**03 17 30.3**	**-0.8**
	baz=327,SNR=8.0						
V49A	**McMinnville**	**75.02**	**50**	P	**P**	**03 17 29.8**	**-1.4**
	baz=325,SNR=7.3						
W48A	**Pulaski**	**75.03**	**52**	P	**P**	**03 17 30.7**	**-0.5**
	baz=324,SNR=10						
MLR	**Muntele Rosu**	**75.06**	**329**	*e*P	**P**	**03 17 31.4**	**0.0**
	comp=Z,45nm,0.8s						
MLR				LR	LR		
	comp=Z,16μm,18.0s						
MLR	**Muntele Rosu**	**75.06**	**329**	⇓*i*P	**P**	**03 17 32.0**	**+0.5**
X47A	**Russelville**	**75.09**	**53**	P	**P**	**03 17 30.0**	**-1.6**
	baz=324						
HGN	**Heimansgroeve**	**75.10**	**344**	*e*P	**P**	**03 17 31.8**	**+0.4**
	comp=Z,468nm,1.6s						
HGN				*e*X		03 17 42.1	
GRA1	**Grafenberg Arr**	**75.11**	**340**	*e*P	**P**	**03 17 32.4**	**+0.9**
	comp=Z,95nm,1.1s						
GRA1				LR	LR		
	comp=Z,6μm,18.0s						
GRFO	**Grafenberg**	**75.11**	**340**	*e*P	**P**	**03 17 32.4**	**+0.9**
	comp=Z,87nm,1.1s						
GRFO				LR	LR		
	comp=Z,6μm,18.0s						
DIKM	**Dikmen**	**75.11**	**321**	P	**P**	**03 17 32.3**	**+0.7**
DIKM	**Dikmen**	**75.11**	**321**	⇑*i*P	**P**	**03 17 32.3**	**+0.7**
BEBN	**Eben Emael**	**75.11**	**344**	⇑P	**P**	**03 17 31.9**	**+0.5**
BEBN				⇑PcP	**pwP**	**03 17 42.2**	**0.0**
KHC	**Kasperske Hory**	**75.12**	**338**	*e*P	**P**	**03 17 32.2**	**+0.5**
	comp=Z,43nm,1.3s						
KHC				LR	LR		
	comp=Z,4μm,21.0s						
KHC	**Kasperske Hory**	**75.12**	**338**	*e*P	**P**	**03 17 32.1**	**+0.5**
KHC				*e*		03 17 40.0	
KHC				*e*S	**S**	**03 27 05.4**	**-2.6**
KHC	**Kasperske Hory**	**75.12**	**338**	*e*P	**P**	**03 17 32.1**	**+0.5**
KHC				*e*x	x	03 17 40.0	
KHC				*e*S	**S**	**03 27 05.4**	**-2.6**
HARR	**Harsova**	**75.12**	**327**	⇑*i*P	**P**	**03 17 31.3**	**-0.3**
BNGB	**Bingl**	**75.13**	**316**	P	**P**	**03 17 32.8**	**+0.9**
ZST	**Bratislava**	**75.14**	**336**	*e*P	**P**	**03 17 32.2**	**+0.5**
ZST	**Bratislava**	**75.14**	**336**	*e*P	**P**	**03 17 32.2**	**+0.5**
IWEX	**Carrickbyrne,**	**75.18**	**352**	*e*P	P	03 17 26.9	-4.9
IWEX				*i* PP	pP	03 17 32.0	-7.5
SRO	**Srobarova**	**75.18**	**335**	*e*P	**P**	**03 17 33.1**	**+1.2**
SRO	**Srobarova**	**75.18**	**335**	*e*P	**P**	**03 17 33.1**	**+1.2**
TLB	**Topalu**	**75.18**	**327**	⇓*i*P	**P**	**03 17 32.2**	**+0.3**
N59A	**State Game Lan**	**75.18**	**41**	*e*P	**P**	**03 17 31.6**	**-0.5**
	comp=Z,22nm,1.0s						
N59A				LR	LR		
	comp=Z,6μm,20.0s						
S53A	**Williamson**	**75.19**	**47**	P	**P**	**03 17 30.8**	**-1.4**
	baz=326						
SRO2	**Moca**	**75.20**	**335**	*e*P	**P**	**03 17 32.1**	**+0.1**
SRO2	**Moca**	**75.20**	**335**	*e*P	**P**	**03 17 32.1**	**+0.1**
MEM	**Membach**	**75.24**	**343**	⇑P	**P**	**03 17 32.6**	**+0.4**
	comp=Z,102nm,1.5s						
T52A	**Hallie**	**75.28**	**48**	*e*P	**P**	**03 17 33.1**	**+0.5**
	comp=Z,69nm,1.3s						
T52A				LR	LR		
	comp=Z,7μm,19.0s						
T52A	**Hallie**	**75.28**	**48**	P	**P**	**03 17 32.3**	**-0.4**
	baz=326,SNR=7.0						
CUKT	**Cukurca**	**75.28**	**313**	P	**P**	**03 17 33.1**	**+0.3**
R54A	**Victor**	**75.28**	**46**	P	**P**	**03 17 32.3**	**-0.5**
	baz=326						
KVT	**Kavak**	**75.29**	**320**	P	**P**	**03 17 33.7**	**+1.0**
BZK	**Bozkurt**	**75.33**	**322**	P	**P**	**03 17 33.0**	**+0.2**
BZK	**Bozkurt**	**75.33**	**322**	⇑*i*P	**P**	**03 17 32.7**	**-0.1**
UCC	**Uccle**	**75.33**	**345**	*e*P	**P**	**03 17 33.4**	**+0.6**
	comp=Z,58nm,1.3s						
UCC				LR	LR		
	comp=Z,8μm,20.0s						
UCC	**Uccle**	**75.33**	**345**	⇑P	**P**	**03 17 32.7**	**0.0**
QUA2	**Belchertown**	**75.34**	**38**	PFAKE		03 17 50.0	+17
QUA2				LR	LR		
	comp=Z,5μm,19.0s						
RSDY	**Resadiye-TOKAT**	**75.35**	**319**	P	**P**	**03 17 33.8**	**+0.7**
GEC2	**GERESS Array S**	**75.36**	**338**	*e*P	**P**	**03 17 33.5**	**+0.4**
	comp=Z,79nm,1.4s						
GEC2				LR	LR		
	comp=Z,11μm,18.0s						
GERES	**GERESS Array B**	**75.36**	**338**	P	**P**	**03 17 33.4**	**+0.4**
	comp=Z,6.3nm,0.6s,baz=35,slow=4.9,SNR=90						
W49A	**Belvidere**	**75.37**	**51**	P	**P**	**03 17 32.6**	**-0.6**
	baz=325						
PAGS	**Pennsylvania G**	**75.38**	**42**	*e*P	**P**	**03 17 32.6**	**-0.5**
	comp=Z,20nm,1.0s						
PAGS				LR	LR		
	comp=Z,4μm,18.0s						
KSCT	**Kent School, K**	**75.39**	**39**	PFAKE		03 17 50.0	+17
KSCT				LR	LR		
	comp=Z,5μm,19.0s						
VOIR		**75.39**	**329**	⇑*i*P	**P**	**03 17 34.0**	**+0.7**
U51A	**La Follette**	**75.40**	**49**	P	**P**	**03 17 32.7**	**-0.7**
	baz=325						
WC1	**Warramunga Arr**	**75.41**	**205**	PFAKE		03 17 50.0	+17
WC1				LR	LR		
	comp=Z,2μm,22.0s						
WRAB	**Tennant Creek**	**75.41**	**205**	*e*P	**P**	**03 17 32.0**	**-1.4**
	comp=Z,100nm,1.5s						
WRAB				LR	LR		
	comp=Z,3μm,20.0s						
WRAB	**Tennant Creek**	**75.41**	**205**	*c i*P	**P**	**03 17 33.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,130nm,2.5s						
WB2	**Warramunga Arr**	**75.42**	**205**	*e*P	**P**	**03 17 33.4**	**-0.1**
	comp=Z,75nm,1.4s						
WB2				LR	LR		
	comp=Z,3μm,20.0s						
WR1	**Warramunga Arr**	**75.42**	**205**	*e*P	**P**	**03 17 33.3**	**-0.2**
WRA	**Warramunga Arr**	**75.42**	**205**	P	**P**	**03 17 33.3**	**-0.2**
	comp=Z,10nm,0.8s,baz=24,slow=4.6,SNR=31						
WC3	**Warramunga Arr**	**75.43**	**205**	PFAKE		03 17 50.0	+16
WC3				LR	LR		
	comp=Z,3μm,22.0s						
WC4	**Warramunga Arr**	**75.44**	**205**	PFAKE		03 17 50.0	+16
WC4				LR	LR		
	comp=Z,3μm,22.0s						
HRV	**Adam Dziewonsk**	**75.44**	**37**	*e*P	**P**	**03 17 37.0**	**+3.5**
	comp=Z,56nm,1.4s						
HRV				LR	LR		
	comp=Z,6μm,22.0s						
HRV	**Adam Dziewonsk**	**75.44**	**37**	P	**P**	**03 17 31.9**	**-1.6**
	baz=330						
SWET	**Sewanee**	**75.45**	**51**	*e*P	**P**	**03 17 33.0**	**-0.7**
	comp=Z,61nm,1.4s						
SWET				LR	LR		
	comp=Z,7μm,20.0s						
V50A	**Pikevile**	**75.47**	**50**	P	**P**	**03 17 32.9**	**-0.9**
	baz=325,SNR=8.4						
TZTN	**Tazewell**	**75.48**	**48**	*e*P	**P**	**03 17 36.0**	**+2.1**
	comp=Z,22nm,1.3s						
TZTN				LR	LR		
	comp=Z,6μm,19.0s						
TZTN	**Tazewell**	**75.48**	**48**	P	**P**	**03 17 32.1**	**-1.7**
	baz=326						
ODNJ	**Ogdensburg**	**75.50**	**40**	PFAKE		03 17 50.0	+16
ODNJ				LR	LR		
	comp=Z,5μm,20.0s						
O59A	**Robesonia**	**75.53**	**41**	P	**P**	**03 17 33.5**	**-0.5**
	baz=328						
X48A	**Hartselle**	**75.53**	**52**	*e*P	**P**	**03 17 34.5**	**+0.3**
	comp=Z,31nm,1.4s						
X48A				LR	LR		
	comp=Z,7μm,18.0s						
X48A	**Hartselle**	**75.53**	**52**	P	**P**	**03 17 33.9**	**-0.2**
	baz=324						
BCLA	**Clavier**	**75.54**	**344**	⇑P	**P**	**03 17 34.1**	**+0.2**
	comp=Z,55nm,1.5s						
R55A	**Marlinton**	**75.58**	**45**	PFAKE		03 17 50.0	+16
R55A				LR	LR		
	comp=Z,5μm,19.0s						
T53A	**Wise**	**75.58**	**47**	P	**P**	**03 17 33.0**	**-1.5**
	baz=326						
ARR	**Arges**	**75.59**	**330**	⇑*i*P	**P**	**03 17 35.5**	**+1.1**
NIUE	**Niue**	**75.59**	**151**	PFAKE		03 17 50.0	+16
NIUE				LR	LR		
	comp=Z,9μm,19.0s						
VBMS	**Vicksburg**	**75.60**	**56**	PFAKE		03 17 50.0	+15
VBMS				LR	LR		
	comp=Z,5μm,19.0s						
VBMS	**Vicksburg**	**75.60**	**56**	P	**P**	**03 17 33.4**	**-1.1**
	baz=323						
SVAN	**Silvan-Diyarba**	**75.61**	**315**	P	**P**	**03 17 35.6**	**+1.0**
CSKK	**Cskako**	**75.61**	**335**	⇑*i*P	**P**	**03 17 35.0**	**+0.6**
CSKK	**Cskako**	**75.61**	**335**	*e*S	**S**	**03 27 19.1**	**+5.7**
LUPA	**Lehigh Univers**	**75.61**	**41**	*e*P	**P**	**03 17 35.2**	**+0.7**
	comp=Z,3.3nm,1.2s						
LUPA				LR	LR		
	comp=Z,600nm,20.0s						
SNF	**Seneffe**	**75.63**	**345**	⇑P	**P**	**03 17 34.7**	**+0.3**
WES	**Weston**	**75.64**	**37**	PFAKE		03 17 50.0	+15
WES				LR	LR		
	comp=Z,6μm,21.0s						
DEV	**Deva**	**75.65**	**331**	⇓*i*P	**P**	**03 17 35.3**	**+0.7**
SIRR	**Siria**	**75.67**	**332**	⇑*i*P	**P**	**03 17 35.2**	**+0.4**
ICOR	**Ion Corvin**	**75.67**	**327**	⇑*i*P	**P**	**03 17 35.7**	**+0.9**
Q57A	**Strasburg**	**75.68**	**43**	P	**P**	**03 17 33.8**	**-1.1**
	baz=327						
LEHL	**Lehliu**	**75.69**	**328**	⇑*i*P	**P**	**03 17 34.3**	**-0.5**
SULR		**75.69**	**328**	⇑*i*P	**P**	**03 17 35.2**	**+0.4**
U52A	**Thorn Hill**	**75.69**	**48**	P	**P**	**03 17 34.5**	**-0.5**
	baz=326,SNR=8.9						
CONA	**Conrad Observa**	**75.70**	**336**	*i* pP	**P**	**03 17 36.1**	**+1.1**
	comp=Z,83nm,1.4s,SNR=66						
V51A	**Loudon**	**75.72**	**49**	*e*P	**P**	**03 17 37.1**	**+1.9**
	comp=Z,47nm,1.3s						
V51A				LR	LR		
	comp=Z,8μm,19.0s						
V51A	**Loudon**	**75.72**	**49**	P	**P**	**03 17 34.3**	**-0.9**
	baz=325,SNR=7.4						
MVL	**Millersville**	**75.73**	**42**	*e*P	**P**	**03 17 36.1**	**+0.9**
	comp=Z,18nm,1.0s						
TOKT	**Tokat**	**75.73**	**319**	P	**P**	**03 17 36.1**	**+0.8**
BCX	**Boston College**	**75.74**	**37**	PFAKE		03 17 50.0	+15
BCX				LR	LR		
	comp=Z,5μm,19.0s						
SOP	**Sopron**	**75.75**	**336**	*i* P	**P**	**03 17 36.1**	**+0.9**
SOP	**Sopron**	**75.75**	**336**	*e*S	**S**	**03 27 17.1**	**+2.2**
W50A	**Signal Mountai**	**75.76**	**50**	*e*P	**P**	**03 17 35.1**	**-0.4**
	comp=Z,22nm,1.0s						
W50A				LR	LR		
	comp=Z,8μm,20.0s						
W50A	**Signal Mountai**	**75.76**	**50**	P	**P**	**03 17 34.9**	**-0.6**
	baz=325,SNR=6.6						
X49A	**Woodville**	**75.83**	**52**	P	**P**	**03 17 35.3**	**-0.6**
	baz=325						
S55A	**Lewisburg**	**75.84**	**46**	P	**P**	**03 17 34.1**	**-1.8**
	baz=327						
O60A	**Telford**	**75.84**	**41**	P	**P**	**03 17 34.6**	**-1.2**
	baz=329						
PAL	**Palisades**	**75.84**	**39**	*e*P	**P**	**03 17 35.4**	**-0.4**
	comp=Z,57nm,1.5s						
PAL				LR	LR		
	comp=Z,4μm,20.0s						
PAL	**Palisades**	**75.84**	**39**	P	**P**	**03 17 34.6**	**-1.2**
	baz=329						
GOA	**Goa**	**75.86**	**277**	*e*P	**P**	**03 17 36.4**	**+0.2**
GOA				IAMs_20	IAMs_20	04 02 53.4	
	comp=Z,3μm,16.1s						
BRNJ	**Basking Ridge**	**75.86**	**40**	PFAKE		03 17 50.0	+14
BRNJ				LR	LR		
	comp=Z,7μm,20.0s						
VAL	**Valentia**	**75.87**	**354**	*e*P	P	03 17 30.6	-5.1
VAL				*i* PP	**P**	**03 17 35.7**	**0.0**
SVSK	**Karacayir**	**75.89**	**319**	P	**P**	**03 17 37.2**	**+1.1**
KURC	**Kurucasile-Bar**	**75.91**	**322**	P	**P**	**03 17 36.2**	**+0.1**
Y48A	**Jasper**	**75.91**	**52**	P	**P**	**03 17 36.1**	**-0.2**
	baz=324						
CPCT	**Cooper Cave**	**75.93**	**50**	*e*P	**P**	**03 17 36.3**

ILGA LR LR
comp=Z,7µm,22.0s
SVRC Sivrice-ELAZID 76.23 316 P P 03 17 39.6 +1.3
GBN Guysborough 76.23 29 eP P 03 17 39.3 +1.4
comp=Z,80nm,1.5s
GBN LR LR
comp=Z,9µm,18.0s
R57A Stanardsville 76.25 44 P P 03 17 36.4 -1.8
baz=327
T55A Pulaski 76.26 46 P P 03 17 37.3 -1.1
baz=327,SNR=5.7
BZS Buzias 76.27 332⇑ iP P 03 17 38.3 +0.1
U54A Nelsons Funny 76.29 47 eP P 03 17 40.5 +2.0
comp=Z,46nm,1.4s
U54A LR LR
comp=Z,6µm,19.0s
U54A Nelsons Funny 76.29 47 P P 03 17 36.7 -1.8
baz=326
HAL Halifax 76.29 31 PFAKE 03 17 50.0 +12
HAL LR LR
comp=Z,8µm,19.0s
Y49A Blount Mountai 76.32 52 eP P 03 17 37.8 -0.9
comp=Z,37nm,1.4s
Y49A LR LR
comp=Z,6µm,18.0s
Y49A Blount Mountai 76.32 52 P P 03 17 37.8 -0.9
baz=325
S56A Natural Bridge 76.33 45 P P 03 17 37.2 -1.4
baz=327
FITZ Fitzroy Crossi 76.33 214 eP P 03 17 39.5 +0.8
comp=Z,104nm,1.4s
FITZ Fitzroy Crossi 76.33 214 P P 03 17 39.3 +0.6
comp=Z,29nm,1.1s,baz=26,slow=5.8,SNR=19
BLA Blacksburg 76.34 46 eP P 03 17 40.8 +2.0
comp=Z,32nm,1.1s
BLA LR LR
comp=Z,3µm,19.0s
BLA Blacksburg 76.34 46 P P 03 17 37.0 -1.8
baz=327
STU Stuttgart 76.40 341 eP P 03 17 39.1 +0.3
comp=Z,127nm,1.5s
STU LR LR
comp=Z,4µm,18.0s
ARSA Arzberg 76.41 336 i pP P 03 17 40.1 +1.1
comp=Z,70nm,1.4s,SNR=28
ZAIG Zacatecas 76.44 70 eP P 03 17 40.8 +1.0
comp=Z,34nm,1.4s
ZAIG LR LR
comp=Z,4µm,22.0s
R58A Rapidan 76.47 44 P P 03 17 39.0 -0.4
baz=328
X51A Calhoun 76.49 50 eP P 03 17 41.5 +1.8
comp=Z,54nm,1.4s
X51A LR LR
comp=Z,8µm,21.0s
X51A Calhoun 76.49 50 P P 03 17 37.7 -1.9
baz=325
W52A Murphy 76.50 49 eP P 03 17 41.5 +1.8
comp=Z,28nm,1.2s
W52A LR LR
comp=Z,7µm,19.0s
W52A Murphy 76.50 49 P P 03 17 38.0 -1.7
baz=326
S57A Dark Hollow, R 76.52 45 eP P 03 17 42.0 +2.3
comp=Z,32nm,1.1s
S57A LR LR
comp=Z,8µm,18.0s
S57A Dark Hollow, R 76.52 45 P P 03 17 39.4 -0.3
baz=327,SNR=5.5
V53A Saluda 76.54 48 eP P 03 17 41.9 +2.0
comp=Z,30nm,1.3s
V53A LR LR
comp=Z,6µm,19.0s
V53A Saluda 76.54 48 P P 03 17 39.7 -0.2
baz=326,SNR=8.0
CUALT Altinyayla-SIV 76.54 318 i P P 03 17 41.0 +1.0
LNIG Linares 76.56 67 eP P 03 17 42.1 +2.0
comp=Z,25nm,1.5s
Q59A Harwood 76.56 42 P P 03 17 40.2 +0.2
baz=328
M65A Busby, Falmout 76.60 37 P P 03 17 39.5 -0.5
baz=331
CORM Corum 76.62 320 P P 03 17 41.5 +1.1
Y50A Piedmont 76.62 51 P P 03 17 39.6 -0.7
baz=325,SNR=7.8
PRD Provadia 76.62 327 eP P 03 17 40.9 +0.7
CANT Cankiri 76.64 321 P P 03 17 41.6 +1.1
U55A TA2, Sparta 76.65 47 P P 03 17 37.4 -3.2
baz=327
T56A Rocky Mt 76.66 46 P P 03 17 39.2 -1.4
baz=327
LRAL Lakeview Retre 76.70 53 eP P 03 17 41.5 +0.7
LRAL LR LR
comp=Z,6µm,18.0s
LRAL Lakeview Retre 76.70 53 P P 03 17 37.3 -3.5
baz=325
HERR Herculane 76.70 331⇑ iP P 03 17 40.4 -0.2
148A Greensboro 76.73 53 P P 03 17 39.5 -1.5
baz=324
W53A Cullowhee 76.79 49 P P 03 17 41.2 -0.3
baz=326,SNR=5.8
CUGUR Gurin_SVAS 76.79 318 i P P 03 17 43.7 +2.3
Z49A Columbiana 76.80 52 P P 03 17 39.8 -1.5
baz=325
YOZ Yozgat 76.81 320 P P 03 17 41.4 -0.1
R58B Mineral 76.81 44 eP P 03 17 43.7 +2.4
comp=Z,27nm,1.4s
R58B LR LR
comp=Z,6µm,19.0s
R58B Mineral 76.81 44 P P 03 17 38.6 -2.8
baz=328
CBN Corbin Frederi 76.82 43 eP P 03 17 43.6 +2.2
comp=Z,59nm,1.4s
CBN LR LR
comp=Z,6µm,19.0s
CBN Corbin Frederi 76.82 43 P P 03 17 39.3 -2.1
baz=328
BEHE Becsehely 76.82 335⇑ iP P 03 17 42.0 +0.7
BEHE Becsehely 76.82 335⇑ iP P 03 17 42.0 +0.7
DARE Darende-Malaty 76.83 318 P P 03 17 42.8 +1.2
V54A Nebo 76.84 48 P P 03 17 40.8 -0.9
baz=326,SNR=6.0
VLAD Vladila 76.89 329⇑ iP P 03 17 41.9 +0.2
X52A Dahlonega 76.91 50 P P 03 17 41.7 -0.4
baz=326,SNR=8.3
R59A King George, V 76.93 43 P P 03 17 40.3 -1.8
baz=328
Y51A Rockmart 76.94 51 P P 03 17 41.4 -0.8
baz=325,SNR=9.3
KOGS Kog 76.98 335⇑ iP P 03 17 42.5 +0.3
BFO Black Forest 76.99 341 eP P 03 17 42.6 +0.3
comp=Z,119nm,1.5s
BFO LR LR
comp=Z,5µm,18.0s
BFO Black Forest 76.99 341 i P P 03 17 42.5 +0.3
MDVR Moldovita 77.00 331⇑ iP P 03 17 42.1 -0.3
T57A Hurt 77.03 45 eP P 03 17 42.5 -0.1
comp=Z,37nm,1.4s
T57A LR LR
comp=Z,6µm,18.0s
T57A Hurt 77.03 45 P P 03 17 40.5 -2.1
baz=327
S58A Poland Farm, P 77.03 44 eP P 03 17 45.0 +2.4
comp=Z,10nm,0.9s
S58A LR LR
comp=Z,7µm,18.0s
S58A Poland Farm, P 77.03 44 P P 03 17 40.5 -2.1
baz=328
BG3 Lake Jocassee 77.04 49 PFAKE 03 18 00.0 +17
BG3 LR LR
comp=Z,6µm,20.0s
Z50A Ashland 77.05 52 eP P 03 17 42.4 -0.4
comp=Z,35nm,1.1s
Z50A LR LR
comp=Z,6µm,18.0s
Z50A Ashland 77.05 52 P P 03 17 39.9 -2.9
baz=325,SNR=17
SZH Strazhica 77.05 328 eP P 03 17 42.5 -0.1
SOKA Soboth 77.07 336 i pP P 03 17 43.7 +0.9
comp=Z,72nm,1.4s,SNR=41
U56A King 77.08 46 P P 03 17 40.5 -2.4
baz=327
PERS Pernice 77.09 336⇑ eP P 03 17 43.5 +0.7
PERS eS S 03 27 32.5 +2.7
PUNG Punghina 77.09 330⇑ iP P 03 17 42.5 -0.3
R60A Leonardtown, M 77.10 43 P P 03 17 41.9 -1.1
baz=328

KBA Koelnbreinsper 77.10 338 i pP P 03 17 44.4 +1.3
comp=Z,120nm,0.9s,SNR=82
V55A Taylorsville 77.11 47 P P 03 17 41.4 -1.7
baz=327
149A Jones 77.16 53 P P 03 17 42.2 -1.2
baz=325
FRGS Fruska Gora 77.21 333⇑ iP P 03 17 43.6 +0.1
URFA Urfa 77.23 316 P P 03 17 45.2 +1.4
S59A Mechanicsville 77.23 43 P P 03 17 43.0 -0.7
baz=328
WATA Walderalm 77.26 339 i pP P 03 17 44.7 +0.8
comp=Z,72nm,1.3s,SNR=14
X53A Estanollee 77.27 49 P P 03 17 43.5 -0.5
baz=326,SNR=10
PVL Pavlikeni 77.29 328 eP P 03 17 44.5 +0.5
RETA Reutte 77.30 339 i pP P 03 17 44.8 +0.8
comp=Z,43nm,1.4s,SNR=18
W54A Cherokee Point 77.31 48 P P 03 17 42.9 -1.3
baz=326
WTTA Wattenberg 77.31 339 i pP P 03 17 45.4 +1.1
comp=Z,138nm,1.6s,SNR=44
ECH Echery 77.33 342 eP P 03 17 44.5 +0.4
comp=Z,83nm,1.2s
ECH LR LR
comp=Z,6µm,18.0s
OBKA Obir 77.35 337 i pP P 03 17 45.2 +0.8
comp=Z,116nm,1.7s,SNR=32
MOTA Moosalm 77.36 339 i pP P 03 17 45.2 +0.7
comp=Z,24nm,0.8s,SNR=28
T58A Grand View Acr 77.39 45 P P 03 17 45.2 +0.6
baz=328
BR101 Keskin Array S 77.39 321 eP P 03 17 44.8 -0.1
BR131 Keskin Array S 77.39 321 eP P 03 17 43.6 -1.2
comp=Z,124nm,1.3s
BR131 Keskin Array S 77.39 321 P P 03 17 44.9 +0.1
SNR=86
BRTR Keskin Array B 77.39 321 i P P 03 17 44.7 -0.1
BRTR pmax pmax
comp=Z,46nm,1.1s
BRTR Keskin Array B 77.39 321 P P 03 17 44.8 -0.1
comp=Z,47nm,1.1s,baz=64,slow=2.9,SNR=159
Y52A Lilburn 77.44 50 eP P 03 17 47.1 +2.1
comp=Z,30nm,1.3s
Y52A LR LR
comp=Z,7µm,19.0s
Y52A Lilburn 77.44 50 P P 03 17 43.0 -1.9
baz=326
SQTA Sankt Quirin 77.45 339 i pP P 03 17 46.0 +1.1
comp=Z,68nm,0.9s,SNR=45
MYKA Terra Mystica 77.45 337 i pP P 03 17 45.4 +0.5
comp=Z,96nm,1.9s,SNR=16
U57A Blanch 77.47 46 P P 03 17 44.6 -0.5
baz=327,SNR=6.0
V56A Mocksville 77.47 47 eP P 03 17 47.0 +1.9
comp=Z,43nm,1.4s
V56A LR LR
comp=Z,5µm,19.0s
V56A Mocksville 77.47 47 P P 03 17 43.1 -2.0
baz=327
249A Camden 77.50 54 P P 03 17 41.5 -3.8
baz=325
150A Eclectic 77.53 52 P P 03 17 43.3 -2.2
baz=325
S60A Water View 77.55 43 P P 03 17 45.0 -0.5
baz=328
LOD Lodumlu 77.59 321 P P 03 17 46.5 +0.7
ANTO Ankara 77.60 321 eP P 03 17 46.3 +0.4
comp=Z,168nm,1.3s
ANTO LR LR
comp=Z,9µm,19.0s
ANTO Ankara 77.60 321⇑ iP P 03 17 46.8 +1.0
ANTO Ankara 77.60 321 P P 03 17 46.3 +0.4
SNR=69
ANTO P P 03 17 46.3 +0.4
SNR=69
ABTA Abfaersbach 77.60 338 i pP P 03 17 46.4 +0.6
comp=Z,77nm,1.3s,SNR=29
ZAG Zagreb 77.62 335⇑ iP P 03 17 46.5 +0.7
BR231 Keskin MP Arra 77.63 321 eP P 03 17 46.6 +0.6
comp=Z,161nm,1.3s
KMSC Kings Mountain 77.65 48 eP P 03 17 47.0 +0.8
comp=Z,37nm,1.4s
KMSC LR LR
comp=Z,8µm,18.0s
KMSC Kings Mountain 77.65 48 P P 03 17 44.5 -1.7
baz=327
X54A Belton 77.67 49 P P 03 17 44.6 -1.6
baz=326
DAVA Damuels 77.67 340 i pP P 03 17 46.9 +0.6
comp=Z,56nm,1.4s,SNR=19
Y53A Monroe 77.67 50 P P 03 17 44.3 -1.9
baz=326
MDUB Mudurnu 77.67 323 P P 03 17 46.7 +0.4
MDUB Mudurnu 77.67 323 eP P 03 17 46.6 +0.4
comp=Z,541nm,1.1s
MDUB LR LR
comp=Z,49µm,20.0s
PAULI Pauline 77.70 48 eP P 03 17 48.2 +1.9
comp=Z,34nm,1.4s
PAULI LR LR
comp=Z,7µm,20.0s
V57A Coltrane Farms 77.73 46 P P 03 17 44.5 -2.0
baz=327
FETA Feichten 77.74 339 i pP P 03 17 47.7 +1.0
comp=Z,60nm,1.2s,SNR=29
CRES Cresnjev 77.76 336⇑ iP P 03 17 46.8 +0.2
SAUV Serdivan-Sakar 77.76 324 P P 03 17 47.1 +0.5
KLYT Kilyos 77.77 325 P P 03 17 46.6 -0.1
KLYT Kilyos 77.77 325⇑ iP P 03 17 46.7 0.0
T59A Double "B" Far 77.78 44 eP P 03 17 49.4 +2.6
comp=Z,21nm,1.1s
T59A LR LR
comp=Z,6µm,19.0s
T59A Double "B" Far 77.78 44 P P 03 17 44.8 -2.1
baz=328
LJU Ljubljana 77.79 336⇑ iP P 03 17 46.4 -0.3
LJU eS S 03 27 38.2 +1.0
LJU Ljubljana 77.79 336⇑ iP P 03 17 46.4 -0.3
SPNC Sapanca-Adapaz 77.81 324 P P 03 17 47.6 +0.7
Z52A Williamson 77.83 51 P P 03 17 45.6 -1.6
baz=326
U58A Oxford 77.84 45 P P 03 17 44.4 -2.7
baz=328
CTYL Yalikoy Yolu 77.84 325 P P 03 17 46.3 -0.8
TEKS Tekeris 77.85 333 eP P 03 17 47.3 +0.2
AFSR Afar-Bala (An 77.86 321 P P 03 17 47.7 +0.4
250A Grady 77.92 53 eP P 03 17 48.5 +0.9
comp=Z,56nm,1.4s
250A LR LR
comp=Z,5µm,18.0s
250A Grady 77.92 53 P P 03 17 45.5 -2.2
baz=325
HRT Hereke 77.93 324 P P 03 17 47.9 +0.3
151A Opelika 77.93 52 P P 03 17 45.8 -1.9
baz=325
BGKT Bogazkoy 77.93 325 P P 03 17 47.7 +0.1
ISK Istanbul-Kandi 77.93 325 P P 03 17 47.5 -0.1
KAVV Kandilli-Istan 77.93 325 P P 03 17 47.7 +0.1
GULT Gulveren 77.96 323 P P 03 17 48.5 +0.6
PHSR Pinarhisar 77.97 326 P P 03 17 48.1 +0.3
PHSR Pinarhisar 77.97 326⇑ iP P 03 17 48.3 +0.5
349A Repton 77.97 54 P P 03 17 45.8 -2.1
baz=325
CTKS Kestanelik-??a 77.98 325 P P 03 17 47.9 +0.1
HODGE Hodges 77.98 49 eP P 03 17 50.0 +2.0
comp=Z,24nm,1.1s
HODGE LR LR
comp=Z,7µm,20.0s
KMRS Kahramanmaras 77.98 317 P P 03 17 48.7 +0.7
T60A Surry 77.99 43 PFAKE 03 18 00.0 +12
T60A LR LR
comp=Z,5µm,18.0s
T60A Surry 77.99 43 P P 03 17 46.2 -1.7
baz=328
SHME Shamm 78.00 297 i P P 03 17 47.6 -0.6
SNR=14
W56A Indian Trail 78.00 47 P P 03 17 48.7 +0.7
baz=327
YAYX Yaylak 78.00 320 P P 03 17 48.5 +0.3
PALK Pallekele 78.01 266 eP P 03 17 48.7 +0.3
comp=Z,159nm,1.5s
PALK LR LR
comp=Z,9µm,20.0s
PALK Pallekele 78.01 266 P P 03 17 48.3 -0.1
EDRB Edirne 78.05 326 P P 03 17 48.4 +0.2
EDRB Edirne 78.05 326 P P 03 17 47.4 -0.8

X55A Gracelyn & Ava 78.07 48 P P 03 17 44.8 -3.6
baz=327
Y54A Tignall 78.09 49 P P 03 17 48.3 -0.3
baz=326,SNR=13
SLVT Silivri 78.09 325 P P 03 17 48.5 +0.1
GOGA Godfrey 78.09 50 eP P 03 17 50.4 +1.7
comp=Z,28nm,1.4s
GOGA LR LR
comp=Z,5µm,20.0s
GOGA Godfrey 78.09 50 P P 03 17 47.0 -1.6
baz=326
SERE Sereflikochisa 78.09 320 P P 03 17 49.1 +0.4
CEY Cerknica 78.10 336⇑ iP P 03 17 48.4 -0.1
BUY Buyukada 78.10 324 P P 03 17 48.4 -0.1
V58A Windy Hill, Pi 78.10 46 P P 03 17 48.1 -0.5
baz=328,SNR=6.5
152A Waverly Hall 78.11 51 eP P 03 17 48.4 -0.4
comp=Z,42nm,1.4s
152A LR LR
comp=Z,6µm,21.0s
152A Waverly Hall 78.11 51 P P 03 17 46.8 -1.9
baz=326
BOJS Bojanci 78.11 336⇑ iP P 03 17 48.6 +0.1
DIVS Divibare 78.13 332⇑ iP P 03 17 48.4 -0.4
GAZ Gaziantep 78.14 317 P P 03 17 49.7 +0.8
Z53A Monticello 78.15 50 P P 03 17 44.3 -4.6
baz=326
BRAL Brewton 78.19 54 PFAKE 03 18 00.0 +11
BRAL LR LR
comp=Z,5µm,19.0s
U59A Littleton 78.20 45 eP P 03 17 51.1 +1.9
comp=Z,38nm,1.4s
U59A LR LR
comp=Z,6µm,19.0s
U59A Littleton 78.20 45 P P 03 17 47.1 -2.0
baz=328
FUORN Ofenpass-Fuorn 78.22 340 eP P 03 17 50.6 +1.1
comp=Z,31nm,0.9s
FUORN LR LR
comp=Z,5µm,19.0s
KULU Kulu 78.23 321 P P 03 17 50.4 +1.0
251A Midway 78.25 52 P P 03 17 48.7 -0.8
baz=325,SNR=10
ADVT Abdulvahap 78.25 324 P P 03 17 49.5 +0.2
W57A Gilead 78.25 47 eP P 03 17 51.6 +2.2
comp=Z,13nm,0.9s
W57A LR LR
comp=Z,5µm,20.0s
W57A Gilead 78.25 47 P P 03 17 46.8 -2.7
baz=327
SRCK Saricakaya, Es 78.26 323 P P 03 17 49.4 -0.1
PGB Panagyurishte 78.27 329 eP P 03 17 49.8 +0.3
TRI Trieste 78.29 337 PFAKE 03 18 00.0 +11
TRI LR LR
comp=Z,11µm,18.0s
BLY Banja Luka 78.31 334 eP P 03 17 48.5 -1.1
comp=Z,18nm,1.5s
BLY LR LR
comp=Z,15µm,18.0s
BLY Banja Luka 78.31 334⇑ iP P 03 17 49.2 -0.4
X56A White Oak 78.33 48 P P 03 17 47.2 -2.6
baz=327
350A Dozier 78.34 53 P P 03 17 49.5 -0.5
baz=325
CLF Chambon-Foret 78.36 345 eP P 03 17 49.9 +0.1
comp=Z,153nm,1.3s
CLF LR LR
comp=Z,9µm,19.0s
U60A Pendleton 78.38 44 P P 03 17 50.1 0.0
baz=328
JSC Jenkinsville 78.40 48 eP P 03 17 52.1 +1.8
comp=Z,24nm,1.4s
JSC LR LR
comp=Z,7µm,18.0s
CAVI Cavuskoy 78.41 324 P P 03 17 50.7 +0.4
Y55A Saluda 78.41 49 P P 03 17 49.7 -0.6
baz=326
HAPS Han Pijesak,Bl 78.44 333⇓ iP P 03 17 49.6 -0.9
449A Pace 78.44 54 P P 03 17 49.8 -0.8
baz=325
GEMT Gemlik 78.44 324 P P 03 17 50.5 +0.1
ARMT Armutlu 78.44 324 P P 03 17 50.2 -0.3
SVRH Sivrihisar-ESK 78.45 322 P P 03 17 50.4 -0.2
KOZT Kozan 78.45 318 P P 03 17 51.0 +0.5
BIRD Birdtown, Kers 78.46 47 eP P 03 17 52.8 +2.2
comp=Z,18nm,1.1s
BIRD LR LR
comp=Z,6µm,19.0s
RIY Rijeka 78.47 336⇑ iP P 03 17 50.2 -0.3
VTS Vitosha 78.50 329 eP P 03 17 50.8 -0.1
comp=Z,50nm,1.0s
VTS LR LR
comp=Z,20µm,19.0s
VTS Vitosha 78.50 329 P P 03 17 49.9 -1.0
VTS Vitosha 78.50 329⇑ iP P 03 17 51.0 +0.1
VTS Vitosha 78.50 329 eP P 03 17 51.1 +0.1
V59A Middlesex 78.51 45 P P 03 17 49.8 -1.0
baz=328
BBLS Lazići 78.51 332⇑ iP P 03 17 51.1 +0.2
MSFE Esma-Masafi 78.53 297 i P P 03 17 50.6 -0.5
SNR=24
Z54A Sparta 78.53 50 P P 03 17 50.9 -0.2
baz=326,SNR=8.8
153A Fort Valley 78.55 51 P P 03 17 50.2 -0.9
baz=326
TUE Stuetta 78.56 340 eP P 03 17 51.9 +0.7
comp=Z,91nm,1.0s
TUE LR LR
comp=Z,8µm,20.0s
MDNY Mudanya-Bursa 78.61 324 P P 03 17 51.4 +0.1
UMQ Umm Al-Quwin 78.67 297 i P P 03 17 52.1 +0.2
SNR=12
UMQ Umm Al-Quwin 78.67 297 P P 03 17 52.3 +0.4
SNR=8.1
UMQ P P 03 17 52.3 +0.4
SNR=8.1
CHBY Cihanbeyli 78.67 321 P P 03 17 51.7 -0.2
CIFT Cifteler, Eski 78.69 322 P P 03 17 51.8 -0.1
W58A Raeford 78.69 46 P P 03 17 48.9 -3.0
baz=328
450A Crestview 78.72 54 P P 03 17 51.3 -0.8
baz=325
SULT Sultanhani-AKS 78.76 320 P P 03 17 52.4 +0.1
X57A Johnson Farm, 78.78 47 P P 03 17 51.0 -1.3
baz=327
Y56A Pelion 78.79 48 P P 03 17 48.8 -3.6
baz=327
U61A Possum Corner 78.80 44 PFAKE 03 18 00.0 +7.6
U61A LR LR
comp=Z,7µm,18.0s
U61A Possum Corner 78.80 44 P P 03 17 50.4 -2.0
baz=329
KIZT Kizilcal 78.81 322 P P 03 17 52.8 +0.2
351A Pinckard 78.82 53 P P 03 17 51.5 -1.1
baz=325
WSAR Wadi Sarin 78.83 293 P P 03 17 53.0 +0.2
SNR=30
Z55A Blythe 78.88 49 P P 03 17 51.3 -1.6
baz=326
CEYT Ceyhan 78.88 318 P P 03 17 53.8 +0.9
BIDO Bidbid 78.89 294 P P 03 17 53.0 -0.1
SNR=28
BIDO P P 03 17 53.0 -0.1
SNR=28
KCTX Karacabey (Bur 78.89 325 P P 03 17 53.2 +0.3
253A Americus 78.89 51 PFAKE 03 18 10.0 +17
253A LR LR
comp=Z,7µm,22.0s
253A Americus 78.89 51 P P 03 17 50.8 -2.2
baz=326
W59A Clinton 78.92 46 P P 03 17 51.8 -1.3
baz=328
154A Montrose 78.92 50 eP P 03 17 53.5 +0.3
comp=Z,48nm,1.1s
154A LR LR
comp=Z,6µm,21.0s
154A Montrose 78.92 50 P P 03 17 51.6 -1.6
baz=326
RKY Sarkoy-Tekirda 78.93 326 P P 03 17 53.5 +0.3
V60A Jim Taylor Roa 78.93 44 eP P 03 17 53.2 +0.1
comp=Z,26nm,0.9s
V60A LR LR
comp=Z,5µm,19.0s
V60A Jim Taylor Roa 78.93 44 P P 03 17 51.8 -1.4
baz=328
KARA Karaisali 78.95 318 P P 03 17 53.9 +0.6

HATD	Hatta, Dubai	78.97	296	*i* P		P	03 17 53.1 -0.5
	SNR=50						
HATD	Hatta, Dubai	78.97	296	P		P	03 17 53.1 -0.5
	SNR=64						
HATD				P		P	03 17 53.1 -0.5
	SNR=64						
352A	Blakely	78.98	52	PFAKE			03 18 10.0 +16
352A				LR		LR	
	comp=Z,6μm,19.0s						
352A	Blakely	78.98	52	P		P	03 17 52.7 -0.8
	baz=326						
EDC	Edincik	78.99	325	P		P	03 17 53.8 +0.3
PLE	Pljevlja	79.01	332⇑	*i* P		P	03 17 53.6 -0.1
Y57A	Sumter	79.02	48	PFAKE			03 18 10.0 +16
Y57A				LR		LR	
	comp=Z,7μm,18.0s						
Y57A	Sumter	79.02	48	P		P	03 17 51.7 -2.0
	baz=327						
X58A	Rowland	79.04	47	*e*P		P	03 17 55.9 +2.1
	comp=Z,28nm,1.0s						
X58A				LR		LR	
	comp=Z,6μm,20.0s						
X58A	Rowland	79.04	47	P		P	03 17 52.5 -1.3
	baz=328						
RDO	Rodhopi	79.08	327	P		P	03 17 52.3 -1.6
SENIN	Lac Senin/Sane	79.08	341	*e*P		P	03 17 54.7 +0.6
	comp=Z,37nm,1.0s						
SENIN				LR		LR	
	comp=Z,7μm,20.0s						
YURE	YUREGIR	79.09	318	P		P	03 17 55.1 +1.0
YURE	YUREGIR	79.09	318	*i* P		P	03 17 55.9 +1.8
AS31	Alice Springs	79.09	205	*e*P		P	03 17 55.0 +0.9
	comp=Z,3.3nm,0.8s						
ASAR	Alice Springs	79.09	205	P		P	03 17 54.5 +0.5
	comp=Z,12nm,0.8s,baz=15,slow=5.2,SNR=30						
NAZ	Nazwa, Dubai	79.10	297	*i* P		P	03 17 53.6 -0.6
	SNR=27						
NAZ	Nazwa, Dubai	79.10	297	P		P	03 17 53.6 -0.6
	SNR=22						
NAZ				P		P	03 17 53.6 -0.6
	SNR=22						
CNNC	Cliffs of the	79.10	45	PFAKE			03 18 10.0 +16
CNNC				LR		LR	
	comp=Z,6μm,18.0s						
CNNC	Cliffs of the	79.10	45	P		P	03 17 52.8 -1.3
	baz=328						
ASHO	Ashiyiah	79.12	296	*i* P		P	03 17 53.8 -0.6
	SNR=65						
ASHO	Ashiyiah	79.12	296	P		P	03 17 53.7 -0.8
	SNR=62						
ASHO				P		P	03 17 53.7 -0.8
	SNR=62						
WBK	Wadi Bani Khal	79.13	293	P		P	03 17 54.9 +0.4
	SNR=5.1						
ALN	Alexandroupoli	79.13	327	*e*P		P	03 17 53.5 -0.7
	comp=Z,76nm,1.2s						
ALN				LR		LR	
	comp=Z,7μm,20.0s						
ALN	Alexandroupoli	79.13	327	P		P	03 17 51.7 -2.5
Z56A	Williston	79.14	49	PFAKE			03 18 10.0 +16
Z56A				LR		LR	
	comp=Z,7μm,20.0s						
Z56A	Williston	79.14	49	P		P	03 17 53.8 -0.6
	baz=327						
ERIK	Erikli-Kesan	79.17	326	P		P	03 17 54.7 +0.3
V61A	Roper	79.20	44	PFAKE			03 18 10.0 +15
V61A				LR		LR	
	comp=Z,8μm,18.0s						
V61A	Roper	79.20	44	P		P	03 17 53.6 -1.0
	baz=329						
LADK	Ladik-KONYA	79.21	321	P		P	03 17 54.8 0.0
TVSB	Tavsanli	79.21	323	P		P	03 17 54.9 +0.1
155A	Kite	79.22	50	P		P	03 17 53.9 -0.9
	baz=326						
ENEZ	Enez	79.24	326	P		P	03 17 54.9 +0.1
JLN	Jalan Bani Buh	79.24	292	P		P	03 17 55.5 +0.4
	SNR=23						
JLN				P		P	03 17 55.5 +0.4
	SNR=23						
TAHT	Tahtakopru-Hat	79.24	317	P		P	03 17 55.7 +0.8
UPM	Unac-Piva	79.27	332⇑	*i*P		P	03 17 54.5 -0.6
IVA	Berane	79.28	332⇑	*i*P		P	03 17 55.2 +0.1
451A	Vernon	79.29	53	PFAKE			03 18 10.0 +15
451A				LR		LR	
	comp=Z,4μm,20.0s						
451A	Vernon	79.29	53	P		P	03 17 53.7 -1.5
	baz=325						
SOHO	SOHO	79.29	296	P		P	03 17 54.0 -1.3
	SNR=56						
SOHO				P		P	03 17 54.0 -1.3
	SNR=56						
SMDO	Samad	79.30	294	P		P	03 17 54.6 -0.9
	SNR=16						
HOQ	Hoqain	79.30	295	P		P	03 17 55.1 -0.3
	SNR=14						
FAQ	Al Faqa, Dubai	79.33	297	*i* P		P	03 17 54.7 -0.8
	SNR=26						
FAQ	Al Faqa, Dubai	79.33	297	P		P	03 17 54.7 -0.8
	SNR=22						
FAQ				P		P	03 17 54.7 -0.8
	SNR=22						
W60A	Pink Hill	79.34	45	P		P	03 17 53.4 -2.0
	baz=328						
TRD	Trivandrum	79.34	270	*e*P		P	03 17 55.9 +0.2
TRD				IAMs_20	IAMs_20		03 56 42.5
	comp=Z,9μm,20.6s						
X59A	McDuffie Farm,	79.35	46	P		P	03 17 54.2 -1.3
	baz=328						
LPK	Lapseki	79.35	326	P		P	03 17 55.8 +0.4
452A	Marianna	79.37	53	P		P	03 17 54.5 -1.1
	baz=326						
254A	Abbeville	79.39	51	P		P	03 17 52.8 -2.9
	baz=326						
KOME	Kolasin	79.41	332⇑	*i*P		P	03 17 55.5 -0.3
GELI	Tayfur-Gelibol	79.43	326	P		P	03 17 55.9 +0.1
KONT	Konya--Tatoy	79.43	321	P		P	03 17 56.1 +0.1
353A	Camilla	79.43	52	P		P	03 17 54.2 -1.8
	baz=326						
Y58A	Scranton	79.44	47	PFAKE			03 18 10.0 +14
Y58A				LR		LR	
	comp=Z,6μm,20.0s						
Y58A	Scranton	79.44	47	P		P	03 17 54.7 -1.3
	baz=328						
NVR	Nevrokopi	79.45	328	P		P	03 17 54.3 -1.7
Z57A	Bowman	79.47	48	P		P	03 17 54.9 -1.3
	baz=327						
MERS	Mersin	79.50	319	P		P	03 17 56.3 -0.1
PVY	Plav	79.52	331⇑	*i*P		P	03 17 56.2 -0.3
W61A	Ground Anchor	79.55	45	P		P	03 17 54.5 -2.0
	baz=328						
KAVA	Kavala	79.55	328	P		P	03 17 55.0 -1.5
ASUD	Al Ashush, Dub	79.57	297	*i* P		P	03 17 56.5 -0.3
	SNR=16						
ASUD	Al Ashush, Dub	79.57	297	P		P	03 17 56.5 -0.3
	SNR=14						
ASUD				P		P	03 17 56.5 -0.3
	SNR=14						
GEDZ	Gediz	79.59	323	P		P	03 17 57.2 +0.4
SHUT	Suhut-Afyon	79.59	322	P		P	03 17 57.3 +0.4
NKY	Niksic	79.60	332⇑	*i*P		P	03 17 56.2 -0.7
BALB	Balikesir	79.61	325	P		P	03 17 56.9 +0.1
BALB	Balikesir	79.61	325	*e*P		P	03 17 56.8 -0.1
	comp=Z,496nm,1.2s						
BALB				LR		LR	
	comp=Z,16μm,18.0s						
X60A	Albert Glenn T	79.62	46	P		P	03 17 54.6 -2.3
	baz=328						
156A	Sylvania	79.64	49	P		P	03 17 55.2 -1.9
	baz=327						
SKO	Skopje	79.64	330	*i* P		P	03 17 57.2 +0.2
BRY	Bratogost	79.65	333⇑	*i*P		P	03 17 56.3 -0.9
BRY	Bratogost	79.65	333⇑	*i*P		P	03 17 56.2 -0.9
NKME	Niksic	79.65	332⇑	*i*P		P	03 17 56.5 -0.6
TIGA	Tifton	79.66	51	*e*P		P	03 17 59.8 +2.6
	comp=Z,71nm,1.3s						
TIGA				LR		LR	
	comp=Z,6μm,22.0s						
TIGA	Tifton	79.66	51	P		P	03 17 54.7 -2.5
	baz=326						
V62A	Hyde County Ai	79.66	44	PFAKE			03 18 10.0 +13
V62A				LR		LR	
	comp=Z,7μm,18.0s						
V62A	Hyde County Ai	79.66	44	P		P	03 17 52.4 -4.7
	baz=329						
STIP	Stip	79.67	330	*i* P		P	03 17 56.2 -0.9
SMTH	Samothraki Isl	79.69	327	P		P	03 17 51.6 -5.7
SRS	Serrai	79.74	328	P		P	03 17 56.4 -1.2
ALNE	Al Ain	79.79	296	*i* P		P	03 17 57.7 -0.4
	SNR=9.1						
255A	Hazlehurst	79.79	50	*e*P		P	03 18 00.9 +3.0
	comp=Z,75nm,1.1s						
255A				LR		LR	
	comp=Z,6μm,19.0s						
255A	Hazlehurst	79.79	50	P		P	03 17 56.7 -1.2
	baz=326						
453A	Whigham	79.79	52	*e*P		P	03 18 00.2 +2.3
	comp=Z,110nm,1.4s						
453A				LR		LR	
	comp=Z,7μm,19.0s						
453A	Whigham	79.79	52	P		P	03 17 56.4 -1.5
	baz=326						
AJN	Ajban	79.81	297	*i* P		P	03 17 57.9 -0.2
	SNR=14						
AJN	Ajban	79.81	297	P		P	03 17 57.2 -0.9
	SNR=12						
JMDO	Jabal Madar	79.81	293	P		P	03 17 58.7 +0.5
	SNR=10						
THAS	Thassos island	79.84	327	P		P	03 17 55.7 -2.3
Z58A	St. Stephen	79.85	48	P		P	03 17 54.3 -4.0
	baz=328						
157A	Early Branch	79.86	49	P		P	03 17 57.0 -1.2
	baz=327						
CEME	Cevo	79.87	332⇑	*i*P		P	03 17 57.6 -0.7
TREB	Trebinje	79.87	333	*e*P		P	03 17 57.5 -0.7
NHSC	New Hope	79.87	48	PFAKE			03 18 10.0 +12
NHSC				LR		LR	
	comp=Z,6μm,18.0s						
NHSC	New Hope	79.87	48	P		P	03 17 55.7 -2.6
	baz=327						
PDG	Podgorica	79.88	332⇑	*i*P		P	03 17 57.9 -0.3
PDG	Podgorica	79.88	332⇑	*i*P		P	03 17 57.7 -0.5
TTG	Podgorica	79.88	332⇑	*i*P		P	03 17 57.7 -0.5
TTG	Podgorica	79.88	332	*e*P		P	03 17 57.7 -0.5
	comp=Z,101nm,1.1s						
TTG				LR		LR	
	comp=Z,20μm,18.0s						
552A	Lynn Haven	79.91	53	P		P	03 17 58.1 -0.4
	baz=326						
STON	Ston	79.91	333⇑	*i*P		P	03 17 57.4 -1.0
KNT	Kendrikon	79.93	329	P		P	03 17 57.0 -1.5
EZN	Ezine	79.99	326	P		P	03 17 58.7 -0.2
EZN	Ezine	79.99	326	P		P	03 17 57.7 -1.2
EZN	Ezine	79.99	326⇑	*i*P		P	03 17 58.7 -0.2
KIZK	Mersin	79.99	319	P		P	03 17 58.6 -0.4
Y60A	Bolivia	80.00	46	PFAKE			03 18 10.0 +11
Y60A				LR		LR	
	comp=Z,4μm,19.0s						
Y60A	Bolivia	80.00	46	P		P	03 17 56.0 -3.0
	baz=328						
BSY	Bisya	80.02	294	P		P	03 17 59.3 -0.1
	SNR=18						
256A	Glennville	80.02	50	P		P	03 17 56.3 -2.9
	baz=327						
BOZC	Bozcaada	80.07	326	P		P	03 17 58.8 -0.5
HCY	Herceg Novi	80.08	332⇑	*i*P		P	03 17 58.3 -1.0
355A	Pearson	80.09	51	P		P	03 17 59.5 -0.1
	baz=326,SNR=6.5						
BUM	Brajici-Budva	80.10	332⇑	*i*P		P	03 17 58.8 -0.7
DRME	Dracevica, Mon	80.12	332⇑	*i*P		P	03 17 59.5 -0.1
DRME	Dracevica, Mon	80.12	332⇑	*i*P		P	03 17 59.3 -0.3
Z59A	Georgetown, SC	80.17	47	P		P	03 17 57.3 -2.6
	baz=328						
SILI	Silifke-Mersin	80.18	319	P		P	03 17 59.7 -0.3
KEBE	Keben-Mersin	80.19	319	P		P	03 17 59.9 -0.2
PHP	Peshkopia	80.21	331	P		P	03 17 58.4 -1.7
454A	Quitman	80.24	52	P		P	03 17 57.9 -2.5
	baz=326						
ISP	Isparta	80.25	322	*e*P		P	03 18 00.0 -0.4
	comp=Z,82nm,1.2s						
ISP				LR		LR	
	comp=Z,9μm,20.0s						
ISP	Isparta	80.25	322	||*i*P		P	03 17 59.9 -0.5
KRUS	Krusevo	80.25	330	*i* P		P	03 18 00.4 0.0
GRG	Griva	80.27	329	P		P	03 17 58.7 -1.7
ULC	Ulcinj	80.31	332⇑	*i*P		P	03 18 00.0 -0.6
LIA	Limnos Island	80.32	327	P		P	03 17 58.8 -1.8
OUR	Ouranopolis	80.32	328	P		P	03 17 58.5 -2.2
KULA	Kula-Manisa	80.33	324	P		P	03 18 00.8 -0.1
KULA	Kula-Manisa	80.33	324	P		P	03 18 00.1 -0.8
MANT	Manisa	80.39	324	*e*P		P	03 18 01.1 -0.2
	comp=Z,471nm,1.3s						
MANT				LR		LR	
	comp=Z,21μm,18.0s						
IKL	Isikli	80.39	319	P		P	03 18 00.6 -0.5
257A	Skidaway Islan	80.43	49	PFAKE			03 18 10.0 +8.6
257A				LR		LR	
	comp=Z,9μm,19.0s						
356A	Blackshear	80.45	50	P		P	03 17 60.0 -1.5
	baz=327						
BNI	Bardonecchia	80.46	341	*e*P		P	03 18 03.0 +1.4
	comp=Z,112nm,1.5s						
BNI				LR		LR	
	comp=Z,6μm,20.0s						
PLG	Polygyros	80.46	328	P		P	03 17 59.4 -2.1
BERE	Bereket-Mersin	80.48	319	P		P	03 18 01.5 -0.3
PMOR	Pomariorio Ree	80.48	130	*e*T		T	04 47 08.0
	comp=Z,8.4nm,0.2s						
AKKU	Akkuyu-Mersin	80.51	319	P		P	03 18 01.2 -0.5
BCK	Bucak	80.54	322	P		P	03 18 00.9 -1.1
VLC	Villacollemand	80.54	339	PFAKE			03 18 10.0 +8.2
VLC				LR		LR	
	comp=Z,12μm,18.0s						
BIA	Bitola	80.55	330	*i* P		P	03 18 01.9 -0.1
OHR	Ohrid	80.63	330	*i* P		P	03 18 02.0 -0.4
SSB	Saint Sauveur	80.64	343	*e*P		P	03 18 03.2 +0.9
	comp=Z,143nm,1.4s						
SSB				LR		LR	
	comp=Z,6μm,18.0s						
357A	Townsend	80.67	50	P		P	03 18 01.1 -1.5
	baz=327						
TIR	Tirane	80.69	331	*e*P		P	03 18 02.6 -0.1
	comp=Z,70nm,1.0s						
TIR				LR		LR	
	comp=Z,11μm,20.0s						
TIR	Tirane	80.69	331⇑	*i*P		P	03 18 02.5 -0.1
TEKE	Tekeli-Mersin	80.70	319	P		P	03 18 01.9 -0.9
SIGR	SIGRI	80.70	326	P		P	03 18 00.8 -1.9
554A	Perry	80.73	52	P		P	03 18 02.9 -0.1
	baz=326						
FNA	Florina	80.75	330	*e*P		P	03 18 02.5 -0.5
	comp=Z,57nm,1.2s						
FNA				LR		LR	
	comp=Z,12μm,20.0s						
FNA	Florina	80.75	330	P		P	03 18 00.2 -2.8
PAIG	Paliouri	80.79	328	P		P	03 17 59.4 -3.8
EREN	Erenkoy	80.80	318	P		P	03 18 03.6 +0.3
VAH	Vaihoa	80.81	130	*e*P		P	03 18 03.9 +0.5
	comp=Z,87nm,1.0s						
MHTO	MHTO	80.98	293	P		P	03 18 04.1 -0.3
	SNR=54						
MHTO				P		P	03 18 04.1 -0.3
	SNR=54						
456A	Hilliard	81.00	51	PFAKE			03 18 20.0 +16
456A				LR		LR	
	comp=Z,6μm,20.0s						
456A	Hilliard	81.00	51	P		P	03 18 04.3 -0.2
	baz=327						
LIT	Litokhoron	81.02	329	P		P	03 18 02.3 -2.1
KORT	Korkueli	81.03	322	P		P	03 18 04.1 -0.6
555A	McAlpin	81.05	52	*e*P		P	03 18 07.3 +2.6
	comp=Z,127nm,1.5s						
555A				LR		LR	
	comp=Z,6μm,22.0s						
555A	McAlpin	81.05	52	P		P	03 18 05.6 +0.9
	baz=326						
KZN	Kozani	81.06	329	P		P	03 18 02.2 -2.5
AYDB	Zeytinkoy-Aydi	81.11	324	P		P	03 18 04.9 -0.2
NEST	Nestorio	81.19	330	P		P	03 18 03.4 -2.0
URA	Izmir	81.21	325	P		P	03 18 04.9 -0.6
457A	Yulee	81.31	50	P		P	03 18 07.2 +1.2
	baz=327						
PHNC	Paralimni	81.31	318	P		P	03 18 05.7 -0.4
PENT	Pentalofos	81.36	330	P		P	03 18 04.5 -1.9
CHOS	Chios island	81.37	325	P		P	03 18 04.4 -2.0
655A	Horseshoe Beac	81.42	52	P		P	03 18 07.5 +0.9
	baz=326						
556A	Lake Butler	81.42	51	P		P	03 18 07.9 +1.2
	baz=327						
ELL	Elmali	81.42	322	P		P	03 18 05.5 -1.3
SKY	Skiros Island	81.45	327	P		P	03 18 04.2 -2.5
XOR	Xorichti	81.46	328	P		P	03 18 03.7 -3.1
MAMC	Mammari	81.50	319	P		P	03 18 06.6 -0.5
NEO	Neokhori	81.50	328	P		P	03 18 04.4 -2.6
FYTO	Fytoko, Volos	81.50	328	P		P	03 18 04.0 -3.0
AQU	L'Aquila	81.53	336	*e*P		P	03 18 07.7 +0.6
	comp=Z,165nm,1.5s						
AQU				LR		LR	
	comp=Z,11μm,18.0s						
AQU	L'Aquila	81.53	336⇑	*i*P		P	03 18 07.8 +0.6
GCAM	G?zelcaml?	81.57	324	P		P	03 18 06.9 -0.4
BHL	Bhannes	81.58	316	*e*P		P	03 18 07.3 -0.3
PSAD2	Pilbara Seismi	81.61	218	PFAKE			03 18 20.0 +12
PSAD2				LR		LR	
	comp=Z,2μm,19.0s						
PSA00	Pilbara Seismi	81.61	218	*e*P		P	03 18 07.8 +0.2
	comp=Z,74nm,1.4s						
TPE	Tepelena	81.61	330	P		P	03 18 05.6 -2.0
CSS	Mathiatis	81.64	319	*e*P		P	03 18 07.6 -0.2
	comp=Z,157nm,1.1s						
CSS				LR		LR	
	comp=Z,6μm,18.0s						
CSS	Mathiatis	81.64	319	P		P	03 18 05.5 -2.3
PSAC3	Pilbara Seismi	81.66	218	PFAKE			03 18 20.0 +12
PSAC3				LR		LR	
	comp=Z,2μm,20.0s						
LEF	Lefka	81.68	319	P		P	03 18 07.5 -0.5
LEF	Lefka	81.68	319⇑	*i*P		P	03 18 07.5 -0.5
SMG	Samos	81.70	325	P		P	03 18 02.9 -5.2
557A	Orange Park	81.73	51	P		P	03 18 07.5 -0.8
	baz=327						
ALFC	Alefka	81.76	319	P		P	03 18 07.8 -0.7
DQRL	Deir Qamar	81.79	316	*e*P		P	03 18 08.7 0.0
TURN	Turunc	81.80	323	P		P	03 18 09.8 +1.2
DALY	Dalyan (Mula)	81.83	323	P		P	03 18 08.7 0.0
FETY	Fethiye	81.83	322	P		P	03 18 08.5 -0.3
FETY	Fethiye	81.83	322	P		P	03 18 06.3 -2.5
MZR	Muzera	81.88	297	*i* P		P	03 18 08.9 -0.3
	SNR=9.4						
MZR	Muzera	81.88	297	P		P	03 18 08.6 -0.7
	SNR=28						
MZR				P		P	03 18 08.6 -0.7
	SNR=28						
QRWL	Qaraoun	81.88	316	*e*P		P	03 18 08.8 -0.3
656A	Willston	81.88	52	*e*P		P	03 18 11.5 +2.4
	comp=Z,74nm,1.1s						
656A				LR		LR	
	comp=Z,6μm,19.0s						
656A	Willston	81.88	52	P		P	03 18 07.7 -1.5
	baz=327						
SMIA	Simia	81.89	328	P		P	03 18 07.9 -1.2
FASA	Fasano	81.91	333	*e*P		P	03 18 08.8 -0.3
MRKA	Markates	81.92	327	P		P	03 18 06.6 -2.7
PPT	Papeete	81.94	132	P		P	03 18 12.0 +2.6
PPT	Papeete	81.94	132	P		P	03 18 12.0 +2.6
	comp=Z,35nm,0.9s,baz=322,slow=18,SNR=4.4						
PPT				LR		LR	03 48 05.4
	comp=Z,4μm,21.8s,baz=292,slow=31						
JAN	Janina	81.94	330	P		P	03 18 08.0 -1.3
PPT2	Papeete2	81.95	132	*e*P		P	03 18 10.0 +0.5
	comp=Z,137nm,1.4s						
PPT2	Papeete2	81.95	132	*e*S		S	03 28 23.9 +2.2
	comp=Z,3μm,29.5s						
PPT2	Papeete2	81.95	132	*e*LR		LR	03 43 42.6
	comp=Z,8μm,22.8s,baz=330						
AKAS	Kas	81.99	322	P		P	03 18 09.1 -0.7
SRN	Sarande	82.00	330	P		P	03 18 06.4 -3.2
SZAC	Souni	82.00	319	P		P	03 18 08.9 -0.8
PAE	Paea	82.02	132	*e*P		P	03 18 10.2 +0.5
	comp=Z,22nm,1.3s						
SHBL	Chebaa	82.02	316	*e*P		P	03 18 09.8 -0.2
657A	Interlachen	82.02	51	P		P	03 18 07.7 -2.2
	baz=327						
CGL1	Ceglie Messapi	82.03	332	*e*P		P	03 18 09.5 -0.2
TIAR	Tiarei	82.03	132	*e*T		T	04 49 08.9
	comp=Z,2.7nm,0.2s						
DQM	DQM	82.06	292	P		P	03 18 09.3 -0.9
	SNR=10						
DQM				P		P	03 18 09.3 -0.9
	SNR=10						
KSL	Kastellorizon	82.07	322	P		P	03 18 06.7 -3.3
PPCY	Paphos	82.10	319	P		P	03 18 09.2 -1.0
BODT	Bodrum	82.11	324	P		P	03 18 09.5 -0.7
ATAL	Atalanti	82.12	328	P		P	03 18 07.1 -3.2
MASS	Massafra	82.14	333	*e*P		P	03 18 10.0 -0.3
LKR	Lokris	82.17	328	P		P	03 18 07.9 -2.6
TAR1	Taranto	82.20	333	*e*P		P	03 18 10.3 -0.3
KEK	Kerkira	82.21	330	P		P	03 18 08.2 -2.5
IGT	Igoumenitsa	82.21	330	P		P	03 18 08.4 -2.3
DAT	Datca	82.31	324	P		P	03 18 10.2 -1.2
LVIG	Laguna Verde	82.35	68	PFAKE			03 18 20.0 +8.3
LVIG				LR		LR	
	comp=Z,2μm,20.0s						
DION	Dionisos Attik	82.38	327	P		P	03 18 08.1 -3.5
PTL	Penteli	82.43	327	P		P	03 18 09.6 -2.3
658A	Bunnell	82.45	51	PFAKE			03 18 20.0 +7.9
658A				LR		LR	
	comp=Z,6μm,21.0s						
658A	Bunnell	82.45	51	P		P	03 18 11.6 -0.5
	baz=327						
757A	Oxford	82.46	52	P		P	03 18 11.7 -0.5
	baz=327						
VILL	Villia	82.51	327	P		P	03 18 08.6 -3.8
ATHU	Athens Univers	82.53	327	P		P	03 18 09.9 -2.5
DSF	Desfina	82.54	328	P		P	03 18 09.9 -2.6
ARG	Arkhangelos	82.56	323	P		P	03 18 09.4 -3.2
ANX	Ano Chora	82.57	328	P		P	03 18 10.1 -2.6
KALE	Kalithea	82.69	328	P		P	03 18 08.8 -4.5
EFP	Efpalio	82.73	328	P		P	03 18 10.2 -3.2
LKD2	Lefkada island	82.79	329	P		P	03 18 10.8 -3.0
AMGA	Amorgos Island	82.82	325	P		P	03 18 10.3 -3.7
TLIG	Tlapa	82.83	71	PFAKE			03 18 30.0 +16
TLIG				LR		LR	
	comp=Z,2μm,18.0s						
758A	Lake Helen	82.86	51	P		P	03 18 14.5 +0.2
	baz=327						
LAKA	Lakka	82.88	328	P		P	03 18 11.0 -3.2
857A	Zephyrhills	82.95	52	P		P	03 18 15.9 +1.2
	baz=327						
KLV	Kalavryta, Ach	83.00	328	P		P	03 18 12.2 -2.7
GUR	Goura	83.03	328	P		P	03 18 11.9 -3.3
DID	Didima	83.13	327	P		P	03 18 10.0 -5.6
DRO	Drossia	83.22	328	P		P	03 18 15.0 -1.0
KRND	KRANIDI	83.27	327	P		P	03 18 11.9 -4.3
KFL	Anninata	83.38	329	P		P	03 18 13.5 -3.3
VLS	Valsamata	83.38	329	P		P	03 18 14.0 -2.8
858A	St. Cloud	83.41	52	P		P	03 18 16.6 -0.4
	baz=327						
957A	Wimauma	83.44	52	PFAKE			03 18 30.0 +13
957A				LR		LR	
	comp=Z,6μm,19.0s						
LHI	Lord Howe Isla	83.44	181	PFAKE			03 18 30.0 +13
LHI				LR		LR	
	comp=Z,2μm,20.0s						
DWPF	Disney Wildern	83.46	52	PFAKE			03 18 30.0 +13
DWPF				LR		LR	
	comp=Z,4μm,20.0s						
DWPF	Disney Wildern	83.46	52	P		P	03 18 15.9 -1.5
	baz=327						
KARP	Karpathos	83.51	323	*e*P		P	03 18 15.7 -1.8
	comp=Z,65nm,0.9s						
KARP	Karpathos	83.51	323	P		P	03 18 13.6 -4.0
TIP	Timpagrande	83.60	332	*e*P		P	03 18 18.1 +0.1
	comp=Z,117nm,1.4s

LAST	Lasithi	84.47	324	P	P	03 18 20.1	-2.4
059A	Moore Haven	84.56	52	PFAKE		03 18 30.0	+7.0
059A				LR	LR		
comp=Z,5μm,19.0s							
059A	Moore Haven	84.56	52	P	P	03 18 20.9	-2.1
baz=327							
IDI	Anoyia	84.56	325	P	P	03 18 15.9	-7.1
ANKY	Antikythira Is	84.59	326	P	P	03 18 19.9	-3.1
VAM	Vamos	84.70	325	P	P	03 18 19.8	-3.8
CEL	Celeste	84.70	333	PFAKE		03 18 30.0	+6.4
CEL				LR	LR		
comp=Z,9μm,20.0s							
SIVA	Sivas	84.83	325	P	P	03 18 22.2	-2.0
060A	Indiantown	84.88	51	PFAKE		03 18 40.0	+15
060A				LR	LR		
comp=Z,6μm,20.0s							
059Z	Ave Maria	84.94	53	P	P	03 18 24.8	-0.1
baz=327							
DMTO	DMTO	85.29	293	P	P	03 18 24.9	-1.8
DMTO				P	P	03 18 24.9	-1.8
STKA	Stephens Creek	85.40	196	eP	P	03 18 28.3	+1.5
comp=Z,3.3nm,1.1s							
STKA				LR	LR		
comp=Z,700nm,20.0s							
STKA	Stephens Creek	85.40	196	P	P	03 18 28.6	+1.8
comp=Z,6.1nm,0.9s,baz=11,slow=6.0,SNR=5.1							
061Z	Ochoppi	85.59	52	PFAKE		03 18 40.0	+12
061Z				LR	LR		
comp=Z,5μm,18.0s							
061Z	Ochoppi	85.59	52	P	P	03 18 27.4	-0.7
baz=328							
PGAV	Gavieira, Arco	85.64	352	eP	P	03 18 28.7	+0.4
comp=Z,135nm,1.7s							
PGAV	Gavieira, Arco	85.64	352	eS	S	03 29 06.3	+7.8
PGAV				eSS	SS	03 34 45.4	+12
PBRG	Braganca	85.65	350	eP	P	03 18 29.0	+0.7
comp=Z,149nm,1.8s							
PCAB	Cabril	85.87	351	eP	P	03 18 29.7	+0.4
comp=Z,186nm,1.8s							
MAHO	Mahon	85.90	342	i S	S	03 28 57.5	-3.4
CLTB	Caltabellotta	86.07	334	eP	P	03 18 31.7	+1.2
comp=Z,51nm,1.2s							
CLTB				LR	LR		
comp=Z,13μm,20.0s							
POLO	Lamas de Olo	86.18	351	eP	P	03 18 31.3	+0.3
comp=Z,43nm,1.7s							
PVRL	Vila Real	86.27	351	eP	P	03 18 31.7	+0.3
comp=Z,150nm,1.8s							
MVO	Moncorvo	86.31	351	eP	P	03 18 31.7	+0.1
comp=Z,113nm,1.8s							
MVO	Moncorvo	86.31	351	eS	S	03 29 10.1	+5.0
MVO				eSS	SS	03 34 25.8	-17
TEIG	Tepich	86.46	61	PFAKE		03 18 40.0	+7.5
TEIG				LR	LR		
comp=Z,2μm,20.0s							
PTO	Porto	86.48	352	eP	P	03 18 33.0	+0.7
comp=Z,137nm,1.9s							
UCM	Universidad Co	86.72	348	i S	S	03 29 14.4	+5.4
PVIS	Viseu	86.84	351	eP	P	03 18 33.8	-0.4
comp=Z,87nm,2.0s							
BBSR	BB Station	86.93	37	PFAKE		03 18 50.0	+15
BBSR				LR	LR		
comp=Z,2μm,19.0s							
TBI	Tubuai	87.05	135	eS	S	03 29 13.2	+1.0
comp=Z,2μm,26.2s							
TBI	Tubuai	87.05	135	eLR	LR	03 46 24.3	
comp=Z,6μm,24.0s,baz=328							
TBI	Tubuai	87.05	135	eT	T	04 55 26.3	
comp=Z,7.5nm,0.2s							
MTE	Manteigas	87.12	351	eP	P	03 18 35.7	+0.1
comp=Z,94nm,1.3s							
MTE	Manteigas	87.12	351	eS	S	03 29 23.3	+10
MTE				eSS	SS	03 35 12.1	+17
MTE	Manteigas	87.12	351	eP	P	03 18 36.2	+0.7
comp=Z,27nm,0.9s							
MTE				LR	LR		
comp=Z,4μm,19.0s							
WDD	Wied Dalam	87.35	333	PFAKE		03 18 50.0	+13
WDD				LR	LR		
comp=Z,4μm,20.0s							
COI	Coimbra	87.39	351	eP	P	03 18 36.8	0.0
comp=Z,90nm,1.4s							
COI	Coimbra	87.39	351	eP	P	03 18 37.3	+0.5
comp=Z,94nm,1.4s							
COI				LR	LR		
comp=Z,3μm,18.0s							
ESDC	Sonseca Array	87.43	348	P	P	03 18 37.0	-0.1
comp=Z,8.2nm,0.8s,baz=3.0,slow=4.8,SNR=53							
ESLA	Sonseca Array	87.43	348	eP	P	03 18 37.1	0.0
comp=Z,46nm,1.4s							
ESLA				LR	LR		
comp=Z,8μm,20.0s							
PCAS	Casmilo, Conde	87.55	352	eP	P	03 18 37.3	-0.3
comp=Z,73nm,1.4s							
PAB	San Pablo	87.61	348	eP	P	03 18 38.3	+0.4
comp=Z,29nm,1.3s							
PAB				LR	LR		
comp=Z,8μm,20.0s							
PCBR	Castelo Branco	87.67	351	eP	P	03 18 37.6	-0.5
comp=Z,55nm,1.5s							
CAN	Canberra	87.79	189	PFAKE		03 18 50.0	+12
CAN				LR	LR		
comp=Z,3μm,20.0s							
OUZ	Omahuta	87.88	169	PFAKE		03 18 50.0	+11
OUZ				LR	LR		
comp=Z,5μm,20.0s							
PTOM	Tomar	87.98	351	eP	P	03 18 40.1	+0.5
comp=Z,76nm,1.6s							
PMRV	Marv??o	88.07	351	eP	P	03 18 40.7	+0.6
comp=Z,53nm,1.6s							
PMRV	Marv??o	88.07	351	eS	S	03 29 31.7	+10
PMRV				eSS	SS	03 35 25.0	+16
PMTG	Montargil	88.50	351	eP	P	03 18 43.5	+1.4
comp=Z,44nm,1.5s							
KEST	Kesra	88.80	337	eP	P	03 18 44.0	+0.3
comp=Z,36nm,1.1s							
KEST				LR	LR		
comp=Z,9μm,20.0s							
KEST	Kesra	88.80	337	P	P	03 18 43.5	-0.1
comp=Z,23nm,0.9s,baz=321,slow=3.4,SNR=17							
CART	Cartagena	89.06	345	PFAKE		03 19 00.0	+15
CART				LR	LR		
comp=Z,4μm,21.0s							
CART	Cartagena	89.06	345	i S	S	03 29 34.8	+3.5
ROSA	Rosais	89.07	7	PFAKE		03 19 00.0	+15
ROSA				LR	LR		
comp=Z,4μm,21.0s							
PBEJ	Beja	89.50	351	eP	P	03 18 48.1	+1.3
comp=Z,48nm,1.6s							
MESJ	Messejana	89.72	351	eP	P	03 18 47.8	0.0
comp=Z,43nm,1.6s							
PCVE	Castro Verde	89.91	351	eP	P	03 18 48.9	+0.2
comp=Z,58nm,1.6s							
PVAQ	Vaqueiros	90.10	351	eS	S	03 29 56.3	+15
PVAQ				eSS	SS	03 35 49.8	+12
PBDV	Barranco-do-Ve	90.28	351	eP	P	03 18 51.0	+0.5
comp=Z,71nm,1.7s							
MORF	Marmelete	90.29	351	eP	P	03 18 50.7	+0.1
comp=Z,77nm,1.9s							
EMAL	Malaga-Limoner	90.36	348	i S	SKSac	03 29 28.3	+8.1
PFVI	Vila Bisbo	90.48	351	PFAKE		03 19 00.0	+8.6
PFVI				LR	LR		
comp=Z,6μm,18.0s							
MXZ	Matakaoa Point	90.81	166	PFAKE		03 19 10.0	+18
MXZ				LR	LR		
comp=Z,5μm,19.0s							
SFS	San Fernando	90.87	349	PFAKE		03 19 00.0	+6.8
SFS				LR	LR		
comp=Z,4μm,20.0s							
HIZ	Hauiti	91.28	169	PFAKE		03 19 10.0	+15
HIZ				LR	LR		
comp=Z,3μm,20.0s							
URZ	Urewera	91.32	167	PFAKE		03 19 10.0	+15
URZ				LR	LR		
comp=Z,4μm,19.0s							
MELI	Melilla	91.60	346	i S	SKSac	03 29 28.9	+1.6
TGUH	Tegucigalpa,Un	92.05	64	PFAKE		03 19 10.0	+11
TGUH				LR	LR		
comp=Z,2μm,21.0s							
BKZ	Black Stump Fm	92.13	168	PFAKE		03 19 10.0	+11
BKZ				LR	LR		
comp=Z,3μm,20.0s							
ESTN	Estel	93.33	64	PFAKE		03 19 20.0	+15
ESTN				LR	LR		
comp=Z,2μm,22.0s							
RTC	Rabat Centre	93.39	349	PFAKE		03 19 20.0	+15
RTC				LR	LR		
comp=Z,16μm,19.0s							
GTBY	Guantanamo Bay	93.43	51	PFAKE		03 19 20.0	+15
GTBY				LR	LR		
comp=Z,4μm,21.0s							
BFZ	Birch Farm	93.59	168	PFAKE		03 19 20.0	+15
BFZ				LR	LR		
comp=Z,4μm,20.0s							
DAMY	Dhamar	93.67	299	eP	P	03 19 07.8	+0.9
comp=Z,66nm,1.5s							
DAMY				LR	LR		
comp=Z,11μm,20.0s							
MTDJ	Mount Denham	93.70	54	PFAKE		03 19 20.0	+13
MTDJ				LR	LR		
comp=Z,5μm,19.0s							
RKT	Rikitea	93.74	124	eSKSac	SKSac	03 29 36.2	-2.7
comp=Z,1μm,26.0s							
RKT	Rikitea	93.74	124	ePS	PS	03 31 32.5	+1.6
comp=Z,2μm,25.2s							
RKT	Rikitea	93.74	124	eLR	LR	03 49 18.9	
comp=Z,4μm,23.8s,baz=325							
GRTK	Grand Turk	93.90	47	PFAKE		03 19 20.0	+13
GRTK				LR	LR		
comp=Z,4μm,20.0s							
SNZO	South Karori	94.02	169	PFAKE		03 19 20.0	+13
SNZO				LR	LR		
comp=Z,5μm,19.0s							
THZ	Tophouse	94.28	171	PFAKE		03 19 20.0	+12
THZ				LR	LR		
comp=Z,4μm,20.0s							
KHZ	Kahutara	94.99	170	PFAKE		03 19 20.0	+8.4
KHZ				LR	LR		
comp=Z,5μm,20.0s							
ESPN	Las Esperanzas	95.21	63	PFAKE		03 19 30.0	+17
ESPN				LR	LR		
comp=Z,1μm,20.0s							
LTZ	Lake Taylor	95.22	171	PFAKE		03 19 30.0	+17
LTZ				LR	LR		
comp=Z,4μm,21.0s							
OXZ	Oxford	95.74	172	PFAKE		03 19 30.0	+15
OXZ				LR	LR		
comp=Z,4μm,20.0s							
FOZ	Fox Glacier	95.77	173	PFAKE		03 19 30.0	+15
FOZ				LR	LR		
comp=Z,5μm,18.0s							
SDDR	Presa de Saban	96.03	48	PFAKE		03 19 30.0	+13
SDDR				LR	LR		
comp=Z,3μm,18.0s							
CRLZ	Canterbury Las	96.04	171	PFAKE		03 19 30.0	+14
CRLZ				LR	LR		
comp=Z,3μm,19.0s							
RPZ	Rata Peaks	96.04	172	PFAKE		03 19 30.0	+14
RPZ				LR	LR		
comp=Z,5μm,20.0s							
MQZ	McQueen's Vall	96.18	171	PFAKE		03 19 30.0	+13
MQZ				LR	LR		
comp=Z,3μm,21.0s							
JTS	Las Juntas de	96.42	64	PFAKE		03 19 30.0	+11
JTS				LR	LR		
comp=Z,2μm,20.0s							
LBZ	Lake Benmore	96.64	173	PFAKE		03 19 30.0	+11
LBZ				LR	LR		
comp=Z,4μm,22.0s							
WKZ	Wanaka	97.00	174	PFAKE		03 19 30.0	+9.2
WKZ				LR	LR		
comp=Z,4μm,18.0s							
SDD	Santo Domingo	97.12	47	PFAKE		03 19 30.0	+7.8
SDD				LR	LR		
comp=Z,5μm,20.0s							
ODZ	Otahua Downs	97.33	173	PFAKE		03 19 30.0	+7.7
ODZ				LR	LR		
comp=Z,4μm,19.0s							
MLZ	Mavora Lakes	97.48	175	PFAKE		03 19 40.0	+17
MLZ				LR	LR		
comp=Z,6μm,21.0s							
DCZ	Deep Cove	97.53	175	PFAKE		03 19 40.0	+17
DCZ				LR	LR		
comp=Z,3μm,20.0s							
WHZ	Wether Hill Ro	97.99	175	PFAKE		03 19 40.0	+15
WHZ				LR	LR		
comp=Z,6μm,21.0s							
CRPR	Cabo Rojo, PR	98.76	45	PFAKE		03 19 40.0	+10
CRPR				LR	LR		
comp=Z,4μm,20.0s							
SJG	San Juan	99.08	44	PFAKE		03 19 40.0	+9.0
SJG				LR	LR		
comp=Z,2μm,21.0s							
HUMP	Col San Antoni	99.19	44	PFAKE		03 19 40.0	+8.6
HUMP				LR	LR		
comp=Z,2μm,20.0s							
CUPR	Culebra, Puert	99.28	44	PFAKE		03 19 40.0	+8.2
CUPR				LR	LR		
comp=Z,2μm,19.0s							
ABVI	Anegada Island	99.30	43	PFAKE		03 19 40.0	+8.1
ABVI				LR	LR		
comp=Z,2μm,20.0s							
MTP	Monte Pirata	99.35	44	PFAKE		03 19 40.0	+7.8
MTP				LR	LR		
comp=Z,2μm,20.0s							
BCIP	Isla Barro Col	100.14	61	PFAKE		03 19 50.0	+14
BCIP				LR	LR		
comp=Z,2μm,20.0s							
SMRT	St. Maarten	100.43	42	PFAKE		03 19 50.0	+13
SMRT				LR	LR		
comp=Z,5μm,20.0s							
SEUS	St. Eustatius	100.97	42	PFAKE		03 19 50.0	+11
SEUS				LR	LR		
comp=Z,5μm,20.0s							
SKI	Saint Kitts	101.21	42	PFAKE		03 19 50.0	+10
SKI				LR	LR		
comp=Z,4μm,20.0s							
ANWB	Willy Bob	101.30	41	PFAKE		03 19 50.0	+9.2
ANWB				LR	LR		
comp=Z,2μm,20.0s							
FURI	Furi	101.45	301	PFAKE		03 19 50.0	+8.0
FURI				LR	LR		
comp=Z,6μm,20.0s							
TAM	Tamanrasset	102.11	336	PFAKE		03 20 00.0	+15
TAM				LR	LR		
comp=Z,4μm,18.0s							
MSEY	Mahe Island	102.83	279	PFAKE		03 20 00.0	+12
MSEY				LR	LR		
comp=Z,6μm,18.0s							
FDF	Fort de France	104.20	41	PFAKE		03 20 10.0	+16
FDF				LR	LR		
comp=Z,3μm,20.0s							
SDV	Santo Domingo	105.10	53	PFAKE		03 24 20.0	+7.5
SDV				LR	LR		
comp=Z,2μm,18.0s							
SDV	Santo Domingo	105.10	53	eP	Pdif	03 19 58.0	0.0
SVB	Belmont	105.47	42	PFAKE		03 24 30.0	+17
SVB				LR	LR		
comp=Z,2μm,20.0s							
GRGR	Grenville	106.33	43	PFAKE		03 24 30.0	+16
GRGR				LR	LR		
comp=Z,3μm,20.0s							
MCQ	Macquarie Isla	106.41	181	PFAKE		03 24 30.0	+17
MCQ				LR	LR		
comp=Z,4μm,20.0s							
ROSC	El Rosal	106.69	58	PFAKE		03 24 30.0	+14
ROSC				LR	LR		
comp=Z,600nm,22.0s							
OTAV	Otavalo	108.31	64	PFAKE		03 24 30.0	+11
OTAV				LR	LR		
comp=Z,1μm,21.0s							
KMBO	Kilima Mbogo	110.59	297	PFAKE		03 24 40.0	+17
KMBO				LR	LR		
comp=Z,5μm,20.0s							
NAI	Nairobi	110.96	297	PFAKE		03 24 40.0	+17
NAI				LR	LR		
comp=Z,8μm,18.0s							
TOC1	Torodi Ar. Sit	112.28	338	PFAKE		03 24 40.0	+14
TOC1				LR	LR		
comp=Z,7μm,19.0s							
TOC2	Torodi Ar. Sit	112.30	338	PFAKE		03 24 40.0	+14
TOC2				LR	LR		
comp=Z,6μm,19.0s							
TOC7	Torodi Ar. Sit	112.30	338	PFAKE		03 24 40.0	+14
TOC7				LR	LR		
comp=Z,6μm,19.0s							
TOA1	Torodi Ar. Sit	112.31	338	ePdif	Pdif	03 20 30.4	+0.6
TOA1				ePP	PP	03 25 07.7	-2.3
TOA1				LR	LR		
comp=Z,6μm,18.0s							
TOB5	Torodi Ar. Sit	112.31	338	PFAKE		03 24 40.0	+14
TOB5				LR	LR		
comp=Z,6μm,18.0s							
TOA2	Torodi Ar. Sit	112.31	338	PFAKE		03 24 40.0	+14
TOA2				LR	LR		
comp=Z,6μm,18.0s							
TOA0	Torodi Ar. Sit	112.31	338	PFAKE		03 24 40.0	+14
TOA0				LR	LR		
comp=Z,6μm,19.0s							
TORD	Torodi Ar. Bea	112.31	338	Pdiff	Pdif	03 20 30.4	+0.6
comp=Z,0.4nm,1.0s,baz=3.8,slow=5.9,SNR=2.4							
TORD				PP	PP	03 25 07.7	-2.3
comp=Z,12nm,1.1s,baz=11,slow=2.6,SNR=25							
TOC3	Torodi Ar. Sit	112.31	338	PFAKE		03 24 40.0	+14
TOC3				LR	LR		
comp=Z,6μm,19.0s							
TOA3	Torodi Ar. Sit	112.32	338	PFAKE		03 24 40.0	+14
TOA3				LR	LR		
comp=Z,6μm,19.0s							
TOB3	Torodi Ar. Sit	112.32	338	PFAKE		03 24 40.0	+14
TOB3				LR	LR		
comp=Z,6μm,19.0s							
TOB4	Torodi Ar. Sit	112.32	338	PFAKE		03 24 40.0	+14
TOB4				LR	LR		
comp=Z,6μm,19.0s							
TOC4	Torodi Ar. Sit	112.33	338	PFAKE		03 24 40.0	+14
TOC4				LR	LR		
comp=Z,6μm,19.0s							
TOC5	Torodi Ar. Sit	112.33	338	PFAKE		03 24 40.0	+14
TOC5				LR	LR		
comp=Z,7μm,19.0s							
MBAR	Mbarara	113.63	303	PFAKE		03 24 40.0	+12
MBAR				LR	LR		
comp=Z,5μm,18.0s							
OPO	Ambohidratompo	118.68	277	PKP	PKiKP	03 24 39.0	+1.0
comp=Z,2.3nm,0.7s,baz=100,slow=6.1,SNR=2.7							
ABPO	Ambohimpanom	118.99	276	PFAKE		03 24 50.0	+11
ABPO				LR	LR		
comp=Z,5μm,20.0s							
DBIC	Dimbokro	119.96	343	PKP	PKPdf	03 24 40.2	-0.2
comp=Z,5.9nm,0.8s,baz=75,slow=4.0,SNR=7.6							
CASY	Casey	124.15	202	PFAKE		03 25 00.0	+13
CASY				LR	LR		
comp=Z,2μm,19.0s							
LSZ	Lusaka	127.26	296	PFAKE		03 25 10.0	+15
LSZ				LR	LR		
comp=Z,4μm,20.0s							
LSZ	Lusaka	127.26	296	PKP	PKPdf	03 24 54.3	-0.2
comp=Z,2.5nm,0.8s,baz=8.1,slow=4.5,SNR=3.0							
LPAZ	La Paz	127.62	65	ePKPdf	PKiKP	03 24 56.1	-0.2
LPAZ	La Paz	127.62	65	PKP	PKPdf	03 24 55.8	+0.1
comp=Z,1.4nm,0.8s,baz=24,slow=7.9,SNR=5.3							
LPAZ	La Paz	127.62	65	eP	PKPdf	03 24 55.3	-0.4
CLDB	Colider	129.40	49	eP	PKiKP	03 24 60.0	+0.8
VNDA	Vanda	129.52	180	PKP	PKPdf	03 24 56.5	-0.3
comp=Z,0.5nm,0.7s,baz=325,slow=6.1,SNR=4.2							
SBA	Scott Base	129.91	178	ePKPdf	PKiKP	03 24 59.2	+0.9
SBA				LR	LR		
comp=Z,3μm,20.0s							
SBA	Scott Base	129.91	178	ePKIKP	PKiKP	03 24 59.2	+0.9
SBA				MLR	MLR		
comp=Z,3μm,20.0s							
RCBR	Riachuelo	131.78	22	eP	PKiKP	03 25 03.7	-0.4
LVC	Limon Verde	132.18	71	eP	PKiKP	03 25 04.7	-0.2
ASCN	Ascension	135.59	353	PFAKE		03 25 20.0	+8.3
ASCN				LR	LR		
comp=Z,46μm,22.0s							
LCO	Las Campanas	135.92	79	eP	PKiKP	03 25 12.8	+0.6
TSUM	Tsumeb	136.13	305	ePKPdf	PKPdf	03 25 09.6	-1.5
TSUM				LR	LR		
comp=Z,4μm,19.0s							
LBTB	Lobatse	136.46	291	ePKPdf	PKiKP	03 25 13.3	0.0
LBTB	Lobatse	136.46	291	ePKIKP	PKiKP	03 25 13.3	0.0
BDFB	Brasilia	137.05	42	PKP	PKiKP	03 25 14.8	+0.1
comp=Z,1.7nm,0.6s,baz=272,slow=5.4,SNR=3.7							
BOSA	Boshof	139.39	288	ePKPdf	PKPdf	03 25 17.7	+0.8
BOSA	Boshof	139.39	288	PKhKP	PKPpre	03 25 12.4	
comp=Z,3.6nm,1.0s,baz=84,slow=2.1,SNR=5.6							
MAW	Mawson	139.44	216	ePKPdf	PKPdf	03 25 15.9	+0.4
MAW	Mawson	139.44	216	PKP	PKPdf	03 25 16.1	+0.6
comp=Z,9.7nm,1.1s,baz=56,slow=6.2,SNR=6.5							
CPUP	Villa Florida	141.62	62	ePKPpre	PKPdf	03 25 14.8	-6.0
CPUP				ePKPdf	PKPdf	03 25 20.6	-0.2
CPUP	Villa Florida	141.62	62	ePKIKP	PKPdf	03 25 14.8	-6.0
CPUP	Villa Florida	141.62	62	PKP	PKPdf	03 25 20.6	-0.2
comp=Z,2.7nm,1.0s,baz=296,slow=1.7,SNR=3.7							
QSPA	South Pole Qui	142.01	180	ePKPpre	PKPpre	03 25 15.2	
FRTB	Fartura	143.12	50	eP	PKiKP	03 25 26.0	-0.9
BSCB	Bom Sucesso	143.18	42	eP	PKiKP	03 25 26.0	-1.1
RIB01	Linhares ES	143.30	34	eP	PKiKP	03 25 25.5	-1.8
PLCA	Paso Flores	143.78	92	ePKPdf	PKiKP	03 25 26.5	-1.2
PLCA	Paso Flores	143.78	92	PKP	PKPdf	03 25 23.5	-0.8
comp=Z,6.5nm,1.0s,baz=346,slow=3.9,SNR=6.5							
SPB	Sao Paulo	144.32	47	ePKPdf	PKPdf	03 25 25.6	0.0
SPB	Sao Paulo	144.32	47	eP	PKPdf	03 25 27.0	+1.4
ALF01	Guarapari-ES	144.39	36	eP	PKPdf	03 25 27.2	+1.3
SUR	Sutherland	144.75	288	ePKPdf	PKPdf	03 25 26.5	+0.1
SUR				LR	LR		
comp=Z,5μm,20.0s							
VAS01	Vassouras-RJ	144.87	41	eP	PKPbc	03 25 26.0	+0.1
TIJ01	Guaruva-PR	145.07	51	eP	PKPdf	03 25 27.0	0.0
DUB01	Friburgo-RJ	145.11	39	eP	PKPdf	03 25 27.0	-0.1
CAM01	Campos-RJ	145.15	38	eP	PKPdf	03 25 27.0	-0.1
TRQA	Tornquist	147.39	81	ePKPdf	PKPbc	03 25 32.1	-0.9
TRQA	Tornquist	147.39	81	ePKP2	PKPbc	03 25 32.1	-0.9
TRQA	Tornquist	147.39	81	eP	PKPbc	03 25 32.4	-0.6
CNLB	Canela	147.45	57	eP	PKPdf	03 25 31.1	+0.2
TER01	Tubaro-SC	147.69	54	eP	PKPdf	03 25 30.9	-0.4
SYO	Syowa Base	148.15	216	‖eX	PKPdf	03 25 27.0	-3.7
SYO	Syowa Base	148.15	216	‖,i PKiKP	PKPab	03 25 38.5	+1.5
PMSA	Palmer Station	154.24	136	eP	PKPdf	03 25 41.5	+1.4
EFI	East Falkland	156.45	104	PFAKE		03 26 00.0	-12
EFI				LR	LR		
comp=Z,5μm,19.0s							
SNAA	Sanae	159.16	195	PKPab	PKPab	03 26 30.2	+6.7
SNAA	Sanae	159.16	195	PKPdf	PKPdf	03 25 44.7	-1.7
SNAA	Sanae	159.16	195	ePKPab	PKPab	03 26 30.3	+6.7
SNAA				LR	LR		
comp=Z,2μm,21.0s							
SNAA	Sanae	159.16	195	PKP	PKPdf	03 25 45.5	-0.8
comp=Z,4.4nm,1.3s,baz=190,slow=4.5,SNR=3.8							
SNAA				PKPab	PKPab	03 26 26.0	+2.4
comp=Z,5.9nm,1.0s,baz=158,slow=4.5,SNR=5.1							
VNA3	Neumayer Olymp	160.44	190	PKPab	PKPab	03 26 28.0	-1.1
VNA3	Neumayer Olymp	160.44	190	PKPdf	PKPdf	03 25 46.8	-1.0
VNA2	Neumayer--Watz	160.48	192	PKPab	PKPab	03 26 36.2	+7.0
VNA2	Neumayer--Watz	160.48	192	PKPdf	PKPdf	03 25 50.2	+2.3
VNA1	Neumayer--Stat	160.85	191	PKPab	PKPab	03 26 40.6	+10
VNA1	Neumayer--Stat	160.85	191	PKPdf	PKPdf	03 25 55.0	+6.8

*IDC **21** 03:08:15.6±0.3, 52°.41N×160°.12E, h0km, mb5.4/45, mb1 5.5/47, mb1mx5.5/51, mbtmp5.4/47, ML5.3/2, MS5.9/3, Ms1 5.9/3, ms1mx4.9/33, Error ellipse: s-maj=10.4km s-min=7.7km az=143.0*

*KRSC **21** 03:08:16.0±10.0, 52°.18N×160°.63E, h43km±10km, ML6.2*

*NEIC **21** 03:08:17.1±1.6, 52°.50N×160°.14E, h8km±3km, mb5.6/314, MS5.8/674, MW5.7, Error ellipse: s-maj=11.9km s-min=9.0km az=185.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^{17}Nm; M_{rr}3.37; $M_{\theta\theta}$-1.76; $M_{\phi\phi}$-1.62; $M_{r\theta}$2.04; $M_{\theta\phi}$-0.89; $M_{\phi r}$3.69; Best double couple: $M_0$5.20000×10^{17} NP1:ϕ_s231.00000°, δ18.00000°, λ107.00000°. NP2:ϕ_s33.00000°, δ73.00000°, λ84.00000°. Princip

M_{R}2.55±.18; M_{B}-1.91±.06; M_{P}4.55±.23; Best double couple: $M_0$7.12100×10^{17} NP1:$\phi_0$31.00000°, δ69.00000°, λ88.00000°. NP2:$\phi_0$217.00000°, δ22.00000°, λ96.00000°. Principal axes: T 7.3810, Plg66.0000°, Azm297.0000°; N -0.5200, Plg2.0000°, Azm32.0000°; P -6.8610, Plg24.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISC 21 03:08:21.2±0.4, 52°38'N±0'.03×160°26'E±0'.03, h44^{km}±3^{km}, h44^{km}:pP-P, n1767, σ1°49/1450, mb5.6/430, MS5.9/681, 120C-27D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.74**	**349**	*e*P		**Pn**		**03 08 34.2**	**-1.1**
SPN				*e*S		**Sn**		**03 08 45.2**	**-0.2**
SPN	**Mys Shipunski**	**0.74**	**349**	PN		**Pn**		**03 08 34.2**	**-1.1**
SPN				S		**Sn**		**03 08 45.2**	**-0.2**
NLC	**Nalytchevo**	**0.97**	**325**	*e*P		**Pn**		**03 08 38.6**	**+0.2**
NLC				*e*S		**Sn**		**03 08 54.6**	**+3.6**
NLC	**Nalytchevo**	**0.97**	**325**	PN		**Pn**		**03 08 38.6**	**+0.2**
NLC				S		**Sn**		**03 08 54.6**	**+3.6**
RUS	**Russkaya**	**1.07**	**274**	*e*P		**Pn**		**03 08 39.8**	**0.0**
RUS				*e*S		**Sn**		**03 08 55.7**	**+2.3**
RUS	**Russkaya**	**1.07**	**274**	PN		**Pn**		**03 08 39.8**	**0.0**
RUS				S		**Sn**		**03 08 55.7**	**+2.3**
DALK	**Dalny**	**1.13**	**306**	*e*P		**Pn**		**03 08 41.0**	**+0.5**
DALK				*e*S		**Sn**		**03 08 57.8**	**+3.0**
DALK	**Dalny**	**1.13**	**306**	PN		**Pn**		**03 08 41.0**	**+0.5**
DALK				S		**Sn**		**03 08 57.8**	**+3.0**
PET	**Petropavlovsk**	**1.17**	**304**	*e*Pn		**Pn**		**03 08 41.5**	**+0.3**
PET				*e*Sg		**Sn**		**03 08 50.0**	**-5.9**
PET	**Petropavlovsk**	**1.17**	**304**	α *i*PN		**Pn**		**03 08 41.8**	**+0.6**
PET				*e*S		**Sn**		**03 08 59.5**	**+3.5**
PET				pmax	pmax				
	comp=Z,67μm,1.7s								
PET				pmax	pmax				
	comp=Z,58μm,0.7s								
PET				smax	smax				
	comp=N,267μm,0.8s								
PET				smax	smax				
	comp=E,201μm,0.8s								
SMAR	**Somma**	**1.25**	**316**	*e*P		**Pn**		**03 08 44.5**	**+2.0**
SMAR	**Somma**	**1.25**	**316**	PN		**Pn**		**03 08 44.5**	**+2.0**
MTVR	**Mutnovka**	**1.28**	**276**	*e*P		**Pn**		**03 08 42.9**	**+0.2**
MTVR	**Mutnovka**	**1.28**	**276**	PN		**Pn**		**03 08 42.9**	**+0.2**
AVH	**Avacha**	**1.28**	**315**	*e*P		**Pn**		**03 08 45.2**	**+2.4**
AVH	**Avacha**	**1.28**	**315**	PN		**Pn**		**03 08 45.2**	**+2.4**
KOK	**Koryaka**	**1.35**	**314**	*e*P		**Pn**		**03 08 44.7**	**+1.1**
KOK	**Koryaka**	**1.35**	**314**	PN		**Pn**		**03 08 44.7**	**+1.1**
GRL	**Gorelyy**	**1.35**	**278**	*e*P		**Pn**		**03 08 45.1**	**+1.4**
GRL	**Gorelyy**	**1.35**	**278**	PN		**Pn**		**03 08 45.1**	**+1.4**
KRMR	**Karymshinskiy**	**1.38**	**290**	*e*P		**Pn**		**03 08 44.7**	**+0.8**
KRMR				*e*S		**Sn**		**03 09 04.4**	**+3.5**
KRMR	**Karymshinskiy**	**1.38**	**290**	PN		**Pn**		**03 08 44.7**	**+0.8**
KRMR				S		**Sn**		**03 09 04.4**	**+3.5**
KRX	**Arik**	**1.39**	**316**	*e*P		**Pn**		**03 08 45.8**	**+1.6**
KRX	**Arik**	**1.39**	**316**	PN		**Pn**		**03 08 45.8**	**+1.6**
KDTR	**Khodutka, Kamc**	**1.46**	**248**	*e*P		**Pn**		**03 08 44.2**	**-0.9**
KDTR				*e*S		**Sn**		**03 09 02.1**	**-0.9**
KDTR	**Khodutka, Kamc**	**1.46**	**248**	PN		**Pn**		**03 08 44.2**	**-0.9**
KDTR				S		**Sn**		**03 09 02.1**	**-0.9**
I44RU	**PETROPAVLOVSK-**	**1.71**	**296**	Pn		**Pn**		**03 08 49.5**	**+0.9**
	baz=106,slow=23								
I44RU				Sn		**Sn**		**03 09 14.2**	**+5.0**
	baz=112,slow=26								
PEA0B	**Petropavlovsk-**	**1.72**	**296**	*e*Pn		**Pn**		**03 08 50.3**	**+1.6**
PEA0B				*e*Sn		**Sn**		**03 09 06.5**	**-3.0**
PETK	**Petropavlovsk-**	**1.72**	**296**	*e*Pn		**Pn**		**03 08 49.2**	**+0.5**
PETK				*e*Sn		**Sn**		**03 09 06.7**	**-2.8**
PETK	**Petropavlovsk-**	**1.72**	**296**	*e*PN		**Pn**		**03 08 49.2**	**+0.5**
PETK				*e*				03 09 06.7	
PETK	**Petropavlovsk-**	**1.72**	**296**	Pn		**Pn**		**03 08 50.5**	**+1.8**
	comp=E,3μm,0.3s,baz=105,slow=17,SNR=34								
PETK				Sn		**Sn**		**03 09 14.8**	**+5.4**
	comp=E,3μm,0.3s,baz=107,slow=27,SNR=27								
PEA1	**Petropavlovsk-**	**1.72**	**296**	*e*Pn		**Pn**		**03 08 50.5**	**+1.7**
PEA1				*e*Sn		**Sn**		**03 09 14.8**	**+5.3**
APC	**Apacha**	**1.97**	**287**	*e*P		**Pn**		**03 08 54.9**	**+2.9**
APC				*e*S		**Sn**		**03 09 22.5**	**+7.0**
APC	**Apacha**	**1.97**	**287**	PN		**Pn**		**03 08 54.9**	**+2.9**
PAU	**Pauzhetka**	**2.32**	**248**	*e*P		**Pn**		**03 08 56.6**	**-0.3**
PAU	**Pauzhetka**	**2.32**	**248**	PN		**Pn**		**03 08 56.6**	**-0.3**
MKZ	**Mys Kozlova**	**2.35**	**21**	*e*P		**Pn**		**03 08 55.4**	**-1.9**
MKZ	**Mys Kozlova**	**2.35**	**21**	PN		**Pn**		**03 08 55.4**	**-1.9**
KZV	**Kizimen**	**2.74**	**0**	*e*P		**Pn**		**03 09 04.1**	**+1.3**
KZV	**Kizimen**	**2.74**	**0**	PN		**Pn**		**03 09 04.1**	**+1.3**
TUMD	**Tumrok D**	**2.83**	**2**	*e*P		**Pn**		**03 09 06.1**	**+2.1**
TUMD				*e*S		**Sn**		**03 09 38.2**	**+1.3**
TUMR	**Tumrok**	**2.91**	**359**	*e*P		**Pn**		**03 09 06.7**	**+1.6**
TUMR	**Tumrok**	**2.91**	**359**	PN		**Pn**		**03 09 06.1**	**+0.9**
TUMR				S		**Sn**		**03 09 38.2**	**-0.7**
SKR	**Severo-Kuril's**	**3.09**	**238**	*e*P		**Pn**		**03 09 06.6**	**-0.9**
SKR				*e*S		**Sn**		**03 09 43.0**	**-0.1**
SKR	**Severo-Kuril's**	**3.09**	**238**	PN		**Pn**		**03 09 06.6**	**-0.9**
SKR				S		**Sn**		**03 09 43.0**	**-0.1**
ALID	**Alaid**	**3.30**	**245**	*e*P		**Pn**		**03 09 09.9**	**-0.6**
ALID	**Alaid**	**3.30**	**245**	PN		**Pn**		**03 09 09.9**	**-0.6**
KIRR	**Kirishev**	**3.58**	**1**	*e*P		**Pn**		**03 09 17.7**	**+3.3**
KIRR	**Kirishev**	**3.58**	**1**	PN		**Pn**		**03 09 17.7**	**+3.3**
ESO	**Esso**	**3.67**	**346**	*e*P		**Pn**		**03 09 18.4**	**+2.9**
ESO	**Esso**	**3.67**	**346**	PN		**Pn**		**03 09 18.4**	**+2.9**
KOZ	**Kozyrevsk**	**3.70**	**357**	*e*P		**Pn**		**03 09 18.8**	**+3.0**
KOZ	**Kozyrevsk**	**3.70**	**357**	PN		**Pn**		**03 09 18.8**	**+3.0**
CIRR	**Tsirk**	**3.76**	**4**	P		**Pn**		**03 09 19.8**	**+3.0**
CIRR	**Tsirk**	**3.76**	**4**	PN		**Pn**		**03 09 19.8**	**+3.0**
KLY	**Klyuchi**	**3.95**	**3**	*e*P		**Pn**		**03 09 22.7**	**+3.4**
KLY	**Klyuchi**	**3.95**	**3**	PN		**Pn**		**03 09 22.7**	**+3.4**
KBTR	**Krutoberegovo**	**4.12**	**20**	*e*P		**Pn**		**03 09 21.2**	**-0.4**
KBTR	**Krutoberegovo**	**4.12**	**20**	PN		**Pn**		**03 09 21.2**	**-0.4**
BKI	**Bering**	**4.42**	**48**	*e*P		**Pn**		**03 09 23.4**	**-2.2**
BKI				*e*S		**Sn**		**03 10 09.7**	**-6.0**
BKI	**Bering**	**4.42**	**48**	PN		**Pn**		**03 09 23.4**	**-2.2**
SMY	**Shemya**	**8.45**	**82**	*e*Pn		**Pn**		**03 10 19.0**	**-1.9**
SMY				*e*Sn		**Sn**		**03 11 48.2**	**-6.5**
SMY	**Shemya**	**8.45**	**82**	*e*PN		**Pn**		**03 10 19.0**	**-1.9**
MA2	**Magadan**	**8.96**	**327**	*e*Pn		**Pn**		**03 10 26.2**	**-1.6**
MA2				*e*				03 10 31.0	
MA2	**Magadan**	**8.96**	**327**	*i* PN		**Pn**		**03 10 25.9**	**-2.0**
MA2	**Magadan**	**8.96**	**327**	Pn		**Pn**		**03 10 31.0**	**+3.2**
	comp=E,5.2nm,0.3s,baz=143,slow=7.7,SNR=7.6								
KUR	**Kuril'sk**	**10.85**	**234**	*i* PN		**Pn**		**03 10 50.5**	**-3.2**
SEY	**Seymchan**	**11.38**	**341**	*c*ePN		**Pn**		**03 10 58.3**	**-2.7**
SEY	**Seymchan**	**11.38**	**341**	Pn		**Pn**		**03 11 05.4**	**+4.4**
	comp=E,0.9nm,0.3s,baz=150,slow=14,SNR=3.4								
SEY				LR		LR		03 15 31.4	
	comp=E,34μm,20.2s,baz=144,slow=38								
YSS	**Yuzh-Sakhalins**	**12.56**	**251**	*e*Pn		**Pn**		**03 11 16.5**	**-0.6**
YSS	**Yuzh-Sakhalins**	**12.56**	**251**	α *i* PN		**Pn**		**03 11 18.2**	**+1.1**
YSS				pmax	pmax				
	comp=Z,220nm,1.0s								
YSS				pmax	pmax				
	comp=Z,4μm,8.6s								
YUK	**Yuzh-Kuril'sk**	**12.70**	**235**	*i* PN		**Pn**		**03 11 16.6**	**-2.5**
ADK	**Adak**	**14.16**	**83**	*e*Pn		**Pn**		**03 11 35.8**	**-3.1**
ADK				*e*Sn		**Sn**		**03 14 15.0**	**+0.6**
ADK	**Adak**	**14.16**	**83**	*e*P		**Pn**		**03 11 35.8**	**-3.1**
ADK				*e*				03 14 15.0	
ASAJ	**Asahikawa**	**14.35**	**242**	Pn		**Pn**		**03 11 40.9**	**-0.6**
	comp=Z,13nm,0.3s,baz=66,slow=14,SNR=13								
GSTR	**Great Sitkin T**	**14.50**	**82**	*e*Pn		**Pn**		**03 11 40.8**	**-2.8**
ERM	**Erimo**	**15.53**	**235**	*e*Pn		**Pn**		**03 11 53.4**	**-3.6**
	comp=Z,273nm,0.5s								
ERM	**Erimo**	**15.53**	**235**	*e*P		**Pn**		**03 11 53.4**	**-3.6**
ERM				pmax	pmax				
	comp=Z,273nm,0.5s								
BILL	**Bilibino**	**15.98**	**8**	*e*Pn		**Pn**		**03 12 00.3**	**-2.3**
	comp=Z,327nm,0.6s								
BILL	**Bilibino**	**15.98**	**8**	*e*P		**Pn**		**03 12 00.9**	**-1.7**
BILL				*e*S		**Sn**		**03 14 55.1**	**-3.4**
BILL				pmax	pmax				
	comp=Z,427nm,1.0s								
BILL				MLR	MLR				
	comp=Z,34μm,16.0s								
NIKH	**Nikolski High**	**18.67**	**76**	*e*P		**Pn**		**03 12 39.2**	**+3.2**
	comp=Z,355nm,1.0s								
YAK	**Yakutsk**	**18.99**	**313**	*e*P		**P**		**03 12 37.0**	**-1.7**
YAK				*e*S		**Sn**		**03 16 08.7**	**-2.5**
YAK				pmax	pmax				
	comp=Z,6μm,0.9s								
YAK				pmax	pmax				
	comp=N,2μm,1.0s								
YAK				pmax	pmax				
	comp=E,6μm,1.1s								
YAK				smax	smax				
	comp=N,13μm,4.3s								
YAK				smax	smax				
	comp=E,8μm,4.3s								
UNV	**Unalaska Valle**	**19.91**	**73**	*e*P		**Pn**		**03 12 50.6**	**-0.1**
	comp=E,249nm,1.0s								
USA0B	**Ussuriysk Arra**	**20.41**	**258**	*e*P		**P**		**03 12 51.2**	**-3.1**
	comp=E,319nm,0.9s								
USA0B				LR	LR				
	comp=Z,63μm,18.0s								
USRK	**Ussuriysk Ar.**	**20.41**	**258**	*e*P		**P**		**03 12 51.5**	**-2.9**
USRK	**Ussuriysk Ar.**	**20.41**	**258**	P		**P**		**03 12 52.7**	**-1.7**
	comp=Z,332nm,0.9s,baz=59,slow=9.7,SNR=24								
ANM	**Nome**	**21.39**	**42**	*e*P		**P**		**03 13 06.4**	**+1.7**
	comp=Z,241nm,1.2s								
ANM				LR	LR				
	comp=Z,23μm,18.0s								
ANM	**Nome**	**21.39**	**42**	*e*P		**P**		**03 13 06.4**	**+1.7**
ANM				pmax	pmax				
	comp=Z,241nm,1.2s								
ANM				MLR	MLR				
	comp=Z,23μm,18.0s								
MDJ	**Mudanjiang**	**21.63**	**261**	P		**P**		**03 13 05.3**	**-2.1**
MDJ				pmax	pmax				
	comp=Z,190nm,1.0s								
MDJ				LR	LR				
	comp=Z,23μm,15.4s								
MDJ				LR	LR				
	comp=Z,47μm,16.4s								
MDJ				LR	LR				
	comp=Z,57μm,14.7s								
MDJ	**Mudanjiang**	**21.63**	**261**	*e*P		**P**		**03 13 06.0**	**-1.4**
	comp=Z,222nm,1.0s								
MDJ				LR	LR				
	comp=Z,44μm,19.0s								
MSHR	**Mys Shultsa**	**21.84**	**255**	*i* P		**P**		**03 13 05.7**	**-4.0**
MJB9	**Matsu-Tunnel**	**22.19**	**233**	*e*P		**P**		**03 13 14.2**	**+0.7**
	comp=Z,577nm,0.9s								
MJB9				LR	LR				
	comp=Z,51μm,20.0s								
MAJO	**Matsushiro**	**22.19**	**233**	*e*P		**P**		**03 13 13.6**	**+0.1**
	comp=Z,566nm,0.9s								
MAJO				LR	LR				
	comp=Z,47μm,19.0s								
MAJO	**Matsushiro**	**22.19**	**233**	*e*P		**P**		**03 13 13.6**	**+0.1**
MAJO				pmax	pmax				
	comp=Z,566nm,0.9s								
MAJO				MLR	MLR				
	comp=Z,47μm,19.0s								
MAT	**Matsushiro**	**22.19**	**233**	P		**P**		**03 13 13.8**	**+0.3**
MAT				S		**S**		**03 17 14.6**	**-0.6**
MJAR	**Matsushiro Arr**	**22.19**	**233**	P		**P**		**03 13 13.8**	**+0.3**
	comp=Z,173nm,0.8s,baz=17,slow=7.7,SNR=28								
RDOG	**Red Dog Mine**	**23.57**	**34**	*e*P		**P**		**03 13 27.7**	**+0.3**
	comp=Z,162nm,1.0s								
RDOG				LR	LR				
	comp=Z,15μm,18.0s								
INU	**Inuyama**	**23.72**	**233**	*e*P		**P**		**03 13 28.3**	**-0.8**
	comp=Z,382nm,0.9s								
INU				LR	LR				
	comp=Z,32μm,20.0s								
TIXI	**Tiksi**	**23.78**	**336**	*e*P		**P**		**03 13 27.9**	**-1.4**
TIXI	**Tiksi**	**23.78**	**336**	*c i*P		**P**		**03 13 27.6**	**-1.6**
TIXI				pmax	pmax				
	comp=Z,460nm,1.0s								
TIXI				MLR	MLR				
	comp=Z,27μm,17.0s								
TIXI	**Tiksi**	**23.78**	**336**	P		**P**		**03 13 28.3**	**-0.9**
	comp=Z,299nm,0.9s,baz=116,slow=12,SNR=17								
CHGN	**Chignik**	**24.14**	**64**	*e*P		**P**		**03 13 33.8**	**+1.0**
	comp=Z,124nm,1.0s								
CHGN				LR	LR				
	comp=Z,21μm,18.0s								
JHJ2	**Mitsune**	**24.26**	**226**	PFAKE				03 13 50.0	+16
JHJ2				LR	LR				
	comp=Z,13μm,18.0s								
JHJ	**Hachijo jima 2**	**24.27**	**226**	P		**P**		**03 13 34.0**	**-0.1**
	comp=Z,206nm,0.9s,baz=66,slow=21,SNR=3.7								
CN2	**Changchun**	**24.58**	**264**	*e*P		**P**		**03 13 34.1**	**-2.8**
CN2				*e*S		**S**		**03 17 50.0**	**-4.7**
CN2				pmax	pmax				
	comp=Z,190nm,1.1s								
CN2				pmax	pmax				
	comp=Z,3μm,5.0s								
CN2				LR	LR				
	comp=Z,34μm,14.0s								
CN2				LR	LR				
	comp=Z,31μm,14.0s								
CN2				LR	LR				
	comp=Z,46μm,14.0s								
SVW2	**Sparrevohn**	**25.28**	**52**	*e*P		**P**		**03 13 43.3**	**+0.2**
	comp=Z,77nm,1.2s								
SVW2				LR	LR				
	comp=Z,10μm,20.0s								
HIA	**Hailar**	**25.55**	**279**	*e*P		**P**		**03 13 44.0**	**-1.6**
	comp=Z,658nm,0.9s								
HIA				LR	LR				
	comp=Z,46μm,18.0s								
HIA	**Hailar**	**25.55**	**279**	*i* P		**P**		**03 13 42.4**	**-3.2**
SII	**Sitkinak Islan**	**26.42**	**63**	*e*P		**P**		**03 13 55.7**	**+2.3**
	comp=Z,229nm,0.9s								
IMAR	**Indian Mountai**	**26.47**	**41**	*e*P		**P**		**03 13 54.9**	**+1.1**
BOD	**Bodaibo**	**26.59**	**300**	*e*P		**P**		**03 13 54.0**	**-0.9**
BOD				pmax	pmax				
	comp=Z,424nm,1.2s								
RSO	**Redoubt South**	**26.69**	**54**	*e*P		**P**		**03 13 59.2**	**+3.1**
OHAK	**Old Harbor**	**26.79**	**61**	*e*P		**P**		**03 13 54.4**	**-2.3**
	comp=Z,122nm,1.1s								
SNY	**Shenyang**	**26.83**	**262**	⇓P		**P**		**03 13 56.8**	**-0.4**
SNY				pmax	pmax				
	comp=Z,140nm,0.9s								
SNY				pmax	pmax				
	comp=Z,3μm,3.5s								
SNY				LR	LR				
	comp=Z,28μm,12.8s								
SNY				LR	LR				
	comp=Z,35μm,14.7s								
SNY				LR	LR				
	comp=Z,49μm,15.2s								
PPLA	**Purkeypile**	**26.90**	**48**	*e*P		**P**		**03 13 58.1**	**+0.3**
	comp=Z,206nm,1.5s								
PPLA				LR	LR				
	comp=Z,10μm,18.0s								
CAST	**Castle Rocks**	**26.96**	**47**	*e*P		**P**		**03 13 58.1**	**-0.1**
	comp=Z,55nm,1.0s								
CAST				LR	LR				
	comp=Z,14μm,20.0s								
SPU	**Mount Spurr**	**26.99**	**52**	*e*P		**P**		**03 13 59.1**	**+0.5**
KSRS	**Korea Array**	**27.05**	**249**	P		**P**		**03 13 59.9**	**+0.6**
	comp=Z,87nm,0.9s,baz=43,slow=9.6,SNR=19								
KDAK	**Kodiak Island**	**27.07**	**60**	*e*P		**P**		**03 13 58.8**	**-0.4**
KDAK				*e*S		**P**		**03 13 59.0**	**-0.2**
KDAK				*e*PcP		**PcP**		**03 17 20.5**	**+1.4**
KDAK				LR	LR				
	comp=Z,18μm,20.0s								
KDAK	**Kodiak Island**	**27.07**	**60**	P		**P**		**03 13 59.0**	**-0.2**
	comp=Z,30nm,0.7s,baz=296,slow=11,SNR=9.8								
KDAK				PcP		**PcP**		**03 17 20.5**	**+1.4**
	comp=Z,19nm,0.8s,baz=90,slow=1.0,SNR=5.1								
KS15	**Wonju Array Si**	**27.08**	**249**	*e*P		**P**		**03 14 01.9**	**+2.4**
	comp=Z,81nm,0.9s								
KSAR	**Wonju Array Be**	**27.08**	**249**	*e*P		**P**		**03 13 58.8**	**-0.7**
BPAW	**Bear Paw Mtn.**	**27.47**	**46**	*e*P		**P**		**03 14 03.2**	**+0.4**
	comp=Z,79nm,1.0s								
BPAW				LR	LR				
	comp=Z,13μm,18.0s								
SUA	**Susitna One**	**27.61**	**51**	*e*P		**P**		**03 14 03.3**	**-0.9**
	comp=Z,72nm,1.4s								
MLY	**Manley**	**27.62**	**44**	*e*P		**P**		**03 14 04.0**	**-0.2**
	comp=Z,67nm,1.5s								
MLY				LR	LR				
	comp=Z,17μm,19.0s								
BRLK	**Bradley Lake**	**27.68**	**55**	*e*P		**P**		**03 14 04.8**	**0.0**
	comp=Z,42nm,1.0s								
COLD	**Coldfoot**	**28.04**	**39**	PFAKE				03 14 20.0	+12
COLD				LR	LR				
	comp=Z,13μm,20.0s								
RC01	**Rabbit Creek A**	**28.12**	**52**	PFAKE				03 14 20.0	+11
RC01				LR	LR				
	comp=Z,11μm,19.0s								
TJN	**Taejon**	**28.12**	**248**	*i* P		**P**		**03 14 09.7**	**+0.9**
BWN	**Browne**	**28.14**	**46**	*e*P		**P**		**03 14 09.0**	**+0.3**
BWN				LR	LR				
	comp=Z,15μm,18.0s								
CIT	**Chita**	**28.25**	**288**	*e*P		**P**		**03 14 09.0**	**-0.9**
CIT				*e*				03 14 32.3	
CIT				*e*				03 15 17.6	
CIT				*e*				03 18 51.8	
CIT				pmax	pmax				
	comp=Z,445nm,1.2s								
SEW	**Seward**	**28.36**	**54**	*e*P		**P**		**03 14 10.2**	**-0.5**
	comp=Z,112nm,1.3s								
SEW				LR	LR				
	comp=Z,13μm,20.0s								
MCK	**McKinley**	**28.37**	**47**	*e*P		**P**		**03 14 11.4**	**+0.6**
	comp=Z,69nm,1.2s								
MCK				LR	LR				
	comp=Z,11μm,18.0s								
PMR	**Palmer**	**28.37**	**51**	PFAKE				03 14 20.0	+9.2
PMR				LR	LR				
	comp=Z,18μm,19.0s								
TOLK	**Toolik Lake Re**	**28.48**	**36**	*e*P		**P**		**03 14 12.8**	**+1.0**
	comp=Z,38nm,0.7s								
TOLK				LR	LR				
	comp=Z,16μm,20.0s								
TOLK	**Toolik Lake Re**	**28.48**	**36**	P		**P**		**03 14 13.7**	**+1.9**
	baz=261								
JNU	**Nakatsue**	**28.60**	**239**	*e*P		**P**		**03 14 13.8**	**+0.6**
	comp=Z,358nm,0.9s								
JNU				LR	LR				
	comp=Z,23μm,20.0s								
JNU	**Nakatsue**	**28.60**	**239**	P		**P**		**03 14 13.8**	**+0.6**
	comp=Z,254nm,1.0s,baz=156,slow=2.4,SNR=10.0								
MDM	**Murphy Dome**	**28.68**	**44**	*e*P		**P**		**03 14 13.7**	**+0.1**
	comp=Z,61nm,1.4s								
MDM				LR	LR				
	comp=Z,18μm,18.0s								
KNK	**Knik Glacier**	**28.71**	**51**	*e*P		**P**		**03 14 12.7**	**-1.1**
	comp=Z,152nm,1.3s								
KNK				LR	LR				
	comp=Z,13μm,19.0s								
SML	**Sawmill**	**28.73**	**51**	*e*P		**P**		**03 14 13.6**	**-0.5**
	comp=Z,198nm,1.4s								
SML				LR	LR				
	comp=Z,15μm,19.0s								
WRH	**Wood River Hil**	**28.74**	**45**	*e*P		**P**		**03 14 16.2**	**+2.2**
	comp=Z,106nm,1.2s								
WRH				LR	LR				
	comp=Z,15μm,18.0s								
COLA	**College**	**28.84**	**44**	PFAKE				03 14 30.0	+15
COLA				LR	LR				
	comp=Z,18μm,18.0s								
COLA	**College**	**28.84**	**44**	*i* P		**P**		**03 14 18.0**	**+3.1**
COLA				pmax	pmax				
	comp=Z,39nm,1.1s								
CCB	**Clear Creek Bu**	**28.86**	**45**	*e*P		**P**		**03 14 14.8**	**-0.3**
	comp=Z,179nm,1.4s								
CCB				LR	LR				
	comp=Z,14μm,19.0s								
POKR	**Poker Plat Res**	**29.02**	**44**	P		**P**		**03 14 18.2**	**+1.6**
	baz=270								
DHY	**Denali Highway**	**29.09**	**48**	*e*P		**P**		**03 14 17.1**	**-0.3**
	comp=Z,81nm,1.4s								
DHY				LR	LR				
	comp=Z,8μm,18.0s								
SCM	**Sheep Creek Mo**	**29.21**	**50**	*e*P		**P**		**03 14 17.7**	**-0.6**
	comp=Z,54nm,0.9s								
SCM				LR	LR				
	comp=Z,13μm,18.0s								
HDA	**Harding Lake**	**29.23**	**45**	*e*P		**P**		**03 14 18.0**	**-0.5**
	comp=Z,24nm,0.8s								
HDA				LR	LR				
	comp=Z,12μm,20.0s								
HDA	**Harding Lake**	**29.23**	**45**	P		**P**		**03 14 19.3**	**+0.9**
	baz=271								
ILAR	**Eielson Array**	**29.25**	**44**	*e*P		**P**		**03 14 18.8**	**+0.2**
ILAR	**Eielson Array**	**29.25**	**44**	P		**P**		**03 14 19.1**	**+0.4**
	comp=Z,7.8nm,0.7s,baz=257,slow=7.0,SNR=6.5								
ILAR				PcP		**PcP**		**03 17 24.1**	**-0.3**
	comp=Z,10.0nm,0.8s,baz=290,slow=3.5,SNR=9.4								
ILAR				LR	LR			03 25 43.9	
	comp=Z,14μm,18.7s,baz=276,slow=36								
ILB	**Eielson Array**	**29.25**	**44**	*e*P		**P**		**03 14 19.1**	**+0.4**
	comp=Z,57nm,1.4s								
ILB				*e*PcP		**PcP**		**03 17 24.1**	**-0.3**
GLI	**Glacier Island**	**29.42**	**52**	PFAKE				03 14 30.0	+10
GLI				LR	LR				
	comp=Z,11μm,21.0s								
DL2	**Dalian**	**29.79**	**259**	P		**P**		**03 14 22.1**	**-1.5**
DL2				S		**S**		**03 19 14.1**	**-2.9**
DL2				pmax	pmax				
	comp=Z,250nm,0.9s								
DL2				pmax	pmax				
	comp=Z,2μ

H11N1	WAKE ISLAND Hy	33.01 168	T	T		03 49 35.5
	baz=353,slow=76					
YKU2	Yakutat	33.32 54	PFAKE			03 15 10.0 +16
YKU2			LR	LR		
	comp=Z,13μm,20.0s					
EPYK	Eagle Plains	33.37 41	PFAKE			03 15 10.0 +15
EPYK			LR	LR		
	comp=Z,9μm,20.0s					
ULN	Ulaanbaatar	33.76 284	*e*P	P		03 14 57.8 -0.9
	comp=Z,100nm,1.0s					
ULN			LR	LR		
	comp=Z,56μm,20.0s					
ULN	Ulaanbaatar	33.76 284	*ce*P	P		03 14 56.9 -1.7
ULN			pmax	pmax		
	comp=Z,139nm,1.3s					
TLY	Talaya	34.08 292	*e*P	P		03 15 00.6 -0.6
	comp=Z,162nm,1.1s					
TLY			LR	LR		
	comp=Z,18μm,20.0s					
TLY	Talaya	34.08 292	*i* P	P		03 14 59.8 -1.4
TLY	Talaya	34.08 292	P	P		03 15 00.2 -0.9
SONA0	Songino Array	34.17 284	*e*P	P		03 15 01.3 -0.8
SONA0			*e*PcP	PcP		03 17 38.9 +0.7
SONM	Songino Array	34.17 284	P	P		03 15 01.3 -0.8
	comp=Z,24nm,0.4s,baz=63,slow=7.7,SNR=53					
SONM			PcP	PcP		03 17 38.8 +0.7
	comp=Z,10nm,0.9s,baz=78,slow=2.7,SNR=2.6					
H11S1	WAKE ISLAND Hy	34.17 169	T	T		03 51 10.8
	baz=352,slow=76					
H11S3	WAKE ISLAND Hy	34.19 169	T	T		03 51 08.4
	baz=352					
H11S2	WAKE ISLAND Hy	34.19 169	T	T		03 51 06.6
	baz=352,slow=76					
TIA	Tai'an	34.26 259	P	P		03 15 01.4 -1.5
TIA			pmax	pmax		
	comp=Z,44nm,0.8s					
INK	Inuvik	34.38 37	*e*P	P		03 15 03.9 +0.4
	comp=Z,88nm,1.3s					
INK			*e*PcP	PcP		03 17 39.2 +1.0
INK			LR	LR		
	comp=Z,6μm,20.0s					
INK	Inuvik	34.38 37	P	P		03 15 03.9 +0.4
	comp=Z,21nm,0.8s,baz=278,slow=9.0,SNR=10					
INK			PcP	PcP		03 17 39.2 +1.0
	comp=Z,18nm,0.6s,baz=303,slow=3.6,SNR=6.4					
HHC	Hu-ho-hao-te	34.74 270	*e*P	P		03 15 07.0 -0.1
HHC			sP	sP		03 15 23.1 +0.3
HHC			PP	PP		03 16 25.4 -0.8
HHC			S	S		03 20 35.4 +1.2
HHC			pmax	pmax		
	comp=Z,3μm,4.4s					
HHC			LR	LR		
	comp=Z,8μm,12.5s					
HHC			LR	LR		
	comp=Z,5μm,12.3s					
HHC			LR	LR		
	comp=Z,7μm,13.1s					
ZAK	Zakamensk	34.84 290	*e*P	P		03 15 06.5 -1.3
ZAK			pmax	pmax		
	comp=Z,183nm,1.1s					
JOW	Kunigami	34.98 236	*e*P	P		03 15 09.8 +0.7
	comp=Z,111nm,1.0s					
JOW			LR	LR		
	comp=Z,12μm,19.0s					
JOW	Kunigami	34.98 236	P	P		03 15 09.8 +0.7
	comp=Z,15nm,0.9s,baz=114,slow=15,SNR=12					
WHY	Whitehorse	35.33 50	PFAKE			03 15 20.0 +8.1
WHY			LR	LR		
	comp=Z,8μm,19.0s					
SKAG	Skagway	35.47 53	PFAKE			03 15 30.0 +17
SKAG			LR	LR		
	comp=Z,10μm,19.0s					
SSE	Sheshan	35.48 249	P	P		03 15 14.1 +0.7
SSE			S	S		03 20 46.4 +0.9
SSE			pmax	pmax		
	comp=Z,47nm,0.7s					
SSE			pmax	pmax		
	comp=Z,950nm,11.5s					
SSE			LR	LR		
	comp=Z,4μm,15.2s					
SSE			LR	LR		
	comp=Z,9μm,15.2s					
SSE	Sheshan	35.48 249	PFAKE			03 15 30.0 +17
SSE			LR	LR		
	comp=Z,16μm,20.0s					
MOY	Mondy	35.59 293	*e*P	P		03 15 13.8 -0.5
MOY			pmax	pmax		
	comp=Z,183nm,1.3s					
BESE	Bessie Mountai	35.98 54	PFAKE			03 15 30.0 +13
BESE			LR	LR		
	comp=Z,7μm,18.0s					
NJ2	Nanjing	36.13 252	*e*P	P		03 15 18.4 -0.5
NJ2			S	S		03 20 56.3 +0.9
NJ2			ScS	ScS		03 25 32.6 +0.4
NJ2			pmax	pmax		
	comp=Z,250nm,0.9s					
NJ2			pmax	pmax		
	comp=Z,520nm,4.0s					
NJ2			LR	LR		
	comp=Z,30μm,17.2s					
NJ2			LR	LR		
	comp=Z,29μm,13.7s					
NJ2			LR	LR		
	comp=Z,43μm,15.7s					
TIY	Taiyuan	36.13 265	*e*P	P		03 15 18.6 -0.4
TIY			sP	pP		03 15 29.8 -0.1
TIY			LR	LR		
	comp=Z,23μm,15.2s					
TIY			LR	LR		
	comp=Z,20μm,14.7s					
TIY			LR	LR		
	comp=Z,36μm,15.1s					
SIT	Sitka	36.26 56	PFAKE			03 15 30.0 +10
SIT			LR	LR		
	comp=Z,8μm,19.0s					
JIS	Juneau Island	36.31 54	PFAKE			03 15 30.0 +10
JIS			LR	LR		
	comp=Z,5μm,22.0s					
NRIK	Noril'sk	36.55 325	P	P		03 15 21.5 -0.6
	comp=Z,140nm,1.0s,baz=89,slow=9.7,SNR=13					
SARN	Sarigan	37.39 203	*e*P	P		03 15 29.2 -0.6
	comp=Z,92nm,1.2s					
CRAG	Craig	38.00 58	PFAKE			03 15 50.0 +15
CRAG			LR	LR		
	comp=Z,8μm,19.0s					
WRAK	Wrangell Islan	38.02 56	PFAKE			03 15 50.0 +15
WRAK			LR	LR		
	comp=Z,11μm,18.0s					
KRAR	Krasnoyarsk	38.18 303	*i* P	P		03 15 33.7 -2.4
DLBC	Dease Lake	38.40 53	*e*P	P		03 15 39.7 +1.7
	comp=Z,48nm,0.8s					
DLBC			LR	LR		
	comp=Z,13μm,18.0s					
DLBC	Dease Lake	38.40 53	P	P		03 15 39.7 +1.7
	comp=Z,21nm,0.8s,baz=340,slow=3.4,SNR=7.1					
DIB	Dawson Inlet,	39.32 61	PFAKE			03 16 00.0 +14
DIB			LR	LR		
	comp=Z,7μm,19.0s					
YOJ	Yonaguni jima	39.64 240	*e*P	P		03 15 46.1 -2.5
	comp=Z,137nm,0.7s					
WHN	Wuhan	39.87 255	P	P		03 15 49.5 -1.0
TATO	Taipei	40.05 242	PFAKE			03 16 00.0 +8.0
TATO			LR	LR		
	comp=Z,27μm,20.0s					
YHNB	Yeheng	40.35 242	*e*P	P		03 15 56.6 +2.0
	comp=Z,261nm,1.4s					
YHNB			LR	LR		
	comp=Z,33μm,20.0s					
NACB	Ninganchiao	40.63 241	PFAKE			03 16 10.0 +13
NACB			LR	LR		
	comp=Z,20μm,20.0s					
XAN	Xi'an	40.69 264	P	P		03 15 59.8 +2.5
XAN			sP	pP		03 16 07.0 -1.4
XAN			PP	PnPn		03 17 38.3 +2.5
XAN			PcP	PcP		03 18 00.6 +2.4
XAN			S	S		03 22 06.9 +2.5
XAN			pmax	pmax		
	comp=Z,24nm,1.3s					
XAN			pmax	pmax		
	comp=Z,2μm,11.7s					
XAN			LR	LR		
	comp=Z,29μm,15.1s					
XAN			LR	LR		
	comp=Z,31μm,14.5s					
XAN			LR	LR		
	comp=Z,38μm,15.3s					
XAN	Xi'an	40.69 264	PFAKE			03 16 10.0 +13
XAN			LR	LR		
	comp=Z,32μm,18.0s					
SSLB	Suanglung	41.29 242	*e*P	P		03 16 02.6 +0.3
	comp=Z,68nm,1.0s					
SSLB			LR	LR		
	comp=Z,24μm,20.0s					
YULB	Yu-li	41.42 241	*e*P	P		03 16 03.8 +0.4
	comp=Z,78nm,0.8s					
YULB			LR	LR		
	comp=Z,14μm,19.0s					
QZH	Quanzhou	41.66 245	P	P		03 16 04.6 -0.7
TPUB	Ta-pu	41.85 242	*e*P	P		03 16 07.4 +0.5
	comp=Z,180nm,1.0s					
TPUB			LR	LR		
	comp=Z,17μm,19.0s					
TWG	Pinlang	42.01 241	*e*P	P		03 16 08.2 +0.1
	comp=Z,553nm,0.8s					
TWG			LR	LR		
	comp=Z,56μm,20.0s					
BBB	Bella Bella	42.14 61	*e*P	P		03 16 10.1 +1.2
	comp=Z,57nm,1.0s					
BBB			LR	LR		
	comp=Z,6μm,19.0s					
BBB	Bella Bella	42.14 61	P	P		03 16 10.1 +1.2
	comp=Z,13nm,0.8s,baz=303,slow=15,SNR=2.8					
KNMB	Chin-men Tao	42.15 245	PFAKE			03 16 20.0 +11
KNMB			LR	LR		
	comp=Z,9μm,19.0s					
LZH	Lanzhou	42.44 270	*e*P	P		03 16 10.9 -0.9
LZH			pP	pP		03 16 22.9 0.0
LZH			sP	sP		03 16 27.5 -0.1
LZH			pmax	pmax		
	comp=Z,260nm,1.0s					
LZH			pmax	pmax		
	comp=Z,1μm,5.2s					
LZH			LR	LR		
	comp=Z,33μm,18.4s					
LZH			LR	LR		
	comp=Z,28μm,18.7s					
LZH			LR	LR		
	comp=Z,48μm,18.7s					
GTA	Gaotai	42.79 277	⇑P	P		03 16 13.8 -0.7
GTA			pP	pP		03 16 22.9 -2.7
GTA			sP	pwP		03 16 27.6 -2.0
GTA			pmax	pmax		
	comp=Z,92nm,1.3s					
GTA			pmax	pmax		
	comp=Z,2μm,5.7s					
GTA			LR	LR		
	comp=Z,31μm,16.5s					
GTA			LR	LR		
	comp=Z,30μm,16.5s					
GTA			LR	LR		
	comp=Z,44μm,15.6s					
ENH	Enshi	42.97 259	*e*P	P		03 16 16.8 +0.8
	comp=Z,107nm,0.8s					
ENH			LR	LR		
	comp=Z,23μm,19.0s					
KEKH	Kekaha	43.14 119	PFAKE			03 16 30.0 +13
KEKH			LR	LR		
	comp=Z,10μm,18.0s					
ZAA1	Zalesovo Array	43.25 303	*e*P	P		03 16 16.0 -1.9
ZAA0	Zalesovo Array	43.25 303	PFAKE			03 16 30.0 +12
ZAA0			LR	LR		
	comp=Z,22μm,18.0s					
ZALV	Zalesovo Beam	43.25 303	P	P		03 16 16.0 -1.9
ZALV	Zalesovo Beam	43.25 303	P	P		03 16 16.0 -1.9
	comp=Z,134nm,1.0s,baz=59,slow=5.4,SNR=19					
YKW3	Yellowknife Ar	43.59 42	PFAKE			03 16 30.0 +10
YKW3			LR	LR		
	comp=Z,6μm,18.0s					
NVS	Novosibirsk	43.61 305	⇑*i*P	P		03 16 20.1 -0.6
NVS			*i* S	S		03 22 41.9 -4.8
NVS			pmax	pmax		
	comp=E,695nm,1.0s					
NVS			pmax	pmax		
	comp=Z,1μm,1.0s					
NVS			pmax	pmax		
	comp=N,261nm,1.1s					
NVS			smax	smax		
	comp=N,77nm,1.4s					
NVS			smax	smax		
	comp=E,50nm,1.2s					
YKA	Yellowknife Ar	43.63 42	P	P		03 16 20.7 -0.1
	comp=E,12nm,0.7s,baz=296,slow=7.8,SNR=9.6					
YKB5	Yellowknife Ar	43.63 42	*e*P	P		03 16 20.7 -0.1
RES	Resolute Bay	43.95 22	*e*P	P		03 16 23.6 +0.3
	comp=E,68nm,1.3s					
RES			LR	LR		
	comp=Z,4μm,20.0s					
RES	Resolute Bay	43.95 22	P	P		03 16 23.6 +0.3
	comp=Z,25nm,0.9s,baz=340,slow=4.3,SNR=13					
DGZ	Jazzator, Alta	44.08 297	*c i*P	P		03 16 23.6 -1.2
DGZ			pmax	pmax		
	comp=Z,198nm,1.0s					
OPA	Opana	44.29 118	PFAKE			03 16 40.0 +13
OPA			LR	LR		
	comp=Z,12μm,20.0s					
KIP	Kipapa	44.50 118	*ce*P	P		03 16 28.2 -0.1
KIP			pmax	pmax		
	comp=Z,288nm,2.5s					
PATS	Pohnpei	45.43 183	PFAKE			03 16 50.0 +14
PATS			LR	LR		
	comp=Z,10μm,18.0s					
KHLH	Kahului Airpor	45.80 117	PFAKE			03 16 50.0 +11
KHLH			LR	LR		
	comp=Z,13μm,20.0s					
CD2	Chengdu	46.00 265	⇑*i*P	P		03 16 38.8 -1.4
CD2			pP	pP		03 16 51.5 +0.1
CD2			sS	sS		03 23 42.9 +1.7
CD2			SS	SS		03 26 40.3 -6.8
CD2			pmax	pmax		
	comp=Z,40nm,1.3s					
CD2			LR	LR		
	comp=Z,53μm,20.2s					
CD2			LR	LR		
	comp=Z,48μm,19.8s					
CD2			LR	LR		
	comp=Z,37μm,17.5s					
HLK	Haleakala	46.01 116	PFAKE			03 16 50.0 +9.5
HLK			LR	LR		
	comp=Z,13μm,20.0s					
HKPS	Hong Kong Po S	46.26 248	*e*P	P		03 16 45.5 +3.3
	comp=Z,215nm,1.1s					
HKPS			LR	LR		
	comp=Z,16μm,20.0s					
LLLB	Lillooet	46.29 60	PFAKE			03 16 50.0 +7.9
LLLB			LR	LR		
	comp=Z,8μm,20.0s					
MHA	Mahukona	46.66 117	*e*P	P		03 16 47.6 +2.4
MCO	Taipa Grande	46.71 248	P	P		03 16 44.0 -1.7
ZSN	Zaisan	46.75 296	*e*P	P		03 16 49.9 +4.1
ZSN			pmax	pmax		
	comp=Z,38nm,1.2s					
ZSN			MLR	MLR		
	comp=Z,5μm,13.0s					
ZSN	Zaisan	46.75 296	*e*P	P		03 16 49.9 +4.1
	comp=Z,38nm,1.2s					
ZSN			*e*LR	LR		03 38 27.2
	comp=Z,5μm,13.3s					
HPAH	Hawaii Prepara	46.90 116	*e*P	P		03 16 52.5 +5.2
	comp=Z,145nm,0.5s					
NLWA	Neilton Lookou	47.05 64	PFAKE			03 17 00.0 +12
NLWA			LR	LR		
	comp=Z,8μm,20.0s					
HUH	Hualalai	47.10 117	PFAKE			03 17 00.0 +11
HUH			LR	LR		
	comp=Z,13μm,19.0s					
KHLU	Kahalu`u	47.14 117	PFAKE			03 17 00.0 +11
KHLU			LR	LR		
	comp=Z,12μm,20.0s					
POHA	Pohakuloa	47.21 116	PFAKE			03 17 00.0 +10
POHA			LR	LR		
	comp=Z,11μm,20.0s					
WMQ	Urumqi	47.31 290	P	P		03 16 50.5 +0.2
WMQ			pP	pP		03 17 03.0 +1.4
WMQ			sP	sP		03 17 08.8 +2.4
WMQ			PcP	PcP		03 18 20.1 -0.5
WMQ			PP	PP		03 18 42.0 +0.6
WMQ			*e*S	S		03 23 39.5 -1.0
WMQ			ScS	ScS		03 26 39.1 -1.1
WMQ			pmax	pmax		
	comp=Z,740nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,4μm,5.7s					
WMQ			LR	LR		
	comp=Z,67μm,15.7s					
WMQ			LR	LR		
	comp=Z,87μm,17.1s					
WMQ			LR	LR		
	comp=Z,70μm,15.9s					
WMQ	Urumqi	47.31 290	*e*P	P		03 16 50.4 +0.1
	comp=Z,254nm,0.8s					
WMQ			LR	LR		
	comp=Z,32μm,18.0s					
HMH	Humu'ula Sheep	47.36 117	PFAKE			03 17 00.0 +8.9
HMH			LR	LR		
	comp=Z,12μm,20.0s					
MLOA	Mauna Loa Obse	47.36 117	PFAKE			03 17 00.0 +8.7
MLOA			LR	LR		
	comp=Z,14μm,19.0s					
MWH	Moku'aweowe	47.39 117	PFAKE			03 17 10.0 +18
MWH			LR	LR		
	comp=Z,14μm,19.0s					
GYA	Guiyang	47.45 258	⇑*i*P	P		03 16 52.3 +0.7
GYA			pP	pP		03 17 04.6 +1.7
GYA			sP	sP		03 17 10.8 +3.2
GYA			PP	PP		03 18 42.5 -0.6
GYA			S	S		03 23 42.0 -0.9
GYA			sS	sS		03 24 02.4 +0.2
GYA			SS	SS		03 27 03.8 -7.0
GYA			pmax	pmax		
	comp=Z,150nm,1.0s					
GYA			pmax	pmax		
	comp=Z,280nm,9.8s					
GYA			LR	LR		
	comp=Z,20μm,17.8s					
GYA			LR	LR		
	comp=Z,14μm,18.7s					
GYA			LR	LR		
	comp=Z,9μm,19.0s					
MLH	Mauna Loa	47.50 117	PFAKE			03 17 10.0 +18
MLH			LR	LR		
	comp=Z,12μm,20.0s					
SEM	Semipalatinsk	47.53 301	*e*LR	LR		03 37 13.4
	comp=Z,6μm,15.2s					
KHU	Kahuku	47.58 117	PFAKE			03 17 10.0 +17
KHU			LR	LR		
	comp=Z,13μm,20.0s					
KBS	Kingsbay	47.60 352	*e*P	P		03 16 52.8 +0.8
	comp=Z,489nm,1.2s					
KBS			LR	LR		
	comp=Z,11μm,20.0s					
KBS	Kingsbay	47.60 352	*ce*P	P		03 16 52.2 +0.2
KBS			pmax	pmax		
	comp=Z,2μm,1.3s					
UWE	Uwekahuna	47.61 117	PFAKE			03 17 10.0 +17
UWE			LR	LR		
	comp=Z,12μm,20.0s					
UWB	Uwekahuna B	47.62 116	PFAKE			03 17 10.0 +17
UWB			LR	LR		
	comp=Z,14μm,20.0s					
WRMHI	West Rim	47.62 117	PFAKE			03 17 10.0 +17
WRMHI			LR	LR		
	comp=Z,12μm,20.0s					
SBLHI	Steaming Bluff	47.62 116	PFAKE			03 17 10.0 +17
SBLHI			LR	LR		
	comp=Z,12μm,20.0s					
HATHI	Halema'uma'u T	47.62 116	PFAKE			03 17 10.0 +17
HATHI			LR	LR		
	comp=Z,13μm,20.0s					
SDHHI	Sand Hill	47.63 117	PFAKE			03 17 10.0 +17
SDHHI			LR	LR		
	comp=Z,13μm,20.0s					
BYL	Byron's Ledge	47.63 116	PFAKE			03 17 10.0 +17
BYL			LR	LR		
	comp=Z,12μm,20.0s					
RIM	Rim	47.64 117	PFAKE			03 17 10.0 +17
RIM			LR	LR		
	comp=Z,12μm,19.0s					
KKO	Keanakako`i	47.64 117	PFAKE			03 17 10.0 +17
KKO			LR	LR		
	comp=Z,12μm,20.0s					
PUH	Pauahi	47.69 116	PFAKE			03 17 10.0 +17
PUH			LR	LR		
	comp=Z,11μm,20.0s					
B06A	Marblemount	47.69 62	PFAKE			03 17 10.0 +17
B06A			LR	LR		
	comp=Z,5μm,20.0s					
HLP	Hilina Pali	47.70 117	PFAKE			03 17 10.0 +16
HLP			LR	LR		
	comp=Z,13μm,20.0s					
JCUZ	Jacuzzi	47.74 116	PFAKE			03 17 10.0 +16
JCUZ			LR	LR		
	comp=Z,11μm,22.0s					
KURK	Kurchatov	48.20 302	PFAKE			03 17 10.0 +13
KURK			LR	LR		
	comp=Z,30μm,18.0s					
KURK	Kurchatov	48.20 302	*ce*P	P		03 16 54.7 -2.3
KURK			pmax	pmax		
	comp=Z,1μm,1.3s					
KURK	Kurchatov	48.20 302	P	P		03 16 55.3 -1.7
D05A	Enumclaw	48.20 63	PFAKE			03 17 10.0 +13
D05A			LR	LR		
	comp=Z,5μm,22.0s					
MK31	Makanchi Array	48.56 296	P	P		03 16 58.0 -1.9
MK31			pmax	pmax		
	comp=Z,164nm,0.9s					
MK32	Makanchi Array	48.56 296	*e*P	P		03 16 58.2 -1.6
MKAR	Makanchi Array	48.56 296	P	P		03 16 58.2 -1.6
	comp=Z,72nm,0.6s,baz=56,slow=5.8,SNR=41					
MKAR			LR	LR		03 36 36.3
	comp=Z,24μm,18.3s,baz=39,slow=35					
LON	Longmire	48.56 64	PFAKE			03 17 10.0 +10
LON			LR	LR		
	comp=Z,4μm,19.0s					
LTY	Liberty	48.88 63	PFAKE			03 17 20.0 +18
LTY			LR	LR		
	comp=Z,5μm,21.0s					
B08A	Colville Reser	48.94 61	PFAKE			03 17 20.0 +17
B08A			LR	LR		
	comp=Z,5μm,21.0s					
HSPB	Hornsund (broa	48.99 350	*e*P	P		03 17 02.7 0.0
COR	Corvallis	49.05 67	PFAKE			03 17 20.0 +16
COR			LR	LR		
	comp=Z,5μm,19.0s					
TGY	Tagaytay City	49.35 234	P	P		03 17 07.2 +1.0
	comp=Z,164nm,0.5s,baz=323,slow=15,SNR=3.3					
H04A	Detroit Lake	49.62 66	PFAKE			03 17 20.0 +12
H04A			LR	LR		
	comp=Z,4μm,19.0s					
E07A	Sunnyside	49.75 63	PFAKE			03 17 20.0 +11
E07A			LR	LR		
	comp=Z,4μm,20.0s					
G05D	Wamic, OR	49.76 65	P	P		03 17 11.9 +2.9
	baz=308					
C09A	Chrisman Ranch	49.85 61	PFAKE			03 17 20.0 +10
C09A			LR	LR		
	comp=Z,6μm,18.0s					
D08A	Wollman Farm,	49.95 62	PFAKE			03 17 20.0 +10
D08A			LR	LR		
	comp=Z,4μm,18.0s					
HAWA	Hanford	50.03 63	PFAKE			03 17 20.0 +9.0
HAWA			LR	LR		
	comp=Z,4μm,21.0s					
F07A	Phinny Hill Vi	50.12 64	*e*P	P		03 17 14.3 +2.6
	comp=Z,51nm,0.8s					
F07A			LR	LR		
	comp=Z,5μm,21.0s					
BKCOR	Black Crater	50.13 66	*e*P	P		03 17 14.7 +2.8
G06A	Carlson Farm,	50.14 65	PFAKE			03 17 20.0 +8.1
G06A			LR	LR		
	comp=Z,5μm,22.0s					
NEW	Newport	50.18 60	PFAKE			03 17 20.0 +7.8
NEW			LR	LR		
	comp=Z,6μm,20.0s					
NEW	Newport	50.18 60	P	P		03 17 13.5 +1.3
	comp=Z,6.0nm,1.0s,baz=303,slow=9.0,SNR=3.4					
E08A	Dider Farm, El	50.23 63	PFAKE			03 17 30.0 +17
E08A			LR	LR		
	comp=Z,5μm,21.0s					
HUMO	Hull Mountain	50.48 69	PFAKE			03 17 30.0 +15
HUMO			LR	LR		
	comp=Z,4μm,20.0s					
J04D	Umpqua Nationa	50.56 68	P	P		03 17 17.2 +1.8
	baz=309					
E09A	Wood Farm, Sta	50.71 62	*e*P	P		03 17 19.4 +3.3
	comp=Z,48nm,0.9s					
E09A			LR	LR		
	comp=Z,4μm,22.0s					
BJO	Bjornoya	50.75 347	*e*P	P		03 17 16.5 +0.5

KMI	Kunming	50.80	261	P	P	03 17 17.3	-0.1
KMI				pP	pP	03 17 26.4	-2.4
KMI				sP	pwP	03 17 28.3	-4.3
KMI				pmax	pmax		
	comp=Z,130nm,1.2s						
KMI				LR	LR		
	comp=Z,10μm,16.4s						
KMI				LR	LR		
	comp=Z,26μm,17.5s						
KMI				LR	LR		
	comp=Z,18μm,16.4s						
KMI	Kunming	50.80	261	PFAKE		03 17 30.0	+13
KMI				LR	LR		
	comp=Z,17μm,18.0s						
KULLO	Kullorsuaq	50.87	12⇑	*i*P	P	03 17 17.0	0.0
KULLO	Kullorsuaq	50.87	12⇑	*i*P	P	03 17 17.0	0.0
PINE	Pine Mountain	50.87	66	PFAKE		03 17 30.0	+12
PINE				LR	LR		
	comp=Z,6μm,19.0s						
BRVK	Borovoye	50.95	309	PFAKE		03 17 30.0	+12
BRVK				LR	LR		
	comp=Z,28μm,19.0s						
BRVK	Borovoye	50.95	309	*c*P	P	03 17 16.8	-1.0
BRVK				pmax	pmax		
	comp=Z,384nm,1.0s						
BRVK	Borovoye	50.95	309	P	P	03 17 16.3	-1.5
J05D	Fort Rock, OR	51.03	67	P	P	03 17 21.3	+2.5
	baz=310						
L04D	Klamath Falls	51.10	69	P	P	03 17 22.1	+2.7
	baz=310						
DAG	Danmarks Havn	51.12	360⇑	*i*P	P	03 17 18.7	-0.1
DAG	Danmarks Havn	51.12	360⇑	*i*P	P	03 17 18.7	-0.1
YBH	Yreka Blue Hor	51.18	69	PFAKE		03 17 30.0	+10
YBH				LR	LR		
	comp=Z,6μm,21.0s						
YBH	Yreka Blue Hor	51.18	69	P	P	03 17 21.8	+1.9
	comp=Z,8.5nm,0.8s,baz=313,slow=3.8,SNR=5.4						
QIZ	Qiongzhong	51.27	249	P	P	03 17 21.6	+0.9
QIZ				S	S	03 24 35.8	-0.6
QIZ				sS	sS	03 24 56.8	+1.0
QIZ				pmax	pmax		
	comp=Z,70nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,1μm,2.9s						
QIZ				LR	LR		
	comp=Z,13μm,19.6s						
QIZ				LR	LR		
	comp=Z,15μm,21.6s						
QIZ				LR	LR		
	comp=Z,11μm,19.6s						
QIZ	Qiongzhong	51.27	249	*e*P	P	03 17 23.0	+2.3
	comp=Z,288nm,1.1s						
QIZ				LR	LR		
	comp=Z,14μm,21.0s						
F10A	Beach Ranch, E	51.54	62	PFAKE		03 17 40.0	+17
F10A				LR	LR		
	comp=Z,4μm,19.0s						
K05A	Summer Lake	51.58	67	PFAKE		03 17 40.0	+17
K05A				LR	LR		
	comp=Z,5μm,19.0s						
N02D	Trinity Center	51.67	70	P	P	03 17 25.8	+2.3
	baz=311						
TDK	Taldyqorghan	51.80	297	*e*P	P	03 17 22.9	-1.5
TDK				pmax	pmax		
	comp=Z,387nm,0.9s						
TDK				MLR	MLR		
	comp=Z,27μm,17.0s						
TDK	Taldyqorghan	51.80	297	*e*P	P	03 17 22.9	-1.5
	comp=Z,387nm,0.9s						
TDK				*e*LR	LR	03 40 20.9	
	comp=Z,27μm,16.6s						
BMO	Blue Mountains	52.21	63	PFAKE		03 17 40.0	+12
BMO				LR	LR		
	comp=Z,5μm,22.0s						
PDGK	Podgornoye	52.27	294	P	P	03 17 36.1	+8.1
PDGK				pmax	pmax		
	comp=Z,257nm,1.1s						
SHLS	Shalkode	52.40	294	*e*P	P	03 17 25.7	-3.3
SHLS				pmax	pmax		
	comp=Z,127nm,1.4s						
SHLS				MLR	MLR		
	comp=Z,3μm,14.0s						
SHLS	Shalkode	52.40	294	*e*P	P	03 17 25.7	-3.3
	comp=Z,127nm,1.4s						
SHLS				*e*LR	LR	03 40 32.7	
	comp=Z,3μm,13.6s						
MOD	Modoc Plateau	52.44	68	PFAKE		03 17 40.0	+11
MOD				LR	LR		
	comp=Z,4μm,20.0s						
J08A	Circle Bar Ran	52.53	65	PFAKE		03 17 40.0	+10
J08A				LR	LR		
	comp=Z,4μm,21.0s						
KPKS	Kokpek	52.63	295	*c i*P	P	03 17 29.1	-1.6
KPKS				pmax	pmax		
	comp=Z,100nm,1.0s						
KPKS				MLR	MLR		
	comp=Z,9μm,15.0s						
KPKS	Kokpek	52.63	295⇑	*i*P	P	03 17 29.1	-1.6
	comp=Z,100nm,1.0s						
KPKS				*e*LR	LR	03 40 39.0	
	comp=Z,9μm,15.3s						
HOPS	Hopland Field	52.75	72	PFAKE		03 17 40.0	+8.5
HOPS				LR	LR		
	comp=Z,6μm,18.0s						
MSO	Missoula	52.76	59	PFAKE		03 17 40.0	+8.4
MSO				LR	LR		
	comp=Z,4μm,18.0s						
SVE	Sverdlovsk	52.87	317	*de*P	P	03 17 31.3	-0.8
SVE				*e*S	S	03 24 52.5	-4.9
SVE				*e*		03 28 36.7	
SVE				pmax	pmax		
	comp=Z,191nm,1.2s						
SVE				MLR	MLR		
	comp=Z,26μm,16.0s						
SVE				MLR	MLR		
	comp=E,24μm,16.0s						
SVE				MLR	MLR		
	comp=N,6μm,18.0s						
SLVN	Son La	52.96	256	*e*P	P	03 17 34.4	+1.1
	comp=N,154nm,1.0s						
SLVN				LR	LR		
	comp=Z,20μm,20.0s						
GDXM	Geysers	53.04	72	PFAKE		03 17 50.0	+16
GDXM				LR	LR		
	comp=Z,6μm,18.0s						
WVOR	Wild Horse Val	53.04	66	PFAKE		03 17 50.0	+16
WVOR				LR	LR		
	comp=Z,5μm,19.0s						
SATY	Saty	53.05	295	*ce*P	P	03 17 32.4	-1.4
SATY				pmax	pmax		
	comp=Z,151nm,1.3s						
SATY				MLR	MLR		
	comp=Z,4μm,13.0s						
SATY	Saty	53.05	295⇑	*e*P	P	03 17 32.4	-1.4
	comp=Z,151nm,1.2s						
SATY				*e*LR	LR	03 40 31.0	
	comp=Z,4μm,12.6s						
ORV	Oroville	53.30	71	PFAKE		03 17 50.0	+15
ORV				LR	LR		
	comp=Z,3μm,21.0s						
DAV	Davao City (W)	53.35	225	PFAKE		03 17 50.0	+14
DAV				LR	LR		
	comp=Z,5μm,21.0s						
HAMF	Hammerfest	53.39	343	*e*P	P	03 17 35.5	-0.2
LVZ	Lovozero	53.40	337	*e*P	P	03 17 35.2	-0.7
	comp=Z,394nm,1.0s						
LVZ				LR	LR		
	comp=Z,9μm,22.0s						
LVZ	Lovozero	53.40	337	*c i*P	P	03 17 35.2	-0.7
LVZ				pmax	pmax		
	comp=Z,367nm,1.1s						
FFC	Flin Flon	53.45	46	PFAKE		03 17 50.0	+14
FFC				LR	LR		
	comp=Z,7μm,19.0s						
KEV	Kevo	53.53	342	*e*P	P	03 17 36.6	-0.1
KEV				LR	LR		
	comp=Z,114nm,0.8s						
KUU	Kurty	53.65	297	*c i*P	P	03 17 35.7	-2.3
KUU				pmax	pmax		
	comp=Z,200nm,1.1s						
KUU				MLR	MLR		
	comp=Z,21μm,16.0s						
KUU	Kurty	53.65	297⇑	*i*P	P	03 17 35.8	-2.3
	comp=Z,200nm,1.1s						
KUU				*e*LR	LR	03 41 22.6	
	comp=Z,21μm,16.4s						
MDOK	Medeo	53.73	296	*e*P	P	03 17 36.1	-2.7
MDOK				pmax	pmax		
	comp=Z,689nm,1.3s						
MDOK				MLR	MLR		
	comp=Z,14μm,18.0s						
MDOK	Medeo	53.73	296	*e*P	P	03 17 36.2	-2.7
	comp=Z,689nm,1.3s						
MDOK				*e*LR	LR	03 40 47.1	
	comp=Z,14μm,17.6s						
BEKR	Beckworth	53.75	70	PFAKE		03 17 50.0	+11
BEKR				LR	LR		
	comp=Z,4μm,21.0s						
APA	Apatity	53.95	338⇓	*i*P	P	03 17 38.6	-1.3
APA				*i*		03 18 46.0	
APA				*i*		03 19 47.0	
APA				*i* S	S	03 25 09.0	-2.8
APA				*i* SSS	SSS	03 30 55.0	
APA				pmax	pmax		
	comp=Z,188nm,1.1s						
APA				MLR	MLR		
	comp=Z,12μm,14.0s						
FCC	Fort Churchill	53.98	38	PFAKE		03 17 50.0	+10
FCC				LR	LR		
	comp=Z,6μm,20.0s						
ARU	Arti	53.99	318	*e*P	P	03 17 39.6	-0.7
	comp=Z,250nm,0.9s						
ARU				LR	LR		
	comp=Z,14μm,18.0s						
ARU	Arti	53.99	318	*c i*P	P	03 17 39.0	-1.3
ARU						03 18 40.8	
ARU						03 19 39.6	
ARU				S	S	03 25 12.7	0.0
ARU						03 27 27.2	
ARU				SS	SS	03 28 53.9	+0.3
ARU				pmax	pmax		
	comp=Z,170nm,0.6s						
ARU				MLR	MLR		
	comp=Z,18μm,16.0s						
ARCES	ARCESS Array B	54.00	342	*e*P	P	03 17 39.8	-0.5
ARCES	ARCESS Array B	54.00	342	*e*P	P	03 17 39.8	-0.5
ARCES	ARCESS Array B	54.00	342	P	P	03 17 40.0	-0.2
	comp=Z,157nm,0.7s,baz=43,slow=9.7,SNR=44						
ARE0	ARCESS Array S	54.00	342	*e*P	P	03 17 40.4	+0.2
	comp=Z,12nm,0.8s						
ARE0				LR	LR		
	comp=Z,500nm,19.0s						
AFDM	Forest Hills D	54.01	71	PFAKE		03 17 50.0	+9.3
AFDM				LR	LR		
	comp=Z,5μm,20.0s						
EGMT	Eagleton	54.15	56	PFAKE		03 17 50.0	+8.3
EGMT				LR	LR		
	comp=Z,9μm,21.0s						
TARG	Taragay, Kyrgy	54.26	294	PFAKE		03 18 00.0	+17
TARG				LR	LR		
	comp=Z,12μm,18.0s						
KDJ	Kajisay	54.34	295	PFAKE		03 18 00.0	+17
KDJ				LR	LR		
	comp=Z,14μm,18.0s						
RUBR	Rubicon Trail	54.41	70	PFAKE		03 18 00.0	+16
RUBR				LR	LR		
	comp=Z,4μm,20.0s						
PAHR	Pah Rah Range	54.41	69	PFAKE		03 18 00.0	+16
PAHR				LR	LR		
	comp=Z,4μm,18.0s						
DLMT	Dillon	54.42	60	PFAKE		03 18 00.0	+16
DLMT				LR	LR		
	comp=Z,3μm,19.0s						
VCNR	Virginia City	54.53	70	PFAKE		03 18 00.0	+15
VCNR				LR	LR		
	comp=Z,3μm,18.0s						
LSA	Lhasa	54.57	274	*e*P	P	03 17 46.1	+0.6
	comp=Z,116nm,0.8s						
LSA				LR	LR		
	comp=Z,18μm,18.0s						
LSA	Lhasa	54.57	274	*i* P	P	03 17 45.9	+0.4
	SNR=14						
LSA				P	P	03 17 46.0	+0.4
HLID	Hailey	54.63	63	PFAKE		03 18 00.0	+15
HLID				LR	LR		
	comp=Z,6μm,22.0s						
SUMG	Summit	54.66	7	PFAKE		03 18 00.0	+15
SUMG				LR	LR		
	comp=Z,12μm,18.0s						
SUMG	Summit	54.66	7	*i* P	P	03 17 46.3	+0.8
SUMG	Summit	54.66	7	*i* P	P	03 17 46.3	+0.8
TKM2	Tokmak 2	54.69	296	P	P	03 17 45.3	-0.6
	SNR=13						
TKM2	Tokmak 2	54.69	296	P	P	03 17 44.4	-1.5
TKM2				pmax	pmax		
	comp=Z,130nm,1.0s						
PNTR	Pine Nut	54.70	70	PFAKE		03 18 00.0	+14
PNTR				LR	LR		
	comp=Z,4μm,21.0s						
BOZ	Bozeman (W)	54.78	59	PFAKE		03 18 00.0	+14
BOZ				LR	LR		
	comp=Z,4μm,19.0s						
BOZ	Bozeman (W)	54.78	59	P	P	03 17 47.8	+1.4
	baz=312						
ULHL	Ulahol	54.79	295	P	P	03 17 46.1	-0.5
	SNR=9.2						
BOOM	Boomskoye usch	54.79	296	PFAKE		03 18 00.0	+13
BOOM				LR	LR		
	comp=Z,39μm,18.0s						
KTK1	Kautokeino	54.87	343	*e*P	P	03 17 46.7	+0.1
CMB	Columbia Colle	54.96	71	PFAKE		03 18 00.0	+12
CMB				LR	LR		
	comp=Z,5μm,21.0s						
YERR	Yerington	54.98	70	PFAKE		03 18 00.0	+12
YERR				LR	LR		
	comp=Z,5μm,20.0s						
USP	Ospenovka	55.06	297	P	P	03 17 47.5	-0.8
	SNR=26						
TRO	Tromso	55.08	345	*e*P	P	03 17 48.1	+0.1
PRGR	Permogore	55.10	328⇑	*i*P	P	03 17 48.1	-0.2
PRGR				*e**SP	pwP	03 18 02.7	-0.2
PRGR				pmax	pmax		
	comp=Z,580nm,1.1s						
CHMS	Chumysh	55.10	297	P	P	03 17 48.2	-0.5
	SNR=22						
BMN	Battle Mountai	55.16	67	*e*P	P	03 17 52.2	+2.9
	comp=Z,91nm,1.0s						
BMN				LR	LR		
	comp=Z,5μm,19.0s						
WAKR	Walker	55.19	70	PFAKE		03 18 00.0	+10
WAKR				LR	LR		
	comp=Z,5μm,21.0s						
KBK	Karagaybulak	55.23	296	P	P	03 17 49.3	-0.4
	SNR=24						
FRU1	Bishkek	55.30	297	*e*P	P	03 17 50.0	-0.1
	comp=Z,502nm,1.1s						
FRU1				LR	LR		
	comp=Z,32μm,18.0s						
MANU	Manus Island	55.30	196	PFAKE		03 18 00.0	+10
MANU				LR	LR		
	comp=Z,7μm,20.0s						
KZA	Kyzart	55.45	296	P	P	03 17 50.8	-0.8
	SNR=7.0						
NRN	Naryn	55.46	295	PFAKE		03 18 00.0	+8.4
NRN				LR	LR		
	comp=Z,16μm,20.0s						
TMCR	Tamitsa	55.46	333	*e*P	P	03 17 50.8	0.0
TMCR				*e*S	S	03 25 31.6	-0.5
TMCR				pmax	pmax		
	comp=Z,1μm,1.1s						
AAK	Ala-Archa	55.49	297	P	P	03 17 50.8	-0.8
	SNR=30						
AAK	Ala-Archa	55.49	297	PFAKE		03 18 00.0	+8.4
AAK				LR	LR		
	comp=Z,18μm,20.0s						
AAK	Ala-Archa	55.49	297	P	P	03 17 50.2	-1.4
AAK				pmax	pmax		
	comp=Z,262nm,1.2s						
AAK	Ala-Archa	55.49	297	P	P	03 17 50.6	-0.9
RYN	Ryan	55.63	70	PFAKE		03 18 10.0	+17
RYN				LR	LR		
	comp=Z,4μm,21.0s						
UCH	Uchtor	55.75	296	P	P	03 17 53.5	-0.4
	SNR=8.0						
PANO	Nakornpanom	55.79	253	P	P	03 17 57.1	+3.3
	comp=Z,13nm,1.1s,comp=Z,127nm						
EKS2	Erkin-Say	55.86	297	P	P	03 17 53.6	-0.6
	SNR=21						
NV01	Mina Array Sit	55.90	70	*e*P	P	03 17 56.8	+2.2
NVAR	Mina Array Bea	55.90	70	P	P	03 17 56.8	+2.2
	comp=Z,14nm,0.7s,baz=286,slow=7.8,SNR=9.4						
MDPB	Devils Postpil	55.99	71	*e*P	P	03 17 59.8	+4.4
	comp=Z,34nm,1.0s						
MDPB				LR	LR		
	comp=Z,5μm,21.0s						
OMMB	Old Mammoth Mi	56.05	71	PFAKE		03 18 10.0	+14
OMMB				LR	LR		
	comp=Z,6μm,21.0s						
ELK	Elko	56.06	66	PFAKE		03 18 10.0	+14
ELK				LR	LR		
	comp=Z,4μm,20.0s						
ELK	Elko	56.06	66	P	P	03 17 58.0	+2.2
ELK	Elko	56.06	66	P	P	03 17 58.0	+2.2
	comp=Z,10nm,0.8s,baz=313,slow=9.3,SNR=6.4						
LKWY	Lake	56.11	59	*e*P	P	03 17 59.8	+3.6
	comp=Z,27nm,0.9s						
LKWY				LR	LR		
	comp=Z,7μm,22.0s						
H17A	Grant Village	56.14	60	P	P	03 17 59.9	+3.6
	baz=313						
AML	Almayashu	56.27	297	P	P	03 17 57.1	-0.4
	SNR=18						
SKNT	Sakolnakorn	56.29	253	P	P	03 17 59.5	+2.1
	comp=Z,446nm,1.2s						
RLMT	Red Lodge	56.33	58	PFAKE		03 18 10.0	+12
RLMT				LR	LR		
	comp=Z,5μm,18.0s						
RLMT	Red Lodge	56.33	58	P	P	03 17 59.8	+2.2
	baz=313						
MOOW	Moose Ponds	56.48	60	PFAKE		03 18 10.0	+11
MOOW				LR	LR		
	comp=Z,4μm,22.0s						
TPAW	Teton Pass	56.55	61	PFAKE		03 18 10.0	+11
TPAW				LR	LR		
	comp=Z,4μm,19.0s						
ILULI	Ilulissat	56.56	13	*e*P	P	03 17 57.4	-1.1
	comp=Z,138nm,1.2s						
ILULI				LR	LR		
	comp=Z,10μm,21.0s						
ILULI	Ilulissat	56.56	13⇑	*i*P	P	03 17 57.9	-0.7
ILULI	Ilulissat	56.56	13⇑	*i*P	P	03 17 57.9	-0.7
DGMT	Dagmar	56.62	52	PFAKE		03 18 10.0	+11
DGMT				LR	LR		
	comp=Z,7μm,18.0s						
LOHW	Long Hollow	56.65	60	*e*P	P	03 18 04.7	+4.7
	comp=Z,91nm,1.4s						
LOHW				LR	LR		
	comp=Z,4μm,20.0s						
SNOW	Snow King Moun	56.67	61	PFAKE		03 18 10.0	+10
SNOW				LR	LR		
	comp=Z,4μm,21.0s						
KSH	Kashi	56.78	293	P	P	03 18 03.3	+2.5
KSH				pP	sP	03 18 16.6	-0.5
KSH				PP	PP	03 20 11.4	+4.4
KSH				S	S	03 25 49.4	-1.2
KSH				SS	SS	03 29 39.4	+1.0
KSH				pmax	pmax		
	comp=Z,98nm,1.1s						
KSH				pmax	pmax		
	comp=Z,2μm,3.8s						
KSH				LR	LR		
	comp=Z,2μm,8.6s						
KSH				LR	LR		
	comp=Z,3μm,8.1s						
KSH				LR	LR		
	comp=Z,2μm,10.5s						
LAO	LASA Array	56.83	55	PFAKE		03 18 10.0	+9.0
LAO				LR	LR		
	comp=Z,9μm,18.0s						
LAO	LASA Array	56.83	55	P	P	03 18 02.9	+1.9
	baz=313						
PAYA	Payao	56.88	259	P	P	03 18 03.5	+1.9
	comp=Z,509μm,0.8s						
AHID	Auburn Hatcher	56.96	61	*e*P	P	03 18 04.6	+2.5
	comp=Z,76nm,1.3s						
AHID				LR	LR		
	comp=Z,5μm,20.0s						
SHL	Shillong	57.10	270	*e*P	P	03 18 02.9	-0.4
	comp=Z,97nm,0.6s						
SHL				LR	LR		
	comp=Z,19μm,18.0s						
STEI	Steigen	57.20	345	*e*P	P	03 18 02.8	-0.4
SPUT	South Promonto	57.22	64	*e*P	P	03 18 07.7	+3.8
	comp=Z,125nm,1.3s						
LOF	Lofoten	57.28	346	*e*P	P	03 18 03.5	-0.2
KK31	Karatay Array	57.32	300	P	P	03 18 01.6	-2.9
KK31				pmax	pmax		
	comp=Z,110nm,0.9s						
PHRA	Phrae	57.33	258	P	P	03 18 06.7	+1.9
	comp=Z,53nm,1.2s						
SCO	Scoresbysund	57.44	1	PFAKE		03 18 20.0	+15
SCO				LR	LR		
	comp=Z,9μm,18.0s						
SCO	Scoresbysund	57.44	1	*i* P	P	03 18 04.9	+0.1
SCO	Scoresbysund	57.44	1	*i* P	P	03 18 04.9	+0.1
HWUT	Hardware Ranch	57.50	63	PFAKE		03 18 20.0	+14
HWUT				LR	LR		
	comp=Z,3μm,20.0s						
R11A	Troy Canyon, C	57.50	68	PFAKE		03 18 20.0	+14
R11A				LR	LR		
	comp=Z,5μm,19.0s						
R11A	Troy Canyon, C	57.50	68	P	P	03 18 08.1	+2.1
	baz=314						
KLMR	Klimovskoe	57.62	330	*e*P	P	03 18 04.8	-1.4
KLMR				pmax	pmax		
	comp=Z,521nm,0.9s						
LAMP	Lampang	57.67	258	P	P	03 18 08.8	+1.6
	comp=Z,454μm,1.0s						
ISA	Isabella, Lake	57.70	72	PFAKE		03 18 20.0	+13
ISA				LR	LR		
	comp=Z,4μm,19.0s						
UTTA	Uttaradit	57.72	257	P	P	03 18 09.0	+1.5
	comp=Z,453μm,1.0s						
DLV	T Lat	57.74	245	*e*P	P	03 18 09.9	+2.0
	comp=Z,58nm,0.9s						
DLV				LR	LR		
	comp=Z,8μm,20.0s						
JBG	Jabagly	57.77	299	*c i*P	P	03 18 06.6	-1.2
JBG				pmax	pmax		
	comp=Z,123nm,1.3s						
JBG				MLR	MLR		
	comp=Z,3μm,12.0s						
DAC	Darwin (Calif)	57.78	71	PFAKE		03 18 20.0	+12
DAC				LR	LR		
	comp=Z,4μm,21.0s						
BW06	Boulder Array	57.79	61	PFAKE		03 18 20.0	+12
BW06				LR	LR		
	comp=Z,4μm,20.0s						
BW06	Boulder Array	57.79	61	P	P	03 18 09.8	+1.8
	baz=314						
PD31	Pinedale Array	57.79	61	*e*P	P	03 18 09.7	+1.7
	comp=Z,102nm,1.4s						
PDAR	Pinedale Array	57.79	61	P	P	03 18 09.7	+1.7
	comp=Z,23nm,0.9s,baz=326,slow=2.5,SNR=13						
DUG	Dugway, Tooele	57.79	65	PFAKE		03 18 20.0	+12
DUG				LR	LR		
	comp=Z,4μm,19.0s						
CMMT	Chiang Mai	57.86	259	P	P	03 18 09.7	+1.2
	comp=Z,168nm,1.1s,comp=Z,2μm						
CHTO	Chiang Mai	57.86	259	*e*P	P	03 18 09.3	+0.8
	comp=Z,257nm,0.8s						
CHTO				LR	LR		
	comp=Z,14μm,18.0s						
CHTO	Chiang Mai	57.86	259	P	P	03 18 09.3	+0.8
	SNR=9.2						
FURC	Furnace Creek,	58.08	70	P	P	03 18 11.9	+2.1
	baz=314						
TPNV	Topopah Spring	58.09	70	PFAKE		03 18 20.0	+10
TPNV				LR	LR		
	comp=Z,5μm,21.0s						
TPNV	Topopah Spring	58.09	70	P	P	03 18 12.8	+2.6
	baz=314						
CM31	Chiang Mai Arr	58.13	259	*e*P	P	03 18 12.0	+1.6
	comp=Z,183nm,0.8s						
CM31	Chiang Mai Arr	58.13	259	P	P	03 18 11.5	+1.1
	SNR=9.1						
CMAR	Chiang Mai Arr	58.13	259	P	P	03 18 11.5	+1.1
	comp=Z,162nm,0.9s,baz=24,slow=7.0,SNR=37						
IUG	Iuzhnay	58.24	299	*ce*P	P	03 18 09.7	-1.3
IUG				pmax	pmax		
	comp=Z,166nm,1.2s						
IUG				MLR	MLR		
	comp=Z,3μm,12.0s						
IUG	Iuzhnay	58.24	299⇑	*e*P	P	03 18 09.8	-1.3
	comp=Z,166nm,1.2s						
IUG				*e*LR	LR	03 43 45.4	
	comp=Z,3μm,12.3s						
LRMC	Laurel Mtn Rad	58.29	72	P	P	03 18 13.3	+1.8

baz=315
CHAI Chaiyaphum 58.31 254 P P 03 18 13.2 +1.6
comp=Z,248µm,1.0s
AB31 Akbulak array 58.34 311 P P 03 18 10.0 -1.4
AB31 pmax pmax
comp=Z,184nm,0.9s
EDW2 Edwards Air Fo 58.53 73 P P 03 18 15.0 +1.9
baz=315
SFJD Kangerlussuaq 58.69 14 PFAKE 03 18 30.0 +16
SFJD LR LR
comp=Z,10µm,20.0s
SFJD Kangerlussuaq 58.69 14 *i* P **P 03 18 13.4 -0.2**
SFJD Kangerlussuaq 58.69 14 *i* P **P 03 18 13.4 -0.2**
DECC Green Verdugo 58.77 73 P P 03 18 17.1 +2.4
baz=315
SHOC Shoshone, Teco 58.81 71 P P 03 18 17.5 +2.5
baz=315
KONS Konsvik 58.85 345 *e*P **P 03 18 15.2 +0.5**
PASC Pasadena Art C 58.91 73 *e*P **P 03 18 19.2 +3.5**
comp=Z,31nm,1.0s
GSC Goldstone, Bar 58.92 71 P P 03 18 17.8 +1.9
baz=315
MWC Mount Wilson 58.95 73 *e*P **P 03 18 18.7 +2.6**
comp=Z,82nm,1.1s
JIRN Jiri 59.06 276 *e*P **P 03 18 16.6 -0.6**
comp=Z,414nm,0.9s
BFSC Mount Baldy Ra 59.17 73 P P 03 18 19.9 +2.3
baz=315
ULM Lac du Bonnet 59.24 46 *e*P **P 03 18 19.4 +1.7**
ULM LR LR
comp=Z,7µm,19.0s
ULM Lac du Bonnet 59.24 46 P P 03 18 18.1 +0.5
comp=Z,23nm,0.7s,baz=314,slow=7.2,SNR=15
ULM PcP **PcP 03 19 07.0 +1.4**
comp=Z,20nm,0.7s,baz=334,slow=3.9,SNR=4.4
MDND Maddock 59.25 50 PFAKE 03 18 30.0 +12
MDND LR LR
comp=Z,8µm,21.0s
RAMN Ramite 59.33 275 *e*P **P 03 18 18.3 -0.6**
comp=Z,761nm,0.7s
TUQ Turquoise Moun 59.34 71 P P 03 18 21.0 +2.2
baz=315
KKN Kakani 59.52 277 *e*P **P 03 18 19.6 -0.6**
comp=Z,210nm,0.5s
HEC Hector,Ludlow 59.53 71 P P 03 18 22.2 +2.2
baz=315
PKI Pulchoki 59.60 277 *e*P **P 03 18 20.1 -0.8**
comp=Z,409nm,0.9s
PKIN Phulchoki 59.61 277 *e*P **P 03 18 20.0 -0.9**
comp=Z,278nm,0.8s
RSSD Black Hills 59.72 56 PFAKE 03 18 30.0 +8.6
RSSD LR LR
comp=Z,6µm,21.0s
RSSD Black Hills 59.72 56 P P 03 18 23.2 +1.8
baz=315
DMN Daman 59.76 277 *e*P **P 03 18 21.6 -0.3**
comp=Z,469nm,0.8s
GKN Gorkha 59.76 278 *e*P **P 03 18 21.3 -0.5**
comp=Z,486nm,0.8s
RWWY Rawlins 59.79 60 PFAKE 03 18 40.0 +18
RWWY LR LR
comp=Z,4µm,18.0s
MURC Murrieta 59.90 73 P P 03 18 24.5 +2.0
baz=316
UMPA Umpang Tak 59.93 257 P P 03 18 26.1 +3.2
comp=Z,614µm,1.0s
GMRC Granite Mounta 59.95 71 P P 03 18 25.1 +2.1
baz=316
FAKI Fak Fak 59.96 213 *e*P **P 03 18 22.8 -0.2**
comp=Z,21nm,0.8s
FAKI LR LR
comp=Z,6µm,22.0s
DANN Dangsing 60.04 278 *e*P **P 03 18 23.5 -0.4**
comp=Z,458nm,0.8s
LDFC Landfair 60.06 70 *e*P **P 03 18 26.3 +2.5**
comp=Z,143nm,1.0s
BELC Belle Mtn. Jos 60.31 72 P P 03 18 27.1 +1.6
baz=316
PFO Pinyon Flats O 60.32 73 *e*P **P 03 18 26.9 +1.3**
comp=Z,31nm,1.2s
PFO LR LR
comp=Z,4µm,18.0s
PFO Pinyon Flats O 60.32 73 P P 03 18 27.5 +2.0
baz=316
PFO Pinyon Flats O 60.32 73 P P 03 18 26.9 +1.3
comp=Z,4.7nm,0.8s,baz=289,slow=6.7,SNR=3.8
O20A White River Ci 60.33 62 PFAKE 03 18 40.0 +14
O20A LR LR
comp=Z,4µm,21.0s
109C Camp Elliot, M 60.46 74 P P 03 18 28.3 +2.0
baz=316
CPE Camp Elliot 60.46 74 *e*P **P 03 18 29.9 +3.6**
comp=Z,60nm,1.3s
KOLN Koldanda 60.56 278 *e*P **P 03 18 26.7 -0.6**
comp=Z,227nm,0.8s
AGMN Agassiz Nation 60.67 48 PFAKE 03 18 40.0 +12
AGMN LR LR
comp=Z,6µm,19.0s
AGMN Agassiz Nation 60.67 48 P P 03 18 29.2 +1.7
baz=317
PYUN Piuthan 60.69 279 *e*P **P 03 18 27.6 -0.6**
comp=Z,737nm,1.0s
IRM Iron Mountain 60.70 71 P P 03 18 30.2 +2.2
baz=316
U15A North Rim 60.72 67 PFAKE 03 18 40.0 +12
U15A LR LR
comp=Z,5µm,22.0s
FIA0 FINESS Array S 60.82 337 *e*P **P 03 18 28.8 +0.4**
FINES FINESS Array B 60.82 337 P P 03 18 28.8 +0.5
comp=Z,337nm,0.5s,baz=33,slow=7.8,SNR=151
BAR Barrett 60.86 73 PFAKE 03 18 40.0 +11
BAR LR LR
comp=Z,2µm,21.0s
NSS Namsos 60.87 345 *e*P **P 03 18 28.8 +0.2**
BC3 Big Chuckawall 60.88 72 P P 03 18 31.1 +1.8
baz=316
PHWY Pilot Hill 60.99 59 PFAKE 03 18 40.0 +10
PHWY LR LR
comp=Z,4µm,20.0s
N23A Red Feather La 61.02 60 PFAKE 03 18 40.0 +10
N23A LR LR
comp=Z,3µm,19.0s
N23A Red Feather La 61.02 60 P P 03 18 32.8 +2.5
baz=316
PV21 Cone Mtn., Par 61.05 64 PFAKE 03 18 40.0 +9.4
PV21 LR LR
comp=Z,4µm,19.0s
PV10 Paradox Valley 61.15 64 *e*P **P 03 18 35.4 +4.1**
comp=Z,251nm,1.5s
PV14 Lion Creek, Pa 61.16 64 PFAKE 03 18 40.0 +8.7
PV14 LR LR
comp=Z,4µm,18.0s
CHGR Chuyangaron 61.17 297 PFAKE 03 18 40.0 +8.8
CHGR LR LR
comp=Z,28µm,19.0s
PUL Pulkovo 61.17 334 *ce*P **P 03 18 31.2 +0.5**
PUL pmax pmax
comp=Z,940nm,1.0s
PDMCI Parker Dam,Lak 61.17 70 P P 03 18 32.9 +1.8
baz=316
PV20 West Nyswonger 61.21 64 PFAKE 03 18 40.0 +8.4
PV20 LR LR
comp=Z,3µm,18.0s
PV19 Morning Glory 61.23 64 PFAKE 03 18 50.0 +18
PV19 LR LR
comp=Z,3µm,21.0s
XMAS Kiritimati 61.24 130 PFAKE 03 18 50.0 +18
XMAS LR LR
comp=Z,8µm,19.0s
PV16 Nyswonger Mesa 61.26 64 PFAKE 03 18 50.0 +18
PV16 LR LR
comp=Z,3µm,19.0s
PV11 David Mesa, Pa 61.30 64 PFAKE 03 18 50.0 +18
PV11 LR LR
comp=Z,4µm,18.0s
PV18 Skein Mesa, Pa 61.31 64 PFAKE 03 18 50.0 +18
PV18 LR LR
comp=Z,4µm,22.0s
PV03 Paradox Valley 61.34 64 PFAKE 03 18 50.0 +17
PV03 LR LR
comp=Z,4µm,19.0s
Y12C Blythe 61.35 71 *e*P **P 03 18 34.8 +2.4**
comp=Z,83nm,1.4s
Y12C Blythe 61.35 71 P P 03 18 34.4 +2.1
baz=316
ANGG Ammassalik, Gr 61.54 8 *e*P **P 03 18 32.2 -0.9**
comp=Z,160nm,1.4s
ANGG LR LR
comp=Z,12µm,19.0s
HNR Honiara 61.56 180 PFAKE 03 18 50.0 +16
HNR LR LR
comp=Z,7µm,21.0s
GLA Glamis 61.67 72 *e*P **P 03 18 37.0 +2.4**
comp=Z,82nm,1.3s
GLA LR LR
comp=Z,4µm,20.0s
GLA Glamis 61.67 72 P P 03 18 36.9 +2.3
baz=316
SMCO Snowmass 61.70 62 PFAKE 03 18 50.0 +15
SMCO LR LR
comp=Z,4µm,21.0s
WUAZ Wupatki 61.89 68 PFAKE 03 18 50.0 +14
WUAZ LR LR
comp=Z,6µm,22.0s
ISCO Idaho Springs 61.98 61 PFAKE 03 18 50.0 +13
ISCO LR LR
comp=Z,5µm,21.0s
SUSD Miller 62.02 53 P P 03 18 38.0 +1.2
baz=317
Y14A Wickenburg 62.09 70 *e*P **P 03 18 39.8 +2.4**
comp=Z,31nm,0.9s
MVCO Mesa Verde 62.28 64 PFAKE 03 18 50.0 +11
MVCO LR LR
comp=Z,3µm,19.0s
MOS Moscow 62.32 327 *e*P **P 03 18 37.0 -1.5**
MOS *e*S **S 03 26 58.9 -2.3**
MOS pmax pmax
comp=Z,967nm,1.3s
MOS pmax pmax
comp=N,624nm,1.1s
NIL Nilore 62.46 290 *e*P **P 03 18 39.9 +0.1**
comp=N,352nm,0.9s
NIL LR LR
comp=Z,19µm,19.0s
113A Mohawk Valley, 62.49 71 PFAKE 03 18 50.0 +10
113A LR LR
comp=Z,3µm,21.0s
PMG Port Moresby 62.55 195 *e*P **P 03 18 41.6 +1.1**
comp=Z,49nm,0.9s
PMG Port Moresby 62.55 195 *i* P **P 03 18 40.8 +0.3**
PMG pmax pmax
comp=Z,111nm,0.8s
PMG Port Moresby 62.55 195 P P 03 18 41.0 +0.5
comp=Z,36nm,0.7s,baz=7.6,slow=10,SNR=5.8
S22A 4UR Ranch, Cre 62.81 63 P P 03 18 44.9 +2.5
baz=317
Q24A Divide 62.84 61 PFAKE 03 19 00.0 +17
Q24A LR LR
comp=Z,4µm,21.0s
Q24A Divide 62.84 61 P P 03 18 44.7 +2.0
baz=317
EYMN Ely 62.88 46 *e*P **P 03 18 43.5 +1.1**
comp=Z,28nm,0.8s
EYMN LR LR
comp=Z,8µm,21.0s
EYMN Ely 62.88 46 P P 03 18 43.5 +1.1
baz=319
OGNE Ogallala 63.03 57 PFAKE 03 19 00.0 +16
OGNE LR LR
comp=Z,3µm,19.0s
W18A Petrified Fore 63.10 67 PFAKE 03 19 00.0 +16
W18A LR LR
comp=Z,5µm,21.0s
OBN Obninsk 63.18 328 *e*P **P 03 18 42.6 -1.6**
comp=Z,471nm,0.9s
OBN LR LR
comp=Z,11µm,19.0s
OBN Obninsk 63.18 328 *c i*P **P 03 18 43.5 -0.7**
OBN *i* *SP **sP 03 19 01.9 +1.0**
OBN *e* 03 19 21.4
OBN *e*S **S 03 27 14.2 +2.3**
OBN *e* 03 27 27.2
OBN pmax pmax
comp=Z,773nm,1.3s
OBN MLR MLR
comp=Z,12µm,15.0s
BORG Borgarnes 63.21 1 *e*P **P 03 18 46.6 +2.3**
comp=Z,142nm,1.2s
BORG LR LR
comp=Z,4µm,18.0s
VSU Vasula 63.24 335 *c i*P **P 03 18 45.0 +0.4**
MOL Molde 63.39 346 *e*P **P 03 18 46.5 +1.0**
X18A Snowflake 63.41 67 *e*P **P 03 18 49.6 +3.3**
comp=Z,101nm,1.5s
X18A LR LR
comp=Z,5µm,20.0s
SDCO Great Sand Dun 63.53 62 PFAKE 03 19 00.0 +13
SDCO LR LR
comp=Z,4µm,21.0s
DOMB Dombas 63.66 345 *e*P **P 03 18 48.3 +0.9**
ECSD EROS Data Cent 63.68 52 PFAKE 03 19 00.0 +12
ECSD LR LR
comp=Z,8µm,20.0s
ECSD EROS Data Cent 63.68 52 P P 03 18 48.0 +0.2
baz=318
SBUM Sibu 63.70 236 *e*P **P 03 18 49.9 +1.7**
comp=Z,41nm,1.1s
SBUM LR LR
comp=Z,4µm,20.0s
E38A The Farm, Brul 63.88 47 PFAKE 03 19 00.0 +11
E38A LR LR
comp=Z,7µm,20.0s
E38A The Farm, Brul 63.88 47 P P 03 18 50.2 +1.2
baz=320
C40A Isle Royale Na 63.93 45 PFAKE 03 19 00.0 +11
C40A LR LR
comp=Z,6µm,19.0s
F37A Hinrichs Farm, 64.06 48 P P 03 18 51.2 +1.0
baz=320
NC204 NORSAR Array S 64.11 344 *e*P **P 03 18 50.8 +0.4**
comp=Z,179nm,0.8s
KSCO Kaye Shedlock' 64.14 59 P P 03 18 52.7 +1.7
baz=318
KBL Kabul 64.20 294 *e*P **P 03 18 49.9 -1.7**
comp=Z,121nm,0.9s
KBL LR LR
comp=Z,16µm,20.0s
F38A Pierce - Schro 64.22 48 P P 03 18 52.5 +1.2
baz=320
NB2 NORSAR Subarra 64.26 344 P P 03 18 51.7 +0.4
comp=Z,52nm,0.7s,baz=22,slow=6.5
NB2 NORSAR Subarra 64.26 344 P P 03 18 51.7 +0.4
baz=22,slow=6.5
NB200 NORSAR Array S 64.26 344 *e*P **P 03 18 50.9 -0.4**
NOA NORSAR Array B 64.26 344 P P 03 18 50.9 -0.4
comp=Z,36nm,0.6s,baz=331,slow=16,SNR=41
SPMN Marine on St. 64.36 49 *e*P **P 03 18 53.7 +1.5**
comp=Z,35nm,0.8s
SPMN LR LR
comp=Z,5µm,19.0s
SPMN Marine on St. 64.36 49 P P 03 18 52.9 +0.8
baz=320
LPSR Galich'ya Gora 64.43 325 *e*P **P 03 18 51.8 -0.7**
LPSR pmax pmax
comp=Z,680nm,0.8s
LPSR pmax pmax
comp=Z,710nm,0.8s
LPSR MLR MLR
comp=Z,11µm,19.0s
NC602 NORSAR Array S 64.49 344 *e*P **P 03 18 53.2 +0.4**
comp=Z,150nm,1.4s
E39A Mellen 64.49 46 P P 03 18 53.5 +0.5
baz=320
IVI Ivigtut 64.52 15 *e*P **P 03 18 53.0 +0.1**
comp=Z,60nm,0.8s
IVI LR LR
comp=Z,7µm,20.0s
VRH Novokhopyorsk 64.54 322 *e*P **P 03 18 52.7 -0.5**
VRH pmax pmax
comp=Z,1µm,1.5s
VRH MLR MLR
comp=Z,27µm,17.0s
TUC Tucson 64.55 70 P P 03 18 56.4 +2.7
baz=318
BGNE Belgrade 64.66 55 *e*P **P 03 18 55.7 +1.4**
comp=Z,124nm,1.1s
BGNE LR LR
comp=Z,7µm,18.0s
BGNE Belgrade 64.66 55 P P 03 18 55.0 +0.7
baz=319
F39A Loretta 64.69 47 P P 03 18 55.0 +0.7
baz=320
E40A Wakefield 64.73 46 P P 03 18 55.4 +0.8
baz=321
G38A Ridgeland 64.83 48 P P 03 18 55.7 +0.4
baz=320
D41A Chassel 64.84 45 PFAKE 03 19 10.0 +15
D41A LR LR
comp=Z,7µm,18.0s
D41A Chassel 64.84 45 P P 03 18 56.4 +1.1
baz=321
HYA Hoyanger 64.93 346 *e*P **P 03 18 56.6 +1.0**
NRS Narsarsuaq 64.97 13 PFAKE 03 19 10.0 +14
NRS LR LR
comp=Z,14µm,19.0s
NRS Narsarsuaq 64.97 13 *i* P **P 03 18 55.4 -0.5**
NRS Narsarsuaq 64.97 13 *i* P **P 03 18 55.4 -0.5**
H38A Maiden Rock 65.02 49 P P 03 18 57.8 +1.3
baz=320
F40A Park Falls 65.04 46 P P 03 18 57.3 +0.7
baz=321
G39A Holcombe 65.06 48 P P 03 18 57.5 +0.8
baz=320
TASM ASL Pad, Albuq 65.06 65 P P 03 18 59.3 +2.1
baz=318
TASM ASL Pad, Albuq 65.06 65 P P 03 18 59.3 +2.1
baz=318
ANMO Albuquerque 65.06 65 *e*P **P 03 18 58.6 +1.4**
comp=Z,52nm,1.5s
ANMO Albuquerque 65.06 65 *i* P **P 03 18 58.6 +1.4**
ANMO pmax pmax
comp=Z,15nm,1.1s
ANMO Albuquerque 65.06 65 P P 03 18 58.6 +1.4
comp=Z,10nm,0.9s,baz=327,slow=6.7,SNR=6.3
SKAR Skarslia 65.08 345 *e*P **P 03 18 58.1 +1.5**
VORR Voronezh 65.09 324 *e*P **P 03 18 54.0 -2.8**
VORR pmax pmax
comp=Z,750nm,1.2s
E41A Kenton 65.13 45 P P 03 18 57.5 +0.3
baz=321
SUE Sulen 65.23 347 *e*P **P 03 18 58.7 +1.2**
COWI Conover 65.33 46 PFAKE 03 19 10.0 +11
COWI LR LR
comp=Z,7µm,20.0s
OSL Oslo 65.38 344 *e*P **P 03 18 59.8 +1.3**
Y22D IRIS PASSCAL I 65.45 66 PFAKE 03 19 10.0 +10
Y22D LR LR
comp=Z,5µm,21.0s
VSR Storozhevoye 65.47 324 *e*P **P 03 18 57.8 -1.5**
VSR pmax pmax
comp=Z,550nm,1.0s
VSR pmax pmax
comp=Z,500nm,1.2s
VSR MLR MLR
comp=Z,24µm,18.0s
G40A Rib Lake 65.51 47 PFAKE 03 19 10.0 +10
G40A LR LR
comp=Z,6µm,20.0s
KSM Kuching 65.51 237 *e*P **P 03 19 01.3 +1.3**
comp=Z,156nm,1.1s
KSM LR LR
comp=Z,2µm,18.0s
F41A Three Lakes 65.63 46 PFAKE 03 19 10.0 +10
F41A LR LR
comp=Z,5µm,20.0s
F41A Three Lakes 65.63 46 P P 03 19 00.9 +0.4
baz=321
VORD Divnogorie 65.63 323 *e*P **P 03 19 00.0 -0.3**
VORD pmax pmax
comp=Z,300nm,0.8s
VORD pmax pmax
comp=Z,330nm,0.8s
VORD MLR MLR
comp=Z,12µm,15.0s
CBKS Cedar Bluff 65.80 58 PFAKE 03 19 10.0 +8.3
CBKS LR LR
comp=Z,4µm,20.0s
CBKS Cedar Bluff 65.80 58 P P 03 19 02.4 +0.7
baz=319
BER Bergen 65.80 347 *e*P **P 03 19 01.9 +0.6**
KONO Kongsberg 65.84 344 *e*P **P 03 19 02.4 +0.9**
comp=Z,105nm,1.1s
KONO LR LR
comp=Z,9µm,18.0s
KONO Kongsberg 65.84 344 *e*P **P 03 19 02.7 +1.1**
H40A Chili 65.92 48 P P 03 19 02.5 +0.2
baz=321
I39A Houston 66.00 49 PFAKE 03 19 20.0 +17
I39A LR LR
comp=Z,5µm,20.0s
I39A Houston 66.00 49 P P 03 19 03.7 +0.8
baz=321
E43A Lone Tree Farm 66.05 44 PFAKE 03 19 20.0 +17
E43A LR LR
comp=Z,6µm,18.0s
ODD1 Odda 66.07 346 *e*P **P 03 19 05.2 +2.2**
121A Cookes Peak, D 66.10 67 P P 03 19 07.1 +3.2
baz=318
319A Douglas 66.10 69 PFAKE 03 19 20.0 +16
319A LR LR
comp=Z,3µm,18.0s
SCHQ Schefferville 66.24 28 *e*P **P 03 19 04.5 +0.3**
comp=Z,42nm,0.8s
SCHQ LR LR
comp=Z,5µm,20.0s
SCHQ Schefferville 66.24 28 P P 03 19 04.7 +0.5
comp=Z,36nm,0.8s,baz=352,slow=7.6,SNR=9.1
H41A Junction City 66.26 47 *e*P **P 03 19 05.2 +0.7**
comp=Z,54nm,1.2s
H41A LR LR
comp=Z,6µm,20.0s
H41A Junction City 66.26 47 P P 03 19 04.2 -0.3
baz=321
J39A Decorah 66.31 49 P P 03 19 04.8 0.0
baz=321
E44A Grand Marais A 66.31 44 PFAKE 03 19 20.0 +15
E44A LR LR
comp=Z,7µm,19.0s
E44A Grand Marais A 66.31 44 P P 03 19 05.3 +0.5
baz=322
G42A Mountain 66.31 46 PFAKE 03 19 20.0 +15
G42A LR LR
comp=Z,6µm,21.0s
NACGM Naroch 66.34 333 *e* **P 03 19 04.0 -0.8**
MICGM Minsk 66.38 332 ⇑ *i P* **P 03 19 05.0 0.0**
MICGM PM 03 19 06.0
comp=Z,2.9nm,1.0s
MICGM PM 03 19 06.0
comp=N,1.5nm,1.2s
MICGM *e*PP **PP 03 21 26.0 -4.9**
MICGM *e*S **S 03 27 48.0 -3.3**
MICGM *e*SS SS 03 32 28.0 +21
MICGM *e*SSS SSS 03 38 35.0
MNK Minsk 66.38 332 ⇑ *i P* **P 03 19 05.0 0.0**
MNK *e**PP **pwP 03 19 19.0 -0.9**
MNK *e*S **S 03 27 48.0 -3.3**
MNK pmax pmax
comp=N,2µm,1.2s
MNK pmax pmax
comp=E,1µm,1.0s
I40A Norwalk 66.38 48 P P 03 19 05.5 +0.2
baz=321
BLS5 Blasjo 66.56 346 *e*P **P 03 19 08.0 +1.8**
I41A Arkdale 66.59 48 PFAKE 03 19 20.0 +13
I41A LR LR
comp=Z,7µm,21.0s
G43A Wallace 66.63 45 *e*P **P 03 19 07.8 +0.9**
comp=Z,29nm,0.8s
G43A LR LR
comp=Z,7µm,21.0s
G43A Wallace 66.63 45 P P 03 19 07.1 +0.3
baz=322
KAPI Kappang 66.69 225 P P 03 19 07.9 +0.4
comp=Z,16nm,0.9s,baz=19,slow=6.5,SNR=3.6
SCIA State Center 66.70 51 *e*P **P 03 19 08.9 +1.6**
comp=Z,221nm,0.8s
SCIA LR LR
comp=Z,9µm,20.0s
SCIA State Center 66.70 51 P P 03 19 08.8 +1.5
baz=320
J40A Soldiers Grove 66.71 49 P P 03 19 07.8 +0.4
baz=321
K39A Oelwein 66.71 50 P P 03 19 07.4 0.0
baz=321
E45A Wooded Hills, 66.83 43 P P 03 19 08.6 +0.5
baz=323
H42A Shiocton 66.84 47 PFAKE 03 19 20.0 +12
H42A LR LR
comp=Z,6µm,20.0s

H42A	Shiocton	66.84	47	P	P	03 19 08.3	+0.1
	baz=322						
D46A	Sault St. Mari	66.88	42	P	P	03 19 08.0	-0.5
	baz=323						
KMY	Karmoy	66.94	346	eP	P	03 19 08.8	+0.3
MATQ	Matagami	67.04	37	P	P	03 19 09.6	+0.2
	baz=326						
K40A	Colesburg	67.07	49	P	P	03 19 09.7	0.0
	baz=321						
J41A	Loganville	67.07	48	P	P	03 19 10.0	+0.3
	baz=321						
L39A	Vinton	67.11	50	P	P	03 19 11.0	+1.1
	baz=321						
D47A	Chapleau	67.13	42	P	P	03 19 09.9	-0.2
	baz=324						
PBA	Port Blair	67.15	259	eP	P	03 19 11.6	+1.0
	comp=Z,313nm,1.0s						
PBA				LR	LR		
	comp=Z,13μm,19.0s						
I42A	Draeger Farm,	67.16	47	PFAKE		03 19 20.0	+10
I42A				LR	LR		
	comp=Z,6μm,20.0s						
I42A	Draeger Farm,	67.16	47	P	P	03 19 10.6	+0.4
	baz=322						
KSU1	Kansas State U	67.18	55	PFAKE		03 19 20.0	+10
KSU1				LR	LR		
	comp=Z,7μm,18.0s						
KSU1	Kansas State U	67.18	55	P	P	03 19 10.7	+0.2
	baz=320						
E46A	Sault Ste Mari	67.19	43	PFAKE		03 19 20.0	+10
E46A				LR	LR		
	comp=Z,6μm,19.0s						
E46A	Sault Ste Mari	67.19	43	P	P	03 19 10.2	-0.2
	baz=323						
H43A	Windswept, Lux	67.21	46	PFAKE		03 19 20.0	+9.5
H43A				LR	LR		
	comp=Z,5μm,21.0s						
JFWS	Jewell Farm	67.31	49	eP	P	03 19 11.4	+0.2
	comp=Z,43nm,1.3s						
JFWS				LR	LR		
	comp=Z,6μm,19.0s						
JFWS	Jewell Farm	67.31	49	P	P	03 19 11.5	+0.2
	baz=322						
HOMB	Homborsund	67.34	344	eP	P	03 19 12.7	+1.6
EPT	El Paso	67.39	67	PFAKE		03 19 30.0	+18
EPT				LR	LR		
	comp=Z,4μm,19.0s						
F46A	Macinaw City C	67.48	43	P	P	03 19 12.8	+0.6
	baz=323						
SNART	Snartemo	67.48	345	eP	P	03 19 13.4	+1.4
I43A	Langenfeld Bro	67.50	47	P	P	03 19 12.6	+0.2
	baz=322						
J42A	Columbus	67.51	48	P	P	03 19 12.5	0.0
	baz=322						
L40A	Anamosa	67.52	50	eP	P	03 19 13.3	+0.7
	comp=Z,40nm,0.8s						
L40A				LR	LR		
	comp=Z,8μm,18.0s						
L40A	Anamosa	67.52	50	P	P	03 19 13.0	+0.4
	baz=321						
E47A	Iron Bridge	67.55	42	P	P	03 19 12.6	0.0
	baz=324						
D48A	Paudash Townsh	67.56	41	P	P	03 19 12.2	-0.6
	baz=324						
GEYT	Alibeck	67.56	303	P	P	03 19 12.6	-0.4
	comp=Z,152nm,0.8s,baz=11,slow=3.0,SNR=33						
GYA0B	ALIBECK ARRAY	67.56	303	eP	P	03 19 12.7	-0.3
	comp=Z,216nm,0.9s						
GYA0B				LR	LR		
	comp=Z,14μm,18.0s						
KULM	Kulim	67.59	248	eP	P	03 19 14.2	+0.9
	comp=Z,70nm,1.0s						
KULM				LR	LR		
	comp=Z,6μm,20.0s						
D49A	Beulah Townshi	67.66	40	P	P	03 19 13.2	-0.2
	baz=325						
G45A	Suttons Bay	67.68	44	PFAKE		03 19 30.0	+17
G45A				LR	LR		
	comp=Z,7μm,18.0s						
AMTX	Amarillo	67.72	62	PFAKE		03 19 30.0	+16
AMTX				LR	LR		
	comp=Z,3μm,21.0s						
AMTX	Amarillo	67.72	62	P	P	03 19 15.4	+1.4
	baz=319						
G46A	Petoskey	67.80	44	P	P	03 19 14.5	+0.2
	baz=323						
MSTX	Muleshoe	67.82	63	eP	P	03 19 16.3	+1.6
	comp=Z,95nm,1.4s						
MSTX				LR	LR		
	comp=Z,4μm,18.0s						
MSTX	Muleshoe	67.82	63	P	P	03 19 16.2	+1.5
	baz=319						
K42A	Prairie Point,	67.83	48	P	P	03 19 14.2	-0.3
	baz=322						
LSQQ	Lebel-sur-Quev	67.86	37	P	P	03 19 14.7	+0.1
	baz=326						
E48A	Lockeyer	67.98	41	P	P	03 19 14.5	-0.8
	baz=324						
U32A	Winter Ranch,	68.02	59	PFAKE		03 19 30.0	+14
U32A				LR	LR		
	comp=Z,4μm,20.0s						
IPM	Ipoh	68.04	247	eP	P	03 19 16.5	+0.3
	comp=Z,86nm,0.9s						
IPM				LR	LR		
	comp=Z,5μm,21.0s						
MNTX	Cornudas Mount	68.08	66	PFAKE		03 19 30.0	+14
MNTX				LR	LR		
	comp=Z,3μm,20.0s						
MNTX	Cornudas Mount	68.08	66	P	P	03 19 19.6	+3.4
	baz=319						
CHGQ	Chibougamau	68.08	35	P	P	03 19 15.0	-0.9
	baz=328						
I45A	Fountain	68.23	45	PFAKE		03 19 30.0	+13
I45A				LR	LR		
	comp=Z,6μm,20.0s						
N40A	Mertquake, Sal	68.27	51	P	P	03 19 17.9	+0.7
	baz=321						
H46A	Fife Lake	68.27	44	P	P	03 19 17.5	+0.3
	baz=323						
L42A	Oliver, Polo	68.29	49	eP	P	03 19 17.4	0.0
	comp=Z,38nm,0.7s						
L42A				LR	LR		
	comp=Z,6μm,18.0s						
L42A	Oliver, Polo	68.29	49	P	P	03 19 17.4	0.0
	baz=322						
GLMI	Grayling	68.30	44	PFAKE		03 19 30.0	+13
GLMI				LR	LR		
	comp=Z,7μm,18.0s						
F48A	Evansville	68.32	42	P	P	03 19 17.6	+0.1
	baz=324						
K43A	Burlington	68.35	48	eP	P	03 19 18.5	+0.8
	comp=Z,59nm,0.9s						
K43A				LR	LR		
	comp=Z,6μm,19.0s						
K43A	Burlington	68.35	48	P	P	03 19 17.9	+0.2
	baz=322						
M41A	Milan	68.38	50	P	P	03 19 18.3	+0.4
	baz=322						
VLDQ	Val d'Or	68.47	38	eP	P	03 19 17.0	-1.4
	comp=Z,68nm,0.8s						
VLDQ				LR	LR		
	comp=Z,6μm,18.0s						
L43A	Garden Prairie	68.58	48	P	P	03 19 18.6	-0.6
	baz=322						
D51A	Lot 18 Range I	68.59	39	P	P	03 19 18.8	-0.4
	baz=326						
E50A	Wahnapitae	68.60	41	P	P	03 19 18.8	-0.5
	baz=325						
F49A	Sandfield	68.61	42	P	P	03 19 19.1	-0.2
	baz=325						
J45A	Montague	68.64	46	PFAKE		03 19 30.0	+10
J45A				LR	LR		
	comp=Z,6μm,21.0s						
I46A	Reed City	68.65	45	P	P	03 19 20.2	+0.6
	baz=323						
MYKOM	Kota Tinggi	68.68	243	eP	P	03 19 21.8	+1.7
	comp=Z,74nm,1.0s						
MYKOM				LR	LR		
	comp=Z,6μm,18.0s						
N41A	Harden Midland	68.75	51	eP	P	03 19 21.4	+1.1
	comp=Z,130nm,1.0s						
N41A				LR	LR		
	comp=Z,6μm,18.0s						
N41A	Harden Midland	68.75	51	P	P	03 19 20.9	+0.6
	baz=322						
MAK	Makhachkala	68.75	313	eP	P	03 19 18.1	-2.1
MAK				eS	S	03 28 15.5	-4.6
	comp=Z,275nm,1.4s						
H48A	Harrisville	68.94	43	PFAKE		03 19 30.0	+8.6
H48A				LR	LR		
	comp=Z,8μm,19.0s						
MUD	Monsted U'grnd	68.95	343	i P	P	03 19 22.2	+1.0
MUD	Monsted U'grnd	68.95	343	i P	P	03 19 22.2	+1.0
I47A	Gladwin	68.99	44	PFAKE		03 19 30.0	+8.3
I47A				LR	LR		
	comp=Z,8μm,18.0s						
E51A	G1948 Merrick	69.00	40	P	P	03 19 21.5	-0.2
	baz=326						
J46A	Howard City	69.03	45	P	P	03 19 22.5	+0.5
	baz=323						
D52A	ZEK Kipawa Sen	69.05	39	P	P	03 19 21.6	-0.5
	baz=326						
COP	Copenhagen	69.07	341⇑	i P	P	03 19 22.7	+0.8
COP	Copenhagen	69.07	341⇑	i P	P	03 19 22.7	+0.8
BSD	Bornholm Skovb	69.09	340⇑	i P	P	03 19 22.1	0.0
BSD	Bornholm Skovb	69.09	340⇑	i P	P	03 19 22.1	0.0
D53A	Lac Vacive, Po	69.24	38	eP	P	03 19 23.2	+0.1
	comp=Z,52nm,1.0s						
D53A				LR	LR		
	comp=Z,6μm,20.0s						
D53A	Lac Vacive, Po	69.24	38	P	P	03 19 23.3	+0.1
	baz=326						
TOBO	Tobermory, Bru	69.26	42	P	P	03 19 23.9	+0.5
	baz=325						
AKASG	Malin Array Be	69.28	329	P	P	03 19 23.0	-0.4
AKASG	Malin Array Be	69.28	329	P	P	03 19 22.9	-0.4
	comp=Z,212nm,0.7s,baz=30,slow=6.9,SNR=49						
AKBB	Malin Array Si	69.28	329	eP	P	03 19 22.9	-0.4
	comp=Z,358nm,0.9s						
AKBB				LR	LR		
	comp=Z,19μm,18.0s						
KIEV	Kiev	69.29	329	PFAKE		03 19 40.0	+17
KIEV				LR	LR		
	comp=Z,19μm,19.0s						
KIEV	Kiev	69.29	329	i P	P	03 19 23.0	-0.4
	SNR=11						
KIEV	Kiev	69.29	329c	i P	P	03 19 22.9	-0.5
KIEV				pmax	pmax		
	comp=Z,438nm,1.1s						
GROC	Groznyy	69.31	315	eP	P	03 19 21.1	-2.6
GROC				e*SP	pwP	03 19 38.0	-1.3
GROC				e		03 19 45.4	
GROC				e		03 21 52.4	
GROC				pmax	pmax		
	comp=Z,115nm,1.2s						
N43A	Stutzman Famil	69.36	49	P	P	03 19 24.1	+0.1
	baz=322						
WMOK	Wichita Mounta	69.38	60	PFAKE		03 19 40.0	+16
WMOK				LR	LR		
	comp=Z,4μm,21.0s						
WMOK	Wichita Mounta	69.38	60	P	P	03 19 24.4	0.0
	baz=320						
OK023	East Waterloo	69.47	58	PFAKE		03 19 40.0	+15
OK023				LR	LR		
	comp=Z,4μm,19.0s						
J47A	Sunmer	69.48	45	eP	P	03 19 25.3	+0.5
	comp=Z,64nm,1.0s						
J47A				LR	LR		
	comp=Z,6μm,18.0s						
J47A	Sunmer	69.48	45	P	P	03 19 25.0	+0.2
	baz=324						
K46A	Dorr	69.50	46	P	P	03 19 24.8	-0.1
	baz=324						
M44A	Midewin, Midew	69.52	48	PFAKE		03 19 40.0	+15
M44A				LR	LR		
	comp=Z,5μm,20.0s						
M44A	Midewin, Midew	69.52	48	P	P	03 19 25.1	0.0
	baz=323						
OK024	West corner E0	69.53	58	PFAKE		03 19 40.0	+15
OK024				LR	LR		
	comp=Z,4μm,19.0s						
E52A	Mattawa	69.53	39	P	P	03 19 24.7	-0.3
	baz=326						
D54A	Lac Fusel, La	69.57	38	P	P	03 19 24.0	-1.2
	baz=327						
HDIL	Hopedale	69.60	50	eP	P	03 19 25.5	-0.1
	comp=Z,101nm,0.8s						
HDIL				LR	LR		
	comp=Z,7μm,20.0s						
HDIL	Hopedale	69.60	50	P	P	03 19 25.1	-0.5
	baz=322						
F52A	Sundridge	69.68	40	P	P	03 19 25.3	-0.6
	baz=326						
KLBO	Killbear Provi	69.68	41	P	P	03 19 25.7	-0.2
	baz=326						
I49A	Point Hope	69.77	43	PFAKE		03 19 40.0	+13
I49A				LR	LR		
	comp=Z,8μm,18.0s						
LHMI	Lhok Stmawe	69.77	251	PFAKE		03 19 40.0	+13
LHMI				LR	LR		
	comp=Z,12μm,19.0s						
L46A	Eue Claire	69.82	47	PFAKE		03 19 40.0	+13
L46A				LR	LR		
	comp=Z,5μm,19.0s						
E53A	Dumoine, Ponti	69.84	39	P	P	03 19 26.4	-0.5
	baz=327						
K47A	Vermontville	69.86	46	P	P	03 19 27.0	-0.2
	baz=324						
J48A	Bridge Port	69.88	44	PFAKE		03 19 40.0	+13
J48A				LR	LR		
	comp=Z,7μm,18.0s						
BMRO	Meriville Lake	69.90	42	P	P	03 19 27.6	+0.3
	baz=325						
BUKO	Buck Lake	69.94	40	P	P	03 19 27.4	-0.2
	baz=326						
RGN	Rugen	69.95	340	eP	P	03 19 29.1	+1.7
	comp=Z,313nm,0.7s						
RGN				LR	LR		
	comp=Z,11μm,20.0s						
E54A	Lac Daplat, Po	69.97	38	P	P	03 19 26.9	-0.8
	baz=327						
NCK	Nalchik	70.02	316	i P	P	03 19 27.4	-0.7
NCK				pmax	pmax		
	comp=Z,184nm,1.1s						
KIV	Kislovodsk	70.03	317	eP	P	03 19 28.1	-0.1
	comp=Z,77nm,0.8s						
KIV				LR	LR		
	comp=Z,10μm,21.0s						
KIV	Kislovodsk	70.03	317	eP	P	03 19 27.8	-0.5
KIV				pmax	pmax		
	comp=Z,276nm,1.1s						
TUL1	Leonard	70.04	57	PFAKE		03 19 40.0	+12
TUL1				LR	LR		
	comp=Z,4μm,20.0s						
TUL1	Leonard	70.04	57	P	P	03 19 29.1	+0.8
	baz=321						
ALGO	Algonquin Park	70.04	39	P	P	03 19 28.2	0.0
	baz=326						
BRCO	Bruce Peninsul	70.10	42	P	P	03 19 28.9	+0.4
	baz=325						
KBZ	Khabaz	70.13	317	P	P	03 19 29.2	+0.5
	comp=Z,195nm,1.0s,baz=45,slow=2.1,SNR=19						
K48A	Perry	70.14	45	P	P	03 19 29.6	+0.8
	baz=324						
P43A	Skaggs, Pawnee	70.22	50	P	P	03 19 30.2	+0.9
	baz=323						
GKP	Gorka Klasztor	70.28	337	eP	P	03 19 29.8	+0.4
GKP	Gorka Klasztor	70.28	337	eP	P	03 19 29.8	+0.4
M46A	Old House Fiel	70.28	47	PFAKE		03 19 40.0	+10
M46A				LR	LR		
	comp=Z,7μm,20.0s						
O44A	Mansfield	70.31	49	P	P	03 19 30.2	+0.3
	baz=323						
Q42A	Golden Eagle	70.31	51	P	P	03 19 31.3	+1.3
	baz=322						
L47A	Sherwood	70.33	46	P	P	03 19 29.8	-0.2
	baz=324						
R41A	Rosebud	70.39	52	P	P	03 19 30.9	+0.5
	baz=322						
H52A	Wyevale	70.40	41	P	P	03 19 29.8	-0.6
	baz=326						
K49A	Clarkson	70.44	44	P	P	03 19 31.8	+1.2
	baz=325						
ZEI	Tsey	70.47	316	eP	P	03 19 28.5	-2.6
ZEI				pmax	pmax		
	comp=Z,100nm,1.0s						
G53A	Haliburton	70.51	40	P	P	03 19 31.3	+0.3
	baz=326						
ABTX	Abilene, Hawle	70.54	62	eP	P	03 19 33.1	+1.6
	comp=Z,75nm,1.1s						
ABTX				LR	LR		
	comp=Z,3μm,20.0s						
ABTX	Abilene, Hawle	70.54	62	P	P	03 19 32.7	+1.2
	baz=320						
O45A	Potomac	70.58	49	P	P	03 19 31.7	+0.2
	baz=323						
PEMO	Pembroke	70.58	39	P	P	03 19 31.3	-0.2
	baz=327						
NEY	Neytrino	70.59	317	i P	P	03 19 31.6	-0.2
NEY				pmax	pmax		
	comp=Z,11nm,1.0s						
SADO	Sadowa	70.60	41	eP	P	03 19 30.7	-0.9
	comp=Z,30nm,1.1s						
SADO				LR	LR		
	comp=Z,6μm,18.0s						
SADO	Sadowa	70.60	41	P	P	03 19 30.7	-0.9
	comp=Z,16nm,1.0s,baz=294,slow=5.2,SNR=5.8						
PSI	Prapat	70.61	248	eP	P	03 19 32.6	+0.5
	comp=Z,37nm,0.7s						
PSI				LR	LR		
	comp=Z,7μm,20.0s						
M47A	Cromwell	70.64	47	P	P	03 19 31.7	-0.2
	baz=324						
CCM	Cathedral Cave	70.64	53	eP	P	03 19 33.3	+1.3
	comp=Z,39nm,0.9s						
CCM				LR	LR		
	comp=Z,6μm,19.0s						
CCM	Cathedral Cave	70.64	53	P	P	03 19 32.6	+0.7
	baz=322						
SLM	Saint Louis	70.67	51	eP	P	03 19 33.4	+1.2
	comp=Z,54nm,0.7s						
SLM				LR	LR		
	comp=Z,8μm,20.0s						
HHAR	Hobbs	70.69	55	eP	P	03 19 32.8	+0.4
	comp=Z,54nm,1.0s						
HHAR				LR	LR		
	comp=Z,6μm,20.0s						
L48A	N Adams	70.69	46	P	P	03 19 32.5	+0.3
	baz=324						
BEL	Belsk	70.70	335	eP	P	03 19 32.7	+0.6
BEL	Belsk	70.70	335	eP	P	03 19 32.7	+0.6
AAM	Ann Arbor	70.74	45	eP	P	03 19 33.7	+1.2
	comp=Z,80nm,1.0s						
AAM				LR	LR		
	comp=Z,5μm,18.0s						
AAM	Ann Arbor	70.74	45	P	P	03 19 33.4	+0.9
	baz=325						
SFIN	Lafayette	70.76	48	eP	P	03 19 33.2	+0.5
	comp=Z,21nm,0.8s						
SFIN				LR	LR		
	comp=Z,5μm,20.0s						
SFIN	Lafayette	70.76	48	P	P	03 19 32.6	0.0
	baz=323						
S41A	Jillco Farms,	70.77	53	P	P	03 19 33.3	+0.6
	baz=322						
LATQ	La Tuque	70.78	35	P	P	03 19 33.4	+0.8
	baz=329						
F55A	Otter Lake	70.79	38	P	P	03 19 32.6	-0.2
	baz=327						
K50A	Casco	70.80	44	PFAKE		03 19 50.0	+17
K50A				LR	LR		
	comp=Z,10μm,18.0s						
LTX	Lajitas	70.83	67	eP	P	03 19 34.7	+1.4
TXAR	Lajitas Array	70.83	67	P	P	03 19 34.7	+1.4
	comp=Z,16nm,0.6s,baz=297,slow=4.3,SNR=18						
L49A	Milan	70.85	45	P	P	03 19 34.0	+0.9
	baz=325						
BANO	Bancroft	70.87	40	P	P	03 19 33.3	+0.1
	baz=327						
M48A	Edgerton	70.94	46	eP	P	03 19 33.7	-0.1
	comp=Z,70nm,1.0s						
M48A				LR	LR		
	comp=Z,4μm,20.0s						
M48A	Edgerton	70.94	46	P	P	03 19 33.7	-0.1
	baz=324						
TBLG	Delisi	70.96	314	eP	P	03 19 34.5	+0.6
	comp=Z,153nm,1.0s						
N47A	Urbana	70.99	47	P	P	03 19 33.9	-0.2
	baz=324						
FVM	French Village	71.10	52	eP	P	03 19 36.9	+2.2
	comp=Z,41nm,0.9s						
FVM				LR	LR		
	comp=Z,7μm,20.0s						
G55A	Calabogie	71.14	39	P	P	03 19 34.8	-0.1
	baz=327						
P45A	Graceland, Par	71.14	49	PFAKE		03 19 50.0	+15
P45A				LR	LR		
	comp=Z,7μm,18.0s						
PLVO	Plevna	71.18	39	eP	P	03 19 35.2	+0.1
	comp=Z,38nm,1.0s						
PLVO				LR	LR		
	comp=Z,6μm,20.0s						
PLVO	Plevna	71.18	39	P	P	03 19 35.5	+0.4
	baz=327						
U40A	Yellville	71.18	55	P	P	03 19 35.6	+0.3
	baz=322						
ACTO	Acton	71.19	42	P	P	03 19 36.1	+0.9
	baz=326						
I53A	Kortright Cn E	71.20	41	P	P	03 19 35.8	+0.6
	baz=326						
PKRO	Pickering	71.29	41	P	P	03 19 36.0	+0.2
	baz=326						
N48A	Decatur	71.31	47	P	P	03 19 35.8	-0.2
	baz=324						
J52A	Paris	71.32	42	P	P	03 19 36.5	+0.6
	baz=326						
L50A	Kingsville	71.32	45	P	P	03 19 36.6	+0.6
	baz=325						
P46A	Rosedale	71.32	49	P	P	03 19 36.1	+0.1
	baz=324						
HYB	Hyderabad	71.37	274⇑	i P	P	03 19 36.0	-0.7
	comp=Z,390nm,1.0s						
HYB				eS	S	03 28 53.0	+1.5
HYB				LR	LR		
	comp=Z,8.1nm,14.0s						
DELO	Deloro Mine	71.41	40	P	P	03 19 36.8	+0.3
	baz=327						
ORIO	Orleans, Innes	71.43	38	P	P	03 19 36.1	-0.5
	baz=328						
ANN	Anapa	71.44	321	eP	P	03 19 35.8	-0.9
ANN				e*PP	pP	03 19 48.1	-0.6
ANN				e		03 22 13.3	
ANN				pmax	pmax		
	comp=Z,148nm,1.3s						
BKNI	Bangkinang	71.45	245	PFAKE		03 19 50.0	+13
BKNI				LR	LR		
	comp=Z,4μm,18.0s						
Q45A	Warren Harvey,	71.45	50	P	P	03 19 37.1	+0.2
	baz=323						
SLBS	Sierra La Lagu	71.48	75	PFAKE		03 19 50.0	+13
SLBS				LR	LR		
	comp=Z,2μm,22.0s						
DRWO	Darlington Wes	71.51	41	P	P	03 19 37.2	+0.1
	baz=327						
DRCO	St. Marys Ceme	71.51	41	P	P	03 19 37.5	+0.4
	baz=327						
HPIG		71.51	70	eP	P	03 19 40.1	+2.4
	comp=Z,48nm,1.5s						
HPIG				LR	LR		
	comp=Z,3μm,18.0s						
ALFO	Alfred	71.52	37	P	P	03 19 36.8	-0.3
	baz=328						
H55A	Tweed	71.55	39	P	P	03 19 37.4	+0.1
	baz=327						
SOC	Sochi	71.56	319c	i P	P	03 19 37.1	-0.3
SOC				e		03 22 13.7	
SOC				eS	S	03 28 51.5	-1.5
SOC				pmax	pmax		
	comp=Z,153nm,0.9s						
SOC				MLR	MLR		
	comp=Z,17μm,16.0s						
WLVO	Wesleyville	71.60	41	P	P	03 19 37.8	+0.2
	baz=327						
K52A	Tillsonburg	71.60	43	P	P	03 19 38.6	+0.9
	baz=326						
W39A	Magazine	71.62	56	PFAKE		03 19 50.0	+12
W39A				LR	LR		
	comp=Z,6μm,19.0s						
W39A	Magazine	71.62	56	P	P	03 19 38.7	+0.8
	baz=322						
LVV	L'vov	71.63	332	eP	P	03 19 37.8	+0.1
N49A	Columbus Grove	71.63	46	PFAKE		03 19 50.0	+12
N49A				LR	LR		
	comp=Z,5μm,19.0s						
N49A	Columbus Grove	71.63	46	P	P	03 19 38.2	+0.3
	baz=325						
I55A	Frankford	71.64	40	P	P	03 19 37.7	-0.2
	baz=327						
U41A	Viola	71.66	54	P	P	03 19 38.4	+0.2
	baz=322						

O48A	Farmland	71.74	47	P	P	03 19 38.6	0.0
	baz=324						
M50A	Fremont	71.74	45	PFAKE		03 19 50.0	+11
M50A				LR	LR		
	comp=Z,5μm,20.0s						
M50A	Fremont	71.74	45	P	P	03 19 38.7	+0.2
	baz=325						
AKH	Akhalkalaki	71.77	315	eP	P	03 19 40.1	+1.2
	comp=Z,174nm,1.0s						
AKH				LR	LR		
	comp=Z,18μm,18.0s						
AKH	Akhalkalaki	71.77	315	⇓iP	P	03 19 40.1	+1.2
ESK	Eskdalemuir	71.80	350	eP	P	03 19 39.3	+0.6
	comp=Z,88nm,1.0s						
ESK				LR	LR		
	comp=Z,3μm,21.0s						
P47A	Martinsville	71.86	48	P	P	03 19 39.0	-0.2
	baz=324						
STCO	Saint Catharin	71.88	41	P	P	03 19 40.0	+0.7
	baz=326						
S44A	Carbondale	71.89	51	P	P	03 19 40.6	+1.1
	baz=323						
SIUC	Southern Illin	71.89	51	eP	P	03 19 40.8	+1.3
	comp=Z,58nm,0.6s						
SIUC				LR	LR		
	comp=Z,6μm,20.0s						
J54A	Appleton	72.04	41	eP	P	03 19 40.5	+0.2
	comp=Z,56nm,0.8s						
J54A				LR	LR		
	comp=Z,5μm,19.0s						
J54A	Appleton	72.04	41	P	P	03 19 40.4	+0.2
	baz=327						
PBMO	Poplar Bluff	72.05	53	eP	P	03 19 41.6	+1.1
	comp=Z,71nm,1.0s						
PBMO				LR	LR		
	comp=Z,9μm,22.0s						
JCT	Junction City	72.10	63	eP	P	03 19 42.4	+1.5
	comp=Z,36nm,0.8s						
JCT				LR	LR		
	comp=Z,4μm,20.0s						
PECO	Prince Edward	72.14	40	P	P	03 19 40.7	-0.1
	baz=327						
O49A	Covington	72.16	47	eP	P	03 19 44.4	+3.3
	comp=Z,55nm,1.0s						
O49A				LR	LR		
	comp=Z,5μm,18.0s						
O49A	Covington	72.16	47	P	P	03 19 41.3	+0.2
	baz=325						
M51A	Elyria	72.17	45	P	P	03 19 41.2	0.0
	baz=325						
KWP	Kalwaria Pacla	72.18	333	eP	P	03 19 41.4	+0.4
KWP	Kalwaria Pacla	72.18	333	PFAKE		03 19 50.0	+9.0
KWP				LR	LR		
	comp=Z,150μm,18.0s						
KWP	Kalwaria Pacla	72.18	333	eP	P	03 19 41.4	+0.4
MEDO	Medina	72.21	41	PFAKE		03 19 50.0	+8.7
MEDO				LR	LR		
	comp=Z,5μm,20.0s						
MEDO	Medina	72.21	41	P	P	03 19 41.9	+0.6
	baz=327						
Q47A	Bedord North L	72.23	49	P	P	03 19 42.1	+0.6
	baz=324						
MIAR	Mount Ida	72.24	56	PFAKE		03 19 50.0	+8.4
MIAR				LR	LR		
	comp=Z,6μm,18.0s						
MIAR	Mount Ida	72.24	56	P	P	03 19 42.6	+1.0
	baz=322						
GNI	Garni	72.24	313	eP	P	03 19 43.4	+1.6
	comp=Z,224nm,1.1s						
GNI				LR	LR		
	comp=Z,13μm,18.0s						
GNI	Garni	72.24	313	i P	P	03 19 43.0	+1.2
	SNR=6.4						
GNI	Garni	72.24	313c	iP	P	03 19 42.9	+1.1
GNI				pmax	pmax		
	comp=Z,508nm,1.1s						
GNI	Garni	72.24	313	P	P	03 19 42.6	+0.9
P48A	Milroy	72.26	48	P	P	03 19 41.7	0.0
	baz=324						
WHAR	Wooly Hollow	72.30	55	PFAKE		03 19 50.0	+8.0
WHAR				LR	LR		
	comp=Z,6μm,19.0s						
M52A	Chesterland	72.35	44	eP	P	03 19 43.2	+0.9
	comp=Z,86nm,1.0s						
M52A				LR	LR		
	comp=Z,10μm,18.0s						
M52A	Chesterland	72.35	44	P	P	03 19 42.5	+0.3
	baz=326						
BATM	Batumi	72.38	316	⇑iP	P	03 19 42.3	-0.1
J55A	Hilton	72.38	41	eP	P	03 19 42.6	+0.3
	comp=Z,47nm,0.8s						
J55A				LR	LR		
	comp=Z,6μm,19.0s						
J55A	Hilton	72.38	41	P	P	03 19 42.1	-0.2
	baz=327						
W41B	Gary Mavity, V	72.42	55	PFAKE		03 20 00.0	+17
W41B				LR	LR		
	comp=Z,6μm,19.0s						
N51A	Ashland	72.43	45	eP	P	03 19 42.5	-0.2
	comp=Z,86nm,0.9s						
N51A				LR	LR		
	comp=Z,4μm,19.0s						
N51A	Ashland	72.43	45	P	P	03 19 42.7	0.0
	baz=325						
USIN	University of	72.43	50	eP	P	03 19 43.9	+1.2
	comp=Z,179nm,1.3s						
USIN				LR	LR		
	comp=Z,6μm,19.0s						
OJC	Ojcow	72.44	335	eP	P	03 19 42.8	+0.2
OJC	Ojcow	72.44	335	eP	P	03 19 43.5	+0.9
	comp=Z,204nm,1.0s						
OJC	Ojcow	72.44	335	eP	P	03 19 42.7	+0.2
IDGL	Inch Island, C	72.44	353	eP	P	03 19 37.5	-4.9
IDGL				i PP	P	03 19 42.8	+0.4
ERPA	Erie	72.45	43	eP	P	03 19 43.1	+0.4
	comp=Z,52nm,0.9s						
ERPA				LR	LR		
	comp=Z,6μm,20.0s						
ERPA	Erie	72.45	43	P	P	03 19 42.7	-0.1
	baz=326						
PARMO	Parma	72.47	52	eP	P	03 19 45.1	+2.2
	comp=Z,333nm,0.8s						
PARMO				LR	LR		
	comp=Z,7μm,19.0s						
L53A	Girard	72.47	43	P	P	03 19 43.1	+0.1
	baz=326						
LONY	Lake Ozonia	72.49	38	eP	P	03 19 43.0	0.0
	comp=Z,17nm,1.0s						
LONY				LR	LR		
	comp=Z,4μm,20.0s						
LONY	Lake Ozonia	72.49	38	P	P	03 19 43.0	0.0
	baz=328						
O50A	Cable	72.51	46	P	P	03 19 43.3	+0.1
	baz=325						
P49A	Miami Univ. Ec	72.52	47	P	P	03 19 43.1	-0.1
	baz=325						
SIM	Simferopol'	72.57	323c	eP	P	03 19 43.2	-0.3
SIM				pmax	pmax		
	comp=Z,113nm,1.0s						
SIM				MLR	MLR		
	comp=Z,7μm,16.2s						
K54A	Basiliko Farm,	72.57	42	P	P	03 19 44.0	+0.4
	baz=327						
GSI	Gunungsitoli	72.59	249	eP	P	03 19 45.5	+1.5
	comp=Z,257nm,1.4s						
GSI				LR	LR		
	comp=Z,12μm,20.0s						
S46A	Don Dixon Farm	72.63	50	P	P	03 19 44.2	+0.3
	baz=324						
L54A	Sinclairville	72.63	42	P	P	03 19 44.2	+0.3
	baz=327						
KIS	Kishinev	72.65	327	ePS		03 26 50.0	
KIS				LRM	MLR	03 53 24.0	
	comp=Z,16μm,17.0s						
KIS	Kishinev	72.65	327	⇑iP	P	03 19 42.5	-1.4
KIS	Kishinev	72.65	327	ePcP	PcP	03 19 54.0	-7.1
KIS	Kishinev	72.65	327	ePP	PP	03 22 13.0	-12
KIS				eS	S	03 29 06.0	+0.7
KIS				LRM	MLR	03 55 20.0	
	comp=Z,16μm,19.0s						
KIS	Kishinev	72.65	327	⇑iP	P	03 19 42.5	-1.4
KIS				e		03 19 54.0	
KIS				eS	S	03 29 06.0	+0.7
KIS				MLR	MLR		
	comp=Z,16μm,19.0s						
KIS				MLR	MLR		
	comp=N,15μm,18.0s						
X40A	Basin Creek Fa	72.66	56	PFAKE		03 20 00.0	+16
X40A				LR	LR		
	comp=Z,7μm,19.0s						
FRNY	Flat Rock	72.67	37	PFAKE		03 20 00.0	+16
FRNY				LR	LR		
	comp=Z,5μm,20.0s						
PVMO	Portageville	72.69	53	PFAKE		03 20 00.0	+16
PVMO				LR	LR		
	comp=Z,7μm,19.0s						
R47A	Wooly Knot Far	72.70	49	P	P	03 19 45.1	+0.8
	baz=324						
T45A	Paducah	72.72	51	eP	P	03 19 46.5	+2.0
	comp=Z,108nm,0.6s						
T45A				LR	LR		
	comp=Z,7μm,19.0s						
T45A	Paducah	72.72	51	P	P	03 19 45.6	+1.2
	baz=324						
M53A	Wl Miller and	72.72	43	P	P	03 19 45.0	+0.6
	baz=326						
ACSO	Alum Creek Sta	72.72	46	eP	P	03 19 45.4	+1.0
	comp=Z,75nm,1.0s						
ACSO				LR	LR		
	comp=Z,5μm,20.0s						
K55A	Perry	72.73	41	P	P	03 19 44.6	+0.2
	baz=327						
KSP	Ksiaz	72.74	337	eP	P	03 19 44.6	+0.2
KSP	Ksiaz	72.74	337	eP	P	03 19 44.6	+0.2
MOQ	Mont Orford	72.75	36	eP	P	03 19 45.1	+0.5
ALLY	Alegheny Colle	72.77	43	eP	P	03 19 45.7	+1.0
	comp=Z,84nm,1.1s						
STHS	Stebnicka Huta	72.78	333	eP	P	03 19 46.7	+2.1
STHS	Stebnicka Huta	72.78	333	eP	P	03 19 46.7	+2.1
MMNY	Mt. Morris Dam	72.79	41	eP	P	03 19 45.1	+0.4
	comp=Z,61nm,0.8s						
MMNY				LR	LR		
	comp=Z,5μm,20.0s						
N52A	McGinn's Farm,	72.81	45	P	P	03 19 45.1	+0.2
	baz=326						
WCI	Wyandotte Cave	72.86	49	eP	P	03 19 46.3	+1.0
	comp=Z,62nm,1.1s						
WCI				LR	LR		
	comp=Z,6μm,20.0s						
WCI	Wyandotte Cave	72.86	49	P	P	03 19 45.7	+0.4
	baz=324						
Q49A	Aurora	72.87	48	P	P	03 19 45.4	0.0
	baz=325						
P50A	Jamestown	72.87	47	P	P	03 19 45.5	+0.1
	baz=325						
IAS	Iasi	72.89	328	⇑iP	P	03 19 45.4	+0.1
GNAR	Gosnell	72.90	53	PFAKE		03 20 00.0	+14
GNAR				LR	LR		
	comp=Z,7μm,22.0s						
HBAR	Harrisburg	72.91	54	PFAKE		03 20 00.0	+14
HBAR				LR	LR		
	comp=Z,7μm,18.0s						
R48A	Northridge Ran	72.92	49	P	P	03 19 46.2	+0.6
	baz=324						
KOLS	Kolonicke sedl	72.93	333	eP	P	03 19 46.3	+0.8
KOLS				pmax	pmax		
	comp=Z,153nm,1.3s						
KOLS	Kolonicke sedl	72.93	333	eP	P	03 19 46.3	+0.8
RAC	Raciborz	72.98	336	eP	P	03 19 46.9	+1.2
RAC				MLR	MLR		
	comp=Z,16μm,17.9s						
GLAT	Glass	73.01	52	PFAKE		03 20 00.0	+14
GLAT				LR	LR		
	comp=Z,8μm,18.0s						
PQI	Presque Isle	73.03	33	eP	P	03 19 46.9	+0.8
	comp=Z,42nm,1.0s						
PQI				LR	LR		
	comp=Z,7μm,19.0s						
L55A	Hinsdale	73.03	42	P	P	03 19 46.4	+0.1
	baz=327						
NIE	Niedzica	73.03	334	eP	P	03 19 45.7	-0.5
NIE	Niedzica	73.03	334	eP	P	03 19 45.7	-0.5
CLL	Collm	73.06	339	PFAKE		03 20 00.0	+14
CLL				LR	LR		
	comp=Z,7μm,19.0s						
CLL	Collm	73.06	339	⇑iP	P	03 19 46.3	+0.1
CLL				e*PP	pP	03 19 57.0	-1.4
CLL				eS	S	03 29 09.0	-0.9
CLL				pmax	pmax		
	comp=Z,226nm,1.1s						
CLL	Collm	73.06	339	⇑iP	P	03 19 46.3	+0.1
	comp=Z,226nm,1.1s						
CLL				e		03 19 57.0	
CLL				i		03 19 59.3	
CLL				eS	SKiKP	03 29 13.0	-1.3
CLL				e		03 29 27.0	
CLL				ePPS	PPS	03 29 56.0	
T46A	Princeton	73.06	51	P	P	03 19 47.5	+1.0
	baz=324						
435B	Jarrell	73.07	62	PFAKE		03 20 00.0	+13
435B				LR	LR		
	comp=Z,3μm,22.0s						
M54A	Oil Creek Stat	73.09	43	eP	P	03 19 47.0	+0.4
	comp=Z,47nm,1.0s						
M54A				LR	LR		
	comp=Z,6μm,19.0s						
M54A	Oil Creek Stat	73.09	43	P	P	03 19 46.5	-0.2
	baz=327						
SEVA	Sevastopol	73.09	323	⇑iP	P	03 19 46.4	-0.1
S47A	Hartford	73.10	50	P	P	03 19 46.9	+0.3
	baz=324						
UPC	Upice	73.12	337	eP	P	03 19 47.4	+0.8
UPC				e		03 19 58.7	
UPC				MLR	MLR		
	comp=Z,24μm,15.6s						
UPC	Upice	73.12	337	eP	P	03 19 47.4	+0.8
UPC				ex	x	03 19 58.7	
UPC				AMS	AMS	03 56 00.0	
	comp=Z,24μm,15.6s						
BATG	Bathurst New B	73.12	31	eP	P	03 19 47.3	+0.6
	comp=Z,57nm,1.0s						
WLAR	White Oak Lake	73.15	57	PFAKE		03 20 00.0	+13
WLAR				LR	LR		
	comp=Z,6μm,18.0s						
PRAR	RASCA	73.16	329	⇑iP	P	03 19 47.5	+0.6
NCB	Newcomb	73.17	38	eP	P	03 19 47.3	+0.3
	comp=Z,28nm,1.3s						
NCB				LR	LR		
	comp=Z,4μm,20.0s						
N53A	Lisbon	73.18	44	eP	P	03 19 47.7	+0.6
	comp=Z,73nm,1.0s						
N53A				LR	LR		
	comp=Z,8μm,18.0s						
N53A	Lisbon	73.18	44	P	P	03 19 47.2	+0.1
	baz=326						
CTA	Charters Tower	73.18	194	P	P	03 19 47.3	+0.1
	comp=Z,21nm,0.8s,baz=9.5,slow=7.4,SNR=12						
CTAO	Charters Tower	73.18	194	eP	P	03 19 47.7	+0.5
	comp=Z,36nm,0.9s						
DPC	Dobruska-Polom	73.19	337	eP	P	03 19 48.2	+1.1
DPC				e		03 20 00.9	
DPC				MLR	MLR		
	comp=Z,22μm,15.9s						
DPC	Dobruska-Polom	73.19	337	eP	P	03 19 48.2	+1.1
DPC				ex	x	03 20 00.9	
DPC				eS	SKiKP	03 29 28.7	+14
DPC				AMS	AMS	03 55 50.0	
	comp=Z,22μm,15.9s						
UZH	Uzhgorod	73.20	332c	iP	P	03 19 47.2	+0.1
UZH				i		03 20 00.6	
UZH				e		03 20 01.5	
OKC	Ostrava-Krasne	73.21	335	eP	P	03 19 48.3	+1.1
OKC				MLR	MLR		
	comp=Z,13μm,16.3s						
OKC	Ostrava-Krasne	73.21	335	eP	P	03 19 48.3	+1.1
OKC				AMS	AMS	03 54 30.0	
	comp=Z,13μm,16.3s						
BURAR	Bucovina Array	73.25	330	⇑iP	P	03 19 47.8	+0.3
BRG	Berggiesshubel	73.26	338	⇑iP	P	03 19 47.9	+0.5
	comp=Z,64nm,1.3s						
BRG				i pP	pP	03 19 57.3	-2.3
	comp=Z,59nm,1.1s						
BRG	Berggiesshubel	73.26	338	⇑iP	P	03 19 47.9	+0.5
BRG				i *PP	pP	03 19 57.3	-2.3
BRG				pmax	pmax		
	comp=Z,64nm,1.3s						
BRG				MLR	MLR		
	comp=N,8μm,14.1s						
BRG				MLR	MLR		
	comp=E,5μm,13.4s						
BRG				MLR	MLR		
	comp=Z,13μm,14.4s						
HALT	Halls	73.27	53	PFAKE		03 20 00.0	+12
HALT				LR	LR		
	comp=Z,6μm,19.0s						
LEOM	Leova	73.30	328	⇑iP	P	03 19 48.5	+0.8
P51A	Williamsport	73.30	46	PFAKE		03 20 00.0	+12
P51A				LR	LR		
	comp=Z,5μm,19.0s						
P51A	Williamsport	73.30	46	P	P	03 19 48.2	+0.3
	baz=325						
O52A	Adamsville	73.32	45	eP	P	03 19 48.5	+0.5
	comp=Z,140nm,1.1s						
O52A				LR	LR		
	comp=Z,6μm,18.0s						
O52A	Adamsville	73.32	45	P	P	03 19 48.0	0.0
	baz=326						
R49A	Shelbyville	73.32	48	P	P	03 19 48.5	+0.4
	baz=325						
KRLC	Kraliky	73.34	336	eP	P	03 19 48.7	+0.7
KRLC				e		03 20 01.0	
KRLC				MLR	MLR		
	comp=Z,4μm,15.8s						
KRLC	Kraliky	73.34	336	eP	P	03 19 48.7	+0.7
KRLC				ex	x	03 20 01.0	
KRLC				AMS	AMS	03 55 50.0	
	comp=Z,4μm,15.8s						
N54A	Moraine State	73.41	43	eP	P	03 19 48.5	0.0
	comp=Z,126nm,1.4s						
N54A				LR	LR		
	comp=Z,5μm,18.0s						
N54A	Moraine State	73.41	43	P	P	03 19 48.5	0.0
	baz=326						
VT1	Waterbury	73.41	37	eP	P	03 19 49.3	+0.9
	comp=Z,56nm,1.4s						
VT1				LR	LR		
	comp=Z,4μm,20.0s						
Q50A	Georgetown	73.42	47	P	P	03 19 49.5	+0.9
	baz=325						
MORC	Moravsky Berou	73.42	336	PFAKE		03 20 00.0	+12
MORC				LR	LR		
	comp=Z,16μm,18.0s						
MORC	Moravsky Berou	73.42	336	⇑iP	P	03 19 49.5	+1.0
MORC	Moravsky Berou	73.42	336	eP	P	03 19 48.7	+0.2
S48A	Wiedeman Farm,	73.43	49	P	P	03 19 49.0	+0.3
	baz=324						
PVCC	Panska Ves	73.44	338	eP	P	03 19 49.0	+0.5
PVCC				MLR	MLR		
	comp=Z,16μm,14.0s						
PVCC	Panska Ves	73.44	338	eP	P	03 19 49.0	+0.5
PVCC				AMS	AMS	03 56 20.0	
	comp=Z,16μm,14.0s						
U46A	Springville	73.47	52	P	P	03 19 50.4	+1.5
	baz=324						
O53A	New Philadelph	73.48	45	P	P	03 19 49.2	+0.3
	baz=326						
T47A	Sharon Grove	73.48	50	PFAKE		03 20 00.0	+11
T47A				LR	LR		
	comp=Z,7μm,20.0s						
T47A	Sharon Grove	73.48	50	P	P	03 19 50.1	+1.2
	baz=324						
LANS	Liptovska Anna	73.50	334	eP	P	03 19 50.7	+1.8
LANS	Liptovska Anna	73.50	334	eP	P	03 19 50.7	+1.8
Q51A	Peebles	73.55	47	eP	P	03 19 49.9	+0.5
	comp=Z,34nm,0.8s						
Q51A				LR	LR		
	comp=Z,5μm,19.0s						
Q51A	Peebles	73.55	47	P	P	03 19 49.5	+0.1
	baz=325						
BIZ	Bicaz	73.57	329	⇑iP	P	03 19 50.0	+0.6
TRPA	Tarpa	73.58	332	⇓iP	P	03 19 50.1	+0.8
TRPA	Tarpa	73.58	332	⇑eP	P	03 19 50.0	+0.8
MET	Memphis--Engin	73.61	54	PFAKE		03 20 00.0	+10
MET				LR	LR		
	comp=Z,6μm,20.0s						
X43A	Marvell	73.62	55	eP	P	03 19 51.8	+2.0
	comp=Z,91nm,1.1s						
X43A				LR	LR		
	comp=Z,6μm,18.0s						
Z41A	Richland Creek	73.65	57	PFAKE		03 20 00.0	+10
Z41A				LR	LR		
	comp=Z,6μm,19.0s						
WTSB	Winterswijk	73.66	343	eP	P	03 19 50.1	+0.4
	comp=Z,261nm,1.3s						
KTUT	Trabzon	73.70	317	⇑iP	P	03 19 49.8	-0.4
BMR	Baia Mare	73.71	331	⇓iP	P	03 19 51.7	+1.6
T48A	Bowling Green	73.72	50	P	P	03 19 51.5	+1.2
	baz=324						
R50A	Paris	73.72	48	P	P	03 19 50.8	+0.4
	baz=325						
M56A	Emporium	73.72	42	P	P	03 19 50.8	+0.5
	baz=327						
TESR	Tescani	73.78	329	⇓iP	P	03 19 50.9	+0.3
LBNH	Lisbon	73.79	36	eP	P	03 19 51.9	+1.2
	comp=Z,56nm,1.1s						
LBNH				LR	LR		
	comp=Z,5μm,22.0s						
LBNH	Lisbon	73.79	36	P	P	03 19 52.0	+1.3
	baz=330						
WVT	Waverly	73.83	51	eP	P	03 19 52.6	+1.6
	comp=Z,28nm,0.8s						
WVT				LR	LR		
	comp=Z,6μm,21.0s						
WVT	Waverly	73.83	51	P	P	03 19 52.1	+1.1
	baz=324						
PKME	Peaks-Kenny Pk	73.83	34	eP	P	03 19 52.1	+1.3
	comp=Z,29nm,0.8s						
PKME				LR	LR		
	comp=Z,6μm,18.0s						
PKME	Peaks-Kenny Pk	73.83	34	P	P	03 19 52.2	+1.3
	baz=331						
U47A	Clarksville	73.83	51	P	P	03 19 51.9	+0.9
	baz=324						
KECS	Kecovo	73.84	333	eP	P	03 19 51.7	+0.8
KECS				pmax	pmax		
	comp=Z,289nm,0.8s						
KECS	Kecovo	73.84	333	eP	P	03 19 51.7	+0.8
MARNC	Mare, Loyalty	73.85	172	PFAKE		03 20 00.0	+8.9
MARNC				LR	LR		
	comp=Z,9μm,21.0s						
NATX	Nacogdoches	73.86	59	eP	P	03 19 53.1	+1.9
	comp=Z,62nm,0.9s						
NATX				LR	LR		
	comp=Z,5μm,19.0s						
NATX	Nacogdoches	73.86	59	P	P	03 19 52.9	+1.6
	baz=322						
ACCN	Adirondack Com	73.89	38	eP	P	03 19 51.3	0.0
	comp=Z,48nm,1.0s						
ACCN				LR	LR		
	comp=Z,5μm,20.0s						
ETX06	Route 59 and C	73.89	59	PFAKE		03 20 00.0	+8.6
ETX06				LR	LR		
	comp=Z,3μm,19.0s						
O54A	Avella	73.89	44	P	P	03 19 52.1	+0.8
	baz=326						
PRU	Pruhonice	73.95	338	eP	P	03 19 52.5	+1.0
PRU				e		03 20 01.9	
PRU				eS	S	03 29 42.4	+22
PRU				MLR	MLR		
	comp=Z,18μm,14.1s						
PRU	Pruhonice	73.95	338	eP	P	03 19 52.5	+1.0
PRU				ex	x	03 20 01.9	
PRU				AMS	AMS	03 56 40.0	
	comp=Z,18μm,14.1s						
V46A	Holladay	73.95	52	P	P	03 19 52.7	+1.0
	baz=324						
GOPC	GO Pecny, Ondr	73.96	338	eP	P	03 19 52.5	+0.9
GOPC				e		03 20 05.0	
GOPC				e		03 20 17.4	
GOPC				MLR	MLR		
	comp=Z,16μm,14.6s						
GOPC	GO Pecny, Ondr	73.96	338	eP	P	03 19 52.5	+0.9
GOPC				ePCP	pP	03 20 05.0	+1.2
GOPC				ex	x	03 20 17.4	
GOPC				ex	x	03 29 36.9	
GOPC				AMS	AMS	03 56 40.0	
	comp=Z,16μm,14.6s						
N55A	Marion Center	73.98	43	eP	P	03 19 52.3	+0.4
	comp=Z,77nm,1.1s						
N55A				LR	LR		
	comp=Z,6μm,20.0s						
N55A	Marion Center	73.98	43	P	P	03 19 52.0	+0.1
	baz=327						
ARCR	ARCALIA	73.98	330	⇓iP	P	03 19 53.0	+1.3
833A	Chaparral WMA,	73.99	64	PFAKE		03 20 00.0	+7.9
833A				LR	LR		
	comp=Z,4μm,19.0s						
833A	Chaparral WMA,	73.99	64	P	P	03 19 53.8	+1.7
	baz=321						

BINY	**Binghamton**	**74.00**	**40**	PFAKE			03 20 00.0 +8.0
BINY				LR	LR		
	comp=Z,6μm,21.0s						
P53A	**Whipple**	**74.03**	**45**	PFAKE			03 20 00.0 +7.8
P53A				LR	LR		
	comp=Z,5μm,18.0s						
Q52A	**Bidwell**	**74.08**	**46**	P		**P**	**03 19 53.0 +0.5**
	baz=326						
VRAC	**Vranov**	**74.09**	**336**	⇑	*i* P	**P**	**03 19 53.6 +1.2**
VRAC	**Vranov**	**74.09**	**336**		*e* P	**P**	**03 19 53.4 +1.0**
T49A	**Edmonton**	**74.12**	**49**		*e* P	**P**	**03 19 53.3 +0.5**
	comp=Z,24nm,0.8s						
T49A				LR	LR		
	comp=Z,7μm,20.0s						
T49A	**Edmonton**	**74.12**	**49**	P		**P**	**03 19 53.2 +0.5**
	baz=325						
HNH	**Hanover**	**74.12**	**37**		*e* P	**P**	**03 19 53.7 +1.1**
	comp=Z,27nm,0.9s						
HNH				LR	LR		
	comp=Z,5μm,18.0s						
U48A	**Cassie Pea, Po**	**74.13**	**50**	P		**P**	**03 19 53.4 +0.6**
	baz=324						
DSB	**Dublin**	**74.16**	**352**		*e* P	**P**	**03 19 48.5 -4.1**
DSB					*i* PP	**P**	**03 19 52.9 +0.3**
DSB	**Dublin**	**74.16**	**352**		*e* P	**P**	**03 19 53.3 +0.7**
	comp=Z,77nm,1.1s						
DSB				LR	LR		
	comp=Z,4μm,21.0s						
GIUM	**Giurgiulesti**	**74.18**	**327**	⇑	*i* P	**P**	**03 19 54.2 +1.3**
NKC	**Novy Kostel**	**74.19**	**339**		*e* P	**P**	**03 19 54.0 +1.1**
NKC				MLR	MLR		
	comp=Z,9μm,14.4s						
NKC	**Novy Kostel**	**74.19**	**339**		*e* P	**P**	**03 19 54.0 +1.1**
NKC				AMS	AMS		03 56 10.0
	comp=Z,9μm,14.4s						
IGLA	**Glengowla, Co**	**74.22**	**354**		*e* P	P	03 19 47.3 -5.6
IGLA					*i* PP	**P**	**03 19 53.0 +0.1**
JAVC	**Velka Javorina**	**74.24**	**335**		*e* P	**P**	**03 19 54.8 +1.5**
TLCR		**74.24**	**327**	⇑	*i* P	**P**	**03 19 54.0 +0.8**
TUDR		**74.26**	**328**	⇑	*i* P	P	03 19 59.2 +5.9
VYHS	**Vyhne**	**74.27**	**334**		*e* P	**P**	**03 19 54.3 +0.9**
VYHS				pmax	pmax		
	comp=Z,64nm,1.3s						
VYHS	**Vyhne**	**74.27**	**334**		*e* P	**P**	**03 19 54.3 +0.9**
PETR	**Petresti**	**74.29**	**328**	⇑	*i* P	**P**	**03 19 54.8 +1.3**
MNAI	**Manna**	**74.30**	**241**	PFAKE			03 20 10.0 +16
MNAI				LR	LR		
	comp=Z,5μm,18.0s						
ODBI	**Odobesti**	**74.31**	**328**	⇓	*i* P	**P**	**03 19 55.8 +2.1**
WVL	**Waterville**	**74.32**	**35**		*e* P	**P**	**03 19 54.5 +0.8**
	comp=Z,67nm,0.9s						
WVL				LR	LR		
	comp=Z,7μm,18.0s						
DZM	**Mont Dzumac**	**74.32**	**174**		*e* P	**P**	**03 19 56.3 +2.4**
	comp=Z,39nm,1.1s						
DZM				LR	LR		
	comp=Z,6μm,18.0s						
O55A	**Ligonier**	**74.33**	**43**	P		**P**	**03 19 54.3 +0.4**
	baz=327						
VRI	**Vrincioaia**	**74.33**	**328**	⇑	*i* P	**P**	**03 19 54.0 +0.2**
P54A	**Burton**	**74.33**	**44**	P		**P**	**03 19 54.5 +0.6**
	baz=326						
OXF	**Oxford**	**74.36**	**54**		*e* P	**P**	**03 19 55.8 +1.7**
	comp=Z,106nm,1.1s						
OXF				LR	LR		
	comp=Z,7μm,20.0s						
OXF	**Oxford**	**74.36**	**54**	P		**P**	**03 19 55.2 +1.1**
	baz=324						
PLOR	**Plostina**	**74.37**	**328**	⇑	*i* P	**P**	**03 19 54.5 +0.5**
KRUC	**Moravsky**	**74.37**	**336**		*e* P	**P**	**03 19 54.3 +0.3**
TREC	**Trest**	**74.38**	**337**		*e* P	**P**	**03 19 55.1 +1.1**
TREC					*e*		03 20 07.5
TREC					*e*		03 20 16.3
TREC				MLR	MLR		
	comp=Z,24μm,15.4s						
TREC	**Trest**	**74.38**	**337**		*e* P	**P**	**03 19 55.1 +1.1**
TREC					*ex*	x	03 20 07.5
TREC					*ex*	x	03 20 16.3
TREC				AMS	AMS		03 56 40.0
	comp=Z,24μm,15.4s						
OZUR		**74.42**	**329**	⇓	*i* P	**P**	**03 19 55.8 +1.4**
R52A	**Catlettsburg**	**74.43**	**47**	P		**P**	**03 19 54.4 -0.1**
	baz=326						
LTVH	**Ltavrtes, Hu**	**74.44**	**332**	⇑	*e* P	**P**	**03 19 55.1 +0.7**
TRY	**Troy**	**74.44**	**38**	PFAKE			03 20 10.0 +16
TRY				LR	LR		
	comp=Z,5μm,19.0s						
CFR	**Carcaliu**	**74.47**	**327**	⇓	*i* P	**P**	**03 19 54.9 +0.3**
U49A	**Red Boiling Sp**	**74.49**	**50**	P		**P**	**03 19 55.4 +0.5**
	baz=325						
Q53A	**Leroy**	**74.49**	**46**	P		**P**	**03 19 55.3 +0.4**
	baz=326						
CISI	**Cisompet, Garu**	**74.50**	**235**	PFAKE			03 20 10.0 +15
CISI				LR	LR		
	comp=Z,5μm,20.0s						
T50A	**Nancy**	**74.51**	**49**	P		**P**	**03 19 55.6 +0.6**
	baz=325						
PSZ	**Piszkesteto**	**74.51**	**334**	PFAKE			03 20 10.0 +15
PSZ				LR	LR		
	comp=Z,18μm,19.0s						
PSZ	**Piszkesteto**	**74.51**	**334**	⇓	*i* P	**P**	**03 19 56.7 +1.8**
CJR	**Cluj-Napoca**	**74.55**	**331**	⇑	*i* P	**P**	**03 19 56.0 +0.9**
MCWV	**Mont Chateau**	**74.56**	**44**		*e* P	**P**	**03 19 56.1 +1.0**
	comp=Z,34nm,0.9s						
MCWV				LR	LR		
	comp=Z,4μm,18.0s						
MCWV	**Mont Chateau**	**74.56**	**44**	P		**P**	**03 19 55.7 +0.5**
	baz=327						
SSPA	**Standing Stone**	**74.56**	**42**		*e* P	**P**	**03 19 55.6 +0.4**
	comp=Z,44nm,0.9s						
SSPA				LR	LR		
	comp=Z,5μm,20.0s						
SSPA	**Standing Stone**	**74.56**	**42**	P		**P**	**03 19 55.8 +0.6**
	baz=328						
CLTN	**Cedars of Leba**	**74.57**	**50**	PFAKE			03 20 10.0 +15
CLTN				LR	LR		
	comp=Z,4μm,20.0s						
S51A	**Beattyville**	**74.58**	**48**	PFAKE			03 20 10.0 +15
S51A				LR	LR		
	comp=Z,7μm,18.0s						
O56A	**Blue Knob Stat**	**74.58**	**43**		*e* P	**P**	**03 19 55.9 +0.5**
	comp=Z,106nm,1.3s						
O56A				LR	LR		
	comp=Z,7μm,19.0s						
O56A	**Blue Knob Stat**	**74.58**	**43**	P		**P**	**03 19 55.9 +0.5**
	baz=327						
SMOL	**Smolenice**	**74.62**	**335**		*e* P	**P**	**03 19 57.0 +1.6**
SMOL	**Smolenice**	**74.62**	**335**		*e* P	**P**	**03 19 57.0 +1.6**
V48A	**Smith Brothers**	**74.62**	**51**		*e* P	**P**	**03 19 56.6 +1.0**
	comp=Z,35nm,0.8s						
V48A				LR	LR		
	comp=Z,7μm,20.0s						
V48A	**Smith Brothers**	**74.62**	**51**	P		**P**	**03 19 56.7 +1.0**
	baz=324						
PLAL	**Pickwick Lake**	**74.63**	**52**		*e* P	**P**	**03 19 56.4 +0.7**
	comp=Z,46nm,0.9s						
PLAL				LR	LR		
	comp=Z,7μm,18.0s						
HKT	**Hockley**	**74.66**	**61**	PFAKE			03 20 10.0 +14
HKT				LR	LR		
	comp=Z,5μm,21.0s						
SNOP	**Sinop**	**74.66**	**321**	PFAKE			03 20 10.0 +14
SNOP				LR	LR		
	comp=Z,6μm,20.0s						
DOPR	**Dopca**	**74.66**	**329**	⇓	*i* P	**P**	**03 19 56.5 +0.8**
GRER		**74.68**	**328**	⇑	*i* P	**P**	**03 19 58.2 +2.4**
P55A	**Reedsville**	**74.69**	**44**	P		**P**	**03 19 56.5 +0.4**
	baz=327						
Q54A	**Coxs Mills**	**74.69**	**45**		*e* P	**P**	**03 19 56.6 +0.6**
	comp=Z,32nm,0.8s						
Q54A				LR	LR		
	comp=Z,5μm,19.0s						
Q54A	**Coxs Mills**	**74.69**	**45**	P		**P**	**03 19 56.6 +0.6**
	baz=326						
X46A	**Booneville**	**74.72**	**53**	P		**P**	**03 19 57.0 +0.8**
	baz=324						
DRGR		**74.74**	**331**	⇓	*i* P	**P**	**03 19 57.3 +1.1**
R53A	**Hurricane**	**74.74**	**46**		*e* P	**P**	**03 19 57.1 +0.8**
	comp=Z,67nm,1.1s						
R53A				LR	LR		
	comp=Z,6μm,20.0s						
R53A	**Hurricane**	**74.74**	**46**	P		**P**	**03 19 56.8 +0.5**
	baz=326						
GGN	**Saint George**	**74.78**	**33**		*e* P	**P**	**03 19 56.8 +0.4**
	comp=Z,76nm,1.1s						
MODS	**Modra-Piesok**	**74.79**	**335**		*e* P	**P**	**03 19 56.8 +0.4**
MODS				pmax	pmax		
	comp=Z,115nm,1.2s						
MODS	**Modra-Piesok**	**74.79**	**335**		*e* P	**P**	**03 19 56.8 +0.4**
LMN	**Caledonia Moun**	**74.79**	**31**		*e* P	**P**	**03 19 56.8 +0.4**
	comp=Z,44nm,0.9s						
LMN				LR	LR		
	comp=Z,6μm,21.0s						
MLR	**Muntele Rosu**	**74.91**	**329**	PFAKE			03 20 10.0 +13
MLR				LR	LR		
	comp=Z,18μm,18.0s						
MLR	**Muntele Rosu**	**74.91**	**329**	⇑	*i* P	**P**	**03 19 59.2 +1.9**
PINNC	**Pines Island,**	**74.93**	**173**	PFAKE			03 20 10.0 +13
PINNC				LR	LR		
	comp=Z,8μm,20.0s						
EMMW	**East Machias**	**74.94**	**33**		*e* P	**P**	**03 19 58.6 +1.3**
	comp=Z,54nm,1.0s						
EMMW				LR	LR		
	comp=Z,6μm,19.0s						
DIKM	**Dikmen**	**74.96**	**321**	⇑	*i* P	**P**	**03 19 58.4 +0.9**
GRA1	**Grafenberg Arr**	**74.97**	**340**	PFAKE			03 20 10.0 +13
GRA1				LR	LR		
	comp=Z,6μm,18.0s						
HGN	**Heimansgroeve**	**74.97**	**343**		*e* P	**P**	**03 19 57.9 +0.5**
	comp=Z,306nm,1.1s						
GRFO	**Grafenberg**	**74.97**	**340**	PFAKE			03 20 10.0 +13
GRFO				LR	LR		
	comp=Z,5μm,21.0s						
HARR	**Harsova**	**74.97**	**327**	⇓	*i* P	**P**	**03 19 58.1 +0.6**
KHC	**Kasperske Hory**	**74.98**	**338**	PFAKE			03 20 10.0 +12
KHC				LR	LR		
	comp=Z,4μm,21.0s						
KHC	**Kasperske Hory**	**74.98**	**338**		*e* P	**P**	**03 19 58.4 +0.9**
KHC					*e*		03 20 07.5
KHC					*e*		03 20 20.4
KHC					*e* S	**S**	**03 29 32.9 +1.3**
KHC				MLR	MLR		
	comp=Z,18μm,14.1s						
KHC	**Kasperske Hory**	**74.98**	**338**		*e* P	**P**	**03 19 58.4 +0.9**
KHC					*ex*	x	03 20 07.5
KHC					*ex*	x	03 20 20.4
KHC					*e* S	**S**	**03 29 32.9 +1.3**
KHC				AMS	AMS		03 57 20.0
	comp=Z,18μm,14.1s						
BEBN	**Eben Emael**	**74.98**	**344**	⇑	P	**P**	**03 19 58.0 +0.6**
ZST	**Bratislava**	**75.00**	**335**		*e* P	**P**	**03 19 58.3 +0.7**
ZST	**Bratislava**	**75.00**	**335**		*e* P	**P**	**03 19 58.3 +0.7**
U50A	**Jamestown**	**75.00**	**49**	P		**P**	**03 19 59.2 +1.3**
	baz=325						
TLB	**Topalu**	**75.03**	**327**	⇑	*i* P	**P**	**03 19 58.7 +0.9**
SRO	**Srobarova**	**75.03**	**335**		*e* P	**P**	**03 19 59.5 +1.7**
SRO	**Srobarova**	**75.03**	**335**		*e* P	**P**	**03 19 59.5 +1.7**
V49A	**McMinnville**	**75.03**	**50**	P		**P**	**03 19 58.8 +0.7**
	baz=325						
W48A	**Pulaski**	**75.05**	**51**	P		**P**	**03 19 59.0 +0.8**
	baz=324						
IWEX	**Carrickbyrne,**	**75.06**	**352**		*e* P	P	03 19 52.6 -5.2
IWEX					*i* PP	**P**	**03 19 58.3 +0.5**
SRO2	**Moca**	**75.06**	**334**		*e* P	**P**	**03 19 58.3 +0.4**
SRO2	**Moca**	**75.06**	**334**		*e* P	**P**	**03 19 58.3 +0.4**
MEM	**Membach**	**75.10**	**343**	⇑	P	**P**	**03 19 58.6 +0.4**
MEM				⇑	pP	**pP**	**03 20 09.4 -0.9**
X47A	**Russelville**	**75.11**	**52**	P		**P**	**03 19 59.3 +0.8**
	baz=324						
BZK	**Bozkurt**	**75.17**	**322**	⇑	*i* P	**P**	**03 19 59.0 +0.3**
N59A	**State Game Lan**	**75.17**	**41**		*e* P	**P**	**03 19 59.3 +0.5**
	comp=Z,45nm,0.8s						
N59A				LR	LR		
	comp=Z,6μm,20.0s						
N59A	**State Game Lan**	**75.17**	**41**	P		**P**	**03 19 59.4 +0.5**
	baz=328						
UCC	**Uccle**	**75.20**	**344**		*e* P	**P**	**03 19 59.7 +1.0**
	comp=Z,60nm,0.9s						
UCC				LR	LR		
	comp=Z,8μm,20.0s						
UCC	**Uccle**	**75.20**	**344**	⇑	P	**P**	**03 19 58.8 +0.1**
GEC2	**GERESS Array S**	**75.22**	**338**	PFAKE			03 20 10.0 +11
GEC2				LR	LR		
	comp=Z,16μm,18.0s						
GERES	**GERESS Array B**	**75.22**	**338**	P		**P**	**03 19 59.9 +0.9**
	comp=Z,14nm,0.5s,baz=32,slow=4.3,SNR=42						
VOIR		**75.24**	**329**	⇑	*i* P	**P**	**03 20 00.1 +0.9**
SECR		**75.28**	**328**	⇑	*i* P	**P**	**03 19 59.6 +0.3**
T52A	**Hallie**	**75.29**	**48**	PFAKE			03 20 10.0 +11
T52A				LR	LR		
	comp=Z,7μm,19.0s						
R54A	**Victor**	**75.29**	**46**	P		**P**	**03 20 00.2 +0.7**
	baz=326						
QUA2	**Belchertown**	**75.33**	**38**	PFAKE			03 20 10.0 +10
QUA2				LR	LR		
	comp=Z,6μm,18.0s						
PAGS	**Pennsylvania G**	**75.38**	**42**		*e* P	**P**	**03 20 00.4 +0.5**
	comp=Z,54nm,1.0s						
PAGS				LR	LR		
	comp=Z,4μm,18.0s						
KSCT	**Kent School, K**	**75.38**	**39**	PFAKE			03 20 10.0 +10
KSCT				LR	LR		
	comp=Z,5μm,19.0s						
W49A	**Belvidere**	**75.39**	**51**	P		**P**	**03 20 01.0 +0.9**
	baz=325						
BCLA	**Clavier**	**75.41**	**344**	⇑	P	**P**	**03 20 00.4 +0.5**
	comp=Z,84nm,1.1s						
U51A	**La Follette**	**75.42**	**49**	P		**P**	**03 20 01.2 +1.0**
	baz=326						
HRV	**Adam Dziewonsk**	**75.43**	**37**		*e* P	**P**	**03 20 01.3 +1.1**
	comp=Z,46nm,1.0s						
HRV					*e* PcP	**PcP**	**03 20 13.5 +0.4**
HRV				LR	LR		
	comp=Z,6μm,22.0s						
HRV	**Adam Dziewonsk**	**75.43**	**37**	P		**P**	**03 20 00.8 +0.7**
	baz=330						
ARR	**Arges**	**75.44**	**329**	⇓	*i* P	**P**	**03 20 02.1 +1.8**
WC1	**Warramunga Arr**	**75.45**	**205**	PFAKE			03 20 10.0 +10
WC1				LR	LR		
	comp=Z,2μm,22.0s						
WRAB	**Tennant Creek**	**75.46**	**205**	PFAKE			03 20 10.0 +10
WRAB				LR	LR		
	comp=Z,3μm,20.0s						
WRAB	**Tennant Creek**	**75.46**	**205**	*i* P		**P**	**03 20 00.0 -0.5**
WRAB				pmax	pmax		
	comp=Z,60nm,1.0s						
CSKK	**Cskako**	**75.46**	**334**		*e* P	**P**	**03 20 01.0 +0.7**
WB2	**Warramunga Arr**	**75.47**	**205**	PFAKE			03 20 10.0 +9.5
WB2				LR	LR		
	comp=Z,3μm,20.0s						
WR1	**Warramunga Arr**	**75.47**	**205**		*e* P	**P**	**03 20 00.8 +0.3**
WRA	**Warramunga Arr**	**75.47**	**205**	P		**P**	**03 20 00.8 +0.3**
	comp=Z,35nm,0.8s,baz=22,slow=5.2,SNR=22						
WC3	**Warramunga Arr**	**75.48**	**205**	PFAKE			03 20 10.0 +9.4
WC3				LR	LR		
	comp=Z,3μm,22.0s						
V50A	**Pikevile**	**75.49**	**50**	P		**P**	**03 20 01.2 +0.5**
	baz=325						
WC4	**Warramunga Arr**	**75.49**	**205**	PFAKE			03 20 10.0 +9.4
WC4				LR	LR		
	comp=Z,3μm,22.0s						
SNF	**Seneffe**	**75.49**	**344**	⇑	P	**P**	**03 20 00.8 +0.5**
	comp=Z,60nm,1.1s						
ODNJ	**Ogdensburg**	**75.49**	**40**		*e* P	**P**	**03 20 00.8 +0.3**
	comp=Z,29nm,1.0s						
TZTN	**Tazewell**	**75.49**	**48**	PFAKE			03 20 10.0 +9.3
TZTN				LR	LR		
	comp=Z,6μm,19.0s						
DEV	**Deva**	**75.50**	**331**	⇓	*i* P	**P**	**03 20 01.4 +0.9**
SIRR	**Siria**	**75.52**	**332**	⇓	*i* P	**P**	**03 20 01.8 +1.1**
ICOR	**Ion Corvin**	**75.52**	**327**	⇓	*i* P	**P**	**03 20 01.9 +1.2**
O59A	**Robesonia**	**75.52**	**41**	P		**P**	**03 20 01.1 +0.3**
	baz=328						
LEHL	**Lehliu**	**75.53**	**328**	⇑	*i* P	**P**	**03 20 01.4 +0.7**
SULR		**75.54**	**328**	⇑	*i* P	**P**	**03 20 01.3 +0.6**
CONA	**Conrad Observa**	**75.56**	**336**	*i* pP		**P**	**03 20 02.2 +1.2**
	comp=Z,121nm,1.1s,SNR=11						
X48A	**Hartselle**	**75.56**	**52**		*e* P	**P**	**03 20 01.9 +0.8**
	comp=Z,36nm,1.3s						
X48A				LR	LR		
	comp=Z,7μm,18.0s						
X48A	**Hartselle**	**75.56**	**52**	P		**P**	**03 20 01.6 +0.6**
	baz=324						
R55A	**Marlinton**	**75.58**	**45**	PFAKE			03 20 10.0 +8.8
R55A				LR	LR		
	comp=Z,5μm,19.0s						
T53A	**Wise**	**75.59**	**47**	P		**P**	**03 20 02.8 +1.5**
	baz=326						
LUPA	**Lehigh Univers**	**75.61**	**40**		*e* P	**P**	**03 20 01.8 +0.6**
	comp=Z,3.6nm,0.9s						
LUPA				LR	LR		
	comp=Z,600nm,20.0s						
SOP	**Sopron**	**75.61**	**336**	⇑	*e* P	**P**	**03 20 02.1 +1.0**
WES	**Weston**	**75.62**	**37**		*e* P	**P**	**03 20 01.8 +0.6**
	comp=Z,45nm,0.9s						
WES				LR	LR		
	comp=Z,6μm,21.0s						
VBMS	**Vicksburg**	**75.64**	**56**		*e* P	**P**	**03 20 03.5 +2.0**
	comp=Z,65nm,1.0s						
VBMS				LR	LR		
	comp=Z,5μm,19.0s						
Q57A	**Strasburg**	**75.68**	**43**	P		**P**	**03 20 02.1 +0.4**
	baz=328						
U52A	**Thorn Hill**	**75.70**	**48**	P		**P**	**03 20 02.7 +0.8**
	baz=326						
BCX	**Boston College**	**75.72**	**37**		*e* P	**P**	**03 20 02.9 +1.1**
	comp=Z,35nm,0.9s						
BCX				LR	LR		
	comp=Z,5μm,19.0s						
MVL	**Millersville**	**75.72**	**41**		*e* P	**P**	**03 20 03.0 +1.2**
	comp=Z,27nm,0.8s						
MVL				LR	LR		
	comp=Z,5μm,21.0s						
V51A	**Loudon**	**75.73**	**49**		*e* P	**P**	**03 20 03.0 +1.0**
	comp=Z,55nm,1.0s						
V51A				LR	LR		
	comp=Z,8μm,19.0s						
V51A	**Loudon**	**75.73**	**49**	P		**P**	**03 20 02.5 +0.4**
	baz=325						
NIUE	**Niue**	**75.73**	**151**	PFAKE			03 20 20.0 +18
NIUE				LR	LR		
	comp=Z,9μm,19.0s						
VAL	**Valentia**	**75.75**	**354**		*e* P	**P**	**03 19 57.9 -3.9**
VAL					*i* PP	**P**	**03 20 02.3 +0.5**
W50A	**Signal Mountai**	**75.78**	**50**		*e* P	**P**	**03 20 02.7 +0.4**
	comp=Z,45nm,0.8s						
W50A				LR	LR		
	comp=Z,8μm,20.0s						
W50A	**Signal Mountai**	**75.78**	**50**	P		**P**	**03 20 02.8 +0.5**
	baz=325						
O60A	**Telford**	**75.83**	**41**	P		**P**	**03 20 03.1 +0.6**
	baz=329						
PAL	**Palisades**	**75.83**	**39**		*e* P	**P**	**03 20 03.0 +0.4**
PAL				LR	LR		
	comp=Z,4μm,20.0s						
PAL	**Palisades**	**75.83**	**39**	P		**P**	**03 20 02.9 +0.4**
	baz=329						
DOU	**Dourbes**	**75.84**	**344**	⇑	P	**P**	**03 20 02.5 +0.1**
	comp=Z,53nm,1.1s						
BRNJ	**Basking Ridge**	**75.85**	**40**		*e* P	**P**	**03 20 03.3 +0.7**
	comp=Z,37nm,0.9s						
BRNJ				LR	LR		
	comp=Z,7μm,20.0s						
X49A	**Woodville**	**75.85**	**51**	P		**P**	**03 20 03.6 +0.9**
	baz=325						
Y48A	**Jasper**	**75.93**	**52**	P		**P**	**03 20 03.4 +0.2**
	baz=325						
YLE	**Yale**	**75.94**	**38**	PFAKE			03 20 20.0 +17
YLE				LR	LR		
	comp=Z,5μm,20.0s						
CPCT	**Cooper Cave**	**75.94**	**50**		*e* P	**P**	**03 20 04.2 +1.0**
	comp=Z,33nm,0.9s						
CPCT				LR	LR		
	comp=Z,6μm,20.0s						
BRYW	**Bryant College**	**75.94**	**37**		*e* P	**P**	**03 20 04.0 +0.9**
	comp=Z,51nm,0.9s						
BRYW				LR	LR		
	comp=Z,5μm,19.0s						
T54A	**Tazewell**	**75.96**	**47**	P		**P**	**03 20 04.2 +0.8**
	baz=326						
GZR	**Gura Zlata**	**75.98**	**331**	⇑	*i* P	**P**	**03 20 03.4 0.0**
WLF	**Walferdange**	**75.99**	**343**		*e* P	**P**	**03 20 04.6 +1.4**
	comp=Z,300nm,1.0s						
WLF				LR	LR		
	comp=Z,57μm,19.0s						
WLF	**Walferdange**	**75.99**	**343**	⇓	P	**P**	**03 20 04.2 +1.0**
TIH	**Tihany**	**75.99**	**334**	⇑	*e* P	**P**	**03 20 03.1 -0.2**
CPNY	**Central Park**	**76.00**	**39**		*e* P	**P**	**03 20 04.1 +0.7**
	comp=Z,81nm,0.8s						
MOA	**Molln**	**76.02**	**337**		*e* pP	**P**	**03 20 04.4 +0.9**
	comp=Z,68nm,1.1s						
P59A	**Jarrettsville**	**76.02**	**42**	P		**P**	**03 20 04.0 +0.4**
	baz=328						
SDMD	**Soldier's Deli**	**76.02**	**42**		*e* P	**P**	**03 20 04.4 +0.8**
	comp=Z,26nm,1.0s						
SDMD				LR	LR		
	comp=Z,2μm,20.0s						
V52A	**Sevierville**	**76.05**	**49**		*e* P	**P**	**03 20 04.6 +0.7**
	comp=Z,48nm,1.0s						
V52A				LR	LR		
	comp=Z,7μm,20.0s						
V52A	**Sevierville**	**76.05**	**49**	P		**P**	**03 20 04.6 +0.7**
	baz=326						
ILGA	**Ilgaz**	**76.07**	**321**		*e* P	**P**	**03 20 05.3 +1.2**
	comp=Z,345nm,1.0s						
ILGA				LR	LR		
	comp=Z,9μm,18.0s						
W51A	**Cleveland**	**76.07**	**50**	P		**P**	**03 20 04.2 +0.3**
	baz=325						
BZS	**Buzias**	**76.12**	**331**	⇑	*i* P	**P**	**03 20 04.3 +0.2**
PSUB	**Penn St. - Bra**	**76.14**	**41**		*e* P	**P**	**03 20 04.6 +0.3**
	comp=Z,40nm,1.0s						
P60A	**Greenville**	**76.17**	**41**	P		**P**	**03 20 04.9 +0.5**
	baz=329						
GBN	**Guysborough**	**76.19**	**29**		*e* P	**P**	**03 20 06.2 +1.7**
	comp=Z,62nm,1.2s						
GBN				LR	LR		
	comp=Z,9μm,18.0s						
X50B	**Fort Payne**	**76.22**	**51**	P		**P**	**03 20 05.6 +0.8**
	baz=325						
HAL	**Halifax**	**76.26**	**31**		*e* P	**P**	**03 20 05.8 +1.0**
	comp=Z,53nm,0.9s						
HAL				LR	LR		
	comp=Z,8μm,19.0s						
R57A	**Stanardsville**	**76.26**	**44**	P		**P**	**03 20 06.0 +1.0**
	baz=328						
STU	**Stuttgart**	**76.26**	**341**		*e* P	**P**	**03 20 05.9 +1.1**
	comp=Z,132nm,1.0s						
STU				LR	LR		
	comp=Z,4μm,18.0s						
ARSA	**Arzberg**	**76.27**	**336**	*i* pP		**P**	**03 20 06.1 +1.2**
	comp=Z,90nm,1.1s,SNR=15						
U54A	**Nelsons Funny**	**76.30**	**47**		*e* P	**P**	**03 20 07.8 +2.5**
	comp=Z,50nm,0.9s						
U54A				LR	LR		
	comp=Z,6μm,19.0s						
S56A	**Natural Bridge**	**76.33**	**45**	P		**P**	**03 20 06.2 +0.8**
	baz=327						
Y49A	**Blount Mountai**	**76.34**	**52**		*e* P	**P**	**03 20 06.1 +0.5**
	comp=Z,25nm,0.8s						
Y49A				LR	LR		
	comp=Z,6μm,18.0s						
Y49A	**Blount Mountai**	**76.34**	**52**	P		**P**	**03 20 06.0 +0.5**
	baz=325						
BLA	**Blacksburg**	**76.34**	**46**		*e* P	**P**	**03 20 06.7 +1.1**
	comp=Z,41nm,1.0s						
BLA				LR	LR		
	comp=Z,4μm,18.0s						
FITZ	**Fitzroy Crossi**	**76.35**	**214**		*e* P	**P**	**03 20 06.4 +0.8**
	comp=Z,80nm,1.0s						
FITZ	**Fitzro

HERR Herculane 76.56 331⇑ iP P 03 20 06.6 +0.1
Q59A Harwood 76.56 42 P P 03 20 07.7 +1.0
baz=328
CUGUR Gurin_SVAS 76.64 318 i P P 03 20 09.3 +2.0
Y50A Piedmont 76.64 51 P P 03 20 07.9 +0.7
baz=325
BEHE Becsehely 76.68 335⇑ iP P 03 20 08.3 +1.1
BEHE Becsehely 76.68 335⇑ eP P 03 20 08.0 +0.8
LRAL Lakeview Retre 76.73 53 eP P 03 20 08.0 +0.3
comp=Z,17nm,0.6s
LRAL LR LR
comp=Z,6µm,18.0s
LRAL Lakeview Retre 76.73 53 P P 03 20 08.0 +0.3
baz=325
VLAD Vladila 76.74 329⇑ iP P 03 20 07.1 -0.5
R58B Mineral 76.81 44 eP P 03 20 08.8 +0.7
comp=Z,43nm,1.1s
R58B LR LR
comp=Z,6µm,19.0s
R58B Mineral 76.81 44 P P 03 20 08.8 +0.7
baz=328
CBN Corbin Frederi 76.82 43 eP P 03 20 09.2 +1.1
comp=Z,65nm,1.0s
CBN LR LR
comp=Z,6µm,19.0s
CBN Corbin Frederi 76.82 43 P P 03 20 09.0 +0.9
baz=328
Z49A Columbiana 76.83 52 P P 03 20 08.9 +0.7
baz=325
BFO Black Forest 76.86 341 PFAKE 03 20 20.0 +12
BFO LR LR
comp=Z,5µm,18.0s
MDVR Moldovita 76.86 331⇓ iP P 03 20 08.2 -0.1
V54A Nebo 76.86 48 P P 03 20 08.9 +0.4
baz=326
SOKA Soboth 76.93 336 i pP P 03 20 09.7 +1.0
comp=Z,164nm,1.2s,SNR=16
R59A King George, V 76.93 43 P P 03 20 10.0 +1.3
baz=328
PERS Pernice 76.94 336 i P P 03 20 09.7 +0.9
PUNG Punghina 76.94 330⇓ iP P 03 20 09.3 +0.6
Y51A Rockmart 76.95 51 P P 03 20 09.6 +0.6
baz=325
KBA Koelnbreinsper 76.96 337 eP P 03 20 10.6 +1.6
comp=Z,444nm,1.1s
S58A Poland Farm, P 77.03 44 eP P 03 20 10.2 +0.9
comp=Z,20nm,0.9s
S58A LR LR
comp=Z,7µm,18.0s
S58A Poland Farm, P 77.03 44 P P 03 20 10.3 +1.0
baz=328
T57A Hurt 77.03 45 eP P 03 20 10.2 +0.8
comp=Z,34nm,1.1s
T57A LR LR
comp=Z,6µm,18.0s
T57A Hurt 77.03 45 P P 03 20 09.9 +0.5
baz=327
BG3 Lake Jocassee 77.06 49 PFAKE 03 20 20.0 +10
BG3 LR LR
comp=Z,6µm,20.0s
FRGS Fruska Gora 77.06 332⇑ iP P 03 20 09.5 +0.1
Z50A Ashland 77.07 52 PFAKE 03 20 20.0 +10
Z50A LR LR
comp=Z,6µm,18.0s
Z50A Ashland 77.07 52 P P 03 20 10.4 +0.7
baz=325
U56A King 77.08 46 P P 03 20 10.7 +1.1
baz=327
WATA Walderalm 77.12 339 i pP P 03 20 10.8 +1.0
comp=Z,172nm,1.3s,SNR=14
RETA Reutte 77.15 339 i pP P 03 20 10.9 +0.9
comp=Z,67nm,0.9s,SNR=6.3
WTTA Wattenberg 77.17 339 i pP P 03 20 11.5 +1.3
comp=Z,202nm,1.2s,SNR=9.1
149A Jones 77.18 53 P P 03 20 11.1 +0.8
baz=325
ECH Echery 77.19 342 PFAKE 03 20 20.0 +10
ECH LR LR
comp=Z,6µm,18.0s
OBKA Obir 77.20 336 i pP P 03 20 11.3 +1.1
comp=Z,129nm,1.2s,SNR=8.3
MOTA Moosalm 77.22 339 i pP P 03 20 11.2 +0.8
comp=Z,162nm,1.1s,SNR=25
S59A Mechanicsville 77.23 43 P P 03 20 11.2 +0.8
baz=328
BR101 Keskin Array S 77.24 321 eP P 03 20 10.8 +0.1
BR101 ePP PP 03 23 03.9 -0.4
BR131 Keskin Array S 77.24 321 eP P 03 20 10.9 +0.2
comp=Z,230nm,1.4s
BR131 Keskin Array S 77.24 321 P P 03 20 10.8 +0.2
BRTR Keskin Array B 77.24 321 P P 03 20 10.8 +0.1
comp=Z,42nm,0.6s,baz=50,slow=3.0,SNR=57
BRTR PP PP 03 23 03.9 -0.5
comp=Z,11nm,0.8s,baz=54,slow=6.3,SNR=3.9
X53A Estanollee 77.29 49 P P 03 20 11.6 +0.7
baz=326
MYKA Terra Mystica 77.31 337 i pP P 03 20 11.5 +0.7
comp=Z,144nm,1.5s,SNR=9.8
SQTA Sankt Quirin 77.31 339 i pP P 03 20 12.2 +1.3
comp=Z,174nm,1.0s,SNR=14
W54A Cherokee Point 77.32 48 P P 03 20 11.5 +0.4
baz=326
Z51A Franklin 77.38 51 P P 03 20 12.2 +0.8
baz=325
T58A Grand View Acr 77.39 45 P P 03 20 12.0 +0.7
baz=328
ANTO Ankara 77.44 321 eP P 03 20 12.3 +0.6
comp=Z,379nm,1.4s
ANTO LR LR
comp=Z,9µm,19.0s
ANTO Ankara 77.44 321⇑ iP P 03 20 12.6 +0.9
ANTO Ankara 77.44 321 P P 03 20 12.3 +0.6
Y52A Lilburn 77.46 50 eP P 03 20 12.9 +1.1
comp=Z,34nm,1.0s
Y52A LR LR
comp=Z,7µm,19.0s
Y52A Lilburn 77.46 50 P P 03 20 12.9 +1.1
baz=326
ABTA Abfaltersbach 77.46 338 i pP P 03 20 12.5 +0.7
comp=Z,199nm,1.1s,SNR=29
BR231 Keskin MP Arra 77.47 321 eP P 03 20 13.0 +1.0
comp=Z,249nm,1.3s
ZAG Zagreb 77.48 335 eP P 03 20 13.4 +1.7
V56A Mocksville 77.48 47 PFAKE 03 20 20.0 +8.1
V56A LR LR
comp=Z,5µm,19.0s
MDUB Mudurnu 77.52 323 eP P 03 20 13.1 +0.9
comp=Z,912nm,1.0s
MDUB LR LR
comp=Z,49µm,20.0s
249A Camden 77.53 53 P P 03 20 13.7 +1.5
baz=325
DAVA Damuels 77.53 340 i pP P 03 20 13.0 +0.8
comp=Z,116nm,1.0s,SNR=9.2
150A Eclectic 77.55 52 P P 03 20 12.9 +0.6
baz=325
FETA Feichten 77.60 339 i pP P 03 20 13.9 +1.3
comp=Z,133nm,1.0s,SNR=12
CRES Cresnjev 77.61 336⇑ iP P 03 20 12.9 +0.4
KLYT Kilyos 77.62 325⇓ iP P 03 20 13.0 +0.4
LJU Ljubljana 77.64 336⇑ iP P 03 20 12.7 0.0
KMSC Kings Mountain 77.66 48 eP P 03 20 13.4 +0.5
KMSC LR LR
comp=Z,8µm,18.0s
CTYL Yalikoy Yolu 77.69 325⇑ iP P 03 20 13.2 +0.2
TEKS Tekeris 77.70 332 eP P 03 20 14.2 +1.2
PAULI Pauline 77.71 48 PFAKE 03 20 30.0 +17
PAULI LR LR
comp=Z,7µm,20.0s
V57A Coltrane Farms 77.73 46 P P 03 20 14.1 +0.8
baz=327
T59A Double "B" Far 77.78 44 eP P 03 20 14.7 +1.1
comp=Z,57nm,1.2s
T59A LR LR
comp=Z,6µm,19.0s
T59A Double "B" Far 77.78 44 P P 03 20 14.7 +1.1
baz=328
Z52A Williamson 77.84 51 P P 03 20 15.0 +1.0
baz=326
SHME Shamm 77.85 297 i P P 03 20 13.6 -0.6
SNR=34
U58A Oxford 77.85 45 P P 03 20 14.7 +0.7
baz=328
EDRB Edirne 77.89 326 P P 03 20 14.0 -0.1
PALK Pallekele 77.90 266 eP P 03 20 14.9 +0.3
comp=Z,258nm,1.2s
PALK LR LR
comp=Z,9µm,20.0s
PALK Pallekele 77.90 266 P P 03 20 14.6 +0.1
250A Grady 77.94 53 eP P 03 20 15.6 +1.1
comp=Z,27nm,0.8s
250A LR LR
comp=Z,5µm,19.0s
250A Grady 77.94 53 P P 03 20 15.4 +0.9
baz=325
151A Opelika 77.95 52 P P 03 20 15.1 +0.5
baz=326
CEY Cerknica 77.95 336⇑ iP P 03 20 14.5 +0.1
BOJS Bojanci 77.97 336 i P P 03 20 14.9 +0.5
DIVS Divibare 77.98 332⇑ iP P 03 20 14.6 -0.1
T60A Surry 77.99 43 eP P 03 20 15.9 +1.2
comp=Z,95nm,1.1s
T60A LR LR
comp=Z,6µm,19.0s
T60A Surry 77.99 43 P P 03 20 15.8 +1.2
baz=328
HODGE Hodges 78.00 49 eP P 03 20 15.9 +1.1
comp=Z,34nm,1.0s
HODGE LR LR
comp=Z,7µm,20.0s
W56A Indian Trail 78.00 47 P P 03 20 15.4 +0.6
baz=327
X55A Gracelyn & Ava 78.08 48 P P 03 20 16.2 +0.9
baz=327
FUORN Ofenpass-Fuorn 78.08 339 PFAKE 03 20 30.0 +15
FUORN LR LR
comp=Z,5µm,19.0s
Y54A Tignall 78.10 49 P P 03 20 16.2 +0.8
baz=326
V58A Windy Hill, Pi 78.10 46 P P 03 20 16.1 +0.8
baz=328
GOGA Godfrey 78.11 50 PFAKE 03 20 30.0 +15
GOGA LR LR
comp=Z,5µm,20.0s
152A Waverly Hall 78.13 51 eP P 03 20 16.2 +0.6
comp=Z,46nm,1.3s
152A LR LR
comp=Z,6µm,21.0s
152A Waverly Hall 78.13 51 P P 03 20 15.9 +0.3
baz=326
TRI Trieste 78.14 337 eP P 03 20 15.2 -0.2
comp=Z,46nm,0.8s
TRI LR LR
comp=Z,11µm,18.0s
BLY Banja Luka 78.17 334 eP P 03 20 15.7 +0.2
comp=Z,45nm,0.9s
BLY LR LR
comp=Z,15µm,18.0s
BLY Banja Luka 78.17 334⇑ iP P 03 20 15.7 +0.2
BLY Banja Luka 78.17 334 eP P 03 20 15.9 +0.3
Z53A Monticello 78.17 50 P P 03 20 16.5 +0.8
baz=326
U59A Littleton 78.21 44 eP P 03 20 17.1 +1.1
comp=Z,46nm,1.3s
U59A LR LR
comp=Z,6µm,19.0s
U59A Littleton 78.21 44 P P 03 20 17.0 +1.1
baz=328
BRAL Brewton 78.22 54 PFAKE 03 20 30.0 +14
BRAL LR LR
comp=Z,5µm,19.0s
CLF Chambon-Foret 78.23 345 eP P 03 20 17.1 +1.3
comp=Z,241nm,1.2s
CLF LR LR
comp=Z,9µm,19.0s
W57A Gilead 78.25 47 eP P 03 20 16.8 +0.5
comp=Z,50nm,1.3s
W57A LR LR
comp=Z,5µm,20.0s
W57A Gilead 78.25 47 P P 03 20 16.7 +0.5
baz=327
251A Midway 78.27 52 P P 03 20 17.2 +0.9
baz=326
HAPS Han Pijesak,Bl 78.29 333 eP P 03 20 16.9 +0.5
RIY Rijeka 78.33 336 eP P 03 20 16.7 +0.3
X56A White Oak 78.34 48 P P 03 20 17.1 +0.4
baz=327
VTS Vitosha 78.35 329 eP P 03 20 17.1 +0.3
comp=Z,89nm,0.9s
VTS LR LR
comp=Z,20µm,19.0s
VTS Vitosha 78.35 329 P P 03 20 15.4 -1.4
VTS Vitosha 78.35 329⇓ iP P 03 20 17.1 +0.3
BBLS Lazići 78.36 332⇑ iP P 03 20 17.3 +0.5
350A Dozier 78.37 53 P P 03 20 18.5 +1.6
baz=325
U60A Pendleton 78.38 44 P P 03 20 17.9 +1.1
baz=328
MSFE Esma-Masafi 78.38 296 i P P 03 20 16.5 -0.6
SNR=33
TUE Stuetta 78.42 340 PFAKE 03 20 30.0 +13
TUE LR LR
comp=Z,8µm,20.0s
BIRD Birdtown, Kers 78.47 47 eP P 03 20 18.3 +0.9
comp=Z,34nm,1.1s
BIRD LR LR
comp=Z,6µm,19.0s
449A Pace 78.47 54 P P 03 20 20.0 +2.5
baz=325
V59A Middlesex 78.51 45 P P 03 20 18.6 +1.0
baz=328
UMQ Umm Al-Quwin 78.52 297 i P P 03 20 18.6 +0.8
SNR=16
UMQ Umm Al-Quwin 78.52 297 P P 03 20 18.5 +0.7
SNR=9.0
153A Fort Valley 78.57 51 P P 03 20 18.8 +0.9
baz=326
252A Lumpkin 78.67 52 P P 03 20 19.5 +0.9
baz=326
WSAR Wadi Sarin 78.68 293 P P 03 20 19.1 +0.3
SNR=7.6
W58A Raeford 78.70 46 P P 03 20 19.3 +0.7
baz=328
BIDO Bidbid 78.74 294 P P 03 20 19.0 -0.1
SNR=15
U61A Possum Corner 78.80 43 eP P 03 20 20.4 +1.3
comp=Z,121nm,1.1s
U61A LR LR
comp=Z,7µm,18.0s
U61A Possum Corner 78.80 43 P P 03 20 20.2 +1.1
baz=329
HATD Hatta, Dubai 78.82 296 i P P 03 20 19.1 -0.4
SNR=46
HATD Hatta, Dubai 78.82 296 P P 03 20 19.1 -0.4
SNR=17
351A Pinckard 78.84 53 P P 03 20 21.0 +1.5
baz=326
253A Americus 78.91 51 PFAKE 03 20 30.0 +10
253A LR LR
comp=Z,7µm,22.0s
W59A Clinton 78.93 46 P P 03 20 21.3 +1.4
baz=328
RDO Rodhopi 78.93 327 P P 03 20 16.7 -3.1
YURE YUREGIR 78.93 318 i P P 03 20 22.0 +2.0
V60A Jim Taylor Roa 78.93 44 eP P 03 20 20.8 +0.9
comp=Z,47nm,0.6s
V60A LR LR
comp=Z,5µm,19.0s
V60A Jim Taylor Roa 78.93 44 P P 03 20 20.6 +0.7
baz=328
154A Montrose 78.94 50 PFAKE 03 20 30.0 +10
154A LR LR
comp=Z,6µm,21.0s
SENIN Lac Senin/Sane 78.94 341 eP P 03 20 21.4 +1.4
comp=Z,106nm,1.2s
SENIN LR LR
comp=Z,7µm,20.0s
NAZ Nazwa, Dubai 78.95 297 i P P 03 20 19.9 -0.3
SNR=32
NAZ Nazwa, Dubai 78.95 297 P P 03 20 19.6 -0.6
SNR=10
ASHO Ashiyiah 78.97 296 i P P 03 20 20.1 -0.3
SNR=43
ASHO Ashiyiah 78.97 296 P P 03 20 19.8 -0.6
SNR=14
ALN Alexandroupoli 78.98 326 PFAKE 03 20 30.0 +10
ALN LR LR
comp=Z,7µm,20.0s
ALN Alexandroupoli 78.98 326 P P 03 20 17.1 -3.0
WBK Wadi Bani Khal 78.98 293 P P 03 20 21.1 +0.7
SNR=8.2
352A Blakely 79.00 52 PFAKE 03 20 30.0 +10
352A LR LR
comp=Z,6µm,19.0s
Y57A Sumter 79.03 48 PFAKE 03 20 30.0 +10
Y57A LR LR
comp=Z,7µm,18.0s
X58A Rowland 79.05 46 eP P 03 20 24.3 +3.7
comp=Z,61nm,1.0s
X58A LR LR
comp=Z,6µm,20.0s
X58A Rowland 79.05 46 P P 03 20 21.3 +0.8
baz=328
JLN Jalan Bani Buh 79.09 292 P P 03 20 21.5 +0.5
SNR=17
CNNC Cliffs of the 79.11 45 PFAKE 03 20 30.0 +9.1
CNNC LR LR
comp=Z,6µm,18.0s
CNNC Cliffs of the 79.11 45 P P 03 20 22.1 +1.3
baz=328
AS31 Alice Springs 79.14 204 eP P 03 20 21.6 +0.6
comp=Z,14nm,0.8s
ASAR Alice Springs 79.14 204 P P 03 20 22.2 +1.1
comp=Z,43nm,0.8s,baz=14,slow=5.4,SNR=30
ASAR PKPPKP P'P'df 03 47 17.3 +6.1
comp=Z,1.0nm,0.8s,baz=191,slow=3.6,SNR=4.4
SOHO SOHO 79.14 295 P P 03 20 20.4 -0.9
HOQ Hoqain 79.15 294 P P 03 20 22.3 +1.0
SNR=12
SMDO Samad 79.15 294 P P 03 20 21.3 -0.2
SNR=9.7
Z56A Williston 79.16 49 PFAKE 03 20 30.0 +8.8
Z56A LR LR
comp=Z,7µm,20.0s
FAQ Al Faqa, Dubai 79.18 296 i P P 03 20 20.8 -0.6
SNR=28
FAQ Al Faqa, Dubai 79.18 296 P P 03 20 20.6 -0.9
SNR=8.8
V61A Roper 79.20 44 PFAKE 03 20 30.0 +8.6
V61A LR LR
comp=Z,8µm,18.0s
NVR Nevrokopi 79.30 328 P P 03 20 18.3 -3.6
451A Vernon 79.31 53 PFAKE 03 20 30.0 +7.9
451A LR LR
comp=Z,4µm,18.0s
X59A McDuffie Farm, 79.36 46 P P 03 20 22.9 +0.6
baz=328
KAVA Kavala 79.40 327 P P 03 20 20.2 -2.2
254A Abbeville 79.41 51 P P 03 20 24.0 +1.4
baz=326
ASUD Al Ashush, Dub 79.42 297 i P P 03 20 22.6 -0.2
SNR=27
ASUD Al Ashush, Dub 79.42 297 P P 03 20 22.4 -0.4
SNR=12
Y58A Scranton 79.45 47 eP P 03 20 23.8 +1.1
comp=Z,76nm,1.0s
Y58A LR LR
comp=Z,6µm,20.0s
353A Camilla 79.46 52 P P 03 20 24.0 +1.2
baz=326
BALB Balikesir 79.46 325 eP P 03 20 22.9 +0.2
comp=Z,932nm,1.0s
BALB LR LR
comp=Z,16µm,19.0s
SKO Skopje 79.50 330 i P P 03 20 23.3 +0.3
BRY Bratogost 79.50 332⇑ iP P 03 20 22.5 -0.6
STIP Stip 79.52 329 i P P 03 20 22.3 -0.7
SMTH Samothraki Isl 79.53 327 P P 03 20 20.1 -3.1
SRS Serrai 79.59 328 P P 03 20 21.5 -2.0
ALNE Al Ain 79.64 296 i P P 03 20 23.9 -0.1
SNR=24
AJN Ajban 79.66 297 i P P 03 20 23.5 -0.6
SNR=7.1
AJN Ajban 79.66 297 P P 03 20 23.3 -0.7
SNR=11
JMDO Jabal Madar 79.66 293 P P 03 20 25.2 +1.0
SNR=10
V62A Hyde County Ai 79.66 44 PFAKE 03 20 40.0 +16
V62A LR LR
comp=Z,7µm,18.0s
TIGA Tifton 79.68 51 eP P 03 20 25.6 +1.6
comp=Z,89nm,1.1s
TIGA Tifton 79.68 51 P P 03 20 25.1 +1.1
baz=326
THAS Thassos island 79.68 327 P P 03 20 19.5 -4.4
MOIG Morelia 79.72 71 PFAKE 03 20 40.0 +15
MOIG LR LR
comp=Z,2µm,20.0s
TREB Trebinje 79.72 332 eP P 03 20 24.2 +0.1
PDG Podgorica 79.73 332⇑ iP P 03 20 24.3 +0.2
PDG Podgorica 79.73 332⇑ iP P 03 20 23.7 -0.4
TTG Podgorica 79.73 332 eP P 03 20 23.3 -0.8
comp=Z,280nm,1.1s
TTG LR LR
comp=Z,20µm,18.0s
STON Ston 79.76 333 eP P 03 20 23.8 -0.5
KNT Kendrikon 79.78 329 P P 03 20 22.3 -2.2
ARQ Araqi 79.78 295 P P 03 20 25.2 +0.4
SNR=6.0
255A Hazlehurst 79.81 50 eP P 03 20 26.4 +1.6
comp=Z,91nm,1.1s
255A LR LR
comp=Z,6µm,19.0s
255A Hazlehurst 79.81 50 P P 03 20 26.4 +1.6
baz=327
453A Whigham 79.81 52 eP P 03 20 26.7 +1.9
comp=Z,101nm,1.2s
453A LR LR
comp=Z,7µm,19.0s
453A Whigham 79.81 52 P P 03 20 26.6 +1.8
baz=326
EZN Ezine 79.84 326 P P 03 20 23.7 -1.1
EZN Ezine 79.84 326⇑ iP P 03 20 24.6 -0.2
BSY Bisya 79.87 294 P P 03 20 25.4 +0.1
SNR=12
NHSC New Hope 79.89 48 PFAKE 03 20 40.0 +15
NHSC LR LR
comp=Z,6µm,18.0s
552A Lynn Haven 79.93 53 P P 03 20 27.7 +2.3
baz=326
DRME Dracevica, Mon 79.97 332⇑ iP P 03 20 25.5 0.0
Y60A Bolivia 80.01 46 PFAKE 03 20 40.0 +14
Y60A LR LR
comp=Z,4µm,19.0s
PHP Peshkopia 80.06 331 P P 03 20 23.9 -2.1
ISP Isparta 80.09 322 eP P 03 20 26.0 -0.3
comp=Z,78nm,0.8s
ISP LR LR
comp=Z,10µm,18.0s
ISP Isparta 80.09 322⇑ iP P 03 20 25.9 -0.4
KRUS Krusevo 80.10 330 i P P 03 20 26.5 +0.2
355A Pearson 80.11 51 P P 03 20 27.5 +1.1
baz=327
GRG Griva 80.12 329 P P 03 20 24.3 -2.1
LIA Limnos Island 80.17 327 P P 03 20 25.1 -1.4
OUR Ouranopolis 80.17 328 P P 03 20 24.6 -2.0
KULA Kula-Manisa 80.17 323 P P 03 20 25.0 -1.8
HORT Hortiatis 80.22 328 P P 03 20 23.0 -4.0
MANT Manisa 80.23 324 eP P 03 20 27.6 +0.4
comp=Z,634nm,1.0s
MANT LR LR
comp=Z,21µm,18.0s
PLG Polygyros 80.31 328 P P 03 20 24.9 -2.5
BNI Bardonecchia 80.32 341 eP P 03 20 29.1 +1.5
comp=Z,139nm,1.1s
BNI LR LR
comp=Z,6µm,20.0s
VLC Villacollemand 80.39 339 eP P 03 20 29.1 +1.3
comp=Z,128nm,1.1s
VLC LR LR
comp=Z,12µm,18.0s
BIA Bitola 80.40 330 i P P 03 20 27.9 0.0
257A Skidaway Islan 80.44 49 PFAKE 03 20 40.0 +12
257A LR LR
comp=Z,9µm,19.0s
OHR Ohrid 80.48 330 i P P 03 20 28.1 -0.2
SSB Saint Sauveur 80.51 343 eP P 03 20 29.5 +1.2
comp=Z,297nm,1.4s
SSB LR LR
comp=Z,6µm,18.0s
455A Stateville 80.53 51 P P 03 20 30.2 +1.6
baz=327
TIR Tirane 80.54 331 eP P 03 20 28.8 +0.2
comp=Z,234nm,1.0s
TIR LR LR
comp=Z,12µm,20.0s
TIR Tirane 80.54 331 P P 03 20 27.8 -0.8
TIR Tirane 80.54 331⇓ iP P 03 20 29.2 +0.6
SIGR SIGRI 80.55 326 P P 03 20 26.6 -2.0

FNA Florina 80.60 330 PFAKE 03 20 40.0 +11
FNA LR LR
comp=Z,12µm,20.0s
FNA Florina 80.60 330 P P 03 20 23.1 -5.9
PAIG Paliouri 80.64 328 P **P** **03 20 27.6 -1.5**
MHTO MHTO 80.83 292 P **P** **03 20 30.3 -0.1**
SNR=24
456A Hilliard 81.02 51 PFAKE 03 20 40.0 +8.7
456A LR LR
comp=Z,6µm,20.0s
NEST Nestorio 81.04 330 P **P** **03 20 28.2 -3.2**
555A McAlpin 81.07 52 *eP* **P** **03 20 32.8 +1.2**
comp=Z,71nm,0.9s
555A LR LR
comp=Z,6µm,22.0s
555A McAlpin 81.07 52 P **P** **03 20 32.7 +1.1**
baz=327
PHNC Paralimni 81.16 318 P **P** **03 20 32.0 +0.1**
PENT Pentalofos 81.21 330 P **P** **03 20 30.2 -2.1**
CHOS Chios island 81.22 325 P **P** **03 20 29.3 -3.0**
SKY Skiros Island 81.30 327 P **P** **03 20 31.7 -0.9**
XOR Xorichti 81.31 328 P **P** **03 20 30.5 -2.2**
MAMC Mammari 81.34 319 P **P** **03 20 32.7 -0.3**
NEO Neokhori 81.35 328 P **P** **03 20 31.1 -1.9**
FYTO Fytoko, Volos 81.35 328 P **P** **03 20 31.1 -1.8**
AQU L'Aquila 81.38 336 *eP* **P** **03 20 34.7 +1.6**
comp=Z,322nm,1.1s
AQU LR LR
comp=Z,15µm,18.0s
AQU L'Aquila 81.38 336⇑ *iP* **P** **03 20 34.0 +0.9**
BHL Bhannes 81.43 316 *eP* **P** **03 20 33.4 -0.2**
556A Lake Butler 81.44 51 P **P** **03 20 35.3 +1.8**
baz=327
TPE Tepelena 81.46 330 P **P** **03 20 33.6 +0.1**
CSS Mathiatis 81.48 318 *eP* **P** **03 20 33.6 -0.1**
comp=Z,214nm,0.9s
CSS LR LR
comp=Z,8µm,20.0s
CSS Mathiatis 81.48 318 P **P** **03 20 31.5 -2.2**
LEF Lefka 81.52 319⇑ *iP* **P** **03 20 34.2 +0.3**
SMG Samos 81.55 324 P P 03 20 28.4 -5.6
ALFC Alefka 81.61 319 P **P** **03 20 34.0 -0.4**
PSAD2 Pilbara Seismi 81.62 217 PFAKE 03 20 50.0 +16
PSAD2 LR LR
comp=Z,2µm,19.0s
BAI Bari 81.63 333 *eP* **P** **03 20 34.7 +0.4**
DQRL Deir Qamar 81.63 316 *eP* **P** **03 20 34.8 +0.2**
PSAC3 Pilbara Seismi 81.68 218 PFAKE 03 20 50.0 +15
PSAC3 LR LR
comp=Z,2µm,18.0s
FETY Fethiye 81.68 322 P **P** **03 20 32.4 -2.3**
RCY Rachaya 81.70 316 *eP* **P** **03 20 35.2 +0.2**
QRWL Qaraoun 81.72 316 *eP* **P** **03 20 35.1 0.0**
MZR Muzera 81.73 297 *i* P **P** **03 20 34.6 -0.6**
SNR=14
MZR Muzera 81.73 297 P **P** **03 20 34.5 -0.6**
SMIA Simia 81.74 327 P **P** **03 20 33.3 -1.7**
557A Orange Park 81.75 51 P **P** **03 20 36.5 +1.3**
baz=327
FASA Fasano 81.76 332 *eP* **P** **03 20 34.9 -0.1**
MRKA Markates 81.77 327 P **P** **03 20 33.2 -2.0**
JAN Janina 81.79 330 P **P** **03 20 32.9 -2.4**
MNCI Minicoy 81.80 273 PFAKE 03 20 50.0 +14
MNCI LR LR
comp=Z,8µm,19.0s
SZAC Souni 81.84 319 P **P** **03 20 35.5 -0.1**
SRN Sarande 81.85 330 P P 03 20 28.0 -7.5
CGL1 Ceglie Messapi 81.88 332 *eP* **P** **03 20 35.7 0.0**
656A Willston 81.90 52 *eP* **P** **03 20 38.2 +2.2**
comp=Z,98nm,1.0s
656A LR LR
comp=Z,6µm,19.0s
DQM DQM 81.91 292 P **P** **03 20 35.4 -0.7**
SNR=11
EREA Eretria 81.92 327 P **P** **03 20 33.1 -2.9**
KSL Kastellorizon 81.92 322 P **P** **03 20 33.7 -2.2**
PPCY Paphos 81.95 319 P **P** **03 20 35.6 -0.5**
BODT Bodrum 81.95 324 P **P** **03 20 32.6 -3.6**
ATAL Atalanti 81.97 328 P P 03 20 31.0 -5.2
MASS Massafra 81.99 333 *eP* **P** **03 20 36.1 -0.2**
LKR Lokris 82.02 328 P **P** **03 20 34.9 -1.5**
TAR1 Taranto 82.05 332 *eP* **P** **03 20 36.6 0.0**
KEK Kerkira 82.06 330 P P 03 20 27.6 -9.1
IGT Igoumenitsa 82.06 330 P **P** **03 20 31.9 -4.8**
MATE Matera 82.10 333⇑ *iP* **P** **03 20 37.8 +1.0**
DION Dionisos Attik 82.22 327 P P 03 20 32.0 -5.6
PTL Penteli 82.27 327 P P 03 20 32.9 -4.9
VILL Villia 82.36 327 P P 03 20 32.0 -6.3
ATHU Athens Univers 82.38 327 P P 03 20 33.2 -5.1
SHMJ Saham 82.39 316 P **P** **03 20 39.9 +1.4**
DSF Desfina 82.39 328 P P 03 20 31.6 -6.9
ARG Arkhangelos 82.41 323 P **P** **03 20 34.3 -4.2**
ANX Ano Chora 82.42 328 P **P** **03 20 36.8 -1.9**
658A Bunnell 82.47 51 PFAKE 03 20 50.0 +11
658A LR LR
comp=Z,6µm,21.0s
VLY Voula,Athens 82.47 327 P P 03 20 30.6 -8.2
KALE Kalithea 82.53 328 P P 03 20 32.8 -6.4
SERG Sergoula 82.54 328 P P 03 20 32.6 -6.6
EFP Efpalio 82.58 328 P P 03 20 34.1 -5.2
TRIZ Trizonia 82.58 328 P P 03 20 31.9 -7.4
APE Apeiranthos 82.58 325⇓ *iP* **P** **03 20 38.0 -1.5**
LKD2 Lefkada island 82.64 329 P **P** **03 20 35.6 -4.1**
AMGA Amorgos Island 82.67 325 P P 03 20 33.6 -6.3
LAKA Lakka 82.72 328 P P 03 20 35.3 -4.9
EVGI Lefkada island 82.80 329 P **P** **03 20 37.5 -3.0**
KLV Kalavryta, Ach 82.85 328 P P 03 20 35.2 -5.7
GUR Goura 82.88 328 P **P** **03 20 38.0 -3.1**
TLIG Tlapa 82.90 71 PFAKE 03 20 50.0 +8.5
TLIG LR LR
comp=Z,2µm,18.0s
DID Didima 82.98 327 P P 03 20 34.8 -6.7
RLS Riolos of Patr 83.06 328 P P 03 20 33.8 -8.0
DRO Drossia 83.07 328 P **P** **03 20 39.9 -2.1**
KRND KRANIDI 83.12 327 P **P** **03 20 39.1 -3.1**
KFL Anninata 83.22 329 P **P** **03 20 42.1 -0.6**
VLS Valsamata 83.22 329 P **P** **03 20 41.0 -1.7**
THR6 Thira Island, 83.27 325 P **P** **03 20 39.4 -3.6**
KARP Karpathos 83.36 323 *eP* **P** **03 20 42.5 -1.0**
comp=Z,150nm,0.7s
KARP LR LR
comp=Z,5µm,18.0s
KARP Karpathos 83.36 323 P **P** **03 20 39.5 -4.0**
WALJ Wala 83.37 315 P **P** **03 20 44.5 +1.0**
TIP Timpagrande 83.45 332 PFAKE 03 21 00.0 +16
TIP LR LR
comp=Z,11µm,18.0s
TIP Timpagrande 83.45 332 P **P** **03 20 41.4 -2.6**
TIP Timpagrande 83.45 332⇑ *iP* **P** **03 20 44.8 +0.8**
AMT Artemida-Makis 83.46 328 P **P** **03 20 42.1 -1.9**
957A Wimauma 83.46 52 PFAKE 03 21 00.0 +16
957A LR LR
comp=Z,6µm,19.0s
DWPF Disney Wildern 83.48 52 PFAKE 03 21 00.0 +16
DWPF LR LR
comp=Z,4µm,20.0s
SWQJ Swaqa 83.53 315 P **P** **03 20 44.8 +0.3**
LHI Lord Howe Isla 83.55 181 PFAKE 03 21 00.0 +16
LHI LR LR
comp=Z,2µm,20.0s
GHAJ Ghor Haditha 83.70 315 P **P** **03 20 43.7 -1.5**
ITM Ithomi 83.71 328 *eP* **P** **03 20 44.7 -0.5**
comp=Z,155nm,1.0s
ITM LR LR
comp=Z,10µm,20.0s
ITM Ithomi 83.71 328 P **P** **03 20 43.4 -1.8**
AMAZ Amatzia 83.78 316 P **P** **03 20 46.3 +0.6**
LISJ El Lisan 83.79 315 P **P** **03 20 46.9 +1.3**
VLI Veliai 83.79 327 P P 03 20 40.8 -4.9
PYL PYLOS 84.03 328 P P 03 20 42.0 -4.8
STIA Sitia Lasithi 84.06 324 P **P** **03 20 44.9 -2.1**
ZKR Zakros 84.09 324 P **P** **03 20 44.7 -2.5**
JDRJ Daraweish 84.15 315 P **P** **03 20 48.4 +0.6**
NPS Neapolis 84.17 324 P **P** **03 20 44.8 -2.9**
KTHR Kythira 84.18 327 P **P** **03 20 44.8 -2.9**
LAST Lasithi 84.31 324 P **P** **03 20 46.1 -2.3**
IDI Anoyia 84.41 325 P P 03 20 41.2 -7.7
ANKY Antikythira Is 84.44 326 P P 03 20 43.9 -5.0
HSNJ Maan 84.54 314 P **P** **03 20 51.0 +1.3**
VAM Vamos 84.54 325 P **P** **03 20 44.9 -4.6**
CEL Celeste 84.55 333 *eP* **P** **03 20 49.4 -0.2**
comp=Z,69nm,0.9s
CEL LR LR
comp=Z,10µm,18.0s
IMMV Iera Moni Meta 84.57 325 P **P** **03 20 46.4 -3.2**
059A Moore Haven 84.58 52 PFAKE 03 21 00.0 +10
059A LR LR
comp=Z,5µm,19.0s
SIVA Sivas 84.68 325 P **P** **03 20 48.6 -1.6**
060A Indiantown 84.90 51 PFAKE 03 21 00.0 +8.6
060A LR LR
comp=Z,6µm,20.0s
DMTO DMTO 85.14 293 P **P** **03 20 51.3 -1.5**
STKA Stephens Creek 85.47 196 *eP* **P** **03 20 55.1 +1.2**
comp=Z,7.4nm,0.9s
STKA Stephens Creek 85.47 196 P **P** **03 20 54.7 +0.8**
comp=Z,18nm,0.8s,baz=336,slow=6.6,SNR=12
PGAV Gavieira, Arco 85.51 351 *eP* **P** **03 20 54.6 +0.2**
comp=Z,15nm,0.8s
PBRG Braganca 85.52 350 *eP* **P** **03 20 54.6 +0.2**
comp=Z,108nm,1.3s
061Z Ochoppi 85.62 52 PFAKE 03 21 10.0 +15
061Z LR LR
comp=Z,5µm,18.0s
CLTB Caltabellotta 85.92 334 *eP* **P** **03 20 57.7 +1.2**
comp=Z,87nm,1.1s
CLTB LR LR
comp=Z,16µm,18.0s
POLO Lamas de Olo 86.05 351 *eP* **P** **03 20 57.5 +0.4**
comp=Z,45nm,1.6s
PVRL Vila Real 86.14 351 *eP* **P** **03 20 58.9 +1.5**
MVO Moncorvo 86.19 350 *eP* **P** **03 20 58.0 +0.3**
comp=Z,135nm,1.2s
PTO Porto 86.36 352 *eP* **P** **03 21 00.0 +1.6**
comp=Z,90nm,1.4s
PVIS Viseu 86.72 351 *eP* **P** **03 21 01.3 +1.0**
comp=Z,96nm,1.3s
BBSR BB Station 86.91 37 *eP* **P** **03 21 02.8 +1.5**
comp=Z,37nm,0.9s
BBSR LR LR
comp=Z,2µm,19.0s
MTE Manteigas 87.00 351 *eP* **P** **03 21 01.7 0.0**
comp=Z,147nm,1.0s
MTE Manteigas 87.00 351 *eP* **P** **03 21 02.0 +0.3**
comp=Z,129nm,1.1s
MTE LR LR
comp=Z,5µm,20.0s
WDD Wied Dalam 87.20 333 *eP* **P** **03 21 02.9 +0.3**
comp=Z,367nm,1.0s
WDD LR LR
comp=Z,4µm,20.0s
COI Coimbra 87.27 351 *eP* **P** **03 21 03.3 +0.4**
comp=Z,182nm,1.1s
COI Coimbra 87.27 351 *eP* **P** **03 21 04.1 +1.2**
comp=Z,178nm,1.1s
COI LR LR
comp=Z,6µm,18.0s
ESDC Sonseca Array 87.30 348 P **P** **03 21 03.3 +0.1**
comp=Z,68nm,1.0s,baz=4.5,slow=4.8,SNR=26
ESLA Sonseca Array 87.30 348 *eP* **P** **03 21 03.8 +0.6**
comp=Z,150nm,1.3s
ESLA LR LR
comp=Z,8µm,20.0s
PCAS Casmilo, Conde 87.43 351 *eP* **P** **03 21 03.7 0.0**
comp=Z,162nm,1.4s
BBOO Buckleboo 87.43 200 PFAKE 03 21 20.0 +17
BBOO LR LR
comp=Z,3µm,20.0s
PAB San Pablo 87.48 348 *eP* **P** **03 21 04.6 +0.6**
comp=Z,109nm,1.4s
PAB LR LR
comp=Z,8µm,20.0s
PCBR Castelo Branco 87.54 351 *eP* **P** **03 21 04.0 -0.2**
comp=Z,108nm,1.3s
PTOM Tomar 87.85 351 *eP* **P** **03 21 06.2 +0.5**
comp=Z,95nm,1.1s
CAN Canberra 87.88 189 PFAKE 03 21 20.0 +14
CAN LR LR
comp=Z,3µm,20.0s
PMRV Marv??o 87.94 350 *eP* **P** **03 21 05.8 -0.4**
comp=Z,61nm,1.4s
OUZ Omahuta 88.00 169 PFAKE 03 21 20.0 +14
OUZ LR LR
comp=Z,5µm,20.0s
CMAH Djebel Manchou 88.25 338 P **P** **03 21 07.0 -0.8**
PMTG Montargil 88.38 351 *eP* **P** **03 21 06.3 -1.9**
comp=Z,51nm,1.3s
ABSA Djebel Ababsia 88.58 338 P **P** **03 21 08.6 -0.7**
CKFL Kef-Lekhel 88.62 339 P **P** **03 21 08.8 -0.8**
KEST Kesra 88.66 337 *eP* **P** **03 21 10.2 +0.5**
comp=Z,139nm,1.1s
KEST LR LR
comp=Z,9µm,20.0s
KEST Kesra 88.66 337 P **P** **03 21 09.8 +0.1**
comp=Z,97nm,1.0s,baz=307,slow=1.7,SNR=22
DFRA Djebel Bou Aff 88.67 340 P **P** **03 21 10.7 +0.9**
CART Cartagena 88.93 345 PFAKE 03 21 20.0 +9.2
CART LR LR
comp=Z,4µm,21.0s
CTEI Djebel Teioual 89.02 339 P **P** **03 21 11.3 -0.1**
CKHR Kef el Ahmar 89.25 340 P **P** **03 21 12.5 -0.1**
PBEJ Beja 89.38 351 *eP* **P** **03 21 13.5 +0.6**
comp=Z,69nm,1.3s
MESJ Messejana 89.60 351 *eP* **P** **03 21 14.2 +0.3**
MESJ AMb AMB 03 21 15.6
comp=Z,42nm,0.9s
MESJ Messejana 89.60 351 *eP* **P** **03 21 14.6 +0.7**
comp=Z,3.7nm,0.7s
MESJ Messejana 89.60 351 *eP* **P** **03 21 14.2 +0.3**
PCVE Castro Verde 89.78 351 *eP* **P** **03 21 15.6 +0.8**
comp=Z,82nm,1.3s
PFVI Vila Bisbo 90.36 351 PFAKE 03 21 30.0 +13
PFVI LR LR
comp=Z,6µm,18.0s
SFS San Fernando 90.74 349 PFAKE 03 21 30.0 +11
SFS LR LR
comp=Z,5µm,18.0s
MXZ Matakaoa Point 90.94 166 PFAKE 03 21 30.0 +10
MXZ LR LR
comp=Z,5µm,19.0s
HIZ Hauiti 91.40 169 PFAKE 03 21 30.0 +8.1
HIZ LR LR
comp=Z,3µm,20.0s
URZ Urewera 91.45 167 PFAKE 03 21 40.0 +18
URZ LR LR
comp=Z,4µm,18.0s
TGUH Tegucigalpa,Un 92.10 64 PFAKE 03 21 40.0 +14
TGUH LR LR
comp=Z,2µm,21.0s
BKZ Black Stump Fm 92.26 167 PFAKE 03 21 40.0 +14
BKZ LR LR
comp=Z,4µm,18.0s
RTC Rabat Centre 93.27 349 PFAKE 03 21 40.0 +9.0
RTC LR LR
comp=Z,16µm,19.0s
ESTN Estel 93.38 64 PFAKE 03 21 40.0 +8.1
ESTN LR LR
comp=Z,2µm,22.0s
GTBY Guantanamo Bay 93.45 51 PFAKE 03 21 40.0 +8.0
GTBY LR LR
comp=Z,4µm,21.0s
DAMY Dhamar 93.52 299 *eP* **P** **03 21 33.7 +0.9**
comp=Z,40nm,1.0s
DAMY LR LR
comp=Z,11µm,20.0s
BFZ Birch Farm 93.72 168 PFAKE 03 21 50.0 +17
BFZ LR LR
comp=Z,4µm,20.0s
GRTK Grand Turk 93.91 47 PFAKE 03 21 50.0 +16
GRTK LR LR
comp=Z,4µm,20.0s
SNZO South Karori 94.15 169 PFAKE 03 21 50.0 +16
SNZO LR LR
comp=Z,5µm,19.0s
THZ Tophouse 94.40 171 PFAKE 03 21 50.0 +14
THZ LR LR
comp=Z,4µm,20.0s
DGAR Diego Garcia 94.47 264 PFAKE 03 21 50.0 +13
DGAR LR LR
comp=Z,5µm,19.0s
KHZ Kahutara 95.11 170 PFAKE 03 21 50.0 +11
KHZ LR LR
comp=Z,5µm,20.0s
ESPN Las Esperanzas 95.26 62 PFAKE 03 21 50.0 +10
ESPN LR LR
comp=Z,1µm,20.0s
LTZ Lake Taylor 95.35 171 PFAKE 03 21 50.0 +10
LTZ LR LR
comp=Z,4µm,21.0s
TAU Tasmania Unive 95.56 190 PFAKE 03 21 50.0 +9.0
TAU LR LR
comp=Z,2µm,20.0s
OXZ Oxford 95.87 171 PFAKE 03 22 00.0 +18
OXZ LR LR
comp=Z,4µm,20.0s
FOZ Fox Glacier 95.89 173 PFAKE 03 22 00.0 +18
FOZ LR LR
comp=Z,5µm,18.0s
SDDR Presa de Saban 96.05 48 PFAKE 03 22 00.0 +16
SDDR LR LR
comp=Z,3µm,18.0s
RPZ Rata Peaks 96.17 172 PFAKE 03 22 00.0 +16
RPZ LR LR
comp=Z,5µm,20.0s
CRLZ Canterbury Las 96.17 171 PFAKE 03 22 00.0 +16
CRLZ LR LR
comp=Z,4µm,18.0s
MQZ McQueen's Vall 96.30 171 PFAKE 03 22 00.0 +16
MQZ LR LR
comp=Z,3µm,21.0s
LBZ Lake Benmore 96.76 173 PFAKE 03 22 00.0 +14
LBZ LR LR
comp=Z,4µm,22.0s
ATD Arta Tunnel 96.88 299 P **P** **03 21 48.8 +0.9**
comp=Z,20nm,0.9s,baz=20,slow=3.4,SNR=5.7
WKZ Wanaka 97.12 174 PFAKE 03 22 00.0 +12
WKZ LR LR
comp=Z,4µm,18.0s
SDD Santo Domingo 97.13 47 PFAKE 03 22 00.0 +11
SDD LR LR
comp=Z,5µm,20.0s
ODZ Otahua Downs 97.45 173 PFAKE 03 22 00.0 +10
ODZ LR LR
comp=Z,4µm,19.0s
MLZ Mavora Lakes 97.60 174 PFAKE 03 22 00.0 +10
MLZ LR LR
comp=Z,6µm,21.0s
DCZ Deep Cove 97.64 175 PFAKE 03 22 00.0 +10
DCZ LR LR
comp=Z,4µm,21.0s
WHZ Wether Hill Ro 98.11 175 PFAKE 03 22 10.0 +18
WHZ LR LR
comp=Z,6µm,21.0s
EMPR Esperanza - Ma 98.60 44 PFAKE 03 22 10.0 +15
EMPR LR LR
comp=Z,3µm,20.0s
CRPR Cabo Rojo, PR 98.77 45 PFAKE 03 22 10.0 +14
CRPR LR LR
comp=Z,4µm,20.0s
SJG San Juan 99.08 44 PFAKE 03 22 10.0 +12
SJG LR LR
comp=Z,2µm,21.0s
ICMP Isla Caja de M 99.12 45 PFAKE 03 22 10.0 +12
ICMP LR LR
comp=Z,4µm,20.0s
HUMP Col San Antoni 99.19 44 PFAKE 03 22 10.0 +12
HUMP LR LR
comp=Z,2µm,20.0s
ABVI Anegada Island 99.30 42 PFAKE 03 22 10.0 +11
ABVI LR LR
comp=Z,2µm,20.0s
MTP Monte Pirata 99.35 44 PFAKE 03 22 10.0 +11
MTP LR LR
comp=Z,2µm,20.0s
BCIP Isla Barro Col 100.18 60 PFAKE 03 22 20.0 +17
BCIP LR LR
comp=Z,2µm,20.0s
SMRT St. Maarten 100.42 42 PFAKE 03 22 20.0 +16
SMRT LR LR
comp=Z,5µm,20.0s
SEUS St. Eustatius 100.96 42 PFAKE 03 22 20.0 +14
SEUS LR LR
comp=Z,5µm,20.0s
SKI Saint Kitts 101.20 42 PFAKE 03 22 20.0 +13
SKI LR LR
comp=Z,4µm,20.0s
ANWB Willy Bob 101.29 41 PFAKE 03 22 20.0 +13
ANWB LR LR
comp=Z,2µm,20.0s
FURI Furi 101.30 301 PFAKE 03 22 20.0 +12
FURI LR LR
comp=Z,6µm,20.0s
TAM Tamanrasset 101.97 336 *e*Pdif **Pdif** **03 22 10.5 -0.1**
TAM LR LR
comp=Z,4µm,18.0s
MSEY Mahe Island 102.70 279 PFAKE 03 22 30.0 +16
MSEY LR LR
comp=Z,6µm,18.0s
FDF Fort de France 104.19 41 PFAKE 03 22 30.0 +10
FDF LR LR
comp=Z,3µm,20.0s
SDV Santo Domingo 105.12 53 PFAKE 03 26 50.0 +11
SDV LR LR
comp=Z,3µm,21.0s
ROSC El Rosal 106.73 58 PFAKE 03 27 00.0 +18
ROSC LR LR
comp=Z,2µm,20.0s
OTAV Otavalo 108.37 64 PFAKE 03 27 00.0 +15
OTAV LR LR
comp=Z,2µm,19.0s
KMBO Kilima Mbogo 110.45 297 PFAKE 03 27 00.0 +11
KMBO LR LR
comp=Z,5µm,20.0s
NAI Nairobi 110.81 297 PFAKE 03 27 00.0 +10
NAI LR LR
comp=Z,8µm,18.0s
TOC1 Torodi Ar. Sit 112.14 337 PFAKE 03 27 00.0 +8.0
TOC1 LR LR
comp=Z,7µm,19.0s
TOC2 Torodi Ar. Sit 112.15 337 PFAKE 03 27 00.0 +8.0
TOC2 LR LR
comp=Z,6µm,19.0s
TOC7 Torodi Ar. Sit 112.16 337 PFAKE 03 27 00.0 +8.0
TOC7 LR LR
comp=Z,6µm,19.0s
TOB2 Torodi Ar. Sit 112.16 337 PFAKE 03 27 00.0 +8.0
TOB2 LR LR
comp=Z,2µm,19.0s
TOA1 Torodi Ar. Sit 112.16 337 *e*Pdif **Pdif** **03 22 58.5 +2.6**
TOA1 LR LR
comp=Z,6µm,18.0s
TOB5 Torodi Ar. Sit 112.17 337 PFAKE 03 27 00.0 +8.0
TOB5 LR LR
comp=Z,6µm,18.0s
TOA2 Torodi Ar. Sit 112.17 337 PFAKE 03 27 00.0 +8.0
TOA2 LR LR
comp=Z,6µm,18.0s
TOA0 Torodi Ar. Sit 112.17 337 PFAKE 03 27 00.0 +7.9
TOA0 LR LR
comp=Z,6µm,19.0s
TORD Torodi Ar. Bea 112.17 337 Pdiff **Pdif** **03 22 58.4 +2.5**
comp=Z,2.7nm,1.0s,baz=17,slow=3.0,SNR=4.5
TOC3 Torodi Ar. Sit 112.17 337 PFAKE 03 27 00.0 +7.9
TOC3 LR LR
comp=Z,6µm,19.0s
TOA3 Torodi Ar. Sit 112.17 337 PFAKE 03 27 00.0 +7.9
TOA3 LR LR
comp=Z,6µm,19.0s
TOB3 Torodi Ar. Sit 112.17 337 PFAKE 03 27 00.0 +7.9
TOB3 LR LR
comp=Z,6µm,19.0s
TOB4 Torodi Ar. Sit 112.18 337 PFAKE 03 27 00.0 +7.9
TOB4 LR LR
comp=Z,6µm,19.0s
TOC5 Torodi Ar. Sit 112.19 337 PFAKE 03 27 00.0 +7.9
TOC5 LR LR
comp=Z,7µm,19.0s
TOC4 Torodi Ar. Sit 112.19 337 PFAKE 03 27 00.0 +7.9
TOC4 LR LR
comp=Z,6µm,19.0s
MBAR Mbarara 113.47 303 PFAKE 03 27 10.0 +15
MBAR LR LR
comp=Z,5µm,18.0s
ABPO Ambohimpanom 118.87 276 PFAKE 03 27 20.0 +15
ABPO LR LR
comp=Z,5µm,20.0s
NNA Nana 119.27 70 PFAKE 03 27 20.0 +14
NNA LR LR
comp=Z,2µm,20.0s
DBIC Dimbokro 119.83 343 PKP **PKPdf** **03 27 06.7 -0.1**
comp=Z,8.9nm,0.8s,baz=23,slow=2.3,SNR=8.5
LSZ Lusaka 127.11 296 *e*PKPdf **PKPdf** **03 27 20.8 +0.1**
LSZ LR LR

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     comp=Z,4μm,20.0s
LSZ  Lusaka          127.11 296  ePKIKP   PKPdf   03 27 20.8 +0.1
LSZ                              MLR      MLR
     comp=Z,4μm,20.0s
LSZ  Lusaka          127.11 296  PKP      PKPdf   03 27 20.8 +0.1
     comp=Z,4.5nm,0.8s,baz=62,slow=1.3,SNR=3.8
LPAZ La Paz          127.67  65  ePKPdf   PKiKP   03 27 23.7 +0.7
LPAZ La Paz          127.67  65  PKP      PKiKP   03 27 22.7 -0.3
     comp=Z,8.0nm,0.8s,baz=350,slow=3.1,SNR=14
PB11 IPOC Station P  129.59  69  ePKPdf   PKiKP   03 27 26.0 -0.2
VNDA Vanda           129.63 180  ePKIKP   PKiKP   03 27 24.0 -0.3
VNDA Vanda           129.63 180  PKP      PKiKP   03 27 23.9 -0.3
     comp=Z,2.1nm,0.7s,baz=312,slow=4.5,SNR=7.3
GO01 Chusmiza        129.78  69  ePKPdf   PKiKP   03 27 27.9 +1.0
SBA  Scott Base      130.02 178  PFAKE            03 27 40.0  +15
SBA                              LR       LR
     comp=Z,3μm,20.0s
PB01 IPOC Station P  130.70  70  ePKPdf   PKiKP   03 27 28.8 +0.5
ASCN Ascension       135.47 352  PFAKE            03 27 50.0  +12
ASCN                             LR       LR
     comp=Z,45μm,21.0s
TSUM Tsumeb          135.97 304  PFAKE            03 27 50.0  +11
TSUM                             LR       LR
     comp=Z,4μm,19.0s
LBTB Lobatse         136.32 291  ePKPdf   PKiKP   03 27 39.4 -0.2
BDFB Brasilia        137.04  42  PKhKP    PKPpre  03 27 32.6
     comp=Z,3.1nm,0.7s,baz=205,slow=5.6,SNR=4.4
BDFB                             PKP      PKiKP   03 27 41.8 +0.5
     comp=Z,2.7nm,0.5s,baz=0.0,slow=5.1,SNR=6.7
PEL  Peldehue        138.94  83  PFAKE            03 28 00.0  +15
PEL                              LR       LR
     comp=Z,2μm,20.0s
BOSA Boshof          139.25 288  ePKPdf   PKiKP   03 27 44.9 -0.6
BOSA Boshof          139.25 288  PKhKP    PKPpre  03 27 37.9
     comp=Z,4.0nm,0.8s,baz=59,slow=6.8,SNR=5.7
MAW  Mawson          139.46 216  PKhKP    PKPpre  03 27 34.2
     comp=Z,5.7nm,1.0s,baz=107,slow=3.1,SNR=4.0
CPUP Villa Florida   141.67  62  PKhKP    PKPpre  03 27 43.3
     comp=Z,4.7nm,0.9s,baz=262,slow=2.1,SNR=5.8
QSPA South Pole Qui  142.12 180  PFAKE            03 28 00.0  +10
QSPA                             LR       LR
     comp=Z,2μm,18.0s
GO06 Curarrehue      142.64  91  ePKPdf   PKiKP   03 27 50.9 -1.2
PLCA Paso Flores     143.89  92  ePKPdf   PKPdf   03 27 51.2 +0.1
PLCA Paso Flores     143.89  92  PKP      PKPdf   03 27 50.6 -0.5
     comp=Z,16nm,0.9s,baz=318,slow=3.5,SNR=9.2
SPB  Sao Paulo       144.33  47  PFAKE            03 28 10.0  +14
SPB                              LR       LR
     comp=Z,2μm,21.0s
SUR  Sutherland      144.61 288  PFAKE            03 28 10.0  +14
SUR                              LR       LR
     comp=Z,5μm,20.0s
TRQA Tornquist       147.49  81  ePKPdf   PKPbc   03 28 00.6 +0.8
EFI  East Falkland   156.59 104  PFAKE            03 28 20.0  +10
EFI                              LR       LR
     comp=Z,5μm,19.0s
SNAA Sanae           159.24 195  PKPab    PKPab   03 28 49.4 -1.2
SNAA Sanae           159.24 195  ePKPab   PKPab   03 28 50.4 -0.2
SNAA                             LR       LR
     comp=Z,2μm,21.0s
SNAA Sanae           159.24 195  ePKP2    PKPab   03 28 50.4 -0.2
SNAA                             MLR      MLR
     comp=Z,2μm,21.0s
SNAA Sanae           159.24 195  PKPab    PKPab   03 28 50.4 -0.2
     comp=Z,4.9nm,0.7s,baz=193,slow=6.8,SNR=7.6
VNA3 Neumayer Olymp  160.53 190  PKPab    PKPab   03 28 55.9 -0.3
VNA2 Neumayer--Watz  160.56 192  PKPab    PKPab   03 28 57.0 +0.7
VNA1 Neumayer--Stat  160.93 192  PKPab    PKPab   03 28 59.8 +2.0
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*IDC **21** 03:09:45.0±1.3,52.°42N×160.°18E,h0km,mb5.3/21, mb1 5.4/21,mb1mx5.0/52,mbtmp5.3/21,MS6.0/8, Ms1 5.9/8,ms1mx5.3/48,Error ellipse: s-maj=35.1km s-min=17.0km az=106.0*
*KRSC **21** 03:09:45.1±10.0,52.°20N×160.°70E,h50km±10km,ML5.8*
*ISCJB **21** 03:09:49.4±0.8,52.°26N±0.°04×160.°42E±0.°07,h50km±5km, mb5.3/46,Error ellipse: s-maj=8.6km s-min=5.7km az=40.0*
*NEIC **21** 03:09:49.9±2.7,52.°32N×160.°32E,h35km,mb5.4/19,Error ellipse: s-maj=15.3km s-min=5.9km az=102.0*
*MOS **21** 03:09:49.9±1.2,52.°31N×160.°23E,h57km,mb5.7/7,Error ellipse: s-maj=10.8km s-min=6.8km az=112.9*

ISC 21 03:09:49.7±0.9,52.°27N±0.°05×160.°47E±0.°05,h41km±8km, n127,σ1§46/139,mb5.4/53,Off east coast of Kamchatka Peninsula

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Code Station Name    Δ°   AZ°  Phase ID          Time     Res
                                Op       ISC      h m s    ISC
SPN  Mys Shipunski   0.87 342  P        Pn       03 10 04.2 -1.2
SPN                            S        Sn       03 10 15.7 -1.2
SPN  Mys Shipunski   0.87 342  PN       Pn       03 10 04.2 -1.2
SPN                            S        Sn       03 10 15.7 -1.2
NLC  Nalytchevo      1.13 323  P        Pn       03 10 08.5 -0.5
NLC                            S        Sn       03 10 24.3 +1.1
NLC  Nalytchevo      1.13 323  PN       Pn       03 10 08.5 -0.5
NLC                            S        Sn       03 10 24.3 +1.1
RUS  Russkaya        1.21 278  P        Pn       03 10 09.6 -0.5
RUS                            S        Sn       03 10 25.6 +0.4
RUS  Russkaya        1.21 278  PN       Pn       03 10 09.6 -0.5
RUS                            S        Sn       03 10 25.6 +0.4
DALK Dalny           1.29 307  P        Pn       03 10 11.0 -0.2
DALK                           S        Sn       03 10 27.7 +0.5
DALK Dalny           1.29 307  PN       Pn       03 10 11.0 -0.2
DALK                           S        Sn       03 10 27.7 +0.5
PET  Petropavlovsk   1.34 305  ePn      Pn       03 10 11.8  0.0
PET                            eSn      Sn       03 10 29.0 +0.6
PET  Petropavlovsk   1.34 305  ePN      Pn       03 10 11.5 -0.3
PET                            eS       Sn       03 10 27.8 -0.6
PET                            pmax     pmax
     comp=Z,16μm,0.5s
PET                            smax     smax
     comp=E,54μm,0.6s
PET                            smax     smax
     comp=N,75μm,0.7s
UGLR Uglovaya        1.37 314  P        Pn       03 10 11.7 -0.7
UGLR Uglovaya        1.37 314  PN       Pn       03 10 11.7 -0.7
MTVR Mutnovka        1.42 279  P        Pn       03 10 13.2 +0.1
MTVR Mutnovka        1.42 279  PN       Pn       03 10 13.2 +0.1
KRMR Karymshinskiy   1.53 292  P        Pn       03 10 15.0 +0.5
KRMR                           S        Sn       03 10 34.8 +1.6
KRMR Karymshinskiy   1.53 292  PN       Pn       03 10 15.0 +0.5
KRMR                           S        Sn       03 10 34.8 +1.6
KDTR Khodutka, Kamc  1.55 253  P        Pn       03 10 14.2 -0.5
KDTR                           S        Sn       03 10 33.6  0.0
KDTR Khodutka, Kamc  1.55 253  PN       Pn       03 10 14.2 -0.5
KDTR                           S        Sn       03 10 33.6  0.0
PEA0B Petropavlovsk- 1.88 297  ePn      Pn       03 10 20.0 +0.7
PEA0B Petropavlovsk- 1.88 297  ePN      Pn       03 10 20.0 +0.7
PETK Petropavlovsk-  1.88 297  ePn      Pn       03 10 20.6 +1.3
PETK Petropavlovsk-  1.88 297  ePN      Pn       03 10 20.6 +1.3
PETK Petropavlovsk-  1.88 297  Pn       Pn       03 10 20.2 +0.9
     comp=N,660nm,0.3s,baz=104,slow=19,SNR=2.0
PETK                           Sn       Sn       03 10 44.3 +2.5
     comp=N,410nm,0.3s,baz=95,slow=35,SNR=2.7
PEA1 Petropavlovsk-  1.88 298  ePn      Pn       03 10 20.2 +0.9
PEA1                           eSn      Sn       03 10 44.3 +2.4
APC  Apacha          2.12 289  S        Sn       03 10 52.8 +5.1
TUMD Tumrok D        2.94 359  S        Sn       03 11 08.7 +0.9
TUMR Tumrok          3.02 357  P        Pn       03 10 37.3 +2.2
TUMR Tumrok          3.02 357  PN       Pn       03 10 37.3 +2.2
BKI  Bering          4.39  46  S        Sn       03 11 39.5 -4.1
ADK  Adak            14.05  83  ePn      Pn       03 13 08.2 +2.4
ADK  Adak            14.05  83  eP       Pn       03 13 08.3 +2.4
BILL Bilibino        16.06   8  ePn      Pn       03 13 32.3  0.0
     comp=N,148nm,0.8s
BILL Bilibino        16.06   8  eP       Pn       03 13 32.3  0.0
BILL                           pmax     pmax
     comp=Z,148nm,0.8s
USRK Ussuriysk Ar.   20.51 258  eP       P        03 14 21.6 -2.5
USRK Ussuriysk Ar.   20.51 258  P        P        03 14 22.6 -1.5
     comp=Z,77nm,0.9s,baz=52,slow=9.7,SNR=3.7
MJB9 Matsu-Tunnel    22.23 234  eP       P        03 14 43.6 +1.0
     comp=Z,173nm,1.0s
MAJO Matsushiro      22.23 234  eP       P        03 14 40.6 -2.0
     comp=Z,168nm,1.0s
MAJO Matsushiro      22.23 234  eP       P        03 14 40.6 -2.0
MAJO                           pmax     pmax
     comp=Z,168nm,1.0s
MJAR Matsushiro Arr  22.23 234  eP       P        03 14 42.9 +0.2
MJAR Matsushiro Arr  22.23 234  eP       P        03 14 42.9 +0.2
MJAR Matsushiro Arr  22.23 234  P        P        03 14 43.7 +1.0
     comp=Z,49nm,0.6s,baz=19,slow=12,SNR=2.2
TIXI Tiksi           23.92 336  P        P        03 14 57.7 -1.6
     comp=Z,61nm,0.6s,baz=130,slow=10,SNR=4.1
HIA  Hailar          25.69 280  eP       P        03 15 12.8 -2.8
     comp=Z,234nm,0.9s
HIA  Hailar          25.69 280  eP       P        03 15 12.9 -2.8
HIA                            pmax     pmax
     comp=Z,234nm,0.9s
KSRS Korea Array     27.13 250  P        P        03 15 28.9 +0.2
     comp=Z,24nm,0.9s,baz=41,slow=9.6,SNR=2.5
KS15 Wonju Array Si  27.16 250  eP       P        03 15 28.9 -0.1
     comp=Z,54nm,1.0s
KSAR Wonju Array Be  27.16 250  eP       P        03 15 28.1 -0.9
KSAR Wonju Array Be  27.16 250  eP       P        03 15 28.1 -0.9
BWN  Browne          28.12  45  eP       P        03 15 39.0 +1.8
     comp=Z,368nm,1.4s
SEW  Seward          28.32  54  eP       P        03 15 40.9 +1.8
     comp=Z,73nm,1.1s
JNU  Nakatsue        28.66 240  eP       P        03 15 43.3 +0.8
     comp=Z,104nm,1.0s
JNU  Nakatsue        28.66 240  P        P        03 15 43.3 +0.8
     comp=Z,65nm,0.8s,baz=18,slow=9.6,SNR=3.6
SONA0 Songino Array  34.32 285  eP       P        03 16 31.1 -1.0
SONM Songino Array   34.32 285  eP       P        03 16 29.1 -3.0
SONM Songino Array   34.32 285  eP       P        03 16 29.1 -3.0
SONM Songino Array   34.32 285  P        P        03 16 31.1 -1.0
     comp=Z,8.3nm,0.4s,baz=69,slow=8.5,SNR=10
XAN  Xi'an           40.81 264  eP       P        03 17 25.6 -1.4
     comp=Z,33nm,1.1s
XAN  Xi'an           40.81 264  eP       P        03 17 25.6 -1.4
XAN                            pmax     pmax
     comp=Z,33nm,1.1s
ZAA1 Zalesovo Array  43.41 304  eP       P        03 17 45.6 -2.3
ZALV Zalesovo Beam   43.41 304  eP       P        03 17 45.1 -2.8
ZALV Zalesovo Beam   43.41 304  eP       P        03 17 45.1 -2.8
ZALV Zalesovo Beam   43.41 304  P        P        03 17 45.6 -2.3
     comp=Z,34nm,0.8s,baz=52,slow=7.7,SNR=3.9
YKA  Yellowknife Ar  43.62  42  LR       LR       03 38 08.2
     comp=Z,492nm,19.0s,baz=296,slow=39
KBS  Kingsbay        47.72 352  eP       P        03 18 22.3 +0.7
     comp=Z,68nm,1.0s
KBS  Kingsbay        47.72 352  eP       P        03 18 22.3 +0.7
KBS                            pmax     pmax
     comp=Z,68nm,1.0s
MK31 Makanchi Array  48.72 297  eP       P        03 18 27.9 -1.9
MK32 Makanchi Array  48.72 297  eP       P        03 18 27.9 -1.9
MKAR Makanchi Array  48.72 297  P        P        03 18 28.0 -1.8
MKAR Makanchi Array  48.72 297  P        P        03 18 27.9 -1.8
     comp=Z,18nm,0.6s,baz=68,slow=6.6,SNR=4.3
ARCES ARCESS Array B 54.14 342  eP       P        03 19 08.9 -1.1
ARCES ARCESS Array B 54.14 342  eP       P        03 19 08.9 -1.1
ARCES ARCESS Array B 54.14 342  P        P        03 19 09.7 -0.3
     comp=Z,52nm,0.9s,baz=41,slow=7.4,SNR=5.3
ARCES                          LR       LR       03 45 09.3
     comp=Z,7μm,18.8s,baz=32,slow=39
ARU  Arti            54.16 318  eP       P        03 19 09.4 -0.9
     comp=Z,105nm,1.0s
ARU  Arti            54.16 318  eP       P        03 19 09.4 -0.9
ARU                            pmax     pmax
     comp=Z,105nm,1.0s
ARU  Arti            54.16 318  LR       LR       03 43 20.7
     comp=Z,28μm,18.7s,baz=38,slow=37
KIRV Kirov           56.19 324  LR       LR       03 45 20.2
     comp=Z,23μm,18.7s,baz=41,slow=38
CM31 Chiang Mai Arr  58.24 259  eP       P        03 19 40.9 +1.0
     comp=Z,58nm,0.8s
CMAR Chiang Mai Arr  58.24 259  P        P        03 19 40.9 +1.0
     comp=Z,44nm,0.8s,baz=26,slow=6.8,SNR=4.8
PFO  Pinyon Flats O  60.23  73  eP       P        03 19 54.2 +0.6
PFO  Pinyon Flats O  60.23  73  eP       P        03 19 54.2 +0.6
FIA0 FINESS Array S  60.96 337  eP       P        03 19 58.7 +0.7
FIA0 FINESS Array S  60.96 337  eP       P        03 19 58.7 +0.7
FINES FINESS Array B 60.96 337  P        P        03 19 58.7 +0.7
     comp=Z,89nm,0.6s,baz=35,slow=5.6,SNR=6.3
VSU  Vasula          63.39 335  eP       P        03 20 14.2  0.0
VSU                            IAmb     IAmb     03 20 15.5
     comp=Z,231nm,0.6s
NB200 NORSAR Array S 64.39 344  eP       P        03 20 21.5 +0.6
NOA  NORSAR Array B  64.39 344  P        P        03 20 21.5 +0.6
     comp=Z,7.6nm,0.7s,baz=24,slow=5.9,SNR=4.4
SLIT Slitere, Latvi  65.25 337  eP       P        03 20 26.6 +0.2
SLIT                           IAmb     IAmb     03 20 28.2
     comp=Z,980nm,0.6s
IZAR Zarasai         65.89 334  eP       P        03 20 30.7  0.0
IZAR                           IAmb     IAmb     03 20 32.5
     comp=Z,33nm,0.6s
IDID Didziasalis     66.14 333  eP       P        03 20 32.4 +0.1
IDID                           IAmb     IAmb     03 20 34.2
     comp=Z,53nm,0.9s
IIGN Ignalina        66.25 333  eP       P        03 20 33.2 +0.2
IIGN                           IAmb     IAmb     03 20 34.9
     comp=Z,73nm,0.6s
SCHQ Schefferville   66.27  28  LR       LR       03 50 45.0
     comp=Z,4μm,18.7s,baz=357,slow=37
PABE Paberze         66.72 335  eP       P        03 20 36.3 +0.4
PABE                           IAmb     IAmb     03 20 37.8
     comp=Z,276nm,1.0s
PBUR Paburg          66.77 336  eP       P        03 20 36.2 -0.1
PBUR                           IAmb     IAmb     03 20 38.2
     comp=Z,177nm,0.7s
GEYT Alibeck         67.73 303  P        P        03 20 42.8 +0.1
     comp=Z,70nm,0.7s,baz=29,slow=3.4,SNR=6.5
AKASG Malin Array Be 69.43 329  P        P        03 20 52.8 -0.3
     comp=Z,39nm,0.5s,baz=31,slow=6.8,SNR=10
AKASG                          LR       LR       03 53 01.1
     comp=Z,13μm,18.5s,baz=15,slow=38
AKBB Malin Array Si  69.43 329  eP       P        03 20 52.8 -0.3
     comp=Z,108nm,1.0s
AKBB Malin Array Si  69.43 329  eP       P        03 20 52.8 -0.3
AKBB                           pmax     pmax
     comp=Z,108nm,1.0s
KBZ  Khabaz          70.29 317  P        P        03 20 58.7 +0.3
     comp=Z,51nm,0.9s,baz=197,slow=11,SNR=3.2
CLL  Collm           73.20 339  i P      P        03 21 17.0 +1.2
CLL                            i pP     pP       03 21 26.7 -0.7
GEC2 GERESS Array S  75.36 338  eP       P        03 21 29.3 +0.7
     comp=Z,18nm,0.8s
GEC2 GERESS Array S  75.36 338  eP       P        03 21 29.3 +0.7
GEC2                           pmax     pmax
     comp=Z,18nm,0.8s
GERES GERESS Array B 75.36 338  P        P        03 21 29.3 +0.7
     comp=Z,8.9nm,0.8s,baz=30,slow=6.5,SNR=4.8
WR1  Warramunga Arr  75.44 205  eP       P        03 21 29.7 +0.7
WRA  Warramunga Arr  75.44 205  P        P        03 21 29.7 +0.7
     comp=Z,10nm,0.8s,baz=17,slow=6.1,SNR=1.9
CONA Conrad Observa  75.70 336  P        P        03 21 32.9 +2.4
     comp=Z,13nm,0.5s
MOA  Molin           76.16 337  eP       P        03 21 35.8 +2.8
     comp=Z,36nm,1.2s
ILGA Ilgaz           76.22 321  eP       P        03 21 34.4 +0.6
     comp=Z,82nm,0.9s
FITZ Fitzroy Crossi  76.34 214  eP       P        03 21 33.8 -0.4
     comp=Z,22nm,1.0s
FITZ Fitzroy Crossi  76.34 214  P        P        03 21 35.7 +1.5
     comp=Z,14nm,0.9s,baz=355,slow=7.3,SNR=1.9
ARSA Arzberg         76.41 336  eP       P        03 21 35.8 +1.3
     comp=Z,22nm,0.7s
SOKA Soboth          77.07 336  i P      P        03 21 40.1 +1.8
     comp=Z,40nm,1.1s
KBA  Koelnbreinsper  77.10 338  eP       P        03 21 40.2 +1.6
     comp=Z,96nm,0.8s
WATA Walderalm       77.26 339  eP       P        03 21 41.4 +2.0
     comp=Z,15nm,0.7s
RETA Reutte          77.29 339  i P      P        03 21 40.6 +1.0
     comp=Z,34nm,0.9s
WTTA Wattenberg      77.31 339  eP       P        03 21 41.4 +1.6
     comp=Z,61nm,1.2s
OBKA Obir            77.35 337  eP       P        03 21 43.1 +3.3
     comp=Z,19nm,0.8s
MOTA Moosalm         77.36 339  i P      P        03 21 41.9 +1.9
     comp=Z,35nm,0.8s
BR101 Keskin Array S 77.40 321  eP       P        03 21 40.7 +0.4
BRTR Keskin Array B  77.40 321  P        P        03 21 40.7 +0.4
     comp=Z,12nm,0.6s,baz=46,slow=3.2,SNR=5.8
BRTR                           LR       LR       04 00 02.5
     comp=Z,7μm,18.7s,baz=12,slow=39
SQTA Sankt Quirin    77.45 339  eP       P        03 21 42.0 +1.5
     comp=Z,41nm,0.8s
ABTA Abfaltersbach   77.60 338  i P      P        03 21 43.2 +2.0
     comp=Z,55nm,1.1s
FETA Feichten        77.74 339  eP       P        03 21 43.8 +1.6
     comp=Z,37nm,0.9s
AS31 Alice Springs   79.10 205  eP       P        03 21 49.3 -0.3
     comp=Z,4.7nm,0.6s
ASAR Alice Springs   79.11 205  P        P        03 21 51.2 +1.6
     comp=Z,9.2nm,0.7s,baz=18,slow=5.1,SNR=2.5
ESDC Sonseca Array   87.43 348  P        P        03 22 33.0 +0.5
     comp=Z,18nm,1.0s,baz=358,slow=4.8,SNR=4.2
ESDC                           LR       LR       04 05 09.6
     comp=Z,6μm,19.8s,baz=35,slow=38
KEST Kesra           88.80 337  LR       LR       04 06 38.6
     comp=Z,5μm,18.2s,baz=332,slow=38
TORD Torodi Ar. Bea  112.31 338 PP       PP       03 29 03.7 -2.0
     comp=Z,5.0nm,0.7s,baz=11,slow=6.8,SNR=3.8
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GUC 21 03:14:37.2±0.5,24.°15S×67.°29W,h209km±8km,ML3.7, 3C-2D,Chile-Argentina border region

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Code Station Name    Δ°   AZ°  Phase ID          Time     Res
                                Op       ISC      h m s    ISC
LVC  Limon Verde     2.13 315  eP       Pn       03 15 18.0 -0.1
LVC                            i S      S        03 15 48.9 -0.8
PB15 IPOC Station P  2.20 295  eP       Pn       03 15 19.1 +0.3
PB15                           i S      S        03 15 50.6 -0.1
GO02 Mina Guanaco    2.32 244⇑ iP       Pn       03 15 20.0  0.0
GO02                           i S      S        03 15 53.3 +0.2
GO02                           IAML             03 15 54.3
     comp=N,327nm,0.2s
PB06 IPOC Station P  2.54 304  eP       Pn       03 15 22.4 +0.2
PB06                           i S      S        03 15 56.4 -0.5
PB06                           IAML             03 15 58.9
     comp=E,133nm,0.4s
PB09 IPOC Station P  2.95 322⇓ iP       Pn       03 15 27.6 +0.7
PB09                           i S      S        03 16 05.2 -0.2
PB09                           IAML             03 16 06.5
     comp=E,74nm,0.4s
PB05 IPOC Station P  2.96 295⇑ iP       Pn       03 15 27.1 +0.1
PB05                           i S      S        03 16 05.0 -0.6
PB05                           IAML             03 16 10.3
     comp=E,30nm,0.3s
PB10 IPOC Station P  3.05 281  eP       Pn       03 15 28.4 +0.5
PB10                           i S      S        03 16 07.0 -0.2
PB03 IPOC Station P  3.08 312  eP       Pn       03 15 28.4 -0.1
PB03                           i S      S        03 16 06.7 -1.4
PB04 IPOC Station P  3.19 304  eP       Pn       03 15 29.9 +0.2
PB04                           i S      S        03 16 09.8 -0.5
PB04                           IAML             03 16 14.0
     comp=N,103nm,0.2s
PB07 IPOC Station P  3.39 315⇑ iP       Pn       03 15 32.1 -0.1
PB07                           i S      S        03 16 13.2 -1.6
PB07                           IAML             03 16 15.6
     comp=N,133nm,0.8s
PB01 IPOC Station P  3.69 326⇓ iP       Pn       03 15 35.1 -0.6
PB01                           i S      S        03 16 19.2 -2.0
PB01                           IAML             03 16 20.2
     comp=E,101nm,0.2s
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KRSC 21 03:15:01.0±10.0,52.°13N×160.°64E,h16km±10km,ML4.0, Off east coast of Kamchatka Peninsula

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Code Station Name    Δ°   AZ°  Phase ID          Time     Res
                                Op       ISC      h m s    ISC
SPN  Mys Shipunski   1.04 339  eP       Pb       03 15 20.3 -0.4
SPN                            eS       Sb       03 15 33.8 -0.3
NLC  Nalytchevo      1.31 323  eP       Pb       03 15 25.0 -0.2
NLC                            eS       Sn       03 15 41.9 +0.1
RUS  Russkaya        1.34 284  eP       Pn       03 15 25.3 +0.2
DALK Dalny           1.46 309  eP       Pn       03 15 27.2 +0.4
DALK                           eS       Sn       03 15 45.8 +0.2
PET  Petropavlovsk   1.51 307  eP       Pb       03 15 28.3 -0.3
PET                            eS       Sb       03 15 47.6 +0.1
MTVR Mutnovka        1.55 284  eP       Pb       03 15 29.1 -0.3
MTVR                           eS       Sn       03 15 48.2 +0.2
SDLR Sedlovina       1.57 318  P        Pn       03 15 29.0 +0.6
KDTR Khodutka, Kamc  1.62 260  eP       Pn       03 15 29.6 +0.7
KDTR                           eS       Sn       03 15 49.0 -0.4
KRMR Karymshinskiy   1.69 296  P        Pb       03 15 31.4 -0.3
KRMR                           S        Sb       03 15 52.7  0.0
APC  Apacha          2.27 292  eP       Pb       03 15 40.1 -1.5
APC                            eS       Sb       03 16 08.7 -0.8
TUMR Tumrok          3.17 355  P        Pn       03 15 53.0 +2.6
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KRSC 21 03:16:59.9±10.0,52.°16N×160.°63E,h21km±10km,ML4.1, Off east coast of Kamchatka Peninsula

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Code Station Name    Δ°   AZ°  Phase ID          Time     Res
                                Op       ISC      h m s    ISC
SPN  Mys Shipunski   1.01 339  eP       Pb       03 17 17.8 -0.8
SPN                            eS       Sb       03 17 29.3 -2.1
NLC  Nalytchevo      1.28 323  eP       Pb       03 17 22.9 -0.3
NLC                            eS       Sb       03 17 40.1 +1.0
RUS  Russkaya        1.33 283  eP       Pb       03 17 24.8 +0.7
RUS                            eS       Sb       03 17 41.7 +1.1
DALK Dalny           1.44 308  eP       Pb       03 17 25.3 -0.6
DALK                           eS       Sb       03 17 43.7 -0.1
PET  Petropavlovsk   1.48 306  eP       Pb       03 17 26.6 -0.1
PET                            eS       Sb       03 17 44.9 -0.2
UGLR Uglovaya        1.52 314  eP       Pb       03 17 27.7 +0.3
UGLR                           eS       Sb       03 17 46.9 +0.7
MTVR Mutnovka        1.54 283  eP       Pb       03 17 28.2 +0.5
MTVR                           eS       Sb       03 17 48.6 +1.8
SDLR Sedlovina       1.54 317  eP       Pb       03 17 27.6 -0.2
SMAR Somma           1.57 315  P        Pb       03 17 27.8 -0.4
AVH  Avacha          1.60 314  eP       Pb       03 17 29.8 +1.1
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*IDC **21** 03:19:32.0±0.7,52.°44N×160.°22E,h0km,mb4.1/26, mb1 4.2/27,mb1mx4.1/60,mbtmp4.1/27,ML3.9/1,Error ellipse: s-maj=19.0km s-min=11.8km az=133.0*
*KRSC **21** 03:19:32.7±10.0,52.°20N×160.°65E,h46km±10km,ML4.6*
*NEIC **21** 03:19:36.8±0.4,52.°36N×160.°35E,h35km,mb4.6/20,Error ellipse: s-maj=9.9km s-min=7.0km az=158.0*
*MOS **21** 03:19:36.5±1.0,52.°31N×160.°35E,h53km,mb4.8/7,Error ellipse: s-maj=7.6km s-min=3.8km az=95.3*

ISC 21 03:19:33.4±1.4,52.°30N±0.°03×160.°46E±0.°04,h14km±8km, n169,σ1§66/215,mb4.4/40,1C,Off east coast of Kamchatka Peninsula

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Code Station Name    Δ°   AZ°  Phase ID          Time     Res
                                Op       ISC      h m s    ISC
SPN  Mys Shipunski   0.84 342  eP       Pn       03 19 51.1 +0.2
SPN                            eS       Sn       03 20 02.5 -0.6
SPN  Mys Shipunski   0.84 342  PN       Pn       03 19 51.1 +0.2
SPN                            S        Sn       03 20 02.5 -0.6
NLC  Nalytchevo      1.10 323  eP       Pg       03 19 55.4 +0.7
NLC                            eS       Sn       03 20 10.8 +1.3
NLC  Nalytchevo      1.10 323  PN       Pg       03 19 55.4 +0.7
NLC                            S        Sn       03 20 10.8 +1.3
RUS  Russkaya        1.20 277  eP       Pg       03 19 56.5  0.0
RUS                            eS       Sg       03 20 12.5 +0.4
RUS  Russkaya        1.20 277  PN       Pg       03 19 56.5  0.0
RUS                            S        Sg       03 20 12.5 +0.4
DALK Dalny           1.27 306  eP       Pg       03 19 57.8  0.0
DALK                           eS       Sg       03 20 14.4 +0.1
DALK Dalny           1.27 306  PN       Pg       03 19 57.8  0.0
DALK                           S        Sg       03 20 14.4 +0.1
PET  Petropavlovsk   1.32 304  ePn      Pg       03 19 58.4 -0.3
PET                            eSn      Sn       03 20 14.1 -0.7
PET  Petropavlovsk   1.32 304⇑ iPN      Pg       03 19 58.4 -0.3
PET                            eS       Sg       03 20 15.9 +0.1
PET                            pmax     pmax
     comp=Z,356nm,0.3s
PET                            smax     smax
     comp=N,3μm,0.5s
PET                            smax     smax
     comp=E,4μm,0.5s
UGLR Uglovaya        1.35 313  eP       Pg       03 19 59.1 -0.2
UGLR                           eS       Sg       03 20 17.1 +0.3
UGLR Uglovaya        1.35 313  PN       Pg       03 19 59.1 -0.2
UGLR                           S        Sg       03 20 17.1 +0.3
SDLR Sedlovina       1.37 316  eP       Pg       03 19 59.6 -0.1
SDLR                           eS       Sg       03 20 18.1 +0.6
SDLR Sedlovina       1.37 316  PN       Pg       03 19 59.6 -0.1
SDLR                           S        Sg       03 20 18.1 +0.6
SMAR Somma           1.39 315  eP       Pg       03 20 00.0 -0.2
SMAR Somma           1.39 315  PN       Pg       03 20 00.0 -0.2
MTVR Mutnovka        1.40 278  eP       Pb       03 19 59.9 +0.4
MTVR                           eS       Sg       03 20 18.0 -0.7
MTVR Mutnovka        1.40 278  PN       Pb       03 19 59.9 +0.4
MTVR                           S        Sg       03 20 18.0 -0.7
AVH  Avacha          1.42 314  eP       Pg       03 20 00.9 +0.1
AVH                            eS       Sg       03 20 20.6 +1.4
AVH  Avacha          1.42 314  PN       Pg       03 20 00.9 +0.1
AVH                            S        Sg       03 20 20.6 +1.4
KRER Koryakskii      1.44 315  eP       Pg       03 20 01.3 +0.1
KRER                           eS       Sg       03 20 21.2 +1.2
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KRER	Koryakskii	1.44 315	PN	Pg	03 20 01.3	+0.1
KRER			S	Sg	03 20 21.2	+1.2
GRL	Gorelyy	1.48 281	eP	Pg	03 20 01.8	-0.1
GRL			eS	Sg	03 20 21.7	+0.6
GRL	Gorelyy	1.48 281	PN	Pg	03 20 01.8	-0.1
GRL			S	Sg	03 20 21.7	+0.6
KOK	Koryaka	1.49 313	eP	Pg	03 20 01.6	-0.4
KOK	Koryaka	1.49 313	PN	Pg	03 20 01.6	-0.4
KRMR	Karymshinskiy	1.52 291	eP	Pb	03 20 01.5	+0.2
KRMR			eS	Sg	03 20 21.6	-0.6
KRMR	Karymshinskiy	1.52 291	PN	Pb	03 20 01.5	+0.2
KRMR			S	Sg	03 20 21.6	-0.6
KRX	Arik	1.52 315	eP	Pb	03 20 02.0	+0.4
KRX	Arik	1.52 315	PN	Pb	03 20 02.0	+0.4
KDTR	Khodutka, Kamc	1.55 252	eP	Pn	03 20 01.2	+0.6
KDTR			eS	Sn	03 20 20.0	-0.4
KDTR	Khodutka, Kamc	1.55 252	PN	Pn	03 20 01.2	+0.6
KDTR			S	Sn	03 20 20.0	-0.4
ASAK	Asacha	1.57 274	eP	Pb	03 20 02.5	+0.2
ASAK			eS	Sg	03 20 24.0	+0.1
ASAK	Asacha	1.57 274	PN	Pb	03 20 02.5	+0.2
ASAK			S	Sg	03 20 24.0	+0.1
PEA0B	Petropavlovsk-	1.86 297	ePn	Pb	03 20 07.0	-0.2
PEA0B			eSn	Sn	03 20 27.2	-1.1
PETK	Petropavlovsk-	1.86 297	ePn	Pb	03 20 07.1	-0.1
PETK			eSn	Sn	03 20 27.1	-1.2
PETK	Petropavlovsk-	1.86 297	ePN	Pb	03 20 07.1	-0.1
PETK			e		03 20 27.1	
PETK	Petropavlovsk-	1.86 297	Pn	Pb	03 20 06.7	-0.6
	comp=E,98nm,0.3s,baz=103,slow=19,SNR=107					
PETK			Sn	Sb	03 20 29.6	-0.8
	comp=E,94nm,0.3s,baz=112,slow=25,SNR=14					
PEA1	Petropavlovsk-	1.86 297	ePn	Pb	03 20 06.7	-0.6
PEA1			eSn	Sb	03 20 29.6	-0.9
APC	Apacha	2.10 289	eP	Pb	03 20 10.3	-1.0
APC			eS	Sb	03 20 37.8	+0.5
APC	Apacha	2.10 289	PN	Pb	03 20 10.3	-1.0
APC			S	Sb	03 20 37.8	+0.5
MKZ	Mys Kozlova	2.39 18	eP	Pn	03 20 12.8	+0.7
MKZ			eS	Sn	03 20 41.3	+0.2
MKZ	Mys Kozlova	2.39 18	PN	Pn	03 20 12.8	+0.7
MKZ			S	Sn	03 20 41.3	+0.2
PAU	Pauzhetka	2.41 251	eP	Pn	03 20 14.4	+2.0
PAU	Pauzhetka	2.41 251	PN	Pn	03 20 14.4	+2.0
KZV	Kizimen	2.82 358	eP	Pn	03 20 20.4	+2.2
KZV			eS	Sb	03 20 55.3	-2.8
KZV	Kizimen	2.82 358	PN	Pn	03 20 20.4	+2.2
KZV			S	Sb	03 20 55.3	-2.8
TUMD	Tumrok D	2.91 359	eP	Pn	03 20 20.8	+1.5
TUMD			eS	Sn	03 20 55.8	+1.7
TUMR	Tumrok	3.00 357	eP	Pn	03 20 23.2	+2.6
TUMR			eS	Sb	03 21 00.8	-2.3
TUMR	Tumrok	3.00 357	PN	Pn	03 20 20.8	+0.2
TUMR			S	Sn	03 20 55.8	-0.5
SKR	Severo-Kuril's	3.16 241	eP	Pn	03 20 23.5	+0.9
SKR			eS	Sn	03 21 00.4	+0.3
SKR	Severo-Kuril's	3.16 241	ePN	Pn	03 20 23.6	+0.9
SKR			eS	Sn	03 20 57.2	-2.9
SKR			pmax	pmax		
	comp=Z,42nm,0.7s					
SKR			smax	smax		
	comp=N,665nm,0.9s					
SKR			smax	smax		
	comp=E,789nm,0.8s					
ALID	Alaid	3.38 247	eP	Pn	03 20 27.1	+1.2
ALID	Alaid	3.38 247	PN	Pn	03 20 27.1	+1.2
BZMR	Bezymyannaya	3.64 0	eP	Pn	03 20 33.2	+3.7
BZMR	Bezymyannaya	3.64 0	PN	Pn	03 20 33.2	+3.7
BZGR	Bezymyannyi-Gr	3.65 2	eP	Pn	03 20 32.5	+2.9
BZGR	Bezymyannyi-Gr	3.65 2	PN	Pn	03 20 32.5	+2.9
KIRR	Kirishev	3.66 359	eP	Pb	03 20 34.5	-3.5
KIRR	Kirishev	3.66 359	PN	Pb	03 20 34.5	-3.5
KPT	Kopyto	3.68 358	eP	Pn	03 20 29.6	-0.3
KPT	Kopyto	3.68 358	PN	Pn	03 20 29.6	-0.3
ESO	Esso	3.78 345	eP	Pn	03 20 33.3	+2.1
ESO	Esso	3.78 345	PN	Pn	03 20 33.3	+2.1
KOZ	Kozyrevsk	3.78 355	eP	Pn	03 20 34.7	+3.4
KOZ	Kozyrevsk	3.78 355	PN	Pn	03 20 34.7	+3.4
LGNR	Loginova	3.79 2	eP	Pn	03 20 35.9	+4.2
LGNR	Loginova	3.79 2	PN	Pn	03 20 35.9	+4.2
CIRR	Tsirk	3.83 2	eP	Pn	03 20 35.6	+3.6
CIRR	Tsirk	3.83 2	PN	Pn	03 20 35.6	+3.6
KRSR	Krestovskiy	3.93 1	eP	Pn	03 20 34.7	+1.3
KRSR	Krestovskiy	3.93 1	PN	Pn	03 20 34.7	+1.3
KLY	Klyuchi	4.02 2	eP	Pn	03 20 38.6	+4.0
KLY	Klyuchi	4.02 2	PN	Pn	03 20 38.6	+4.0
SRDR	Sredinnyy	4.05 354	eP	Pn	03 20 37.3	+2.3
SRDR	Sredinnyy	4.05 354	PN	Pn	03 20 37.3	+2.3
KBTR	Krutoberegovo	4.16 19	eP	Pn	03 20 37.4	+1.0
KBTR			eS	Sn	03 21 27.1	+2.4
KBTR	Krutoberegovo	4.16 19	PN	Pn	03 20 37.4	+1.0
KBTR			S	Sn	03 21 27.1	+2.4
KBG	Krutoberegovo	4.18 18	eP	Pn	03 20 38.9	+2.2
KBG	Krutoberegovo	4.18 18	PN	Pn	03 20 38.9	+2.2
BDR	Baidarnaya	4.30 6	eP	Pn	03 20 42.4	+3.9
BDR	Baidarnaya	4.30 6	PN	Pn	03 20 42.4	+3.9
SMKR	Semkarok	4.33 7	eP	Pn	03 20 42.1	+3.2
SMKR	Semkarok	4.33 7	PN	Pn	03 20 42.1	+3.2
BKI	Bering	4.38 46	eP	Pn	03 20 40.2	+0.7
BKI			eS	Sn	03 21 26.3	-3.9
BKI	Bering	4.38 46	PN	Pn	03 20 40.2	+0.7
SRKR	Sorokina	4.38 5	eP	Pn	03 20 43.9	+4.3
SRKR	Sorokina	4.38 5	PN	Pn	03 20 43.9	+4.3
MA2	Magadan	9.09 327	ePn	Pn	03 21 44.3	+0.3
MA2	Magadan	9.09 327	ePN	Pn	03 21 44.3	+0.3
ASAJ	Asahikawa	14.42 242	Pn	Pn	03 22 57.4	+0.3
	comp=E,0.8nm,0.3s,baz=54,slow=14,SNR=4.1					
ERM	Erimo	15.59 236	ePn	Pn	03 23 08.7	-3.9
	comp=E,45nm,1.1s					
ERM	Erimo	15.59 236	eP	Pn	03 23 08.7	-3.9
ERM			pmax	pmax		
	comp=Z,45nm,1.1s					
USRK	Ussuriysk Ar.	20.51 258	eP	P	03 24 09.6	-1.3
USRK	Ussuriysk Ar.	20.51 258	P	P	03 24 10.3	-0.6
	comp=Z,2.2nm,0.7s,baz=52,slow=12,SNR=5.7					
MAJO	Matsushiro	22.24 234	eP	P	03 24 32.4	+2.8
	comp=Z,12nm,0.8s					
MAJO	Matsushiro	22.24 234	eP	P	03 24 32.4	+2.8
MAJO			pmax	pmax		
	comp=Z,13nm,0.8s					
MJAR	Matsushiro Arr	22.24 234	P	P	03 24 30.9	+1.3
	comp=Z,4.0nm,0.6s,baz=16,slow=11,SNR=15					
TIXI	Tiksi	23.90 336	eP	P	03 24 44.7	-1.5
TIXI	Tiksi	23.90 336	eP	P	03 24 44.7	-1.5
TIXI	Tiksi	23.90 336	P	P	03 24 44.8	-1.4
	comp=Z,4.4nm,0.5s,baz=120,slow=13,SNR=8.5					
KSRS	Korea Array	27.13 250	P	P	03 25 16.6	+0.7
	comp=Z,1.0nm,0.6s,baz=44,slow=9.8,SNR=4.0					
KS15	Wonju Array Si	27.16 250	eP	P	03 25 16.6	+0.4
	comp=Z,13nm,1.0s					
TOLK	Toolik Lake Re	28.47 36	eP	P	03 25 27.6	-0.1
	comp=Z,12nm,1.4s					
JNU	Nakatsue	28.67 240	eP	P	03 25 31.2	+1.5
	comp=Z,24nm,1.5s					
JNU	Nakatsue	28.67 240	P	P	03 25 31.2	+1.5
	comp=Z,4.6nm,0.9s,baz=21,slow=13,SNR=3.3					
SML	Sawmill	28.69 50	eP	P	03 25 30.7	+1.0
	comp=Z,6.6nm,1.0s					
SML	Sawmill	28.69 50	eP	P	03 25 30.7	+1.0
SML			pmax	pmax		
	comp=Z,7.0nm,1.0s					
ILAR	Eielson Array	29.23 44	P	P	03 25 35.1	+0.8
	comp=Z,0.4nm,0.8s,baz=264,slow=9.0,SNR=3.0					
ILB	Eielson Array	29.23 44	eP	P	03 25 35.1	+0.8
	comp=Z,2.9nm,1.1s					
BCAR	Beaver Creek A	31.59 47	eP	P	03 25 55.9	+0.6
SONA0	Songino Array	34.30 285	eP	P	03 26 18.0	-1.2
SONM	Songino Array	34.30 285	eP	P	03 26 17.4	-1.9
SONM	Songino Array	34.30 285	eP	P	03 26 17.4	-1.9
SONM	Songino Array	34.30 285	P	P	03 26 18.0	-1.2
	comp=Z,0.7nm,0.3s,baz=66,slow=7.8,SNR=8.9					
INK	Inuvik	34.37 37	eP	P	03 26 19.1	-0.3
	comp=Z,7.4nm,1.4s					
INK	Inuvik	34.37 37	eP	P	03 26 19.1	-0.3
INK			pmax	pmax		
	comp=Z,7.0nm,1.4s					
INK	Inuvik	34.37 37	P	P	03 26 19.1	-0.3
	comp=Z,1.9nm,0.9s,baz=274,slow=8.3,SNR=2.6					
YHNB	Yeheng	40.42 242	eP	P	03 27 12.2	+1.0
	comp=Z,46nm,1.5s					
TWG	Pinlang	42.07 241	eP	P	03 27 23.5	-1.2
	comp=Z,92nm,1.1s					
ZAA1	Zalesovo Array	43.39 304	eP	P	03 27 32.5	-2.6
ZALV	Zalesovo Beam	43.40 304	P	P	03 27 32.5	-2.6
	comp=Z,0.8nm,0.3s,baz=54,slow=7.4,SNR=2.4					
YKA	Yellowknife Ar	43.60 42	P	P	03 27 37.8	+1.1
	comp=Z,0.4nm,0.6s,baz=295,slow=7.9,SNR=3.2					
YKB5	Yellowknife Ar	43.60 42	eP	P	03 27 37.8	+1.1
RES	Resolute Bay	43.98 22	eP	P	03 27 41.0	+1.4
	comp=Z,3.0nm,1.0s					
RES	Resolute Bay	43.98 22	eP	P	03 27 41.0	+1.4
RES			pmax	pmax		
	comp=Z,3.0nm,1.0s					
RES	Resolute Bay	43.98 22	P	P	03 27 41.0	+1.4
	comp=Z,0.8nm,0.4s,baz=302,slow=5.9,SNR=6.9					
KHU	Kahuku	47.43 117	eP	P	03 28 08.2	+0.4
	comp=Z,172nm,1.4s					
KHU	Kahuku	47.43 117	eP	P	03 28 08.2	+0.4
KHU			pmax	pmax		
	comp=Z,172nm,1.4s					
B06A	Marblemount	47.62 62	eP	P	03 28 09.5	+0.8
	comp=Z,5.5nm,0.5s					
SPA0	Spitsbergen Ar	47.95 351	eP	P	03 28 11.4	+0.5
	comp=Z,24nm,1.2s					
KURK	Kurchatov	48.34 303	eP	P	03 28 12.1	-2.1
	comp=Z,16nm,1.1s					
KURK	Kurchatov	48.34 303	eP	P	03 28 12.1	-2.1
KURK			pmax	pmax		
	comp=Z,16nm,1.1s					
MK31	Makanchi Array	48.70 296	eP	P	03 28 14.8	-2.3
	comp=Z,9.4nm,1.5s					
MK31	Makanchi Array	48.70 296	eP	P	03 28 14.8	-2.3
MK31			pmax	pmax		
	comp=Z,9.0nm,1.5s					
MK32	Makanchi Array	48.70 296	eP	P	03 28 15.1	-2.0
MKAR	Makanchi Array	48.70 296	eP	P	03 28 15.3	-1.8
MKAR	Makanchi Array	48.70 296	eP	P	03 28 15.3	-1.8
MKAR	Makanchi Array	48.70 296	P	P	03 28 15.1	-2.0
	comp=Z,1.2nm,0.4s,baz=60,slow=6.1,SNR=15					
BRVK	Borovoye	51.09 309	eP	P	03 28 33.2	-1.9
	comp=Z,8.8nm,0.5s					
BRVK	Borovoye	51.09 309	eP	P	03 28 33.2	-1.9
BRVK			pmax	pmax		
	comp=Z,9.0nm,0.5s					
ARCES	ARCESS Array B	54.11 342	P	P	03 28 56.4	-0.9
	comp=Z,2.6nm,0.8s,baz=39,slow=7.7,SNR=18					
CM31	Chiang Mai Arr	58.24 259	eP	P	03 29 28.7	+1.3
	comp=Z,7.7nm,1.0s					
CMAR	Chiang Mai Arr	58.24 259	P	P	03 29 28.7	+1.3
	comp=Z,1.8nm,0.4s,baz=25,slow=6.5,SNR=7.6					
FIA0	FINESS Array S	60.94 337	eP	P	03 29 45.6	+0.3
FIA0	FINESS Array S	60.94 337	eP	P	03 29 45.6	+0.3
FINES	FINESS Array B	60.94 337	P	P	03 29 45.6	+0.3
	comp=Z,8.3nm,0.5s,baz=36,slow=8.0,SNR=57					
NB2	NORSAR Subarra	64.37 344	P	P	03 30 08.7	+0.4
	comp=Z,0.9nm,0.5s,baz=27,slow=6.5					
NB200	NORSAR Array S	64.37 344	eP	P	03 30 08.8	+0.5
NOA	NORSAR Array B	64.37 344	P	P	03 30 08.8	+0.5
	comp=Z,0.8nm,0.6s,baz=208,slow=18,SNR=6.3					
GEYT	Alibeck	67.71 303	P	P	03 30 30.0	-0.1
	comp=Z,4.3nm,0.7s,baz=18,slow=5.2,SNR=5.5					
AKASG	Malin Array Be	69.41 329	P	P	03 30 40.0	-0.5
	comp=Z,4.0nm,0.5s,baz=30,slow=7.7,SNR=8.2					
AKBB	Malin Array Si	69.41 329	eP	P	03 30 40.0	-0.5
	comp=Z,8.2nm,0.9s					
AKBB	Malin Array Si	69.41 329	eP	P	03 30 40.0	-0.5
AKBB			pmax	pmax		
	comp=Z,8.0nm,0.9s					
LTX	Lajitas	70.75 67	eP	P	03 30 50.4	+1.2
LTX	Lajitas	70.75 67	eP	P	03 30 50.4	+1.2
TXAR	Lajitas Array	70.75 67	P	P	03 30 50.4	+1.2
	comp=Z,0.3nm,0.5s,baz=296,slow=5.3,SNR=9.4					
CLL	Collm	73.17 339	eP	P	03 31 04.0	+0.7
GERES	GERESS Array B	75.33 338	P	P	03 31 16.1	0.0
	comp=Z,0.5nm,0.5s,baz=35,slow=4.9,SNR=5.6					
WR1	Warramunga Arr	75.45 205	eP	P	03 31 17.3	+0.5
WRA	Warramunga Arr	75.45 205	P	P	03 31 17.3	+0.5
	comp=Z,0.6nm,0.6s,baz=21,slow=6.0,SNR=6.4					
FITZ	Fitzroy Crossi	76.36 214	eP	P	03 31 22.7	+0.8
	comp=Z,4.8nm,1.1s					
FITZ	Fitzroy Crossi	76.36 214	P	P	03 31 22.7	+0.8
	comp=Z,2.1nm,0.9s,baz=31,slow=5.9,SNR=4.3					
BR101	Keskin Array S	77.37 321	eP	P	03 31 27.6	-0.3
BRTR	Keskin Array B	77.37 321	P	P	03 31 27.6	-0.3
	comp=Z,0.8nm,0.5s,baz=18,slow=2.9,SNR=7.8					
WSAR	Wadi Sarin	78.82 293	P	P	03 31 35.6	-0.3
	comp=Z,5.2nm,0.9s,baz=43,slow=4.7,SNR=4.4					
AS31	Alice Springs	79.12 205	eP	P	03 31 37.9	+0.6
	comp=Z,3.4nm,1.5s					
ASAR	Alice Springs	79.12 205	P	P	03 31 37.9	+0.6
	comp=Z,0.8nm,0.5s,baz=13,slow=5.2,SNR=9.0					
ESDC	Sonseca Array	87.40 348	P	P	03 32 19.9	-0.2
	comp=Z,0.3nm,0.4s,baz=351,slow=4.5,SNR=3.9					

IDC 21 03:20:19.6±1.2, 13°.56N×142°.88E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.7/54, mbtmp3.9/5, Error ellipse: s-maj=82.2km s-min=29.3km az=105.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.34 194		P	P	03 27 08.2	-0.1
	0.8nm,0.5s,baz=11,slow=9.3,SNR=6.2						
ILAR	Eielson Array	69.42 26		P	P	03 31 29.1	-0.3
	0.2nm,0.5s,baz=248,slow=6.0,SNR=5.7						
YKA	Yellowknife Ar	83.77 27		P	P	03 32 50.4	-0.1
	0.3nm,0.6s,baz=292,slow=5.1,SNR=3.5						
ARCES	ARCESS Array B	86.51 342		P	P	03 33 04.8	+0.6
	3.5nm,1.0s,baz=78,slow=6.5,SNR=3.2						
FINES	FINESS Array B	90.36 335		P	P	03 33 22.4	-0.2
	1.9nm,0.9s,baz=72,slow=4.5,SNR=3.8						

KRSC 21 03:21:24.8±10.0, 52°.21N×160°.57E, h17km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.95 340		eP	Pb	03 21 42.5	-0.4
SPN				eS	Sb	03 21 55.4	+0.2
NLC	Nalytchevo	1.22 323		eP	Pn	03 21 46.8	-0.3
NLC				eS	Sb	03 22 02.7	-0.1
RUS	Russkaya	1.28 281		eP	Pn	03 21 47.9	0.0
RUS				eS	Sb	03 22 04.3	-0.4
DALK	Dalny	1.38 307		eP	Pn	03 21 49.6	+0.3
DALK				eS	Sb	03 22 07.8	+0.3
MTVR	Mutnovka	1.49 282		eP	Pn	03 21 51.5	+0.6
MTVR				eS	Sb	03 22 10.9	+0.1
KDTR	Khodutka, Kamc	1.59 256		eP	Pb	03 21 53.0	-0.7
KDTR				eS	Sb	03 22 13.4	-0.1
KRMR	Karymshinskiy	1.62 294		eP	Pn	03 21 53.3	+0.8
KRMR				eS	Sb	03 22 13.8	-0.5

IDC 21 03:27:13.8±3.6, 51°.75N×160°.54E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.4/64, mbtmp3.9/6, ML2.7/1, Error ellipse: s-maj=83.3km s-min=42.2km az=15.0
KRSC 21 03:27:18.4±10.0, 52°.17N×160°.76E, h41km±10km, ML4.1

ISC 21 03:27:18.1±3.8, 52°.15N±0°.08×160°.67E±0°.08, h13km±24km, n22, σ0s87/34, mb4.2/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.02 338		eP	Pb	03 27 37.4	-0.2
SPN				eS	Sb	03 27 50.0	-1.0
NLC	Nalytchevo	1.30 322		eP	Pn	03 27 42.1	+0.3
NLC				eS	Sn	03 27 58.9	-0.1
RUS	Russkaya	1.35 283		eP	Pn	03 27 42.7	+0.1
RUS				eS	Sn	03 28 00.3	0.0
DALK	Dalny	1.46 308		eP	Pn	03 27 44.4	+0.3
DALK				eS	Sn	03 28 02.7	-0.3
UGLR	Uglovaya	1.54 314		eP	Pn	03 27 46.1	+0.8
UGLR				eS	Sn	03 28 05.8	+0.6
MTVR	Mutnovka	1.56 283		eP	Pn	03 27 46.4	+0.8
MTVR				eS	Sn	03 28 06.3	+0.6
SDLR	Sedlovina	1.56 317		eP	Pn	03 27 46.0	+0.4
SMAR	Somma	1.59 315		eP	Pn	03 27 46.5	+0.4
AVH	Avacha	1.62 314		eP	Pn	03 27 47.1	+0.8
KDTR	Khodutka, Kamc	1.64 259		eP	Pn	03 27 47.2	+0.7
KDTR				eS	Sn	03 28 07.4	0.0
KRER	Koryakskii	1.64 315		eP	Pn	03 27 47.3	+0.6
KRER				eS	Sn	03 28 08.3	+0.5
KOK	Koryaka	1.68 314		eP	Pn	03 27 48.2	+1.0
KOK				eS	Sn	03 28 09.5	+0.9
KRMR	Karymshinskiy	1.69 295		eP	Pn	03 27 47.8	+0.5
KRMR				eS	Sn	03 28 08.9	+0.2
KRX	Arik	1.72 315		eP	Pn	03 27 48.5	+0.7
PETK	Petropavlovsk-	2.04 299		Pn	Pn	03 27 53.0	+0.9
	11nm,0.3s,baz=105,slow=19,SNR=64						
PETK				Sn	Sn	03 28 18.7	+1.2
	18nm,0.3s,baz=129,slow=21,SNR=20						
APC	Apacha	2.28 291		eP	Pn	03 27 56.9	+1.6
APC				eS	Sn	03 28 25.3	+2.1
KBTR	Krutoberegovo	4.26 16		eP	Pn	03 28 23.8	+1.3
SPITS	Spitsbergen Ar	48.12 351		P	P	03 35 57.7	+0.8
	3.5nm,1.0s,baz=31,slow=9.2,SNR=9.4						
KURBB	Kurchatov Arra	48.63 303		P	P	03 35 59.8	-1.3
	0.5nm,0.7s,baz=64,slow=7.7,SNR=4.2						
ARCES	ARCESS Array B	54.29 342		P	P	03 36 43.1	-0.2
	2.3nm,0.9s,baz=35,slow=9.9,SNR=3.0						
AKTO	Aktyubinsk	58.72 313		P	P	03 37 14.1	-1.0
	0.5nm,0.4s,baz=68,slow=5.4,SNR=3.6						
FINES	FINESS Array B	61.12 337		P	P	03 37 31.7	+0.4
	1.1nm,0.6s,baz=44,slow=5.8,SNR=4.9						

IDC 21 03:32:16.8±4.7, 51°.20N×160°.67E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/57, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=94.7km s-min=82.1km az=22.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	2.65 317		Pn	Pn	03 33 00.7	0.0
	10nm,0.3s,baz=105,slow=18,SNR=32						
KURBB	Kurchatov Arra	49.16 303		P	P	03 41 05.6	-0.3
	0.9nm,0.9s,baz=58,slow=7.8,SNR=5.0						
MKAR	Makanchi Array	49.32 297		P	P	03 41 07.4	+0.1
	0.3nm,0.4s,baz=55,slow=7.3,SNR=4.5						
FINES	FINESS Array B	62.00 337		P	P	03 42 38.1	0.0
	0.8nm,0.6s,baz=39,slow=9.0,SNR=5.1						

KRSC 21 03:32:40.0±10.0, 52°.25N×160°.96E, h62km±10km, ML4.5
IDC 21 03:32:40.4±0.8, 52°.50N×160°.52E, h0km, mb3.9/23, mb1 4.1/24, mb1mx3.9/57, mbtmp4.0/24, ML3.9/1, Error ellipse: s-maj=21.9km s-min=14.3km az=141.0
MOS 21 03:32:43.9±1.1, 52°.34N×160°.71E, h48km, mb4.1/1, Error ellipse: s-maj=9.2km s-min=7.1km az=122.2
NEIC 21 03:32:45.6±2.6, 52°.43N×160°.70E, h39km±8km, mb4.2/18, Error ellipse: s-maj=15.7km s-min=2.2km az=203.0

ISC 21 03:32:40.9±1.6, 52°.33N±0°.04×160°.74E±0°.04, h9km±9km, n98, σ1s16/124, mb4.2/34, 1C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.88 331		P	Pn	03 32 59.2	-0.2
SPN				S	Sn	03 33 11.5	-0.8
SPN	Mys Shipunski	0.88 331		PN	Pn	03 32 59.2	-0.2
SPN				S	Sn	03 33 11.5	-0.8
NLC	Nalytchevo	1.19 315		P	Pn	03 33 03.8	+0.1
NLC				S	Sn	03 33 20.3	+0.3
NLC	Nalytchevo	1.19 315		PN	Pn	03 33 03.8	+0.1
NLC				S	Sn	03 33 20.3	+0.3
RUS	Russkaya	1.37 275		P	Pg	03 33 07.2	+0.1
RUS				S	Sg	03 33 25.3	+0.5
RUS	Russkaya	1.37 275		PN	Pg	03 33 07.2	+0.1
RUS				S	Sg	03 33 25.3	+0.5
DALK	Dalny	1.40 301		P	Pg	03 33 07.4	-0.2
DALK				S	Sg	03 33 26.2	+0.5
DALK	Dalny	1.40 301		PN	Pg	03 33 07.4	-0.2
DALK				S	Sg	03 33 26.2	+0.5
PET	Petropavlovsk	1.45 299		ePn	Pb	03 33 08.0	0.0
PET				eSn	Sg	03 33 27.5	+0.2
PET	Petropavlovsk	1.45 299	↑	iPN	Pg	03 33 08.5	-0.1
PET				eS	Sg	03 33 27.1	-0.2
PET				pmax	pmax		
	comp=Z,665nm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.4s						
PET				smax	smax		
	comp=E,2μm,0.5s						
MTVR	Mutnovka	1.57 276		P	Pg	03 33 10.4	-0.6
MTVR				S	Sg	03 33 31.7	+0.3
MTVR	Mutnovka	1.57 276		PN	Pg	03 33 10.4	-0.6
MTVR				S	Sg	03 33 31.7	+0.3
KOK	Koryaka	1.60 308		P	Pg	03 33 11.8	+0.3
KOK	Koryaka	1.60 308		PN	Pg	03 33 11.8	+0.3
KRX	Arik	1.63 310		P	Pb	03 33 10.6	-0.6
KRX				S	Sg	03 33 32.6	-0.7
KRX	Arik	1.63 310		PN	Pb	03 33 10.6	-0.6
KRX				S	Sg	03 33 32.6	-0.7
GRL	Gorelyy	1.65 279		P	Pg	03 33 12.4	0.0
GRL	Gorelyy	1.65 279		PN	Pg	03 33 12.4	0.0
KRMR	Karymshinskiy	1.67 288		P	Pg	03 33 12.1	-0.7
KRMR				S	Sg	03 33 34.4	0.0
KRMR	Karymshinskiy	1.67 288		PN	Pg	03 33 12.1	-0.7
KRMR				S	Sg	03 33 34.4	0.0
KDTR	Khodutka, Kamc	1.73 253		P	Pb	03 33 12.0	-0.7
KDTR				S	Sn	03 33 32.4	-0.7
KDTR	Khodutka, Kamc	1.73 253		PN	Pb	03 33 12.0	-0.7
KDTR				S	Sn	03 33 32.4	-0.7
ASAK	Asacha	1.74 273		P	Pg	03 33 13.9	-0.3
ASAK				S	Sg	03 33 37.3	+0.5
ASAK	Asacha	1.74 273		PN	Pg	03 33 13.9	-0.3
ASAK				S	Sg	03 33 37.3	+0.5
PEA0B	Petropavlovsk-	2.01 294		ePn	Pn	03 33 13.0	-1.9
PEA0B				e

comp=Z,7.1nm,1.3s
RC01 Rabbit Creek A 27.91 52 *e*P **P 03 38 30.8 -0.1**
comp=Z,3.8nm,0.9s
TOLK Toolik Lake Re 28.34 36 *e*P **P 03 38 33.3 -1.4**
comp=Z,1.8nm,0.7s
COLA College 28.67 44 *e*P **P 03 38 37.5 0.0**
comp=Z,7.1nm,0.3s
ILAR Eielson Array 29.08 44 P **P 03 38 41.0 -0.2**
ILAR Eielson Array 29.08 44 P **P 03 38 41.0 -0.2**
comp=Z,0.2nm,0.7s,baz=267,slow=8.1,SNR=3.0
ILB Eielson Array 29.08 44 *e*P **P 03 38 41.0 -0.2**
comp=Z,1.4nm,1.0s
H11N2 WAKE ISLAND Hy 32.89 169 T T 04 14 54.9
baz=352,slow=74
H11N3 WAKE ISLAND Hy 32.91 169 T T 04 14 56.3
baz=352,slow=74
H11N1 WAKE ISLAND Hy 32.91 169 T T 04 15 11.4
baz=352
SONA0 Songino Array 34.47 285 *e*P **P 03 39 27.4 -1.4**
SONM Songino Array 34.47 285 *e*P **P 03 39 28.9 +0.1**
SONM Songino Array 34.47 285 P **P 03 39 27.4 -1.4**
comp=Z,0.3nm,0.3s,baz=68,slow=5.3,SNR=3.7
YULB Yu-li 41.66 241 *e*P **P 03 40 30.1 +0.6**
comp=Z,13nm,1.3s
NVS Novosibirsk 43.87 305 *e*P **P 03 40 46.5 -0.6**
SPITS Spitsbergen Ar 47.95 351 P **P 03 41 19.7 +0.6**
comp=Z,2.7nm,0.4s,baz=59,slow=9.8,SNR=6.2
KURK Kurchatov 48.47 303 *e*P **P 03 41 22.2 -1.1**
comp=Z,5.0nm,0.8s
KURK Kurchatov 48.47 303 P **P 03 41 23.2 -0.1**
KURBB Kurchatov Arra 48.57 303 P **P 03 41 23.1 -1.0**
comp=Z,1.9nm,0.5s,baz=56,slow=7.9,SNR=18
MK32 Makanchi Array 48.84 297 *e*P **P 03 41 24.9 -1.5**
MKAR Makanchi Array 48.84 297 P **P 03 41 24.9 -1.5**
comp=Z,0.6nm,0.5s,baz=54,slow=7.2,SNR=7.1
BVAR Borovoye Array 51.17 309 P **P 03 41 42.7 -1.1**
comp=Z,2.0nm,0.7s,baz=72,slow=9.3,SNR=6.5
ARCES ARCESS Array B 54.13 342 P **P 03 42 04.8 -0.8**
comp=Z,3.4nm,0.8s,baz=22,slow=8.6,SNR=7.1
CM31 Chiang Mai Arr 58.42 259 *e*P **P 03 42 38.0 +1.3**
comp=Z,6.6nm,0.4s
CMAR Chiang Mai Arr 58.42 259 P **P 03 42 38.0 +1.3**
comp=Z,1.6nm,0.4s,baz=29,slow=7.6,SNR=4.7
FIA0 FINESS Array S 60.98 337 *e*P **P 03 42 54.1 +0.3**
FINES FINESS Array B 60.98 337 P **P 03 42 54.1 +0.3**
comp=Z,1.4nm,0.5s,baz=34,slow=8.4,SNR=13
NB2 NORSAR Subarra 64.38 344 P **P 03 43 16.8 +0.2**
comp=Z,0.6nm,0.5s,baz=21,slow=6.9
NB200 NORSAR Array S 64.38 344 *e*P **P 03 43 16.2 -0.4**
NOA NORSAR Array B 64.38 344 P **P 03 43 16.2 -0.4**
comp=Z,1.2nm,0.7s,baz=21,slow=6.7,SNR=7.7
HFS Hagfors 64.80 342 P **P 03 43 18.7 -0.6**
comp=Z,0.8nm,0.5s,baz=48,slow=2.2,SNR=9.1
AKASG Malin Array Be 69.47 329 P **P 03 43 48.8 -0.3**
comp=Z,1.2nm,0.5s,baz=33,slow=7.2,SNR=2.5
AKBB Malin Array Si 69.47 329 *e*P **P 03 43 48.8 -0.3**
comp=Z,3.5nm,0.8s
LTX Lajitas 70.57 67 *e*P **P 03 43 57.6 +1.3**
TXAR Lajitas Array 70.57 67 P **P 03 43 57.6 +1.3**
comp=Z,0.2nm,0.5s,baz=306,slow=5.1,SNR=5.0
EKA Eskdalemuir Ar 71.87 350 P **P 03 44 03.8 +0.2**
comp=Z,1.1nm,0.7s,baz=20,slow=6.3,SNR=3.5
CLL Collm 73.20 340 *e*P **P 03 44 12.0 +0.4**
CLL *e*pP **PcP 03 44 25.0 -3.2**
BUR08 Bucovina Ar. S 73.41 330 *e*P **P 03 44 14.0 +0.9**
comp=Z,2.2nm,0.9s
MLR Muntele Rosu 75.10 329 *e*P **P 03 44 22.7 -0.3**
comp=Z,2.7nm,0.9s
MLR Muntele Rosu 75.10 329 P **P 03 44 22.7 -0.3**
comp=Z,1.5nm,0.6s,baz=219,slow=6.1,SNR=4.8
GERES GERESS Array B 75.37 338 P **P 03 44 24.6 +0.2**
comp=Z,0.1nm,0.4s,baz=39,slow=6.4,SNR=3.7
AS31 Alice Springs 79.23 205 *e*P **P 03 44 47.2 +1.1**
comp=Z,2.2nm,1.4s
ASAR Alice Springs 79.23 205 P **P 03 44 47.2 +1.1**
comp=Z,0.4nm,0.8s,baz=19,slow=5.9,SNR=3.1
ESDC Sonseca Array 87.41 348 P **P 03 45 29.7 +1.4**
comp=Z,0.2nm,0.4s,baz=1.4,slow=5.1,SNR=3.3

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*IDC **21** 03:43:06.9±0.5, 52°.35N×160°.34E, h0^km, mb4.6/37, mb1 4.7/40, mb1mx4.6/47, mbtmp4.5/40, ML4.6/2, Error ellipse: s-maj=11.9km s-min=9.5km az=143.0*
*KRSC **21** 03:43:07.0±10.0, 52°.16N×160°.78E, h44^km±10^km, ML5.5*
*BJI **21** 03:43:07.0±0.0, 53°.03N×160°.11E, h9^km, mb4.8/30, mB5.2/2*
*MOS **21** 03:43:11.5±1.2, 52°.29N×160°.38E, h50^km, mb5.3/23, Error ellipse: s-maj=6.6km s-min=3.3km az=97.1*
*ISCJB **21** 03:43:12.3±0.4, 52°.33N±0°.03×160°.38E±0°.04, h51^km±3^km, mb4.8/208, MS5.1/2, Error ellipse: s-maj=5.0km s-min=2.8km az=146.1*
*NEIC **21** 03:43:12.4±2.1, 52°.35N×160°.52E, h35^km, mb4.8/141, Error ellipse: s-maj=16.3km s-min=11.8km az=163.0*
*GCMT **21** 03:43:16.4±0.5, 52°.13N±0°.03×160°.56E±0°.05, h32^km, MW5.2/65, Moment Tensor Solution. s34,c39; s65,c90; Duration: 1^s0 Moment tensor: Scale 10^17^Nm; M^rr^0.86±.06; M^θθ^-0.29±.04; M^φφ^-0.56±.04; M^rθ^0.39±.05; M^rφ^-0.26±.02; M^θφ^0.10±.04; Best double couple: M^o^0.88100×10^17^ NP1:φ^s^47.00000°, δ57.00000°, λ106.00000°. NP2:φ^s^200.00000°, δ36.00000°, λ67.00000°. Principal axes: T 0.9800, Plg73.0000°, Azm358.0000°; N -0.1980, Plg13.0000°, Azm218.0000°; P -0.7820, Plg11.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 03:43:11.3±0.6, 52°.27N±0°.04×160°.57E±0°.03, h34^km±1^km, h35^km: pP-P, n488, σ1^s49/515, mb4.8/214, 44C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.89**	**338**		*e*P	**Pn**		**03 43 26.2**	**-1.3**
SPN					*e*S	**Sn**		**03 43 38.8**	**-0.4**
SPN	**Mys Shipunski**	**0.89**	**338**	PN		**Pn**		**03 43 26.2**	**-1.3**
SPN				S		**Sn**		**03 43 38.8**	**-0.4**
NLC	**Nalytchevo**	**1.17**	**321**		*e*P	**Pn**		**03 43 31.0**	**-0.3**
NLC					*e*S	**Sb**		**03 43 48.9**	**+1.0**
NLC	**Nalytchevo**	**1.17**	**321**	PN		**Pn**		**03 43 31.0**	**-0.3**
NLC				S		**Sb**		**03 43 48.9**	**+1.0**
RUS	**Russkaya**	**1.27**	**278**		*e*P	**Pn**		**03 43 32.3**	**-0.4**
RUS					*e*S	**Sn**		**03 43 49.6**	**+1.0**
RUS	**Russkaya**	**1.27**	**278**	PN		**Pn**		**03 43 32.3**	**-0.4**
RUS				S		**Sn**		**03 43 49.6**	**+1.0**
DALK	**Dalny**	**1.34**	**305**		*e*P	**Pn**		**03 43 33.4**	**-0.2**
DALK					*e*S	**Sb**		**03 43 52.4**	**-0.4**
DALK	**Dalny**	**1.34**	**305**	PN		**Pn**		**03 43 33.4**	**-0.2**
DALK				S		**Sb**		**03 43 52.4**	**-0.4**
PET	**Petropavlovsk**	**1.39**	**304**	*e*Pn		**Pn**		**03 43 34.1**	**-0.2**
PET				*e*Sn		**Sn**		**03 43 52.6**	**+1.1**
PET	**Petropavlovsk**	**1.39**	**304**	α *i*PN		**Pn**		**03 43 34.0**	**-0.3**
PET				*e*S		**Sb**		**03 43 54.1**	**-0.1**
PET				pmax		pmax			
	comp=Z,3μm,0.7s								
PET				pmax		pmax			
	comp=Z,9μm,1.9s								
PET				smax		smax			
	comp=E,33μm,0.5s								
PET				smax		smax			
	comp=N,28μm,0.5s								
UGLR	**Uglovaya**	**1.42**	**312**		*e*P	**Pn**		**03 43 35.2**	**+0.4**
UGLR	**Uglovaya**	**1.42**	**312**	PN		**Pn**		**03 43 35.2**	**+0.4**
SDLR	**Sedlovina**	**1.44**	**315**		*e*P	**Pn**		**03 43 35.1**	**0.0**
SDLR	**Sedlovina**	**1.44**	**315**	PN		**Pn**		**03 43 35.1**	**0.0**
SMAR	**Somma**	**1.47**	**313**		*e*P	**Pn**		**03 43 35.3**	**-0.2**
SMAR	**Somma**	**1.47**	**313**	PN		**Pn**		**03 43 35.3**	**-0.2**
MTVR	**Mutnovka**	**1.48**	**279**		*e*P	**Pn**		**03 43 35.6**	**-0.1**
MTVR	**Mutnovka**	**1.48**	**279**	PN		**Pn**		**03 43 35.6**	**-0.1**
AVH	**Avacha**	**1.50**	**312**		*e*P	**Pn**		**03 43 36.2**	**+0.4**
AVH	**Avacha**	**1.50**	**312**	PN		**Pn**		**03 43 36.2**	**+0.4**
KRER	**Koryakskii**	**1.52**	**314**		*e*P	**Pn**		**03 43 37.0**	**+0.8**
KRER	**Koryakskii**	**1.52**	**314**	PN		**Pn**		**03 43 37.0**	**+0.8**
GRL	**Gorelyy**	**1.56**	**281**		*e*P	**Pn**		**03 43 37.9**	**+1.2**
GRL	**Gorelyy**	**1.56**	**281**	PN		**Pn**		**03 43 37.9**	**+1.2**
KOK	**Koryaka**	**1.56**	**312**		*e*P	**Pn**		**03 43 37.0**	**+0.3**
KOK	**Koryaka**	**1.56**	**312**	PN		**Pn**		**03 43 37.0**	**+0.3**
KRMR	**Karymshinskiy**	**1.59**	**292**		*e*P	**Pn**		**03 43 37.3**	**+0.2**
KRMR					*e*S	**Sb**		**03 43 58.7**	**-1.2**
KRMR	**Karymshinskiy**	**1.59**	**292**	PN		**Pn**		**03 43 37.3**	**+0.2**
KRMR				S		**Sb**		**03 43 58.7**	**-1.2**
KRX	**Arik**	**1.60**	**314**	*i* P		**Pn**		**03 43 38.1**	**+0.8**
KRX	**Arik**	**1.60**	**314**	PN		**Pn**		**03 43 38.1**	**+0.8**
KDTR	**Khodutka, Kamc**	**1.61**	**254**	*e*P		**Pn**		**03 43 36.6**	**-0.7**
KDTR				*e*S		**Sn**		**03 43 56.7**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.61**	**254**	PN		**Pn**		**03 43 36.6**	**-0.7**
KDTR				S		**Sn**		**03 43 56.7**	**-0.1**
PEA0B	**Petropavlovsk-**	**1.94**	**297**	*e*Pn		**Pn**		**03 43 42.5**	**+0.6**
PEA0B				*e*Sn		**Sn**		**03 44 04.2**	**-0.8**
PETK	**Petropavlovsk-**	**1.94**	**297**	*e*Pn		**Pn**		**03 43 41.4**	**-0.5**
PETK	**Petropavlovsk-**	**1.94**	**297**	*e*PN		**Pn**		**03 43 41.4**	**-0.5**
PETK	**Petropavlovsk-**	**1.94**	**297**	Pn		**Pn**		**03 43 43.0**	**+1.2**
	comp=N,344nm,0.3s,baz=107,slow=18,SNR=276								
PETK				Sn		**Sb**		**03 44 12.3**	**+2.5**
	comp=N,1μm,0.3s,baz=106,slow=41,SNR=16								
PEA1	**Petropavlovsk-**	**1.94**	**297**	*e*Pn		**Pn**		**03 43 43.0**	**+1.1**
PEA1				*e*Sn		**Sb**		**03 44 12.3**	**+2.4**
APC	**Apacha**	**2.18**	**289**	*e*P		**Pn**		**03 43 46.4**	**+1.2**
APC				S		**Sn**		**03 44 13.4**	**+2.4**
APC	**Apacha**	**2.18**	**289**	PN		**Pn**		**03 43 46.4**	**+1.2**
APC				S		**Sn**		**03 44 13.4**	**+2.4**
MKZ	**Mys Kozlova**	**2.39**	**16**	*e*P		**Pn**		**03 43 47.3**	**-0.7**
MKZ				*e*S		**Sn**		**03 44 15.0**	**-1.1**
MKZ	**Mys Kozlova**	**2.39**	**16**	PN		**Pn**		**03 43 47.3**	**-0.7**
MKZ				S		**Sn**		**03 44 15.0**	**-1.1**
PAU	**Pauzhetka**	**2.47**	**252**	*e*P		**Pn**		**03 43 48.9**	**-0.2**
PAU	**Pauzhetka**	**2.47**	**252**	PN		**Pn**		**03 43 48.9**	**-0.2**
KZV	**Kizimen**	**2.85**	**357**	*i* P		**Pn**		**03 43 55.3**	**+0.8**
KZV				*e*S		**Sn**		**03 44 28.2**	**+0.5**
KZV	**Kizimen**	**2.85**	**357**	PN		**Pn**		**03 43 55.3**	**+0.8**
KZV				S		**Sn**		**03 44 28.2**	**+0.5**
TUMD	**Tumrok D**	**2.94**	**358**	*e*P		**Pn**		**03 43 55.8**	**+0.2**
TUMD				*e*S		**Sn**		**03 44 30.5**	**+0.8**
TUMR	**Tumrok**	**3.03**	**355**	*i* P		**Pn**		**03 43 58.1**	**+1.2**
TUMR				*e*S		**Sn**		**03 44 34.7**	**+2.7**
TUMR	**Tumrok**	**3.03**	**355**	PN		**Pn**		**03 43 55.8**	**-1.1**
TUMR				S		**Sn**		**03 44 30.5**	**-1.5**
SKR	**Severo-Kuril's**	**3.21**	**242**	*e*P		**Pn**		**03 43 58.4**	**-0.9**
SKR	**Severo-Kuril's**	**3.21**	**242**	*e*PN		**Pn**		**03 43 57.1**	**-2.2**
SKR				*e*S		**Sn**		**03 44 37.4**	**+1.1**
SKR				pmax		pmax			
	comp=Z,459nm,0.7s								
SKR				smax		smax			
	comp=N,4μm,0.7s								
SKR				smax		smax			
	comp=E,3μm,0.6s								
ALID	**Alaid**	**3.44**	**248**	*e*P		**Pn**		**03 44 02.3**	**-0.2**
ALID	**Alaid**	**3.44**	**248**	PN		**Pn**		**03 44 02.3**	**-0.2**
BZMR	**Bezymyannaya**	**3.67**	**359**	*e*P		**Pn**		**03 44 07.5**	**+1.7**
BZMR	**Bezymyannaya**	**3.67**	**359**	PN		**Pn**		**03 44 07.5**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**3.68**	**1**	*e*P		**Pn**		**03 44 07.6**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**3.68**	**1**	PN		**Pn**		**03 44 07.6**	**+1.8**
KIRR	**Kirishev**	**3.69**	**358**	*e*P		**Pn**		**03 44 07.3**	**+1.3**
KIRR	**Kirishev**	**3.69**	**358**	PN		**Pn**		**03 44 07.3**	**+1.3**
KPT	**Kopyto**	**3.71**	**357**	*e*P		**Pn**		**03 44 08.5**	**+2.3**
KPT	**Kopyto**	**3.71**	**357**	PN		**Pn**		**03 44 08.5**	**+2.3**
KOZ	**Kozyrevsk**	**3.82**	**354**	*e*P		**Pn**		**03 44 09.0**	**+1.4**
KOZ	**Kozyrevsk**	**3.82**	**354**	PN		**Pn**		**03 44 09.0**	**+1.4**
LGNR	**Loginova**	**3.82**	**1**	*i* P		**Pn**		**03 44 10.5**	**+2.6**
LGNR	**Loginova**	**3.82**	**1**	PN		**Pn**		**03 44 10.5**	**+2.6**
ESO	**Esso**	**3.82**	**344**	*e*P		**Pn**		**03 44 08.6**	**+0.9**
ESO	**Esso**	**3.82**	**344**	PN		**Pn**		**03 44 08.6**	**+0.9**
CIRR	**Tsirk**	**3.85**	**1**	*e*P		**Pn**		**03 44 11.0**	**+2.7**
CIRR	**Tsirk**	**3.85**	**1**	PN		**Pn**		**03 44 11.0**	**+2.7**
KRSR	**Krestovskiy**	**3.95**	**360**	*e*P		**Pn**		**03 44 10.4**	**+0.8**
KRSR	**Krestovskiy**	**3.95**	**360**	PN		**Pn**		**03 44 10.4**	**+0.8**
KLY	**Klyuchi**	**4.05**	**1**	*e*P		**Pn**		**03 44 13.0**	**+2.2**
KLY	**Klyuchi**	**4.05**	**1**	PN		**Pn**		**03 44 13.0**	**+2.2**
SRDR	**Sredinnyy**	**4.08**	**353**	*e*P		**Pn**		**03 44 13.0**	**+1.6**
SRDR	**Sredinnyy**	**4.08**	**353**	PN		**Pn**		**03 44 13.0**	**+1.6**
KBTR	**Krutoberegovo**	**4.16**	**18**	*e*P		**Pn**		**03 44 12.1**	**-0.2**
KBTR	**Krutoberegovo**	**4.16**	**18**	PN		**Pn**		**03 44 12.1**	**-0.2**
KBG	**Krutoberegovo**	**4.18**	**17**	*e*P		**Pn**		**03 44 14.4**	**+1.8**
KBG	**Krutoberegovo**	**4.18**	**17**	PN		**Pn**		**03 44 14.4**	**+1.8**
BKI	**Bering**	**4.35**	**45**	*e*P		**Pn**		**03 44 13.9**	**-1.0**
BKI				*e*S		**Sn**		**03 44 59.4**	**-4.9**
BKI	**Bering**	**4.35**	**45**	PN		**Pn**		**03 44 13.9**	**-1.0**
SMKR	**Semkarok**	**4.35**	**7**	*e*P		**Pn**		**03 44 18.1**	**+3.1**
SMKR	**Semkarok**	**4.35**	**7**	PN		**Pn**		**03 44 18.1**	**+3.1**
SRKR	**Sorokina**	**4.41**	**4**	*e*P		**Pn**		**03 44 17.8**	**+2.0**
SRKR	**Sorokina**	**4.41**	**4**	PN		**Pn**		**03 44 17.8**	**+2.0**
SMY	**Shemya**	**8.27**	**81**	*e*Pn		**Pn**		**03 45 07.7**	**-1.0**
SMY	**Shemya**	**8.27**	**81**	*e*PN		**Pn**		**03 45 07.7**	**-1.0**
TILK	**Tilichiki**	**8.76**	**18**	*e*P		**Pn**		**03 45 17.5**	**+2.2**
TILK	**Tilichiki**	**8.76**	**18**	PN		**Pn**		**03 45 17.5**	**+2.2**
MA2	**Magadan**	**9.15**	**327**	*e*Pn		**Pn**		**03 45 19.9**	**-0.9**
MA2	**Magadan**	**9.15**	**327**	*i* PN		**Pn**		**03 45 19.0**	**-1.8**
MA2	**Magadan**	**9.15**	**327**	Pn		**Pn**		**03 45 22.3**	**+1.6**
	comp=E,1.1nm,0.3s,baz=152,slow=12,SNR=8.3								
SEY	**Seymchan**	**11.54**	**341**	*i* PN		**Pn**		**03 45 53.2**	**-0.3**
SEY	**Seymchan**	**11.54**	**341**	Pn		**Pn**		**03 45 55.3**	**+1.8**
	comp=E,0.2nm,0.3s,baz=138,slow=14,SNR=6.7								
NKL	**Nikolayevsk**	**12.10**	**282**	*e*PN		**P**		**03 46 11.8**	**-1.6**
YSS	**Yuzh-Sakhalins**	**12.71**	**252**	*e*PN		**Pn**		**03 46 10.9**	**+1.4**
YSS				pmax		pmax			
	comp=Z,30nm,0.8s								
ASAJ	**Asahikawa**	**14.47**	**243**	Pn		**Pn**		**03 46 32.6**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=72,slow=11,SNR=16								
GRNR	**Gornyy**	**15.10**	**274**	*e*P		**P**		**03 46 48.7**	**+2.0**
GRNR				pmax		pmax			
	comp=Z,42nm,1.0s								
ERM	**Erimo**	**15.63**	**236**	*e*Pn		**Pn**		**03 46 46.3**	**-2.6**
	comp=Z,76nm,1.3s								
ERM	**Erimo**	**15.63**	**236**	*e*P		**Pn**		**03 46 46.3**	**-2.6**
ERM				pmax		pmax			
	comp=Z,76nm,1.3s								
BILL	**Bilibino**	**16.06**	**8**	*e*Pn		**Pn**		**03 46 54.6**	**+0.4**
	comp=Z,38nm,0.7s								
BILL	**Bilibino**	**16.06**	**8**	⇑*e*P		**P**		**03 46 57.7**	**+0.4**
BILL				pmax		pmax			
	comp=Z,42nm,0.8s								
BILL				MLR		MLR			
	comp=Z,3μm,15.0s								
TEY	**Ternei**	**17.36**	**255**	⇓*e*P		**Pn**		**03 47 11.0**	**+0.3**
TEY				pmax		pmax			
	comp=E,20nm,1.4s								
TEY				pmax		pmax			
	comp=Z,10.0nm,2.4s								
YAK	**Yakutsk**	**19.20**	**313**	*e*P		**P**		**03 47 29.0**	**-2.9**
YAK				pmax		pmax			
	comp=Z,634nm,0.9s								
YAK				pmax		pmax			
	comp=N,113nm,1.1s								
YAK				pmax		pmax			
	comp=E,232nm,1.1s								
ZEA	**Zeya**	**20.01**	**287**	*e*P		**P**		**03 47 39.2**	**-1.6**
ZEA				pmax		pmax			
	comp=Z,46nm,1.4s								
USA0B	**Ussuriysk Arra**	**20.58**	**258**	*e*P		**P**		**03 47 44.8**	**-2.3**
	comp=Z,15nm,0.8s								
USRK	**Ussuriysk Ar.**	**20.58**	**258**	*e*P		**P**		**03 47 43.8**	**-3.3**
USRK	**Ussuriysk Ar.**	**20.58**	**258**	P		**P**		**03 47 45.5**	**-1.6**
	comp=Z,15nm,0.8s,baz=56,slow=11,SNR=20								
MDJ	**Mudanjiang**	**21.80**	**262**	*e*P		**P**		**03 47 58.5**	**-1.8**
	comp=Z,13nm,0.8s								
MJB9	**Matsu-Tunnel**	**22.28**	**234**	*e*P		**P**		**03 48 06.9**	**+1.5**
	comp=Z,50nm,0.8s								
MAJO	**Matsushiro**	**22.28**	**234**	*e*P		**P**		**03 48 06.6**	**+1.2**
	comp=Z,51nm,0.8s								
MAJO	**Matsushiro**	**22.28**	**234**	*i* P		**P**		**03 48 04.3**	**-1.1**
MAJO				pmax		pmax			
	comp=Z,24nm,1.0s								
MAT	**Matsushiro**	**22.28**	**234**	P		**P**		**03 48 05.3**	**-0.1**
MJAR	**Matsushiro Arr**	**22.28**	**234**	P		**P**		**03 48 06.3**	**+0.8**
	comp=Z,16nm,0.8s,baz=29,slow=8.8,SNR=39								
RDOG	**Red Dog Mine**	**23.55**	**34**	*e*P		**P**		**03 48 18.0**	**-0.2**
	comp=Z,24nm,0.9s								
INU	**Inuyama**	**23.81**	**234**	*e*P		**P**		**03 48 22.1**	**+1.2**
	comp=Z,32nm,0.8s								
TIXI	**Tiksi**	**23.95**	**336**	*e*P		**P**		**03 48 20.2**	**-1.7**
TIXI	**Tiksi**	**23.95**	**336**	*ce*P		**P**		**03 48 19.9**	**-2.0**
TIXI				pmax		pmax			
	comp=Z,26nm,0.7s								
TIXI	**Tiksi**	**23.95**	**336**	P		**P**		**03 48 20.0**	**-2.0**
	comp=Z,22nm,0.7s,baz=20,slow=1.0,SNR=6.6								
JHJ	**Hachijo jima 2**	**24.34**	**226**	P		**P**		**03 48 24.2**	**-1.6**
	comp=Z,157nm,0.3s,baz=51,slow=16,SNR=33								
CN2	**Changchun**	**24.76**	**264**	*e*P		**P**		**03 48 32.0**	**+2.4**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
SVW2	**Sparrevohn**	**25.19**	**52**	*e*P		**P**		**03 48 31.5**	**-1.8**
	comp=Z,14nm,1.1s								
HIA	**Hailar**	**25.75**	**280**	*e*P		**P**		**03 48 36.7**	**-1.9**
	comp=Z,42nm,0.8s								
HIA	**Hailar**	**25.75**	**280**	*i* P		**P**		**03 48 35.7**	**-2.9**
HIA				pmax		pmax			
	comp=Z,240nm,0.8s								
IMAR	**Indian Mountai**	**26.42**	**41**	*e*P		**P**		**03 48 44.3**	**-0.1**
OHAK	**Old Harbor**	**26.67**	**61**	*e*P		**P**		**03 48 47.0**	**+0.3**
	comp=Z,19nm,1.0s								
BOD	**Bodaibo**	**26.81**	**300**	*e*P		**P**		**03 48 45.3**	**-2.6**
BOD				pmax		pmax			
	comp=Z,28nm,1.5s								
KDAK	**Kodiak Island**	**26.96**	**60**	*e*P		**P**		**03 48 50.2**	**+1.0**
	comp=Z,1.4nm,0.8s								
KDAK	**Kodiak Island**	**26.96**	**60**	P		**P**		**03 48 50.3**	**+1.0**
	comp=Z,8.8nm,0.9s,baz=354,slow=3.0,SNR=4.1								
KSRS	**Korea Array**	**27.19**	**250**	P		**P**		**03 48 52.3**	**+0.7**
	comp=Z,3.6nm,0.7s,baz=45,slow=9.5,SNR=14								
KS15	**Wonju Array Si**	**27.22**	**250**	*e*P		**P**		**03 48 52.3**	**+0.4**
	comp=Z,9.8nm,1.0s								
KSAR	**Wonju Array Be**	**27.22**	**250**	*e*P		**P**		**03 48 52.8**	**+1.0**
BPAW	**Bear Paw Mtn.**	**27.40**	**46**	*e*P		**P**		**03 48 54.0**	**+0.8**
	comp=Z,9.4nm,1.1s								
MLY	**Manley**	**27.56**	**44**	*e*P		**P**		**03 48 54.3**	**-0.4**
	comp=Z,3.3nm,0.8s								
BWN	**Browne**	**28.07**	**45**	*e*P		**P**		**03 49 02.5**	**+3.3**
	comp=Z,48nm,1.4s								
SEW	**Seward**	**28.27**	**54**	*e*P		P		03 49 12.5	+12
TOLK	**Toolik Lake Re**	**28.45**	**36**	*e*P		**P**		**03 49 03.9**	**+1.2**
	comp=Z,6.5nm,0.7s								
SML	**Sawmill**	**28.65**	**50**	*e*P		**P**		**03 49 07.4**	**+3.0**
	comp=Z,11nm,0.8s								
WRH	**Wood River Hil**	**28.67**	**45**	*e*P		**P**		**03 49 06.8**	**+2.2**
	comp=Z,9.2nm,1.1s								
JNU	**Nakatsue**	**28.72**	**240**	*e*P		**P**		**03 49 06.0**	**+0.8**
	comp=Z,32nm,0.7s								
JNU	**Nakatsue**	**28.72**	**240**	P		**P**		**03 49 05.6**	**+0.3**
	comp=Z,9.6nm,0.8s,baz=106,slow=7.7,SNR=10								
COLA	**College**	**28.78**	**44**	*i* P		**P**		**03 49 09.6**	**+4.1**
COLA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
CCB	**Clear Creek Bu**	**28.80**	**44**	*e*P		**P**		**03 49 07.1**	**+1.5**
	comp=Z,6.8nm,1.0s								
SCM	**Sheep Creek Mo**	**29.12**	**50**	*e*P		**P**		**03 49 10.1**	**+1.5**
	comp=Z,8.9nm,1.0s								
ILAR	**Eielson Array**	**29.19**	**44**	P		**P**		**03 49 09.9**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=261,slow=8.4,SNR=12								
ILB	**Eielson Array**	**29.19**	**44**	*e*P		**P**		**03 49 09.9**	**+0.7**
	comp=Z,3.8nm,1.0s								
PRP	**Porcupine Dome**	**29.77**	**43**	*e*P		**P**		**03 49 15.6**	**+1.1**
	comp=Z,6.1nm,1.1s								
SCRK	**Sand Creek**	**30.48**	**46**	*e*P		**P**		**03 49 21.1**	**+0.4**
	comp=Z,7.2nm,1.4s								
EGAK	**Eagle**	**31.64**	**44**	*e*P		**P**		**03 49 31.0**	**+0.2**
	comp=Z,5.2nm,0.8s								
CTGM	**Chitina Glacie**	**32.10**	**51**	*e*P		P		03 49 44.3	+9.3
	comp=Z,8.8nm,1.2s								
H11N2	**WAKE ISLAND Hy**	**32.85**	**169**	T		T		04 24 28.1	
	baz=353,slow=75,SNR=131								
H11N3	**WAKE ISLAND Hy**	**32.86**	**169**	T		T		04 24 28.1	
	baz=353,slow=75,SNR=93								
H11N1	**WAKE ISLAND Hy**	**32.87**	**169**	T		T		04 24 28.1	
	baz=353,slow=75,SNR=119								
ULN	**Ulaanbaatar**	**33.98**	**284**	*e*P		**P**		**03 49 49.9**	**-1.7**
	comp=Z,9.3nm,1.2s								
ULN	**Ulaanbaatar**	**33.98**	**284**	*ce*P		**P**		**03 49 50.1**	**-1.5**
ULN				pmax		pm

BRVK Borovoye 51.16 309⇑ *i*P P 03 52 08.5 -2.1
BRVK pmax pmax
comp=Z,18nm,0.9s
BRVK Borovoye 51.16 309 P P 03 52 09.5 -1.1
SNR=8.5
BMO Blue Mountains 52.09 63 *e*P P 03 52 22.3 +4.5
comp=Z,2.4nm,0.9s
MOD Modoc Plateau 52.30 68 *e*P P 03 52 21.8 +2.3
comp=Z,5.2nm,0.8s
SLVN Son La 53.12 257 *e*P P 03 52 26.4 +0.8
comp=Z,8.0nm,0.7s
LVZ Lovozero 53.57 338*ce*P P 03 52 27.2 -1.1
LVZ pmax pmax
comp=Z,44nm,1.7s
BEKR Beckworth 53.60 70 *e*P P 03 52 32.7 +3.5
comp=Z,4.4nm,1.0s
ARCES ARCESS Array B 54.16 342 *e*P P 03 52 31.6 -1.0
ARCES ARCESS Array B 54.16 342 *e*P P 03 52 31.6 -1.0
ARCES ARCESS Array B 54.16 342 P P 03 52 32.3 -0.2
comp=Z,12nm,0.7s,baz=44,slow=7.3,SNR=23
ARU Arti 54.20 318 *e*P P 03 52 31.0 -2.0
comp=Z,18nm,0.7s
ARU Arti 54.20 318*c i*P P 03 52 31.9 -1.1
ARU *PP **sP** 03 52 44.8 -0.5
ARU 03 54 29.8
ARU S **S** 04 00 04.9 -2.5
ARU pmax pmax
comp=Z,15nm,0.6s
PAHR Pah Rah Range 54.27 69 *e*P P 03 52 37.3 +3.4
comp=Z,7.7nm,1.3s
VCNR Virginia City 54.39 70 *e*P P 03 52 37.8 +2.9
comp=Z,8.1nm,1.1s
BOZ Bozeman (W) 54.66 59 *e*P P 03 52 37.8 +1.1
comp=Z,4.0nm,1.0s
SUMG Summit 54.74 7 *e*P P 03 52 37.6 +0.4
comp=Z,29nm,0.9s
LSA Lhasa 54.77 274 *e*P P 03 52 38.6 +0.5
comp=Z,13nm,0.5s
BMN Battle Mountai 55.02 67 *e*P P 03 52 40.3 +0.9
comp=Z,8.3nm,1.0s
WAKR Walker 55.04 71 *e*P P 03 52 41.1 +1.5
comp=Z,5.7nm,0.8s
PRGR Permogore 55.29 328 *e*P P 03 52 39.2 -1.6
PRGR pmax pmax
comp=Z,26nm,0.8s
KVN Kaiserville 55.45 69 *e*P P 03 52 45.0 +2.4
comp=Z,5.8nm,1.0s
RYN Ryan 55.49 70 *e*P P 03 52 46.4 +3.6
comp=Z,3.3nm,0.8s
YHH Holmes Hill 55.61 60 *e*P P 03 52 45.6 +1.9
comp=Z,3.3nm,0.9s
TMCR Tamitsa 55.64 333 *e*P P 03 52 43.0 -0.3
TMCR pmax pmax
comp=Z,57nm,0.9s
NV01 Mina Array Sit 55.75 70 *e*P P 03 52 46.7 +2.0
NVAR Mina Array Bea 55.75 70 P P 03 52 46.7 +2.0
comp=Z,1.9nm,0.8s,baz=291,slow=6.9,SNR=13
NV11 Mina Array Sit 55.83 70 *e*P P 03 52 48.0 +2.8
comp=Z,0.7nm,1.4s
ELK Elko 55.93 66 *e*P P 03 52 48.0 +2.0
comp=Z,2.6nm,0.9s
PANO Nakornpanom 55.94 253 P P 03 52 49.3 +3.3
comp=Z,0.5nm,0.9s
RLMT Red Lodge 56.22 58 *e*P P 03 52 50.3 +2.3
comp=Z,7.1nm,0.9s
KIRV Kirov 56.23 324 P P 03 52 47.6 +0.1
comp=Z,18nm,0.5s,baz=30,slow=4.1,SNR=9.2
FXWY Fox Creek 56.29 61 *e*P P 03 52 49.3 +0.7
comp=Z,2.4nm,0.9s
SKNT Sakolnakorn 56.45 253 P P 03 52 51.1 +1.4
comp=Z,28nm,0.9s
HVU Hansel Valley 56.60 63 *e*P P 03 52 56.1 +5.4
comp=Z,5.0nm,1.0s
ILULI Ilulissat 56.62 13 *e*P P 03 52 49.2 -1.0
ILULI *ep*P **pP** 03 52 59.6 +0.4
LAO LASA Array 56.73 55 *e*P P 03 52 55.4 +3.9
comp=Z,8.4nm,1.0s
KSH Kashi 56.99 293 P P 03 52 56.1 +2.6
KSH pP pP 03 53 03.3 +0.2
KSH PP **PP** 03 55 04.4 +4.4
KSH S **S** 04 00 45.1 -0.3
KSH SS **SS** 04 04 35.8 +2.2
PAYA Payao 57.05 259 P P 03 52 55.6 +1.6
comp=Z,58μm,0.7s,comp=Z,674μm
SHL Shillong 57.30 270 *e*P P 03 52 56.2 +0.4
comp=Z,11nm,0.8s
R11A Troy Canyon, C 57.36 68 *e*P P 03 52 58.1 +1.9
comp=Z,3.0nm,1.1s
PHRA Phrae 57.50 258 P P 03 52 58.5 +1.4
comp=Z,4.0nm,0.9s
KK31 Karatay Array 57.54 300 *e*P P 03 52 56.1 -1.1
comp=Z,8.2nm,0.9s
KKAR Karatay Array 57.54 300 *e*P P 03 52 56.1 -1.1
comp=Z,8.2nm,0.9s
DUG Dugway, Tooele 57.66 65 *e*P P 03 52 59.8 +1.6
comp=Z,13nm,1.4s
BW06 Boulder Array 57.67 61 *e*P P 03 53 00.2 +1.9
comp=Z,3.6nm,0.8s
PD31 Pinedale Array 57.67 61 *e*P P 03 53 00.2 +1.9
comp=Z,3.2nm,0.8s
PDAR Pinedale Array 57.67 61 *e*P P 03 52 59.8 +1.5
PDAR Pinedale Array 57.67 61 P P 03 53 00.0 +1.7
comp=Z,1.6nm,0.8s,baz=319,slow=2.8,SNR=11
KLMR Klimovskoe 57.81 330 *e*P P 03 52 57.2 -1.5
KLMR pmax pmax
comp=Z,34nm,0.9s
LAMP Lampang 57.84 258 P P 03 53 01.1 +1.6
comp=Z,20μm,0.8s
UTTA Uttaradit 57.89 257 P P 03 53 01.2 +1.4
comp=Z,41μm,0.7s
TPNV Topopah Spring 57.95 70 *e*P P 03 53 03.2 +2.9
comp=Z,4.0nm,0.9s
CMMT Chiang Mai 58.03 259 P P 03 53 01.6 +0.7
comp=Z,13nm,0.8s
CHTO Chiang Mai 58.03 259 *e*P P 03 53 01.1 +0.3
comp=Z,18nm,0.8s
CM31 Chiang Mai Arr 58.30 259 *e*P P 03 53 03.9 +1.1
comp=Z,18nm,0.9s
CMAR Chiang Mai Arr 58.30 259 P P 03 53 03.9 +1.1
comp=Z,1.1nm,0.8s,baz=27,slow=6.9,SNR=40
CHAI Chaiyaphum 58.47 254 P P 03 53 05.4 +1.5
comp=Z,20μm,0.8s,comp=Z,450μm
PBKT Sadao Pong 58.55 256 P P 03 53 06.1 +1.7
comp=Z,5.9nm,0.8s
ABKAR Akbulak array 58.55 311 *e*P P 03 53 02.4 -1.7
comp=Z,12nm,0.8s
RPV Rancho Palos V 58.93 74 *e*P P 03 53 07.3 +0.4
TMUT Trail Mountain 59.17 65 *e*P P 03 53 11.6 +2.7
comp=Z,3.2nm,0.8s
MSU Marysvale 59.18 66 *e*P P 03 53 14.4 +5.5
JIRN Jiri 59.27 276 *e*P P 03 53 09.3 -0.5
comp=Z,40nm,0.8s
BTK Batken 59.49 297 *e*P P 03 53 09.6 -1.2
comp=Z,11nm,0.8s
MTPU Mount Pierson 59.50 66 *e*P P 03 53 14.4 +3.1
comp=Z,2.6nm,1.0s
RAMN Ramite 59.53 275 *e*P P 03 53 10.7 -0.8
comp=Z,46nm,0.6s
RSSD Black Hills 59.62 56 *e*P P 03 53 12.8 +0.9
comp=Z,8.4nm,0.8s
LCMT Little Creek M 59.63 68 *e*P P 03 53 14.8 +2.9
comp=Z,4.2nm,0.9s
SRU San Rafael Swe 59.68 64 *e*P P 03 53 14.8 +2.5
comp=Z,6.6nm,0.9s
KKN Kakani 59.73 277 *e*P P 03 53 12.2 -0.6
comp=Z,35nm,0.6s
PKI Pulchoki 59.81 277 *e*P P 03 53 12.6 -0.9
comp=Z,24nm,0.7s
PKIN Phulchoki 59.81 277 *e*P P 03 53 12.5 -1.0
comp=Z,26nm,0.7s
LDFC Landfair 59.92 71 *e*P P 03 53 17.0 +3.1
comp=Z,14nm,1.0s
DMN Daman 59.97 277 *e*P P 03 53 14.1 -0.4
comp=Z,39nm,0.7s
UMPA Umpang Tak 60.09 257 P P 03 53 21.6 +6.4
DANN Dangsing 60.25 279 *e*P P 03 53 15.8 -0.7
comp=Z,35nm,0.7s
GAR Garm 60.51 296 *e*P P 03 53 17.0 -0.9
comp=Z,16nm,0.5s
KOLN Koldanda 60.77 278 *e*P P 03 53 19.0 -0.9
comp=Z,16nm,0.5s
PYUN Piuthan 60.90 279 *e*P P 03 53 19.9 -0.9
comp=Z,13nm,0.4s
N23A Red Feather La 60.91 60 *e*P P 03 53 22.3 +1.5
comp=Z,5.5nm,0.8s
FIA1 FINESS Array S 60.99 337 *e*P P 03 53 20.6 0.0
comp=Z,28nm,1.0s
FIA0 FINESS Array S 60.99 337 *e*P P 03 53 20.9 +0.2
FINES FINESS Array B 60.99 337 *i* P P 03 53 20.8 +0.1
FINES pmax pmax
comp=Z,11nm,0.6s
FINES FINESS Array B 60.99 337 P P 03 53 20.9 +0.2
comp=Z,11nm,0.6s,baz=39,slow=6.8,SNR=59
PV17 East Wray Mesa 61.13 64 *e*P P 03 53 23.5 +1.2
comp=Z,8.3nm,0.9s
PV11 David Mesa, Pa 61.17 64 *e*P P 03 53 23.4 +0.9
comp=Z,8.4nm,0.8s
PV03 Paradox Valley 61.21 64 *e*P P 03 53 27.1 +4.3
comp=Z,5.5nm,0.9s
PV13 Radium Mtn., P 61.30 64 *e*P P 03 53 24.6 +1.2
comp=Z,7.3nm,0.9s
ISCO Idaho Springs 61.87 61 *e*pP pP 03 53 33.1 -3.4
X16A Lo Mia Camp, P 62.50 69 *e*P P 03 53 34.0 +2.5
comp=Z,2.2nm,0.8s
MOS Moscow 62.51 328 *e*P P 03 53 27.6 -3.3
MOS *e* 03 53 36.5
MOS pmax pmax
comp=Z,38nm,1.2s
NIL Nilore 62.67 290 *e*P P 03 53 32.2 -0.3
comp=Z,18nm,0.6s
S22A 4UR Ranch, Cre 62.69 63 *e*P P 03 53 34.8 +1.9
comp=Z,4.4nm,1.1s
OBN Obninsk 63.37 328*ce*P P 03 53 35.9 -0.7
OBN *e*SSS SSS 04 09 01.8
OBN pmax pmax
comp=Z,102nm,2.5s
OBN MLR MLR
comp=Z,987nm,16.0s
VSU Vasula 63.42 335*ce*P P 03 53 36.1 -0.8
VSU pmax pmax
comp=Z,64nm,0.6s
VSU Vasula 63.42 335 *e*P P 03 53 36.3 -0.7
VSU IAmb IAmb 03 53 37.7
comp=Z,64nm,1.0s
NC303 NORSAR Array S 64.21 344 *e*P P 03 53 42.7 +0.6
comp=Z,11nm,0.9s
NC405 NORSAR Array S 64.26 344 *e*P P 03 53 43.0 +0.6
comp=Z,29nm,1.0s
NC204 NORSAR Array S 64.27 344 *e*P P 03 53 42.8 +0.2
comp=Z,25nm,0.8s
NB201 NORSAR Array S 64.39 344 *e*P P 03 53 43.6 +0.2
comp=Z,18nm,0.8s
NB2 NORSAR Subarra 64.41 344 P P 03 53 42.9 -0.6
comp=Z,3.5nm,0.6s,baz=22,slow=6.9
NB200 NORSAR Array S 64.41 344 *e*P P 03 53 43.3 -0.3
NOA NORSAR Array B 64.41 344 P P 03 53 43.3 -0.3
comp=Z,4.4nm,0.7s,baz=22,slow=6.7,SNR=30
NBO00 NORSAR Array S 64.50 344 *e*P P 03 53 44.5 +0.4
comp=Z,12nm,0.9s
LPSR Galich'ya Gora 64.62 325 *e*P P 03 53 44.2 -0.8
LPSR pmax pmax
comp=Z,40nm,0.8s
VRH Novokhopyorsk 64.74 322 *e*P P 03 53 44.5 -1.2
VRH pmax pmax
comp=Z,40nm,0.7s
ANMO Albuquerque 64.93 65*ce*P P 03 53 51.5 +4.0
ANMO pmax pmax
comp=Z,2.0nm,1.0s
SLIT Slitere, Latvi 65.27 337 *e*P P 03 53 48.0 -1.1
SLIT IAmb IAmb 03 53 50.6
comp=Z,210nm,0.9s
VSR Storozhevoye 65.67 324 *e*P P 03 53 50.0 -1.8
VSR pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 65.83 324 *e*P P 03 53 51.8 -1.0
VORD pmax pmax
comp=Z,20nm,0.9s
IZAR Zarasai 65.92 334 *e*P P 03 53 53.2 -0.1
IZAR IAmb IAmb 03 53 54.9
comp=Z,9.0nm,0.8s
IDID Didziasalis 66.17 333 *e*P P 03 53 54.4 -0.5
IDID IAmb IAmb 03 53 56.6
comp=Z,12nm,0.9s
SCHQ Schefferville 66.24 28 P P 03 53 55.4 0.0
comp=Z,5.6nm,0.7s,baz=349,slow=10,SNR=2.9
IIGN Ignalina 66.28 334 *e*P P 03 53 55.3 -0.4
IIGN IAmb IAmb 03 53 57.4
comp=Z,13nm,0.6s
NACGM Naroch 66.52 333 *e* P 03 53 54.0 -3.1
PABE Paberze 66.75 335 *e*P P 03 53 57.6 -1.0
PABE IAmb IAmb 03 54 00.2
comp=Z,64nm,0.9s
PBUR Paburg 66.80 336 *e*P P 03 53 57.2 -1.7
PBUR IAmb IAmb 03 54 00.6
comp=Z,41nm,1.0s
MSTX Muleshoe 67.69 63 *e*P P 03 54 07.0 +1.9
comp=Z,9.2nm,1.3s
GEYT Alibeck 67.78 303 P P 03 54 06.0 +0.5
comp=Z,16nm,0.7s,baz=9.5,slow=4.5,SNR=16
GYA0B ALIBECK ARRAY 67.78 303 *e*P P 03 54 06.5 +0.9
comp=Z,16nm,0.7s
WMOK Wichita Mounta 69.27 60 *e*P P 03 54 16.0 +1.1
comp=Z,7.2nm,0.9s
AKASG Malin Array Be 69.47 329 P P 03 54 15.1 -0.7
comp=Z,11nm,0.5s,baz=30,slow=6.5,SNR=64
AKBB Malin Array Si 69.47 329 *e*P P 03 54 15.2 -0.6
comp=Z,24nm,0.8s
KIEV Kiev 69.48 329⇑ *i*P P 03 54 15.6 -0.2
KIEV Kiev 69.48 329 *i* P P 03 54 15.4 -0.4
SNR=5.9
RGN Rugen 70.12 340 *e*P P 03 54 21.0 +1.4
comp=Z,34nm,0.8s
KVAR Kislovodsk Arr 70.23 317 P P 03 54 21.3 +0.6
comp=Z,2.3nm,0.3s,baz=22,slow=11,SNR=5.8
KIV Kislovodsk 70.24 317 *e*P P 03 54 21.3 +0.6
comp=Z,12nm,0.7s
KIV Kislovodsk 70.24 317 *i* P P 03 54 21.8 +1.0
SNR=7.0
KIV Kislovodsk 70.24 317 *e*P P 03 54 20.3 -0.4
KIV pmax pmax
comp=Z,44nm,1.0s
KIV Kislovodsk 70.24 317 P P 03 54 21.0 +0.2
SNR=5.0
KBZ Khabaz 70.33 317 P P 03 54 21.4 +0.2
comp=Z,9.0nm,0.8s,baz=60,slow=4.4,SNR=23
ZEI Tsey 70.68 316 *e*P P 03 54 20.5 -3.1
ZEI pmax pmax
comp=Z,6.0nm,0.8s
TX31 Lajitas Ar. Si 70.69 67 *e*P P 03 54 24.5 +0.8
comp=Z,3.6nm,0.9s
LTX Lajitas 70.69 67 *e*P P 03 54 24.9 +1.2
TXAR Lajitas Array 70.69 67 P P 03 54 24.9 +1.2
comp=Z,1.8nm,0.8s,baz=298,slow=4.7,SNR=18
BEL Belsk 70.88 335 *e*P P 03 54 25.6 +1.2
BEL Belsk 70.88 335 *e*P P 03 54 25.6 +1.2
TBLG Delisi 71.17 315 *e*P P 03 54 27.0 +0.6
comp=Z,13nm,0.8s
HYB Hyderabad 71.57 275 *i* P P 03 54 28.5 -0.6
LVV L'vov 71.81 332 *e*P P 03 54 29.9 -0.2
AKH Akhalkalaki 71.97 315 *e*P P 03 54 32.4 +1.0
comp=Z,12nm,0.9s
AKH Akhalkalaki 71.97 315⇑ *i*P P 03 54 32.0 +0.6
KWP Kalwaria Pacla 72.36 333 *e*P P 03 54 33.9 +0.6
KWP Kalwaria Pacla 72.36 333 *e*P P 03 54 33.9 +0.6
comp=Z,520nm,1.2s
KWP Kalwaria Pacla 72.36 333 *e*P P 03 54 33.9 +0.6
GNI Garni 72.45 314 P P 03 54 35.2 +1.0
GNI Garni 72.45 314*ce*P P 03 54 35.0 +0.7
GNI pmax pmax
comp=Z,88nm,1.0s
GNI Garni 72.45 314 P P 03 54 35.3 +1.0
baz=32,slow=13
OJC Ojcow 72.61 335 *e*P P 03 54 35.4 +0.5
OJC Ojcow 72.61 335 *e*P P 03 54 35.3 +0.5
comp=Z,12nm,1.0s
OJC Ojcow 72.61 335 *e*P P 03 54 35.4 +0.5
BCA Borcka 72.75 316⇑ *i*P P 03 54 36.3 +0.5
KIS Kishinev 72.84 328 *e*P P 03 54 35.0 -1.2
comp=Z,84nm,2.0s
KIS Kishinev 72.84 328 *e*PcP PcP 03 54 46.0 -7.2
KIS LRM MLR 04 28 36.0
comp=Z,800nm,16.0s
KIS Kishinev 72.84 328 *e*P P 03 54 35.0 -1.2
KIS *e* 03 54 46.0
KIS pmax pmax
comp=Z,84nm,2.0s
KIS MLR MLR
comp=Z,800nm,16.0s
KSP Ksiaz 72.91 337 *e*P P 03 54 37.2 +0.6
KSP Ksiaz 72.91 337 *e*P P 03 54 37.2 +0.6
KOLS Kolonicke sedl 73.11 333 *e*P P 03 54 38.5 +0.7
KOLS Kolonicke sedl 73.11 333 *e*P P 03 54 38.5 +0.7
NIE Niedzica 73.21 334 *e*P P 03 54 39.3 +0.9
NIE Niedzica 73.21 334 *e*P P 03 54 39.3 +0.9
CLL Collm 73.23 339 *e*P P 03 54 38.6 +0.2
comp=Z,14nm,0.9s
CLL Collm 73.23 339⇑ *i*P P 03 54 38.6 +0.2
CLL *i* 03 54 53.4
CLL pmax pmax
comp=Z,14nm,0.9s
CLL Collm 73.23 339⇑ *i*P P 03 54 38.6 +0.2
comp=Z,14nm,0.9s
CLL *e*(pP) **pP** 03 54 47.0 -0.9
CLL *i* sP **pwP** 03 54 53.4 +1.1
CLL *e*PcP **PcP** 03 54 57.0 +2.2
SEVA Sevastopol 73.29 323⇑ *i*P P 03 54 38.8 -0.1
UPC Upice 73.29 337 *e*P P 03 54 39.5 +0.6
UPC Upice 73.29 337 *e*P P 03 54 39.5 +0.6
DPC Dobruska-Polom 73.36 337 *e*P P 03 54 40.3 +1.0
DPC Dobruska-Polom 73.36 337 *e*P P 03 54 40.3 +1.0
UZH Uzhgorod 73.38 333 *e*P P 03 54 37.7 -1.7
UZH *i* 03 54 47.7
UZH *i* 03 55 01.3
T47A Sharon Grove 73.40 51 *e*P P 03 54 39.8 +0.1
comp=Z,6.8nm,0.9s
BUR08 Bucovina Ar. S 73.41 330 *e*P P 03 54 40.2 +0.4
comp=Z,10.0nm,0.8s
BRG Berggiesshubel 73.43 339 *i* P P 03 54 40.7 +1.1
comp=Z,5.2nm,0.9s
BRG *i* 03 54 58.5
comp=Z,7.1nm,1.2s
BRG Berggiesshubel 73.43 339 *i* P P 03 54 40.7 +1.1
BRG *i* 03 54 58.5
BRG pmax pmax
comp=Z,5.0nm,0.9s
BURAR Bucovina Array 73.43 330⇑ *i*P P 03 54 39.8 -0.1
MORC Moravsky Berou 73.60 336 *e*P P 03 54 40.8 +0.1
comp=Z,8.3nm,0.8s
MORC Moravsky Berou 73.60 336⇑ *i*P P 03 54 42.2 +1.5
MORC Moravsky Berou 73.60 336 *e*P P 03 54 40.8 +0.1
LANS Liptovska Anna 73.68 335 *e*P P 03 54 43.1 +1.9
LANS Liptovska Anna 73.68 335 *e*P P 03 54 43.1 +1.9
BIZ Bicaz 73.76 329⇑ *i*P P 03 54 42.0 +0.3
TRPA Tarpa 73.76 332⇑ *i*P P 03 54 42.5 +0.9
WTSB Winterswijk 73.81 343 *e*P P 03 54 42.3 +0.4
comp=Z,21nm,0.9s
TESR Tescani 73.97 329⇑ *i*P P 03 54 43.5 +0.6
PRU Pruhonice 74.12 338 *e*P P 03 54 44.3 +0.6
PRU Pruhonice 74.12 338 *e*P P 03 54 44.3 +0.6
VRAC Vranov 74.27 336⇑ *i*P P 03 54 46.4 +1.8
VRAC Vranov 74.27 336 *e*P P 03 54 45.3 +0.7
JAVC Velka Javorina 74.41 336 *e*P P 03 54 47.1 +1.6
TLCR 74.43 327⇑ *i*P P 03 54 46.5 +0.9
VYHS Vyhne 74.45 335 *e*P P 03 54 46.4 +0.7
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 74.45 335 *e*P P 03 54 46.4 +0.7
CLTN Cedars of Leba 74.49 51 *e*P P 03 54 45.5 -0.5
comp=Z,5.1nm,1.1s
VRI Vrincioaia 74.52 328⇑ *i*P P 03 54 49.2 +3.1
KRUC Moravsky 74.54 336 *e*P P 03 54 46.9 +0.7
TREC Trest 74.55 337 *e*P P 03 54 46.6 +0.4
TREC Trest 74.55 337 *e*P P 03 54 46.6 +0.4
PLOR Plostina 74.56 329⇑ *i*P P 03 54 47.3 +0.9
CFR Carcaliu 74.67 327⇑ *i*P P 03 54 47.6 +0.7
PSZ Piszkesteto 74.69 334 *e*P P 03 54 48.2 +1.0
comp=Z,15nm,1.2s
PSZ Piszkesteto 74.69 334⇑ *i*P P 03 54 48.4 +1.2
MODS Modra-Piesok 74.96 336 *e*P P 03 54 49.0 +0.3
MODS pmax pmax
comp=Z,9.0nm,0.9s
MODS Modra-Piesok 74.96 336 *e*P P 03 54 49.0 +0.3
MLR Muntele Rosu 75.10 329 *e*P P 03 54 50.0 +0.4
comp=Z,11nm,0.8s
MLR Muntele Rosu 75.10 329⇑ *i*P P 03 54 51.3 +1.6
HGN Heimansgroeve 75.12 344 *e*P P 03 54 50.0 +0.5
comp=Z,26nm,1.1s
GRFO Grafenberg 75.13 340 *e*P P 03 54 50.8 +1.2
comp=Z,11nm,0.9s
KHC Kasperske Hory 75.14 338 *e*P P 03 54 50.6 +0.8
comp=Z,4.1nm,1.1s
KHC Kasperske Hory 75.14 338 *e*P P 03 54 50.3 +0.6
KHC *e* 03 54 58.6
KHC Kasperske Hory 75.14 338 *e*P P 03 54 50.3 +0.6
KHC *ep*P **pP** 03 54 58.6 -0.6
ZST Bratislava 75.17 336 *e*P P 03 54 50.6 +0.8
ZST Bratislava 75.17 336 *e*P P 03 54 50.6 +0.8
TLB Topalu 75.22 327⇑ *i*P P 03 54 51.0 +0.9
GEC2 GERESS Array S 75.39 338 *e*P P 03 54 50.9 -0.3
comp=Z,3.7nm,0.8s
GERES GERESS Array B 75.39 338 P P 03 54 51.7 +0.5
comp=Z,2.5nm,0.7s,baz=35,slow=4.9,SNR=28
SWET Sewanee 75.39 51 *e*P P 03 54 51.2 -0.1
comp=Z,8.2nm,0.8s
VOIR 75.43 329⇑ *i*P P 03 54 52.3 +0.8
WR1 Warramunga Arr 75.46 205 *e*P P 03 54 51.8 +0.1
WRA Warramunga Arr 75.46 205 P P 03 54 51.8 +0.1
comp=Z,2.3nm,0.8s,baz=22,slow=5.2,SNR=11
ARR Arges 75.62 330⇑ *i*P P 03 54 53.8 +1.2
CONA Conrad Observa 75.73 336 *e*P P 03 54 54.4 +1.2
comp=Z,7.0nm,0.9s,SNR=5.4
GZR Gura Zlata 76.17 331⇑ *i*P P 03 54 55.8 +0.1
MOA Molln 76.19 337 *i* P P 03 54 56.6 +0.9
comp=Z,5.0nm,0.8s
ILGA Ilgaz 76.27 321 *e*P P 03 54 58.1 +1.6
comp=Z,23nm,0.9s
BZS Buzias 76.31 332⇑ *i*P P 03 54 56.5 +0.1
ARSA Arzberg 76.44 336 *i* P P 03 54 58.2 +1.1
comp=Z,7.1nm,0.9s
HERR Herculane 76.74 331⇑ *i*P P 03 54 58.6 -0.2
BFO Black Forest 77.02 341 *i* P P 03 55 01.7 +1.3
MDVR Moldovita 77.04 331⇑ *i*P P 03 55 01.1 +0.5
SOKA Soboth 77.10 336 *i* P P 03 55 01.9 +1.0
comp=Z,8.5nm,0.9s
KBA Koelnbreinsper 77.13 338 *e*P P 03 55 02.7 +1.5
comp=Z,26nm,0.8s,SNR=13
WATA Walderalm 77.29 339 *i* P P 03 55 02.9 +0.8
comp=Z,2.7nm,0.5s
RETA Reutte 77.32 340 *i* P P 03 55 02.9 +0.7
comp=Z,4.4nm,0.7s
WTTA Wattenberg 77.34 339 *e*P P 03 55 02.9 +0.5
comp=Z,11nm,1.0s
ECH Echery 77.35 342 *e*P P 03 55 02.8 +0.5
comp=Z,6.9nm,0.9s
MOTA Moosalm 77.38 339 *i* P P 03 55 03.4 +0.8
comp=Z,9.3nm,0.9s,SNR=5.0
BR101 Keskin Array S 77.44 321 *e*P P 03 55 03.0 0.0
BR131 Keskin Array S 77.44 321 *e*P P 03 55 03.4 +0.4
comp=Z,11nm,1.1s
BR131 Keskin Array S 77.44 321 P P 03 55 03.4 +0.4
SNR=12
BRTR Keskin Array B 77.44 321 P P 03 55 03.0 0.0
comp=Z,4.3nm,0.9s,baz=40,slow=4.0,SNR=30
SQTA Sankt Quirin 77.48 339 *i* P P 03 55 04.3 +1.2
comp=Z,14nm,0.9s,SNR=5.2
MYKA Terra Mystica 77.48 337 *i* P P 03 55 04.4 +1.4
comp=Z,2.1nm,0.5s
ABTA Abfaltersbach 77.63 338 *e*P P 03 55 04.6 +0.7
comp=Z,13nm,0.9s,SNR=6.2
ANTO Ankara 77.64 321 P P 03 55 05.0 +0.9
SNR=6.4
DAVA Damuels 77.70 340 *i* P P 03 55 05.0 +0.6
comp=Z,8.9nm,1.3s
MDUB Mudurnu 77.72 323 *e*P P 03 55 04.7 +0.1
comp=Z,76nm,1.0s
FETA Feichten 77.77 339 *e*P P 03 55 05.7 +1.0
comp=Z,9.9nm,0.9s,SNR=5.0
SHME Shamm 78.06 297 P P 03 55 06.0 -0.6
FUORN Ofenpass-Fuorn 78.25 340 *e*P P 03 55 09.2 +1.6
comp=Z,11nm,0.8s
VTS Vitosha 78.54 329 *e*P P 03 55 09.6 +0.5
comp=Z,8.1nm,0.8s
VTS Vitosha 78.54 329⇑ *i*P P 03 55 09.6 +0.5
TUE Stuetta 78.58 340 *e*P P 03 55 10.5 +1.2
comp=Z,13nm,0.7s
MSFE Esma-Masafi 78.60 297 P P 03 55 09.2 -0.3
HATD Hatta, Dubai 79.04 296 *i* P P 03 55 11.7 -0.2
SNR=11
HATD Hatta, Dubai 79.04 296 P P 03 55 11.7 -0.2
SNR=6.6
AS31 Alice Springs 79.13 205 *e*P P 03 55 12.8 +0.6
comp=Z,1.4nm,0.9s
ASAR Alice Springs 79.13 205 *e*P P 03 55 12.7 +0.5
ASAR Alice Springs 79.13 205 P P 03 55 13.2 +1.0
comp=Z,2.5nm,0.9s,baz=17,slow=5.8,SNR=18
NAZ Nazwa, Dubai 79.17 297 *i* P P 03 55 12.2 -0.4
SNR=6.4
ALN Alexandroupoli 79.17 327 *e*P P 03 55 12.1 -0.3

comp=Z,6.5nm,1.0s
ASHO Ashiyiah 79.19 296 *i* P **P 03 55 12.4 -0.4**
SNR=7.5
ASHO Ashiyiah 79.19 296 P **P 03 55 12.7 -0.2**
SNR=6.4
FAQ Al Faqa, Dubai 79.40 297 P **P 03 55 13.2 -0.7**
ASUD Al Ashush, Dub 79.64 297 P **P 03 55 15.2 0.0**
STIP Stip 79.70 330 *i* P **P 03 55 14.3 -0.9**
TTG Podgorica 79.91 332 *e*P **P 03 55 16.2 -0.2**
comp=Z,27nm,1.3s
EZN Ezine 80.03 326⇑*i*P **P 03 55 16.7 -0.4**
MANT Manisa 80.43 324 *e*P **P 03 55 18.9 -0.6**
comp=Z,29nm,0.5s
BNI Bardonecchia 80.48 342 *e*P **P 03 55 21.1 +1.5**
comp=Z,13nm,1.1s
MHTO MHTO 81.05 293 P **P 03 55 22.9 +0.1**
SNR=8.5
KARP Karpathos 83.56 323 *e*P **P 03 55 35.1 -0.7**
comp=Z,24nm,1.0s
TIP Timpagrande 83.63 333 *e*P **P 03 55 36.3 +0.2**
comp=Z,23nm,1.4s
ITM Ithomi 83.90 328 *e*P **P 03 55 36.8 -0.7**
comp=Z,17nm,0.9s
STKA Stephens Creek 85.42 196 *e*P **P 03 55 45.8 +0.9**
comp=Z,3.2nm,1.5s
STKA Stephens Creek 85.42 196 P **P 03 55 45.8 +0.9**
comp=Z,2.0nm,0.7s,baz=12,slow=9.1,SNR=2.8
PBRG Braganca 85.66 351 *e*P **P 03 55 48.8 +2.5**
comp=Z,22nm,1.7s
POLO Lamas de Olo 86.19 351 *e*P **P 03 55 50.3 +1.3**
comp=Z,15nm,1.8s
PVRL Vila Real 86.28 351 *e*P **P 03 55 51.0 +1.6**
MVO Moncorvo 86.32 351 *e*P **P 03 55 51.0 +1.4**
comp=Z,25nm,2.1s
PVIS Viseu 86.85 351 *e*P **P 03 55 53.3 +1.1**
ESDC Sonseca Array 87.44 348 P **P 03 55 55.4 +0.2**
comp=Z,2.3nm,0.6s,baz=5.0,slow=4.8,SNR=18
KEST Kesra 88.83 337 *e*P **P 03 56 02.1 +0.3**
comp=Z,24nm,1.4s
KEST Kesra 88.83 337 P **P 03 56 02.1 +0.3**
comp=Z,4.3nm,0.8s,baz=280,slow=6.4,SNR=4.2
TORD Torodi Ar. Bea 112.34 338 PP **PP 04 02 24.7 -3.6**
comp=Z,1.7nm,1.1s,baz=41,slow=4.7,SNR=3.9
SIV San Ignacio 131.12 58 PKP **PKPdf 04 02 20.0 +0.4**
comp=Z,1.3nm,0.9s,baz=291,slow=3.6,SNR=5.9
PLCA Paso Flores 143.70 92 PKP **PKPdf 04 02 43.0 +0.9**
comp=Z,1.9nm,0.9s,baz=46,slow=5.3,SNR=2.8

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*IDC **21** 03:47:11.8±0.5,52°.29N×160°.36E,h0km,mb4.6/34, mb1 4.8/37,mb1mx4.7/44,mbtmp4.6/37,ML4.5/3,MS4.8/7, Ms1 4.9/7,ms1mx4.3/52,Error ellipse: s-maj=13.3km s-min=9.9km az=153.0*
*KRSC **21** 03:47:12.0±10.0,52°.07N×160°.74E,h60km±10km,ML5.2*
*BJI **21** 03:47:13.4±0.0,52°.83N×159°.88E,h10km,mb4.8/31, mB5.3/5*
*ISCJB **21** 03:47:14.6±0.1,52°.17N±0°.02×160°.48E±0°.03,h30km, mb4.9/246,MS4.9/8,Error ellipse: s-maj=2.9km s-min=2.2km az=163.3*
*MOS **21** 03:47:16.5±1.0,52°.25N×160°.42E,h48km,mb5.3/33,Error ellipse: s-maj=6.7km s-min=3.0km az=97.9*
*NEIC **21** 03:47:17.2±1.8,52°.29N×160°.33E,h32km±5km,mb4.9/171, Error ellipse: s-maj=14.8km s-min=10.7km az=177.0*
*GCMT **21** 03:47:23.2±0.5,52°.04N±0°.03×160°.46E±0°.05,h29km±1km, MW5.2/68,Moment Tensor Solution. s35,c39; s68,c96; Duration: 1s0 Moment tensor: Scale 10^17^Nm; Mrr0.73±.06; Mθθ-0.48±.04; Mφφ-0.25±.03; Mrθ0.34±.05; Mθφ-0.26±.01; Mφr0.05±.04; Best double couple: M=0.76900×10^17^ NP1:φ=67.00000°,δ58.00000°, λ100.00000°. NP2:φ=229.00000°,δ33.00000°,λ75.00000°. Principal axes: T 0.8220, Plg75.0000°, Azm4.0000°; N -0.1070, Plg8.0000°, Azm241.0000°; P -0.7160, Plg12.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 03:47:15.9±0.3,52°.16N±0°.04×160°.55E±0°.03,h30km, h30km:pP-P,n563,σ1$35/599,mb4.9/251,MS4.9/8, 51C-20D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.00**	**341**	*e*P		**Pn**		**03 47 32.0**	**-1.8**
SPN				*e*S		**Sn**		**03 47 46.5**	**-0.4**
SPN	**Mys Shipunski**	**1.00**	**341**	PN		**Pn**		**03 47 32.0**	**-1.8**
SPN				S		**Sn**		**03 47 46.5**	**-0.4**
NLC	**Nalytchevo**	**1.25**	**325**	*e*P		**Pn**		**03 47 36.5**	**-0.8**
NLC				*e*S		**Sn**		**03 47 53.7**	**+0.5**
NLC	**Nalytchevo**	**1.25**	**325**	PN		**Pn**		**03 47 36.5**	**-0.8**
NLC				S		**Sn**		**03 47 53.7**	**+0.5**
RUS	**Russkaya**	**1.28**	**283**	*e*P		**Pn**		**03 47 36.7**	**-1.0**
RUS				*e*S		**Sn**		**03 47 54.4**	**+0.5**
RUS	**Russkaya**	**1.28**	**283**	PN		**Pn**		**03 47 36.7**	**-1.0**
RUS				S		**Sn**		**03 47 54.4**	**+0.5**
DALK	**Dalny**	**1.40**	**309**	*e*P		**Pn**		**03 47 38.9**	**-0.5**
DALK				*e*S		**Sn**		**03 47 57.9**	**+1.0**
DALK	**Dalny**	**1.40**	**309**	PN		**Pn**		**03 47 38.9**	**-0.5**
DALK				S		**Sn**		**03 47 57.9**	**+1.0**
PET	**Petropavlovsk**	**1.45**	**308**	*e*Pn		**Pn**		**03 47 38.8**	**-1.2**
PET				*e*Sn		**Sn**		**03 47 55.0**	**-3.0**
PET	**Petropavlovsk**	**1.45**	**308**	PN		**Pn**		**03 47 39.5**	**-0.5**
PET				S		**Sn**		**03 47 59.1**	**+1.1**
UGLR	**Uglovaya**	**1.49**	**316**	*e*P		**Pn**		**03 47 41.0**	**+0.3**
UGLR	**Uglovaya**	**1.49**	**316**	PN		**Pn**		**03 47 41.0**	**+0.3**
MTVR	**Mutnovka**	**1.49**	**284**	*e*P		**Pn**		**03 47 40.1**	**-0.6**
MTVR	**Mutnovka**	**1.49**	**284**	PN		**Pn**		**03 47 40.1**	**-0.6**
SDLR	**Sedlovina**	**1.51**	**319**	*e*P		**Pn**		**03 47 40.8**	**-0.2**
SDLR	**Sedlovina**	**1.51**	**319**	PN		**Pn**		**03 47 40.8**	**-0.2**
SMAR	**Somma**	**1.54**	**317**	*e*P		**Pn**		**03 47 40.5**	**-1.0**
SMAR	**Somma**	**1.54**	**317**	PN		**Pn**		**03 47 40.5**	**-1.0**
AVH	**Avacha**	**1.57**	**316**	*e*P		**Pn**		**03 47 42.4**	**+0.7**
AVH	**Avacha**	**1.57**	**316**	PN		**Pn**		**03 47 42.4**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.57**	**258**	*e*P		**Pn**		**03 47 40.5**	**-1.2**
KDTR				*e*S		**Sn**		**03 48 00.9**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.57**	**258**	PN		**Pn**		**03 47 40.5**	**-1.2**
KDTR				S		**Sn**		**03 48 00.9**	**-0.1**
GRL	**Gorelyy**	**1.57**	**286**	*e*P		**Pn**		**03 47 42.8**	**+1.0**
GRL	**Gorelyy**	**1.57**	**286**	PN		**Pn**		**03 47 42.8**	**+1.0**
KRER	**Koryakskii**	**1.59**	**317**	*e*P		**Pn**		**03 47 42.6**	**+0.5**
KRER	**Koryakskii**	**1.59**	**317**	PN		**Pn**		**03 47 42.6**	**+0.5**
KRMR	**Karymshinskiy**	**1.63**	**295**	*e*P		**Pn**		**03 47 42.1**	**-0.4**
KRMR				*e*S		**Sn**		**03 48 03.3**	**+0.9**
KRMR	**Karymshinskiy**	**1.63**	**295**	PN		**Pn**		**03 47 42.1**	**-0.4**
KRMR				S		**Sn**		**03 48 03.3**	**+0.9**
KOK	**Koryaka**	**1.63**	**315**	*e*P		**Pn**		**03 47 43.1**	**+0.5**
KOK	**Koryaka**	**1.63**	**315**	PN		**Pn**		**03 47 43.1**	**+0.5**
ASAK	**Asacha**	**1.65**	**279**	*e*P		**Pn**		**03 47 43.0**	**+0.2**
ASAK	**Asacha**	**1.65**	**279**	PN		**Pn**		**03 47 43.0**	**+0.2**
KRX	**Arik**	**1.67**	**317**	*e*P		**Pn**		**03 47 43.8**	**+0.6**
KRX	**Arik**	**1.67**	**317**	PN		**Pn**		**03 47 43.8**	**+0.6**
PEA0B	**Petropavlovsk-**	**1.98**	**300**	*e*Pn		**Pn**		**03 47 47.0**	**-0.4**
PEA0B				*e*Sn		**Sn**		**03 48 07.1**	**-4.2**
PETK	**Petropavlovsk-**	**1.98**	**300**	*e*Pn		**Pn**		**03 47 47.0**	**-0.4**
PETK				*e*Sn		**Sn**		**03 48 09.6**	**-1.7**
PETK	**Petropavlovsk-**	**1.98**	**300**	*e*PN		**Pn**		**03 47 47.0**	**-0.4**
PETK				*e*				03 48 09.6	
PETK	**Petropavlovsk-**	**1.98**	**300**	Pn		**Pn**		**03 47 48.4**	**+1.0**
	133nm,0.3s,baz=111,slow=21,SNR=24								
PETK				Sn		**Sb**		**03 48 15.8**	**+0.3**
	182nm,0.3s,baz=108,slow=18,SNR=7.9								
PETK				LR		LR		03 48 21.0	
	comp=Z,11μm,19.2s,baz=47,slow=38								
PEA1	**Petropavlovsk-**	**1.99**	**300**	*e*Pn		**Pn**		**03 47 48.4**	**+1.0**
PEA1				*e*Sn		**Sb**		**03 48 15.8**	**+0.2**
APC	**Apacha**	**2.21**	**292**	*e*P		**Pn**		**03 47 51.5**	**+1.0**
APC				*e*S		**Sn**		**03 48 19.9**	**+3.1**
APC	**Apacha**	**2.21**	**292**	PN		**Pn**		**03 47 51.5**	**+1.0**
APC				S		**Sn**		**03 48 19.9**	**+3.1**
PAU	**Pauzhetka**	**2.42**	**255**	*e*P		**Pn**		**03 47 53.9**	**+0.5**
PAU	**Pauzhetka**	**2.42**	**255**	PN		**Pn**		**03 47 53.9**	**+0.5**
MKZ	**Mys Kozlova**	**2.50**	**16**	*e*P		**Pn**		**03 47 53.4**	**-1.1**
MKZ				*e*S		**Sn**		**03 48 22.3**	**-1.7**
MKZ	**Mys Kozlova**	**2.50**	**16**	PN		**Pn**		**03 47 53.4**	**-1.1**
MKZ				S		**Sn**		**03 48 22.3**	**-1.7**
KZV	**Kizimen**	**2.97**	**357**	*e*P		**Pn**		**03 48 01.3**	**+0.3**
KZV	**Kizimen**	**2.97**	**357**	PN		**Pn**		**03 48 01.3**	**+0.3**
TUMD	**Tumrok D**	**3.05**	**358**	*e*P		**Pn**		**03 48 01.8**	**-0.3**
TUMD				*e*S		**Sn**		**03 48 37.3**	**-0.3**
TUMR	**Tumrok**	**3.14**	**356**	*e*P		**Pn**		**03 48 04.0**	**+0.6**
TUMR	**Tumrok**	**3.14**	**356**	PN		**Pn**		**03 48 01.8**	**-1.6**
TUMR				S		**Sn**		**03 48 37.3**	**-2.6**
SKR	**Severo-Kuril's**	**3.15**	**244**	*e*P		**Pn**		**03 48 02.7**	**-0.6**
SKR				*e*S		**Sn**		**03 48 38.5**	**-1.3**
SKR	**Severo-Kuril's**	**3.15**	**244**	*e*PN		**Pn**		**03 48 02.8**	**-0.6**
SKR				*e*S		**Sn**		**03 48 38.0**	**-1.8**
SKR				pmax		pmax			
	comp=Z,261nm,0.5s								
SKR				smax		smax			
	comp=N,2μm,0.5s								
SKR				smax		smax			
	comp=E,2μm,0.6s								
SKR				MLR		MLR			
	comp=Z,29μm,15.0s								
BZMR	**Bezymyannaya**	**3.79**	**359**	*e*P		**Pn**		**03 48 13.4**	**+1.1**
BZMR	**Bezymyannaya**	**3.79**	**359**	PN		**Pn**		**03 48 13.4**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**3.79**	**1**	*e*P		**Pn**		**03 48 13.8**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**3.79**	**1**	PN		**Pn**		**03 48 13.8**	**+1.5**
KIRR	**Kirishev**	**3.81**	**358**	*e*P		**Pn**		**03 48 13.3**	**+0.7**
KIRR	**Kirishev**	**3.81**	**358**	PN		**Pn**		**03 48 13.3**	**+0.7**
BZWR	**Bezymyannyi-We**	**3.81**	**360**	*e*P		**Pn**		**03 48 13.4**	**+0.7**
BZWR	**Bezymyannyi-We**	**3.81**	**360**	PN		**Pn**		**03 48 13.4**	**+0.7**
KPT	**Kopyto**	**3.82**	**357**	*e*P		**Pn**		**03 48 14.0**	**+1.3**
KPT	**Kopyto**	**3.82**	**357**	PN		**Pn**		**03 48 14.0**	**+1.3**
KOZ	**Kozyrevsk**	**3.93**	**354**	*e*P		**Pn**		**03 48 14.7**	**+0.6**
KOZ	**Kozyrevsk**	**3.93**	**354**	PN		**Pn**		**03 48 14.7**	**+0.6**
ESO	**Esso**	**3.93**	**345**	*e*P		**Pn**		**03 48 15.0**	**+0.9**
ESO	**Esso**	**3.93**	**345**	PN		**Pn**		**03 48 15.0**	**+0.9**
LGNR	**Loginova**	**3.94**	**1**	*e*P		**Pn**		**03 48 15.7**	**+1.3**
LGNR	**Loginova**	**3.94**	**1**	PN		**Pn**		**03 48 15.7**	**+1.3**
CIRR	**Tsirk**	**3.97**	**2**	*e*P		**Pn**		**03 48 15.2**	**+0.4**
CIRR	**Tsirk**	**3.97**	**2**	PN		**Pn**		**03 48 15.2**	**+0.4**
KLY	**Klyuchi**	**4.17**	**1**	*e*P		**Pn**		**03 48 18.7**	**+1.4**
KLY	**Klyuchi**	**4.17**	**1**	PN		**Pn**		**03 48 18.7**	**+1.4**
SRDR	**Sredinnyy**	**4.20**	**354**	*e*P		**Pn**		**03 48 19.3**	**+1.5**
SRDR	**Sredinnyy**	**4.20**	**354**	PN		**Pn**		**03 48 19.3**	**+1.5**
KBTR	**Krutoberegovo**	**4.27**	**17**	*e*P		**Pn**		**03 48 18.4**	**-0.4**
KBTR	**Krutoberegovo**	**4.27**	**17**	PN		**Pn**		**03 48 18.4**	**-0.4**
KBG	**Krutoberegovo**	**4.30**	**16**	*e*P		**Pn**		**03 48 19.6**	**+0.5**
KBG				*e*S		**Sn**		**03 49 09.2**	**+1.1**
KBG	**Krutoberegovo**	**4.30**	**16**	PN		**Pn**		**03 48 19.6**	**+0.5**
KBG				S		**Sn**		**03 49 09.2**	**+1.1**
BDR	**Baidarnaya**	**4.44**	**5**	*e*P		**Pn**		**03 48 21.0**	**-0.1**
BDR	**Baidarnaya**	**4.44**	**5**	PN		**Pn**		**03 48 21.0**	**-0.1**
BKI	**Bering**	**4.44**	**44**	*e*P		**Pn**		**03 48 18.1**	**-2.9**
BKI				*e*S		**Sn**		**03 49 06.1**	**-5.5**
BKI	**Bering**	**4.44**	**44**	PN		**Pn**		**03 48 18.1**	**-2.9**
SMKR	**Semkarok**	**4.47**	**7**	*e*P		**Pn**		**03 48 21.7**	**+0.1**
SMKR	**Semkarok**	**4.47**	**7**	PN		**Pn**		**03 48 21.7**	**+0.1**
SRKR	**Sorokina**	**4.52**	**4**	*e*P		**Pn**		**03 48 24.0**	**+1.7**
SRKR	**Sorokina**	**4.52**	**4**	PN		**Pn**		**03 48 24.0**	**+1.7**
PALN	**Palana**	**6.96**	**357**	*e*P		**Pn**		**03 48 56.2**	**+0.6**
PALN	**Palana**	**6.96**	**357**	PN		**Pn**		**03 48 56.2**	**+0.6**
OSSR	**Ossora**	**7.25**	**10**	*e*P		**Pn**		**03 48 59.4**	**-0.2**
OSSR	**Ossora**	**7.25**	**10**	PN		**Pn**		**03 48 59.4**	**-0.2**
SMY	**Shemya**	**8.30**	**81**	*e*Pn		**Pn**		**03 49 12.5**	**-1.6**
SMY				*e*Sn		**Sn**		**03 50 42.6**	**-4.1**
SMY	**Shemya**	**8.30**	**81**	*e*PN		**Pn**		**03 49 12.5**	**-1.6**
TILK	**Tilichiki**	**8.87**	**18**	*e*P		**Pn**		**03 49 22.1**	**+0.3**
TILK	**Tilichiki**	**8.87**	**18**	PN		**Pn**		**03 49 22.1**	**+0.3**
MA2	**Magadan**	**9.24**	**327**	Pn		**Pn**		**03 49 27.3**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=138,slow=15,SNR=2.4								
SEY	**Seymchan**	**11.65**	**341**	Pn		**Pn**		**03 50 00.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=175,slow=11,SNR=3.7								
NKL	**Nikolayevsk**	**12.11**	**283**	*e*PN		**P**		**03 50 18.7**	**+0.2**
YSS	**Yuzh-Sakhalins**	**12.66**	**253**	*e*PN		**Pn**		**03 50 16.0**	**+2.2**
YSS				pmax		pmax			
	comp=Z,30nm,1.2s								
ADK	**Adak**	**14.01**	**82**	*e*Pn		**Pn**		**03 50 31.2**	**-0.9**
ADK	**Adak**	**14.01**	**82**	*e*P		**Pn**		**03 50 31.2**	**-0.9**
ASAJ	**Asahikawa**	**14.41**	**243**	Pn		**Pn**		**03 50 37.2**	**-0.4**
	comp=Z,4.8nm,0.3s,baz=71,slow=12,SNR=17								
ASAJ				LR		LR		03 55 33.9	
	comp=Z,4μm,19.4s,baz=32,slow=35								
GRNR	**Gornyy**	**15.09**	**274**	*e*P		**P**		**03 50 50.5**	**-1.2**
GRNR				pmax		pmax			
	comp=Z,13nm,1.0s								
ERM	**Erimo**	**15.56**	**236**	*e*Pn		**Pn**		**03 50 50.5**	**-2.4**
	comp=Z,48nm,1.1s								
ERM	**Erimo**	**15.56**	**236**	*e*P		**Pn**		**03 50 50.5**	**-2.4**
ERM				pmax		pmax			
	comp=Z,49nm,1.1s								
BILL	**Bilibino**	**16.17**	**8**	*e*Pn		**Pn**		**03 51 00.6**	**-0.1**
	comp=Z,66nm,0.8s								
BILL	**Bilibino**	**16.17**	**8**	*ce*P		**Pn**		**03 51 01.5**	**+0.9**
BILL				*e*S		**Sn**		**03 54 01.2**	**+2.4**
BILL				pmax		pmax			
	comp=Z,82nm,1.0s								
BILL				MLR		MLR			
	comp=Z,4μm,17.0s								
TEY	**Ternei**	**17.32**	**255**	⇓*e*P		**P**		**03 51 17.0**	**+0.6**
TEY				pmax		pmax			
	comp=Z,30nm,1.2s								
TEY				pmax		pmax			
	comp=E,40nm,1.1s								
YAK	**Yakutsk**	**19.27**	**313**	*e*P		**P**		**03 51 32.5**	**-5.2**
YAK				*e*S		S		03 55 03.5	-10
YAK				pmax		pmax			
	comp=Z,350nm,1.0s								
YAK				pmax		pmax			
	comp=N,225nm,1.0s								
YAK				pmax		pmax			
	comp=E,237nm,0.8s								
YAK				pmax		pmax			
	comp=Z,767nm,1.1s								
YAK				pmax		pmax			
	comp=N,412nm,1.5s								
YAK				pmax		pmax			
	comp=E,534nm,2.3s								
YAK				smax		smax			
	comp=N,3μm,4.9s								
YAK				smax		smax			
	comp=E,5μm,5.3s								
ZEA	**Zeya**	**20.03**	**288**	*e*P		**P**		**03 51 43.9**	**-2.2**
ZEA				pmax		pmax			
	comp=Z,29nm,1.0s								
USA0B	**Ussuriysk Arra**	**20.54**	**259**	*e*P		**P**		**03 51 49.2**	**-2.5**
	comp=Z,29nm,0.9s								
USRK	**Ussuriysk Ar.**	**20.54**	**259**	P		**P**		**03 51 49.5**	**-2.2**
	comp=Z,33nm,1.0s,baz=61,slow=9.5,SNR=21								
MSHR	**Mys Shultsa**	**21.96**	**256**	⇓*e*P		**P**		**03 52 07.9**	**+1.0**
MJB9	**Matsu-Tunnel**	**22.20**	**234**	*e*P		**P**		**03 52 10.6**	**+1.0**
	comp=Z,37nm,0.8s								
MAJO	**Matsushiro**	**22.20**	**234**	*e*P		**P**		**03 52 10.6**	**+0.9**
	comp=Z,36nm,0.8s								
MAJO	**Matsushiro**	**22.20**	**234**	⇓*e*P		**P**		**03 52 10.6**	**+0.9**
MAJO				pmax		pmax			
	comp=Z,52nm,1.1s								
MAT	**Matsushiro**	**22.20**	**234**	P		**P**		**03 52 09.4**	**-0.2**
MJAR	**Matsushiro Arr**	**22.20**	**234**	*e*P		**P**		**03 52 09.1**	**-0.5**
MJAR	**Matsushiro Arr**	**22.20**	**234**	*e*P		**P**		**03 52 09.1**	**-0.5**
MJAR	**Matsushiro Arr**	**22.20**	**234**	P		**P**		**03 52 10.1**	**+0.5**
	comp=Z,20nm,0.9s,baz=26,slow=8.8,SNR=23								
RDOG	**Red Dog Mine**	**23.65**	**34**	*e*P		**P**		**03 52 24.4**	**+0.1**
	comp=Z,17nm,0.9s								
INU	**Inuyama**	**23.74**	**234**	*e*P		**P**		**03 52 26.2**	**+0.9**
	comp=Z,51nm,1.3s								
TIXI	**Tiksi**	**24.05**	**336**	*e*P		**P**		**03 52 25.9**	**-1.9**
TIXI	**Tiksi**	**24.05**	**336**	⇓*e*P		**P**		**03 52 26.1**	**-1.8**
TIXI				pmax		pmax			
	comp=Z,28nm,0.6s								
TIXI	**Tiksi**	**24.05**	**336**	P		**P**		**03 52 26.0**	**-1.9**
	comp=Z,32nm,0.6s,baz=119,slow=9.8,SNR=34								
CN2	**Changchun**	**24.74**	**264**	*e*P		**P**		**03 52 30.8**	**-3.6**
CN2				pmax		pmax			
	comp=Z,10.0nm,1.1s								
SVW2	**Sparrevohn**	**25.27**	**52**	*e*P		**P**		**03 52 39.4**	**+0.2**
	comp=Z,8.4nm,0.8s								
HIA	**Hailar**	**25.76**	**280**	*e*P		**P**		**03 52 41.9**	**-1.8**
	comp=Z,32nm,0.6s								
HIA	**Hailar**	**25.76**	**280**	⇓*e*P		**P**		**03 52 41.3**	**-2.4**
HIA				pmax		pmax			
	comp=Z,199nm,0.7s								
RSO	**Redoubt South**	**26.67**	**53**	*e*P		**P**		**03 52 53.6**	**+1.5**
OHAK	**Old Harbor**	**26.74**	**61**	*e*P		**P**		**03 52 52.0**	**-0.4**
	comp=Z,58nm,1.3s								
BOD	**Bodaibo**	**26.86**	**301**	*e*P		**P**		**03 52 49.0**	**-4.5**
BOD				pmax		pmax			
	comp=Z,21nm,1.6s								
CAST	**Castle Rocks**	**26.97**	**47**	*e*P		**P**		**03 52 54.9**	**+0.3**
	comp=Z,5.5nm,1.0s								
KDAK	**Kodiak Island**	**27.03**	**59**	*e*P		**P**		**03 52 54.4**	**-0.6**
	comp=Z,34nm,1.4s								
KDAK	**Kodiak Island**	**27.03**	**59**	*ce*P		**P**		**03 52 55.3**	**+0.3**
KDAK	**Kodiak Island**	**27.03**	**59**	P		**P**		**03 52 54.4**	**-0.6**
	comp=Z,3.4nm,0.4s,baz=231,slow=5.4,SNR=13								
KDAK				LR		LR		04 02 35.6	
	comp=Z,1μm,22.0s,baz=271,slow=34								
KSRS	**Korea Array**	**27.14**	**250**	P		**P**		**03 52 56.8**	**+0.6**
	comp=Z,8.2nm,1.0s,baz=42,slow=9.4,SNR=13								
KSRS				LR		LR		04 04 54.9	
	comp=Z,2μm,18.1s,baz=10.0,slow=39								
KS15	**Wonju Array Si**	**27.17**	**250**	*e*P		**P**		**03 52 56.8**	**+0.3**
	comp=Z,9.7nm,1.0s								
BPAW	**Bear Paw Mtn.**	**27.49**	**45**	*e*P		**P**		**03 53 00.1**	**+0.9**
	comp=Z,10nm,1.0s								
BRLK	**Bradley Lake**	**27.66**	**55**	*e*P		**P**		**03 53 00.6**	**-0.1**
	comp=Z,6.8nm,0.8s								
TJN	**Taejon**	**28.21**	**249**	⇓*e*P		**P**		**03 53 07.9**	**+2.1**
TOLK	**Toolik Lake Re**	**28.55**	**36**	*e*P		**P**		**03 53 08.3**	**-0.3**
	comp=Z,5.4nm,0.9s								
JNU	**Nakatsue**	**28.65**	**240**	*e*P		**P**		**03 53 14.1**	**+4.3**
	comp=Z,49nm,1.1s								
JNU	**Nakatsue**	**28.65**	**240**	P		**P**		**03 53 11.6**	**+1.8**
	comp=Z,14nm,0.8s,baz=35,slow=8.9,SNR=10								
JNU				LR		LR		04 05 52.6	
	comp=Z,2μm,18.7s,baz=42,slow=39								
MDM	**Murphy Dome**	**28.71**	**44**	*e*P		**P**		**03 53 08.7**	**-1.4**
	comp=Z,5.0nm,1.0s								
SML	**Sawmill**	**28.73**	**50**	*e*P		**P**		**03 53 11.0**	**+0.7**
	comp=Z,18nm,0.7s								
COLA	**College**	**28.87**	**44**	⇓*e*P		**P**		**03 53 11.8**	**+0.4**
COLA				pmax		pmax			
	comp=Z,4.0nm,0.7s								
CCB	**Clear Creek Bu**	**28.89**	**44**	*e*P		**P**		**03 53 12.3**	**+0.7**
	comp=Z,10nm,1.1s								
DHY	**Denali Highway**	**29.11**	**48**	*e*P		**P**		**03 53 12.6**	**-1.1**
	comp=Z,10nm,1.4s								
SCM	**Sheep Creek Mo**	**29.21**	**50**	*e*P		**P**		**03 53 15.6**	**+1.1**
	comp=Z,28nm,1.2s								
HDA	**Harding Lake**	**29.26**	**45**	*e*P		**P**		**03 53 14.9**	**0.0**
	comp=Z,3.5nm,0.8s								
ILAR	**Eielson Array**	**29.29**	**44**	*e*P		**P**		**03 53 14.8**	**-0.3**
ILAR	**Eielson Array**	**29.29**	**44**	P		**P**		**03 53 15.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=237,slow=7.9,SNR=7.4								
ILB	**Eielson Array**	**29.29**	**44**	*e*P		**P**		**03 53 15.0**	**-0.1**
	comp=Z,8.9nm,1.3s								
GLI	**Glacier Island**	**29.41**	**52**	*e*P		**P**		**03 53 18.0**	**+1.8**
	comp=Z,29nm,1.3s								
PRP	**Porcupine Dome**	**29.86**	**43**	*e*P		**P**		**03 53 20.7**	**+0.4**
	comp=Z,8.7nm,1.0s								
DIV	**Divide**	**30.02**	**51**	*e*P		P		03 53 28.7	+7.0
	comp=Z,33nm,1.5s								
DOT	**Dot Lake**	**30.56**	**46**	*e*P		**P**		**03 53 25.4**	**-1.0**
	comp=Z,2.6nm,0.9s								
SCRK	**Sand Creek**	**30.57**	**46**	*e*P		**P**		**03 53 25.0**	**-1.6**
	comp=Z,4.9nm,1.0s								
EGAK	**Eagle**	**31.74**	**44**	*e*P		**P**		**03 53 35.8**	**-0.9**
	comp=Z,6.3nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**32.74**	**169**	T		T		04 28 29.1	
	baz=353								
H11N3	**WAKE ISLAND Hy**	**32.75**	**169**	T		T		04 28 27.2	
	baz=353								
H11N1	**WAKE ISLAND Hy**	**32.76**	**169**	T		T		04 28 34.1	
	baz=353								
H11S1	**WAKE ISLAND Hy**	**33.92**	**170**	T		T		04 30 01.8	
	baz=352								
H11S3	**WAKE ISLAND Hy**	**33.94**	**170**	T		T		04 30 00.8	
	baz=352								
**H11

comp=Z,11nm,1.0s
WVOR Wild Horse Val 52.96 66 eP P 03 56 31.2 +1.8
comp=Z,4.3nm,0.9s
SLVN Son La 53.08 257 eP P 03 56 31.4 +0.9
comp=Z,12nm,0.9s
FFC Flin Flon 53.48 46 ceP P 03 56 33.2 +0.3
BEKR Beckworth 53.65 70 eP P 03 56 36.3 +1.7
comp=Z,8.4nm,0.9s
LVZ Lovozero 53.67 338 eP P 03 56 33.5 -0.6
comp=Z,34nm,0.8s
LVZ Lovozero 53.67 338 deP P 03 56 33.4 -0.8
LVZ pmax pmax
comp=Z,27nm,1.3s
FCC Fort Churchill 54.04 38 eP P 03 56 35.9 -1.0
comp=Z,7.1nm,0.8s
ARCES ARCESS Array B 54.27 342 P P 03 56 37.6 -0.8
comp=Z,19nm,0.8s,baz=34,slow=8.8,SNR=22
ARE0 ARCESS Array S 54.27 342 eP P 03 56 38.5 +0.1
comp=Z,0.9nm,0.8s
ARE0 ARCESS Array S 54.27 342 eP P 03 56 38.2 -0.3
ARU Arti 54.28 318 eP P 03 56 37.6 -1.0
comp=Z,27nm,0.9s
ARU Arti 54.28 318 d iP P 03 56 37.5 -1.2
ARU 03 58 36.0
ARU S S 04 04 12.4 -1.6
ARU SS SS 04 07 53.2 -2.2
ARU pmax pmax
comp=Z,25nm,0.8s
PAHR Pah Rah Range 54.32 69 eP P 03 56 41.3 +1.8
comp=Z,9.7nm,0.9s
VCNR Virginia City 54.44 70 eP P 03 56 42.9 +2.5
comp=Z,8.5nm,0.8s
PNTR Pine Nut 54.61 70 eP P 03 56 43.8 +2.2
comp=Z,17nm,0.7s
BOZ Bozeman (W) 54.73 59 eP P 03 56 42.1 -0.3
comp=Z,4.0nm,0.8s
CMB Columbia Colle 54.86 71 eP P 03 56 47.3 +4.0
comp=Z,5.4nm,0.9s
SUMG Summit 54.86 7 eP P 03 56 43.2 +0.1
comp=Z,27nm,0.8s
SUMG Summit 54.86 7⇑ iP P 03 56 43.1 -0.1
SUMG pmax pmax
comp=Z,68nm,0.8s
SUMG Summit 54.86 7⇑ iP P 03 56 43.1 -0.1
comp=Z,68nm,0.8s
YERR Yerington 54.88 70 eP P 03 56 45.7 +2.1
comp=Z,7.7nm,0.7s
BOOM Boomskoye usch 55.05 296 eP P 03 56 44.3 -0.5
comp=Z,12nm,1.0s
BMN Battle Mountai 55.08 67 eP P 03 56 46.5 +1.6
comp=Z,8.8nm,0.8s
WAKR Walker 55.09 70 eP P 03 56 47.1 +2.0
comp=Z,10.0nm,0.7s
KTK1 Kautokeino 55.14 343 eP P 03 56 45.0 +0.3
PRGR Permogore 55.38 328 eP P 03 56 45.2 -1.4
PRGR eAP sP 03 56 57.3 -0.9
PRGR eXP pwP 03 57 03.3 +5.0
KVN Kaiserville 55.50 69 eP P 03 56 49.8 +1.8
comp=Z,10nm,0.9s
RYN Ryan 55.54 70 eP P 03 56 49.8 +1.5
comp=Z,17nm,1.4s
GCMT Greycliff 55.64 58 eP P 03 56 50.8 +1.9
YHH Holmes Hill 55.68 60 eP P 03 56 50.9 +1.5
comp=Z,4.6nm,0.9s
YMR Madison River 55.70 60 eP P 03 56 51.4 +1.9
comp=Z,6.0nm,1.1s
TMCR Tamitsa 55.74 333 eP P 03 56 48.4 -0.7
TMCR pmax pmax
comp=Z,89nm,1.1s
AAK Ala-Archa 55.75 297 eP P 03 56 48.5 -1.3
comp=Z,17nm,1.2s
NV01 Mina Array Sit 55.80 70 eP P 03 56 51.9 +1.6
NVAR Mina Array Bea 55.80 70 P P 03 56 51.9 +1.6
comp=Z,4.8nm,0.7s,baz=296,slow=7.2,SNR=26
NV11 Mina Array Sit 55.88 70 eP P 03 56 53.2 +2.5
comp=Z,0.3nm,0.9s
PANO Nakornpanom 55.90 253 P P 03 56 55.8 +5.0
comp=Z,1.4nm,1.1s
ELK Elko 55.99 66 eP P 03 56 52.8 +1.2
comp=Z,2.7nm,0.8s
FLWY Flagg Ranch 56.23 60 eP P 03 56 55.5 +2.2
comp=Z,5.8nm,0.9s
RLMT Red Lodge 56.29 58 eP P 03 56 55.1 +1.5
comp=Z,7.0nm,0.8s
SKNT Sakolnakorn 56.40 254 P P 03 56 56.2 +1.7
comp=Z,46nm,1.1s
LAO LASA Array 56.80 55 eP P 03 56 58.5 +1.4
comp=Z,6.7nm,0.9s
PAYA Payao 57.02 259 P P 03 57 00.7 +1.8
comp=Z,55µm,0.8s
KSH Kashi 57.03 293 P P 03 56 59.8 +0.9
KSH sP pwP 03 57 14.3 +3.8
KSH PP PP 03 59 07.4 +2.0
KSH S S 04 04 46.9 -4.5
KSH SS SS 04 08 40.1 +0.5
SHL Shillong 57.28 270 eP P 03 57 00.7 -0.2
comp=Z,25nm,1.2s
R11A Troy Canyon, C 57.42 68 eP P 03 57 02.9 +1.2
comp=Z,4.7nm,1.0s
PHRA Phrae 57.46 258 P P 03 57 03.5 +1.5
comp=Z,4.8nm,0.9s
ARSB Arslanbob 57.47 297 eP P 03 57 03.0 +1.1
comp=Z,9.0nm,0.9s
LOF Lofoten 57.54 346 eP P 03 57 01.6 -0.2
KHON Khomkaen 57.59 254 P P 03 57 05.4 +2.5
comp=Z,35µm,0.5s
KK31 Karatay Array 57.59 300 eP P 03 57 01.6 -1.1
comp=Z,6.7nm,0.9s
KKAR Karatay Array 57.59 300 eP P 03 57 01.6 -1.1
comp=Z,6.7nm,0.9s
DUG Dugway, Tooele 57.72 65 eP P 03 57 06.8 +3.0
comp=Z,12nm,1.0s
BW06 Boulder Array 57.74 61 eP P 03 57 04.8 +0.8
comp=Z,5.5nm,0.8s
PD31 Pinedale Array 57.74 61 eP P 03 57 05.1 +1.2
comp=Z,4.9nm,0.8s
PDAR Pinedale Array 57.74 61 P P 03 57 04.7 +0.8
comp=Z,2.9nm,0.7s,baz=315,slow=2.7,SNR=14
LAMP Lampang 57.80 258 P P 03 57 06.2 +1.8
comp=Z,53µm,0.9s
UTTA Uttaradit 57.85 257 P P 03 57 06.3 +1.6
comp=Z,50µm,0.9s
KLMR Klimovskoe 57.90 330 eP P 03 57 02.6 -1.9
KLMR pmax pmax
comp=Z,30nm,0.6s
CMMT Chiang Mai 57.99 259 P P 03 57 06.8 +1.1
comp=Z,18nm,0.9s
CHTO Chiang Mai 58.00 259 eP P 03 57 06.6 +0.9
comp=Z,22nm,0.8s
TPNV Topopah Spring 58.00 70 eP P 03 57 07.2 +1.5
comp=Z,8.6nm,1.0s
CM31 Chiang Mai Arr 58.27 259 eP P 03 57 08.7 +1.0
comp=Z,15nm,0.6s
CMAR Chiang Mai Arr 58.27 259 P P 03 57 08.7 +1.0
comp=Z,16nm,0.8s,baz=24,slow=7.2,SNR=32
CMAR LR LR 04 24 24.3
comp=Z,826nm,18.9s,baz=35,slow=38
PSUT Pine Spring 58.28 67 eP P 03 57 12.1 +4.3
comp=Z,5.2nm,1.0s
CHAI Chaiyaphum 58.42 255 P P 03 57 10.4 +1.7
comp=Z,23µm,1.0s
MPU Maple Canyon 58.50 64 eP P 03 57 11.3 +2.1
comp=Z,4.4nm,0.8s
PBKT Sadao Pong 58.51 256 P P 03 57 11.5 +2.2
comp=Z,5.1nm,0.9s
ABKAR Akbulak array 58.62 311 eP P 03 57 08.6 -1.1
comp=Z,12nm,1.0s
GSC Goldstone, Bar 58.82 71 eP P 03 57 14.1 +2.6
comp=Z,6.0nm,0.9s
SFJD Kangerlussuaq 58.86 14 eP P 03 57 10.3 -0.8
SFJD Kangerlussuaq 58.86 14 i P P 03 57 10.3 -0.8
TMUT Trail Mountain 59.23 65 eP P 03 57 16.4 +1.9
comp=Z,10nm,1.2s
ULM Lac du Bonnet 59.26 47 P P 03 57 15.1 +0.9
comp=Z,2.2nm,0.6s,baz=343,slow=7.2,SNR=2.4
JIRN Jiri 59.27 276 eP P 03 57 13.9 -1.1
comp=Z,25nm,0.6s
BTK Batken 59.53 297 eP P 03 57 15.5 -0.8
comp=Z,18nm,1.1s
RAMN Ramite 59.53 276 eP P 03 57 15.4 -1.2
comp=Z,74nm,0.5s
MTPU Mount Pierson 59.56 66 eP P 03 57 19.1 +2.3
comp=Z,5.5nm,1.0s
LCMT Little Creek M 59.68 68 eP P 03 57 19.5 +2.1
comp=Z,9.7nm,1.1s
RSSD Black Hills 59.69 56 eP P 03 57 18.1 +0.6
comp=Z,16nm,0.6s

KKN Kakani 59.73 277 eP P 03 57 16.9 -1.1
comp=Z,47nm,0.5s
SRU San Rafael Swe 59.74 64 eP P 03 57 19.2 +1.3
comp=Z,13nm,0.9s
PKI Pulchoki 59.81 277 eP P 03 57 17.6 -1.1
comp=Z,28nm,0.5s
PKIN Phulchoki 59.81 277 eP P 03 57 18.0 -0.6
comp=Z,22nm,0.5s
DMN Daman 59.97 277 eP P 03 57 18.9 -0.7
comp=Z,42nm,0.6s
UMPA Umpang Tak 60.06 257 P P 03 57 23.9 +3.8
comp=Z,52µm,0.9s
DANN Dangsing 60.25 279 eP P 03 57 21.3 -0.3
comp=Z,48nm,0.6s
GAR Garm 60.55 297 eP P 03 57 22.0 -1.3
comp=Z,22nm,0.7s
U15A North Rim 60.63 68 eP P 03 57 26.8 +2.6
comp=Z,5.0nm,1.1s
W13A Hualapai Mount 60.66 70 eP P 03 57 26.8 +2.5
comp=Z,3.7nm,0.8s
KOLN Koldanda 60.77 278 eP P 03 57 24.5 -0.6
comp=Z,35nm,0.5s
PYUN Piuthan 60.90 279 eP P 03 57 24.8 -1.2
comp=Z,35nm,0.7s
N23A Red Feather La 60.98 60 eP P 03 57 27.7 +1.3
comp=Z,5.9nm,0.6s
PV21 Cone Mtn., Par 60.99 64 eP P 03 57 28.8 +2.3
comp=Z,7.2nm,0.9s
PV23 Carpenter Ridg 61.04 64 eP P 03 57 30.5 +3.7
comp=Z,6.6nm,0.7s
FIA1 FINESS Array S 61.09 337 eP P 03 57 26.4 0.0
comp=Z,37nm,0.6s
FIA0 FINESS Array S 61.09 337 eP P 03 57 26.3 -0.1
FINES FINESS Array B 61.09 337 ceP P 03 57 26.2 -0.3
FINES pmax pmax
comp=Z,36nm,0.6s
FINES FINESS Array B 61.09 337 P P 03 57 26.3 -0.1
comp=Z,36nm,0.6s,baz=36,slow=8.2,SNR=95
PV22 Blue Mesa, Par 61.11 64 eP P 03 57 29.1 +1.9
comp=Z,6.9nm,1.0s
PV04 Paradox Valley 61.14 64 eP P 03 57 29.5 +2.1
comp=Z,7.1nm,0.9s
PV20 West Nyswonger 61.15 64 eP P 03 57 33.0 +5.5
comp=Z,9.1nm,1.1s
PV17 East Wray Mesa 61.20 64 eP P 03 57 29.0 +1.1
comp=Z,11nm,0.8s
PV16 Nyswonger Mesa 61.20 64 eP P 03 57 29.3 +1.5
comp=Z,6.5nm,0.8s
PV11 David Mesa, Pa 61.23 64 eP P 03 57 29.7 +1.6
comp=Z,12nm,0.7s
PV18 Skein Mesa, Pa 61.25 64 eP P 03 57 31.0 +2.8
PV18 epP pP 03 57 37.1 +1.0
PV12 Saucer Basin, 61.26 64 eP P 03 57 31.6 +3.4
comp=Z,9.7nm,0.8s
PV05 Paradox Valley 61.26 64 eP P 03 57 30.0 +1.7
comp=Z,24nm,1.3s
PV03 Paradox Valley 61.27 64 eP P 03 57 29.6 +1.2
comp=Z,9.7nm,1.0s
PV13 Radium Mtn., P 61.36 64 eP P 03 57 30.1 +1.2
comp=Z,11nm,1.0s
CHGR Chuyangaron 61.43 297 eP P 03 57 31.6 +2.4
comp=Z,12nm,0.7s
PV01 Paradox Valley 61.51 64 eP P 03 57 34.8 +4.7
comp=Z,6.0nm,1.0s
SMCO Snowmass 61.65 62 eP P 03 57 32.1 +1.0
comp=Z,3.0nm,0.9s
WUAZ Wupatki 61.80 68 eP P 03 57 35.0 +3.0
comp=Z,22nm,1.5s
ISCO Idaho Springs 61.94 61 eP P 03 57 34.6 +1.6
comp=Z,4.0nm,0.7s
X16A Lo Mia Camp, P 62.55 69 eP P 03 57 38.7 +1.7
MOS Moscow 62.60 328 eP P 03 57 34.4 -2.3
MOS e 03 57 45.7
NIL Nilore 62.70 290 eP P 03 57 37.9 +0.1
comp=Z,20nm,0.7s
S22A 4UR Ranch, Cre 62.75 63 eP P 03 57 40.1 +1.7
comp=Z,9.9nm,1.3s
OBN Obninsk 63.46 328 deP P 03 57 41.9 -0.5
OBN e*PP sP 03 57 53.0 -0.7
OBN e*SP pwP 03 57 59.6 +4.7
OBN 03 58 18.0
OBN i S S 04 06 16.5 +3.5
OBN SSS SSS 04 13 12.0
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,1µm,16.0s
OBN Obninsk 63.46 328 eSS S 04 06 16.0 +3.0
SDCO Great Sand Dun 63.48 62 eP P 03 57 44.5 +1.3
comp=Z,4.6nm,1.4s
VSU Vasula 63.52 335 ⇓ iP P 03 57 42.9 +0.2
VSU pmax pmax
comp=Z,143nm,1.0s
VSU Vasula 63.52 335 eP P 03 57 42.4 -0.3
VSU IAmb IAmb 03 57 44.2
comp=Z,111nm,0.7s
DOMB Dombas 63.92 345 eP P 03 57 45.2 -0.2
AKN Aaknes 64.10 347 eP P 03 57 47.2 +0.6
NC303 NORSAR Array S 64.32 344 eP P 03 57 47.7 -0.3
comp=Z,27nm,0.8s
NC405 NORSAR Array S 64.37 344 eP P 03 57 48.0 -0.3
comp=Z,24nm,0.8s
NC204 NORSAR Array S 64.37 344 eP P 03 57 48.1 -0.3
comp=Z,37nm,0.8s
NB201 NORSAR Array S 64.50 344 eP P 03 57 48.9 -0.3
comp=Z,36nm,0.8s
NB2 NORSAR Subarra 64.52 344 P P 03 57 48.8 -0.6
comp=Z,26nm,1.1s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.52 344 P P 03 57 48.8 -0.6
baz=22,slow=6.9
NB200 NORSAR Array S 64.52 344 eP P 03 57 48.6 -0.7
NOA NORSAR Array B 64.52 344 P P 03 57 48.6 -0.7
comp=Z,16nm,0.9s,baz=21,slow=6.6,SNR=41
NOA LR LR 04 28 22.7
comp=Z,775nm,19.1s,baz=85,slow=38
NBO00 NORSAR Array S 64.60 344 eP P 03 57 50.0 +0.1
comp=Z,26nm,1.1s
LPSR Galich'ya Gora 64.71 325 eP P 03 57 49.7 -1.0
LPSR pmax pmax
comp=Z,30nm,0.7s
NAO01 NORSAR Array S 64.76 344 eP P 03 57 51.0 +0.2
comp=Z,16nm,0.7s
NAO01 NORSAR Array S 64.76 344 eP P 03 57 50.9 0.0
VRH Novokhopyorsk 64.83 322 eP P 03 57 49.9 -1.5
VRH pmax pmax
comp=Z,30nm,0.6s
ANMO Albuquerque 64.99 65⇑ eP P 03 57 55.3 +2.3
LAZ Ladron 65.01 66 eP P 03 57 57.1 +4.0
HYA Hoyanger 65.19 347 eP P 03 57 53.9 +0.3
SKAR Skarslia 65.33 345 eP P 03 57 54.7 +0.1
SLIT Slitere, Latvi 65.38 337 eP P 03 57 54.2 -0.7
SLIT IAmb IAmb 03 57 56.8
comp=Z,245nm,0.6s
VSR Storozhevoye 65.76 324 eP P 03 57 55.4 -2.1
VSR pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 65.92 324 eP P 03 57 57.1 -1.4
VORD pmax pmax
comp=Z,10.0nm,0.7s
IZAR Zarasai 66.02 334 eP P 03 57 59.1 0.0
IZAR IAmb IAmb 03 58 01.3
comp=Z,9.8nm,0.8s
KONO Kongsberg 66.11 344 ceP P 03 58 00.3 +0.7
KONO pmax pmax
comp=Z,11nm,1.0s
IDID Didziasalis 66.27 333 eP P 03 58 00.4 -0.2
IDID IAmb IAmb 03 58 02.9
comp=Z,17nm,1.0s
IIGN Ignalina 66.38 334 eP P 03 58 01.2 -0.2
IIGN IAmb IAmb 03 58 03.7
comp=Z,20nm,0.8s
NACGM Naroch 66.61 333 e P 03 58 02.0 -0.9
BLS5 Blasjo 66.82 346 eP P 03 58 03.6 -0.6
PABE Paberze 66.85 335 eP P 03 58 03.8 -0.6
PABE IAmb IAmb 03 58 06.5
comp=Z,54nm,0.9s
SNART Snartemo 67.74 345 eP P 03 58 10.7 +0.7
MSTX Muleshoe 67.75 63 eP P 03 58 11.2 +0.5
comp=Z,13nm,1.4s
GEYT Alibeck 67.84 304 P P 03 58 10.8 -0.2
comp=Z,7.9nm,0.6s,baz=28,slow=3.8,SNR=6.3
MNTX Cornudas Mount 68.00 66 eP P 03 58 13.4 +1.3
comp=Z,4.8nm,1.0s
MUD Monsted U'grnd 69.21 343 eP P 03 58 19.8 +0.6
MUD Monsted U'grnd 69.21 343 i P P 03 58 19.8 +0.6
COP Copenhagen 69.33 341 i P P 03 58 20.2 +0.3

COP Copenhagen 69.33 341 i P P 03 58 20.2 +0.3
WMOK Wichita Mounta 69.33 60 eP P 03 58 20.2 -0.2
comp=Z,5.4nm,0.8s
BSD Bornholm Skovb 69.36 340 i P P 03 58 20.2 +0.1
BSD Bornholm Skovb 69.36 340 i P P 03 58 20.2 +0.1
AKASG Malin Array Be 69.56 329 P P 03 58 20.9 -0.5
comp=Z,13nm,0.6s,baz=30,slow=6.6,SNR=32
AKBB Malin Array Si 69.56 329 eP P 03 58 20.8 -0.7
comp=Z,28nm,0.9s
KIEV Kiev 69.57 329⇑ iP P 03 58 21.3 -0.2
KIEV Kiev 69.57 329⇑ eP P 03 58 20.3 -1.2
KIEV pmax pmax
comp=Z,31nm,1.0s
RGN Rugen 70.22 340 eP P 03 58 27.1 +1.7
comp=Z,51nm,0.8s
NCK Nalchik 70.31 316 ⇓ eP P 03 58 26.3 +0.1
NCK pmax pmax
comp=Z,22nm,0.8s
KIV Kislovodsk 70.31 317 eP P 03 58 26.2 -0.1
KIV pmax pmax
comp=Z,34nm,1.1s
KBZ Khabaz 70.41 317 P P 03 58 27.1 +0.3
comp=Z,20nm,0.9s,baz=89,slow=0.8,SNR=23
GKP Gorka Klasztor 70.55 338 eP P 03 58 28.0 +0.6
GKP Gorka Klasztor 70.55 338 eP P 03 58 28.0 +0.6
HHAR Hobbs 70.67 56 eP P 03 58 27.0 -1.6
comp=Z,14nm,1.1s
TX31 Lajitas Ar. Si 70.75 67 eP P 03 58 29.1 -0.2
comp=Z,5.8nm,0.8s
LTX Lajitas 70.75 67 eP P 03 58 29.6 +0.4
TXAR Lajitas Array 70.75 67 P P 03 58 29.6 +0.4
comp=Z,2.0nm,0.7s,baz=300,slow=4.4,SNR=14
ZEI Tsey 70.75 316 eP P 03 58 27.1 -2.1
ZEI pmax pmax
comp=Z,10.0nm,0.8s
NEY Neytrino 70.88 317 ⇓ eP P 03 58 29.9 0.0
NEY pmax pmax
comp=Z,2.0nm,1.1s
BEL Belsk 70.98 335 eP P 03 58 30.6 +0.5
BEL Belsk 70.98 335 eP P 03 58 30.6 +0.5
TBLG Delisi 71.24 315 eP P 03 58 32.8 +0.9
comp=Z,9.1nm,0.7s
HYB Hyderabad 71.57 275 i P P 03 58 34.0 -0.2
SOC Sochi 71.84 319 eP P 03 58 33.3 -2.2
SOC pmax pmax
comp=Z,10.0nm,0.6s
LVV L'vov 71.91 332 eP P 03 58 46.7 +11
AKH Akhalkalaki 72.05 315 eP P 03 58 37.6 +0.6
comp=Z,15nm,0.8s
AKH Akhalkalaki 72.05 315⇑ iP P 03 58 38.0 +1.0
ESK Eskdalemuir 72.05 350 ceP P 03 58 38.1 +1.6
KWP Kalwaria Pacla 72.45 333 eP P 03 58 39.4 +0.3
KWP Kalwaria Pacla 72.45 333 eP P 03 58 39.4 +0.3
comp=Z,476nm,1.0s
KWP Kalwaria Pacla 72.45 333 eP P 03 58 39.4 +0.3
GNI Garni 72.53 314 ⇓ iP P 03 58 40.8 +1.0
GNI pmax pmax
comp=Z,53nm,1.0s
BATM Batumi 72.66 317⇑ iP P 03 58 40.3 -0.1
OJC Ojcow 72.71 335 eP P 03 58 40.5 -0.1
OJC Ojcow 72.71 335 eP P 03 58 40.6 +0.1
comp=Z,14nm,0.8s
OJC Ojcow 72.71 335 eP P 03 58 40.5 -0.1
BCA Borcka 72.82 316⇑ iP P 03 58 41.5 +0.1
SIM Simferopol' 72.86 323 cP P 03 58 41.7 +0.2
SIM pmax pmax
comp=Z,10.0nm,1.1s
KIS Kishinev 72.93 328 eP P 03 58 40.0 -1.9
KIS Kishinev 72.93 328 ePcP PcP 03 58 51.0 -7.8
KIS LRM MLR 04 34 44.0
comp=Z,2µm,16.0s
KIS Kishinev 72.93 328 eP P 03 58 40.0 -1.9
KIS e 03 58 51.0
KIS e 03 59 00.0
KIS MLR MLR
comp=Z,2µm,16.0s
KSP Ksiaz 73.02 337 eP P 03 58 42.3 0.0
KSP Ksiaz 73.02 337 eP P 03 58 42.3 0.0
KOLS Kolonicke sedl 73.21 333 eP P 03 58 43.5 0.0
KOLS pmax pmax
comp=Z,9.0nm,0.7s
KOLS Kolonicke sedl 73.21 333 eP P 03 58 43.5 0.0
NIE Niedzica 73.31 334 eP P 03 58 44.4 +0.2
NIE Niedzica 73.31 334 eP P 03 58 44.4 +0.2
CLL Collm 73.33 339 eP P 03 58 43.8 -0.4
comp=Z,25nm,0.9s
CLL Collm 73.33 339⇑ iP P 03 58 43.8 -0.4
CLL e 03 58 54.0
CLL pmax pmax
comp=Z,29nm,1.0s
CLL Collm 73.33 339⇑ iP P 03 58 43.8 -0.4
comp=Z,29nm,1.0s
CLL epP pP 03 58 54.0 +1.7
SEVA Sevastopol 73.38 323⇑ iP P 03 58 44.8 +0.2
UPC Upice 73.39 337 eP P 03 58 44.4 -0.2
UPC e 03 58 56.2
UPC Upice 73.39 337 eP P 03 58 44.4 -0.2
UPC epP sP 03 58 56.2 0.0
DPC Dobruska-Polom 73.47 337 eP P 03 58 45.6 +0.5
DPC e 03 58 56.1
DPC Dobruska-Polom 73.47 337 eP P 03 58 45.6 +0.5
DPC epP sP 03 58 56.1 -0.6
UZH Uzhgorod 73.47 333 eP P 03 58 44.4 -0.7
UZH e 03 58 56.8
OKC Ostrava-Krasne 73.49 336 eP P 03 58 46.0 +0.9
OKC Ostrava-Krasne 73.49 336 eP P 03 58 46.0 +0.9
BUR08 Bucovina Ar. S 73.51 330 eP P 03 58 45.5 +0.1
comp=Z,18nm,0.7s
BURAR Bucovina Array 73.53 330 ⇓ iP P 03 58 45.2 -0.4
BRG Berggiesshubel 73.53 339 i P P 03 58 44.9 -0.5
comp=Z,13nm,1.3s
BRG Berggiesshubel 73.53 339 i P P 03 58 44.9 -0.5
BRG pmax pmax
comp=Z,13nm,1.3s
KRLC Kraliky 73.61 337 eP P 03 58 46.8 +0.9
KRLC Kraliky 73.61 337 eP P 03 58 46.8 +0.9
MORC Moravsky Berou 73.70 336 eP P 03 58 46.5 +0.1
comp=Z,13nm,0.8s
MORC Moravsky Berou 73.70 336⇑ iP P 03 58 47.6 +1.1
MORC Moravsky Berou 73.70 336 eP P 03 58 46.6 +0.1
LANS Liptovska Anna 73.78 335 eP P 03 58 48.7 +1.8
LANS Liptovska Anna 73.78 335 eP P 03 58 48.6 +1.7
BIZ Bicaz 73.85 329⇑ iP P 03 58 48.0 +0.6
TRPA Tarpa 73.86 332⇑ iP P 03 58 47.6 +0.3
TRPA Tarpa 73.86 332 eP P 03 58 47.1 -0.3
WTSB Winterswijk 73.92 343 eP P 03 58 48.3 +0.7
comp=Z,26nm,0.7s
TESR Tescani 74.06 329⇑ iP P 03 58 48.7 +0.1
KECS Kecovo 74.11 334 eP P 03 58 49.3 +0.5
KECS pmax pmax
comp=Z,36nm,0.8s
KECS Kecovo 74.11 334 eP P 03 58 49.3 +0.5
PRU Pruhonice 74.22 338 eP P 03 58 49.8 +0.4
PRU e 03 58 59.6
PRU Pruhonice 74.22 338 eP P 03 58 49.8 +0.4
PRU epP sP 03 58 59.6 -1.5
GOPC GO Pecny, Ondr 74.23 338 eP P 03 58 49.3 -0.3
GOPC e 03 59 00.8
GOPC GO Pecny, Ondr 74.23 338 eP P 03 58 49.3 -0.3
GOPC epP sP 03 59 00.8 -0.4
ARCR ARCALIA 74.26 331⇑ iP P 03 58 51.4 +1.6
VRAC Vranov 74.37 336⇑ iP P 03 58 51.7 +1.4
VRAC Vranov 74.37 336 eP P 03 58 50.6 +0.3
NKC Novy Kostel 74.46 339 eP P 03 58 51.6 +0.7
NKC e 03 59 02.4
NKC Novy Kostel 74.46 339 eP P 03 58 51.6 +0.7
NKC epP sP 03 59 02.4 +0.3
JAVC Velka Javorina 74.51 336 eP P 03 58 52.4 +1.2
TLCR 74.52 327⇑ iP P 03 58 51.4 +0.2
VYHS Vyhne 74.55 335 eP P 03 58 51.9 +0.5
VYHS pmax pmax
comp=Z,9.0nm,1.3s
VYHS Vyhne 74.55 335 eP P 03 58 51.9 +0.5
CLTN Cedars of Leba 74.57 51 eP P 03 58 52.4 +0.7
comp=Z,7.2nm,1.1s
VRI Vrincioaia 74.61 328⇑ iP P 03 58 51.8 0.0
KRUC Moravsky 74.64 336 eP P 03 58 52.2 +0.3
PLOR Plostina 74.65 329⇑ iP P 03 58 52.8 +0.7
TREC Trest 74.65 337 eP P 03 58 52.4 +0.4
TREC e 03 59 03.5
TREC Trest 74.65 337 eP P 03 58 52.4 +0.4
TREC epP sP 03 59 03.5 -0.1
OZUR 74.70 329⇑ iP P 03 58 53.5 +1.1

CFR	Carcaliu	74.76 327⇑	iP	P	03 58 52.4 -0.2
PSZ	Piszkesteto	74.79 334	eP	P	03 58 53.6 +0.8
	comp=Z,9.5nm,0.8s				
PSZ	Piszkesteto	74.79 334⇑	iP	P	03 58 54.2 +1.3
DOPR	Dopca	74.94 329⇑	iP	P	03 58 54.6 +0.9
DRGR		75.02 331⇑	iP	P	03 58 54.9 +0.7
MODS	Modra-Piesok	75.06 336	eP	P	03 58 53.9 -0.5
MODS			pmax	pmax	
	comp=Z,10.0nm,0.8s				
MODS	Modra-Piesok	75.06 336	eP	P	03 58 53.9 -0.5
MLR	Muntele Rosu	75.19 329	eP	P	03 58 55.4 +0.1
	comp=Z,19nm,0.6s				
MLR	Muntele Rosu	75.19 329⇑	iP	P	03 58 56.5 +1.2
HGN	Heimansgroeve	75.23 344	eP	P	03 58 55.2 0.0
	comp=Z,26nm,1.1s				
GRA1	Grafenberg Arr	75.23 340	eP	P	03 58 56.4 +1.0
	comp=Z,19nm,0.8s				
GRFO	Grafenberg	75.24 340	eP	P	03 58 56.4 +1.1
	comp=Z,19nm,0.9s				
DIKM	Dikmen	75.24 321⇑	iP	P	03 58 56.4 +0.9
KHC	Kasperske Hory	75.25 338	eP	P	03 58 55.9 +0.4
	comp=Z,5.4nm,1.0s				
KHC	Kasperske Hory	75.25 338	eP	P	03 58 55.8 +0.4
KHC			e		03 59 06.4
KHC	Kasperske Hory	75.25 338	eP	P	03 58 55.8 +0.4
KHC			ex	x	03 59 06.4
ZST	Bratislava	75.27 336	eP	P	03 58 56.0 +0.4
ZST	Bratislava	75.27 336	eP	P	03 58 55.9 +0.4
TLB	Topalu	75.31 327⇑	iP	P	03 58 56.0 +0.2
WRAB	Tennant Creek	75.34 205⇑	eP	P	03 58 56.9 +0.8
WRAB			pmax	pmax	
	comp=Z,14nm,1.7s				
WB2	Warramunga Arr	75.35 205	eP	P	03 58 56.6 +0.5
	comp=Z,8.0nm,0.9s				
WR1	Warramunga Arr	75.35 205	eP	P	03 58 55.9 -0.3
WRA	Warramunga Arr	75.35 205	P	P	03 58 55.9 -0.3
	comp=Z,2.5nm,1.0s,baz=23,slow=5.5,SNR=7.8				
GEC2	GERESS Array S	75.49 338	eP	P	03 58 58.0 +1.1
	comp=Z,9.3nm,1.1s				
GERES	GERESS Array B	75.49 338	P	P	03 58 56.9 0.0
	comp=Z,3.6nm,0.6s,baz=34,slow=5.4,SNR=26				
VOIR		75.53 329⇓	iP	P	03 58 57.8 +0.6
MFTR	Murfatlar	75.54 327⇑	iP	P	03 58 57.5 +0.4
CSKK	Cskako	75.74 335	eP	P	03 58 59.1 +0.8
SIRR	Siria	75.80 332⇑	iP	P	03 58 59.4 +0.8
CONA	Conrad Observa	75.83 336	iP	P	03 58 59.7 +0.8
	comp=Z,12nm,1.0s,SNR=10				
SOP	Sopron	75.88 336	eP	P	03 58 58.0 -1.0
SOP	Sopron	75.88 336	eP	P	03 58 59.1 0.0
GZR	Gura Zlata	76.26 331⇑	iP	P	03 59 01.2 -0.2
MOA	Molln	76.29 337	iP	P	03 59 01.7 +0.3
	comp=Z,5.8nm,0.8s				
ILGA	Ilgaz	76.35 321	eP	P	03 59 03.2 +1.1
	comp=Z,40nm,0.9s				
ARSA	Arzberg	76.54 336	iP	P	03 59 03.4 +0.5
	comp=Z,12nm,1.1s				
HERR	Herculane	76.83 331⇓	iP	P	03 59 04.8 +0.3
BFO	Black Forest	77.12 341	eP	P	03 59 06.5 +0.4
	comp=Z,6.3nm,0.7s				
BFO	Black Forest	77.12 341	ceP	P	03 59 07.0 +0.9
MDVR	Moldovita	77.14 331⇑	iP	P	03 59 05.3 -1.0
SOKA	Soboth	77.20 336	eP	P	03 59 06.7 0.0
	comp=Z,9.3nm,0.8s,SNR=8.4				
KBA	Koelnbreinsper	77.23 338	eP	P	03 59 08.0 +1.1
	comp=Z,58nm,0.8s,SNR=32				
WATA	Walderalm	77.39 339	eP	P	03 59 09.1 +1.3
	comp=Z,5.1nm,0.6s				
RETA	Reutte	77.42 340	eP	P	03 59 08.3 +0.4
	comp=Z,7.5nm,0.8s				
WTTA	Wattenberg	77.44 339	iP	P	03 59 08.8 +0.7
	comp=Z,19nm,1.3s				
ECH	Echery	77.46 342	eP	P	03 59 07.3 -0.7
	comp=Z,14nm,0.9s				
OBKA	Obir	77.47 337	iP	P	03 59 08.8 +0.6
	comp=Z,11nm,0.8s				
MOTA	Moosalm	77.48 339	eP	P	03 59 08.7 +0.4
	comp=Z,10nm,0.8s,SNR=7.9				
BR101	Keskin Array S	77.52 321	eP	P	03 59 08.6 -0.1
BR131	Keskin Array S	77.52 321	eP	P	03 59 08.7 0.0
	comp=Z,8.8nm,0.8s				
BR131	Keskin Array S	77.52 321	P	P	03 59 08.7 0.0
	SNR=12				
BRTR	Keskin Array B	77.52 321	ceP	P	03 59 08.6 0.0
BRTR			pmax	pmax	
	comp=Z,10.0nm,1.0s				
BRTR	Keskin Array B	77.52 321	P	P	03 59 08.6 -0.1
	comp=Z,9.3nm,0.9s,baz=46,slow=3.6,SNR=28				
SQTA	Sankt Quirin	77.58 339	iP	P	03 59 09.5 +0.7
	comp=Z,17nm,1.1s,SNR=5.9				
MYKA	Terra Mystica	77.58 337	iP	P	03 59 08.9 +0.1
	comp=Z,11nm,1.5s				
ANTO	Ankara	77.73 321	eP	P	03 59 10.3 +0.6
	comp=Z,14nm,0.8s				
ANTO	Ankara	77.73 321	P	P	03 59 09.6 -0.1
	SNR=6.5				
ABTA	Altafaltersbach	77.73 338	eP	P	03 59 10.9 +1.2
	comp=Z,19nm,0.9s				
DAVA	Damuels	77.80 340	iP	P	03 59 09.9 -0.2
	comp=Z,12nm,1.1s				
MDUB	Mudurnu	77.81 323	eP	P	03 59 10.6 +0.4
	comp=Z,99nm,0.9s				
FETA	Feichten	77.87 339	eP	P	03 59 11.1 +0.6
	comp=Z,14nm,1.0s				
PALK	Pallekele	78.07 266	LR	LR	04 37 14.2
	comp=Z,814nm,19.7s,baz=313,slow=38				
PHSR	Pinarhisar	78.10 326⇑	iP	P	03 59 12.2 +0.6
FUORN	Ofenpass-Fuorn	78.35 340	eP	P	03 59 14.5 +1.2
	comp=Z,16nm,0.8s				
VTS	Vitosha	78.63 329	eP	P	03 59 14.3 -0.4
	comp=Z,9.9nm,0.7s				
VTS	Vitosha	78.63 329⇑	iP	P	03 59 14.5 -0.3
TUE	Stuetta	78.69 340	eP	P	03 59 15.8 +0.7
	comp=Z,19nm,0.7s				
AS31	Alice Springs	79.02 205	eP	P	03 59 17.1 +0.4
	comp=Z,1.6nm,0.8s				
ASAR	Alice Springs	79.02 205	P	P	03 59 17.1 +0.4
	comp=Z,1.8nm,0.6s,baz=16,slow=4.8,SNR=13				
HATD	Hatta, Dubai	79.08 296	P	P	03 59 17.1 -0.3
	SNR=6.3				
SENIN	Lac Senin/Sane	79.21 342	eP	P	03 59 18.9 +1.0
	comp=Z,8.2nm,0.9s				
ALN	Alexandroupoli	79.26 327	eP	P	03 59 18.0 0.0
	comp=Z,9.0nm,0.9s				
STIP	Stip	79.80 330	iP	P	03 59 19.6 -1.3
PDG	Podgorica	80.01 332⇑	iP	P	03 59 22.1 +0.1
TTG	Podgorica	80.01 332	eP	P	03 59 21.6 -0.4
	comp=Z,16nm,0.6s				
MANT	Manisa	80.52 324	eP	P	03 59 25.2 0.0
	comp=Z,38nm,0.9s				
BNI	Bardonecchia	80.59 342	eP	P	03 59 26.9 +1.5
	comp=Z,14nm,1.0s				
SSB	Saint Sauveur	80.77 343	eP	P	03 59 27.2 +1.1
	comp=Z,9.4nm,0.7s				
FNA	Florina	80.88 330	eP	P	03 59 26.6 -0.2
	comp=Z,5.4nm,0.7s				
CSS	Mathiatis	81.76 319	eP	P	03 59 31.5 -0.1
	comp=Z,18nm,0.9s				
TIP	Timpagrande	83.73 332	eP	P	03 59 42.2 +0.4
	comp=Z,8.1nm,0.7s				
PBRG	Braganca	85.77 351	eP	P	03 59 54.3 +2.3
PVRL	Vila Real	86.39 351	eP	P	03 59 56.0 +0.9
	comp=Z,31nm,1.0s				
PVIS	Viseu	86.96 351	eP	P	04 00 00.2 +2.3
	comp=Z,30nm,1.6s				
ESDC	Sonseca Array	87.56 348	P	P	04 00 00.9 +0.2
	comp=Z,0.9nm,0.5s,baz=2.0,slow=4.8,SNR=12				
PCAS	Casmilo, Conde	87.67 352	eP	P	04 00 02.7 +1.4
	comp=Z,52nm,1.6s				
KEST	Kesra	88.93 337	eP	P	04 00 07.3 0.0
	comp=Z,14nm,1.1s				
KEST	Kesra	88.93 337	P	P	04 00 07.3 0.0
	comp=Z,4.9nm,0.9s,baz=342,slow=3.2,SNR=3.5				
NWAO	Narrogin (SRO)	92.82 215	eP	P	04 00 23.9 -1.1
TORD	Torodi Ar. Bea	112.44 338	PP	PP	04 06 32.4 -1.7
	comp=Z,2.7nm,0.9s,baz=6.7,slow=9.7,SNR=9.7				
DBIC	Dimbokro	120.09 343	PKP	PKPdf	04 06 03.5 -0.2
	comp=Z,5.6nm,0.9s,baz=0.8,slow=1.6,SNR=3.6				
PMSA	Palmer Station	154.12 136	PKPbc	PKPbc	04 07 13.5 +2.3
	comp=Z,49nm,0.8s,baz=270,slow=6.1,SNR=4.1				

KRSC 21 03:55:31.0±10.0, 52°.20N×160°.87E, h50km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.03	330	eP	Pn	03 55 49.8	+0.6
SPN				eS	Sn	03 56 03.8	+1.2
NLC	Nalytchevo	1.34	317	eP	Pn	03 55 55.2	+1.9
NLC				eS	Sn	03 56 12.5	+2.5
RUS	Russkaya	1.46	280	eP	Pn	03 55 56.3	+1.3
RUS				eS	Sn	03 56 14.3	+1.3
DALK	Dalny	1.53	304	eP	Pn	03 55 57.5	+1.6
DALK				eS	Sn	03 56 17.0	+2.3
UGLR	Uglovaya	1.60	310	eP	Pn	03 55 59.8	+2.8
SDLR	Sedlovina	1.62	312	eP	Pn	03 55 58.9	+1.7
SMAR	Somma	1.65	311	eP	Pn	03 55 59.6	+1.9
MTVR	Mutnovka	1.67	281	eP	Pn	03 55 59.8	+1.8
MTVR				eS	Sn	03 56 21.2	+2.9
AVH	Avacha	1.68	310	eP	Pn	03 55 59.9	+1.9
KRER	Koryakskii	1.69	311	eP	Pn	03 55 59.7	+1.3
KOK	Koryaka	1.74	310	eP	Pn	03 56 00.0	+1.1
KDTR	Khodutka, Kamc	1.77	258	eP	Pn	03 56 02.4	+3.2
KDTR				eS	Sn	03 56 24.6	+4.1
KRX	Arik	1.78	311	eP	Pn	03 56 00.4	+1.0
KRMR	Karymshinskiy	1.79	292	eP	Pn	03 56 01.0	+1.6
KRMR				eS	Sn	03 56 22.9	+2.0
APC	Apacha	2.38	289	eP	Pn	03 56 09.2	+1.7
APC				eS	Sn	03 56 37.6	+2.2
MKZ	Mys Kozlova	2.41	12	eS	Sn	03 56 39.1	+2.9
KZV	Kizimen	2.93	354	eP	Pn	03 56 19.9	+4.6
TUMD	Tumrok D	3.02	355	eP	Pn	03 56 20.6	+4.3
TUMD				eS	Sn	03 56 56.6	+5.4
TUMR	Tumrok	3.12	352	eP	Pn	03 56 22.0	+4.3
KBTR	Krutoberegovo	4.17	15	eP	Pn	03 56 35.7	+3.6
BKI	Bering	4.27	43	eS	Sn	03 57 23.3	+1.5

MAN 21 03:56:35.5, 17°.85N×121°.26E, h52km, mb3.8, ML2.5, MS2.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	0.01	305	eP	Pn	03 56 43.6	+0.2
APYP				eS	Sn	03 56 49.2	+0.1
ABRA	Dolores	0.56	249	eP	Pn	03 56 49.9	+2.4
ABRA				eS	Sn	03 56 59.2	+2.9
CAUP	Cauayan	1.05	149	eP	Pn	03 56 54.9	+0.8
CAUP				eS	Sn	03 57 07.4	-0.3
PALP	Palanan	1.37	125	eP	Pn	03 56 59.1	+0.8
PALP				eS	Sn	03 57 17.1	+1.8

KRSC 21 04:00:48.2±10.0, 52°.22N×160°.92E, h60km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.03	328	eP	Pn	04 01 07.6	+1.0
SPN				eS	Sn	04 01 20.5	+0.3
NLC	Nalytchevo	1.35	315	eP	Pn	04 01 13.2	+2.5
NLC				eS	Sn	04 01 30.1	+2.4
RUS	Russkaya	1.49	279	eP	Pn	04 01 14.4	+1.7
RUS				eS	Sn	04 01 32.2	+1.1
DALK	Dalny	1.55	302	eP	Pn	04 01 15.3	+1.9
DALK				eS	Sn	04 01 34.1	+1.6
UGLR	Uglovaya	1.61	309	eP	Pn	04 01 17.0	+2.6
SDLR	Sedlovina	1.63	311	eP	Pn	04 01 17.1	+2.5
SMAR	Somma	1.66	310	eP	Pn	04 01 18.2	+3.1
AVH	Avacha	1.69	309	eP	Pn	04 01 18.1	+2.7
AVH				eS	Sn	04 01 38.8	+2.8
MTVR	Mutnovka	1.70	280	eP	Pn	04 01 17.8	+2.2
MTVR				eS	Sn	04 01 38.0	+1.6
KRER	Koryakskii	1.71	310	eP	Pn	04 01 18.9	+3.1
KOK	Koryaka	1.75	309	eP	Pn	04 01 19.2	+2.9
KDTR	Khodutka, Kamc	1.81	258	eP	Pn	04 01 18.1	+1.2
KDTR				eS	Sn	04 01 39.5	+0.8
KRMR	Karymshinskiy	1.81	291	eP	Pn	04 01 19.3	+2.3
KRMR				eS	Sn	04 01 41.1	+2.3
ASAK	Asacha	1.86	276	eP	Pn	04 01 19.1	+1.3
MKZ	Mys Kozlova	2.39	11	eP	Pn	04 01 27.7	+2.9
MKZ				eS	Sn	04 01 54.5	+1.6
APC	Apacha	2.40	288	eP	Pn	04 01 28.3	+3.3
APC				eS	Sn	04 01 56.7	+3.5
TUMD	Tumrok D	3.00	354	eP	Pn	04 01 35.4	+2.2
TUMD				eS	Sn	04 02 10.2	+2.2
TUMR	Tumrok	3.10	352	eP	Pn	04 01 39.1	+4.4
KBTR	Krutoberegovo	4.14	15	eP	Pn	04 01 52.7	+3.9
BKI	Bering	4.23	43	eS	Sn	04 02 38.9	+0.8

KRSC 21 04:01:34.0±10.0, 52°.28N×160°.81E, h58km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.95	330	eP	Pn	04 01 52.6	+1.4
SPN				eS	Sn	04 02 05.2	+1.3
NLC	Nalytchevo	1.26	316	eP	Pn	04 01 57.3	+2.0
NLC				eS	Sn	04 02 13.6	+2.3
RUS	Russkaya	1.42	277	eP	Pn	04 01 58.5	+1.1
RUS				eS	Sn	04 02 15.5	+0.4
DALK	Dalny	1.46	302	eP	Pn	04 01 59.9	+1.9
DALK				eS	Sn	04 02 17.7	+1.6
AVH	Avacha	1.60	309	eP	Pn	04 02 01.0	+1.0
MTVR	Mutnovka	1.62	278	eP	Pn	04 02 01.9	+1.5
MTVR				eS	Sn	04 02 21.7	+1.4
KRMR	Karymshinskiy	1.73	290	eP	Pn	04 02 04.5	+2.9
KRMR				eS	Sn	04 02 26.2	+3.7
KDTR	Khodutka, Kamc	1.75	255	eP	Pn	04 02 04.3	+2.3
KDTR				eS	Sn	04 02 25.7	+2.5
MKZ	Mys Kozlova	2.34	13	eS	Sn	04 02 41.4	+3.8
BKI	Bering	4.24	44	eS	Sn	04 03 26.5	+2.5

KRSC ***21*** *04:04:05.7±10.0, 52°.28N×160°.85E, h60km±10km, ML4.7*
IDC ***21*** *04:04:05.5±0.6, 52°.50N×160°.45E, h0km, mb4.0/29, mb1 4.2/31, mb1mx4.2/41, mbtmp4.1/31, ML3.8/2, Error ellipse: s-maj=16.0km s-min=10.8km az=148.0*
ISCJB ***21*** *04:04:08.8±0.5, 52°.37N±0°.03×160°.75E±0°.05, h39km±4km, mb4.4/62, Error ellipse: s-maj=6.3km s-min=3.4km az=143.2*
MOS ***21*** *04:04:10.2±1.1, 52°.45N×160°.54E, h54km, mb5.0/5, Error ellipse: s-maj=7.3km s-min=3.8km az=95.0*
NEIC ***21*** *04:04:10.8±2.1, 52°.42N×160°.56E, h39km±7km, mb4.5/40, Error ellipse: s-maj=15.4km s-min=12.5km az=171.0*
BJI ***21*** *04:04:12.5±0.0, 53°.62N×159°.00E, h8km, mb4.5/17, mB5.1/3*

ISC 21 04:04:09.6±0.9, 52°.38N±0°.04×160°.63E±0°.03, h35km±4km, n222, σ1§55/246, mb4.4/62, 6C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.81	333	eP	Pn	04 04 23.7	-0.8
SPN				eS	Sn	04 04 35.8	+0.6
SPN	Mys Shipunski	0.81	333	PN	Pn	04 04 23.7	-0.8
SPN				S	Sn	04 04 35.8	+0.6
NLC	Nalytchevo	1.11	316	eP	Pn	04 04 28.8	+0.2
NLC				eS	Sb	04 04 45.2	+0.7
NLC	Nalytchevo	1.11	316	PN	Pn	04 04 28.8	+0.2
NLC				S	Sb	04 04 45.2	+0.7
RUS	Russkaya	1.30	273	eP	Pn	04 04 31.6	+0.4
RUS				eS	Sb	04 04 49.7	-0.2
RUS	Russkaya	1.30	273	PN	Pn	04 04 31.6	+0.4
RUS				S	Sb	04 04 49.7	-0.2
DALK	Dalny	1.31	300	eP	Pn	04 04 31.8	+0.4
DALK				eS	Sb	04 04 50.0	-0.3
DALK	Dalny	1.31	300	PN	Pn	04 04 31.8	+0.4
DALK				S	Sb	04 04 50.0	-0.3
PET	Petropavlovsk	1.36	299	ePn	Pn	04 04 32.6	+0.5
PET				eSn	Sn	04 04 47.2	-1.8
PET	Petropavlovsk	1.36	299⇑	iPN	Pn	04 04 32.6	+0.5
PET				eS	Sb	04 04 52.9	+1.2
PET				pmax	pmax		
	comp=Z,620nm,0.5s						
PET				smax	smax		
	comp=N,3μm,0.5s						
PET				smax	smax		
	comp=E,3μm,0.6s						
UGLR	Uglovaya	1.37	308	eP	Pb	04 04 33.4	-1.4
UGLR	Uglovaya	1.37	308	PN	Pb	04 04 33.4	-1.4
SDLR	Sedlovina	1.39	311	eP	Pn	04 04 33.1	+0.5
SDLR	Sedlovina	1.39	311	PN	Pn	04 04 33.1	+0.5
SMAR	Somma	1.42	309	eP	Pn	04 04 33.7	+0.6
SMAR	Somma	1.42	309	PN	Pn	04 04 33.7	+0.6
AVH	Avacha	1.45	308	eP	Pn	04 04 34.1	+0.7
AVH	Avacha	1.45	308	PN	Pn	04 04 34.1	+0.7
KRER	Koryakskii	1.47	310	eP	Pb	04 04 35.0	-1.5
KRER	Koryakskii	1.47	310	PN	Pb	04 04 35.0	-1.5
MTVR	Mutnovka	1.50	275	eP	Pn	04 04 35.0	+0.8
MTVR				eS	Sb	04 04 55.7	-0.1
MTVR	Mutnovka	1.50	275	PN	Pn	04 04 35.0	+0.8
MTVR				S	Sb	04 04 55.7	-0.1
KOK	Koryaka	1.52	308	eP	Pn	04 04 35.2	+0.9
KOK	Koryaka	1.52	308	PN	Pn	04 04 35.2	+0.9
KRX	Arik	1.55	310	eP	Pn	04 04 35.8	+1.0
KRX	Arik	1.55	310	PN	Pn	04 04 35.8	+1.0
GRL	Gorelyy	1.57	277	eP	Pb	04 04 37.2	-1.0
GRL	Gorelyy	1.57	277	PN	Pb	04 04 37.2	-1.0
KRMR	Karymshinskiy	1.59	287	eP	Pn	04 04 35.9	+0.7
KRMR				eS	Sb	04 04 56.8	-1.3
KRMR	Karymshinskiy	1.59	287	PN	Pn	04 04 35.9	+0.7
KRMR				S	Sb	04 04 56.8	-1.3
ASAK	Asacha	1.68	271	eP	Pn	04 04 37.4	+0.9
ASAK	Asacha	1.68	271	PN	Pn	04 04 37.4	+0.9
KDTR	Khodutka, Kamc	1.68	251	eP	Pn	04 04 36.0	-0.4
KDTR				eS	Sn	04 04 57.1	+0.4
KDTR	Khodutka, Kamc	1.68	251	PN	Pn	04 04 36.0	-0.4
KDTR				S	Sn	04 04 57.1	+0.4
PEA0B	Petropavlovsk-	1.93	293	ePn	Pn	04 04 41.1	+1.3
PEA0B				eSn	Sn	04 05 02.2	-0.6
PETK	Petropavlovsk-	1.93	293	ePn	Pn	04 04 40.5	+0.6
PETK				eSn	Sn	04 05 03.0	+0.1
PETK	Petropavlovsk-	1.93	293	ePN	Pn	04 04 40.5	+0.6
PETK				e		04 05 03.0	
PETK	Petropavlovsk-	1.93	293	Pn	Pn	04 04 41.0	+1.1
	comp=E,55nm,0.3s,baz=108,slow=19,SNR=40						
PETK				Sn	Sb	04 05 07.5	-0.2
	comp=E,46nm,0.3s,baz=127,slow=18,SNR=7.3						
PEA1	Petropavlovsk-	1.93	293	ePn	Pn	04 04 41.0	+1.1
PEA1				eSn	Sb	04 05 07.5	-0.3
APC	Apacha	2.19	286	eP	Pn	04 04 45.2	+1.8
APC				eS	Sb	04 05 13.2	-1.9
APC	Apacha	2.19	286	PN	Pn	04 04 45.2	+1.8
APC				S	Sb	04 05 13.2	-1.9
MKZ	Mys Kozlova	2.27	16	eP	Pn	04 04 43.9	-0.7
MKZ				eS	Sn	04 05 10.3	-1.1
MKZ	Mys Kozlova	2.27	16	PN	Pn	04 04 43.9	-0.7
MKZ				S	Sn	04 05 10.3	-1.1
PAU	Pauzhetka	2.54	250	eP	Pn	04 04 48.4	+0.1
PAU	Pauzhetka	2.54	250	PN	Pn	04 04 48.4	+0.1
KZV	Kizimen	2.74	356	eP	Pn	04 04 52.9	+1.7
KZV	Kizimen	2.74	356	PN	Pn	04 04 52.9	+1.7
TUMD	Tumrok D	2.83	357	eP	Pn	04 04 52.9	+0.6
TUMD				eS	Sn	04 05 27.1	+2.0
TUMR	Tumrok	2.92	355	eP	Pn	04 04 55.3	+1.7
TUMR	Tumrok	2.92	355	PN	Pn	04 04 52.9	-0.7
TUMR				S	Sn	04 05 27.1	-0.4
SKR	Severo-Kuril's	3.29	241	eP	Pn	04 04 58.7	+0.1
SKR				eS	Sn	04 05 35.8	-0.7
SKR	Severo-Kuril's	3.29	241	ePN	Pn	04 04 58.8	+0.1
SKR				eS	Sn	04 05 34.2	-2.3
SKR				pmax	pmax		
	comp=Z,118nm,0.7s						
SKR				smax	smax		
	comp=N,582nm,0.6s						
SKR				smax	smax		
	comp=E,634nm,0.6s						
ALID	Alaid	3.51	246	eP	Pn	04 05 02.1	+0.3
ALID	Alaid	3.51	246	PN	Pn	04 05 02.1	+0.3
BZMR	Bezymyannaya	3.56	359	eP	Pn	04 05 02.7	+0.3
BZMR	Bezymyannaya	3.56	359	PN	Pn	04 05 02.7	+0.3
BZGR	Bezymyannyi-Gr	3.56	1	eP	Pn	04 05 03.7	+1.2
BZGR	Bezymyannyi-Gr	3.56	1	PN	Pn	04 05 03.7	+1.2
BZWR	Bezymyannyi-We	3.59	359	eP	Pn	04 05 05.3	+2.4
BZWR	Bezymyannyi-We	3.59	359	PN	Pn	04 05 05.3	+2.4
KPT	Kopyto	3.60	356	eP	Pn	04 05 03.7	+0.8
KPT	Kopyto	3.60	356	PN	Pn	04 05 03.7	+0.8
LGNR	Loginova	3.71	0	eP	Pn	04 05 07.1	+2.5
LGNR	Loginova	3.71	0	PN	Pn	04 05 07.1	+2.5
KOZ	Kozyrevsk	3.71	353	eP	Pn	04 05 05.0	+0.6
KOZ	Kozyrevsk	3.71	353	PN	Pn	04 05 05.0	+0.6
ESO	Esso	3.73	343	eP	Pn	04 05 05.9	+1.3
ESO	Esso	3.73	343	PN	Pn	04 05 05.9	+1.3
CIRR	Tsirk	3.74	1	eP	Pn	04 05 05.1	+0.2
CIRR	Tsirk	3.74	1	PN	Pn	04 05 05.1	+0.2
KLY	Klyuchi	3.94	0	eP	Pn	04 05 07.6	+0.1
KLY	Klyuchi	3.94	0	PN	Pn	04 05 07.6	+0.1
KBTR	Krutoberegovo	4.04	18	eP	Pn	04 05 08.9	0.0
KBTR	Krutoberegovo	4.04	18	PN	Pn	04 05 08.9	0.0
KBG	Krutoberegovo	4.07	17	eP	Pn	04 05 09.5	+0.3
KBG	Krutoberegovo	4.07	17	PN	Pn	04 05 09.5	+0.3
BDR	Baidarnaya	4.21	4	eP	Pn	04 05 13.0	+1.7
BDR	Baidarnaya	4.21	4	PN	Pn	04 05 13.0	+1.7
SMKR	Semkarok	4.24	6	eP	Pn	04 05 13.3	+1.6
SMKR	Semkarok	4.24	6	PN	Pn	04 05 13.3	+1.6
BKI	Bering	4.24	46	eP	Pn	04 05 10.3	-1.4
BKI				eS	Sn	04 05 55.5	-4.4
BKI	Bering	4.24	46	PN	Pn	04 05 10.3	-1.4
SRKR	Sorokina	4.29	4	eP	Pn	04 05 15.2	+2.8
SRKR	Sorokina	4.29	4	PN	Pn	04 05 15.2	+2.8
OSSR	Ossora	7.02	10	eP	Pn	04 05 50.4	+0.7
OSSR	Ossora	7.02	10	PN	Pn	04 05 50.4	+0.7
SEY	Seymchan	11.45	341	Pn	Pn	04 06 50.6	+0.2
	comp=E,0.2nm,0.3s,baz=180,slow=20,SNR=3.0						
ASAJ	Asahikawa	14.56	243	Pn	Pn	04 07 32.8	-0.1
	comp=E,1.0nm,0.3s,baz=91,slow=18,SNR=3.9						
GRNR	Gornyy	15.12	273	eP	P	04 07 49.3	+4.1
GRNR				pmax	pmax		
	comp=Z,32nm,1.0s						
ERM	Erimo	15.72	236	ePn	Pn	04 07 44.9	-3.4
	comp=Z,63nm,1.4s						
ERM

comp=Z,8.8nm,0.6s
BCAR Beaver Creek A 31.45 47 *e*P **P 04 10 27.5 +0.2**
H11N2 WAKE ISLAND Hy 32.95 169 T T 04 46 15.1
baz=353,slow=76,SNR=20
H11N3 WAKE ISLAND Hy 32.97 169 T T 04 46 22.4
baz=353,slow=76,SNR=18
H11N1 WAKE ISLAND Hy 32.97 169 T T 04 46 31.0
baz=353,slow=76,SNR=23
H11S1 WAKE ISLAND Hy 34.14 170 T T 04 48 36.6
baz=352
H11S3 WAKE ISLAND Hy 34.15 170 T T 04 48 37.4
baz=352
H11S2 WAKE ISLAND Hy 34.16 170 T T 04 48 44.2
baz=352
INK Inuvik 34.23 37 *e*P **P 04 10 50.4 -1.1**
comp=Z,2.9nm,0.9s
INK Inuvik 34.23 37 P **P 04 10 52.5 +1.0**
comp=Z,1.2nm,0.9s,baz=308,slow=4.8,SNR=4.1
SONA0 Songino Array 34.39 285 *e*P **P 04 10 52.5 -0.7**
SONM Songino Array 34.39 285 *e*P **P 04 10 52.8 -0.4**
SONM Songino Array 34.39 285 P **P 04 10 52.5 -0.7**
comp=Z,1.1nm,0.9s,baz=56,slow=7.7,SNR=6.8
ZAK Zakamensk 35.05 290 *e*P **P 04 10 58.0 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
DLBC Dease Lake 38.21 53 *e*P **P 04 11 27.9 +2.2**
comp=Z,5.5nm,1.0s
DLBC Dease Lake 38.21 53 P **P 04 11 27.9 +2.2**
comp=Z,0.9nm,0.6s,baz=288,slow=19,SNR=2.0
WHN Wuhan 40.09 256 P P 04 11 53.8 +12
ZAA1 Zalesovo Array 43.44 304 *e*P **P 04 12 06.3 -2.3**
ZALV Zalesovo Beam 43.44 304 P **P 04 12 06.3 -2.3**
comp=Z,0.5nm,0.3s,baz=76,slow=6.1,SNR=4.1
YKA Yellowknife Ar 43.47 42 P **P 04 12 09.7 +1.0**
comp=Z,0.7nm,0.9s,baz=299,slow=8.5,SNR=5.4
YKB5 Yellowknife Ar 43.47 42 *e*P **P 04 12 09.7 +1.0**
RES Resolute Bay 43.86 22 *e*P **P 04 12 12.9 +1.1**
comp=Z,4.0nm,1.0s
RES Resolute Bay 43.86 22 P **P 04 12 12.9 +1.1**
comp=Z,1.8nm,0.9s,baz=334,slow=9.1,SNR=5.2
AIN Ainahou 47.36 117 *e*P **P 04 12 40.0 -0.3**
comp=Z,197nm,1.4s
KBS Kingsbay 47.62 352 *e*P **P 04 12 42.5 +1.1**
comp=Z,10nm,0.9s
SPA0 Spitsbergen Ar 47.89 351 *e*P **P 04 12 44.9 +1.3**
comp=Z,18nm,0.8s
KURK Kurchatov 48.39 303 *e*P **P 04 12 46.3 -1.4**
comp=Z,18nm,1.1s
GLK Glacier Lake 48.58 64 *e*P **P 04 12 48.0 -1.4**
MK32 Makanchi Array 48.76 297 *e*P **P 04 12 49.5 -1.2**
MKAR Makanchi Array 48.76 297 P **P 04 12 49.5 -1.2**
comp=Z,1.0nm,0.5s,baz=54,slow=6.4,SNR=18
KMI Kunming 51.03 261 P **P 04 13 11.9 +3.5**
KMI pmax pmax
comp=Z,10.0nm,0.5s
DAG Danmarks Havn 51.12 360 *e*P **P 04 13 08.4 +0.3**
DAG Danmarks Havn 51.12 360 *i*P **P 04 13 08.4 +0.3**
ARCES ARCESS Array B 54.06 342 P **P 04 13 29.0 -1.0**
ARCES ARCESS Array B 54.06 342 P **P 04 13 29.0 -1.0**
comp=Z,7.6nm,0.9s,baz=46,slow=10,SNR=9.0
SUMG Summit 54.63 7 *e*P **P 04 13 35.1 +0.6**
comp=Z,11nm,0.8s
SUMG Summit 54.63 7 *i*P **P 04 13 35.7 +1.2**
SUMG pmax pmax
comp=Z,30nm,0.9s
SUMG Summit 54.63 7 *i*P **P 04 13 35.7 +1.2**
comp=Z,30nm,0.9s
PRGR Permogore 55.22 328 *e*P P 04 13 30.1 -8.3
PRGR pmax pmax
comp=Z,7.0nm,0.5s
NV01 Mina Array Sit 55.68 70 *e*P **P 04 13 43.5 +1.1**
NVAR Mina Array Bea 55.68 70 P **P 04 13 43.5 +1.1**
comp=Z,0.4nm,0.6s,baz=287,slow=7.4,SNR=4.3
AAK Ala-Archa 55.69 297 *e*P **P 04 13 43.3 +0.9**
comp=Z,3.9nm,0.9s
KSH Kashi 56.98 293 P **P 04 13 55.3 +3.7**
KSH sP pwP 04 14 08.0 +3.4
KSH PP **P 04 16 00.8 +2.8**
KSH S **S 04 21 36.9 -6.5**
KSH SS **SS 04 25 22.6 -9.0**
KK31 Karatay Array 57.52 300 *e*P **P 04 13 55.2 0.0**
comp=Z,3.7nm,0.8s
KKAR Karatay Array 57.52 300 *e*P **P 04 13 55.2 0.0**
comp=Z,3.7nm,0.8s
PHRA Phrae 57.56 258 P **P 04 13 58.3 +2.6**
comp=Z,1.8nm,1.6s,comp=Z,616nm
PD31 Pinedale Array 57.58 61 *e*P **P 04 13 57.7 +1.8**
comp=Z,1.8nm,0.8s
PDAR Pinedale Array 57.58 61 P **P 04 13 57.7 +1.8**
comp=Z,0.3nm,0.5s,baz=325,slow=2.3,SNR=5.0
KLMR Klimovskoe 57.73 330 *e*P **P 04 13 55.2 -1.1**
KLMR pmax pmax
comp=Z,19nm,1.2s
UTTA Uttaradit 57.95 257 P **P 04 14 00.9 +2.5**
CMMT Chiang Mai 58.09 259 P **P 04 14 01.8 +2.4**
comp=Z,4.5nm,1.0s
CHTO Chiang Mai 58.09 259 *e*P **P 04 14 00.6 +1.2**
comp=Z,7.4nm,1.0s
CM31 Chiang Mai Arr 58.36 259 *e*P **P 04 14 03.2 +1.9**
comp=Z,5.9nm,0.5s
CMAR Chiang Mai Arr 58.36 259 P **P 04 14 03.2 +1.9**
comp=Z,1.8nm,0.3s,baz=25,slow=6.8,SNR=12
ABKAR Akbulak array 58.51 311 *e*P **P 04 14 01.6 -0.3**
comp=Z,3.6nm,1.1s
GAR Garm 60.49 296 *e*P **P 04 14 15.9 -0.1**
comp=Z,10nm,1.2s
FIA0 FINESS Array S 60.90 337 *e*P **P 04 14 18.7 +0.5**
FINES FINESS Array B 60.90 337 P **P 04 14 18.7 +0.5**
comp=Z,7.6nm,1.0s,baz=34,slow=8.1,SNR=18
NIL Nilore 62.67 290 *e*P **P 04 14 30.8 +0.2**
comp=Z,12nm,0.9s
NB2 NORSAR Subarra 64.32 344 P **P 04 14 41.0 -0.1**
comp=Z,1.4nm,0.7s,baz=21,slow=6.9
NB200 NORSAR Array S 64.32 344 *e*P **P 04 14 41.5 +0.4**
NOA NORSAR Array B 64.32 344 P **P 04 14 41.5 +0.4**
comp=Z,2.9nm,0.8s,baz=22,slow=6.6,SNR=12
GEYT Alibeck 67.75 303 P **P 04 15 03.4 -0.2**
comp=Z,2.3nm,0.5s,baz=222,slow=2.0,SNR=4.7
AKASG Malin Array Be 69.39 329 P **P 04 15 13.7 +0.3**
comp=Z,2.7nm,0.5s,baz=30,slow=6.3,SNR=22
AKBB Malin Array Si 69.39 329 *e*P **P 04 15 13.8 +0.4**
comp=Z,8.4nm,0.9s
KIEV Kiev 69.40 329 ⇑*i*P **P 04 15 14.2 +0.7**
KBZ Khabaz 70.28 317 P **P 04 15 18.9 0.0**
comp=Z,3.5nm,0.8s,baz=56,slow=3.4,SNR=8.0
LTX Lajitas 70.61 67 *e*P **P 04 15 21.2 -0.2**
TXAR Lajitas Array 70.61 67 P **P 04 15 21.2 -0.2**
comp=Z,0.4nm,0.5s,baz=302,slow=4.1,SNR=9.6
KWP Kalwaria Pacla 72.27 333 *e*P P 04 15 42.3 +11
KWP Kalwaria Pacla 72.27 333 *e*P **P 04 15 31.7 +0.7**
comp=Z,207nm,1.3s
OJC Ojcow 72.53 335 *e*P **P 04 15 34.7 +2.2**
OJC Ojcow 72.53 335 *e*P **P 04 15 34.7 +2.2**
KOLS Kolonicke sedl 73.03 333 *e*P **P 04 15 36.9 +1.4**
KOLS Kolonicke sedl 73.03 333 *e*P **P 04 15 36.9 +1.4**
CLL Collm 73.13 339 *e*P **P 04 15 37.0 +0.9**
comp=Z,5.2nm,0.8s
CLL Collm 73.13 339 *e*P **P 04 15 37.0 +0.9**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 73.13 339 *e*P **P 04 15 37.0 +0.9**
comp=Z,6.0nm,0.9s
DPC Dobruska-Polom 73.28 337 *e*P **P 04 15 38.2 +1.2**
DPC *e* 04 15 49.6
DPC Dobruska-Polom 73.28 337 *e*P **P 04 15 38.2 +1.2**
DPC *e*pP **pwP 04 15 49.6 -1.0**
BUR08 Bucovina Ar. S 73.33 330 *e*P **P 04 15 38.8 +1.3**
comp=Z,4.7nm,1.2s
BURAR Bucovina Array 73.35 330 ⇑*i*P **P 04 15 38.6 +1.0**
MORC Moravsky Berou 73.51 336 ⇑*i*P **P 04 15 39.3 +0.9**
LANS Liptovska Anna 73.59 335 *e*P **P 04 15 40.3 +1.4**
LANS Liptovska Anna 73.59 335 *e*P **P 04 15 40.3 +1.4**
TRPA Tarpa 73.68 332 ⇓*i*P **P 04 15 40.2 +0.9**
VYHS Vyhne 74.36 335 *e*P **P 04 15 45.2 +1.9**
VYHS Vyhne 74.36 335 *e*P **P 04 15 45.2 +1.9**
KHC Kasperske Hory 75.05 338 *e*P **P 04 15 49.2 +1.8**
KHC *e* 04 15 59.9
KHC *e* 04 15 59.9
KHC Kasperske Hory 75.05 338 *e*P **P 04 15 49.2 +1.8**
KHC *ex* x 04 15 59.9
GERES GERESS Array B 75.29 338 P **P 04 15 50.0 +1.2**
comp=Z,0.9nm,0.9s,baz=28,slow=6.0,SNR=6.7
VOIR 75.35 329 ⇑*i*P **P 04 15 50.4 +1.2**
ARR Arges 75.55 330 ⇑*i*P **P 04 15 52.5 +2.2**
WR1 Warramunga Arr 75.58 205 *e*P **P 04 15 50.9 +0.4**
WRA Warramunga Arr 75.58 205 P **P 04 15 50.9 +0.4**
comp=Z,1.1nm,1.1s,baz=18,slow=8.2,SNR=2.8
GZR Gura Zlata 76.09 331 ⇓*i*P **P 04 15 54.1 +0.7**
BR101 Keskin Array S 77.38 321 *e*P **P 04 16 01.7 +0.8**
BR131 Keskin Array S 77.38 321 *e*P **P 04 16 02.2 +1.3**
comp=Z,4.4nm,1.1s
BRTR Keskin Array B 77.38 321 P **P 04 16 01.7 +0.8**
comp=Z,1.6nm,0.9s,baz=57,slow=4.6,SNR=10
AS31 Alice Springs 79.25 205 *e*P **P 04 16 11.8 +0.8**
comp=Z,2.2nm,1.4s
ASAR Alice Springs 79.25 205 P **P 04 16 11.8 +0.8**
comp=Z,0.4nm,0.7s,baz=19,slow=3.4,SNR=3.5
ESDC Sonseca Array 87.34 348 P **P 04 16 53.7 +1.0**
comp=Z,1.9nm,0.9s,baz=9.0,slow=4.6,SNR=7.4
TORD Torodi Ar. Bea 112.25 338 PP **PP 04 23 24.9 -0.9**
comp=Z,1.0nm,1.0s,baz=359,slow=8.9,SNR=4.7

ISCJB ***21*** *04:04:45.6±0.3, 22°.07S±0°.02×67°.25W±0°.04, h177km±3km, mb4.3/53, Error ellipse: s-maj=6.6km s-min=3.5km az=165.5*
SJA ***21*** *04:04:45.5±0.3, 22°.07S×67°.50W, h205km±2km, ML3.8, MW3.3*
IDC ***21*** *04:04:46.2±0.9, 22°.07S×67°.08W, h165km±8km, mb3.9/9, mb1 4.0/14, mb1mx3.9/26, mbtmp4.4/14, Error ellipse: s-maj=14.3km s-min=10.4km az=128.0*
GUC ***21*** *04:04:48.8±0.5, 22°.09S×67°.64W, h208km±5km, ML4.6*
NEIC ***21*** *04:04:48.0±0.0, 22°.06S×67°.75W, h202km, mb4.3/48, ML4.4(GUC), After GUC.*
ISC 21 04:04:47.4±0.7, 22°.14S±0°.04×67°.40W±0°.05, h182km±6km, n367, σ1s47/403, mb4.3/53, 11C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.48**	**251**	*e*Pn		**Pn**	**04 05 21.4**	**+1.7**
LVC				*e*Sn		**Sn**	**04 05 43.3**	**-1.4**
LVC	**Limon Verde**	**1.48**	**251**	*e*P		**Pn**	**04 05 19.9**	**+0.2**
LVC				*e*S		**Sn**	**04 05 45.2**	**+0.6**
LVC	**Limon Verde**	**1.48**	**251**	⇓*i*P		**Pn**	**04 05 21.3**	**+1.7**
LVC				*e*S		**Sn**	**04 05 45.8**	**+1.1**
LVC	**Limon Verde**	**1.48**	**251**	P		**Pn**	**04 05 21.4**	**+1.7**
LVC	baz=63,slow=7.9			S		**Sn**	**04 05 45.9**	**+1.3**
	105nm,0.3s,baz=286,slow=20,SNR=52							
PB09	**IPOC Station P**	**1.75**	**281**	⇑*i*P		**Pn**	**04 05 23.6**	**+1.4**
PB09				*e*S		**Sn**	**04 05 49.6**	**+0.6**
PB06	**IPOC Station P**	**2.09**	**254**	⇑*i*P		**Pn**	**04 05 26.8**	**+1.1**
PB06				*e*S		**Sn**	**04 05 56.1**	**+0.6**
PB06				IAML			04 05 58.3	
	comp=N,2μm,0.1s							
PB03	**IPOC Station P**	**2.19**	**272**	*e*P		**Pn**	**04 05 26.2**	**-0.6**
PB03				*e*S		**Sn**	**04 05 55.8**	**-1.6**
PB03	**IPOC Station P**	**2.19**	**272**	⇑*i*P		**Pn**	**04 05 27.3**	**+0.5**
PB03				*e*S		**Sn**	**04 05 56.8**	**-0.6**
PB03				IAML			04 05 58.0	
	comp=E,2μm,0.1s							
PB15	**IPOC Station P**	**2.19**	**241**	⇑*i*P		**Pn**	**04 05 28.4**	**+1.5**
PB15				*e*S		**Sn**	**04 05 58.4**	**+0.8**
PB01	**IPOC Station P**	**2.23**	**299**	*e*Pn		**Pn**	**04 05 28.0**	**+0.8**
PB01				*e*Sn		**Sn**	**04 05 57.3**	**-0.8**
PB01	**IPOC Station P**	**2.23**	**299**	⇓*i*P		**Pn**	**04 05 27.8**	**+0.6**
PB01				*e*S		**Sn**	**04 05 57.6**	**-0.5**
PB01				IAML			04 05 59.9	
	comp=E,1μm,0.2s							
PB07	**IPOC Station P**	**2.35**	**280**	⇑*i*P		**Pn**	**04 05 29.2**	**+0.6**
PB07				*e*S		**Sn**	**04 05 59.6**	**-1.0**
PB07				IAML			04 06 00.9	
	comp=N,2μm,0.3s							
PB02	**IPOC Station P**	**2.46**	**289**	*e*P		**Pn**	**04 05 28.7**	**-1.1**
PB02				*e*S		**Sn**	**04 06 00.8**	**-2.0**
PB02	**IPOC Station P**	**2.46**	**289**	⇑*i*P		**Pn**	**04 05 30.1**	**+0.2**
PB02				*e*S		**Sn**	**04 06 01.2**	**-1.6**
PB02				IAML			04 06 03.9	
	comp=E,2μm,0.3s							
PB04	**IPOC Station P**	**2.56**	**265**	*e*Pn		**Pn**	**04 05 31.4**	**+0.4**
PB04				*e*Sn		**Sn**	**04 06 03.6**	**-1.3**
PB04	**IPOC Station P**	**2.56**	**265**	⇑*i*P		**Pn**	**04 05 31.6**	**+0.6**
PB04				*e*S		**Sn**	**04 06 03.8**	**-1.2**
PB04				IAML			04 06 05.5	
	comp=N,2μm,0.4s							
PB08	**IPOC Station P**	**2.58**	**320**	⇓*i*P		**Pn**	**04 05 32.7**	**+1.2**
PB08				*e*S		**Sn**	**04 06 06.3**	**+0.5**
PB08				IAML			04 06 07.2	
	comp=N,589nm,0.4s							
PB05	**IPOC Station P**	**2.69**	**254**	⇑*i*P		**Pn**	**04 05 33.2**	**+0.6**
PB05				*e*S		**Sn**	**04 06 06.8**	**-0.9**
PB05				IAML			04 06 07.6	
	comp=N,914nm,0.3s							
GO01	**Chusmiza**	**2.98**	**325**	*e*Pn		**Pn**	**04 05 36.8**	**+0.4**
GO01				*e*Sn		**Sn**	**04 06 13.9**	**-0.6**
GO01	**Chusmiza**	**2.98**	**325**	*e*P		**Pn**	**04 05 37.2**	**+0.8**
GO01				*e*S		**Sn**	**04 06 14.8**	**+0.3**
AZAP	**Zapla**	**2.98**	**134**	*e*P		**Pn**	**04 05 37.6**	**+1.5**
AZAP				IAML			04 05 38.7	
	comp=Z,404nm,0.4s							
AZAP				*e*S		**Sn**	**04 06 16.5**	**+2.2**
PB11	**IPOC Station P**	**3.17**	**318**	*e*Pn		**Pn**	**04 05 37.8**	**-0.6**
PB11				*e*Sn		**Sn**	**04 06 15.9**	**-2.3**
PB11	**IPOC Station P**	**3.17**	**318**	⇑*i*P		**Pn**	**04 05 38.1**	**-0.4**
PB11				*i*S		**Sn**	**04 06 16.5**	**-1.7**
PB11				IAML			04 06 18.3	
	comp=N,844nm,0.5s							
PB10	**IPOC Station P**	**3.22**	**244**	*e*Pn		**Pn**	**04 05 39.5**	**+0.7**
PB10				*e*Sn		**Sn**	**04 06 16.2**	**-2.7**
PB10	**IPOC Station P**	**3.22**	**244**	⇑*i*P		**Pn**	**04 05 39.3**	**+0.5**
PB10				*i*S		**Sn**	**04 06 17.1**	**-1.8**
PB10				IAML			04 06 18.8	
	comp=E,916nm,0.3s							
PSGCX	**Pisagua**	**3.59**	**314**	*e*P		**Pn**	**04 05 41.9**	**-1.7**
PSGCX				*e*S		**Sn**	**04 06 23.4**	**-4.0**
GO02	**Mina Guanaco**	**3.62**	**213**	*e*Pn		**Pn**	**04 05 45.6**	**+1.6**
GO02				*e*Sn		**Sn**	**04 06 27.7**	**-0.6**
MNMC	**Minye Minye**	**3.63**	**325**	*e*Pn		**Pn**	**04 05 43.2**	**-1.1**
MNMC				*e*Sn		**Sn**	**04 06 25.9**	**-2.7**
PB14	**IPOC Station P**	**3.71**	**228**	*e*P		**Pn**	**04 05 45.0**	**-0.2**
PB14				*e*S		**Sn**	**04 06 28.3**	**-2.0**
PB14	**IPOC Station P**	**3.71**	**228**	⇑*i*P		**Pn**	**04 05 46.0**	**+0.9**
PB14				*i*S		**Sn**	**04 06 29.5**	**-0.8**
PB14				IAML			04 06 30.9	
	comp=E,672nm,0.3s							
FSA	**Cafayete**	**4.16**	**162**	*e*P		**Pn**	**04 05 51.8**	**+1.0**
FSA				IAML			04 05 56.1	
	comp=Z,10.0nm,0.3s							
AHML	**Horco Molle**	**4.99**	**158**	*e*P		**Pn**	**04 06 02.0**	**+0.7**
LPAZ	**La Paz**	**5.86**	**353**	*e*Pn		**Pn**	**04 06 13.9**	**+0.7**
LPAZ				*e*Sn		**Sn**	**04 07 14.2**	**-6.5**
LPAZ	**La Paz**	**5.86**	**353**	P		**Pn**	**04 06 13.2**	**-0.1**
	comp=Z,24nm,0.3s,baz=146,slow=5.8,SNR=673							
LPAZ				S		**Sn**	**04 07 18.9**	**-1.8**
	baz=294,slow=18,SNR=2.5							
GO03	**Copiap**	**6.01**	**205**	*e*Pn		**Pn**	**04 06 13.8**	**-0.8**
GO03				*e*Sn		**Sn**	**04 07 20.9**	**-2.4**
CYA	**Choya**	**6.44**	**167**	*e*P		**Pn**	**04 06 20.4**	**+0.2**
CYA				IAML			04 06 23.9	
	comp=Z,13nm,0.3s							
VCA	**Vinchina**	**6.61**	**186**	*e*P		**Pn**	**04 06 22.4**	**-0.2**
VCA				IAML			04 06 27.5	
	comp=Z,65nm,0.2s							
ACLC	**CERRO LA CRUZ**	**7.27**	**177**	*e*P		**Pn**	**04 06 31.1**	**-0.1**
AGUA	**GUANDACOL**	**7.38**	**187**	*e*P		**Pn**	**04 06 32.3**	**-0.3**
LCO	**Las Campanas**	**7.46**	**203**	*e*Pn		**Pn**	**04 06 32.4**	**-1.5**
LCO				*e*Sn		**Sn**	**04 07 53.9**	**-4.2**
ACDV	**Cuesta del Vie**	**8.15**	**191**	*e*P		**Pn**	**04 06 42.3**	**-0.5**
AROD	**Rodeo**	**8.21**	**193**	*e*P		**Pn**	**04 06 43.1**	**-0.6**
APLL	**PUNTA DE LOS L**	**8.26**	**175**	*e*P		**Pn**	**04 06 43.7**	**-0.4**
ACCO	**Cerro Coronel**	**8.54**	**190**	*e*P		**Pn**	**04 06 48.0**	**-0.1**
SIV	**San Ignacio**	**8.55**	**45**	P		**Pn**	**04 06 44.8**	**-3.3**
	comp=Z,89nm,0.3s,baz=236,slow=12,SNR=809							
SIV				S		Sn	04 08 15.6	-8.2
	comp=Z,12nm,0.3s,baz=304,slow=23,SNR=8.3							
GO04	**Tololo Observa**	**8.56**	**200**	*e*Pn		**Pn**	**04 06 46.6**	**-1.7**
GO04				*e*Sn		**Sn**	**04 08 19.9**	**-4.3**
AMOG	**MOGNA**	**8.82**	**186**	*e*P		**Pn**	**04 06 50.6**	**-0.8**
AMOG				*e*S		**Sn**	**04 08 23.2**	**-6.8**
CPUP	**Villa Florida**	**10.09**	**116**	P		**Pn**	**04 07 09.2**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=297,slow=12,SNR=13							
AAGR	**Agrelo**	**10.98**	**186**	*e*P		**Pn**	**04 07 18.5**	**-1.1**
NNA	**Nana**	**13.54**	**317**	*e*Pn		**P**	**04 07 57.6**	**+2.3**
NNA	**Nana**	**13.54**	**317**	P		**P**	**04 07 55.4**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=164,slow=10,SNR=11							
GO06	**Curarrehue**	**17.73**	**190**	*e*P		**Pn**	**04 08 43.9**	**+0.6**
	comp=Z,15nm,0.8s							
ATAH	**Atahualpa**	**18.30**	**323**	P		**Pn**	**04 08 50.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=53,slow=20,SNR=4.2							
PLCA	**Paso Flores**	**18.73**	**187**	*e*P		**P**	**04 08 52.8**	**+0.5**
	comp=Z,11nm,1.3s							
PLCA	**Paso Flores**	**18.73**	**187**	P		**P**	**04 08 52.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=27,slow=12,SNR=6.6							
BDFB	**Brasília**	**19.44**	**74**	P		**P**	**04 08 58.1**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=240,slow=10,SNR=9.8							
PTGA	**Pitinga**	**22.48**	**20**	*e*P		**P**	**04 09 28.6**	**-3.1**
	comp=Z,5.1nm,0.5s							
PTGA	**Pitinga**	**22.48**	**20**	P		**P**	**04 09 29.2**	**-2.5**
	comp=Z,3.8nm,0.4s,baz=213,slow=15,SNR=18							
FLOC	**Florencia**	**24.92**	**340**	*e*P		**P**	**04 09 54.1**	**+0.3**
FLOC	**Florencia**	**24.92**	**340**	*e*P		**P**	**04 09 54.1**	**+0.3**
GUVC	**San Jose del G**	**25.06**	**348**	*e*P		**P**	**04 09 55.5**	**+0.4**
GUVC	**San Jose del G**	**25.06**	**348**	*e*P		**P**	**04 09 55.5**	**+0.4**
SOTA	**Rioblanco**	**25.75**	**338**	*e*P		**P**	**04 10 03.5**	**+1.5**
SOTA	**Rioblanco**	**25.75**	**338**	*e*P		**P**	**04 10 03.5**	**+1.5**
BBAC	**Balboa, Cauca**	**25.87**	**337**	*e*P		**P**	**04 10 04.0**	**+1.3**
BBAC	**Balboa, Cauca**	**25.87**	**337**	*e*P		**P**	**04 10 04.0**	**+1.3**
POPC	**Popayan, Colom**	**26.15**	**339**	*e*P		**P**	**04 10 06.9**	**+1.7**
POPC	**Popayan, Colom**	**26.15**	**339**	*e*P		**P**	**04 10 06.9**	**+1.7**
RUSC	**La Rusia**	**28.41**	**348**	*e*P		**P**	**04 10 27.2**	**+1.6**
RUSC	**La Rusia**	**28.41**	**348**	*e*P		**P**	**04 10 27.2**	**+1.6**
PTBC	**PUERTO BERRIO,**	**29.33**	**346**	*e*P		**P**	**04 10 30.0**	**-3.2**
PTBC	**PUERTO BERRIO,**	**29.33**	**346**	*e*P		**P**	**04 10 30.0**	**-3.2**
MDP	**Montagnes des**	**30.69**	**30**	P		**P**	**04 10 42.4**	**-2.8**
	comp=Z,9.7nm,0.6s,baz=203,slow=9.3,SNR=8.2							
SMLC	**San Martn de**	**31.44**	**347**	*e*P		**P**	**04 10 48.3**	**-3.5**
SMLC	**San Martn de**	**31.44**	**347**	*e*P		**P**	**04 10 48.3**	**-3.5**
857A	**Zephyrhills**	**52.12**	**343**	P		**P**	**04 13 39.8**	**+0.8**
	baz=163							
454A	**Quitman**	**54.81**	**343**	P		**P**	**04 13 59.0**	**+0.4**
	baz=162							
453A	**Whigham**	**55.14**	**342**	P		**P**	**04 14 01.7**	**+0.9**
	baz=161							
355A	**Pearson**	**55.20**	**344**	P		**P**	**04 14 02.3**	**+1.0**
	baz=163							
TIGA	**Tifton**	**55.49**	**343**	P		**P**	**04 14 03.7**	**+0.3**
	baz=162							
353A	**Camilla**	**55.57**	**343**	P		**P**	**04 14 04.5**	**+0.5**
	baz=161							
155A	**Kite**	**56.33**	**345**	P		**P**	**04 14 09.8**	**+0.5**
	baz=164							
349A	**Repton**	**56.47**	**340**	P		**P**	**04 14 10.2**	**-0.2**
	baz=158							
251A	**Midway**	**56.61**	**342**	P		**P**	**04 14 11.1**	**-0.3**
	baz=160							
152A	**Waverly Hall**	**56.96**	**343**	P		**P**	**04 14 13.7**	**0.0**
	baz=161							
151A	**Opelika**	**57.00**	**342**	P		**P**	**04 14 14.0**	**0.0**
	baz=160							
Z54A	**Sparta**	**57.00**	**345**	P		**P**	**04 14 14.1**	**0.0**
	baz=163							
Z53A	**Monticello**	**57.23**	**344**	P		**P**	**04 14 15.5**	**-0.1**
	baz=162							
150A	**Eclectic**	**57.27**	**341**	P		**P**	**04 14 15.8**	**-0.1**
	baz=160							
GOGA	**Godfrey**	**57.33**	**344**	P		**P**	**04 14 16.3**	**0.0**
	baz=163							
Z52A	**Williamson**	**57.37**	**343**	P		**P**	**04 14 16.3**	**-0.3**
	baz=162							
X59A	**McDuffie Farm,**	**57.40**	**349**	P		**P**	**04 14 16.7**	**0.0**
	baz=168							
Y55A	**Saluda**	**57.44**	**346**	P		**P**	**04 14 17.5**	**+0.3**
	baz=164							
149A	**Jones**	**57.50**	**341**	P		**P**	**04 14 17.4**	**-0.1**
	baz=159							
Y54A	**Tignall**	**57.56**	**345**	P		**P**	**04 14 17.9**	**-0.1**
	baz=164							
Y53A	**Monroe**	**57.78**	**344**	P		**P**	**04 14 19.1**	**-0.3**
	baz=163							
X56A	**White Oak**	**57.79**	**347**	P		**P**	**04 14 19.9**	**+0.4**
	baz=165							
BIRD	**Birdtown, Kers**	**57.82**	**347**	*e*P		**P**	**04 14 21.0**	**+1.3**
	comp=Z,16nm,1.1s							
Z50A	**Ashland**	**57.85**	**342**	*e*P		**P**	**04 14 19.8**	**-0.2**
	comp=Z,6.0nm,0.7s							
Z50A	**Ashland**	**57.85**	**342**	P		**P**	**04 14 19.9**	**-0.2**
	baz=160							
X55A	**Gracelyn & Ava**	**57.90**	**346**	P		**P**	**04 14 20.7**	**+0.4**
	baz=165							
Y52A	**Lilburn**	**57.91**	**344**	P		**P**	**04 14 20.7**	**+0.3**
	baz=162							
W58A	**Raeford**	**57.95**	**349**	P		**P**	**04 14 21.3**	**+0.7**
	baz=167							
Z49A	**Columbiana**	**57.98**	**341**	P		**P**	**04 14 21.2**	**+0.3**
	baz=159							
X54A	**Belton**	**58.14**	**345**	P		**P**	**04 14 22.3**	**+0.3**
	baz=164							
Y51A	**Rockmart**	**58.21**	**343**	P		**P**	**04 14 22.6**	**+0.1**
	baz=161							
W56A	**Indian Trail**	**58.32**	**347**	P		**P**	**04 14 23.7**	**+0.5**
	baz=166							
X53A	**Estanollee**	**58.32**	**345**	P		**P**	**04 14 23.3**	**0.0**
	baz=163							
Y50A	**Piedmont**	**58.39**	**342**	P		**P**	**04 14 24.3**	**+0.6**
	baz=160							
KMSC	**Kings Mountain**	**58.48**	**347**	P		**P**	**04 14 24.6**	**+0.3**
	baz=165							
Y49A	**Blount Mountai**	**58.56**	**341**	P		**P**	**04 14 24.6**	**-0.3**
	baz=160							
X52A	**Dahlonega**	**58.57**	**344**	P		**P**	**04 14 25.1**	**+0.1**
	baz=162							
W54A	**Cherokee Point**	**58.62**	**346**	P		**P**	**04 14 26.1**	**+0.8**
	baz=164,SNR=5.6							
X51A	**Calhoun**	**58.78**	**343**	*e*P		**P**	**04 14 26.5**	**+0.1**
	comp=Z,11nm,0.8s							
X51A	**Calhoun**	**58.78**	**343**	P		**P**	**04 14 26.7**	**+0.3**
	baz=161							
X50B	**F

U52A	Thorn Hill baz=163	60.14 345	P	P	04 14 35.7	0.0
V49A	McMinnville baz=161,SNR=6.3	60.20 343	P	P	04 14 35.8	-0.3
W47A	Westpoint baz=159	60.21 341	P	P	04 14 35.6	-0.6
T55A	Pulaski baz=166	60.27 348	P	P	04 14 37.5	+0.8
U51A	La Follette baz=163	60.28 345	P	P	04 14 36.7	0.0
T54A	Tazewell baz=165	60.38 347	P	P	04 14 37.6	+0.2
V48A	Smith Brothers baz=160,SNR=5.1	60.43 342	P	P	04 14 37.5	-0.2
T53A	Wise baz=164	60.51 346	P	P	04 14 38.5	+0.2
U50A	Jamestown baz=162	60.53 344	P	P	04 14 37.8	-0.5
CLTN	Cedars of Leba comp=Z,5.2nm,0.9s	60.62 342	eP	P	04 14 39.0	+0.1
V47A	Nunnelly baz=159	60.72 341	P	P	04 14 38.8	-0.8
T51A	Gray baz=163	60.83 345	P	P	04 14 40.3	0.0
S55A	Lewisburg baz=166	60.85 348	P	P	04 14 41.4	+0.8
U49A	Red Boiling Sp baz=161	60.87 343	P	P	04 14 40.2	-0.4
JCT	Junction City baz=146	60.88 328	P	P	04 14 41.2	+0.3
U48A	Cassie Pea, Po baz=160	61.07 342	P	P	04 14 41.7	-0.3
WVT	Waverly baz=159	61.09 341	P	P	04 14 41.6	-0.5
T50A	Nancy baz=162	61.10 344	P	P	04 14 41.8	-0.4
SNAA	Sanae	61.22 161	P	P	04 14 44.7	+2.0
U47A	Clarksville baz=159,SNR=5.5	61.22 342	P	P	04 14 42.6	-0.3
R54A	Victor baz=166	61.34 348	P	P	04 14 44.2	+0.4
T49A	Edmonton comp=Z,5.8nm,0.6s	61.36 344	eP	P	04 14 43.7	-0.2
T49A	Edmonton baz=161,SNR=5.0	61.36 344	P	P	04 14 43.6	-0.3
S51A	Beattyville baz=163	61.38 345	P	P	04 14 43.8	-0.3
T48A	Bowling Green baz=160	61.59 343	P	P	04 14 45.3	-0.2
S50A	Richmond baz=162	61.61 345	P	P	04 14 45.8	+0.2
T47A	Sharon Grove comp=Z,7.4nm,0.8s	61.68 342	eP	P	04 14 45.2	-0.8
T47A	Sharon Grove baz=160	61.68 342	P	P	04 14 45.7	-0.3
R53A	Hurricane baz=165	61.68 347	P	P	04 14 46.5	+0.5
W41B	Gary Mavity, V baz=154	61.68 337	P	P	04 14 45.6	-0.5
S49A	Springfield baz=162	61.94 344	P	P	04 14 47.2	-0.5
T46A	Princeton baz=159	61.96 341	P	P	04 14 48.0	+0.2
LTX	Lajitas	61.96 324	eP	P	04 14 49.0	+0.8
TXAR	Lajitas Array	61.96 324	eP	P	04 14 48.7	+0.5
TXAR	Lajitas Array comp=Z,0.5nm,0.6s,baz=155,slow=7.3,SNR=10	61.96 324	P	P	04 14 49.0	+0.8
TX31	Lajitas Ar. Si comp=Z,0.7nm,1.1s	61.96 324	eP	P	04 14 49.2	+1.0
Q55A	Buckhannon baz=167	61.96 349	P	P	04 14 48.7	+0.8
R51A	Hillsboro baz=163	62.01 346	P	P	04 14 47.8	-0.4
S48A	Wiedeman Farm, baz=161	62.02 343	P	P	04 14 47.3	-1.0
Q54A	Coxs Mills baz=166	62.09 348	P	P	04 14 48.8	0.0
Q53A	Leroy baz=166	62.10 348	P	P	04 14 49.5	+0.7
Q52A	Bidwell baz=165	62.36 347	P	P	04 14 50.6	+0.1
R49A	Shelbyville baz=162	62.39 344	P	P	04 14 50.9	+0.2
S46A	Don Dixon Farm baz=159	62.50 342	P	P	04 14 51.7	+0.2
MCWV	Mont Chateau baz=167	62.57 349	P	P	04 14 52.6	+0.7
ABTX	Abilene, Hawle baz=146	62.57 330	P	P	04 14 51.8	-0.3
P54A	Burton baz=167	62.62 349	P	P	04 14 53.5	+1.2
P53A	Whipple baz=166	62.69 348	P	P	04 14 53.1	+0.4
R47A	Wooly Knot Far baz=160	62.74 343	P	P	04 14 53.5	+0.4
O56A	Blue Knob Stat baz=169	62.95 350	P	P	04 14 55.4	+0.9
P52A	Corning baz=165	62.98 347	P	P	04 14 54.7	+0.1
Q49A	Aurora baz=162	62.99 345	P	P	04 14 54.8	+0.1
O55A	Ligonier baz=168	63.01 350	P	P	04 14 55.1	+0.2
Q48A	North Vernon baz=161	63.13 344	P	P	04 14 55.0	-0.6
R45A	Skylar, Fairfi baz=159	63.23 342	P	P	04 14 55.9	-0.4
Q47A	Bedord North L baz=161	63.32 343	P	P	04 14 56.6	-0.2
O52A	Adamsville baz=165	63.38 348	P	P	04 14 57.3	0.0
O53A	New Philadelph baz=166	63.39 348	P	P	04 14 57.3	0.0
N55A	Marion Center baz=168	63.52 350	P	P	04 14 58.4	+0.2
S41A	Jillco Farms, baz=155	63.68 339	P	P	04 14 59.2	-0.1
ACSO	Alum Creek Sta baz=164	63.73 347	P	P	04 14 59.5	0.0
Q45A	Warren Harvey, baz=159	63.75 342	P	P	04 14 59.7	0.0
O50A	Cable baz=164	63.78 346	P	P	04 14 59.8	-0.1
P47A	Martinsville baz=161	63.79 344	P	P	04 14 59.3	-0.6
CCM	Cathedral Cave comp=Z,7.6nm,0.6s	63.93 339	eP	P	04 15 00.9	0.0
CCM	Cathedral Cave baz=156	63.93 339	P	P	04 15 00.7	-0.2
WMOK	Wichita Mounta baz=148	63.94 331	P	P	04 15 00.9	-0.2
O49A	Covington baz=163	63.98 346	P	P	04 15 00.6	-0.6
N52A	McGinn's Farm, baz=166	64.02 348	P	P	04 15 01.8	+0.3
R41A	Rosebud baz=156,SNR=7.2	64.20 339	P	P	04 15 02.4	-0.2
P45A	Graceland, Par baz=159	64.23 343	P	P	04 15 01.7	-1.0
O48A	Farmland baz=162	64.24 345	P	P	04 15 02.5	-0.4
N50A	Nevada baz=164	64.28 347	P	P	04 15 04.2	+1.1
M54A	Oil Creek Stat baz=168	64.34 350	P	P	04 15 03.7	+0.3
O47A	Sheridan baz=161	64.47 344	P	P	04 15 03.8	-0.6
N49A	Columbus Grove baz=163	64.65 346	P	P	04 15 05.2	-0.3
MNTX	Cornudas Mount comp=Z,2.3nm,0.9s	64.72 325	eP	P	04 15 06.7	+0.5
MNTX	Cornudas Mount baz=141	64.72 325	P	P	04 15 06.2	-0.1
N48A	Decatur baz=162	64.78 345	P	P	04 15 06.0	-0.3
O45A	Potomac baz=160	64.89 343	P	P	04 15 06.3	-0.8
N47A	Urbana baz=162	64.96 345	P	P	04 15 07.5	0.0
ERPA	Erie baz=168	64.98 350	P	P	04 15 08.1	+0.4
L54A	Sinclairville baz=168	64.99 350	P	P	04 15 07.9	+0.2
PLIO	Pelee Island, baz=165	65.11 347	P	P	04 15 10.3	+1.8
MSTX	Muleshoe comp=Z,6.6nm,0.8s	65.17 328	eP	P	04 15 09.9	+0.7
MSTX	Muleshoe baz=144,SNR=5.7	65.17 328	P	P	04 15 09.9	+0.7
L48A	N Adams baz=163	65.68 346	P	P	04 15 11.8	-0.3
121A	Cookes Peak, D baz=140	66.67 323	P	P	04 15 20.2	+1.3
I51A	Listowel baz=167	66.80 349	P	P	04 15 20.4	+1.2
J48A	Bridge Port baz=164	66.84 347	P	P	04 15 19.2	-0.2
L43A	Garden Prairie baz=159	66.97 343	P	P	04 15 20.1	-0.2
G53A	Haliburton baz=169	67.72 351	P	P	04 15 27.3	+2.3
CBKS	Cedar Bluff baz=148	67.78 333	P	P	04 15 27.1	+1.5
ANMO	Albuquerque baz=141	67.81 326	P	P	04 15 27.4	+1.5
TASM	ASL Pad, Albuq baz=141	67.81 326	P	P	04 15 27.4	+1.4
TASM	ASL Pad, Albuq baz=141	67.81 326	P	P	04 15 27.2	+1.2
L39A	Vinton baz=156	67.87 340	P	P	04 15 25.5	-0.4
J43A	Natural Harves baz=159	68.00 344	P	P	04 15 26.6	-0.1
SCIA	State Center baz=155	68.06 339	P	P	04 15 26.3	-0.9
JFWS	Jewell Farm baz=158	68.07 342	P	P	04 15 27.3	+0.1
BUKO	Buck Lake baz=168	68.14 351	P	P	04 15 28.5	+1.0
TUC	Tucson comp=Z,2.4nm,1.0s	68.21 321	eP	P	04 15 30.5	+2.1
TUC	Tucson baz=137	68.21 321	P	P	04 15 29.9	+1.5
K39A	Oelwein baz=156	68.36 341	P	P	04 15 29.1	+0.1
I43A	Langenfeld Bro baz=160	68.40 344	P	P	04 15 29.3	+0.1
J41A	Loganville baz=158	68.42 342	P	P	04 15 29.4	+0.1
ALGO	Algonquin Park baz=170	68.46 352	P	P	04 15 29.8	+0.3
I42A	Draeger Farm, baz=159	68.61 343	P	P	04 15 30.6	+0.1
J40A	Soldiers Grove baz=157	68.66 342	P	P	04 15 31.2	+0.4
E54A	Lac Daplat, Po baz=171	68.82 353	P	P	04 15 32.5	+0.8
J39A	Decorah baz=156	68.88 341	P	P	04 15 32.4	+0.2
214A	Organ Pipe Nat baz=135	69.15 320	P	P	04 15 36.1	+1.9
E51A	G1948 Merrick baz=168	69.22 351	P	P	04 15 34.0	-0.2
I39A	Houston baz=156	69.30 342	P	P	04 15 34.7	-0.1
BGNE	Belgrade comp=Z,33nm,0.8s	69.36 336	eP	P	04 15 36.0	+0.8
BGNE	Belgrade baz=150	69.36 336	P	P	04 15 35.7	+0.5
SDCO	Great Sand Dun comp=Z,3.7nm,0.8s	69.52 329	eP	P	04 15 38.0	+1.3
SDCO	Great Sand Dun baz=143,SNR=5.2	69.52 329	P	P	04 15 38.4	+1.8
E48A	Lockeyer baz=166	69.59 349	P	P	04 15 37.1	+0.6
W18A	Petrified Fore baz=139	69.68 324	P	P	04 15 39.5	+2.0
H40A	Chili baz=158	69.68 343	P	P	04 15 37.1	0.0
X16A	Lo Mia Camp, P comp=Z,4.1nm,1.1s	70.11 322	eP	P	04 15 42.9	+2.7
S22A	4UR Ranch, Cre baz=142	70.17 328	P	P	04 15 42.0	+1.4
D49A	Beulah Townshi baz=167	70.22 350	P	P	04 15 41.2	+0.8
Q24A	Divide baz=143	70.31 330	P	P	04 15 43.0	+1.5
D47A	Chapleau baz=165	70.32 349	P	P	04 15 42.2	+1.3
MVCO	Mesa Verde comp=Z,12nm,1.4s	70.60 326	eP	P	04 15 45.4	+2.2
MVCO	Mesa Verde baz=140	70.60 326	P	P	04 15 45.1	+2.0
F40A	Park Falls baz=158	70.81 343	P	P	04 15 44.4	+0.4
ECSD	EROS Data Cent baz=152	70.83 338	P	P	04 15 44.2	+0.1
WUAZ	Wupatki	70.88 323	eP	P	04 15 47.5	+2.7
WUAZ	Wupatki baz=137	70.88 323	P	P	04 15 47.7	+2.9
ISCO	Idaho Springs baz=143	71.20 330	P	P	04 15 47.8	+1.0
E40A	Wakefield baz=158	71.24 344	P	P	04 15 47.2	+0.7
F38A	Pierce - Schro baz=156	71.33 342	P	P	04 15 48.1	+1.1
SMCO	Snowmass comp=Z,2.7nm,0.7s	71.36 328	eP	P	04 15 50.3	+2.4
Y12C	Blythe baz=135	71.44 320	P	P	04 15 49.7	+1.7
BC3	Big Chuckawall baz=134	71.93 319	P	P	04 15 53.1	+2.0
MONP2	Monument Peak baz=133	72.00 318	P	P	04 15 53.0	+1.4
N23A	Red Feather La baz=143	72.22 330	P	P	04 15 54.4	+1.6
PHWY	Pilot Hill comp=Z,4.4nm,0.8s	72.32 331	eP	P	04 15 57.9	+4.5
BELC	Belle Mtn. Jos baz=134	72.49 319	P	P	04 15 56.7	+2.3
PFO	Pinyon Flats O baz=133	72.51 319	P	P	04 15 56.5	+2.0
O20A	White River Ci comp=Z,5.8nm,0.8s	72.71 328	eP	P	04 15 57.9	+2.2
GMRC	Granite Mounta baz=134	72.83 320	P	P	04 15 58.5	+2.1
SRU	San Rafael Swe comp=Z,6.5nm,0.6s	73.08 326	eP	P	04 15 60.0	+2.1
MTPU	Mount Pierson comp=Z,2.1nm,0.8s	73.16 324	eP	P	04 16 01.0	+2.4
HEC	Hector,Ludlow baz=133	73.26 320	P	P	04 16 00.9	+2.1
P17A	Butcher Ranch, comp=Z,5.5nm,0.9s	73.46 326	eP	P	04 16 02.4	+2.3
MSU	Marysvale	73.50 325	eP	P	04 16 03.0	+2.6
BFSC	Mount Baldy Ra baz=132	73.67 318	P	P	04 16 03.5	+2.2
K22A	Casper baz=143	73.88 331	P	P	04 16 04.4	+2.0
RSSD	Black Hills comp=Z,3.4nm,0.7s	73.99 333	eP	P	04 16 04.9	+1.8
RSSD	Black Hills baz=145	73.99 333	P	P	04 16 04.7	+1.6
EDW2	Edwards Air Fo baz=132	74.30 319	P	P	04 16 06.5	+1.6
MPU	Maple Canyon comp=Z,3.2nm,0.8s	74.33 326	eP	P	04 16 07.5	+2.4
PSUT	Pine Spring comp=Z,3.3nm,0.8s	74.43 324	eP	P	04 16 08.4	+2.7
TPNV	Topopah Spring baz=134	74.66 321	P	P	04 16 09.5	+2.5
JLU	Jordanelle comp=Z,3.8nm,0.8s	74.67 327	eP	P	04 16 09.5	+2.4
FURC	Furnace Creek, baz=133	74.69 321	P	P	04 16 09.6	+2.6
MPMC	Manual Prospec baz=133	74.79 320	P	P	04 16 09.6	+1.8
ARVC	Arvin baz=132	74.98 318	P	P	04 16 10.1	+1.4
DUG	Dugway, Tooele baz=137	75.07 326	P	P	04 16 11.6	+2.3
ISA	Isabella, Lake baz=132	75.12 319	P	P	04 16 11.7	+2.1
R11A	Troy Canyon, C baz=135	75.26 323	P	P	04 16 12.6	+2.1
GRAC	Grapevine Rang baz=133	75.35 321	P	P	04 16 13.1	+2.2
PD31	Pinedale Array comp=Z,4.4nm,1.5s	75.37 329	eP	P	04 16 12.3	+1.3
PDAR	Pinedale Array comp=Z,0.9nm,0.5s,baz=124,slow=7.4,SNR=5.3	75.37 329	P	P	04 16 12.3	+1.3
BW06	Boulder Array baz=140	75.37 329	P	P	04 16 13.4	+2.4
CWC	Cottonwood Cre baz=132	75.40 320	P	P	04 16 13.8	+2.5
PKM	Mcpherson Peak baz=131	75.43 318	P	P	04 16 13.8	+2.3
VES	Vestal, Richgr baz=132	75.61 319	P	P	04 16 14.5	+2.3
SMMC	Simmler baz=131	75.82 318	P	P	04 16 15.7	+2.1
AHID	Auburn Hatcher comp=Z,5.5nm,0.6s	76.11 328	eP	P	04 16 17.2	+2.0
TOA1	Torodi Ar. Sit	76.25 70	eP	P	04 16 14.4	-1.9
TORD	Torodi Ar. Bea comp=Z,2.2nm,0.3s,baz=252,slow=5.6,SNR=54	76.25 70	P	P	04 16 14.4	-1.9
ULM	Lac du Bonnet comp=Z,3.6nm,0.6s,baz=147,slow=7.8,SNR=8.0	76.36 342	P	P	04 16 16.1	-0.1
ELK	Elko comp=Z,2.2nm,0.9s	76.75 325	eP	P	04 16 19.6	+0.7
NV01	Mina Array Sit	76.86 321	eP	P	04 16 21.6	+2.0
NVAR	Mina Array Bea comp=Z,1.4nm,0.8s,baz=153,slow=6.5,SNR=8.3	76.86 321	P	P	04 16 21.6	+2.0
IMW	Indian Meadow comp=Z,4.7nm,0.8s	76.88 329	eP	P	04 16 22.0	+2.4
FLWY	Flagg Ranch comp=Z,5.0nm,0.8s	76.91 330	eP	P	04 16 22.3	+2.6
LAO	LASA Array baz=144	76.97 334	P	P	04 16 21.6	+1.8
RLMT	Red Lodge	77.05 331	eP	P	04 16 22.5	+2.1
RLMT	Red Lodge baz=141	77.05 331	P	P	04 16 22.3	+1.8
H17A	Grant Village baz=140	77.09 330	P	P	04 16 23.0	+2.2
KVN	Kaiserville comp=Z,6.6nm,1.1s	77.17 322	eP	P	04 16 23.4	+2.2
YMR	Madison River comp=Z,4.7nm,1.2s	77.48 330	eP	P	04 16 26.2	+3.4
YHH	Holmes Hill comp=Z,3.4nm,0.9s	77.51 330	eP	P	04 16 26.3	+3.2
DGMT	Dagmar baz=146	77.62 336	P	P	04 16 24.9	+1.7
HLID	Hailey comp=Z,4.1nm,0.8s	78.33 327	eP	P	04 16 29.9	+2.4
HLID	Hailey baz=136	78.33 327	P	P	04 16 30.1	+2.6
PAHR	Pah Rah Range comp=Z,7.1nm,0.9s	78.34 322	eP	P	04 16 30.1	+2.4
MCMT	McKenzie Canyo	78.49 329	eP	P	04 16 31.0	+2.6
EGMT	Eagleton baz=141	79.50 333	P	P	04 16 35.4	+1.7
MSO	Missoula baz=137	80.48 330	P	P	04 16 41.1	+2.1
BMO	Blue Mountains comp=Z,4.4nm,1.1s	80.72 327	eP	P	04 16 42.3	+2.1
N02D	Trinity Center baz=130	81.09 321	P	P	04 16 43.9	+1.6
M04C	Macdoel baz=131	81.11 322	P	P	04 16 44.6	+2.1
F10A	Beach Ranch, E comp=Z,3.7nm,0.8s	81.46 327	eP	P	04 16 46.1	+2.0
J05D	Fort Rock, OR baz=131	81.75 323	P	P	04 16 47.8	+2.0
BOSA	Boshof comp=Z,0.8nm,0.3s,baz=259,slow=5.9,SNR=5.1	81.91 117	P	P	04 16 47.4	+0.3
PINE	Pine Mountain comp=Z,6.0nm,0.8s	81.92 324	eP	P	04 16 49.3	+2.6
J04D	Umpqua Nationa baz=130	82.20 323	P	P	04 16 50.1	+1.9
C09A	Chrisman Ranch comp=Z,6.0nm,0.6s	83.24 328	eP	P	04 16 55.2	+2.0
GLK	Glacier Lake	84.09 326	eP	P	04 16 58.9	+1.2
YKA	Yellowknife Ar comp=Z,2.4nm,0.7s,baz=133,slow=4.5,SNR=66	92.26 340	P	P	04 17 37.0	+0.9
YKB5	Yellowknife Ar	92.26 340	eP	P	04 17 37.0	+0.9
YKW3	Yellowknife Ar comp=Z,2.9nm,0.7s	92.31 340	eP	P	04 17 36.2	-0.2
AS31	Alice Springs	129.97 206	ePKPdf	PKiKP	04 23 37.4	+0.5
ASAR	Alice Springs comp=Z,0.8nm,0.6s,baz=153,slow=1.9,SNR=7.6	129.97 206	PKP	PKiKP	04 23 37.4	+0.5
WB2	Warramunga Arr	133.09 209	ePKPdf	PKPdf	04 23 41.6	-0.4
WR1	Warramunga Arr	133.09 208	ePKPdf	PKiKP	04 23 43.4	+0.1
WRA	Warramunga Arr comp=Z,2.1nm,0.9s,baz=173,slow=1.3,SNR=12	133.09 208	PKP	PKiKP	04 23 43.4	+0.1
ZAA1	Zalesovo Array	141.91 27	ePKPdf	PKPdf	04 23 58.4	+1.3
ZALV	Zalesovo Beam comp=Z,1.1nm,0.6s,baz=313,slow=2.4,SNR=3.9	141.91 27	PKP	PKPdf	04 23 58.4	+1.3
MK31	Makanchi Array	145.30 38	ePKPbc	PKPbc	04 24 04.8	+1.2
MK32	Makanchi Array	145.30 38	ePKPbc	PKPbc	04 24 04.5	+1.0
MKAR	Makanchi Array comp=Z,2.1nm,0.6s,baz=320,slow=3.8,SNR=19	145.30 38	PKPbc	PKPbc	04 24 04.5	+1.0
SONA0	Songino Array	153.88 10	ePKPbc	PKPbc	04 24 25.8	+0.7
SONM	Songino Array comp=Z,0.4nm,0.3s,baz=308,slow=4.7,SNR=2.6	153.88 10	PKPbc	PKPbc	04 24 25.8	+0.7
LZH	Lanzhou	164.15 27	ePKP	PKPdf	04 24 25.3	-4.1
LZH			pPKP	pPKPdf	04 25 06.3	-12
LZH			PKP	PKPab	04 25 20.8	-3.1
LZH			sPKP		04 25 27.8	
CD2	Chengdu	168.22 40	PKP	PKPdf	04 24 31.3	-1.3

KRSC 21 04:07:31.2±10.0, 52°12N×160°50E, h17km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.02	344	eP	Pb	04 07 49.6	-0.8
SPN				eS	Sb	04 08 02.2	-1.3
RUS	Russkaya	1.26	285	eP	Pb	04 07 54.4	-0.1
RUS				eS	Sb	04 08 10.4	0.0
NLC	Nalytchevo	1.27	327	eP	Pb	04 07 54.8	+0.2
NLC				eS	Sg	04 08 11.5	-0.6
DALK	Dalny	1.40	311	eP	Pn	04 07 56.2	+0.2
DALK				eS	Sb	04 08 14.7	+0.2
MTVR	Mutnovka	1.47	285	eP	Pb	04 07 57.7	-0.4
MTVR				eS	Sb	04 08 16.8	+0.3
UGLR	Uglovaya	1.49	318	eP	Pb	04 07 58.3	-0.2
SDLR	Sedlovina	1.52	320	eP	Pn	04 07 58.3	+0.6
KDTR	Khodutka, Kamc	1.53	259	eP	Pn	04 07 58.2	+0.5
KDTR				eS	Sn	04 08 17.4	+0.2
SMAR	Somma	1.54	319	eP	Pb	04 07 58.8	-0.6
AVH	Avacha	1.57	318	eP	Pb	04 07 59.6	-0.2
KRER	Koryakskii	1.59	319	eP	Pb	04 08 00.2	-0.1
KRMR	Karymshinskiy	1.61	297	eP	Pn	04 07 59.6	+0.7
KRMR				eS	Sb	04 08 20.2	-0.4
ASAK	Asacha	1.62	280	eP	Pn	04 07 59.7	+0.7
KOK	Koryaka	1.63	317	eP	Pn	04 07 59.2	0.0

IDC 21 04:18:53.2±2.8, 13°16S×167°44E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/50, mbtmp4.0/4, Error ellipse: s-maj=102.4km s-min=45.5km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 2.5nm,0.6s,baz=36,slow=7.6,SNR=4.3	30.15	228	P	P	04 25 04.8	-0.3
WRA	Warramunga Arr 0.8nm,0.7s,baz=83,slow=9.4,SNR=4.1	32.40	254	P	P	04 25 25.0	0.0
ASAR	Alice Springs 1.4nm,0.4s,baz=73,slow=9.6,SNR=20	33.41	247	P	P	04 25 33.2	-0.7
FITZ	Fitzroy Crossi 0.5nm,0.5s,baz=49,slow=9.3,SNR=3.5	40.49	258	P	P	04 26 35.0	+0.8
ARCES	ARCESS Array B 1.4nm,0.8s,baz=71,slow=1.9,SNR=6.2	118.78	346	PKP	PKPdf	04 37 42.6	-0.3

*ISCJB **21** 04:21:31.7±0.3, 24°28N±0°01×121°79E±0°02, h10km±2km, Error ellipse: s-maj=2.7km s-min=1.8km az=31.4*
*JMA **21** 04:21:31.4±0.1, 24°23N×121°71E, h22km±1km, M3.2*
*TAP **21** 04:21:31.5, 24°28N×121°77E, h14km, ML3.9, B*
ISC 21 04:21:31.5±0.9, 24°27N±0°02×121°77E±0°02, h15km±6km, n105, d083/145, 5C-17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	Nanao baz=1.0	0.16	355	⇓P	Pb	04 21 35.4	-0.8
NANB				S	Sb	04 21 37.9	-1.4
ENA	Nanau	0.16	352	⇓iP	Pb	04 21 35.4	-0.8
ENA				S	Sb	04 21 38.0	-1.4
NACB	Ninganchiao baz=229	0.18	239	⇓P	Pg	04 21 35.8	-0.1
NACB				S	Sg	04 21 39.2	+0.4
TWD	Chiawan baz=218	0.24	220	⇓iP	Pb	04 21 37.0	-0.6
TWD				iS	Sb	04 21 41.0	-0.6
ETLH	Xiulin Townshi	0.27	257	⇓P	Pb	04 21 37.5	-0.5

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
	baz=255						
ETLH				S	Sb	04 21 41.6	-0.8
	baz=255						
HWA	**Hwalien**	**0.33**	**207**	P	Pb	04 21 39.1	+0.1
	baz=214						
HWA				*e*S	Sb	04 21 45.0	+0.9
	baz=214						
TWC	**Suao**	**0.35**	**13**	⇓*i*P	Pg	04 21 38.6	-0.1
	baz=9.0						
TWC				S	Sg	04 21 43.1	-0.4
	baz=9.0						
NNSB	**Datong**	**0.38**	**295**	⇓P	Pb	04 21 39.6	-0.5
	baz=293						
NNSB				S	Sg	04 21 44.6	-0.1
	baz=293						
ENLB	**Shoufeng**	**0.39**	**202**	*e*P	Pb	04 21 40.6	+0.4
	baz=210						
ENLB				*e*S	Sn	04 21 47.9	-1.9
	baz=210						
NNS	**Nan Shan**	**0.40**	**296**	⇓*i*P	Pb	04 21 39.9	-0.5
	baz=294						
NNS				S	Sb	04 21 45.4	-0.9
	baz=294						
NDT	**Datong Townshi**	**0.41**	**325**	S	Sg	04 21 45.5	+0.2
	baz=324						
ENTT	**Nioudou**	**0.41**	**334**	⇓*i*P	Pg	04 21 40.1	+0.2
	baz=333						
ENTT				S	Sg	04 21 45.9	+0.4
	baz=333						
EOS1	**EOS1**	**0.43**	**50**	⇑P	Pg	04 21 40.8	+0.6
	baz=43						
EOS1				S	Sb	04 21 47.6	+0.4
	baz=43						
TWE	**Neicheng**	**0.46**	**349**	⇓*i*P	Pg	04 21 40.8	+0.1
	baz=349						
TWE				*i*S	Sg	04 21 46.9	0.0
	baz=349						
WHF	**Hehuan Shan**	**0.47**	**255**	⇓*i*P	Pb	04 21 41.2	-0.6
	baz=254						
WHF				S	Sb	04 21 48.1	-0.7
	baz=254						
ILA	**Ilan**	**0.50**	**358**	⇓P	Pg	04 21 41.4	+0.1
	baz=352						
ILA				S	Sb	04 21 49.1	+0.1
	baz=352						
YHNB	**Yeheng**	**0.54**	**318**	P	Pb	04 21 42.4	-0.3
	baz=317						
YHNB				S	Sb	04 21 49.5	-0.8
	baz=317						
TWT	**Tachien**	**0.54**	**269**	P	Pb	04 21 43.0	+0.3
	baz=268						
TWT				S	Sb	04 21 50.4	0.0
	baz=268						
ESL	**Shilin**	**0.55**	**214**	⇓*i*P	Pb	04 21 42.2	-0.6
	baz=221						
NSK	**Sanguang**	**0.55**	**318**	P	Pb	04 21 42.7	-0.2
	baz=317						
NSK				S	Sb	04 21 49.9	-0.7
	baz=317						
TDCB	**Techi**	**0.55**	**269**	P	Pb	04 21 43.1	+0.1
	baz=268						
TDCB				S	Sb	04 21 50.0	-0.8
	baz=268						
CHGB	**Renai**	**0.58**	**249**	P	Pb	04 21 43.1	-0.3
	baz=244						
CHGB				S	Sb	04 21 51.0	-0.6
	baz=244						
NTC	**Toucheng**	**0.59**	**6**	⇓P	Pg	04 21 43.0	0.0
	baz=5.0						
NTC				*e*S	Sg	04 21 50.6	-0.3
	baz=5.0						
EGS		**0.59**	**15**	*e*P	Pb	04 21 43.1	-0.5
	baz=23						
OWD	**Renai**	**0.62**	**240**	*e*P	Pb	04 21 43.7	-0.5
	baz=239						
EGFH	**Guangfu**	**0.67**	**207**	*e*P	Pg	04 21 44.8	+0.2
	baz=222						
TIPB	**Shuangxi**	**0.70**	**4**	⇓P	Pb	04 21 45.2	-0.3
	baz=3.0						
TIPB				S	Sb	04 21 53.7	-1.3
	baz=3.0						
NHDH	**Xindian Distri**	**0.73**	**343**	*e*P	Pn	04 21 46.5	-0.7
	baz=335						
WLTB	**Daxi**	**0.75**	**321**	*e*P	Pn	04 21 47.3	-0.2
	baz=320						
TATO	**Taipei**	**0.75**	**340**	*e*P	Pg	04 21 46.2	+0.1
	baz=339						
WHP	**Taichung City**	**0.75**	**271**	*e*P	Pn	04 21 46.8	-0.8
	baz=270						
TWB1	**Santiao Chiao**	**0.76**	**15**	*e*P	Pb	04 21 46.0	-0.6
	baz=9.0						
VWDT	**VWDT**	**0.77**	**228**	⇑P	Pn	04 21 46.5	-1.2
	baz=229						
VWDT				S	Sg	04 21 56.8	+0.3
	baz=229						
LIOB	**Emei**	**0.78**	**299**	⇑*e*P	Pn	04 21 47.3	-0.7
	baz=298						
NSTT	**Nanjuang**	**0.78**	**298**	*e*P	Pn	04 21 47.3	-0.7
	baz=297						
NWF	**Wu-fen Shan**	**0.80**	**1**	⇓P	Pb	04 21 47.2	0.0
	baz=352						
NWF				S	Sb	04 21 57.2	-0.6
	baz=352						
WFSB	**Wu-fen Shan**	**0.80**	**1**	*e*P	Pb	04 21 47.1	0.0
TAP	**Taipei**	**0.80**	**343**	*e*P	Pn	04 21 48.0	-0.3
	baz=333						
HGSD	**Ruisui**	**0.83**	**202**	P	Pn	04 21 48.5	-0.2
	baz=220						
EHY	**Hungye**	**0.86**	**208**	*e*P	Pg	04 21 47.8	-0.5
	baz=221						
NCUH	**Zhongli**	**0.87**	**323**	*e*P	Pn	04 21 49.5	+0.2
	baz=317						
NCU	**National Centr**	**0.88**	**323**	*e*P	Pn	04 21 49.6	+0.3
	baz=317						
NCU				*e*S	Sn	04 22 02.2	+0.5
	baz=317						
SMLT	**Sun Moon Lake**	**0.88**	**244**	⇑*i*P	Pn	04 21 48.9	-0.5
	baz=244						
SBCB	**Hsinchu**	**0.88**	**306**	*e*P	Pn	04 21 49.5	+0.2
	baz=305						
SSLB	**Suanglung**	**0.88**	**237**	⇑P	Pn	04 21 48.5	-0.9
	baz=238						
SSLB				*e*S	Sg	04 21 59.4	-0.9
	baz=238						
TWS1	**Kuangyinshan**	**0.89**	**339**	*e*P	Pn	04 21 49.0	-0.5
	baz=338						
YM01	**YM01**	**0.89**	**349**	*e*P	Pn	04 21 49.2	-0.4
	baz=347						
YM01				*e*S	Sg	04 22 00.6	0.0
	baz=347						
HSN	**Hsinchu**	**0.90**	**306**	*e*P	Pn	04 21 50.1	+0.5
	baz=298						
YM10	**YM10**	**0.90**	**348**	⇓*e*P	Pn	04 21 49.3	-0.4
	baz=347						
YM11	**YM11**	**0.91**	**349**	*e*P	Pg	04 21 49.3	+0.1
	baz=348						
YM07	**YM07**	**0.91**	**352**	*e*P	Pg	04 21 49.3	+0.1
	baz=351						
NMLH	**Miaoli**	**0.93**	**287**	*e*P	Pn	04 21 51.4	+1.4
	baz=286						
NSY	**Sanyi**	**0.93**	**279**	*e*P	Pn	04 21 50.4	+0.4
	baz=278						
YM08	**YM08**	**0.93**	**350**	*e*P	Pb	04 21 49.3	-0.1
	baz=349						
NTST	**Danshui**	**0.94**	**342**	*e*P	Pn	04 21 50.5	+0.4
	baz=341						
YULB	**Yu-li**	**0.97**	**206**	*e*P	Pn	04 21 49.7	-0.9
	baz=217						
YULB				*e*S	Sn	04 22 03.6	-0.6
	baz=217						
TCU	**Taichung**	**1.00**	**263**	*e*P	Pg	04 21 52.8	+1.9
	baz=263						
TWF1	**Yuli**	**1.01**	**205**	*e*P	Pn	04 21 50.3	-0.8
	baz=218						
WHYT	**Xinyi Township**	**1.01**	**236**	*e*P	Pg	04 21 51.4	+0.4
	baz=236						
TWY	**Chenhua**	**1.01**	**352**	*e*P	Pg	04 21 51.5	+0.3
	baz=351						
WDJ	**Dajia District**	**1.03**	**275**	*e*P	Pg	04 21 52.6	+1.2
	baz=274						
WNT	**Mingjian**	**1.06**	**249**	*e*P	Pg	04 21 52.8	+0.8
	baz=240						
YUS	**Yu-Shan**	**1.07**	**224**	*e*P	Pn	04 21 51.7	-0.8
	baz=225						
JYNG	**Yonagunijimaku**	**1.09**	**80**	P	Pb	04 21 52.4	+0.3
WCHH	**Zhanghua**	**1.12**	**261**	*e*P	Pg	04 21 53.7	+0.6
	baz=260						
YOJ	**Yonaguni jima**	**1.15**	**80**	*e*P	Pb	04 21 53.2	+0.1
	baz=68						
YOJ				*e*S	Sg	04 22 09.5	+0.7
	baz=68						
YOJ	**Yonaguni jima**	**1.15**	**80**	P	Pb	04 21 53.3	+0.1
YOJ				*e*S	Sn	04 22 09.0	+0.4
CHN5	**Tsauling**	**1.20**	**236**	*e*P	Pg	04 21 55.7	+1.1
	baz=238						
CHN5				*e*S	Sg	04 22 13.7	+3.4
	baz=238						
CHKT	**Chengkung**	**1.22**	**198**	*e*P	Pb	04 21 53.9	-0.4
	baz=186						
WGK	**Gukeng**	**1.24**	**242**	*e*P	Pg	04 21 55.5	0.0
	baz=244						
WDLH	**Douliu**	**1.26**	**243**	*e*P	Pg	04 21 56.2	+0.4
	baz=244						
ELDTW	**Lidau**	**1.27**	**213**	*e*P	Pb	04 21 54.4	-0.8
	baz=214						
RLNB	**Erlin**	**1.34**	**254**	*e*P	Pg	04 21 57.1	-0.2
	baz=255						
RLNB				*e*S	Sg	04 22 16.6	+1.9
	baz=255						
CHN4	**Tsaushan**	**1.41**	**230**	*e*P	Pg	04 21 58.5	-0.2
	baz=233						
CHN4				S	Sg	04 22 18.8	+1.9
	baz=233						
TPUB	**Ta-pu**	**1.42**	**227**	*e*P	Pg	04 21 58.6	-0.2
	baz=231						
TPUB				*e*S	Sg	04 22 19.2	+2.0
	baz=231						
STYT	**Tauyuan**	**1.44**	**220**	*e*P	Pg	04 21 58.1	-1.1
	baz=223						
CHY	**Chiayi**	**1.45**	**238**	*e*P	Pg	04 21 59.3	0.0
	baz=226						
WTP	**Ta-pu**	**1.47**	**226**	*e*P	Pg	04 21 58.9	-0.9
	baz=229						
WTP				*e*S	Sg	04 22 20.8	+2.0
	baz=229						
SNST	**Tainan City**	**1.56**	**228**	*e*P	Pg	04 22 00.9	-0.7
	baz=231						
CHN1	**Nanshi**	**1.56**	**227**	*e*P	Pg	04 21 01.3	-0.3
	baz=230						
TWG	**Pinlang**	**1.57**	**204**	*e*P	Pb	04 21 59.0	-1.3
	baz=192						
TWGBT	**Beinan**	**1.57**	**204**	*e*P	Pb	04 21 59.1	-1.2
	baz=192						
SGST	**Jiashian**	**1.60**	**223**	*e*P	Pg	04 22 02.2	-0.2
	baz=225						
SLGT	**Liugui**	**1.63**	**219**	*e*P	Pb	04 22 01.2	-0.1
	baz=223						
IRIF	**Iriomote-Funau**	**1.79**	**87**	P	Pn	04 22 01.9	0.0
IRIF				S	Sb	04 22 25.6	-0.8
ECL	**Taimali**	**1.82**	**204**	*e*P	Pb	04 22 03.9	-0.7
	baz=194						
SSD	**Sandimen**	**1.84**	**215**	*e*P	Pb	04 22 04.9	0.0
	baz=229						
HATJ	**Hateruma jima**	**1.88**	**96**	P	Pn	04 22 03.7	+0.7
MASBT	**Mashibuluo**	**1.95**	**212**	*e*P	Pb	04 22 05.9	-0.9
	baz=226						
JKRS	**Kuro-shima**	**2.05**	**90**	P	Pn	04 22 06.3	+0.9
JKRS				S	Sn	04 22 31.7	+1.0
EAST	**Anshuo**	**2.06**	**204**	*e*P	Pb	04 22 07.5	-1.1
	baz=196						
PNG	**Penghu**	**2.14**	**251**	*e*P	Pn	04 22 07.2	+0.5
	baz=252						
PHUB	**P'eng-hu**	**2.14**	**250**	*e*P	Pn	04 22 07.2	+0.4
	baz=251						
SCZT	**Fangliau**	**2.16**	**209**	*e*P	Pb	04 22 09.0	-1.3
	baz=197						
JIJ	**Ishigaki jima**	**2.17**	**87**	P	Pn	04 22 07.3	+0.2
JIJ				*e*S	Sn	04 22 34.4	+0.6
WDGT	**Dungji**	**2.17**	**243**	*e*P	Pn	04 22 07.9	+0.7
	baz=245						
VWUC	**VWUC**	**2.23**	**289**	*e*P	Pn	04 22 07.9	+0.1
	baz=289						
JISG	**Ishigakijimahi**	**2.34**	**82**	P	Pn	04 22 08.8	-0.7
JISG				*e*S	Sn	04 22 39.5	+1.5
VCHM	**Qimei**	**2.39**	**244**	*e*P	Pn	04 22 10.3	+0.2
	baz=232						
TWKBT	**Hengchun**	**2.48**	**201**	*e*P	Pb	04 22 13.7	-2.1
	baz=193						
MATB	**Ma-tsu**	**2.50**	**319**	*e*P	Pn	04 22 11.7	+0.1
	baz=318						
JTJ	**Tarama**	**2.70**	**82**	*e*S	Sn	04 22 46.5	-0.4
QZH	**Quanzhou**	**2.96**	**284**	*e*Pn	Pn	04 22 18.9	+0.9
QZH				Sn	Sn	04 22 53.3	-0.1
KNM	**Kinmen**	**3.04**	**273**	*e*P	Pn	04 22 21.3	+2.2
	baz=273						
KNMB	**Chin-men Tao**	**3.08**	**274**	*e*P	Pn	04 22 20.0	+0.3
	baz=274						

*IDC **21** 04:22:46.3±2.9, 52°.16N×160°.67E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.6/58, mbtmp3.8/10, ML2.9/1, Error ellipse: s-maj=84.8km s-min=29.5km az=9.0*
*KRSC **21** 04:22:46.4±10.0, 52°.15N×161°.01E, h49km±10km, ML4.0*

ISC 21 04:22:46.5±2.2, 52°.17N±0°.07×160°.86E±0°.05, h6km±12km, n33, σ19°37/42, mb3.9/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.06**	**332**	*e*P	**Pg**	**04 23 07.2**	**+0.3**
SPN				*e*S	**Sg**	**04 23 20.0**	**-0.7**
NLC	**Nalytchevo**	**1.37**	**318**	*e*P	**Pn**	**04 23 11.9**	**-0.2**
RUS	**Russkaya**	**1.47**	**281**	*e*P	**Pn**	**04 23 13.3**	**-0.1**
RUS				*e*S	**Sn**	**04 23 31.4**	**-1.5**
DALK	**Dalny**	**1.55**	**305**	*e*P	**Pn**	**04 23 14.9**	**+0.3**
UGLR	**Uglovaya**	**1.62**	**311**	*e*P	**Pn**	**04 23 16.4**	**+0.7**
SDLR	**Sedlovina**	**1.64**	**314**	*e*P	**Pn**	**04 23 16.4**	**+0.4**
SMAR	**Somma**	**1.67**	**312**	*e*P	**Pn**	**04 23 16.6**	**+0.2**
MTVR	**Mutnovka**	**1.68**	**282**	*e*P	**Pn**	**04 23 16.7**	**+0.3**
MTVR				*e*S	**Sn**	**04 23 37.2**	**-1.1**
AVH	**Avacha**	**1.70**	**311**	*e*P	**Pb**	**04 23 17.6**	**-0.5**
KRER	**Koryakskii**	**1.72**	**312**	*e*P	**Pb**	**04 23 18.0**	**-0.6**
KDTR	**Khodutka, Kamc**	**1.76**	**259**	*e*P	**Pn**	**04 23 17.0**	**-0.4**
KDTR				*e*S	**Sn**	**04 23 37.8**	**-2.3**
KOK	**Koryaka**	**1.76**	**311**	*e*P	**Pn**	**04 23 18.3**	**+0.7**
KRMR	**Karymshinskiy**	**1.80**	**293**	*e*P	**Pn**	**04 23 18.4**	**+0.4**
KRX	**Arik**	**1.80**	**312**	*e*P	**Pn**	**04 23 18.9**	**+0.7**
ASAK	**Asacha**	**1.83**	**278**	*e*P	**Pb**	**04 23 19.7**	**-0.7**
PETK	**Petropavlovsk-**	**2.15**	**297**	Pn	**Pn**	**04 23 24.0**	**+1.2**
	21nm,0.3s,baz=97,slow=17,SNR=108						
PETK				Sn	**Sn**	**04 23 46.1**	**-3.6**
	10nm,0.3s,baz=94,slow=20,SNR=6.4						
APC	**Apacha**	**2.39**	**290**	*e*P	**Pn**	**04 23 27.7**	**+1.6**
MKZ	**Mys Kozlova**	**2.45**	**12**	*e*P	**Pn**	**04 23 27.3**	**+0.4**
MKZ				*e*S	**Sn**	**04 23 54.4**	**-2.8**
PAU	**Pauzhetka**	**2.61**	**256**	*e*P	**Pn**	**04 23 29.8**	**+0.7**
KZV	**Kizimen**	**2.97**	**354**	*e*P	**Pn**	**04 23 35.5**	**+1.2**
KZV				*e*S	**Sn**	**04 24 10.9**	**+0.6**
TUMD	**Tumrok D**	**3.06**	**355**	*e*P	**Pn**	**04 23 35.8**	**+0.5**
TUMD				*e*S	**Sn**	**04 24 11.0**	**-1.2**
TUMR	**Tumrok**	**3.15**	**353**	*e*P	**Pn**	**04 23 38.6**	**+1.9**
BKI	**Bering**	**4.30**	**43**	*e*P	**Pn**	**04 23 51.5**	**-0.8**
BKI				*e*S	**Sn**	**04 24 38.6**	**-4.1**
MKAR	**Makanchi Array**	**48.99**	**297**	P	**P**	**04 31 32.5**	**-1.0**
	0.3nm,0.4s,baz=58,slow=5.9,SNR=6.8						
ARCES	**ARCESS Array B**	**54.31**	**342**	P	**P**	**04 32 13.0**	**0.0**
	4.1nm,0.9s,baz=36,slow=9.3,SNR=3.4						
FINES	**FINESS Array B**	**61.16**	**337**	P	**P**	**04 33 02.1**	**+0.9**
	0.8nm,0.5s,baz=36,slow=5.2,SNR=4.1						
NB2	**NORSAR Subarra**	**64.56**	**344**	P	**P**	**04 33 24.7**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=19,slow=6.5						
NOA	**NORSAR Array B**	**64.56**	**344**	P	**P**	**04 33 24.3**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=20,slow=6.6,SNR=3.6						
AKASG	**Malin Array Be**	**69.65**	**330**	P	**P**	**04 33 56.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=29,slow=6.6,SNR=5.4						
KBZ	**Khabaz**	**70.53**	**317**	P	**P**	**04 34 02.6**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=90,slow=5.1,SNR=2.9						
TXAR	**Lajitas Array**	**70.57**	**67**	P	**P**	**04 34 04.6**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=302,slow=5.0,SNR=4.0						
GERES	**GERESS Array B**	**75.55**	**338**	P	**P**	**04 34 32.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=14,slow=4.5,SNR=3.1						
BRTR	**Keskin Array B**	**77.64**	**321**	P	**P**	**04 34 44.0**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=90,slow=1.4,SNR=3.6						

IDC 21 04:23:50.6±4.9, 51°.53N×161°.01E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.7/59, mbtmp4.1/5, ML3.5/1, Error ellipse: s-maj=105.3km s-min=58.8km az=175.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**2.57**	**309**	Pn	Pn	04 24 33.6	+0.1
	42nm,0.3s,baz=103,slow=18,SNR=20						
MKAR	**Makanchi Array**	**49.35**	**297**	P	P	04 32 41.3	-0.2
	1.2nm,0.5s,baz=60,slow=6.0,SNR=7.4						
ARCES	**ARCESS Array B**	**54.95**	**342**	P	P	04 33 21.9	-0.8
	1.7nm,0.7s,baz=39,slow=9.2,SNR=14						
FINES	**FINESS Array B**	**61.78**	**337**	P	P	04 34 11.2	+0.7
	2.0nm,0.3s,baz=42,slow=6.8,SNR=17						
AKASG	**Malin Array Be**	**70.25**	**330**	P	P	04 35 05.0	-0.1
	0.4nm,0.3s,baz=32,slow=6.7,SNR=1.7						

*KRSC **21** 04:24:02.4±10.0, 52°.01N×160°.85E, h58km±10km, ML5.6*
*IDC **21** 04:24:02.7±0.4, 52°.28N×160°.39E, h0km, mb4.8/40, mb1 4.9/43, mb1mx4.9/60, mbtmp4.8/43, ML4.9/2, MS5.7/7, Ms1 5.7/7, ms1mx4.9/28, Error ellipse: s-maj=10.9km s-min=8.8km az=149.0*
*BJI **21** 04:24:03.3±0.0, 52°.30N×160°.40E, h20km, mb5.0/60, mB5.6/37, Ms5.9/60, Ms7 5.8/59*
*NEIC **21** 04:24:05.0±2.2, 52°.33N×160°.26E, h10km±2km, mb5.2/290, Error ellipse: s-maj=12.2km s-min=8.1km az=201.0*
*ISCJB **21** 04:24:07.8±0.4, 52°.24N±0°.02×160°.45E±0°.02, h45km±3km, mb5.2/382, MS5.7/44, Error ellipse: s-maj=4.2km s-min=2.1km az=170.2*
*MOS **21** 04:24:08.0±1.2, 52°.26N×160°.38E, h52km, mb5.6/42, MS5.8/21, Error ellipse: s-maj=7.2km s-min=3.5km az=101.3*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
*GCMT **21** 04:24:10.0±0.1, 52°.12N±0°.01×160°.93E±0°.01, h21km, MW5.5/121, Moment Tensor Solution. s89,c166; s121,c242; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.55±.04; $M_{\theta\theta}$-0.58±.02; $M_{\phi\phi}$-0.97±.03; $M_{r\theta}$0.82±.05; $M_{\theta\phi}$-0.77±.02; $M_{r\phi}$0.90±.04; Best double couple: $M_0$1.97400×10^{17} NP1:ϕ_s41.00000°, δ64.00000°, λ93.00000°. NP2:ϕ_s215.00000°, δ26.00000°, λ85.00000°. Principal axes: T 1.9670, Plg71.0000°, Azm316.0000°; N 0.0100, Plg2.0000°, Azm219.0000°; P -1.9810, Plg19.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 04:24:06.6±0.5, 52°.21N±0°.04×160°.58E±0°.03, h25km±2km, h25km:pP-P, n1203, σ19°58/1233, mb5.2/401, MS5.8/45, 67C-45D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.95**	**339**	*e*P	**Pn**	**04 24 23.6**	**-0.8**
SPN				*e*S	**Sn**	**04 24 37.6**	**+0.4**
SPN	**Mys Shipunski**	**0.95**	**339**	PN	**Pn**	**04 24 23.6**	**-0.8**
SPN				S	**Sn**	**04 24 37.6**	**+0.4**
NLC	**Nalytchevo**	**1.22**	**322**	*e*P	**Pn**	**04 24 28.5**	**+0.4**
NLC	**Nalytchevo**	**1.22**	**322**	PN	**Pn**	**04 24 28.5**	**+0.4**
RUS	**Russkaya**	**1.29**	**281**	P	**Pn**	**04 24 29.0**	**0.0**
RUS	**Russkaya**	**1.29**	**281**	PN	**Pn**	**04 24 29.0**	**0.0**
PET	**Petropavlovsk**	**1.43**	**305**	*e*Pg	Pn	04 24 25.3	-5.7
PET	**Petropavlovsk**	**1.43**	**305**	*e*PN	**Pn**	**04 24 30.7**	**-0.3**
PET				*e*S	**Sb**	**04 24 51.2**	**+0.9**
PET				pmax	pmax		
	comp=Z,32μm,4.3s						
PET				pmax	pmax		
	comp=Z,21μm,8.6s						
PET				pmax	pmax		
	comp=Z,12μm,0.7s						
PET				smax	smax		
	comp=E,29μm,0.7s						
PET				smax	smax		
	comp=N,24μm,0.8s						
UGLR	**Uglovaya**	**1.46**	**314**	*e*P	**Pb**	**04 24 32.5**	**-0.7**
UGLR	**Uglovaya**	**1.46**	**314**	PN	**Pb**	**04 24 32.5**	**-0.7**
SMAR	**Somma**	**1.51**	**315**	*e*P	**Pn**	**04 24 32.8**	**+0.5**
SMAR	**Somma**	**1.51**	**315**	PN	**Pn**	**04 24 32.8**	**+0.5**
AVH	**Avacha**	**1.54**	**314**	*e*P	**Pb**	**04 24 33.7**	**-0.8**
AVH	**Avacha**	**1.54**	**314**	PN	**Pb**	**04 24 33.7**	**-0.8**
KRER	**Koryakskii**	**1.56**	**315**	*e*P	**Pb**	**04 24 34.4**	**-0.6**
KRER	**Koryakskii**	**1.56**	**315**	PN	**Pb**	**04 24 34.4**	**-0.6**
GRL	**Gorelyy**	**1.57**	**284**	*e*P	**Pn**	**04 24 33.8**	**+0.7**
GRL	**Gorelyy**	**1.57**	**284**	PN	**Pn**	**04 24 33.8**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.60**	**256**	*e*S	**Sn**	**04 24 52.1**	**-1.0**
KRMR	**Karymshinskiy**	**1.62**	**293**	*e*P	**Pn**	**04 24 34.1**	**+0.5**
KRMR	**Karymshinskiy**	**1.62**	**293**	PN	**Pn**	**04 24 34.1**	**+0.5**
KRX	**Arik**	**1.64**	**315**	*e*P	**Pn**	**04 24 34.8**	**+0.8**
KRX	**Arik**	**1.64**	**315**	PN	**Pn**	**04 24 34.8**	**+0.8**
I44RU	**PETROPAVLOVSK-**	**1.96**	**298**	Pn	**Pb**	**04 24 40.6**	**-1.1**
	baz=108,slow=22,SNR=1.0						
I44RU				Sn	**Sb**	**04 25 10.3**	**+4.6**
	baz=91,slow=33						
PEA0B	**Petropavlovsk-**	**1.97**	**298**	*e*Pn	**Pn**	**04 24 33.8**	**-4.6**
PETK	**Petropavlovsk-**	**1.97**	**298**	*e*Pn	**Pn**	**04 24 34.2**	**-4.3**
PETK	**Petropavlovsk-**	**1.97**	**298**	*e*PN	**Pn**	**04 24 34.2**	**-4.3**
PETK	**Petropavlovsk-**	**1.97**	**298**	Pn	**Pn**	**04 24 39.9**	**+1.5**
	comp=N,200nm,0.3s,baz=98,slow=18,SNR=35						
PETK				Sn	**Sb**	**04 25 08.4**	**+2.4**
	comp=N,382nm,0.3s,baz=120,slow=18,SNR=7.1						
PETK				LR	LR	04 25 12.2	
	comp=N,35μm,19.1s,baz=41,slow=38						
PEA1	**Petropavlovsk-**	**1.98**	**298**	*e*Sn	**Sb**	**04 25 08.4**	**+2.3**
APC	**Apacha**	**2.21**	**290**	*e*P	**Pn**	**04 24 42.4**	**+0.7**
APC	**Apacha**	**2.21**	**290**	PN	**Pn**	**04 24 42.4**	**+0.7**
MKZ	**Mys Kozlova**	**2.45**	**16**	*e*P	**Pn**	**04 24 43.9**	**-1.0**
MKZ	**Mys Kozlova**	**2.45**	**16**	PN	**Pn**	**04 24 43.9**	**-1.0**
KZV	**Kizimen**	**2.91**	**357**	*e*P	**Pn**	**04 24 53.5**	**+2.0**
KZV	**Kizimen**	**2.91**	**357**	PN	**Pn**	**04 24 53.5**	**+2.0**
TUMD	**Tumrok D**	**3.00**	**358**	P	**Pn**	**04 24 53.3**	**+0.7**
TUMR	**Tumrok**	**3.09**	**355**	PN	**Pn**	**04 24 53.3**	**-0.6**
SKR	**Severo-Kuril's**	**3.19**	**243**	P	**Pn**	**04 24 54.7**	**-0.4**
SKR				S	**Sn**	**04 25 31.0**	**-1.2**
SKR	**Severo-Kuril's**	**3.19**	**243**	PN	**Pn**	**04 24 54.7**	**-0.4**
SKR				S	**Sn**	**04 25 31.0**	**-1.2**
KIRR	**Kirishev**	**3.75**	**358**	*e*P	**Pn**	**04 25 04.3**	**+1.3**
KIRR	**Kirishev**	**3.75**	**358**	PN	**Pn**	**

comp=Z,4μm,12.8s
UGL smax smax
comp=E,3μm,7.4s
UGL MLR MLR
comp=Z,19μm,14.0s
UGL MLR MLR
comp=N,8μm,13.0s
UGL MLR MLR
comp=E,32μm,14.0s
YSS Yuzh-Sakhalins 12.70 253 *e*Pn **Pn 04 27 07.4 +2.0**
YSS Yuzh-Sakhalins 12.70 253κ *i*PN **Pn 04 27 07.1 +1.7**
YSS pmax pmax
comp=Z,60nm,0.9s
YSS pmax pmax
comp=Z,2μm,9.0s
YSS MLR MLR
comp=N,9μm,14.0s
YSS MLR MLR
comp=Z,22μm,14.0s
YSS MLR MLR
comp=E,16μm,15.0s
YUK Yuzh-Kuril'sk 12.77 236*c i*PN **P 04 27 18.5 +1.2**
YUK pmax pmax
comp=Z,453nm,1.0s
YUK pmax pmax
comp=N,218nm,1.2s
YUK pmax pmax
comp=E,239nm,0.9s
ADK Adak 13.99 82 *e*Pn **Pn 04 27 21.0 -2.0**
ADK Adak 13.99 82 *e*P **Pn 04 27 21.0 -2.0**
GSTR Great Sitkin T 14.33 81 *e*Pn **Pn 04 27 27.1 -0.6**
ASAJ Asahikawa 14.45 243 Pn **Pn 04 27 28.3 -1.1**
comp=E,5.8nm,0.3s,baz=66,slow=14,SNR=18
GRNR Gornyy 15.10 274 *e*P **P 04 27 42.2 -1.0**
GRNR pmax pmax
comp=Z,32nm,1.0s
ERM Erimo 15.60 236 *e*Pn **Pn 04 27 37.6 -7.1**
comp=Z,36nm,0.6s
ERM Erimo 15.60 236 *e*P **Pn 04 27 37.6 -7.1**
ERM pmax pmax
comp=Z,36nm,0.6s
BILL Bilibino 16.12 8 *e*Pn **Pn 04 27 50.0 -1.2**
comp=Z,239nm,1.1s
BILL Bilibino 16.12 8*ce*P **Pn 04 27 50.6 -0.6**
BILL pmax pmax
comp=Z,67nm,1.3s
BILL MLR MLR
comp=Z,16μm,17.0s
TEY Ternei 17.35 255⇓*e*P **P 04 28 09.7 +1.6**
TEY pmax pmax
comp=E,90nm,0.9s
TEY pmax pmax
comp=N,20nm,1.7s
TEY pmax pmax
comp=Z,80nm,1.0s
YAK Yakutsk 19.25 313 *e*P **P 04 28 24.7 -4.1**
YAK *e*S **Sn 04 31 59.1 -5.6**
YAK pmax pmax
comp=Z,1μm,1.1s
YAK pmax pmax
comp=N,245nm,1.1s
YAK pmax pmax
comp=E,1μm,1.1s
YAK pmax pmax
comp=Z,2μm,1.1s
YAK pmax pmax
comp=N,564nm,1.1s
YAK pmax pmax
comp=E,1μm,1.1s
YAK smax smax
comp=N,2μm,3.6s
YAK smax smax
comp=E,1μm,3.9s
YAK MLR MLR
comp=Z,46μm,16.0s
ZEA Zeya 20.03 288 *e*P **P 04 28 34.0 -3.4**
ZEA pmax pmax
comp=E,41nm,1.0s
ZEA pmax pmax
comp=Z,78nm,1.2s
ZEA MLR MLR
comp=Z,48μm,14.0s
ZEA MLR MLR
comp=E,23μm,15.0s
ZEA MLR MLR
comp=N,9μm,14.0s
USA0B Ussuriysk Arra 20.57 258 *e*P **P 04 28 40.5 -2.9**
comp=N,100nm,1.1s
USRK Ussuriysk Ar. 20.57 258 P **P 04 28 39.7 -3.7**
comp=N,87nm,1.0s,baz=60,slow=10,SNR=50
MDJ Mudanjiang 21.80 262 P **P 04 28 54.0 -2.6**
MDJ pmax pmax
comp=N,44nm,1.3s
MDJ LR LR
comp=N,25μm,19.0s
MDJ LR LR
comp=N,8μm,19.5s
MDJ LR LR
comp=N,19μm,18.3s
MDJ Mudanjiang 21.80 262 *e*P **P 04 28 54.4 -2.1**
comp=N,94nm,1.2s
MJB9 Matsu-Tunnel 22.25 234 *e*P **P 04 29 01.5 0.0**
comp=N,154nm,0.9s
MAJO Matsushiro 22.25 234 *e*P **P 04 29 01.5 0.0**
comp=N,150nm,0.9s
MAJO Matsushiro 22.25 234⇓*i*P **P 04 29 01.5 0.0**
MAJO pmax pmax
comp=Z,105nm,1.1s
MAT Matsushiro 22.25 234 P **P 04 28 59.5 -2.0**
MAT S **S 04 33 05.8 +0.9**
MJAR Matsushiro Arr 22.25 234 *e*P **P 04 29 02.0 +0.5**
MJAR Matsushiro Arr 22.25 234 P **P 04 29 01.6 +0.1**
comp=Z,23nm,0.8s,baz=27,slow=8.0,SNR=31
RDOG Red Dog Mine 23.60 34 *e*P **P 04 29 16.5 +1.4**
comp=Z,60nm,1.1s
INU Inuyama 23.78 234 *e*P **P 04 29 18.5 +1.4**
comp=Z,113nm,1.1s
TIXI Tiksi 24.01 336 *e*P **P 04 29 15.2 -3.7**
TIXI Tiksi 24.01 336 *i* P **P 04 29 16.5 -2.4**
TIXI pmax pmax
comp=Z,78nm,0.8s
TIXI Tiksi 24.01 336 P **P 04 29 15.9 -3.0**
comp=Z,58nm,0.5s,baz=124,slow=11,SNR=67
CN2 Changchun 24.76 264 *e*P **P 04 29 22.3 -3.8**
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 pmax pmax
comp=Z,1μm,5.0s
CN2 LR LR
comp=Z,12μm,13.0s
CN2 LR LR
comp=Z,11μm,13.0s
CN2 LR LR
comp=Z,20μm,14.0s
SVW2 Sparrevohn 25.23 52 *e*P **P 04 29 32.2 +2.1**
comp=Z,61nm,1.4s
HIA Hailar 25.77 280 *e*P **P 04 29 31.9 -3.3**
comp=Z,63nm,0.8s
HIA *e*S **S 04 34 01.8 -0.9**
HIA Hailar 25.77 280*c i*P **P 04 29 32.3 -2.9**
HIA pmax pmax
comp=Z,359nm,0.7s
SII Sitkinak Islan 26.32 62 *e*P **P 04 29 41.9 +1.8**
comp=Z,100nm,0.9s
IMAR Indian Mountai 26.46 41 *e*P **P 04 29 41.2 -0.1**
RSO Redoubt South 26.63 54 *e*P **P 04 29 45.5 +2.4**
RSO *e*S **S 04 34 22.4 +6.0**
OHAK Old Harbor 26.70 61 *e*P **P 04 29 43.4 0.0**
comp=Z,88nm,1.2s
BOD Bodaibo 26.84 301 *e*P **P 04 29 41.2 -3.6**
BOD pmax pmax
comp=Z,100nm,1.4s
PPLA Purkeypile 26.86 48 *e*P **P 04 29 47.2 +2.1**
comp=Z,148nm,1.4s
CAST Castle Rocks 26.92 47 *e*P **P 04 29 47.4 +1.9**
comp=Z,23nm,1.0s
KDAK Kodiak Island 26.98 59 *e*P **P 04 29 45.8 -0.3**
comp=Z,52nm,1.0s
KDAK Kodiak Island 26.98 59 P **P 04 29 46.3 +0.2**
comp=Z,24nm,1.0s,baz=232,slow=6.2,SNR=7.3
SNY Shenyang 27.00 262 ⇓P **P 04 29 45.9 -0.4**
SNY pmax pmax
comp=Z,21nm,0.8s
SNY pmax pmax
comp=Z,2μm,12.0s
SNY LR LR
comp=Z,20μm,18.1s
SNY LR LR
comp=Z,15μm,13.7s
KSRS Korea Array 27.18 250 P **P 04 29 48.2 +0.3**
comp=Z,16nm,1.0s,baz=49,slow=8.1,SNR=19
KS15 Wonju Array Si 27.21 250 *e*P **P 04 29 48.2 0.0**
comp=Z,30nm,1.0s
BPAW Bear Paw Mtn. 27.44 45 *e*P **P 04 29 50.7 +0.6**
comp=Z,24nm,1.1s
MLY Manley 27.60 43 *e*P **P 04 29 52.3 +0.7**
comp=Z,18nm,1.1s
BRLK Bradley Lake 27.61 55 *e*P **P 04 29 51.3 -0.5**
comp=Z,19nm,1.0s
BWN Browne 28.11 45 *e*P **P 04 29 56.4 +0.3**
comp=Z,205nm,1.4s
TJN Taejon 28.25 249 *e*P **P 04 29 58.9 +1.4**
SEW Seward 28.30 54 *e*P **P 04 29 58.0 +0.3**
comp=Z,20nm,0.8s
PMR Palmer 28.32 51 *e*P **P 04 30 01.8 +3.8**
comp=Z,13nm,1.3s
MCK McKinley 28.34 46 *e*P **P 04 29 58.3 +0.1**
comp=Z,29nm,1.2s
GHO Glory Hole Cre 28.41 50 *e*P **P 04 30 00.7 +1.9**
comp=Z,16nm,1.0s
TOLK Toolik Lake Re 28.50 36 *e*P **P 04 30 02.9 +3.3**
comp=Z,8.5nm,0.8s
TOLK Toolik Lake Re 28.50 36 P **P 04 29 58.0 -1.5**
baz=261
KNK Knik Glacier 28.66 51 *e*P **P 04 30 01.4 +0.4**
comp=Z,39nm,1.1s
MDM Murphy Dome 28.66 44 *e*P **P 04 30 05.0 +4.0**
comp=Z,18nm,1.0s
SML Sawmill 28.68 50 *e*P **P 04 30 00.4 -0.8**
comp=Z,31nm,0.8s
JNU Nakatsue 28.69 240 *e*P **P 04 30 00.6 -0.9**
comp=Z,102nm,1.0s
JNU Nakatsue 28.69 240 P **P 04 30 01.9 +0.3**
comp=Z,33nm,0.9s,baz=55,slow=4.6,SNR=8.5
JNU LR LR 04 42 53.5
comp=Z,6μm,18.5s,baz=40,slow=40
WRH Wood River Hil 28.71 45 *e*P **P 04 30 02.5 +1.1**
comp=Z,62nm,1.4s
TCOL CIGO, UAF Yank 28.82 44 P **P 04 30 01.8 -0.5**
baz=269
COLA College 28.82 44 *e*P **P 04 30 03.0 +0.7**
comp=Z,35nm,1.1s
COLA College 28.82 44 *e*P **P 04 30 04.5 +2.2**
COLA pmax pmax
comp=Z,19nm,1.6s
CCB Clear Creek Bu 28.84 44 *e*P **P 04 30 04.9 +2.4**
comp=Z,26nm,1.2s
POKR Poker Plat Res 29.00 43 P **P 04 30 03.6 -0.4**
baz=269
DHY Denali Highway 29.06 48 *e*P **P 04 30 04.8 +0.1**
comp=Z,28nm,1.2s
SCM Sheep Creek Mo 29.16 50 *e*P **P 04 30 05.8 +0.3**
comp=Z,34nm,1.0s
HDA Harding Lake 29.21 45 *e*P **P 04 30 06.2 +0.3**
comp=Z,12nm,1.1s
HDA Harding Lake 29.21 45 P **P 04 30 05.2 -0.6**
baz=271
ILAR Eielson Array 29.23 44 P **P 04 30 05.7 -0.3**
comp=Z,1.0nm,0.8s,baz=260,slow=8.1,SNR=7.2
ILB Eielson Array 29.23 44 *e*P **P 04 30 07.1 +1.1**
comp=Z,20nm,1.4s
GLI Glacier Island 29.37 52 *e*P **P 04 30 04.4 -2.9**
comp=Z,24nm,1.4s
PRP Porcupine Dome 29.81 43 *e*P **P 04 30 10.6 -0.8**
comp=Z,17nm,0.9s
PAX Paxson 29.93 48 *e*P **P 04 30 15.5 +3.2**
comp=Z,16nm,1.3s
DL2 Dalian 29.96 259 *e*P **P 04 30 11.3 -1.3**
DL2 *e*S **S 04 35 08.6 -0.1**
DL2 pmax pmax
comp=Z,42nm,1.0s
DL2 LR LR
comp=Z,10μm,14.0s
DL2 LR LR
comp=Z,8μm,14.7s
DL2 LR LR
comp=Z,9μm,13.7s
DIV Divide 29.98 51 *e*P **P 04 30 12.4 -0.3**
comp=Z,29nm,1.3s
RIDG Independent Ri 30.16 46 *e*P **P 04 30 12.7 -1.6**
DOT Dot Lake 30.51 46 *e*P **P 04 30 15.6 -1.8**
comp=Z,4.9nm,0.9s
SCRK Sand Creek 30.52 46 *e*P **P 04 30 19.0 +1.4**
comp=Z,19nm,1.2s
MENT Mentasta 30.73 48 *e*P **P 04 30 19.1 -0.2**
comp=Z,6.1nm,0.8s
CRQM Cirque 31.30 52 *e*P **P 04 30 27.5 +3.0**
comp=Z,41nm,1.1s
BALM Baldy 31.64 51 *e*P **P 04 30 29.6 +2.2**
comp=Z,19nm,1.3s
EGAK Eagle 31.68 44 *e*P **P 04 30 26.7 -1.0**
comp=Z,12nm,0.8s
CTGM Chitina Glacie 32.13 51 *e*P **P 04 30 34.3 +2.5**
comp=Z,31nm,1.3s
DAWY Dawson 32.53 45 *e*P **P 04 30 37.6 +2.5**
comp=Z,5.2nm,0.8s
H11N2 WAKE ISLAND Hy 32.79 169 T T 05 06 36.2
baz=352,slow=75,SNR=165
H11N3 WAKE ISLAND Hy 32.80 169 T T 05 06 34.2
baz=352,slow=75,SNR=164
H11N1 WAKE ISLAND Hy 32.81 169 T T 05 06 30.0
baz=352,slow=75,SNR=202
EPYK Eagle Plains 33.37 41 *e*P **P 04 30 41.5 -0.9**
comp=Z,14nm,0.9s
EPYK Eagle Plains 33.37 41 P **P 04 30 41.6 -0.9**
baz=277
IRK Irkutsk 33.74 293 *e*P **P 04 30 43.1 -2.7**
IRK *e* 04 32 09.7
IRK pmax pmax
comp=Z,94nm,1.8s
H11S1 WAKE ISLAND Hy 33.98 170 T T 05 08 17.8
baz=352,slow=76,SNR=7.1
H11S3 WAKE ISLAND Hy 33.99 170 T T 05 08 16.8
baz=352,slow=76,SNR=17
H11S2 WAKE ISLAND Hy 33.99 170 T T 05 08 21.1
baz=352,slow=76,SNR=5.2
HYT Haines Junctio 33.99 51 *e*P **P 04 30 51.5 +3.5**
comp=Z,45nm,1.5s
ULN Ulaanbaatar 34.00 284 *e*P **P 04 30 46.8 -1.4**
comp=Z,34nm,1.2s
ULN Ulaanbaatar 34.00 284⇓*i*P **P 04 30 46.9 -1.3**
ULN pmax pmax
comp=Z,20nm,1.1s
ULN Ulaanbaatar 34.00 284 P **P 04 30 45.9 -2.4**
SNR=17
TLY Talaya 34.33 292 *e*P **P 04 30 48.3 -2.5**
comp=Z,48nm,1.2s
TLY Talaya 34.33 292*d i*P **P 04 30 50.6 -0.3**
TLY Talaya 34.33 292 P **P 04 30 48.5 -2.4**
SNR=18
INK Inuvik 34.39 37 *e*P **P 04 30 51.2 0.0**
comp=Z,12nm,0.9s
INK Inuvik 34.39 37 P **P 04 30 50.8 -0.4**
comp=Z,2.3nm,0.5s,baz=266,slow=6.9,SNR=13
SONA0 Songino Array 34.40 285 *e*P **P 04 30 50.4 -1.3**
SONA0 *e*PcP **PcP 04 33 27.2 +0.4**
SONM Songino Array 34.40 285 P **P 04 30 50.4 -1.3**
comp=Z,3.7nm,0.5s,baz=53,slow=8.6,SNR=20
SONM PcP **PcP 04 33 27.2 +0.4**
comp=Z,2.8nm,0.8s,baz=156,slow=3.3,SNR=2.5
SONM LR LR 04 46 40.8
comp=Z,25μm,18.4s,baz=64,slow=40
TIA Tai'an 34.42 260 P **P 04 30 52.5 +0.6**
TIA pmax pmax
comp=Z,41nm,0.8s
TIA LR LR
comp=Z,7μm,15.7s
TIA LR LR
comp=Z,8μm,18.0s
TIA LR LR
comp=Z,5μm,16.0s
HHC Hu-ho-hao-te 34.94 271 *e*P **P 04 30 55.0 -1.4**
HHC pmax pmax
comp=Z,110nm,0.9s
HHC pmax pmax
comp=Z,380nm,4.6s
HHC LR LR
comp=Z,1μm,12.2s
HHC LR LR
comp=Z,1μm,12.3s
JOW Kunigami 35.05 236 *e*P **P 04 30 56.5 -0.8**
comp=Z,34nm,0.9s
JOW Kunigami 35.05 236 P **P 04 30 56.5 -0.8**
comp=Z,0.8nm,0.5s,baz=97,slow=16,SNR=2.4
ZAK Zakamensk 35.08 290 *e*P **P 04 30 54.3 -3.2**
ZAK pmax pmax
comp=Z,37nm,1.2s
SKAG Skagway 35.41 52 *e*P **P 04 31 01.7 +1.6**
comp=Z,33nm,1.3s
MOY Mondy 35.83 293 *e*P **P 04 31 01.9 -2.1**
MOY pmax pmax
comp=Z,49nm,1.4s
NJ2 Nanjing 36.27 253 *e*P **P 04 31 07.3 -0.4**
NJ2 pmax pmax
comp=Z,46nm,0.9s
NJ2 LR LR
comp=Z,12μm,17.2s
NJ2 LR LR
comp=Z,8μm,14.2s
NJ2 LR LR
comp=Z,13μm,15.7s
NRIK Noril'sk 36.80 325 P **P 04 31 11.0 -0.9**
comp=Z,33nm,1.1s,baz=89,slow=9.8,SNR=29
NRIK LR LR 04 47 48.5
comp=Z,17μm,18.3s,baz=76,slow=39
DLBC Dease Lake 38.34 53 *e*P **P 04 31 27.2 +2.1**
comp=Z,20nm,0.9s
DLBC Dease Lake 38.34 53 P **P 04 31 25.3 +0.1**
comp=Z,6.6nm,0.8s,baz=290,slow=6.9,SNR=8.8
XAN Xi'an 40.87 264 P **P 04 31 45.9 -0.5**
XAN pP pP 04 31 52.4 -0.9
XAN PP **PnPn 04 33 24.0 -1.0**
XAN PcP **PcP 04 33 48.8 +2.0**
XAN S **S 04 37 53.3 -2.9**
XAN pmax pmax
comp=Z,10.0nm,1.2s
XAN LR LR
comp=Z,13μm,18.6s
XAN LR LR
comp=Z,12μm,20.6s
XAN LR LR
comp=Z,10μm,16.7s
QZH Quanzhou 41.77 246⇑*i*P **P 04 31 53.3 -0.5**
QZH S **S 04 38 09.3 -0.3**
QZH LR LR
comp=Z,4μm,17.0s
QZH LR LR
comp=Z,2μm,18.5s
QZH LR LR
comp=Z,3μm,18.9s
LZH Lanzhou 42.64 271 *e*P **P 04 32 00.3 -0.7**
LZH pP pP 04 32 06.8 -1.0
LZH sP sP 04 32 09.5 -1.1
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,460nm,4.6s
LZH LR LR
comp=Z,14μm,17.9s
LZH LR LR
comp=Z,14μm,17.6s
LZH LR LR
comp=Z,14μm,18.4s
GTA Gaotai 43.01 278 *e*P **P 04 32 02.8 -1.1**
GTA pP pP 04 32 11.0 +0.3
GTA sP pwP 04 32 14.5 +0.5
GTA pmax pmax
comp=Z,11nm,1.4s
GTA LR LR
comp=Z,13μm,14.9s
GTA LR LR
comp=Z,11μm,15.2s
GTA LR LR
comp=Z,15μm,17.1s
ENH Enshi 43.14 260 *e*P **P 04 32 06.4 +1.5**
comp=Z,48nm,1.0s
ZAA1 Zalesovo Array 43.51 304 *e*P **P 04 32 05.2 -2.3**
ZALV Zalesovo Beam 43.51 304 P **P 04 32 05.2 -2.4**
comp=Z,4.9nm,0.6s,baz=62,slow=6.5,SNR=19
YKA Yellowknife Ar 43.62 42 P **P 04 32 08.3 0.0**
comp=Z,2.8nm,0.8s,baz=299,slow=8.1,SNR=25
YKB5 Yellowknife Ar 43.62 42 *e*P **P 04 32 08.3 0.0**
RES Resolute Bay 44.03 22 *e*P **P 04 32 12.3 +0.8**
comp=Z,25nm,1.0s
RES Resolute Bay 44.03 22 P **P 04 32 12.1 +0.5**
comp=Z,4.2nm,0.7s,baz=308,slow=6.6,SNR=18
DGZ Jazzator, Alta 44.33 297*d i*P **P 04 32 11.8 -2.7**
DGZ pmax pmax
comp=Z,22nm,0.9s
CD2 Chengdu 46.19 266⇑*i*P **P 04 32 30.3 +1.0**
CD2 sP pwP 04 32 42.0 +2.8
CD2 PP **PP 04 34 15.0 -2.7**
CD2 S **S 04 39 10.8 -3.2**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,1μm,10.0s
CD2 LR LR
comp=Z,15μm,20.2s
CD2 LR LR
comp=Z,15μm,18.8s
CD2 LR LR
comp=Z,12μm,15.3s
LLLB Lillooet 46.20 60 *e*P **P 04 32 31.4 +2.2**
comp=Z,14nm,0.9s
A04D Lummi Island 46.82 62 P **P 04 32 33.6 -0.3**
baz=305
D03D Eldon 47.29 64 P **P 04 32 37.6 -0.1**
baz=306
B05A Bryant 47.41 62 P **P 04 32 38.3 -0.3**
baz=306
WMQ Urumqi 47.55 290 *e*P **P 04 32 40.2 +0.4**
comp=Z,79nm,1.2s
GYA Guiyang 47.61 259⇑*i*P **P 04 32 40.8 +0.3**
GYA pP pP 04 32 48.6 +1.5
GYA PP **PP 04 34 30.9 -1.2**
GYA S **S 04 39 33.8 -0.7**
GYA sS pS 04 39 42.0 -0.5
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,100nm,5.0s
GYA LR LR
comp=Z,1μm,18.0s
GYA LR LR
comp=Z,1μm,17.5s
GYA LR LR
comp=Z,1μm,17.3s
D04E Lakebay 47.68 64 P **P 04 32 41.1 +0.4**
baz=306
KBS Kingsbay 47.79 352 *e*P **P 04 32 42.7 +1.6**
comp=Z,82nm,1.1s
KBS Kingsbay 47.79 352*d i*P **P 04 32 42.7 +1.6**
KBS pmax pmax
comp=Z,240nm,1.0s
KBS Kingsbay 47.79 352 *e*P **P 04 32 40.6 -0.5**
E04D Cinebar 48.16 64 P **P 04 32 45.3 +0.9**
baz=307
F04D Rainier, OR 48.19 65 P **P 04 32 45.0 +0.3**
baz=307
KURK Kurchatov 48.46 303*de*P **P 04 32 43.1 -3.5**
KURK pmax pmax
comp=Z,119nm,1.2s
KURK Kurchatov 48.46 303 P **P 04 32 43.3 -3.3**
SNR=74
KURK P **P 04 32 43.3 -3.3**
SNR=74
G03D McMinnville, O 48.57 66 P **P 04 32 48.1 +0.5**
baz=308
LTY Liberty 48.78 63 *e*P **P 04 32 50.6 +1.3**
comp=Z,12nm,1.1s
MK31 Makanchi Array 48.81 297 *i* P **P 04 32 45.8 -3.7**
MK31 pmax pmax
comp=Z,11nm,0.5s
MK32 Makanchi Array 48.81 297 *e*P **P 04 32 46.6 -2.9**
MKAR Makanchi Array 48.81 297 P **P 04 32 46.6 -2.9**
comp=Z,12nm,0.5s,baz=55,slow=6.9,SNR=8.8
MKAR LR LR 04 54 52.5
comp=Z,8μm,18.1s,baz=42,slow=38
B08A Colville Reser 48.85 61 *e*P **P 04 32 50.4 +0.6**
comp=Z,20nm,0.9s
HSPB Hornsund (broa 49.18 350 *e*P **P 04 32 51.3 -0.5**
HSPB Hornsund (broa 49.18 350 *e*P **P 04 32 52.7 +0.8**
H04D Lebanon 49.29 67 P **P 04 32 53.8 +0.7**
baz=308
TGY Tagaytay City 49.42 235 LR LR 04 57 09.7
comp=Z,1μm,18.2s,baz=340,slow=40
J01E Myrtle Point 49.45 69 P **P 04 32 55.3 +1.0**
baz=309
I03D Drain, OR 49.45 68 P **P 04 32 54.9 +0.5**
baz=308

H04A	Detroit Lake	49.50	66	eP		P	04 32 56.3 +1.5
	comp=Z,32nm,1.4s						
G05D	Wamic, OR	49.65	65	P		P	04 32 56.5 +0.6
	baz=308						
C09A	Chrisman Ranch	49.76	61	eP		P	04 32 57.0 +0.3
	comp=Z,27nm,1.3s						
K02D	Willamette Mer	49.89	69	P		P	04 32 58.6 +0.8
	baz=309						
I04A	Tendick Farm,	49.92	67	P		P	04 32 58.6 +0.5
	baz=309						
NEW	Newport	50.09	60	eP		P	04 33 00.6 +1.3
	comp=Z,14nm,1.1s						
NEW	Newport	50.09	60	P		P	04 32 59.5 +0.3
	baz=308						
NEW	Newport	50.09	60	P		P	04 32 58.9 -0.3
	comp=Z,3.3nm,1.0s,baz=299,slow=13,SNR=3.5						
L02E	Cave Junction	50.27	70	P		P	04 33 01.0 +0.4
	baz=310						
HUMO	Hull Mountain	50.35	69	eP		P	04 33 02.3 +1.1
	comp=Z,12nm,1.2s						
J04D	Umpqua Nationa	50.44	68	P		P	04 33 02.0 -0.1
	baz=309						
E09A	Wood Farm, Sta	50.61	62	eP		P	04 33 04.6 +1.4
	comp=Z,26nm,0.9s						
PINE	Pine Mountain	50.76	66	eP		P	04 33 06.7 +2.1
	comp=Z,8.3nm,0.8s						
J05D	Fort Rock, OR	50.91	67	P		P	04 33 06.1 +0.5
	baz=309,SNR=13						
G08A	Pilot Rock	50.92	64	eP		P	04 33 07.0 +1.4
	comp=Z,9.2nm,1.3s						
BJO	Bjornoya	50.95	348	eP		P	04 33 04.7 -0.5
KMI	Kunming	50.97	261	P		P	04 33 06.5 +0.1
KMI				pP		sP	04 33 15.9 +0.3
KMI				sP		pwP	04 33 19.3 +2.0
KMI				S		S	04 40 20.5 -1.4
KMI				pmax		pmax	
	comp=Z,15nm,0.9s						
KMI				pmax		pmax	
	comp=Z,630nm,11.2s						
KMI				LR		LR	
	comp=Z,7μm,16.3s						
KMI				LR		LR	
	comp=Z,9μm,17.3s						
KMI				LR		LR	
	comp=Z,5μm,19.0s						
L04D	Klamath Falls	50.97	69	P		P	04 33 06.8 +0.7
	baz=310,SNR=7.3						
KULLO	Kullorsuaq	50.99	12	i P		P	04 33 05.8 +0.2
KULLO	Kullorsuaq	50.99	12	i P		P	04 33 05.8 +0.2
K04D	Chiloquin, OR	51.03	68	P		P	04 33 07.1 +0.6
	baz=310						
YBH	Yreka Blue Hor	51.05	69	eP		P	04 33 08.5 +1.8
	comp=Z,14nm,1.0s						
M02C	Callahan	51.19	70	P		P	04 33 07.6 0.0
	baz=310						
BRVK	Borovoye	51.20	309	eP		P	04 33 04.8 -2.7
	comp=Z,61nm,0.9s						
BRVK	Borovoye	51.20	309	d iP		P	04 33 04.3 -3.2
BRVK				pmax		pmax	
	comp=Z,82nm,1.1s						
BRVK	Borovoye	51.20	309	P		P	04 33 05.1 -2.4
	SNR=41						
BRVK				P		P	04 33 05.1 -2.4
	SNR=41						
DAG	Danmarks Havn	51.29	360⇑	i P		P	04 33 07.6 -0.2
DAG				pmax		pmax	
	comp=Z,33nm,1.1s						
DAG	Danmarks Havn	51.29	360⇑	i P		P	04 33 07.6 -0.2
	comp=Z,26nm,1.1s						
I07A	Izee	51.38	65	eP		P	04 33 10.2 +1.2
	comp=Z,9.0nm,1.4s						
QIZ	Qiongzhong	51.40	250	P		P	04 33 10.3 +0.9
QIZ				S		S	04 40 29.1 +1.6
QIZ				pmax		pmax	
	comp=Z,960nm,14.7s						
QIZ				LR		LR	
	comp=Z,4μm,17.7s						
QIZ				LR		LR	
	comp=Z,4μm,15.7s						
QIZ				LR		LR	
	comp=Z,4μm,18.6s						
F10A	Beach Ranch, E	51.45	62	eP		P	04 33 10.9 +1.4
	comp=Z,13nm,1.2s						
K05A	Summer Lake	51.46	67	eP		P	04 33 11.9 +2.2
	comp=Z,17nm,1.0s						
M04C	Macdoel	51.52	69	P		P	04 33 10.5 +0.4
	baz=310						
N02D	Trinity Center	51.54	70	P		P	04 33 10.1 -0.2
	baz=310						
WDC	Whiskeytown Da	51.89	71	eP		P	04 33 17.0 +4.2
	comp=Z,24nm,1.3s						
O02D	Mt. Diablo Mer	52.01	71	P		P	04 33 13.6 -0.2
	baz=311						
BMO	Blue Mountains	52.11	63	eP		P	04 33 15.2 +0.7
	comp=Z,17nm,1.4s						
MOD	Modoc Plateau	52.32	68	eP		P	04 33 16.2 0.0
	comp=Z,27nm,1.1s						
J08A	Circle Bar Ran	52.42	65	eP		P	04 33 18.9 +2.0
	comp=Z,7.5nm,1.1s						
O03E	Paynes Creek	52.50	70	P		P	04 33 17.7 +0.2
	baz=311						
PDGK	Podgornoye	52.52	295	P		P	04 33 14.4 -3.2
PDGK				pmax		pmax	
	comp=Z,31nm,1.0s						
MSO	Missoula	52.67	59	eP		P	04 33 20.1 +1.4
	comp=Z,23nm,1.1s						
MSO	Missoula	52.67	59	P		P	04 33 19.1 +0.4
	baz=310,SNR=7.3						
PLID	Pearl Lake	52.67	62	eP		P	04 33 19.5 +0.6
	comp=Z,15nm,1.0s						
WVOR	Wild Horse Val	52.92	66	eP		P	04 33 22.6 +2.0
	comp=Z,13nm,1.2s						
SLVN	Son La	53.11	257	eP		P	04 33 21.9 -0.2
	comp=Z,29nm,0.9s						
SVE	Sverdlovsk	53.13	317⇓	eP		P	04 33 22.2 +0.5
SVE				pmax		pmax	
	comp=Z,44nm,1.1s						
SVE				MLR		MLR	
	comp=Z,9μm,16.0s						
FFC	Flin Flon	53.42	46	eP		P	04 33 25.7 +1.8
	comp=Z,15nm,1.0s						
FFC	Flin Flon	53.42	46	i P		P	04 33 26.2 +2.3
BEKR	Beckworth	53.62	70	eP		P	04 33 27.0 +1.2
	comp=Z,23nm,1.0s						
LVZ	Lovozero	53.63	338	eP		P	04 33 24.8 -0.6
	comp=Z,64nm,0.9s						
LVZ	Lovozero	53.63	338⇓	i P		P	04 33 25.1 -0.2
LVZ				pmax		pmax	
	comp=Z,89nm,1.3s						
KEV	Kevo	53.75	342	eP		P	04 33 25.8 -0.3
	comp=Z,36nm,0.9s						
HRY	Holter Researc	53.86	58	eP		P	04 33 29.3 +1.9
AFDM	Forest Hills D	53.87	71	eP		P	04 33 29.3 +1.8
	comp=Z,14nm,1.1s						
FCC	Fort Churchill	53.99	38	eP		P	04 33 28.1 +0.2
	comp=Z,17nm,1.0s						
EGMT	Eagleton	54.08	56	eP		P	04 33 28.8 -0.1
	comp=Z,24nm,1.1s						
EGMT	Eagleton	54.08	56	P		P	04 33 28.8 -0.1
	baz=311						
ARCES	ARCESS Array B	54.22	342	P		P	04 33 29.0 -0.5
	comp=Z,48nm,1.0s,baz=40,slow=8.6,SNR=36						
ARE0	ARCESS Array S	54.22	342	eP		P	04 33 29.5 0.0
ARU	Arti	54.25	318	eP		P	04 33 26.6 -3.4
	comp=Z,64nm,0.5s						
ARU	Arti	54.25	318	d iP		P	04 33 27.6 -2.3
ARU				*PP		sP	04 33 39.7 +0.1
ARU							04 35 28.8
ARU				S		S	04 41 00.7 -4.8
ARU				SS		SKiKP	04 44 38.3 -0.4
ARU				pmax		pmax	
	comp=Z,38nm,0.7s						
ARU				MLR		MLR	
	comp=Z,7μm,16.0s						
ARU	Arti	54.25	318	LR		LR	05 00 57.6
	comp=Z,10μm,19.1s,baz=36,slow=41						
PAHR	Pah Rah Range	54.29	69	eP		P	04 33 30.9 +0.2
	comp=Z,17nm,1.1s						
DLMT	Dillon	54.33	60	eP		P	04 33 32.4 +1.5
	comp=Z,11nm,1.2s						
VCNR	Virginia City	54.41	70	eP		P	04 33 32.4 +0.8
	comp=Z,18nm,1.1s						
HLID	Hailey	54.53	63	eP		P	04 33 33.8 +1.3
	comp=Z,8.7nm,1.1s						
HLID	Hailey	54.53	63	P		P	04 33 32.4 0.0
	baz=312						
MCMT	McKenzie Canyo	54.55	61	eP		P	04 33 34.0 +1.4
PNTR	Pine Nut	54.57	70	eP		P	04 33 33.4 +0.6
	comp=Z,22nm,0.8s						
BOZ	Bozeman (W)	54.69	59	eP		P	04 33 33.7 +0.2
	comp=Z,14nm,1.0s						
BOZ	Bozeman (W)	54.69	59	P		P	04 33 33.9 +0.3
	baz=311,SNR=25						
LSA	Lhasa	54.78	274	eP		P	04 33 35.6 +0.9
	comp=Z,21nm,0.8s						
LSA	Lhasa	54.78	274	P		P	04 33 35.5 +0.7
SUMG	Summit	54.80	7	eP		P	04 33 33.3 -0.9
	comp=Z,111nm,1.0s						
SUMG	Summit	54.80	7	i P		P	04 33 34.1 -0.1
SUMG				pmax		pmax	
	comp=Z,150nm,0.9s						
SUMG	Summit	54.80	7	i P		P	04 33 34.1 -0.1
	comp=Z,152nm,0.9s						
CMB	Columbia Colle	54.82	72	eP		P	04 33 35.8 +1.3
	comp=Z,31nm,1.3s						
YERR	Yerington	54.85	70	eP		P	04 33 35.2 +0.4
	comp=Z,37nm,1.4s						
TKM2	Tokmak 2	54.94	297	P		P	04 33 33.2 -2.2
	SNR=14						
TKM2	Tokmak 2	54.94	297	P		P	04 33 32.9 -2.6
TKM2				pmax		pmax	
	comp=Z,37nm,1.2s						
BMN	Battle Mountai	55.04	67	eP		P	04 33 37.5 +1.3
	comp=Z,16nm,0.9s						
BOOM	Boomskoye usch	55.04	296	eP		P	04 33 34.7 -1.4
	comp=Z,52nm,1.1s						
WAKR	Walker	55.06	70	eP		P	04 33 36.9 +0.6
	comp=Z,40nm,1.4s						
KTK1	Kautokeino	55.09	343	eP		P	04 33 34.7 -1.1
QLMT	Earthquake Lak	55.30	60	eP		P	04 33 40.1 +2.1
USP	Ospenovka	55.31	298	P		P	04 33 37.9 0.0
	SNR=12						
PRGR	Permogore	55.35	328⇓	i P		P	04 33 38.0 +0.2
PRGR				e*PP		pwP	04 33 47.9 -1.2
PRGR				eS		S	04 41 15.9 -4.1
PRGR				pmax		pmax	
	comp=Z,102nm,1.1s						
CHMS	Chumysh	55.36	297	P		P	04 33 37.4 -0.8
	SNR=7.4						
KVN	Kaiserville	55.46	69	eP		P	04 33 39.3 +0.1
	comp=Z,29nm,1.3s						
KBK	Karagaybulak	55.48	297	P		P	04 33 38.6 -0.7
	SNR=15						
YHB	Horse Butte	55.48	60	eP		P	04 33 41.4 +2.1
	comp=Z,22nm,1.1s						
RYN	Ryan	55.51	70	eP		P	04 33 40.7 +1.2
	comp=Z,23nm,1.2s						
YHH	Holmes Hill	55.64	60	eP		P	04 33 41.5 +1.0
	comp=Z,7.7nm,0.9s						
YMR	Madison River	55.66	60	eP		P	04 33 42.6 +2.0
	comp=Z,20nm,1.3s						
TMCR	Tamitsa	55.70	333	eP		P	04 33 40.2 -0.1
TMCR				pmax		pmax	
	comp=Z,234nm,1.2s						
NRN	Naryn	55.71	295	eP		P	04 33 39.4 -1.8
	comp=Z,11nm,0.9s						
AAK	Ala-Archa	55.74	297	P		P	04 33 40.4 -0.7
	SNR=15						
AAK	Ala-Archa	55.74	297	eP		P	04 33 39.5 -1.6
	comp=Z,61nm,1.1s						
AAK	Ala-Archa	55.74	297	P		P	04 33 38.1 -3.0
AAK				pmax		pmax	
	comp=Z,60nm,1.2s						
AAK	Ala-Archa	55.74	297	P		P	04 33 38.9 -2.2
AAK				P		P	04 33 38.9 -2.2
AAK	Ala-Archa	55.74	297	P		P	04 33 40.0 -1.1
	comp=Z,8.2nm,0.5s,baz=56,slow=6.1,SNR=24						
NV01	Mina Array Sit	55.77	70	eP		P	04 33 41.5 0.0
NVAR	Mina Array Bea	55.77	70	P		P	04 33 41.5 0.0
	comp=Z,7.4nm,0.7s,baz=296,slow=7.5,SNR=41						
NV11	Mina Array Sit	55.85	70	eP		P	04 33 43.4 +1.5
	comp=Z,1.5nm,1.3s						
MDPB	Devils Postpil	55.86	71	eP		P	04 33 44.2 +2.0
	comp=Z,28nm,1.1s						
YFT	Old Faithful	55.87	60	eP		P	04 33 46.1 +3.9
	comp=Z,16nm,0.9s						
OMMB	Old Mammoth Mi	55.91	71	eP		P	04 33 44.8 +2.2
	comp=Z,10nm,1.1s						
PANO	Nakornpanom	55.93	253	P		P	04 33 44.6 +2.1
	comp=Z,3.7nm,1.1s						
ELK	Elko	55.95	66	eP		P	04 33 43.2 +0.5
	comp=Z,5.5nm,0.8s						
UCH	Uchtor	56.00	297	P		P	04 33 42.6 -0.8
	SNR=9.0						
YPP	Pitchstone Pla	56.01	60	eP		P	04 33 46.2 +3.0
	comp=Z,8.6nm,1.0s						
LKWY	Lake	56.03	60	eP		P	04 33 46.7 +3.4
	comp=Z,16nm,1.0s						
H17A	Grant Village	56.05	60	eP		P	04 33 48.2 +4.8
	comp=Z,31nm,1.4s						
H17A	Grant Village	56.05	60	P		P	04 33 44.0 +0.6
	baz=312						
EKS2	Erkin-Say	56.11	297	P		P	04 33 43.2 -0.5
	SNR=19						
IMW	Indian Meadow	56.19	60	eP		P	04 33 47.0 +2.5
	comp=Z,16nm,1.1s						
FLWY	Flagg Ranch	56.19	60	eP		P	04 33 47.3 +2.9
	comp=Z,33nm,1.2s						
RLMT	Red Lodge	56.25	58	eP		P	04 33 47.1 +2.2
	comp=Z,23nm,1.1s						
RLMT	Red Lodge	56.25	58	P		P	04 33 45.3 +0.5
	baz=313,SNR=8.2						
KIRV	Kirov	56.28	324	LR		LR	05 01 22.2
	comp=Z,5μm,18.3s,baz=46,slow=40						
FXWY	Fox Creek	56.32	61	eP		P	04 33 47.9 +2.6
	comp=Z,7.3nm,1.1s						
MOOW	Moose Ponds	56.39	60	eP		P	04 33 46.8 +1.0
	comp=Z,11nm,1.1s						
SKNT	Sakolnakorn	56.44	253	P		P	04 33 47.4 +1.2
	comp=Z,116nm,1.1s						
TPAW	Teton Pass	56.46	61	eP		P	04 33 48.9 +2.6
	comp=Z,29nm,1.4s						
LOHW	Long Hollow	56.56	60	eP		P	04 33 48.7 +1.6
	comp=Z,15nm,1.1s						
SNOW	Snow King Moun	56.58	61	eP		P	04 33 52.4 +5.2
	comp=Z,12nm,1.0s						
REDW	Red Top Meadow	56.60	61	eP		P	04 33 49.8 +2.5
	comp=Z,26nm,1.4s						
HVU	Hansel Valley	56.62	63	eP		P	04 33 49.9 +2.5
	comp=Z,20nm,1.1s						
ILULI	Ilulissat	56.67	13	eP		P	04 33 46.9 -0.3
	comp=Z,37nm,1.0s						
LAO	LASA Array	56.76	55	eP		P	04 33 51.2 +3.0
	comp=Z,25nm,1.0s						
LAO	LASA Array	56.76	55	P		P	04 33 48.3 +0.1
	baz=313						
AHID	Auburn Hatcher	56.87	62	eP		P	04 33 51.4 +2.1
	comp=Z,17nm,0.9s						
KSH	Kashi	57.02	293	P		P	04 33 53.3 +3.0
KSH				pP		pP	04 33 57.4 +0.4
KSH				PP		PP	04 36 01.8 +5.1
KSH				S		S	04 41 48.3 +5.1
KSH				SS		SS	04 45 38.3 +6.9
KSH				pmax		pmax	
	comp=Z,13nm,1.0s						
KSH				pmax		pmax	
	comp=Z,710nm,3.9s						
KSH				LR		LR	
	comp=Z,1μm,9.9s						
KSH				LR		LR	
	comp=Z,1μm,8.2s						
KSH				LR		LR	
	comp=Z,3μm,8.7s						
PAYA	Payao	57.05	259	P		P	04 33 51.8 +1.3
	comp=Z,113μm,0.8s,comp=Z,854μm						
BGU	Big Grassy Mou	57.06	64	eP		P	04 33 52.8 +2.2
	comp=Z,5.9nm,1.0s						
SHL	Shillong	57.30	270	eP		P	04 33 52.0 -0.4
	comp=Z,35nm,1.1s						
R11A	Troy Canyon, C	57.38	68	eP		P	04 33 52.8 -0.1
	comp=Z,9.7nm,1.1s						
R11A	Troy Canyon, C	57.38	68	P		P	04 33 53.2 +0.3
	baz=314,SNR=11						
HWUT	Hardware Ranch	57.40	63	eP		P	04 33 55.5 +2.5
	comp=Z,21nm,1.3s						
LOF	Lofoten	57.49	346	eP		P	04 33 53.4 +0.5
PHRA	Phrae	57.49	258	P		P	04 33 54.4 +0.8
	comp=Z,11nm,1.1s						
KK31	Karatay Array	57.58	300	i P		P	04 33 51.6 -2.4
KK31				pmax		pmax	
	comp=Z,55nm,1.5s						
KKAR	Karatay Array	57.58	300	eP		P	04 33 53.0 -1.0
	comp=Z,40nm,1.1s						
DUG	Dugway, Tooele	57.68	65	eP		P	04 33 56.0 +1.1
	comp=Z,11nm,1.0s						
DUG	Dugway, Tooele	57.68	65	P		P	04 33 55.6 +0.7
	baz=314,SNR=12						
BW06	Boulder Array	57.70	61	eP		P	04 33 54.8 -0.4
	comp=Z,38nm,1.5s						
BW06	Boulder Array	57.70	61	P		P	04 33 55.5 +0.4
	baz=314,SNR=13						
PD31	Pinedale Array	57.70	61	eP		P	04 33 54.8 -0.3
	comp=Z,35nm,1.5s						
PDAR	Pinedale Array	57.70	61	P		P	04 33 55.6 +0.5
	comp=Z,6.0nm,0.8s,baz=332,slow=5.0,SNR=35						
TCUT	Toone Canyon	57.82	63	eP		P	04 33 58.5 +2.4
	comp=Z,32nm,1.3s						
LAMP	Lampang	57.83	258	P		P	04 33 57.3 +1.3
	comp=Z,95μm,1.1s						
KLMR	Klimovskoe	57.86	330	eP		P	04 33 54.5 -1.2
KLMR				pmax		pmax	
	comp=Z,196nm,1.4s						
UTTA	Uttaradit	57.88	257	P		P	04 33 57.3 +1.0
	comp=Z,88μm,0.9s						
CTU	Camp Tracy	57.93	64	eP		P	04 33 59.1 +2.4
	comp=Z,8.2nm,1.0s						
CMMT	Chiang Mai	58.02	259	P		P	04 33 57.7 +0.3
	comp=Z,36nm,1.1s,comp=Z,539nm						
CHTO	Chiang Mai	58.02	259	eP		P	04 33 56.7 -0.7
	comp=Z,49nm,0.8s						
CHTO	Chiang Mai	58.02	259	P		P	04 33 58.1 +0.7
	SNR=14						
CHTO				P		P	04 33 58.1 +0.7
	SNR=14						
JLU	Jordanelle	58.16	64	eP		P	04 34 00.7 +2.3
	comp=Z,13nm,1.2s						
PSUT	Pine Spring	58.24	67	eP		P	04 34 00.7 +1.7
	comp=Z,7.3nm,0.8s						
NLU	North Lily Min	58.26	65	eP		P	04 34 00.5 +1.5
	comp=Z,9.7nm,0.9s						
CM31	Chiang Mai Arr	58.30	259	eP		P	04 33 58.9 -0.5
CM31	Chiang Mai Arr	58.30	259	P		P	04 34 01.1 +1.8
	SNR=9.9						
CMAR	Chiang Mai Arr	58.30	259	i P		P	04 33 58.9 -0.4
CMAR				pmax		pmax	
	comp=Z,31nm,0.9s						
CMAR	Chiang Mai Arr	58.30	259	P		P	04 33 58.9 -0.4
	comp=Z,28nm,0.8s,baz=28,slow=7.2,SNR=54						
CHAI	Chaiyaphum	58.46	255	P		P	04 34 01.5 +1.1
	comp=Z,49μm,0.9s,comp=Z,585μm						
MPU	Maple Canyon	58.46	64	eP		P	04 34 02.7 +2.3
	comp=Z,15nm,1.3s						
PBKT	Sadao Pong	58.54	256	P		P	04 34 02.4 +1.4
	comp=Z,13nm,1.0s,comp=Z,599nm						
AB31	Akbulak array	58.59	311	i P		P	04 33 58.4 -2.6
AB31				pmax		pmax	
	comp=Z,11nm,0.5s						
ABKAR	Akbulak array	58.59	311	eP		P	04 33 58.8 -2.2
	comp=Z,21nm,0.7s						
AKTO	Aktyubinsk	58.64	313	P		P	04 33 58.7 -2.6
AKTO				pmax		pmax	
	comp=Z,13nm,0.5s						
SFJD	Kangerlussuaq	58.80	14	i P		P	04 34 01.8 -0.3
SFJD	Kangerlussuaq	58.80	14	i P		P	04 34 01.8 -0.3
TMUT	Trail Mountain	59.19	65	eP		P	04 34 08.0 +2.3
	comp=Z,11nm,0.8s						
MSU	Marysvale	59.20	66	eP		P	04 34 07.5 +1.9
ULM	Lac du Bonnet	59.21	47	eP		P	04 34 08.7 +3.4
	comp=Z,22nm,1.0s						
ULM	Lac du Bonnet	59.21	47	P		P	04 34 05.2 0.0
	comp=Z,5.9nm,1.0s,baz=338,slow=7.2,SNR=3.8						
JIRN	Jiri	59.28	276	eP		P	04 34 04.1 -2.4
	comp=Z,74nm,0.7s						
P17A	Butcher Ranch,	59.33	64	eP		P	04 34 08.4 +1.9
	comp=Z,19nm,1.2s						
K22A	Casper	59.39	59	eP		P	04 34 07.7 +0.9
	comp=Z,15nm,0.9s						
Q16A	Castle Valley	59.48	65	eP		P	04 34 09.8 +2.3
	comp=Z,14nm,1.2s						
BTK	Batken	59.52	297	eP		P	04 34 06.8 -0.8
	comp=Z,107nm,1.3s						
MTPU	Mount Pierson	59.52	66	eP		P	04 34 09.9 +1.9
	comp=Z,7.7nm,1.0s						
RAMN	Ramite	59.54	276	eP		P	04 34 05.5 -2.7
	comp=Z,153nm,0.5s						
RSSD	Black Hills	59.65	56	eP		P	04 34 09.0 +0.4
	comp=Z,36nm,0.8s						
RSSD	Black Hills	59.65	56	P		P	04 34 08.2 -0.5
	baz=315						
SRU	San Rafael Swe	59.70	64	eP		P	04 34 11.2 +2.2
	comp=Z,19nm,1.0s						
KKN	Kakani	59.74	277	eP		P	04 34 07.6 -1.9
	comp=Z,103nm,0.5s						
PKI	Pulchoki	59.82	277	eP		P	04 34 07.6 -2.6
	comp=Z,36nm,0.5s						
PKIN	Phulchoki	59.82	277	eP		P	04 34 07.3 -2.8
	comp=Z,42nm,0.5s						
DMN	Daman	59.98	277	eP		P	04 34 09.2 -2.0
	comp=Z,83nm,0.6s						
UMPA	Umpang Tak	60.09	257	P		P	04 34 14.6 +2.9
	comp=Z,84μm,1.0s						
O20A	White River Ci	60.24	62	eP		P	04 34 13.9 +1.2
	comp=Z,15nm,1.1s						
DANN	Dangsing	60.26	279	eP		P	04 34 10.8 -2.4
	comp=Z,85nm,0.6s						
AGMN	Agassiz Nation	60.63	48	eP		P	04 34 16.7 +1.7
	comp=Z,21nm,1.0s						
KOLN	Koldanda	60.78	278	eP		P	04 34 14.6 -2.0
	comp=Z,56nm,0.5s						
PV09	Paradox Valley	60.90	64	eP		P	04 34 19.6 +2.2
PYUN	Piuthan	60.91	279	eP		P	04 34 15.7 -1.8
	comp=Z,89nm,0.7s						
N23A	Red Feather La	60.93	60	eP		P	04 34 18.6 +1.1
	comp=Z,11nm,0.8s						
PV21	Cone Mtn., Par	60.95	64	eP		P	04 34 19.6 +1.9
	comp=Z,14nm,1.1s						
PV23	Carpenter Ridg	61.00	64	eP		P	04 34 20.0 +1.9
	comp=Z,24nm,1.1s						
PV10	Paradox Valley	61.04	64	eP		P	04 34 20.8 +2.5
	comp=Z,17nm,0.9s						
FIA0	FINESS Array S	61.05	337	eP		P	04 34 17.7 +0.1
FINES	FINESS Array B	61.05	337	P		P	04 34 17.7 +0.1
	comp=Z,49nm,0.7s,baz=34,slow=8.5,SNR=85						
PV14	Lion Creek, Pa	61.05	64	eP		P	04 34 20.2 +1.8
	comp=Z,25nm,1.2s						
PV22	Blue Mesa, Par	61.07	64	eP		P	04 34 20.3 +1.9
	comp=Z,15nm,1.1s						
NSS	Namsos	61.08	345	eP		P	04 34 17.9 +0.1
PV04	Paradox Valley	61.10	64	eP		P	04 34 20.6 +2.0
	comp=Z,16nm,1.0s						
PV20	West Nyswonger	61.11	64	eP		P	04 34 20.6 +1.9
	comp=Z,14nm,1.0s						
PV19	Morning Glory	61.12	64	eP		P	04 34 20.8 +2.0
	comp=Z,28nm,1.3s						
PV17	East Wray Mesa	61.16	64	eP		P	04 34 19.6 +0.6
	comp=Z,58nm,1.3s						
PV16	Nyswonger Mesa	61.16	64	eP		P	04 34 20.1 +1.0
	comp=Z,24nm,1.1s						
PV11	David Mesa, Pa	61.19	64	eP		P	04 34 20.5 +1.2
	comp=Z,26nm,0.9s						
PV18	Skein Mesa, Pa	61.21	64	eP		P	04 34 20.5 +1.1
	comp=Z,22nm,1.0s						
PV07	Paradox Valley	61.22	64	eP		P	04 34 21.3 +1.9
	comp=Z,29nm,1.5s						
PV12	Saucer Basin,	61.22	64	eP		P	04 34 21.3 +1.8
	comp=Z,27nm,1.1s						
PV05	Paradox Valley	61.22	64	eP		P	04 34 21.6 +2.1
	comp=Z,19nm,0.8s						

MOS e 04 35 07.3
MOS eS **S** **04 42 51.6 -2.1**
MOS pmax pmax
comp=Z,100nm,1.1s
MOS pmax pmax
comp=N,61nm,0.7s
MOS MLR MLR
comp=Z,3µm,16.0s
NIL Nilore 62.70 290 eP **P 04 34 29.1 -0.1**
comp=Z,34nm,0.8s
S22A 4UR Ranch, Cre 62.71 63 eP **P 04 34 30.7 +1.1**
comp=Z,16nm,1.1s
OBN Obninsk 63.42 328c iP **P 04 34 33.0 -0.6**
OBN i 04 34 44.5
OBN e 04 34 55.7
OBN SS SS 04 47 16.0 +5.6
OBN pmax pmax
comp=Z,108nm,1.3s
OBN MLR MLR
comp=Z,3µm,19.0s
SDCO Great Sand Dun 63.44 62 eP **P 04 34 36.4 +2.0**
comp=Z,15nm,1.3s
SDCO Great Sand Dun 63.44 62 P **P 04 34 34.7 +0.3**
baz=317,SNR=7.6
VSU Vasula 63.48 335ce P **P 04 34 34.6 +0.7**
VSU pmax pmax
comp=Z,204nm,0.9s
VSU Vasula 63.48 335 eP **P 04 34 32.2 -1.7**
VSU IAmb IAmb 04 34 46.8
comp=Z,244nm,0.9s
MOL Molde 63.60 346 eP **P 04 34 35.1 +0.5**
ECSD EROS Data Cent 63.63 52 eP **P 04 34 35.1 -0.1**
comp=Z,24nm,1.3s
SBUM Sibu 63.77 236 eP **P 04 34 38.4 +2.0**
comp=Z,14nm,1.2s
DOMB Dombas 63.87 346 eP **P 04 34 37.0 +0.4**
AKN Aaknes 64.05 347 eP **P 04 34 38.6 +0.9**
F38A Pierce - Schro 64.19 48 P **P 04 34 37.7 -1.1**
baz=320
SPMN Marine on St. 64.32 49 eP **P 04 34 41.8 +2.1**
comp=Z,28nm,1.0s
SPMN Marine on St. 64.32 49 P **P 04 34 39.2 -0.5**
baz=320
KBL Kabul 64.45 294 eP **P 04 34 39.1 -1.9**
comp=Z,18nm,1.0s
E39A Mellen 64.46 47 P **P 04 34 40.6 0.0**
baz=320
T25A Trinidad 64.47 62 eP **P 04 34 43.7 +2.6**
comp=Z,26nm,1.3s
T25A Trinidad 64.47 62 P **P 04 34 41.1 0.0**
baz=318
NB2 NORSAR Subarra 64.47 344 P **P 04 34 38.6 -1.9**
comp=Z,116nm,1.7s,baz=20,slow=6.9
NB2 NORSAR Subarra 64.47 344 P **P 04 34 38.6 -1.9**
baz=20,slow=6.9
NB200 NORSAR Array S 64.47 344 eP **P 04 34 40.1 -0.4**
NOA NORSAR Array B 64.47 344 P **P 04 34 40.1 -0.4**
comp=Z,17nm,0.8s,baz=21,slow=6.7,SNR=52
IVI Ivigtut 64.62 15 eP **P 04 34 41.2 -0.2**
comp=Z,32nm,1.1s
F39A Loretta 64.65 47 P **P 04 34 41.5 -0.5**
baz=320
LPSR Galich'ya Gora 64.68 325 eP **P 04 34 41.4 -0.5**
LPSR e*PP **pwP** **04 34 52.5 -0.8**
LPSR pmax pmax
comp=Z,80nm,0.8s
NC602 NORSAR Array S 64.70 344 eP **P 04 34 42.0 +0.1**
VRH Novokhopyorsk 64.79 322 eP **P 04 34 41.5 -1.2**
VRH e*PP **pwP** **04 34 52.9 -1.2**
VRH pmax pmax
comp=Z,50nm,0.6s
G38A Ridgeland 64.80 48 P **P 04 34 43.2 +0.4**
baz=320
ANMO Albuquerque 64.95 65 eP **P 04 34 45.4 +1.1**
comp=Z,14nm,1.4s
ANMO Albuquerque 64.95 65 P **P 04 34 45.5 +1.3**
comp=Z,3.4nm,1.0s,baz=313,slow=6.1,SNR=9.9
LAZ Ladron 64.97 66 eP **P 04 34 46.4 +2.0**
H38A Maiden Rock 64.98 49 P **P 04 34 44.8 +0.7**
baz=320
F40A Park Falls 65.01 47 P **P 04 34 44.3 +0.1**
baz=320
G39A Holcombe 65.02 48 P **P 04 34 44.4 +0.1**
baz=320
E41A Kenton 65.10 46 P **P 04 34 44.8 0.0**
baz=321
HYA Hoyanger 65.14 347 eP **P 04 34 45.4 +0.6**
LENM Lemitar 65.24 66 eP **P 04 34 48.1 +2.0**
SKAR Skarslia 65.28 345 eP **P 04 34 45.7 -0.2**
SLIT Slitere, Latvi 65.33 337 eP **P 04 34 43.5 -2.6**
SLIT IAmb IAmb 04 34 58.8
comp=Z,791nm,0.9s
KSM Kuching 65.59 238 eP **P 04 34 50.7 +2.4**
comp=Z,38nm,1.0s
F41A Three Lakes 65.60 46 P **P 04 34 48.3 +0.2**
baz=321
VSR Storozhevoye 65.72 324 eP **P 04 34 47.4 -1.3**
VSR e*PP **sP** **04 34 58.1 +0.1**
VSR pmax pmax
comp=Z,40nm,0.7s
VORD Divnogorie 65.88 324 eP **P 04 34 48.5 -1.2**
VORD e*PP **pwP** **04 35 00.1 -1.0**
VORD pmax pmax
comp=Z,30nm,0.8s
H40A Chili 65.89 48 P **P 04 34 50.6 +0.7**
baz=321
319A Douglas 65.97 69 eP **P 04 34 52.9 +2.0**
comp=Z,33nm,1.1s
IZAR Zarasai 65.98 334 eP **P 04 34 49.2 -1.0**
IZAR IAmb IAmb 04 34 53.1
comp=Z,26nm,0.7s
BER Bergen 66.01 347 eP **P 04 34 50.9 +0.5**
KONO Kongsberg 66.06 344 eP **P 04 34 51.4 +0.6**
comp=Z,55nm,1.4s
KONO Kongsberg 66.06 344⇑i P **P 04 34 51.1 +0.4**
KONO pmax pmax
comp=Z,22nm,1.2s
IDID Didziasalis 66.23 333 eP **P 04 34 50.5 -1.4**
IDID IAmb IAmb 04 34 53.7
comp=Z,27nm,1.0s
G42A Mountain 66.29 46 P **P 04 34 52.1 -0.3**
baz=322
SCHQ Schefferville 66.29 28 eP **P 04 34 52.9 +0.5**
comp=Z,16nm,0.8s
SCHQ Schefferville 66.29 28 P **P 04 34 52.2 -0.1**
comp=Z,5.3nm,0.7s,baz=338,slow=6.8,SNR=7.5
NACGM Naroch 66.57 333 e **P 04 34 52.0 -2.1**
MICGM Minsk 66.61 332⇓eP **P 04 34 54.0 -0.4**
MICGM PM 04 34 55.0
comp=Z,0.3nm,1.2s
MICGM PM 04 34 56.0
comp=E,0.3nm,1.2s
MICGM e 04 35 06.0
MNK Minsk 66.61 332⇓eP **P 04 34 54.0 -0.4**
MNK e 04 35 06.0
MNK pmax pmax
comp=Z,340nm,1.2s
MNK pmax pmax
comp=N,300nm,1.2s
SCIA State Center 66.65 51 eP **P 04 34 56.5 +1.7**
comp=N,92nm,1.0s
SCIA State Center 66.65 51 P **P 04 34 55.4 +0.6**
baz=320
K39A Oelwein 66.67 50 P **P 04 34 55.5 +0.6**
baz=321
J40A Soldiers Grove 66.67 49 P **P 04 34 55.4 +0.4**
baz=321
BLS5 Blasjo 66.77 346 eP **P 04 34 53.8 -1.5**
PABE Paberze 66.80 335 eP **P 04 34 54.6 -1.0**
PABE IAmb IAmb 04 35 08.3
comp=Z,211nm,1.0s
H42A Shiocton 66.81 47 P **P 04 34 54.7 -1.1**
baz=322
PBUR Paburg 66.86 336 eP **P 04 34 54.5 -1.4**
PBUR IAmb IAmb 04 35 08.7
comp=Z,142nm,1.0s
D46A Sault St. Mari 66.87 42 P **P 04 34 55.5 -0.7**
baz=323
K40A Colesburg 67.02 49 P **P 04 34 57.0 -0.2**
baz=321
J41A Loganville 67.03 48 P **P 04 34 56.8 -0.4**
baz=321
MATQ Matagami 67.05 37 P **P 04 34 56.3 -1.0**
baz=326
L39A Vinton 67.06 50 P **P 04 34 57.4 -0.1**
baz=321

I42A Draeger Farm, 67.12 47 P **P 04 34 57.1 -0.8**
baz=322
D47A Chapleau 67.12 42 P **P 04 34 56.9 -0.9**
baz=324
H43A Windswept, Lux 67.18 46 P **P 04 34 57.8 -0.3**
baz=322
F45A CMU Biological 67.21 44 P **P 04 34 58.2 -0.1**
baz=323
F46A Macinaw City C 67.46 44 P **P 04 34 59.6 -0.3**
baz=323
I43A Langenfeld Bro 67.47 47 P **P 04 34 59.5 -0.5**
baz=322
J42A Columbus 67.47 48 P **P 04 34 59.8 -0.3**
baz=322
L40A Anamosa 67.48 50 eP **P 04 35 00.9 +0.8**
comp=Z,38nm,1.1s
L40A Anamosa 67.48 50 P **P 04 34 60.0 -0.1**
baz=321
E47A Iron Bridge 67.53 42 P **P 04 35 00.3 -0.1**
baz=324
MSTX Muleshoe 67.71 63 eP **P 04 35 02.4 +0.5**
comp=Z,17nm,1.0s
MSTX Muleshoe 67.71 63 P **P 04 35 01.8 -0.1**
baz=319
J43A Natural Harves 67.75 47 P **P 04 35 01.3 -0.4**
baz=322
G46A Petoskey 67.78 44 P **P 04 35 01.3 -0.6**
baz=323
K42A Prairie Point, 67.79 48 P **P 04 35 01.6 -0.5**
baz=322
GEYT Alibeck 67.82 304 P **P 04 35 02.2 -0.2**
comp=Z,9.7nm,0.7s,baz=12,slow=3.5,SNR=18
H45A Beulah 67.82 45 P **P 04 35 01.6 -0.6**
baz=323
LSQQ Lebel-sur-Quev 67.88 37 P **P 04 35 01.9 -0.6**
baz=326
MNTX Cornudas Mount 67.96 67 eP **P 04 35 04.2 +0.9**
comp=Z,18nm,1.1s
E48A Lockeyer 67.97 42 P **P 04 35 02.9 -0.2**
baz=324
CHGQ Chibougamau 68.10 35 P **P 04 35 03.0 -0.9**
baz=327,SNR=6.3
N40A Mertquake, Sal 68.22 51 P **P 04 35 03.8 -1.0**
baz=321
L42A Oliver, Polo 68.25 49 eP **P 04 35 06.0 +1.1**
comp=Z,27nm,0.9s
L42A Oliver, Polo 68.25 49 P **P 04 35 04.6 -0.4**
baz=322
GLMI Grayling 68.28 44 P **P 04 35 04.7 -0.4**
baz=323
F48A Evansville 68.31 42 P **P 04 35 04.2 -1.1**
baz=324
G47A Hillman 68.32 43 P **P 04 35 04.8 -0.5**
baz=324
M41A Milan 68.33 50 P **P 04 35 05.9 +0.4**
baz=322
VLDQ Val d'Or 68.48 38 eP **P 04 35 05.7 -0.6**
comp=Z,26nm,1.2s
L43A Garden Prairie 68.54 48 P **P 04 35 06.7 0.0**
baz=322
N41A Harden Midland 68.70 51 eP **P 04 35 08.9 +1.1**
comp=Z,93nm,1.0s
N41A Harden Midland 68.70 51 P **P 04 35 08.1 +0.3**
baz=322,SNR=5.8
MAK Makhachkala 69.01 314 eP **P 04 35 09.3 -0.3**
MAK eS **S** **04 44 10.8 -1.9**
MAK pmax pmax
comp=Z,174nm,1.1s
MAK MLR MLR
comp=Z,5µm,15.0s
MUD Monsted U'grnd 69.16 343 i P **P 04 35 11.1 +0.8**
MUD Monsted U'grnd 69.16 343 i P **P 04 35 11.1 +0.8**
I48A Sherman Twp 69.18 44 P **P 04 35 10.9 +0.2**
baz=324
COP Copenhagen 69.29 341 eP **P 04 35 11.9 +0.8**
COP Copenhagen 69.29 341 i P **P 04 35 11.9 +0.8**
WMOK Wichita Mounta 69.29 60 eP **P 04 35 11.5 -0.1**
comp=Z,23nm,0.9s
WMOK Wichita Mounta 69.29 60 P **P 04 35 11.4 -0.1**
baz=320
BSD Bornholm Skovb 69.31 340 i P **P 04 35 11.9 +0.6**
BSD Bornholm Skovb 69.31 340 i P **P 04 35 11.9 +0.6**
J47A Sunmer 69.46 45 P **P 04 35 11.8 -0.7**
baz=324
K46A Dorr 69.48 46 P **P 04 35 11.8 -0.8**
baz=323
AKASG Malin Array Be 69.52 329 P **P 04 35 11.3 -1.4**
comp=Z,25nm,0.5s,baz=30,slow=6.9,SNR=48
AKBB Malin Array Si 69.52 329 eP **P 04 35 11.3 -1.4**
comp=Z,148nm,1.2s
E52A Mattawa 69.53 40 P **P 04 35 12.0 -0.8**
baz=326
KIEV Kiev 69.53 329⇑i P **P 04 35 12.0 -0.8**
KIEV Kiev 69.53 329 i P **P 04 35 10.4 -2.4**
SNR=42
KIEV Kiev 69.53 329d iP **P 04 35 10.8 -2.0**
KIEV pmax pmax
comp=Z,81nm,1.1s
HDIL Hopedale 69.56 50 eP **P 04 35 14.4 +1.3**
comp=Z,54nm,0.9s
HDIL Hopedale 69.56 50 P **P 04 35 12.3 -0.8**
baz=322
GROC Groznyy 69.57 315 eP **P 04 35 10.2 -2.9**
GROC e 04 35 31.7
GROC e*SP **PcP** **04 35 33.3 -2.8**
GROC e 04 37 47.6
GROC pmax pmax
comp=Z,53nm,1.1s
D54A Lac Fusel, La 69.58 38 P **P 04 35 12.0 -1.1**
baz=327
K47A Vermontville 69.83 46 P **P 04 35 14.2 -0.6**
baz=324
BUKO Buck Lake 69.93 40 P **P 04 35 14.9 -0.5**
baz=326
TUL1 Leonard 69.96 57 eP **P 04 35 16.9 +1.2**
comp=Z,33nm,1.2s
TUL1 Leonard 69.96 57 P **P 04 35 17.2 +1.5**
baz=321
E54A Lac Daplat, Po 69.98 39 P **P 04 35 14.5 -1.1**
baz=327
RGN Rugen 70.18 340 eP **P 04 35 17.7 +1.1**
comp=Z,119nm,1.0s
BASO Ashfield 70.18 43 P **P 04 35 16.3 -0.6**
baz=325
Q42A Golden Eagle 70.26 52 P **P 04 35 18.0 +0.6**
baz=322,SNR=6.4
KIV Kislovodsk 70.29 317 eP **P 04 35 18.4 +0.8**
comp=Z,23nm,0.7s
KIV Kislovodsk 70.29 317⇑i P **P 04 35 18.0 +0.4**
KIV Kislovodsk 70.29 317 i P **P 04 35 17.7 +0.1**
SNR=25
KIV Kislovodsk 70.29 317 eP **P 04 35 17.4 -0.2**
KIV pmax pmax
comp=Z,69nm,1.0s
KIV MLR MLR
comp=Z,8µm,18.0s
KIV Kislovodsk 70.29 317 P **P 04 35 16.9 -0.7**
SNR=19
L47A Sherwood 70.30 46 P **P 04 35 18.4 +0.8**
baz=324
R41A Rosebud 70.33 53 P **P 04 35 19.3 +1.4**
baz=322
KBZ Khabaz 70.38 317 P **P 04 35 17.5 -0.6**
comp=Z,32nm,0.9s,baz=74,slow=2.8,SNR=39
K49A Clarkson 70.42 45 P **P 04 35 18.2 -0.1**
baz=324
ABTX Abilene, Hawle 70.44 62 eP P 04 35 24.0 +5.3
comp=Z,17nm,0.9s
GKP Gorka Klasztor 70.50 338 eP P 04 35 31.4 +13
G53A Haliburton 70.51 40 P **P 04 35 18.2 -0.7**
baz=326
CCM Cathedral Cave 70.59 53 eP **P 04 35 20.9 +1.4**
comp=Z,27nm,1.1s
CCM Cathedral Cave 70.59 53 P **P 04 35 20.8 +1.4**
baz=322
PEMO Pembroke 70.59 39 P **P 04 35 18.6 -0.7**
baz=327
L48A N Adams 70.67 46 P **P 04 35 21.5 +1.6**
baz=324
S41A Jillco Farms, 70.71 53 P **P 04 35 21.6 +1.4**
baz=322
LTX Lajitas 70.71 67 eP **P 04 35 21.0 +0.5**
TXAR Lajitas Array 70.71 67 P **P 04 35 21.0 +0.5**
comp=Z,2.1nm,0.4s,baz=294,slow=4.5,SNR=27
AAM Ann Arbor 70.72 45 P **P 04 35 20.9 +0.7**
baz=324
ZEI Tsey 70.72 316 eP **P 04 35 18.2 -2.3**

ZEI pmax pmax
comp=Z,30nm,0.9s
PSI Prapat 70.73 249 eP **P 04 35 21.0 +0.3**
comp=Z,6.9nm,0.7s
PSI Prapat 70.73 249 P **P 04 35 21.0 +0.3**
PSI Prapat 70.73 249 P **P 04 35 21.0 +0.3**
comp=Z,2.6nm,0.6s,baz=315,slow=2.9,SNR=3.0
NEY Neytrino 70.85 317 eP **P 04 35 20.8 -0.4**
BANO Bancroft 70.87 40 P **P 04 35 21.2 +0.2**
baz=327
BEL Belsk 70.94 335 eP **P 04 35 22.1 +0.8**
BEL Belsk 70.94 335 eP **P 04 35 22.1 +0.8**
FVM French Village 71.04 52 eP **P 04 35 24.2 +2.0**
comp=Z,36nm,1.3s
TBLG Delisi 71.22 315 eP **P 04 35 24.0 +0.8**
comp=Z,33nm,0.9s
N48A Decatur 71.28 47 P **P 04 35 24.8 +1.2**
baz=324
P46A Rosedale 71.28 49 P **P 04 35 23.2 -0.4**
baz=323
Q45A Warren Harvey, 71.41 50 P **P 04 35 25.3 +0.9**
baz=323
W39A Magazine 71.55 56 P **P 04 35 26.4 +1.1**
baz=322
HYB Hyderabad 71.58 275 i P **P 04 35 25.5 -0.3**
comp=Z,75nm,1.0s
HYB e 04 35 36.5
U41A Viola 71.59 54 P **P 04 35 26.2 +0.6**
baz=322
N49A Columbus Grove 71.61 46 P **P 04 35 27.2 +1.6**
baz=324
ANN Anapa 71.70 321 eP **P 04 35 24.2 -1.8**
ANN e*PP **sP** **04 35 35.9 +0.5**
ANN e 04 38 03.6
ANN eS **S** **04 44 46.8 +2.8**
ANN pmax pmax
comp=Z,64nm,1.8s
ANN MLR MLR
comp=Z,4µm,17.0s
O48A Farmland 71.71 47 P **P 04 35 26.2 -0.1**
baz=324
SOC Sochi 71.81 319 eP **P 04 35 26.1 -0.7**
SOC e*PP **sP** **04 35 36.5 +0.4**
SOC e*SP **PcP** **04 35 47.3 +1.7**
SOC ePPP PPP 04 39 43.7
SOC eS **S** **04 44 45.3 -0.1**
SOC eSS **SS** **04 49 18.6 -2.0**
SOC pmax pmax
comp=Z,40nm,1.0s
SOC MLR MLR
comp=Z,5µm,14.0s
P47A Martinsville 71.82 48 P **P 04 35 26.9 0.0**
baz=324
R45A Skylar, Fairfi 71.83 51 P **P 04 35 27.9 +0.9**
baz=323
S44A Carbondale 71.84 52 P **P 04 35 27.5 +0.5**
baz=323
LVV L'vov 71.87 332 eP **P 04 35 26.9 -0.1**
PBMO Poplar Bluff 71.99 53 eP **P 04 35 29.8 +1.8**
comp=Z,38nm,1.2s
JCT Junction City 72.00 64 P **P 04 35 27.7 -0.4**
baz=321
ESK Eskdalemuir 72.00 350 eP **P 04 35 28.4 +0.7**
comp=Z,22nm,1.0s
RUE Ruedersdorf 72.02 339 eP **P 04 35 26.8 -1.0**
RUE IAmb IAmb 04 35 31.0
comp=Z,52nm,0.9s
AKH Akhalkalaki 72.02 315 eP **P 04 35 29.4 +1.1**
comp=Z,68nm,1.1s
AKH Akhalkalaki 72.02 315⇓i P **P 04 35 28.6 +0.3**
O49A Covington 72.13 47 P **P 04 35 28.7 -0.1**
baz=324
MIAR Mount Ida 72.16 57 eP **P 04 35 29.8 +0.7**
comp=Z,22nm,1.2s
MIAR Mount Ida 72.16 57 P **P 04 35 28.9 -0.2**
baz=322
S45A Carrier Mills 72.17 51 P **P 04 35 28.3 -0.7**
baz=323
Q47A Bedord North L 72.19 49 P **P 04 35 28.7 -0.4**
baz=324
P48A Milroy 72.22 48 P **P 04 35 28.9 -0.4**
baz=324
W41B Gary Mavity, V 72.35 55 eP **P 04 35 32.2 +2.1**
comp=Z,28nm,1.1s
W41B Gary Mavity, V 72.35 55 P **P 04 35 31.6 +1.5**
baz=322
USIN University of 72.38 50 eP **P 04 35 32.7 +2.4**
comp=Z,123nm,1.4s
KWP Kalwaria Pacla 72.41 333 eP **P 04 35 29.3 -1.0**
KWP Kalwaria Pacla 72.41 333 eP **P 04 35 29.2 -1.0**
comp=Z,2µm,1.1s
KWP Kalwaria Pacla 72.41 333 eP **P 04 35 29.3 -1.0**
L53A Girard 72.46 43 P **P 04 35 30.9 +0.3**
baz=326
O50A Cable 72.48 46 P **P 04 35 31.6 +0.8**
baz=325
LONY Lake Ozonia 72.50 38 P **P 04 35 31.0 +0.1**
baz=328
GNI Garni 72.50 314 eP **P 04 35 32.7 +1.5**
comp=Z,151nm,1.5s
GNI Garni 72.50 314 i P **P 04 35 31.8 +0.6**
SNR=10
GNI Garni 72.50 314c iP **P 04 35 31.8 +0.6**
GNI pmax pmax
comp=Z,214nm,1.4s
GNI Garni 72.50 314 P **P 04 35 32.3 +1.2**
SNR=9.0
Q48A North Vernon 72.51 48 P **P 04 35 32.3 +1.3**
baz=324
X40A Basin Creek Fa 72.59 56 P **P 04 35 32.2 +0.7**
baz=322
BATM Batumi 72.63 317⇑i P **P 04 35 31.3 -0.4**
R47A Wooly Knot Far 72.65 49 P **P 04 35 33.2 +1.3**
baz=324
OJC Ojcow 72.67 335 eP **P 04 35 32.6 +0.8**
OJC Ojcow 72.67 335 eP **P 04 35 32.4 +0.6**
comp=Z,60nm,1.1s
OJC Ojcow 72.67 335 eP **P 04 35 32.6 +0.8**
M53A Wl Miller and 72.71 44 P **P 04 35 32.4 +0.3**
baz=326
MOQ Mont Orford 72.77 36 eP **P 04 35 33.5 +1.0**
BCA Borcka 72.79 316 eP P 04 35 44.2 +11
BCA Borcka 72.79 316⇑i P **P 04 35 32.5 -0.2**
WCI Wyandotte Cave 72.82 49 eP **P 04 35 34.7 +1.9**
WCI ePcP **pwP** **04 35 45.6 +0.5**
WCI Wyandotte Cave 72.82 49 P **P 04 35 33.7 +0.9**
baz=324
SIM Simferopol' 72.82 323 eP **P 04 35 32.8 0.0**
SIM e 04 35 44.0
SIM e*PP **PcP** **04 35 52.0 +2.1**
SIM pmax pmax
comp=Z,23nm,1.3s
SIM MLR MLR
comp=Z,3µm,16.2s
Q49A Aurora 72.83 48 P **P 04 35 34.2 +1.2**
baz=324
P50A Jamestown 72.84 47 P **P 04 35 34.6 +1.6**
baz=325
R48A Northridge Ran 72.87 49 P **P 04 35 34.9 +1.7**
baz=324
KIS Kishinev 72.89 328 i PcP **PcP** **04 35 43.0 -7.1**
KIS LRM MLR 05 09 24.0
comp=Z,1µm,16.0s
KIS Kishinev 72.89 328⇑i P **P 04 35 32.0 -1.1**
KIS i 04 35 43.0
KIS pmax pmax
comp=Z,210nm,2.0s
KIS MLR MLR
comp=Z,1µm,16.0s
KSP Ksiaz 72.97 337 eP **P 04 35 33.6 0.0**
KSP Ksiaz 72.97 337 eP **P 04 35 33.6 0.0**
T46A Princeton 73.01 51 P **P 04 35 34.8 +0.8**
baz=324,SNR=8.5
S47A Hartford 73.05 50 P **P 04 35 34.7 +0.5**
baz=324
CTA Charters Tower 73.07 194 P **P 04 35 34.6 +0.2**
comp=Z,3.2nm,0.8s,baz=343,slow=14,SNR=2.2
IAS Iasi 73.13 329⇑i P **P 04 35 34.3 -0.2**
BATG Bathurst New B 73.16 31 eP **P 04 35 36.0 +1.2**
comp=Z,17nm,1.0s
KOLS Kolonicke sedl 73.17 333 eP **P 04 35 35.2 +0.4**
KOLS pmax pmax
comp=Z,20nm,1.1s
KOLS Kolonicke sedl 73.17 333 eP **P 04 35 35.1 +0.3**
NIE Niedzica 73.27 334 eP **P 04 35 36.1 +0.7**
NIE Niedzica 73.27 334 eP **P 04 35 36.1 +0.7**

CLL	Collm	73.28	339	eP		P	04 35 34.2 -1.2
	comp=Z,58nm,1.0s						
CLL	Collm	73.28	339	eP		P	04 35 34.0 -1.4
CLL				e			04 35 45.0
CLL				i			04 35 48.8
CLL				eS		SKiKP	04 45 06.0 +1.4
CLL					pmax	pmax	
	comp=Z,62nm,1.0s						
CLL	Collm	73.28	339	eP		P	04 35 34.0 -1.4
	comp=Z,62nm,1.0s						
CLL				e			04 35 45.0
CLL				i			04 35 48.8
CLL				e			04 35 57.0
CLL				eS		SKiKP	04 45 06.0 +1.4
CLL				eSS		SS	04 49 48.0 +5.4
CLL				e			04 53 48.0
R49A	Shelbyville	73.29	49	P		P	04 35 36.1 +0.4
	baz=324						
O52A	Adamsville	73.30	45	eP		P	04 35 40.5 +4.8
	comp=Z,28nm,0.9s						
SEVA	Sevastopol	73.34	323	⇑iP		P	04 35 35.6 -0.2
UPC	Upice	73.35	337	eP		P	04 35 36.1 +0.3
UPC				e			04 35 48.2
UPC					MLR	MLR	
	comp=Z,6μm,14.7s						
UPC	Upice	73.35	337	eP		P	04 35 36.1 +0.3
UPC				ex		x	04 35 48.2
UPC					AMS	AMS	05 14 30.0
	comp=Z,6μm,14.7s						
S48A	Wiedeman Farm,	73.39	49	P		P	04 35 35.9 -0.4
	baz=324						
N54A	Moraine State	73.39	43	P		P	04 35 36.5 +0.3
	baz=326						
PRAR	RASCA	73.40	330	⇑iP		P	04 35 35.6 -0.6
DPC	Dobruska-Polom	73.42	337	eP		P	04 35 36.0 -0.3
DPC				e			04 35 48.9
DPC					MLR	MLR	
	comp=Z,5μm,14.5s						
DPC	Dobruska-Polom	73.42	337	eP		P	04 35 36.0 -0.3
DPC				ex		x	04 35 48.9
DPC					AMS	AMS	05 14 20.0
	comp=Z,5μm,14.5s						
T47A	Sharon Grove	73.43	51	eP		P	04 35 38.7 +2.2
	comp=Z,51nm,1.1s						
T47A	Sharon Grove	73.43	51	P		P	04 35 37.8 +1.3
	baz=324						
UZH	Uzhgorod	73.44	333	eP		P	04 35 36.5 +0.2
UZH				i			04 35 48.0
OKC	Ostrava-Krasne	73.45	336	eP		P	04 35 37.2 +0.8
OKC				e			04 35 49.4
OKC					MLR	MLR	
	comp=Z,4μm,15.8s						
OKC	Ostrava-Krasne	73.45	336	eP		P	04 35 37.2 +0.8
OKC				ePCP		pwP	04 35 49.4 +1.8
OKC					AMS	AMS	05 11 50.0
	comp=Z,4μm,15.8s						
BUR08	Bucovina Ar. S	73.47	330	eP		P	04 35 35.3 -1.4
	comp=Z,34nm,0.8s						
BRG	Berggiesshubel	73.49	339	i P		P	04 35 36.8 +0.2
	comp=Z,22nm,1.0s						
BRG				e			04 35 48.0
	comp=Z,38nm,1.4s						
BRG	Berggiesshubel	73.49	339	i P		P	04 35 36.8 +0.2
BRG				e			04 35 48.0
BRG					pmax	pmax	
	comp=Z,23nm,1.0s						
BRG					MLR	MLR	
	comp=N,3μm,15.1s						
BRG					MLR	MLR	
	comp=E,2μm,13.8s						
BRG					MLR	MLR	
	comp=Z,5μm,14.0s						
BURAR	Bucovina Array	73.49	330	⇓iP		P	04 35 35.4 -1.4
Q51A	Peebles	73.52	47	P		P	04 35 38.6 +1.6
	baz=325						
P52A	Corning	73.56	46	P		P	04 35 38.9 +1.6
	baz=326						
KRLC	Kraliky	73.57	337	eP		P	04 35 37.6 +0.4
KRLC				e			04 35 49.7
KRLC	Kraliky	73.57	337	eP		P	04 35 37.6 +0.4
KRLC				ex		x	04 35 49.7
S49A	Springfield	73.64	49	P		P	04 35 38.2 +0.4
	baz=324						
MORC	Moravsky Berou	73.65	336	eP		P	04 35 36.7 -1.0
	comp=Z,46nm,1.1s						
MORC	Moravsky Berou	73.65	336	⇓iP		P	04 35 37.0 -0.7
MORC	Moravsky Berou	73.65	336	eP		P	04 35 36.0 -1.7
PVCC	Panska Ves	73.67	338		AMS	AMS	05 14 20.0
	comp=Z,7μm,13.4s						
T48A	Bowling Green	73.67	50	P		P	04 35 38.0 +0.1
	baz=324						
R50A	Paris	73.68	48	P		P	04 35 38.0 0.0
	baz=325						
CLDR	Caldiran	73.69	314	eP		P	04 35 38.1 -0.2
LANS	Liptovska Anna	73.73	335	eP		P	04 35 39.3 +1.1
LANS	Liptovska Anna	73.73	335	eP		P	04 35 39.3 +1.1
AGRB	Hanur-Agry	73.74	314	eP		P	04 35 39.7 +1.1
WVT	Waverly	73.77	52	eP		P	04 35 40.1 +1.6
	comp=Z,23nm,1.0s						
WVT	Waverly	73.77	52	P		P	04 35 39.9 +1.4
	baz=324						
NATX	Nacogdoches	73.78	59	P		P	04 35 39.0 +0.4
	baz=322						
U47A	Clarksville	73.78	51	P		P	04 35 39.9 +1.4
	baz=324						
BIZ	Bicaz	73.82	329	⇑iP		P	04 35 38.8 +0.2
TRPA	Tarpa	73.82	332	⇑iP		P	04 35 38.1 -0.5
PKME	Peaks-Kenny Pk	73.86	34	P		P	04 35 40.2 +1.3
	baz=331						
WTSB	Winterswijk	73.87	343	eP		P	04 35 39.2 +0.4
	comp=Z,73nm,1.1s						
KOPR	Koprukoy-ERZUR	73.89	315	eP		P	04 35 40.8 +1.4
V46A	Holladay	73.90	52	P		P	04 35 40.1 +0.8
	baz=324,SNR=6.6						
BMR	Baia Mare	73.95	331	⇑iP		P	04 35 40.0 +0.6
KTUT	Trabzon	73.95	317	eP		P	04 35 40.6 +1.1
N55A	Marion Center	73.97	43	eP		P	04 35 44.6 +5.0
	comp=Z,20nm,1.1s						
N55A	Marion Center	73.97	43	P		P	04 35 39.9 +0.2
	baz=327						
BINY	Binghamton	74.00	40	P		P	04 35 39.6 -0.3
	baz=328						
R51A	Hillsboro	74.00	47	P		P	04 35 38.2 -1.7
	baz=325						
P53A	Whipple	74.01	45	P		P	04 35 38.9 -0.9
	baz=326						
TESR	Tescani	74.02	329	⇑iP		P	04 35 38.5 -1.3
KECS	Kecovo	74.07	334	eP		P	04 35 40.8 +0.7
KECS					pmax	pmax	
	comp=Z,48nm,0.8s						
KECS	Kecovo	74.07	334	eP		P	04 35 40.8 +0.7
T49A	Edmonton	74.08	49	eP		P	04 35 42.2 +1.9
	comp=Z,15nm,1.0s						
T49A	Edmonton	74.08	49	P		P	04 35 40.8 +0.5
	baz=324						
U48A	Cassie Pea, Po	74.08	51	P		P	04 35 40.9 +0.5
	baz=324,SNR=5.5						
DZM	Mont Dzumac	74.14	174	eS		S	04 45 11.2 -1.0
	comp=Z,2μm,25.8s						
DZM	Mont Dzumac	74.14	174	eLR		LR	04 58 27.0
	comp=Z,2μm,21.6s						
DZM	Mont Dzumac	74.14	174	eP		P	04 35 40.2 -0.5
	comp=Z,22nm,1.1s						
DZM	Mont Dzumac	74.14	174	P		P	04 35 40.2 -0.5
	comp=Z,4.1nm,0.9s,baz=52,slow=19,SNR=4.4						
V47A	Nunnelly	74.16	52	P		P	04 35 40.5 -0.3
	baz=324						
PRU	Pruhonice	74.18	338	eP		P	04 35 41.4 +0.7
PRU				e			04 35 53.1
PRU					MLR	MLR	
	comp=Z,8μm,13.3s						
PRU	Pruhonice	74.18	338	eP		P	04 35 41.4 +0.7
PRU				ex		x	04 35 53.1
PRU					AMS	AMS	05 14 40.0
	comp=Z,8μm,13.3s						
GOPC	GO Pecny, Ondr	74.19	338	eP		P	04 35 41.1 +0.3
GOPC				e			04 35 52.7
GOPC					MLR	MLR	
	comp=Z,5μm,13.5s						
GOPC	GO Pecny, Ondr	74.19	338	eP		P	04 35 41.1 +0.3
GOPC				ex		x	04 35 52.7
GOPC					AMS	AMS	05 14 30.0
	comp=Z,5μm,13.5s						
ARCR	ARCALIA	74.22	331	⇑iP		P	04 35 40.9 -0.1
OXF	Oxford	74.29	54	P		P	04 35 42.2 +0.6
	baz=323						
O55A	Ligonier	74.31	43	P		P	04 35 41.5 -0.2
	baz=327						
P54A	Burton	74.31	45	P		P	04 35 41.5 -0.2
	baz=326						
VRAC	Vranov	74.32	336	⇓iP		P	04 35 41.9 +0.3
VRAC	Vranov	74.32	336	eP		P	04 35 40.4 -1.2
VANB	Van	74.37	314	eP		P	04 35 42.4 +0.2
NKC	Novy Kostel	74.42	339	eP		P	04 35 42.6 +0.5
NKC				e			04 35 53.9
NKC					MLR	MLR	
	comp=Z,3μm,14.5s						
NKC	Novy Kostel	74.42	339	eP		P	04 35 42.6 +0.5
NKC				ePCP		pwP	04 35 53.9 +0.6
NKC					AMS	AMS	05 16 50.0
	comp=Z,3μm,14.5s						
U49A	Red Boiling Sp	74.44	50	P		P	04 35 42.5 +0.1
	baz=324						
Q53A	Leroy	74.47	46	P		P	04 35 43.3 +0.8
	baz=326						
JAVC	Velka Javorina	74.47	336	eP		P	04 35 42.1 -0.4
T50A	Nancy	74.47	49	P		P	04 35 42.6 0.0
	baz=325						
TLCR		74.48	327	⇑iP		P	04 35 42.9 +0.4
VYHS	Vyhne	74.50	335	eP		P	04 35 43.4 +0.8
VYHS					pmax	pmax	
	comp=Z,12nm,1.0s						
VYHS	Vyhne	74.50	335	eP		P	04 35 43.4 +0.8
CLTN	Cedars of Leba	74.52	51	eP		P	04 35 44.2 +1.3
	comp=Z,21nm,1.0s						
MCWV	Mont Chateau	74.53	44	P		P	04 35 42.0 -0.9
	baz=327						
PETR	Petresti	74.54	328	⇑iP		P	04 35 43.2 +0.4
S51A	Beattyville	74.54	48	P		P	04 35 43.8 +0.8
	baz=325						
SSPA	Standing Stone	74.54	42	P		P	04 35 42.4 -0.6
	baz=327						
O56A	Blue Knob Stat	74.57	43	eP		P	04 35 48.2 +5.1
	comp=Z,14nm,0.8s						
O56A	Blue Knob Stat	74.57	43	P		P	04 35 41.7 -1.5
	baz=327						
V48A	Smith Brothers	74.57	51	eP		P	04 35 45.1 +1.9
	comp=Z,21nm,1.0s						
V48A	Smith Brothers	74.57	51	P		P	04 35 43.7 +0.5
	baz=324						
VRI	Vrincioaia	74.57	328	⇑iP		P	04 35 43.3 +0.2
PLAL	Pickwick Lake	74.57	53	eP		P	04 35 44.2 +1.0
	comp=Z,28nm,1.1s						
W47A	Westpoint	74.59	52	P		P	04 35 42.6 -0.7
	baz=324						
KRUC	Moravsky	74.60	336	eP		P	04 35 41.9 -1.2
TREC	Trest	74.60	337	eP		P	04 35 43.8 +0.6
TREC				e			04 35 54.6
TREC					MLR	MLR	
	comp=Z,7μm,14.3s						
TREC	Trest	74.60	337	eP		P	04 35 43.8 +0.6
TREC				ePCP		pwP	04 35 54.6 +0.2
TREC					AMS	AMS	05 15 10.0
	comp=Z,7μm,14.3s						
PLOR	Plostina	74.61	329	⇑iP		P	04 35 43.2 -0.1
OZUR		74.67	329	⇑iP		P	04 35 43.6 0.0
Q54A	Coxs Mills	74.67	45	P		P	04 35 44.1 +0.4
	baz=326						
P55A	Reedsville	74.67	44	P		P	04 35 44.4 +0.7
	baz=327						
R53A	Hurricane	74.71	46	P		P	04 35 44.8 +0.8
	baz=326						
CFR	Carcaliu	74.72	327	⇑iP		P	04 35 43.9 0.0
PSZ	Piszkesteto	74.75	334	eP		P	04 35 45.2 +1.1
	comp=Z,53nm,1.2s						
PSZ	Piszkesteto	74.75	334	⇑iP		P	04 35 44.7 +0.6
VRTB	Varto-Mus	74.76	315	eP		P	04 35 48.7 +4.3
CJR	Cluj-Napoca	74.79	331	⇑iP		P	04 35 45.1 +0.8
DOPR	Dopca	74.91	329	⇑iP		P	04 35 45.8 +0.8
SNOP	Sinop	74.91	321	eP		P	04 35 44.9 -0.2
GRER		74.92	328	⇑iP		P	04 35 46.2 +1.1
T51A	Gray	74.93	48	P		P	04 35 46.5 +1.3
	baz=325						
U50A	Jamestown	74.96	49	P		P	04 35 46.8 +1.3
	baz=325						
DRGR		74.98	331	⇑iP		P	04 35 45.3 -0.2
Q55A	Buckhannon	74.98	45	P		P	04 35 45.5 -0.1
	baz=327						
V49A	McMinnville	74.99	51	P		P	04 35 45.3 -0.3
	baz=325						
W48A	Puski	75.00	52	P		P	04 35 47.1 +1.4
	baz=324						
MODS	Modra-Piesok	75.02	336	eP		P	04 35 46.0 +0.4
MODS					pmax	pmax	
	comp=Z,27nm,1.1s						
MODS	Modra-Piesok	75.02	336	eP		P	04 35 46.0 +0.4
X47A	Russelville	75.05	53	P		P	04 35 44.5 -1.5
	baz=324						
MLR	Muntele Rosu	75.16	329	eP		P	04 35 45.7 -0.9
	comp=Z,49nm,0.8s						
MLR	Muntele Rosu	75.16	329	⇑iP		P	04 35 45.8 -0.8
N59A	State Game Lan	75.17	41	P		P	04 35 46.8 +0.2
	baz=328						
HGN	Heimansgroeve	75.18	344	eP		P	04 35 46.0 -0.5
	comp=Z,68nm,1.0s						
GRA1	Grafenberg Arr	75.19	340	eP		P	04 35 47.3 +0.8
	comp=Z,50nm,0.9s						
GRFO	Grafenberg	75.19	340	eP		P	04 35 46.3 -0.3
	comp=Z,46nm,0.9s						
KHC	Kasperske Hory	75.20	338	eP		P	04 35 45.8 -0.9
	comp=Z,14nm,0.9s						
KHC	Kasperske Hory	75.20	338	c iP		P	04 35 46.7 0.0
KHC					pmax	pmax	
	comp=Z,87nm,1.0s						
KHC	Kasperske Hory	75.20	338	eP		P	04 35 45.6 -1.1
KHC				ex		x	04 35 57.1
KHC					AMS	AMS	05 15 10.0
	comp=Z,8μm,13.6s						
DIKM	Dikmen	75.21	321	eP		P	04 35 47.2 +0.4
DIKM	Dikmen	75.21	321	⇑iP		P	04 35 47.0 +0.2
ZST	Bratislava	75.23	336	eP		P	04 35 46.8 0.0
ZST	Bratislava	75.23	336	eP		P	04 35 46.8 0.0
BNGB	Bingl	75.23	316	eP		P	04 35 47.5 +0.4
T52A	Hallie	75.25	48	eP		P	04 35 51.0 +3.9
	comp=Z,30nm,1.1s						
T52A	Hallie	75.25	48	P		P	04 35 47.1 0.0
	baz=326						
TLB	Topalu	75.27	327	⇓iP		P	04 35 47.1 0.0
MEM	Membach	75.32	344	⇑P		P	04 35 46.7 -0.5
	comp=Z,64nm,1.0s						
W49A	Belvidere	75.34	51	P		P	04 35 47.8 +0.1
	baz=325						
U51A	La Follette	75.38	49	P		P	04 35 48.7 +0.8
	baz=325						
CUKT	Cukurca	75.38	313	eP		P	04 35 48.4 +0.4
KVT	Kavak	75.39	320	eP		P	04 35 48.4 +0.5
WRAB	Tennant Creek	75.40	205	eP		P	04 35 46.7 -1.2
WRAB					pmax	pmax	
	comp=Z,13nm,1.4s						
WR1	Warramunga Arr	75.41	205	eP		P	04 35 47.2 -0.8
WRA	Warramunga Arr	75.41	205	P		P	04 35 47.2 -0.8
	comp=Z,4.7nm,0.8s,baz=22,slow=5,8,SNR=8.7						
UCC	Uccle	75.41	345	⇑P		P	04 35 47.4 -0.3
SWET	Sewanee	75.42	51	eP		P	04 35 49.5 +1.3
	comp=Z,36nm,0.9s						
BZK	Bozkurt	75.43	322	eP		P	04 35 48.2 +0.2
BZK	Bozkurt	75.43	322	⇑iP		P	04 35 48.5 +0.5
GERES	GERESS Array B	75.44	338	P		P	04 35 47.0 -1.1
	comp=Z,52nm,1.2s,baz=31,slow=5.9,SNR=39						
V50A	Pikevile	75.44	50	P		P	04 35 48.3 +0.1
	baz=325						
RSDY	Resadiye-TOKAT	75.45	319	eP		P	04 35 48.9 +0.6
TZTN	Tazewell	75.46	48	P		P	04 35 48.3 0.0
	baz=325						
VOIR		75.49	329	⇑iP		P	04 35 47.9 -0.5
X48A	Hartselle	75.50	52	P		P	04 35 49.2 +0.6
	baz=324						
MFTR	Murfatlar	75.51	327	⇑iP		P	04 35 48.5 +0.1
O59A	Robesonia	75.52	41	P		P	04 35 50.1 +1.5
	baz=328						
R55A	Marlinton	75.56	45	P		P	04 35 49.2 +0.3
	baz=327						
T53A	Wise	75.56	48	P		P	04 35 50.6 +1.6
	baz=326						
VBMS	Vicksburg	75.56	56	P		P	04 35 50.1 +1.1
	baz=323						
BCLA	Clavier	75.62	344	⇓P		P	04 35 49.2 +0.2
	comp=Z,28nm,1.5s						
U52A	Thorn Hill	75.66	48	P		P	04 35 49.9 +0.4
	baz=326						
Q57A	Strasburg	75.67	44	P		P	04 35 50.2 +0.7
	baz=327						
ARR	Arges	75.68	330	⇑iP		P	04 35 49.3 -0.2
V51A	Loudon	75.69	49	P		P	04 35 48.5 -1.2
	baz=325						
SNF	Seneffe	75.70	345	⇑P		P	04 35 50.0 +0.6
	comp=Z,26nm,0.9s						
SVAN	Silvan-Diyarba	75.71	315	eP		P	04 35 50.9 +1.1
W50A	Signal Mountai	75.73	50	eP		P	04 35 51.2 +1.3
	comp=Z,26nm,0.9s						
W50A	Signal Mountai	75.73	50	P		P	04 35 49.1 -0.8
	baz=325						
SIRR	Siria	75.76	332	⇓iP		P	04 35 49.7 -0.2
ICOR	Ion Corvin	75.77	327	⇑iP		P	04 35 50.8 +0.9
SULR		75.78	328	⇑iP		P	04 35 49.5 -0.5
CONA	Conrad Observa	75.78	336	epP		P	04 35 50.1 0.0
	comp=Z,38nm,1.1s,SNR=23						
X49A	Woodville	75.80	52	P		P	04 35 50.9 +0.6
	baz=325						
TOKT	Tokat	75.83	319	eP		P	04 35 50.6 +0.1
PAL	Palisades	75.83	39	P		P	04 35 49.3 -1.0
	baz=329						
LOT	Lotru	75.87	330	⇑iP		P	04 35 51.1 +0.4
Y48A	Jasper	75.88	53	P		P	04 35 50.9 +0.2
	baz=324						
T54A	Tazewell	75.93	47	P		P	04 35 52.7 +1.6
	baz=326						
SVSK	Karacayir	75.99	319	eP		P	04 35 52.4 +1.1
P59A	Jarrettsville	76.01	42	P		P	04 35 51.7 +0.3
	baz=328						
V52A	Sevierville	76.01	49	P		P	04 35 53.2 +1.7
	baz=326						
W51A	Cleveland	76.02	50	P		P	04 35 52.1 +0.5
	baz=325						
PSN	Preselentsi	76.02	326	eP		P	04 35 52.7 +1.3
U53A	Fall Branch	76.05	48	P		P	04 35 52.6 +0.8
	baz=326						
DOU	Dourbes	76.05	344	⇑P		P	04 35 51.9 +0.4
	comp=Z,12nm,0.9s						
X50B	Fort Payne	76.17	51	P		P	04 35 52.5 +0.1
	baz=325						
WLF	Walferdange	76.20	343	eP		P	04 35 53.7 +1.4
	comp=Z,190nm,1.2s						
WLF	Walferdange	76.20	343	⇑P		P	04 35 51.5 -0.8
WLF				⇓PcP		pwP	04 36 03.4 -0.1
	comp=Z,39nm,2.1s						
GZR	Gura Zlata	76.22	331	⇓iP		P	04 35 51.4 -1.2
T55A	Pulaski	76.23	46	P		P	04 35 52.3 -0.5
	baz=327						
R57A	Stanardsville	76.24	44	P		P	04 35 52.2 -0.5
	baz=327						
MOA	Molln	76.25	337	epP		P	04 35 52.5 -0.1
	comp=Z,15nm,0.8s,SNR=12						
U54A	Nelsons Funny	76.26	47	P		P	04 35 51.7 -1.3
	baz=326						
Y49A	Blount Mountai	76.29	52	ePcP		PcP	04 36 05.4 +0.4
BLA	Blacksburg	76.32	46	P		P	04 35 52.8 -0.5
	baz=327						
ILGA	Ilgaz	76.32	321	eP		P	04 35 53.1 -0.4
	comp=Z,140nm,1.1s						
FITZ	Fitzroy Crossi	76.33	214	eP		P	04 35 57.0 +3.8
	comp=Z,24nm,1.3s						
SVRC	Sivrice-ELAZID	76.33	316	eP		P	04 35 54.9 +1.4
BZS	Buzias	76.36	332	⇑iP		P	04 35 53.1 -0.2
ZAIG	Zacatecas	76.37	71	eP		P	04 35 56.8 +2.7
	comp=Z,18nm,1.2s						
R58A	Rapidan	76.46	44	P		P	04 35 55.6 +1.6
	baz=328						
X51A	Calhoun	76.46	51	P		P	04 35 55.8 +1.8
	baz=325						
W52A	Murphy	76.47	50	P		P	04 35 54.6 +0.5
	baz=326						
STU	Stuttgart	76.48	341	eP		P	04 35 56.2 +2.3
	comp=Z,34nm,0.9s						
STU				ePcP		PcP	04 36 06.0 +0.4
ARSA	Arzberg	76.50	336	epP		P	04 35 54.3 +0.2
	comp=Z,15nm,0.7s,SNR=9.2						
S57A	Dark Hollow, R	76.50	45	P		P	04 35 54.6 +0.4
	baz=327						
Y50A	Piedmont	76.59	52	P		P	04 35 56.2 +1.4
	baz=325						
CORM	Corum	76.72	320	eP		P	04 35 56.2 +0.6
CANT	Cankiri	76.74	321	eP		P	04 35 47.0 -8.6
W53A	Cullowhee	76.76	49	P		P	04 35 56.7 +0.8
	baz=326						
Z49A	Columbiana	76.77	53	P		P	04 35 56.8 +1.0
	baz=325						
HERR	Herculane	76.80	331	⇑iP		P	04 35 55.2 -0.6
V54A	Nebo	76.82	48	P		P	04 35 58.2 +2.1
	baz=326						
X52A	Dahlonega	76.89	50	P		P	04 35 57.4 +0.9
	baz=326,SNR=5.1						
YOZ	Yozgat	76.90	320	eP		P	04 35 55.7 -1.0
Y51A	Rockmart	76.91	51	P		P	04 35 56.3 -0.3
	baz=325						
R59A	King George, V	76.92	43	P		P	04 35 59.0 +2.5
	baz=328						
DARE	Darende-Malaty	76.93	318	eP		P	04 35 56.7 -0.1
S58A	Poland Farm, P	77.01	44	P		P	04 35 57.1 0.0
	baz=328						
Z50A	Ashland	77.02	52	eP		P	04 35 58.6 +1.3
	comp=Z,32nm,1.0s						
Z50A	Ashland	77.02	52	P		P	04 35 58.2 +1.0
	baz=325						
BFO	Black Forest	77.08	341	eP		P	04 35 56.2 -1.1
	comp=Z,36nm,1.2s						
BFO	Black Forest	77.08	341	i P		P	04 35 57.5 +0.2
MDVR	Moldovita	77.10	331	⇑iP		P	04 35 57.3 -0.2
SZH	Strazhica	77.14	328	eP		P	04 35 57.7 -0.1
SOKA	Soboth	77.16	336	epP		P	04 35 57.6 -0.3
	comp=Z,32nm,0.7s,SNR=17						
PERS	Pernice	77.17	336	eP		P	04 35 58.0 0.0
KBA	Koelnbreinsper	77.19	338	epP		P	04 35 58.5 +0.3
	comp=Z,129nm,0.8s,SNR=64						
PUNG	Punghina	77.19	330	⇑iP		P	04 35 57.9 -0.1
S59A	Mechanicsville	77.21	43	P		P	04 35 59.9 +1.7
	baz=328						
X53A	Estanollee	77.25	49	P		P	04 35 59.4 +0.9
	baz=326						
W54A	Cherokee Point	77.28	48	P		P	04 35 58.3 -0.4
	baz=326						
FRGS	Fruska Gora	77.30	333	eP		P	04 35 57.7 -0.9
URFA	Urfa	77.33	316	eP		P	04 36 00.4 +1.4
WATA	Walderalm	77.34	339	epP		P	04 35 59.7 +0.7
	comp=Z,18nm,0.7s,SNR=7.8						
BNN	Bunyan	77.37	319	eP		P	04 36 11.6 +12
RETA	Reutte	77.38	340	eP		P	04 35 58.8 -0.3
	comp=Z,24nm,1.1s,SNR=8.4						
WTTA	Wattenberg	77.40	339	epP		P	04 35 59.4 0.0
	comp=Z,53nm,1.1s,SNR=14						
ECH	Echery	77.41	342	eP		P	04 35 59.4 +0.2
	comp=Z,44nm,1.0s						
Y52A	Lilburn	77.41	50	eP		P	04 36 03.8 +4.3
	comp=Z,15nm,1.0s						
Y52A	Lilburn	77.41	50	P		P	04 35 59.1 -0.3
	baz=326						
OBKA	Obir	77.43	337	epP		P	04 35 59.2 -0.3
	comp=Z,42nm,1.1s,SNR=7.3						
MOTA	Moosalm	77.44	339	epP		P	04 35 59.4 -0.2
	comp=Z,38nm,0.9s,SNR=17						
U57A	Blanch	77.45	46	P		P	04 35 59.1 -0.4
	baz=327						
249A	Camden	77.47	54	P		P	04 35 60.0 +0.2
	baz=325						
BR101	Keskin Array S	77.49	321	eP		P	04 35 58.5 -1.5
BR131	Keskin Array S	77.49	321	P		P	04 35 59.0 -0.9
	SNR=42						
BRTR	Keskin Array B	77.49	321	i P		P	04 35 58.2

ANTO	Ankara	77.69 321	⇑iP	P	04 36 01.5	+0.5
ANTO	Ankara	77.69 321	P	P	04 36 01.9	+0.9
	SNR=19					
ANTO			P	P	04 36 01.9	+0.9
	SNR=19					
V57A	Coltrane Farms	77.71 46	P	P	04 36 02.3	+1.3
	baz=327					
DAVA	Damuels	77.76 340	epP	P	04 36 02.2	+0.8
	comp=Z,24nm,1.1s,SNR=9.3					
T59A	Double "B" Far	77.77 44	P	P	04 36 01.7	+0.4
	baz=328					
MDUB	Mudurnu	77.77 323	eP	P	04 36 02.1	+0.6
MDUB	Mudurnu	77.77 323	eP	P	04 36 01.3	-0.2
	comp=Z,534nm,1.2s					
Z52A	Williamson	77.80 51	P	P	04 36 03.0	+1.4
	baz=326					
U58A	Oxford	77.82 45	P	P	04 36 00.8	-0.9
	baz=328					
FETA	Feichten	77.83 339	epP	P	04 36 01.6	-0.1
	comp=Z,33nm,1.0s,SNR=15					
CRES	Cresnjev	77.85 336	eP	P	04 36 01.6	-0.1
KLYT	Kilyos	77.87 325	eP	P	04 36 01.4	-0.4
KLYT	Kilyos	77.87 325	⇑iP	P	04 36 01.7	-0.1
CTYL	Yalíkoy Yolu	77.94 325	eP	P	04 36 02.8	+0.6
AFSR	Afar-Bala (An	77.95 321	eP	P	04 36 02.1	-0.4
W56A	Indian Trail	77.97 47	P	P	04 36 01.7	-0.8
	baz=327					
HRT	Hereke	78.03 324	eP	P	04 36 02.7	-0.1
BGKT	Bogazkoy	78.03 325	eP	P	04 36 03.3	+0.6
ISK	Istanbul-Kandi	78.03 325	eP	P	04 36 02.9	+0.2
GULT	Gulveren	78.06 323	eP	P	04 36 02.9	-0.1
Y54A	Tignall	78.06 49	P	P	04 36 03.5	+0.5
	baz=326					
PHSR	Pinarhisar	78.07 326	eP	P	04 36 01.4	-1.5
PHSR	Pinarhisar	78.07 326	⇑iP	P	04 36 03.4	+0.5
CTKS	Kestanelik-??a	78.07 325	eP	P	04 36 02.3	-0.6
152A	Waverly Hall	78.08 52	P	P	04 36 02.0	-1.1
	baz=326					
PALK	Pallekele	78.09 266	eP	P	04 36 02.3	-1.1
	comp=Z,38nm,0.9s					
PALK	Pallekele	78.09 266	P	P	04 36 02.3	-1.1
	comp=Z,12nm,0.7s,baz=297,slow=3.1,SNR=4.2					
SHME	Shamm	78.10 297	P	P	04 36 02.9	-0.5
Z53A	Monticello	78.12 50	P	P	04 36 04.4	+1.0
	baz=326					
EDRB	Edirne	78.14 327	eP	P	04 36 02.9	-0.4
EDRB	Edirne	78.14 327	P	P	04 36 03.0	-0.4
CEY	Cerknica	78.18 337	eP	P	04 36 02.8	-0.8
SLVT	Silivri	78.18 325	eP	P	04 36 04.4	+0.8
SERE	Sereflikochisa	78.19 320	eP	P	04 36 04.5	+0.7
BUY	Buyukada	78.19 324	eP	P	04 36 03.5	-0.1
BOJS	Bojanci	78.20 336	eP	P	04 36 03.3	-0.3
251A	Midway	78.21 52	P	P	04 36 03.3	-0.6
	baz=325					
DIVS	Divibare	78.22 332	eP	P	04 36 01.9	-2.0
GAZ	Gaziantep	78.23 317	eP	P	04 36 04.2	+0.2
FUORN	Ofenpass-Fuorn	78.31 340	eP	P	04 36 05.6	+1.1
	comp=Z,49nm,1.0s					
KULU	Kulu	78.33 321	eP	P	04 36 05.6	+1.0
ADVT	Abdulvahap	78.34 324	eP	P	04 36 05.7	+1.2
SRCK	Saricakaya, Es	78.36 323	P	P	04 36 04.5	-0.1
BLY	Banja Luka	78.40 334	⇓iP	P	04 36 05.0	+0.3
CLF	Chambon-Foret	78.44 345	eP	P	04 36 05.8	+1.0
	comp=Z,63nm,1.2s					
V59A	Middlesex	78.49 45	P	P	04 36 05.8	+0.4
	baz=328					
Z54A	Sparta	78.50 50	P	P	04 36 06.9	+1.4
	baz=326					
CAVI	Cavuskoy	78.51 324	eP	P	04 36 05.6	+0.2
HAPS	Han Pijesak,BI	78.53 333	eP	P	04 36 02.5	-3.1
GEMT	Gemlik	78.54 324	eP	P	04 36 04.9	-0.7
ARMT	Armutlu	78.54 325	eP	P	04 36 05.5	-0.1
SVRH	Sivrihisar-ESK	78.54 322	eP	P	04 36 05.8	+0.1
KOZT	Kozan	78.55 318	eP	P	04 36 05.8	+0.1
PLD	Plovdiv	78.59 328	eP	P	04 36 06.8	+1.0
VTS	Vitosha	78.59 329	eP	P	04 36 04.6	-1.4
	comp=Z,30nm,0.7s					
VTS	Vitosha	78.59 329	⇑iP	P	04 36 06.1	+0.1
VTS	Vitosha	78.59 329	eP	P	04 36 06.5	+0.5
BBLS	Lazići	78.60 332	eP	P	04 36 05.6	-0.4
MSFE	Esma-Masafi	78.63 297	iP	P	04 36 05.6	-0.7
	SNR=7.9					
TUE	Stuetta	78.64 340	eP	P	04 36 05.8	-0.5
	comp=Z,66nm,0.9s					
MDNY	Mudanya-Bursa	78.70 324	eP	P	04 36 06.3	-0.2
CHBY	Cihanbeyli	78.77 321	P	P	04 36 06.1	-0.9
351A	Pinckard	78.78 53	P	P	04 36 07.7	+0.7
	baz=325					
CIFT	Cifteler, Eski	78.79 322	eP	P	04 36 06.5	-0.6
KIZT	Kizilcal	78.90 322	eP	P	04 36 08.7	+0.9
WSAR	Wadi Sarin	78.93 294	P	P	04 36 07.1	-0.9
CEYT	Ceyhan	78.98 318	eP	P	04 36 08.2	+0.2
KCTX	Karacabey (Bur	78.98 325	eP	P	04 36 07.3	-0.8
BIDO	Bidbid	78.99 294	P	P	04 36 08.0	-0.3
	SNR=14					
BIDO			P	P	04 36 08.0	-0.3
	SNR=14					
RKY	Sarkoy-Tekirda	79.02 326	eP	P	04 36 07.9	-0.4
KARA	Karaisali	79.05 319	eP	P	04 36 09.3	+0.8
HATD	Hatta, Dubai	79.07 296	iP	P	04 36 07.6	-1.1
	SNR=14					
HATD	Hatta, Dubai	79.07 296	P	P	04 36 07.8	-1.0
	SNR=34					
HATD			P	P	04 36 07.8	-1.0
	SNR=34					
AS31	Alice Springs	79.08 205	eP	P	04 36 08.4	-0.1
	comp=Z,2.1nm,0.7s					
ASAR	Alice Springs	79.08 205	P	P	04 36 08.4	-0.1
	comp=Z,3.8nm,0.7s,baz=18,slow=4.6,SNR=11					
EDC	Edincik	79.09 325	eP	P	04 36 08.2	-0.4
PLE	Pljevlja	79.10 332	⇓iP	P	04 36 08.4	-0.4
SENIN	Lac Senin/Sane	79.16 342	eP	P	04 36 10.4	+1.3
	comp=Z,30nm,1.0s					
RDO	Rodhopi	79.17 327	P	P	04 36 03.5	-5.5
YURE	YUREGIR	79.19 318	eP	P	04 36 10.8	+1.6
NAZ	Nazwa, Dubai	79.20 297	iP	P	04 36 08.9	-0.5
	SNR=6.0					
NAZ	Nazwa, Dubai	79.20 297	P	P	04 36 09.3	-0.2
NAZ			P	P	04 36 09.3	-0.2
ASHO	Ashiyiah	79.22 296	iP	P	04 36 08.9	-0.8
	SNR=11					
ASHO	Ashiyiah	79.22 296	P	P	04 36 10.0	+0.4
	SNR=23					
ASHO			P	P	04 36 10.0	+0.4
	SNR=23					
ALN	Alexandroupoli	79.22 327	eP	P	04 36 09.0	-0.3
	comp=Z,52nm,1.2s					
ALN	Alexandroupoli	79.22 327	P	P	04 36 04.8	-4.5
ERIK	Erikli-Kesan	79.27 326	eP	P	04 36 09.3	-0.2
LADK	Ladik-KONYA	79.31 321	eP	P	04 36 08.4	-1.6
TVSB	Tavsanli	79.31 324	eP	P	04 36 09.5	-0.4
KKB	Krupnik	79.32 329	eP	P	04 36 10.4	+0.5
ENEZ	Enez	79.33 326	eP	P	04 36 09.7	-0.2
TAHT	Tahtakopru-Hat	79.34 317	eP	P	04 36 09.9	-0.1
UPM	Unac-Piva	79.35 333	⇓iP	P	04 36 09.8	-0.4
UPM	Unac-Piva	79.35 333	eP	P	04 36 09.2	-1.0
MMB	Musomiste	79.37 329	eP	P	04 36 10.9	+0.8
IVA	Berane	79.38 332	⇓iP	P	04 36 09.7	-0.5
SOHO	SOHO	79.39 296	P	P	04 36 10.4	0.0
	SNR=21					
SOHO			P	P	04 36 10.4	0.0
	SNR=21					
FAQ	Al Faqa, Dubai	79.43 297	iP	P	04 36 09.7	-1.0
	SNR=5.6					
LPK	Lapseki	79.45 326	eP	P	04 36 09.2	-1.3
KOME	Kolasin	79.50 332	⇓iP	P	04 36 10.8	-0.1
GELI	Tayfur-Gelibol	79.52 326	eP	P	04 36 10.4	-0.5
NVR	Nevrokopi	79.54 328	P	P	04 36 03.5	-7.6
MERS	Mersin	79.60 319	eP	P	04 36 12.0	+0.4
PVY	Plav	79.61 332	⇓iP	P	04 36 10.5	-1.1
KAVA	Kavala	79.65 328	P	P	04 36 06.2	-5.4
ASUD	Al Ashush, Dub	79.67 297	P	P	04 36 10.8	-1.2
ASUD	Al Ashush, Dub	79.67 297	P	P	04 36 12.5	+0.5
NKY	Niksic	79.69 332	⇓iP	P	04 36 12.2	+0.2
SHUT	Suhut-Afyon	79.69 322	eP	P	04 36 11.9	-0.2
BALB	Balikesir	79.71 325	eP	P	04 36 12.2	+0.2
BALB	Balikesir	79.71 325	eP	P	04 36 11.7	-0.2
	comp=Z,322nm,1.1s					
BRY	Bratogost	79.74 333	⇓iP	P	04 36 12.1	-0.2
BRY	Bratogost	79.74 333	eP	P	04 36 11.0	-1.3
SKO	Skopje	79.74 330	iP	P	04 36 12.3	+0.2
NKME	Niksic	79.74 332	⇓iP	P	04 36 11.6	-0.6
STIP	Stip	79.76 330	iP	P	04 36 09.5	-2.7
255A	Hazlehurst	79.76 50	P	P	04 36 12.5	+0.2
	baz=326					
SMTH	Samothraki Isl	79.78 327	P	P	04 36 09.8	-2.6
SRS	Serrai	79.84 328	P	P	04 36 07.8	-4.9
ALNE	Al Ain	79.89 296	iP	P	04 36 12.9	-0.3
	SNR=5.3					
THAS	Thassos island	79.93 327	P	P	04 36 03.0	-10
CEME	Cevo	79.96 332	⇓iP	P	04 36 12.7	-0.7
PDG	Podgorica	79.97 332	⇑iP	P	04 36 13.1	-0.2
PDG	Podgorica	79.97 332	eP	P	04 36 12.9	-0.4
TTG	Podgorica	79.97 332	⇓iP	P	04 36 12.9	-0.4
TTG	Podgorica	79.97 332	eP	P	04 36 11.5	-1.8
	comp=Z,72nm,0.9s					
STON	Ston	80.00 333	eP	P	04 36 12.7	-0.8
KNT	Kendrikon	80.02 329	P	P	04 36 08.1	-5.6
EZN	Ezine	80.09 326	eP	P	04 36 13.4	-0.6
EZN	Ezine	80.09 326	⇑iP	P	04 36 13.6	-0.4
KIZK	Mersin	80.09 319	eP	P	04 36 14.0	-0.1
BOZC	Bozcaada	80.17 326	eP	P	04 36 13.9	-0.5
HCY	Herceg Novi	80.17 333	⇓iP	P	04 36 13.4	-1.0
HCY	Herceg Novi	80.17 333	eP	P	04 36 13.1	-1.3
BUM	Brajici-Budva	80.19 332	⇓iP	P	04 36 14.0	-0.6
DRME	Dracevica, Mon	80.21 332	⇓iP	P	04 36 14.6	-0.1
DRME	Dracevica, Mon	80.21 332	eP	P	04 36 14.5	-0.1
KEBE	Keben-Mersin	80.29 319	eP	P	04 36 15.2	-0.1
PHP	Peshkopia	80.30 331	P	P	04 36 14.4	-0.8
KRUS	Krusevo	80.34 330	iP	P	04 36 15.5	0.0
GRG	Griva	80.36 329	P	P	04 36 11.7	-3.8
ULC	Ulcinj	80.40 332	⇓iP	P	04 36 15.7	0.0
LIA	Limnos Island	80.41 327	P	P	04 36 08.0	-7.7
OUR	Ourranopolis	80.42 328	P	P	04 36 11.5	-4.3
KULA	Kula-Manisa	80.42 324	eP	P	04 36 15.5	-0.5
KULA	Kula-Manisa	80.42 324	P	P	04 36 14.5	-1.5
MANT	Manisa	80.48 324	eP	P	04 36 16.4	-0.1
	comp=Z,256nm,1.2s					
IKL	Isikli	80.48 319	eP	P	04 36 15.8	-0.4
BNI	Bardonecchia	80.54 342	eP	P	04 36 16.6	0.0
	comp=Z,40nm,1.0s					
PLG	Polygyros	80.56 328	P	P	04 36 13.4	-3.2
BERE	Bereket-Mersin	80.58 319	eP	P	04 36 18.5	+1.6
AKKU	Akkuyu-Mersin	80.61 319	eP	P	04 36 16.6	-0.3
BIA	Bitola	80.64 330	iP	P	04 36 17.4	+0.4
OHR	Ohrid	80.72 330	iP	P	04 36 17.0	-0.5
SSB	Saint Sauveur	80.72 343	eP	P	04 36 16.1	-1.3
	comp=Z,61nm,1.2s					
TIR	Tirane	80.78 331	eP	P	04 36 17.8	0.0
	comp=Z,46nm,0.9s					
TIR	Tirane	80.78 331	⇑iP	P	04 36 18.0	+0.3
SIGR	SIGRI	80.80 326	P	P	04 36 15.1	-2.7
FNA	Florina	80.84 330	eP	P	04 36 16.8	-1.3
	comp=Z,25nm,0.9s					
EREN	Erenkoy	80.90 318	eP	P	04 36 17.6	-0.8
MHTO	MHTO	81.08 293	P	P	04 36 19.8	+0.2
	SNR=22					
MHTO			P	P	04 36 19.8	+0.2
	SNR=22					
LIT	Litokhoron	81.11 329	eP	P	04 36 18.8	-0.7
	comp=Z,34nm,1.2s					
KORT	Korkueli	81.13 322	eP	P	04 36 19.7	-0.1
AYDB	Zeytinkoy-Aydi	81.21 324	eP	P	04 36 20.1	-0.1
URLA	Izmir	81.30 325	eP	P	04 36 19.1	-1.5
PHNC	Paralimni	81.41 318	P	P	04 36 20.2	-1.0
PENT	Pentalofos	81.45 330	P	P	04 36 16.4	-5.0
CHOS	Chios island	81.47 325	P	P	04 36 17.5	-4.0
FYTO	Fytoko, Volos	81.59 328	P	P	04 36 14.3	-7.8
GCAM	G?zelcaml?	81.66 324	eP	P	04 36 21.1	-1.3
CSS	Mathiatis	81.73 319	eP	P	04 36 22.5	-0.4
	comp=Z,86nm,1.1s					
CSS	Mathiatis	81.73 319	P	P	04 36 13.0	-10
LEF	Lefka	81.78 319	⇑iP	P	04 36 23.2	+0.1
PPT2	Papeete2	81.85 133	eS	S	04 46 29.4	-6.1
	comp=Z,1µm,27.2s					
PPT2	Papeete2	81.85 133	eLR	LR	05 02 01.3	
	comp=Z,2µm,25.5s					
ALFC	Alefka	81.86 319	P	P	04 36 20.6	-3.0
DALY	Dalyan (Mula)	81.93 323	eP	P	04 36 22.7	-1.2
FETY	Fethiye	81.93 323	eP	P	04 36 22.5	-1.4
FETY	Fethiye	81.93 323	P	P	04 36 18.9	-5.0
MZR	Muzera	81.98 297	P	P	04 36 24.0	-0.4
	SNR=11					
MRKA	Markates	82.02 327	P	P	04 36 18.3	-6.1
SZAC	Souni	82.10 319	P	P	04 36 22.6	-2.3
EREA	Eretria	82.16 327	P	P	04 36 20.4	-4.7
PPCY	Paphos	82.20 319	P	P	04 36 23.4	-1.9
BODT	Bodrum	82.20 324	eP	P	04 36 23.9	-1.5
ATAL	Atalanti	82.22 328	P	P	04 36 21.5	-3.9
IGT	Igoumenitsa	82.31 330	P	P	04 36 19.0	-6.8
MATE	Matera	82.34 333	⇑iP	P	04 36 26.9	+1.0
DAT	Datca	82.40 324	eP	P	04 36 23.4	-3.1
VILL	Villia	82.60 327	P	P	04 36 20.3	-7.2
KLV	Kalavryta, Ach	83.09 328	P	P	04 36 24.9	-5.1
DRO	Drossia	83.32 328	P	P	04 36 27.9	-3.2
KARP	Karpathos	83.61 323	eP	P	04 36 31.7	-0.9
	comp=Z,43nm,0.9s					
TIP	Timpagrande	83.69 333	eP	P	04 36 32.0	-1.1
	comp=Z,58nm,1.2s					
TIP	Timpagrande	83.69 333	⇑iP	P	04 36 33.5	+0.4
ITM	Ithomi	83.95 328	eP	P	04 36 34.0	-0.3
	comp=Z,36nm,0.9s					
LAST	Lasithi	84.56 324	P	P	04 36 33.3	-4.3
IMMV	Iera Moni Meta	84.82 326	P	P	04 36 32.1	-6.7
STKA	Stephens Creek	85.37 196	eP	P	04 36 41.3	+0.1
	comp=Z,1.9nm,1.1s					
STKA	Stephens Creek	85.37 196	P	P	04 36 41.3	+0.1
	comp=Z,4.2nm,1.0s,baz=28,slow=18,SNR=3.6					
PGAV	Gavieira, Arco	85.70 352	eP	P	04 36 47.3	+4.1
	comp=Z,56nm,2.6s					
PBRG	Braganca	85.72 351	eP	P	04 36 45.4	+2.2
	comp=Z,51nm,1.5s					
PCAB	Cabril	85.94 351	eP	P	04 36 48.1	+3.8
	comp=Z,66nm,1.7s					
POLO	Lamas de Olo	86.25 351	eP	P	04 36 46.5	+0.6
	comp=Z,27nm,2.2s					
PVRL	Vila Real	86.34 351	eP	P	04 36 47.8	+1.5
	comp=Z,94nm,1.2s					
MVO	Moncorvo	86.38 351	eP	P	04 36 47.4	+0.8
	comp=Z,46nm,1.0s					
PVIS	Viseu	86.91 351	eP	P	04 36 50.5	+1.4
	comp=Z,44nm,1.0s					
TBI	Tubuai	86.95 135	eS	S	04 47 21.3	-4.7
	comp=Z,591nm,26.8s					
TBI	Tubuai	86.95 135	eLR	LR	05 04 22.7	
	comp=Z,1µm,24.2s					
MTE	Manteigas	87.19 351	eP	P	04 36 52.2	+1.7
	comp=Z,61nm,1.1s					
MTE	Manteigas	87.19 351	eP	P	04 36 51.9	+1.4
	comp=Z,40nm,0.9s					
ESDC	Sonseca Array	87.50 348	P	P	04 36 51.9	-0.2
	comp=Z,10nm,1.0s,baz=2.9,slow=4.9,SNR=26					
PCAS	Casmilo, Conde	87.62 352	eP	P	04 36 54.3	+1.8
	comp=Z,75nm,1.1s					
PAB	San Pablo	87.68 348	eP	P	04 36 55.0	+2.1
	comp=Z,24nm,1.1s					
PCBR	Castelo Branco	87.74 351	eP	P	04 36 54.9	+1.9
	comp=Z,39nm,1.3s					
KEST	Kesra	88.89 337	eP	P	04 36 59.7	+1.0
	comp=Z,49nm,1.1s					
KEST	Kesra	88.89 337	P	P	04 36 59.0	+0.4
	comp=Z,11nm,0.8s,baz=204,slow=1.9,SNR=6.8					
TOA1	Torodi Ar. Sit	112.39 338	ePKiKP	PKiKP	04 42 40.5	0.0
TOA1			ePP	PP	04 43 21.9	-3.4
TORD	Torodi Ar. Bea	112.39 338	PKiKP	PKiKP	04 42 40.5	0.0
	comp=Z,0.9nm,0.9s,baz=16,slow=4.4,SNR=3.7					
TORD			PP	PP	04 43 21.9	-3.4
	comp=Z,10nm,1.1s,baz=26,slow=7.0,SNR=6.2					
LPAZ	La Paz	127.56 66	PKP	PKiKP	04 43 11.1	+0.4
	comp=Z,1.0nm,1.0s,baz=205,slow=7.6,SNR=3.6					
LPAZ	La Paz	127.56 66	eP	PKiKP	04 43 13.7	+2.9
RCBR	Riachuelo	131.80 22	eP	PKiKP	04 43 23.0	+4.2
LVC	Limon Verde	132.12 71	eP	PKiKP	04 43 23.3	+3.8
LCO	Las Campanas	135.84 79	eP	PKiKP	04 43 31.3	+4.6
BOSA	Boshof	139.49 288	PKP	PKiKP	04 43 33.4	-0.6
	comp=Z,2.2nm,0.8s,baz=28,slow=2.8,SNR=3.9					
MCI8	Montes Claros	139.58 38	eP	PKiKP	04 43 37.0	+2.6
ITRB	Iturama	139.59 48	eP	PKiKP	04 43 38.2	+3.9
MCI6	Montes Claros	139.72 38	eP	PKiKP	04 43 37.6	+2.9
PMNB	Patos De Minas	140.28 42	eP	PKiKP	04 43 37.9	+2.0
CPUP	Villa Florida	141.58 63	PKP	PKiKP	04 43 37.2	-1.0
	comp=Z,0.6nm,0.7s,baz=73,slow=19,SNR=1.9					
CPUP	Villa Florida	141.58 63	eP	PKiKP	04 43 42.0	+3.9
BB19B	Bebedouro	141.61 47	eP	PKiKP	04 43 39.1	+0.6
SJMB	Sao Joao De Ma	142.46 35	eP	PKiKP	04 43 42.6	+2.5
PLCA	Paso Flores	143.69 92	PKP	PKPdf	04 43 40.4	+1.6
	comp=Z,2.6nm,1.0s,baz=333,slow=5.8,SNR=3.6					
SPB	Sao Paulo	144.30 48	eP	PKiKP	04 43 44.7	+0.9
ALF01	Guarapari-ES	144.38 36	eP	PKiKP	04 43 44.7	+0.7
SUR	Sutherland	144.85 288	ePKPdf	PKPdf	04 43 42.0	+0.8
VAS01	Vassouras-RJ	144.86 41	eP	PKiKP	04 43 44.7	-0.3
ITAB	Concordia	145.06 57	eP	PKiKP	04 43 45.3	0.0
DUB01	Friburgo-RJ	145.10 39	eP	PKiKP	04 43 45.3	-0.3
ESAR	Angra dos Reis	145.11 43	eP	PKiKP	04 43 45.0	-0.4
CAM01	Campos-RJ	145.14 38	eP	PKiKP	04 43 45.3	-0.3
TRQA	Tornquist	147.32 81	eP	PKiKP	04 43 50.7	+1.1
CNLB	Canela	147.40 58	eP	PKiKP	04 43 50.7	+0.6
TER01	Tubaro-SC	147.65 55	eP	PKPab	04 43 51.0	+0.1
SYO	Syowa Base	148.16 216	⇑ePKPdf	PKPdf	04 43 46.1	+0.8
SYO	Syowa Base	148.16 216	⇓ePKPbc	PKPbc	04 43 48.8	+0.2
SNAA	Sanae	159.13 195	PKPab	PKPab	04 44 39.9	+1.9
SNAA	Sanae	159.13 195	PKPdf	PKPdf	04 44 08.6	+7.7
VNA3	Neumayer Olymp	160.40 189	PKPab	PKPab	04 44 42.4	-1.2
VNA3	Neumayer Olymp	160.40 189	PKPdf	PKPdf	04 44 13.5	+11
VNA2	Neumayer--Watz	160.44 192	PKPab	PKPab	04 44 43.7	0.0
VNA2	Neumayer--Watz	160.44 192	PKPdf	PKPdf	04 44 15.3	+13
VNA1	Neumayer--Stat	160.81 191	PKPab	PKPab	04 44 44.6	-0.6
VNA1	Neumayer--Stat	160.81 191	PKPdf	PKPdf	04 44 17.3	+15

*IDC **21** 04:24:29.5±6.7, 9°.23S×115°.18E, h52km±54km, mb3.8/7, mb1 4.0/9, mb1mx3.7/48, mbtmp4.1/9, ML4.3/2, Error ellipse: s-maj=75.0km s-min=18.6km az=66.0*
*ISCJB **21** 04:24:34.3±0.3, 9°.20S±0°.04×115°.72E±0°.03, h98km, mb4.0/12, Error ellipse: s-maj=5.9km s-min=3.3km az=15.7*
*NEIC **21** 04:24:35.7±2.2, 9°.05S×115°.73E, h101km±9km, mb4.1/5, Error ellipse: s-maj=21.9km s-min=11.7km az=208.0*
NEIC Felt [III] at Praya, Lombok.
*DJA **21** 04:24:35.8±0.3, 9°.5±5°×11°.6E±°, h77km±12km, M4.5/13, mb4.5/8, mB5.3/5, MLv4.4/13, Mw(mB)4.7/5*
ISC 21 04:24:35.2±0.5, 9°.24S±0°.06×115°.74E±0°.04, h98km, n57,
σ1°80/63, mb4.1/12, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	Singaraja	1.26	335	P	Pn	04 24 58.7	+0.3
SRBI				S	Sn	04 25 13.8	-2.1
JAGI	Jajag, Banyuwa	1.74	296	ePn	Pn	04 25 04.4	0.0
JAGI				eSn	Sn	04 25 25.5	-1.1
JAGI	Jajag, Banyuwa	1.74	296	P	Pn	04 25 04.4	0.0
JAGI				S	Sn	04 25 25.5	-1.1
PLAI	Plampang	2.05	79	P	Pn	04 25 09.6	+1.2
PLAI				S	Sn	04 25 34.0	+0.3
KMMI	Kalianget	2.79	321	P	Pn	04 25 19.4	+1.3
KMMI				S	Sn	04 25 49.7	-1.4
GRJI	Gresik	3.97	305	P	Pn	04 25 34.7	+0.8
GRJI				S	Sn	04 26 18.0	-1.4
PWJI	Pagerwojo	4.07	287	P	Pn	04 25 35.4	0.0
PWJI				S	Sn	04 26 21.1	-0.9
PCJI	Pacitan	4.63	283	P	Pn	04 25 45.9	+3.1
WOJI	Wonogiri, Jawa	4.96	286	P	Pn	04 25 48.3	+0.9
WOJI				S	Sn	04 26 44.4	+0.8
UGM	Wanagama	5.32	284	ePn	Pn	04 25 52.2	-0.1
UGM				eSn	Sn	04 26 49.1	-3.4
UGM	Wanagama	5.32	284	P	Pn	04 25 54.0	+1.7
	97nm,1.2s,0.9nm						
UGM				S	Sn	04 26 53.5	+1.0
	97nm,1.2s,0.9nm						
BSSI	Bau Bau, Buton	5.62	57	P	Pn	04 25 56.7	+0.3
	80nm,0.5s,1µm0.4nm						
KAPI	Kappang	5.78	44	ePn	Pn	04 25 57.6	-0.9
KAPI				eSn	Sn	04 27 01.5	-2.0
KAPI	Kappang	5.78	44	P	Pn	04 25 59.2	+0.6
	7.9nm,0.3s,baz=202,slow=6.6,SNR=28						
KAPI				S	Sn	04 27 01.5	-2.0
	6.1nm,0.3s,baz=105,slow=23,SNR=16						
BKSI	Bulukumba	5.83	48	P	Pn	04 25 59.3	+0.1
	47nm,0.5s,586nm0.2nm						
MMRI	Maumere	6.45	85	ePn	Pn	04 26 08.2	+0.6
BNSI	Bone	6.47	42	P	Pn	04 26 09.8	+1.9
	30nm,0.4s,0.2nm						
SPSI	Sidrap Palu	6.59	38	P	Pn	04 26 10.8	+1.3
	10nm,0.9s,0.0nm						
TTSI	Tana Toraja	7.37	34	P	Pn	04 26 21.9	+1.8
CISI	Cisompet, Garu	8.02	281	P	Pn	04 26 27.9	-1.1
SOEI	Soe	8.43	94	ePn	Pn	04 26 34.9	+0.3
SOEI	Soe	8.43	94	P	Pn	04 26 36.4	+1.7
	22nm,0.9s						
CGJI	Cibinong	10.29	284	P	Pn	04 26 59.2	-0.7
MPSI	Mapaga	10.37	24	P	Pn	04 27 02.9	+1.9
PSA00	Pilbara Seismi	12.89	163	ePn	Pn	04 27 34.1	-0.6
PSA00				eSn	Sn	04 29 47.4	-9.2
FITZ	Fitzroy Crossi	13.04	134	P	Pn	04 27 36.6	-0.1
	1.1nm,0.3s,baz=328,slow=8.8,SNR=25						
FITZ				S	Sn	04 29 53.9	-6.3
	1.5nm,0.3s,baz=189,slow=23,SNR=7.2						
GIRL	Giralia	13.41	186	ePn	Pn	04 27 42.1	+0.5
GIRL				eSn	Sn	04 30 00.6	-8.5
FAKI	F

h8km±1km, mb4.7/18, Error ellipse: s-maj=2.0km s-min=1.4km az=37.5
*NEIC **21** 04:25:46.2±0.0, 24°.28N×121°.76E, h14km, mb4.5/9, ML4.9(TAP), After TAP.*
NEIC Recorded [5 TAP] in Hualien and Yilan; [2 TAP] in Nantou and Taoyuan; [1 TAP] in Yunlin.
ISC 21 04:25:46.8±0.8, 24°.27N±0°.01×121°.78E±0°.01, h14km±5km, n180, σ1°.07/257, mb4.4/18, 17C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res	ISC
NANB	**Nanao**	**0.16**	**349**	⇓P		**Pg**	**04 25 50.8**	**0.0**	
	baz=352								
NANB				S		**Sg**	**04 25 53.4**	**-0.1**	
	baz=352								
ENA	**Nanau**	**0.17**	**346**	⇓*i*P		**Pg**	**04 25 50.8**	**-0.1**	
	baz=352								
ENA				*i* S		**Sg**	**04 25 53.6**	**0.0**	
	baz=352								
NACB	**Ninganchiao**	**0.20**	**242**	*e*Pg		**Pb**	**04 25 51.2**	**-1.0**	
NACB				*e*Sg		**Sb**	**04 25 53.5**	**-2.3**	
NACB	**Ninganchiao**	**0.20**	**242**	⇓P		**Pb**	**04 25 51.3**	**-1.0**	
	baz=232								
NACB				S		**Sb**	**04 25 54.3**	**-1.5**	
	baz=232								
TWD	**Chiawan**	**0.25**	**223**	⇓*i*P		**Pg**	**04 25 52.4**	**+0.1**	
	baz=219								
TWD				S		**Sg**	**04 25 56.5**	**+0.5**	
	baz=219								
ETLH	**Xiulin Townshi**	**0.28**	**258**	⇓P		**Pg**	**04 25 52.9**	**+0.1**	
	baz=255								
ETLH				S		**Sg**	**04 25 57.0**	**+0.1**	
	baz=255								
HWA	**Hwalien**	**0.33**	**210**	*e*P		**Pb**	**04 25 54.6**	**+0.1**	
	baz=214								
TWC	**Suao**	**0.35**	**10**	⇓*i*P		**Pg**	**04 25 54.0**	**+0.1**	
	baz=9.0								
TWC				S		**Sg**	**04 25 58.8**	**+0.1**	
	baz=9.0								
ENLB	**Shoufeng**	**0.40**	**205**	P		**Pg**	**04 25 55.6**	**+0.7**	
	baz=211								
ENLB				*e*S		**Sn**	**04 26 03.7**	**-1.8**	
	baz=211								
NNSB	**Datong**	**0.40**	**294**	⇓P		**Pg**	**04 25 55.1**	**+0.1**	
	baz=293								
NNSB				S		**Sg**	**04 26 00.2**	**-0.3**	
	baz=293								
NNS	**Nan Shan**	**0.41**	**295**	⇓*i*P		**Pg**	**04 25 55.3**	**+0.1**	
	baz=294								
NNS				S		**Sg**	**04 26 00.7**	**-0.2**	
	baz=294								
NDT	**Datong Townshi**	**0.42**	**323**	⇓P		**Pb**	**04 25 55.4**	**-0.6**	
	baz=323								
NDT				S		**Sb**	**04 26 01.0**	**-1.1**	
	baz=323								
ENTT	**Nioudou**	**0.42**	**332**	⇓*i*P		**Pb**	**04 25 55.5**	**-0.6**	
	baz=332								
ENTT				S		**Sb**	**04 26 01.1**	**-1.2**	
	baz=332								
EOS1	**EOS1**	**0.42**	**48**	⇓P		**Pb**	**04 25 56.1**	**0.0**	
	baz=42								
EOS1				*e*S		**Sb**	**04 26 02.9**	**+0.7**	
	baz=42								
TWE	**Neicheng**	**0.46**	**347**	⇓*i*P		**Pb**	**04 25 56.2**	**-0.6**	
	baz=348								
TWE				S		**Sb**	**04 26 02.4**	**-1.1**	
	baz=348								
WHF	**Hehuan Shan**	**0.49**	**256**	⇓P		**Pg**	**04 25 56.6**	**-0.1**	
	baz=255								
WHF				*i* S		**Sg**	**04 26 03.2**	**-0.2**	
	baz=255								
ILA	**Ilan**	**0.50**	**356**	⇓P		**Pb**	**04 25 57.1**	**-0.3**	
	baz=351								
ILA				*e*S		**Sb**	**04 26 03.6**	**-0.9**	
	baz=351								
YHNB	**Yeheng**	**0.55**	**317**	*e*Pg		**Pb**	**04 25 57.7**	**-0.6**	
YHNB				*e*Sg		**Sb**	**04 26 05.0**	**-1.1**	
YHNB	**Yeheng**	**0.55**	**317**	⇑P		**Pb**	**04 25 57.7**	**-0.6**	
	baz=317								
YHNB				S		**Sg**	**04 26 04.6**	**-0.4**	
	baz=317								
ESL	**Shilin**	**0.55**	**216**	⇓P		**Pb**	**04 25 57.6**	**-0.7**	
	baz=220								
ESL				*e*S		**Sg**	**04 26 05.6**	**+0.5**	
	baz=220								
NSK	**Sanguang**	**0.56**	**316**	⇑*i*P		**Pb**	**04 25 57.9**	**-0.6**	
	baz=316								
NSK				S		**Sg**	**04 26 05.2**	**-0.3**	
	baz=316								
TDCB	**Techi**	**0.57**	**269**	⇑P		**Pg**	**04 25 58.4**	**+0.3**	
	baz=268								
TDCB				S		**Sg**	**04 26 05.0**	**-0.7**	
	baz=268								
NTC	**Toucheng**	**0.59**	**4**	*e*P		**Pg**	**04 25 58.4**	**0.0**	
	baz=5.0								
EGS		**0.59**	**13**	⇓*i*P		**Pg**	**04 25 58.6**	**+0.2**	
	baz=20								
EGS				*e*S		**Sb**	**04 26 07.5**	**+0.3**	
	baz=20								
CHGB	**Renai**	**0.59**	**250**	P		**Pb**	**04 25 58.7**	**-0.5**	
	baz=244								
CHGB				*e*S		**Sg**	**04 26 06.2**	**-0.3**	
	baz=244								
OWD	**Renai**	**0.64**	**241**	*e*P		**Pb**	**04 25 59.2**	**-0.6**	
	baz=240								
OWD				S		**Sg**	**04 26 08.7**	**+0.8**	
	baz=240								
EGFH	**Guangfu**	**0.68**	**209**	*e*P		**Pb**	**04 26 00.1**	**-0.3**	
	baz=223								
TIPB	**Shuangxi**	**0.70**	**3**	⇓P		**Pg**	**04 26 00.7**	**+0.1**	
	baz=3.0								
TIPB				S		**Sb**	**04 26 08.9**	**-1.5**	
	baz=3.0								
NHDH	**Xindian Distri**	**0.73**	**341**	*e*P		**Pn**	**04 26 01.7**	**-1.1**	
	baz=335								
TATO	**Taipei**	**0.76**	**339**	*e*Pg		**Pg**	**04 26 01.4**	**-0.2**	
TATO				*e*Sn		**Sg**	**04 26 11.3**	**-0.2**	
TATO	**Taipei**	**0.76**	**339**	*e*P		**Pn**	**04 26 01.9**	**-1.2**	
	baz=339								
WLTB	**Daxi**	**0.76**	**320**	*e*P		**Pn**	**04 26 02.6**	**-0.5**	
	baz=320								
WLTB				*e*S		**Sg**	**04 26 11.7**	**+0.1**	
	baz=320								
TWB1	**Santiao Chiao**	**0.76**	**14**	⇓P		**Pg**	**04 26 01.5**	**-0.1**	
	baz=14								
TWB1				*e*S		**Sg**	**04 26 11.3**	**-0.4**	
	baz=14								
WHP	**Taichung City**	**0.77**	**271**	*e*P		**Pg**	**04 26 01.9**	**+0.1**	
	baz=271								
WHP				S		**Sg**	**04 26 12.0**	**+0.1**	
	baz=271								
VWDT	**VWDT**	**0.78**	**229**	P		**Pb**	**04 26 02.0**	**-0.1**	
	baz=229								
VWDT				*e*S		**Sb**	**04 26 12.0**	**-0.6**	
	baz=229								
LIOB	**Emei**	**0.80**	**298**	⇑P		**Pn**	**04 26 02.7**	**-1.0**	
	baz=298								
LIOB				S		**Sg**	**04 26 12.7**	**-0.1**	
	baz=298								
NWF	**Wu-fen Shan**	**0.80**	**360**	⇓*i*P		**Pn**	**04 26 02.6**	**-1.1**	
	baz=360								
WFSB	**Wu-fen Shan**	**0.80**	**360**	⇓P		**Pn**	**04 26 02.7**	**-1.0**	
	baz=352								
WFSB				S		**Sg**	**04 26 13.1**	**+0.2**	
	baz=352								
NSTT	**Nanjuang**	**0.80**	**297**	⇑*e*P		**Pn**	**04 26 02.7**	**-1.0**	
	baz=297								
NSTT				S		**Sg**	**04 26 12.9**	**-0.1**	
	baz=297								
TAP	**Taipei**	**0.81**	**342**	*e*P		**Pn**	**04 26 02.8**	**-1.1**	
	baz=333								
HGSD	**Ruisui**	**0.84**	**203**	⇓P		**Pg**	**04 26 03.6**	**+0.4**	
	baz=192								
HGSD				S		**Sn**	**04 26 17.3**	**+1.0**	
	baz=192								
EHY	**Hungye**	**0.87**	**209**	⇓P		**Pb**	**04 26 02.6**	**-1.1**	
	baz=221								
NCU	**National Centr**	**0.89**	**322**	*e*P		**Pn**	**04 26 04.2**	**-0.7**	
	baz=322								
NCU				S		**Sn**	**04 26 17.9**	**+0.3**	
	baz=322								
NCUH	**Zhongli**	**0.89**	**322**	*e*P		**Pn**	**04 26 04.4**	**-0.5**	
	baz=321								
NCUH				*e*S		**Sn**	**04 26 16.7**	**-0.8**	
	baz=321								
SMLT	**Sun Moon Lake**	**0.89**	**245**	⇑*i*P		**Pb**	**04 26 04.2**	**0.0**	
	baz=238								
SMLT				S		**Sg**	**04 26 16.4**	**+0.4**	
	baz=238								
TWS1	**Kuangyinshan**	**0.90**	**338**	*e*P		**Pn**	**04 26 04.6**	**-0.4**	
	baz=338								
SBCB	**Hsinchu**	**0.90**	**306**	P		**Pn**	**04 26 05.2**	**+0.1**	
	baz=305								
SBCB				S		**Sn**	**04 26 17.0**	**-0.8**	
	baz=305								
SSLB	**Suanglung**	**0.90**	**238**	*e*Pg		**Pb**	**04 26 03.6**	**-0.6**	
SSLB				*e*Sg		**Sb**	**04 26 15.8**	**-0.3**	
SSLB	**Suanglung**	**0.90**	**238**	⇑P		**Pb**	**04 26 04.0**	**-0.2**	
	baz=239								
SSLB				S		**Sb**	**04 26 15.6**	**-0.5**	
	baz=239								
YM01	**YM01**	**0.90**	**347**	⇓P		**Pn**	**04 26 04.6**	**-0.5**	
	baz=331								
YM10	**YM10**	**0.91**	**347**	*e*P		**Pn**	**04 26 04.6**	**-0.7**	
	baz=333								
HSN	**Hsinchu**	**0.91**	**306**	*e*P		**Pn**	**04 26 05.2**	**-0.1**	
	baz=300								
HSN				S		**Sn**	**04 26 17.4**	**-0.8**	
	baz=300								
YM11	**YM11**	**0.92**	**348**	⇓P		**Pn**	**04 26 04.9**	**-0.4**	
	baz=332								
YM07	**YM07**	**0.92**	**351**	*e*P		**Pn**	**04 26 04.8**	**-0.5**	
	baz=350								
TYC	**Yuchr**	**0.92**	**247**	⇑*i*P		**Pb**	**04 26 04.5**	**0.0**	
	baz=247								
TYC				*e*S		**Sb**	**04 26 15.6**	**-1.1**	
	baz=247								
TWQ1	**Liyutan**	**0.93**	**275**	⇑P		**Pn**	**04 26 05.5**	**0.0**	
	baz=275								
TWQ1				S		**Sn**	**04 26 17.6**	**-0.9**	
	baz=275								
YM08	**YM08**	**0.93**	**349**	*e*P		**Pb**	**04 26 04.4**	**-0.5**	
	baz=348								
YM08				*e*S		**Sn**	**04 26 18.6**	**-0.2**	
	baz=348								
NTST	**Danshui**	**0.94**	**341**	*e*P		**Pn**	**04 26 05.6**	**-0.1**	
	baz=328								
NMLH	**Miaoli**	**0.94**	**287**	*e*P		**Pg**	**04 26 06.2**	**+1.0**	
	baz=294								
NMLH				*e*S		**Sn**	**04 26 18.8**	**-0.2**	
	baz=294								
NSY	**Sanyi**	**0.94**	**279**	P		**Pg**	**04 26 06.2**	**+1.0**	
	baz=279								
NSY				S		**Sn**	**04 26 18.8**	**-0.2**	
	baz=279								
YULB	**Yu-li**	**0.98**	**207**	*e*Pg		**Pb**	**04 26 03.3**	**-2.3**	
YULB				*e*Sg		**Sb**	**04 26 17.7**	**-0.7**	
YULB	**Yu-li**	**0.98**	**207**	*e*P		**Pb**	**04 26 03.9**	**-1.7**	
	baz=218								
YULB				*e*S		**Sg**	**04 26 19.0**	**+0.4**	
	baz=218								
TWY	**Chenhua**	**1.02**	**351**	*e*P		**Pg**	**04 26 07.0**	**+0.4**	
	baz=335								
TCU	**Taichung**	**1.02**	**264**	⇑*e*P		**Pg**	**04 26 07.5**	**+1.0**	
	baz=264								
TCU				*e*S		**Sg**	**04 26 22.4**	**+2.5**	
	baz=264								
WHYT	**Xinyi Township**	**1.02**	**236**	⇑*e*P		**Pn**	**04 26 06.5**	**-0.3**	
	baz=243								
WHYT				*e*S		**Sn**	**04 26 20.2**	**-0.8**	
	baz=243								
WDJ	**Dajia District**	**1.05**	**275**	*e*P		**Pg**	**04 26 07.9**	**+0.8**	
	baz=275								
WDJ				*e*S		**Sg**	**04 26 22.0**	**+1.2**	
	baz=275								
JYNG	**Yonagunijimaku**	**1.07**	**80**	P		**Pg**	**04 26 07.9**	**+0.3**	
WNT	**Mingjian**	**1.08**	**249**	⇑P		**Pg**	**04 26 08.4**	**+0.7**	
	baz=246								
WNT				*e*S		**Sg**	**04 26 23.7**	**+2.0**	
	baz=246								
YUS	**Yu-Shan**	**1.09**	**225**	⇑*e*P		**Pb**	**04 26 07.5**	**-0.2**	
	baz=227								
YUS				S		**Sn**	**04 26 22.4**	**-0.8**	
	baz=227								
WCHH	**Zhanghua**	**1.14**	**261**	⇑*e*P		**Pg**	**04 26 09.2**	**+0.4**	
	baz=261								
WCHH				*e*S		**Sg**	**04 26 25.7**	**+2.2**	
	baz=261								
YOJ	**Yonaguni jima**	**1.14**	**80**	*e*Pn		**Pg**	**04 26 08.9**	**+0.1**	
YOJ				*e*Sg		**Sb**	**04 26 22.1**	**-0.8**	
YOJ	**Yonaguni jima**	**1.14**	**80**	P		**Pg**	**04 26 08.7**	**-0.1**	
	baz=67								
YOJ				*e*S		**Sg**	**04 26 24.1**	**+0.6**	
	baz=67								
YOJ	**Yonaguni jima**	**1.14**	**80**	P		**Pg**	**04 26 08.8**	**+0.1**	
YOJ				*e*S		**Sg**	**04 26 24.7**	**+1.1**	
CHN5	**Tsauling**	**1.21**	**237**	*e*P		**Pg**	**04 26 10.1**	**-0.1**	
	baz=239								
CHN5				S		**Sg**	**04 26 28.1**	**+2.0**	
	baz=239								
CHKT	**Chengkung**	**1.22**	**198**	*e*P		**Pn**	**04 26 08.8**	**-0.7**	
	baz=186								
WGK	**Gukeng**	**1.26**	**243**	*e*P		**Pg**	**04 26 11.1**	**0.0**	
	baz=232								
WGK				*e*S		**Sg**	**04 26 28.9**	**+1.4**	
	baz=232								
WDLH	**Douliu**	**1.28**	**243**	*e*P		**Pb**	**04 26 10.9**	**+0.3**	
	baz=245								
ELDTW	**Lidau**	**1.28**	**213**	*e*P		**Pn**	**04 26 09.1**	**-1.4**	
	baz=228								
ELDTW				*e*S		**Sb**	**04 26 27.9**	**+0.6**	
	baz=228								
RLNB	**Erlin**	**1.35**	**254**	P		**Pg**	**04 26 12.6**	**-0.3**	
	baz=269								
RLNB				S		**Sg**	**04 26 31.4**	**+0.8**	
	baz=269								
CHN4	**Tsaushan**	**1.42**	**230**	⇓P		**Pg**	**04 26 14.0**	**-0.2**	
	baz=234								
CHN4				*e*S		**Sg**	**04 26 33.6**	**+0.9**	
	baz=234								
TPUB	**Ta-pu**	**1.43**	**228**	*e*Pn		**Pb**	**04 26 13.7**	**+0.4**	
TPUB				*e*Sn		**Sn**	**04 26 30.6**	**-0.4**	
TPUB	**Ta-pu**	**1.43**	**228**	P		**Pb**	**04 26 13.7**	**+0.4**	
	baz=231								
TPUB				S		**Sg**	**04 26 32.7**	**-0.3**	
	baz=231								
WTCT	**Ta-ch'eng**	**1.43**	**254**	*e*P		**Pb**	**04 26 12.6**	**-0.7**	
	baz=268								
WTCT				*e*S		**Sg**	**04 26 33.3**	**+0.3**	
	baz=268								
STYT	**Tauyuan**	**1.45**	**221**	⇓*i*P		**Pb**	**04 26 13.2**	**-0.4**	
	baz=224								
STYT				S		**Sg**	**04 26 33.9**	**+0.4**	
	baz=224								
CHY	**Chiayi**	**1.46**	**239**	*e*P		**Pg**	**04 26 14.6**	**-0.4**	
	baz=227								
WTP	**Ta-pu**	**1.48**	**227**	⇓*i*P		**Pb**	**04 26 14.3**	**+0.1**	
	baz=230								
WTP				S		**Sg**	**04 26 35.0**	**+0.5**	
	baz=230								
WMLT	**Mailiao**	**1.50**	**252**	*e*P		**Pg**	**04 26 15.5**	**-0.2**	
	baz=253								
WSF	**Szhu**	**1.56**	**247**	*e*P		**Pb**	**04 26 14.9**	**-0.6**	
	baz=258								
WSF				S		**Sg**	**04 26 36.9**	**-0.3**	
	baz=258								
WLGB	**Puzi**	**1.57**	**240**	P		**Pb**	**04 26 16.0**	**+0.3**	
	baz=242								
WLGB				S		**Sg**	**04 26 37.9**	**+0.5**	
	baz=242								
SNST	**Tainan City**	**1.57**	**229**	*e*P		**Pb**	**04 26 16.2**	**+0.5**	
	baz=234								
SNST				*e*S		**Sg**	**04 26 37.5**	**0.0**	
	baz=234								
CHN1	**Nanshi**	**1.58**	**227**	P		**Pb**	**04 26 16.3**	**+0.5**	
	baz=232								
CHN1				S		**Sg**	**04 26 37.7**	**0.0**	
	baz=232								
TWG	**Pinlang**	**1.58**	**205**	*e*Pn		**Pn**	**04 26 12.6**	**-1.9**	
TWG				*e*Sn		**Sn**	**04 26 33.8**	**-0.9**	
TWG	**Pinlang**	**1.58**	**205**	*e*P		**Pn**	**04 26 12.9**	**-1.5**	
	baz=192								
TWGBT	**Beinan**	**1.58**	**204**	*e*P		**Pn**	**04 26 12.8**	**-1.7**	
	baz=192								
SGST	**Jiashian**	**1.61**	**223**	⇓P		**Pb**	**04 26 16.6**	**+0.2**	
	baz=228								
SGST				*e*S		**Sg**	**04 26 38.9**	**0.0**	
	baz=228								
TTN	**Taitung**	**1.62**	**201**	*e*P		**Pb**	**04 26 16.4**	**0.0**	
	baz=205								
SLGT	**Liugui**	**1.64**	**220**	⇓P		**Pb**	**04 26 16.4**	**-0.6**	
	baz=225								
SLGT				*e*S		**Sg**	**04 26 39.5**	**-0.2**	
	baz=225								
CHN8	**Yiju**	**1.71**	**238**	*e*P		**Pb**	**04 26 17.6**	**-0.4**	
	baz=228								
CHN8				S		**Sg**	**04 26 41.0**	**-0.8**	
	baz=228								
CHN3	**Shinhua**	**1.76**	**228**	*e*P		**Pb**	**04 26 19.4**	**+0.5**	
	baz=231								
IRIF	**Iriomote-Funau**	**1.78**	**87**	P		**Pn**	**04 26 17.3**	**+0.2**	
IRIF				*e*S		**Sb**	**04 26 41.7**	**+0.4**	
ECL	**Taimali**	**1.83**	**205**	*e*P		**Pn**	**04 26 16.9**	**-0.9**	
	baz=195								
SSD	**Sandimen**	**1.85**	**215**	*e*P		**Pb**	**04 26 19.3**	**-1.1**	
	baz=231								
SSD				*e*S		**Sb**	**04 26 45.0**	**+1.7**	
	baz=231								
HATJ	**Hateruma jima**	**1.86**	**96**	P		**Pn**	**04 26 18.9**	**+0.7**	
TWM1	**Shoushan**	**1.91**	**221**	*e*P		**Pb**	**04 26 21.7**	**+0.3**	
	baz=225								
SGLT	**Jiouru**	**1.94**	**218**	*e*P		**Pb**	**04 26 21.0**	**-1.0**	
	baz=222								
MASBT	**Mashibuluo**	**1.96**	**213**	*e*P		**Pn**	**04 26 20.1**	**+0.5**	
	baz=220								
MASBT				*e*S		**Sb**	**04 26 46.5**	**0.0**	
	baz=220								
SNJT	**Kaohsiung City**	**2.01**	**222**	*e*P		**Pb**	**04 26 22.5**	**-0.7**	
	baz=226								
JKRS	**Kuro-shima**	**2.03**	**90**	P		**Pn**	**04 26 21.7**	**+1.1**	
JKRS				S		**Sb**	**04 26 47.1**	**-1.5**	
EAST	**Anshuo**	**2.06**	**205**	*e*P		**Pn**	**04 26 21.4**	**+0.3**	
	baz=197								
TAW	**Tawu**	**2.07**	**203**	*e*P		**Pn**	**04 26 21.5**	**+0.4**	
	baz=195								
SSPT	**Xinbi**	**2.10**	**212**	*e*P		**Pb**	**04 26 24.1**	**-0.6**	
	baz=200								
JIJ	**Ishigaki jima**	**2.15**	**87**	P		**Pn**	**04 26 22.6**	**+0.3**	
JIJ				*e*S		**Sn**	**04 26 49.9**	**+1.1**	
PNG	**Penghu**	**2.16**	**252**	*e*P		**Pn**	**04 26 22.5**	**+0.1**	
	baz=253								
PHUB	**P'eng-hu**	**2.16**	**250**	*e*P		**Pn**	**04 26 22.5**	**+0.1**	
	baz=252								
SCZT	**Fangliau**	**2.17**	**210**	*e*P		**Pn**	**04 26 23.7**	**+1.2**	
	baz=197								
WDGT	**Dungji**	**2.19**	**243**	*e*P		**Pn**	**04 26 23.0**	**+0.2**	
	baz=245								
LAY	**Lan-yu**	**2.23**	**186**	*e*P		**Pn**	**04 26 21.5**	**-1.9**	
	baz=189								
VWUC	**VWUC**	**2.24**	**289**	⇑*e*P		**Pn**	**04 26 23.3**	**-0.3**	
	baz=289								
WLCH	**Liuqiu**	**2.30**	**214**	*e*P		**Pb**	**04 26 28.6**	**+0.4**	
	baz=218								
TWP	**Hsiaoliuchiu**	**2.32**	**215**	*e*P		**Pb**	**04 26 28.4**	**0.0**	
	baz=236								
JISG	**Ishigakijimahi**	**2.33**	**82**	P		**Pn**	**04 26 24.7**	**0.0**	
JISG				S		**Sb**	**04 26 55.3**	**-1.8**	
VCHM	**Qimei**	**2.40**	**244**	*e*P		**Pn**	**04 26 26.2**	**+0.5**	
	baz=233								
TWK1	**Hengchun**	**2.48**	**201**	*e*P		**Pn**	**04 26 28.1**	**+1.3**	
	baz=193								
TWKBT	**Hengchun**	**2.48**	**201**	*e*P		**Pn**	**04 26 26.8**	**-0.1**	
	baz=193								
TSEB	**Hengchuen, Pin**	**2.49**	**199**	*e*P		**Pn**	**04 26 27.8**	**+0.9**	
	baz=193								
MATB	**Ma-tsu**	**2.51**	**319**	*e*P		**Pn**	**04 26 27.3**	**+0.1**	
	baz=317								
JTJ	**Tarama**	**2.69**	**81**	P		**Pn**	**04 26 30.1**	**+0.5**	
QZH	**Quanzhou**	**2.98**	**284**	⇑*i*Pn		**Pn**	**04 26 33.5**	**-0.2**	
QZH				Sn		**Sn**	**04 27 08.5**	**-0.8**	
QZH				smax		smax			
	comp=N,610nm,1.5s								
QZH				smax		smax			
	comp=E,490nm,1.1s								
QZH				LR		LR			
	comp=Z,7μm,9.5s								
KNM	**Kinmen**	**3.06**	**273**	*e*P		**Pn**	**04 26 36.7**	**+1.9**	
	baz=273								
KNMB	**Chin-men Tao**	**3.10**	**274**	*e*Pn		**Pn**	**04 26 35.2**	**-0.2**	
KNMB				*e*Sn		**Sn**	**04 27 13.4**	**+1.2**	
KNMB	**Chin-men Tao**	**3.10**	**274**	*e*P		**Pn**	**04 26 35.4**	**0.0**	
	baz=274								
JIRB	**Irabujima**	**3.14**	**79**	P		**Pn**	**04 26 36.9**	**+1.1**	
JIKM	**Ikemajima**	**3.22**	**78**	P		**Pn**	**04 26 38.1**	**+1.1**	
JMJ	**Miyako jima 2**	**3.24**	**80**	*e*P		**Pn**	**04 26 39.2**	**+1.9**	
	baz=76								
JMJ2	**Miyako jima3**	**3.26**	**81**	P		**Pn**	**04 26 39.8**	**+2.2**	
JOW	**Kunigami**	**6.39**	**65**	Pn		**Pn**	**04 27 20.2**	**-0.4**	
	0.4nm,0.3s,baz=133,slow=13,SNR=8.9								
NJ2	**Nanjing**	**8.18**	**342**	*e*P		**Pn**	**04 27 47.6**	**+2.5**	
NJ2				S		**Sn**	**04 29 20.6**	**+3.4**	
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.6s								
NJ2				smax		smax			
	comp=N,160nm,1.7s								
NJ2				smax		smax			
	comp=E,160nm,2.0s								
NJ2				LR		LR			
	comp=N,1μm,12.5s								
NJ2				LR		LR			
	comp=E,1μm,12.5s								
WHN	**Wuhan**	**9.09**	**315**	P		Pn	04 28 05.5	+7.8	
WHN				S		**Sn**	**04 29 40.8**	**+1.0**	
TGY	**Tagaytay City**	**10.14**	**185**	LR		LR	04 32 13.7		
	comp=Z,340nm,21.5s,baz=6.5,slow=38								
JNU	**Nakatsue**	**11.89**	**40**	Pn		Pn	04 28 43.1	+7.1	
	baz=319,slow=4.3,SNR=4.3								
GYA	**Guiyang**	**13.84**	**282**	⇑*i*P		**Pn**	**04 29 04.1**	**+1.3**	
GYA				S		**Sn**	**04 31 38.9**	**+2.4**	
GYA				LR		LR			
	comp=N,1μm,11.5s								
KS15	**Wonju Array Si**	**14.13**	**20**	*e*Pn		**Pn**	**04 29 07.4**	**+0.8**	
KSRS	**Korea Array**	**14.16**	**20**	Pn		**P**	**04 29 12.4**	**-2.0**	
	0.3nm,0.3s,baz=197,slow=12,SNR=12								
XAN	**Xi'an**	**14.86**	**314**	P		**Pn**	**04 29 17.5**	**+0.9**	
XAN				pP		P	04 29 26.0	+3.7	
XAN				pmax		pmax			
	comp=Z,9.0nm,1.5s								
SLVN	**Son La**	**16.74**	**264**	*e*Pn		**P**	**04 29 43.5**	**+0.2**	
	16nm,1.1s								
DAV	**Davao City (W)**	**17.48**	**167**	LR		LR	04 36 11.8		
	comp=Z,510nm,20.3s,baz=349,slow=36								
LZH	**Lanzhou**	**19.44**	**311**	*e*P		**Pn**	**04 30 15.6**	**+1.3**	
LZH				pP		pP	04 30 18.0	+0.8	
LZH				sP		sP	04 30 19.6	+0.4	
LZH				pmax		pmax			
	comp=Z,26nm,1.1s								
CHAI	**Cha

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WR1  Warramunga Arr  45.61 163 eP        P        04 34 05.6 -1.3
WRA  Warramunga Arr  45.61 163  P        P        04 34 05.6 -1.3
     1.5nm,0.8s,baz=344,slow=9.2,SNR=4.7
GAR  Garm            45.64 302 eP        P        04 34 08.7 +1.6
     172nm,1.2s
AS31 Alice Springs   49.08 165 eP        P        04 34 33.9 +0.1
     1.1nm,0.8s
ASAR Alice Springs   49.08 165  P        P        04 34 33.9 +0.1
     0.4nm,0.4s,baz=353,slow=6.8,SNR=3.3
MDM  Murphy Dome     68.29  27 eP        P        04 36 46.7 -0.4
     19nm,1.4s
BR101 Keskin Array S 73.56 307 eP        P        04 37 19.9 +0.1
BRTR Keskin Array B  73.56 307  P        P        04 37 19.9 +0.1
     2.6nm,0.9s,baz=94,slow=5.4,SNR=2.0
YKA  Yellowknife Ar  82.68  23  P        P        04 38 08.5 -1.2
     0.7nm,0.5s,baz=309,slow=4.9,SNR=13
YKB5 Yellowknife Ar  82.68  23 eP        P        04 38 08.5 -1.2
GLK  Glacier Lake    89.21  38 eP        P        04 38 41.1 -1.3
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*IDC **21** 04:28:31.7±0.6, 52°.46N×160°.46E, h0km, mb4.2/26, mb1 4.4/27, mb1mx4.2/58, mbtmp4.2/27, ML4.2/1, Error ellipse: s-maj=17.3km s-min=12.4km az=141.0*
*KRSC **21** 04:28:32.4±10.0, 52°.26N×160°.81E, h60km±10km, ML4.9*
*MOS **21** 04:28:35.5±0.8, 52°.34N×160°.67E, h47km, mb4.8/9, Error ellipse: s-maj=7.8km s-min=4.4km az=102.0*
*NEIC **21** 04:28:37.2±1.6, 52°.37N×160°.57E, h38km±5km, mb4.6/19, Error ellipse: s-maj=12.9km s-min=11.3km az=196.0*
ISC 21 04:28:33.8±0.5, 52°.29N±0°.04×160°.79E±0°.04, h20km±4km, n157, σ1°63/189, mb4.5/42, 1D, Off east coast of Kamchatka Peninsula

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Code Station Name    Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m  s   ISC
SPN  Mys Shipunski   0.94 331 eP          Pb       04 28 50.0 -1.3
SPN                              eS          Sb       04 29 02.4 -0.9
SPN  Mys Shipunski   0.94 331  PN          Pb       04 28 50.0 -1.3
SPN                               S          Sb       04 29 02.4 -0.9
NLC  Nalytchevo      1.25 316 eP          Pn       04 28 55.2 -0.8
NLC                              eS          Sn       04 29 11.2 -1.0
NLC  Nalytchevo      1.25 316  PN          Pn       04 28 55.2 -0.8
NLC                               S          Sn       04 29 11.2 -1.0
RUS  Russkaya        1.40 277 eP          Pn       04 28 57.9 -0.2
RUS                              eS          Sn       04 29 15.9 -0.1
RUS  Russkaya        1.40 277  PN          Pn       04 28 57.9 -0.2
RUS                               S          Sn       04 29 15.9 -0.1
DALK Dalny           1.45 302 eP          Pn       04 28 58.2 -0.6
DALK                             eS          Sn       04 29 16.3 -0.8
DALK Dalny           1.45 302  PN          Pn       04 28 58.2 -0.6
DALK                              S          Sn       04 29 16.3 -0.8
PET  Petropavlovsk   1.50 300 ePn          Pn       04 28 59.4  0.0
PET                              eSn         Sn       04 29 16.4 -1.9
PET  Petropavlovsk   1.50 300⇓iPN          Pn       04 28 59.5 +0.1
PET                              eS          Sb       04 29 19.0 -0.3
PET                                pmax      pmax
     comp=Z,2μm,0.5s
PET                                smax      smax
     comp=N,5μm,0.6s
PET                                smax      smax
     comp=E,4μm,0.8s
UGLR Uglovaya        1.51 309 eP          Pn       04 28 59.6 -0.2
UGLR Uglovaya        1.51 309  PN          Pn       04 28 59.6 -0.2
SDLR Sedlovina       1.52 311 eP          Pn       04 28 59.8 -0.2
SDLR Sedlovina       1.52 311  PN          Pn       04 28 59.8 -0.2
SMAR Somma           1.56 310 eP          Pn       04 29 00.9 +0.4
SMAR Somma           1.56 310  PN          Pn       04 29 00.9 +0.4
AVH  Avacha          1.59 309 eP          Pn       04 29 01.0 +0.2
AVH                              eS          Sn       04 29 20.6 -0.1
AVH  Avacha          1.59 309  PN          Pn       04 29 01.0 +0.2
AVH                               S          Sn       04 29 20.6 -0.1
KRER Koryakskii      1.60 310 eP          Pn       04 29 01.5 +0.4
KRER Koryakskii      1.60 310  PN          Pn       04 29 01.5 +0.4
MTVR Mutnovka        1.61 278 eP          Pn       04 29 01.3 +0.2
MTVR                             eS          Sn       04 29 21.5 +0.2
MTVR Mutnovka        1.61 278  PN          Pn       04 29 01.3 +0.2
MTVR                              S          Sn       04 29 21.5 +0.2
KOK  Koryaka         1.65 309 eP          Pn       04 29 02.0 +0.3
KOK  Koryaka         1.65 309  PN          Pn       04 29 02.0 +0.3
GRL  Gorelyy         1.68 280 eP          Pn       04 29 03.0 +0.9
GRL  Gorelyy         1.68 280  PN          Pn       04 29 03.0 +0.9
KRX  Arik            1.69 311 eP          Pn       04 29 02.5 +0.3
KRX  Arik            1.69 311  PN          Pn       04 29 02.5 +0.3
KRMR Karymshinskiy   1.71 290 eP          Pn       04 29 02.2 -0.2
KRMR                             eS          Sn       04 29 23.2 -0.5
KRMR Karymshinskiy   1.71 290  PN          Pn       04 29 02.2 -0.2
KRMR                              S          Sn       04 29 23.2 -0.5
KDTR Khodutka, Kamc  1.74 255 eP          Pn       04 29 02.4 -0.4
KDTR                             eS          Sn       04 29 23.0 -1.3
KDTR Khodutka, Kamc  1.74 255  PN          Pn       04 29 02.4 -0.4
KDTR                              S          Sn       04 29 23.0 -1.3
ASAK Asacha          1.77 274 eP          Pn       04 29 04.0 +0.6
ASAK Asacha          1.77 274  PN          Pn       04 29 04.0 +0.6
PEA0B Petropavlovsk- 2.05 295 ePn          Pn       04 29 07.6 +0.5
PEA0B                            eSn         Sn       04 29 29.7 -2.4
PETK Petropavlovsk-  2.05 295 ePn          Pn       04 29 07.3 +0.2
PETK                             eSn         Sn       04 29 29.7 -2.4
PETK Petropavlovsk-  2.05 295 ePN          Pn       04 29 07.3 +0.2
PETK                             e           04 29 29.7
PETK Petropavlovsk-  2.05 295  Pn          Pn       04 29 07.7 +0.6
     comp=E,123nm,0.3s,baz=86,slow=20,SNR=16
PETK                              Sn          Sb       04 29 39.7 +4.3
     comp=E,119nm,0.3s,baz=226,slow=10,SNR=8.4
PEA1 Petropavlovsk-  2.06 295 ePn          Pn       04 29 07.7 +0.6
PEA1                             eSn         Sb       04 29 39.7 +4.3
APC  Apacha          2.30 288 eP          Pn       04 29 11.7 +1.2
APC                              eS          Sn       04 29 39.4 +1.1
APC  Apacha          2.30 288  PN          Pn       04 29 11.7 +1.2
APC                               S          Sn       04 29 39.4 +1.1
MKZ  Mys Kozlova     2.34  14 eP          Pn       04 29 10.3 -0.8
MKZ                              eS          Sn       04 29 36.6 -2.6
MKZ  Mys Kozlova     2.34  14  PN          Pn       04 29 10.3 -0.8
MKZ                               S          Sn       04 29 36.6 -2.6
PAU  Pauzhetka       2.60 253 eP          Pn       04 29 13.9 -0.7
PAU  Pauzhetka       2.60 253  PN          Pn       04 29 13.9 -0.7
KZV  Kizimen         2.85 354 eP          Pn       04 29 18.8 +0.6
KZV  Kizimen         2.85 354  PN          Pn       04 29 18.8 +0.6
TUMD Tumrok D        2.93 356 eP          Pn       04 29 19.4 +0.2
TUMD                             eS          Sn       04 29 52.6 -1.2
TUMR Tumrok          3.03 353 eP          Pn       04 29 21.4 +0.8
TUMR Tumrok          3.03 353  PN          Pn       04 29 19.4 -1.2
TUMR                              S          Sn       04 29 52.6 -3.7
SKR  Severo-Kuril's  3.33 243 eP          Pn       04 29 24.6  0.0
SKR                              eS          Sn       04 30 02.1 -1.5
SKR  Severo-Kuril's  3.33 243 ePN          Pn       04 29 24.8 +0.2
SKR                              eS          Sn       04 30 01.3 -2.3
SKR                                pmax      pmax
     comp=Z,96nm,0.7s
SKR                                smax      smax
     comp=N,994nm,0.6s
SKR                                smax      smax
     comp=E,955nm,0.6s
ALID Alaid           3.56 249 eP          Pn       04 29 28.4 +0.4
ALID Alaid           3.56 249  PN          Pn       04 29 28.4 +0.4
KIRR Kirishev        3.69 356 eP          Pn       04 29 31.8 +2.1
KIRR Kirishev        3.69 356  PN          Pn       04 29 31.8 +2.1
KPT  Kopyto          3.70 355 eP          Pn       04 29 32.4 +2.5
KPT  Kopyto          3.70 355  PN          Pn       04 29 32.4 +2.5
LGNR Loginova        3.81 359 eP          Pn       04 29 33.3 +1.9
LGNR Loginova        3.81 359  PN          Pn       04 29 33.3 +1.9
KOZ  Kozyrevsk       3.82 352 eP          Pn       04 29 32.8 +1.4
KOZ  Kozyrevsk       3.82 352  PN          Pn       04 29 32.8 +1.4
ESO  Esso            3.85 342 eP          Pn       04 29 34.4 +2.6
ESO  Esso            3.85 342  PN          Pn       04 29 34.4 +2.6
SRDR Sredinnyy       4.09 352 eP          Pn       04 29 35.8 +0.7
SRDR Sredinnyy       4.09 352  PN          Pn       04 29 35.8 +0.7
KBTR Krutoberegovo   4.11  16 eP          Pn       04 29 35.3  0.0
KBTR Krutoberegovo   4.11  16  PN          Pn       04 29 35.3  0.0
BKI  Bering          4.25  44 eS          Sn       04 30 21.8 -4.3
SMKR Semkarok        4.33   5 eP          Pn       04 29 40.4 +2.0
SMKR Semkarok        4.33   5  PN          Pn       04 29 40.4 +2.0
SRKR Sorokina        4.38   3 eP          Pn       04 29 41.2 +2.0
SRKR Sorokina        4.38   3  PN          Pn       04 29 41.2 +2.0
SMY  Shemya          8.14  82 ePn         Pn       04 30 32.3 +1.7
SMY                              eSn         Sn       04 31 57.7 -4.1
SMY  Shemya          8.14  82 ePN         Pn       04 30 32.3 +1.7
ASAJ Asahikawa      14.60 243  Pn          Pn       04 31 56.9 -2.0
     comp=E,1.6nm,0.3s,baz=68,slow=10,SNR=4.5
ERM  Erimo          15.75 236 ePn          Pn       04 32 11.0 -3.2
     comp=E,37nm,1.0s
ERM  Erimo          15.75 236 eP           Pn       04 32 11.0 -3.2
ERM                                pmax      pmax
     comp=Z,37nm,1.0s
BILL Biiibino        16.03   7 ePn         P        04 32 21.4 +0.5
     comp=Z,17nm,0.7s
BILL Biiibino        16.03   7 eP          P        04 32 21.5 +0.5
BILL                               pmax      pmax
     comp=Z,17nm,0.7s
USRK Ussuriysk Ar.   20.71 258  P          P        04 33 10.6 -1.9
     comp=Z,4.6nm,0.8s,baz=64,slow=9.7,SNR=5.0
MAJO Matsushiro      22.39 234 eP          P        04 33 33.6 +2.8
     comp=Z,15nm,0.8s
MAJO Matsushiro      22.39 234 eP          P        04 33 33.6 +2.8
MAJO                               pmax      pmax
     comp=Z,15nm,0.8s
MAT  Matsushiro      22.39 234  P          P        04 33 32.1 +1.3
MJAR Matsushiro Arr  22.39 234  P          P        04 33 32.4 +1.7
     comp=Z,8.2nm,0.7s,baz=27,slow=9.2,SNR=6.1
TIXI Tiksi           23.99 336 eP          P        04 33 44.1 -2.4
TIXI Tiksi           23.99 336 eP          P        04 33 44.1 -2.4
TIXI Tiksi           23.99 336  P          P        04 33 44.3 -2.2
     comp=Z,8.2nm,0.5s,baz=122,slow=14,SNR=7.5
KDAK Kodiak Island   26.84  60 eP          P        04 34 19.0 +6.6
     comp=Z,10.0nm,1.0s
KDAK Kodiak Island   26.84  60  P          P        04 34 19.0 +6.6
     comp=Z,6.6nm,0.8s,baz=124,slow=18,SNR=1.9
KSRS Korea Array     27.32 250  P          P        04 34 18.3 +1.4
     comp=Z,1.6nm,0.6s,baz=33,slow=9.7,SNR=4.3
SML  Sawmill         28.54  50 eP          P        04 34 28.4 +0.7
     comp=Z,8.0nm,0.7s
SML  Sawmill         28.54  50  P          P        04 34 28.4 +0.7
SML                                pmax      pmax
     comp=Z,8.0nm,0.7s
ILAR Eielson Array   29.09  44  P          P        04 34 33.2 +0.7
     comp=Z,0.7nm,0.9s,baz=257,slow=7.0,SNR=2.8
MENT Mentasta        30.59  48 eP          P        04 34 48.9 +3.1
     comp=Z,4.4nm,0.7s
BCAR Beaver Creek A  31.45  47 eP          P        04 34 54.9 +1.4
INK  Inuvik          34.26  37 eP          P        04 35 18.6 +0.8
     comp=Z,4.4nm,1.1s
INK  Inuvik          34.26  37 eP          P        04 35 18.6 +0.8
INK                                pmax      pmax
     comp=Z,4.0nm,1.1s
SONA0 Songino Array  34.51 285 eP          P        04 35 18.6 -1.8
SONM Songino Array   34.51 285  P          P        04 35 18.6 -1.8
     comp=Z,1.4nm,0.6s,baz=38,slow=5.3,SNR=4.5
YKA  Yellowknife Ar  43.48  42  P          P        04 36 36.6 +1.6
     comp=Z,0.5nm,0.8s,baz=302,slow=8.1,SNR=3.7
YKB5 Yellowknife Ar  43.48  42 eP          P        04 36 36.6 +1.6
RES  Resolute Bay    43.92  22 eP          P        04 36 39.4 +1.0
     comp=Z,5.2nm,1.1s
RES  Resolute Bay    43.92  22 eP          P        04 36 39.4 +1.0
RES                                pmax      pmax
     comp=Z,5.0nm,1.1s
NVS  Novosibirsk     43.92 305 i P          P        04 36 36.7 -2.0
SPITS Spitsbergen Ar 48.00 351  P          P        04 37 10.8 +0.2
     comp=Z,7.6nm,0.4s,baz=59,slow=8.8,SNR=45
MK32 Makanchi Array  48.89 297 eP          P        04 37 15.6 -2.3
MKAR Makanchi Array  48.89 297  P          P        04 37 15.6 -2.3
     comp=Z,2.6nm,0.5s,baz=55,slow=6.5,SNR=18
DAG  Danmarks Havn   51.22 360 i P          P        04 37 34.5 -0.5
DAG                                pmax      pmax
     comp=Z,3.0nm,0.7s
DAG  Danmarks Havn   51.22 360 i P          P        04 37 34.5 -0.5
     comp=Z,4.3nm,0.7s
ARCES ARCESS Array B 54.19 342  P          P        04 37 56.3 -0.8
     comp=Z,8.1nm,0.8s,baz=39,slow=9.3,SNR=10
SUMG Summit          54.71   7 eP          P        04 38 01.8 +0.4
     comp=Z,22nm,1.2s
SUMG Summit          54.71   7 eP          P        04 38 01.8 +0.4
SUMG                               pmax      pmax
     comp=Z,22nm,1.2s
SUMG Summit          54.71   7 i P          P        04 38 02.1 +0.7
     comp=Z,45nm,1.1s
NV01 Mina Array Sit  55.62  70 eP          P        04 38 10.8 +2.6
NVAR Mina Array Bea  55.62  70  P          P        04 38 10.8 +2.6
     comp=Z,0.6nm,0.7s,baz=298,slow=6.8,SNR=3.7
AAK  Ala-Archa       55.82 297  P          P        04 38 09.0 -0.5
AAK  Ala-Archa       55.82 297  P          P        04 38 09.0 -0.5
     comp=Z,6.2nm,0.8s,baz=37,slow=1.4,SNR=4.8
PD31 Pinedale Array  57.55  61 eP          P        04 38 23.4 +1.5
     comp=Z,5.6nm,1.3s
PDAR Pinedale Array  57.55  61  P          P        04 38 23.4 +1.5
     comp=Z,0.3nm,0.4s,baz=345,slow=3.2,SNR=2.1
KKAR Karatay Array   57.65 300 eP          P        04 38 21.2 -1.1
     comp=Z,4.7nm,0.9s
KKAR Karatay Array   57.65 300 eP          P        04 38 21.2 -1.1
KKAR                               pmax      pmax
     comp=Z,5.0nm,0.9s
CM31 Chiang Mai Arr  58.44 259 eP          P        04 38 29.6 +1.5
     comp=Z,9.3nm,0.8s
CMAR Chiang Mai Arr  58.44 259  P          P        04 38 29.6 +1.5
     comp=Z,6.1nm,0.9s,baz=26,slow=7.0,SNR=9.0
GAR  Garm            60.62 297 eP          P        04 38 42.6 -0.4
     comp=Z,19nm,0.7s
GAR  Garm            60.62 297 eP          P        04 38 42.6 -0.4
GAR                                pmax      pmax
     comp=Z,19nm,0.7s
FIA0 FINESS Array S  61.03 337 eP          P        04 38 45.1 -0.1
FIA0 FINESS Array S  61.03 337 eP          P        04 38 45.2 -0.1
FINES FINESS Array B 61.03 337  P          P        04 38 45.2 -0.1
     comp=Z,3.2nm,0.4s,baz=35,slow=8.4,SNR=13
NIL  Nilore          62.79 290 eP          P        04 38 57.2 -0.4
     comp=Z,9.9nm,0.6s
NIL  Nilore          62.79 290 eP          P        04 38 57.2 -0.4
NIL                                pmax      pmax
     comp=Z,10.0nm,0.6s
NB2  NORSAR Subarra  64.44 344  P          P        04 39 07.4 -0.7
     comp=Z,2.0nm,0.7s,baz=22,slow=6.9
NB200 NORSAR Array S 64.44 344 eP          P        04 39 08.3 +0.3
NOA  NORSAR Array B  64.44 344  P          P        04 39 08.3 +0.3
     comp=Z,2.9nm,0.7s,baz=22,slow=6.6,SNR=9.0
GEYT Alibeck         67.89 304  P          P        04 39 29.7 -0.9
     comp=Z,4.0nm,0.7s,baz=27,slow=0.3,SNR=4.9
AKASG Malin Array Be 69.53 329  P          P        04 39 40.1 -0.4
     comp=Z,5.0nm,0.5s,baz=31,slow=6.7,SNR=11
AKBB Malin Array Si  69.53 329 eP          P        04 39 40.1 -0.3
     comp=Z,6.9nm,0.8s
AKBB Malin Array Si  69.53 329 eP          P        04 39 40.2 -0.3
AKBB                               pmax      pmax
     comp=Z,7.0nm,0.8s
KBZ  Khabaz          70.42 317  P          P        04 39 45.3 -0.8
     comp=Z,3.9nm,0.7s,baz=92,slow=5.4,SNR=4.3
LTX  Lajitas         70.56  67 eP          P        04 39 49.1 +1.7
LTX  Lajitas         70.56  67 eP          P        04 39 49.1 +1.7
TXAR Lajitas Array   70.56  67  P          P        04 39 49.1 +1.7
     comp=Z,0.5nm,0.5s,baz=304,slow=4.9,SNR=4.8
W41B Gary Mavity, V  72.20  55 eP          P        04 39 54.5 -2.5
     comp=Z,11nm,0.8s
CLL  Collm           73.26 340 i P          P        04 40 03.0 -0.1
     comp=Z,7.0nm,0.9s
CLL                                epP       pwP      04 40 15.0 +1.0
GERES GERESS Array B 75.42 338  P          P        04 40 16.1 +0.3
     comp=Z,0.9nm,0.6s,baz=23,slow=7.2,SNR=4.2
WR1  Warramunga Arr  75.53 206 eP          P        04 40 17.2 +0.7
WRA  Warramunga Arr  75.53 206  P          P        04 40 17.2 +0.7
     comp=Z,2.0nm,1.2s,baz=182,slow=32,SNR=3.3
ILGA Ilgaz           76.34 322 eP          P        04 40 23.0 +1.6
     comp=Z,10.0nm,0.8s
FITZ Fitzroy Crossi  76.46 214 eP          P        04 40 22.9 +1.0
     comp=Z,7.6nm,1.4s
FITZ Fitzroy Crossi  76.46 214  P          P        04 40 22.9 +1.0
     comp=Z,1.9nm,0.9s,baz=7,4,slow=18,SNR=3.8
BR101 Keskin Array S 77.51 321 eP          P        04 40 28.1 +0.1
BRTR Keskin Array B  77.52 321  P          P        04 40 28.1 +0.1
     comp=Z,2.6nm,0.9s,baz=46,slow=5.3,SNR=4.3
AS31 Alice Springs   79.20 205 eP          P        04 40 38.5 +1.5
     comp=Z,1.7nm,1.3s
ASAR Alice Springs   79.20 205  P          P        04 40 38.5 +1.5
     comp=Z,0.5nm,0.6s,baz=18,slow=5.7,SNR=4.1
ESDC Sonseca Array   87.46 348  P          P        04 41 18.6 -1.0
     comp=Z,2.1nm,0.9s,baz=359,slow=5.6,SNR=5.1
TOA1 Torodi Ar. Sit 112.37 338 ePP         PP       04 47 50.6 -2.3
TORD Torodi Ar. Bea 112.38 338  PP         PP       04 47 50.6 -2.3
     comp=Z,1.3nm,1.0s,baz=3.4,slow=7.2,SNR=4.0
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*IDC **21** 04:28:37.3±1.2, 13°.82N×145°.78E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.8/57, mbtmp4.1/6, MS4.9/3, Ms1 4.9/3, ms1mx3.8/52, Error ellipse: s-maj=39.6km s-min=15.3km az=143.0*
*ISCJB **21** 04:28:40.5±1.0, 13°.8N±0°.2×145°.9E±0°.1, h33km, Error ellipse: s-maj=26.3km s-min=10.9km az=153.6*
ISC 21 04:28:42.7±1.2, 13°.8N±0°.2×145°.8E±0°.1, h35km, n10, σ2°01/8, Mariana Islands

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Code Station Name    Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m  s   ISC
GUMO Guam            0.91 256  Pn          Pn       04 28 55.6 -3.4
     100nm,0.3s,baz=147,slow=11,SNR=35
GUMO                               Sn          Sn       04 29 12.8 +2.0
     450nm,0.3s,baz=18,slow=19,SNR=63
KAPI Kappang        31.89 236  P          P        04 35 06.6 +1.6
     4.1nm,0.5s,baz=46,slow=8.2,SNR=4.7
USRK Ussuriysk Ar.  32.50 341  P          P        04 35 11.3 +1.3
     0.6nm,0.4s,baz=131,slow=6.5,SNR=4.1
FITZ Fitzroy Crossi 37.41 213  P          P        04 35 53.0 +0.4
     5.7nm,1.1s,baz=30,slow=7.0,SNR=3.6
BRDH Bariadhala     51.93 288 LR          LR       05 00 42.2
     comp=Z,3μm,19.5s,baz=46,slow=37
ILAR Eielson Array  67.99  25  P          P        04 39 37.7 -0.3
     1.1nm,0.5s,baz=252,slow=5.4,SNR=19
PPT  Papeete        71.00 114 LR          LR       05 03 44.8
     comp=Z,878nm,21.6s,baz=306,slow=30
INK  Inuvik         73.83  22  P          P        04 40 13.2 -0.1
     1.5nm,0.8s,baz=257,slow=5.7,SNR=4.1
YBH  Yreka Blue Hor 82.06  49 LR          LR       05 09 51.9
     comp=Z,324nm,20.9s,baz=352,slow=30
YKA  Yellowknife Ar 82.26  28  P          P        04 40 59.5 -0.7
     0.5nm,0.7s,baz=284,slow=5.0,SNR=5.6
```

*IDC **21** 04:28:57.5±2.6, 31°.45S×68°.65W, h80km±33km, mb3.7/3, mb1 3.8/7, mb1mx3.5/33, mbtmp4.0/7, MS4.4/1, Ms1 4.4/1, ms1mx3.9/24, Error ellipse: s-maj=79.6km s-min=18.0km az=93.0*
*ISCJB **21** 04:28:58.9±0.3, 31°.50S±0°.02×68°.90W±0°.04, h122km±3km, mb4.1/5, Error ellipse: s-maj=6.0km s-min=3.4km az=6.3*
*NEIC **21** 04:28:59.0±0.0, 31°.52S×68°.94W, h110km, mb4.2/4, MD4.0(SJA), After SJA.*
NEIC Felt [III] at San Juan.
*SJA **21** 04:28:59.5±0.7, 31°.52S×68°.94W, h110km±3km, ML3.9, MW4.0*
*GUC **21** 04:29:00.2±0.6, 31°.47S×69°.01W, h102km±2km, ML3.8*
ISC 21 04:28:59.5±0.7, 31°.48S±0°.04×68°.91W±0°.04, h115km±5km, n62, σ1°62/86, mb4.1/5, 9C-3D, San Juan Province

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Code Station Name    Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m  s   ISC
ZON  Zonda           0.21 108 i P          Pn       04 29 15.4 -0.3
ZON                              i S          Sn       04 29 28.2 +0.4
ZON                                IAML                04 29 28.4
     comp=Z,3μm,0.3s
RTLL Cerro Villicun  0.40  68 i P          Pn       04 29 16.4  0.0
RTLL                             i S          Sn       04 29 28.9 -0.2
RTLL                               IAML                04 29 29.9
     comp=Z,4μm,0.2s
RTLL Cerro Villicun  0.40  68⇑iP           Pn       04 29 16.4  0.0
RTLL                             i S          Sn       04 29 28.6 -0.6
RTLS Leoncito        0.46 226 i P          Pn       04 29 17.0  0.0
RTLS                               IAML                04 29 30.2
     comp=Z,2μm,0.3s
RTLS                             i S          Sn       04 29 30.2  0.0
RTCV Cerro Valdivia  0.49 140 i P          Pn       04 29 16.9 -0.1
AMOG MOGNA           0.65  34 i P          Pn       04 29 18.6 +0.5
AUSP Uspallata       0.84 209 i P          Pn       04 29 20.1 +0.1
ACCO Cerro Coronel   0.90 351 i P          Pn       04 29 21.6 +1.1
ASAL Salagasta       1.11 177 i P          Pn       04 29 22.6 +0.3
ASAL                             i S          Sn       04 29 39.5 -0.2
ACDV Cuesta del Vie  1.32 352 i P          Pn       04 29 26.1 +1.3
ACDV                             i S          Sn       04 29 45.2 +1.4
ACDV                               IAML                04 29 46.5
     comp=Z,2μm,0.5s
ARCO CERRO ARCO      1.36 181 i P          Pn       04 29 25.5 +0.3
ARCO                               IAML                04 29 25.6
     comp=Z,2μm,0.2s
ARCO                             i S          Sn       04 29 44.5 -0.2
AROD Rodeo           1.40 340 i P          Pn       04 29 27.4 +1.6
AAGR Agrelo          1.60 178 i P          Pn       04 29 28.2 +0.3
ACAN Cantantal       1.67 119 i P          Pn       04 29 29.3 +0.7
GO04 Tololo Observa  2.08 308 ePn          Pn       04 29 35.0 +1.0
GO04                             eSn         Sn       04 30 01.6 +1.3
GO04 Tololo Observa  2.08 308⇑iP           Pn       04 29 34.9 +0.9
GO04                             i S          Sn       04 30 01.2 +0.8
FCH  Farellones      2.18 212⇓iP           Pn       04 29 36.7 +1.4
FCH                              i S          Sn       04 30 04.6 +1.9
FCH                                IAML                04 30 08.8
     comp=N,317nm,0.3s
PEL  Peldehue        2.24 222 ePn          Pn       04 29 36.3 +0.6
PEL                              eSn         Sn       04 30 01.8 -1.8
PEL  Peldehue        2.24 222⇑iP           Pn       04 29 36.7 +0.9
PEL                              i S          Sn       04 30 03.7 +0.1
PEL                                IAML                04 30 07.6
     comp=E,255nm,0.3s
ROCH El Roble        2.32 230⇑iP           Pn       04 29 37.0  0.0
ROCH                             i S          Sn       04 30 05.7  0.0
ROCH                               IAML                04 30 10.7
     comp=N,483nm,0.6s
ROC1 El Roble        2.33 230 ePn          Pn       04 29 37.1  0.0
ROC1                             eSn         Sn       04 30 05.6 -0.2
CLCH Cerro Calan     2.35 215 eP           Pn       04 29 38.4 +1.1
CLCH                               IAML                04 30 14.0
     comp=E,432nm,0.4s
ANTU Antumapu        2.54 214 eP           Pn       04 29 40.8 +1.2
ANTU                             i S          Sn       04 30 11.5 +1.0
ANTU                               IAML                04 30 16.6
     comp=E,354nm,0.2s
LSCH La Serena       2.55 307⇓iP           Pn       04 29 40.2 +0.5
LSCH                             i S          Sn       04 30 10.0 -0.6
LSCH                               IAML                04 30 11.7
     comp=N,876nm,0.3s
LMEL Las Melosas     2.60 204⇓iP           Pn       04 29 41.3 +0.8
LMEL                             eS          Sn       04 30 12.6 +0.5
LMEL                               IAML                04 30 22.8
     comp=N,233nm,0.1s
VCA  Vinchina        2.80  13⇑iP           Pn       04 29 45.1 +1.9
VCA                              i S          Sn       04 30 19.3 +2.5
VCA                                IAML                04 30 22.6
     comp=E,658nm,0.6s
LCO  Las Campanas    2.91 327 ePn          Pn       04 29 45.8 +1.1
LCO                              eSn         Sn       04 30 20.1 +0.7
LCO  Las Campanas    2.91 327⇑iP           Pn       04 29 46.0 +1.3
LCO                              i S          Sn       04 30 20.7 +1.2
LCO                                IAML                04 30 24.7
     comp=E,537nm,0.3s
GO03 Copiap          4.04 343 ePn          Pn       04 30 00.6 +1.0
GO03                             eSn         Sn       04 30 45.2 -0.9
GO03 Copiap          4.04 343⇑iP           Pn       04 30 00.4 +0.9
GO03                             i S          Sn       04 30 46.5 +0.3
GO05 Huala           4.33 215 ePn          Pn       04 30 01.1 -2.3
GO05                             eSn         Sn       04 30 50.6 -2.4
GO02 Mina Guanaco    6.32 354 ePn          Pn       04 30 30.9 +0.3
GO02                             eSn         Sn       04 31 37.7 -3.9
PB10 IPOC Station P  8.07 349 ePn          Pn       04 30 51.2 -2.8
GO06 Curarrehue      8.35 194 ePn          Pn       04 30 56.2 -1.5
TRQA Tornquist       8.69 141 ePn          Pn       04 31 01.4 -0.9
TRQA                             eSn         Sn       04 32 34.7 -3.8
LVC  Limon Verde     8.84   0 ePn          Pn       04 31 03.3 -1.4
LVC  Limon Verde     8.84   0  P           Pn       04 31 02.9 -1.8
     comp=E,2.6nm,0.3s,baz=147,slow=8.3,SNR=22
LVC                                S           Sn       04 32 38.9 -3.8
     comp=E,0.3nm,0.3s,baz=253,slow=11,SNR=2.0
PB04 IPOC Station P  9.18 353 ePn          Pn       04 31 05.5 -3.6
PLCA Paso Flores     9.33 188  P           Pn       04 31 09.3 -1.6
     comp=E,0.2nm,0.3s,baz=11,slow=10,SNR=5.7
PB01 IPOC Station P 10.41 357 ePn          Pn       04 31 22.5 -3.2
PB11 IPOC Station P 11.69 357 ePn          Pn       04 31 38.2 -4.7
GO01 Chusmiza       11.77 359 ePn          Pn       04 31 41.7 -2.5
MNMC Minye Minye    12.31 357 ePn          Pn       04 31 48.1 -3.2
LPAZ La Paz          15.14   3 ePn          P        04 32 30.4  0.0
     comp=E,7.2nm,0.8s
LPAZ La Paz          15.14   3  P           Pn       04 32 27.9  0.0
     comp=E,0.4nm,0.3s,baz=197,slow=7.7,SNR=38
SIV  San Ignacio     17.00  27  P           Pn       04 32 50.3  0.0
     comp=E,0.2nm,0.3s,baz=234,slow=8.5,SNR=7.4
MDP  Montagnes des   39.55  26 LR           LR       04 54 18.8
     comp=E,499nm,19.6s,baz=26,slow=39
VNA3 Neumayer Olymp  50.72 159  P           P        04 37 45.2 -1.8
VNA1 Neumayer--Stat  50.98 158  P           P        04 37 54.3 +5.4
VNA2 Neumayer--Watz  51.34 158  P           P        04 37 53.3 +1.7
SNAA Sanae           52.94 159  P           P        04 38 05.1 +1.6
SNAA Sanae           52.94 159 eP           P        04 38 04.9 +1.4
     comp=E,3.0nm,1.2s
SNAA Sanae           52.94 159  P           P        04 38 04.9 +1.4
     comp=E,1.2nm,0.6s,baz=220,slow=6.1,SNR=12
QSPA South Pole Qui  58.75 180 eP           P        04 38 46.8 +1.7
     comp=E,3.0nm,1.0s
SYO  Syowa Base      67.23 158⇑eP           P        04 39 39.6 -1.3
SYO  Syowa Base      67.23 158⇑eP           P        04 39 40.2 -0.7
TX31 Lajitas Ar. Si  68.92 328 eP           P        04 39 55.6 +3.5
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comp=E,7.1nm,1.5s
BOSA Boshof 78.87 117 P **P 04 40 51.4 +1.0**
comp=E,1.4nm,0.7s,baz=300,slow=9.8,SNR=3.4
TORD Torodi Ar. Bea 80.86 69 P **P 04 41 01.4 +0.4**
comp=E,0.9nm,0.7s,baz=282,slow=5.1,SNR=12
TOA1 Torodi Ar. Sit 80.86 69 *e*P **P 04 41 01.4 +0.4**
ZAA1 Zalesovo Array 150.69 32 *e*PKPbc **PKiKP 04 48 39.5 +1.3**
ZALV Zalesovo Beam 150.69 32 PKPbc **PKiKP 04 48 39.5 +1.3**
comp=E,1.9nm,0.6s,baz=268,slow=1.8,SNR=5.9

*IDC **21** 04:29:19.5±3.0, 52°.26N×160°.81E, h0km, mb4.2/7, mb1 4.3/8, mb1mx3.8/56, mbtmp4.2/8, ML3.1/1, Error ellipse: s-maj=65.3km s-min=32.7km az=136.0*
ISC 21 04:29:22.0±2.1, 52°.4N±0°.3×160°.6E±0°.2, h10km, n8, σ0§91/8, mb4.4/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.89**	**294**	Pn	**Pb**	**04 29 56.9**	**+0.3**
	31nm,0.3s,baz=94,slow=18,SNR=3.3						
SPITS	**Spitsbergen Ar**	**47.90**	**351**	P	**P**	**04 38 00.4**	**+0.8**
	1.4nm,0.4s,baz=70,slow=9.5,SNR=2.6						
MKAR	**Makanchi Array**	**48.73**	**296**	P	**P**	**04 38 05.1**	**-1.4**
	0.7nm,0.4s,baz=61,slow=7.7,SNR=3.4						
ARCES	**ARCESS Array B**	**54.06**	**342**	P	**P**	**04 38 45.8**	**-0.2**
	3.1nm,0.9s,baz=44,slow=7.8,SNR=2.7						
CMAR	**Chiang Mai Arr**	**58.32**	**259**	P	**P**	**04 39 17.7**	**+0.7**
	1.8nm,0.4s,baz=30,slow=7.3,SNR=3.4						
FINES	**FINESS Array B**	**60.90**	**337**	P	**P**	**04 39 35.1**	**+0.9**
	1.9nm,0.6s,baz=10,slow=8.5,SNR=3.4						
NOA	**NORSAR Array B**	**64.32**	**344**	P	**P**	**04 39 57.4**	**+0.2**
	1.2nm,0.7s,baz=23,slow=6.7,SNR=2.8						
AKASG	**Malin Array Be**	**69.38**	**329**	P	**P**	**04 40 29.0**	**-0.5**
	1.0nm,0.4s,baz=28,slow=6.5,SNR=2.9						

*IDC **21** 04:30:28.7±2.0, 52°.25N×160°.59E, h0km, mb4.2/6, mb1 4.2/6, mb1mx3.6/51, mbtmp4.2/6, Error ellipse: s-maj=42.8km s-min=26.9km az=160.0*
*ISCJB **21** 04:30:30.4±1.7, 52°.19N±0°.07×160°.74E±0°.08, h27km±11km, mb4.2/6, Error ellipse: s-maj=10.9km s-min=8.5km az=2.6*
*KRSC **21** 04:30:30.4±10.0, 52°.19N×160°.60E, h14km±10km, ML4.3*
ISC 21 04:30:29.9±2.4, 52°.22N±0°.07×160°.56E±0°.07, h8km±13km, n18, σ0§52/27, mb4.3/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.94**	**340**	*e*P	**Pb**	**04 30 48.3**	**-0.2**
SPN				*e*S	**Sb**	**04 31 01.3**	**+0.2**
NLC	**Nalytchevo**	**1.21**	**323**	*e*P	**Pn**	**04 30 53.0**	**-0.1**
NLC				*e*S	**Sn**	**04 31 09.9**	**+0.3**
RUS	**Russkaya**	**1.28**	**281**	*e*P	**Pn**	**04 30 53.8**	**-0.2**
DALK	**Dalny**	**1.37**	**307**	*e*P	**Pn**	**04 30 55.4**	**+0.1**
DALK				*e*S	**Sb**	**04 31 13.6**	**+0.1**
PET	**Petropavlovsk**	**1.42**	**306**	*e*P	**Pn**	**04 30 55.9**	**0.0**
PET				*e*S	**Sb**	**04 31 14.5**	**-0.3**
MTVR	**Mutnovka**	**1.48**	**281**	*e*P	**Pn**	**04 30 57.1**	**+0.1**
MTVR				*e*S	**Sn**	**04 31 16.7**	**+0.1**
GRL	**Gorelyy**	**1.56**	**283**	P	**Pg**	**04 30 59.8**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.59**	**256**	*e*P	**Pn**	**04 30 58.5**	**+0.2**
KDTR				*e*S	**Sn**	**04 31 18.4**	**-0.5**
KRMR	**Karymshinskiy**	**1.61**	**293**	*e*P	**Pn**	**04 30 58.9**	**+0.3**
KRMR				*e*S	**Sb**	**04 31 20.3**	**+0.1**
KRX	**Arik**	**1.63**	**315**	P	**Pb**	**04 31 00.0**	**-0.3**
PETK	**Petropavlovsk-**	**1.96**	**298**	Pn	**Pn**	**04 31 04.5**	**+1.0**
	baz=111,slow=17,SNR=3.5						
PETK				Sn	**Sb**	**04 31 30.5**	**+0.1**
	37nm,0.3s,baz=103,slow=33,SNR=4.9						
APC	**Apacha**	**2.20**	**290**	P	**Pb**	**04 31 09.8**	**0.0**
APC				S	**Sb**	**04 31 38.2**	**+1.1**
INK	**Inuvik**	**34.40**	**37**	P	**P**	**04 37 18.1**	**+1.1**
	1.7nm,0.8s,baz=238,slow=9.6,SNR=3.2						
SPITS	**Spitsbergen Ar**	**48.05**	**351**	P	**P**	**04 39 08.9**	**-0.1**
	0.9nm,0.4s,baz=57,slow=10,SNR=5.3						
ARCES	**ARCESS Array B**	**54.21**	**342**	P	**P**	**04 39 54.9**	**-0.4**
	5.2nm,1.1s,baz=32,slow=8.6,SNR=2.7						
CMAR	**Chiang Mai Arr**	**58.29**	**259**	P	**P**	**04 40 25.5**	**+0.4**
	1.2nm,0.3s,baz=17,slow=7.5,SNR=2.6						
FINES	**FINESS Array B**	**61.04**	**337**	P	**P**	**04 40 43.1**	**-0.4**
	2.5nm,0.6s,baz=45,slow=8.9,SNR=3.5						
AKASG	**Malin Array Be**	**69.52**	**329**	P	**P**	**04 41 37.4**	**-1.1**
	1.0nm,0.4s,baz=30,slow=7.0,SNR=3.6						

*ISCJB **21** 04:32:31.5±0.4, 31°.55N±0°.02×116°.17W±0°.02, h21km±3km, Error ellipse: s-maj=4.4km s-min=2.6km az=32.9*
*ECX **21** 04:32:32.1±0.7, 31°.57N×116°.12W, h15km±2km, MD3.5, ML3.7, Fault plane solution: NP1:φ=30.00000°, δ=90.00000°, λ=0.00000°.*
*NEIC **21** 04:32:32.1±0.0, 31°.57N×116°.12W, h5km, MD3.6(MEX), ML3.5(ECX), ML3.6(PAS), After ECX.*
NEIC Felt [III] at Ensenada.
*PAS **21** 04:32:32.0±0.0, 31°.59N×116°.13W, h15km*
*MEX **21** 04:32:32.7±0.5, 31°.42N×116°.35W, h20km±164km, MD3.6*
*ANF **21** 04:32:33.0±0.8, 31°.66N×116°.17W, h22km±5km, ML3.4/22, Error ellipse: s-maj=5.4km s-min=3.3km az=4.0*
ISC 21 04:32:31.4±0.9, 31°.56N±0°.02×116°.15W±0°.02, h18km±8km, n96, σ1§14/137, 4C-11D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAX	**El Zacaton**	**0.12**	**246⇑**	*i*P	**Pb**	**04 32 35.7**	**+1.0**
ZAX				*e*S	**Sb**	**04 32 38.7**	**+2.0**
ZAX				IAML		04 32 39.6	
	comp=N,16μm,0.4s						
ECNX	**Esteban Cantu**	**0.40**	**284⇑**	*e*P	**Pg**	**04 32 39.9**	**+0.2**
ECNX			⇓	*e*P	**Pn**	**04 32 42.4**	**0.0**
ECNX				*e*S	**Sg**	**04 32 45.9**	**+0.6**
ECNX				*e*S	**Sn**	**04 32 49.8**	**+0.2**
PBX	**Punta Banda**	**0.53**	**290⇓**	*e*P	**Pg**	**04 32 41.9**	**-0.1**
PBX				*e*S	**Sg**	**04 32 49.2**	**+0.1**
SPIG	**San Pedro Mart**	**0.78**	**131**	*e*Pg	**Pg**	**04 32 46.2**	**-0.5**
SPIG				*e*Sg	**Sg**	**04 32 56.4**	**-0.7**
SPIG	**San Pedro Mart**	**0.78**	**131**	*e*P	**Pg**	**04 32 46.2**	**-0.5**
SPIG				*e*S	**Sg**	**04 32 56.4**	**-0.7**
SPIG	**San Pedro Mart**	**0.78**	**131⇓**	*e*P	**Pg**	**04 32 46.1**	**-0.6**
SPIG				*e*S	**Sg**	**04 32 56.4**	**-0.7**
SPX	**San Pedro Mart**	**0.78**	**131**	*e*Pg	**Pg**	**04 32 46.3**	**-0.5**
SPX				*e*Pn	**Sb**	**04 32 56.6**	**-0.4**
SPX	**San Pedro Mart**	**0.78**	**131**	*e*P	**Pg**	**04 32 46.2**	**-0.5**
SPX				*e*S	**Sg**	**04 32 56.5**	**-0.7**
SPX	**San Pedro Mart**	**0.78**	**131⇓**	*e*P	**Pg**	**04 32 46.3**	**-0.5**
SPX				*e*S	**Sg**	**04 32 56.4**	**-0.7**
SPX				IAML		04 32 57.1	
	comp=N,3μm,0.2s						
SPX				IAML		04 32 57.3	
	comp=E,2μm,0.3s						
CBX	**Cerro Bola**	**0.87**	**330**	*e*Pg	**Pb**	**04 32 47.5**	**-0.6**
CBX				*e*Sg	**Sb**	**04 32 58.7**	**-0.7**
CBX	**Cerro Bola**	**0.87**	**330**	*e*P	**Pb**	**04 32 47.5**	**-0.6**
CBX				*e*S	**Sb**	**04 32 58.7**	**-0.7**
CBX	**Cerro Bola**	**0.87**	**330⇓**	*e*P	**Pb**	**04 32 47.4**	**-0.7**
CBX				*e*S	**Sb**	**04 32 59.4**	**-0.1**
CBX				IAML		04 33 03.9	
	comp=N,3μm,0.2s						
ECBX	**El Chinero**	**0.94**	**95⇑**	*e*P	**Pb**	**04 32 49.2**	**0.0**
ECBX				*e*S	**Sb**	**04 33 01.4**	**+0.1**
TJIG	**Tijuana**	**0.98**	**333**	*e*P	**Pb**	**04 32 49.1**	**-0.8**
TJIG				*e*S	**Sb**	**04 33 01.5**	**-1.0**
TJIG	**Tijuana**	**0.98**	**333⇓**	*e*P	**Pb**	**04 32 49.1**	**-0.8**
RMX	**La Rumorosa**	**1.04**	**3**	*e*Pg	**Pb**	**04 32 50.0**	**-1.0**
RMX				*e*Sg	**Sb**	**04 33 02.3**	**-2.0**
RMX	**La Rumorosa**	**1.04**	**3⇓**	*e*P	**Pb**	**04 32 49.9**	**-1.1**
RMX				IAML		04 33 03.0	
	comp=N,2μm,0.1s						
TKX	**Tecate**	**1.08**	**339**	*e*Pg	**Pb**	**04 32 51.1**	**-0.4**
TKX				*e*Sg	**Sb**	**04 33 04.2**	**-1.2**
IKP	**In-Ko-Pah, Jac**	**1.08**	**2**	P	**Pb**	**04 32 51.5**	**-0.3**
	baz=181,SNR=537						
IKP				S	**Sb**	**04 33 04.6**	**-1.1**
	baz=181						
IKP	**In-Ko-Pah, Jac**	**1.08**	**2⇓**	*i*P	**Pb**	**04 32 51.5**	**-0.3**
YUH	**Yuha Desert**	**1.10**	**10**	*e*Pg	**Pb**	**04 32 51.5**	**-0.4**
CPBX	**Cerro Prieto**	**1.11**	**40**	*e*Pn	**Pg**	**04 32 53.7**	**+0.7**
CPBX	**Cerro Prieto**	**1.11**	**40⇑**	*e*P	**Pb**	**04 32 50.9**	**-1.3**
MBIG	**Mexicali**	**1.17**	**43**	*e*Pg	**Pb**	**04 32 53.0**	**-0.1**
MBIG				*e*Sn	**Sg**	**04 33 10.8**	**+1.5**
MBIG	**Mexicali**	**1.17**	**43**	*e*P	**Pb**	**04 32 53.0**	**-0.1**
MBIG				*e*S	**Sg**	**04 33 10.8**	**+1.5**
BAR	**Barrett**	**1.20**	**338**	*e*Pg	**Pn**	**04 32 52.6**	**-0.8**
BAR				*e*Sg	**Sb**	**04 33 07.6**	**-1.3**
BAR				*e*Sn	**Sn**	**04 33 07.9**	**-1.4**
BAR	**Barrett**	**1.20**	**338⇓**	*e*P	**Pn**	**04 32 52.6**	**-0.8**
UABX	**UABC, Campus M**	**1.22**	**29**	*e*Sg	**Sg**	**04 33 11.4**	**+0.4**
MONP2	**Monument Peak**	**1.35**	**350**	P	**Pn**	**04 32 55.4**	**-0.1**
	baz=169,SNR=120						
MONP2				S	**Sn**	**04 33 12.3**	**-0.8**
	baz=169						
MONP2	**Monument Peak**	**1.35**	**350**	*i*P	**Pn**	**04 32 55.4**	**-0.1**
SDRC	**San Diego Road**	**1.35**	**330⇓**	*e*Pn	**Pn**	**04 32 55.2**	**-0.2**
SWSC	**Sam W. Stewart**	**1.41**	**12**	*e*Pn	**Pb**	**04 32 57.7**	**+0.5**
SWSC				*e*Sn	**Sg**	**04 33 15.8**	**-1.2**
SWSC	**Sam W. Stewart**	**1.41**	**12**	P	**Pn**	**04 32 56.5**	**+0.3**
	baz=192,SNR=157						
SWSC				S	**Sb**	**04 33 14.9**	**0.0**
	baz=192						
SNR	**Schaffner Ranc**	**1.43**	**25**	*e*Pn	**Pb**	**04 32 57.3**	**-0.3**
SNR				*e*Sn	**Sb**	**04 33 15.7**	**+0.3**
EML	**El Monte Cty P**	**1.45**	**336⇓**	*e*P	**Pn**	**04 32 56.6**	**-0.2**
109C	**Camp Elliot, M**	**1.55**	**329**	P	**Pn**	**04 32 58.4**	**+0.2**
	baz=147,SNR=43						
109C				S	**Sn**	**04 33 17.7**	**-0.2**
	baz=147						
CPE	**Camp Elliot**	**1.55**	**329**	*e*Pn	**Pn**	**04 32 58.5**	**+0.3**
CPE				*e*Sn	**Sn**	**04 33 17.9**	**+0.1**
ERRC	**Elmore Ranch**	**1.57**	**10**	*e*Sn	**Sg**	**04 33 22.2**	**-0.1**
DPP	**Dos Picos Cty**	**1.58**	**335**	*e*Pn	**Pn**	**04 32 59.4**	**+0.8**
DPP				*e*Sn	**Sn**	**04 33 19.0**	**+0.3**
HWB	**Hans Werner Br**	**1.61**	**335**	*e*Pn	**Pn**	**04 32 59.4**	**+0.3**
HWB				*e*Sn	**Sb**	**04 33 20.4**	**-0.4**
BORC	**Borrego Spring**	**1.72**	**352**	*e*Pn	**Pb**	**04 33 01.9**	**-0.6**
BORC				*e*Sn	**Sb**	**04 33 23.6**	**-0.2**
GLA	**Glamis**	**1.86**	**37**	*e*Pn	**Pn**	**04 33 02.3**	**-0.1**
GLA	**Glamis**	**1.86**	**37**	P	**Pn**	**04 33 02.2**	**-0.2**
	baz=217,SNR=17						
GLA				S	**Sn**	**04 33 24.1**	**-1.4**
	baz=217						
FRK	**Frink**	**1.88**	**13**	*e*Pn	**Pn**	**04 33 03.2**	**+0.5**
FRD	**Ford Ranch, An**	**1.96**	**349**	*e*Pn	**Pb**	**04 33 06.4**	**-0.4**
FRD				*e*Sn	**Sb**	**04 33 30.8**	**-0.2**
DNR	**Dunn Ranch,Anz**	**2.04**	**349**	*e*Pn	**Pb**	**04 33 08.6**	**+0.5**
CRY	**Cary Ranch**	**2.06**	**346**	*e*Pn	**Pb**	**04 33 07.8**	**-0.6**
PFO	**Pinyon Flats O**	**2.06**	**353**	*e*Pn	**Pn**	**04 33 06.0**	**+0.7**
PFO	**Pinyon Flats O**	**2.06**	**353**	P	**Pn**	**04 33 05.9**	**+0.5**
	baz=172,SNR=74						
PFO				Sb	**Sb**	**04 33 33.6**	**-0.2**
	baz=172						
BC3	**Big Chuckawall**	**2.17**	**15**	P	**Pn**	**04 33 07.5**	**+0.7**
	baz=196,SNR=20						
BC3				S	**Sn**	**04 33 33.1**	**-0.1**
	baz=196						
BACC	**Bachelor Mtn.**	**2.18**	**340**	*e*Pn	**Pn**	**04 33 08.7**	**+1.8**
DGR	**Domenigoni Val**	**2.21**	**341**	*e*Pn	**Pb**	**04 33 09.4**	**-1.5**
MURC	**Murrieta**	**2.22**	**337**	P	**Pn**	**04 33 08.5**	**+1.2**
	baz=156,SNR=43						
113A	**Mohawk Valley,**	**2.35**	**59**	*e*Pn	**Pn**	**04 33 09.3**	**+0.1**
BELC	**Belle Mtn. Jos**	**2.43**	**3**	P	**Pn**	**04 33 11.6**	**+1.1**
	baz=183						
SCI2	**San Clemente I**	**2.48**	**305**	P	**Pn**	**04 33 10.9**	**0.0**
	baz=124,SNR=5.7						
SCI2				S	**Sn**	**04 33 40.9**	**+0.2**
	baz=124						
TPC	**Twentynine Pal**	**2.54**	**2**	*e*Pn	**Pn**	**04 33 13.8**	**+1.9**
Y12C	**Blythe**	**2.58**	**32**	*e*Pn	**Pn**	**04 33 12.8**	**+0.6**
Y12C	**Blythe**	**2.58**	**32**	P	**Pn**	**04 33 12.7**	**+0.4**
	baz=212,SNR=8.6						
CIS	**Catalina Islan**	**2.65**	**314**	P	**Pn**	**04 33 13.1**	**-0.3**
	baz=133						
CIS				S	**Sn**	**04 33 44.0**	**-1.1**
	baz=133						
IRM	**Iron Mountain**	**2.72**	**18**	P	**Pn**	**04 33 15.4**	**+1.1**
	baz=198,SNR=8.1						
BBRC	**Big Bear Solar**	**2.77**	**347**	Sb	**Sb**	**04 33 55.3**	**+1.0**
	baz=166						
214A	**Organ Pipe Nat**	**2.87**	**81**	P	**Pn**	**04 33 15.9**	**-0.4**
	baz=263,SNR=18						
214A				S	**Sn**	**04 33 50.2**	**-0.2**
	baz=263						
BFSC	**Mount Baldy Ra**	**2.96**	**335**	Sb	**Sb**	**04 34 00.3**	**+0.7**
	baz=154						
PEM	**Pine Mountain**	**2.98**	**331**	*e*Pn	**Pn**	**04 33 19.1**	**+1.4**
XTL	**Crystal Lake,**	**3.08**	**333**	*e*Pn	**Pn**	**04 33 20.8**	**+1.3**
MWC	**Mount Wilson**	**3.10**	**329**	*e*Pn	**Pn**	**04 33 20.5**	**+0.8**
CHFC	**Chilao Flat St**	**3.18**	**331**	*e*Pn	**Pn**	**04 33 21.8**	**+1.0**
HOLC	**Holcomb Ridge**	**3.22**	**334**	*e*Pn	**Pn**	**04 33 23.1**	**+1.9**
GMRC	**Granite Mounta**	**3.24**	**7**	P	**Pn**	**04 33 22.2**	**+0.7**
	baz=187,SNR=13						
JNH	**Juniper Hills**	**3.25**	**333**	*e*Pn	**Pn**	**04 33 23.3**	**+1.6**
SNCC	**San Nicolas Is**	**3.31**	**301**	S	**Sn**	**04 34 01.1**	**-0.2**
	baz=119						
IR2C	**Iron Canyon**	**3.40**	**327**	*e*Pn	**Pn**	**04 33 24.9**	**+1.3**
BLG	**Laguna Peak, P**	**3.53**	**317**	S	**Sn**	**04 34 05.9**	**-0.9**
	baz=135						
Y14A	**Wickenburg**	**3.55**	**47**	*e*Pn	**Pn**	**04 33 26.8**	**+1.0**
LDFC	**Landfair**	**3.61**	**14**	*e*Pn	**Pn**	**04 33 27.0**	**+0.4**
EDW2	**Edwards Air Fo**	**3.65**	**335**	P	**Pn**	**04 33 28.8**	**+1.7**
	baz=154,SNR=8.9						
EDW2				Sb	**Sb**	**04 34 21.2**	**+1.6**
	baz=154						
OSI	**Osito Audit: C**	**3.73**	**325**	S	**Sn**	**04 34 11.6**	**-0.3**
	baz=144						
GSC	**Goldstone, Bar**	**3.77**	**352**	*e*Pn	**Pn**	**04 33 30.9**	**+2.2**
GSC				*e*Pg	**Pg**	**04 33 41.0**	**-2.7**
W13A	**Hualapai Mount**	**4.00**	**28**	*e*Pn	**Pn**	**04 33 34.4**	**+2.3**
PKM	**Mcpherson Peak**	**4.52**	**318**	S	**Sn**	**04 34 31.9**	**+0.5**
	baz=136						
ISA	**Isabella, Lake**	**4.53**	**335**	*e*Pn	**Pn**	**04 33 41.1**	**+2.0**
TUC	**Tucson**	**4.62**	**79**	*e*Pn	**Pn**	**04 33 41.4**	**+1.0**
X16A	**Lo Mia Camp, P**	**4.87**	**53**	*e*Pn	**Pn**	**04 33 45.5**	**+1.4**
SHPR	**Sheep Range**	**5.00**	**9**	*e*Pn	**Pn**	**04 33 48.6**	**+2.8**
TPNV	**Topopah Spring**	**5.37**	**359**	*e*Pn	**Pn**	**04 33 54.0**	**+3.1**
GRAC	**Grapevine Rang**	**5.51**	**350**	P	**Pn**	**04 33 53.6**	**+0.9**
	baz=169						
WUAZ	**Wupatki**	**5.61**	**44**	*e*Pn	**Pn**	**04 33 56.4**	**+2.4**
WUAZ	**Wupatki**	**5.61**	**44**	P	**Pn**	**04 33 56.2**	**+2.1**
	baz=227						
U15A	**North Rim**	**5.81**	**32**	*e*Pn	**Pn**	**04 33 59.9**	**+2.8**
LCMT	**Little Creek M**	**5.94**	**23**	*e*Pn	**Pn**	**04 34 01.4**	**+2.7**
X18A	**Snowflake**	**5.98**	**59**	*e*Pn	**Pn**	**04 34 00.9**	**+1.6**
KNB	**Kanab**	**6.10**	**26**	*e*Pn	**Pn**	**04 34 03.7**	**+2.8**
W18A	**Petrified Fore**	**6.43**	**55**	*e*Pn	**Pn**	**04 34 07.6**	**+2.2**
W18A	**Petrified Fore**	**6.43**	**55**	P	**Pn**	**04 34 07.6**	**+2.2**
	baz=238,SNR=22						
121A	**Cookes Peak, D**	**7.16**	**80**	P	**Pn**	**04 34 17.2**	**+1.7**
	baz=265						

KRSC 21 04:32:38.4±10.0, 52°.11N×160°.79E, h40km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.09**	**335**	*e*P	Pn	04 32 58.2	+1.0
SPN				*e*S	Sn	04 33 11.5	+0.4
NLC	**Nalytchevo**	**1.38**	**321**	*e*P	Pn	04 33 02.8	+1.7
RUS	**Russkaya**	**1.43**	**284**	*e*P	Pn	04 33 02.6	+0.8
DALK	**Dalny**	**1.54**	**307**	*e*P	Pn	04 33 04.9	+1.5
DALK				*e*S	Sn	04 33 23.9	+1.7
PET	**Petropavlovsk**	**1.59**	**306**	*e*P	Pn	04 33 06.1	+2.1
PET				*e*S	Sn	04 33 26.4	+3.1
UGLR	**Uglovaya**	**1.62**	**313**	*e*P	Pn	04 33 07.0	+2.4
UGLR				S	Sn	04 33 27.2	+2.9
MTVR	**Mutnovka**	**1.64**	**284**	*e*P	Pn	04 33 06.1	+1.2
MTVR				*e*S	Sn	04 33 26.1	+1.3
SDLR	**Sedlovina**	**1.64**	**316**	*e*P	Pn	04 33 07.2	+2.3
SMAR	**Somma**	**1.67**	**314**	P	Pn	04 33 08.0	+2.7
AVH	**Avacha**	**1.70**	**314**	P	Pn	04 33 07.8	+2.2
KDTR	**Khodutka, Kamc**	**1.70**	**261**	*e*P	Pn	04 33 06.6	+1.0
KRER	**Koryakskii**	**1.72**	**315**	P	Pn	04 33 08.4	+2.4
KOK	**Koryaka**	**1.76**	**313**	P	Pn	04 33 08.8	+2.3
KRMR	**Karymshinskiy**	**1.78**	**295**	*e*P	Pn	04 33 07.9	+1.3
KRMR				*e*S	Sn	04 33 30.0	+2.1
ASAK	**Asacha**	**1.79**	**280**	P	Pn	04 33 09.0	+2.1
APC	**Apacha**	**2.36**	**292**	P	Pn	04 33 18.2	+3.6
MKZ	**Mys Kozlova**	**2.51**	**13**	S	Sn	04 33 48.7	+2.7
KZV	**Kizimen**	**3.02**	**355**	S	Sn	04 34 02.4	+3.6
TUMD	**Tumrok D**	**3.10**	**356**	S	Sn	04 34 03.1	+2.4
TUMR	**Tumrok**	**3.20**	**353**	*e*P	Pn	04 33 30.0	+3.8
KBTR	**Krutoberegovo**	**4.27**	**15**	P	Pn	04 33 45.3	+4.5

KRSC 21 04:34:13.9±10.0, 52°.11N×160°.68E, h19km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.07**	**338**	*e*P	Pb	04 34 33.2	-0.6
SPN				*e*S	Sb	04 34 47.2	-0.3
NLC	**Nalytchevo**	**1.34**	**323**	*e*P	Pb	04 34 38.1	-0.3
NLC				S	Sb	04 34 56.1	+0.9
RUS	**Russkaya**	**1.37**	**285**	*e*P	Pb	04 34 38.5	-0.4
RUS				*e*S	Sb	04 34 56.2	+0.2
DALK	**Dalny**	**1.50**	**309**	*e*P	Pb	04 34 40.5	-0.6
DALK				S	Sb	04 35 00.3	+0.6
PET	**Petropavlovsk**	**1.54**	**307**	*e*P	Pb	04 34 41.5	-0.3
MTVR	**Mutnovka**	**1.58**	**285**	*e*P	Pb	04 34 42.0	-0.6
MTVR				*e*S	Sb	04 35 01.9	-0.3
UGLR	**Uglovaya**	**1.58**	**315**	*e*P	Pb	04 34 42.5	-0.1
SDLR	**Sedlovina**	**1.60**	**318**	*e*P	Pb	04 34 42.5	-0.5
SMAR	**Somma**	**1.63**	**316**	*e*P	Pb	04 34 43.3	-0.2
KDTR	**Khodutka, Kamc**	**1.64**	**261**	*e*P	Pn	04 34 42.1	+0.5
KDTR				*e*S	Sn	04 35 02.3	+0.2
AVH	**Avacha**	**1.66**	**315**	*e*P	Pb	04 34 43.5	-0.4
KRER	**Koryakskii**	**1.68**	**316**	P	Pb	04 34 43.8	-0.5
KOK	**Koryaka**	**1.72**	**315**	*e*P	Pb	04 34 45.3	+0.4
KRMR	**Karymshinskiy**	**1.72**	**296**	*e*P	Pb	04 34 44.0	-0.9
KRMR				*e*S	Sb	04 35 05.3	-0.8
ASAK	**Asacha**	**1.73**	**280**	P	Pb	04 34 44.9	-0.2
KRX	**Arik**	**1.76**	**316**	P	Pb	04 34 44.7	-1.0
APC	**Apacha**	**2.30**	**292**	*e*P	Pb	04 34 52.9	-1.9
TUMR	**Tumrok**	**3.20**	**355**	*e*P	Pn	04 35 05.0	+1.7

*ISCJB **21** 04:34:15.0±0.3, 44°.58N±0°.02×7°.24E±0°.03, h7km±3km, Error ellipse: s-maj=4.2km s-min=2.3km az=152.9*
*ROM **21** 04:34:14.9±0.1, 44°.564N±0°.008×7°.21E±0°.02, h10km, ML1.6/6, Error ellipse: s-maj=1.8km s-min=0.8km az=255.0*
*LDG **21** 04:34:15.7±0.1, 44°.59N×7°.25E, h6km, Md2.5/1, Ml2.2/5, Error ellipse: s-maj=3.1km s-min=1.8km az=61.0*
*GEN **21** 04:34:15.5, 44°.58N×7°.22E, h6km±1km, Ml1.2*
ISC 21 04:34:14.8±0.8, 44°.59N±0°.02×7°.26E±0°.02, h9km±5km, n48, σ0§85/74, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.08**	**185**	P	**Pg**	**04 34 17.7**	**+0.6**
DOI				S	**Sg**	**04 34 18.7**	**0.0**
DOI				AML	AML		
	comp=E,1300μm,0.1s						
DOI				AML	AML		
	comp=N,1505μm,0.2s						
DOI				AML	AML		
	comp=E,1300μm,0.1s						
DOI				AML	AML		
	comp=N,1505μm,0.2s						
DOI				AML	AML		
	comp=N,1505μm,0.2s						
DOI				AML	AML		
	comp=E,1300μm,0.1s						
DOI	**San Damiano**	**0.08**	**185**	P	**Pg**	**04 34 17.7**	**+0.6**
DOI	**San Damiano**	**0.08**	**185**	S	**Sg**	**04 34 18.7**	**0.0**
PZZ	**Stroppo**	**0.13**	**231**	P	**Pg**	**04 34 18.2**	**+0.4**
PZZ				S	**Sg**	**04 34 19.4**	**-0.4**
PZZ	**Stroppo**	**0.13**	**231**	P	**Pg**	**04 34 18.1**	**+0.4**
PZZ				S	**Sg**	**04 34 19.5**	**-0.4**
PZZ				AML	AML		
	comp=E,611μm,0.6s						
PZZ				AML	AML		
	comp=N,804μm,0.2s						
PZZ				AML	AML		
	comp=E,611μm,0.6s						
PZZ				AML	AML		
	comp=N,804μm,0.2s						
PZZ				AML	AML		
	comp=N,804μm,0.2s						
PZZ				AML	AML		
	comp=E,611μm,0.6s						
PZZ	**Stroppo**	**0.13**	**231**	P	**Pg**	**04 34 18.2**	**+0.4**
PZZ	**Stroppo**	**0.13**	**231**	S	**Sg**	**04 34 19.6**	**-0.

NEGI				S	Sg	04 34 41.3	+0.6
NEGI	**Seborga**	**0.81**	**156**	P	Pb	04 34 31.0	0.0
NEGI	**Seborga**	**0.81**	**156**	P	Pb	04 34 31.0	0.0
NEGI	**Seborga**	**0.81**	**156**	P	Pb	04 34 31.1	0.0
NEGI				S	Sg	04 34 41.6	+0.9
NEGI	**Seborga**	**0.81**	**156**	S	Sg	04 34 41.4	+0.6
IMI	**Imperia**	**0.82**	**146**	P	Pb	04 34 31.2	0.0
IMI				S	Sg	04 34 41.8	+0.7
IMI	**Imperia**	**0.82**	**146**	P	Pg	04 34 28.2	-2.3
LSD	**Lago del Serru**	**0.88**	**354**	P	Pg	04 34 31.7	0.0
LSD	**Lago del Serru**	**0.88**	**354**	P	Pb	04 34 32.7	+0.4
LSD	**Lago del Serru**	**0.88**	**354**	S	Sb	04 34 45.0	+0.7
LPG	**La Plagne**	**0.98**	**339**	*e*Pg	Pb	04 34 34.1	0.0
LPG				*e*Sg	Sb	04 34 47.0	-0.2
	comp=N,14nm,0.6s						
LPL	**La Plagne**	**1.00**	**338**	*e*Pg	Pb	04 34 34.6	+0.2
LPL				*e*Sg	Sb	04 34 47.6	-0.2
	comp=N,6.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.03**	**289**	*e*Pg	Pb	04 34 35.2	+0.3
ORIF				*e*Sg	Sb	04 34 48.3	-0.4
	comp=N,2.4nm,0.3s						
FRF	**La Foret Royal**	**1.12**	**203**	*e*Pg	Pb	04 34 36.4	+0.2
FRF				*e*Sg	Sb	04 34 50.8	-0.1
	comp=N,6.6nm,0.3s						
SMRF	**Simiane la Rot**	**1.35**	**244**	*e*Pn	Pg	04 34 41.2	+0.5
SMRF				*e*Sn	Sg	04 35 00.1	+1.8
LMR	**La Mourre**	**1.36**	**204**	*e*Pn	Pg	04 34 40.9	0.0
LMR				*e*Sn	Sn	04 34 58.3	+0.1
LMR				*e*Sg	Sg	04 34 59.8	+1.2
	comp=N,6.7nm,0.2s						
VIVF	**Saint-Julien-I**	**1.86**	**279**	*e*Sn	Sn	04 35 10.5	0.0
PGF	**Pioggiola**	**2.40**	**148**	*e*Pn	Pn	04 34 54.8	+0.5
TIP	**Timpagrande**	**8.91**	**124**	P	Pn	04 36 26.9	+3.2
VTS	**Vitosha**	**11.75**	**94**	P	Pn	04 37 00.0	-2.7

IDC ***21*** *04:44:19.5±0.6, 52.°42N×160.°17E, h0km, mb4.2/36, mb1 4.3/38, mb1mx4.3/55, mbtmp4.2/38, ML3.5/2, Error ellipse: s-maj=15.4km s-min=10.9km az=150.0*

KRSC ***21*** *04:44:19.3±10.0, 52.°15N×160.°66E, h60km±10km, ML4.8*

ISCJB ***21*** *04:44:23.8±0.5, 52.°30N±0.°03×160.°41E±0.°05, h51km±3km, mb4.5/74, MS5.2/1, Error ellipse: s-maj=6.8km s-min=3.5km az=140.6*

MOS ***21*** *04:44:23.9±1.1, 52.°33N×160.°33E, h52km, mb4.9/27, Error ellipse: s-maj=6.9km s-min=3.4km az=98.3*

BJI ***21*** *04:44:24.6±0.0, 53.°56N×159.°45E, h22km, mb4.6/18, mB4.7/2*

NEIC ***21*** *04:44:24.4±0.4, 52.°35N×160.°24E, h35km, mb4.5/33, Error ellipse: s-maj=10.7km s-min=5.9km az=159.0*

ISC 21 04:44:24.0±0.9, 52.°25N±0.°04×160.°52E±0.°04, h41km±7km, n247, σ1§62/276, mb4.5/74, 24C-18D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.90**	**340**	*e*P	Pn	04 44 38.6	-1.6
SPN				*e*S	Sn	04 44 51.1	-0.9
SPN	**Mys Shipunski**	**0.90**	**340**	PN	Pn	04 44 38.6	-1.6
SPN				S	Sn	04 44 51.1	-0.9
NLC	**Nalytchevo**	**1.17**	**323**	*e*P	Pn	04 44 43.0	-0.8
NLC				*e*S	Sn	04 44 58.9	+0.4
NLC	**Nalytchevo**	**1.17**	**323**	PN	Pn	04 44 43.0	-0.8
NLC				S	Sn	04 44 58.9	+0.4
RUS	**Russkaya**	**1.25**	**279**	*e*P	Pn	04 44 43.7	-1.2
RUS				*e*S	Sn	04 45 00.1	-0.4
RUS	**Russkaya**	**1.25**	**279**	PN	Pn	04 44 43.7	-1.2
RUS				S	Sn	04 45 00.1	-0.4
DALK	**Dalny**	**1.33**	**307**	*e*P	Pn	04 44 45.3	-0.8
DALK				*e*S	Sn	04 45 02.5	-0.1
DALK	**Dalny**	**1.33**	**307**	PN	Pn	04 44 45.3	-0.8
DALK				S	Sn	04 45 02.5	-0.1
PET	**Petropavlovsk**	**1.38**	**305**	*e*Pn	Pn	04 44 45.9	-0.8
PET				*e*Sn	Sn	04 44 58.9	-4.8
PET	**Petropavlovsk**	**1.38**	**305**	α *i*PN	Pn	04 44 45.8	-0.9
PET				*e*S	Sn	04 45 04.8	+1.1
PET				pmax	pmax		
	comp=Z,2μm,1.0s						
PET				pmax	pmax		
	comp=Z,2μm,0.7s						
PET				smax	smax		
	comp=N,5μm,0.9s						
PET				smax	smax		
	comp=E,7μm,0.8s						
UGLR	**Uglovaya**	**1.41**	**313**	*e*P	Pn	04 44 47.0	-0.3
UGLR	**Uglovaya**	**1.41**	**313**	PN	Pn	04 44 47.0	-0.3
SDLR	**Sedlovina**	**1.43**	**317**	*e*P	Pn	04 44 47.1	-0.5
SDLR	**Sedlovina**	**1.43**	**317**	PN	Pn	04 44 47.1	-0.5
MTVR	**Mutnovka**	**1.45**	**280**	*e*P	Pn	04 44 47.2	-0.7
MTVR				*e*S	Sn	04 45 06.3	+0.5
MTVR	**Mutnovka**	**1.45**	**280**	PN	Pn	04 44 47.2	-0.7
MTVR				S	Sn	04 45 06.3	+0.5
SMAR	**Somma**	**1.46**	**315**	*e*P	Pn	04 44 47.7	-0.3
SMAR	**Somma**	**1.46**	**315**	PN	Pn	04 44 47.7	-0.3
AVH	**Avacha**	**1.48**	**314**	*e*P	Pn	04 44 48.0	-0.3
AVH				*e*S	Sn	04 45 08.0	+1.5
AVH	**Avacha**	**1.48**	**314**	PN	Pn	04 44 48.0	-0.3
AVH				S	Sn	04 45 08.0	+1.5
KRER	**Koryakskii**	**1.51**	**315**	*e*P	Pn	04 44 48.8	+0.1
KRER	**Koryakskii**	**1.51**	**315**	PN	Pn	04 44 48.8	+0.1
GRL	**Gorelyy**	**1.53**	**282**	*e*P	Pn	04 44 49.5	+0.5
GRL	**Gorelyy**	**1.53**	**282**	PN	Pn	04 44 49.5	+0.5
KOK	**Koryaka**	**1.55**	**313**	*e*P	Pn	04 44 49.7	+0.5
KOK	**Koryaka**	**1.55**	**313**	PN	Pn	04 44 49.7	+0.5
KRMR	**Karymshinskiy**	**1.57**	**292**	*e*P	Pn	04 44 48.9	-0.5
KRMR				*e*S	Sn	04 45 09.0	+0.5
KRMR	**Karymshinskiy**	**1.57**	**292**	PN	Pn	04 44 48.9	-0.5
KRMR				S	Sn	04 45 09.0	+0.5
KDTR	**Khodutka, Kamc**	**1.57**	**255**	*e*P	Pn	04 44 47.9	-1.5
KDTR				*e*S	Sn	04 45 07.5	-1.1
KDTR	**Khodutka, Kamc**	**1.57**	**255**	PN	Pn	04 44 47.9	-1.5
KDTR				S	Sn	04 45 07.5	-1.1
KRX	**Arik**	**1.59**	**315**	*e*P	Pn	04 44 49.4	-0.4
KRX	**Arik**	**1.59**	**315**	PN	Pn	04 44 49.4	-0.4
ASAK	**Asacha**	**1.61**	**276**	*e*P	Pn	04 44 49.7	-0.4
ASAK	**Asacha**	**1.61**	**276**	PN	Pn	04 44 49.7	-0.4
PETK	**Petropavlovsk-**	**1.92**	**298**	Pn	Pn	04 44 54.1	-0.1
	comp=E,64nm,0.3s,baz=107,slow=19,SNR=143						
PETK				Sn	Sn	04 45 19.6	+2.5
	comp=E,110nm,0.3s,baz=104,slow=33,SNR=21						
PEA1	**Petropavlovsk-**	**1.92**	**298**	*e*Pn	Pn	04 44 54.1	-0.1
PEA1				*e*Sn	Sn	04 45 19.6	+2.4
APC	**Apacha**	**2.16**	**289**	*e*P	Pn	04 44 57.9	+0.4
APC				*e*S	Sn	04 45 24.4	+1.4
APC	**Apacha**	**2.16**	**289**	PN	Pn	04 44 57.9	+0.4
APC				S	Sn	04 45 24.4	+1.4
MKZ	**Mys Kozlova**	**2.42**	**17**	*e*P	Pn	04 45 00.0	-1.0
MKZ				*e*S	Sn	04 45 28.4	-0.9
MKZ	**Mys Kozlova**	**2.42**	**17**	PN	Pn	04 45 00.0	-1.0
MKZ				S	Sn	04 45 28.4	-0.9
PAU	**Pauzhetka**	**2.43**	**253**	*e*P	Pn	04 44 58.5	-2.7
PAU	**Pauzhetka**	**2.43**	**253**	PN	Pn	04 44 58.5	-2.7
KZV	**Kizimen**	**2.87**	**357**	*e*P	Pn	04 45 08.5	+1.1
KZV	**Kizimen**	**2.87**	**357**	PN	Pn	04 45 08.5	+1.1
TUMD	**Tumrok D**	**2.96**	**359**	*e*P	Pn	04 45 07.8	-0.6
TUMD				*e*S	Sn	04 45 42.9	+0.2
TUMR	**Tumrok**	**3.04**	**356**	*e*P	Pn	04 45 10.2	+0.5
TUMR	**Tumrok**	**3.04**	**356**	PN	Pn	04 45 07.8	-1.9
TUMR				S	Sn	04 45 42.9	-2.0
SKR	**Severo-Kuril's**	**3.17**	**242**	*e*P	Pn	04 45 10.1	-1.3
SKR				*e*S	Sn	04 45 45.5	-2.4
SKR	**Severo-Kuril's**	**3.17**	**242**	*e*PN	Pn	04 45 10.2	-1.2
SKR				*e*S	Sn	04 45 46.1	-1.8
SKR				pmax	pmax		
	comp=Z,52nm,0.4s						
SKR				smax	smax		
	comp=N,796nm,0.8s						
SKR				smax	smax		
	comp=E,725nm,0.8s						
ALID	**Alaid**	**3.40**	**248**	*e*P	Pn	04 45 13.7	-0.9
ALID	**Alaid**	**3.40**	**248**	PN	Pn	04 45 13.7	-0.9
KIRR	**Kirishev**	**3.71**	**358**	*e*P	Pn	04 45 20.0	+1.1
KIRR	**Kirishev**	**3.71**	**358**	PN	Pn	04 45 20.0	+1.1
BZWR	**Bezymyannyi-We**	**3.72**	**360**	*e*P	Pn	04 45 19.3	+0.3
BZWR	**Bezymyannyi-We**	**3.72**	**360**	PN	Pn	04 45 19.3	+0.3
KPT	**Kopyto**	**3.72**	**357**	*e*P	Pn	04 45 18.4	-0.6
KPT	**Kopyto**	**3.72**	**357**	PN	Pn	04 45 18.4	-0.6
KOZ	**Kozyrevsk**	**3.83**	**355**	*e*P	Pn	04 45 20.3	-0.1
KOZ	**Kozyrevsk**	**3.83**	**355**	PN	Pn	04 45 20.3	-0.1
ESO	**Esso**	**3.83**	**344**	*e*P	Pn	04 45 20.4	-0.1
ESO	**Esso**	**3.83**	**344**	PN	Pn	04 45 20.4	-0.1
LGNR	**Loginova**	**3.84**	**1**	*e*P	Pn	04 45 21.9	+1.1
LGNR	**Loginova**	**3.84**	**1**	PN	Pn	04 45 21.9	+1.1
CIRR	**Tsirk**	**3.87**	**2**	*e*P	Pn	04 45 21.3	+0.2
CIRR	**Tsirk**	**3.87**	**2**	PN	Pn	04 45 21.3	+0.2
KLY	**Klyuchi**	**4.07**	**1**	*e*P	Pn	04 45 25.3	+1.6
KLY	**Klyuchi**	**4.07**	**1**	PN	Pn	04 45 25.3	+1.6
SRDR	**Sredinnyy**	**4.10**	**354**	*e*P	Pn	04 45 24.2	0.0
SRDR	**Sredinnyy**	**4.10**	**354**	PN	Pn	04 45 24.2	0.0
KBTR	**Krutoberegovo**	**4.18**	**18**	*e*P	Pn	04 45 24.4	-0.9
KBTR	**Krutoberegovo**	**4.18**	**18**	PN	Pn	04 45 24.4	-0.9
KBG	**Krutoberegovo**	**4.21**	**17**	*e*P	Pn	04 45 26.6	+1.0
KBG	**Krutoberegovo**	**4.21**	**17**	PN	Pn	04 45 26.6	+1.0
BDR	**Baidarnaya**	**4.34**	**5**	*e*P	Pn	04 45 27.5	0.0
BDR	**Baidarnaya**	**4.34**	**5**	PN	Pn	04 45 27.5	0.0
SMKR	**Semkarok**	**4.37**	**7**	*e*P	Pn	04 45 28.1	+0.2
SMKR	**Semkarok**	**4.37**	**7**	PN	Pn	04 45 28.1	+0.2
BKI	**Bering**	**4.38**	**45**	*e*P	Pn	04 45 26.7	-1.3
BKI				*e*S	Sn	04 46 12.2	-5.5
BKI	**Bering**	**4.38**	**45**	PN	Pn	04 45 26.7	-1.3
SRKR	**Sorokina**	**4.43**	**5**	*e*P	Pn	04 45 29.2	+0.5
SRKR	**Sorokina**	**4.43**	**5**	PN	Pn	04 45 29.2	+0.5
PALN	**Palana**	**6.86**	**358**	*e*P	Pn	04 46 02.2	+0.3
PALN	**Palana**	**6.86**	**358**	PN	Pn	04 46 02.2	+0.3
SEY	**Seymchan**	**11.55**	**341**	Pn	Pn	04 47 04.6	-1.5
	comp=E,0.1nm,0.3s,baz=255,slow=9.2,SNR=4.2						
YSS	**Yuzh-Sakhalins**	**12.68**	**252**	*e*PN	Pn	04 47 22.2	+0.7
ASAJ	**Asahikawa**	**14.44**	**243**	Pn	Pn	04 47 42.0	-3.5
	comp=E,0.4nm,0.3s,baz=74,slow=15,SNR=2.7						
GRNR	**Gornyy**	**15.06**	**274**	*e*P	P	04 48 01.5	+3.0
GRNR				pmax	pmax		
	comp=Z,32nm,1.0s						
BILL	**Bilibino**	**16.08**	**8**	*e*Pn	Pn	04 48 07.2	+0.4
	comp=Z,18nm,0.8s						
BILL	**Bilibino**	**16.08**	**8**	⇑*e*P	Pn	04 48 08.1	+1.3
BILL				*e*S	Sn	04 50 54.1	-10
BILL				pmax	pmax		
	comp=Z,24nm,1.0s						
BILL				MLR	MLR		
	comp=Z,1μm,15.0s						
USRK	**Ussurisk Ar.**	**20.54**	**258**	P	P	04 48 56.2	-2.5
	comp=Z,6.9nm,0.9s,baz=63,slow=11,SNR=7.7						
MAJO	**Matsushiro**	**22.25**	**234**	*e*P	P	04 49 18.6	+1.4
	comp=Z,12nm,0.9s						
MAJO	**Matsushiro**	**22.25**	**234**	⇓*e*P	P	04 49 18.1	+0.9
MAJO				pmax	pmax		
	comp=Z,19nm,1.2s						
MJAR	**Matsushiro Arr**	**22.25**	**234**	P	P	04 49 17.9	+0.7
	comp=Z,5.4nm,0.7s,baz=12,slow=9.8,SNR=17						
TIXI	**Tiksi**	**23.95**	**336**	*e*P	P	04 49 31.6	-2.4
TIXI	**Tiksi**	**23.95**	**336**	⇓*i*P	P	04 49 32.6	-1.3
TIXI				pmax	pmax		
	comp=Z,13nm,0.8s						
TIXI	**Tiksi**	**23.95**	**336**	P	P	04 49 32.6	-1.3
	comp=Z,12nm,0.8s,baz=124,slow=9.6,SNR=29						
HIA	**Hailar**	**25.73**	**280**	⇑*e*P	P	04 49 48.8	-1.5
HIA				pmax	pmax		
	comp=Z,87nm,0.8s						
IMAR	**Indian Mountai**	**26.46**	**41**	*e*P	P	04 49 57.7	+1.0
BOD	**Bodaibo**	**26.79**	**301**	*e*P	P	04 49 57.5	-2.3
BOD				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KDAK	**Kodiak Island**	**26.99**	**60**	*e*P	P	04 50 04.3	+2.7
	comp=Z,24nm,1.5s						
KDAK	**Kodiak Island**	**26.99**	**60**	*e*P	P	04 50 04.3	+2.7
KDAK				pmax	pmax		
	comp=Z,24nm,1.5s						
KDAK	**Kodiak Island**	**26.99**	**60**	P	P	04 50 04.3	+2.7
	comp=Z,3.6nm,0.7s,baz=348,slow=2.6,SNR=5.3						
KSRS	**Korea Array**	**27.16**	**250**	P	P	04 50 05.0	+1.8
	comp=Z,1.8nm,0.7s,baz=45,slow=10,SNR=7.1						
KS15	**Wonju Array Si**	**27.19**	**250**	*e*P	P	04 50 05.0	+1.5
	comp=Z,12nm,1.3s						
GHO	**Glory Hole Cre**	**28.41**	**51**	*e*P	P	04 50 16.5	+2.2
	comp=Z,9.3nm,1.4s						
JNU	**Nakatsue**	**28.68**	**240**	*e*P	P	04 50 18.9	+2.0
	comp=Z,10.0nm,0.9s						
JNU	**Nakatsue**	**28.68**	**240**	P	P	04 50 18.9	+2.0
	comp=Z,3.0nm,0.5s,baz=80,slow=11,SNR=2.3						
SML	**Sawmill**	**28.69**	**50**	*e*P	P	04 50 17.0	+0.3
	comp=Z,4.4nm,0.6s						
SML	**Sawmill**	**28.69**	**50**	*e*P	P	04 50 17.0	+0.3
SML				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ILAR	**Eielson Array**	**29.23**	**44**	*e*P	P	04 50 22.1	+0.6
ILAR	**Eielson Array**	**29.23**	**44**	P	P	04 50 21.8	+0.3
	comp=Z,0.4nm,0.7s,baz=270,slow=8.4,SNR=5.4						
ILB	**Eielson Array**	**29.23**	**44**	*e*P	P	04 50 21.8	+0.3
	comp=Z,2.4nm,1.1s						
BCAR	**Beaver Creek A**	**31.59**	**47**	*e*P	P	04 50 43.7	+1.3
CTGM	**Chitina Glacie**	**32.14**	**51**	*e*P	P	04 50 48.1	+0.8
	comp=Z,5.1nm,1.4s						
BJT	**Baijiatuau**	**32.57**	**266**	*e*P	P	04 50 55.0	+3.9
	comp=Z,12nm,0.4s						
BJT	**Baijiatuau**	**32.57**	**266**	*e*P	P	04 50 55.0	+3.9
BJT				pmax	pmax		
	comp=Z,11nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**32.84**	**169**	T	T	05 26 15.9	
	baz=353,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**32.85**	**169**	T	T	05 26 47.5	
	baz=353,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**32.85**	**169**	T	T	05 26 39.2	
	baz=353,slow=76,SNR=29						
ULN	**Ulaanbaatar**	**33.95**	**284**	⇓*e*P	P	04 51 01.7	-1.6
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
TLY	**Talaya**	**34.27**	**292**	⇓*e*P	P	04 51 03.3	-2.6
SONA0	**Songino Array**	**34.36**	**285**	*e*P	P	04 51 05.3	-1.5
SONM	**Songino Array**	**34.36**	**285**	P	P	04 51 05.3	-1.5
	comp=Z,0.5nm,0.5s,baz=53,slow=6.2,SNR=4.8						
INK	**Inuvik**	**34.38**	**37**	*e*P	P	04 51 07.8	+1.2
	comp=Z,3.2nm,1.2s						
INK	**Inuvik**	**34.38**	**37**	*e*P	P	04 51 07.8	+1.2
INK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
INK	**Inuvik**	**34.38**	**37**	P	P	04 51 07.8	+1.2
	comp=Z,1.1nm,0.7s,baz=242,slow=2.6,SNR=5.7						
ZAK	**Zakamensk**	**35.03**	**290**	*e*P	P	04 51 10.8	-1.7
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WHY	**Whitehorse**	**35.28**	**50**	*e*P	P	04 51 16.6	+2.0
	comp=Z,1.9nm,0.9s						
WHN	**Wuhan**	**39.99**	**256**	P	P	04 52 00.9	+6.3
ZAA1	**Zalesovo Array**	**43.45**	**304**	*e*P	P	04 52 19.8	-2.8
ZALV	**Zalesovo Beam**	**43.45**	**304**	P	P	04 52 19.8	-2.8
	comp=Z,0.9nm,0.3s,baz=79,slow=7.7,SNR=5.3						
YKA	**Yellowknife Ar**	**43.61**	**42**	P	P	04 52 24.9	+1.3
	comp=Z,0.5nm,0.8s,baz=296,slow=8.8,SNR=5.4						
YKB5	**Yellowknife Ar**	**43.61**	**42**	*e*P	P	04 52 24.9	+1.2
NVS	**Novosibirsk**	**43.81**	**305**	⇑*i*P	P	04 52 24.0	-1.4
NVS				pmax	pmax		
	comp=Z,21nm,1.0s						
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,10.0nm,0.9s						
RES	**Resolute Bay**	**44.01**	**22**	P	P	04 52 28.1	+1.4
	comp=E,2.8nm,0.9s,baz=302,slow=7.5,SNR=6.9						
DGZ	**Jazzator, Alta**	**44.28**	**297**	*d i*P	P	04 52 28.6	-0.9
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBS	**Kingsbay**	**47.74**	**352**	⇓*e*P	P	04 52 57.2	+1.0
KBS				pmax	pmax		
	comp=Z,64nm,2.5s						
SPA0	**Spitsbergen Ar**	**48.01**	**351**	*e*P	P	04 52 59.0	+0.8
	comp=Z,29nm,1.1s						
KURK	**Kurchatov**	**48.40**	**303**	*e*P	P	04 52 59.8	-1.8
	comp=Z,22nm,1.1s						
KURK	**Kurchatov**	**48.40**	**303**	*d i*P	P	04 52 59.8	-1.8
KURK				pmax	pmax		
	comp=Z,25nm,1.3s						
MK31	**Makanchi Array**	**48.76**	**297**	*e*P	P	04 53 02.7	-1.8
	comp=Z,2.1nm,0.8s						
MK31	**Makanchi Array**	**48.76**	**297**	*e*P	P	04 53 02.7	-1.8
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK32	**Makanchi Array**	**48.76**	**297**	*e*P	P	04 53 02.6	-1.8
MKAR	**Makanchi Array**	**48.76**	**297**	P	P	04 53 02.6	-1.8
	comp=Z,1.7nm,0.6s,baz=60,slow=7.7,SNR=13						
MAKZ	**Makanchi**	**48.92**	**297**	*e*P	P	04 53 04.0	-1.7
	comp=Z,3.1nm,0.8s						
MAKZ	**Makanchi**	**48.92**	**297**	*e*P	P	04 53 04.0	-1.7
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**51.12**	**309**	P	P	04 53 21.1	-1.1
	comp=Z,7.8nm,0.6s,baz=59,slow=8.3,SNR=38						
BRVK	**Borovoye**	**51.15**	**309**	*e*P	P	04 53 21.2	-1.3
	comp=Z,10nm,0.6s						
BRVK	**Borovoye**	**51.15**	**309**	⇓*e*P	P	04 53 21.0	-1.4
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
QIZ	**Qiongzhong**	**51.38**	**250**	*e*P	P	04 53 23.4	-1.2
	comp=Z,31nm,0.4s						
LVZ	**Lovozero**	**53.58**	**338**	⇑*e*P	P	04 53 40.4	+0.1
LVZ				pmax	pmax		
	comp=Z,43nm,1.7s						
ARCES	**ARCESS Array B**	**54.17**	**342**	P	P	04 53 44.4	-0.1
	comp=Z,4.1nm,0.8s,baz=38,slow=4.6,SNR=9.6						
ARU	**Arti**	**54.19**	**318**	*e*P	P	04 53 43.9	-1.0
	comp=Z,8.9nm,0.6s						
ARU	**Arti**	**54.19**	**318**	*c i*P	P	04 53 43.8	-1.0
ARU				S	S	05 01 14.3	-4.3
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARU	**Arti**	**54.19**	**318**	P	P	04 53 43.9	-1.0
	comp=Z,2.7nm,0.4s,baz=54,slow=3.0,SNR=16						
SUMG	**Summit**	**54.76**	**7**	*e*P	P	04 53 50.5	+1.3
	comp=Z,12nm,1.1s						
SUMG	**Summit**	**54.76**	**7**	*e*P	P	04 53 50.5	+1.3
SUMG				pmax	pmax		
	comp=Z,12nm,1.1s						
PRGR	**Permogore**	**55.29**	**328**	*e*P	P	04 53 51.3	-1.4
TMCR	**Tamitsa**	**55.65**	**333**	*e*P	P	04 53 55.0	-0.2
TMCR				pmax	pmax		
	comp=Z,43nm,1.0s						
AAK	**Ala-Archa**	**55.69**	**297**	*e*P	P	04 53 55.3	-0.8
	comp=Z,4.4nm,0.9s						
AAK	**Ala-Archa**	**55.69**	**297**	*e*P	P	04 53 55.3	-0.8
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**55.69**	**297**	P	P	04 53 54.9	-1.2
	comp=Z,2.6nm,0.7s,baz=242,slow=1.9,SNR=5.8						
NV01	**Mina Array Sit**	**55.78**	**70**	*e*P	P	04 53 59.5	+2.6
NVAR	**Mina Array Bea**	**55.78**	**70**	P	P	04 53 59.5	+2.6
	comp=Z,0.6nm,0.6s,baz=305,slow=8.1,SNR=6.0						
KIRV	**Kirov**	**56.23**	**324**	P	P	04 53 58.7	-0.7
	comp=Z,8.0nm,0.5s,baz=144,slow=2.0,SNR=4.2						
KSH	**Kashi**	**56.97**	**293**	P	P	04 54 06.3	+1.1
KSH				PP	PP	04 56 14.3	+2.5
KSH				S	S	05 01 46.8	-10
KSH				SS	SS	05 05 37.4	-7.3
PD31	**Pinedale Array**	**57.71**	**61**	*e*P	P	04 54 12.7	+2.2
	comp=Z,1.5nm,0.9s						
PDAR	**Pinedale Array**	**57.71**	**61**	P	P	04 54 12.7	+2.2
	comp=Z,0.9nm,0.7s,baz=311,slow=3.7,SNR=6.3						
KLMR	**Klimovskoe**	**57.81**	**330**	*e*P	P	04 54 09.5	-1.1
KLMR				pmax	pmax		
	comp=Z,21nm,1.1s						
CM31	**Chiang Mai Arr**	**58.27**	**259**	*e*P	P	04 54 15.3	+0.9
	comp=Z,14nm,1.3s						
CMAR	**Chiang Mai Arr**	**58.27**	**259**	P	P	04 54 15.3	+0.9
	comp=Z,2.2nm,0.4s,baz=20,slow=7.1,SNR=11						
ABKAR	**Akbulak array**	**58.54**	**311**	*e*P	P	04 54 14.9	-1.0
AKTO	**Aktyubinsk**	**58.58**	**313**	P	P	04 54 15.6	-0.7
	comp=Z,3.6nm,0.5s,baz=65,slow=6.7,SNR=15						
CCUT	**Cedar City**	**59.22**	**67**	*e*P	P	04 54 21.2	+0.1
	comp=Z,3.1nm,0.9s						
P17A	**Butcher Ranch,**	**59.34**	**64**	*e*P	P	04 54 19.2	-2.6
	comp=Z,4.1nm,0.9s						
BTK	**Batken**	**59.47**	**297**	*e*P	P	04 54 21.9	-0.7
	comp=Z,5.4nm,0.8s						
BTK	**Batken**	**59.47**	**297**	*e*P	P	04 54 21.9	-0.7
BTK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GAR	**Garm**	**60.49**	**296**	*e*P	P	04 54 29.2	-0.4
	comp=Z,9.5nm,0.8s						
GAR	**Garm**	**60.49**	**296**	*e*P	P	04 54 29.2	-0.4
GAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PHWY	**Pilot Hill**	**60.91**	**59**	*e*P	P	04

BRTR	**Keskin Array B**	**77.44 321**	*i* P	**P**	**04 56 15.3 +0.4**
BRTR			pmax	pmax	
	comp=Z,2.0nm,0.9s				
BRTR	**Keskin Array B**	**77.44 321**	P	**P**	**04 56 15.4 +0.5**
	comp=Z,1.9nm,0.9s,baz=29,slow=2.8,SNR=11				
WSAR	**Wadi Sarin**	**78.88 293**	P	**P**	**04 56 22.6 -0.3**
	comp=Z,7.0nm,0.9s,baz=45,slow=2.1,SNR=4.9				
AS31	**Alice Springs**	**79.10 205**	*e*P	**P**	**04 56 25.2 +1.4**
	comp=Z,2.1nm,1.3s				
ASAR	**Alice Springs**	**79.10 205**	P	**P**	**04 56 25.2 +1.3**
	comp=Z,1.0nm,0.7s,baz=14,slow=6.7,SNR=8.5				
PDG	**Podgorica**	**79.91 332**	⇑*i*P	**P**	**04 56 28.1 -0.1**
MMAI	**Mount Meron Ar**	**82.50 316**	P	**P**	**04 56 42.2 0.0**
	comp=Z,4.2nm,0.4s,baz=42,slow=10,SNR=5.9				
ASF	**Jabal al Asfar**	**82.57 315**	P	**P**	**04 56 43.4 +0.7**
	comp=Z,3.6nm,0.7s,baz=328,slow=4.7,SNR=7.0				
ESDC	**Sonseca Array**	**87.46 348**	P	**P**	**04 57 07.3 +0.4**
	comp=Z,1.5nm,0.8s,baz=358,slow=5.3,SNR=6.5				
TOA1	**Torodi Ar. Sit**	**112.34 338**	*e*PP	**PP**	**05 03 39.3 -0.9**
TORD	**Torodi Ar. Bea**	**112.34 338**	PP	**PP**	**05 03 39.3 -0.9**
	comp=Z,0.8nm,0.7s,baz=354,slow=12,SNR=5.4				

TAP 21 04:46:30.7,24°.29N×121°.76E,h14km,ML1.7,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.14 356**		*e*P	Pg	04 46 34.2	0.0
	baz=4.0						
NANB				S	Sg	04 46 36.9	+0.2
	baz=4.0						
ENA	**Nanau**	**0.14 353**		*e*P	Pg	04 46 34.0	-0.3
	baz=356						
ENA				S	Sg	04 46 36.9	+0.2
	baz=356						
NACB	**Ninganchiao**	**0.19 232**		P	Pg	04 46 34.7	-0.3
	baz=226						
NACB				S	Sg	04 46 38.2	+0.2
	baz=226						
TWD	**Chiawan**	**0.26 215**		P	Pg	04 46 36.1	0.0
	baz=215						
TWD				S	Sg	04 46 40.5	+0.6
	baz=215						
ETLH	**Xiulin Townshi**	**0.27 252**		P	Pg	04 46 36.4	0.0
	baz=252						
ETLH				S	Sg	04 46 40.5	+0.2
	baz=252						
TWC	**Suao**	**0.33 14**		P	Pg	04 46 37.8	+0.4
	baz=11						
TWC				*e*S	Sg	04 46 42.3	+0.3
	baz=11						
NNSB	**Datong**	**0.37 292**		P	Pg	04 46 38.6	+0.4
	baz=292						
NNSB				S	Sg	04 46 43.7	+0.4
	baz=292						
NNS	**Nan Shan**	**0.38 293**		*e*P	Pg	04 46 38.8	+0.3
	baz=293						
NNS				S	Sg	04 46 44.0	+0.2
	baz=293						
NDT	**Datong Townshi**	**0.38 324**		P	Pg	04 46 38.8	+0.3
	baz=324						
NDT				S	Sg	04 46 44.4	+0.7
	baz=324						
ENTT	**Nioudou**	**0.39 333**		P	Pg	04 46 38.8	+0.2
	baz=333						
ENTT				S	Sb	04 46 44.7	-0.7
	baz=333						
EOS1	**EOS1**	**0.42 53**		*e*P	Pg	04 46 39.4	+0.2
	baz=45						
EOS1				*e*S	Sb	04 46 46.5	+0.3
	baz=45						
WHF	**Hehuan Shan**	**0.47 252**		P	Pg	04 46 40.5	+0.2
	baz=253						
WHF				S	Sg	04 46 47.2	+0.5
	baz=253						
YHNB	**Yeheng**	**0.51 317**		*e*P	Pg	04 46 40.8	-0.1
	baz=317						
YHNB				S	Sg	04 46 48.0	+0.3
	baz=317						
NSK	**Sanguang**	**0.53 316**		*e*P	Pg	04 46 41.3	+0.1
	baz=317						
NSK				S	Sb	04 46 48.9	-0.6
	baz=317						
OWD	**Renai**	**0.63 238**		*e*S	Sb	04 46 52.1	-0.2
	baz=232						
TIPB	**Shuangxi**	**0.68 5**		*e*P	Pg	04 46 44.1	+0.1
	baz=4.0						
TIPB				*e*S	Sg	04 46 53.1	+0.1
	baz=4.0						
VWDT	**VWDT**	**0.78 227**		*e*P	Pg	04 46 45.4	-0.4
	baz=228						
YULB	**Yu-li**	**0.99 205**		*e*P	Pb	04 46 48.3	-1.4
	baz=216						
YULB				*e*S	Sb	04 47 02.2	-0.4
	baz=216						

TAP 21 04:46:49.3,23°.58N×120°.85E,h15km,ML1.1,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALS	**Alishan**	**0.08 212**		*e*P	Pg	04 46 53.1	+0.4
	baz=207						
ALS				*e*S	Sg	04 46 55.6	+0.7
	baz=207						
YUS	**Yu-Shan**	**0.13 135**		*e*P	Pb	04 46 54.5	+0.8
	baz=134						
CHN5	**Tsauling**	**0.16 276**		P	Pb	04 46 54.0	-0.1
	baz=276						
CHN5				S	Sb	04 46 57.4	+0.1
	baz=276						
WGK	**Gukeng**	**0.29 291**		*e*P	Pb	04 46 56.0	-0.2
	baz=292						
SMLT	**Sun Moon Lake**	**0.30 8**		*e*P	Pg	04 46 54.0	-1.7
	baz=15						
VWDT	**VWDT**	**0.32 57**		*e*P	Pg	04 46 56.2	+0.3
	baz=61						
VWDT				*e*S	Sg	04 47 00.3	0.0
	baz=61						
VWDT	**VWDT**	**0.32 57**		*e*S	Pg	04 46 56.2	+0.3
	baz=228						
CHN4	**Tsaushan**	**0.33 226**		*e*P	Pb	04 46 57.1	+0.2
	baz=226						
TPUB	**Ta-pu**	**0.35 216**		*e*P	Pb	04 46 57.1	-0.1
	baz=216						
YULB	**Yu-li**	**0.45 115**		*e*P	Pb	04 46 58.8	-0.2
	baz=118						
YULB				*e*S	Sg	04 47 04.0	-0.4
	baz=118						

SOME ***21*** *04:47:06.5,42°.52N×79°.62E,h20km*
KRNET ***21*** *04:47:07.0±0.1,42°.55N×79°.62E,h21km,mb3.4*
NNC ***21*** *04:47:06.2±1.3,42°.55N×79°.59E,h0km,mb3.8,mpv3.6,*
Error ellipse: s-maj=9.1km s-min=4.6km az=154.0
ISC 21 04:47:09.0±1.5,42°.62N±0°.05×79°.60E±0°.04,h13km±9km,
n43,σ1⅊40/78,10C-14D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.54 350**		P	**Pg**	**04 47 19.2**	**-0.5**
	330nm,0.1s						
SHLS				S	**Sg**	**04 47 29.0**	**+2.0**
	143nm,0.3s						
SHLS	**Shalkode**	**0.54 350**		*e*P	**Pg**	**04 47 19.2**	**-0.5**
	baz=18						
SHLS				*e*S	**Sg**	**04 47 27.9**	**+0.9**
	baz=18						
SHLS	**Shalkode**	**0.54 350**		*e*P	**Pg**	**04 47 19.2**	**-0.5**
	330nm,0.1s						
SHLS				*e*S	**Sg**	**04 47 28.9**	**+2.0**
	143nm,0.3s						
PDGK	**Podgornoye**	**0.71 354**		P	**Pb**	**04 47 21.2**	**-2.1**
	30nm,0.2s						
PDGK				S	**Sb**	**04 47 32.1**	**-0.9**
	41nm,0.2s						
PDGK	**Podgornoye**	**0.71 354**		⇓P	**Pb**	**04 47 21.0**	**-2.3**
	14nm,0.2s						
PDGK				⇑S	**Sb**	**04 47 31.8**	**-1.2**
	60nm,0.4s						
PDGK	**Podgornoye**	**0.71 354**		⇓*i*P	**Pb**	**04 47 21.2**	**-2.1**
	baz=53						
PDGK				⇓*i*S	**Sb**	**04 47 31.9**	**-1.1**
	baz=53						
SATY	**Saty**	**0.98 297**		P	**Pb**	**04 47 25.0**	**-2.8**
	7.5nm,0.1s						
SATY				S	**Sb**	**04 47 38.9**	**-1.8**
	102nm,0.1s						
SATY	**Saty**	**0.98 297**		*e*P	**Pb**	**04 47 25.0**	**-2.8**
	7.5nm,0.1s						
SATY				*e*S	**Sb**	**04 47 38.9**	**-1.8**
	102nm,0.1s						
KTMS	**Ketmen**	**0.99 34**		P	**Pb**	**04 47 25.9**	**-2.2**
	33nm,0.1s						
KTMS				S	**Sb**	**04 47 40.1**	**-1.0**
	18nm,0.1s						
KTMS	**Ketmen**	**0.99 34**		*e*P	**Pb**	**04 47 25.9**	**-2.2**
	baz=30						
KTMS				*e*S	**Sb**	**04 47 40.1**	**-1.0**
	baz=30						
KTMS	**Ketmen**	**0.99 34**		*e*P	**Pb**	**04 47 25.9**	**-2.2**
	33nm,0.1s						
KTMS				*e*S	**Sb**	**04 47 40.1**	**-1.0**
	18nm,0.1s						
KPKS	**Kokpek**	**1.08 322**		*e*P	**Pn**	**04 47 27.6**	**-2.2**
	baz=22						
KPKS				*e*S	**Sb**	**04 47 42.9**	**-0.6**
	baz=22						
KPKS	**Kokpek**	**1.08 322**		*e*P	**Pn**	**04 47 27.6**	**-2.2**
	28nm,0.1s						
KPKS				*e*S	**Sb**	**04 47 42.9**	**-0.6**
	104nm,0.2s						
KURS	**Kuram**	**1.36 310**		P	**Pn**	**04 47 32.1**	**-1.5**
	4.9nm,0.2s						
KURS				S	**Sn**	**04 47 51.4**	**-0.2**
	43nm,0.4s						
KURS	**Kuram**	**1.36 310**		*e*P	**Pn**	**04 47 32.1**	**-1.5**
	baz=12						
KURS				*e*S	**Sn**	**04 47 51.3**	**-0.2**
	baz=12						
KURS	**Kuram**	**1.36 310**		*e*P	**Pn**	**04 47 32.1**	**-1.5**
	4.9nm,0.2s						
KURS				*e*S	**Sn**	**04 47 51.4**	**-0.2**
	43nm,0.4s						
MNBS	**Baschi**	**1.70 329**		P	**Pn**	**04 47 38.9**	**+0.5**
	18nm,0.1s						
MNBS				S	**Sb**	**04 48 02.6**	**+1.2**
	159nm,0.2s						
MNBS	**Baschi**	**1.70 329**		*e*P	**Pn**	**04 47 38.9**	**+0.5**
	18nm,0.1s						
MNBS				*e*S	**Sb**	**04 48 02.6**	**+1.2**
	159nm,0.2s						
DJR	**Jarkent**	**1.71 5**		P	**Pn**	**04 47 39.0**	**+0.4**
	26nm,0.3s						
DJR				S	**Sb**	**04 48 03.2**	**+1.4**
	56nm,0.3s						
DJR	**Jarkent**	**1.71 5**		*e*P	**Pn**	**04 47 39.0**	**+0.4**
	26nm,0.3s						
DJR				*e*S	**Sb**	**04 48 02.8**	**+0.9**
	56nm,0.3s						
KDJ	**Kajisay**	**1.86 255**		⇑*i*P	**Pn**	**04 47 40.1**	**-0.5**
	baz=57						
KDJ				⇑*i*S	**Sb**	**04 48 04.2**	**-1.8**
	baz=57						
KOTS	**Kotyrbulak**	**1.92 289**		Pg	**Pb**	**04 47 42.8**	**-1.1**
	24nm,0.3s						
KOTS				Lg	Lg	04 48 09.0	
	159nm,0.3s						
KOTS	**Kotyrbulak**	**1.92 289**		*e*P	**Pb**	**04 47 42.7**	**-1.3**
	21nm,0.5s						
KOTS				*e*S	**Sb**	**04 48 08.9**	**+1.0**
	156nm,0.7s						
MDOK	**Medeo**	**1.95 287**		Pg	**Pn**	**04 47 42.0**	**+0.1**
	5.3nm,0.3s						
MDOK				Lg	Lg	04 48 08.0	
	8.1nm,0.4s						
TNSS	**Tian-Shan**	**1.99 283**		Pg	**Pn**	**04 47 42.8**	**+0.1**
	23nm,0.3s						
TNSS				Lg	Lg	04 48 09.0	
	28nm,0.2s						
TNSS	**Tian-Shan**	**1.99 283**		*e*P	**Pn**	**04 47 42.8**	**+0.1**
	baz=85						
TNSS				*e*S	**Sb**	**04 48 09.0**	**-1.1**
	baz=85						
TNSS	**Tian-Shan**	**1.99 283**		*e*P	**Pn**	**04 47 42.8**	**+0.1**
	23nm,0.3s						
TNSS				*e*S	**Sb**	**04 48 09.0**	**-1.1**
	28nm,0.2s						
ARXS	**Arharly**	**2.05 322**		Pg	**Pn**	**04 47 44.3**	**+1.2**
	12nm,0.3s						
ARXS				Lg	Lg	04 48 12.1	
	118nm,0.5s						
ARXS	**Arharly**	**2.05 322**		*e*P	**Pn**	**04 47 44.3**	**+1.2**
	12nm,0.3s						
ARXS				*e*S	**Sb**	**04 48 12.2**	**+0.8**
	118nm,0.5s						
KTBS	**Karatobe**	**2.39 298**		Pg	**Pb**	**04 47 50.4**	**-1.5**
	12nm,0.2s						
KTBS				Lg	Lg	04 48 22.2	
	97nm,0.3s						
KTBS	**Karatobe**	**2.39 298**		*e*P	**Pb**	**04 47 50.4**	**-1.5**
	baz=98						
KTBS				*e*S	**Sb**	**04 48 22.2**	**+0.8**
	baz=98						
KTBS	**Karatobe**	**2.39 298**		*e*P	**Pb**	**04 47 50.4**	**-1.5**
	12nm,0.2s						
KTBS				*e*S	**Sb**	**04 48 22.2**	**+0.8**
	97nm,0.3s						
ULHL	**Ulahol**	**2.51 262**		⇓*i*P	**Pn**	**04 47 49.8**	**+0.1**
	baz=64						
ULHL				⇓*i*S	**Sn**	**04 48 21.3**	**+1.1**
	baz=64						
KAPS	**Kapalarasan**	**2.67 356**		Pg	**Pb**	**04 47 55.7**	**-0.9**
	3.2nm,0.2s						
KAPS				Lg	Lg	04 48 30.9	
	30nm,0.4s						
KAPS	**Kapalarasan**	**2.67 356**		*e*P	**Pb**	**04 47 55.7**	**-0.9**
	3.2nm,0.2s						
KAPS				*e*S	**Sb**	**04 48 30.9**	**+1.7**
	30nm,0.4s						
BOOM	**Boomskoye usch**	**2.71 268**		⇓*i*P	**Pn**	**04 47 52.6**	**+0.3**
	baz=70						
BOOM				⇓*i*S	**Sn**	**04 48 26.0**	**+1.1**
	baz=70						
NRN	**Naryn**	**2.93 247**		⇑*i*P	**Pn**	**04 47 56.2**	**+0.7**
	baz=49						
NRN				⇑*i*S	**Sn**	**04 48 31.7**	**+1.0**
	baz=49						
TKM2	**Tokmak 2**	**2.96 277**		⇓Pg	**Pn**	**04 47 58.2**	**+2.4**
	1.5nm,0.3s						
TKM2				⇓Lg	Lg	04 48 37.2	
	7.5nm,0.3s						
TKM2	**Tokmak 2**	**2.96 277**		⇑*i*P	**Pn**	**04 47 56.5**	**+0.7**
	baz=78						
TKM2				⇑*i*S	**Sn**	**04 48 32.6**	**+1.3**
	baz=78						
KZA	**Kyzart**	**3.27 262**		⇓*i*P	**Pn**	**04 48 00.2**	**0.0**
	baz=63						
KZA				⇓*i*S	**Sn**	**04 48 39.9**	**+0.8**
	baz=63						
AAK	**Ala-Archa**	**3.77 272**		⇑Pg	**Pb**	**04 48 17.7**	**+2.4**
	1.8nm,0.5s						
AAK				⇓Lg	Lg	04 49 02.3	
	5.4nm,0.4s						
ARLS	**Aral**	**3.99 261**		⇑*i*P	**Pn**	**04 48 10.3**	**+0.4**
	baz=62						
ARLS				⇑*i*S	**Sn**	**04 48 56.2**	**-0.4**
	baz=62						
MK31	**Makanchi Array**	**4.59 24**		Pn	**Pn**	**04 48 19.0**	**+1.0**
	0.4nm,0.3s,baz=205,slow=13,SNR=27						
MK31				⇓Sn	**Sn**	**04 49 13.9**	**+2.7**
	0.8nm,0.4s,baz=206,slow=25						
MK31				⇓Lg	Lg	04 49 30.0	
	0.4nm,0.3s,baz=207,slow=28						

KRSC ***21*** *04:53:40.2±10.0,52°.10N×160°.78E,h51km±10km,ML3.9*
ISCJB ***21*** *04:53:41.1±1.3,52°.13N±0°.05×160°.76E±0°.07,*
h23km±11km,mb4.1/3,Error ellipse: s-maj=8.8km
s-min=6.5km az=152.1
IDC ***21*** *04:53:41.1±4.7,52°.37N×160°.72E,h0km,mb4.1/3,*
mb1 4.0/3,mb1mx3.3/45,mbtmp4.1/3,Error ellipse:
s-maj=89.4km s-min=35.7km az=175.0
ISC 21 04:53:41.1±3.5,52°.15N±0°.07×160°.61E±0°.06,h11km±22km,
n31,σ0⅊74/40,mb4.2/3,Off east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.01 339**		*e*P	**Pb**	**04 54 00.4**	**-0.2**
SPN				*e*S	**Sb**	**04 54 13.0**	**-0.9**
NLC	**Nalytchevo**	**1.28 323**		*e*P	**Pn**	**04 54 04.8**	**0.0**
NLC				S	**Sn**	**04 54 22.2**	**+0.2**
RUS	**Russkaya**	**1.32 283**		*e*P	**Pn**	**04 54 05.5**	**+0.1**
DALK	**Dalny**	**1.44 309**		*e*P	**Pn**	**04 54 07.1**	**+0.1**
DALK				*e*S	**Sn**	**04 54 25.5**	**-0.3**
PET	**Petropavlovsk**	**1.48 307**		*e*P	**Pb**	**04 54 08.4**	**-0.2**
PET				*e*S	**Sb**	**04 54 27.6**	**+0.3**
UGLR	**Uglovaya**	**1.52 315**		*e*P	**Pb**	**04 54 09.2**	**-0.1**
UGLR				*e*S	**Sb**	**04 54 29.1**	**+0.5**
MTVR	**Mutnovka**	**1.53 283**		*e*P	**Pn**	**04 54 08.9**	**+0.5**
MTVR				*e*S	**Sb**	**04 54 28.3**	**-0.6**
SDLR	**Sedlovina**	**1.54 318**		*e*P	**Pn**	**04 54 09.0**	**+0.4**
SMAR	**Somma**	**1.57 316**		P	**Pb**	**04 54 09.8**	**-0.4**
AVH	**Avacha**	**1.59 315**		*e*P	**Pb**	**04 54 10.2**	**-0.4**
KDTR	**Khodutka, Kamc**	**1.61 259**		*e*P	**Pn**	**04 54 09.5**	**+0.2**
KDTR				*e*S	**Sn**	**04 54 28.9**	**-1.1**
GRL	**Gorelyy**	**1.61 285**		P	**Pn**	**04 54 08.2**	**-1.3**
KRER	**Koryakskii**	**1.62 316**		*e*P	**Pn**	**04 54 10.4**	**+0.7**
KRER				*e*S	**Sb**	**04 54 31.2**	**-0.3**
KOK	**Koryaka**	**1.66 314**		*e*P	**Pb**	**04 54 11.3**	**-0.4**
KRMR	**Karymshinskiy**	**1.66 295**		*e*P	**Pn**	**04 54 10.5**	**+0.4**
KRMR				*e*S	**Sb**	**04 54 32.0**	**-0.6**
ASAK	**Asacha**	**1.68 279**		P	**Pb**	**04 54 11.5**	**-0.6**
KRX	**Arik**	**1.70 316**		*e*P	**Pb**	**04 54 11.8**	**-0.6**
PETK	**Petropavlovsk-**	**2.02 299**		Pn	**Pn**	**04 54 15.9**	**+0.9**
	12nm,0.3s,baz=110,slow=18,SNR=159						
PETK				Sn	**Sb**	**04 54 42.4**	**-0.4**
	9.9nm,0.3s,baz=122,slow=19,SNR=17						
APC	**Apacha**	**2.25 292**		*e*P	**Pn**	**04 54 19.7**	**+1.6**
APC				*e*S	**Sb**	**04 54 49.4**	**0.0**
MKZ	**Mys Kozlova**	**2.50 15**		*e*P	**Pn**	**04 54 21.6**	**0.0**
MKZ				*e*S	**Sn**	**04 54 50.3**	**-1.7**
KZV	**Kizimen**	**2.97 356**		*e*P	**Pn**	**04 54 29.7**	**+1.4**
TUMD	**Tumrok D**	**3.06 358**		P	**Pn**	**04 54 29.4**	**+0.1**
TUMR	**Tumrok**	**3.15 355**		*e*P	**Pn**	**04 54 32.3**	**+1.6**
ALID	**Alaid**	**3.41 250**		P	**Pn**	**04 54 35.2**	**+0.9**
KBTR	**Krutoberegovo**	**4.26 17**		P	**Pn**	**04 54 45.8**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**32.73 169**		T	T	05 34 01.0	
	baz=359,slow=76,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**32.74 169**		T	T	05 34 02.0	
	baz=359,slow=76,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	**32.74 169**		T	T	05 34 03.0	
	baz=359,slow=76,SNR=3.0						
SPITS	**Spitsbergen Ar**	**48.12 351**		P	**P**	**05 02 20.7**	**+0.4**
	1.6nm,0.8s,baz=44,slow=10,SNR=4.0						
ARCES	**ARCESS Array B**	**54.28 342**		P	**P**	**05 03 06.8**	**+0.2**
	2.5nm,0.9s,baz=28,slow=6.3,SNR=2.8						
FINES	**FINESS Array B**	**61.11 337**		P	**P**	**05 03 55.1**	**+0.5**
	1.9nm,0.9s,baz=33,slow=11,SNR=4.5						

ISCJB ***21*** *04:54:26.8±0.2,0°.38N±0°.02×127°.24E±0°.03,h100km,*
mb4.8/70,Error ellipse: s-maj=4.8km s-min=3.3km az=2.9
NEIC ***21*** *04:54:31.0±1.4,0°.34N×127°.17E,h126km±6km,mb4.8/50,*
Error ellipse: s-maj=14.0km s-min=5.0km az=210.0
DJA ***21*** *04:54:31.3±0.3,0°.N±3°×12°.7E±°,h107km±4km,M4.8/20,*
mB5.1/9,mb5.0/20,MLv5.2/12,Mw(mB)4.5/9
IDC ***21*** *04:54:32.2±1.8,0°.38N×127°.23E,h139km±16km,mb4.1/20,*
mb1 4.3/23,mb1mx4.1/44,mbtmp4.6/23,Error ellipse:
s-maj=20.4km s-min=7.9km az=76.0
MAN ***21*** *04:54:59.9,2°.78N×126°.55E,h19km,mb5.2,ML4.2,MS4.3*
ISC 21 04:54:28.8±0.4,0°.35N±0°.04×127°.10E±0°.05,h100km,n141,
σ1⅊79/149,mb4.7/70,1C-1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.49 33**		*e*Pn	**Pn**	**04 54 49.1**	**+4.5**
TNTI				*e*Sn	**Sn**	**04 55 02.4**	**+6.1**
TNTI	**Ternate**	**0.49 33**		P	**Pn**	**04 54 49.0**	**+4.4**
TNTI				S	**Sn**	**04 55 01.8**	**+5.4**
SANI	**Sanana**	**2.63 205**		P	**Pn**	**04 55 12.2**	**+2.5**
SANI				S	**Sn**	**04 55 39.8**	**-1.3**
KMSI	**Cibinong**	**3.12 274**		P	**Pn**	**04 55 19.0**	**+2.7**
KMSI				S	**Sn**	**04 55 55.2**	**+2.3**
SGSI	**Sangihe**	**3.66 335**		P	**Pn**	**04 55 25.3**	**+1.8**
SGSI				S	**Sn**	**04 56 05.9**	**+0.1**
SWI	**Sorong**	**4.33 106**		P	**Pn**	**04 55 36.4**	**+3.9**
LUWI	**Luwuk**	**4.54 252**		*e*Pn	**Pn**	**04 55 37.6**	**+2.2**
LUWI				*e*Sn	**Sn**	**04 56 28.8**	**+1.7**
LUWI	**Luwuk**	**4.54 252**		P	**Pn**	**04 55 37.5**	**+2.2**
LUWI				S	**Sn**	**04 56 26.2**	**-0.9**
MRSI	**Marisa**	**5.16 271**		P	**Pn**	**04 55 45.1**	**+1.4**
MRSI				S	**Sn**	**04 56 40.1**	**-2.0**
APSI	**Ampana**	**5.59 257**		P	**Pn**	**04 55 51.6**	**+2.0**
APSI				S	**Sn**	**04 56 51.5**	**-1.1**
BNDI	**Bandanaira**	**5.60 150**		P	**Pn**	**04 55 52.2**	**+2.5**
DDMP	**Don Marcelino,**	**5.88 346**		*e*P	**Pn**	**04 55 53.7**	**+0.2**
FAKI	**Fak Fak**	**6.09 122**		*e*Pn	**Pn**	**04 55 58.4**	**+2.0**
FAKI	**Fak Fak**	**6.09 122**		P	**Pn**	**04 56 00.4**	**+4.0**
	47nm,1.0s,0.2nm						
KDI	**Kendari**	**6.20 226**		P	**Pn**	**04 55 59.9**	**+2.1**
	73nm,0.8s,2μm0.8nm						
SKMP	**Bagumbayan, Su**	**6.63 337**		*e*P	**Pn**	**04 56 04.8**	**+1.0**
DAV	**Davao City (W)**	**6.84 347**		P	**Pn**	**04 56 09.1**	**+2.5**
	110nm,0.3s,baz=45,slow=5.7,SNR=3.6						
DAV				S	**Sn**	**04 57 26.6**	**+3.5**
	24nm,0.3s,baz=127,slow=20,SNR=2.8						
DMPH	**Davao City--Mi**	**6.87 347**		⇑*e*P	**Pn**	**04 56 07.5**	**+0.5**
MPSI	**Mapaga**	**7.20 270**		P	**Pn**	**04 56 13.8**	**+2.3**
	25nm,0.5s,0.1nm						
CTBH	**Cotabato--PC H**	**7.39 337**		⇓*i*P	**Pn**	**04 56 15.1**	**+1.1**
BUKP	**Musuan**	**7.75 345**		*e*P	**Pn**	**04 56 19.6**	**+0.6**
TTSI	**Tana Toraja**	**8.02 245**		P	**Pn**	**04 56 25.6**	**+2.9**
BNSI	**Bone**	**8.43 236**		P	**Pn**	**04 56 31.7**	**+3.4**
SPSI	**Sidrap Palu**	**8.49 240**		P	**Pn**	**04 56 31.4**	**+2.4**
IPIL	**Ipil**	**8.65 329**		*e*P	**Pn**	**04 56 32.7**	**+1.4**
BUTP	**Butuan**	**8.68 350**		*e*P	**Pn**	**04 56 32.3**	**+0.6**
BKSI	**Bulukumba**	**8.96 231**		P	**Pn**	**04 56 40.2**	**+4.7**
KAPI	**Kappang**	**9.07 234**		P	Pn	04 56 42.0	+5.1
	12nm,0.3s,baz=64,slow=3.2,SNR=34						
KAPI				S	**Sn**	**04 58 18.6**	**+1.2**
	32nm,0.3s,baz=175,slow=22,SNR=4.6						
BSSI	**Bau Bau, Buton**	**9.23 226**		P	**Pn**	**04 56 41.7**	**+2.6**
SOEI	**Soe**	**10.43 196**		*e*Pn	**Pn**	**04 56 57.5**	**+1.9**
SOEI	**Soe**	**10.43 196**		P	**Pn**	**04 57 00.2**	**+4.6**
PLAI	**Plampang**	**13.02 225**		P	**Pn**	**04 57 30.9**	**+0.8**
SBUM	**Sibu**	**15.02 278**		*e*Pn	**Pn**	**04 57 56.8**	**+0.9**
	8.2nm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.60 236**		P	Pn	04 57 57.6	-5.6
KSM	**Kuching**	**16.82 274**		*e*P	**Pn**	**04 58 20.0**	**+1.6**
	49nm,0.7s						
PWJI	**Pagerwojo**	**17.37 241**		P	**P**	**04 58 25.6**	**+0.7**
PCJI	**Pacitan**	**18.00 241**		P	**Pn**	**04 58 34.8**	**+2.1**
SMRI	**Semarang**	**18.17 246**		*e*P	**P**	**04 58 32.4**	**-1.4**
	74nm,0.9s						
SMRI	**Semarang**	**18.17 246**		P	**P**	**04 58 36.4**	**+2.6**
FITZ	**Fitzroy Crossi**	**18.39 184**		P	**P

GIRL	Giralia	26.07	208	*e*P	P	04 59 55.6 +2.5
	149nm,1.3s					
IPM	Ipoh	26.36	279	*e*P	P	04 59 56.5 +0.5
	24nm,0.6s					
KULM	Kulim	26.86	281	*e*P	P	04 59 59.7 -0.7
	12nm,0.9s					
PANO	Nakornpanom	27.72	308	P	P	05 00 08.5 +0.4
	0.5nm,0.8s					
SKNT	Sakolnakorn	28.13	307	P	P	05 00 12.2 +0.5
	7.9nm,0.4s					
PSI	Prapat	28.27	275	*e*P	P	05 00 14.3 +1.2
	9.9nm,0.8s					
PSI	Prapat	28.27	275	P	P	05 00 14.3 +1.2
	7.8nm,0.6s,baz=67,slow=3.3,SNR=7.0					
KHON	Khomkaen	28.73	305	P	P	05 00 17.7 +0.7
	79μm,0.9s					
CHAI	Chaiyaphum	29.20	303	P	P	05 00 21.2 0.0
	64μm,0.7s,809μm					
GSI	Gunungsitoli	29.53	272	*e*P	P	05 00 22.1 -2.1
	31nm,0.9s					
PBKT	Sadao Pong	30.38	303	P	P	05 00 32.4 +0.8
	5.8nm,0.6s					
UTTA	Uttaradit	31.31	305	P	P	05 00 40.7 +0.9
	24μm,0.8s					
NANT	Nan	31.74	307	P	P	05 00 44.8 +1.2
	70μm,0.6s					
PHRA	Phrae	31.96	306	P	P	05 00 46.9 +1.4
	1.8nm,0.9s					
WHN	Wuhan	32.38	339	P	P	05 00 50.8 +1.8
CM31	Chiang Mai Arr	32.99	305	*e*P	P	05 00 55.5 +1.0
	32nm,1.5s					
CMAR	Chiang Mai Arr	32.99	305	P	P	05 00 55.5 +1.0
	1.8nm,0.4s,baz=135,slow=7.8,SNR=12					
CMMT	Chiang Mai	33.16	305	P	P	05 00 57.1 +1.1
	6.7nm,1.1s					
CHTO	Chiang Mai	33.16	305	*e*P	P	05 00 57.0 +1.0
	8.2nm,0.7s					
BBOO	Buckleboo	34.05	166	*e*P	P	05 01 03.1 -0.4
	12nm,0.8s					
ENH	Enshi	34.14	332	*e*P	P	05 01 05.5 +1.1
	29nm,0.8s					
NWAO	Narrogin (SRO)	34.39	195	*e*P	P	05 01 06.1 -0.3
	23nm,1.0s					
STKA	Stephens Creek	34.87	158	*e*P	P	05 01 09.7 -1.0
	3.6nm,1.5s					
STKA	Stephens Creek	34.87	158	P	P	05 01 09.7 -1.0
	2.6nm,0.7s,baz=341,slow=11,SNR=3.9					
KS15	Wonju Array Si	36.91	1	*e*P	P	05 01 28.3 +0.3
	6.6nm,0.9s					
KSRS	Korea Array	36.92	1	P	P	05 01 28.3 +0.2
	2.8nm,0.6s,baz=177,slow=10.0,SNR=12					
MAJO	Matsushiro	37.45	15	*e*P	P	05 01 30.7 -1.9
MJAR	Matsushiro Arr	37.45	15	P	P	05 01 30.7 -1.9
	2.3nm,0.4s,baz=192,slow=9.0,SNR=4.8					
XAN	Xi'an	37.59	335	*e*P	P	05 01 34.1 +0.3
	22nm,1.0s					
BJT	Baijiatuan	40.72	347	*e*P	P	05 01 58.7 -1.0
	11nm,0.5s					
USA0B	Ussuriysk Arra	43.87	5	*e*P	P	05 02 24.9 -0.3
	5.0nm,0.9s					
USRK	Ussuriysk Ar.	43.87	5	P	P	05 02 25.2 0.0
	1.7nm,0.4s,baz=170,slow=8.0,SNR=7.8					
ODAN	Odare	46.37	308	*e*P	P	05 02 46.1 +0.5
	27nm,0.7s					
PALK	Pallekele	46.77	280	*e*P	P	05 02 48.0 -0.8
RAMN	Ramite	47.04	308	*e*P	P	05 02 51.7 +0.8
	86nm,1.0s					
JIRN	Jiri	47.69	308	*e*P	P	05 02 56.7 +0.7
	80nm,0.9s					
KKN	Kakani	48.46	308	*e*P	P	05 03 02.1 +0.3
	41nm,0.8s					
DMN	Daman	48.52	308	*e*P	P	05 03 02.7 +0.4
	48nm,0.9s					
KOLN	Koldanda	49.79	307	*e*P	P	05 03 12.8 +0.9
	142nm,0.6s					
DANN	Dangsing	49.91	308	*e*P	P	05 03 13.6 +0.6
	154nm,0.6s					
PYUN	Piuthan	50.42	307	*e*P	P	05 03 17.6 +0.9
	144nm,0.5s					
SONA0	Songino Array	50.60	342	*e*P	P	05 03 17.7 +0.1
SONM	Songino Array	50.60	342	*e*P	P	05 03 17.1 -0.5
SONM	Songino Array	50.60	342	P	P	05 03 17.7 +0.1
	4.5nm,0.7s,baz=159,slow=7.5,SNR=13					
HYB	Hyderabad	50.66	292	*i* P	P	05 03 19.0 +0.5
BKZ	Black Stump Fm	59.86	137	*e*P	P	05 04 23.4 -0.8
	11nm,1.3s					
MK31	Makanchi Array	60.53	326	*e*P	P	05 04 28.6 0.0
	6.6nm,0.7s					
MK32	Makanchi Array	60.53	326	*e*P	P	05 04 28.7 +0.1
MKAR	Makanchi Array	60.53	326	*e*P	P	05 04 28.5 -0.1
MKAR	Makanchi Array	60.53	326	P	P	05 04 28.7 +0.1
	7.0nm,0.4s,baz=120,slow=8.7,SNR=78					
MAKZ	Makanchi	60.72	326	*e*P	P	05 04 29.1 -0.7
	10nm,0.5s					
KDJ	Kajisay	61.12	319	*e*P	P	05 04 33.3 +0.5
	11nm,0.6s					
ARSB	Arslanbob	63.54	317	*e*P	P	05 04 49.5 +0.4
	12nm,1.0s					
ZAA0	Zalesovo Array	63.75	334	*e*P	P	05 04 48.9 -1.1
	7.2nm,1.1s					
ZALV	Zalesovo Beam	63.75	334	*e*P	P	05 04 47.9 -2.0
ZALV	Zalesovo Beam	63.75	334	P	P	05 04 48.6 -1.3
	2.1nm,0.4s,baz=119,slow=4.9,SNR=12					
ZAA1	Zalesovo Array	63.75	334	*e*P	P	05 04 48.6 -1.3
GAR	Garm	64.49	314	*e*P	P	05 04 55.2 0.0
	54nm,1.3s					
BTK	Batken	64.53	315	*e*P	P	05 04 55.9 +0.4
	10nm,1.1s					
KURK	Kurchatov	64.78	328	*e*P	P	05 04 56.3 -0.4
	21nm,0.5s					
KK31	Karatay Array	65.95	318	*e*P	P	05 05 04.5 0.0
	9.4nm,1.0s					
KKAR	Karatay Array	65.95	318	*e*P	P	05 05 04.5 0.0
	9.4nm,1.0s					
ADK	Adak	69.55	33	*e*P	P	05 05 24.1 -2.7
	53nm,1.0s					
BRVK	Borovoye	70.41	328	*e*P	P	05 05 31.5 -0.6
	8.9nm,0.9s					
GEYT	Alibeck	73.30	310	P	P	05 05 49.8 0.0
	3.6nm,0.7s,baz=125,slow=4.4,SNR=7.6					
NRIK	Noril'sk	73.77	346	P	P	05 05 51.1 -0.8
	7.9nm,0.6s,baz=129,slow=5.7,SNR=7.3					
ABKAR	Akbulak array	74.99	321	*e*P	P	05 05 58.4 -0.9
	3.4nm,0.8s					
AKTO	Aktyubinsk	76.52	322	P	P	05 06 07.4 -0.7
	5.7nm,0.7s,baz=106,slow=8.1,SNR=23					
VNDA	Vanda	80.05	173	P	P	05 06 26.4 -0.5
	0.5nm,0.7s,baz=322,slow=7.7,SNR=3.7					
AKH	Akhalkalaki	84.96	311	*e*P	P	05 06 54.3 +0.9
	10.0nm,0.7s					
KBZ	Khabaz	85.56	314	P	P	05 06 55.7 -0.4
	2.2nm,0.7s,baz=252,slow=0.2,SNR=4.9					
BR101	Keskin Array S	92.44	310	*e*P	P	05 07 26.3 -2.7
BRTR	Keskin Array B	92.44	310	P	P	05 07 26.3 -2.7
	0.9nm,0.9s,baz=101,slow=2.5,SNR=4.7					
ARCES	ARCESS Array B	93.72	340	P	P	05 07 32.1 -1.9
	2.4nm,0.4s,baz=80,slow=6.6,SNR=30					
SPITS	Spitsbergen Ar	93.84	349	P	P	05 07 33.6 -0.9
	3.3nm,0.9s,baz=80,slow=12,SNR=7.8					
FIA0	FINESS Array S	94.96	332	*e*P	P	05 07 37.2 -2.6
FINES	FINESS Array B	94.96	332	P	P	05 07 37.2 -2.6
	0.7nm,0.4s,baz=64,slow=3.2,SNR=7.9					
BUR08	Bucovina Ar. S	97.75	318	*e*P	P	05 07 52.0 -0.9
	2.3nm,0.7s					
NB200	NORSAR Array S	101.95	333	*e*Pdif	Pdif	05 08 08.6 -2.7
NOA	NORSAR Array B	101.95	333	P	Pdif	05 08 08.6 -2.7
	0.9nm,0.7s,baz=68,slow=4.5,SNR=3.7					
TORD	Torodi Ar. Bea	124.26	286	PKP	PKPdf	05 13 14.1 -3.0
	2.8nm,0.6s,baz=67,slow=2.2,SNR=21					
TOA1	Torodi Ar. Sit	124.26	286	*e*PKPdf	PKPdf	05 13 14.1 -3.0

KRSC 21 04:55:47.8±10.0, 52°.10N×160°.91E, h46km±10km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
SPN	**Mys Shipunski**	1.14	332	*e*P		Pn	04 56 07.8	+0.6
SPN				*e*S		Sn	04 56 20.6	-1.1
NLC	**Nalytchevo**	1.44	319	*e*P		Pn	04 56 12.7	+1.4
RUS	**Russkaya**	1.51	284	*e*P		Pn	04 56 13.7	+1.8
RUS				*e*S		Sn	04 56 31.4	+0.6
DALK	**Dalny**	1.62	306	*e*P		Pn	04 56 15.5	+1.8
DALK				*e*S		Sn	04 56 34.3	+0.9
PET	**Petropavlovsk**	1.66	305	*e*P		Pn	04 56 16.1	+1.7
UGLR	**Uglovaya**	1.69	312	*e*P		Pn	04 56 17.4	+2.5
UGLR				*e*S		Sn	04 56 37.8	+2.4
SDLR	**Sedlovina**	1.71	315	*e*P		Pn	04 56 17.4	+2.2
MTVR	**Mutnovka**	1.72	284	*e*P		Pn	04 56 17.2	+1.9
MTVR				*e*S		Sn	04 56 37.8	+1.6
SMAR	**Somma**	1.74	313	P		Pn	04 56 18.6	+3.0
AVH	**Avacha**	1.77	312	*e*P		Pn	04 56 18.8	+2.9
AVH				S		Sn	04 56 40.0	+2.8
KDTR	**Khodutka, Kamc**	1.78	262	*e*P		Pn	04 56 17.8	+1.8
KDTR				*e*S		Sn	04 56 38.0	+0.6
KRER	**Koryakskii**	1.79	313	P		Pn	04 56 20.1	+3.8
GRL	**Gorelyy**	1.80	286	S		Sn	04 56 41.8	+3.7
KOK	**Koryaka**	1.83	312	P		Pn	04 56 19.7	+2.9
KOK				S		Sn	04 56 41.9	+3.1
KRMR	**Karymshinskiy**	1.85	294	*e*P		Pn	04 56 19.0	+2.0
KRMR				S		Sn	04 56 41.7	+2.5
KRX	**Arik**	1.87	313	P		Pn	04 56 20.7	+3.3
ASAK	**Asacha**	1.88	280	P		Pn	04 56 19.9	+2.5
APC	**Apacha**	2.44	291	*e*P		Pn	04 56 29.4	+4.4
APC				*e*S		Sn	04 56 58.1	+4.5
MKZ	**Mys Kozlova**	2.51	11	P		Pn	04 56 28.2	+2.2
MKZ				S		Sn	04 56 56.7	+1.4
KZV	**Kizimen**	3.04	353	P		Pn	04 56 37.4	+3.9
TUMD	**Tumrok D**	3.13	355	P		Pn	04 56 39.4	+4.9
TUMR	**Tumrok**	3.22	352	P		Pn	04 56 40.4	+4.5
ALID	**Alaid**	3.57	252	P		Pn	04 56 43.6	+2.9
KBTR	**Krutoberegovo**	4.27	14	P		Pn	04 56 53.8	+3.7
BKI	**Bering**	4.33	42	S		Sn	04 57 42.3	+2.3

*IDC **21** 04:59:31.7±0.4, 52°.26N×160°.09E, h0km, mb5.1/37, mb1 5.2/40, mb1mx5.2/44, mbtmp5.1/40, ML4.9/2, MS5.6/44, Ms1 5.6/44, ms1mx5.5/55, Error ellipse: s-maj=11.1km s-min=9.2km az=155.0*

*KRSC **21** 04:59:32.1±10.0, 52°.03N×160°.53E, h53km±10km, ML5.7*

*BJI **21** 04:59:34.1±0.0, 52°.32N×160°.02E, h30km, mb5.3/77, mB5.7/53, Ms6.1/86, Ms7 5.9/80*

*NEIC **21** 04:59:35.2±1.8, 52°.35N×160°.06E, h18km±3km, mb5.4/500, MS5.6/641, MW5.7, MW5.7, Error ellipse: s-maj=12.5km s-min=10.3km az=177.0, Moment Tensor Solution. s59 Moment tensor: Scale 10^{17}Nm; M_{rr}3.11; $M_{\theta\theta}$-0.84; $M_{\phi\phi}$-2.27; $M_{r\theta}$2.10; $M_{r\phi}$-0.34; $M_{\theta\phi}$2.95; Best double couple: M_o4.60000×10^{17} NP1:ϕ_s190.00000°, δ19.00000°, λ70.00000°. NP2:ϕ_s30.00000°, δ72.00000°, λ97.00000°. Principal axes: T 4.9800, Plg63.0000°, Azm311.0000°; N -0.9300, Plg6.0000°, Azm208.0000°; P -4.0500, Plg26.0000°, Azm115.0000°;*

*ISCJB **21** 04:59:36.8±0.3, 52°.21N±0°.02×160°.18E±0°.02, h50km±2km, mb5.3/597, MS5.6/686 Error ellipse: s-maj=3.2km s-min=1.6km az=167.8*

*MOS **21** 04:59:37.7±1.2, 52°.27N×159°.98E, h58km, mb5.7/57, MS5.9/37, Error ellipse: s-maj=5.7km s-min=2.9km az=96.7*

MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.

*NEIC **21** 04:59:37.0±0.0, 52°.43N×159°.86E, h45km, Moment Tensor Solution. s44 Moment tensor: Scale 10^{17}Nm; M_{rr}1.94; $M_{\theta\theta}$-0.54; $M_{\phi\phi}$-1.40; $M_{r\theta}$2.22; $M_{r\phi}$-0.88; $M_{\theta\phi}$3.65; Best double couple: M_o4.70000×10^{17} NP1:ϕ_s31.00000°, δ78.00000°, λ90.00000°. NP2:ϕ_s213.00000°, δ12.00000°, λ91.00000°. Principal axes: T 4.6900, Plg57.0000°, Azm301.0000°; N 0.0100, Plg0.0000°, Azm31.0000°; P -4.7000, Plg32.0000°, Azm121.0000°;*

*GCMT **21** 04:59:39.2±0.1, 52°.13N±0°.01×160°.57E±0°.01, h24km, MW5.7/133, Moment Tensor Solution. s111, c210; s133, c368; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}3.74±.06; $M_{\theta\theta}$-1.09±.04; $M_{\phi\phi}$-2.65±.04; $M_{r\theta}$1.92±.07; $M_{\theta\phi}$-1.68±.03; $M_{r\phi}$1.86±.06; Best double couple: M_o4.58900×10^{17} NP1:ϕ_s40.00000°, δ63.00000°, λ97.00000°. NP2:ϕ_s205.00000°, δ28.00000°, λ77.00000°. Principal axes: T 4.6320, Plg71.0000°, Azm326.0000°; N -0.0850, Plg6.0000°, Azm217.0000°; P -4.5470, Plg18.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 21 04:59:37.8±0.4, 52°.24N±0°.03×160°.24E±0°.03, h44km±3km, h43km: pP-P, n2167, σ1933/1995, mb5.3/607, MS5.6/691, 132C-32D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
SPN	**Mys Shipunski**	0.87	352	*e*P		Pn	04 59 52.5	-1.2
SPN				*e*S		Sn	05 00 05.6	+0.4
SPN	**Mys Shipunski**	0.87	352	PN		Pn	04 59 52.5	-1.2
SPN				S		Sn	05 00 05.6	+0.4
RUS	**Russkaya**	1.07	281	*e*P		Pn	04 59 55.6	-0.8
RUS				*e*S		Sn	05 00 10.8	+0.7
RUS	**Russkaya**	1.07	281	PN		Pn	04 59 55.6	-0.8
RUS				S		Sn	05 00 10.8	+0.7
NLC	**Nalytchevo**	1.08	330	*e*P		Pn	04 59 56.5	0.0
NLC				*e*S		Sn	05 00 14.3	+4.0
NLC	**Nalytchevo**	1.08	330	PN		Pn	04 59 56.5	0.0
NLC				S		Sn	05 00 14.3	+4.0
DALK	**Dalny**	1.20	312	*e*P		Pn	04 59 58.1	-0.1
DALK				*e*S		Sn	05 00 15.1	+1.8
DALK	**Dalny**	1.20	312	PN		Pn	04 59 58.1	-0.1
DALK				S		Sn	05 00 15.1	+1.8
PET	**Petropavlovsk**	1.25	310	*e*Pn		Pn	04 59 58.8	0.0
PET				*e*Sn		Sn	05 00 08.1	-6.2
PET	**Petropavlovsk**	1.25	310	PN		Pn	04 59 58.7	0.0
MTVR	**Mutnovka**	1.28	282	*e*P		Pn	04 59 59.0	-0.4
MTVR	**Mutnovka**	1.28	282	PN		Pn	04 59 59.0	-0.4
UGLR	**Uglovaya**	1.30	319	*e*P		Pn	04 59 59.9	+0.3
UGLR	**Uglovaya**	1.30	319	PN		Pn	04 59 59.9	+0.3
SDLR	**Sedlovina**	1.33	322	*e*P		Pn	04 59 59.9	-0.1
SDLR	**Sedlovina**	1.33	322	PN		Pn	04 59 59.9	-0.1
SMAR	**Somma**	1.35	320	*i* P		Pn	05 00 00.3	-0.1
SMAR	**Somma**	1.35	320	PN		Pn	05 00 00.3	-0.1
GRL	**Gorelyy**	1.36	284	*i* P		Pn	05 00 00.8	+0.3
GRL	**Gorelyy**	1.36	284	PN		Pn	05 00 00.8	+0.3
AVH	**Avacha**	1.37	319	*e*P		Pn	05 00 01.1	+0.5
AVH	**Avacha**	1.37	319	PN		Pn	05 00 01.1	+0.5
KDTR	**Khodutka, Kamc**	1.40	253	*e*P		Pn	04 59 59.3	-1.6
KDTR				*e*S		Sn	05 00 17.2	-0.9
KDTR	**Khodutka, Kamc**	1.40	253	PN		Pn	04 59 59.3	-1.6
KDTR				S		Sn	05 00 17.2	-0.9
KRMR	**Karymshinskiy**	1.42	296	*e*P		Pn	05 00 00.8	-0.3
KRMR				*e*S		Sn	05 00 20.2	+1.7
KRMR	**Karymshinskiy**	1.42	296	PN		Pn	05 00 00.8	-0.3
KRMR				S		Sn	05 00 20.2	+1.7
KOK	**Koryaka**	1.44	318	*e*P		Pn	05 00 01.8	+0.3
KOK	**Koryaka**	1.44	318	PN		Pn	05 00 01.8	+0.3
KRX	**Arik**	1.48	320	*e*P		Pn	05 00 02.9	+0.8
KRX	**Arik**	1.48	320	PN		Pn	05 00 02.9	+0.8
I44RU	**PETROPAVLOVSK-**	1.77	301	Pn		Pn	05 00 07.5	+1.6
	baz=113,slow=22,SNR=3.2							
I44RU				Sn		Sn	05 00 35.6	+8.5
	baz=108,slow=27							
PEA0B	**Petropavlovsk-**	1.77	300	*e*Pn		Pn	05 00 06.5	+0.5
PEA0B				*e*Sn		Sn	05 00 24.6	-2.8
PETK	**Petropavlovsk-**	1.77	300	*e*Pn		Pn	05 00 06.5	+0.5
PETK				*e*Sn		Sn	05 00 23.1	-4.3
PETK	**Petropavlovsk-**	1.77	300	*e*PN		Pn	05 00 06.5	+0.5
PETK				*e*			05 00 23.1	
PETK	**Petropavlovsk-**	1.77	300	Pn		Pn	05 00 06.5	+0.5
	397nm,0.3s,baz=108,slow=20,SNR=548							
PETK				Sn		Sn	05 00 34.1	+6.7
	892nm,0.3s,baz=102,slow=18,SNR=8.1							
PETK				LR		LR	05 01 04.1	
	comp=Z,77μm,21.1s,baz=283,slow=55							
PEA1	**Petropavlovsk-**	1.78	301	*e*Pn		Pn	05 00 06.5	+0.4
PEA1				*e*Sn		Sn	05 00 34.1	+6.7
APC	**Apacha**	2.00	291	*e*P		Pn	05 00 10.3	+1.2
APC	**Apacha**	2.00	291	PN		Pn	05 00 10.3	+1.2
PAU	**Pauzhetka**	2.26	251	*e*P		Pn	05 00 11.4	-1.3
PAU	**Pauzhetka**	2.26	251	PN		Pn	05 00 11.4	-1.3
MKZ	**Mys Kozlova**	2.49	20	*i* P		Pn	05 00 14.5	-1.3
MKZ				*e*S		Sn	05 00 44.1	-0.8
MKZ	**Mys Kozlova**	2.49	20	PN		Pn	05 00 14.5	-1.3
MKZ				S		Sn	05 00 44.1	-0.8
KZV	**Kizimen**	2.88	1	*i* P		Pn	05 00 22.5	+1.2
KZV	**Kizimen**	2.88	1	PN		Pn	05 00 22.5	+1.2
TUMD	**Tumrok D**	2.97	2	*e*P		Pn	05 00 22.4	-0.1
SKR	**Severo-Kuril's**	3.01	240	*e*P		Pn	05 00 21.3	-1.6
SKR	**Severo-Kuril's**	3.01	240	↑*i*PN		Pn	05 00 21.4	-1.5
SKR				*e*S		Sn	05 00 55.7	-2.0
SKR				pmax		pmax		
	comp=Z,2μm,0.6s							
SKR				smax		smax		
	comp=N,14μm,0.6s							
SKR				smax		smax		
	comp=E,17μm,0.7s							
TUMR	**Tumrok**	3.05	359	*i* P		Pn	05 00 24.6	+1.0
TUMR	**Tumrok**	3.05	359	PN		Pn	05 00 22.4	-1.2
ALID	**Alaid**	3.23	247	*e*P		Pn	05 00 25.4	-0.7
ALID	**Alaid**	3.23	247	PN		Pn	05 00 25.4	-0.7
BZMR	**Bezymyannaya**	3.71	2	*e*P		Pn	05 00 33.8	+1.1
BZMR	**Bezymyannaya**	3.71	2	PN		Pn	05 00 33.8	+1.1
BZGR	**Bezymyannyi-Gr**	3.72	4	*e*P		Pn	05 00 33.8	+1.0
BZGR	**Bezymyannyi-Gr**	3.72	4	PN		Pn	05 00 33.8	+1.0
KIRR	**Kirishev**	3.72	1	*e*P		Pn	05 00 33.9	+1.0
KIRR				*e*S		Sn	05 01 18.5	+3.0
KIRR	**Kirishev**	3.72	1	PN		Pn	05 00 33.9	+1.0
KIRR				S		Sn	05 01 18.5	+3.0
KPT	**Kopyto**	3.74	360	*e*P		Pn	05 00 34.7	+1.7
KPT	**Kopyto**	3.74	360	PN		Pn	05 00 34.7	+1.7
BZWR	**Bezymyannyi-We**	3.74	2	*e*P		Pn	05 00 34.2	+1.1
BZWR	**Bezymyannyi-We**	3.74	2	PN		Pn	05 00 34.2	+1.1
ESO	**Esso**	3.80	347	*e*P		Pn	05 00 35.0	+1.1
ESO	**Esso**	3.80	347	PN		Pn	05 00 35.0	+1.1
KOZ	**Kozyrevsk**	3.83	357	*e*P		Pn	05 00 36.3	+2.0
KOZ	**Kozyrevsk**	3.83	357	PN		Pn	05 00 36.3	+2.0
LGNR	**Loginova**	3.86	4	*i* P		Pn	05 00 36.5	+1.6
LGNR	**Loginova**	3.86	4	PN		Pn	05 00 36.5	+1.6
CIRR	**Tsirk**	3.90	4	*e*P		Pn	05 00 37.2	+1.9
CIRR	**Tsirk**	3.90	4	PN		Pn	05 00 37.2	+1.9
KRSR	**Krestovskiy**	3.99	3	*e*P		Pn	05 00 37.3	+0.8
KRSR	**Krestovskiy**	3.99	3	PN		Pn	05 00 37.3	+0.8
KLY	**Klyuchi**	4.09	3	*e*P		Pn	05 00 38.8	+1.0
KLY	**Klyuchi**	4.09	3	PN		Pn	05 00 38.8	+1.0
SRDR	**Sredinnyy**	4.10	356	*e*P		Pn	05 00 38.7	+0.7
SRDR	**Sredinnyy**	4.10	356	PN		Pn	05 00 38.7	+0.7
KBTR	**Krutoberegovo**	4.26	20	*e*P		Pn	05 00 39.8	-0.2
KBTR	**Krutoberegovo**	4.26	20	PN		Pn	05 00 39.8	-0.2
KBG	**Krutoberegovo**	4.28	19	*e*P		Pn	05 00 39.9	-0.4
KBG	**Krutoberegovo**	4.28	19	PN		Pn	05 00 39.9	-0.4
BDR	**Baidarnaya**	4.38	7	*e*P		Pn	05 00 43.3	+1.5
BDR	**Baidarnaya**	4.38	7	PN		Pn	05 00 43.3	+1.5
SMKR	**Semkarok**	4.41	9	*e*P		Pn	05 00 43.5	+1.2
SMKR	**Semkarok**	4.41	9	PN		Pn	05 00 43.5	+1.2
SRKR	**Sorokina**	4.46	7	*e*P		Pn	05 00 44.5	+1.6
SRKR	**Sorokina**	4.46	7	PN		Pn	05 00 44.5	+1.6
BKI	**Bering**	4.52	47	*e*P		Pn	05 00 41.8	-1.8
BKI				*e*S		Sn	05 01 28.0	-6.8
BKI	**Bering**	4.52	47	PN		Pn	05 00 41.8	-1.8
PALN	**Palana**	6.87	359	*e*P		Pn	05 01 18.6	+2.8
PALN	**Palana**	6.87	359	PN		Pn	05 01 18.6	+2.8
OSSR	**Ossora**	7.21	12	*e*P		Pn	05 01 20.9	+0.5
OSSR	**Ossora**	7.21	12	PN		Pn	05 01 20.9	+0.5
TILK	**Tilichiki**	8.85	19	*e*P		Pn	05 01 44.0	+1.0
TILK	**Tilichiki**	8.85	19	PN		Pn	05 01 44.0	+1.0
MA2	**Magadan**	9.07	328	*e*Pn		Pn	05 01 47.1	+1.2
MA2				*e*Sn		Sn	05 03 18.2	-8.3
MA2	**Magadan**	9.07	328	*c i*PN		Pn	05 01 46.8	+0.9
MA2	**Magadan**	9.07	328	Pn		Pn	05 01 47.3	+1.3
	comp=E,1.7nm,0.3s,baz=141,slow=12,SNR=15							
MA2				LR		LR	05 05 56.3	
	comp=E,53μm,19.3s,baz=142,slow=43							
OKH	**Okha**	10.54	284	*c i*PN		Pn	05 02 19.9	+14
OKH				pmax		pmax		
	comp=Z,4μm,10.3s							
OKH				MLR		MLR		
	comp=Z,61μm,14.0s							
KUR	**Kuril'sk**	10.75	234	PN		Pn	05 02 07.3	-1.8
KUR				pmax		pmax		
	comp=Z,122nm,0.6s							
KUR				pmax		pmax		
	comp=N,64nm,0.5s							
KUR				pmax		pmax		
	comp=E,34nm,0.5s							
KUR				MLR		MLR		
	comp=N,78μm,18.0s							
KUR				MLR		MLR		
	comp=Z,39μm,18.0s							
KUR				MLR		MLR		
	comp=E,38μm,19.0s							
TYV	**Tymovskoe**	11.04	270	*e*PN		Pn	05 02 15.6	+2.7
TYV				*e*S		Sn	05 04 21.2	+6.4
TYV				pmax		pmax		
	comp=Z,47nm,1.8s							
TYV				pmax		pmax		
	comp=Z,2μm,4.0s							
TYV				smax		smax		
	comp=E,30nm,2.0s							
TYV

comp=E,224nm,0.9s
YAK pmax pmax
comp=Z,4μm,1.3s
YAK pmax pmax
comp=N,2μm,1.4s
YAK pmax pmax
comp=E,4μm,1.3s
YAK smax smax
comp=N,3μm,3.9s
YAK smax smax
comp=E,5μm,3.5s
YAK MLR MLR
comp=Z,48μm,16.0s
YAK MLR MLR
comp=N,73μm,16.0s
YAK MLR MLR
comp=E,56μm,16.0s
ZEA Zeya 19.82 287 *e*P **P 05 04 02.7 -1.8**
ZEA pmax pmax
comp=N,22nm,0.9s
ZEA pmax pmax
comp=E,47nm,1.0s
ZEA pmax pmax
comp=Z,58nm,1.0s
ZEA MLR MLR
comp=N,18μm,14.0s
ZEA MLR MLR
comp=E,39μm,14.0s
ZEA MLR MLR
comp=Z,69μm,14.0s
UNV Unalaska Valle 19.96 72 *e*P **P 05 04 06.4 +0.4**
comp=Z,217nm,1.1s
USA0B Ussuriysk Arra 20.37 258 *e*P **P 05 04 07.6 -2.9**
USA0B LR LR
comp=Z,17μm,21.0s
USRK Ussuriysk Ar. 20.37 258 *e*P **P 05 04 08.0 -2.5**
USRK Ussuriysk Ar. 20.37 258 P **P 05 04 07.5 -2.9**
comp=Z,32nm,0.6s,baz=61,slow=11,SNR=46
USRK LR LR 05 11 59.0
comp=Z,17μm,21.2s,baz=56,slow=37
ANM Nome 21.50 42 *e*P **P 05 04 25.8 +3.3**
comp=Z,182nm,1.1s
ANM LR LR
comp=Z,12μm,19.0s
ANM Nome 21.50 42 *e*P **P 05 04 25.8 +3.3**
ANM pmax pmax
comp=Z,182nm,1.1s
ANM MLR MLR
comp=Z,12μm,19.0s
MDJ Mudanjiang 21.59 262 P **P 05 04 21.4 -2.3**
MDJ pmax pmax
comp=Z,50nm,0.8s
MDJ LR LR
comp=Z,7μm,18.8s
MDJ LR LR
comp=Z,25μm,15.6s
MDJ LR LR
comp=Z,38μm,16.1s
MDJ Mudanjiang 21.59 262 *e*P **P 05 04 21.5 -2.3**
comp=Z,53nm,0.8s
MSHR Mys Shultsa 21.79 255⇑ *e*P **P 05 04 24.1 -1.7**
MJAR Matsushiro Arr 22.09 233 *e*P **P 05 04 29.0 -0.1**
MJAR Matsushiro Arr 22.09 233 P **P 05 04 28.3 -0.9**
comp=Z,56nm,0.7s,baz=18,slow=10,SNR=102
MJAR LR LR 05 13 36.3
comp=Z,27μm,21.2s,baz=50,slow=38
MJB9 Matsu-Tunnel 22.09 233 *e*P **P 05 04 28.8 -0.3**
comp=Z,294nm,0.9s
MJB9 LR LR
comp=Z,28μm,20.0s
MAJO Matsushiro 22.09 233 *e*P **P 05 04 28.8 -0.3**
comp=Z,298nm,0.9s
MAJO LR LR
comp=Z,27μm,21.0s
MAJO Matsushiro 22.09 233*c i*P **P 05 04 28.2 -0.9**
MAJO pmax pmax
comp=Z,145nm,0.6s
MAT Matsushiro 22.09 233 P **P 05 04 27.9 -1.2**
MAT S **S 05 08 34.0 +3.9**
INU Inuyama 23.63 234 *e*P **P 05 04 44.3 -0.5**
comp=Z,125nm,0.7s
INU LR LR
comp=Z,20μm,21.0s
RDOG Red Dog Mine 23.70 34 *e*P **P 05 04 45.4 +0.2**
comp=Z,155nm,1.0s
RDOG LR LR
comp=Z,6μm,20.0s
TIXI Tiksi 23.90 336 *e*P **P 05 04 45.0 -2.0**
TIXI Tiksi 23.90 336*c i*P **P 05 04 45.2 -1.7**
TIXI pmax pmax
comp=Z,183nm,1.0s
TIXI Tiksi 23.90 336 P **P 05 04 45.2 -1.7**
comp=Z,112nm,0.6s,baz=123,slow=9.4,SNR=180
JHJ Hachijo jima 2 24.16 226 LR LR 05 17 48.5
comp=Z,6μm,18.4s,baz=78,slow=46
CN2 Changchun 24.55 264 *e*P **P 05 04 50.3 -2.9**
CN2 *es*P pP 05 05 03.8 -0.3
CN2 *e*S **S 05 09 06.5 -4.4**
CN2 pmax pmax
comp=Z,90nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,18μm,16.0s
CN2 LR LR
comp=Z,22μm,16.0s
HIA Hailar 25.56 280 *e*P **P 05 05 00.4 -1.9**
comp=Z,172nm,0.8s
HIA LR LR
comp=Z,34μm,18.0s
HIA Hailar 25.56 280*c i*P **P 05 04 59.8 -2.5**
HIA pmax pmax
comp=Z,1μm,0.8s
SII Sitkinak Islan 26.50 62 *e*P **P 05 05 11.9 +1.2**
comp=Z,310nm,0.8s
SII LR LR
comp=Z,11μm,20.0s
IMAR Indian Mountai 26.58 41 *e*P **P 05 05 11.6 +0.1**
BOD Bodaibo 26.65 300 *e*P **P 05 05 10.1 -2.0**
BOD pmax pmax
comp=Z,100nm,2.1s
RSO Redoubt South 26.78 54 *e*P **P 05 05 15.2 +1.7**
KSRS Korea Array 26.99 250 P **P 05 05 15.1 -0.2**
comp=Z,17nm,0.7s,baz=43,slow=9.3,SNR=45
KSRS PcP **PcP 05 08 37.1 +1.2**
comp=Z,2.3nm,0.6s,baz=343,slow=2.8,SNR=4.1
KSRS LR LR 05 17 00.7
comp=Z,18μm,18.0s,baz=58,slow=39
PPLA Purkeypile 27.00 48 *e*P **P 05 05 16.8 +1.4**
comp=Z,45nm,1.2s
PPLA LR LR
comp=Z,6μm,20.0s
KS15 Wonju Array Si 27.02 250 *e*P **P 05 05 17.1 +1.5**
comp=Z,44nm,1.1s
KS15 *e*PcP **PcP 05 08 37.1 +1.1**
CAST Castle Rocks 27.06 47 *e*P **P 05 05 16.7 +0.9**
comp=Z,38nm,1.1s
CAST LR LR
comp=Z,8μm,19.0s
SPU Mount Spurr 27.09 52 *e*P **P 05 05 17.1 +1.0**
KDAK Kodiak Island 27.15 59 *e*P **P 05 05 15.8 -0.8**
comp=Z,97nm,0.9s
KDAK LR LR
comp=Z,10μm,19.0s
KDAK Kodiak Island 27.15 59 *i*P **P 05 05 16.3 -0.3**
KDAK Kodiak Island 27.15 59 P **P 05 05 15.8 -0.8**
comp=Z,61nm,1.0s,baz=317,slow=3.8,SNR=25
BPAW Bear Paw Mtn. 27.57 46 *e*P **P 05 05 20.8 +0.5**
comp=Z,45nm,1.0s
BPAW LR LR
comp=Z,4μm,20.0s
MLY Manley 27.73 44 *e*P **P 05 05 22.3 +0.5**
comp=Z,28nm,1.0s
MLY LR LR
comp=Z,8μm,18.0s
BRLK Bradley Lake 27.77 55 *e*P **P 05 05 17.6 -4.5**
comp=Z,41nm,1.0s
TJN Taejon 28.06 249*c i*P **P 05 05 23.3 -1.6**
COLD Coldfoot 28.16 39 *e*P **P 05 05 27.7 +2.2**
comp=Z,12nm,0.9s
COLD LR LR
comp=Z,8μm,19.0s
RC01 Rabbit Creek A 28.22 52 *e*P **P 05 05 26.0 -0.1**
comp=Z,41nm,1.1s
RC01 LR LR
comp=Z,6μm,19.0s

BWN Browne 28.24 45 *e*P **P 05 05 28.6 +2.3**
comp=Z,218nm,1.2s
BWN LR LR
comp=Z,5μm,19.0s
CIT Chita 28.28 288 *e*P **P 05 05 24.8 -2.0**
CIT *e* 05 05 37.3
CIT *e* 05 06 19.5
CIT *e* 05 06 32.3
CIT pmax pmax
comp=Z,102nm,1.7s
SEW Seward 28.45 54 *e*P **P 05 05 28.1 0.0**
comp=Z,102nm,1.1s
SEW LR LR
comp=Z,7μm,20.0s
MCK McKinley 28.47 46 *e*P **P 05 05 28.4 +0.1**
MCK LR LR
comp=Z,7μm,18.0s
JNU Nakatsue 28.52 240 *e*P **P 05 05 28.4 -0.7**
comp=Z,114nm,0.9s
JNU LR LR
comp=Z,9μm,19.0s
JNU Nakatsue 28.52 240 P **P 05 05 29.3 +0.2**
comp=Z,85nm,0.8s,baz=62,slow=6.7,SNR=19
GHO Glory Hole Cre 28.55 50 *e*P **P 05 05 29.8 +0.6**
comp=Z,17nm,0.7s
GHO LR LR
comp=Z,5μm,20.0s
TOLK Toolik Lake Re 28.60 36 *e*P **P 05 05 29.5 0.0**
comp=Z,15nm,0.8s
TOLK LR LR
comp=Z,8μm,19.0s
TOLK Toolik Lake Re 28.60 36 P **P 05 05 29.5 0.0**
baz=261
MDM Murphy Dome 28.79 44 *e*P **P 05 05 31.7 +0.5**
comp=Z,24nm,1.0s
MDM LR LR
comp=Z,8μm,18.0s
KNK Knik Glacier 28.80 51 *e*P **P 05 05 31.1 -0.2**
comp=Z,64nm,1.1s
KNK LR LR
comp=Z,7μm,20.0s
SML Sawmill 28.83 50 *e*P **P 05 05 31.6 0.0**
comp=Z,151nm,1.2s
SML LR LR
comp=Z,5μm,20.0s
WRH Wood River Hil 28.84 45 *e*P **P 05 05 31.9 +0.3**
comp=Z,72nm,1.2s
WRH *e*PcP **PcP 05 08 39.9 -0.1**
WRH LR LR
comp=Z,6μm,19.0s
TCOL CIGO, UAF Yank 28.95 44 P **P 05 05 32.5 0.0**
baz=270
COLA College 28.95 44 *e*P **P 05 05 34.0 +1.5**
comp=Z,34nm,0.8s
COLA LR LR
comp=Z,8μm,18.0s
COLA College 28.95 44*ce*P **P 05 05 32.4 -0.1**
COLA pmax pmax
comp=Z,47nm,2.8s
CCB Clear Creek Bu 28.97 44 *e*P **P 05 05 32.8 +0.1**
CCB *e*PcP **PcP 05 08 37.5 -2.7**
CCB LR LR
comp=Z,7μm,18.0s
POKR Poker Plat Res 29.13 43 P **P 05 05 33.3 -0.9**
baz=270
DHY Denali Highway 29.20 48 *e*P **P 05 05 34.7 -0.2**
comp=Z,30nm,1.1s
DHY *e*PcP **PcP 05 08 42.7 +1.6**
DHY LR LR
comp=Z,5μm,18.0s
MIDW Midway 29.23 136 PFAKE 05 05 50.0 +15
MIDW LR LR
comp=Z,13μm,20.0s
SCM Sheep Creek Mo 29.30 50 *e*P **P 05 05 35.9 +0.1**
comp=Z,83nm,1.2s
SCM LR LR
comp=Z,5μm,20.0s
HDA Harding Lake 29.34 45 *e*P **P 05 05 35.4 -0.7**
comp=Z,14nm,0.7s
HDA LR LR
comp=Z,5μm,18.0s
HDA Harding Lake 29.34 45 P **P 05 05 35.1 -1.0**
baz=271
ILAR Eielson Array 29.36 44 *e*P **P 05 05 36.7 +0.5**
ILAR Eielson Array 29.36 44 P **P 05 05 35.7 -0.5**
comp=Z,6.3nm,0.8s,baz=256,slow=8.0,SNR=31
ILAR PcP **PcP 05 08 40.5 -0.7**
comp=Z,1.6nm,0.5s,baz=288,slow=3.0,SNR=7.4
ILAR LR LR 05 19 13.9
comp=Z,7μm,18.8s,baz=276,slow=40
ILB Eielson Array 29.36 44 *e*P **P 05 05 35.8 -0.4**
comp=Z,21nm,1.0s
ILB *e*PcP **PcP 05 08 40.5 -0.7**
GLI Glacier Island 29.52 52 *e*P **P 05 05 39.0 +1.3**
comp=Z,27nm,1.1s
GLI LR LR
comp=Z,5μm,20.0s
DL2 Dalian 29.75 259 P **P 05 05 39.9 0.0**
DL2 S **S 05 10 33.8 +0.8**
DL2 pmax pmax
comp=Z,77nm,0.8s
DL2 pmax pmax
comp=Z,2μm,10.8s
DL2 LR LR
comp=Z,9μm,14.5s
DL2 LR LR
comp=Z,12μm,17.6s
DL2 LR LR
comp=Z,15μm,22.0s
PRP Porcupine Dome 29.94 43 *e*P **P 05 05 41.5 0.0**
comp=Z,34nm,0.8s
PRP LR LR
comp=Z,4μm,19.0s
KLU Klutina 30.01 51 *e*P **P 05 05 43.4 +1.3**
comp=Z,45nm,1.2s
KLU LR LR
comp=Z,6μm,21.0s
FYU Fort Yukon 30.07 41 *e*P **P 05 05 42.6 +0.2**
comp=Z,40nm,0.8s
FYU LR LR
comp=Z,4μm,18.0s
PAX Paxson 30.07 48 *e*P **P 05 05 43.4 +0.8**
comp=Z,22nm,1.2s
PAX LR LR
comp=Z,7μm,20.0s
DIV Divide 30.13 51 *e*P **P 05 05 44.0 +1.0**
comp=Z,38nm,1.0s
DIV LR LR
comp=Z,6μm,21.0s
EYAK Cordova Ski Ar 30.22 53 *e*P **P 05 05 43.9 +0.1**
comp=Z,26nm,0.9s
EYAK LR LR
comp=Z,6μm,20.0s
HARP HAARP 30.27 49 *e*P **P 05 05 47.6 +3.3**
comp=Z,30nm,0.7s
HARP LR LR
comp=Z,4μm,20.0s
RIDG Independent Ri 30.29 46 *e*P **P 05 05 43.7 -0.8**
comp=Z,23nm,1.0s
RIDG LR LR
comp=Z,8μm,18.0s
DOT Dot Lake 30.65 46 *e*P **P 05 05 46.3 -1.3**
comp=Z,8.7nm,0.7s
DOT LR LR
comp=Z,6μm,19.0s
SCRK Sand Creek 30.66 46 *e*P **P 05 05 47.0 -0.8**
comp=Z,28nm,1.1s
SCRK LR LR
comp=Z,8μm,18.0s
HMT Hamilton 30.98 53 *e*P **P 05 05 54.8 +4.2**
comp=Z,75nm,1.2s
HMT LR LR
comp=Z,6μm,19.0s
CRQM Cirque 31.45 52 *e*P **P 05 05 56.3 +1.4**
TGL Tana Glacier 31.60 52 *e*P **P 05 05 57.3 +1.2**
comp=Z,38nm,1.0s
TGL LR LR
comp=Z,9μm,20.0s
BCAR Beaver Creek A 31.73 47 *e*P **P 05 05 57.0 -0.2**
BALM Baldy 31.79 51 *e*P **P 05 05 59.2 +1.5**
comp=Z,33nm,1.1s
BALM LR LR
comp=Z,5μm,20.0s
EGAK Eagle 31.81 44 *e*P **P 05 05 57.3 -0.6**
comp=Z,29nm,0.7s
EGAK LR LR
comp=Z,7μm,18.0s

CTGM Chitina Glacie 32.28 51 *e*P **P 05 06 03.0 +0.9**
comp=Z,43nm,1.2s
CTGM LR LR
comp=Z,7μm,20.0s
BJT Baijiatuau 32.39 266 *e*P **P 05 06 03.3 +0.2**
comp=Z,15nm,1.0s
BJT LR LR
comp=Z,14μm,20.0s
DAWY Dawson 32.66 45 *e*P **P 05 06 05.5 +0.2**
comp=Z,16nm,1.0s
DAWY LR LR
comp=Z,7μm,19.0s
H11N2 WAKE ISLAND Hy 32.86 168 T T 05 42 03.3
baz=355
H11N3 WAKE ISLAND Hy 32.87 168 T T 05 41 59.2
baz=355,slow=74
H11N1 WAKE ISLAND Hy 32.87 168 T T 05 42 00.7
baz=355,slow=74
PCA Pinnacle 32.99 52 *e*P **P 05 06 08.4 +0.2**
comp=Z,76nm,1.0s
PCA LR LR
comp=Z,7μm,20.0s
WAKE Wake Island 33.27 169 PFAKE 05 06 20.0 +9.1
WAKE LR LR
comp=Z,14μm,20.0s
BCPM Bancas Point 33.33 53 *e*P **P 05 06 11.3 +0.2**
comp=Z,48nm,0.8s
BCPM LR LR
comp=Z,6μm,19.0s
EPYK Eagle Plains 33.49 41 *e*P **P 05 06 12.8 +0.3**
comp=Z,33nm,0.9s
EPYK LR LR
comp=Z,5μm,18.0s
EPYK Eagle Plains 33.49 41 P **P 05 06 12.3 -0.2**
baz=277
IRK Irkutsk 33.54 293 *e*P **P 05 06 09.9 -3.2**
IRK *e* 05 07 32.6
ULN Ulaanbaatar 33.78 284 *e*P **P 05 06 13.8 -1.6**
comp=Z,20nm,0.9s
ULN LR LR
comp=Z,36μm,18.0s
ULN Ulaanbaatar 33.78 284⇓ *i*P **P 05 06 14.1 -1.3**
ULN pmax pmax
comp=Z,41nm,1.7s
ULN Ulaanbaatar 33.78 284 P **P 05 06 14.1 -1.3**
SNR=13
H11S1 WAKE ISLAND Hy 34.04 169 T T 05 42 59.9
baz=352,slow=76,SNR=26
H11S3 WAKE ISLAND Hy 34.05 169 T T 05 43 00.8
baz=352,slow=76,SNR=62
H11S2 WAKE ISLAND Hy 34.06 169 T T 05 43 01.1
baz=352,slow=76,SNR=79
TLY Talaya 34.12 292 *e*P **P 05 06 17.1 -1.1**
TLY LR LR
comp=Z,17μm,18.0s
TLY Talaya 34.12 292*de*P **P 05 06 16.2 -1.9**
TLY Talaya 34.12 292 P **P 05 06 16.5 -1.7**
SNR=20
TLY P **P 05 06 16.5 -1.7**
SNR=20
HYT Haines Junctio 34.14 51 *e*P **P 05 06 19.5 +1.2**
comp=Z,39nm,1.1s
SONA0 Songino Array 34.19 285 *e*P **P 05 06 17.3 -1.6**
SONA0 *e*PcP **PcP 05 08 56.1 +1.3**
SONM Songino Array 34.19 285 P **P 05 06 17.3 -1.6**
comp=Z,5.7nm,0.5s,baz=62,slow=7.6,SNR=22
SONM PcP **PcP 05 08 56.1 +1.3**
comp=Z,4.1nm,0.7s,baz=91,slow=2.2,SNR=2.7
SONM LR LR 05 21 46.5
comp=Z,44μm,18.2s,baz=64,slow=39
TIA Tai'an 34.22 259 P **P 05 06 17.8 -1.3**
TIA pmax pmax
comp=Z,38nm,0.8s
TIA pmax pmax
comp=Z,1μm,10.9s
TIA LR LR
comp=Z,7μm,15.2s
TIA LR LR
comp=Z,9μm,16.7s
TIA LR LR
comp=Z,2μm,16.7s
INK Inuvik 34.50 37 *e*P **P 05 06 21.5 +0.4**
comp=Z,19nm,0.8s
INK *e*PcP **PcP 05 08 56.0 +0.9**
INK LR LR
comp=Z,4μm,21.0s
INK Inuvik 34.50 37 P **P 05 06 21.6 +0.4**
comp=Z,6.4nm,0.5s,baz=290,slow=6.9,SNR=54
HHC Hu-ho-hao-te 34.73 271 *e*P **P 05 06 23.4 -0.2**
HHC S **S 05 11 47.8 -2.9**
HHC SS **SnSn 05 14 06.8 +0.6**
HHC pmax pmax
comp=Z,3μm,4.5s
HHC LR LR
comp=Z,8μm,12.5s
HHC LR LR
comp=Z,9μm,11.7s
HHC LR LR
comp=Z,10μm,13.4s
ZAK Zakamensk 34.87 290 *e*P **P 05 06 22.5 -2.2**
ZAK pmax pmax
comp=Z,43nm,0.9s
JOW Kunigami 34.89 236 *e*P **P 05 06 24.4 -0.6**
comp=Z,52nm,0.8s
JOW LR LR
comp=Z,3μm,21.0s
SSE Sheshan 35.42 249 PFAKE 05 06 40.0 +11
SSE LR LR
comp=Z,12μm,18.0s
WHY Whitehorse 35.43 50 *e*P **P 05 06 30.6 +1.2**
comp=Z,39nm,1.1s
WHY LR LR
comp=Z,4μm,20.0s
MOY Mondy 35.63 293 *e*P **P 05 06 29.9 -1.3**
MOY pmax pmax
comp=Z,79nm,1.9s
BTO Baotou 35.82 271 *e*P **P 05 06 30.5 -2.5**
BESE Bessie Mountai 36.07 54 *e*P **P 05 06 39.0 +4.1**
comp=Z,64nm,1.2s
BESE LR LR
comp=Z,4μm,18.0s
NJ2 Nanjing 36.07 252 *e*P **P 05 06 35.0 -0.1**
NJ2 S **S 05 12 15.8 +4.7**
NJ2 pmax pmax
comp=Z,42nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,6.4s
NJ2 LR LR
comp=Z,18μm,17.7s
NJ2 LR LR
comp=Z,11μm,14.7s
NJ2 LR LR
comp=Z,16μm,17.7s
TIY Taiyuan 36.11 266 *e*P **P 05 06 35.3 -0.1**
TIY S **S 05 12 13.6 +1.8**
TIY pmax pmax
comp=Z,30nm,0.7s
TIY LR LR
comp=Z,10μm,13.5s
TIY LR LR
comp=Z,10μm,14.2s
TIY LR LR
comp=Z,12μm,15.5s
JIS Juneau Island 36.40 54 *e*P **P 05 06 40.6 +3.1**
comp=Z,71nm,1.2s
JIS LR LR
comp=Z,3μm,20.0s
NRIK Noril'sk 36.66 325 P **P 05 06 38.5 -1.2**
comp=Z,29nm,0.7s,baz=86,slow=9.3,SNR=36
NRIK LR LR 05 22 19.5
comp=Z,14μm,21.2s,baz=74,slow=37
WRAK Wrangell Islan 38.11 56 PFAKE 05 07 00.0 +7.9
WRAK LR LR
comp=Z,4μm,18.0s
DLBC Dease Lake 38.49 52 *e*P **P 05 06 57.5 +2.1**
comp=Z,40nm,0.9s
DLBC LR LR
comp=Z,4μm,20.0s
DIB Dawson Inlet, 39.40 61 PFAKE 05 07 20.0 +17
DIB LR LR
comp=Z,4μm,19.0s
YOJ Yonaguni jima 39.56 240 PFAKE 05 07 20.0 +15
YOJ LR LR
comp=Z,8μm,21.0s
WHN Wuhan 39.82 255 P **P 05 07 07.1 +0.4**
WHN pmax pmax
comp=Z,100nm,1.0s

WHN				LR	LR	
	comp=Z,28μm,17.0s					
WHN				LR	LR	
	comp=Z,31μm,17.2s					
WHN				LR	LR	
	comp=Z,19μm,14.3s					
TATO	**Taipei**	**39.97**	**242**	PFAKE		05 07 20.0 +12
TATO				LR	LR	
	comp=Z,10μm,19.0s					
YHNB	**Yeheng**	**40.27**	**242**	PFAKE		05 07 20.0 +9.4
YHNB				LR	LR	
	comp=Z,11μm,19.0s					
GUMO	**Guam**	**40.48**	**203**	PFAKE		05 07 20.0 +7.8
GUMO				LR	LR	
	comp=Z,3μm,22.0s					
NACB	**Ninganchiao**	**40.55**	**241**	PFAKE		05 07 20.0 +7.2
NACB				LR	LR	
	comp=Z,7μm,20.0s					
XAN	**Xi'an**	**40.66**	**264**	P	P	05 07 21.3 +7.6
XAN				pP	sP	05 07 47.0 +17
XAN				S	**S**	**05 13 25.8 +5.2**
XAN				SS	**SnSn**	**05 16 28.8 -0.7**
XAN	**Xi'an**	**40.66**	**264**	PFAKE		05 07 30.0 +16
XAN				LR	LR	
	comp=Z,12μm,20.0s					
SSLB	**Suanglung**	**41.21**	**242**	*e*P	**P**	**05 07 20.7 +2.5**
	comp=Z,31nm,0.8s					
SSLB				LR	LR	
	comp=Z,9μm,19.0s					
YULB	**Yu-li**	**41.34**	**241**	*e*P	**P**	**05 07 20.4 +1.0**
	comp=Z,37nm,0.7s					
YULB				LR	LR	
	comp=Z,5μm,22.0s					
QZH	**Quanzhou**	**41.59**	**245⇑**	*i*P	**P**	**05 07 21.5 +0.2**
QZH				S	**S**	**05 13 36.0 +1.7**
QZH				LR	LR	
	comp=Z,5μm,21.3s					
QZH				LR	LR	
	comp=Z,5μm,17.5s					
QZH				LR	LR	
	comp=Z,5μm,19.9s					
TPUB	**Ta-pu**	**41.78**	**242**	*e*P	**P**	**05 07 23.4 +0.5**
	comp=Z,56nm,0.7s					
TPUB				LR	LR	
	comp=Z,7μm,19.0s					
TWG	**Pinlang**	**41.92**	**241**	*e*P	**P**	**05 07 24.7 +0.6**
	comp=Z,204nm,0.7s					
TWG				LR	LR	
	comp=Z,19μm,21.0s					
KNMB	**Chin-men Tao**	**42.08**	**245**	PFAKE		05 07 40.0 +15
KNMB				LR	LR	
	comp=Z,4μm,19.0s					
BBB	**Bella Bella**	**42.22**	**60**	PFAKE		05 07 40.0 +14
BBB				LR	LR	
	comp=Z,3μm,22.0s					
LZH	**Lanzhou**	**42.43**	**271**	*e*P	**P**	**05 07 27.1 -1.2**
LZH				pP	pP	05 07 36.6 -2.9
LZH				sP	pwP	05 07 40.4 -2.4
LZH				PP	**PP**	**05 09 12.6 +5.7**
LZH				*e*S	**S**	**05 13 50.0 +3.1**
LZH				SS	SS	05 16 45.0 -12
LZH				pmax	pmax	
	comp=Z,56nm,1.0s					
LZH				pmax	pmax	
	comp=Z,960nm,5.4s					
LZH				LR	LR	
	comp=Z,21μm,14.4s					
LZH				LR	LR	
	comp=Z,18μm,14.4s					
LZH				LR	LR	
	comp=Z,25μm,16.5s					
JOHN	**Johnston Islan**	**42.72**	**135**	PFAKE		05 07 40.0 +10
JOHN				LR	LR	
	comp=Z,13μm,18.0s					
GTA	**Gaotai**	**42.80**	**277**	⇑P	**P**	**05 07 29.9 -1.3**
GTA				pP	pP	05 07 35.8 -6.5
GTA				sP	pwP	05 07 39.0 -7.2
GTA				pmax	pmax	
	comp=Z,21nm,1.7s					
GTA				LR	LR	
	comp=Z,21μm,16.2s					
GTA				LR	LR	
	comp=Z,18μm,16.5s					
GTA				LR	LR	
	comp=Z,26μm,16.8s					
ENH	**Enshi**	**42.93**	**260**	*e*P	**P**	**05 07 31.6 -0.7**
	comp=Z,62nm,0.8s					
ENH				LR	LR	
	comp=Z,10μm,22.0s					
ZAA1	**Zalesovo Array**	**43.31**	**304**	*e*P	**P**	**05 07 32.6 -2.4**
ZAA1				*e*PcP	**PcP**	**05 09 24.1 +1.0**
ZAA0	**Zalesovo Array**	**43.32**	**304**	*e*P	**P**	**05 07 32.2 -2.8**
	comp=Z,18nm,0.8s					
ZAA0				LR	LR	
	comp=Z,18μm,18.0s					
ZALV	**Zalesovo Beam**	**43.32**	**304**	*e*P	**P**	**05 07 31.3 -3.7**
ZALV	**Zalesovo Beam**	**43.32**	**304**	P	**P**	**05 07 32.6 -2.5**
	comp=Z,16nm,0.7s,baz=55,slow=6.5,SNR=30					
ZALV				PcP	**PcP**	**05 09 24.1 +1.0**
	comp=Z,7.5nm,0.8s,baz=101,slow=7.5,SNR=3.0					
ZALV				LR	LR	05 27 07.3
	comp=Z,18μm,18.3s,baz=55,slow=38					
NVS	**Novosibirsk**	**43.68**	**305⇑**	*i*P	**P**	**05 07 36.4 -1.5**
NVS				*e*S	**S**	**05 14 01.3 -3.1**
NVS				pmax	pmax	
	comp=Z,206nm,1.1s					
NVS				pmax	pmax	
	comp=N,34nm,0.7s					
NVS				pmax	pmax	
	comp=E,63nm,0.7s					
NVS				smax	smax	
	comp=N,118nm,2.1s					
NVS				smax	smax	
	comp=E,9.0nm,0.8s					
YKW3	**Yellowknife Ar**	**43.70**	**42**	*e*P	**P**	**05 07 38.4 +0.4**
	comp=E,20nm,1.1s					
YKA	**Yellowknife Ar**	**43.74**	**42**	P	**P**	**05 07 38.6 +0.3**
	comp=E,8.5nm,0.8s,baz=299,slow=8.0,SNR=56					
YKB5	**Yellowknife Ar**	**43.74**	**42**	*e*P	**P**	**05 07 38.6 +0.3**
RES	**Resolute Bay**	**44.09**	**22**	*e*P	**P**	**05 07 41.5 +0.6**
	comp=E,18nm,0.8s					
RES				LR	LR	
	comp=Z,3μm,20.0s					
RES	**Resolute Bay**	**44.09**	**22**	P	**P**	**05 07 41.6 +0.6**
	comp=Z,14nm,0.7s,baz=310,slow=7.9,SNR=46					
RES				LR	LR	05 27 35.5
	comp=Z,2μm,20.0s,baz=312,slow=38					
DGZ	**Jazzator, Alta**	**44.13**	**297***c*	*i*P	**P**	**05 07 40.6 -1.2**
DGZ				pmax	pmax	
	comp=Z,48nm,0.9s					
PATS	**Pohnpei**	**45.29**	**183**	PFAKE		05 08 00.0 +8.9
PATS				LR	LR	
	comp=Z,6μm,21.0s					
KHLH	**Kahului Airpor**	**45.75**	**116**	PFAKE		05 08 10.0 +15
KHLH				LR	LR	
	comp=Z,6μm,18.0s					
HLK	**Haleakala**	**45.96**	**116**	PFAKE		05 08 10.0 +13
HLK				LR	LR	
	comp=Z,7μm,19.0s					
CD2	**Chengdu**	**45.98**	**265⇓**	*i*P	**P**	**05 07 56.8 +0.2**
CD2				pP	pP	05 08 03.3 -4.6
CD2				sP	pwP	05 08 10.5 -0.7
CD2				S	**S**	**05 14 35.0 -3.3**
CD2				sS	sS	05 14 57.0 -0.4
CD2				pmax	pmax	
	comp=Z,30nm,0.8s					
CD2				pmax	pmax	
	comp=Z,850nm,10.8s					
CD2				LR	LR	
	comp=Z,24μm,22.4s					
CD2				LR	LR	
	comp=Z,21μm,20.8s					
CD2				LR	LR	
	comp=Z,14μm,17.7s					
HKPS	**Hong Kong Po S**	**46.19**	**248**	PFAKE		05 08 10.0 +12
HKPS				LR	LR	
	comp=Z,10μm,18.0s					
LLLB	**Lilloet**	**46.37**	**59**	*e*P	**P**	**05 08 00.9 +1.5**
	comp=Z,18nm,1.0s					
LLLB				LR	LR	
	comp=Z,4μm,22.0s					
ZSN	**Zaisan**	**46.80**	**296**	*e*P	**P**	**05 08 05.8 +3.0**
ZSN				MLR	MLR	
	comp=Z,2μm,14.0s					
ZSN	**Zaisan**	**46.80**	**296**	*e*P	**P**	**05 08 05.8 +3.0**
	comp=Z,53nm,4.9s					
ZSN				*e*LR	LR	05 28 38.5
	comp=Z,2μm,13.7s					
HPAH	**Hawaii Prepara**	**46.85**	**116**	PFAKE		05 08 20.0 +17
HPAH				LR	LR	
	comp=Z,5μm,20.0s					
A04D	**Lummi Island**	**46.99**	**62**	P	**P**	**05 08 04.3 0.0**
	baz=305					
HUH	**Hualalai**	**47.05**	**117**	PFAKE		05 08 20.0 +15
HUH				LR	LR	
	comp=Z,6μm,20.0s					
KHLU	**Kahalu`u**	**47.09**	**117**	PFAKE		05 08 20.0 +15
KHLU				LR	LR	
	comp=Z,5μm,18.0s					
NLWA	**Neilton Lookou**	**47.12**	**64**	*e*P	**P**	**05 08 08.1 +2.8**
	comp=Z,54nm,1.1s					
NLWA				LR	LR	
	comp=Z,4μm,22.0s					
POHA	**Pohakuloa**	**47.16**	**116**	*e*P	**P**	**05 08 09.5 +3.3**
	comp=Z,134nm,1.0s					
POHA				LR	LR	
	comp=Z,5μm,20.0s					
HMH	**Humu'ula Sheep**	**47.31**	**116**	PFAKE		05 08 20.0 +13
HMH				LR	LR	
	comp=Z,7μm,20.0s					
MLOA	**Mauna Loa Obse**	**47.31**	**117**	PFAKE		05 08 20.0 +12
MLOA				LR	LR	
	comp=Z,7μm,19.0s					
MWH	**Moku'aweowe**	**47.34**	**117**	PFAKE		05 08 20.0 +12
MWH				LR	LR	
	comp=Z,6μm,20.0s					
WMQ	**Urumqi**	**47.34**	**290**	P	**P**	**05 08 06.8 -0.3**
WMQ				pP	pP	05 08 18.8 +0.3
WMQ				PcP	**PcP**	**05 09 35.5 -1.8**
WMQ				S	**S**	**05 14 57.4 -0.2**
WMQ				pmax	pmax	
	comp=Z,230nm,0.9s					
WMQ				pmax	pmax	
	comp=Z,8μm,8.3s					
WMQ				LR	LR	
	comp=Z,39μm,16.3s					
WMQ				LR	LR	
	comp=Z,60μm,16.3s					
WMQ				LR	LR	
	comp=Z,80μm,17.5s					
WMQ	**Urumqi**	**47.34**	**290**	*e*P	**P**	**05 08 06.9 -0.3**
	comp=Z,81nm,0.9s					
WMQ				LR	LR	
	comp=Z,23μm,18.0s					
GYA	**Guiyang**	**47.41**	**258⇑**	*i*P	**P**	**05 08 06.8 -1.1**
GYA				pP	pP	05 08 15.4 -3.8
GYA				PP	**PP**	**05 09 56.5 -2.8**
GYA				S	**S**	**05 14 53.8 -5.2**
GYA				pmax	pmax	
	comp=Z,60nm,1.0s					
GYA				pmax	pmax	
	comp=Z,230nm,7.3s					
GYA				LR	LR	
	comp=Z,5μm,16.8s					
GYA				LR	LR	
	comp=Z,10μm,15.2s					
GYA				LR	LR	
	comp=Z,10μm,19.3s					
MLH	**Mauna Loa**	**47.45**	**116**	PFAKE		05 08 20.0 +12
MLH				LR	LR	
	comp=Z,6μm,20.0s					
D03D	**Eldon**	**47.47**	**63**	P	**P**	**05 08 08.1 +0.1**
	baz=306					
AIN	**Ainahou**	**47.51**	**117**	PFAKE		05 08 20.0 +11
AIN				LR	LR	
	comp=Z,7μm,20.0s					
KHU	**Kahuku**	**47.52**	**117**	PFAKE		05 08 20.0 +11
KHU				LR	LR	
	comp=Z,6μm,20.0s					
UWE	**Uwekahuna**	**47.56**	**116**	PFAKE		05 08 20.0 +11
UWE				LR	LR	
	comp=Z,6μm,20.0s					
OBL	**Observatory Le**	**47.57**	**116**	PFAKE		05 08 20.0 +11
OBL				LR	LR	
	comp=Z,6μm,20.0s					
WRMHI	**West Rim**	**47.57**	**116**	PFAKE		05 08 20.0 +11
WRMHI				LR	LR	
	comp=Z,6μm,19.0s					
SBLHI	**Steaming Bluff**	**47.57**	**116**	PFAKE		05 08 20.0 +11
SBLHI				LR	LR	
	comp=Z,5μm,20.0s					
NPH	**North Pit**	**47.57**	**116**	PFAKE		05 08 20.0 +11
NPH				LR	LR	
	comp=Z,6μm,20.0s					
HATHI	**Halema'uma'u T**	**47.58**	**116**	PFAKE		05 08 20.0 +11
HATHI				LR	LR	
	comp=Z,6μm,20.0s					
BYL	**Byron's Ledge**	**47.59**	**116**	PFAKE		05 08 20.0 +11
BYL				LR	LR	
	comp=Z,5μm,22.0s					
B05A	**Bryant**	**47.59**	**62**	P	**P**	**05 08 09.5 +0.6**
	baz=306					
RIM	**Rim**	**47.59**	**116**	PFAKE		05 08 20.0 +11
RIM				LR	LR	
	comp=Z,6μm,18.0s					
SEM	**Semipalatinsk**	**47.59**	**301**	*e*P	**P**	**05 08 05.8 -3.3**
SEM				pmax	pmax	
	comp=Z,39nm,1.3s					
SEM				MLR	MLR	
	comp=Z,3μm,14.0s					
SEM	**Semipalatinsk**	**47.59**	**301**	*e*P	**P**	**05 08 05.8 -3.3**
	comp=Z,39nm,1.3s					
SEM				*e*LR	LR	05 29 40.7
	comp=Z,3μm,13.8s					
KKO	**Keanakako`i**	**47.59**	**116**	PFAKE		05 08 20.0 +11
KKO				LR	LR	
	comp=Z,5μm,20.0s					
PUH	**Pauahi**	**47.64**	**116**	PFAKE		05 08 20.0 +10
PUH				LR	LR	
	comp=Z,5μm,19.0s					
SMPP	**San Manuel, Pa**	**47.65**	**236**	*e*P	**P**	**05 08 09.1 -0.6**
HLP	**Hilina Pali**	**47.65**	**116**	PFAKE		05 08 20.0 +10
HLP				LR	LR	
	comp=Z,6μm,19.0s					
STCH	**Steam Cracks**	**47.68**	**116**	PFAKE		05 08 20.0 +10
STCH				LR	LR	
	comp=Z,6μm,18.0s					
NPOC	**North of Pu'u**	**47.68**	**116**	PFAKE		05 08 20.0 +10
NPOC				LR	LR	
	comp=Z,4μm,18.0s					
JCUZ	**Jacuzzi**	**47.70**	**116**	PFAKE		05 08 20.0 +10
JCUZ				LR	LR	
	comp=Z,5μm,19.0s					
KBS	**Kingsbay**	**47.74**	**352**	*e*P	**P**	**05 08 10.4 +0.7**
	comp=Z,93nm,0.9s					
KBS				LR	LR	
	comp=Z,6μm,19.0s					
KBS	**Kingsbay**	**47.74**	**352***c*	*i*P	**P**	**05 08 10.1 +0.5**
KBS				pmax	pmax	
	comp=Z,562nm,1.3s					
KBS	**Kingsbay**	**47.74**	**352**	*e*P	**P**	**05 08 10.6 +1.0**
B06A	**Marblemount**	**47.77**	**62**	PFAKE		05 08 20.0 +10
B06A				LR	LR	
	comp=Z,3μm,22.0s					
D04E	**Lakebay**	**47.85**	**64**	P	**P**	**05 08 11.7 +0.7**
	baz=306					
SPA0	**Spitsbergen Ar**	**47.99**	**351**	*e*P	**P**	**05 08 11.8 +0.2**
	comp=Z,232nm,1.0s					
SPA0	**Spitsbergen Ar**	**47.99**	**351**	*e*P	**P**	**05 08 12.0 +0.3**
SPITS	**Spitsbergen Ar**	**47.99**	**351**	P	**P**	**05 08 11.7 +0.1**
	comp=Z,55nm,0.5s,baz=61,slow=8.7,SNR=141					
SPITS				LR	LR	05 28 08.1
	comp=Z,6μm,20.6s,baz=25,slow=36					
PVCP	**Virac**	**48.13**	**230**	*e*P	**P**	**05 08 14.0 +0.6**
KURK	**Kurchatov**	**48.26**	**303**	*e*P	**P**	**05 08 12.0 -2.1**
	comp=Z,132nm,0.8s					
KURK				LR	LR	
	comp=Z,21μm,18.0s					
KURK	**Kurchatov**	**48.26**	**303***c*	*i*P	**P**	**05 08 11.9 -2.1**
KURK				pmax	pmax	
	comp=Z,143nm,0.8s					
KURK	**Kurchatov**	**48.26**	**303**	P	**P**	**05 08 12.0 -2.1**
	SNR=65					
KURK				P	**P**	**05 08 12.0 -2.1**
	SNR=65					
D05A	**Enumclaw**	**48.28**	**63**	*e*P	**P**	**05 08 17.4 +3.1**
	comp=Z,33nm,0.8s					
E04D	**Cinebar**	**48.34**	**64**	P	**P**	**05 08 14.6 -0.1**
	baz=307					
F04D	**Rainier, OR**	**48.37**	**65**	P	**P**	**05 08 16.1 +1.1**
	baz=307					
MK31	**Makanchi Array**	**48.61**	**296**	*e*P	**P**	**05 08 14.7 -2.2**
	comp=Z,19nm,0.6s					
MK31	**Makanchi Array**	**48.61**	**296**	*i*P	**P**	**05 08 14.4 -2.4**
MK31				pmax	pmax	
	comp=Z,19nm,0.6s					
MK32	**Makanchi Array**	**48.61**	**296**	*e*P	**P**	**05 08 14.7 -2.2**
MKAR	**Makanchi Array**	**48.61**	**296**	P	**P**	**05 08 14.7 -2.2**
	comp=Z,16nm,0.5s,baz=58,slow=7.1,SNR=71					
MKAR				LR	LR	05 30 07.8
	comp=Z,11μm,19.8s,baz=44,slow=38					
LON	**Longmire**	**48.64**	**64**	*e*P	**P**	**05 08 20.0 +2.9**
	comp=Z,11nm,1.1s					
LON				LR	LR	
	comp=Z,2μm,19.0s					
G03D	**McMinnville, O**	**48.76**	**66**	P	**P**	**05 08 18.0 +0.1**
	baz=308					
MAKZ	**Makanchi**	**48.77**	**297**	*e*P	**P**	**05 08 15.9 -2.2**
	comp=Z,42nm,0.8s					
MAKZ				LR	LR	
	comp=Z,14μm,19.0s					
MAKZ	**Makanchi**	**48.77**	**297**	P	**P**	**05 08 15.1 -3.0**
MAKZ				pmax	pmax	
	comp=Z,46nm,0.9s					
WPW	**White Pass**	**48.81**	**64**	*e*P	**P**	**05 08 22.1 +3.6**
LTY	**Liberty**	**48.96**	**62**	*e*P	**P**	**05 08 19.7 +0.1**
	comp=Z,20nm,1.0s					
LTY				LR	LR	
	comp=Z,4μm,22.0s					
B08A	**Colville Reser**	**49.02**	**61**	*e*P	**P**	**05 08 20.7 +0.7**
	comp=Z,54nm,1.1s					
B08A				LR	LR	
	comp=Z,3μm,21.0s					
I02D	**Swisshome**	**49.10**	**68**	P	**P**	**05 08 21.1 +0.5**
	baz=308					
COR	**Corvallis**	**49.12**	**67**	PFAKE		05 08 30.0 +9.3
COR				LR	LR	
	comp=Z,3μm,19.0s					
HSPB	**Hornsund (broa**	**49.12**	**350**	*e*P	**P**	**05 08 20.7 +0.4**
HSPB	**Hornsund (broa**	**49.12**	**350**	*e*P	**P**	**05 08 20.1 -0.2**
H04D	**Lebanon**	**49.47**	**66**	P	**P**	**05 08 23.5 +0.1**
	baz=306					
I03D	**Drain, OR**	**49.64**	**68**	P	**P**	**05 08 24.4 -0.3**
	baz=309					
J01E	**Myrtle Point**	**49.64**	**69**	P	**P**	**05 08 25.0 +0.3**
	baz=309					
H04A	**Detroit Lake**	**49.69**	**66**	*e*P	**P**	**05 08 28.9 +3.8**
	comp=Z,41nm,1.1s					
H04A				LR	LR	
	comp=Z,2μm,19.0s					
G05D	**Wamic, OR**	**49.83**	**65**	P	**P**	**05 08 26.8 +0.7**
	baz=308					
PLP	**Palo**	**49.87**	**228⇑**	*e*P	**P**	**05 08 26.6 -0.2**
C09A	**Chrisman Ranch**	**49.93**	**61**	*e*P	**P**	**05 08 27.5 +0.6**
C09A				LR	LR	
	comp=Z,3μm,18.0s					
D08A	**Wollman Farm,**	**50.03**	**62**	*e*P	**P**	**05 08 29.4 +1.8**
	comp=Z,9.2nm,1.1s					
D08A				LR	LR	
	comp=Z,3μm,18.0s					
K02D	**Willamette Mer**	**50.08**	**69**	P	**P**	**05 08 28.4 +0.2**
	baz=309					
HAWA	**Hanford**	**50.11**	**63**	*e*P	**P**	**05 08 29.6 +1.4**
	comp=Z,23nm,1.0s					
HAWA				LR	LR	
	comp=Z,3μm,22.0s					
I04A	**Tendick Farm,**	**50.11**	**67**	P	**P**	**05 08 28.0 -0.3**
	baz=309					
F07A	**Phinny Hill Vi**	**50.20**	**63**	*e*P	**P**	**05 08 32.4 +3.5**
	comp=Z,47nm,0.8s					
F07A				LR	LR	
	comp=Z,2μm,18.0s					
G06A	**Carlson Farm,**	**50.21**	**65**	PFAKE		05 08 40.0 +11
G06A				LR	LR	
	comp=Z,3μm,22.0s					
OTRP	**Odiongan**	**50.22**	**232**	*e*P	**P**	**05 08 31.2 +1.8**
NEW	**Newport**	**50.26**	**60**	*e*P	**P**	**05 08 29.8 +0.4**
	comp=Z,19nm,1.1s					
NEW				LR	LR	
	comp=Z,4μm,22.0s					
NEW	**Newport**	**50.26**	**60**	P	**P**	**05 08 29.4 -0.1**
	baz=308,SNR=6.4					
NEW	**Newport**	**50.26**	**60**	P	**P**	**05 08 29.4 -0.1**
	comp=Z,5.2nm,0.9s,baz=295,slow=6.6,SNR=7.8					
NEW				LR	LR	05 30 24.3
	comp=Z,1μm,18.6s,baz=306,slow=37					
E08A	**Dider Farm, El**	**50.30**	**62**	PFAKE		05 08 40.0 +10
E08A				LR	LR	
	comp=Z,3μm,21.0s					
I05D	**Terrebonne, OR**	**50.37**	**66**	P	**P**	**05 08 30.6 +0.2**
	baz=309					
L02E	**Cave Junction**	**50.45**	**69**	P	**P**	**05 08 30.4 -0.5**
	baz=310					
HUMO	**Hull Mountain**	**50.54**	**69**	*e*P	**P**	**05 08 35.0 +3.4**
	comp=Z,19nm,1.1s					
HUMO				LR	LR	
	comp=Z,2μm,22.0s					
SJMP	**San Jose**	**50.57**	**233**	*e*P	P	05 08 42.7 +11
J04D	**Umpqua Nationa**	**50.63**	**67**	P	**P**	**05 08 33.0 +0.5**
	baz=309,SNR=13					
KMI	**Kunming**	**50.77**	**261**	P	**P**	**05 08 33.4 -0.3**
KMI				pP	pP	05 08 45.4 +0.2
KMI				sP	sP	05 08 51.1 +1.1
KMI				S	**S**	**05 15 41.5 -4.9**
KMI				SS	**SS**	**05 19 14.8 -6.2**
KMI				pmax	pmax	
	comp=Z,27nm,2.0s					
KMI				pmax	pmax	
	comp=Z,1μm,12.7s					
KMI				LR	LR	
	comp=Z,13μm,20.9s					
KMI				LR	LR	
	comp=Z,12μm,19.3s					
KMI				LR	LR	
	comp=Z,8μm,22.0s					
KMI	**Kunming**	**50.77**	**261**	PFAKE		05 08 50.0 +16
KMI				LR	LR	
	comp=Z,9μm,22.0s					
E09A	**Wood Farm, Sta**	**50.79**	**62**	*e*P	**P**	**05 08 34.1 +0.7**
	comp=Z,67nm,1.1s					
E09A				LR	LR	
	comp=Z,3μm,22.0s					
BJO	**Bjornoya**	**50.88**	**347**	*e*P	**P**	**05 08 33.5 -0.1**
PINE	**Pine Mountain**	**50.94**	**66**	*e*P	**P**	**05 08 36.2 +1.4**
	comp=Z,34nm,1.1s					
PINE				LR	LR	
	comp=Z,2μm,20.0s					
BVAR	**Borovoye Array**	**50.99**	**309**	LR	LR	05 32 24.2
	comp=Z,444nm,19.5s,baz=5.5,slow=39					
KULLO	**Kullorsuaq**	**51.01**	**12⇑**	*i*P	**P**	**05 08 34.9 +0.3**
KULLO	**Kullorsuaq**	**51.01**	**12⇑**	*i*P	**P**	**05 08 34.9 +0.3**
BRVK	**Borovoye**	**51.02**	**309**	*e*P	**P**	**05 08 33.1 -2.0**
	comp=Z,77nm,0.7s					
BRVK				LR	LR	
	comp=Z,20μm,18.0s					
BRVK	**Borovoye**	**51.02**	**309⇑**	*i*P	**P**	**05 08 33.1 -2.0**
BRVK				pmax	pmax	
	comp=Z,76nm,0.7s					
BRVK	**Borovoye**	**51.02**	**309**	P	**P**	**05 08 33.0 -2.0**
	SNR=40					
BRVK				P	**P**	**05 08 33.0 -2.0**
	SNR=40					
J05D	**Fort Rock, OR**	**51.09**	**67**	P	**P**	**05 08 36.5 +0.6**
	baz=310,SNR=15					
G08A	**Pilot Rock**	**51.10**	**64**	*e*P	**P**	**05 08 37.1 +1.2**
	comp=Z,10nm,1.0s					
G08A				LR	LR	
	comp=Z,2μm,20.0s					
L04D	**Klamath Falls**	**51.16**	**69**	P	**P**	**05 08 36.7 +0.3**
	baz=310,SNR=11					
QIZ	**Qiongzhong**	**51.21**	**249**	P	**P**	**05 08 37.3 +0.5**
QIZ				S	**S**	**05 15 53.3 +1.1**
QIZ				sS	**sS**	**05 16 09.3 -2.3**
QIZ				pmax	pmax	
	comp=Z,1μm,5.1s					
QIZ				LR	LR	
	comp=Z,6μm,19.6s					
QIZ				LR	LR	
	comp=Z,5μm,13.7s					
QIZ				LR	LR	
	comp=Z,6μm,14.7s					
QIZ	**Qiongzhong**	**51.21**	**249**	*e*P	**P**	**05 08 40.0 +3.2**
	comp=Z,44nm,1.1s					
QIZ				LR	LR	
	comp=Z,6μm,18.0s					
K04D	**Chiloquin, OR**	**51.22**	**68**	P	**P**	**05 08 36.4 -0.4**
	baz=310					
YBH	**Yreka Blue Hor**	**51.24**	**69**	*e*P	**P**	**05 08 38.9 +1.9**
	comp=Z,43nm,1.0s					

YBH				LR	LR		
	comp=Z,3μm,18.0s						
YBH	**Yreka Blue Hor**	**51.24**	**69**	P	**P**	**05 08 38.9**	**+1.9**
	comp=Z,11nm,1.0s,baz=291,slow=4.4,SNR=16						
DAG	**Danmarks Havn**	**51.26**	**360⇑**	*i P*	**P**	**05 08 36.4**	**-0.1**
DAG				pmax	pmax		
	comp=Z,29nm,0.8s						
DAG	**Danmarks Havn**	**51.26**	**360⇑**	*i P*	**P**	**05 08 36.4**	**-0.1**
	comp=Z,39nm,0.8s						
M02C	**Callahan**	**51.38**	**70**	P	**P**	**05 08 37.7**	**-0.3**
	baz=310						
I07A	**Izee**	**51.56**	**65**	*e P*	**P**	**05 08 42.0**	**+2.6**
	comp=Z,17nm,1.0s						
I07A				LR	LR		
	comp=Z,2μm,19.0s						
F10A	**Beach Ranch, E**	**51.62**	**62**	*e P*	**P**	**05 08 40.5**	**+0.8**
F10A				LR	LR		
	comp=Z,3μm,22.0s						
K05A	**Summer Lake**	**51.64**	**67**	*e P*	**P**	**05 08 42.0**	**+1.9**
	comp=Z,48nm,1.0s						
K05A				LR	LR		
	comp=Z,3μm,18.0s						
M04C	**Macdoel**	**51.71**	**69**	P	**P**	**05 08 40.6**	**+0.1**
	baz=310						
N02D	**Trinity Center**	**51.73**	**70**	P	**P**	**05 08 40.8**	**+0.2**
	baz=310						
BSMT	**Bassoo Peak**	**51.75**	**59**	*e P*	**P**	**05 08 42.2**	**+1.4**
TARA	**Tarawa**	**51.81**	**164**	PFAKE		05 09 00.0	+19
TARA				LR	LR		
	comp=Z,5μm,18.0s						
TDK	**Taldyqorghan**	**51.85**	**297**	*e P*	**P**	**05 08 39.3**	**-2.0**
TDK				pmax	pmax		
	comp=Z,149nm,2.1s						
TDK				MLR	MLR		
	comp=Z,17μm,17.0s						
TDK	**Taldyqorghan**	**51.85**	**297**	*e P*	**P**	**05 08 39.4**	**-2.0**
	comp=Z,149nm,2.1s						
TDK				*e* LR	LR	05 31 29.2	
	comp=Z,17μm,16.5s						
WDC	**Whiskeytown Da**	**52.08**	**70**	*e P*	**P**	**05 08 45.8**	**+2.7**
	comp=Z,18nm,0.8s						
WDC				LR	LR		
	comp=Z,2μm,20.0s						
O02D	**Mt. Diablo Mer**	**52.20**	**71**	P	**P**	**05 08 44.3**	**+0.2**
	baz=311						
BMO	**Blue Mountains**	**52.29**	**63**	*e P*	**P**	**05 08 45.3**	**+0.6**
	comp=Z,16nm,1.1s						
PDGK	**Podgornoye**	**52.31**	**294**	P	**P**	**05 08 42.6**	**-2.4**
PDGK				pmax	pmax		
	comp=Z,31nm,0.9s						
SHLS	**Shalkode**	**52.44**	**294**	*e P*	**P**	**05 08 42.3**	**-3.6**
SHLS				pmax	pmax		
	comp=Z,63nm,1.7s						
SHLS				MLR	MLR		
	comp=Z,3μm,18.0s						
SHLS	**Shalkode**	**52.44**	**294**	*e P*	**P**	**05 08 42.4**	**-3.6**
	comp=Z,63nm,1.7s						
SHLS				*e* LR	LR	05 31 48.7	
	comp=Z,3μm,17.6s						
MOD	**Modoc Plateau**	**52.51**	**68**	*e P*	**P**	**05 08 47.6**	**+1.1**
	comp=Z,35nm,0.9s						
MOD				LR	LR		
	comp=Z,2μm,21.0s						
J08A	**Circle Bar Ran**	**52.60**	**65**	*e P*	**P**	**05 08 49.6**	**+2.6**
	comp=Z,11nm,1.0s						
KPKS	**Kokpek**	**52.68**	**295**	*e P*	**P**	**05 08 45.3**	**-2.3**
KPKS				pmax	pmax		
	comp=Z,16nm,1.0s						
KPKS				MLR	MLR		
	comp=Z,8μm,17.0s						
KPKS	**Kokpek**	**52.68**	**295**	*e P*	**P**	**05 08 45.4**	**-2.3**
	comp=Z,16nm,1.0s						
KPKS				*e* LR	LR	05 31 44.1	
	comp=Z,8μm,16.6s						
O03E	**Paynes Creek**	**52.69**	**70**	P	**P**	**05 08 48.3**	**+0.5**
	baz=311,SNR=17						
HOPS	**Hopland Field**	**52.81**	**72**	PFAKE		05 09 00.0	+11
HOPS				LR	LR		
	comp=Z,5μm,21.0s						
MSO	**Missoula**	**52.84**	**59**	*e P*	**P**	**05 08 49.4**	**+0.6**
	comp=Z,30nm,1.1s						
MSO				LR	LR		
	comp=Z,2μm,20.0s						
MSO	**Missoula**	**52.84**	**59**	P	**P**	**05 08 48.4**	**-0.4**
	baz=310,SNR=15						
PLID	**Pearl Lake**	**52.85**	**62**	*e P*	**P**	**05 08 50.0**	**+0.9**
	comp=Z,37nm,1.0s						
SLVN	**Son La**	**52.91**	**257**	*e P*	**P**	**05 08 49.9**	**+0.3**
	comp=Z,35nm,0.9s						
SLVN				LR	LR		
	comp=Z,8μm,20.0s						
SVE	**Sverdlovsk**	**52.96**	**317**	*e P*	**P**	**05 08 48.5**	**-0.9**
SVE				*e S*	**S**	**05 16 20.0**	**+4.7**
SVE				pmax	pmax		
	comp=Z,60nm,1.4s						
SVE				MLR	MLR		
	comp=Z,16μm,16.0s						
GDXM	**Geysers**	**53.09**	**72**	PFAKE		05 09 00.0	+9.3
GDXM				LR	LR		
	comp=Z,4μm,22.0s						
SATY	**Saty**	**53.09**	**295**	*ce P*	**P**	**05 08 48.8**	**-1.9**
SATY				pmax	pmax		
	comp=Z,100nm,2.9s						
SATY				MLR	MLR		
	comp=Z,4μm,15.0s						
SATY	**Saty**	**53.09**	**295⇑**	*e P*	**P**	**05 08 48.8**	**-1.9**
	comp=Z,100nm,2.9s						
SATY				*e* LR	LR	05 32 08.3	
	comp=Z,4μm,14.8s						
WVOR	**Wild Horse Val**	**53.10**	**66**	*e P*	**P**	**05 08 52.2**	**+1.4**
	comp=Z,26nm,1.1s						
WVOR				LR	LR		
	comp=Z,2μm,19.0s						
DAV	**Davao City (W)**	**53.24**	**225**	PFAKE		05 09 00.0	+8.1
DAV				LR	LR		
	comp=Z,3μm,20.0s						
ORV	**Oroville**	**53.35**	**71**	*e P*	**P**	**05 08 55.4**	**+2.9**
	comp=Z,37nm,1.1s						
ORV				LR	LR		
	comp=Z,2μm,22.0s						
MCCM	**Marconi Confer**	**53.48**	**73**	PFAKE		05 09 10.0	+17
MCCM				LR	LR		
	comp=Z,3μm,22.0s						
HAMF	**Hammerfest**	**53.52**	**343**	*e P*	**P**	**05 08 52.2**	**-1.1**
LVZ	**Lovozero**	**53.52**	**337**	*e P*	**P**	**05 08 52.5**	**-0.9**
	comp=Z,105nm,0.9s						
LVZ				LR	LR		
	comp=Z,5μm,19.0s						
LVZ	**Lovozero**	**53.52**	**337**	*c i P*	**P**	**05 08 52.3**	**-1.1**
LVZ				pmax	pmax		
	comp=Z,137nm,1.3s						
FFC	**Flin Flon**	**53.56**	**46**	*e P*	**P**	**05 08 54.1**	**+0.3**
	comp=Z,18nm,1.0s						
FFC				LR	LR		
	comp=Z,3μm,20.0s						
FFC	**Flin Flon**	**53.56**	**46**	*i P*	**P**	**05 08 54.6**	**+0.8**
KEV	**Kevo**	**53.66**	**342**	*e P*	**P**	**05 08 53.6**	**-0.7**
	comp=Z,28nm,0.7s						
KEV				LR	LR		
	comp=Z,3μm,20.0s						
KUU	**Kurty**	**53.70**	**297**	*i P*	**P**	**05 08 52.3**	**-2.7**
KUU				pmax	pmax		
	comp=Z,39nm,1.1s						
KUU				MLR	MLR		
	comp=Z,10μm,14.0s						
KUU	**Kurty**	**53.70**	**297**	*i P*	**P**	**05 08 52.4**	**-2.7**
	comp=Z,39nm,1.1s						
KUU				*e* LR	LR	05 32 42.3	
	comp=Z,10μm,14.3s						
MDOK	**Medeo**	**53.78**	**296**	*e P*	**P**	**05 08 52.5**	**-3.3**
MDOK				pmax	pmax		
	comp=Z,139nm,0.9s						
MDOK				MLR	MLR		
	comp=Z,10μm,18.0s						
MDOK	**Medeo**	**53.78**	**296**	*e P*	**P**	**05 08 52.5**	**-3.3**
	comp=Z,139nm,0.9s						
MDOK				*e* LR	LR	05 32 05.8	
	comp=Z,10μm,18.3s						
BEKR	**Beckworth**	**53.81**	**70**	*e P*	**P**	**05 08 57.3**	**+1.2**
	comp=Z,46nm,1.1s						
BEKR				LR	LR		
	comp=Z,2μm,19.0s						
AAA	**Alma-Ata**	**53.83**	**296**	*e P*	**P**	**05 08 53.9**	**-2.1**
AAA				pmax	pmax		
	comp=Z,100nm,2.8s						
AAA				MLR	MLR		
	comp=Z,10μm,18.0s						
AAA	**Alma-Ata**	**53.83**	**296**	*e P*	**P**	**05 08 54.0**	**-2.1**
	comp=Z,100nm,2.8s						
AAA				*e* LR	LR	05 32 11.2	
	comp=Z,10μm,17.8s						
HRY	**Holter Researc**	**54.02**	**58**	*e P*	**P**	**05 08 58.2**	**+0.7**
AFDM	**Forest Hills D**	**54.06**	**71**	*e P*	**P**	**05 08 59.4**	**+1.6**
	comp=Z,29nm,1.1s						
AFDM				LR	LR		
	comp=Z,3μm,20.0s						
APA	**Apatity**	**54.08**	**338⇓**	*i P*	**P**	**05 08 56.0**	**-1.4**
APA				*i S*	**S**	**05 16 26.0**	**-4.1**
APA				pmax	pmax		
	comp=Z,44nm,0.9s						
ARU	**Arti**	**54.09**	**318**	*e P*	**P**	**05 08 55.6**	**-2.0**
	comp=Z,43nm,0.5s						
ARU				LR	LR		
	comp=Z,10μm,18.0s						
ARU	**Arti**	**54.09**	**318**	*c i P*	**P**	**05 08 55.8**	**-1.8**
ARU						05 09 59.4	
ARU						05 10 55.0	
ARU				S	**S**	**05 16 30.2**	**-0.4**
ARU				SS	**SS**	**05 20 08.1**	**-3.6**
ARU				pmax	pmax		
	comp=Z,30nm,0.6s						
ARU				MLR	MLR		
	comp=Z,11μm,17.0s						
ARU	**Arti**	**54.09**	**318**	LR	LR	05 35 57.5	
	comp=Z,19μm,18.3s,baz=30,slow=40						
FCC	**Fort Churchill**	**54.10**	**38**	*e P*	**P**	**05 08 58.0**	**+0.3**
	comp=Z,29nm,0.8s						
FCC				LR	LR		
	comp=Z,4μm,21.0s						
ARCES	**ARCESS Array B**	**54.13**	**342**	*e P*	**P**	**05 08 57.1**	**-0.6**
ARCES	**ARCESS Array B**	**54.13**	**342**	*e P*	**P**	**05 08 57.2**	**-0.6**
ARCES	**ARCESS Array B**	**54.13**	**342**	P	**P**	**05 08 57.4**	**-0.4**
	comp=Z,52nm,0.8s,baz=40,slow=7.9,SNR=52						
ARCES				LR	LR	05 36 10.9	
	comp=Z,4μm,18.5s,baz=28,slow=41						
ARE0	**ARCESS Array S**	**54.13**	**342**	*e P*	**P**	**05 08 57.5**	**-0.3**
	comp=Z,3.8nm,0.9s						
ARE0				LR	LR		
	comp=Z,200nm,19.0s						
ARE0	**ARCESS Array S**	**54.13**	**342**	*e P*	**P**	**05 08 57.6**	**-0.2**
EGMT	**Eagleton**	**54.24**	**56**	*e P*	**P**	**05 08 59.6**	**+0.6**
	comp=Z,42nm,1.1s						
EGMT				LR	LR		
	comp=Z,3μm,20.0s						
EGMT	**Eagleton**	**54.24**	**56**	P	**P**	**05 08 58.3**	**-0.7**
	baz=311,SNR=11						
TARG	**Taragay, Kyrgy**	**54.30**	**294**	PFAKE		05 09 10.0	+10
TARG				LR	LR		
	comp=Z,8μm,18.0s						
KDJ	**Kajisay**	**54.39**	**295**	PFAKE		05 09 10.0	+10
KDJ				LR	LR		
	comp=Z,8μm,18.0s						
RUBR	**Rubicon Trail**	**54.47**	**70**	PFAKE		05 09 10.0	+9.1
RUBR				LR	LR		
	comp=Z,2μm,22.0s						
PAHR	**Pah Rah Range**	**54.48**	**69**	*e P*	**P**	**05 09 02.3**	**+1.4**
	comp=Z,35nm,1.0s						
PAHR				LR	LR		
	comp=Z,2μm,18.0s						
DLMT	**Dillon**	**54.50**	**60**	*e P*	**P**	**05 09 01.9**	**+0.9**
	comp=Z,13nm,1.0s						
LSA	**Lhasa**	**54.57**	**274**	*e P*	**P**	**05 09 02.4**	**+0.2**
	comp=Z,27nm,0.8s						
LSA				LR	LR		
	comp=Z,10μm,19.0s						
LSA	**Lhasa**	**54.57**	**274**	P	**P**	**05 09 02.3**	**+0.2**
VCNR	**Virginia City**	**54.60**	**70**	*e P*	**P**	**05 09 03.6**	**+1.7**
	comp=Z,57nm,1.2s						
VCNR				LR	LR		
	comp=Z,2μm,21.0s						
HLID	**Hailey**	**54.71**	**63**	*e P*	**P**	**05 09 03.3**	**+0.8**
	comp=Z,8.4nm,1.1s						
HLID				LR	LR		
	comp=Z,3μm,21.0s						
HLID	**Hailey**	**54.71**	**63**	P	**P**	**05 09 03.2**	**+0.6**
	baz=312,SNR=14						
MCMT	**McKenzie Canyo**	**54.72**	**61**	*e P*	**P**	**05 09 03.3**	**+0.6**
TKM2	**Tokmak 2**	**54.74**	**296**	P	**P**	**05 09 01.4**	**-1.5**
	SNR=19						
TKM2	**Tokmak 2**	**54.74**	**296**	P	**P**	**05 09 00.9**	**-2.0**
TKM2				pmax	pmax		
	comp=Z,19nm,0.9s						
PNTR	**Pine Nut**	**54.76**	**70**	*e P*	**P**	**05 09 04.8**	**+1.7**
	comp=Z,56nm,0.8s						
PNTR				LR	LR		
	comp=Z,2μm,21.0s						
SUMG	**Summit**	**54.80**	**7**	*e P*	**P**	**05 09 03.7**	**+0.6**
	comp=Z,99nm,0.9s						
SUMG				LR	LR		
	comp=Z,6μm,18.0s						
SUMG	**Summit**	**54.80**	**7⇑**	*i P*	**P**	**05 09 03.8**	**+0.7**
SUMG				pmax	pmax		
	comp=Z,240nm,1.0s						
SUMG	**Summit**	**54.80**	**7⇑**	*i P*	**P**	**05 09 03.8**	**+0.7**
	comp=Z,235nm,1.0s						
BOOM	**Boomskoye usch**	**54.84**	**296**	*e P*	**P**	**05 09 02.5**	**-1.0**
	comp=Z,29nm,0.9s						
BOOM				LR	LR		
	comp=Z,21μm,18.0s						
BOZ	**Bozeman (W)**	**54.86**	**59**	*e P*	**P**	**05 09 04.3**	**+0.7**
	comp=Z,21nm,1.0s						
BOZ				LR	LR		
	comp=Z,3μm,19.0s						
BOZ	**Bozeman (W)**	**54.86**	**59**	P	**P**	**05 09 03.5**	**-0.1**
	baz=312,SNR=29						
KTK1	**Kautokeino**	**55.00**	**343**	*e P*	**P**	**05 09 04.0**	**-0.1**
CMB	**Columbia Colle**	**55.02**	**71**	*e P*	**P**	**05 09 06.2**	**+1.5**
	comp=Z,34nm,1.1s						
CMB				LR	LR		
	comp=Z,3μm,22.0s						
YERR	**Yerington**	**55.04**	**70**	*e P*	**P**	**05 09 06.7**	**+1.6**
	comp=Z,69nm,1.1s						
YERR				LR	LR		
	comp=Z,2μm,19.0s						
USP	**Ospenovka**	**55.11**	**297**	P	**P**	**05 09 04.2**	**-1.2**
	SNR=25						
CHMS	**Chumysh**	**55.16**	**297**	P	**P**	**05 09 04.5**	**-1.1**
	SNR=9.9						
MANU	**Manus Island**	**55.17**	**196**	PFAKE		05 09 20.0	+14
MANU				LR	LR		
	comp=Z,4μm,20.0s						
TRO	**Tromso**	**55.21**	**345**	*e P*	**P**	**05 09 05.4**	**-0.1**
PRGR	**Permogore**	**55.21**	**328⇑**	*i P*	**P**	**05 09 05.3**	**-0.4**
PRGR				*e* *PP	**pP**	**05 09 17.5**	**+0.3**
PRGR				*e*		05 10 00.9	
PRGR				*e S*	**S**	**05 16 43.0**	**-2.5**
PRGR				pmax	pmax		
	comp=Z,72nm,0.6s						
BMN	**Battle Mountai**	**55.23**	**67**	*e P*	**P**	**05 09 08.2**	**+1.8**
	comp=Z,33nm,0.9s						
BMN				LR	LR		
	comp=Z,2μm,18.0s						
WAKR	**Walker**	**55.25**	**70**	*e P*	**P**	**05 09 08.5**	**+1.9**
	comp=Z,81nm,1.1s						
WAKR				LR	LR		
	comp=Z,3μm,22.0s						
KBK	**Karagaybulak**	**55.27**	**297**	P	**P**	**05 09 05.4**	**-1.3**
	SNR=19						
FRU1	**Bishkek**	**55.35**	**297**	*e P*	**P**	**05 09 06.5**	**-0.6**
	comp=Z,50nm,0.7s						
FRU1				LR	LR		
	comp=Z,17μm,18.0s						
QLMT	**Earthquake Lak**	**55.47**	**60**	*e P*	**P**	**05 09 09.6**	**+1.4**
NRN	**Naryn**	**55.51**	**295**	*e P*	**P**	**05 09 07.2**	**-1.3**
	comp=Z,8.8nm,0.8s						
NRN				LR	LR		
	comp=Z,11μm,20.0s						
AAK	**Ala-Archa**	**55.54**	**297**	P	**P**	**05 09 07.3**	**-1.3**
	SNR=22						
AAK	**Ala-Archa**	**55.54**	**297**	*e P*	**P**	**05 09 07.2**	**-1.3**
	comp=Z,30nm,0.8s						
AAK				LR	LR		
	comp=Z,13μm,18.0s						
AAK	**Ala-Archa**	**55.54**	**297**	P	**P**	**05 09 06.5**	**-2.0**
AAK				pmax	pmax		
	comp=Z,33nm,0.9s						
AAK	**Ala-Archa**	**55.54**	**297**	LR	LR	05 34 21.1	
	comp=Z,11μm,19.4s,baz=42,slow=38						
TMCR	**Tamitsa**	**55.58**	**333**	*e P*	**P**	**05 09 08.1**	**-0.2**
TMCR				pmax	pmax		
	comp=Z,330nm,1.0s						
YHB	**Horse Butte**	**55.65**	**60**	*e P*	**P**	**05 09 10.9**	**+1.5**
	comp=Z,54nm,1.1s						
KVN	**Kaiserville**	**55.65**	**69**	*e P*	**P**	**05 09 10.8**	**+1.3**
	comp=Z,62nm,1.1s						
RYN	**Ryan**	**55.70**	**70**	*e P*	**P**	**05 09 11.3**	**+1.6**
	comp=Z,51nm,1.0s						
RYN				LR	LR		
	comp=Z,2μm,20.0s						
PANO	**Nakornpanom**	**55.73**	**253**	P	**P**	**05 09 11.3**	**+1.3**
	comp=Z,2.2nm,1.0s						
GCMT	**Greycliff**	**55.76**	**58**	*e P*	**P**	**05 09 11.6**	**+1.5**
UCH	**Uchtor**	**55.80**	**296**	P	**P**	**05 09 09.5**	**-1.3**
	SNR=12						
YHH	**Holmes Hill**	**55.81**	**59**	*e P*	**P**	**05 09 12.0**	**+1.3**
	comp=Z,19nm,0.9s						
YMR	**Madison River**	**55.83**	**60**	*e P*	**P**	**05 09 12.3**	**+1.6**
	comp=Z,44nm,1.2s						
EKS2	**Erkin-Say**	**55.91**	**297**	P	**P**	**05 09 10.1**	**-1.1**
	SNR=25						
YNR	**Norris Junctio**	**55.95**	**59**	*e P*	**P**	**05 09 14.2**	**+2.6**
	comp=Z,16nm,0.9s						
NV01	**Mina Array Sit**	**55.96**	**70**	*e P*	**P**	**05 09 12.9**	**+1.3**
NVAR	**Mina Array Bea**	**55.96**	**70**	P	**P**	**05 09 12.9**	**+1.3**
	comp=Z,9.9nm,0.8s,baz=293,slow=7.6,SNR=38						
NVAR				LR	LR	05 30 26.8	
	comp=Z,1μm,20.4s,baz=303,slow=33						
NV11	**Mina Array Sit**	**56.04**	**70**	*e P*	**P**	**05 09 13.8**	**+1.7**
	comp=Z,2.4nm,1.1s						
NV11				LR	LR		
	comp=Z,200nm,22.0s						
YFT	**Old Faithful**	**56.04**	**60**	*e P*	**P**	**05 09 15.0**	**+2.8**
	comp=Z,41nm,1.1s						
MDPB	**Devils Postpil**	**56.05**	**71**	*e P*	**P**	**05 09 14.2**	**+1.7**
	comp=Z,56nm,1.2s						
MDPB				LR	LR		
	comp=Z,3μm,22.0s						
OMMB	**Old Mammoth Mi**	**56.11**	**71**	*e P*	**P**	**05 09 15.1**	**+2.2**
	comp=Z,34nm,1.1s						
OMMB				LR	LR		
	comp=Z,4μm,22.0s						
ELK	**Elko**	**56.13**	**66**	*e P*	**P**	**05 09 14.3**	**+1.4**
	comp=Z,21nm,0.8s						
ELK				LR	LR		
	comp=Z,2μm,18.0s						
KIRV	**Kirov**	**56.13**	**324**	LR	LR	05 36 30.9	
	comp=Z,18μm,18.6s,baz=29,slow=40						
YPP	**Pitchstone Pla**	**56.18**	**60**	*e P*	**P**	**05 09 15.6**	**+2.3**
	comp=Z,14nm,0.9s						
MLAC	**Mammoth, Mammo**	**56.19**	**71**	P	**P**	**05 09 14.2**	**+0.8**
	baz=313						
LKWY	**Lake**	**56.20**	**59**	*e P*	**P**	**05 09 16.1**	**+2.7**
	comp=Z,25nm,1.0s						
LKWY				LR	LR		
	comp=Z,4μm,19.0s						
H17A	**Grant Village**	**56.22**	**60**	*e P*	**P**	**05 09 16.4**	**+2.9**
	comp=Z,42nm,1.1s						
H17A				LR	LR		
	comp=Z,3μm,19.0s						
H17A	**Grant Village**	**56.22**	**60**	P	**P**	**05 09 13.7**	**+0.2**
	baz=313,SNR=21						
SKNT	**Sakolnakorn**	**56.24**	**253**	P	**P**	**05 09 14.4**	**+0.8**
	comp=Z,107nm,0.8s						
AML	**Almayashu**	**56.31**	**297**	P	**P**	**05 09 13.8**	**-0.6**
	SNR=9.2						
IMW	**Indian Meadow**	**56.36**	**60**	*e P*	**P**	**05 09 16.2**	**+1.6**
	comp=Z,28nm,1.0s						
IMW				LR	LR		
	comp=Z,2μm,19.0s						
FLWY	**Flagg Ranch**	**56.36**	**60**	*e P*	**P**	**05 09 16.6**	**+2.1**
	comp=Z,45nm,1.1s						
RLMT	**Red Lodge**	**56.42**	**58**	*e P*	**P**	**05 09 16.1**	**+1.2**
	comp=Z,63nm,1.0s						
RLMT				LR	LR		
	comp=Z,2μm,22.0s						
RLMT	**Red Lodge**	**56.42**	**58**	P	**P**	**05 09 14.8**	**-0.1**
	baz=313,SNR=31						
FXWY	**Fox Creek**	**56.49**	**61**	*e P*	**P**	**05 09 16.4**	**+1.0**
	comp=Z,13nm,0.8s						
MOOW	**Moose Ponds**	**56.56**	**60**	*e P*	**P**	**05 09 17.3**	**+1.4**
	comp=Z,9.8nm,0.9s						
MOOW				LR	LR		
	comp=Z,2μm,20.0s						
TPAW	**Teton Pass**	**56.63**	**61**	*e P*	**P**	**05 09 18.5**	**+2.0**
	comp=Z,11nm,0.8s						
RABL	**Rabaul**	**56.63**	**190**	PFAKE		05 09 30.0	+14
RABL				LR	LR		
	comp=Z,4μm,21.0s						
ILULI	**Ilulissat**	**56.70**	**13**	*e P*	**P**	**05 09 15.9**	**-0.3**
	comp=Z,45nm,0.7s						
ILULI				LR	LR		
	comp=Z,4μm,20.0s						
ILULI	**Ilulissat**	**56.70**	**13⇑**	*i P*	**P**	**05 09 15.9**	**-0.3**
ILULI	**Ilulissat**	**56.70**	**13⇑**	*i P*	**P**	**05 09 15.9**	**-0.3**
DGMT	**Dagmar**	**56.71**	**52**	*e P*	**P**	**05 09 18.8**	**+2.2**
	comp=Z,44nm,1.0s						
DGMT				LR	LR		
	comp=Z,3μm,21.0s						
DGMT	**Dagmar**	**56.71**	**52**	P	**P**	**05 09 17.0**	**+0.3**
	baz=313						
LOHW	**Long Hollow**	**56.73**	**60**	*e P*	**P**	**05 09 17.9**	**+0.8**
	comp=Z,21nm,1.0s						
LOHW				LR	LR		
	comp=Z,2μm,19.0s						
SNOW	**Snow King Moun**	**56.75**	**61**	*e P*	**P**	**05 09 19.5**	**+2.2**
	comp=Z,23nm,1.1s						
REDW	**Red Top Meadow**	**56.77**	**61**	*e P*	**P**	**05 09 19.4**	**+2.0**
	comp=Z,36nm,1.1s						
VOG	**Valley Oaks Go**	**56.77**	**72**	P	**P**	**05 09 17.8**	**+0.6**
	baz=314						
HVU	**Hansel Valley**	**56.80**	**63**	*e P*	**P**	**05 09 19.5**	**+1.9**
	comp=Z,53nm,1.1s						
KSH	**Kashi**	**56.82**	**293**	P	**P**	**05 09 20.3**	**+2.6**
KSH				pP	pP	05 09 29.1	-0.2
KSH				PP	**PP**	**05 11 28.4**	**+4.5**
KSH				S	**S**	**05 17 08.8**	**+1.1**
KSH				SS	**SS**	**05 20 58.8**	**+3.2**
KSH				pmax	pmax		
	comp=Z,31nm,0.8s						
KSH				pmax	pmax		
	comp=Z,3μm,9.2s						
KSH				LR	LR		
	comp=Z,2μm,8.4s						
KSH				LR	LR		
	comp=Z,1μm,10.2s						
KSH				LR	LR		
	comp=Z,4μm,10.1s						
PAYA	**Payao**	**56.84**	**259**	P	**P**	**05 09 19.0**	**+1.1**
	comp=Z,182μm,0.7s						
LAO	**LASA Array**	**56.92**	**55**	*e P*	**P**	**05 09 19.8**	**+1.6**
	comp=Z,57nm,1.1s						
LAO				LR	LR		
	comp=Z,4μm,18.0s						
LAO	**LASA Array**	**56.92**	**55**	P	**P**	**05 09 18.2**	**0.0**
	baz=313,SNR=14						
TIN	**Tinemaha, Big**	**56.94**	**71**	P	**P**	**05 09 19.3**	**+0.8**
	baz=314						
AHID	**Auburn Hatcher**	**57.04**	**61**	*e P*	**P**	**05 09 20.9**	**+1.6**
	comp=Z,41nm,0.9s						
SHL	**Shillong**	**57.09**	**270**	*e P*	**P**	**05 09 18.8**	**-1.0**
	comp=Z,25nm,0.7s						
SHL				LR	LR		
	comp=Z,9μm,18.0s						
SHL	**Shillong**	**57.09**	**270**	*e P*	**P**	**05 09 18.9**	**-1.0**
SHL				IAMs_20	IAMs_20	05 32 15.8	
	comp=Z,6μm,4.4s						
SMMC	**Simmler**	**57.10**	**73**	P	**P**	**05 09 20.8**	**+1.2**
	baz=314						
BGU	**Big Grassy Mou**	**57.24**	**64**	*e P*	**P**	**05 09 22.3**	**+1.7**
	comp=Z,11nm,0.9s						
ARSB	**Arslanbob**	**57.25**	**297**	*e P*	**P**	**05 09 19.2**	**-1.5**
	comp=Z,25nm,0.8s						
VES	**Vestal, Richgr**	**57.27**	**72**	P	**P**	**05 09 20.8**	**+0.1**
	baz=314						
PHRA	**Phrae**	**57.29**	**258**	P	**P**	**05 09 22.1**	**+1.0**
	comp=Z,15nm,1.0s						
SPUT	**South Promonto**	**57.30**	**63**	*e P*	**P**	**05 09 23.3**	**+2.2**
	comp=Z,49nm,1.1s						
STEI	**Steigen**	**57.34**	**345**	*e P*	**P**	**05 09 20.6**	**-0.1**
KK31	**Karatay Array**	**57.38**	**300**	*

	baz=314						
PKM	Mcpherson Peak	57.51	74	P		P	05 09 22.5 -0.1
	baz=314						
R11A	Troy Canyon, C	57.57	68	eP		P	05 09 24.3 +1.2
	comp=Z,30nm,1.0s						
R11A	Troy Canyon, C	57.57	68	P		P	05 09 23.6 +0.6
	baz=314,SNR=40						
SCO	Scoresbysund	57.58	1	PFAKE			05 09 30.0 +7.6
SCO				LR		LR	
	comp=Z,4µm,18.0s						
HWUT	Hardware Ranch	57.58	63	eP		P	05 09 24.9 +1.8
	comp=Z,24nm,1.0s						
LAMP	Lampang	57.63	258	P		P	05 09 24.3 +0.8
	comp=Z,121µm,0.7s,comp=Z,944µm						
DLV	T Lat	57.67	245	eP		P	05 09 26.7 +2.7
	comp=Z,18nm,0.9s						
DLV				LR		LR	
	comp=Z,4µm,20.0s						
UTTA	Uttaradit	57.68	257	P		P	05 09 24.6 +0.8
	comp=Z,99µm,0.8s						
KLMR	Klimovskoe	57.73	330	eP		P	05 09 22.3 -1.3
KLMR				pmax		pmax	
	comp=Z,133nm,1.1s						
ISA	Isabella, Lake	57.76	72	eP		P	05 09 27.2 +2.9
	comp=Z,22nm,1.0s						
CMMT	Chiang Mai	57.82	259	P		P	05 09 25.2 +0.4
	comp=Z,49nm,0.9s,comp=Z,946nm						
CHTO	Chiang Mai	57.82	259	eP		P	05 09 25.3 +0.5
	comp=Z,62nm,0.8s						
CHTO				LR		LR	
	comp=Z,6µm,20.0s						
CHTO	Chiang Mai	57.82	259	P		P	05 09 25.4 +0.5
	SNR=16						
CHTO				P		P	05 09 25.4 +0.5
	SNR=16						
JBG	Jabagly	57.83	299	eP		P	05 09 22.7 -2.1
JBG				pmax		pmax	
	comp=Z,68nm,2.4s						
JBG				MLR		MLR	
	comp=Z,2µm,14.0s						
DAC	Darwin (Calif)	57.84	71	eP		P	05 09 29.9 +4.9
	comp=Z,21nm,1.0s						
DAC				LR		LR	
	comp=Z,2µm,21.0s						
DUG	Dugway, Tooele	57.86	65	eP		P	05 09 26.4 +1.3
	comp=Z,27nm,1.0s						
DUG	Dugway, Tooele	57.86	65	P		P	05 09 26.0 +1.0
	baz=314,SNR=19						
BW06	Boulder Array	57.87	60	eP		P	05 09 26.2 +1.0
	comp=Z,46nm,1.1s						
BW06				LR		LR	
	comp=Z,2µm,22.0s						
BW06	Boulder Array	57.87	60	P		P	05 09 25.6 +0.4
	baz=314,SNR=33						
PD31	Pinedale Array	57.87	60	eP		P	05 09 26.3 +1.1
	comp=Z,43nm,1.1s						
PDAR	Pinedale Array	57.87	60	P		P	05 09 26.1 +1.0
	comp=Z,19nm,0.8s,baz=325,slow=2.3,SNR=61						
PDAR				LR		LR	05 31 28.7
	comp=Z,2µm,22.0s,baz=338,slow=33						
SBC	Santa Barbara	57.88	74	P		P	05 09 26.4 +1.4
	baz=315						
ARVC	Arvin	57.92	73	P		P	05 09 25.5 +0.2
	baz=314						
TCUT	Toone Canyon	58.00	63	eP		P	05 09 28.4 +2.3
	comp=Z,30nm,0.9s						
MPMC	Manual Prospec	58.06	71	P		P	05 09 27.1 +0.6
	baz=314,SNR=41						
CM31	Chiang Mai Arr	58.09	259	eP		P	05 09 28.1 +1.4
	comp=Z,50nm,0.8s						
CM31	Chiang Mai Arr	58.09	259	P		P	05 09 27.6 +0.8
	SNR=13						
CMAR	Chiang Mai Arr	58.09	259	P		P	05 09 27.5 +0.8
	comp=Z,30nm,0.7s,baz=27,slow=7.0,SNR=73						
CMAR				LR		LR	05 37 00.2
	comp=Z,6µm,20.0s,baz=55,slow=39						
CTU	Camp Tracy	58.10	64	eP		P	05 09 28.9 +2.1
	comp=Z,32nm,1.1s						
FURC	Furnace Creek,	58.13	70	P		P	05 09 28.0 +1.2
	baz=314,SNR=25						
TPNV	Topopah Spring	58.16	70	eP		P	05 09 28.3 +1.1
	comp=Z,60nm,1.1s						
TPNV				LR		LR	
	comp=Z,3µm,22.0s						
TPNV	Topopah Spring	58.16	70	P		P	05 09 27.6 +0.4
	baz=314,SNR=46						
TNTI	Ternate	58.20	220	PFAKE			05 09 40.0 +13
TNTI				LR		LR	
	comp=Z,1µm,21.0s						
SCZ2	Santa Cruz Isl	58.23	74	P		P	05 09 27.9 +0.3
	baz=315						
CHAI	Chaiyaphum	58.26	254	P		P	05 09 28.6 +0.7
	comp=Z,65µm,0.9s,comp=Z,764µm						
IUG	Iuzhnay	58.29	299	*c iP*		P	05 09 26.4 -1.6
IUG				pmax		pmax	
	comp=Z,36nm,1.0s						
IUG				MLR		MLR	
	comp=Z,3µm,16.0s						
IUG	Iuzhnay	58.29	299	⇑ *iP*		P	05 09 26.5 -1.6
	comp=Z,36nm,1.0s						
IUG				*e*LR		LR	05 35 25.4
	comp=Z,3µm,15.7s						
JLU	Jordanelle	58.33	63	eP		P	05 09 29.8 +1.3
	comp=Z,13nm,1.1s						
OSI	Osito Audit: C	58.34	73	PFAKE			05 09 40.0 +12
OSI				LR		LR	
	comp=Z,2µm,20.0s						
OSI	Osito Audit: C	58.34	73	P		P	05 09 28.9 +0.6
	baz=315						
PBKT	Sadao Pong	58.34	256	P		P	05 09 29.6 +1.2
	comp=Z,17nm,2.2s						
LRMC	Laurel Mtn Rad	58.35	72	P		P	05 09 27.9 -0.6
	baz=315						
CHM	Chimkent	58.41	299	eP		P	05 09 27.5 -1.1
CHM				pmax		pmax	
	comp=Z,20nm,0.9s						
CHM				MLR		MLR	
	comp=Z,2µm,16.0s						
CHM	Chimkent	58.41	299	eP		P	05 09 27.5 -1.1
	comp=Z,20nm,0.8s						
CHM				*e*LR		LR	05 35 21.2
	comp=Z,2µm,15.5s						
AB31	Akbulak array	58.42	311	P		P	05 09 26.2 -2.4
AB31				pmax		pmax	
	comp=Z,39nm,0.8s						
ABKAR	Akbulak array	58.42	311	eP		P	05 09 26.8 -1.8
	comp=Z,46nm,0.8s						
PSUT	Pine Spring	58.42	67	eP		P	05 09 30.5 +1.5
	comp=Z,12nm,0.9s						
NLU	North Lily Min	58.44	64	eP		P	05 09 30.8 +1.6
	comp=Z,22nm,1.0s						
AKTO	Aktyubinsk	58.47	313	LR		LR	05 37 21.0
	comp=Z,12µm,19.1s,baz=32,slow=39						
BLG	Laguna Peak, P	58.49	74	P		P	05 09 29.8 +0.4
	baz=315						
EDW2	Edwards Air Fo	58.58	72	P		P	05 09 30.4 +0.3
	baz=315,SNR=13						
MPU	Maple Canyon	58.64	64	eP		P	05 09 32.2 +1.7
	comp=Z,51nm,1.2s						
DECC	Green Verdugo	58.82	73	P		P	05 09 31.2 -0.5
	baz=315						
SNCC	San Nicolas Is	58.82	75	P		P	05 09 32.0 +0.4
	baz=315						
SFJD	Kangerlussuaq	58.83	14	PFAKE			05 09 40.0 +8.9
SFJD				LR		LR	
	comp=Z,5µm,21.0s						
SFJD	Kangerlussuaq	58.83	14	⇑ *iP*		P	05 09 30.9 -0.2
SFJD	Kangerlussuaq	58.83	14	⇑ *iP*		P	05 09 30.9 -0.2
SHOC	Shoshone, Teco	58.87	70	P		P	05 09 32.5 +0.5
	baz=315,SNR=6.5						
ODAN	Odare	58.91	275	eP		P	05 09 32.5 -0.1
	comp=Z,79nm,0.8s						
PASC	Pasadena Art C	58.97	73	eP		P	05 09 36.0 +3.4
	comp=Z,34nm,0.9s						
GSC	Goldstone, Bar	58.98	71	eP		P	05 09 34.0 +1.2
	comp=Z,55nm,1.1s						
GSC	Goldstone, Bar	58.98	71	P		P	05 09 33.3 +0.5
	baz=315,SNR=12						
KONS	Konsvik	58.98	345	eP		P	05 09 32.5 +0.3
MWC	Mount Wilson	59.00	73	eP		P	05 09 34.2 +1.1
	comp=Z,31nm,0.9s						
JIRN	Jiri	59.06	276	eP		P	05 09 33.0 -0.9
	comp=Z,174nm,0.7s						
SHPR	Sheep Range	59.09	69	eP		P	05 09 35.2 +1.6
	comp=Z,21nm,1.2s						
SHPR				LR		LR	
	comp=Z,3µm,22.0s						
RRX	Edison Barstow	59.17	72	P		P	05 09 34.3 +0.2
	baz=315						
FMP	Fort Macarthur	59.23	74	P		P	05 09 35.2 +0.8
	baz=315						
BFSC	Mount Baldy Ra	59.23	73	P		P	05 09 34.5 -0.1
	baz=315						
BTK	Batken	59.32	297	eP		P	05 09 33.8 -1.3
BTK				LR		LR	
	comp=Z,56nm,0.8s						
RAMN	Ramite	59.33	275	eP		P	05 09 34.7 -0.8
	comp=Z,286nm,0.6s						
ULM	Lac du Bonnet	59.35	46	eP		P	05 09 35.5 +0.4
	comp=Z,22nm,0.9s						
ULM				LR		LR	
	comp=Z,4µm,20.0s						
ULM	Lac du Bonnet	59.35	46	P		P	05 09 35.4 +0.4
	comp=Z,8.7nm,0.6s,baz=324,slow=7.8,SNR=20						
MDND	Maddock	59.35	50	eP		P	05 09 38.4 +3.2
	comp=Z,124nm,1.1s						
MDND				LR		LR	
	comp=Z,5µm,20.0s						
MDND	Maddock	59.35	50	P		P	05 09 35.6 +0.5
	baz=316						
BRDH	Bariadhala	59.36	268	LR		LR	05 36 06.7
	comp=Z,6µm,18.9s,baz=53,slow=37						
CIS	Catalina Islan	59.37	74	P		P	05 09 35.9 +0.4
	baz=315						
TMUT	Trail Mountain	59.37	64	eP		P	05 09 37.4 +1.6
	comp=Z,43nm,1.0s						
MSU	Marysvale	59.38	66	eP		P	05 09 37.7 +1.9
CCUT	Cedar City	59.39	67	eP		P	05 09 37.9 +2.1
	comp=Z,42nm,1.2s						
TUQ	Turquoise Moun	59.40	71	P		P	05 09 36.1 +0.3
	baz=315,SNR=13						
P17A	Butcher Ranch,	59.51	64	eP		P	05 09 38.2 +1.6
	comp=Z,28nm,1.0s						
SZCU	Shutz Canyon	59.51	67	eP		P	05 09 38.1 +1.5
	comp=Z,32nm,1.1s						
KKN	Kakani	59.53	277	eP		P	05 09 36.1 -0.8
	comp=Z,170nm,0.7s						
K22A	Casper	59.56	59	eP		P	05 09 38.0 +1.2
	comp=Z,40nm,1.1s						
K22A	Casper	59.56	59	P		P	05 09 37.1 +0.3
	baz=315,SNR=12						
HEC	Hector,Ludlow	59.59	71	P		P	05 09 37.4 +0.4
	baz=315,SNR=6.1						
SCI2	San Clemente I	59.59	74	P		P	05 09 37.4 +0.4
	baz=316						
PKI	Pulchoki	59.61	277	eP		P	05 09 36.6 -1.0
	comp=Z,142nm,0.7s						
PKIN	Phulchoki	59.61	277	eP		P	05 09 36.5 -1.0
	comp=Z,121nm,0.7s						
BBRC	Big Bear Solar	59.64	72	P		P	05 09 37.7 +0.1
	baz=315						
Q16A	Castle Valley	59.66	65	eP		P	05 09 39.3 +1.7
	comp=Z,21nm,1.0s						
MTPU	Mount Pierson	59.71	66	eP		P	05 09 40.1 +2.0
	comp=Z,36nm,1.2s						
KNTN	Kanton	59.72	147	PFAKE			05 09 50.0 +12
KNTN				LR		LR	
	comp=Z,6µm,19.0s						
DMN	Daman	59.76	277	eP		P	05 09 37.9 -0.7
	comp=Z,219nm,0.7s						
RSSD	Black Hills	59.81	56	eP		P	05 09 39.4 +0.8
	comp=Z,85nm,1.0s						
RSSD				LR		LR	
	comp=Z,3µm,22.0s						
RSSD	Black Hills	59.81	56	P		P	05 09 39.0 +0.4
	baz=315						
LCMT	Little Creek M	59.83	68	eP		P	05 09 40.5 +1.7
	comp=Z,54nm,1.2s						
FAKI	Fak Fak	59.84	213	PFAKE			05 09 50.0 +11
FAKI				LR		LR	
	comp=Z,3µm,22.0s						
FAKI	Fak Fak	59.84	213	P		P	05 09 37.7 -1.1
RWWY	Rawlins	59.87	60	eP		P	05 09 40.1 +1.0
	comp=Z,25nm,1.0s						
SRU	San Rafael Swe	59.88	64	eP		P	05 09 40.3 +1.2
	comp=Z,61nm,0.9s						
UMPA	Umpang Tak	59.88	257	P		P	05 09 41.7 +2.5
	comp=Z,122µm,0.8s						
MURC	Murrieta	59.95	73	P		P	05 09 39.2 -0.3
	baz=316						
GMRC	Granite Mounta	60.01	71	P		P	05 09 40.7 +0.6
	baz=315,SNR=45						
DANN	Dangsing	60.05	278	eP		P	05 09 39.8 -0.7
	comp=Z,284nm,0.7s						
PKCU	Pink Cliffs	60.06	67	eP		P	05 09 43.1 +2.6
	comp=Z,29nm,1.0s						
KNB	Kanab	60.07	67	eP		P	05 09 42.3 +1.8
	comp=Z,50nm,1.2s						
LDFC	Landfair	60.12	70	eP		P	05 09 42.3 +1.6
	comp=Z,115nm,1.1s						
GAR	Garm	60.34	296	eP		P	05 09 40.9 -1.3
	comp=Z,88nm,0.7s						
GAR				LR		LR	
	comp=Z,25µm,18.0s						
BELC	Belle Mtn. Jos	60.37	72	P		P	05 09 42.4 -0.1
	baz=316						
PFO	Pinyon Flats O	60.38	72	eP		P	05 09 44.8 +2.3
	comp=Z,22nm,1.1s						
PFO				LR		LR	
	comp=Z,4µm,22.0s						
PFO	Pinyon Flats O	60.38	72	P		P	05 09 42.4 -0.1
	baz=316						
O20A	White River Ci	60.41	62	eP		P	05 09 44.0 +1.2
	comp=Z,48nm,1.1s						
O20A	White River Ci	60.41	62	P		P	05 09 43.5 +0.7
	baz=315,SNR=15						
109C	Camp Elliot, M	60.51	73	P		P	05 09 43.5 +0.2
	baz=316						
CPE	Camp Elliot	60.51	73	eP		P	05 09 48.4 +5.2
	comp=Z,43nm,1.1s						
CPE				LR		LR	
	comp=Z,1µm,18.0s						
KOLN	Koldanda	60.57	278	eP		P	05 09 43.1 -0.9
	comp=Z,184nm,0.7s						
PYUN	Piuthan	60.70	279	eP		P	05 09 44.0 -0.9
	comp=Z,192nm,0.7s						
MRSI	Marisa	60.72	225	P		P	05 09 43.9 -0.9
IRM	Iron Mountain	60.76	71	P		P	05 09 45.5 +0.6
	baz=316,SNR=49						
AGMN	Agassiz Nation	60.77	48	eP		P	05 09 45.1 +0.3
	comp=Z,31nm,1.0s						
AGMN				LR		LR	
	comp=Z,3µm,20.0s						
AGMN	Agassiz Nation	60.77	48	P		P	05 09 44.8 0.0
	baz=317						
U15A	North Rim	60.78	67	eP		P	05 09 47.0 +1.6
	comp=Z,15nm,1.1s						
U15A				LR		LR	
	comp=Z,3µm,22.0s						
W13A	Hualapai Mount	60.82	70	eP		P	05 09 46.5 +0.9
	comp=Z,15nm,1.0s						
W13A				LR		LR	
	comp=Z,2µm,22.0s						
BC3	Big Chuckawall	60.93	72	P		P	05 09 46.8 +0.5
	baz=316,SNR=5.8						
FIA1	FINESS Array S	60.94	337	eP		P	05 09 45.7 0.0
	comp=Z,119nm,1.0s						
FIA0	FINESS Array S	60.94	337	eP		P	05 09 45.7 -0.1
FINES	FINESS Array B	60.94	337	P		P	05 09 45.7 -0.1
	comp=Z,44nm,0.6s,baz=35,slow=7.6,SNR=122						
FINES				LR		LR	05 39 56.5
	comp=Z,6µm,18.9s,baz=24,slow=40						
NSS	Namsos	61.00	345	eP		P	05 09 46.4 +0.3
PHWY	Pilot Hill	61.07	59	eP		P	05 09 50.6 +3.3
	comp=Z,12nm,0.9s						
PV09	Paradox Valley	61.08	64	eP		P	05 09 48.9 +1.4
N23A	Red Feather La	61.10	60	eP		P	05 09 48.2 +0.7
	comp=Z,34nm,0.9s						
N23A	Red Feather La	61.10	60	P		P	05 09 47.4 -0.1
	baz=316,SNR=20						
PV21	Cone Mtn., Par	61.12	64	eP		P	05 09 49.0 +1.3
	comp=Z,36nm,0.9s						
PV21				LR		LR	
	comp=Z,2µm,18.0s						
XMAS	Kiritimati	61.16	130	PFAKE			05 10 00.0 +12
XMAS				LR		LR	
	comp=Z,4µm,19.0s						
SRDT	SRDT	61.18	256	P		P	05 09 50.3 +2.3
	comp=Z,30nm,1.4s						
PV23	Carpenter Ridg	61.18	64	eP		P	05 09 49.6 +1.4
	comp=Z,52nm,0.9s						
CHGR	Chuyangaron	61.22	297	eP		P	05 09 49.0 +0.9
	comp=Z,42nm,0.7s						
CHGR				LR		LR	
	comp=Z,20µm,18.0s						
PV10	Paradox Valley	61.22	64	eP		P	05 09 50.5 +2.1
	comp=Z,65nm,0.9s						
PV14	Lion Creek, Pa	61.23	64	eP		P	05 09 49.8 +1.4
	comp=Z,39nm,1.0s						
PDMCI	Parker Dam,Lak	61.23	70	P		P	05 09 48.2 0.0
	baz=316						
SWSC	Sam W. Stewart	61.24	73	P		P	05 09 48.3 +0.1
	baz=316						
PV22	Blue Mesa, Par	61.25	63	eP		P	05 09 49.7 +1.3
	comp=Z,40nm,1.1s						
PV22				LR		LR	
	comp=Z,2µm,19.0s						
IKP	In-Ko-Pah, Jac	61.27	73	P		P	05 09 48.6 +0.1
	baz=316						
PV04	Paradox Valley	61.28	64	eP		P	05 09 50.0 +1.4
	comp=Z,73nm,1.1s						
PUL	Pulkovo	61.29	334	eP		P	05 09 46.2 -1.9
PV20	West Nyswonger	61.29	64	eP		P	05 09 50.0 +1.3
	comp=Z,29nm,0.8s						
PV19	Morning Glory	61.30	64	eP		P	05 09 50.2 +1.4
	comp=Z,74nm,1.2s						
PV19				LR		LR	
	comp=Z,2µm,19.0s						
SANI	Sanana	61.31	220	P		P	05 09 47.2 -1.6
PV17	East Wray Mesa	61.33	64	eP		P	05 09 50.4 +1.3
	comp=Z,106nm,1.1s						
PV16	Nyswonger Mesa	61.34	64	eP		P	05 09 50.4 +1.3
	comp=Z,75nm,1.1s						
PV16				LR		LR	
	comp=Z,2µm,20.0s						
PV11	David Mesa, Pa	61.37	64	eP		P	05 09 50.3 +1.0
	comp=Z,82nm,0.9s						
PV18	Skein Mesa, Pa	61.39	64	eP		P	05 09 50.8 +1.3
	comp=Z,71nm,1.0s						
PV18				LR		LR	
	comp=Z,2µm,20.0s						
PV07	Paradox Valley	61.39	63	eP		P	05 09 50.7 +1.3
	comp=Z,37nm,1.0s						
PV12	Saucer Basin,	61.39	64	eP		P	05 09 50.9 +1.4
	comp=Z,81nm,1.0s						
PV05	Paradox Valley	61.40	64	eP		P	05 09 51.0 +1.4
	comp=Z,98nm,1.1s						
PV05				LR		LR	
	comp=Z,2µm,19.0s						
Y12C	Blythe	61.41	71	eP		P	05 09 50.7 +1.4
	comp=Z,26nm,1.0s						
Y12C	Blythe	61.41	71	P		P	05 09 49.7 +0.4
	baz=316						
PV03	Paradox Valley	61.41	64	eP		P	05 09 50.8 +1.2
	comp=Z,86nm,1.2s						
PV03				LR		LR	
	comp=Z,2µm,19.0s						
HNR	Honiara	61.42	180	PFAKE			05 10 00.0 +11
HNR				LR		LR	
	comp=Z,4µm,20.0s						
PV13	Radium Mtn., P	61.50	64	eP		P	05 09 51.5 +1.3
	comp=Z,81nm,1.0s						
PV02	Paradox Valley	61.51	64	eP		P	05 09 52.1 +1.9
	comp=Z,42nm,1.2s						
PV01	Paradox Valley	61.65	64	eP		P	05 09 52.5 +1.2
	comp=Z,21nm,1.0s						
PV01				LR		LR	
	comp=Z,2µm,20.0s						
ANGG	Ammassalik, Gr	61.68	8	eP		P	05 09 50.0 -0.6
	comp=Z,28nm,0.6s						
ANGG				LR		LR	
	comp=Z,6µm,19.0s						
DHRM	DHARAMSHALA	61.72	287	eP		P	05 09 50.3 -1.4
DHRM				IAMs_20		IAMs_20	05 28 46.0
	comp=Z,1µm,12.3s						
LUWI	Luwuk	61.72	224	PFAKE			05 10 00.0 +8.4
LUWI				LR		LR	
	comp=Z,1µm,18.0s						
LUWI	Luwuk	61.72	224	P		P	05 09 49.5 -2.1
GLA	Glamis	61.73	72	eP		P	05 09 54.4 +2.8
	comp=Z,78nm,1.1s						
GLA				LR		LR	
	comp=Z,3µm,22.0s						
GLA	Glamis	61.73	72	P		P	05 09 52.0 +0.4
	baz=316						
MPSI	Mapaga	61.75	227	P		P	05 09 51.4 -0.4
SMCO	Snowmass	61.78	62	eP		P	05 09 53.6 +1.3
	comp=Z,28nm,1.0s						
WUAZ	Wupatki	61.95	68	eP		P	05 09 54.9 +1.6
	comp=Z,35nm,1.1s						
WUAZ				LR		LR	
	comp=Z,2µm,20.0s						
WUAZ	Wupatki	61.95	68	P		P	05 09 53.9 +0.6
	baz=316,SNR=13						
SMLA	Simla	62.01	285	eP		P	05 09 51.8 -1.7
DDI	Dehra Dun	62.06	284	eP		P	05 09 52.8 -1.1
DDI				IAMs_20		IAMs_20	05 29 26.1
	comp=Z,930nm,10.0s						
ISCO	Idaho Springs	62.06	60	eP		P	05 09 54.9 +0.8
	comp=Z,48nm,1.1s						
ISCO				LR		LR	
	comp=Z,2µm,19.0s						
ISCO	Idaho Springs	62.06	60	P		P	05 09 54.2 +0.1
	baz=316,SNR=49						
BOK	Bokaro	62.08	273	eP		P	05 09 53.3 -0.7
BOK				IAmb		IAmb	05 09 55.5
	comp=Z,32nm,1.2s						
APSI	Ampana	62.08	225	P		P	05 09 52.8 -1.2
SUSD	Miller	62.12	53	P		P	05 09 53.6 -0.4
	baz=317						
Y14A	Wickenburg	62.15	70	eP		P	05 09 55.5 +1.0
	comp=Z,12nm,0.9s						
MVCO	Mesa Verde	62.35	64	eP		P	05 09 57.2 +1.3
	comp=Z,44nm,1.1s						
MVCO				LR		LR	
	comp=Z,2µm,20.0s						
MVCO	Mesa Verde	62.35	64	P		P	05 09 56.5 +0.5
	baz=316,SNR=29						
PMG	Port Moresby	62.42	195	LR		LR	05 33 20.5
	comp=Z,2µm,21.5s,baz=17,slow=32						
MOS	Moscow	62.43	327	eP		P	05 09 53.8 -2.0
MOS				*e*			05 10 07.3
MOS				*e*S		S	05 18 18.6 -0.6
MOS				pmax		pmax	
	comp=Z,242nm,1.6s						
NIL	Nilore	62.49	290	eP		P	05 09 56.0 -0.7
	comp=Z,135nm,0.8s						
NIL				LR		LR	
	comp=Z,13µm,19.0s						
113A	Mohawk Valley,	62.55	71	eP		P	05 09 59.8 +2.7
	comp=Z,19nm,1.0s						
113A				LR		LR	
	comp=Z,2µm,18.0s						
X16A	Lo Mia Camp, P	62.71	68	eP		P	05 09 59.7 +1.4
	comp=Z,14nm,0.9s						
X16A				LR		LR	
	comp=Z,2µm,20.0s						
S22A	4UR Ranch, Cre	62.89	63	eP		P	05 10 01.1 +1.5
	comp=Z,30nm,1.1s						
S22A	4UR Ranch, Cre	62.89	63	P		P	05 09 59.1 -0.5
	baz=317,SNR=41						
Q24A	Divide	62.92	61	eP		P	05 10 01.8 +2.0
	comp=Z,21nm,1.0s						
Q24A				LR		LR	
	comp=Z,3µm,20.0s						
Q24A	Divide	62.92	61	P		P	05 09 59.8 0.0
	baz=317,SNR=6.3						
EYMN	Ely	62.99	46	PFAKE			05 10 10.0 +10
EYMN				LR		LR	
	comp=Z,4µm,20.0s						
EYMN	Ely	62.99	46	P		P	05 09 59.1 -0.6
	baz=319						
OGNE	Ogallala	63.12	57	PFAKE			05 10 10.0 +9.2
OGNE				LR		LR	
	comp=Z,2µm,19.0s						
OGNE	Ogallala	63.12	57	P		P	05 10 01.1 +0.3
	baz=317						
W18A	Petrified Fore	63.17	67	eP		P	05 10 03.1 +1.7
	comp=Z,23nm,1.1s						
W18A				LR		LR	
	comp=Z,3µm,22.0s						
W18A	Petrified Fore	63.17	67	P		P	05 10 02.1 +0.7
	baz=317,SNR=9.7						
OBN	Obninsk	63.28	328	eP		P	05 10 00.9 -0.6
	comp=Z,68nm,0.9s						
OBN				LR		LR	
	comp=Z,7µm,21.0s						
OBN	Obninsk	63.28	328	*c*eP		P	05 10 00.7 -0.8
OBN				*i* *SP		pP	05 10 13.0 -0.4
OBN				pmax		pmax	
	comp=Z,152nm,1.7s						
OBN				MLR		MLR	

comp=Z,5μm,15.0s
OBN Obninsk 63.28 328 P P 05 10 00.9 -0.6
comp=Z,5.1nm,0.4s,baz=22,slow=2.8,SNR=17
OBN LR LR 05 39 47.3
comp=Z,2μm,21.6s,baz=26,slow=38
VSU Vasula 63.36 335 *c i* P **P 05 10 02.0 0.0**
VSU pmax pmax
comp=Z,280nm,1.3s
VSU Vasula 63.36 335 *e* P **P 05 10 01.2 -0.7**
VSU IAmb IAmb 05 10 16.9
comp=Z,306nm,0.8s
X18A Snowflake 63.48 67 *e* P **P 05 10 05.1 +1.7**
X18A LR LR
comp=Z,2μm,22.0s
MOL Molde 63.52 346 *e* P **P 05 10 03.6 +0.6**
SBUM Sibu 63.61 236 *e* P **P 05 10 05.7 +1.5**
comp=Z,11nm,0.9s
SBUM LR LR
comp=Z,2μm,20.0s
SBUM Sibu 63.61 236 P **P 05 10 06.0 +1.8**
SDCO Great Sand Dun 63.61 62 *e* P **P 05 10 05.5 +1.1**
comp=Z,18nm,1.1s
SDCO LR LR
comp=Z,2μm,20.0s
SDCO Great Sand Dun 63.61 62 P **P 05 10 04.8 +0.4**
baz=317,SNR=21
214A Organ Pipe Nat 63.70 71 P **P 05 10 05.4 +0.7**
baz=317
ECSD EROS Data Cent 63.78 52 *e* P **P 05 10 05.1 0.0**
comp=Z,30nm,1.1s
ECSD LR LR
comp=Z,4μm,21.0s
ECSD EROS Data Cent 63.78 52 P **P 05 10 04.9 -0.1**
baz=318,SNR=16
DOMB Dombas 63.79 345 *e* P **P 05 10 04.7 -0.2**
AKN Aaknes 63.98 346 *e* P **P 05 10 06.5 +0.5**
E38A The Farm, Brul 63.98 47 *e* P **P 05 10 06.6 +0.3**
comp=Z,39nm,0.9s
E38A LR LR
comp=Z,4μm,21.0s
E38A The Farm, Brul 63.98 47 P **P 05 10 05.6 -0.7**
baz=320
C40A Isle Royale Na 64.03 44 PFAKE 05 10 20.0 +13
C40A LR LR
comp=Z,4μm,19.0s
C40A Isle Royale Na 64.03 44 P **P 05 10 06.1 -0.5**
baz=320
F37A Hinrichs Farm, 64.16 48 P **P 05 10 07.2 -0.3**
baz=320
NC303 NORSAR Array S 64.19 344 *e* P **P 05 10 07.3 -0.1**
comp=Z,88nm,1.1s
KSCO Kaye Shedlock' 64.22 59 *e* P **P 05 10 11.8 +3.7**
comp=Z,50nm,1.1s
KSCO LR LR
comp=Z,2μm,22.0s
KSCO Kaye Shedlock' 64.22 59 P **P 05 10 08.3 +0.1**
baz=318
NC405 NORSAR Array S 64.23 344 *e* P **P 05 10 07.8 +0.1**
comp=Z,56nm,0.8s
NC204 NORSAR Array S 64.24 344 *e* P **P 05 10 07.9 0.0**
comp=Z,98nm,0.9s
KBL Kabul 64.25 294 *e* P **P 05 10 05.7 -2.8**
comp=Z,35nm,0.8s
KBL LR LR
comp=Z,8μm,20.0s
F38A Pierce - Schro 64.33 47 P **P 05 10 08.5 -0.1**
baz=320,SNR=12
NB201 NORSAR Array S 64.37 344 *e* P **P 05 10 08.7 0.0**
comp=Z,71nm,0.8s
NB2 NORSAR Subarra 64.39 344 P **P 05 10 08.4 -0.4**
comp=Z,535nm,2.5s,baz=21,slow=6.9
NB2 NORSAR Subarra 64.39 344 P **P 05 10 08.4 -0.4**
baz=21,slow=6.9
NB200 NORSAR Array S 64.39 344 *e* P **P 05 10 08.6 -0.2**
NOA NORSAR Array B 64.39 344 P **P 05 10 08.6 -0.2**
comp=Z,14nm,0.6s,baz=22,slow=6.7,SNR=81
NOA LR LR 05 44 21.9
comp=Z,3μm,18.2s,baz=25,slow=42
SPMN Marine on St. 64.46 49 *e* P **P 05 10 10.1 +0.6**
comp=Z,36nm,0.9s
SPMN LR LR
comp=Z,4μm,19.0s
SPMN Marine on St. 64.46 49 P **P 05 10 09.4 -0.1**
baz=320,SNR=8.0
NBO00 NORSAR Array S 64.47 344 *e* P **P 05 10 10.4 +1.1**
comp=Z,68nm,1.0s
LPSR Galich'ya Gora 64.53 325 *e* P **P 05 10 09.1 -0.7**
LPSR pmax pmax
comp=Z,100nm,1.2s
LPSR MLR MLR
comp=Z,12μm,19.0s
E39A Mellen 64.60 46 P **P 05 10 10.1 -0.2**
baz=320
TUC Tucson 64.61 70 *e* P **P 05 10 12.0 +1.2**
comp=Z,10nm,1.0s
TUC Tucson 64.61 70 P **P 05 10 11.0 +0.3**
baz=317
NC602 NORSAR Array S 64.62 344 *e* P **P 05 10 10.3 +0.2**
comp=Z,47nm,1.0s
NC602 NORSAR Array S 64.62 344 *e* P **P 05 10 10.4 +0.2**
NAO01 NORSAR Array S 64.63 344 *e* P **P 05 10 10.3 0.0**
comp=Z,66nm,1.1s
VRH Novokhopyorsk 64.64 322 *e* P **P 05 10 09.3 -1.2**
VRH pmax pmax
comp=Z,60nm,0.6s
VRH MLR MLR
comp=Z,20μm,19.0s
T25A Trinidad 64.65 62 *e* P **P 05 10 12.0 +0.9**
comp=Z,34nm,1.1s
T25A Trinidad 64.65 62 P **P 05 10 11.2 +0.2**
baz=318,SNR=16
IVI Ivigtut 64.65 15 *e* P **P 05 10 10.4 0.0**
comp=Z,46nm,1.1s
IVI LR LR
comp=Z,5μm,20.0s
BWNR Bhubaneshwar 64.73 271 *ex* P 05 10 06.7 -4.9
BGNE Belgrade 64.76 55 *e* P **P 05 10 13.2 +1.7**
comp=Z,117nm,1.1s
BGNE LR LR
comp=Z,4μm,18.0s
BGNE Belgrade 64.76 55 P **P 05 10 10.9 -0.6**
baz=318
F39A Loretta 64.79 47 P **P 05 10 11.7 +0.1**
baz=320
E40A Wakefield 64.84 46 P **P 05 10 12.2 +0.3**
baz=320,SNR=6.5
G38A Ridgeland 64.94 48 P **P 05 10 12.3 -0.3**
baz=320,SNR=16
D41A Chassel 64.95 45 PFAKE 05 10 30.0 +17
D41A LR LR
comp=Z,4μm,19.0s
D41A Chassel 64.95 45 P **P 05 10 11.4 -1.2**
baz=321
HYA Hoyanger 65.06 346 *e* P **P 05 10 13.4 +0.3**
NRS Narsarsuaq 65.11 13 PFAKE 05 10 30.0 +17
NRS LR LR
comp=Z,8μm,18.0s
H38A Maiden Rock 65.12 49 P **P 05 10 13.7 0.0**
baz=320
TASM ASL Pad, Albuq 65.13 65 P **P 05 10 14.8 +0.5**
baz=318,SNR=20
TASM ASL Pad, Albuq 65.13 65 P **P 05 10 14.8 +0.5**
baz=318,SNR=20
ANMO Albuquerque 65.13 65 *e* P **P 05 10 15.6 +1.4**
comp=Z,11nm,0.9s
ANMO LR LR
comp=Z,2μm,20.0s
ANMO Albuquerque 65.13 65⇑ *e* P **P 05 10 15.1 +0.9**
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO Albuquerque 65.13 65 P **P 05 10 14.7 +0.4**
baz=318
F40A Park Falls 65.14 46 P **P 05 10 13.8 -0.1**
baz=321
LAZ Ladron 65.15 66 *e* P **P 05 10 16.2 +1.8**
G39A Holcombe 65.16 48 P **P 05 10 13.7 -0.3**
baz=320
SKAR Skarslia 65.20 345 *e* P **P 05 10 13.6 -0.6**
SLIT Slitere, Latvi 65.22 337 *e* P **P 05 10 13.5 -0.6**
SLIT IAmb IAmb 05 10 28.9
comp=Z,1μm,1.1s
E41A Kenton 65.24 45 P **P 05 10 14.6 +0.1**
baz=321
SUE Sulen 65.36 347 *e* P **P 05 10 15.3 +0.3**
LENM Lemitar 65.42 66 *e* P **P 05 10 17.2 +1.1**
KSM Kuching 65.42 237 *e* P **P 05 10 17.0 +1.0**
comp=Z,26nm,0.8s
KSM Kuching 65.42 237 P **P 05 10 18.0 +1.9**
COWI Conover 65.44 46 *e* P **P 05 10 15.6 -0.3**
comp=Z,17nm,0.9s
COWI LR LR
comp=Z,4μm,20.0s
LPM Los Pinos Moun 65.50 65 *e* P **P 05 10 19.7 +3.1**
Y22D IRIS PASSCAL I 65.52 66 PFAKE 05 10 30.0 +13
Y22D LR LR
comp=Z,3μm,22.0s
Y22D IRIS PASSCAL I 65.52 66 P **P 05 10 17.8 +1.1**
baz=318
H39A Augusta 65.57 48 P **P 05 10 16.6 -0.1**
baz=320
VSR Storozhevoye 65.58 324 *e* P **P 05 10 15.0 -1.6**
VSR pmax pmax
comp=Z,90nm,1.3s
VSR MLR MLR
comp=Z,14μm,19.0s
G40A Rib Lake 65.61 47 *e* P **P 05 10 18.7 +1.7**
comp=Z,20nm,1.1s
G40A LR LR
comp=Z,4μm,20.0s
G40A Rib Lake 65.61 47 P **P 05 10 17.0 0.0**
baz=321
BNM Barren Site 65.62 65 *e* P **P 05 10 19.2 +1.7**
SPSI Sidrap Palu 65.63 225 P **P 05 10 16.6 -0.7**
E42A Champion 65.72 45 P **P 05 10 17.0 -0.6**
baz=322
F41A Three Lakes 65.74 46 PFAKE 05 10 30.0 +12
F41A LR LR
comp=Z,4μm,21.0s
F41A Three Lakes 65.74 46 P **P 05 10 17.5 -0.3**
baz=321,SNR=6.0
VORD Divnogorie 65.74 323 *e* P **P 05 10 16.6 -1.0**
VORD pmax pmax
comp=Z,40nm,0.8s
DGPR DIGLIPUR 65.81 260 *e* P **P 05 10 18.3 -0.3**
IZAR Zarasai 65.86 334 *e* P **P 05 10 18.2 -0.2**
IZAR IAmb IAmb 05 10 33.2
comp=Z,37nm,1.0s
BNSI Bone 65.88 225 P **P 05 10 18.7 -0.2**
CBKS Cedar Bluff 65.88 57 PFAKE 05 10 30.0 +11
CBKS LR LR
comp=Z,2μm,20.0s
CBKS Cedar Bluff 65.88 57 P **P 05 10 18.5 -0.3**
baz=319
BER Bergen 65.93 347 *e* P **P 05 10 19.4 +0.7**
KONO Kongsberg 65.97 344 *e* P **P 05 10 19.7 +0.7**
comp=Z,33nm,1.1s
KONO LR LR
comp=Z,4μm,20.0s
KONO Kongsberg 65.97 344 *c e* P **P 05 10 19.2 +0.2**
KONO pmax pmax
comp=Z,92nm,2.5s
SKLT Songkhla 66.02 250 P P 05 10 34.3 +14
TRTT Trang 66.02 251 P **P 05 10 23.6 +3.7**
comp=Z,28nm,0.9s,comp=Z,3μm
H40A Chili 66.03 48 P **P 05 10 19.6 0.0**
baz=321
I39A Houston 66.10 49 PFAKE 05 10 30.0 +10
I39A LR LR
comp=Z,4μm,19.0s
I39A Houston 66.10 49 P **P 05 10 20.0 -0.1**
baz=321,SNR=6.8
IDID Didziasalis 66.11 333 *e* P **P 05 10 19.7 -0.2**
IDID IAmb IAmb 05 10 34.8
comp=Z,52nm,1.0s
F42A Maple Grove Fa 66.15 45 P **P 05 10 19.7 -0.7**
baz=322
E43A Lone Tree Farm 66.16 44 PFAKE 05 10 30.0 +10
E43A LR LR
comp=Z,3μm,19.0s
E43A Lone Tree Farm 66.16 44 P **P 05 10 19.8 -0.6**
baz=322
319A Douglas 66.16 69 *e* P **P 05 10 22.3 +1.5**
comp=Z,60nm,1.1s
319A LR LR
comp=Z,1μm,19.0s
121A Cookes Peak, D 66.17 67 P **P 05 10 21.1 +0.2**
baz=318,SNR=6.4
ODD1 Odda 66.20 346 *e* P **P 05 10 21.9 +1.4**
H41A Junction City 66.36 47 PFAKE 05 10 30.0 +8.2
H41A LR LR
comp=Z,4μm,20.0s
H41A Junction City 66.36 47 P **P 05 10 21.6 -0.2**
baz=321
SCHQ Schefferville 66.37 28 *e* P **P 05 10 22.1 +0.4**
comp=Z,55nm,0.9s
SCHQ LR LR
comp=Z,4μm,20.0s
SCHQ Schefferville 66.37 28 P **P 05 10 22.0 +0.4**
comp=Z,13nm,0.6s,baz=349,slow=7.1,SNR=9.6
SCHQ LR LR 05 43 54.5
comp=Z,2μm,18.8s,baz=350,slow=40
J39A Decorah 66.41 49 P **P 05 10 21.5 -0.6**
baz=321
G42A Mountain 66.42 46 PFAKE 05 10 40.0 +18
G42A LR LR
comp=Z,4μm,20.0s
G42A Mountain 66.42 46 P **P 05 10 21.6 -0.6**
baz=322
E44A Grand Marais A 66.42 43 PFAKE 05 10 40.0 +18
E44A LR LR
comp=Z,3μm,21.0s
E44A Grand Marais A 66.42 43 P **P 05 10 21.6 -0.5**
baz=322
NACGM Naroch 66.45 333 *e* P **P 05 10 21.0 -1.1**
NACGM PM 05 10 36.0
comp=Z,0.2nm,1.0s
NACGM LRM MLR 05 43 02.0
comp=Z,34nm,17.0s
I40A Norwalk 66.49 48 P **P 05 10 22.4 -0.2**
baz=321
MICGM Minsk 66.49 332⇑ *e* P **P 05 10 22.0 -0.4**
MICGM ⇑ *e* P **P 05 10 22.0 -0.4**
MICGM PM 05 10 23.0
comp=Z,0.5nm,1.8s
MICGM PM 05 10 24.0
comp=N,0.3nm,1.2s
MICGM *e* pP **pP 05 10 33.0 -1.3**
MICGM *e* S **S 05 19 06.0 -3.4**
MICGM *es* S **sS 05 19 28.0 -1.7**
MICGM *e* LQ LQ 05 33 28.0
MICGM *e* LR LR 05 38 00.0
MICGM LRM MLR 05 43 32.0
comp=Z,28nm,16.0s
MICGM LRM MLR 05 43 34.0
comp=Z,21nm,16.0s
MICGM LRM MLR 05 43 34.0
comp=N,14nm,16.0s
MNK Minsk 66.49 332⇑ *e* P **P 05 10 22.0 -0.4**
MNK *e* *PP **pP 05 10 33.0 -1.3**
MNK *es* S **S 05 19 06.0 -3.4**
MNK *e* 05 19 28.0
MNK pmax pmax
comp=Z,530nm,1.8s
MNK pmax pmax
comp=N,300nm,1.2s
MNK MLR MLR
comp=Z,28μm,16.0s
MNK MLR MLR
comp=N,15μm,16.0s
MNK MLR MLR
comp=Z,21μm,16.0s
F43A Flat Rock, Esc 66.51 45 P **P 05 10 22.1 -0.6**
baz=322
KAPI Kappang 66.58 225 *e* P **P 05 10 23.8 +0.4**
comp=Z,15nm,0.9s
KAPI Kappang 66.58 225 P **P 05 10 23.8 +0.4**
SNR=9.1
KAPI P **P 05 10 23.8 +0.4**
SNR=9.1
PABE Paberze 66.69 335 *e* P **P 05 10 23.1 -0.5**
PABE IAmb IAmb 05 10 38.5
comp=Z,289nm,1.1s
BLS5 Blasjo 66.69 346 *e* P **P 05 10 23.3 -0.3**
BKSI Bulukumba 66.69 224 P **P 05 10 22.7 -1.4**
I41A Arkdale 66.70 48 *e* P **P 05 10 24.2 +0.3**
comp=Z,22nm,1.1s
I41A LR LR
comp=Z,4μm,20.0s
I41A Arkdale 66.70 48 P **P 05 10 23.5 -0.4**
baz=321
F44A Big Bay de Noc 66.72 44 P **P 05 10 23.5 -0.5**
baz=322
G43A Wallace 66.74 45 PFAKE 05 10 40.0 +16
G43A LR LR
comp=Z,4μm,19.0s
G43A Wallace 66.74 45 P **P 05 10 23.4 -0.7**
baz=322
PBUR Paburg 66.75 336 *e* P P 05 10 16.3 -7.7
PBUR IAmb IAmb 05 10 37.6
comp=Z,214nm,1.2s
SCIA State Center 66.80 51 *e* P **P 05 10 25.4 +0.8**
comp=Z,117nm,0.8s
SCIA LR LR
comp=Z,4μm,20.0s
SCIA State Center 66.80 51 P **P 05 10 24.4 -0.2**
baz=320,SNR=5.8
J40A Soldiers Grove 66.81 49 P **P 05 10 24.3 -0.4**
baz=321
K39A Oelwein 66.81 50 P **P 05 10 24.0 -0.7**
baz=321
HSIG 66.94 72 *e* P P 05 10 31.0 +5.4
comp=Z,28nm,1.1s
E45A Wooded Hills, 66.95 43 P **P 05 10 25.0 -0.4**
baz=323
H42A Shiocton 66.95 46 PFAKE 05 10 40.0 +15
H42A LR LR
comp=Z,3μm,20.0s
H42A Shiocton 66.95 46 P **P 05 10 25.2 -0.3**
baz=322
D46A Sault St. Mari 67.00 42 P **P 05 10 25.2 -0.6**
baz=323
KMY Karmoy 67.07 346 *e* P **P 05 10 25.4 -0.6**
PBA Port Blair 67.11 259 PFAKE 05 10 40.0 +13
PBA LR LR
comp=Z,5μm,20.0s
PBA Port Blair 67.11 259 *e* P P 05 10 26.5 -0.4
MATQ Matagami 67.16 37 P **P 05 10 26.1 -0.7**
baz=326,SNR=6.0
K40A Colesburg 67.17 49 P **P 05 10 26.1 -0.8**
baz=321
J41A Loganville 67.17 48 P **P 05 10 26.5 -0.4**
baz=321,SNR=7.2
L39A Vinton 67.21 50 P **P 05 10 26.7 -0.4**
baz=321
D47A Chapleau 67.25 41 P **P 05 10 26.4 -0.9**
baz=324
I42A Draeger Farm, 67.26 47 *e* P **P 05 10 28.2 +0.7**
comp=Z,30nm,1.0s
I42A LR LR
comp=Z,3μm,20.0s
I42A Draeger Farm, 67.26 47 P **P 05 10 27.0 -0.5**
baz=322
KSU1 Kansas State U 67.27 55 PFAKE 05 10 40.0 +12
KSU1 LR LR
comp=Z,3μm,18.0s
KSU1 Kansas State U 67.27 55 P **P 05 10 26.6 -1.0**
baz=320
BSSI Bau Bau, Buton 67.27 224 P **P 05 10 26.0 -1.8**
E46A Sault Ste Mari 67.30 43 *e* P **P 05 10 28.9 +1.2**
comp=Z,24nm,1.0s
E46A LR LR
comp=Z,3μm,19.0s
E46A Sault Ste Mari 67.30 43 P **P 05 10 27.0 -0.8**
baz=323
H43A Windswept, Lux 67.32 46 PFAKE 05 10 40.0 +12
H43A LR LR
comp=Z,3μm,20.0s
H43A Windswept, Lux 67.32 46 P **P 05 10 27.5 -0.3**
baz=322
F45A CMU Biological 67.34 44 P **P 05 10 26.6 -1.3**
baz=323
JFWS Jewell Farm 67.41 49 *e* P **P 05 10 28.3 -0.2**
comp=Z,16nm,0.8s
JFWS LR LR
comp=Z,3μm,20.0s
JFWS Jewell Farm 67.41 49 P **P 05 10 27.6 -0.8**
baz=321
KULM Kulim 67.53 248 *e* P **P 05 10 34.1 +4.5**
comp=Z,22nm,0.8s
KULM LR LR
comp=Z,4μm,21.0s
F46A Macinaw City C 67.59 43 P **P 05 10 29.1 -0.4**
baz=323
I43A Langenfeld Bro 67.61 47 P **P 05 10 29.4 -0.3**
baz=322
SNART Snartemo 67.61 345 *e* P **P 05 10 29.8 +0.4**
J42A Columbus 67.61 48 P **P 05 10 28.7 -1.1**
baz=322
L40A Anamosa 67.62 50 *e* P **P 05 10 29.7 -0.1**
comp=Z,42nm,1.1s
L40A LR LR
comp=Z,4μm,18.0s
L40A Anamosa 67.62 50 P **P 05 10 29.4 -0.4**
baz=321,SNR=5.3
GEYT Alibeck 67.63 303 P **P 05 10 29.8 -0.2**
comp=Z,19nm,0.7s,baz=11,slow=3.0,SNR=16
GEYT LR LR 05 42 56.2
comp=Z,15μm,18.1s,baz=25,slow=39
GYA0B ALIBECK ARRAY 67.63 303 *e* P **P 05 10 29.8 -0.2**
comp=Z,23nm,0.8s
GYA0B LR LR
comp=Z,15μm,19.0s
BHPL Bhopal 67.66 279 *e* P **P 05 10 28.7 -1.6**
BHPL IAmb IAmb 05 10 30.9
comp=Z,30nm,0.9s
E47A Iron Bridge 67.66 42 P **P 05 10 29.1 -0.9**
baz=324
D48A Paudash Townsh 67.67 41 P **P 05 10 28.8 -1.3**
baz=324
D49A Beulah Townshi 67.78 40 P **P 05 10 29.6 -1.1**
baz=324
G45A Suttons Bay 67.79 44 *e* PcP **PcP 05 10 57.5 +0.3**
G45A LR LR
comp=Z,3μm,21.0s
G45A Suttons Bay 67.79 44 P **P 05 10 29.9 -0.9**
baz=323
AMTX Amarillo 67.80 62 *e* P **P 05 10 32.1 +0.9**
comp=Z,42nm,1.1s
AMTX LR LR
comp=Z,1μm,20.0s
AMTX Amarillo 67.80 62 P **P 05 10 30.7 -0.4**
baz=319
J43A Natural Harves 67.88 47 P **P 05 10 30.8 -0.6**
baz=322
MSTX Muleshoe 67.89 63 *e* P **P 05 10 32.6 +0.8**
comp=Z,46nm,1.1s
MSTX Muleshoe 67.89 63 P **P 05 10 31.8 0.0**
baz=319,SNR=22
G46A Petoskey 67.91 44 P **P 05 10 31.3 -0.3**
baz=323
K42A Prairie Point, 67.93 48 P **P 05 10 31.3 -0.5**
baz=322,SNR=7.8
H45A Beulah 67.95 45 P **P 05 10 31.8 0.0**
baz=323
IPM Ipoh 67.97 248 *e* P **P 05 10 32.8 +0.4**
comp=Z,30nm,0.8s
IPM LR LR
comp=Z,3μm,20.0s
LSQQ Lebel-sur-Quev 67.98 37 P **P 05 10 31.2 -0.8**
baz=326
E48A Lockeyer 68.09 41 P **P 05 10 31.8 -0.9**
baz=324
U32A Winter Ranch, 68.10 59 *e* P **P 05 10 33.2 +0.2**
comp=Z,21nm,0.9s
U32A LR LR
comp=Z,2μm,20.0s
MNTX Cornudas Mount 68.14 66 *e* P **P 05 10 34.1 +0.9**
comp=Z,31nm,1.1s
MNTX LR LR
comp=Z,2μm,21.0s
MNTX Cornudas Mount 68.14 66 P **P 05 10 33.4 +0.2**
baz=319,SNR=36
CHGQ Chibougamau 68.20 35 P **P 05 10 32.6 -0.7**
baz=328,SNR=10
I45A Fountain 68.33 45 PFAKE 05 10 50.0 +16
I45A LR LR
comp=Z,3μm,20.0s
I45A Fountain 68.33 45 P **P 05 10 34.1 -0.1**
baz=323
N40A Mertquake, Sal 68.37 51 P **P 05 10 34.3 -0.2**
baz=321,SNR=9.2
H46A Fife Lake 68.38 44 P **P 05 10 34.3 -0.3**
baz=323,SNR=6.3
L42A Oliver, Polo 68.39 49 *e* P **P 05 10 34.9 +0.2**
comp=Z,34nm,0.9s
L42A LR LR
comp=Z,4μm,19.0s
L42A Oliver, Polo 68.39 49 P **P 05 10 33.7 -0.9**
baz=322
GLMI Grayling 68.41 44 *e* P **P 05 10 37.0 +2.3**

comp=Z,40nm,1.0s
GLMI LR LR
GLMI Grayling 68.41 44 P P 05 10 34.4 -0.3
baz=324
F48A Evansville 68.44 42 P P 05 10 33.8 -1.0
baz=324
G47A Hillman 68.45 43 P P 05 10 33.7 -1.2
baz=324
K43A Burlington 68.45 48 *eP* **P 05 10 35.4 +0.3**
comp=Z,32nm,0.9s
K43A LR LR
comp=Z,3μm,20.0s
K43A Burlington 68.45 48 P P 05 10 33.5 -1.5
baz=322
M41A Milan 68.48 50 P **P 05 10 34.7 -0.4**
baz=322,SNR=6.3
VLDQ Val d'Or 68.59 37 *eP* **P 05 10 34.2 -1.6**
comp=Z,30nm,0.9s
VLDQ LR LR
comp=Z,3μm,18.0s
MYKOM Kota Tinggi 68.61 243 PFAKE 05 10 50.0 +14
MYKOM LR LR
comp=Z,3μm,18.0s
L43A Garden Prairie 68.68 48 P P 05 10 35.5 -0.9
baz=322
D51A Lot 18 Range I 68.70 39 P P 05 10 35.3 -1.2
baz=326
E50A Wahnapitae 68.71 40 P P 05 10 35.4 -1.1
baz=325
F49A Sandfield 68.72 42 P P 05 10 35.5 -1.1
baz=324
J45A Montague 68.75 46 PFAKE 05 10 50.0 +13
J45A LR LR
comp=Z,3μm,20.0s
I46A Reed City 68.75 45 P P 05 10 36.9 0.0
baz=323
H47A Mio 68.76 44 P P 05 10 36.4 -0.5
baz=324
N41A Harden Midland 68.85 50 *eP* **P 05 10 37.8 +0.3**
comp=Z,91nm,0.9s
N41A LR LR
comp=Z,3μm,20.0s
N41A Harden Midland 68.85 50 P P 05 10 37.3 -0.2
baz=322
H48A Harrisville 69.05 43 PFAKE 05 10 50.0 +11
H48A LR LR
comp=Z,3μm,20.0s
H48A Harrisville 69.05 43 P P 05 10 38.3 -0.4
baz=324
L44A Lake County Fo 69.06 48 P P 05 10 37.8 -0.9
baz=323
I47A Gladwin 69.10 44 PFAKE 05 10 50.0 +11
I47A LR LR
comp=Z,3μm,20.0s
I47A Gladwin 69.10 44 P P 05 10 38.7 -0.2
baz=324
E51A G1948 Merrick 69.12 40 P P 05 10 37.9 -1.2
baz=326,SNR=5.1
J46A Howard City 69.14 45 P P 05 10 39.1 -0.2
baz=323
M43A Waltham Townsh 69.17 49 P P 05 10 38.9 -0.6
baz=322
D52A ZEK Kipawa Sen 69.17 39 P P 05 10 38.4 -1.0
baz=326
COP Copenhagen 69.19 341⇑ *iP* **P 05 10 40.2 +0.9**
COP Copenhagen 69.19 341⇑ *iP* **P 05 10 40.2 +0.9**
BSD Bornholm Skovb 69.21 340 *i* P **P 05 10 39.5 0.0**
BSD pmax pmax
comp=Z,36nm,0.6s
BSD Bornholm Skovb 69.21 340 *i* P **P 05 10 39.5 0.0**
comp=Z,36nm,0.6s
I48A Sherman Twp 69.31 44 P P 05 10 39.9 -0.4
baz=324
D53A Lac Vacive, Po 69.36 38 *eP* **P 05 10 40.3 -0.2**
comp=Z,22nm,1.0s
D53A LR LR
comp=Z,3μm,19.0s
D53A Lac Vacive, Po 69.36 38 P P 05 10 39.8 -0.7
baz=326,SNR=7.7
TOBO Tobermory, Bru 69.37 42 P P 05 10 39.2 -1.4
baz=325
AKASG Malin Array Be 69.39 329*cePP* **P 05 10 40.0 -0.7**
AKASG pmax pmax
comp=Z,40nm,0.6s
AKASG Malin Array Be 69.39 329 P P 05 10 40.0 -0.7
comp=Z,40nm,0.6s,baz=31,slow=6.6,SNR=80
AKASG LR LR 05 46 27.2
comp=Z,9μm,18.6s,baz=15,slow=41
AKBB Malin Array Si 69.39 329 *eP* **P 05 10 40.0 -0.6**
comp=Z,89nm,0.9s
AKBB LR LR
comp=Z,10μm,19.0s
GROC Groznyy 69.40 315 *eP* **P 05 10 38.0 -2.9**
GROC *e**PP **pP 05 10 52.2 -0.5**
GROC *e**SP **pwP 05 10 57.5 +1.2**
GROC *e* 05 11 01.3
GROC *e* 05 13 12.8
GROC pmax pmax
comp=Z,21nm,0.7s
KIEV Kiev 69.40 329 PFAKE 05 10 50.0 +9.3
KIEV LR LR
comp=Z,9μm,18.0s
KIEV Kiev 69.40 329⇑ *iP* **P 05 10 40.2 -0.5**
KIEV Kiev 69.40 329 *i P* **P 05 10 39.8 -1.0**
SNR=44
KIEV Kiev 69.40 329*c iP* **P 05 10 39.9 -0.8**
KIEV pmax pmax
comp=Z,108nm,1.4s
F51A Arnstein 69.45 40 P P 05 10 39.9 -1.2
baz=326
N43A Stutzman Famil 69.46 49 P P 05 10 40.9 -0.3
baz=322
WMOK Wichita Mounta 69.46 60 *eP* **P 05 10 41.7 +0.2**
comp=Z,37nm,0.9s
WMOK Wichita Mounta 69.46 60 P P 05 10 41.4 -0.1
baz=320,SNR=26
OK023 East Waterloo 69.56 58 PFAKE 05 10 50.0 +8.0
OK023 LR LR
comp=Z,2μm,18.0s
J47A Sunmer 69.59 45 *eP* **P 05 10 42.7 +0.7**
comp=Z,47nm,0.9s
J47A LR LR
comp=Z,3μm,18.0s
J47A Sunmer 69.59 45 P P 05 10 41.5 -0.6
baz=324,SNR=7.0
K46A Dorr 69.61 46 P P 05 10 41.6 -0.5
baz=323,SNR=5.3
OK024 West corner E0 69.61 58 PFAKE 05 11 00.0 +18
OK024 LR LR
comp=Z,2μm,19.0s
M44A Midewin, Midew 69.63 48 *eP* **P 05 10 44.2 +1.9**
comp=Z,32nm,1.0s
M44A LR LR
comp=Z,4μm,20.0s
M44A Midewin, Midew 69.63 48 P P 05 10 41.8 -0.5
baz=323
E52A Mattawa 69.65 39 P P 05 10 41.1 -1.3
baz=326
D54A Lac Fusel, La 69.69 38 P P 05 10 42.0 -0.7
baz=327,SNR=7.5
HDIL Hopedale 69.70 50 *eP* **P 05 10 43.1 +0.4**
comp=Z,64nm,0.8s
HDIL LR LR
comp=Z,4μm,20.0s
HDIL Hopedale 69.70 50 P P 05 10 42.1 -0.7
baz=322,SNR=8.7
LHMI Lhok Sumawe 69.72 252 PFAKE 05 11 00.0 +17
LHMI LR LR
comp=Z,5μm,19.0s
F52A Sundridge 69.79 40 P P 05 10 42.0 -1.3
baz=326
KLBO Killbear Provi 69.80 41 P P 05 10 42.4 -0.9
baz=326
I49A Point Hope 69.88 43 PFAKE 05 11 00.0 +16
I49A LR LR
comp=Z,3μm,19.0s
I49A Point Hope 69.88 43 P P 05 10 42.9 -0.9
baz=324
L46A Eue Claire 69.92 47 *eP* **P 05 10 44.3 +0.2**
comp=Z,34nm,0.9s
L46A LR LR
comp=Z,3μm,20.0s
L46A Eue Claire 69.92 47 P P 05 10 43.6 -0.5
baz=323
E53A Dumoine, Ponti 69.95 39 P P 05 10 43.2 -1.1
baz=327

K47A Vermontville 69.97 45 P P 05 10 43.8 -0.5
baz=324
M45A Boilermakers S 69.99 48 P P 05 10 43.6 -0.9
baz=323
J48A Bridge Port 69.99 44 PFAKE 05 11 00.0 +16
J48A LR LR
comp=Z,3μm,19.0s
J48A Bridge Port 69.99 44 P P 05 10 44.7 +0.2
baz=324
BMRO Meriville Lake 70.01 42 P P 05 10 44.0 -0.6
baz=325
BUKO Buck Lake 70.05 40 P P 05 10 43.6 -1.3
baz=326
N44A Piper City 70.05 49 P P 05 10 44.5 -0.4
baz=323
CMBY CAMPBELL BAY 70.07 255 *eP* **P 05 10 46.1 +0.8**
RGN Rugen 70.08 340 *eP* **P 05 10 45.2 +0.4**
comp=Z,128nm,0.9s
RGN LR LR
comp=Z,4μm,20.0s
E54A Lac Daplat, Po 70.09 38 P P 05 10 44.1 -1.0
baz=327,SNR=5.4
NCK Nalchik 70.11 316|| *eP* **P 05 10 46.2 +0.9**
NCK pmax pmax
comp=Z,22nm,0.7s
KVAR Kislovodsk Arr 70.12 317 LR LR 05 44 40.2
comp=Z,5μm,19.5s,baz=272,slow=39
KIV Kislovodsk 70.12 317 *eP* **P 05 10 46.8 +1.4**
comp=Z,17nm,0.7s
KIV LR LR
comp=Z,6μm,19.0s
KIV Kislovodsk 70.12 317⇑ *iP* **P 05 10 46.6 +1.2**
KIV Kislovodsk 70.12 317 *i P* **P 05 10 45.3 -0.2**
SNR=17
KIV Kislovodsk 70.12 317 *eP* **P 05 10 45.1 -0.3**
KIV pmax pmax
comp=Z,59nm,1.0s
KIV MLR MLR
comp=Z,15μm,17.0s
KIV Kislovodsk 70.12 317 P **P 05 10 44.2 -1.2**
SNR=12
TUL1 Leonard 70.13 57 *eP* **P 05 10 45.6 +0.1**
comp=Z,36nm,1.1s
TUL1 LR LR
comp=Z,3μm,19.0s
TUL1 Leonard 70.13 57 P P 05 10 45.3 -0.2
baz=321,SNR=19
ALGO Algonquin Park 70.16 39 P P 05 10 44.5 -0.9
baz=326
BRCO Bruce Peninsul 70.21 42 P P 05 10 44.9 -1.0
baz=325
J49A Marlette 70.22 44 P P 05 10 45.4 -0.5
baz=324
KBZ Khabaz 70.22 317 P **P 05 10 45.8 -0.1**
comp=Z,28nm,0.8s,baz=49,slow=3.3,SNR=42
KBZ LR LR 05 46 35.6
comp=Z,8μm,18.4s,baz=4.5,slow=40
K48A Perry 70.25 45 P **P 05 10 45.9 -0.2**
baz=324,SNR=12
N45A Kentland 70.30 48 P P 05 10 46.1 -0.3
baz=323
BASO Ashfield 70.30 43 P P 05 10 45.5 -0.9
baz=325
P43A Skaggs, Pawnee 70.32 50 P P 05 10 46.3 -0.3
baz=322,SNR=6.9
M46A Old House Fiel 70.38 47 *eP* **P 05 10 49.1 +2.2**
comp=Z,27nm,1.1s
M46A LR LR
comp=Z,3μm,20.0s
M46A Old House Fiel 70.38 47 P P 05 10 46.3 -0.6
baz=324
GKP Gorka Klasztor 70.40 337 *eP* **P 05 10 48.7 +1.9**
GKP Gorka Klasztor 70.40 337 *eP* **P 05 10 48.7 +1.9**
O44A Mansfield 70.41 49 P **P 05 10 46.9 -0.2**
baz=323
Q42A Golden Eagle 70.41 51 P P 05 10 46.9 -0.2
baz=322,SNR=13
BWLO Walkerton 70.44 42 P P 05 10 46.4 -0.9
baz=325
L47A Sherwood 70.44 46 P P 05 10 46.9 -0.4
baz=324,SNR=8.4
R41A Rosebud 70.48 52 P P 05 10 47.3 -0.3
baz=322,SNR=15
H52A Wyevale 70.52 41 P P 05 10 46.6 -1.1
baz=326
PSI Prapat 70.54 248 *eP* **P 05 10 48.4 +0.1**
comp=Z,17nm,0.8s
PSI LR LR
comp=Z,3μm,20.0s
K49A Clarkson 70.55 44 P P 05 10 47.7 -0.2
baz=324,SNR=9.5
ZEI Tsey 70.56 316 *eP* **P 05 10 44.5 -3.7**
ZEI pmax pmax
comp=Z,19nm,0.9s
ABTX Abilene, Hawle 70.61 62 *eP* **P 05 10 49.4 +0.9**
comp=Z,57nm,1.1s
ABTX LR LR
comp=Z,2μm,22.0s
ABTX Abilene, Hawle 70.61 62 P P 05 10 48.4 -0.1
baz=320
N46A Monticello 70.62 48 P P 05 10 47.8 -0.6
baz=323
G53A Haliburton 70.62 40 P P 05 10 47.8 -0.6
baz=326,SNR=5.1
O45A Potomac 70.68 49 P P 05 10 48.5 -0.2
baz=323
NEY Neytrino 70.68 317|| *eP* **P 05 10 49.7 +0.7**
PEMO Pembroke 70.70 39 P P 05 10 48.0 -0.8
baz=327
SADO Sadowa 70.71 40 PFAKE 05 11 00.0 +11
SADO LR LR
comp=Z,3μm,20.0s
CCM Cathedral Cave 70.74 52 *eP* **P 05 10 49.2 +0.1**
comp=Z,40nm,1.1s
CCM LR LR
comp=Z,4μm,19.0s
CCM Cathedral Cave 70.74 52 P P 05 10 48.5 -0.7
baz=322
I51A Listowel 70.74 42 P P 05 10 48.4 -0.8
baz=325
M47A Cromwell 70.75 47 P P 05 10 48.7 -0.5
baz=324
SLM Saint Louis 70.77 51 *eP* **P 05 10 49.4 +0.1**
comp=Z,35nm,0.9s
SLM LR LR
comp=Z,5μm,21.0s
HHAR Hobbs 70.78 55 *eP* **P 05 10 49.3 -0.2**
comp=Z,43nm,1.0s
HHAR LR LR
comp=Z,3μm,20.0s
L48A N Adams 70.80 46 P P 05 10 49.3 -0.2
baz=324,SNR=8.9
BEL Belsk 70.82 335 *eP* **P 05 10 50.4 +1.0**
BEL Belsk 70.82 335 *eP* **P 05 10 50.4 +1.0**
AAM Ann Arbor 70.85 45 *eP* **P 05 10 50.5 +0.8**
comp=Z,55nm,1.0s
AAM LR LR
comp=Z,3μm,20.0s
AAM Ann Arbor 70.85 45 P P 05 10 49.6 -0.2
baz=324
S41A Jillco Farms, 70.86 53 P P 05 10 49.1 -0.8
baz=322,SNR=18
SFIN Lafayette 70.86 48 *eP* **P 05 10 49.9 0.0**
comp=Z,21nm,1.1s
SFIN LR LR
comp=Z,4μm,20.0s
SFIN Lafayette 70.86 48 P P 05 10 49.4 -0.4
baz=323
TX31 Lajitas Ar. Si 70.89 67 *eP* **P 05 10 51.1 +0.8**
comp=Z,38nm,1.1s
LTX Lajitas 70.89 67 *eP* **P 05 10 51.0 +0.6**
TXAR Lajitas Array 70.89 67 P P 05 10 51.0 +0.6
comp=Z,26nm,0.9s,baz=298,slow=4.2,SNR=86
TXAR LR LR 05 41 17.2
comp=Z,724nm,19.6s,baz=0.0,slow=35
LATQ La Tuque 70.91 35 P P 05 10 49.4 -0.6
baz=329
F55A Otter Lake 70.91 38 P P 05 10 49.1 -0.9
baz=327
K50A Casco 70.91 44 PFAKE 05 11 00.0 +10
K50A LR LR
comp=Z,4μm,19.0s
K50A Casco 70.91 44 P P 05 10 49.7 -0.5
baz=325
L49A Milan 70.96 45 P P 05 10 50.2 -0.2
baz=324
BANO Bancroft 70.98 40 P P 05 10 49.7 -0.8
baz=327,SNR=5.0

M48A Edgerton 71.05 46 *eP* **P 05 10 51.3 +0.3**
comp=Z,35nm,1.0s
M48A LR LR
comp=Z,3μm,20.0s
M48A Edgerton 71.05 46 P P 05 10 50.6 -0.4
baz=324
TBLG Delisi 71.05 314 *eP* **P 05 10 51.5 +0.5**
comp=Z,42nm,0.9s
N47A Urbana 71.10 47 P P 05 10 50.0 -1.3
baz=324
FVM French Village 71.19 52 *eP* **P 05 10 52.2 +0.3**
comp=Z,38nm,1.1s
P45A Graceland, Par 71.24 49 *eP* **P 05 10 52.4 +0.2**
comp=Z,22nm,1.0s
P45A LR LR
comp=Z,3μm,20.0s
G55A Calabogie 71.26 39 P P 05 10 51.2 -0.9
baz=327
U40A Yellville 71.28 55 P P 05 10 51.9 -0.5
baz=322,SNR=19
ACTO Acton 71.30 42 P P 05 10 51.7 -0.8
baz=326
PLVO Plevna 71.30 39 PFAKE 05 11 10.0 +18
PLVO LR LR
comp=Z,4μm,20.0s
PLVO Plevna 71.30 39 P P 05 10 51.2 -1.3
baz=327
I53A Kortright Cn E 71.31 41 P P 05 10 51.7 -0.9
baz=326
HYB Hyderabad 71.37 274⇑ *iP* **P 05 10 52.5 -0.8**
comp=Z,200nm,1.0s
HYB Hyderabad 71.37 274 *eP* **P 05 10 52.7 -0.6**
BKNI Bangkinang 71.38 245 PFAKE 05 11 10.0 +17
BKNI LR LR
comp=Z,3μm,21.0s
M49A Liberty Center 71.38 46 P P 05 10 52.4 -0.6
baz=324
O47A Sheridan 71.40 48 P P 05 10 52.4 -0.7
baz=324
PKRO Pickering 71.41 41 P P 05 10 52.2 -0.9
baz=326
N48A Decatur 71.42 47 P P 05 10 52.6 -0.6
baz=324,SNR=14
P46A Rosedale 71.42 49 P P 05 10 53.1 -0.2
baz=324,SNR=9.7
K51A Iona Station 71.43 43 P P 05 10 53.2 0.0
baz=325
L50A Kingsville 71.43 44 P P 05 10 53.2 -0.1
baz=325
J52A Paris 71.43 42 P P 05 10 52.9 -0.4
baz=326
DELO Deloro Mine 71.52 40 P P 05 10 53.0 -0.8
baz=327
ANN Anapa 71.54 321 *eP* **P 05 10 52.6 -1.3**
ANN *e**PP **pP 05 11 06.0 +0.2**
ANN pmax pmax
comp=Z,114nm,2.1s
ORIO Orleans, Innes 71.55 38 P P 05 10 52.6 -1.3
baz=328
Q45A Warren Harvey, 71.56 50 P P 05 10 53.6 -0.5
baz=323,SNR=11
HPIG 71.58 70 *eP* **P 05 10 57.0 +2.4**
comp=Z,17nm,1.0s
HPIG LR LR
comp=Z,2μm,22.0s
DRWO Darlington Wes 71.62 41 P P 05 10 53.7 -0.6
baz=326
ALFO Alfred 71.64 37 P P 05 10 53.8 -0.6
baz=328,SNR=6.2
SOC Sochi 71.65 319*c iP* **P 05 10 53.7 -0.9**
SOC *e**PP **pP 05 11 05.2 -1.3**
SOC *e*S **S 05 20 12.4 +1.7**
SOC *e*SSS SSS 05 27 49.4
SOC pmax pmax
comp=Z,27nm,0.6s
SOC MLR MLR
comp=Z,11μm,16.0s
H55A Tweed 71.67 39 P P 05 10 53.6 -1.0
baz=327
W39A Magazine 71.71 56 *eP* **P 05 10 55.2 +0.1**
comp=Z,15nm,1.0s
W39A LR LR
comp=Z,3μm,18.0s
W39A Magazine 71.71 56 P P 05 10 54.9 -0.2
baz=322
WLVO Wesleyville 71.71 41 P P 05 10 54.5 -0.4
baz=327
K52A Tillsonburg 71.71 43 P P 05 10 54.4 -0.6
baz=326
N49A Columbus Grove 71.74 46 *eP* **P 05 10 55.5 +0.3**
comp=Z,19nm,0.9s
N49A LR LR
comp=Z,3μm,20.0s
N49A Columbus Grove 71.74 46 P P 05 10 55.0 -0.2
baz=324
LVV L'vov 71.74 332 *eP* **P 05 10 54.0 -1.0**
LVV *e* 05 15 22.3
LVV MLR MLR
comp=N,9μm,17.0s
LVV MLR MLR
comp=E,6μm,17.0s
LVV MLR MLR
comp=Z,10μm,17.0s
PLIO Pelee Island, 71.74 45 P P 05 10 54.6 -0.5
baz=325
I55A Frankford 71.75 40 P P 05 10 54.2 -1.0
baz=327
U41A Viola 71.75 54 P P 05 10 54.8 -0.5
baz=322
TYNO Tyneside 71.80 42 P P 05 10 55.4 0.0
baz=326
Q46A CEJHS Indians, 71.83 49 P P 05 10 55.2 -0.5
baz=324
O48A Farmland 71.84 47 P P 05 10 54.7 -1.1
baz=324
M50A Fremont 71.85 45 PFAKE 05 11 10.0 +14
M50A LR LR
comp=Z,2μm,20.0s
M50A Fremont 71.85 45 P P 05 10 54.7 -1.1
baz=325
AKH Akhalkalaki 71.85 315 *eP* **P 05 10 57.0 +0.9**
comp=Z,47nm,1.0s
AKH LR LR
comp=Z,9μm,20.0s
AKH Akhalkalaki 71.85 315⇑ *iP* **P 05 10 56.5 +0.4**
RUE Ruedersdorf 71.92 339 *eP* **P 05 10 55.7 -0.3**
RUE IAmb IAmb 05 11 00.8
comp=Z,57nm,0.7s
ESK Eskdalemuir 71.94 350 *eP* **P 05 10 56.8 +0.7**
comp=Z,42nm,0.9s
P47A Martinsville 71.96 48 P P 05 10 55.6 -0.9
baz=324,SNR=11
R45A Skylar, Fairfi 71.98 50 P P 05 10 56.1 -0.5
baz=323
S44A Carbondale 71.99 51 P P 05 10 56.2 -0.5
baz=323
H56A Elgin 71.99 39 P P 05 10 56.1 -0.5
baz=328
SIUC Southern Illin 71.99 51 *eP* **P 05 10 56.7 0.0**
comp=Z,30nm,0.9s
SIUC LR LR
comp=Z,4μm,21.0s
STCO Saint Catharin 71.99 41 P P 05 10 56.1 -0.5
baz=326
BLO Bloomington 72.09 49 PFAKE 05 11 10.0 +13
BLO LR LR
comp=Z,4μm,19.0s
PBMO Poplar Bluff 72.14 53 *eP* **P 05 10 57.9 +0.3**
comp=Z,42nm,1.0s
J54A Appleton 72.16 41 PFAKE 05 11 10.0 +12
J54A LR LR
comp=Z,3μm,19.0s
J54A Appleton 72.16 41 P P 05 10 56.7 -0.8
baz=327
JCT Junction City 72.17 63 *eP* **P 05 10 58.5 +0.6**
comp=Z,51nm,1.1s
JCT LR LR
comp=Z,2μm,18.0s
JCT Junction City 72.17 63 P P 05 10 58.1 +0.1
baz=321,SNR=13
PECO Prince Edward 72.26 40 P P 05 10 57.4 -0.8
baz=327
O49A Covington 72.27 47 *eP* **P 05 11 00.5 +2.1**
comp=Z,24nm,1.0s
O49A LR LR
comp=Z,3μm,20.0s
O49A Covington 72.27 47 P P 05 10 58.1 -0.3
baz=325

M51A	Elyria	72.28	44	P	P	05 10 58.1	-0.3
	baz=325						
WHTX	Lake Whitney,	72.28	61	P	P	05 10 58.5	-0.1
	baz=321						
KWP	Kalwaria Pacla	72.29	333	*e*P	P	05 10 59.1	+0.7
KWP	Kalwaria Pacla	72.29	333	*e*P	P	05 10 58.4	0.0
	comp=Z,2μm,0.9s						
KWP				LR	LR		
	comp=Z,109μm,18.0s						
KWP	Kalwaria Pacla	72.29	333	*e*P	P	05 10 59.1	+0.7
BHJ	Bhuj	72.31	285	*e*P	P	05 10 58.7	-0.2
BHJ				IAMs_20	IAMs_20	05 35 15.2	
	comp=Z,2μm,3.2s						
N50A	Nevada	72.32	45	P	P	05 10 58.8	+0.2
	baz=325,SNR=7.4						
MEDO	Medina	72.32	41	*e*P	P	05 11 00.7	+2.1
	comp=Z,39nm,0.9s						
MEDO				LR	LR		
	comp=Z,3μm,18.0s						
MEDO	Medina	72.32	41	P	P	05 10 58.2	-0.4
	baz=327						
S45A	Carrier Mills	72.32	51	P	P	05 10 57.4	-1.3
	baz=323						
MIAR	Mount Ida	72.33	56	*e*P	P	05 10 59.1	+0.4
	comp=Z,17nm,0.9s						
MIAR				LR	LR		
	comp=Z,3μm,18.0s						
MIAR	Mount Ida	72.33	56	P	P	05 10 58.8	0.0
	baz=322,SNR=20						
GNI	Garni	72.33	313	*e*P	P	05 10 59.8	+0.8
	comp=Z,52nm,0.9s						
GNI				LR	LR		
	comp=Z,8μm,19.0s						
GNI	Garni	72.33	313	*i* P	P	05 10 59.7	+0.8
	SNR=12						
GNI	Garni	72.33	313	*c i*P	P	05 10 59.6	+0.7
GNI				pmax	pmax		
	comp=Z,535nm,1.7s						
GNI	Garni	72.33	313	P	P	05 10 59.7	+0.8
	SNR=11						
GNI				P	P	05 10 59.7	+0.8
	SNR=11						
GNI	Garni	72.33	313	LR	LR	05 47 45.5	
	comp=Z,8μm,18.1s,baz=26,slow=40						
Q47A	Bedord North L	72.33	49	P	P	05 10 58.4	-0.3
	baz=324,SNR=9.1						
P48A	Milroy	72.36	48	P	P	05 10 58.5	-0.5
	baz=324,SNR=12						
WHAR	Wooly Hollow	72.39	55	*e*P	P	05 11 00.3	+1.2
	comp=Z,22nm,1.0s						
WHAR				LR	LR		
	comp=Z,3μm,22.0s						
R46A	Gibon Southern	72.40	50	P	P	05 10 59.2	+0.1
	baz=324						
M52A	Chesterland	72.46	44	*e*P	P	05 10 59.7	+0.2
	comp=Z,48nm,1.0s						
M52A				LR	LR		
	comp=Z,4μm,19.0s						
M52A	Chesterland	72.46	44	P	P	05 10 58.5	-1.0
	baz=326						
BATM	Batumi	72.47	316⇑	*i*P	P	05 10 59.1	-0.4
J55A	Hilton	72.49	41	PFAKE		05 11 10.0	+10
J55A				LR	LR		
	comp=Z,3μm,19.0s						
J55A	Hilton	72.49	41	P	P	05 10 58.5	-1.1
	baz=327						
W41B	Gary Mavity, V	72.51	55	*e*P	P	05 10 59.9	+0.1
	comp=Z,34nm,1.0s						
W41B				LR	LR		
	comp=Z,3μm,22.0s						
W41B	Gary Mavity, V	72.51	55	P	P	05 10 59.3	-0.6
	baz=322,SNR=10						
USIN	University of	72.53	50	*e*P	P	05 11 00.6	+0.7
	comp=Z,66nm,0.9s						
USIN				LR	LR		
	comp=Z,3μm,20.0s						
GSI	Gunungsitoli	72.53	249	PFAKE		05 11 10.0	+10
GSI				LR	LR		
	comp=Z,5μm,19.0s						
N51A	Ashland	72.53	45	*e*P	P	05 11 00.1	+0.2
	comp=Z,66nm,0.9s						
N51A				LR	LR		
	comp=Z,3μm,19.0s						
N51A	Ashland	72.53	45	P	P	05 10 59.5	-0.4
	baz=325,SNR=10						
OJC	Ojcow	72.56	335	*e*P	P	05 11 00.4	+0.5
OJC	Ojcow	72.56	335	*e*P	P	05 11 00.4	+0.5
	comp=Z,66nm,1.1s						
OJC	Ojcow	72.56	335	*e*P	P	05 11 00.4	+0.5
ERPA	Erie	72.56	43	*e*P	P	05 11 00.6	+0.6
	comp=Z,31nm,0.8s						
ERPA				LR	LR		
	comp=Z,3μm,20.0s						
ERPA	Erie	72.56	43	P	P	05 10 59.5	-0.6
	baz=326						
PARMO	Parma	72.57	52	PFAKE		05 11 10.0	+10
PARMO				LR	LR		
	comp=Z,4μm,18.0s						
LONY	Lake Ozonia	72.60	38	PFAKE		05 11 10.0	+10
LONY				LR	LR		
	comp=Z,2μm,22.0s						
LONY	Lake Ozonia	72.60	38	P	P	05 10 59.1	-1.2
	baz=328						
O50A	Cable	72.62	46	P	P	05 11 00.4	-0.1
	baz=325,SNR=7.8						
P49A	Miami Univ. Ec	72.63	47	P	P	05 11 00.0	-0.5
	baz=325,SNR=6.8						
BCA	Borcka	72.63	316⇓	*i*P	P	05 11 00.0	-0.5
Q48A	North Vernon	72.65	48	P	P	05 11 00.7	0.0
	baz=324						
SIM	Simferopol'	72.67	323	*e*P	P	05 11 01.3	+0.6
SIM				*e*		05 11 14.0	
SIM				pmax	pmax		
	comp=Z,22nm,0.8s						
SIM				MLR	MLR		
	comp=Z,7μm,18.8s						
S46A	Don Dixon Farm	72.73	50	P	P	05 11 00.7	-0.4
	baz=324						
L54A	Sinclairville	72.74	42	P	P	05 11 00.9	-0.3
	baz=326						
X40A	Basin Creek Fa	72.75	56	*e*P	P	05 11 05.8	+4.5
	comp=Z,18nm,1.0s						
X40A				LR	LR		
	comp=Z,3μm,19.0s						
X40A	Basin Creek Fa	72.75	56	P	P	05 11 01.2	-0.1
	baz=322						
KIS	Kishinev	72.76	327⇑	*i*P	P	05 10 59.0	-2.1
KIS				*i*		05 11 11.0	
KIS				pmax	pmax		
	comp=Z,210nm,2.0s						
KIS				MLR	MLR		
	comp=Z,12μm,16.0s						
KIS				MLR	MLR		
	comp=N,5μm,18.0s						
UALR	University of	72.77	55	PFAKE		05 11 10.0	+8.6
UALR				LR	LR		
	comp=Z,2μm,20.0s						
PVMO	Portageville	72.79	52	PFAKE		05 11 10.0	+8.5
PVMO				LR	LR		
	comp=Z,5μm,18.0s						
FRNY	Flat Rock	72.79	37	PFAKE		05 11 10.0	+8.6
FRNY				LR	LR		
	comp=Z,4μm,19.0s						
R47A	Wooly Knot Far	72.80	49	P	P	05 11 01.4	-0.1
	baz=324						
T45A	Paducah	72.82	51	PFAKE		05 11 10.0	+8.4
T45A				LR	LR		
	comp=Z,4μm,20.0s						
T45A	Paducah	72.82	51	P	P	05 11 01.3	-0.3
	baz=323						
ACSO	Alum Creek Sta	72.83	46	*e*P	P	05 11 01.7	0.0
	comp=Z,40nm,1.1s						
ACSO				LR	LR		
	comp=Z,3μm,21.0s						
ACSO	Alum Creek Sta	72.83	46	P	P	05 11 01.2	-0.5
	baz=325						
M53A	WI Miller and	72.83	43	P	P	05 11 01.8	+0.1
	baz=326,SNR=9.9						
K55A	Perry	72.84	41	P	P	05 11 01.2	-0.6
	baz=327,SNR=5.5						
KSP	Ksiaz	72.86	337	*e*P	P	05 11 02.2	+0.6
KSP	Ksiaz	72.86	337	*e*P	P	05 11 02.3	+0.6
MOQ	Mont Orford	72.87	36	*e*P	P	05 11 02.2	+0.3
ALLY	Alegheny Colle	72.88	43	*e*P	P	05 11 02.7	+0.7
	comp=Z,43nm,1.0s						
ALLY				LR	LR		
	comp=Z,3μm,20.0s						
MMNY	Mt. Morris Dam	72.90	41	*e*P	P	05 11 02.2	+0.1
	comp=Z,34nm,0.9s						
MMNY				LR	LR		
	comp=Z,3μm,19.0s						
N52A	McGinn's Farm,	72.92	44	P	P	05 11 01.7	-0.6
	baz=326						
WCI	Wyandotte Cave	72.96	49	*e*P	P	05 11 02.6	+0.1
WCI				LR	LR		
	comp=Z,3μm,20.0s						
WCI	Wyandotte Cave	72.96	49	P	P	05 11 02.4	-0.1
	baz=324						
Q49A	Aurora	72.97	48	P	P	05 11 02.1	-0.5
	baz=325						
P50A	Jamestown	72.98	47	P	P	05 11 02.3	-0.3
	baz=325,SNR=6.8						
GNAR	Gosnell	72.99	53	PFAKE		05 11 20.0	+17
GNAR				LR	LR		
	comp=Z,3μm,19.0s						
HBAR	Harrisburg	73.00	54	PFAKE		05 11 20.0	+17
HBAR				LR	LR		
	comp=Z,3μm,21.0s						
R48A	Northridge Ran	73.02	49	P	P	05 11 02.7	-0.1
	baz=324						
CTA	Charters Tower	73.04	194	LR	LR	05 42 18.7	
	comp=Z,798nm,18.5s,baz=7.5,slow=35						
CTAO	Charters Tower	73.04	194	*e*P	P	05 11 04.2	+1.2
	comp=Z,30nm,1.1s						
CTAO				LR	LR		
	comp=Z,2μm,19.0s						
KOLS	Kolonicke sedl	73.05	333	*e*P	P	05 11 03.3	+0.5
KOLS				pmax	pmax		
	comp=Z,36nm,1.0s						
KOLS	Kolonicke sedl	73.05	333	*e*P	P	05 11 03.3	+0.5
GLAT	Glass	73.11	52	PFAKE		05 11 20.0	+17
GLAT				LR	LR		
	comp=Z,4μm,18.0s						
L55A	Hinsdale	73.15	42	P	P	05 11 03.1	-0.5
	baz=327,SNR=5.2						
435B	Jarrell	73.15	62	*e*P	P	05 11 07.2	+3.5
	comp=Z,26nm,0.8s						
435B	Jarrell	73.15	62	P	P	05 11 03.8	+0.1
	baz=321						
NIE	Niedzica	73.15	334	*e*P	P	05 11 04.3	+0.8
NIE	Niedzica	73.15	334	*e*P	P	05 11 04.3	+0.8
PQI	Presque Isle	73.15	32	*e*P	P	05 11 03.4	-0.1
	comp=Z,43nm,1.2s						
PQI				LR	LR		
	comp=Z,4μm,20.0s						
T46A	Princeton	73.16	51	P	P	05 11 04.0	+0.3
	baz=324,SNR=22						
CLL	Collm	73.19	339	*e*P	P	05 11 02.5	-1.0
	comp=Z,53nm,0.9s						
CLL				LR	LR		
	comp=Z,5μm,18.0s						
CLL	Collm	73.19	339⇑	*i*P	P	05 11 03.8	+0.2
CLL				*e*S	S	05 20 24.0	-3.9
CLL				pmax	pmax		
	comp=Z,40nm,0.8s						
CLL				MLR	MLR		
	comp=Z,5μm,18.3s						
CLL	Collm	73.19	339⇑	*i*P	P	05 11 03.8	+0.2
	comp=Z,40nm,0.8s						
CLL				*e*pP	pP	05 11 11.0	-4.6
CLL				*e*		05 11 17.0	
CLL				*e*S	SKiKP	05 20 30.0	-1.1
CLL				*e*sS	pS	05 20 45.0	+1.8
CLL				*e*PPS	PPS	05 21 14.0	
CLL				*e*SS	SS	05 25 12.0	+3.4
CLL				*e*SSS	SSS	05 28 24.0	
CLL				*e*SSSS		05 30 30.0	
CLL				LmH		05 46 00.0	
	comp=N,4μm,20.0s						
CLL				LmH		05 46 00.0	
	comp=E,4μm,18.0s						
CLL				LmV		05 48 00.0	
	comp=Z,5μm,18.3s						
S47A	Hartford	73.20	50	P	P	05 11 03.8	0.0
	baz=324,SNR=12						
M54A	Oil Creek Stat	73.20	43	*e*P	P	05 11 03.8	-0.1
	comp=Z,30nm,1.0s						
M54A				LR	LR		
	comp=Z,3μm,20.0s						
M54A	Oil Creek Stat	73.20	43	P	P	05 11 04.0	+0.1
	baz=326,SNR=7.8						
WLAR	White Oak Lake	73.24	57	PFAKE		05 11 20.0	+16
WLAR				LR	LR		
	comp=Z,2μm,18.0s						
UPC	Upice	73.24	337	*e*P	P	05 11 04.5	+0.5
UPC				*e*		05 11 17.7	
UPC				MLR	MLR		
	comp=Z,11μm,16.3s						
UPC	Upice	73.24	337	*e*P	P	05 11 04.5	+0.5
UPC				*e*pP	pP	05 11 17.7	+1.7
UPC				AMS	AMS	05 49 40.0	
	comp=Z,11μm,16.3s						
BATG	Bathurst New B	73.25	31	*e*P	P	05 11 05.0	+1.0
	comp=Z,68nm,1.1s						
PRAR	RASCA	73.27	329⇑	*i*P	P	05 11 05.3	+1.1
N53A	Lisbon	73.29	44	*e*P	P	05 11 04.5	+0.1
	comp=Z,43nm,1.0s						
N53A				LR	LR		
	comp=Z,4μm,18.0s						
N53A	Lisbon	73.29	44	P	P	05 11 04.2	-0.2
	baz=326,SNR=11						
NCB	Newcomb	73.29	38	PFAKE		05 11 20.0	+16
NCB				LR	LR		
	comp=Z,2μm,20.0s						
UZH	Uzhgorod	73.31	332	*d i*P	P	05 11 05.0	+0.6
UZH				*i*		05 11 20.2	
UZH				*e*PPP	PPP	05 15 35.7	
UZH				*e*S	S	05 20 20.0	-9.4
UZH				*e*SP	SKSac	05 21 05.0	-1.6
UZH				MLR	MLR		
	comp=N,1μm,17.0s						
UZH				MLR	MLR		
	comp=E,1μm,17.0s						
UZH				MLR	MLR		
	comp=Z,2μm,17.0s						
DPC	Dobruska-Polom	73.31	337	*e*P	P	05 11 05.2	+0.8
DPC				*e*		05 11 18.1	
DPC				MLR	MLR		
	comp=Z,8μm,17.0s						
DPC	Dobruska-Polom	73.31	337	*e*P	P	05 11 05.2	+0.8
DPC				*e*pP	pP	05 11 18.1	+1.6
DPC				AMS	AMS	05 49 30.0	
	comp=Z,8μm,17.0s						
OKC	Ostrava-Krasne	73.33	335	*e*P	P	05 11 05.5	+1.0
OKC				*e*		05 11 17.9	
OKC				MLR	MLR		
	comp=Z,10μm,16.7s						
OKC	Ostrava-Krasne	73.33	335	*e*P	P	05 11 05.5	+1.0
OKC				*e*pP	pP	05 11 17.9	+1.4
OKC				AMS	AMS	05 47 10.0	
	comp=Z,10μm,16.7s						
BUR08	Bucovina Ar. S	73.34	330	*e*P	P	05 11 04.8	+0.1
	comp=Z,51nm,0.8s						
BURAR	Bucovina Array	73.36	330⇓	*i*P	P	05 11 04.9	+0.1
HALT	Halls	73.37	53	PFAKE		05 11 20.0	+15
HALT				LR	LR		
	comp=Z,4μm,18.0s						
BRG	Berggiesshubel	73.38	338⇑	*i*P	P	05 11 05.0	+0.2
	comp=Z,15nm,1.1s						
BRG				*i*		05 11 16.8	
	comp=Z,24nm,1.1s						
BRG	Berggiesshubel	73.38	338⇑	*i*P	P	05 11 05.0	+0.2
BRG				*i*		05 11 16.8	
BRG				pmax	pmax		
	comp=Z,15nm,1.1s						
POO	Poona	73.39	279	*e*P	P	05 11 04.8	-0.5
POO				IAMs_20	IAMs_20	05 30 14.7	
	comp=Z,2μm,22.8s						
P51A	Williamsport	73.41	46	*e*P	P	05 11 07.0	+1.9
	comp=Z,15nm,0.9s						
P51A				LR	LR		
	comp=Z,3μm,21.0s						
P51A	Williamsport	73.41	46	P	P	05 11 04.6	-0.5
	baz=325						
R49A	Shelbyville	73.43	48	P	P	05 11 05.0	-0.2
	baz=325,SNR=6.0						
O52A	Adamsville	73.43	45	*e*P	P	05 11 05.5	+0.2
	comp=Z,61nm,0.9s						
O52A				LR	LR		
	comp=Z,3μm,19.0s						
O52A	Adamsville	73.43	45	P	P	05 11 04.9	-0.3
	baz=326,SNR=14						
KRLC	Kraliky	73.46	336	*e*P	P	05 11 05.8	+0.5
KRLC				*e*		05 11 16.0	
KRLC				MLR	MLR		
	comp=Z,3μm,17.0s						
KRLC	Kraliky	73.46	336	*e*P	P	05 11 05.8	+0.5
KRLC				*e*pP	pP	05 11 16.0	-1.3
KRLC				AMS	AMS	05 47 20.0	
	comp=Z,3μm,17.0s						
N54A	Moraine State	73.52	43	*e*P	P	05 11 05.1	-0.7
	comp=Z,53nm,1.1s						
N54A				LR	LR		
	comp=Z,3μm,20.0s						
N54A	Moraine State	73.52	43	P	P	05 11 05.5	-0.3
	baz=326,SNR=11						
S48A	Wiedeman Farm,	73.53	49	P	P	05 11 05.9	+0.1
	baz=324,SNR=12						
VT1	Waterbury	73.53	37	PFAKE		05 11 20.0	+14
VT1				LR	LR		
	comp=Z,3μm,19.0s						
MORC	Moravsky Berou	73.54	336	*e*P	P	05 11 06.0	+0.3
	comp=Z,54nm,1.0s						
MORC				LR	LR		
	comp=Z,11μm,18.0s						
MORC	Moravsky Berou	73.54	336⇓	*i*P	P	05 11 06.1	+0.3
MORC	Moravsky Berou	73.54	336	*e*P	P	05 11 06.4	+0.6
PVCC	Panska Ves	73.56	338	*e*P	P	05 11 07.6	+1.8
PVCC				MLR	MLR		
	comp=Z,7μm,15.9s						
PVCC	Panska Ves	73.56	338	*e*P	P	05 11 07.6	+1.8
PVCC				AMS	AMS	05 48 40.0	
	comp=Z,7μm,15.9s						
U46A	Springville	73.57	51	P	P	05 11 06.1	0.0
	baz=324						
AGRB	Hanur-Agry	73.57	314	P	P	05 11 06.7	+0.4
T47A	Sharon Grove	73.58	50	*e*P	P	05 11 06.5	+0.4
	comp=Z,38nm,1.0s						
T47A				LR	LR		
	comp=Z,4μm,20.0s						
T47A	Sharon Grove	73.58	50	P	P	05 11 06.6	+0.4
	baz=324,SNR=14						
O53A	New Philadelph	73.59	44	P	P	05 11 06.0	-0.2
	baz=326,SNR=11						
M55A	Ridgway	73.61	42	P	P	05 11 06.0	-0.3
	baz=327,SNR=7.6						
LANS	Liptovska Anna	73.62	334	*e*P	P	05 11 07.6	+1.4
LANS	Liptovska Anna	73.62	334	*e*P	P	05 11 07.6	+1.4
Q51A	Peebles	73.66	47	*e*P	P	05 11 08.9	+2.4
	comp=Z,20nm,1.0s						
Q51A				LR	LR		
	comp=Z,3μm,20.0s						
Q51A	Peebles	73.66	47	P	P	05 11 06.4	-0.2
	baz=325						
MDRS	Chennai	73.66	270	*e*P	P	05 11 06.9	0.0
MDRS				IAMs_20	IAMs_20	05 28 52.8	
	comp=Z,2μm,9.8s						
BIZ	Bicaz	73.69	329⇑	*i*P	P	05 11 06.7	+0.1
P52A	Corning	73.69	45	P	P	05 11 06.2	-0.6
	baz=326						
TRPA	Tarpa	73.69	332⇑	*i*P	P	05 11 07.3	+0.7
TRPA	Tarpa	73.69	332⇑	*i*P	P	05 11 07.0	+0.4
TRPA				*e*S	S	05 20 36.1	+2.3
MET	Memphis--Engin	73.70	53	PFAKE		05 11 20.0	+13
MET				LR	LR		
	comp=Z,3μm,21.0s						
X43A	Marvell	73.71	54	PFAKE		05 11 20.0	+13
X43A				LR	LR		
	comp=Z,3μm,18.0s						
X43A	Marvell	73.71	54	P	P	05 11 06.7	-0.2
	baz=323						
MARNC	Mare, Loyalty	73.72	172	PFAKE		05 11 20.0	+13
MARNC				LR	LR		
	comp=Z,5μm,21.0s						
Z41A	Richland Creek	73.73	57	PFAKE		05 11 20.0	+13
Z41A				LR	LR		
	comp=Z,3μm,19.0s						
Z41A	Richland Creek	73.73	57	P	P	05 11 07.7	+0.6
	baz=322						
CCAR	Cane Creek	73.74	55	PFAKE		05 11 20.0	+13
CCAR				LR	LR		
	comp=Z,3μm,20.0s						
S49A	Springfield	73.78	49	P	P	05 11 07.5	+0.2
	baz=325,SNR=12						
WTSB	Winterswijk	73.79	343	*e*P	P	05 11 07.7	+0.6
	comp=Z,96nm,1.3s						
WTSB				*e*X		05 11 17.5	
T48A	Bowling Green	73.81	50	P	P	05 11 07.5	0.0
	baz=324						
R50A	Paris	73.82	48	P	P	05 11 07.8	+0.2
	baz=325,SNR=6.0						
BMR	Baia Mare	73.83	331⇑	*i*P	P	05 11 08.7	+1.3
TESR	Tescani	73.89	329⇑	*i*P	P	05 11 07.6	-0.2
LBNH	Lisbon	73.91	36	PFAKE		05 11 20.0	+12
LBNH				LR	LR		
	comp=Z,3μm,18.0s						
LBNH	Lisbon	73.91	36	P	P	05 11 07.8	-0.2
	baz=330						
WVT	Waverly	73.92	51	*e*P	P	05 11 08.8	+0.7
	comp=Z,20nm,0.9s						
WVT				LR	LR		
	comp=Z,4μm,20.0s						
WVT	Waverly	73.92	51	P	P	05 11 08.1	-0.1
	baz=324						
U47A	Clarksville	73.93	51	P	P	05 11 08.2	0.0
	baz=324,SNR=7.9						
NATX	Nacogdoches	73.94	59	*e*P	P	05 11 12.2	+3.8
	comp=Z,57nm,1.1s						
NATX				LR	LR		
	comp=Z,2μm,22.0s						
NATX	Nacogdoches	73.94	59	P	P	05 11 08.7	+0.4
	baz=322						
KECS	Kecovo	73.95	333	*e*P	P	05 11 08.5	+0.3
KECS				pmax	pmax		
	comp=Z,88nm,0.8s						
KECS	Kecovo	73.95	333	*e*P	P	05 11 08.5	+0.3
PKME	Peaks-Kenny Pk	73.95	34	*e*P	P	05 11 09.1	+0.9
	comp=Z,33nm,1.0s						
PKME				LR	LR		
	comp=Z,4μm,20.0s						
PKME	Peaks-Kenny Pk	73.95	34	P	P	05 11 08.3	+0.1
	baz=331						
O54A	Avella	74.00	44	P	P	05 11 08.6	0.0
	baz=326,SNR=8.3						
ACCN	Adirondack Com	74.00	38	*e*P	P	05 11 08.7	+0.2
	comp=Z,17nm,0.9s						
ACCN				LR	LR		
	comp=Z,3μm,20.0s						
V46A	Holladay	74.05	52	P	P	05 11 08.9	0.0
	baz=324,SNR=9.2						
833A	Chaparral WMA,	74.06	64	*e*P	P	05 11 12.5	+3.4
	comp=Z,19nm,0.8s						
833A				LR	LR		
	comp=Z,2μm,19.0s						
833A	Chaparral WMA,	74.06	64	P	P	05 11 09.5	+0.4
	baz=321						
PRU	Pruhonice	74.07	338	*e*P	P	05 11 09.5	+0.7
PRU				*e*		05 11 20.6	
PRU				MLR	MLR		
	comp=Z,7μm,15.7s						
PRU	Pruhonice	74.07	338	*e*P	P	05 11 09.5	+0.7
PRU				*ex*	x	05 11 20.6	
PRU				AMS	AMS	05 48 10.0	
	comp=Z,7μm,15.7s						
GOPC	GO Pecny, Ondr	74.09	338	*e*P	P	05 11 09.3	+0.4
GOPC				*e*		05 11 19.1	
GOPC				MLR	MLR		
	comp=Z,8μm,16.5s						
GOPC	GO Pecny, Ondr	74.09	338	*e*P	P	05 11 09.3	+0.4
GOPC				*e*pP	pP	05 11 19.1	-1.9
GOPC				AMS	AMS	05 48 00.0	
	comp=Z,8μm,16.5s						
N55A	Marion Center	74.09	43	*e*P	P	05 11 09.1	-0.1
	comp=Z,45nm,1.0s						
N55A				LR	LR		
	comp=Z,4μm,19.0s						
N55A	Marion Center	74.09	43	P	P	05 11 09.1	-0.1
	baz=327,SNR=12						
ARCR	ARCALIA	74.10	330⇑	*i*P	P	05 11 10.2	+1.2
BINY	Binghamton	74.12	40	*e*P	P	05 11 09.3	+0.1
	comp=Z,25nm,1.1s						
BINY				LR	LR		
	comp=Z,3μm,20.0s						
BINY	Binghamton	74.12	40	P	P	05 11 08.3	-0.9
	baz=328						
P53A	Whipple	74.14	45	*e*P	P	05 11 09.8	+0.5
	comp=Z,21nm,1.0s						
P53A				LR	LR		
	comp=Z,3μm,19.0s						

P53A	**Whipple**	**74.14**	**45**	P	**P**	**05 11 09.3**	**-0.1**
	baz=326						
R51A	**Hillsboro**	**74.14**	**47**	P	**P**	**05 11 09.7**	**+0.2**
	baz=325,SNR=7.9						
DZM	**Mont Dzumac**	**74.19**	**174**	*e*P	**P**	**05 11 09.8**	**0.0**
	comp=Z,77nm,1.2s						
DZM				*e*S	**S**	**05 20 43.6**	**+3.8**
	comp=Z,5μm,26.7s						
DZM	**Mont Dzumac**	**74.19**	**174**	*e*LR	LR	05 34 13.0	
	comp=Z,4μm,22.1s						
DZM	**Mont Dzumac**	**74.19**	**174**	*e*P	**P**	**05 11 11.4**	**+1.7**
	comp=Z,16nm,1.0s						
DZM				LR	LR		
	comp=Z,3μm,18.0s						
DZM	**Mont Dzumac**	**74.19**	**174**	LR	LR	05 38 46.0	
	comp=Z,2μm,20.9s,baz=350,slow=32						
Q52A	**Bidwell**	**74.19**	**46**	P	**P**	**05 11 09.3**	**-0.4**
	baz=326						
VANB	**Van**	**74.20**	**313**	P	**P**	**05 11 11.5**	**+1.6**
VRAC	**Vranov**	**74.21**	**336**	⇓*i*P	**P**	**05 11 10.6**	**+0.9**
VRAC	**Vranov**	**74.21**	**336**	*e*P	**P**	**05 11 10.6**	**+0.9**
T49A	**Edmonton**	**74.22**	**49**	*e*P	**P**	**05 11 10.2**	**+0.2**
	comp=Z,19nm,0.9s						
T49A				LR	LR		
	comp=Z,3μm,20.0s						
T49A	**Edmonton**	**74.22**	**49**	P	**P**	**05 11 10.3**	**+0.4**
	baz=325,SNR=9.3						
MNAI	**Manna**	**74.22**	**241**	PFAKE		05 11 20.0	+10
MNAI				LR	LR		
	comp=Z,2μm,20.0s						
U48A	**Cassie Pea, Po**	**74.23**	**50**	P	**P**	**05 11 10.1**	**+0.1**
	baz=324,SNR=9.5						
HNH	**Hanover**	**74.24**	**37**	*e*P	**P**	**05 11 10.8**	**+0.9**
	comp=Z,23nm,1.0s						
HNH				LR	LR		
	comp=Z,4μm,22.0s						
S50A	**Richmond**	**74.28**	**48**	P	**P**	**05 11 10.5**	**+0.2**
	baz=325,SNR=5.4						
DSB	**Dublin**	**74.29**	**352**	*e*P	**P**	**05 11 10.7**	**+0.7**
	comp=Z,29nm,0.8s						
V47A	**Nunnelly**	**74.31**	**51**	P	**P**	**05 11 10.2**	**-0.2**
	baz=324						
NKC	**Novy Kostel**	**74.32**	**339**	*e*P	**P**	**05 11 11.0**	**+0.7**
NKC				MLR	MLR		
	comp=Z,4μm,15.8s						
NKC	**Novy Kostel**	**74.32**	**339**	*e*P	**P**	**05 11 11.0**	**+0.7**
NKC				AMS	AMS	05 50 30.0	
	comp=Z,4μm,15.8s						
TLCR		**74.35**	**327**	⇓*i*P	**P**	**05 11 10.8**	**+0.3**
JAVC	**Velka Javorina**	**74.36**	**335**	*e*P	**P**	**05 11 12.2**	**+1.6**
VYHS	**Vyhne**	**74.39**	**334**	*e*P	**P**	**05 11 11.5**	**+0.8**
VYHS				pmax	pmax		
	comp=Z,159nm,2.4s						
VYHS	**Vyhne**	**74.39**	**334**	*e*P	**P**	**05 11 11.5**	**+0.8**
CISI	**Cisompet, Garu**	**74.41**	**235**	PFAKE		05 11 20.0	+8.8
CISI				LR	LR		
	comp=Z,2μm,21.0s						
O55A	**Ligonier**	**74.44**	**43**	P	**P**	**05 11 11.0**	**-0.1**
	baz=327,SNR=9.1						
VRI	**Vrincioaia**	**74.44**	**328**	⇑*i*P	**P**	**05 11 11.4**	**+0.4**
WVL	**Waterville**	**74.44**	**35**	*e*P	**P**	**05 11 11.9**	**+0.9**
	comp=Z,48nm,1.1s						
WVL				LR	LR		
	comp=Z,4μm,18.0s						
P54A	**Burton**	**74.44**	**44**	P	**P**	**05 11 11.5**	**+0.3**
	baz=326,SNR=12						
OXF	**Oxford**	**74.45**	**53**	*e*P	**P**	**05 11 11.1**	**-0.2**
	comp=Z,66nm,1.0s						
OXF				LR	LR		
	comp=Z,3μm,22.0s						
OXF	**Oxford**	**74.45**	**53**	P	**P**	**05 11 11.0**	**-0.2**
	baz=324						
W46A	**Michie**	**74.46**	**52**	P	**P**	**05 11 10.9**	**-0.4**
	baz=324						
PLOR	**Plostina**	**74.48**	**328**	⇑*i*P	**P**	**05 11 12.3**	**+1.0**
KRUC	**Moravsky**	**74.49**	**336**	*e*P	**P**	**05 11 12.0**	**+0.7**
TREC	**Trest**	**74.50**	**337**	*e*P	**P**	**05 11 11.9**	**+0.6**
TREC				*e*		05 11 24.2	
TREC				MLR	MLR		
	comp=Z,10μm,16.6s						
TREC	**Trest**	**74.50**	**337**	*e*P	**P**	**05 11 11.9**	**+0.6**
TREC				*e*pP	**pP**	**05 11 24.2**	**+0.8**
TREC				AMS	AMS	05 50 20.0	
	comp=Z,10μm,16.6s						
OZUR		**74.53**	**329**	⇑*i*P	**P**	**05 11 11.7**	**+0.1**
R52A	**Catlettsburg**	**74.53**	**47**	P	**P**	**05 11 11.6**	**-0.1**
	baz=326						
LTVH	**Ltavrtes, Hu**	**74.55**	**332**	⇑*i*P	**P**	**05 11 12.0**	**+0.4**
LTVH				*e*S	S	05 21 08.1	+25
OUENC	**Ouen Island, N**	**74.56**	**174**	PFAKE		05 11 30.0	+18
OUENC				LR	LR		
	comp=Z,4μm,20.0s						
TRY	**Troy**	**74.56**	**38**	PFAKE		05 11 20.0	+8.2
TRY				LR	LR		
	comp=Z,3μm,20.0s						
CFR	**Carcaliu**	**74.58**	**327**	⇑*i*P	**P**	**05 11 11.6**	**-0.2**
U49A	**Red Boiling Sp**	**74.59**	**50**	P	**P**	**05 11 12.2**	**+0.2**
	baz=325,SNR=12						
VRTB	**Varto-Mus**	**74.59**	**315**	P	**P**	**05 11 13.8**	**+1.6**
Q53A	**Leroy**	**74.60**	**46**	P	**P**	**05 11 11.9**	**-0.2**
	baz=326,SNR=8.2						
AKDM	**Akdamar-Van**	**74.60**	**314**	P	**P**	**05 11 13.0**	**+0.7**
T50A	**Nancy**	**74.61**	**49**	P	**P**	**05 11 12.1**	**-0.1**
	baz=325,SNR=11						
PSZ	**Piszkesteto**	**74.63**	**334**	*e*P	**P**	**05 11 13.0**	**+0.8**
	comp=Z,51nm,1.0s						
PSZ				LR	LR		
	comp=Z,15μm,18.0s						
PSZ	**Piszkesteto**	**74.63**	**334**	⇑*i*P	**P**	**05 11 13.1**	**+0.9**
CJR	**Cluj-Napoca**	**74.66**	**331**	⇑*i*P	**P**	**05 11 13.3**	**+0.9**
MCWV	**Mont Chateau**	**74.66**	**44**	*e*P	**P**	**05 11 13.0**	**+0.5**
	comp=Z,26nm,1.0s						
MCWV				LR	LR		
	comp=Z,2μm,18.0s						
MCWV	**Mont Chateau**	**74.66**	**44**	P	**P**	**05 11 12.6**	**+0.1**
	baz=327,SNR=13						
CLTN	**Cedars of Leba**	**74.67**	**50**	*e*P	**P**	**05 11 13.0**	**+0.5**
	comp=Z,15nm,0.9s						
CLTN				LR	LR		
	comp=Z,2μm,19.0s						
SSPA	**Standing Stone**	**74.67**	**42**	*e*P	**P**	**05 11 09.4**	**-3.0**
	comp=Z,36nm,1.0s						
SSPA				LR	LR		
	comp=Z,3μm,18.0s						
SSPA	**Standing Stone**	**74.67**	**42**	P	**P**	**05 11 12.2**	**-0.2**
	baz=328						
S51A	**Beattyville**	**74.68**	**48**	*e*P	**P**	**05 11 13.7**	**+1.1**
	comp=Z,16nm,0.9s						
S51A				LR	LR		
	comp=Z,4μm,18.0s						
S51A	**Beattyville**	**74.68**	**48**	P	**P**	**05 11 12.7**	**+0.1**
	baz=325						
O56A	**Blue Knob Stat**	**74.69**	**43**	*e*P	**P**	**05 11 12.7**	**0.0**
	comp=Z,35nm,0.9s						
O56A				LR	LR		
	comp=Z,4μm,20.0s						
O56A	**Blue Knob Stat**	**74.69**	**43**	P	**P**	**05 11 12.5**	**-0.2**
	baz=327,SNR=12						
V48A	**Smith Brothers**	**74.72**	**51**	*e*P	**P**	**05 11 13.2**	**+0.4**
	comp=Z,30nm,1.0s						
V48A				LR	LR		
	comp=Z,3μm,21.0s						
V48A	**Smith Brothers**	**74.72**	**51**	P	**P**	**05 11 12.7**	**-0.1**
	baz=324,SNR=8.1						
PLAL	**Pickwick Lake**	**74.72**	**52**	*e*P	**P**	**05 11 13.0**	**+0.1**
	comp=Z,24nm,0.9s						
PLAL				LR	LR		
	comp=Z,3μm,19.0s						
SMOL	**Smolenice**	**74.74**	**335**	*e*P	**P**	**05 11 14.3**	**+1.5**
SMOL	**Smolenice**	**74.74**	**335**	*e*P	**P**	**05 11 14.2**	**+1.5**
HKT	**Hockley**	**74.74**	**61**	PFAKE		05 11 30.0	+17
HKT				LR	LR		
	comp=Z,3μm,22.0s						
W47A	**Westpoint**	**74.74**	**52**	P	**P**	**05 11 12.8**	**-0.2**
	baz=324,SNR=6.0						
SNOP	**Sinop**	**74.76**	**321**	P	**P**	**05 11 13.1**	**+0.2**
SNOP	**Sinop**	**74.76**	**321**	PFAKE		05 11 20.0	+7.1
SNOP				LR	LR		
	comp=Z,3μm,18.0s						
DOPR	**Dopca**	**74.78**	**329**	⇓*i*P	**P**	**05 11 13.9**	**+0.9**
GRER		**74.79**	**328**	⇑*i*P	**P**	**05 11 14.1**	**+1.0**
PINNC	**Pines Island,**	**74.80**	**173**	PFAKE		05 11 30.0	+17
PINNC				LR	LR		
	comp=Z,4μm,20.0s						
P55A	**Reedsville**	**74.80**	**44**	P	**P**	**05 11 13.1**	**-0.1**
	baz=327,SNR=15						
Q54A	**Coxs Mills**	**74.80**	**45**	*e*P	**P**	**05 11 13.3**	**0.0**
Q54A				LR	LR		
	comp=Z,3μm,19.0s						
Q54A	**Coxs Mills**	**74.80**	**45**	P	**P**	**05 11 11.7**	**-1.5**
	baz=326						
X46A	**Booneville**	**74.82**	**53**	P	**P**	**05 11 13.2**	**-0.2**
	baz=324						
R53A	**Hurricane**	**74.85**	**46**	*e*P	**P**	**05 11 13.9**	**+0.4**
	comp=Z,31nm,0.9s						
R53A				LR	LR		
	comp=Z,4μm,21.0s						
R53A	**Hurricane**	**74.85**	**46**	P	**P**	**05 11 13.3**	**-0.3**
	baz=326						
DRGR		**74.85**	**331**	⇑*i*P	**P**	**05 11 13.8**	**+0.3**
S52A	**Salyersville**	**74.88**	**47**	P	**P**	**05 11 13.7**	**0.0**
	baz=326						
MODS	**Modra-Piesok**	**74.91**	**335**	*e*P	**P**	**05 11 14.0**	**+0.3**
MODS				pmax	pmax		
	comp=Z,252nm,2.4s						
MODS	**Modra-Piesok**	**74.91**	**335**	*e*P	**P**	**05 11 14.0**	**+0.3**
GGN	**Saint George**	**74.91**	**32**	*e*P	**P**	**05 11 14.4**	**+0.7**
	comp=Z,44nm,1.0s						
GGN				LR	LR		
	comp=Z,4μm,18.0s						
LMN	**Caledonia Moun**	**74.91**	**31**	*e*P	**P**	**05 11 14.1**	**+0.3**
	comp=Z,51nm,1.0s						
LMN				LR	LR		
	comp=Z,3μm,21.0s						
MDB	**Medias**	**74.93**	**330**	⇑*i*P	**P**	**05 11 14.5**	**+0.6**
MLR	**Muntele Rosu**	**75.02**	**329**	*e*P	**P**	**05 11 14.4**	**-0.2**
	comp=Z,78nm,1.0s						
MLR				LR	LR		
	comp=Z,11μm,18.0s						
MLR	**Muntele Rosu**	**75.02**	**329**	⇓*i*P	**P**	**05 11 14.9**	**+0.3**
MLR	**Muntele Rosu**	**75.02**	**329**	LR	LR	05 50 36.8	
	comp=Z,10μm,18.0s,baz=26,slow=41						
DIKM	**Dikmen**	**75.06**	**321**	P	**P**	**05 11 15.5**	**+0.8**
DIKM	**Dikmen**	**75.06**	**321**	⇑*i*P	**P**	**05 11 15.1**	**+0.4**
BNGB	**Bingl**	**75.06**	**315**	P	**P**	**05 11 15.8**	**+0.9**
EMMW	**East Machias**	**75.06**	**33**	*e*P	**P**	**05 11 15.5**	**+0.9**
	comp=Z,59nm,1.1s						
EMMW				LR	LR		
	comp=Z,5μm,19.0s						
T51A	**Gray**	**75.07**	**48**	P	**P**	**05 11 14.8**	**-0.1**
	baz=325						
GRA1	**Grafenberg Arr**	**75.09**	**340**	*e*P	**P**	**05 11 16.1**	**+1.3**
	comp=Z,85nm,1.1s						
GRA1				LR	LR		
	comp=Z,4μm,20.0s						
GRFO	**Grafenberg**	**75.09**	**340**	*e*P	**P**	**05 11 16.1**	**+1.4**
	comp=Z,79nm,1.1s						
GRFO				LR	LR		
	comp=Z,4μm,20.0s						
HGN	**Heimansgroeve**	**75.09**	**343**	*e*P	**P**	**05 11 15.0**	**+0.3**
	comp=Z,453nm,2.2s						
HGN				*e*X		05 11 23.9	
KHC	**Kasperske Hory**	**75.10**	**338**	*e*P	**P**	**05 11 15.8**	**+0.9**
	comp=Z,17nm,1.0s						
KHC				LR	LR		
	comp=Z,2μm,22.0s						
KHC	**Kasperske Hory**	**75.10**	**338**	*e*P	**P**	**05 11 15.8**	**+0.9**
KHC				*e*		05 11 28.3	
KHC				MLR	MLR		
	comp=Z,8μm,15.5s						
KHC	**Kasperske Hory**	**75.10**	**338**	*e*P	**P**	**05 11 15.8**	**+0.9**
KHC				*e*pP	**PcP**	**05 11 28.3**	**0.0**
KHC				AMS	AMS	05 49 40.0	
	comp=Z,8μm,15.5s						
U50A	**Jamestown**	**75.10**	**49**	P	**P**	**05 11 14.9**	**-0.2**
	baz=325,SNR=8.9						
BEBN	**Eben Emael**	**75.11**	**344**	⇑P	**P**	**05 11 15.4**	**+0.7**
Q55A	**Buckhannon**	**75.11**	**44**	P	**P**	**05 11 15.2**	**+0.1**
	baz=327						
ZST	**Bratislava**	**75.11**	**335**	*e*P	**P**	**05 11 15.2**	**+0.3**
ZST	**Bratislava**	**75.11**	**335**	*e*P	**P**	**05 11 15.1**	**+0.2**
V49A	**McMinnville**	**75.13**	**50**	P	**P**	**05 11 15.1**	**-0.1**
	baz=325						
TLB	**Topalu**	**75.14**	**327**	⇓*i*P	**P**	**05 11 14.8**	**-0.2**
W48A	**Pulaski**	**75.15**	**51**	P	**P**	**05 11 15.1**	**-0.2**
	baz=324,SNR=10.0						
X47A	**Russelville**	**75.20**	**52**	P	**P**	**05 11 15.8**	**+0.2**
	baz=324,SNR=5.7						
CUKT	**Cukurca**	**75.21**	**312**	P	**P**	**05 11 16.0**	**+0.2**
KVT	**Kavak**	**75.23**	**320**	P	**P**	**05 11 16.7**	**+1.0**
MEM	**Membach**	**75.23**	**343**	⇑P	**P**	**05 11 16.1**	**+0.6**
	comp=Z,67nm,0.9s						
BZK	**Bozkurt**	**75.28**	**322**	P	**P**	**05 11 15.9**	**0.0**
BZK	**Bozkurt**	**75.28**	**322**	⇑*i*P	**P**	**05 11 16.8**	**+0.9**
N59A	**State Game Lan**	**75.29**	**41**	*e*P	**P**	**05 11 16.4**	**+0.3**
	comp=Z,26nm,0.9s						
N59A				LR	LR		
	comp=Z,4μm,19.0s						
N59A	**State Game Lan**	**75.29**	**41**	P	**P**	**05 11 16.0**	**-0.1**
	baz=328,SNR=8.5						
S53A	**Williamson**	**75.31**	**47**	P	**P**	**05 11 16.3**	**+0.1**
	baz=326						
WC2	**Warramunga Arr**	**75.32**	**205**	PFAKE		05 11 30.0	+14
WC2				LR	LR		
	comp=Z,2μm,20.0s						
WC1	**Warramunga Arr**	**75.32**	**205**	PFAKE		05 11 30.0	+14
WC1				LR	LR		
	comp=Z,2μm,22.0s						
UCC	**Uccle**	**75.33**	**344**	PFAKE		05 11 30.0	+14
UCC				LR	LR		
	comp=Z,3μm,18.0s						
WRAB	**Tennant Creek**	**75.33**	**205**	PFAKE		05 11 30.0	+14
WRAB				LR	LR		
	comp=Z,2μm,20.0s						
WRAB	**Tennant Creek**	**75.33**	**205**	*ce*P	**P**	**05 11 15.7**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,45nm,1.7s						
WR4	**Warramunga Arr**	**75.33**	**205**	PFAKE		05 11 30.0	+14
WR4				LR	LR		
	comp=Z,2μm,22.0s						
WR3	**Warramunga Arr**	**75.33**	**205**	PFAKE		05 11 30.0	+14
WR3				LR	LR		
	comp=Z,2μm,22.0s						
WB2	**Warramunga Arr**	**75.34**	**205**	*e*P	**P**	**05 11 16.2**	**-0.2**
	comp=Z,52nm,0.8s						
GEC2	**GERESS Array S**	**75.34**	**338**	*e*P	**P**	**05 11 16.9**	**+0.5**
	comp=Z,21nm,0.8s						
GEC2				LR	LR		
	comp=Z,6μm,22.0s						
GERES	**GERESS Array B**	**75.34**	**338**	P	**P**	**05 11 16.8**	**+0.5**
	comp=Z,8.6nm,0.6s,baz=34,slow=4.9,SNR=54						
GERES				LR	LR	05 48 00.2	
	comp=Z,4μm,21.9s,baz=24,slow=39						
WR1	**Warramunga Arr**	**75.34**	**205**	*e*P	**P**	**05 11 15.9**	**-0.4**
WRA	**Warramunga Arr**	**75.34**	**205**	P	**P**	**05 11 16.0**	**-0.4**
WRA	**Warramunga Arr**	**75.34**	**205**	P	**P**	**05 11 15.9**	**-0.4**
	comp=Z,9.8nm,0.8s,baz=23,slow=5.5,SNR=38						
VOIR		**75.36**	**329**	⇑*i*P	**P**	**05 11 17.0**	**+0.6**
WC4	**Warramunga Arr**	**75.36**	**205**	PFAKE		05 11 30.0	+14
WC4				LR	LR		
	comp=Z,2μm,22.0s						
MFTR	**Murfatlar**	**75.37**	**326**	⇑*i*P	**P**	**05 11 16.7**	**+0.3**
T52A	**Hallie**	**75.39**	**48**	*e*P	**P**	**05 11 19.6**	**+2.9**
	comp=Z,43nm,1.1s						
T52A				LR	LR		
	comp=Z,4μm,18.0s						
T52A	**Hallie**	**75.39**	**48**	P	**P**	**05 11 16.8**	**+0.1**
	baz=326,SNR=6.7						
R54A	**Victor**	**75.39**	**46**	P	**P**	**05 11 16.5**	**-0.2**
	baz=326,SNR=6.7						
QUA2	**Belchertown**	**75.45**	**38**	PFAKE		05 11 30.0	+13
QUA2				LR	LR		
	comp=Z,3μm,19.0s						
W49A	**Belvidere**	**75.49**	**51**	P	**P**	**05 11 17.3**	**0.0**
	baz=325						
PAGS	**Pennsylvania G**	**75.49**	**42**	*e*P	**P**	**05 11 17.4**	**+0.2**
	comp=Z,34nm,1.0s						
PAGS				LR	LR		
	comp=Z,3μm,19.0s						
KSCT	**Kent School, K**	**75.49**	**39**	PFAKE		05 11 30.0	+13
KSCT				LR	LR		
	comp=Z,3μm,20.0s						
U51A	**La Follette**	**75.52**	**49**	P	**P**	**05 11 17.5**	**0.0**
	baz=325,SNR=7.3						
BCLA	**Clavier**	**75.54**	**344**	⇓P	**P**	**05 11 17.6**	**+0.4**
BCLA				⇑PcP	**pP**	**05 11 30.7**	**+1.3**
SVAN	**Silvan-Diyarba**	**75.54**	**315**	P	**P**	**05 11 18.0**	**+0.4**
MTUR	**Matau**	**75.54**	**329**	⇑*i*P	**P**	**05 11 17.9**	**+0.4**
HRV	**Adam Dziewonsk**	**75.55**	**37**	PFAKE		05 11 30.0	+13
HRV				LR	LR		
	comp=Z,4μm,22.0s						
HRV	**Adam Dziewonsk**	**75.55**	**37**	P	**P**	**05 11 17.3**	**-0.1**
	baz=330						
ARR	**Arges**	**75.55**	**329**	⇓*i*P	**P**	**05 11 18.5**	**+1.0**
SWET	**Sewanee**	**75.57**	**51**	*e*P	**P**	**05 11 17.9**	**+0.1**
	comp=Z,32nm,0.9s						
SWET				LR	LR		
	comp=Z,3μm,20.0s						
CSKK	**Cskako**	**75.58**	**334**	*e*P	**P**	**05 11 19.0**	**+1.4**
V50A	**Pikevile**	**75.59**	**50**	P	**P**	**05 11 17.6**	**-0.3**
	baz=325,SNR=11						
TZTN	**Tazewell**	**75.60**	**48**	*e*P	**P**	**05 11 18.6**	**+0.7**
	comp=Z,21nm,0.9s						
TZTN				LR	LR		
	comp=Z,3μm,19.0s						
TZTN	**Tazewell**	**75.60**	**48**	P	**P**	**05 11 18.2**	**+0.4**
	baz=326						
ODNJ	**Ogdensburg**	**75.61**	**40**	PFAKE		05 11 30.0	+12
ODNJ				LR	LR		
	comp=Z,3μm,20.0s						
NIUE	**Niue**	**75.62**	**151**	PFAKE		05 11 30.0	+12
NIUE				LR	LR		
	comp=Z,5μm,20.0s						
SNF	**Seneffe**	**75.62**	**344**	⇓P	**P**	**05 11 18.5**	**+0.8**
SNF				⇑PcP	**PcP**	**05 11 30.2**	**-0.2**
SNF				⇑sP	**pwP**	**05 11 32.6**	**-0.1**
	comp=Z,48nm,0.9s						
ICOR	**Ion Corvin**	**75.63**	**327**	⇑*i*P	**P**	**05 11 19.2**	**+1.3**
O59A	**Robesonia**	**75.64**	**41**	P	**P**	**05 11 17.5**	**-0.5**
	baz=328,SNR=6.8						
SIRR	**Siria**	**75.64**	**332**	⇓*i*P	**P**	**05 11 18.7**	**+0.8**
SULR		**75.65**	**328**	⇑*i*P	**P**	**05 11 18.7**	**+0.7**
X48A	**Hartselle**	**75.65**	**52**	*e*P	**P**	**05 11 18.1**	**-0.1**
	comp=Z,11nm,1.1s						
X48A				LR	LR		
	comp=Z,3μm,19.0s						
X48A	**Hartselle**	**75.65**	**52**	P	**P**	**05 11 17.1**	**-1.1**
	baz=324						
TOKT	**Tokat**	**75.67**	**319**	P	**P**	**05 11 19.1**	**+0.8**
CONA	**Conrad Observa**	**75.68**	**336**	*i* P	**P**	**05 11 19.5**	**+1.2**
	comp=Z,25nm,0.7s,SNR=28						
R55A	**Marlinton**	**75.69**	**45**	PFAKE		05 11 30.0	+12
R55A				LR	LR		
	comp=Z,3μm,18.0s						
R55A	**Marlinton**	**75.69**	**45**	P	**P**	**05 11 18.6**	**+0.1**
	baz=327						
T53A	**Wise**	**75.70**	**47**	P	**P**	**05 11 18.9**	**+0.4**
	baz=326,SNR=5.2						
LUPA	**Lehigh Univers**	**75.72**	**40**	*e*P	**P**	**05 11 18.9**	**+0.4**
	comp=Z,2.2nm,1.0s						
LUPA				LR	LR		
	comp=Z,300nm,20.0s						
VBMS	**Vicksburg**	**75.72**	**56**	PFAKE		05 11 30.0	+11
VBMS				LR	LR		
	comp=Z,2μm,19.0s						
VBMS	**Vicksburg**	**75.72**	**56**	P	**P**	**05 11 18.8**	**+0.2**
	baz=324						
SOP	**Sopron**	**75.73**	**336**	⇑*i*P	**P**	**05 11 19.1**	**+0.7**
SOP				*e*S	**S**	**05 21 02.1**	**+5.6**
GOA	**Goa**	**75.73**	**277**	*e*P	**P**	**05 11 18.4**	**-0.5**
WES	**Weston**	**75.74**	**37**	*e*P	**P**	**05 11 19.3**	**+0.8**
	comp=Z,34nm,1.0s						
WES				LR	LR		
	comp=Z,4μm,21.0s						
LOT	**Lotru**	**75.75**	**330**	⇑*i*P	**P**	**05 11 19.0**	**+0.3**
Q57A	**Strasburg**	**75.79**	**43**	P	**P**	**05 11 18.6**	**-0.3**
	baz=328						
U52A	**Thorn Hill**	**75.80**	**48**	P	**P**	**05 11 19.1**	**0.0**
	baz=326,SNR=10						
SVSK	**Karacayir**	**75.83**	**318**	P	**P**	**05 11 20.4**	**+1.3**
V51A	**Loudon**	**75.83**	**49**	*e*P	**P**	**05 11 19.6**	**+0.4**
	comp=Z,34nm,1.1s						
V51A				LR	LR		
	comp=Z,3μm,20.0s						
V51A	**Loudon**	**75.83**	**49**	P	**P**	**05 11 19.2**	**0.0**
	baz=325,SNR=6.1						
MVL	**Millersville**	**75.83**	**41**	*e*P	**P**	**05 11 19.4**	**+0.3**
	comp=Z,22nm,1.0s						
MVL				LR	LR		
	comp=Z,4μm,21.0s						
BCX	**Boston College**	**75.84**	**37**	PFAKE		05 11 30.0	+11
BCX				LR	LR		
	comp=Z,3μm,20.0s						
W50A	**Signal Mountai**	**75.87**	**50**	*e*P	**P**	**05 11 19.9**	**+0.3**
	comp=Z,26nm,0.8s						
W50A				LR	LR		
	comp=Z,3μm,20.0s						
W50A	**Signal Mountai**	**75.87**	**50**	P	**P**	**05 11 19.3**	**-0.2**
	baz=325,SNR=9.3						
PSN	**Preselentsi**	**75.89**	**326**	*e*P	**P**	**05 11 20.0**	**+0.6**
O60A	**Telford**	**75.94**	**41**	P	**P**	**05 11 19.2**	**-0.6**
	baz=329						
PAL	**Palisades**	**75.95**	**39**	*e*P	**P**	**05 11 20.1**	**+0.4**
	comp=Z,42nm,1.0s						
PAL				LR	LR		
	comp=Z,2μm,19.0s						
PAL	**Palisades**	**75.95**	**39**	P	**P**	**05 11 19.6**	**-0.2**
	baz=329,SNR=5.5						
S55A	**Lewisburg**	**75.95**	**45**	P	**P**	**05 11 19.5**	**-0.4**
	baz=327						
X49A	**Woodville**	**75.95**	**51**	P	**P**	**05 11 19.9**	**0.0**
	baz=325						
BRNJ	**Basking Ridge**	**75.97**	**40**	PFAKE		05 11 30.0	+10
BRNJ				LR	LR		
	comp=Z,4μm,20.0s						
DOU	**Dourbes**	**75.97**	**344**	⇑P	**P**	**05 11 20.1**	**+0.4**
DOU				⇑PcP	**pP**	**05 11 33.2**	**+1.3**
	comp=Z,30nm,1.3s						
Y48A	**Jasper**	**76.03**	**52**	P	**P**	**05 11 20.0**	**-0.4**
	baz=324						
CPCT	**Cooper Cave**	**76.04**	**50**	*e*P	**P**	**05 11 20.8**	**+0.4**
	comp=Z,26nm,0.9s						
CPCT				LR	LR		
	comp=Z,3μm,19.0s						
YLE	**Yale**	**76.06**	**38**	PFAKE		05 11 30.0	+10
YLE				LR	LR		
	comp=Z,4μm,21.0s						
BRYW	**Bryant College**	**76.06**	**37**	PFAKE		05 11 30.0	+10
BRYW				LR	LR		
	comp=Z,4μm,21.0s						
T54A	**Tazewell**	**76.06**	**47**	P	**P**	**05 11 20.4**	**-0.2**
	baz=326,SNR=8.9						
GZR	**Gura Zlata**	**76.10**	**331**	⇓*i*P	**P**	**05 11 21.0**	**+0.4**
TIH	**Tihany**	**76.11**	**334**	*i* P	**P**	**05 11 21.1**	**+0.5**
TIH				*e*S	S	05 21 15.1	+14
CPNY	**Central Park**	**76.11**	**39**	*e*P	**P**	**05 11 20.7**	**0.0**
	comp=Z,28nm,0.8s						
WLF	**Walferdange**	**76.11**	**343**	PFAKE		05 11 30.0	+9.

T55A	Pulaski	76.37	46	P		P	05 11 22.5 +0.2
	baz=327						
HAL	Halifax	76.38	31	eP		P	05 11 23.4 +1.2
	comp=Z,49nm,0.9s						
HAL				LR		LR	
	comp=Z,4µm,19.0s						
STU	Stuttgart	76.39	341	PFAKE			05 11 30.0 +7.9
STU				LR		LR	
	comp=Z,4µm,18.0s						
ARSA	Arzberg	76.39	336	i P		P	05 11 23.4 +1.2
	comp=Z,22nm,0.8s,SNR=13						
U54A	Nelsons Funny	76.40	47	eP		P	05 11 24.1 +1.6
	comp=Z,22nm,0.9s						
U54A				LR		LR	
	comp=Z,3µm,19.0s						
U54A	Nelsons Funny	76.40	47	P		P	05 11 22.6 0.0
	baz=326						
S56A	Natural Bridge	76.44	45	P		P	05 11 22.8 +0.2
	baz=327						
Y49A	Blount Mountai	76.44	52	eP		P	05 11 22.4 -0.4
	comp=Z,12nm,0.8s						
Y49A				LR		LR	
	comp=Z,3µm,20.0s						
Y49A	Blount Mountai	76.44	52	P		P	05 11 23.0 +0.3
	baz=325						
BLA	Blacksburg	76.45	46	eP		P	05 11 23.4 +0.7
	comp=Z,29nm,0.9s						
BLA				LR		LR	
	comp=Z,4µm,19.0s						
BLA	Blacksburg	76.45	46	P		P	05 11 22.7 -0.1
	baz=327						
CORM	Corum	76.56	320	P		P	05 11 24.5 +1.1
ZAIG	Zacatecas	76.56	70	eP		P	05 11 24.9 +1.0
	comp=Z,18nm,1.1s						
ZAIG				LR		LR	
	comp=Z,2µm,22.0s						
PRD	Provadia	76.58	327	eP		P	05 11 23.9 +0.6
R58A	Rapidan	76.58	43	P		P	05 11 23.1 -0.3
	baz=328,SNR=5.7						
CANT	Cankiri	76.59	321	P		P	05 11 25.1 +1.6
X51A	Calhoun	76.61	50	eP		P	05 11 25.3 +1.7
	comp=Z,27nm,1.0s						
X51A				LR		LR	
	comp=Z,4µm,19.0s						
X51A	Calhoun	76.61	50	P		P	05 11 23.2 -0.4
	baz=325						
W52A	Murphy	76.61	49	eP		P	05 11 24.2 +0.6
	comp=Z,29nm,1.0s						
W52A				LR		LR	
	comp=Z,3µm,20.0s						
W52A	Murphy	76.61	49	P		P	05 11 23.7 0.0
	baz=326,SNR=5.5						
SRE	Strehaia	76.63	330	⇓i P		P	05 11 23.5 -0.1
S57A	Dark Hollow, R	76.63	44	eP		P	05 11 24.5 +0.8
	comp=Z,19nm,1.0s						
S57A				LR		LR	
	comp=Z,4µm,19.0s						
S57A	Dark Hollow, R	76.63	44	P		P	05 11 23.9 +0.2
	baz=327,SNR=7.1						
V53A	Saluda	76.65	48	eP		P	05 11 25.3 +1.4
	comp=Z,18nm,1.0s						
V53A				LR		LR	
	comp=Z,4µm,20.0s						
V53A	Saluda	76.65	48	P		P	05 11 23.8 -0.1
	baz=326						
HERR	Herculane	76.67	331	⇓i P		P	05 11 23.6 -0.2
Q59A	Harwood	76.67	42	P		P	05 11 23.8 -0.1
	baz=328						
LNIG	Linares	76.68	67	eP		P	05 11 24.3 +0.1
	comp=Z,7.1nm,1.1s						
M65A	Busby, Falmout	76.70	37	P		P	05 11 23.8 -0.2
	baz=331						
Y50A	Piedmont	76.74	51	P		P	05 11 23.9 -0.5
	baz=325,SNR=6.4						
YOZ	Yozgat	76.75	319	P		P	05 11 24.7 +0.2
U55A	TA2, Sparta	76.76	47	P		P	05 11 24.4 -0.2
	baz=327,SNR=6.1						
DARE	Darende-Malaty	76.77	317	P		P	05 11 25.9 +1.3
T56A	Rocky Mt	76.78	46	P		P	05 11 24.2 -0.4
	baz=327						
BEHE	Becsehely	76.80	335	⇑i P		P	05 11 25.0 +0.5
LRAL	Lakeview Retre	76.82	53	eP		P	05 11 24.6 -0.2
	comp=Z,8.9nm,0.8s						
LRAL				LR		LR	
	comp=Z,3µm,18.0s						
LRAL	Lakeview Retre	76.82	53	P		P	05 11 24.6 -0.2
	baz=325,SNR=6.1						
148A	Greensboro	76.86	53	P		P	05 11 24.8 -0.2
	baz=324						
W53A	Cullowhee	76.90	49	P		P	05 11 25.7 +0.3
	baz=326,SNR=6.9						
R58B	Mineral	76.92	44	eP		P	05 11 26.4 +1.1
R58B				LR		LR	
	comp=Z,4µm,20.0s						
R58B	Mineral	76.92	44	P		P	05 11 25.3 0.0
	baz=328						
Z49A	Columbiana	76.92	52	P		P	05 11 25.0 -0.4
	baz=325						
CBN	Corbin Frederi	76.93	43	PFAKE			05 11 40.0 +15
CBN				LR		LR	
	comp=Z,4µm,18.0s						
CBN	Corbin Frederi	76.93	43	P		P	05 11 25.3 0.0
	baz=328						
KOGS	Kog	76.95	335	⇑eP		P	05 11 25.9 +0.5
V54A	Nebo	76.96	48	P		P	05 11 25.2 -0.4
	baz=326,SNR=7.0						
MDVR	Moldovita	76.97	331	⇓i P		P	05 11 25.3 -0.3
BFO	Black Forest	76.98	341	eP		P	05 11 25.9 +0.4
	comp=Z,32nm,0.9s						
BFO				LR		LR	
	comp=Z,4µm,18.0s						
BFO	Black Forest	76.98	341	i P		P	05 11 26.3 +0.7
SZH	Strazhica	77.01	328	eP		P	05 11 25.7 -0.1
X52A	Dahlonega	77.03	50	P		P	05 11 26.0 0.0
	baz=326,SNR=8.6						
R59A	King George, V	77.04	43	P		P	05 11 25.7 -0.3
	baz=328						
SOKA	Soboth	77.05	336	i P		P	05 11 26.9 +0.9
	comp=Z,54nm,1.2s,SNR=20						
Y51A	Rockmart	77.05	51	P		P	05 11 25.3 -0.9
	baz=325,SNR=6.8						
PUNG	Punghina	77.06	330	⇓i P		P	05 11 25.9 -0.1
PERS	Pernice	77.06	336	⇑i P		P	05 11 26.9 +0.8
KBA	Koelnbreinsper	77.08	337	i pP		P	05 11 27.8 +1.5
	comp=Z,94nm,0.7s,SNR=62						
T57A	Hurt	77.14	45	eP		P	05 11 26.6 0.0
	comp=Z,11nm,0.8s						
T57A				LR		LR	
	comp=Z,3µm,19.0s						
T57A	Hurt	77.14	45	P		P	05 11 26.5 -0.1
	baz=327						
S58A	Poland Farm, P	77.14	44	PFAKE			05 11 40.0 +13
S58A				LR		LR	
	comp=Z,3µm,19.0s						
S58A	Poland Farm, P	77.14	44	P		P	05 11 26.0 -0.6
	baz=328						
BG3	Lake Jocassee	77.16	49	PFAKE			05 11 40.0 +13
BG3				LR		LR	
	comp=Z,3µm,20.0s						
URFA	Urfa	77.16	316	P		P	05 11 27.9 +1.1
Z50A	Ashland	77.17	52	eP		P	05 11 26.9 +0.1
	comp=Z,32nm,0.9s						
Z50A				LR		LR	
	comp=Z,2µm,20.0s						
Z50A	Ashland	77.17	52	P		P	05 11 26.2 -0.6
	baz=325,SNR=11						
FRGS	Fruska Gora	77.18	332	⇑i P		P	05 11 26.8 +0.1
U56A	King	77.19	46	P		P	05 11 27.0 +0.1
	baz=327						
R60A	Leonardtown, M	77.21	42	P		P	05 11 27.2 +0.3
	baz=328						
V55A	Taylorsville	77.23	47	P		P	05 11 26.9 -0.2
	baz=327						
WATA	Walderalm	77.24	339	i P		P	05 11 27.8 +0.6
	comp=Z,12nm,0.5s,SNR=7.4						
149A	Jones	77.28	53	P		P	05 11 27.1 -0.3
	baz=325,SNR=6.6						
RETA	Reutte	77.28	339	i P		P	05 11 28.2 +0.9
	comp=Z,22nm,0.8s,SNR=8.4						
WTTA	Wattenberg	77.30	339	i P		P	05 11 28.8 +1.3
	comp=Z,51nm,0.9s,SNR=20						
ECH	Echery	77.32	342	eP		P	05 11 27.9 +0.4
	comp=Z,52nm,1.0s						
ECH				LR		LR	
	comp=Z,3µm,20.0s						
OBKA	Obir	77.32	336	i P		P	05 11 28.6 +1.0
	comp=Z,26nm,0.8s,SNR=13						
BR101	Keskin Array S	77.34	321	eP		P	05 11 27.9 0.0
BR131	Keskin Array S	77.34	321	eP		P	05 11 27.9 0.0
	comp=Z,30nm,0.9s						
BR131	Keskin Array S	77.34	321	P		P	05 11 27.9 0.0
	SNR=37						
BRTR	Keskin Array B	77.34	321	P		P	05 11 27.9 0.0
	comp=Z,8.7nm,0.7s,baz=35,slow=3.5,SNR=36						
BRTR				LR		LR	05 51 02.8
	comp=Z,4µm,20.1s,baz=12,slow=40						
S59A	Mechanicsville	77.34	43	P		P	05 11 27.9 +0.2
	baz=328						
MOTA	Moosalm	77.34	339	i P		P	05 11 28.5 +0.8
	comp=Z,25nm,0.7s,SNR=14						
X53A	Estanollee	77.39	49	P		P	05 11 27.9 -0.1
	baz=326,SNR=10						
W54A	Cherokee Point	77.42	48	P		P	05 11 28.3 +0.1
	baz=326						
MYKA	Terra Mystica	77.43	337	i P		P	05 11 28.7 +0.5
	comp=Z,18nm,1.0s,SNR=8.0						
SQTA	Sankt Quirin	77.43	339	i P		P	05 11 29.4 +1.2
	comp=Z,54nm,0.9s,SNR=18						
Z51A	Franklin	77.48	51	P		P	05 11 28.4 -0.2
	baz=325						
T58A	Grand View Acr	77.50	45	P		P	05 11 28.4 -0.1
	baz=328						
ANTO	Ankara	77.54	321	eP		P	05 11 29.6 +0.7
	comp=Z,70nm,1.1s						
ANTO				LR		LR	
	comp=Z,5µm,21.0s						
ANTO	Ankara	77.54	321	⇑i P		P	05 11 28.9 0.0
ANTO	Ankara	77.54	321	P		P	05 11 29.4 +0.5
	SNR=23						
ANTO				P		P	05 11 29.4 +0.5
	SNR=23						
Y52A	Lilburn	77.56	50	eP		P	05 11 30.0 +1.0
	comp=Z,26nm,1.0s						
Y52A				LR		LR	
	comp=Z,4µm,19.0s						
Y52A	Lilburn	77.56	50	P		P	05 11 29.0 0.0
	baz=326						
U57A	Blanch	77.58	45	P		P	05 11 28.3 -0.8
	baz=327						
ABTA	Abfaltersbach	77.58	338	i P		P	05 11 29.7 +0.6
	comp=Z,33nm,0.8s,SNR=16						
V56A	Mocksville	77.59	47	eP		P	05 11 31.1 +2.0
	comp=Z,16nm,0.9s						
V56A				LR		LR	
	comp=Z,3µm,20.0s						
V56A	Mocksville	77.59	47	P		P	05 11 29.2 +0.1
	baz=327,SNR=6.1						
249A	Camden	77.62	53	P		P	05 11 29.8 +0.5
	baz=325						
MDUB	Mudurnu	77.62	323	P		P	05 11 29.8 +0.4
MDUB	Mudurnu	77.62	323	eP		P	05 11 29.8 +0.4
	comp=Z,254nm,0.9s						
MDUB				LR		LR	
	comp=Z,24µm,19.0s						
150A	Eclectic	77.65	52	P		P	05 11 29.4 -0.1
	baz=325,SNR=6.7						
S60A	Water View	77.65	43	P		P	05 11 30.0 +0.5
	baz=328						
DAVA	Damuels	77.66	340	i P		P	05 11 30.2 +0.7
	comp=Z,21nm,0.8s,SNR=12						
SAUV	Serdivan-Sakar	77.71	323	P		P	05 11 30.2 +0.5
KLYT	Kilyos	77.72	325	P		P	05 11 29.9 +0.1
KLYT	Kilyos	77.72	325	⇑i P		P	05 11 29.6 -0.2
FETA	Feichten	77.73	339	i P		P	05 11 31.0 +1.1
	comp=Z,22nm,1.0s,SNR=18						
CRES	Cresnjev	77.73	336	⇑i P		P	05 11 30.2 +0.4
SPNC	Sapanca-Adapaz	77.76	323	P		P	05 11 30.8 +0.8
KMSC	Kings Mountain	77.77	48	eP		P	05 11 30.1 -0.1
	comp=Z,20nm,0.9s						
KMSC				LR		LR	
	comp=Z,4µm,20.0s						
KMSC	Kings Mountain	77.77	48	P		P	05 11 30.1 -0.1
	baz=327						
X54A	Belton	77.78	49	P		P	05 11 30.3 +0.1
	baz=326						
Y53A	Monroe	77.79	50	P		P	05 11 30.3 0.0
	baz=326						
CTYL	Yalikoy Yolu	77.80	325	P		P	05 11 29.9 -0.2
AFSR	Afar-Bala (An	77.80	321	P		P	05 11 30.7 +0.3
PAULI	Pauline	77.81	48	eP		P	05 11 32.5 +2.1
	comp=Z,14nm,1.0s						
PAULI				LR		LR	
	comp=Z,4µm,20.0s						
TEKS	Tekeris	77.82	332	eP		P	05 11 31.2 +0.9
V57A	Coltrane Farms	77.84	46	P		P	05 11 30.4 -0.1
	baz=327						
PALK	Pallekele	77.88	266	eP		P	05 11 32.3 +1.3
	comp=Z,45nm,0.8s						
PALK				LR		LR	
	comp=Z,4µm,19.0s						
PALK	Pallekele	77.88	266	P		P	05 11 30.1 -0.9
HRT	Hereke	77.88	324	P		P	05 11 31.1 +0.4
BGKT	Bogazkoy	77.88	325	P		P	05 11 30.2 -0.4
ISK	Istanbul-Kandi	77.88	324	P		P	05 11 30.2 -0.5
T59A	Double "B" Far	77.89	44	eP		P	05 11 31.7 +0.9
	comp=Z,25nm,1.1s						
T59A				LR		LR	
	comp=Z,4µm,18.0s						
T59A	Double "B" Far	77.89	44	P		P	05 11 30.9 +0.1
	baz=328						
SHME	Shamm	77.90	297	i P		P	05 11 30.1 -0.9
	SNR=13						
GULT	Gulveren	77.91	323	P		P	05 11 31.4 +0.5
KMRS	Kahramanmaras	77.92	317	P		P	05 11 31.8 +0.8
PHSR	Pinarhisar	77.92	326	P		P	05 11 31.6 +0.7
PHSR	Pinarhisar	77.92	326	⇓i P		P	05 11 31.1 +0.2
OZLJ	Ozalj	77.93	336	P		P	05 11 31.3 +0.5
CTKS	Kestanelik-??a	77.93	325	P		P	05 11 31.0 +0.1
Z52A	Williamson	77.94	51	P		P	05 11 31.1 -0.1
	baz=326,SNR=5.8						
YAYX	Yaylak	77.95	320	P		P	05 11 31.1 -0.1
U58A	Oxford	77.95	45	P		P	05 11 31.0 -0.1
	baz=328						
EDRB	Edirne	78.00	326	P		P	05 11 31.9 +0.6
SERE	Sereflikochisa	78.04	320	P		P	05 11 32.2 +0.5
250A	Grady	78.04	53	eP		P	05 11 34.2 +2.5
	comp=Z,31nm,1.0s						
250A				LR		LR	
	comp=Z,3µm,18.0s						
250A	Grady	78.04	53	P		P	05 11 31.5 -0.2
	baz=325						
SLVT	Silivri	78.04	325	P		P	05 11 33.5 +2.0
151A	Opelika	78.05	52	P		P	05 11 31.2 -0.5
	baz=325						
BUY	Buyukada	78.05	324	P		P	05 11 31.3 -0.3
GAZ	Gaziantep	78.07	317	P		P	05 11 32.8 +0.9
CEY	Cerknica	78.07	336	eP		P	05 11 32.1 +0.4
BOJS	Bojanci	78.09	336	⇑i P		P	05 11 32.1 +0.4
349A	Repton	78.09	54	P		P	05 11 32.5 +0.5
	baz=325						
HODGE	Hodges	78.10	49	eP		P	05 11 32.6 +0.6
	comp=Z,20nm,0.9s						
HODGE				LR		LR	
	comp=Z,3µm,20.0s						
DIVS	Divibare	78.10	332	⇑i P		P	05 11 31.6 -0.3
T60A	Surry	78.10	43	PFAKE			05 11 40.0 +8.1
T60A				LR		LR	
	comp=Z,3µm,18.0s						
T60A	Surry	78.10	43	P		P	05 11 31.8 -0.1
	baz=328						
W56A	Indian Trail	78.11	47	P		P	05 11 31.7 -0.3
	baz=327						
KULU	Kulu	78.17	321	P		P	05 11 33.1 +0.6
X55A	Gracelyn & Ava	78.19	48	P		P	05 11 32.8 +0.3
	baz=327						
Y54A	Tignall	78.20	49	P		P	05 11 32.5 -0.1
	baz=326,SNR=16						
FUORN	Ofenpass-Fuorn	78.21	339	eP		P	05 11 33.9 +1.2
	comp=Z,34nm,0.7s						
FUORN				LR		LR	
	comp=Z,4µm,19.0s						
SRCK	Saricakaya, Es	78.21	323	P		P	05 11 32.6 +0.1
GOGA	Godfrey	78.21	50	P		P	05 11 32.8 +0.1
	baz=326						
V58A	Windy Hill, Pi	78.21	46	P		P	05 11 32.4 -0.2
	baz=328,SNR=7.7						
152A	Waverly Hall	78.23	51	eP		P	05 11 32.8 0.0
	comp=Z,14nm,0.8s						
152A				LR		LR	
	comp=Z,3µm,21.0s						
152A	Waverly Hall	78.23	51	P		P	05 11 32.5 -0.2
	baz=326						
PGB	Panagyurishte	78.23	328	eP		P	05 11 32.8 +0.2
DIM	Dimitrovgrad	78.23	327	eP		P	05 11 33.1 +0.6
TRI	Trieste	78.27	337	PFAKE			05 11 40.0 +7.3
TRI				LR		LR	
	comp=Z,6µm,18.0s						
Z53A	Monticello	78.27	50	P		P	05 11 32.9 -0.1
	baz=326,SNR=6.1						
BLY	Banja Luka	78.28	334	eP		P	05 11 32.9 +0.1
	comp=Z,16nm,0.8s						
BLY				LR		LR	
	comp=Z,12µm,18.0s						
BLY	Banja Luka	78.28	334	⇑i P		P	05 11 32.5 -0.3
BRAL	Brewton	78.31	54	PFAKE			05 11 50.0 +17
BRAL				LR		LR	
	comp=Z,3µm,20.0s						
BRAL	Brewton	78.31	54	P		P	05 11 33.9 +0.7
	baz=325						
U59A	Littleton	78.31	44	eP		P	05 11 34.0 +0.9
	comp=Z,20nm,1.1s						
U59A				LR		LR	
	comp=Z,3µm,18.0s						
U59A	Littleton	78.31	44	P		P	05 11 33.2 +0.1
	baz=328						
CLF	Chambon-Foret	78.36	345	eP		P	05 11 34.4 +1.2
	comp=Z,97nm,1.1s						
CLF				LR		LR	
	comp=Z,6µm,18.0s						
CAVI	Cavuskoy	78.36	323	P		P	05 11 33.9 +0.5
W57A	Gilead	78.36	47	eP		P	05 11 35.1 +1.7
	comp=Z,24nm,1.1s						
W57A				LR		LR	
	comp=Z,3µm,20.0s						
W57A	Gilead	78.36	47	P		P	05 11 33.4 +0.1
	baz=327						
251A	Midway	78.36	52	P		P	05 11 33.5 0.0
	baz=325						
KOZT	Kozan	78.39	318	P		P	05 11 34.1 +0.6
GEMT	Gemlik	78.39	324	P		P	05 11 33.0 -0.5
SVRH	Sivrihisar-ESK	78.39	322	P		P	05 11 33.7 +0.1
ARMT	Armutlu	78.39	324	P		P	05 11 33.3 -0.2
HAPS	Han Pijesak,Bl	78.41	333	eP		P	05 11 33.2 -0.5
MSFE	Esma-Masafi	78.43	296	i P		P	05 11 33.1 -0.9
	SNR=11						
X56A	White Oak	78.44	48	P		P	05 11 34.2 +0.3
	baz=327						
350A	Dozier	78.46	53	P		P	05 11 34.6 +0.6
	baz=325						
VTS	Vitosha	78.46	329	eP		P	05 11 33.6 -0.5
	comp=Z,43nm,0.8s						
VTS				LR		LR	
	comp=Z,11µm,20.0s						
VTS	Vitosha	78.46	329	P		P	05 11 31.8 -2.3
VTS	Vitosha	78.46	329	⇓i P		P	05 11 33.9 -0.2
VTS	Vitosha	78.46	329	eP		P	05 11 34.4 +0.3
BBLS	Lazići	78.48	332	⇑i P		P	05 11 34.5 +0.5
U60A	Pendleton	78.49	44	P		P	05 11 33.7 -0.3
	baz=328						
JSC	Jenkinsville	78.51	48	eP		P	05 11 36.2 +2.0
	comp=Z,17nm,1.1s						
JSC				LR		LR	
	comp=Z,4µm,19.0s						
Y55A	Saluda	78.53	49	P		P	05 11 34.8 +0.4
	baz=327						
TUE	Stuetta	78.55	340	eP		P	05 11 35.3 +0.8
	comp=Z,66nm,0.7s						
TUE				LR		LR	
	comp=Z,6µm,18.0s						
MDNY	Mudanya-Bursa	78.56	324	P		P	05 11 34.2 -0.2
449A	Pace	78.56	54	P		P	05 11 35.5 +1.0
	baz=325						
UMQ	Umm Al-Quwin	78.57	297	P		P	05 11 35.1 +0.4
UMQ				P		P	05 11 35.1 +0.4
BIRD	Birdtown, Kers	78.57	47	eP		P	05 11 36.5 +1.9
	comp=Z,23nm,1.1s						
BIRD				LR		LR	
	comp=Z,3µm,20.0s						
CHBY	Cihanbeyli	78.62	321	P		P	05 11 34.6 -0.3
V59A	Middlesex	78.62	45	P		P	05 11 35.0 +0.2
	baz=328						
CIFT	Cifteler, Eski	78.64	322	P		P	05 11 34.9 -0.1
Z54A	Sparta	78.65	50	P		P	05 11 35.2 +0.1
	baz=326						
SULT	Sultanhani-AKS	78.70	320	P		P	05 11 35.9 +0.5
WSAR	Wadi Sarin	78.72	293	P		P	05 11 35.7 +0.1
	SNR=12						
WSAR	Wadi Sarin	78.72	293	LR		LR	05 49 05.3
	comp=Z,2µm,20.8s,baz=72,slow=38						
KIZT	Kizilcal	78.75	321	P		P	05 11 35.6 -0.1
252A	Lumpkin	78.77	52	P		P	05 11 35.7 0.0
	baz=326						
BIDO	Bidbid	78.78	294	P		P	05 11 35.9 0.0
	SNR=8.8						
BIDO				P		P	05 11 35.9 0.0
	SNR=8.8						
W58A	Raeford	78.81	46	P		P	05 11 35.9 0.0
	baz=328,SNR=6.7						
CEYT	Ceyhan	78.82	318	P		P	05 11 37.0 +1.1
450A	Crestview	78.84	54	P		P	05 11 36.7 +0.6
	baz=325						
KCTX	Karacabey (Bur	78.84	324	P		P	05 11 36.4 +0.4
UDBI	Udbina	78.86	335	P		P	05 11 36.1 -0.1
HATD	Hatta, Dubai	78.87	296	i P		P	05 11 35.7 -0.7
	SNR=34						
HATD	Hatta, Dubai	78.87	296	P		P	05 11 35.9 -0.5
	SNR=20						
HATD				P		P	05 11 35.9 -0.5
	SNR=20						
RKY	Sarkoy-Tekirda	78.88	326	P		P	05 11 35.3 -1.0
KARA	Karaisali	78.89	318	P		P	05 11 37.2 +0.9
X57A	Johnson Farm,	78.89	47	P		P	05 11 36.6 +0.3
	baz=327						
Y56A	Pelion	78.90	48	P		P	05 11 36.7 +0.3
	baz=327						
U61A	Possum Corner	78.91	43	PFAKE			05 11 50.0 +14
U61A				LR		LR	
	comp=Z,3µm,19.0s						
U61A	Possum Corner	78.91	43	P		P	05 11 36.5 +0.1
	baz=329						
351A	Pinckard	78.94	53	P		P	05 11 36.9 +0.2
	baz=325						
EDC	Edincik	78.94	325	P		P	05 11 36.7 +0.2
PLE	Pljevlja	78.98	332	⇑i P		P	05 11 37.1 +0.3
Z55A	Blythe	78.99	49	P		P	05 11 37.5 +0.6
	baz=327						
NAZ	Nazwa, Dubai	79.00	297	i P		P	05 11 36.3 -0.8
	SNR=14						
NAZ	Nazwa, Dubai	79.00	297	P		P	05 11 36.2 -0.8
	SNR=9.5						
NAZ				P		P	05 11 36.2 -0.8
	SNR=9.5						
253A	Americus	79.01	51	eP		P	05 11 39.2 +2.2
	comp=Z,42nm,1.0s						
253A				LR		LR	
	comp=Z,3µm,21.0s						
253A	Americus	79.01	51	P		P	05 11 36.9 -0.2
	baz=326						
AS31	Alice Springs	79.01	204	eP		P	05 11 37.6 +0.7
	comp=Z,4.6nm,0.6s						
ASAR	Alice Springs	79.01	204	P		P	05 11 37.2 +0.3
	comp=Z,7.2nm,0.6s,baz=16,slow=4.8,SNR=46						
ASAR				LR		LR	05 44 49.1
	comp=Z,1µm,21.7s,baz=11,slow=34						
ASHO	Ashiyiah	79.02	296	i P		P	05 11 36.3 -0.9
	SNR=28						
ASHO	Ashiyiah	79.02	296	P		P	05 11 36.5 -0.8
	SNR=16						
ASHO				P		P	05 11 36.5 -0.8
	SNR=16						
YURE	YUREGIR	79.02	318	P		P	05 11 38.2 +1.1
W59A	Clinton	79.03	45	P		P	05 11 37.5 +0.4
	baz=328						
RDO	Rodhopi	79.03	327	P		P	05 11 35.0 -2.0
154A	Montrose	79.04	50	eP		P	05 11 39.2 +2.1
	comp=Z,48nm,0.9s						
154A				LR		LR	
	comp=Z,3µm,19.0s						
154A	Montrose	79.04	50	P		P	05 11 37.4 +0.3
	baz=326						
V60A	Jim Taylor Roa	79.04	44	eP		P	05 11 38.4 +1.3
	comp=Z,24nm,0.6s						
V60A				LR		LR	
	comp=Z,4µm,18.0s						
V60A	Jim Taylor Roa	79.04	44	P		P	05 11 37.6 +0.5
	baz=328						
NVLJ	Novalja	79.06	336	P		P	05 11 36.6 -0.4
SENIN	Lac Senin/Sane	79.07	341	eP		P	05 11 38.1 +0.8
	comp=Z,41nm,1.1s						
SENIN	

comp=Z,4µm,19.0s
ALN Alexandroupoli 79.08 326 eP P 05 11 37.4 +0.1
comp=Z,38nm,1.0s
ALN LR LR
comp=Z,4µm,19.0s
ALN Alexandroupoli 79.08 326 P P 05 11 32.8 -4.5
352A Blakely 79.10 52 eP P 05 11 38.1 +0.6
comp=Z,25nm,1.0s
352A LR LR
comp=Z,4µm,20.0s
352A Blakely 79.10 52 P P 05 11 37.7 +0.2
baz=326
ERIK Erikli-Kesan 79.13 326 P P 05 11 37.9 +0.4
Y57A Sumter 79.13 47 PFAKE 05 11 50.0 +12
Y57A LR LR
comp=Z,3µm,19.0s
Y57A Sumter 79.13 47 P P 05 11 37.5 -0.1
baz=327
JLN Jalan Bani Buh 79.13 292 P P 05 11 38.1 +0.2
SNR=11
JLN P **P 05 11 38.1 +0.2**
SNR=11
X58A Rowland 79.15 46 PFAKE 05 11 50.0 +12
X58A LR LR
comp=Z,3µm,20.0s
X58A Rowland 79.15 46 P P 05 11 37.5 -0.3
baz=328
LADK Ladik-KONYA 79.15 321 P P 05 11 37.8 -0.1
TVSB Tavsanli 79.16 323 P P 05 11 37.9 0.0
TAHT Tahtakopru-Hat 79.18 317 P P 05 11 38.7 +0.8
KKB Krupnik 79.19 329 eP P 05 11 38.5 +0.6
SMDO Samad 79.19 294 P P 05 11 38.3 0.0
SNR=7.9
SOHO SOHO 79.19 295 P P 05 11 37.1 -1.1
SNR=18
SOHO P **P 05 11 37.1 -1.1**
SNR=18
ENEZ Enez 79.19 326 P P 05 11 38.1 +0.2
CNNC Cliffs of the 79.21 45 PFAKE 05 11 50.0 +12
CNNC LR LR
comp=Z,3µm,19.0s
CNNC Cliffs of the 79.21 45 P P 05 11 38.0 -0.1
baz=328
TRD Trivandrum 79.22 270 eP P 05 11 37.9 -0.5
FAQ Al Faqa, Dubai 79.23 296 i P P 05 11 37.6 -0.8
SNR=11
FAQ Al Faqa, Dubai 79.23 296 P P 05 11 37.3 -1.0
SNR=6.9
FAQ P **P 05 11 37.3 -1.0**
SNR=6.9
UPM Unac-Piva 79.23 332⇑ iP P 05 11 37.6 -0.7
IVA Berane 79.25 331⇑ iP P 05 11 38.3 0.0
Z56A Williston 79.26 49 PFAKE 05 11 50.0 +12
Z56A LR LR
comp=Z,3µm,21.0s
Z56A Williston 79.26 49 P P 05 11 38.5 +0.1
baz=327
LPK Lapseki 79.31 326 P P 05 11 39.0 +0.5
V61A Roper 79.31 44 PFAKE 05 11 50.0 +11
V61A LR LR
comp=Z,4µm,18.0s
V61A Roper 79.31 44 P P 05 11 38.4 -0.2
baz=329
155A Kite 79.33 50 P P 05 11 39.0 +0.3
baz=326
KONT Konya--Tatoy 79.38 321 P P 05 11 39.2 +0.2
KOME Kolasin 79.38 332⇑ iP P 05 11 38.6 -0.4
GELI Tayfur-Gelibol 79.38 326 P P 05 11 39.1 +0.2
NVR Nevrokopi 79.41 328 P P 05 11 33.3 -5.8
451A Vernon 79.41 53 PFAKE 05 11 50.0 +11
451A LR LR
comp=Z,3µm,18.0s
451A Vernon 79.41 53 P P 05 11 39.7 +0.5
baz=325
MERS Mersin 79.44 319 P P 05 11 39.4 0.0
W60A Pink Hill 79.45 45 P P 05 11 39.6 +0.3
baz=328
X59A McDuffie Farm, 79.47 46 P P 05 11 39.6 +0.2
baz=328
ASUD Al Ashush, Dub 79.47 297 i P P 05 11 39.0 -0.6
SNR=12
ASUD Al Ashush, Dub 79.47 297 P P 05 11 39.0 -0.6
SNR=7.9
ASUD P **P 05 11 39.0 -0.6**
SNR=7.9
PVY Plav 79.48 331⇑ iP P 05 11 39.3 -0.3
452A Marianna 79.49 53 P P 05 11 39.8 +0.1
baz=326
254A Abbeville 79.50 51 P P 05 11 40.4 +0.6
baz=326
SHUT Suhut-Afyon 79.54 322 P P 05 11 40.5 +0.5
Y58A Scranton 79.55 47 PFAKE 05 11 50.0 +10
Y58A LR LR
comp=Z,3µm,19.0s
Y58A Scranton 79.55 47 P P 05 11 40.0 +0.1
baz=328
353A Camilla 79.55 52 P P 05 11 40.8 +0.8
baz=326
BALB Balikesir 79.56 325 P P 05 11 40.1 +0.2
BALB Balikesir 79.56 325 eP P 05 11 40.0 +0.2
comp=Z,368nm,1.1s
BALB LR LR
comp=Z,12µm,19.0s
NKY Niksic 79.57 332⇑ iP P 05 11 39.4 -0.6
Z57A Bowman 79.59 48 P P 05 11 40.1 0.0
baz=327
SKO Skopje 79.61 330 i P P 05 11 40.4 +0.3
BRY Bratogost 79.61 332⇑ iP P 05 11 39.6 -0.7
BRY Bratogost 79.61 332 eP P 05 11 39.6 -0.7
NKME Niksic 79.62 332⇑ iP P 05 11 39.6 -0.7
STIP Stip 79.63 329 i P P 05 11 39.4 -0.8
SMTH Samothraki Isl 79.64 327 P P 05 11 38.5 -1.9
W61A Ground Anchor 79.66 44 P P 05 11 40.5 0.0
baz=329
ALNE Al Ain 79.69 296 i P P 05 11 39.8 -1.1
SNR=8.3
JMDO Jabal Madar 79.70 293 P P 05 11 40.7 -0.3
SNR=7.4
SRS Serrai 79.70 328 P P 05 11 37.0 -3.7
AJN Ajban 79.71 297 i P P 05 11 40.1 -0.8
SNR=7.0
AJN Ajban 79.71 297 P P 05 11 39.6 -1.3
SNR=6.1
AJN P **P 05 11 39.6 -1.3**
SNR=6.1
X60A Albert Glenn T 79.73 45 P P 05 11 41.0 0.0
baz=328
156A Sylvania 79.76 49 P P 05 11 41.7 +0.6
baz=327
V62A Hyde County Ai 79.77 44 PFAKE 05 11 50.0 +8.9
V62A LR LR
comp=Z,4µm,20.0s
V62A Hyde County Ai 79.77 44 P P 05 11 41.5 +0.5
baz=329
TIGA Tifton 79.78 51 eP P 05 11 42.2 +1.0
comp=Z,50nm,1.0s
TIGA LR LR
comp=Z,3µm,21.0s
TIGA Tifton 79.78 51 P P 05 11 41.9 +0.7
baz=326
THAS Thassos island 79.79 327 P P 05 11 37.4 -3.7
CEME Cevo 79.83 332⇑ iP P 05 11 40.5 -0.9
TREB Trebinje 79.84 332 eP P 05 11 40.8 -0.6
PDG Podgorica 79.84 332⇓ iP P 05 11 41.2 -0.2
PDG Podgorica 79.84 332⇑ iP P 05 11 41.2 -0.2
TTG Podgorica 79.84 332⇑ iP P 05 11 41.2 -0.2
TTG Podgorica 79.84 332 eP P 05 11 40.5 -0.9
comp=Z,63nm,0.7s
TTG LR LR
comp=Z,12µm,18.0s
STON Ston 79.88 333⇑ iP P 05 11 40.8 -0.7
KNT Kendrikon 79.89 329 P P 05 11 37.8 -3.9
255A Hazlehurst 79.91 50 eP P 05 11 44.8 +2.9
comp=Z,52nm,1.0s
255A LR LR
comp=Z,3µm,19.0s
255A Hazlehurst 79.91 50 P P 05 11 42.5 +0.6
baz=327
453A Whigham 79.91 52 eP P 05 11 46.4 +4.5
453A LR LR
comp=Z,4µm,20.0s
453A Whigham 79.91 52 P P 05 11 42.6 +0.7
baz=326
BSY Bisya 79.92 294 P P 05 11 41.8 -0.3
SNR=7.4
KIZK Mersin 79.93 319 P P 05 11 41.6 -0.4

EZN Ezine 79.94 326⇑ iP P 05 11 41.8 -0.2
Z58A St. Stephen 79.96 47 P P 05 11 42.3 +0.1
baz=328
157A Early Branch 79.97 49 P P 05 11 42.9 +0.7
baz=327
NHSC New Hope 79.99 48 PFAKE 05 11 50.0 +7.7
NHSC LR LR
comp=Z,4µm,20.0s
NHSC New Hope 79.99 48 P P 05 11 43.3 +1.0
baz=327
BOZC Bozcaada 80.03 326 P P 05 11 41.9 -0.5
552A Lynn Haven 80.03 53 P P 05 11 43.1 +0.5
baz=326
HCY Herceg Novi 80.05 332⇑ iP P 05 11 41.8 -0.7
BUM Brajici-Budva 80.07 332⇑ iP P 05 11 42.0 -0.7
DRME Dracevica, Mon 80.09 332⇑ iP P 05 11 42.7 0.0
DRME Dracevica, Mon 80.09 332⇑ iP P 05 11 42.6 -0.1
Y60A Bolivia 80.11 46 PFAKE 05 12 00.0 +17
Y60A LR LR
comp=Z,3µm,19.0s
Y60A Bolivia 80.11 46 P P 05 11 43.0 +0.1
baz=328
KEBE Keben-Mersin 80.14 319 P P 05 11 42.7 -0.5
256A Glennville 80.14 50 P P 05 11 43.5 +0.4
baz=327
PHP Peshkopia 80.17 331 P P 05 11 39.9 -3.4
ISP Isparta 80.19 322 eP P 05 11 46.2 +2.7
comp=Z,47nm,0.9s
ISP LR LR
comp=Z,5µm,19.0s
355A Pearson 80.21 51 P P 05 11 44.4 +0.9
baz=326
KRUS Krusevo 80.22 330 i P P 05 11 43.4 -0.2
GRG Griva 80.23 329 P P 05 11 39.2 -4.4
TEVE Tevekalti-Mers 80.25 319 P P 05 11 43.3 -0.5
LIA Limnos Island 80.27 327 P P 05 11 41.5 -2.2
ULC Ulcinj 80.27 332⇑ iP P 05 11 44.2 +0.4
KULA Kula-Manisa 80.28 323 P P 05 11 43.9 0.0
Z59A Georgetown, SC 80.28 47 P P 05 11 44.3 +0.4
baz=328
158A Hollywood 80.29 48 P P 05 11 44.6 +0.7
baz=327
IKL Isikli 80.33 319 P P 05 11 43.6 -0.5
MANT Manisa 80.34 324 eP P 05 11 44.3 -0.1
comp=Z,253nm,1.2s
MANT LR LR
comp=Z,14µm,19.0s
454A Quitman 80.36 52 P P 05 11 44.6 +0.2
baz=326
BERE Bereket-Mersin 80.42 319 P P 05 11 44.4 -0.4
BNI Bardonecchia 80.45 341 eP P 05 11 45.9 +1.1
comp=Z,32nm,0.8s
BNI LR LR
comp=Z,4µm,18.0s
AKKU Akkuyu-Mersin 80.45 319 P P 05 11 44.2 -0.6
BIA Bitola 80.51 330 i P P 05 11 45.2 +0.2
VLC Villacollemand 80.52 338 PFAKE 05 12 00.0 +15
VLC LR LR
comp=Z,6µm,19.0s
257A Skidaway Islan 80.55 49 PFAKE 05 12 00.0 +15
257A LR LR
comp=Z,4µm,20.0s
257A Skidaway Islan 80.55 49 P P 05 11 45.8 +0.5
baz=327
PMOR Pomariorio Ree 80.56 130 eT T 06 40 44.4
comp=Z,5.2nm,0.2s
356A Blackshear 80.57 50 P P 05 11 45.7 +0.2
baz=327
OHR Ohrid 80.59 330 i P P 05 11 45.2 -0.3
455A Stateville 80.63 51 P P 05 11 45.9 +0.1
baz=326,SNR=5.3
SSB Saint Sauveur 80.63 343 eP P 05 11 46.7 +1.1
comp=Z,33nm,0.6s
SSB LR LR
comp=Z,4µm,19.0s
TEKE Tekeli-Mersin 80.64 319 P P 05 11 45.0 -0.8
TIR Tirane 80.66 331 eP P 05 11 46.2 +0.4
comp=Z,56nm,0.6s
TIR LR LR
comp=Z,12µm,19.0s
TIR Tirane 80.66 331⇑ iP P 05 11 46.2 +0.4
FNA Florina 80.71 330 eP P 05 11 45.9 -0.2
FNA LR LR
comp=Z,7µm,21.0s
EREN Erenkoy 80.74 318 P P 05 11 46.6 +0.3
PAIG Paliouri 80.75 328 P P 05 11 38.9 -7.4
357A Townsend 80.79 50 P P 05 11 46.6 -0.1
baz=327
554A Perry 80.85 52 P P 05 11 47.9 +0.9
baz=326
MHTO MHTO 80.87 292 P P 05 11 46.9 -0.3
SNR=42
MHTO P **P 05 11 46.9 -0.3**
SNR=42
KORT Korkueli 80.98 322 P P 05 11 47.0 -0.8
LIT Litokhoron 80.98 329 eP P 05 11 47.1 -0.5
comp=Z,36nm,1.1s
AYDB Zeytinkoy-Aydi 81.06 324 P P 05 11 48.1 -0.1
456A Hilliard 81.12 50 PFAKE 05 12 00.0 +12
456A LR LR
comp=Z,3µm,20.0s
456A Hilliard 81.12 50 P P 05 11 49.6 +1.2
baz=327
URLA Izmir 81.16 325 P P 05 11 48.1 -0.5
555A McAlpin 81.17 52 eP P 05 11 50.0 +1.3
comp=Z,45nm,0.9s
555A LR LR
comp=Z,2µm,20.0s
555A McAlpin 81.17 52 P P 05 11 49.7 +1.0
baz=326
PHNC Paralimni 81.25 318 P P 05 11 49.1 0.0
PENT Pentalofos 81.32 330 P P 05 11 46.6 -2.9
CHOS Chios island 81.32 325 P P 05 11 43.1 -6.4
ELL Elmali 81.37 322 P P 05 11 49.7 -0.1
XOR Xorichti 81.42 328 P P 05 11 46.1 -3.8
457A Yulee 81.43 50 P P 05 11 51.0 +1.0
baz=327
FYTO Fytoko, Volos 81.46 328 P P 05 11 43.0 -7.1
KPRO Kipourio 81.47 329 P P 05 11 42.0 -8.2
AQU L'Aquila 81.50 336 eP P 05 11 52.1 +1.7
comp=Z,65nm,0.8s
AQU LR LR
comp=Z,7µm,18.0s
AQU L'Aquila 81.50 336⇑ iP P 05 11 51.2 +0.8
GCAM G?zelcaml? 81.52 324 P P 05 11 50.2 -0.2
655A Horseshoe Beac 81.53 52 P P 05 11 51.6 +0.9
baz=326
556A Lake Butler 81.54 51 P P 05 11 51.5 +0.9
baz=327
PSAC3 Pilbara Seismi 81.56 218 PFAKE 05 12 00.0 +9.4
PSAC3 LR LR
comp=Z,1µm,20.0s
CSS Mathiatis 81.57 318 eP P 05 11 50.6 -0.2
comp=Z,114nm,1.0s
CSS LR LR
comp=Z,5µm,18.0s
CSS Mathiatis 81.57 318 P P 05 11 42.9 -7.9
LEF Lefka 81.62 319⇑ iP P 05 11 50.9 -0.1
ALFC Alefka 81.70 319 P P 05 11 49.7 -1.8
TURN Turunc 81.75 323 P P 05 11 52.8 +1.2
DALY Dalyan (Mula) 81.78 323 P P 05 11 50.3 -1.5
FETY Fethiye 81.78 322 P P 05 11 51.6 -0.3
FETY Fethiye 81.78 322 P P 05 11 44.9 -7.0
MNCI Minicoy 81.79 273 PFAKE 05 12 00.0 +7.9
MNCI LR LR
comp=Z,4µm,20.0s
MNCY Minicoy 81.82 273 eP P 05 11 52.6 +0.3
557A Orange Park 81.85 51 P P 05 11 53.4 +1.1
baz=327
MRKA Markates 81.88 327 P P 05 11 46.8 -5.6
AKAS Kas 81.94 322 P P 05 11 51.9 -0.9
SZAC Souni 81.94 319 P P 05 11 50.8 -1.9
DQM DQM 81.95 292 P P 05 11 52.0 -0.9
DQM P **P 05 11 52.0 -0.9**
656A Willston 82.00 52 eP P 05 11 55.1 +2.0
comp=Z,49nm,0.9s
656A LR LR
comp=Z,3µm,18.0s
656A Willston 82.00 52 P P 05 11 54.0 +0.9
baz=327
PPT Papeete 82.01 132 LR LR 05 42 31.1
comp=Z,2µm,19.2s,baz=276,slow=31
KSL Kastellorizon 82.02 322 P P 05 11 45.6 -7.5
EREA Eretria 82.03 327 P P 05 11 45.6 -7.5
PPT2 Papeete2 82.03 132 eS S 05 22 01.3 -2.9

comp=Z,2µm,28.2s
PPT2 Papeete2 82.03 132 eLR LR 05 37 29.2
comp=Z,6µm,23.5s,baz=333
PPCY Paphos 82.04 319 P P 05 11 51.5 -1.7
BODT Bodrum 82.06 324 P P 05 11 52.7 -0.6
657A Interlachen 82.14 51 P P 05 11 54.7 +0.9
baz=327
KEK Kerkira 82.17 330 P P 05 11 48.3 -5.6
IGT Igoumenitsa 82.18 330 P P 05 11 45.7 -8.2
MATE Matera 82.22 333⇑ iP P 05 11 54.3 +0.3
DAT Datca 82.25 323 P P 05 11 52.7 -1.8
ASF Jabal al Asfar 82.46 314 P P 05 11 56.0 +0.4
VILL Villia 82.46 327 P P 05 11 42.9 -13
658A Bunnell 82.57 51 PFAKE 05 12 10.0 +14
658A LR LR
comp=Z,3µm,20.0s
658A Bunnell 82.57 51 P P 05 11 57.1 +1.0
baz=327
757A Oxford 82.58 52 P P 05 11 57.3 +1.2
baz=327
APE Apeiranthos 82.69 325⇓ iP P 05 11 54.4 -2.2
KLV Kalavryta, Ach 82.96 328 P P 05 11 50.8 -7.2
758A Lake Helen 82.98 51 P P 05 11 59.4 +1.2
baz=327
857A Zephyrhills 83.06 52 P P 05 11 59.7 +1.1
baz=327
VLS Valsamata 83.34 329 P P 05 11 51.7 -8.2
LHI Lord Howe Isla 83.41 181 PFAKE 05 12 10.0 +10
LHI LR LR
comp=Z,1µm,18.0s
WALJ Wala 83.46 315 P P 05 12 01.3 +0.7
KARP Karpathos 83.46 323 eP P 05 11 58.9 -1.7
comp=Z,76nm,0.8s
858A St. Cloud 83.53 51 P P 05 12 01.0 0.0
baz=327
957A Wimauma 83.56 52 PFAKE 05 12 10.0 +8.8
957A LR LR
comp=Z,4µm,20.0s
957A Wimauma 83.56 52 P P 05 12 01.2 0.0
baz=327
TIP Timpagrande 83.57 332 eP P 05 12 01.6 +0.5
comp=Z,60nm,1.0s
TIP LR LR
comp=Z,6µm,19.0s
TIP Timpagrande 83.57 332 P P 05 11 56.4 -4.8
TIP Timpagrande 83.57 332⇓ iP P 05 12 01.5 +0.3
DWPF Disney Wildern 83.58 51 PFAKE 05 12 10.0 +8.7
DWPF LR LR
comp=Z,2µm,20.0s
DWPF Disney Wildern 83.58 51 P P 05 12 02.0 +0.7
baz=327
GHAJ Ghor Haditha 83.78 315 P P 05 12 02.5 +0.2
ITM Ithomi 83.81 328 eP P 05 12 01.7 -0.7
comp=Z,54nm,0.7s
ITM LR LR
comp=Z,4µm,20.0s
958A Wauchula 83.86 52 P P 05 12 03.5 +0.7
baz=327
859A Kempfer Cattle 83.88 51 P P 05 12 03.9 +1.0
baz=328
COCO West Island 84.04 242 P P 05 12 04.1 +0.5
058A Arcadia 84.28 52 P P 05 12 05.7 +0.8
baz=327
959A Okeechobee 84.34 51 P P 05 12 05.9 +0.7
baz=328
LAST Lasithi 84.42 324 P P 05 12 02.0 -3.6
HSNJ Maan 84.63 314 P P 05 12 07.8 +1.0
CEL Celeste 84.67 333 PFAKE 05 12 20.0 +13
CEL LR LR
comp=Z,8µm,18.0s
059A Moore Haven 84.67 52 PFAKE 05 12 20.0 +13
059A LR LR
comp=Z,3µm,19.0s
059A Moore Haven 84.67 52 P P 05 12 08.2 +1.3
baz=328
IMMV Iera Moni Meta 84.68 325 P P 05 11 57.0 -10
060A Indiantown 84.99 51 PFAKE 05 12 20.0 +12
060A LR LR
comp=Z,4µm,20.0s
059Z Ave Maria 85.06 52 P P 05 12 10.1 +1.3
baz=327
DMTO DMTO 85.19 293 P P 05 12 06.5 -3.0
STKA Stephens Creek 85.34 196 eP P 05 12 10.3 +0.5
comp=Z,7.8nm,1.1s
STKA LR LR
comp=Z,400nm,18.0s
STKA Stephens Creek 85.34 196 P P 05 12 10.5 +0.7
comp=Z,5.0nm,0.8s,baz=264,slow=2.4,SNR=4.8
AQBJ Aqaba 85.36 315 P P 05 12 10.9 +0.6
PGAV Gavieira, Arco 85.65 351 eP P 05 12 11.9 +0.2
comp=Z,86nm,1.4s
PBRG Braganca 85.66 350 eP P 05 12 12.3 +0.7
comp=Z,70nm,1.6s
061Z Ochoppi 85.71 52 PFAKE 05 12 20.0 +7.9
061Z LR LR
comp=Z,3µm,19.0s
061Z Ochoppi 85.71 52 P P 05 12 14.1 +2.0
baz=328
VAE Valguarnera 85.81 333 LR LR 05 54 13.7
comp=Z,4µm,18.1s,baz=348,slow=38
PCAB Cabril 85.88 351 eP P 05 12 13.9 +1.2
comp=Z,80nm,1.7s
CLTB Caltabellotta 86.04 334 PFAKE 05 12 30.0 +16
CLTB LR LR
comp=Z,11µm,18.0s
POLO Lamas de Olo 86.19 351 eP P 05 12 14.7 +0.4
comp=Z,24nm,1.7s
PVRL Vila Real 86.28 351 eP P 05 12 16.5 +1.8
comp=Z,97nm,1.2s
MVO Moncorvo 86.32 350 eP P 05 12 16.0 +1.0
comp=Z,78nm,1.0s
TEIG Tepich 86.59 61 PFAKE 05 12 30.0 +14
TEIG LR LR
comp=Z,2µm,20.0s
PVIS Viseu 86.85 351 eP P 05 12 19.1 +1.6
comp=Z,58nm,1.2s
BBSR BB Station 87.03 37 PFAKE 05 12 30.0 +12
BBSR LR LR
comp=Z,2µm,20.0s
TBI Tubuai 87.12 135 eS S 05 22 50.4 -4.2
comp=Z,1µm,26.8s
TBI Tubuai 87.12 135 eLR LR 05 39 54.4
comp=Z,4µm,23.8s,baz=332
MTE Manteigas 87.13 351 eP P 05 12 18.8 -0.1
comp=Z,62nm,1.3s
MTE Manteigas 87.13 351 eP P 05 12 20.8 +1.9
comp=Z,37nm,1.0s
MTE LR LR
comp=Z,4µm,19.0s
COI Coimbra 87.40 351 eP P 05 12 20.8 +0.7
comp=Z,78nm,1.5s
ESDC Sonseca Array 87.44 348 P P 05 12 19.9 -0.5
comp=Z,7.8nm,0.8s,baz=4.0,slow=5.1,SNR=24
ESLA Sonseca Array 87.44 348 eP P 05 12 20.9 +0.5
comp=Z,31nm,1.0s
ESLA LR LR
comp=Z,4µm,18.0s
PCAS Casmilo, Conde 87.56 351 eP P 05 12 20.5 -0.4
comp=Z,61nm,1.6s
PAB San Pablo 87.61 348 eP P 05 12 21.6 +0.3
comp=Z,17nm,1.0s
PAB LR LR
comp=Z,4µm,19.0s
PCBR Castelo Branco 87.68 351 eP P 05 12 21.4 -0.1
comp=Z,50nm,1.5s
OUZ Omahuta 87.87 169 PFAKE 05 12 30.0 +7.9
OUZ LR LR
comp=Z,3µm,21.0s
PMRV Marv??o 88.08 350 eP P 05 12 22.8 -0.6
comp=Z,41nm,1.7s
PMTG Montargil 88.51 351 eP P 05 12 26.3 +0.9
comp=Z,43nm,1.6s
KEST Kesra 88.78 337 eP P 05 12 27.1 +0.2
comp=Z,30nm,0.8s
KEST LR LR
comp=Z,4µm,20.0s
KEST Kesra 88.78 337 P P 05 12 26.9 +0.1
comp=Z,16nm,0.8s,baz=312,slow=4.2,SNR=7.3
CART Cartagena 89.06 345 PFAKE 05 12 40.0 +12
CART LR LR
comp=Z,2µm,20.0s
PNCL Nicolau / Gran 89.49 351 eP P 05 12 28.5 -1.5
comp=Z,49nm,1.8s
PCVE Castro Verde 89.92 351 eP P 05 12 31.9 -0.2
comp=Z,41nm,1.5s
CMLA Cha da Macela 90.23 5 i P P 05 12 25.6 -7.9

MXZ	Matakaoa Point	90.81	166	PFAKE		05 12 50.0	+14
MXZ				LR	LR		
comp=Z,3μm,19.0s							
SFS	San Fernando	90.88	349	PFAKE		05 12 50.0	+13
SFS				LR	LR		
comp=Z,2μm,19.0s							
HIZ	Hauiti	91.27	169	PFAKE		05 12 50.0	+12
HIZ				LR	LR		
comp=Z,2μm,21.0s							
URZ	Urewera	91.32	167	PFAKE		05 12 50.0	+12
URZ				LR	LR		
comp=Z,2μm,18.0s							
URZ	Urewera	91.32	167	P	P	05 12 45.2	+7.0
comp=Z,7.0nm,0.8s,baz=233,slow=5.1,SNR=3.2							
BKZ	Black Stump Fm	92.12	167	PFAKE		05 12 50.0	+8.1
BKZ				LR	LR		
comp=Z,2μm,22.0s							
ESTN	Estel	93.46	64	PFAKE		05 13 00.0	+11
ESTN				LR	LR		
comp=Z,400nm,18.0s							
GTBY	Guantanamo Bay	93.54	51	PFAKE		05 13 00.0	+11
GTBY				LR	LR		
comp=Z,2μm,22.0s							
DAMY	Dhamar	93.58	299	PFAKE		05 13 00.0	+10
DAMY				LR	LR		
comp=Z,10μm,19.0s							
BFZ	Birch Farm	93.58	168	PFAKE		05 13 00.0	+11
BFZ				LR	LR		
comp=Z,3μm,20.0s							
MTDJ	Mount Denham	93.82	54	PFAKE		05 13 00.0	+9.5
MTDJ				LR	LR		
comp=Z,3μm,20.0s							
RKT	Rikitea	93.83	123	*e*PS	PS	05 25 16.5	+0.7
comp=Z,2μm,25.2s							
RKT	Rikitea	93.83	123	*e*LR	LR	05 42 56.2	
comp=Z,3μm,24.2s							
SNZO	South Karori	94.01	169	PFAKE		05 13 00.0	+10
SNZO				LR	LR		
comp=Z,3μm,20.0s							
GRTK	Grand Turk	94.02	47	PFAKE		05 13 00.0	+8.8
GRTK				LR	LR		
comp=Z,2μm,21.0s							
KHZ	Kahutara	94.98	170	PFAKE		05 13 10.0	+15
KHZ				LR	LR		
comp=Z,3μm,20.0s							
ACON	Acoyapa	95.05	63	PFAKE		05 13 10.0	+14
ACON				LR	LR		
comp=Z,800nm,21.0s							
LTZ	Lake Taylor	95.21	171	PFAKE		05 13 10.0	+14
LTZ				LR	LR		
comp=Z,2μm,19.0s							
ESPN	Las Esperanzas	95.34	62	PFAKE		05 13 10.0	+13
ESPN				LR	LR		
comp=Z,700nm,19.0s							
FOZ	Fox Glacier	95.75	173	PFAKE		05 13 10.0	+12
FOZ				LR	LR		
comp=Z,3μm,19.0s							
RPZ	Rata Peaks	96.03	172	PFAKE		05 13 10.0	+10
RPZ				LR	LR		
comp=Z,3μm,19.0s							
SDD	Santo Domingo	97.23	47	PFAKE		05 13 20.0	+14
SDD				LR	LR		
comp=Z,3μm,22.0s							
ODZ	Otahua Downs	97.32	173	PFAKE		05 13 20.0	+14
ODZ				LR	LR		
comp=Z,3μm,19.0s							
MLZ	Mavora Lakes	97.46	174	PFAKE		05 13 20.0	+14
MLZ				LR	LR		
comp=Z,4μm,20.0s							
WHZ	Wether Hill Ro	97.98	175	PFAKE		05 13 20.0	+12
WHZ				LR	LR		
comp=Z,3μm,22.0s							
CRPR	Cabo Rojo, PR	98.87	45	PFAKE		05 13 20.0	+6.7
CRPR				LR	LR		
comp=Z,2μm,21.0s							
CBYP	Canovanas	99.18	44	PFAKE		05 13 30.0	+15
CBYP				LR	LR		
comp=Z,2μm,20.0s							
SJG	San Juan	99.19	44	PFAKE		05 13 30.0	+15
SJG				LR	LR		
comp=Z,2μm,20.0s							
ICMP	Isla Caja de M	99.23	45	PFAKE		05 13 30.0	+15
ICMP				LR	LR		
comp=Z,2μm,18.0s							
HUMP	Col San Antoni	99.30	44	PFAKE		05 13 30.0	+15
HUMP				LR	LR		
comp=Z,2μm,19.0s							
CUPR	Culebra, Puert	99.39	43	PFAKE		05 13 30.0	+14
CUPR				LR	LR		
comp=Z,1μm,21.0s							
ABVI	Anegada Island	99.41	42	PFAKE		05 13 30.0	+14
ABVI				LR	LR		
comp=Z,1μm,19.0s							
MTP	Monte Pirata	99.46	44	PFAKE		05 13 30.0	+14
MTP				LR	LR		
comp=Z,1μm,18.0s							
SMRT	St. Maarten	100.54	42	PFAKE		05 13 30.0	+9.2
SMRT				LR	LR		
comp=Z,2μm,20.0s							
SEUS	St. Eustatius	101.08	42	PFAKE		05 13 40.0	+17
SEUS				LR	LR		
comp=Z,2μm,20.0s							
SKI	Saint Kitts	101.32	42	PFAKE		05 13 40.0	+16
SKI				LR	LR		
comp=Z,2μm,21.0s							
FURI	Furi	101.35	301	PFAKE		05 13 40.0	+15
FURI				LR	LR		
comp=Z,3μm,18.0s							
ANWB	Willy Bob	101.40	41	PFAKE		05 13 40.0	+15
ANWB				LR	LR		
comp=Z,2μm,21.0s							
MSEY	Mahe Island	102.71	279	PFAKE		05 13 40.0	+10
MSEY				LR	LR		
comp=Z,3μm,19.0s							
FDF	Fort de France	104.31	41	PFAKE		05 13 50.0	+12
FDF				LR	LR		
comp=Z,2μm,20.0s							
SDV	Santo Domingo	105.22	53	PFAKE		05 18 10.0	+14
SDV				LR	LR		
comp=Z,2μm,18.0s							
GRGR	Grenville	106.44	43	PFAKE		05 18 10.0	+12
GRGR				LR	LR		
comp=Z,2μm,20.0s							
KMBO	Kilima Mbogo	110.50	296	PFAKE		05 18 20.0	+14
KMBO				LR	LR		
comp=Z,4μm,18.0s							
NAI	Nairobi	110.86	297	PFAKE		05 18 20.0	+14
NAI				LR	LR		
comp=Z,5μm,18.0s							
TOC1	Torodi Ar. Sit	112.27	337	PFAKE		05 18 20.0	+11
TOC1				LR	LR		
comp=Z,3μm,18.0s							
TOC7	Torodi Ar. Sit	112.28	337	PFAKE		05 18 20.0	+11
TOC7				LR	LR		
comp=Z,2μm,19.0s							
TOB2	Torodi Ar. Sit	112.28	337	PFAKE		05 18 20.0	+11
TOB2				LR	LR		
comp=Z,9μm,22.0s							
TOA1	Torodi Ar. Sit	112.29	337	*e*PKiKP	PKiKP	05 18 08.1	-0.8
TOA1				*e*PP	PP	05 18 45.3	-8.1
TOA1				LR	LR		
comp=Z,2μm,18.0s							
TOA2	Torodi Ar. Sit	112.29	337	PFAKE		05 18 20.0	+11
TOA2				LR	LR		
comp=Z,2μm,19.0s							
TORD	Torodi Ar. Bea	112.29	337	PKiKP	PKiKP	05 18 08.1	-0.8
comp=Z,0.6nm,0.6s,baz=10,slow=1.2,SNR=6.6							
TORD				PP	PP	05 18 45.3	-8.1
comp=Z,3.7nm,1.1s,baz=22,slow=4.7,SNR=7.0							
MBAR	Mbarara	113.54	303	PFAKE		05 18 20.0	+8.5
MBAR				LR	LR		
comp=Z,4μm,19.0s							
PTGA	Pitinga	118.66	47	PFAKE		05 18 30.0	+8.8
PTGA				LR	LR		
comp=Z,1μm,21.0s							
ABPO	Ambohimpanom	118.87	276	PFAKE		05 18 30.0	+8.4
ABPO				LR	LR		
comp=Z,2μm,19.0s							
DBIC	Dimbokro	119.95	343	PKP	PKPdf	05 18 21.8	-1.9
comp=Z,5.2nm,0.6s,baz=326,slow=5.4,SNR=8.8							
CASY	Casey	124.07	202	PFAKE		05 18 40.0	+10
CASY				LR	LR		
comp=Z,2μm,18.0s							
LSZ	Lusaka	127.16	296	PFAKE		05 18 50.0	+12
LSZ				LR	LR		
comp=Z,4μm,18.0s							
LPAZ	La Paz	127.75	65	*e*PKPdf	PKiKP	05 18 39.8	0.0
LPAZ	La Paz	127.75	65	PKP	PKPdf	05 18 39.2	+0.1
comp=Z,1.2nm,0.7s,baz=22,slow=6.1,SNR=6.7							
LPAZ	La Paz	127.75	65	*e*P	PKiKP	05 18 40.1	+0.3
VNDA	Vanda	129.49	180	PKP	PKPdf	05 18 39.5	-0.4
comp=Z,0.7nm,0.8s,baz=332,slow=3.5,SNR=3.3							
CLDB	Colider	129.51	49	*e*P	PKPdf	05 18 42.0	+0.1
PB11	IPOC Station P	129.65	69	*e*PKPdf	PKiKP	05 18 45.3	+2.4
SBA	Scott Base	129.88	178	*e*PKPdf	PKiKP	05 18 41.5	+0.1
SBA	Scott Base	129.88	178	*e*PKIKP	PKiKP	05 18 41.5	+0.1
RCBR	Riachuelo	131.85	22	*e*P	PKiKP	05 18 47.8	+0.4
LVC	Limon Verde	132.31	71	*e*P	PKiKP	05 18 48.1	-0.4
SALV	Santo Antonio	133.94	52	*e*P	PKPdf	05 18 50.3	+0.2
LCO	Las Campanas	136.05	78	*e*P	PKPdf	05 18 54.6	+0.5
BDFB	Brasilia	137.15	42	*e*PKPdf	PKiKP	05 18 57.4	-0.7
BDFB				LR	LR		
comp=Z,3μm,20.0s							
BDFB	Brasilia	137.15	42	*e*PKIKP	PKiKP	05 18 57.4	-0.7
BDFB				MLR	MLR		
comp=Z,3μm,20.0s							
BDFB	Brasilia	137.15	42	PKP	PKiKP	05 18 57.4	-0.7
comp=Z,1.5nm,0.5s,baz=184,slow=15,SNR=4.0							
AQDB	Aquidauana	137.82	55	*e*P	PKiKP	05 18 58.5	-0.7
JANB	Januaria	138.07	37	*e*P	PKPdf	05 18 58.5	+0.6
BOSA	Boshof	139.28	288	PKhKP	PKPpre	05 18 53.6	
comp=Z,2.4nm,0.8s,baz=9.7,slow=2.7,SNR=4.3							
MAW	Mawson	139.34	216	*e*PKPdf	PKPdf	05 18 59.4	+0.9
MAW	Mawson	139.34	216	PKP	PKPdf	05 18 57.7	-0.8
comp=Z,2.6nm,0.9s,baz=18,slow=3.2,SNR=3.8							
MCI8	Montes Claros	139.69	37	*e*P	PKPdf	05 19 02.1	+1.2
ITRB	Iturama	139.73	48	*e*P	PKPdf	05 19 01.5	+0.6
MCI9	Montes Claros	139.73	37	*e*P	PKPdf	05 19 01.5	+0.5
MCI6	Montes Claros	139.83	37	*e*P	PKPdf	05 19 02.1	+0.9
BB19B	Bebedouro	141.75	47	*e*P	PKPdf	05 19 05.0	+0.6
CPUP	Villa Florida	141.75	62	PKP	PKPdf	05 19 02.9	-1.3
comp=Z,3.8nm,1.1s,baz=243,slow=4.1,SNR=5.6							
CPUP	Villa Florida	141.75	62	*e*P	PKPdf	05 19 05.0	+0.8
QSPA	South Pole Qui	141.98	180	PFAKE		05 19 20.0	+14
QSPA				LR	LR		
comp=Z,2μm,20.0s							
SJMB	Sao Joao De Ma	142.56	35	*e*P	PKPdf	05 19 06.8	+0.9
GO06	Curarrehue	142.65	91	*e*PKPdf	PKiKP	05 19 09.1	+0.4
PTGB	Pitanga	143.19	54	*e*P	PKPdf	05 19 08.0	+1.0
FRTB	Fartura	143.24	50	*e*P	PKPdf	05 19 07.4	+0.4
BSCB	Bom Sucesso	143.29	41	*e*P	PKPdf	05 19 08.7	+1.5
RIB01	Linhares ES	143.40	34	*e*P	PKPdf	05 19 06.8	-0.5
PLCA	Paso Flores	143.90	92	*e*PKPdf	PKPdf	05 19 07.5	-0.2
PLCA	Paso Flores	143.90	92	PKP	PKPbc	05 19 06.6	+1.0
comp=Z,2.4nm,0.7s,baz=320,slow=5.7,SNR=6.9							
PLCA	Paso Flores	143.90	92	*e*P	PKPdf	05 19 08.0	+0.3
SPB	Sao Paulo	144.44	47	*e*P	PKPdf	05 19 09.0	0.0
SUR	Sutherland	144.64	288	*e*PKPdf	PKPdf	05 19 09.3	-0.1
TIJ01	Guaruva-PR	145.19	51	*e*P	PKPbc	05 19 10.1	-0.1
DUB01	Friburgo-RJ	145.21	39	*e*P	PKPdf	05 19 10.5	0.0
ITAB	Concordia	145.23	57	*e*P	PKPbc	05 19 10.2	+0.2
ESAR	Angra dos Reis	145.23	42	*e*P	PKPbc	05 19 09.3	-0.8
TRQA	Tornquist	147.52	81	*e*PKPbc	PKiKP	05 19 18.0	-0.7
TRQA	Tornquist	147.52	81	*e*PKP2	PKiKP	05 19 18.0	-0.7
TRQA	Tornquist	147.52	81	*e*P	PKPdf	05 19 14.1	+0.2
CNLB	Canela	147.57	57	*e*P	PKPdf	05 19 15.1	+0.8
TER01	Tubaro-SC	147.81	54	*e*P	PKPdf	05 19 15.6	+0.9
SYO	Syowa Base	148.05	216⇓	*e*P	PKPdf	05 19 13.0	-0.7
SYO	Syowa Base	148.05	216⇓	*e*P	PKPbc	05 19 17.6	+0.6
SYO	Syowa Base	148.05	216⇓	*e*P	PKPab	05 19 21.0	+1.1
PMSA	Palmer Station	154.31	136	*e*P	PKPdf	05 19 24.6	+1.3
SNAA	Sanae	159.10	195	PKPab	PKPab	05 20 08.5	+1.9
SNAA	Sanae	159.10	195	PKPdf	PKPdf	05 19 35.0	+5.5
SNAA	Sanae	159.10	195	*e*PKPdf	PKPdf	05 19 29.5	0.0
SNAA	Sanae	159.10	195	*e*PKIKP	PKPdf	05 19 29.5	0.0
VNA3	Neumayer Olymp	160.39	190	PKPab	PKPab	05 20 10.6	-1.6
VNA3	Neumayer Olymp	160.39	190	PKPdf	PKPdf	05 19 33.6	+2.7
VNA2	Neumayer--Watz	160.43	192	PKPab	PKPab	05 20 21.7	+9.4
VNA2	Neumayer--Watz	160.43	192	PKPdf	PKPdf	05 19 31.7	+0.7
baz=175,slow=2.8							
VNA1	Neumayer--Stat	160.79	192	PKPab	PKPab	05 20 23.6	+10
VNA1	Neumayer--Stat	160.79	192	PKPdf	PKPdf	05 19 40.4	+9.1

*ISCJB **21** 04:59:38.3±0.3,24°.27N±0°.01×121°.79E±0°.01,h7km±2km,*
Error ellipse: s-maj=2.5km s-min=1.8km az=35.8
*JMA **21** 04:59:38.2±0.1,24°.23N×121°.70E,h22km±1km,M3.3*
*TAP **21** 04:59:38.3,24°.28N×121°.77E,h14km,ML4.0,B*
ISC 21 04:59:38.2±0.8,24°.27N±0°.02×121°.76E±0°.02,h16km±6km,
n111,σ0977/155,11C-12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NANB	Nanao	0.16	357	⇓P		Pb	04 59 42.2	-0.8
baz=353								
NANB				S		Sb	04 59 44.9	-1.1
baz=353								
ENA	Nanau	0.16	354	⇓*i*P		Pb	04 59 42.2	-0.8
baz=353								
ENA				*i*S		Sb	04 59 45.0	-1.1
baz=353								
NACB	Ninganchiao	0.17	239	P		Pg	04 59 42.6	0.0
baz=231								
NACB				S		Sg	04 59 45.8	+0.3
baz=231								
TWD	Chiawan	0.24	219	⇑*i*P		Pg	04 59 43.9	+0.3
baz=218								
TWD				S		Sg	04 59 47.7	+0.6
baz=218								
ETLH	Xiulin Townshi	0.26	257	⇑P		Pb	04 59 44.2	-0.4
baz=255								
ETLH				S		Sg	04 59 48.2	+0.3
baz=255								
HWA	Hwalien	0.32	206	*e*P		Pb	04 59 45.8	+0.2
baz=213								
TWC	Suao	0.35	14	⇓*i*P		Pg	04 59 45.4	-0.2
baz=9.0								
TWC				*e*S		Sg	04 59 50.1	-0.4
baz=9.0								
NNSB	Datong	0.38	295	⇑P		Pb	04 59 46.5	-0.2
baz=293								
NNSB				S		Sb	04 59 51.5	-0.9
baz=293								
ENLB	Shoufeng	0.39	202	⇓P		Pb	04 59 47.3	+0.6
baz=210								
NNS	Nan Shan	0.39	296	⇑*i*P		Pb	04 59 46.7	-0.2
baz=294								
NNS				*i*S		Sb	04 59 51.9	-0.9
baz=294								
NDT	Datong Townshi	0.40	326	⇑P		Pb	04 59 46.8	-0.3
baz=324								
NDT				S		Sg	04 59 52.3	+0.2
baz=324								
ENTT	Nioudou	0.41	335	⇓*i*P		Pg	04 59 46.8	+0.2
baz=333								
ENTT				S		Sg	04 59 52.6	+0.3
baz=333								
EOS1	EOS1	0.44	50	⇓P		Pg	04 59 47.3	+0.2
baz=43								
EOS1				S		Sb	04 59 54.3	+0.3
baz=43								
TWE	Neicheng	0.46	350	⇓*i*P		Pg	04 59 47.6	+0.1
baz=349								
TWE				S		Sg	04 59 53.7	0.0
baz=349								
WHF	Hehuan Shan	0.47	255	⇑*i*P		Pb	04 59 48.0	-0.4
baz=254								
WHF				S		Sb	04 59 54.8	-0.4
baz=254								
ILA	Ilan	0.50	359	P		Pg	04 59 48.2	+0.1
baz=352								
ILA				S		Sb	04 59 55.9	+0.2
baz=352								
TWT	Tachien	0.53	269	⇑*i*P		Pb	04 59 49.7	+0.4
baz=268								
TWT				S		Sb	04 59 57.2	+0.4
baz=268								
YHNB	Yeheng	0.53	319	⇑P		Pb	04 59 49.1	-0.2
baz=317								
YHNB				S		Sg	04 59 56.0	0.0
baz=317								
ESL	Shilin	0.54	214	P		Pb	04 59 48.9	-0.4
baz=221								
NSK	Sanguang	0.55	318	⇑*i*P		Pb	04 59 49.3	-0.2
baz=317								
NSK				S		Sb	04 59 56.8	-0.4
baz=317								
TDCB	Techi	0.55	269	⇑P		Pb	04 59 49.8	+0.2
baz=268								
TDCB				S		Sb	04 59 56.7	-0.6
baz=268								
CHGB	Renai	0.57	249	⇑P		Pb	04 59 50.0	0.0
baz=244								
CHGB				*e*S		Sb	04 59 57.3	-0.7
baz=244								
NTC	Toucheng	0.59	6	P		Pb	04 59 49.8	-0.4
baz=4.0								
NTC				*e*S		Sg	04 59 57.6	-0.2
baz=4.0								
EGS		0.60	15	P		Pb	04 59 50.0	-0.3
baz=23								
OWD	Renai	0.62	240	*e*P		Pb	04 59 50.9	+0.2
baz=240								
OWD				*e*S		Sb	04 59 59.3	0.0
baz=240								
EGFH	Guangfu	0.67	207	*e*P		Pg	04 59 51.6	+0.3
baz=222								
TIPB	Shuangxi	0.71	5	⇓P		Pb	04 59 52.0	-0.2
baz=3.0								
TIPB				*e*S		Sb	05 00 00.6	-1.2
baz=3.0								
NHDH	Xindian Distri	0.73	343	*e*P		Pn	04 59 53.3	-0.6
baz=335								
WHP	Taichung City	0.74	271	*e*P		Pn	04 59 53.6	-0.6
baz=271								
WHP				*e*S		Sn	05 00 03.4	-1.8
baz=271								
WLTB	Daxi	0.74	322	*e*P		Pn	04 59 53.7	-0.4
baz=320								
WLTB				*e*S		Sn	05 00 04.3	-0.8
baz=320								
TATO	Taipei	0.75	341	*e*P		Pb	04 59 52.8	-0.1
baz=339								
VWDT	VWDT	0.76	228	*e*P		Pg	04 59 53.2	+0.1
baz=234								
TWB1	Santiao Chiao	0.77	16	*e*P		Pb	04 59 52.8	-0.5
baz=14								
TWB1				*e*S		Sb	05 00 02.6	-0.9
baz=14								
LIOB	Emei	0.78	299	P		Pn	04 59 54.0	-0.5
baz=298								
LIOB				S		Sn	05 00 04.4	-1.5
baz=298								
NSTT	Nanjuang	0.78	298	P		Pn	04 59 53.9	-0.8
baz=297								
NSTT				S		Sg	05 00 04.1	+0.3
baz=297								
NWF	Wu-fen Shan	0.80	1	⇓*i*P		Pb	04 59 54.0	+0.1
baz=360								
WFSB	Wu-fen Shan	0.80	1	⇓P		Pg	04 59 54.0	+0.1
baz=360								
TAP	Taipei	0.80	343	*e*P		Pg	04 59 53.9	0.0
baz=333								
HGSD	Ruisui	0.83	202	⇓P		Pn	04 59 55.0	-0.2
baz=192								
HGSD				*e*S		Sn	05 00 08.3	+1.1
baz=192								
EHY	Hungye	0.85	208	*e*P		Pg	04 59 54.5	-0.4
baz=221								
NCUH	Zhongli	0.87	323	*e*P		Pn	04 59 55.8	-0.2
baz=322								
SMLT	Sun Moon Lake	0.87	244	⇓P		Pn	04 59 55.7	-0.3
baz=238								
SMLT				*e*S		Sn	05 00 07.9	-0.6
baz=238								
NCU	National Centr	0.87	324	*e*P		Pn	04 59 55.9	0.0
baz=317								
NCU				*e*S		Sn	05 00 09.4	+1.0
baz=317								
SSLB	Suanglung	0.88	237	*e*P		Pn	04 59 55.3	-0.7
baz=238								
SBCB	Hsinchu	0.88	307	*e*P		Pn	04 59 56.3	+0.3
baz=305								
TWS1	Kuangyinshan	0.89	340	*e*P		Pn	04 59 56.0	-0.1
baz=338								
TWS1				*e*S		Sn	05 00 08.9	+0.2
baz=338								
YM01	YM01	0.89	349	P		Pn	04 59 55.9	-0.3
baz=347								
HSN	Hsinchu	0.90	307	*e*P		Pn	04 59 56.5	+0.3
baz=298								
TWQ1	Liyutan	0.90	275	*e*P		Pn	04 59 57.7	+1.4
baz=275								
TWQ1				*e*S		Sn	05 00 09.1	0.0
baz=275								
YM10	YM10	0.90	349	*e*P		Pn	04 59 56.1	-0.3
baz=346								
YM10				S		Sg	05 00 08.3	+0.5
baz=346								
YM11	YM11	0.91	349	*e*P		Pg	04 59 56.2	+0.2
baz=348								
YM07	YM07	0.91	352	*e*P		Pn	04 59 56.3	-0.2
baz=351								
NMLH	Miaoli	0.92	287	*e*P		Pn	04 59 57.5	+0.9
baz=286								
YM08	YM08	0.93	351	*e*P		Pb	04 59 56.1	0.0
baz=349								
NTST	Danshui	0.94	343	*e*P		Pg	04 59 56.7	+0.3
baz=341								
YULB	Yu-li	0.97	206	*e*P		Pg	04 59 56.7	-0.3
baz=218								
PTSB	Yuanli	0.98	281	*e*P		Pg	04 59 58.9	+1.7
baz=280								
TCU	Taichung	0.99	263	*e*P		Pg	04 59 59.3	+1.8
baz=263								
TWF1	Yuli	1.00	205	*e*P		Pb	04 59 56.8	-0.5
baz=218								
WHYT	Xinyi Township	1.00	236	*e*P		Pg	04 59 58.0	+0.3
baz=236								
TWY	Chenhua	1.02	352	*e*P		Pg	04 59 58.7	+0.7
baz=351								
WDJ	Dajia District	1.02	275	*e*P		Pg	04 59 59.7	+1.6
baz=274								
WNT	Mingjian	1.05	249	*e*P		Pg	04 59 59.6	+0.9
baz=240								
YUS	Yu-Shan	1.07	224	*e*P		Pg	04 59 58.7	-0.3
baz=225								
JYNG	Yonagunijimaku	1.10	80	P		Pb	04 59 59.2	+0.3
JYNG				*e*S		Sg	05 00 14.8	+0.9
WCHH	Zhanghua	1.11	261	*e*P		Pg	05 00 00.6	+0.8
baz=260								
YOJ	Yonaguni jima	1.16	80	*e*P		Pn	04 59 59.9	0.0
baz=67								
YOJ				*e*S		Sg	05 00 16.4	+0.6
baz=67								
YOJ	Yonaguni jima	1.16	80	P		Pb	05 00 00.1	+0.2
YOJ				*e*S		Sg	05 00 16.2	+0.4
CHN5	Tsauling	1.19	236	*e*P		Pg	05 00 01.5	+0.2
baz=239								
CHN5				*e*S		Sg	05 00 19.0	+2.1
baz=239								
CHKT	Chengkung	1.22	197	*e*P		Pn	04 59 59.4	-1.2
baz=186								
WGK	Gukeng	1.24	242	*e*P		Pg	05 00 02.5	+0.4
baz=244								
WDLH	Douliu	1.25	243	*e*P		Pg	05 00 02.7	+0.2
baz=245								
ELDTW	Lidau	1.27	213	*e*P		Pb	05 00 01.3	-0.6
baz=214								
RLNB	Erlin	1.33	254	*e*P		Pg	05 00 04.4	+0.5
baz=255								
RLNB				*e*S		Sg	05 00 23.1	+1.9
baz=255								
CHN2	Minshiung	1.38	238	*e*P		Pg	05 00 05.2	+0.3
baz=226								
CHN4	Tsaushan	1.40	230	*e*P		Pg	05 00 05.7	+0.4
baz=233								
CHN4				*e*S		Sg	05 00 25.3	+1.8
baz=233								
WTCT	Ta-ch'eng	1.41	254	*e*P		Pg

	baz=192						
TWGBT	**Beinan**	**1.57**	**203**	*e*P	**Pn**	**05 00 03.9**	**-1.6**
	baz=192						
SGST	**Jiashian**	**1.60**	**223**	*e*P	**Pg**	**05 00 08.9**	**-0.1**
	baz=226						
SLGT	**Liugui**	**1.63**	**219**	*e*P	**Pb**	**05 00 08.1**	**+0.2**
	baz=223						
CHN8	**Yiju**	**1.69**	**237**	*e*P	**Pb**	**05 00 08.8**	**-0.2**
	baz=224						
SSD	**Sandimen**	**1.83**	**215**	*e*P	**Pb**	**05 00 10.8**	**-0.6**
	baz=229						
HATJ	**Hateruma jima**	**1.88**	**96**	P	**Pn**	**05 00 10.2**	**+0.4**
TWM1	**Shoushan**	**1.89**	**221**	*e*P	**Pg**	**05 00 13.9**	**-0.6**
	baz=224						
MASBT	**Mashibuluo**	**1.94**	**212**	*e*P	**Pb**	**05 00 12.1**	**-1.3**
	baz=217						
EAST	**Anshuo**	**2.05**	**204**	*e*P	**Pb**	**05 00 13.3**	**-1.8**
	baz=196						
JKRS	**Kuro-shima**	**2.06**	**90**	P	**Pn**	**05 00 12.9**	**+0.8**
JKRS				*e*S	**Sn**	**05 00 38.5**	**+1.0**
SSPT	**Xinbi**	**2.08**	**212**	*e*P	**Pb**	**05 00 14.9**	**-0.8**
	baz=200						
PNG	**Penghu**	**2.13**	**251**	*e*P	**Pn**	**05 00 14.0**	**+0.8**
	baz=252						
PHUB	**P'eng-hu**	**2.14**	**250**	*e*P	**Pn**	**05 00 13.6**	**+0.3**
	baz=251						
SCZT	**Fangliau**	**2.16**	**209**	*e*P	**Pb**	**05 00 15.6**	**-1.3**
	baz=197						
WDGT	**Dungji**	**2.17**	**243**	*e*P	**Pb**	**05 00 15.2**	**-2.0**
	baz=245						
JIJ	**Ishigaki jima**	**2.18**	**87**	P	**Pn**	**05 00 14.1**	**+0.3**
JIJ				*e*S	**Sn**	**05 00 40.9**	**+0.4**
VWUC	**VWUC**	**2.22**	**289**	*e*P	**Pn**	**05 00 14.9**	**+0.5**
	baz=289						
JISG	**Ishigakijimahi**	**2.35**	**82**	P	**Pn**	**05 00 16.0**	**-0.2**
JISG				*e*S	**Sn**	**05 00 46.1**	**+1.4**
VCHM	**Qimei**	**2.38**	**244**	*e*P	**Pn**	**05 00 17.3**	**+0.7**
	baz=233						
TWK1	**Hengchun**	**2.47**	**201**	*e*P	**Pb**	**05 00 20.7**	**-1.6**
	baz=193						
TWKBT	**Hengchun**	**2.47**	**201**	*e*P	**Pb**	**05 00 21.1**	**-1.3**
	baz=193						
MATB	**Ma-tsu**	**2.49**	**319**	*e*P	**Pn**	**05 00 18.3**	**+0.1**
	baz=317						
JTJ	**Tarama**	**2.71**	**81**	P	**Pn**	**05 00 21.9**	**+0.8**
QZH	**Quanzhou**	**2.96**	**284**	*e*Pn	**Pn**	**05 00 25.0**	**+0.4**
QZH				Sn	**Sn**	**05 00 59.8**	**0.0**
KNM	**Kinmen**	**3.04**	**274**	*e*P	**Pn**	**05 00 28.1**	**+2.5**
	baz=273						
KNMB	**Chin-men Tao**	**3.08**	**274**	*e*P	**Pn**	**05 00 26.7**	**+0.5**
	baz=275						

*IDC **21** 05:04:47.7±4.8, 52°.47N×160°.82E, h0km, mb4.2/2, mb1 4.1/3, mb1mx3.6/37, mbtmp4.0/3, Error ellipse: s-maj=94.2km s-min=37.7km az=174.0*
*KRSC **21** 05:04:48.5±10.0, 52°.07N×160°.50E, h18km±10km, ML4.0*
ISC 21 05:04:47.6±2.2, 52°.05N±0°.07×160°.43E±0°.08, h6km±11km, n23, σ0°.72/34, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.08**	**347**	*e*P	**Pb**	**05 05 08.3**	**-0.4**
SPN				*e*S	**Sg**	**05 05 22.2**	**-0.2**
RUS	**Russkaya**	**1.24**	**289**	*e*P	**Pb**	**05 05 11.5**	**+0.1**
RUS				*e*S	**Sg**	**05 05 27.1**	**-0.3**
NLC	**Nalytchevo**	**1.30**	**330**	*e*P	**Pb**	**05 05 12.4**	**-0.1**
NLC				*e*S	**Sg**	**05 05 29.6**	**+0.1**
DALK	**Dalny**	**1.42**	**315**	*e*P	**Pn**	**05 05 13.9**	**0.0**
DALK				*e*S	**Sn**	**05 05 32.4**	**-0.5**
MTVR	**Mutnovka**	**1.45**	**288**	*e*P	**Pb**	**05 05 15.1**	**+0.1**
MTVR				*e*S	**Sn**	**05 05 33.5**	**-0.3**
KDTR	**Khodutka, Kamc**	**1.47**	**262**	*e*P	**Pg**	**05 05 15.3**	**-0.6**
KDTR				*e*S	**Sn**	**05 05 34.0**	**-0.2**
UGLR	**Uglovaya**	**1.52**	**321**	*e*P	**Pb**	**05 05 16.2**	**0.0**
UGLR				*e*S	**Sn**	**05 05 36.3**	**+0.8**
GRL	**Gorelyy**	**1.53**	**290**	*e*P	**Pg**	**05 05 17.3**	**+0.3**
SDLR	**Sedlovina**	**1.55**	**323**	*e*P	**Pb**	**05 05 16.4**	**-0.4**
SMAR	**Somma**	**1.57**	**322**	P	**Pb**	**05 05 16.7**	**-0.5**
ASAK	**Asacha**	**1.59**	**283**	*e*P	**Pb**	**05 05 17.5**	**+0.1**
ASAK				*e*S	**Sn**	**05 05 38.3**	**+1.1**
AVH	**Avacha**	**1.59**	**321**	*e*P	**Pb**	**05 05 17.1**	**-0.4**
KRMR	**Karymshinskiy**	**1.61**	**300**	*e*P	**Pn**	**05 05 16.8**	**+0.3**
KRMR				*e*S	**Sn**	**05 05 37.9**	**+0.3**
KRER	**Koryakskii**	**1.62**	**322**	*e*P	**Pg**	**05 05 18.9**	**+0.2**
KOK	**Koryaka**	**1.66**	**320**	*e*P	**Pb**	**05 05 18.9**	**+0.3**
KRX	**Arik**	**1.70**	**321**	*e*P	**Pn**	**05 05 18.4**	**+0.4**
PETK	**Petropavlovsk-**	**1.97**	**304**	Pn	**Pb**	**05 05 22.9**	**-1.1**
	baz=108, slow=19, SNR=6.2						
PETK				Sn	**Sb**	**05 05 49.4**	**+0.6**
	12nm, 0.3s, baz=96, slow=20, SNR=5.6						
APC	**Apacha**	**2.18**	**295**	*e*P	**Pb**	**05 05 27.1**	**-0.4**
KZV	**Kizimen**	**3.07**	**359**	*e*P	**Pn**	**05 05 38.2**	**+1.4**
KZV				*e*S	**Sn**	**05 06 14.5**	**+0.6**
TUMR	**Tumrok**	**3.25**	**357**	P	**Pn**	**05 05 40.3**	**+1.1**
ALID	**Alaid**	**3.27**	**251**	*e*P	**Pn**	**05 05 41.2**	**+1.7**
ARCES	**ARCESS Array B**	**54.35**	**342**	P	**P**	**05 14 12.6**	**-1.8**
	1.5nm, 0.8s, baz=32, slow=8.8, SNR=2.5						
FINES	**FINESS Array B**	**61.16**	**337**	P	**P**	**05 15 01.7**	**-0.6**
	3.5nm, 0.8s, baz=37, slow=7.7, SNR=2.9						

TAP 21 05:06:35.7, 24°.28N×121°.76E, h13km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.15**	**355**	P	Pg	05 06 39.1	-0.3
	baz=355						
NANB				S	Sg	05 06 42.1	+0.1
	baz=355						
ENA	**Nanau**	**0.15**	**352**	P	Pg	05 06 39.4	0.0
	baz=355						
ENA				S	Sg	05 06 42.4	+0.3
	baz=355						
NACB	**Ninganchiao**	**0.18**	**236**	P	Pg	05 06 40.0	+0.1
	baz=230						
NACB				S	Sg	05 06 43.2	+0.3
	baz=230						
TWD	**Chiawan**	**0.25**	**218**	P	Pg	05 06 41.1	+0.1
	baz=217						
TWD				*e*S	Sg	05 06 45.1	+0.6
	baz=217						
ETLH	**Xiulin Townshi**	**0.27**	**255**	P	Pg	05 06 41.5	+0.2
	baz=255						
ETLH				S	Sg	05 06 45.8	+0.5
	baz=255						
TWC	**Suao**	**0.34**	**13**	P	Pg	05 06 43.1	+0.5
	baz=10.0						
TWC				*e*S	Sb	05 06 48.2	-0.7
	baz=10.0						
NNSB	**Datong**	**0.38**	**293**	P	Pg	05 06 43.8	+0.4
	baz=294						
NNSB				S	Sg	05 06 48.9	+0.4
	baz=294						
NNS	**Nan Shan**	**0.39**	**294**	*e*P	Pg	05 06 43.5	-0.1
	baz=295						
NNS				S	Sg	05 06 49.3	+0.3
	baz=295						
NDT	**Datong Townshi**	**0.40**	**325**	*e*P	Pg	05 06 44.0	+0.4
	baz=325						
NDT				S	Sb	05 06 50.1	-0.5
	baz=325						
ENTT	**Nioudou**	**0.40**	**334**	P	Pg	05 06 44.1	+0.3
	baz=334						
ENTT				S	Sb	05 06 50.0	-0.7
	baz=334						
EOS1	**EOS1**	**0.43**	**51**	*e*P	Pb	05 06 45.1	0.0
	baz=44						
EOS1				*e*S	Sb	05 06 52.0	+0.6
	baz=44						
WHF	**Hehuan Shan**	**0.47**	**254**	*e*P	Pg	05 06 45.3	0.0
	baz=254						
WHF				*e*S	Sg	05 06 52.3	+0.7
	baz=254						
YHNB	**Yeheng**	**0.53**	**318**	P	Pg	05 06 46.3	+0.2
	baz=318						
YHNB				S	Sb	05 06 53.9	-0.5
	baz=318						
ESL	**Shilin**	**0.55**	**213**	*e*S	Sg	05 06 53.5	-0.4
	baz=221						

JMA 21 05:06:39.0±0.3, 25°.03N×123°.51E, h10km, M2.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.72**	**164**	S	Sg	05 07 02.5	+0.2
YOJ	**Yonaguni jima**	**0.72**	**219**	P	Pg	05 06 52.9	-0.1
YOJ				*e*S	Sg	05 07 02.3	-0.2
JYNG	**Yonagunijimaku**	**0.77**	**222**	P	Pg	05 06 53.5	-0.4
JYNG				*e*S	Sg	05 07 03.9	-0.1
JISG	**Ishigakijimahi**	**0.85**	**121**	P	Pg	05 06 55.1	-0.3
JISG				S	Sb	05 07 07.4	+0.1
JIJ	**Ishigaki jima**	**0.88**	**139**	P	Pg	05 06 55.3	-0.6
JIJ				S	Sg	05 07 06.6	-0.8
JKRS	**Kuro-shima**	**0.91**	**150**	P	Pb	05 06 56.9	0.0
JKRS				*e*S	Sg	05 07 08.2	-0.2
HATJ	**Hateruma jima**	**1.01**	**164**	P	Pg	05 06 57.8	-0.6
HATJ				*e*S	Sg	05 07 11.1	-0.3

KRSC 21 05:10:18.3±10.0, 52°.16N×160°.87E, h60km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.07**	**332**	*i* P	Pn	05 10 37.9	+0.6
SPN				*e*S	Sn	05 10 51.6	+0.2
NLC	**Nalytchevo**	**1.38**	**318**	*e*P	Pn	05 10 43.2	+1.9
NLC				*e*S	Sn	05 11 00.6	+2.1
RUS	**Russkaya**	**1.48**	**282**	*e*P	Pn	05 10 43.9	+1.3
RUS				*e*S	Sn	05 11 01.5	+0.6
DALK	**Dalny**	**1.56**	**305**	*e*P	Pn	05 10 45.4	+1.6
DALK				*e*S	Sn	05 11 04.8	+1.8
PET	**Petropavlovsk**	**1.61**	**304**	*e*P	Pn	05 10 46.8	+2.4
PET				*e*S	Sn	05 11 06.5	+2.4
UGLR	**Uglovaya**	**1.63**	**311**	*e*P	Pn	05 10 47.5	+2.6
UGLR				*e*S	Sn	05 11 07.4	+2.5
SDLR	**Sedlovina**	**1.65**	**314**	*e*P	Pn	05 10 47.8	+2.7
SMAR	**Somma**	**1.68**	**312**	*e*P	Pn	05 10 49.2	+3.6
MTVR	**Mutnovka**	**1.68**	**282**	*e*P	Pn	05 10 47.7	+2.1
MTVR				*e*S	Sn	05 11 07.8	+1.6
AVH	**Avacha**	**1.71**	**311**	*e*P	Pn	05 10 48.4	+2.5
KRER	**Koryakskii**	**1.73**	**312**	*e*P	Pn	05 10 47.8	+1.6
KDTR	**Khodutka, Kamc**	**1.76**	**260**	*e*P	Pn	05 10 48.6	+2.1
KDTR				*e*S	Sn	05 11 08.5	+0.6
KOK	**Koryaka**	**1.77**	**311**	*e*P	Pn	05 10 50.1	+3.4
KRMR	**Karymshinskiy**	**1.81**	**293**	*e*P	Pn	05 10 49.4	+2.3
KRMR				*e*S	Sn	05 11 10.8	+1.9
KRX	**Arik**	**1.81**	**313**	*e*P	Pn	05 10 50.2	+2.9
ASAK	**Asacha**	**1.84**	**278**	*e*P	Pn	05 10 50.0	+2.4
APC	**Apacha**	**2.40**	**290**	*e*P	Pn	05 10 59.3	+4.2
MKZ	**Mys Kozlova**	**2.46**	**12**	*e*P	Pn	05 10 59.1	+3.2
MKZ				*e*S	Sn	05 11 26.4	+1.7
KZV	**Kizimen**	**2.98**	**354**	*e*P	Pn	05 11 07.1	+3.9
KZV				*e*S	Sn	05 11 40.2	+2.4
TUMD	**Tumrok D**	**3.06**	**355**	*e*P	Pn	05 11 07.5	+3.2
TUMD				*e*S	Sn	05 11 41.6	+1.9
TUMR	**Tumrok**	**3.16**	**352**	*e*P	Pn	05 11 09.9	+4.2
KBTR	**Krutoberegovo**	**4.22**	**15**	*e*P	Pn	05 11 24.4	+4.4
BKI	**Bering**	**4.30**	**43**	*e*S	Sn	05 12 09.5	-0.4

KRSC 21 05:11:29.4±10.0, 52°.01N×160°.68E, h67km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.16**	**340**	*e*P	Pn	05 11 50.9	+1.1
SPN				*e*S	Sn	05 12 04.7	-0.3
RUS	**Russkaya**	**1.40**	**288**	*e*P	Pn	05 11 54.8	+1.9
RUS				*e*S	Sn	05 12 11.9	+1.4
NLC	**Nalytchevo**	**1.42**	**326**	*e*P	Pn	05 11 55.8	+2.7
NLC				*e*S	Sn	05 12 13.4	+2.4
DALK	**Dalny**	**1.56**	**312**	*e*P	Pn	05 11 57.2	+2.2
DALK				*e*S	Sn	05 12 15.7	+1.4
MTVR	**Mutnovka**	**1.60**	**288**	*e*P	Pn	05 11 57.9	+2.1
MTVR				*e*S	Sn	05 12 16.7	+1.0
KDTR	**Khodutka, Kamc**	**1.62**	**264**	*e*P	Pn	05 11 57.8	+1.9
KDTR				*e*S	Sn	05 12 16.7	+0.8
UGLR	**Uglovaya**	**1.65**	**317**	*e*P	Pn	05 11 58.9	+2.6
GRL	**Gorelyy**	**1.69**	**290**	*e*P	Pn	05 11 58.7	+1.8
SMAR	**Somma**	**1.70**	**318**	*e*P	Pn	05 11 59.1	+2.0
AVH	**Avacha**	**1.72**	**317**	*e*P	Pn	05 11 59.1	+1.8
KRER	**Koryakskii**	**1.75**	**319**	*e*P	Pn	05 12 01.1	+3.3
ASAK	**Asacha**	**1.75**	**283**	*e*P	Pn	05 12 00.6	+2.9
KRMR	**Karymshinskiy**	**1.76**	**299**	*e*P	Pn	05 12 00.4	+2.7
KOK	**Koryaka**	**1.79**	**317**	*e*P	Pn	05 12 01.3	+3.1
APC	**Apacha**	**2.34**	**294**	*e*P	Pn	05 12 09.8	+4.3
APC				*e*S	Sn	05 12 37.4	+4.2
MKZ	**Mys Kozlova**	**2.62**	**14**	*e*S	Sn	05 12 40.4	+0.3
KZV	**Kizimen**	**3.12**	**356**	*e*P	Pn	05 12 20.3	+4.1
SKR	**Severo-Kuril's**	**3.15**	**247**	*e*S	Sn	05 12 54.4	+1.4
TUMD	**Tumrok D**	**3.20**	**357**	*e*P	Pn	05 12 20.8	+3.5
TUMD				*e*S	Sn	05 12 56.1	+1.9
TUMR	**Tumrok**	**3.29**	**355**	*e*P	Pn	05 12 22.8	+4.2
TUMR				*e*S	Sn	05 13 00.2	+3.6
KBTR	**Krutoberegovo**	**4.39**	**16**	*e*P	Pn	05 12 37.9	+4.4
BKI	**Bering**	**4.49**	**43**	*e*S	Sn	05 13 25.1	-0.6

*IDC **21** 05:15:12.7±3.5, 51°.71N×160°.51E, h0km, mb3.7/4, mb1 3.6/5, mb1mx3.3/50, mbtmp3.6/5, ML2.7/1, Error ellipse: s-maj=72.0km s-min=43.8km az=14.0*
*KRSC **21** 05:15:17.7±10.0, 52°.17N×160°.62E, h66km±10km, ML3.8*
ISC 21 05:15:14.8±1.9, 52°.04N±0°.06×160°.69E±0°.05, h9km±12km, n32, σ1°.48/47, mb3.7/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.14**	**339**	*e*P	**Pb**	**05 15 36.9**	**+0.2**
SPN				*e*S	**Sb**	**05 15 49.6**	**-2.0**
RUS	**Russkaya**	**1.40**	**287**	*e*P	**Pg**	**05 15 41.7**	**+0.1**
RUS				*e*S	**Sn**	**05 15 57.7**	**-1.3**
NLC	**Nalytchevo**	**1.40**	**325**	*e*P	**Pn**	**05 15 41.2**	**+0.6**
NLC				*e*S	**Sn**	**05 15 57.0**	**-2.2**
DALK	**Dalny**	**1.55**	**311**	P	**Pb**	**05 15 43.4**	**-0.2**
DALK				*e*S	**Sn**	**05 16 01.2**	**-1.5**
MTVR	**Mutnovka**	**1.60**	**287**	*e*P	**Pb**	**05 15 45.2**	**+0.5**
MTVR				*e*S	**Sn**	**05 16 03.7**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.63**	**263**	*e*P	**Pg**	**05 15 45.8**	**-0.3**
KDTR				*e*S	**Sn**	**05 16 04.6**	**-0.3**
UGLR	**Uglovaya**	**1.63**	**317**	*e*P	**Pb**	**05 15 45.7**	**+0.5**
SDLR	**Sedlovina**	**1.66**	**319**	*e*P	**Pb**	**05 15 45.5**	**-0.1**
SMAR	**Somma**	**1.68**	**318**	*e*P	**Pb**	**05 15 46.4**	**+0.3**
GRL	**Gorelyy**	**1.69**	**289**	P	**Pn**	**05 15 45.2**	**+0.6**
GRL				*e*S	**Sn**	**05 16 04.0**	**-2.4**
AVH	**Avacha**	**1.71**	**317**	P	**Pb**	**05 15 46.8**	**+0.3**
AVH				*e*S	**Sn**	**05 16 06.1**	**-0.9**
KRER	**Koryakskii**	**1.73**	**318**	*e*P	**Pb**	**05 15 46.8**	**-0.2**
ASAK	**Asacha**	**1.75**	**282**	*e*P	**Pb**	**05 15 47.7**	**+0.5**
ASAK				*e*S	**Sn**	**05 16 08.0**	**0.0**
KRMR	**Karymshinskiy**	**1.76**	**298**	*e*P	**Pb**	**05 15 46.9**	**-0.3**
KRMR				*e*S	**Sn**	**05 16 07.1**	**-0.8**
KOK	**Koryaka**	**1.77**	**316**	*e*P	**Pb**	**05 15 47.3**	**-0.3**
KRX	**Arik**	**1.81**	**318**	*e*P	**Pb**	**05 15 47.7**	**-0.6**
PETK	**Petropavlovsk-**	**2.12**	**302**	Pn	**Pb**	**05 15 52.1**	**-1.3**
	12nm, 0.3s, baz=106, slow=18, SNR=27						
PETK				Sn	**Sb**	**05 16 18.5**	**-1.2**
	16nm, 0.3s, baz=141, slow=22, SNR=9.9						
APC	**Apacha**	**2.33**	**294**	*e*P	**Pb**	**05 15 55.8**	**-1.3**
APC				*e*S	**Sn**	**05 16 23.4**	**+1.2**
PAU	**Pauzhetka**	**2.48**	**258**	*e*P	**Pb**	**05 15 58.6**	**-0.9**
MKZ	**Mys Kozlova**	**2.60**	**13**	*e*P	**Pn**	**05 15 57.6**	**+0.6**
MKZ				*e*S	**Sn**	**05 16 25.9**	**-2.8**
KZV	**Kizimen**	**3.09**	**356**	*e*P	**Pn**	**05 16 06.4**	**+2.5**
KZV				*e*S	**Sn**	**05 16 38.4**	**-2.7**
SKR	**Severo-Kuril's**	**3.17**	**246**	*e*S	**Sn**	**05 16 42.9**	**+0.1**
TUMD	**Tumrok D**	**3.18**	**357**	*e*P	**Pn**	**05 16 07.0**	**+2.0**
TUMD				*e*S	**Sn**	**05 16 41.8**	**-1.2**
TUMR	**Tumrok**	**3.27**	**355**	*e*P	**Pn**	**05 16 08.7**	**+2.4**
ALID	**Alaid**	**3.42**	**252**	P	**Pb**	**05 16 13.0**	**-2.7**
KBTR	**Krutoberegovo**	**4.36**	**16**	*e*P	**Pn**	**05 16 23.9**	**+2.7**
BKI	**Bering**	**4.47**	**43**	S	**Sn**	**05 17 11.3**	**-3.4**
BDR	**Baidarnaya**	**4.55**	**4**	P	**Pn**	**05 16 24.4**	**+0.5**
TIXI	**Tiksi**	**24.19**	**336**	P	**P**	**05 20 31.4**	**+0.2**
	0.6nm, 0.4s, baz=130, slow=6.4, SNR=3.8						
SPITS	**Spitsbergen Ar**	**48.24**	**351**	P	**P**	**05 23 57.3**	**+2.0**
	0.4nm, 0.4s, baz=36, slow=7.5, SNR=5.0						
MKAR	**Makanchi Array**	**48.95**	**297**	P	**P**	**05 24 00.5**	**-0.7**
	0.3nm, 0.5s, baz=52, slow=7.5, SNR=3.5						
FINES	**FINESS Array B**	**61.23**	**337**	P	**P**	**05 25 30.5**	**+0.9**
	0.7nm, 0.5s, baz=36, slow=7.3, SNR=4.9						

TAP 21 05:16:59.0, 24°.28N×121°.76E, h13km, ML3.6, 2C-15D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.15**	**358**	⇓P	Pg	05 17 02.9	+0.2
	baz=5.0						
NANB				S	Sg	05 17 05.4	+0.1
	baz=5.0						
ENA	**Nanau**	**0.15**	**355**	⇓*i*P	Pg	05 17 02.9	+0.2
	baz=5.0						
ENA				*i* S	Sg	05 17 05.5	+0.2
	baz=5.0						
NACB	**Ninganchiao**	**0.18**	**235**	⇓P	Pg	05 17 03.0	-0.1
	baz=229						
NACB				S	Sg	05 17 05.9	0.0
	baz=229						
ETLH	**Xiulin Townshi**	**0.26**	**255**	⇓P	Pg	05 17 04.6	+0.1
	baz=255						
ETLH				S	Sg	05 17 08.4	+0.2
	baz=255						
HWA	**Hwalien**	**0.33**	**205**	*e*P	Pb	05 17 06.2	-0.5
	baz=212						
TWC	**Suao**	**0.34**	**14**	⇓*i*P	Pg	05 17 06.1	+0.2
	baz=11						
TWC				S	Sg	05 17 10.9	+0.3
	baz=11						
NNSB	**Datong**	**0.37**	**294**	⇓P	Pg	05 17 07.0	+0.4
	baz=294						
NNSB				S	Sg	05 17 11.9	+0.3
	baz=294						
NNS	**Nan Shan**	**0.39**	**295**	⇓*i*P	Pg	05 17 07.1	+0.3
	baz=295						
NNS				*i* S	Sg	05 17 12.3	+0.3
	baz=295						
NDT	**Datong Townshi**	**0.39**	**326**	⇓*i*P	Pb	05 17 07.4	-0.4
	baz=326						
NDT				*i* S	Sb	05 17 13.0	-0.8
	baz=326						
ENLB	**Shoufeng**	**0.40**	**201**	P	Pb	05 17 07.4	-0.5
	baz=208						
ENTT	**Nioudou**	**0.40**	**335**	⇓*i*P	Pg	05 17 07.4	+0.4
	baz=335						
ENTT				S	Sg	05 17 13.1	+0.7
	baz=335						
EOS1	**EOS1**	**0.43**	**51**	P	Pb	05 17 08.4	-0.1
	baz=41						
EOS1				*e*S	Sb	05 17 15.3	+0.4
	baz=41						
TWE	**Neicheng**	**0.45**	**350**	⇓*i*P	Pg	05 17 08.2	+0.3
	baz=351						
TWE				S	Sg	05 17 14.2	+0.3
	baz=351						
WHF	**Hehuan Shan**	**0.47**	**254**	P	Pg	05 17 08.3	0.0
	baz=254						
WHF				S	Sg	05 17 14.8	+0.1
	baz=254						
ILA	**Ilan**	**0.49**	**359**	P	Pg	05 17 08.8	+0.2
	baz=354						
ILA				S	Sb	05 17 16.3	-0.2
	baz=354						
YHNB	**Yeheng**	**0.52**	**319**	⇓P	Pb	05 17 09.7	-0.4
	baz=318						
YHNB				S	Sg	05 17 16.3	0.0
	baz=318						
TWT	**Tachien**	**0.53**	**268**	P	Pb	05 17 10.3	+0.1
	baz=268						
TWT				S	Sg	05 17 17.0	+0.5
	baz=268						
NSK	**Sanguang**	**0.54**	**318**	⇓P	Pg	05 17 09.8	+0.3
	baz=318						
NSK				S	Sg	05 17 17.0	+0.3
	baz=318						
TDCB	**Techi**	**0.55**	**268**	P	Pb	05 17 10.1	-0.3
	baz=268						
TDCB				S	Sg	05 17 16.8	-0.2
	baz=268						
ESL	**Shilin**	**0.55**	**213**	⇑*i*P	Pg	05 17 09.4	-0.2
	baz=221						
ESL				S	Sg	05 17 17.2	+0.2
	baz=221						
CHGB	**Renai**	**0.57**	**248**	P	Pg	05 17 10.3	0.0
	baz=241						
CHGB				S	Sg	05 17 18.1	+0.2
	baz=241						
NTC	**Toucheng**	**0.58**	**7**	⇓P	Pg	05 17 10.6	+0.3
	baz=6.0						
NTC				*e*S	Sg	05 17 18.4	+0.4
	baz=6.0						
EGS		**0.59**	**16**	P	Pg	05 17 10.6	+0.1
	baz=24						
EGS				*e*S	Sg	05 17 18.6	+0.3
	baz=24						
OWD	**Renai**	**0.62**	**239**	*e*P	Pg	05 17 10.6	-0.5
	baz=232						
OWD				*e*S	Sg	05 17 18.8	-0.5
	baz=232						
EGFH	**Guangfu**	**0.68**	**207**	*e*P	Pg	05 17 12.3	+0.2
	baz=222						
TIPB	**Shuangxi**	**0.70**	**5**	⇓P	Pg	05 17 12.7	+0.2
	baz=4.0						
TIPB				*e*S	Sg	05 17 21.3	-0.4
	baz=4.0						
NHDH	**Xindian Distri**	**0.72**	**343**	*e*P	Pn	05 17 14.2	-0.6
	baz=343						
NHDH				S	Sb	05 17 23.0	0.0
	baz=343						
WLTB	**Daxi**	**0.73**	**321**	*e*P	Pn	05 17 14.8	-0.2
	baz=321						
WLTB				*e*S	Sb	05 17 24.8	+1.2
	baz=321						
TATO	**Taipei**	**0.74**	**341**	*e*P	Pb	05 17 13.9	+0.3
	baz=340						
TATO				*e*S	Sb	05 17 23.4	-0.3
	baz=340						
WHP	**Taichung City**	**0.74**	**270**	*e*P	Pb	05 17 14.2	+0.5
	baz=271						
WHP				S	Sg	05 17 23.3	+0.2
	baz=271						
TWB1	**Santiao Chiao**	**0

	baz=237						
YM01	YM01	0.88	349	eP	Pb	05 17 16.4	+0.2
	baz=348						
YM01				eS	Sn	05 17 28.9	-0.9
	baz=348						
YM10	YM10	0.89	349	eP	Pb	05 17 16.7	+0.3
	baz=348						
YM10				eS	Sb	05 17 28.6	+0.4
	baz=348						
TYC	Yuchr	0.90	246	eP	Pg	05 17 16.1	-0.3
	baz=246						
YM11	YM11	0.90	349	P	Pn	05 17 17.1	-0.3
	baz=349						
YM07	YM07	0.90	352	eP	Pb	05 17 16.8	+0.3
	baz=351						
YM07				eS	Sg	05 17 28.3	0.0
	baz=351						
NMLH	Miaoli	0.92	287	eP	Pn	05 17 18.9	+1.3
	baz=286						
NSY	Sanyi	0.92	279	eP	Pn	05 17 18.0	+0.4
	baz=279						
NSY				eS	Sn	05 17 30.7	0.0
	baz=279						
YM08	YM08	0.92	351	P	Pb	05 17 16.8	0.0
	baz=350						
NTST	Danshui	0.93	343	eP	Pn	05 17 17.8	+0.1
	baz=342						
PTSB	Yuanli	0.97	280	eP	Pn	05 17 19.5	+1.2
	baz=271						
PTSB				eS	Sn	05 17 32.5	+0.5
	baz=271						
YULB	Yu-li	0.97	206	eP	Pb	05 17 16.9	-0.8
	baz=217						
TCU	Taichung	0.99	263	eP	Pn	05 17 20.1	+1.5
	baz=263						
TWY	Chenhua	1.01	352	eP	Pn	05 17 19.4	+0.6
	baz=352						
WHYT	Xinyi Township	1.01	235	eP	Pn	05 17 18.8	0.0
	baz=235						
TWF1	Yuli	1.01	205	eP	Pb	05 17 17.5	-0.8
	baz=217						
WDJ	Dajia District	1.02	274	eP	Pn	05 17 19.8	+0.9
	baz=274						
WNT	Mingjian	1.06	248	eP	Pn	05 17 19.6	+0.1
	baz=239						
YUS	Yu-Shan	1.07	223	eP	Pb	05 17 19.1	-0.6
	baz=233						
WCHH	Zhanghua	1.11	260	eP	Pg	05 17 21.4	+1.0
	baz=260						
YOJ	Yonaguni jima	1.16	81	eP	Pn	05 17 21.0	+0.1
	baz=68						
YOJ				eS	Sn	05 17 38.6	+2.0
	baz=68						
CHN5	Tsauling	1.20	236	eP	Pg	05 17 22.5	+0.5
	baz=236						
WDLH	Douliu	1.26	243	eP	Pg	05 17 24.4	+1.2
	baz=228						
ELDTW	Lidau	1.28	212	eP	Pn	05 17 21.6	-1.0
	baz=213						
RLNB	Erlin	1.33	254	eP	Pg	05 17 24.9	+0.3
	baz=254						
CHN2	Minshiung	1.39	238	eP	Pg	05 17 26.2	+0.6
	baz=224						
CHN4	Tsaushan	1.41	229	eP	Pg	05 17 25.9	-0.1
	baz=230						
TPUB	Ta-pu	1.42	227	eP	Pb	05 17 25.6	+0.3
	baz=228						
CHY	Chiayi	1.45	238	eP	Pg	05 17 27.2	+0.5
	baz=225						
WTP	Ta-pu	1.47	226	eP	Pg	05 17 27.0	-0.2
	baz=214						
SNST	Tainan City	1.56	228	eP	Pg	05 17 28.6	-0.4
	baz=230						
CHN1	Nanshi	1.56	226	eP	Pb	05 17 28.2	+0.4
	baz=228						
TWG	Pinlang	1.58	204	eP	Pn	05 17 25.2	-1.5
	baz=191						
TWGBT	Beinan	1.58	203	eP	Pn	05 17 24.6	-2.1
	baz=191						
SGST	Jiashian	1.60	222	eP	Pb	05 17 28.9	+0.4
	baz=224						
SLGT	Liugui	1.63	219	eP	Pb	05 17 29.0	+0.1
	baz=221						
SSD	Sandimen	1.84	214	eP	Pb	05 17 32.4	-0.1
	baz=217						
MASBT	Mashibuluo	1.95	212	eP	Pn	05 17 32.6	+0.8
	baz=205						
EAST	Anshuo	2.06	204	eP	Pn	05 17 33.5	+0.1
	baz=195						
PNG	Penghu	2.13	251	eP	Pn	05 17 34.1	-0.1
	baz=252						
PHUB	P'eng-hu	2.14	250	eP	Pn	05 17 34.2	-0.1
	baz=250						
SCZT	Fangliau	2.16	209	eP	Pb	05 17 37.1	-0.9
	baz=197						
WDGT	Dungji	2.17	243	eP	Pn	05 17 35.7	+0.9
	baz=253						
VWUC	VWUC	2.22	289	eP	Pn	05 17 35.2	-0.3
	baz=289						
VCHM	Qimei	2.38	244	eP	Pn	05 17 38.6	+0.9
	baz=230						
MATB	Ma-tsu	2.48	319	eP	Pn	05 17 39.7	+0.6
	baz=318						

*DDA **21** 05:18:14.4, 42°.13N×40°.82E, h7km±3km, ML2.7*

ISC 21 05:18:12.0±1.4, **42°.42N**±0°.04×**41°.02E**±0°.07, **h10**km±13km, **n9**, σ0°69/18, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	Batumi	0.96	148	P	Pn	05 18 31.5	0.0
BATM				S	Sn	05 18 45.2	0.0
DOMR	Dombai	0.98	27	ePg	Pg	05 18 31.2	+0.2
DOMR				eSg	Sg	05 18 42.1	-1.7
ARXR	Arkhyz	1.16	9	ePg	Pg	05 18 35.2	+0.8
ARXR				eSg	Sb	05 18 48.7	-0.8
DBOC	Borcka	1.18	155	i P	Pb	05 18 34.1	-0.3
DBOC				i S	Sn	05 18 51.0	+0.3
DBAD	Bademkaya	1.49	160	IAML_P			
	comp=Z,434nm,0.1s						
DBAD				i P	Pb	05 18 39.9	0.0
DBAD				i S	Sn	05 18 57.9	-0.6
DAGI	Agillar	1.50	153	IAML_P			
	comp=Z,154nm,0.1s						
DAGI				i P	Pn	05 18 39.3	+0.2
DAGI				i S	Sn	05 18 58.5	-0.2
NEY	Neytrino	1.51	56	ePg	Pn	05 18 40.0	+0.7
NEY				eSg	Sn	05 18 58.7	-0.4
GUZR	Guzeripl'	1.71	338	ePg	Pg	05 18 45.2	+0.3
GUZR				eSg	Sg	05 19 07.0	-0.1
SHA1	Shidzhatmaz	1.79	42	ePg	Pg	05 18 47.2	+0.8
SHA1				eSg	Sb	05 19 08.1	+0.5

*IDC **21** 05:18:23.9±2.0, 52°.20N×160°.08E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.6/55, mbtmp3.8/11, Error ellipse: s-maj=50.6km s-min=23.3km az=179.0*
*KRSC **21** 05:18:25.7±10.0, 52°.08N×160°.47E, h60km±10km, ML4.3*

ISC 21 05:18:26.6±2.9, **52°.06N**±0°.05×**160°.47E**±0°.05, **h26**km±20km, **n51**, σ1°38/72, **mb3.9**/11, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.07	345	eP	Pn	05 18 45.5	-0.5
SPN				eS	Sn	05 18 58.4	-1.7
RUS	Russkaya	1.26	288	eP	Pn	05 18 48.4	-0.2
RUS				eS	Sn	05 19 03.4	-1.2
NLC	Nalytchevo	1.31	329	P	Pn	05 18 49.4	+0.2
NLC				eS	Sn	05 19 06.0	+0.2
DALK	Dalny	1.43	314	eP	Pn	05 18 50.9	0.0
DALK				eS	Sn	05 19 08.3	-0.5
MTVR	Mutnovka	1.47	288	P	Pn	05 18 51.9	+0.3
MTVR				eS	Sn	05 19 09.9	-0.1
KDTR	Khodutka, Kamc	1.50	261	P	Pn	05 18 52.4	+0.5
KDTR				eS	Sn	05 19 10.6	0.0
UGLR	Uglovaya	1.53	320	eP	Pn	05 18 52.9	+0.6
UGLR				eS	Sb	05 19 12.3	-0.9
GRL	Gorelyy	1.55	289	eP	Pn	05 18 53.7	+1.0
GRL				eS	Sn	05 19 12.9	+0.8
SDLR	Sedlovina	1.56	322	eP	Pn	05 18 53.1	+0.3
SDLR				eS	Sn	05 19 11.9	-0.3
SMAR	Somma	1.58	320	eP	Pn	05 18 53.9	+0.8
AVH	Avacha	1.60	320	eP	Pn	05 18 54.1	+0.7
AVH				eS	Sn	05 19 14.0	+0.8
ASAK	Asacha	1.61	283	eP	Pn	05 18 54.4	+0.9
KRMR	Karymshinskiy	1.63	299	P	Pn	05 18 53.9	+0.3
KRMR				eS	Sn	05 19 13.6	-0.1
KRER	Koryakskii	1.63	321	P	Pn	05 18 54.3	+0.5
KRER				eS	Sn	05 19 14.6	+0.6
KOK	Koryaka	1.66	319	P	Pn	05 18 54.8	+0.6
KOK				eS	Sn	05 19 15.0	+0.2
KRX	Arik	1.71	320	P	Pn	05 18 55.3	+0.4
PETK	Petropavlovsk-	1.99	303	Pn	Pn	05 18 59.4	+0.8
	35nm,0.3s,baz=109,slow=19,SNR=41						
PETK				Sn	Sn	05 19 23.1	+0.5
	40nm,0.3s,baz=102,slow=21,SNR=14						
APC	Apacha	2.20	294	eP	Pn	05 19 03.0	+1.5
APC				eS	Sn	05 19 30.0	+2.1
PAU	Pauzhetka	2.35	257	P	Pn	05 19 04.4	+0.9
MKZ	Mys Kozlova	2.61	16	P	Pn	05 19 07.5	+0.4
MKZ				eS	Sn	05 19 35.9	-2.1
SKR	Severo-Kuril's	3.06	245	eP	Pn	05 19 14.4	+1.2
SKR				eS	Sn	05 19 48.5	-0.4
KZV	Kizimen	3.06	358	P	Pn	05 19 15.2	+1.7
KZV				eS	Sn	05 19 49.0	-0.3
TUMD	Tumrok D	3.15	359	eP	Pn	05 19 15.5	+0.9
TUMD				eS	Sn	05 19 51.6	+0.3
TUMR	Tumrok	3.23	357	eP	Pn	05 19 17.7	+1.9
TUMR				eS	Sn	05 19 54.7	+1.2
ALID	Alaid	3.30	251	eP	Pn	05 19 18.2	+1.4
BZGR	Bezymyannyi-Gr	3.89	2	eP	Pn	05 19 28.0	+3.2
BZGR				eS	Sn	05 20 11.8	+2.1
ESO	Esso	4.01	346	eP	Pn	05 19 28.1	+1.7
CIRR	Tsirk	4.07	2	eP	Pn	05 19 27.8	+0.5
KLY	Klyuchi	4.26	1	P	Pn	05 19 33.6	+3.8
SRDR	Sredinnyy	4.29	354	eP	Pn	05 19 32.1	+1.9
KBTR	Krutoberegovo	4.38	17	eP	Pn	05 19 32.2	+0.8
KBTR				eS	Sn	05 20 20.6	-0.9
KBG	Krutoberegovo	4.40	16	P	Pn	05 19 33.6	+1.9
BDR	Baidarnaya	4.54	5	eP	Pn	05 19 36.2	+2.5
BKI	Bering	4.54	44	eP	Pn	05 19 35.0	+1.4
BKI				eS	Sn	05 20 22.2	-3.3
SMKR	Semkarok	4.57	7	eP	Pn	05 19 36.1	+2.0
SRKR	Sorokina	4.62	5	eP	Pn	05 19 36.8	+2.0
SRKR				eS	Sn	05 20 27.3	-0.3
TIXI	Tiksi	24.12	336	P	P	05 23 38.5	-1.3
	2.1nm,0.3s,baz=123,slow=10,SNR=6.4						
H11N2	WAKE ISLAND Hy	32.66	169	T	T	06 00 57.0	
	baz=352,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	32.67	169	T	T	06 00 50.4	
	baz=352,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy	32.67	169	T	T	06 01 03.3	
	baz=352,slow=76,SNR=13						
SONM	Songino Array	34.37	285	P	P	05 25 10.6	-0.8
	0.3nm,0.4s,baz=56,slow=9.3,SNR=3.6						
YKA	Yellowknife Ar	43.77	42	P	P	05 26 29.3	-0.2
	0.2nm,0.6s,baz=296,slow=8.1,SNR=3.5						
SPITS	Spitsbergen Ar	48.19	351	P	P	05 27 04.6	+0.4
	0.9nm,0.3s,baz=52,slow=9.3,SNR=34						
MKAR	Makanchi Array	48.82	297	P	P	05 27 07.3	-2.1
	0.4nm,0.4s,baz=58,slow=7.3,SNR=8.7						
BVAR	Borovoye Array	51.22	309	P	P	05 27 25.8	-1.7
	0.9nm,0.7s,baz=55,slow=8.2,SNR=4.3						
ARCES	ARCESS Array B	54.34	342	P	P	05 27 50.3	-0.1
	2.0nm,0.9s,baz=34,slow=7.6,SNR=6.6						
FINES	FINESS Array B	61.16	337	P	P	05 28 38.4	+0.1
	1.1nm,0.4s,baz=24,slow=8.9,SNR=11						
NB2	NORSAR Subarra	64.60	344	P	P	05 29 03.1	+1.8
	comp=Z,0.3nm,0.3s,baz=20,slow=6.9						
NOA	NORSAR Array B	64.60	344	P	P	05 29 01.4	+0.1
	comp=Z,0.3nm,0.4s,baz=24,slow=6.5,SNR=4.2						
AKASG	Malin Array Be	69.62	329	P	P	05 29 32.8	-0.4
	comp=Z,1.0nm,0.4s,baz=31,slow=6.5,SNR=4.4						
TXAR	Lajitas Array	70.83	67	P	P	05 29 44.2	+3.1
	comp=Z,0.1nm,0.5s,baz=310,slow=5.6,SNR=2.0						

KRSC 21 05:22:29.1±10.0, **52°.08N**×**160°.71E**, **h18**km±10km, **ML3.8**, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.10	338	eP	Pb	05 22 48.6	-0.9
SPN				eS	Sb	05 23 02.3	-1.2
NLC	Nalytchevo	1.37	323	eP	Pb	05 22 54.5	+0.4
NLC				eS	Sb	05 23 12.3	+1.0
RUS	Russkaya	1.40	285	P	Pn	05 22 53.7	+0.1
RUS				eS	Sn	05 23 10.9	-0.6
DALK	Dalny	1.53	309	eP	Pb	05 22 56.2	-0.6
DALK				eS	Sb	05 23 15.3	-0.4
PET	Petropavlovsk	1.57	308	eP	Pb	05 22 58.3	+0.8
MTVR	Mutnovka	1.60	285	eP	Pb	05 22 57.6	-0.6
MTVR				eS	Sb	05 23 17.9	-0.2
UGLR	Uglovaya	1.61	315	eP	Pb	05 22 58.1	-0.2
UGLR				eS	Sb	05 23 19.2	+0.9
SDLR	Sedlovina	1.63	318	eP	Pb	05 22 58.4	-0.3
KDTR	Khodutka, Kamc	1.66	261	eP	Pn	05 22 57.7	+0.6
KDTR				eS	Sn	05 23 17.8	-0.1
SMAR	Somma	1.66	316	eP	Pb	05 22 59.5	+0.3
AVH	Avacha	1.69	315	eP	Pn	05 22 58.5	+0.8
KRER	Koryakskii	1.71	316	eP	Pb	05 22 59.1	-0.9
KRMR	Karymshinskiy	1.75	296	eP	Pn	05 22 59.3	+0.9
KRMR				eS	Sb	05 23 21.4	-0.7
KOK	Koryaka	1.75	315	eP	Pb	05 23 00.3	-0.3
ASAK	Asacha	1.76	281	eP	Pb	05 23 00.4	-0.3
ASAK				S	Sb	05 23 23.1	+0.7
KRX	Arik	1.79	316	eP	Pn	05 22 58.6	-0.5
MKZ	Mys Kozlova	2.55	13	P	Pn	05 23 10.4	+1.0
TUMD	Tumrok D	3.13	357	eP	Pb	05 23 21.2	-2.9

KRSC 21 05:26:45.9±10.0, **52°.12N**×**160°.44E**, **h51**km±10km, **ML3.7**, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.01	346	eP	Pn	05 27 04.2	+0.4
SPN				eS	Sn	05 27 17.5	+0.5
RUS	Russkaya	1.23	286	P	Pn	05 27 07.6	+1.0
RUS				eS	Sn	05 27 23.1	+1.0
NLC	Nalytchevo	1.25	328	eP	Pn	05 27 08.6	+1.7
NLC				eS	Sn	05 27 24.7	+2.1
DALK	Dalny	1.38	312	eP	Pn	05 27 10.0	+1.3
DALK				eS	Sn	05 27 27.3	+1.5
PET	Petropavlovsk	1.42	310	eP	Pn	05 27 11.0	+1.8
MTVR	Mutnovka	1.44	286	eP	Pn	05 27 11.0	+1.4
MTVR				eS	Sn	05 27 29.2	+1.8
UGLR	Uglovaya	1.47	319	eP	Pn	05 27 12.6	+2.5
KDTR	Khodutka, Kamc	1.50	259	P	Pn	05 27 11.0	+0.7
KDTR				eS	Sn	05 27 29.1	+0.5
SDLR	Sedlovina	1.50	321	eP	Pn	05 27 12.4	+1.9
SDLR				eS	Sn	05 27 31.3	+2.3
AVH	Avacha	1.55	319	eP	Pn	05 27 13.5	+2.4
AVH				eS	Sn	05 27 33.5	+3.4
KRMR	Karymshinskiy	1.58	298	P	Pn	05 27 13.3	+1.8
KRMR				eS	Sn	05 27 33.5	+2.7
ASAK	Asacha	1.59	281	eP	Pn	05 27 13.9	+2.3
ASAK				eS	Sn	05 27 34.6	+3.6
KOK	Koryaka	1.61	318	eP	Pn	05 27 14.6	+2.7
KRX	Arik	1.65	319	eP	Pn	05 27 14.9	+2.3
APC	Apacha	2.16	293	P	Pn	05 27 22.6	+3.2
TUMD	Tumrok D	3.09	360	S	Sn	05 28 09.7	+1.9

MEX 21 05:27:06.6±0.7, **16°.95N**×**102°.30W**, **h16**km±134km, **MD4.0**, **Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	1.02	51	eP	Pb	05 27 21.8	-4.2
ZIIG				eS	Sb	05 27 34.9	-4.3
CAIG	El Cayaco	1.94	87	eP	Pn	05 27 35.6	-3.3
CAIG				eS	Sn	05 27 57.5	-5.5
ARIG	Puente Sto Nin	2.28	54	eP	Pn	05 27 40.6	-3.0
ARIG				eS	Sn	05 28 06.3	-5.1
MEIG	Mezcala	2.73	69	eP	Pn	05 27 47.6	-2.3
MEIG				eS	Sn	05 28 19.1	-3.5
PLIG	Platanillo	3.02	61	eP	Pn	05 27 51.5	-2.4
PLIG				i S	Sn	05 28 26.3	-3.5
TLIG	Tlapa	3.62	80	eP	Pn	05 28 00.1	-2.0
TLIG				eS	Sn	05 28 40.4	-4.1

*ISCJB **21** 05:27:30.3±0.7, 7°.57S±0°.08×128°.1E±0°.2, h150km, mb3.7/6, Error ellipse: s-maj=30.9km s-min=8.5km az=164.9*

*IDC **21** 05:27:35.2±3.2, 7°.46S×128°.04E, h170km±28km, mb3.6/6, mb1 3.8/7, mb1mx3.4/49, mbtmp4.2/7, Error ellipse: s-maj=45.2km s-min=15.5km az=71.0*

ISC 21 05:27:32.0±0.7, **7°.75S**±0°.07×**128°.1E**±0°.2, **h150**km, **n14**, σ2°37/18, **mb3.9**/6, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.57	193	P	Pn	05 30 01.2	+1.6
	3.5nm,0.3s,baz=18,slow=8.5,SNR=84						
FITZ				S	Sn	05 31 53.2	-3.3
	9.6nm,0.3s,baz=45,slow=18,SNR=10						
WRA	Warramunga Arr	13.54	154	P	Pn	05 30 38.8	+0.6
	5.2nm,0.3s,baz=329,slow=14,SNR=112						
WRA				S	Sn	05 33 04.5	-3.6
	6.9nm,0.3s,baz=325,slow=24,SNR=14						
ASAR	Alice Springs	16.77	161	P	Pn	05 31 22.9	+4.6
	5.6nm,0.3s,baz=340,slow=11,SNR=353						
ASAR				S	S	05 34 21.9	-3.0
	1.8nm,0.3s,baz=340,slow=22,SNR=6.7						
ASAR				ScP	ScP	05 39 16.6	-2.0
	0.1nm,0.3s,baz=347,slow=1.7,SNR=5.1						
STKA	Stephens Creek	27.09	154	P	P	05 33 04.3	+3.5
	2.0nm,0.5s,baz=330,slow=14,SNR=2.6						
USRK	Ussuriysk Ar.	51.82	4	P	P	05 36 23.7	-0.8
	0.5nm,0.4s,baz=184,slow=7.9,SNR=3.8						
PETK	Petropavlovsk-	65.62	19	P	P	05 37 59.1	-0.7
	1.2nm,0.6s,baz=197,slow=3.0,SNR=2.3						
MKAR	Makanchi Array	67.85	328	P	P	05 38 13.7	-0.5
	0.5nm,0.3s,baz=127,slow=7.9,SNR=12						
ZALV	Zalesovo Beam	71.44	335	P	P	05 38 34.4	-1.5
	1.5nm,0.4s,baz=137,slow=4.5,SNR=7.6						
BVAR	Borovoye Array	77.71	328	P	P	05 39 11.2	-0.9
	0.3nm,0.4s,baz=133,slow=4.7,SNR=3.7						
YKA	Yellowknife Ar	109.23	26	PKiKP	PKiKP	05 45 43.4	-0.4
	0.2nm,0.4s,baz=294,slow=2.2,SNR=4.8						
PDAR	Pinedale Array	118.73	45	PKP	PKPdf	05 46 03.2	+0.2
	0.2nm,0.5s,baz=297,slow=2.0,SNR=2.4						
TXAR	Lajitas Array	126.91	59	PKP	PKPdf	05 46 19.5	+0.6
	0.1nm,0.4s,baz=253,slow=1.9,SNR=3.5						
CPUP	Villa Florida	145.71	171	PKPbc	PKPbc	05 46 55.8	+1.7
	0.7nm,0.4s,baz=272,slow=3.1,SNR=3.7						
LPAZ	La Paz	151.20	146	PKPbc	PKPbc	05 47 11.1	+1.6
	0.7nm,0.4s,baz=243,slow=9.0,SNR=14						

*ISCJB **21** 05:30:22.8±0.4, 37°.39N±0°.04×54°.42E±0°.04, h10km, Error ellipse: s-maj=5.9km s-min=3.0km az=33.0*
*TEH **21** 05:30:23.9, 37°.19N×54°.45E, h12km, ML3.1*
*AZER **21** 05:30:24.1±3.2, 37°.45N×54°.61E, h20km, ml3.7/5, Error ellipse: s-maj=45.5km s-min=20.4km az=48.0*

ISC 21 05:30:24.0±0.9, **37°.25N**±0°.06×**54°.37E**±0°.04, **h10**km, **n38**, σ1°22/42, **Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	Minoodasht	0.83	89	ePg	Pg	05 30 38.8	-1.1
IMND				IAMB	IAmb	05 30 50.2	
	comp=Z,0.0nm,0.2s						
IKIA	Kiasar	1.18	208	ePg	Pn	05 30 46.7	-0.1
MRVT	Maraveh tapeh	1.43	73	ePg	Pb	05 30 50.2	-0.5
IALA	Alasht	1.71	228	ePn	Pb	05 30 55.4	-0.3
SHRO	Shahrood	1.82	133	ePg	Pn	05 30 55.0	-0.5
IPRN	Peran	1.92	239	ePn	Pb	05 30 58.7	-0.4
IFIR	Firoozkooh	2.07	220	ePn	Pb	05 31 01.1	-0.7
IDMV	Damavand	2.52	229	ePn	Pb	05 31 07.9	-1.6
DAMV	Damavand	2.52	231	ePn	Pb	05 31 08.2	-1.3
SBZV	Sabzevar	2.74	107	ePn	Pn	05 31 08.4	+0.2
ISFR	Sfrayin	2.91	93	ePn	Pn	05 31 11.3	+0.8
ISFR				IAMB	IAmb	05 31 29.8	
	comp=Z,0.0nm,0.3s						
CHTH	Charan	2.94	244	ePn	Pb	05 31 14.5	-2.1
QALM	Alamut, Qazvin	3.10	256	ePn	Pn	05 31 14.3	+1.1
IVRN	Varamin	3.10	224	ePn	Pn	05 31 15.0	+1.9
IKRD	Kardeh	3.35	97	ePn	Pg	05 31 28.7	+0.5
IKRD				IAMB	IAmb	05 31 58.6	
	comp=Z,0.0nm,0.4s						
IEMG	Emamgholi	3.42	86	ePn	Pn	05 31 18.4	+0.8
IEMG				IAMB	IAmb	05 31 36.8	
	comp=Z,0.0nm,0.2s						
IGZV	Ghazvin	3.44	257	ePn	Pn	05 31 18.5	+0.6
IPAY	Payeh	3.79	101	ePn	Pn	05 31 23.4	+0.7
IPAY				IAMB	IAmb	05 31 34.0	
	comp=Z,0.0nm,0.2s						
TABS	Tabas	4.24	147	ePn	Pn	05 31 28.8	+0.1
TKDS	Koohdasht(Taba	4.27	147	ePn	Pn	05 31 29.4	+0.3
TKDS				IAMB	IAmb	05 31 51.0	
	comp=Z,0.0nm,0.5s						
IKLH	Kolahrood	4.54	211	ePn	Pn	05 31 35.3	+2.3
ASTR	Astara	4.60	288	P	Pn	05 31 33.8	+0.2
ASTR				S	Sn	05 32 27.3	+0.2
TPRV	Parvadeh(Tabas	4.62	155	ePn	Pn	05 31 34.2	+0.3
TPRV				IAMB	IAmb	05 33 02.6	
	comp=Z,0.0nm,0.6s						
LKRN	Lenkeran, Azer	4.65	290	S	Sn	05 32 30.4	+2.1
YZKH	Yazd	4.85	178	ePn	Pn	05 31 37.8	+0.7
LRK	Lerik	4.97	288	P	Pn	05 31 39.1	+0.3
LRK				S	Sn	05 32 35.9	-0.4
GLBA	Clilabad	5.11	295	P	Pn	05 31 40.9	+0.3
GBS	Qobustan	5.36	309	S	Sn	05 32 45.2	-0.6
ATGJ	Altiaghaj	5.56	312	S	Sn	05 32 51.0	+0.2
SIZA	Siyzn	5.72	314	S	Sn	05 32 53.5	-1.2
ZRD	Zardab	6.04	302	S	Sn	05 33 05.0	+2.5
XNQ	Khinaliq	6.22	311	P	Pn	05 31 57.2	+1.1
XNQ				S	Sn	05 33 06.2	-1.2
QSAR	Qusar	6.37	314	S	Sn	05 33 10.3	-0.3
BSRN	Basiran	6.57	142	ePn	Pn	05 32 00.7	-0.1
ORD	Ordubad	6.82	287	S	Sn	05 33 25.3	+3.4
SEKA	Sheki	6.83	308	S	Sn	05 33 21.6	-0.4
GANJ	Ganja	7.13	301	S	Sn	05 33 31.2	+1.7
GDB	GEDABAY	7.55	300	P	Pn	05 32 14.2	-0.1
GDB				S	Sn	05 33 38.2	-1.8

*DRS **21** 05:39:47.3±0.0, 43°.38N×45°.88E, h13km, ML2.2/2*
*NORS **21** 05:39:49.2±0.0, 43°.21N×46°.05E, h12km, MPVA3.6*

ISC 21 05:39:50.4±1.2, **43°.30N**±0°.05×**46°.04E**±0°.03, **h8**km±9km, **n25**, σ0°86/46, **1C-1D**, **Eastern Caucasus**

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

ZEI			*e*Sg		**Sb**	**05 40 41.9**	**-0.5**
TBLG	**Delisi**	**1.84 212**	P		**Sb**	**05 40 50.0**	**+2.3**
DIGR	**Digorskoe uzhe**	**1.85 258**	*e*Pg		**Pn**	**05 40 23.1**	**+0.4**
DIGR			*e*Sg		**Sb**	**05 40 47.3**	**-0.7**
KBTC	**Kuba-Taba**	**1.98 286**	*e*Pg		**Pn**	**05 40 25.2**	**+0.9**
KBTC			*e*Sg		**Sb**	**05 40 51.9**	**+0.2**
ONI	**Oni**	**2.03 250**	P		**Sb**	**05 40 52.0**	**-1.1**
NEY	**Neytrino**	**2.43 270**	*e*Pn		**Pn**	**05 40 30.9**	**+0.3**
NEY			*e*Sn		**Sb**	**05 41 02.5**	**-2.1**
SHA1	**Shidzhatmaz**	**2.50 281**	*e*Pn		**Pn**	**05 40 31.2**	**-0.4**
SHA1			*e*Sn		**Sn**	**05 41 03.6**	**+1.1**

*KRSC **21** 05:41:18.1±10.0, 52°.28N×160°.90E, h65km±10km, ML4.1*
*IDC **21** 05:41:18.6±1.2, 52°.60N×160°.52E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.7/41, mbtmp3.8/11, ML3.1/1, Error ellipse: s-maj=32.2km s-min=20.3km az=152.0*
ISC 21 05:41:17.2±1.9, 52°.34N±0°.05×160°.87E±0°.04, h4km±11km, n44, σ1§55/60, mb3.9/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.92**	**326**	*e*P	**Pn**	**05 41 36.4**	**-0.5**
SPN				*e*S	**Sn**	**05 41 48.3**	**-2.3**
NLC	**Nalytchevo**	**1.25**	**313**	*e*P	**Pb**	**05 41 41.3**	**0.0**
NLC				*e*S	**Sn**	**05 41 57.1**	**-1.5**
RUS	**Russkaya**	**1.45**	**275**	*e*P	**Pn**	**05 41 44.6**	**+0.4**
RUS				*e*S	**Sn**	**05 42 02.4**	**-1.2**
DALK	**Dalny**	**1.46**	**299**	*e*P	**Pb**	**05 41 45.0**	**0.0**
DALK				*e*S	**Sb**	**05 42 03.7**	**-0.2**
UGLR	**Uglovaya**	**1.52**	**306**	*e*P	**Pb**	**05 41 46.2**	**+0.2**
SDLR	**Sedlovina**	**1.53**	**309**	*e*P	**Pb**	**05 41 46.1**	**-0.1**
SDLR				*e*S	**Sb**	**05 42 05.7**	**-0.3**
SMAR	**Somma**	**1.56**	**307**	*e*P	**Pb**	**05 41 46.7**	**-0.1**
SMAR				*e*S	**Sg**	**05 42 07.1**	**-0.2**
AVH	**Avacha**	**1.59**	**306**	*e*P	**Pb**	**05 41 47.6**	**+0.3**
AVH				*e*S	**Sg**	**05 42 07.9**	**-0.4**
KRER	**Koryakskii**	**1.61**	**308**	*e*P	**Pg**	**05 41 48.2**	**+0.1**
MTVR	**Mutnovka**	**1.65**	**276**	*e*P	**Pn**	**05 41 47.9**	**+0.8**
MTVR				*e*S	**Sn**	**05 42 08.2**	**-0.7**
KOK	**Koryaka**	**1.66**	**306**	*e*P	**Pb**	**05 41 48.7**	**+0.3**
KOK				*e*S	**Sg**	**05 42 10.2**	**-0.2**
KRX	**Arik**	**1.69**	**308**	*e*P	**Pb**	**05 41 48.4**	**-0.6**
GRL	**Gorelyy**	**1.72**	**278**	*e*P	**Pb**	**05 41 49.9**	**+0.4**
GRL				*e*S	**Sb**	**05 42 12.8**	**+1.2**
KRMR	**Karymshinskiy**	**1.74**	**287**	*e*P	**Pn**	**05 41 48.9**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.80**	**254**	*e*P	**Pn**	**05 41 49.1**	**0.0**
KDTR				*e*S	**Sn**	**05 42 10.2**	**-2.1**
ASAK	**Asacha**	**1.82**	**273**	*e*P	**Pn**	**05 41 50.6**	**+1.2**
PETK	**Petropavlovsk-**	**2.08**	**293**	Pn	**Pb**	**05 41 54.0**	**-1.4**
	24nm,0.3s,baz=108,slow=18,SNR=79						
PETK				Sn	**Sn**	**05 42 19.2**	**0.0**
	18nm,0.3s,baz=98,slow=20,SNR=9.5						
MKZ	**Mys Kozlova**	**2.28**	**13**	*e*P	**Pb**	**05 41 56.9**	**-2.0**
MKZ				*e*S	**Sb**	**05 42 23.1**	**-4.3**
APC	**Apacha**	**2.34**	**286**	*e*P	**Pb**	**05 41 58.4**	**-1.5**
PAU	**Pauzhetka**	**2.66**	**252**	*e*P	**Pn**	**05 42 01.6**	**+0.7**
PAU				*e*S	**Sn**	**05 42 31.4**	**-2.1**
KZV	**Kizimen**	**2.80**	**353**	*e*P	**Pn**	**05 42 03.7**	**+0.8**
KZV				*e*S	**Sn**	**05 42 36.3**	**-0.9**
TUMD	**Tumrok D**	**2.88**	**355**	*e*P	Pb	05 42 05.2	-4.0
TUMD				*e*S	**Sn**	**05 42 37.9**	**-1.2**
TUMR	**Tumrok**	**2.98**	**352**	*e*P	Pb	05 42 06.8	-4.1
SKR	**Severo-Kuril's**	**3.40**	**243**	*e*P	**Pn**	**05 42 11.3**	**+0.3**
SKR				*e*S	**Sn**	**05 42 48.0**	**-3.7**
BZGR	**Bezymyannyi-Gr**	**3.61**	**358**	*e*P	Pb	05 42 17.5	-4.2
ALID	**Alaid**	**3.63**	**248**	*e*P	**Pn**	**05 42 14.8**	**+0.5**
CIRR	**Tsirk**	**3.79**	**359**	*e*P	**Pn**	**05 42 18.7**	**+2.2**
KBTR	**Krutoberegovo**	**4.04**	**16**	*e*P	**Pn**	**05 42 21.7**	**+1.9**
KBTR				*e*S	**Sn**	**05 43 07.2**	**-0.4**
SRDR	**Sredinnyy**	**4.04**	**351**	*e*P	**Pn**	**05 42 22.2**	**+2.3**
KBG	**Krutoberegovo**	**4.07**	**15**	*e*P	Pb	05 42 24.1	-5.3
KBG				*e*S	**Sn**	**05 43 09.6**	**+1.4**
BKI	**Bering**	**4.17**	**45**	*e*P	**Pn**	**05 42 22.8**	**+1.2**
BKI				*e*S	**Sn**	**05 43 06.3**	**-4.5**
BDR	**Baidarnaya**	**4.24**	**3**	*e*P	**Pn**	**05 42 25.1**	**+2.4**
SRKR	**Sorokina**	**4.33**	**2**	*e*P	**Pn**	**05 42 26.0**	**+2.2**
KLR	**Kul'dur**	**18.61**	**272**	P	**Pn**	**05 45 35.4**	**-0.3**
	0.1nm,0.3s,baz=80,slow=12,SNR=5.2						
MJAR	**Matsushiro Arr**	**22.47**	**234**	P	**P**	**05 46 19.1**	**+1.8**
	1.5nm,0.3s,baz=19,slow=8.2,SNR=4.4						
TIXI	**Tiksi**	**23.96**	**336**	P	**P**	**05 46 30.6**	**-1.6**
	1.5nm,0.5s,baz=123,slow=8.3,SNR=6.6						
YKA	**Yellowknife Ar**	**43.40**	**42**	P	**P**	**05 49 22.0**	**+1.6**
	0.3nm,0.9s,baz=297,slow=9.6,SNR=3.2						
MKAR	**Makanchi Array**	**48.91**	**297**	P	**P**	**05 50 02.0**	**-2.1**
	0.4nm,0.5s,baz=55,slow=5.9,SNR=6.3						
ARCES	**ARCESS Array B**	**54.15**	**342**	P	**P**	**05 50 42.5**	**-0.4**
	2.9nm,0.9s,baz=32,slow=8.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**58.49**	**259**	P	**P**	**05 51 15.7**	**+1.1**
	1.3nm,0.3s,baz=30,slow=7.5,SNR=3.3						
FINES	**FINESS Array B**	**61.00**	**337**	P	**P**	**05 51 31.5**	**+0.3**
	1.1nm,0.5s,baz=32,slow=7.2,SNR=9.4						
NOA	**NORSAR Array B**	**64.40**	**344**	P	**P**	**05 51 54.2**	**+0.3**
	0.6nm,0.7s,baz=25,slow=6.4,SNR=3.7						
AKASG	**Malin Array Be**	**69.50**	**330**	P	**P**	**05 52 26.4**	**-0.1**
	0.3nm,0.3s,baz=26,slow=6.6,SNR=5.3						
TXAR	**Lajitas Array**	**70.50**	**67**	P	**P**	**05 52 35.4**	**+2.2**
	0.1nm,0.4s,baz=297,slow=4.0,SNR=3.4						

*IDC **21** 05:42:26.9±3.6, 51°.72N×160°.61E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/40, mbtmp3.6/3, ML2.0/1, Error ellipse: s-maj=78.0km s-min=44.3km az=14.0*
*KRSC **21** 05:42:33.0±10.0, 52°.22N×160°.62E, h17km±10km, ML3.9*
ISC 21 05:42:30.8±2.5, 52°.19N±0°.08×160°.70E±0°.10, h7km±12km, n17, σ0§96/28, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.00**	**336**	P	**Pb**	**05 42 50.4**	**0.0**
SPN				*e*S	**Sg**	**05 43 02.7**	**-0.3**
NLC	**Nalytchevo**	**1.29**	**321**	P	**Pn**	**05 42 55.2**	**+0.1**
NLC				*e*S	**Sg**	**05 43 11.7**	**-0.4**
RUS	**Russkaya**	**1.36**	**281**	P	**Pn**	**05 42 56.5**	**+0.4**
RUS				*e*S	**Sn**	**05 43 13.1**	**-1.3**
DALK	**Dalny**	**1.46**	**306**	*e*P	**Pn**	**05 42 57.6**	**+0.2**
DALK				*e*S	**Sn**	**05 43 16.0**	**-0.7**
PET	**Petropavlovsk**	**1.50**	**305**	P	**Pn**	**05 42 58.1**	**0.0**
PET				*e*S	**Sn**	**05 43 16.9**	**-1.0**
UGLR	**Uglovaya**	**1.53**	**313**	P	**Pg**	**05 43 00.6**	**+0.5**
UGLR				*e*S	**Sn**	**05 43 20.3**	**+1.5**
SDLR	**Sedlovina**	**1.55**	**316**	P	**Pb**	**05 43 00.1**	**+0.2**
MTVR	**Mutnovka**	**1.57**	**282**	P	**Pb**	**05 42 59.9**	**-0.3**
MTVR				*e*S	**Sn**	**05 43 19.7**	**-0.1**
SMAR	**Somma**	**1.58**	**314**	P	**Pg**	**05 43 01.1**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.66**	**258**	*e*P	**Pb**	**05 43 01.7**	**0.0**
KDTR				S	**Sb**	**05 43 23.0**	**+1.2**
KRMR	**Karymshinskiy**	**1.70**	**293**	P	**Pn**	**05 43 01.3**	**+0.6**
KRMR				*e*S	**Sn**	**05 43 21.8**	**-0.9**
ASAK	**Asacha**	**1.73**	**278**	*e*P	**Pb**	**05 43 02.6**	**-0.3**
ASAK				S	**Sn**	**05 43 24.5**	**+0.9**
PETK	**Petropavlovsk-**	**2.05**	**298**	Pn	**Pn**	**05 43 06.4**	**+0.8**
	1.8nm,0.3s,baz=98,slow=18,SNR=2.1						
PETK				Sn	**Sn**	**05 43 34.2**	**+2.8**
	5.9nm,0.3s,baz=90,slow=18,SNR=2.5						
APC	**Apacha**	**2.28**	**290**	*e*P	**Pb**	**05 43 12.0**	**-0.2**
SPITS	**Spitsbergen Ar**	**48.09**	**351**	P	**P**	**05 51 10.6**	**+0.3**
	baz=42,slow=8.5						
MKAR	**Makanchi Array**	**48.89**	**297**	P	**P**	**05 51 15.0**	**-1.8**
	0.2nm,0.4s,baz=54,slow=8.7,SNR=2.5						
FINES	**FINESS Array B**	**61.10**	**337**	P	**P**	**05 52 45.5**	**+0.7**
	1.6nm,0.9s,baz=39,slow=7.3,SNR=3.4						

MEX 21 05:43:03.6±0.5, 15°.60N×96°.00W, h5km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.19**	**328**	*e*P	Pg	05 43 07.2	-0.2
HUIG				*i* S	Sg	05 43 09.6	-0.5
CMIG	**Matias Romero**	**1.83**	**36**	*e*P	Pn	05 43 32.0	-3.7
CMIG				*i* S	Sn	05 43 55.1	-4.2
PNIG	**Pinotepa**	**2.19**	**291**	*i* P	Pn	05 43 37.3	-3.4
PNIG				*i* S	Sn	05 44 03.6	-4.6
TLIG	**Tlapa**	**3.14**	**309**	*i* P	Pn	05 43 51.1	-2.8
TLIG				*i* S	Sn	05 44 28.3	-3.5

*IDC **21** 05:43:15.9±0.4, 52°.30N×160°.00E, h0km, mb5.5/38, mb1 5.6/40, mb1mx5.6/42, mbtmp5.5/40, ML5.2/2, MS6.0/47, Ms1 6.0/47, ms1mx6.0/53, Error ellipse: s-maj=11.0km s-min=9.1km az=144.0*
*KRSC **21** 05:43:16.6±10.0, 52°.05N×160°.49E, h48km±10km, ML6.5*
*BJI **21** 05:43:18.2±0.0, 52°.31N×159°.99E, h30km, mb5.8/85, mB6.0/64, Ms6.4/87, Ms7 6.4/83*
*ISCJB **21** 05:43:19.9±0.3, 52°.15N±0°.02×160°.30E±0°.02, h44km±2km, mb5.9/236, MS6.1/787, Error ellipse: s-maj=3.0km s-min=1.7km az=165.3*
*MOS **21** 05:43:20.7±1.0, 52°.20N×160°.07E, h60km, mb6.1/71, MS6.1/47, Error ellipse: s-maj=5.8km s-min=3.1km az=95.5*
MOS Felt (IV-V) at Petropavlovsk-Kamchatskiy, (II) at Severo-Kuril'sk.
*NEIC **21** 05:43:21.0±2.0, 52°.28N×160°.07E, h30km, mb5.8/604, ME6.0, MS6.1/748, MW6.1, MW6.1, Error ellipse: s-maj=14.4km s-min=12.7km az=175.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^{18}Nm; M_{rr}1.05; $M_{\theta\theta}$-0.92; $M_{\phi\phi}$-0.12; $M_{r\theta}$0.61; $M_{r\phi}$-0.45; $M_{\theta r}$0.80; Best double couple: $M_0$1.50000×10^{18} NP1:ϕ_s263.00000°, δ28.00000°, λ123.00000°. NP2:ϕ_s47.00000°, δ67.00000°, λ74.00000°. Principal axes: T 1.5100, Plg65.0000°, Azm291.0000°; N -0.0500, Plg14.0000°, Azm53.0000°; P -1.4600, Plg21.0000°, Azm149.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s220.00000°, δ10.00000°, λ90.00000°. NP2:ϕ_s40.00000°, δ80.00000°, λ90.00000°. Principal axes: T Plg55.0000°, Azm310.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm130.0000°; Apparent Stress 0.44 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*NEIC **21** 05:43:21.0±0.0, 52°.31N×159°.82E, h35km, Moment Tensor Solution. s315 Moment tensor: Scale 10^{18}Nm; M_{rr}0.98; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$-0.70; $M_{r\theta}$0.83; $M_{\theta\phi}$-0.34; $M_{\theta r}$1.61; Best double couple: $M_0$2.00000×10^{18} NP1:ϕ_s27.00000°, δ76.00000°, λ89.00000°. NP2:ϕ_s210.00000°, δ14.00000°, λ92.00000°. Principal axes: T 2.0800, Plg58.0000°, Azm296.0000°; N -0.0900, Plg0.0000°, Azm27.0000°; P -1.9900, Plg31.0000°, Azm117.0000°;*
*GCMT **21** 05:43:26.0±0.1, 52°.19N×160°.34E, h29km, MW6.2/139, Moment Tensor Solution. s131, c307; s139, c524; Duration: 29 Moment tensor: Scale 10^{18}Nm; M_{rr}1.58±.01; $M_{\theta\theta}$-0.54±.01; $M_{\phi\phi}$-1.04±.01; $M_{r\theta}$0.89±.02; $M_{\theta\phi}$-0.78±.01; $M_{\theta r}$1.03±.02; Best double couple: $M_0$2.09800×10^{18} NP1:ϕ_s39.00000°, δ65.00000°, λ93.00000°. NP2:ϕ_s213.00000°, δ25.00000°, λ84.00000°. Principal axes: T 2.0840, Plg70.0000°, Azm315.0000°; N 0.0280, Plg2.0000°, Azm218.0000°; P -2.1130, Plg20.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 21 05:43:22.1±0.3, 52°.22N±0°.03×160°.23E±0°.02, h46km±2km, h46km: pP-P, n2389, σ1§45/1827, mb5.9/269, MS6.1/810, 224C-28D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.89**	**352**	*e*P	**Pn**	**05 43 36.8**	**-1.5**
SPN				*e*S	**Sn**	**05 43 49.4**	**-0.7**
SPN	**Mys Shipunski**	**0.89**	**352**	PN	**Pn**	**05 43 36.8**	**-1.5**
SPN				S	**Sn**	**05 43 49.4**	**-0.7**
RUS	**Russkaya**	**1.07**	**282**	*e*P	**Pn**	**05 43 39.0**	**-1.7**
RUS				*e*S	**Sn**	**05 43 54.0**	**-0.4**
RUS	**Russkaya**	**1.07**	**282**	PN	**Pn**	**05 43 39.0**	**-1.7**
RUS				S	**Sn**	**05 43 54.0**	**-0.4**
NLC	**Nalytchevo**	**1.10**	**331**	*e*P	**Pn**	**05 43 40.4**	**-0.6**
NLC				*e*S	**Sn**	**05 43 57.2**	**+2.2**
NLC	**Nalytchevo**	**1.10**	**331**	PN	**Pn**	**05 43 40.4**	**-0.6**
NLC				S	**Sn**	**05 43 57.2**	**+2.2**
DALK	**Dalny**	**1.21**	**313**	*e*P	**Pn**	**05 43 42.1**	**-0.5**
DALK				*e*S	**Sn**	**05 43 59.6**	**+1.7**
DALK	**Dalny**	**1.21**	**313**	PN	**Pn**	**05 43 42.1**	**-0.5**
DALK				S	**Sn**	**05 43 59.6**	**+1.7**
PET	**Petropavlovsk**	**1.25**	**311**	*e*Pn	**Pn**	**05 43 42.2**	**-1.0**
PET				*e*Sn	**Sn**	**05 44 00.9**	**+2.1**
PET	**Petropavlovsk**	**1.25**	**311**	α *i*PN	**Pn**	**05 43 42.7**	**-0.5**
PET				*e*S	**Sn**	**05 44 00.8**	**+1.9**
PET				pmax	pmax		
	comp=Z,96μm,1.5s						
PET				pmax	pmax		
	comp=Z,85μm,7.2s						
PET				pmax	pmax		
	comp=Z,53μm,0.4s						
PET				smax	smax		
	comp=N,213μm,0.6s						
PET				smax	smax		
	comp=E,1518μm,2.2s						
PET				smax	smax		
	comp=N,1188μm,1.6s						
PET				smax	smax		
	comp=E,284μm,0.8s						
MTVR	**Mutnovka**	**1.28**	**283**	*e*P	**Pn**	**05 43 42.1**	**-1.6**
MTVR	**Mutnovka**	**1.28**	**283**	PN	**Pn**	**05 43 42.1**	**-1.6**
UGLR	**Uglovaya**	**1.31**	**320**	*e*P	**Pn**	**05 43 43.4**	**-0.7**
UGLR	**Uglovaya**	**1.31**	**320**	PN	**Pn**	**05 43 43.4**	**-0.7**
SDLR	**Sedlovina**	**1.34**	**323**	*e*P	**Pn**	**05 43 43.9**	**-0.6**
SDLR	**Sedlovina**	**1.34**	**323**	PN	**Pn**	**05 43 43.9**	**-0.6**
SMAR	**Somma**	**1.36**	**321**	*e*P	**Pn**	**05 43 44.5**	**-0.3**
SMAR	**Somma**	**1.36**	**321**	PN	**Pn**	**05 43 44.5**	**-0.3**
GRL	**Gorelyy**	**1.36**	**285**	*e*P	**Pn**	**05 43 44.5**	**-0.3**
GRL	**Gorelyy**	**1.36**	**285**	PN	**Pn**	**05 43 44.5**	**-0.3**
AVH	**Avacha**	**1.39**	**320**	*e*P	**Pn**	**05 43 44.5**	**-0.6**
AVH	**Avacha**	**1.39**	**320**	PN	**Pn**	**05 43 44.5**	**-0.6**
KDTR	**Khodutka, Kamc**	**1.39**	**254**	*e*P	**Pn**	**05 43 43.5**	**-1.5**
KDTR				*e*S	**Sn**	**05 44 01.3**	**-0.8**
KDTR	**Khodutka, Kamc**	**1.39**	**254**	PN	**Pn**	**05 43 43.5**	**-1.5**
KDTR				S	**Sn**	**05 44 01.3**	**-0.8**
KRMR	**Karymshinskiy**	**1.42**	**296**	*e*P	**Pn**	**05 43 45.0**	**-0.4**
KRMR				*e*S	**Sn**	**05 44 04.7**	**+1.8**
KRMR	**Karymshinskiy**	**1.42**	**296**	PN	**Pn**	**05 43 45.0**	**-0.4**
KRMR				S	**Sn**	**05 44 04.7**	**+1.8**
KOK	**Koryaka**	**1.45**	**319**	*e*P	**Pn**	**05 43 45.3**	**-0.6**
KOK	**Koryaka**	**1.45**	**319**	PN	**Pn**	**05 43 45.3**	**-0.6**
KRX	**Arik**	**1.49**	**321**	*e*P	**Pn**	**05 43 47.1**	**+0.5**
KRX	**Arik**	**1.49**	**321**	PN	**Pn**	**05 43 47.1**	**+0.5**
I44RU	**PETROPAVLOVSK-**	**1.77**	**301**	Pn	**Pn**	**05 43 50.0**	**-0.3**
	baz=107,slow=23,SNR=4.9						
I44RU				Sn	**Sn**	**05 44 14.2**	**+2.6**
	baz=101,slow=35						
I44RU				*i*		05 52 50.0	
	baz=96,slow=319,SNR=6.2						
PEA0B	**Petropavlovsk-**	**1.78**	**301**	*e*Pn	**Pn**	**05 43 50.6**	**+0.2**
PETK	**Petropavlovsk-**	**1.78**	**301**	*e*Pn	**Pn**	**05 43 50.2**	**-0.2**
PETK				*e*Sn	**Sn**	**05 44 08.7**	**-3.1**
PETK	**Petropavlovsk-**	**1.78**	**301**	*e*PN	**Pn**	**05 43 50.2**	**-0.2**
PETK				*e*		05 44 08.7	
PETK	**Petropavlovsk-**	**1.78**	**301**	Pn	**Pn**	**05 43 50.5**	**+0.2**
	comp=E,4μm,0.3s,baz=106,slow=20,SNR=445						
PETK				Sn	**Sn**	**05 44 14.2**	**+2.4**
	comp=E,4μm,0.3s,baz=100,slow=25,SNR=14						
PEA1	**Petropavlovsk-**	**1.78**	**301**	*e*Pn	**Pn**	**05 43 50.5**	**+0.1**
PEA1				*e*Sn	**Sn**	**05 44 14.2**	**+2.3**
APC	**Apacha**	**2.00**	**292**	*e*P	**Pn**	**05 43 53.9**	**+0.5**
APC				*e*S	**Sn**	**05 44 20.9**	**+3.7**
APC	**Apacha**	**2.00**	**292**	PN	**Pn**	**05 43 53.9**	**+0.5**
PAU	**Pauzhetka**	**2.25**	**252**	*e*P	**Pn**	**05 43 55.9**	**-0.9**
PAU	**Pauzhetka**	**2.25**	**252**	PN	**Pn**	**05 43 55.9**	**-0.9**
MKZ	**Mys Kozlova**	**2.51**	**20**	*e*P	**Pn**	**05 43 58.7**	**-1.7**
MKZ	**Mys Kozlova**	**2.51**	**20**	PN	**Pn**	**05 43 58.7**	**-1.7**
KZV	**Kizimen**	**2.90**	**1**	*e*P	**Pn**	**05 44 06.1**	**+0.2**
KZV	**Kizimen**	**2.90**	**1**	PN	**Pn**	**05 44 06.1**	**+0.2**
SKR	**Severo-Kuril's**	**2.99**	**241**	*e*P	**Pn**	**05 44 05.8**	**-1.2**
SKR				*e*S	**Sn**	**05 44 40.2**	**-1.4**
SKR	**Severo-Kuril's**	**2.99**	**241**	ff *i*PN	**Pn**	**05 44 05.3**	**-1.7**
SKR				*e*S	**Sn**	**05 44 45.0**	**+3.4**
SKR				pmax	pmax		
	comp=Z,7μm,0.8s						
SKR				smax	smax		
	comp=E,113μm,0.7s						
SKR				smax	smax		
	comp=N,105μm,0.7s						
SKR				MLR	MLR		
	comp=Z,300μm,15.0s						
TUMD	**Tumrok D**	**2.99**	**2**	*e*P	**Pn**	**05 44 07.0**	**-0.1**
TUMR	**Tumrok**	**3.07**	**359**	*e*P	**Pn**	**05 44 08.8**	**+0.6**
TUMR	**Tumrok**	**3.07**	**359**	PN	**Pn**	**05 44 07.0**	**-1.2**
ALID	**Alaid**	**3.21**	**247**	*e*P	**Pn**	**05 44 09.5**	**-0.7**
ALID	**Alaid**	**3.21**	**247**	PN	**Pn**	**05 44 09.5**	**-0.7**
BZMR	**Bezymyannaya**	**3.73**	**2**	*e*P	**Pn**	**05 44 18.5**	**+1.2**
BZMR	**Bezymyannaya**	**3.73**	**2**	PN	**Pn**	**05 44 18.5**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**3.74**	**4**	*e*P	**Pn**	**05 44 18.2**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**3.74**	**4**	PN	**Pn**	**05 44 18.2**	**+0.8**
KIRR	**Kirishev**	**3.75**	**1**	*e*P	**Pn**	**05 44 18.3**	**+0.8**
KIRR				*e*S	**Sn**	**05 45 01.0**	**+0.7**
KIRR	**Kirishev**	**3.75**	**1**	PN	**Pn**	**05 44 18.3**	**+0.8**
KIRR				S	**Sn**	**05 45 01.0**	**+0.7**
KPT	**Kopyto**	**3.76**	**360**	*e*P	**Pn**	**05 44 18.6**	**+1.0**
KPT	**Kopyto**	**3.76**	**360**	PN	**Pn**	**05 44 18.6**	**+1.0**
BZWR	**Bezymyannyi-We**	**3.76**	**2**	*e*P	**Pn**	**05 44 19.0**	**+1.3**
BZWR	**Bezymyannyi-We**	**3.76**	**2**	PN	**Pn**	**05 44 19.0**	**+1.3**
ESO	**Esso**	**3.82**	**347**	*e*P	**Pn**	**05 44 19.2**	**+0.8**
ESO	**Esso**	**3.82**	**347**	PN	**Pn**	**05 44 19.2**	**+0.8**
KOZ	**Kozyrevsk**	**3.85**	**357**	*e*P	**Pn**	**05 44 19.7**	**+0.8**
KOZ	**Kozyrevsk**	**3.85**	**357**	PN	**Pn**	**05 44 19.7**	**+0.8**
LGNR	**Loginova**	**3.88**	**4**	*e*P	**Pn**	**05 44 21.4**	**+1.9**
LGNR	**Loginova**	**3.88**	**4**	PN	**Pn**	**05 44 21.4**	**+1.9**
KRSR	**Krestovskiy**	**4.01**	**3**	*e*P	**Pn**	**05 44 21.7**	**+0.6**
KRSR	**Krestovskiy**	**4.01**	**3**	PN	**Pn**	**05 44 21.7**	**+0.6**
KLY	**Klyuchi**	**4.11**	**3**	*e*P	**Pn**	**05 44 24.0**	**+1.7**
KLY				*e*S	**Sn**	**05 45 13.5**	**+4.4**
KLY	**Klyuchi**	**4.11**	**3**	PN	**Pn**	**05 44 24.0**	**+1.7**
KLY				S	**Sn**	**05 45 13.5**	**+4.4**
SRDR	**Sredinnyy**	**4.12**	**356**	*e*P	**Pn**	**05 44 22.6**	**+0.1**
SRDR	**Sredinnyy**	**4.12**	**356**	PN	**Pn**	**05 44 22.6**	**+0.1**
KBTR	**Krutoberegovo**	**4.28**	**20**	*e*P	**Pn**	**05 44 24.0**	**-0.6**
KBTR	**Krutoberegovo**	**4.28**	**20**	PN	**Pn**	**05 44 24.0**	**-0.6**
KBG	**Krutoberegovo**	**4.30**	**19**	*e*P	**Pn**	**05 44 25.1**	**+0.2**
KBG	**Krutoberegovo**	**4.30**	**19**	PN	**Pn**	**05 44 25.1**	**+0.2**
BDR	**Baidarnaya**	**4.40**	**7**	*e*P	**Pn**	**05 44 27.6**	**+1.2**
BDR	**Baidarnaya**	**4.40**	**7**	PN	**Pn**	**05 44 27.6**	**+1.2**
SMKR	**Semkarok**	**4.43**	**9**	*e*P	**Pn**	**05 44 28.1**	**+1.2**
SMKR	**Semkarok**	**4.43**	**9**	PN	**Pn**	**05 44 28.1**	**+1.2**
SRKR	**Sorokina**	**4.48**	**7**	*e*P	**Pn**	**05 44 28.9**	**+1.4**
SRKR	**Sorokina**	**4.48**	**7**	PN	**Pn**	**05 44 28.9**	**+1.4**
BKI	**Bering**	**4.54**	**46**	*e*P	**Pn**	**05 44 26.2**	**-2.0**
BKI				*e*S	**Sn**	**05 45 13.6**	**-6.0**
BKI	**Bering**	**4.54**	**46**	PN	**Pn**	**05 44 26.2**	**-2.0**
OSSR	**Ossora**	**7.23**	**12**	*e*P	**Pn**	**05 45 05.5**	**+0.5**
OSSR	**Ossora**	**7.23**	**12**	PN	**Pn**	**05 45 05.5**	**+0.5**
TILK	**Tilichiki**	**8.88**	**19**	*e*P	**Pn**	**05 45 28.1**	**+0.5**
TILK	**Tilichiki**	**8.88**	**19**	PN	**Pn**	**05 45 28.1**	**+0.5**
MA2	**Magadan**	**9.08**	**328**	*e*Pn	**Pn**	**05 45 31.2**	**+0.8**
MA2	**Magadan**	**9.08**	**328**	*c i*PN	**Pn**	**05 45 30.4**	**0.0**
MA2				pmax	pmax		
	comp=Z,104nm,0.8s						
MA2	**Magadan**	**9.08**	**328**	Pn	**Pn**	**05 45 30.5**	**+0.1**
	comp=Z,2.6nm,0.3s,baz=128,slow=10,SNR=21						
MA2				LR	LR	05 49 38.6	
	comp=Z,302μm,18.7s,baz=138,slow=43						
OKH	**Okha**	**10.54**	**284**	*d i*PN	Pn	05 45 56.2	+5.9
OKH				*i* S	Sn	05 47 56.9	+10
OKH				pmax	pmax		
	comp=Z,10μm,12.3s						
OKH				MLR	MLR		
	comp=Z,266μm,16.0s						
KUR	**Kuril'sk**	**10.74**	**234**	*d i*PN	**Pn**	**05 45 52.7**	**-0.4**
KUR				pmax	pmax		
	comp=Z,322nm,0.6s						
KUR		

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     comp=N,937nm,0.9s
YAK                                  pmax   pmax
     comp=E,3µm,1.2s
YAK                                  pmax   pmax
     comp=Z,5µm,2.0s
YAK                                  pmax   pmax
     comp=N,3µm,1.8s
YAK                                  MLR    MLR
     comp=Z,163µm,15.0s
YAK                                  MLR    MLR
     comp=N,370µm,15.0s
YAK                                  MLR    MLR
     comp=E,169µm,15.0s
ZEA  Zeya          19.82 288  eP              P      05 47 46.8 -1.8
ZEA                           eS              S      05 51 28.0 -1.1
ZEA                                  pmax   pmax
     comp=N,52nm,0.8s
ZEA                                  pmax   pmax
     comp=E,94nm,1.0s
ZEA                                  pmax   pmax
     comp=Z,140nm,1.0s
ZEA                                  pmax   pmax
     comp=Z,8µm,11.0s
ZEA                                  smax   smax
     comp=E,9µm,15.0s
ZEA                                  smax   smax
     comp=N,10µm,19.0s
UNV  Unalaska Valle 19.98  72  eP              P      05 47 51.0 +0.8
USA0B Ussuriysk Arra 20.36 258  eP              P      05 47 51.7 -2.8
     comp=N,367nm,1.0s
USA0B                                LR     LR
     comp=Z,79µm,18.0s
USRK Ussuriysk Ar. 20.36 258  P              P      05 47 51.0 -3.5
     comp=Z,238nm,0.9s,baz=61,slow=10,SNR=161
USRK                                 LR     LR     05 56 30.4
     comp=Z,57µm,18.7s,baz=53,slow=39
VLA  Vladivostok   21.03 256c iP              P      05 47 59.3 -2.4
ANM  Nome          21.52  42  eP              P      05 48 08.8 +1.9
     comp=Z,566nm,1.4s
ANM                                  LR     LR
     comp=Z,41µm,18.0s
ANM  Nome          21.52  42  eP              P      05 48 08.8 +1.9
ANM                                  pmax   pmax
     comp=Z,566nm,1.4s
ANM                                  MLR    MLR
     comp=Z,41µm,18.0s
MDJ  Mudanjiang    21.58 262  P              P      05 48 05.5 -2.2
MDJ                                  pmax   pmax
     comp=Z,280nm,1.4s
MDJ                                  LR     LR
     comp=Z,106µm,16.9s
MDJ                                  LR     LR
     comp=Z,121µm,15.9s
MDJ  Mudanjiang    21.58 262  PFAKE           05 48 20.0 +12
MDJ                                  LR     LR
     comp=Z,70µm,19.0s
FALS False Pass    21.61  69  PFAKE           05 48 20.0 +12
FALS                                 LR     LR
     comp=Z,31µm,20.0s
MSHR Mys Shultsa   21.78 255|| eP              P      05 48 07.0 -2.8
MJB9 Matsu-Tunnel  22.07 233  eP              P      05 48 13.0 -0.1
     comp=Z,745nm,0.8s
MJB9                                 LR     LR
     comp=Z,94µm,22.0s
MAJO Matsushiro    22.07 233  eP              P      05 48 13.0 -0.1
     comp=Z,744nm,0.8s
MAJO                                 LR     LR
     comp=Z,86µm,21.0s
MAJO Matsushiro    22.07 233c iP              P      05 48 12.2 -0.9
MAJO                                 pmax   pmax
     comp=Z,583nm,0.9s
MAT  Matsushiro    22.07 233  P              P      05 48 12.0 -1.1
MAT                           S              S      05 52 18.4 +4.7
MJAR Matsushiro Arr 22.07 233 P              P      05 48 12.4 -0.6
     comp=Z,187nm,0.9s,baz=18,slow=9.9,SNR=225
MJAR                                 LR     LR     05 57 11.1
     comp=Z,88µm,21.9s,baz=35,slow=38
INU  Inuyama       23.61 234  PFAKE           05 48 40.0 +11
INU                                  LR     LR
     comp=Z,65µm,21.0s
RDOG Red Dog Mine  23.72  34  eP              P      05 48 29.7 +0.3
     comp=Z,433nm,1.1s
RDOG                                 LR     LR
     comp=Z,20µm,20.0s
TIXI Tiksi         23.91 336  eP              P      05 48 29.8 -1.5
TIXI Tiksi         23.91 336c iP              P      05 48 29.0 -2.2
TIXI                                 pmax   pmax
     comp=Z,315nm,0.7s
TIXI Tiksi         23.91 336  P              P      05 48 28.8 -2.4
     comp=Z,284nm,0.7s,baz=127,slow=11,SNR=3.0
JHJ2 Mitsune       24.14 226  eP              P      05 48 32.8 -0.8
     comp=Z,528nm,0.9s
JHJ  Hachijo jima 2 24.14 226 P              P      05 48 34.8 +1.1
     comp=Z,440nm,1.0s,baz=27,slow=2.3,SNR=6.9
JHJ                                  LR     LR     05 58 55.5
     comp=Z,6µm,21.2s,baz=64,slow=39
CN2  Changchun     24.54 264  eP              P      05 48 32.3 -4.9
CN2                           epP            pP     05 48 41.5 -6.9
CN2                           esP            pwP    05 48 45.3 -6.8
CN2                           eS             S      05 52 48.4 -6.2
CN2                           eSS            SnSn   05 53 44.8 +2.4
CN2                                  pmax   pmax
     comp=Z,300nm,0.7s
CN2                                  LR     LR
     comp=Z,84µm,17.0s
CN2                                  LR     LR
     comp=Z,84µm,17.0s
HIA  Hailar        25.55 280  PFAKE           05 49 00.0 +14
HIA                                  LR     LR
     comp=Z,146µm,18.0s
HIA  Hailar        25.55 280  i P              P      05 48 43.9 -2.5
SII  Sitkinak Islan 26.51  62  eP              P      05 48 54.2 -0.7
     comp=Z,231nm,1.0s
SII                                  LR     LR
     comp=Z,43µm,21.0s
IMAR Indian Mountai 26.60  41  eP              P      05 48 56.1 +0.4
BOD  Bodaibo       26.65 301  eP              P      05 48 53.0 -3.2
BOD                                  pmax   pmax
     comp=Z,194nm,1.2s
SNY  Shenyang      26.79 262  ⇑P              P      05 48 56.3 -1.2
SNY                                  pmax   pmax
     comp=Z,120nm,0.8s
SNY                                  pmax   pmax
     comp=Z,3µm,5.5s
SNY                                  LR     LR
     comp=Z,100µm,20.1s
SNY                                  LR     LR
     comp=Z,58µm,20.1s
SNY                                  LR     LR
     comp=Z,80µm,16.7s
KSRS Korea Array   26.97 250  P              P      05 48 59.0 -0.2
     comp=Z,114nm,0.9s,baz=44,slow=9.5,SNR=110
KSRS                                 LR     LR     06 00 28.5
     comp=Z,48µm,18.1s,baz=59,slow=38
KS15 Wonju Array Si 27.00 250 eP              P      05 48 59.5 -0.1
     comp=Z,157nm,1.0s
PPLA Purkeypile    27.02  48  PFAKE           05 49 10.0 +10
PPLA                                 LR     LR
     comp=Z,15µm,19.0s
CAST Castle Rocks  27.08  47  PFAKE           05 49 10.0 +10
CAST                                 LR     LR
     comp=Z,23µm,19.0s
KDAK Kodiak Island 27.17  59  eP              P      05 49 00.9  0.0
     comp=Z,88nm,0.8s
KDAK                                 LR     LR
     comp=Z,38µm,20.0s
KDAK Kodiak Island 27.17  59  P              P      05 49 00.0 -0.8
     comp=Z,27nm,0.8s,baz=299,slow=4.1,SNR=17
HOM  Homer         27.42  55  PFAKE           05 49 20.0 +17
HOM                                  LR     LR
     comp=Z,10µm,21.0s
BPAW Bear Paw Mtn. 27.59  46  PFAKE           05 49 20.0 +15
BPAW                                 LR     LR
     comp=Z,30µm,20.0s
MLY  Manley        27.75  44  PFAKE           05 49 20.0 +14
MLY                                  LR     LR
     comp=Z,31µm,18.0s
BRLK Bradley Lake  27.79  55  PFAKE           05 49 20.0 +14
BRLK                                 LR     LR
     comp=Z,11µm,20.0s
TJN  Taejon        28.04 249c iP              P      05 49 08.6 -0.2
COLD Coldfoot      28.18  39  PFAKE           05 49 20.0 +10
COLD                                 LR     LR
     comp=Z,32µm,19.0s
RC01 Rabbit Creek A 28.23  52  eP              P      05 49 10.4 +0.1
     comp=Z,69nm,1.2s
RC01                                 LR     LR
     comp=Z,18µm,22.0s
BWN  Browne        28.26  45  eP              P      05 49 13.9 +3.4
     comp=Z,885nm,1.5s
BWN                                  LR     LR
     comp=Z,37µm,20.0s
CIT  Chita         28.28 288  eP              P      05 49 08.8 -2.1
CIT                           e                     05 49 27.5
CIT                           e                     05 50 13.3
CIT                                  pmax   pmax
     comp=Z,345nm,1.0s
SEW  Seward        28.47  54  PFAKE           05 49 30.0 +18
SEW                                  LR     LR
     comp=Z,20µm,20.0s
MCK  McKinley      28.49  46  PFAKE           05 49 30.0 +17
MCK                                  LR     LR
     comp=Z,20µm,19.0s
JNU  Nakatsue      28.50 240  P              P      05 49 13.0  0.0
     comp=Z,313nm,0.8s,baz=51,slow=6.1,SNR=58
TOLK Toolik Lake Re 28.62  36  eP              P      05 49 13.9 +0.2
     comp=Z,110nm,0.9s
TOLK                                 LR     LR
     comp=Z,17µm,19.0s
TOLK Toolik Lake Re 28.62  36  P              P      05 49 12.0 -1.8
     baz=261
MDM  Murphy Dome   28.81  44  PFAKE           05 49 30.0 +15
MDM                                  LR     LR
     comp=Z,31µm,18.0s
KNK  Knik Glacier  28.82  51  PFAKE           05 49 30.0 +14
KNK                                  LR     LR
     comp=Z,22µm,20.0s
SML  Sawmill       28.85  50  PFAKE           05 49 30.0 +14
SML                                  LR     LR
     comp=Z,20µm,20.0s
WRH  Wood River Hil 28.86  45  PFAKE           05 49 30.0 +14
WRH                                  LR     LR
     comp=Z,39µm,19.0s
TCOL CIGO, UAF Yank 28.97  44  P              P      05 49 15.9 -0.9
     baz=270
COLA College       28.97  44  eP              P      05 49 17.8 +1.0
     comp=Z,363nm,1.5s
COLA                                 LR     LR
     comp=Z,34µm,18.0s
COLA College       28.97  44c iP              P      05 49 16.9 +0.1
COLA                                 pmax   pmax
     comp=Z,49nm,2.3s
CCB  Clear Creek Bu 28.99  44  PFAKE           05 49 30.0 +13
CCB                                  LR     LR
     comp=Z,37µm,18.0s
POKR Poker Plat Res 29.15  43  P              P      05 49 18.7 +0.2
     baz=270
DHY  Denali Highway 29.21  48  PFAKE           05 49 30.0 +11
DHY                                  LR     LR
     comp=Z,10µm,19.0s
MIDW Midway        29.22 136  PFAKE           05 49 30.0 +11
MIDW                                 LR     LR
     comp=Z,31µm,20.0s
SCM  Sheep Creek Mo 29.32  50  PFAKE           05 49 30.0 +10
SCM                                  LR     LR
     comp=Z,18µm,19.0s
HDA  Harding Lake  29.36  45  PFAKE           05 49 30.0 +10
HDA                                  LR     LR
     comp=Z,34µm,19.0s
HDA  Harding Lake  29.36  45  P              P      05 49 19.2 -1.1
     baz=271
ILAR Eielson Array 29.38  44  P              P      05 49 20.0 -0.5
ILAR Eielson Array 29.38  44  P              P      05 49 19.9 -0.5
     comp=Z,13nm,0.8s,baz=256,slow=7.9,SNR=38
ILAR                                 LR     LR     06 03 01.6
     comp=Z,33µm,18.0s,baz=278,slow=40
ILAR                                 P3KPbc        06 21 23.6
     comp=Z,0.8nm,0.8s,baz=94,slow=3.8,SNR=9.1
GLI  Glacier Island 29.54  52  PFAKE           05 49 30.0 +8.1
GLI                                  LR     LR
     comp=Z,16µm,21.0s
DL2  Dalian        29.74 259  P              P      05 49 22.1 -1.8
DL2                           S              S      05 54 16.3 -0.4
DL2                                  pmax   pmax
     comp=Z,240nm,0.8s
DL2                                  pmax   pmax
     comp=Z,1µm,11.0s
DL2                                  LR     LR
     comp=Z,38µm,15.1s
DL2                                  LR     LR
     comp=Z,37µm,17.5s
DL2                                  LR     LR
     comp=Z,40µm,14.3s
PRP  Porcupine Dome 29.96  43  PFAKE           05 49 40.0 +14
PRP                                  LR     LR
     comp=Z,15µm,20.0s
KLU  Klutina       30.03  51  PFAKE           05 49 40.0 +14
KLU                                  LR     LR
     comp=Z,19µm,20.0s
FYU  Fort Yukon    30.09  41  PFAKE           05 49 40.0 +13
FYU                                  LR     LR
     comp=Z,18µm,19.0s
PAX  Paxson        30.09  48  PFAKE           05 49 40.0 +13
PAX                                  LR     LR
     comp=Z,16µm,20.0s
DIV  Divide        30.14  51  PFAKE           05 49 40.0 +13
DIV                                  LR     LR
     comp=Z,21µm,21.0s
EYAK Cordova Ski Ar 30.24  53  PFAKE           05 49 40.0 +12
EYAK                                 LR     LR
     comp=Z,22µm,22.0s
HARP HAARP         30.29  49  PFAKE           05 49 40.0 +11
HARP                                 LR     LR
     comp=Z,11µm,19.0s
RIDG Independent Ri 30.31  46  PFAKE           05 49 40.0 +11
RIDG                                 LR     LR
     comp=Z,36µm,18.0s
DOT  Dot Lake      30.67  46  PFAKE           05 49 40.0 +8.1
DOT                                  LR     LR
     comp=Z,28µm,18.0s
SCRK Sand Creek    30.68  46  PFAKE           05 49 50.0 +18
SCRK                                 LR     LR
     comp=Z,28µm,18.0s
HMT  Hamilton      31.00  53  PFAKE           05 49 50.0 +15
HMT                                  LR     LR
     comp=Z,32µm,21.0s
TGL  Tana Glacier  31.62  52  PFAKE           05 49 50.0 +10
TGL                                  LR     LR
     comp=Z,27µm,21.0s
BALM Baldy         31.80  51  PFAKE           05 50 00.0 +18
BALM                                 LR     LR
     comp=Z,19µm,20.0s
EGAK Eagle         31.83  44  PFAKE           05 49 50.0 +7.9
EGAK                                 LR     LR
     comp=Z,24µm,18.0s
CTGM Chitina Glacie 32.30  51  PFAKE           05 50 00.0 +14
CTGM                                 LR     LR
     comp=Z,19µm,20.0s
BJT  Baijiatuau    32.38 266  PFAKE           05 50 00.0 +13
BJT                                  LR     LR
     comp=Z,80µm,20.0s
DAWY Dawson        32.68  45  PFAKE           05 50 00.0 +10
DAWY                                 LR     LR
     comp=Z,32µm,18.0s
H11N2 WAKE ISLAND Hy 32.84 168 T              T      06 25 44.8
     baz=351
H11N3 WAKE ISLAND Hy 32.85 168 T              T      06 25 47.7
     baz=351
H11N1 WAKE ISLAND Hy 32.85 168 T              T      06 25 13.9
     baz=351
PCA  Pinnacle      33.01  52  PFAKE           05 50 10.0 +18
PCA                                  LR     LR
     comp=Z,25µm,21.0s
WAKE Wake Island   33.25 169  PFAKE           05 50 10.0 +15
WAKE                                 LR     LR
     comp=Z,23µm,20.0s
BCPM Bancas Point  33.34  53  PFAKE           05 50 10.0 +15
BCPM                                 LR     LR
     comp=Z,23µm,21.0s
EPYK Eagle Plains  33.51  41  PFAKE           05 50 10.0 +13
EPYK                                 LR     LR
     comp=Z,16µm,18.0s
EPYK Eagle Plains  33.51  41  P              P      05 49 56.9 +0.1
     baz=277
IRK  Irkutsk       33.54 293  eP              P      05 49 54.3 -2.9
IRK                           e                     05 51 08.1
IRK                                  pmax   pmax
     comp=Z,6µm,2.9s
ULN  Ulaanbaatar   33.78 284  eP              P      05 49 57.5 -2.0
     comp=Z,70nm,1.0s
ULN                                  LR     LR
     comp=Z,175µm,18.0s
ULN  Ulaanbaatar   33.78 284c iP              P      05 49 57.5 -2.0
ULN                                  pmax   pmax
     comp=Z,129nm,1.7s
ULN  Ulaanbaatar   33.78 284  P              P      05 49 57.8 -1.7
     SNR=49
H11S1 WAKE ISLAND Hy 34.02 169 T              T      06 26 40.3
     baz=352,slow=76,SNR=1453
H11S3 WAKE ISLAND Hy 34.03 169 T              T      06 26 36.7
     baz=352,slow=76,SNR=2755
H11S2 WAKE ISLAND Hy 34.04 169 T              T      06 26 41.7
     baz=352,slow=76,SNR=987
TLY  Talaya        34.12 292  eP              P      05 50 01.2 -1.0
     comp=Z,151nm,1.0s
TLY                                  LR     LR
     comp=Z,71µm,18.0s
TLY  Talaya        34.12 292c iP              P      05 50 01.0 -1.2
TLY  Talaya        34.12 292  P              P      05 50 01.0 -1.2
     SNR=94
TLY                                  P      P      05 50 01.0 -1.2
     SNR=94
SONA0 Songino Array 34.19 285 ePcP             PcP    05 52 38.7 -0.2
SONM Songino Array 34.19 285  P              P      05 50 01.1 -1.9
     comp=Z,30nm,0.8s,baz=65,slow=7.6,SNR=75
SONM                                 PcP    PcP    05 52 38.7 -0.2
     comp=Z,16nm,0.9s,baz=71,slow=0.9,SNR=3.8
SONM                                 LR     LR     06 05 28.7
     comp=Z,190µm,18.5s,baz=63,slow=39
TIA  Tai'an        34.21 259  P              P      05 50 01.3 -1.8
TIA                                  pmax   pmax
     comp=Z,18nm,0.7s
TIA                                  pmax   pmax
     comp=Z,1µm,6.2s
TIA                                  LR     LR
     comp=Z,10µm,14.3s
TIA                                  LR     LR
     comp=Z,35µm,17.5s
TIA                                  LR     LR
     comp=Z,11µm,13.5s
INK  Inuvik        34.52  37  eP              P      05 50 05.9 +0.5
     comp=Z,104nm,1.0s
INK                                  LR     LR
     comp=Z,29µm,21.0s
INK  Inuvik        34.52  37  eP              P      05 50 05.9 +0.5
INK                                  pmax   pmax
     comp=Z,104nm,1.0s
INK                                  MLR    MLR
     comp=Z,29µm,21.0s
INK  Inuvik        34.52  37  P              P      05 50 06.0 +0.7
     comp=Z,44nm,1.0s,baz=285,slow=7.2,SNR=59
INK                                  P3KPbc        06 21 02.5
     comp=Z,1.7nm,1.0s,baz=93,slow=6.4,SNR=5.3
HHC  Hu-ho-hao-te  34.72 271  eP              P      05 50 05.3 -2.3
HHC                                  sP     pP     05 50 19.9 +0.9
HHC                                  S      S      05 55 36.8 +2.3
HHC                                  PcS    PcS    05 56 29.3 +2.2
HHC                                  pmax   pmax
     comp=Z,960nm,0.8s
HHC                                  pmax   pmax
     comp=Z,4µm,4.9s
HHC                                  LR     LR
     comp=Z,10µm,12.5s
HHC                                  LR     LR
     comp=Z,8µm,13.8s
HHC                                  LR     LR
     comp=Z,9µm,13.5s
ZAK  Zakamensk     34.87 290  eP              P      05 50 06.9 -1.9
ZAK                                  pmax   pmax
     comp=Z,120nm,1.0s
JOW  Kunigami      34.87 236  PFAKE           05 50 20.0 +11
JOW                                  LR     LR
     comp=Z,10µm,20.0s
SSE  Sheshan       35.40 249  P              P      05 50 13.8 +0.4
SSE                                  S      S      05 55 43.8 -1.0
SSE                                  pmax   pmax
     comp=Z,39nm,0.9s
SSE                                  pmax   pmax
     comp=Z,1µm,6.8s
SSE                                  LR     LR
     comp=Z,6µm,22.2s
SSE                                  LR     LR
     comp=Z,840nm,23.0s
SSE  Sheshan       35.40 249  PFAKE           05 50 30.0 +17
SSE                                  LR     LR
     comp=Z,22µm,21.0s
WHY  Whitehorse    35.45  50  PFAKE           05 50 30.0 +16
WHY                                  LR     LR
     comp=Z,14µm,20.0s
MOY  Mondy         35.63 293  eP              P      05 50 13.9 -1.4
MOY                                  pmax   pmax
     comp=Z,183nm,1.8s
BTO  Baotou        35.81 271  eP              P      05 50 14.9 -2.1
NJ2  Nanjing       36.06 252  eP              P      05 50 18.3 -0.7
NJ2                           pP             pP     05 50 27.5 -3.0
NJ2                           sP             pwP    05 50 31.5 -2.5
NJ2                           S              S      05 55 53.0 -1.9
NJ2                           sS             sS     05 56 13.0 -1.3
NJ2                                  pmax   pmax
     comp=Z,4µm,10.8s
NJ2                                  LR     LR
     comp=Z,49µm,14.7s
NJ2                                  LR     LR
     comp=Z,62µm,17.6s
BESE Bessie Mountai 36.09  54  eP              P      05 50 18.7 -0.4
     comp=Z,100nm,1.1s
BESE                                 LR     LR
     comp=Z,8µm,19.0s
TIY  Taiyuan       36.10 266  eP              P      05 50 18.5 -0.9
TIY                           pP             pP     05 50 22.8 -8.0
TIY                           sP             pwP    05 50 30.8 -3.7
TIY                           S              S      05 55 56.3 +0.8
TIY                                  pmax   pmax
     comp=Z,110nm,0.8s
TIY                                  pmax   pmax
     comp=Z,1µm,10.6s
TIY                                  LR     LR
     comp=Z,31µm,14.9s
TIY                                  LR     LR
     comp=Z,48µm,17.8s
JIS  Juneau Island 36.42  54  eP              P      05 50 24.2 +2.4
     comp=Z,120nm,1.0s
JIS                                  LR     LR
     comp=Z,8µm,19.0s
NRIK Noril'sk      36.67 325  P              P      05 50 22.1 -1.8
     comp=Z,100nm,0.8s,baz=91,slow=9.4,SNR=96
NRIK                                 LR     LR     06 06 47.5
     comp=Z,119µm,21.4s,baz=78,slow=39
SARN Sarigan       37.24 203  PFAKE           05 50 40.0 +11
SARN                                 LR     LR
     comp=Z,9µm,22.0s
ANA2 Anatahan      37.60 203  PFAKE           05 50 40.0 +7.8
ANA2                                 LR     LR
     comp=Z,8µm,21.0s
WRAK Wrangell Islan 38.13  56  eP              P      05 50 37.6 +1.3
     comp=Z,146nm,1.2s
WRAK                                 LR     LR
     comp=Z,14µm,21.0s
DLBC Dease Lake    38.51  52  PFAKE           05 50 50.0 +10
DLBC                                 LR     LR
     comp=Z,21µm,22.0s
DLBC Dease Lake    38.51  52  P              P      05 50 41.5 +1.8
     comp=Z,23nm,0.9s,baz=281,slow=9.1,SNR=3.5
DLBC                                 LR     LR     06 09 20.5
     comp=Z,17µm,18.2s,baz=304,slow=41
DIB  Dawson Inlet, 39.41  61  PFAKE           05 51 00.0 +13
DIB                                  LR     LR
     comp=Z,12µm,20.0s
YOJ  Yonaguni jima 39.55 240  eP              P      05 50 46.3 -2.2
     comp=Z,136nm,0.7s
YOJ                                  LR     LR
     comp=Z,19µm,22.0s
YOJ  Yonaguni jima 39.55 240  eP              P      05 50 46.3 -2.2
YOJ                                  pmax   pmax
     comp=Z,136nm,0.7s
YOJ                                  MLR    MLR
     comp=Z,19µm,22.0s
WHN  Wuhan         39.81 255  P              P      05 50 50.3 -0.3
WHN                                  pmax   pmax
     comp=Z,350nm,0.8s
WHN                                  LR     LR
     comp=Z,84µm,14.7s
TATO Taipei        39.95 242  PFAKE           05 51 00.0 +8.1
TATO                                 LR     LR
     comp=Z,18µm,21.0s
YHNB Yeheng        40.26 242  eP              P      05 50 55.4 +0.9
     comp=Z,115nm,0.9s
YHNB                                 LR     LR
     comp=Z,20µm,20.0s
GUMO Guam          40.45 203  PFAKE           05 51 10.0 +14
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GUMO LR LR
comp=Z,10μm,21.0s
GUMO Guam 40.45 203 LR LR 06 06 45.1
comp=Z,10μm,20.5s,baz=16,slow=35
NACB Ninganchiao 40.54 241 PFAKE 05 51 10.0 +13
NACB LR LR
comp=Z,24μm,19.0s
XAN Xi'an 40.65 264 P **P** **05 50 56.5 -1.2**
XAN pP pP 05 51 03.6 -5.7
XAN PP **PP** **05 52 33.0 +1.2**
XAN PcP **PcP** **05 52 58.8 +0.1**
XAN S **S** **05 57 10.3 +6.0**
XAN SS **SS** **06 00 02.1 -3.5**
XAN pmax pmax
comp=Z,21nm,1.0s
XAN pmax pmax
comp=Z,2μm,12.0s
XAN LR LR
comp=Z,45μm,19.6s
XAN LR LR
comp=Z,42μm,21.6s
XAN LR LR
comp=Z,63μm,16.2s
XAN Xi'an 40.65 264 PFAKE 05 51 10.0 +12
XAN LR LR
comp=Z,44μm,18.0s
SSLB Suanglung 41.19 242 PFAKE 05 51 10.0 +7.8
SSLB LR LR
comp=Z,18μm,20.0s
YULB Yu-li 41.33 241 *e*P **P** **05 51 03.0 -0.3**
comp=Z,118nm,0.9s
YULB LR LR
comp=Z,15μm,19.0s
QZH Quanzhou 41.58 245⇑ *i*P **P** **05 51 05.5 +0.2**
QZH S **S** **05 57 19.5 +1.5**
QZH pmax pmax
comp=Z,3μm,7.2s
QZH LR LR
comp=Z,17μm,19.9s
QZH LR LR
comp=Z,12μm,17.5s
QZH LR LR
comp=Z,16μm,21.3s
KNMB Chin-men Tao 42.07 245 PFAKE 05 51 20.0 +11
KNMB LR LR
comp=Z,15μm,21.0s
BBB Bella Bella 42.24 60 PFAKE 05 51 20.0 +10
BBB LR LR
comp=Z,11μm,18.0s
BBB Bella Bella 42.24 60 LR LR 06 09 00.2
comp=Z,8μm,18.0s,baz=306,slow=36
LZH Lanzhou 42.42 271 *e*P **P** **05 51 11.4 -0.9**
LZH pP pP 05 51 22.6 -1.4
LZH sP pwP 05 51 26.9 -0.3
LZH PP **PP** **05 52 56.6 +5.6**
LZH *e*S **S** **05 57 37.4 +6.7**
LZH sS sS 05 57 51.0 +0.6
LZH pmax pmax
comp=Z,250nm,1.2s
LZH pmax pmax
comp=Z,3μm,6.0s
LZH LR LR
comp=Z,48μm,16.3s
LZH LR LR
comp=Z,111μm,17.9s
JOHN Johnston Islan 42.71 135 PFAKE 05 51 30.0 +16
JOHN LR LR
comp=Z,29μm,19.0s
GTA Gaotai 42.79 277⇑ P **P** **05 51 13.9 -1.3**
GTA pP pP 05 51 24.1 -2.8
GTA sP pwP 05 51 27.6 -2.5
GTA PcP **PcP** **05 53 07.3 +1.5**
GTA S **S** **05 57 38.0 +2.0**
GTA ScS **ScS** **06 01 15.4 +3.4**
GTA pmax pmax
comp=Z,93nm,1.7s
GTA pmax pmax
comp=Z,1μm,4.9s
GTA LR LR
comp=Z,60μm,17.8s
GTA LR LR
comp=Z,60μm,16.5s
GTA LR LR
comp=Z,104μm,18.4s
ENH Enshi 42.92 260 PFAKE 05 51 30.0 +14
ENH LR LR
comp=Z,34μm,20.0s
KEKH Kekaha 43.08 119 PFAKE 05 51 30.0 +13
KEKH LR LR
comp=Z,11μm,20.0s
ZAA1 Zalesovo Array 43.32 304 *e*PP PP 05 53 08.0 +7.8
ZAA0 Zalesovo Array 43.32 304 *e*P **P** **05 51 17.0 -2.1**
comp=Z,65nm,0.9s
ZAA0 LR LR
comp=Z,77μm,18.0s
ZALV Zalesovo Beam 43.32 304 *e*P **P** **05 51 17.2 -2.0**
ZALV Zalesovo Beam 43.32 304 P **P** **05 51 16.1 -3.0**
comp=Z,51nm,0.8s,baz=56,slow=6.9,SNR=111
ZALV PcP **PcP** **05 53 08.0 +0.8**
comp=Z,45nm,0.9s,baz=49,slow=4.4,SNR=5.6
ZALV LR LR 06 10 39.7
comp=Z,76μm,18.7s,baz=68,slow=38
NVS Novosibirsk 43.68 305⇑ *i*P **P** **05 51 20.7 -1.3**
NVS *i* S **S** **05 57 45.0 -3.4**
NVS pmax pmax
comp=Z,574nm,0.9s
NVS pmax pmax
comp=N,132nm,0.8s
NVS pmax pmax
comp=E,287nm,0.7s
NVS smax smax
comp=N,99nm,2.2s
NVS smax smax
comp=E,30nm,1.6s
KWAJ Kwajalein Atol 43.71 169 PFAKE 05 51 40.0 +17
KWAJ LR LR
comp=Z,22μm,18.0s
YKW3 Yellowknife Ar 43.72 42 *e*P **P** **05 51 22.8 +0.6**
comp=Z,59nm,1.0s
YKA Yellowknife Ar 43.76 42 P **P** **05 51 23.0 +0.5**
YKA Yellowknife Ar 43.76 42 P **P** **05 51 23.0 +0.5**
comp=Z,19nm,0.8s,baz=299,slow=8.0,SNR=128
YKA PKPPKP **P'P'df** **06 23 17.7 +0.8**
comp=Z,0.5nm,0.9s,baz=76,slow=2.1,SNR=4.2
RES Resolute Bay 44.11 22 PFAKE 05 51 40.0 +15
RES LR LR
comp=Z,12μm,21.0s
RES Resolute Bay 44.11 22 P **P** **05 51 25.7 +0.5**
comp=Z,52nm,0.9s,baz=286,slow=8.6,SNR=87
RES LR LR 06 11 30.3
comp=Z,7μm,19.6s,baz=302,slow=38
DGZ Jazzator, Alta 44.13 297*c* *i*P **P** **05 51 24.7 -1.2**
DGZ pmax pmax
comp=Z,121nm,0.8s
OPA Opana 44.24 117 PFAKE 05 51 40.0 +13
OPA LR LR
comp=Z,16μm,20.0s
KIP Kipapa 44.45 118 PFAKE 05 51 40.0 +11
KIP LR LR
comp=Z,14μm,20.0s
KIP Kipapa 44.45 118‖ *e*P P 05 51 34.1 +5.6
KIP pmax pmax
comp=Z,302nm,2.5s
HON Honolulu 44.54 118 PFAKE 05 51 40.0 +11
HON LR LR
comp=Z,15μm,20.0s
PATS Pohnpei 45.27 183 PFAKE 05 51 50.0 +15
PATS LR LR
comp=Z,12μm,18.0s
KHLH Kahului Airpor 45.74 116 PFAKE 05 51 50.0 +11
KHLH LR LR
comp=Z,17μm,20.0s
APYP Conner 45.91 237 *e*P **P** **05 51 40.2 +0.1**
HLK Haleakala 45.95 116 PFAKE 05 51 50.0 +9.2
HLK LR LR
comp=Z,17μm,20.0s
CD2 Chengdu 45.97 265⇑ *i*P **P** **05 51 39.3 -1.3**
CD2 pP pP 05 51 48.6 -3.7
CD2 PP **PP** **05 53 27.5 -1.2**
CD2 S **S** **05 58 19.8 -2.3**
CD2 sS sS 05 58 39.6 -2.4
CD2 pmax pmax
comp=Z,120nm,0.9s
CD2 LR LR
comp=Z,58μm,25.1s
CD2 LR LR
comp=Z,50μm,19.8s
CD2 LR LR
comp=Z,73μm,15.3s
HKC Hong Kong Obse 46.14 248⇑ P **P** **05 51 43.0 +1.1**
HKPS Hong Kong Po S 46.18 248 PFAKE 05 51 50.0 +7.8
HKPS LR LR
comp=Z,24μm,18.0s
ABRA Dolores 46.36 237 *e*P **P** **05 51 45.0 +1.4**
CAUP Cauayan 46.38 235 *e*P **P** **05 51 45.9 +2.1**
LLLB Lillooet 46.38 59 PFAKE 05 52 00.0 +16
LLLB LR LR
comp=Z,13μm,18.0s
MHA Mahukona 46.60 116 *e*P **P** **05 51 47.2 +1.7**
MHA Mahukona 46.60 116 *e*P **P** **05 51 47.2 +1.7**
MCO Taipa Grande 46.63 248 P **P** **05 51 50.0 +4.2**
PGC Sidney 46.65 62 PFAKE 05 52 00.0 +14
PGC LR LR
comp=Z,11μm,22.0s
ZSN Zaisan 46.80 296*c* *i*P **P** **05 51 50.8 +3.9**
ZSN pmax pmax
comp=Z,21nm,1.0s
ZSN MLR MLR
comp=Z,6μm,12.0s
ZSN Zaisan 46.80 296⇑ *i*P **P** **05 51 50.9 +3.9**
comp=Z,21nm,1.0s
ZSN *e*LR LR 06 12 20.4
comp=Z,6μm,12.1s
HPAH Hawaii Prepara 46.84 116 *e*P **P** **05 51 49.3 +1.8**
comp=Z,356nm,1.7s
HPAH LR LR
comp=Z,15μm,20.0s
A04D Lummi Island 47.01 62 P **P** **05 51 47.3 -1.1**
baz=305
HUH Hualalai 47.05 117 PFAKE 05 52 00.0 +11
HUH LR LR
comp=Z,17μm,20.0s
KHLU Kahalu`u 47.09 117 PFAKE 05 52 00.0 +11
KHLU LR LR
comp=Z,15μm,20.0s
NLWA Neilton Lookou 47.14 64 PFAKE 05 52 00.0 +10
NLWA LR LR
comp=Z,12μm,22.0s
POHA Pohakuloa 47.15 116 PFAKE 05 52 00.0 +10
POHA LR LR
comp=Z,16μm,20.0s
HMH Humu'ula Sheep 47.31 116 PFAKE 05 52 00.0 +8.6
HMH LR LR
comp=Z,17μm,20.0s
MLOA Mauna Loa Obse 47.31 117 PFAKE 05 52 10.0 +18
MLOA LR LR
comp=Z,19μm,20.0s
MWH Moku'aweowe 47.34 117 PFAKE 05 52 10.0 +18
MWH LR LR
comp=Z,18μm,20.0s
WMQ Urumqi 47.34 290 P **P** **05 51 50.8 -0.4**
WMQ pP pP 05 52 02.6 -0.3
WMQ sP pwP 05 52 07.8 +1.2
WMQ PcP **PcP** **05 53 19.8 -1.6**
WMQ PP **PP** **05 53 43.5 +1.1**
WMQ S **S** **05 58 42.4 +0.9**
WMQ ScS **ScS** **06 01 41.4 +0.5**
WMQ pmax pmax
comp=Z,820nm,1.1s
WMQ pmax pmax
comp=Z,6μm,6.5s
WMQ LR LR
comp=Z,53μm,16.1s
WMQ LR LR
comp=Z,67μm,16.3s
WMQ LR LR
comp=Z,85μm,15.7s
WMQ Urumqi 47.34 290 PFAKE 05 52 00.0 +8.8
WMQ LR LR
comp=Z,82μm,19.0s
GYA Guiyang 47.39 258⇑ *i*P **P** **05 51 51.0 -0.9**
GYA pP pP 05 52 02.1 -1.6
GYA sP pwP 05 52 05.6 -1.4
GYA PP **PP** **05 53 39.0 -4.3**
GYA S **S** **05 58 38.8 -3.9**
GYA pmax pmax
comp=Z,100nm,0.9s
GYA pmax pmax
comp=Z,1μm,8.4s
GYA LR LR
comp=Z,29μm,16.2s
GYA LR LR
comp=Z,36μm,16.2s
GYA LR LR
comp=Z,51μm,16.2s
MLH Mauna Loa 47.45 116 PFAKE 05 52 10.0 +18
MLH LR LR
comp=Z,17μm,20.0s
D03D Eldon 47.49 63 P **P** **05 51 51.1 -1.1**
baz=306
AIN Ainahou 47.51 117 PFAKE 05 52 10.0 +17
AIN LR LR
comp=Z,18μm,20.0s
KHU Kahuku 47.52 117 PFAKE 05 52 10.0 +17
KHU LR LR
comp=Z,17μm,19.0s
BALP Baler 47.53 235 *e*P **P** **05 51 53.4 +0.6**
UWE Uwekahuna 47.56 116 PFAKE 05 52 10.0 +17
UWE LR LR
comp=Z,16μm,20.0s
UWB Uwekahuna B 47.56 116 PFAKE 05 52 10.0 +17
UWB LR LR
comp=Z,21μm,21.0s
OBL Observatory Le 47.56 116 PFAKE 05 52 10.0 +17
OBL LR LR
comp=Z,17μm,19.0s
WRMHI West Rim 47.56 116 PFAKE 05 52 10.0 +17
WRMHI LR LR
comp=Z,16μm,20.0s
SBLHI Steaming Bluff 47.57 116 PFAKE 05 52 10.0 +17
SBLHI LR LR
comp=Z,16μm,20.0s
NPH North Pit 47.57 116 PFAKE 05 52 10.0 +17
NPH LR LR
comp=Z,15μm,20.0s
HATHI Halema'uma'u T 47.57 116 PFAKE 05 52 10.0 +17
HATHI LR LR
comp=Z,17μm,21.0s
SDHHI Sand Hill 47.58 116 PFAKE 05 52 10.0 +17
SDHHI LR LR
comp=Z,16μm,20.0s
BYL Byron's Ledge 47.58 116 PFAKE 05 52 10.0 +17
BYL LR LR
comp=Z,15μm,20.0s
RIM Rim 47.59 116 PFAKE 05 52 10.0 +17
RIM LR LR
comp=Z,16μm,20.0s
KKO Keanakako`i 47.59 116 PFAKE 05 52 10.0 +17
KKO LR LR
comp=Z,15μm,20.0s
SEM Semipalatinsk 47.59 301*c* *i*P **P** **05 51 50.0 -3.2**
SEM pmax pmax
comp=Z,133nm,1.5s
SEM MLR MLR
comp=Z,18μm,15.0s
SEM Semipalatinsk 47.59 301⇑ *i*P **P** **05 51 50.1 -3.2**
comp=Z,133nm,1.5s
SEM *e*LR LR 06 12 12.8
comp=Z,18μm,14.9s
B05A Bryant 47.60 62 P **P** **05 51 51.6 -1.5**
baz=306
SMPP San Manuel, Pa 47.63 236 *e*P **P** **05 51 52.8 -0.8**
PUH Pauahi 47.64 116 PFAKE 05 52 10.0 +16
PUH LR LR
comp=Z,15μm,20.0s
HLP Hilina Pali 47.65 116 PFAKE 05 52 10.0 +16
HLP LR LR
comp=Z,18μm,20.0s
STCH Steam Cracks 47.68 116 PFAKE 05 52 10.0 +16
STCH LR LR
comp=Z,15μm,21.0s
JCUZ Jacuzzi 47.69 116 PFAKE 05 52 10.0 +16
JCUZ LR LR
comp=Z,15μm,20.0s
KBS Kingsbay 47.76 352 *e*P **P** **05 51 54.6 +0.7**
comp=Z,317nm,1.0s
KBS LR LR
comp=Z,20μm,19.0s
KBS Kingsbay 47.76 352*c* *i*P **P** **05 51 54.6 +0.7**
KBS pmax pmax
comp=Z,1μm,1.0s
KBS Kingsbay 47.76 352 *e*P **P** **05 51 54.4 +0.5**
B06A Marblemount 47.79 62 PFAKE 05 52 10.0 +16
B06A LR LR
comp=Z,10μm,21.0s
BOLP Bolinao 47.83 237 *e*P **P** **05 51 55.8 +0.6**
D04E Lakebay 47.87 64 P **P** **05 51 53.7 -1.4**
baz=306
SPA0 Spitsbergen Ar 48.01 351 *e*P **P** **05 51 56.3 +0.4**
SPITS Spitsbergen Ar 48.01 351 P **P** **05 51 55.6 -0.3**
comp=Z,391nm,0.7s,baz=57,slow=10,SNR=7.3
SPITS LR LR 06 14 02.3
comp=Z,27μm,18.2s,baz=15,slow=38
PVCP Virac 48.11 230 *e*P **P** **05 51 58.3 +1.0**
POLP Polillo Island 48.21 234 *e*P **P** **05 52 00.6 +2.5**
KURK Kurchatov 48.27 303 *e*P **P** **05 51 55.8 -2.4**
comp=Z,428nm,0.9s
KURK LR LR
comp=Z,91μm,19.0s
KURK Kurchatov 48.27 303*c* *i*P **P** **05 51 55.9 -2.3**
KURK pmax pmax
comp=Z,858nm,1.7s
KURK Kurchatov 48.27 303 P **P** **05 51 56.0 -2.1**
SNR=219
KURK P **P** **05 51 56.0 -2.1**
SNR=219
D05A Enumclaw 48.30 63 PFAKE 05 52 10.0 +12
D05A LR LR
comp=Z,7μm,19.0s
E04D Cinebar 48.35 64 P **P** **05 51 58.2 -0.7**
baz=307,SNR=7.8
F04D Rainier, OR 48.39 65 P **P** **05 51 58.0 -1.2**
baz=307
HOPEN Hopen 48.41 347 *e*P **P** **05 51 59.5 +0.6**
C06D Leavenworth 48.46 62 P **P** **05 51 58.4 -1.3**
baz=306
MK31 Makanchi Array 48.61 296 *i* P **P** **05 51 58.3 -2.6**
MK31 pmax pmax
comp=Z,100nm,1.0s
MKAR Makanchi Array 48.61 296 P **P** **05 51 58.6 -2.4**
comp=Z,24nm,0.5s,baz=53,slow=6.8,SNR=195
MKAR LR LR 06 13 49.5
comp=Z,59μm,18.6s,baz=42,slow=38
LON Longmire 48.66 64 *e*P **P** **05 52 04.3 +3.0**
comp=Z,51nm,1.1s
LON LR LR
comp=Z,8μm,19.0s
LON Longmire 48.66 64 *e*P **P** **05 52 04.3 +3.0**
LON pmax pmax
comp=Z,51nm,1.1s
LON MLR MLR
comp=Z,8μm,19.0s
G03D McMinnville, O 48.77 66 P **P** **05 52 00.5 -1.6**
baz=308
MAKZ Makanchi 48.78 297 *e*P **P** **05 51 59.9 -2.3**
comp=Z,123nm,0.9s
MAKZ LR LR
comp=Z,74μm,19.0s
MAKZ Makanchi 48.78 297 *e*P **P** **05 51 59.9 -2.3**
MAKZ pmax pmax
comp=Z,123nm,0.9s
MAKZ MLR MLR
comp=Z,74μm,19.0s
CNP Catarman 48.82 229 *e*P P 05 52 09.5 +6.8
LTY Liberty 48.98 62 PFAKE 05 52 20.0 +16
LTY LR LR
comp=Z,12μm,22.0s
B08A Colville Reser 49.04 61 PFAKE 05 52 20.0 +16
B08A LR LR
comp=Z,8μm,19.0s
I02D Swisshome 49.12 68 P **P** **05 52 03.7 -1.1**
baz=308
COR Corvallis 49.13 67 PFAKE 05 52 20.0 +15
COR LR LR
comp=Z,7μm,21.0s
HSPB Hornsund (broa 49.14 350 *e*P **P** **05 52 04.7 +0.2**
HSPB Hornsund (broa 49.14 350⇑ *i*P **P** **05 52 04.7 +0.2**
BOAC Boac 49.34 233 *e*P **P** **05 52 09.4 +2.7**
H04D Lebanon 49.49 66 P **P** **05 52 06.2 -1.4**
baz=308
I03D Drain, OR 49.65 68 P **P** **05 52 07.6 -1.2**
baz=309
J01E Myrtle Point 49.65 69 P **P** **05 52 08.4 -0.5**
baz=309
H04A Detroit Lake 49.70 66 PFAKE 05 52 20.0 +11
H04A LR LR
comp=Z,6μm,21.0s
G05D Wamic, OR 49.84 65 P **P** **05 52 09.2 -1.2**
baz=308,SNR=7.2
E07A Sunnyside 49.84 63 PFAKE 05 52 20.0 +10
E07A LR LR
comp=Z,8μm,22.0s
PLP Palo 49.85 228⇑ *e*P **P** **05 52 11.0 +0.3**
LUBP Lubang 49.90 235 *e*P **P** **05 52 09.6 -1.4**
C09A Chrisman Ranch 49.94 61 PFAKE 05 52 20.0 +8.9
C09A LR LR
comp=Z,10μm,19.0s
D08A Wollman Farm, 50.05 62 PFAKE 05 52 20.0 +8.2
D08A LR LR
comp=Z,7μm,20.0s
K02D Willamette Mer 50.09 69 P **P** **05 52 10.6 -1.7**
baz=309
HAWA Hanford 50.12 63 PFAKE 05 52 30.0 +18
HAWA LR LR
comp=Z,9μm,21.0s
I04A Tendick Farm, 50.12 67 P **P** **05 52 11.8 -0.7**
baz=309
OTRP Odiongan 50.20 232 *e*P **P** **05 52 15.7 +2.4**
F07A Phinny Hill Vi 50.21 63 PFAKE 05 52 30.0 +17
F07A LR LR
comp=Z,8μm,20.0s
G06A Carlson Farm, 50.23 65 PFAKE 05 52 30.0 +17
G06A LR LR
comp=Z,9μm,22.0s
NEW Newport 50.28 59 PFAKE 05 52 30.0 +16
NEW LR LR
comp=Z,7μm,21.0s
NEW Newport 50.28 59 P **P** **05 52 11.8 -1.8**
baz=308,SNR=14
NEW Newport 50.28 59 LR LR 06 11 15.2
comp=Z,5μm,21.8s,baz=311,slow=33
E08A Dider Farm, El 50.32 62 PFAKE 05 52 30.0 +16
E08A LR LR
comp=Z,10μm,21.0s
I05D Terrebonne, OR 50.39 66 P **P** **05 52 13.4 -1.2**
baz=309
L02E Cave Junction 50.47 69 P **P** **05 52 14.1 -1.0**
baz=310
HUMO Hull Mountain 50.56 69 PFAKE 05 52 30.0 +14
HUMO LR LR
comp=Z,8μm,22.0s
J04D Umpqua Nationa 50.64 67 P **P** **05 52 15.8 -0.9**
baz=309,SNR=10
KMI Kunming 50.75 261 PFAKE 05 52 30.0 +12
KMI LR LR
comp=Z,27μm,21.0s
E09A Wood Farm, Sta 50.80 62 PFAKE 05 52 30.0 +12
E09A LR LR
comp=Z,10μm,21.0s
MSLP Maasin 50.82 227 *e*P P 05 52 23.8 +5.8
BJO Bjornoya 50.90 347 *e*P **P** **05 52 17.8 0.0**
PINE Pine Mountain 50.96 66 PFAKE 05 52 30.0 +11
PINE LR LR
comp=Z,6μm,20.0s
BRVK Borovoye 51.03 309 *e*P **P** **05 52 17.1 -2.1**
comp=Z,149nm,0.9s
BRVK LR LR
comp=Z,73μm,19.0s
BRVK Borovoye 51.03 309*c* *i*P **P** **05 52 16.7 -2.4**
BRVK pmax pmax
comp=Z,185nm,0.9s
BRVK Borovoye 51.03 309 P **P** **05 52 17.0 -2.1**
SNR=151
BRVK P **P** **05 52 17.0 -2.1**
SNR=151
KULLO Kullorsuaq 51.03 12⇑ *i*P **P** **05 52 18.9 +0.1**
KULLO Kullorsuaq 51.03 12⇑ *i*P **P** **05 52 18.9 +0.1**
JCC Jacoby Creek, 51.08 71 PFAKE 05 52 30.0 +10
JCC LR LR
comp=Z,8μm,22.0s
J05D Fort Rock, OR 51.11 67 P **P** **05 52 19.7 -0.4**
baz=310,SNR=25
L04D Klamath Falls 51.18 69 P **P** **05 52 19.2 -1.4**
baz=310,SNR=14
QIZ Qiongzhong 51.20 249 P **P** **05 52 22.3 +1.5**
QIZ sP **pP** **05 52 34.1 +1.4**
QIZ S **S** **05 59 36.6 +0.8**

QIZ sS **sS** **05 59 55.4 -0.5**
QIZ pmax pmax
comp=Z,3μm,5.9s
QIZ LR LR
comp=Z,16μm,17.6s
QIZ LR LR
comp=Z,19μm,17.7s
QIZ LR LR
comp=Z,18μm,14.7s
QIZ Qiongzhong 51.20 249 PFAKE 05 52 30.0 +9.2
QIZ LR LR
comp=Z,18μm,20.0s
K04D Chiloquin, OR 51.23 68 P **P** **05 52 19.6 -1.4**
baz=310
YBH Yreka Blue Hor 51.25 69 PFAKE 05 52 30.0 +8.9
YBH LR LR
comp=Z,10μm,18.0s
YBH Yreka Blue Hor 51.25 69 LR LR 06 13 46.4
comp=Z,8μm,18.1s,baz=307,slow=36
DAG Danmarks Havn 51.28 360⇑ *iP* **P** **05 52 20.7 0.0**
DAG pmax pmax
comp=Z,140nm,1.0s
DAG Danmarks Havn 51.28 360⇑ *iP* **P** **05 52 20.7 0.0**
comp=Z,143nm,1.0s
M02C Callahan 51.39 70 P **P** **05 52 21.3 -0.9**
baz=310
GUIM Jordan 51.44 230 *eP* **P** **05 52 23.0 +0.4**
I07A Izee 51.58 65 PFAKE 05 52 40.0 +16
I07A LR LR
comp=Z,7μm,20.0s
F10A Beach Ranch, E 51.64 62 PFAKE 05 52 40.0 +16
F10A LR LR
comp=Z,8μm,20.0s
K05A Summer Lake 51.66 67 PFAKE 05 52 40.0 +16
K05A LR LR
comp=Z,6μm,19.0s
M04C Macdoel 51.72 69 P **P** **05 52 23.9 -0.7**
baz=310,SNR=8.1
N02D Trinity Center 51.74 70 P **P** **05 52 22.2 -2.6**
baz=310
TARA Tarawa 51.79 164 PFAKE 05 52 40.0 +15
TARA LR LR
comp=Z,10μm,20.0s
TDK Taldyqorghan 51.85 297 *i* P **P** **05 52 23.6 -1.8**
TDK pmax pmax
comp=Z,335nm,1.1s
TDK MLR MLR
comp=Z,71μm,18.0s
TDK Taldyqorghan 51.85 297 *i* P **P** **05 52 23.6 -1.8**
comp=Z,335nm,1.1s
TDK *e*LR LR 06 14 33.2
comp=Z,71μm,18.1s
CUYO Cuyo Island 51.99 232 *eP* **P** **05 52 29.1 +2.3**
WDC Whiskeytown Da 52.09 70 PFAKE 05 52 40.0 +13
WDC LR LR
comp=Z,6μm,20.0s
O02D Mt. Diablo Mer 52.21 71 P **P** **05 52 25.7 -2.5**
baz=311
BMO Blue Mountains 52.30 63 PFAKE 05 52 40.0 +11
BMO LR LR
comp=Z,8μm,22.0s
PDGK Podgornoye 52.32 294 P **P** **05 52 26.9 -2.2**
PDGK pmax pmax
comp=Z,137nm,1.0s
SHLS Shalkode 52.44 294*c iP* **P** **05 52 25.9 -4.1**
SHLS pmax pmax
comp=Z,101nm,1.7s
SHLS MLR MLR
comp=Z,10μm,17.0s
SHLS Shalkode 52.44 294⇑ *iP* **P** **05 52 26.0 -4.1**
comp=Z,100nm,1.7s
SHLS *e*LR LR 06 15 27.3
comp=Z,10μm,17.0s
ENPP El Nido 52.47 234 *eP* **P** **05 52 30.8 +0.5**
MOD Modoc Plateau 52.52 68 PFAKE 05 52 40.0 +9.4
MOD LR LR
comp=Z,6μm,19.0s
J08A Circle Bar Ran 52.61 65 PFAKE 05 52 40.0 +8.8
J08A LR LR
comp=Z,6μm,20.0s
KPKS Kokpek 52.68 295 *eP* **P** **05 52 29.0 -2.7**
KPKS pmax pmax
comp=Z,60nm,1.3s
KPKS MLR MLR
comp=Z,36μm,18.0s
KPKS Kokpek 52.68 295 *eP* **P** **05 52 29.0 -2.7**
comp=Z,60nm,1.3s
KPKS *e*LR LR 06 15 10.3
comp=Z,36μm,18.2s
O03E Paynes Creek 52.71 70 P **P** **05 52 32.4 +0.4**
baz=311,SNR=14
BUKP Musuan 52.72 226 *eP* **P** **05 52 33.1 +0.9**
HOPS Hopland Field 52.82 72 PFAKE 05 52 50.0 +17
HOPS LR LR
comp=Z,11μm,22.0s
MSO Missoula 52.86 59 PFAKE 05 52 50.0 +17
MSO LR LR
comp=Z,5μm,22.0s
MSO Missoula 52.86 59 P **P** **05 52 33.8 +0.9**
baz=310,SNR=22
PLID Pearl Lake 52.87 62 PFAKE 05 52 50.0 +17
PLID LR LR
comp=Z,12μm,22.0s
SLVN Son La 52.90 257 PFAKE 05 52 50.0 +16
SLVN LR LR
comp=Z,25μm,19.0s
SVE Sverdlovsk 52.97 317*de*P **P** **05 52 32.4 -1.1**
SVE *e* 05 54 31.1
SVE *e*S **S** **06 00 01.3 +2.0**
SVE *e* 06 03 40.4
SVE pmax pmax
comp=Z,127nm,1.5s
SVE MLR MLR
comp=E,51μm,17.0s
SVE MLR MLR
comp=Z,63μm,16.0s
SVE MLR MLR
comp=N,25μm,15.0s
OTUK Ortayu 53.02 303 P **P** **05 52 32.1 -2.0**
OTUK pmax pmax
comp=Z,180nm,1.0s
SATY Saty 53.10 295 *eP* **P** **05 52 32.7 -2.1**
SATY pmax pmax
comp=Z,137nm,1.7s
SATY MLR MLR
comp=Z,17μm,16.0s
SATY Saty 53.10 295 *eP* **P** **05 52 32.7 -2.1**
comp=Z,137nm,1.7s
SATY *e*LR LR 06 15 54.8
comp=Z,17μm,16.3s
GDXM Geysers 53.11 72 *eP* **P** **05 52 38.5 +3.6**
comp=Z,87nm,1.3s
GDXM LR LR
comp=Z,9μm,18.0s
WVOR Wild Horse Val 53.12 66 PFAKE 05 52 50.0 +15
WVOR LR LR
comp=Z,5μm,20.0s
DAV Davao City (W) 53.22 225 PFAKE 05 52 50.0 +14
DAV LR LR
comp=Z,9μm,21.0s
DAV Davao City (W) 53.22 225⇑ *iP* **P** **05 52 35.5 -0.3**
ORV Oroville 53.37 71 PFAKE 05 52 50.0 +13
ORV LR LR
comp=Z,6μm,22.0s
MCCM Marconi Confer 53.50 73 PFAKE 05 52 50.0 +12
MCCM LR LR
comp=Z,9μm,22.0s
PAGZ Pagadian 53.50 228 *eP* **P** **05 52 37.3 -0.6**
HAMF Hammerfest 53.54 343 *eP* **P** **05 52 36.2 -1.3**
LVZ Lovozero 53.54 337 *eP* **P** **05 52 36.6 -1.0**
comp=Z,253nm,0.8s
LVZ LR LR
comp=Z,44μm,18.0s
LVZ Lovozero 53.54 337*c iP* **P** **05 52 36.4 -1.2**
LVZ pmax pmax
comp=Z,247nm,0.8s
FFC Flin Flon 53.58 46 *eP* **P** **05 52 38.7 +0.7**
comp=Z,46nm,0.9s
FFC LR LR
comp=Z,10μm,20.0s
FFC Flin Flon 53.58 46 *eP* **P** **05 52 38.7 +0.7**
FFC pmax pmax
comp=Z,46nm,0.9s
FFC MLR MLR
comp=Z,10μm,20.0s
CTBH Cotabato--PC H 53.67 226⇑ *iP* **P** **05 52 40.6 +1.5**

KEV Kevo 53.67 342 *eP* **P** **05 52 37.7 -0.8**
comp=Z,163nm,0.8s
KEV LR LR
comp=Z,19μm,21.0s
KEV Kevo 53.67 342 *eP* **P** **05 52 37.7 -0.8**
KEV pmax pmax
comp=Z,163nm,0.8s
KEV MLR MLR
comp=Z,19μm,21.0s
KUU Kurty 53.70 297*c iP* **P** **05 52 36.4 -2.7**
KUU pmax pmax
comp=Z,101nm,0.9s
KUU MLR MLR
comp=Z,45μm,15.0s
KUU Kurty 53.70 297⇑ *iP* **P** **05 52 36.4 -2.7**
comp=Z,101nm,0.9s
KUU *e*LR LR 06 16 19.1
comp=Z,45μm,14.8s
MDOK Medeo 53.78 296 *eP* **P** **05 52 37.0 -2.9**
MDOK MLR MLR
comp=Z,36μm,18.0s
MDOK Medeo 53.78 296 *eP* **P** **05 52 37.0 -2.9**
comp=Z,1μm,8.3s
MDOK *e*LR LR 06 15 29.7
comp=Z,36μm,17.5s
BEKR Beckworth 53.82 70 PFAKE 05 52 50.0 +10
BEKR LR LR
comp=Z,5μm,20.0s
AAA Alma-Ata 53.83 296 *eP* **P** **05 52 36.6 -3.5**
AAA pmax pmax
comp=Z,73nm,1.0s
AAA MLR MLR
comp=Z,42μm,19.0s
AAA Alma-Ata 53.83 296 *eP* **P** **05 52 36.6 -3.5**
comp=Z,73nm,1.0s
AAA *e*LR LR 06 15 52.8
comp=Z,42μm,19.3s
DDMP Don Marcelino, 54.03 224 *eP* **P** **05 52 40.9 -0.8**
AFDM Forest Hills D 54.08 71 PFAKE 05 53 00.0 +18
AFDM LR LR
comp=Z,6μm,21.0s
APA Apatity 54.09 338⇑ *iP* **P** **05 52 40.1 -1.5**
APA *i* 05 54 48.0
APA *i* S **S** **06 00 09.0 -5.2**
APA *i* 06 02 27.0
APA pmax pmax
comp=Z,113nm,0.8s
ARU Arti 54.10 318 *eP* **P** **05 52 40.0 -1.8**
comp=Z,89nm,0.7s
ARU LR LR
comp=Z,45μm,18.0s
ARU Arti 54.10 318*c iP* **P** **05 52 39.9 -1.8**
ARU *PP **pP** **05 52 55.3 +1.5**
ARU 05 53 43.3
ARU 05 54 40.0
ARU S **S** **06 00 12.0 -2.6**
ARU *SS **sS** **06 00 40.0 +4.2**
ARU 06 02 24.5
ARU SS **SKiKP** **06 03 46.9 -2.0**
ARU pmax pmax
comp=Z,90nm,0.7s
ARU pmax pmax
comp=Z,1μm,9.4s
ARU MLR MLR
comp=Z,44μm,17.0s
FCC Fort Churchill 54.12 38 PFAKE 05 52 50.0 +8.2
FCC LR LR
comp=Z,14μm,21.0s
ARCES ARCESS Array B 54.15 342 *eP* **P** **05 52 41.5 -0.5**
ARCES ARCESS Array B 54.15 342 P **P** **05 52 41.3 -0.7**
comp=Z,232nm,0.8s,baz=39,slow=7.8,SNR=190
ARCES LR LR 06 22 41.3
comp=Z,23μm,18.1s,baz=28,slow=44
ARE0 ARCESS Array S 54.15 342 PFAKE 05 52 50.0 +8.0
ARE0 LR LR
comp=Z,1μm,21.0s
ARE0 ARCESS Array S 54.15 342 *eP* **P** **05 52 41.5 -0.5**
EGMT Eagleton 54.26 56 PFAKE 05 53 00.0 +17
EGMT LR LR
comp=Z,14μm,20.0s
EGMT Eagleton 54.26 56 P **P** **05 52 43.7 +0.6**
baz=311,SNR=19
TARG Taragay, Kyrgy 54.30 294 PFAKE 05 53 00.0 +16
TARG LR LR
comp=Z,33μm,18.0s
KDJ Kajisay 54.39 295 PFAKE 05 53 00.0 +16
KDJ LR LR
comp=Z,32μm,20.0s
RUBR Rubicon Trail 54.48 70 PFAKE 05 53 00.0 +15
RUBR LR LR
comp=Z,5μm,21.0s
PAHR Pah Rah Range 54.49 69 PFAKE 05 53 00.0 +15
PAHR LR LR
comp=Z,7μm,18.0s
DLMT Dillon 54.52 60 PFAKE 05 53 00.0 +15
DLMT LR LR
comp=Z,7μm,19.0s
LSA Lhasa 54.56 274 P **P** **05 52 45.6 -0.5**
LSA pmax pmax
comp=Z,130nm,0.8s
LSA Lhasa 54.56 274 PFAKE 05 53 00.0 +14
LSA LR LR
comp=Z,42μm,19.0s
LSA Lhasa 54.56 274 P **P** **05 52 45.9 -0.2**
VCNR Virginia City 54.61 70 PFAKE 05 53 00.0 +14
VCNR LR LR
comp=Z,5μm,20.0s
HLID Hailey 54.72 63 PFAKE 05 53 00.0 +13
HLID LR LR
comp=Z,10μm,22.0s
HLID Hailey 54.72 63 P **P** **05 52 47.2 +0.4**
baz=312,SNR=17
TKM2 Tokmak 2 54.74 296 P **P** **05 52 45.4 -1.5**
SNR=56
TKM2 Tokmak 2 54.74 296 P **P** **05 52 44.8 -2.2**
TKM2 pmax pmax
comp=Z,81nm,1.0s
PNTR Pine Nut 54.78 70 PFAKE 05 53 00.0 +13
PNTR LR LR
comp=Z,6μm,21.0s
SUMG Summit 54.82 7 PFAKE 05 53 00.0 +13
SUMG LR LR
comp=Z,32μm,18.0s
SUMG Summit 54.82 7⇑ *iP* **P** **05 52 47.9 +0.6**
SUMG pmax pmax
comp=Z,770nm,1.0s
SUMG Summit 54.82 7⇑ *iP* **P** **05 52 47.9 +0.6**
comp=Z,772nm,1.0s
ULHL Ulahol 54.84 295 P **P** **05 52 46.5 -1.2**
SNR=12
BOZ Bozeman (W) 54.88 59 PFAKE 05 53 00.0 +12
BOZ LR LR
comp=Z,10μm,19.0s
BOZ Bozeman (W) 54.88 59 P **P** **05 52 47.7 -0.1**
baz=312,SNR=46
KTK1 Kautokeino 55.02 343 *eP* **P** **05 52 47.8 -0.5**
CMB Columbia Colle 55.03 71 PFAKE 05 53 00.0 +11
CMB LR LR
comp=Z,11μm,22.0s
YERR Yerington 55.05 70 PFAKE 05 53 00.0 +11
YERR LR LR
comp=Z,6μm,21.0s
USP Ospenovka 55.12 297 P **P** **05 52 48.2 -1.2**
SNR=87
MANU Manus Island 55.14 196 PFAKE 05 53 00.0 +10
MANU LR LR
comp=Z,8μm,18.0s
CHMS Chumysh 55.16 297 P **P** **05 52 47.8 -2.0**
SNR=47
PRGR Permogore 55.23 328⇑ *iP* **P** **05 52 49.4 -0.4**
PRGR *e*S **S** **06 00 26.3 -3.2**
PRGR pmax pmax
comp=Z,208nm,1.0s
TRO Tromso 55.23 345 *eP* **P** **05 52 49.0 -0.7**
BMN Battle Mountai 55.24 67 PFAKE 05 53 00.0 +9.5
BMN LR LR
comp=Z,6μm,19.0s
WAKR Walker 55.26 70 PFAKE 05 53 00.0 +9.2
WAKR LR LR
comp=Z,10μm,22.0s
SAO San Andreas Ge 55.27 73 PFAKE 05 53 00.0 +9.5
SAO LR LR
comp=Z,6μm,22.0s
KBK Karagaybulak 55.28 297 P **P** **05 52 49.1 -1.7**
SNR=48
BATP Bataraza 55.34 234 *eP* **P** **05 52 53.5 +2.3**

FRU1 Bishkek 55.35 297 PFAKE 05 53 00.0 +8.9
FRU1 LR LR
comp=Z,88μm,18.0s
KZA Kyzart 55.50 296 P **P** **05 52 51.6 -1.0**
SNR=8.0
AAK Ala-Archa 55.54 297 P **P** **05 52 51.1 -1.5**
SNR=91
AAK Ala-Archa 55.54 297 *eP* **P** **05 52 51.0 -1.5**
comp=Z,153nm,0.9s
AAK LR LR
comp=Z,65μm,18.0s
AAK Ala-Archa 55.54 297 P **P** **05 52 50.6 -2.0**
AAK pmax pmax
comp=Z,150nm,1.0s
AAK Ala-Archa 55.54 297 P **P** **05 52 51.2 -1.5**
TMCR Tamitsa 55.60 333 *eP* **P** **05 52 52.2 -0.2**
TMCR *e*S **S** **06 00 35.5 +1.1**
TMCR pmax pmax
comp=Z,705nm,0.9s
RYN Ryan 55.71 70 PFAKE 05 53 10.0 +16
RYN LR LR
comp=Z,5μm,20.0s
PANO Nakornpanom 55.72 253 P **P** **05 52 55.3 +1.3**
comp=Z,9.2nm,1.0s,comp=Z,120nm
UCH Uchtor 55.80 296 P **P** **05 52 53.6 -1.3**
SNR=33
EKS2 Erkin-Say 55.92 297 P **P** **05 52 53.9 -1.4**
SNR=105
NVAR Mina Array Bea 55.97 70 P **P** **05 52 57.3 +1.5**
comp=Z,12nm,0.7s,baz=291,slow=7.4,SNR=57
NVAR LR LR 06 14 06.7
comp=Z,4μm,20.9s,baz=304,slow=33
NVAR PKP2ab 06 23 26.9
comp=Z,1.0nm,0.8s,baz=164,slow=4.4,SNR=4.4
NV11 Mina Array Sit 56.05 69 PFAKE 05 53 10.0 +14
NV11 LR LR
comp=Z,400nm,19.0s
MDPB Devils Postpil 56.06 71 PFAKE 05 53 10.0 +13
MDPB LR LR
comp=Z,9μm,22.0s
OMMB Old Mammoth Mi 56.12 71 PFAKE 05 53 10.0 +13
OMMB LR LR
comp=Z,10μm,22.0s
MLAC Mammoth, Mammo 56.20 71 P **P** **05 52 55.5 -2.1**
baz=313
LKWY Lake 56.21 59 PFAKE 05 53 10.0 +12
LKWY LR LR
comp=Z,13μm,19.0s
SKNT Sakolnakorn 56.23 253 P **P** **05 52 58.4 +0.8**
comp=Z,404nm,1.0s,comp=Z,8μm
H17A Grant Village 56.23 60 P **P** **05 52 57.6 -0.1**
baz=313,SNR=25
AML Almayashu 56.32 297 P **P** **05 52 56.8 -1.6**
SNR=34
IMW Indian Meadow 56.38 60 PFAKE 05 53 10.0 +11
IMW LR LR
comp=Z,5μm,19.0s
FLWY Flagg Ranch 56.38 60 PFAKE 05 53 10.0 +11
FLWY LR LR
comp=Z,4μm,20.0s
RLMT Red Lodge 56.44 58 PFAKE 05 53 10.0 +11
RLMT LR LR
comp=Z,8μm,19.0s
RLMT Red Lodge 56.44 58 P **P** **05 52 59.4 +0.3**
baz=313,SNR=32
MOOW Moose Ponds 56.58 60 PFAKE 05 53 10.0 +10
MOOW LR LR
comp=Z,6μm,20.0s
RABL Rabaul 56.61 190 PFAKE 05 53 10.0 +10
RABL LR LR
comp=Z,8μm,21.0s
TPAW Teton Pass 56.65 61 PFAKE 05 53 10.0 +9.4
TPAW LR LR
comp=Z,6μm,21.0s
PAGB Antelope Grade 56.68 73 PFAKE 05 53 10.0 +9.3
PAGB LR LR
comp=Z,4μm,20.0s
ILULI Ilulissat 56.72 13 PFAKE 05 53 10.0 +10
ILULI LR LR
comp=Z,21μm,18.0s
ILULI Ilulissat 56.72 13⇑ *iP* **P** **05 52 59.9 -0.5**
ILULI Ilulissat 56.72 13⇑ *iP* **P** **05 52 59.9 -0.5**
DGMT Dagmar 56.73 52 PFAKE 05 53 10.0 +9.1
DGMT LR LR
comp=Z,14μm,21.0s
DGMT Dagmar 56.73 52 P **P** **05 52 59.7 -1.1**
baz=313,SNR=6.9
SNOW Snow King Moun 56.77 60 PFAKE 05 53 20.0 +18
SNOW LR LR
comp=Z,6μm,20.0s
VOG Valley Oaks Go 56.78 72 P **P** **05 53 01.3 0.0**
baz=314
REDW Red Top Meadow 56.78 61 PFAKE 05 53 20.0 +18
REDW LR LR
comp=Z,6μm,20.0s
KSH Kashi 56.82 293 P **P** **05 53 04.1 +2.3**
KSH pP pP 05 53 14.3 +0.5
KSH PP **PP** **05 55 12.3 +4.3**
KSH S **S** **06 00 50.4 -1.2**
KSH pmax pmax
comp=Z,140nm,0.9s
KSH pmax pmax
comp=Z,5μm,8.8s
KSH LR LR
comp=Z,7μm,10.6s
KSH LR LR
comp=Z,7μm,11.5s
KSH LR LR
comp=Z,16μm,12.2s
JMIC Jan Mayen 56.84 356⇑ *iP* **P** **05 53 02.5 +1.3**
LAO LASA Array 56.94 55 PFAKE 05 53 20.0 +18
LAO LR LR
comp=Z,16μm,19.0s
LAO LASA Array 56.94 55 P **P** **05 53 03.1 +0.7**
baz=313,SNR=21
TIN Tinemaha, Big 56.95 71 P **P** **05 53 02.3 -0.4**
baz=314
AHID Auburn Hatcher 57.06 61 PFAKE 05 53 20.0 +17
AHID LR LR
comp=Z,7μm,20.0s
SHL Shillong 57.08 270 *eP* **P** **05 53 02.8 -1.0**
comp=Z,108nm,0.8s
SHL LR LR
comp=Z,44μm,18.0s
SHL Shillong 57.08 270 *eP* **P** **05 53 02.6 -1.2**
SHL IAmb IAmb 05 53 04.6
comp=Z,84nm,0.8s
SMMC Simmler 57.12 73 P **P** **05 53 05.0 +1.3**
baz=314
GENI Genyem 57.19 204 P **P** **05 53 05.5 +1.2**
PHRA Phrae 57.28 258 P **P** **05 53 05.9 +0.9**
comp=Z,59nm,1.5s,comp=Z,741nm
VES Vestal, Richgr 57.29 72 P **P** **05 53 05.6 +0.6**
baz=314
STEI Steigen 57.35 345 *eP* **P** **05 53 04.2 -0.6**
KK31 Karatay Array 57.38 300 *i* P **P** **05 53 03.3 -2.3**
KK31 pmax pmax
comp=Z,114nm,1.0s
KHON Khomkaen 57.41 254 P **P** **05 53 07.2 +1.2**
comp=Z,389μm,1.0s
LOF Lofoten 57.43 346 *eP* **P** **05 53 04.9 -0.5**
CWC Cottonwood Cre 57.46 71 P **P** **05 53 06.8 +0.4**
baz=314
GRAC Grapevine Rang 57.49 70 P **P** **05 53 07.5 +1.1**
baz=314,SNR=12
PKM Mcpherson Peak 57.52 74 P **P** **05 53 06.8 0.0**
baz=314
R11A Troy Canyon, C 57.58 68 PFAKE 05 53 20.0 +13
R11A LR LR
comp=Z,7μm,18.0s
R11A Troy Canyon, C 57.58 68 P **P** **05 53 07.1 -0.1**
baz=314,SNR=28
SCO Scoresbysund 57.60 1 PFAKE 05 53 20.0 +13
SCO LR LR
comp=Z,13μm,18.0s
SCO Scoresbysund 57.60 1⇑ *iP* **P** **05 53 07.4 +0.8**
SCO Scoresbysund 57.60 1⇑ *iP* **P** **05 53 07.4 +0.8**
LAMP Lampang 57.62 258 P **P** **05 53 08.3 +0.9**
comp=Z,460μm,0.9s
DLV T Lat 57.66 245 PFAKE 05 53 20.0 +12
DLV LR LR
comp=Z,14μm,19.0s
UTTA Uttaradit 57.66 257 P **P** **05 53 08.6 +0.9**
comp=Z,513μm,0.8s
KLMR Klimovskoe 57.75 330 *eP* **P** **05 53 06.4 -1.4**
KLMR pmax pmax

comp=Z,355nm,1.0s
ISA Isabella, Lake 57.77 72 PFAKE 05 53 20.0 +12
ISA LR LR
comp=Z,8μm,22.0s
ISA Isabella, Lake 57.77 72 P **P** **05 53 07.9 -0.5**
baz=314
CMMT Chiang Mai 57.81 259 P **P** **05 53 09.1 +0.3**
comp=Z,178nm,0.9s,comp=Z,2μm
CHTO Chiang Mai 57.81 259 *e*P **P** **05 53 09.5 +0.6**
comp=Z,266nm,0.9s
CHTO LR LR
comp=Z,28μm,18.0s
CHTO Chiang Mai 57.81 259 P **P** **05 53 09.4 +0.6**
SNR=58
CHTO P **P** **05 53 09.4 +0.6**
SNR=58
JBG Jabagly 57.83 299*c i*P **P** **05 53 07.1 -1.8**
JBG pmax pmax
comp=Z,95nm,1.4s
JBG MLR MLR
comp=Z,9μm,14.0s
DAC Darwin (Calif) 57.86 71 PFAKE 05 53 20.0 +11
DAC LR LR
comp=Z,8μm,20.0s
DUG Dugway, Tooele 57.88 65 P **P** **05 53 10.3 +1.1**
baz=314,SNR=22
BW06 Boulder Array 57.88 60 PFAKE 05 53 20.0 +11
BW06 LR LR
comp=Z,7μm,20.0s
BW06 Boulder Array 57.88 60 P **P** **05 53 09.2 -0.2**
baz=314,SNR=37
PDAR Pinedale Array 57.88 60 P **P** **05 53 10.6 +1.2**
comp=Z,7.8nm,0.6s,baz=314,slow=2.9,SNR=64
PDAR LR LR 06 16 03.9
comp=Z,5μm,21.7s,baz=336,slow=34
PDAR PKPPKP **P'P'df** **06 22 54.3 -2.2**
comp=Z,1.1nm,0.8s,baz=107,slow=6.0,SNR=6.6
SBC Santa Barbara 57.89 74 P **P** **05 53 08.6 -0.6**
baz=315
ARVC Arvin 57.93 73 P **P** **05 53 09.7 +0.2**
baz=314
MPMC Manual Prospec 58.07 71 P **P** **05 53 11.8 +1.1**
baz=314,SNR=17
CM31 Chiang Mai Arr 58.08 259 P **P** **05 53 11.8 +1.1**
SNR=46
CMAR Chiang Mai Arr 58.08 259 P **P** **05 53 11.7 +0.9**
comp=Z,134nm,0.8s,baz=26,slow=6.8,SNR=184
CMAR LR LR 06 21 15.4
comp=Z,25μm,18.3s,baz=54,slow=39
FURC Furnace Creek, 58.15 70 P **P** **05 53 12.1 +1.2**
baz=314,SNR=27
TPNV Topopah Spring 58.17 70 PFAKE 05 53 20.0 +8.7
TPNV LR LR
comp=Z,12μm,22.0s
TPNV Topopah Spring 58.17 70 P **P** **05 53 10.7 -0.6**
baz=314,SNR=23
TNTI Ternate 58.17 220 PFAKE 05 53 20.0 +8.7
TNTI LR LR
comp=Z,3μm,21.0s
TNTI Ternate 58.17 220 P **P** **05 53 09.0 -2.3**
CHAI Chaiyaphum 58.25 254 P **P** **05 53 12.7 +0.8**
comp=Z,200μm,0.9s
SCZ2 Santa Cruz Isl 58.25 74 P **P** **05 53 11.3 -0.4**
baz=315
IUG Iuzhnay 58.30 299*c i*P **P** **05 53 10.7 -1.4**
IUG pmax pmax
comp=Z,139nm,1.0s
IUG MLR MLR
comp=Z,8μm,15.0s
IUG Iuzhnay 58.30 299⇑*i*P **P** **05 53 10.8 -1.4**
IUG comp=Z,139nm,1.0s *e*LR LR 06 19 05.8
comp=Z,8μm,14.5s
PBKT Sadao Pong 58.33 256 P **P** **05 53 13.3 +0.9**
comp=Z,65nm,1.9s,comp=Z,2μm
OSI Osito Audit: C 58.35 73 PFAKE 05 53 30.0 +17
OSI LR LR
comp=Z,3μm,19.0s
OSI Osito Audit: C 58.35 73 P **P** **05 53 11.6 -0.9**
baz=315
LRMC Laurel Mtn Rad 58.36 72 P **P** **05 53 12.2 -0.4**
baz=315
CHM Chimkent 58.41 299 *e*P **P** **05 53 11.4 -1.3**
CHM pmax pmax
comp=Z,93nm,1.1s
CHM MLR MLR
comp=Z,6μm,15.0s
CHM Chimkent 58.41 299 *e*P **P** **05 53 11.5 -1.3**
comp=Z,93nm,1.1s
CHM *e*LR LR 06 18 53.8
comp=Z,6μm,14.8s
AB31 Akbulak array 58.43 311 *i* P **P** **05 53 10.7 -2.0**
AB31 pmax pmax
comp=Z,118nm,0.9s
AKTO Aktyubinsk 58.48 313 P **P** **05 53 11.1 -2.0**
comp=Z,35nm,0.5s,baz=67,slow=8.9,SNR=66
BLG Laguna Peak, P 58.50 74 P **P** **05 53 13.3 -0.2**
baz=315
EDW2 Edwards Air Fo 58.59 72 P **P** **05 53 14.7 +0.5**
baz=315,SNR=11
DECC Green Verdugo 58.83 73 P **P** **05 53 13.9 -1.9**
baz=315
SNCC San Nicolas Is 58.84 75 PFAKE 05 53 30.0 +14
SNCC LR LR
comp=Z,8μm,22.0s
SNCC San Nicolas Is 58.84 75 P **P** **05 53 15.5 -0.3**
baz=315
SFJD Kangerlussuaq 58.85 14 *e*P **P** **05 53 15.2 -0.2**
comp=Z,91nm,0.8s
SFJD LR LR
comp=Z,16μm,20.0s
SFJD Kangerlussuaq 58.85 14⇑*i*P **P** **05 53 15.1 -0.2**
SFJD Kangerlussuaq 58.85 14 *i* P **P** **05 53 12.4 -3.0**
SFJD Kangerlussuaq 58.85 14⇑*i*P **P** **05 53 15.1 -0.2**
SHOC Shoshone, Teco 58.88 70 P **P** **05 53 16.4 +0.3**
baz=315,SNR=12
PASC Pasadena Art C 58.98 73 PFAKE 05 53 30.0 +13
PASC LR LR
comp=Z,7μm,22.0s
GSC Goldstone, Bar 58.99 71 PFAKE 05 53 30.0 +13
GSC LR LR
comp=Z,5μm,21.0s
GSC Goldstone, Bar 58.99 71 P **P** **05 53 16.6 -0.4**
baz=315,SNR=15
KONS Konsvik 59.00 345 *e*P **P** **05 53 16.5 +0.1**
MWC Mount Wilson 59.02 73 PFAKE 05 53 30.0 +13
MWC LR LR
comp=Z,5μm,21.0s
JIRN Jiri 59.06 276 *e*P **P** **05 53 17.1 -0.8**
comp=Z,627nm,0.8s
SHPR Sheep Range 59.10 69 PFAKE 05 53 30.0 +12
SHPR LR LR
comp=Z,8μm,21.0s
STOK Stokkvaagen 59.17 345 *e*P **P** **05 53 17.5 -0.1**
RRX Edison Barstow 59.18 72 P **P** **05 53 16.9 -1.3**
baz=315
FMP Fort Macarthur 59.24 74 P **P** **05 53 18.0 -0.6**
baz=315
BFSC Mount Baldy Ra 59.24 73 P **P** **05 53 17.3 -1.4**
baz=315
BTK Batken 59.32 297 PFAKE 05 53 30.0 +11
BTK LR LR
comp=Z,99μm,18.0s
RAMN Ramite 59.32 275 *e*P **P** **05 53 18.7 -0.9**
comp=Z,1μm,0.8s
BRDH Bariadhala 59.36 268 LR LR 06 21 11.1
comp=Z,16μm,19.6s,baz=54,slow=38
ULM Lac du Bonnet 59.37 46 PFAKE 05 53 30.0 +11
ULM LR LR
comp=Z,11μm,22.0s
ULM Lac du Bonnet 59.37 46 P **P** **05 53 19.5 +0.3**
comp=Z,12nm,0.5s,baz=319,slow=7.4,SNR=16
MDND Maddock 59.37 50 PFAKE 05 53 30.0 +11
MDND LR LR
comp=Z,18μm,19.0s
MDND Maddock 59.37 50 P **P** **05 53 18.4 -0.9**
baz=316
CIS Catalina Islan 59.38 74 P **P** **05 53 19.0 -0.6**
baz=315
TUQ Turquoise Moun 59.41 71 P **P** **05 53 19.4 -0.5**
baz=315,SNR=20
KKN Kakani 59.52 277 *e*P **P** **05 53 20.2 -0.7**
comp=Z,513nm,0.7s
K22A Casper 59.57 59 P **P** **05 53 20.7 -0.3**
baz=315,SNR=13
HEC Hector,Ludlow 59.60 71 P **P** **05 53 20.3 -0.9**
baz=315,SNR=23

PKI Pulchoki 59.60 277 *e*P **P** **05 53 20.6 -1.0**
comp=Z,640nm,0.9s
PKIN Phulchoki 59.60 277 *e*P **P** **05 53 20.6 -0.9**
comp=Z,398nm,0.8s
SCI2 San Clemente I 59.60 74 P **P** **05 53 20.8 -0.3**
baz=316
BBRC Big Bear Solar 59.66 72 P **P** **05 53 19.8 -2.0**
baz=315
KNTN Kanton 59.71 147 PFAKE 05 53 40.0 +18
KNTN LR LR
comp=Z,15μm,20.0s
DMN Daman 59.76 277 *e*P **P** **05 53 22.0 -0.6**
comp=Z,858nm,0.8s
GKN Gorkha 59.76 278 *e*P **P** **05 53 21.7 -0.8**
comp=Z,873nm,0.8s
FAKI Fak Fak 59.82 213 PFAKE 05 53 40.0 +17
FAKI LR LR
comp=Z,10μm,21.0s
FAKI Fak Fak 59.82 213 P **P** **05 53 22.6 -0.1**
RSSD Black Hills 59.83 56 *e*P **P** **05 53 24.1 +1.3**
comp=Z,156nm,0.8s
RSSD LR LR
comp=Z,9μm,20.0s
RSSD Black Hills 59.83 56 P **P** **05 53 21.8 -1.0**
baz=315
UMPA Umpang Tak 59.87 257 P **P** **05 53 25.5 +2.4**
comp=Z,553μm,0.9s
RWWY Rawlins 59.89 60 PFAKE 05 53 40.0 +17
RWWY LR LR
comp=Z,8μm,18.0s
MURC Murrieta 59.96 73 P **P** **05 53 23.8 +0.1**
baz=316,SNR=8.7
GMRC Granite Mounta 60.02 71 P **P** **05 53 23.0 -1.2**
baz=315,SNR=21
DANN Dangsing 60.05 278 *e*P **P** **05 53 23.9 -0.7**
comp=Z,1μm,0.8s
LDFC Landfair 60.14 70 PFAKE 05 53 40.0 +15
LDFC LR LR
comp=Z,6μm,19.0s
GAR Garm 60.34 296 PFAKE 05 53 40.0 +14
GAR LR LR
comp=Z,112μm,18.0s
BELC Belle Mtn. Jos 60.38 72 P **P** **05 53 26.2 -0.5**
baz=316,SNR=9.3
PFO Pinyon Flats O 60.39 72 *e*P **P** **05 53 28.2 +1.6**
comp=Z,115nm,1.7s
PFO LR LR
comp=Z,12μm,22.0s
PFO Pinyon Flats O 60.39 72 P **P** **05 53 25.7 -1.0**
baz=316
O20A White River Ci 60.43 62 PFAKE 05 53 40.0 +13
O20A LR LR
comp=Z,7μm,22.0s
O20A White River Ci 60.43 62 P **P** **05 53 24.5 -2.4**
baz=315,SNR=15
109C Camp Elliot, M 60.52 73 P **P** **05 53 26.6 -0.8**
baz=316
CPE Camp Elliot 60.52 73 PFAKE 05 53 40.0 +13
CPE LR LR
comp=Z,4μm,22.0s
KOLN Koldanda 60.56 278 *e*P **P** **05 53 27.1 -0.9**
comp=Z,667nm,0.8s
NEE2 Needles Airpor 60.64 70 P **P** **05 53 26.9 -1.3**
baz=316
PYUN Piuthan 60.69 279 *e*P **P** **05 53 28.1 -0.8**
comp=Z,1μm,0.9s
MRSI Marisa 60.70 225 P **P** **05 53 28.7 0.0**
IRM Iron Mountain 60.77 71 P **P** **05 53 29.2 +0.1**
baz=316,SNR=20
AGMN Agassiz Nation 60.79 48 PFAKE 05 53 40.0 +11
AGMN LR LR
comp=Z,10μm,19.0s
AGMN Agassiz Nation 60.79 48 P **P** **05 53 28.9 -0.1**
baz=317,SNR=14
U15A North Rim 60.80 67 PFAKE 05 53 40.0 +10
U15A LR LR
comp=Z,10μm,22.0s
W13A Hualapai Mount 60.83 69 PFAKE 05 53 40.0 +10
W13A LR LR
comp=Z,5μm,19.0s
MONP2 Monument Peak 60.92 73 P **P** **05 53 30.0 -0.4**
baz=316
BAR Barrett 60.93 73 PFAKE 05 53 40.0 +10
BAR LR LR
comp=Z,3μm,21.0s
BC3 Big Chuckawall 60.95 72 P **P** **05 53 30.9 +0.5**
baz=316,SNR=11
FINES FINESS Array B 60.96 337 P **P** **05 53 29.8 -0.1**
comp=Z,272nm,0.8s,baz=35,slow=7.9,SNR=307
FINES PKP2bc 06 22 57.0
comp=Z,1.0nm,0.5s,baz=182,slow=3.8,SNR=5.8
FINES LR LR 06 23 38.0
comp=Z,27μm,18.6s,baz=32,slow=40
NSS Namsos 61.02 345⇑*i*P **P** **05 53 30.0 -0.3**
PHWY Pilot Hill 61.09 59 *e*P **P** **05 53 33.3 +1.7**
comp=Z,19nm,1.0s
N23A Red Feather La 61.12 60 PFAKE 05 53 50.0 +18
N23A LR LR
comp=Z,6μm,22.0s
N23A Red Feather La 61.12 60 P **P** **05 53 31.8 +0.1**
baz=316,SNR=26
PV21 Cone Mtn., Par 61.14 64 PFAKE 05 53 50.0 +18
PV21 LR LR
comp=Z,8μm,19.0s
XMAS Kiritimati 61.15 130 PFAKE 05 53 50.0 +18
XMAS LR LR
comp=Z,11μm,20.0s
SRDT SRDT 61.16 256 P **P** **05 53 33.4 +1.5**
comp=Z,70nm,1.5s,comp=Z,3μm
PV23 Carpenter Ridg 61.20 64 PFAKE 05 53 50.0 +18
PV23 LR LR
comp=Z,10μm,20.0s
CHGR Chuyangaron 61.22 297 PFAKE 05 53 40.0 +7.8
CHGR LR LR
comp=Z,69μm,18.0s
PDMCI Parker Dam,Lak 61.25 70 P **P** **05 53 31.2 -1.1**
baz=316
SWSC Sam W. Stewart 61.25 73 P **P** **05 53 32.6 +0.3**
baz=316
IKP In-Ko-Pah, Jac 61.28 73 P **P** **05 53 32.4 -0.3**
baz=316
SANI Sanana 61.29 220 P **P** **05 53 31.9 -0.8**
PUL Pulkovo 61.30 334*ce*P **P** **05 53 32.7 +0.5**
PUL pmax pmax
comp=Z,558nm,1.0s
PUL Pulkovo 61.30 334 *e*P **P** **05 53 31.5 -0.7**
PUL IAmb IAmb 05 53 34.0
comp=Z,514nm,1.1s
PV16 Nyswonger Mesa 61.35 64 PFAKE 05 53 50.0 +17
PV16 LR LR
comp=Z,7μm,20.0s
PV11 David Mesa, Pa 61.38 64 PFAKE 05 53 50.0 +17
PV11 LR LR
comp=Z,8μm,20.0s
HNR Honiara 61.40 180 PFAKE 05 53 50.0 +17
HNR LR LR
comp=Z,12μm,22.0s
HNR Honiara 61.40 180 LR LR 06 17 18.5
comp=Z,10μm,20.8s,baz=0.5,slow=33
PV12 Saucer Basin, 61.41 64 PFAKE 05 53 50.0 +16
PV12 LR LR
comp=Z,10μm,19.0s
PV05 Paradox Valley 61.42 64 PFAKE 05 53 50.0 +16
PV05 LR LR
comp=Z,6μm,20.0s
Y12C Blythe 61.42 71 PFAKE 05 53 50.0 +17
Y12C LR LR
comp=Z,5μm,22.0s
Y12C Blythe 61.42 71 P **P** **05 53 33.4 -0.1**
baz=316,SNR=6.9
PV01 Paradox Valley 61.67 64 PFAKE 05 53 50.0 +15
PV01 LR LR
comp=Z,8μm,19.0s
LUWI Luwuk 61.70 224 PFAKE 05 53 50.0 +15
LUWI LR LR
comp=Z,3μm,20.0s
LUWI Luwuk 61.70 224 P **P** **05 53 35.2 -0.3**
ANGG Ammassalik, Gr 61.70 8 PFAKE 05 53 50.0 +15
ANGG LR LR
comp=Z,31μm,20.0s
DHRM DHARAMSHALA 61.72 287 *e*P **P** **05 53 34.4 -1.5**
MPSI Mapaga 61.73 227 P **P** **05 53 35.3 -0.4**
GLA Glamis 61.74 72 PFAKE 05 53 50.0 +14
GLA LR LR
comp=Z,7μm,21.0s
GLA Glamis 61.74 72 P **P** **05 53 35.5 -0.3**

baz=316
WUAZ Wupatki 61.97 67 PFAKE 05 53 50.0 +13
WUAZ LR LR
comp=Z,9μm,22.0s
WUAZ Wupatki 61.97 67 P **P** **05 53 37.2 -0.2**
baz=316,SNR=30
PHET Kaeng Krachan 61.99 254 P **P** **05 53 39.1 +1.6**
comp=Z,947μm,0.8s
SMLA Simla 62.01 285 *e*P **P** **05 53 35.8 -1.7**
DDI Dehra Dun 62.06 284 *e*P **P** **05 53 36.8 -1.1**
APSI Ampana 62.06 225 P **P** **05 53 37.4 -0.5**
BOK Bokaro 62.07 273 *e*P **P** **05 53 36.9 -1.1**
BOK IAmb IAmb 05 53 43.2
comp=Z,364nm,2.1s
ISCO Idaho Springs 62.08 60 PFAKE 05 53 50.0 +12
ISCO LR LR
comp=Z,8μm,21.0s
ISCO Idaho Springs 62.08 60 P **P** **05 53 38.1 -0.2**
baz=316,SNR=50
BNDI Bandanaira 62.11 215 P **P** **05 53 39.2 +1.0**
SUSD Miller 62.14 53 P **P** **05 53 37.3 -0.9**
baz=317
Y14A Wickenburg 62.17 70 PFAKE 05 53 50.0 +11
Y14A LR LR
comp=Z,4μm,20.0s
BHK Bhakra 62.25 286 *ex* **P** **05 53 38.8 -0.3**
BHK *ex* x 05 54 34.4
MVCO Mesa Verde 62.37 64 PFAKE 05 53 50.0 +10
MVCO LR LR
comp=Z,5μm,21.0s
MVCO Mesa Verde 62.37 64 P **P** **05 53 39.3 -0.8**
baz=316,SNR=14
PMG Port Moresby 62.40 195 *e*P **P** **05 53 41.5 +1.5**
comp=Z,112nm,1.1s
PMG Port Moresby 62.40 195*d i*P **P** **05 53 43.5 +3.4**
PMG pmax pmax
comp=Z,201nm,1.3s
PMG Port Moresby 62.40 195 LR LR 06 18 26.9
comp=Z,3μm,21.5s,baz=358,slow=34
MOS Moscow 62.44 327 *e*P **P** **05 53 35.7 -4.3**
MOS *e* 05 53 57.6
MOS *e*S S 06 01 54.0 -9.2
MOS pmax pmax
comp=N,218nm,1.1s
MOS pmax pmax
comp=Z,316nm,1.1s
NIL Nilore 62.49 290 *e*P **P** **05 53 40.0 -0.7**
comp=Z,509nm,0.8s
NIL LR LR
comp=Z,62μm,18.0s
113A Mohawk Valley, 62.57 71 PFAKE 05 53 50.0 +8.8
113A LR LR
comp=Z,7μm,22.0s
X16A Lo Mia Camp, P 62.72 68 PFAKE 05 54 00.0 +18
X16A LR LR
comp=Z,5μm,19.0s
S22A 4UR Ranch, Cre 62.90 63 P **P** **05 53 43.9 +0.2**
baz=317,SNR=22
Q24A Divide 62.93 61 PFAKE 05 54 00.0 +16
Q24A LR LR
comp=Z,8μm,22.0s
Q24A Divide 62.93 61 P **P** **05 53 44.1 +0.1**
baz=317
EYMN Ely 63.01 46 P **P** **05 53 42.2 -1.8**
baz=319,SNR=6.4
OGNE Ogallala 63.14 57 PFAKE 05 54 00.0 +15
OGNE LR LR
comp=Z,8μm,20.0s
OGNE Ogallala 63.14 57 P **P** **05 53 44.8 -0.2**
baz=317
W18A Petrified Fore 63.19 67 *e*P **P** **05 53 47.4 +1.8**
comp=Z,54nm,1.1s
W18A LR LR
comp=Z,9μm,22.0s
W18A Petrified Fore 63.19 67 P **P** **05 53 46.0 +0.4**
baz=317,SNR=12
OBN Obninsk 63.30 328 *e*P **P** **05 53 45.3 -0.4**
comp=Z,340nm,1.2s
OBN LR LR
comp=Z,36μm,22.0s
OBN Obninsk 63.30 328*c i*P **P** **05 53 44.9 -0.8**
OBN *e**PP **sP** **05 54 02.8 0.0**
OBN *e**SP pwP 05 54 11.3 +10
OBN 05 54 20.0
OBN *e*PPP PPP 05 57 41.9
OBN *i* S **S** **06 02 16.9 +2.9**
OBN *e* 06 02 35.6
OBN SS **SS** **06 06 16.0 -3.9**
OBN SSS SSS 06 09 06.0
OBN pmax pmax
comp=Z,312nm,1.1s
OBN MLR MLR
comp=Z,27μm,16.0s
BORG Borgarnes 63.37 1 *e*P **P** **05 53 48.1 +2.1**
comp=Z,139nm,1.0s
BORG LR LR
comp=Z,6μm,20.0s
VSU Vasula 63.38 335*c i*P **P** **05 53 46.2 +0.1**
VSU pmax pmax
comp=Z,944nm,1.0s
VSU Vasula 63.38 335 *e*P **P** **05 53 45.9 -0.3**
VSU IAmb IAmb 05 53 48.5
comp=Z,784nm,1.0s
MOL Molde 63.54 346 *e*P **P** **05 53 47.1 -0.1**
SBUM Sibu 63.59 236 PFAKE 05 54 00.0 +12
SBUM LR LR
comp=Z,4μm,19.0s
SBUM Sibu 63.59 236 P **P** **05 53 51.0 +2.9**
SDCO Great Sand Dun 63.63 62 PFAKE 05 54 00.0 +11
SDCO LR LR
comp=Z,6μm,20.0s
SDCO Great Sand Dun 63.63 62 P **P** **05 53 49.4 +0.8**
baz=317,SNR=33
214A Organ Pipe Nat 63.71 71 P **P** **05 53 49.6 +0.8**
baz=317,SNR=11
ECSD EROS Data Cent 63.80 52 PFAKE 05 54 00.0 +11
ECSD LR LR
comp=Z,16μm,22.0s
ECSD EROS Data Cent 63.80 52 P **P** **05 53 49.2 0.0**
baz=318,SNR=39
DOMB Dombas 63.81 345⇑*i*P **P** **05 53 48.7 -0.3**
AKN Aaknes 63.99 346 *e*P **P** **05 53 50.1 -0.1**
E38A The Farm, Brul 64.00 47 PFAKE 05 54 00.0 +10
E38A LR LR
comp=Z,10μm,19.0s
E38A The Farm, Brul 64.00 47 P **P** **05 53 49.1 -1.4**
baz=320
C40A Isle Royale Na 64.06 44 PFAKE 05 54 00.0 +9.2
C40A LR LR
comp=Z,13μm,19.0s
C40A Isle Royale Na 64.06 44 P **P** **05 53 50.6 -0.2**
baz=320
F37A Hinrichs Farm, 64.18 48 P **P** **05 53 51.4 -0.3**
baz=320
KSCO Kaye Shedlock' 64.24 59 PFAKE 05 54 10.0 +18
KSCO LR LR
comp=Z,6μm,20.0s
KSCO Kaye Shedlock' 64.24 59 P **P** **05 53 52.2 -0.1**
baz=318
KBL Kabul 64.25 294 *e*P **P** **05 53 50.1 -2.4**
comp=Z,135nm,0.8s
KBL LR LR
comp=Z,36μm,21.0s
F38A Pierce - Schro 64.35 47 P **P** **05 53 52.8 +0.1**
baz=320,SNR=36
KDI Kendari 64.39 222 P **P** **05 53 53.5 +0.2**
NB2 NORSAR Subarra 64.41 344 P **P** **05 53 52.6 -0.4**
comp=Z,148nm,1.0s,baz=20,slow=6.9
NB2 NORSAR Subarra 64.41 344 P **P** **05 53 52.6 -0.4**
baz=20,slow=6.9
NOA NORSAR Array B 64.41 344 P **P** **05 53 52.5 -0.4**
comp=Z,14nm,0.4s,baz=15,slow=5.4,SNR=118
NOA LR LR 06 27 55.9
comp=Z,20μm,18.4s,baz=15,slow=42
SPMN Marine on St. 64.48 49 PFAKE 05 54 10.0 +16
SPMN LR LR
comp=Z,12μm,19.0s
SPMN Marine on St. 64.48 49 P **P** **05 53 53.3 -0.3**
baz=320,SNR=26
BKB Balikpapan 64.52 229 P **P** **05 53 54.8 +0.6**
LPSR Galich'ya Gora 64.55 325 *e*P **P** **05 53 52.6 -1.3**
LPSR pmax pmax
comp=Z,270nm,0.9s
LPSR pmax pmax
comp=Z,340nm,1.0s
LPSR MLR MLR

comp=Z,38µm,18.0s
E39A Mellen 64.62 46 P **P 05 53 53.8 -0.8**
baz=320
TUC Tucson 64.63 70 *e*P **P 05 53 56.7 +1.8**
comp=Z,53nm,1.4s
TUC LR LR
comp=Z,4µm,19.0s
TUC Tucson 64.63 70 P **P 05 53 55.6 +0.7**
baz=317
NAO01 NORSAR Array S 64.65 344 *e*P **P 05 53 53.4 -1.1**
VRH Novokhopyorsk 64.66 322 *e*P **P 05 53 53.0 -1.6**
VRH pmax pmax
comp=Z,120nm,0.6s
VRH MLR MLR
comp=Z,90µm,19.0s
T25A Trinidad 64.66 62 P **P 05 53 55.7 +0.5**
baz=318,SNR=25
IVI Ivigtut 64.68 15 PFAKE 05 54 10.0 +15
IVI LR LR
comp=Z,13µm,18.0s
BWNR Bhubaneshwar 64.73 271 *ex* **P 05 53 51.2 -4.4**
TTSI Tana Toraja 64.77 226 P **P 05 53 55.2 -0.6**
BGNE Belgrade 64.77 55 PFAKE 05 54 10.0 +14
BGNE LR LR
comp=Z,12µm,20.0s
BGNE Belgrade 64.77 55 P **P 05 53 55.9 +0.3**
baz=318
F39A Loretta 64.81 47 P **P 05 53 56.1 +0.3**
baz=320,SNR=9.1
E40A Wakefield 64.86 46 P **P 05 53 55.5 -0.6**
baz=321,SNR=13
SAUI Saumlaki 64.88 212 P **P 05 53 57.4 +0.9**
G38A Ridgeland 64.96 48 P **P 05 53 56.4 -0.3**
baz=320,SNR=21
D41A Chassel 64.97 45 PFAKE 05 54 10.0 +13
D41A LR LR
comp=Z,16µm,19.0s
D41A Chassel 64.97 45 P **P 05 53 56.0 -0.8**
baz=321
HYA Hoyanger 65.08 346 *e*P **P 05 53 57.2 0.0**
NRS Narsarsuaq 65.13 13 PFAKE 05 54 10.0 +12
NRS LR LR
comp=Z,38µm,19.0s
H38A Maiden Rock 65.14 49 P **P 05 53 56.4 -1.6**
baz=320
TASM ASL Pad, Albuq 65.15 65 P **P 05 53 58.3 -0.1**
baz=318,SNR=18
TASM ASL Pad, Albuq 65.15 65 P **P 05 53 58.6 +0.2**
baz=318,SNR=19
ANMO Albuquerque 65.15 65 *e*P **P 05 53 59.6 +1.2**
comp=Z,48nm,1.1s
ANMO LR LR
comp=Z,5µm,20.0s
ANMO Albuquerque 65.15 65 *ce*P **P 05 54 00.1 +1.7**
ANMO pmax pmax
comp=Z,19nm,1.4s
ANMO Albuquerque 65.15 65 P **P 05 53 56.7 -1.7**
baz=318
F40A Park Falls 65.17 46 P **P 05 53 57.9 -0.2**
baz=321,SNR=7.4
G39A Holcombe 65.18 47 P **P 05 53 58.3 +0.1**
baz=320,SNR=5.3
VORR Voronezh 65.20 324 *e*P **P 05 53 55.0 -3.2**
VORR pmax pmax
comp=Z,300nm,1.4s
SKAR Skarslia 65.22 345 *e*P **P 05 53 58.7 +0.4**
SLIT Slitere, Latvi 65.24 337 *e*P **P 05 53 57.8 -0.5**
SLIT IAmb IAmb 05 54 00.5
comp=Z,3µm,1.2s
E41A Kenton 65.26 45 P **P 05 53 58.5 -0.2**
baz=321,SNR=9.9
SUE Sulen 65.38 347 *e*P **P 05 53 59.4 +0.2**
KSM Kuching 65.41 237 PFAKE 05 54 10.0 +10
KSM LR LR
comp=Z,4µm,22.0s
KSM Kuching 65.41 237 P **P 05 54 02.0 +2.0**
COWI Conover 65.46 46 PFAKE 05 54 10.0 +10
COWI LR LR
comp=Z,14µm,21.0s
OSL Oslo 65.53 344 *e*P **P 05 54 01.3 +1.1**
Y22D IRIS PASSCAL I 65.53 66 PFAKE 05 54 10.0 +9.2
Y22D LR LR
comp=Z,9µm,20.0s
Y22D IRIS PASSCAL I 65.53 66 P **P 05 54 00.7 -0.1**
baz=318
VSR Storozhevoye 65.59 324 *e*P **P 05 53 58.5 -2.2**
VSR pmax pmax
comp=Z,220nm,1.0s
VSR pmax pmax
comp=Z,140nm,1.0s
VSR MLR MLR
comp=Z,66µm,18.0s
H39A Augusta 65.59 48 P **P 05 53 59.5 -1.4**
baz=320
SPSI Sidrap Palu 65.61 225 P **P 05 54 00.4 -0.9**
G40A Rib Lake 65.63 47 PFAKE 05 54 10.0 +8.9
G40A LR LR
comp=Z,8µm,21.0s
G40A Rib Lake 65.63 47 P **P 05 54 00.1 -1.0**
baz=321
E42A Champion 65.74 45 P **P 05 54 01.4 -0.4**
baz=322,SNR=6.0
F41A Three Lakes 65.76 46 PFAKE 05 54 20.0 +18
F41A LR LR
comp=Z,12µm,21.0s
F41A Three Lakes 65.76 46 P **P 05 54 01.3 -0.6**
baz=321,SNR=7.9
DGPR DIGLIPUR 65.80 260 *e*P **P 05 54 02.1 -0.4**
DGPR IAMs_20 IAMs_20 06 27 54.9
comp=Z,10µm,17.7s
BNSI Bone 65.86 225 P **P 05 54 02.4 -0.4**
IZAR Zarasai 65.88 334 *e*P **P 05 54 02.3 -0.2**
IZAR IAmb IAmb 05 54 04.8
comp=Z,119nm,1.1s
CBKS Cedar Bluff 65.90 57 P **P 05 54 02.1 -0.9**
baz=319
BER Bergen 65.95 347 *e*P **P 05 54 03.1 +0.2**
KONO Kongsberg 65.99 344 *e*P **P 05 54 03.6 +0.4**
comp=Z,173nm,1.4s
KONO LR LR
comp=Z,16µm,20.0s
KONO Kongsberg 65.99 344 *c i*P **P 05 54 03.3 +0.1**
KONO pmax pmax
comp=Z,151nm,1.7s
KONO Kongsberg 65.99 344 ⇑*i*P **P 05 54 03.3 +0.1**
SKLT Songkhla 66.01 250 P **P 05 54 06.7 +2.8**
comp=Z,89nm,1.4s,comp=Z,2µm
TRTT Trang 66.01 251 P **P 05 54 06.3 +2.4**
comp=Z,141nm,1.4s,comp=Z,4µm
H40A Chili 66.04 47 P **P 05 54 03.2 -0.6**
baz=321,SNR=14
I39A Houston 66.12 49 PFAKE 05 54 20.0 +16
I39A LR LR
comp=Z,12µm,19.0s
I39A Houston 66.12 49 P **P 05 54 03.5 -0.8**
baz=321,SNR=22
IDID Didziasalis 66.12 333 *e*P **P 05 54 04.0 -0.1**
IDID IAmb IAmb 05 54 06.4
comp=Z,117nm,1.0s
F42A Maple Grove Fa 66.17 45 P **P 05 54 03.8 -0.8**
baz=322
319A Douglas 66.18 69 PFAKE 05 54 20.0 +15
319A LR LR
comp=Z,4µm,20.0s
E43A Lone Tree Farm 66.18 44 PFAKE 05 54 20.0 +15
E43A LR LR
comp=Z,14µm,18.0s
E43A Lone Tree Farm 66.18 44 P **P 05 54 04.4 -0.2**
baz=322
121A Cookes Peak, D 66.18 67 P **P 05 54 06.5 +1.4**
baz=318,SNR=8.3
ODD1 Odda 66.22 346 *e*P **P 05 54 05.4 +0.8**
IIGN Ignalina 66.23 333 *e*P **P 05 54 04.9 +0.1**
IIGN IAmb IAmb 05 54 07.2
comp=Z,136nm,0.9s
H41A Junction City 66.38 47 PFAKE 05 54 20.0 +14
H41A LR LR
comp=Z,9µm,19.0s
H41A Junction City 66.38 47 P **P 05 54 05.6 -0.3**
baz=321
SCHQ Schefferville 66.39 28 PFAKE 05 54 20.0 +14
SCHQ LR LR
comp=Z,8µm,20.0s
SCHQ Schefferville 66.39 28 P **P 05 54 06.1 +0.3**
comp=Z,64nm,0.9s,baz=349,slow=6.9,SNR=25
SCHQ LR LR 06 27 11.0
comp=Z,5µm,19.1s,baz=348,slow=40
J39A Decorah 66.43 49 P **P 05 54 05.3 -1.0**
baz=321,SNR=15
G42A Mountain 66.44 46 PFAKE 05 54 20.0 +14
G42A LR LR
comp=Z,13µm,21.0s
G42A Mountain 66.44 46 P **P 05 54 05.8 -0.6**
baz=322
E44A Grand Marais A 66.44 43 PFAKE 05 54 20.0 +14
E44A LR LR
comp=Z,16µm,20.0s
E44A Grand Marais A 66.44 43 P **P 05 54 05.7 -0.6**
baz=322
NACGM Naroch 66.47 333 *e*P **P 05 54 05.0 -1.3**
NACGM PM 05 54 09.0
comp=Z,0.5nm,1.0s
NACGM *e*S **S 06 02 50.0 -3.0**
NACGM *e*ScS **SKiKP 06 04 08.0 +3.0**
NACGM *e*SS **SS 06 07 06.0 -3.2**
NACGM *e*SSS SSS 06 10 00.0
NACGM *e*LQ LQ 06 17 26.0
NACGM LRM MLR 06 26 26.0
comp=Z,84nm,17.0s
I40A Norwalk 66.50 48 P **P 05 54 06.4 -0.3**
baz=321,SNR=11
MICGM Minsk 66.51 332 ⇑*i*P **P 05 54 06.0 -0.5**
MICGM ⇑*i*P **P 05 54 06.0 -0.5**
MICGM PM 05 54 07.0
comp=Z,1.8nm,1.4s
MICGM PM 05 54 08.0
comp=Z,5.2nm,10.0s
MICGM PM 05 54 08.0
comp=N,0.9nm,1.8s
MICGM PM 05 54 08.0
comp=E,0.8nm,2.0s
MICGM *e*pP **pP 05 54 19.0 0.0**
MICGM *e*PP **PP 05 56 27.0 -5.7**
MICGM *e*PPP PPP 05 58 38.0
MICGM *e*S **S 06 02 50.0 -3.4**
MICGM *e*sS **sS 06 03 16.0 +1.5**
MICGM *e*SS SS 06 07 24.0 +14
MICGM *e*SSS SSS 06 10 14.0
MICGM *e*LQ LQ 06 15 24.0
MICGM LQM 06 21 40.0
comp=E,27nm,20.0s
MICGM LQM 06 21 40.0
comp=E,21nm,20.0s
MICGM LQM 06 21 42.0
comp=N,17nm,20.0s
MICGM *e*LR LR 06 22 12.0
MICGM LRM MLR 06 26 34.0
comp=E,26nm,18.0s
MICGM LRM MLR 06 27 04.0
comp=Z,98nm,18.0s
MICGM LRM MLR 06 27 08.0
comp=N,68nm,16.0s
MICGM LRM MLR 06 27 08.0
comp=Z,126nm,20.0s
MICGM LRM MLR 06 27 12.0
comp=N,56nm,16.0s
MNK Minsk 66.51 332 ⇑*i*P **P 05 54 06.0 -0.5**
MNK *e**PP **pP 05 54 19.0 0.0**
MNK *e*S **S 06 02 50.0 -3.4**
MNK *e* 06 03 16.0
MNK pmax pmax
comp=Z,5µm,10.0s
MNK pmax pmax
comp=N,910nm,1.8s
MNK pmax pmax
comp=E,770nm,2.0s
MNK MLR MLR
comp=E,26µm,18.0s
MNK MLR MLR
comp=Z,98µm,18.0s
MNK MLR MLR
comp=N,69µm,16.0s
MNK MLR MLR
comp=Z,126µm,20.0s
MNK MLR MLR
comp=N,56µm,16.0s
F43A Flat Rock, Esc 66.53 45 P **P 05 54 06.7 -0.1**
baz=322
KAPI Kappang 66.56 225 P **P 05 54 08.1 +0.8**
SNR=23
KAPI P **P 05 54 08.1 +0.8**
SNR=23
KAPI Kappang 66.56 225 LR LR 06 23 54.3
comp=N,2µm,20.9s,baz=4.0,slow=37
BKSI Bulukumba 66.67 224 P **P 05 54 07.5 -0.6**
PABE Paberze 66.71 335 *e*P **P 05 54 07.6 -0.2**
PABE IAmb IAmb 05 54 10.0
comp=Z,740nm,1.2s
BLS5 Blasjo 66.71 346 *e*P **P 05 54 08.6 +0.8**
I41A Arkdale 66.72 48 PFAKE 05 54 20.0 +12
I41A LR LR
comp=Z,14µm,19.0s
I41A Arkdale 66.72 48 P **P 05 54 08.2 +0.1**
baz=321
F44A Big Bay de Noc 66.74 44 P **P 05 54 08.5 +0.3**
baz=322
PKDT Phuket 66.75 252 P **P 05 54 11.3 +2.7**
comp=Z,140nm,1.0s,comp=Z,3µm
G43A Wallace 66.76 45 PFAKE 05 54 20.0 +12
G43A LR LR
comp=Z,11µm,20.0s
G43A Wallace 66.76 45 P **P 05 54 07.3 -1.0**
baz=322
PBUR Paburg 66.77 336 *e*P **P 05 54 07.9 -0.2**
PBUR IAmb IAmb 05 54 10.4
comp=Z,489nm,1.3s
SCIA State Center 66.82 51 PFAKE 05 54 20.0 +11
SCIA LR LR
comp=Z,16µm,21.0s
SCIA State Center 66.82 51 P **P 05 54 08.7 0.0**
baz=320,SNR=10
J40A Soldiers Grove 66.83 49 P **P 05 54 06.8 -2.1**
baz=321,SNR=5.9
K39A Oelwein 66.83 50 P **P 05 54 07.5 -1.4**
baz=321,SNR=14
HSIG 66.95 72 PFAKE 05 54 20.0 +10
HSIG LR LR
comp=Z,3µm,19.0s
E45A Wooded Hills, 66.97 43 P **P 05 54 07.5 -2.1**
baz=323
H42A Shiocton 66.97 46 PFAKE 05 54 20.0 +10
H42A LR LR
comp=Z,13µm,21.0s
H42A Shiocton 66.97 46 P **P 05 54 08.7 -1.0**
baz=322
D46A Sault St. Mari 67.02 42 P **P 05 54 08.6 -1.4**
baz=323,SNR=9.4
KMY Karmoy 67.09 346 *e*P **P 05 54 10.5 +0.3**
PBA Port Blair 67.10 259 *e*P P 05 54 11.7 +0.8
comp=Z,295nm,0.8s
PBA LR LR
comp=Z,20µm,22.0s
PBA Port Blair 67.10 259 *e*P P 05 54 11.0 +0.2
PBA IAmb IAmb 05 54 19.9
comp=Z,90µm,8.2s
MATQ Matagami 67.18 37 P **P 05 54 09.6 -1.3**
baz=326,SNR=29
K40A Colesburg 67.19 49 P **P 05 54 10.1 -0.9**
baz=321,SNR=6.6
J41A Loganville 67.19 48 P **P 05 54 10.3 -0.8**
baz=321,SNR=12
L39A Vinton 67.23 50 P **P 05 54 10.0 -1.4**
baz=321,SNR=25
BSSI Bau Bau, Buton 67.25 224 P **P 05 54 11.0 -0.8**
D47A Chapleau 67.27 41 P **P 05 54 09.9 -1.6**
baz=324,SNR=9.2
I42A Draeger Farm, 67.28 47 PFAKE 05 54 20.0 +8.3
I42A LR LR
comp=Z,11µm,19.0s
I42A Draeger Farm, 67.28 47 P **P 05 54 10.0 -1.7**
baz=322,SNR=6.9
KSU1 Kansas State U 67.29 55 PFAKE 05 54 20.0 +8.2
KSU1 LR LR
comp=Z,11µm,21.0s
KSU1 Kansas State U 67.29 55 P **P 05 54 10.9 -0.9**
baz=320
E46A Sault Ste Mari 67.32 43 PFAKE 05 54 20.0 +8.1
E46A LR LR
comp=Z,13µm,19.0s
E46A Sault Ste Mari 67.32 43 P **P 05 54 08.5 -3.3**
baz=323,SNR=8.5
H43A Windswept, Lux 67.34 46 PFAKE 05 54 30.0 +18
H43A LR LR
comp=Z,13µm,20.0s
H43A Windswept, Lux 67.34 46 P **P 05 54 11.0 -1.0**
baz=322
F45A CMU Biological 67.36 44 P **P 05 54 10.4 -1.7**
baz=323
JFWS Jewell Farm 67.43 49 PFAKE 05 54 30.0 +17
JFWS LR LR
comp=Z,12µm,20.0s
JFWS Jewell Farm 67.43 49 P **P 05 54 09.7 -3.0**
baz=321,SNR=8.0
HOMB Homborsund 67.48 344 *e*P **P 05 54 12.7 0.0**
KULM Kulim 67.51 248 PFAKE 05 54 30.0 +17
KULM LR LR
comp=Z,9µm,20.0s
KULM Kulim 67.51 248 P **P 05 54 16.0 +2.5**
F46A Macinaw City C 67.61 43 P **P 05 54 12.1 -1.5**
baz=323,SNR=11
I43A Langenfeld Bro 67.63 47 P **P 05 54 12.9 -1.0**
baz=322
SNART Snartemo 67.63 345 *e*P **P 05 54 13.9 +0.3**
J42A Columbus 67.63 48 P **P 05 54 12.9 -1.0**
baz=322,SNR=12
GEYT Alibeck 67.64 303 P **P 05 54 13.0 -1.1**
comp=Z,58nm,0.7s,baz=9.5,slow=4.4,SNR=78
GEYT LR LR 06 26 28.8
comp=Z,62µm,18.5s,baz=30,slow=38
GYA0B ALIBECK ARRAY 67.64 303 PFAKE 05 54 30.0 +16
GYA0B LR LR
comp=Z,61µm,19.0s
L40A Anamosa 67.64 50 PFAKE 05 54 30.0 +16
L40A LR LR
comp=Z,13µm,20.0s
L40A Anamosa 67.64 50 P **P 05 54 12.6 -1.4**
baz=321,SNR=10.0
BHPL Bhopal 67.65 279 *e*P **P 05 54 13.0 -1.3**
BHPL IAmb IAmb 05 54 16.9
comp=Z,206nm,1.2s
E47A Iron Bridge 67.68 42 P **P 05 54 11.2 -2.9**
baz=324,SNR=11
D48A Paudash Townsh 67.69 41 P **P 05 54 13.1 -1.1**
baz=324
D49A Beulah Townshi 67.80 40 P **P 05 54 13.7 -1.2**
baz=324,SNR=13
G45A Suttons Bay 67.81 44 PFAKE 05 54 30.0 +15
G45A LR LR
comp=Z,14µm,19.0s
G45A Suttons Bay 67.81 44 P **P 05 54 14.2 -0.8**
baz=323
AMTX Amarillo 67.81 62 PFAKE 05 54 30.0 +15
AMTX LR LR
comp=Z,5µm,20.0s
AMTX Amarillo 67.81 62 P **P 05 54 15.6 +0.2**
baz=319
J43A Natural Harves 67.90 47 P **P 05 54 14.7 -0.9**
baz=322
MSTX Muleshoe 67.91 63 PFAKE 05 54 30.0 +14
MSTX LR LR
comp=Z,7µm,19.0s
MSTX Muleshoe 67.91 63 P **P 05 54 15.5 -0.4**
baz=319,SNR=16
G46A Petoskey 67.93 44 P **P 05 54 15.5 -0.2**
baz=323
K42A Prairie Point, 67.95 48 P **P 05 54 14.7 -1.2**
baz=322,SNR=17
IPM Ipoh 67.96 248 PFAKE 05 54 30.0 +14
IPM LR LR
comp=Z,8µm,21.0s
IPM Ipoh 67.96 248 P **P 05 54 19.0 +2.7**
H45A Beulah 67.97 45 P **P 05 54 15.2 -0.8**
baz=323
LSQQ Lebel-sur-Quev 68.00 37 P **P 05 54 14.9 -1.2**
baz=326
E48A Lockeyer 68.11 41 P **P 05 54 14.4 -2.5**
baz=324,SNR=12
U32A Winter Ranch, 68.12 59 PFAKE 05 54 30.0 +13
U32A LR LR
comp=Z,6µm,21.0s
MNTX Cornudas Mount 68.16 66 PFAKE 05 54 30.0 +13
MNTX LR LR
comp=Z,5µm,20.0s
MNTX Cornudas Mount 68.16 66 P **P 05 54 17.0 -0.4**
baz=319,SNR=21
CHGQ Chibougamau 68.22 35 P **P 05 54 16.2 -1.3**
baz=328,SNR=37
I45A Fountain 68.36 45 PFAKE 05 54 30.0 +12
I45A LR LR
comp=Z,11µm,21.0s
I45A Fountain 68.36 45 P **P 05 54 18.1 -0.3**
baz=323
N40A Mertquake, Sal 68.39 51 P **P 05 54 18.0 -0.7**
baz=321,SNR=18
H46A Fife Lake 68.40 44 P **P 05 54 17.5 -1.2**
baz=323
L42A Oliver, Polo 68.41 49 PFAKE 05 54 30.0 +11
L42A LR LR
comp=Z,14µm,20.0s
L42A Oliver, Polo 68.41 49 P **P 05 54 16.3 -2.5**
baz=322,SNR=9.6
GLMI Grayling 68.42 44 PFAKE 05 54 30.0 +11
GLMI LR LR
comp=Z,18µm,20.0s
GLMI Grayling 68.42 44 P **P 05 54 17.8 -1.0**
baz=324
F48A Evansville 68.45 42 P **P 05 54 17.9 -1.1**
baz=324,SNR=6.9
G47A Hillman 68.47 43 P **P 05 54 18.7 -0.4**
baz=324
K43A Burlington 68.47 48 PFAKE 05 54 30.0 +11
K43A LR LR
comp=Z,9µm,19.0s
K43A Burlington 68.47 48 P **P 05 54 18.9 -0.3**
baz=322,SNR=6.7
M41A Milan 68.50 50 P **P 05 54 18.9 -0.5**
baz=322,SNR=17
MYKOM Kota Tinggi 68.59 243 PFAKE 05 54 30.0 +10
MYKOM LR LR
comp=Z,9µm,18.0s
VLDQ Val d'Or 68.61 37 PFAKE 05 54 30.0 +10
VLDQ LR LR
comp=Z,10µm,20.0s
L43A Garden Prairie 68.70 48 P **P 05 54 19.9 -0.7**
baz=322
D51A Lot 18 Range I 68.72 39 P **P 05 54 19.0 -1.7**
baz=326,SNR=11
E50A Wahnapitae 68.73 40 P **P 05 54 19.8 -0.9**
baz=325,SNR=7.0
F49A Sandfield 68.74 42 P **P 05 54 20.4 -0.4**
baz=324
J45A Montague 68.77 46 PFAKE 05 54 30.0 +9.0
J45A LR LR
comp=Z,13µm,21.0s
J45A Montague 68.77 46 P **P 05 54 20.5 -0.5**
baz=323
I46A Reed City 68.78 45 P **P 05 54 20.9 -0.2**
baz=323,SNR=21
H47A Mio 68.78 44 P **P 05 54 20.0 -1.0**
baz=324
MMRI Maumere 68.78 221 P **P 05 54 20.4 -0.9**
MAK Makhachkala 68.85 313 *e*P **P 05 54 20.8 -0.7**
MAK *e* 05 56 52.6
MAK *e*S **S 06 03 20.7 -1.0**
MAK pmax pmax
comp=Z,5µm,9.5s
MAK pmax pmax
comp=Z,268nm,1.3s
MAK smax smax
comp=N,3µm,7.6s
MAK smax smax
comp=E,2µm,6.6s
MAK MLR MLR
comp=E,64µm,18.0s
MAK MLR MLR
comp=Z,34µm,16.0s
MAK MLR MLR
comp=N,36µm,16.0s
N41A Harden Midland 68.87 50 PFAKE 05 54 30.0 +8.3
N41A LR LR
comp=Z,13µm,21.0s
N41A Harden Midland 68.87 50 P **P 05 54 21.7 0.0**
baz=322,SNR=28
SOEI Soe 69.01 218 PFAKE 05 54 40.0 +17
SOEI LR LR
comp=Z,4µm,22.0s
SOEI Soe 69.01 218 P **P 05 54 22.9 0.0**
H48A Harrisville 69.07 43 PFAKE 05 54 40.0 +17
H48A LR LR

comp=Z,16µm,19.0s
H48A Harrisville 69.07 43 P **P** 05 54 22.1 -0.8
baz=324
L44A Lake County Fo 69.08 48 P **P** 05 54 22.1 -0.9
baz=323
MUD Monsted U'grnd 69.10 343⇑ *i*P **P** 05 54 23.5 +0.7
MUD pmax pmax
comp=Z,76nm,1.0s
MUD Monsted U'grnd 69.10 343⇑ *i*P **P** 05 54 23.5 +0.7
comp=Z,76nm,1.0s
I47A Gladwin 69.12 44 PFAKE 05 54 40.0 +17
I47A LR LR
comp=Z,13µm,19.0s
I47A Gladwin 69.12 44 P **P** 05 54 22.4 -0.8
baz=324
E51A G1948 Merrick 69.14 40 P **P** 05 54 21.6 -1.6
baz=326,SNR=17
RSC Scourie 69.15 352⇑ *e*P **P** 05 54 24.1 +1.0
J46A Howard City 69.16 45 P **P** 05 54 23.1 -0.4
baz=323,SNR=9.2
M43A Waltham Townsh 69.19 49 P **P** 05 54 23.2 -0.4
baz=322
D52A ZEK Kipawa Sen 69.19 39 P **P** 05 54 21.0 -2.6
baz=326,SNR=8.1
COP Copenhagen 69.21 341⇑ *i*P **P** 05 54 24.0 +0.5
COP pmax pmax
comp=Z,240nm,1.1s
COP Copenhagen 69.21 341⇑ *i*P **P** 05 54 24.0 +0.5
comp=Z,243nm,1.1s
BSD Bornholm Skovb 69.23 340⇑ *i*P **P** 05 54 23.7 +0.1
BSD pmax pmax
comp=Z,360nm,1.4s
BSD Bornholm Skovb 69.23 340⇑ *i*P **P** 05 54 23.7 +0.1
comp=Z,359nm,1.4s
I48A Sherman Twp 69.33 44 P **P** 05 54 24.9 +0.5
baz=324
D53A Lac Vacive, Po 69.38 38 PFAKE 05 54 40.0 +15
D53A LR LR
comp=Z,11µm,20.0s
D53A Lac Vacive, Po 69.38 38 P **P** 05 54 23.9 -0.8
baz=326,SNR=17
TOBO Tobermory, Bru 69.39 42 P **P** 05 54 24.0 -0.8
baz=325
AKASG Malin Array Be 69.41 329 *i* P **P** 05 54 24.1 -0.7
AKASG pmax pmax
comp=Z,50nm,0.4s
AKASG Malin Array Be 69.41 329 P **P** 05 54 24.1 -0.7
comp=Z,49nm,0.4s,baz=31,slow=6.6,SNR=125
AKASG LR LR 06 30 02.5
comp=Z,32µm,19.0s,baz=15,slow=40
AKBB Malin Array Si 69.41 329 PFAKE 05 54 40.0 +15
AKBB LR LR
comp=Z,42µm,18.0s
GROC Groznyy 69.41 315 *e*P **P** 05 54 23.8 -1.2
GROC *e**PP **pP** 05 54 39.3 +1.8
GROC *e**SP **PcP** 05 54 45.8 -2.3
GROC *e*S **S** 06 03 23.7 -4.7
GROC *e**SS **sS** 06 03 52.3 +2.6
GROC pmax pmax
comp=Z,85nm,1.0s
KIEV Kiev 69.42 329 PFAKE 05 54 40.0 +15
KIEV LR LR
comp=Z,40µm,18.0s
KIEV Kiev 69.42 329 *i* P **P** 05 54 23.9 -0.9
SNR=172
KIEV Kiev 69.42 329*c* *i*P **P** 05 54 23.7 -1.2
KIEV pmax pmax
comp=Z,286nm,1.0s
F51A Arnstein 69.47 40 P **P** 05 54 23.5 -1.7
baz=326
N43A Stutzman Famil 69.48 49 P **P** 05 54 24.6 -0.8
baz=322
WMOK Wichita Mounta 69.48 60 P **P** 05 54 25.6 0.0
baz=320,SNR=40
J47A Sunmer 69.61 45 PFAKE 05 54 40.0 +14
J47A LR LR
comp=Z,11µm,19.0s
J47A Sunmer 69.61 45 P **P** 05 54 25.6 -0.6
baz=324,SNR=26
K46A Dorr 69.63 46 P **P** 05 54 26.2 -0.1
baz=323,SNR=21
OK024 West corner E0 69.63 58 PFAKE 05 54 40.0 +14
OK024 LR LR
comp=Z,6µm,20.0s
M44A Midewin, Midew 69.65 48 PFAKE 05 54 40.0 +14
M44A LR LR
comp=Z,14µm,19.0s
M44A Midewin, Midew 69.65 48 P **P** 05 54 26.0 -0.4
baz=323
E52A Mattawa 69.67 39 P **P** 05 54 25.3 -1.2
baz=326,SNR=7.2
LHMI Lhok Sumawe 69.70 252 PFAKE 05 54 40.0 +13
LHMI LR LR
comp=Z,15µm,18.0s
LHMI Lhok Sumawe 69.70 252 P **P** 05 54 27.0 -0.1
RRH Rhenigidale 69.70 353⇑ *e*P **P** 05 54 27.6 +1.1
D54A Lac Fusel, La 69.71 38 P **P** 05 54 25.5 -1.3
baz=327,SNR=24
HDIL Hopedale 69.72 50 PFAKE 05 54 40.0 +13
HDIL LR LR
comp=Z,13µm,20.0s
HDIL Hopedale 69.72 50 P **P** 05 54 26.5 -0.5
baz=322,SNR=14
F52A Sundridge 69.81 40 P **P** 05 54 26.7 -0.7
baz=326,SNR=14
KLBO Killbear Provi 69.82 41 P **P** 05 54 26.7 -0.7
baz=326,SNR=11
I49A Point Hope 69.90 43 PFAKE 05 54 40.0 +12
I49A LR LR
comp=Z,15µm,18.0s
I49A Point Hope 69.90 43 P **P** 05 54 27.0 -1.0
baz=324
L46A Eue Claire 69.94 47 PFAKE 05 54 40.0 +12
L46A LR LR
comp=Z,14µm,20.0s
L46A Eue Claire 69.94 47 P **P** 05 54 27.6 -0.7
baz=323
E53A Dumoine, Ponti 69.97 39 P **P** 05 54 27.4 -1.0
baz=327,SNR=15
K47A Vermontville 69.99 45 P **P** 05 54 28.4 -0.1
baz=324,SNR=14
KAC Achnashellach 70.00 352 *e*P **P** 05 54 28.5 +0.1
M45A Boilermakers S 70.01 48 P **P** 05 54 27.6 -1.1
baz=323
J48A Bridge Port 70.01 44 PFAKE 05 54 40.0 +11
J48A LR LR
comp=Z,13µm,20.0s
J48A Bridge Port 70.01 44 P **P** 05 54 29.0 +0.3
baz=324
BMRO Meriville Lake 70.03 42 P **P** 05 54 28.2 -0.6
baz=325
CMBY CAMPBELL BAY 70.06 255 *e*P **P** 05 54 29.4 +0.1
BUKO Buck Lake 70.07 40 P **P** 05 54 27.6 -1.4
baz=326,SNR=8.1
N44A Piper City 70.07 49 P **P** 05 54 28.2 -0.9
baz=323
RGN Rugen 70.10 340 PFAKE 05 54 40.0 +11
RGN LR LR
comp=Z,22µm,20.0s
E54A Lac Daplat, Po 70.11 38 P **P** 05 54 27.4 -1.9
baz=327,SNR=14
NCK Nalchik 70.12 316⇓ *i*P **P** 05 54 30.0 +0.6
NCK pmax pmax
comp=Z,92nm,0.8s
KIV Kislovodsk 70.13 317 *e*P **P** 05 54 29.8 +0.3
KIV LR LR
comp=Z,59nm,0.8s
comp=Z,14µm,19.0s
KIV Kislovodsk 70.13 317⇑ *i*P **P** 05 54 29.6 +0.1
KIV Kislovodsk 70.13 317 *i* P **P** 05 54 29.3 -0.3
SNR=31
KIV Kislovodsk 70.13 317 *e*P **P** 05 54 29.0 -0.5
KIV pmax pmax
comp=Z,141nm,1.0s
KIV Kislovodsk 70.13 317 P **P** 05 54 29.3 -0.3
SNR=31
TUL1 Leonard 70.14 57 PFAKE 05 54 40.0 +10
TUL1 LR LR
comp=Z,12µm,19.0s
TUL1 Leonard 70.14 57 P **P** 05 54 29.8 +0.2
baz=321,SNR=15
ALGO Algonquin Park 70.18 39 P **P** 05 54 28.9 -0.7
baz=326,SNR=8.4
KPL Plockton 70.19 352 *e*P **P** 05 54 29.7 +0.2
KPL IAmb IAmb 05 54 34.2
comp=Z,62nm,1.0s
KPL IAMs_20 IAMs_20 06 31 38.5

comp=Z,7µm,19.4s
BRCO Bruce Peninsul 70.23 42 P **P** 05 54 29.2 -0.8
baz=325
KBZ Khabaz 70.23 317 P **P** 05 54 29.8 -0.1
comp=Z,45nm,0.7s,baz=54,slow=3.8,SNR=65
KBZ LR LR 06 30 08.7
comp=Z,26µm,18.0s,baz=16,slow=40
J49A Marlette 70.24 44 P **P** 05 54 29.7 -0.4
baz=324
K48A Perry 70.27 45 P **P** 05 54 29.9 -0.4
baz=324,SNR=15
BASO Ashfield 70.33 43 P **P** 05 54 29.7 -0.9
baz=325,SNR=7.3
P43A Skaggs, Pawnee 70.34 50 P **P** 05 54 30.3 -0.4
baz=322,SNR=16
M46A Old House Fiel 70.40 47 PFAKE 05 54 40.0 +8.9
M46A LR LR
comp=Z,9µm,21.0s
M46A Old House Fiel 70.40 47 P **P** 05 54 30.2 -0.9
baz=324
GKP Gorka Klasztor 70.41 337 *e*P **P** 05 54 31.2 +0.3
GKP Gorka Klasztor 70.41 337 *e*P **P** 05 54 31.2 +0.3
O44A Mansfield 70.43 49 P **P** 05 54 30.2 -1.1
baz=323
Q42A Golden Eagle 70.43 51 P **P** 05 54 31.6 +0.3
baz=322,SNR=39
L47A Sherwood 70.46 46 P **P** 05 54 31.1 -0.3
baz=324,SNR=12
BWLO Walkerton 70.46 42 P **P** 05 54 30.7 -0.7
baz=325,SNR=5.2
R41A Rosebud 70.50 52 P **P** 05 54 31.2 -0.6
baz=322,SNR=27
PSI Prapat 70.53 248 PFAKE 05 54 50.0 +18
PSI LR LR
comp=Z,9µm,20.0s
H52A Wyevale 70.54 41 P **P** 05 54 30.7 -1.1
baz=326,SNR=12
ZEI Tsey 70.56 316 *e*P **P** 05 54 28.7 -3.6
ZEI pmax pmax
comp=Z,55nm,0.9s
K49A Clarkson 70.57 44 P **P** 05 54 31.9 -0.2
baz=324,SNR=24
ABTX Abilene, Hawle 70.63 62 PFAKE 05 54 50.0 +17
ABTX LR LR
comp=Z,6µm,19.0s
ABTX Abilene, Hawle 70.63 62 P **P** 05 54 32.2 -0.5
baz=320
N46A Monticello 70.64 48 P **P** 05 54 31.9 -0.7
baz=323
G53A Haliburton 70.64 40 P **P** 05 54 31.8 -0.7
baz=326,SNR=20
NEY Neytrino 70.69 317*c* *e*P **P** 05 54 32.8 -0.3
NEY pmax pmax
comp=Z,20nm,1.8s
O45A Potomac 70.70 49 P **P** 05 54 32.1 -0.8
baz=323
PEMO Pembroke 70.72 39 P **P** 05 54 32.0 -1.0
baz=327,SNR=8.2
SADO Sadowa 70.73 40 PFAKE 05 54 50.0 +17
SADO LR LR
comp=Z,10µm,20.0s
CCM Cathedral Cave 70.76 52 *e*P **P** 05 54 33.6 +0.3
comp=Z,133nm,1.4s
CCM LR LR
comp=Z,12µm,22.0s
CCM Cathedral Cave 70.76 52 P **P** 05 54 32.8 -0.5
baz=322
I51A Listowel 70.76 42 P **P** 05 54 32.6 -0.7
baz=325,SNR=8.8
M47A Cromwell 70.77 47 P **P** 05 54 33.4 +0.1
baz=324,SNR=9.0
SLM Saint Louis 70.79 51 PFAKE 05 54 50.0 +17
SLM LR LR
comp=Z,15µm,21.0s
HHAR Hobbs 70.80 55 PFAKE 05 54 50.0 +16
HHAR LR LR
comp=Z,12µm,20.0s
L48A N Adams 70.82 46 P **P** 05 54 33.1 -0.6
baz=324,SNR=21
BEL Belsk 70.84 335 *e*P **P** 05 54 34.2 +0.7
BEL Belsk 70.84 335 *e*P **P** 05 54 34.3 +0.7
AAM Ann Arbor 70.87 45 PFAKE 05 54 50.0 +16
AAM LR LR
comp=Z,9µm,20.0s
AAM Ann Arbor 70.87 45 P **P** 05 54 33.4 -0.6
baz=324,SNR=8.0
S41A Jillco Farms, 70.88 53 P **P** 05 54 33.5 -0.6
baz=322,SNR=35
SFIN Lafayette 70.88 48 PFAKE 05 54 50.0 +16
SFIN LR LR
comp=Z,13µm,19.0s
SFIN Lafayette 70.88 48 P **P** 05 54 34.0 0.0
baz=323,SNR=10.0
TXAR Lajitas Array 70.91 67 P **P** 05 54 35.5 +1.0
comp=Z,9.4nm,0.6s,baz=297,slow=4.5,SNR=90
TXAR PKPPKP **P'P'df** 06 22 31.1 -3.2
comp=Z,0.4nm,0.9s,baz=148,slow=5.3,SNR=3.5
LATQ La Tuque 70.93 35 P **P** 05 54 33.6 -0.6
baz=329,SNR=14
K50A Casco 70.93 44 PFAKE 05 54 50.0 +16
K50A LR LR
comp=Z,16µm,19.0s
K50A Casco 70.93 44 P **P** 05 54 33.7 -0.6
baz=325
F55A Otter Lake 70.93 38 P **P** 05 54 33.3 -1.0
baz=327,SNR=8.7
INVG Invergeldie, C 70.95 351⇑ *e*P **P** 05 54 34.1 -0.1
INVG IAMs_20 IAMs_20 06 32 23.6
comp=Z,11µm,18.9s
L49A Milan 70.98 45 P **P** 05 54 34.7 +0.1
baz=324,SNR=12
BANO Bancroft 71.00 40 P **P** 05 54 33.7 -1.0
baz=327,SNR=16
M48A Edgerton 71.07 46 PFAKE 05 54 50.0 +15
M48A LR LR
comp=Z,13µm,20.0s
M48A Edgerton 71.07 46 P **P** 05 54 34.4 -0.7
baz=324
N47A Urbana 71.12 47 P **P** 05 54 34.7 -0.7
baz=324,SNR=7.6
EAB Aberfoyle 71.21 351⇑ *e*P **P** 05 54 36.0 +0.2
LAWE Loch Awe, Argy 71.24 352 *e*P **P** 05 54 35.8 -0.1
LAWE IAmb IAmb 05 54 38.2
comp=Z,104nm,0.9s
LAWE IAMs_20 IAMs_20 06 32 16.9
comp=Z,12µm,20.9s
P45A Graceland, Par 71.26 49 PFAKE 05 54 50.0 +14
P45A LR LR
comp=Z,15µm,19.0s
P45A Graceland, Par 71.26 49 P **P** 05 54 35.0 -1.3
baz=323,SNR=12
G55A Calabogie 71.28 39 P **P** 05 54 35.6 -0.8
baz=327,SNR=14
U40A Yellville 71.29 55 P **P** 05 54 36.1 -0.5
baz=322,SNR=48
ESY Stoneypath 71.30 350⇑ *e*P **P** 05 54 36.3 0.0
ACTO Acton 71.32 42 P **P** 05 54 35.7 -0.9
baz=326,SNR=7.6
PLVO Plevna 71.32 39 PFAKE 05 54 50.0 +13
PLVO LR LR
comp=Z,10µm,20.0s
PLVO Plevna 71.32 39 P **P** 05 54 35.9 -0.7
baz=327,SNR=8.3
I53A Kortright Cn E 71.33 41 P **P** 05 54 36.1 -0.6
baz=326
BKNI Bangkinang 71.36 245 PFAKE 05 54 50.0 +13
BKNI LR LR
comp=Z,6µm,20.0s
HYB Hyderabad 71.36 274⇑ *i*P **P** 05 54 36.5 -0.8
comp=Z,400nm,1.0s
HYB *e*S **S** 06 03 54.0 +2.1
HYB LR LR
comp=Z,18nm,18.0s
HYB Hyderabad 71.36 274 *e*P **P** 05 54 36.7 -0.5
M49A Liberty Center 71.40 46 P **P** 05 54 36.6 -0.6
baz=324,SNR=9.1
O47A Sheridan 71.42 48 P **P** 05 54 36.2 -1.1
baz=324
PKRO Pickering 71.43 41 P **P** 05 54 35.7 -1.6
baz=326,SNR=13
N48A Decatur 71.44 47 P **P** 05 54 36.6 -0.8
baz=324,SNR=18
P46A Rosedale 71.44 49 P **P** 05 54 37.4 0.0
baz=324,SNR=14
K51A Iona Station 71.45 43 P **P** 05 54 37.3 -0.1
baz=325
L50A Kingsville 71.45 44 P **P** 05 54 36.4 -1.0

baz=325,SNR=15
J52A Paris 71.45 42 P **P** 05 54 36.1 -1.3
baz=326,SNR=7.6
EBL Broad Law 71.49 350⇑ *e*P **P** 05 54 37.6 +0.1
DELO Deloro Mine 71.54 40 P **P** 05 54 37.2 -0.7
baz=327,SNR=6.8
SLBS Sierra La Lagu 71.54 75 PFAKE 05 54 50.0 +12
SLBS LR LR
comp=Z,3µm,18.0s
ANN Anapa 71.56 321 *e*P **P** 05 54 36.4 -1.6
ANN *e**PP **pP** 05 54 52.6 +2.2
ANN *e* 05 57 15.3
ANN *e*S **S** 06 03 49.1 -4.2
ANN pmax pmax
comp=Z,199nm,1.6s
ANN MLR MLR
comp=Z,34µm,25.0s
ANN MLR MLR
comp=E,22µm,25.0s
ANN MLR MLR
comp=N,81µm,25.0s
ORIO Orleans, Innes 71.57 38 P **P** 05 54 36.9 -1.2
baz=328,SNR=7.9
Q45A Warren Harvey, 71.57 50 P **P** 05 54 37.8 -0.4
baz=323,SNR=17
HPIG 71.59 70 *e*P **P** 05 54 40.1 +1.3
comp=N,64nm,1.3s
HPIG LR LR
comp=Z,4µm,19.0s
ALFO Alfred 71.66 37 P **P** 05 54 37.6 -1.0
baz=328,SNR=22
SOC Sochi 71.66 319*c* *i*P **P** 05 54 38.2 -0.5
SOC *e**PP **pP** 05 54 53.0 +1.9
SOC *e**SP **PcP** 05 54 59.4 +1.7
SOC *e*S **S** 06 03 53.7 -1.0
SOC *e*SSS SSS 06 11 43.8
SOC pmax pmax
comp=Z,150nm,1.0s
SOC MLR MLR
comp=Z,57µm,17.0s
H55A Tweed 71.69 39 P **P** 05 54 37.4 -1.4
baz=327,SNR=8.8
W39A Magazine 71.73 56 PFAKE 05 54 50.0 +11
W39A LR LR
comp=Z,11µm,20.0s
W39A Magazine 71.73 56 P **P** 05 54 37.4 -1.8
baz=322,SNR=12
WLVO Wesleyville 71.73 41 P **P** 05 54 38.6 -0.5
baz=327,SNR=6.9
K52A Tillsonburg 71.73 43 P **P** 05 54 39.2 +0.1
baz=326
LVV L'vov 71.76 332 *i* P **P** 05 54 39.2 0.0
LVV *i* 05 57 16.8
LVV *i* S **S** 06 03 56.3 +0.7
LVV *i* 06 04 37.1
LVV *i* 06 08 37.2
LVV *i* 06 11 43.8
LVV pmax pmax
comp=Z,940nm,1.5s
LVV MLR MLR
comp=N,39µm,18.0s
LVV MLR MLR
comp=E,18µm,18.0s
LVV MLR MLR
comp=Z,41µm,18.0s
N49A Columbus Grove 71.76 46 PFAKE 05 54 50.0 +11
N49A LR LR
comp=Z,15µm,20.0s
N49A Columbus Grove 71.76 46 P **P** 05 54 36.6 -2.8
baz=324,SNR=7.5
PLIO Pelee Island, 71.77 45 P **P** 05 54 39.2 -0.1
baz=325,SNR=5.5
U41A Viola 71.77 54 P **P** 05 54 38.9 -0.5
baz=322,SNR=10
I55A Frankford 71.77 40 P **P** 05 54 38.7 -0.6
baz=327
TYNO Tyneside 71.82 42 P **P** 05 54 39.4 -0.2
baz=326,SNR=8.6
Q46A CEJHS Indians, 71.85 49 P **P** 05 54 38.6 -1.2
baz=324
AKH Akhalkalaki 71.86 315 PFAKE 05 54 50.0 +10
AKH LR LR
comp=Z,41µm,19.0s
AKH Akhalkalaki 71.86 315⇑ *i*P **P** 05 54 40.6 +0.4
O48A Farmland 71.86 47 P **P** 05 54 39.2 -0.7
baz=324,SNR=12
M50A Fremont 71.87 45 PFAKE 05 54 50.0 +10
M50A LR LR
comp=Z,9µm,18.0s
M50A Fremont 71.87 45 P **P** 05 54 38.3 -1.7
baz=325,SNR=7.0
RUE Ruedersdorf 71.93 339 *e*P **P** 05 54 40.5 +0.3
RUE IAmb IAmb 05 54 43.0
comp=Z,243nm,1.0s
ESK Eskdalemuir 71.96 350 *e*P **P** 05 54 40.5 +0.3
comp=Z,94nm,0.8s
ESK LR LR
comp=Z,8µm,20.0s
ESK Eskdalemuir 71.96 350 *i* P **P** 05 54 40.9 +0.7
P47A Martinsville 71.98 48 P **P** 05 54 40.2 -0.5
baz=324,SNR=27
R45A Skylar, Fairfi 72.00 50 P **P** 05 54 41.0 +0.3
baz=323,SNR=14
S44A Carbondale 72.01 51 P **P** 05 54 41.1 +0.3
baz=323,SNR=8.5
SIUC Southern Illin 72.01 51 PFAKE 05 54 50.0 +9.1
SIUC LR LR
comp=Z,12µm,20.0s
H56A Elgin 72.01 39 P **P** 05 54 39.2 -1.5
baz=328
STCO Saint Catharin 72.01 41 P **P** 05 54 39.8 -1.0
baz=326
BLO Bloomington 72.11 49 PFAKE 05 54 50.0 +8.5
BLO LR LR
comp=Z,15µm,20.0s
JAGI Jajag, Banyuwa 72.13 228 PFAKE 05 54 50.0 +8.2
JAGI LR LR
comp=Z,2µm,22.0s
PBMO Poplar Bluff 72.16 53 PFAKE 05 54 50.0 +8.2
PBMO LR LR
comp=Z,8µm,20.0s
J54A Appleton 72.18 41 PFAKE 05 54 50.0 +8.2
J54A LR LR
comp=Z,10µm,20.0s
J54A Appleton 72.18 41 P **P** 05 54 41.3 -0.4
baz=327,SNR=8.1
BHH Howats Hill 72.18 350⇑ *i*P **P** 05 54 41.8 +0.2
JCT Junction City 72.19 63 PFAKE 05 55 00.0 +18
JCT LR LR
comp=Z,5µm,19.0s
JCT Junction City 72.19 63 P **P** 05 54 42.3 +0.2
baz=321,SNR=9.9
PECO Prince Edward 72.28 40 P **P** 05 54 40.9 -1.5
baz=327
O49A Covington 72.29 47 PFAKE 05 55 00.0 +17
O49A LR LR
comp=Z,11µm,20.0s
O49A Covington 72.29 47 P **P** 05 54 42.0 -0.5
baz=325,SNR=12
WHTX Lake Whitney, 72.30 61 PFAKE 05 55 00.0 +17
WHTX LR LR
comp=Z,6µm,20.0s
WHTX Lake Whitney, 72.30 61 P **P** 05 54 42.7 0.0
baz=321
EDMD Edmundbyers 72.30 349⇑ *e*P **P** 05 54 42.3 0.0
EDMD IAmb IAmb 05 54 44.0
comp=Z,73nm,1.2s
M51A Elyria 72.30 44 P **P** 05 54 42.4 -0.1
baz=325,SNR=7.6
KWP Kalwaria Pacla 72.31 333 *e*P **P** 05 54 43.3 +0.8
KWP Kalwaria Pacla 72.31 333 PFAKE 05 54 50.0 +7.5
KWP LR LR
comp=Z,441µm,18.0s
KWP Kalwaria Pacla 72.31 333 *e*P **P** 05 54 43.3 +0.8
BHJ Bhuj 72.31 285 *e*P **P** 05 54 42.8 -0.1
GNI Garni 72.34 313 *e*P **P** 05 54 43.9 +0.9
comp=Z,139nm,0.9s
GNI LR LR
comp=Z,30µm,18.0s
GNI Garni 72.34 313 *i* P **P** 05 54 43.5 +0.4
SNR=18
GNI Garni 72.34 313*c* *i*P **P** 05 54 43.2 +0.2
GNI pmax pmax
comp=Z,2µm,1.7s
GNI Garni 72.34 313 P **P** 05 54 43.8 +0.7
SNR=38

GNI				P	P	05 54 43.8	+0.7
	SNR=38						
N50A	Nevada	72.34	45	P	P	05 54 42.2	-0.6
	baz=325,SNR=18						
MEDO	Medina	72.34	41	PFAKE		05 55 00.0	+17
MEDO				LR	LR		
	comp=Z,10μm,20.0s						
MEDO	Medina	72.34	41	P	P	05 54 42.5	-0.2
	baz=327,SNR=9.7						
MIAR	Mount Ida	72.34	56	PFAKE		05 55 00.0	+17
MIAR				LR	LR		
	comp=Z,8μm,20.0s						
MIAR	Mount Ida	72.34	56	P	P	05 54 43.1	+0.2
	baz=322,SNR=28						
S45A	Carrier Mills	72.34	51	P	P	05 54 42.5	-0.4
	baz=323,SNR=8.7						
Q47A	Bedord North L	72.35	49	P	P	05 54 42.4	-0.5
	baz=324,SNR=17						
P48A	Milroy	72.38	48	P	P	05 54 42.6	-0.5
	baz=324,SNR=24						
WHAR	Wooly Hollow	72.41	55	PFAKE		05 55 00.0	+17
WHAR				LR	LR		
	comp=Z,12μm,18.0s						
R46A	Gibon Southern	72.42	50	P	P	05 54 42.7	-0.6
	baz=324,SNR=5.5						
CLGH	Cloghs, Cushen	72.47	352⇑	*e*P	P	05 54 43.3	0.0
CLGH				IAmb	IAmb	05 54 45.3	
	comp=Z,128nm,1.0s						
BATM	Batumi	72.48	316⇑	*i*P	P	05 54 43.0	-0.6
M52A	Chesterland	72.48	44	PFAKE		05 55 00.0	+16
M52A				LR	LR		
	comp=Z,15μm,18.0s						
M52A	Chesterland	72.48	44	P	P	05 54 43.0	-0.6
	baz=326,SNR=12						
J55A	Hilton	72.51	41	PFAKE		05 55 00.0	+16
J55A				LR	LR		
	comp=Z,11μm,19.0s						
J55A	Hilton	72.51	41	P	P	05 54 43.3	-0.4
	baz=327,SNR=6.8						
GSI	Gunungsitoli	72.52	249	PFAKE		05 55 00.0	+16
GSI				LR	LR		
	comp=Z,11μm,19.0s						
W41B	Gary Mavity, V	72.53	55	PFAKE		05 55 00.0	+16
W41B				LR	LR		
	comp=Z,12μm,18.0s						
W41B	Gary Mavity, V	72.53	55	P	P	05 54 44.2	+0.2
	baz=322,SNR=29						
BBO1	Bothel	72.53	350⇑	*e*P	P	05 54 43.9	+0.2
USIN	University of	72.55	50	PFAKE		05 55 00.0	+16
USIN				LR	LR		
	comp=Z,11μm,20.0s						
GAL1	Galloway	72.55	351⇑	*e*P	P	05 54 43.8	0.0
GAL1				IAmb	IAmb	05 54 47.7	
	comp=Z,53nm,1.1s						
GAL1				IAMs_20	IAMs_20	06 35 24.4	
	comp=Z,4μm,17.1s						
N51A	Ashland	72.56	45	PFAKE		05 55 00.0	+16
N51A				LR	LR		
	comp=Z,10μm,20.0s						
N51A	Ashland	72.56	45	P	P	05 54 41.7	-2.4
	baz=325,SNR=30						
GDLE	Glaisdale, N Y	72.56	349⇑	*e*P	P	05 54 44.0	+0.2
GDLE				IAmb	IAmb	05 54 44.5	
	comp=Z,503nm,2.1s						
OJC	Ojcow	72.57	335	*e*P	P	05 54 44.4	+0.4
OJC	Ojcow	72.57	335	*e*P	P	05 54 44.4	+0.4
ERPA	Erie	72.58	43	PFAKE		05 55 00.0	+16
ERPA				LR	LR		
	comp=Z,10μm,19.0s						
ERPA	Erie	72.58	43	P	P	05 54 43.4	-0.8
	baz=326						
PARMO	Parma	72.58	52	PFAKE		05 55 00.0	+16
PARMO				LR	LR		
	comp=Z,10μm,18.0s						
L53A	Girard	72.60	43	P	P	05 54 43.9	-0.4
	baz=326,SNR=6.6						
LONY	Lake Ozonia	72.63	38	PFAKE		05 55 00.0	+16
LONY				LR	LR		
	comp=Z,11μm,22.0s						
LONY	Lake Ozonia	72.63	38	P	P	05 54 43.9	-0.6
	baz=328,SNR=6.8						
BCA	Boroka	72.64	316⇑	*i*P	P	05 54 43.8	-0.8
O50A	Cable	72.64	46	P	P	05 54 43.6	-1.0
	baz=325,SNR=14						
P49A	Miami Univ. Ec	72.65	47	P	P	05 54 44.4	-0.2
	baz=325						
SMRI	Semarang	72.65	233	*e*P	P	05 54 46.2	+1.3
	comp=Z,147nm,0.9s						
KESW	Keswick, Cumbr	72.66	350⇑	*e*P	P	05 54 45.0	+0.5
KESW				IAmb	IAmb	05 54 46.6	
	comp=Z,233nm,0.9s						
KESW				IAMs_20	IAMs_20	06 33 41.3	
	comp=Z,19μm,18.4s						
Q48A	North Vernon	72.67	48	P	P	05 54 44.6	-0.2
	baz=324						
SIM	Simferopol'	72.69	323	*ce*P	P	05 54 44.3	-0.5
SIM				*e**PP	pP	05 54 58.0	+0.8
SIM				*e*S	S	06 04 08.0	+1.6
SIM				pmax	pmax		
	comp=Z,99nm,0.9s						
SIM				MLR	MLR		
	comp=Z,28μm,19.1s						
S46A	Don Dixon Farm	72.75	50	P	P	05 54 45.3	+0.1
	baz=324,SNR=7.0						
L54A	Sinclairville	72.76	42	P	P	05 54 45.1	-0.2
	baz=327,SNR=8.0						
X40A	Basin Creek Fa	72.77	56	PFAKE		05 55 00.0	+15
X40A				LR	LR		
	comp=Z,14μm,20.0s						
X40A	Basin Creek Fa	72.77	56	P	P	05 54 45.7	+0.2
	baz=322,SNR=15						
KIS	Kishinev	72.77	327⇑	*i*P	P	05 54 44.0	-1.2
	comp=Z,800nm,2.0s						
KIS	Kishinev	72.77	327	*i* PcP	PcP	05 55 15.0	+13
KIS				*e*S	S	06 04 02.0	-5.2
KIS				LRM	MLR	06 30 28.0	
	comp=Z,47μm,16.0s						
KIS	Kishinev	72.77	327⇑	*i*P	P	05 54 44.0	-1.2
KIS				*e*S	S	06 04 02.0	-5.2
KIS				*e*		06 04 50.0	
KIS				pmax	pmax		
	comp=Z,800nm,2.0s						
KIS				MLR	MLR		
	comp=Z,47μm,16.0s						
KIS				MLR	MLR		
	comp=N,40μm,18.0s						
UALR	University of	72.79	55	PFAKE		05 55 00.0	+14
UALR				LR	LR		
	comp=Z,12μm,19.0s						
PVMO	Portageville	72.81	52	PFAKE		05 55 00.0	+14
PVMO				LR	LR		
	comp=Z,10μm,19.0s						
FRNY	Flat Rock	72.81	37	PFAKE		05 55 00.0	+14
FRNY				LR	LR		
	comp=Z,13μm,20.0s						
R47A	Wooly Knot Far	72.82	49	P	P	05 54 45.2	-0.4
	baz=324,SNR=18						
T45A	Paducah	72.84	51	PFAKE		05 55 00.0	+14
T45A				LR	LR		
	comp=Z,13μm,20.0s						
T45A	Paducah	72.84	51	P	P	05 54 45.7	-0.1
	baz=323						
ACSO	Alum Creek Sta	72.85	46	PFAKE		05 55 00.0	+14
ACSO				LR	LR		
	comp=Z,10μm,20.0s						
ACSO	Alum Creek Sta	72.85	46	P	P	05 54 45.7	-0.1
	baz=325,SNR=13						
M53A	WI Miller and	72.86	43	P	P	05 54 45.9	0.0
	baz=326,SNR=16						
K55A	Perry	72.86	41	P	P	05 54 45.2	-0.7
	baz=327,SNR=15						
KSP	Ksiaz	72.88	337	*e*P	P	05 54 46.4	+0.5
KSP	Ksiaz	72.88	337	*e*P	P	05 54 46.4	+0.5
ALLY	Alegheny Colle	72.90	43	PFAKE		05 55 00.0	+14
ALLY				LR	LR		
	comp=Z,13μm,19.0s						
STHS	Stebnicka Huta	72.91	333	*e*P	P	05 54 47.4	+1.3
STHS				pmax	pmax		
	comp=Z,111nm,0.9s						
STHS	Stebnicka Huta	72.91	333	*e*P	P	05 54 47.4	+1.3
N52A	McGinn's Farm,	72.94	44	P	P	05 54 46.3	-0.1
	baz=326						
WCI	Wyandotte Cave	72.98	49	*e*P	P	05 54 47.4	+0.7
	comp=Z,81nm,0.9s						
WCI				LR	LR		
	comp=Z,18μm,20.0s						
WCI	Wyandotte Cave	72.98	49	P	P	05 54 46.9	+0.2
	baz=324						
Q49A	Aurora	72.99	48	P	P	05 54 46.5	-0.2
	baz=325						
P50A	Jamestown	73.00	47	P	P	05 54 46.4	-0.3
	baz=325,SNR=9.3						
GNAR	Gosnell	73.01	53	PFAKE		05 55 00.0	+13
GNAR				LR	LR		
	comp=Z,8μm,22.0s						
IAS	Iasi	73.01	328⇑	*i*P	P	05 54 47.7	+1.1
HBAR	Harrisburg	73.02	54	PFAKE		05 55 00.0	+13
HBAR				LR	LR		
	comp=Z,10μm,22.0s						
CTA	Charters Tower	73.02	194	LR	LR	06 22 27.8	
	comp=Z,2μm,21.6s,baz=355,slow=32						
CTAO	Charters Tower	73.02	194	*e*P	P	05 54 47.9	+1.0
	comp=Z,80nm,1.2s						
R48A	Northridge Ran	73.04	49	P	P	05 54 46.7	-0.2
	baz=324,SNR=11						
KOLS	Kolonicke sedl	73.06	333	*e*P	P	05 54 47.3	+0.3
KOLS				pmax	pmax		
	comp=Z,194nm,1.5s						
KOLS	Kolonicke sedl	73.06	333	*e*P	P	05 54 47.3	+0.3
RAC	Raciborz	73.11	336	*e*P	P	05 54 48.2	+1.0
RAC				MLR	MLR		
	comp=Z,73μm,18.9s						
HPK	Haverah Park	73.11	349⇑	*e*P	P	05 54 47.6	+0.4
HPK				IAmb	IAmb	05 54 49.3	
	comp=Z,222nm,1.0s						
HPK				IAMs_20	IAMs_20	06 34 05.1	
	comp=Z,19μm,17.8s						
GLAT	Glass	73.12	52	PFAKE		05 55 00.0	+12
GLAT				LR	LR		
	comp=Z,10μm,19.0s						
IOMK	Kirk Michael	73.14	351⇑	*e*P	P	05 54 47.3	+0.1
IOMK				IAmb	IAmb	05 54 49.0	
	comp=Z,180nm,1.0s						
IOMK				IAMs_20	IAMs_20	06 36 35.0	
	comp=Z,20μm,16.0s						
435B	Jarrell	73.16	62	PFAKE		05 55 00.0	+12
435B				LR	LR		
	comp=Z,6μm,19.0s						
435B	Jarrell	73.16	62	P	P	05 54 47.6	-0.2
	baz=321						
L55A	Hinsdale	73.17	42	P	P	05 54 46.8	-0.9
	baz=327,SNR=10.0						
NIE	Niedzica	73.17	334	*e*P	P	05 54 48.6	+1.0
NIE	Niedzica	73.17	334	*e*P	P	05 54 48.6	+1.0
PQI	Presque Isle	73.17	32	PFAKE		05 55 00.0	+12
PQI				LR	LR		
	comp=Z,13μm,19.0s						
T46A	Princeton	73.18	51	P	P	05 54 48.1	+0.3
	baz=324,SNR=41						
CLL	Collm	73.20	339	PFAKE		05 55 00.0	+12
CLL				LR	LR		
	comp=Z,31μm,19.0s						
CLL	Collm	73.20	339⇑	*i*P	P	05 54 48.0	+0.3
CLL				pmax	pmax		
	comp=Z,296nm,1.1s						
CLL				MLR	MLR		
	comp=Z,27μm,19.2s						
CLL	Collm	73.20	339⇑	*i*P	P	05 54 48.0	+0.3
	comp=Z,296nm,1.1s						
CLL				*i*		05 54 54.3	
CLL				*e*S	SKiKP	06 04 19.0	+4.0
CLL				*es*S	sS	06 04 36.0	+2.6
CLL				*e*PPS	PPS	06 05 06.0	
CLL				*e*(SS)		06 09 30.0	
CLL				*e*SSS	SSS	06 12 12.0	
CLL				*e*SSSS		06 13 48.0	
CLL				LmV		06 32 00.0	
	comp=Z,27μm,19.2s						
CLL				Lmax		06 33 00.0	
SEVA	Sevastopol	73.21	323⇓	*i*P	P	05 54 47.2	-0.7
S47A	Hartford	73.22	50	P	P	05 54 47.6	-0.4
	baz=324,SNR=21						
M54A	Oil Creek Stat	73.22	43	PFAKE		05 55 00.0	+12
M54A				LR	LR		
	comp=Z,10μm,20.0s						
M54A	Oil Creek Stat	73.22	43	P	P	05 54 47.0	-1.1
	baz=326,SNR=16						
WLAR	White Oak Lake	73.25	57	PFAKE		05 55 00.0	+12
WLAR				LR	LR		
	comp=Z,9μm,19.0s						
WIM	Isle of Man	73.26	351⇑	*e*P	P	05 54 48.2	+0.2
UPC	Upice	73.26	337	*e*P	P	05 54 48.6	+0.5
UPC				*e*		05 55 01.0	
UPC				MLR	MLR		
	comp=Z,35μm,16.7s						
UPC	Upice	73.26	337	*e*P	P	05 54 48.6	+0.5
UPC				*ep*P	pP	05 55 01.0	+0.4
UPC				*ex*	x	06 04 32.6	
UPC				AMS	AMS	06 31 00.0	
	comp=Z,35μm,16.7s						
PRAR	RASCA	73.28	329⇑	*i*P	P	05 54 49.2	+0.9
N53A	Lisbon	73.31	44	PFAKE		05 55 00.0	+11
N53A				LR	LR		
	comp=Z,12μm,19.0s						
N53A	Lisbon	73.31	44	P	P	05 54 48.4	-0.2
	baz=326,SNR=18						
NCB	Newcomb	73.31	38	PFAKE		05 55 00.0	+11
NCB				LR	LR		
	comp=Z,9μm,22.0s						
UZH	Uzhgorod	73.33	332	*c i*P	P	05 54 48.0	-0.5
UZH				*e*		05 55 11.0	
UZH				*e*S	S	06 04 11.0	-2.5
UZH				*i* PS		06 04 43.2	
UZH				MLR	MLR		
	comp=N,6μm,17.0s						
UZH				MLR	MLR		
	comp=E,4μm,17.0s						
UZH				MLR	MLR		
	comp=Z,8μm,17.0s						
DPC	Dobruska-Polom	73.33	337	*e*P	P	05 54 49.3	+0.7
DPC				*e*		05 54 57.6	
DPC				MLR	MLR		
	comp=Z,35μm,16.7s						
DPC	Dobruska-Polom	73.33	337	*e*P	P	05 54 49.3	+0.7
DPC				*ep*P	pP	05 54 57.6	-3.5
DPC				*ex*	x	06 04 32.9	
DPC				AMS	AMS	06 31 00.0	
	comp=Z,35μm,16.7s						
OKC	Ostrava-Krasne	73.35	335	*e*P	P	05 54 49.8	+1.2
OKC				*e*		05 54 57.4	
OKC	Ostrava-Krasne	73.35	335	*e*P	P	05 54 49.8	+1.2
OKC				*ep*P	pP	05 54 57.4	-3.8
UGM	Wanagama	73.36	232	PFAKE		05 55 00.0	+11
UGM				LR	LR		
	comp=Z,4μm,19.0s						
BURAR	Bucovina Array	73.37	330⇑	*i*P	P	05 54 48.8	-0.2
HALT	Halls	73.39	53	PFAKE		05 55 00.0	+11
HALT				LR	LR		
	comp=Z,9μm,18.0s						
POO	Poona	73.39	279	*e*P	P	05 54 48.8	-0.5
BRG	Berggiesshubel	73.40	338⇑	*i*P	P	05 54 49.2	+0.3
	comp=Z,167nm,1.5s						
BRG				PP	PP	05 57 31.0	-1.1
BRG				S	SKiKP	06 04 25.0	+10
BRG				SS	SS	06 09 01.0	+5.2
BRG	Berggiesshubel	73.40	338⇑	*i*P	P	05 54 49.2	+0.3
BRG						05 57 31.0	
BRG				SS	SS	06 09 01.0	+5.2
BRG				pmax	pmax		
	comp=Z,167nm,1.5s						
BRG				MLR	MLR		
	comp=N,21μm,17.2s						
BRG				MLR	MLR		
	comp=E,21μm,17.3s						
BRG				MLR	MLR		
	comp=Z,34μm,16.0s						
LEOM	Leova	73.42	328⇓	*i*P	P	05 54 49.3	+0.2
P51A	Williamsport	73.43	46	PFAKE		05 55 00.0	+11
P51A				LR	LR		
	comp=Z,15μm,19.0s						
P51A	Williamsport	73.43	46	P	P	05 54 49.2	-0.1
	baz=325,SNR=10						
R49A	Shelbyville	73.45	48	P	P	05 54 49.4	0.0
	baz=325,SNR=14						
O52A	Adamsville	73.45	45	PFAKE		05 55 00.0	+11
O52A				LR	LR		
	comp=Z,11μm,18.0s						
O52A	Adamsville	73.45	45	P	P	05 54 48.8	-0.6
	baz=326,SNR=28						
KRLC	Kraliky	73.47	336	*e*P	P	05 54 50.1	+0.7
KRLC				MLR	MLR		
	comp=Z,13μm,16.9s						
KRLC	Kraliky	73.47	336	*e*P	P	05 54 50.1	+0.7
KRLC				*ex*	x	06 04 33.8	
KRLC				AMS	AMS	06 31 00.0	
	comp=Z,13μm,16.9s						
CLDR	Caldiran	73.53	313	P	P	05 54 51.2	+1.0
N54A	Moraine State	73.54	43	PFAKE		05 55 00.0	+10
N54A				LR	LR		
	comp=Z,15μm,18.0s						
N54A	Moraine State	73.54	43	P	P	05 54 49.1	-0.9
	baz=326,SNR=19						
S48A	Wiedeman Farm,	73.55	49	P	P	05 54 49.8	-0.2
	baz=324,SNR=30						
VT1	Waterbury	73.55	37	PFAKE		05 55 00.0	+10
VT1				LR	LR		
	comp=Z,10μm,22.0s						
MORC	Moravsky Berou	73.56	336	PFAKE		05 55 00.0	+10
MORC				LR	LR		
	comp=Z,55μm,19.0s						
MORC	Moravsky Berou	73.56	336⇑	*i*P	P	05 54 50.5	+0.5
MORC	Moravsky Berou	73.56	336⇑	*i*P	P	05 54 50.4	+0.5
MORC				*e*S	S	06 04 17.7	+1.5
PVCC	Panska Ves	73.58	338	*e*P	P	05 54 50.5	+0.5
PVCC				MLR	MLR		
	comp=Z,44μm,15.9s						
PVCC	Panska Ves	73.58	338	*e*P	P	05 54 50.5	+0.5
PVCC				*ex*	x	06 04 35.6	
PVCC				AMS	AMS	06 32 10.0	
	comp=Z,44μm,15.9s						
AGRB	Hanur-Agry	73.58	314	P	P	05 54 51.5	+1.1
U46A	Springville	73.59	51	P	P	05 54 50.6	+0.3
	baz=324						
T47A	Sharon Grove	73.60	50	PFAKE		05 55 00.0	+10
T47A				LR	LR		
	comp=Z,12μm,20.0s						
T47A	Sharon Grove	73.60	50	P	P	05 54 50.6	+0.3
	baz=324,SNR=29						
O53A	New Philadelph	73.61	44	P	P	05 54 49.7	-0.6
	baz=326,SNR=15						
M55A	Ridgway	73.63	42	P	P	05 54 49.6	-0.9
	baz=327,SNR=29						
LANS	Liptovska Anna	73.64	334	*e*P	P	05 54 51.7	+1.3
LANS	Liptovska Anna	73.64	334	*e*P	P	05 54 51.7	+1.3
MDRS	Chennai	73.65	270	*e*P	P	05 54 50.3	-0.6
MDRS				IAmb	IAmb	05 54 53.2	
	comp=Z,146nm,0.6s						
LBWR	Ladybower, Pea	73.67	349⇑	*e*P	P	05 54 50.7	+0.3
LBWR				IAmb	IAmb	05 54 52.9	
	comp=Z,185nm,0.9s						
LBWR				IAMs_20	IAMs_20	06 35 51.9	
	comp=Z,21μm,16.8s						
Q51A	Peebles	73.68	47	PFAKE		05 55 00.0	+9.2
Q51A				LR	LR		
	comp=Z,12μm,21.0s						
Q51A	Peebles	73.68	47	P	P	05 54 50.4	-0.3
	baz=325,SNR=11						
MARNC	Mare, Loyalty	73.70	172	PFAKE		05 55 00.0	+9.2
MARNC				LR	LR		
	comp=Z,14μm,22.0s						
BIZ	Bicaz	73.70	329⇑	*i*P	P	05 54 50.9	+0.1
TRPA	Tarpa	73.71	332⇓	*i*P	P	05 54 51.2	+0.5
TRPA	Tarpa	73.71	332⇑	*i*P	P	05 54 51.1	+0.3
TRPA				*e*S	S	06 04 18.1	+0.3
P52A	Corning	73.72	45	P	P	05 54 50.6	-0.3
	baz=326,SNR=13						
MET	Memphis--Engin	73.72	53	PFAKE		05 55 00.0	+9.0
MET				LR	LR		
	comp=Z,9μm,21.0s						
X43A	Marvell	73.73	54	PFAKE		05 55 00.0	+8.9
X43A				LR	LR		
	comp=Z,11μm,20.0s						
X43A	Marvell	73.73	54	P	P	05 54 51.3	+0.2
	baz=323						
Z41A	Richland Creek	73.75	57	PFAKE		05 55 00.0	+8.8
Z41A				LR	LR		
	comp=Z,9μm,19.0s						
Z41A	Richland Creek	73.75	57	P	P	05 54 51.3	+0.1
	baz=322						
CCAR	Cane Creek	73.76	55	PFAKE		05 55 00.0	+8.7
CCAR				LR	LR		
	comp=Z,12μm,19.0s						
KTUT	Trabzon	73.80	317	P	P	05 54 49.9	-1.5
KTUT	Trabzon	73.80	317⇑	*i*P	P	05 54 50.6	-0.8
S49A	Springfield	73.80	49	P	P	05 54 51.5	0.0
	baz=325,SNR=19						
WTSB	Winterswijk	73.81	343	*e*P	P	05 54 51.6	+0.4
	comp=Z,222nm,1.0s						
BIR	Birlad	73.81	328⇑	*i*P	P	05 54 52.3	+0.9
T48A	Bowling Green	73.83	50	P	P	05 54 52.2	+0.5
	baz=324,SNR=14						
R50A	Paris	73.84	48	P	P	05 54 51.7	0.0
	baz=325,SNR=14						
BMR	Baia Mare	73.84	331⇑	*i*P	P	05 54 52.2	+0.6
TESR	Tescani	73.91	329⇑	*i*P	P	05 54 51.7	-0.3
LBNH	Lisbon	73.93	36	PFAKE		05 55 00.0	+7.8
LBNH				LR	LR		
	comp=Z,10μm,22.0s						
LBNH	Lisbon	73.93	36	P	P	05 54 51.8	-0.4
	baz=330,SNR=11						
WVT	Waverly	73.94	51	*e*P	P	05 54 53.2	+0.9
	comp=Z,60nm,1.1s						
WVT				LR	LR		
	comp=Z,13μm,21.0s						
WVT	Waverly	73.94	51	P	P	05 54 52.7	+0.3
	baz=324						
U47A	Clarksville	73.95	51	P	P	05 54 52.4	+0.1
	baz=324,SNR=14						
NATX	Nacogdoches	73.96	59	*e*P	P	05 54 54.1	+1.6
	comp=Z,98nm,1.0s						
NATX				LR	LR		
	comp=Z,7μm,22.0s						
NATX	Nacogdoches	73.96	59	P	P	05 54 52.0	-0.5
	baz=322						
KECS	Kecovo	73.97	333	*e*P	P	05 54 52.8	+0.5
KECS				pmax	pmax		
	comp=Z,521nm,1.7s						
KECS	Kecovo	73.97	333	*e*P	P	05 54 52.8	+0.5
PKME	Peaks-Kenny Pk	73.98	34	PFAKE		05 55 00.0	+7.6
PKME				LR	LR		
	comp=Z,15μm,20.0s						
PKME	Peaks-Kenny Pk	73.98	34	P	P	05 54 52.4	+0.1
	baz=331,SNR=12						
ETX06	Route 59 and C	73.99	59	PFAKE		05 55 10.0	+17
ETX06				LR	LR		
	comp=Z,4μm,21.0s						
O54A	Avella	74.02	44	P	P	05 54 52.8	+0.1
	baz=326,SNR=19						
ACCN	Adirondack Com	74.02	38	PFAKE		05 55 10.0	+17
ACCN				LR	LR		
	comp=Z,13μm,21.0s						
WACR	West Acre	74.04	347⇑	*e*P	P	05 54 52.8	+0.2
WACR				IAmb	IAmb	05 54 55.1	
	comp=Z,277nm,0.9s						
V46A	Holladay	74.07	52	P	P	05 54 52.5	-0.6
	baz=324,SNR=28						
833A	Chaparral WMA,	74.08	64	PFAKE		05 55 10.0	+17
833A				LR	LR		
	comp=Z,6μm,19.0s						
833A	Chaparral WMA,	74.08	64	P	P	05 54 53.6	+0.3
	baz=321						
WLF1	Llynfaes	74.08	350	*e*P	P	05 54 52.1	-0.6
WLF1				IAmb	IAmb	05 54 58.0	
	comp=Z,159nm,1.1s						
WLF1				IAMs_20	IAMs_20	06 34 27.3	
	comp=Z,26μm,18.8s						
PRU	Pruhonice	74.09	338	*e*P	P	05 54 53.3	+0.3
PRU				*e*S	S	06 04 25.2	+3.1
PRU				MLR	MLR		
	comp=Z,43μm,16.1s						
PRU	Pruhonice	74.09	338	*e*P	P	05 54 53.3	+0.3
PRU				*e*S	S	06 04 25.2	+3.1
PRU				AMS	AMS	06 31 40.0	
	comp=Z,43μm,16.1s						
GOPC	GO Pecny, Ondr	74.10	338	*e*P	P	05 54 53.3	+0.2
GOPC				MLR	MLR		
	comp=Z,40μm,17.1s						
GOPC	GO Pecny, Ondr	74.10	338	*e*P	P	05 54 53.3	+0.2
GOPC				*ex*	x	06 04 38.4	
GOPC				AMS	AMS	06 31 40.0	
	comp=Z,40μm,17.1s						
ARCR	ARCALIA	74.11	330⇑	*i*P	P	05 54 54.1	+0.9
N55A	Marion Center	74.11	43	PFAKE		05 55 10.0	+17
N55A				LR	LR		
	comp=Z,11μm,19.0s						
N55A	Marion Center	74.11	43	P	P	05 54 52.2	-1.1
	baz=327,SNR=30						

BINY Binghamton 74.14 40 PFAKE 05 55 10.0 +17
BINY LR LR
comp=Z,9μm,20.0s
BINY Binghamton 74.14 40 P **P 05 54 52.9 -0.5**
baz=328,SNR=7.8
P53A Whipple 74.16 45 PFAKE 05 55 10.0 +16
P53A LR LR
comp=Z,10μm,19.0s
P53A Whipple 74.16 45 P **P 05 54 53.7 +0.1**
baz=326,SNR=15
R51A Hillsboro 74.16 47 P **P 05 54 54.0 +0.4**
baz=325,SNR=18
DZM Mont Dzumac 74.17 174 *e*P **P 05 54 55.9 +2.2**
comp=Z,166nm,1.2s
DZM *e*S **S 06 04 24.2 +0.7**
comp=Z,10μm,27.2s
DZM Mont Dzumac 74.17 174 *e*LR LR 06 17 49.4
comp=Z,15μm,21.5s
DZM Mont Dzumac 74.17 174 PFAKE 05 55 10.0 +16
DZM LR LR
comp=Z,10μm,20.0s
DZM Mont Dzumac 74.17 174 LR LR 06 22 46.5
comp=Z,10μm,21.3s,baz=4.5,slow=32
MNAI Manna 74.21 241 PFAKE 05 55 10.0 +16
MNAI LR LR
comp=Z,6μm,21.0s
Q52A Bidwell 74.21 46 P **P 05 54 53.8 -0.1**
baz=326,SNR=10
VANB Van 74.21 313 P **P 05 54 55.3 +1.3**
VRAC Vranov 74.23 336⇓ *i*P **P 05 54 54.8 +1.0**
VRAC Vranov 74.23 336⇑ *i*P **P 05 54 54.6 +0.8**
VRAC *e*S **S 06 04 26.0 +2.3**
T49A Edmonton 74.24 49 PFAKE 05 55 10.0 +16
T49A LR LR
comp=Z,13μm,20.0s
T49A Edmonton 74.24 49 P **P 05 54 54.1 0.0**
baz=325,SNR=23
U48A Cassie Pea, Po 74.25 50 P **P 05 54 54.2 0.0**
baz=324,SNR=15
HNH Hanover 74.26 37 PFAKE 05 55 10.0 +16
HNH LR LR
comp=Z,10μm,20.0s
CWF Charnwood Fore 74.27 348⇑ *e*P **P 05 54 53.9 0.0**
CWF IAmb IAmb 05 54 56.6
comp=Z,101nm,1.0s
S50A Richmond 74.30 48 P **P 05 54 54.2 -0.2**
baz=325,SNR=9.8
GIUM Giurgiulesti 74.30 327⇑ *i*P **P 05 54 55.0 +0.8**
DSB Dublin 74.31 352 PFAKE 05 55 10.0 +16
DSB LR LR
comp=Z,8μm,22.0s
V47A Nunnelly 74.33 51 P **P 05 54 55.1 +0.5**
baz=324,SNR=17
NKC Novy Kostel 74.33 339 *e*P **P 05 54 55.5 +1.1**
NKC *e*S S 06 04 43.7 +19
NKC MLR MLR
comp=Z,24μm,16.0s
NKC Novy Kostel 74.33 339 *e*P **P 05 54 55.5 +1.1**
NKC *e*x x 06 04 43.7
NKC AMS AMS 06 33 30.0
comp=Z,24μm,16.0s
FOEL Foel Wylfa 74.35 350⇑ *e*P **P 05 54 54.7 +0.3**
FOEL IAmb IAmb 05 54 56.5
comp=Z,174nm,0.9s
FOEL IAMs_20 IAMs_20 06 34 47.8
comp=Z,20μm,17.9s
TLCR 74.36 327⇑ *i*P **P 05 54 54.5 -0.1**
JAVC Velka Javorina 74.37 335⇑ *i*P **P 05 54 56.4 +1.7**
JAVC *e*S **S 06 04 26.6 +1.2**
IGLA Glengowla, Co 74.38 354⇑ *e*P **P 05 54 54.6 +0.1**
IGLA IAmb IAmb 05 54 56.0
comp=Z,109nm,1.0s
CISI Cisompet, Garu 74.39 235 PFAKE 05 55 10.0 +15
CISI LR LR
comp=Z,5μm,22.0s
VYHS Vyhne 74.41 334 *e*P **P 05 54 55.6 +0.7**
VYHS pmax pmax
comp=Z,75nm,1.0s
VYHS Vyhne 74.41 334 *e*P **P 05 54 55.6 +0.7**
PETR Petresti 74.42 328⇓ *i*P **P 05 54 56.1 +1.2**
LLW Llanuwychllyn 74.44 350 *e*P **P 05 54 54.9 -0.1**
ODBI Odobesti 74.44 328⇑ *i*P **P 05 54 56.8 +1.8**
VRI Vrincioaia 74.45 328 P **P 05 54 55.3 +0.1**
VRI Vrincioaia 74.45 328⇓ *i*P **P 05 54 55.7 +0.5**
O55A Ligonier 74.46 43 P **P 05 54 55.1 -0.2**
baz=327,SNR=28
P54A Burton 74.46 44 P **P 05 54 55.6 +0.2**
baz=326,SNR=33
WVL Waterville 74.46 35 PFAKE 05 55 10.0 +15
WVL LR LR
comp=Z,15μm,19.0s
OXF Oxford 74.47 53 PFAKE 05 55 10.0 +15
OXF LR LR
comp=Z,11μm,22.0s
OXF Oxford 74.47 53 P **P 05 54 55.4 -0.1**
baz=324,SNR=9.2
W46A Michie 74.47 52 P **P 05 54 55.0 -0.5**
baz=324
PLOR Plostina 74.49 328⇓ *i*P **P 05 54 56.0 +0.6**
KRUC Moravsky 74.51 336⇑ *i*P **P 05 54 55.9 +0.5**
KRUC *e*S **S 06 04 28.0 +1.2**
TREC Trest 74.51 337 *e*P **P 05 54 56.0 +0.5**
TREC *e* 05 55 04.3
TREC MLR MLR
comp=Z,43μm,16.6s
TREC Trest 74.51 337 *e*P **P 05 54 56.0 +0.5**
TREC *e*pP **pP 05 55 04.3 -3.7**
TREC AMS AMS 06 31 40.0
comp=Z,43μm,16.6s
OUENC Ouen Island, N 74.54 174 PFAKE 05 55 10.0 +14
OUENC LR LR
comp=Z,9μm,20.0s
OZUR 74.55 329⇑ *i*P **P 05 54 56.5 +0.7**
R52A Catlettsburg 74.55 47 P **P 05 54 56.0 +0.2**
baz=326,SNR=12
LTVH Ltavrtes, Hu 74.57 332⇑ *i*P **P 05 54 56.1 +0.3**
LTVH *e*S S 06 04 52.1 +25
TRY Troy 74.58 38 PFAKE 05 55 10.0 +14
TRY LR LR
comp=Z,9μm,20.0s
CFR Carcaliu 74.60 327⇑ *i*P **P 05 54 55.7 -0.3**
U49A Red Boiling Sp 74.61 50 P **P 05 54 56.2 0.0**
baz=325,SNR=15
AKDM Akdamar-Van 74.61 314 P **P 05 54 57.0 +0.6**
Q53A Leroy 74.62 46 P **P 05 54 56.4 +0.1**
baz=326,SNR=30
T50A Nancy 74.63 49 P **P 05 54 55.7 -0.7**
baz=325,SNR=18
PSZ Piszkesteto 74.65 334 PFAKE 05 55 10.0 +14
PSZ LR LR
comp=Z,66μm,18.0s
PSZ Piszkesteto 74.65 334⇓ *i*P **P 05 54 57.3 +1.0**
CJR Cluj-Napoca 74.67 331⇓ *i*P **P 05 54 56.7 +0.2**
MCWV Mont Chateau 74.68 44 PFAKE 05 55 10.0 +13
MCWV LR LR
comp=Z,7μm,19.0s
MCWV Mont Chateau 74.68 44 P **P 05 54 56.9 +0.3**
baz=327,SNR=19
CLTN Cedars of Leba 74.69 50 PFAKE 05 55 10.0 +13
CLTN LR LR
comp=Z,7μm,20.0s
SSPA Standing Stone 74.69 42 *e*P **P 05 54 56.9 +0.3**
comp=Z,83nm,0.9s
SSPA LR LR
comp=Z,8μm,20.0s
SSPA Standing Stone 74.69 42 P **P 05 54 56.0 -0.6**
baz=328
S51A Beattyville 74.70 48 PFAKE 05 55 10.0 +13
S51A LR LR
comp=Z,10μm,20.0s
S51A Beattyville 74.70 48 P **P 05 54 56.7 0.0**
baz=325,SNR=7.5
O56A Blue Knob Stat 74.72 43 PFAKE 05 55 10.0 +13
O56A LR LR
comp=Z,11μm,19.0s
O56A Blue Knob Stat 74.72 43 P **P 05 54 56.8 0.0**
baz=327,SNR=22
V48A Smith Brothers 74.74 51 PFAKE 05 55 10.0 +13
V48A LR LR
comp=Z,13μm,20.0s
V48A Smith Brothers 74.74 51 P **P 05 54 57.5 +0.5**
baz=324,SNR=28
PLAL Pickwick Lake 74.74 52 PFAKE 05 55 10.0 +13
PLAL LR LR
comp=Z,10μm,20.0s

SMOL Smolenice 74.75 335 *e*P **P 05 54 58.6 +1.7**
SMOL Smolenice 74.75 335 *e*P **P 05 54 58.6 +1.7**
HKT Hockley 74.76 61 *e*P **P 05 55 00.0 +3.0**
comp=Z,90nm,1.6s
HKT LR LR
comp=Z,10μm,19.0s
W47A Westpoint 74.76 52 P **P 05 54 57.9 +0.8**
baz=324,SNR=15
YEDI Yedisu-Bingol 74.76 316 P **P 05 54 57.8 +0.5**
SNOP Sinop 74.77 321 P **P 05 54 56.9 -0.2**
SNOP Sinop 74.77 321 PFAKE 05 55 10.0 +13
SNOP LR LR
comp=Z,14μm,19.0s
PINNC Pines Island, 74.77 173 PFAKE 05 55 10.0 +13
PINNC LR LR
comp=Z,11μm,20.0s
GRER 74.80 328⇑ *i*P **P 05 54 58.8 +1.6**
P55A Reedsville 74.82 44 P **P 05 54 57.9 +0.5**
baz=327,SNR=33
Q54A Coxs Mills 74.82 45 PFAKE 05 55 10.0 +13
Q54A LR LR
comp=Z,9μm,18.0s
Q54A Coxs Mills 74.82 45 P **P 05 54 57.3 -0.1**
baz=326,SNR=15
X46A Booneville 74.84 53 P **P 05 54 57.5 -0.1**
baz=324,SNR=6.2
DRGR 74.87 331⇑ *i*P **P 05 54 57.8 +0.2**
R53A Hurricane 74.87 46 PFAKE 05 55 10.0 +12
R53A LR LR
comp=Z,13μm,19.0s
R53A Hurricane 74.87 46 P **P 05 54 57.8 +0.1**
baz=326,SNR=16
S52A Salyersville 74.90 47 P **P 05 54 56.8 -1.1**
baz=326
MODS Modra-Piesok 74.92 335 *e*P **P 05 54 58.4 +0.5**
MODS pmax pmax
comp=Z,142nm,1.0s
MODS Modra-Piesok 74.92 335 *e*P **P 05 54 58.4 +0.5**
GGN Saint George 74.93 32 PFAKE 05 55 10.0 +12
GGN LR LR
comp=Z,9μm,20.0s
LMN Caledonia Moun 74.94 31 PFAKE 05 55 10.0 +12
LMN LR LR
comp=Z,9μm,21.0s
MDB Medias 74.95 330⇑ *i*P **P 05 54 58.5 +0.5**
ERZN Erzincan 74.99 316 P **P 05 54 57.9 -0.6**
MLR Muntele Rosu 75.04 329 PFAKE 05 55 10.0 +11
MLR LR LR
comp=Z,40μm,18.0s
MLR Muntele Rosu 75.04 329⇓ *i*P **P 05 54 59.4 +0.7**
DIKM Dikmen 75.07 321 P **P 05 54 59.5 +0.7**
DIKM Dikmen 75.07 321⇑ *i*P **P 05 54 59.2 +0.4**
BNGB Bingl 75.07 315 P **P 05 54 59.8 +0.8**
EMMW East Machias 75.08 33 PFAKE 05 55 10.0 +11
EMMW LR LR
comp=Z,19μm,20.0s
T51A Gray 75.09 48 P **P 05 54 59.2 +0.2**
baz=325,SNR=6.7
HARR Harsova 75.09 327⇑ *i*P **P 05 54 59.5 +0.6**
GRA1 Grafenberg Arr 75.11 340 PFAKE 05 55 10.0 +11
GRA1 LR LR
comp=Z,21μm,19.0s
GRFO Grafenberg 75.11 340 *e*P **P 05 55 00.1 +1.2**
comp=Z,307nm,1.1s
GRFO LR LR
comp=Z,20μm,18.0s
HGN Heimansgroeve 75.11 343 *e*P **P 05 54 59.5 +0.6**
comp=Z,210nm,1.0s
HGN *e*S S 06 04 44.8 +11
KHC Kasperske Hory 75.12 338 PFAKE 05 55 10.0 +11
KHC LR LR
comp=Z,7μm,21.0s
U50A Jamestown 75.12 49 P **P 05 54 58.5 -0.7**
baz=325,SNR=18
BEBN Eben Emael 75.13 344⇑ P **P 05 54 59.6 +0.7**
ZST Bratislava 75.13 335 *e*P **P 05 54 59.5 +0.5**
ZST Bratislava 75.13 335 *e*P **P 05 54 59.5 +0.5**
Q55A Buckhannon 75.14 44 P **P 05 54 59.5 +0.3**
baz=327,SNR=12
TLB Topalu 75.15 327⇑ *i*P **P 05 54 59.2 0.0**
V49A McMinnville 75.15 50 P **P 05 54 59.0 -0.4**
baz=325,SNR=14
W48A Pulaski 75.17 51 P **P 05 54 59.6 +0.1**
baz=324,SNR=18
MCH1 Michaelchurch 75.20 349⇑ *e*P **P 05 54 59.5 +0.1**
MCH1 IAmb IAmb 05 55 01.3
comp=Z,136nm,0.9s
MCH1 IAMs_20 IAMs_20 06 36 25.6
comp=Z,18μm,16.7s
CUKT Cukurca 75.22 312 P **P 05 55 00.0 +0.1**
X47A Russelville 75.22 52 P **P 05 54 58.6 -1.2**
baz=324,SNR=11
KVT Kavak 75.24 320 P **P 05 55 00.7 +0.9**
MEM Membach 75.25 343⇑ P **P 05 55 00.3 +0.7**
comp=Z,266nm,0.9s
BZK Bozkurt 75.29 322⇓ *i*P **P 05 55 00.1 +0.1**
WC1 Warramunga Arr 75.30 205 PFAKE 05 55 10.0 +10
WC1 LR LR
comp=Z,4μm,22.0s
WRAB Tennant Creek 75.31 205 *e*P **P 05 55 00.5 +0.3**
comp=Z,70nm,0.9s
WRAB LR LR
comp=Z,5μm,22.0s
WRAB Tennant Creek 75.31 205 *ce*P **P 05 55 00.8 +0.6**
WRAB pmax pmax
comp=Z,105nm,1.4s
N59A State Game Lan 75.31 41 PFAKE 05 55 10.0 +10
N59A LR LR
comp=Z,10μm,20.0s
N59A State Game Lan 75.31 41 P **P 05 54 59.5 -0.7**
baz=328,SNR=33
WB2 Warramunga Arr 75.32 205 PFAKE 05 55 10.0 +10
WB2 LR LR
comp=Z,5μm,22.0s
WRA Warramunga Arr 75.32 205 P **P 05 54 59.9 -0.4**
comp=Z,27nm,0.9s,baz=20,slow=5.2,SNR=103
STRD Stroud 75.32 349⇑ *e*P **P 05 55 00.3 +0.2**
STRD IAmb IAmb 05 55 05.6
comp=Z,276nm,1.1s
STRD IAMs_20 IAMs_20 06 36 17.6
comp=Z,17μm,17.1s
S53A Williamson 75.33 47 P **P 05 54 59.7 -0.7**
baz=326
WC3 Warramunga Arr 75.33 205 PFAKE 05 55 10.0 +10
WC3 LR LR
comp=Z,5μm,22.0s
MONM Monmouth 75.33 349⇑ *e*P **P 05 55 00.6 +0.5**
MONM IAmb IAmb 05 55 02.3
comp=Z,178nm,0.9s
MONM IAMs_20 IAMs_20 06 36 29.1
comp=Z,14μm,16.9s
WC4 Warramunga Arr 75.34 205 PFAKE 05 55 10.0 +10
WC4 LR LR
comp=Z,5μm,22.0s
UCC Uccle 75.35 344 PFAKE 05 55 10.0 +10
UCC LR LR
comp=Z,16μm,19.0s
UCC Uccle 75.35 344⇑ P **P 05 55 00.4 +0.2**
GEC2 GERESS Array S 75.36 338 PFAKE 05 55 10.0 +10
GEC2 LR LR
comp=Z,27μm,22.0s
GERES GERESS Array B 75.36 338 P **P 05 55 00.7 +0.3**
comp=Z,45nm,0.8s,baz=35,slow=4.9,SNR=150
GERES LR LR 06 33 17.3
comp=Z,23μm,20.3s,baz=24,slow=40
VOIR 75.37 329⇑ *i*P **P 05 55 01.0 +0.4**
EFOR EFORIE 75.39 326⇑ *i*P **P 05 55 00.9 +0.3**
T52A Hallie 75.41 48 PFAKE 05 55 10.0 +9.1
T52A LR LR
comp=Z,14μm,20.0s
T52A Hallie 75.41 48 P **P 05 55 00.6 -0.3**
baz=326,SNR=11
R54A Victor 75.42 46 P **P 05 55 01.0 +0.1**
baz=326,SNR=10.0
RSBS Rosebush, Pemb 75.43 350 *e*P **P 05 55 00.8 +0.1**
RSBS IAmb IAmb 05 55 06.0
comp=Z,50nm,1.1s
RSBS IAMs_20 IAMs_20 06 35 36.4
comp=Z,9μm,17.9s
QUA2 Belchertown 75.47 38 PFAKE 05 55 10.0 +8.9
QUA2 LR LR
comp=Z,12μm,20.0s
OLDB Oldbury-Upon-S 75.48 349⇑ *e*P **P 05 55 00.9 -0.1**
OLDB IAMs_20 IAMs_20 06 36 32.7
comp=Z,15μm,17.2s

ELSH Elham, Standar 75.50 347⇑ *e*P **P 05 55 01.6 +0.5**
ELSH IAmb IAmb 05 55 04.0
comp=Z,195nm,0.9s
ELSH IAMs_20 IAMs_20 06 35 09.9
comp=Z,22μm,16.4s
W49A Belvidere 75.51 51 P **P 05 55 01.3 -0.1**
baz=325,SNR=12
PAGS Pennsylvania G 75.51 42 PFAKE 05 55 10.0 +8.7
PAGS LR LR
comp=Z,12μm,19.0s
SWN1 Swindon 75.54 349⇑ *e*P **P 05 55 02.0 +0.7**
SWN1 IAmb IAmb 05 55 04.1
comp=Z,385nm,0.9s
SWN1 IAMs_20 IAMs_20 06 36 48.2
comp=Z,18μm,16.6s
U51A La Follette 75.54 49 P **P 05 55 02.0 +0.4**
baz=325,SNR=9.5
SVAN Silvan-Diyarba 75.55 315 P **P 05 55 02.6 +0.9**
BCLA Clavier 75.56 344⇑ P **P 05 55 01.9 +0.5**
comp=Z,111nm,1.1s
MTUR Matau 75.56 329⇑ *i*P **P 05 55 02.7 +1.1**
ARR Arges 75.56 329⇑ *i*P **P 05 55 02.7 +1.0**
HRV Adam Dziewonsk 75.57 37 *e*P **P 05 55 02.5 +0.9**
comp=Z,72nm,1.1s
HRV LR LR
comp=Z,10μm,20.0s
HRV Adam Dziewonsk 75.57 37 P **P 05 55 00.3 -1.3**
baz=330
SWET Sewanee 75.59 51 PFAKE 05 55 10.0 +8.1
SWET LR LR
comp=Z,12μm,20.0s
NIUE Niue 75.61 151 PFAKE 05 55 20.0 +18
NIUE LR LR
comp=Z,11μm,19.0s
V50A Pikevile 75.61 50 P **P 05 55 02.0 0.0**
baz=325,SNR=24
TZTN Tazewell 75.62 48 PFAKE 05 55 10.0 +8.0
TZTN LR LR
comp=Z,11μm,19.0s
TZTN Tazewell 75.62 48 P **P 05 55 02.7 +0.6**
baz=326,SNR=8.4
ODNJ Ogdensburg 75.63 40 PFAKE 05 55 10.0 +8.0
ODNJ LR LR
comp=Z,8μm,20.0s
DEV Deva 75.63 331⇓ *i*P **P 05 55 02.3 +0.4**
SNF Seneffe 75.64 344⇑ P **P 05 55 02.4 +0.5**
comp=Z,110nm,1.0s
SNF ⇑pP **PcP 05 55 12.4 -2.1**
ICOR Ion Corvin 75.64 327⇓ *i*P **P 05 55 02.9 +0.9**
SIRR Siria 75.65 332⇓ *i*P **P 05 55 02.3 +0.2**
LEHL Lehliu 75.66 328⇑ *i*P **P 05 55 01.7 -0.4**
O59A Robesonia 75.66 41 P **P 05 55 02.0 -0.2**
baz=328,SNR=18
SULR 75.66 328⇑ *i*P **P 05 55 02.3 +0.2**
WOL Wolverton 75.66 348⇑ *e*P **P 05 55 01.9 -0.1**
WOL IAmb IAmb 05 55 04.3
comp=Z,316nm,0.9s
WOL IAMs_20 IAMs_20 06 36 02.1
comp=Z,13μm,16.5s
X48A Hartselle 75.67 52 PFAKE 05 55 20.0 +18
X48A LR LR
comp=Z,10μm,21.0s
X48A Hartselle 75.67 52 P **P 05 55 01.9 -0.5**
baz=324
TOKT Tokat 75.69 319 P **P 05 55 03.1 +0.7**
CONA Conrad Observa 75.69 336 *i* P **P 05 55 03.6 +1.2**
SNR=66
R55A Marlinton 75.71 45 PFAKE 05 55 20.0 +17
R55A LR LR
comp=Z,8μm,19.0s
R55A Marlinton 75.71 45 P **P 05 55 02.7 +0.1**
baz=327
T53A Wise 75.72 47 P **P 05 55 03.0 +0.3**
baz=326,SNR=13
GOA Goa 75.73 277 *e*P **P 05 55 02.9 +0.1**
LUPA Lehigh Univers 75.74 40 PFAKE 05 55 20.0 +17
LUPA LR LR
comp=Z,900nm,20.0s
VBMS Vicksburg 75.74 56 PFAKE 05 55 20.0 +17
VBMS LR LR
comp=Z,10μm,19.0s
VBMS Vicksburg 75.74 56 P **P 05 55 03.3 +0.5**
baz=324
SOP Sopron 75.75 336⇑ *i*P **P 05 55 04.0 +1.5**
SOP *e*S **S 06 04 46.1 +5.6**
WES Weston 75.76 37 PFAKE 05 55 20.0 +17
WES LR LR
comp=Z,10μm,20.0s
LOT Lotru 75.76 330⇑ *i*P **P 05 55 03.3 +0.5**
Q57A Strasburg 75.81 43 P **P 05 55 02.5 -0.6**
baz=328,SNR=8.8
U52A Thorn Hill 75.82 48 P **P 05 55 03.0 -0.3**
baz=326,SNR=11
SVSK Karacayir 75.84 318 P **P 05 55 04.1 +0.9**
V51A Loudon 75.85 49 PFAKE 05 55 20.0 +17
V51A LR LR
comp=Z,12μm,19.0s
V51A Loudon 75.85 49 P **P 05 55 03.0 -0.4**
baz=325,SNR=14
MVL Millersville 75.86 41 PFAKE 05 55 20.0 +17
MVL LR LR
comp=Z,13μm,21.0s
BCX Boston College 75.86 37 PFAKE 05 55 20.0 +17
BCX LR LR
comp=Z,9μm,19.0s
KURC Kurucasile-Bar 75.86 322 P **P 05 55 02.2 -1.1**
W50A Signal Mountai 75.89 50 PFAKE 05 55 20.0 +16
W50A LR LR
comp=Z,12μm,20.0s
W50A Signal Mountai 75.89 50 P **P 05 55 03.0 -0.7**
baz=325,SNR=19
PSN Preselentsi 75.90 326 P **P 05 55 04.2 +0.7**
PSN Preselentsi 75.90 326 *e*P **P 05 55 04.2 +0.7**
GOLR 75.93 329⇑ *i*P **P 05 55 03.8 +0.1**
O60A Telford 75.97 41 P **P 05 55 03.3 -0.6**
baz=329,SNR=6.2
PAL Palisades 75.97 39 PFAKE 05 55 20.0 +16
PAL LR LR
comp=Z,8μm,19.0s
PAL Palisades 75.97 39 P **P 05 55 03.3 -0.7**
baz=329,SNR=20
S55A Lewisburg 75.97 45 P **P 05 55 03.8 -0.3**
baz=327
X49A Woodville 75.97 51 P **P 05 55 03.9 -0.1**
baz=325,SNR=15
BRNJ Basking Ridge 75.99 40 PFAKE 05 55 20.0 +16
BRNJ LR LR
comp=Z,10μm,21.0s
DOU Dourbes 75.99 344⇑ P **P 05 55 04.3 +0.4**
comp=Z,70nm,1.0s
Y48A Jasper 76.05 52 P **P 05 55 03.5 -1.0**
baz=324,SNR=6.9
CPCT Cooper Cave 76.06 50 PFAKE 05 55 20.0 +15
CPCT LR LR
comp=Z,10μm,20.0s
YLE Yale 76.08 38 PFAKE 05 55 20.0 +15
YLE LR LR
comp=Z,16μm,20.0s
BRYW Bryant College 76.08 37 PFAKE 05 55 20.0 +15
BRYW LR LR
comp=Z,13μm,22.0s
T54A Tazewell 76.08 47 P **P 05 55 03.7 -1.0**
baz=326,SNR=13
GZR Gura Zlata 76.11 331⇓ *i*P **P 05 55 04.9 +0.1**
TIH Tihany 76.12 334⇑ *i*P **P 05 55 05.1 +0.4**
CPNY Central Park 76.13 39 PFAKE 05 55 20.0 +15
CPNY LR LR
comp=Z,6μm,20.0s
WLF Walferdange 76.13 343 PFAKE 05 55 20.0 +15
WLF LR LR
comp=Z,104μm,20.0s
WLF Walferdange 76.13 343⇑ P **P 05 55 06.7 +1.9**
P59A Jarrettsville 76.15 42 P **P 05 55 04.4 -0.6**
baz=328,SNR=24
SDMD Soldier's Deli 76.15 42 PFAKE 05 55 20.0 +15
SDMD LR LR
comp=Z,5μm,19.0s
MOA Molln 76.16 337 *i* P **P 05 55 05.7 +0.7**
SNR=32
V52A Sevierville 76.17 49 PFAKE 05 55 20.0 +15
V52A LR LR
comp=Z,11μm,20.0s
V52A Sevierville 76.17 49 P **P 05 55 04.5 -0.7**
baz=326,SNR=19
SVRC Sivrice-ELAZID 76.17 316 P **P 05 55 06.5 +1.1**
W51A Cleveland 76.19 50 P **P 05 55 04.5 -0.8**

baz=325,SNR=12
U53A **Fall Branch** 76.21 48 P P 05 55 04.7 -0.7
baz=326,SNR=14
FITZ **Fitzroy Crossi** 76.21 214 LR LR 06 28 19.3
comp=Z,1μm,21.1s,baz=17,slow=36
BZS **Buzias** 76.25 331⇑ *i* P P 05 55 05.4 -0.1
PSUB **Penn St. - Bra** 76.28 41 PFAKE 05 55 20.0 +14
PSUB LR LR
comp=Z,14μm,20.0s
P60A **Greenville** 76.30 41 P P 05 55 05.5 -0.4
baz=329,SNR=7.2
X50B **Fort Payne** 76.33 51 P P 05 55 05.6 -0.6
baz=325,SNR=14
GBN **Guysborough** 76.34 29 PFAKE 05 55 20.0 +14
GBN LR LR
comp=Z,7μm,19.0s
R57A **Stanardsville** 76.39 44 P P 05 55 06.2 -0.1
baz=328,SNR=13
T55A **Pulaski** 76.39 46 P P 05 55 06.2 -0.3
baz=327
HAL **Halifax** 76.40 31 PFAKE 05 55 20.0 +14
HAL LR LR
comp=Z,15μm,20.0s
STU **Stuttgart** 76.40 341 PFAKE 05 55 20.0 +14
STU LR LR
comp=Z,13μm,18.0s
ARSA **Arzberg** 76.41 336 *i* P P 05 55 07.6 +1.2
SNR=50
U54A **Nelsons Funny** 76.42 47 PFAKE 05 55 20.0 +13
U54A LR LR
comp=Z,14μm,19.0s
U54A **Nelsons Funny** 76.42 47 P P 05 55 06.4 -0.3
baz=326,SNR=6.3
S56A **Natural Bridge** 76.46 45 P P 05 55 06.9 +0.1
baz=327,SNR=7.9
Y49A **Blount Mountai** 76.46 52 PFAKE 05 55 20.0 +13
Y49A LR LR
comp=Z,8μm,20.0s
Y49A **Blount Mountai** 76.46 52 P P 05 55 06.8 -0.1
baz=325,SNR=7.7
BLA **Blacksburg** 76.47 46 PFAKE 05 55 20.0 +13
BLA LR LR
comp=Z,10μm,19.0s
BLA **Blacksburg** 76.47 46 P P 05 55 06.0 -0.9
baz=327
CORM **Corum** 76.57 320 P P 05 55 08.4 +0.9
ZAIG **Zacatecas** 76.58 70 PFAKE 05 55 20.0 +12
ZAIG LR LR
comp=Z,4μm,20.0s
PRD **Provadia** 76.59 327 *eP* P 05 55 09.1 +1.7
R58A **Rapidan** 76.61 43 P P 05 55 06.6 -1.0
baz=328,SNR=14
X51A **Calhoun** 76.63 50 PFAKE 05 55 20.0 +12
X51A LR LR
comp=Z,13μm,20.0s
X51A **Calhoun** 76.63 50 P P 05 55 06.5 -1.2
baz=325,SNR=6.6
W52A **Murphy** 76.63 49 PFAKE 05 55 20.0 +12
W52A LR LR
comp=Z,10μm,19.0s
W52A **Murphy** 76.63 49 P P 05 55 08.3 +0.4
baz=326,SNR=11
SRE **Strehaia** 76.64 330⇑ *i* P P 05 55 08.6 +0.9
S57A **Dark Hollow, R** 76.65 44 PFAKE 05 55 20.0 +12
S57A LR LR
comp=Z,13μm,19.0s
S57A **Dark Hollow, R** 76.65 44 P P 05 55 08.0 +0.1
baz=327,SNR=12
V53A **Saluda** 76.67 48 PFAKE 05 55 20.0 +12
V53A LR LR
comp=Z,13μm,20.0s
V53A **Saluda** 76.67 48 P P 05 55 08.9 +0.8
baz=326,SNR=9.2
HERR **Herculane** 76.68 331⇑ *i* P P 05 55 07.6 -0.3
Q59A **Harwood** 76.69 42 P P 05 55 05.5 -2.6
baz=328,SNR=7.4
LNIG **Linares** 76.70 67 PFAKE 05 55 20.0 +12
LNIG LR LR
comp=Z,4μm,22.0s
M65A **Busby, Falmout** 76.72 37 P P 05 55 07.5 -0.7
baz=331
YOZ **Yozgat** 76.76 319 P P 05 55 08.9 +0.3
Y50A **Piedmont** 76.76 51 P P 05 55 08.2 -0.3
baz=325,SNR=11
DARE **Darende-Malaty** 76.78 317 P P 05 55 07.3 -1.4
U55A **TA2, Sparta** 76.78 47 P P 05 55 07.3 -1.5
baz=327,SNR=8.5
T56A **Rocky Mt** 76.80 46 P P 05 55 09.1 +0.4
baz=327
BEHE **Becsehely** 76.81 335⇑ *i* P P 05 55 09.4 +0.8
BEHE **Becsehely** 76.81 335⇑ *i* P P 05 55 09.1 +0.4
LRAL **Lakeview Retre** 76.84 53 PFAKE 05 55 20.0 +11
LRAL LR LR
comp=Z,10μm,20.0s
LRAL **Lakeview Retre** 76.84 53 P P 05 55 08.1 -0.9
baz=325,SNR=16
148A **Greensboro** 76.87 53 P P 05 55 08.8 -0.4
baz=324
W53A **Cullowhee** 76.92 49 P P 05 55 09.0 -0.6
baz=326,SNR=11
R58B **Mineral** 76.94 44 PFAKE 05 55 20.0 +11
R58B LR LR
comp=Z,14μm,18.0s
R58B **Mineral** 76.94 44 P P 05 55 09.2 -0.3
baz=328,SNR=9.7
Z49A **Columbiana** 76.94 52 P P 05 55 09.7 +0.2
baz=325,SNR=17
CBN **Corbin Frederi** 76.95 43 PFAKE 05 55 20.0 +10
CBN LR LR
comp=Z,11μm,19.0s
CBN **Corbin Frederi** 76.95 43 P P 05 55 09.0 -0.5
baz=328
KOGS **Kog** 76.97 335⇑ *eP* P 05 55 09.8 +0.3
KOGS *eS* S 06 04 56.4 +2.4
KOGS *eSS* SS 06 10 06.5 +16
V54A **Nebo** 76.98 48 P P 05 55 10.2 +0.4
baz=326,SNR=14
MDVR **Moldovita** 76.98 331⇓ *i* P P 05 55 09.0 -0.7
BFO **Black Forest** 77.00 341 *eP* P 05 55 10.2 +0.5
comp=Z,122nm,1.2s
BFO LR LR
comp=Z,14μm,18.0s
BFO **Black Forest** 77.00 341 *i* P P 05 55 10.2 +0.5
SZH **Strazhica** 77.02 328 *eP* P 05 55 09.9 0.0
X52A **Dahlonega** 77.05 50 P P 05 55 09.1 -1.1
baz=326,SNR=16
R59A **King George, V** 77.06 43 P P 05 55 08.9 -1.2
baz=328,SNR=10
SOKA **Soboth** 77.06 336 *i* P P 05 55 11.1 +0.9
SNR=80
PUNG **Punghina** 77.07 330⇑ *i* P P 05 55 10.0 -0.1
Y51A **Rockmart** 77.07 51 P P 05 55 10.4 +0.1
baz=325,SNR=15
PERS **Pernice** 77.08 336⇑ *i* P P 05 55 11.1 +0.8
PERS *eS* S 06 04 58.4 +3.0
KBA **Koelnbreinsper** 77.10 337 *i* P P 05 55 11.9 +1.4
SNR=223
T57A **Hurt** 77.16 45 PFAKE 05 55 20.0 +9.2
T57A LR LR
comp=Z,12μm,19.0s
T57A **Hurt** 77.16 45 P P 05 55 10.2 -0.5
baz=327,SNR=9.4
S58A **Poland Farm, P** 77.16 44 PFAKE 05 55 20.0 +9.3
S58A LR LR
comp=Z,15μm,18.0s
S58A **Poland Farm, P** 77.16 44 P P 05 55 10.6 -0.1
baz=328,SNR=8.2
URFA **Urfa** 77.17 316 P P 05 55 11.3 +0.4
BG3 **Lake Jocassee** 77.18 49 PFAKE 05 55 20.0 +9.1
BG3 LR LR
comp=Z,11μm,20.0s
Z50A **Ashland** 77.19 52 PFAKE 05 55 20.0 +9.0
Z50A LR LR
comp=Z,8μm,21.0s
Z50A **Ashland** 77.19 52 P P 05 55 10.2 -0.8
baz=325,SNR=21
FRGS **Fruska Gora** 77.20 332⇑ *i* P P 05 55 10.9 +0.1
U56A **King** 77.21 46 P P 05 55 10.6 -0.5
baz=327
BNN **Bunyan** 77.22 319 P P 05 55 11.9 +0.7
R60A **Leonardtown, M** 77.23 42 P P 05 55 11.4 +0.4
baz=328
V55A **Taylorsville** 77.25 47 P P 05 55 11.3 0.0
baz=327,SNR=8.7
WATA **Walderalm** 77.26 339 *i* P P 05 55 13.1 +1.8
SNR=16

RETA **Reutte** 77.30 339 *i* P P 05 55 12.3 +0.9
SNR=28
149A **Jones** 77.30 53 P P 05 55 11.8 +0.2
baz=325,SNR=14
WTTA **Wattenberg** 77.31 339 *i* P P 05 55 12.9 +1.2
SNR=60
ECH **Echery** 77.34 342 PFAKE 05 55 20.0 +8.4
ECH LR LR
comp=Z,14μm,19.0s
OBKA **Obir** 77.34 336 *i* P P 05 55 12.6 +0.9
SNR=33
BR131 **Keskin Array S** 77.35 321 P P 05 55 11.9 -0.5
SNR=139
BRTR **Keskin Array B** 77.35 321 P P 05 55 11.5 -0.5
comp=Z,52nm,0.8s,baz=49,slow=3.5,SNR=105
BRTR PP PP 05 58 07.6 +1.7
comp=Z,11nm,0.8s,baz=36,slow=5.9,SNR=3.6
BRTR LR LR 06 34 35.9
comp=Z,15μm,20.4s,baz=20,slow=40
MOTA **Moosalm** 77.36 339 *i* P P 05 55 12.7 +0.8
SNR=61
S59A **Mechanicsville** 77.36 43 P P 05 55 12.6 +0.8
baz=328,SNR=11
X53A **Estanollee** 77.41 49 P P 05 55 12.9 +0.7
baz=326,SNR=15
W54A **Cherokee Point** 77.44 48 P P 05 55 13.3 +0.9
baz=326,SNR=9.4
MYKA **Terra Mystica** 77.45 337 *i* P P 05 55 12.8 +0.5
SNR=32
SQTA **Sankt Quirin** 77.45 339 *i* P P 05 55 13.5 +1.2
SNR=55
Z51A **Franklin** 77.50 51 P P 05 55 11.8 -0.9
baz=325
T58A **Grand View Acr** 77.52 45 P P 05 55 13.1 +0.4
baz=328,SNR=8.9
LOD **Lodumlu** 77.55 321 P P 05 55 12.4 -0.6
ANTO **Ankara** 77.55 321 P P 05 55 13.7 +0.7
ANTO **Ankara** 77.55 321 *eP* P 05 55 13.5 +0.5
comp=Z,275nm,1.4s
ANTO LR LR
comp=Z,16μm,20.0s
ANTO **Ankara** 77.55 321⇑ *i* P P 05 55 13.3 +0.3
ANTO **Ankara** 77.55 321 P P 05 55 13.3 +0.3
SNR=59
ANTO P P 05 55 13.3 +0.3
SNR=59
Y52A **Lilburn** 77.58 50 PFAKE 05 55 30.0 +17
Y52A LR LR
comp=Z,14μm,21.0s
Y52A **Lilburn** 77.58 50 P P 05 55 13.0 -0.1
baz=326,SNR=5.1
U57A **Blanch** 77.60 45 P P 05 55 13.2 0.0
baz=327,SNR=9.3
ABTA **Abfaltersbach** 77.60 338 *i* P P 05 55 13.8 +0.7
SNR=85
V56A **Mocksville** 77.61 47 PFAKE 05 55 30.0 +17
V56A LR LR
comp=Z,10μm,21.0s
V56A **Mocksville** 77.61 47 P P 05 55 12.4 -0.9
baz=327,SNR=9.5
ZAG **Zagreb** 77.61 335⇑ *i* P P 05 55 14.1 +1.0
MDUB **Mudurnu** 77.64 323 P P 05 55 13.8 +0.3
MDUB **Mudurnu** 77.64 323 PFAKE 05 55 30.0 +17
MDUB LR LR
comp=Z,104μm,20.0s
249A **Camden** 77.64 53 P P 05 55 13.9 +0.4
baz=325,SNR=15
150A **Eclectic** 77.67 52 P P 05 55 13.6 -0.1
baz=325,SNR=14
S60A **Water View** 77.67 43 P P 05 55 14.0 +0.4
baz=328
DAVA **Damuels** 77.68 340 *i* P P 05 55 14.4 +0.8
SNR=47
SAUV **Serdivan-Sakar** 77.72 323 P P 05 55 15.3 +1.5
KLYT **Kilyos** 77.74 324 P P 05 55 13.9 0.0
KLYT **Kilyos** 77.74 324⇑ *i* P P 05 55 13.9 0.0
FETA **Feichten** 77.75 339 *i* P P 05 55 15.2 +1.1
SNR=73
CRES **Cresnjev** 77.75 336⇑ *i* P P 05 55 14.2 +0.3
SPNC **Sapanca-Adapaz** 77.78 323 P P 05 55 14.9 +0.8
LJU **Ljubljana** 77.78 336⇑ *i* P P 05 55 14.2 +0.2
LJU **Ljubljana** 77.78 336⇑ *i* P P 05 55 14.3 +0.2
KMSC **Kings Mountain** 77.78 48 PFAKE 05 55 30.0 +16
KMSC LR LR
comp=Z,20μm,20.0s
KMSC **Kings Mountain** 77.78 48 P P 05 55 14.5 +0.2
baz=327,SNR=13
X54A **Belton** 77.80 49 P P 05 55 14.6 +0.3
baz=326,SNR=12
JLP **Les Platons** 77.81 348⇑ *eP* P 05 55 14.4 +0.3
CTYL **Yalikoy Yolu** 77.81 325 P P 05 55 14.3 0.0
CTYL **Yalikoy Yolu** 77.81 325⇑ *i* P P 05 55 14.1 -0.2
AFSR **Afar-Bala (An** 77.81 321 P P 05 55 14.8 +0.3
Y53A **Monroe** 77.81 50 P P 05 55 14.7 +0.3
baz=326,SNR=7.1
PAULI **Pauline** 77.83 48 PFAKE 05 55 30.0 +15
PAULI LR LR
comp=Z,12μm,20.0s
TEKS **Tekeris** 77.83 332 *eP* P 05 55 14.5 +0.1
JQE **Queens East** 77.84 348⇑ *eP* P 05 55 14.7 +0.4
JVM **Valle D.L. Mar** 77.84 348⇑ *eP* P 05 55 14.7 +0.4
JRS **Jersey** 77.85 348⇑ *eP* P 05 55 14.8 +0.4
V57A **Coltrane Farms** 77.86 46 P P 05 55 14.4 -0.3
baz=327,SNR=7.7
JSA **Saint Aubin** 77.87 348⇑ *eP* P 05 55 14.3 -0.1
JSA IAmb IAmb 05 55 17.0
comp=Z,248nm,0.9s
JSA IAMs_20 IAMs_20 06 37 52.2
comp=Z,21μm,16.0s
PALK **Pallekele** 77.87 266 *eP* P 05 55 15.3 +0.3
comp=Z,264nm,1.2s
PALK LR LR
comp=Z,40μm,1.3s
PALK **Pallekele** 77.87 266 *i* P P 05 55 15.1 0.0
SNR=16
PALK **Pallekele** 77.87 266 LR LR 06 33 05.4
comp=Z,11μm,19.8s,baz=28,slow=38
HRT **Hereke** 77.89 324 P P 05 55 15.0 +0.2
BGKT **Bogazkoy** 77.90 325 P P 05 55 14.9 +0.1
ISK **Istanbul-Kandi** 77.90 324 P P 05 55 14.5 -0.3
KAVV **Kandilli-Istan** 77.90 324 P P 05 55 14.0 -0.8
SHME **Shamm** 77.90 297 *i* P P 05 55 14.2 -0.9
SNR=73
T59A **Double "B" Far** 77.92 44 PFAKE 05 55 30.0 +15
T59A LR LR
comp=Z,14μm,19.0s
T59A **Double "B" Far** 77.92 44 P P 05 55 15.1 +0.2
baz=328,SNR=13
GULT **Gulveren** 77.92 323 P P 05 55 15.4 +0.3
KMRS **Kahramanmaras** 77.93 317 P P 05 55 15.7 +0.6
PHSR **Pinarhisar** 77.94 326 P P 05 55 15.5 +0.5
PHSR **Pinarhisar** 77.94 326⇓ *i* P P 05 55 15.5 +0.5
CTKS **Kestanelik-??a** 77.94 325 P P 05 55 15.1 +0.1
OZLJ **Ozalj** 77.94 336 P P 05 55 15.2 +0.2
YAYX **Yaylak** 77.96 320 P P 05 55 15.6 +0.3
Z52A **Williamson** 77.96 51 P P 05 55 14.5 -0.8
baz=326,SNR=13
U58A **Oxford** 77.97 45 P P 05 55 15.2 -0.1
baz=328,SNR=9.3
EDRB **Edirne** 78.02 326 P P 05 55 15.7 +0.3
EDRB **Edirne** 78.02 326 P P 05 55 14.2 -1.2
SERE **Sereflikochisa** 78.05 320 P P 05 55 16.2 +0.4
AUMIH **MIHALICIK** 78.05 322 P P 05 55 16.0 +0.1
250A **Grady** 78.06 53 PFAKE 05 55 30.0 +14
250A LR LR
comp=Z,8μm,20.0s
250A **Grady** 78.06 53 P P 05 55 16.0 +0.2
baz=325
BUY **Buyukada** 78.06 324 P P 05 55 17.0 +1.3
DOB **Doboj** 78.06 333 *eP* P 05 55 15.1 -0.5
151A **Opelika** 78.07 52 P P 05 55 15.6 -0.3
baz=325,SNR=10
GAZ **Gaziantep** 78.08 317 P P 05 55 16.9 +0.9
CEY **Cerknica** 78.09 336⇑ *i* P P 05 55 15.7 -0.1
BOJS **Bojanci** 78.10 336⇑ *i* P P 05 55 16.2 +0.4
349A **Repton** 78.11 54 P P 05 55 17.5 +1.3
baz=325
DIVS **Divibare** 78.11 332⇑ *i* P P 05 55 15.9 -0.2
HODGE **Hodges** 78.12 49 PFAKE 05 55 30.0 +14
HODGE LR LR
comp=Z,10μm,20.0s
T60A **Surry** 78.12 43 PFAKE 05 55 30.0 +14
T60A LR LR
comp=Z,9μm,19.0s
T60A **Surry** 78.12 43 P P 05 55 16.9 +0.8

baz=328,SNR=5.7
W56A **Indian Trail** 78.13 47 P P 05 55 15.7 -0.4
baz=327,SNR=5.4
KULU **Kulu** 78.19 321 P P 05 55 17.2 +0.6
X55A **Gracelyn & Ava** 78.21 48 P P 05 55 16.4 -0.2
baz=327,SNR=7.2
ADVT **Abdulvahap** 78.21 324 P P 05 55 15.8 -0.7
SRCK **Saricakaya, Es** 78.22 323 P P 05 55 16.7 +0.1
Y54A **Tignall** 78.22 49 P P 05 55 17.0 +0.3
baz=326,SNR=40
FUORN **Ofenpass-Fuorn** 78.23 339 PFAKE 05 55 30.0 +13
FUORN LR LR
comp=Z,16μm,21.0s
GOGA **Godfrey** 78.23 50 PFAKE 05 55 30.0 +13
GOGA LR LR
comp=Z,11μm,20.0s
GOGA **Godfrey** 78.23 50 P P 05 55 16.9 +0.1
baz=326
V58A **Windy Hill, Pi** 78.23 46 P P 05 55 16.9 +0.2
baz=328,SNR=13
PGB **Panagyurishte** 78.24 328 *eP* P 05 55 17.4 +0.6
152A **Waverly Hall** 78.25 51 PFAKE 05 55 30.0 +13
152A LR LR
comp=Z,12μm,20.0s
152A **Waverly Hall** 78.25 51 P P 05 55 17.0 +0.1
baz=326,SNR=11
TRI **Trieste** 78.28 337 PFAKE 05 55 30.0 +13
TRI LR LR
comp=Z,33μm,18.0s
Z53A **Monticello** 78.29 50 P P 05 55 15.4 -1.7
baz=326,SNR=9.1
BLY **Banja Luka** 78.30 334 PFAKE 05 55 30.0 +13
BLY LR LR
comp=Z,54μm,19.0s
BLY **Banja Luka** 78.30 334⇑ *i* P P 05 55 16.7 -0.3
BLY **Banja Luka** 78.30 334 *eP* P 05 55 17.4 +0.4
BRAL **Brewton** 78.33 54 PFAKE 05 55 30.0 +13
BRAL LR LR
comp=Z,9μm,20.0s
BRAL **Brewton** 78.33 54 P P 05 55 18.0 +0.7
baz=325
U59A **Littleton** 78.34 44 PFAKE 05 55 30.0 +13
U59A LR LR
comp=Z,10μm,19.0s
U59A **Littleton** 78.34 44 P P 05 55 17.7 +0.4
baz=328,SNR=8.3
CAVI **Cavuskoy** 78.37 323 P P 05 55 17.9 +0.4
CLF **Chambon-Foret** 78.38 345 PFAKE 05 55 30.0 +13
CLF LR LR
comp=Z,18μm,20.0s
W57A **Gilead** 78.38 47 PFAKE 05 55 30.0 +12
W57A LR LR
comp=Z,9μm,20.0s
W57A **Gilead** 78.38 47 P P 05 55 17.1 -0.4
baz=327,SNR=9.7
251A **Midway** 78.38 52 P P 05 55 17.8 +0.2
baz=325
KOZT **Kozan** 78.39 318 P P 05 55 18.1 +0.5
AUSIV **SIVRIHISAR** 78.41 322 P P 05 55 17.9 +0.1
GEMT **Gemlik** 78.41 324 P P 05 55 17.8 +0.2
SVRH **Sivrihisar-ESK** 78.41 322 P P 05 55 17.9 +0.1
ARMT **Armutlu** 78.41 324 P P 05 55 17.5 -0.2
HAPS **Han Pijesak,Bl** 78.42 333⇑ *i* P P 05 55 17.4 -0.4
BORA **Eskisehir** 78.43 323 P P 05 55 18.0 +0.1
MSFE **Esma-Masafi** 78.43 296 *i* P P 05 55 17.3 -0.7
SNR=43
X56A **White Oak** 78.46 48 P P 05 55 18.9 +0.9
baz=327,SNR=7.9
RIY **Rijeka** 78.46 336⇑ *i* P P 05 55 17.8 0.0
PLD **Plovdiv** 78.47 328 P P 05 55 19.6 +1.7
VTS **Vitosha** 78.48 329 PFAKE 05 55 30.0 +12
VTS LR LR
comp=Z,51μm,20.0s
VTS **Vitosha** 78.48 329 P P 05 55 16.8 -1.4
VTS **Vitosha** 78.48 329⇓ *i* P P 05 55 18.2 0.0
VTS **Vitosha** 78.48 329 *eP* P 05 55 19.6 +1.4
350A **Dozier** 78.48 53 P P 05 55 18.8 +0.7
baz=325
BBLS **Lazići** 78.50 332⇑ *i* P P 05 55 18.6 +0.4
U60A **Pendleton** 78.51 44 P P 05 55 18.8 +0.6
baz=328,SNR=6.1
JSC **Jenkinsville** 78.53 48 PFAKE 05 55 30.0 +12
JSC LR LR
comp=Z,13μm,20.0s
Y55A **Saluda** 78.55 49 P P 05 55 18.5 +0.1
baz=327,SNR=8.2
AUBOZ **BOZOYUK** 78.56 323 P P 05 55 18.8 +0.2
TUE **Stuetta** 78.56 340 PFAKE 05 55 30.0 +11
TUE LR LR
comp=Z,28μm,19.0s
MDNY **Mudanya-Bursa** 78.57 324 P P 05 55 18.9 +0.4
UMQ **Umm Al-Quwin** 78.58 297 *i* P P 05 55 19.0 +0.2
SNR=13
UMQ **Umm Al-Quwin** 78.58 297 P P 05 55 19.2 +0.4
SNR=14
UMQ P P 05 55 19.2 +0.4
SNR=14
449A **Pace** 78.58 54 P P 05 55 20.5 +1.8
baz=325
BIRD **Birdtown, Kers** 78.59 47 PFAKE 05 55 30.0 +11
BIRD LR LR
comp=Z,17μm,19.0s
CHBY **Cihanbeyli** 78.63 321 P P 05 55 17.9 -1.1
V59A **Middlesex** 78.64 45 P P 05 55 19.6 +0.6
baz=328,SNR=12
KDZ **Kurdzhali** 78.64 327 P P 05 55 23.7 +4.8
CIFT **Cifteler, Eski** 78.65 322 P P 05 55 18.9 -0.2
Z54A **Sparta** 78.67 50 P P 05 55 19.7 +0.6
baz=326
153A **Fort Valley** 78.69 51 P P 05 55 18.6 -0.7
baz=326
SULT **Sultanhani-AKS** 78.71 320 P P 05 55 19.8 +0.3
WSAR **Wadi Sarin** 78.72 293 P P 05 55 19.8 +0.2
SNR=57
KIZT **Kizilcal** 78.76 321 P P 05 55 19.7 -0.1
BIDO **Bidbid** 78.78 294 P P 05 55 19.9 0.0
SNR=59
BIDO P P 05 55 19.9 0.0
SNR=59
252A **Lumpkin** 78.79 52 P P 05 55 19.4 -0.4
baz=326
W58A **Raeford** 78.83 46 P P 05 55 20.0 0.0
baz=328,SNR=19
CEYT **Ceyhan** 78.83 318 P P 05 55 21.0 +1.0
KCTX **Karacabey (Bur** 78.85 324 P P 05 55 20.4 +0.3
450A **Crestview** 78.86 54 P P 05 55 20.1 -0.2
baz=325
HATD **Hatta, Dubai** 78.87 296 *i* P P 05 55 19.8 -0.6
SNR=152
HATD **Hatta, Dubai** 78.87 296 P P 05 55 19.9 -0.5
SNR=149
HATD P P 05 55 19.9 -0.5
SNR=149
UDBI **Udbina** 78.88 335 P P 05 55 20.3 0.0
RKY **Sarkoy-Tekirda** 78.90 326 P P 05 55 20.4 0.0
KARA **Karaisali** 78.90 318 P P 05 55 20.7 +0.3
X57A **Johnson Farm,** 78.91 47 P P 05 55 20.3 -0.2
baz=327
Y56A **Pelion** 78.92 48 P P 05 55 21.5 +0.9
baz=327
U61A **Possum Corner** 78.93 43 PFAKE 05 55 30.0 +9.5
U61A LR LR
comp=Z,13μm,18.0s
U61A **Possum Corner** 78.93 43 P P 05 55 20.1 -0.5
baz=329
351A **Pinckard** 78.96 53 P P 05 55 21.6 +0.9
baz=325,SNR=9.9
EDC **Edincik** 78.96 325 P P 05 55 21.0 +0.3
ASAR **Alice Springs** 78.99 204 P P 05 55 21.6 +0.7
comp=Z,21nm,0.7s,baz=16,slow=5.5,SNR=148
ASAR PKPPKP **P'P'df** 06 22 19.6 +7.4
comp=Z,0.9nm,1.0s,baz=178,slow=2.0,SNR=4.7
ASAR LR LR 06 29 28.1
comp=Z,3μm,20.8s,baz=17,slow=35
PLE **Pljevlja** 78.99 332⇑ *i* P P 05 55 20.9 -0.1
NAZ **Nazwa, Dubai** 79.00 297 *i* P P 05 55 20.3 -0.8
SNR=52
NAZ **Nazwa, Dubai** 79.00 297 P P 05 55 20.6 -0.5
SNR=55
NAZ P P 05 55 20.6 -0.5
SNR=55
Z55A **Blythe** 79.01 49 P P 05 55 21.8 +0.8
baz=327
ASHO **Ashiyiah** 79.02 296 *i* P P 05 55 20.5 -0.8
SNR=199
ASHO **Ashiyiah** 79.02 296 P P 05 55 20.6 -0.8

SNR=138
ASHO P **P** 05 55 20.6 -0.8
SNR=138
WBK Wadi Bani Khal 79.03 293 P **P** 05 55 21.5 +0.2
SNR=24
253A Americus 79.03 51 PFAKE 05 55 30.0 +8.8
253A LR LR
comp=Z,13μm,21.0s
253A Americus 79.03 51 P **P** 05 55 20.9 -0.2
baz=326
YURE YUREGIR 79.03 318 P **P** 05 55 23.5 +2.3
RDO Rodhopi 79.05 327 P **P** 05 55 21.6 +0.5
RDO Rodhopi 79.05 327 P **P** 05 55 19.4 -1.7
W59A Clinton 79.05 45 P **P** 05 55 21.0 -0.2
baz=328,SNR=6.3
154A Montrose 79.06 50 PFAKE 05 55 30.0 +8.7
154A LR LR
comp=Z,11μm,20.0s
154A Montrose 79.06 50 P **P** 05 55 21.3 -0.1
baz=326
V60A Jim Taylor Roa 79.06 44 PFAKE 05 55 30.0 +8.7
V60A LR LR
comp=Z,11μm,19.0s
V60A Jim Taylor Roa 79.06 44 P **P** 05 55 21.4 +0.2
baz=328,SNR=7.3
NVLJ Novalja 79.08 336 P **P** 05 55 20.6 -0.6
SENIN Lac Senin/Sane 79.09 341 PFAKE 05 55 30.0 +8.5
SENIN LR LR
comp=Z,12μm,20.0s
ALN Alexandroupoli 79.10 326 P **P** 05 55 21.4 0.0
ALN Alexandroupoli 79.10 326 PFAKE 05 55 30.0 +8.6
ALN LR LR
comp=Z,14μm,19.0s
ALN Alexandroupoli 79.10 326 P **P** 05 55 18.5 -2.9
352A Blakely 79.12 52 PFAKE 05 55 30.0 +8.3
352A LR LR
comp=Z,9μm,20.0s
352A Blakely 79.12 52 P **P** 05 55 22.1 +0.4
baz=326
JLN Jalan Bani Buh 79.13 292 P **P** 05 55 22.3 +0.4
SNR=43
JLN P **P** 05 55 22.3 +0.4
SNR=43
ERIK Erikli-Kesan 79.14 326 P **P** 05 55 21.9 +0.3
Y57A Sumter 79.15 47 PFAKE 05 55 30.0 +8.2
Y57A LR LR
comp=Z,19μm,20.0s
Y57A Sumter 79.15 47 P **P** 05 55 20.8 -1.0
baz=327
LADK Ladik-KONYA 79.17 321 P **P** 05 55 21.9 -0.1
TVSB Tavsanli 79.17 323 P **P** 05 55 22.3 +0.3
X58A Rowland 79.17 46 PFAKE 05 55 30.0 +8.1
X58A LR LR
comp=Z,11μm,20.0s
X58A Rowland 79.17 46 P **P** 05 55 22.1 +0.2
baz=328,SNR=9.2
TAHT Tahtakopru-Hat 79.19 317 P **P** 05 55 22.6 +0.6
SMDO Samad 79.19 294 P **P** 05 55 23.1 +0.8
SNR=50
SOHO SOHO 79.19 295 P **P** 05 55 21.2 -1.0
SNR=155
SOHO P **P** 05 55 21.2 -1.0
SNR=155
HOQ Hoqain 79.19 294 P **P** 05 55 22.5 +0.3
SNR=47
KKB Krupnik 79.20 329 *e*P **P** 05 55 22.6 +0.6
ENEZ Enez 79.21 326 P **P** 05 55 22.2 +0.2
TRD Trivandrum 79.21 270 *e*P **P** 05 55 22.2 -0.2
FAQ Al Faqa, Dubai 79.23 296 *i* P **P** 05 55 21.4 -1.0
SNR=67
FAQ Al Faqa, Dubai 79.23 296 P **P** 05 55 21.3 -1.0
SNR=51
FAQ P **P** 05 55 21.3 -1.0
SNR=51
CNNC Cliffs of the 79.23 45 PFAKE 05 55 30.0 +7.8
CNNC LR LR
comp=Z,12μm,19.0s
CNNC Cliffs of the 79.23 45 P **P** 05 55 23.1 +0.9
baz=328
UPM Unac-Piva 79.25 332⇑ *i*P **P** 05 55 22.0 -0.5
UPM Unac-Piva 79.25 332 *e*P **P** 05 55 21.9 -0.5
IVA Berane 79.27 331⇑ *i*P **P** 05 55 22.6 +0.2
Z56A Williston 79.28 49 PFAKE 05 55 30.0 +7.5
Z56A LR LR
comp=Z,11μm,21.0s
Z56A Williston 79.28 49 P **P** 05 55 22.6 +0.1
baz=327
LPK Lapseki 79.32 326 P **P** 05 55 23.1 +0.5
V61A Roper 79.33 44 PFAKE 05 55 40.0 +17
V61A LR LR
comp=Z,13μm,19.0s
V61A Roper 79.33 44 P **P** 05 55 21.7 -1.1
baz=329
155A Kite 79.35 50 P **P** 05 55 23.5 +0.6
baz=326
KRTS Karatas 79.36 318 P **P** 05 55 22.8 -0.1
KONT Konya--Tatoy 79.39 321 P **P** 05 55 23.2 +0.1
KOME Kolasin 79.40 332⇑ *i*P **P** 05 55 23.0 -0.1
GELI Tayfur-Gelibol 79.40 326 P **P** 05 55 23.2 +0.2
NVR Nevrokopi 79.42 328 P **P** 05 55 20.0 -3.2
451A Vernon 79.43 53 PFAKE 05 55 40.0 +17
451A LR LR
comp=Z,9μm,19.0s
451A Vernon 79.43 53 P **P** 05 55 23.8 +0.5
baz=325,SNR=5.9
MERS Mersin 79.45 319 P **P** 05 55 23.5 0.0
W60A Pink Hill 79.47 45 P **P** 05 55 23.5 0.0
baz=328
ASUD Al Ashush, Dub 79.47 297 *i* P **P** 05 55 23.1 -0.6
SNR=75
ASUD Al Ashush, Dub 79.47 297 P **P** 05 55 23.2 -0.5
SNR=28
ASUD P **P** 05 55 23.2 -0.5
SNR=28
X59A McDuffie Farm, 79.48 46 P **P** 05 55 23.9 +0.3
baz=328
PVY Plav 79.50 331⇑ *i*P **P** 05 55 23.5 -0.2
452A Marianna 79.51 53 P **P** 05 55 24.1 +0.2
baz=326
254A Abbeville 79.52 51 P **P** 05 55 23.8 0.0
baz=326
KAVA Kavala 79.52 327 P **P** 05 55 20.2 -3.5
SHUT Suhut-Afyon 79.55 322 P **P** 05 55 24.5 +0.4
Y58A Scranton 79.57 47 PFAKE 05 55 40.0 +16
Y58A LR LR
comp=Z,14μm,19.0s
Y58A Scranton 79.57 47 P **P** 05 55 24.6 +0.5
baz=328
353A Camilla 79.57 52 P **P** 05 55 24.3 +0.2
baz=326
BALB Balikesir 79.58 325 P **P** 05 55 24.2 +0.2
BALB Balikesir 79.58 325 PFAKE 05 55 40.0 +16
BALB LR LR
comp=Z,65μm,20.0s
NKY Niksic 79.58 332⇑ *i*P **P** 05 55 23.8 -0.4
Z57A Bowman 79.61 48 P **P** 05 55 23.1 -1.2
baz=327
SKO Skopje 79.62 330 *i* P **P** 05 55 24.6 +0.3
BRY Bratogost 79.63 332⇑ *i*P **P** 05 55 23.7 -0.8
BRY Bratogost 79.63 332⇑ *i*P **P** 05 55 23.7 -0.8
NKME Niksic 79.64 332⇑ *i*P **P** 05 55 23.7 -0.7
STIP Stip 79.64 329 *i* P **P** 05 55 23.5 -0.9
SMTH Samothraki Isl 79.66 327 P P 05 55 19.6 -4.9
W61A Ground Anchor 79.68 44 P **P** 05 55 24.6 0.0
baz=329
ALNE Al Ain 79.69 296 *i* P **P** 05 55 24.2 -0.7
SNR=53
JMDO Jabal Madar 79.70 293 P **P** 05 55 25.5 +0.5
SNR=40
AJN Ajban 79.71 297 *i* P **P** 05 55 24.0 -1.0
SNR=24
AJN Ajban 79.71 297 P **P** 05 55 23.8 -1.1
SNR=36
AJN P **P** 05 55 23.8 -1.1
SNR=36
SRS Serrai 79.72 328 P **P** 05 55 22.0 -2.8
X60A Albert Glenn T 79.76 45 P **P** 05 55 25.1 0.0
baz=328
156A Sylvania 79.78 49 P **P** 05 55 26.2 +1.0
baz=327
MOIG Morelia 79.79 71 PFAKE 05 55 40.0 +14
MOIG LR LR
comp=Z,4μm,21.0s
V62A Hyde County Ai 79.79 43 PFAKE 05 55 40.0 +15
V62A LR LR
comp=Z,13μm,18.0s
V62A Hyde County Ai 79.79 43 P **P** 05 55 26.3 +1.0
baz=329
TIGA Tifton 79.80 51 PFAKE 05 55 40.0 +15
TIGA LR LR
comp=Z,11μm,20.0s
TIGA Tifton 79.80 51 P **P** 05 55 26.0 +0.6
baz=326,SNR=9.9
THAS Thassos island 79.81 327 P **P** 05 55 21.9 -3.3
ARQ Araqi 79.83 295 P **P** 05 55 26.5 +0.8
SNR=56
CEME Cevo 79.85 332⇑ *i*P **P** 05 55 24.5 -1.1
TREB Trebinje 79.85 332 *e*P **P** 05 55 24.9 -0.6
PDG Podgorica 79.86 332⇑ *i*P **P** 05 55 25.3 -0.2
PDG Podgorica 79.86 332⇑ *i*P **P** 05 55 25.1 -0.4
TTG Podgorica 79.86 332⇑ *i*P **P** 05 55 25.1 -0.4
TTG Podgorica 79.86 332 PFAKE 05 55 40.0 +15
TTG LR LR
comp=Z,52μm,19.0s
VAY Valandovo 79.86 329 P **P** 05 55 23.2 -2.3
STON Ston 79.89 333 P **P** 05 55 24.5 -1.1
STON Ston 79.89 333⇑ *i*P **P** 05 55 24.7 -1.0
KNT Kendrikon 79.90 329 P **P** 05 55 25.5 -0.3
KNT Kendrikon 79.90 329 P **P** 05 55 23.9 -1.9
BSY Bisya 79.92 294 P **P** 05 55 26.1 -0.1
SNR=90
255A Hazlehurst 79.92 50 PFAKE 05 55 40.0 +14
255A LR LR
comp=Z,11μm,20.0s
255A Hazlehurst 79.92 50 P **P** 05 55 27.1 +1.0
baz=327
453A Whigham 79.93 52 PFAKE 05 55 40.0 +14
453A LR LR
comp=Z,11μm,21.0s
453A Whigham 79.93 52 P **P** 05 55 26.1 0.0
baz=326
KIZK Mersin 79.94 319 P **P** 05 55 25.7 -0.4
EZN Ezine 79.96 326 P **P** 05 55 27.4 +1.3
EZN Ezine 79.96 326⇑ *i*P **P** 05 55 25.6 -0.5
Z58A St. Stephen 79.98 47 P **P** 05 55 26.4 +0.1
baz=328
157A Early Branch 79.99 49 P **P** 05 55 26.7 +0.3
baz=327
NHSC New Hope 80.01 48 PFAKE 05 55 40.0 +14
NHSC LR LR
comp=Z,16μm,20.0s
NHSC New Hope 80.01 48 P **P** 05 55 27.2 +0.7
baz=327
BOZC Bozcaada 80.04 326 P **P** 05 55 26.1 -0.4
552A Lynn Haven 80.05 53 P **P** 05 55 26.5 -0.2
baz=326
HCY Herceg Novi 80.06 332⇑ *i*P **P** 05 55 25.8 -0.9
HCY Herceg Novi 80.06 332⇑ *i*P **P** 05 55 25.7 -0.9
BUM Brajici-Budva 80.08 332⇑ *i*P **P** 05 55 26.4 -0.4
DRME Dracevica, Mon 80.10 332⇑ *i*P **P** 05 55 26.8 0.0
DRME Dracevica, Mon 80.10 332⇑ *i*P **P** 05 55 26.6 -0.2
Y60A Bolivia 80.13 46 PFAKE 05 55 40.0 +13
Y60A LR LR
comp=Z,7μm,20.0s
KEBE Keben-Mersin 80.15 319 P **P** 05 55 27.0 -0.3
256A Glennville 80.16 50 P **P** 05 55 27.2 -0.1
baz=327
PHP Peshkopia 80.19 331 P **P** 05 55 25.0 -2.4
ISP Isparta 80.20 322 P **P** 05 55 27.4 -0.2
ISP Isparta 80.20 322 PFAKE 05 55 40.0 +12
ISP LR LR
comp=Z,20μm,20.0s
ISP Isparta 80.20 322⇑ *i*P **P** 05 55 27.4 -0.2
355A Pearson 80.23 51 P **P** 05 55 28.1 +0.4
baz=326
KRUS Krusevo 80.23 330 *i* P **P** 05 55 27.7 0.0
GRG Griva 80.25 329 P **P** 05 55 28.1 +0.4
GRG Griva 80.25 329 P **P** 05 55 26.2 -1.5
TEVE Tevekalti-Mers 80.27 319 P **P** 05 55 27.2 -0.7
LIA Limnos Island 80.29 327 P **P** 05 55 26.0 -1.8
KULA Kula-Manisa 80.29 323 P **P** 05 55 26.0 -2.0
ULC Ulcinj 80.29 332⇑ *i*P **P** 05 55 27.3 -0.6
OUR Ouranopolis 80.30 328 P **P** 05 55 24.6 -3.3
Z59A Georgetown, SC 80.30 47 P **P** 05 55 28.1 +0.1
baz=328
158A Hollywood 80.31 48 P **P** 05 55 27.6 -0.5
baz=327
IKL Isikli 80.34 319 P **P** 05 55 26.9 -1.3
HORT Hortiatis 80.35 328 P **P** 05 55 27.2 -1.1
HORT Hortiatis 80.35 328 P **P** 05 55 25.0 -3.3
MANT Manisa 80.35 324 PFAKE 05 55 40.0 +11
MANT LR LR
comp=Z,54μm,18.0s
454A Quitman 80.38 52 P **P** 05 55 27.6 -0.9
baz=326
BERE Bereket-Mersin 80.43 319 P **P** 05 55 27.5 -1.4
PLG Polygyros 80.44 328 P **P** 05 55 25.9 -2.8
AKKU Akkuyu-Mersin 80.46 319 P **P** 05 55 28.5 -0.4
BNI Bardonecchia 80.47 341 PFAKE 05 55 40.0 +11
BNI LR LR
comp=Z,23μm,19.0s
BCK Bucak 80.49 322 P **P** 05 55 28.8 -0.3
BIA Bitola 80.53 330 *i* P **P** 05 55 28.7 -0.5
VLC Villacollemand 80.54 338 PFAKE 05 55 40.0 +11
VLC LR LR
comp=Z,24μm,21.0s
PMOR Pomariorio Ree 80.55 130 *e*P **P** 05 55 30.5 +1.1
comp=Z,101nm,1.1s
PMOR Pomariorio Ree 80.55 130 *e*T T 07 24 16.0
comp=Z,19nm,0.2s
257A Skidaway Islan 80.56 49 PFAKE 05 55 40.0 +11
257A LR LR
comp=Z,12μm,19.0s
257A Skidaway Islan 80.56 49 P **P** 05 55 29.8 +0.4
baz=327
356A Blackshear 80.59 50 P **P** 05 55 28.7 -0.9
baz=327
OHR Ohrid 80.60 330 *i* P **P** 05 55 29.3 -0.3
455A Stateville 80.64 51 P **P** 05 55 29.3 -0.7
baz=326
TEKE Tekeli-Mersin 80.65 319 P **P** 05 55 29.1 -0.8
SSB Saint Sauveur 80.65 343 PFAKE 05 55 40.0 +10
SSB LR LR
comp=Z,11μm,20.0s
SIGR SIGRI 80.67 326 P **P** 05 55 29.4 -0.5
SIGR SIGRI 80.67 326 P **P** 05 55 27.1 -2.8
TIR Tirane 80.67 331 PFAKE 05 55 40.0 +10
TIR LR LR
comp=Z,60μm,19.0s
TIR Tirane 80.67 331⇑ *i*P **P** 05 55 30.0 +0.1
FNA Florina 80.72 330 P **P** 05 55 30.1 -0.2
FNA Florina 80.72 330 PFAKE 05 55 40.0 +10
FNA LR LR
comp=Z,37μm,22.0s
FNA Florina 80.72 330 P **P** 05 55 26.6 -3.7
EREN Erenkoy 80.75 318 P **P** 05 55 30.6 +0.2
PAIG Paliouri 80.76 328 P **P** 05 55 27.4 -3.0
357A Townsend 80.81 50 P **P** 05 55 30.7 0.0
baz=327
554A Perry 80.87 52 P **P** 05 55 30.7 -0.4
baz=326
MHTO MHTO 80.87 292 P **P** 05 55 31.1 -0.2
SNR=263
MHTO P **P** 05 55 31.1 -0.2
SNR=263
KORT Korkueli 80.99 322 P **P** 05 55 31.0 -0.9
LIT Litokhoron 80.99 329 P P 05 55 26.6 -5.1
RAR Rarotonga 81.02 143 PFAKE 05 55 40.0 +8.2
RAR LR LR
comp=Z,7μm,21.0s
AYDB Zeytinkoy-Aydi 81.07 324 P **P** 05 55 32.2 -0.1
456A Hilliard 81.14 50 PFAKE 05 55 40.0 +7.5
456A LR LR
comp=Z,11μm,20.0s
456A Hilliard 81.14 50 P **P** 05 55 30.6 -1.9
baz=327
NEST Nestorio 81.16 330 P P 05 55 26.8 -5.9
URLA Izmir 81.17 325 P **P** 05 55 32.3 -0.4
555A McAlpin 81.19 51 PFAKE 05 55 50.0 +17
555A LR LR
comp=Z,10μm,21.0s
555A McAlpin 81.19 51 P **P** 05 55 33.3 +0.4
baz=326
PHNC Paralimni 81.26 318 P **P** 05 55 32.7 -0.5
PENT Pentalofos 81.33 330 P **P** 05 55 31.1 -2.5
CHOS Chios island 81.34 325 P **P** 05 55 33.3 -0.3
CHOS Chios island 81.34 325 P **P** 05 55 31.1 -2.5
ELL Elmali 81.38 322 P **P** 05 55 33.8 -0.1
XOR Xorichti 81.43 328 P **P** 05 55 30.4 -3.6
FYTO Fytoko, Volos 81.47 328 P **P** 05 55 31.2 -3.0
KPRO Kipourio 81.48 329 P **P** 05 55 31.3 -3.1
AQU L'Aquila 81.52 336 PFAKE 05 55 50.0 +16
AQU LR LR
comp=Z,42μm,19.0s
AQU L'Aquila 81.52 336⇑ *i*P **P** 05 55 35.5 +1.0
BHL Bhannes 81.53 316 *e*P **P** 05 55 34.5 -0.2
GCAM G?zelcaml? 81.53 324 P **P** 05 55 34.2 -0.3
655A Horseshoe Beac 81.55 52 P **P** 05 55 33.9 -0.8
baz=326
556A Lake Butler 81.56 51 P **P** 05 55 35.0 +0.2
baz=327,SNR=8.1
QASN Qassioun 81.58 316 *e*P P 05 55 29.5 -5.5
CSS Mathiatis 81.58 318 PFAKE 05 55 50.0 +15
CSS LR LR
comp=Z,21μm,18.0s
CSS Mathiatis 81.58 318 P **P** 05 55 32.3 -2.6
LEF Lefka 81.63 319 P **P** 05 55 34.5 -0.6
LEF Lefka 81.63 319⇑ *i*P **P** 05 55 34.2 -0.9
TOTH TOTAH 81.66 315 *e*P **P** 05 55 35.5 +0.2
ALFC Alefka 81.71 319 P **P** 05 55 35.9 +0.3
DQRL Deir Qamar 81.73 316 *e*P **P** 05 55 35.9 0.0
TURN Turunc 81.76 323 P **P** 05 55 37.3 +1.6
MZR Muzera 81.78 297 *i* P **P** 05 55 35.6 -0.5
SNR=25
MZR Muzera 81.78 297 P **P** 05 55 35.4 -0.7
SNR=80
MZR P **P** 05 55 35.4 -0.7
SNR=80
MNCI Minicoy 81.78 273 PFAKE 05 55 50.0 +14
MNCI LR LR
comp=Z,18μm,19.0s
FETY Fethiye 81.79 322 P **P** 05 55 35.7 -0.3
FETY Fethiye 81.79 322 P **P** 05 55 31.5 -4.5
DALY Dalyan (Mula) 81.79 323 P **P** 05 55 35.9 0.0
RCY Rachaya 81.80 316 *e*P **P** 05 55 36.3 +0.1
MNCY Minicoy 81.81 273 *e*P **P** 05 55 32.8 -3.5
QRWL Qaraoun 81.82 316 *e*P **P** 05 55 36.3 0.0
BRBR Barbar 81.82 316 *e*P **P** 05 55 36.7 +0.3
557A Orange Park 81.87 51 P **P** 05 55 36.8 +0.4
baz=327,SNR=5.3
FASA Fasano 81.89 332 *e*P **P** 05 55 36.2 -0.2
MRKA Markates 81.90 327 P **P** 05 55 33.0 -3.5
JAN Janina 81.92 329 P P 05 55 31.4 -5.2
AKAS Kas 81.95 322 P **P** 05 55 36.3 -0.6
SZAC Souni 81.95 319 P **P** 05 55 36.4 -0.4
DQM DQM 81.95 292 P **P** 05 55 36.2 -0.8
SNR=26
DQM P **P** 05 55 36.2 -0.8
SNR=26
SHBL Chebaa 81.96 316 *e*P **P** 05 55 36.9 -0.3
SRN Sarande 81.97 330 P P 05 55 28.8 -8.0
PPT Papeete 82.00 132 LR LR 06 26 21.8
comp=Z,7μm,19.8s,baz=292,slow=32
PPT2 Papeete2 82.02 132 *e*P **P** 05 55 39.0 +1.8
comp=Z,88nm,1.2s
PPT2 Papeete2 82.02 132 *e*S **S** 06 05 48.3 +0.3
comp=Z,8μm,33.8s
PPT2 *e*SS **SS** 06 11 10.6 +2.3
comp=Z,3μm,24.2s
PPT2 Papeete2 82.02 132 *e*LR LR 06 21 20.8
comp=Z,16μm,23.2s,baz=330
656A Willston 82.02 52 *e*P **P** 05 55 39.8 +2.5
comp=Z,254nm,1.0s
656A LR LR
comp=Z,10μm,22.0s
PPTF Pamatai, Papee 82.02 132 PFAKE 05 55 50.0 +13
PPTF LR LR
comp=Z,8μm,20.0s
KSL Kastellorizon 82.03 322 P P 05 55 31.9 -5.3
EREA Eretria 82.04 327 P P 05 55 24.8 -12
PPCY Paphos 82.05 319 P **P** 05 55 36.5 -0.8
BODT Bodrum 82.07 324 P **P** 05 55 36.9 -0.5
BODT Bodrum 82.07 324 P P 05 55 31.3 -6.1
PAE Paea 82.08 132 *e*P **P** 05 55 39.0 +1.5
comp=Z,18nm,1.2s
ATAL Atalanti 82.10 328 P P 05 55 32.5 -5.0
MASS Massafra 82.12 333 *e*P **P** 05 55 37.4 -0.2
LKR Lokris 82.14 328 P **P** 05 55 33.8 -3.9
657A Interlachen 82.16 51 P **P** 05 55 39.2 +1.3
baz=327
KEK Kerkira 82.19 330 P P 05 55 31.7 -6.3
IGT Igoumenitsa 82.19 330 P P 05 55 33.0 -5.0
MATE Matera 82.23 333⇓ *i*P **P** 05 55 38.1 0.0
DAT Datca 82.27 323 P **P** 05 55 37.5 -1.1
EVR Evrytania 82.29 328 P P 05 55 30.6 -8.0
VILL Villia 82.48 327 P P 05 55 30.9 -8.7
ATHU Athens Univers 82.50 327 P P 05 55 31.5 -8.1
LVIG Laguna Verde 82.50 68 PFAKE 05 55 50.0 +10
LVIG LR LR
comp=Z,3μm,20.0s
DSF Desfina 82.51 328 P P 05 55 33.3 -6.5
ARG Arkhangelos 82.52 323 P P 05 55 29.4 -10
ARG Arkhangelos 82.52 323 P P 05 55 33.8 -6.0
ANX Ano Chora 82.55 328 P **P** 05 55 35.3 -4.7
658A Bunnell 82.59 51 PFAKE 05 55 50.0 +10
658A LR LR
comp=Z,12μm,20.0s
658A Bunnell 82.59 51 P **P** 05 55 40.8 +0.6
baz=327
757A Oxford 82.60 51 P **P** 05 55 40.7 +0.4
baz=327
PVO Paravola 82.65 329 P P 05 55 34.3 -6.1
KALE Kalithea 82.66 328 P P 05 55 34.9 -5.6
APE Apeiranthos 82.70 325 P **P** 05 55 38.1 -2.7
APE Apeiranthos 82.70 325 P P 05 55 34.9 -5.9
APE Apeiranthos 82.70 325⇑ *i*P **P** 05 55 38.6 -2.2
EFP Efpalio 82.70 328 P P 05 55 35.5 -5.2
LOUT Loutraki 82.75 327 P P 05 55 33.2 -7.7
LKD2 Lefkada island 82.77 329 P P 05 55 33.0 -8.1
AMGA Amorgos Island 82.78 325 P P 05 55 34.2 -6.9
LAKA Lakka 82.85 328 P P 05 55 30.3 -11
MMLI Mount Malkishu 82.88 316 P **P** 05 55 42.4 +0.6
EVGI Lefkada island 82.92 329 P P 05 55 29.0 -13
KLV Kalavryta, Ach 82.97 328 P P 05 55 36.8 -5.4
TLIG Tlapa 82.97 71 PFAKE 05 55 50.0 +7.5
TLIG LR LR
comp=Z,6μm,18.0s
758A Lake Helen 83.00 51 P **P** 05 55 43.0 +0.6
baz=327
GUR Goura 83.00 328 P P 05 55 36.6 -5.8
857A Zephyrhills 83.08 52 P **P** 05 55 43.2 +0.5
baz=327
DID Didima 83.10 327 P P 05 55 34.4 -8.4
RLS Riolos of Patr 83.18 328 P P 05 55 38.3 -4.8
ANAF Anafi Island 83.25 325 P P 05 55 31.2 -12
VLS Valsamata 83.35 329 P P 05 55 34.1 -10
RAO Raoul Island 83.35 161 PFAKE 05 56 00.0 +16
RAO LR LR
comp=Z,5μm,20.0s
LHI Lord Howe Isla 83.39 181 PFAKE 05 56 00.0 +16
LHI LR LR
comp=Z,3μm,21.0s
KARP Karpathos 83.47 323 P P 05 55 37.6 -7.1
KARP Karpathos 83.47 323 PFAKE 05 56 00.0 +15
KARP LR LR
comp=Z,13μm,19.0s
KARP Karpathos 83.47 323 P P 05 55 34.8 -10
VLX Vlachokerasia 83.51 327 P P 05 55 34.7 -10
858A St. Cloud 83.55 51 P **P** 05 55 45.8 +0.7
baz=327
957A Wimauma 83.58 52 PFAKE 05 56 00.0 +15
957A LR LR
comp=Z,9μm,21.0s
957A Wimauma 83.58 52 P **P** 05 55 46.5 +1.1
baz=327
AMT Artemida-Makis 83.58 328 P P 05 55 39.4 -5.9
TIP Timpagrande 83.58 332 PFAKE 05 56 00.0 +15
TIP LR LR
comp=Z,29μm,18.0s
TIP Timpagrande 83.58 332 P **P** 05 55 41.4 -3.9
TIP Timpagrande 83.58 332⇑ *i*P **P** 05 55 45.8 +0.5
DWPF Disney Wildern 83.60 51 PFAKE 05 56 00.0 +15
DWPF LR LR
comp=Z,9μm,20.0s
DWPF Disney Wildern 83.60 51 P **P** 05 55 46.1 +0.7
baz=327
ITM Ithomi 83.83 328 P **P** 05 55 45.6 -0.9
ITM Ithomi 83.83 328 PFAKE 05 56 00.0 +13
ITM LR LR
comp=Z,18μm,18.0s
ITM Ithomi 83.83 328 P P 05 55 38.5 -8.0
958A Wauchula 83.88 52 P **P** 05 55 47.1 +0.3
baz=327

859A	**Kempfer Cattle**	**83.90**	**51**	P	**P**	**05 55 46.8**	**-0.2**
	baz=328						
VLI	**Veliai**	**83.91**	**327**	P	P	05 55 39.4	-7.5
COCO	**West Island**	**84.03**	**242**	PFAKE		05 56 00.0	+12
COCO				LR	LR		
	comp=Z,4μm,22.0s						
COCO	**West Island**	**84.03**	**242**	P	**P**	**05 55 50.0**	**+2.4**
ZKR	**Zakros**	**84.20**	**324**	P	**P**	**05 55 47.9**	**-0.5**
ZKR	**Zakros**	**84.20**	**324**	P	P	05 55 41.5	-6.9
NPS	**Neapolis**	**84.29**	**324**	P	P	05 55 39.8	-9.1
058A	**Arcadia**	**84.30**	**52**	P	**P**	**05 55 49.9**	**+0.9**
	baz=327						
959A	**Okeechobee**	**84.36**	**51**	P	**P**	**05 55 49.5**	**+0.2**
	baz=328						
LAST	**Lasithi**	**84.43**	**324**	P	P	05 55 44.3	-5.4
ANKY	**Antikythira Is**	**84.56**	**326**	P	P	05 55 38.8	-11
KZIT	**Kziot**	**84.64**	**316**	P	**P**	**05 55 50.8**	**+0.1**
VAM	**Vamos**	**84.66**	**325**	P	P	05 55 44.1	-6.7
CEL	**Celeste**	**84.68**	**333**	PFAKE		05 56 00.0	+9.1
CEL				LR	LR		
	comp=Z,34μm,19.0s						
IMMV	**Iera Moni Meta**	**84.69**	**325**	P	**P**	**05 55 49.7**	**-1.2**
IMMV	**Iera Moni Meta**	**84.69**	**325**	P	P	05 55 43.5	-7.4
059A	**Moore Haven**	**84.69**	**52**	PFAKE		05 56 00.0	+9.0
059A				LR	LR		
	comp=Z,8μm,21.0s						
059A	**Moore Haven**	**84.69**	**52**	P	**P**	**05 55 50.6**	**-0.4**
	baz=328						
SIVA	**Sivas**	**84.80**	**325**	P	**P**	**05 55 47.0**	**-4.4**
060A	**Indiantown**	**85.01**	**51**	PFAKE		05 56 00.0	+7.4
060A				LR	LR		
	comp=Z,11μm,21.0s						
060A	**Indiantown**	**85.01**	**51**	P	**P**	**05 55 53.9**	**+1.3**
	baz=328						
HRFI	**Mount Harif**	**85.11**	**315**	P	**P**	**05 55 53.3**	**+0.1**
DMTO	**DMTO**	**85.19**	**293**	P	**P**	**05 55 51.8**	**-1.8**
	SNR=8.8						
DMTO				P	**P**	**05 55 51.8**	**-1.8**
	SNR=8.8						
GVD	**Gavdhos**	**85.21**	**325**	P	**P**	**05 55 52.7**	**-0.8**
MYIG	**Mrida**	**85.22**	**62**	PFAKE		05 56 10.0	+16
MYIG				LR	LR		
	comp=Z,2μm,22.0s						
STKA	**Stephens Creek**	**85.31**	**196**	PFAKE		05 56 10.0	+16
STKA				LR	LR		
	comp=Z,800nm,20.0s						
STKA	**Stephens Creek**	**85.31**	**196**	P	**P**	**05 55 54.1**	**+0.4**
	comp=Z,14nm,0.9s,baz=337,slow=8.1,SNR=12						
STKA				LR	LR	06 31 31.2	
	comp=Z,4μm,21.7s,baz=2.7,slow=34						
060Z	**West Palm Beac**	**85.45**	**52**	P	**P**	**05 55 56.3**	**+1.5**
	baz=328						
PGAV	**Gavieira, Arco**	**85.67**	**351**	*e*P	**P**	**05 55 56.5**	**+0.7**
	comp=Z,298nm,1.8s						
PGAV	**Gavieira, Arco**	**85.67**	**351**	*e*S	**S**	**06 06 31.7**	**+7.3**
PGAV				*e*SS	SS	06 12 16.9	+17
PGAV				*e*LQ	LQ	06 20 55.4	
PGAV				*e*LR	LR	06 29 27.5	
	comp=Z,10μm,18.0s						
PBRG	**Braganca**	**85.68**	**350**	*e*P	**P**	**05 55 55.7**	**-0.1**
	comp=Z,232nm,1.7s						
WHFO	**Wadi Hawf**	**85.69**	**294**	P	**P**	**05 55 56.2**	**0.0**
	SNR=14						
061Z	**Ochoppi**	**85.73**	**52**	PFAKE		05 56 10.0	+14
061Z				LR	LR		
	comp=Z,9μm,20.0s						
VAE	**Valguarnera**	**85.83**	**333**	P	**P**	**05 55 57.4**	**+0.8**
	comp=Z,16nm,0.5s,baz=23,slow=7.7,SNR=3.2						
PCAB	**Cabril**	**85.90**	**351**	*e*P	**P**	**05 55 58.1**	**+1.2**
	comp=Z,230nm,1.9s						
MAHO	**Mahon**	**85.91**	**342**	*i*S	S	06 06 38.3	+12
CLTB	**Caltabellotta**	**86.06**	**334**	PFAKE		05 56 10.0	+12
CLTB				LR	LR		
	comp=Z,48μm,18.0s						
POLO	**Lamas de Olo**	**86.21**	**351**	*e*P	**P**	**05 55 59.6**	**+1.1**
	comp=Z,96nm,2.2s						
PVRL	**Vila Real**	**86.30**	**351**	*e*P	**P**	**05 56 00.4**	**+1.5**
	comp=Z,289nm,1.9s						
MVO	**Moncorvo**	**86.34**	**350**	*e*P	**P**	**05 56 00.2**	**+1.1**
	comp=Z,191nm,1.0s						
MVO	**Moncorvo**	**86.34**	**350**	*e*S	**S**	**06 06 34.2**	**+3.2**
MVO				*e*SS	**SS**	**06 12 13.0**	**+3.5**
MVO				*e*LQ	LQ	06 21 29.8	
MVO				*e*LR	LR	06 27 39.0	
	comp=Z,12μm,20.0s						
ABTO	**Aybut**	**86.41**	**294**	P	**P**	**05 55 59.3**	**-0.5**
	SNR=11						
PTO	**Porto**	**86.52**	**352**	*e*P	**P**	**05 56 01.7**	**+1.9**
	comp=Z,174nm,1.8s						
TEIG	**Tepich**	**86.61**	**61**	PFAKE		05 56 10.0	+9.4
TEIG				LR	LR		
	comp=Z,5μm,22.0s						
UCM	**Universidad Co**	**86.74**	**347**	*i*S	**S**	**06 06 33.0**	**-1.8**
PVIS	**Viseu**	**86.87**	**351**	*e*P	**P**	**05 56 03.1**	**+1.4**
	comp=Z,134nm,1.2s						
BBSR	**BB Station**	**87.05**	**37**	*e*P	**P**	**05 56 03.9**	**+1.3**
	comp=Z,84nm,1.1s						
TBI	**Tubuai**	**87.11**	**135**	*e*S	**S**	**06 06 39.2**	**+0.9**
	comp=Z,5μm,26.0s						
TBI				*e*SS	**SS**	**06 12 27.5**	**+4.3**
	comp=Z,2μm,25.2s						
TBI	**Tubuai**	**87.11**	**135**	*e*LR	LR	06 23 39.3	
	comp=Z,12μm,23.5s,baz=331						
TBI	**Tubuai**	**87.11**	**135**	*e*T	T	07 32 30.0	
	comp=Z,17nm,0.3s						
MTE	**Manteigas**	**87.15**	**351**	*e*P	**P**	**05 56 05.3**	**+2.2**
	comp=Z,166nm,0.9s						
MTE	**Manteigas**	**87.15**	**351**	*e*S	**S**	**06 06 42.1**	**+3.3**
MTE				*e*SS	SS	06 12 34.4	+13
MTE				*e*LQ	LQ	06 21 24.4	
MTE				*e*LR	LR	06 27 23.1	
	comp=Z,10μm,20.0s						
MTE	**Manteigas**	**87.15**	**351**	PFAKE		05 56 10.0	+6.9
MTE				LR	LR		
	comp=Z,10μm,19.0s						
BBOO	**Buckleboo**	**87.27**	**200**	PFAKE		05 56 20.0	+17
BBOO				LR	LR		
	comp=Z,4μm,20.0s						
WDD	**Wied Dalam**	**87.33**	**333**	PFAKE		05 56 20.0	+16
WDD				LR	LR		
	comp=Z,14μm,19.0s						
COI	**Coimbra**	**87.42**	**351**	*e*P	**P**	**05 56 05.5**	**+1.2**
	comp=Z,141nm,1.1s						
COI	**Coimbra**	**87.42**	**351**	PFAKE		05 56 20.0	+16
COI				LR	LR		
	comp=Z,12μm,18.0s						
ESDC	**Sonseca Array**	**87.45**	**348**	P	**P**	**05 56 04.5**	**0.0**
	comp=Z,47nm,0.9s,baz=4.0,slow=3.9,SNR=78						
ESDC				LR	LR	06 40 37.1	
	comp=Z,5μm,18.0s,baz=25,slow=39						
ESLA	**Sonseca Array**	**87.45**	**348**	PFAKE		05 56 20.0	+15
ESLA				LR	LR		
	comp=Z,22μm,19.0s						
PCAS	**Casmilo, Conde**	**87.58**	**351**	*e*P	**P**	**05 56 07.0**	**+1.9**
	comp=Z,122nm,1.0s						
PAB	**San Pablo**	**87.63**	**348**	*e*P	**P**	**05 56 05.8**	**+0.4**
	comp=Z,51nm,1.0s						
PAB				LR	LR		
	comp=Z,17μm,19.0s						
CCIG	**Comitan**	**87.67**	**66**	*e*P	**P**	**05 56 07.2**	**+1.2**
	comp=Z,62nm,1.3s						
PCBR	**Castelo Branco**	**87.70**	**351**	*e*P	**P**	**05 56 06.1**	**+0.5**
	comp=Z,109nm,1.9s						
CAN	**Canberra**	**87.72**	**189**	PFAKE		05 56 20.0	+15
CAN				LR	LR		
	comp=Z,4μm,20.0s						
OUZ	**Omahuta**	**87.85**	**169**	PFAKE		05 56 20.0	+14
OUZ				LR	LR		
	comp=Z,10μm,22.0s						
PTOM	**Tomar**	**88.01**	**351**	*e*P	**P**	**05 56 07.8**	**+0.7**
	comp=Z,82nm,1.4s						
PMRV	**Marv??o**	**88.09**	**350**	*e*P	**P**	**05 56 09.9**	**+2.4**
	comp=Z,95nm,1.5s						
PMRV	**Marv??o**	**88.09**	**350**	*e*S	**S**	**06 06 49.7**	**+1.9**
PMRV	**Marv??o**	**88.09**	**350**	*e*LQ	LQ	06 22 01.9	
PMRV				*e*LR	LR	06 30 30.8	
	comp=Z,12μm,20.0s						
CMAH	**Djebel Manchou**	**88.39**	**338**	P	**P**	**05 56 08.7**	**-0.4**
PMTG	**Montargil**	**88.53**	**351**	*e*P	**P**	**05 56 10.8**	**+1.2**
	comp=Z,91nm,1.9s						
ABSA	**Djebel Ababsia**	**88.72**	**338**	P	**P**	**05 56 10.0**	**-0.6**
PMAFR	**Mafra**	**88.74**	**352**	*e*P	**P**	**05 56 12.2**	**+1.6**
	comp=Z,178nm,2.0s						
CKFL	**Kef-Lekhel**	**88.77**	**339**	P	**P**	**05 56 09.3**	**-1.6**
KEST	**Kesra**	**88.79**	**337**	PFAKE		05 56 20.0	+9.0
KEST				LR	LR		
	comp=Z,27μm,20.0s						
KEST	**Kesra**	**88.79**	**337**	P	**P**	**05 56 11.1**	**+0.1**
	comp=Z,88nm,0.9s,baz=316,slow=1.5,SNR=44						
KEST				LR	LR	06 41 51.0	
	comp=Z,29μm,18.8s,baz=330,slow=40						
DFRA	**Djebel Bou Aff**	**88.81**	**340**	P	**P**	**05 56 11.8**	**+0.7**
CASM	**Ain Smara**	**88.95**	**339**	P	**P**	**05 56 12.3**	**+0.6**
LIS	**Lisbon**	**88.97**	**352**	*e*P	**P**	**05 56 12.1**	**+0.4**
LIS				AMb	AMB	05 56 13.6	
	comp=Z,131nm,1.1s						
LIS	**Lisbon**	**88.97**	**352**	*e*P	**P**	**05 56 12.0**	**+0.4**
CART	**Cartagena**	**89.08**	**345**	PFAKE		05 56 20.0	+7.8
CART				LR	LR		
	comp=Z,9μm,18.0s						
CART	**Cartagena**	**89.08**	**345**	*i*S	**S**	**06 06 55.8**	**-1.3**
ROSA	**Rosais**	**89.14**	**7**	PFAKE		05 56 20.0	+7.6
ROSA				LR	LR		
	comp=Z,10μm,20.0s						
SET	**Setif**	**89.25**	**340**	P	P	05 56 19.0	+5.9
PNCL	**Nicolau / Gran**	**89.51**	**351**	*e*P	**P**	**05 56 17.1**	**+2.9**
	comp=Z,56nm,1.8s						
PBEJ	**Beja**	**89.53**	**351**	*e*P	**P**	**05 56 14.1**	**-0.2**
	comp=Z,80nm,1.8s						
MESJ	**Messejana**	**89.75**	**351**	*e*P	**P**	**05 56 16.0**	**+0.7**
MESJ				AMb	AMB	05 56 22.8	
	comp=Z,63nm,2.1s						
MESJ	**Messejana**	**89.75**	**351**	*e*P	**P**	**05 56 17.9**	**+2.6**
	comp=Z,64nm,1.6s						
MESJ	**Messejana**	**89.75**	**351**	*e*P	**P**	**05 56 16.0**	**+0.7**
PCVE	**Castro Verde**	**89.94**	**351**	*e*P	**P**	**05 56 17.7**	**+1.5**
	comp=Z,96nm,1.5s						
PTEO	**Sao Teotonio**	**90.09**	**351**	*e*P	**P**	**05 56 19.6**	**+2.7**
	comp=Z,124nm,1.6s						
PVAQ	**Vaqueiros**	**90.13**	**350**	*e*S	**S**	**06 07 07.5**	**+0.6**
PVAQ	**Vaqueiros**	**90.13**	**350**	*e*LQ	LQ	06 22 51.8	
CMLA	**Cha da Macela**	**90.25**	**5**	PFAKE		05 56 30.0	+12
CMLA				LR	LR		
	comp=Z,7μm,21.0s						
PBDV	**Barranco-do-Ve**	**90.31**	**351**	*e*P	**P**	**05 56 18.6**	**+0.6**
	comp=Z,85nm,1.5s						
MORF	**Marmelete**	**90.32**	**351**	*e*P	**P**	**05 56 18.3**	**+0.2**
	comp=Z,117nm,1.7s						
EMAL	**Malaga-Limoner**	**90.38**	**348**	*i*S	**S**	**06 07 08.0**	**-1.2**
PFVI	**Vila Bisbo**	**90.51**	**351**	PFAKE		05 56 30.0	+11
PFVI				LR	LR		
	comp=Z,10μm,20.0s						
MXZ	**Matakaoa Point**	**90.79**	**166**	PFAKE		05 56 30.0	+10
MXZ				LR	LR		
	comp=Z,9μm,18.0s						
SFS	**San Fernando**	**90.89**	**349**	PFAKE		05 56 30.0	+9.4
SFS				LR	LR		
	comp=Z,8μm,20.0s						
HIZ	**Hauiti**	**91.25**	**169**	PFAKE		05 56 30.0	+8.1
HIZ				LR	LR		
	comp=Z,8μm,22.0s						
URZ	**Urewera**	**91.30**	**167**	PFAKE		05 56 30.0	+7.9
URZ				LR	LR		
	comp=Z,5μm,18.0s						
PVLZ	**Peæn de**	**91.93**	**347**	*i*S	**SKSac**	**06 06 57.2**	**+2.7**
BKZ	**Black Stump Fm**	**92.11**	**167**	PFAKE		05 56 40.0	+14
BKZ				LR	LR		
	comp=Z,6μm,19.0s						
TGUH	**Tegucigalpa,Un**	**92.19**	**64**	PFAKE		05 56 40.0	+13
TGUH				LR	LR		
	comp=Z,4μm,21.0s						
NWAO	**Narrogin (SRO)**	**92.75**	**215**	PFAKE		05 56 40.0	+11
NWAO				LR	LR		
	comp=Z,4μm,20.0s						
NWAO	**Narrogin (SRO)**	**92.75**	**215**	LR	LR	06 36 54.3	
	comp=Z,2μm,21.7s,baz=29,slow=35						
RTC	**Rabat Centre**	**93.42**	**349**	PFAKE		05 56 40.0	+7.6
RTC				LR	LR		
	comp=Z,29μm,20.0s						
ESTN	**Estel**	**93.47**	**64**	PFAKE		05 56 50.0	+17
ESTN				LR	LR		
	comp=Z,3μm,22.0s						
GTBY	**Guantanamo Bay**	**93.56**	**51**	PFAKE		05 56 50.0	+17
GTBY				LR	LR		
	comp=Z,8μm,20.0s						
BFZ	**Birch Farm**	**93.56**	**168**	PFAKE		05 56 40.0	+7.5
BFZ				LR	LR		
	comp=Z,6μm,20.0s						
DAMY	**Dhamar**	**93.58**	**299**	*e*P	**P**	**05 56 34.3**	**+0.5**
	comp=Z,232nm,1.7s						
DAMY				LR	LR		
	comp=Z,43μm,19.0s						
RKT	**Rikitea**	**93.82**	**123**	*e*SKSac	**SKSac**	**06 07 05.0**	**+0.2**
	comp=Z,3μm,25.5s						
RKT				*e*SP	SP	06 08 56.7	+2.3
	comp=Z,6μm,25.8s						
RKT	**Rikitea**	**93.82**	**123**	*e*LR	LR	06 26 44.5	
	comp=Z,8μm,23.2s,baz=320						
MTDJ	**Mount Denham**	**93.83**	**54**	PFAKE		05 56 50.0	+15
MTDJ				LR	LR		
	comp=Z,8μm,20.0s						
SNZO	**South Karori**	**94.00**	**169**	PFAKE		05 56 50.0	+16
SNZO				LR	LR		
	comp=Z,11μm,19.0s						
GRTK	**Grand Turk**	**94.03**	**47**	PFAKE		05 56 50.0	+15
GRTK				LR	LR		
	comp=Z,8μm,19.0s						
AVE	**Averroes**	**94.16**	**350**	*i*S	S	06 07 28.2	-15
THZ	**Tophouse**	**94.25**	**171**	PFAKE		05 56 50.0	+14
THZ				LR	LR		
	comp=Z,4μm,20.0s						
DGAR	**Diego Garcia**	**94.43**	**264**	PFAKE		05 56 50.0	+13
DGAR				LR	LR		
	comp=Z,11μm,20.0s						
KHZ	**Kahutara**	**94.96**	**170**	PFAKE		05 56 50.0	+11
KHZ				LR	LR		
	comp=Z,8μm,20.0s						
ACON	**Acoyapa**	**95.06**	**63**	PFAKE		05 56 50.0	+10
ACON				LR	LR		
	comp=Z,2μm,20.0s						
LTZ	**Lake Taylor**	**95.19**	**171**	PFAKE		05 56 50.0	+10
LTZ				LR	LR		
	comp=Z,7μm,19.0s						
PMOZ	**Porto Moniz, M**	**95.29**	**358**	*e*S	S	06 08 04.3	+11
PMOZ				*e*SS	SS	06 14 38.0	+19
PMOZ	**Porto Moniz, M**	**95.29**	**358**	*e*LR	LR	06 27 55.5	
	comp=Z,4μm,20.0s						
ESPN	**Las Esperanzas**	**95.35**	**62**	PFAKE		05 56 50.0	+8.5
ESPN				LR	LR		
	comp=Z,3μm,22.0s						
TAU	**Tasmania Unive**	**95.41**	**189**	PFAKE		05 56 50.0	+9.1
TAU				LR	LR		
	comp=Z,5μm,20.0s						
OXZ	**Oxford**	**95.71**	**171**	PFAKE		05 56 50.0	+7.7
OXZ				LR	LR		
	comp=Z,4μm,21.0s						
FOZ	**Fox Glacier**	**95.73**	**173**	PFAKE		05 56 50.0	+7.7
FOZ				LR	LR		
	comp=Z,7μm,22.0s						
RPZ	**Rata Peaks**	**96.01**	**172**	PFAKE		05 57 00.0	+16
RPZ				LR	LR		
	comp=Z,9μm,19.0s						
RPZ	**Rata Peaks**	**96.01**	**172**	LR	LR	06 33 27.7	
	comp=Z,2μm,21.4s,baz=354,slow=31						
CRLZ	**Canterbury Las**	**96.01**	**171**	PFAKE		05 57 00.0	+16
CRLZ				LR	LR		
	comp=Z,3μm,21.0s						
MQZ	**McQueen's Vall**	**96.15**	**171**	PFAKE		05 57 00.0	+16
MQZ				LR	LR		
	comp=Z,4μm,21.0s						
SDDR	**Presa de Saban**	**96.17**	**48**	PFAKE		05 57 00.0	+15
SDDR				LR	LR		
	comp=Z,6μm,20.0s						
JTS	**Las Juntas de**	**96.56**	**64**	PFAKE		05 57 00.0	+13
JTS				LR	LR		
	comp=Z,2μm,20.0s						
LBZ	**Lake Benmore**	**96.61**	**173**	PFAKE		05 57 00.0	+14
LBZ				LR	LR		
	comp=Z,8μm,22.0s						
WKZ	**Wanaka**	**96.96**	**174**	PFAKE		05 57 00.0	+12
WKZ				LR	LR		
	comp=Z,8μm,18.0s						
ODZ	**Otahua Downs**	**97.30**	**173**	PFAKE		05 57 00.0	+10
ODZ				LR	LR		
	comp=Z,6μm,19.0s						
MLZ	**Mavora Lakes**	**97.44**	**174**	PFAKE		05 57 00.0	+10
MLZ				LR	LR		
	comp=Z,9μm,22.0s						
DCZ	**Deep Cove**	**97.48**	**175**	PFAKE		05 57 00.0	+10
DCZ				LR	LR		
	comp=Z,7μm,21.0s						
WHZ	**Wether Hill Ro**	**97.95**	**175**	PFAKE		05 57 00.0	+7.6
WHZ				LR	LR		
	comp=Z,9μm,22.0s						
AGP	**Aguadilla**	**98.52**	**45**	PFAKE		05 57 10.0	+14
AGP				LR	LR		
	comp=Z,8μm,21.0s						
MPR	**Mayaguez**	**98.70**	**45**	PFAKE		05 57 10.0	+13
MPR				LR	LR		
	comp=Z,9μm,22.0s						
EMPR	**Esperanza - Ma**	**98.73**	**44**	PFAKE		05 57 10.0	+13
EMPR				LR	LR		
	comp=Z,8μm,20.0s						
CRPR	**Cabo Rojo, PR**	**98.89**	**45**	PFAKE		05 57 10.0	+13
CRPR				LR	LR		
	comp=Z,9μm,21.0s						
OBIP	**Obispado Ponce**	**99.08**	**45**	PFAKE		05 57 10.0	+12
OBIP				LR	LR		
	comp=Z,9μm,21.0s						
CBYP	**Canovanas**	**99.20**	**44**	PFAKE		05 57 10.0	+11
CBYP				LR	LR		
	comp=Z,4μm,19.0s						
SJG	**San Juan**	**99.21**	**44**	PFAKE		05 57 10.0	+11
SJG				LR	LR		
	comp=Z,5μm,19.0s						
ICMP	**Isla Caja de M**	**99.25**	**45**	PFAKE		05 57 10.0	+11
ICMP				LR	LR		
	comp=Z,7μm,22.0s						
HUMP	**Col San Antoni**	**99.32**	**44**	PFAKE		05 57 10.0	+11
HUMP				LR	LR		
	comp=Z,5μm,19.0s						
CUPR	**Culebra, Puert**	**99.41**	**43**	PFAKE		05 57 10.0	+10
CUPR				LR	LR		
	comp=Z,5μm,20.0s						
MTP	**Monte Pirata**	**99.48**	**44**	PFAKE		05 57 10.0	+10
MTP				LR	LR		
	comp=Z,5μm,19.0s						
STVI	**Saint Thomas**	**99.51**	**43**	PFAKE		05 57 10.0	+10
STVI				LR	LR		
	comp=Z,7μm,22.0s						
BCIP	**Isla Barro Col**	**100.28**	**60**	PFAKE		05 57 20.0	+16
BCIP				LR	LR		
	comp=Z,4μm,21.0s						
SMRT	**St. Maarten**	**100.56**	**42**	PFAKE		05 57 20.0	+15
SMRT				LR	LR		
	comp=Z,5μm,20.0s						
SEUS	**St. Eustatius**	**101.10**	**42**	PFAKE		05 57 20.0	+13
SEUS				LR	LR		
	comp=Z,7μm,21.0s						
FURI	**Furi**	**101.36**	**301**	PFAKE		05 57 20.0	+11
FURI				LR	LR		
	comp=Z,14μm,20.0s						
ANWB	**Willy Bob**	**101.42**	**41**	PFAKE		05 57 20.0	+11
ANWB				LR	LR		
	comp=Z,5μm,20.0s						
TAM	**Tamanrasset**	**102.10**	**336**	PFAKE		05 57 20.0	+8.1
TAM				LR	LR		
	comp=Z,11μm,20.0s						
MSEY	**Mahe Island**	**102.70**	**279**	PFAKE		05 57 30.0	+16
MSEY				LR	LR		
	comp=Z,12μm,20.0s						
FDF	**Fort de France**	**104.33**	**41**	PFAKE		05 57 30.0	+8.3
FDF				LR	LR		
	comp=Z,7μm,22.0s						
SDV	**Santo Domingo**	**105.24**	**53**	PFAKE		06 01 50.0	+10
SDV				LR	LR		
	comp=Z,6μm,22.0s						
SVB	**Belmont**	**105.60**	**42**	PFAKE		06 01 50.0	+10
SVB				LR	LR		
	comp=Z,5μm,20.0s						
GRGR	**Grenville**	**106.46**	**43**	PFAKE		06 01 50.0	+8.0
GRGR				LR	LR		
	comp=Z,5μm,20.0s						
OTAV	**Otavalo**	**108.46**	**64**	PFAKE		06 02 00.0	+14
OTAV				LR	LR		
	comp=Z,2μm,22.0s						
KMBO	**Kilima Mbogo**	**110.50**	**296**	PFAKE		06 02 00.0	+10
KMBO				LR	LR		
	comp=Z,16μm,20.0s						
NAI	**Nairobi**	**110.87**	**297**	PFAKE		06 02 00.0	+9.5
NAI				LR	LR		
	comp=Z,22μm,19.0s						
RPN	**Rapa Nui**	**111.21**	**107**	PFAKE		06 02 00.0	+10
RPN				LR	LR		
	comp=Z,6μm,19.0s						
TOC1	**Torodi Ar. Sit**	**112.28**	**337**	PFAKE		06 02 10.0	+17
TOC1				LR	LR		
	comp=Z,19μm,19.0s						
TOC2	**Torodi Ar. Sit**	**112.29**	**337**	PFAKE		06 02 10.0	+17
TOC2				LR	LR		
	comp=Z,17μm,19.0s						
TOC7	**Torodi Ar. Sit**	**112.30**	**337**	PFAKE		06 02 10.0	+17
TOC7				LR	LR		
	comp=Z,16μm,19.0s						
TOB2	**Torodi Ar. Sit**	**112.30**	**337**	PFAKE		06 02 10.0	+17
TOB2				LR	LR		
	comp=Z,22μm,20.0s						
TOA1	**Torodi Ar. Sit**	**112.30**	**337**	PFAKE		06 02 10.0	+17
TOA1				LR	LR		
	comp=Z,16μm,19.0s						
TOB5	**Torodi Ar. Sit**	**112.30**	**337**	PFAKE		06 02 10.0	+17
TOB5				LR	LR		
	comp=Z,16μm,20.0s						
TOA2	**Torodi Ar. Sit**	**112.31**	**337**	PFAKE		06 02 10.0	+17
TOA2				LR	LR		
	comp=Z,16μm,20.0s						
TOA0	**Torodi Ar. Sit**	**112.31**	**337**	PFAKE		06 02 10.0	+17
TOA0				LR	LR		
	comp=Z,16μm,19.0s						
TORD	**Torodi Ar. Bea**	**112.31**	**337**	Pdiff	**Pdif**	**05 58 01.9**	**+4.7**
	comp=Z,1.0nm,0.8s,baz=348,slow=4.9,SNR=5.5						
TORD				PKiKP	**PKiKP**	**06 01 53.1**	**+0.2**
	comp=Z,3.0nm,1.0s,baz=32,slow=2.1,SNR=4.5						
TORD				PP	**PP**	**06 02 35.2**	**-2.3**
	comp=Z,26nm,0.9s,baz=7.8,slow=7.2,SNR=10						
TORD				PKKPab	**PKKPab**	**06 12 53.1**	**-1.2**
	comp=Z,1.8nm,1.1s,baz=199,slow=4.1,SNR=5.6						
TOC3	**Torodi Ar. Sit**	**112.31**	**337**	PFAKE		06 02 10.0	+17
TOC3				LR	LR		
	comp=Z,17μm,19.0s						
TOA3	**Torodi Ar. Sit**	**112.31**	**337**	PFAKE		06 02 10.0	+17
TOA3				LR	LR		
	comp=Z,16μm,19.0s						
TOB3	**Torodi Ar. Sit**	**112.31**	**337**	PFAKE		06 02 10.0	+17
TOB3				LR	LR		
	comp=Z,16μm,19.0s						
TOB4	**Torodi Ar. Sit**	**112.32**	**337**	PFAKE		06 02 10.0	+17
TOB4				LR	LR		
	comp=Z,16μm,19.0s						
TOC5	**Torodi Ar. Sit**	**112.33**	**337**	PFAKE		06 02 10.0	+17
TOC5				LR	LR		
	comp=Z,18μm,19.0s						
TOC4	**Torodi Ar. Sit**	**112.33**	**337**	PFAKE		06 02 10.0	+17
TOC4				LR	LR		
	comp=Z,17μm,19.0s						
MBAR	**Mbarara**	**113.54**	**303**	PFAKE		06 02 10.0	+14
MBAR				LR	LR		
	comp=Z,16μm,19.0s						
PTGA	**Pitinga**	**118.68**	**47**	PFAKE		06 02 20.0	+15
PTGA				LR

VNDA					SKKPbc	SKKPbc	06 15 34.2	+4.8
	comp=Z,1.6nm,1.1s,baz=176,slow=4.2,SNR=5.6							
CLDB	**Colider**	**129.53**	**49**	*e*P		**PKiK**	**06 02 27.2**	**+0.6**
PB11	**IPOC Station P**	**129.67**	**69**		PFAKE		06 02 40.0	+13
PB11					LR	LR		
	comp=Z,3μm,20.0s							
GO01	**Chusmiza**	**129.86**	**69**		PFAKE		06 02 40.0	+12
GO01					LR	LR		
	comp=Z,4μm,21.0s							
SBA	**Scott Base**	**129.86**	**178**	*e*PKPdf		**PKiK**	**06 02 26.3**	**+0.9**
SBA					LR	LR		
	comp=Z,3μm,20.0s							
SBA	**Scott Base**	**129.86**	**178**	*e*PKIKP		**PKiK**	**06 02 26.3**	**+0.9**
SBA					MLR	MLR		
	comp=Z,3μm,20.0s							
PB01	**IPOC Station P**	**130.77**	**70**		PFAKE		06 02 40.0	+11
PB01					LR	LR		
	comp=Z,3μm,22.0s							
RCBR	**Riachuelo**	**131.88**	**22**	*e*P		**PKiK**	**06 02 31.7**	**+0.2**
PB10	**IPOC Station P**	**132.06**	**73**		PFAKE		06 02 40.0	+8.5
PB10					LR	LR		
	comp=Z,3μm,20.0s							
LVC	**Limon Verde**	**132.32**	**71**	*e*PKPdf		**PKiK**	**06 02 34.4**	**+1.9**
LVC					LR	LR		
	comp=Z,2μm,21.0s							
LVC	**Limon Verde**	**132.32**	**71**	*e*PKIKP		**PKiK**	**06 02 34.4**	**+1.9**
LVC					MLR	MLR		
	comp=Z,2μm,21.0s							
LVC	**Limon Verde**	**132.32**	**71**	*e*P		**PKiK**	**06 02 33.4**	**+0.8**
CRZF	**Crozet Islands**	**134.70**	**247**		PFAKE		06 02 50.0	+14
CRZF					LR	LR		
	comp=Z,4μm,19.0s							
GO03	**Copiap**	**135.31**	**77**		PFAKE		06 02 50.0	+12
GO03					LR	LR		
	comp=Z,3μm,19.0s							
ASCN	**Ascension**	**135.63**	**352**		PFAKE		06 02 50.0	+11
ASCN					LR	LR		
	comp=Z,5μm,21.0s							
TSUM	**Tsumeb**	**136.04**	**304**	*e*PKPdf		**PKPdf**	**06 02 34.4**	**-3.9**
TSUM					LR	LR		
	comp=Z,8μm,19.0s							
LCO	**Las Campanas**	**136.06**	**78**	*e*P		**PKiK**	**06 02 40.0**	**+0.3**
BDFB	**Brasilia**	**137.18**	**42**		PFAKE		06 02 50.0	+7.8
BDFB					LR	LR		
	comp=Z,5μm,21.0s							
BDFB	**Brasilia**	**137.18**	**42**		PKhKP	PKPpre	06 02 30.2	
	comp=Z,3.4nm,0.8s,baz=274,slow=5.3,SNR=4.8							
BDFB					PKP	**PKiK**	**06 02 41.7**	**-0.5**
	comp=Z,9.9nm,1.0s,baz=20,slow=4.0,SNR=8.9							
C2SB	**Chapadao do Su**	**137.79**	**50**	*e*P		**PKiK**	**06 02 43.2**	**0.0**
AQDB	**Aquidauana**	**137.84**	**55**	*e*P		**PKiK**	**06 02 43.0**	**-0.3**
JANB	**Januaria**	**138.09**	**37**	*e*P		**PKiK**	**06 02 43.6**	**-0.4**
BOSA	**Boshof**	**139.28**	**288**	*e*PKPpre		**PKPdf**	**06 02 36.5**	**-7.4**
BOSA	**Boshof**	**139.28**	**288**	*e*PKIKP		**PKPdf**	**06 02 36.5**	**-7.4**
BOSA	**Boshof**	**139.28**	**288**	PKhKP	PKPdf		06 02 34.8	-9.1
	comp=Z,6.2nm,0.8s,baz=38,slow=3.3,SNR=10							
BOSA					PKP	**PKiK**	**06 02 44.9**	**-1.3**
	comp=Z,11nm,0.9s,baz=16,slow=3.6,SNR=9.8							
BOSA					PP	**PP**	**06 05 34.1**	**-4.0**
	comp=Z,9.8nm,0.8s,baz=40,slow=5.7,SNR=5.1							
MAW	**Mawson**	**139.32**	**216**	*e*PKPpre		**PKPdf**	**06 02 40.0**	**-2.5**
MAW					LR	LR		
	comp=Z,700nm,19.0s							
MAW	**Mawson**	**139.32**	**216**	*e*PKIKP		**PKPdf**	**06 02 40.0**	**-2.5**
MAW					MLR	MLR		
	comp=Z,700nm,19.0s							
MAW	**Mawson**	**139.32**	**216**	PKhKP		**PKPdf**	**06 02 34.8**	**-7.7**
	comp=Z,3.2nm,0.8s,baz=19,slow=1.5,SNR=5.8							
MAW					PKP	**PKiK**	**06 02 44.9**	**+0.1**
	comp=Z,11nm,0.9s,baz=266,slow=1.7,SNR=12							
GO05	**Huala**	**139.47**	**86**		PFAKE		06 03 00.0	+14
GO05					LR	LR		
	comp=Z,3μm,18.0s							
MCI8	**Montes Claros**	**139.71**	**37**	*e*P		**PKiK**	**06 02 46.9**	**-0.4**
MCI6	**Montes Claros**	**139.85**	**37**	*e*P		**PKiK**	**06 02 48.1**	**+0.5**
BB19B	**Bebedouro**	**141.77**	**47**	*e*P		**PKiK**	**06 02 50.3**	**-1.1**
CPUP	**Villa Florida**	**141.77**	**62**	*e*PKPpre		**PKPdf**	**06 02 45.9**	**-2.4**
CPUP	**Villa Florida**	**141.77**	**62**	*e*PKIKP		**PKPdf**	**06 02 45.9**	**-2.4**
CPUP	**Villa Florida**	**141.77**	**62**	PKhKP		**PKPdf**	**06 02 43.1**	**-5.1**
	comp=Z,4.5nm,0.9s,baz=297,slow=4.8,SNR=8.3							
CPUP	**Villa Florida**	**141.77**	**62**	*e*P		**PKiK**	**06 02 50.5**	**-0.7**
QSPA	**South Pole Qui**	**141.96**	**180**		PFAKE		06 03 00.0	+10
QSPA					LR	LR		
	comp=Z,3μm,19.0s							
GO06	**Curarrehue**	**142.66**	**91**		PFAKE		06 03 00.0	+7.2
GO06					LR	LR		
	comp=Z,4μm,18.0s							
PTGB	**Pitanga**	**143.21**	**54**	*e*P		**PKiK**	**06 02 53.3**	**-1.0**
FRTB	**Fartura**	**143.26**	**50**	*e*P		**PKiK**	**06 02 53.3**	**-1.1**
RIB01	**Linhares ES**	**143.42**	**34**	*e*P		**PKiK**	**06 02 53.5**	**-1.3**
PLCA	**Paso Flores**	**143.91**	**92**	PKP		**PKPdf**	**06 02 51.1**	**-0.7**
	comp=Z,15nm,0.8s,baz=341,slow=3.6,SNR=30							
PLCA	**Paso Flores**	**143.91**	**92**	*e*P		**PKPdf**	**06 02 53.5**	**+1.7**
SPB	**Sao Paulo**	**144.46**	**47**		PFAKE		06 03 10.0	+13
SPB					LR	LR		
	comp=Z,5μm,20.0s							
SPB	**Sao Paulo**	**144.46**	**47**	*e*P		**PKPdf**	**06 02 53.5**	**+0.3**
ALF01	**Guarapari-ES**	**144.51**	**35**	*e*P		**PKPdf**	**06 02 54.2**	**+0.9**
SUR	**Sutherland**	**144.64**	**288**	*e*PKPdf		**PKPdf**	**06 02 53.8**	**+0.3**
SUR					LR	LR		
	comp=Z,10μm,19.0s							
VAS01	**Vassouras-RJ**	**145.00**	**40**	*e*P		**PKPdf**	**06 02 54.8**	**+0.7**
TIJ01	**Guaruva-PR**	**145.21**	**51**	*e*P		**PKPdf**	**06 02 54.8**	**+0.3**
DUB01	**Friburgo-RJ**	**145.23**	**39**	*e*P		**PKPdf**	**06 02 54.8**	**+0.2**
ITAB	**Concordia**	**145.25**	**57**	*e*P		**PKPdf**	**06 02 55.4**	**+1.0**
ESAR	**Angra dos Reis**	**145.25**	**42**	*e*P		**PKPdf**	**06 02 55.2**	**+0.8**
CAM01	**Campos-RJ**	**145.27**	**37**	*e*P		**PKPdf**	**06 02 55.1**	**+0.5**
TRQA	**Tornquist**	**147.53**	**81**	*e*PKPdf		**PKPbc**	**06 02 59.3**	**-1.3**
TRQA					LR	LR		
	comp=Z,4μm,20.0s							
TRQA	**Tornquist**	**147.53**	**81**	*e*PKP2		**PKPbc**	**06 02 59.3**	**-1.3**
TRQA					MLR	MLR		
	comp=Z,4μm,20.0s							
TRQA	**Tornquist**	**147.53**	**81**	*e*P		**PKPdf**	**06 02 59.1**	**+1.2**
CNLB	**Canela**	**147.59**	**57**	*e*P		**PKPbc**	**06 03 00.5**	**-0.6**
TER01	**Tubaro-SC**	**147.83**	**54**	*e*P		**PKPbc**	**06 03 02.1**	**+0.4**
GO09	**Cerro Castillo**	**148.03**	**110**	*e*PKPbc		**PKiK**	**06 03 03.3**	**0.0**
SYO	**Syowa Base**	**148.03**	**216**⫛	*e*P		**PKPdf**	**06 02 52.6**	**-5.1**
SYO	**Syowa Base**	**148.03**	**216**⫛	*e*P		**PKPdf**	**06 02 57.3**	**-0.4**
PMSA	**Palmer Station**	**154.30**	**136**	PKPab		**PKPab**	**06 03 29.7**	**-0.3**
	comp=Z,42nm,0.6s,baz=327,slow=3.4,SNR=21							
EFI	**East Falkland**	**156.57**	**104**		PFAKE		06 03 20.0	+9.1
EFI					LR	LR		
	comp=Z,10μm,20.0s							
SNAA	**Sanae**	**159.07**	**195**	PKPab		**PKPab**	**06 03 50.3**	**-0.3**
SNAA	**Sanae**	**159.07**	**195**	PKPdf		**PKPdf**	**06 03 20.8**	**+7.3**
SNAA	**Sanae**	**159.07**	**195**	*e*PKPdf		**PKPdf**	**06 03 14.0**	**+0.5**
SNAA					LR	LR		
	comp=Z,4μm,22.0s							
SNAA	**Sanae**	**159.07**	**195**	PKP		**PKPdf**	**06 03 12.7**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=159,slow=3.8,SNR=4.9							
SNAA					PKPab	**PKPab**	**06 03 50.5**	**0.0**
	comp=Z,4.1nm,0.8s,baz=184,slow=3.4,SNR=5.8							
VNA3	**Neumayer Olymp**	**160.37**	**190**	PKPab		**PKPab**	**06 03 55.5**	**-0.7**
VNA3	**Neumayer Olymp**	**160.37**	**190**	PKPdf		**PKPdf**	**06 03 16.5**	**+1.6**
VNA2	**Neumayer--Watz**	**160.40**	**192**	PKPab		**PKPab**	**06 03 56.5**	**+0.3**
VNA2	**Neumayer--Watz**	**160.40**	**192**	PKPdf		**PKPdf**	**06 03 14.9**	**0.0**
VNA1	**Neumayer--Stat**	**160.77**	**192**	PKPab		**PKPab**	**06 03 58.5**	**+0.6**
VNA1	**Neumayer--Stat**	**160.77**	**192**	PKPdf		PKPdf	06 03 24.1	+8.8

KRSC 21 05:47:17.3±10.0, 52°.15N×160°.23E, h44km±10km, ML4.3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.96**	**353**	*e*P	Pn	05 47 35.4	+1.1
SPN				*e*S	Sn	05 47 48.0	+1.2
RUS	**Russkaya**	**1.09**	**286**	*e*P	Pn	05 47 36.5	+0.4
RUS				*e*S	Sn	05 47 50.4	+0.4
NLC	**Nalytchevo**	**1.16**	**333**	*e*P	Pn	05 47 38.3	+1.3
NLC				*e*S	Sn	05 47 53.3	+1.7
DALK	**Dalny**	**1.26**	**315**	P	Pn	05 47 39.8	+1.4
DALK				*e*S	Sn	05 47 56.0	+1.8
MTVR	**Mutnovka**	**1.30**	**286**	*e*P	Pn	05 47 40.3	+1.2
MTVR				*e*S	Sn	05 47 56.6	+1.3
UGLR	**Uglovaya**	**1.36**	**322**	*e*P	Pn	05 47 41.7	+1.8
KDTR	**Khodutka, Kamc**	**1.37**	**256**	P	Pn	05 47 41.2	+1.3
KDTR				*e*S	Sn	05 47 58.4	+1.5
GRL	**Gorelyy**	**1.38**	**288**	P	Pn	05 47 42.0	+1.8
SDLR	**Sedlovina**	**1.40**	**325**	*e*P	Pn	05 47 42.3	+1.9
SMAR	**Somma**	**1.41**	**323**	*e*P	Pn	05 47 42.4	+1.7
AVH	**Avacha**	**1.44**	**322**	P	Pn	05 47 42.9	+1.9
ASAK	**Asacha**	**1.45**	**280**	P	Pn	05 47 42.7	+1.6
KRMR	**Karymshinskiy**	**1.45**	**299**	P	Pn	05 47 42.4	+1.4
KRMR				*e*S	Sn	05 48 00.7	+1.8
KOK	**Koryaka**	**1.50**	**320**	P	Pn	05 47 44.0	+2.2
KRX	**Arik**	**1.55**	**322**	P	Pn	05 47 44.5	+2.0
APC	**Apacha**	**2.03**	**294**	P	Pn	05 47 51.9	+3.0
APC				*e*S	Sn	05 48 17.1	+4.1
KZV	**Kizimen**	**2.97**	**1**	*e*P	Pn	05 48 05.9	+3.9
KZV				*e*S	Sn	05 48 39.7	+3.3
TUMR	**Tumrok**	**3.14**	**359**	*e*P	Pn	05 48 07.7	+3.4
KBTR	**Krutoberegovo**	**4.34**	**19**	P	Pn	05 48 23.7	+3.0

*IDC **21** 05:48:23.9±0.6, 52°.46N×160°.48E, h0km, mb4.7/32, mb1 4.9/33, mb1mx4.8/43, mbtmp4.8/33, ML4.8/1, Error ellipse: s-maj=16.6km s-min=10.7km az=154.0*
*KRSC **21** 05:48:24.1±10.0, 52°.24N×160°.89E, h59km±10km, ML5.2*
*ISCJB **21** 05:48:28.5±0.5, 52°.36N±0°.03×160°.64E±0°.05, h45km±3km, mb5.1/105, MS6.0/2, Error ellipse: s-maj=5.8km s-min=3.2km az=43.3*
*MOS **21** 05:48:28.8±0.9, 52°.42N×160°.54E, h58km, mb5.4/29, Error ellipse: s-maj=7.1km s-min=3.9km az=97.7*
*NEIC **21** 05:48:29.8±1.5, 52°.50N×160°.60E, h35km, mb5.0/42, Error ellipse: s-maj=16.3km s-min=14.9km az=147.0*
*BJI **21** 05:48:36.2±0.0, 53°.38N×159°.38E, h70km, mb5.2/10, mB5.6/3*
ISC 21 05:48:28.9±0.4, 52°.33N±0°.04×160°.75E±0°.04, h36km±1km, h36km:pP-P, n317, σ1♀39/360, mb5.1/105, 26C-15D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.89**	**330**	*e*P	**Pn**	**05 48 42.5**	**-2.4**
SPN				*e*S	**Sn**	**05 48 55.3**	**-1.3**
SPN	**Mys Shipunski**	**0.89**	**330**	PN	**Pn**	**05 48 42.5**	**-2.4**
SPN				S	**Sn**	**05 48 55.3**	**-1.3**
NLC	**Nalytchevo**	**1.20**	**315**	*e*P	**Pn**	**05 48 47.3**	**-1.8**
NLC				*e*S	**Sn**	**05 49 04.2**	**0.0**
NLC	**Nalytchevo**	**1.20**	**315**	PN	**Pn**	**05 48 47.3**	**-1.8**
NLC				S	**Sn**	**05 49 04.2**	**0.0**
RUS	**Russkaya**	**1.38**	**275**	*e*P	**Pn**	**05 48 50.2**	**-1.3**
RUS				*e*S	**Sn**	**05 49 07.9**	**-0.6**
RUS	**Russkaya**	**1.38**	**275**	PN	**Pn**	**05 48 50.2**	**-1.3**
RUS				S	**Sn**	**05 49 07.9**	**-0.6**
DALK	**Dalny**	**1.41**	**301**	*e*P	**Pn**	**05 48 50.9**	**-1.0**
DALK				*e*S	**Sn**	**05 49 09.3**	**+0.1**
DALK	**Dalny**	**1.41**	**301**	PN	**Pn**	**05 48 50.9**	**-1.0**
DALK				S	**Sn**	**05 49 09.3**	**+0.1**
PET	**Petropavlovsk**	**1.46**	**300**	*e*Pn	**Pn**	**05 48 51.6**	**-1.0**
PET	**Petropavlovsk**	**1.46**	**300**	*e*P	**Pn**	**05 48 51.2**	**-1.4**
PET				*e*S	**Sn**	**05 49 08.9**	**-1.5**
PET	**Petropavlovsk**	**1.46**	**300**	*e*PN	**Pn**	**05 48 52.6**	**0.0**
PET				*e*S	**Sn**	**05 49 09.9**	**-0.5**
PET				pmax	pmax		
	comp=Z,5μm,0.6s						
PET				smax	smax		
	comp=N,11μm,0.6s						
PET				smax	smax		
	comp=E,15μm,0.9s						
UGLR	**Uglovaya**	**1.47**	**308**	*e*P	**Pn**	**05 48 51.9**	**-1.0**
UGLR	**Uglovaya**	**1.47**	**308**	PN	**Pn**	**05 48 51.9**	**-1.0**
SDLR	**Sedlovina**	**1.48**	**311**	*e*P	**Pn**	**05 48 52.0**	**-1.1**
SDLR	**Sedlovina**	**1.48**	**311**	PN	**Pn**	**05 48 52.0**	**-1.1**
SMAR	**Somma**	**1.51**	**309**	*e*P	**Pn**	**05 48 53.9**	**+0.3**
SMAR				*e*S	**Sn**	**05 49 15.0**	**+2.9**
SMAR	**Somma**	**1.51**	**309**	PN	**Pn**	**05 48 53.9**	**+0.3**
AVH	**Avacha**	**1.54**	**308**	*e*P	**Pn**	**05 48 53.5**	**-0.4**
AVH	**Avacha**	**1.54**	**308**	PN	**Pn**	**05 48 53.5**	**-0.4**
KRER	**Koryakskii**	**1.56**	**310**	*e*P	**Pn**	**05 48 55.0**	**+0.7**
KRER	**Koryakskii**	**1.56**	**310**	PN	**Pn**	**05 48 55.0**	**+0.7**
MTVR	**Mutnovka**	**1.58**	**277**	*e*P	**Pn**	**05 48 53.3**	**-1.2**
MTVR				*e*S	**Sn**	**05 49 14.1**	**+0.3**
MTVR	**Mutnovka**	**1.58**	**277**	PN	**Pn**	**05 48 53.3**	**-1.2**
MTVR				S	**Sn**	**05 49 14.1**	**+0.3**
KOK	**Koryaka**	**1.61**	**308**	*e*P	**Pn**	**05 48 54.4**	**-0.4**
KOK	**Koryaka**	**1.61**	**308**	PN	**Pn**	**05 48 54.4**	**-0.4**
KRX	**Arik**	**1.64**	**310**	*e*P	**Pn**	**05 48 54.8**	**-0.5**
KRX	**Arik**	**1.64**	**310**	PN	**Pn**	**05 48 54.8**	**-0.5**
GRL	**Gorelyy**	**1.66**	**279**	*e*P	**Pn**	**05 48 55.8**	**+0.3**
GRL	**Gorelyy**	**1.66**	**279**	PN	**Pn**	**05 48 55.8**	**+0.3**
KRMR	**Karymshinskiy**	**1.68**	**289**	*e*P	**Pn**	**05 48 54.4**	**-1.3**
KRMR	**Karymshinskiy**	**1.68**	**289**	PN	**Pn**	**05 48 54.4**	**-1.3**
KDTR	**Khodutka, Kamc**	**1.73**	**254**	*e*P	**Pn**	**05 48 54.6**	**-1.8**
KDTR				*e*S	**Sn**	**05 49 16.0**	**-1.2**
KDTR	**Khodutka, Kamc**	**1.73**	**254**	PN	**Pn**	**05 48 54.6**	**-1.8**
KDTR				S	**Sn**	**05 49 16.0**	**-1.2**
ASAK	**Asacha**	**1.75**	**273**	*e*P	**Pn**	**05 48 56.3**	**-0.5**
ASAK	**Asacha**	**1.75**	**273**	PN	**Pn**	**05 48 56.3**	**-0.5**
PEA0B	**Petropavlovsk-**	**2.02**	**294**	*e*Pn	**Pn**	**05 49 00.1**	**-0.2**
PETK	**Petropavlovsk-**	**2.02**	**294**	*e*Pn	**Pn**	**05 49 00.6**	**+0.2**
PETK	**Petropavlovsk-**	**2.02**	**294**	*e*PN	**Pn**	**05 49 00.6**	**+0.2**
PETK	**Petropavlovsk-**	**2.02**	**294**	Pn	**Pn**	**05 48 59.8**	**-0.5**
	comp=E,216nm,0.3s,baz=108,slow=18,SNR=23						
PETK				Sn	**Sn**	**05 49 24.9**	**+0.6**
	comp=E,167nm,0.3s,baz=99,slow=21,SNR=4.5						
PEA1	**Petropavlovsk-**	**2.02**	**294**	*e*Pn	**Pn**	**05 48 59.8**	**-0.6**
PEA1				*e*Sn	**Sn**	**05 49 24.9**	**+0.6**
APC	**Apacha**	**2.27**	**287**	*e*P	**Pn**	**05 49 04.3**	**+0.5**
APC				*e*S	**Sn**	**05 49 33.6**	**+3.1**
APC	**Apacha**	**2.27**	**287**	PN	**Pn**	**05 49 04.3**	**+0.5**
MKZ	**Mys Kozlova**	**2.31**	**14**	*e*P	**Pn**	**05 49 01.8**	**-2.5**
MKZ				*e*S	**Sn**	**05 49 28.3**	**-3.2**
MKZ	**Mys Kozlova**	**2.31**	**14**	PN	**Pn**	**05 49 01.8**	**-2.5**
MKZ				S	**Sn**	**05 49 28.3**	**-3.2**
PAU	**Pauzhetka**	**2.59**	**252**	*e*P	**Pn**	**05 49 08.1**	**-0.1**
PAU	**Pauzhetka**	**2.59**	**252**	PN	**Pn**	**05 49 08.1**	**-0.1**
KZV	**Kizimen**	**2.81**	**355**	*e*P	**Pn**	**05 49 10.9**	**-0.4**
KZV				*e*S	**Sn**	**05 49 43.9**	**-0.1**
KZV	**Kizimen**	**2.81**	**355**	PN	**Pn**	**05 49 10.9**	**-0.4**
KZV				S	**Sn**	**05 49 43.9**	**-0.1**
TUMD	**Tumrok D**	**2.89**	**356**	*e*P	**Pn**	**05 49 11.6**	**-0.8**
TUMD				*e*S	**Sn**	**05 49 45.9**	**0.0**
TUMR	**Tumrok**	**2.98**	**353**	*e*P	**Pn**	**05 49 13.8**	**0.0**
TUMR				*e*S	**Sn**	**05 49 49.4**	**+1.1**
TUMR	**Tumrok**	**2.98**	**353**	PN	**Pn**	**05 49 11.6**	**-2.2**
TUMR				S	**Sn**	**05 49 45.9**	**-2.4**
SKR	**Severo-Kuril's**	**3.33**	**242**	*e*P	**Pn**	**05 49 17.0**	**-1.4**
SKR				*e*S	**Sn**	**05 49 54.3**	**-2.3**
SKR	**Severo-Kuril's**	**3.33**	**242**	*e*PN	**Pn**	**05 49 17.3**	**-1.1**
SKR				*e*S	**Sn**	**05 49 55.4**	**-1.2**
SKR				pmax	pmax		
	comp=Z,414nm,0.6s						
SKR				smax	smax		
	comp=E,2μm,0.7s						
SKR				smax	smax		
	comp=N,2μm,0.7s						
ALID	**Alaid**	**3.56**	**248**	*e*P	**Pn**	**05 49 20.6**	**-1.0**
ALID	**Alaid**	**3.56**	**248**	PN	**Pn**	**05 49 20.6**	**-1.0**
BZMR	**Bezymyannaya**	**3.62**	**358**	*e*P	**Pn**	**05 49 22.4**	**-0.1**
BZMR	**Bezymyannaya**	**3.62**	**358**	PN	**Pn**	**05 49 22.4**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**3.62**	**360**	*e*P	**Pn**	**05 49 23.1**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**3.62**	**360**	PN	**Pn**	**05 49 23.1**	**+0.6**
KIRR	**Kirishev**	**3.64**	**356**	*e*P	**Pn**	**05 49 22.1**	**-0.7**
KIRR				*e*S	**Sn**	**05 50 06.4**	**+1.8**
KIRR	**Kirishev**	**3.64**	**356**	PN	**Pn**	**05 49 22.1**	**-0.7**
KIRR				S	**Sn**	**05 50 06.4**	**+1.8**
BZWR	**Bezymyannyi-We**	**3.65**	**358**	*e*P	**Pn**	**05 49 24.2**	**+1.3**
BZWR	**Bezymyannyi-We**	**3.65**	**358**	PN	**Pn**	**05 49 24.2**	**+1.3**
KPT	**Kopyto**	**3.66**	**355**	*e*P	**Pn**	**05 49 23.4**	**+0.4**
KPT	**Kopyto**	**3.66**	**355**	PN	**Pn**	**05 49 23.4**	**+0.4**
LGNR	**Loginova**	**3.77**	**359**	*e*P	**Pn**	**05 49 25.0**	**+0.4**
LGNR	**Loginova**	**3.77**	**359**	PN	**Pn**	**05 49 25.0**	**+0.4**
KOZ	**Kozyrevsk**	**3.78**	**352**	*e*P	**Pn**	**05 49 25.1**	**+0.6**
KOZ	**Kozyrevsk**	**3.78**	**352**	PN	**Pn**	**05 49 25.1**	**+0.6**
CIRR	**Tsirk**	**3.80**	**360**	*e*P	**Pn**	**05 49 26.1**	**+1.2**
CIRR	**Tsirk**	**3.80**	**360**	PN	**Pn**	**05 49 26.1**	**+1.2**
ESO	**Esso**	**3.80**	**342**	*e*P	**Pn**	**05 49 21.7**	**-3.2**
ESO	**Esso**	**3.80**	**342**	PN	**Pn**	**05 49 21.7**	**-3.2**
KRSR	**Krestovskiy**	**3.90**	**358**	*e*P	**Pn**	**05 49 26.5**	**+0.2**
KRSR	**Krestovskiy**	**3.90**	**358**	PN	**Pn**	**05 49 26.5**	**+0.2**
KLY	**Klyuchi**	**4.00**	**359**	*e*P	**Pn**	**05 49 28.0**	**+0.5**
KLY				*e*S	**Sn**	**05 50 14.7**	**+1.7**
KLY	**Klyuchi**	**4.00**	**359**	PN	**Pn**	**05 49 28.0**	**+0.5**
KLY				S	**Sn**	**05 50 14.7**	**+1.7**
SRDR	**Sredinnyy**	**4.05**	**352**	*e*P	**Pn**	**05 49 28.6**	**+0.3**
SRDR	**Sredinnyy**	**4.05**	**352**	PN	**Pn**	**05 49 28.6**	**+0.3**
KBTR	**Krutoberegovo**	**4.08**	**16**	*e*P	**Pn**	**05 49 27.4**	**-1.2**
KBTR	**Krutoberegovo**	**4.08**	**16**	PN	**Pn**	**05 49 27.4**	**-1.2**
BKI	**Bering**	**4.23**	**45**	*e*S	**Sn**	**05 50 12.2**	**-6.6**
BDR	**Baidarnaya**	**4.26**	**3**	*e*P	**Pn**	**05 49 32.3**	**+1.1**
BDR	**Baidarnaya**	**4.26**	**3**	PN	**Pn**	**05 49 32.3**	**+1.1**
SMKR	**Semkarok**	**4.29**	**5**	*e*P	**Pn**	**05 49 32.4**	**+0.8**
SMKR	**Semkarok**	**4.29**	**5**	PN	**Pn**	**05 49 32.4**	**+0.8**
SRKR	**Sorokina**	**4.34**	**3**	*e*P	**Pn**	**05 49 34.2**	**+1.8**
SRKR	**Sorokina**	**4.34**	**3**	PN	**Pn**	**05 49 34.2**	**+1.8**
MA2	**Magadan**	**9.16**	**326**	*i* PN	**Pn**	**05 50 38.8**	**+0.4**
YSS	**Yuzh-Sakhalins**	**12.83**	**252**	*e*PN	**Pn**	**05 51 30.1**	**+1.5**
YSS				pmax	pmax		
	comp=Z,70nm,1.1s						
ASAJ	**Asahikawa**	**14.60**	**243**	P	**Pn**	**05 51 51.0**	**-1.6**
ASAJ	**Asahikawa**	**14.60**	**243**	Pn	**Pn**	**05 51 51.0**	**-1.6**
	comp=Z,5.9nm,0.3s,baz=76,slow=12,SNR=6.9						
BILL	**Bilibino**	**15.99**	**8**⫛	*e*P	**P**	**05 52 15.8**	**+1.9**
BILL				*e*S	**Sn**	**05 55 07.1**	**+0.5**
BILL				pmax	pmax		
	comp=Z,80nm,0.8s						
BILL				MLR	MLR		
	comp=Z,11μm,16.0s						
KLR	**Kul'dur**	**18.54**	**272**	*i* P	**P**	**05 52 40.1**	**-2.1**
KLR				pmax	pmax		
	comp=Z,62nm,1.3s						
KLR	**Kul'dur**	**18.54**	**272**	P	**Pn**	**05 52 42.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=56,slow=16,SNR=2.5						
USRK	**Ussuriysk Ar.**	**20.69**	**258**	P	**P**	**05 53 02.0**	**-3.6**
	comp=Z,30nm,0.8s,baz=60,slow=11,SNR=7.7						
VLA	**Vladivostok**	**21.37**	**256**	*e*P	**P**	**05 53 10.0**	**-2.9**
VLA				pmax	pmax		
	comp=Z,46nm,0.7s						
MSHR	**Mys Shultsa**	**22.12**	**256**⫛	*e*P	**P**	**05 53 18.7**	**-2.3**
MJB9	**Matsu-Tunnel**	**22.40**	**234**	*e*P	**P**	**05 53 25.5**	**+1.4**
	comp=Z,108nm,0.9s						
MAJO	**Matsushiro**	**22.40**	**234**	*e*P	**P**	**05 53 24.9**	**+0.8**
	comp=Z,105nm,0.9s						
MAJO	**Matsushiro**	**22.40**	**234**⫛	*i* P	**P**	**05 53 24.6**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,109nm,0.9s						
MAT	**Matsushiro**	**22.40**	**234**	P	**P**	**05 53 24.8**	**+0.7**
MJAR	**Matsushiro Arr**	**22.40**	**234**	P	**P**	**05 53 24.3**	**+0.2**
	comp=Z,48nm,0.8s,baz=23,slow=9.7,SNR=11						
INU	**Inuyama**	**23.93**	**234**	*e*P	**P**	**05 53 40.4**	**+1.0**
	comp=Z,52nm,0.8s						
TIXI	**Tiksi**	**23.95**	**336***c*	*i* P	**P**	**05 53 37.1**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,65nm,0.8s						
TIXI	**Tiksi**	**23.95**	**336**	P	**P**	**05 53

comp=Z,38nm,0.9s
VCNR Virginia City 54.27 70 *e*P **P 05 57 53.4 +2.0**
comp=Z,7.1nm,0.8s
PNTR Pine Nut 54.44 70 *e*P **P 05 57 54.7 +2.1**
comp=Z,14nm,0.8s
YERR Yerington 54.71 70 *e*P **P 05 57 56.1 +1.5**
comp=Z,8.8nm,0.9s
BMN Battle Mountai 54.90 68 *e*P **P 05 57 57.5 +1.7**
comp=Z,10nm,0.9s
WAKR Walker 54.92 71 *e*P **P 05 57 57.8 +1.7**
comp=Z,10.0nm,0.7s
KTK1 Kautokeino 55.01 343 *e*P **P 05 57 55.1 -0.9**
TRO Tromso 55.21 345 *e*P **P 05 57 57.0 -0.4**
PRGR Permogore 55.30 328 *e*P **P 05 57 55.1 -3.1**
PRGR pmax pmax
comp=Z,59nm,0.9s
KVN Kaiserville 55.33 69 *e*P **P 05 58 01.0 +2.0**
comp=Z,7.6nm,0.8s
NVAR Mina Array Bea 55.63 70 P **P 05 58 02.4 +1.2**
comp=Z,3.7nm,0.6s,baz=296,slow=7.6,SNR=9.5
TMCR Tamitsa 55.64 333 *e*P **P 05 58 00.2 -0.4**
TMCR pmax pmax
comp=Z,204nm,1.0s
KSH Kashi 57.07 293 P **P 05 58 14.3 +2.9**
KSH pP sP 05 58 33.5 +8.0
KSH PP **PP 06 00 23.0 +5.0**
KSH S **S 06 05 58.8 -4.8**
KSH SS **SS 06 09 48.3 -3.7**
KSH pmax pmax
comp=Z,11nm,0.7s
STEI Steigen 57.33 345 *e*P **P 05 58 12.2 -0.3**
LOF Lofoten 57.40 346 *e*P **P 05 58 12.5 -0.6**
PDAR Pinedale Array 57.55 61 P **P 05 58 14.9 +0.1**
comp=Z,2.0nm,0.6s,baz=283,slow=1.2,SNR=5.3
PHRA Phrae 57.62 258 P **P 05 58 17.3 +2.1**
comp=Z,10nm,1.2s
KLMR Klimovskoe 57.82 330 *e*P **P 05 58 15.3 -0.8**
KLMR pmax pmax
comp=Z,55nm,0.7s
UTTA Uttaradit 58.00 257 P **P 05 58 19.8 +1.8**
comp=Z,86μm,0.8s
CMMT Chiang Mai 58.15 259 P **P 05 58 20.3 +1.3**
comp=Z,32nm,0.8s
CHTO Chiang Mai 58.15 259 *e*P **P 05 58 19.5 +0.5**
comp=Z,49nm,0.9s
CM31 Chiang Mai Arr 58.42 259 *e*P **P 05 58 21.7 +0.8**
comp=Z,35nm,0.8s
CMAR Chiang Mai Arr 58.42 259 P **P 05 58 20.9 0.0**
comp=Z,22nm,0.8s,baz=23,slow=7.1,SNR=17
SFJD Kangerlussuaq 58.67 14 *e*P **P 05 58 21.6 -0.3**
comp=Z,15nm,0.6s
KONS Konsvik 58.98 345 *e*P **P 05 58 24.4 +0.3**
ULM Lac du Bonnet 59.06 47 P **P 05 58 25.7 +0.8**
comp=Z,4.3nm,0.8s,baz=322,slow=12,SNR=3.1
JIRN Jiri 59.37 276 *e*P **P 05 58 26.9 -1.0**
comp=Z,36nm,0.6s
RSSD Black Hills 59.50 56 *e*P **P 05 58 28.8 +0.4**
comp=Z,16nm,0.8s
BTK Batken 59.56 297 *e*P **P 05 58 28.1 -0.6**
comp=Z,36nm,0.9s
RAMN Ramite 59.63 276 *e*P **P 05 58 28.6 -0.9**
comp=Z,76nm,0.7s
KKN Kakani 59.83 277 *e*P **P 05 58 29.9 -0.9**
comp=Z,51nm,0.6s
PKI Pulchoki 59.91 277 *e*P **P 05 58 30.6 -0.9**
comp=Z,43nm,0.7s
PKIN Phulchoki 59.91 277 *e*P **P 05 58 30.5 -1.0**
comp=Z,29nm,0.6s
DMN Daman 60.07 277 *e*P **P 05 58 31.8 -0.7**
comp=Z,72nm,0.7s
DANN Dangsing 60.35 279 *e*P **P 05 58 33.9 -0.6**
comp=Z,73nm,0.7s
KOLN Koldanda 60.87 278 *e*P **P 05 58 37.0 -0.9**
comp=Z,34nm,0.6s
FINES FINESS Array B 60.98 337 *i*P **P 05 58 38.0 +0.1**
FINES pmax pmax
comp=Z,24nm,0.6s
FINES FINESS Array B 60.98 337 P **P 05 58 38.0 +0.1**
comp=Z,24nm,0.6s,baz=34,slow=8.4,SNR=29
NSS Namsos 60.99 345 *e*P **P 05 58 38.2 +0.3**
PV18 Skein Mesa, Pa 61.06 64 *e*P **P 05 58 41.9 +2.8**
comp=Z,13nm,0.8s
PHET Kaeng Krachan 62.34 255 P **P 05 58 50.8 +3.1**
MOS Moscow 62.52 328 *e*P **P 05 58 47.0 -1.3**
MOS *e* 05 59 10.3
MOS pmax pmax
comp=Z,109nm,1.2s
NIL Nilore 62.76 290 *e*P **P 05 58 50.1 -0.2**
comp=Z,60nm,0.8s
OBN Obninsk 63.38 328 *de*P **P 05 58 53.5 -0.5**
OBN *e**SP **pwP 05 59 09.4 +1.1**
OBN pmax pmax
comp=Z,107nm,1.5s
OBN MLR MLR
comp=Z,9μm,16.0s
VSU Vasula 63.42 335 *d i*P **P 05 58 54.5 +0.3**
VSU pmax pmax
comp=Z,131nm,0.9s
MOL Molde 63.51 347 *e*P **P 05 58 55.4 +0.6**
DOMB Dombas 63.79 346 *e*P **P 05 58 57.1 +0.3**
SBUM Sibu 63.92 236 *e*P **P 05 58 59.6 +1.4**
comp=Z,6.1nm,0.9s
AKN Aaknes 63.96 347 *e*P **P 05 58 59.0 +1.1**
NC204 NORSAR Array S 64.24 344 *e*P **P 05 58 59.7 -0.1**
comp=Z,44nm,0.8s
NB2 NORSAR Subarra 64.39 344 P **P 05 58 59.8 -0.9**
comp=Z,9.4nm,0.7s,baz=23,slow=6.9
NB2 NORSAR Subarra 64.39 344 P **P 05 58 59.8 -0.9**
baz=23,slow=6.9
NOA NORSAR Array B 64.39 344 P **P 05 59 00.0 -0.7**
NOA NORSAR Array B 64.39 344 P **P 05 58 60.0 -0.7**
comp=Z,14nm,0.7s,baz=21,slow=6.7,SNR=13
KBL Kabul 64.50 294 *e*P **P 05 58 59.9 -2.1**
comp=Z,25nm,1.0s
NC602 NORSAR Array S 64.62 344 *e*P **P 05 59 02.4 +0.3**
LPSR Galich'ya Gora 64.64 325 *e*P **P 05 59 01.5 -0.9**
LPSR *e**PP **pP 05 59 12.9 +0.6**
LPSR pmax pmax
comp=Z,70nm,0.7s
VRH Novokhopyorsk 64.77 323 *e*P **P 05 59 01.4 -1.8**
VRH *e**PP **pP 05 59 13.1 0.0**
VRH pmax pmax
comp=Z,100nm,0.7s
ANMO Albuquerque 64.81 65 *e*P P 05 59 09.0 +5.0
ANMO pmax pmax
comp=Z,8.0nm,2.2s
HYA Hoyanger 65.05 347 *e*P **P 05 59 05.3 +0.5**
SKAR Skarslia 65.20 345 *e*P **P 05 59 06.0 0.0**
SUE Sulen 65.35 347 *e*P **P 05 59 07.1 +0.3**
VSR Storozhevoye 65.69 324 *e*P **P 05 59 07.7 -1.5**
VSR *e**PP **pP 05 59 18.6 -0.6**
VSR pmax pmax
comp=Z,100nm,1.3s
BER Bergen 65.92 347 *e*P **P 05 59 10.8 +0.3**
KONO Kongsberg 65.98 344 *e*P **P 05 59 11.7 +0.8**
KONO pmax pmax
comp=Z,20nm,1.1s
KONO Kongsberg 65.98 344 *e*P **P 05 59 12.0 +1.1**
ODD1 Odda 66.19 346 *e*P **P 05 59 12.6 +0.3**
BLS5 Blasjo 66.68 346 *e*P **P 05 59 15.7 +0.2**
KMY Karmoy 67.06 347 *e*P **P 05 59 18.4 +0.5**
SNART Snartemo 67.61 345 *e*P **P 05 59 21.6 +0.3**
GEYT Alibeck 67.84 304 P **P 05 59 22.9 -0.4**
comp=Z,12nm,0.6s,baz=25,slow=3.9,SNR=6.1
AKASG Malin Array Be 69.48 329 P **P 05 59 31.9 -1.2**
comp=Z,7.4nm,0.5s,baz=32,slow=6.7,SNR=8.6
AKBB Malin Array Si 69.48 329 *e*P **P 05 59 31.9 -1.2**
comp=Z,33nm,0.9s
KIEV Kiev 69.49 329 *d i*P **P 05 59 32.6 -0.6**
KIEV pmax pmax
comp=Z,56nm,1.2s
KIV Kislovodsk 70.27 317 *e*P **P 05 59 37.3 -1.0**
KIV pmax pmax
comp=Z,55nm,1.1s
KBZ Khabaz 70.37 317 P **P 05 59 38.4 -0.3**
comp=Z,22nm,0.9s,baz=45,slow=1.8,SNR=5.1
LTX Lajitas 70.57 67 *e*P **P 05 59 40.7 +0.4**
TXAR Lajitas Array 70.57 67 P **P 05 59 40.7 +0.4**
comp=Z,4.0nm,0.5s,baz=300,slow=4.7,SNR=13
NEY Neytrino 70.84 317 *i*P **P 05 59 39.4 -2.4**
NEY pmax pmax
comp=Z,16nm,2.5s
HYB Hyderabad 71.67 275 *i*P **P 05 59 46.5 -0.5**
ESK Eskdalemuir 71.90 350 *i*P **P 05 59 51.4 +3.6**
AKH Akhalkalaki 72.01 315 ⇑*i*P **P 05 59 47.7 -1.3**
GNI Garni 72.50 314 *i*P **P 05 59 52.7 +0.9**
GNI pmax pmax
comp=Z,96nm,1.1s
BATM Batumi 72.62 317 ⇑*i*P **P 05 59 50.6 -1.8**
BCA Borcka 72.78 317 ⇑*i*P **P 05 59 51.7 -1.6**
SIM Simferopol' 72.79 323 *e*P **P 05 59 54.1 +0.8**
SIM 06 00 08.0
SIM pmax pmax
comp=Z,20nm,1.2s
SIM MLR MLR
comp=Z,7μm,18.0s
KOLS Kolonicke sedl 73.11 333 *e*P **P 05 59 56.0 +0.8**
KOLS pmax pmax
comp=Z,16nm,1.0s
KOLS Kolonicke sedl 73.11 333 *e*P **P 05 59 56.0 +0.8**
CLL Collm 73.22 340 *e*P **P 05 59 56.0 +0.3**
CLL *e* 06 00 05.0
CLL pmax pmax
comp=Z,29nm,0.9s
CLL Collm 73.22 340 *e*P **P 05 59 56.0 +0.3**
comp=Z,29nm,0.9s
CLL *e*pP **pP 06 00 05.0 -0.6**
CLL *e*(sP) **sP 06 00 08.0 -2.8**
UPC Upice 73.28 337 *e*P **P 05 59 56.8 +0.7**
UPC Upice 73.28 337 *e*P **P 05 59 56.8 +0.7**
DPC Dobruska-Polom 73.36 337 *e*P **P 05 59 57.6 +1.0**
DPC Dobruska-Polom 73.36 337 *e*P **P 05 59 57.6 +1.0**
BURAR Bucovina Array 73.44 330 ⇑*i*P **P 05 59 57.0 -0.2**
MORC Moravsky Berou 73.59 336 *e*P **P 05 59 58.1 +0.1**
comp=Z,17nm,1.1s
MORC Moravsky Berou 73.59 336 ⇑*i*P **P 05 59 57.9 -0.1**
LANS Liptovska Anna 73.68 335 *e*P **P 05 59 59.7 +1.2**
LANS Liptovska Anna 73.68 335 *e*P **P 05 59 59.7 +1.2**
TRPA Tarpa 73.77 332 ⇓*i*P **P 05 59 59.1 +0.2**
TESR Tescani 73.98 329 ⇓*i*P **P 05 59 59.6 -0.7**
ARCR ARCALIA 74.17 331 ⇓*i*P **P 06 00 01.3 -0.1**
VRAC Vranov 74.26 337 ⇑*i*P **P 06 00 03.1 +1.2**
VYHS Vyhne 74.44 335 *e*P **P 06 00 03.5 +0.5**
VYHS pmax pmax
comp=Z,12nm,1.2s
VYHS Vyhne 74.44 335 *e*P **P 06 00 03.5 +0.5**
TREC Trest 74.54 337 *e*P **P 06 00 04.7 +1.2**
TREC *e* 06 00 15.1
TREC Trest 74.54 337 *e*P **P 06 00 04.7 +1.2**
TREC *e*pP **pP 06 00 15.1 +1.7**
PSZ Piszkesteto 74.69 334 ⇑*i*P **P 06 00 04.0 -0.5**
CJR Cluj-Napoca 74.74 331 ⇑*i*P **P 06 00 05.4 +0.7**
DRGR 74.93 332 ⇑*i*P **P 06 00 06.9 +1.0**
MODS Modra-Piesok 74.96 336 *e*P **P 06 00 06.6 +0.7**
MODS pmax pmax
comp=Z,18nm,1.0s
MODS Modra-Piesok 74.96 336 *e*P **P 06 00 06.6 +0.7**
MLR Muntele Rosu 75.11 329 ⇑*i*P **P 06 00 07.3 +0.3**
KHC Kasperske Hory 75.14 338 *e*P **P 06 00 07.4 +0.4**
KHC pmax pmax
comp=Z,36nm,1.2s
KHC Kasperske Hory 75.14 338 *e*P **P 06 00 08.1 +1.1**
KHC *e*pP **pP 06 00 18.5 +1.6**
ZST Bratislava 75.17 336 *e*P **P 06 00 07.4 +0.3**
ZST Bratislava 75.17 336 *e*P **P 06 00 07.4 +0.3**
TLB Topalu 75.23 327 ⇑*i*P **P 06 00 06.3 -1.2**
GERES GERESS Array B 75.38 338 P **P 06 00 08.4 -0.1**
comp=Z,2.5nm,0.5s,baz=33,slow=5.3,SNR=8.7
VOIR 75.44 329 ⇑*i*P **P 06 00 08.6 -0.3**
WR1 Warramunga Arr 75.56 206 *e*P **P 06 00 09.9 +0.3**
WRA Warramunga Arr 75.56 206 P **P 06 00 09.9 +0.3**
comp=Z,2.5nm,0.8s,baz=23,slow=6.3,SNR=3.5
ARR Arges 75.63 330 ⇑*i*P **P 06 00 11.0 +1.1**
SIRR Siria 75.71 332 ⇑*i*P **P 06 00 10.6 +0.3**
CONA Conrad Observa 75.72 336 *e*P **P 06 00 12.0 +1.6**
comp=Z,11nm,0.8s
ICOR Ion Corvin 75.73 327 ⇓*i*P **P 06 00 11.1 +0.7**
GZR Gura Zlata 76.17 331 ⇑*i*P **P 06 00 12.9 -0.1**
ILGA Ilgaz 76.29 322 *e*P **P 06 00 13.7 -0.2**
comp=Z,42nm,0.8s
BZS Buzias 76.31 332 ⇑*i*P **P 06 00 13.5 -0.2**
ARSA Arzberg 76.44 336 *i*P **P 06 00 16.0 +1.6**
comp=Z,8.6nm,0.7s
BFO Black Forest 77.00 342 *i*P **P 06 00 20.2 +2.6**
MDVR Moldovita 77.05 331 ⇑*i*P **P 06 00 17.6 -0.3**
SOKA Soboth 77.09 337 *e*P **P 06 00 18.1 -0.1**
comp=Z,12nm,0.6s
KBA Koelnbreinsper 77.12 338 *i*P **P 06 00 19.4 +1.0**
comp=Z,55nm,0.9s
PUNG Punghina 77.14 330 ⇓*i*P **P 06 00 18.4 0.0**
RETA Reutte 77.31 340 *e*P **P 06 00 20.7 +1.3**
comp=Z,14nm,1.4s
WTTA Wattenberg 77.33 339 *e*P **P 06 00 21.1 +1.5**
comp=Z,28nm,1.4s
ECH Echery 77.33 342 *e*P **P 06 00 18.8 -0.7**
comp=Z,17nm,1.1s
OBKA Obir 77.37 337 *i*P **P 06 00 20.5 +0.7**
comp=Z,20nm,1.1s
MOTA Moosalm 77.37 339 *i*P **P 06 00 20.3 +0.4**
comp=Z,18nm,1.0s
SQTA Sankt Quirin 77.46 339 *i*P **P 06 00 21.9 +1.5**
comp=Z,17nm,0.9s
BRTR Keskin Array B 77.47 321 P **P 06 00 20.3 -0.2**
comp=Z,6.0nm,0.9s,baz=16,slow=3.3,SNR=8.8
ABTA Abfaltersbach 77.62 338 *e*P **P 06 00 22.4 +1.2**
comp=Z,30nm,1.2s
DAVA Damuels 77.68 340 *e*P **P 06 00 22.9 +1.3**
comp=Z,24nm,1.0s
FETA Feichten 77.76 340 *i*P **P 06 00 21.6 -0.4**
comp=Z,17nm,0.9s
PHSR Pinarhisar 78.03 326 ⇑*i*P **P 06 00 24.2 +0.8**
VTS Vitosha 78.55 329 ⇑*i*P **P 06 00 26.4 -0.1**
ASAR Alice Springs 79.22 205 P **P 06 00 30.9 +0.8**
comp=Z,1.5nm,0.7s,baz=18,slow=4.5,SNR=4.3
STIP Stip 79.71 330 *i*P **P 06 00 31.6 -1.0**
PDG Podgorica 79.91 332 ⇑*i*P **P 06 00 33.3 -0.4**
LEF Lefka 81.76 319 ⇓*i*P **P 06 00 44.5 +0.8**
ESDC Sonseca Array 87.42 348 P **P 06 01 12.3 +0.1**
comp=Z,6.4nm,0.9s,baz=12,slow=4.3,SNR=8.7
KEST Kesra 88.82 337 P **P 06 01 19.1 +0.1**
comp=Z,8.1nm,0.9s,baz=350,slow=6.1,SNR=3.9
TORD Torodi Ar. Bea 112.33 338 PKIKP **PKiKP 06 07 00.7 -0.3**
comp=Z,0.9nm,0.9s,baz=30,slow=2.5,SNR=4.1
TORD PP **PP 06 07 43.4 -2.2**
comp=Z,8.3nm,1.2s,baz=13,slow=6.7,SNR=9.1
DBIC Dimbokro 119.96 343 PKP **PKiKP 06 07 15.6 -0.2**
comp=Z,4.6nm,0.9s,baz=334,slow=0.7,SNR=3.9
PLCA Paso Flores 143.59 92 PKP **PKPdf 06 07 59.8 +0.6**
comp=Z,2.7nm,0.9s,baz=326,slow=3.6,SNR=3.2

KRSC 21 05:52:46.0±10.0, 52°.28N×160°.80E, h63km±10km, ML3.8,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.95**	**330**	P	Pn	05 53 03.7	+0.2
SPN				S	Sn	05 53 16.3	-0.1
NLC	**Nalytchevo**	**1.26**	**316**	P	Pn	05 53 09.8	+2.3
NLC				S	Sn	05 53 26.1	+2.5
RUS	**Russkaya**	**1.41**	**277**	P	Pn	05 53 11.3	+1.8
RUS				S	Sn	05 53 28.9	+1.7
DALK	**Dalny**	**1.46**	**302**	P	Pn	05 53 12.1	+2.0
DALK				S	Sn	05 53 30.8	+2.5
PET	**Petropavlovsk**	**1.51**	**301**	P	Pn	05 53 12.5	+1.7
PET				S	Sn	05 53 31.1	+1.6
UGLR	**Uglovaya**	**1.52**	**309**	P	Pn	05 53 14.6	+3.5
SDLR	**Sedlovina**	**1.54**	**311**	P	Pn	05 53 13.7	+2.4
AVH	**Avacha**	**1.60**	**309**	P	Pn	05 53 15.2	+3.1
MTVR	**Mutnovka**	**1.62**	**278**	P	Pn	05 53 14.7	+2.3
MTVR				S	Sn	05 53 35.0	+2.6
KOK	**Koryaka**	**1.66**	**309**	P	Pn	05 53 15.7	+2.7
KRX	**Arik**	**1.70**	**311**	P	Pn	05 53 16.6	+3.1
KRMR	**Karymshinskiy**	**1.72**	**290**	P	Pn	05 53 15.8	+2.1
KRMR				S	Sn	05 53 37.4	+2.7
KDTR	**Khodutka, Kamc**	**1.75**	**256**	P	Pn	05 53 15.7	+1.7
KDTR				S	Sn	05 53 36.3	+1.0
ASAK	**Asacha**	**1.79**	**275**	*e*P	Pn	05 53 17.3	+2.7
APC	**Apacha**	**2.32**	**288**	*e*P	Pn	05 53 24.9	+3.2
MKZ	**Mys Kozlova**	**2.35**	**13**	S	Sn	05 53 50.2	+0.3
KZV	**Kizimen**	**2.86**	**354**	P	Pn	05 53 31.6	+2.4
KZV				S	Sn	05 54 04.6	+2.1
ALID	**Alaid**	**3.57**	**249**	*e*P	Pn	05 53 40.8	+1.9

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*ISCJB **21** 05:59:32.0±0.2, 22°.25S±0°.04×176°.40W±0°.06, h100km, mb4.6/41, Error ellipse: s-maj=8.4km s-min=4.6km az=27.4*
*NEIC **21** 05:59:31.8±2.4, 22°.28S×176°.31W, h90km±7km, mb4.6/57, Error ellipse: s-maj=20.2km s-min=13.0km az=128.0*
*IDC **21** 05:59:32.4±2.4, 22°.25S×176°.36W, h93km±20km, mb4.4/21, mb1 4.5/23, mb1mx4.3/47, mbtmp4.7/23, Error ellipse: s-maj=17.2km s-min=11.8km az=148.0*

ISC 21 05:59:33.0±0.4, 22°.30S±0°.06×176°.33W±0°.07, h100km, n122, σ2.9±0.09/124, mb4.7/40, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.80**	**63**	*e*Pn	**Pn**	**06 01 08.1**	**-2.2**
NIUE				*e*Sn	Sn	06 02 13.8	-12
GLKZ	**Green Lake**	**7.08**	**191**	P	**Pn**	**06 01 17.6**	**+3.7**
GLKZ				S	**Sn**	**06 02 34.7**	**+1.9**
PINNC	**Pines Island,** 40nm,0.9s	**15.00**	**266**	*e*Pn	**P**	**06 03 03.4**	**+0.6**
RAR	**Rarotonga** 59nm,1.0s	**15.42**	**89**	*e*Pn	**Pn**	**06 03 03.6**	**-1.5**
RAR	**Rarotonga** 1.4nm,0.3s,baz=255,slow=8.2,SNR=3.1	**15.42**	**89**	P	**Pn**	**06 03 03.6**	**-1.5**
RAR				S	Sn	06 05 41.8	-14
	3.6nm,0.3s,baz=270,slow=20,SNR=12						
OUENC	**Ouen Island, N** 48nm,1.1s	**15.57**	**266**	*e*Pn	**Pn**	**06 03 03.9**	**-3.1**
OUZ	**Omahuta**	**15.60**	**212**	P	**P**	**06 03 11.7**	**+2.4**
DZM	**Mont Dzumac** 60nm,1.0s	**15.96**	**268**	*e*Pn	**Pn**	**06 03 09.6**	**-2.4**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=85,slow=17,SNR=23	**15.96**	**268**	P	**P**	**06 03 17.6**	**+4.0**
WMGZ	**Waiomatatini S**	**16.11**	**195**	P	**P**	**06 03 14.5**	**-0.5**
HAZ	**Te Kaha**	**16.22**	**197**	P	**Pn**	**06 03 09.9**	**-5.0**
HAZ				S	Sn	06 05 59.3	-15
WIAZ	**Waiheke Island**	**16.23**	**205**	P	**P**	**06 03 18.8**	**+2.5**
PUZ	**Puketiti**	**16.39**	**195**	P	**Pn**	**06 03 15.9**	**-1.3**
RUGZ	**Raukumara Rang**	**16.44**	**197**	P	**Pn**	**06 03 12.1**	**-5.8**
RUGZ				S	Sn	06 06 03.7	-16
TWGZ	**Tauwhareparae**	**16.56**	**196**	P	**P**	**06 03 19.0**	**-1.1**
TWGZ				S	Sn	06 06 07.9	-15
MWZ	**Matawai**	**16.83**	**197**	P	**Pn**	**06 03 17.9**	**-4.6**
URZ	**Urewera** 14nm,0.8s	**16.87**	**198**	*e*Pn	**Pn**	**06 03 21.4**	**-1.6**
URZ				*e*Sn	**Sn**	**06 06 22.6**	**-7.8**
URZ	**Urewera** 3.2nm,0.3s,baz=312,slow=3.5,SNR=27	**16.87**	**198**	P	**Pn**	**06 03 21.6**	**-1.4**
URZ				S	Sn	06 06 15.4	-15
	0.9nm,0.3s,baz=18,slow=20,SNR=5.8						
URZ	**Urewera**	**16.87**	**198**	P	**Pn**	**06 03 17.8**	**-5.2**
RAGZ	**Rawiri**	**17.01**	**197**	P	**P**	**06 03 25.0**	**0.0**
MUGZ	**Murupara**	**17.17**	**199**	P	**Pn**	**06 03 24.3**	**-2.4**
RAHZ	**Arahi**	**17.49**	**197**	P	**P**	**06 03 29.1**	**-1.2**
HIZ	**Hauiti** 34nm,0.9s	**17.84**	**203**	*e*P	**Pn**	**06 03 33.8**	**-1.0**
HIZ	**Hauiti**	**17.84**	**203**	P	**Pn**	**06 03 35.8**	**+1.1**
BKZ	**Black Stump Fm** 4.9nm,0.6s	**17.89**	**198**	*e*P	**P**	**06 03 32.1**	**-2.7**
BKZ	**Black Stump Fm**	**17.89**	**198**	P	**P**	**06 03 29.8**	**-5.0**
DVHZ	**Dannevirke**	**19.04**	**198**	P	**Pn**	**06 03 55.2**	**+6.1**
ANWZ	**Angora Road**	**19.10**	**197**	P	**Pn**	**06 03 55.4**	**+5.7**
BFZ	**Birch Farm** 27nm,0.9s	**19.37**	**197**	*e*P	**P**	**06 03 49.5**	**-1.3**
BFZ	**Birch Farm**	**19.37**	**197**	P	**P**	**06 03 50.8**	**-0.1**
MRZ	**Mangatainoka R**	**19.54**	**199**	P	**P**	**06 03 50.2**	**-2.5**
OGWZ	**Otaki Gorge**	**19.81**	**199**	P	**Pn**	**06 03 56.1**	**-1.9**
TRWZ	**Traveller**	**20.19**	**198**	P	Pn	06 04 05.1	+2.6
MSWZ	**Moikau Station**	**20.33**	**198**	P	Pn	06 04 06.2	+2.0
PLWZ	**Palliser**	**20.47**	**198**	P	Pn	06 04 06.1	+0.3
QRZ	**Quartz Range**	**20.73**	**204**	P	Pn	06 04 09.9	+1.1
TUWZ	**Tuamarina**	**20.75**	**201**	P	**P**	**06 04 05.4**	**-0.3**
NNZ	**Nelson**	**20.76**	**202**	P	Pn	06 04 11.7	+2.6
THZ	**Tophouse**	**21.41**	**203**	P	**P**	**06 04 11.8**	**-1.1**
DSZ	**Denniston Nort**	**21.80**	**204**	P	**P**	**06 04 19.2**	**+2.2**
LTZ	**Lake Taylor**	**22.53**	**202**	P	**P**	**06 04 26.3**	**+1.7**
INZ	**Inchbonnie**	**22.78**	**204**	P	**P**	**06 04 27.0**	**-0.1**
OXZ	**Oxford** 17nm,0.6s	**23.09**	**202**	*e*P	**P**	**06 04 30.4**	**+0.3**
OXZ	**Oxford**	**23.09**	**202**	P	**P**	**06 04 31.5**	**+1.4**
MQZ	**McQueen's Vall**	**23.22**	**201**	P	P	06 04 39.6	+8.3
WVZ	**Waitaha Valley**	**23.34**	**204**	P	**P**	**06 04 32.7**	**+0.2**
RPZ	**Rata Peaks** 14nm,0.5s,baz=315,slow=2.4,SNR=9.9	**23.77**	**203**	P	**P**	**06 04 35.9**	**-0.5**
RPZ	**Rata Peaks**	**23.77**	**203**	P	**P**	**06 04 37.7**	**+1.3**
FOZ	**Fox Glacier**	**24.09**	**205**	P	**P**	**06 04 41.2**	**+2.0**
LBZ	**Lake Benmore**	**24.67**	**204**	P	**P**	**06 04 46.0**	**+1.6**
JCZ	**Jackson Bay**	**24.95**	**206**	P	**P**	**06 04 48.3**	**+1.2**
WKZ	**Wanaka**	**25.49**	**205**	P	**P**	**06 04 57.1**	**+5.2**
CTAO	**Charters Tower** 30nm,0.6s	**34.90**	**267**	*e*P	**P**	**06 06 16.1**	**+0.9**
PMG	**Port Moresby** 9.1nm,0.4s,baz=118,slow=6.8,SNR=4.1	**37.28**	**284**	P	**P**	**06 06 36.2**	**+0.6**
STKA	**Stephens Creek** 2.2nm,0.8s	**38.45**	**246**	*e*P	**P**	**06 06 46.1**	**+0.9**
STKA	**Stephens Creek** 8.0nm,0.7s,baz=94,slow=9.7,SNR=20	**38.45**	**246**	P	**P**	**06 06 45.5**	**+0.2**
AS31	**Alice Springs** 6.6nm,0.8s	**45.65**	**258**	*e*P	**P**	**06 07 43.7**	**-0.2**
AS31				*e*PcP	**PcP**	**06 09 20.6**	**-0.1**
ASAR	**Alice Springs** 20nm,0.7s,baz=95,slow=7.8,SNR=152	**45.65**	**258**	P	**P**	**06 07 43.2**	**-0.7**
ASAR				PcP	**PcP**	**06 09 20.6**	**-0.1**
	4.6nm,0.6s,baz=112,slow=3.7,SNR=4.0						
ASAR				ScP	**ScP**	**06 13 04.5**	**-0.1**
	0.7nm,0.9s,baz=87,slow=4.2,SNR=2.9						
ASAR				S	**S**	**06 14 13.7**	**-5.9**
	0.4nm,0.7s,baz=97,slow=16,SNR=3.8						
WB2	**Warramunga Arr** 22nm,0.8s	**45.91**	**263**	*e*P	**P**	**06 07 44.9**	**-1.1**
WR1	**Warramunga Arr**	**45.92**	**263**	*e*ScP	**ScP**	**06 13 06.0**	**+0.4**
WRA	**Warramunga Arr** 16nm,0.7s,baz=102,slow=7.8,SNR=94	**45.92**	**263**	P	**P**	**06 07 45.2**	**-0.9**
WRA				ScP	**ScP**	**06 13 06.0**	**+0.3**
	0.5nm,0.7s,baz=94,slow=4.3,SNR=3.8						
JAY	**Jayapura** 31nm,0.6s	**46.09**	**289**	P	**P**	**06 07 47.0**	**-0.5**
GUMO	**Guam** 56nm,0.8s,baz=124,slow=6.2,SNR=4.0	**52.14**	**309**	P	**P**	**06 08 33.9**	**+0.4**
FITZ	**Fitzroy Crossi** 14nm,0.9s	**54.35**	**263**	*e*P	**P**	**06 08 49.8**	**+0.1**
SBA	**Scott Base** 9.3nm,0.9s	**56.19**	**184**	*e*P	P	06 09 05.8	+3.7
VNDA	**Vanda** 2.6nm,0.9s,baz=358,slow=3.8,SNR=5.7	**56.27**	**186**	P	**P**	**06 09 04.7**	**+2.1**
NWAO	**Narrogin (SRO)** 5.5nm,0.8s,baz=140,slow=7.9,SNR=5.8	**58.97**	**244**	P	**P**	**06 09 22.9**	**+0.6**
QSPA	**South Pole Qui** 13nm,0.9s	**67.78**	**180**	*e*P	**P**	**06 10 21.4**	**+1.5**
PFO	**Pinyon Flats O** 2.7nm,0.9s,baz=167,slow=1.9,SNR=3.3	**79.63**	**47**	P	**P**	**06 11 29.8**	**+0.1**
MAW	**Mawson** 4.5nm,0.8s,baz=150,slow=5.7,SNR=6.9	**80.40**	**200**	P	**P**	**06 11 34.1**	**+1.0**
YBH	**Yreka Blue Hor** 4.6nm,0.7s,baz=209,slow=1.1,SNR=11	**80.74**	**38**	P	**P**	**06 11 36.3**	**+0.9**
NVAR	**Mina Array Bea** 4.1nm,1.0s,baz=224,slow=8.8,SNR=17	**81.28**	**42**	P	**P**	**06 11 38.7**	**+0.2**
KVN	**Kaiserville** 4.1nm,1.0s	**81.78**	**42**	*e*P	**P**	**06 11 41.0**	**-0.2**
K05A	**Summer Lake**	**82.41**	**38**	*e*P	**P**	**06 11 44.5**	**+0.2**
TUC	**Tucson** 8.5nm,1.0s	**82.88**	**51**	*e*P	**P**	**06 11 48.0**	**+1.1**
PINE	**Pine Mountain** 9.4nm,0.9s	**83.07**	**37**	*e*P	**P**	**06 11 47.8**	**+0.1**
319A	**Douglas** 9.1nm,0.9s	**83.49**	**52**	*e*P	**P**	**06 11 49.2**	**-0.8**
WVOR	**Wild Horse Val** 9.3nm,1.0s	**83.53**	**39**	*e*P	**P**	**06 11 50.1**	**+0.1**
U15A	**North Rim** 13nm,0.8s	**84.04**	**47**	*e*P	**P**	**06 11 52.6**	**-0.4**
PKCU	**Pink Cliffs** 11nm,1.0s	**84.58**	**46**	*e*P	**P**	**06 11 56.7**	**+1.0**
G08A	**Pilot Rock** 5.5nm,1.0s	**85.11**	**37**	*e*P	**P**	**06 11 58.4**	**+0.4**
SNAA	**Sanae**	**86.17**	**178**	P	**P**	**06 12 02.2**	**-0.6**
SNAA	**Sanae** 2.6nm,0.9s,baz=217,slow=10,SNR=4.0	**86.17**	**178**	P	**P**	**06 12 01.9**	**-0.9**
VNA3

```
                4.2nm,1.1s
ANMO Albuquerque      87.33 51  P          P        06 12 09.3 +0.2
                3.1nm,1.0s,baz=224,slow=7.8,SNR=8.3
PV12 Saucer Basin,    87.39 47  eP         P        06 12 08.4 -1.0
                7.6nm,1.2s
PDAR Pinedale Array   89.22 43  P          P        06 12 17.4 -0.6
                1.8nm,0.9s,baz=204,slow=3.3,SNR=11
ILAR Eielson Array    89.73 12  P          P        06 12 18.7 -0.8
                1.0nm,0.5s,baz=228,slow=5.7,SNR=14
PHWY Pilot Hill       91.11 45  eP         P        06 12 29.6 +2.6
                5.1nm,0.8s
CMAR Chiang Mai Arr   92.17 289 P          P        06 12 32.6 +0.7
                1.5nm,0.3s,baz=132,slow=2.6,SNR=6.0
RSSD Black Hills      93.38 43  eP         P        06 12 37.0 -0.3
                7.8nm,0.9s
YKA  Yellowknife Ar   97.50 24  P          Pdif     06 12 55.1 -0.2
                0.7nm,0.9s,baz=235,slow=4.0,SNR=8.3
YKA                             PKKP       PKKPdf   06 29 39.8 +3.0
                0.1nm,0.5s,baz=47,slow=2.4,SNR=5.7
BVAR Borovoye Array   121.45 319 PKP        PKPdf    06 18 13.0 -1.4
                0.9nm,0.4s,baz=143,slow=1.8,SNR=3.6
ARCES ARCESS Array B  130.96 350 PKP        PKiKP    06 18 32.7 -0.4
                1.3nm,0.5s,baz=29,slow=2.1,SNR=3.6
AKH  Akhalkalaki      141.59 309⇑iP        PKiKP    06 19 04.1 +8.3
SIM  Simferopol'      146.37 319 eP         PKPab    06 19 03.0 -0.3
SIM                             pmax       pmax
                comp=Z,13nm,0.8s
BR101 Keskin Array S  149.19 311 ePKPbc     PKPbc    06 19 09.2 -1.1
BRTR Keskin Array B   149.19 311 PKPbc      PKPbc    06 19 09.2 -1.1
                comp=Z,3.4nm,0.8s,baz=137,slow=4.2,SNR=12
BIZ  Bicaz            149.47 329⇑iP        PKiKP    06 19 10.4 -1.2
UZH  Uzhgorod         149.83 335 eP         PKiKP    06 19 11.6 -0.6
UZH                             e                    06 19 25.8
NIE  Niedzica         149.91 338 eP         PKiKP    06 19 12.5  0.0
NIE  Niedzica         149.91 338 eP         PKiKP    06 19 12.5  0.0
CLL  Collm            150.15 348 eP         PKiKP    06 19 12.0 -0.8
CLL                             pmax       pmax
                comp=Z,9.0nm,0.9s
CLL  Collm            150.15 348 ePKPbc     PKiKP    06 19 12.0 -0.8
                comp=Z,9.0nm,0.9s
DPC  Dobruska-Polom   150.30 344 eP         PKPab    06 19 19.2 +0.2
DPC  Dobruska-Polom   150.30 344 ePKPAB     PKPab    06 19 19.2 +0.2
BRG  Berggiesshubel   150.37 347 eP         PKiKP    06 19 13.1 -0.2
                comp=Z,4.7nm,0.7s
BRG                             i                    06 19 19.1
                comp=Z,8.9nm,0.9s
BRG  Berggiesshubel   150.37 347 eP         PKiKP    06 19 13.1 -0.2
BRG                             pmax       pmax
                comp=Z,5.0nm,0.7s
DOPR Dopca            150.51 328⇑iP        PKiKP    06 19 15.3 +1.5
ARR  Arges            151.31 328⇑iP        PKiKP    06 19 15.4 -0.1
KHC  Kasperske Hory   152.10 346 eP         PKPab    06 19 29.6 +3.1
KHC                             e                    06 19 42.0
KHC                             e                    06 19 51.1
KHC  Kasperske Hory   152.10 346 ePKPAB     PKPab    06 19 29.6 +3.1
KHC                             epPKP      pPKPbc   06 19 42.0 -1.3
KHC                             ex         x        06 19 51.1
GERES GERESS Array B  152.34 346 PKPbc      PKiKP    06 19 16.5 -1.1
                comp=Z,1.4nm,0.7s,baz=41,slow=4.3,SNR=10
TORD Torodi Ar. Bea   170.70 168 PKP        PKPdf    06 19 28.6 -1.7
                comp=Z,1.1nm,1.0s,baz=248,slow=3.9,SNR=4.2
TORD                            PKPab      PKPab    06 20 48.6 +0.4
                comp=Z,0.6nm,0.9s,baz=199,slow=2.3,SNR=3.8
TOA1 Torodi Ar. Sit   170.71 168 ePKPdf     PKPdf    06 19 28.6 -1.7
TOA1                            ePKPab     PKPab    06 20 48.6 +0.4
```

KRSC 21 06:01:29.1±10.0, 52°.14N×160°.69E, h59km±10km, ML3.6, Off east coast of Kamchatka Peninsula

```
Code Station Name     Δ°   AZ°   Phase ID   Time      Res
                                Op    ISC  h m s     ISC
SPN  Mys Shipunski    1.04 337  eP    Pn   06 01 48.8 +1.3
SPN                             eS    Sn   06 02 01.3 +0.1
NLC  Nalytchevo       1.31 322  P     Pn   06 01 53.2 +2.0
RUS  Russkaya         1.37 283  P     Pn   06 01 53.5 +1.6
RUS                             eS    Sn   06 02 09.6 +0.6
DALK Dalny            1.48 308  iP    Pn   06 01 55.3 +1.9
DALK                            eS    Sn   06 02 12.5 +0.9
UGLR Uglovaya         1.56 314  eP    Pn   06 01 57.5 +2.9
MTVR Mutnovka         1.57 283  P     Pn   06 01 56.9 +2.1
MTVR                            eS    Sn   06 02 15.7 +1.4
SDLR Sedlovina        1.58 317  P     Pn   06 01 57.7 +2.8
SMAR Somma            1.60 315  eP    Pn   06 01 58.8 +3.5
AVH  Avacha           1.63 314  iP    Pn   06 01 58.1 +2.5
KDTR Khodutka, Kamc   1.65 259  P     Pn   06 01 57.6 +1.9
KDTR                            eS    Sn   06 02 16.4 +0.6
KRER Koryakskii       1.65 315  P     Pn   06 01 58.3 +2.3
KOK  Koryaka          1.70 313  P     Pn   06 02 00.1 +3.6
KRMR Karymshinskiy    1.71 295  P     Pn   06 01 58.7 +2.2
KRMR                            eS    Sn   06 02 18.7 +1.5
ASAK Asacha           1.73 279  iP    Pn   06 01 59.3 +2.4
KRX  Arik             1.74 315  P     Pn   06 02 00.8 +3.8
APC  Apacha           2.29 291  iP    Pn   06 02 08.4 +4.0
APC                             eS    Sn   06 02 35.7 +4.2
MKZ  Mys Kozlova      2.50  14  S     Sn   06 02 38.5 +2.1
KZV  Kizimen          2.98 356  S     Sn   06 02 51.8 +3.1
TUMD Tumrok D         3.07 357  eS    Sn   06 02 53.2 +2.6
ALID Alaid            3.45 250  iP    Pn   06 02 22.1 +1.6
BKI  Bering           4.39  44  S     Sn   06 03 23.6 +0.8
```

*IDC **21** 06:03:32.6±0.5, 52°.34N×160°.23E, h0km, mb4.2/32, mb1 4.4/34, mb1mx4.3/56, mbtmp4.2/34, ML4.0/2, Error ellipse: s-maj=15.6km s-min=10.3km az=146.0*

*KRSC **21** 06:03:32.8±10.0, 52°.09N×160°.62E, h59km±10km, ML4.6*

*ISCJB **21** 06:03:36.2±0.6, 52°.17N±0°.03×160°.47E±0°.05, h45km±4km, mb4.5/62, MS5.6/1, Error ellipse: s-maj=6.4km s-min=3.7km az=138.0*

*NEIC **21** 06:03:37.6±2.5, 52°.27N×160°.22E, h35km, mb4.6/22, Error ellipse: s-maj=16.7km s-min=15.9km az=301.0*

*MOS **21** 06:03:37.0±1.4, 52°.23N×160°.30E, h51km, mb5.0/17, Error ellipse: s-maj=7.1km s-min=3.7km az=97.8*

ISC 21 06:03:35.4±1.4, **52°.19N**±0°.04×**160°.51E**±0°.04, **h27**km±9km, **n199**, σ1.9**47**/230, **mb4.5**/62, **10C-18D, Off east coast of Kamchatka Peninsula**

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Code Station Name     Δ°   AZ°   Phase ID   Time      Res
                                Op    ISC  h m s     ISC
SPN  Mys Shipunski    0.95 342  eP    Pn   06 03 51.8 -1.2
SPN                             eS    Sn   06 04 05.4 -0.3
SPN  Mys Shipunski    0.95 342  PN    Pn   06 03 51.8 -1.2
SPN                             S     Sn   06 04 05.4 -0.3
NLC  Nalytchevo       1.21 325  eP    Pn   06 03 56.4 -0.1
NLC                             eS    Sb   06 04 13.8 +0.9
NLC  Nalytchevo       1.21 325  PN    Pn   06 03 56.4 -0.1
NLC                             S     Sb   06 04 13.8 +0.9
RUS  Russkaya         1.25 282  eP    Pn   06 03 57.0  0.0
RUS                             eS    Sn   06 04 12.9  0.0
RUS  Russkaya         1.25 282  PN    Pn   06 03 57.0  0.0
RUS                             S     Sn   06 04 12.9  0.0
DALK Dalny            1.36 309  eP    Pn   06 03 58.7 +0.1
DALK                            eS    Sn   06 04 17.0 +1.3
DALK Dalny            1.36 309  PN    Pn   06 03 58.7 +0.1
DALK                            S     Sn   06 04 17.0 +1.3
PET  Petropavlovsk    1.41 307  ePn   Pn   06 03 59.4 +0.2
PET  Petropavlovsk    1.41 307  ePN   Pn   06 03 59.3 +0.2
PET                             eS    Sn   06 04 18.4 +1.6
PET                             pmax       pmax
                comp=Z,2μm,0.8s
PET                             smax       smax
                comp=N,3μm,1.0s
PET                             smax       smax
                comp=E,5μm,0.8s
UGLR Uglovaya         1.45 316  eP    Pn   06 04 00.4 +0.5
UGLR Uglovaya         1.45 316  PN    Pn   06 04 00.4 +0.5
MTVR Mutnovka         1.46 283  eP    Pn   06 04 00.3 +0.3
MTVR                            eS    Sn   06 04 20.0 +1.8
MTVR Mutnovka         1.46 283  PN    Pn   06 04 00.3 +0.3
MTVR                            S     Sn   06 04 20.0 +1.8
SDLR Sedlovina        1.47 318  eP    Pn   06 04 00.5 +0.3
SDLR Sedlovina        1.47 318  PN    Pn   06 04 00.5 +0.3
SMAR Somma            1.49 317  eP    Pn   06 04 00.7 +0.1
SMAR                            eS    Sn   06 04 21.3 +2.0
SMAR Somma            1.49 317  PN    Pn   06 04 00.7 +0.1
SMAR                            S     Sn   06 04 21.3 +2.0
AVH  Avacha           1.52 316  eP    Pn   06 04 01.6 +0.7
AVH  Avacha           1.52 316  PN    Pn   06 04 01.6 +0.7
GRL  Gorelyy          1.54 285  eP    Pn   06 04 02.5 +1.4
GRL  Gorelyy          1.54 285  PN    Pn   06 04 02.5 +1.4
KRER Koryakskii       1.54 317  eP    Pn   06 04 02.0 +0.7
KRER Koryakskii       1.54 317  PN    Pn   06 04 02.0 +0.7
KDTR Khodutka, Kamc   1.55 257  eP    Pn   06 04 01.1 -0.1
KDTR                            eS    Sn   06 04 20.5 +0.2
KDTR Khodutka, Kamc   1.55 257  PN    Pn   06 04 01.1 -0.1
KDTR                            S     Sn   06 04 20.5 +0.2
KOK  Koryaka          1.58 315  eP    Pn   06 04 02.4 +0.6
KOK  Koryaka          1.58 315  PN    Pn   06 04 02.4 +0.6
KRMR Karymshinskiy    1.59 295  eP    Pn   06 04 02.1 +0.4
KRMR                            eS    Sn   06 04 23.1 +1.8
KRMR Karymshinskiy    1.59 295  PN    Pn   06 04 02.1 +0.4
KRMR                            S     Sn   06 04 23.1 +1.8
ASAK Asacha           1.61 278  eP    Pn   06 04 03.0 +0.9
ASAK                            eS    Sn   06 04 24.0 +2.0
ASAK Asacha           1.61 278  PN    Pn   06 04 03.0 +0.9
ASAK                            S     Sn   06 04 24.0 +2.0
KRX  Arik             1.63 317  eP    Pn   06 04 03.3 +0.9
KRX  Arik             1.63 317  PN    Pn   06 04 03.3 +0.9
PEA0B Petropavlovsk-  1.94 299  ePn   Pn   06 04 07.5 +0.9
PETK Petropavlovsk-   1.94 299  ePn   Pn   06 04 07.2 +0.7
PETK Petropavlovsk-   1.94 299  ePN   Pn   06 04 07.3 +0.7
PETK Petropavlovsk-   1.94 299  Pn    Pn   06 04 07.4 +0.8
                comp=E,40nm,0.3s,baz=105,slow=14,SNR=80
PETK                            Sn    Sb   06 04 33.3 -0.6
                comp=E,67nm,0.3s,baz=123,slow=20,SNR=9.7
PEA1 Petropavlovsk-   1.94 299  ePn   Pn   06 04 07.4 +0.8
PEA1                            eSn   Sb   06 04 33.3 -0.6
APC  Apacha           2.17 291  eP    Pn   06 04 11.3 +1.6
APC                             eS    Sb   06 04 39.8 -0.7
APC  Apacha           2.17 291  PN    Pn   06 04 11.3 +1.6
APC                             S     Sb   06 04 39.8 -0.7
PAU  Pauzhetka        2.41 254  eP    Pn   06 04 13.4 +0.5
PAU  Pauzhetka        2.41 254  PN    Pn   06 04 13.4 +0.5
MKZ  Mys Kozlova      2.48  17  eP    Pn   06 04 13.6 -0.3
MKZ  Mys Kozlova      2.48  17  PN    Pn   06 04 13.6 -0.3
KZV  Kizimen          2.93 358  eP    Pn   06 04 21.5 +1.2
KZV  Kizimen          2.93 358  PN    Pn   06 04 21.5 +1.2
TUMD Tumrok D         3.02 359  eP    Pn   06 04 21.9 +0.5
TUMD                            eS    Sn   06 04 55.4 -1.2
TUMR Tumrok           3.11 356  eP    Pn   06 04 24.0 +1.3
TUMR                            eS    Sn   06 04 59.8 +0.9
TUMR Tumrok           3.11 356  PN    Pn   06 04 21.9 -0.8
TUMR                            S     Sn   06 04 55.4 -3.5
SKR  Severo-Kuril's   3.13 243  eP    Pn   06 04 23.1 +0.1
SKR                             eS    Sn   06 04 57.3 -2.1
SKR  Severo-Kuril's   3.13 243  ePN   Pn   06 04 23.0 +0.1
SKR                             eS    Sn   06 04 58.2 -1.2
SKR                             pmax       pmax
                comp=Z,188nm,0.6s
SKR                             smax       smax
                comp=N,813nm,0.6s
SKR                             smax       smax
                comp=E,590nm,0.6s
ALID Alaid            3.37 249  eP    Pn   06 04 26.9 +0.6
ALID Alaid            3.37 249  PN    Pn   06 04 26.9 +0.6
BZGR Bezymyannyi-Gr   3.76  2  eP    Pb   06 04 38.1 -3.0
BZGR Bezymyannyi-Gr   3.76  2  PN    Pb   06 04 38.1 -3.0
KIRR Kirishev         3.77 359  eP    Pn   06 04 34.8 +3.0
KIRR Kirishev         3.77 359  PN    Pn   06 04 34.8 +3.0
ESO  Esso             3.89 345  eP    Pn   06 04 34.5 +1.1
ESO  Esso             3.89 345  PN    Pn   06 04 34.5 +1.1
KOZ  Kozyrevsk        3.89 355  eP    Pn   06 04 33.2 -0.2
KOZ  Kozyrevsk        3.89 355  PN    Pn   06 04 33.2 -0.2
LGNR Loginova         3.90  2  eP    Pn   06 04 35.6 +1.8
LGNR Loginova         3.90  2  PN    Pn   06 04 35.6 +1.8
CIRR Tsirk            3.94  2  eP    Pn   06 04 39.6 +5.5
CIRR Tsirk            3.94  2  PN    Pn   06 04 39.6 +5.5
KLY  Klyuchi          4.13  1  eP    Pn   06 04 40.0 +3.4
KLY  Klyuchi          4.13  1  PN    Pn   06 04 40.0 +3.4
SRDR Sredinnyy        4.16 354  eP    Pn   06 04 39.1 +2.0
SRDR Sredinnyy        4.16 354  PN    Pn   06 04 39.1 +2.0
KBTR Krutoberegovo    4.25  18  eP    Pn   06 04 39.1 +0.9
KBTR Krutoberegovo    4.25  18  PN    Pn   06 04 39.1 +0.9
KBG  Krutoberegovo    4.27  17  P     Pn   06 04 41.3 +2.8
KBG  Krutoberegovo    4.27  17  PN    Pn   06 04 41.3 +2.8
BDR  Baidarnaya       4.41  5  eP    Pn   06 04 42.7 +2.2
BDR  Baidarnaya       4.41  5  PN    Pn   06 04 42.7 +2.2
BKI  Bering           4.43  45  eP    Pn   06 04 40.6 -0.2
BKI                             eS    Sn   06 05 26.7 -4.7
BKI  Bering           4.43  45  PN    Pn   06 04 40.6 -0.2
SRKR Sorokina         4.49  5  eP    Pn   06 04 43.7 +2.1
SRKR Sorokina         4.49  5  PN    Pn   06 04 43.7 +2.1
YSS  Yuzh-Sakhalins   12.65 253  ePN   Pn   06 06 33.0 -0.3
ASAJ Asahikawa        14.40 243  Pn    Pn   06 06 57.0 -0.2
                comp=E,1.7nm,0.3s,baz=75,slow=13,SNR=6.9
BILL Bilibino         16.14  8  ePn   P    06 07 22.2 -0.9
                comp=E,13nm,0.7s
BILL Bilibino         16.14  8⇑eP    P    06 07 22.9 -0.2
BILL                            eS    Sn   06 10 20.0 +2.0
BILL                            pmax       pmax
                comp=Z,13nm,0.7s
BILL                            MLR        MLR
                comp=Z,5μm,16.0s
KLR  Kul'dur          18.40 272⇓eP    P    06 07 48.6 +0.5
KLR                             pmax       pmax
                comp=Z,8.0nm,0.9s
KLR  Kul'dur          18.40 272  P    P    06 07 47.8 -0.3
                comp=Z,0.2nm,0.3s,baz=52,slow=10,SNR=16
USA0B Ussuriysk Arra  20.52 258  eP    P    06 08 08.7 -2.6
                comp=Z,11nm,1.0s
USRK Ussuriysk Ar.    20.52 258  P     P    06 08 09.8 -1.5
                comp=Z,8.6nm,0.9s,baz=59,slow=9.2,SNR=10
MJAR Matsushiro Arr   22.20 234  eP    P    06 08 31.2 +1.8
MJAR Matsushiro Arr   22.20 234  P     P    06 08 30.8 +1.3
                comp=Z,3.3nm,0.3s,baz=17,slow=9.7,SNR=20
MJB9 Matsu-Tunnel     22.20 234  eP    P    06 08 30.8 +1.4
                comp=Z,20nm,0.9s
MAJO Matsushiro       22.20 234  eP    P    06 08 29.7 +0.2
                comp=Z,20nm,0.9s
MAJO Matsushiro       22.20 234  eP    P    06 08 29.7 +0.2
MAJO                            pmax       pmax
                comp=Z,20nm,0.9s
MAT  Matsushiro       22.20 234  P     P    06 08 30.1 +0.7
MAT                             S     S    06 12 32.0 -0.3
TIXI Tiksi            24.01 336⇓eP    P    06 08 46.0 -1.4
TIXI                            pmax       pmax
                comp=Z,10.0nm,0.6s
TIXI Tiksi            24.01 336  P     P    06 08 46.3 -1.1
                comp=Z,12nm,0.5s,baz=128,slow=8.6,SNR=7.6
HIA  Hailar           25.73 280  eP    P    06 09 01.9 -1.4
                comp=Z,19nm,0.8s
HIA  Hailar           25.73 280⇓eP    P    06 09 01.5 -1.8
HIA                             pmax       pmax
                comp=Z,128nm,0.8s
KDAK Kodiak Island    27.04  59  eP    P    06 09 17.6 +2.6
                comp=Z,6.6nm,1.1s
KDAK Kodiak Island    27.04  59  P     P    06 09 17.6 +2.6
                comp=Z,3.7nm,0.9s,baz=256,slow=8.2,SNR=4.9
KSRS Korea Array      27.13 250  P     P    06 09 18.1 +2.2
                comp=Z,2.5nm,0.7s,baz=45,slow=9.8,SNR=10
JNU  Nakatsue         28.64 240  eP    P    06 09 30.3 +0.7
                comp=Z,13nm,1.0s
JNU  Nakatsue         28.64 240  P     P    06 09 30.3 +0.7
                comp=Z,4.2nm,0.7s,baz=28,slow=17,SNR=3.6
COLA College          28.87  44⇓eP    P    06 09 35.5 +4.3
COLA                            pmax       pmax
                comp=Z,5.0nm,2.1s
ILAR Eielson Array    29.28  44  P     P    06 09 35.6 +0.7
                comp=Z,0.5nm,0.7s,baz=258,slow=8.3,SNR=6.9
ILAR                            PcP        PcP  06 12 41.0 +0.2
                comp=Z,0.7nm,0.7s,baz=271,slow=3.0,SNR=4.1
ILB  Eielson Array    29.28  44  eP    P    06 09 35.6 +0.7
                comp=Z,1.5nm,0.9s
ILB                             ePcP       PcP  06 12 41.0 +0.2
H11N2 WAKE ISLAND Hy  32.78 169  T     T    06 44 46.5
                baz=352,slow=75,SNR=11
H11N3 WAKE ISLAND Hy  32.79 169  T     T    06 44 53.5
                baz=352,slow=75,SNR=9.1
H11N1 WAKE ISLAND Hy  32.80 169  T     T    06 44 51.2
                baz=352,slow=75,SNR=9.3
ULN  Ulaanbaatar      33.96 284⇓eP    P    06 10 14.5 -1.8
ULN                             pmax       pmax
                comp=Z,5.0nm,1.3s
SONA0 Songino Array   34.36 285  eP    P    06 10 18.3 -1.5
SONM Songino Array    34.36 285  P     P    06 10 18.3 -1.5
                comp=Z,0.6nm,0.4s,baz=65,slow=5.8,SNR=4.3
INK  Inuvik           34.44  37  eP    P    06 10 20.8 +0.7
                comp=Z,2.6nm,0.9s
INK  Inuvik           34.44  37  P     P    06 10 20.8 +0.7
                comp=Z,1.7nm,0.8s,baz=277,slow=8.7,SNR=7.8
INK                             PcP        PcP  06 12 56.1 +1.3
                comp=Z,1.1nm,0.6s,baz=299,slow=3.6,SNR=5.1
HHC  Hu-ho-hao-te     34.90 271  eP    P    06 10 23.0 -1.5
HHC                             SS         SS   06 18 02.3  -23
ZAK  Zakamensk        35.04 290  eP    P    06 10 22.6 -3.0
ZAK                             pmax       pmax
                comp=Z,4.0nm,1.1s
NJ2  Nanjing          36.22 253  eP    P    06 10 34.8 -0.9
NRIK Noril'sk         36.79 325  P     P    06 10 39.3 -1.0
                comp=Z,1.7nm,0.5s,baz=96,slow=11,SNR=3.7
DLBC Dease Lake       38.39  52  P     P    06 10 56.8 +2.8
                comp=Z,2.6nm,0.8s,baz=295,slow=12,SNR=4.1
ZALV Zalesovo Beam    43.48 304  P     P    06 11 33.8 -2.1
                comp=Z,1.3nm,0.6s,baz=64,slow=6.8,SNR=6.0
YKA  Yellowknife Ar   43.66  42  eP    P    06 11 38.3 +1.1
                comp=Z,0.7nm,0.8s,baz=298,slow=8.1,SNR=5.7
YKB5 Yellowknife Ar   43.66  42  eP    P    06 11 38.3 +1.1
NVS  Novosibirsk      43.84 305  iP    P    06 11 37.0 -1.7
RES  Resolute Bay     44.07  22  P     P    06 11 41.4 +1.1
                comp=Z,2.2nm,0.8s,baz=104,slow=23,SNR=5.7
DGZ  Jazzator, Alta   44.30 297⇓iP    P    06 11 41.9 -0.8
DGZ                             pmax       pmax
                comp=Z,4.0nm,0.8s
CD2  Chengdu          46.14 265  eP    P    06 11 55.0 -2.3
WMQ  Urumqi           47.51 290  eP    P    06 12 09.1 +1.1
SPA0 Spitsbergen Ar   48.07 351  eP    P    06 12 11.3 -0.5
                comp=Z,23nm,1.0s
SPITS Spitsbergen Ar  48.07 351  P     P    06 12 12.2 +0.5
                comp=Z,12nm,0.9s,baz=63,slow=9.4,SNR=26
KURK Kurchatov        48.43 303  eP    P    06 12 13.2 -1.7
                comp=Z,15nm,1.0s
KURK Kurchatov        48.43 303⇓iP    P    06 12 13.2 -1.7
KURK                            pmax       pmax
                comp=Z,15nm,1.0s
MK31 Makanchi Array   48.78 297  eP    P    06 12 15.6 -2.0
                comp=Z,2.5nm,0.7s
MKAR Makanchi Array   48.78 297  P     P    06 12 16.0 -1.7
                comp=Z,2.0nm,0.6s,baz=58,slow=7.4,SNR=15
KMI  Kunming          50.92 261  P     P    06 12 39.1 +4.7
BRVK Borovoye         51.18 309⇑iP    P    06 12 34.8 -1.0
BRVK                            pmax       pmax
                comp=Z,12nm,0.9s
LVZ  Lovozero         53.63 338⇓eP    P    06 12 53.3 -0.5
LVZ                             pmax       pmax
                comp=Z,16nm,1.1s
ARCES ARCESS Array B  54.22 342  P     P    06 12 57.7 -0.4
                comp=Z,5.5nm,0.8s,baz=32,slow=12,SNR=8.8
ARU  Arti             54.23 318d iP   P    06 12 57.3 -1.0
ARU                                        06 14 59.3
ARU                             S          S    06 20 30.3 -3.2
ARU                             SS         SKiKP 06 24 06.9 +0.1
ARU                             pmax       pmax
                comp=Z,7.0nm,0.7s
SUMG Summit           54.83  7  eP    P    06 13 03.7 +0.8
                comp=Z,8.6nm,1.0s
PRGR Permogore        55.34 328  eP    P    06 13 05.5 -0.7
PRGR                            pmax       pmax
                comp=Z,18nm,0.7s
TMCR Tamitsa          55.70 333  eP    P    06 13 08.9 +0.2
TMCR                            pmax       pmax
                comp=Z,31nm,0.9s
NV01 Mina Array Sit   55.82  70  eP    P    06 13 12.4 +2.2
NVAR Mina Array Bea   55.82  70  P     P    06 13 12.4 +2.2
                comp=Z,0.7nm,0.6s,baz=303,slow=7.5,SNR=4.3
KSH  Kashi            56.99 293  P     P    06 13 20.5 +2.0
PDAR Pinedale Array   57.75  61  P     P    06 13 25.9 +2.0
                comp=Z,1.0nm,0.7s,baz=314,slow=3.4,SNR=6.6
KLMR Klimovskoe       57.86 330  eP    P    06 13 22.8 -1.3
KLMR                            pmax       pmax
                comp=Z,14nm,0.9s
CMAR Chiang Mai Arr   58.25 259  P     P    06 13 29.2 +1.8
                comp=Z,5.0nm,0.8s,baz=22,slow=7.1,SNR=13
ABKAR Akbulak array   58.57 311  eP    P    06 13 28.3 -0.9
                comp=Z,5.5nm,1.0s
PHWY Pilot Hill       60.95  59  eP    P    06 13 49.8 +3.6
                comp=Z,11nm,1.0s
FINES FINESS Array B  61.05 337  P     P    06 13 46.5 +0.5
                comp=Z,7.7nm,0.6s,baz=29,slow=8.7,SNR=29
NIL  Nilore           62.66 290  eP    P    06 13 57.8 +0.4
                comp=Z,7.7nm,0.8s
OBN  Obninsk          63.41 328⇓eP    P    06 14 01.9 -0.1
OBN                             pmax       pmax
                comp=Z,8.0nm,0.6s
OBN                             MLR        MLR
                comp=Z,3μm,16.0s
VSU  Vasula           63.48 335⇑eP    P    06 14 02.4 +0.1
VSU                             pmax       pmax
                comp=Z,104nm,2.0s
NB2  NORSAR Subarra   64.48 344  P     P    06 14 08.9 -0.1
                comp=Z,1.6nm,0.6s,baz=21,slow=6.9
NOA  NORSAR Array B   64.48 344  P     P    06 14 09.3 +0.3
                comp=Z,1.9nm,0.6s,baz=21,slow=6.6,SNR=11
VSR  Storozhevoye     65.71 324⇓eP    P    06 14 16.2 -0.9
VSR                             pmax       pmax
                comp=Z,7.0nm,0.6s
GEYT Alibeck          67.79 303  P     P    06 14 30.8 +0.2
                comp=Z,1.7nm,0.4s,baz=349,slow=6.0,SNR=4.1
AKASG Malin Array Be  69.52 329  P     P    06 14 40.6 -0.5
                comp=Z,4.4nm,0.7s,baz=31,slow=6.6,SNR=14
AKBB Malin Array Si   69.52 329  eP    P    06 14 40.6 -0.5
                comp=Z,9.5nm,1.0s
KIEV Kiev             69.53 329⇑eP    P    06 14 40.3 -0.9
KIEV                            pmax       pmax
                comp=Z,11nm,1.1s
NCK  Nalchik          70.26 316⇑eP    P    06 14 45.7 -0.1
NCK                             pmax       pmax
                comp=Z,32nm,0.4s
KIV  Kislovodsk       70.27 317  eP    P    06 14 44.2 -1.8
KIV                             pmax       pmax
                comp=Z,14nm,1.1s
KBZ  Khabaz           70.37 317  P     P    06 14 47.1 +0.7
                comp=Z,3.2nm,0.8s,baz=25,slow=4.1,SNR=7.0
LTX  Lajitas          70.76  67  eP    P    06 14 50.8 +1.6
TXAR Lajitas Array    70.76  67  P     P    06 14 50.8 +1.6
                comp=Z,1.2nm,0.7s,baz=290,slow=4.1,SNR=11
KWP  Kalwaria Pacla   72.41 333  eP    P    06 14 57.9 -0.8
                comp=Z,121nm,0.9s
GNI  Garni            72.48 314⇓eP    P    06 15 01.0 +1.5
GNI                             pmax       pmax
                comp=Z,58nm,1.9s
KOLS Kolonicke sedl   73.16 333  eP    P    06 15 04.5 +1.3
KOLS Kolonicke sedl   73.16 333  eP    P    06 15 04.5 +1.3
CLL  Collm            73.29 339  iP    P    06 15 04.8 +1.0
CLL                             pmax       pmax
                comp=Z,9.0nm,1.1s
CLL  Collm            73.29 339  iP    P    06 15 04.8 +1.0
                comp=Z,9.0nm,1.1s
BUR08 Bucovina Ar. S  73.46 330  eP    P    06 15 05.2 +0.1
                comp=Z,4.7nm,1.0s
BURAR Bucovina Array  73.48 330⇓iP    P    06 15 05.6 +0.4
BRG  Berggiesshubel   73.49 339  eP    P    06 15 05.3 +0.3
                comp=Z,2.4nm,0.7s
BRG  Berggiesshubel   73.49 339  eP    P    06 15 05.3 +0.3
BRG                             pmax       pmax
                comp=Z,2.0nm,0.7s
MORC Moravsky Berou   73.65 336⇑iP    P    06 15 06.8 +0.7
LANS Liptovska Anna   73.73 335  eP    P    06 15 08.8 +2.2
LANS Liptovska Anna   73.73 335  eP    P    06 15 08.8 +2.2
TRPA Tarpa            73.81 332⇑iP    P    06 15 08.6 +1.6
VYHS Vyhne            74.50 335  eP    P    06 15 12.7 +1.7
VYHS Vyhne            74.50 335  eP    P    06 15 12.7 +1.7
CFR  Carcaliu         74.71 327⇑iP    P    06 15 13.0 +0.8
MLR  Muntele Rosu     75.15 329⇑iP    P    06 15 16.7 +1.7
DIKM Dikmen           75.20 321⇓iP    P    06 15 16.5 +1.4
KHC  Kasperske Hory   75.20 338  eP    P    06 15 16.8 +1.7
KHC  Kasperske Hory   75.20 338  eP    P    06 15 16.8 +1.7
MEM  Membach          75.32 344  ⇓P    P    06 15 17.0 +1.3
                comp=Z,12nm,0.8s
WR1  Warramunga Arr   75.37 205  eP    P    06 15 17.0 +0.8
WRA  Warramunga Arr   75.37 205  P     P    06 15 17.0 +0.8
                comp=Z,1.7nm,0.9s,baz=24,slow=5.6,SNR=7.5
GERES GERESS Array B  75.44 338  P     P    06 15 17.3 +0.7
                comp=Z,1.0nm,0.7s,baz=29,slow=3.0,SNR=6.8
VOIR                  75.48 329⇓iP    P    06 15 17.8 +1.0
ARR  Arges            75.67 330⇓iP    P    06 15 19.5 +1.6
FITZ Fitzroy Crossi   76.28 214  P     P    06 15 22.9 +1.5
                comp=Z,3.5nm,1.0s,baz=27,slow=9.0,SNR=3.6
MDVR Moldovita        77.09 331⇓iP    P    06 15 26.0 +1.1
BRTR Keskin Array B   77.48 321  P     P    06 15 28.7 +0.4
                comp=Z,1.6nm,0.9s,baz=57,slow=4.6,SNR=8.0
PALK Pallekele        78.04 266  iP    P    06 15 33.3 +1.7
ASAR Alice Springs    79.04 205  P     P    06 15 38.1 +1.4
                comp=Z,1.7nm,0.7s,baz=14,slow=5.4,SNR=13
PDG  Podgorica        79.96 332⇑iP    P    06 15 42.3 +0.6
ESDC Sonseca Array    87.52 348  P     P    06 16 21.4 +0.9
                comp=Z,0.2nm,0.3s,baz=4.1,slow=5.0,SNR=4.8
```

*IDC **21** 06:05:03.5±1.1, 52°.40N×160°.56E, h0km, mb4.0/13, mb1 4.2/13, mb1mx3.8/57, mbtmp4.0/13, Error ellipse:*

s-maj=29.4km s-min=19.1km az=157.0
*ISCJB **21** 06:05:05.3±0.9, 52°.4N±0°.2×160°.5E±0°.2, h24km, mb4.0/12, Error ellipse: s-maj=25.2km s-min=15.4km az=146.8*
ISC 21 06:05:07.2±1.0, 52°.4N±0°.2×160°.6E±0°.1, h24km, n14, σ0°66/14, mb4.1/12, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.88**	**294**	Pn	**Pb**	**06 05 40.8**	**+0.1**
	baz=94,slow=18,SNR=2.0						
USRK	**Ussuriysk Ar.**	**20.58**	**258**	P	**P**	**06 09 44.9**	**+0.7**
	3.3nm,0.8s,baz=53,slow=13,SNR=4.1						
MJAR	**Matsushiro Arr**	**22.33**	**234**	P	**P**	**06 10 02.9**	**-0.1**
	1.8nm,0.4s,baz=22,slow=13,SNR=2.2						
SPITS	**Spitsbergen Ar**	**47.88**	**351**	P	**P**	**06 13 43.2**	**+0.7**
	2.2nm,0.6s,baz=59,slow=9.2,SNR=4.8						
MKAR	**Makanchi Array**	**48.71**	**296**	P	**P**	**06 13 48.3**	**-1.1**
	0.6nm,0.6s,baz=64,slow=6.7,SNR=4.2						
ARCES	**ARCESS Array B**	**54.05**	**342**	P	**P**	**06 14 28.6**	**-0.4**
	1.6nm,0.7s,baz=36,slow=9.4,SNR=2.8						
NVAR	**Mina Array Bea**	**55.73**	**70**	P	**P**	**06 14 42.6**	**+0.8**
	0.6nm,0.7s,baz=298,slow=7.9,SNR=2.6						
CMAR	**Chiang Mai Arr**	**58.31**	**259**	P	**P**	**06 15 00.2**	**+0.2**
	1.6nm,0.3s,baz=19,slow=7.0,SNR=6.8						
FINES	**FINESS Array B**	**60.88**	**337**	P	**P**	**06 15 17.9**	**+0.7**
	3.6nm,0.6s,baz=31,slow=7.2,SNR=8.0						
NOA	**NORSAR Array B**	**64.30**	**344**	P	**P**	**06 15 40.3**	**+0.2**
	0.8nm,0.6s,baz=21,slow=6.7,SNR=3.8						
AKASG	**Malin Array Be**	**69.36**	**329**	P	**P**	**06 16 11.8**	**-0.6**
	1.3nm,0.4s,baz=32,slow=6.8,SNR=5.8						
KBZ	**Khabaz**	**70.24**	**317**	P	**P**	**06 16 18.1**	**+0.3**
	2.8nm,0.9s,baz=74,slow=6.3,SNR=3.5						
TXAR	**Lajitas Array**	**70.66**	**67**	P	**P**	**06 16 20.0**	**-0.8**
	0.6nm,0.7s,baz=305,slow=5.4,SNR=2.8						
BRTR	**Keskin Array B**	**77.34**	**321**	P	**P**	**06 16 59.6**	**-0.2**
	0.4nm,0.6s,baz=26,slow=3.7,SNR=2.6						

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*KRSC **21** 06:07:46.9±10.0, 52°.08N×160°.45E, h60km±10km, ML4.9*
*IDC **21** 06:07:46.1±0.5, 52°.35N×159°.94E, h0km, mb4.4/34, mb1 4.5/36, mb1mx4.4/57, mbtmp4.4/36, ML4.4/2, Error ellipse: s-maj=12.8km s-min=10.1km az=147.0*
*NEIC **21** 06:07:50.9±2.8, 52°.22N×160°.14E, h35km, mb4.7/37, Error ellipse: s-maj=17.6km s-min=15.9km az=171.0*
*ISCJB **21** 06:07:50.5±0.5, 52°.16N±0°.03×160°.26E±0°.05, h53km±3km, mb4.7/85, Error ellipse: s-maj=6.3km s-min=3.2km az=43.5*
*MOS **21** 06:07:51.5±1.1, 52°.24N×160°.04E, h58km, mb5.1/24, Error ellipse: s-maj=6.9km s-min=3.3km az=95.9*
*BJI **21** 06:07:52.9±0.0, 52°.76N×159°.61E, h55km, mb4.7/35, mB4.8/2, Ms5.2/3, Ms7 4.9/3*
ISC 21 06:07:51.2±0.9, 52°.13N±0°.04×160°.34E±0°.04, h45km±7km, n280, σ1°51/322, mb4.7/85, 22C-15D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.99**	**349**	*e*S	**Sn**	**06 08 19.5**	**-2.0**
RUS	**Russkaya**	**1.16**	**286**	*e*P	**Pn**	**06 08 09.5**	**-1.5**
RUS	**Russkaya**	**1.16**	**286**	PN	**Pn**	**06 08 09.5**	**-1.5**
NLC	**Nalytchevo**	**1.21**	**330**	*e*P	**Pn**	**06 08 10.2**	**-1.4**
NLC				*e*S	**Sn**	**06 08 26.6**	**-0.1**
NLC	**Nalytchevo**	**1.21**	**330**	PN	**Pn**	**06 08 10.2**	**-1.4**
NLC				S	**Sn**	**06 08 26.6**	**-0.1**
DALK	**Dalny**	**1.32**	**314**	*e*P	**Pn**	**06 08 12.0**	**-1.2**
DALK				*e*S	**Sn**	**06 08 29.1**	**-0.5**
DALK	**Dalny**	**1.32**	**314**	PN	**Pn**	**06 08 12.0**	**-1.2**
DALK				S	**Sn**	**06 08 29.1**	**-0.5**
PET	**Petropavlovsk**	**1.36**	**312**	*e*Pn	**Pn**	**06 08 12.5**	**-1.3**
PET				*e*Sn	**Sn**	**06 08 30.5**	**-0.1**
PET	**Petropavlovsk**	**1.36**	**312**	⇑*e*PN	**Pn**	**06 08 12.6**	**-1.1**
PET				*e*S	**Sn**	**06 08 29.6**	**-1.0**
PET				pmax	pmax		
	comp=Z,6μm,0.4s						
PET				smax	smax		
	comp=E,10μm,0.7s						
PET				smax	smax		
	comp=N,6μm,0.9s						
MTVR	**Mutnovka**	**1.37**	**286**	P	**Pn**	**06 08 13.0**	**-1.0**
MTVR				*e*S	**Sn**	**06 08 30.4**	**-0.6**
MTVR	**Mutnovka**	**1.37**	**286**	PN	**Pn**	**06 08 13.0**	**-1.0**
MTVR				S	**Sn**	**06 08 30.4**	**-0.6**
UGLR	**Uglovaya**	**1.42**	**320**	*e*P	**Pn**	**06 08 13.6**	**-1.1**
UGLR				*e*S	**Sn**	**06 08 31.9**	**-0.3**
UGLR	**Uglovaya**	**1.42**	**320**	PN	**Pn**	**06 08 13.6**	**-1.1**
UGLR				S	**Sn**	**06 08 31.9**	**-0.3**
KDTR	**Khodutka, Kamc**	**1.44**	**258**	*e*P	**Pn**	**06 08 13.5**	**-1.2**
KDTR				*e*S	**Sn**	**06 08 31.3**	**-1.1**
KDTR	**Khodutka, Kamc**	**1.44**	**258**	PN	**Pn**	**06 08 13.5**	**-1.2**
KDTR				S	**Sn**	**06 08 31.3**	**-1.1**
SDLR	**Sedlovina**	**1.45**	**323**	*e*P	**Pn**	**06 08 13.9**	**-1.2**
SDLR				*e*S	**Sn**	**06 08 32.6**	**-0.4**
SDLR	**Sedlovina**	**1.45**	**323**	PN	**Pn**	**06 08 13.9**	**-1.2**
SDLR				S	**Sn**	**06 08 32.6**	**-0.4**
GRL	**Gorelyy**	**1.45**	**288**	*e*P	**Pn**	**06 08 14.9**	**-0.2**
GRL				*e*S	**Sn**	**06 08 34.4**	**+1.4**
GRL	**Gorelyy**	**1.45**	**288**	PN	**Pn**	**06 08 14.9**	**-0.2**
SMAR	**Somma**	**1.47**	**321**	*e*P	**Pn**	**06 08 14.3**	**-1.1**
SMAR	**Somma**	**1.47**	**321**	PN	**Pn**	**06 08 14.3**	**-1.1**
AVH	**Avacha**	**1.50**	**320**	*e*P	**Pn**	**06 08 14.9**	**-0.8**
AVH	**Avacha**	**1.50**	**320**	PN	**Pn**	**06 08 14.9**	**-0.8**
ASAK	**Asacha**	**1.52**	**281**	*e*P	**Pn**	**06 08 15.4**	**-0.6**
ASAK				*e*S	**Sn**	**06 08 35.4**	**+0.8**
ASAK	**Asacha**	**1.52**	**281**	PN	**Pn**	**06 08 15.4**	**-0.6**
ASAK				S	**Sn**	**06 08 35.4**	**+0.8**
KRMR	**Karymshinskiy**	**1.52**	**298**	P	**Pn**	**06 08 15.0**	**-0.9**
KRMR	**Karymshinskiy**	**1.52**	**298**	PN	**Pn**	**06 08 15.0**	**-0.9**
KRER	**Koryakskii**	**1.52**	**321**	P	**Pn**	**06 08 15.0**	**-1.1**
KRER	**Koryakskii**	**1.52**	**321**	PN	**Pn**	**06 08 15.0**	**-1.1**
KOK	**Koryaka**	**1.56**	**319**	P	**Pn**	**06 08 15.4**	**-1.1**
KOK	**Koryaka**	**1.56**	**319**	PN	**Pn**	**06 08 15.4**	**-1.1**
KRX	**Arik**	**1.60**	**321**	P	**Pn**	**06 08 16.6**	**-0.6**
KRX	**Arik**	**1.60**	**321**	PN	**Pn**	**06 08 16.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**1.89**	**302**	*e*Pn	**Pn**	**06 08 20.4**	**-0.5**
PEA0B				*e*Sn	**Sn**	**06 08 44.0**	**+0.6**
PETK	**Petropavlovsk-**	**1.89**	**302**	*e*Sn	**Sn**	**06 08 43.2**	**-0.3**
PETK	**Petropavlovsk-**	**1.89**	**302**	Pn	**Pn**	**06 08 20.4**	**-0.5**
	comp=N,136nm,0.3s,baz=103,slow=18,SNR=46						
PETK				Sn	**Sn**	**06 08 45.1**	**+1.6**
	comp=N,250nm,0.3s,baz=116,slow=18,SNR=13						
PEA1	**Petropavlovsk-**	**1.89**	**303**	*e*Pn	**Pn**	**06 08 20.4**	**-0.5**
PEA1				*e*Sn	**Sn**	**06 08 45.1**	**+1.6**
APC	**Apacha**	**2.10**	**294**	*e*P	**Pn**	**06 08 24.0**	**+0.2**
APC				*e*S	**Sn**	**06 08 49.3**	**+0.6**
APC	**Apacha**	**2.10**	**294**	PN	**Pn**	**06 08 24.0**	**+0.2**
APC				S	**Sn**	**06 08 49.3**	**+0.6**
PAU	**Pauzhetka**	**2.29**	**255**	*e*P	**Pn**	**06 08 25.1**	**-1.3**
PAU	**Pauzhetka**	**2.29**	**255**	PN	**Pn**	**06 08 25.1**	**-1.3**
MKZ	**Mys Kozlova**	**2.57**	**18**	P	**Pn**	**06 08 28.4**	**-1.9**
MKZ				*e*S	**Sn**	**06 08 57.1**	**-3.1**
MKZ	**Mys Kozlova**	**2.57**	**18**	PN	**Pn**	**06 08 28.4**	**-1.9**
MKZ				S	**Sn**	**06 08 57.1**	**-3.1**
KZV	**Kizimen**	**2.99**	**360**	P	**Pn**	**06 08 35.8**	**-0.4**
KZV				*e*S	**Sn**	**06 09 11.5**	**+0.7**
KZV	**Kizimen**	**2.99**	**360**	PN	**Pn**	**06 08 35.8**	**-0.4**
KZV				S	**Sn**	**06 09 11.5**	**+0.7**
SKR	**Severo-Kuril's**	**3.02**	**243**	*e*P	**Pn**	**06 08 35.4**	**-0.9**
SKR				*e*S	**Sn**	**06 09 09.6**	**-1.6**
SKR	**Severo-Kuril's**	**3.02**	**243**	*e*PN	**Pn**	**06 08 35.5**	**-0.9**
SKR				*e*S	**Sn**	**06 09 10.3**	**-0.9**
SKR				pmax	pmax		
	comp=Z,131nm,0.5s						
SKR				smax	smax		
	comp=N,3μm,0.8s						
SKR				smax	smax		
	comp=E,1μm,0.7s						
TUMD	**Tumrok D**	**3.08**	**1**	*e*P	**Pn**	**06 08 36.5**	**-0.8**
TUMD				*e*S	**Sn**	**06 09 12.7**	**-0.2**
TUMR	**Tumrok**	**3.16**	**358**	*e*P	**Pn**	**06 08 38.3**	**-0.2**
TUMR				*e*S	**Sn**	**06 09 15.2**	**+0.2**
TUMR	**Tumrok**	**3.16**	**358**	PN	**Pn**	**06 08 36.5**	**-2.0**
TUMR				S	**Sn**	**06 09 12.7**	**-2.3**
ALID	**Alaid**	**3.25**	**249**	*e*P	**Pn**	**06 08 39.2**	**-0.5**
ALID	**Alaid**	**3.25**	**249**	PN	**Pn**	**06 08 39.2**	**-0.5**
BZMR	**Bezymyannaya**	**3.81**	**1**	*e*P	**Pn**	**06 08 48.3**	**+0.8**
BZMR	**Bezymyannaya**	**3.81**	**1**	PN	**Pn**	**06 08 48.3**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**3.82**	**3**	*e*P	**Pn**	**06 08 47.7**	**+0.1**
BZGR				*e*S	**Sn**	**06 09 31.3**	**0.0**
BZGR	**Bezymyannyi-Gr**	**3.82**	**3**	PN	**Pn**	**06 08 47.7**	**+0.1**
BZGR				S	**Sn**	**06 09 31.3**	**0.0**
KIRR	**Kirishev**	**3.83**	**0**	*e*P	**Pn**	**06 08 49.9**	**+2.2**
KIRR	**Kirishev**	**3.83**	**0**	PN	**Pn**	**06 08 49.9**	**+2.2**
ESO	**Esso**	**3.92**	**346**	*e*P	**Pn**	**06 08 48.5**	**-0.4**
ESO	**Esso**	**3.92**	**346**	PN	**Pn**	**06 08 48.5**	**-0.4**
KOZ	**Kozyrevsk**	**3.95**	**356**	P	**Pn**	**06 08 49.2**	**0.0**
KOZ	**Kozyrevsk**	**3.95**	**356**	PN	**Pn**	**06 08 49.2**	**0.0**
LGNR	**Loginova**	**3.97**	**3**	P	**Pn**	**06 08 51.0**	**+1.3**
LGNR	**Loginova**	**3.97**	**3**	PN	**Pn**	**06 08 51.0**	**+1.3**
CIRR	**Tsirk**	**4.00**	**3**	*e*P	**Pn**	**06 08 52.2**	**+2.2**
CIRR	**Tsirk**	**4.00**	**3**	PN	**Pn**	**06 08 52.0**	**+2.0**
KRSR	**Krestovskiy**	**4.10**	**2**	P	**Pn**	**06 08 51.0**	**-0.3**
KRSR	**Krestovskiy**	**4.10**	**2**	PN	**Pn**	**06 08 51.0**	**-0.3**
KLY	**Klyuchi**	**4.20**	**2**	*e*P	**Pn**	**06 08 53.3**	**+0.7**
KLY				*e*S	**Sn**	**06 09 42.0**	**+1.8**
KLY	**Klyuchi**	**4.20**	**2**	PN	**Pn**	**06 08 53.3**	**+0.7**
KLY				S	**Sn**	**06 09 42.0**	**+1.8**
SRDR	**Sredinnyy**	**4.21**	**355**	*e*P	**Pn**	**06 08 52.5**	**-0.4**
SRDR	**Sredinnyy**	**4.21**	**355**	PN	**Pn**	**06 08 52.5**	**-0.4**
KBTR	**Krutoberegovo**	**4.34**	**19**	*e*P	**Pn**	**06 08 53.5**	**-1.0**
KBTR	**Krutoberegovo**	**4.34**	**19**	PN	**Pn**	**06 08 53.5**	**-1.0**
KBG	**Krutoberegovo**	**4.36**	**18**	*e*P	**Pn**	**06 08 53.6**	**-1.2**
KBG	**Krutoberegovo**	**4.36**	**18**	PN	**Pn**	**06 08 53.6**	**-1.2**
BDR	**Baidarnaya**	**4.48**	**6**	*e*P	**Pn**	**06 08 57.4**	**+0.9**
BDR	**Baidarnaya**	**4.48**	**6**	PN	**Pn**	**06 08 57.4**	**+0.9**
SMKR	**Semkarok**	**4.51**	**8**	*e*P	**Pn**	**06 08 57.2**	**+0.2**
SMKR	**Semkarok**	**4.51**	**8**	PN	**Pn**	**06 08 57.2**	**+0.2**
BKI	**Bering**	**4.55**	**45**	*e*P	**Pn**	**06 08 55.1**	**-2.3**
BKI				*e*S	**Sn**	**06 09 42.7**	**-6.2**
BKI	**Bering**	**4.55**	**45**	PN	**Pn**	**06 08 55.1**	**-2.3**
SRKR	**Sorokina**	**4.56**	**6**	*e*P	**Pn**	**06 08 58.4**	**+0.8**
SRKR	**Sorokina**	**4.56**	**6**	PN	**Pn**	**06 08 58.4**	**+0.8**
PALN	**Palana**	**6.98**	**358**	P	**Pn**	**06 09 33.6**	**+2.9**
PALN	**Palana**	**6.98**	**358**	PN	**Pn**	**06 09 33.6**	**+2.9**
MA2	**Magadan**	**9.19**	**328**	⇓*e*PN	**Pn**	**06 10 00.3**	**-0.7**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MA2	**Magadan**	**9.19**	**328**	Pn	**Pn**	**06 09 58.9**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=135,slow=8.6,SNR=2.6						
SEY	**Seymchan**	**11.63**	**342**	⇑*e*PN	**Pn**	**06 10 36.1**	**+1.8**
SEY	**Seymchan**	**11.63**	**342**	Pn	**Pn**	**06 10 35.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=167,slow=16,SNR=3.3						
YSS	**Yuzh-Sakhalins**	**12.53**	**253**	*e*PN	**Pn**	**06 10 45.4**	**-1.3**
ASAJ	**Asahikawa**	**14.28**	**243**	Pn	**Pn**	**06 11 09.4**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=60,slow=13,SNR=6.7						
GRNR	**Gornyy**	**14.96**	**274**	*e*P	**P**	**06 11 27.5**	**+3.2**
GRNR				pmax	pmax		
	comp=Z,51nm,0.9s						
BILL	**Bilibino**	**16.22**	**8**	*e*Pn	**Pn**	**06 11 35.6**	**+0.1**
	comp=Z,30nm,0.9s						
BILL	**Bilibino**	**16.22**	**8**	⇑*e*P	**Pn**	**06 11 36.2**	**+0.6**
BILL				*e*S	**Sn**	**06 14 39.3**	**+5.2**
BILL				pmax	pmax		
	comp=Z,35nm,1.0s						
BILL				MLR	MLR		
	comp=Z,3μm,15.0s						
TEY	**Ternei**	**17.18**	**255**	⇑*e*P	**P**	**06 11 48.5**	**-0.4**
TEY				pmax	pmax		
	comp=E,40nm,0.7s						
TEY				pmax	pmax		
	comp=Z,60nm,0.5s						
KLR	**Kul'dur**	**18.30**	**272**	⇓*e*P	**Pn**	**06 12 01.5**	**+0.1**
KLR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	**Kul'dur**	**18.30**	**272**	P	**P**	**06 12 01.0**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=64,slow=9.6,SNR=17						
USA0B	**Ussuriysk Arra**	**20.41**	**258**	*e*P	**P**	**06 12 22.3**	**-1.9**
	comp=Z,21nm,1.1s						
USRK	**Ussuriysk Ar.**	**20.41**	**258**	*e*P	**P**	**06 12 22.1**	**-2.0**
USRK	**Ussuriysk Ar.**	**20.41**	**258**	P	**P**	**06 12 21.9**	**-2.3**
	comp=Z,10nm,0.8s,baz=60,slow=11,SNR=12						
MJB9	**Matsu-Tunnel**	**22.08**	**234**	*e*P	**P**	**06 12 42.7**	**+0.4**
	comp=Z,27nm,0.7s						
MAJO	**Matsushiro**	**22.08**	**234**	*e*P	**P**	**06 12 43.2**	**+0.9**
	comp=Z,26nm,0.6s						
MAJO	**Matsushiro**	**22.08**	**234**	⇑*e*P	**P**	**06 12 43.2**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,27nm,0.7s						
MAT	**Matsushiro**	**22.08**	**234**	P	**P**	**06 12 43.1**	**+0.8**
MJAR	**Matsushiro Arr**	**22.08**	**234**	P	**P**	**06 12 43.0**	**+0.8**
	comp=Z,8.8nm,0.6s,baz=17,slow=9.8,SNR=18						
TIXI	**Tiksi**	**24.02**	**336**	*e*P	**P**	**06 12 59.5**	**-1.9**
TIXI	**Tiksi**	**24.02**	**336**	⇓*e*P	**P**	**06 12 59.5**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,23nm,0.7s						
TIXI	**Tiksi**	**24.02**	**336**	P	**P**	**06 12 58.9**	**-2.5**
	comp=Z,22nm,0.6s,baz=123,slow=9.6,SNR=36						
CN2	**Changchun**	**24.60**	**264**	*e*P	**P**	**06 13 04.3**	**-2.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**25.64**	**280**	*e*P	**P**	**06 13 14.7**	**-1.6**
	comp=Z,25nm,0.8s						
HIA	**Hailar**	**25.64**	**280**	⇓*e*P	**P**	**06 13 14.2**	**-2.1**
HIA				pmax	pmax		
	comp=Z,156nm,0.8s						
IMAR	**Indian Mountai**	**26.62**	**41**	*e*P	**P**	**06 13 26.2**	**+1.2**
BOD	**Bodaibo**	**26.76**	**301**	*e*P	**P**	**06 13 24.2**	**-2.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KSRS	**Korea Array**	**27.01**	**250**	P	**P**	**06 13 29.2**	**+0.5**
	comp=Z,4.1nm,0.9s,baz=44,slow=9.6,SNR=14						
KDAK	**Kodiak Island**	**27.16**	**59**	*e*P	**P**	**06 13 32.1**	**+2.3**
	comp=Z,5.7nm,0.8s						
KDAK	**Kodiak Island**	**27.16**	**59**	*e*P	**P**	**06 13 32.1**	**+2.3**
KDAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KDAK	**Kodiak Island**	**27.16**	**59**	P	**P**	**06 13 32.1**	**+2.3**
	comp=Z,3.0nm,0.6s,baz=249,slow=6.8,SNR=3.4						
TJN	**Taejon**	**28.08**	**249**	⇑*e*P	**P**	**06 13 38.1**	**-0.2**
JNU	**Nakatsue**	**28.52**	**240**	*e*P	**P**	**06 13 43.1**	**+0.8**
	comp=Z,13nm,0.8s						
JNU	**Nakatsue**	**28.52**	**240**	P	**P**	**06 13 43.2**	**+0.8**
	comp=Z,12nm,0.8s,baz=49,slow=10,SNR=8.2						
COLA	**College**	**28.98**	**44**	⇑*e*P	**P**	**06 13 50.2**	**+4.1**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**29.40**	**44**	P	**P**	**06 13 50.6**	**+0.9**
	comp=Z,1.0nm,1.0s,baz=258,slow=7.5,SNR=5.8						
ILAR				PcP	**PcP**	**06 16 54.5**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=279,slow=3.7,SNR=5.1						
ILB	**Eielson Array**	**29.40**	**44**	*e*P	**P**	**06 13 50.6**	**+0.9**
	comp=Z,1.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**32.74**	**169**	T	T	06 49 03.0	
	baz=351,slow=76,SNR=0.1						
H11N3	**WAKE ISLAND Hy**	**32.75**	**169**	T	T	06 49 01.7	
	baz=351,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**32.76**	**169**	T	T	06 49 03.9	
	baz=351,slow=76,SNR=1.0						
ULN	**Ulaanbaatar**	**33.87**	**284**	⇓*e*P	**P**	**06 14 28.0**	**-1.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TLY	**Talaya**	**34.22**	**292**	*e*P	**P**	**06 14 29.3**	**-2.9**
	comp=Z,10nm,1.0s						
TLY	**Talaya**	**34.22**	**292**	⇓*e*P	**P**	**06 14 31.5**	**-0.7**
TIA	**Tai'an**	**34.26**	**260**	P	**P**	**06 14 33.8**	**+1.1**
TIA				pmax	pmax		
	comp=Z,14nm,0.8s						
SONA0	**Songino Array**	**34.28**	**285**	*e*P	**P**	**06 14 31.5**	**-1.4**
SONA0				*e*PcP	**PcP**	**06 17 09.0**	**+0.7**
SONM	**Songino Array**	**34.28**	**285**	P	**P**	**06 14 31.5**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=60,slow=7.6,SNR=17						
SONM				PcP	**PcP**	**06 17 09.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=82,slow=2.0,SNR=3.7						
INK	**Inuvik**	**34.55**	**37**	*e*P	**P**	**06 14 35.5**	**+0.7**
	comp=Z,2.9nm,1.0s						
INK	**Inuvik**	**34.55**	**37**	*e*P	**P**	**06 14 35.5**	**+0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
INK	**Inuvik**	**34.55**	**37**	P	**P**	**06 14 35.5**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=266,slow=7.2,SNR=3.2						
INK				PcP	**PcP**	**06 17 09.8**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=297,slow=2.4,SNR=3.9						
HHC	**Hu-ho-hao-te**	**34.79**	**271**	*e*P	**P**	**06 14 38.8**	**+1.4**
HHC				pmax	pmax		
	comp=Z,72nm,0.8s						
HHC				LR	LR		
	comp=Z,830nm,13.6s						
HHC				LR	LR		
	comp=Z,740nm,13.6s						
HHC				LR	LR		
	comp=Z,890nm,13.9s						
ZAK	**Zakamensk**	**34.97**	**290**	*e*P	**P**	**06 14 37.3**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NJ2	**Nanjing**	**36.10**	**253**	*e*P	**P**	**06 14 48.3**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NRIK	**Noril'sk**	**36.78**	**326**	P	**P**	**06 14 52.2**	**-1.8**
	comp=Z,2.7nm,0.3s,baz=89,slow=9.3,SNR=9.0						
WHN	**Wuhan**	**39.85**	**256**	P	**P**	**06 15 22.0**	**+1.8**
LZH	**Lanzhou**	**42.49**	**271**	*e*P	**P**	**06 15 37.3**	**-4.7**
LZH				pP	pP	06 15 52.0	-1.5
LZH				sP	pwP	06 15 57.1	+0.2
LZH				pmax	pmax		
	comp=Z,28nm,1.3s						
GTA	**Gaotai**	**42.87**	**278**	*e*P	**P**	**06 15 44.8**	**-0.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ZAA1	**Zalesovo Array**	**43.43**	**304**	*e*PP	PP	06 17 37.2	+6.8
ZALV	**Zalesovo Beam**	**43.43**	**304**	P	**P**	**06 15 46.2**	**-3.0**
	comp=Z,2.7nm,0.5s,baz=56,slow=6.9,SNR=8.8						
ZALV				PcP	**PcP**	**06 17 37.2**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=72,slow=4.7,SNR=3.8						
YKA	**Yellowknife Ar**	**43.78**	**42**	P	**P**	**06 15 52.6**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=299,slow=8.0,SNR=12						
NVS	**Novosibirsk**	**43.79**	**305**	⇑*i*P	**P**	**06 15 50.4**	**-1.7**
NVS				pmax	pmax		
	comp=Z,16nm,0.5s						
NVS				pmax	pmax		
	comp=N,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,12nm,0.5s						
RES	**Resolute Bay**	**44.16**	**22**	*e*P	**P**	**06 15 56.2**	**+1.4**
	comp=E,4.8nm,1.1s						
RES	**Resolute Bay**	**44.16**	**22**	P	**P**	**06 15 55.7**	**+0.9**
	comp=E,2.5nm,0.8s,baz=333,slow=10,SNR=9.2						
RES				PcP	**PcP**	**06 17 40.0**	**+1.1**
	comp=E,2.2nm,0.8s,baz=347,slow=2.0,SNR=3.5						
DGZ	**Jazzator, Alta**	**44.24**	**297**	*d i*P	**P**	**06 15 54.8**	**-1.1**
DGZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CD2	**Chengdu**	**46.03**	**265**	*e*P	**P**	**06 16 08.8**	**-1.4**
WMQ	**Urumqi**	**47.44**	**290**	*e*P	**P**	**06 16 21.6**	**+0.5**
KBS	**Kingsbay**	**47.85**	**352**	⇓*e*P	**P**	**06 16 24.6**	**+0.8**
KBS				pmax	pmax		
	comp=Z,53nm,1.0s						
KBS	**Kingsbay**	**47.85**	**352**	*e*P	**P**	**06 16 24.8**	**+1.0**
SPA0	**Spitsbergen Ar**	**48.11**	**351**	*e*P	**P**	**06 16 26.0**	**+0.2**
	comp=Z,59nm,1.1s						
SPA0	**Spitsbergen Ar**	**48.11**	**351**	*e*P	**P**	**06 16 26.2**	**+0.4**
SPITS	**Spitsbergen Ar**	**48.11**	**351**	P	**P**	**06 16 25.6**	**-0.2**
	comp=Z,9.4nm,0.5s,baz=58,slow=7.9,SNR=64						
KURK	**Kurchatov**	**48.38**	**303**	*e*P	**P**	**06 16 26.0**	**-2.2**
	comp=Z,22nm,1.0s						
KURK	**Kurchatov**	**48.38**	**303**	⇑*i*P	**P**	**06 16 25.7**	**-2.5**
KURK				pmax	pmax		
	comp=Z,30nm,1.3s						
MKAR	**Makanchi Array**	**48.71**	**297**	P	**P**	**06 16 28.6**	**-2.3**
	comp=Z,3.4nm,0.5s,baz=57,slow=6.9,SNR=45						
HSPB	**Hornsund (broa**	**49.24**	**350**	*e*P	**P**	**06 16 35.0**	**+0.6**
KMI	**Kunming**	**50.81**	**261**	P	**P**	**06 16 49.4**	**+2.1**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BVAR	**Borovoye Array**	**51.11**	**309**	P	**P**	**06 16 47.0**	**-1.9**
	comp=Z,6.6nm,0.6s,baz=64,slow=6.8,SNR=7.6						
BRVK	**Borovoye**	**51.

DOMB	Dombas	63.91	345	eP	P	06 18 19.2	+0.4
AKN	Aaknes	64.09	346	eP	P	06 18 20.6	+0.5
NB2	NORSAR Subarra	64.51	344	P	P	06 18 22.6	-0.2
	comp=Z,2.5nm,0.4s,baz=22,slow=6.9						
NB2	NORSAR Subarra	64.51	344	P	P	06 18 22.6	-0.2
	baz=22,slow=6.9						
NOA	NORSAR Array B	64.51	344	P	P	06 18 22.6	-0.2
	comp=Z,2.0nm,0.4s,baz=25,slow=6.6,SNR=22						
LPSR	Galich'ya Gora	64.66	325	eP	P	06 18 22.7	-1.1
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NC602	NORSAR Array S	64.74	344	eP	P	06 18 24.9	+0.6
VRH	Novokhopyorsk	64.77	322	eP	P	06 18 22.3	-2.3
VRH				pmax	pmax		
	comp=Z,40nm,1.2s						
SKAR	Skarslia	65.33	345	eP	P	06 18 28.6	+0.5
VSR	Storozhevoye	65.70	324	eP	P	06 18 28.6	-2.0
VSR				pmax	pmax		
	comp=Z,20nm,1.3s						
VORD	Divnogorie	65.86	324	eP	P	06 18 30.4	-1.2
VORD				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BER	Bergen	66.05	347	eP	P	06 18 33.5	+0.8
BLS5	Blasjo	66.81	346	eP	P	06 18 38.2	+0.5
GEYT	Alibeck	67.74	303	P	P	06 18 42.9	-1.0
	comp=Z,2.3nm,0.5s,baz=50,slow=2.3,SNR=3.7						
BSD	Bornholm Skovb	69.34	340	eP	P	06 18 54.4	+0.9
BSD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BSD	Bornholm Skovb	69.34	340	i P	P	06 18 54.4	+0.9
	comp=Z,9.6nm,0.6s						
WMOK	Wichita Mounta	69.46	60	ePcP	PcP	06 19 22.1	+4.3
AKASG	Malin Array Be	69.52	329	P	P	06 18 53.9	-0.8
	comp=Z,7.5nm,0.5s,baz=32,slow=6.5,SNR=24						
AKBB	Malin Array Si	69.52	329	eP	P	06 18 54.0	-0.7
	comp=Z,6.0nm,0.6s						
KIEV	Kiev	69.53	329⇑	i P	P	06 18 53.8	-1.0
KIEV	Kiev	69.53	329⇑	eP	P	06 18 53.7	-1.0
KIEV				pmax	pmax		
	comp=Z,13nm,1.3s						
NCK	Nalchik	70.23	316⇑	eP	P	06 18 59.4	+0.1
NCK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KBZ	Khabaz	70.34	317	P	P	06 18 58.9	-0.9
	comp=Z,4.7nm,0.9s,baz=287,slow=1.2,SNR=7.2						
TX31	Lajitas Ar. Si	70.88	67	eP	P	06 19 04.5	+1.0
	comp=Z,2.1nm,1.1s						
TXAR	Lajitas Array	70.88	67	P	P	06 19 04.9	+1.4
	comp=Z,0.7nm,0.5s,baz=303,slow=4.8,SNR=12						
HYB	Hyderabad	71.44	275	i P	P	06 19 06.5	-0.4
KWP	Kalwaria Pacla	72.42	333	eP	P	06 19 13.2	+0.9
KWP	Kalwaria Pacla	72.42	333	eP	P	06 19 13.2	+0.9
GNI	Garni	72.45	314⇓	eP	P	06 19 14.0	+1.1
GNI				pmax	pmax		
	comp=Z,16nm,0.7s						
OJC	Ojcow	72.68	335	eP	P	06 19 11.3	-2.6
OJC	Ojcow	72.68	335	eP	P	06 19 11.3	-2.6
KOLS	Kolonicke sedl	73.17	333	eP	P	06 19 16.2	-0.6
KOLS	Kolonicke sedl	73.17	333	eP	P	06 19 16.1	-0.7
CLL	Collm	73.31	339	i P	P	06 19 17.4	-0.1
	comp=Z,16nm,1.1s						
CLL				epP	pP	06 19 29.0	-1.0
CLL				e		06 19 41.0	
BURAR	Bucovina Array	73.48	330⇓	i P	P	06 19 18.7	-0.1
MORC	Moravsky Berou	73.67	336⇑	i P	P	06 19 20.0	+0.2
LANS	Liptovska Anna	73.75	334	eP	P	06 19 22.0	+1.8
LANS	Liptovska Anna	73.75	334	eP	P	06 19 22.0	+1.8
TRPA	Tarpa	73.82	332⇑	i P	P	06 19 21.2	+0.6
VRAC	Vranov	74.34	336⇑	i P	P	06 19 24.1	+0.5
VYHS	Vyhne	74.51	335	eP	P	06 19 25.9	+1.2
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
VYHS	Vyhne	74.51	335	eP	P	06 19 25.9	+1.2
PLOR	Plostina	74.60	328⇑	i P	P	06 19 25.1	-0.2
MODS	Modra-Piesok	75.03	335	eP	P	06 19 28.4	+0.7
MODS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MODS	Modra-Piesok	75.03	335	eP	P	06 19 28.4	+0.7
MLR	Muntele Rosu	75.15	329⇑	i P	P	06 19 28.3	-0.2
WR1	Warramunga Arr	75.27	205	eP	P	06 19 29.8	+0.5
WRA	Warramunga Arr	75.27	205	P	P	06 19 29.8	+0.5
	comp=Z,1.2nm,0.7s,baz=23,slow=5.4,SNR=8.8						
MEM	Membach	75.35	343	⇑P	P	06 19 30.1	+0.6
	comp=Z,12nm,1.0s						
GERES	GERESS Array B	75.46	338	P	P	06 19 30.6	+0.4
	comp=Z,1.4nm,0.6s,baz=40,slow=5.1,SNR=9.0						
VOIR		75.48	329⇓	i P	P	06 19 29.6	-0.8
FITZ	Fitzroy Crossi	76.18	214	P	P	06 19 35.9	+1.5
	comp=Z,1.2nm,0.5s,baz=22,slow=5.0,SNR=9.6						
BRTR	Keskin Array B	77.46	321	P	P	06 19 41.5	-0.3
	comp=Z,2.1nm,0.8s,baz=41,slow=4.6,SNR=6.0						
VTS	Vitosha	78.59	329	eP	P	06 19 48.4	+0.4
	comp=Z,5.7nm,0.6s						
VTS	Vitosha	78.59	329⇑	i P	P	06 19 47.8	-0.2
TUE	Stuetta	78.67	340	eP	P	06 19 49.8	+1.4
	comp=Z,7.6nm,0.6s						
ASAR	Alice Springs	78.94	205	P	P	06 19 51.3	+1.5
	comp=Z,2.0nm,0.6s,baz=16,slow=4.9,SNR=11						
PDG	Podgorica	79.97	332⇑	i P	P	06 19 54.4	-0.9
TLIG	Tlapa	82.94	71	eP	P	06 20 09.7	-1.8
	comp=Z,10.0nm,0.7s						
TIP	Timpagrande	83.69	332⇑	i P	P	06 20 15.0	0.0
POLO	Lamas de Olo	86.31	351	eP	P	06 20 29.8	+1.7
PVRL	Vila Real	86.39	351	eP	P	06 20 27.0	-1.5
MVO	Moncorvo	86.44	350	eP	P	06 20 29.0	+0.2
ESDC	Sonseca Array	87.56	348	P	P	06 20 34.7	+0.5
	comp=Z,1.4nm,0.5s,baz=5.1,slow=5.6,SNR=7.2						
TORD	Torodi Ar. Bea	112.41	337	PP	PP	06 27 05.5	-2.1
	comp=Z,0.8nm,0.8s,baz=359,slow=5.4,SNR=4.7						
LPAZ	La Paz	127.73	65	PKP	PKiKP	06 26 54.6	+1.7
	comp=Z,0.7nm,0.9s,baz=353,slow=8.1,SNR=3.6						
SIV	San Ignacio	131.32	58	PKP	PKiKP	06 26 59.8	+0.4
	comp=Z,0.9nm,0.8s,baz=297,slow=2.3,SNR=4.6						

JMA 21 06:08:23.5±0.1, 24°.89N×123°.42E, h16km, M2.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.57	221	P	Pg	06 08 34.5	-0.2
YOJ				eS	Sg	06 08 41.8	-0.5
JYNG	Yonagunijimaku	0.61	225	P	Pg	06 08 35.4	-0.2
JYNG				eS	Sg	06 08 43.8	0.0
IRIF	Iriomote-Funau	0.62	153	P	Pg	06 08 35.4	-0.3
IRIF				S	Sb	06 08 44.4	0.0
JIJ	Ishigaki jima	0.84	128	P	Pb	06 08 39.2	-0.5
JIJ				S	Sb	06 08 50.0	-0.8
JKRS	Kuro-shima	0.84	140	P	Pb	06 08 39.6	-0.2
JKRS				S	Sb	06 08 50.7	-0.1
JISG	Ishigakijimahi	0.86	110	P	Pb	06 08 39.8	-0.3
HATJ	Hateruma jima	0.90	157	P	Pb	06 08 40.4	-0.4
JTJ	Tarama	1.19	102	P	Pn	06 08 45.5	0.0

MAN 21 06:10:32.1, 10°.16N×125°.74E, h101km, mb4.1, ML2.9, MS2.6, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.87	268	eP	Pn	06 10 52.2	+1.0
MSLP				eS	Sn	06 11 06.7	+1.0
BUTP	Butuan	1.19	186	eP	Pn	06 11 03.5	+8.7
BUTP				eS	Sn	06 11 17.1	+5.2
BESP	Borongan	1.46	348	eP	Pn	06 10 58.0	0.0
BESP				eS	Sn	06 11 18.9	+1.4
TBP	Tagbilaran	1.91	256	eP	Pn	06 11 04.2	+0.6
CGP	Cagayan de Oro	1.99	211⇓	eP	Pn	06 11 05.5	+0.8
CGP				eS	Sn	06 11 29.8	+0.4
BUKP	Musuan	2.37	197	eP	Pn	06 11 10.2	+0.5
CNP	Cataman	2.56	336	eP	Pn	06 11 06.0	-6.1
CNP				eS	Sn	06 11 43.0	+0.2

TAP 21 06:12:28.8, 24°.35N×121°.47E, h9km±1km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	Datong	0.11	317	eP	Pg	06 12 32.3	+0.8
NNSB	baz=316						
NNSB				eS	Sg	06 12 34.0	+0.4
	baz=316						
NNS	Nan Shan	0.12	317	eP	Pg	06 12 32.6	+0.8
	baz=319						
NNS				eS	Sg	06 12 35.0	+1.1
	baz=319						
ETLH	Xiulin Townshi	0.14	174	eP	Pg	06 12 33.1	+1.2
	baz=174						
ETLH				eS	Sg	06 12 35.2	+1.0
	baz=174						
NACB	Ninganchiao	0.21	146	eP	Pg	06 12 34.6	+1.5
	baz=145						
NACB				eS	Sg	06 12 37.4	+1.3
	baz=145						
NDT	Datong Townshi	0.26	10	P	Pb	06 12 35.5	-0.2
	baz=9.0						
NDT				S	Sb	06 12 38.9	-1.3
	baz=9.0						
ENA	Nanau	0.26	72	eP	Pb	06 12 35.3	-0.4
	baz=73						
ENA				eS	Sb	06 12 39.9	-0.4
	baz=73						
NANB	Nanao	0.27	73	eP	Pb	06 12 35.1	-0.7
	baz=73						
NANB				eS	Sg	06 12 38.8	+0.9
	baz=73						
WHF	Hehuan Shan	0.27	222	P	Pg	06 12 35.2	+0.7
	baz=220						
TWD	Chiawan	0.29	156	eP	Pb	06 12 36.3	+0.1
	baz=154						
TWD				eS	Sb	06 12 40.2	-0.9
	baz=154						
ENTT	Nioudou	0.30	17	P	Pb	06 12 36.5	0.0
	baz=18						
ENTT				S	Sb	06 12 40.6	-0.9
	baz=18						
YHNB	Yeheng	0.33	346	eP	Pb	06 12 36.9	-0.1
	baz=345						
YHNB				eS	Sb	06 12 41.6	-0.8
	baz=345						
CHGB	Renai	0.39	223	eP	Pb	06 12 37.4	-0.6
	baz=222						
CHGB				eS	Sb	06 12 44.0	-0.2
	baz=222						
TWC	Suao	0.43	53	eP	Pb	06 12 38.8	+0.2
	baz=54						
OWD	Renai	0.47	214	eP	Pg	06 12 38.6	+0.5
	baz=214						
OWD				eS	Sb	06 12 45.6	-0.9
	baz=214						
EOS1	EOS1	0.64	71	eP	Pb	06 12 42.1	0.0
	baz=71						
EOS1				eS	Sn	06 12 52.8	-1.3
	baz=71						
VWDT	VWDT	0.66	207	eP	Pg	06 12 42.0	+0.4
	baz=206						
VWDT				eS	Sb	06 12 53.0	+1.2
	baz=206						
TIPB	Shuangxi	0.70	28	eP	Pb	06 12 43.1	-0.1
	baz=27						
TIPB				eS	Sb	06 12 53.0	0.0
	baz=27						
SSLB	Suanglung	0.73	220	eP	Pb	06 12 43.6	-0.1
	baz=219						
YULB	Yu-li	0.96	189	eP	Pb	06 12 48.1	+0.4
	baz=189						
YULB				eS	Sn	06 13 01.6	-0.8
	baz=189						

*JMA **21** 06:13:28.6±0.2, 24°.90N×123°.41E, h25km, M4.7*
JMA Felt I J1.
*ISCJB **21** 06:13:32.7±0.9, 24°.11N±0°.07×123°.26E±0°.04, h10km, mb3.6/6, Error ellipse: s-maj=10.0km s-min=4.7km az=20.3*
*IDC **21** 06:13:32.9±1.3, 24°.02N×123°.23E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/57, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=46.5km s-min=25.2km az=74.0*
ISC 21 06:13:34.9±1.0, 24°.2N±0°.1×123°.29E±0°.04, h10km, n15, σ2s 71/18, mb3.7/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.38	317	P	Pg	06 13 39.5	-2.9
YOJ				eS	Sg	06 13 46.7	-0.8
JYNG	Yonagunijimaku	0.42	310	P	Pg	06 13 40.5	-2.6
JYNG				eS	Sg	06 13 48.7	+0.1
IRIF	Iriomote-Funau	0.43	69	P	Pg	06 13 40.7	-2.6
IRIF				S	Sg	06 13 49.7	+0.8
HATJ	Hateruma jima	0.48	105	P	Pb	06 13 45.4	-0.1
HATJ				S	Sn	06 13 56.6	+5.9
JKRS	Kuro-shima	0.66	85	P	Pg	06 13 44.5	-3.1
JKRS				S	Sg	06 13 55.9	-0.3
JIJ	Ishigaki jima	0.80	77	P	Pg	06 13 44.1	-6.2
JIJ				S	Sg	06 13 55.1	-5.6
JISG	Ishigakijimahi	1.01	66	P	Pb	06 13 44.6	-10
JTJ	Tarama	1.36	70	P	Pn	06 13 50.6	-9.4
KSRS	Korea Array	13.81	16	Pn	Pn	06 16 53.0	+2.2
	0.2nm,0.3s,baz=199,slow=11,SNR=4.3						
KLR	Kul'dur	25.87	13	P	P	06 19 08.6	+1.9
	0.7nm,0.6s,baz=224,slow=7.5,SNR=4.6						
SONM	Songino Array	27.16	335	P	P	06 19 18.3	-0.2
	1.1nm,0.6s,baz=148,slow=9.0,SNR=6.8						
MKAR	Makanchi Array	39.69	315	P	P	06 21 08.4	+1.1
	0.8nm,0.7s,baz=96,slow=11,SNR=4.5						
ZALV	Zalesovo Beam	41.31	326	P	P	06 21 20.2	-0.2
	0.6nm,0.3s,baz=120,slow=8.5,SNR=3.9						
WRA	Warramunga Arr	45.16	165	P	P	06 21 50.4	-1.6
	0.9nm,0.8s,baz=347,slow=8.0,SNR=4.7						
YKA	Yellowknife Ar	82.22	23	P	P	06 25 56.0	0.0
	0.5nm,0.9s,baz=307,slow=5.2,SNR=4.0						

IDC 21 06:14:59.6±3.5, 30°.23S×138°.52E, h0km, mb1 3.2/3, mb1mx3.1/34, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=96.0km s-min=17.7km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.10	123	Pn	Pn	06 15 50.1	+0.3
	0.2nm,0.3s,baz=299,slow=15,SNR=2.5						
STKA				Pg	Pb	06 15 55.8	+0.1
	0.6nm,0.3s,baz=298,slow=14,SNR=7.0						
STKA				Sn	Sn	06 16 26.4	-1.3
	1.9nm,0.3s,baz=336,slow=19,SNR=5.9						
STKA				Lg	Lg	06 16 38.4	
	2.0nm,0.3s,baz=15,slow=20,SNR=7.9						
ASAR	Alice Springs	7.73	327	Pn	Pn	06 16 53.5	0.0
	0.1nm,0.3s,baz=149,slow=12,SNR=6.3						
ASAR				Sn	Sn	06 18 17.6	-4.2
	0.1nm,0.3s,baz=151,slow=21,SNR=3.1						
WRA	Warramunga Arr	10.92	339	Pn	Pn	06 17 37.2	-0.1
	0.1nm,0.3s,baz=156,slow=12,SNR=5.4						

*IDC **21** 06:17:28.6±1.2, 52°.32N×160°.54E, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.8/61, mbtmp3.8/15, ML3.3/1, Error ellipse: s-maj=33.6km s-min=16.6km az=177.0*
*KRSC **21** 06:17:28.1±10.0, 52°.11N×160°.84E, h73km±10km, ML4.3*
*ISCJB **21** 06:17:30.1±1.4, 52°.13N±0°.04×160°.81E±0°.05, h31km±11km, mb3.9/14, Error ellipse: s-maj=7.1km s-min=5.1km az=166.4*
*MOS **21** 06:17:30.5±1.1, 52°.13N×160°.78E, h37km, mb4.0/1, Error ellipse: s-maj=10.2km s-min=5.9km az=111.3*
ISC 21 06:17:29.0±3.4, 52°.13N±0°.05×160°.81E±0°.04, h11km±21km, n62, σ1s 23/82, mb4.0/14, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.08	334	eP	Pb	06 17 48.7	-0.9
SPN				eS	Sb	06 18 03.7	+0.1
SPN	Mys Shipunski	1.08	334	PN	Pb	06 17 48.7	-0.9
SPN				S	Sb	06 18 03.7	+0.1
NLC	Nalytchevo	1.37	320	eP	Pn	06 17 53.7	-0.2
NLC				eS	Sb	06 18 12.6	+0.6
NLC	Nalytchevo	1.37	320	PN	Pn	06 17 53.7	-0.2
NLC				S	Sb	06 18 12.6	+0.6
RUS	Russkaya	1.44	283	eP	Pn	06 17 54.3	-0.6
RUS				eS	Sn	06 18 12.2	-1.6
RUS	Russkaya	1.44	283	PN	Pn	06 17 54.3	-0.6
RUS				S	Sn	06 18 12.2	-1.6
DALK	Dalny	1.54	306	eP	Pn	06 17 56.2	-0.1
DALK				eS	Sn	06 18 14.2	-2.1
DALK	Dalny	1.54	306	PN	Pn	06 17 56.2	-0.1
DALK				S	Sn	06 18 14.2	-2.1
PET	Petropavlovsk	1.59	305	ePN	Pn	06 17 56.1	-0.8
PET				eS	Sn	06 18 16.1	-1.3
PET				smax	smax		
	comp=E,2μm,0.7s						
PET				smax	smax		
	comp=N,2μm,0.8s						
UGLR	Uglovaya	1.62	313	P	Pn	06 17 57.5	0.0
UGLR	Uglovaya	1.62	313	PN	Pn	06 17 57.5	0.0
SDLR	Sedlovina	1.64	315	eP	Pn	06 17 57.9	+0.1
SDLR	Sedlovina	1.64	315	PN	Pn	06 17 57.9	+0.1
MTVR	Mutnovka	1.65	283	eP	Pn	06 17 57.8	-0.1
MTVR				eS	Sn	06 18 18.6	-0.5
MTVR	Mutnovka	1.65	283	PN	Pn	06 17 57.8	-0.1
MTVR				S	Sn	06 18 18.6	-0.5
AVH	Avacha	1.69	313	P	Pn	06 17 58.5	0.0
AVH	Avacha	1.69	313	PN	Pn	06 17 58.5	0.0
KRER	Koryakskii	1.71	314	P	Pn	06 17 59.1	+0.2
KRER	Koryakskii	1.71	314	PN	Pn	06 17 59.1	+0.2
KDTR	Khodutka, Kamc	1.72	260	eP	Pn	06 17 57.9	-0.8
KDTR				S	Sn	06 18 17.5	-3.1
KDTR	Khodutka, Kamc	1.72	260	PN	Pn	06 17 57.9	-0.8
KDTR				S	Sn	06 18 17.5	-3.1
KOK	Koryaka	1.76	312	P	Pn	06 17 59.7	+0.3
KOK	Koryaka	1.76	312	PN	Pn	06 17 59.7	+0.3
KRMR	Karymshinskiy	1.78	294	P	Pn	06 17 59.6	0.0
KRMR				S	Sn	06 18 21.2	-0.9
KRMR	Karymshinskiy	1.78	294	PN	Pn	06 17 59.6	0.0
KRMR				S	Sn	06 18 21.2	-0.9
KRX	Arik	1.79	314	P	Pn	06 18 00.1	+0.1
KRX	Arik	1.79	314	PN	Pn	06 18 00.1	+0.1
ASAK	Asacha	1.80	279	P	Pn	06 18 00.2	+0.2
ASAK	Asacha	1.80	279	PN	Pn	06 18 00.2	+0.2
PETK	Petropavlovsk-	2.13	298	Pn	Pn	06 18 05.0	+0.6
	comp=N,20nm,0.3s,baz=100,slow=18,SNR=67						
PETK				Sn	Sn	06 18 31.4	+0.6
	comp=N,28nm,0.3s,baz=122,slow=24,SNR=6.8						
APC	Apacha	2.36	291	P	Pn	06 18 08.8	+1.2
APC	Apacha	2.36	291	PN	Pn	06 18 08.8	+1.2
MKZ	Mys Kozlova	2.49	13	eP	Pn	06 18 08.6	-0.7
MKZ				S	Sn	06 18 36.7	-2.9
MKZ	Mys Kozlova	2.49	13	PN	Pn	06 18 08.6	-0.7
MKZ				S	Sn	06 18 36.7	-2.9
KZV	Kizimen	3.00	354	P	Pn	06 18 17.5	+1.0
KZV	Kizimen	3.00	354	PN	Pn	06 18 17.5	+1.0
TUMD	Tumrok D	3.08	356	eP	Pn	06 18 17.8	+0.2
TUMD				eS	Sn	06 18 52.9	-1.5
TUMR	Tumrok	3.18	353	eP	Pn	06 18 20.4	+1.4
TUMR	Tumrok	3.18	353	PN	Pn	06 18 17.8	-1.2
SKR	Severo-Kuril's	3.27	246	P	Pn	06 18 19.6	-0.5
SKR	Severo-Kuril's	3.27	246	ePN	Pn	06 18 19.4	-0.7
SKR				pmax	pmax		
	comp=Z,22nm,0.5s						
ALID	Alaid	3.52	251	P	Pn	06 18 23.3	-0.4
ALID	Alaid	3.52	251	PN	Pn	06 18 23.3	-0.4
KBTR	Krutoberegovo	4.25	15	eP	Pn	06 18 33.6	+0.1
KBTR	Krutoberegovo	4.25	15	PN	Pn	06 18 33.6	+0.1
BKI	Bering	4.35	43	eP	Pn	06 18 34.7	-0.1
BKI				S	Sn	06 19 20.8	-4.6
BKI	Bering	4.35	43	PN	Pn	06 18 34.7	-0.1
KLR	Kul'dur	18.58	273	P	P	06 21 45.5	-0.3
	comp=Z,0.1nm,0.3s,baz=61,slow=14,SNR=2.7						
TIXI	Tiksi	24.14	336	P	P	06 22 43.2	-1.2
	comp=Z,1.7nm,0.4s,baz=101,slow=5.7,SNR=4.7						
ILAR	Eielson Array	29.19	44	P	P	06 23 32.4	+2.4
	comp=Z,0.3nm,0.6s,baz=283,slow=8.2,SNR=4.1						
YKA	Yellowknife Ar	43.58	42	P	P	06 25 33.3	+0.9
	comp=Z,0.2nm,0.6s,baz=295,slow=7.5,SNR=3.5						
SPITS	Spitsbergen Ar	48.15	351	P	P	06 26 08.8	+0.4
	comp=Z,4.1nm,0.8s,baz=52,slow=9.3,SNR=14						
MKAR	Makanchi Array	48.97	297	P	P	06 26 13.3	-1.7
	comp=Z,0.3nm,0.5s,baz=59,slow=6.0,SNR=2.7						
BVAR	Borovoye Array	51.33	309	P	P	06 26 31.3	-1.5
	comp=Z,1.1nm,0.5s,baz=64,slow=6.6,SNR=5.0						
ARCES	ARCESS Array B	54.33	342	P	P	06 26 54.4	-0.4
	comp=Z,2.5nm,1.0s,baz=45,slow=7.8,SNR=3.3						
NVAR	Mina Array Bea	55.66	70	P	P	06 27 06.9	+1.8
	comp=Z,1.2nm,0.6s,baz=296,slow=7.7,SNR=9.8						
PDAR	Pinedale Array	57.61	61	P	P	06 27 20.4	+1.5
	comp=Z,0.5nm,0.6s,baz=322,slow=3.6,SNR=3.6						
CMAR	Chiang Mai Arr	58.42	259	P	P	06 27 26.1	+1.5
	comp=Z,1.0nm,0.3s,baz=25,slow=6.9,SNR=3.0						
FINES	FINESS Array B	61.17	337	P	P	06 27 43.6	+0.7
	comp=Z,1.1nm,0.5s,baz=53,slow=8.3,SNR=8.2						
NOA	NORSAR Array B	64.58	344	P	P	06 28 05.3	-0.4
	comp=Z,0.4nm,0.4s,baz=34,slow=7.6,SNR=3.3						
AKASG	Malin Array Be	69.66	330	P	P	06 28 37.4	-0.6
	comp=Z,0.4nm,0.3s,baz=30,slow=6.8,SNR=2.7						
TXAR	Lajitas Array	70.61	67	P	P	06 28 45.6	+1.3
	comp=Z,0.4nm,0.4s,baz=300,slow=4.4,SNR=9.3						

MEX 21 06:19:14.5±0.7, 15°.70N×96°.08W, h5km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.07	336	eP	Pg	06 19 15.1	-1.1
HUIG				eS	Sg	06 19 17.4	0.0
CMIG	Matias Romero	1.80	39	eP	Pn	06 19 42.1	-4.0
CMIG				eS	Sn	06 20 04.9	-4.5
PNIG	Pinotepa	2.09	290	eP	Pn	06 19 47.7	-2.6
PNIG				eS	Sn	06 20 12.8	-3.9
PCIG		2.75	90	i P	Pn	06 19 57.1	-2.2
PCIG				i S	Sn	06 20 29.2	-3.7
TPIG	Tehuac#an	2.97	336	eP	Pn	06 20 00.3	-2.1
TPIG				i S	Sn	06 20 35.4	-3.2
TGIG		3.03	69	i P	Pn	06 20 01.4	-1.9
TGIG				i S	Sn	06 20 36.5	-3.5

*KRSC **21** 06:20:10.4±10.0, 52°.18N×160°.72E, h60km±10km, ML4.8*
*ISCJB **21** 06:20:11.8±0.3, 52°.23N±0°.02×160°.63E±0°.04, h24km, mb4.3/51, MS5.4/1, Error ellipse: s-maj=3.6km s-min=3.0km az=145.8*
*IDC **21** 06:20:11.1±0.6, 52°.50N×160°.11E, h0km, mb4.0/30, mb1 4.2/33, mb1mx4.1/63, mbtmp4.0/33, ML3.7/3, Error ellipse: s-maj=15.8km s-min=11.5km az=142.0*
*MOS **21** 06:20:15.5±1.1, 52°.39N×160°.29E, h55km, mb4.9/17, Error ellipse: s-maj=7.4km s-min=3.7km az=96.7*
*NEIC **21** 06:20:16.8±2.1, 52°.56N×160°.03E, h35km, mb4.5/19, Error ellipse:

AVH	**Avacha**	**1.48 312**	PN	**Pn**	**06 20 39.2**	**+0.7**
KRER	**Koryakskii**	**1.50 314**	*e*P	**Pn**	**06 20 39.7**	**+0.8**
KRER	**Koryakskii**	**1.50 314**	PN	**Pn**	**06 20 39.7**	**+0.8**
KOK	**Koryaka**	**1.54 312**	*e*P	**Pn**	**06 20 39.8**	**+0.4**
KOK	**Koryaka**	**1.54 312**	PN	**Pn**	**06 20 39.8**	**+0.4**
GRL	**Gorelyy**	**1.54 281**	*e*P	**Pn**	**06 20 40.0**	**+0.5**
GRL	**Gorelyy**	**1.54 281**	PN	**Pn**	**06 20 40.0**	**+0.5**
KRMR	**Karymshinskiy**	**1.58 291**	*e*P	**Pn**	**06 20 40.2**	**+0.4**
KRMR			*e*S	**Sn**	**06 21 00.5**	**+1.1**
KRMR	**Karymshinskiy**	**1.58 291**	PN	**Pn**	**06 20 40.2**	**+0.4**
KRMR			S	**Sn**	**06 21 00.5**	**+1.1**
KRX	**Arik**	**1.58 314**	*e*P	**Pn**	**06 20 40.5**	**+0.5**
KRX	**Arik**	**1.58 314**	PN	**Pn**	**06 20 40.5**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.60 254**	*e*P	**Pn**	**06 20 39.4**	**-0.7**
KDTR			*e*S	**Sn**	**06 20 59.0**	**-1.0**
KDTR	**Khodutka, Kamc**	**1.60 254**	PN	**Pn**	**06 20 39.4**	**-0.7**
KDTR			S	**Sn**	**06 20 59.0**	**-1.0**
ASAK	**Asacha**	**1.63 274**	*e*P	**Pn**	**06 20 41.0**	**+0.4**
ASAK	**Asacha**	**1.63 274**	PN	**Pn**	**06 20 41.0**	**+0.4**
PEA0B	**Petropavlovsk-**	**1.92 296**	*e*Pn	**Pn**	**06 20 45.7**	**+1.1**
PEA0B			*e*Sn	**Sn**	**06 21 06.6**	**-1.3**
PETK	**Petropavlovsk-**	**1.92 296**	*e*Pn	**Pn**	**06 20 45.4**	**+0.8**
PETK	**Petropavlovsk-**	**1.92 296**	Pn	**Pn**	**06 20 45.4**	**+0.8**
	comp=E,66nm,0.3s,baz=104,slow=17,SNR=47					
PETK			Sn	**Sb**	**06 21 10.4**	**-0.8**
	comp=E,44nm,0.3s,baz=94,slow=20,SNR=6.6					
PEA1	**Petropavlovsk-**	**1.92 297**	*e*Pn	**Pn**	**06 20 45.4**	**+0.8**
PEA1			*e*Sn	**Sb**	**06 21 10.4**	**-0.9**
APC	**Apacha**	**2.17 288**	*e*P	**Pn**	**06 20 49.3**	**+1.4**
APC			*e*S	**Sn**	**06 21 16.4**	**+2.4**
APC	**Apacha**	**2.17 288**	PN	**Pn**	**06 20 49.3**	**+1.4**
APC			S	**Sn**	**06 21 16.4**	**+2.4**
MKZ	**Mys Kozlova**	**2.38 17**	*e*P	**Pn**	**06 20 50.2**	**-0.6**
MKZ			*e*S	**Sn**	**06 21 17.9**	**-1.3**
MKZ	**Mys Kozlova**	**2.38 17**	PN	**Pn**	**06 20 50.2**	**-0.6**
MKZ			S	**Sn**	**06 21 17.9**	**-1.3**
PAU	**Pauzhetka**	**2.46 252**	*e*P	**Pn**	**06 20 52.2**	**+0.3**
PAU	**Pauzhetka**	**2.46 252**	PN	**Pn**	**06 20 52.2**	**+0.3**
KZV	**Kizimen**	**2.83 357**	*e*P	**Pn**	**06 20 58.1**	**+0.8**
KZV	**Kizimen**	**2.83 357**	PN	**Pn**	**06 20 58.1**	**+0.8**
TUMD	**Tumrok D**	**2.92 358**	*e*P	**Pn**	**06 20 59.1**	**+0.8**
TUMD			*e*S	**Sn**	**06 21 33.7**	**+1.0**
TUMR	**Tumrok**	**3.01 356**	*e*P	**Pn**	**06 21 01.2**	**+1.6**
TUMR	**Tumrok**	**3.01 356**	PN	**Pn**	**06 20 59.1**	**-0.5**
TUMR			S	**Sn**	**06 21 33.7**	**-1.3**
SKR	**Severo-Kuril's**	**3.21 242**	*e*P	**Pn**	**06 21 01.7**	**-0.5**
SKR			*e*S	**Sn**	**06 21 38.0**	**-1.6**
SKR	**Severo-Kuril's**	**3.21 242**	*e*PN	**Pn**	**06 21 01.5**	**-0.7**
SKR			*e*S	**Sn**	**06 21 37.3**	**-2.3**
SKR			pmax	pmax		
	comp=Z,33nm,0.5s					
SKR			smax	smax		
	comp=N,663nm,0.9s					
SKR			smax	smax		
	comp=E,582nm,0.8s					
ALID	**Alaid**	**3.43 248**	*e*P	**Pn**	**06 21 05.2**	**-0.2**
ALID	**Alaid**	**3.43 248**	PN	**Pn**	**06 21 05.2**	**-0.2**
BZMR	**Bezymyannaya**	**3.66 359**	*e*P	**Pn**	**06 21 07.8**	**-0.7**
BZMR	**Bezymyannaya**	**3.66 359**	PN	**Pn**	**06 21 07.8**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**3.66 1**	*e*P	**Pn**	**06 21 10.6**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**3.66 1**	PN	**Pn**	**06 21 10.6**	**+2.0**
KIRR	**Kirishev**	**3.67 358**	*e*P	**Pn**	**06 21 09.0**	**+0.2**
KIRR	**Kirishev**	**3.67 358**	PN	**Pn**	**06 21 09.0**	**+0.2**
BZWR	**Bezymyannyi-We**	**3.68 359**	*e*P	**Pn**	**06 21 10.8**	**+1.9**
BZWR	**Bezymyannyi-We**	**3.68 359**	PN	**Pn**	**06 21 10.8**	**+1.9**
KPT	**Kopyto**	**3.69 357**	*e*P	**Pn**	**06 21 09.9**	**+0.9**
KPT	**Kopyto**	**3.69 357**	PN	**Pn**	**06 21 09.9**	**+0.9**
KOZ	**Kozyrevsk**	**3.80 354**	*e*P	**Pn**	**06 21 11.2**	**+0.8**
KOZ	**Kozyrevsk**	**3.80 354**	PN	**Pn**	**06 21 11.2**	**+0.8**
LGNR	**Loginova**	**3.80 1**	*e*P	**Pn**	**06 21 12.4**	**+1.7**
LGNR	**Loginova**	**3.80 1**	PN	**Pn**	**06 21 12.4**	**+1.7**
ESO	**Esso**	**3.81 344**	*e*P	**Pn**	**06 21 12.9**	**+2.5**
ESO	**Esso**	**3.81 344**	PN	**Pn**	**06 21 12.9**	**+2.5**
CIRR	**Tsirk**	**3.84 2**	*e*P	**Pn**	**06 21 13.0**	**+2.0**
CIRR	**Tsirk**	**3.84 2**	PN	**Pn**	**06 21 13.0**	**+2.0**
KLY	**Klyuchi**	**4.03 1**	*e*P	**Pn**	**06 21 16.1**	**+2.5**
KLY	**Klyuchi**	**4.03 1**	PN	**Pn**	**06 21 16.1**	**+2.5**
SRDR	**Sredinnyy**	**4.07 353**	*e*P	**Pn**	**06 21 16.2**	**+2.1**
SRDR	**Sredinnyy**	**4.07 353**	PN	**Pn**	**06 21 16.2**	**+2.1**
KBTR	**Krutoberegovo**	**4.15 18**	*e*P	**Pn**	**06 21 15.3**	**+0.2**
KBTR	**Krutoberegovo**	**4.15 18**	PN	**Pn**	**06 21 15.3**	**+0.2**
KBG	**Krutoberegovo**	**4.17 17**	*e*P	**Pn**	**06 21 15.5**	**+0.1**
KBG	**Krutoberegovo**	**4.17 17**	PN	**Pn**	**06 21 15.5**	**+0.1**
BDR	**Baidarnaya**	**4.31 5**	*e*P	**Pn**	**06 21 19.0**	**+1.6**
BDR	**Baidarnaya**	**4.31 5**	PN	**Pn**	**06 21 19.0**	**+1.6**
SMKR	**Semkarok**	**4.34 7**	*e*P	**Pn**	**06 21 19.5**	**+1.7**
SMKR	**Semkarok**	**4.34 7**	PN	**Pn**	**06 21 19.5**	**+1.7**
BKI	**Bering**	**4.34 46**	*e*P	**Pn**	**06 21 17.2**	**-0.6**
BKI			*e*S	**Sn**	**06 22 03.2**	**-4.4**
BKI	**Bering**	**4.34 46**	PN	**Pn**	**06 21 17.2**	**-0.6**
SRKR	**Sorokina**	**4.39 4**	*e*P	**Pn**	**06 21 19.3**	**+0.8**
SRKR	**Sorokina**	**4.39 4**	PN	**Pn**	**06 21 19.3**	**+0.8**
MA2	**Magadan**	**9.13 327**	*e*PN	**Pn**	**06 22 21.0**	**-2.4**
SEY	**Seymchan**	**11.52 341**	⇑*i*PN	**Pn**	**06 22 55.5**	**-0.7**
SEY	**Seymchan**	**11.52 341**	Pn	**Pn**	**06 22 55.1**	**-1.1**
	comp=E,0.2nm,0.3s,baz=180,slow=20,SNR=4.6					
ASAJ	**Asahikawa**	**14.47 243**	*e*Pn	**Pn**	**06 23 36.1**	**-0.4**
ASAJ	**Asahikawa**	**14.47 243**	Pn	**Pn**	**06 23 36.1**	**-0.4**
	comp=E,0.9nm,0.3s,baz=68,slow=19,SNR=3.1					
GRNR	**Gornyy**	**15.08 274**	*e*P	**P**	**06 23 52.4**	**+2.6**
GRNR			pmax	pmax		
	comp=Z,21nm,1.0s					
BILL	**Bilibino**	**16.04 8**	*e*Pn	**P**	**06 24 00.9**	**+0.6**
	comp=Z,13nm,0.9s					
BILL	**Bilibino**	**16.04 8**	⇓*e*P	**Pn**	**06 23 58.0**	**+0.9**
BILL			*e*S	**Sn**	**06 26 51.1**	**-2.9**
BILL			pmax	pmax		
	comp=Z,15nm,1.0s					
BILL			MLR	MLR		
	comp=Z,4μm,16.0s					
KLR	**Kul'dur**	**18.42 272**	*e*P	**P**	**06 24 26.0**	**-0.8**
KLR	**Kul'dur**	**18.42 272**	⇑*i*P	**P**	**06 24 26.6**	**-0.1**
KLR	**Kul'dur**	**18.42 272**	P	**P**	**06 24 26.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=73,slow=9.7,SNR=8.3					
USRK	**Ussuriysk Ar.**	**20.57 258**	*e*P	**P**	**06 24 46.8**	**-3.4**
USRK	**Ussuriysk Ar.**	**20.57 258**	P	**P**	**06 24 48.0**	**-2.1**
	comp=Z,6.9nm,1.0s,baz=62,slow=9.3,SNR=8.2					
FALS	**False Pass**	**21.40 69**	*e*P	P	06 25 06.7	+7.6
	comp=Z,422nm,0.8s					
MJB9	**Matsu-Tunnel**	**22.28 234**	*e*P	**P**	**06 25 10.0**	**+1.3**
	comp=Z,12nm,0.8s					
MAJO	**Matsushiro**	**22.28 234**	*e*P	**P**	**06 25 10.1**	**+1.4**
	comp=Z,11nm,0.8s					
MAJO	**Matsushiro**	**22.28 234**	*d i*P	**P**	**06 25 10.5**	**+1.8**
MAJO			pmax	pmax		
	comp=Z,24nm,1.5s					
MJAR	**Matsushiro Arr**	**22.28 234**	*e*P	**P**	**06 25 10.0**	**+1.3**
MJAR	**Matsushiro Arr**	**22.28 234**	P	**P**	**06 25 08.8**	**+0.1**
	comp=Z,3.2nm,0.3s,baz=12,slow=11,SNR=12					
TIXI	**Tiksi**	**23.93 336**	*e*P	**P**	**06 25 22.2**	**-2.9**
TIXI	**Tiksi**	**23.93 336**	⇓*i*P	**P**	**06 25 23.3**	**-1.8**
TIXI			pmax	pmax		
	comp=Z,11nm,1.1s					
TIXI	**Tiksi**	**23.93 336**	P	**P**	**06 25 23.0**	**-2.0**
	comp=Z,8.0nm,0.8s,baz=123,slow=10.0,SNR=9.0					
BOD	**Bodaibo**	**26.79 300**	*e*P	**P**	**06 25 49.1**	**-2.0**
BOD			pmax	pmax		
	comp=Z,11nm,1.3s					
KSRS	**Korea Array**	**27.19 250**	P	**P**	**06 25 53.6**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=45,slow=8.8,SNR=2.9					
JNU	**Nakatsue**	**28.71 240**	P	**P**	**06 26 10.0**	**+1.4**
	comp=Z,4.1nm,0.8s,baz=21,slow=8.6,SNR=2.1					
ILAR	**Eielson Array**	**29.19 44**	P	**P**	**06 26 15.8**	**+3.3**
	comp=Z,0.3nm,0.8s,baz=261,slow=6.8,SNR=2.1					
H11N2	**WAKE ISLAND Hy**	**32.87 169**	T	T	07 01 35.8	
	baz=350,slow=74					
H11N3	**WAKE ISLAND Hy**	**32.88 169**	T	T	07 02 36.2	
	baz=350					
H11N1	**WAKE ISLAND Hy**	**32.88 169**	T	T	07 02 27.5	
	baz=350,slow=74					
ULN	**Ulaanbaatar**	**33.96 284**	*ce*P	**P**	**06 26 52.4**	**-2.4**
ULN			pmax	pmax		
	comp=Z,4.0nm,1.4s					
H11S1	**WAKE ISLAND Hy**	**34.05 170**	T	T	07 03 47.8	
	baz=350,slow=74					
H11S3	**WAKE ISLAND Hy**	**34.06 170**	T	T	07 04 13.7	
	baz=350,slow=74					
H11S2	**WAKE ISLAND Hy**	**34.07 170**	T	T	07 03 48.5	
	baz=350					
INK	**Inuvik**	**34.34 37**	*e*P	**P**	**06 27 00.7**	**+3.1**
	comp=Z,1.8nm,1.0s					
INK	**Inuvik**	**34.34 37**	P	**P**	**06 27 00.7**	**+3.1**
	comp=Z,1.7nm,1.2s,baz=301,slow=4.4,SNR=2.6					
HHC	**Hu-ho-hao-te**	**34.92 271**	*e*P	**P**	**06 27 02.1**	**-1.0**
HHC			SS	SS	06 34 41.4	-23
ZAK	**Zakamensk**	**35.03 290**	*e*P	**P**	**06 27 02.1**	**-1.9**
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.2s					
NJ2	**Nanjing**	**36.27 253**	*e*P	**P**	**06 27 14.3**	**-0.3**
WHN	**Wuhan**	**40.02 256**	P	**P**	**06 27 48.3**	**+2.1**
YULB	**Yu-li**	**41.54 241**	*e*P	**P**	**06 27 58.9**	**+0.1**
	comp=Z,15nm,0.6s					
LZH	**Lanzhou**	**42.62 271**	*e*P	**P**	**06 28 06.3**	**-1.4**
LZH			pP	pwP	06 28 20.3	+3.1
LZH			sP	sP	06 28 24.6	+7.5
ZALV	**Zalesovo Beam**	**43.45 304**	*e*P	**P**	**06 28 10.1**	**-3.9**
ZALV	**Zalesovo Beam**	**43.45 304**	P	**P**	**06 28 11.5**	**-2.5**
	comp=Z,0.7nm,0.4s,baz=64,slow=6.8,SNR=5.8					
YKA	**Yellowknife Ar**	**43.57 42**	P	**P**	**06 28 15.4**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=292,slow=7.5,SNR=2.9					
YKB5	**Yellowknife Ar**	**43.57 42**	*e*P	**P**	**06 28 15.4**	**+0.6**
NVS	**Novosibirsk**	**43.81 305**	⇑*i*P	**P**	**06 28 15.0**	**-1.8**
NVS			pmax	pmax		
	comp=Z,29nm,1.0s					
NVS			pmax	pmax		
	comp=N,1.0nm,0.3s					
NVS			pmax	pmax		
	comp=E,14nm,1.2s					
CD2	**Chengdu**	**46.17 265**	*e*P	**P**	**06 28 34.1**	**-1.9**
WMQ	**Urumqi**	**47.51 290**	*e*P	**P**	**06 28 46.8**	**+0.4**
SPA0	**Spitsbergen Ar**	**47.98 351**	*e*P	**P**	**06 28 48.4**	**-1.1**
	comp=E,25nm,1.1s					
SPITS	**Spitsbergen Ar**	**47.98 351**	P	**P**	**06 28 49.3**	**-0.2**
	comp=E,3.7nm,0.4s,baz=59,slow=8.2,SNR=34					
KURK	**Kurchatov**	**48.40 303**	*e*P	**P**	**06 28 50.9**	**-2.1**
	comp=E,21nm,1.0s					
KURK	**Kurchatov**	**48.40 303**	*ce*P	**P**	**06 28 51.0**	**-2.1**
KURK			pmax	pmax		
	comp=Z,26nm,1.1s					
GLK	**Glacier Lake**	**48.66 64**	*e*P	**P**	**06 28 58.0**	**+2.6**
MKAR	**Makanchi Array**	**48.76 297**	P	**P**	**06 28 53.9**	**-2.1**
	comp=Z,0.9nm,0.4s,baz=51,slow=6.6,SNR=15					
KMI	**Kunming**	**50.97 261**	P	**P**	**06 29 13.1**	**-0.1**
BVAR	**Borovoye Array**	**51.11 309**	P	**P**	**06 29 12.0**	**-1.7**
BVAR	**Borovoye Array**	**51.11 309**	P	**P**	**06 29 12.0**	**-1.7**
	comp=Z,4.0nm,0.4s,baz=64,slow=6.8,SNR=21					
BRVK	**Borovoye**	**51.14 309**	*e*P	**P**	**06 29 12.2**	**-1.7**
	comp=Z,14nm,1.1s					
BRVK	**Borovoye**	**51.14 309**	*d i*P	**P**	**06 29 12.1**	**-1.7**
BRVK			pmax	pmax		
	comp=Z,13nm,1.2s					
ARCES	**ARCESS Array B**	**54.14 342**	P	**P**	**06 29 34.5**	**-1.4**
	comp=Z,5.7nm,0.9s,baz=26,slow=7.7,SNR=6.5					
ARU	**Arti**	**54.18 318**	*e*P	**P**	**06 29 35.0**	**-1.3**
	comp=Z,5.0nm,0.6s					
ARU	**Arti**	**54.18 318**	*d i*P	**P**	**06 29 35.6**	**-0.7**
ARU			S	**S**	**06 37 08.8**	**-2.7**
ARU			pmax	pmax		
	comp=Z,4.0nm,0.6s					
ARU	**Arti**	**54.18 318**	P	**P**	**06 29 34.4**	**-1.9**
	comp=Z,1.9nm,0.5s,baz=42,slow=2.7,SNR=5.5					
PRGR	**Permogore**	**55.27 328**	*e*P	**P**	**06 29 42.8**	**-1.3**
PRGR			pmax	pmax		
	comp=Z,7.0nm,0.5s					
TMCR	**Tamitsa**	**55.62 333**	*e*P	**P**	**06 29 45.7**	**-0.9**
AAK	**Ala-Archa**	**55.69 297**	*e*P	**P**	**06 29 46.8**	**-0.8**
	comp=Z,2.5nm,0.8s					
AAK	**Ala-Archa**	**55.69 297**	P	**P**	**06 29 46.5**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=77,slow=2.5,SNR=4.5					
NV01	**Mina Array Sit**	**55.76 70**	*e*P	**P**	**06 29 50.0**	**+1.8**
NVAR	**Mina Array Bea**	**55.76 70**	P	**P**	**06 29 50.0**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=310,slow=7.0,SNR=3.4					
PANO	**Nakornpanom**	**55.93 253**	P	P	06 30 05.9	+16
KSH	**Kashi**	**56.98 293**	P	**P**	**06 29 58.6**	**+1.8**
PHRA	**Phrae**	**57.49 258**	P	**P**	**06 30 02.5**	**+2.0**
	comp=Z,1.3nm,1.1s					
KK31	**Karatay Array**	**57.52 300**	*e*P	**P**	**06 29 59.5**	**-1.0**
	comp=Z,4.6nm,1.0s					
KKAR	**Karatay Array**	**57.52 300**	*e*P	**P**	**06 29 59.0**	**-1.5**
	comp=Z,4.6nm,1.0s					
PDAR	**Pinedale Array**	**57.67 61**	P	**P**	**06 30 04.6**	**+2.8**
	comp=Z,0.5nm,0.7s,baz=298,slow=3.2,SNR=4.3					
KLMR	**Klimovskoe**	**57.79 330**	*e*P	**P**	**06 30 00.0**	**-2.0**
KLMR			pmax	pmax		
	comp=Z,15nm,1.1s					
CMMT	**Chiang Mai**	**58.02 259**	P	**P**	**06 30 07.6**	**+3.4**
CMAR	**Chiang Mai Arr**	**58.30 259**	*ce*P	**P**	**06 30 07.1**	**+0.9**
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.4s					
CMAR	**Chiang Mai Arr**	**58.30 259**	P	**P**	**06 30 06.8**	**+0.6**
	comp=Z,1.4nm,0.4s,baz=25,slow=7.1,SNR=12					
AKTO	**Aktyubinsk**	**58.58 313**	P	**P**	**06 30 06.1**	**-1.6**
	comp=Z,1.5nm,0.4s,baz=92,slow=10,SNR=6.0					
FINES	**FINESS Array B**	**60.97 337**	*ce*P	**P**	**06 30 23.8**	**-0.2**
FINES			pmax	pmax		
	comp=Z,2.0nm,0.4s					
FINES	**FINESS Array B**	**60.97 337**	P	**P**	**06 30 23.9**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=34,slow=7.5,SNR=19					
OBN	**Obninsk**	**63.35 328**	⇑*e*P	**P**	**06 30 38.6**	**-1.4**
OBN			*e*SP	**pwP**	**06 30 54.1**	**+4.1**
OBN			*e*S	S	06 38 58.0	-12
OBN			pmax	pmax		
	comp=Z,10.0nm,1.1s					
OBN			MLR	MLR		
	comp=Z,2μm,16.0s					
NB2	**NORSAR Subarra**	**64.39 344**	P	**P**	**06 30 47.4**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=23,slow=6.5					
NOA	**NORSAR Array B**	**64.39 344**	P	**P**	**06 30 46.8**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=16,slow=5.4,SNR=5.1					
GEYT	**Alibeck**	**67.76 303**	P	**P**	**06 31 08.7**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=341,slow=3.1,SNR=7.6					
AKASG	**Malin Array Be**	**69.45 329**	*e*P	**P**	**06 31 18.2**	**-0.9**
AKASG	**Malin Array Be**	**69.45 329**	P	**P**	**06 31 18.5**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=31,slow=6.5,SNR=18					
AKBB	**Malin Array Si**	**69.45 329**	*e*P	**P**	**06 31 18.7**	**-0.4**
	comp=Z,11nm,1.1s					
KIEV	**Kiev**	**69.46 329**	⇑*i*P	**P**	**06 31 18.3**	**-0.9**
KIEV	**Kiev**	**69.46 329**	*i*P	**P**	**06 31 18.3**	**-0.9**
KIEV			pmax	pmax		
	comp=Z,11nm,1.1s					
KIV	**Kislovodsk**	**70.22 317**	*e*P	**P**	**06 31 20.8**	**-3.3**
KIV			pmax	pmax		
	comp=Z,19nm,1.0s					
KBZ	**Khabaz**	**70.31 317**	*e*P	**P**	**06 31 24.5**	**-0.1**
KBZ	**Khabaz**	**70.31 317**	P	**P**	**06 31 24.5**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=29,slow=1.8,SNR=6.8					
LTX	**Lajitas**	**70.69 67**	*e*P	**P**	**06 31 28.4**	**+1.1**
TXAR	**Lajitas Array**	**70.69 67**	P	**P**	**06 31 28.4**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=301,slow=4.6,SNR=7.0					
CLL	**Collm**	**73.21 339**	*e*P	**P**	**06 31 42.0**	**+0.2**
CLL			pmax	pmax		
	comp=Z,7.0nm,1.1s					
CLL	**Collm**	**73.21 339**	*e*P	**P**	**06 31 42.0**	**+0.2**
	comp=Z,7.0nm,1.1s					
BURAR	**Bucovina Array**	**73.41 330**	⇑*i*P	**P**	**06 31 43.7**	**+0.5**
MORC	**Moravsky Berou**	**73.58 336**	⇓*i*P	**P**	**06 31 44.7**	**+0.6**
LANS	**Liptovska Anna**	**73.66 335**	*e*P	**P**	**06 31 44.2**	**-0.4**
LANS	**Liptovska Anna**	**73.66 335**	*e*P	**P**	**06 31 44.2**	**-0.4**
BIZ	**Bicaz**	**73.74 329**	⇑*i*P	**P**	**06 31 45.9**	**+0.8**
VYHS	**Vyhne**	**74.43 335**	*e*P	**P**	**06 31 50.2**	**+1.2**
VYHS	**Vyhne**	**74.43 335**	*e*P	**P**	**06 31 50.2**	**+1.2**
MLR	**Muntele Rosu**	**75.08 329**	⇑*i*P	**P**	**06 31 56.3**	**+3.3**
KHC	**Kasperske Hory**	**75.12 338**	⇑*i*P	**P**	**06 31 53.8**	**+0.7**
KHC			pmax	pmax		
	comp=Z,5.0nm,0.8s					
KHC	**Kasperske Hory**	**75.12 338**	*e*P	**P**	**06 31 54.4**	**+1.3**
GEC2	**GERESS Array S**	**75.36 338**	*e*P	**P**	**06 31 54.6**	**+0.1**
	comp=Z,1.9nm,0.8s					
GERES	**GERESS Array B**	**75.36 338**	P	**P**	**06 31 54.6**	**+0.1**
	comp=Z,0.3nm,0.2s,baz=59,slow=3.9,SNR=4.8					
VOIR		**75.41 329**	⇓*i*P	**P**	**06 31 55.6**	**+0.7**
WR1	**Warramunga Arr**	**75.47 205**	*e*P	**P**	**06 31 57.7**	**+2.5**
WRA	**Warramunga Arr**	**75.47 205**	P	**P**	**06 31 57.7**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=12,slow=5.9,SNR=4.2					
ARR	**Arges**	**75.61 330**	⇑*i*P	**P**	**06 31 56.9**	**+0.9**
BRTR	**Keskin Array B**	**77.42 321**	P	**P**	**06 32 06.5**	**+0.1**
	comp=Z,1.8nm,1.0s,baz=69,slow=4.8,SNR=9.1					
AS31	**Alice Springs**	**79.14 205**	*e*P	**P**	**06 32 17.6**	**+1.8**
	comp=Z,0.7nm,1.0s					
ASAR	**Alice Springs**	**79.14 205**	P	**P**	**06 32 17.6**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=19,slow=5.6,SNR=4.4					
ESDC	**Sonseca Array**	**87.43 348**	P	**P**	**06 32 58.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=6.1,slow=5.8,SNR=6.2					

*IDC **21** 06:21:10.7±0.9, 24°.85N×123°.38E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.8/52, mbtmp4.0/9, Error ellipse: s-maj=30.4km s-min=17.2km az=76.0*

*JMA **21** 06:21:11.5±0.2, 24°.93N×123°.41E, h15km, M4.4*
*ISCJB **21** 06:21:12.6±0.8, 24°.86N±0°.06×123°.38E±0°.03, h24km±7km, mb4. 1/12, Error ellipse: s-maj=9.4km s-min=4.7km az=0.4*
*NEIC **21** 06:21:13.7±0.9, 24°.82N×123°.33E, h21km±8km, mb4.3/3, Error ellipse: s-maj=18.6km s-min=9.4km az=126.0*

ISC 21 06:21:12.8±1.5, 24°.80N±0°.06×123°.41E±0°.03, h16km±10km, n36, σ0°69/42, mb4.0/12, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.49**	**227**	*e*Pg	**Pb**	**06 21 22.9**	**-0.2**
YOJ	**Yonaguni jima**	**0.49**	**227**	P	**Pb**	**06 21 22.8**	**-0.3**
YOJ				*e*S	**Sb**	**06 21 30.3**	**+0.2**
JYNG	**Yonagunijimaku**	**0.55**	**230**	P	**Pb**	**06 21 23.6**	**-0.4**
JYNG				*e*S	**Sb**	**06 21 31.7**	**+0.1**
IRIF	**Iriomote-Funau**	**0.55**	**148**	P	**Pb**	**06 21 24.0**	**-0.1**
IRIF				S	**Sn**	**06 21 33.6**	**-1.2**
JKRS	**Kuro-shima**	**0.79**	**136**	P	**Pg**	**06 21 28.0**	**-0.1**
JKRS				S	**Sn**	**06 21 40.1**	**-0.5**
JIJ	**Ishigaki jima**	**0.80**	**123**	P	**Pb**	**06 21 27.6**	**-0.7**
JIJ				S	**Sg**	**06 21 39.5**	**+0.6**
HATJ	**Hateruma jima**	**0.83**	**154**	P	**Pg**	**06 21 28.8**	**-0.1**
HATJ				*e*S	**Sn**	**06 21 41.6**	**-0.1**
JISG	**Ishigakijimahi**	**0.85**	**104**	P	**Pb**	**06 21 28.1**	**-1.1**
JTJ	**Tarama**	**1.19**	**98**	P	**Pn**	**06 21 34.2**	**-0.6**
JIRB	**Irabujima**	**1.60**	**89**	P	**Pn**	**06 21 40.5**	**0.0**
JIKM	**Ikemajima**	**1.68**	**85**	P	**Pn**	**06 21 41.4**	**-0.1**
JMJ2	**Miyako jima3**	**1.75**	**92**	P	**Pn**	**06 21 42.9**	**+0.4**
TATO	**Taipei**	**1.75**	**276**	*e*Pn	**Pn**	**06 21 42.0**	**-0.6**
NACB	**Ninganchiao**	**1.77**	**250**	*e*Pn	**Pn**	**06 21 42.2**	**-0.6**
YHNB	**Yeheng**	**1.85**	**266**	*e*Pn	**Pn**	**06 21 43.3**	**-0.7**
YULB	**Yu-li**	**2.38**	**234**	*e*Pn	**Pn**	**06 21 50.6**	**-0.7**
SSLB	**Suanglung**	**2.46**	**246**	*e*Pn	**Pn**	**06 21 51.7**	**-0.6**
TWG	**Pinlang**	**2.91**	**228**	*e*Pn	**Pn**	**06 21 57.6**	**-0.9**
TPUB	**Ta-pu**	**2.95**	**240**	*e*Pn	**Pn**	**06 22 00.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**23.58**	**259**	P	**P**	**06 26 24.0**	**+1.0**
	1.2nm,0.4s,baz=60,slow=7.1,SNR=8.2						
KLR	**Kul'dur**	**25.24**	**13**	P	**P**	**06 26 39.1**	**+1.1**
	1.1nm,0.9s,baz=242,slow=9.6,SNR=2.3						
SONA0	**Songino Array**	**26.65**	**334**	*e*P	**P**	**06 26 51.3**	**+0.4**
SONM	**Songino Array**	**26.65**	**334**	P	**P**	**06 26 51.3**	**+0.4**
	1.9nm,0.8s,baz=147,slow=8.8,SNR=9.9						
MK32	**Makanchi Array**	**39.33**	**315**	*e*P	**P**	**06 28 40.2**	**-1.0**
MKAR	**Makanchi Array**	**39.33**	**315**	P	**P**	**06 28 40.2**	**-1.0**
	1.3nm,0.8s,baz=103,slow

*ISCJB **21** 06:27:19.7±2.2,24.°96N±0.°06×123.°41E±0.°04, h15km±16km, mb3.5/5, Error ellipse: s-maj=9.9km s-min=5.8km az=171.5*
*JMA **21** 06:27:20.0±0.1,24.°93N×123.°42E, h23km, M3.3*
*IDC **21** 06:27:20.4±1.1,24.°89N×124.°51E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/51, mbtmp3.6/5, Error ellipse: s-maj=67.9km s-min=21.3km az=72.0*

ISC 21 06:27:21.3±1.5, 24.°77N±0.°06×123.°52E±0.°04, h3km±10km, n13, σ1§46/21, mb3.6/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.47**	**156**	P	**Pb**	**06 27 32.5**	**+0.2**
IRIF				S	**Sb**	**06 27 41.6**	**+1.9**
YOJ	**Yonaguni jima**	**0.56**	**237**	P	**Pg**	**06 27 31.5**	**-0.4**
YOJ				S	**Sg**	**06 27 39.0**	**-0.2**
JYNG	**Yonagunijimaku**	**0.61**	**239**	P	**Pg**	**06 27 32.4**	**-0.6**
JYNG				S	**Sg**	**06 27 41.1**	**+0.1**
JKRS	**Kuro-shima**	**0.69**	**140**	P	**Pb**	**06 27 36.2**	**+0.2**
JKRS				eS	**Sb**	**06 27 47.6**	**+1.6**
JIJ	**Ishigaki jima**	**0.70**	**125**	P	**Pb**	**06 27 35.7**	**-0.4**
JIJ				S	**Sb**	**06 27 46.6**	**+0.5**
JISG	**Ishigakijimahi**	**0.74**	**104**	P	**Pb**	**06 27 36.3**	**-0.5**
JISG				S	**Sb**	**06 27 48.6**	**+1.2**
HATJ	**Hateruma jima**	**0.76**	**160**	P	**Pb**	**06 27 37.1**	**0.0**
HATJ				eS	**Sn**	**06 27 50.0**	**-0.8**
JTJ	**Tarama**	**1.08**	**97**	P	**Pg**	**06 27 41.6**	**-0.4**
JTJ				eS	**Sg**	**06 27 56.6**	**+0.5**
SONM	**Songino Array**	**26.72**	**334**	P	**P**	**06 33 05.2**	**+3.2**
	0.4nm,0.4s,baz=132,slow=8.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**40.94**	**326**	P	**P**	**06 35 06.8**	**+1.9**
	0.7nm,0.5s,baz=134,slow=9.6,SNR=3.3						
WRA	**Warramunga Arr**	**45.67**	**166**	P	**P**	**06 35 42.2**	**-1.3**
	1.5nm,0.7s,baz=350,slow=9.3,SNR=6.0						
ASAR	**Alice Springs**	**49.19**	**167**	P	**P**	**06 36 10.0**	**-0.9**
	0.4nm,0.6s,baz=352,slow=6.8,SNR=5.6						
YKA	**Yellowknife Ar**	**81.60**	**23**	P	**P**	**06 39 37.2**	**-3.0**
	0.1nm,0.6s,baz=305,slow=4.4,SNR=3.4						

MEX 21 06:27:29.0±0.5, 15.°59N×96.°00W, h3km±4km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.20**	**329**	eP	Pg	06 27 33.0	+0.1
HUIG				eS	Sg	06 27 35.4	-0.2
CMIG	**Matias Romero**	**1.83**	**36**	eP	Pn	06 27 58.0	-3.4
CMIG				i S	Sn	06 28 20.5	-4.7
PNIG	**Pinotepa**	**2.19**	**292**	i P	Pn	06 28 03.2	-3.2
PNIG				i S	Sn	06 28 29.9	-4.2
PCIG		**2.68**	**87**	i P	Pn	06 28 09.2	-3.9
PCIG				i S	Sn	06 28 41.5	-4.6

*IDC **21** 06:28:45.7±2.5,51.°85N×160.°38E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/55, mbtmp3.7/8, ML2.9/1, Error ellipse: s-maj=76.5km s-min=20.3km az=17.0*
*KRSC **21** 06:28:48.2±10.0,52.°20N×160.°88E, h50km±10km, ML4.1*

ISC 21 06:28:48.9±2.6, 52.°22N±0.°07×160.°73E±0.°05, h14km±15km, n27, σ1§14/39, mb3.9/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.98**	**334**	eP	**Pb**	**06 29 07.8**	**+0.1**
SPN				eS	**Sb**	**06 29 20.1**	**-0.4**
NLC	**Nalytchevo**	**1.27**	**319**	P	**Pn**	**06 29 12.5**	**+0.2**
NLC				S	**Sg**	**06 29 30.2**	**+0.2**
RUS	**Russkaya**	**1.38**	**280**	eP	**Pb**	**06 29 14.0**	**-0.4**
RUS				eS	**Sn**	**06 29 31.0**	**-0.7**
DALK	**Dalny**	**1.46**	**305**	eP	**Pn**	**06 29 15.3**	**+0.6**
DALK				eS	**Sn**	**06 29 33.5**	**-0.1**
UGLR	**Uglovaya**	**1.53**	**311**	eP	**Pb**	**06 29 16.9**	**-0.1**
SDLR	**Sedlovina**	**1.55**	**314**	eP	**Pn**	**06 29 16.7**	**+0.6**
SMAR	**Somma**	**1.57**	**313**	P	**Pb**	**06 29 17.5**	**-0.4**
MTVR	**Mutnovka**	**1.58**	**281**	P	**Pn**	**06 29 17.2**	**+0.5**
MTVR				S	**Sn**	**06 29 37.3**	**+0.3**
AVH	**Avacha**	**1.60**	**312**	P	**Pb**	**06 29 17.8**	**-0.5**
KRER	**Koryakskii**	**1.62**	**313**	P	**Pn**	**06 29 17.9**	**+0.6**
KOK	**Koryaka**	**1.67**	**311**	eP	**Pb**	**06 29 18.8**	**-0.6**
KDTR	**Khodutka, Kamc**	**1.69**	**257**	eP	**Pn**	**06 29 18.0**	**+0.1**
KDTR				eS	**Sn**	**06 29 38.3**	**-1.0**
KRMR	**Karymshinskiy**	**1.70**	**292**	eP	**Pn**	**06 29 18.8**	**+0.7**
KRMR				eS	**Sn**	**06 29 40.1**	**+0.4**
ASAK	**Asacha**	**1.75**	**277**	eP	**Pb**	**06 29 19.9**	**-0.8**
ASAK				S	**Sb**	**06 29 43.2**	**+0.7**
PETK	**Petropavlovsk-**	**2.05**	**297**	Pn	**Pn**	**06 29 23.7**	**+0.8**
	18nm,0.3s,baz=106,slow=18,SNR=90						
PETK				Sn	**Sb**	**06 29 50.4**	**-0.8**
	13nm,0.3s,baz=73,slow=21,SNR=8.9						
APC	**Apacha**	**2.29**	**289**	eP	**Pb**	**06 29 28.1**	**-1.9**
APC				S	**Sb**	**06 29 57.4**	**-0.7**
MKZ	**Mys Kozlova**	**2.42**	**14**	eP	**Pn**	**06 29 28.3**	**+0.3**
MKZ				eS	**Sn**	**06 29 55.7**	**-1.7**
KZV	**Kizimen**	**2.92**	**355**	P	**Pn**	**06 29 36.8**	**+1.8**
KBTR	**Krutoberegovo**	**4.18**	**16**	eP	**Pn**	**06 29 53.4**	**+1.2**
BKI	**Bering**	**4.32**	**44**	eP	**Pn**	**06 29 54.4**	**+0.3**
BKI				eS	**Sn**	**06 30 40.5**	**-3.7**
TIXI	**Tiksi**	**24.04**	**336**	P	**P**	**06 34 02.2**	**-0.8**
	1.3nm,0.3s,baz=149,slow=1.8,SNR=2.3						
MKAR	**Makanchi Array**	**48.89**	**297**	P	**P**	**06 37 32.3**	**-1.7**
	0.3nm,0.5s,baz=48,slow=8.1,SNR=4.4						
BVAR	**Borovoye Array**	**51.24**	**309**	P	**P**	**06 37 50.7**	**-1.0**
	0.7nm,0.4s,baz=51,slow=7.6,SNR=3.9						
PDAR	**Pinedale Array**	**57.62**	**61**	P	**P**	**06 38 40.8**	**+2.3**
	0.2nm,0.6s,baz=338,slow=2.1,SNR=2.5						
FINES	**FINESS Array B**	**61.08**	**337**	P	**P**	**06 39 03.1**	**+1.3**
	1.8nm,0.9s,baz=35,slow=7.5,SNR=3.3						
AKASG	**Malin Array Be**	**69.57**	**329**	P	**P**	**06 39 57.1**	**+0.2**
	0.6nm,0.5s,baz=30,slow=6.6,SNR=3.2						
TXAR	**Lajitas Array**	**70.62**	**67**	P	**P**	**06 40 04.9**	**+1.0**
	0.2nm,0.6s,baz=304,slow=6.4,SNR=3.3						

*MDD **21** 06:34:07.8±1.9,36.°36N×3.°54E, h30km±43km, mb4.3/20, Error ellipse: s-maj=18.3km s-min=10.7km az=169.0, PRXIMO*

ISC 21 06:34:07.3±1.2, 36.°49N±0.°07×3.°42E±0.°05, h18km, n26, σ1§62/37, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**1.63**	**100**	P	**Pg**	**06 34 40.0**	**+1.4**
SET	**Setif**	**1.63**	**100**	P	**Pg**	**06 34 40.0**	**+1.4**
DFRA	**Djebel Bou Aff**	**1.98**	**88**	P	**Pn**	**06 34 37.2**	**-2.8**
DFRA	**Djebel Bou Aff**	**1.98**	**88**	P	**Pn**	**06 34 37.2**	**-2.8**
EIBI	**Ibiza**	**3.02**	**328**	P	**Pn**	**06 34 54.6**	**+0.5**
	8.1nm,0.2s,SNR=12						
EIBI				S	**Sn**	**06 35 28.7**	**-1.1**
	15nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.30**	**352**	P	**Pn**	**06 34 58.1**	**0.0**
	6.0nm,0.3s,SNR=71						
ETOS				S	**Sn**	**06 35 34.8**	**-2.1**
	13nm,0.6s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.60**	**308**	P	**Pn**	**06 35 04.0**	**+1.8**
	18nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.96**	**291**	P	**Pn**	**06 35 06.3**	**-0.8**
	5.3nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**4.49**	**300**	P	**Pn**	**06 35 14.9**	**+0.4**
	4.4nm,0.3s,SNR=9.0						
ETOB				S	**Sn**	**06 36 03.9**	**-2.4**
	2.7nm,0.4s,SNR=7.9						
ECHE	**Chera**	**4.64**	**313**	P	**Pn**	**06 35 17.6**	**+1.1**
	5.3nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.93**	**323**	P	**Pn**	**06 35 21.0**	**+0.5**
	3.3nm,0.3s,SNR=11						
EMOS				S	**Sn**	**06 36 16.8**	**-0.4**
	5.4nm,0.5s,SNR=7.9						
SESP	**Santiago Espad**	**5.02**	**291**	P	**Pn**	**06 35 22.3**	**+0.5**
	4.4nm,0.4s,SNR=7.9						
SESP				S	**Sn**	**06 36 19.2**	**-0.3**
	2.7nm,0.3s,SNR=4.0						
ERTA	**Horta de San J**	**5.07**	**333**	S	**Sn**	**06 36 18.3**	**-2.1**
	4.9nm,0.5s,SNR=7.9						
EBER	**Berja**	**5.09**	**276**	P	**Pn**	**06 35 22.6**	**-0.1**
	4.5nm,0.6s,SNR=4.0						
EBER				S	**Sn**	**06 36 17.5**	**-3.6**
	70nm,1.4s,SNR=7.9						
EPOB	**Poblet**	**5.18**	**340**	P	**Pn**	**06 35 24.9**	**+0.9**
	0.6nm,0.2s,SNR=4.0						
EPOB				S	**Sn**	**06 36 21.3**	**-2.0**
	1.6nm,0.3s,SNR=4.0						
CFON	**Fontmartina**	**5.32**	**352**	P	**Pn**	**06 35 25.8**	**-0.1**
	2.7nm,0.2s,SNR=10						
CFON				S	**Sn**	**06 36 23.9**	**-2.7**
	2.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.35**	**286**	P	**Pn**	**06 35 27.6**	**+1.3**
	3.6nm,0.5s,SNR=7.9						
EQES				S	**Sn**	**06 36 27.9**	**+0.5**
	2.9nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**5.61**	**345**	P	**Pn**	**06 35 31.7**	**+1.9**
	11nm,0.2s,SNR=17						
EMIR				S	**Sn**	**06 36 32.6**	**-1.3**
	8.0nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**5.96**	**356**	P	**Pn**	**06 35 36.0**	**+1.4**
	5.6nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**6.00**	**356**	P	**Pn**	**06 35 36.1**	**+1.0**
	3.4nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**6.08**	**350**	P	**Pn**	**06 35 37.5**	**+1.1**
	1.3nm,0.4s,SNR=7.9						
ETOR	**Torete**	**6.08**	**317**	P	**Pn**	**06 35 38.4**	**+2.1**
	2.1nm,0.3s,SNR=7.9						
CSOR	**Sort**	**6.13**	**344**	P	**Pn**	**06 35 38.0**	**+0.9**
	2.0nm,0.3s,SNR=6.0						
CSOR				S	**Sn**	**06 36 45.2**	**-1.7**
	3.2nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**6.85**	**299**	P	**Pn**	**06 35 47.0**	**+0.2**
	1.1nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**9.49**	**318**	P	**Pn**	**06 36 24.8**	**+1.7**
	5.5nm,0.6s,SNR=8.4						
ECAL	**Calabor**	**9.57**	**308**	P	**Pn**	**06 36 24.7**	**+0.5**
	3.5nm,0.3s,SNR=6.2						

KRSC 21 06:53:42.2±10.0, 52.°16N×160.°74E, h49km±10km, ML4.1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.03**	**335**	i P	Pn	06 54 01.8	+1.4
SPN				eS	Sn	06 54 14.4	+0.7
NLC	**Nalytchevo**	**1.32**	**321**	eP	Pn	06 54 06.3	+2.1
NLC				eS	Sn	06 54 21.6	+1.0
RUS	**Russkaya**	**1.39**	**282**	eP	Pn	06 54 06.6	+1.4
RUS				eS	Sn	06 54 22.8	+0.4
DALK	**Dalny**	**1.49**	**307**	eP	Pn	06 54 08.2	+1.7
DALK				eS	Sn	06 54 26.8	+2.0
UGLR	**Uglovaya**	**1.57**	**313**	eP	Pn	06 54 10.3	+2.6
SDLR	**Sedlovina**	**1.59**	**316**	eP	Pn	06 54 10.2	+2.2
MTVR	**Mutnovka**	**1.60**	**283**	eP	Pn	06 54 10.1	+1.9
MTVR				eS	Sn	06 54 29.1	+1.4
SMAR	**Somma**	**1.61**	**314**	eP	Pn	06 54 10.7	+2.2
AVH	**Avacha**	**1.64**	**313**	eP	Pn	06 54 11.5	+2.8
KDTR	**Khodutka, Kamc**	**1.68**	**259**	eP	Pn	06 54 10.7	+1.5
KDTR				eS	Sn	06 54 29.7	+0.2
KRMR	**Karymshinskiy**	**1.73**	**294**	eP	Pn	06 54 11.9	+2.1
KRMR				eS	Sn	06 54 32.1	+1.5
KRX	**Arik**	**1.75**	**314**	eP	Pn	06 54 12.8	+2.6
ASAK	**Asacha**	**1.76**	**278**	P	Pn	06 54 12.8	+2.5
ASAK				S	Sn	06 54 35.3	+3.8
APC	**Apacha**	**2.31**	**291**	P	Pn	06 54 21.1	+3.3
APC				S	Sn	06 54 49.2	+4.2
MKZ	**Mys Kozlova**	**2.47**	**14**	eP	Pn	06 54 23.3	+3.3
MKZ				eS	Sn	06 54 51.9	+3.0
KZV	**Kizimen**	**2.97**	**355**	eS	Sn	06 55 05.3	+3.9
TUMD	**Tumrok D**	**3.05**	**356**	P	Pn	06 54 32.7	+4.7
TUMD				S	Sn	06 55 06.7	+3.4
TUMR	**Tumrok**	**3.15**	**354**	P	Pn	06 54 33.9	+4.5
KBTR	**Krutoberegovo**	**4.24**	**16**	P	Pn	06 54 48.8	+4.7
BKI	**Bering**	**4.36**	**44**	P	Pn	06 54 48.8	+3.0
BKI				S	Sn	06 55 36.7	+1.5

*KRSC **21** 06:56:56.1±10.0, 51.°94N×160.°79E, h61km±10km, ML4.3*
*IDC **21** 06:56:57.9±0.8, 52.°28N×160.°09E, h0km, mb3.8/15, mb1 4.0/16, mb1mx3.8/41, mbtmp3.8/16, ML3.9/1, Error ellipse: s-maj=23.6km s-min=17.0km az=143.0*
*ISCJB **21** 06:56:58.5±0.5, 52.°01N±0.°03×160.°72E±0.°05, h30km, mb3.8/16, Error ellipse: s-maj=4.9km s-min=4.1km az=152.7*
*MOS **21** 06:57:00.6±1.0, 52.°12N×160.°52E, h42km, mb4.3/2, Error ellipse: s-maj=9.4km s-min=5.4km az=110.4*
*NEIC **21** 06:57:02.6±1.9, 52.°18N×160.°38E, h35km, mb4.5/1, Error ellipse: s-maj=17.9km s-min=15.8km az=107.0*

ISC 21 06:57:00.9±0.6, 52.°09N±0.°04×160.°49E±0.°04, h30km, n93, σ1§42/115, mb3.9/16, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.04**	**345**	eP	**Pn**	**06 57 18.3**	**-1.2**
SPN				eS	**Sb**	**06 57 35.4**	**+1.7**
SPN	**Mys Shipunski**	**1.04**	**345**	PN	**Pn**	**06 57 18.3**	**-1.2**
SPN				S	**Sb**	**06 57 35.4**	**+1.7**
RUS	**Russkaya**	**1.26**	**286**	eP	**Pn**	**06 57 21.8**	**-0.6**
RUS				eS	**Sb**	**06 57 39.1**	**-0.7**
RUS	**Russkaya**	**1.26**	**286**	PN	**Pn**	**06 57 21.8**	**-0.6**
RUS				S	**Sb**	**06 57 39.1**	**-0.7**
NLC	**Nalytchevo**	**1.28**	**328**	eP	**Pn**	**06 57 23.0**	**+0.2**
NLC				eS	**Sb**	**06 57 43.0**	**+2.5**
NLC	**Nalytchevo**	**1.28**	**328**	PN	**Pn**	**06 57 23.0**	**+0.2**
NLC				S	**Sb**	**06 57 43.0**	**+2.5**
DALK	**Dalny**	**1.41**	**312**	eP	**Pn**	**06 57 24.2**	**-0.3**
DALK				S	**Sb**	**06 57 44.7**	**+0.5**
DALK	**Dalny**	**1.41**	**312**	PN	**Pn**	**06 57 24.2**	**-0.3**
DALK				S	**Sb**	**06 57 44.7**	**+0.5**
PET	**Petropavlovsk**	**1.46**	**311**	ePn	**Pn**	**06 57 24.2**	**-0.9**
PET	**Petropavlovsk**	**1.46**	**311**	ePN	**Pn**	**06 57 24.6**	**-0.5**
PET				eS	**Sb**	**06 57 46.5**	**+1.1**
PET				pmax	pmax		
	comp=Z,537nm,0.5s						
PET				smax	smax		
	comp=E,764nm,0.6s						
PET				smax	smax		
	comp=N,681nm,0.5s						
MTVR	**Mutnovka**	**1.47**	**286**	P	**Pn**	**06 57 25.3**	**-0.1**
MTVR				S	**Sb**	**06 57 45.2**	**-0.7**
MTVR	**Mutnovka**	**1.47**	**286**	PN	**Pn**	**06 57 25.3**	**-0.1**
MTVR				S	**Sb**	**06 57 45.2**	**-0.7**
UGLR	**Uglovaya**	**1.51**	**319**	eP	**Pn**	**06 57 26.6**	**+0.6**
UGLR	**Uglovaya**	**1.51**	**319**	PN	**Pn**	**06 57 26.6**	**+0.6**
KDTR	**Khodutka, Kamc**	**1.52**	**260**	eP	**Pn**	**06 57 25.0**	**-0.9**
KDTR				eS	**Sn**	**06 57 45.0**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.52**	**260**	PN	**Pn**	**06 57 25.0**	**-0.9**
KDTR				S	**Sn**	**06 57 45.0**	**+0.4**
SDLR	**Sedlovina**	**1.54**	**321**	eP	**Pn**	**06 57 26.8**	**+0.4**
SDLR	**Sedlovina**	**1.54**	**321**	PN	**Pn**	**06 57 26.8**	**+0.4**
GRL	**Gorelyy**	**1.55**	**288**	eP	**Pn**	**06 57 27.0**	**+0.5**
GRL	**Gorelyy**	**1.55**	**288**	PN	**Pn**	**06 57 27.0**	**+0.5**
SMAR	**Somma**	**1.56**	**319**	P	**Pb**	**06 57 27.7**	**-1.5**
SMAR	**Somma**	**1.56**	**319**	PN	**Pb**	**06 57 27.7**	**-1.5**
AVH	**Avacha**	**1.58**	**319**	P	**Pn**	**06 57 27.7**	**+0.7**
AVH	**Avacha**	**1.58**	**319**	PN	**Pn**	**06 57 27.7**	**+0.7**
KRER	**Koryakskii**	**1.61**	**320**	P	**Pn**	**06 57 27.8**	**+0.4**
KRER	**Koryakskii**	**1.61**	**320**	PN	**Pn**	**06 57 27.8**	**+0.4**
ASAK	**Asacha**	**1.62**	**281**	eP	**Pn**	**06 57 27.7**	**+0.3**
ASAK				eS	**Sb**	**06 57 51.4**	**+1.3**
ASAK	**Asacha**	**1.62**	**281**	PN	**Pn**	**06 57 27.7**	**+0.3**
ASAK				S	**Sb**	**06 57 51.4**	**+1.3**
KRMR	**Karymshinskiy**	**1.62**	**298**	P	**Pn**	**06 57 28.3**	**+0.9**
KRMR				S	**Sb**	**06 57 51.4**	**+1.3**
KRMR	**Karymshinskiy**	**1.62**	**298**	PN	**Pn**	**06 57 28.3**	**+0.9**
KRMR				S	**Sb**	**06 57 51.4**	**+1.3**
KOK	**Koryaka**	**1.65**	**318**	P	**Pb**	**06 57 29.2**	**-1.4**
KOK	**Koryaka**	**1.65**	**318**	PN	**Pb**	**06 57 29.2**	**-1.4**
KRX	**Arik**	**1.69**	**319**	P	**Pn**	**06 57 29.2**	**+0.7**
KRX	**Arik**	**1.69**	**319**	PN	**Pn**	**06 57 29.2**	**+0.7**
PEA0B	**Petropavlovsk-**	**1.98**	**302**	ePn	**Pn**	**06 57 32.9**	**+0.5**
PETK	**Petropavlovsk-**	**1.98**	**302**	ePn	**Pn**	**06 57 32.8**	**+0.4**
PETK	**Petropavlovsk-**	**1.98**	**302**	ePN	**Pn**	**06 57 32.8**	**+0.4**
PETK	**Petropavlovsk-**	**1.98**	**302**	Pn	**Pn**	**06 57 32.6**	**+0.2**
	comp=N,18nm,0.3s,baz=109,slow=18,SNR=20						
PETK				Sn	**Sb**	**06 58 00.8**	**+0.3**
	comp=N,28nm,0.3s,baz=98,slow=20,SNR=8.4						
PEA1	**Petropavlovsk-**	**1.98**	**302**	ePn	**Pn**	**06 57 32.6**	**+0.2**
PEA1				eSn	**Sb**	**06 58 00.8**	**+0.3**
APC	**Apacha**	**2.20**	**294**	eP	**Pn**	**06 57 36.1**	**+0.8**
APC	**Apacha**	**2.20**	**294**	PN	**Pn**	**06 57 36.1**	**+0.8**
MKZ	**Mys Kozlova**	**2.58**	**16**	P	**Pn**	**06 57 38.9**	**-1.6**
MKZ				S	**Sn**	**06 58 08.9**	**-1.9**
MKZ	**Mys Kozlova**	**2.58**	**16**	PN	**Pn**	**06 57 38.9**	**-1.6**
MKZ				S	**Sn**	**06 58 08.9**	**-1.9**
KZV	**Kizimen**	**3.03**	**358**	eP	**Pn**	**06 57 48.2**	**+1.3**
KZV				eS	**Sn**	**06 58 23.6**	**+1.4**
KZV	**Kizimen**	**3.03**	**358**	PN	**Pn**	**06 57 48.2**	**+1.3**
KZV				S	**Sn**	**06 58 23.6**	**+1.4**
SKR	**Severo-Kuril's**	**3.08**	**244**	eP	**Pn**	**06 57 47.3**	**-0.2**
SKR	**Severo-Kuril's**	**3.08**	**244**	ePN	**Pn**	**06 57 47.2**	**-0.2**
SKR				pmax	pmax		
	comp=Z,36nm,0.5s						
TUMD	**Tumrok D**	**3.12**	**359**	eP	**Pn**	**06 57 48.3**	**+0.3**
TUMD				eS	**Sn**	**06 58 25.1**	**+0.9**
TUMR	**Tumrok**	**3.20**	**357**	eP	**Pn**	**06 57 50.3**	**+1.1**
TUMR	**Tumrok**	**3.20**	**357**	PN	**Pn**	**06 57 48.3**	**-0.9**
TUMR				S	**Sn**	**06 58 25.1**	**-1.3**
KBTR	**Krutoberegovo**	**4.35**	**17**	eP	**Pn**	**06 58 04.5**	**-0.3**
KBTR	**Krutoberegovo**	**4.35**	**17**	PN	**Pn**	**06 58 04.5**	**-0.3**
BKI	**Bering**	**4.51**	**44**	P	**Pn**	**06 58 05.8**	**-1.3**
BKI				S	**Sn**	**06 58 54.0**	**-4.5**
BKI	**Bering**	**4.51**	**44**	PN	**Pn**	**06 58 05.8**	**-1.3**
ASAJ	**Asahikawa**	**14.34**	**243**	Pn	**Pn**	**07 00 20.7**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=72,slow=20,SNR=3.7						
KLR	**Kul'dur**	**18.39**	**272**	P	**Pn**	**07 01 14.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=43,slow=10,SNR=6.5						
USRK	**Ussuriysk Ar.**	**20.49**	**259**	P	**P**	**07 01 34.3**	**-1.8**
	comp=Z,2.6nm,0.7s,baz=61,slow=12,SNR=4.7						
MAJO	**Matsushiro**	**22.13**	**234**	eP	**P**	**07 01 55.4**	**+1.5**
MAJO	**Matsushiro**	**22.13**	**234**	eP	**P**	**07 01 55.4**	**+1.5**
MJAR	**Matsushiro Arr**	**22.13**	**234**	P	**P**	**07 01 55.4**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=51,slow=12,SNR=5.0						
TIXI	**Tiksi**	**24.09**	**336**	eP	**P**	**07 02 12.2**	**-1.1**
TIXI	**Tiksi**	**24.09**	**336**	eP	**P**	**07 02 12.2**	**-1.1**
TIXI	**Tiksi**	**24.09**	**336**	P	**P**	**07 02 12.0**	**-1.3**
	comp=Z,2.5nm,0.3s,baz=126,slow=8.5,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**32.69**	**169**	T	T	07 39 37.7	
	baz=354						
H11N3	**WAKE ISLAND Hy**	**32.70**	**169**	T	T	07 39 20.3	
	baz=354,slow=74						
H11N1	**WAKE ISLAND Hy**	**32.70**	**169**	T	T	07 39 24.9	
	baz=354,slow=74						
SONA0	**Songino Array**	**34.38**	**285**	eS	**S**	**07 09 04.6**	**-6.2**
ZAK	**Zakamensk**	**35.06**	**290**	eP	**P**	**07 03 49.5**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
YKA	**Yellowknife Ar**	**43.74**	**42**	P	**P**	**07 05 03.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=297,slow=7.7,SNR=2.7						
YKB5	**Yellowknife Ar**	**43.74**	**42**	eP	**P**	**07 05 03.9**	**+0.9**
NVS	**Novosibirsk**	**43.88**	**306**	eP	P	07 04 56.4	-7.8
KURK	**Kurchatov**	**48.47**	**303**	eP	**P**	**07 05 38.6**	**-1.7**
	comp=Z,5.8nm,1.1s						
KURK	**Kurchatov**	**48.47**	**303**	eP	**P**	**07 05 38.6**	**-1.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MK32	**Makanchi Array**	**48.81**	**297**	eP	**P**	**07 05 41.2**	**-1.9**
MKAR	**Makanchi Array**	**48.81**	**297**	P	**P**	**07 05 41.2**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=62,slow=7.3,SNR=7.7						
ARCES	**ARCESS Array B**	**54.31**	**342**	P	**P**	**07 06 23.5**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=39,slow=7.6,SNR=5.4						
NV01	**Mina Array Sit**	**55.86**	**70**	eP	**P**	**07 06 40.3**	**+4.6**
NVAR	**Mina Array Bea**	**55.86**	**70**	eP	**P**	**07 06 40.3**	**+4.6**
	comp=Z,0.5nm,0.9s,baz=282,slow=7.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**58.22**	**259**	P	**P**	**07 06 52.9**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=36,slow=7.8,SNR=3.4						
FIA0	**FINESS Array S**	**61.13**	**337**	eP	**P**	**07 07 12.1**	**+0.3**
FIA0	**FINESS Array S**	**61.13**	**337**	eP	**P**	**07 07 12.1**	**+0.3**
FINES	**FINESS Array B**	**61.13**	**337**	P	**P**	**07 07 12.1**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=32,slow=6.3,SNR=9.5						
NB2	**NORSAR Subarra**	**64.57**	**344**	P	**P**	**07 07 34.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=22,slow=6.9						
NB200	**NORSAR Array S**	**64.57**	**344**	eP	**P**	**07 07 34.6**	**-0.1**
NOA	**NORSAR Array B**	**64.57**	**344**	P	**P**	**07 07 34.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=21,slow=6.7,SNR=5.3						
AKASG	**Malin

comp=E,296nm,0.3s,baz=102,slow=20,SNR=1413
PETK Sn **Sn** **07 03 19.2 +4.1**
comp=E,1μm,0.3s,baz=135,slow=16,SNR=19
PETK LR LR 07 03 49.7
comp=E,22μm,19.0s,baz=61,slow=56
PEA1 Petropavlovsk- 1.80 300 *e*Pn **Pn** **07 02 53.8 +0.4**
APC Apacha 2.03 291 *e*P **Pn** **07 02 57.4 +0.9**
APC *e*S **Sn** **07 03 25.6 +5.0**
APC Apacha 2.03 291 PN **Pn** **07 02 57.4 +0.9**
PAU Pauzhetka 2.28 252 *e*P **Pn** **07 02 59.2 -0.8**
PAU Pauzhetka 2.28 252 PN **Pn** **07 02 59.2 -0.8**
MKZ Mys Kozlova 2.48 20 *i* P **Pn** **07 03 01.5 -1.2**
MKZ *e*S **Sn** **07 03 30.3 -1.5**
MKZ Mys Kozlova 2.48 20 PN **Pn** **07 03 01.5 -1.2**
MKZ S **Sn** **07 03 30.3 -1.5**
KZV Kizimen 2.89 0 *e*P **Pn** **07 03 08.9 +0.5**
KZV Kizimen 2.89 0 PN **Pn** **07 03 08.9 +0.5**
TUMD Tumrok D 2.98 1 *e*P **Pn** **07 03 09.3 -0.2**
TUMD *e*S **Sn** **07 03 44.6 +0.6**
SKR Severo-Kuril's 3.03 241 *e*P **Pn** **07 03 09.0 -1.3**
SKR *e*S **Sn** **07 03 42.8 -2.4**
SKR Severo-Kuril's 3.03 241 *c i*PN **Pn** **07 03 08.9 -1.3**
TUMR Tumrok 3.06 359 *e*P **Pn** **07 03 11.8 +1.1**
TUMR Tumrok 3.06 359 PN **Pn** **07 03 09.3 -1.4**
TUMR S **Sn** **07 03 44.6 -1.5**
ALID Alaid 3.25 247 *e*P **Pn** **07 03 12.6 -0.8**
ALID Alaid 3.25 247 PN **Pn** **07 03 12.6 -0.8**
BZGR Bezymyannyi-Gr 3.72 4 *e*P **Pn** **07 03 21.5 +1.7**
BZGR Bezymyannyi-Gr 3.72 4 PN **Pn** **07 03 21.5 +1.7**
KIRR Kirishev 3.73 1 *e*P **Pn** **07 03 20.6 +0.7**
KIRR Kirishev 3.73 1 PN **Pn** **07 03 20.6 +0.7**
ESO Esso 3.81 347 *e*P **Pn** **07 03 21.9 +0.9**
ESO Esso 3.81 347 PN **Pn** **07 03 21.9 +0.9**
KOZ Kozyrevsk 3.84 357 *e*P **Pn** **07 03 22.3 +0.9**
KOZ Kozyrevsk 3.84 357 PN **Pn** **07 03 22.3 +0.9**
LGNR Loginova 3.87 3 *i* P **Pn** **07 03 23.4 +1.4**
LGNR Loginova 3.87 3 PN **Pn** **07 03 23.4 +1.4**
CIRR Tsirk 3.90 4 *e*P **Pn** **07 03 24.5 +2.2**
CIRR Tsirk 3.90 4 PN **Pn** **07 03 24.5 +2.2**
KRSR Krestovskiy 4.00 2 *e*P **Pn** **07 03 24.2 +0.6**
KRSR Krestovskiy 4.00 2 PN **Pn** **07 03 24.2 +0.6**
KLY Klyuchi 4.09 3 *e*P **Pn** **07 03 25.1 +0.3**
KLY Klyuchi 4.09 3 PN **Pn** **07 03 25.1 +0.3**
SRDR Sredinnyy 4.11 356 *e*P **Pn** **07 03 25.8 +0.8**
SRDR Sredinnyy 4.11 356 PN **Pn** **07 03 25.8 +0.8**
KBTR Krutoberegovo 4.25 19 *e*P **Pn** **07 03 26.3 -0.7**
KBTR Krutoberegovo 4.25 19 PN **Pn** **07 03 26.3 -0.7**
KBG Krutoberegovo 4.27 18 *e*P **Pn** **07 03 27.4 +0.2**
KBG Krutoberegovo 4.27 18 PN **Pn** **07 03 27.4 +0.2**
BDR Baidarnaya 4.38 7 *e*P **Pn** **07 03 30.7 +1.9**
BDR Baidarnaya 4.38 7 PN **Pn** **07 03 30.7 +1.9**
SMKR Semkarok 4.41 9 *e*P **Pn** **07 03 30.2 +0.9**
SMKR Semkarok 4.41 9 PN **Pn** **07 03 30.2 +0.9**
BKI Bering 4.50 46 *e*P **Pn** **07 03 28.8 -1.6**
BKI *e*S **Sn** **07 04 15.3 -6.1**
BKI Bering 4.50 46 PN **Pn** **07 03 28.8 -1.6**
MA2 Magadan 9.09 328 *e*Pn **Pn** **07 04 30.4 -2.7**
MA2 Magadan 9.09 328⇑*e*PN **Pn** **07 04 33.2 0.0**
MA2 Magadan 9.09 328 Pn **Pn** **07 04 33.4 +0.3**
comp=E,1.3nm,0.3s,baz=122,slow=11,SNR=9.6
MA2 LR LR 07 08 40.9
comp=E,6μm,18.8s,baz=275,slow=43
OKH Okha 10.57 284 *de*PN Pn 07 05 10.8 +17
OKH pmax pmax
comp=Z,700nm,11.2s
OKH MLR MLR
comp=Z,6μm,13.0s
TYV Tymovskoe 11.06 270 *e*PN **Pn** **07 05 03.7 +3.5**
TYV *e*S **Sn** **07 07 08.8 +6.4**
TYV pmax pmax
comp=Z,22nm,1.3s
TYV pmax pmax
comp=Z,5μm,4.0s
TYV smax smax
comp=E,14nm,1.1s
TYV MLR MLR
comp=Z,5μm,18.0s
SEY Seymchan 11.52 342⇓*e*PN **Pn** **07 05 08.7 +2.3**
SEY Seymchan 11.52 342 Pn **Pn** **07 05 08.3 +1.9**
comp=Z,0.3nm,0.3s,baz=146,slow=11,SNR=21
SEY LR LR 07 09 50.3
comp=Z,4μm,21.1s,baz=238,slow=40
NKL Nikolayevsk 11.93 282 *e*PN **Pn** **07 05 13.8 +1.8**
NKL MLR MLR
comp=E,3μm,15.0s
NKL MLR MLR
comp=Z,8μm,15.0s
UGL Uglegorsk 11.98 262 *e*PN **Pn** **07 05 15.4 +2.7**
UGL pmax pmax
comp=Z,97nm,0.7s
UGL MLR MLR
comp=E,5μm,11.0s
UGL MLR MLR
comp=Z,4μm,14.0s
YSS Yuzh-Sakhalins 12.53 252 *e*Pn **Pn** **07 05 18.0 -2.2**
YSS Yuzh-Sakhalins 12.53 252 *e*PN **Pn** **07 05 20.6 +0.4**
YSS pmax pmax
comp=Z,60nm,1.1s
YSS MLR MLR
comp=Z,3μm,15.5s
YSS MLR MLR
comp=E,2μm,17.0s
YUK Yuzh-Kuril'sk 12.63 235 PN **P** **07 05 27.6 -4.2**
YUK pmax pmax
comp=Z,280nm,1.3s
YUK pmax pmax
comp=N,141nm,0.7s
YUK pmax pmax
comp=E,118nm,0.7s
YUK MLR MLR
comp=E,3μm,15.0s
YUK MLR MLR
comp=Z,3μm,15.0s
YUK MLR MLR
comp=N,857nm,11.0s
ADK Adak 14.17 82 *e*Pn **Pn** **07 05 41.0 -1.5**
ADK Adak 14.17 82 *e*P **Pn** **07 05 41.0 -1.5**
ASAJ Asahikawa 14.29 242 Pn **Pn** **07 05 42.4 -1.8**
comp=N,3.1nm,0.3s,baz=76,slow=13,SNR=16
ASAJ LR LR 07 11 06.5
comp=N,2μm,20.8s,baz=266,slow=37
GRNR Gornyy 14.92 274 *e*P **P** **07 05 55.8 -1.4**
GRNR pmax pmax
comp=Z,21nm,1.0s
BILL Bilibino 16.12 8 *e*Pn **Pn** **07 06 07.3 -0.5**
comp=Z,136nm,0.9s
BILL Bilibino 16.12 8⇓*i*P **Pn** **07 06 07.3 -0.5**
BILL pmax pmax
comp=Z,151nm,1.0s
BILL MLR MLR
comp=Z,2μm,20.0s
TEY Ternei 17.18 255⇓*e*P **Pn** **07 06 21.6 +0.5**
TEY pmax pmax
comp=N,20nm,0.9s
TEY pmax pmax
comp=E,70nm,0.9s
TEY pmax pmax
comp=Z,80nm,0.9s
KLR Kul'dur 18.26 272 *c i*P **P** **07 06 34.1 0.0**
KLR pmax pmax
comp=Z,42nm,0.8s
KLR Kul'dur 18.26 272 P **Pn** **07 06 34.4 0.0**
comp=Z,1.5nm,0.3s,baz=71,slow=11,SNR=81
KLR LR LR 07 14 31.2
comp=Z,3μm,18.1s,baz=310,slow=40
YAK Yakutsk 19.10 313 *e*P **P** **07 06 40.9 -2.3**
YAK *e*S **S** **07 10 14.3 -2.7**
YAK pmax pmax
comp=Z,839nm,0.9s
YAK pmax pmax
comp=N,138nm,0.9s
YAK pmax pmax
comp=E,584nm,0.9s
YAK pmax pmax
comp=Z,997nm,1.2s
YAK pmax pmax
comp=N,240nm,1.3s
YAK pmax pmax
comp=E,730nm,1.4s
YAK smax smax
comp=N,276nm,1.2s
YAK smax smax
comp=E,380nm,1.5s
YAK MLR MLR
comp=Z,8μm,18.0s
YAK MLR MLR
comp=N,10μm,17.0s
YAK MLR MLR
comp=E,5μm,16.0s
ZEA Zeya 19.85 287 *e*P **P** **07 06 49.8 -1.6**
ZEA pmax pmax
comp=E,30nm,1.0s
ZEA pmax pmax
comp=Z,41nm,1.0s
ZEA MLR MLR
comp=Z,5μm,15.0s
ZEA MLR MLR
comp=N,1μm,14.0s
ZEA MLR MLR
comp=E,2μm,14.0s
USA0B Ussuriysk Arra 20.39 258 *e*P **P** **07 06 55.1 -2.3**
comp=E,80nm,1.0s
USRK Ussuriysk Ar. 20.39 258 *e*P **P** **07 06 54.5 -2.9**
USRK Ussuriysk Ar. 20.39 258 P **P** **07 06 55.1 -2.3**
comp=E,67nm,0.9s,baz=60,slow=10,SNR=57
USRK LR LR 07 16 02.1
comp=E,3μm,18.6s,baz=2.4,slow=41
MDJ Mudanjiang 21.62 262 P **P** **07 07 08.3 -2.3**
MDJ pmax pmax
comp=E,57nm,1.6s
MDJ Mudanjiang 21.62 262 *e*P **P** **07 07 08.6 -2.0**
comp=E,53nm,1.0s
MSHR Mys Shultsa 21.81 255⇓*i*P **P** **07 07 13.6 +0.9**
MJB9 Matsu-Tunnel 22.11 234 *e*P **P** **07 07 15.8 -0.2**
comp=E,175nm,1.0s
MAJO Matsushiro 22.11 234 *e*P **P** **07 07 15.6 -0.3**
comp=E,171nm,1.0s
MAJO Matsushiro 22.11 234 *ce*P **P** **07 07 15.7 -0.3**
MAJO pmax pmax
comp=Z,188nm,1.1s
MAT Matsushiro 22.11 234 P **P** **07 07 15.5 -0.5**
MAT S **S** **07 11 10.2 -6.6**
MJAR Matsushiro Arr 22.11 234 *e*P **P** **07 07 15.5 -0.5**
MJAR Matsushiro Arr 22.11 234 *e*P **P** **07 07 15.5 -0.5**
MJAR Matsushiro Arr 22.11 234 P **P** **07 07 16.3 +0.3**
comp=Z,86nm,1.1s,baz=22,slow=9.1,SNR=95
MJAR LR LR 07 16 33.6
comp=Z,2μm,19.9s,baz=10.0,slow=39
INU Inuyama 23.64 234 *e*P **P** **07 07 31.9 +0.3**
comp=Z,67nm,0.8s
RDOG Red Dog Mine 23.68 34 *e*P **P** **07 07 32.5 +0.8**
comp=Z,36nm,1.0s
TIXI Tiksi 23.91 336 *e*P **P** **07 07 32.1 -1.6**
TIXI Tiksi 23.91 336 *ce*P **P** **07 07 32.2 -1.5**
TIXI pmax pmax
comp=Z,138nm,0.8s
TIXI Tiksi 23.91 336 P **P** **07 07 32.5 -1.2**
comp=Z,147nm,0.8s,baz=128,slow=8.8,SNR=136
CN2 Changchun 24.58 264 *e*P **P** **07 07 37.0 -3.1**
CN2 *es*P sP 07 07 58.8 +1.8
CN2 pmax pmax
comp=Z,50nm,0.9s
CN2 pmax pmax
comp=Z,2μm,5.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
HIA Hailar 25.58 280 *e*P **P** **07 07 47.3 -1.8**
comp=Z,132nm,0.9s
HIA Hailar 25.58 280 *d i*P **P** **07 07 47.7 -1.5**
HIA pmax pmax
comp=Z,893nm,1.0s
IMAR Indian Mountai 26.57 41 *e*P **P** **07 07 58.9 +1.0**
BOD Bodaibo 26.67 301 *e*P **P** **07 07 56.4 -2.5**
BOD pmax pmax
comp=Z,42nm,1.1s
RSO Redoubt South 26.76 54 *e*P **P** **07 08 01.8 +1.9**
SNY Shenyang 26.82 262⇓P **P** **07 08 01.4 +1.1**
SNY pmax pmax
comp=Z,43nm,1.0s
KSRS Korea Array 27.01 250 P **P** **07 08 02.5 +0.5**
comp=Z,24nm,1.0s,baz=44,slow=9.0,SNR=41
KSRS PcP **PcP** **07 11 23.8 +1.4**
comp=Z,0.6nm,0.4s,baz=21,slow=2.8,SNR=5.5
KS15 Wonju Array Si 27.04 250 *e*P **P** **07 08 02.3 -0.1**
comp=Z,34nm,1.0s
KSAR Wonju Array Be 27.04 250 *e*P **P** **07 08 01.7 -0.6**
CAST Castle Rocks 27.05 47 *e*P **P** **07 08 04.0 +1.8**
comp=Z,6.0nm,1.0s
KDAK Kodiak Island 27.13 59 *e*P **P** **07 08 04.4 +1.4**
comp=Z,36nm,1.4s
KDAK Kodiak Island 27.13 59 P **P** **07 08 04.3 +1.3**
comp=Z,11nm,0.9s,baz=246,slow=6.2,SNR=8.2
BPAW Bear Paw Mtn. 27.56 46 *e*P **P** **07 08 08.3 +1.6**
comp=Z,9.3nm,1.0s
BPAW *e*PcP **PcP** **07 11 24.8 +1.5**
MLY Manley 27.71 44 *e*P **P** **07 08 09.7 +1.4**
comp=Z,6.1nm,1.0s
MLY *e*PcP **PcP** **07 11 24.8 +1.1**
TJN Taejon 28.08 249⇓*e*P **P** **07 08 12.5 +0.8**
COLD Coldfoot 28.15 39 *e*P **P** **07 08 12.5 +0.5**
comp=Z,6.0nm,1.2s
RC01 Rabbit Creek A 28.20 52 *e*P **P** **07 08 13.8 +1.3**
comp=Z,12nm,1.3s
RC01 *e*PcP **PcP** **07 11 26.3 +1.4**
SEW Seward 28.43 54 *e*P **P** **07 08 16.3 +1.8**
comp=Z,16nm,0.9s
MCK McKinley 28.46 46 *e*P **P** **07 08 16.4 +1.6**
comp=Z,14nm,1.2s
GHO Glory Hole Cre 28.54 50 *e*P **P** **07 08 16.7 +1.1**
comp=Z,4.2nm,0.8s
JNU Nakatsue 28.54 240 *e*P **P** **07 08 16.0 +0.1**
comp=Z,78nm,0.9s
JNU Nakatsue 28.54 240 P **P** **07 08 16.4 +0.6**
comp=Z,36nm,0.8s,baz=55,slow=7.4,SNR=19
TOLK Toolik Lake Re 28.59 36 *e*P **P** **07 08 16.6 +0.7**
comp=Z,8.5nm,0.9s
TOLK Toolik Lake Re 28.59 36 P **P** **07 08 16.5 +0.5**
baz=261
SML Sawmill 28.81 50 *e*P **P** **07 08 19.4 +1.4**
comp=Z,17nm,0.8s
WRH Wood River Hil 28.83 45 *e*P **P** **07 08 19.3 +1.3**
comp=Z,15nm,1.2s
WRH *e*PcP **PcP** **07 11 27.4 +1.1**
TCOL CIGO, UAF Yank 28.93 44 P **P** **07 08 19.8 +0.9**
baz=270
COLA College 28.94 44 *e*P **P** **07 08 20.1 +1.2**
comp=Z,8.6nm,0.7s
COLA College 28.94 44⇓*e*P **P** **07 08 20.1 +1.2**
COLA pmax pmax
comp=Z,5.0nm,0.8s
CCB Clear Creek Bu 28.95 44 *e*P **P** **07 08 20.2 +1.1**
comp=Z,16nm,1.2s
DHY Denali Highway 29.18 48 *e*P **P** **07 08 22.7 +1.3**
comp=Z,9.3nm,1.1s
SCM Sheep Creek Mo 29.29 50 *e*P **P** **07 08 22.8 +0.5**
comp=Z,8.9nm,0.8s
HDA Harding Lake 29.32 45 P **P** **07 08 22.6 +0.2**
baz=271
ILAR Eielson Array 29.35 44 *e*PcP **PcP** **07 11 27.8 +0.1**
ILAR Eielson Array 29.35 44 P **P** **07 08 23.2 +0.5**
comp=Z,2.8nm,0.8s,baz=252,slow=7.3,SNR=24
ILAR PcP **PcP** **07 11 28.1 +0.4**
comp=Z,2.5nm,0.8s,baz=282,slow=3.1,SNR=7.4
ILAR LR LR 07 21 08.3
comp=Z,1μm,20.4s,baz=22,slow=38
ILB Eielson Array 29.35 44 *e*P **P** **07 08 24.0 +1.3**
comp=Z,8.0nm,1.0s
PRP Porcupine Dome 29.92 43 *e*P **P** **07 08 28.9 +1.0**
comp=Z,10.0nm,1.0s
PAX Paxson 30.05 48 *e*P **P** **07 08 31.0 +2.0**
comp=Z,5.8nm,1.4s
RIDG Independent Ri 30.28 46 *e*P **P** **07 08 32.1 +1.1**
comp=Z,13nm,1.2s
DOT Dot Lake 30.63 46 *e*P **P** **07 08 34.4 +0.4**
comp=Z,3.8nm,1.0s
BCAR Beaver Creek A 31.71 47 *e*P **P** **07 08 44.5 +0.9**
BALM Baldy 31.77 51 *e*P **P** **07 08 45.7 +1.6**
comp=Z,9.1nm,1.2s
EGAK Eagle 31.80 44 *e*P **P** **07 08 44.1 -0.2**
comp=Z,13nm,0.8s
CTGM Chitina Glacie 32.27 51 *e*P **P** **07 08 49.9 +1.3**
comp=Z,16nm,1.4s
DAWY Dawson 32.64 45 *e*P **P** **07 08 52.5 +0.8**
comp=Z,5.5nm,1.0s
DAWY *e*PcP **PcP** **07 11 39.0 +2.5**
H11N2 WAKE ISLAND Hy 32.85 168 T T 07 44 55.8
baz=352,slow=76,SNR=724
H11N3 WAKE ISLAND Hy 32.86 168 T T 07 44 51.2
baz=352,slow=76,SNR=616
H11N1 WAKE ISLAND Hy 32.86 168 T T 07 44 51.3
baz=352,slow=76,SNR=721
EPYK Eagle Plains 33.47 41 *e*P **P** **07 09 00.1 +1.1**
comp=Z,15nm,1.1s
EPYK *e*PcP **PcP** **07 11 40.3 +1.5**
EPYK Eagle Plains 33.47 41 P **P** **07 09 00.1 +1.1**
baz=277,SNR=6.2
ULN Ulaanbaatar 33.81 284 *e*P **P** **07 09 00.7 -1.6**
comp=Z,19nm,1.0s
ULN Ulaanbaatar 33.81 284 *d i*P **P** **07 09 01.2 -1.0**
ULN pmax pmax
comp=Z,26nm,1.3s
ULN Ulaanbaatar 33.81 284 P **P** **07 09 01.4 -0.8**
SNR=12
H11S1 WAKE ISLAND Hy 34.03 169 T T 07 46 18.4
baz=350
H11S3 WAKE ISLAND Hy 34.04 169 T T 07 46 12.7
baz=350
H11S2 WAKE ISLAND Hy 34.05 169 T T 07 46 18.8
baz=350
HYT Haines Junctio 34.12 51 *e*P **P** **07 09 06.9 +2.2**
comp=Z,6.9nm,1.0s
TLY Talaya 34.15 292 *e*P **P** **07 09 03.9 -1.0**
comp=Z,48nm,1.1s
TLY Talaya 34.15 292 *c i*P **P** **07 09 04.2 -0.7**
TLY Talaya 34.15 292 P **P** **07 09 04.3 -0.7**
SNR=24
SONM Songino Array 34.22 285 *e*P **P** **07 09 03.9 -1.8**
SONM Songino Array 34.22 285 P **P** **07 09 04.6 -1.1**
comp=Z,25nm,1.3s,baz=60,slow=7.5,SNR=18
SONM PcP **PcP** **07 11 42.4 +1.0**
comp=Z,3.6nm,1.0s,baz=50,slow=2.3,SNR=4.0
SONM ScP **ScP** **07 15 27.8 +5.7**
comp=Z,2.1nm,1.1s,baz=66,slow=3.6,SNR=4.0
SONM LR LR 07 24 32.2
comp=Z,4μm,18.5s,baz=17,slow=39
TIA Tai'an 34.25 259 P **P** **07 09 05.0 -0.9**
TIA pmax pmax
comp=Z,13nm,0.7s
INK Inuvik 34.49 37 *e*P **P** **07 09 08.4 +0.8**
comp=Z,6.9nm,0.8s
INK Inuvik 34.49 37 P **P** **07 09 08.5 +0.9**
comp=Z,5.3nm,0.8s,baz=278,slow=7.0,SNR=23
INK PcP **PcP** **07 11 42.7 +1.1**
comp=Z,4.4nm,0.6s,baz=296,slow=3.7,SNR=5.9
HHC Hu-ho-hao-te 34.76 271 *e*P **P** **07 09 09.4 -1.0**
HHC PP **PnPn** **07 10 23.4 -4.1**
HHC pmax pmax
comp=Z,100nm,0.9s
HHC pmax pmax
comp=Z,270nm,4.3s
HHC LR LR
comp=Z,2μm,12.1s
HHC LR LR
comp=Z,1μm,13.3s
HHC LR LR
comp=Z,2μm,12.9s
JOW Kunigami 34.91 236 P **P** **07 09 12.2 +0.4**
comp=Z,3.7nm,0.8s,baz=121,slow=15,SNR=4.5
WHY Whitehorse 35.41 50 *e*P **P** **07 09 18.0 +2.2**
comp=Z,5.8nm,0.9s
MOY Mondy 35.66 293 *e*P **P** **07 09 17.2 -0.8**
MOY pmax pmax
comp=Z,42nm,1.2s
NJ2 Nanjing 36.10 252 *e*P **P** **07 09 23.8 +2.0**
NJ2 pmax pmax
comp=Z,48nm,0.7s
NRIK Noril'sk 36.68 325 P **P** **07 09 25.8 -0.6**
comp=Z,30nm,0.9s,baz=91,slow=9.2,SNR=44
NRIK LR LR 07 25 49.9
comp=Z,2μm,21.7s,baz=34,slow=39
DLBC Dease Lake 38.47 52 *e*P **P** **07 09 43.2 +1.4**
comp=Z,7.7nm,0.9s
DLBC Dease Lake 38.47 52 P **P** **07 09 43.8 +1.9**
comp=Z,6.2nm,0.9s,baz=285,slow=10,SNR=8.9
XAN Xi'an 40.69 264 P P 07 10 11.8 +11
XAN pP sP 07 10 21.8 +3.9
YULB Yu-li 41.36 241 *e*P **P** **07 10 06.3 +0.2**
comp=Z,22nm,0.9s
TWG Pinlang 41.95 241 *e*P **P** **07 10 10.2 -0.6**
comp=Z,170nm,0.9s
LZH Lanzhou 42.45 271 *e*P **P** **07 10 13.8 -1.2**
LZH pP pP 07 10 28.3 +1.1
LZH sP sP 07 10 35.9 +3.4
LZH pmax pmax
comp=Z,25nm,1.3s
GTA Gaotai 42.82 277⇑P **P** **07 10 16.9 -1.1**
GTA PcP **PcP** **07 12 10.1 +1.8**
GTA pmax pmax
comp=Z,21nm,1.2s
GTA pmax pmax
comp=Z,210nm,5.7s
GTA LR LR
comp=Z,1μm,16.8s
GTA LR LR
comp=Z,2μm,17.1s
GTA LR LR
comp=Z,2μm,16.8s
ENH Enshi 42.96 260 *e*P **P** **07 10 18.1 -0.9**
comp=Z,32nm,0.9s
ZAA0 Zalesovo Array 43.34 304 *e*P **P** **07 10 19.1 -2.7**
comp=Z,19nm,0.9s
ZALV Zalesovo Beam 43.34 304 P **P** **07 10 19.9 -1.9**
comp=Z,18nm,0.8s,baz=59,slow=6.5,SNR=51
ZALV LR LR 07 29 43.3
comp=Z,1μm,18.5s,baz=70,slow=38
YKW3 Yellowknife Ar 43.69 42 *e*P **P** **07 10 25.2 +0.8**
comp=Z,7.4nm,0.9s
NVS Novosibirsk 43.70 305⇓*i*P **P** **07 10 23.4 -1.2**
NVS *i* 07 12 02.8
NVS *i* S **S** **07 16 48.3 -2.6**
NVS pmax pmax
comp=Z,177nm,1.0s
NVS pmax pmax
comp=N,36nm,1.0s
NVS pmax pmax
comp=E,99nm,1.0s
NVS smax smax
comp=N,2.0nm,0.7s
NVS smax smax
comp=E,18nm,0.6s
YKA Yellowknife Ar 43.72 42 P **P** **07 10 25.8 +1.1**
comp=E,5.0nm,0.8s,baz=299,slow=8.0,SNR=52
YKA PcP **PcP** **07 12 12.3 +1.6**
comp=E,1.7nm,0.8s,baz=292,slow=3.4,SNR=5.4
YKB5 Yellowknife Ar 43.72 42 *e*P **P** **07 10 25.8 +1.1**
RES Resolute Bay 44.08 22 *e*P **P** **07 10 28.3 +0.9**
comp=E,13nm,0.9s
RES Resolute Bay 44.08 22 P **P** **07 10 28.4 +0.9**
comp=E,10nm,0.9s,baz=325,slow=9.1,SNR=22
DGZ Jazzator, Alta 44.16 297 *c i*P **P** **07 10 27.8 -0.8**
DGZ pmax pmax
comp=Z,33nm,0.9s
CD2 Chengdu 46.00 265 P **P** **07 10 42.4 -0.9**
CD2 ScP **ScP** **07 16 06.3 -1.8**
CD2 S **S** **07 17 20.8 -4.1**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,2μm,17.6s
CD2 LR LR
comp=Z,1μm,16.7s
CD2 LR LR
comp=Z,2μm,14.7s
WMQ Urumqi 47.37 290 P **P** **07 10 53.9 0.0**
WMQ pP pP 07 11 06.0 -0.2
WMQ pmax pmax
comp=Z,2μm,8.7s
WMQ LR LR
comp=Z,5μm,17.9s
WMQ LR LR
comp=Z,5μm,14.5s
WMQ LR LR
comp=Z,5μm,17.1s
WMQ Urumqi 47.37 290 *e*P **P** **07 10 53.1 -0.8**
comp=Z,57nm,0.8s
GYA Guiyang 47.43 259⇑*i*P **P** **07 10 55.3 +0.7**
GYA pP pwP 07 11 10.5 +0.2
GYA sP sP 07 11 18.4 +6.3
GYA PP **PP** **07 12 47.8 +1.7**
GYA S **S** **07 17 44.0 -1.5**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,120nm,5.2s

KBS **Kingsbay** 47.75 352 *eP* P 07 10 56.8 +0.5
comp=Z,86nm,0.9s
KBS **Kingsbay** 47.75 352*c i*P P 07 10 57.6 +1.3
KBS pmax pmax
comp=Z,411nm,1.0s
KBS **Kingsbay** 47.75 352 *eP* P 07 10 57.7 +1.5
SPA0 **Spitsbergen Ar** 48.00 351 *eP* P 07 10 58.4 +0.1
comp=Z,326nm,1.1s
SPA0 **Spitsbergen Ar** 48.00 351 *eP* P 07 10 59.0 +0.7
KURK **Kurchatov** 48.29 303*c i*P P 07 10 59.1 -1.7
KURK pmax pmax
comp=Z,127nm,1.0s
KURK **Kurchatov** 48.29 303 P P 07 10 59.2 -1.7
SNR=50
HOPEN **Hopen** 48.40 347 *eP* P 07 11 02.2 +0.9
MK31 **Makanchi Array** 48.63 296 *eP* P 07 11 01.6 -2.0
comp=Z,42nm,1.4s
MK31 **Makanchi Array** 48.63 296 *i*P P 07 11 01.4 -2.2
MK31 pmax pmax
comp=Z,14nm,0.6s
MK32 **Makanchi Array** 48.63 296 *eP* P 07 11 02.0 -1.6
MKAR **Makanchi Array** 48.63 296 *eP* P 07 11 01.7 -1.9
MKAR **Makanchi Array** 48.63 296 P P 07 11 02.0 -1.6
MKAR **Makanchi Array** 48.63 296 P P 07 11 02.0 -1.6
comp=Z,15nm,0.7s,baz=57,slow=7.1,SNR=79
MKAR LR LR 07 32 00.8
comp=Z,1μm,19.8s,baz=16,slow=37
MAKZ **Makanchi** 48.80 297 *eP* P 07 11 03.0 -1.9
comp=Z,34nm,0.9s
MAKZ **Makanchi** 48.80 297 P P 07 11 02.6 -2.2
MAKZ pmax pmax
comp=Z,40nm,1.1s
B08A **Colville Reser** 49.00 61 *eP* P 07 11 08.7 +2.3
comp=Z,8.8nm,0.9s
HSPB **Hornsund (broa** 49.13 350 *eP* P 07 11 07.9 +1.0
HSPB **Hornsund (broa** 49.13 350 *eP* P 07 11 07.5 +0.6
I04A **Tendick Farm,** 50.09 67 P P 07 11 16.3 +1.6
baz=309
NEW **Newport** 50.24 60 P P 07 11 17.1 +1.3
baz=308
NEW **Newport** 50.24 60 P P 07 11 17.4 +1.6
comp=Z,0.8nm,0.5s,baz=315,slow=5.7,SNR=3.0
E09A **Wood Farm, Sta** 50.77 62 *eP* P 07 11 21.5 +1.8
comp=Z,11nm,0.9s
KMI **Kunming** 50.79 261 P P 07 11 21.3 +0.8
KMI pP sP 07 11 38.8 +0.7
KMI pmax pmax
comp=Z,22nm,0.9s
KMI LR LR
comp=Z,810nm,18.9s
KMI LR LR
comp=Z,660nm,20.2s
KMI LR LR
comp=Z,670nm,19.8s
BJO **Bjornoya** 50.89 347 *eP* P 07 11 21.4 +1.1
BVAR **Borovoye Array** 51.02 309 P P 07 11 20.2 -1.4
comp=Z,40nm,0.7s,baz=60,slow=8.8,SNR=143
BVAR PcP PcP 07 12 37.4 +0.4
comp=Z,6.6nm,0.8s,baz=69,slow=5.2,SNR=3.7
BRVK **Borovoye** 51.05 309 *eP* P 07 11 20.2 -1.6
comp=Z,54nm,0.8s
BRVK **Borovoye** 51.05 309*c i*P P 07 11 19.9 -1.8
BRVK pmax pmax
comp=Z,61nm,0.8s
BRVK **Borovoye** 51.05 309 P P 07 11 20.1 -1.7
SNR=33
J05D **Fort Rock, OR** 51.07 67 P P 07 11 24.6 +2.3
baz=310
L04D **Klamath Falls** 51.14 69 P P 07 11 24.9 +2.1
baz=310
YBH **Yreka Blue Hor** 51.22 69 *eP* P 07 11 25.9 +2.6
comp=Z,17nm,1.3s
DAG **Danmarks Havn** 51.27 360⇑*i*P P 07 11 23.6 +0.5
DAG pmax pmax
comp=Z,21nm,0.8s
DAG **Danmarks Havn** 51.27 360⇑*i*P P 07 11 23.6 +0.5
comp=Z,28nm,0.8s
M02C **Callahan** 51.35 70 P P 07 11 26.5 +2.2
baz=310
M04C **Macdoel** 51.68 69 P P 07 11 29.5 +2.6
baz=310
N02D **Trinity Center** 51.71 70 P P 07 11 29.0 +2.1
baz=310
BMO **Blue Mountains** 52.27 63 *eP* P 07 11 32.9 +1.8
comp=Z,7.8nm,1.1s
PDGK **Podgornoye** 52.34 295 P P 07 11 30.0 -1.7
PDGK pmax pmax
comp=Z,42nm,1.0s
MOD **Modoc Plateau** 52.48 68 *eP* P 07 11 35.0 +2.2
comp=Z,15nm,0.9s
J08A **Circle Bar Ran** 52.58 65 *eP* P 07 11 35.8 +2.3
comp=Z,5.0nm,1.0s
O03E **Paynes Creek** 52.67 70 P P 07 11 36.4 +2.3
baz=311
MSO **Missoula** 52.82 59 *eP* P 07 11 37.0 +1.9
comp=Z,9.1nm,1.0s
MSO **Missoula** 52.82 59 P P 07 11 36.8 +1.6
baz=310
PLID **Pearl Lake** 52.83 62 *eP* P 07 11 36.7 +1.3
comp=Z,9.5nm,1.0s
SLVN **Son La** 52.94 257 *eP* P 07 11 35.8 -0.5
comp=Z,22nm,0.9s
SVE **Sverdlovsk** 52.98 317 *eP* P 07 11 35.9 -0.2
OTUK **Ortayu** 53.04 303 P P 07 11 35.1 -1.6
OTUK pmax pmax
comp=Z,52nm,1.0s
WVOR **Wild Horse Val** 53.08 66 *eP* P 07 11 39.4 +2.2
comp=Z,5.2nm,0.9s
HAMF **Hammerfest** 53.53 343 *eP* P 07 11 39.5 -0.4
LVZ **Lovozero** 53.54 338 *eP* P 07 11 39.1 -1.0
comp=Z,117nm,1.0s
LVZ **Lovozero** 53.54 338*c i*P P 07 11 39.5 -0.6
LVZ pmax pmax
comp=Z,101nm,1.0s
FFC **Flin Flon** 53.54 46 *eP* P 07 11 42.0 +1.8
comp=Z,7.5nm,0.8s
KEV **Kevo** 53.67 342 *eP* P 07 11 40.5 -0.4
comp=Z,39nm,0.8s
BEKR **Beckworth** 53.78 70 *eP* P 07 11 44.3 +1.8
comp=Z,12nm,1.1s
HRY **Holter Researc** 54.00 58 *eP* P 07 11 45.7 +1.8
AFDM **Forest Hills D** 54.04 71 *eP* P 07 11 46.3 +2.2
comp=Z,12nm,1.2s
FCC **Fort Churchill** 54.09 38 *eP* P 07 11 44.7 +0.6
comp=Z,10nm,0.7s
ARU **Arti** 54.11 318 *eP* P 07 11 43.2 -1.1
comp=Z,34nm,0.6s
ARU **Arti** 54.11 318*c i*P P 07 11 43.2 -1.1
ARU *PP pP 07 11 57.6 +0.8
ARU 07 13 42.4
ARU S S 07 19 16.1 -0.9
ARU SS SS 07 22 57.8 -0.5
ARU pmax pmax
comp=Z,44nm,0.9s
ARU MLR MLR
comp=Z,979nm,16.0s
ARU **Arti** 54.11 318 P P 07 11 43.3 -1.1
comp=Z,11nm,0.6s,baz=40,slow=3.2,SNR=42
ARCES **ARCESS Array B** 54.14 342 *eP* P 07 11 43.8 -0.6
ARCES **ARCESS Array B** 54.14 342 *eP* P 07 11 43.8 -0.6
ARCES **ARCESS Array B** 54.14 342 P P 07 11 44.3 -0.1
comp=Z,61nm,0.8s,baz=38,slow=8.1,SNR=84
ARE0 **ARCESS Array S** 54.14 342 *eP* P 07 11 43.9 -0.5
comp=Z,5.0nm,1.0s
ARE0 **ARCESS Array S** 54.14 342 *eP* P 07 11 44.3 -0.1
EGMT **Eagleton** 54.22 56 P P 07 11 46.9 +1.5
baz=311
TARG **Taragay, Kyrgy** 54.33 294 *eP* P 07 11 44.7 -1.9
comp=Z,8.8nm,0.9s
PAHR **Pah Rah Range** 54.45 69 *eP* P 07 11 49.7 +2.4
comp=Z,15nm,1.2s
VCNR **Virginia City** 54.57 70 *eP* P 07 11 50.7 +2.5
comp=Z,9.2nm,0.9s
LSA **Lhasa** 54.60 274 *eP* P 07 11 48.1 -0.7
comp=Z,27nm,0.8s
LSA **Lhasa** 54.60 274 P P 07 11 49.9 +1.1
HLID **Hailey** 54.69 63 *eP* P 07 11 50.5 +1.6
comp=Z,4.1nm,1.1s
HLID **Hailey** 54.69 63 P P 07 11 50.6 +1.6
baz=312
MCMT **McKenzie Canyo** 54.70 61 *eP* P 07 11 50.4 +1.3
PNTR **Pine Nut** 54.74 70 *eP* P 07 11 51.1 +1.7
comp=Z,15nm,1.0s
TKM2 **Tokmak 2** 54.77 296 P P 07 11 47.9 -1.7
TKM2 pmax pmax
comp=Z,26nm,1.1s

SUMG **Summit** 54.80 7 *eP* P 07 11 50.4 +0.7
comp=Z,76nm,0.9s
SUMG **Summit** 54.80 7⇑*i*P P 07 11 50.8 +1.2
SUMG pmax pmax
comp=Z,190nm,0.9s
SUMG **Summit** 54.80 7⇑*i*P P 07 11 50.8 +1.2
comp=Z,190nm,0.9s
BOZ **Bozeman (W)** 54.84 59 *eP* P 07 11 51.2 +1.2
comp=Z,8.2nm,0.9s
BOZ **Bozeman (W)** 54.84 59 P P 07 11 51.7 +1.7
baz=312
BOOM **Boomskoye usch** 54.86 296 *eP* P 07 11 48.9 -1.3
KTK1 **Kautokeino** 55.01 343 *eP* P 07 11 51.0 +0.3
YERR **Yerington** 55.02 70 *eP* P 07 11 53.0 +1.6
comp=Z,13nm,1.0s
BMN **Battle Mountai** 55.20 67 *eP* P 07 11 55.0 +2.3
comp=Z,17nm,1.0s
TRO **Tromso** 55.22 345 *eP* P 07 11 52.8 +0.7
WAKR **Walker** 55.23 70 *eP* P 07 11 55.0 +2.0
comp=Z,7.2nm,0.8s
PRGR **Permogore** 55.23 328⇓*i*P P 07 11 52.8 +0.5
PRGR pmax pmax
comp=Z,60nm,0.6s
FRU1 **Bishkek** 55.37 297 *eP* P 07 11 52.9 -0.9
comp=Z,52nm,0.7s
QLMT **Earthquake Lak** 55.45 60 *eP* P 07 11 57.0 +2.5
NRN **Naryn** 55.53 295 *eP* P 07 11 53.7 -1.6
AAK **Ala-Archa** 55.56 297 *eP* P 07 11 54.1 -1.1
comp=Z,41nm,1.0s
AAK **Ala-Archa** 55.56 297 P P 07 11 54.1 -1.1
AAK pmax pmax
comp=Z,47nm,1.1s
AAK **Ala-Archa** 55.56 297 P P 07 11 54.4 -0.9
comp=Z,33nm,0.9s,baz=108,slow=4.4,SNR=42
TMCR **Tamitsa** 55.60 333 *eP* P 07 11 55.0 +0.1
TMCR pmax pmax
comp=Z,233nm,1.0s
KVN **Kaiserville** 55.63 69 *eP* P 07 11 57.4 +1.5
comp=Z,16nm,1.1s
YHB **Horse Butte** 55.63 60 *eP* P 07 11 58.1 +2.3
comp=Z,10nm,0.9s
PANO **Nakornpanom** 55.76 253 P P 07 11 58.8 +2.1
comp=Z,1.5nm,1.1s
YHH **Holmes Hill** 55.79 59 *eP* P 07 11 58.2 +1.2
comp=Z,6.3nm,0.9s
NVAR **Mina Array Bea** 55.93 70 *eP* P 07 12 00.3 +2.3
NVAR **Mina Array Bea** 55.93 70 P P 07 12 00.5 +2.5
comp=Z,3.2nm,0.8s,baz=292,slow=7.4,SNR=23
NV11 **Mina Array Sit** 56.02 70 *eP* P 07 12 00.5 +1.9
comp=Z,1.5nm,1.3s
ELK **Elko** 56.11 66 *eP* P 07 12 00.7 +1.4
comp=Z,4.1nm,0.8s
KIRV **Kirov** 56.16 324 P P 07 11 58.7 -0.3
comp=Z,65nm,0.5s,baz=59,slow=3.2,SNR=8.6
YPP **Pitchstone Pla** 56.16 60 *eP* P 07 12 00.9 +1.3
comp=Z,3.0nm,1.0s
LKWY **Lake** 56.18 59 *eP* P 07 12 01.5 +1.7
comp=Z,6.9nm,0.8s
H17A **Grant Village** 56.20 60 *eP* P 07 12 01.5 +1.6
comp=Z,10.0nm,1.0s
H17A **Grant Village** 56.20 60 P P 07 12 02.4 +2.5
baz=313
SKNT **Sakolnakorn** 56.27 253 P P 07 12 01.8 +1.5
comp=Z,58nm,1.0s
IMW **Indian Meadow** 56.34 60 *eP* P 07 12 02.4 +1.5
comp=Z,5.4nm,0.9s
RLMT **Red Lodge** 56.40 58 *eP* P 07 12 03.0 +1.7
comp=Z,13nm,1.0s
RLMT **Red Lodge** 56.40 58 P P 07 12 03.1 +1.9
baz=313
FXWY **Fox Creek** 56.47 61 *eP* P 07 12 03.6 +1.8
comp=Z,2.9nm,0.8s
MOOW **Moose Ponds** 56.54 60 *eP* P 07 12 04.0 +1.6
comp=Z,3.7nm,0.9s
TPAW **Teton Pass** 56.61 61 *eP* P 07 12 04.4 +1.6
comp=Z,5.1nm,0.9s
DGMT **Dagmar** 56.69 52 P P 07 12 04.3 +1.2
baz=313
ILULI **Ilulissat** 56.69 13 *eP* P 07 12 02.9 +0.1
comp=Z,31nm,0.8s
ILULI **Ilulissat** 56.69 13 *i*P P 07 12 02.8 +0.1
ILULI **Ilulissat** 56.69 13 *i*P P 07 12 02.8 +0.1
LOHW **Long Hollow** 56.71 60 *eP* P 07 12 05.5 +1.9
comp=Z,13nm,1.4s
REDW **Red Top Meadow** 56.75 61 *eP* P 07 12 05.2 +1.5
comp=Z,11nm,1.0s
JMIC **Jan Mayen** 56.82 356 *eP* P 07 12 05.2 +1.6
KSH **Kashi** 56.84 293 P P 07 12 06.6 +2.2
KSH pP pP 07 12 18.3 +1.3
KSH PP PP 07 14 13.5 +2.7
KSH S S 07 19 50.8 -3.5
KSH SS SS 07 23 41.9 -0.4
KSH pmax pmax
comp=Z,29nm,1.1s
KSH pmax pmax
comp=Z,590nm,6.6s
KSH LR LR
comp=Z,1μm,11.5s
KSH LR LR
comp=Z,770nm,9.6s
KSH LR LR
comp=Z,2μm,14.8s
PAYA **Payao** 56.87 259 P P 07 12 06.3 +1.6
comp=Z,98μm,0.8s,comp=Z,764μm
LAO **LASA Array** 56.90 55 *eP* P 07 12 06.7 +2.0
comp=Z,12nm,1.0s
LAO **LASA Array** 56.90 55 P P 07 12 05.9 +1.3
baz=313
ARSB **Arslanbob** 57.28 297 *eP* P 07 12 06.3 -1.2
comp=Z,29nm,0.9s
PHRA **Phrae** 57.31 258 P P 07 12 09.4 +1.6
comp=Z,10nm,1.4s
STEI **Steigen** 57.35 345 *eP* P 07 12 06.6 -0.7
KK31 **Karatay Array** 57.41 300 *eP* P 07 12 06.8 -1.4
comp=Z,29nm,0.8s
KK31 **Karatay Array** 57.41 300 *i*P P 07 12 06.5 -1.7
KK31 pmax pmax
comp=Z,23nm,0.8s
CWC **Cottonwood Cre** 57.42 71 P P 07 12 10.6 +2.0
baz=314
LOF **Lofoten** 57.42 346 *eP* P 07 12 08.5 +0.6
KHON **Khomkaen** 57.45 254 P P 07 12 11.0 +2.3
comp=Z,82μm,1.1s
GRAC **Grapevine Rang** 57.45 70 P P 07 12 10.7 +2.1
baz=314
R11A **Troy Canyon, C** 57.55 68 *eP* P 07 12 11.1 +1.7
comp=Z,4.4nm,1.0s
R11A **Troy Canyon, C** 57.55 68 P P 07 12 11.6 +2.2
baz=314,SNR=8.4
HWUT **Hardware Ranch** 57.56 63 *eP* P 07 12 11.8 +2.3
comp=Z,4.4nm,0.8s
SCO **Scoresbysund** 57.58 1 *i*P P 07 12 06.4 -2.5
SCO **Scoresbysund** 57.58 1 *i*P P 07 12 06.4 -2.5
LAMP **Lampang** 57.65 258 P P 07 12 11.7 +1.5
comp=Z,78μm,1.0s,comp=Z,809μm
UTTA **Uttaradit** 57.70 257 P P 07 12 12.2 +1.7
comp=Z,76μm,0.9s
KLMR **Klimovskoe** 57.75 330 *eP* P 07 12 08.5 -1.8
KLMR *e* 07 14 16.2
KLMR pmax pmax
comp=Z,86nm,0.8s
DUG **Dugway, Tooele** 57.84 65 *eP* P 07 12 12.6 +1.1
comp=Z,11nm,0.9s
DUG **Dugway, Tooele** 57.84 65 P P 07 12 13.2 +1.8
baz=314
CMMT **Chiang Mai** 57.84 259 P P 07 12 12.6 +1.1
comp=Z,33nm,1.0s
BW06 **Boulder Array** 57.85 60 *eP* P 07 12 13.0 +1.4
comp=Z,11nm,0.9s
BW06 **Boulder Array** 57.85 60 P P 07 12 13.5 +1.9
baz=314
CHTO **Chiang Mai** 57.85 259 *eP* P 07 12 11.8 +0.3
comp=Z,55nm,1.0s
CHTO **Chiang Mai** 57.85 259 P P 07 12 12.8 +1.2
SNR=11
PD31 **Pinedale Array** 57.85 60 *eP* P 07 12 13.1 +1.5
comp=Z,9.7nm,0.9s
PDAR **Pinedale Array** 57.85 60 P P 07 12 13.7 +2.1
comp=Z,7.0nm,0.9s,baz=316,slow=4.1,SNR=40
MPMC **Manual Prospec** 58.03 71 P P 07 12 15.1 +2.2
baz=314
FURC **Furnace Creek,** 58.11 70 P P 07 12 16.1 +3.0
baz=314,SNR=7.8
CM31 **Chiang Mai Arr** 58.12 259 *eP* P 07 12 13.6 +0.1
comp=Z,40nm,0.9s
CM31 **Chiang Mai Arr** 58.12 259 P P 07 12 15.1 +1.6
SNR=7.2

CMAR **Chiang Mai Arr** 58.12 259 P P 07 12 14.7 +1.2
comp=Z,20nm,0.8s,baz=24,slow=7.2,SNR=61
TPNV **Topopah Spring** 58.13 70 *eP* P 07 12 14.3 +0.7
comp=Z,14nm,1.4s
TPNV **Topopah Spring** 58.13 70 P P 07 12 16.0 +2.5
baz=314,SNR=8.9
CHAI **Chaiyaphum** 58.28 254 P P 07 12 16.1 +1.5
comp=Z,55μm,1.0s,comp=Z,472μm
PBKT **Sadao Pong** 58.36 256 P P 07 12 16.9 +1.8
comp=Z,7.7nm,1.1s,comp=Z,420nm
NLU **North Lily Min** 58.41 64 *eP* P 07 12 16.7 +1.2
comp=Z,7.4nm,0.9s
AB31 **Akbulak array** 58.44 311 *i*P P 07 12 13.8 -1.5
AB31 pmax pmax
comp=Z,28nm,0.8s
ABKAR **Akbulak array** 58.44 311 *eP* P 07 12 13.8 -1.5
ABKAR *eP* P 07 12 14.0 -1.3
AKTO **Aktyubinsk** 58.49 313 P P 07 12 13.6 -2.0
AKTO pmax pmax
comp=Z,16nm,0.8s
AKTO **Aktyubinsk** 58.49 313 P P 07 12 14.4 -1.2
comp=Z,12nm,0.6s,baz=69,slow=8.6,SNR=36
EDW2 **Edwards Air Fo** 58.56 72 P P 07 12 18.8 +2.4
baz=315
SFJD **Kangerlussuaq** 58.83 14 *eP* P 07 12 17.5 -0.1
comp=Z,21nm,0.9s
SFJD **Kangerlussuaq** 58.83 14⇑*i*P P 07 12 17.9 +0.2
SFJD **Kangerlussuaq** 58.83 14⇑*i*P P 07 12 17.9 +0.2
SHOC **Shoshone, Teco** 58.85 70 P P 07 12 20.3 +1.9
baz=315
ODAN **Odare** 58.94 275 *eP* P 07 12 18.9 -0.4
comp=Z,38nm,0.7s
GSC **Goldstone, Bar** 58.96 71 *eP* P 07 12 20.8 +1.6
comp=Z,6.9nm,0.9s
GSC **Goldstone, Bar** 58.96 71 P P 07 12 20.9 +1.6
baz=315
SHPR **Sheep Range** 59.07 69 *eP* P 07 12 21.4 +1.3
comp=Z,6.9nm,1.3s
JIRN **Jiri** 59.09 276 *eP* P 07 12 20.2 -0.4
comp=Z,114nm,0.8s
ULM **Lac du Bonnet** 59.33 46 P P 07 12 22.9 +1.4
comp=Z,6.2nm,0.6s,baz=321,slow=7.7,SNR=12
BTK **Batken** 59.34 297 *eP* P 07 12 20.6 -1.2
comp=Z,62nm,0.8s
RAMN **Ramite** 59.35 275 *eP* P 07 12 21.9 -0.4
comp=Z,182nm,0.7s
MSU **Marysvale** 59.36 66 *eP* P 07 12 23.7 +1.6
CCUT **Cedar City** 59.36 67 *eP* P 07 12 23.4 +1.3
comp=Z,7.0nm,1.1s
TUQ **Turquoise Moun** 59.38 71 P P 07 12 24.8 +2.7
baz=315
P17A **Butcher Ranch,** 59.49 64 *eP* P 07 12 24.5 +1.6
comp=Z,14nm,1.4s
K22A **Casper** 59.54 59 P P 07 12 25.3 +2.1
baz=315
KKN **Kakani** 59.55 277 *eP* P 07 12 23.4 -0.2
comp=Z,76nm,0.6s
HEC **Hector,Ludlow** 59.56 71 P P 07 12 25.5 +2.1
baz=315
PKI **Pulchoki** 59.63 277 *eP* P 07 12 23.8 -0.5
comp=Z,116nm,0.8s
PKIN **Phulchoki** 59.64 277 *eP* P 07 12 23.9 -0.3
comp=Z,79nm,0.8s
Q16A **Castle Valley** 59.64 65 *eP* P 07 12 25.7 +1.7
comp=Z,4.9nm,0.9s
MTPU **Mount Pierson** 59.69 66 *eP* P 07 12 26.3 +1.8
comp=Z,8.2nm,1.3s
RSSD **Black Hills** 59.79 56 *eP* P 07 12 26.8 +1.8
comp=Z,16nm,0.8s
RSSD **Black Hills** 59.79 56 P P 07 12 26.5 +1.5
baz=315
DMN **Daman** 59.79 277 *eP* P 07 12 25.3 0.0
comp=Z,140nm,0.8s
LCMT **Little Creek M** 59.81 68 *eP* P 07 12 26.4 +1.3
comp=Z,9.5nm,1.1s
FAKI **Fak Fak** 59.85 213 *eP* P 07 12 25.7 +0.3
comp=Z,7.8nm,0.8s
SRU **San Rafael Swe** 59.86 64 *eP* P 07 12 26.9 +1.4
comp=Z,17nm,1.0s
UMPA **Umpang Tak** 59.91 257 P P 07 12 28.9 +3.0
comp=Z,98μm,1.0s
GMRC **Granite Mounta** 59.99 71 P P 07 12 28.2 +1.8
baz=315
KNB **Kanab** 60.05 67 *eP* P 07 12 28.2 +1.4
comp=Z,12nm,1.2s
DANN **Dangsing** 60.08 279 *eP* P 07 12 27.1 -0.2
comp=Z,153nm,0.8s
LDFC **Landfair** 60.10 70 *eP* P 07 12 28.4 +1.3
comp=Z,15nm,1.1s
PFO **Pinyon Flats O** 60.35 72 P P 07 12 30.1 +1.2
baz=316
GAR **Garm** 60.36 296 *eP* P 07 12 27.7 -1.2
comp=Z,103nm,0.9s
O20A **White River Ci** 60.39 62 *eP* P 07 12 31.1 +2.0
comp=Z,9.1nm,1.1s
O20A **White River Ci** 60.39 62 P P 07 12 31.6 +2.4
baz=315
KOLN **Koldanda** 60.59 278 *eP* P 07 12 30.3 -0.4
comp=Z,91nm,0.7s
PYUN **Piuthan** 60.73 279 *eP* P 07 12 31.2 -0.4
comp=Z,149nm,0.8s
IRM **Iron Mountain** 60.73 71 P P 07 12 33.5 +2.2
baz=316
AGMN **Agassiz Nation** 60.75 48 P P 07 12 32.1 +0.9
baz=317
BC3 **Big Chuckawall** 60.91 72 P P 07 12 35.2 +2.5
baz=316
FIA1 **FINESS Array S** 60.95 337 *eP* P 07 12 32.0 -0.3
comp=Z,93nm,0.9s
FINES **FINESS Array B** 60.96 337 *eP* P 07 12 32.5 +0.1
FINES **FINESS Array B** 60.96 337 P P 07 12 32.8 +0.5
comp=Z,65nm,0.7s,baz=38,slow=9.6,SNR=123
NSS **Namsos** 61.01 345 *eP* P 07 12 33.6 +0.9
N23A **Red Feather La** 61.08 60 *eP* P 07 12 35.6 +1.6
comp=Z,9.9nm,1.0s
N23A **Red Feather La** 61.08 60 P P 07 12 35.5 +1.6
baz=316
SRDT **SRDT** 61.20 256 P P 07 12 40.5 +5.9
comp=Z,16nm,1.6s
PDMCI **Parker Dam,Lak** 61.21 70 P P 07 12 36.3 +1.8
baz=316
CHGR **Chuyangaron** 61.24 297 *eP* P 07 12 34.3 -0.6
comp=Z,42nm,0.8s
PUL **Pulkovo** 61.30 334*ceP* P 07 12 36.5 +1.8
PUL pmax pmax
comp=Z,211nm,0.6s
PV07 **Paradox Valley** 61.37 63 *eP* P 07 12 37.6 +1.8
comp=Z,14nm,1.4s
PV01 **Paradox Valley** 61.63 64 *eP* P 07 12 39.2 +1.6
comp=Z,6.1nm,1.0s
GLA **Glamis** 61.71 72 P P 07 12 39.5 +1.5
baz=316
SMCO **Snowmass** 61.76 62 *eP* P 07 12 40.2 +1.5
comp=Z,7.2nm,1.0s
WUAZ **Wupatki** 61.93 68 *eP* P 07 12 41.5 +1.9
comp=Z,14nm,1.4s
WUAZ **Wupatki** 61.93 68 P P 07 12 40.8 +1.2
baz=316
PHET **Kaeng Krachan** 62.03 254 P P 07 12 42.6 +2.4
comp=Z,185μm,0.8s
ISCO **Idaho Springs** 62.04 60 *eP* P 07 12 42.7 +2.2
comp=Z,15nm,1.4s
ISCO **Idaho Springs** 62.04 60 P P 07 12 41.2 +0.7
baz=316
MVCO **Mesa Verde** 62.33 64 *eP* P 07 12 44.6 +2.2
comp=Z,7.4nm,0.9s
MVCO **Mesa Verde** 62.33 64 P P 07 12 43.1 +0.8
baz=316
PMG **Port Moresby** 62.42 195⇓*eP* P 07 12 42.4 -0.3
PMG pmax pmax
comp=Z,141nm,1.2s
MOS **Moscow** 62.45 328 *eP* P 07 12 40.7 -1.8
MOS *e* 07 13 04.4
MOS pmax pmax
comp=Z,74nm,0.9s
NIL **Nilore** 62.52 290 *eP* P 07 12 42.8 -0.6
comp=Z,100nm,0.9s
X16A **Lo Mia Camp, P** 62.68 68 *eP* P 07 12 46.1 +1.4
comp=Z,5.8nm,1.0s
S22A **4UR Ranch, Cre** 62.87 63 *eP* P 07 12 47.3 +1.3
comp=Z,8.6nm,1.1s
S22A **4UR Ranch, Cre** 62.87 63 P P 07 12 48.7 +2.8
baz=317
EYMN **Ely** 62.97 46 P P 07 12 45.2 -1.0
baz=319
OBN **Obninsk** 63.30 328 *eP* P 07 12 46.9 -1.3
comp=Z,79nm,1.1s
OBN **Obninsk** 63.30 328*c i*P P 07 12 47.8 -0.4

OBN e*SP sP 07 13 06.0 -0.2
OBN e 07 13 15.1
OBN 07 13 24.0
OBN pmax pmax
comp=Z,98nm,1.3s
OBN Obninsk 63.30 328 P P 07 12 48.1 -0.1
comp=Z,7.7nm,0.5s,baz=60,slow=8.1,SNR=19
VSU Vasula 63.38 335c iP P 07 12 49.3 +0.7
VSU pmax pmax
comp=Z,295nm,1.3s
VSU Vasula 63.38 335 eP P 07 12 48.5 -0.1
VSU IAmb IAmb 07 12 49.9
comp=Z,154nm,0.8s
MOL Molde 63.53 346 eP P 07 12 50.6 +1.0
SDCO Great Sand Dun 63.59 62 eP P 07 12 52.2 +1.5
comp=Z,4.7nm,1.0s
SDCO Great Sand Dun 63.59 62 P P 07 12 52.6 +1.9
baz=317
SBUM Sibu 63.63 236 eP P 07 12 51.4 +0.6
comp=Z,7.8nm,1.1s
ECSD EROS Data Cent 63.76 52 eP P 07 12 52.6 +1.2
comp=Z,7.4nm,0.8s
ECSD EROS Data Cent 63.76 52 P P 07 12 52.9 +1.4
baz=318
DOMB Dombas 63.81 345 eP P 07 12 52.1 +0.6
AKN Aaknes 63.99 346 eP P 07 12 53.3 +0.7
C40A Isle Royale Na 64.02 44 P P 07 12 53.3 +0.3
baz=320
F37A Hinrichs Farm, 64.15 48 P P 07 12 54.6 +0.7
baz=320
NC303 NORSAR Array S 64.20 344 eP P 07 12 54.0 -0.1
comp=Z,27nm,0.7s
NC405 NORSAR Array S 64.25 344 eP P 07 12 53.9 -0.4
comp=Z,40nm,0.7s
NC204 NORSAR Array S 64.26 344 eP P 07 12 54.0 -0.5
comp=Z,70nm,1.1s
KBL Kabul 64.27 294 eP P 07 12 53.5 -1.7
comp=Z,31nm,1.0s
F38A Pierce - Schro 64.31 47 P P 07 12 55.6 +0.6
baz=320
NB201 NORSAR Array S 64.38 344 eP P 07 12 55.0 -0.3
comp=Z,39nm,0.8s
NB2 NORSAR Subarra 64.40 344 P P 07 12 55.6 +0.2
comp=Z,84nm,2.0s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.40 344 P P 07 12 55.6 +0.2
baz=22,slow=6.9
NOA NORSAR Array B 64.40 344 P P 07 12 55.6 +0.2
comp=Z,11nm,0.6s,baz=22,slow=6.7,SNR=46
NOA LR LR 07 46 06.6
comp=Z,364nm,18.3s,baz=15,slow=41
SPMN Marine on St. 64.44 49 eP P 07 12 56.9 +1.0
comp=Z,10nm,0.8s
SPMN Marine on St. 64.44 49 P P 07 12 57.2 +1.3
baz=320
NBO00 NORSAR Array S 64.48 344 eP P 07 12 55.2 -0.7
comp=Z,31nm,0.9s
LPSR Galich'ya Gora 64.55 325 eP P 07 12 55.8 -0.6
LPSR pmax pmax
comp=Z,60nm,0.7s
E39A Mellen 64.58 46 P P 07 12 57.3 +0.6
baz=320
TUC Tucson 64.59 70 P P 07 12 58.9 +1.8
baz=317
T25A Trinidad 64.62 62 P P 07 12 59.6 +2.2
baz=318
NC602 NORSAR Array S 64.63 344 eP P 07 12 56.4 -0.4
comp=Z,46nm,1.3s
NAO01 NORSAR Array S 64.64 344 eP P 07 12 56.7 -0.2
comp=Z,37nm,1.1s
NAO01 NORSAR Array S 64.64 344 eP P 07 12 57.5 +0.6
IVI Ivigtut 64.65 15 eP P 07 12 57.3 +0.4
comp=Z,25nm,0.9s
VRH Novokhopyorsk 64.66 322 eP P 07 12 56.2 -1.0
VRH pmax pmax
comp=Z,100nm,1.6s
F39A Loretta 64.78 47 P P 07 12 58.8 +0.8
baz=320
E40A Wakefield 64.82 46 P P 07 12 60.0 +1.6
baz=320
G38A Ridgeland 64.92 48 P P 07 13 00.1 +1.1
baz=320
D41A Chassel 64.93 45 P P 07 12 59.1 +0.1
baz=321
HYA Hoyanger 65.07 346 eP P 07 13 01.1 +1.5
H38A Maiden Rock 65.10 49 P P 07 13 01.7 +1.5
baz=320
TASM ASL Pad, Albuq 65.11 65 P P 07 13 02.8 +2.2
baz=318,SNR=6.0
TASM ASL Pad, Albuq 65.11 65 P P 07 13 03.6 +3.0
baz=318,SNR=5.2
ANMO Albuquerque 65.11 65 eP P 07 13 02.2 +1.6
comp=Z,3.0nm,0.9s
ANMO Albuquerque 65.11 65⇑eP P 07 13 03.2 +2.6
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 65.11 65 P P 07 13 02.3 +1.6
baz=318
F40A Park Falls 65.13 46 P P 07 13 01.8 +1.4
baz=321
LAZ Ladron 65.13 66 eP P 07 13 03.7 +2.9
G39A Holcombe 65.14 48 P P 07 13 00.2 -0.2
baz=320
SKAR Skarslia 65.22 345 eP P 07 13 01.3 +0.6
SLIT Slitere, Latvi 65.24 337 eP P 07 13 00.2 -0.6
SLIT IAmb IAmb 07 13 01.8
comp=Z,562nm,1.1s
SUE Sulen 65.38 347 eP P 07 13 02.7 +1.1
KSM Kuching 65.44 237 eP P 07 13 03.2 +0.5
comp=Z,19nm,1.0s
VSR Storozhevoye 65.60 324c iP P 07 13 02.2 -1.0
VSR pmax pmax
comp=Z,59nm,0.7s
E42A Champion 65.70 45 P P 07 13 04.3 +0.3
baz=322
F41A Three Lakes 65.72 46 P P 07 13 04.9 +0.8
baz=321
VORD Divnogorie 65.76 324 eP P 07 13 03.7 -0.5
VORD pmax pmax
comp=Z,40nm,0.9s
BER Bergen 65.94 347 eP P 07 13 06.1 +0.8
KONO Kongsberg 65.99 344⇑eP P 07 13 05.9 +0.3
KONO pmax pmax
comp=Z,21nm,1.4s
H40A Chili 66.01 48 P P 07 13 07.1 +1.1
baz=321
SKLT Songkhla 66.04 250 P P 07 13 12.3 +5.7
TRTT Trang 66.04 251 P P 07 13 11.9 +5.3
I39A Houston 66.08 49 eP P 07 13 07.3 +0.8
comp=Z,11nm,0.8s
I39A Houston 66.08 49 P P 07 13 07.6 +1.1
baz=321
IDID Didziasalis 66.12 333 eP P 07 13 07.2 +0.7
IDID IAmb IAmb 07 13 08.8
comp=Z,24nm,1.0s
319A Douglas 66.14 69 eP P 07 13 08.5 +1.3
comp=Z,9.9nm,1.0s
ODD1 Odda 66.21 346 eP P 07 13 09.0 +1.9
IIGN Ignalina 66.24 333 eP P 07 13 07.8 +0.6
IIGN IAmb IAmb 07 13 09.7
comp=Z,33nm,0.8s
H41A Junction City 66.35 47 P P 07 13 09.2 +1.0
baz=321
SCHQ Schefferville 66.36 28 eP P 07 13 08.6 +0.5
comp=Z,18nm,0.9s
SCHQ Schefferville 66.36 28 P P 07 13 09.3 +1.2
comp=Z,13nm,0.8s,baz=355,slow=7.9,SNR=17
J39A Decorah 66.39 49 P P 07 13 09.2 +0.7
baz=321
I40A Norwalk 66.47 48 P P 07 13 10.3 +1.3
baz=321
MICGM Minsk 66.51 332⇓eP P 07 13 09.0 0.0
MICGM PM 07 13 10.0
comp=Z,0.3nm,1.0s
MNK Minsk 66.51 332⇓eP P 07 13 09.0 0.0
MNK pmax pmax
comp=Z,290nm,1.0s
BLS5 Blasjo 66.70 346 eP P 07 13 11.4 +1.1
PBUR Paburg 66.77 336 eP P 07 13 11.2 +0.6
PBUR IAmb IAmb 07 13 13.0
comp=Z,72nm,0.7s
SCIA State Center 66.78 51 eP P 07 13 12.0 +1.0
comp=Z,54nm,0.6s
SCIA State Center 66.78 51 P P 07 13 12.0 +1.0
baz=320
K39A Oelwein 66.80 50 P P 07 13 11.8 +0.7
baz=321
D46A Sault St. Mari 66.98 42 P P 07 13 12.2 0.0
baz=323
KMY Karmoy 67.08 346 eP P 07 13 14.2 +1.6
MATQ Matagami 67.15 37 P P 07 13 13.0 -0.2
baz=326,SNR=5.2
K40A Colesburg 67.15 49 P P 07 13 13.8 +0.5
baz=321
J41A Loganville 67.15 48 P P 07 13 12.7 -0.6
baz=321
L39A Vinton 67.19 50 P P 07 13 14.5 +1.0
baz=321
D47A Chapleau 67.23 42 P P 07 13 13.8 0.0
baz=324
E46A Sault Ste Mari 67.29 43 P P 07 13 14.4 +0.2
baz=323
JFWS Jewell Farm 67.40 49 P P 07 13 15.1 +0.2
baz=321
HOMB Homborsund 67.48 344 eP P 07 13 16.2 +1.1
COEN Coen 67.56 198 eP P 07 13 16.2 +0.1
comp=Z,16nm,1.1s
F46A Macinaw City C 67.57 43 P P 07 13 16.4 +0.5
baz=323
I43A Langenfeld Bro 67.59 47 P P 07 13 16.7 +0.6
baz=322
J42A Columbus 67.60 48 P P 07 13 16.6 +0.4
baz=322
L40A Anamosa 67.61 50 P P 07 13 16.5 +0.3
baz=321
SNART Snartemo 67.62 345 eP P 07 13 17.9 +1.9
E47A Iron Bridge 67.64 42 P P 07 13 15.9 -0.4
baz=324
GEYT Alibeck 67.66 303 P P 07 13 16.7 0.0
comp=Z,13nm,0.7s,baz=26,slow=3.8,SNR=22
GEYT LR LR 07 45 31.7
comp=Z,1μm,18.0s,baz=250,slow=38
GYA0B ALIBECK ARRAY 67.66 303 eP P 07 13 15.7 -1.0
comp=Z,13nm,0.6s
D48A Paudash Townsh 67.66 41 P P 07 13 16.6 +0.2
baz=324
D49A Beulah Townshi 67.76 40 P P 07 13 16.4 -0.7
baz=324
G46A Petoskey 67.89 44 P P 07 13 19.1 +1.1
baz=323
K42A Prairie Point, 67.92 48 P P 07 13 19.0 +0.9
baz=322
H45A Beulah 67.94 45 P P 07 13 17.5 -0.7
baz=323
LSQQ Lebel-sur-Quev 67.97 37 P P 07 13 18.8 +0.5
baz=326
IPM Ipoh 68.00 248 eP P 07 13 18.5 -0.5
comp=Z,18nm,0.8s
E48A Lockeyer 68.08 41 P P 07 13 19.5 +0.4
baz=324
MNTX Cornudas Mount 68.12 66 eP P 07 13 21.5 +1.8
comp=Z,6.6nm,1.0s
MNTX Cornudas Mount 68.12 66 P P 07 13 21.8 +2.2
baz=319,SNR=7.5
CHGQ Chibougamau 68.19 35 P P 07 13 19.4 -0.4
baz=328,SNR=11
N40A Mertquake, Sal 68.35 51 P P 07 13 21.6 +0.8
baz=321
H46A Fife Lake 68.37 44 P P 07 13 21.9 +0.9
baz=323
L42A Oliver, Polo 68.38 49 P P 07 13 21.3 +0.3
baz=322
K43A Burlington 68.44 48 P P 07 13 22.3 +0.9
baz=322
M41A Milan 68.46 50 P P 07 13 22.5 +0.9
baz=322
VLDQ Val d'Or 68.58 37 eP P 07 13 21.4 -0.7
comp=Z,23nm,0.8s
L43A Garden Prairie 68.66 48 P P 07 13 22.6 -0.2
baz=322
D51A Lot 18 Range I 68.69 39 P P 07 13 23.0 +0.1
baz=326
E50A Wahnapitae 68.70 41 P P 07 13 22.9 0.0
baz=325
J45A Montague 68.73 46 P P 07 13 24.2 +1.0
baz=323
I46A Reed City 68.74 45 P P 07 13 23.8 +0.5
baz=323
H47A Mio 68.75 44 P P 07 13 23.8 +0.5
baz=324
N41A Harden Midland 68.83 50 eP P 07 13 24.8 +0.9
comp=Z,32nm,0.8s
N41A Harden Midland 68.83 50 P P 07 13 24.7 +0.8
baz=322
E51A G1948 Merrick 69.10 40 P P 07 13 25.2 -0.3
baz=326,SNR=6.3
D52A ZEK Kipawa Sen 69.16 39 P P 07 13 25.9 +0.1
baz=326
COP Copenhagen 69.21 341 iP P 07 13 27.3 +1.4
COP Copenhagen 69.21 341 iP P 07 13 27.3 +1.4
BSD Bornholm Skovb 69.23 340 iP P 07 13 26.7 +0.6
BSD Bornholm Skovb 69.23 340 iP P 07 13 26.7 +0.6
D53A Lac Vacive, Po 69.34 38 P P 07 13 26.6 -0.3
baz=326
AKASG Malin Array Be 69.41 329 P P 07 13 27.3 0.0
comp=Z,15nm,0.4s,baz=31,slow=6.8,SNR=81
AKASG LR LR 07 49 12.3
comp=Z,836nm,18.6s,baz=50,slow=41
AKBB Malin Array Si 69.41 329 eP P 07 13 26.8 -0.5
comp=Z,84nm,1.3s
KIEV Kiev 69.42 329 eP P 07 13 26.9 -0.4
comp=Z,90nm,1.3s
KIEV Kiev 69.42 329⇑iP P 07 13 27.1 -0.3
KIEV Kiev 69.42 329 iP P 07 13 27.1 -0.3
SNR=35
KIEV Kiev 69.42 329c iP P 07 13 27.1 -0.3
KIEV pmax pmax
comp=Z,68nm,1.2s
WMOK Wichita Mounta 69.44 60 eP P 07 13 29.0 +1.2
comp=Z,13nm,1.1s
WMOK Wichita Mounta 69.44 60 P P 07 13 29.2 +1.3
baz=320,SNR=14
MTN Manton Dam 69.53 210 eP P 07 13 29.0 +0.7
comp=Z,17nm,0.8s
J47A Sunmer 69.57 45 P P 07 13 29.6 +1.2
baz=324
K46A Dorr 69.59 46 P P 07 13 29.2 +0.6
baz=323
E52A Mattawa 69.63 39 P P 07 13 29.1 +0.3
baz=326
D54A Lac Fusel, La 69.68 38 P P 07 13 29.1 +0.1
baz=327,SNR=6.3
HDIL Hopedale 69.69 50 eP P 07 13 29.9 +0.7
comp=Z,20nm,0.8s
HDIL Hopedale 69.69 50 P P 07 13 29.9 +0.7
baz=322
F52A Sundridge 69.78 40 P P 07 13 29.4 -0.3
baz=326
KLBO Killbear Provi 69.78 41 P P 07 13 29.7 0.0
baz=326
E53A Dumoine, Ponti 69.94 39 P P 07 13 30.8 +0.1
baz=327
K47A Vermontville 69.95 45 P P 07 13 31.6 +0.8
baz=324
E54A Lac Daplat, Po 70.08 38 P P 07 13 31.4 -0.1
baz=327,SNR=6.6
RGN Rugen 70.09 340 eP P 07 13 31.6 +0.2
comp=Z,73nm,0.7s
TUL1 Leonard 70.11 57 eP P 07 13 32.9 +1.0
comp=Z,18nm,1.1s
TUL1 Leonard 70.11 57 P P 07 13 32.6 +0.8
baz=321
NCK Nalchik 70.14 316⇓eP P 07 13 32.8 +0.9
NCK pmax pmax
comp=Z,9.0nm,0.3s
KVAR Kislovodsk Arr 70.14 317 P P 07 13 32.7 +0.7
comp=Z,6.6nm,0.6s,baz=0.0,slow=6.1,SNR=6.9
ALGO Algonquin Park 70.14 39 P P 07 13 31.6 -0.3
baz=326
KIV Kislovodsk 70.14 317 eP P 07 13 31.4 -0.7
comp=Z,11nm,0.7s
KIV Kislovodsk 70.14 317⇑iP P 07 13 33.2 +1.1
KIV Kislovodsk 70.14 317 eP P 07 13 32.3 +0.2
KIV pmax pmax
comp=Z,43nm,1.0s
K48A Perry 70.23 45 P P 07 13 33.5 +1.0
baz=324
KBZ Khabaz 70.24 317 P P 07 13 32.8 +0.3
comp=Z,18nm,0.8s,baz=89,slow=2.1,SNR=35
KBZ LR LR 07 47 03.9
comp=Z,478nm,19.5s,baz=339,slow=38
P43A Skaggs, Pawnee 70.30 50 P P 07 13 33.7 +0.8
baz=322
O44A Mansfield 70.39 49 P P 07 13 34.0 +0.5
baz=323
Q42A Golden Eagle 70.39 51 P P 07 13 35.4 +1.9
baz=322
L47A Sherwood 70.42 46 P P 07 13 34.0 +0.4
baz=324
R41A Rosebud 70.47 52 P P 07 13 34.4 +0.4
baz=322,SNR=6.8
H52A Wyevale 70.50 41 P P 07 13 34.7 +0.6
baz=326
K49A Clarkson 70.53 44 P P 07 13 35.9 +1.6
baz=324
PSI Prapat 70.56 248 eP P 07 13 35.0 -0.1
comp=Z,6.6nm,0.8s
ZEI Tsey 70.58 316 eP P 07 13 33.5 -1.4
ZEI pmax pmax
comp=Z,11nm,0.9s
ABTX Abilene, Hawle 70.59 62 P P 07 13 36.9 +2.0
baz=320
G53A Haliburton 70.61 40 P P 07 13 34.9 +0.1
baz=326
O45A Potomac 70.66 49 P P 07 13 35.2 +0.1
baz=323
PEMO Pembroke 70.69 39 P P 07 13 34.3 -0.9
baz=327
NEY Neytrino 70.71 317⇓eP P 07 13 37.0 +1.4
CCM Cathedral Cave 70.72 52 eP P 07 13 36.3 +0.7
comp=Z,8.0nm,1.0s
CCM Cathedral Cave 70.72 52 P P 07 13 36.8 +1.3
baz=322
I51A Listowel 70.73 42 P P 07 13 36.2 +0.6
baz=325
HHAR Hobbs 70.77 55 eP P 07 13 36.7 +0.8
comp=Z,8.6nm,0.8s
L48A N Adams 70.79 46 P P 07 13 36.7 +0.8
baz=324
BEL Belsk 70.84 335 eP P 07 13 37.8 +1.8
BEL Belsk 70.84 335 eP P 07 13 37.8 +1.8
S41A Jillco Farms, 70.84 53 P P 07 13 36.9 +0.5
baz=322,SNR=8.0
LTX Lajitas 70.87 67 eP P 07 13 38.6 +1.8
TX31 Lajitas Ar. Si 70.87 67 eP P 07 13 38.4 +1.7
comp=Z,8.9nm,1.0s
TXAR Lajitas Array 70.87 67 P P 07 13 38.6 +1.8
comp=Z,4.7nm,0.8s,baz=304,slow=4.6,SNR=40
LATQ La Tuque 70.89 35 P P 07 13 36.7 +0.2
baz=329
F55A Otter Lake 70.90 38 P P 07 13 35.9 -0.5
baz=327
L49A Milan 70.94 45 P P 07 13 38.3 +1.4
baz=324
BANO Bancroft 70.97 40 P P 07 13 36.7 -0.3
baz=327
TBLG Delisi 71.07 314 eP P 07 13 37.3 -0.3
comp=Z,19nm,0.8s
N47A Urbana 71.08 47 P P 07 13 38.3 +0.6
baz=324
G55A Calabogie 71.24 39 P P 07 13 38.9 +0.3
baz=327
U40A Yellville 71.26 55 P P 07 13 39.4 +0.6
baz=322,SNR=14
ACTO Acton 71.28 42 P P 07 13 39.1 +0.2
baz=326
PLVO Plevna 71.28 39 P P 07 13 39.4 +0.6
baz=327
M49A Liberty Center 71.37 46 P P 07 13 38.9 -0.5
baz=324
PKRO Pickering 71.39 41 P P 07 13 38.9 -0.7
baz=326
HYB Hyderabad 71.39 275⇑iP P 07 13 40.0 +0.1
comp=Z,130nm,1.0s
N48A Decatur 71.40 47 P P 07 13 40.0 +0.4
baz=324,SNR=6.1
P46A Rosedale 71.40 49 P P 07 13 40.5 +0.9
baz=324,SNR=5.4
L50A Kingsville 71.41 44 P P 07 13 39.8 +0.1
baz=325
DELO Deloro Mine 71.51 40 P P 07 13 40.4 +0.2
baz=327
Q45A Warren Harvey, 71.54 50 P P 07 13 41.4 +1.0
baz=323
ORIO Orleans, Innes 71.54 38 P P 07 13 40.5 +0.1
baz=328
ANN Anapa 71.56 321 eP P 07 13 39.1 -1.4
ANN e*PP pP 07 13 52.5 -1.0
ANN e 07 16 18.0
ANN pmax pmax
comp=Z,27nm,0.8s
ANN MLR MLR
comp=Z,995nm,24.0s
TORO Toronto--Lesli 71.57 41 P P 07 13 40.4 -0.2
baz=326
ALFO Alfred 71.62 37 P P 07 13 40.6 -0.2
baz=328,SNR=5.9
H55A Tweed 71.65 39 P P 07 13 41.4 +0.4
baz=327
SOC Sochi 71.67 319 eP P 07 13 40.0 -1.2
SOC e 07 16 17.2
SOC eS S 07 22 51.8 -5.3
SOC eSSS SSS 07 30 46.5
SOC pmax pmax
comp=Z,20nm,0.7s
SOC MLR MLR
comp=Z,1μm,17.0s
W39A Magazine 71.69 56 P P 07 13 42.0 +0.6
baz=322
WLVO Wesleyville 71.70 41 P P 07 13 41.8 +0.4
baz=327
N49A Columbus Grove 71.72 46 P P 07 13 41.9 +0.4
baz=324
PLIO Pelee Island, 71.73 45 P P 07 13 41.9 +0.3
baz=325
LVV L'vov 71.76 332 eP P 07 13 42.6 +0.9
TYNO Tyneside 71.79 42 P P 07 13 41.7 -0.2
baz=326
O48A Farmland 71.83 47 P P 07 13 42.4 +0.2
baz=324
M50A Fremont 71.83 45 P P 07 13 42.3 +0.1
baz=325
AKH Akhalkalaki 71.88 315 eP P 07 13 42.5 -0.2
comp=Z,25nm,0.8s
AKH Akhalkalaki 71.88 315⇑iP P 07 13 43.8 +1.1
P47A Martinsville 71.94 48 P P 07 13 42.7 -0.2
baz=324
ESK Eskdalemuir 71.95 350 eP P 07 13 43.0 +0.4
comp=Z,29nm,1.0s
R45A Skylar, Fairfi 71.96 50 P P 07 13 42.9 -0.1
baz=323
S44A Carbondale 71.97 51 P P 07 13 43.5 +0.4
baz=323
SIUC Southern Illin 71.97 51 eP P 07 13 44.0 +0.9
comp=Z,15nm,0.8s
H56A Elgin 71.98 39 P P 07 13 42.9 -0.1
baz=328
PBMO Poplar Bluff 72.12 53 eP P 07 13 44.6 +0.6
comp=Z,8.7nm,0.9s
J54A Appleton 72.14 41 P P 07 13 44.0 0.0
baz=327
JCT Junction City 72.15 63 eP P 07 13 45.2 +0.9
comp=Z,11nm,1.1s
O49A Covington 72.25 47 P P 07 13 45.1 +0.4
baz=325
M51A Elyria 72.26 45 P P 07 13 44.7 -0.1
baz=325
N50A Nevada 72.30 45 P P 07 13 45.4 +0.4
baz=325
MIAR Mount Ida 72.31 56 eP P 07 13 46.7 +1.5
comp=Z,8.0nm,1.0s
MIAR Mount Ida 72.31 56 P P 07 13 45.7 +0.6
baz=322
S45A Carrier Mills 72.31 51 P P 07 13 46.3 +1.2
baz=323
KWP Kalwaria Pacla 72.31 333 eP P 07 13 46.2 +1.2
KWP Kalwaria Pacla 72.31 333 eP P 07 13 45.1 +0.2
comp=Z,873nm,1.0s
KWP Kalwaria Pacla 72.31 333 eP P 07 13 46.2 +1.2
Q47A Bedord North L 72.31 49 P P 07 13 46.2 +1.1
baz=324
P48A Milroy 72.35 48 P P 07 13 45.5 +0.1
baz=324,SNR=6.3
GNI Garni 72.35 313 eP P 07 13 45.5 -0.1
comp=Z,21nm,0.8s
GNI Garni 72.35 313c iP P 07 13 46.8 +1.2
GNI pmax pmax
comp=Z,137nm,1.5s
GNI Garni 72.35 313 P P 07 13 46.7 +1.1
SNR=7.2
GNI Garni 72.35 313 P P 07 13 46.5 +1.0
comp=Z,15nm,0.7s,baz=169,slow=4.4,SNR=9.1
M52A Chesterland 72.45 44 P P 07 13 47.5 +1.6
baz=326

W41B	Gary Mavity, V	72.49	55	eP		P	07 13 46.8 +0.6
	comp=Z,8.4nm,0.9s						
W41B	Gary Mavity, V	72.49	55	P		P	07 13 47.1 +0.9
	baz=322,SNR=6.3						
BATM	Batumi	72.49	316	⇓iP		P	07 13 46.5 +0.4
N51A	Ashland	72.52	45	eP		P	07 13 47.1 +0.8
	comp=Z,39nm,1.2s						
N51A	Ashland	72.52	45	P		P	07 13 46.5 +0.1
	baz=325,SNR=6.7						
OJC	Ojcow	72.57	335	eP		P	07 13 47.8 +1.3
OJC	Ojcow	72.57	335	eP		P	07 13 46.4 -0.1
	comp=Z,30nm,1.0s						
OJC	Ojcow	72.57	335	eP		P	07 13 47.8 +1.3
LONY	Lake Ozonia	72.59	38	P		P	07 13 47.0 +0.3
	baz=328						
P49A	Miami Univ. Ec	72.61	47	P		P	07 13 46.9 0.0
	baz=325						
BCA	Borcka	72.65	316	⇑iP		P	07 13 47.3 +0.2
SIM	Simferopol'	72.69	323	eP		P	07 13 47.9 +0.6
SIM				e			07 13 59.0
SIM				pmax		pmax	
	comp=Z,20nm,0.7s						
SIM				MLR		MLR	
	comp=Z,500nm,17.6s						
S46A	Don Dixon Farm	72.71	50	P		P	07 13 48.3 +0.8
	baz=324						
KIS	Kishinev	72.78	328	⇑iP		P	07 13 48.0 +0.3
	comp=Z,170nm,2.0s						
KIS	Kishinev	72.78	328	⇑iP		P	07 13 48.0 +0.3
KIS				pmax		pmax	
	comp=Z,170nm,2.0s						
R47A	Wooly Knot Far	72.78	49	P		P	07 13 48.6 +0.7
	baz=324						
ACSO	Alum Creek Sta	72.82	46	eP		P	07 13 49.3 +1.2
	comp=Z,16nm,0.9s						
ACSO	Alum Creek Sta	72.82	46	P		P	07 13 49.1 +1.0
	baz=325						
M53A	WI Miller and	72.82	43	P		P	07 13 49.7 +1.6
	baz=326						
K55A	Perry	72.83	41	P		P	07 13 48.5 +0.3
	baz=327,SNR=6.8						
MOQ	Mont Orford	72.86	36	eP		P	07 13 49.2 +0.8
KSP	Ksiaz	72.88	337	eP		P	07 13 49.5 +1.2
KSP	Ksiaz	72.88	337	eP		P	07 13 49.5 +1.2
MMNY	Mt. Morris Dam	72.89	41	eP		P	07 13 49.0 +0.5
	comp=Z,25nm,0.9s						
WCI	Wyandotte Cave	72.94	49	P		P	07 13 50.2 +1.4
	baz=324						
Q49A	Aurora	72.96	48	P		P	07 13 49.1 +0.1
	baz=325						
P50A	Jamestown	72.96	47	P		P	07 13 49.3 +0.3
	baz=325						
R48A	Northridge Ran	73.00	49	P		P	07 13 50.1 +0.9
	baz=324						
KOLS	Kolonicke sedl	73.06	333	eP		P	07 13 50.4 +1.0
KOLS				pmax		pmax	
	comp=Z,17nm,0.9s						
KOLS	Kolonicke sedl	73.06	333	eP		P	07 13 50.4 +1.0
L55A	Hinsdale	73.13	42	P		P	07 13 50.8 +0.8
	baz=327						
T46A	Princeton	73.14	51	P		P	07 13 50.7 +0.6
	baz=324,SNR=7.1						
NIE	Niedzica	73.17	334	eP		P	07 13 51.4 +1.3
NIE	Niedzica	73.17	334	eP		P	07 13 51.4 +1.3
S47A	Hartford	73.18	50	P		P	07 13 50.8 +0.5
	baz=324						
M54A	Oil Creek Stat	73.19	43	P		P	07 13 51.0 +0.7
	baz=326						
CLL	Collm	73.20	339	eP		P	07 13 50.5 +0.3
	comp=Z,47nm,1.0s						
CLL	Collm	73.20	339	⇑iP		P	07 13 51.0 +0.8
CLL				e*PP		pP	07 14 03.0 -0.3
CLL				pmax		pmax	
	comp=Z,61nm,1.1s						
CLL	Collm	73.20	339	⇑iP		P	07 13 51.0 +0.8
	comp=Z,61nm,1.1s						
CLL				epP		pP	07 14 03.0 -0.3
CLL				e			07 14 11.0
SEVA	Sevastopol	73.21	323	⇑iP		P	07 13 50.2 -0.2
UPC	Upice	73.26	337	eP		P	07 13 52.1 +1.5
UPC	Upice	73.26	337	eP		P	07 13 52.1 +1.5
N53A	Lisbon	73.27	44	eP		P	07 13 51.8 +1.0
	comp=Z,14nm,1.0s						
N53A	Lisbon	73.27	44	P		P	07 13 51.5 +0.7
	baz=326						
DPC	Dobruska-Polom	73.33	337	eP		P	07 13 52.5 +1.5
DPC				e			07 14 04.6
DPC	Dobruska-Polom	73.33	337	eP		P	07 13 52.5 +1.5
DPC				epP		pP	07 14 04.6 +0.4
UZH	Uzhgorod	73.33	332	c iP		P	07 13 50.5 -0.5
BUR08	Bucovina Ar. S	73.36	330	eP		P	07 13 51.5 +0.1
	comp=Z,18nm,0.8s						
BURAR	Bucovina Array	73.38	330	⇑iP		P	07 13 52.0 +0.6
P51A	Williamsport	73.39	46	P		P	07 13 52.1 +0.6
	baz=325						
BRG	Berggiesshubel	73.40	339	⇑iP		P	07 13 52.0 +0.6
	comp=Z,13nm,0.9s						
BRG	Berggiesshubel	73.40	339	⇑iP		P	07 13 52.0 +0.6
BRG				pmax		pmax	
	comp=Z,13nm,0.9s						
R49A	Shelbyville	73.41	48	P		P	07 13 53.0 +1.3
	baz=325						
O52A	Adamsville	73.41	45	eP		P	07 13 52.3 +0.6
	comp=Z,26nm,0.9s						
O52A	Adamsville	73.41	45	P		P	07 13 52.1 +0.5
	baz=326,SNR=8.1						
LEOM	Leova	73.42	328	⇑iP		P	07 13 52.8 +1.3
KRLC	Kraliky	73.47	336	eP		P	07 13 53.3 +1.4
KRLC	Kraliky	73.47	336	eP		P	07 13 53.3 +1.4
KRLC				ex		x	07 13 57.8
N54A	Moraine State	73.50	43	eP		P	07 13 53.3 +1.1
	comp=Z,22nm,1.0s						
N54A	Moraine State	73.50	43	P		P	07 13 52.8 +0.6
	baz=326,SNR=6.6						
S48A	Wiedeman Farm,	73.51	49	P		P	07 13 52.9 +0.6
	baz=324,SNR=5.9						
MORC	Moravsky Berou	73.56	336	eP		P	07 13 52.4 0.0
	comp=Z,38nm,1.0s						
MORC	Moravsky Berou	73.56	336	⇓iP		P	07 13 53.5 +1.1
MORC	Moravsky Berou	73.56	336	eP		P	07 13 53.4 +1.1
T47A	Sharon Grove	73.56	50	eP		P	07 13 53.7 +1.2
	comp=Z,18nm,1.0s						
T47A	Sharon Grove	73.56	50	P		P	07 13 53.7 +1.2
	baz=324,SNR=7.8						
O53A	New Philadelph	73.57	45	P		P	07 13 53.0 +0.5
	baz=326,SNR=6.9						
PVCC	Panska Ves	73.58	338	eP		P	07 13 53.7 +1.3
PVCC				e			07 14 05.2
PVCC	Panska Ves	73.58	338	eP		P	07 13 53.7 +1.3
PVCC				epP		pP	07 14 05.2 -0.4
M55A	Ridgway	73.59	42	P		P	07 13 53.2 +0.5
	baz=327,SNR=9.1						
LANS	Liptovska Anna	73.64	334	eP		P	07 13 54.8 +2.0
LANS	Liptovska Anna	73.64	334	eP		P	07 13 54.8 +2.0
Q51A	Peebles	73.64	47	P		P	07 13 53.8 +0.8
	baz=325						
BIZ	Bicaz	73.70	329	⇓iP		P	07 13 54.0 +0.8
TRPA	Tarpa	73.71	332	⇑iP		P	07 13 54.5 +1.3
TRPA	Tarpa	73.71	332	⇑iP		P	07 13 54.0 +0.8
S49A	Springfield	73.77	49	P		P	07 13 54.4 +0.7
	baz=325						
T48A	Bowling Green	73.80	50	P		P	07 13 55.7 +1.8
	baz=324						
WTSB	Winterswijk	73.80	343	eP		P	07 13 54.8 +1.2
	comp=Z,61nm,1.0s						
R50A	Paris	73.80	48	P		P	07 13 55.7 +1.7
	baz=325						
LBNH	Lisbon	73.90	36	eP		P	07 13 55.2 +0.7
	comp=Z,22nm,1.0s						
LBNH	Lisbon	73.90	36	P		P	07 13 55.7 +1.3
	baz=330						
WVT	Waverly	73.90	51	eP		P	07 13 55.5 +0.9
	comp=Z,8.2nm,0.9s						
WVT	Waverly	73.90	51	P		P	07 13 56.0 +1.5
	baz=324						
TESR	Tescani	73.91	329	⇓iP		P	07 13 54.7 +0.3
U47A	Clarksville	73.91	51	P		P	07 13 56.0 +1.4
	baz=324						
PKME	Peaks-Kenny Pk	73.94	34	P		P	07 13 56.1 +1.5
	baz=331						
KECS	Kecovo	73.97	333	eP		P	07 13 56.0 +1.2
KECS				pmax		pmax	
	comp=Z,54nm,0.9s						
KECS	Kecovo	73.97	333	eP		P	07 13 56.0 +1.2
O54A	Avella	73.99	44	P		P	07 13 55.6 +0.6
	baz=326,SNR=5.8						
V46A	Holladay	74.03	52	P		P	07 13 55.9 +0.6
	baz=324,SNR=6.0						
N55A	Marion Center	74.08	43	eP		P	07 13 55.5 0.0
	comp=Z,20nm,0.9s						
N55A	Marion Center	74.08	43	P		P	07 13 56.0 +0.5
	baz=327,SNR=7.3						
PRU	Pruhonice	74.09	338	eP		P	07 13 56.7 +1.3
PRU				e			07 14 09.0
PRU	Pruhonice	74.09	338	eP		P	07 13 56.7 +1.3
PRU				epP		pP	07 14 09.0 +0.4
GOPC	GO Pecny, Ondr	74.10	338	eP		P	07 13 56.3 +0.8
GOPC	GO Pecny, Ondr	74.10	338	eP		P	07 13 56.3 +0.8
GOPC				ex		x	07 14 02.5
BINY	Binghamton	74.10	40	P		P	07 13 55.4 -0.3
	baz=328						
ARCR	ARCALIA	74.11	330	⇑iP		P	07 13 57.3 +1.7
P53A	Whipple	74.12	45	P		P	07 13 57.0 +1.2
	baz=326						
R51A	Hillsboro	74.13	47	P		P	07 13 57.1 +1.3
	baz=325						
Q52A	Bidwell	74.17	46	P		P	07 13 56.9 +0.8
	baz=326						
T49A	Edmonton	74.20	49	P		P	07 13 56.8 +0.5
	baz=325						
U48A	Cassie Pea, Po	74.21	50	P		P	07 13 57.4 +1.0
	baz=324,SNR=5.6						
VRAC	Vranov	74.23	336	⇑iP		P	07 13 57.7 +1.4
VRAC	Vranov	74.23	336	eP		P	07 13 57.6 +1.3
S50A	Richmond	74.26	48	P		P	07 13 58.0 +1.3
	baz=325						
V47A	Nunnelly	74.30	51	P		P	07 13 58.3 +1.4
	baz=324						
NKC	Novy Kostel	74.33	339	eP		P	07 13 58.2 +1.3
NKC	Novy Kostel	74.33	339	eP		P	07 13 58.2 +1.3
TLCR		74.37	327	⇓iP		P	07 13 57.7 +0.6
JAVC	Velka Javorina	74.37	335	eP		P	07 13 59.3 +2.1
VYHS	Vyhne	74.41	335	eP		P	07 13 58.7 +1.4
VYHS				pmax		pmax	
	comp=Z,13nm,1.0s						
VYHS	Vyhne	74.41	335	eP		P	07 13 58.7 +1.4
O55A	Ligonier	74.42	43	P		P	07 13 58.2 +0.6
	baz=327,SNR=6.2						
P54A	Burton	74.42	44	P		P	07 13 58.5 +1.0
	baz=326,SNR=8.2						
WVL	Waterville	74.43	35	eP		P	07 13 58.6 +1.1
	comp=Z,38nm,1.0s						
VRI	Vrincioaia	74.46	328	⇓iP		P	07 13 58.3 +0.6
PLOR	Plostina	74.50	328	⇑iP		P	07 13 58.1 +0.2
KRUC	Moravsky	74.51	336	eP		P	07 13 59.2 +1.3
TREC	Trest	74.51	337	eP		P	07 13 59.2 +1.3
TREC				e			07 14 11.7
TREC	Trest	74.51	337	eP		P	07 13 59.2 +1.3
TREC				epP		PcP	07 14 11.7 -0.5
R52A	Catlettsburg	74.52	47	P		P	07 13 59.2 +1.0
	baz=326						
U49A	Red Boiling Sp	74.57	50	P		P	07 13 59.6 +1.2
	baz=325						
LTVH	Ltavrtes, Hu	74.57	332	eP		P	07 13 59.1 +0.8
Q53A	Leroy	74.58	46	P		P	07 13 59.8 +1.3
	baz=326,SNR=7.5						
T50A	Nancy	74.60	49	P		P	07 13 59.1 +0.5
	baz=325						
CFR	Carcaliu	74.60	327	⇓iP		P	07 13 58.8 +0.4
PSZ	Piszkesteto	74.65	334	eP		P	07 13 59.5 +0.7
	comp=Z,28nm,1.0s						
PSZ	Piszkesteto	74.65	334	⇑iP		P	07 14 00.2 +1.4
MCWV	Mont Chateau	74.65	44	eP		P	07 14 00.1 +1.3
	comp=Z,9.2nm,0.9s						
MCWV	Mont Chateau	74.65	44	P		P	07 13 59.2 +0.3
	baz=327						
CLTN	Cedars of Leba	74.65	50	eP		P	07 14 00.1 +1.2
	comp=Z,7.5nm,0.9s						
SSPA	Standing Stone	74.65	42	eP		P	07 13 59.7 +0.9
	comp=Z,19nm,0.9s						
SSPA	Standing Stone	74.65	42	P		P	07 13 59.7 +0.9
	baz=326						
CJR	Cluj-Napoca	74.68	331	⇑iP		P	07 14 00.1 +1.1
O56A	Blue Knob Stat	74.68	43	eP		P	07 13 60.0 +0.9
	comp=Z,19nm,0.9s						
O56A	Blue Knob Stat	74.68	43	P		P	07 13 59.7 +0.6
	baz=327,SNR=6.8						
V48A	Smith Brothers	74.70	51	P		P	07 14 00.2 +0.9
	baz=324,SNR=6.3						
W47A	Westpoint	74.72	52	P		P	07 13 59.7 +0.4
	baz=324						
BISRR	Bisoca	74.74	328	⇓iP		P	07 14 01.6 +2.2
SMOL	Smolenice	74.75	335	eP		P	07 14 01.9 +2.6
SMOL	Smolenice	74.75	335	eP		P	07 14 01.9 +2.6
SNOP	Sinop	74.78	321	eP		P	07 13 59.5 0.0
	comp=Z,19nm,1.0s						
P55A	Reedsville	74.78	44	P		P	07 14 00.5 +0.9
	baz=327,SNR=8.1						
Q54A	Coxs Mills	74.78	45	P		P	07 13 59.8 +0.1
	baz=326						
DOPR	Dopca	74.79	329	⇑iP		P	07 13 59.8 +0.2
X46A	Booneville	74.80	53	P		P	07 14 00.7 +0.9
	baz=324						
R53A	Hurricane	74.83	46	P		P	07 14 00.1 +0.2
	baz=326						
DRGR		74.87	331	⇑iP		P	07 14 01.0 +0.9
LMN	Caledonia Moun	74.90	31	eP		P	07 14 01.0 +0.8
	comp=Z,21nm,0.8s						
MODS	Modra-Piesok	74.92	335	eP		P	07 14 01.1 +0.8
MODS				pmax		pmax	
	comp=Z,26nm,0.9s						
MODS	Modra-Piesok	74.92	335	eP		P	07 14 01.1 +0.8
MLR	Muntele Rosu	75.04	329	eP		P	07 14 01.2 +0.1
	comp=Z,30nm,0.7s						
MLR	Muntele Rosu	75.04	329	⇓iP		P	07 14 02.2 +1.0
MLR	Muntele Rosu	75.04	329	P		P	07 14 02.0 +0.9
	comp=Z,27nm,0.6s,baz=158,slow=7.4,SNR=53						
EMMW	East Machias	75.05	33	eP		P	07 14 02.0 +0.9
	comp=Z,29nm,0.9s						
T51A	Gray	75.05	48	P		P	07 14 02.6 +1.3
	baz=325						
DIKM	Dikmen	75.08	321	⇑iP		P	07 14 02.2 +0.9
U50A	Jamestown	75.09	49	P		P	07 14 02.4 +1.0
	baz=325,SNR=6.7						
Q55A	Buckhannon	75.10	44	P		P	07 14 02.0 +0.5
	baz=327						
GRA1	Grafenberg Arr	75.11	340	eP		P	07 14 02.0 +0.6
	comp=Z,51nm,1.0s						
GRFO	Grafenberg	75.11	340	eP		P	07 14 01.5 +0.2
	comp=Z,44nm,1.0s						
HGN	Heimansgroeve	75.11	343	eP		P	07 14 02.4 +1.1
	comp=Z,102nm,1.1s						
KHC	Kasperske Hory	75.11	338	eP		P	07 14 01.9 +0.4
	comp=Z,14nm,1.0s						
KHC	Kasperske Hory	75.11	338	eP		P	07 14 02.8 +1.4
KHC				e			07 14 15.3
KHC	Kasperske Hory	75.11	338	eP		P	07 14 02.8 +1.4
KHC				epP		PcP	07 14 15.3 +0.5
V49A	McMinnville	75.12	50	P		P	07 14 02.2 +0.5
	baz=325						
BEBN	Eben Emael	75.12	344	⇑P		P	07 14 02.6 +1.3
ZST	Bratislava	75.13	335	eP		P	07 14 02.7 +1.2
ZST	Bratislava	75.13	335	eP		P	07 14 02.7 +1.2
W48A	Pulaski	75.13	51	P		P	07 14 02.5 +0.7
	baz=324,SNR=7.3						
TLB	Topalu	75.16	327	⇑iP		P	07 14 02.1 +0.5
ISR	Istrita	75.18	328	⇑iP		P	07 14 02.9 +1.0
X47A	Russelville	75.19	52	P		P	07 14 02.4 +0.4
	baz=324						
MEM	Membach	75.24	343	⇑P		P	07 14 03.3 +1.2
	comp=Z,70nm,1.0s						
N59A	State Game Lan	75.28	41	eP		P	07 14 03.1 +0.6
	comp=Z,20nm,0.8s						
N59A	State Game Lan	75.28	41	P		P	07 14 03.1 +0.6
	baz=328,SNR=11						
BZK	Bozkurt	75.30	322	⇑iP		P	07 14 03.9 +1.4
WRAB	Tennant Creek	75.34	205	⇓iP		P	07 14 03.9 +1.0
WB2	Warramunga Arr	75.34	205	eP		P	07 14 03.3 +0.4
	comp=Z,12nm,0.8s						
WR1	Warramunga Arr	75.35	205	eP		P	07 14 03.8 +0.9
WRA	Warramunga Arr	75.35	205	P		P	07 14 03.8 +0.9
	comp=Z,6.1nm,0.7s,baz=23,slow=5.3,SNR=46						
GEC2	GERESS Array S	75.35	338	eP		P	07 14 03.1 +0.2
	comp=Z,17nm,0.9s						
GERES	GERESS Array B	75.35	338	P		P	07 14 03.9 +1.0
	comp=Z,9.8nm,0.8s,baz=35,slow=4.9,SNR=61						
VOIR		75.37	329	⇑iP		P	07 14 04.2 +1.2
T52A	Hallie	75.38	48	P		P	07 14 04.2 +1.1
	baz=326						
R54A	Victor	75.38	46	P		P	07 14 04.5 +1.4
	baz=326						
W49A	Belvidere	75.47	51	P		P	07 14 04.7 +1.0
	baz=325						
PAGS	Pennsylvania G	75.47	42	eP		P	07 14 04.4 +0.8
	comp=Z,18nm,0.9s						
U51A	La Follette	75.50	49	P		P	07 14 04.9 +1.1
	baz=325						
HRV	Adam Dziewonsk	75.53	37	P		P	07 14 04.4 +0.5
	baz=330						
BCLA	Clavier	75.55	344	⇑P		P	07 14 04.9 +1.0
ARR	Arges	75.57	329	⇓iP		P	07 14 05.8 +1.7
V50A	Pikevile	75.57	50	P		P	07 14 04.6 +0.3
	baz=325,SNR=6.0						
TZTN	Tazewell	75.58	48	eP		P	07 14 05.2 +0.9
	comp=Z,23nm,1.5s						
TZTN	Tazewell	75.58	48	P		P	07 14 04.3 0.0
	baz=326						
CSKK	Cskako	75.60	334	eP		P	07 14 06.0 +1.8
O59A	Robesonia	75.62	41	P		P	07 14 04.9 +0.4
	baz=328						
SNF	Seneffe	75.64	344	P		P	07 14 05.3 +1.0
	comp=Z,24nm,0.9s						
X48A	Hartselle	75.64	52	P		P	07 14 05.9 +1.3
	baz=324						
ICOR	Ion Corvin	75.65	327	⇑iP		P	07 14 05.6 +1.1
SIRR	Siria	75.65	332	⇑iP		P	07 14 05.5 +1.0
R55A	Marlinton	75.68	45	P		P	07 14 05.4 +0.5
	baz=327						
T53A	Wise	75.68	47	P		P	07 14 05.9 +1.0
	baz=326						
CONA	Conrad Observa	75.69	336	i P		P	07 14 06.6 +1.8
	comp=Z,37nm,1.1s,SNR=15						
SOP	Sopron	75.74	336	eP		P	07 14 07.0 +2.0
Q57A	Strasburg	75.78	43	P		P	07 14 06.3 +0.9
	baz=328						
U52A	Thorn Hill	75.79	48	P		P	07 14 06.1 +0.6
	baz=326						
V51A	Loudon	75.82	49	eP		P	07 14 06.6 +0.9
	comp=Z,13nm,0.9s						
V51A	Loudon	75.82	49	P		P	07 14 06.8 +1.2
	baz=325						
W50A	Signal Mountai	75.86	50	eP		P	07 14 06.8 +0.9
	comp=Z,11nm,0.8s						
W50A	Signal Mountai	75.86	50	P		P	07 14 06.7 +0.8
	baz=325,SNR=5.8						
PSN	Preselentsi	75.90	326	eP		P	07 14 07.4 +1.4
O60A	Telford	75.93	41	P		P	07 14 06.2 0.0
	baz=329						
X49A	Woodville	75.93	51	P		P	07 14 07.5 +1.2
	baz=325						
PAL	Palisades	75.94	39	eP		P	07 14 06.5 +0.3
	comp=Z,30nm,0.8s						
PAL	Palisades	75.94	39	P		P	07 14 06.8 +0.6
	baz=329						
DOU	Dourbes	75.98	344	⇑P		P	07 14 07.3 +1.0
	comp=Z,14nm,1.0s						
Y48A	Jasper	76.01	52	P		P	07 14 07.2 +0.4
	baz=324						
CPCT	Cooper Cave	76.03	50	eP		P	07 14 07.8 +0.9
	comp=Z,7.8nm,0.9s						
T54A	Tazewell	76.05	47	P		P	07 14 08.2 +1.2
	baz=326						
CPNY	Central Park	76.10	39	eP		P	07 14 07.9 +0.8
	comp=Z,32nm,0.8s						
P59A	Jarrettsville	76.12	42	P		P	07 14 08.1 +0.9
	baz=328,SNR=6.0						
TIH	Tihany	76.12	334	eP		P	07 14 08.1 +0.9
V52A	Sevierville	76.14	49	P		P	07 14 07.9 +0.5
	baz=326						
W51A	Cleveland	76.15	50	P		P	07 14 07.6 +0.1
	baz=325						
MOA	Molln	76.15	337	i P		P	07 14 08.7 +1.3
	comp=Z,16nm,0.9s,SNR=16						
U53A	Fall Branch	76.17	48	P		P	07 14 08.5 +0.8
	baz=326						
ILGA	Ilgaz	76.19	321	eP		P	07 14 08.1 +0.2
	comp=Z,60nm,1.0s						
PSUB	Penn St. - Bra	76.25	41	eP		P	07 14 08.7 +0.7
	comp=Z,12nm,0.9s						
BZS	Buzias	76.26	331	⇑iP		P	07 14 08.5 +0.5
P60A	Greenville	76.27	41	P		P	07 14 08.1 0.0
	baz=329						
X50B	Fort Payne	76.30	51	P		P	07 14 09.0 +0.5
	baz=325						
R57A	Stanardsville	76.35	44	P		P	07 14 09.4 +0.7
	baz=328						
T55A	Pulaski	76.35	46	P		P	07 14 08.8 +0.1
	baz=327						
U54A	Nelsons Funny	76.39	47	P		P	07 14 08.8 -0.1
	baz=326						
ARSA	Arzberg	76.41	336	i P		P	07 14 10.5 +1.7
	comp=Z,21nm,0.9s,SNR=10						
S56A	Natural Bridge	76.42	45	P		P	07 14 10.0 +1.0
	baz=327						
Y49A	Blount Mountai	76.42	52	P		P	07 14 09.7 +0.6
	baz=325						
BLA	Blacksburg	76.44	46	P		P	07 14 10.1 +1.0
	baz=327						
R58A	Rapidan	76.57	43	P		P	07 14 10.8 +0.9
	baz=328,SNR=6.0						
X51A	Calhoun	76.59	50	P		P	07 14 10.4 +0.3
	baz=325						
W52A	Murphy	76.59	49	eP		P	07 14 11.0 +0.9
	comp=Z,12nm,1.0s						
W52A	Murphy	76.59	49	P		P	07 14 10.8 +0.7
	baz=326						
S57A	Dark Hollow, R	76.62	44	eP		P	07 14 11.0 +0.8
	comp=Z,14nm,1.1s						
S57A	Dark Hollow, R	76.62	44	P		P	07 14 10.5 +0.3
	baz=327						
V53A	Saluda	76.64	48	P		P	07 14 10.5 +0.2
	baz=326						
Q59A	Harwood	76.66	42	P		P	07 14 11.5 +1.2
	baz=328						
HERR	Herculane	76.69	331	⇑iP		P	07 14 10.5 +0.1
Y50A	Piedmont	76.72	51	P		P	07 14 11.4 +0.6
	baz=325						
U55A	TA2, Sparta	76.75	47	P		P	07 14 11.3 +0.3
	baz=327						
LRAL	Lakeview Retre	76.81	53	P		P	07 14 11.7 +0.4
	baz=325						
148A	Greensboro	76.84	53	P		P	07 14 12.3 +0.9
	baz=324						
W53A	Cullowhee	76.89	49	P		P	07 14 12.2 +0.3
	baz=326						
Z49A	Columbiana	76.90	52	P		P	07 14 12.7 +0.9
	baz=325						
R58B	Mineral	76.91	44	P		P	07 14 13.1 +1.4
	baz=328						
CBN	Corbin Frederi	76.92	43	P		P	07 14 13.4 +1.6
	baz=328						
V54A	Nebo	76.94	48	P		P	07 14 13.1 +1.1
	baz=326						
MDVR	Moldovita	76.99	331	⇓iP		P	07 14 12.5 +0.3
BFO	Black Forest	77.00	341	eP		P	07 14 12.1 0.0
	comp=Z,18nm,1.0s						
X52A	Dahlonega	77.01	50	P		P	07 14 13.8 +1.3
	baz=326						
R59A	King George, V	77.03	43	P		P	07 14 13.1 +0.7
	baz=328						
Y51A	Rockmart	77.04	51	P		P	07 14 13.3 +0.8

comp=Z,51nm,1.1s,SNR=14
S59A Mechanicsville 77.32 43 P P 07 14 15.7 +1.6
baz=328
ECH Echery 77.33 342 eP P 07 14 14.1 +0.1
comp=Z,32nm,1.0s
OBKA Obir 77.34 337 i P P 07 14 15.6 +1.4
comp=Z,35nm,1.3s,SNR=9.2
MOTA Moosalm 77.35 339 i P P 07 14 15.6 +1.3
comp=Z,30nm,0.9s,SNR=19
BR131 Keskin Array S 77.36 321 eP P 07 14 14.3 -0.1
comp=Z,50nm,1.5s
BR131 Keskin Array S 77.36 321 P P 07 14 14.8 +0.4
SNR=22
BRTR Keskin Array B 77.36 321 P P 07 14 15.0 +0.5
BRTR Keskin Array B 77.36 321 P P 07 14 14.9 +0.5
comp=Z,12nm,0.9s,baz=64,slow=2.9,SNR=47
BRTR PP PP 07 17 03.5 -5.0
comp=Z,1.7nm,0.8s,baz=45,slow=7.2,SNR=3.6
X53A Estanollee 77.37 49 P P 07 14 14.3 -0.1
baz=326
W54A Cherokee Point 77.41 48 P P 07 14 14.7 0.0
baz=326
MYKA Terra Mystica 77.45 337 i P P 07 14 15.9 +1.1
comp=Z,17nm,1.4s,SNR=6.1
SQTA Sankt Quirin 77.45 339 i P P 07 14 16.5 +1.7
comp=Z,39nm,0.9s,SNR=15
T58A Grand View Acr 77.48 45 P P 07 14 16.2 +1.2
baz=328
ANTO Ankara 77.56 321 eP P 07 14 15.5 0.0
comp=Z,26nm,0.9s
ANTO Ankara 77.56 321 P P 07 14 16.7 +1.2
SNR=8.1
U57A Blanch 77.56 45 P P 07 14 15.8 +0.4
baz=327
V56A Mocksville 77.57 47 P P 07 14 17.2 +1.7
baz=327
ABTA Abfaltersbach 77.60 338 i P P 07 14 16.8 +1.2
comp=Z,47nm,1.1s,SNR=21
249A Camden 77.60 53 P P 07 14 15.6 -0.2
baz=325
150A Eclectic 77.63 52 P P 07 14 15.2 -0.6
baz=325
S60A Water View 77.64 43 P P 07 14 17.5 +1.6
baz=328
MDUB Mudurnu 77.64 323 eP P 07 14 15.5 -0.5
comp=Z,151nm,0.9s
DAVA Damuels 77.67 340 i P P 07 14 17.3 +1.2
comp=Z,22nm,0.9s,SNR=10
FETA Feichten 77.74 339 i P P 07 14 18.1 +1.6
comp=Z,32nm,1.0s,SNR=14
KMSC Kings Mountain 77.75 48 P P 07 14 17.2 +0.7
baz=327
CRES Cresnjev 77.75 336⇑ i P P 07 14 17.3 +0.9
X54A Belton 77.77 49 P P 07 14 17.3 +0.7
baz=326
Y53A Monroe 77.77 50 P P 07 14 16.8 +0.1
baz=326
V57A Coltrane Farms 77.83 46 P P 07 14 17.3 +0.4
baz=327
T59A Double "B" Far 77.88 44 P P 07 14 18.2 +1.0
baz=328
PALK Pallekele 77.91 266 P P 07 14 18.2 +0.6
comp=Z,14nm,0.9s,baz=319,slow=0.6,SNR=3.7
SHME Shamm 77.92 297 i P P 07 14 17.6 -0.1
SNR=18
Z52A Williamson 77.92 51 P P 07 14 18.5 +1.0
baz=326
U58A Oxford 77.94 45 P P 07 14 18.6 +1.0
baz=328
PHSR Pinarhisar 77.94 326⇑ i P P 07 14 18.5 +1.0
151A Opelika 78.03 52 P P 07 14 18.7 +0.6
baz=325
CEY Cerknica 78.09 336 eP P 07 14 19.2 +0.9
BOJS Bojanci 78.10 336 eP P 07 14 19.2 +0.9
DIVS Divibare 78.12 332⇑ i P P 07 14 18.9 +0.4
X55A Gracelyn & Ava 78.17 48 P P 07 14 20.0 +1.1
baz=327
Y54A Tignall 78.19 49 P P 07 14 19.9 +0.9
baz=326,SNR=7.5
V58A Windy Hill, Pi 78.19 46 P P 07 14 20.2 +1.3
baz=328
FUORN Ofenpass-Fuorn 78.22 339 eP P 07 14 20.1 +0.8
comp=Z,22nm,0.9s
PGB Panagyurishte 78.25 328 eP P 07 14 20.2 +1.0
DIM Dimitrovgrad 78.25 327 eP P 07 14 20.4 +1.2
BRAL Brewton 78.29 54 P P 07 14 19.6 +0.1
baz=325
BLY Banja Luka 78.30 334⇑ i P P 07 14 20.3 +0.9
W57A Gilead 78.34 47 P P 07 14 19.8 0.0
baz=327
251A Midway 78.35 52 P P 07 14 19.4 -0.4
baz=325
CLF Chambon-Foret 78.37 345 eP P 07 14 20.2 +0.5
comp=Z,57nm,1.2s
X56A White Oak 78.43 48 P P 07 14 21.0 +0.7
baz=327
MSFE Esma-Masafi 78.46 296 i P P 07 14 20.4 -0.2
SNR=16
U60A Pendleton 78.47 44 P P 07 14 20.4 -0.1
baz=328
PLD Plovdiv 78.47 328 eP P 07 14 21.1 +0.7
VTS Vitosha 78.48 329 eP P 07 14 20.7 0.0
comp=Z,28nm,0.8s
VTS Vitosha 78.48 329 P P 07 14 16.6 -4.1
VTS Vitosha 78.48 329⇓ i P P 07 14 21.3 +0.6
VTS Vitosha 78.48 329 eP P 07 14 21.4 +0.7
BBLS Lazići 78.50 332⇑ i P P 07 14 21.6 +1.0
Y55A Saluda 78.51 49 P P 07 14 21.7 +0.9
baz=327
TUE Stuetta 78.56 340 eP P 07 14 21.5 +0.4
comp=Z,33nm,0.8s
V59A Middlesex 78.60 45 P P 07 14 22.2 +1.0
baz=328
Z54A Sparta 78.63 50 P P 07 14 22.2 +0.8
baz=326
WSAR Wadi Sarin 78.75 293 P P 07 14 22.8 +0.6
SNR=8.7
WSAR Wadi Sarin 78.75 293 P P 07 14 22.7 +0.5
comp=Z,52nm,0.8s,baz=77,slow=4.5,SNR=40
W58A Raeford 78.79 46 P P 07 14 22.7 +0.4
baz=328
BIDO Bidbid 78.81 294 P P 07 14 23.7 +1.2
SNR=12
U61A Possum Corner 78.89 43 P P 07 14 22.7 -0.1
baz=329
HATD Hatta, Dubai 78.89 296 i P P 07 14 23.1 0.0
SNR=32
HATD P P 07 14 23.2 +0.2
HATD Hatta, Dubai 78.89 296 P P 07 14 22.8 -0.2
SNR=18
Z55A Blythe 78.97 49 P P 07 14 23.8 +0.5
baz=327
PLE Pljevlja 79.00 332⇑ i P P 07 14 24.2 +0.8
W59A Clinton 79.02 46 P P 07 14 23.7 +0.2
baz=328
AS31 Alice Springs 79.02 205 eP P 07 14 23.8 +0.4
comp=Z,2.2nm,0.8s
ASAR Alice Springs 79.02 205 P P 07 14 25.0 +1.5
ASAR Alice Springs 79.02 205 P P 07 14 25.0 +1.5
comp=Z,6.0nm,0.7s,baz=15,slow=5.3,SNR=73
NAZ Nazwa, Dubai 79.02 297 i P P 07 14 23.8 +0.1
SNR=11
NAZ Nazwa, Dubai 79.02 297 P P 07 14 23.4 -0.3
SNR=8.3
V60A Jim Taylor Roa 79.03 44 P P 07 14 24.3 +0.8
baz=328
ASHO Ashiyiah 79.05 296 i P P 07 14 23.8 -0.1
SNR=44
ASHO Ashiyiah 79.05 296 P P 07 14 23.6 -0.3
SNR=20
SENIN Lac Senin/Sane 79.08 341 eP P 07 14 23.9 0.0
comp=Z,13nm,0.9s
ALN Alexandroupoli 79.11 326 eP P 07 14 23.8 -0.1
comp=Z,26nm,1.0s
ALN Alexandroupoli 79.11 326 P P 07 14 22.6 -1.3
JLN Jalan Bani Buh 79.16 292 P P 07 14 25.6 +1.1
SNR=6.3
KKB Krupnik 79.21 329 eP P 07 14 25.6 +1.1
SMDO Samad 79.22 294 P P 07 14 26.0 +1.1
SNR=9.3
SOHO SOHO 79.22 295 P P 07 14 24.8 0.0
SNR=28
HOQ Hoqain 79.22 294 P P 07 14 25.8 +1.0
SNR=8.2
UPM Unac-Piva 79.25 332⇑ i P P 07 14 25.1 +0.2
UPM Unac-Piva 79.25 332 eP P 07 14 25.5 +0.6
MMB Musomiste 79.25 328 eP P 07 14 25.7 +0.9

FAQ Al Faqa, Dubai 79.25 296 i P P 07 14 24.8 -0.1
SNR=11
FAQ Al Faqa, Dubai 79.25 296 P P 07 14 25.0 0.0
SNR=7.6
IVA Berane 79.27 332⇑ i P P 07 14 25.6 +0.7
V61A Roper 79.30 44 P P 07 14 25.8 +0.8
baz=329
KOME Kolasin 79.40 332⇑ i P P 07 14 25.9 +0.3
W60A Pink Hill 79.43 45 P P 07 14 25.7 0.0
baz=328
ASUD Al Ashush, Dub 79.49 297 i P P 07 14 26.6 +0.3
SNR=16
ASUD Al Ashush, Dub 79.49 297 P P 07 14 26.7 +0.5
SNR=6.5
PVY Plav 79.50 331⇑ i P P 07 14 26.6 +0.4
BALB Balikesir 79.58 325 eP P 07 14 26.6 +0.1
comp=Z,158nm,0.9s
NKY Niksic 79.58 332⇑ i P P 07 14 26.6 0.0
SKO Skopje 79.63 330 i P P 07 14 27.4 +0.7
BRY Bratogost 79.63 332⇑ i P P 07 14 26.8 -0.1
BRY Bratogost 79.63 332⇑ i P P 07 14 26.8 -0.1
NKME Niksic 79.64 332⇑ i P P 07 14 26.7 -0.1
STIP Stip 79.65 329 i P P 07 14 26.6 -0.3
ALNE Al Ain 79.71 296 i P P 07 14 27.7 +0.2
SNR=9.5
SRS Serrai 79.72 328 P P 07 14 24.9 -2.4
JMDO Jabal Madar 79.73 293 P P 07 14 28.6 +1.0
SNR=7.4
AJN Ajban 79.73 297 P P 07 14 27.0 -0.5
SNR=5.9
TIGA Tifton 79.76 51 P P 07 14 29.5 +1.9
baz=326
CEME Cevo 79.85 332⇑ i P P 07 14 27.9 -0.1
ARQ Araqi 79.86 295 P P 07 14 28.5 +0.2
SNR=12
TREB Trebinje 79.86 333 eP P 07 14 28.0 0.0
PDG Podgorica 79.86 332⇓ i P P 07 14 28.3 +0.3
PDG Podgorica 79.86 332⇑ i P P 07 14 28.1 +0.1
TTG Podgorica 79.86 332⇑ i P P 07 14 28.0 +0.1
TTG Podgorica 79.86 332 eP P 07 14 27.7 -0.2
comp=Z,43nm,0.8s
VAY Valandovo 79.86 329 i P P 07 14 29.1 +1.1
STON Ston 79.90 333 eP P 07 14 28.3 +0.2
KNT Kendrikon 79.91 329 P P 07 14 24.5 -3.8
BSY Bisya 79.94 294 P P 07 14 29.4 +0.7
SNR=11
EZN Ezine 79.97 326⇑ i P P 07 14 29.2 +0.6
HCY Herceg Novi 80.06 332⇑ i P P 07 14 28.8 -0.3
HCY Herceg Novi 80.06 332⇑ i P P 07 14 28.8 -0.3
BUM Brajici-Budva 80.08 332⇑ i P P 07 14 29.3 0.0
DRME Dracevica, Mon 80.10 332⇑ i P P 07 14 29.7 +0.4
DRME Dracevica, Mon 80.10 332⇑ i P P 07 14 29.6 +0.3
PHP Peshkopia 80.19 331 P P 07 14 25.3 -4.6
355A Pearson 80.19 51 P P 07 14 31.3 +1.3
baz=326
KRUS Krusevo 80.23 330 i P P 07 14 30.7 +0.6
GRG Griva 80.25 329 P P 07 14 26.9 -3.3
LIA Linnos Island 80.29 327 P P 07 14 27.7 -2.6
ULC Ulcinj 80.29 332⇑ i P P 07 14 31.2 +0.8
MANT Manisa 80.36 324 eP P 07 14 30.9 -0.1
comp=Z,126nm,0.9s
PLG Polygyros 80.44 328 P P 07 14 27.8 -3.4
BNI Bardonecchia 80.46 341 eP P 07 14 32.0 +0.7
comp=Z,29nm,1.0s
BIA Bitola 80.53 330 i P P 07 14 32.2 +0.5
OHR Ohrid 80.61 330 i P P 07 14 32.4 +0.3
SSB Saint Sauveur 80.65 343 eP P 07 14 32.9 +0.6
comp=Z,47nm,1.2s
TIR Tirane 80.67 331 eP P 07 14 32.3 -0.1
comp=Z,47nm,0.7s
TIR Tirane 80.67 331⇑ i P P 07 14 33.0 +0.6
FNA Florina 80.73 330 eP P 07 14 32.6 -0.1
comp=Z,22nm,0.9s
PAIG Paliouri 80.77 328 P P 07 14 25.4 -7.5
MHTO MHTO 80.90 292 P P 07 14 34.8 +0.9
SNR=34
CHOS Chios island 81.34 325 P P 07 14 30.0 -6.1
XOR Xorichti 81.44 328 P P 07 14 32.4 -4.1
FYTO Fytoko, Volos 81.48 328 P P 07 14 29.7 -7.0
CSS Mathiatis 81.60 318 eP P 07 14 37.0 -0.5
comp=Z,45nm,0.8s
MZR Muzera 81.80 297 i P P 07 14 39.3 +0.7
SNR=10
MZR Muzera 81.80 297 P P 07 14 39.2 +0.5
SNR=15
557A Orange Park 81.83 51 P P 07 14 40.1 +1.5
baz=327
SMIA Simia 81.87 328 P P 07 14 30.8 -8.0
MRKA Markates 81.90 327 P P 07 14 32.7 -6.3
DQM DQM 81.98 292 P P 07 14 39.9 +0.3
SNR=6.5
KSL Kastellorizon 82.04 322 P P 07 14 32.3 -7.4
MATE Matera 82.23 333⇑ i P P 07 14 41.1 +0.5
MMAI Mount Meron Ar 82.41 316 P P 07 14 42.8 +1.0
comp=Z,45nm,0.7s,baz=27,slow=7.5,SNR=39
ASF Jabal al Asfar 82.48 314 P P 07 14 43.1 +0.9
comp=Z,22nm,0.8s,baz=48,slow=1.9,SNR=35
KLV Kalavryta, Ach 82.97 328 P P 07 14 37.3 -7.3
TIP Timpagrande 83.58 332 eP P 07 14 47.7 -0.1
comp=Z,33nm,1.1s
TIP Timpagrande 83.58 332⇓ i P P 07 14 48.7 +0.9
ITM Ithomi 83.83 328 eP P 07 14 48.3 -0.7
comp=Z,23nm,0.7s
LAST Lasithi 84.44 324 P P 07 14 45.2 -7.0
IDI Anoyia 84.53 325 P P 07 14 51.2 -1.4
comp=Z,14nm,0.6s,baz=17,slow=12,SNR=14
STKA Stephens Creek 85.34 196 eP P 07 14 57.4 +1.1
comp=Z,1.6nm,1.0s
STKA Stephens Creek 85.34 196 P P 07 14 57.6 +1.4
comp=Z,3.5nm,0.8s,baz=331,slow=7.8,SNR=4.9
EIL Elat 85.48 315 P P 07 14 58.2 +0.8
comp=Z,33nm,0.9s,baz=356,slow=2.7,SNR=18
PGAV Gavieira, Arco 85.66 351 eP P 07 15 00.3 +2.1
comp=Z,32nm,1.9s
PBRG Braganca 85.67 350 eP P 07 15 00.2 +2.0
comp=Z,23nm,1.3s
POLO Lamas de Olo 86.20 351 eP P 07 15 02.9 +2.0
comp=Z,19nm,1.0s
PVRL Vila Real 86.29 351 eP P 07 15 03.2 +1.9
comp=Z,46nm,0.9s
MVO Moncorvo 86.33 350 eP P 07 15 03.4 +1.9
comp=Z,47nm,1.0s
PVIS Viseu 86.86 351 eP P 07 15 06.0 +1.9
comp=Z,39nm,1.0s
MTE Manteigas 87.14 351 eP P 07 15 07.2 +1.7
comp=Z,35nm,1.3s
MTE Manteigas 87.14 351 eP P 07 15 05.9 +0.5
comp=Z,22nm,0.8s
ESDC Sonseca Array 87.45 348 P P 07 15 07.7 +0.8
comp=Z,18nm,1.0s,baz=3.6,slow=4.9,SNR=32
ESLA Sonseca Array 87.45 348 eP P 07 15 07.2 +0.3
comp=Z,16nm,1.0s
PCAS Casmilo, Conde 87.57 351 eP P 07 15 09.7 +2.2
comp=Z,48nm,2.1s
PAB San Pablo 87.62 348 eP P 07 15 08.0 +0.2
comp=Z,6.3nm,0.8s
PCBR Castelo Branco 87.69 351 eP P 07 15 11.0 +3.0
comp=Z,22nm,1.9s
KEST Kesra 88.79 337 eP P 07 15 13.3 -0.1
comp=Z,17nm,0.9s
KEST Kesra 88.79 337 P P 07 15 13.6 +0.2
comp=Z,18nm,1.0s,baz=308,slow=4.3,SNR=8.7
KEST LR LR 07 59 47.7
comp=Z,1µm,19.8s,baz=165,slow=39
TORD Torodi Ar. Bea 112.31 337 PP PP 07 21 33.9 -6.1
comp=Z,1.5nm,0.9s,baz=14,slow=7.5,SNR=3.9
DBIC Dimbokro 119.97 343 ePKPdf PKPdf 07 21 09.8 -0.3
DBIC Dimbokro 119.97 343 PKP PKiKP 07 21 11.1 +0.9
comp=Z,5.3nm,0.8s,baz=116,slow=1.6,SNR=3.6
LPAZ La Paz 127.72 65 ePKPdf PKPdf 07 21 24.9 -0.7
LPAZ La Paz 127.72 65 ePKIKP PKPdf 07 21 24.9 -0.7
LPAZ La Paz 127.72 65 PKP PKiKP 07 21 26.8 +0.6
comp=Z,1.9nm,0.9s,baz=297,slow=4.5,SNR=9.6
PB11 IPOC Station P 129.63 69 ePKPdf PKiKP 07 21 29.6 +0.3
SIV San Ignacio 131.29 58 PKP PKiKP 07 21 33.0 +0.4
comp=Z,4.5nm,0.9s,baz=359,slow=1.5,SNR=22
BDFB Brasilia 137.14 42 ePKIKP PKiKP 07 21 44.0 -0.6
BDFB Brasilia 137.14 42 PKP PKiKP 07 21 44.0 -0.6
comp=Z,1.9nm,0.6s,baz=90,slow=1.0,SNR=5.0
CPUP Villa Florida 141.73 62 PKP PKPdf 07 21 50.9 +0.3
comp=Z,3.3nm,1.1s,baz=315,slow=4.3,SNR=4.3
PLCA Paso Flores 143.88 92 ePKPdf PKPdf 07 21 55.0 +0.9
PLCA Paso Flores 143.88 92 PKP PKPdf 07 21 54.5 +0.4
comp=Z,3.9nm,0.9s,baz=333,slow=2.3,SNR=6.0
SUR Sutherland 144.66 288 ePKPdf PKPdf 07 21 56.7 +0.7

SYO Syowa Base 148.06 216⇓ eP PKPbc 07 22 02.4 -1.0
SYO Syowa Base 148.06 216⇓ i P PKiKP 07 22 05.0 -0.2
SNAA Sanae 159.10 195 PKPab PKPab 07 22 51.5 -1.6
SNAA Sanae 159.10 195 PKPab PKPab 07 22 53.4 +0.3
comp=Z,1.2nm,0.7s,baz=244,slow=5.9,SNR=5.4
VNA3 Neumayer Olymp 160.39 190 PKPab PKPab 07 22 58.7 +0.1
VNA3 Neumayer Olymp 160.39 190 PKPdf PKPdf 07 22 18.3 +0.9
VNA2 Neumayer--Watz 160.43 192 PKPab PKPab 07 22 59.6 +0.8
VNA2 Neumayer--Watz 160.43 192 PKPdf PKPdf 07 22 18.3 +0.9

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*IDC **21** 07:06:43.0±0.6, 52°.34N×160°.06E, h0km, mb4.3/36, mb1 4.4/38, mb1mx4.3/64, mbtmp4.3/38, ML3.5/2, Error ellipse: s-maj=17.3km s-min=11.0km az=148.0*
*KRSC **21** 07:06:44.3±10.0, 52°.12N×160°.44E, h60km±10km, ML4.8*
*BJI **21** 07:06:45.4±0.0, 52°.30N×160°.26E, h52km, mb4.7/28, mB5.0/9, Ms5.1/4, Ms7 5.0/4*
*NEIC **21** 07:06:47.8±1.0, 52°.19N×160°.15E, h35km, mb4.6/53, Error ellipse: s-maj=17.2km s-min=15.1km az=171.0*
*MOS **21** 07:06:48.4±1.1, 52°.27N×160°.12E, h56km, mb4.9/37, Error ellipse: s-maj=7.9km s-min=4.1km az=103.0*
*ISCJB **21** 07:06:48.1±0.6, 52°.22N±0°.03×160°.19E±0°.05, h55km±3km, mb4.5/101, MS4.8/1, Error ellipse: s-maj=6.8km s-min=3.8km az=139.8*
ISC 21 07:06:48.3±1.0, 52°20N±0°04×160°29E±0°04, h44km±8km, n279, σ1§18/302, mb4.6/101, 29C-9D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.91	350	eP	Pn	07 07 03.0	-1.8
SPN				eS	Sn	07 07 16.0	-0.8
SPN	Mys Shipunski	0.91	350	PN	Pn	07 07 03.0	-1.8
SPN				S	Sn	07 07 16.0	-0.8
RUS	Russkaya	1.12	283	eP	Pn	07 07 06.5	-1.0
RUS				eS	Sn	07 07 22.4	+0.7
RUS	Russkaya	1.12	283	PN	Pn	07 07 06.5	-1.0
RUS				S	Sn	07 07 22.4	+0.7
NLC	Nalytchevo	1.13	330	eP	Pn	07 07 07.3	-0.4
NLC				eS	Sn	07 07 24.0	+2.0
NLC	Nalytchevo	1.13	330	PN	Pn	07 07 07.3	-0.4
NLC				S	Sn	07 07 24.0	+2.0
DALK	Dalny	1.25	312	eP	Pn	07 07 08.7	-0.7
DALK				eS	Sn	07 07 25.9	+0.8
DALK	Dalny	1.25	312	PN	Pn	07 07 08.7	-0.7
DALK				S	Sn	07 07 25.9	+0.8
PET	Petropavlovsk	1.30	310	ePn	Pn	07 07 09.2	-0.8
PET				eSn	Sn	07 07 24.4	-1.7
PET	Petropavlovsk	1.30	310	PN	Pn	07 07 09.6	-0.3
PET				S	Sn	07 07 27.0	+0.9
MTVR	Mutnovka	1.32	283	eP	Pn	07 07 10.1	-0.4
MTVR				eS	Sn	07 07 27.1	+0.1
MTVR	Mutnovka	1.32	283	PN	Pn	07 07 10.1	-0.4
MTVR				S	Sn	07 07 27.1	+0.1
UGLR	Uglovaya	1.35	319	eP	Pn	07 07 10.8	0.0
UGLR	Uglovaya	1.35	319	PN	Pn	07 07 10.8	0.0
SDLR	Sedlovina	1.38	322	eP	Pn	07 07 11.2	0.0
SDLR	Sedlovina	1.38	322	PN	Pn	07 07 11.2	0.0
SMAR	Somma	1.40	320	eP	Pn	07 07 11.4	-0.2
SMAR	Somma	1.40	320	PN	Pn	07 07 11.4	-0.2
GRL	Gorelyy	1.41	285	eP	Pn	07 07 12.3	+0.7
GRL	Gorelyy	1.41	285	PN	Pn	07 07 12.3	+0.7
AVH	Avacha	1.43	319	eP	Pn	07 07 12.1	+0.3
AVH	Avacha	1.43	319	PN	Pn	07 07 12.1	+0.3
KDTR	Khodutka, Kamc	1.43	255	eP	Pn	07 07 10.6	-1.1
KDTR				eS	Sn	07 07 29.0	-0.2
KDTR	Khodutka, Kamc	1.43	255	PN	Pn	07 07 10.6	-1.1
KDTR				S	Sn	07 07 29.0	-0.2
KOK	Koryaka	1.49	318	eP	Pn	07 07 12.9	+0.2
KOK	Koryaka	1.49	318	PN	Pn	07 07 12.9	+0.2
KRX	Arik	1.53	320	eP	Pn	07 07 13.3	0.0
KRX	Arik	1.53	320	PN	Pn	07 07 13.3	0.0
PEA0B	Petropavlovsk-	1.82	301	ePn	Pn	07 07 15.9	-1.3
PEA0B				eSn	Sn	07 07 37.6	-1.4
PETK	Petropavlovsk-	1.82	301	Pn	Pn	07 07 18.2	+1.0
	89nm,0.3s,baz=101,slow=21,SNR=16						
PETK				Sn	Sn	07 07 42.5	+3.5
	105nm,0.3s,baz=106,slow=20,SNR=4.8						
PEA1	Petropavlovsk-	1.83	301	ePn	Pn	07 07 18.1	+0.9
APC	Apacha	2.05	292	eP	Pn	07 07 21.4	+1.2
APC	Apacha	2.05	292	PN	Pn	07 07 21.4	+1.2
MKZ	Mys Kozlova	2.51	19	eP	Pn	07 07 25.2	-1.4
MKZ				eS	Sn	07 07 53.3	-2.6
MKZ	Mys Kozlova	2.51	19	PN	Pn	07 07 25.2	-1.4
MKZ				S	Sn	07 07 53.3	-2.6
KZV	Kizimen	2.92	0	eP	Pn	07 07 32.4	+0.1
KZV	Kizimen	2.92	0	PN	Pn	07 07 32.4	+0.1
TUMD	Tumrok D	3.01	1	eP	Pn	07 07 33.3	-0.2
TUMD				eS	Sn	07 08 08.7	+0.4
SKR	Severo-Kuril's	3.02	241	eP	Pn	07 07 33.0	-0.6
SKR				eS	Sn	07 08 07.3	-1.2
SKR	Severo-Kuril's	3.02	241	ePN	Pn	07 07 36.7	+3.1
SKR				eS	Sn	07 08 11.5	+3.0
SKR				pmax	pmax		
	comp=Z,138nm,0.7s						
SKR				smax	smax		
	comp=E,760nm,0.8s						
SKR				smax	smax		
	comp=N,1µm,1.0s						
TUMR	Tumrok	3.09	358	eP	Pn	07 07 35.3	+0.6
TUMR	Tumrok	3.09	358	PN	Pn	07 07 33.3	-1.4
TUMR				S	Sn	07 08 08.7	-1.7
ESO	Esso	3.85	347	eP	Pn	07 07 46.3	+1.3
ESO	Esso	3.85	347	PN	Pn	07 07 46.3	+1.3
KBTR	Krutoberegovo	4.28	19	eP	Pn	07 07 50.4	-0.5
KBTR	Krutoberegovo	4.28	19	PN	Pn	07 07 50.4	-0.5
SMKR	Semkarok	4.44	8	eP	Pn	07 07 54.5	+1.3
SMKR	Semkarok	4.44	8	PN	Pn	07 07 54.5	+1.3
SRKR	Sorokina	4.49	6	eP	Pn	07 07 55.4	+1.5
SRKR	Sorokina	4.49	6	PN	Pn	07 07 55.4	+1.5
MA2	Magadan	9.12	328	ePn	Pn	07 08 56.3	-0.8
MA2	Magadan	9.12	328	ePN	Pn	07 08 56.3	-0.8
ASAJ	Asahikawa	14.29	243	Pn	Pn	07 10 06.2	-1.5
	comp=N,0.5nm,0.3s,baz=90,slow=14,SNR=2.3						
GRNR	Gornyy	14.93	274	eP	P	07 10 25.0	+3.9
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
BILL	Bilibino	16.15	8	ePn	Pn	07 10 32.8	+0.9
	comp=Z,17nm,0.9s						
BILL	Bilibino	16.15	8⇓	eP	P	07 10 34.2	-0.3
BILL				pmax	pmax		
	comp=Z,19nm,0.9s						
BILL				MLR	MLR		
	comp=Z,2µm,18.0s						
TEY	Ternei	17.18	255	eP	P	07 10 45.8	-0.2
KLR	Kul'dur	18.27	272⇑	eP	Pn	07 10 59.9	+1.7
KLR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KLR	Kul'dur	18.27	272	Pn	P	07 10 56.1	-1.9
	comp=Z,0.1nm,0.3s,baz=58,slow=13,SNR=2.0						
USA0B	Ussuriysk Arra	20.39	258	eP	P	07 11 18.6	-2.7
	comp=Z,14nm,1.0s						
USRK	Ussuriysk Ar.	20.39	258	eP	P	07 11 19.1	-2.2
USRK	Ussuriysk Ar.	20.39	258	P	P	07 11 19.4	-1.9
	comp=Z,10.0nm,0.9s,baz=58,slow=11,SNR=7.6						
MAJO	Matsushiro	22.10	234	eP	P	07 11 39.6	-0.1
	comp=Z,22nm,0.9s						
MAJO	Matsushiro	22.10	234	eP	P	07 11 39.6	-0.1
MAJO				pmax	pmax		
	comp=Z,22nm,0.9s						
MAT	Matsushiro	22.10	234	P	P	07 11 40.5	+0.8
MJAR	Matsushiro Arr	22.10	234	P	P	07 11 39.5	-0.2
	comp=Z,6.1nm,0.6s,baz=16,slow=9.5,SNR=11						
INU	Inuyama	23.63	234	eP	P	07 11 54.0	-1.3
	comp=Z,11nm,0.8s						
RDOG	Red Dog Mine	23.71	34	eP	P	07 11 56.8	+1.0
	comp=Z,7.7nm,0.9s						
TIXI	Tiksi	23.95	336	deP	P	07 11 57.0	-0.9
TIXI				pmax	pmax		
	comp=Z,19nm,0.7s						
TIXI	Tiksi	23.95	336	P	P	07 11 56.8	-1.1
	comp=Z,18nm,0.6s,baz=130,slow=8.6,SNR=13						
HIA	Hailar	25.60	280	eP	P	07 12 11.3	-1.9
	comp=Z,21nm,0.8s						
HIA	Hailar	25.60	280	eP	P	07 12 11.3	-1.9
HIA				pmax	pmax		
	comp=Z,21nm,0.8s						
KSRS	Korea Array	27.01	250	P	P	07 12 26.4	+0.5
	comp=Z,3.7nm,1.0s,baz=46,slow=10,SNR=6.7						
JNU	Nakatsue	28.53	240	P	P	07 12 40.2	+0.6
	comp=Z,5.2nm,1.0s,baz=24,slow=10.0,SNR=3.0						

TOLK	Toolik Lake Re	28.61	36	*e*P		P	07 12 40.7 +0.7
	comp=Z,3.6nm,1.0s						
ILAR	Eielson Array	29.36	44	P		P	07 12 47.5 +0.8
	comp=Z,0.6nm,0.8s,baz=263,slow=7.2,SNR=3.1						
ILB	Eielson Array	29.36	44	*e*P		P	07 12 47.6 +0.9
	comp=Z,1.6nm,0.8s						
BCAR	Beaver Creek A	31.73	47	*e*P		P	07 13 08.6 +1.0
H11N2	WAKE ISLAND Hy	32.81	168	T		T	07 49 08.0
	baz=352						
H11N3	WAKE ISLAND Hy	32.83	168	T		T	07 49 11.0
	baz=352,SNR=7.8						
H11N1	WAKE ISLAND Hy	32.83	168	T		T	07 49 13.6
	baz=352						
BCPM	Bancas Point	33.32	53	*e*P		P	07 13 23.3 +1.8
	comp=Z,20nm,0.8s						
TLY	Talaya	34.16	292	*e*P		P	07 13 28.2 -0.7
	comp=Z,5.7nm,0.9s						
TLY	Talaya	34.16	292	⇓*e*P		P	07 13 28.5 -0.5
SONA0	Songino Array	34.23	285	*e*P		P	07 13 28.9 -0.9
SONM	Songino Array	34.23	285	P		P	07 13 28.9 -0.9
	comp=Z,1.4nm,0.7s,baz=71,slow=6.6,SNR=4.0						
INK	Inuvik	34.51	37	*e*P		P	07 13 31.9 +0.2
	comp=Z,2.3nm,1.0s						
INK	Inuvik	34.51	37	*e*P		P	07 13 31.9 +0.2
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	Inuvik	34.51	37	P		P	07 13 32.0 +0.3
	comp=Z,1.1nm,0.7s,baz=293,slow=7.7,SNR=3.3						
HHC	Hu-ho-hao-te	34.76	271	*e*P		P	07 13 30.1 -4.3
HHC				SS	SS		07 21 10.5 -23
HHC				LR	LR		
	comp=Z,640nm,13.0s						
HHC				LR	LR		
	comp=Z,1μm,13.7s						
HHC				LR	LR		
	comp=Z,1μm,12.7s						
ZAK	Zakamensk	34.91	290	*e*P		P	07 13 33.6 -2.0
NJ2	Nanjing	36.09	253	*e*P		P	07 13 42.8 -2.9
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
WHN	Wuhan	39.84	255	P		P	07 14 19.0 +1.7
LZH	Lanzhou	42.46	271	*e*P		P	07 14 37.3 -1.7
LZH				pP	pP		07 14 50.3 -0.1
LZH				sP	sP		07 14 55.1 -0.2
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
GTA	Gaotai	42.84	277	*e*P		P	07 14 41.8 -0.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ZALV	Zalesovo Beam	43.37	304	*e*P		P	07 14 43.9 -2.0
ZALV	Zalesovo Beam	43.37	304	*e*P		P	07 14 43.9 -2.0
ZALV	Zalesovo Beam	43.37	304	P		P	07 14 44.1 -1.8
	comp=Z,3.8nm,0.9s,baz=61,slow=7.6,SNR=3.8						
NVS	Novosibirsk	43.73	305	⇑*i*P		P	07 14 47.2 -1.5
NVS				pmax	pmax		
	comp=Z,22nm,0.9s						
NVS				pmax	pmax		
	comp=N,9.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,18nm,0.9s						
YKA	Yellowknife Ar	43.74	42	P		P	07 14 49.4 +0.6
	comp=E,0.8nm,0.7s,baz=296,slow=7.5,SNR=4.8						
YKB5	Yellowknife Ar	43.74	42	*e*P		P	07 14 49.4 +0.6
RES	Resolute Bay	44.11	22	*e*P		P	07 14 52.2 +0.6
	comp=E,3.5nm,0.9s						
RES	Resolute Bay	44.11	22	*e*P		P	07 14 52.2 +0.6
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RES	Resolute Bay	44.11	22	P		P	07 14 52.3 +0.7
	comp=Z,2.2nm,0.8s,baz=310,slow=5.6,SNR=3.7						
DGZ	Jazzator, Alta	44.18	297	*d i*P		P	07 14 52.0 -0.7
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CD2	Chengdu	46.01	265	*e*P		P	07 15 03.3 -4.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WMQ	Urumqi	47.39	290	*e*P		P	07 15 18.4 +0.5
KBS	Kingsbay	47.78	352	*e*P		P	07 15 21.3 +0.9
	comp=Z,16nm,1.0s						
KBS	Kingsbay	47.78	352	*e*P		P	07 15 21.3 +0.9
KBS				pmax	pmax		
	comp=Z,16nm,1.0s						
SPA0	Spitsbergen Ar	48.04	351	*e*P		P	07 15 23.1 +0.6
	comp=Z,45nm,1.0s						
GHW	Garrison Hill	48.20	64	*e*P		P	07 15 25.1 +1.1
KURK	Kurchatov	48.31	303	*e*P		P	07 15 23.1 -1.7
	comp=Z,21nm,1.0s						
KURK	Kurchatov	48.31	303	*c i*P		P	07 15 23.0 -1.9
KURK				pmax	pmax		
	comp=Z,22nm,1.0s						
MK31	Makanchi Array	48.66	296	*e*P		P	07 15 25.9 -1.8
	comp=Z,3.4nm,0.7s						
MK31	Makanchi Array	48.66	296	*e*P		P	07 15 25.9 -1.8
MK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MK32	Makanchi Array	48.66	296	*e*P		P	07 15 26.3 -1.4
MKAR	Makanchi Array	48.66	296	P		P	07 15 26.3 -1.4
	comp=Z,2.4nm,0.6s,baz=57,slow=7.2,SNR=14						
GLK	Glacier Lake	48.85	64	*e*P		P	07 15 27.8 -1.4
KMI	Kunming	50.79	261	P		P	07 15 43.4 -1.0
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
BVAR	Borovoye Array	51.04	309	P		P	07 15 44.3 -1.4
	comp=Z,6.0nm,0.7s,baz=57,slow=7.8,SNR=9.5						
BRVK	Borovoye	51.07	309	*e*P		P	07 15 44.8 -1.1
	comp=Z,9.3nm,0.8s						
BRVK	Borovoye	51.07	309	⇓*i*P		P	07 15 44.4 -1.4
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DAG	Danmarks Havn	51.30	360	*i* P		P	07 15 47.9 +0.7
DAG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DAG	Danmarks Havn	51.30	360	*i* P		P	07 15 47.9 +0.7
	comp=Z,5.4nm,0.8s						
LVZ	Lovozero	53.57	338	*e*P		P	07 16 04.1 -0.1
	comp=Z,25nm,1.0s						
LVZ	Lovozero	53.57	338	*de*P		P	07 16 04.5 +0.3
LVZ				pmax	pmax		
	comp=Z,30nm,2.5s						
KEV	Kevo	53.70	342	*e*P		P	07 16 05.1 +0.1
	comp=Z,9.4nm,1.1s						
KEV	Kevo	53.70	342	*e*P		P	07 16 05.1 +0.1
KEV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ARU	Arti	54.14	318	*e*P		P	07 16 07.8 -0.6
	comp=Z,7.1nm,0.7s						
ARU	Arti	54.14	318	*d i*P		P	07 16 08.1 -0.3
ARU				S		S	07 23 39.6 -2.0
ARU				SS		SKiKP	07 27 13.7 -1.9
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARU	Arti	54.14	318	P		P	07 16 07.5 -0.9
	comp=Z,1.8nm,0.3s,baz=103,slow=4.1,SNR=3.7						
ARCES	ARCESS Array B	54.17	342	P		P	07 16 08.2 -0.3
	comp=Z,10nm,0.8s,baz=43,slow=9.0,SNR=11						
ARE0	ARCESS Array S	54.17	342	*e*P		P	07 16 08.7 +0.2
	comp=Z,0.9nm,0.9s						
LSA	Lhasa	54.61	274	*e*P		P	07 16 12.5 -0.3
	comp=Z,8.4nm,1.0s						
LSA	Lhasa	54.61	274	*e*P		P	07 16 12.5 -0.3
LSA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SUMG	Summit	54.83	7	*e*P		P	07 16 14.5 +0.8
	comp=Z,12nm,0.9s						
SUMG	Summit	54.83	7	*i* P		P	07 16 14.2 +0.4
SUMG				pmax	pmax		
	comp=Z,33nm,1.0s						
SUMG	Summit	54.83	7	*i* P		P	07 16 14.2 +0.4
	comp=Z,33nm,1.0s						
PRGR	Permogore	55.26	328	*e*P		P	07 16 15.6 -0.9
PRGR				pmax	pmax		
	comp=Z,19nm,1.0s						
AAK	Ala-Archa	55.58	297	*e*P		P	07 16 18.4 -1.0
	comp=Z,7.1nm,0.9s						
AAK	Ala-Archa	55.58	297	*e*P		P	07 16 18.4 -1.0
AAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AAK	Ala-Archa	55.58	297	P		P	07 16 18.8 -0.5
	comp=Z,6.1nm,0.9s,baz=42,slow=7.2,SNR=5.0						
TMCR	Tamitsa	55.63	333	*e*P		P	07 16 19.3 +0.2
TMCR				pmax	pmax		
	comp=Z,58nm,1.1s						
KVN	Kaiserville	55.63	69	*e*P		P	07 16 20.9 +1.2
	comp=Z,3.4nm,1.2s						
KVN	Kaiserville	55.63	69	*e*P		P	07 16 20.9 +1.2
KVN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
NVAR	Mina Array Bea	55.94	70	*e*P		P	07 16 23.2 +1.2
NVAR	Mina Array Bea	55.94	70	P		P	07 16 23.8 +1.8
	comp=Z,0.6nm,0.6s,baz=310,slow=7.6,SNR=4.0						
PANM	San Antonio Re	56.22	74	*e*P		P	07 16 23.3 -0.5
KSH	Kashi	56.86	293	P		P	07 16 26.0 -2.5
KSH				pP	pP		07 16 36.6 -3.7
KSH				PP	PP		07 18 34.6 -0.2
KSH				S	S		07 24 17.5 -1.2
KSH	Kashi	56.86	293	SS	SS		07 28 08.1 +1.3
KKAR	Karatay Array	57.43	300	*e*P		P	07 16 30.9 -1.3
	comp=Z,4.3nm,0.8s						
KKAR	Karatay Array	57.43	300	*e*P		P	07 16 31.0 -1.3
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLMR	Klimovskoe	57.78	330	*e*P		P	07 16 32.0 -2.4
KLMR				pmax	pmax		
	comp=Z,23nm,1.1s						
CHTO	Chiang Mai	57.85	259	*e*P		P	07 16 33.6 -1.9
	comp=Z,8.6nm,1.0s						
CHTO	Chiang Mai	57.85	259	*e*P		P	07 16 33.6 -1.9
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PD31	Pinedale Array	57.86	60	*e*P		P	07 16 36.6 +1.1
	comp=Z,1.7nm,0.8s						
PDAR	Pinedale Array	57.86	60	*e*P		P	07 16 36.6 +1.1
PDAR	Pinedale Array	57.86	60	P		P	07 16 37.0 +1.4
	comp=Z,1.3nm,0.8s,baz=336,slow=3.0,SNR=5.4						
CMAR	Chiang Mai Arr	58.12	259	*e*P		P	07 16 37.9 +0.5
CMAR	Chiang Mai Arr	58.12	259	*ce*P		P	07 16 39.2 +1.8
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR	Chiang Mai Arr	58.12	259	P		P	07 16 38.6 +1.2
	comp=Z,2.1nm,0.4s,baz=27,slow=6.8,SNR=8.5						
ABKAR	Akbulak array	58.47	311	*e*P		P	07 16 38.4 -1.0
	comp=Z,6.3nm,0.9s						
AKTO	Aktyubinsk	58.52	313	P		P	07 16 39.0 -0.7
	comp=Z,2.4nm,0.6s,baz=54,slow=8.7,SNR=6.5						
JIRN	Jiri	59.10	276	*e*P		P	07 16 44.1 -0.5
	comp=Z,20nm,0.7s						
BTK	Batken	59.37	297	*e*P		P	07 16 45.0 -0.9
	comp=Z,11nm,0.9s						
BTK	Batken	59.37	297	*e*P		P	07 16 45.0 -0.9
BTK				pmax	pmax		
	comp=Z,11nm,0.9s						
RAMN	Ramite	59.37	275	*e*P		P	07 16 45.6 -0.6
	comp=Z,49nm,0.8s						
PKI	Pulchoki	59.65	277	*e*P		P	07 16 47.5 -0.8
	comp=Z,18nm,0.8s						
PKIN	Phulchoki	59.65	277	*e*P		P	07 16 47.6 -0.6
	comp=Z,3nm,0.7s						
RSSD	Black Hills	59.80	56	*e*P		P	07 16 49.9 +0.9
	comp=Z,3.2nm,0.8s						
RSSD	Black Hills	59.80	56	*e*P		P	07 16 49.9 +0.9
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DMN	Daman	59.80	277	*e*P		P	07 16 49.1 -0.2
	comp=Z,37nm,0.9s						
DANN	Dangsing	60.09	279	*e*P		P	07 16 51.2 -0.1
	comp=Z,28nm,0.8s						
GAR	Garm	60.38	296	*e*P		P	07 16 52.0 -0.9
	comp=Z,23nm,1.0s						
GAR	Garm	60.38	296	*e*P		P	07 16 52.0 -0.9
GAR				pmax	pmax		
	comp=Z,23nm,1.0s						
KOLN	Koldanda	60.60	278	*e*P		P	07 16 53.9 -0.8
	comp=Z,16nm,0.8s						
PYUN	Piuthan	60.74	279	*e*P		P	07 16 55.4 -0.2
	comp=Z,29nm,0.9s						
FIA1	FINESS Array S	60.99	337	*e*P		P	07 16 56.5 0.0
	comp=Z,17nm,0.9s						
FINES	FINESS Array B	60.99	337	P		P	07 16 56.8 +0.2
	comp=Z,10nm,0.8s,baz=32,slow=8.3,SNR=20						
SWSC	Sam W. Stewart	61.21	73	*e*P		P	07 17 01.7 +3.2
NIL	Nilore	62.53	290	*e*P		P	07 17 07.0 -0.4
	comp=Z,22nm,0.9s						
NIL	Nilore	62.53	290	*e*P		P	07 17 07.0 -0.4
NIL				pmax	pmax		
	comp=Z,22nm,0.9s						
OBN	Obninsk	63.34	328	⇓*e*P		P	07 17 12.2 -0.1
OBN							07 17 51.0
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NC204	NORSAR Array S	64.29	344	*e*P		P	07 17 18.9 +0.4
	comp=Z,10nm,0.8s						
NB2	NORSAR Subarra	64.43	344	P		P	07 17 19.3 -0.2
	comp=Z,1.8nm,0.6s,baz=23,slow=6.9						
NB200	NORSAR Array S	64.43	344	*e*P		P	07 17 19.5 0.0
NOA	NORSAR Array B	64.43	344	P		P	07 17 19.5 0.0
	comp=Z,2.9nm,0.7s,baz=23,slow=6.7,SNR=9.3						
VSR	Storozhevoye	65.63	324	⇑*e*P		P	07 17 26.0 -1.4
VSR				pmax	pmax		
	comp=Z,13nm,0.7s						
SCHQ	Schefferville	66.39	28	P		P	07 17 32.5 +0.3
	comp=Z,2.7nm,0.8s,baz=343,slow=11,SNR=3.8						
SCIA	State Center	66.79	51	*e*P		P	07 17 36.4 +1.4
	comp=Z,28nm,0.4s						
GEYT	Alibeck	67.68	303	P		P	07 17 40.3 -0.4
	comp=Z,2.7nm,0.7s,baz=0.0,slow=4.3,SNR=3.2						
AKASG	Malin Array Be	69.44	329	P		P	07 17 51.1 -0.3
	comp=Z,4.0nm,0.5s,baz=32,slow=6.6,SNR=11						
AKBB	Malin Array Si	69.44	329	*e*P		P	07 17 50.9 -0.5
	comp=Z,6.0nm,0.9s						
AKBB	Malin Array Si	69.44	329	*e*P		P	07 17 50.9 -0.5
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIEV	Kiev	69.45	329	*e*P		P	07 17 50.8 -0.7
	comp=Z,5.7nm,0.9s						
KIEV	Kiev	69.45	329	*ce*P		P	07 17 50.8 -0.7
KIEV				pmax	pmax		
	comp=Z,14nm,1.3s						
KBZ	Khabaz	70.27	317	*e*P		P	07 17 57.0 +0.4
KBZ	Khabaz	70.27	317	P		P	07 17 57.0 +0.4
	comp=Z,2.9nm,0.7s,baz=45,slow=8.6,SNR=3.3						
LTX	Lajitas	70.88	67	*e*P		P	07 18 02.0 +1.3
LTX	Lajitas	70.88	67	*e*P		P	07 18 02.0 +1.3
TXAR	Lajitas Array	70.88	67	P		P	07 18 02.0 +1.3
	comp=Z,0.7nm,0.7s,baz=293,slow=3.9,SNR=5.6						
HYB	Hyderabad	71.40	275	*i* P		P	07 18 04.0 +0.1
AKH	Akhalkalaki	71.90	315	⇑*i*P		P	07 18 00.1 -6.7
KWP	Kalwaria Pacla	72.34	333	*e*P		P	07 18 10.3 +1.2
KWP	Kalwaria Pacla	72.34	333	*e*P		P	07 18 09.6 +0.5
	comp=Z,118nm,0.9s						
KWP	Kalwaria Pacla	72.34	333	*e*P		P	07 18 09.6 +0.5
KWP				pmax	pmax		
	comp=Z,118nm,0.9s						
GNI	Garni	72.38	313	⇑*e*P		P	07 18 10.6 +0.9
GNI				pmax	pmax		
	comp=Z,22nm,0.7s						
KOLS	Kolonicke sedl	73.09	333	*e*P		P	07 18 14.2 +0.6
KOLS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KOLS	Kolonicke sedl	73.09	333	*e*P		P	07 18 14.2 +0.6
CLL	Collm	73.23	339	*e*P		P	07 18 14.8 +0.5
	comp=Z,7.8nm,1.0s						
CLL	Collm	73.23	339	*e*P		P	07 18 14.8 +0.5
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CLL	Collm	73.23	339	*e*P		P	07 18 15.0 +0.7
	comp=Z,8.0nm,1.1s						
DPC	Dobruska-Polom	73.36	337	*e*P		P	07 18 16.5 +1.3
DPC	Dobruska-Polom	73.36	337	*e*P		P	07 18 16.5 +1.3
BUR08	Bucovina Ar. S	73.39	330	*e*P		P	07 18 15.7 +0.3
	comp=Z,3.8nm,0.8s						
BURAR	Bucovina Array	73.41	330	*e*P		P	07 18 15.5 0.0
BURAR	Bucovina Array	73.41	330	⇑*i*P		P	07 18 15.8 +0.2
BURAR	Bucovina Array	73.41	330	⇑P		P	07 18 15.8 +0.2
BRG	Berggiesshubel	73.43	339	*e*P		P	07 18 16.5 +1.0
	comp=Z,3.7nm,0.8s						
BRG	Berggiesshubel	73.43	339	*e*P		P	07 18 16.5 +1.0
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MORC	Moravsky Berou	73.59	336	*e*P		P	07 18 16.8 +0.3
	comp=Z,5.5nm,0.9s						
MORC	Moravsky Berou	73.59	336	⇑*i*P		P	07 18 17.4 +0.9
MORC	Moravsky Berou	73.59	336	⇑P		P	07 18 17.4 +0.9
LANS	Liptovska Anna	73.67	334	*e*P		P	07 18 19.2 +2.2
LANS	Liptovska Anna	73.67	334	*e*P		P	07 18 19.2 +2.2
TRPA	Tarpa	73.74	332	⇑*i*P		P	07 18 18.4 +1.1
VRAC	Vranov	74.26	336	⇑*i*P		P	07 18 21.2 +0.8
VRAC	Vranov	74.26	336	⇑P		P	07 18 21.2 +0.8
VYHS	Vyhne	74.44	335	*e*P		P	07 18 23.1 +1.7
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VYHS	Vyhne	74.44	335	*e*P		P	07 18 23.1 +1.7
MLR	Muntele Rosu	75.07	329	*e*P		P	07 18 25.9 +0.6
	comp=Z,7.0nm,0.7s						
MLR	Muntele Rosu	75.07	329	⇑*i*P		P	07 18 24.9 -0.4
MLR	Muntele Rosu	75.07	329	⇑P		P	07 18 24.9 -0.4
MLR	Muntele Rosu	75.07	329	P		P	07 18 25.2 -0.1
	comp=Z,6.3nm,0.7s,baz=160,slow=6.0,SNR=7.6						
KHC	Kasperske Hory	75.15	338	*e*P		P	07 18 26.6 +1.1
	comp=Z,2.5nm,1.0s						
KHC	Kasperske Hory	75.15	338	*e*P		P	07 18 26.6 +1.1
KHC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KHC	Kasperske Hory	75.15	338	*e*P		P	07 18 27.3 +1.7
MEM	Membach	75.28	343	⇓P		P	07 18 27.6 +1.4
	comp=Z,15nm,1.1s						
MEM				⇑pP	PcP		07 18 39.1 -0.3
WR1	Warramunga Arr	75.32	205	*e*P		P	07 18 27.6 +0.8
WRA	Warramunga Arr	75.32	205	P		P	07 18 27.6 +0.8
	comp=Z,0.6nm,0.6s,baz=28,slow=4.5,SNR=5.2						
GERES	GERESS Array B	75.39	338	P		P	07 18 27.6 +0.6
	comp=Z,1.4nm,0.7s,baz=52,slow=5.2,SNR=5.0						
VOIR		75.41	329	⇑*i*P		P	07 18 27.3 +0.1
VOIR		75.41	329	⇑P		P	07 18 27.3 +0.1
ARR	Arges	75.60	329	⇑*i*P		P	07 18 28.4 +0.1
CONA	Conrad Observa	75.72	336	*e*P		P	07 18 30.4 +1.4
	comp=Z,3.7nm,0.8s						
MOA	Molln	76.19	337	*i* P		P	07 18 32.0 +0.5
	comp=Z,2.6nm,0.7s						
ILGA	Ilgaz	76.22	321	*e*P		P	07 18 32.6 +0.5
	comp=Z,9.2nm,0.9s						
BZS	Buzias	76.29	332	⇑*i*P		P	07 18 31.4 -0.7
BZS	Buzias	76.29	332	⇑P		P	07 18 31.4 -0.7
ARSA	Arzberg	76.44	336	*e*P		P	07 18 34.2 +1.2
	comp=Z,4.4nm,0.7s						
HERR	Herculane	76.72	331	⇑*i*P		P	07 18 34.8 +0.3
MDVR	Moldovita	77.02	331	⇑*i*P		P	07 18 36.3 0.0
SOKA	Soboth	77.09	336	*e*P		P	07 18 37.9 +1.2
	comp=Z,3.5nm,0.8s						
KBA	Koelnbreinsper	77.13	338	*e*P		P	07 18 38.7 +1.7
	comp=Z,16nm,0.8s						
RETA	Reutte	77.33	339	*e*P		P	07 18 39.9 +1.9
	comp=Z,6.3nm,1.2s						
OBKA	Obir	77.37	337	*e*P		P	07 18 39.2 +1.0
	comp=Z,11nm,1.3s						
BR131	Keskin Array S	77.39	321	*e*P		P	07 18 38.8 +0.2
	comp=Z,2.5nm,0.9s						
BRTR	Keskin Array B	77.39	321	*ce*P		P	07 18 40.7 +2.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	Keskin Array B	77.39	321	P		P	07 18 38.9 +0.3
	comp=Z,1.5nm,0.8s,baz=90,slow=4.9,SNR=4.4						
SQTA	Sankt Quirin	77.48	339	*i* P		P	07 18 40.5 +1.6
	comp=Z,5.3nm,0.7s						
ABTA	Abfaltersbach	77.63	338	*e*P		P	07 18 39.9 +0.2
	comp=Z,8.7nm,0.9s						
FETA	Feichten	77.78	339	*e*P		P	07 18 41.3 +0.7
	comp=Z,5.6nm,1.0s						
VTS	Vitosha	78.51	329	*e*P		P	07 18 45.1 +0.3
	comp=Z,4.5nm,0.7s						
VTS	Vitosha	78.51	329	⇑*i*P		P	07 18 45.3 +0.5
VTS	Vitosha	78.51	329	*e*P		P	07 18 45.1 +0.3
VTS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WSAR	Wadi Sarin	78.77	293	P		P	07 18 46.6 +0.3
	comp=Z,9.0nm,0.9s,baz=94,slow=5.3,SNR=5.3						
ASAR	Alice Springs	78.99	205	*e*P		P	07 18 47.7 +0.4
ASAR	Alice Springs	78.99	205	*e*P		P	07 18 47.7 +0.4
ASAR	Alice Springs	78.99	205	P		P	07 18 48.6 +1.4
	comp=Z,0.7nm,0.6s,baz=15,slow=5.3,SNR=8.5						
PDG	Podgorica	79.89	332	⇑*i*P		P	07 18 52.1 0.0
TTG	Podgorica	79.89	332	*e*P		P	07 18 52.1 0.0
	comp=Z,7.4nm,0.8s						
TTG	Podgorica	79.89	332	*e*P		P	07 18 52.1 0.0
TTG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FNA	Florina	80.76	330	*e*P		P	07 18 56.9 0.0
	comp=Z,3.9nm,0.9s						
FNA	Florina	80.76	330	*e*P		P	07 18 56.9 0.0
FNA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MMAI	Mount Meron Ar	82.44	316	P		P	07 19 06.4 +0.6
	comp=Z,9.6nm,0.7s,baz=30,slow=6.8,SNR=6.6						
ASF	Jabal al Asfar	82.51	314	P		P	07 19 06.4 +0.1
	comp=Z,4.1nm,0.7s,baz=346,slow=2.8,SNR=5.9						
TIP	Timpagrande	83.62	332	⇑*i*P		P	07 19 12.5 +0.6
ESDC	Sonseca Array	87.48	348	*e*P		P	07 19 31.4 +0.3
	comp=Z,1.4nm,0.9s						
ESDC	Sonseca Array	87.48	348	P		P	07 19 31.7 +0.6
	comp=Z,0.6nm,0.5s,baz=356,slow=4.5,SNR=3.5						

BJI 21 07:17:53.0±0.0, 37°.64N×124°.68E, h5km, ML3.9/4, 1D, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	Dalian	2.71	299	Pg	Pb	07 18 41.8	-0.2
DL2				Sg	Sb	07 19 14.1	-1.5
DL2				smax	smax		
	comp=N,520nm,0.7s						
DL2				smax	smax		
	comp=E,580nm,0.7s						
SNY	Shenyang	4.27	349	⇓Pg	Pb	07 19 11.3	+2.8
SNY				Sg	Sb	07 20 02.8	+2.5
SNY				smax	smax		
	comp=N,170nm,0.4s						
SNY				smax	smax		
	comp=E,240nm,0.7s						

KRSC 21 07:24:06.9±10.0, 52°.31N×160°.77E, h42km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.91	331	P	P

NLC			eS	Sb	07 29 06.4	+0.5
NLC	**Nalytchevo**	**1.17 335**	PN	Pn	07 28 51.2	+0.2
NLC			S	Sb	07 29 06.4	+0.5
DALK	**Dalny**	**1.26 317**	eP	Pn	07 28 52.6	+0.4
DALK			eS	Sb	07 29 08.2	-0.3
DALK	**Dalny**	**1.26 317**	PN	Pn	07 28 52.6	+0.4
DALK			S	Sb	07 29 08.2	-0.3
MTVR	**Mutnovka**	**1.27 287**	eP	Pg	07 28 53.6	-0.3
MTVR			eS	Sg	07 29 10.0	-0.5
MTVR	**Mutnovka**	**1.27 287**	PN	Pg	07 28 53.6	-0.3
MTVR			S	Sg	07 29 10.0	-0.5
PET	**Petropavlovsk**	**1.29 315**	ePn	Pn	07 28 52.9	+0.2
PET			eSn	Sb	07 29 08.0	-1.6
PET	**Petropavlovsk**	**1.29 315**	eP	Pn	07 28 53.2	+0.5
PET			eS	Sb	07 29 09.5	-0.1
PET	**Petropavlovsk**	**1.29 315**	PN	Pn	07 28 53.2	+0.5
PET			S	Sb	07 29 09.5	-0.1
KDTR	**Khodutka, Kamc**	**1.33 257**	eP	Pg	07 28 54.9	-0.1
KDTR			eS	Sg	07 29 12.2	-0.1
KDTR	**Khodutka, Kamc**	**1.33 257**	PN	Pg	07 28 54.9	-0.1
KDTR			S	Sg	07 29 12.2	-0.1
GRL	**Gorelyy**	**1.36 289**	eP	Pg	07 28 55.5	0.0
GRL			eS	Sg	07 29 13.9	+0.7
GRL	**Gorelyy**	**1.36 289**	PN	Pg	07 28 55.5	0.0
GRL			S	Sg	07 29 13.9	+0.7
UGLR	**Uglovaya**	**1.36 324**	eP	Pb	07 28 54.8	+0.3
UGLR			eS	Sb	07 29 12.2	+0.4
UGLR	**Uglovaya**	**1.36 324**	PN	Pb	07 28 54.8	+0.3
UGLR			S	Sb	07 29 12.2	+0.4
SDLR	**Sedlovina**	**1.40 326**	eP	Pn	07 28 54.8	+0.5
SDLR			eS	Sn	07 29 11.9	-0.6
SDLR	**Sedlovina**	**1.40 326**	PN	Pn	07 28 54.8	+0.5
SDLR			S	Sn	07 29 11.9	-0.6
SMAR	**Somma**	**1.42 324**	eP	Pn	07 28 55.3	+0.7
SMAR			S	Sn	07 29 12.4	-0.6
SMAR	**Somma**	**1.42 324**	PN	Pn	07 28 55.3	+0.7
SMAR			S	Sn	07 29 12.4	-0.6
ASAK	**Asacha**	**1.42 282**	eP	Pg	07 28 56.2	-0.5
ASAK			eS	Sg	07 29 14.6	-0.6
ASAK	**Asacha**	**1.42 282**	PN	Pg	07 28 56.2	-0.5
ASAK			S	Sg	07 29 14.6	-0.6
KRMR	**Karymshinskiy**	**1.44 300**	eP	Pb	07 28 55.5	-0.2
KRMR			eS	Sb	07 29 13.6	-0.1
KRMR	**Karymshinskiy**	**1.44 300**	PN	Pb	07 28 55.5	-0.2
KRMR			S	Sb	07 29 13.6	-0.1
AVH	**Avacha**	**1.44 323**	eP	Pb	07 28 55.9	+0.1
AVH			S	Sb	07 29 14.7	+0.8
AVH	**Avacha**	**1.44 323**	PN	Pb	07 28 55.9	+0.1
AVH			S	Sb	07 29 14.7	+0.8
KRER	**Koryakskii**	**1.47 324**	eP	Pb	07 28 56.5	+0.1
KRER			eS	Sb	07 29 14.8	0.0
KRER	**Koryakskii**	**1.47 324**	PN	Pb	07 28 56.5	+0.1
KRER			S	Sb	07 29 14.8	0.0
KOK	**Koryaka**	**1.50 322**	eP	Pn	07 28 56.6	+1.0
KOK	**Koryaka**	**1.50 322**	PN	Pn	07 28 56.6	+1.0
KRX	**Arik**	**1.55 324**	eP	Pn	07 28 57.4	+1.0
KRX			eS	Sn	07 29 16.5	+0.3
KRX	**Arik**	**1.55 324**	PN	Pn	07 28 57.4	+1.0
KRX			S	Sn	07 29 16.5	+0.3
PEA0B	**Petropavlovsk-**	**1.80 304**	ePn	Pb	07 29 01.3	-0.7
PEA0B			eSn	Sn	07 29 17.4	-4.9
PETK	**Petropavlovsk-**	**1.80 304**	Pn	Pb	07 29 01.7	-0.2
	79nm,0.3s,baz=108,slow=19,SNR=486					
PETK			Sn	Sg	07 29 25.8	-1.5
	38nm,0.3s,baz=40,slow=25,SNR=8.1					
PEA1	**Petropavlovsk-**	**1.81 304**	ePn	Pb	07 29 01.7	-0.3
APC	**Apacha**	**2.01 295**	eP	Pb	07 29 05.0	-0.4
APC			eS	Sb	07 29 30.5	+0.3
APC	**Apacha**	**2.01 295**	PN	Pb	07 29 05.0	-0.4
APC			S	Sb	07 29 30.5	+0.3
PAU	**Pauzhetka**	**2.19 254**	eP	Pb	07 29 07.2	-1.3
PAU	**Pauzhetka**	**2.19 254**	PN	Pb	07 29 07.2	-1.3
MKZ	**Mys Kozlova**	**2.61 20**	eP	Pn	07 29 11.2	+0.4
MKZ			eS	Sn	07 29 40.7	-1.5
MKZ	**Mys Kozlova**	**2.61 20**	PN	Pn	07 29 11.2	+0.4
MKZ			S	Sn	07 29 40.7	-1.5
SKR	**Severo-Kuril's**	**2.92 242**	eP	Pn	07 29 17.3	+2.3
SKR			S	Sn	07 29 51.2	+1.5
SKR	**Severo-Kuril's**	**2.92 242**	ePN	Pn	07 29 17.4	+2.4
SKR			eS	Sb	07 29 52.9	-3.4
SKR			pmax	pmax		
	comp=Z,81nm,0.8s					
SKR			smax	smax		
	comp=N,685nm,0.7s					
SKR			smax	smax		
	comp=E,546nm,0.6s					
KZV	**Kizimen**	**3.00 1**	eP	Pn	07 29 18.7	+2.4
KZV			eS	Sn	07 29 52.8	+0.8
KZV	**Kizimen**	**3.00 1**	PN	Pn	07 29 18.7	+2.4
KZV			S	Sn	07 29 52.8	+0.8
TUMD	**Tumrok D**	**3.09 2**	eP	Pn	07 29 18.4	+0.9
TUMD			eS	Sn	07 29 53.5	-0.5
ALID	**Alaid**	**3.15 248**	P	Pn	07 29 20.9	+2.6
ALID	**Alaid**	**3.15 248**	PN	Pn	07 29 20.9	+2.6
TUMR	**Tumrok**	**3.17 360**	eP	Pn	07 29 20.7	+2.1
TUMR			eS	Sn	07 29 56.1	0.0
TUMR	**Tumrok**	**3.17 360**	PN	Pn	07 29 18.4	-0.2
TUMR			S	Sn	07 29 53.5	-2.6
ESO	**Esso**	**3.91 348**	eP	Pn	07 29 31.4	+2.7
ESO	**Esso**	**3.91 348**	PN	Pn	07 29 31.4	+2.7
LGNR	**Loginova**	**3.98 4**	P	Pn	07 29 33.4	+3.5
LGNR	**Loginova**	**3.98 4**	PN	Pn	07 29 33.4	+3.5
CIRR	**Tsirk**	**4.02 5**	P	Pn	07 29 32.9	+2.6
CIRR	**Tsirk**	**4.02 5**	PN	Pn	07 29 32.9	+2.6
KLY	**Klyuchi**	**4.21 4**	P	Pn	07 29 36.6	+3.8
KLY			S	Sn	07 30 25.3	+3.8
KLY	**Klyuchi**	**4.21 4**	PN	Pn	07 29 36.6	+3.8
KLY			S	Sn	07 30 25.3	+3.8
SRDR	**Sredinnyy**	**4.21 357**	P	Pn	07 29 36.2	+3.3
SRDR	**Sredinnyy**	**4.21 357**	PN	Pn	07 29 36.2	+3.3
KBTR	**Krutoberegovo**	**4.38 20**	eP	Pn	07 29 36.7	+1.6
KBTR	**Krutoberegovo**	**4.38 20**	PN	Pn	07 29 36.7	+1.6
SMKR	**Semkarok**	**4.54 9**	P	Pn	07 29 41.9	+4.6
SMKR	**Semkarok**	**4.54 9**	PN	Pn	07 29 41.9	+4.6
SRKR	**Sorokina**	**4.58 7**	eP	Pn	07 29 42.0	+4.1
SRKR	**Sorokina**	**4.58 7**	PN	Pn	07 29 42.0	+4.1
BKI	**Bering**	**4.63 46**	P	Pn	07 29 38.6	+0.1
BKI			S	Sn	07 30 27.2	-4.7
BKI	**Bering**	**4.63 46**	PN	Pn	07 29 38.6	+0.1
ASAJ	**Asahikawa**	**14.18 243**	Pn	Pn	07 31 50.4	+1.0
	comp=E,0.7nm,0.3s,baz=169,slow=14,SNR=2.9					
KLR	**Kul'dur**	**18.19 272**	P	P	07 32 42.0	+0.9
	comp=E,0.3nm,0.3s,baz=83,slow=8.3,SNR=6.3					
USRK	**Ussuriysk Ar.**	**20.30 258**	eP	P	07 33 03.3	-0.9
USRK	**Ussuriysk Ar.**	**20.30 258**	P	P	07 33 04.0	-0.2
	comp=E,2.5nm,0.9s,baz=69,slow=13,SNR=4.1					
MAJO	**Matsushiro**	**21.99 234**	eP	P	07 33 24.5	+1.9
	comp=E,5.5nm,0.6s					
MJAR	**Matsushiro Arr**	**21.99 234**	eP	P	07 33 23.9	+1.4
MJAR	**Matsushiro Arr**	**21.99 234**	eP	P	07 33 23.9	+1.4
MJAR	**Matsushiro Arr**	**21.99 234**	P	P	07 33 24.6	+2.1
	comp=E,1.5nm,0.4s,baz=11,slow=10,SNR=7.6					
TIXI	**Tiksi**	**23.99 336**	eP	P	07 33 41.1	-1.6
TIXI	**Tiksi**	**23.99 336**	P	P	07 33 41.4	-1.3
	comp=E,2.0nm,0.6s,baz=125,slow=9.8,SNR=9.1					
HIA	**Hailar**	**25.54 280**	eP	P	07 33 56.4	-0.6
	comp=E,12nm,0.4s					
H11N2	**WAKE ISLAND Hy**	**32.75 168**	T	T	08 10 20.1	
	baz=351,slow=76,SNR=9.2					
H11N3	**WAKE ISLAND Hy**	**32.77 168**	T	T	08 10 19.1	
	baz=351,slow=76,SNR=18					
H11N1	**WAKE ISLAND Hy**	**32.77 168**	T	T	08 10 19.0	
	baz=351,slow=76,SNR=12					
H11S1	**WAKE ISLAND Hy**	**33.93 169**	T	T	08 11 41.7	
	baz=352					
H11S3	**WAKE ISLAND Hy**	**33.94 169**	T	T	08 11 49.2	
	baz=352					
H11S2	**WAKE ISLAND Hy**	**33.95 169**	T	T	08 11 42.3	
	baz=352					
NVS	**Novosibirsk**	**43.71 305**	eP	P	07 36 31.6	-1.6
SPA0	**Spitsbergen Ar**	**48.10 351**	eP	P	07 37 07.7	+0.1
	comp=E,8.3nm,1.1s					
KURK	**Kurchatov**	**48.29 303**	eP	P	07 37 07.2	-2.2
	comp=E,2.5nm,0.6s					
MK32	**Makanchi Array**	**48.62 296**	eP	P	07 37 10.2	-1.8
MKAR	**Makanchi Array**	**48.62 296**	P	P	07 37 10.2	-1.8
	comp=E,0.7nm,0.5s,baz=54,slow=8.0,SNR=8.9					
GLK	**Glacier Lake**	**48.95 64**	eP	P	07 37 16.2	+1.6
ARCES	**ARCESS Array B**	**54.23 342**	P	P	07 37 53.0	-0.6
ARCES	**ARCESS Array B**	**54.23 342**	P	P	07 37 53.0	-0.6
	comp=E,3.3nm,0.8s,baz=31,slow=7.6,SNR=4.9					
SUMG	**Summit**	**54.92 7**	eP	P	07 37 58.0	-1.0
	comp=E,1.2nm,0.8s					
KKAR	**Karatay Array**	**57.40 300**	eP	P	07 38 15.2	-1.6
PD31	**Pinedale Array**	**57.96 60**	eP	P	07 38 22.0	+1.1
	comp=E,0.7nm,0.8s					
PDAR	**Pinedale Array**	**57.96 60**	P	P	07 38 22.2	+1.3
	comp=E,0.3nm,0.6s,baz=322,slow=5.7,SNR=3.1					
CMAR	**Chiang Mai Arr**	**58.03 259**	eP	P	07 38 22.1	+0.6
ABKAR	**Akbulak array**	**58.46 311**	eP	P	07 38 22.3	-1.8
	comp=E,1.3nm,0.6s					
FIA0	**FINESS Array S**	**61.03 337**	eP	P	07 38 41.0	-0.5
FINES	**FINESS Array B**	**61.03 337**	eP	P	07 38 41.3	-0.2
FINES	**FINESS Array B**	**61.03 337**	P	P	07 38 41.0	-0.5
	comp=E,2.9nm,0.6s,baz=31,slow=8.4,SNR=12					
NIL	**Nilore**	**62.49 290**	eP	P	07 38 51.5	-0.4
	comp=E,3.6nm,0.6s					
AKASG	**Malin Array Be**	**69.47 329**	eP	P	07 39 35.8	-0.7
AKASG	**Malin Array Be**	**69.47 329**	P	P	07 39 35.6	-0.8
	comp=E,0.4nm,0.3s,baz=31,slow=6.7,SNR=5.1					
TXAR	**Lajitas Array**	**70.98 67**	eP	P	07 39 47.9	+1.8
TXAR	**Lajitas Array**	**70.98 67**	P	P	07 39 48.1	+1.9
	comp=E,0.2nm,0.5s,baz=297,slow=4.7,SNR=5.1					
AS31	**Alice Springs**	**78.89 204**	eP	P	07 40 32.9	+1.3
	comp=E,1.2nm,1.1s					
ASAR	**Alice Springs**	**78.89 204**	P	P	07 40 33.8	+2.2
	comp=E,0.2nm,0.5s,baz=11,slow=4.6,SNR=7.2					
ESDC	**Sonseca Array**	**87.54 348**	eP	P	07 41 15.9	-0.4
	comp=E,0.8nm,0.9s					

KRSC 21 07:31:46.7±10.0, 52°.16N×160°.69E, h51km±10km, ML3.7,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.02**	**337**	eP	Pn	07 32 05.8	+1.1
SPN				eS	Sn	07 32 18.4	+0.3
NLC	**Nalytchevo**	**1.30**	**322**	eP	Pn	07 32 10.2	+1.7
NLC				eS	Sn	07 32 25.9	+1.1
RUS	**Russkaya**	**1.37**	**282**	eP	Pn	07 32 10.6	+1.3
RUS				eS	Sn	07 32 26.7	+0.4
DALK	**Dalny**	**1.47**	**307**	eP	Pn	07 32 12.5	+1.8
DALK				eS	Sn	07 32 30.9	+2.1
PET	**Petropavlovsk**	**1.52**	**306**	eP	Pn	07 32 13.4	+2.0
PET				S	Sn	07 32 31.7	+1.8
UGLR	**Uglovaya**	**1.55**	**314**	eP	Pn	07 32 14.6	+2.7
UGLR				eS	Sn	07 32 33.9	+3.0
SDLR	**Sedlovina**	**1.57**	**316**	P	Pn	07 32 14.6	+2.3
SDLR				S	Sn	07 32 34.0	+2.5
MTVR	**Mutnovka**	**1.57**	**283**	eP	Pn	07 32 14.2	+1.9
MTVR				eS	Sn	07 32 33.6	+2.0
SMAR	**Somma**	**1.60**	**315**	P	Pn	07 32 15.0	+2.3
AVH	**Avacha**	**1.62**	**314**	eP	Pn	07 32 15.7	+2.7
KRER	**Koryakskii**	**1.65**	**315**	eP	Pn	07 32 16.8	+3.4
KDTR	**Khodutka, Kamc**	**1.65**	**259**	eP	Pn	07 32 14.8	+1.6
KDTR				eS	Sn	07 32 34.2	+0.9
KOK	**Koryaka**	**1.69**	**313**	eP	Pn	07 32 16.5	+2.7
KRMR	**Karymshinskiy**	**1.70**	**294**	eP	Pn	07 32 15.9	+2.0
KRMR				eS	Sn	07 32 36.8	+2.2
KRX	**Arik**	**1.73**	**315**	eP	Pn	07 32 17.0	+2.6
ASAK	**Asacha**	**1.73**	**279**	P	Pn	07 32 16.4	+2.0
APC	**Apacha**	**2.29**	**291**	eP	Pn	07 32 24.9	+3.0
MKZ	**Mys Kozlova**	**2.48**	**14**	eP	Pn	07 32 27.3	+2.8
MKZ				eS	Sn	07 32 55.8	+2.2
KZV	**Kizimen**	**2.97**	**356**	P	Pn	07 32 36.3	+4.9
TUMD	**Tumrok D**	**3.06**	**357**	eP	Pn	07 32 37.2	+4.7
TUMD				eS	Sn	07 33 11.1	+3.3
TUMR	**Tumrok**	**3.15**	**354**	P	Pn	07 32 37.7	+3.9
KBTR	**Krutoberegovo**	**4.25**	**16**	P	Pn	07 32 51.8	+3.1
BKI	**Bering**	**4.38**	**44**	S	Sn	07 33 41.0	+0.8

*JMA **21** 07:37:12.9±0.1, 24°.27N×121°.79E, h9km±3km, M2.6*
*TAP **21** 07:37:12.9, 24°.28N×121°.77E, h14km, ML3.4, B*
*ISCJB **21** 07:37:13.1±0.3, 24°.28N±0°.01×121°.80E±0°.02, h7km±2km,*
Error ellipse: s-maj=3.0km s-min=2.0km az=34.9
ISC 21 07:37:13.1±0.8, 24°.27N±0°.02×121°.78E±0°.02, h12km±6km,
n82, σ0s49/113, 2C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.16**	**349**	⇓P	Pg	07 37 16.9	0.0
NANB				S	Sg	07 37 19.3	-0.1
ENA	**Nanau**	**0.16**	**346**	⇓iP	Pg	07 37 16.9	0.0
ENA				i S	Sg	07 37 19.5	0.0
NACB	**Ninganchiao**	**0.20**	**241**	⇓P	Pg	07 37 17.3	-0.1
	baz=230						
NACB				S	Sg	07 37 20.6	+0.2
	baz=230						
TWD	**Chiawan**	**0.26**	**222**	⇓iP	Pg	07 37 18.4	0.0
	baz=218						
TWD				S	Sg	07 37 22.5	+0.5
	baz=218						
ETLH	**Xiulin Townshi**	**0.28**	**257**	⇓P	Pg	07 37 19.0	0.0
	baz=255						
ETLH				S	Sg	07 37 23.2	+0.3
	baz=255						
HWA	**Hwalien**	**0.33**	**209**	eP	Pg	07 37 20.0	+0.2
	baz=213						
TWC	**Suao**	**0.34**	**10**	⇓iP	Pg	07 37 20.0	0.0
	baz=9.0						
TWC				eS	Sg	07 37 24.6	0.0
	baz=9.0						
NNSB	**Datong**	**0.40**	**293**	⇓P	Pg	07 37 21.2	+0.1
	baz=293						
NNSB				S	Sg	07 37 26.2	-0.2
	baz=293						
ENLB	**Shoufeng**	**0.40**	**205**	eP	Pb	07 37 22.4	+0.3
	baz=210						
NNS	**Nan Shan**	**0.41**	**294**	⇓iP	Pg	07 37 21.3	0.0
	baz=294						
NNS				S	Sg	07 37 26.7	-0.1
	baz=294						
NDT	**Datong Townshi**	**0.41**	**323**	P	Pg	07 37 21.5	+0.1
	baz=324						
NDT				S	Sg	07 37 27.0	+0.2
	baz=324						
ENTT	**Nioudou**	**0.42**	**332**	P	Pg	07 37 21.5	+0.1
	baz=333						
ENTT				S	Sg	07 37 27.2	+0.2
	baz=333						
EOS1	**EOS1**	**0.42**	**48**	P	Pb	07 37 22.1	-0.3
	baz=43						
EOS1				eS	Sb	07 37 28.8	+0.1
	baz=43						
TWE	**Neicheng**	**0.46**	**347**	P	Pg	07 37 22.2	0.0
	baz=349						
TWE				S	Sg	07 37 28.4	+0.1
	baz=349						
WHF	**Hehuan Shan**	**0.49**	**255**	⇓iP	Pg	07 37 22.7	-0.1
	baz=255						
WHF				S	Sg	07 37 29.5	+0.1
	baz=255						
YHNB	**Yeheng**	**0.55**	**317**	⇑P	Pg	07 37 23.8	0.0
	baz=317						
YHNB				S	Sg	07 37 30.5	-0.6
	baz=317						
TWT	**Tachien**	**0.56**	**268**	eP	Pb	07 37 24.4	-0.5
	baz=268						
TWT				S	Sg	07 37 31.8	+0.4
	baz=268						
ESL	**Shilin**	**0.56**	**215**	eP	Pg	07 37 23.5	-0.4
	baz=221						
NSK	**Sanguang**	**0.56**	**316**	⇑iP	Pg	07 37 23.9	-0.1
	baz=317						
NSK				S	Sg	07 37 31.6	0.0
	baz=317						
NTC	**Toucheng**	**0.58**	**4**	P	Pg	07 37 24.4	-0.1
	baz=4.0						
NTC				eS	Sg	07 37 31.6	-0.7
	baz=4.0						
EGS		**0.59**	**13**	eP	Pb	07 37 24.9	-0.4
	baz=23						
CHGB	**Renai**	**0.59**	**250**	eP	Pg	07 37 24.7	-0.1
	baz=244						
CHGB				eS	Sg	07 37 32.6	0.0
	baz=244						
OWD	**Renai**	**0.64**	**241**	eP	Pg	07 37 25.5	-0.1
	baz=240						
EGFH	**Guangfu**	**0.68**	**209**	eP	Pb	07 37 26.8	-0.1
	baz=222						
TIPB	**Shuangxi**	**0.70**	**3**	eP	Pb	07 37 26.9	-0.4
	baz=3.0						
TIPB				eS	Sg	07 37 35.2	-0.7
	baz=3.0						
NHDH	**Xindian Distri**	**0.73**	**341**	eP	Pb	07 37 27.8	+0.1
	baz=335						
TATO	**Taipei**	**0.75**	**339**	eP	Pn	07 37 28.8	-0.7
	baz=339						
WLTB	**Daxi**	**0.76**	**320**	eP	Pb	07 37 28.4	+0.3
	baz=320						
TWB1	**Santiao Chiao**	**0.76**	**14**	eP	Pg	07 37 27.6	-0.2
	baz=9.0						
WHP	**Taichung City**	**0.77**	**271**	eP	Pb	07 37 28.2	-0.2
	baz=271						
WHP				S	Sb	07 37 38.5	-0.3
	baz=271						
VWDT	**VWDT**	**0.78**	**229**	eP	Pb	07 37 28.4	-0.2
	baz=229						
VWDT				eS	Sb	07 37 39.0	-0.1
	baz=229						
LIOB	**Emei**	**0.79**	**298**	eP	Pb	07 37 28.8	-0.1
	baz=298						
NWF	**Wu-fen Shan**	**0.80**	**360**	eP	Pb	07 37 28.6	-0.3
	baz=360						
WFSB	**Wu-fen Shan**	**0.80**	**360**	eP	Pb	07 37 29.0	+0.1
	baz=352						
WFSB				eS	Sb	07 37 39.1	-0.6
	baz=352						
NSTT	**Nanjuang**	**0.80**	**297**	eP	Pg	07 37 28.4	-0.1
	baz=297						
NSTT				eS	Sg	07 37 38.8	-0.3
	baz=297						
HGSD	**Ruisui**	**0.84**	**203**	eP	Pb	07 37 29.6	0.0
	baz=216						
HGSD				eS	Sn	07 37 44.1	+1.1
	baz=216						
EHY	**Hungye**	**0.87**	**209**	eP	Pg	07 37 29.3	-0.6
	baz=221						
NCUH	**Zhongli**	**0.88**	**322**	eP	Pn	07 37 30.9	-0.4
	baz=322						
TWS1	**Kuangyinshan**	**0.89**	**338**	eP	Pb	07 37 30.5	0.0
	baz=338						
YM01	**YM01**	**0.89**	**347**	eP	Pb	07 37 30.6	+0.1
	baz=347						
SBCB	**Hsinchu**	**0.90**	**306**	eP	Pb	07 37 30.3	-0.2
	baz=305						
SMLT	**Sun Moon Lake**	**0.90**	**245**	eP	Pb	07 37 30.4	-0.2
	baz=244						
SSLB	**Suanglung**	**0.90**	**238**	eP	Pg	07 37 30.2	-0.2
	baz=238						
YM10	**YM10**	**0.91**	**347**	eP	Pb	07 37 30.6	-0.1
	baz=347						
HSN	**Hsinchu**	**0.91**	**306**	eP	Pn	07 37 31.5	-0.2
	baz=298						
YM11	**YM11**	**0.91**	**348**	eP	Pg	07 37 30.5	-0.2
	baz=332						
YM07	**YM07**	**0.91**	**351**	eP	Pb	07 37 30.6	-0.3
	baz=351						
TYC	**Yuchr**	**0.92**	**247**	eP	Pb	07 37 31.0	0.0
	baz=246						
TWQ1	**Liyutan**	**0.93**	**275**	eP	Pn	07 37 32.8	+0.9
	baz=275						
YM08	**YM08**	**0.93**	**349**	eP	Pg	07 37 30.8	-0.2
	baz=334						
NMLH	**Miaoli**	**0.94**	**287**	eP	Pn	07 37 32.5	+0.3
	baz=286						
NSY	**Sanyi**	**0.94**	**279**	eP	Pn	07 37 32.4	+0.2
	baz=278						
YULB	**Yu-li**	**0.98**	**207**	eP	Pg	07 37 31.1	-0.9
	baz=217						
YULB				eS	Sn	07 37 46.1	-0.4
	baz=217						
TWY	**Chenhua**	**1.02**	**351**	eP	Pn	07 37 33.0	-0.2
	baz=351						
TCU	**Taichung**	**1.02**	**263**	eP	Pn	07 37 34.7	+1.5
	baz=263						
WHYT	**Xinyi Township**	**1.02**	**236**	eP	Pn	07 37 34.0	+0.7
	baz=236						
WDJ	**Dajia District**	**1.05**	**275**	eP	Pn	07 37 34.1	+0.6
	baz=274						
YUS	**Yu-Shan**	**1.09**	**225**	eP	Pn	07 37 34.9	+0.3
	baz=225						
WCHH	**Zhanghua**	**1.14**	**261**	eP	Pg	07 37 35.4	+0.5
	baz=261						
YOJ	**Yonaguni jima**	**1.14 80**	P	Pb	07 37 34.6	0.0
	baz=68						
YOJ				S	Sn	07 37 51.8	+1.5
	baz=68						
YOJ	**Yonaguni jima**	**1.14 80**	P	Pb	07 37 34.5	-0.1
YOJ				eS	Sb	07 37 49.4	+0.1
ALS	**Alishan**	**1.17**	**230**	eP	Pg	07 37 35.6	-0.1
	baz=217						
CHN5	**Tsauling**	**1.21**	**237**	eP	Pg	07 37 36.1	-0.3
	baz=238						
ELDTW	**Lidau**	**1.28**	**213**	eP	Pn	07 37 35.1	-1.9
	baz=214						
RLNB	**Erlin**	**1.36**	**254**	eP	Pg	07 37 38.9	-0.2
	baz=254						
CHN4	**Tsaushan**	**1.42**	**230**	eP	Pg	07 37 40.6	+0.2
	baz=232						
WTP	**Ta-pu**	**1.48**	**227**	eP	Pg	07 37 41.1	-0.4
	baz=229						
SNST	**Tainan City**	**1.58**	**229**	eP	Pg	07 37 43.3	0.0
	baz=232						
CHN1	**Nanshi**	**1.58**	**227**	eP	Pg	07 37 43.3	-0.1
	baz=230						
TWG	**Pinlang**	**1.58**	**205**	eP	Pn	07 37 40.7	-0.2
	baz=192						
TWGBT	**Beinan**	**1.58**	**204**	eP	Pn	07 37 40.2	-0.8
	baz=192						
SGST	**Jiashian**	**1.62**	**223**	eP	Pg	07 37 44.1	0.0
	baz=226						
SLGT	**Liugui**	**1.64**	**220**	eP	Pb	07 37 43.4	+0.1
	baz=223						
IRIF	**Iriomote-Funau**	**1.78 88**	P	Pn	07 37 43.1	-0.5
IRIF				eS	Sn	07 38 06.7	+0.6
SSD	**Sandimen**	**1.85**	**215**	eP	Pb	07 37 46.4	-0.4
	baz=229						
MASBT	**Mashibuluo**	**1.96**	**213**	eP	Pb	07 37 47.4	-1.3
	baz=217						
JKRS	**Kuro-shima**	**2.03 90**	P	Pn	07 37 47.6	+0.5
JKRS				S	Sn	07 38 13.1	+0.7
EAST	**Anshuo**	**2.07**	**205**	eP	Pn	07 37 48.4	+0.7
	baz=196						
JIJ	**

baz=214
NNSB Datong 0.39 292 ⇓P Pg 07 40 41.1 +0.3
baz=292
NNSB S Sg 07 40 46.2 +0.1
baz=292
NDT Datong Townshi 0.40 323 ⇑P Pb 07 40 41.4 -0.5
baz=323
NDT S Sg 07 40 46.9 +0.4
baz=323
NNS Nan Shan 0.40 293 ⇓iP Pg 07 40 41.3 +0.2
baz=294
NNS S Sg 07 40 46.6 0.0
baz=294
ENTT Nioudou 0.41 331 P Pb 07 40 41.5 -0.5
baz=332
ENTT S Sg 07 40 47.0 +0.4
baz=332
ENLB Shoufeng 0.41 203 P Pb 07 40 42.2 +0.1
baz=210
ENLB eS Sb 07 40 49.4 +1.2
baz=210
EOS1 EOS1 0.41 50 P Pb 07 40 42.0 -0.1
baz=43
EOS1 eS Sb 07 40 48.7 +0.4
baz=43
TWE Neicheng 0.45 347 P Pg 07 40 42.1 +0.3
baz=348
TWE S Sg 07 40 48.1 +0.2
baz=348
ILA Ilan 0.48 357 eP Pb 07 40 42.9 -0.4
baz=351
ILA eS Sb 07 40 50.3 0.0
baz=351
SLBB Yuanshan 0.49 344 P Pb 07 40 43.0 -0.4
baz=336
SLBB eS Sb 07 40 49.8 -0.7
baz=336
WHF Hehuan Shan 0.49 254 ⇓P Pg 07 40 42.6 -0.1
baz=254
WHF S Sg 07 40 49.3 -0.1
baz=254
YHNB Yeheng 0.53 316 ePg Pg 07 40 43.6 +0.1
YHNB eSg Sg 07 40 50.7 +0.1
YHNB Yeheng 0.53 316 P Pg 07 40 43.7 +0.2
baz=316
YHNB S Sg 07 40 50.8 +0.1
baz=316
NSK Sanguang 0.55 316 ⇑P Pg 07 40 43.9 +0.1
baz=316
NSK S Sg 07 40 51.2 +0.1
baz=316
TWT Tachien 0.55 267 eP Pb 07 40 44.3 -0.3
baz=267
TWT S Sg 07 40 51.6 +0.4
baz=267
ESL Shilin 0.56 214 eP Pg 07 40 43.5 -0.6
baz=222
NTC Toucheng 0.57 5 P Pb 07 40 44.5 -0.3
baz=4.0
NTC eS Sb 07 40 52.2 -0.6
baz=4.0
EGS 0.58 14 eP Pb 07 40 44.8 -0.1
baz=20
EGS eS Sg 07 40 52.0 +0.1
baz=20
CHGB Renai 0.60 248 eP Pg 07 40 44.5 -0.2
baz=244
CHGB S Sg 07 40 52.5 -0.2
baz=244
OWD Renai 0.64 240 eP Pb 07 40 45.8 -0.3
baz=240
OWD eS Sg 07 40 54.2 +0.2
baz=240
TIPB Shuangxi 0.69 3 P Pb 07 40 46.5 -0.3
baz=3.0
TIPB S Sg 07 40 54.9 -0.6
baz=3.0
EGFH Guangfu 0.69 208 eP Pg 07 40 45.9 -0.5
baz=212
NHDH Xindian Distri 0.72 341 eP Pb 07 40 47.3 +0.1
baz=335
TATO Taipei 0.74 339 ePn Pb 07 40 47.8 +0.1
TATO eSn Sb 07 40 57.7 0.0
TATO Taipei 0.74 339 eP Pb 07 40 48.0 +0.4
baz=339
WLTB Daxi 0.74 320 eP Pn 07 40 48.4 -0.7
baz=320
TWB1 Santiao Chiao 0.75 15 eP Pb 07 40 47.5 -0.3
baz=14
TWB1 eS Sg 07 40 56.9 -0.4
baz=14
WHP Taichung City 0.76 270 eP Pb 07 40 48.2 +0.1
baz=270
WHP eS Sb 07 40 58.1 -0.3
baz=270
LIOB Emei 0.79 298 eP Pb 07 40 48.6 +0.1
baz=298
LIOB eS Sb 07 40 59.3 +0.3
baz=298
NWF Wu-fen Shan 0.79 0 eP Pb 07 40 48.5 -0.1
baz=360
VWDT VWDT 0.79 228 eP Pg 07 40 48.0 -0.3
baz=229
VWDT eS Sb 07 40 59.0 0.0
baz=229
WFSB Wu-fen Shan 0.79 0 eP Pb 07 40 48.3 -0.2
baz=360
NSTT Nanjuang 0.79 296 eP Pb 07 40 48.5 0.0
baz=296
NSTT eS Sb 07 40 59.1 0.0
baz=296
HGSD Ruisui 0.85 203 ⇓P Pg 07 40 49.7 +0.3
baz=192
HGSD eS Sn 07 41 03.4 +0.5
baz=192
NCU National Centr 0.87 322 eP Pg 07 40 50.0 +0.1
baz=322
NCUH Zhongli 0.87 322 eP Pn 07 40 50.4 -0.5
baz=322
EHY Hungye 0.88 209 eP Pb 07 40 49.5 -0.6
baz=221
TWS1 Kuangyinshan 0.88 338 eP Pn 07 40 50.6 -0.4
baz=338
TWS1 eS Sn 07 41 03.3 -0.3
baz=338
YM01 YM01 0.88 348 eP Pg 07 40 50.2 +0.2
baz=347
SBCB Hsinchu 0.88 305 eP Pn 07 40 51.3 +0.3
baz=305
YM10 YM10 0.89 347 eP Pn 07 40 50.8 -0.5
baz=346
YM10 eS Sn 07 41 02.9 -1.1
baz=346
SMLT Sun Moon Lake 0.90 244 eP Pg 07 40 50.5 +0.2
baz=238
SMLT eS Sg 07 41 02.6 +0.4
baz=238
YM11 YM11 0.90 348 eP Pb 07 40 49.1 -1.3
baz=348
YM07 YM07 0.90 351 eP Pn 07 40 50.8 -0.6
baz=350
HSN Hsinchu 0.90 305 eP Pn 07 40 51.5 +0.2
baz=298
SSLB Suanglung 0.90 237 ePg Pb 07 40 49.9 -0.5
SSLB eSg Sb 07 41 01.3 -1.1
SSLB Suanglung 0.90 237 eP Pb 07 40 49.8 -0.7
baz=238
SSLB eS Sg 07 41 02.8 +0.6
baz=238
TWQ1 Liyutan 0.92 274 eP Pn 07 40 52.0 +0.4
baz=274
TYC Yuchr 0.92 246 eP Pg 07 40 51.0 +0.1
baz=246
NTST Danshui 0.93 341 eP Pn 07 40 51.5 -0.2
baz=328
NMLH Miaoli 0.94 286 eP Pn 07 40 52.4 +0.6
baz=286
NSY Sanyi 0.94 278 eP Pn 07 40 51.6 -0.2
baz=279
YULB Yu-li 0.99 207 ePg Pb 07 40 51.4 -0.6
YULB eSg Sb 07 41 04.7 -0.2
YULB Yu-li 0.99 207 eP Pb 07 40 51.4 -0.6
baz=218
YULB eS Sn 07 41 06.1 -0.3
baz=218
TWY Chenhua 1.00 351 eP Pn 07 40 52.6 -0.1
baz=344
TWY eS Sn 07 41 07.7 +1.0
baz=344
TCU Taichung 1.02 263 eP Pn 07 40 53.8 +1.0
baz=263
WHYT Xinyi Township 1.03 236 eP Pn 07 40 52.9 -0.2
baz=236
WDJ Dajia District 1.04 274 eP Pg 07 40 53.9 +0.8
baz=274
JYNG Yonaguni jima 1.08 81 P Pg 07 40 53.7 0.0
WNT Mingjian 1.08 248 eP Pb 07 40 53.0 -0.4
baz=240
YUS Yu-Shan 1.09 224 eP Pb 07 40 53.6 -0.4
baz=225
YOJ Yonaguni jima 1.14 81 ePn Pg 07 40 54.6 -0.3
YOJ Yonaguni jima 1.14 81 eP Pb 07 40 54.3 -0.2
baz=70
ALS Alishan 1.18 229 eP Pn 07 40 55.1 -0.3
baz=218
CHN5 Tsauling 1.22 236 eP Pg 07 40 57.0 +0.6
baz=238
WGK Gukeng 1.26 242 eP Pb 07 40 56.6 0.0
baz=244
ELDTW Lidau 1.29 213 eP Pn 07 40 56.0 -0.8
baz=215
CHN4 Tsaushan 1.43 230 eP Pg 07 41 00.3 -0.1
baz=232
TPUB Ta-pu 1.44 227 ePn Pb 07 40 59.2 -0.4
TPUB Ta-pu 1.44 227 eP Pb 07 40 59.7 +0.1
baz=230
STYT Tauyuan 1.46 220 eP Pb 07 41 00.1 +0.2
baz=223
CHY Chiayi 1.47 238 eP Pb 07 40 59.6 -0.5
baz=227
WTP Ta-pu 1.48 226 eP Pb 07 41 00.9 +0.4
baz=229
SNST Tainan City 1.58 228 eP Pb 07 41 02.0 0.0
baz=232
CHN1 Nanshi 1.58 227 eP Pb 07 41 02.4 +0.3
baz=230
TWG Pinlang 1.59 204 ePn Pn 07 41 00.3 -0.5
TWGBT Beinan 1.59 204 eP Pn 07 41 00.9 0.0
baz=192
SLGT Liugui 1.65 219 eP Pb 07 41 03.1 -0.1
baz=223
IRIF Iriomote-Funau 1.78 88 P Pn 07 41 03.2 -0.2
SSD Sandimen 1.86 215 eP Pn 07 41 05.2 +0.7
baz=229
MASBT Mashibanluo 1.97 213 eP Pb 07 41 07.2 -1.4
baz=217
JKRS Kuro-shima 2.04 91 P Pn 07 41 07.8 +0.9
JKRS S Sb 07 41 33.8 -1.2
JIJ Ishigaki jima 2.16 87 P Pn 07 41 09.5 +0.9
PHUB P'eng-hu 2.16 250 eP Pn 07 41 08.5 -0.1
baz=251
WDGT Dungji 2.19 243 eP Pn 07 41 10.1 +1.0
baz=245
VWUC VWUC 2.24 289 eP Pn 07 41 09.5 -0.1
baz=289
JISG Ishigakijimahi 2.33 82 P Pn 07 41 12.3 +1.4
JISG eS Sn 07 41 40.2 +0.9
VCHM Qimei 2.40 244 eP Pn 07 41 12.5 +0.5
baz=245
MATB Ma-tsu 2.50 319 eP Pn 07 41 13.0 -0.2
baz=317
KNMB Chin-men Tao 3.10 274 ePn Pn 07 41 21.7 +0.1
KNMB Chin-men Tao 3.10 274 eP Pn 07 41 21.4 -0.1
baz=274

IDC 21 07:40:38.6±5.6, 29°.61S×135°.85E, h0km, mb1 3.2/3, mb1mx3.1/29, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=109.2km s-min=24.7km az=49.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**5.44**	**116**	Pn	Pn	07 42 00.8	-0.2
	0.1nm,0.3s,baz=297,slow=11,SNR=2.1						
STKA				Sn	Sn	07 43 05.3	+1.1
	0.4nm,0.3s,baz=341,slow=18,SNR=2.8						
ASAR	**Alice Springs**	**6.17**	**343**	Pn	Pn	07 42 11.6	+0.6
	0.1nm,0.3s,baz=171,slow=8.4,SNR=3.3						
ASAR				Sn	Sn	07 43 22.3	0.0
	0.1nm,0.3s,baz=164,slow=23,SNR=4.8						
WRA	**Warramunga Arr**	**9.72**	**352**	Pn	Pn	07 42 59.6	-0.2
	0.3nm,0.3s,baz=174,slow=12,SNR=16						
WRA				Sn	Sn	07 44 45.1	-4.6
	0.1nm,0.3s,baz=165,slow=22,SNR=4.4						

*IDC **21** 07:41:15.3±0.7, 52°.39N×159°.90E, h0km, mb3.9/21, mb1 4.1/23, mb1mx4.0/47, mbtmp4.0/23, ML3.7/2, Error ellipse: s-maj=20.0km s-min=12.5km az=147.0*
*KRSC **21** 07:41:15.7±10.0, 52°.12N×160°.34E, h42km±10km, ML4.5*
*MOS **21** 07:41:18.6±1.0, 52°.18N×160°.11E, h45km, mb4.5/16, Error ellipse: s-maj=7.6km s-min=4.3km az=96.2*
*NEIC **21** 07:41:20.1±1.3, 52°.33N×159°.95E, h35km, mb4.3/29, Error ellipse: s-maj=17.6km s-min=13.1km az=146.0*

ISC 21 07:41:17.3±1.2, 52°.24N±0°.03×160°.19E±0°.03, h20km±5km, n174, σ1$41/209, mb4.3/48, 7C-8D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.86**	**353**	eP	Pn	07 41 34.5	+0.1
SPN				eS	Sn	07 41 47.0	+0.6
SPN	**Mys Shipunski**	**0.86**	**353**	PN	Pn	07 41 34.5	+0.1
SPN				S	Sn	07 41 47.0	+0.6
RUS	**Russkaya**	**1.04**	**281**	eP	Pn	07 41 36.8	0.0
RUS				eS	Sn	07 41 50.5	-0.3
RUS	**Russkaya**	**1.04**	**281**	PN	Pn	07 41 36.8	0.0
RUS				S	Sn	07 41 50.5	-0.3
NLC	**Nalytchevo**	**1.06**	**332**	eP	Pg	07 41 37.9	-0.1
NLC				eS	Sg	07 41 53.3	+1.4
NLC	**Nalytchevo**	**1.06**	**332**	PN	Pg	07 41 37.9	-0.1
NLC				S	Sg	07 41 53.3	+1.4
DALK	**Dalny**	**1.18**	**313**	eP	Pb	07 41 39.2	+0.2
DALK				eS	Sn	07 41 54.6	+0.5
DALK	**Dalny**	**1.18**	**313**	PN	Pb	07 41 39.2	+0.2
DALK				S	Sn	07 41 54.6	+0.5
PET	**Petropavlovsk**	**1.22**	**311**	ePn	Pn	07 41 39.2	-0.1
PET				eSn	Sb	07 41 52.4	-2.5
PET	**Petropavlovsk**	**1.22**	**311**	eP	Pb	07 41 39.8	+0.1
PET				eS	Sg	07 41 56.0	-0.9
PET	**Petropavlovsk**	**1.22**	**311**	⇓iPN	Pb	07 41 39.9	+0.2
PET				eS	Sn	07 41 55.8	+0.7
PET				pmax	pmax		
	comp=Z,1μm,0.6s						
PET				smax	smax		
	comp=E,2μm,0.8s						
PET				smax	smax		
	comp=N,2μm,0.5s						
MTVR	**Mutnovka**	**1.25**	**282**	eP	Pb	07 41 40.2	-0.1
MTVR				eS	Sn	07 41 56.6	+0.4
MTVR	**Mutnovka**	**1.25**	**282**	PN	Pb	07 41 40.2	-0.1
MTVR				S	Sn	07 41 56.6	+0.4
UGLR	**Uglovaya**	**1.27**	**320**	eP	Pg	07 41 41.3	-0.7
UGLR				eS	Sg	07 41 58.5	-0.2
UGLR	**Uglovaya**	**1.27**	**320**	PN	Pg	07 41 41.3	-0.7
UGLR				S	Sg	07 41 58.5	-0.2
SDLR	**Sedlovina**	**1.30**	**323**	eP	Pb	07 41 41.7	+0.5
SDLR				eS	Sg	07 41 59.2	-0.5
SDLR	**Sedlovina**	**1.30**	**323**	PN	Pb	07 41 41.7	+0.5
SDLR				S	Sg	07 41 59.2	-0.5
SMAR	**Somma**	**1.32**	**321**	eP	Pb	07 41 41.6	0.0
SMAR				eS	Sg	07 41 59.7	-0.6
SMAR	**Somma**	**1.32**	**321**	PN	Pb	07 41 41.6	0.0
SMAR				S	Sg	07 41 59.7	-0.6
GRL	**Gorelyy**	**1.33**	**284**	eP	Pb	07 41 42.1	+0.4
GRL				eS	Sg	07 41 59.5	-1.0
GRL	**Gorelyy**	**1.33**	**284**	PN	Pb	07 41 42.1	+0.4
GRL				S	Sg	07 41 59.5	-1.0
AVH	**Avacha**	**1.35**	**320**	eP	Pb	07 41 42.3	+0.3
AVH				S	Sg	07 42 00.5	-0.6
AVH	**Avacha**	**1.35**	**320**	PN	Pb	07 41 42.3	+0.3
AVH				S	Sg	07 42 00.5	-0.6
KDTR	**Khodutka, Kamc**	**1.37**	**252**	eP	Pn	07 41 41.6	+0.3
KDTR				eS	Sn	07 41 59.2	+0.3
KDTR	**Khodutka, Kamc**	**1.37**	**252**	PN	Pn	07 41 41.6	+0.3
KDTR				S	Sn	07 41 59.2	+0.3
KRER	**Koryakskii**	**1.38**	**321**	eP	Pb	07 41 42.8	+0.3
KRER				eS	Sg	07 42 01.5	-0.5
KRER	**Koryakskii**	**1.38**	**321**	PN	Pb	07 41 42.8	+0.3
KRER				S	Sg	07 42 01.5	-0.5
KRMR	**Karymshinskiy**	**1.39**	**296**	eP	Pb	07 41 42.3	-0.2
KRMR				eS	Sb	07 42 00.8	+1.0
KRMR	**Karymshinskiy**	**1.39**	**296**	PN	Pb	07 41 42.3	-0.2
KRMR				S	Sb	07 42 00.8	+1.0
ASAK	**Asacha**	**1.41**	**277**	eP	Pb	07 41 42.6	-0.4
ASAK				eS	Sb	07 42 01.0	+0.4
ASAK	**Asacha**	**1.41**	**277**	PN	Pb	07 41 42.6	-0.4
ASAK				S	Sb	07 42 01.0	+0.4
KOK	**Koryaka**	**1.41**	**319**	eP	Pb	07 41 43.4	+0.4
KOK				eS	Sg	07 42 03.7	+0.7
KOK	**Koryaka**	**1.41**	**319**	PN	Pb	07 41 43.4	+0.4
KOK				S	Sg	07 42 03.7	+0.7
KRX	**Arik**	**1.46**	**321**	eP	Pb	07 41 43.9	+0.1
KRX	**Arik**	**1.46**	**321**	PN	Pb	07 41 43.9	+0.1
PEA0B	**Petropavlovsk-**	**1.75**	**301**	ePn	Pn	07 41 47.3	+0.8
PEA0B				eSn	Sn	07 42 04.7	-3.5
PETK	**Petropavlovsk-**	**1.75**	**301**	Pn	Pb	07 41 48.1	-0.6
	comp=N,40nm,0.3s,baz=110,slow=20,SNR=151						
PETK				Sn	Sb	07 42 10.8	+0.6
	comp=N,78nm,0.3s,baz=127,slow=18,SNR=14						
PEA1	**Petropavlovsk-**	**1.75**	**301**	ePn	Pb	07 41 48.1	-0.6
PEA1				eSn	Sb	07 42 10.8	+0.5
APC	**Apacha**	**1.97**	**292**	eP	Pb	07 41 51.5	-1.0
APC				eS	Sb	07 42 17.6	+1.0
APC	**Apacha**	**1.97**	**292**	PN	Pb	07 41 51.5	-1.0
APC				S	Sb	07 42 17.6	+1.0
PAU	**Pauzhetka**	**2.23**	**251**	eP	Pn	07 41 54.0	+0.8
PAU	**Pauzhetka**	**2.23**	**251**	PN	Pn	07 41 54.0	+0.8
MKZ	**Mys Kozlova**	**2.50**	**21**	eP	Pn	07 41 57.5	+0.7
MKZ				eS	Sn	07 42 28.0	+1.4
MKZ	**Mys Kozlova**	**2.50**	**21**	PN	Pn	07 41 57.5	+0.7
MKZ				S	Sn	07 42 28.0	+1.4
KZV	**Kizimen**	**2.88**	**1**	P	Pb	07 42 05.2	-2.9
KZV	**Kizimen**	**2.88**	**1**	PN	Pb	07 42 05.2	-2.9
TUMD	**Tumrok D**	**2.97**	**2**	P	Pb	07 42 07.0	-2.5
TUMD				S	Sb	07 42 42.0	-3.4
SKR	**Severo-Kuril's**	**2.98**	**240**	eP	Pn	07 42 04.2	+0.7
SKR				S	Sn	07 42 37.6	-1.1
SKR	**Severo-Kuril's**	**2.98**	**240**	ePN	Pn	07 42 03.5	0.0
SKR				eS	Sn	07 42 40.1	+1.4
SKR				pmax	pmax		
	comp=Z,414nm,0.8s						
SKR				smax	smax		
	comp=N,1μm,0.8s						
SKR				smax	smax		
	comp=E,1μm,0.8s						
TUMR	**Tumrok**	**3.05**	**360**	eP	Pb	07 42 07.6	-3.3
TUMR	**Tumrok**	**3.05**	**360**	PN	Pn	07 42 07.0	+2.5
TUMR				S	Sn	07 42 42.0	+1.6
ALID	**Alaid**	**3.20**	**246**	eP	Pn	07 42 07.8	+1.1
ALID	**Alaid**	**3.20**	**246**	PN	Pn	07 42 07.8	+1.1
ESO	**Esso**	**3.79**	**347**	eP	Pn	07 42 18.2	+3.6
ESO	**Esso**	**3.79**	**347**	PN	Pn	07 42 18.2	+3.6
LGNR	**Loginova**	**3.86**	**4**	P	Pn	07 42 18.4	+2.6
LGNR	**Loginova**	**3.86**	**4**	PN	Pn	07 42 18.4	+2.6
CIRR	**Tsirk**	**3.90**	**5**	P	Pn	07 42 20.3	+4.1
CIRR	**Tsirk**	**3.90**	**5**	PN	Pn	07 42 20.3	+4.1
KLY	**Klyuchi**	**4.09**	**4**	P	Pb	07 42 23.7	-4.9
KLY	**Klyuchi**	**4.09**	**4**	PN	Pb	07 42 23.7	-4.9
SRDR	**Sredinnyy**	**4.09**	**356**	P	Pn	07 42 21.5	+2.7
SRDR	**Sredinnyy**	**4.09**	**356**	PN	Pn	07 42 21.5	+2.7
KBTR	**Krutoberegovo**	**4.26**	**20**	eP	Pn	07 42 23.2	+2.1
KBTR	**Krutoberegovo**	**4.26**	**20**	PN	Pn	07 42 23.2	+2.1
KBG	**Krutoberegovo**	**4.28**	**19**	eP	Pn	07 42 24.4	+3.1
KBG	**Krutoberegovo**	**4.28**	**19**	PN	Pn	07 42 24.4	+3.1
SRKR	**Sorokina**	**4.46**	**7**	P	Pn	07 42 29.0	+5.2
SRKR	**Sorokina**	**4.46**	**7**	PN	Pn	07 42 29.0	+5.2
BKI	**Bering**	**4.54**	**47**	eP	Pn	07 42 24.8	0.0
BKI				eS	Sn	07 43 13.6	-3.4
BKI	**Bering**	**4.54**	**47**	PN	Pn	07 42 24.8	0.0
ASAJ	**Asahikawa**	**14.25**	**242**	Pn	Pn	07 44 38.0	+0.2
	comp=E,0.5nm,0.3s,baz=66,slow=20,SNR=2.2						
ERM	**Erimo**	**15.42**	**235**	ePn	Pn	07 44 53.9	+0.3
	comp=E,41nm,1.3s						
ERM	**Erimo**	**15.42**	**235**	eP	Pn	07 44 53.9	+0.3
ERM				pmax	pmax		
	comp=Z,41nm,1.3s						
BILL	**Bilibino**	**16.12**	**8**	ePn	Pn	07 45 03.6	+1.1
	comp=Z,8.1nm,0.7s						
BILL				eSn	Sn	07 47 57.5	-2.9
BILL	**Bilibino**	**16.12**	**8**	⇓eP	P	07 45 07.3	+1.7
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,411nm,16.0s						
KLR	**Kul'dur**	**18.20**	**272**	⇑eP	P	07 45 29.1	+0.4
KLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KLR	**Kul'dur**	**18.20**	**272**	P	Pn	07 45 27.9	-0.7
	comp=Z,0.2nm,0.3s,baz=69,slow=12,SNR=8.2						
USRK	**Ussuriysk Ar.**	**20.34**	**258**	eP	P	07 45 50.1	-2.0
USRK	**Ussuriysk Ar.**	**20.34**	**258**	P	P	07 45 50.5	-1.6
	comp=Z,4.6nm,0.8s,baz=65,slow=9.8,SNR=7.4						
MAJO	**Matsushiro**	**22.07**	**233**	eP	P	07 46 10.1	-0.8
	comp=Z,16nm,0.8s						
MAJO	**Matsushiro**	**22.07**	**233**	eP	P	07 46 10.1	-0.8
MAJO				pmax	pmax		
	comp=Z,16nm,0.8s						
MAT	**Matsushiro**	**22.07**	**233**	P	P	07 46 11.1	+0.2
MJAR	**Matsushiro Arr**	**22.07**	**233**	P	P	07 46 11.8	+0.9
	comp=Z,9.0nm,1.0s,baz=20,slow=9.7,SNR=17						
INU	**Inuyama**	**23.60**	**233**	eP	P	07 46 27.2	+0.5
	comp=Z,9.2nm,0.8s						
RDOG	**Red Dog Mine**	**23.71**	**34**	eP	P	07 46 28.3	+0.8
	comp=Z,9.9nm,0.9s						
TIXI	**Tiksi**	**23.88**	**336**	⇑iP	P	07 46 28.3	-0.8
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	**Tiksi**	**23.88**	**336**	P	P	07 46 28.2	-0.8
	comp=Z,2.6nm,0.3s,baz=124,slow=8.0,SNR=6.6						
HIA	**Hailar**	**25.52**	**280**	eP	P	07 46 43.1	-1.3
	comp=Z,16nm,1.1s						
HIA	**Hailar**	**25.52**	**280**	⇑eP	P	07 46 43.5	-0.8
HIA				pmax	pmax		
	comp=Z,97nm,1.1s						
IMAR	**Indian Mountai**	**26.60**	**41**	eP	P	07 46 54.3	+0.4
KSRS	**Korea Array**	**26.96**	**250**	P	P	07 46 57.5	+0.2
	comp=Z,1.9nm,0.8s,baz=44,slow=10,SNR=7.2						
JNU	**Nakatsue**	**28.50**	**239**	eP	P	07 47 11.4	+0.2
	comp=Z,11nm,1.2s						
JNU	**Nakatsue**	**28.50**	**239**	P	P	07 47 12.1	+0.9
	comp=Z,6.0nm,0.8s,baz=31,slow=12,SNR=4.5						
ILAR	**Eielson Array**	**29.38**	**44**	P	P	07 47 19.9	+1.1
	comp=Z,0.3nm,0.9s,baz=272,slow=6.9,SNR=5.3						
BCAR	**Beaver Creek A**	**31.75**	**47**	eP	P	07 47 40.9	+1.1
H11N2	**WAKE ISLAND Hy**	**32.87**	**168**	T	T	08 23 41.5	
	baz=350,slow=74						
H11N3	**WAKE ISLAND Hy**	**32.88**	**168**	T	T	08 23 48.4	
	baz=350,slow=74						
H11N1	**WAKE ISLAND Hy**	**32.88**	**168**	T	T	08 23 39.5	
	baz=350						
H11S1	**WAKE ISLAND Hy**	**34.05**	**169**	T	T	08 24 31.4	
	baz=352,slow=76,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**34.06**	**169**	T	T	08 24 35.9	
	baz=352,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**34.07**	**169**	T	T	08 24 47.0	
	baz=352,slow=76,SNR=4.2						
TLY	**Talaya**	**34.09**	**292**	⇓eP	P	07 47 59.2	-1.0
SONA0	**Songino Array**	**34.16**	**284**	eP	P	07 48 00.8	-0.2
SONM	**Songino Array**	**34.16**	**284**	P	P	07 48 00.8	-0.2
	comp=Z,0.3nm,0.4s,baz=57,slow=5.3,SNR=2.6						
YKA	**Yellowknife Ar**	**43.76**	**42**	P	P	07 49 21.7	+0.9
	comp=Z,0.3nm,0.8s,baz=299,slow=7.1,SNR=3.8						
YKB5	**Yellowknife Ar**	**43.76**	**42**	eP	P	07 49 21.7	+0.9
RES	**Resolute Bay**	**44.09**	**22**	eP	P	07 49 24.0	+0.6
	comp=Z,2.8nm,1.0s						
RES	**Resolute Bay**	**44.09**	**22**	eP	P	07 49 24.0	+0.6
RES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DGZ	**Jazzator, Alta**	**44.10**	**297**	⇓eP	P	07 49 22.7	-1.3
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
A04D	**Lummi Island**	**47.02**	**62**	eP	P	07 49 48.0	+1.2
SPA0	**Spitsbergen Ar**	**47.98**	**351**	eP	P	07 49 53.5	-0.6
	comp=Z,18nm,1.3s						
KURK	**Kurchatov**	**48.23**	**303**	eP	P	07 49 53.6	-2.8
	comp=Z,6.6nm,1.0s						
KURK	**Kurchatov**	**48.23**	**303**	⇑eP	P	07 49 53.7	-2.6
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MK32	**Makanchi Array**	**48.58**	**296**	eP	P	07 49 56.4	-2.7
MKAR	**Makanchi Array**	**48.58**	**296**	P	P	07 49 56.4	-2.7
	comp=Z,0.5nm,0.5s,baz=62,slow=7.6,SNR=4.2						
VALT	**Mount Saint He**	**48.78**	**64**	eP	P	07 50 04.4	+3.6
TBM	**Table Mountain**	**49.08**	**63**	eP	P	07 50 04.3	+1.3

BRVK	Borovoye	50.99	309	eP	P	07 50 15.2	-2.1
	comp=Z,2.2nm,0.8s						
BRVK	Borovoye	50.99	309	‖eP	P	07 50 15.2	-2.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	Arti	54.06	318	‖eP	P	07 50 38.1	-1.9
ARU				pmax	pmax		
	comp=Z,8.0nm,1.8s						
ARCES	ARCESS Array B	54.12	342	P	P	07 50 39.7	-0.5
	comp=Z,3.5nm,0.8s,baz=38,slow=8.1,SNR=5.5						
BOZ	Bozeman (W)	54.88	59	eP	P	07 50 47.8	+1.4
	comp=Z,1.2nm,0.8s						
BOZ	Bozeman (W)	54.88	59	eP	P	07 50 47.8	+1.4
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
QLMT	Earthquake Lak	55.50	60	eP	P	07 50 52.5	+1.6
NVAR	Mina Array Bea	55.98	70	eP	P	07 50 55.8	+1.4
NVAR	Mina Array Bea	55.98	70	P	P	07 50 56.3	+1.9
	comp=Z,0.7nm,0.8s,baz=294,slow=8.1,SNR=5.5						
KKAR	Karatay Array	57.35	300	eP	P	07 51 01.5	-2.4
	comp=Z,3.8nm,1.3s						
KKAR	Karatay Array	57.35	300	eP	P	07 51 01.5	-2.4
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BW06	Boulder Array	57.89	60	eP	P	07 51 09.4	+1.5
	comp=Z,2.6nm,0.9s						
PD31	Pinedale Array	57.89	60	eP	P	07 51 09.4	+1.5
	comp=Z,2.4nm,0.9s						
PDAR	Pinedale Array	57.89	60	eP	P	07 51 09.2	+1.3
PDAR	Pinedale Array	57.89	60	P	P	07 51 09.8	+1.8
	comp=Z,0.8nm,0.6s,baz=311,slow=7.7,SNR=6.2						
CM31	Chiang Mai Arr	58.06	259	eP	P	07 51 09.0	-0.1
	comp=Z,6.6nm,0.4s						
CMAR	Chiang Mai Arr	58.06	259	ceP	P	07 51 10.1	+1.0
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	58.06	259	P	P	07 51 09.4	+0.2
	comp=Z,1.3nm,0.3s,baz=26,slow=6.7,SNR=8.0						
ABKAR	Akbulak array	58.39	311	eP	P	07 51 09.4	-1.6
	comp=Z,1.4nm,0.8s						
SVD	Seven Oaks Dam	59.68	72	eP	P	07 51 25.3	+5.1
RSSD	Black Hills	59.83	56	eP	P	07 51 21.9	+0.6
	comp=Z,4.1nm,0.6s						
RSSD	Black Hills	59.83	56	eP	P	07 51 21.9	+0.6
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SRU	San Rafael Swe	59.91	64	eP	P	07 51 22.8	+0.9
	comp=Z,2.8nm,0.8s						
GAR	Garm	60.31	296	eP	P	07 51 22.7	-1.8
	comp=Z,5.7nm,0.8s						
GAR	Garm	60.31	296	eP	P	07 51 22.7	-1.8
GAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FINES	FINESS Array B	60.92	337	iP	P	07 51 27.8	-0.4
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	60.92	337	P	P	07 51 28.0	-0.3
	comp=Z,3.9nm,0.8s,baz=15,slow=8.1,SNR=8.8						
YUH	Yuha Desert	61.41	73	eP	P	07 51 30.6	-1.3
NIL	Nilore	62.46	290	eP	P	07 51 37.9	-1.2
	comp=Z,8.6nm,0.4s						
NIL	Nilore	62.46	290	eP	P	07 51 37.9	-1.2
NIL				pmax	pmax		
	comp=Z,9.0nm,0.4s						
X18A	Snowflake	63.50	67	eP	P	07 51 48.0	+1.8
	comp=Z,5.8nm,1.5s						
NB200	NORSAR Array S	64.38	344	eP	P	07 51 52.0	+0.6
NOA	NORSAR Array B	64.38	344	P	P	07 51 52.0	+0.6
NOA	NORSAR Array B	64.38	344	P	P	07 51 52.0	+0.6
	comp=Z,0.6nm,0.8s,baz=24,slow=6.4,SNR=2.4						
VSR	Storozhevoye	65.56	324	‖eP	P	07 51 58.4	-0.7
VSR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AMTX	Amarillo	67.82	62	eP	P	07 52 14.8	+0.9
	comp=Z,8.5nm,0.6s						
AKASG	Malin Array Be	69.37	329	ceP	P	07 52 23.5	+0.3
AKASG	Malin Array Be	69.37	329	P	P	07 52 22.2	-1.0
	comp=Z,0.4nm,0.3s,baz=31,slow=6.5,SNR=5.8						
KIEV	Kiev	69.38	329	eP	P	07 52 22.0	-1.2
	comp=Z,4.4nm,0.9s						
KIEV	Kiev	69.38	329	‖iP	P	07 52 22.4	-0.9
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WMOK	Wichita Mounta	69.49	60	eP	P	07 52 25.3	+1.0
	comp=Z,1.8nm,0.8s						
WMOK	Wichita Mounta	69.49	60	eP	P	07 52 25.3	+1.0
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	Khabaz	70.19	317	P	P	07 52 29.0	+0.7
	comp=Z,2.2nm,0.9s,baz=3.1,slow=1.8,SNR=4.2						
TX31	Lajitas Ar. Si	70.92	67	eP	P	07 52 34.4	+1.2
	comp=Z,1.9nm,1.1s						
TXAR	Lajitas Array	70.92	67	P	P	07 52 35.0	+1.8
TXAR	Lajitas Array	70.92	67	P	P	07 52 35.0	+1.8
	comp=Z,0.4nm,0.5s,baz=297,slow=4.7,SNR=14						
CLL	Collm	73.17	339	iP	P	07 52 48.0	+1.8
BUR08	Bucovina Ar. S	73.32	330	eP	P	07 52 47.0	-0.3
	comp=Z,2.1nm,0.8s						
ILGA	Ilgaz	76.14	321	eP	P	07 53 03.5	-0.4
	comp=Z,4.1nm,0.9s						
FITZ	Fitzroy Crossi	76.22	214	P	P	07 53 05.3	+1.3
	comp=Z,0.8nm,0.7s,baz=37,slow=5.1,SNR=3.9						
BRTR	Keskin Array B	77.31	321	eP	P	07 53 09.3	-1.1
BRTR	Keskin Array B	77.31	321	ceP	P	07 53 10.6	+0.2
BRTR	Keskin Array B	77.31	321	P	P	07 53 10.0	-0.4
	comp=Z,0.3nm,0.3s,baz=132,slow=3.5,SNR=4.5						
ASAR	Alice Springs	79.00	204	eP	P	07 53 20.4	+0.8
ASAR	Alice Springs	79.00	204	P	P	07 53 20.8	+1.2
	comp=Z,0.7nm,0.7s,baz=16,slow=5.7,SNR=8.8						
ESDC	Sonseca Array	87.42	348	eP	P	07 54 03.2	0.0
	comp=Z,1.2nm,1.1s						

KRSC 21 07:44:11.5±10.0, 52°.17N×160°.84E, h50km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.05	332	eP	Pn	07 44 30.6	+0.7
SPN				eS	Sn	07 44 42.6	-1.0
NLC	Nalytchevo	1.35	318	P	Pn	07 44 35.9	+1.9
NLC				S	Sn	07 44 52.1	+1.3
RUS	Russkaya	1.45	281	eP	Pn	07 44 37.1	+1.8
RUS				eS	Sn	07 44 53.6	+0.4
DALK	Dalny	1.54	305	eP	Pn	07 44 38.4	+1.9
DALK				eS	Sn	07 44 56.4	+1.1
PET	Petropavlovsk	1.58	304	P	Pn	07 44 39.3	+2.2
PET				S	Sn	07 44 57.5	+1.1
UGLR	Uglovaya	1.61	311	P	Pn	07 44 40.2	+2.6
UGLR				S	Sn	07 44 58.9	+1.7
SDLR	Sedlovina	1.63	314	P	Pn	07 44 41.0	+3.2
SMAR	Somma	1.66	312	P	Pn	07 44 40.4	+2.1
MTVR	Mutnovka	1.66	282	eP	Pn	07 44 41.0	+2.7
MTVR				eS	Sn	07 45 00.0	+1.5
KRER	Koryakskii	1.71	313	eS	Sn	07 45 06.0	+6.3
KDTR	Khodutka, Kamc	1.75	259	eP	Pn	07 44 42.3	+3.0
KDTR				eS	Sn	07 45 00.8	+0.4
KRMR	Karymshinskiy	1.78	293	eP	Pn	07 44 42.8	+3.0
KRMR				eS	Sn	07 45 04.7	+3.4
ASAK	Asacha	1.82	278	P	Pn	07 44 43.2	+2.8
ASAK				S	Sn	07 45 04.3	+2.0
APC	Apacha	2.37	290	eP	Pn	07 44 52.6	+4.7
APC				S	Sn	07 45 19.9	+4.2
MKZ	Mys Kozlova	2.45	12	eP	Pn	07 44 51.7	+2.8
MKZ				eS	Sn	07 45 19.8	+2.2
KZV	Kizimen	2.97	354	P	Pn	07 45 00.6	+4.4
TUMD	Tumrok D	3.05	355	P	Pn	07 45 03.5	+6.3
TUMD				S	Sn	07 45 37.8	+5.3
TUMR	Tumrok	3.15	353	P	Pn	07 45 03.1	+4.5
KBTR	Krutoberegovo	4.21	15	P	Pn	07 45 16.2	+3.1
BKI	Bering	4.31	43	P	Pn	07 45 18.4	+4.0
BKI				S	Sn	07 46 04.0	+0.8

KRSC 21 07:45:23.3±10.0, 52°.32N×160°.82E, h58km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.92	328	P	Pn	07 45 40.7	+0.5
SPN				S	Sn	07 45 52.9	+0.3
NLC	Nalytchevo	1.24	314	P	Pn	07 45 46.0	+1.6
NLC				S	Sn	07 46 02.0	+1.9
RUS	Russkaya	1.42	275	P	Pn	07 45 48.4	+1.6
RUS				S	Sn	07 46 05.9	+1.4
DALK	Dalny	1.45	300	P	Pn	07 45 49.0	+1.8
DALK				S	Sn	07 46 06.7	+1.6
UGLR	Uglovaya	1.50	307	P	Pn	07 45 50.1	+2.0
SDLR	Sedlovina	1.52	310	P	Pn	07 45 49.9	+1.6
AVH	Avacha	1.58	308	P	Pn	07 45 51.5	+2.4
MTVR	Mutnovka	1.63	277	P	Pn	07 45 52.2	+2.4
MTVR				S	Sn	07 46 12.6	+2.9
KRX	Arik	1.68	309	P	Pn	07 45 52.8	+2.3
KRMR	Karymshinskiy	1.72	288	P	Pn	07 45 53.5	+2.6
KRMR				S	Sn	07 46 15.5	+3.7
KDTR	Khodutka, Kamc	1.77	254	P	Pn	07 45 53.0	+1.4
KDTR				S	Sn	07 46 13.7	+0.7
ASAK	Asacha	1.79	273	P	Pn	07 45 55.2	+3.2
ASAK				S	Sn	07 46 17.9	+4.2
MKZ	Mys Kozlova	2.30	13	S	Sn	07 46 28.0	+2.1
APC	Apacha	2.31	287	P	Pn	07 46 02.6	+3.6
KZV	Kizimen	2.81	354	P	Pn	07 46 08.7	+2.8
KZV				S	Sn	07 46 42.2	+3.5
TUMD	Tumrok D	2.90	355	S	Sn	07 46 43.0	+2.5
TUMR	Tumrok	2.99	353	P	Pn	07 46 11.9	+3.5
TUMR				S	Sn	07 46 46.6	+3.6

KRSC ***21*** *07:47:33.8±10.0, 52°.08N×160°.92E, h61km±10km, ML4.3*
IDC ***21*** *07:47:34.2±0.8, 52°.25N×160°.62E, h0km, mb3.9/15, mb1 4.1/16, mb1mx3.9/42, mbtmp3.9/16, ML3.7/1, Error ellipse: s-maj=22.3km s-min=14.9km az=168.0*
ISCJB ***21*** *07:47:37.1±0.7, 52°.17N±0°.04×160°.78E±0°.06, h39km±5km, mb4.2/30, Error ellipse: s-maj=7.8km s-min=4.3km az=145.4*
MOS ***21*** *07:47:37.5±0.9, 52°.19N×160°.69E, h43km, mb4.5/6, Error ellipse: s-maj=8.2km s-min=4.6km az=102.2*
NEIC ***21*** *07:47:39.2±0.9, 52°.28N×160°.65E, h35km, mb4.3/16, Error ellipse: s-maj=16.8km s-min=6.2km az=121.0*
ISC 21 07:47:38.0±2.1, 52°.17N±0°.05×160°.81E±0°.04, h32km±14km, n122, σ1°16/146, mb4.3/30, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.05	333	eP	Pn	07 47 54.5	-2.0
SPN				eS	Sn	07 48 07.8	-2.2
SPN	Mys Shipunski	1.05	333	PN	Pn	07 47 54.5	-2.0
SPN				S	Sn	07 48 07.8	-2.2
NLC	Nalytchevo	1.34	319	eP	Pn	07 47 59.3	-1.2
NLC				S	Sb	07 48 20.6	+1.1
NLC	Nalytchevo	1.34	319	PN	Pn	07 47 59.3	-1.2
NLC				S	Sb	07 48 20.6	+1.1
RUS	Russkaya	1.43	282	eP	Pn	07 48 00.4	-1.4
RUS				S	Sn	07 48 19.5	0.0
RUS	Russkaya	1.43	282	PN	Pn	07 48 00.4	-1.4
RUS				S	Sn	07 48 19.5	0.0
DALK	Dalny	1.52	305	eP	Pn	07 48 01.9	-1.1
DALK				eS	Sb	07 48 24.6	0.0
DALK	Dalny	1.52	305	PN	Pn	07 48 01.9	-1.1
DALK				S	Sb	07 48 24.6	0.0
PET	Petropavlovsk	1.57	304	ePn	Pn	07 48 02.7	-1.0
PET				eSn	Sn	07 48 20.2	-2.6
PET	Petropavlovsk	1.57	304	eP	Pn	07 48 02.5	-1.1
PET				eS	Sn	07 48 23.3	+0.5
PET	Petropavlovsk	1.57	304	ePN	Pn	07 48 02.6	-1.0
PET				eS	Sn	07 48 23.6	+0.8
PET				pmax	pmax		
	comp=Z,318nm,0.5s						
PET				smax	smax		
	comp=E,927nm,0.6s						
PET				smax	smax		
	comp=N,1μm,0.6s						
UGLR	Uglovaya	1.60	312	eP	Pn	07 48 03.6	-0.5
UGLR	Uglovaya	1.60	312	PN	Pn	07 48 03.6	-0.5
SDLR	Sedlovina	1.62	314	eP	Pn	07 48 03.6	-0.8
SDLR	Sedlovina	1.62	314	PN	Pn	07 48 03.6	-0.8
MTVR	Mutnovka	1.64	282	eP	Pn	07 48 03.8	-1.0
MTVR				eS	Sn	07 48 24.3	-0.5
MTVR	Mutnovka	1.64	282	PN	Pn	07 48 03.8	-1.0
MTVR				S	Sn	07 48 24.3	-0.5
SMAR	Somma	1.64	313	eP	Pn	07 48 04.2	-0.7
SMAR	Somma	1.64	313	PN	Pn	07 48 04.2	-0.7
AVH	Avacha	1.67	312	eP	Pn	07 48 04.8	-0.3
AVH	Avacha	1.67	312	PN	Pn	07 48 04.8	-0.3
KRER	Koryakskii	1.69	313	eP	Pn	07 48 05.0	-0.5
KRER	Koryakskii	1.69	313	PN	Pn	07 48 05.0	-0.5
GRL	Gorelyy	1.72	284	P	Pn	07 48 05.7	-0.1
GRL	Gorelyy	1.72	284	PN	Pn	07 48 05.7	-0.1
KDTR	Khodutka, Kamc	1.73	259	eP	Pn	07 48 04.2	-1.6
KDTR				eS	Sn	07 48 24.7	-2.0
KDTR	Khodutka, Kamc	1.73	259	PN	Pn	07 48 04.2	-1.6
KDTR				S	Sn	07 48 24.7	-2.0
KOK	Koryaka	1.74	311	eP	Pn	07 48 05.4	-0.6
KOK	Koryaka	1.74	311	PN	Pn	07 48 05.4	-0.6
KRMR	Karymshinskiy	1.77	293	eP	Pn	07 48 05.5	-0.8
KRMR				eS	Sn	07 48 28.7	+1.0
KRMR	Karymshinskiy	1.77	293	PN	Pn	07 48 05.5	-0.8
KRMR				S	Sn	07 48 28.7	+1.0
KRX	Arik	1.77	313	eP	Pn	07 48 05.9	-0.7
KRX	Arik	1.77	313	PN	Pn	07 48 05.9	-0.7
ASAK	Asacha	1.80	278	eP	Pn	07 48 06.2	-0.7
ASAK	Asacha	1.80	278	PN	Pn	07 48 06.2	-0.7
PEA0B	Petropavlovsk-	2.12	298	ePn	Pn	07 48 10.6	-0.6
PETK	Petropavlovsk-	2.12	298	Pn	Pn	07 48 10.8	-0.3
	comp=N,40nm,0.3s,baz=92,slow=14,SNR=37						
PETK				Sn	Sn	07 48 36.8	+0.5
	comp=N,17nm,0.3s,baz=95,slow=17,SNR=4.9						
PEA1	Petropavlovsk-	2.12	298	ePn	Pn	07 48 10.8	-0.4
PEA1				eSn	Sn	07 48 36.8	+0.4
MKZ	Mys Kozlova	2.46	13	eP	Pn	07 48 15.1	-0.7
MKZ				S	Sn	07 48 43.2	-1.5
MKZ	Mys Kozlova	2.46	13	PN	Pn	07 48 15.1	-0.7
MKZ				S	Sn	07 48 43.2	-1.5
PAU	Pauzhetka	2.58	256	P	Pn	07 48 17.0	-0.5
PAU	Pauzhetka	2.58	256	PN	Pn	07 48 17.0	-0.5
KZV	Kizimen	2.97	354	eP	Pn	07 48 23.3	+0.3
KZV	Kizimen	2.97	354	PN	Pn	07 48 23.3	+0.3
TUMD	Tumrok D	3.05	356	eP	Pn	07 48 23.8	-0.2
TUMD				S	Sn	07 48 59.1	-0.4
TUMR	Tumrok	3.15	353	eP	Pn	07 48 26.1	+0.7
TUMR	Tumrok	3.15	353	PN	Pn	07 48 23.8	-1.6
TUMR				S	Sn	07 48 59.1	-2.8
SKR	Severo-Kuril's	3.29	245	eP	Pn	07 48 26.1	-1.2
SKR	Severo-Kuril's	3.29	245	ePN	Pn	07 48 25.9	-1.4
SKR				pmax	pmax		
	comp=Z,37nm,0.6s						
ALID	Alaid	3.53	250	P	Pn	07 48 30.2	-0.5
ALID	Alaid	3.53	250	PN	Pn	07 48 30.2	-0.5
LGNR	Loginova	3.93	359	P	Pn	07 48 37.1	+0.8
LGNR	Loginova	3.93	359	PN	Pn	07 48 37.1	+0.8
ESO	Esso	3.97	343	P	Pn	07 48 36.9	+0.3
ESO	Esso	3.97	343	PN	Pn	07 48 36.9	+0.3
SRDR	Sredinnyy	4.21	352	P	Pn	07 48 40.0	0.0
SRDR	Sredinnyy	4.21	352	PN	Pn	07 48 40.0	0.0
KBTR	Krutoberegovo	4.22	15	eP	Pn	07 48 39.9	-0.1
KBTR	Krutoberegovo	4.22	15	PN	Pn	07 48 39.9	-0.1
BKI	Bering	4.32	43	eP	Pn	07 48 41.1	-0.3
BKI				eS	Sn	07 49 26.5	-4.1
BKI	Bering	4.32	43	PN	Pn	07 48 41.1	-0.3
BDR	Baidarnaya	4.42	3	P	Pn	07 48 44.0	+1.2
BDR	Baidarnaya	4.42	3	PN	Pn	07 48 44.0	+1.2
SMKR	Semkarok	4.44	5	P	Pn	07 48 44.4	+1.2
SMKR	Semkarok	4.44	5	PN	Pn	07 48 44.4	+1.2
SRKR	Sorokina	4.50	3	P	Pn	07 48 45.1	+1.1
SRKR	Sorokina	4.50	3	PN	Pn	07 48 45.1	+1.1
BILL	Bilibino	16.14	7	ePn	P	07 51 24.4	-0.8
	comp=Z,5.0nm,0.7s						
BILL	Bilibino	16.14	7	eP	P	07 51 24.4	-0.8
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KLR	Kul'dur	18.58	272	P	P	07 51 51.9	-0.3
	comp=Z,0.2nm,0.3s,baz=73,slow=13,SNR=4.0						
USRK	Ussuriysk Ar.	20.70	259	P	P	07 52 15.0	-0.2
	comp=Z,2.1nm,0.7s,baz=71,slow=13,SNR=3.4						
MAJO	Matsushiro	22.34	235	eP	P	07 52 32.8	-0.2
	comp=Z,4.7nm,0.8s						
MAJO	Matsushiro	22.34	235	eP	P	07 52 32.8	-0.2
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MJAR	Matsushiro Arr	22.34	235	P	P	07 52 32.3	-0.6
	comp=Z,1.1nm,0.3s,baz=16,slow=9.7,SNR=5.8						
TIXI	Tiksi	24.11	336	eP	P	07 52 48.5	-1.8
TIXI	Tiksi	24.11	336	eP	P	07 52 48.5	-1.8
TIXI	Tiksi	24.11	336	P	P	07 52 49.1	-1.2
	comp=Z,6.2nm,0.4s,baz=127,slow=9.7,SNR=5.1						
IMAR	Indian Mountai	26.41	41	eP	P	07 53 12.1	+0.8
BWN	Browne	28.04	45	eP	P	07 53 27.4	+1.5
	comp=Z,18nm,0.8s						
SML	Sawmill	28.61	50	eP	P	07 53 31.8	+0.8
	comp=Z,8.1nm,1.2s						
SML	Sawmill	28.61	50	eP	P	07 53 31.8	+0.8
SML				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SCM	Sheep Creek Mo	29.08	50	eP	P	07 53 36.3	+1.0
	comp=Z,7.5nm,1.4s						
SCM	Sheep Creek Mo	29.08	50	eP	P	07 53 36.3	+1.0
SCM				pmax	pmax		
	comp=Z,8.0nm,1.4s						
BCAR	Beaver Creek A	31.52	47	eP	P	07 53 58.3	+1.5
YKA	Yellowknife Ar	43.55	42	P	P	07 55 39.2	+0.9
	comp=Z,0.1nm,0.5s,baz=299,slow=7.7,SNR=3.0						
YKB5	Yellowknife Ar	43.55	42	eP	P	07 55 39.2	+0.9
SPA0	Spitsbergen Ar	48.12	351	eP	P	07 56 13.9	-0.2
	comp=Z,2.0nm,1.2s						
GLK	Glacier Lake	48.58	64	eP	P	07 56 16.1	-2.1
KURK	Kurchatov	48.60	303	eP	P	07 56 16.3	-1.8
	comp=Z,8.3nm,1.2s						
KURK	Kurchatov	48.60	303	eP	P	07 56 16.3	-1.8
KURK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MK31	Makanchi Array	48.95	297	eP	P	07 56 19.1	-1.8
	comp=Z,2.4nm,1.2s						
MK31	Makanchi Array	48.95	297	eP	P	07 56 19.2	-1.8
MK31				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MK32	Makanchi Array	48.95	297	eP	P	07 56 19.4	-1.6
MKAR	Makanchi Array	48.95	297	P	P	07 56 19.4	-1.6
	comp=Z,0.7nm,0.4s,baz=54,slow=6.7,SNR=12						
BRVK	Borovoye	51.34	309	eP	P	07 56 37.6	-1.3
	comp=Z,2.9nm,0.8s						
BRVK	Borovoye	51.34	309	eP	P	07 56 37.6	-1.3
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	ARCESS Array B	54.30	342	eP	P	07 57 00.4	-0.2
ARCES	ARCESS Array B	54.30	342	P	P	07 57 00.5	-0.1
	comp=Z,3.3nm,0.9s,baz=40,slow=12,SNR=4.2						
NVAR	Mina Array Bea	55.65	70	P	P	07 57 13.2	+2.2
	comp=Z,0.5nm,0.6s,baz=301,slow=8.9,SNR=4.8						
AAK	Ala-Archa	55.88	297	eP	P	07 57 12.1	-0.5
	comp=Z,1.2nm,0.8s						
PDAR	Pinedale Array	57.60	61	eP	P	07 57 26.9	+2.1
PDAR	Pinedale Array	57.60	61	P	P	07 57 26.6	+1.8
	comp=Z,0.4nm,0.5s,baz=314,slow=3.1,SNR=4.3						
CM31	Chiang Mai Arr	58.43	259	eP	P	07 57 31.1	+0.5
	comp=Z,5.2nm,0.9s						
CMAR	Chiang Mai Arr	58.43	259	P	P	07 57 31.7	+1.1
	comp=Z,1.2nm,0.4s,baz=18,slow=7.5,SNR=6.0						
ABKAR	Akbulak array	58.73	311	eP	P	07 57 31.4	-0.9
	comp=Z,1.2nm,0.8s						
FIA1	FINESS Array S	61.14	337	eP	P	07 57 49.2	+0.5
	comp=Z,18nm,1.3s						
FINES	FINESS Array B	61.15	337	P	P	07 57 49.3	+0.6
	comp=Z,3.3nm,0.7s,baz=45,slow=8.5,SNR=9.4						
OBN	Obninsk	63.53	328	‖eP	P	07 58 04.8	+0.1
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NB2	NORSAR Subarra	64.56	344	P	P	07 58 12.4	+1.0
	comp=Z,0.5nm,0.4s,baz=23,slow=6.9						
NB200	NORSAR Array S	64.56	344	eP	P	07 58 11.7	+0.2
NOA	NORSAR Array B	64.56	344	P	P	07 58 11.7	+0.2
	comp=Z,0.5nm,0.5s,baz=24,slow=6.8,SNR=4.4						
AKASG	Malin Array Be	69.63	330	P	P	07 58 43.6	-0.1
	comp=Z,1.1nm,0.3s,baz=28,slow=7.0,SNR=2.5						
AKBB	Malin Array Si	69.63	330	eP	P	07 58 43.5	-0.3
	comp=Z,3.2nm,1.0s						
KBZ	Khabaz	70.51	317	P	P	07 58 49.7	+0.5
	comp=Z,2.8nm,1.0s,baz=174,slow=2.1,SNR=4.2						
TXAR	Lajitas Array	70.60	67	eP	P	07 58 50.7	+0.6
TXAR	Lajitas Array	70.60	67	P	P	07 58 51.9	+1.7
	comp=Z,0.4nm,0.6s,baz=286,slow=4.8,SNR=5.5						
CLL	Collm	73.38	340	eP	P	07 59 09.0	+2.7
BUR08	Bucovina Ar. S	73.58	330	eP	P	07 59 07.4	-0.3
	comp=Z,1.6nm,0.6s						
MLR	Muntele Rosu	75.27	329	eP	P	07 59 17.8	+0.2
	comp=Z,4.4nm,1.1s						
GERES	GERESS Array B	75.54	338	eP	P	07 59 18.8	-0.2
ASAR	Alice Springs	79.09	205	eP	P	07 59 39.9	+0.9
ASAR	Alice Springs	79.09	205	P	P	07 59 40.2	+1.2
	comp=Z,0.3nm,0.7s,baz=4.5,slow=4.4,SNR=4.3						

ISK ***21*** *07:48:19.7, 38°.73N×30°.54E, h8km, ML1.6/4*
ISCJB ***21*** *07:48:20.2±0.6, 38°.76N±0°.04×30°.53E±0°.04, h6km±8km, Error ellipse: s-maj=6.4km s-min=5.8km az=174.9*
DDA ***21*** *07:48:20.1, 38°.74N×30°.39E, h18km, ML2.5*
ISC 21 07:48:19.7±1.0, 38°.72N±0°.04×30°.47E±0°.04, h13km±8km, n10, σ0°44/16, Turkey

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

SPN	Mys Shipunski	0.99 326		PN	Pb	07 50 40.6	-0.3
SPN				S	Sb	07 50 53.0	-1.0
NLC	Nalytchevo	1.31 313	*eP*	Pn	Pn	07 50 45.6	-0.5
NLC				S	Sb	07 51 02.1	-1.3
NLC	Nalytchevo	1.31 313		PN	Pn	07 50 45.6	-0.5
NLC				S	Sb	07 51 02.1	-1.3
RUS	Russkaya	1.50 277	*eP*	Pn	Pn	07 50 48.5	-0.1
RUS			*eS*	Sn	Sn	07 51 06.3	-1.9
RUS	Russkaya	1.50 277		PN	Pn	07 50 48.5	-0.1
RUS				S	Sn	07 51 06.3	-1.9
DALK	Dalny	1.53 300	*eP*	Pn	Pn	07 50 48.9	-0.1
DALK				S	Sn	07 51 08.1	-0.9
DALK	Dalny	1.53 300		PN	Pn	07 50 48.9	-0.1
DALK				S	Sn	07 51 08.1	-0.9
PET	Petropavlovsk	1.58 299	*e*Pn	Pn	Pn	07 50 49.7	0.0
PET	Petropavlovsk	1.58 299	*eP*	Pn	Pn	07 50 49.8	0.0
PET				S	Sn	07 51 09.0	-1.2
PET	Petropavlovsk	1.58 299	*e*PN	Pn	Pn	07 50 49.9	+0.2
PET			*eS*	Sn	Sn	07 51 07.2	-3.0
PET			pmax	pmax			
	comp=Z,206nm,0.6s						
PET			smax	smax			
	comp=N,832nm,0.5s						
PET			smax	smax			
	comp=E,1μm,0.6s						
UGLR	Uglovaya	1.58 307	*eP*	Pb	Pb	07 50 50.3	-0.8
UGLR	Uglovaya	1.58 307	PN	Pb	Pb	07 50 50.3	-0.8
SDLR	Sedlovina	1.60 309	*eP*	Pn	Pn	07 50 50.1	0.0
SDLR	Sedlovina	1.60 309	PN	Pn	Pn	07 50 50.1	0.0
SMAR	Somma	1.63 308	P	Pn	Pn	07 50 50.9	+0.3
SMAR	Somma	1.63 308	PN	Pn	Pn	07 50 50.9	+0.3
AVH	Avacha	1.66 307	*eP*	Pb	Pb	07 50 51.6	-0.8
AVH	Avacha	1.66 307	PN	Pb	Pb	07 50 51.6	-0.8
KRER	Koryakskii	1.68 308	*eP*	Pb	Pb	07 50 52.2	-0.6
KRER	Koryakskii	1.68 308	PN	Pb	Pb	07 50 52.2	-0.6
MTVR	Mutnovka	1.70 278	*eP*	Pn	Pn	07 50 51.9	+0.3
MTVR			*eS*	Sn	Sn	07 51 13.0	-0.5
MTVR	Mutnovka	1.70 278	PN	Pn	Pn	07 50 51.9	+0.3
MTVR			S	Sn	Sn	07 51 13.0	-0.5
KOK	Koryaka	1.73 307	P	Pb	Pb	07 50 52.6	-0.9
KOK	Koryaka	1.73 307	PN	Pb	Pb	07 50 52.6	-0.9
KRX	Arik	1.76 309	P	Pn	Pn	07 50 52.8	+0.4
KRX	Arik	1.76 309	PN	Pn	Pn	07 50 52.8	+0.4
GRL	Gorelyy	1.77 280	*eP*	Pb	Pb	07 50 54.0	-0.4
GRL	Gorelyy	1.77 280	PN	Pb	Pb	07 50 54.0	-0.4
KRMR	Karymshinskiy	1.80 289	*eP*	Pn	Pn	07 50 52.9	+0.1
KRMR			S	Sn	Sn	07 51 14.9	-0.8
KRMR	Karymshinskiy	1.80 289	PN	Pn	Pn	07 50 52.9	+0.1
KRMR			S	Sn	Sn	07 51 14.9	-0.8
KDTR	Khodutka, Kamc	1.83 256	*eP*	Pn	Pn	07 50 53.0	-0.2
KDTR			*eS*	Sn	Sn	07 51 14.3	-2.1
KDTR	Khodutka, Kamc	1.83 256	PN	Pn	Pn	07 50 53.0	-0.2
KDTR			S	Sn	Sn	07 51 14.3	-2.1
ASAK	Asacha	1.87 274	*eP*	Pn	Pn	07 50 54.6	+0.8
ASAK			*eS*	Sb	Sb	07 51 19.4	0.0
ASAK	Asacha	1.87 274	PN	Pn	Pn	07 50 54.6	+0.8
ASAK			S	Sb	Sb	07 51 19.4	0.0
PEA0B	Petropavlovsk-	2.14 294	*e*Pn	Pn	Pn	07 50 57.8	+0.3
PETK	Petropavlovsk-	2.14 294	Pn	Pn	Pn	07 50 57.9	+0.4
	comp=E,21nm,0.3s,baz=98,slow=19,SNR=13						
PETK			Sn	Sn	Sn	07 51 23.0	-1.1
	comp=E,17nm,0.3s,baz=105,slow=18,SNR=4.2						
PEA1	Petropavlovsk-	2.14 294	*e*Pn	Pn	Pn	07 50 57.9	+0.4
PEA1			*e*Sn	Sn	Sn	07 51 23.0	-1.1
MKZ	Mys Kozlova	2.33 11	*eP*	Pn	Pn	07 51 00.0	0.0
MKZ			*eS*	Sn	Sn	07 51 26.5	-2.2
MKZ	Mys Kozlova	2.33 11	PN	Pn	Pn	07 51 00.0	0.0
MKZ			S	Sn	Sn	07 51 26.5	-2.2
APC	Apacha	2.39 287	*eP*	Pn	Pn	07 51 02.3	+1.4
APC	Apacha	2.39 287	PN	Pn	Pn	07 51 02.3	+1.4
PAU	Pauzhetka	2.69 254	*eP*	Pn	Pn	07 51 06.2	+1.3
PAU	Pauzhetka	2.69 254	PN	Pn	Pn	07 51 06.2	+1.3
KZV	Kizimen	2.86 353	*eP*	Pn	Pn	07 51 08.8	+1.3
KZV			*eS*	Sn	Sn	07 51 42.2	+0.1
KZV	Kizimen	2.86 353	PN	Pn	Pn	07 51 08.8	+1.3
KZV			S	Sn	Sn	07 51 42.2	+0.1
TUMD	Tumrok D	2.94 354	*eP*	Pn	Pn	07 51 09.6	+1.1
TUMD			*eS*	Sn	Sn	07 51 43.2	-0.8
TUMR	Tumrok	3.04 351	*eP*	Pn	Pn	07 51 12.0	+2.0
TUMR			*eS*	Sn	Sn	07 51 47.0	+0.4
TUMR	Tumrok	3.04 351	PN	Pn	Pn	07 51 09.6	-0.4
TUMR			S	Sn	Sn	07 51 43.2	-3.4
SKR	Severo-Kuril's	3.41 244	*eP*	Pn	Pn	07 51 15.2	+0.3
SKR			*eS*	Sn	Sn	07 51 52.9	-2.6
SKR	Severo-Kuril's	3.41 244	PN	Pn	Pn	07 51 15.2	+0.3
SKR			S	Sn	Sn	07 51 52.9	-2.6
ALID	Alaid	3.65 249	*eP*	Pn	Pn	07 51 18.9	+0.6
ALID			S	Sn	Sn	07 51 59.1	-2.4
ALID	Alaid	3.65 249	PN	Pn	Pn	07 51 18.9	+0.6
ALID			S	Sn	Sn	07 51 59.1	-2.4
LGNR	Loginova	3.81 358	P	Pn	Pn	07 51 22.9	+2.2
LGNR	Loginova	3.81 358	PN	Pn	Pn	07 51 22.9	+2.2
ESO	Esso	3.88 341	P	Pn	Pn	07 51 25.2	+3.8
ESO	Esso	3.88 341	PN	Pn	Pn	07 51 25.2	+3.8
KBTR	Krutoberegovo	4.08 15	*eP*	Pn	Pn	07 51 20.8	-3.4
KBTR	Krutoberegovo	4.08 15	PN	Pn	Pn	07 51 20.8	-3.4
BKI	Bering	4.18 44	*eP*	Pn	Pn	07 51 26.1	+0.6
BKI			*eS*	Sn	Sn	07 52 10.5	-3.9
BKI	Bering	4.18 44	PN	Pn	Pn	07 51 26.1	+0.6
ERM	Erimo	15.82 237	*e*Pn	Pn	Pn	07 54 03.5	-0.9
	comp=E,24nm,1.0s						
ERM	Erimo	15.82 237	*eP*	Pn	Pn	07 54 03.5	-0.9
ERM			pmax	pmax			
	comp=Z,24nm,1.0s						
KLR	Kul'dur	18.66 272	*eP*	Pn	Pn	07 54 40.0	+0.1
KLR	Kul'dur	18.66 272	P	Pn	Pn	07 54 40.0	+0.1
	baz=90,slow=10,SNR=3.5						
MAJO	Matsushiro	22.47 235	*eP*	P	P	07 55 21.8	+0.8
	comp=Z,5.2nm,0.8s						
MAJO	Matsushiro	22.47 235	*eP*	P	P	07 55 21.8	+0.8
MAJO			pmax	pmax			
	comp=Z,5.0nm,0.8s						
MJAR	Matsushiro Arr	22.47 235	*eP*	P	P	07 55 22.2	+1.2
MJAR	Matsushiro Arr	22.47 235	*eP*	P	P	07 55 22.2	+1.2
MJAR	Matsushiro Arr	22.47 235	P	P	P	07 55 22.9	+1.9
	comp=Z,1.7nm,0.3s,baz=24,slow=10.0,SNR=4.6						
INK	Inuvik	34.20 37	LR	LR		08 11 20.9	
	comp=Z,293nm,20.9s,baz=338,slow=37						
MK31	Makanchi Array	48.97 297	*eP*	P	P	07 59 07.9	-0.2
	comp=Z,3.6nm,1.4s						
MK32	Makanchi Array	48.97 297	*eP*	P	P	07 59 06.3	-1.8
MKAR	Makanchi Array	48.97 297	*eP*	P	P	07 59 07.2	-1.0
MKAR	Makanchi Array	48.97 297	P	P	P	07 59 06.3	-1.8
	comp=Z,0.5nm,0.5s,baz=54,slow=6.5,SNR=4.7						
ARCES	ARCESS Array B	54.22 342	P	P	P	07 59 46.9	0.0
	comp=Z,1.6nm,0.8s,baz=38,slow=9.4,SNR=5.0						
NV01	Mina Array Sit	55.53 70	*eP*	P	P	07 59 58.8	+1.6
NVAR	Mina Array Bea	55.53 70	P	P	P	07 59 58.8	+1.6
	comp=Z,0.3nm,0.6s,baz=326,slow=12,SNR=3.0						
CMAR	Chiang Mai Arr	58.53 259	P	P	P	08 00 19.5	+1.2
	comp=Z,0.9nm,0.4s,baz=32,slow=7.0,SNR=5.5						
FIA0	FINESS Array S	61.07 337	*eP*	P	P	08 00 35.9	+0.7
FINES	FINESS Array B	61.07 337	P	P	P	08 00 35.9	+0.7
	comp=Z,1.3nm,0.5s,baz=35,slow=7.0,SNR=5.0						
OBN	Obninsk	63.48 328	⇓*eP*	P	P	08 00 49.3	-2.1
OBN			pmax	pmax			
	comp=Z,6.0nm,0.4s						
AKASG	Malin Array Be	69.57 330	P	P	P	08 01 30.6	+0.1
	comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=7.7						
LTX	Lajitas	70.48 67	*eP*	P	P	08 01 38.0	+1.4
TXAR	Lajitas Array	70.48 67	P	P	P	08 01 38.0	+1.4
TXAR	Lajitas Array	70.48 67	P	P	P	08 01 38.0	+1.4
	comp=Z,0.3nm,0.6s,baz=276,slow=3.4,SNR=3.5						

*SOME **21** 07:52:43.2, 40°.78N×79°.95E, h0km*
*NNC **21** 07:52:45.0±2.4, 40°.75N×79°.88E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=16.4km s-min=12.4km az=161.0*
*KRNET **21** 07:52:49.3±0.1, 40°.73N×79°.65E, mb2.9*

ISC 21 07:52:49.0±4.1, 40°.9N±0°.1×79°.81E±0°.07, h4km±20km, n18, σ0°95/30, 6C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	Kajisay	2.32	302	⇑*iP*	Pb	07 53 29.9	-1.6
	baz=8.0						
KDJ				⇑*iS*	Sb	07 53 59.0	-1.5
	baz=8.0						
SATY	Saty	2.38	334	Pg	Pb	07 53 32.5	0.0
	11nm,0.3s						
SATY				Lg	Lg	07 54 08.1	
	18nm,0.5s						
SATY	Saty	2.38	334	*eP*	Pb	07 53 32.5	0.0
	11nm,0.3s						
SATY				*eS*	Sg	07 54 08.1	+2.6
	18nm,0.5s						
PDGK	Podgornoye	2.42	354	⇓Pg	Pb	07 53 32.5	-0.6
	6.0nm,0.5s						
PDGK				⇓Lg	Lg	07 54 06.7	
	5.1nm,0.5s						
PDGK	Podgornoye	2.42	354	⇓*iP*	Pb	07 53 33.3	+0.1
	baz=57						
PDGK				⇓*iS*	Sg	07 54 05.9	-0.8
	baz=57						
KTMS	Ketmen	2.55	9	Pg	Pb	07 53 34.4	-1.1
	11nm,0.3s						
KTMS				Lg	Lg	07 54 11.6	
	19nm,0.4s						
KTMS	Ketmen	2.55	9	*eP*	Pb	07 53 34.4	-1.1
	11nm,0.3s						
KTMS				*eS*	Sg	07 54 11.6	+0.5
	19nm,0.4s						
KPKS	Kokpek	2.68	342	*eP*	Pb	07 53 36.4	-1.2
	40nm,1.4s						
KPKS				*eS*	Sg	07 54 14.4	-0.6
	22nm,0.5s						
NRN	Naryn	2.92	281	⇑*iP*	Pn	07 53 37.4	+0.8
	baz=85						
NRN				⇑*iS*	Sn	07 54 12.3	0.0
	baz=85						
ULHL	Ulahol	2.99	297	⇑*iP*	Pn	07 53 38.2	+0.8
	baz=2.0						
ULHL				⇑*iS*	Sn	07 54 13.6	-0.2
	baz=2.0						
TNSS	Tian-Shan	3.00	316	Pg	Pb	07 53 42.8	-0.5
	4.8nm,0.3s						
TNSS				Lg	Lg	07 54 25.5	
	5.3nm,0.6s						
TNSS	Tian-Shan	3.00	316	*eP*	Pb	07 53 42.8	-0.5
	4.8nm,0.3s						
TNSS				*eS*	Sg	07 54 25.6	0.0
	5.3nm,0.6s						
MDOK	Medeo	3.04	318	*eP*	Pb	07 53 43.5	-0.3
	4.4nm,0.7s						
MDOK				*eS*	Sg	07 54 27.3	+0.6
	5.3nm,0.6s						
IZV	Izvestkoviy	3.19	313	Pg	Pb	07 53 45.9	-0.4
	5.2nm,0.5s						
IZV				Lg	Lg	07 54 31.2	
	8.0nm,0.7s						
IZV	Izvestkoviy	3.19	313	*eP*	Pb	07 53 45.9	-0.4
	5.2nm,0.5s						
IZV				*eS*	Sg	07 54 31.2	-0.1
	8.0nm,0.7s						
BOOM	Boomskoye usch	3.30	300	⇓*iP*	Pn	07 53 43.3	+1.7
	baz=4.0						
BOOM				⇓*iS*	Sn	07 54 21.5	+0.2
	baz=4.0						
KTBS	Karatobe	3.63	321	Pg	Pb	07 53 53.0	-0.7
	1.5nm,0.2s						
KTBS				Lg	Lg	07 54 42.9	
	3.7nm,0.3s						
KTBS	Karatobe	3.63	321	*eP*	Pb	07 53 53.9	+0.1
	1.7nm,0.5s						
KTBS				*eS*	Sg	07 54 44.9	-0.7
	15nm,0.7s						

*IDC **21** 07:55:56.5±3.4, 52°.12N×160°.84E, h0km, mb4.0/4, mb1 4.0/6, mb1mx3.5/51, mbtmp3.9/6, ML3.1/2, MS3.8/1, Ms1 3.8/1, ms1mx3.1/62, Error ellipse: s-maj=75.8km s-min=36.4km az=175.0*
*KRSC **21** 07:55:59.1±10.0, 52°.25N×160°.89E, h47km±10km, ML4.1*
*ISCJB **21** 07:56:00.8±0.8, 52°.25N±0°.04×160°.89E±0°.06, h41km±9km, mb4.0/4, MS3.6/1, Error ellipse: s-maj=8.4km s-min=4.6km az=145.0*

ISC 21 07:56:01.2±2.6, 52°.30N±0°.06×160°.78E±0°.05, h24km±18km, n39, σ1°24/54, mb4.2/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.93	331	*eP*	Pn	07 56 17.4	-1.4
SPN				*eS*	Sn	07 56 28.2	-3.1
NLC	Nalytchevo	1.24	316	*eP*	Pn	07 56 22.1	-0.9
NLC				S	Sn	07 56 39.2	+0.2
RUS	Russkaya	1.40	277	*eP*	Pn	07 56 25.1	-0.1
RUS				*eS*	Sn	07 56 42.4	-0.5
DALK	Dalny	1.44	302	*eP*	Pn	07 56 25.3	-0.5
DALK				*eS*	Sn	07 56 42.5	-1.4
PET	Petropavlovsk	1.49	300	*eP*	Pn	07 56 26.2	-0.3
PET				*eS*	Sn	07 56 44.6	-0.5
UGLR	Uglovaya	1.50	308	*eP*	Pn	07 56 27.0	+0.2
UGLR				*eS*	Sb	07 56 47.3	+0.2
SDLR	Sedlovina	1.52	311	*eP*	Pn	07 56 26.8	-0.2
SDLR				*eS*	Sb	07 56 47.6	+0.1
SMAR	Somma	1.54	310	*eP*	Pn	07 56 27.4	-0.1
AVH	Avacha	1.57	309	*eP*	Pn	07 56 28.0	+0.2
KRER	Koryakskii	1.59	310	*eP*	Pn	07 56 28.4	+0.3
MTVR	Mutnovka	1.60	278	*eP*	Pn	07 56 28.5	+0.3
MTVR				*eS*	Sn	07 56 48.2	0.0
KOK	Koryaka	1.64	308	*eP*	Pn	07 56 29.0	+0.3
KRX	Arik	1.68	310	*eP*	Pn	07 56 29.2	0.0
GRL	Gorelyy	1.68	280	*eP*	Pn	07 56 30.6	+1.4
GRL				*eS*	Sn	07 56 50.9	+0.9
KRMR	Karymshinskiy	1.70	289	*eP*	Pn	07 56 29.4	0.0
KRMR				*eS*	Sn	07 56 50.6	+0.1
KDTR	Khodutka, Kamc	1.74	255	*eP*	Pn	07 56 30.1	+0.2
KDTR				*eS*	Sn	07 56 50.5	-0.8
ASAK	Asacha	1.77	274	*eP*	Pn	07 56 31.2	+0.8
ASAK				*eS*	Sn	07 56 53.6	+1.4
PETK	Petropavlovsk-	2.04	295	Pn	Pn	07 56 34.6	+0.4
	25nm,0.3s,baz=100,slow=17,SNR=120						
PETK				Sn	Sn	07 57 01.0	+2.1
	21nm,0.3s,baz=199,slow=26,SNR=7.3						
APC	Apacha	2.30	287	*eP*	Pn	07 56 38.9	+1.3
APC				*eS*	Sb	07 57 08.3	-1.5
MKZ	Mys Kozlova	2.33	14	*eP*	Pn	07 56 38.7	+0.6
MKZ				*eS*	Sn	07 57 05.1	-0.9
PAU	Pauzhetka	2.59	253	P	Pn	07 56 42.9	+1.2
KZV	Kizimen	2.84	354	*eP*	Pn	07 56 46.7	+1.5
KZV				S	Sn	07 57 19.6	+0.9
TUMD	Tumrok D	2.92	356	*eP*	Pn	07 56 47.1	+0.9
TUMD				*eS*	Sn	07 57 22.1	+1.5
TUMR	Tumrok	3.02	353	*eP*	Pn	07 56 49.5	+1.9
TUMR				*eS*	Sn	07 57 25.4	+2.3
ALID	Alaid	3.56	248	P	Pn	07 56 56.3	+1.2
LGNR	Loginova	3.80	359	P	Pn	07 57 02.4	+3.9
CIRR	Tsirk	3.83	360	P	Pn	07 56 59.3	+0.5
ESO	Esso	3.84	342	P	Pn	07 56 59.5	+0.7
KBTR	Krutoberegovo	4.10	16	P	Pn	07 57 04.2	+1.8
BKI	Bering	4.24	45	*eP*	Pn	07 57 04.2	-0.1
BKI				*eS*	Sn	07 57 50.7	-2.3
KLR	Kul'dur	18.56	272	P	P	08 00 15.8	-0.3
	0.1nm,0.3s,baz=94,slow=15,SNR=1.9						
MJAR	Matsushiro Arr	22.40	234	LR	LR	08 09 39.5	
	comp=Z,209nm,18.1s,baz=335,slow=37						
H11N2	WAKE ISLAND Hy	32.85	169	T	T	08 37 59.6	
	baz=353,slow=76,SNR=7.4						
H11N3	WAKE ISLAND Hy	32.86	169	T	T	08 38 30.3	
	baz=353,slow=76,SNR=6.8						
H11N1	WAKE ISLAND Hy	32.87	169	T	T	08 38 31.0	
	baz=353,slow=76,SNR=7.2						
MKAR	Makanchi Array	48.88	297	P	P	08 04 43.6	-1.2
	0.5nm,0.5s,baz=53,slow=7.9,SNR=3.4						
ARCES	ARCESS Array B	54.18	342	P	P	08 05 23.8	-0.2
	3.2nm,0.8s,baz=42,slow=9.6,SNR=3.9						
FINES	FINESS Array B	61.02	337	P	P	08 06 12.8	+0.5
	0.8nm,0.4s,baz=33,slow=7.3,SNR=6.0						
AKASG	Malin Array Be	69.51	329	P	P	08 07 07.8	+0.4
	0.5nm,0.3s,baz=24,slow=5.9,SNR=4.5						

KRSC 21 07:59:11.5±10.0, 52°.16N×160°.89E, h56km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.08	331	*eP*	Pn	07 59 31.6	+1.2
SPN				*eS*	Sn	07 59 44.6	+0.2
NLC	Nalytchevo	1.38	318	*eP*	Pn	07 59 36.5	+2.0
RUS	Russkaya	1.49	281	*eP*	Pn	07 59 37.6	+1.7
RUS				S	Sn	07 59 55.2	+1.0
DALK	Dalny	1.57	304	*eP*	Pn	07 59 39.1	+2.1
DALK				*eS*	Sn	07 59 58.0	+1.8
PET	Petropavlovsk	1.61	303	*eP*	Pn	07 59 39.9	+2.2
UGLR	Uglovaya	1.64	311	*eP*	Pn	07 59 40.7	+2.6
SDLR	Sedlovina	1.66	313	P	Pn	07 59 40.1	+1.8
SMAR	Somma	1.68	312	P	Pn	07 59 41.1	+2.3
MTVR	Mutnovka	1.69	282	*eP*	Pn	07 59 41.1	+2.2
MTVR				*eS*	Sn	08 00 01.2	+1.7
AVH	Avacha	1.71	311	*eP*	Pn	07 59 41.8	+2.7
KRER	Koryakskii	1.73	312	*eP*	Pn	07 59 42.1	+2.6
KDTR	Khodutka, Kamc	1.78	260	*eP*	Pn	07 59 41.5	+1.6
KDTR				*eS*	Sn	08 00 01.7	+0.4
KOK	Koryaka	1.78	310	*eP*	Pn	07 59 42.7	+2.7
KRX	Arik	1.81	312	*eP*	Pn	07 59 42.7	+2.2
KZV	Kizimen	2.98	353	P	Pn	07 59 59.9	+3.5
TUMD	Tumrok D	3.06	355	*eS*	Sn	08 00 34.8	+2.1
TUMR	Tumrok	3.16	352	P	Pn	08 00 03.1	+4.3
KBTR	Krutoberegovo	4.21	15	P	Pn	08 00 17.5	+4.4
BKI	Bering	4.29	43	*eP*	Pn	08 00 17.9	+3.8
BKI				*eS*	Sn	08 01 03.2	+0.4

*IDC **21** 08:03:24.8±4.5, 51°.49N×160°.54E, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.4/53, mbtmp3.9/5, ML3.2/1, Error ellipse: s-maj=92.7km s-min=63.4km az=173.0*
*NEIC **21** 08:03:32.5±1.9, 51°.80N×160°.20E, h35km, mb4.3/7, Error ellipse: s-maj=28.3km s-min=19.2km az=217.0*
*KRSC **21** 08:03:32.4±10.0, 52°.13N×160°.34E, h58km±10km, ML4.1*
*MOS **21** 08:03:34.3±1.1, 52°.13N×160°.25E, h57km, mb4.5/3, Error ellipse: s-maj=10.1km s-min=5.0km az=103.7*

ISC 21 08:03:32.8±0.9, 52°.13N±0°.05×160°.33E±0°.04, h22km±6km, n87, σ1°51/132, mb4.1/11, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.99	349	*eP*	Pb	08 03 51.1	0.0
SPN				*eS*	Sb	08 04 03.5	-0.2
SPN	Mys Shipunski	0.99	349	PN	Pb	08 03 51.1	0.0
SPN				S	Sb	08 04 03.5	-0.2
RUS	Russkaya	1.16	286	*eP*	Pn	08 03 53.8	+0.2
RUS				*eS*	Sb	08 04 07.8	-0.8
RUS	Russkaya	1.16	286	PN	Pn	08 03 53.8	+0.2
RUS				S	Sb	08 04 07.8	-0.8
NLC	Nalytchevo	1.20	330	*eP*	Pn	08 03 54.6	+0.4
NLC				*eS*	Sn	08 04 09.8	0.0
NLC	Nalytchevo	1.20	330	PN	Pn	08 03 54.6	+0.4
NLC				S	Sn	08 04 09.8	0.0
DALK	Dalny	1.32	314	*eP*	Pn	08 03 56.1	+0.3
DALK				*eS*	Sn	08 04 12.5	-0.2
DALK	Dalny	1.32	314	PN	Pn	08 03 56.1	+0.3
DALK				S	Sn	08 04 12.5	-0.2
PET	Petropavlovsk	1.36	312	*e*Pn	Pn	08 03 56.5	+0.1
PET				*e*Sn	Sn	08 04 14.1	+0.4
PET	Petropavlovsk	1.36	312	*eP*	Pn	08 03 56.9	+0.5
PET				*eS*	Sn	08 04 12.8	-0.9
PET	Petropavlovsk	1.36	312	*e*PN	Pn	08 03 56.8	+0.4
PET				*eS*	Sn	08 04 11.9	-1.8
PET				pmax	pmax		
	comp=Z,683nm,0.5s						
PET				smax	smax		
	comp=E,804nm,0.8s						
PET				smax	smax		
	comp=N,960nm,0.6s						
MTVR	Mutnovka	1.36	286	*eP*	Pn	08 03 57.4	+0.8
MTVR				*eS*	Sn	08 04 14.4	+0.3
MTVR	Mutnovka	1.36	286	PN	Pn	08 03 57.4	+0.8
MTVR				S	Sn	08 04 14.4	+0.3
UGLR	Uglovaya	1.42	320	*eP*	Pb	08 03 58.2	-0.3
UGLR				*eS*	Sn	08 04 15.8	+0.5
UGLR	Uglovaya	1.42	320	PN	Pb	08 03 58.2	-0.3
UGLR				S	Sn	08 04 15.8	+0.5
KDTR	Khodutka, Kamc	1.43	258	*eP*	Pb	08 03 58.6	-0.1
KDTR				*eS*	Sn	08 04 16.4	+1.0
KDTR	Khodutka, Kamc	1.43	258	PN	Pb	08 03 58.6	-0.1
KDTR				S	Sn	08 04 16.4	+1.0
GRL	Gorelyy	1.45	288	*eP*	Pb	08 03 59.2	+0.1
GRL				*eS*	Sb	08 04 17.4	+0.3
GRL	Gorelyy	1.45	288	PN	Pb	08 03 59.2	+0.1
GRL				S	Sb	08 04 17.4	+0.3
SDLR	Sedlovina	1.45	323	*eP*	Pn	08 03 58.5	+0.8
SDLR				*eS*	Sn	08 04 16.4	+0.3
SDLR	Sedlovina	1.45	323	PN	Pn	08 03 58.5	+0.8
SDLR				S	Sn	08 04 16.4	+0.3
SMAR	Somma	1.47	321	*eP*	Pn	08 03 57.8	-0.3
SMAR	Somma	1.47	321	PN	Pn	08 03 57.8	-0.3
AVH	Avacha	1.49	320	*eP*	Pb	08 03 59.4	-0.4
AVH				*eS*	Sn	08 04 17.4	+0.2
AVH	Avacha	1.49	320	PN	Pb	08 03 59.4	-0.4
AVH				S	Sn	08 04 17.4	+0.2
ASAK	Asacha	1.52	281	*eP*	Pb	08 04 00.1	-0.1
ASAK				*eS*	Sn	08 04 18.9	+1.2
ASAK	Asacha	1.52	281	PN	Pb	08 04 00.1	-0.1
ASAK				S	Sn	08 04 18.9	+1.2
KRMR	Karymshinskiy	1.52	298	*eP*	Pn	08 03 59.3	+0.8
KRMR				*eS*	Sn	08 04 18.0	+0.4
KRMR	Karymshinskiy	1.52	298	PN	Pn	08 03 59.3	+0.8
KRMR				S	Sn	08 04 18.

comp=Z,16nm,1.3s
KURK Kurchatov 48.37 303 *e*P **P 08 12 10.5 -1.9**
comp=Z,5.5nm,1.3s
KURK Kurchatov 48.37 303 *e*P **P 08 12 10.5 -1.9**
KURK pmax pmax
comp=Z,6.0nm,1.3s
MK32 Makanchi Array 48.71 297 *e*P **P 08 12 14.0 -1.2**
MKAR Makanchi Array 48.71 297 *e*P **P 08 12 13.1 -2.1**
MKAR Makanchi Array 48.71 297 *e*P **P 08 12 13.1 -2.1**
MKAR Makanchi Array 48.71 297 P **P 08 12 14.0 -1.2**
comp=Z,0.4nm,0.5s,baz=56,slow=7.2,SNR=4.3
BVAR Borovoye Array 51.10 309 P **P 08 12 31.8 -1.5**
comp=Z,0.9nm,0.5s,baz=44,slow=9.4,SNR=5.0
ARCES ARCESS Array B 54.25 342 P **P 08 12 56.0 -0.2**
comp=Z,1.0nm,0.7s,baz=39,slow=8.7,SNR=6.2
ARE0 ARCESS Array S 54.25 342 *e*P **P 08 12 56.5 +0.2**
comp=Z,1.6nm,1.5s
KKAR Karatay Array 57.48 300 *e*P **P 08 13 18.5 -1.4**
comp=Z,1.2nm,0.6s
KKAR Karatay Array 57.48 300 *e*P **P 08 13 18.5 -1.4**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 58.53 311 *e*P **P 08 13 25.7 -1.4**
comp=Z,2.2nm,1.4s
FIA0 FINESS Array S 61.06 337 *e*P **P 08 13 44.7 +0.4**
FIA0 FINESS Array S 61.06 337 *e*P **P 08 13 44.7 +0.4**
FINES FINESS Array B 61.06 337 *e*P **P 08 13 44.0 -0.3**
FINES FINESS Array B 61.06 337 *e*P **P 08 13 44.0 -0.3**
FINES FINESS Array B 61.06 337 P **P 08 13 44.7 +0.4**
comp=Z,1.2nm,0.5s,baz=28,slow=8.6,SNR=7.1

*ISCJB **21** 08:04:29.0±0.4,4°.78S±0°.05×153°.68E±0°.04,h100km, mb4.2/27,Error ellipse: s-maj=6.7km s-min=6.1km az=34.1*
*NEIC **21** 08:04:29.9±0.6,4°.78S×153°.72E,h95km±6km,mb4.2/18, Error ellipse: s-maj=6.9km s-min=4.9km az=95.0*
*IDC **21** 08:04:29.0±3.0,4°.75S×153°.66E,h89km±24km,mb3.8/11, mb1 4.0/12,mb1mx3.7/43,mbtmp4.2/12,Error ellipse: s-maj=22.0km s-min=17.1km az=80.0*
ISC 21 08:04:30.4±0.5,4.76S±0°.06×153°.67E±0°.07,h100km,n48, σ0.9 71/57,mb4.2/27,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
RABL	**Rabaul**	**1.60**	**290**	*e*Pn		**Pn**	**08 04 57.1**		**-0.8**
RABL				*e*Sn		**Sn**	**08 05 19.7**		**+0.8**
MANU	**Manus Island**	**6.84**	**293**	*e*Pn		**Pn**	**08 06 09.1**		**+0.8**
HNR	**Honiara**	**7.77**	**127**	S		**Sn**	**08 07 49.4**		**+2.1**
14nm,0.3s,baz=326,slow=21,SNR=3.3									
PMG	**Port Moresby**	**7.94**	**234**	*e*Pn		**Pn**	**08 06 23.0**		**-0.2**
PMG				*e*Sn		**Sn**	**08 07 52.0**		**+0.6**
PMG	**Port Moresby**	**7.94**	**234**	P		**Pn**	**08 06 23.3**		**+0.1**
25nm,0.3s,baz=30,slow=7.9,SNR=35									
PMG				S		**Sn**	**08 07 50.3**		**-1.1**
11nm,0.3s,baz=156,slow=21,SNR=6.0									
PATS	**Pohnpei**	**12.41**	**22**	*e*Pn		**Pn**	**08 07 22.8**		**-0.9**
COEN	**Coen**	**13.80**	**228**	*e*Pn		**Pn**	**08 07 42.2**		**+0.3**
EIDS	**Eidsvold**	**20.65**	**187**	*e*P		**P**	**08 09 02.6**		**+0.5**
8.6nm,0.8s									
DZM	**Mont Dzumac**	**21.20**	**145**	*e*P		**P**	**08 09 07.8**		**-0.5**
12nm,1.2s									
DZM	**Mont Dzumac**	**21.20**	**145**	P		**P**	**08 09 08.1**		**-0.1**
3.2nm,0.6s,baz=296,slow=13,SNR=6.0									
FAKI	**Fak Fak**	**21.45**	**274**	*e*P		**P**	**08 09 12.2**		**+1.4**
14nm,0.9s									
MTN	**Manton Dam**	**23.66**	**249**	*e*P		**P**	**08 09 33.1**		**+0.1**
13nm,1.3s									
WRAB	**Tennant Creek**	**24.11**	**230**	*e*P		**P**	**08 09 37.3**		**+0.3**
8.2nm,0.8s									
WB2	**Warramunga Arr**	**24.12**	**230**	*e*P		**P**	**08 09 37.8**		**+0.7**
8.1nm,0.6s									
WR1	**Warramunga Arr**	**24.12**	**230**	*e*P		**P**	**08 09 36.9**		**-0.3**
WR1				*e*PcP		**PcP**	**08 13 16.1**		**+0.1**
WRA	**Warramunga Arr**	**24.12**	**230**	P		**P**	**08 09 36.9**		**-0.4**
3.4nm,0.7s,baz=56,slow=9.6,SNR=35									
WRA				PcP		**PcP**	**08 13 16.1**		**0.0**
0.8nm,0.6s,baz=46,slow=3.6,SNR=4.3									
ARMA	**Armidale**	**25.60**	**184**	*e*P		**P**	**08 09 50.5**		**0.0**
19nm,1.4s									
AS31	**Alice Springs**	**26.77**	**223**	*e*P		**P**	**08 10 00.7**		**-0.5**
1.0nm,0.6s									
ASAR	**Alice Springs**	**26.77**	**223**	P		**P**	**08 10 00.1**		**-1.0**
0.7nm,0.5s,baz=56,slow=8.9,SNR=18									
ASAR				PcP		**PcP**	**08 13 22.2**		**+0.2**
0.9nm,0.6s,baz=55,slow=2.1,SNR=7.1									
ASAR				ScP		**ScP**	**08 16 54.4**		**+1.2**
0.2nm,0.6s,baz=57,slow=3.4,SNR=3.9									
STKA	**Stephens Creek**	**29.26**	**201**	*e*P		**P**	**08 10 22.2**		**-1.0**
4.1nm,1.4s									
STKA	**Stephens Creek**	**29.26**	**201**	P		**P**	**08 10 21.8**		**-1.4**
3.3nm,0.5s,baz=43,slow=16,SNR=8.1									
BBOO	**Buckleboo**	**32.40**	**208**	*e*P		**P**	**08 10 50.8**		**0.0**
9.1nm,1.0s									
TOO	**Toolangi**	**33.51**	**192**	*e*P		**P**	**08 11 00.1**		**-0.4**
12nm,1.4s									
FORT	**Forrest**	**35.37**	**220**	*e*P		**P**	**08 11 16.3**		**-0.3**
38nm,1.3s									
TAU	**Tasmania Unive**	**38.41**	**188**	*e*P		**P**	**08 11 42.4**		**+0.3**
HIZ	**Hauiti**	**38.73**	**153**	*e*P		**P**	**08 11 45.3**		**+0.3**
87nm,1.3s									
BKZ	**Black Stump Fm**	**40.02**	**152**	*e*P		**P**	**08 11 55.1**		**-0.6**
20nm,1.5s									
RPZ	**Rata Peaks**	**41.73**	**161**	*e*P		**P**	**08 12 09.3**		**-0.3**
RPZ	**Rata Peaks**	**41.73**	**161**	P		**P**	**08 12 09.8**		**+0.2**
7.6nm,0.6s,baz=358,slow=2.0,SNR=5.9									
DCZ	**Deep Cove**	**42.23**	**166**	*e*P		**P**	**08 12 13.0**		**-0.5**
28nm,1.4s									
SONM	**Songino Array**	**66.75**	**327**	*e*P		**P**	**08 15 11.7**		**+0.5**
SONM	**Songino Array**	**66.75**	**327**	P		**P**	**08 15 11.4**		**+0.2**
0.4nm,0.3s,baz=96,slow=8.8,SNR=3.1									
VNDA	**Vanda**	**72.84**	**178**	*e*P		**P**	**08 15 48.1**		**+0.2**
VNDA	**Vanda**	**72.84**	**178**	P		**P**	**08 15 47.9**		**0.0**
2.2nm,0.8s,baz=327,slow=6.1,SNR=12									
BILL	**Bilibino**	**73.17**	**5**	*e*P		**P**	**08 15 50.9**		**+1.0**
2.6nm,0.6s									
CAST	**Castle Rocks**	**79.14**	**22**	*e*P		**P**	**08 16 23.9**		**0.0**
2.9nm,1.0s									
IMAR	**Indian Mountai**	**80.06**	**19**	*e*P		**P**	**08 16 29.1**		**+0.4**
MK31	**Makanchi Array**	**80.86**	**319**	*e*P		**P**	**08 16 34.1**		**+0.6**
4.4nm,1.5s									
MK32	**Makanchi Array**	**80.86**	**319**	*e*P		**P**	**08 16 33.9**		**+0.4**
MKAR	**Makanchi Array**	**80.86**	**319**	P		**P**	**08 16 33.9**		**+0.4**
0.7nm,0.4s,baz=93,slow=7.8,SNR=10									
ILAR	**Eielson Array**	**81.80**	**22**	P		**P**	**08 16 37.2**		**-0.8**
0.5nm,0.6s,baz=248,slow=4.9,SNR=7.5									
QSPA	**South Pole Qui**	**85.20**	**180**	*e*P		**P**	**08 16 55.3**		**-0.3**
5.1nm,0.8s									
MAW	**Mawson**	**85.94**	**203**	*e*P		**P**	**08 16 58.8**		**-0.3**
0.7nm,0.6s									
MAW	**Mawson**	**85.94**	**203**	P		**P**	**08 16 59.1**		**0.0**
3.2nm,0.6s,baz=106,slow=8.0,SNR=12									
BVAR	**Borovoye Array**	**89.72**	**323**	P		**P**	**08 17 16.3**		**-1.1**
1.1nm,0.7s,baz=144,slow=5.4,SNR=4.5									
BDFB	**Brasilia**	**150.48**	**134**	PKPbc		**PKPbc**	**08 24 10.8**		**-0.9**
1.7nm,0.4s,baz=306,slow=2.1,SNR=3.9									
TORD	**Torodi Ar. Bea**	**151.11**	**289**	PKPbc		**PKPbc**	**08 24 11.8**		**-1.2**
0.9nm,0.3s,baz=83,slow=2.4,SNR=23									
TORD				PKPab		**PKPab**	**08 24 21.2**		**+0.2**
1.1nm,0.6s,baz=87,slow=4.0,SNR=6.5									
TOA1	**Torodi Ar. Sit**	**151.11**	**289**	*e*PKPbc		**PKPbc**	**08 24 11.8**		**-1.2**
TOA1				*e*PKPab		**PKPab**	**08 24 21.2**		**+0.2**

*ISCJB **21** 08:09:24.6±0.7,26°.7N±0°.1×144°.0E±0°.2,h10km,mb3.7/9, Error ellipse: s-maj=27.4km s-min=16.6km az=7.3*
*IDC **21** 08:09:25.0±0.8,26°.73N×144°.04E,h0km,mb3.7/9, mb1 3.9/9,mb1mx3.7/50,mbtmp3.7/9,Error ellipse: s-maj=30.7km s-min=19.1km az=99.0*
ISC 21 08:09:26.7±0.9,26.9N±0°.1×143.8E±0°.2,h10km,n10, σ1.9 77/10,mb4.0/9,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
MJAR	**Matsushiro Arr**	**10.73**	**335**	Pn		**Pn**	**08 11 58.4**		**-2.1**
0.2nm,0.3s,baz=147,slow=12,SNR=6.4									
WRA	**Warramunga Arr**	**47.47**	**192**	P		**P**	**08 17 59.3**		**-2.7**
0.8nm,0.6s,baz=16,slow=7.7,SNR=8.0									
FITZ	**Fitzroy Crossi**	**48.10**	**204**	P		**P**	**08 18 06.6**		**-0.2**
1.9nm,0.8s,baz=18,slow=6.4,SNR=3.4									
ASAR	**Alice Springs**	**51.19**	**192**	P		**P**	**08 18 29.4**		**-0.9**
0.3nm,0.7s,baz=351,slow=7.2,SNR=4.6									
MKAR	**Makanchi Array**	**51.73**	**310**	P		**P**	**08 18 36.1**		**+1.9**
1.2nm,0.6s,baz=98,slow=10,SNR=5.7									
KURBB	**Kurchatov Arra**	**54.22**	**314**	P		**P**	**08 18 53.6**		**+1.1**
1.2nm,0.6s,baz=90,slow=7.7,SNR=15									
ILAR	**Eielson Array**	**57.17**	**28**	P		**P**	**08 19 12.9**		**-0.6**
0.3nm,0.8s,baz=251,slow=5.6,SNR=3.6									
BVAR	**Borovoye Array**	**59.17**	**318**	P		**P**	**08 19 29.6**		**+1.9**
0.6nm,0.5s,baz=90,slow=5.8,SNR=3.4									
YKA	**Yellowknife Ar**	**71.60**	**29**	P		**P**	**08 20 48.3**		**+0.3**
0.2nm,0.6s,baz=294,slow=6.4,SNR=4.4									
NVAR	**Mina Array Bea**	**79.47**	**52**	P		**P**	**08 21 34.7**		**+0.8**
0.4nm,0.6s,baz=293,slow=4.7,SNR=3.9									

JMA 21 08:09:39.9±0.2,24°.90N×123°.38E,h23km±5km,M2.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
YOJ	**Yonaguni jima**	**0.55**	**218**	P		**Pb**	**08 09 50.6**		**-0.3**
YOJ				*e*S		Sb	**08 09 58.0**		**-0.4**
JYNG	**Yonagunijimaku**	**0.60**	**222**	P		**Pb**	**08 09 51.6**		**-0.1**
JYNG				S		Sb	**08 09 59.0**		**-0.7**
IRIF	**Iriomote-Funau**	**0.65**	**150**	P		**Pb**	**08 09 52.3**		**-0.2**
IRIF				*e*S		Sb	**08 10 01.1**		**0.0**
JKRS	**Kuro-shima**	**0.87**	**139**	P		**Pb**	**08 09 56.1**		**-0.3**
JKRS				*e*S		Sb	**08 10 07.7**		**+0.1**
JIJ	**Ishigaki jima**	**0.88**	**127**	P		**Pb**	**08 09 55.8**		**-0.6**
JIJ				S		Sb	**08 10 07.8**		**+0.1**
JISG	**Ishigakijimahi**	**0.90**	**110**	P		**Pb**	**08 09 56.4**		**-0.5**
JISG				*e*S		Sb	**08 10 08.4**		**-0.1**
HATJ	**Hateruma jima**	**0.93**	**155**	P		**Pb**	**08 09 56.9**		**-0.4**
HATJ				*e*S		Sb	**08 10 09.1**		**0.0**

TAP 21 08:10:12.7,24°.26N×121°.75E,h13km,ML1.7,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
ENA	**Nanau**	**0.17**	**357**	P		**Pg**	**08 10 16.7**		**0.0**
baz=360									
ENA				S		Sg	**08 10 19.6**		**+0.3**
baz=360									
NANB	**Nanao**	**0.17**	**0**	P		Pg	**08 10 16.7**		**+0.1**
NANB				S		Sg	**08 10 19.6**		**+0.2**
NACB	**Ninganchiao**	**0.17**	**238**	*e*P		Pg	**08 10 17.1**		**+0.4**
baz=231									
NACB				*e*S		Sg	**08 10 19.3**		**0.0**
baz=231									
TWD	**Chiawan**	**0.23**	**218**	P		Pg	**08 10 17.8**		**+0.1**
baz=217									
TWD				*e*S		Sg	**08 10 21.4**		**+0.4**
baz=217									
ETLH	**Xiulin Townshi**	**0.25**	**257**	P		Pg	**08 10 18.4**		**+0.4**
baz=258									
ETLH				*e*S		Sg	**08 10 22.1**		**+0.4**
baz=258									
HWA	**Hwalien**	**0.31**	**205**	*e*P		Pb	**08 10 20.5**		**+0.3**
baz=212									
TWC	**Suao**	**0.36**	**15**	*e*P		Pg	**08 10 19.9**		**0.0**
baz=8.0									
TWC				S		Sg	**08 10 25.2**		**+0.4**
baz=8.0									
NNSB	**Datong**	**0.37**	**296**	P		Pb	**08 10 20.8**		**-0.5**
baz=297									
NNSB				S		Sg	**08 10 25.7**		**+0.4**
baz=297									
NNS	**Nan Shan**	**0.39**	**297**	P		Pg	**08 10 21.0**		**+0.5**
baz=298									
NNS				S		Sg	**08 10 26.1**		**+0.4**
baz=298									
NDT	**Datong Townshi**	**0.40**	**328**	*e*P		Pg	**08 10 20.9**		**+0.2**
baz=327									
NDT				*e*S		Sb	**08 10 27.0**		**-0.8**
baz=327									
ENTT	**Nioudou**	**0.41**	**336**	P		Pg	**08 10 21.4**		**+0.4**
baz=337									
ENTT				S		Sg	**08 10 27.0**		**+0.5**
baz=337									
WHF	**Hehuan Shan**	**0.46**	**255**	P		Pb	**08 10 22.5**		**-0.3**
baz=256									
WHF				S		Sg	**08 10 28.8**		**+0.7**
baz=256									
YHNB	**Yeheng**	**0.53**	**320**	P		Pb	**08 10 24.0**		**+0.1**
baz=320									
YHNB				S		Sb	**08 10 31.1**		**-0.4**
baz=320									
NSK	**Sanguang**	**0.55**	**319**	*e*P		Pb	**08 10 24.6**		**+0.4**
baz=320									
NSK				*e*S		Sg	**08 10 31.2**		**+0.5**
baz=320									
CHGB	**Renai**	**0.56**	**249**	*e*P		Pg	**08 10 21.3**		**-2.5**
baz=244									
NTC	**Toucheng**	**0.59**	**7**	*e*P		Pb	**08 10 25.5**		**+0.5**
baz=7.0									

KRSC 21 08:11:58.1±10.0,52°.11N×160°.45E,h55km±10km,ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
SPN	**Mys Shipunski**	**1.02**	**345**	*e*P		Pn	**08 12 16.6**		**+0.4**
SPN				*e*S		Sn	**08 12 29.2**		**-0.4**
RUS	**Russkaya**	**1.23**	**286**	*e*P		Pn	**08 12 19.5**		**+0.5**
RUS				*e*S		Sn	**08 12 35.3**		**+0.6**
NLC	**Nalytchevo**	**1.26**	**328**	*e*P		Pn	**08 12 20.7**		**+1.4**
NLC				*e*S		Sn	**08 12 37.2**		**+2.0**
DALK	**Dalny**	**1.39**	**312**	*e*P		Pn	**08 12 22.1**		**+1.0**
DALK				*e*S		Sn	**08 12 39.6**		**+1.3**
MTVR	**Mutnovka**	**1.44**	**286**	*e*P		Pn	**08 12 23.7**		**+1.7**
MTVR				*e*S		Sn	**08 12 42.3**		**+2.4**
UGLR	**Uglovaya**	**1.48**	**319**	*e*P		Pn	**08 12 24.7**		**+2.2**
UGLR				*e*S		Sn	**08 12 43.3**		**+2.5**
KDTR	**Khodutka, Kamc**	**1.50**	**259**	*e*P		Pn	**08 12 24.0**		**+1.4**
KDTR				*e*S		Sn	**08 12 42.5**		**+1.4**
SDLR	**Sedlovina**	**1.51**	**321**	*e*P		Pn	**08 12 24.8**		**+1.9**
SDLR				*e*S		Sn	**08 12 43.8**		**+2.3**
GRL	**Gorelyy**	**1.52**	**288**	*e*P		Pn	**08 12 25.9**		**+2.8**
SMAR	**Somma**	**1.53**	**320**	*e*P		Pn	**08 12 26.3**		**+3.1**
AVH	**Avacha**	**1.56**	**319**	*e*P		Pn	**08 12 25.6**		**+2.1**
AVH				*e*S		Sn	**08 12 45.7**		**+3.1**
KRER	**Koryakskii**	**1.58**	**320**	*e*S		Sn	**08 12 46.5**		**+3.1**
ASAK	**Asacha**	**1.59**	**281**	*e*P		Pn	**08 12 25.8**		**+1.8**
ASAK				*e*S		Sn	**08 12 47.2**		**+3.7**
KRMR	**Karymshinskiy**	**1.59**	**298**	*e*P		Pn	**08 12 25.7**		**+1.8**
KRMR				*e*S		Sn	**08 12 46.3**		**+3.0**
KOK	**Koryaka**	**1.62**	**318**	*e*P		Pn	**08 12 26.4**		**+2.1**
KRX	**Arik**	**1.66**	**319**	*e*P		Pn	**08 12 27.8**		**+2.8**
APC	**Apacha**	**2.17**	**293**	*e*P		Pn	**08 12 34.5**		**+2.8**
APC				*e*S		Sn	**08 13 01.9**		**+4.4**
KZV	**Kizimen**	**3.01**	**358**	*e*P		Pn	**08 12 47.1**		**+3.7**
KZV				*e*S		Sn	**08 13 21.6**		**+3.4**
TUMD	**Tumrok D**	**3.10**	**359**	*e*S		Sn	**08 13 21.3**		**+1.1**
TUMR	**Tumrok**	**3.18**	**357**	*e*P		Pn	**08 12 49.1**		**+3.4**

*ISCJB **21** 08:14:05.9±0.3,24°.43N±0°.01×122°.01E±0°.01,h12km±2km, Error ellipse: s-maj=2.2km s-min=2.0km az=146.8*
*JMA **21** 08:14:05.8±0.1,24°.38N×121°.97E,h23km,M3.2*
*TAP **21** 08:14:05.7,24°.43N×121°.97E,h14km,ML3.7,B*
ISC 21 08:14:05.8±0.8,24°.41N±0°.02×121°.99E±0°.02,h20km±5km, n99,σ0.9 71/148,8C-18D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	ISC	Res
EOS1	**EOS1**	**0.19**	**44**	⇑P		**Pg**	**08 14 10.5**		**-0.2**
baz=43									
EOS1				S		**Sg**	**08 14 14.2**		**+0.1**
baz=43									
NANB	**Nanao**	**0.21**	**274**	⇓P		**Pb**	**08 14 10.6**		**-0.4**
baz=276									
NANB				S		**Sb**	**08 14 13.4**		**-1.1**
baz=276									
ENA	**Nanau**	**0.22**	**274**	⇓*i*P		**Pb**	**08 14 10.6**		**-0.5**
baz=275									
ENA				S		**Sb**	**08 14 13.6**		**-1.1**
baz=275									
TWC	**Suao**	**0.23**	**328**	⇓*i*P		**Pb**	**08 14 10.6**		**-0.7**
baz=335									
TWC				S		**Sb**	**08 14 13.4**		**-1.6**
baz=335									
ILA	**Ilan**	**0.41**	**328**	*e*P		**Pb**	**08 14 14.5**		**+0.1**
baz=328									
ILA				*e*S		**Sg**	**08 14 19.8**		**-0.5**
baz=328									
TWE	**Neicheng**	**0.42**	**317**	⇓*i*P		**Pg**	**08 14 14.2**		**-0.4**
baz=320									
TWE				S		**Sg**	**08 14 18.9**		**-1.6**
baz=320									
NACB	**Ninganchiao**	**0.43**	**236**	⇑P		**Pg**	**08 14 14.3**		**-0.4**
baz=234									
NACB				S		**Sg**	**08 14 20.0**		**-0.7**
baz=234									
EGS		**0.43**	**354**	⇑*i*P		**Pg**	**08 14 14.4**		**-0.3**
baz=350									
ENTT	**Nioudou**	**0.44**	**301**	⇓*i*P		**Pg**	**08 14 14.7**		**-0.3**
baz=299									
ENTT				S		**Sg**	**08 14 20.3**		**-0.9**
baz=299									
NTC	**Toucheng**	**0.46**	**342**	*e*P		**Pg**	**08 14 15.1**		**-0.2**
baz=342									
NTC				*e*S		**Sg**	**08 14 21.0**		**-0.6**
baz=342									
SLBB	**Yuanshan**	**0.47**	**317**	⇓P		**Pb**	**08 14 15.3**		**0.0**
baz=315									
SLBB				S		**Sg**	**08 14 21.2**		**-0.6**
baz=315									
NDT	**Datong Townshi**	**0.47**	**294**	⇓P		**Pg**	**08 14 15.3**		**-0.2**
baz=292									
NDT				S		**Sg**	**08 14 21.2**		**-0.7**
baz=292									
TWD	**Chiawan**	**0.49**	**227**	⇑*i*P		**Pg**	**08 14 15.3**		**-0.4**
baz=231									
TWD				S		**Sb**	**08 14 22.2**		**-0.2**
baz=231									
ETLH	**Xiulin Townshi**	**0.50**	**246**	⇓P		**Pg**	**08 14 15.6**		**-0.5**
baz=252									
ETLH				*e*S		**Sg**	**08 14 22.5**		**-0.5**
baz=252									
NNSB	**Datong**	**0.55**	**272**	⇓P		**Pg**	**08 14 16.5**		**-0.4**
baz=270									
NNSB				S		**Sg**	**08 14 23.7**		**-0.7**
baz=270									
HWA	**Hwalien**	**0.56**	**219**	*e*P		**Pn**	**08 14 18.9**		**+0.3**
baz=223									
NNS	**Nan Shan**	**0.56**	**273**	⇓*i*P		**Pg**	**08 14 16.7**		**-0.4**
baz=271									
NNS				S		**Sg**	**08 14 23.7**		**-1.0**
baz=271									
TIPB	**Shuangxi**	**0.57**	**345**	⇑*i*P		**Pb**	**08 14 17.0**		**-0.2**
baz=344									
TIPB				*e*S		**Sg**	**08 14 23.8**		**-1.4**
baz=344									
TWB1	**Santiao Chiao**	**0.59**	**0**	⇑*i*P		**Pb**	**08 14 17.2**		**-0.3**
baz=354									
TWB1				S		**Sb**	**08 14 24.8**		**-0.7**
baz=354									
YHNB	**Yeheng**	**0.61**	**295**	⇓P		**Pg**	**08 14 18.0**		**0.0**
baz=298									
YHNB				S		**Sb**	**08 14 25.1**		**-0.9**
baz=298									
ENLB	**Shoufeng**	**0.62**	**215**	⇑P		**Pn**	**08 14 19.6**		**+0.1**
baz=212									
NSK	**Sanguang**	**0.63**	**295**	⇓*i*P		**Pg**	**08 14 18.2**		**-0.1**
baz=293									
NSK				*i* S		**Sb**	**08 14 25.7**		**-0.8**
baz=293									
NWF	**Wu-fen Shan**	**0.68**	**344**	*e*P		**Pg**	**08 14 19.3**		**0.0**
baz=333									
NWF				S		**Sg**	**08 14 28.4**		**-0.1**
baz=333									
WFSB	**Wu-fen Shan**	**0.68**	**344**	⇑P		**Pg**	**08 14 19.4**		**+0.1**
baz=333									
WFSB				S		**Sg**	**08 14 28.4**		**0.0**
baz=333									
NHDH	**Xindian Distri**	**0.69**	**323**	*e*P		**Pn**	**08 14 19.9**		**-0.5**
baz=311									
NHDH				*e*S		**Sb**	**08 14 27.6**		**-0.7**
baz=311									
WHF	**Hehuan Shan**	**0.71**	**248**	⇓*i*P		**Pb**	**08 14 19.6**		**-0.2**
baz=257									
WHF				S		**Sb**	**08 14 29.1**		**-0.2**
baz=257									
TATO	**Taipei**	**0.72**	**321**	*e*P		**Pg**	**08 14 20.3**		**+0.3**
baz=310									
TATO				S		**Sb**	**08 14 28.8**		**-0.3**
baz=310									
TWT	**Tachien**	**0.76**	**258**	P		**Pn**	**08 14 21.0**		**-0.5**
baz=257									
TWT				S		**Sg**	**08 14 30.9**		**+0.1**
baz=257									
TAP	**Taipei**	**0.76**	**325**	*e*P		**Pn**	**08 14 21.7**		**+0.3**
baz=314									
TAP				*e*S		**Sb**	**08 14 30.1**		**-0.2**
baz=314									
ESL	**Shilin**	**0.78**	**220**	*e*P		**Pg**	**08 14 20.8**		**-0.3**
baz=226									
WLTB	**Daxi**	**0.80**	**303**	*e*P		**Pn**	**08 14 22.2**		**+0.3**
baz=302									
WLTB				*e*S		**Sn**	**08 14 32.8**		**-0.4**
baz=302									
CHGB	**Renai**	**0.82**	**245**	P		**Pg**	**08 14 21.7**		**-0.2**
baz=253									
CHGB				S		**Sg**	**08 14 32.6**		**-0.3**
baz=253									
YM01	**YM01**	**0.82**	**333**	P		**Pn**	**08 14 22.5**		**+0.2**
baz=339									
YM01				*e*S		**Sb**	**08 14 32.3**		**+0.2**
baz=339									
YM07	**YM07**	**0.83**	**336**	P		**Pn**	**08 14 22.4**		**0.0**
baz=335									
YM07				S		**Sb**	**08 14 32.4**		**+0.1**
baz=335									
YM10	**YM10**	**0.83**	**333**	P		**Pn**	**08 14 22.7**		**+0.3**
baz=339									
YM10				*e*S		**Sb**	**08 14 32.7**		**+0.3**
baz=339

	baz=269						
SMLT	Sun Moon Lake	1.12	242	eP	Pg	08 14 27.2	-0.4
	baz=249						
SMLT				eS	Sn	08 14 41.5	0.0
	baz=249						
SSLB	Suanglung	1.13	237	eP	Pg	08 14 27.2	-0.5
	baz=244						
SSLB				eS	Sn	08 14 41.2	-0.3
	baz=244						
TYC	Yuchr	1.15	244	eP	Pg	08 14 27.8	-0.3
	baz=250						
TYC				eS	Sb	08 14 41.5	+0.1
	baz=250						
YULB	Yu-li	1.20	212	eP	Pn	08 14 27.4	0.0
	baz=210						
TCU	Taichung	1.22	258	eP	Pg	08 14 30.2	+0.7
	baz=257						
WDJ	Dajia District	1.23	267	eP	Pg	08 14 31.0	+1.4
	baz=267						
WHYT	Xinyi Township	1.26	236	eP	Pg	08 14 29.5	-0.6
	baz=235						
YUS	Yu-Shan	1.32	226	eP	Pg	08 14 30.9	-0.5
	baz=226						
CHKT	Chengkung	1.43	204	eP	Pn	08 14 30.3	-0.2
	baz=185						
CHN5	Tsauling	1.45	236	eP	Pg	08 14 33.6	-0.1
	baz=237						
ELDTW	Lidau	1.51	216	eP	Pb	08 14 33.4	+0.3
	baz=215						
WDLH	Douliu	1.51	242	eP	Pg	08 14 34.9	0.0
	baz=243						
RLNB	Erlin	1.57	251	eP	Pb	08 14 35.0	+0.8
	baz=264						
IRIF	Iriomote-Funau	1.59	92	P	Pn	08 14 32.7	-0.1
IRIF				eS	Sn	08 14 53.1	+0.3
CHN4	Tsaushan	1.66	231	eP	Pg	08 14 36.9	-0.9
	baz=232						
TPUB	Ta-pu	1.66	229	eP	Pb	08 14 35.8	0.0
	baz=230						
STYT	Tauyuan	1.68	222	eP	Pb	08 14 36.5	+0.5
	baz=222						
CHY	Chiayi	1.69	238	eP	Pb	08 14 35.7	-0.6
	baz=224						
HATJ	Hateruma jima	1.70	102	P	Pn	08 14 35.3	+1.0
HATJ				eS	Sb	08 14 56.9	-0.4
WTP	Ta-pu	1.71	227	eP	Pg	08 14 37.7	-1.0
	baz=229						
TWGBT	Beinan	1.79	208	eP	Pn	08 14 36.1	+0.5
	baz=192						
TWG	Pinlang	1.79	208	eP	Pn	08 14 36.2	+0.6
	baz=192						
SNST	Tainan City	1.81	229	eP	Pb	08 14 38.7	+0.5
	baz=231						
CHN1	Nanshi	1.81	228	eP	Pb	08 14 39.1	+0.9
	baz=230						
SGST	Jiashian	1.85	224	eP	Pb	08 14 38.7	-0.2
	baz=225						
JKRS	Kuro-shima	1.85	95	P	Pn	08 14 36.9	+0.5
JKRS				S	Sn	08 14 59.6	+0.3
SLGT	Liugui	1.87	221	eP	Pb	08 14 39.0	-0.3
	baz=222						
JIJ	Ishigaki jima	1.97	91	P	Pn	08 14 37.9	-0.1
JIJ				S	Sn	08 15 01.8	-0.3
SSD	Sandimen	2.07	217	eP	Pb	08 14 43.3	+0.6
	baz=217						
JISG	Ishigakijimahi	2.12	85	P	Pn	08 14 40.0	-0.2
JISG				S	Sn	08 15 06.3	+0.3
MASBT	Mashibuluo	2.18	215	eP	Pb	08 14 44.1	-0.5
	baz=215						
EAST	Anshuo	2.27	208	eP	Pb	08 14 45.1	-1.1
	baz=193						
PNG	Penghu	2.38	250	eP	Pn	08 14 45.5	+1.9
	baz=253						
VWUC	VWUC	2.38	285	eP	Pn	08 14 44.9	+1.3
	baz=284						
PHUB	P'eng-hu	2.38	248	eP	Pb	08 14 47.1	-0.9
	baz=252						
SCZT	Fangliau	2.39	212	eP	Pb	08 14 46.3	-1.8
	baz=196						
WDGT	Dungji	2.42	242	eP	Pb	08 14 46.8	-1.9
	baz=246						
JTJ	Tarama	2.48	84	P	Pn	08 14 45.8	+0.7
JTJ				eS	Sn	08 15 15.0	+0.1
MATB	Ma-tsu	2.53	314	eP	Pn	08 14 47.1	+1.4
	baz=312						
VCHM	Qimei	2.63	243	eP	Pb	08 14 51.1	-1.2
	baz=247						
KNMB	Chin-men Tao	3.28	272	eP	Pn	08 14 58.0	+2.0
	baz=272						

*IDC **21** 08:15:09.9±0.5, 52°.41N×160°.39E, h0km, mb4.3/30, mb1 4.5/33, mb1mx4.4/52, mbtmp4.3/33, ML4.0/3, MS3.7/1, Ms1 3.7/1, ms1mx3.1/73, Error ellipse: s-maj=14.1km s-min=10.3km az=140.0*

*KRSC **21** 08:15:10.0±10.0, 52°.13N×160°.85E, h60km±10km, ML4.8*

*ISCJB **21** 08:15:11.3±0.2, 52°.15N±0°.02×160°.71E±0°.03, h24km, mb4.7/152, Error ellipse: s-maj=3.5km s-min=2.6km az=163.9*

*BJI **21** 08:15:14.0±0.0, 52°.78N×160°.44E, h48km, mb4.8/34, mB4.9/18, Ms5.2/7, Ms7 5.1/7*

*MOS **21** 08:15:15.4±1.2, 52°.31N×160°.43E, h56km, mb5.1/24, Error ellipse: s-maj=7.0km s-min=3.8km az=101.0*

*NEIC **21** 08:15:15.4±1.2, 52°.33N×160°.45E, h37km±7km, mb4.7/93, Error ellipse: s-maj=14.0km s-min=4.3km az=141.0*

ISC 21 08:15:12.9±0.4, 52°.25N±0°.04×160°.64E±0°.03, h24km, n355, σ1°34/380, mb4.7/154, 33C-13D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.93	336	eP		Pb		08 15 30.1	-0.2
SPN				eS		Sn		08 15 43.4	+0.4
SPN	Mys Shipunski	0.93	336	PN		Pb		08 15 30.1	-0.2
SPN				S		Sn		08 15 43.4	+0.4
NLC	Nalytchevo	1.21	320	eP		Pb		08 15 34.8	-0.3
NLC	Nalytchevo	1.21	320	PN		Pb		08 15 34.8	-0.3
RUS	Russkaya	1.31	279	eP		Pn		08 15 36.2	+0.4
RUS				eS		Sb		08 15 53.1	-0.2
RUS	Russkaya	1.31	279	PN		Pn		08 15 36.2	+0.4
RUS				S		Sb		08 15 53.1	-0.2
DALK	Dalny	1.39	305	eP		Pb		08 15 37.5	-0.6
DALK				eS		Sb		08 15 56.7	+1.3
DALK	Dalny	1.39	305	PN		Pb		08 15 37.5	-0.6
DALK				S		Sb		08 15 56.7	+1.3
PET	Petropavlovsk	1.44	303	ePn		Pn		08 15 37.7	+0.3
PET	Petropavlovsk	1.44	303	eP		Pb		08 15 38.5	-0.5
PET	Petropavlovsk	1.44	303	ePN		Pb		08 15 38.4	-0.5
PET				eS		Sn		08 15 55.3	-0.2
PET				pmax		pmax			
	comp=Z,1μm,0.5s								
PET				smax		smax			
	comp=E,7μm,0.7s								
PET				smax		smax			
	comp=N,5μm,0.5s								
UGLR	Uglovaya	1.46	312	eP		Pb		08 15 39.3	-0.2
UGLR	Uglovaya	1.46	312	PN		Pb		08 15 39.3	-0.2
SDLR	Sedlovina	1.48	315	eP		Pb		08 15 39.2	-0.6
SDLR	Sedlovina	1.48	315	PN		Pb		08 15 39.2	-0.6
SMAR	Somma	1.51	313	eP		Pb		08 15 39.5	-0.8
SMAR	Somma	1.51	313	PN		Pb		08 15 39.5	-0.8
MTVR	Mutnovka	1.52	280	eP		Pb		08 15 39.7	-0.8
MTVR				S		Sb		08 15 59.8	+0.4
MTVR	Mutnovka	1.52	280	PN		Pb		08 15 39.7	-0.8
MTVR				S		Sb		08 15 59.8	+0.4
AVH	Avacha	1.54	312	eP		Pb		08 15 40.4	-0.3
AVH	Avacha	1.54	312	PN		Pb		08 15 40.4	-0.3
KRER	Koryakskii	1.56	313	eP		Pb		08 15 40.7	-0.5
KRER	Koryakskii	1.56	313	PN		Pb		08 15 40.7	-0.5
GRL	Gorelyy	1.60	282	eP		Pb		08 15 41.4	-0.4
GRL	Gorelyy	1.60	282	PN		Pb		08 15 41.4	-0.4
KOK	Koryaka	1.60	311	eP		Pb		08 15 41.3	-0.6
KOK	Koryaka	1.60	311	PN		Pb		08 15 41.3	-0.6
KRMR	Karymshinskiy	1.64	292	eP		Pb		08 15 41.4	-1.0
KRMR				eS		Sb		08 16 02.8	+0.2
KRMR	Karymshinskiy	1.64	292	PN		Pb		08 15 41.4	-1.0
KRMR				S		Sb		08 16 02.8	+0.2
KRX	Arik	1.64	313	eP		Pb		08 15 42.3	-0.2
KRX	Arik	1.64	313	PN		Pb		08 15 42.3	-0.2
KDTR	Khodutka, Kamc	1.64	255	eP		Pn		08 15 40.1	-0.1
KDTR				eS		Sn		08 15 59.6	-1.0
KDTR	Khodutka, Kamc	1.64	255	PN		Pn		08 15 40.1	-0.1
KDTR				S		Sn		08 15 59.6	-1.0
ASAK	Asacha	1.69	276	eP		Pb		08 15 42.1	-1.2
ASAK	Asacha	1.69	276	PN		Pb		08 15 42.1	-1.2
PEA0B	Petropavlovsk-	1.98	297	ePn		Pn		08 15 45.7	+0.7
PETK	Petropavlovsk-	1.98	297	Pn		Pn		08 15 46.6	+1.6
	comp=N,165nm,0.3s,baz=103,slow=17,SNR=162								
PETK				Sn		Sb		08 16 12.8	+0.3
	comp=N,95nm,0.3s,baz=60,slow=40,SNR=5.7								
PETK				LR		LR		08 16 18.6	
	comp=N,941nm,20.4s,baz=60,slow=39								
PEA1	Petropavlovsk-	1.99	297	ePn		Pn		08 15 46.6	+1.6
PEA1				eSn		Sb		08 16 12.8	+0.2
APC	Apacha	2.23	289	eP		Pb		08 15 50.6	-1.8
APC				eS		Sb		08 16 18.1	-1.4
APC	Apacha	2.23	289	PN		Pb		08 15 50.6	-1.8
APC				S		Sb		08 16 18.1	-1.4
MKZ	Mys Kozlova	2.40	15	eP		Pn		08 15 50.1	-0.6
MKZ				S		Sn		08 16 18.5	-0.8
MKZ	Mys Kozlova	2.40	15	PN		Pn		08 15 50.1	-0.6
MKZ				S		Sn		08 16 18.5	-0.8
PAU	Pauzhetka	2.50	253	eP		Pn		08 15 51.9	-0.1
PAU	Pauzhetka	2.50	253	PN		Pn		08 15 51.9	-0.1
KZV	Kizimen	2.88	356	eP		Pn		08 15 58.7	+1.3
KZV	Kizimen	2.88	356	PN		Pn		08 15 58.7	+1.3
TUMD	Tumrok D	2.96	357	eP		Pn		08 15 59.2	+0.8
TUMR	Tumrok	3.05	355	eP		Pn		08 16 01.5	+1.8
TUMR	Tumrok	3.05	355	PN		Pn		08 16 01.5	+1.8
SKR	Severo-Kuril's	3.23	243	eP		Pn		08 16 02.0	-0.1
SKR				eS		Sn		08 16 38.1	-1.7
SKR	Severo-Kuril's	3.23	243	ePN		Pn		08 16 01.4	-0.7
SKR				eS		Sn		08 16 37.8	-2.0
SKR				pmax		pmax			
	comp=Z,164nm,0.6s								
SKR				smax		smax			
	comp=N,1μm,0.6s								
SKR				smax		smax			
	comp=E,2μm,0.6s								
SKR				MLR		MLR			
	comp=Z,2μm,14.0s								
ALID	Alaid	3.46	248	eP		Pn		08 16 06.1	+0.7
ALID	Alaid	3.46	248	PN		Pn		08 16 06.1	+0.7
BZGR	Bezymyannyi-Gr	3.70	1	eP		Pn		08 16 11.1	+2.5
BZGR	Bezymyannyi-Gr	3.70	1	PN		Pn		08 16 11.1	+2.5
LGNR	Loginova	3.84	0	eP		Pn		08 16 13.2	+2.5
LGNR	Loginova	3.84	0	PN		Pn		08 16 13.2	+2.5
ESO	Esso	3.85	344	P		Pn		08 16 12.7	+2.0
ESO	Esso	3.85	344	PN		Pn		08 16 12.7	+2.0
KRSR	Krestovskiy	3.98	359	P		Pn		08 16 14.6	+2.2
KRSR	Krestovskiy	3.98	359	PN		Pn		08 16 14.6	+2.2
SRDR	Sredinnyy	4.11	353	eP		Pn		08 16 15.7	+1.5
SRDR	Sredinnyy	4.11	353	PN		Pn		08 16 15.7	+1.5
KBTR	Krutoberegovo	4.17	17	eP		Pn		08 16 15.8	+0.9
KBTR	Krutoberegovo	4.17	17	PN		Pn		08 16 15.8	+0.9
BKI	Bering	4.33	45	eP		Pn		08 16 16.0	-1.2
BKI				eS		Sn		08 17 00.2	-6.7
BKI	Bering	4.33	45	PN		Pn		08 16 16.0	-1.2
BDR	Baidarnaya	4.34	4	eP		Pn		08 16 19.2	+1.8
BDR	Baidarnaya	4.34	4	PN		Pn		08 16 19.2	+1.8
SMKR	Semkarok	4.37	6	eP		Pn		08 16 19.2	+1.4
SMKR	Semkarok	4.37	6	PN		Pn		08 16 19.2	+1.4
SRKR	Sorokina	4.42	4	eP		Pn		08 16 20.8	+2.3
SRKR	Sorokina	4.42	4	PN		Pn		08 16 20.8	+2.3
SMY	Shemya	8.23	81	ePn		Pn		08 17 10.7	0.0
SMY				eSn		Sn		08 18 38.6	-4.3
SMY	Shemya	8.23	81	ePN		Pn		08 17 10.7	0.0
MA2	Magadan	9.19	327	⇑i PN		Pn		08 17 25.8	+2.0
OKH	Okha	10.78	284	dePN		Pn		08 17 37.1	-8.4
OKH				pmax		pmax			
	comp=Z,200nm,15.3s								
OKH				MLR		MLR			
	comp=Z,1μm,13.0s								
SEY	Seymchan	11.58	341	d iPN		Pn		08 17 59.4	+3.0
SEY	Seymchan	11.58	341	Pn		Pn		08 17 54.6	-1.9
	comp=Z,0.1nm,0.3s,baz=138,slow=14,SNR=2.1								
YSS	Yuzh-Sakhalins	12.74	253	ePN		Pn		08 18 14.3	+1.9
YSS				pmax		pmax			
	comp=Z,10.0nm,1.2s								
YSS				MLR		MLR			
	comp=Z,700nm,15.0s								
YSS				MLR		MLR			
	comp=N,1μm,14.0s								
ASAJ	Asahikawa	14.50	243	Pn		Pn		08 18 35.5	-1.0
	comp=N,2.7nm,0.3s,baz=77,slow=15,SNR=13								
ASAJ				LR		LR		08 24 57.8	
	comp=N,265nm,18.7s,baz=66,slow=41								
BILL	Biiibino	16.07	8	ePn		Pn		08 18 58.0	+0.9
BILL	Biiibino	16.07	8	deP		Pn		08 18 58.7	+1.7
BILL				pmax		pmax			
	comp=Z,47nm,1.3s								
BILL				MLR		MLR			
	comp=Z,308nm,16.0s								
TEY	Ternei	17.39	255	⇓eP		P		08 19 16.6	+1.7
TEY				pmax		pmax			
	comp=E,40nm,0.9s								
TEY				pmax		pmax			
	comp=Z,40nm,0.9s								
TEY				pmax		pmax			
	comp=N,20nm,0.8s								
KLR	Kul'dur	18.48	272	c iP		Pn		08 19 27.6	+0.5
KLR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
KLR	Kul'dur	18.48	272	P		P		08 19 26.1	-0.7
	comp=Z,0.6nm,0.3s,baz=62,slow=11,SNR=20								
ZEA	Zeya	20.05	288	eP		P		08 19 42.5	-1.5
ZEA				pmax		pmax			
	comp=E,21nm,0.8s								
ZEA				pmax		pmax			
	comp=Z,23nm,1.0s								
ZEA				MLR		MLR			
	comp=E,500nm,16.0s								
ZEA				MLR		MLR			
	comp=Z,900nm,16.0s								
USA0B	Ussuriysk Arra	20.61	258	eP		P		08 19 48.3	-1.9
	comp=Z,23nm,1.0s								
USRK	Ussuriysk Ar.	20.61	258	eP		P		08 19 48.2	-2.0
USRK	Ussuriysk Ar.	20.61	258	P		P		08 19 48.3	-1.8
	comp=Z,12nm,0.7s,baz=57,slow=11,SNR=27								
MDJ	Mudanjiang	21.84	262	eP		P		08 20 02.0	-1.3
	comp=Z,11nm,0.6s								
MAJO	Matsushiro	22.30	234	eP		P		08 20 09.1	+0.6
	comp=Z,27nm,0.7s								
MAJO	Matsushiro	22.30	234	c iP		P		08 20 09.5	+1.1
MAJO				pmax		pmax			
	comp=Z,29nm,0.9s								
MAT	Matsushiro	22.30	234	P		P		08 20 09.6	+1.2
MJAR	Matsushiro Arr	22.30	234	eP		P		08 20 09.6	+1.1
MJAR	Matsushiro Arr	22.30	234	P		P		08 20 09.0	+0.6
MJAR	Matsushiro Arr	22.30	234	P		P		08 20 09.0	+0.6
	comp=Z,12nm,0.7s,baz=26,slow=8.2,SNR=31								
RDOG	Red Dog Mine	23.55	34	eP		P		08 20 21.8	+0.8
	comp=Z,8.8nm,0.9s								
INU	Inuyama	23.83	234	eP		P		08 20 24.0	0.0
	comp=Z,21nm,0.8s								
TIXI	Tiksi	23.99	336	eP		P		08 20 23.7	-1.4
TIXI	Tiksi	23.99	336	d iP		P		08 20 24.3	-0.8
TIXI				pmax		pmax			
	comp=Z,14nm,0.6s								
TIXI	Tiksi	23.99	336	P		P		08 20 23.3	-1.9
	comp=Z,20nm,0.8s,baz=123,slow=9.2,SNR=32								
HIA	Hailar	25.80	280	eP		P		08 20 40.5	-1.3
	comp=Z,33nm,0.9s								
HIA	Hailar	25.80	280	c iP		P		08 20 40.0	-1.8
HIA				pmax		pmax			
	comp=Z,139nm,0.8s								
IMAR	Indian Mountai	26.41	41	eP		P		08 20 48.0	+0.8
BOD	Bodaibo	26.85	301	eP		P		08 20 49.5	-1.7
BOD				pmax		pmax			
	comp=Z,21nm,1.3s								
KDAK	Kodiak Island	26.94	60	eP		P		08 20 53.8	+1.8
KDAK	Kodiak Island	26.94	60	P		P		08 20 54.7	+2.7
	comp=Z,6.4nm,0.9s,baz=247,slow=9.4,SNR=4.1								
KSRS	Korea Array	27.22	250	P		P		08 20 55.5	+0.8
	comp=Z,3.4nm,0.7s,baz=44,slow=9.6,SNR=14								
KS15	Wonju Array Si	27.25	250	eP		P		08 20 55.2	+0.2
	comp=Z,19nm,1.4s								
BPAW	Bear Paw Mtn.	27.39	46	eP		P		08 20 57.3	+1.2
	comp=Z,10nm,1.3s								
TJN	Taejon	28.29	249	⇑eP		P		08 21 05.3	+1.0
KNK	Knik Glacier	28.60	51	eP		P		08 21 08.3	+1.4
	comp=Z,9.8nm,1.1s								
SML	Sawmill	28.63	50	eP		P		08 21 08.0	+0.8
	comp=Z,5.5nm,0.8s								
WRH	Wood River Hil	28.66	45	eP		P		08 21 08.1	+0.8
	comp=Z,12nm,1.4s								
JNU	Nakatsue	28.74	240	eP		P		08 21 09.2	+0.8
	comp=Z,28nm,0.8s								
JNU	Nakatsue	28.74	240	P		P		08 21 09.2	+0.8
	comp=Z,4.8nm,0.8s,baz=70,slow=10,SNR=3.8								
SCM	Sheep Creek Mo	29.11	50	eP		P		08 21 12.3	+0.9
	comp=Z,6.6nm,1.0s								
HDA	Harding Lake	29.16	45	eP		P		08 21 12.8	+1.0
	comp=Z,1.8nm,0.8s								
ILAR	Eielson Array	29.18	44	P		P		08 21 12.4	+0.4
	comp=Z,0.4nm,0.7s,baz=263,slow=7.4,SNR=4.1								
ILB	Eielson Array	29.18	44	eP		P		08 21 13.1	+1.1
	comp=Z,4.2nm,1.5s								
PRP	Porcupine Dome	29.76	43	eP		P		08 21 18.3	+1.1
	comp=Z,4.1nm,1.0s								
RIDG	Independent Ri	30.11	46	eP		P		08 21 20.5	+0.2
	comp=Z,10nm,1.5s								
BCAR	Beaver Creek A	31.54	47	eP		P		08 21 33.9	+1.0
H11N2	WAKE ISLAND Hy	32.82	169	T		T		08 56 30.2	
	baz=353								
H11N3	WAKE ISLAND Hy	32.84	169	T		T		08 56 32.5	
	baz=353								
H11N1	WAKE ISLAND Hy	32.84	169	T		T		08 56 33.4	
	baz=353								
ULN	Ulaanbaatar	34.02	284	eP		P		08 21 54.4	-0.4
ULN				pmax		pmax			
	comp=Z,3.0nm,0.7s								
INK	Inuvik	34.34	37	eP		P		08 21 58.0	+0.9
	comp=Z,3.3nm,1.1s								
INK	Inuvik	34.34	37	P		P		08 21 57.1	0.0
	comp=Z,1.1nm,0.7s,baz=295,slow=9.8,SNR=4.4								
TLY	Talaya	34.34	292	eP		P		08 21 56.0	-1.4
	comp=Z,13nm,1.4s								
TLY	Talaya	34.34	292	c iP		P		08 21 56.9	-0.5
TLY				pmax		pmax			
	comp=Z,29nm,1.6s								
SONM	Songino Array	34.42	285	eP		P		08 21 57.0	-1.3
SONM	Songino Array	34.42	285	P		P		08 21 56.4	-1.9
	comp=Z,1.2nm,0.6s,baz=79,slow=7.7,SNR=7.8								
SONM				PcP		PcP		08 24 33.5	+0.1
	comp=Z,1.5nm,0.8s,baz=37,slow=2.7,SNR=4.6								
TIA	Tai'an	34.47	260	P		P		08 21 59.0	+0.4
TIA				pmax		pmax			
	comp=Z,22nm,0.7s								
HHC	Hu-ho-hao-te	34.98	271	eP		P		08 22 02.8	-0.3
HHC				pmax		pmax			
	comp=Z,280nm,4.3s								
ZAK	Zakamensk	35.10	290	eP		P		08 22 02.3	-1.8
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.2s								
NJ2	Nanjing	36.31	253	eP		P		08 22 14.3	-0.2
NJ2				pmax		pmax			
	comp=Z,14nm,0.6s								
NRIK	Noril'sk	36.79	325	P		P		08 22 16.3	-1.9
	comp=Z,1.6nm,0.4s,baz=104,slow=10,SNR=5.7								
WHN	Wuhan	40.06	256	P		P		08 22 47.8	+1.7
LZH	Lanzhou	42.67	271	eP		P		08 23 14.4	+6.7
LZH				pP		pwP		08 23 24.3	+6.8
LZH				sP		sP		08 23 28.3	+11
GTA	Gaotai	43.04	278	eP		P		08 23 12.5	+1.9
GTA				pP		pwP		08 23 21.5	+1.1
GTA				sP		sP		08 23 25.5	+5.7
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ENH	Enshi	43.18	260	eP		P		08 23 11.0	-0.7
	comp=Z,22nm,1.3s								
ZAA0	Zalesovo Array	43.52	304	eP		P		08 23 11.7	-2.4
	comp=Z,4.5nm,1.0s								
ZALV	Zalesovo Beam	43.52	304	P		P		08 23 11.3	-2.7
	comp=Z,2.0nm,0.7s,baz=64,slow=3.4,SNR=7.6								
YKA	Yellowknife Ar	43.56	42	P		P		08 23 14.0	-0.3
YKA	Yellowknife Ar	43.56	42	P		P		08 23 14.0	-0.3
	comp=Z,0.7nm,0.8s,baz=298,slow=8.4,SNR=7.8								
YKB5	Yellowknife Ar	43.56	42	eP		P		08 23 14.0	-0.4
NVS	Novosibirsk	43.87	305	eP		P		08 23 15.7	-1.2
NVS				pmax		pmax			
	comp=Z,38nm,1.0s								
NVS				pmax		pmax			
	comp=N,2.0nm,0.3s								
NVS				pmax		pmax			
	comp=E,30nm,1.3s								
RES	Resolute Bay	43.98	22	eP		P		08 23 18.4	+0.8
	comp=E,3.9nm,0.9s								
RES	Resolute Bay	43.98	22	P		P		08 23 17.7	+0.1
	comp=E,2.2nm,0.8s,baz=312,slow=6.8,SNR=6.7								
DGZ	Jazzator, Alta	44.34	297	d iP		P		08 23 20.8	-0.2
DGZ				pmax		pmax			
	comp=Z,8.0nm,0.8s								
CD2	Chengdu	46.22	266	eP		P		08 23 34.1	-1.9
CD2				pmax		pmax			
	comp=Z,30nm,0.5s								
WMQ	Urumqi	47.57	290	eP		P		08 23 47.3	+0.9
WMQ				LR		LR			
	comp=Z,6μm,12.1s								
WMQ				LR		LR			
	comp=Z,5μm,15.7s								
WMQ	Urumqi	47.57	290	eP		P		08 23 46.1	-0.3
	comp=Z,17nm,0.6s								
SPA0	Spitsbergen Ar	48.02	351	eP		P		08 23 49.0	-0.4
	comp=Z,38nm,1.1s								
PANH	Panhandle Gap,	48.44	64	eP		P		08 23 53.3	+0.1
KURK	Kurchatov	48.46	303	eP		P		08 23 51.8	-1.3
	comp=Z,31nm,0.8s								
KURK	Kurchatov	48.46	303	ceP		P		08 23 51.5	-1.6
KURK				pmax		pmax			
	comp=Z,33nm,0.9s								
MK31	Makanchi Array	48.82	297	eP		P		08 23 55.3	-0.7
	comp=Z,7.2nm,1.3s								
MK32	Makanchi Array	48.82	297	eP		P		08 23 54.2	-1.8
MKAR	Makanchi Array	48.82	297	P		P		08 23 54.2	-1.8
	comp=Z,2.4nm,0.5s,baz=54,slow=6.5,SNR=33								
KMI	Kunming	51.01	261	P		P		08 24

AAK	Ala-Archa	55.75 297	*e*P	P	08 24 46.8	-0.8
	comp=Z,7.7nm,1.2s					
PANO	Nakornpanom	55.97 253	P	P	08 24 54.3	+5.0
	comp=Z,0.5nm,1.0s					
SKNT	Sakolnakorn	56.48 254	P	P	08 24 54.7	+1.8
	comp=Z,18nm,0.9s					
KSH	Kashi	57.04 293	P	P	08 24 58.3	+1.5
KSH			sP	pwP	08 25 20.9	+13
KSH			PP	PP	08 27 07.8	+4.5
KSH			S	S	08 32 44.8	-5.1
KSH			SS	SS	08 36 33.8	-4.3
KSH			pmax	pmax		
	comp=Z,280nm,6.6s					
KSH			LR	LR		
	comp=Z,760nm,8.1s					
KSH			LR	LR		
	comp=Z,630nm,7.8s					
KSH			LR	LR		
	comp=Z,2μm,11.5s					
PAYA	Payao	57.09 259	P	P	08 24 59.3	+2.1
	comp=Z,50μm,0.8s,comp=Z,495μm					
SHL	Shillong	57.33 270	*e*P	P	08 24 58.8	-0.3
	comp=Z,8.6nm,0.8s					
R11A	Troy Canyon, C	57.34 68	*e*P	P	08 25 00.5	+1.5
	comp=Z,2.3nm,1.3s					
PHRA	Phrae	57.53 258	P	P	08 25 02.1	+1.8
	comp=Z,3.9nm,1.2s					
KK31	Karatay Array	57.59 300	*e*P	P	08 24 59.5	-0.9
	comp=Z,4.1nm,0.8s					
KKAR	Karatay Array	57.59 300	*e*P	P	08 24 59.6	-0.9
	comp=Z,4.1nm,0.8s					
PD31	Pinedale Array	57.65 61	*e*P	P	08 25 02.8	+1.6
	comp=Z,1.9nm,0.8s					
PDAR	Pinedale Array	57.65 61	P	P	08 25 02.0	+0.8
	comp=Z,1.1nm,0.8s,baz=312,slow=3.0,SNR=8.6					
KLMR	Klimovskoe	57.85 330	*e*P	P	08 24 59.4	-2.6
KLMR			pmax	pmax		
	comp=Z,20nm,0.7s					
UTTA	Uttaradit	57.92 257	P	P	08 25 05.5	+2.5
	comp=Z,37μm,0.8s					
TPNV	Topopah Spring	57.92 70	*e*P	P	08 25 05.2	+2.1
	comp=Z,9.1nm,1.5s					
CMMT	Chiang Mai	58.06 259	P	P	08 25 05.6	+1.5
	comp=Z,13nm,1.0s					
CHTO	Chiang Mai	58.06 259	*e*P	P	08 25 04.2	+0.1
	comp=Z,19nm,0.8s					
PSUT	Pine Spring	58.19 67	*e*P	P	08 25 06.5	+1.4
	comp=Z,1.0nm,0.7s					
CMAR	Chiang Mai Arr	58.34 259	P	P	08 25 06.7	+0.7
	comp=Z,10.0nm,0.7s,baz=24,slow=7.1,SNR=38					
PBKT	Sadao Pong	58.58 256	P	P	08 25 11.3	+3.6
	comp=Z,3.2nm,1.1s					
ABKAR	Akbulak array	58.59 311	*e*P	P	08 25 06.9	-0.5
	comp=Z,4.7nm,0.7s					
JIRN	Jiri	59.31 276	*e*P	P	08 25 13.0	-0.1
	comp=Z,20nm,0.6s					
BTK	Batken	59.53 297	*e*P	P	08 25 13.4	-0.7
	comp=Z,6.9nm,0.8s					
RAMN	Ramite	59.57 276	*e*P	P	08 25 14.4	-0.4
	comp=Z,40nm,0.6s					
RSSD	Black Hills	59.60 56	*e*P	P	08 25 15.9	+1.2
	comp=Z,3.3nm,0.7s					
SRU	San Rafael Swe	59.66 64	*e*P	P	08 25 16.8	+1.7
	comp=Z,3.2nm,0.7s					
KKN	Kakani	59.77 277	*e*P	P	08 25 16.1	0.0
	comp=Z,34nm,0.6s					
PKI	Pulchoki	59.85 277	*e*P	P	08 25 16.6	-0.2
	comp=Z,17nm,0.5s					
PKIN	Phulchoki	59.85 277	*e*P	P	08 25 16.5	-0.2
	comp=Z,18nm,0.6s					
DMN	Daman	60.01 277	*e*P	P	08 25 17.5	-0.3
	comp=Z,35nm,0.7s					
UMPA	Umpang Tak	60.13 257	P	P	08 25 24.5	+6.1
	comp=Z,32μm,0.9s					
DANN	Dangsing	60.29 279	*e*P	P	08 25 19.7	-0.1
	comp=Z,28nm,0.7s					
GAR	Garm	60.55 297	*e*P	P	08 25 20.5	-0.7
	comp=Z,18nm,0.6s					
KOLN	Koldanda	60.81 278	*e*P	P	08 25 23.0	-0.2
	comp=Z,16nm,0.6s					
PYUN	Piuthan	60.94 279	*e*P	P	08 25 24.0	-0.1
	comp=Z,17nm,0.6s					
FIA1	FINESS Array S	61.02 337	*e*P	P	08 25 23.7	-0.1
	comp=Z,19nm,0.8s					
FINES	FINESS Array B	61.03 337	P	P	08 25 24.3	+0.4
	comp=Z,12nm,0.8s,baz=42,slow=8.9,SNR=31					
PV03	Paradox Valley	61.19 64	*e*P	P	08 25 27.1	+1.5
	comp=Z,3.5nm,0.9s					
CHGR	Chuyangaron	61.43 297	*e*P	P	08 25 27.6	+0.5
	comp=Z,15nm,0.9s					
NIL	Nilore	62.72 290	*e*P	P	08 25 35.3	-0.4
	comp=Z,17nm,0.8s					
OBN	Obninsk	63.41 328	*e*P	P	08 25 39.9	0.0
	comp=Z,22nm,0.9s					
OBN	Obninsk	63.41 328	*c i*P	P	08 25 39.9	0.0
OBN			*e**PP	pwP	08 25 50.8	+0.1
OBN			*e**SP	sP	08 25 59.0	+10
OBN					08 26 20.0	
OBN			pmax	pmax		
	comp=Z,21nm,0.8s					
OBN			MLR	MLR		
	comp=Z,132nm,16.0s					
VSU	Vasula	63.45 335	*ce*P	P	08 25 41.3	+1.1
VSU			pmax	pmax		
	comp=Z,52nm,0.8s					
VSU	Vasula	63.45 335	*e*P	P	08 25 41.5	+1.3
VSU			IAmb	IAmb	08 25 42.2	
	comp=Z,45nm,0.7s					
NB201	NORSAR Array S	64.42 344	*e*P	P	08 25 46.5	-0.1
	comp=Z,33nm,1.1s					
NB2	NORSAR Subarra	64.44 344	P	P	08 25 46.9	+0.1
	comp=Z,3.9nm,0.7s,baz=22,slow=6.5					
NB200	NORSAR Array S	64.44 344	*e*P	P	08 25 47.0	+0.3
NOA	NORSAR Array B	64.44 344	P	P	08 25 47.0	+0.3
	comp=Z,6.4nm,0.8s,baz=22,slow=6.6,SNR=21					
KBL	Kabul	64.47 294	*e*P	P	08 25 45.9	-1.7
	comp=Z,7.4nm,0.6s					
ANMO	Albuquerque	64.91 65	⇓*i*P	P	08 25 56.8	+6.4
ANMO			pmax	pmax		
	comp=Z,6.0nm,2.5s					
KSM	Kuching	65.64 238	*e*P	P	08 25 55.8	+0.7
	comp=Z,12nm,1.0s					
IDID	Didziasalis	66.21 333	*e*P	P	08 25 59.4	+1.2
IDID			IAmb	IAmb	08 26 00.2	
	comp=Z,5.0nm,0.6s					
IIGN	Ignalina	66.32 334	*e*P	P	08 26 00.1	+1.2
IIGN			IAmb	IAmb	08 26 01.0	
	comp=Z,9.2nm,0.7s					
GEYT	Alibeck	67.83 304	P	P	08 26 08.7	-0.1
	comp=Z,6.4nm,0.7s,baz=48,slow=2.2,SNR=13					
GYA0B	ALIBECK ARRAY	67.83 304	*e*P	P	08 26 08.9	+0.1
	comp=Z,10nm,0.9s					
BSD	Bornholm Skovb	69.29 340	*i*P	P	08 26 18.8	+1.2
BSD	Bornholm Skovb	69.29 340	*i*P	P	08 26 18.8	+1.2
AKASG	Malin Array Be	69.51 329	P	P	08 26 18.7	-0.3
	comp=Z,6.2nm,0.5s,baz=31,slow=6.8,SNR=7.0					
AKBB	Malin Array Si	69.51 329	*e*P	P	08 26 19.0	0.0
	comp=Z,18nm,1.0s					
KIEV	Kiev	69.52 329	*e*P	P	08 26 18.9	-0.2
	comp=Z,17nm,1.0s					
KIEV	Kiev	69.52 329	⇑*i*P	P	08 26 19.0	-0.1
KIEV	Kiev	69.52 329	*c i*P	P	08 26 19.0	-0.1
KIEV			pmax	pmax		
	comp=Z,18nm,0.9s					
KIV	Kislovodsk	70.28 317	*e*P	P	08 26 23.0	-1.0
KIV			pmax	pmax		
	comp=Z,29nm,0.9s					
KBZ	Khabaz	70.38 317	P	P	08 26 25.1	+0.6
	comp=Z,11nm,0.8s,baz=85,slow=2.8,SNR=22					
TXAR	Lajitas Array	70.66 67	P	P	08 26 27.6	+1.0
	comp=Z,1.0nm,0.8s,baz=303,slow=5.0,SNR=13					
ZEI	Tsey	70.72 316	*e*P	P	08 26 24.4	-2.5
ZEI			pmax	pmax		
	comp=Z,8.0nm,0.8s					
HYB	Hyderabad	71.61 275	*i*P	P	08 26 32.5	+0.1
AKH	Akhalkalaki	72.02 315	⇑*i*P	P	08 26 35.0	+0.3
KWP	Kalwaria Pacla	72.39 333	*e*P	P	08 26 38.0	+1.4
KWP	Kalwaria Pacla	72.39 333	*e*P	P	08 26 37.1	+0.5
	comp=Z,221nm,0.9s					
KWP	Kalwaria Pacla	72.39 333	*e*P	P	08 26 38.0	+1.4
GNI	Garni	72.50 314	*c i*P	P	08 26 39.3	+1.7
GNI			pmax	pmax		
	comp=Z,32nm,1.0s					
OJC	Ojcow	72.65 335	*e*P	P	08 26 38.9	+0.8
	comp=Z,10nm,1.1s					
BCA	Borcka	72.79 317	⇑*i*P	P	08 26 39.2	+0.1
KOLS	Kolonicke sedl	73.15 333	*e*P	P	08 26 41.9	+0.8
KOLS			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KOLS	Kolonicke sedl	73.15 333	*e*P	P	08 26 41.9	+0.8
NIE	Niedzica	73.25 334	*e*P	P	08 26 43.3	+1.6
NIE	Niedzica	73.25 334	*e*P	P	08 26 43.3	+1.6
CLL	Collm	73.26 339	*e*P	P	08 26 41.7	+0.1
	comp=Z,11nm,0.9s					
CLL	Collm	73.26 339	*i*P	P	08 26 42.5	+0.8
CLL			*e*		08 26 54.0	
CLL			*e*		08 26 57.0	
CLL			pmax	pmax		
	comp=Z,14nm,1.0s					
CLL	Collm	73.26 339	*i*P	P	08 26 42.5	+0.8
	comp=Z,14nm,1.0s					
CLL			*e*pP	pwP	08 26 54.0	+0.8
CLL			*e*sP	PcP	08 26 57.0	-1.0
SEVA	Sevastopol	73.33 323	⇑*i*P	P	08 26 43.1	+0.9
DPC	Dobruska-Polom	73.40 337	*e*P	P	08 26 44.6	+2.0
DPC	Dobruska-Polom	73.40 337	*e*P	P	08 26 44.6	+2.0
BUR08	Bucovina Ar. S	73.45 330	*e*P	P	08 26 43.3	+0.3
	comp=Z,8.8nm,0.7s					
BRG	Berggiesshubel	73.46 339	*e*P	P	08 26 43.6	+0.7
	comp=Z,5.4nm,0.9s					
BRG	Berggiesshubel	73.46 339	*e*P	P	08 26 43.6	+0.7
BRG			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BURAR	Bucovina Array	73.47 330	*e*P	P	08 26 43.2	+0.1
BURAR	Bucovina Array	73.47 330	⇑*i*P	P	08 26 43.6	+0.5
MORC	Moravsky Berou	73.63 336	*e*P	P	08 26 44.3	+0.3
	comp=Z,9.9nm,1.0s					
MORC	Moravsky Berou	73.63 336	⇓*i*P	P	08 26 44.9	+0.9
MORC	Moravsky Berou	73.63 336	*e*P	P	08 26 45.1	+1.1
LANS	Liptovska Anna	73.71 335	*e*P	P	08 26 46.6	+2.1
LANS	Liptovska Anna	73.71 335	*e*P	P	08 26 46.5	+2.1
TRPA	Tarpa	73.80 332	⇓*i*P	P	08 26 46.3	+1.4
BIZ	Bicaz	73.80 329	⇑*i*P	P	08 26 45.6	+0.7
TESR	Tescani	74.01 329	⇑*i*P	P	08 26 46.2	0.0
VRAC	Vranov	74.30 336	*e*P	P	08 26 49.1	+1.3
JAVC	Velka Javorina	74.45 336	*e*P	P	08 26 51.0	+2.2
VYHS	Vyhne	74.48 335	*e*P	P	08 26 50.2	+1.3
VYHS			pmax	pmax		
	comp=Z,4.0nm,1.1s					
VYHS	Vyhne	74.48 335	*e*P	P	08 26 50.2	+1.3
VRI	Vrincioaia	74.56 329	⇓*i*P	P	08 26 50.2	+0.8
KRUC	Moravsky	74.58 337	*e*P	P	08 26 50.7	+1.3
PLOR	Plostina	74.59 329	⇑*i*P	P	08 26 50.2	+0.6
CFR	Carcaliu	74.70 327	⇑*i*P	P	08 26 50.7	+0.5
DOPR	Dopca	74.89 329	⇑*i*P	P	08 26 52.2	+0.9
MODS	Modra-Piesok	75.00 336	*e*P	P	08 26 52.6	+0.7
MODS			pmax	pmax		
	comp=Z,7.0nm,0.9s					
MODS	Modra-Piesok	75.00 336	*e*P	P	08 26 52.6	+0.7
MLR	Muntele Rosu	75.14 329	*e*P	P	08 26 53.5	+0.6
	comp=Z,9.7nm,0.6s					
MLR	Muntele Rosu	75.14 329	⇓*i*P	P	08 26 53.5	+0.6
GRFO	Grafenberg	75.17 340	*e*P	P	08 26 53.0	+0.2
	comp=Z,25nm,0.8s					
KHC	Kasperske Hory	75.18 338	*e*P	P	08 26 53.6	+0.7
	comp=Z,5.5nm,1.3s					
KHC	Kasperske Hory	75.18 338	*e*P	P	08 26 54.0	+1.0
KHC	Kasperske Hory	75.18 338	*e*P	P	08 26 54.0	+1.0
DIKM	Dikmen	75.20 321	⇑*i*P	P	08 26 54.5	+1.3
TLB	Topalu	75.26 327	⇑*i*P	P	08 26 54.3	+0.9
MEM	Membach	75.29 344	⇑P	P	08 26 54.5	+1.0
	comp=Z,18nm,0.9s					
GEC2	GERESS Array S	75.42 338	*e*P	P	08 26 54.8	+0.4
	comp=Z,3.2nm,0.7s					
GERES	GERESS Array B	75.42 338	P	P	08 26 54.5	+0.1
	comp=Z,1.7nm,0.5s,baz=356,slow=5.9,SNR=11					
WB2	Warramunga Arr	75.45 205	*e*P	P	08 26 55.4	+0.6
	comp=Z,6.2nm,1.0s					
WR1	Warramunga Arr	75.46 206	*e*P	P	08 26 54.6	-0.1
WRA	Warramunga Arr	75.46 206	P	P	08 26 54.6	-0.1
	comp=Z,1.5nm,1.0s,baz=26,slow=5.4,SNR=7.9					
VOIR		75.47 329	⇑*i*P	P	08 26 55.8	+1.0
ARR	Arges	75.66 330	⇑*i*P	P	08 26 57.4	+1.6
ICOR	Ion Corvin	75.75 327	⇑*i*P	P	08 26 57.7	+1.4
CONA	Conrad Observa	75.76 336	*e*P	P	08 26 58.2	+1.8
	comp=Z,5.6nm,0.7s					
MOA	Molln	76.22 337	*e*P	P	08 27 00.7	+1.8
	comp=Z,3.2nm,1.0s					
ILGA	Ilgaz	76.31 322	*e*P	P	08 27 00.8	+1.0
	comp=Z,21nm,0.9s					
BZS	Buzias	76.34 332	⇑*i*P	P	08 27 00.2	+0.6
FITZ	Fitzroy Crossi	76.38 214	*e*P	P	08 27 00.8	+0.8
	comp=Z,14nm,1.5s					
FITZ	Fitzroy Crossi	76.38 214	P	P	08 27 01.0	+1.0
	comp=Z,1.8nm,0.6s,baz=53,slow=5.1,SNR=3.8					
ARSA	Arzberg	76.48 336	*e*P	P	08 27 02.7	+2.3
	comp=Z,3.4nm,0.6s					
HERR	Herculane	76.78 331	⇑*i*P	P	08 27 02.2	+0.1
BFO	Black Forest	77.05 341	*i*P	P	08 27 05.8	+2.2
MDVR	Moldovita	77.08 331	⇑*i*P	P	08 27 03.9	+0.1
SOKA	Soboth	77.13 336	*e*P	P	08 27 05.7	+1.5
	comp=Z,3.3nm,0.6s					
KBA	Koelnbreinsper	77.16 338	*e*P	P	08 27 06.5	+2.0
	comp=Z,16nm,0.8s					
RETA	Reutte	77.35 340	*e*P	P	08 27 07.0	+1.6
	comp=Z,2.9nm,0.5s					
WTTA	Wattenberg	77.37 339	*e*P	P	08 27 07.3	+1.6
	comp=Z,3.7nm,0.6s					
ECH	Echery	77.38 342	*e*P	P	08 27 05.3	-0.1
	comp=Z,6.1nm,0.8s					
OBKA	Obir	77.41 337	*e*P	P	08 27 08.3	+2.6
	comp=Z,6.7nm,0.9s					
MOTA	Moosalm	77.41 339	*e*P	P	08 27 06.4	+0.5
	comp=Z,5.1nm,0.8s					
BR131	Keskin Array S	77.48 321	*e*P	P	08 27 06.6	+0.3
	comp=Z,6.8nm,0.9s					
BRTR	Keskin Array B	77.48 321	P	P	08 27 06.4	+0.1
	comp=Z,4.0nm,0.9s,baz=46,slow=3.9,SNR=22					
BRTR			PP	PP	08 30 02.4	+2.0
	comp=Z,0.7nm,0.7s,baz=39,slow=8.0,SNR=4.3					
SQTA	Sankt Quirin	77.51 339	*e*P	P	08 27 08.4	+2.1
	comp=Z,11nm,1.0s					
MYKA	Terra Mystica	77.51 337	*e*P	P	08 27 08.5	+2.2
	comp=Z,1.8nm,0.4s					
ABTA	Abfaltersbach	77.67 338	*e*P	P	08 27 08.0	+0.9
	comp=Z,11nm,0.9s					
DAVA	Damuels	77.73 340	*e*P	P	08 27 09.6	+2.0
	comp=Z,5.9nm,0.8s					
MDUB	Mudunu	77.76 323	*e*P	P	08 27 08.2	+0.4
	comp=Z,73nm,1.0s					
FETA	Feichten	77.80 339	*i*P	P	08 27 09.6	+1.6
	comp=Z,6.3nm,0.9s					
FUORN	Ofenpass-Fuorn	78.28 340	*e*P	P	08 27 11.4	+0.6
	comp=Z,5.7nm,0.8s					
VTS	Vitosha	78.58 329	*e*P	P	08 27 12.6	+0.2
	comp=Z,5.6nm,0.7s					
VTS	Vitosha	78.58 329	⇑*i*P	P	08 27 12.7	+0.3
TUE	Stuetta	78.62 340	*e*P	P	08 27 13.5	+0.9
	comp=Z,9.0nm,0.7s					
AS31	Alice Springs	79.13 205	*e*P	P	08 27 15.8	+0.6
	comp=Z,0.9nm,0.6s					
ASAR	Alice Springs	79.13 205	P	P	08 27 16.3	+1.0
	comp=Z,0.8nm,0.7s,baz=18,slow=5.8,SNR=11					
ALN	Alexandroupoli	79.21 327	*e*P	P	08 27 15.6	-0.1
	comp=Z,6.0nm,1.0s					
PDG	Podgorica	79.95 332	⇑*i*P	P	08 27 20.0	+0.4
TTG	Podgorica	79.95 332	*e*P	P	08 27 19.0	-0.6
	comp=Z,9.7nm,0.6s					
SSB	Saint Sauveur	80.69 343	*e*P	P	08 27 24.6	+0.9
	comp=Z,6.0nm,0.7s					
FNA	Florina	80.82 330	*e*P	P	08 27 24.6	+0.1
	comp=Z,4.4nm,1.0s					
CSS	Mathiatis	81.73 319	*e*P	P	08 27 29.1	-0.2
	comp=Z,14nm,0.7s					
TIP	Timpagrande	83.67 333	*e*P	P	08 27 39.6	+0.2
	comp=Z,3.9nm,0.8s					
ITM	Ithomi	83.94 328	*e*P	P	08 27 40.6	-0.1
	comp=Z,14nm,0.9s					
STKA	Stephens Creek	85.42 196	P	P	08 27 49.6	+1.8
	comp=Z,0.7nm,0.3s,baz=133,slow=22,SNR=4.1					
ESDC	Sonseca Array	87.47 348	*e*P	P	08 27 58.4	+0.1
	comp=Z,2.0nm,0.9s					
ESDC	Sonseca Array	87.47 348	P	P	08 27 58.5	+0.2
	comp=Z,2.9nm,1.0s,baz=6.3,slow=4.4,SNR=6.8					
TORD	Torodi Ar. Bea	112.37 338	PP	PP	08 34 30.1	-1.4
	comp=Z,1.6nm,0.9s,baz=4.4,slow=9.0,SNR=7.6					

LJU 21 08:25:40.9,46°29N×13°29E,h10km,ML0.6,2C-1D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VINO	Villanova	0.04 192		⇑*e*Pg	Pg	08 25 42.8	-0.1
VINO				*e*Sg	Sg	08 25 44.3	0.0
BAD	Bernadia	0.07 211		⇑*e*Pg	Pg	08 25 43.0	-0.1
BAD				*e*Sg	Sg	08 25 44.8	+0.1
ROBS	Robic	0.16 107		*i* Pg	Pg	08 25 44.2	-0.1
ROBS				*i* Sg	Sg	08 25 46.9	+0.1
	comp=Z,4.0nm,0.1s						
COLI	Coloredo	0.17 159		⇓*e*Pg	Pg	08 25 44.8	+0.2
COLI				*e*Sg	Sg	08 25 47.9	+0.8
MPRI	Monte Prat	0.22 257		*e*Pg	Pg	08 25 45.4	0.0
MPRI				*e*Sg	Sg	08 25 49.4	+0.8
CADS	Cadrg	0.32 102		*i* Pg	Pg	08 25 47.0	-0.2
CADS				*i* Sg	Sg	08 25 52.3	+0.9
	comp=Z,3.0nm,0.2s						

NIED ***21*** *08:25:00,23°40N×123°80E,h20km,Mw5.4 Best double couple: M0=1.38000×10^17 NP1:φs=118.00000°,δ73.00000°, λ-9.00000°. NP2:φs=211.00000°,δ81.00000°, λ-163.00000°.*

IDC ***21*** *08:25:52.2±0.4,23°51N×123°77E,h0km,mb5.3/56, mb1 5.3/61,mb1mx5.3/69,mbtmp5.3/61,ML4.2/5,MS4.8/32, Ms1 4.8/32,ms1mx4.6/56,Error ellipse: s-maj=10.3km s-min=9.6km az=68.0*

NEIC ***21*** *08:25:53.6±1.2,23°38N×123°68E,h10km,mb5.6/215, MS5.1/329,Error ellipse: s-maj=10.9km s-min=10.1km az=103.0*

NEIC Felt on Ishigaki-jima. Also felt at Changhua, Taiwan. Recorded [2 JMA] on Hateruma-jima, Iriomote-jima, Ishigaki-jima, Miyako-jima, Tarama-shima and Yonaguni-jima, Ryukyu Islands. Recorded [2 TAP] in Changhua, Hsinchu, Hualien, Taitung and Yilan; [1 TAP] in Chiayi, Miaoli, Nantou, New Taipei, Taichung and Yunlin, Taiwan.

BJI ***21*** *08:25:53.0±0.0,23°40N×123°70E,h15km,mb5.3/69, mB5.3/43,ML5.3/6,Ms5.3/88,Ms7 5.2/83*

ISCJB ***21*** *08:25:53.8±0.4,23°39N±0°01×123°70E±0°01,h21km±2km, mb5.5/315,MS5.1/362,Error ellipse: s-maj=2.4km s-min=2.0km az=33.3*

GCMT ***21*** *08:25:55.6±0.1,23°31N±0°01×123°67E±0°01,h20km, MW5.4/120,Moment Tensor Solution. s75,c116; s120,c214; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr0.34±.03; Mθθ1.15±.02; Mφφ-1.49±.03; Mrθ0.44±.05; Mφφ0.65±.02; Mφr-0.12±.05; Best double couple: M0=1.55800×10^17 NP1:φs=124.00000°,δ81.00000°, λ19.00000°. NP2:φs=30.00000°,δ71.00000°,λ170.00000°. Principal axes: T 1.4490, Plg20.0000°, Azm348.0000°; N 0.2200, Plg69.0000°, Azm149.0000°; P -1.6670, Plg6.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

MOS ***21*** *08:25:56.1±0.9,23°65N×123°77E,h31km,mb5.8/65, MS5.1/25 Error ellipse: s-maj=7.9km s-min=4.1km az=112.5*

JMA ***21*** *08:25:56.0±0.1,23°42N×123°75E,h48km±2km,M5.8*

JMA Felt II J1.

ASIES ***21*** *08:25:57.0,23°27N×123°31E,h32km,MW5.0*

ISC 21 08:25:56.3±0.4,23°45N±0°02×123°69E±0°03,h27km±2km, h27km:pP-P,n1232,σ1s52/1099,mb5.6/340,MS5.1/363, 139C-37D,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.62	10	⇑P	Pb	08 26 08.8	+0.3
HATJ				*e*S	Sn	08 26 18.1	-0.2
JKRS	Kuro-shima	0.84	20	⇑P	Pb	08 26 11.9	-0.3
JKRS				S	Sb	08 26 23.5	+0.3
IRIF	Iriomote-Funau	0.88	2	⇑P	Pn	08 26 12.8	-0.2
IRIF				S	Sb	08 26 24.5	+0.1
JIJ	Ishigaki jima	1.00	24	⇑P	Pn	08 26 14.0	-0.6
JIJ				S	Sb	08 26 26.7	-1.1
YOJ	Yonaguni jima	1.19	329	*e*Pn	Pn	08 26 17.2	+0.1
YOJ				*e*Sn	Sb	08 26 33.6	+0.6
YOJ	Yonaguni jima	1.19	329	*e*P	Pn	08 26 17.2	+0.1
YOJ				*e*		08 26 33.7	
YOJ	Yonaguni jima	1.19	329	⇑P	Pn	08 26 17.3	+0.2
YOJ				*e*S	Sb	08 26 33.8	+0.8
JYNG	Yonagunijimaku	1.21	326	P	Pn	08 26 17.5	+0.1
JYNG				*e*S	Sn	08 26 33.4	+0.4
JISG	Ishigakijimahi	1.27	26	P	Pn	08 26 17.5	-0.8
JISG				*e*S	Sn	08 26 33.4	-1.0
JTJ	Tarama	1.51	38	⇓P	Pn	08 26 21.2	-0.3
JTJ				*i* S	Sn	08 26 40.2	-0.1
JIRB	Irabujima	1.93	44	P	Pn	08 26 26.6	-0.8
JIRB				S	Sn	08 26 49.7	-1.1
JMJ2	Miyako jima3	1.98	49	P	Pn	08 26 27.3	-0.7
JMJ2				S	Sn	08 26 51.9	0.0
JOGS	Gusukube	2.04	50	⇓P	Pn	08 26 28.3	-0.6
JOGS				S	Sn	08 26 53.7	+0.2
JIKM	Ikemajima	2.05	44	P	Pn	08 26 28.3	-0.6
JIKM				S	Sn	08 26 53.4	-0.2
NACB	Ninganchiao	2.05	291	*e*Pn	Pn	08 26 27.8	-1.2
NACB				*e*Sn	Sn	08 26 51.4	-2.3
YULB	Yu-li	2.20	269	*e*Pn	Pn	08 26 29.4	-1.7
YULB				*e*Sn	Sn	08 26 55.2	-2.2
YHNB	Yeheng	2.44	300	*e*Pn	Pn	08 26 34.6	+0.2
YHNB				*e*Sn	Sn	08 27 02.7	-0.8
TWG	Pinlang	2.49	256	*e*Pn	Pn	08 26 33.0	-2.0
TWG				*e*Sn	Sn	08 27 01.3	-3.3
TATO	Taipei	2.52	308	*e*Pn	Pn	08 26 36.2	+0.8
TATO	Taipei	2.52	308	P	Pn	08 26 36.6	+1.2
	SNR=14						
SSLB	Suanglung	2.53	278	*e*Pn	Pn	08 26 34.9	-0.8
TPUB	Ta-pu	2.82	268	*e*Pn	Pn	08 26 39.8	+0.2
TPUB				*e*Sn	Sn	08 27 12.2	-0.5
QZH	Quanzhou	4.89	289	⇓*i*Pn	Pn	08 27 07.4	-0.6
QZH				Sn	Sn	08 27 58.8	-4.9
QZH				smax	smax		
	comp=N,4μm,0.4s						
QZH				smax	smax		
	comp=E,2μm,0.4s						
QZH				LR	LR		
	comp=N,22μm,13.3s						
QZH				LR	LR		
	comp=E,21μm,13.7s						
QZH				LR	LR		
	comp=Z,16μm,14.2s						
KNMB	Chin-men Tao	4.95	283	*e*Pn	Pn	08 27 08.3	-0.6
K

NJ2 smax smax
comp=N,230nm,1.4s
NJ2 smax smax
comp=E,220nm,1.8s
NJ2 LR LR
comp=N,12μm,16.2s
NJ2 LR LR
comp=E,12μm,14.7s
NJ2 LR LR
comp=Z,14μm,15.2s
TGY Tagaytay City 9.65 196 Pn **Pn 08 28 13.6 0.0**
65nm,0.3s,baz=27,slow=0.9,SNR=7.9
TGY Sn **Sn 08 30 00.5 -0.7**
49nm,0.3s,baz=75,slow=20,SNR=2.6
TGY LR LR 08 32 05.0
comp=Z,4μm,20.0s,baz=44,slow=38
PVCP Virac 9.81 177 *e*P **Pn 08 28 14.3 -1.4**
BOAC Boac 10.09 190 *e*P **Pn 08 28 22.6 +3.2**
LUBP Lubang 10.20 199 *e*P **Pn 08 28 20.9 0.0**
JFU Fukue jima 2 10.20 25 P **Pn 08 28 22.7 +1.7**
JZO Okuchi 10.60 34 P **Pn 08 28 23.7 -2.7**
JTZ Takazaki 10.67 36 P **Pn 08 28 23.0 -4.4**
CNP Catarman 10.92 175 *e*P **Pn 08 28 31.1 +0.2**
WHN Wuhan 10.92 312 P **Pn 08 28 30.9 +0.1**
WHN S **Sn 08 30 31.6 -0.5**
WHN LR LR
comp=N,24μm,12.7s
WHN LR LR
comp=E,23μm,14.2s
WHN LR LR
comp=Z,18μm,10.1s
OTRP Odiongan 11.14 188 *e*P **Pn 08 28 32.2 -1.7**
SJMP San Jose 11.20 193 *e*P **Pn 08 28 39.2 +4.6**
JNU Nakatsue 11.53 32 *e*Pn **Pn 08 28 37.0 -2.2**
JNU Nakatsue 11.53 32 Pn **Pn 08 28 36.1 -3.1**
3.9nm,0.3s,baz=188,slow=4.7,SNR=39
JNU Sn **Sn 08 30 44.0 -3.0**
0.8nm,0.3s,baz=357,slow=17,SNR=1.9
JNU LR LR 08 33 40.5
comp=Z,6μm,18.6s,baz=204,slow=41
PLP Palo 12.28 174⇓ *e*P **Pn 08 28 49.1 -0.3**
TJN Taejon 13.27 13 *c e*P **Pn 08 29 02.0 -0.9**
MSLP Maasin 13.29 175 *e*P **Pn 08 29 05.6 +2.3**
QIZ Qiongzhong 13.64 254 P **Pn 08 29 07.9 -0.1**
QIZ S **Sn 08 31 35.3 -3.4**
QIZ LR LR
comp=N,6μm,19.6s
QIZ LR LR
comp=E,5μm,15.7s
QIZ LR LR
comp=Z,6μm,19.1s
QIZ Qiongzhong 13.64 254 *e*Pn **Pn 08 29 08.0 -0.1**
TIA Tai'an 13.93 337 P **Pn 08 29 13.0 +1.0**
TIA pmax pmax
comp=Z,10.0nm,0.9s
TIA LR LR
comp=N,7μm,15.6s
TIA LR LR
comp=E,6μm,16.4s
TIA LR LR
comp=Z,10μm,15.1s
ENH Enshi 14.38 301 *e*Pn **Pn 08 29 19.0 +0.9**
KS15 Wonju Array Si 14.41 14 *e*Pn **Pn 08 29 19.3 +0.9**
KSAR Wonju Array Be 14.41 14 *e*Pn **Pn 08 29 18.4 -0.1**
KSAR Wonju Array Be 14.41 14 *e*P **Pn 08 29 18.4 -0.1**
KSRS Korea Array 14.43 14 Pn **Pn 08 29 18.2 -0.5**
2.2nm,0.3s,baz=192,slow=13,SNR=131
DL2 Dalian 15.51 354⇑ *i*P **Pn 08 29 34.0 +0.9**
DL2 S **Sn 08 32 29.1 +5.0**
DL2 pmax pmax
comp=Z,330nm,1.2s
DL2 pmax pmax
comp=Z,2μm,7.8s
DL2 LR LR
comp=N,5μm,16.2s
DL2 LR LR
comp=E,5μm,12.7s
DL2 LR LR
comp=Z,7μm,13.3s
PAGZ Pagadian 15.51 181 *e*P **Pn 08 29 33.1 -0.2**
BUKP Musuan 15.54 175 *e*P **Pn 08 29 34.0 +0.3**
JWT Wachi 15.58 38 P **P 08 29 37.9 -0.2**
GYA Guiyang 15.73 284⇑ *i*P **Pn 08 29 37.1 +0.9**
GYA pP P 08 29 41.8 +1.8
GYA PP **pwP 08 29 51.4 +0.7**
GYA S **Sn 08 32 29.8 0.0**
GYA pmax pmax
comp=Z,100nm,1.1s
GYA pmax pmax
comp=Z,380nm,8.1s
GYA LR LR
comp=N,13μm,16.8s
GYA LR LR
comp=E,6μm,18.9s
GYA LR LR
comp=Z,6μm,18.3s
JIE Ise 15.76 43 P **P 08 29 40.9 +0.8**
CTBH Cotabato--PC H 16.14 178⇓ *i*P **P 08 29 43.8 -0.6**
DAV Davao City (W) 16.39 173⇑ *e*P **Pn 08 29 43.1 -1.4**
INU Inuyama 16.58 41 *e*Pn **Pn 08 29 44.9 -1.9**
77nm,0.8s
XAN Xi'an 16.69 313 P **Pn 08 29 47.4 -0.9**
XAN sP pwP 08 30 02.3 +0.9
XAN S **Sn 08 32 53.4 +0.5**
XAN SS **SnSn 08 33 14.9 +8.7**
XAN pmax pmax
comp=Z,200nm,1.4s
XAN pmax pmax
comp=Z,830nm,3.9s
XAN LR LR
comp=N,11μm,20.1s
XAN LR LR
comp=E,7μm,20.6s
XAN LR LR
comp=Z,5μm,13.2s
XAN Xi'an 16.69 313 *e*Pn **Pn 08 29 47.1 -1.2**
243nm,1.1s
XAN Xi'an 16.69 313 *e*P **Pn 08 29 47.1 -1.2**
XAN pmax pmax
comp=Z,243nm,1.1s
JGF Kuroka 16.95 41 P **P 08 29 53.3 -0.1**
JHJ Hachijo jima 2 17.12 52 P **Pn 08 29 53.2 -0.5**
comp=Z,3.5nm,0.3s,baz=217,slow=12,SNR=2.0
JHJ LR LR 08 36 20.2
comp=Z,3μm,18.5s,baz=260,slow=37
JHJ2 Mitsune 17.14 52 *e*Pn **Pn 08 29 52.4 -1.5**
comp=Z,624nm,1.1s
TIY Taiyuan 17.19 328 *e*P **P 08 29 56.8 +0.8**
TIY pP **pP 08 30 01.5 -0.7**
TIY PP **pwP 08 30 10.4 +3.7**
TIY S **S 08 33 09.6 -4.1**
TIY SS Sn 08 33 30.4 +25
TIY pmax pmax
comp=Z,290nm,1.0s
TIY pmax pmax
comp=Z,1μm,6.8s
TIY LR LR
comp=Z,7μm,10.9s
TIY LR LR
comp=Z,3μm,14.7s
TIY LR LR
comp=Z,7μm,16.1s
DDMP Don Marcelino, 17.35 173 *e*P **P 08 29 58.8 +0.9**
BJT Baijiatuau 17.70 341 *e*Pn **Pn 08 30 01.2 +0.3**
comp=Z,305nm,1.4s
BJT Baijiatuau 17.70 341 *e*P **Pn 08 30 01.2 +0.3**
BJT pmax pmax
comp=Z,305nm,1.4s
MAJO Matsushiro 18.09 41 *e*Pn **Pn 08 30 05.2 -0.6**
MAJO Matsushiro 18.09 41 *d e*P **Pn 08 30 05.7 0.0**
MAT Matsushiro 18.09 41 P **Pn 08 30 04.7 -1.0**
MAT S **Sn 08 33 27.6 +0.7**
MAT Matsushiro 18.09 41 P **P 08 30 06.5 +0.5**
MJB9 Matsu-Tunnel 18.09 41 *e*Pn **Pn 08 30 05.5 -0.2**
comp=Z,129nm,1.0s
MJAR Matsushiro Arr 18.09 41 *e*Pn **Pn 08 30 05.2 -0.6**
MJAR Matsushiro Arr 18.09 41 *e*P **Pn 08 30 05.2 -0.6**
MJAR Matsushiro Arr 18.09 41 P **Pn 08 30 04.3 -1.4**
comp=Z,0.4nm,0.3s,baz=233,slow=10,SNR=75
MJAR LR LR 08 36 57.5
comp=Z,3μm,21.9s,baz=230,slow=37
JRY Ryogami san 18.18 43 P **P 08 30 07.3 +0.4**
SNY Shenyang 18.33 360⇑⇑ P **P 08 30 07.8 -0.7**
SNY S **Sn 08 33 23.6 -8.8**
SNY pmax pmax
comp=Z,83nm,1.1s
SNY pmax pmax
comp=Z,1μm,4.1s
SNY LR LR
comp=Z,6μm,17.2s
SNY LR LR
comp=Z,5μm,15.2s
SNY LR LR
comp=Z,9μm,18.1s
SLVN Son La 18.42 267 *e*P **P 08 30 08.2 -1.5**
comp=Z,189nm,1.1s
DLV T Lat 18.44 234 *e*Pn **P 08 30 09.1 -0.9**
comp=Z,257nm,0.9s
JYT Yasato 19.13 45 P **P 08 30 16.8 -0.5**
KMI Kunming 19.17 279 P **Pn 08 30 21.1 +2.0**
KMI pP sP 08 30 26.3 -1.0
KMI sP pwP 08 30 28.4 -0.8
KMI S **Sn 08 33 48.8 -4.6**
KMI sS sS 08 34 00.4 -3.8
KMI pmax pmax
comp=Z,57nm,1.7s
KMI LR LR
comp=Z,6μm,12.5s
KMI LR LR
comp=Z,3μm,10.5s
KMI LR LR
comp=Z,5μm,14.5s
KMI Kunming 19.17 279 *e*P **Pn 08 30 18.9 -0.3**
comp=Z,118nm,1.1s
CD2 Chengdu 19.21 297⇑ *i*P **Pn 08 30 19.5 +0.1**
CD2 sP sP 08 30 26.6 -1.1
CD2 PP **PnPn 08 30 38.8 +6.3**
CD2 S **Sn 08 33 45.3 -8.7**
CD2 sS S 08 33 56.5 +2.0
CD2 SS **SnSn 08 34 20.8 +13**
CD2 pmax pmax
comp=Z,250nm,0.9s
CD2 pmax pmax
comp=Z,2μm,8.1s
CD2 LR LR
comp=Z,17μm,23.7s
CD2 LR LR
comp=Z,9μm,12.1s
CD2 LR LR
comp=Z,12μm,11.2s
SKNT Sakolnakorn 19.57 254 P **Pn 08 30 25.0 +1.2**
comp=Z,204nm,1.3s
SGSI Sangihe 19.73 175 P **Pn 08 30 26.4 +0.8**
MSHR Mys Shultsa 20.07 16⇓ *e*P **P 08 30 26.9 -0.6**
HHC Hu-ho-hao-te 20.12 332 *e*P **P 08 30 29.3 +1.0**
HHC sP sP 08 30 37.0 -0.5
HHC PP **PnPn 08 30 46.3 +1.3**
HHC S **S 08 34 12.6 -0.5**
HHC SS **SnSn 08 34 39.9 +9.2**
HHC PcP **PcP 08 34 49.0 +6.3**
HHC pmax pmax
comp=Z,370nm,0.7s
HHC pmax pmax
comp=Z,2μm,3.8s
HHC LR LR
comp=Z,6μm,11.8s
HHC LR LR
comp=Z,5μm,10.8s
HHC LR LR
comp=Z,8μm,11.0s
CN2 Changchun 20.35 4 *e*P **P 08 30 29.1 -1.5**
CN2 pmax pmax
comp=Z,460nm,1.0s
CN2 pmax pmax
comp=Z,800nm,3.0s
CN2 LR LR
comp=Z,8μm,13.0s
CN2 LR LR
comp=Z,3μm,13.0s
CN2 LR LR
comp=Z,7μm,13.0s
BTO Baotou 20.62 329 *e*P Pn 08 30 35.8 -0.2
KHON Khomkaen 20.84 254 P Pn 08 30 38.4 -0.3
comp=Z,346μm,1.0s
LZH Lanzhou 21.29 311 *e*P **P 08 30 42.4 +1.4**
LZH pP pP 08 30 46.5 -0.8
LZH sP sP 08 30 48.3 -2.0
LZH PP **PnPn 08 31 06.8 +5.8**
LZH *e*S **S 08 34 35.6 -0.8**
LZH sS sS 08 34 45.8 -0.6
LZH pmax pmax
comp=Z,230nm,1.2s
LZH pmax pmax
comp=Z,970nm,4.3s
LZH LR LR
comp=Z,8μm,15.3s
LZH LR LR
comp=Z,6μm,15.8s
LZH LR LR
comp=Z,8μm,16.6s
MDJ Mudanjiang 21.66 11 P **P 08 30 42.6 -2.1**
MDJ pmax pmax
comp=Z,58nm,1.6s
MDJ pmax pmax
comp=Z,850nm,12.8s
MDJ LR LR
comp=Z,2μm,21.0s
MDJ LR LR
comp=Z,14μm,21.1s
MDJ LR LR
comp=Z,5μm,11.2s
MDJ Mudanjiang 21.66 11 *e*P **P 08 30 42.7 -2.1**
comp=Z,68nm,0.9s
MDJ LR LR
comp=Z,4μm,19.0s
SARN Sarigan 21.79 104 *e*P **P 08 30 44.7 -1.7**
comp=Z,48nm,0.8s
USA0B Ussuriysk Arra 21.79 16 *e*P **P 08 30 43.4 -2.7**
comp=Z,32nm,0.9s
USA0B LR LR
comp=Z,2μm,21.0s
USRK Ussuriysk Ar. 21.79 16 *e*P **P 08 30 43.2 -2.9**
USRK Ussuriysk Ar. 21.79 16 P **P 08 30 43.4 -2.7**
comp=Z,26nm,0.8s,baz=200,slow=10,SNR=25
ANA2 Anatahan 21.86 105 *e*P **P 08 30 46.0 -1.1**
comp=Z,383nm,1.2s
GUMO Guam 22.32 112 *e*P **P 08 30 51.1 -0.9**
comp=Z,642nm,1.0s
GUMO Guam 22.32 112 P **P 08 30 52.1 +0.1**
comp=Z,505nm,0.9s,baz=191,slow=4.1,SNR=26
UTTA Uttaradit 22.38 260 P **P 08 30 58.3 +5.7**
comp=Z,46μm,0.8s
PBKT Sadao Pong 22.40 256 P **P 08 30 54.8 +1.9**
comp=Z,53nm,1.0s,comp=Z,916nm
PHRA Phrae 22.44 262 P **P 08 30 55.4 +2.1**
comp=Z,9.4nm,1.5s,comp=Z,223nm
PAYA Payao 22.54 264 P **P 08 30 57.4 +3.0**
comp=Z,74μm,1.4s
JTM Tenmabayashi 22.63 36 P **P 08 30 53.8 -1.4**
KMSI Cibinong 22.74 179 P **P 08 30 59.6 +3.2**
TNTI Ternate 22.82 170 *e*P **P 08 30 56.7 -0.6**
comp=Z,812nm,1.1s
TNTI Ternate 22.82 170 P **P 08 30 57.8 +0.5**
comp=Z,738nm,1.0s,comp=Z,8μm
MRSI Marisa 22.90 184 P **P 08 30 59.2 +1.1**
comp=Z,132nm,1.3s,comp=Z,2μm
LAMP Lampang 22.98 262 P **P 08 31 01.7 +2.7**
comp=Z,106μm,0.9s
JOT Ohata 23.04 35 P **P 08 30 59.2 -0.2**
MPSI Mapaga 23.27 190 P **P 08 31 03.4 +1.6**
comp=Z,57nm,0.9s,comp=Z,1μm
CMMT Chiang Mai 23.52 263 P **P 08 31 05.7 +1.3**
comp=Z,39nm,1.2s,comp=Z,654nm
CHTO Chiang Mai 23.53 263 *e*P **P 08 31 03.9 -0.6**
comp=Z,101nm,1.2s
CHTO LR LR
comp=Z,3μm,21.0s
CHTO Chiang Mai 23.53 263 P **P 08 31 05.5 +1.0**
SNR=21
CM31 Chiang Mai Arr 23.62 263 *e*P **P 08 31 05.9 +0.5**
comp=Z,51nm,1.1s
CM31 Chiang Mai Arr 23.62 263 P **P 08 31 06.9 +1.5**
SNR=10.0
CMAR Chiang Mai Arr 23.62 263 *e*P **P 08 31 05.5 0.0**
CMAR Chiang Mai Arr 23.62 263 P **P 08 31 07.2 +1.8**
comp=Z,22nm,0.9s,baz=64,slow=8.3,SNR=67
CMAR LR LR 08 40 51.8
comp=Z,2μm,20.8s,baz=66,slow=38
SBUM Sibu 23.64 210 *e*P **P 08 31 04.5 -1.1**
SBUM LR LR
comp=Z,1μm,21.0s
SBUM Sibu 23.64 210 P **P 08 31 05.0 -0.6**
TEY Ternei 23.98 23⇑ *e*P **P 08 31 05.4 -3.0**
TEY pmax pmax
comp=Z,10.0nm,0.9s
TEY pmax pmax
comp=N,20nm,0.9s
APSI Ampana 24.29 185 P **P 08 31 12.3 +0.7**
comp=N,244nm,1.7s,comp=N,3μm
JEW Eniwo 24.30 33 P **P 08 31 10.8 -0.7**
LUWI Luwuk 24.36 182 *e*P **P 08 31 11.9 -0.3**
comp=N,542nm,1.2s
LUWI LR LR
comp=Z,2μm,22.0s
LUWI Luwuk 24.36 182 P **P 08 31 11.7 -0.5**
UMPA Umpang Tak 24.42 257 P **P 08 31 15.9 +3.0**
comp=Z,118μm,1.1s
SMKI Samarinda 24.57 196 P **P 08 31 17.5 +3.3**
ERM Erimo 24.62 37 *e*P **P 08 31 13.5 -0.9**
comp=Z,256nm,0.9s
ERM LR LR
comp=Z,6μm,22.0s
ERM Erimo 24.62 37 *d i*P **P 08 31 13.3 -1.1**
ERM pmax pmax
comp=Z,149nm,0.9s
JEM Erimo 24.62 37 P **P 08 31 13.4 -1.0**
SRDT SRDT 24.91 253 P **P 08 31 18.7 +1.4**
comp=Z,80nm,1.4s
SWI Sorong 25.26 162 P **P 08 31 16.6 -3.8**
KSM Kuching 25.41 213 *e*P **P 08 31 20.6 -1.2**
comp=Z,76nm,0.9s
KSM LR LR
comp=Z,700nm,18.0s
KSM Kuching 25.41 213 P **P 08 31 22.0 +0.2**
SANI Sanana 25.44 175 P **P 08 31 21.2 -0.8**
MTKI Muara Teweh, K 25.71 201 P **P 08 31 25.7 +1.2**
GTA Gaotai 25.74 314⇑⇑ P **P 08 31 24.4 -0.4**
GTA pP pP 08 31 29.3 -2.1
GTA sP sP 08 31 31.8 -2.6
GTA PcP **PcP 08 34 55.4 +1.0**
GTA S **S 08 35 54.8 +2.6**
GTA pmax pmax
comp=Z,43nm,1.1s
GTA pmax pmax
comp=Z,400nm,5.1s
GTA LR LR
comp=Z,4μm,21.3s
GTA LR LR
comp=Z,4μm,20.6s
GTA LR LR
comp=Z,2μm,18.1s
ASAJ Asahikawa 25.81 32 P **P 08 31 24.9 -0.2**
ASAJ Asahikawa 25.81 32 P **P 08 31 23.8 -1.3**
comp=Z,120nm,0.7s,baz=235,slow=12,SNR=58
HIA Hailar 25.96 354 *e*P **P 08 31 24.7 -1.8**
comp=Z,376nm,0.8s
HIA LR LR
comp=Z,4μm,20.0s
HIA Hailar 25.96 354 *c i*P **P 08 31 24.2 -2.3**
HIA pmax pmax
comp=Z,2μm,0.8s
JMP Maruseppu 26.11 33 P **P 08 31 28.8 +0.9**
KLR Kul'dur 26.51 12 *c i*P **P 08 31 30.4 -1.0**
KLR Kul'dur 26.51 12 P **P 08 31 29.1 -2.3**
comp=Z,55nm,0.9s,baz=220,slow=7.4,SNR=76
TTSI Tana Toraja 26.60 189 P **P 08 31 33.2 +0.7**
SKLT Songkhla 27.44 238 P **P 08 31 41.5 +1.4**
comp=Z,19nm,1.4s
YUK Yuzh-Kuril'sk 27.44 36 *d i*P **P 08 31 41.0 +1.1**
YUK *i* *PP **pP 08 31 44.9 -1.8**
YUK *e*S **S 08 36 21.6 +2.9**
YUK pmax pmax
comp=Z,337nm,0.9s
YUK pmax pmax
comp=N,98nm,0.7s
YUK pmax pmax
comp=E,73nm,0.7s
YUK pmax pmax
comp=Z,330nm,1.2s
YUK MLR MLR
comp=Z,2μm,20.0s
YUK MLR MLR
comp=E,3μm,23.0s
YUK MLR MLR
comp=N,2μm,17.0s
FAKI Fak Fak 27.50 161 *e*P **P 08 31 39.8 -0.9**
comp=N,265nm,1.1s
FAKI LR LR
comp=Z,900nm,18.0s
FAKI Fak Fak 27.50 161 P **P 08 31 40.1 -0.6**
SPSI Sidrap Palu 27.51 188 P **P 08 31 44.3 +3.6**
ULN Ulaanbaatar 27.74 336 *e*P **P 08 31 42.0 -0.8**
comp=Z,70nm,0.9s
ULN LR LR
comp=Z,3μm,20.0s
ULN Ulaanbaatar 27.74 336 *c i*P **P 08 31 41.5 -1.3**
ULN pmax pmax
comp=Z,111nm,1.3s
ULN Ulaanbaatar 27.74 336 P **P 08 31 41.8 -0.9**
SNR=42
BNSI Bone 27.90 188 P **P 08 31 46.9 +2.7**
SONM Songino Array 27.97 335 *e*P **P 08 31 43.7 -1.1**
SONM Songino Array 27.97 335 P **P 08 31 44.0 -0.8**
comp=Z,132nm,0.9s,baz=145,slow=8.6,SNR=383
SONM PcP **PcP 08 34 59.4 -0.1**
comp=Z,2.7nm,0.7s,baz=142,slow=2.9,SNR=3.1
SONM LR LR 08 44 30.8
comp=Z,3μm,19.2s,baz=138,slow=40
YSS Yuzh-Sakhalins 28.01 28 *e*P **P 08 31 44.0 -1.0**
comp=Z,134nm,0.9s
YSS LR LR
comp=Z,2μm,20.0s
YSS Yuzh-Sakhalins 28.01 28⇓ *i*P **P 08 31 43.8 -1.1**
YSS *e*SP **pP 08 31 49.9 -1.8**
YSS *e*S **S 08 36 26.4 -1.2**
YSS *e* 08 36 46.2
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=N,3μm,20.0s
YSS MLR MLR
comp=Z,2μm,20.0s
BNDI Bandanaira 28.45 167 P **P 08 31 52.4 +3.3**
KAPI Kappang 28.55 188 *e*P **P 08 31 48.5 -1.5**
comp=Z,48nm,1.1s
KAPI LR LR
comp=Z,1μm,20.0s
KAPI Kappang 28.55 188 P **P 08 31 49.5 -0.5**
comp=Z,2.8nm,0.3s,baz=28,slow=11,SNR=8.4
KAPI LR LR 08 43 27.9
comp=Z,1μm,20.2s,baz=359,slow=37
KULM Kulim 28.62 234 *e*P **P 08 31 49.5 -1.2**
comp=Z,64nm,1.2s
KULM LR LR
comp=Z,2μm,18.0s
KULM Kulim 28.62 234 P **P 08 31 52.0 +1.3**
BKSI Bulukumba 28.80 187 P **P 08 31 53.2 +0.9**
MYKOM Kota Tinggi 28.87 225 PFAKE 08 32 00.0 +7.2
MYKOM LR LR
comp=Z,1μm,20.0s
MYKOM Kota Tinggi 28.87 225 P **P 08 31 55.0 +2.1**
IPM Ipoh 28.88 233 *e*P **P 08 31 52.1 -0.9**
comp=Z,68nm,1.0s
IPM LR LR
comp=Z,1μm,20.0s
IPM Ipoh 28.88 233 P **P 08 31 54.0 +1.0**
SHL Shillong 28.98 281 *e*P **P 08 31 53.4 -0.7**
comp=Z,39nm,1.0s
SHL LR LR
comp=Z,3μm,19.0s
SHL Shillong 28.98 281 *e*P **P 08 31 54.7 +0.6**
TPRI Tanjung Pinang 29.11 222 P **P 08 31 54.0 -1.0**
KUR Kuril'sk 29.31 36⇑ *e*P **P 08 31 56.4 -0.1**
BRDH Bariadhala 29.47 275 LR LR 08 44 49.0
comp=Z,2μm,19.1s,baz=133,slow=38
CIT Chita 29.57 347 *e*P **P 08 31 57.6 -1.2**
CIT *e* 08 32 13.2
CIT *e* 08 32 54.4
CIT pmax pmax
comp=Z,250nm,1.3s
BSSI Bau Bau, Buton 29.57 186 P **P 08 31 56.4 -2.7**
LSA Lhasa 29.70 289 P **P 08 32 02.4 +1.7**
LSA Lhasa 29.70 289 *e*P **P 08 32 01.0 +0.3**
comp=Z,36nm,0.8s
LSA LR LR
comp=Z,2μm,18.0s
ZEA Zeya 30.37 4 *c e*P **P 08 32 04.8 -1.0**

ZEA				pmax	pmax	
	comp=N,600nm,2.0s					
ZEA				pmax	pmax	
	comp=Z,600nm,2.0s					
ZEA				pmax	pmax	
	comp=N,120nm,1.0s					
ZEA				pmax	pmax	
	comp=E,35nm,1.0s					
ZEA				pmax	pmax	
	comp=Z,200nm,1.0s					
TPI	**Tanjungpandan**	**30.37**	**213**	P	**P**	**08 32 05.0 -1.2**
GENI	**Genyem**	**30.46**	**146**	P	**P**	**08 32 07.5 +0.6**
PPBI	**Pangkal Pinang**	**30.66**	**216**	P	**P**	**08 32 06.4 -2.3**
DGPR	**DIGLIPUR**	**30.87**	**256**	*e*P	P	08 32 05.0 -5.6
TYV	**Tymovskoe**	**31.08**	**24**	*e*P	**P**	**08 32 12.8 +0.7**
TYV				pmax	pmax	
	comp=Z,9.0nm,0.6s					
ZAK	**Zakamensk**	**31.24**	**335**	*e*P	**P**	**08 32 11.5 -2.2**
ZAK				pmax	pmax	
	comp=Z,50nm,1.1s					
PSI	**Prapat**	**31.55**	**233**	*e*P	**P**	**08 32 16.4 -0.4**
	comp=Z,72nm,1.1s					
PSI				LR	LR	
	comp=Z,800nm,19.0s					
JMBI	**JAMBI**	**31.66**	**221**	P	**P**	**08 32 19.6 +2.1**
PBA	**Port Blair**	**31.67**	**254**	PFAKE		08 32 30.0 +12
PBA				LR	LR	
	comp=Z,3μm,19.0s					
PBA	**Port Blair**	**31.67**	**254**	*e*P	P	08 32 16.6 -1.1
BKNI	**Bangkinang**	**31.81**	**227**	PFAKE		08 32 30.0 +11
BKNI				LR	LR	
	comp=Z,800nm,19.0s					
BKNI	**Bangkinang**	**31.81**	**227**	P	P	08 32 11.8 -7.1
MMRI	**Maumere**	**31.92**	**183**	*e*P	**P**	**08 32 19.1 -0.7**
	comp=Z,226nm,1.0s					
MMRI				LR	LR	
	comp=Z,900nm,22.0s					
MMRI	**Maumere**	**31.92**	**183**	P	**P**	**08 32 19.9 +0.1**
SAUI	**Saumlaki**	**32.11**	**166**	*e*P	**P**	**08 32 20.4 -1.1**
	comp=Z,186nm,1.0s					
TLY	**Talaya**	**32.14**	**336**	*e*P	**P**	**08 32 20.7 -0.7**
	comp=Z,84nm,0.8s					
TLY				LR	LR	
	comp=Z,2μm,18.0s					
TLY	**Talaya**	**32.14**	**336***c i*P		**P**	**08 32 20.4 -1.0**
TLY	**Talaya**	**32.14**	**336**	P	**P**	**08 32 20.7 -0.7**
	SNR=54					
NKL	**Nikolayevsk**	**32.34**	**19**	*e*P	P	08 32 10.0 -13
NKL				MLR	MLR	
	comp=N,2μm,13.0s					
NKL				MLR	MLR	
	comp=E,700nm,13.0s					
NKL				MLR	MLR	
	comp=Z,3μm,13.0s					
IRK	**Irkutsk**	**32.37**	**338**	*e*P	**P**	**08 32 21.9 -1.6**
IRK				*e*		08 33 24.2
IRK				pmax	pmax	
	comp=Z,106nm,2.3s					
TPTI		**32.55**	**236**	P	**P**	**08 32 21.3 -4.1**
PLAI	**Plampang**	**32.59**	**191**	P	**P**	**08 32 24.7 -1.0**
CMBY	**CAMPBELL BAY**	**32.93**	**245**	*e*P	**P**	**08 32 27.5 -1.2**
ODAN	**Odare**	**32.96**	**284**	*e*P	**P**	**08 32 30.5 +1.3**
	comp=Z,289nm,1.3s					
PDSI	**Padang**	**33.11**	**226**	P	**P**	**08 32 28.2 -2.1**
MOY	**Mondy**	**33.15**	**334**	*e*P	**P**	**08 32 29.4 -1.0**
MOY				pmax	pmax	
	comp=Z,139nm,1.6s					
WOJI	**Wonogiri, Jawa**	**33.51**	**203**	P	**P**	**08 32 33.4 -0.3**
GSI	**Gunungsitoli**	**33.55**	**233**	*e*P	**P**	**08 32 33.2 -1.0**
	comp=Z,50nm,1.0s					
RAMN	**Ramite**	**33.66**	**284**	*e*P	**P**	**08 32 36.4 +1.0**
	comp=Z,174nm,1.2s					
LEM	**Lembang**	**33.94**	**209**	P	**P**	**08 32 36.8 -0.9**
JIRN	**Jiri**	**34.01**	**285**	*e*P	**P**	**08 32 39.7 +1.2**
	comp=Z,623nm,1.4s					
MANU	**Manus Island**	**34.25**	**135**	*e*P	**P**	**08 32 40.2 0.0**
	comp=Z,72nm,1.0s					
MANU				LR	LR	
	comp=Z,1μm,20.0s					
SISI	**Saibi**	**34.34**	**228**	P	**P**	**08 32 37.8 -3.2**
CISI	**Cisompet, Garu**	**34.50**	**209**	PFAKE		08 32 50.0 +7.6
CISI				LR	LR	
	comp=Z,700nm,22.0s					
BOK	**Bokaro**	**34.57**	**278**	*e*P	**P**	**08 32 41.9 -1.1**
BOK				IAmb	IAmb	08 32 45.3
	comp=Z,22nm,0.3s					
PKI	**Pulchoki**	**34.70**	**285**	*e*P	**P**	**08 32 45.1 +0.7**
	comp=Z,218nm,1.4s					
PKIN	**Phulchoki**	**34.71**	**285**	*e*P	**P**	**08 32 44.9 +0.4**
	comp=Z,161nm,1.4s					
KKN	**Kakani**	**34.81**	**285**	*e*P	**P**	**08 32 45.8 +0.6**
	comp=Z,168nm,1.0s					
DMN	**Daman**	**34.97**	**285**	*e*P	**P**	**08 32 47.4 +0.7**
	comp=Z,201nm,1.3s					
BOD	**Bodaibo**	**35.04**	**351**	*e*P	**P**	**08 32 45.1 -1.5**
BOD				pmax	pmax	
	comp=Z,69nm,0.9s					
BWNR	**Bhubaneshwar**	**35.23**	**272**	*e*P	**P**	**08 32 46.5 -2.2**
WMQ	**Urumqi**	**35.82**	**313**	*e*P	**P**	**08 32 54.1 +0.5**
WMQ				pP	pP	08 32 58.0 -2.4
WMQ				sP	sP	08 33 02.0 -1.4
WMQ				pmax	pmax	
	comp=Z,110nm,1.5s					
WMQ				LR	LR	
	comp=Z,7μm,15.5s					
WMQ				LR	LR	
	comp=Z,6μm,13.9s					
WMQ				LR	LR	
	comp=Z,5μm,19.5s					
WMQ	**Urumqi**	**35.82**	**313**	*e*P	**P**	**08 32 53.7 +0.1**
WMQ				*ep*P	**pP**	**08 32 53.9 -6.5**
WMQ				LR	LR	
	comp=Z,1μm,18.0s					
DANN	**Dangsing**	**36.13**	**286**	*e*P	**P**	**08 32 57.6 +0.9**
	comp=Z,101nm,0.9s					
KOLN	**Koldanda**	**36.30**	**285**	*e*P	**P**	**08 32 58.9 +0.9**
	comp=Z,117nm,1.0s					
MTN	**Manton Dam**	**36.80**	**168**	*e*P	**P**	**08 33 01.1 -0.9**
	comp=Z,76nm,1.0s					
PYUN	**Piuthan**	**36.82**	**286**	*e*P	**P**	**08 33 03.5 +1.0**
	comp=Z,178nm,1.2s					
SKR	**Severo-Kuril's**	**37.02**	**35**	*e*P	**P**	**08 33 00.8 -2.8**
SKR				*e*S	**S**	**08 38 41.8 -5.7**
SKR				pmax	pmax	
	comp=Z,700nm,2.3s					
SKR				pmax	pmax	
	comp=Z,149nm,0.9s					
SKR				MLR	MLR	
	comp=Z,2μm,20.0s					
PATS	**Pohnpei**	**37.13**	**111**	*e*P	**P**	**08 33 04.7 -0.3**
	comp=Z,272nm,1.3s					
DGZ	**Jazzator, Alta**	**38.58**	**322***c i*P		**P**	**08 33 16.6 -0.4**
DGZ				pmax	pmax	
	comp=Z,20nm,0.9s					
YAK	**Yakutsk**	**38.78**	**5***c i*P		**P**	**08 33 16.4 -1.9**
YAK				*e**PP	**sP**	**08 33 28.0 0.0**
YAK				*e*		08 34 44.0
YAK				*e*PPP	PPP	08 35 06.5
YAK				*e*		08 35 27.7
YAK				*e*S	**S**	**08 39 11.9 -2.0**
YAK				*e**SS	**sS**	**08 39 27.4 +2.0**
YAK				*e*SSS	SSS	08 42 22.1
YAK				*e*		08 43 22.5
YAK				pmax	pmax	
	comp=Z,490nm,0.9s					
YAK				pmax	pmax	
	comp=N,268nm,1.1s					
YAK				pmax	pmax	
	comp=E,57nm,1.1s					
YAK				pmax	pmax	
	comp=Z,739nm,2.8s					
YAK				pmax	pmax	
	comp=N,383nm,1.9s					
YAK				pmax	pmax	
	comp=E,286nm,2.2s					
YAK				smax	smax	
	comp=N,270nm,2.0s					
YAK				smax	smax	
	comp=E,241nm,2.0s					
YAK				MLR	MLR	
	comp=Z,9μm,16.0s					
YAK				MLR	MLR	
	comp=N,10μm,17.0s					
YAK				MLR	MLR	
	comp=E,4μm,18.0s					
RABL	**Rabaul**	**39.06**	**131**	*e*P	**P**	**08 33 21.2 0.0**
	comp=E,110nm,0.8s					
PTH	**Pithoragarh**	**39.21**	**288**	*e*P	P	08 33 36.5 +14
PEA0B	**Petropavlovsk-**	**39.23**	**32**	*e*P	**P**	**08 33 22.1 -0.1**
	comp=E,87nm,0.9s					
PEA0B				LR	LR	
	comp=Z,1μm,20.0s					
PETK	**Petropavlovsk-**	**39.23**	**32**	P	**P**	**08 33 21.6 -0.6**
	comp=Z,44nm,0.8s,baz=207,slow=3.8,SNR=70					
PET	**Petropavlovsk**	**39.65**	**33**	*e*P	**P**	**08 33 25.6 0.0**
	comp=Z,282nm,0.9s					
PET				LR	LR	
	comp=Z,2μm,22.0s					
PMG	**Port Moresby**	**39.91**	**142**	*e*P	**P**	**08 33 27.4 -0.9**
	comp=Z,107nm,1.1s					
PMG	**Port Moresby**	**39.91**	**142**⇓	*e*P	**P**	**08 33 28.2 -0.1**
PMG				pmax	pmax	
	comp=Z,139nm,1.1s					
PMG	**Port Moresby**	**39.91**	**142**	P	**P**	**08 33 26.8 -1.5**
	comp=Z,44nm,1.1s,baz=308,slow=2.8,SNR=3.7					
H11N1	**WAKE ISLAND Hy**	**40.24**	**87**	T	T	09 16 50.4
	baz=283,slow=74					
H11N2	**WAKE ISLAND Hy**	**40.24**	**87**	T	T	09 16 55.9
	baz=283,slow=74					
H11N3	**WAKE ISLAND Hy**	**40.25**	**87**	T	T	09 17 04.9
	baz=283,slow=74					
H11S3	**WAKE ISLAND Hy**	**40.34**	**89**	T	T	09 17 04.0
	baz=286,slow=75					
H11S1	**WAKE ISLAND Hy**	**40.35**	**89**	T	T	09 17 06.1
	baz=286,slow=75					
H11S2	**WAKE ISLAND Hy**	**40.36**	**89**	T	T	09 17 05.8
	baz=286,slow=75					
MK31	**Makanchi Array**	**40.46**	**316**	*e*P	**P**	**08 33 32.7 +0.1**
	comp=Z,43nm,0.8s					
MK31	**Makanchi Array**	**40.46**	**316**	*e*P	**P**	**08 33 32.2 -0.4**
MK31				pmax	pmax	
	comp=Z,62nm,0.9s					
MK32	**Makanchi Array**	**40.46**	**316**	*e*P	**P**	**08 33 32.4 -0.2**
MK32				*e*PcP	**PcP**	**08 35 36.0 +0.9**
MKAR	**Makanchi Array**	**40.46**	**316**	P	**P**	**08 33 32.4 -0.2**
	comp=Z,49nm,0.7s,baz=101,slow=10,SNR=220					
MKAR				PcP	**PcP**	**08 35 36.0 +0.9**
	comp=Z,8.8nm,0.8s,baz=90,slow=7.2,SNR=2.7					
MAKZ	**Makanchi**	**40.67**	**315**	*e*P	**P**	**08 33 34.3 0.0**
	comp=Z,82nm,0.9s					
MAKZ				LR	LR	
	comp=Z,2μm,18.0s					
MAKZ	**Makanchi**	**40.67**	**315**	P	**P**	**08 33 33.7 -0.6**
MAKZ				pmax	pmax	
	comp=Z,60nm,0.8s					
MA2	**Magadan**	**40.82**	**21**	*e*P	**P**	**08 33 34.9 -0.5**
	comp=Z,30nm,0.9s					
MA2				LR	LR	
	comp=Z,1μm,20.0s					
MA2	**Magadan**	**40.82**	**21***ce*P		**P**	**08 33 34.7 -0.6**
MA2				pmax	pmax	
	comp=Z,38nm,1.0s					
MA2	**Magadan**	**40.82**	**21**	P	**P**	**08 33 34.0 -1.4**
	comp=Z,29nm,1.0s,baz=226,slow=9.0,SNR=18					
DDI	**Dehra Dun**	**41.06**	**290**	*e*P	**P**	**08 33 36.6 -1.2**
SHLS	**Shalkode**	**41.30**	**309**	*e*P	**P**	**08 33 36.5 -3.2**
SHLS				*e*S	**S**	**08 39 51.2 -1.3**
SHLS				pmax	pmax	
	comp=Z,54nm,0.8s					
SHLS				smax	smax	
	comp=N,47nm,2.7s					
SHLS				MLR	MLR	
	comp=Z,403nm,14.0s					
SHLS	**Shalkode**	**41.30**	**309**	*e*P	**P**	**08 33 36.6 -3.2**
	comp=Z,54nm,0.8s					
SHLS				*e*S	**S**	**08 39 51.2 -1.3**
	comp=Z,47nm,2.7s					
SHLS				*e*LR	LR	08 53 18.7
	comp=Z,403nm,13.6s					
PDGK	**Podgornoye**	**41.32**	**310**	P	**P**	**08 33 40.4 +0.5**
PDGK				pmax	pmax	
	comp=Z,235nm,0.9s					
FITZ	**Fitzroy Crossi**	**41.34**	**177**	*e*P	**P**	**08 33 39.6 -0.3**
	comp=Z,72nm,0.8s					
COEN	**Coen**	**41.78**	**151**	*e*P	**P**	**08 33 43.1 -0.5**
	comp=Z,181nm,1.1s					
SMLA	**Simla**	**41.80**	**291**	*e*P	**P**	**08 33 44.2 +0.4**
SATY	**Saty**	**42.03**	**309***ce*P		**P**	**08 33 46.5 +0.9**
SATY				*e*S	**S**	**08 40 05.0 +1.7**
SATY				pmax	pmax	
	comp=Z,143nm,1.1s					
SATY				smax	smax	
	comp=N,52nm,4.4s					
SATY				MLR	MLR	
	comp=Z,257nm,13.0s					
SATY	**Saty**	**42.03**	**309**⇑	*e*P	**P**	**08 33 46.6 +0.9**
	comp=Z,143nm,1.1s					
SATY				*e*S	**S**	**08 40 05.0 +1.7**
	comp=Z,52nm,4.4s					
SATY				*e*LR	LR	08 51 15.4
	comp=Z,257nm,13.1s					
ZALV	**Zalesovo Beam**	**42.12**	**326**	P	**P**	**08 33 45.0 -1.0**
	comp=Z,106nm,0.7s,baz=109,slow=7.7,SNR=341					
ZALV				LR	LR	08 53 43.0
	comp=Z,1μm,18.8s,baz=91,slow=40					
ZAA1	**Zalesovo Array**	**42.12**	**326**	*e*P	**P**	**08 33 45.0 -1.0**
TARG	**Taragay, Kyrgy**	**42.19**	**307**	*e*P	**P**	**08 33 48.1 +0.7**
	comp=Z,123nm,1.1s					
TARG				LR	LR	
	comp=Z,1μm,21.0s					
BHPL	**Bhopal**	**42.33**	**279**	*e*P	**P**	**08 33 48.1 -0.1**
BHPL				IAmb	IAmb	08 33 53.3
MDRS	**Chennai**	**42.38**	**264**	*e*P	**P**	**08 33 47.5 -1.1**
MDRS				IAmb	IAmb	08 33 52.3
	comp=Z,33nm,0.5s					
TDK	**Taldyqorghan**	**42.50**	**312**	*e*P	**P**	**08 33 49.5 +0.2**
TDK				*e*S	**S**	**08 40 10.1 +0.2**
TDK				pmax	pmax	
	comp=Z,138nm,0.9s					
TDK				smax	smax	
	comp=N,390nm,11.7s					
TDK				MLR	MLR	
	comp=Z,1μm,20.0s					
TDK	**Taldygorghan**	**42.50**	**312**	*e*P	**P**	**08 33 49.5 +0.2**
	comp=Z,138nm,0.9s					
TDK				*e*S	**S**	**08 40 10.1 +0.2**
	comp=Z,390nm,11.7s					
TDK				*e*LR	LR	08 52 18.2
	comp=Z,1μm,19.8s					
DHRM	**DHARAMSHALA**	**42.53**	**293**	*e*P	**P**	**08 33 49.0 -0.9**
HYB	**Hyderabad**	**42.59**	**271**	*i* P	**P**	**08 33 52.0 +1.6**
HYB	**Hyderabad**	**42.59**	**271**	*e*P	**P**	**08 33 50.0 -0.4**
HYB				IAmb	IAmb	08 33 52.2
	comp=Z,21nm,0.3s					
KDJ	**Kajisay**	**42.73**	**307**	*e*P	**P**	**08 33 52.3 +0.9**
	comp=Z,209nm,0.9s					
KDJ				LR	LR	
	comp=Z,3μm,22.0s					
MDOK	**Medeo**	**43.02**	**309**	*e*P	**P**	**08 33 54.8 +1.0**
MDOK				*e*S	**S**	**08 40 19.1 +1.2**
MDOK				pmax	pmax	
	comp=Z,1μm,0.8s					
MDOK				smax	smax	
	comp=N,329nm,5.9s					
MDOK				MLR	MLR	
	comp=Z,787nm,23.0s					
MDOK	**Medeo**	**43.02**	**309**	*e*P	**P**	**08 33 54.8 +1.0**
	comp=Z,1μm,0.8s					
MDOK				*e*S	**S**	**08 40 19.1 +1.2**
	comp=Z,329nm,5.9s					
MDOK				*e*LR	LR	08 51 39.8
	comp=Z,787nm,23.2s					
TNSS	**Tian-Shan**	**43.07**	**309**⇑	*e*P	**P**	**08 33 55.8 +1.3**
TNSS				pmax	pmax	
	comp=Z,223nm,0.9s					
TNSS	**Tian-Shan**	**43.07**	**309**⇑	*e*P	**P**	**08 33 55.8 +1.3**
	comp=Z,222nm,0.9s					
AAA	**Alma-Ata**	**43.13**	**309**	*e*P	**P**	**08 33 54.6 +0.1**
AAA				*e*S	**S**	**08 40 20.7 +1.4**
AAA				pmax	pmax	
	comp=Z,71nm,1.0s					
AAA				smax	smax	
	comp=N,284nm,8.2s					
AAA				MLR	MLR	
	comp=Z,806nm,21.0s					
AAA	**Alma-Ata**	**43.13**	**309**	*e*P	**P**	**08 33 54.7 +0.1**
	comp=Z,70nm,1.0s					
AAA				*e*S	**S**	**08 40 20.7 +1.4**
	comp=Z,284nm,8.2s					
AAA				*e*LR	LR	08 51 43.3
	comp=Z,806nm,20.8s					
KSH	**Kashi**	**43.22**	**303**	P	**P**	**08 33 59.8 +4.4**
KSH				pP	sP	08 34 04.3 -0.7
KSH				PP	**PcP**	**08 35 42.1 -2.3**
KSH				S	**S**	**08 40 27.3 +6.4**
KSH				SS	**SS**	**08 43 34.6 +0.3**
KSH				pmax	pmax	
	comp=Z,100nm,1.1s					
KSH				LR	LR	
	comp=Z,760nm,8.1s					
KSH				LR	LR	
	comp=Z,650nm,8.8s					
KSH				LR	LR	
	comp=Z,2μm,11.6s					
NVS	**Novosibirsk**	**43.37**	**327**⇓	*i*P	**P**	**08 33 55.7 -0.4**
NVS				*i*		08 35 39.1
NVS				*i* S	**S**	**08 40 22.4 +0.2**
NVS				pmax	pmax	
	comp=Z,77nm,1.1s					
NVS				pmax	pmax	
	comp=N,18nm,0.7s					
NVS				pmax	pmax	
	comp=E,28nm,0.6s					
NVS				smax	smax	
	comp=N,2.0nm,0.6s					
NVS				smax	smax	
	comp=E,19nm,1.2s					
ULHL	**Ulahol**	**43.43**	**307**	P	**P**	**08 33 59.1 +1.9**
	SNR=6.7					
NRN	**Naryn**	**43.47**	**306**	*e*P	**P**	**08 33 58.4 +0.8**
	comp=E,302nm,0.9s					
NRN				LR	LR	
	comp=Z,2μm,22.0s					
KUU	**Kurty**	**43.68**	**310***c i*P		**P**	**08 33 59.7 +0.8**
KUU				*e*S	**S**	**08 40 25.6 -1.7**
KUU				pmax	pmax	
	comp=Z,139nm,0.8s					
KUU				smax	smax	
	comp=N,310nm,7.5s					
KUU	**Kurty**	**43.68**	**310**⇑	*i*P	**P**	**08 33 59.7 +0.8**
	comp=N,139nm,0.8s					
KUU				*e*S	**S**	**08 40 25.6 -1.7**
	comp=N,310nm,7.5s					
BOOM	**Boomskoye usch**	**43.70**	**308**	*e*P	**P**	**08 34 00.4 +1.1**
	comp=N,65nm,0.9s					
BOOM				LR	LR	
	comp=Z,2μm,21.0s					
SEY	**Seymchan**	**43.91**	**18**⇓	*i*P	**P**	**08 34 00.3 -0.1**
SEY	**Seymchan**	**43.91**	**18**	P	**P**	**08 33 59.8 -0.7**
	comp=Z,23nm,0.8s,baz=228,slow=5.7,SNR=47					
TKM2	**Tokmak 2**	**44.02**	**308**	P	**P**	**08 34 03.5 +1.6**
	SNR=188					
TKM2	**Tokmak 2**	**44.02**	**308**	P	**P**	**08 34 03.3 +1.4**
TKM2				pmax	pmax	
	comp=Z,282nm,0.9s					
KURK	**Kurchatov**	**44.13**	**320**	*e*P	**P**	**08 34 02.0 -0.4**
	comp=Z,137nm,1.0s					
KURK				LR	LR	
	comp=Z,1μm,18.0s					
KURK	**Kurchatov**	**44.13**	**320***c i*P		**P**	**08 34 02.0 -0.4**
KURK				pmax	pmax	
	comp=Z,176nm,1.3s					
KURK	**Kurchatov**	**44.13**	**320**	P	**P**	**08 34 02.2 -0.2**
	SNR=59					
KZA	**Kyzart**	**44.13**	**307**	P	**P**	**08 34 05.1 +2.0**
	SNR=78					
KURBB	**Kurchatov Arra**	**44.15**	**320**	P	**P**	**08 34 02.0 -0.5**
	comp=Z,56nm,0.9s,baz=107,slow=8.0,SNR=230					
LATR	**Latur**	**44.16**	**273**	*ex*	x	08 33 27.4
PALK	**Pallekele**	**44.26**	**256**	*e*P	**P**	**08 34 04.1 +0.2**
	comp=Z,40nm,0.9s					
PALK				LR	LR	
	comp=Z,1μm,22.0s					
WRAB	**Tennant Creek**	**44.35**	**166**	*e*P	**P**	**08 34 04.1 -0.3**
	comp=Z,102nm,1.0s					
WRAB	**Tennant Creek**	**44.35**	**166**⇓	*e*P	**P**	**08 34 04.8 +0.4**
WRAB				pmax	pmax	
	comp=Z,54nm,1.7s					
WR1	**Warramunga Arr**	**44.36**	**166**	*e*P	**P**	**08 34 04.1 -0.4**
WRA	**Warramunga Arr**	**44.36**	**166**	P	**P**	**08 34 04.1 -0.4**
	comp=Z,19nm,0.7s,baz=348,slow=9.5,SNR=48					
WB2	**Warramunga Arr**	**44.36**	**166**	*e*P	**P**	**08 34 04.2 -0.3**
	comp=Z,106nm,0.9s					
KBK	**Karagaybulak**	**44.45**	**308**	P	**P**	**08 34 07.0 +1.8**
	SNR=102					
CHMS	**Chumysh**	**44.65**	**308**	P	**P**	**08 34 08.0 +1.3**
	SNR=77					
UCH	**Uchtor**	**44.70**	**307**	P	**P**	**08 34 09.7 +2.1**
	SNR=346					
FRU1	**Bishkek**	**44.70**	**308**	*e*P	**P**	**08 34 07.7 +0.6**
	comp=Z,147nm,0.9s					
FRU1				LR	LR	
	comp=Z,2μm,21.0s					
AAK	**Ala-Archa**	**44.77**	**308**	P	**P**	**08 34 09.3 +1.5**
	SNR=46					
AAK	**Ala-Archa**	**44.77**	**308**	*e*P	**P**	**08 34 08.3 +0.4**
	comp=Z,80nm,0.8s					
AAK				LR	LR	
	comp=Z,2μm,18.0s					
AAK	**Ala-Archa**	**44.77**	**308**	P	**P**	**08 34 08.9 +1.0**
AAK				pmax	pmax	
	comp=Z,82nm,0.9s					
USP	**Ospenovka**	**44.87**	**308**	P	**P**	**08 34 09.6 +1.0**
	SNR=39					
PSA00	**Pilbara Seismi**	**44.91**	**185**	*e*P	**P**	**08 34 08.2 -0.6**
	comp=Z,86nm,1.0s					
PSAD2	**Pilbara Seismi**	**44.94**	**185**	PFAKE		08 34 20.0 +11
PSAD2				LR	LR	
	comp=Z,1μm,21.0s					
NIL	**Nilore**	**45.08**	**295**	*e*P	**P**	**08 34 10.6 +0.3**
	comp=Z,102nm,0.9s					
NIL				LR	LR	
	comp=Z,899nm,20.0s					
AML	**Almayashu**	**45.28**	**307**	P	**P**	**08 34 13.8 +1.6**
	SNR=47					
EKS2	**Erkin-Say**	**45.30**	**307**	P	**P**	**08 34 13.4 +1.4**
	SNR=73					
ARSB	**Arslanbob**	**45.71**	**305**	*e*P	**P**	**08 34 15.5 +0.3**
POO	**Poona**	**46.61**	**274**	*e*P	**P**	**08 34 23.0 +0.5**
POO				IAmb	IAmb	08 34 24.0
	comp=Z,37nm,0.6s					
TRD	**Trivandrum**	**47.09**	**260**	*e*P	**P**	**08 34 25.1 -1.2**
DZA	**Taraz**	**47.12**	**307**	*e*P	**P**	**08 34 26.1 0.0**
DZA				pmax	pmax	
	comp=Z,22nm,0.6s					
DZA	**Taraz**	**47.12**	**307**	*e*P	**P**	**08 34 26.1 0.0**
	comp=Z,22nm,0.6s					
BTK	**Batken**	**47.23**	**304**	*e*P	**P**	**08 34 27.4 +0.2**
	comp=Z,133nm,1.5s					
OTUK	**Ortayu**	**47.34**	**315**	P	**P**	**08 34 28.2 +0.4**
OTUK				pmax	pmax	
	comp=Z,109nm,1.0s					
GOA	**Goa**	**47.48**	**270**	*e*P	**P**	**08 34 27.6 -1.7**
GOA				IAmb	IAmb	08 34 31.9
	comp=Z,28nm,0.8s					
GAR	**Garm**	**47.55**	**302**	*e*P	**P**	**08 34 30.3 +0.5**
	comp=Z,282nm,1.1s					
GAR				LR	LR	
	comp=Z,4μm,18.0s					
JBG	**Jabagly**	**47.64**	**307**	*e*P	**P**	**08 34 30.1 -0.3**
JBG				pmax	pmax	
	comp=Z,31nm,1.1s					
KK31	**Karatay Array**	**47.74**	**308**	*e*P	**P**	**08 34 31.3 +0.3**
	comp=Z,44nm,0.8s					
KK31				*e*PcP	**PcP**	**08 35 60.0 0.0**
KK31	**Karatay Array**	**47.74**	**308**	*i* P	**P**	**08 34 31.3 +0.3**
KK31				pmax	pmax	
	comp=Z,26nm,0.7s					
KKAR	**Karatay Array**	**47.74**	**308**	*e*P	**P**	**08 34 31.4 +0.5**
	comp=Z,44nm,0.8s					
KKAR				*e*PcP	**PcP**	**08 36 00.1 +0.2**
AS31	**Alice Springs**	**47.87**	**167**	*e*P	**P**	**08 34 32.2 +0.1**
	comp=Z,13nm,0.8s					
ASAR	**Alice Springs**	**47.87**	**167**	*e*P	**P**	**08 34 31.9 -0.3**
ASAR	**Alice Springs**	**47.87**	**167**	P	**P**	**08 34 32.5 +0.3**
	comp=Z,6.6nm,0.8s,baz=354,slow=11,SNR=42					
ASAR				LR	LR	08 55 38.6
	comp=Z,141nm,20.3s,baz=4.5,slow=37					
SMY	**Shemya**	**47.93**	**39**	*e*P	**P**	**08 34 33.0 +0.8**
	comp=Z,237nm,1.1s					
IUG	**Iuzhnay**	**47.99**	**306**	*e*P	**P**	**08 34 33.7 +0.7**
IUG				pmax	pmax	
	comp=Z,98nm,1.1s					
IUG	**Iuzhnay**	**47.99**	**306**	*e*P	**P**	**08 34 33.8 +0.7**
	comp=Z,98nm,1.1s					
TIXI	**Tiksi**	**48.32**	**2**	*e*P	**P**	**08 34 33.6 -1.3**
TIXI	**Tiksi**	**48.32**	**2***c i*P		**P**	**08 34 33.1 -1.9**
TIXI				pmax	pmax	
	comp=Z,105nm,1.0s					
TIXI	**Tiksi**	**48.32**	**2**	P	**P**	**08 34 33.3 -1.7**

comp=Z,97nm,1.0s,baz=156,slow=5.3,SNR=114
CHM Chimkent 48.32 306 *e*P **P 08 34 36.5 +1.0**
CHM pmax pmax
comp=Z,36nm,1.0s
CHM Chimkent 48.32 306 *e*P **P 08 34 36.6 +1.0**
comp=Z,36nm,1.0s
CHGR Chuyangaron 48.44 302 PFAKE 08 34 50.0 +13
CHGR LR LR
comp=Z,4μm,22.0s
CTAO Charters Tower 48.55 151 *e*P **P 08 34 37.3 -0.1**
comp=Z,42nm,1.0s
KBL Kabul 48.55 296 *e*P **P 08 34 37.6 0.0**
comp=Z,156nm,1.3s
KBL LR LR
comp=Z,1μm,19.0s
BHJ Bhuj 49.35 281 *e*P **P 08 34 42.5 -1.2**
BHJ IAmb IAmb 08 34 46.7
comp=Z,290nm,2.2s
BVAR Borovoye Array 49.70 321 P **P 08 34 45.8 0.0**
comp=Z,35nm,0.6s,baz=104,slow=7.7,SNR=166
BVAR PcP **PcP 08 36 06.5 -0.2**
comp=Z,7.8nm,0.6s,baz=108,slow=3.9,SNR=2.9
BRVK Borovoye 49.77 321 *e*P **P 08 34 46.3 -0.1**
comp=Z,76nm,0.8s
BRVK LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 49.77 321*c i*P **P 08 34 46.7 +0.4**
BRVK pmax pmax
comp=Z,92nm,0.9s
BRVK Borovoye 49.77 321 P **P 08 34 46.7 +0.4**
SNR=52
NRIK Noril'sk 50.72 344 P **P 08 34 52.4 -0.9**
comp=Z,82nm,0.9s,baz=128,slow=7.7,SNR=93
NRIK LR LR 08 59 18.5
comp=Z,3μm,18.3s,baz=152,slow=40
MNCY Minicoy 50.74 261 *e*P **P 08 34 53.1 -1.2**
BILL Bilibino 51.61 19 *e*P **P 08 34 59.5 -0.6**
comp=Z,39nm,0.8s
BILL Bilibino 51.61 19*c i*P **P 08 34 59.4 -0.6**
BILL *e* 08 36 58.5
BILL *e*S **S 08 42 21.2 +2.1**
BILL pmax pmax
comp=Z,52nm,1.0s
BILL MLR MLR
comp=Z,2μm,20.0s
MIDW Midway 52.83 72 *e*P **P 08 35 10.3 +0.7**
comp=Z,76nm,0.7s
ADK Adak 53.25 42 *e*P **P 08 35 13.7 +1.2**
comp=Z,166nm,1.3s
GSTR Great Sitkin T 53.66 42 *e*P **P 08 35 16.6 +1.1**
FORT Forrest 54.08 175 *e*P **P 08 35 18.3 -0.4**
comp=Z,181nm,1.2s
EIDS Eidsvold 55.31 150 *e*P **P 08 35 27.7 0.0**
comp=Z,18nm,0.8s
EIDS LR LR
comp=Z,600nm,20.0s
AB31 Akbulak array 55.59 315 *i* P **P 08 35 30.3 +0.8**
AB31 pmax pmax
comp=Z,195nm,0.7s
ABKAR Akbulak array 55.59 315 *e*P **P 08 35 29.9 +0.4**
comp=Z,271nm,0.8s
ABKAR *e*P **P 08 35 30.0 +0.4**
SVE Sverdlovsk 55.99 324*d i*P **P 08 35 32.8 +0.5**
SVE pmax pmax
comp=Z,408nm,1.2s
SVE MLR MLR
comp=Z,1μm,16.0s
AKTO Aktyubinsk 56.90 316 P **P 08 35 39.0 +0.2**
comp=Z,64nm,0.9s,baz=90,slow=7.5,SNR=120
ARU Arti 57.07 323 *e*P **P 08 35 39.7 -0.2**
comp=Z,260nm,0.9s
ARU LR LR
comp=Z,700nm,19.0s
ARU Arti 57.07 323*d i*P **P 08 35 40.0 +0.1**
ARU 08 36 31.1
ARU 08 37 45.4
ARU S **S 08 43 38.0 +5.0**
ARU 08 45 26.7
ARU SS **SS 08 47 16.3 -5.3**
ARU pmax pmax
comp=Z,390nm,1.2s
ARU MLR MLR
comp=Z,598nm,14.0s
ARU Arti 57.07 323 P **P 08 35 39.9 -0.1**
comp=Z,58nm,0.6s,baz=100,slow=3.1,SNR=217
GEYT Alibeck 57.15 301 P **P 08 35 42.3 +1.4**
comp=Z,38nm,0.8s,baz=79,slow=3.2,SNR=69
GEYT LR LR 09 01 22.7
comp=Z,2μm,21.1s,baz=65,slow=37
GYA0B ALIBECK ARRAY 57.15 301 *e*P **P 08 35 41.6 +0.8**
comp=Z,62nm,0.9s
GYA0B LR LR
comp=Z,2μm,21.0s
STKA Stephens Creek 57.62 162 *e*P **P 08 35 44.2 +0.2**
comp=Z,7.3nm,0.9s
STKA Stephens Creek 57.62 162 P **P 08 35 43.7 -0.3**
comp=Z,5.3nm,0.8s,baz=331,slow=6.3,SNR=8.2
STKA LR LR 09 01 43.1
comp=Z,602nm,19.5s,baz=349,slow=37
GAMB Gambell 58.03 28 *e*P **P 08 35 47.1 +0.5**
comp=Z,72nm,1.0s
GAMB LR LR
comp=Z,700nm,20.0s
BIDO Bidbid 59.62 284 P **P 08 36 00.3 +2.0**
SNR=19
BIDO P **P 08 36 00.3 +2.0**
SNR=19
MHTO MHTO 60.41 282 P **P 08 36 04.1 +0.4**
SNR=12
MHTO P **P 08 36 04.1 +0.4**
SNR=12
SHME Shamm 60.77 288 P **P 08 36 09.2 +3.0**
SOHO SOHO 60.88 285 P **P 08 36 08.4 +1.4**
SNR=15
SOHO P **P 08 36 08.4 +1.4**
SNR=15
ANM Nome 60.90 28 *e*P **P 08 36 07.1 +0.8**
comp=Z,67nm,0.9s
MSFE Esma-Masafi 60.91 287 P **P 08 36 09.2 +2.0**
HATD Hatta, Dubai 61.07 286 *i* P **P 08 36 10.1 +1.8**
SNR=6.6
HATD Hatta, Dubai 61.07 286 P **P 08 36 10.0 +1.8**
SNR=15
HATD P **P 08 36 10.0 +1.8**
SNR=15
ASHO Ashiyiah 61.17 286 P **P 08 36 10.1 +1.2**
ASHO Ashiyiah 61.17 286 P **P 08 36 10.0 +1.1**
SNR=9.9
ASHO P **P 08 36 10.0 +1.1**
SNR=9.9
NAZ Nazwa, Dubai 61.44 287 *i* P **P 08 36 12.0 +1.2**
SNR=6.2
DZM Mont Dzumac 61.46 134 *e*P **P 08 36 13.9 +3.0**
comp=Z,69nm,1.1s
DZM Mont Dzumac 61.46 134 *e*LR LR 08 54 25.4
comp=Z,2μm,29.2s
FAQ Al Faqa, Dubai 61.56 286 *i* P **P 08 36 12.7 +1.1**
SNR=5.5
ALNE Al Ain 61.59 286 *i* P **P 08 36 13.2 +1.4**
SNR=5.3
ASUD Al Ashush, Dub 61.82 286 P **P 08 36 14.4 +1.1**
KIRV Kirov 62.13 325 P **P 08 36 14.9 +0.2**
comp=Z,429nm,0.8s,baz=90,slow=2.8,SNR=182
RDOG Red Dog Mine 62.27 24 *e*P **P 08 36 16.1 +0.5**
comp=Z,44nm,0.9s
RDOG LR LR
comp=Z,900nm,22.0s
SDPT Sand Point 63.05 38 *e*P **P 08 36 21.9 +0.9**
comp=Z,177nm,0.7s
PRGR Permogore 64.00 329⇑*i*P **P 08 36 27.1 0.0**
PRGR *i* 08 36 39.6
PRGR pmax pmax
comp=Z,332nm,0.7s
TOO Toolangi 64.07 161 *e*P **P 08 36 27.9 0.0**
comp=Z,29nm,0.9s
MAK Makhachkala 64.55 308 *e*P P 08 36 26.2 -4.9
MAK *e*S **S 08 45 04.3 -4.6**
MAK *e*SS **SS 08 49 15.4 -3.9**
MAK pmax pmax
comp=Z,278nm,1.8s
MAK MLR MLR
comp=Z,928nm,20.0s
SVW2 Sparrevohn 65.31 32 *e*P **P 08 36 36.8 +1.0**
comp=Z,42nm,0.9s
ABTO Aybut 65.69 279 P **P 08 36 40.6 +1.7**
SNR=5.8
IMAR Indian Mountai 65.82 26 *e*P **P 08 36 39.6 +0.7**

CAST Castle Rocks 66.74 29 *e*P **P 08 36 45.8 +0.9**
comp=Z,82nm,0.8s
CAST LR LR
comp=Z,1μm,22.0s
RSO Redoubt South 66.75 32 *e*P **P 08 36 45.8 +0.6**
TBLG Delisi 66.79 307 *e*P **P 08 36 45.7 +0.1**
comp=Z,35nm,1.0s
OHAK Old Harbor 66.88 36 *e*P **P 08 36 46.3 +0.5**
comp=Z,41nm,0.8s
KLMR Klimovskoe 67.00 328 *e*P **P 08 36 43.4 -3.1**
KLMR pmax pmax
comp=Z,155nm,0.9s
SPU Mount Spurr 67.00 32 *e*P **P 08 36 47.3 +0.7**
GNI Garni 67.10 305 *e*P **P 08 36 48.6 +0.8**
comp=Z,103nm,1.1s
GNI LR LR
comp=Z,700nm,22.0s
GNI Garni 67.10 305 *i* P **P 08 36 49.4 +1.6**
SNR=8.8
GNI Garni 67.10 305*c i*P **P 08 36 49.3 +1.5**
GNI pmax pmax
comp=Z,232nm,1.2s
GNI Garni 67.10 305 P **P 08 36 49.2 +1.3**
SNR=18
GNI Garni 67.10 305 P **P 08 36 49.1 +1.3**
comp=Z,38nm,0.9s,baz=175,slow=1.2,SNR=26
GNI LR LR 09 08 21.8
comp=Z,680nm,21.2s,baz=84,slow=38
COLD Coldfoot 67.13 25 *e*P **P 08 36 48.3 +1.1**
comp=Z,19nm,0.8s
COLD LR LR
comp=Z,700nm,19.0s
BPAW Bear Paw Mtn. 67.15 28 *e*P **P 08 36 48.4 +0.9**
comp=Z,52nm,0.8s
MLY Manley 67.15 27 *e*P **P 08 36 48.5 +1.0**
comp=Z,53nm,0.8s
MLY LR LR
comp=Z,1μm,20.0s
VRH Novokhopyorsk 67.15 317 *e*P **P 08 36 47.4 -0.3**
VRH pmax pmax
comp=Z,220nm,1.2s
KDAK Kodiak Island 67.18 35 *e*P **P 08 36 48.1 +0.4**
comp=Z,111nm,1.2s
KDAK Kodiak Island 67.18 35 P **P 08 36 48.1 +0.4**
comp=Z,38nm,0.8s,baz=124,slow=2.9,SNR=22
ZEI Tsey 67.19 308 *e*P **P 08 36 45.4 -3.0**
ZEI pmax pmax
comp=Z,95nm,0.9s
TOLK Toolik Lake Re 67.21 23 *e*P **P 08 36 48.8 +0.9**
comp=Z,66nm,0.8s
TOLK LR LR
comp=Z,2μm,22.0s
TOLK Toolik Lake Re 67.21 23 P **P 08 36 49.3 +1.4**
baz=276
NCK Nalchik 67.27 309⇓*e*P **P 08 36 49.5 +0.9**
NCK pmax pmax
comp=Z,28nm,0.5s
TMCR Tamitsa 67.28 332 *e*P **P 08 36 47.9 -0.3**
TMCR pmax pmax
comp=Z,131nm,0.9s
KBZ Khabaz 67.72 309 P **P 08 36 52.3 +0.9**
comp=Z,97nm,0.9s,baz=90,slow=6.1,SNR=128
KBZ LR LR 09 08 37.9
comp=Z,1μm,21.6s,baz=66,slow=38
AKH Akhalkalaki 67.77 307 *e*P **P 08 36 53.4 +1.4**
comp=Z,125nm,1.1s
AKH LR LR
comp=Z,1μm,20.0s
AKH Akhalkalaki 67.77 307⇓*i*P **P 08 36 53.7 +1.7**
BRLK Bradley Lake 67.77 33 *e*P **P 08 36 51.3 -0.2**
comp=Z,96nm,0.9s
BWN Browne 67.80 28 *e*P **P 08 36 52.9 +1.4**
comp=Z,100nm,0.8s
KIV Kislovodsk 67.83 310 *e*P **P 08 36 53.0 +0.8**
comp=Z,133nm,0.9s
KIV LR LR
comp=Z,1μm,20.0s
KIV Kislovodsk 67.83 310⇑*i*P **P 08 36 53.3 +1.1**
KIV Kislovodsk 67.83 310 *i* P **P 08 36 53.1 +0.9**
SNR=23
KIV Kislovodsk 67.83 310 *e*P **P 08 36 53.3 +1.1**
KIV pmax pmax
comp=Z,452nm,1.0s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 67.83 310 P **P 08 36 53.2 +0.9**
SNR=49
KIV P **P 08 36 53.2 +0.9**
SNR=49
NEY Neytrino 67.95 309⇓*e*P **P 08 36 54.7 +1.6**
NEY pmax pmax
comp=Z,20nm,0.8s
MCK McKinley 68.10 29 *e*P **P 08 36 53.8 +0.3**
comp=Z,77nm,0.9s
MCK LR LR
comp=Z,1μm,20.0s
RC01 Rabbit Creek A 68.13 32 *e*P **P 08 36 53.9 +0.2**
comp=Z,38nm,0.8s
LVZ Lovozero 68.16 336 *e*P **P 08 36 53.9 +0.1**
comp=Z,63nm,0.9s
LVZ LR LR
comp=Z,2μm,20.0s
LVZ Lovozero 68.16 336*ce*P **P 08 36 53.6 -0.2**
LVZ pmax pmax
comp=Z,44nm,1.0s
MDM Murphy Dome 68.22 27 *e*P **P 08 36 55.1 +0.9**
comp=Z,128nm,0.8s
PMR Palmer 68.34 31 *e*P **P 08 36 55.1 +0.1**
comp=Z,44nm,0.8s
WRH Wood River Hil 68.35 28 *e*P **P 08 36 55.6 +0.6**
comp=Z,58nm,1.0s
WRH LR LR
comp=Z,1μm,20.0s
TCOL CIGO, UAF Yank 68.38 27 P **P 08 36 55.9 +0.7**
baz=279
COLA College 68.39 27 *e*P **P 08 36 55.7 +0.5**
comp=Z,63nm,0.8s
COLA College 68.39 27*c i*P **P 08 36 55.6 +0.4**
COLA pmax pmax
comp=Z,36nm,0.8s
GHO Glory Hole Cre 68.41 31 *e*P **P 08 36 55.9 +0.4**
comp=Z,59nm,0.9s
SEW Seward 68.43 33 *e*P **P 08 36 55.7 +0.2**
comp=Z,71nm,1.0s
CCB Clear Creek Bu 68.44 28 *e*P **P 08 36 55.8 +0.2**
comp=Z,32nm,1.0s
CCB LR LR
comp=Z,800nm,19.0s
POKR Poker Plat Res 68.52 27 P **P 08 36 57.7 +1.6**
baz=279
LPSR Galich'ya Gora 68.61 319 *e*P **P 08 36 56.7 -0.1**
LPSR pmax pmax
comp=Z,210nm,1.0s
VORR Voronezh 68.62 318 *e*P **P 08 36 56.0 -0.9**
VORR pmax pmax
comp=Z,350nm,1.2s
APA Apatity 68.68 336⇑*i*P **P 08 36 56.3 -0.7**
APA pmax pmax
comp=Z,74nm,0.9s
APA MLR MLR
comp=Z,2μm,19.0s
SML Sawmill 68.68 31 *e*P **P 08 36 57.6 +0.5**
comp=Z,77nm,0.9s
KNK Knik Glacier 68.69 31 *e*P **P 08 36 57.7 +0.5**
comp=Z,109nm,0.8s
KNK LR LR
comp=Z,800nm,22.0s
VORD Divnogorie 68.70 318 *e*P **P 08 36 57.1 -0.3**
VORD pmax pmax
comp=Z,90nm,1.0s
VSR Storozhevoye 68.73 318 *e*P **P 08 36 56.6 -1.0**
VSR pmax pmax
comp=Z,170nm,1.1s
MOS Moscow 68.78 323 *e*P **P 08 36 54.9 -2.9**
MOS *e* 08 37 10.5
MOS *e*S **S 08 45 54.6 -5.0**
MOS *e* 08 46 47.2
MOS pmax pmax
comp=Z,105nm,1.2s
MOS pmax pmax
comp=Z,500nm,2.3s
MOS smax smax
comp=N,400nm,3.1s
MOS MLR MLR
comp=Z,1μm,18.0s
ILAR Eielson Array 68.81 27 P **P 08 36 57.4 -0.5**
comp=Z,8.2nm,0.7s,baz=282,slow=6.3,SNR=69

ILB Eielson Array 68.81 27 *e*P **P 08 36 57.3 -0.5**
comp=Z,19nm,0.8s
HDA Harding Lake 68.85 28 *e*P **P 08 36 57.9 -0.2**
comp=Z,62nm,0.9s
HDA Harding Lake 68.85 28 P **P 08 36 57.9 -0.2**
baz=280
DHY Denali Highway 68.90 29 *e*P **P 08 36 58.7 +0.1**
comp=Z,39nm,0.9s
BATM Batumi 69.05 307⇑*i*P **P 08 37 00.8 +1.0**
BCA Borcka 69.13 307⇑*i*P **P 08 37 01.2 +0.8**
SCM Sheep Creek Mo 69.14 31 *e*P **P 08 37 00.6 +0.5**
comp=Z,130nm,1.0s
PRP Porcupine Dome 69.24 26 *e*P **P 08 37 01.0 +0.3**
comp=Z,24nm,0.7s
PRP LR LR
comp=Z,800nm,19.0s
HOPEN Hopen 69.39 346 *e*P **P 08 37 02.5 +1.3**
GLI Glacier Island 69.44 31 *e*P **P 08 37 02.1 +0.3**
comp=Z,51nm,0.8s
GLI LR LR
comp=Z,600nm,19.0s
OBN Obninsk 69.49 322 *e*P **P 08 37 01.8 -0.5**
comp=Z,71nm,0.9s
OBN LR LR
comp=Z,800nm,21.0s
OBN Obninsk 69.49 322*c i*P **P 08 37 01.8 -0.5**
OBN *e**SP **pP 08 37 08.2 -1.3**
OBN 08 37 27.0
OBN *e*S **S 08 46 04.8 -3.2**
OBN *e* 08 46 42.9
OBN pmax pmax
comp=Z,111nm,1.5s
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 69.49 322 P **P 08 37 01.7 -0.5**
comp=Z,7.9nm,0.5s,baz=70,slow=3.6,SNR=16
OBN LR LR 09 10 48.3
comp=Z,160nm,18.9s,baz=80,slow=39
PAX Paxson 69.77 29 *e*P **P 08 37 04.3 +0.3**
comp=Z,36nm,0.7s
RIDG Independent Ri 69.89 28 *e*P **P 08 37 04.8 +0.2**
comp=Z,78nm,0.9s
SOC Sochi 70.01 310 *e*P **P 08 37 04.7 -1.0**
SOC *e* 08 39 38.4
SOC *e*PPP PPP 08 41 19.5
SOC *e*S **S 08 46 12.7 -1.9**
SOC *e*SS **SS 08 50 46.6 +2.9**
SOC pmax pmax
comp=Z,43nm,0.6s
SOC MLR MLR
comp=Z,709nm,17.0s
DIV Divide 70.02 31 *e*P **P 08 37 06.1 +0.6**
comp=Z,74nm,1.0s
HARP HAARP 70.03 30 *e*P **P 08 37 06.3 +0.9**
comp=Z,85nm,0.9s
EYAK Cordova Ski Ar 70.15 32 *e*P **P 08 37 07.0 +0.8**
comp=Z,60nm,1.2s
DOT Dot Lake 70.25 28 *e*P **P 08 37 07.0 +0.2**
comp=Z,78nm,0.9s
KEV Kevo 70.51 338 *e*P **P 08 37 08.2 +0.1**
comp=Z,87nm,0.8s
KEV LR LR
comp=Z,600nm,21.0s
MENT Mentasta 70.56 29 *e*P **P 08 37 09.8 +1.0**
comp=Z,104nm,0.9s
SPA0 Spitsbergen Ar 70.68 348 *e*P **P 08 37 09.4 +0.2**
comp=Z,150nm,0.9s
SPA0 Spitsbergen Ar 70.68 348 *e*P **P 08 37 09.8 +0.6**
SPITS Spitsbergen Ar 70.68 348 P **P 08 37 09.5 +0.2**
comp=Z,72nm,0.7s,baz=110,slow=12,SNR=102
HMT Hamilton 70.92 32 *e*P **P 08 37 11.4 +0.4**
comp=Z,25nm,0.8s
ARCES ARCESS Array B 71.07 338 P **P 08 37 11.8 +0.1**
comp=Z,18nm,0.7s,baz=71,slow=7.8,SNR=37
ARE0 ARCESS Array S 71.07 338 *e*P **P 08 37 12.0 +0.3**
KBS Kingsbay 71.19 349 *e*P **P 08 37 12.5 +0.3**
comp=Z,61nm,0.9s
KBS LR LR
comp=Z,1μm,18.0s
KBS Kingsbay 71.19 349 *e*P **P 08 37 12.6 +0.4**
EGAK Eagle 71.21 27 *e*P **P 08 37 12.8 +0.2**
comp=Z,68nm,0.9s
HSPB Hornsund (broa 71.30 347 *e*P **P 08 37 13.6 +0.7**
HSPB Hornsund (broa 71.30 347 *e*P **P 08 37 14.1 +1.1**
ANN Anapa 71.31 311 *e*P **P 08 37 13.3 -0.2**
ANN *e*S **S 08 46 28.1 -1.5**
ANN pmax pmax
comp=Z,162nm,1.1s
HAMF Hammerfest 71.35 340 *e*P **P 08 37 13.5 +0.2**
TGL Tana Glacier 71.50 31 *e*P **P 08 37 15.1 +0.6**
comp=Z,53nm,1.0s
BALM Baldy 71.66 31 *e*P **P 08 37 16.1 +0.6**
comp=Z,23nm,1.1s
BALM LR LR
comp=Z,700nm,20.0s
KTK1 Kautokeino 72.00 338 *e*P **P 08 37 17.6 +0.4**
DAWY Dawson 72.14 27 *e*P **P 08 37 18.9 +0.6**
comp=Z,59nm,0.9s
CTGM Chitina Glacie 72.15 31 *e*P **P 08 37 19.4 +0.8**
comp=Z,60nm,0.8s
EPYK Eagle Plains 72.52 25 *e*P **P 08 37 20.8 +0.3**
comp=Z,58nm,0.8s
EPYK Eagle Plains 72.52 25 P **P 08 37 21.0 +0.5**
baz=288
INK Inuvik 73.04 22 *e*P **P 08 37 23.9 +0.4**
comp=Z,47nm,0.9s
INK LR LR
comp=Z,1μm,21.0s
INK Inuvik 73.04 22 P **P 08 37 23.7 +0.2**
comp=Z,30nm,0.8s,baz=291,slow=6.2,SNR=53
INK LR LR 09 11 21.4
comp=Z,831nm,21.1s,baz=280,slow=37
TRO Tromso 73.22 339 *e*P **P 08 37 24.0 -0.5**
FIA1 FINESS Array S 73.23 330 *e*P **P 08 37 24.6 -0.1**
comp=Z,57nm,0.9s
FINES FINESS Array B 73.23 330 P **P 08 37 24.7 0.0**
comp=Z,32nm,0.8s,baz=74,slow=6.8,SNR=41
FINES LR LR 09 13 49.7
comp=Z,3μm,18.1s,baz=74,slow=39
KVT Kavak 73.29 308 *e*P **P 08 37 26.8 +1.3**
HAVZ Havza 73.53 308 *i* P **P 08 37 28.9 +2.0**
SIM Simferopol' 73.53 312 *e*P **P 08 37 27.4 +0.6**
SIM *e* 08 37 41.0
SIM *e*S **SKiKP 08 46 56.0 +0.4**
SIM pmax pmax
comp=Z,66nm,1.0s
SNOP Sinop 73.62 309 *e*P **P 08 37 27.7 +0.3**
SNOP Sinop 73.62 309 *e*P **P 08 37 27.3 -0.1**
comp=Z,45nm,1.0s
DIKM Dikmen 73.69 309 *e*P **P 08 37 28.6 +0.8**
DIKM Dikmen 73.69 309⇑*i*P **P 08 37 28.2 +0.4**
KMRS Kahramanmaras 73.69 304 *e*P **P 08 37 29.2 +1.2**
VSU Vasula 73.85 327*c i*P **P 08 37 28.8 +0.4**
VSU pmax pmax
comp=Z,400nm,1.5s
VSU Vasula 73.85 327 *e*P **P 08 37 28.5 +0.1**
VSU IAmb IAmb 08 37 30.4
comp=Z,194nm,0.9s
SEVA Sevastopol 73.95 312⇑*i*P **P 08 37 29.5 +0.2**
HYT Haines Junctio 73.98 30 *e*P **P 08 37 30.3 +1.0**
comp=Z,51nm,1.0s
COAL Corum-Alaca 74.30 307 *i* P **P 08 37 32.2 +0.6**
SIRC Yozgat 74.46 306 *i* P **P 08 37 33.1 +0.6**
BZK Bozkurt 74.50 309⇓*i*P **P 08 37 33.2 +0.7**
MICGM Minsk 74.50 323⇓*e*P **P 08 37 32.0 -0.3**
MICGM PM 08 37 33.0
comp=Z,0.5nm,1.0s
MICGM *e* 08 37 46.0
MICGM *e*LR LR 09 08 13.0
MNK Minsk 74.50 323⇓*e*P **P 08 37 32.0 -0.3**
MNK *e* 08 37 46.0
MNK pmax pmax
comp=Z,510nm,1.0s
KOZT Kozan 74.52 304 *e*P **P 08 37 33.6 +0.9**
SDHHI Sand Hill 74.58 75 PFAKE 08 37 50.0 +16
SDHHI LR LR
comp=Z,2μm,22.0s
CORM Corum 74.58 307 *e*P **P 08 37 34.3 +1.1**
SBLHI Steaming Bluff 74.59 75 PFAKE 08 37 50.0 +16
SBLHI LR LR
comp=Z,2μm,18.0s
BYL Byron's Ledge 74.60 75 PFAKE 08 37 50.0 +16
BYL LR LR
comp=Z,1μm,18.0s
DAMY Dhamar 74.69 279 PFAKE 08 37 50.0 +16
DAMY LR LR

comp=Z,900nm,21.0s
CEYT Ceyhan 74.72 304 *eP* **P 08 37 35.3 +1.4**
IDID Didziasalis 74.86 324 *eP* **P 08 37 35.0 +0.7**
IDID IAmb IAmb 08 37 36.3
comp=Z,60nm,0.8s
YURE YUREGIR 74.86 304 *eP* **P 08 37 36.5 +1.7**
AKASG Malin Array Be 74.94 319 P **P 08 37 34.2 -0.7**
comp=Z,55nm,0.8s,baz=56,slow=6.6,SNR=171
CDAG Cicekdag 74.94 307 *i P* **P 08 37 36.6 +1.3**
KIEV Kiev 74.95 319 *eP* **P 08 37 34.4 -0.6**
comp=Z,69nm,0.9s
KIEV LR LR
comp=Z,700nm,21.0s
KIEV Kiev 74.95 319 ⇓*iP* **P 08 37 34.4 -0.6**
KIEV Kiev 74.95 319 *i P* **P 08 37 34.4 -0.6**
SNR=44
KIEV Kiev 74.95 319*c iP* **P 08 37 34.5 -0.4**
KIEV pmax pmax
comp=Z,75nm,0.9s
NACGM Naroch 74.98 324 *eP* **P 08 37 34.0 -1.0**
NACGM PM 08 37 35.0
comp=Z,0.4nm,1.0s
NACGM *e*LQ LQ 08 59 12.0
NACGM *e*LR LR 09 07 23.0
NACGM LRM MLR 09 14 06.0
comp=Z,2.2nm,15.0s
ILGA Ilgaz 74.98 308 *eP* **P 08 37 35.6 0.0**
comp=Z,31nm,1.0s
ILGA LR LR
comp=Z,800nm,21.0s
IZAR Zarasai 74.98 325 *eP* **P 08 37 35.5 +0.4**
IZAR IAmb IAmb 08 37 37.0
comp=Z,49nm,0.9s
IIGN Ignalina 75.13 324 *eP* **P 08 37 36.4 +0.5**
IIGN IAmb IAmb 08 37 37.9
comp=Z,34nm,0.8s
STEI Steigen 75.14 338 *eP* **P 08 37 35.8 +0.1**
KRTS Karatas 75.14 304 *eP* P 08 37 46.0 +10
DELI KIRIKKALE 75.16 307 *i P* **P 08 37 37.3 +0.8**
PELI Kastamonı-Ara 75.19 309 *i P* **P 08 37 38.0 +1.3**
WHY Whitehorse 75.24 30 *eP* **P 08 37 37.6 +0.9**
comp=Z,46nm,0.9s
ASF Jabal al Asfar 75.33 299 P **P 08 37 38.5 +0.8**
comp=Z,20nm,0.8s,baz=260,slow=1.3,SNR=28
ASF LR LR 09 16 23.4
comp=Z,378nm,18.5s,baz=43,slow=40
ELDT Eldivan 75.36 308 *i P* **P 08 37 38.4 +0.7**
GULE Gulek 75.37 304 *i P* **P 08 37 39.7 +1.8**
BR101 Keskin Array S 75.45 307 *eP* **P 08 37 38.5 +0.2**
BR131 Keskin Array S 75.45 307 P **P 08 37 38.4 +0.2**
SNR=43
BRTR Keskin Array B 75.45 307 P **P 08 37 38.5 +0.2**
comp=Z,28nm,0.8s,baz=103,slow=5.5,SNR=140
BRTR LR LR 09 13 48.3
comp=Z,315nm,21.4s,baz=64,slow=38
SKAG Skagway 75.47 31 *eP* **P 08 37 38.9 +1.1**
comp=Z,48nm,0.8s
YAYX Yaylak 75.57 306 *eP* **P 08 37 38.2 -0.7**
LOF Lofoten 75.62 339 *eP* **P 08 37 38.8 +0.3**
MERS Mersin 75.70 304 *eP* **P 08 37 39.7 +0.1**
AKSY AKSARAY - Alti 75.70 306 *i P* **P 08 37 40.2 +0.6**
AFSR Afar-Bala (An 75.95 307 *eP* **P 08 37 41.1 0.0**
ANTO Ankara 76.02 308 *eP* **P 08 37 41.5 +0.1**
ANTO Ankara 76.02 308 *eP* **P 08 37 41.8 +0.4**
comp=Z,57nm,0.8s
ANTO LR LR
comp=Z,600nm,22.0s
ANTO Ankara 76.02 308 ⇑*iP* **P 08 37 41.8 +0.4**
ANTO Ankara 76.02 308 P **P 08 37 41.8 +0.4**
SNR=14
ANTO P **P 08 37 41.8 +0.4**
SNR=14
CMDR Camlidere-ANKA 76.05 308 *i P* **P 08 37 43.1 +1.4**
KIZK Mersin 76.11 304 *eP* **P 08 37 41.0 -0.9**
KULU Kulu 76.14 307 *eP* **P 08 37 41.7 -0.4**
KKUL Konya-Kulu 76.16 307 *i P* **P 08 37 43.0 +0.7**
MMAI Mount Meron Ar 76.25 300 P **P 08 37 43.5 +0.6**
comp=Z,22nm,1.0s,baz=70,slow=9.9,SNR=18
MMAI LR LR 09 16 33.4
comp=Z,406nm,18.0s,baz=55,slow=40
PABE Paberze 76.28 325 *eP* **P 08 37 42.7 +0.3**
PABE IAmb IAmb 08 37 44.1
comp=Z,177nm,0.8s
SLIT Slitere, Latvi 76.36 327 *eP* **P 08 37 42.3 -0.6**
SLIT IAmb IAmb 08 37 43.0
comp=Z,292nm,0.8s
SIT Sitka 76.36 33 *eP* **P 08 37 43.5 +0.6**
comp=Z,71nm,1.0s
JIS Juneau Island 76.37 32 *eP* **P 08 37 44.0 +1.1**
comp=Z,57nm,1.0s
KIS Kishinev 76.40 315 ⇑*iP* **P 08 37 43.0 -0.4**
comp=Z,210nm,2.0s
KIS LRM MLR 09 09 58.0
comp=Z,900nm,16.0s
KIS Kishinev 76.40 315 ⇑*iP* **P 08 37 43.0 -0.4**
KIS pmax pmax
comp=Z,210nm,2.0s
KEBE Keben-Mersin 76.45 304 *eP* **P 08 37 43.7 -0.2**
KDZE Karadeniz Ereo 76.52 309 *eP* **P 08 37 43.9 -0.3**
IKL Isikli 76.54 304 *eP* **P 08 37 44.3 0.0**
AKKU Akkuyu-Mersin 76.67 304 *eP* **P 08 37 45.4 +0.3**
GHAJ Ghor Haditha 76.69 298 P **P 08 37 46.4 +1.2**
comp=Z,88nm,1.0s
LEOM Leova 76.95 315 ⇑*iP* **P 08 37 46.2 -0.2**
KDHN Kadinhani 76.96 306 *i P* **P 08 37 47.1 +0.2**
AUMIH MIHALICIK 76.97 308 *eP* **P 08 37 46.8 -0.1**
MDUB Mudurnu 76.98 309 PFAKE 08 38 00.0 +13
MDUB LR LR
comp=Z,2μm,21.0s
TEKE Tekeli-Mersin 77.00 304 *eP* **P 08 37 46.9 -0.1**
KIZT Kizilcal 77.02 307 *eP* **P 08 37 46.3 -0.8**
TLCR 77.02 314 ⇑*iP* **P 08 37 47.2 +0.3**
AUSIV SIVRIHISAR 77.08 307 *eP* **P 08 37 47.3 -0.2**
AUSIV SIVRIHISAR 77.08 307 *i P* **P 08 37 48.8 +1.4**
SVRH Sivrihisar-ESK 77.09 307 *eP* **P 08 37 47.4 -0.1**
PBUR Paburg 77.15 326 *eP* **P 08 37 47.6 +0.2**
PBUR IAmb IAmb 08 37 49.1
comp=Z,181nm,1.0s
CSS Mathiatis 77.23 303 *eP* **P 08 37 48.7 +0.4**
CSS Mathiatis 77.23 303 *eP* **P 08 37 48.2 -0.1**
comp=Z,76nm,0.7s
CSS Mathiatis 77.23 303 P **P 08 37 44.6 -3.7**
CSS Mathiatis 77.23 303 P **P 08 37 48.6 +0.3**
comp=Z,27nm,0.9s
SUW Suwalki 77.26 323 *eP* **P 08 37 48.0 0.0**
SUW Suwalki 77.26 323 *eP* **P 08 37 47.8 -0.2**
comp=Z,379nm,1.0s
SUW LR LR
comp=Z,2μm,20.0s
SUW Suwalki 77.26 323 *eP* **P 08 37 48.1 0.0**
BIR Birlad 77.43 315 ⇑*iP* **P 08 37 50.2 +1.1**
DOGA KONYA_Doganhis 77.43 306 *i P* **P 08 37 49.8 +0.3**
DAG Danmarks Havn 77.43 352 ⇑*iP* **P 08 37 48.3 -0.3**
DAG pmax pmax
comp=Z,42nm,0.9s
DAG Danmarks Havn 77.43 352 ⇑*iP* **P 08 37 48.3 -0.3**
comp=Z,50nm,0.9s
CIFT Cifteler, Eski 77.45 307 *eP* **P 08 37 49.9 +0.4**
CFR Carcaliu 77.48 314 ⇑*iP* **P 08 37 49.5 +0.1**
GULT Gulveren 77.48 309 *eP* **P 08 37 49.9 +0.2**
LEF Lefka 77.52 303 *eP* **P 08 37 49.9 +0.1**
LEF Lefka 77.52 303 ⇑*iP* **P 08 37 50.0 +0.1**
SRCK Saricakaya, Es 77.53 308 *eP* P 08 37 44.6 -5.3
SPNC Sapanca-Adapaz 77.54 309 *eP* P 08 37 54.7 +4.8
GAZI Gazipasa 77.58 304 *i P* **P 08 37 50.4 +0.2**
BORA Eskisehir 77.71 308 *eP* **P 08 37 50.5 -0.5**
BORA Eskisehir 77.71 308 *i P* **P 08 37 51.9 +0.9**
EIL Elat 77.73 297 P **P 08 37 51.9 +0.7**
comp=Z,38nm,1.1s,baz=81,slow=4.3,SNR=15
EIL LR LR 09 18 11.9
comp=Z,551nm,19.2s,baz=78,slow=40
TLB Topalu 77.75 313 ⇑*iP* **P 08 37 51.2 +0.3**
HARR Harsova 77.78 313 ⇑*iP* **P 08 37 51.8 +0.6**
PETR Petresti 77.88 315 ⇓*iP* **P 08 37 53.0 +1.3**
NSS Namsos 77.89 336 *eP* **P 08 37 51.6 +0.2**
PRAR RASCA 77.93 316 ⇑*iP* **P 08 37 52.0 0.0**
TESR Tescani 77.97 316 ⇑*iP* **P 08 37 52.2 0.0**
PSN Preselentsi 77.97 312 *eP* **P 08 37 53.1 +0.9**
PSN Preselentsi 77.97 312 *eP* **P 08 37 52.8 +0.6**
ODBI Odobesti 77.98 315 ⇑*iP* **P 08 37 53.9 +1.7**
ADVT Abdulvahap 78.04 309 *eP* P 08 38 05.1 +12
CAVI Cavuskoy 78.04 309 *eP* **P 08 37 53.1 +0.4**
ICOR Ion Corvin 78.08 313 ⇓*iP* **P 08 37 53.3 +0.5**
SHUT Suhut-Afyon 78.10 307 *eP* **P 08 37 53.4 +0.2**

VRI Vrincioaia 78.16 315 *eP* **P 08 37 53.6 +0.4**
VRI Vrincioaia 78.16 315 ⇓*iP* **P 08 37 53.9 +0.7**
BIZ Bicaz 78.17 316 ⇑*iP* **P 08 37 53.6 +0.3**
GRER 78.17 314 ⇑*iP* **P 08 37 55.1 +1.8**
PLOR Plostina 78.21 315 ⇑*iP* **P 08 37 54.1 +0.5**
KLYT Kilyos 78.24 310 *eP* **P 08 37 53.5 -0.2**
KLYT Kilyos 78.24 310 ⇑*iP* **P 08 37 53.6 -0.2**
BISRR Bisoca 78.28 315 ⇓*iP* **P 08 37 55.7 +1.7**
LVV L'vov 78.37 319 *eP* **P 08 37 55.0 +0.7**
LVV *e* 08 40 52.1
LVV *e*S **S 08 47 45.3 -2.9**
LVV MLR MLR
comp=N,2μm,16.0s
LVV MLR MLR
comp=E,2μm,16.0s
LVV MLR MLR
comp=Z,2μm,16.0s
ISP Isparta 78.38 306 *eP* **P 08 37 54.5 -0.3**
ISP Isparta 78.38 306 PFAKE 08 38 10.0 +15
ISP LR LR
comp=Z,500nm,20.0s
DLBC Dease Lake 78.40 31 PFAKE 08 38 10.0 +16
DLBC LR LR
comp=Z,900nm,19.0s
DLBC Dease Lake 78.40 31 P **P 08 37 55.6 +1.1**
comp=Z,11nm,0.9s,baz=297,slow=5.1,SNR=12
BUR08 Bucovina Ar. S 78.47 317 *eP* **P 08 37 55.3 +0.2**
comp=Z,65nm,1.3s
BURAR Bucovina Array 78.47 317 ⇑*iP* **P 08 37 55.4 +0.3**
ISR Istrita 78.55 314 ⇓*iP* **P 08 37 56.3 +0.8**
ULDT Uludag 78.57 309 *i P* **P 08 37 57.0 +1.1**
TVSB Tavsanli 78.58 308 *eP* **P 08 37 55.6 -0.2**
ARMT Armutlu 78.61 309 *eP* **P 08 37 55.1 -0.8**
PRD Provadia 78.68 312 *eP* **P 08 37 56.9 +0.8**
OZUR 78.68 315 ⇑*iP* **P 08 37 57.0 +0.8**
KORT Korkueli 78.80 305 *eP* **P 08 37 54.7 -2.4**
MLR Muntele Rosu 78.80 315 *eP* **P 08 37 57.1 +0.2**
comp=Z,61nm,0.9s
MLR LR LR
comp=Z,800nm,20.0s
MLR Muntele Rosu 78.80 315 ⇑*iP* **P 08 37 57.2 +0.2**
MLR Muntele Rosu 78.80 315 P **P 08 37 57.2 +0.2**
comp=Z,55nm,0.9s,baz=26,slow=4.1,SNR=69
SECR 78.89 314 ⇑*iP* **P 08 37 58.9 +1.6**
SULR 78.90 314 ⇑*iP* **P 08 37 58.5 +1.2**
DOPR Dopca 78.99 315 ⇑*iP* **P 08 37 58.5 +0.7**
RES Resolute Bay 79.01 10 *eP* **P 08 37 57.3 -0.1**
comp=Z,56nm,0.8s
RES Resolute Bay 79.01 10 P **P 08 37 57.4 0.0**
comp=Z,62nm,0.9s,baz=295,slow=6.0,SNR=106
ARCR ARCALIA 79.22 317 ⇓*iP* **P 08 38 00.6 +1.5**
ELL Elmali 79.22 305 *eP* **P 08 37 58.8 -0.6**
URZ Urewera 79.23 140 PFAKE 08 38 10.0 +11
URZ LR LR
comp=Z,600nm,18.0s
KWP Kalwaria Pacla 79.23 319 *eP* **P 08 37 59.8 +0.7**
KWP Kalwaria Pacla 79.23 319 *eP* **P 08 37 59.5 +0.4**
comp=Z,1μm,0.9s
KWP LR LR
comp=Z,8μm,18.0s
KWP Kalwaria Pacla 79.23 319 *eP* **P 08 37 59.8 +0.7**
HFS Hagfors 79.32 331 P **P 08 37 59.3 0.0**
comp=Z,36nm,0.7s,baz=76,slow=6.3,SNR=82
HFS LR LR 09 17 02.4
comp=Z,3μm,18.2s,baz=62,slow=39
VOIR 79.41 315 ⇑*iP* **P 08 38 00.2 0.0**
BEL Belsk 79.45 322 *eP* **P 08 38 01.0 +0.8**
BEL Belsk 79.45 322 *eP* **P 08 38 01.0 +0.8**
MTUR Matau 79.48 315 ⇑*iP* **P 08 38 01.0 +0.4**
KULA Kula-Manisa 79.50 307 *eP* **P 08 38 01.0 +0.1**
BMR Baia Mare 79.53 317 ⇑*iP* **P 08 38 01.7 +1.0**
MANT Manisa 79.58 307 *eP* **P 08 38 01.2 -0.3**
comp=Z,116nm,1.0s
MANT LR LR
comp=Z,2μm,21.0s
AKAS Kas 79.63 305 *eP* **P 08 37 59.9 -1.8**
BALB Balikesir 79.65 309 *eP* **P 08 38 02.3 +0.8**
BALB Balikesir 79.65 309 *eP* **P 08 38 01.7 +0.1**
comp=Z,223nm,1.3s
BALB LR LR
comp=Z,1μm,19.0s
KSL Kastellorizon 79.68 305 P P 08 37 50.2 -12
ARR Arges 79.70 315 ⇑*iP* **P 08 38 02.5 +0.7**
KOLS Kolonicke sedl 79.77 319 *eP* **P 08 38 02.4 +0.4**
KOLS pmax pmax
comp=Z,27nm,1.1s
KOLS Kolonicke sedl 79.77 319 *eP* **P 08 38 02.4 +0.4**
HUMR Humele 79.80 314 ⇑*iP* **P 08 38 01.9 -0.4**
CJR Cluj-Napoca 79.84 317 ⇑*iP* **P 08 38 03.6 +1.1**
FETY Fethiye 79.88 305 *eP* **P 08 38 01.9 -1.0**
FETY Fethiye 79.88 305 P P 08 37 53.4 -9.5
UZH Uzhgorod 79.88 319 *eP* **P 08 38 02.6 0.0**
UZH *i* 08 38 07.2
NB2 NORSAR Subarra 79.94 333 P **P 08 38 02.2 -0.5**
comp=Z,66nm,1.2s,baz=56,slow=5.6
NB2 NORSAR Subarra 79.94 333 P **P 08 38 02.2 -0.5**
baz=56,slow=5.6
NB200 NORSAR Array S 79.94 333 *eP* **P 08 38 02.1 -0.5**
NOA NORSAR Array B 79.94 333 P **P 08 38 02.1 -0.5**
comp=Z,16nm,0.7s,baz=56,slow=5.5,SNR=70
NOA LR LR 09 17 14.3
comp=Z,1μm,18.9s,baz=45,slow=39
TRPA Tarpa 79.94 318 ⇑*iP* **P 08 38 03.7 +0.8**
TRPA Tarpa 79.94 318 ⇑*iP* **P 08 38 03.0 +0.1**
TRPA *e*S S 08 48 16.1 +11
JMIC Jan Mayen 80.12 346 P **P 08 38 04.4 +0.9**
comp=Z,75nm,0.9s,baz=80,slow=5.3,SNR=8.4
JMIC Jan Mayen 80.12 346 *eP* **P 08 38 04.3 +0.9**
DALY Dalyan (Mula) 80.13 306 *eP* **P 08 38 04.2 0.0**
TURN Turunc 80.15 306 *eP* **P 08 38 04.1 -0.2**
NAO01 NORSAR Array S 80.17 333 *eP* **P 08 38 03.6 -0.4**
LOT Lotru 80.23 315 ⇑*iP* **P 08 38 05.0 +0.3**
ERIK Erikli-Kesan 80.24 310 *eP* **P 08 38 05.0 +0.3**
AYDB Zeytinkoy-Aydi 80.28 307 *eP* **P 08 38 05.7 +0.6**
DRGR 80.37 317 ⇑*iP* **P 08 38 05.9 +0.5**
ALN Alexandroupoli 80.48 310 *eP* **P 08 38 04.9 -1.1**
ALN Alexandroupoli 80.48 310 *eP* **P 08 38 05.9 -0.1**
comp=Z,15nm,1.0s
ALN LR LR
comp=Z,200nm,20.0s
MOL Molde 80.60 335 *eP* **P 08 38 06.1 -0.1**
DEV Deva 80.61 316 ⇓*iP* **P 08 38 07.3 +0.7**
LTVH Ltavrtes, Hu 80.63 318 *eP* **P 08 38 06.1 -0.6**
OJC Ojcow 80.70 321 *eP* **P 08 38 07.7 +0.7**
OJC Ojcow 80.70 321 *eP* **P 08 38 07.4 +0.4**
comp=Z,102nm,0.9s
OJC Ojcow 80.70 321 *eP* **P 08 38 07.7 +0.7**
ARG Arkhangelos 80.75 305 *eP* P 08 38 01.7 -5.8
ARG Arkhangelos 80.75 305 P P 08 37 53.3 -14
NIE Niedzica 80.75 320 *eP* **P 08 38 08.3 +1.0**
NIE Niedzica 80.75 320 *eP* **P 08 38 08.3 +1.0**
GCAM G?zelcaml? 80.85 307 *eP* **P 08 38 07.9 -0.1**
BOZC Bozcaada 80.88 309 *eP* **P 08 38 07.5 -0.7**
BOZC Bozcaada 80.88 309 *i P* **P 08 38 07.7 -0.4**
DAT Datca 80.97 306 *eP* **P 08 38 07.9 -0.9**
KECS Kecovo 81.04 319 *eP* **P 08 38 09.7 +0.9**
KECS pmax pmax
comp=Z,87nm,1.0s
KECS Kecovo 81.04 319 *eP* **P 08 38 09.7 +0.9**
URLA Izmir 81.06 308 *eP* **P 08 38 09.1 -0.1**
PGB Panagyurishte 81.12 312 *eP* **P 08 38 10.2 +0.7**
BSD Bornholm Skovb 81.14 327 ⇑*iP* **P 08 38 08.6 -0.6**
BSD pmax pmax
comp=Z,53nm,0.9s
BSD Bornholm Skovb 81.14 327 ⇑*iP* **P 08 38 08.6 -0.6**
comp=Z,53nm,0.9s
SIRR Siria 81.25 317 ⇑*iP* **P 08 38 10.2 +0.2**
PUNG Punghina 81.25 314 ⇑*iP* **P 08 38 11.0 +1.0**
SKAR Skarslia 81.34 333 *eP* **P 08 38 10.9 +0.7**
HERR Herculane 81.34 315 ⇑*iP* **P 08 38 10.7 +0.2**
KONO Kongsberg 81.35 332 *eP* **P 08 38 10.1 -0.1**
comp=Z,24nm,1.3s
KONO LR LR
comp=Z,2μm,18.0s
KONO Kongsberg 81.35 332*c iP* **P 08 38 09.6 -0.6**
KONO pmax pmax
comp=Z,19nm,1.1s
LANS Liptovska Anna 81.36 320 *eP* **P 08 38 12.1 +1.5**
LANS Liptovska Anna 81.36 320 *eP* **P 08 38 12.1 +1.5**
CHOS Chios island 81.44 308 *eP* **P 08 38 10.5 -0.8**
BZS Buzias 81.55 316 ⇓*iP* **P 08 38 11.4 -0.2**
PSZ Piszkesteto 81.64 319 *eP* **P 08 38 12.4 +0.3**
comp=Z,45nm,1.0s

PSZ LR LR
comp=Z,700nm,22.0s
PSZ Piszkesteto 81.64 319 ⇓*iP* **P 08 38 13.0 +0.9**
VTS Vitosha 81.73 313 *eP* **P 08 38 13.1 +0.3**
comp=Z,68nm,1.0s
VTS LR LR
comp=Z,500nm,22.0s
VTS Vitosha 81.73 313 P P 08 38 04.5 -8.3
VTS Vitosha 81.73 313 ⇑*iP* **P 08 38 13.5 +0.7**
VTS Vitosha 81.73 313 *eP* **P 08 38 13.6 +0.7**
KARP Karpathos 81.73 305 *eP* **P 08 38 12.8 0.0**
KARP Karpathos 81.73 305 *eP* **P 08 38 12.6 -0.2**
comp=Z,124nm,1.0s
KARP LR LR
comp=Z,400nm,21.0s
KARP Karpathos 81.73 305 P P 08 37 58.5 -14
MMB Musomiste 81.81 312 *eP* **P 08 38 12.9 -0.2**
MDVR Moldovita 81.83 315 ⇑*iP* **P 08 38 13.3 +0.1**
VYHS Vyhne 82.02 320 *eP* **P 08 38 14.9 +0.8**
VYHS pmax pmax
comp=Z,43nm,1.2s
VYHS Vyhne 82.02 320 *eP* **P 08 38 14.9 +0.8**
KKB Krupnik 82.14 312 *eP* **P 08 38 15.0 +0.2**
OUR Ouranopolis 82.14 310 *eP* **P 08 38 14.7 -0.1**
MORC Moravsky Berou 82.20 321 *eP* **P 08 38 15.3 +0.3**
comp=Z,62nm,1.4s
MORC Moravsky Berou 82.20 321 ⇓*iP* **P 08 38 15.6 +0.5**
MORC Moravsky Berou 82.20 321 *eP* **P 08 38 15.5 +0.5**
KULLO Kullorsuaq 82.21 0 ⇑*iP* **P 08 38 14.7 +0.2**
KULLO pmax pmax
comp=Z,69nm,0.9s
KULLO Kullorsuaq 82.21 0 ⇑*iP* **P 08 38 14.7 +0.2**
comp=Z,69nm,0.9s
RGN Rugen 82.22 327 PFAKE 08 38 30.0 +15
RGN LR LR
comp=Z,2μm,18.0s
APE Apeiranthos 82.34 307 *eP* **P 08 38 12.2 -3.8**
APE Apeiranthos 82.34 307 ⇑*iP* **P 08 38 14.4 -1.6**
KSP Ksiaz 82.42 322 *eP* **P 08 38 16.8 +0.7**
KSP Ksiaz 82.42 322 *eP* **P 08 38 16.8 +0.7**
ANAF Anafi Island 82.45 306 P P 08 38 05.2 -11
KRLC Kraliky 82.50 322 *eP* **P 08 38 17.1 +0.5**
KRLC Kraliky 82.50 322 *eP* **P 08 38 17.1 +0.5**
PAIG Paliouri 82.52 310 P P 08 38 06.3 -11
JAVC Velka Javorina 82.55 320 *eP* **P 08 38 18.4 +1.5**
KNT Kendrikon 82.55 312 *eP* **P 08 38 15.7 -1.3**
SUE Sulen 82.55 335 *eP* **P 08 38 16.6 0.0**
ZKR Zakros 82.61 305 *eP* **P 08 38 17.9 +0.5**
DPC Dobruska-Polom 82.64 322 *eP* **P 08 38 17.8 +0.5**
DPC *e* 08 38 31.2
DPC MLR MLR
comp=Z,900nm,15.8s
DPC Dobruska-Polom 82.64 322 *eP* **P 08 38 17.8 +0.5**
DPC *ex* x 08 38 31.2
DPC AMS AMS 09 19 10.0
comp=Z,900nm,15.8s
HORT Hortiatis 82.65 311 *eP* **P 08 38 16.1 -1.5**
YKW3 Yellowknife Ar 82.70 23 *eP* **P 08 38 17.1 -0.1**
comp=Z,67nm,0.8s
VAY Valandovo 82.71 312 *i P* **P 08 38 17.5 -0.3**
UPC Upice 82.74 322 *eP* **P 08 38 18.4 +0.7**
UPC MLR MLR
comp=Z,800nm,16.0s
UPC Upice 82.74 322 *eP* **P 08 38 18.4 +0.7**
UPC AMS AMS 09 19 00.0
comp=Z,800nm,16.0s
YKA Yellowknife Ar 82.74 23 P **P 08 38 17.6 +0.1**
comp=Z,21nm,0.7s,baz=307,slow=5.0,SNR=246
YKA PKKPbc **PKKPbc 08 56 45.2 +2.4**
comp=Z,0.8nm,0.8s,baz=129,slow=2.3,SNR=12
YKA LR LR 09 19 03.9
comp=Z,50nm,20.2s,baz=300,slow=39
YKB5 Yellowknife Ar 82.74 23 *eP* **P 08 38 17.6 +0.1**
BLS5 Blasjo 82.81 333 *eP* **P 08 38 18.0 0.0**
STIP Stip 82.82 312 *i P* **P 08 38 17.0 -1.3**
SMOL Smolenice 82.85 320 *eP* **P 08 38 20.0 +1.6**
SMOL Smolenice 82.85 320 *eP* **P 08 38 20.0 +1.6**
CSKK Cskako 82.87 319 *eP* **P 08 38 17.1 -1.4**
FRGS Fruska Gora 82.89 316 ⇑*iP* **P 08 38 18.6 -0.1**
VRAC Vranov 82.97 321 ⇑*iP* **P 08 38 20.0 +1.0**
VRAC Vranov 82.97 321 *eP* **P 08 38 19.6 +0.6**
VRAC Vranov 82.97 321 P **P 08 38 19.5 +0.5**
comp=Z,41nm,1.0s,baz=71,slow=5.2,SNR=54
VRAC LR LR 09 18 34.4
comp=Z,717nm,18.4s,baz=52,slow=38
GRG Griva 82.98 312 *eP* **P 08 38 16.8 -2.4**
GRG Griva 82.98 312 P P 08 38 09.8 -9.4
MODS Modra-Piesok 83.00 320 *eP* **P 08 38 19.0 -0.2**
MODS pmax pmax
comp=Z,70nm,1.4s
MODS Modra-Piesok 83.00 320 *eP* **P 08 38 19.0 -0.2**
RUE Ruedersdorf 83.01 325 *eP* **P 08 38 19.1 0.0**
RUE IAmb IAmb 08 38 21.1
comp=Z,104nm,1.1s
SNART Snartemo 83.10 332 *eP* **P 08 38 19.0 -0.4**
LAST Lasithi 83.14 305 P P 08 38 13.8 -6.5
ZST Bratislava 83.19 320 *eP* **P 08 38 20.2 +0.1**
ZST Bratislava 83.19 320 *eP* **P 08 38 20.2 +0.1**
KRUC Moravsky 83.20 321 *eP* **P 08 38 20.7 +0.5**
SKO Skopje 83.20 313 *i P* **P 08 38 20.6 +0.3**
SCO Scoresbysund 83.23 349 *eP* **P 08 38 20.1 +0.3**
comp=Z,70nm,1.2s
SCO LR LR
comp=Z,900nm,18.0s
SCO Scoresbysund 83.23 349 ⇑*iP* **P 08 38 20.5 +0.6**
SCO pmax pmax
comp=Z,70nm,1.2s
SCO Scoresbysund 83.23 349 ⇑*iP* **P 08 38 20.5 +0.6**
comp=Z,70nm,1.2s
DIVS Divibare 83.24 315 ⇑*iP* **P 08 38 20.2 -0.4**
LIT Litokhoron 83.28 311 P P 08 38 10.4 -10
TIH Tihany 83.31 318 *eP* **P 08 38 21.0 +0.3**
KMY Karmoy 83.44 333 *eP* **P 08 38 21.1 0.0**
SUMG Summit 83.46 355 *eP* **P 08 38 22.0 +0.5**
comp=Z,46nm,0.8s
SUMG LR LR
comp=Z,700nm,21.0s
SUMG Summit 83.46 355 *i P* **P 08 38 22.1 +0.5**
SUMG pmax pmax
comp=Z,110nm,0.8s
SUMG Summit 83.46 355 *i P* **P 08 38 22.1 +0.5**
comp=Z,114nm,0.8s
IDI Anoyia 83.53 306 P **P 08 38 21.8 -0.5**
comp=Z,8.3nm,0.6s,baz=352,slow=17,SNR=12
PVCC Panska Ves 83.53 323 *eP* **P 08 38 22.7 +0.8**
PVCC MLR MLR
comp=Z,1μm,15.1s
PVCC Panska Ves 83.53 323 *eP* **P 08 38 22.7 +0.8**
PVCC AMS AMS 09 19 30.0
comp=Z,1μm,15.1s
KRUS Krusevo 83.59 312 *i P* **P 08 38 21.8 -0.7**
TREC Trest 83.61 321 *eP* **P 08 38 22.8 +0.5**
TREC *e* 08 38 35.6
TREC MLR MLR
comp=Z,1μm,15.3s
TREC Trest 83.61 321 *eP* **P 08 38 22.8 +0.5**
TREC *ex* x 08 38 35.6
TREC AMS AMS 09 19 50.0
comp=Z,1μm,15.3s
BIA Bitola 83.69 312 *i P* **P 08 38 22.4 -0.5**
GOPC GO Pecny, Ondr 83.71 322 *eP* **P 08 38 23.2 +0.4**
GOPC *e* 08 38 36.1
GOPC MLR MLR
comp=Z,900nm,26.0s
GOPC GO Pecny, Ondr 83.71 322 *eP* **P 08 38 23.2 +0.4**
GOPC *ex* x 08 38 36.1
GOPC AMS AMS 09 20 00.0
comp=Z,900nm,26.0s
BRG Berggiesshubel 83.71 323 ⇑*iP* **P 08 38 23.0 +0.3**
comp=Z,41nm,1.2s
BRG *i* 08 38 36.5
comp=Z,38nm,1.2s
BRG Berggiesshubel 83.71 323 ⇑*iP* **P 08 38 23.0 +0.3**
BRG *i* 08 38 36.5
BRG pmax pmax
comp=Z,41nm,1.2s
BRG pmax pmax
comp=Z,38nm,1.2s
BRG MLR MLR
comp=N,1μm,19.2s
BRG MLR MLR
comp=E,2μm,16.7s
BRG MLR MLR
comp=Z,2μm,16.7s

BBLS Lazići 83.72 315 *eP* **P 08 38 23.5 +0.4**
SOP Sopron 83.75 319⇑ *iP* **P 08 38 23.0 0.0**
FNA Florina 83.76 312 *eP* **P 08 38 22.4 -0.9**
comp=Z,61nm,1.5s
FNA LR LR
comp=Z,500nm,19.0s
PRU Pruhonice 83.81 322 *eP* **P 08 38 23.9 +0.6**
PRU *e* 08 38 37.1
PRU MLR MLR
comp=Z,800nm,19.1s
PRU Pruhonice 83.81 322 *eP* **P 08 38 23.9 +0.6**
PRU *ex* x 08 38 37.1
PRU AMS AMS 09 19 50.0
comp=Z,800nm,19.1s
HAPS Han Pijesak,BI 83.92 316 *eP* **P 08 38 23.6 -0.5**
CLL Collm 84.01 324 *eP* **P 08 38 24.4 +0.2**
comp=Z,52nm,1.0s
CLL LR LR
comp=Z,1µm,19.0s
CLL Collm 84.01 324⇑ *iP* **P 08 38 24.2 -0.1**
CLL *i* 08 38 29.2
CLL *i* 08 38 37.1
CLL pmax pmax
comp=Z,54nm,1.0s
CLL MLR MLR
comp=Z,1µm,18.7s
CLL Collm 84.01 324⇑ *iP* **P 08 38 24.2 -0.1**
comp=Z,54nm,1.0s
CLL *e*Pmax 08 38 26.0
CLL *i* pP **PcP 08 38 29.2 +1.0**
CLL *i* 08 38 37.1
CLL *e* 08 41 16.0
CLL *e*PP **PP 08 41 36.0 -1.7**
CLL *e* 08 41 50.0
CLL *e* 08 47 57.0
CLL *e*PPS PPS 08 50 06.0
CLL *e*SS SS 08 54 42.0 +28
CLL *e*PKKPdf **PKKPdf 08 56 30.0 -0.1**
CLL *e*(SSSS) 09 00 06.0
CLL Lm MLR 09 23 00.0
comp=Z,1µm,18.7s
CLL Lmax 09 23 00.0
OHR Ohrid 84.01 312 *i* P **P 08 38 23.7 -0.8**
CONA Conrad Observa 84.05 320 *ep*P **P 08 38 25.5 +0.8**
comp=Z,48nm,1.0s,SNR=35
IMMV Iera Moni Meta 84.14 306 *eP* **P 08 38 21.7 -3.6**
BEHE Becsehely 84.19 318⇑ *iP* **P 08 38 25.1 -0.2**
GVD Gavdhos 84.32 305 *eP* **P 08 38 24.9 -1.3**
PDG Podgorica 84.46 314⇑ *iP* **P 08 38 26.7 0.0**
PDG Podgorica 84.46 314⇑ *iP* **P 08 38 26.3 -0.4**
TTG Podgorica 84.46 314 *eP* **P 08 38 26.5 -0.3**
comp=Z,25nm,0.8s
TTG LR LR
comp=Z,700nm,22.0s
TIR Tirane 84.54 313 *eP* **P 08 38 27.2 +0.1**
comp=Z,94nm,1.1s
TIR LR LR
comp=Z,700nm,21.0s
TIR Tirane 84.54 313⇑ *iP* **P 08 38 27.3 +0.1**
ARSA Arzberg 84.57 319 *eP* **P 08 38 27.6 +0.3**
comp=Z,28nm,1.1s,SNR=8.0
DRME Dracevica, Mon 84.62 314⇑ *iP* **P 08 38 27.3 -0.3**
BRY Bratogost 84.72 315⇑ *iP* **P 08 38 27.9 -0.3**
BLY Banja Luka 84.74 317 *eP* **P 08 38 28.5 +0.3**
comp=Z,62nm,0.9s
BLY LR LR
comp=Z,700nm,20.0s
BLY Banja Luka 84.74 317⇑ *iP* **P 08 38 28.6 +0.5**
BLY Banja Luka 84.74 317⇑ *iP* **P 08 38 28.4 +0.3**
KHC Kasperske Hory 84.78 322 *eP* **P 08 38 28.1 -0.2**
comp=Z,13nm,0.9s
KHC LR LR
comp=Z,400nm,21.0s
KHC Kasperske Hory 84.78 322 *eP* **P 08 38 28.6 +0.3**
KHC *e* 08 38 42.0
KHC *e*S **S 08 48 52.0 -2.7**
KHC MLR MLR
comp=Z,1µm,17.8s
KHC Kasperske Hory 84.78 322 *eP* **P 08 38 28.6 +0.3**
KHC *ex* x 08 38 42.0
KHC *ex* x 08 39 26.5
KHC *e*SKS **S 08 48 52.0 -2.7**
KHC AMS AMS 09 20 30.0
comp=Z,1µm,17.8s
GEC2 GERESS Array S 84.86 321 *eP* **P 08 38 28.9 +0.2**
comp=Z,47nm,0.8s
GEC2 LR LR
comp=Z,1µm,20.0s
GERES GERESS Array B 84.86 321 P **P 08 38 28.9 +0.2**
comp=Z,27nm,0.7s,baz=57,slow=4.9,SNR=171
GERES LR LR 09 19 50.4
comp=Z,1µm,18.1s,baz=67,slow=38
NKC Novy Kostel 84.86 323 *eP* **P 08 38 28.9 +0.3**
NKC MLR MLR
comp=Z,2µm,16.8s
NKC Novy Kostel 84.86 323 *eP* **P 08 38 28.9 +0.3**
NKC AMS AMS 09 20 20.0
comp=Z,2µm,16.8s
ITM Ithomi 84.92 308 *eP* **P 08 38 28.3 -0.9**
ITM Ithomi 84.92 308 *eP* **P 08 38 28.2 -0.9**
comp=Z,76nm,0.8s
ITM LR LR
comp=Z,400nm,22.0s
TREB Trebinje 84.93 314 *eP* **P 08 38 29.0 -0.1**
MOA Molln 85.02 320 *eP* **P 08 38 30.1 +0.6**
comp=Z,21nm,0.8s,SNR=13
PERS Pernice 85.11 319⇑ *iP* **P 08 38 29.8 -0.2**
SOKA Soboth 85.14 319 *i* P **P 08 38 30.1 -0.1**
comp=Z,25nm,0.9s,SNR=16
STON Ston 85.28 315 *eP* **P 08 38 30.3 -0.5**
CRES Cresnjev 85.30 318⇑ *iP* **P 08 38 30.8 -0.1**
OBKA Obir 85.52 319 *eP* **P 08 38 32.1 0.0**
comp=Z,26nm,1.6s,SNR=7.8
BOJS Bojanci 85.58 318⇑ *iP* **P 08 38 32.5 +0.2**
ABPO Ambohimpanom 85.69 247 *eP* **P 08 38 33.3 -0.1**
comp=Z,54nm,1.0s
LJU Ljubljana 85.76 319⇑ *iP* **P 08 38 32.9 -0.3**
GRA1 Grafenberg Arr 85.82 323 *eP* **P 08 38 34.0 +0.6**
comp=Z,111nm,1.4s
GRA1 LR LR
comp=Z,2µm,18.0s
GRFO Grafenberg 85.82 323 *eP* **P 08 38 33.9 +0.5**
comp=Z,102nm,1.4s
GRFO LR LR
comp=Z,2µm,18.0s
KBA Koelnbreinsper 85.95 320 *eP* **P 08 38 34.0 -0.4**
comp=Z,19nm,1.2s,SNR=12
CEY Cerknica 85.97 318⇑ *iP* **P 08 38 33.5 -0.8**
MYKA Terra Mystica 86.00 320 *eP* **P 08 38 34.2 -0.3**
TRI Trieste 86.39 319 PFAKE 08 38 50.0 +14
TRI LR LR
comp=Z,600nm,21.0s
ABTA Abfaltersbach 86.61 320 *eP* **P 08 38 36.7 -0.7**
comp=Z,26nm,1.1s,SNR=10
WATA Walderalm 86.85 321 *ep*P **P 08 38 40.5 +1.8**
comp=Z,5.3nm,0.6s
WTTA Wattenberg 86.86 321 *eP* **P 08 38 38.5 -0.3**
comp=Z,30nm,1.0s,SNR=12
MATE Matera 86.98 313⇓ *iP* **P 08 38 39.0 -0.3**
NLWA Neilton Lookou 87.01 39 *eP* **P 08 38 40.5 +1.1**
comp=Z,23nm,1.0s
MOTA Moosalm 87.12 321 *eP* **P 08 38 39.1 -1.0**
comp=Z,9.4nm,0.7s
SQTA Sankt Quirin 87.13 321 *e*PcP **P 08 38 40.1 0.0**
comp=Z,21nm,1.0s,SNR=7.5
KMBO Kilima Mbogo 87.17 268 *eP* **P 08 38 40.7 -0.3**
comp=Z,27nm,1.4s
KMBO Kilima Mbogo 87.17 268 P **P 08 38 42.0 +1.0**
comp=Z,7.1nm,0.9s,baz=42,slow=8.5,SNR=14
KMBO LR LR 09 18 53.3
comp=Z,285nm,19.5s,baz=80,slow=36
RETA Reutte 87.24 321 *e*PcP **P 08 38 41.4 +0.9**
comp=Z,2.3nm,0.5s
D03D Eldon 87.39 39 P **P 08 38 42.8 +1.7**
baz=302
STU Stuttgart 87.43 323 PFAKE 08 38 50.0 +8.7
STU LR LR
comp=Z,1µm,19.0s
FETA Feichten 87.51 321 *e*PcP **P 08 38 41.9 -0.1**
comp=Z,16nm,1.1s,SNR=9.8
ILULI Ilulissat 87.53 358 *eP* **P 08 38 41.8 +0.4**
comp=Z,32nm,0.9s
ILULI LR LR
comp=Z,500nm,20.0s
B05A Bryant 87.55 38 P **P 08 38 43.3 +1.4**
baz=303
TIP Timpagrande 87.65 312 *eP* **P 08 38 43.0 +0.3**
comp=Z,28nm,1.0s
TIP Timpagrande 87.65 312⇑ *iP* **P 08 38 42.7 +0.1**
DAVA Damuels 87.86 321 *e*PcP **P 08 38 43.6 0.0**
comp=Z,4.8nm,0.7s,SNR=6.5
FUORN Ofenpass-Fuorn 88.00 321 *eP* **P 08 38 44.4 0.0**
comp=Z,22nm,0.8s
FUORN LR LR
comp=Z,1µm,20.0s
DAVOX Davos/Dischmat 88.13 321 P **P 08 38 44.7 -0.3**
comp=Z,9.1nm,0.7s,baz=40,slow=4.5,SNR=15
DAVOX LR LR 09 21 59.1
comp=Z,946nm,18.8s,baz=47,slow=38
BFO Black Forest 88.16 323 *eP* **P 08 38 44.6 -0.3**
comp=Z,15nm,1.0s
BFO LR LR
comp=Z,1µm,18.0s
BFO Black Forest 88.16 323 *i* P **P 08 38 44.9 +0.1**
AQU L'Aquila 88.31 316 *eP* **P 08 38 46.2 +0.5**
comp=Z,46nm,0.9s
AQU LR LR
comp=Z,600nm,19.0s
AQU L'Aquila 88.31 316⇑ *iP* **P 08 38 45.8 +0.1**
WLF Walferdange 88.58 325 *eP* **P 08 38 47.4 +0.6**
comp=Z,171nm,0.9s
WLF LR LR
comp=Z,5µm,18.0s
WLF Walferdange 88.58 325 ⇑P **P 08 38 47.5 +0.8**
comp=Z,32nm,1.4s
BCLA Clavier 88.58 326 ⇑P **P 08 38 47.4 +0.6**
TUE Stuetta 88.61 321 *eP* **P 08 38 47.3 0.0**
comp=Z,67nm,1.6s
TUE LR LR
comp=Z,1µm,20.0s
CEL Celeste 88.68 311 *eP* **P 08 38 48.1 +0.6**
comp=Z,67nm,0.9s
CEL LR LR
comp=Z,300nm,20.0s
UCC Uccle 88.84 326 PFAKE 08 39 00.0 +12
UCC LR LR
comp=Z,1µm,21.0s
ECH Echery 88.87 323 *eP* **P 08 38 47.7 -0.5**
comp=Z,27nm,1.2s
ECH LR LR
comp=Z,1µm,18.0s
DOU Dourbes 89.14 326 ⇑sP sP 08 38 54.5 -4.9
comp=Z,11nm,0.8s
VLC Villacollemand 89.24 319 PFAKE 08 39 00.0 +10
VLC LR LR
comp=Z,1µm,21.0s
EKA Eskdalemuir Ar 89.43 333 P **P 08 38 49.8 -0.8**
comp=Z,6.0nm,0.8s,baz=43,slow=7.4,SNR=6.6
H04A Detroit Lake 89.45 41 *eP* **P 08 38 52.0 +0.9**
comp=Z,36nm,1.4s
ESK Eskdalemuir 89.46 333 *eP* **P 08 38 50.1 -0.6**
ESK IAmb IAmb 08 38 51.2
comp=Z,30nm,1.1s
ESK Eskdalemuir 89.46 333 *i* P **P 08 38 51.6 +0.9**
BHH Howats Hill 89.61 333 *eP* **P 08 38 51.4 -0.1**
HPK Haverah Park 89.69 331 *eP* **P 08 38 51.1 -0.7**
HPK IAmb IAmb 08 38 55.0
comp=Z,128nm,1.6s
SFJD Kangerlussuaq 89.73 358 *eP* **P 08 38 51.6 -0.1**
comp=Z,24nm,0.9s
SFJD LR LR
comp=Z,600nm,20.0s
SFJD Kangerlussuaq 89.73 358 *i* P **P 08 38 51.4 -0.4**
SFJD pmax pmax
comp=Z,14nm,0.8s
SFJD Kangerlussuaq 89.73 358 P **P 08 38 50.7 -1.1**
comp=Z,14nm,0.7s,baz=32,slow=5.2,SNR=7.6
SFJD Kangerlussuaq 89.73 358 *i* P **P 08 38 51.4 -0.4**
comp=Z,14nm,0.8s
I04A Tendick Farm, 89.80 41 P **P 08 38 53.9 +1.2**
baz=303
SENIN Lac Senin/Sane 89.84 322 *eP* **P 08 38 52.8 -0.3**
comp=Z,22nm,0.8s
SENIN LR LR
comp=Z,1µm,20.0s
G06A Carlson Farm, 90.07 40 *eP* **P 08 38 55.3 +1.4**
comp=Z,27nm,1.1s
ANGG Ammassalik, Gr 90.07 352 PFAKE 08 39 00.0 +6.6
ANGG LR LR
comp=Z,1µm,18.0s
LBWR Ladybower, Pea 90.10 331 *eP* **P 08 38 53.2 -0.6**
LBWR IAmb IAmb 08 38 54.4
comp=Z,57nm,0.9s
HUMO Hull Mountain 90.11 43 *eP* **P 08 38 56.0 +1.9**
comp=Z,10nm,1.1s
I05D Terrebonne, OR 90.15 41 P **P 08 38 55.7 +1.4**
baz=304
NEW Newport 90.28 36 *eP* **P 08 38 56.0 +1.2**
comp=Z,57nm,1.3s
NEW Newport 90.28 36 P **P 08 38 55.9 +1.0**
baz=307
NEW Newport 90.28 36 P **P 08 38 54.9 +0.1**
comp=Z,26nm,0.9s,baz=306,slow=2.7,SNR=4.7
PINE Pine Mountain 90.69 41 *eP* **P 08 38 58.3 +1.2**
comp=Z,64nm,1.4s
L04D Klamath Falls 90.72 43 P **P 08 38 58.0 +0.9**
baz=303
YBH Yreka Blue Hor 90.73 43 *eP* **P 08 38 58.1 +1.0**
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 90.73 43 P **P 08 38 57.7 +0.6**
comp=Z,4.6nm,1.1s,baz=311,slow=14,SNR=5.0
E09A Wood Farm, Sta 90.76 38 *eP* **P 08 38 57.8 +0.8**
comp=Z,77nm,1.6s
J05D Fort Rock, OR 90.80 41 P **P 08 38 58.9 +1.4**
baz=304
WDD Wied Dalam 90.82 310 PFAKE 08 39 10.0 +12
WDD LR LR
comp=Z,300nm,22.0s
K04D Chiloquin, OR 90.84 42 P **P 08 38 58.8 +1.1**
baz=303
BNI Bardonecchia 90.95 321 *eP* **P 08 38 57.7 -0.4**
BNI LR LR
comp=Z,1µm,19.0s
HLM1 Long Mynd 91.21 331 *eP* **P 08 38 56.6 -2.5**
HLM1 IAmb IAmb 08 38 58.4
comp=Z,30nm,1.1s
M04C Macdoel 91.25 43 P **P 08 39 01.0 +1.4**
baz=303
K05A Summer Lake 91.32 42 *eP* **P 08 39 00.9 +1.0**
comp=Z,45nm,1.4s
O02D Mt. Diablo Mer 91.52 45 P **P 08 39 02.4 +1.6**
baz=303
CLF Chambon-Foret 91.62 325 PFAKE 08 39 10.0 +9.1
CLF LR LR
comp=Z,2µm,19.0s
MCH1 Michaelchurch 91.62 330 *eP* **P 08 39 00.2 -0.7**
MCH1 IAmb IAmb 08 39 01.7
comp=Z,39nm,0.9s
SSB Saint Sauveur 92.04 322 *eP* **P 08 39 02.8 -0.3**
comp=Z,18nm,0.9s
SSB LR LR
comp=Z,800nm,18.0s
MOD Modoc Plateau 92.14 42 *eP* **P 08 39 04.8 +1.0**
comp=Z,16nm,0.9s
DSB Dublin 92.24 333 PFAKE 08 39 20.0 +16
DSB LR LR
comp=Z,1µm,19.0s
FCC Fort Churchill 92.33 19 *eP* **P 08 39 04.0 0.0**
comp=Z,50nm,0.9s
WVOR Wild Horse Val 92.85 41 *eP* **P 08 39 07.4 +0.4**
comp=Z,21nm,1.4s
MSO Missoula 92.86 35 P **P 08 39 07.4 +0.5**
baz=309
FFC Flin Flon 92.87 25 *eP* **P 08 39 06.7 +0.1**
comp=Z,53nm,0.9s
FFC Flin Flon 92.87 25 *i* P **P 08 39 06.9 +0.3**
MBAR Mbarara 92.95 271 PFAKE 08 39 20.0 +12
MBAR LR LR
comp=Z,400nm,22.0s
BEKR Beckworth 93.25 44 *eP* **P 08 39 09.0 +0.1**
comp=Z,11nm,0.9s
AFDM Forest Hills D 93.37 45 *eP* **P 08 39 09.6 +0.2**
comp=Z,6.5nm,1.1s
PPT Papeete 93.94 107 LR LR 09 12 55.8
comp=Z,226nm,21.4s,baz=298,slow=30
PPT2 Papeete2 93.95 107 *e*LQ LQ 09 05 24.9
comp=Z,828nm,25.8s
PPT2 *e*LR LR 09 09 28.6
comp=Z,784nm,26.2s
PAHR Pah Rah Range 93.96 44 *eP* **P 08 39 12.4 +0.3**
comp=Z,14nm,1.0s
VCNR Virginia City 94.03 44 *eP* **P 08 39 12.8 +0.2**
comp=Z,9.2nm,0.8s
EGMT Eagleton 94.24 33 P **P 08 39 13.1 -0.1**
baz=312
CMB Columbia Colle 94.26 45 *eP* **P 08 39 13.5 0.0**
comp=Z,15nm,1.0s
KEST Kesra 94.47 312 *eP* **P 08 39 14.3 -0.2**
comp=Z,26nm,1.0s
KEST Kesra 94.47 312 P **P 08 39 14.6 +0.1**
comp=Z,11nm,0.8s,baz=222,slow=21,SNR=8.7
KEST LR LR 09 26 44.3
comp=Z,339nm,19.3s,baz=304,slow=39
HLID Hailey 94.65 38 P **P 08 39 16.9 +1.6**
baz=309
BOZ Bozeman (W) 94.89 35 P **P 08 39 16.9 +0.6**
baz=311
KVN Kaiserville 95.15 44 *eP* **P 08 39 17.6 -0.1**
comp=Z,19nm,1.1s
NRS Narsarsuaq 95.23 355 PFAKE 08 39 30.0 +13
NRS LR LR
comp=Z,1µm,20.0s
NV01 Mina Array Sit 95.38 44 *eP* **P 08 39 19.3 +0.5**
NVAR Mina Array Bea 95.38 44 P **P 08 39 19.3 +0.5**
baz=282,slow=4.5,SNR=7.0
NVAR PKiKP **PKiKP 08 43 59.2 -0.1**
comp=Z,0.4nm,0.3s,baz=270,slow=3.5,SNR=11
NVAR LR LR 09 18 43.3
comp=Z,210nm,19.5s,baz=323,slow=33
IVI Ivigtut 95.39 356 PFAKE 08 39 30.0 +12
IVI LR LR
comp=Z,900nm,20.0s
H17A Grant Village 96.24 36 P **P 08 39 25.3 +2.7**
baz=312
TBI Tubuai 96.29 113 *e*LQ LQ 09 06 25.6
comp=Z,487nm,26.0s
TBI *e*LR LR 09 10 08.8
comp=Z,412nm,32.0s
PKM Mcpherson Peak 96.40 48 P **P 08 39 23.5 0.0**
baz=304
LOHW Long Hollow 96.74 36 PFAKE 08 39 40.0 +15
LOHW LR LR
comp=Z,400nm,20.0s
MPMC Manual Prospec 97.29 46 P Pdif 08 39 28.3 +0.8
baz=306
HWUT Hardware Ranch 97.52 38 PFAKE 08 39 40.0 +12
HWUT LR LR
comp=Z,400nm,19.0s
DUG Dugway, Tooele 97.69 40 P Pdif 08 39 29.7 +0.5
baz=310
PDAR Pinedale Array 97.87 37 P **P 08 39 29.7 -0.3**
comp=Z,1.0nm,0.8s,baz=80,slow=1.0,SNR=4.6
PDAR PP **PP 08 43 28.5 +0.7**
comp=Z,2.5nm,1.0s,baz=349,slow=4.5,SNR=6.0
ULM Lac du Bonnet 98.69 24 PFAKE 08 39 40.0 +6.8
ULM LR LR
comp=Z,600nm,20.0s
ULM Lac du Bonnet 98.69 24 P **P 08 39 32.4 -0.8**
comp=Z,5.4nm,1.0s,baz=337,slow=7.2,SNR=3.5
ULM LR LR 09 26 49.2
comp=Z,475nm,20.4s,baz=2.0,slow=37
RSSD Black Hills 99.81 33 PFAKE 08 39 50.0 +11
RSSD LR LR
comp=Z,600nm,18.0s
CART Cartagena 100.07 318 PFAKE 08 39 50.0 +10
CART LR LR
comp=Z,400nm,19.0s
U15A North Rim 100.40 43 PFAKE 08 39 50.0 +8.5
U15A LR LR
comp=Z,500nm,20.0s
ESLA Sonseca Array 100.45 322 PFAKE 08 39 50.0 +8.6
ESLA LR LR
comp=Z,900nm,18.0s
Y12C Blythe 100.62 46 PFAKE 08 39 50.0 +7.9
Y12C LR LR
comp=Z,700nm,19.0s
PAB San Pablo 100.76 322 PFAKE 08 39 50.0 +7.2
PAB LR LR
comp=Z,700nm,20.0s
LSZ Lusaka 100.87 258 PFAKE 08 39 50.0 +6.4
LSZ LR LR
comp=Z,600nm,21.0s
PV21 Cone Mtn., Par 101.01 39 PFAKE 08 40 00.0 +16
PV21 LR LR
comp=Z,400nm,20.0s
PV14 Lion Creek, Pa 101.11 40 PFAKE 08 40 00.0 +15
PV14 LR LR
comp=Z,500nm,21.0s
PV20 West Nyswonger 101.17 40 PFAKE 08 40 00.0 +15
PV20 LR LR
comp=Z,600nm,19.0s
PV18 Skein Mesa, Pa 101.26 40 PFAKE 08 40 00.0 +15
PV18 LR LR
comp=Z,400nm,21.0s
PV12 Saucer Basin, 101.28 40 PFAKE 08 40 00.0 +15
PV12 LR LR
comp=Z,800nm,21.0s
PV03 Paradox Valley 101.29 40 PFAKE 08 40 00.0 +15
PV03 LR LR
comp=Z,700nm,22.0s
SCHQ Schefferville 101.52 6 PFAKE 08 40 00.0 +14
SCHQ LR LR
comp=Z,900nm,21.0s
MTE Manteigas 101.94 324 PFAKE 08 40 00.0 +12
MTE LR LR
comp=Z,900nm,18.0s
COI Coimbra 102.54 324 PFAKE 08 40 00.0 +9.5
COI LR LR
comp=Z,600nm,20.0s
W18A Petrified Fore 102.83 42 PFAKE 08 40 00.0 +7.8
W18A LR LR
comp=Z,400nm,22.0s
C40A Isle Royale Na 103.08 22 PFAKE 08 40 00.0 +7.2
C40A LR LR
comp=Z,700nm,21.0s
VNDA Vanda 103.24 172 PKiKP **PKiKP 08 44 12.5 +0.7**
comp=Z,1.3nm,0.9s,baz=299,slow=8.7,SNR=4.4
SPMN Marine on St. 104.00 26 PFAKE 08 40 10.0 +13
SPMN LR LR
comp=Z,700nm,22.0s
D41A Chassel 104.02 22 PFAKE 08 40 10.0 +13
D41A LR LR
comp=Z,800nm,22.0s
TAM Tamanrasset 104.34 303 PFAKE 08 40 10.0 +11
TAM LR LR
comp=Z,400nm,20.0s
PFVI Vila Bisbo 104.96 322 PFAKE 08 44 30.0 +14
PFVI LR LR
comp=Z,2µm,18.0s
G40A Rib Lake 104.96 24 PFAKE 08 44 30.0 +14
G40A LR LR
comp=Z,600nm,20.0s
F41A Three Lakes 104.97 23 PFAKE 08 44 30.0 +14
F41A LR LR
comp=Z,800nm,21.0s
Y22D IRIS PASSCAL I 105.25 42 PFAKE 08 44 30.0 +13
Y22D LR LR
comp=Z,500nm,19.0s
G42A Mountain 105.64 23 PFAKE 08 44 30.0 +13
G42A LR LR
comp=Z,800nm,21.0s
I39A Houston 105.64 26 PFAKE 08 44 30.0 +13
I39A LR LR
comp=Z,700nm,22.0s
H41A Junction City 105.72 24 PFAKE 08 44 30.0 +13
H41A LR LR
comp=Z,500nm,21.0s
G43A Wallace 105.89 22 PFAKE 08 44 30.0 +12
G43A LR LR
comp=Z,800nm,22.0s
I41A Arkdale 106.11 25 PFAKE 08 44 30.0 +12
I41A LR LR
comp=Z,700nm,19.0s
H42A Shiocton 106.23 23 PFAKE 08 44 30.0 +12
H42A LR LR
comp=Z,700nm,19.0s
VLDQ Val d'Or 106.28 15 PFAKE 08 44 30.0 +12
VLDQ LR LR
comp=Z,600nm,18.0s
I42A Draeger Farm, 106.62 24 PFAKE 08 44 30.0 +11
I42A LR LR
comp=Z,600nm,19.0s
JFWS Jewell Farm 106.94 25 PFAKE 08 44 30.0 +10
JFWS LR LR
comp=Z,500nm,20.0s
D53A Lac Vacive, Po 107.19 15 PFAKE 08 44 30.0 +10
D53A LR LR
comp=Z,600nm,19.0s

L40A	Anamosa	107.26	27	PFAKE		08 44 30.0	+10	
L40A				LR	LR			
comp=Z,600nm,19.0s								
GLMI	Grayling	107.30	21	PFAKE		08 44 30.0	+10	
GLMI				LR	LR			
comp=Z,500nm,20.0s								
I45A	Fountain	107.46	22	PFAKE		08 44 30.0	+9.3	
I45A				LR	LR			
comp=Z,1µm,22.0s								
K43A	Burlington	107.86	24	PFAKE		08 44 30.0	+8.6	
K43A				LR	LR			
comp=Z,500nm,18.0s								
J45A	Montague	107.93	23	PFAKE		08 44 30.0	+8.4	
J45A				LR	LR			
comp=Z,700nm,21.0s								
J47A	Sunmer	108.64	22	PFAKE		08 44 30.0	+7.1	
J47A				LR	LR			
comp=Z,600nm,20.0s								
SADO	Sadowa	108.98	17	PFAKE		08 44 40.0	+17	
SADO				LR	LR			
comp=Z,700nm,22.0s								
M44A	Midewin, Midew	109.05	25	PFAKE		08 44 40.0	+16	
M44A				LR	LR			
comp=Z,600nm,19.0s								
L46A	Eue Claire	109.21	23	PFAKE		08 44 40.0	+16	
L46A				LR	LR			
comp=Z,800nm,22.0s								
PLVO	Plevna	109.26	15	PFAKE		08 44 40.0	+16	
PLVO				LR	LR			
comp=Z,600nm,20.0s								
HDIL	Hopedale	109.31	26	PFAKE		08 44 40.0	+16	
HDIL				LR	LR			
comp=Z,800nm,22.0s								
PQI	Presque Isle	109.41	9	PFAKE		08 44 40.0	+16	
PQI				LR	LR			
comp=Z,700nm,21.0s								
SYO	Syowa Base	109.58	202⇑	eX		PKiKP	08 44 34.6	+11
OK023	East Waterloo	109.59	34	PFAKE		08 44 40.0	+15	
OK023				LR	LR			
comp=Z,400nm,19.0s								
OK024	West corner E0	109.64	34	PFAKE		08 44 40.0	+15	
OK024				LR	LR			
comp=Z,400nm,19.0s								
M46A	Old House Fiel	109.71	24	PFAKE		08 44 40.0	+15	
M46A				LR	LR			
comp=Z,700nm,22.0s								
K50A	Casco	109.78	20	PFAKE		08 44 40.0	+15	
K50A				LR	LR			
comp=Z,500nm,20.0s								
AAM	Ann Arbor	109.87	21	PFAKE		08 44 40.0	+15	
AAM				LR	LR			
comp=Z,500nm,22.0s								
LONY	Lake Ozonia	110.23	14	PFAKE		08 44 40.0	+14	
LONY				LR	LR			
comp=Z,600nm,18.0s								
M48A	Edgerton	110.23	22	PFAKE		08 44 40.0	+14	
M48A				LR	LR			
comp=Z,600nm,20.0s								
SFIN	Lafayette	110.33	25	PFAKE		08 44 40.0	+14	
SFIN				LR	LR			
comp=Z,600nm,18.0s								
J54A	Appleton	110.50	17	PFAKE		08 44 40.0	+14	
J54A				LR	LR			
comp=Z,700nm,20.0s								
TXAR	Lajitas Array	110.51	43	PKiKP		PKiKP	08 44 26.8	-0.2
comp=Z,1.0nm,0.6s,baz=349,slow=0.9,SNR=9.8								
CCM	Cathedral Cave	110.58	29	PFAKE		08 44 40.0	+13	
CCM				LR	LR			
comp=Z,500nm,22.0s								
LMN	Caledonia Moun	110.60	6	PFAKE		08 44 40.0	+13	
LMN				LR	LR			
comp=Z,700nm,18.0s								
PKME	Peaks-Kenny Pk	110.60	10	PFAKE		08 44 40.0	+13	
PKME				LR	LR			
comp=Z,800nm,21.0s								
MEDO	Medina	110.65	17	PFAKE		08 44 40.0	+13	
MEDO				LR	LR			
comp=Z,700nm,21.0s								
J55A	Hilton	110.73	17	PFAKE		08 44 40.0	+13	
J55A				LR	LR			
comp=Z,800nm,21.0s								
P45A	Graceland, Par	110.81	26	PFAKE		08 44 40.0	+13	
P45A				LR	LR			
comp=Z,600nm,22.0s								
VT1	Waterbury	110.89	13	PFAKE		08 44 40.0	+13	
VT1				LR	LR			
comp=Z,800nm,20.0s								
N49A	Columbus Grove	110.92	22	PFAKE		08 44 40.0	+13	
N49A				LR	LR			
comp=Z,700nm,22.0s								
NCB	Newcomb	110.93	14	PFAKE		08 44 40.0	+13	
NCB				LR	LR			
comp=Z,400nm,20.0s								
FVM	French Village	111.00	28	PFAKE		08 44 40.0	+12	
FVM				LR	LR			
comp=Z,500nm,21.0s								
LBNH	Lisbon	111.14	12	PFAKE		08 44 40.0	+12	
LBNH				LR	LR			
comp=Z,700nm,19.0s								
MMNY	Mt. Morris Dam	111.20	17	PFAKE		08 44 40.0	+12	
MMNY				LR	LR			
comp=Z,800nm,22.0s								
WVL	Waterville	111.23	10	PFAKE		08 44 40.0	+12	
WVL				LR	LR			
comp=Z,800nm,21.0s								
M52A	Chesterland	111.30	20	PFAKE		08 44 40.0	+12	
M52A				LR	LR			
comp=Z,600nm,21.0s								
GBN	Guysborough	111.31	4	PFAKE		08 44 40.0	+12	
GBN				LR	LR			
comp=Z,800nm,22.0s								
OLIL	Olney	111.34	26	PFAKE		08 44 40.0	+12	
OLIL				LR	LR			
comp=Z,500nm,21.0s								
EMMW	East Machias	111.41	9	PFAKE		08 44 40.0	+12	
EMMW				LR	LR			
comp=Z,600nm,18.0s								
O49A	Covington	111.52	23	PFAKE		08 44 40.0	+12	
O49A				LR	LR			
comp=Z,500nm,18.0s								
N51A	Ashland	111.53	21	PFAKE		08 44 40.0	+12	
N51A				LR	LR			
comp=Z,400nm,20.0s								
HNH	Hanover	111.59	12	PFAKE		08 44 40.0	+12	
HNH				LR	LR			
comp=Z,800nm,19.0s								
M54A	Oil Creek Stat	111.84	19	PFAKE		08 44 40.0	+11	
M54A				LR	LR			
comp=Z,700nm,22.0s								
HAL	Halifax	111.92	6	PFAKE		08 44 40.0	+11	
HAL				LR	LR			
comp=Z,800nm,19.0s								
ACSO	Alum Creek Sta	111.95	22	PFAKE		08 44 40.0	+11	
ACSO				LR	LR			
comp=Z,400nm,20.0s								
PBMO	Poplar Bluff	112.00	29	PFAKE		08 44 40.0	+11	
PBMO				LR	LR			
comp=Z,400nm,20.0s								
JCT	Junction City	112.06	40	PFAKE		08 44 40.0	+10	
JCT				LR	LR			
comp=Z,400nm,20.0s								
JCT	Junction City	112.06	40	P		PKiKP	08 44 29.8	0.0
baz=317								
N53A	Lisbon	112.13	20	PFAKE		08 44 40.0	+10	
N53A				LR	LR			
comp=Z,700nm,21.0s								
USIN	University of	112.18	26	PFAKE		08 44 40.0	+10	
USIN				LR	LR			
comp=Z,600nm,18.0s								
TRY	Troy	112.23	14	PFAKE		08 44 40.0	+10	
TRY				LR	LR			
comp=Z,600nm,20.0s								
MIAR	Mount Ida	112.33	33	PFAKE		08 44 40.0	+10	
MIAR				LR	LR			
comp=Z,500nm,20.0s								
O52A	Adamsville	112.43	21	PFAKE		08 44 40.0	+10	
O52A				LR	LR			
comp=Z,500nm,20.0s								
W41B	Gary Mavity, V	112.47	31	PFAKE		08 44 40.0	+10	
W41B				LR	LR			
comp=Z,600nm,20.0s								
WCI	Wyandotte Cave	112.50	25	PFAKE		08 44 40.0	+10	
WCI				LR	LR			
comp=Z,700nm,21.0s								
P51A	Williamsport	112.59	22	PFAKE		08 44 40.0	+10	
P51A				LR	LR			
comp=Z,400nm,20.0s								
TOB2	Torodi Ar. Sit	112.61	296	PFAKE		08 44 40.0	+8.9	
TOB2				LR	LR			
comp=Z,700nm,19.0s								
TOA2	Torodi Ar. Sit	112.61	296	PFAKE		08 44 40.0	+8.9	
TOA2				LR	LR			
comp=Z,600nm,22.0s								
TORD	Torodi Ar. Bea	112.62	296	PKiKP		PKiKP	08 44 30.2	-0.9
comp=Z,0.8nm,0.7s,baz=18,slow=2.8,SNR=5.0								
TORD				PKKPab		PKKPab	08 55 32.0	+3.0
comp=Z,1.9nm,0.9s,baz=281,slow=3.9,SNR=7.3								
PVMO	Portageville	112.63	29	PFAKE		08 44 40.0	+9.4	
PVMO				LR	LR			
comp=Z,500nm,19.0s								
N55A	Marion Center	112.71	19	PFAKE		08 44 40.0	+9.3	
N55A				LR	LR			
comp=Z,500nm,21.0s								
X40A	Basin Creek Fa	112.74	32	PFAKE		08 44 40.0	+9.1	
X40A				LR	LR			
comp=Z,700nm,22.0s								
HRV	Adam Dziewonsk	112.88	12	PFAKE		08 44 40.0	+9.1	
HRV				LR	LR			
comp=Z,700nm,18.0s								
Q51A	Peebles	112.90	23	PFAKE		08 44 40.0	+8.9	
Q51A				LR	LR			
comp=Z,600nm,21.0s								
HBAR	Harrisburg	112.91	30	PFAKE		08 44 40.0	+8.8	
HBAR				LR	LR			
comp=Z,600nm,20.0s								
GLAT	Glass	112.93	29	PFAKE		08 44 40.0	+8.8	
GLAT				LR	LR			
comp=Z,500nm,22.0s								
QUA2	Belchertown	112.94	13	PFAKE		08 44 40.0	+8.9	
QUA2				LR	LR			
comp=Z,600nm,19.0s								
WES	Weston	113.05	12	PFAKE		08 44 40.0	+8.8	
WES				LR	LR			
comp=Z,800nm,18.0s								
P53A	Whipple	113.15	21	PFAKE		08 44 40.0	+8.4	
P53A				LR	LR			
comp=Z,600nm,22.0s								
SSPA	Standing Stone	113.16	18	PFAKE		08 44 40.0	+8.5	
SSPA				LR	LR			
comp=Z,600nm,19.0s								
T47A	Sharon Grove	113.24	26	PFAKE		08 44 40.0	+8.2	
T47A				LR	LR			
comp=Z,500nm,19.0s								
O56A	Blue Knob Stat	113.31	18	PFAKE		08 44 40.0	+8.1	
O56A				LR	LR			
comp=Z,600nm,19.0s								
BRYW	Bryant College	113.45	12	PFAKE		08 44 40.0	+7.9	
BRYW				LR	LR			
comp=Z,600nm,20.0s								
N59A	State Game Lan	113.46	16	PFAKE		08 44 40.0	+7.9	
N59A				LR	LR			
comp=Z,700nm,22.0s								
MCWV	Mont Chateau	113.48	20	PFAKE		08 44 40.0	+7.8	
MCWV				LR	LR			
comp=Z,300nm,19.0s								
ODNJ	Ogdensburg	113.59	15	PFAKE		08 44 40.0	+7.7	
ODNJ				LR	LR			
comp=Z,600nm,20.0s								
X43A	Marvell	113.66	31	PFAKE		08 44 40.0	+7.4	
X43A				LR	LR			
comp=Z,600nm,22.0s								
WVT	Waverly	113.67	28	PFAKE		08 44 40.0	+7.4	
WVT				LR	LR			
comp=Z,600nm,20.0s								
WVT	Waverly	113.67	28	P		PKiKP	08 44 32.0	-0.6
baz=328								
YLE	Yale	113.75	14	PFAKE		08 44 40.0	+7.4	
YLE				LR	LR			
comp=Z,600nm,20.0s								
T49A	Edmonton	113.77	25	PFAKE		08 44 40.0	+7.2	
T49A				LR	LR			
comp=Z,500nm,22.0s								
Q54A	Coxs Mills	113.79	21	PFAKE		08 44 40.0	+7.2	
Q54A				LR	LR			
comp=Z,600nm,18.0s								
PAGS	Pennsylvania G	113.86	17	PFAKE		08 44 40.0	+7.1	
PAGS				LR	LR			
comp=Z,700nm,20.0s								
BRNJ	Basking Ridge	113.98	15	PFAKE		08 44 40.0	+6.9	
BRNJ				LR	LR			
comp=Z,600nm,22.0s								
R53A	Hurricane	114.00	22	PFAKE		08 44 40.0	+6.8	
R53A				LR	LR			
comp=Z,600nm,22.0s								
S51A	Beattyville	114.04	23	PFAKE		08 44 50.0	+17	
S51A				LR	LR			
comp=Z,600nm,21.0s								
CLTN	Cedars of Leba	114.33	26	PFAKE		08 44 50.0	+16	
CLTN				LR	LR			
comp=Z,200nm,20.0s								
OXF	Oxford	114.34	30	PFAKE		08 44 50.0	+16	
OXF				LR	LR			
comp=Z,400nm,20.0s								
V48A	Smith Brothers	114.43	27	PFAKE		08 44 50.0	+16	
V48A				LR	LR			
comp=Z,700nm,22.0s								
PSUB	Penn St. - Bra	114.47	16	PFAKE		08 44 50.0	+16	
PSUB				LR	LR			
comp=Z,800nm,20.0s								
W47A	Westpoint	114.52	28	P		PKiKP	08 44 33.7	-0.6
baz=328								
SDMD	Soldier's Deli	114.59	17	PFAKE		08 44 50.0	+16	
SDMD				LR	LR			
comp=Z,400nm,21.0s								
R55A	Marlinton	114.65	20	PFAKE		08 44 50.0	+15	
R55A				LR	LR			
comp=Z,700nm,21.0s								
T52A	Hallie	114.73	23	PFAKE		08 44 50.0	+15	
T52A				LR	LR			
comp=Z,800nm,22.0s								
TZTN	Tazewell	115.03	24	PFAKE		08 44 50.0	+15	
TZTN				LR	LR			
comp=Z,500nm,19.0s								
SWET	Sewanee	115.25	27	PFAKE		08 44 50.0	+14	
SWET				LR	LR			
comp=Z,500nm,19.0s								
V51A	Loudon	115.37	25	PFAKE		08 44 50.0	+14	
V51A				LR	LR			
comp=Z,500nm,20.0s								
X48A	Hartselle	115.44	28	PFAKE		08 44 50.0	+14	
X48A				LR	LR			
comp=Z,400nm,20.0s								
S57A	Dark Hollow, R	115.50	20	PFAKE		08 44 50.0	+14	
S57A				LR	LR			
comp=Z,500nm,18.0s								
W50A	Signal Mountai	115.52	26	PFAKE		08 44 50.0	+14	
W50A				LR	LR			
comp=Z,700nm,20.0s								
BLA	Blacksburg	115.53	21	PFAKE		08 44 50.0	+14	
BLA				LR	LR			
comp=Z,600nm,20.0s								
CBN	Corbin Frederi	115.56	18	PFAKE		08 44 50.0	+14	
CBN				LR	LR			
comp=Z,700nm,19.0s								
CPCT	Cooper Cave	115.61	25	PFAKE		08 44 50.0	+14	
CPCT				LR	LR			
comp=Z,500nm,19.0s								
V52A	Sevierville	115.63	24	PFAKE		08 44 50.0	+14	
V52A				LR	LR			
comp=Z,500nm,18.0s								
R58B	Mineral	115.64	19	PFAKE		08 44 50.0	+14	
R58B				LR	LR			
comp=Z,600nm,20.0s								
U54A	Nelsons Funny	115.67	23	PFAKE		08 44 50.0	+13	
U54A				LR	LR			
comp=Z,500nm,19.0s								
S58A	Poland Farm, P	115.91	19	PFAKE		08 44 50.0	+13	
S58A				LR	LR			
comp=Z,800nm,19.0s								
V53A	Saluda	116.07	24	PFAKE		08 44 50.0	+13	
V53A				LR	LR			
comp=Z,500nm,21.0s								
T57A	Hurt	116.11	20	PFAKE		08 44 50.0	+13	
T57A				LR	LR			
comp=Z,600nm,19.0s								
W52A	Murphy	116.16	25	PFAKE		08 44 50.0	+12	
W52A				LR	LR			
comp=Z,500nm,20.0s								
Y49A	Blount Mountai	116.22	28	PFAKE		08 44 50.0	+12	
Y49A				LR	LR			
comp=Z,700nm,22.0s								
Y49A	Blount Mountai	116.22	28	P		PKiKP	08 44 37.1	-0.5
baz=329								
X51A	Calhoun	116.25	26	PFAKE		08 44 50.0	+12	
X51A				LR	LR			
comp=Z,500nm,19.0s								
V54A	Nebo	116.29	23	P		PKiKP	08 44 37.0	-0.7
baz=334								
BG3	Lake Jocassee	116.63	24	PFAKE		08 44 50.0	+12	
BG3				LR	LR			
comp=Z,700nm,22.0s								
T59A	Double "B" Far	116.65	19	PFAKE		08 44 50.0	+12	
T59A				LR	LR			
comp=Z,700nm,20.0s								
LRAL	Lakeview Retre	116.66	29	P		PKPdf	08 44 38.0	-0.5
baz=328								
T60A	Surry	116.74	18	PFAKE		08 44 50.0	+12	
T60A				LR	LR			
comp=Z,700nm,21.0s								
V56A	Mocksville	116.78	22	PFAKE		08 44 50.0	+11	
V56A				LR	LR			
comp=Z,700nm,19.0s								
Z50A	Ashland	116.94	28	PFAKE		08 44 50.0	+11	
Z50A				LR	LR			
comp=Z,700nm,20.0s								
149A	Jones	117.12	29	P		PKPdf	08 44 39.1	-0.2
baz=328								
U59A	Littleton	117.16	19	PFAKE		08 44 50.0	+11	
U59A				LR	LR			
comp=Z,700nm,19.0s								
Y52A	Lilburn	117.18	26	PFAKE		08 44 50.0	+11	
Y52A				LR	LR			
comp=Z,500nm,20.0s								
W57A	Gilead	117.54	22	PFAKE		08 44 50.0	+10	
W57A				LR	LR			
comp=Z,600nm,20.0s								
BIRD	Birdtown, Kers	117.84	22	PFAKE		08 44 50.0	+9.3	
BIRD				LR	LR			
comp=Z,600nm,18.0s								
V60A	Jim Taylor Roa	117.86	19	PFAKE		08 44 50.0	+9.3	
V60A				LR	LR			
comp=Z,700nm,21.0s								
JSC	Jenkinsville	117.88	23	PFAKE		08 44 50.0	+9.2	
JSC				LR	LR			
comp=Z,500nm,19.0s								
250A	Grady	117.89	29	PFAKE		08 44 50.0	+9.1	
250A				LR	LR			
comp=Z,400nm,20.0s								
152A	Waverly Hall	117.96	27	PFAKE		08 44 50.0	+9.0	
152A				LR	LR			
comp=Z,700nm,22.0s								
CNNC	Cliffs of the	118.15	20	PFAKE		08 44 50.0	+8.7	
CNNC				LR	LR			
comp=Z,600nm,18.0s								
251A	Midway	118.16	28	P		PKPdf	08 44 41.3	0.0
baz=330								
X58A	Rowland	118.31	22	PFAKE		08 44 50.0	+8.4	
X58A				LR	LR			
comp=Z,500nm,20.0s								
Y57A	Sumter	118.43	23	PFAKE		08 44 50.0	+8.1	
Y57A				LR	LR			
comp=Z,600nm,19.0s								
154A	Montrose	118.66	26	PFAKE		08 44 50.0	+7.6	
154A				LR	LR			
comp=Z,600nm,20.0s								
253A	Americus	118.73	27	PFAKE		08 44 50.0	+7.5	
253A				LR	LR			
comp=Z,500nm,21.0s								
Y58A	Scranton	118.79	22	PFAKE		08 44 50.0	+7.4	
Y58A				LR	LR			
comp=Z,600nm,20.0s								
352A	Blakely	118.89	28	PFAKE		08 44 50.0	+7.2	
352A				LR	LR			
comp=Z,600nm,20.0s								
Y60A	Bolivia	119.18	21	PFAKE		08 44 50.0	+6.7	
Y60A				LR	LR			
comp=Z,600nm,20.0s								
SNAA	Sanae	123.25	198	PKPdf		PKPdf	08 44 49.6	-0.4
VNA2	Neumayer--Watz	124.90	198	PKPdf		PKiKP	08 44 53.2	-0.1
VNA1	Neumayer--Stat	125.29	198	PKPdf		PKPdf	08 44 53.4	-0.3
VNA3	Neumayer Olymp	125.33	197	PKPdf		PKPdf	08 44 53.0	-0.9
SDDR	Presa de Saban	135.37	20	PFAKE			08 45 30.0	+14
SDDR				LR	LR			
comp=Z,700nm,20.0s								
SDD	Santo Domingo	136.28	19	PFAKE			08 45 30.0	+12
SDD				LR	LR			
comp=Z,900nm,22.0s								
AGP	Aguadilla	137.08	15	PFAKE			08 45 30.0	+10
AGP				LR	LR			
comp=Z,500nm,21.0s								
AOPR	Arecibo Observ	137.23	15	PFAKE			08 45 30.0	+10
AOPR				LR	LR			
comp=Z,2µm,20.0s								
MPR	Mayaguez	137.27	15	PFAKE			08 45 30.0	+10
MPR				LR	LR			
comp=Z,600nm,18.0s								
CBYP	Canovanas	137.50	13	PFAKE			08 45 30.0	+10
CBYP				LR	LR			
comp=Z,300nm,20.0s								
CUPR	Culebra, Puert	137.59	13	PFAKE			08 45 30.0	+9.5
CUPR				LR	LR			
comp=Z,300nm,19.0s								
SJG	San Juan	137.59	14	PFAKE			08 45 30.0	+9.5
SJG				LR	LR			
comp=Z,300nm,22.0s								
STVI	Saint Thomas	137.61	12	PFAKE			08 45 30.0	+9.4
STVI				LR	LR			
comp=Z,400nm,21.0s								
HUMP	Col San Antoni	137.63	14	PFAKE			08 45 30.0	+9.4
HUMP				LR	LR			
comp=Z,400nm,20.0s								
ICMP	Isla Caja de M	137.72	15	PFAKE			08 45 30.0	+9.2
ICMP				LR	LR			
comp=Z,600nm,21.0s								
MTP	Monte Pirata	137.73	13	PFAKE			08 45 30.0	+9.2
MTP				LR	LR			
comp=Z,400nm,22.0s								
SMRT	St. Maarten	138.23	10	PFAKE			08 45 30.0	+8.1
SMRT				LR	LR			
comp=Z,500nm,21.0s								
PMSA	Palmer Station	138.37	175	eP		PKiKP	08 45 22.2	+1.6
SEUS	St. Eustatius	138.79	10	PFAKE			08 45 30.0	+7.0
SEUS				LR	LR			
comp=Z,500nm,20.0s								
SKI	Saint Kitts	138.99	9	PFAKE			08 45 30.0	+6.6
SKI				LR	LR			
comp=Z,500nm,22.0s								
SVB	Belmont	143.19	8	PFAKE			08 45 40.0	+7.9
SVB				LR	LR			
comp=Z,400nm,20.0s								
SDV	Santo Domingo	144.94	25	ePKPbc		PKPab	08 45 31.3	0.0
SDV				LR	LR			
comp=Z,300nm,20.0s								
SDV	Santo Domingo	144.94	25⇑	iP		PKPab	08 45 31.3	0.0
SDV	Santo Domingo	144.94	25⇑	iP		PKPab	08 45 31.3	0.0
SDV	Santo Domingo	144.94	25	PKP		PKPbc	08 45 31.3	0.0
comp=Z,62nm,0.9s,baz=332,slow=2.1,SNR=75								
CAPV	Capacho	145.17	29⇑	iP		PKPab	08 45 32.3	+0.2
CAPV	Capacho	145.17	29⇑	iP		PKPab	08 45 32.3	+0.2
BRRC	Barranca, Sant	145.19	31⇑	iP		PKPbc	08 45 31.8	-0.1
BRRC	Barranca, Sant	145.19	31⇑	iP		PKPbc	08 45 31.8	-0.1
SOCV	Socops	145.40	26⇑	iP		PKPbc	08 45 31.8	-0.8
SOCV	Socops	145.40	26⇑	iP		PKPbc	08 45 31.8	-0.8
PAMC	Pamplona, Colo	145.46	30	eP		PKPab	08 45 33.6	+0.1
PAMC	Pamplona, Colo	145.46	30	eP		PKPab	08 45 33.6	+0.1
GIRC	Giron, Santand	145.46	31⇓	iP		PKPab	08 45 33.2	0.0
GIRC	Giron, Santand	145.46	31⇓	iP		PKPab	08 45 33.2	0.0
BARC	Barichara	145.90	31	eP		PKPdf	08 45 34.0	+0.1
BARC	Barichara	145.90	31	eP		PKPdf	08 45 34.0	+0.1
RUSC	La Rusia	146.55	31⇑	iP		PKPbc	08 45 36.6	-0.2
RUSC	La Rusia	146.55	31⇑	iP		PKPbc	08 45 36.6	-0.2
TAMC	Tame, Arauca	146.67	29	eP		PKPab	08 45 37.2	-0.4
TAMC	Tame, Arauca	146.67	29	eP		PKPab	08 45 37.2	-0.4
ROSC	El Rosal	146.84	34	ePKPdf		PKPdf	08 45 35.1	-0.5
ROSC	El Rosal	146.84	34	PKPbc		PKPbc	08 45 36.9	-0.6
comp=Z,7.6nm,0.7s,baz=331,slow=7.1,SNR=6.9								
ELOV	Elorza	147.11	25⇑	iP		PKPbc	08 45 37.6	-0.1
ELOV	Elorza	147.11	25⇑	iP		PKPbc	08 45 37.6	-0.1
CHIC	Chingaza	147.32	34	eP		PKPdf	08 45 35.8	-0.7
CHIC	Chingaza	147.32	34	eP		PKPdf	08 45 35.8	-0.7
YOPC	Yopal, Colombi	147.34	31	eP		PKPbc	08 45 38.8	+0.3
YOPC	Yopal, Colombi	147.34	31	eP		PKPbc	08 45 38.8	+0.3
PRAC	Prado	147.49	36	eP		PKPbc	08 45 38.5	-0.3
PRAC	Prado	147.49	36	eP		PKPbc	08 45 38.5	-0.3

BBAC	Balboa, Cauca	147.50	42⇑	*i*P	PKPab	08 45 40.5	-0.5
BBAC	Balboa, Cauca	147.50	42⇑	*i*P	PKPab	08 45 40.5	-0.5
VILC	Villavicencio,	147.78	34	*e*P	PKPbc	08 45 39.9	+0.2
VILC	Villavicencio,	147.78	34	*e*P	PKPbc	08 45 39.9	+0.2
BETC	Betania	148.03	38	*e*P	PKPdf	08 45 38.6	+1.4
BETC	Betania	148.03	38	*e*P	PKPdf	08 45 38.6	+1.4
FLOC	Florencia	148.80	40⇑	*i*P	PKPbc	08 45 42.3	0.0
FLOC	Florencia	148.80	40⇑	*i*P	PKPbc	08 45 42.3	0.0
GUVC	San Jose del G	149.67	34	*e*P	PKPbc	08 45 43.6	-0.8
GUVC	San Jose del G	149.67	34	*e*P	PKPbc	08 45 43.6	-0.8
PTLC	Puerto Leguiza	150.44	40⇑	*i*P	PKiKP	08 45 47.2	+0.1
PTLC	Puerto Leguiza	150.44	40⇑	*i*P	PKiKP	08 45 47.2	+0.1
MDP	Montagnes des	151.40	352	PKPbc	PKPbc	08 45 48.1	-0.4
	comp=Z,16nm,1.0s,baz=308,slow=4.3,SNR=1.7						
ATAH	Atahualpa	153.29	56	PKPbc	PKiKP	08 45 53.6	+0.2
	comp=Z,8.0nm,0.8s,baz=357,slow=0.7,SNR=6.1						
PTGA	Pitinga	157.14	9	*e*PKPdf	PKPdf	08 45 50.5	-0.1
PTGA	Pitinga	157.14	9	*e*P	PKPdf	08 45 54.3	+3.7
PLCA	Paso Flores	159.01	149	*e*P	PKPdf	08 45 56.2	+4.1
RIB01	Linhares ES	164.62	282	*e*P	PKPdf	08 46 02.0	+3.6
BSFB	Barra de Sao F	164.86	285	*e*P	PKPdf	08 46 02.9	+4.3
SJMB	Sao Joao De Ma	165.12	286	*e*P	PKPdf	08 46 03.6	+4.8
ALF01	Guarapari-ES	165.28	278	*e*P	PKPdf	08 46 02.6	+3.7
LCO	Las Campanas	165.95	116	*e*P	PKPdf	08 46 04.1	+4.5
LPAZ	La Paz	166.80	59	*e*PKPdf	PKPdf	08 46 00.1	-0.9
LPAZ	La Paz	166.80	59	*e*PKiKP	PKPdf	08 46 00.1	-0.9
LPAZ	La Paz	166.80	59	PKP	PKPdf	08 46 01.5	+0.5
	comp=Z,6.1nm,1.2s,baz=348,slow=3.1,SNR=13						
LPAZ	La Paz	166.80	59	*e*P	PKPdf	08 46 02.9	+1.9
DUB01	Friburgo-RJ	167.07	273	*e*P	PKPdf	08 46 04.1	+3.7
LVC	Limon Verde	168.37	88	PKP	PKPdf	08 46 01.7	+0.1
	comp=Z,3.2nm,0.7s,baz=0.0,slow=3.0,SNR=2.6						
LVC				PKPab	PKPab	08 47 10.4	-0.2
	comp=Z,3.4nm,0.9s,baz=234,slow=18,SNR=2.5						
LVC	Limon Verde	168.37	88	*e*P	PKPdf	08 46 07.1	+5.4
BDFB	Brasilia	168.98	313	PKP	PKPdf	08 46 01.6	-0.3
	comp=Z,5.5nm,0.8s,baz=148,slow=2.5,SNR=7.4						
BDFB				PKPab	PKPab	08 47 12.6	-0.4
	comp=Z,3.3nm,0.6s,baz=169,slow=10.0,SNR=3.7						
TER01	Tubaro-SC	171.79	230	*e*P	PKPdf	08 46 07.7	+4.7
CPUP	Villa Florida	176.98	162	PKP	PKPdf	08 46 04.4	-0.3
	comp=Z,3.0nm,1.0s,baz=172,slow=2.2,SNR=4.0						

*IDC **21** 08:34:16.9±0.8, 44°.55N×112°.82W, h0km, mb1 3.6/5, mb1mx3.4/77, mbtmp3.2/5, ML3.5/5, Error ellipse: s-maj=9.6km s-min=6.9km az=57.0*
*BUT **21** 08:34:18.1, 44°.57N×112°.73W, h10km, ML3.7*
*NEIC **21** 08:34:18.1±0.0, 44°.57N×112°.73W, h10km, ML3.7(BUT), After BUT.*
*ANF **21** 08:34:19.3±1.4, 44°.56N×112°.64W, h21km±17km, ML3.8/8, Error ellipse: s-maj=10.1km s-min=4.3km az=109.0*
ISC 21 08:34:17.6±1.3, 44°.58N±0°.03×112.72W±0°.02, h1km±10km, n75, σ1°.06/91, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCMT	McKenzie Canyo	0.26	340	*e*Pg	Pg	08 34 23.8	+1.1
DLMT	Dillon	0.79	6	*e*Pg	Pg	08 34 33.1	+0.4
QLMT	Earthquake Lak	0.95	74	*e*Pg	Pg	08 34 35.9	0.0
QLMT				*e*Sg	Sg	08 34 48.6	+0.4
YHB	Horse Butte	1.10	81	*e*Pg	Pg	08 34 38.7	0.0
YHB				*e*Sg	Sg	08 34 53.4	+0.4
YMR	Madison River	1.26	85	*e*Pn	Pn	08 34 41.8	-0.7
YMR				*e*Sn	Sn	08 34 59.1	-1.1
BOZ	Bozeman (W)	1.28	37	*e*Pn	Pn	08 34 41.7	-1.0
BOZ				*e*Sn	Sn	08 35 00.8	+0.2
BOZ	Bozeman (W)	1.28	37	P	Pn	08 34 41.7	-1.0
	baz=216						
YHH	Holmes Hill	1.35	80	*e*Pn	Pn	08 34 43.3	-0.5
YHH				*e*Sn	Sb	08 35 01.3	-0.4
YFT	Old Faithful	1.36	95	*e*Pn	Pb	08 34 43.6	-0.3
LCCM	Lewis and Clar	1.39	25	*e*Pn	Pn	08 34 43.9	-0.4
YPP	Pitchstone Pla	1.41	102	*e*Pn	Pn	08 34 44.2	-0.5
IMW	Indian Meadow	1.45	117	*e*Pn	Pn	08 34 44.5	-0.7
YNR	Norris Junctio	1.47	84	*e*Pn	Pb	08 34 45.5	-0.3
FLWY	Flagg Ranch	1.53	108	*e*Pn	Pb	08 34 46.5	-0.4
FXWY	Fox Creek	1.54	127	*e*Pn	Pn	08 34 46.0	-0.4
H17A	Grant Village	1.55	96	*e*Pn	Pg	08 34 47.5	+0.3
H17A	Grant Village	1.55	96	P	Pg	08 34 47.7	+0.5
	baz=277						
HLID	Hailey	1.59	231	*e*Pn	Pn	08 34 46.6	-0.4
HLID				*e*Sn	Sn	08 35 07.0	-1.3
HLID	Hailey	1.59	231	P	Pb	08 34 47.1	-0.7
	baz=50						
HLID				S	Sb	08 35 07.8	-0.7
	baz=50						
MOOW	Moose Ponds	1.65	120	*e*Pn	Pn	08 34 47.9	0.0
MOOW				*e*Sn	Sn	08 35 08.7	-1.1
TPAW	Teton Pass	1.68	130	*e*Pn	Pb	08 34 48.5	-1.0
SNOW	Snow King Moun	1.81	128	*e*Pn	Pb	08 34 50.5	-1.1
LOHW	Long Hollow	1.81	122	*e*Pn	Pb	08 34 50.8	-0.8
REDW	Red Top Meadow	1.82	131	*e*Pn	Pb	08 34 51.1	-0.7
REDW				*e*Sn	Sn	08 35 13.0	-1.0
AHID	Auburn Hatcher	2.16	146	*e*Pn	Pn	08 34 55.4	+0.5
HRY	Holter Researc	2.22	16	*e*Pn	Pn	08 34 55.3	-0.4
CHMT	Chamberlain Mo	2.36	351	*e*Pn	Pn	08 34 57.8	+0.1
PLID	Pearl Lake	2.39	283	*e*Pn	Pn	08 34 58.3	+0.3
MSO	Missoula	2.41	340	*e*Pn	Pn	08 34 58.1	-0.1
MSO	Missoula	2.41	340	P	Pn	08 34 58.3	+0.1
	baz=159						
MSO				S	Sn	08 35 28.5	+0.1
	baz=159						
GCMT	Greycliff	2.48	60	*e*Pn	Pn	08 34 59.5	+0.3
RLMT	Red Lodge	2.52	76	*e*Pn	Pb	08 35 01.9	-1.8
RLMT	Red Lodge	2.52	76	Pb	Pb	08 35 02.4	-1.3
	baz=259						
HVU	Hansel Valley	2.80	181	*e*Pn	Pn	08 35 04.5	+0.8
BW06	Boulder Array	2.92	127	Pb	Pb	08 35 09.4	-1.2
	baz=309						
BW06				Sb	Sb	08 35 47.9	+0.9
	baz=309						
PD31	Pinedale Array	2.92	127	*e*Pn	Pn	08 35 07.5	+2.0
PDAR	Pinedale Array	2.92	127	Pn	Pb	08 35 08.7	-1.9
	2.4nm,0.3s,baz=311,slow=13,SNR=70						
PDAR				Lg	Lg	08 35 48.6	
	2.6nm,0.3s,baz=314,slow=22,SNR=7.5						
HWUT	Hardware Ranch	3.09	164	*e*Pn	Pn	08 35 07.8	+0.1
SPUT	South Promonto	3.27	176	*e*Pn	Pn	08 35 11.4	+1.2
BMO	Blue Mountains	3.28	276	*e*Pn	Pn	08 35 09.8	-0.3
F10A	Beach Ranch, E	3.47	295	*e*Pn	Pn	08 35 13.8	+1.0
BSMT	Bassoo Peak	3.57	337	*e*Pn	Pn	08 35 15.4	+1.1
BGU	Big Grassy Mou	3.66	184	*e*Pn	Pn	08 35 15.6	+0.1
EGMT	Eagleton	4.01	30	*e*Pn	Pn	08 35 20.6	+0.3
EGMT	Eagleton	4.01	30	P	Pn	08 35 20.7	+0.5
	baz=212						
ELK	Elko	4.26	207	*e*Pn	Pn	08 35 24.7	+0.9
ELK	Elko	4.26	207	Pn	Pn	08 35 25.3	+1.5
	5.2nm,0.3s,baz=18,slow=12,SNR=91						
ELK				Pg	Pb	08 35 30.2	-3.2
	5.7nm,0.3s,baz=30,slow=17,SNR=89						
ELK				Lg	Lg	08 36 26.5	
	8.8nm,0.3s,baz=151,slow=14,SNR=10						
E09A	Wood Farm, Sta	4.27	299	*e*Pn	Pn	08 35 24.3	+0.5
J08A	Circle Bar Ran	4.33	256	*e*Pn	Pn	08 35 24.7	+0.1
G08A	Pilot Rock	4.49	281	*e*Pn	Pn	08 35 27.1	+0.4
NEW	Newport	4.78	322	*e*Pn	Pn	08 35 31.0	+0.2
NEW	Newport	4.78	322	P	Pn	08 35 31.3	+0.6
	baz=139						
NEW				S	Sn	08 36 25.1	-1.7
	baz=139						
NEW	Newport	4.78	322	Pn	Pn	08 35 31.3	+0.6
	0.8nm,0.3s,baz=148,slow=6.6,SNR=12						
NEW				Sn	Sn	08 36 24.7	-2.0
	8.1nm,0.3s,baz=267,slow=17,SNR=13						
NEW				Lg	Lg	08 36 45.9	
	23nm,0.3s,baz=132,slow=14,SNR=4.9						
WVOR	Wild Horse Val	4.81	246	*e*Pn	Pn	08 35 31.3	+0.1
I07A	Izee	4.89	267	*e*Pn	Pn	08 35 32.8	+0.5
D08A	Wollman Farm,	4.99	302	*e*Pn	Pn	08 35 33.9	+0.3
LAO	LASA Array	5.02	63	*e*Pn	Pn	08 35 34.4	+0.3
C09A	Chrisman Ranch	5.02	312	*e*Pn	Pn	08 35 34.9	+0.9
HAWA	Hanford	5.12	293	*e*Pn	Pn	08 35 36.0	+0.6
EBG	Ellensburg	5.96	296	*e*Pn	Pn	08 35 48.3	+1.3
TBM	Table Mountain	6.08	298	*e*Pn	Pn	08 35 49.7	+1.1
MOD	Modoc Plateau	6.15	247	*e*Pn	Pn	08 35 50.5	+0.8
LTY	Liberty	6.16	299	*e*Pn	Pn	08 35 49.6	-0.1
J05D	Fort Rock, OR	6.28	261	P	Pn	08 35 53.3	+1.8
	baz=75						
BKCOR	Black Crater	6.43	271	*e*Pn	Pn	08 35 56.5	+3.0
GLK	Glacier Lake	6.55	291	*e*Pg	Pb	08 36 12.0	-0.2
PV04	Paradox Valley	6.81	154	*e*Pn	Pn	08 35 58.5	-0.3
STD	Studebaker Rid	6.89	287	*e*Pg	Pb	08 36 15.9	-2.2
SMCO	Snowmass	6.89	140	*e*Pn	Pn	08 36 01.6	+1.5
D05A	Enumclaw	6.97	295	*e*Pn	Pn	08 36 01.2	+0.4
NV01	Mina Array Sit	7.43	216	*e*Pn	Pn	08 36 08.4	+1.0
NV01				*e*Pg	Pb	08 36 25.7	-1.7
NVAR	Mina Array Bea	7.43	216	Pn	Pn	08 36 08.4	+1.0
	0.2nm,0.3s,baz=48,slow=45,SNR=9.3						
NVAR				Pg	Pb	08 36 25.7	-1.7
	0.4nm,0.3s,baz=38,slow=16,SNR=8.9						
NVAR				Lg	Lg	08 38 08.2	
	0.4nm,0.3s,baz=36,slow=38,SNR=4.0						
MLHM	Little Hot Cre	8.28	216	*e*Pg	Pb	08 36 40.0	-1.9
TXAR	Lajitas Array	16.83	152	Pn	P	08 38 17.7	+0.9
	0.0nm,0.3s,baz=339,slow=32,SNR=3.9						
CLDB	Colider	75.41	122	*e*P	P	08 46 05.0	+1.9

*IDC **21** 08:41:14.8±0.5, 15°.80N×92°.44W, h159km±3km, mb3.9/21, mb1 4.2/26, mb1mx4.0/51, mbtmp4.5/26, MS4.3/2, Ms1 4.3/2, ms1mx3.3/38, Error ellipse: s-maj=15.1km s-min=5.5km az=42.0*
*ISCJB **21** 08:41:15.4±0.2, 15°.76N±0°.02×92°.47W±0°.02, h173km±2km, mb4.5/129, Error ellipse: s-maj=3.4km s-min=2.5km az=35.9*
*MEX **21** 08:41:16.0±0.6, 15°.67N×92°.68W, h166km±4km, MD4.7*
*NEIC **21** 08:41:16.0±0.0, 15°.66N×92°.70W, h164km, mb4.7/177, MD4.7(MEX), After MEX.*
NEIC Felt at Huixtla.
*SNET **21** 08:41:17.0±0.6, 16°.04N×92°.22W, h15km±464km, ML4.7*
*UCR **21** 08:41:21.1, 15°.41N×92°.01W, h196km, MD4.5, ML4.3, mb4.7(NEIC)*
ISC 21 08:41:14.4±0.4, 15°.69N±0°.05×92°.53W±0°.04, h158km±3km, n671, σ1°.45/707, mb4.5/133, 12C-7D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.67	271	*e*Pn	Pn	08 41 38.0	+0.5
PCIG				*e*Sn	Sn	08 41 54.9	-0.3
PCIG		0.67	271	*i* P	Pn	08 41 38.1	+0.5
PCIG				*e*S	Sn	08 41 54.9	-0.3
CCIG	Comitan	0.70	33	*e*Pn	Pn	08 41 39.6	+1.6
CCIG				*e*Sn	Sn	08 41 57.9	+1.8
CCIG	Comitan	0.70	33	*i* P	Pn	08 41 39.8	+1.9
CCIG				*e*S	Sn	08 41 58.3	+2.2
THIG		0.82	162	*e*Pn	Pn	08 41 40.0	+1.4
THIG				*e*Sn	Sn	08 41 58.9	+1.8
THIG		0.82	162	*e*P	Pn	08 41 40.0	+1.4
THIG				*e*S	Sn	08 41 58.9	+1.8
TGIG		1.22	332	*e*Pn	Pn	08 41 42.8	+0.8
TGIG				*e*Sn	Sn	08 42 02.6	-0.6
TGIG		1.22	332	*e*P	Pn	08 41 42.8	+0.8
TGIG				*e*S	Sn	08 42 02.6	-0.6
FUG	Fuego 3	2.05	127	*i*P	Pn	08 41 53.4	+2.6
APG	El Apazote	2.11	109	P	Pn	08 41 52.7	+1.2
	304nm,0.3s,baz=268,slow=9.1,SNR=2777						
APG				S	Sn	08 42 20.6	+0.6
	823nm,0.3s,baz=115,slow=11,SNR=22						
APG				LR	LR	08 42 40.5	
	comp=Z,9μm,20.7s,baz=66,slow=42						
PCG	Pacaya	2.26	125	‖*i*P	Pn	08 41 56.2	+2.9
NBG	Las Nubes	2.38	117	‖*i*P	Pn	08 41 57.3	+2.5
IXG	Ixpaco	2.51	127	‖*i*P	Pn	08 41 59.5	+3.2
CMIG	Matias Romero	2.65	302	*i* P	Pn	08 41 57.6	-0.2
CMIG				*e*S	Sn	08 42 29.0	-2.4
CMIG	Matias Romero	2.65	302	P	Pn	08 41 57.6	-0.2
	346nm,0.3s,baz=102,slow=8.2,SNR=1493						
CMIG				S	Sn	08 42 28.9	-2.5
	1μm,0.3s,baz=322,slow=17,SNR=50						
MRL	Marmol	2.81	102	‖*i*P	Pn	08 42 01.9	+2.0
RTR	El Retiro	3.31	122	*e*P	Pn	08 42 08.5	+2.3
RTR	El Retiro	3.31	122	*e*P	Pn	08 42 08.5	+2.3
MTO3	Montecristo	3.32	112	*e*P	Pn	08 42 07.9	+1.5
MTO3				*e*S	Sn	08 42 46.7	+0.1
MTO3	Montecristo	3.32	112	*e*P	Pn	08 42 07.9	+1.5
MTO3				*e*S	Sn	08 42 46.7	+0.1
SNJE	San Jose	3.36	122	*e*P	Pn	08 42 09.2	+2.4
SNJE	San Jose	3.36	122	*e*P	Pn	08 42 09.2	+2.4
CEVE	Cerro Verde	3.37	123	*e*P	Pn	08 42 09.5	+2.5
CEVE				*e*S	Sn	08 42 50.7	+3.0
CEVE	Cerro Verde	3.37	123	*e*P	Pn	08 42 09.5	+2.5
CEVE				*e*S	Sn	08 42 50.7	+3.0
HUIG	Huatulco	3.45	272	*e*Pn	Pn	08 42 06.2	-1.6
HUIG				*e*Sn	Sn	08 42 43.2	-5.9
HUIG	Huatulco	3.45	272	*e*P	Pn	08 42 06.2	-1.6
HUIG				*i* S	Sn	08 42 45.9	-3.3
BOQS	Boqueron	3.70	121	*e*P	Pn	08 42 13.6	+2.4
UEES	San Salvador	3.73	121	*e*P	Pn	08 42 13.8	+2.3
UEES	San Salvador	3.73	121	*e*P	Pn	08 42 13.8	+2.3
SNET	Serv Nac Est T	3.76	122	*e*P	Pn	08 42 14.0	+2.1
SNET	Serv Nac Est T	3.76	122	*e*P	Pn	08 42 14.1	+2.2
OPAM	San Salvador	3.77	121	*e*P	Pn	08 42 14.2	+2.2
OPAM	San Salvador	3.77	121	*e*P	Pn	08 42 14.2	+2.2
LFU	La Fuente	3.83	120	*e*P	Pn	08 42 15.1	+2.4
LFU	La Fuente	3.83	120	*e*P	Pn	08 42 15.1	+2.4
LBRS	Las Brisas	3.89	119	*e*P	Pn	08 42 15.9	+2.3
LFRS	El Faro	3.94	121	*e*P	Pn	08 42 16.6	+2.4
PAVA	Las Pavas	3.99	119	*e*P	Pn	08 42 17.2	+2.3
PAVA	Las Pavas	3.99	119	*e*P	Pn	08 42 17.2	+2.3
SNVI	San Vicente	4.13	120	*e*P	Pn	08 42 19.1	+2.5
VICT	Victoria	4.14	114	*e*P	Pn	08 42 18.8	+2.0
VICT	Victoria	4.14	114	*e*P	Pn	08 42 18.8	+2.0
TECA	Tecapa	4.47	119	*e*P	Pn	08 42 23.7	+2.5
TECA	Tecapa	4.47	119	*e*P	Pn	08 42 23.7	+2.5
CAHU	Cacacuatique	4.59	114	*e*P	Pn	08 42 25.2	+2.4
CAHU	Cacacuatique	4.59	114	*e*P	Pn	08 42 25.2	+2.4
LCY	Lacayo	4.68	118	*e*P	Pn	08 42 26.8	+2.9
LCY	Lacayo	4.68	118	*e*P	Pn	08 42 26.8	+2.9
VSM	San Miguel	4.69	118	*e*P	Pn	08 42 27.1	+2.9
VSM	San Miguel	4.69	118	*e*P	Pn	08 42 27.3	+3.1
LCND	La Caada	5.08	117	*e*P	Pn	08 42 31.7	+2.7
LCND	La Caada	5.08	117	*e*P	Pn	08 42 31.7	+2.7
CNCH	Conchagua	5.14	117	*e*P	Pn	08 42 33.2	+3.2
CNCH	Conchagua	5.14	117	*e*P	Pn	08 42 33.4	+3.4
TGUH	Tegucigalpa,Un	5.33	107	*e*Pn	Pn	08 42 34.5	+2.2
TGUH	Tegucigalpa,Un	5.33	107	*e*P	Pn	08 42 34.7	+2.3
TGUH				IAML		08 43 39.1	
	comp=Z,1μm,1.2s						
LVIG	Laguna Verde	5.46	318	*e*Pn	Pn	08 42 33.3	-0.7
LVIG				*e*Sn	Sn	08 43 31.4	-4.9
MYIG	Mrida	5.87	26	*e*Pn	Pn	08 42 40.0	+0.6
TEIG	Tepich	6.06	41	*e*Pn	Pn	08 42 41.8	-0.1
TLIG	Tlapa	6.08	289	*e*Pn	Pn	08 42 43.5	+1.2
CRIN	San Cristobal	6.09	119	*e*P	Pn	08 42 46.4	+3.9
CRIN				IAML		08 44 00.6	
	comp=N,502nm,0.6s						
SOMN	Somoto	6.16	111	*e*P	Pn	08 42 46.3	+2.9
CNGN	Cerro Negro	6.49	119	*e*P	Pn	08 42 49.3	+1.6
CNGN				*e*S	Sn	08 43 56.9	-4.1
ESTN	Estel	6.50	113	*e*Pn	Pn	08 42 50.1	+2.1
ESTN	Estel	6.50	113	*e*P	Pn	08 42 50.1	+2.1
RCON	San Juan de Ri	6.55	109	*e*P	Pn	08 42 50.9	+2.3
MOMN	Momotombo	6.67	119	*e*P	Pn	08 42 52.8	+2.6
COPN	Copaltepe	6.74	120	*e*P	Pn	08 42 53.3	+2.3
MATN	Matagalpa	6.96	112	*e*P	Pn	08 42 56.0	+1.9
MGAN	Managua	7.04	119	*e*P	Pn	08 42 58.8	+3.7
MGAN				*e*S	Sn	08 44 10.1	-4.1
CONN	Concepcion	7.87	121	*e*P	Pn	08 43 07.5	+1.4
ACON	Acoyapa	8.04	116	*e*Pn	Pn	08 43 10.8	+2.3
ACON	Acoyapa	8.04	116	*e*P	Pn	08 43 09.7	+1.2
ESPN	Las Esperanzas	8.71	112	*e*Pn	Pn	08 43 19.4	+2.1
ESPN	Las Esperanzas	8.71	112	*e*P	Pn	08 43 19.0	+1.7
JTS	Las Juntas de	9.13	125	*e*Pn	Pn	08 43 24.6	+1.8
JTS				*e*Sn	Sn	08 45 04.1	-0.2
JTS	Las Juntas de	9.13	125	P	Pn	08 43 24.3	+1.5
	comp=N,19nm,0.3s,baz=8.0,slow=11,SNR=82						
JTS				S	Sn	08 45 00.3	-4.1
	comp=N,1.7nm,0.3s,baz=338,slow=19,SNR=3.4						
JTS	Las Juntas de	9.13	125	*e*P	Pn	08 43 24.7	+1.8
JTS				*e*S	Sn	08 44 59.1	-5.2
MOIG	Morelia	9.16	297	*e*Pn	Pn	08 43 24.9	+1.5
HDC	Heredia	9.96	124	*e*Pn	Pn	08 43 35.6	+1.6
LNIG	Linares	11.23	326	*e*Pn	Pn	08 43 51.1	+0.6
FSCY	Frank Sound, G	11.41	70	*e*Pn	Pn	08 43 52.4	-0.3
ZAIG	Zacatecas	11.80	308	*e*Pn	Pn	08 43 59.2	+1.0
BRU2	Volcan	11.80	124	*i* P	Pn	08 43 56.5	-1.7
DVD	David	12.21	125	*e*P	Pn	08 44 01.7	-1.6
BCIP	Isla Barro Col	13.98	116	*e*Pn	P	08 44 27.9	-1.0
833A	Chaparral WMA,	14.08	334	*e*Pn	Pn	08 44 28.3	+1.3
833A	Chaparral WMA,	14.08	334	P	Pn	08 44 28.0	+1.0
	baz=153,SNR=54						
AZU	Azuero	14.33	122	*e*P	P	08 44 33.2	+0.5
AZU	Azuero	14.33	122	*e*P	P	08 44 33.2	+0.5
AZU	Azuero	14.33	122	*e*P	Pn	08 44 27.8	-2.4
AZU				AMP		08 44 34.3	
	comp=Z,205nm,0.8s						
HKT	Hockley	14.51	348	*e*Pn	Pn	08 44 33.1	+0.8
MTDJ	Mount Denham	14.56	78	*e*Pn	Pn	08 44 34.5	+1.3
059Z	Ave Maria	14.80	42	P	Pn	08 44 36.1	+0.2
	baz=227,SNR=8.8						
061Z	Ochoppi	14.84	45	*e*Pn	Pn	08 44 37.4	+0.9
061Z	Ochoppi	14.84	45	P	Pn	08 44 36.8	+0.3
	baz=230						
058A	Arcadia	15.08	40	P	Pn	08 44 40.3	+0.9
	baz=224,SNR=7.6						
957A	Wimauma	15.27	37	P	Pn	08 44 41.9	+0.1
	baz=221						
059A	Moore Haven	15.43	41	*e*Pn	Pn	08 44 44.8	+1.1
	comp=Z,126nm,0.9s						
059A	Moore Haven	15.43	41	P	Pn	08 44 44.3	+0.5
	baz=226						
060Z	West Palm Beac	15.43	44	P	Pn	08 44 44.4	+0.6
	baz=229						
958A	Wauchula	15.49	38	P	Pn	08 44 44.9	+0.3
	baz=223						
435B	Jarrell	15.72	344	*e*Pn	Pn	08 44 48.1	+0.8
	comp=Z,58nm,0.8s						
435B	Jarrell	15.72	344	P	Pn	08 44 48.4	+1.1
	baz=162						
857A	Zephyrhills	15.73	36	P	Pn	08 44 47.9	+0.5
	baz=220,SNR=5.6						
449A	Pace	15.77	17	P	Pn	08 44 47.9	0.0
	baz=200						
552A	Lynn Haven	15.83	24	P	Pn	08 44 49.4	+0.7
	baz=207						
UPD2	Meteti	15.86	115	*e*P	Pn	08 44 47.5	-1.7
UPD2	Meteti	15.86	115	*e*P	Pn	08 44 47.5	-1.7
UPD2	Meteti	15.86	115	‖*i*P	Pn	08 44 47.8	-1.4
060A	Indiantown	15.98	43	*e*Pn	P	08 44 51.5	+0.7
	comp=Z,337nm,0.8s						
060A	Indiantown	15.98	43	P	P	08 44 51.6	+0.7
	baz=228,SNR=5.0						
959A	Okeechobee	15.98	41	P	Pn	08 44 51.2	+0.7
	baz=225						
450A	Crestview	16.00	19	P	Pn	08 44 51.2	+0.5
	baz=202						
DWPF	Disney Wildern	16.07	38	*e*Pn	P	08 44 53.0	+1.1
	comp=Z,57nm,0.8s						
DWPF	Disney Wildern	16.07	38	P	Pn	08 44 51.6	0.0
	baz=222						
451A	Vernon	16.10	22	P	Pn	08 44 52.1	+0.1
	baz=205						
NATX	Nacogdoches	16.11	353	*e*Pn	Pn	08 44 53.0	+0.9
	comp=Z,51nm,0.9s						
NATX	Nacogdoches	16.11	353	P	Pn	08 44 52.3	+0.3
	baz=173						
JCT	Junction City	16.16	337	P	Pn	08 44 53.7	+1.0
	baz=155,SNR=8.8						
655A	Horseshoe Beac	16.19	30	P	Pn	08 44 53.6	+0.6
	baz=214						
858A	St. Cloud	16.19	38	P	Pn	08 44 53.2	+0.1
	baz=222,SNR=5.0						
BRAL	Brewton	16.20	17	*e*P	P	08 44 55.8	+2.6
	comp=Z,122nm,0.8s						
BRAL	Brewton	16.20	17	P	Pn	08 44 53.8	+0.7
	baz=200,SNR=6.7						
349A	Rep

comp=Z,104nm,0.8s
457A Yulee 17.94 32 P P 08 45 12.9 +0.4
baz=217
LRAL Lakeview Retre 17.98 15 eP P 08 45 13.9 +1.1
comp=Z,23nm,1.1s
LRAL Lakeview Retre 17.98 15 P P 08 45 13.9 +1.1
baz=198,SNR=9.3
151A Opelika 17.99 20 P P 08 45 12.9 -0.1
baz=203,SNR=17
253A Americus 18.00 24 eP Pn 08 45 15.0 +0.2
comp=Z,47nm,1.3s
253A Americus 18.00 24 P P 08 45 14.0 +0.9
baz=207
ABTX Abilene, Hawle 18.05 340 eP P 08 45 13.8 +0.1
comp=Z,48nm,0.8s
ABTX Abilene, Hawle 18.05 340 P P 08 45 15.1 +1.4
baz=158,SNR=8.6
CCAR Cane Creek 18.16 2 eP P 08 45 16.9 +2.1
comp=Z,123nm,0.9s
356A Blackshear 18.23 30 P P 08 45 16.6 +1.1
baz=214
254A Abbeville 18.24 26 P P 08 45 15.9 +0.2
baz=210,SNR=9.2
Z49A Columbiana 18.25 16 P P 08 45 16.3 +0.5
baz=199,SNR=16
152A Waverly Hall 18.33 21 eP P 08 45 18.5 +1.9
comp=Z,28nm,0.9s
152A Waverly Hall 18.33 21 P P 08 45 16.1 -0.5
baz=205,SNR=11
UREC San Jos de Ur 18.41 113⇑ iP P 08 45 16.9 -0.8
UREC San Jos de Ur 18.41 113⇑ iP P 08 45 16.9 -0.8
Z50A Ashland 18.48 18 eP P 08 45 20.1 +1.8
comp=Z,32nm,0.8s
Z50A Ashland 18.48 18 P P 08 45 18.3 0.0
baz=201,SNR=14
255A Hazlehurst 18.57 28 eP P 08 45 21.3 +2.0
comp=Z,53nm,1.2s
255A Hazlehurst 18.57 28 P P 08 45 19.5 +0.2
baz=212
153A Fort Valley 18.64 24 P P 08 45 20.7 +0.7
baz=207
LPIG La Paz 18.68 299 P P 08 45 21.9 +1.3
comp=Z,1.1nm,0.3s,baz=79,slow=2.9,SNR=9.2
X40A Basin Creek Fa 18.72 359 eP P 08 45 21.3 +0.5
comp=Z,16nm,1.0s
X40A Basin Creek Fa 18.72 359 P P 08 45 21.9 +1.1
baz=180
ARGC Ariguani, Magd 18.74 106⇑ iP P 08 45 21.4 0.0
ARGC Ariguani, Magd 18.74 106⇑ iP P 08 45 21.4 0.0
Z51A Franklin 18.77 19 P P 08 45 22.0 +0.5
baz=203
Y48A Jasper 18.78 14 P P 08 45 21.5 -0.1
baz=197,SNR=14
MIAR Mount Ida 18.80 357 eP P 08 45 22.9 +1.2
comp=Z,82nm,1.1s
MIAR Mount Ida 18.80 357 P P 08 45 22.2 +0.4
baz=177,SNR=36
X43A Marvell 18.80 4 eP P 08 45 23.2 +1.4
comp=Z,172nm,0.9s
X43A Marvell 18.80 4 P P 08 45 23.4 +1.6
baz=185,SNR=8.2
256A Glennville 18.89 29 P P 08 45 23.0 +0.3
baz=214
154A Montrose 18.89 25 eP Pn 08 45 25.0 -0.2
comp=Z,84nm,1.3s
154A Montrose 18.89 25 P P 08 45 23.2 +0.4
baz=209
Z52A Williamson 18.91 21 P P 08 45 23.1 +0.2
baz=205,SNR=8.3
Y49A Blount Mountai 18.91 16 eP P 08 45 24.7 +1.7
comp=Z,12nm,0.9s
Y49A Blount Mountai 18.91 16 P P 08 45 23.5 +0.5
baz=199
OXF Oxford 18.95 8 eP P 08 45 25.6 +2.2
comp=Z,139nm,1.0s
OXF Oxford 18.95 8 P P 08 45 23.9 +0.5
baz=190,SNR=9.0
UALR University of 19.00 0 eP P 08 45 24.9 +1.0
comp=Z,67nm,0.8s
X46A Booneville 19.12 10 P P 08 45 26.1 +0.9
baz=192,SNR=14
ZARC Zaragoza, Cauc 19.12 113 eP P 08 45 24.7 -0.7
ZARC Zaragoza, Cauc 19.12 113 eP P 08 45 24.7 -0.7
Y50A Piedmont 19.13 17 P P 08 45 26.1 +0.8
baz=201,SNR=8.7
HELC Santa Helena 19.16 118 i P P 08 45 26.8 +0.5
HELC Santa Helena 19.16 118 i P P 08 45 26.8 +0.5
155A Kite 19.17 27 P P 08 45 26.7 +0.9
baz=211,SNR=5.7
X47A Russelville 19.21 12 P P 08 45 26.7 +0.4
baz=194,SNR=9.9
PLMC San Jos del P 19.23 122 eP P 08 45 26.9 +0.3
PLMC San Jos del P 19.23 122 eP P 08 45 26.9 +0.3
SMLC San Martn de 19.28 109 eP P 08 45 26.6 -0.6
SMLC San Martn de 19.28 109 eP P 08 45 26.6 -0.6
Z53A Monticello 19.30 23 P P 08 45 27.6 +0.5
baz=207,SNR=8.1
257A Skidaway Islan 19.30 31 P P 08 45 27.7 +0.5
baz=216
X48A Hartselle 19.32 14 eP P 08 45 28.5 +1.1
comp=Z,51nm,1.0s
X48A Hartselle 19.32 14 P P 08 45 28.0 +0.6
baz=197,SNR=20
Y51A Rockmart 19.34 19 P P 08 45 27.9 +0.3
baz=203,SNR=11
W41B Gary Mavity, V 19.40 1 eP P 08 45 29.6 +1.4
comp=Z,18nm,0.9s
W41B Gary Mavity, V 19.40 1 P P 08 45 28.9 +0.6
baz=181
GOGA Godfrey 19.45 23 eP P 08 45 30.2 +1.4
comp=Z,20nm,0.9s
GOGA Godfrey 19.45 23 P P 08 45 29.9 +1.1
baz=207,SNR=6.9
W39A Magazine 19.45 357 eP P 08 45 31.7 +2.9
comp=Z,25nm,0.5s
W39A Magazine 19.45 357 P P 08 45 30.1 +1.3
baz=177
CLNB Carlsbad 19.46 330 eP P 08 45 30.9 +1.9
CODC Agustn Codazz 19.46 105 eP P 08 45 28.8 -0.3
CODC Agustn Codazz 19.46 105 eP P 08 45 28.8 -0.3
Z54A Sparta 19.55 25 P P 08 45 30.4 +0.6
baz=209
X49A Woodville 19.55 15 P P 08 45 30.8 +0.8
baz=198,SNR=10
PLAL Pickwick Lake 19.62 11 eP Pn 08 45 33.9 +0.2
comp=Z,27nm,0.8s
156A Sylvania 19.63 29 P P 08 45 31.7 +0.9
baz=214,SNR=8.3
Y52A Lilburn 19.64 21 eP P 08 45 33.1 +2.2
comp=Z,22nm,0.7s
Y52A Lilburn 19.64 21 P P 08 45 31.6 +0.7
baz=205,SNR=10.0
X50B Fort Payne 19.69 17 P P 08 45 32.1 +0.7
baz=200,SNR=11
W46A Michie 19.71 10 P P 08 45 31.6 -0.1
baz=192
YOTC Yotoco, Valle 19.72 124 eP P 08 45 33.4 +1.4
YOTC Yotoco, Valle 19.72 124 eP P 08 45 33.4 +1.4
MNTX Cornudas Mount 19.78 326 eP P 08 45 33.2 +0.8
comp=Z,64nm,0.9s
MNTX Cornudas Mount 19.78 326 P P 08 45 33.6 +1.2
baz=141,SNR=42
WMOK Wichita Mounta 19.78 345 eP P 08 45 33.0 +0.6
comp=Z,14nm,0.8s
WMOK Wichita Mounta 19.78 345 P P 08 45 33.0 +0.6
baz=162,SNR=5.6
Y53A Monroe 19.81 22 P P 08 45 33.5 +0.8
baz=207,SNR=9.1
GUY2C Guyana, Caldas 19.81 120⇑ iP P 08 45 33.9 +0.5
GUY2C Guyana, Caldas 19.81 120⇑ iP P 08 45 33.9 +0.5
Z55A Blythe 19.83 26 P P 08 45 32.7 -0.1
baz=211
157A Early Branch 19.89 30 P P 08 45 32.8 -0.7
baz=215
PTBC PUERTO BERRIO, 19.91 115⇑ iP P 08 45 31.4 -2.6
PTBC PUERTO BERRIO, 19.91 115⇑ iP P 08 45 31.4 -2.6
W47A Westpoint 19.97 12 P P 08 45 34.9 +0.4
baz=194
W48A Pulaski 20.00 14 P P 08 45 35.0 +0.2
baz=196
X51A Calhoun 20.02 19 P P 08 45 35.6 +0.7
baz=202
NORC Norcasia 20.04 118⇑ iP P 08 45 33.6 -1.9
NORC Norcasia 20.04 118⇑ iP P 08 45 33.6 -1.9
W49A Belvidere 20.15 15 P P 08 45 37.0 +0.7
baz=198
Y54A Tignall 20.15 24 P P 08 45 36.9 +0.5
baz=209
Z56A Williston 20.25 28 eP P 08 45 39.2 +1.7
comp=Z,38nm,0.7s
Z56A Williston 20.25 28 P P 08 45 37.4 0.0
baz=213
SWET Sewanee 20.32 16 eP P 08 45 40.1 +1.9
comp=Z,18nm,1.1s
158A Hollywood 20.33 31 P P 08 45 37.9 -0.3
baz=217
URIC Uribia, Colomb 20.34 99 eP P 08 45 34.1 -4.4
URIC Uribia, Colomb 20.34 99 eP P 08 45 34.1 -4.4
TUL1 Leonard 20.34 352 eP P 08 45 38.6 +0.2
comp=Z,24nm,0.8s
TUL1 Leonard 20.34 352 P P 08 45 38.6 +0.2
baz=171
OK024 West corner E0 20.36 349 eP P 08 45 38.2 -0.4
comp=Z,40nm,0.7s
POPC Popayan, Colom 20.36 128 eP P 08 45 38.5 -0.5
POPC Popayan, Colom 20.36 128 eP P 08 45 38.5 -0.5
X52A Dahlonega 20.37 21 P P 08 45 39.0 +0.3
baz=205,SNR=5.9
V46A Holladay 20.41 10 P P 08 45 39.4 +0.3
baz=193
MSTX Muleshoe 20.41 335 eP P 08 45 39.7 +0.5
comp=Z,39nm,1.1s
MSTX Muleshoe 20.41 335 P P 08 45 39.4 +0.1
baz=151,SNR=11
W50A Signal Mountai 20.48 17 eP P 08 45 41.9 +2.1
comp=Z,14nm,0.9s
W50A Signal Mountai 20.48 17 P P 08 45 39.2 -0.7
baz=201
X53A Estanollee 20.49 22 P P 08 45 39.6 -0.4
baz=206
SDDR Presa de Saban 20.54 78 eP P 08 45 42.6 +1.9
comp=Z,38nm,0.8s
Z57A Bowman 20.54 29 P P 08 45 39.9 -0.6
baz=214
HHAR Hobbs 20.54 357 eP P 08 45 40.9 +0.4
comp=Z,27nm,1.4s
V47A Nunnelly 20.55 12 P P 08 45 42.0 +1.4
baz=194,SNR=5.1
Y55A Saluda 20.56 26 P P 08 45 40.6 -0.1
baz=211
U41A Viola 20.57 1 P P 08 45 41.3 +0.4
baz=182
U40A Yellville 20.58 359 P P 08 45 41.8 +0.9
baz=180
W51A Cleveland 20.60 18 P P 08 45 41.4 +0.3
baz=202
V48A Smith Brothers 20.61 13 P P 08 45 41.5 +0.3
baz=196
NHSC New Hope 20.63 31 eP P 08 45 44.1 +2.6
comp=Z,197nm,1.0s
NHSC New Hope 20.63 31 P P 08 45 42.5 +1.0
baz=216,SNR=6.4
HODGE Hodges 20.65 25 eP P 08 45 43.6 +2.0
comp=Z,25nm,1.2s
Y56A Pelion 20.68 27 P P 08 45 42.2 +0.2
baz=212
SOTA Rioblanco 20.68 129 eP P 08 45 38.5 -4.2
SOTA Rioblanco 20.68 129 eP P 08 45 38.5 -4.2
OTAV Otavalo 20.71 137 eP P 08 45 41.3 -1.7
OTAV Otavalo 20.71 137 eP P 08 45 41.3 -1.7
OTAV Otavalo 20.71 137 eP P 08 45 40.9 -2.1
PCON Cinco Dias 20.71 128⇓ iP P 08 45 41.4 -1.8
PCON Cinco Dias 20.71 128⇓ iP P 08 45 41.4 -1.8
MARP Paez Belalcaza 20.72 126 eP P 08 45 40.4 -2.6
MARP Paez Belalcaza 20.72 126 eP P 08 45 40.4 -2.6
GCUF Volcan Galeras 20.76 132 eP P 08 45 39.3 -4.3
GCUF Volcan Galeras 20.76 132 eP P 08 45 39.3 -4.3
WVT Waverly 20.78 11 eP P 08 45 44.9 +1.8
comp=Z,9.7nm,0.8s
WVT Waverly 20.78 11 P P 08 45 43.0 -0.1
baz=193
AMTX Amarillo 20.80 338 eP P 08 45 43.8 +0.4
comp=Z,72nm,0.8s
AMTX Amarillo 20.80 338 P P 08 45 44.2 +0.8
baz=155
W52A Murphy 20.80 20 P P 08 45 42.9 -0.5
baz=204
CRUC La Cruz 20.81 131 eP P 08 45 41.0 -2.9
CRUC La Cruz 20.81 131 eP P 08 45 41.0 -2.9
V49A McMinnville 20.85 15 P P 08 45 43.8 0.0
baz=199
X54A Belton 20.88 24 P P 08 45 44.7 +0.6
baz=209
ROSC El Rosal 20.89 119 P P 08 45 46.5 +1.6
comp=Z,17nm,0.8s,baz=107,slow=16,SNR=10
U46A Springville 20.95 10 P P 08 45 45.2 +0.4
baz=192
V50A Pikevile 20.98 17 P P 08 45 45.1 -0.1
baz=201
Z58A St. Stephen 21.00 31 P P 08 45 46.1 +0.7
baz=216
BG3 Lake Jocassee 21.06 22 eP P 08 45 49.0 +2.9
comp=Z,11nm,0.8s
JSC Jenkinsville 21.11 27 eP P 08 45 48.6 +2.0
comp=Z,18nm,0.9s
X55A Gracelyn & Ava 21.11 26 P P 08 45 46.5 -0.1
baz=211,SNR=7.1
W53A Cullowhee 21.14 22 P P 08 45 47.6 +0.6
baz=206
U47A Clarksville 21.19 12 P P 08 45 47.4 0.0
baz=194
Y57A Sumter 21.28 29 eP P 08 45 50.5 +2.2
comp=Z,24nm,0.8s
Y57A Sumter 21.28 29 P P 08 45 48.0 -0.4
baz=214
V51A Loudon 21.32 19 P P 08 45 48.4 -0.5
baz=202
PAULI Pauline 21.34 25 eP P 08 45 51.0 +2.0
comp=Z,11nm,0.9s
X56A White Oak 21.39 27 P P 08 45 50.1 +0.5
baz=212
U32A Winter Ranch, 21.40 346 eP P 08 45 49.9 +0.2
comp=Z,32nm,1.0s
W54A Cherokee Point 21.43 24 P P 08 45 50.6 +0.7
baz=206
T45A Paducah 21.52 8 eP P 08 45 52.1 +1.2
comp=Z,57nm,0.4s
T45A Paducah 21.52 8 P P 08 45 50.9 -0.1
baz=191
Y58A Scranton 21.53 30 P P 08 45 51.1 0.0
baz=216
HSIG 21.55 311 eP P 08 45 51.8 +0.4
comp=Z,16nm,0.8s
U49A Red Boiling Sp 21.59 15 P P 08 45 51.9 +0.1
baz=198
SRIG Santa Rosalia 21.65 306 eP P 08 45 53.5 +1.1
comp=Z,95nm,1.1s
T46A Princeton 21.66 10 P P 08 45 52.8 +0.4
baz=193
V53A Saluda 21.71 22 eP P 08 45 54.7 +1.7
comp=Z,11nm,0.8s
V53A Saluda 21.71 22 P P 08 45 53.2 +0.2
baz=206
U50A Jamestown 21.75 17 P P 08 45 52.9 -0.5
baz=201
121A Cookes Peak, D 21.75 323 P P 08 45 55.2 +1.6
baz=137,SNR=29
T47A Sharon Grove 21.75 12 eP P 08 45 54.1 +0.7
comp=Z,9.4nm,0.8s
T47A Sharon Grove 21.75 12 P P 08 45 52.9 -0.5
baz=195
BIRD Birdtown, Kers 21.77 28 eP P 08 45 55.3 +1.8
comp=Z,12nm,0.8s
X57A Johnson Farm, 21.79 29 P P 08 45 52.3 -1.4
baz=214
KMSC Kings Mountain 21.82 25 eP P 08 45 55.5 +1.4
comp=Z,23nm,1.1s
KMSC Kings Mountain 21.82 25 P P 08 45 54.5 +0.4
baz=210,SNR=5.3
S41A Jillco Farms, 21.82 2 P P 08 45 53.3 -0.8
baz=182,SNR=7.2
U51A La Follette 21.95 19 P P 08 45 55.3 -0.2
baz=203
T48A Bowling Green 22.02 13 P P 08 45 56.5 +0.4
baz=196
S44A Carbondale 22.11 7 P P 08 45 56.5 -0.5
baz=189
V54A Nebo 22.12 23 P P 08 45 56.7 -0.6
baz=208
W56A Indian Trail 22.13 27 P P 08 45 57.3 +0.1
baz=212
SIUC Southern Illin 22.13 7 eP P 08 45 58.4 +1.2
comp=Z,18nm,0.9s
U52A Thorn Hill 22.17 20 P P 08 45 57.8 +0.1
baz=204
S45A Carrier Mills 22.18 8 P P 08 45 58.6 +0.9
baz=190
T49A Edmonton 22.21 15 P P 08 45 57.7 -0.3
baz=198
X58A Rowland 22.21 30 P P 08 45 58.5 +0.5
baz=216
TZTN Tazewell 22.25 19 eP P 08 45 59.3 +0.8
comp=Z,18nm,1.0s
TZTN Tazewell 22.25 19 P P 08 45 58.7 +0.3
baz=204
CCM Cathedral Cave 22.30 3 eP P 08 45 58.5 -0.4
comp=Z,14nm,0.9s
CCM Cathedral Cave 22.30 3 P P 08 45 58.2 -0.7
baz=184
T50A Nancy 22.31 16 P P 08 45 59.3 +0.3
baz=200
S46A Don Dixon Farm 22.32 10 P P 08 45 57.6 -1.4
baz=193
BNM Barren Site 22.34 328 eP P 08 46 01.4 +1.8
S47A Hartford 22.38 12 P P 08 45 58.9 -0.8
baz=195
W57A Gilead 22.40 28 eP P 08 46 01.2 +1.3
comp=Z,30nm,1.3s
W57A Gilead 22.40 28 P P 08 45 58.0 -1.8
baz=214
U53A Fall Branch 22.42 21 P P 08 45 59.8 -0.2
baz=206
SDV Santo Domingo 22.43 105 P P 08 46 00.9 +0.4
comp=Z,21nm,0.7s,baz=75,slow=4.8,SNR=7.4
Y22D IRIS PASSCAL I 22.43 327 eP P 08 46 02.8 +2.4
comp=Z,78nm,0.9s
Y22D IRIS PASSCAL I 22.43 327 P P 08 46 02.4 +2.1
baz=142,SNR=6.8
LPM Los Pinos Moun 22.47 328 eP P 08 46 02.0 +1.2
V55A Taylorsville 22.48 25 P P 08 46 01.7 +1.1
baz=210,SNR=5.5
T51A Gray 22.52 18 P P 08 46 00.7 -0.2
baz=202
R41A Rosebud 22.54 2 P P 08 46 01.6 +0.5
baz=183
X59A McDuffie Farm, 22.59 31 P P 08 46 00.9 -0.7
baz=217
S48A Wiedeman Farm, 22.62 13 P P 08 46 02.7 +0.9
baz=197
V56A Mocksville 22.74 26 eP P 08 46 05.1 +2.1
comp=Z,15nm,1.0s
V56A Mocksville 22.74 26 P P 08 46 03.2 +0.2
baz=212
R45A Skylar, Fairfi 22.82 9 P P 08 46 04.1 +0.4
baz=191
U54A Nelsons Funny 22.83 23 eP P 08 46 06.0 +2.1
comp=Z,19nm,0.8s
U54A Nelsons Funny 22.83 23 P P 08 46 04.1 +0.1
baz=208,SNR=5.6
R46A Gibon Southern 22.87 10 P P 08 46 04.2 +0.1
baz=192
ANMO Albuquerque 22.89 329 eP P 08 46 05.5 +0.9
comp=Z,14nm,0.8s
ANMO Albuquerque 22.89 329 P P 08 46 05.4 +0.8
baz=144
ANMO Albuquerque 22.89 329 P P 08 46 05.8 +1.1
comp=Z,12nm,0.8s,baz=150,slow=12,SNR=40
ANMO pP pP 08 46 35.6 +1.6
comp=Z,16nm,0.8s,baz=152,slow=12,SNR=10
TASM ASL Pad, Albuq 22.89 329 P P 08 46 05.8 +1.1
baz=144,SNR=24
TASM ASL Pad, Albuq 22.89 329 P P 08 46 05.4 +0.8
baz=144,SNR=23
X60A Albert Glenn T 22.91 32 P P 08 46 04.5 0.0
baz=219
S49A Springfield 22.92 15 P P 08 46 04.8 +0.1
baz=198
T52A Hallie 22.95 20 P P 08 46 04.5 -0.4
baz=204
T53A Wise 22.99 21 P P 08 46 05.6 +0.3
baz=206
S50A Richmond 23.05 17 P P 08 46 05.8 0.0
baz=201
U55A TA2, Sparta 23.11 24 P P 08 46 07.2 +0.7
baz=210,SNR=6.1
V57A Coltrane Farms 23.11 27 P P 08 46 06.0 -0.4
baz=213,SNR=6.5
WCI Wyandotte Cave 23.11 13 eP P 08 46 06.9 +0.5
comp=Z,16nm,0.8s
WCI Wyandotte Cave 23.11 13 P P 08 46 06.3 -0.1
baz=196
R47A Wooly Knot Far 23.13 12 P P 08 46 06.8 +0.3
baz=195
Q42A Golden Eagle 23.20 4 P P 08 46 07.3 +0.2
baz=185
U56A King 23.24 25 P P 08 46 08.3 +0.6
baz=211
S51A Beattyville 23.25 18 P P 08 46 07.9 +0.3
baz=203
V58A Windy Hill, Pi 23.33 28 P P 08 46 08.8 +0.4
baz=215
R48A Northridge Ran 23.37 13 P P 08 46 08.6 -0.2
baz=197
T54A Tazewell 23.40 23 P P 08 46 08.8 -0.3
baz=208
W60A Pink Hill 23.42 32 P P 08 46 08.5 -0.7
baz=218
R49A Shelbyville 23.43 15 P P 08 46 09.8 +0.5
baz=198
TUC Tucson 23.43 318 eP P 08 46 11.3 +1.8
comp=Z,16nm,0.9s
TUC Tucson 23.43 318 P P 08 46 11.3 +1.8
baz=131
Q45A Warren Harvey, 23.43 9 P P 08 46 09.1 -0.2
baz=191
KSU1 Kansas State U 23.59 352 P P 08 46 10.5 -0.2
baz=171,SNR=20
V59A Middlesex 23.72 30 P P 08 46 11.5 -0.4
baz=216
S53A Williamson 23.76 21 P P 08 46 11.9 -0.5
baz=206
U57A Blanch 23.76 27 P P 08 46 12.7 +0.4
baz=213,SNR=5.5
Q47A Bedord North L 23.77 12 P P 08 46 11.6 -0.7
baz=195
T25A Trinidad 23.82 336 eP P 08 46 15.0 +1.9
comp=Z,43nm,0.9s
T25A Trinidad 23.82 336 P P 08 46 13.7 +0.5
baz=151,SNR=37
CBKS Cedar Bluff 23.89 346 eP P 08 46 14.2 +0.7
comp=Z,38nm,0.8s
CBKS Cedar Bluff 23.89 346 P P 08 46 12.6 -0.9
baz=163,SNR=5.7
Q48A North Vernon 23.91 13 P P 08 46 13.5 -0.2
baz=197
BLO Bloomington 23.98 12 eP P 08 46 16.3 +2.0
comp=Z,14nm,0.7s
P45A Graceland, Par 24.11 9 P P 08 46 15.2 -0.3
baz=192
V60A Jim Taylor Roa 24.20 31 eP P 08 46 17.9 +1.6
comp=Z,26nm,0.8s
V60A Jim Taylor Roa 24.20 31 P P 08 46 16.6 +0.2
baz=218
P46A Rosedale 24.29 10 P P 08 46 16.3 -0.8
baz=193
X18A Snowflake 24.44 323 eP P 08 46 20.2 +1.5
comp=Z,21nm,1.3s
P48A Milroy 24.48 13 P P 08 46 18.6 -0.3
baz=197
T58A Grand View Acr 24.55 28 P P 08 46 20.3 +0.9
baz=214
214A Organ Pipe Nat 24.55 315 P P 08 46 21.4 +1.8
baz=127,SNR=21
Q51A Peebles 24.60 17 P P 08 46 20.8 +0.8
baz=202
W18A Petrified Fore 24.74 325 eP P 08 46 23.3 +1.8
comp=Z,42nm,1.2s
W18A Petrified Fore 24.74 325 P P 08 46 22.9 +1.4
baz=138,SNR=9.4
SDCO Great Sand Dun 24.78 335 eP P 08 46 22.8 +0.8
comp=Z,8.2nm,1.1s
SDCO Great Sand Dun 24.78 335 P P 08 46 23.4 +1.5
baz=149,SNR=9.2
U60A Pendleton 24.81 31 P P 08 46 22.0 +0.2
baz=218
KSCO Kaye Shedlock' 24.86 341 eP P 08 46 23.5 +1.0
comp=Z,40nm,0.8s
KSCO Kaye Shedlock' 24.86 341 P P 08 46 23.2 +0.7
baz=157
Q52A Bidwell 24.87 19 P P 08 46 22.6 +0.2
baz=204
HDIL Hopedale 24.93 6 P P 08 46 22.3 -0.6
baz=188

R55A	Marlinton	25.02	24	P		P	08 46 23.5 -0.4
	baz=210						
P50A	Jamestown	25.02	16	P		P	08 46 22.8 -0.9
	baz=200						
Q53A	Leroy	25.02	21	P		P	08 46 23.4 -0.4
	baz=206						
O47A	Sheridan	25.07	12	P		P	08 46 23.0 -1.2
	baz=195						
N40A	Mertquake, Sal	25.11	2	P		P	08 46 24.2 -0.3
	baz=182						
X16A	Lo Mia Camp, P	25.24	321	eP		P	08 46 26.6 +0.6
	comp=Z,7.2nm,0.9s						
O48A	Farmland	25.30	13	P		P	08 46 25.3 -1.0
	baz=197						
N43A	Stutzman Famil	25.32	6	P		P	08 46 25.9 -0.6
	baz=188						
S22A	4UR Ranch, Cre	25.35	333	eP		P	08 46 28.0 +0.9
	comp=Z,13nm,1.0s						
S22A	4UR Ranch, Cre	25.35	333	P		P	08 46 28.3 +1.3
	baz=147,SNR=14						
SJG	San Juan	25.35	81	P		P	08 46 26.1 -0.8
	comp=Z,4.2nm,0.3s,baz=296,slow=1.8,SNR=2.9						
Q54A	Coxs Mills	25.37	22	P		P	08 46 27.1 +0.2
	baz=207						
O49A	Covington	25.43	15	P		P	08 46 27.4 0.0
	baz=199						
P52A	Corning	25.53	19	P		P	08 46 29.1 +0.8
	baz=204						
T60A	Surry	25.55	30	P		P	08 46 29.7 +1.2
	baz=218						
M41A	Milan	25.65	3	P		P	08 46 29.7 +0.4
	baz=185						
113A	Mohawk Valley,	25.69	315	eP		P	08 46 31.5 +1.7
	comp=Z,19nm,1.0s						
MVCO	Mesa Verde	25.69	330	eP		P	08 46 31.6 +1.6
	comp=Z,20nm,0.9s						
MVCO	Mesa Verde	25.69	330	P		P	08 46 31.3 +1.2
	baz=143,SNR=16						
S59A	Mechanicsville	25.78	29	P		P	08 46 29.6 -1.0
	baz=216						
Y14A	Wickenburg	25.90	318	eP		P	08 46 33.2 +1.4
	comp=Z,15nm,1.4s						
N48A	Decatur	25.91	13	P		P	08 46 31.0 -0.7
	baz=197						
WUAZ	Wupatki	25.96	323	eP		P	08 46 34.1 +1.7
	comp=Z,9.4nm,1.0s						
WUAZ	Wupatki	25.96	323	P		P	08 46 34.1 +1.7
	baz=135,SNR=6.0						
O52A	Adamsville	26.06	19	P		P	08 46 32.7 -0.4
	baz=204						
L40A	Anamosa	26.30	2	P		P	08 46 33.8 -1.4
	baz=183						
PV01	Paradox Valley	26.46	331	eP		P	08 46 38.2 +1.2
	comp=Z,8.1nm,1.0s						
OGNE	Ogallala	26.48	344	P		P	08 46 35.3 -1.7
	baz=160						
GLA	Glamis	26.57	315	eP		P	08 46 38.8 +1.0
	comp=Z,32nm,1.0s						
GLA	Glamis	26.57	315	P		P	08 46 39.7 +1.8
	baz=126,SNR=8.1						
PV02	Paradox Valley	26.59	331	eP		P	08 46 39.9 +1.7
	comp=Z,20nm,1.4s						
O54A	Avella	26.60	21	P		P	08 46 36.7 -1.3
	baz=207						
SMCO	Snowmass	26.61	334	eP		P	08 46 39.6 +1.2
	comp=Z,3.8nm,1.0s						
N52A	McGinn's Farm,	26.74	18	P		P	08 46 39.0 -0.2
	baz=204						
Y12C	Blythe	26.78	316	eP		P	08 46 41.0 +1.3
	comp=Z,9.1nm,0.9s						
Y12C	Blythe	26.78	316	P		P	08 46 40.7 +1.1
	baz=127						
PDMCI	Parker Dam,Lak	26.86	318	P		P	08 46 42.0 +1.7
	baz=129,SNR=10						
K39A	Oelwein	26.93	1	P		P	08 46 39.9 -1.0
	baz=182						
L48A	N Adams	27.08	13	P		P	08 46 41.3 -0.9
	baz=198						
U15A	North Rim	27.13	323	eP		P	08 46 44.4 +1.3
	comp=Z,19nm,1.5s						
SWSC	Sam W. Stewart	27.19	313	P		P	08 46 45.3 +2.0
	baz=124,SNR=9.7						
W13A	Hualapai Mount	27.20	319	eP		P	08 46 44.8 +1.1
	comp=Z,8.8nm,1.0s						
IKP	In-Ko-Pah, Jac	27.25	313	P		P	08 46 46.2 +2.3
	baz=123,SNR=12						
BC3	Big Chuckawall	27.35	315	P		P	08 46 47.0 +2.1
	baz=126,SNR=26						
L49A	Milan	27.39	14	P		P	08 46 44.5 -0.4
	baz=199						
IRM	Iron Mountain	27.44	316	P		P	08 46 46.6 +1.0
	baz=127,SNR=11						
MONP2	Monument Peak	27.60	313	P		P	08 46 49.3 +2.1
	baz=123,SNR=10						
N23A	Red Feather La	27.68	338	P		P	08 46 48.9 +1.0
	baz=152						
KNB	Kanab	27.84	324	eP		P	08 46 50.7 +1.4
	comp=Z,14nm,1.1s						
PKCU	Pink Cliffs	27.86	325	eP		P	08 46 51.4 +1.8
	comp=Z,34nm,1.4s						
BELC	Belle Mtn. Jos	27.92	315	P		P	08 46 50.9 +0.9
	baz=125,SNR=10						
LDFC	Landfair	27.97	318	eP		P	08 46 53.1 +2.7
	comp=Z,38nm,0.9s						
PFO	Pinyon Flats O	28.02	314	P		P	08 46 51.5 +0.6
	baz=124,SNR=6.9						
PFO	Pinyon Flats O	28.02	314	P		P	08 46 51.0 +0.2
	comp=Z,8.2nm,0.9s,baz=121,slow=8.3,SNR=8.1						
PFO				LR		LR	08 58 13.9
	comp=Z,384nm,18.4s,baz=196,slow=36						
CPE	Camp Elliot	28.08	312	eP		P	08 46 52.6 +1.3
	comp=Z,21nm,1.3s						
LCMT	Little Creek M	28.08	323	eP		P	08 46 52.2 +0.8
	comp=Z,7.7nm,1.1s						
GMRC	Granite Mounta	28.15	317	P		P	08 46 54.1 +2.1
	baz=127,SNR=11						
SRU	San Rafael Swe	28.17	329	eP		P	08 46 53.7 +1.6
	comp=Z,7.8nm,1.2s						
MTPU	Mount Pierson	28.22	326	eP		P	08 46 54.6 +1.8
	comp=Z,12nm,1.1s						
I42A	Draeger Farm,	28.27	6	P		P	08 46 53.3 +0.5
	baz=188						
Q16A	Castle Valley	28.34	328	eP		P	08 46 55.2 +1.5
	comp=Z,17nm,1.2s						
SZCU	Shurtz Canyon	28.40	324	eP		P	08 46 55.7 +1.4
	comp=Z,9.7nm,1.0s						
CCUT	Cedar City	28.52	324	eP		P	08 46 57.1 +1.7
	comp=Z,12nm,1.1s						
MURC	Murrieta	28.52	313	P		P	08 46 57.3 +2.1
	baz=123,SNR=5.8						
P17A	Butcher Ranch,	28.55	330	eP		P	08 46 57.0 +1.5
	comp=Z,4.1nm,0.7s						
MSU	Marysvale	28.56	327	eP		P	08 46 57.2 +1.5
HEC	Hector,Ludlow	28.62	316	P		P	08 46 58.6 +2.5
	baz=126,SNR=8.9						
TMUT	Trail Mountain	28.65	329	eP		P	08 46 57.8 +1.3
	comp=Z,5.7nm,1.3s						
BBRC	Big Bear Solar	28.70	315	P		P	08 46 57.6 +0.7
	baz=124						
O60A	Telford	28.71	28	P		P	08 46 56.8 +0.1
	baz=216						
TUQ	Turquoise Moun	28.71	318	P		P	08 46 59.0 +2.1
	baz=128,SNR=7.2						
I46A	Reed City	28.79	11	P		P	08 46 58.0 +0.6
	baz=195						
RWWY	Rawlins	28.84	337	eP		P	08 46 59.3 +1.2
	comp=Z,9.7nm,1.1s						
SHPR	Sheep Range	28.89	320	eP		P	08 46 59.5 +0.8
	comp=Z,16nm,1.2s						
BFSC	Mount Baldy Ra	29.19	314	P		P	08 47 02.9 +1.7
	baz=123						
GSC	Goldstone, Bar	29.21	316	eP		P	08 47 02.4 +1.1
	comp=Z,5.8nm,0.9s						
GSC	Goldstone, Bar	29.21	316	P		P	08 47 03.1 +1.7
	baz=126						
MPU	Maple Canyon	29.41	329	eP		P	08 47 04.5 +1.3
	comp=Z,3.8nm,1.1s						
K22A	Casper	29.43	339	P		P	08 47 02.9 -0.4
	baz=152						
SPMN	Marine on St.	29.44	360	eP		P	08 47 04.0 +0.9
	comp=Z,8.1nm,0.6s						
SPMN	Marine on St.	29.44	360	P		P	08 47 02.6 -0.5
	baz=180						
PSUT	Pine Spring	29.49	325	eP		P	08 47 05.3 +1.4
	comp=Z,8.1nm,1.0s						
EDW2	Edwards Air Fo	29.78	315	P		P	08 47 07.9 +1.6
	baz=124						
TPNV	Topopah Spring	29.85	320	eP		P	08 47 08.3 +1.2
	comp=Z,7.3nm,1.0s						
TPNV	Topopah Spring	29.85	320	P		P	08 47 09.2 +2.1
	baz=129,SNR=7.6						
LRMC	Laurel Mtn Rad	29.90	316	P		P	08 47 09.8 +2.3
	baz=125,SNR=5.9						
FURC	Furnace Creek,	29.94	318	P		P	08 47 09.8 +2.1
	baz=128,SNR=9.9						
BINY	Binghamton	30.01	25	P		P	08 47 08.6 +0.4
	baz=213						
SNCC	San Nicolas Is	30.02	311	P		P	08 47 09.9 +1.5
	baz=120						
MPMC	Manual Prospec	30.11	317	P		P	08 47 11.7 +2.3
	baz=126,SNR=18						
BLG	Laguna Peak, P	30.11	312	P		P	08 47 10.9 +1.6
	baz=121						
DUG	Dugway, Tooele	30.14	328	P		P	08 47 11.8 +2.2
	baz=139						
TCUT	Toon Canyon	30.16	331	eP		P	08 47 11.4 +1.6
	comp=Z,14nm,1.0s						
F40A	Park Falls	30.20	3	P		P	08 47 09.1 -0.7
	baz=185						
R11A	Troy Canyon, C	30.35	322	eP		P	08 47 12.9 +1.4
	comp=Z,7.6nm,1.1s						
R11A	Troy Canyon, C	30.35	322	P		P	08 47 14.3 +2.8
	baz=132,SNR=10						
SCZ2	Santa Cruz Isl	30.46	312	P		P	08 47 14.7 +2.4
	baz=120						
ARVC	Arvin	30.49	314	P		P	08 47 14.5 +2.0
	baz=123						
ISA	Isabella, Lake	30.54	315	eP		P	08 47 14.6 +1.6
	comp=Z,14nm,1.1s						
ISA	Isabella, Lake	30.54	315	P		P	08 47 15.7 +2.7
	baz=124,SNR=9.1						
GRAC	Grapevine Rang	30.59	319	P		P	08 47 15.3 +1.9
	baz=128,SNR=14						
PDAR	Pinedale Array	30.68	335	P		P	08 47 13.1 -1.3
	comp=Z,0.1nm,0.4s,baz=281,slow=34,SNR=4.1						
PDAR				pP		pP	08 47 47.2 -0.7
	comp=Z,0.4nm,0.7s,baz=136,slow=12,SNR=2.3						
PDAR				ScP		ScP	08 53 36.5 0.0
	comp=Z,0.6nm,0.9s,baz=198,slow=0.9,SNR=4.2						
CWC	Cottonwood Cre	30.72	317	P		P	08 47 16.5 +1.8
	baz=126						
H52A	Wyevale	30.78	18	P		P	08 47 14.5 -0.4
	baz=204						
BGU	Big Grassy Mou	30.79	329	eP		P	08 47 16.9 +1.6
	comp=Z,3.7nm,1.1s						
PKM	Mcpherson Peak	31.05	313	P		P	08 47 19.1 +1.4
	baz=122						
VES	Vestal, Richgr	31.05	315	P		P	08 47 19.9 +2.5
	baz=124,SNR=17						
SADO	Sadowa	31.12	19	P		P	08 47 17.0 -0.9
	comp=Z,5.0nm,0.9s,baz=270,slow=6.8,SNR=3.7						
TIN	Tinemaha, Big	31.17	318	P		P	08 47 20.0 +1.3
	baz=127						
HVU	Hansel Valley	31.32	330	eP		P	08 47 21.2 +1.3
	comp=Z,6.9nm,1.0s						
AHID	Auburn Hatcher	31.33	333	eP		P	08 47 20.8 +0.8
	comp=Z,4.7nm,0.9s						
SMMC	Simmler	31.39	314	P		P	08 47 21.5 +1.0
	baz=122						
E47A	Iron Bridge	31.63	12	P		P	08 47 22.8 +0.4
	baz=197						
REDW	Red Top Meadow	31.70	334	eP		P	08 47 23.9 +0.6
	comp=Z,18nm,1.0s						
SNOW	Snow King Moun	31.75	334	eP		P	08 47 24.8 +1.1
	comp=Z,18nm,0.9s						
PAGB	Antelope Grade	31.79	314	eP		P	08 47 25.3 +1.3
	comp=Z,28nm,1.1s						
ELK	Elko	31.80	326	eP		P	08 47 26.1 +1.8
	comp=Z,6.5nm,0.9s						
ELK	Elko	31.80	326	P		P	08 47 24.9 +0.6
	comp=Z,4.3nm,0.9s,baz=135,slow=7.1,SNR=15						
LOHW	Long Hollow	31.81	335	eP		P	08 47 25.1 +0.8
	comp=Z,9.3nm,1.3s						
TPAW	Teton Pass	31.85	334	eP		P	08 47 25.4 +0.7
	comp=Z,13nm,1.2s						
D46A	Sault St. Mari	31.90	11	P		P	08 47 25.3 +0.5
	baz=196						
NV11	Mina Array Sit	31.96	320	eP		P	08 47 26.8 +1.2
	comp=Z,2.4nm,1.0s						
MOOW	Moose Ponds	31.98	335	eP		P	08 47 26.5 +0.8
	comp=Z,4.3nm,1.1s						
OMMB	Old Mammoth Mi	32.00	318	eP		P	08 47 27.7 +1.6
	comp=Z,17nm,1.2s						
FXWY	Fox Creek	32.00	334	eP		P	08 47 26.3 +0.3
	comp=Z,4.4nm,1.1s						
NVAR	Mina Array Bea	32.05	320	P		P	08 47 27.4 +1.0
	comp=Z,28nm,0.8s,baz=136,slow=8.9,SNR=160						
NVAR				pP		pP	08 47 59.5 -0.6
	comp=Z,2.1nm,0.7s,baz=132,slow=8.7,SNR=1.6						
NVAR				PcP		PcP	08 50 12.6 +0.3
	comp=Z,1.0nm,0.9s,baz=121,slow=3.5,SNR=2.7						
NVAR				ScP		ScP	08 53 42.0 +0.8
	comp=Z,0.8nm,0.8s,baz=130,slow=6.3,SNR=4.2						
MDPB	Devils Postpil	32.06	318	eP		P	08 47 28.6 +2.0
	comp=Z,20nm,1.0s						
RYN	Ryan	32.30	320	eP		P	08 47 30.1 +1.5
	comp=Z,18nm,1.1s						
KVN	Kaiserville	32.31	321	eP		P	08 47 29.7 +1.0
	comp=Z,23nm,1.0s						
RLMT	Red Lodge	32.56	338	eP		P	08 47 30.9 +0.1
	comp=Z,4.8nm,1.1s						
RLMT	Red Lodge	32.56	338	P		P	08 47 30.7 0.0
	baz=149						
E51A	G1948 Merrick	32.62	17	P		P	08 47 30.1 -0.9
	baz=204						
BMN	Battle Mountai	32.69	324	eP		P	08 47 33.7 +1.8
	comp=Z,14nm,0.9s						
WAKR	Walker	32.80	319	eP		P	08 47 34.1 +1.1
	comp=Z,32nm,1.4s						
YMR	Madison River	32.83	335	eP		P	08 47 34.1 +1.0
	comp=Z,6.6nm,1.2s						
LAO	LASA Array	32.95	343	P		P	08 47 34.2 +0.3
	baz=156						
YERR	Yerington	32.97	320	eP		P	08 47 36.0 +1.6
	comp=Z,30nm,1.3s						
CMB	Columbia Colle	33.14	318	eP		P	08 47 37.1 +1.4
	comp=Z,12nm,1.0s						
E54A	Lac Daplat, Po	33.22	20	P		P	08 47 36.9 +0.7
	baz=208						
PNTR	Pine Nut	33.25	320	eP		P	08 47 39.0 +2.1
	comp=Z,23nm,0.9s						
D52A	ZEK Kipawa Sen	33.33	18	P		P	08 47 37.7 +0.6
	baz=206						
VCNR	Virginia City	33.41	320	eP		P	08 47 39.8 +1.6
	comp=Z,12nm,1.0s						
HLID	Hailey	33.46	331	eP		P	08 47 39.9 +1.3
	comp=Z,4.3nm,1.0s						
HLID	Hailey	33.46	331	P		P	08 47 40.4 +1.8
	baz=140						
RUBR	Rubicon Trail	33.58	319	eP		P	08 47 41.3 +1.6
	comp=Z,38nm,1.0s						
D53A	Lac Vacive, Po	33.63	18	P		P	08 47 40.8 +1.0
	baz=207						
MCMT	McKenzie Canyo	33.74	334	eP		P	08 47 42.9 +1.8
BEKR	Beckworth	34.19	320	eP		P	08 47 46.1 +1.2
	comp=Z,19nm,1.0s						
WVOR	Wild Horse Val	34.81	325	eP		P	08 47 51.5 +1.3
	comp=Z,16nm,1.0s						
EGMT	Eagleton	35.23	340	eP		P	08 47 54.4 +0.8
	comp=Z,18nm,1.4s						
EGMT	Eagleton	35.23	340	P		P	08 47 52.7 -1.0
	baz=151						
O03E	Paynes Creek	35.33	320	P		P	08 47 56.0 +1.4
	baz=126,SNR=5.7						
J08A	Circle Bar Ran	35.35	327	eP		P	08 47 56.6 +1.8
	comp=Z,39nm,0.9s						
MOD	Modoc Plateau	35.41	323	eP		P	08 47 55.9 +0.5
	comp=Z,22nm,1.4s						
LSQQ	Lebel-sur-Quev	35.62	18	P		P	08 47 57.6 +0.7
	baz=206						
MSO	Missoula	35.80	335	P		P	08 47 58.2 -0.3
	baz=143						
BMO	Blue Mountains	35.81	329	eP		P	08 47 59.1 +0.5
	comp=Z,8.0nm,1.3s						
O02D	Mt. Diablo Mer	35.89	319	P		P	08 47 59.1 -0.2
	baz=124						
M04C	Macdoel	36.24	322	P		P	08 48 03.8 +1.4
	baz=128,SNR=12						
I07A	Izee	36.39	327	eP		P	08 48 04.3 +0.7
	comp=Z,9.2nm,1.0s						
F10A	Beach Ranch, E	36.59	331	eP		P	08 48 05.6 +0.4
	comp=Z,7.7nm,0.9s						
YBH	Yreka Blue Hor	36.73	321	P		P	08 48 06.6 +0.1
	comp=Z,2.4nm,0.8s,baz=129,slow=3.1,SNR=6.6						
YBH				pP		pP	08 48 42.0 +1.2
	comp=Z,4.4nm,0.8s,baz=91,slow=5.3,SNR=3.4						
L04D	Klamath Falls	36.78	322	P		P	08 48 08.5 +1.5
	baz=127,SNR=7.7						
J05D	Fort Rock, OR	36.82	324	P		P	08 48 06.8 -0.5
	baz=130						
PINE	Pine Mountain	36.98	325	eP		P	08 48 09.2 +0.5
	comp=Z,11nm,0.9s						
J04D	Umpqua Nationa	37.29	323	P		P	08 48 12.0 +0.6
	baz=129						
I05D	Terrebonne, OR	37.55	325	P		P	08 48 14.3 +1.0
	baz=131						
BKCOR	Black Crater	37.72	325	eP		P	08 48 16.8 +2.0
I04A	Tendick Farm,	37.80	324	P		P	08 48 16.1 +0.6
	baz=129,SNR=5.2						
G05D	Wamic, OR	38.13	327	P		P	08 48 19.5 +1.3
	baz=132						
H04A	Detroit Lake	38.24	325	eP		P	08 48 20.1 +1.1
	comp=Z,24nm,0.9s						
I03D	Drain, OR	38.28	323	P		P	08 48 20.8 +1.5
	baz=128,SNR=8.5						
J01E	Myrtle Point	38.30	322	P		P	08 48 21.2 +1.7
	baz=126						
C09A	Chrisman Ranch	38.42	332	eP		P	08 48 21.3 +0.7
	comp=Z,5.2nm,0.8s						
H04D	Lebanon	38.44	325	P		P	08 48 21.6 +0.9
	baz=129						
F05D	White Salmon	38.63	327	P		P	08 48 23.8 +1.5
	baz=132						
I02D	Swisshome	38.81	323	P		P	08 48 25.6 +1.8
	baz=127						
G03D	McMinnville, O	39.16	325	P		P	08 48 28.1 +1.3
	baz=129						
LTY	Liberty	39.17	329	eP		P	08 48 27.5 +0.7
	comp=Z,4.4nm,1.0s						
LON	Longmire	39.39	328	eP		P	08 48 29.8 +1.1
	comp=Z,6.1nm,0.8s						
FFC	Flin Flon	39.64	351	eP		P	08 48 30.2 -0.2
	comp=Z,4.2nm,0.8s						
LPAZ	La Paz	39.87	142	eP		P	08 48 34.7 +1.1
	comp=Z,7.7nm,0.8s						
LPAZ	La Paz	39.87	142	P		P	08 48 34.2 +0.7
	comp=Z,3.9nm,0.6s,baz=342,slow=3.7,SNR=12						
D03D	Eldon	40.56	328	P		P	08 48 39.0 +0.7
	baz=132						
NLWA	Neilton Lookou	40.87	327	eP		P	08 48 42.3 +1.4
	comp=Z,22nm,1.2s						
MNMC	Minye Minye	41.31	146	eP		P	08 48 46.9 +1.9
	comp=Z,22nm,0.9s						
PB11	IPOC Station P	41.80	147	eP		P	08 48 49.1 +0.3
	comp=Z,22nm,1.0s						
PB11				ePcP		PcP	08 50 43.6 +1.6
GO01	Chusmiza	41.97	146	eP		P	08 48 52.3 +1.7
	comp=Z,15nm,1.1s						
LVC	Limon Verde	44.54	148	P		P	08 49 12.3 +1.3
	comp=Z,2.5nm,0.5s,baz=285,slow=4.2,SNR=5.6						
GO02	Mina Guanaco	46.36	151	eP		P	08 49 26.8 +1.6
	comp=Z,21nm,1.0s						
YKA	Yellowknife Ar	49.27	347	P		P	08 49 46.6 -0.1
	comp=Z,4.8nm,0.7s,baz=149,slow=7.5,SNR=96						
YKA				pP		pP	08 50 21.4 -1.4
	comp=Z,3.1nm,0.7s,baz=152,slow=7.3,SNR=6.8						
YKA				sP		sP	08 50 39.5 -1.3
	comp=Z,2.2nm,0.6s,baz=148,slow=7.3,SNR=3.9						
YKB5	Yellowknife Ar	49.27	347	eP		P	08 49 46.6 -0.1
YKW3	Yellowknife Ar	49.33	347	eP		P	08 49 47.2 -0.1
	comp=Z,9.3nm,0.8s						
FRB	Frobisher Bay	50.79	13	P		P	08 49 57.9 -0.2
	comp=Z,3.4nm,1.1s,baz=209,slow=7.9,SNR=6.5						
BDFB	Brasilia	53.87	123	P		P	08 50 20.5 -1.2
	comp=Z,9.6nm,0.7s,baz=299,slow=6.9,SNR=11						
CPUP	Villa Florida	54.00	140	eP		P	08 50 21.9 -0.4
	comp=Z,24nm,0.9s						
CPUP	Villa Florida	54.00	140	P		P	08 50 21.2 -1.1
	comp=Z,22nm,0.8s,baz=328,slow=8.1,SNR=26						
EPYK	Eagle Plains	58.37	341	P		P	08 50 52.8 0.0
	baz=128						
INK	Inuvik	58.68	343	P		P	08 50 54.8 -0.1
	comp=Z,3.5nm,0.8s,baz=129,slow=8.4,SNR=14						
INK				pP		pP	08 51 30.9 -1.0
	comp=Z,3.3nm,0.6s,baz=129,slow=5.2,SNR=6.4						
RES	Resolute Bay	59.01	359	P		P	08 50 56.3 -0.8
	comp=Z,0.9nm,0.8s,baz=238,slow=9.5,SNR=3.4						
RES				pP		pP	08 51 33.2 -1.3
	comp=Z,1.7nm,0.7s,baz=190,slow=12,SNR=3.7						
PLCA	Paso Flores	59.73	161	P		P	08 51 03.2 +0.7
	comp=Z,5.9nm,1.0s,baz=342,slow=7.7,SNR=6.9						
PLCA				pP		pP	08 51 40.6 +1.0
	comp=Z,4.7nm,1.1s,baz=345,slow=5.4,SNR=3.6						
HDA	Harding Lake	60.95	336	P		P	08 51 10.9 +0.4
	baz=117						
ILAR	Eielson Array	61.09	337	P		P	08 51 11.5 +0.1
	comp=Z,3.1nm,1.1s,baz=124,slow=4.9,SNR=19						
ILAR				pP		pP	08 51 48.5 -0.3
	comp=Z,3.8nm,0.9s,baz=143,slow=5.1,SNR=7.4						
ILAR				sP		sP	08 52 05.5 -0.6
	comp=Z,2.4nm,1.0s,baz=132,slow=4.2,SNR=3.7						
POKR	Poker Plat Res	61.45	337	P		P	08 51 13.4 -0.5
	baz=116						
PGAV	Gavieira, Arco	75.47	50	epP		pP	08 53 20.5 0.0
PGAV				A		A	08 53 27.1
	comp=Z,29nm,1.6s						
PCAS	Casmilo, Conde	75.57	52	epP		pP	08 53 21.9 +0.8
PCAS				A		A	08 53 23.6
	comp=Z,25nm,2.2s						
MORF	Marmelete	75.87	55	epP		pP	08 53 22.4 -0.3
PMTG	Montargil	75.93	53	epP		pP	08 53 23.1 +0.2
PMTG				A		A	08 53 24.2
	comp=Z,21nm,1.2s						
PVIS	Viseu	75.93	51	epP		pP	08 53 23.3 +0.1
PVIS				A		A	08 53 39.0
	comp=Z,28nm,1.9s						
MTE	Manteigas	76.24	52	epP		pP	08 53 25.1 +0.1
PCBR	Castelo Branco	76.38	52	epP		pP	08 53 26.6 +1.2
PCBR				A		A	08 53 43.4
	comp=Z,18nm,1.9s						
MVO	Moncorvo	76.51	51	epP		pP	08 53 26.9 +0.4
MVO				A		A	08 53 27.5
	comp=Z,17nm,1.0s						
PMRV	Marv??o	76.51	53	epP		pP	08 53 26.8 +0.6
PMRV				A		A	08 53 34.3
	comp=Z,18nm,1.6s						
EKA	Eskdalemuir Ar	76.90	36	P		P	08 52 47.8 -1.3
	comp=Z,1.9nm,0.7s,baz=284,slow=5.8,SNR=5.0						
EKA				pP		pP	08 53 27.4 -0.9
	comp=Z,3.3nm,0.6s,baz=280,slow=6.0,SNR=5.0						
ESDC	Sonseca Array	79.08	52	P		P	08 52 59.8 -1.7
	comp=Z,0.2nm,0.3s,baz=285,slow=6.5,SNR=4.0						
ESDC				pP		pP	08 53 40.3 -0.4
	comp=Z,5.0nm,0.8s,baz=289,slow=5.7,SNR=5.3						
NOA	NORSAR Array B	82.91	28	pP		pP	08 54 01.3 +0.1
	comp=Z,1.5nm,0.8s,

MKAR	Makanchi Array	8.09 205	Pn	Pn	08 49 34.6	+1.6
	0.1nm,0.3s,baz=26,slow=14,SNR=2.9					

KRSC 21 08:48:15.6±10.0, 52°.11N×160°.88E, h61km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.12	333	eP	Pn	08 48 35.8	+0.6
SPN				eS	Sn	08 48 49.3	-0.5
NLC	Nalytchevo	1.42	319	eP	Pn	08 48 40.7	+1.6
NLC				eS	Sn	08 48 58.9	+2.1
RUS	Russkaya	1.49	284	eP	Pn	08 48 41.3	+1.2
RUS				eS	Sn	08 48 58.4	-0.2
DALK	Dalny	1.59	306	eP	Pn	08 48 43.3	+1.8
DALK				eS	Sn	08 49 02.5	+1.4
PET	Petropavlovsk	1.64	305	eP	Pn	08 48 44.5	+2.4
PET				eS	Sn	08 49 03.6	+1.4
UGLR	Uglovaya	1.67	312	eP	Pn	08 48 44.8	+2.1
UGLR				eS	Sn	08 49 07.1	+4.0
SDLR	Sedlovina	1.69	315	eP	Pn	08 48 44.9	+2.0
SDLR				eS	Sn	08 49 06.6	+3.0
MTVR	Mutnovka	1.70	284	eP	Pn	08 48 44.9	+1.8
MTVR				eS	Sn	08 49 05.8	+1.9
SMAR	Somma	1.71	313	eP	Pn	08 48 47.0	+3.6
AVH	Avacha	1.74	312	eP	Pn	08 48 46.4	+2.7
AVH				eS	Sn	08 49 08.2	+3.3
KDTR	Khodutka, Kamc	1.76	261	eP	Pn	08 48 45.2	+1.4
KDTR				eS	Sn	08 49 05.1	0.0
KRER	Koryakskii	1.76	314	eP	Pn	08 48 46.6	+2.5
KRER				eS	Sn	08 49 09.7	+4.1
KOK	Koryaka	1.81	312	eP	Pn	08 48 47.5	+3.0
KRMR	Karymshinskiy	1.83	294	eP	Pn	08 48 46.5	+1.8
KRMR				eS	Sn	08 49 07.7	+0.9
KRX	Arik	1.84	314	eP	Pn	08 48 47.7	+2.6
KRX				eS	Sn	08 49 09.6	+2.2
ASAK	Asacha	1.85	280	eP	Pn	08 48 47.4	+2.3
ASAK				eS	Sn	08 49 12.1	+4.6
APC	Apacha	2.42	291	eP	Pn	08 48 56.5	+3.8
APC				eS	Sn	08 49 25.8	+4.7
MKZ	Mys Kozlova	2.50	11	eP	Pn	08 48 56.0	+2.1
MKZ				eS	Sn	08 49 24.0	+0.8
PAU	Pauzhetka	2.61	257	eP	Pn	08 49 00.2	+4.9
KZV	Kizimen	3.03	354	eP	Pn	08 49 04.3	+3.1
KZV				eS	Sn	08 49 38.7	+2.3
TUMD	Tumrok D	3.11	355	eP	Pn	08 49 05.2	+2.9
TUMD				eS	Sn	08 49 40.2	+2.0
TUMR	Tumrok	3.21	352	eP	Pn	08 49 07.2	+3.5
SKR	Severo-Kuril's	3.31	246	eS	Sn	08 49 44.2	+1.3
ALID	Alaid	3.55	252	eP	Pn	08 49 11.8	+3.4
KBTR	Krutoberegovo	4.26	15	eP	Pn	08 49 21.4	+3.5

*ISCJB **21** 08:50:36.0±0.8, 29°.6N±0°.1×138°.2E±0°.2, h496km, mb3.3/6, Error ellipse: s-maj=22.9km s-min=15.0km az=170.4*
*IDC **21** 08:50:37.4±1.2, 29°.68N×138°.17E, h496km±15km, mb2.9/6, mb1 3.0/10, mb1mx2.7/49, mbtmp3.7/10, Error ellipse: s-maj=27.5km s-min=13.1km az=84.0*
ISC 21 08:50:37.5±1.1, 29°.7N±0°.1×138°.2E±0°.2, h496km, n10, σ0°.50/10, mb3.3/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	3.69	21	P	P	08 51 53.5	+0.5
	13nm,0.3s,baz=234,slow=19,SNR=13						
MJAR	Matsushiro Arr	6.84	0	P	P	08 52 20.7	-1.0
	0.1nm,0.3s,baz=174,slow=11,SNR=10						
JNU	Nakatsue	7.12	301	P	P	08 52 24.6	0.0
	0.5nm,0.3s,baz=56,slow=0.3,SNR=5.0						
KSRS	Korea Array	11.53	315	P	P	08 53 11.2	+0.3
	0.2nm,0.3s,baz=125,slow=9.9,SNR=5.7						
MKAR	Makanchi Array	46.11	308	P	P	08 58 16.0	-0.3
	0.4nm,0.4s,baz=87,slow=9.5,SNR=7.2						
WRA	Warramunga Arr	49.48	185	P	P	08 58 41.5	-0.4
	1.6nm,0.5s,baz=0.7,slow=7.1,SNR=32						
ASAR	Alice Springs	53.20	185	P	P	08 59 08.8	-0.1
	0.4nm,0.3s,baz=357,slow=4.9,SNR=16						
ARCES	ARCESS Array B	69.92	340	P	P	09 00 57.9	+0.2
	2.2nm,0.8s,baz=66,slow=9.0,SNR=4.3						
YKA	Yellowknife Ar	71.53	28	P	P	09 01 07.2	-0.1
	0.1nm,0.3s,baz=276,slow=7.0,SNR=2.8						
FINES	FINESS Array B	74.05	332	P	P	09 01 21.7	-0.1
	0.3nm,0.3s,baz=275,slow=34,SNR=3.9						

*KRSC **21** 08:54:33.5±10.0, 52°.16N×160°.97E, h17km±10km, ML4.3*
*ISCJB **21** 08:54:35.4±1.1, 52°.20N±0°.04×160°.84E±0°.06, h11km±8km, mb3.6/8, Error ellipse: s-maj=7.7km s-min=4.4km az=138.7*
*IDC **21** 08:54:37.0±1.4, 52°.61N×159°.97E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.6/56, mbtmp3.7/8, Error ellipse: s-maj=36.9km s-min=24.2km az=159.0*
ISC 21 08:54:36.8±1.8, 52°.39N±0°.05×160°.69E±0°.05, h12km±10km, n45, σ1°.75/61, mb3.8/8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.82	331	eP	Pn	08 54 54.0	-0.2
SPN				eS	Sn	08 55 05.3	-0.9
RUS	Russkaya	1.33	273	eP	Pn	08 55 01.7	+0.5
RUS				eS	Sg	08 55 19.7	+0.1
DALK	Dalny	1.34	300	eP	Pg	08 55 01.9	-0.6
DALK				eS	Sg	08 55 20.1	+0.2
PET	Petropavlovsk	1.39	298	eP	Pb	08 55 02.6	-0.1
PET				eS	Sg	08 55 22.9	+1.4
UGLR	Uglovaya	1.40	307	eP	Pg	08 55 03.5	-0.1
SDLR	Sedlovina	1.41	310	eP	Pg	08 55 03.3	-0.6
SMAR	Somma	1.44	308	eP	Pg	08 55 03.8	-0.7
AVH	Avacha	1.47	307	eP	Pg	08 55 04.8	-0.3
AVH				eS	Sg	08 55 29.5	+5.3
KRER	Koryakskii	1.49	309	eP	Pg	08 55 05.4	0.0
MTVR	Mutnovka	1.53	275	eP	Pb	08 55 05.0	-0.3
MTVR				eS	Sg	08 55 26.7	+0.6
KOK	Koryaka	1.54	307	eP	Pg	08 55 05.7	-0.6
KRX	Arik	1.57	309	eP	Pg	08 55 05.9	-1.1
GRL	Gorelyy	1.61	277	eP	Pg	08 55 07.4	-0.2
GRL				eS	Sg	08 55 29.0	+0.6
KRMR	Karymshinskiy	1.62	287	eP	Pb	08 55 05.9	-0.7
KRMR				eS	Sg	08 55 31.1	+2.2
ASAK	Asacha	1.71	271	eP	Pb	08 55 07.8	-0.4
ASAK				eS	Sg	08 55 31.8	+0.2
KDTR	Khodutka, Kamc	1.71	251	eP	Pn	08 55 06.3	-0.1
KDTR				eS	Sn	08 55 27.3	-0.9
PETK	Petropavlovsk-	1.95	293	Pn	Pb	08 55 10.9	-1.4
	30nm,0.3s,baz=101,slow=17,SNR=130						
PETK				Sn	Sb	08 55 35.1	-1.5
	23nm,0.3s,baz=110,slow=42,SNR=6.6						
GNL	Ganaly	2.11	309	eP	Pb	08 55 15.2	+0.1
APC	Apacha	2.21	285	eP	Pb	08 55 15.5	-1.2
APC				eS	Sg	08 55 46.5	-1.4
MKZ	Mys Kozlova	2.26	16	eP	Pn	08 55 14.8	+0.8
MKZ				eS	Sn	08 55 42.0	+0.2
PAU	Pauzhetka	2.57	251	eP	Pn	08 55 19.3	+1.1
KZV	Kizimen	2.74	355	eP	Pb	08 55 24.0	-1.8
KZV				eS	Sb	08 55 58.5	-0.9
TUMD	Tumrok D	2.83	357	eP	Pb	08 55 24.7	-2.5
TUMD				eS	Sb	08 55 59.8	-2.0
TUMR	Tumrok	2.92	354	eP	Pb	08 55 25.9	-2.9
TUMR				eS	Sb	08 56 04.7	+0.2
SKR	Severo-Kuril's	3.32	241	eP	Pn	08 55 28.8	+0.2
SKR				eS	Sn	08 56 06.7	-1.3
ALID	Alaid	3.54	247	eP	Pn	08 55 32.6	+0.9
BZGR	Bezymyannyi-Gr	3.56	0	eS	Sb	08 56 20.7	-2.3
LGNR	Loginova	3.70	0	eP	Pb	08 55 39.6	-2.7
ESO	Esso	3.73	343	eP	Pn	08 55 37.7	+3.5
KRSR	Krestovskiy	3.84	359	eP	Pn	08 55 38.6	+2.8
KLY	Klyuchi	3.94	360	eP	Pb	08 55 43.6	-2.4
KLY				eS	Sb	08 56 31.8	-1.8
SRDR	Sredinnyy	3.98	352	eP	Pn	08 55 41.1	+3.4
KBTR	Krutoberegovo	4.03	17	eP	Pn	08 55 40.0	+1.7
BKI	Bering	4.22	46	eP	Pn	08 55 41.8	+1.0
BKI				eS	Sn	08 56 27.2	-2.8
MJAR	Matsushiro Arr	22.40	234	P	P	08 59 34.8	-0.3
	1.3nm,0.5s,baz=18,slow=10,SNR=4.7						
H11N2	WAKE ISLAND Hy	32.95	169	T	T	09 36 50.0	
	baz=353,slow=76,SNR=32						
H11N3	WAKE ISLAND Hy	32.97	169	T	T	09 36 50.3	
	baz=353,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy	32.97	169	T	T	09 36 56.3	
	baz=353,slow=76,SNR=26						
YKA	Yellowknife Ar	43.44	42	P	P	09 02 41.1	+2.0
	0.1nm,0.4s,baz=298,slow=7.7,SNR=2.6						
MKAR	Makanchi Array	48.79	297	P	P	09 03 18.8	-2.7
	0.6nm,0.5s,baz=56,slow=7.1,SNR=8.5						
ARCES	ARCESS Array B	54.07	342	P	P	09 04 00.0	-0.6
	1.7nm,0.8s,baz=32,slow=5.3,SNR=3.5						
FINES	FINESS Array B	60.91	337	P	P	09 04 48.9	0.0
	0.8nm,0.4s,baz=34,slow=8.4,SNR=8.2						
NOA	NORSAR Array B	64.32	344	P	P	09 05 12.6	+0.9
	0.2nm,0.5s,baz=356,slow=12,SNR=2.6						
AKASG	Malin Array Be	69.41	329	P	P	09 05 43.4	-0.8
	1.2nm,0.5s,baz=28,slow=5.8,SNR=8.0						
TXAR	Lajitas Array	70.58	67	P	P	09 05 56.3	+4.4
	0.2nm,0.9s,baz=317,slow=4.9,SNR=3.4						

*IDC **21** 08:59:39.5±3.5, 51°.98N×160°.63E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.1/58, mbtmp3.4/4, ML2.6/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/39, Error ellipse: s-maj=108.1km s-min=47.2km az=22.0*
*KRSC **21** 08:59:45.5±10.0, 52°.13N×160°.56E, h42km±10km, ML3.9*
ISC 21 08:59:44.3±2.0, 52°.07N±0°.06×160°.48E±0°.06, h17km±11km, n35, σ1°.28/47, mb3.6/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.07	345	eP	Pb	09 00 04.1	-0.2
SPN				eS	Sb	09 00 17.2	-0.9
RUS	Russkaya	1.27	288	eP	Pb	09 00 07.7	+0.1
RUS				eS	Sb	09 00 24.1	+0.5
NLC	Nalytchevo	1.31	328	eP	Pb	09 00 08.3	0.0
NLC				eS	Sn	09 00 24.9	+0.1
DALK	Dalny	1.43	313	eP	Pn	09 00 09.8	+0.4
DALK				eS	Sn	09 00 27.3	-0.6
MTVR	Mutnovka	1.47	287	eP	Pb	09 00 11.5	+0.2
MTVR				eS	Sn	09 00 29.9	+0.8
KDTR	Khodutka, Kamc	1.51	261	eP	Pb	09 00 12.2	+0.4
KDTR				eS	Sb	09 00 31.4	+0.7
UGLR	Uglovaya	1.53	319	eP	Pb	09 00 12.2	0.0
UGLR				eS	Sn	09 00 31.2	+0.8
SDLR	Sedlovina	1.56	322	eP	Pb	09 00 12.3	-0.4
SDLR				eS	Sn	09 00 32.2	+1.0
GRL	Gorelyy	1.56	289	eP	Pg	09 00 13.8	-0.4
SMAR	Somma	1.58	320	eP	Pb	09 00 12.5	-0.6
SMAR				eS	Sg	09 00 35.1	-0.1
AVH	Avacha	1.60	319	eP	Pb	09 00 13.1	-0.4
ASAK	Asacha	1.62	282	eP	Pb	09 00 13.8	0.0
ASAK				eS	Sb	09 00 34.7	+0.8
KRER	Koryakskii	1.63	320	eP	Pb	09 00 13.6	-0.4
KRER				eS	Sn	09 00 34.1	+1.1
KRMR	Karymshinskiy	1.63	299	eP	Pb	09 00 13.3	-0.6
KRMR				eS	Sn	09 00 34.1	+1.3
KOK	Koryaka	1.67	318	eP	Pb	09 00 14.0	-0.5
KRX	Arik	1.71	320	eP	Pb	09 00 14.9	-0.4
PETK	Petropavlovsk-	2.00	303	Pn	Pn	09 00 17.5	+0.3
	8.7nm,0.3s,baz=106,slow=19,SNR=42						
PETK				Sn	Sn	09 00 42.5	+0.8
	13nm,0.3s,baz=264,slow=25,SNR=12						
APC	Apacha	2.21	294	eP	Pb	09 00 22.1	-1.6
APC				eS	Sb	09 00 51.1	+0.4
GNL	Ganaly	2.24	318	eP	Pb	09 00 23.5	-0.9
PAU	Pauzhetka	2.36	257	eP	Pb	09 00 27.2	+0.9
MKZ	Mys Kozlova	2.60	16	eP	Pn	09 00 26.1	+0.6
MKZ				eS	Sn	09 00 55.6	-1.2
KZV	Kizimen	3.06	358	eP	Pn	09 00 34.2	+2.3
KZV				eS	Sn	09 01 08.6	+0.5
TUMD	Tumrok D	3.14	359	eP	Pn	09 00 35.9	+2.9
TUMR	Tumrok	3.23	357	eP	Pn	09 00 36.8	+2.5
ALID	Alaid	3.31	251	eP	Pn	09 00 35.9	+0.5
ESO	Esso	4.01	345	eP	Pn	09 00 47.9	+3.0
KBTR	Krutoberegovo	4.37	17	eP	Pn	09 00 51.6	+1.8
SRKR	Sorokina	4.62	5	eP	Pn	09 00 57.2	+4.0
JNU	Nakatsue	28.57	240	LR	LR	09 19 09.6	
	comp=Z,276nm,18.1s,baz=312,slow=41						
H11N2	WAKE ISLAND Hy	32.66	169	T	T	09 41 02.1	
	baz=352						
H11N3	WAKE ISLAND Hy	32.67	169	T	T	09 41 01.6	
	baz=352						
H11N1	WAKE ISLAND Hy	32.67	169	T	T	09 41 00.8	
	baz=352						
KURBB	Kurchatov Arra	48.59	303	P	P	09 08 24.8	-1.6
	0.3nm,0.5s,baz=60,slow=7.4,SNR=1.9						
MKAR	Makanchi Array	48.82	297	P	P	09 08 27.2	-1.2
	0.1nm,0.4s,baz=56,slow=5.7,SNR=2.7						
FINES	FINESS Array B	61.16	337	P	P	09 09 56.0	-1.2
	0.3nm,0.4s,baz=27,slow=9.4,SNR=3.5						

KRSC 21 09:05:20.9±10.0, 50°.93N×158°.00E, h48km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	0.88	3	eP	Pn	09 05 38.3	+1.4
KDTR				eS	Sn	09 05 49.8	+1.2
PAU	Pauzhetka	0.92	306	eP	Pn	09 05 39.1	+1.7
PAU				eS	Sn	09 05 51.2	+1.7
SKR	Severo-Kuril's	1.22	259	eP	Pn	09 05 42.7	+1.3
SKR				eS	Sn	09 05 57.7	+0.9
ASAK	Asacha	1.45	358	eP	Pn	09 05 46.7	+1.9
ASAK				eS	Sn	09 06 04.1	+1.4
RUS	Russkaya	1.54	12	eP	Pn	09 05 47.4	+1.6
RUS				eS	Sn	09 06 05.4	+0.8
ALID	Alaid	1.55	269	eP	Pn	09 05 48.0	+1.9
ALID				eS	Sn	09 06 06.0	+0.9
MTVR	Mutnovka	1.56	4	eP	Pn	09 05 48.3	+2.1
MTVR				eS	Sn	09 06 07.0	+1.7
KRMR	Karymshinskiy	1.90	2	eP	Pn	09 05 53.6	+2.8
KRMR				eS	Sn	09 06 17.3	+3.8
APC	Apacha	2.06	346	eP	Pn	09 05 55.6	+2.6
DALK	Dalny	2.15	12	eP	Pn	09 05 56.2	+2.0
DALK				eS	Sn	09 06 21.4	+1.7
UGLR	Uglovaya	2.34	12	eP	Pn	09 05 59.6	+2.7
AVH	Avacha	2.38	11	eP	Pn	09 06 01.0	+3.6
AVH				eS	Sn	09 06 29.6	+4.2
SMAR	Somma	2.39	12	eP	Pn	09 06 00.5	+2.8
KOK	Koryaka	2.40	9	eP	Pn	09 06 01.3	+3.6
KOK				eS	Sn	09 06 30.8	+5.0
SDLR	Sedlovina	2.41	13	eP	Pn	09 06 00.2	+2.3
KRER	Koryakskii	2.42	11	eP	Pn	09 06 01.2	+3.1
KRER				eS	Sn	09 06 31.1	+4.5
KRX	Arik	2.46	9	eP	Pn	09 06 02.0	+3.4
SPN	Mys Shipunski	2.50	29	eP	Pn	09 06 02.3	+3.2
SPN				eS	Sn	09 06 30.6	+2.3
MKZ	Mys Kozlova	4.28	31	eP	Pn	09 06 26.3	+2.9
KBTR	Krutoberegovo	6.01	27	eP	Pn	09 06 50.6	+3.4

MEX 21 09:17:53.3±0.4, 14°.05N×92°.69W, h22km±16km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.95	26	i S	Sb	09 18 19.5	-3.8
PCIG		1.73	343	eP	Pn	09 18 19.3	-2.7
PCIG				i S	Sn	09 18 39.6	-3.8
CCIG	Comitan	2.29	13	i P	Pn	09 18 27.4	-2.4
CCIG				i S	Sn	09 18 54.8	-2.6
TGIG		2.75	351	i P	Pn	09 18 33.9	-2.2
TGIG				i S	Sn	09 19 05.9	-2.8
CMIG	Matias Romero	3.69	325	eP	Pn	09 18 47.4	-1.7
CMIG				i S	Sn	09 19 28.3	-3.6

KRSC 21 09:26:34.7±10.0, 52°.09N×160°.37E, h52km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.03	348	eP	Pn	09 26 54.3	+1.5
SPN				eS	Sn	09 27 07.5	+1.3
RUS	Russkaya	1.19	287	eP	Pn	09 26 55.7	+0.8
RUS				eS	Sn	09 27 09.7	-0.3
NLC	Nalytchevo	1.25	330	eP	Pn	09 26 57.7	+2.0
NLC				eS	Sn	09 27 13.3	+1.9
DALK	Dalny	1.36	314	eP	Pn	09 26 58.7	+1.5
DALK				eS	Sn	09 27 15.2	+1.0
MTVR	Mutnovka	1.40	287	eP	Pn	09 26 59.5	+1.6
MTVR				eS	Sn	09 27 16.3	+1.0
KDTR	Khodutka, Kamc	1.44	260	eP	Pn	09 27 00.0	+1.6
KDTR				eS	Sn	09 27 17.2	+1.0
UGLR	Uglovaya	1.46	321	eP	Pn	09 27 00.8	+2.1
UGLR				eS	Sn	09 27 18.4	+1.6
GRL	Gorelyy	1.48	289	eP	Pn	09 27 01.1	+2.1
GRL				eS	Sn	09 27 19.3	+2.0
SDLR	Sedlovina	1.49	323	eP	Pn	09 27 01.1	+1.9
SDLR				eS	Sn	09 27 19.5	+2.0
SMAR	Somma	1.51	322	eP	Pn	09 27 01.5	+2.0
AVH	Avacha	1.54	320	eP	Pn	09 27 02.0	+2.3
AVH				eS	Sn	09 27 21.0	+2.4
ASAK	Asacha	1.54	282	eP	Pn	09 27 01.9	+2.1
ASAK				eS	Sn	09 27 20.4	+1.6
KRMR	Karymshinskiy	1.55	299	eP	Pn	09 27 01.5	+1.6
KRMR				eS	Sn	09 27 20.5	+1.6
KRER	Koryakskii	1.56	322	eP	Pn	09 27 02.8	+2.6
KRER				eS	Sn	09 27 23.1	+3.7
KOK	Koryaka	1.60	319	eP	Pn	09 27 03.0	+2.4
KRX	Arik	1.64	321	eP	Pn	09 27 03.5	+2.3
APC	Apacha	2.13	294	eP	Pn	09 27 10.7	+3.0
APC				eS	Sn	09 27 36.9	+3.9
PAU	Pauzhetka	2.29	256	eP	Pn	09 27 14.1	+4.1
MKZ	Mys Kozlova	2.60	18	eP	Pn	09 27 16.6	+2.5
MKZ				eS	Sn	09 27 46.9	+2.4
SKR	Severo-Kuril's	3.01	244	eP	Pn	09 27 24.4	+4.6
SKR				eS	Sn	09 27 59.9	+5.3
KZV	Kizimen	3.02	359	eP	Pn	09 27 24.8	+4.6
KZV				eS	Sn	09 27 58.8	+3.6
TUMD	Tumrok D	3.12	0	eP	Pn	09 27 26.7	+5.4
TUMD				eS	Sn	09 27 59.8	+2.6
TUMR	Tumrok	3.20	358	eP	Pn	09 27 26.8	+4.3
ALID	Alaid	3.25	250	eP	Pn	09 27 25.2	+2.0
KBTR	Krutoberegovo	4.37	18	eP	Pn	09 27 41.9	+3.5
BKI	Bering	4.56	45	eP	Pn	09 27 44.0	+2.9
BKI				eS	Sn	09 28 33.4	+0.7

*ISCJB **21** 09:28:04.9±0.6, 35°.97N±0°.02×91°.26W±0°.02, h10km±4km, Error ellipse: s-maj=3.1km s-min=2.5km az=173.8*
*CERI **21** 09:28:06.8, 35°.95N×91°.30W, h16km, MD2.9*
*ANF **21** 09:28:06.9±0.5, 35°.94N×91°.30W, h20km±4km, ML3.7/36, Error ellipse: s-maj=1.9km s-min=1.6km az=38.0*
*NEIC **21** 09:28:06.8±0.0, 35°.95N×91°.30W, h16km, MD2.9(CERI), After CERI.*
NEIC Felt at Marcella, Poughkeepsie and Sulphur Rock. Also felt at Memphis, Tennessee.
ISC 21 09:28:05.8±1.1, 35°.96N±0°.02×91°.30W±0°.02, h11km±9km, n94, σ0°.57/126, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U41A	Viola	0.63	308	P	Pb	09 28 18.7	-0.2
	baz=128,SNR=171						
U41A				S	Sb	09 28 27.5	-0.2
	baz=128						
HBAR	Harrisburg	0.66	127	ePg	Pg	09 28 18.7	+0.2
HBAR				eSg	Sg	09 28 27.7	+0.5
GNAR	Gosnell	1.04	89	ePb	Pb	09 28 25.7	0.0
GNAR				eSb	Sg	09 28 39.2	-0.1
GNAR				eSn	Sb	09 28 39.9	+0.6
PBMO	Poplar Bluff	1.08	40	ePb	Pb	09 28 26.2	-0.2
PBMO				eSn	Sb	09 28 40.3	-0.2
W41B	Gary Mavity, V	1.10	225	ePb	Pg	09 28 26.4	-0.5
W41B				eSn	Sb	09 28 41.4	+0.3
W41B	Gary Mavity, V	1.10	225	P	Pg	09 28 26.4	-0.5
	baz=45,SNR=397						
W41B				S	Sg	09 28 41.1	-0.1
	baz=45						
U40A	Yellville	1.32	288	P	Pn	09 28 30.3	+0.1
	baz=108,SNR=95						
U40A				S	Sb	09 28 47.8	+0.3
	baz=108						
MET	Memphis--Engin	1.39	126	ePn	Pn	09 28 30.7	-0.4
MET				eSn	Sb	09 28 48.9	-0.6
PARMO	Parma	1.43	60	ePn	Pn	09 28 31.8	+0.1
UALR	University of	1.46	216	ePn	Pn	09 28 32.5	+0.5
UALR				eSn	Sn	09 28 52.2	+1.1
X43A	Marvell	1.48	167	ePn	Pn	09 28 32.4	+0.1
X43A				eSn	Sg	09 28 53.2	0.0
X43A	Marvell	1.48	167	P	Pn	09 28 32.4	+0.1
	baz=347,SNR=38						
X43A				Sb	Sb	09 28 53.0	+1.1
	baz=347						
HALT	Halls	1.59	91	ePn	Pn	09 28 33.7	-0.1
HALT				eSn	Sg	09 28 57.2	+0.3
GLAT	Glass	1.66	79	ePn	Pn	09 28 34.9	+0.1
GLAT				eSn	Sg	09 28 59.0	-0.1
S41A	Jillco Farms,	1.67	348	P	Pb	09 28 36.1	-0.4
	baz=168,SNR=127						
S41A				Sb	Sg	09 28 58.5	-0.9
	baz=168						
X40A	Basin Creek Fa	1.93	221	ePn	Pn	09 28 39.8	+1.2
X40A				eSn	Sg	09 29 08.7	+0.8
X40A	Basin Creek Fa	1.93	221	P	Pn	09 28 39.6	+1.1
	baz=40,SNR=27						
CCAR	Cane Creek	2.07	191	ePn	Pn	09 28 41.1	+0.7
CCAR				eSn	Sg	09 29 12.2	-0.1
CCM	Cathedral Cave	2.09	1	ePn	Pn	09 28 42.1	+1.3
CCM				eSn	Sg	09 29 13.4	+0.3
CCM	Cathedral Cave	2.09	1	P	Pn	09 28 42.2	+1.3
	baz=181						
OXF	Oxford	2.12	132	ePn	Pn	09 28 41.0	0.0
OXF	Oxford	2.12	132	P	Pn	09 28 40.9	-0.1
	baz=314,SNR=8.6						
OXF				S	Sn	09 29 07.3	0.0
	baz=314						
FVM	French Village	2.14	19	ePn	Pn	09 28 41.5	+0.1
FVM				eSn	Sg	09 29 15.6	+1.1
HHAR	Hobbs	2.16	279	ePn	Pn	09 28 42.5	+0.7
W39A	Magazine	2.16	250	ePn	Pn	09 28 42.4	+0.7
W39A	Magazine	2.16	250	P	Pn	09 28 42.6	+0.9
	baz=69,SNR=81						
R41A	Rosebud	2.34

	baz=284						
X47A	Russelville	3.16	116	P		Pn	09 28 55.2 -0.3
	baz=298,SNR=16						
U47A	Clarksville	3.28	80	P		Pn	09 28 57.0 -0.1
	baz=262,SNR=15						
T47A	Sharon Grove	3.53	72	ePn		Pn	09 29 01.0 +0.4
T47A	Sharon Grove	3.53	72	P		Pn	09 29 00.9 +0.3
	baz=254,SNR=20						
V48A	Smith Brothers	3.64	92	ePn		Pn	09 29 02.2 +0.2
V48A	Smith Brothers	3.64	92	P		Pn	09 29 01.6 -0.4
	baz=275						
TUL1	Leonard	3.65	271	ePn		Pn	09 29 02.7 +0.5
TUL1	Leonard	3.65	271	P		Pn	09 29 02.5 +0.3
	baz=88,SNR=5.2						
W48A	Pulaski	3.65	102	P		Pn	09 29 01.8 -0.4
	baz=284,SNR=6.2						
R46A	Gibon Southern	3.77	52	P		Pn	09 29 04.0 +0.2
	baz=234						
X48A	Hartselle	3.79	112	ePn		Pn	09 29 04.1 0.0
U48A	Cassie Pea, Po	3.89	80	P		Pn	09 29 05.6 +0.2
	baz=263,SNR=13						
S47A	Hartford	3.91	64	P		Pn	09 29 06.0 +0.3
	baz=246						
CLTN	Cedars of Leba	4.03	87	ePn		Pn	09 29 07.3 -0.1
W49A	Belvidere	4.19	100	P		Pn	09 29 09.4 -0.2
	baz=283,SNR=8.0						
X49A	Woodville	4.32	108	P		Pn	09 29 11.1 -0.2
	baz=291						
Y49A	Blount Mountai	4.53	116	ePn		Pn	09 29 14.2 -0.1
LRAL	Lakeview Retre	4.59	128	ePn		Pn	09 29 15.5 +0.4
WCI	Wyandotte Cave	4.60	59	ePn		Pn	09 29 15.5 +0.3
OK024	West corner E0	4.69	269	iPn		Pn	09 29 16.3 -0.1
N41A	Harden Midland	4.75	4	ePn		Pn	09 29 18.1 +0.8
OK023	East Waterloo	4.77	269	iPn		Pn	09 29 17.4 -0.2
T49A	Edmonton	4.78	74	ePn		Pn	09 29 17.9 +0.2
N40A	Mertquake, Sal	4.92	357	P		Pn	09 29 20.2 +0.5
	baz=177						
W50A	Signal Mountai	4.94	97	ePn		Pn	09 29 20.0 +0.1
Z50A	Ashland	5.19	120	ePn		Pn	09 29 23.5 +0.2
P47A	Martinsville	5.32	47	P		Pn	09 29 25.2 +0.1
	baz=230						
CPCT	Cooper Cave	5.54	93	ePn		Pn	09 29 28.4 +0.3
L40A	Anamosa	6.10	1	ePn		Pn	09 29 35.7 -0.1
L40A	Anamosa	6.10	1	P		Pn	09 29 35.7 -0.1
	baz=181,SNR=6.3						
WMOK	Wichita Mounta	6.24	261	ePn		Pn	09 29 37.6 -0.1
TZTN	Tazewell	6.29	82	ePn		Pn	09 29 39.2 +0.8
Y52A	Lilburn	6.30	107	ePn		Pn	09 29 39.0 +0.3
S51A	Beattyville	6.41	73	ePn		Pn	09 29 40.6 +0.6
R51A	Hillsboro	6.59	67	P		Pn	09 29 42.3 -0.3
	baz=251,SNR=5.4						
T52A	Hallie	6.79	78	ePn		Pn	09 29 45.1 -0.2
V53A	Saluda	6.90	90	ePn		Pn	09 29 46.4 -0.5
O49A	Covington	6.93	50	ePn		Pn	09 29 46.2 -1.0
GOGA	Godfrey	6.93	109	ePn		Pn	09 29 46.7 -0.6
352A	Blakely	6.94	128	ePn		Pn	09 29 47.6 +0.3
JFWS	Jewell Farm	7.00	6	ePn		Pn	09 29 47.5 -0.6
U54A	Nelsons Funny	7.68	83	ePn		Pn	09 29 57.8 +0.2
I42A	Draeger Farm,	8.13	12	ePn		Pn	09 30 03.6 -0.1
P53A	Whipple	8.60	63	ePn		Pn	09 30 10.4 +0.2
ECSD	EROS Data Cent	8.77	334	ePn		Pn	09 30 11.5 -1.1
ECSD	EROS Data Cent	8.77	334	P		Pn	09 30 12.2 -0.4
	baz=151,SNR=6.8						
JCT	Junction City	8.97	235	ePn		Pn	09 30 15.4 0.0
R55A	Marlinton	9.22	72	ePn		Pn	09 30 18.6 -0.1
T57A	Hurt	9.76	80	ePn		Pn	09 30 25.2 -0.8
X58A	Rowland	9.88	95	ePn		Pn	09 30 27.9 +0.2

*ISCJB **21** 09:39:27.4±0.5,20°.16S±0°.03×69°.17W±0°.07,h104km±5km, mb3.2/2,Error ellipse: s-maj=11.4km s-min=4.8km az=176.0*

*GUC **21** 09:39:28.3±0.5,20°.16S×69°.19W,h98km±2km,ML4.0*

*SJA **21** 09:39:28.4±0.2,20°.20S×69°.32W,h88km±1km,MD2.8*

*IDC **21** 09:39:30.2±1.7,20°.19S×68°.85W,h112km±17km,mb3.1/2, mb1 3.4/6,mb1mx3.2/27,mbtmp3.6/6,Error ellipse: s-maj=35.1km s-min=15.7km az=103.0*

ISC 21 09:39:28.1±0.8,20°.14S±0°.03×69°.18W±0°.07,h93km±6km, n33,σ1§22/40,1C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.02	98	eP	Pn	09 39 42.1	+0.5
PB08				eS	Sn	09 39 52.5	+0.8
PB08	IPOC Station P	0.02	98	‖iP	Pn	09 39 42.0	+0.4
PB08				i S	Sn	09 39 52.6	+0.9
PB08				IAML		09 39 53.6	
	comp=E,12μm,0.2s						
GO01	Chusmiza	0.47	358	‖iP	Pn	09 39 44.0	+0.5
GO01				i S	Sn	09 39 56.0	+1.1
GO01				IAML		09 39 57.5	
	comp=N,13μm,0.1s						
PB11	IPOC Station P	0.59	310	eP	Pn	09 39 44.2	+0.1
PB11				eS	Sn	09 39 56.0	0.0
PB11	IPOC Station P	0.59	310	‖iP	Pn	09 39 44.2	+0.1
PB11				i S	Sn	09 39 56.7	+0.7
PB11				IAML		09 39 57.3	
	comp=E,14μm,0.3s						
PB01	IPOC Station P	0.95	198	⇑iP	Pn	09 39 47.3	-0.3
PB01				i S	Sn	09 40 01.9	-0.2
PB01				IAML		09 40 03.3	
	comp=E,7μm,0.2s						
PSGC	Pisagua	1.04	301	eP	Pn	09 39 48.3	-0.3
PSGC				i S	Sn	09 40 04.3	+0.3
PSGCX	Pisagua	1.04	301	eP	Pn	09 39 48.7	+0.1
MNMC	Minye Minye	1.08	338	eP	Pn	09 39 50.0	+0.8
MNMC				i S	Sn	09 40 06.8	+1.8
MNMC				IAML		09 40 09.6	
	comp=N,4μm,0.2s						
MNMCX	Minye Minye	1.08	338	eP	Pn	09 39 50.4	+1.2
MNMCX				eS	Sn	09 40 06.7	+1.7
PB02	IPOC Station P	1.35	210	eP	Pn	09 39 52.0	-0.4
PB02	IPOC Station P	1.35	210	eP	Pn	09 39 51.9	-0.4
PB02				i S	Sn	09 40 10.6	0.0
PB09	IPOC Station P	1.65	182	eP	Pn	09 39 56.6	+0.5
PB09	IPOC Station P	1.65	182	eP	Pn	09 39 56.4	+0.3
PB07	IPOC Station P	1.71	203	i S	Sn	09 40 19.4	+0.6
PB07				IAML		09 40 23.0	
	comp=E,1μm,0.5s						
PB16	IPOC Station P	1.82	350	eP	Pn	09 40 00.8	+2.1
PB12	IPOC Station P	1.87	324	i S	Sn	09 40 22.8	+0.7
PB03	IPOC Station P	1.98	196	i S	Sn	09 40 25.0	+0.3
PB03				IAML		09 40 29.6	
	comp=E,745nm,0.3s						
LVC	Limon Verde	2.47	174	eP	Pn	09 40 08.1	+1.1
LVC	Limon Verde	2.47	174	‖eP	Pn	09 40 07.6	+0.6
LVC				i S	Sn	09 40 37.7	+0.9
LVC	Limon Verde	2.47	174	P	Pn	09 40 07.4	+0.4
	comp=E,14nm,0.3s,baz=29,slow=8.6,SNR=118						
LVC				S	Sn	09 40 39.4	+2.7
	comp=E,24nm,0.3s,baz=102,slow=19,SNR=5.3						
LPAZ	La Paz	3.96	15	P	Pn	09 40 30.1	+2.9
	comp=E,1.6nm,0.3s,baz=201,slow=6.7,SNR=45						
LPAZ				S	Sn	09 41 09.9	-3.0
	comp=E,0.5nm,0.3s,baz=198,slow=10,SNR=1.9						
SIV	San Ignacio	8.74	63	P	Pn	09 41 30.2	-1.6
	comp=E,1.2nm,0.3s,baz=265,slow=10,SNR=40						
CPUP	Villa Florida	12.51	122	P	Pn	09 42 21.8	-0.9
	comp=E,0.1nm,0.3s,baz=336,slow=9.8,SNR=3.4						
TORD	Torodi Ar. Bea	77.14	71	P	P	09 51 10.1	-1.9
	comp=E,0.3nm,0.5s,baz=255,slow=6.2,SNR=5.7						
YKA	Yellowknife Ar	89.83	341	P	P	09 52 15.8	0.0
	comp=E,0.1nm,0.6s,baz=129,slow=4.6,SNR=5.7						
H11S2	WAKE ISLAND Hyl	27.45	278	T	T	12 18 09.9	
	baz=101,slow=74,SNR=32						
H11S1	WAKE ISLAND Hyl	27.46	278	T	T	12 18 08.6	
	baz=101,slow=74,SNR=21						
H11S3	WAKE ISLAND Hyl	27.47	278	T	T	12 18 07.4	
	baz=101,slow=74,SNR=18						
H11N3	WAKE ISLAND Hyl	27.49	280	T	T	12 18 06.6	
	baz=105						
H11N2	WAKE ISLAND Hyl	27.51	280	T	T	12 18 09.6	
	baz=105						
H11N1	WAKE ISLAND Hyl	27.51	280	T	T	12 18 13.4	
	baz=105						
PETK	Petropavlovsk-	131.32	324	PKP	PKiKP	09 58 31.2	+1.0
	comp=E,1.4nm,0.5s,baz=122,slow=5.4,SNR=2.4						

*IDC **21** 09:46:47.5±2.0,60°.42S×154°.52E,h0km,mb4.2/5, mb1 4.3/6,mb1mx4.1/26,mbtmp4.2/6,ML4.0/1,MS4.3/13, Ms1 4.3/13,ms1mx4.2/19,Error ellipse: s-maj=106.5km s-min=21.2km az=80.0*

*ISCJB **21** 09:46:49.5±0.4,60°.65S±0°.04×152°.8E±0°.2,h10km, mb4.4/20,MS4.3/16,Error ellipse: s-maj=11.2km s-min=6.1km az=12.4*

*NEIC **21** 09:46:50.5±1.1,60°.73S×152°.78E,h10km,mb4.6/21,Error ellipse: s-maj=23.2km s-min=4.0km az=121.0*

*GCMT **21** 09:47:04.5±0.3,60°.37S±0°.01×153°.22E±0°.03,h12km, MW5.0/88,Moment Tensor Solution. s26,c27; s88,c120; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.33±.14; Mθθ2.63±.10; Mφφ-2.96±.13; Mrθ-0.92±.33; Mθφ-2.99±.10; Mφr2.16±.36; Best double couple: M0=4.72500×10^16 NP1:φs339.00000°,δ87.00000°,λ30.00000°. NP2: φs248.00000°,δ60.00000°,λ177.00000°. Principal axes: T 4.6480, Plg23.0000°, Azm208.0000°; N 0.1560, Plg60.0000°, Azm344.0000°; P -4.8020, Plg19.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 09:46:51.0±0.5,60°.71S±0°.07×152°.9E±0°.1,h10km,n76, σ1§92/49,mb4.7/20,MS4.3/16,1D,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	7.02	30	ePn	Pn	09 48 33.8	+0.1
MCQ				eSn	Sn	09 49 54.4	+1.0
VNDA	Vanda	17.14	173	ePn	Pn	09 50 48.0	-2.3
	19nm,1.1s						
VNDA	Vanda	17.14	173	P	Pn	09 50 48.8	-1.5
	0.5nm,0.3s,baz=345,slow=10,SNR=20						
WHZ	Wether Hill Ro	17.27	38	ePn	Pn	09 50 52.5	+0.4
	35nm,1.2s						
DCZ	Deep Cove	17.43	35	ePn	Pn	09 50 49.8	-4.3
	16nm,1.2s						
SBA	Scott Base	17.80	170	ePn	Pn	09 50 57.8	-0.6
	29nm,1.2s						
LBZ	Lake Benmore	19.32	40	eP	P	09 51 16.8	+0.7
	47nm,1.2s						
RPZ	Rata Peaks	20.20	41	LR	LR	09 57 58.0	
	comp=Z,2μm,18.5s,baz=194,slow=34						
THZ	Tophouse	22.55	42	eP	P	09 51 53.0	+1.9
	74nm,1.3s						
SNZO	South Karori	23.56	44	eP	P	09 52 01.5	+0.1
	45nm,1.0s						
CAN	Canberra	25.53	353	eP	P	09 52 18.6	-1.0
	27nm,1.5s						
BKZ	Black Stump Fm	26.09	45	eP	P	09 52 24.7	+0.1
	20nm,1.4s						
URZ	Urewera	27.12	45	LR	LR	10 01 56.2	
	comp=Z,697nm,21.1s,baz=216,slow=34						
QSPA	South Pole Qui	29.38	180	eP	P	09 52 53.1	-1.0
	12nm,1.4s						
STKA	Stephens Creek	29.79	340	eP	P	09 52 57.6	-0.1
	1.2nm,1.1s						
STKA	Stephens Creek	29.79	340	P	P	09 53 00.5	+2.7
	3.0nm,1.0s,baz=180,slow=12,SNR=2.5						
STKA				LR	LR	10 03 45.5	
	comp=Z,494nm,19.2s,baz=170,slow=34						
EIDS	Eidsvold	35.35	357	eP	P	09 53 46.6	+0.3
	4.6nm,1.1s						
H01W1	Cape Leeuwin H	35.81	298	T	T	10 32 13.3	
	baz=146,slow=75,SNR=548						
H01W2	Cape Leeuwin H	35.81	298	T	T	10 32 14.2	
	baz=146,slow=75,SNR=589						
H01W3	Cape Leeuwin H	35.82	298	T	T	10 32 14.5	
	baz=146,slow=75,SNR=578						
NWAO	Narrogin (SRO)	36.20	304	LR	LR	10 05 37.6	
	comp=Z,693nm,19.2s,baz=140,slow=31						
MAW	Mawson	36.48	220	LR	LR	10 09 24.3	
	comp=Z,1μm,18.7s,baz=103,slow=36						
AS31	Alice Springs	39.30	332	eP	P	09 54 19.4	-0.6
	1.9nm,1.4s						
ASAR	Alice Springs	39.30	332	eP	P	09 54 19.4	-0.6
ASAR	Alice Springs	39.30	332	P	P	09 54 18.8	-1.2
	2.3nm,1.1s,baz=172,slow=10,SNR=7.0						
ASAR				LR	LR	10 08 24.5	
	comp=Z,179nm,21.4s,baz=162,slow=33						
PINNC	Pines Island,	39.40	21	eP	P	09 54 21.4	+0.7
	29nm,1.2s						
ONTNC	Ouen Toro	39.52	20	eP	P	09 54 22.4	+0.6
	22nm,1.2s						
DZM	Mont Dzumac	39.75	20	eP	P	09 54 31.3	+7.5
	37nm,1.4s						
DZM	Mont Dzumac	39.75	20	eLR	LR	10 05 25.7	
	comp=Z,961nm,22.5s						
DZM	Mont Dzumac	39.75	20	eP	P	09 54 25.3	+1.5
	32nm,1.5s						
CTA	Charters Tower	40.85	350	P	P	09 54 29.7	-3.1
	2.8nm,0.8s,baz=173,slow=17,SNR=2.4						
SYO	Syowa Base	42.09	210	‖epP	P	09 54 44.6	+2.2
WB2	Warramunga Arr	42.80	334	eP	P	09 54 48.0	-0.8
WR1	Warramunga Arr	42.80	334	eP	P	09 54 46.6	-2.2
WRA	Warramunga Arr	42.80	334	P	P	09 54 46.6	-2.2
	2.4nm,1.0s,baz=164,slow=6.6,SNR=6.3						
WRAB	Tennant Creek	42.81	334	eP	P	09 54 48.8	0.0
	4.6nm,0.9s						
PSA00	Pilbara Seismi	45.43	315	eP	P	09 55 09.4	-0.4
	29nm,1.3s						
FITZ	Fitzroy Crossi	46.80	323	eP	P	09 55 20.4	-0.2
FITZ	Fitzroy Crossi	46.80	323	P	P	09 55 20.6	0.0
	3.0nm,0.9s,baz=182,slow=12,SNR=3.0						
SNAA	Sanae	46.83	190	P	P	09 55 22.8	+2.4
SNAA	Sanae	46.83	190	eP	P	09 55 20.1	-0.3
	13nm,1.3s						
SNAA	Sanae	46.83	190	P	P	09 55 21.7	+1.3
	8.4nm,1.2s,baz=162,slow=8.7,SNR=6.9						
VNA3	Neumayer Olymp	47.77	188	P	P	09 55 29.7	+2.1
VNA2	Neumayer--Watz	47.92	189	P	P	09 55 30.5	+1.7
	baz=163,slow=5.3						
VNA1	Neumayer--Stat	48.26	188	P	P	09 55 33.5	+2.2
PMG	Port Moresby	51.38	353	LR	LR	10 15 31.4	
	comp=Z,535nm,18.2s,baz=175,slow=34						
TBI	Tubuai	54.18	73	eLR	LR	10 12 03.4	
	comp=Z,292nm,29.8s						
TBI	Tubuai	54.18	73	eT	T	10 53 55.6	
	11nm,0.3s						
PAE	Paea	59.03	70	eT	T	10 59 55.3	
	3.3nm,0.3s						
TVO	Taravao	59.08	70	eT	T	10 59 59.0	
	3.9nm,0.3s						
PPT2	Papeete2	59.10	70	eLR	LR	10 14 23.3	
	comp=Z,220nm,22.2s						
PPT2	Papeete2	59.10	70	eT	T	11 00 00.9	
	5.0nm,0.3s						
PPT	Papeete	59.12	70	LR	LR	10 15 58.3	
	comp=Z,146nm,19.0s,baz=292,slow=30						
FAKI	Fak Fak	59.77	336	eP	P	09 56 55.2	-0.8
	7.1nm,0.9s						
KAPI	Kappang	60.95	321	LR	LR	10 21 48.8	
	comp=Z,177nm,18.5s,baz=170,slow=34						
RKT	Rikitea	61.37	86	eT	T	11 02 57.9	
	7.9nm,0.2s						
PLCA	Paso Flores	72.85	147	eP	P	09 58 20.8	+1.0
PLCA	Paso Flores	72.85	147	LR	LR	10 23 33.5	
	comp=Z,329nm,21.5s,baz=109,slow=30						
PSI	Prapat	75.73	304	LR	LR	10 29 20.4	
	comp=Z,112nm,18.7s,baz=97,slow=34						
TRQA	Tornquist	77.52	152	eP	P	09 58 46.1	-0.5
	15nm,1.4s						
H08S2	Diego Garcia H	78.69	275	T	T	11 26 07.7	
	baz=149,slow=76,SNR=74						
H08S1	Diego Garcia H	78.70	275	T	T	11 26 11.6	
	baz=149,slow=76,SNR=75						
H08S3	Diego Garcia H	78.71	275	T	T	11 26 09.2	
	baz=149,slow=76,SNR=89						
H11S2	WAKE ISLAND Hy	79.70	13	T	T	11 26 11.1	
	SNR=5.7						
H08N1	Diego Carcia H	80.54	274	T	T	11 28 28.0	
	baz=145,slow=74,SNR=5.9						
H08N3	Diego Garcia H	80.55	274	T	T	11 28 31.5	
	baz=145,slow=74,SNR=7.1						
H08N2	Diego Garcia H	80.56	274	T	T	11 28 31.7	
	baz=145,slow=74,SNR=5.1						
BOSA	Boshof	81.34	225	LR	LR	10 32 18.2	
	comp=Z,145nm,19.6s,baz=206,slow=33						
KMI	Kunming	94.72	316	P	P	10 00 15.8	+3.4
LPAZ	La Paz	96.51	141	LR	LR	10 34 54.3	
	comp=Z,105nm,21.4s,baz=140,slow=30						
NJ2	Nanjing	96.54	331	eP	P	10 00 23.1	+2.9
YKA	Yellowknife Ar	141.35	48	PKP	PKPdf	10 06 17.5	-2.8
	0.1nm,0.7s,baz=229,slow=2.0,SNR=3.1						
BURAR	Bucovina Array	147.64	270	ePKPdf	PKPdf	10 06 32.0	+0.1
AKASG	Malin Array Be	147.73	278	PKPbc	PKPbc	10 06 35.1	+0.5
	0.4nm,0.3s,baz=124,slow=2.9,SNR=6.2						
AKBB	Malin Array Si	147.73	278	ePKPdf	PKPdf	10 06 30.3	-1.4
AKBB				ePKPbc	pPKPdf	10 06 34.2	-0.1
AKBB				ePKPab	PKiKP	10 06 37.0	+0.4
CLL	Collm	156.07	265	e(PKP)	PKPab	10 07 05.0	-6.9
	comp=Z,3.0nm,0.6s						
CLL				LmV		11 28 00.0	
	comp=Z,100nm,18.4s						

MAN 21 10:00:01.0,9°.72N×125°.87E,h171km,mb4.1,ML2.9, MS2.6,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.38	280	‖eP	Pn	10 00 27.8	+3.5
SCPH				eS	Sn	10 00 39.7	-2.3
MSLP	Maasin	1.08	293	eP	Pn	10 00 28.6	+0.2
MSLP				eS	Sn	10 00 50.1	+0.6
BESP	Borongan	1.92	347	eP	Pn	10 00 37.0	+0.4
CNP	Catarman	3.02	337	eP	Pn	10 00 50.2	+0.8

*IDC **21** 09:59:58.2±0.5,52°.52N×160°.37E,h0km,mb4.3/34, mb1 4.5/37,mb1mx4.4/45,mbtmp4.4/37,ML3.9/3,MS4.2/14, Ms1 4.2/14,ms1mx3.7/45,Error ellipse: s-maj=14.7km s-min=10.4km az=149.0*

*KRSC **21** 09:59:58.8±10.0,52°.30N×160°.76E,h60km±10km,ML5.3*

*ISCJB **21** 09:59:59.5±0.2,52°.32N±0°.02×160°.65E±0°.03,h24km, mb4.7/151,MS4.4/32,Error ellipse: s-maj=3.2km s-min=2.4km az=146.3*

*MOS **21** 10:00:02.8±1.0,52°.43N×160°.45E,h52km,mb5.1/42, MS4.2/11,Error ellipse: s-maj=6.3km s-min=3.4km az=98.9*

*NEIC **21** 10:00:03.7±0.2,52°.51N×160°.23E,h35km,mb4.7/87,Error ellipse: s-maj=4.5km s-min=2.6km az=154.0*

*BJI **21** 10:00:07.9±0.0,53°.08N×159°.42E,h60km,mb4.8/43, mB4.8/31,Ms4.6/32,Ms7 4.5/29*

ISC 21 10:00:01.6±0.3,52°.43N±0°.04×160°.51E±0°.03,h24km,n427, σ1§44/451,mb4.7/151,MS4.5/31,33C-9D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.74	336	eP	Pn	10 00 16.4	-0.1
SPN				eS	Sn	10 00 28.2	+1.3
SPN	Mys Shipunski	0.74	336	PN	Pn	10 00 16.4	-0.1
SPN				S	Sn	10 00 28.2	+1.3
NLC	Nalytchevo	1.03	317	eP	Pb	10 00 21.1	+0.4
NLC				eS	Sn	10 00 36.4	+2.3
NLC	Nalytchevo	1.03	317	PN	Pb	10 00 21.1	+0.4
NLC				S	Sn	10 00 36.4	+2.3
RUS	Russkaya	1.23	271	eP	Pb	10 00 23.8	-0.2
RUS				eS	Sb	10 00 41.0	+1.6
RUS	Russkaya	1.23	271	PN	Pb	10 00 23.8	-0.2
RUS				S	Sb	10 00 41.0	+1.6
DALK	Dalny	1.23	300	eP	Pb	10 00 24.2	+0.1
DALK				eS	Sb	10 00 42.4	+2.9
DALK	Dalny	1.23	300	PN	Pb	10 00 24.2	+0.1
DALK				S	Sb	10 00 42.4	+2.9
PET	Petropavlovsk	1.28	299	ePn	Pb	10 00 24.5	-0.4
PET				eSn	Sn	10 00 36.8	-3.5
PET	Petropavlovsk	1.28	299	⇑iPN	Pb	10 00 25.0	+0.1
PET				eS	Sb	10 00 43.5	+2.5
PET				pmax	pmax		
	comp=Z,2μm,0.6s						
PET				smax	smax		
	comp=E,11μm,0.5s						
PET				smax	smax		
	comp=N,11μm,0.7s						
UGLR	Uglovaya	1.29	308	eP	Pb	10 00 25.7	+0.5
UGLR	Uglovaya	1.29	308	PN	Pb	10 00 25.7	+0.5
SDLR	Sedlovina	1.31	311	eP	Pb	10 00 25.5	0.0
SDLR	Sedlovina	1.31	311	PN	Pb	10 00 25.5	0.0
SMAR	Somma	1.34	310	eP	Pb	10 00 26.2	+0.2
SMAR	Somma	1.34	310	PN	Pb	10 00 26.2	+0.2
AVH	Avacha	1.37	309	eP	Pb	10 00 26.8	+0.3
AVH				eS	Sb	10 00 46.6	+3.1
AVH	Avacha	1.37	309	PN	Pb	10 00 26.8	+0.3
AVH				S	Sb	10 00 46.6	+3.1
KRER	Koryakskii	1.39	310	eP	Pb	10 00 27.2	+0.3
KRER	Koryakskii	1.39	310	PN	Pb	10 00 27.2	+0.3
MTVR	Mutnovka	1.43	273	eP	Pb	10 00 27.3	-0.2
MTVR	Mutnovka	1.43	273	PN	Pb	10 00 27.3	-0.2
KOK	Koryaka	1.43	308	eP	Pb	10 00 27.6	0.0
KOK	Koryaka	1.43	308	PN	Pb	10 00 27.6	0.0
KRX	Arik	1.47	310	eP	Pb	10 00 27.8	-0.4
KRX	Arik	1.47	310	PN	Pb	10 00 27.8	-0.4
GRL	Gorelyy	1.50	276	eP	Pb	10 00 28.9	+0.2
GRL	Gorelyy	1.50	276	PN	Pb	10 00 28.9	+0.2
KRMR	Karymshinskiy	1.51	287	eP	Pb	10 00 28.3	-0.5
KRMR				eS	Sb	10 00 48.6	+1.1
KRMR	Karymshinskiy	1.51	287	PN	Pb	10 00 28.3	-0.5
KRMR				S	Sb	10 00 48.6	+1.1
ASAK	Asacha	1.60	270	eP	Pb	10 00 29.8	-0.7
ASAK	Asacha	1.60	270	PN	Pb	10 00 29.8	-0.7
KDTR	Khodutka, Kamc	1.62	249	eP	Pn	10 00 28.5	-0.1
KDTR				eS	Sn	10 00 49.0	+0.2
KDTR	Khodutka, Kamc	1.62	249	PN	Pn	10 00 28.5	-0.1
KDTR				S	Sn	10 00 49.0	+0.2
PEA0B	Petropavlovsk-	1.84	293	ePn	Pn	10 00 32.8	+1.1
PEA0B				eSn	Sn	10 00 49.7	-4.5
PETK	Petropavlovsk-	1.84	293	Pn	Pb	10 00 33.4	-1.1
	comp=N,106nm,0.3s,baz=106,slow=16,SNR=226						
PETK				Sn	Sb	10 00 59.2	+2.1
	comp=N,151nm,0.3s,baz=110,slow=20,SNR=13						
PETK				LR	LR	10 01 30.6	
	comp=N,5μm,18.0s,baz=81,slow=54						
PEA1	Petropavlovsk-	1.84	293	ePn	Pb	10 00 33.4	-1.2
PEA1				eSn	Sb	10 00 59.2	+2.0
APC	Apacha	2.10	285	eP	Pb	10 00 37.6	-1.4
APC				eS	Sb	10 01 04.7	+0.1
APC	Apacha	2.10	285	PN	Pb	10 00 37.6	-1.4
APC				S	Sb	10 01 04.7	+0.1
MKZ	Mys Kozlova	2.25	18	eP

OSSR	**Ossora**	**6.99**	**11**	*e*P	**Pn**	**10 01 44.2**	**+1.9**
OSSR	**Ossora**	**6.99**	**11**	PN	**Pn**	**10 01 44.2**	**+1.9**
SMY	**Shemya**	**8.28**	**83**	*e*Pn	**Pn**	**10 01 59.1**	**-0.9**
SMY	**Shemya**	**8.28**	**83**	*e*PN	**Pn**	**10 01 59.1**	**-0.9**
TILK	**Tilichiki**	**8.62**	**19**	*e*P	**Pn**	**10 02 06.4**	**+1.8**
TILK	**Tilichiki**	**8.62**	**19**	PN	**Pn**	**10 02 06.4**	**+1.8**
MA2	**Magadan**	**9.00**	**327**	*e*Pn	**Pn**	**10 02 09.0**	**-0.9**
MA2	**Magadan**	**9.00**	**327**	*ce*PN	**Pn**	**10 02 11.4**	**+1.5**
MA2				pmax	pmax		
	comp=Z,18nm,2.5s						
MA2	**Magadan**	**9.00**	**327**	Pn	**Pn**	**10 02 12.0**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=17,slow=1.7,SNR=3.5						
MA2				LR	LR	10 06 08.6	
	comp=Z,955nm,19.5s,baz=144,slow=42						
OKH	**Okha**	**10.66**	**283**	*de*PN	Pn	10 02 42.0	+9.4
OKH				*e*S	Sn	10 04 42.0	+11
OKH				MLR	MLR		
	comp=Z,1μm,14.0s						
SEY	**Seymchan**	**11.39**	**341**	⇓*i*PN	**Pn**	**10 02 45.9**	**+3.4**
SEY	**Seymchan**	**11.39**	**341**	Pn	**Pn**	**10 02 45.8**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=134,slow=12,SNR=3.2						
NKL	**Nikolayevsk**	**12.03**	**281**	*e*Pn	Pn	10 02 57.0	+5.7
NKL				MLR	MLR		
	comp=N,800nm,15.0s						
NKL				MLR	MLR		
	comp=E,1μm,15.0s						
NKL				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**12.72**	**252**	*e*Pn	**Pn**	**10 02 59.9**	**-0.9**
YSS	**Yuzh-Sakhalins**	**12.72**	**252**⇑	*e*PN	**Pn**	**10 03 03.4**	**+2.6**
YSS				MLR	MLR		
	comp=Z,1μm,13.0s						
YSS				MLR	MLR		
	comp=E,700nm,16.0s						
YUK	**Yuzh-Kuril'sk**	**12.86**	**235**	PN	P	10 03 08.4	-4.9
YUK				*e*S	**Sn**	**10 05 27.9**	**+3.0**
YUK				pmax	pmax		
	comp=N,186nm,1.1s						
YUK				pmax	pmax		
	comp=E,147nm,1.1s						
YUK				pmax	pmax		
	comp=Z,204nm,1.1s						
YUK				MLR	MLR		
	comp=Z,1μm,21.0s						
YUK				MLR	MLR		
	comp=E,1μm,17.0s						
YUK				MLR	MLR		
	comp=N,918nm,20.0s						
ASAJ	**Asahikawa**	**14.51**	**242**	Pn	**Pn**	**10 03 25.6**	**+0.3**
	comp=N,1.1nm,0.3s,baz=67,slow=10,SNR=9.8						
GRNR	**Gornyy**	**15.05**	**273**	*e*P	**P**	**10 03 39.8**	**+2.2**
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
BILL	**Bilibino**	**15.91**	**8**	*e*Pn	**Pn**	**10 03 43.8**	**+0.3**
	comp=Z,24nm,0.8s						
BILL	**Bilibino**	**15.91**	**8**⇑	*e*P	**P**	**10 03 48.0**	**+1.0**
BILL				*e*S	**Sn**	**10 06 31.6**	**-7.3**
BILL				pmax	pmax		
	comp=Z,27nm,0.8s						
TEY	**Ternei**	**17.37**	**254**⇓	*e*P	**P**	**10 04 04.8**	**+1.5**
TEY				pmax	pmax		
	comp=E,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=Z,20nm,0.8s						
KLR	**Kul'dur**	**18.39**	**271**	P	**Pn**	**10 04 15.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=60,slow=11,SNR=22						
YAK	**Yakutsk**	**19.07**	**312**	*e*P	**P**	**10 04 19.2**	**-2.7**
YAK				*e*S	**Sn**	**10 07 51.2**	**-4.3**
YAK				pmax	pmax		
	comp=Z,107nm,1.0s						
YAK				pmax	pmax		
	comp=N,17nm,0.9s						
YAK				pmax	pmax		
	comp=E,101nm,1.0s						
YAK				pmax	pmax		
	comp=E,195nm,1.2s						
YAK				pmax	pmax		
	comp=Z,399nm,1.2s						
YAK				pmax	pmax		
	comp=N,122nm,1.1s						
YAK				smax	smax		
	comp=N,110nm,2.1s						
YAK				smax	smax		
	comp=E,72nm,2.2s						
YAK				MLR	MLR		
	comp=Z,2μm,15.0s						
YAK				MLR	MLR		
	comp=N,1μm,14.0s						
YAK				MLR	MLR		
	comp=E,2μm,15.0s						
ZEA	**Zeya**	**19.93**	**287**	*e*P	**P**	**10 04 30.1**	**-1.2**
ZEA				pmax	pmax		
	comp=N,21nm,0.8s						
ZEA				pmax	pmax		
	comp=E,26nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA				MLR	MLR		
	comp=N,500nm,14.0s						
ZEA				MLR	MLR		
	comp=E,500nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,900nm,14.0s						
USA0B	**Ussuriysk Arra**	**20.57**	**258**	*e*P	**P**	**10 04 36.6**	**-1.8**
	comp=Z,14nm,0.9s						
USRK	**Ussuriysk Ar.**	**20.57**	**258**	P	**P**	**10 04 36.2**	**-2.2**
	comp=Z,12nm,0.9s,baz=61,slow=11,SNR=15						
USRK				LR	LR	10 13 21.3	
	comp=Z,484nm,18.4s,baz=58,slow=39						
MDJ	**Mudanjiang**	**21.79**	**261**	*e*P	**P**	**10 04 49.9**	**-1.6**
	comp=Z,32nm,1.4s						
MJAR	**Matsushiro Arr**	**22.34**	**234**	*e*P	**P**	**10 04 57.7**	**+0.2**
MJAR	**Matsushiro Arr**	**22.34**	**234**	*e*P	**P**	**10 04 57.7**	**+0.2**
MJAR	**Matsushiro Arr**	**22.34**	**234**	P	**P**	**10 04 58.0**	**+0.5**
	comp=Z,12nm,0.7s,baz=23,slow=12,SNR=29						
MJAR				LR	LR	10 14 09.6	
	comp=Z,503nm,21.2s,baz=55,slow=38						
MJB9	**Matsu-Tunnel**	**22.34**	**234**	*e*P	**P**	**10 04 58.0**	**+0.4**
	comp=Z,37nm,0.9s						
MAJO	**Matsushiro**	**22.34**	**234**	*e*P	**P**	**10 04 57.6**	**+0.1**
	comp=Z,37nm,0.9s						
MAJO	**Matsushiro**	**22.34**	**234**	*c i*P	**P**	**10 04 55.6**	**-1.9**
MAT	**Matsushiro**	**22.34**	**234**	P	**P**	**10 04 57.2**	**-0.3**
MAT				S	**S**	**10 08 59.2**	**-2.5**
RDOG	**Red Dog Mine**	**23.45**	**34**	*e*P	**P**	**10 05 09.5**	**+0.8**
	comp=Z,10nm,1.0s						
TIXI	**Tiksi**	**23.80**	**336**	*e*P	**P**	**10 05 10.2**	**-1.8**
TIXI	**Tiksi**	**23.80**	**336**	*d i*P	**P**	**10 05 10.8**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,32nm,1.1s						
TIXI	**Tiksi**	**23.80**	**336**	P	**P**	**10 05 10.9**	**-1.1**
	comp=Z,23nm,0.9s,baz=122,slow=9.6,SNR=53						
INU	**Inuyama**	**23.88**	**234**	*e*P	**P**	**10 05 12.8**	**-0.3**
	comp=Z,16nm,0.8s						
CN2	**Changchun**	**24.74**	**264**	*e*P	**P**	**10 05 17.8**	**-3.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
CN2				LR	LR		
	comp=Z,480nm,13.0s						
CN2				LR	LR		
	comp=Z,700nm,14.0s						
SVW2	**Sparrevohn**	**25.13**	**52**	*e*P	**P**	**10 05 25.2**	**+0.9**
	comp=Z,17nm,1.3s						
HIA	**Hailar**	**25.69**	**279**	*e*P	**P**	**10 05 27.2**	**-2.3**
	comp=Z,43nm,0.8s						
HIA	**Hailar**	**25.69**	**279**	*c i*P	**P**	**10 05 27.4**	**-2.1**
HIA				pmax	pmax		
	comp=Z,263nm,0.9s						
IMAR	**Indian Mountai**	**26.33**	**41**	*e*P	**P**	**10 05 35.8**	**+0.7**
BOD	**Bodaibo**	**26.70**	**300**	*e*P	**P**	**10 05 36.5**	**-2.0**
BOD				pmax	pmax		
	comp=Z,21nm,1.2s						
KDAK	**Kodiak Island**	**26.91**	**60**	*e*P	**P**	**10 05 42.1**	**+1.7**
	comp=Z,13nm,1.0s						
KDAK	**Kodiak Island**	**26.91**	**60**	*e*P	**P**	**10 05 42.1**	**+1.7**
KDAK				pmax	pmax		
	comp=Z,13nm,1.0s						
KDAK	**Kodiak Island**	**26.91**	**60**	P	**P**	**10 05 44.6**	**+4.3**
	comp=Z,3.7nm,0.8s,baz=225,slow=7.1,SNR=3.0						
KSRS	**Korea Array**	**27.21**	**250**	P	**P**	**10 05 45.8**	**+2.5**
	comp=Z,3.4nm,0.9s,baz=42,slow=9.7,SNR=12						
KSRS				LR	LR	10 17 35.3	
	comp=Z,271nm,19.1s,baz=56,slow=39						
KSAR	**Wonju Array Be**	**27.24**	**250**	*e*P	**P**	**10 05 43.1**	**-0.4**
KSAR	**Wonju Array Be**	**27.24**	**250**	*e*P	**P**	**10 05 43.1**	**-0.4**
TOLK	**Toolik Lake Re**	**28.35**	**36**	*e*P	**P**	**10 05 54.6**	**+1.4**
	comp=Z,7.7nm,1.4s						
WRH	**Wood River Hil**	**28.59**	**45**	*e*P	**P**	**10 05 56.8**	**+1.4**
	comp=Z,13nm,1.4s						
JNU	**Nakatsue**	**28.76**	**240**	*e*P	**P**	**10 05 56.6**	**-0.6**
	comp=Z,14nm,0.8s						
JNU	**Nakatsue**	**28.76**	**240**	P	**P**	**10 05 57.5**	**+0.3**
	comp=Z,5.5nm,0.8s,baz=18,slow=9.6,SNR=2.9						
DHY	**Denali Highway**	**28.94**	**48**	*e*P	**P**	**10 06 00.4**	**+1.7**
	comp=Z,2.1nm,1.0s						
ILAR	**Eielson Array**	**29.11**	**44**	*e*P	**P**	**10 06 01.4**	**+1.4**
ILAR	**Eielson Array**	**29.11**	**44**	*e*P	**P**	**10 06 01.4**	**+1.4**
ILAR	**Eielson Array**	**29.11**	**44**	P	**P**	**10 06 00.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=259,slow=6.9,SNR=8.4						
ILB	**Eielson Array**	**29.11**	**44**	*e*P	**P**	**10 06 01.4**	**+1.4**
	comp=Z,2.5nm,0.9s						
PRP	**Porcupine Dome**	**29.68**	**43**	*e*P	**P**	**10 06 05.6**	**+0.4**
	comp=Z,3.9nm,1.1s						
KLU	**Klutina**	**29.76**	**51**	*e*P	**P**	**10 06 07.1**	**+1.3**
	comp=Z,13nm,1.4s						
BCAR	**Beaver Creek A**	**31.48**	**47**	*e*P	**P**	**10 06 21.4**	**+0.5**
CTGM	**Chitina Glacie**	**32.03**	**51**	*e*P	**P**	**10 06 27.7**	**+1.7**
	comp=Z,5.2nm,0.9s						
DAWY	**Dawson**	**32.40**	**45**	*e*P	**P**	**10 06 30.1**	**+1.0**
	comp=Z,5.4nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**33.01**	**169**	T	T	10 42 12.7	
	baz=352,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**33.02**	**169**	T	T	10 42 17.0	
	baz=352,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**33.02**	**169**	T	T	10 42 39.2	
	baz=352,slow=76,SNR=96						
ULN	**Ulaanbaatar**	**33.90**	**284**	*e*P	**P**	**10 06 40.7**	**-1.8**
	comp=Z,6.8nm,0.9s						
ULN	**Ulaanbaatar**	**33.90**	**284**	*ce*P	**P**	**10 06 40.9**	**-1.6**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ULN	**Ulaanbaatar**	**33.90**	**284**	P	**P**	**10 06 41.5**	**-1.0**
	SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**34.19**	**170**	T	T	10 44 29.5	
	baz=352,slow=76,SNR=3.2						
H11S3	**WAKE ISLAND Hy**	**34.20**	**170**	T	T	10 44 31.3	
	baz=352,slow=76,SNR=3.7						
TLY	**Talaya**	**34.21**	**292**	*e*P	**P**	**10 06 43.8**	**-1.1**
	comp=Z,6.4nm,1.0s						
TLY	**Talaya**	**34.21**	**292**	*c i*P	**P**	**10 06 44.2**	**-0.7**
TLY				pmax	pmax		
	comp=Z,29nm,1.7s						
H11S2	**WAKE ISLAND Hy**	**34.21**	**170**	T	T	10 44 30.2	
	baz=352,slow=76,SNR=2.7						
INK	**Inuvik**	**34.25**	**37**	*e*P	**P**	**10 06 45.2**	**+0.2**
	comp=Z,3.7nm,1.1s						
INK	**Inuvik**	**34.25**	**37**	*e*P	**P**	**10 06 45.2**	**+0.2**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
INK	**Inuvik**	**34.25**	**37**	P	**P**	**10 06 44.8**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=262,slow=11,SNR=6.6						
SONM	**Songino Array**	**34.31**	**284**	*e*P	**P**	**10 06 44.2**	**-1.7**
SONM	**Songino Array**	**34.31**	**284**	P	**P**	**10 06 45.0**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=61,slow=7.6,SNR=13						
SONM				PcP	**PcP**	**10 09 21.8**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=120,slow=5.2,SNR=3.8						
SONM				LR	LR	10 22 23.8	
	comp=Z,763nm,18.4s,baz=67,slow=39						
TIA	**Tai'an**	**34.42**	**259**	P	**P**	**10 06 47.5**	**+0.6**
TIA				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC	**Hu-ho-hao-te**	**34.90**	**271**	*e*P	**P**	**10 06 49.4**	**-1.7**
HHC				S	S	10 12 05.5	-15
HHC				pmax	pmax		
	comp=Z,270nm,4.5s						
HHC				LR	LR		
	comp=Z,600nm,13.0s						
HHC				LR	LR		
	comp=Z,640nm,11.4s						
HHC				LR	LR		
	comp=Z,810nm,11.7s						
ZAK	**Zakamensk**	**34.97**	**290**	*e*P	**P**	**10 06 50.1**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MOY	**Mondy**	**35.71**	**293**	*e*P	**P**	**10 06 57.1**	**-0.9**
MOY				pmax	pmax		
	comp=Z,13nm,1.5s						
NJ2	**Nanjing**	**36.29**	**252**	*e*P	**P**	**10 07 04.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,21nm,0.7s						
NRIK	**Noril'sk**	**36.60**	**325**	P	**P**	**10 07 04.4**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=54,slow=8.7,SNR=3.4						
NRIK				LR	LR	10 23 35.8	
	comp=Z,1μm,18.2s,baz=54,slow=39						
DLBC	**Dease Lake**	**38.24**	**53**	*e*P	**P**	**10 07 20.3**	**+1.0**
	comp=Z,3.9nm,0.8s						
DLBC	**Dease Lake**	**38.24**	**53**	P	**P**	**10 07 20.8**	**+1.4**
	comp=Z,3.2nm,0.9s,baz=353,slow=3.4,SNR=4.6						
WHN	**Wuhan**	**40.03**	**255**	P	**P**	**10 07 35.6**	**+1.1**
LZH	**Lanzhou**	**42.59**	**271**	*e*P	**P**	**10 07 55.3**	**-0.4**
LZH				pP	pwP	10 08 08.5	+3.2
LZH				sP	sP	10 08 12.5	+7.5
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
LZH				LR	LR		
	comp=Z,530nm,14.6s						
LZH				LR	LR		
	comp=Z,540nm,15.2s						
LZH				LR	LR		
	comp=Z,780nm,16.3s						
GTA	**Gaotai**	**42.94**	**277**	⇑P	**P**	**10 07 57.6**	**-0.8**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,33nm,5.6s						
GTA				LR	LR		
	comp=Z,390nm,16.2s						
GTA				LR	LR		
	comp=Z,320nm,16.8s						
GTA				LR	LR		
	comp=Z,540nm,15.6s						
ZAA0	**Zalesovo Array**	**43.35**	**303**	*e*P	**P**	**10 07 59.3**	**-2.1**
	comp=Z,5.7nm,1.0s						
ZALV	**Zalesovo Beam**	**43.35**	**303**	P	**P**	**10 07 59.0**	**-2.4**
	comp=Z,5.0nm,0.9s,baz=64,slow=6.8,SNR=14						
ZALV				PcP	**PcP**	**10 09 49.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=56,slow=3.6,SNR=2.7						
ZALV				LR	LR	10 27 15.0	
	comp=Z,156nm,20.5s,baz=70,slow=38						
YKA	**Yellowknife Ar**	**43.48**	**42**	P	**P**	**10 08 02.4**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=297,slow=7.8,SNR=9.5						
YKB5	**Yellowknife Ar**	**43.48**	**42**	*e*P	**P**	**10 08 02.4**	**+0.1**
NVS	**Novosibirsk**	**43.71**	**305**⇑	*i*P	**P**	**10 08 03.0**	**-1.2**
NVS				pmax	pmax		
	comp=E,25nm,0.9s						
NVS				pmax	pmax		
	comp=Z,36nm,0.9s						
NVS				pmax	pmax		
	comp=N,9.0nm,1.0s						
RES	**Resolute Bay**	**43.85**	**22**	*e*P	**P**	**10 08 05.4**	**+0.3**
	comp=N,5.2nm,0.9s						
RES	**Resolute Bay**	**43.85**	**22**	*e*P	**P**	**10 08 05.4**	**+0.3**
RES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RES	**Resolute Bay**	**43.85**	**22**	P	**P**	**10 08 05.7**	**+0.5**
	comp=Z,4.5nm,0.9s,baz=329,slow=9.2,SNR=6.9						
DGZ	**Jazzator, Alta**	**44.20**	**297**	*c i*P	**P**	**10 08 07.3**	**-1.1**
DGZ				pmax	pmax		
	comp=Z,11nm,1.0s						
CD2	**Chengdu**	**46.16**	**265**	*e*P	**P**	**10 08 22.0**	**-2.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				LR	LR		
	comp=Z,420nm,19.2s						
CD2				LR	LR		
	comp=Z,370nm,21.2s						
CD2				LR	LR		
	comp=Z,520nm,15.1s						
WMQ	**Urumqi**	**47.44**	**290**	*e*P	**P**	**10 08 34.3**	**+0.3**
WMQ				LR	LR		
	comp=Z,1μm,16.1s						
WMQ				LR	LR		
	comp=Z,1μm,15.7s						
WMQ	**Urumqi**	**47.44**	**290**	*e*P	**P**	**10 08 33.0**	**-1.0**
	comp=Z,15nm,0.9s						
WMQ	**Urumqi**	**47.44**	**290**	*e*P	**P**	**10 08 33.0**	**-1.0**
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
KBS	**Kingsbay**	**47.57**	**352**	*e*P	**P**	**10 08 34.7**	**+0.2**
	comp=Z,24nm,1.0s						
KBS	**Kingsbay**	**47.57**	**352**	*ce*P	**P**	**10 08 34.9**	**+0.4**
KBS				pmax	pmax		
	comp=Z,80nm,1.0s						
KBS	**Kingsbay**	**47.57**	**352**	*e*P	**P**	**10 08 35.0**	**+0.6**
SPA0	**Spitsbergen Ar**	**47.84**	**351**	*e*P	**P**	**10 08 36.7**	**+0.1**
	comp=Z,57nm,1.1s						
SPA0	**Spitsbergen Ar**	**47.84**	**351**	*e*P	**P**	**10 08 37.0**	**+0.4**
KURK	**Kurchatov**	**48.31**	**303**	*e*P	**P**	**10 08 38.8**	**-1.7**
	comp=Z,30nm,0.8s						
KURK	**Kurchatov**	**48.31**	**303**	*ce*P	**P**	**10 08 38.7**	**-1.8**
KURK				pmax	pmax		
	comp=Z,36nm,0.9s						
KURK	**Kurchatov**	**48.31**	**303**	P	**P**	**10 08 38.3**	**-2.2**
	SNR=14						
PANH	**Panhandle Gap,**	**48.43**	**64**	*e*P	**P**	**10 08 38.2**	**-3.6**
MK31	**Makanchi Array**	**48.68**	**296**	*e*P	**P**	**10 08 42.0**	**-1.5**
	comp=Z,15nm,1.3s						
MK31	**Makanchi Array**	**48.68**	**296**	*e*P	**P**	**10 08 42.0**	**-1.5**
MK31				pmax	pmax		
	comp=Z,15nm,1.3s						
MK32	**Makanchi Array**	**48.68**	**296**	*e*P	**P**	**10 08 41.8**	**-1.7**
MKAR	**Makanchi Array**	**48.68**	**296**	*e*P	**P**	**10 08 41.6**	**-1.8**
MKAR	**Makanchi Array**	**48.68**	**296**	P	**P**	**10 08 41.8**	**-1.7**
	comp=Z,3.3nm,0.5s,baz=57,slow=6.7,SNR=44						
MKAR				LR	LR	10 30 34.5	
	comp=Z,223nm,18.1s,baz=49,slow=38						
MAKZ	**Makanchi**	**48.84**	**297**	*e*P	**P**	**10 08 43.4**	**-1.3**
	comp=Z,11nm,0.7s						
MAKZ	**Makanchi**	**48.84**	**297**	*e*P	**P**	**10 08 43.4**	**-1.3**
MAKZ				pmax	pmax		
	comp=Z,11nm,0.7s						
HSPB	**Hornsund (broa**	**48.96**	**350**	*e*P	**P**	**10 08 45.6**	**+0.4**
KMI	**Kunming**	**50.96**	**261**	P	**P**	**10 09 01.8**	**+0.5**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
BRVK	**Borovoye**	**51.04**	**309**	*e*P	**P**	**10 09 00.2**	**-1.0**
	comp=Z,9.1nm,0.8s						
BRVK	**Borovoye**	**51.04**	**309**	*d i*P	**P**	**10 09 00.1**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,11nm,0.8s						
BRVK	**Borovoye**	**51.04**	**309**	P	**P**	**10 09 00.4**	**-0.8**
	SNR=6.0						
DAG	**Danmarks Havn**	**51.07**	**360**	*i*P	**P**	**10 09 01.0**	**-0.2**
DAG	**Danmarks Havn**	**51.07**	**360**	*i*P	**P**	**10 09 01.0**	**-0.2**
SLVN	**Son La**	**53.12**	**257**	*e*P	**P**	**10 09 16.9**	**-0.4**
	comp=Z,12nm,1.0s						
HAMF	**Hammerfest**	**53.39**	**343**	*e*P	**P**	**10 09 18.1**	**-0.4**
LVZ	**Lovozero**	**53.41**	**338**	*e*P	**P**	**10 09 18.4**	**-0.4**
	comp=Z,30nm,1.0s						
LVZ	**Lovozero**	**53.41**	**338**	*d i*P	**P**	**10 09 18.5**	**-0.3**
LVZ				pmax	pmax		
	comp=Z,75nm,2.5s						
ARCES	**ARCESS Array B**	**54.00**	**342**	*e*P	**P**	**10 09 22.6**	**-0.4**
ARCES	**ARCESS Array B**	**54.00**	**342**	P	**P**	**10 09 21.4**	**-1.6**
	comp=Z,14nm,0.8s,baz=37,slow=8.2,SNR=20						
ARE0	**ARCESS Array S**	**54.00**	**342**	*e*P	**P**	**10 09 22.8**	**-0.2**
	comp=Z,0.8nm,0.9s						
ARE0	**ARCESS Array S**	**54.00**	**342**	*e*P	**P**	**10 09 21.3**	**-1.8**
LRM	**Limekiln Ridge**	**54.03**	**60**	*e*P	**P**	**10 09 20.5**	**-3.4**
ARU	**Arti**	**54.06**	**318**	*e*P	**P**	**10 09 22.6**	**-1.0**
	comp=Z,10nm,0.6s						
ARU	**Arti**	**54.06**	**318**	*d i*P	**P**	**10 09 22.5**	**-1.1**
ARU						10 11 23.0	
ARU				S	**S**	**10 16 57.4**	**-0.7**
ARU				SS	**SKiKP**	**10 20 36.1**	**+2.5**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ARU				MLR	MLR		
	comp=Z,268nm,16.0s						
SUMG	**Summit**	**54.59**	**7**	*e*P	**P**	**10 09 27.9**	**+0.2**
	comp=Z,20nm,0.9s						
SUMG	**Summit**	**54.59**	**7**	*e*P	**P**	**10 09 27.9**	**+0.2**
SUMG				pmax	pmax		
	comp=Z,20nm,0.9s						
SUMG	**Summit**	**54.59**	**7**	*i*P	**P**	**10 09 28.4**	**+0.7**
KTK1	**Kautokeino**	**54.87**	**343**	*e*P	**P**	**10 09 29.3**	**0.0**
TRO	**Tromso**	**55.07**	**345**	*e*P	**P**	**10 09 30.8**	**+0.1**
PRGR	**Permogore**	**55.14**	**328**	*e*P	**P**	**10 09 29.8**	**-1.5**
PRGR				pmax	pmax		
	comp=Z,23nm,0.7s						
QLMT	**Earthquake Lak**	**55.23**	**60**	*e*P	**P**	**10 09 33.8**	**+1.2**
FRU1	**Bishkek**	**55.41**	**297**	*e*P	**P**	**10 09 32.8**	**-0.9**
	comp=Z,19nm,0.8s						
FRU1	**Bishkek**	**55.41**	**297**	*e*P	**P**	**10 09 32.8**	**-0.9**
FRU1				pmax	pmax		
	comp=Z,19nm,0.8s						
TMCR	**Tamitsa**	**55.49**	**333**	*e*P	**P**	**10 09 34.0**	**+0.2**
TMCR				pmax	pmax		
	comp=Z,50nm,0.9s						
AAK	**Ala-Archa**	**55.60**	**297**	*e*P	**P**	**10 09 33.8**	**-1.4**
	comp=Z,9.4nm,0.9s						
AAK	**Ala-Archa**	**55.60**	**297**	*e*P	**P**	**10 09 33.8**	**-1.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AAK	**Ala-Archa**	**55.60**	**297**	P	**P**	**10 09 34.2**	**-0.9**
NVAR	**Mina Array Bea**	**55.73**	**70**	*e*P	**P**	**10 09 37.8**	**+1.6**
NVAR	**Mina Array Bea**	**55.73**	**70**	P	**P**	**10 09 37.7**	**+1.4**
	baz=301,slow=7.9,SNR=6.1						
PANO	**Nakornpanom**	**55.95**	**253**	P	**P**	**10 09 40.4**	**+2.7**
	comp=Z,0.3nm,1.0s						
RLMT	**Red Lodge**	**56.17**	**58**	*e*P	**P**	**10 09 41.3**	**+2.0**
	comp=Z,2.8nm,0.8s						
SKNT	**Sakolnakorn**	**56.46**	**253**	P	**P**	**10 09 42.8**	**+1.4**
	comp=Z,22nm,0.7s						
AHID	**Auburn Hatcher**	**56.80**	**62**	*e*P	**P**	**10 09 45.4**	**+1.6**
	comp=Z,7.5nm,1.3s						
KSH	**Kashi**	**56.90**	**293**	P	**P**	**10 09 47.8**	**+3.4**
KSH				pP	pwP	10 10 04.0	+10
KSH				PP	**PP**	**10 11 56.5**	**+5.8**
KSH				S	**S**	**10 17 34.1**	**-2.6**
KSH				SS	**SS**	**10 21 24.5**	**0.0**
KSH				pmax	pmax		
	comp=Z,280nm,5.5s						
KSH				LR	LR		
	comp=Z,1μm,13.2s						
KSH				LR	LR		
	comp=Z,870nm,12.4s						
PAYA	**Payao**	**57.05**	**259**	P	**P**	**10 09 47.3**	**+1.7**
	comp=Z,30μm,0.8s						
STEI	**Steigen**	**57.20**	**345**	*e*P	**P**	**10 09 45.9**	**0.0**
SHL	**Shillong**	**57.26**	**270**	*e*P	**P**	**10 09

BTK	Batken	59.38	297	eP	P	10 10 00.7	-1.1
BTK				pmax	pmax		
comp=Z,16nm,1.0s							
RSSD	Black Hills	59.56	56	eP	P	10 10 05.5	+2.5
comp=Z,5.3nm,0.7s							
RSSD	Black Hills	59.56	56	eP	P	10 10 05.6	+2.5
RSSD				pmax	pmax		
comp=Z,5.0nm,0.7s							
GAR	Garm	60.41	296	eP	P	10 10 07.8	-1.0
comp=Z,21nm,0.9s							
GAR	Garm	60.41	296	eP	P	10 10 07.8	-1.0
GAR				pmax	pmax		
comp=Z,21nm,0.9s							
FIA1	FINESS Array S	60.83	337	eP	P	10 10 11.4	+0.2
comp=Z,27nm,1.2s							
FINES	FINESS Array B	60.84	337	P	P	10 10 10.8	-0.4
comp=Z,7.2nm,0.6s,baz=30,slow=9.0,SNR=28							
FINES				LR	LR	10 40 16.1	
comp=Z,153nm,18.6s,baz=32,slow=40							
NSS	Namsos	60.86	345	eP	P	10 10 11.8	+0.4
PV17	East Wray Mesa	61.10	64	eP	P	10 10 15.0	+1.3
comp=Z,3.7nm,0.8s							
CHGR	Chuyangaron	61.28	297	eP	P	10 10 13.9	-0.9
comp=Z,11nm,0.7s							
ISCO	Idaho Springs	61.82	61	eP	P	10 10 20.7	+2.0
comp=Z,2.5nm,0.9s							
ISCO	Idaho Springs	61.82	61	eP	P	10 10 20.7	+2.0
ISCO				pmax	pmax		
comp=Z,3.0nm,0.9s							
NIL	Nilore	62.59	290	eP	P	10 10 23.0	-0.5
comp=Z,16nm,0.9s							
NIL	Nilore	62.59	290	eP	P	10 10 23.0	-0.5
NIL				pmax	pmax		
comp=Z,16nm,0.9s							
W18A	Petrified Fore	62.94	67	eP	P	10 10 27.9	+1.9
comp=Z,1.9nm,0.6s							
OBN	Obninsk	63.22	328	⇓iP	P	10 10 27.0	-0.3
OBN				e*SP	pwP	10 10 43.7	+6.2
OBN						10 11 02.0	
OBN				pmax	pmax		
comp=Z,9.0nm,0.4s							
OBN				MLR	MLR		
comp=Z,127nm,18.0s							
VSU	Vasula	63.27	335	ceP	P	10 10 27.7	+0.1
VSU				pmax	pmax		
comp=Z,49nm,0.9s							
DOMB	Dombas	63.66	345	eP	P	10 10 30.2	0.0
AKN	Aaknes	63.83	347	eP	P	10 10 31.8	+0.4
NC405	NORSAR Array S	64.10	344	eP	P	10 10 33.6	+0.5
comp=Z,15nm,0.8s							
NB2	NORSAR Subarra	64.26	344	P	P	10 10 33.6	-0.5
comp=Z,3.1nm,0.7s,baz=24,slow=6.9							
NB2	NORSAR Subarra	64.26	344	P	P	10 10 33.6	-0.5
baz=24,slow=6.9							
NB200	NORSAR Array S	64.26	344	eP	P	10 10 34.0	-0.1
NOA	NORSAR Array B	64.26	344	P	P	10 10 34.0	-0.1
comp=Z,5.4nm,0.8s,baz=22,slow=6.6,SNR=17							
KBL	Kabul	64.33	294	eP	P	10 10 33.5	-1.8
comp=Z,12nm,1.1s							
KBL	Kabul	64.33	294	eP	P	10 10 33.5	-1.8
KBL				pmax	pmax		
comp=Z,12nm,1.1s							
LPSR	Galich'ya Gora	64.48	325	eP	P	10 10 34.6	-1.0
LPSR				pmax	pmax		
comp=Z,40nm,0.8s							
NC602	NORSAR Array S	64.49	344	eP	P	10 10 35.7	+0.1
VRH	Novokhopyorsk	64.60	322	eP	P	10 10 34.9	-1.5
VRH				pmax	pmax		
comp=Z,30nm,0.6s							
ANMO	Albuquerque	64.90	65	ceP	P	10 10 37.3	-1.7
ANMO				pmax	pmax		
comp=Z,6.0nm,3.4s							
HYA	Hoyanger	64.92	347	eP	P	10 10 39.2	+0.8
SKAR	Skarslia	65.07	345	eP	P	10 10 39.7	+0.3
BNM	Barren Site	65.39	66	eP	P	10 10 45.0	+2.8
VSR	Storozhevoye	65.53	324	c iP	P	10 10 41.1	-1.4
VSR				pmax	pmax		
comp=Z,41nm,0.9s							
KSM	Kuching	65.67	237	eP	P	10 10 43.7	-0.2
comp=Z,6.4nm,0.8s							
SCHQ	Schefferville	66.12	28	eP	P	10 10 47.2	+0.9
comp=Z,7.2nm,1.0s							
SCHQ	Schefferville	66.12	28	P	P	10 10 45.5	-0.8
comp=Z,4.0nm,0.7s,baz=4.8,slow=3.4,SNR=4.1							
BLS5	Blasjo	66.55	346	eP	P	10 10 49.4	+0.4
GEYT	Alibeck	67.67	303	P	P	10 10 56.4	-0.1
comp=Z,5.5nm,0.6s,baz=28,slow=6.7,SNR=8.4							
GEYT				LR	LR	10 44 03.1	
comp=Z,116nm,18.4s,baz=5.0,slow=39							
GYA0B	ALIBECK ARRAY	67.67	303	eP	P	10 10 56.0	-0.5
comp=Z,9.8nm,0.9s							
AKASG	Malin Array Be	69.32	329	P	P	10 11 06.3	-0.1
comp=Z,5.9nm,0.5s,baz=31,slow=6.6,SNR=26							
KIEV	Kiev	69.33	329	eP	P	10 11 05.7	-0.8
comp=Z,17nm,0.9s							
KIEV				epP	sP	10 11 16.0	+0.1
KIEV	Kiev	69.33	329	⇑iP	P	10 11 05.9	-0.6
KIEV	Kiev	69.33	329	⇑P	P	10 11 05.9	-0.6
KIV	Kislovodsk	70.10	317	eP	P	10 11 10.5	-1.1
KIV				pmax	pmax		
comp=Z,19nm,1.0s							
KIV				MLR	MLR		
comp=Z,319nm,17.0s							
KBZ	Khabaz	70.20	317	P	P	10 11 12.3	+0.3
comp=Z,8.7nm,0.8s,baz=71,slow=2.5,SNR=12							
ZEI	Tsey	70.54	316	eP	P	10 11 13.0	-1.4
ZEI				pmax	pmax		
comp=Z,7.0nm,1.0s							
TX31	Lajitas Ar. Si	70.66	67	eP	P	10 11 17.5	+2.3
comp=Z,1.9nm,0.8s							
TXAR	Lajitas Array	70.66	67	P	P	10 11 15.9	+0.7
comp=Z,0.3nm,0.5s,baz=306,slow=5.0,SNR=6.1							
HYB	Hyderabad	71.52	275	i P	P	10 11 20.0	-0.5
EKA	Eskdalemuir Ar	71.76	350	P	P	10 11 21.5	+0.2
comp=Z,0.8nm,0.5s,baz=18,slow=5.5,SNR=3.6							
AKH	Akhalkalaki	71.84	315	eP	P	10 11 21.9	-0.4
comp=Z,11nm,0.9s							
AKH	Akhalkalaki	71.84	315	⇑iP	P	10 11 22.6	+0.3
AKH	Akhalkalaki	71.84	315	eP	P	10 11 21.9	-0.4
AKH				pmax	pmax		
comp=Z,11nm,0.9s							
OJC	Ojcow	72.46	335	eP	P	10 11 26.5	+0.9
OJC	Ojcow	72.46	335	eP	P	10 11 26.5	+0.9
SIM	Simferopol'	72.63	323	eP	P	10 11 28.8	+2.1
SIM				e		10 11 46.0	
SIM				MLR	MLR		
comp=Z,150nm,17.0s							
KOLS	Kolonicke sedl	72.96	333	eP	P	10 11 29.6	+1.0
KOLS	Kolonicke sedl	72.96	333	eP	P	10 11 29.6	+1.0
NIE	Niedzica	73.06	334	eP	P	10 11 31.2	+2.0
NIE	Niedzica	73.06	334	eP	P	10 11 31.2	+2.0
CLL	Collm	73.07	339	eP	P	10 11 29.3	+0.1
comp=Z,11nm,0.8s							
CLL	Collm	73.07	339	eP	P	10 11 29.0	-0.2
CLL				pmax	pmax		
comp=Z,12nm,0.9s							
CLL	Collm	73.07	339	eP	P	10 11 29.0	-0.2
comp=Z,12nm,0.9s							
CLL				epP	pP	10 11 37.0	+0.9
CLL				ePcP	PcP	10 11 47.0	+1.1
UPC	Upice	73.14	337	AMS	AMS	10 50 10.0	
comp=Z,300nm,13.4s							
DPC	Dobruska-Polom	73.21	337	eP	P	10 11 31.3	+1.2
DPC				MLR	MLR		
comp=Z,200nm,15.4s							
DPC	Dobruska-Polom	73.21	337	eP	P	10 11 31.3	+1.2
DPC				AMS	AMS	10 50 10.0	
comp=Z,200nm,15.4s							
BUR08	Bucovina Ar. S	73.26	330	eP	P	10 11 30.5	-0.1
comp=Z,7.4nm,0.9s							
BRG	Berggiesshubel	73.27	339	eP	P	10 11 32.0	+1.6
comp=Z,2.6nm,0.8s							
BRG	Berggiesshubel	73.27	339	eP	P	10 11 32.0	+1.6
BRG				pmax	pmax		
comp=Z,3.0nm,0.8s							
BURAR	Bucovina Array	73.28	330	eP	P	10 11 30.1	-0.5
BURAR	Bucovina Array	73.28	330	⇑iP	P	10 11 30.6	0.0
BURAR	Bucovina Array	73.28	330	⇑P	P	10 11 30.6	0.0
MORC	Moravsky Berou	73.44	336	eP	P	10 11 31.5	0.0
comp=Z,6.7nm,1.0s							
MORC	Moravsky Berou	73.44	336	eP	P	10 11 31.5	0.0
MORC				pmax	pmax		
comp=Z,7.0nm,1.0s							
MORC	Moravsky Berou	73.44	336	eP	P	10 11 31.7	+0.2
PVCC	Panska Ves	73.45	338	AMS	AMS	10 48 50.0	
comp=Z,200nm,14.0s							
TESR	Tescani	73.82	329	⇓iP	P	10 11 33.4	-0.3
PRU	Pruhonice	73.96	338	eP	P	10 11 35.8	+1.3
PRU				MLR	MLR		
comp=Z,300nm,11.8s							
PRU	Pruhonice	73.96	338	eP	P	10 11 35.8	+1.3
PRU				AMS	AMS	10 50 30.0	
comp=Z,300nm,11.8s							
GOPC	GO Pecny, Ondr	73.98	338	AMS	AMS	10 50 20.0	
comp=Z,200nm,13.4s							
VRAC	Vranov	74.11	336	eP	P	10 11 35.4	0.0
VRAC	Vranov	74.11	336	LR	LR	10 48 33.3	
comp=Z,222nm,18.1s,baz=22,slow=39							
JAVC	Velka Javorina	74.26	336	eP	P	10 11 37.5	+1.2
VYHS	Vyhne	74.29	335	eP	P	10 11 37.3	+0.9
VYHS	Vyhne	74.29	335	eP	P	10 11 37.3	+0.9
VRI	Vrincioaia	74.37	328	⇑iP	P	10 11 38.1	+1.2
VRI	Vrincioaia	74.37	328	⇑P	P	10 11 38.1	+1.2
KRUC	Moravsky	74.39	336	eP	P	10 11 37.5	+0.6
TREC	Trest	74.39	337	AMS	AMS	10 50 50.0	
comp=Z,300nm,15.9s							
CFR	Carcaliu	74.52	327	⇑iP	P	10 11 38.2	+0.5
CFR	Carcaliu	74.52	327	⇑P	P	10 11 38.2	+0.5
ONTNC	Ouen Toro	74.59	174	eP	P	10 11 40.3	+2.0
comp=Z,17nm,0.9s							
MLR	Muntele Rosu	74.95	329	eP	P	10 11 40.3	-0.1
comp=Z,5.4nm,0.7s							
MLR	Muntele Rosu	74.95	329	eP	P	10 11 40.3	-0.1
MLR				pmax	pmax		
comp=Z,5.0nm,0.7s							
KHC	Kasperske Hory	74.99	338	eP	P	10 11 40.5	0.0
comp=Z,2.6nm,1.0s							
KHC	Kasperske Hory	74.99	338	eP	P	10 11 40.5	0.0
KHC				pmax	pmax		
comp=Z,3.0nm,1.0s							
KHC	Kasperske Hory	74.99	338	eP	P	10 11 41.7	+1.2
KHC				AMS	AMS	10 51 00.0	
comp=Z,300nm,15.7s							
HARR	Harsova	75.02	327	⇑iP	P	10 11 45.7	+5.1
HARR	Harsova	75.02	327	⇑P	P	10 11 45.7	+5.1
MEM	Membach	75.10	344	⇑P	P	10 11 41.2	+0.2
GEC2	GERESS Array S	75.23	338	eP	P	10 11 41.8	-0.2
comp=Z,4.2nm,1.0s							
GEC2	GERESS Array S	75.23	338	eP	P	10 11 41.8	-0.2
GEC2				pmax	pmax		
comp=Z,4.0nm,1.0s							
GERES	GERESS Array B	75.23	338	eP	P	10 11 41.6	-0.4
GERES	GERESS Array B	75.23	338	eP	P	10 11 41.6	-0.4
GERES	GERESS Array B	75.23	338	P	P	10 11 42.6	+0.6
comp=Z,2.6nm,0.9s,baz=35,slow=4.9,SNR=9.6							
GERES				LR	LR	10 50 12.4	
comp=Z,101nm,18.9s,baz=29,slow=40							
ICOR	Ion Corvin	75.57	327	⇑iP	P	10 11 45.0	+1.2
WRAB	Tennant Creek	75.57	205	eP	P	10 11 43.9	-0.1
comp=Z,12nm,1.4s							
WRAB	Tennant Creek	75.57	205	eP	P	10 11 43.9	-0.1
WRAB				pmax	pmax		
comp=Z,12nm,1.4s							
CONA	Conrad Observa	75.57	336	eP	P	10 11 45.0	+1.1
comp=Z,4.7nm,0.8s							
WB2	Warramunga Arr	75.58	205	eP	P	10 11 43.9	-0.1
comp=Z,9.9nm,1.2s							
WR1	Warramunga Arr	75.58	205	eP	P	10 11 43.8	-0.3
WRA	Warramunga Arr	75.58	205	P	P	10 11 43.8	-0.3
comp=Z,1.4nm,0.9s,baz=26,slow=4.2,SNR=5.3							
MOA	Molln	76.03	337	eP	P	10 11 47.9	+1.4
comp=Z,3.0nm,1.1s							
ILGA	Ilgaz	76.12	321	eP	P	10 11 47.7	+0.3
comp=Z,20nm,1.0s							
STU	Stuttgart	76.27	341	eP	P	10 11 46.0	-1.7
comp=Z,11nm,0.8s							
STU	Stuttgart	76.27	341	eP	P	10 11 46.0	-1.7
STU				pmax	pmax		
comp=Z,11nm,0.8s							
ARSA	Arzberg	76.29	336	eP	P	10 11 49.5	+1.6
comp=Z,2.3nm,0.7s							
FITZ	Fitoy Crossi	76.48	214	eP	P	10 11 49.4	+0.2
comp=Z,7.8nm,1.4s							
FITZ	Fitzroy Crossi	76.48	214	P	P	10 11 49.5	+0.3
comp=Z,2.7nm,0.8s,baz=32,slow=9.5,SNR=3.0							
SOKA	Soboth	76.94	336	eP	P	10 11 52.8	+1.1
comp=Z,6.9nm,1.1s							
KBA	Koelnbreinsper	76.97	338	eP	P	10 11 53.5	+1.5
comp=Z,16nm,0.8s							
RETA	Reutte	77.16	339	eP	P	10 11 53.8	+0.8
comp=Z,3.6nm,0.8s							
WTTA	Wattenberg	77.18	339	P	P	10 11 54.8	+1.6
comp=Z,2.2nm,0.5s							
ECH	Echery	77.19	342	eP	P	10 11 53.6	+0.6
comp=Z,13nm,1.3s							
ECH	Echery	77.19	342	eP	P	10 11 53.6	+0.6
ECH				pmax	pmax		
comp=Z,13nm,1.3s							
OBKA	Obir	77.22	337	eP	P	10 11 54.3	+1.0
comp=Z,5.1nm,0.9s							
MOTA	Moosalm	77.22	339	i P	P	10 11 53.7	+0.3
BR131	Keskin Array S	77.30	321	eP	P	10 11 53.9	-0.1
comp=Z,7.7nm,1.1s							
BR131	Keskin Array S	77.30	321	P	P	10 11 54.2	+0.2
SNR=5.5							
BRTR	Keskin Array B	77.30	321	eP	P	10 11 54.0	+0.1
BRTR	Keskin Array B	77.30	321	eP	P	10 11 54.0	+0.1
BRTR	Keskin Array B	77.30	321	P	P	10 11 54.3	+0.4
comp=Z,4.7nm,1.0s,baz=50,slow=1.9,SNR=20							
SQTA	Sankt Quirin	77.32	339	i P	P	10 11 55.2	+1.3
MYKA	Terra Mystica	77.32	337	eP	P	10 11 54.2	+0.4
comp=Z,2.5nm,0.6s							
ABTA	Abfaltersbach	77.47	338	eP	P	10 11 55.6	+0.9
comp=Z,11nm,1.0s							
DAVA	Damuels	77.54	340	eP	P	10 11 57.7	+2.5
comp=Z,5.8nm,1.1s							
FETA	Feichten	77.61	339	eP	P	10 11 56.7	+1.1
comp=Z,9.4nm,1.2s							
DAVOX	Davos/Dischmat	78.02	340	LR	LR	10 49 49.9	
comp=Z,65nm,19.8s,baz=83,slow=38							
VTS	Vitosha	78.39	329	eP	P	10 11 59.8	-0.2
comp=Z,5.0nm,0.9s							
VTS	Vitosha	78.39	329	⇑iP	P	10 12 00.1	+0.2
VTS	Vitosha	78.39	329	⇑P	P	10 12 00.1	+0.2
WSAR	Wadi Sarin	78.80	293	P	P	10 12 03.0	+0.7
HATD	Hatta, Dubai	78.94	296	P	P	10 12 02.5	-0.5
ALN	Alexandroupoli	79.02	327	eP	P	10 12 03.1	-0.2
comp=Z,8.1nm,1.4s							
ALN	Alexandroupoli	79.02	327	eP	P	10 12 03.1	-0.2
ALN				pmax	pmax		
comp=Z,8.0nm,1.4s							
ASHO	Ashiyiah	79.09	296	P	P	10 12 03.9	0.0
SNR=6.5							
AS31	Alice Springs	79.25	205	eP	P	10 12 05.5	+0.9
comp=Z,1.0nm,1.0s							
ASAR	Alice Springs	79.25	205	eP	P	10 12 05.2	+0.7
ASAR	Alice Springs	79.25	205	P	P	10 12 05.0	+0.5
comp=Z,0.8nm,0.7s,baz=15,slow=5.3,SNR=12							
PDG	Podgorica	79.76	332	⇑iP	P	10 12 06.5	-0.7
TTG	Podgorica	79.76	332	eP	P	10 12 06.8	-0.4
comp=Z,10nm,0.8s							
TTG	Podgorica	79.76	332	eP	P	10 12 06.8	-0.4
TTG				pmax	pmax		
comp=Z,10.0nm,0.8s							
MANT	Manisa	80.28	324	eP	P	10 12 10.4	-0.1
comp=Z,44nm,1.2s							
SSB	Saint Sauveur	80.50	343	eP	P	10 12 11.9	+0.6
comp=Z,4.0nm,0.7s							
SSB	Saint Sauveur	80.50	343	eP	P	10 12 11.9	+0.6
SSB				pmax	pmax		
comp=Z,4.0nm,0.7s							
MHTO	MHTO	80.96	293	P	P	10 12 14.0	0.0
SNR=11							
TIP	Timpagrande	83.48	332	eP	P	10 12 26.8	-0.3
comp=Z,9.6nm,1.1s							
IDI	Anoyia	84.46	325	LR	LR	10 56 13.3	
comp=Z,99nm,18.3s,baz=39,slow=40							
ESDC	Sonseca Array	87.29	348	eP	P	10 12 45.7	-0.3
comp=Z,3.9nm,1.0s							
ESDC	Sonseca Array	87.29	348	P	P	10 12 45.5	-0.5
comp=Z,2.3nm,0.8s,baz=4.6,slow=4.6,SNR=10							
KEST	Kesrn	88.67	337	P	P	10 12 53.0	+0.3
comp=Z,7.1nm,0.9s,baz=4.8,slow=4.1,SNR=3.1							
TORD	Torodi Ar. Bea	112.18	338	PP	PP	10 19 15.8	-3.0
comp=Z,2.3nm,1.0s,baz=356,slow=4.8,SNR=8.2							

*DDA **21** 10:05:22.6, 40.43N×28.97E, h22km±1km, ML3.5*
*ISK **21** 10:05:22.9, 40.44N×28.96E, h12km, ML3.1/34*
*ISCJB **21** 10:05:23.2±0.3, 40.45N±0.02×28.93E±0.02, h7km±3km,*
Error ellipse: s-maj=3.5km s-min=2.9km az=22.9

ISC 21 10:05:23.0±0.8, 40.43N±0.02×28.95E±0.02, h16km±5km, n63, σ0.83/81, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MDNY	Mudanya-Bursa	0.08	220	P	PG		Pg	10 05 26.4	+0.2
MDNY					SG		Sg	10 05 28.3	+0.1
ARMT	Armutlu	0.15	332	P	PG		Pb	10 05 27.3	-0.2
ARMT					SG		Sg	10 05 29.8	+0.1
GEMT	Gemlik	0.18	89	P	PG		Pb	10 05 27.5	-0.4
GEMT					SG		Sg	10 05 30.3	0.0
ULDT	Uludag	0.32	154	IAML_P					
comp=Z,46μm,0.1s									
ULDT				i P	PG		Pb	10 05 30.3	-0.2
ULDT				i S	SG		Sg	10 05 34.4	-0.1
ORLT	Orhaneli	0.39	187	P	PG		Pb	10 05 31.2	-0.3
IZI	Iznik	0.41	103	P	PG		Pb	10 05 31.4	-0.5
KCTX	Karacabey (Bur	0.49	250	P	PG		Pb	10 05 32.9	-0.3
ADVT	Abdulvahap	0.60	90	P	PG		Pb	10 05 35.2	+0.1
KAVV	Kandilli-Istan	0.64	7	P	PG		Pb	10 05 35.8	+0.1
ISK	Istanbul-Kandi	0.64	7	P	PG		Pb	10 05 35.7	0.0
HRT	Hereke	0.67	54	P	PG		Pb	10 05 35.9	-0.4
CAVI	Cavuskoy	0.72	108	P	PG		Pg	10 05 37.1	+0.1
BGKT	Bogazkoy	0.76	350	P	PG		Pg	10 05 37.9	+0.1
ELBA	Catalca	0.82	331	IAML_P					
comp=Z,45μm,0.1s									
ELBA				i P	PG		Pg	10 05 39.1	+0.3
ELBA				i S	SG		Sn	10 05 50.5	-1.2
KLYT	Kilyos	0.82	5	P	PG		Pn	10 05 39.2	-0.7
EDC	Edincik	0.84	264	P	PG		Pg	10 05 39.2	0.0
CTKS	Kestanelik-??a	0.87	337	P	PG		Pg	10 05 39.8	-0.1
DURS	Dursunbey	0.91	204	IAML_P					
comp=Z,8μm,0.1s									
DURS				i P	PG		Pn	10 05 41.3	+0.1
DURS				i S	SG		Sn	10 05 53.5	-0.5
SLVT	Silivri	0.98	325	P	PG		Pg	10 05 42.4	+0.5
AUBOZ	BOZOYUK	0.98	122	P	PG		Pn	10 05 42.3	+0.2
AUBOZ	BOZOYUK	0.98	122	i P	PG		Pn	10 05 42.0	-0.1
AUBOZ				i S	SG		Sg	10 05 54.7	-0.1
GEYV	SAKARYA_Geyve	1.02	87	IAML_P					
comp=Z,13μm,0.2s									
GEYV				i P	PG		Pg	10 05 43.4	+0.6
GEYV				i S	SG		Sn	10 05 58.0	+1.3
GONE	Gonen-Balikesi	1.04	249	P	PG		Pg	10 05 43.4	+0.2
TVSB	Tavsanli	1.06	158	P	PG		Pg	10 05 43.5	+0.1
SPNC	Sapanca-Adapaz	1.06	76	P	PG		Pg	10 05 43.9	+0.4
SAUV	Serdivan-Sakar	1.09	73	P	PN		Pg	10 05 44.5	+0.5
KNL	Balıkesir	1.10	262	IAML_P					
comp=Z,2μm,0.2s									
KNL				i P	PG		Pg	10 05 44.6	+0.3
BALB	Balikesir	1.14	227	PN	PG		Pg	10 05 45.4	+0.4
KAND	Kocaeli-Kandir	1.15	55	IAML_P					
comp=Z,1μm,0.1s									
KAND				i P	PG		Pg	10 05 45.0	-0.1
KAND				i S	SG		Sg	10 06 00.4	+0.2
CTYL	Yalikoy Yolu	1.16	334	PN	PG		Pg	10 05 44.9	-0.4
KIYI	Yalıkoy-Catalc	1.16	335	PN	PG		Pg	10 05 45.0	-0.4
GULT	Gulveren	1.19	90	PN	PG		Pg	10 05 45.9	-0.1
BORA	Eskisehir	1.27	115	PN	PG		Pg	10 05 46.9	-0.6
BORA	Eskisehir	1.27	115	i P	PG		Pg	10 05 47.7	+0.1
BORA				i S	SG		Sg	10 06 05.2	+1.0
SRCK	Saricakaya, Es	1.34	106	PN	PB		Pb	10 05 47.8	+0.1
SRCK	Saricakaya, Es	1.34	106	IAML_P					
comp=Z,5μm,0.1s									
SRCK				i P	PG		Pg	10 05 48.8	0.0
SRCK				i S	SG		Sg	10 06 07.5	+1.3
SART	Tekirdag	1.38	281	IAML_P					
comp=Z,1μm,0.1s									
SART				i P	PG		Pg	10 05 48.9	-0.6
RKY	Sarkoy-Tekirda	1.38	281	PN	PB		Pb	10 05 48.5	+0.1
GDZ	Gediz	1.40	163	IAML_P					
comp=Z,7μm,0.1s									
GDZ				i P	PG		Pg	10 05 50.0	0.0
GDZ				i S	SG		Sg	10 06 10.2	+2.0
STEP	BALIKESIR_Sava	1.42	222	IAML_P					
comp=Z,4μm,0.2s									
STEP				i P	PG		Pg	10 05 49.7	-0.6
SAHE	Sakarya_HENDEK	1.50	73	IAML_P					
comp=Z,703nm,0.2s									
SAHE				i P	PG		Pg	10 05 50.9	-1.0
SAHE				i S	SG		Sg	10 06 12.4	+0.9
AUKIR	Kırka- Seyitga	1.68	133	i P	PG		Pg	10 05 55.8	+0.7
LPK	Lapseki	1.68	269	PN	PB		Pb	10 05 52.8	-0.6
MDUB	Mudurnu	1.71	88	PN	PB		Pb	10 05 53.3	-0.8
USAK	Uak-Merkez	1.72	178	IAML_P					
comp=Z,5μm,0.2s									
USAK				i P	PG		Pg	10 05 56.3	+0.4
USAK				i S	SG		Sg	10 06 19.5	+1.2
AKHS	Akhisar	1.78	210	i P	PB		Pb	10 05 54.1	-1.2
ERIK	Erikli-Kesan	1.88	278	PN	PB		Pb	10 05 55.7	-1.1
GELI	Tayfur-Gelibol	1.89	270	PN	PB		Pb	10 05 56.0	-1.1
CIFT	Cifteler, Eski	1.94	123	PN	PB		Pb	10 05 56.4	-1.6
CIFT	Cifteler, Eski	1.94	123	IAML_P					
comp=Z,843nm,0.1s									
CIFT				i P	PB		Pb	10 05 57.0	-1.0
MANT	Manisa	1.96	189	IAML_P					
comp=Z,4μm,0.1s									
MANT				i P	PG		Pg	10 06 00.3	-0.4
YIGI	Dzce	1.97	74	IAML_P					
comp=Z,552nm,0.2s									
YIGI				i P	PB		Pb	10 05 57.0	-1.5
YIGI				i S	SG		Sg	10 06 24.8	-1.5
AUMIH	MIHALICIK	2.02	105	PN	PN		Pn	10 05 57.3	+0.8
AUMIH	MIHALICIK

BKI	**Bering**	**4.21**	**43**	P	Pn	10 10 31.8	+4.8
BKI				S	Sn	10 11 16.3	+1.4

*GUC **21** 10:12:49.9±0.6, 31°.84S×70°.49W, h143km±5km, ML3.0*
*ISCJB **21** 10:12:50.4±0.8, 31°.77S±0°.02×69°.95W±0°.04, h115km±8km, Error ellipse: s-maj=5.7km s-min=3.9km az=15.8*
*SJA **21** 10:12:50.0±0.7, 31°.77S×69°.96W, h106km±4km, ML3.0, MW3.1*

ISC 21 10:12:49.6±1.7, 31°.78S±0°.03×69°.97W±0°.04, h126km±15km, n22, σ1°14/42, 2C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.66**	**132**	*e*P	**Pn**	**10 13 09.5**	**-0.1**
AUSP				*e*S	**Sn**	**10 13 23.0**	**-1.7**
RTCV	**Cerro Valdivia**	**1.22**	**94**	*e*P	**Pn**	**10 13 14.0**	**-0.3**
RTCV				*e*S	**Sn**	**10 13 32.5**	**-0.6**
ASAL	**Salagasta**	**1.25**	**130**	*e*P	**Pn**	**10 13 14.8**	**+0.1**
ASAL				*e*S	**Sn**	**10 13 33.1**	**-0.8**
RTLL	**Cerro Villicun**	**1.35**	**71**	*e*P	**Pn**	**10 13 15.6**	**-0.1**
RTLL				*e*S	**Sn**	**10 13 34.9**	**-0.8**
RTLL				IAML		10 13 36.5	
	comp=Z,112nm,0.4s						
ARCO	**CERRO ARCO**	**1.37**	**141**	*e*P	**Pn**	**10 13 16.7**	**+0.6**
ARCO				*e*S	**Sn**	**10 13 35.8**	**-0.6**
ARCO				IAML		10 13 38.9	
	comp=Z,205nm,0.3s						
ACCO	**Cerro Coronel**	**1.42**	**33**	*e*P	**Pn**	**10 13 17.3**	**+0.4**
ACCO				*e*S	**Sn**	**10 13 37.4**	**-0.2**
ROCH	**El Roble**	**1.48**	**216**	⇓*i*P	**Pn**	**10 13 17.5**	**+0.1**
ROCH				*i*S	**Sn**	**10 13 37.8**	**-0.7**
ROCH				IAML		10 13 39.9	
	comp=N,186nm,0.3s						
ROC1	**El Roble**	**1.48**	**216**	*e*P	**Pn**	**10 13 17.5**	**0.0**
ROC1				*e*S	**Sn**	**10 13 38.3**	**-0.4**
PEL	**Peldehue**	**1.49**	**204**	⇑*i*P	**Pn**	**10 13 17.4**	**+0.1**
PEL				*i*S	**Sn**	**10 13 38.4**	**-0.1**
AMOG	**MOGNA**	**1.52**	**57**	*e*P	**Pn**	**10 13 17.7**	**+0.1**
FCH	**Farellones**	**1.56**	**190**	⇓*i*P	**Pn**	**10 13 19.6**	**+1.1**
FCH				*e*S	**Sn**	**10 13 42.8**	**+2.3**
FCH				IAML		10 13 43.4	
	comp=E,135nm,0.3s						
AAGR	**Agrelo**	**1.61**	**144**	*e*P	**Pn**	**10 13 19.1**	**+0.3**
AAGR				*e*S	**Sn**	**10 13 41.4**	**+0.2**
AROD	**Rodeo**	**1.67**	**15**	*e*P	**Pn**	**10 13 20.5**	**+0.9**
AROD				*e*S	**Sn**	**10 13 42.6**	**0.0**
CLCH	**Cerro Calan**	**1.68**	**197**	*e*P	**Pn**	**10 13 20.5**	**+1.0**
CLCH				*i*S	**Sn**	**10 13 43.1**	**+0.7**
CLCH				IAML		10 13 49.2	
	comp=E,120nm,0.4s						
GO04	**Tololo Observa**	**1.76**	**336**	⇓*i*P	**Pn**	**10 13 21.3**	**+0.6**
GO04				*i*S	**Sn**	**10 13 44.4**	**0.0**
GO04				IAML		10 13 45.9	
	comp=E,296nm,0.3s						
ACDV	**Cuesta del Vie**	**1.76**	**25**	*e*P	**Pn**	**10 13 21.5**	**+0.8**
ACDV				*e*S	**Sn**	**10 13 44.0**	**-0.3**
ANTU	**Antumapu**	**1.87**	**197**	*e*P	**Pn**	**10 13 23.4**	**+1.6**
ANTU				*i*S	**Sn**	**10 13 47.9**	**+1.5**
ANTU				IAML		10 13 48.4	
	comp=N,254nm,0.3s						
LMEL	**Las Melosas**	**2.07**	**186**	⇓*i*P	**Pn**	**10 13 25.6**	**+1.2**
LMEL				*i*S	**Sn**	**10 13 52.8**	**+1.8**
LMEL				IAML		10 13 57.5	
	comp=N,115nm,0.1s						
LSCH	**La Serena**	**2.17**	**329**	⇑*i*P	**Pn**	**10 13 25.7**	**+0.3**
LSCH				*i*S	**Sn**	**10 13 51.8**	**-1.1**
ACAN	**Cantantal**	**2.41**	**102**	*e*P	**Pn**	**10 13 28.9**	**+0.5**
ACAN				*e*S	**Sn**	**10 13 58.1**	**-0.2**
AGUA	**GUANDACOL**	**2.62**	**29**	*e*P	**Pn**	**10 13 32.4**	**+1.1**
GO05	**Huala**	**3.61**	**207**	*e*P	**Pn**	**10 13 42.4**	**-1.7**
GO05				*e*S	**Sn**	**10 14 22.1**	**-4.2**

DJA 21 10:13:22.8±1.3, 3°S±3°×13°0E±°, h26km±11km, M3.5/6, MLv3.5/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.81**	**174**	P	Pn	10 13 51.8	-0.5
BNDI				S	Sb	10 14 16.7	-0.8
SWI	**Sorong**	**2.39**	**40**	P	Pn	10 14 00.8	+0.5
SWI				S	Sb	10 14 31.5	-2.7
FAKI	**Fak Fak**	**2.52**	**95**	P	Pn	10 14 00.6	-1.6
FAKI				S	Sn	10 14 31.4	-0.7
SANI	**Sanana**	**3.80**	**280**	P	Pn	10 14 19.9	+0.3
SANI				S	Sn	10 15 01.9	-1.6
TNTI	**Ternate**	**4.19**	**326**	P	Pn	10 14 25.5	+0.4

*ASIES **21** 10:20:24.6, 24°.26N×121°.74E, h20km, MW3.0*
*ISCJB **21** 10:20:25.4±0.3, 24°.25N±0°.01×121°.78E±0°.02, h9km±2km, Error ellipse: s-maj=2.9km s-min=2.0km az=35.4*
*JMA **21** 10:20:25.6, 24°.25N×121°.76E, h10km±2km, M2.7*
*TAP **21** 10:20:25.4, 24°.27N×121°.76E, h13km, ML3.5, B*

ISC 21 10:20:25.4±0.8, 24°.25N±0°.02×121°.78E±0°.02, h12km±6km, n90, σ0°48/121, 2C-17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.18**	**247**	⇓P	**Pg**	**10 20 29.4**	**0.0**
	baz=232						
NACB				S	**Sg**	**10 20 32.5**	**+0.3**
	baz=232						
NANB	**Nanao**	**0.18**	**352**	⇓P	**Pg**	**10 20 29.4**	**-0.1**
	baz=358						
NANB				S	**Sg**	**10 20 32.2**	**-0.1**
	baz=358						
ENA	**Nanau**	**0.18**	**350**	⇓*i*P	**Pg**	**10 20 29.4**	**-0.1**
	baz=357						
ENA				*i*S	**Sg**	**10 20 32.3**	**-0.1**
	baz=357						
TWD	**Chiawan**	**0.23**	**225**	⇓*i*P	**Pg**	**10 20 30.6**	**+0.2**
	baz=217						
TWD				S	**Sg**	**10 20 34.2**	**+0.5**
	baz=217						
ETLH	**Xiulin Townshi**	**0.27**	**262**	⇓P	**Pg**	**10 20 30.9**	**-0.2**
	baz=258						
ETLH				S	**Sg**	**10 20 35.2**	**+0.3**
	baz=258						
HWA	**Hwalien**	**0.31**	**211**	*e*P	**Pb**	**10 20 32.7**	**-0.2**
	baz=213						
TWC	**Suao**	**0.37**	**10**	⇓*i*P	**Pg**	**10 20 32.7**	**-0.1**
	baz=7.0						
TWC				*i*S	**Sg**	**10 20 37.7**	**0.0**
	baz=7.0						
ENLB	**Shoufeng**	**0.38**	**205**	*e*P	**Pb**	**10 20 33.9**	**-0.1**
	baz=209						
NNSB	**Datong**	**0.40**	**297**	⇓P	**Pg**	**10 20 33.5**	**0.0**
	baz=296						
NNSB				S	**Sg**	**10 20 38.5**	**-0.4**
	baz=296						
NNS	**Nan Shan**	**0.42**	**298**	⇓*i*P	**Pg**	**10 20 33.7**	**-0.1**
	baz=297						
NNS				*i*S	**Sg**	**10 20 39.0**	**-0.3**
	baz=297						
NDT	**Datong Townshi**	**0.43**	**326**	⇓*i*P	**Pg**	**10 20 34.1**	**+0.1**
	baz=326						
NDT				*i*S	**Sg**	**10 20 39.7**	**0.0**
	baz=326						
ENTT	**Nioudou**	**0.44**	**334**	⇓*i*P	**Pg**	**10 20 34.1**	**0.0**
	baz=336						
ENTT				*i*S	**Sg**	**10 20 39.9**	**-0.1**
	baz=336						
EOS1	**EOS1**	**0.44**	**46**	⇑P	**Pb**	**10 20 35.0**	**-0.1**
	baz=40						
EOS1				S	**Sb**	**10 20 41.9**	**+0.2**
	baz=40						
WHF	**Hehuan Shan**	**0.48**	**258**	⇓*i*P	**Pg**	**10 20 34.8**	**-0.2**
	baz=256						
WHF				S	**Sg**	**10 20 41.0**	**-0.4**
	baz=256						
TWE	**Neicheng**	**0.48**	**348**	⇓*i*P	**Pg**	**10 20 35.0**	**0.0**
	baz=351						
TWE				S	**Sg**	**10 20 41.3**	**-0.1**
	baz=351						
ESL	**Shilin**	**0.53**	**216**	⇓P	**Pg**	**10 20 35.7**	**-0.1**
	baz=221						
TWT	**Tachien**	**0.55**	**271**	P	**Pb**	**10 20 36.6**	**-0.5**
	baz=269						
TWT				S	**Sg**	**10 20 43.5**	**-0.1**
	baz=269						
YHNB	**Yeheng**	**0.56**	**319**	P	**Pg**	**10 20 36.3**	**-0.1**
	baz=319						
YHNB				S	**Sg**	**10 20 43.5**	**-0.3**
	baz=319						
NSK	**Sanguang**	**0.57**	**318**	⇓*i*P	**Pg**	**10 20 36.6**	**0.0**
	baz=319						
NSK				S	**Sg**	**10 20 43.9**	**-0.4**
	baz=319						
CHGB	**Renai**	**0.58**	**252**	⇓P	**Pg**	**10 20 36.9**	**+0.1**
	baz=242						
CHGB				S	**Sg**	**10 20 44.4**	**-0.2**
	baz=242						
NTC	**Toucheng**	**0.61**	**4**	⇓P	**Pg**	**10 20 37.2**	**-0.1**
	baz=6.0						
OWD	**Renai**	**0.62**	**242**	*e*P	**Pg**	**10 20 37.6**	**+0.1**
	baz=235						
EGFH	**Guangfu**	**0.66**	**209**	*e*P	**Pg**	**10 20 38.4**	**+0.2**
	baz=222						
TIPB	**Shuangxi**	**0.72**	**3**	⇓P	**Pg**	**10 20 39.5**	**0.0**
	baz=4.0						
TIPB				S	**Sg**	**10 20 48.0**	**-1.1**
	baz=4.0						
NHDH	**Xindian Distri**	**0.75**	**342**	*e*P	**Pb**	**10 20 40.9**	**+0.4**
	baz=343						
VWDT	**VWDT**	**0.76**	**230**	P	**Pg**	**10 20 40.3**	**+0.1**
	baz=229						
VWDT				S	**Sb**	**10 20 50.5**	**-0.4**
	baz=229						
WHP	**Taichung City**	**0.76**	**273**	*e*P	**Pg**	**10 20 40.0**	**-0.2**
	baz=272						
WHP				*e*S	**Sg**	**10 20 50.1**	**0.0**
	baz=272						
WLTB	**Daxi**	**0.77**	**322**	*e*P	**Pb**	**10 20 40.9**	**+0.1**
	baz=322						
TATO	**Taipei**	**0.77**	**340**	*e*P	**Pb**	**10 20 40.6**	**-0.3**
	baz=341						
TWB1	**Santiao Chiao**	**0.78**	**14**	P	**Pg**	**10 20 40.0**	**-0.7**
	baz=16						
TWB1				*e*S	**Sg**	**10 20 49.6**	**-1.3**
	baz=16						
LIOB	**Emei**	**0.80**	**300**	⇑P	**Pb**	**10 20 41.7**	**+0.4**
	baz=299						
NSTT	**Nanjuang**	**0.81**	**299**	*e*P	**Pg**	**10 20 41.0**	**0.0**
	baz=298						
HGSD	**Ruisui**	**0.82**	**203**	P	**Pb**	**10 20 41.8**	**+0.3**
	baz=217						
HGSD				*e*S	**Sn**	**10 20 55.7**	**+0.9**
	baz=217						
NWF	**Wu-fen Shan**	**0.82**	**0**	*e*P	**Pb**	**10 20 41.6**	**-0.2**
	baz=1.0						
WFSB	**Wu-fen Shan**	**0.82**	**0**	*e*P	**Pb**	**10 20 41.7**	**0.0**
	baz=1.0						
EHY	**Hungye**	**0.85**	**210**	*e*P	**Pg**	**10 20 41.4**	**-0.4**
	baz=220						
SMLT	**Sun Moon Lake**	**0.88**	**246**	P	**Pb**	**10 20 42.6**	**-0.1**
	baz=236						
SMLT				*e*S	**Sg**	**10 20 53.4**	**-0.5**
	baz=236						
SSLB	**Suanglung**	**0.88**	**239**	*e*P	**Pg**	**10 20 41.8**	**-0.6**
	baz=238						
NCU	**National Centr**	**0.90**	**323**	*e*P	**Pn**	**10 20 43.6**	**-0.4**
	baz=318						
SBCB	**Hsinchu**	**0.90**	**307**	*e*P	**Pn**	**10 20 43.9**	**-0.1**
	baz=307						
TYC	**Yuchr**	**0.91**	**248**	*e*P	**Pg**	**10 20 42.6**	**-0.4**
	baz=246						
TWS1	**Kuangyinshan**	**0.91**	**339**	*e*P	**Pb**	**10 20 43.1**	**-0.1**
	baz=340						
YM01	**YM01**	**0.92**	**348**	P	**Pb**	**10 20 43.3**	**0.0**
	baz=348						
YM01				S	**Sg**	**10 20 54.9**	**-0.3**
	baz=348						
HSN	**Hsinchu**	**0.92**	**307**	*e*P	**Pb**	**10 20 43.2**	**-0.2**
	baz=299						
TWQ1	**Liyutam**	**0.92**	**277**	P	**Pn**	**10 20 44.5**	**+0.3**
	baz=276						
TWQ1				*e*S	**Sg**	**10 20 54.8**	**-0.5**
	baz=276						
YM10	**YM10**	**0.93**	**348**	*e*P	**Pb**	**10 20 43.4**	**-0.1**
	baz=348						
YM11	**YM11**	**0.94**	**349**	*e*P	**Pb**	**10 20 43.5**	**-0.2**
	baz=349						
YM07	**YM07**	**0.94**	**351**	*e*P	**Pg**	**10 20 43.4**	**-0.2**
	baz=352						
NSY	**Sanyi**	**0.94**	**281**	*e*P	**Pn**	**10 20 45.0**	**+0.5**
	baz=280						
NSY				*e*S	**Sn**	**10 20 57.4**	**-0.6**
	baz=280						
NMLH	**Miaoli**	**0.94**	**288**	P	**Pn**	**10 20 45.0**	**+0.4**
	baz=287						
YULB	**Yu-li**	**0.96**	**207**	*e*P	**Pg**	**10 20 43.1**	**-0.8**
	baz=218						
WHYT	**Xinyi Township**	**1.01**	**237**	*e*P	**Pb**	**10 20 44.7**	**-0.1**
	baz=236						
TWY	**Chenhua**	**1.04**	**351**	*e*P	**Pn**	**10 20 45.9**	**0.0**
	baz=336						
WDJ	**Dajia District**	**1.04**	**276**	*e*P	**Pn**	**10 20 46.2**	**+0.4**
	baz=275						
WNT	**Mingjian**	**1.06**	**250**	*e*P	**Pn**	**10 20 46.5**	**+0.3**
	baz=240						
YUS	**Yu-Shan**	**1.07**	**225**	*e*P	**Pg**	**10 20 45.5**	**-0.5**
	baz=234						
JYNG	**Yonagunijimaku**	**1.08**	**79**	P	**Pn**	**10 20 46.5**	**0.0**
YOJ	**Yonaguni jima**	**1.15**	**79**	P	**Pn**	**10 20 47.5**	**+0.1**
	baz=68						
YOJ	**Yonaguni jima**	**1.15**	**79**	P	**Pn**	**10 20 47.4**	**+0.1**
CHN5	**Tsauling**	**1.20**	**238**	*e*P	**Pg**	**10 20 48.7**	**+0.3**
	baz=238						
CHN5				S	**Sn**	**10 21 05.3**	**+1.0**
	baz=238						
CHKT	**Chengkung**	**1.20**	**198**	*e*P	**Pn**	**10 20 46.8**	**-1.2**
	baz=185						
WGK	**Gukeng**	**1.24**	**244**	*e*P	**Pg**	**10 20 49.4**	**0.0**
	baz=243						
ELDTW	**Lidau**	**1.26**	**214**	*e*P	**Pn**	**10 20 48.1**	**-0.9**
	baz=213						
WDLH	**Douliu**	**1.26**	**244**	*e*P	**Pg**	**10 20 49.5**	**-0.2**
	baz=228						
RLNB	**Erlin**	**1.34**	**255**	P	**Pb**	**10 20 50.8**	**+0.2**
	baz=255						
RLNB				*e*S	**Sg**	**10 21 09.3**	**+0.6**
	baz=255						
TPUB	**Ta-pu**	**1.41**	**228**	*e*P	**Pb**	**10 20 51.8**	**+0.1**
	baz=229						
STYT	**Tauyuan**	**1.43**	**221**	*e*P	**Pn**	**10 20 50.7**	**-0.5**
	baz=222						
CHY	**Chiayi**	**1.45**	**239**	*e*P	**Pb**	**10 20 52.6**	**+0.3**
	baz=225						
WTP	**Ta-pu**	**1.46**	**227**	*e*P	**Pb**	**10 20 52.7**	**+0.2**
	baz=228						
WSF	**Szhu**	**1.55**	**247**	*e*P	**Pg**	**10 20 55.2**	**0.0**
	baz=248						
SNST	**Tainan City**	**1.56**	**229**	*e*P	**Pg**	**10 20 55.3**	**0.0**
	baz=230						
CHN1	**Nanshi**	**1.56**	**228**	*e*P	**Pb**	**10 20 54.6**	**+0.4**
	baz=229						
TWGBT	**Beinan**	**1.56**	**204**	*e*P	**Pn**	**10 20 51.6**	**-1.4**
	baz=191						
TWG	**Pinlang**	**1.56**	**205**	*e*P	**Pn**	**10 20 51.6**	**-1.4**
	baz=191						
SLGT	**Liugui**	**1.62**	**220**	*e*P	**Pb**	**10 20 55.0**	**-0.3**
	baz=222						
IRIF	**Iriomote-Funau**	**1.78**	**87**	P	**Pn**	**10 20 56.2**	**+0.1**
ECL	**Taimali**	**1.81**	**205**	*e*P	**Pn**	**10 20 57.0**	**+0.6**
	baz=193						
SSD	**Sandimen**	**1.82**	**215**	*e*P	**Pb**	**10 20 58.3**	**-0.5**
	baz=228						
MASBT	**Mashibuluo**	**1.94**	**213**	*e*P	**Pn**	**10 20 59.2**	**+1.0**
	baz=216						
JKRS	**Kuro-shima**	**2.04**	**90**	P	**Pn**	**10 21 00.2**	**+0.6**
JKRS				*e*S	**Sn**	**10 21 26.2**	**+1.2**
EAST	**Anshuo**	**2.04**	**205**	*e*P	**Pn**	**10 21 00.7**	**+1.0**
	baz=195						
PNG	**Penghu**	**2.14**	**252**	*e*P	**Pn**	**10 21 00.9**	**-0.2**
	baz=252						
PHUB	**P'eng-hu**	**2.15**	**251**	*e*P	**Pn**	**10 21 01.0**	**0.0**
	baz=251						
SCZT	**Fangliau**	**2.15**	**210**	*e*P	**Pb**	**10 21 02.9**	**-1.4**
	baz=197						
JIJ	**Ishigaki jima**	**2.16**	**86**	P	**Pn**	**10 21 01.3**	**0.0**
JIJ				*e*S	**Sn**	**10 21 29.0**	**+1.0**
VWUC	**VWUC**	**2.25**	**290**	*e*P	**Pn**	**10 21 02.2**	**-0.2**
	baz=289						
JISG	**Ishigakijimahi**	**2.33**	**81**	P	**Pn**	**10 21 03.8**	**+0.1**
JISG				*e*S	**Sn**	**10 21 32.8**	**+0.5**
VCHM	**Qimei**	**2.39**	**245**	*e*P	**Pn**	**10 21 04.3**	**0.0**
	baz=231						
MATB	**Ma-tsu**	**2.52**	**319**	*e*P	**Pn**	**10 21 06.3**	**+0.1**
	baz=318						
KNMB	**Chin-men Tao**	**3.10**	**275**	*e*P	**Pn**	**10 21 13.7**	**-0.4**
	baz=274						

*KRSC **21** 10:20:55.8±10.0, 52°.08N×160°.88E, h58km±10km, ML4.7*
*IDC **21** 10:20:56.4±0.5, 52°.33N×160°.43E, h0km, mb4.5/33, mb1 4.6/37, mb1mx4.6/45, mbtmp4.5/37, ML4.1/3, MS4.1/14, Ms1 4.1/14, ms1mx3.8/37, Error ellipse: s-maj=13.0km s-min=9.6km az=153.0*
*ISCJB **21** 10:20:58.8±0.1, 52°.18N±0°.02×160°.60E±0°.03, h30km, mb4.8/235, MS4.5/29, Error ellipse: s-maj=3.1km s-min=2.2km az=167.3*
*MOS **21** 10:21:00.1±1.1, 52°.22N×160°.63E, h45km, mb5.3/34, MS4.5/13, Error ellipse: s-maj=6.1km s-min=3.3km az=100.5*
*NEIC **21** 10:21:01.7±1.0, 52°.29N×160°.48E, h35km, mb4.8/165, Error ellipse: s-maj=16.2km s-min=13.2km az=179.0*
*BJI **21** 10:21:01.9±0.0, 52°.67N×160°.03E, h44km, mb4.9/48, mB5.0/29, Ms4.8/31, Ms7 4.7/30*

ISC 21 10:21:00.4±0.3, 52°.25N±0°.04×160°.61E±0°.03, h30km, h30km:pP-P, n508, σ1°27/537, mb4.8/235, MS4.6/29, 43C-30D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.92**	**337**	*e*P	**Pn**	**10 21 16.4**	**-0.9**
SPN				*e*S	**Sn**	**10 21 29.1**	**-0.4**
SPN	**Mys Shipunski**	**0.92**	**337**	PN	**Pn**	**10 21 16.4**	**-0.9**
SPN				S	**Sn**	**10 21 29.1**	**-0.4**
NLC	**Nalytchevo**	**1.20**	**321**	*e*P	**Pn**	**10 21 21.1**	**0.0**
NLC				*e*S	**Sb**	**10 21 39.5**	**+1.9**
NLC	**Nalytchevo**	**1.20**	**321**	PN	**Pn**	**10 21 21.1**	**0.0**
NLC				S	**Sb**	**10 21 39.5**	**+1.9**
RUS	**Russkaya**	**1.30**	**279**	*e*P	**Pn**	**10 21 22.4**	**0.0**
RUS				*e*S	**Sb**	**10 21 40.1**	**-0.3**
RUS	**Russkaya**	**1.30**	**279**	PN	**Pn**	**10 21 22.4**	**0.0**
RUS				S	**Sb**	**10 21 40.1**	**-0.3**
DALK	**Dalny**	**1.37**	**305**	*e*P	**Pn**	**10 21 23.9**	**+0.4**
DALK				*e*S	**Sb**	**10 21 42.6**	**0.0**
DALK	**Dalny**	**1.37**	**305**	PN	**Pn**	**10 21 23.9**	**+0.4**
DALK				S	**Sb**	**10 21 42.6**	**0.0**
PET	**Petropavlovsk**	**1.42**	**304**	*e*Pn	**Pn**	**10 21 24.5**	**+0.3**
PET				*e*Sn	**Sn**	**10 21 40.0**	**-1.8**
PET	**Petropavlovsk**	**1.42**	**304**	*e*P	**Pn**	**10 21 24.7**	**+0.6**
PET	**Petropavlovsk**	**1.42**	**304**	⇑*i*PN	**Pn**	**10 21 24.6**	**+0.5**
PET				*e*S	**Sb**	**10 21 46.9**	**+3.0**
PET				pmax	pmax		
	comp=Z,2μm,0.7s						
PET				smax	smax		
	comp=E,5μm,0.9s						
PET				smax	smax		
	comp=N,6μm,0.8s						
UGLR	**Uglovaya**	**1.45**	**312**	*e*P	**Pn**	**10 21 25.7**	**+1.1**
UGLR	**Uglovaya**	**1.45**	**312**	PN	**Pn**	**10 21 25.7**	**+1.1**
INSR	**Institute**	**1.47**	**305**	*e*P	**Pn**	**10 21 25.1**	**+0.3**
INSR	**Institute**	**1.47**	**305**	PN	**Pn**	**10 21 25.1**	**+0.3**
SDLR	**Sedlovina**	**1.47**	**315**	*e*P	**Pn**	**10 21 25.7**	**+0.8**
SDLR	**Sedlovina**	**1.47**	**315**	PN	**Pn**	**10 21 25.7**	**+0.8**
SMAR	**Somma**	**1.49**	**313**	*e*P	**Pn**	**10 21 25.4**	**0.0**
SMAR				*e*S	**Sb**	**10 21 46.0**	**-0.3**
SMAR	**Somma**	**1.49**	**313**	PN	**Pn**	**10 21 25.4**	**0.0**
SMAR				S	**Sb**	**10 21 46.0**	**-0.3**
MTVR	**Mutnovka**	**1.50**	**280**	*e*P	**Pn**	**10 21 25.9**	**+0.5**
MTVR	**Mutnovka**	**1.50**	**280**	PN	**Pn**	**10 21 25.9**	**+0.5**
AVH	**Avacha**	**1.52**	**313**	*e*P	**Pn**	**10 21 26.8**	**+1.1**
AVH	**Avacha**	**1.52**	**313**	PN	**Pn**	**10 21 26.8**	**+1.1**
KRER	**Koryakskii**	**1.54**	**314**	*e*P	**Pn**	**10 21 27.1**	**+1.0**
KRER	**Koryakskii**	**1.54**	**314**	PN	**Pn**	**10 21 27.1**	**+1.0**
GRL	**Gorelyy**	**1.58**	**282**	*e*P	**Pb**	**10 21 28.1**	**-0.9**
GRL	**Gorelyy**	**1.58**	**282**	PN	**Pb**	**10 21 28.1**	**-0.9**
KOK	**Koryaka**	**1.59**	**312**	*e*P	**Pn**	**10 21 27.7**	**+1.1**
KOK	**Koryaka**	**1.59**	**312**	PN	**Pn**	**10 21 27.7**	**+1.1**
KRMR	**Karymshinskiy**	**1.62**	**292**	*e*P	**Pn**	**10 21 27.7**	**+0.8**
KRMR	**Karymshinskiy**	**1.62**	**292**	PN	**Pn**	**10 21 27.7**	**+0.8**
KDTR	**Khodutka, Kamc**	**1.62**	**255**	*e*P	**Pn**	**10 21 26.1**	**-0.8**
KDTR				*e*S	**Sn**	**10 21 45.5**	**-1.3**
KDTR	**Khodutka, Kamc**	**1.62**	**255**	PN	**Pn**	**10 21 26.1**	**-0.8**
KDTR				S	**Sn**	**10 21 45.5**	**-1.3**
KRX	**Arik**	**1.63**	**314**	*e*P	**Pn**	**10 21 28.0**	**+0.9**
KRX	**Arik**	**1.63**	**314**	PN	**Pn**	**10 21 28.0**	**+0.9**
ASAK	**Asacha**	**1.67**	**276**	*e*P	**Pn**	**10 21 28.4**	**+0.8**
ASAK	**Asacha**	**1.67**	**276**	PN	**Pn**	**10 21 28.4**	**+0.8**
PEA0B	**Petropavlovsk-**	**1.97**	**297**	*e*Pn	**Pn**	**10 21 30.9**	**-0.8**
PETK	**Petropavlovsk-**	**1.97**	**297**	*e*Pn	**Pn**	**10 21 31.4**	**-0.3**
PETK	**Petropavlovsk-**	**1.97**	**297**	*e*PN	**Pn**	**10 21 31.4**	**-0.3**
PETK	**Petropavlovsk-**	**1.97**	**297**	Pn	**Pn**	**10 21 32.8**	**+1.1**
	comp=N,52nm,0.3s,baz=125,slow=8.6,SNR=294						
PETK				Sn	**Sb**	**10 21 59.0**	**-0.7**
	comp=N,69nm,0.3s,baz=109,slow=18,SNR=7.1						
PETK				LR	LR	10 22 05.4	
	comp=N,2μm,20.1s,baz=33,slow=38						
PEA1	**Petropavlovsk-**	**1.97**	**297**	*e*Pn	**Pn**	**10 21 32.8**	**+1.1**
PEA1				*e*Sn	**Sb**	**10 21 59.0**	**-0.8**
APC	**Apacha**	**2.21**	**289**	*e*P	**Pn**	**10 21 36.7**	**+1.7**
APC	**Apacha**	**2.21**	**289**	PN	**Pn**	**10 21 36.7**	**+1.7**
MKZ	**Mys Kozlova**	**2.41**	**16**	*e*P	**Pn**	**10 21 36.4**	**-1.3**
MKZ				*e*S	**Sn**	**10 22 04.6**	**-1.5**
MKZ	**Mys Kozlova**	**2.41**	**16**	PN	**Pn**	**10 21 36.4**	**-1.3**
MKZ				S	**Sn**	**10 22 04.6**	**-1.5**
PAU	**Pauzhetka**	**2.48**	**253**	*e*P	**Pn**	**10 21 38.6**	**-0.1**
PAU	**Pauzhetka**	**2.48**	**253**	PN	**Pn**	**10 21 38.6**	**-0.1**
KZV	**Kizimen**	**2.87**	**356**	*e*P	**Pn**	**10 21 45.1**	**+0.8**
KZV	**Kizimen**	**2.87**	**356**	PN	**Pn**	**10 21 45.1**	**+0.8**
TUMD	**Tumrok D**	**2.96**	**358**	*e*P	**Pn**	**10 21 45.6**	**+0.3**
TUMR	**Tumrok**	**3.05**	**355**	*e*P	**Pn**	**10 21 47.8**	**+1.1**
TUMR	**Tumrok**	**3.05**	**355**	PN	**Pn**	**10 21 45.6**	**-1.1**
SKR	**Severo-Kuril's**	**3.22**	**243**	*e*P	**Pn**	**10 21 47.

OKH *e*S **Sn** **10 25 38.5 +7.1**
OKH MLR MLR
comp=Z,2µm,13.0s
TYV Tymovskoe 11.26 270 *e*PN **Pn** **10 23 42.7 +3.5**
TYV pmax pmax
comp=Z,200nm,2.9s
TYV pmax pmax
comp=Z,20nm,1.6s
TYV MLR MLR
comp=Z,2µm,15.0s
SEY Seymchan 11.57 341⇓ *i*PN **Pn** **10 23 46.0 +2.7**
SEY Seymchan 11.57 341 Pn **Pn** **10 23 45.0 +1.7**
comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=5.9
NKL Nikolayevsk 12.12 282 *e*PN **P** **10 24 04.0 +0.8**
NKL pmax pmax
comp=Z,43nm,1.0s
NKL MLR MLR
comp=N,1µm,14.0s
NKL MLR MLR
comp=E,2µm,14.0s
NKL MLR MLR
comp=Z,4µm,14.0s
YSS Yuzh-Sakhalins 12.72 252 *e*Pn **Pn** **10 23 59.0 -0.1**
YSS Yuzh-Sakhalins 12.72 252⇓ *e*PN **Pn** **10 24 00.6 +1.5**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS MLR MLR
comp=Z,1µm,13.0s
YSS MLR MLR
comp=E,1µm,14.0s
ADK Adak 13.97 83 *e*Pn **Pn** **10 24 15.1 -0.9**
ADK Adak 13.97 83 *e*P **Pn** **10 24 15.1 -0.9**
ASAJ Asahikawa 14.48 243 Pn **Pn** **10 24 23.0 -0.1**
comp=E,1.2nm,0.3s,baz=78,slow=14,SNR=16
ASAJ LR LR 10 30 51.9
comp=E,692nm,18.3s,baz=64,slow=41
GRNR Gornyy 15.12 274 *e*P **P** **10 24 35.9 -0.6**
GRNR pmax pmax
comp=Z,13nm,1.0s
ERM Erimo 15.64 236 *e*Pn **Pn** **10 24 36.0 -2.5**
comp=Z,23nm,0.6s
ERM Erimo 15.64 236⇓ *e*P **Pn** **10 24 36.2 -2.2**
ERM pmax pmax
comp=Z,13nm,0.7s
BILL Bilibino 16.08 8 *e*Pn **Pn** **10 24 44.3 +0.4**
comp=Z,52nm,0.9s
BILL Bilibino 16.08 8*c i*P **Pn** **10 24 44.6 +0.7**
BILL pmax pmax
comp=Z,85nm,1.3s
BILL MLR MLR
comp=Z,794nm,17.0s
TEY Ternei 17.38 255⇑ *e*P **P** **10 25 03.0 +1.5**
TEY pmax pmax
comp=N,10.0nm,0.9s
TEY pmax pmax
comp=Z,50nm,0.9s
TEY pmax pmax
comp=E,50nm,0.9s
KLR Kul'dur 18.46 272*c i*P **P** **10 25 13.6 +0.2**
KLR pmax pmax
comp=Z,14nm,0.9s
KLR Kul'dur 18.46 272 P **P** **10 25 13.4 0.0**
comp=Z,0.4nm,0.3s,baz=60,slow=11,SNR=35
KLR LR LR 10 33 15.8
comp=Z,752nm,18.4s,baz=72,slow=40
YAK Yakutsk 19.23 313 *e*P **P** **10 25 19.8 -2.0**
YAK *e*S **Sn** **10 28 50.8 -6.6**
YAK pmax pmax
comp=Z,541nm,1.0s
YAK pmax pmax
comp=N,112nm,1.0s
YAK pmax pmax
comp=E,378nm,1.0s
YAK pmax pmax
comp=Z,566nm,1.1s
YAK pmax pmax
comp=N,181nm,1.1s
YAK pmax pmax
comp=E,206nm,1.1s
YAK smax smax
comp=N,72nm,1.7s
YAK smax smax
comp=E,83nm,1.4s
ZEA Zeya 20.03 288 *e*P **P** **10 25 29.0 -1.6**
ZEA pmax pmax
comp=N,25nm,0.7s
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=E,1µm,15.0s
ZEA MLR MLR
comp=Z,2µm,15.0s
ZEA MLR MLR
comp=N,400nm,14.0s
USA0B Ussuriysk Arra 20.59 258 *e*P **P** **10 25 34.9 -1.8**
comp=N,36nm,1.0s
USRK Ussuriysk Ar. 20.59 258 *e*P **P** **10 25 34.6 -2.2**
USRK Ussuriysk Ar. 20.59 258 P **P** **10 25 34.2 -2.5**
comp=N,30nm,1.0s,baz=58,slow=9.6,SNR=27
USRK LR LR 10 33 37.9
comp=N,507nm,19.8s,baz=60,slow=37
MDJ Mudanjiang 21.82 262 *e*P **P** **10 25 47.9 -2.1**
comp=N,22nm,1.1s
MSHR Mys Shultsa 22.01 256⇓ *e*P **P** **10 25 53.6 +1.6**
MJB9 Matsu-Tunnel 22.28 234 *e*P **P** **10 25 54.8 -0.2**
comp=N,46nm,0.9s
MAJO Matsushiro 22.29 234 *e*P **P** **10 25 54.6 -0.4**
comp=N,42nm,0.9s
MAJO Matsushiro 22.29 234*de*P **P** **10 25 55.0 0.0**
MAJO pmax pmax
comp=Z,52nm,1.0s
MAT Matsushiro 22.29 234 P **P** **10 25 54.6 -0.4**
MAT S **S** **10 29 57.0 -1.4**
MJAR Matsushiro Arr 22.29 234 *e*P **P** **10 25 55.0 -0.1**
MJAR Matsushiro Arr 22.29 234 *e*P **P** **10 25 55.0 -0.1**
MJAR Matsushiro Arr 22.29 234 P **P** **10 25 54.7 -0.3**
comp=Z,20nm,0.9s,baz=27,slow=8.3,SNR=52
RDOG Red Dog Mine 23.56 34 *e*P **P** **10 26 08.7 +0.9**
comp=Z,11nm,0.8s
INU Inuyama 23.82 234 *e*P **P** **10 26 10.1 -0.5**
comp=Z,26nm,1.0s
TIXI Tiksi 23.98 336 *e*P **P** **10 26 10.2 -1.6**
TIXI Tiksi 23.98 336*d i*P **P** **10 26 10.7 -1.0**
TIXI pmax pmax
comp=Z,29nm,0.8s
TIXI Tiksi 23.98 336 P **P** **10 26 10.0 -1.8**
comp=Z,30nm,0.9s,baz=121,slow=9.1,SNR=79
CN2 Changchun 24.78 264 *e*P **P** **10 26 16.8 -2.5**
CN2 *e*pP pP 10 26 27.8 +0.6
CN2 *e*S **S** **10 30 31.8 -7.9**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 LR LR
comp=Z,920nm,13.0s
CN2 LR LR
comp=Z,670nm,13.0s
CN2 LR LR
comp=Z,1µm,13.0s
HIA Hailar 25.78 280 *e*P **P** **10 26 26.7 -1.7**
comp=Z,49nm,1.0s
HIA Hailar 25.78 280⇑ *e*P **P** **10 26 26.2 -2.2**
HIA pmax pmax
comp=Z,264nm,0.9s
IMAR Indian Mountai 26.42 41 *e*P **P** **10 26 34.1 0.0**
BOD Bodaibo 26.84 301 *e*P **P** **10 26 35.8 -2.0**
BOD pmax pmax
comp=Z,29nm,1.3s
CAST Castle Rocks 26.89 47 *e*P **P** **10 26 39.0 +0.8**
comp=Z,4.4nm,0.9s
KDAK Kodiak Island 26.95 60 *e*P **P** **10 26 39.3 +0.5**
comp=Z,14nm,1.0s
KDAK Kodiak Island 26.95 60 P **P** **10 26 38.7 -0.1**
comp=Z,9.0nm,0.8s,baz=242,slow=5.7,SNR=7.8
KDAK LR LR 10 38 24.8
comp=Z,238nm,18.8s,baz=241,slow=39
KSRS Korea Array 27.20 250 P **P** **10 26 41.9 +0.6**
comp=Z,4.4nm,0.8s,baz=43,slow=9.3,SNR=18
KSRS PcP **PcP** **10 30 01.9 +1.1**
comp=Z,1.3nm,0.8s,baz=69,slow=1.7,SNR=4.6
KSAR Wonju Array Be 27.24 250 *e*P **P** **10 26 40.9 -0.7**
BPAW Bear Paw Mtn. 27.40 46 *e*P **P** **10 26 43.5 +0.7**
comp=Z,4.1nm,0.8s
TJN Taejon 28.27 249⇓ *e*P **P** **10 26 50.9 0.0**
TOLK Toolik Lake Re 28.46 36 *e*P **P** **10 26 53.0 +0.7**
comp=Z,2.8nm,0.8s
KNK Knik Glacier 28.62 51 *e*P **P** **10 26 54.6 +0.9**
comp=Z,12nm,0.9s

MDM Murphy Dome 28.62 44 *e*P **P** **10 26 54.4 +0.7**
comp=Z,3.3nm,0.9s
SML Sawmill 28.65 50 *e*P **P** **10 26 54.8 +0.8**
comp=Z,18nm,0.7s
WRH Wood River Hil 28.67 45 *e*P **P** **10 26 55.6 +1.5**
comp=Z,19nm,1.4s
JNU Nakatsue 28.73 240 *e*P **P** **10 26 55.1 +0.2**
comp=Z,46nm,1.0s
JNU Nakatsue 28.73 240 P **P** **10 26 55.6 +0.6**
comp=Z,15nm,0.8s,baz=4.8,slow=8.3,SNR=9.6
JNU LR LR 10 40 38.0
comp=Z,292nm,18.7s,baz=42,slow=41
COLA College 28.78 44⇓ *e*P **P** **10 26 55.0 -0.1**
COLA pmax pmax
comp=Z,10.0nm,2.4s
CCB Clear Creek Bu 28.80 44 *e*P **P** **10 26 56.7 +1.5**
comp=Z,6.8nm,1.0s
SCM Sheep Creek Mo 29.12 50 *e*P **P** **10 26 59.5 +1.2**
comp=Z,12nm,0.9s
ILAR Eielson Array 29.19 44 P **P** **10 26 58.5 -0.3**
comp=Z,0.7nm,0.7s,baz=244,slow=8.1,SNR=8.3
ILB Eielson Array 29.19 44 *e*P **P** **10 26 59.3 +0.5**
comp=Z,4.5nm,1.1s
PRP Porcupine Dome 29.77 43 *e*P **P** **10 27 04.5 +0.4**
comp=Z,5.3nm,0.9s
DIV Divide 29.94 52 *e*P **P** **10 27 06.4 +0.9**
comp=Z,9.9nm,1.1s
SCRK Sand Creek 30.48 46 *e*P **P** **10 27 10.7 +0.4**
comp=Z,5.8nm,1.4s
BCAR Beaver Creek A 31.55 47 *e*P **P** **10 27 20.6 +0.9**
EGAK Eagle 31.65 44 *e*P **P** **10 27 20.1 -0.3**
comp=Z,5.9nm,0.9s
H11N2 WAKE ISLAND Hy 32.83 169 T T 11 03 35.2
baz=352,slow=76,SNR=22
H11N3 WAKE ISLAND Hy 32.84 169 T T 11 03 38.3
baz=352,slow=76,SNR=24
H11N1 WAKE ISLAND Hy 32.84 169 T T 11 03 36.9
baz=352,slow=76,SNR=22
ULN Ulaanbaatar 34.00 284 *e*P **P** **10 27 40.2 -1.2**
comp=Z,9.5nm,1.1s
ULN Ulaanbaatar 34.00 284*ce*P **P** **10 27 39.6 -1.8**
ULN pmax pmax
comp=Z,10.0nm,1.3s
H11S1 WAKE ISLAND Hy 34.01 170 T T 11 05 06.0
baz=350
H11S3 WAKE ISLAND Hy 34.02 170 T T 11 05 04.9
baz=350
H11S2 WAKE ISLAND Hy 34.03 170 T T 11 05 20.0
baz=350
TLY Talaya 34.32 292 *e*P **P** **10 27 43.2 -0.8**
comp=Z,14nm,0.8s
TLY Talaya 34.32 292*d i*P **P** **10 27 43.9 -0.1**
INK Inuvik 34.35 37 *e*P **P** **10 27 44.6 +0.7**
comp=Z,4.3nm,0.9s
INK Inuvik 34.35 37 P **P** **10 27 43.7 -0.2**
comp=Z,1.6nm,0.6s,baz=266,slow=3.1,SNR=6.9
SONM Songino Array 34.41 285 *e*P **P** **10 27 43.5 -1.4**
SONM *e*PcP **PcP** **10 30 20.0 +0.2**
SONM Songino Array 34.41 285 P **P** **10 27 43.6 -1.2**
comp=Z,1.5nm,0.6s,baz=98,slow=6.6,SNR=7.1
SONM PcP **PcP** **10 30 20.6 +0.8**
comp=Z,2.9nm,0.9s,baz=60,slow=2.8,SNR=5.3
SONM LR LR 10 43 34.4
comp=Z,1µm,18.7s,baz=69,slow=40
TIA Tai'an 34.45 260 P **P** **10 27 46.0 +0.8**
TIA pmax pmax
comp=Z,22nm,0.8s
HHC Hu-ho-hao-te 34.96 271 *e*P **P** **10 27 50.0 +0.3**
HHC S S 10 33 08.0 -11
HHC pmax pmax
comp=Z,88nm,0.9s
HHC pmax pmax
comp=Z,320nm,4.8s
HHC LR LR
comp=Z,900nm,13.0s
HHC LR LR
comp=Z,570nm,12.6s
HHC LR LR
comp=Z,910nm,12.9s
ZAK Zakamensk 35.08 290 *e*P **P** **10 27 49.5 -1.1**
ZAK *e* 10 27 59.0
ZAK pmax pmax
comp=Z,11nm,1.1s
MOY Mondy 35.83 293 *e*P **P** **10 27 56.5 -0.6**
MOY pmax pmax
comp=Z,19nm,1.4s
NJ2 Nanjing 36.29 253 *e*P **P** **10 27 59.9 -1.1**
NJ2 pmax pmax
comp=Z,15nm,0.8s
NRIK Noril'sk 36.78 325 P **P** **10 28 04.2 -0.6**
comp=Z,3.6nm,0.6s,baz=93,slow=8.5,SNR=8.5
NRIK LR LR 10 44 05.0
comp=Z,304nm,19.8s,baz=68,slow=38
DLBC Dease Lake 38.30 53 *e*P **P** **10 28 19.1 +1.2**
comp=Z,8.8nm,1.1s
DLBC Dease Lake 38.30 53 P **P** **10 28 19.6 +1.7**
comp=Z,2.6nm,0.8s,baz=310,slow=10,SNR=5.3
WHN Wuhan 40.05 256 P **P** **10 28 32.8 +0.2**
LZH Lanzhou 42.65 271 *e*P **P** **10 28 54.1 -0.1**
LZH pP sP 10 29 05.5 -0.4
LZH sP pwP 10 29 09.4 +4.2
LZH pmax pmax
comp=Z,23nm,1.2s
LZH LR LR
comp=Z,650nm,15.4s
LZH LR LR
comp=Z,710nm,15.2s
LZH LR LR
comp=Z,830nm,16.8s
KEKH Kekaha 42.89 119 *e*P **P** **10 28 57.5 +1.5**
comp=Z,76nm,1.2s
GTA Gaotai 43.02 278 *e*P **P** **10 28 58.8 +1.7**
GTA pP pP 10 29 06.3 +0.9
GTA sP sP 10 29 09.6 +0.8
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,140nm,5.9s
GTA LR LR
comp=Z,590nm,15.9s
GTA LR LR
comp=Z,410nm,16.5s
GTA LR LR
comp=Z,760nm,16.5s
ENH Enshi 43.16 260 *e*P **P** **10 28 58.0 -0.3**
comp=Z,12nm,0.6s
ZAA0 Zalesovo Array 43.50 304 *e*P **P** **10 28 58.2 -2.4**
comp=Z,11nm,1.4s
ZALV Zalesovo Beam 43.50 304 P **P** **10 28 58.3 -2.4**
comp=Z,3.0nm,0.8s,baz=56,slow=5.6,SNR=10
ZALV PP **PP** **10 30 41.4 -0.4**
comp=Z,0.8nm,0.4s,baz=39,slow=9.3,SNR=2.6
YKA Yellowknife Ar 43.58 42 P **P** **10 29 01.0 -0.1**
YKA Yellowknife Ar 43.58 42 P **P** **10 29 01.0 -0.1**
comp=Z,0.8nm,0.7s,baz=299,slow=8.0,SNR=13
YKB5 Yellowknife Ar 43.58 42 *e*P **P** **10 29 01.0 -0.1**
NVS Novosibirsk 43.85 305⇓ *i*P **P** **10 29 02.1 -1.4**
NVS *i* 10 29 13.2
NVS *e*S **S** **10 35 28.4 -3.8**
NVS pmax pmax
comp=Z,61nm,1.1s
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS pmax pmax
comp=E,54nm,1.3s
NVS smax smax
comp=N,3.0nm,1.0s
NVS smax smax
comp=E,1.0nm,0.4s
RES Resolute Bay 43.99 22 *e*P **P** **10 29 05.4 +1.1**
comp=E,3.0nm,0.8s
RES Resolute Bay 43.99 22 P **P** **10 29 05.4 +1.1**
comp=E,2.2nm,0.7s,baz=300,slow=8.9,SNR=9.4
KIP Kipapa 44.26 118⇓ *e*P **P** **10 29 06.8 -0.2**
KIP pmax pmax
comp=Z,200nm,2.4s
DGZ Jazzator, Alta 44.33 297*d i*P **P** **10 29 07.2 -0.3**
DGZ pmax pmax
comp=Z,12nm,0.9s
CD2 Chengdu 46.20 266 P **P** **10 29 20.3 -2.2**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=Z,670nm,20.4s
CD2 LR LR
comp=Z,760nm,18.0s
CD2 LR LR

comp=Z,610nm,16.7s
WMQ Urumqi 47.55 290 *e*P **P** **10 29 33.3 +0.4**
WMQ pP sP 10 29 44.0 -0.7
WMQ pmax pmax
comp=Z,62nm,1.1s
WMQ pmax pmax
comp=Z,620nm,10.7s
WMQ LR LR
comp=Z,1µm,16.1s
WMQ LR LR
comp=Z,2µm,15.7s
WMQ LR LR
comp=Z,2µm,16.7s
KBS Kingsbay 47.76 352 *e*P **P** **10 29 34.4 +0.5**
comp=Z,31nm,1.4s
KBS Kingsbay 47.76 352⇑ *i*P **P** **10 29 35.9 +2.0**
KBS pmax pmax
comp=Z,91nm,1.3s
SPA0 Spitsbergen Ar 48.02 351 *e*P **P** **10 29 36.4 +0.3**
comp=Z,61nm,1.1s
SPITS Spitsbergen Ar 48.02 351 P **P** **10 29 36.1 +0.1**
comp=Z,62nm,1.1s,baz=59,slow=8.9,SNR=38
SPITS LR LR 10 51 17.3
comp=Z,287nm,18.9s,baz=30,slow=38
KURK Kurchatov 48.45 303 *e*P **P** **10 29 38.1 -1.5**
comp=Z,52nm,0.9s
KURK Kurchatov 48.45 303*c i*P **P** **10 29 37.8 -1.8**
KURK pmax pmax
comp=Z,77nm,1.3s
KURK Kurchatov 48.45 303 P **P** **10 29 38.1 -1.5**
SNR=25
GLK Glacier Lake 48.65 64 *e*P **P** **10 29 43.3 +1.8**
MK31 Makanchi Array 48.81 297 *e*P **P** **10 29 41.4 -1.1**
comp=Z,9.1nm,1.1s
MKAR Makanchi Array 48.81 297 *e*P **P** **10 29 40.5 -2.1**
MKAR Makanchi Array 48.81 297 P **P** **10 29 41.0 -1.5**
comp=Z,1.4nm,0.5s,baz=55,slow=6.4,SNR=17
KMI Kunming 50.99 261 P **P** **10 29 59.4 -0.2**
KMI pmax pmax
comp=Z,12nm,0.5s
KMI Kunming 50.99 261 *e*P **P** **10 29 59.3 -0.3**
comp=Z,15nm,0.4s
BRVK Borovoye 51.19 309 *e*P **P** **10 29 59.8 -0.7**
comp=Z,26nm,0.9s
BRVK Borovoye 51.19 309*d i*P **P** **10 29 59.6 -0.9**
BRVK pmax pmax
comp=Z,27nm,0.9s
BRVK Borovoye 51.19 309 P **P** **10 29 59.3 -1.2**
SNR=13
DAG Danmarks Havn 51.25 360 *i* P **P** **10 30 00.5 -0.1**
DAG Danmarks Havn 51.25 360 *i* P **P** **10 30 00.5 -0.1**
MOD Modoc Plateau 52.29 68 *e*P **P** **10 30 10.4 +1.4**
comp=Z,5.6nm,0.8s
MSO Missoula 52.64 59 *e*P **P** **10 30 13.1 +1.6**
comp=Z,11nm,1.4s
PLID Pearl Lake 52.64 62 *e*P **P** **10 30 12.6 +0.9**
comp=Z,4.4nm,0.8s
SLVN Son La 53.14 257 *e*P **P** **10 30 15.4 0.0**
comp=Z,18nm,0.9s
BEKR Beckworth 53.59 70 *e*P **P** **10 30 19.7 +1.0**
comp=Z,6.0nm,1.0s
LVZ Lovozero 53.60 338 *e*P **P** **10 30 17.8 -0.3**
comp=Z,25nm,0.9s
LVZ Lovozero 53.60 338⇓ *e*P **P** **10 30 18.0 -0.1**
LVZ pmax pmax
comp=Z,54nm,2.5s
HRY Holter Researc 53.82 58 *e*P **P** **10 30 21.3 +1.1**
ARCES ARCESS Array B 54.19 342 P **P** **10 30 22.3 -0.1**
comp=Z,14nm,0.8s,baz=32,slow=7.1,SNR=22
ARE0 ARCESS Array S 54.19 342 *e*P **P** **10 30 22.4 0.0**
comp=Z,1.2nm,1.0s
ARU Arti 54.23 318 *e*P **P** **10 30 22.5 -0.4**
comp=Z,17nm,0.7s
ARU Arti 54.23 318*c i*P **P** **10 30 22.2 -0.7**
ARU S **S** **10 37 56.8 -1.0**
ARU SS **SS** **10 41 41.5 +2.4**
ARU pmax pmax
comp=Z,20nm,0.8s
ARU MLR MLR
comp=Z,318nm,16.0s
PAHR Pah Rah Range 54.26 69 *e*P **P** **10 30 24.6 +1.1**
comp=Z,5.3nm,1.0s
VCNR Virginia City 54.38 70 *e*P **P** **10 30 25.5 +1.1**
comp=Z,5.5nm,0.8s
PNTR Pine Nut 54.55 70 *e*P **P** **10 30 26.5 +0.8**
comp=Z,12nm,1.0s
KDJ Kajisay 54.59 295 *e*P **P** **10 30 25.4 -0.5**
comp=Z,22nm,0.9s
BOZ Bozeman (W) 54.66 59 *e*P **P** **10 30 27.0 +0.7**
comp=Z,3.6nm,0.9s
SUMG Summit 54.76 7 *e*P **P** **10 30 27.2 +0.3**
comp=Z,26nm,0.8s
SUMG Summit 54.76 7 *i* P **P** **10 30 27.8 +0.8**
SUMG pmax pmax
comp=Z,55nm,1.1s
SUMG Summit 54.76 7 *i* P **P** **10 30 27.8 +0.8**
comp=Z,55nm,1.1s
LSA Lhasa 54.80 274 *e*P **P** **10 30 27.6 -0.4**
comp=Z,8.2nm,0.5s
YERR Yerington 54.82 70 *e*P **P** **10 30 28.9 +1.2**
comp=Z,4.9nm,0.8s
BMN Battle Mountai 55.01 67 *e*P **P** **10 30 29.9 +1.0**
comp=Z,7.5nm,0.8s
PRGR Permogore 55.32 328 *e*P **P** **10 30 27.1 -3.5**
PRGR pmax pmax
comp=Z,33nm,0.8s
KVN Kaiserville 55.44 69 *e*P **P** **10 30 33.4 +1.3**
comp=Z,6.1nm,0.8s
YHB Horse Butte 55.45 60 *e*P **P** **10 30 33.2 +1.0**
comp=Z,5.4nm,1.1s
RYN Ryan 55.48 70 *e*P **P** **10 30 33.9 +1.5**
comp=Z,3.9nm,0.7s
YHH Holmes Hill 55.61 60 *e*P **P** **10 30 34.3 +1.0**
comp=Z,2.2nm,0.8s
TMCR Tamitsa 55.67 333 *e*P **P** **10 30 33.0 -0.1**
TMCR pmax pmax
comp=Z,54nm,0.6s
NRN Naryn 55.71 295 *e*P **P** **10 30 33.8 -0.4**
comp=Z,4.9nm,1.1s
AAK Ala-Archa 55.73 297 *e*P **P** **10 30 33.7 -0.5**
comp=Z,10nm,1.0s
NVAR Mina Array Bea 55.74 70 *e*P **P** **10 30 35.4 +1.1**
NVAR Mina Array Bea 55.74 70 P **P** **10 30 35.9 +1.6**
comp=Z,1.2nm,0.6s,baz=296,slow=7.5,SNR=13
NV11 Mina Array Sit 55.82 70 *e*P **P** **10 30 36.2 +1.3**
comp=Z,0.3nm,1.1s
ELK Elko 55.92 66 *e*P **P** **10 30 36.8 +1.2**
comp=Z,2.2nm,0.8s
PANO Nakornpanom 55.95 253 P **P** **10 30 38.2 +2.4**
comp=Z,0.4nm,0.9s
YPP Pitchstone Pla 55.98 60 *e*P **P** **10 30 37.1 +1.1**
comp=Z,2.6nm,1.0s
H17A Grant Village 56.01 60 *e*P **P** **10 30 38.0 +1.7**
comp=Z,6.9nm,1.3s
IMW Indian Meadow 56.16 60 *e*P **P** **10 30 38.3 +1.0**
comp=Z,6.1nm,1.3s
RLMT Red Lodge 56.22 58 *e*P **P** **10 30 38.5 +0.8**
comp=Z,5.3nm,0.9s
SKNT Sakolnakorn 56.46 253 P **P** **10 30 40.9 +1.5**
comp=Z,26nm,0.9s
LOHW Long Hollow 56.53 61 *e*P **P** **10 30 40.9 +1.0**
comp=Z,4.4nm,1.2s
HVU Hansel Valley 56.59 63 *e*P **P** **10 30 41.8 +1.5**
comp=Z,4.0nm,0.9s
AHID Auburn Hatcher 56.83 62 *e*P **P** **10 30 43.5 +1.5**
comp=Z,6.9nm,1.0s
KSH Kashi 57.02 293 P **P** **10 30 45.4 +2.1**
KSH PP **PP** **10 32 54.8 +5.0**
KSH S **S** **10 38 35.9 +0.1**
KSH SS **SS** **10 42 25.3 +1.3**
KSH pmax pmax
comp=Z,280nm,5.6s
KSH LR LR
comp=Z,1µm,11.1s
KSH LR LR
comp=Z,1µm,13.5s
KSH LR LR
comp=Z,620nm,13.0s
PAYA Payao 57.07 259 P **P** **10 30 45.3 +1.6**
comp=Z,60µm,0.8s,comp=Z,540µm
SHL Shillong 57.32 270 *e*P **P** **10 30 45.4 -0.2**
comp=Z,20nm,1.1s
R11A Troy Canyon, C 57.35 68 *e*P **P** **10 30 46.3 +0.6**
comp=Z,2.7nm,0.9s
ARSB Arslanbob 57.45 297 *e*P **P** **10 30 46.0 -0.3**
comp=Z,9.1nm,1.0s
PHRA Phrae 57.51 258 P **P** **10 30 48.4 +1.5**

comp=Z,5.6nm,1.0s
KKAR Karatay Array 57.57 300 *eP* **P 10 30 45.6 -1.4**
comp=Z,8.6nm,0.9s
KHON Khomkaen 57.65 254 P **P 10 30 50.5 +2.7**
comp=Z,32µm,0.9s
DUG Dugway, Tooele 57.65 65 *eP* **P 10 30 49.0 +1.2**
comp=Z,3.7nm,0.8s
PD31 Pinedale Array 57.66 61 *eP* **P 10 30 48.9 +0.9**
comp=Z,6.4nm,1.0s
PDAR Pinedale Array 57.66 61 P **P 10 30 49.0 +1.1**
comp=Z,2.2nm,0.7s,baz=327,slow=2.3,SNR=22
KLMR Klimovskoe 57.84 330 *eP* **P 10 30 47.5 -1.0**
KLMR pmax pmax
comp=Z,34nm,0.8s
LAMP Lampang 57.85 258 P **P 10 30 51.0 +1.7**
comp=Z,49µm,0.9s,comp=Z,405µm
UTTA Uttaradit 57.90 257 P **P 10 30 50.9 +1.3**
comp=Z,5µm,0.9s,comp=Z,292µm
TPNV Topopah Spring 57.94 70 *eP* **P 10 30 51.1 +1.3**
comp=Z,4.2nm,0.8s
CMMT Chiang Mai 58.05 259 P **P 10 30 51.5 +0.9**
comp=Z,20nm,1.1s,comp=Z,188nm
CHTO Chiang Mai 58.05 259 *eP* **P 10 30 50.9 +0.2**
comp=Z,30nm,0.9s
CHTO Chiang Mai 58.05 259 P **P 10 30 51.9 +1.3**
SNR=6.9
NLU North Lily Min 58.22 65 *eP* **P 10 30 52.8 +0.9**
comp=Z,5.0nm,0.9s
CM31 Chiang Mai Arr 58.32 259 *eP* **P 10 30 53.5 +0.9**
comp=Z,20nm,0.8s
CM31 Chiang Mai Arr 58.32 259 P **P 10 30 54.2 +1.7**
SNR=5.5
CMAR Chiang Mai Arr 58.32 259 P **P 10 30 53.5 +1.0**
comp=Z,16nm,0.9s,baz=24,slow=7.2,SNR=44
CMAR LR LR 10 58 28.2
comp=Z,159nm,18.9s,baz=49,slow=39
MPU Maple Canyon 58.43 64 *eP* **P 10 30 55.0 +1.7**
comp=Z,3.7nm,0.7s
PBKT Sadao Pong 58.56 256 P **P 10 30 55.7 +1.5**
comp=Z,6.3nm,1.0s,comp=Z,402nm
ABKAR Akbulak array 58.58 311 *eP* **P 10 30 53.4 -0.6**
comp=Z,5.9nm,0.8s
TMUT Trail Mountain 59.16 65 *eP* **P 10 30 59.8 +1.3**
comp=Z,4.7nm,0.7s
CCUT Cedar City 59.17 67 *eP* **P 10 31 00.1 +1.5**
comp=Z,3.4nm,0.8s
ULM Lac du Bonnet 59.17 47 P **P 10 30 59.0 +0.9**
ULM Lac du Bonnet 59.17 47 P **P 10 30 59.0 +0.9**
comp=Z,2.6nm,0.8s,baz=354,slow=10,SNR=2.4
ULM LR LR 10 59 26.8
comp=Z,142nm,18.1s,baz=44,slow=39
JIRN Jiri 59.29 276 *eP* **P 10 30 59.3 -0.3**
comp=Z,18nm,0.6s
SZCU Shurtz Canyon 59.30 67 *eP* **P 10 31 00.8 +1.4**
comp=Z,2.7nm,0.9s
MTPU Mount Pierson 59.49 66 *eP* **P 10 31 01.7 +0.7**
comp=Z,2.7nm,0.9s
BTK Batken 59.51 297 *eP* **P 10 30 59.9 -0.8**
comp=Z,12nm,0.8s
RAMN Ramite 59.55 276 *eP* **P 10 31 00.6 -0.7**
comp=Z,36nm,0.5s
RSSD Black Hills 59.61 56 *eP* **P 10 31 02.2 +0.7**
comp=Z,8.7nm,0.8s
LCMT Little Creek M 59.62 68 *eP* **P 10 31 03.3 +1.8**
comp=Z,4.8nm,0.9s
SRU San Rafael Swe 59.67 64 *eP* **P 10 31 03.1 +1.2**
comp=Z,7.8nm,0.8s
KKN Kakani 59.75 277 *eP* **P 10 31 02.4 -0.2**
comp=Z,37nm,0.6s
PKI Pulchoki 59.83 277 *eP* **P 10 31 02.5 -0.8**
comp=Z,15nm,0.6s
PKIN Phulchoki 59.83 277 *eP* **P 10 31 02.6 -0.7**
comp=Z,14nm,0.6s
KNB Kanab 59.85 68 *eP* **P 10 31 04.9 +1.8**
comp=Z,7.9nm,1.1s
DMN Daman 59.99 277 *eP* **P 10 31 04.2 -0.1**
comp=Z,26nm,0.6s
UMPA Umpang Tak 60.11 257 P **P 10 31 08.1 +3.2**
comp=Z,45µm,0.9s
DANN Dangsing 60.27 279 *eP* **P 10 31 06.0 -0.3**
comp=Z,28nm,0.6s
GAR Garm 60.53 296 *eP* **P 10 31 07.0 -0.8**
comp=Z,24nm,0.8s
W13A Hualapai Mount 60.60 70 *eP* **P 10 31 09.0 +0.7**
comp=Z,2.2nm,0.8s
PYUN Piuthan 60.92 279 *eP* **P 10 31 10.2 -0.4**
comp=Z,18nm,0.6s
FIA1 FINESS Array S 61.02 337 *eP* **P 10 31 10.6 +0.1**
comp=Z,28nm,0.8s
FINES FINESS Array B 61.02 337 P **P 10 31 10.7 +0.2**
comp=Z,20nm,0.8s,baz=34,slow=7.1,SNR=50
FINES LR LR 11 01 09.8
comp=Z,170nm,18.2s,baz=21,slow=40
PV22 Blue Mesa, Par 61.04 64 *eP* **P 10 31 12.3 +1.0**
comp=Z,4.1nm,0.8s
PV04 Paradox Valley 61.07 64 *eP* **P 10 31 12.4 +0.9**
comp=Z,7.1nm,0.9s
CHGR Chuyangaron 61.41 297 *eP* **P 10 31 14.6 +0.9**
comp=Z,19nm,0.8s
SMCO Snowmass 61.57 62 *eP* **P 10 31 15.9 +0.8**
comp=Z,2.9nm,0.9s
WUAZ Wupatki 61.74 68 *eP* **P 10 31 17.1 +1.1**
comp=Z,3.2nm,0.8s
ISCO Idaho Springs 61.86 61 *eP* **P 10 31 17.6 +0.7**
comp=Z,3.8nm,1.0s
Y14A Wickenburg 61.93 70 *eP* **P 10 31 18.1 +0.9**
comp=Z,2.3nm,0.7s
MVCO Mesa Verde 62.14 65 *eP* **P 10 31 19.9 +1.2**
comp=Z,3.8nm,0.8s
X16A Lo Mia Camp, P 62.49 69 *eP* **P 10 31 21.4 +0.3**
comp=Z,2.9nm,0.8s
MOS Moscow 62.54 328 *eP* **P 10 31 19.6 -1.2**
MOS pmax pmax
comp=Z,65nm,0.8s
S22A 4UR Ranch, Cre 62.68 63 *eP* **P 10 31 23.6 +1.2**
comp=Z,4.4nm,1.1s
NIL Nilore 62.70 290 *eP* **P 10 31 22.1 -0.2**
comp=Z,28nm,1.0s
OBN Obninsk 63.40 328 *eP* **P 10 31 26.5 0.0**
comp=Z,25nm,0.7s
OBN Obninsk 63.40 328*c i*P **P 10 31 26.2 -0.3**
OBN pmax pmax
comp=Z,45nm,1.3s
OBN MLR MLR
comp=Z,172nm,16.0s
VSU Vasula 63.45 335*d i*P **P 10 31 27.7 +0.9**
VSU pmax pmax
comp=Z,85nm,0.8s
SBUM Sibu 63.81 236 *eP* **P 10 31 30.6 +0.9**
comp=Z,4.1nm,1.1s
NC303 NORSAR Array S 64.24 344 *eP* **P 10 31 32.4 +0.4**
comp=Z,26nm,1.0s
NB2 NORSAR Subarra 64.44 344 P **P 10 31 33.0 -0.4**
comp=Z,8.2nm,0.8s,baz=22,slow=6.9
NB200 NORSAR Array S 64.44 344 *eP* **P 10 31 33.3 -0.1**
NOA NORSAR Array B 64.44 344 P **P 10 31 33.3 -0.1**
comp=Z,10nm,0.9s,baz=22,slow=6.5,SNR=27
NOA LR LR 11 02 06.4
comp=Z,119nm,19.6s,baz=30,slow=38
KBL Kabul 64.45 294 *eP* **P 10 31 32.7 -1.4**
comp=Z,6.4nm,0.6s
NBO00 NORSAR Array S 64.52 344 *eP* **P 10 31 34.2 +0.4**
comp=Z,22nm,1.0s
LPSR Galich'ya Gora 64.65 325 *eP* **P 10 31 34.6 -0.2**
LPSR pmax pmax
comp=Z,60nm,0.8s
NC602 NORSAR Array S 64.67 344 *eP* **P 10 31 35.0 +0.2**
comp=Z,9.2nm,0.8s
VRH Novokhopyorsk 64.77 322 *eP* **P 10 31 34.5 -1.1**
VRH pmax pmax
comp=Z,40nm,0.7s
ANMO Albuquerque 64.92 65 *eP* **P 10 31 38.1 +1.0**
comp=Z,1.9nm,1.0s
ANMO Albuquerque 64.92 65⇑*eP* **P 10 31 37.9 +0.8**
KSM Kuching 65.62 238 *eP* **P 10 31 42.3 +0.7**
comp=Z,8.2nm,0.9s
VSR Storozhevoye 65.70 324*c i*P **P 10 31 40.6 -1.0**
VSR pmax pmax
comp=Z,61nm,1.0s
VORD Divnogorie 65.86 324 *eP* **P 10 31 42.0 -0.6**
VORD pmax pmax
comp=Z,30nm,1.1s
319A Douglas 65.95 69 *eP* **P 10 31 45.4 +1.7**
comp=Z,10nm,1.0s
KONO Kongsberg 66.02 344⇓*eP* **P 10 31 44.2 +0.6**
KONO pmax pmax
comp=Z,12nm,1.3s
SCHQ Schefferville 66.25 28 *eP* **P 10 31 46.4 +1.2**
comp=Z,6.0nm,0.9s
SCHQ Schefferville 66.25 28 P **P 10 31 46.1 +1.0**
comp=Z,2.7nm,0.9s,baz=22,slow=11,SNR=3.0
MSTX Muleshoe 67.68 63 *eP* **P 10 31 55.7 +1.0**
comp=Z,7.4nm,1.0s
GEYT Alibeck 67.81 304 P **P 10 31 55.5 +0.2**
comp=Z,8.7nm,0.7s,baz=3.8,slow=2.2,SNR=11
GYA0B ALIBEKK ARRAY 67.81 304 *eP* **P 10 31 55.2 -0.2**
comp=Z,8.7nm,0.6s
MNTX Cornudas Mount 67.93 67 *eP* **P 10 31 57.1 +0.9**
comp=Z,6.7nm,1.4s
GDL2 Guadalupe Moun 68.13 66 *eP* **P 10 31 58.5 +1.0**
WMOK Wichita Mounta 69.26 60 *eP* **P 10 32 06.3 +1.9**
comp=Z,9.2nm,0.8s
BSD Bornholm Skovb 69.28 340 *i* P **P 10 30 52.2 +1.0**
BSD pmax pmax
comp=Z,23nm,1.0s
BSD Bornholm Skovb 69.28 340 *i* P **P 10 30 52.2 +1.0**
comp=Z,23nm,1.0s
AKASG Malin Array Be 69.50 329 P **P 10 30 53.3 -0.3**
comp=Z,22nm,0.9s,baz=30,slow=6.7,SNR=54
KIEV Kiev 69.51 329 *eP* **P 10 30 53.3 -0.4**
comp=Z,30nm,1.0s
KIEV Kiev 69.51 329⇓*i*P **P 10 30 53.3 -0.4**
KIEV Kiev 69.51 329*c i*P **P 10 30 04.9 -0.7**
KIEV pmax pmax
comp=Z,37nm,1.1s
NCK Nalchik 70.26 316⇓*eP* **P 10 32 11.2 +0.7**
NCK pmax pmax
comp=Z,17nm,0.5s
KIV Kislovodsk 70.27 317 *eP* **P 10 32 11.0 +0.4**
comp=Z,11nm,0.9s
KIV Kislovodsk 70.27 317 *eP* **P 10 32 11.1 +0.5**
KIV pmax pmax
comp=Z,38nm,1.0s
KBZ Khabaz 70.36 317 P **P 10 32 11.7 +0.6**
comp=Z,18nm,0.9s,baz=75,slow=2.8,SNR=28
HHAR Hobbs 70.59 56 *eP* **P 10 32 12.9 +0.3**
comp=Z,3.3nm,0.7s
TX31 Lajitas Ar. Si 70.68 67 *eP* **P 10 32 14.1 +0.7**
comp=Z,4.7nm,0.9s
TXAR Lajitas Array 70.68 67 P **P 10 32 14.1 +0.7**
comp=Z,1.2nm,0.5s,baz=298,slow=4.6,SNR=22
ZEI Tsey 70.70 316 *eP* **P 10 32 12.3 -1.1**
ZEI pmax pmax
comp=Z,10.0nm,0.6s
NEY Neytrino 70.83 317⇑*eP* **P 10 32 15.8 +1.7**
TBLG Delisi 71.20 315 *eP* **P 10 32 16.8 +0.6**
comp=Z,17nm,0.9s
HYB Hyderabad 71.59 275 *i* P **P 10 32 19.0 +0.1**
LVV L'vov 71.84 332 *eP* **P 10 32 19.8 -0.1**
AKH Akhalkalaki 72.00 315 *eP* **P 10 32 21.8 +0.5**
comp=Z,18nm,0.9s
AKH Akhalkalaki 72.00 315⇑*i*P **P 10 32 22.2 +0.9**
KWP Kalwaria Pacla 72.39 333 *eP* **P 10 32 24.1 +0.9**
KWP Kalwaria Pacla 72.39 333 *eP* **P 10 32 23.6 +0.4**
comp=Z,476nm,1.0s
KWP Kalwaria Pacla 72.39 333 *eP* **P 10 32 24.1 +0.9**
GNI Garni 72.48 314 *eP* **P 10 32 24.2 +0.1**
comp=Z,31nm,1.2s
GNI Garni 72.48 314*c i*P **P 10 32 25.3 +1.2**
GNI pmax pmax
comp=Z,108nm,0.8s
BATM Batumi 72.61 317⇓*i*P **P 10 32 25.2 +0.5**
OJC Ojcow 72.64 335 *eP* **P 10 32 25.6 +0.9**
OJC Ojcow 72.64 335 *eP* **P 10 32 25.0 +0.4**
comp=Z,15nm,1.0s
OJC Ojcow 72.64 335 *eP* **P 10 32 25.6 +0.9**
BCA Borcka 72.78 316⇑*i*P **P 10 32 25.8 +0.1**
SIM Simferopol' 72.80 323 *eP* **P 10 32 26.9 +1.2**
SIM pmax pmax
comp=Z,16nm,0.8s
SIM MLR MLR
comp=Z,150nm,17.2s
KIS Kishinev 72.87 328 *eP* **P 10 32 24.0 -2.0**
KIS Kishinev 72.87 328 *eP* **P 10 32 24.0 -2.0**
KSP Ksiaz 72.94 337 *eP* **P 10 32 27.3 +0.8**
KSP Ksiaz 72.94 337 *eP* **P 10 32 27.3 +0.8**
BATG Bathurst New B 73.12 31 *eP* **P 10 32 28.2 +0.6**
comp=Z,16nm,1.4s
KOLS Kolonicke sedl 73.14 333 *eP* **P 10 32 28.3 +0.6**
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 73.14 333 *eP* **P 10 32 28.3 +0.6**
NIE Niedzica 73.24 334 *eP* **P 10 32 29.2 +0.9**
NIE Niedzica 73.24 334 *eP* **P 10 32 29.2 +0.9**
CLL Collm 73.25 339 *eP* **P 10 32 28.5 +0.3**
comp=Z,25nm,1.1s
CLL Collm 73.25 339⇑*i*P **P 10 32 28.5 +0.3**
CLL *i* 10 32 40.0
CLL pmax pmax
comp=Z,22nm,1.1s
CLL Collm 73.25 339⇑*i*P **P 10 32 28.5 +0.3**
comp=Z,22nm,1.1s
CLL *i* pP **sP 10 32 40.0 +0.1**
SEVA Sevastopol 73.32 323⇑*i*P **P 10 32 28.9 +0.1**
UPC Upice 73.32 337 *eP* **P 10 32 29.5 +0.8**
UPC *e* 10 32 38.2
UPC MLR MLR
comp=Z,300nm,14.9s
UPC Upice 73.32 337 *eP* **P 10 32 29.5 +0.8**
UPC *ep*P **pP 10 32 38.2 +1.1**
UPC AMS AMS 11 11 20.0
comp=Z,300nm,14.9s
DPC Dobruska-Polom 73.39 337 *eP* **P 10 32 30.3 +1.1**
DPC *e* 10 32 41.4
DPC MLR MLR
comp=Z,300nm,12.7s
DPC Dobruska-Polom 73.39 337 *eP* **P 10 32 30.3 +1.1**
DPC *ep*P **sP 10 32 41.4 +0.6**
DPC AMS AMS 11 11 20.0
comp=Z,300nm,12.7s
BUR08 Bucovina Ar. S 73.44 330 *eP* **P 10 32 30.0 +0.4**
BRG Berggiesshubel 73.45 339 *eP* **P 10 32 30.0 +0.6**
comp=Z,9.8nm,1.2s
BRG Berggiesshubel 73.45 339 *eP* **P 10 32 30.0 +0.6**
BRG pmax pmax
comp=Z,10.0nm,1.2s
BURAR Bucovina Array 73.46 330⇑*i*P **P 10 32 30.0 +0.3**
MORC Moravsky Berou 73.62 336 *eP* **P 10 32 31.2 +0.6**
comp=Z,14nm,0.9s
MORC Moravsky Berou 73.62 336 *eP* **P 10 32 31.3 +0.8**
PVCC Panska Ves 73.64 338 AMS AMS 11 11 20.0
comp=Z,400nm,13.6s
LANS Liptovska Anna 73.71 335 *eP* **P 10 32 32.8 +1.8**
LANS Liptovska Anna 73.71 335 *eP* **P 10 32 32.8 +1.8**
BIZ Bicaz 73.79 329⇑*i*P **P 10 32 32.0 +0.5**
TRPA Tarpa 73.79 332⇑*i*P **P 10 32 32.4 +1.0**
TESR Tescani 74.00 329⇑*i*P **P 10 32 32.9 +0.2**
PRU Pruhonice 74.15 338 *eP* **P 10 32 34.3 +0.8**
PRU *e* 10 32 46.3
PRU MLR MLR
comp=Z,300nm,12.8s
PRU Pruhonice 74.15 338 *eP* **P 10 32 34.3 +0.8**
PRU *ep*P **pwP 10 32 46.3 +0.3**
PRU AMS AMS 11 11 30.0
comp=Z,300nm,12.8s
GOPC GO Pecny, Ondr 74.16 338 AMS AMS 11 11 30.0
comp=Z,300nm,12.9s
ARCR ARCALIA 74.20 331⇑*i*P **P 10 32 35.0 +1.1**
VRAC Vranov 74.29 336 *eP* **P 10 32 35.3 +0.9**
JAVC Velka Javorina 74.44 336 *eP* **P 10 32 36.4 +1.1**
TLCR 74.46 327⇓*i*P **P 10 32 35.5 +0.1**
VYHS Vyhne 74.47 335 *eP* **P 10 32 36.6 +1.1**
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 74.47 335 *eP* **P 10 32 36.6 +1.1**
VRI Vrincioaia 74.55 328⇑*i*P **P 10 32 36.3 +0.3**
KRUC Moravsky 74.57 336 *eP* **P 10 32 36.8 +0.8**
TREC Trest 74.57 337 *eP* **P 10 32 37.4 +1.3**
TREC MLR MLR
comp=Z,300nm,13.9s
TREC Trest 74.57 337 *eP* **P 10 32 37.4 +1.3**
TREC AMS AMS 11 12 00.0
comp=Z,300nm,13.9s
PLOR Plostina 74.58 329⇑*i*P **P 10 32 36.6 +0.4**
CFR Carcaliu 74.69 327⇓*i*P **P 10 32 36.7 -0.1**
PSZ Piszkesteto 74.72 334 *eP* **P 10 32 37.7 +0.7**
comp=Z,14nm,1.0s
PSZ Piszkesteto 74.72 334⇑*i*P **P 10 32 38.2 +1.2**
DOPR Dopca 74.88 329⇓*i*P **P 10 32 38.1 +0.2**
DRGR 74.95 332⇑*i*P **P 10 32 38.8 +0.4**
MODS Modra-Piesok 74.99 336 *eP* **P 10 32 38.4 -0.1**
MODS pmax pmax
comp=Z,12nm,1.0s
MODS Modra-Piesok 74.99 336 *eP* **P 10 32 38.4 -0.1**
MLR Muntele Rosu 75.13 329 *eP* **P 10 32 40.4 +0.9**
comp=Z,14nm,0.7s
MLR Muntele Rosu 75.13 329⇑*i*P **P 10 32 40.5 +1.0**
GRFO Grafenberg 75.16 340 *eP* **P 10 32 39.4 0.0**
comp=Z,18nm,0.9s
KHC Kasperske Hory 75.17 338 *eP* **P 10 32 40.2 +0.6**
comp=Z,5.1nm,1.0s
KHC Kasperske Hory 75.17 338 *eP* **P 10 32 40.8 +1.3**
KHC *e* 10 32 52.7
KHC MLR MLR
comp=Z,400nm,13.5s
KHC Kasperske Hory 75.17 338 *eP* **P 10 32 40.8 +1.3**
KHC *ep*P **pwP 10 32 52.7 +0.7**
KHC *ex* x 10 33 05.2
KHC AMS AMS 11 12 00.0
comp=Z,400nm,13.5s
DIKM Dikmen 75.19 321⇑*i*P **P 10 32 40.8 +1.1**
TLB Topalu 75.25 327⇓*i*P **P 10 32 40.0 0.0**
MEM Membach 75.28 344⇑P **P 10 32 40.9 +0.8**
comp=Z,35nm,1.0s
MEM Membach 75.28 344⇑pP pP 10 32 52.1 +3.5
GEC2 GERESS Array S 75.41 338 *eP* **P 10 32 41.3 +0.2**
comp=Z,11nm,1.3s
GERES GERESS Array B 75.41 338 P **P 10 32 41.2 +0.2**
comp=Z,2.8nm,0.6s,baz=35,slow=4.9,SNR=22
GERES LR LR 11 08 00.3
comp=Z,81nm,21.7s,baz=36,slow=38
WRAB Tennant Creek 75.44 205 *eP* **P 10 32 41.1 -0.1**
comp=Z,14nm,1.3s
WRAB Tennant Creek 75.44 205⇑*eP* **P 10 32 40.9 -0.3**
WRAB pmax pmax
comp=Z,32nm,3.0s
WB2 Warramunga Arr 75.45 205 *eP* **P 10 32 41.0 -0.3**
comp=Z,17nm,1.4s
WR1 Warramunga Arr 75.45 205 *eP* **P 10 32 40.8 -0.6**
WRA Warramunga Arr 75.45 205 P **P 10 32 40.8 -0.6**
comp=Z,1.7nm,0.9s,baz=22,slow=5.6,SNR=6.1
VOIR 75.46 329⇓*i*P **P 10 32 42.3 +1.0**
BCLA Clavier 75.59 344⇓*i*P **P 10 32 42.8 +0.9**
ARR Arges 75.65 330⇑*i*P **P 10 32 44.0 +1.6**
SIRR Siria 75.73 332⇓*i*P **P 10 32 43.7 +0.9**
ICOR Ion Corvin 75.75 327⇑*i*P **P 10 32 43.7 +0.9**
CONA Conrad Observa 75.75 336 *eP* **P 10 32 44.5 +1.6**
comp=Z,15nm,1.2s,SNR=8.0
DOU Dourbes 76.02 344⇑P **P 10 32 44.4 +0.1**
comp=Z,8.4nm,1.0s
MOA Molln 76.21 337 *eP* **P 10 32 46.3 +0.8**
comp=Z,8.3nm,1.1s
ILGA Ilgaz 76.30 321 *eP* **P 10 32 47.1 +0.8**
comp=Z,40nm,1.0s
BZS Buzias 76.34 332⇓*i*P **P 10 32 46.3 +0.1**
ARSA Arzberg 76.47 336 *eP* **P 10 32 48.5 +1.6**
comp=Z,9.3nm,1.1s
HERR Herculane 76.77 331⇑*i*P **P 10 32 48.7 0.0**
BFO Black Forest 77.04 341 *eP* **P 10 32 50.4 +0.2**
comp=Z,14nm,1.2s
BFO Black Forest 77.04 341 *i* P **P 10 32 51.5 +1.3**
MDVR Moldovita 77.07 331⇑*i*P **P 10 32 50.1 -0.3**
SOKA Soboth 77.13 336 *eP* **P 10 32 52.0 +1.3**
comp=Z,18nm,1.3s,SNR=7.0
KBA Koelnbreinsper 77.15 338 *eP* **P 10 32 52.7 +1.6**
comp=Z,28nm,0.8s,SNR=30
PUNG Punghina 77.16 330⇑*i*P **P 10 32 51.4 +0.6**
WTTA Wattenberg 77.37 339 *eP* **P 10 32 53.7 +1.5**
comp=Z,18nm,1.3s,SNR=5.7
ECH Echery 77.38 342 *eP* **P 10 32 52.7 +0.7**
comp=Z,12nm,0.9s
OBKA Obir 77.40 337 *eP* **P 10 32 53.5 +1.2**
comp=Z,17nm,1.7s
MOTA Moosalm 77.41 339 *eP* **P 10 32 52.3 -0.1**
comp=Z,12nm,1.0s,SNR=5.2
BR131 Keskin Array S 77.47 321 *eP* **P 10 32 53.2 +0.3**
comp=Z,13nm,1.0s
BR131 Keskin Array S 77.47 321 P **P 10 32 53.5 +0.6**
SNR=12
BRTR Keskin Array B 77.47 321 P **P 10 32 53.1 +0.3**
comp=Z,8.0nm,1.0s,baz=44,slow=3.8,SNR=38
SQTA Sankt Quirin 77.50 339 *eP* **P 10 32 54.2 +1.3**
comp=Z,15nm,0.9s,SNR=5.2
MYKA Terra Mystica 77.51 337 *eP* **P 10 32 54.8 +1.9**
comp=Z,6.5nm,1.3s
ABTA Abfaltersbach 77.66 338 *eP* **P 10 32 54.7 +1.0**
comp=Z,12nm,0.9s,SNR=8.3
ANTO Ankara 77.67 322 *eP* **P 10 32 54.3 +0.4**
comp=Z,17nm,0.9s
BR231 Keskin MP Arra 77.70 322 *eP* **P 10 32 54.9 +0.8**
comp=Z,13nm,0.8s
DAVA Damuels 77.72 340 *eP* **P 10 32 55.4 +1.3**
comp=Z,10nm,1.0s
MDUB Mudurnu 77.75 323 *eP* **P 10 32 54.9 +0.6**
comp=Z,98nm,0.9s
FETA Feichten 77.80 339 *i* P **P 10 32 56.3 +1.7**
comp=Z,0.2nm,0.2s
PHSR Pinarhisar 78.04 326⇑*i*P **P 10 32 56.6 +0.8**
FUORN Ofenpass-Fuorn 78.28 340 *eP* **P 10 32 58.3 +0.9**
comp=Z,11nm,0.9s
VTS Vitosha 78.57 329 *eP* **P 10 32 59.1 +0.1**
comp=Z,9.7nm,0.8s
VTS Vitosha 78.57 329⇑*i*P **P 10 32 59.0 +0.1**
TUE Stuetta 78.61 340 *eP* **P 10 33 00.3 +1.1**
comp=Z,18nm,0.9s
HATD Hatta, Dubai 79.06 296 P **P 10 33 02.0 +0.2**
SNR=5.0
AS31 Alice Springs 79.12 205 *eP* **P 10 33 02.3 +0.5**
comp=Z,2.6nm,1.4s
ASAR Alice Springs 79.12 205 P **P 10 33 02.1 +0.3**
comp=Z,1.3nm,0.8s,baz=18,slow=5.4,SNR=14
SENIN Lac Senin/Sane 79.13 342 *eP* **P 10 33 02.9 +0.9**
comp=Z,9.5nm,1.0s
ALN Alexandroupoli 79.20 327 *eP* **P 10 33 02.6 +0.4**
comp=Z,12nm,1.1s
ASHO Ashiyiah 79.22 296 P **P 10 33 02.3 -0.4**
SOHO SOHO 79.39 296 P **P 10 33 02.9 -0.6**
SKO Skopje 79.71 330 *i* P **P 10 33 05.5 +0.5**
STIP Stip 79.73 330 *i* P **P 10 33 04.5 -0.6**
PDG Podgorica 79.94 332⇓*i*P **P 10 33 06.3 +0.2**
TTG Podgorica 79.94 332 *eP* **P 10 33 06.4 +0.2**
comp=Z,18nm,1.0s
VAY Valandovo 79.95 329 *i* P **P 10 33 06.8 +0.6**
KRUS Krusevo 80.32 330 *i* P **P 10 33 07.9 -0.5**
BNI Bardonecchia 80.51 342 *eP* **P 10 33 10.0 +0.6**
comp=Z,11nm,1.0s
SSB Saint Sauveur 80.69 343 *eP* **P 10 33 11.3 +1.1**
comp=Z,11nm,0.8s
FNA Florina 80.81 330 *eP* **P 10 33 10.9 -0.1**
comp=Z,6.2nm,0.9s
AQU L'Aquila 81.58 336 *eP* **P 10 33 16.1 +1.0**
comp=Z,29nm,1.2s
CSS Mathiatis 81.72 319 *eP* **P 10 33 15.5 -0.3**
comp=Z,26nm,1.0s
TIP Timpagrande 83.66 333 *eP* **P 10 33 26.2 +0.2**
comp=Z,12nm,1.1s
TIP Timpagrande 83.66 333⇓*i*P **P 10 33 26.7 +0.7**
ESDC Sonseca Array 87.47 348 *eP* **P 10 33 45.0 +0.1**
comp=Z,4.9nm,1.1s
ESDC Sonseca Array 87.47 348 P **P 10 33 45.1 +0.2**
comp=Z,2.2nm,0.8s,baz=5.1,slow=4.5,SNR=14
TORD Torodi Ar. Bea 112.36 338 PP PP 10 40 05.7 -12
comp=Z,1.0nm,0.9s,baz=352,slow=7.2,SNR=4.2
VNA3 Neumayer Olymp 160.44 189 PKPdf **PKPab 10 41 35.8 -1.0**
VNA2 Neumayer--Watz 160.49 192 PKPdf **PKPab 10 41 35.7 -1.3**
VNA1 Neumayer--Stat 160.85 191 PKPdf **PKPab 10 41 37.9 -0.6**

NSSC ***21*** *10:30:55.7±0.4, 34°.93N×36°.76E, h17km±4km, ML2.1*
ISCJB ***21*** *10:30:57.6±0.7, 31°.93N±0°.04×36°.1E±0°.1, h10km, Error ellipse: s-maj=13.3km s-min=4.9km az=17.2*
JSO ***21*** *10:30:57.6±0.5, 32°N±3°×3°6E±°, h5km±6km, M2.3/9, Mjma2.4/9, ML1.6/7, MLv2.6/9*
ISC 21 10:30:57.3±0.9, 32°.02N±0°.03×36°.03E±0°.06, h10km, n11, σ2°29/14, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSUJ	**Al Zarqa**	**0.16**	**59**	P	**Pg**	**10 31 01.2**	**+0.4**
WALJ	**Wala**	**0.50**	**202**	P	**Pg**	**10 31 06.8**	**-0.2**
SHMJ	**Saham**	**0.74**	**342**	P	**Pg**	**10 31 12.8**	**+1.3**
ASF	**Jabal al Asfar**	**0.75**	**78**	P	**Pg**	**10 31 11.7**	**-0.1**
SWQJ	**Swaqa**	**0.78**	**178**	P	**Pn**	**10 31 17.5**	**+3.1**
GHAJ	**Ghor Haditha**	**0.82**	**209**	P	**Pb**	**10 31 13.4**	**-0.2**
LISJ	**El Lisan**	**0.91**	**211**	P	**Pg**	**10 31 14.8**	**-0.1**
JDRJ	**Daraweish**	**1.33**	**194**	P	**Pn**	**10 31 20.8**	**-1.3**
TOTH	**TOTAH**	**1.37**	**14**	*eP*	**Pn**	**10 31 23.6**	**+1.0**
TOTH				*eS*	**Sg**	**10 31 43.1**	**+1.5**

TOTH				AML	AML	10 31 45.6
	comp=N,56nm,0.4s					
TOTH				AML	AML	10 31 46.0
	comp=E,26nm,0.5s					
BRBR	**Barbar**	**1.39 357**	*e*P	**Pb**	**10 31 24.2**	**+0.7**
BRBR			*e*S	**Sg**	**10 31 44.9**	**+3.0**
BRBR				AML	AML	10 31 46.8
	comp=N,38nm,0.6s					
BRBR				AML	AML	10 31 48.3
	comp=E,24nm,0.4s					
QASN	**Qassioun**	**1.52 8**	*e*P	**Pn**	**10 31 21.9**	**-2.7**
QASN			*e*S	**Sn**	**10 31 39.6**	**-4.9**
QASN				AML	AML	10 31 45.1
	comp=N,64nm,0.3s					
QASN				AML	AML	10 31 45.7
	comp=E,37nm,0.4s					

*NNC **21** 10:39:50.3±0.7, 45°.94N×79°.78E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=8.1km s-min=3.8km az=127.0
*SOME **21** 10:39:51.3, 45°.90N×79°.73E, h10km*
ISC 21 10:39:49.7±1.1, 46°.01N±0°.05×79°.81E±0°.04, h10km, n39, σ1°56/58, 8C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan** 90nm,0.1s	**0.79 204**		P	**Pg**	**10 40 04.1**	**-0.8**
KAPS	354nm,0.1s			S	**Sg**	**10 40 13.9**	**-1.3**
KAPS	**Kapalarasan** 106nm,0.1s	**0.79 204**		*e*P	**Pg**	**10 40 04.1**	**-0.8**
KAPS	278nm,0.1s			*e*S	**Sg**	**10 40 13.8**	**-1.4**
TDK	**Taldyqorghan** 231nm,0.5s	**1.41 225**		*e*P	**Pb**	**10 40 15.9**	**-0.2**
TDK	476nm,0.4s			*e*S	**Sb**	**10 40 33.0**	**-1.1**
DJR	**Jarkent** 31nm,0.2s	**1.68 180**		P	**Pb**	**10 40 20.9**	**+0.2**
DJR	172nm,0.2s			S	**Sb**	**10 40 42.3**	**+0.5**
DJR	**Jarkent** 27nm,0.2s	**1.68 180**		*e*P	**Pb**	**10 40 20.9**	**+0.2**
DJR	204nm,0.2s			*e*S	**Sg**	**10 40 42.5**	**-1.1**
MAKZ	**Makanchi** 7.8nm,0.3s	**1.70 61**		⇓P	**Pb**	**10 40 21.1**	**0.0**
MAKZ	26nm,0.3s			⇑S	**Sb**	**10 40 43.1**	**+0.6**
MK31	**Makanchi Array** 4.4nm,0.2s,baz=244,slow=16,SNR=127	**1.89 64**		⇑P	**Pb**	**10 40 24.2**	**-0.1**
MK31	3.0nm,0.1s,baz=242,slow=29,SNR=5.1			⇑S	**Sb**	**10 40 49.1**	**+1.2**
MNBS	**Baschi** 31nm,0.2s	**2.17 208**		Pg	**Pb**	**10 40 29.2**	**+0.1**
MNBS	350nm,0.2s			Lg	Lg	10 40 55.9
MNBS	**Baschi** 31nm,0.2s	**2.17 208**		*e*P	**Pb**	**10 40 29.2**	**+0.1**
MNBS	350nm,0.2s			*e*S	**Sb**	**10 40 55.9**	**-0.3**
ARXS	**Arharly** 27nm,0.3s	**2.28 219**		Pg	**Pb**	**10 40 31.5**	**+0.6**
ARXS	263nm,0.3s			Lg	Lg	10 40 59.4
ARXS	**Arharly** 27nm,0.3s	**2.28 219**		*e*P	**Pb**	**10 40 31.6**	**+0.6**
ARXS	263nm,0.3s			*e*S	**Sb**	**10 40 59.4**	**+0.2**
KTMS	**Ketmen** 18nm,0.2s	**2.59 171**		Pg	**Pb**	**10 40 37.2**	**+0.9**
KTMS	82nm,0.3s			Lg	Lg	10 41 09.8
KTMS	**Ketmen** 18nm,0.2s	**2.59 171**		*e*P	**Pb**	**10 40 37.2**	**+0.9**
KTMS	82nm,0.3s			*e*S	**Sb**	**10 41 09.8**	**+1.5**
PDGK	**Podgornoye** 46nm,0.4s	**2.69 185**		Pg	**Pb**	**10 40 38.9**	**+0.9**
PDGK	9.8nm,0.3s			Lg	Lg	10 41 12.9
PDGK	**Podgornoye** 6.6nm,0.3s	**2.69 185**		⇓Pg	**Pb**	**10 40 38.8**	**+0.9**
PDGK	56nm,0.7s			⇑Lg	Lg	10 41 12.5
KURS	**Kuram** 15nm,0.5s	**2.78 205**		*e*P	**Pb**	**10 40 40.3**	**+0.9**
KURS	29nm,0.7s			*e*S	**Sb**	**10 41 14.8**	**+1.2**
SHLS	**Shalkode** 22nm,0.3s	**2.86 185**		Pg	**Pb**	**10 40 42.0**	**+1.1**
SHLS	53nm,0.3s			Lg	Lg	10 41 17.7
SHLS	**Shalkode** 22nm,0.3s	**2.86 185**		*e*P	**Pb**	**10 40 42.0**	**+1.1**
SHLS	53nm,0.3s			*e*S	**Sb**	**10 41 17.7**	**+1.7**
UZB	**Uzynbulak** 8.5nm,0.2s	**2.92 191**		Pg	**Pb**	**10 40 42.7**	**+0.8**
UZB	56nm,0.3s			Lg	Lg	10 41 18.7
UZB	**Uzynbulak** 8.5nm,0.2s	**2.92 191**		*e*P	**Pb**	**10 40 42.7**	**+0.8**
UZB	56nm,0.3s			*e*S	**Sb**	**10 41 18.7**	**+1.1**
SATY	**Saty** 24nm,0.1s	**3.11 199**		Pg	**Pb**	**10 40 46.4**	**+1.1**
SATY	133nm,0.1s			Lg	Lg	10 41 25.3
SATY	**Saty** 24nm,0.1s	**3.11 199**		*e*P	**Pb**	**10 40 46.4**	**+1.1**
SATY	133nm,0.1s			*e*S	**Sb**	**10 41 25.3**	**+1.9**
KTBS	**Karatobe** 8.0nm,0.4s	**3.20 225**		Pg	**Pb**	**10 40 47.7**	**+1.2**
KTBS	172nm,0.5s			Lg	Lg	10 41 28.0
KTBS	**Karatobe** 8.0nm,0.4s	**3.20 225**		*e*P	**Pb**	**10 40 47.7**	**+1.2**
KTBS	172nm,0.5s			*e*S	**Sb**	**10 41 28.0**	**+2.4**
KUU	**Kurty** 8.4nm,0.5s	**3.25 231**		*e*P	**Pb**	**10 40 48.5**	**+1.0**
KUU	129nm,0.3s			*e*S	**Sb**	**10 41 28.7**	**+1.7**
KOTS	**Kotyrbulak** 8.5nm,0.3s	**3.38 216**		Pg	**Pb**	**10 40 50.8**	**+1.1**
KOTS	57nm,0.4s			Lg	Lg	10 41 33.4
KOTS	**Kotyrbulak** 8.5nm,0.3s	**3.38 216**		*e*P	**Pb**	**10 40 50.8**	**+1.1**
KOTS	57nm,0.4s			*e*S	**Sb**	**10 41 33.4**	**+2.5**
MDOK	**Medeo** 8.6nm,0.5s	**3.46 216**		⇑Pg	**Pg**	**10 40 55.4**	**-0.6**
MDOK	23nm,0.6s			⇓Lg	Lg	10 41 36.0
MDOK	**Medeo** 7.2nm,0.6s	**3.46 216**		*e*P	**Pb**	**10 40 52.8**	**+1.6**
MDOK	26nm,0.8s			*e*S	**Sb**	**10 41 36.2**	**+2.9**
TNSS	**Tian-Shan** 10.0nm,0.7s	**3.61 216**		*e*P	**Pb**	**10 40 55.9**	**+2.1**
TNSS	31nm,0.6s			*e*S	**Sg**	**10 41 41.6**	**-4.0**
IZV	**Izvestkoviy** 7.9nm,0.4s	**3.75 219**		Pg	**Pb**	**10 40 57.5**	**+1.5**
IZV	25nm,0.3s			Lg	Lg	10 41 44.5
IZV	**Izvestkoviy** 7.9nm,0.4s	**3.75 219**		*e*P	**Pb**	**10 40 57.5**	**+1.5**
IZV	25nm,0.3s			*e*S	**Sb**	**10 41 44.5**	**+2.9**
MTBS	**Maitube** 6.0nm,0.4s	**3.76 221**		*e*P	**Pb**	**10 40 58.1**	**+1.9**
MTBS	36nm,0.5s			*e*S	**Sb**	**10 41 45.3**	**+3.6**
ZSN	**Zaisan** 1.5nm,0.3s	**3.77 66**		Pg	**Pb**	**10 40 58.4**	**+2.1**
ZSN	6.1nm,0.3s			Lg	Lg	10 41 45.4
KST	**Kastek** 11nm,0.6s	**4.04 224**		*e*P	**Pb**	**10 41 02.5**	**+1.4**
KST	42nm,0.6s			*e*S	**Sb**	**10 41 52.9**	**+2.8**
TKM2	**Tokmak 2** 3.4nm,0.5s	**4.31 226**		⇑Pg	**Pg**	**10 41 09.9**	**-2.5**
TKM2	5.4nm,0.3s			⇑Lg	Lg	10 42 02.7
AAK	**Ala-Archa** 26nm,1.0s	**5.09 230**		⇓Lg	Lg	10 42 26.7
OTUK	**Ortayu** 15nm,0.5s	**5.57 296**		⇑Lg	Lg	10 42 46.1
KK31	**Karatay Array** 4.4nm,0.5s,baz=61,slow=32,SNR=7.6	**7.25 250**		Lg	Lg	10 43 34.5

*ISCJB **21** 10:46:10.2±1.8, 33°.88N±0°.05×35°.7E±0°.1, h20km±15km,*
Error ellipse: s-maj=16.5km s-min=8.9km az=179.3
*GRAL **21** 10:46:11.3±0.3, 33°.86N×35°.84E, h0km±39km, MD2.8*
ISC 21 10:46:09.8±1.2, 33°.88N±0°.05×35°.9E±0°.1, h14km±15km, n6, σ0°40/11, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.17 278**		*e*P	**Pg**	**10 46 14.0**	**+0.2**
BHL				*e*S	**Sg**	**10 46 16.2**	**-0.4**
DQRL	**Deir Qamar**	**0.29 233**		*e*P	**Pg**	**10 46 16.1**	**+0.3**
DQRL				*e*S	**Sg**	**10 46 19.7**	**-0.3**
RCY	**Rachaya**	**0.38 182**		*e*P	**Pg**	**10 46 17.8**	**+0.3**
RCY				*e*S	**Sg**	**10 46 22.7**	**-0.1**
HWQ	**Hawqa**	**0.40 11**		*e*P	**Pb**	**10 46 18.9**	**+0.1**
BRBR	**Barbar**	**0.48 170**		*e*P	**Pb**	**10 46 20.0**	**-0.1**
BRBR				*e*S	**Sb**	**10 46 27.7**	**+0.7**
TOTH	**TOTAH**	**0.71 137**		*e*P	**Pn**	**10 46 25.1**	**-0.3**
TOTH				*e*S	**Sn**	**10 46 36.0**	**-0.3**

KRSC 21 10:54:32.2±10.0, 52°.07N×160°.48E, h61km±10km, ML4.0,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.07 345**		*e*P	Pn	10 54 52.1	+1.0
SPN				*e*S	Sn	10 55 05.1	-0.1
RUS	**Russkaya**	**1.26 288**		*e*P	Pn	10 54 54.9	+1.2
RUS				*e*S	Sn	10 55 10.1	+0.4
NLC	**Nalytchevo**	**1.30 328**		*e*P	Pn	10 54 56.1	+1.9
NLC				*e*S	Sn	10 55 12.6	+1.9
DALK	**Dalny**	**1.43 313**		*e*P	Pn	10 54 57.3	+1.4
DALK				*e*S	Sn	10 55 14.7	+1.0
PET	**Petropavlovsk**	**1.47 311**		*e*P	Pn	10 54 58.1	+1.7
PET				*e*S	Sn	10 55 16.5	+1.8
MTVR	**Mutnovka**	**1.47 287**		*e*P	Pn	10 54 58.5	+1.9
MTVR				*e*S	Sn	10 55 16.4	+1.5
KDTR	**Khodutka, Kamc**	**1.51 261**		*e*P	Pn	10 54 58.9	+1.9
KDTR				*e*S	Sn	10 55 16.8	+1.2
UGLR	**Uglovaya**	**1.52 319**		*e*P	Pn	10 54 59.4	+2.1
UGLR				*e*S	Sn	10 55 18.5	+2.3
SDLR	**Sedlovina**	**1.55 322**		*e*P	Pn	10 54 59.7	+2.0
SDLR				*e*S	Sn	10 55 18.9	+2.0
GRL	**Gorelyy**	**1.56 289**		*e*P	Pn	10 55 00.3	+2.6
GRL				S	Sn	10 55 20.1	+3.2
SMAR	**Somma**	**1.57 320**		*e*P	Pn	10 55 00.4	+2.3
AVH	**Avacha**	**1.60 319**		*e*P	Pn	10 55 00.5	+2.2
AVH				*e*S	Sn	10 55 20.4	+2.4
ASAK	**Asacha**	**1.62 282**		*e*P	Pn	10 55 00.9	+2.4
ASAK				*e*S	Sn	10 55 21.2	+2.8
KRER	**Koryakskii**	**1.62 320**		*e*P	Pn	10 55 01.2	+2.5
KRER				*e*S	Sn	10 55 22.1	+3.4
KRMR	**Karymshinskiy**	**1.63 299**		*e*P	Pn	10 55 00.5	+1.9
KRMR				*e*S	Sn	10 55 20.5	+2.0
KOK	**Koryaka**	**1.66 318**		*e*P	Pn	10 55 01.7	+2.6
KRX	**Arik**	**1.71 320**		*e*P	Pn	10 55 02.4	+2.6
APC	**Apacha**	**2.20 294**		*e*P	Pn	10 55 09.5	+3.1
PAU	**Pauzhetka**	**2.36 257**		P	Pn	10 55 10.9	+2.4
MKZ	**Mys Kozlova**	**2.60 16**		*e*P	Pn	10 55 14.1	+2.3
KZV	**Kizimen**	**3.05 358**		S	Sn	10 55 56.7	+3.2
SKR	**Severo-Kuril's**	**3.07 245**		P	Pn	10 55 20.9	+2.8
SKR				S	Sn	10 55 55.7	+2.2
TUMD	**Tumrok D**	**3.14 359**		P	Pn	10 55 22.3	+3.1
TUMR	**Tumrok**	**3.23 357**		P	Pn	10 55 24.8	+4.4
KBTR	**Krutoberegovo**	**4.37 17**		P	Pn	10 55 40.5	+4.6
BKI	**Bering**	**4.53 44**		P	Pn	10 55 41.6	+3.5
BKI				S	Sn	10 56 28.9	-0.6

IDC 21 10:55:45.4±1.8, 9°.42S×125°.33E, h0km, mb3.8/1,
mb1 4.0/4, mb1mx3.7/29, mbtmp3.9/4, ML3.8/3, Error
ellipse: s-maj=99.8km s-min=27.5km az=66.0, Timor
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.3nm,0.3s,baz=353,slow=9.4,SNR=41	**8.64 178**		Pn	Pn	10 57 52.5	+0.8
FITZ	0.5nm,0.3s,baz=155,slow=19,SNR=2.4			Sn	Sn	10 59 21.3	-8.6
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=315,slow=15,SNR=28	**13.61 141**		Pn	Pn	10 58 58.1	-1.8
WRA	0.3nm,0.3s,baz=319,slow=19,SNR=3.5			Sn	Sn	11 01 27.5	-4.6
ASAR	**Alice Springs** 0.4nm,0.3s,baz=322,slow=11,SNR=35	**16.37 151**		Pn	Pn	10 59 37.6	+0.8
ASAR	0.1nm,0.3s,baz=310,slow=20,SNR=3.7			Sn	Sn	11 02 30.3	-9.0
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=132,slow=7.5,SNR=5.3	**67.83 330**		P	P	11 06 45.4	0.0

GUC 21 10:55:49.2±0.4, 24°.21S×67°.57W, h221km±6km, ML3.6,
10C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**2.01 299**		⇑*i*P	Pn	10 56 29.3	-0.3
PB15				*i* S	S	10 57 00.2	-0.8
LVC	**Limon Verde**	**2.02 322**		*e*P	Pn	10 56 29.7	-0.3
LVC				*i* S	S	10 57 00.6	-0.9
GO02	**Mina Guanaco**	**2.07 242**		⇑*i*P	Pn	10 56 28.1	-2.2
GO02				*i* S	S	10 56 59.2	-3.0
PB06	**IPOC Station P**	**2.38 309**		⇑*i*P	Pn	10 56 33.3	0.0
PB06				*i* S	S	10 57 06.9	-0.7
PB06				IAML		10 57 10.0	
	comp=N,140nm,0.1s						
PB05	**IPOC Station P**	**2.77 299**		⇑*i*P	Pn	10 56 37.7	+0.2
PB05				*i* S	S	10 57 14.2	-1.0
PB05				IAML		10 57 17.4	
	comp=N,44nm,0.6s						
PB10	**IPOC Station P**	**2.82 284**		⇑*i*P	Pn	10 56 38.1	+0.1
PB10				*i* S	S	10 57 15.5	-0.4
PB09	**IPOC Station P**	**2.86 327**		⇑*i*P	Pn	10 56 39.2	+0.6
PB09				*i* S	S	10 57 16.3	-0.8
PB09				IAML		10 57 22.2	
	comp=E,62nm,0.5s						
PB03	**IPOC Station P**	**2.95 317**		⇑*i*P	Pn	10 56 39.7	+0.1
PB03				*i* S	S	10 57 18.4	-0.4
PB03				IAML		10 57 19.1	
	comp=E,95nm,0.3s						
PB04	**IPOC Station P**	**3.02 308**		⇑*i*P	Pn	10 56 40.7	+0.3
PB04				*i* S	S	10 57 19.8	-0.6
PB04				IAML		10 57 23.0	
	comp=N,101nm,0.1s						
PB07	**IPOC Station P**	**3.27 319**		⇑*i*P	Pn	10 56 43.6	+0.3
PB07				*i* S	S	10 57 24.6	-1.0
PB07				IAML		10 57 28.0	
	comp=N,101nm,0.3s						
PB02	**IPOC Station P**	**3.59 323**		⇑*i*P	Pn	10 56 47.0	-0.1
PB02				*i* S	S	10 57 31.3	-1.0
PB01	**IPOC Station P**	**3.62 330**		⇓*i*P	Pn	10 56 47.6	+0.3
PB01				*i* S	S	10 57 32.2	-0.7
PB01				IAML		10 57 34.6	
	comp=E,46nm,0.2s						

*ISCJB **21** 10:59:41.9±0.4, 24°.94N±0°.04×122°.89E±0°.02,*
h146km±4km, Error ellipse: s-maj=6.3km s-min=2.6km
az=171.3
*JMA **21** 10:59:41.1±0.2, 25°.06N×122°.90E, h151km±2km, M3.1*
*TAP **21** 10:59:41.5, 24°.96N×122°.88E, h157km±1km, ML3.7, D*
ISC 21 10:59:40.6±1.4, 25°.01N±0°.06×122°.89E±0°.03, h159km±8km,
n81, σ0°89/128, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima** baz=167	**0.56 168**		P	**Pn**	**11 00 03.0**	**-0.1**
YOJ	baz=167			*e*S	**Sn**	**11 00 20.7**	**+0.2**
YOJ	**Yonaguni jima**	**0.56 168**		P	**Pn**	**11 00 03.3**	**+0.1**
JYNG	**Yonagunijimaku**	**0.56 175**		P	**Pn**	**11 00 03.3**	**+0.1**
JYNG				*e*S	**Sn**	**11 00 19.9**	**-0.6**
TWB1	**Santiao Chiao** baz=273	**0.82 270**		P	**Pn**	**11 00 05.3**	**+0.6**
EOS1	**EOS1** baz=238	**0.83 237**		P	**Pn**	**11 00 05.4**	**+0.6**
EOS1	baz=238			*e*S	**Sn**	**11 00 23.8**	**+0.5**
EGS	baz=261	**0.88 259**		*e*P	**Pn**	**11 00 06.2**	**+1.0**
TIPB	**Shuangxi** baz=270	**0.97 268**		⇓*i*P	**Pn**	**11 00 06.7**	**+0.8**
TIPB	baz=270			*e*S	**Sn**	**11 00 24.5**	**-0.8**
NWF	**Wu-fen Shan** baz=276	**1.01 274**		*e*P	**Pn**	**11 00 06.8**	**+0.6**
WFSB	**Wu-fen Shan** baz=276	**1.01 274**		*e*P	**Pn**	**11 00 06.9**	**+0.7**
IRIF	**Iriomote-Funau**	**1.02 131**		P	**Pn**	**11 00 06.6**	**+0.3**
IRIF				*e*S	**Sn**	**11 00 25.6**	**-0.4**
TWC	**Suao** baz=249	**1.03 247**		P	**Pn**	**11 00 06.6**	**+0.3**
TWC	baz=249			*e*S	**Sn**	**11 00 25.0**	**-1.1**
TWE	**Neicheng** baz=257	**1.15 256**		*e*P	**Pn**	**11 00 08.0**	**+0.7**
YM07	**YM07** baz=280	**1.16 278**		*e*P	**Pn**	**11 00 08.3**	**+0.7**
NANB	**Nanao** baz=242	**1.19 241**		P	**Pn**	**11 00 08.4**	**+0.6**
NANB	baz=242			*e*S	**Sn**	**11 00 28.5**	**-0.1**
ENA	**Nanau** baz=242	**1.19 241**		*e*P	**Pn**	**11 00 08.5**	**+0.7**
ENA	baz=242			*e*S	**Sn**	**11 00 29.0**	**+0.3**
TWY	**Chenhua** baz=284	**1.20 283**		*e*P	**Pn**	**11 00 08.7**	**+0.9**
YM01	**YM01** baz=278	**1.20 277**		*e*P	**Pn**	**11 00 08.9**	**+1.0**
YM10	**YM10** baz=279	**1.21 277**		*e*P	**Pn**	**11 00 08.8**	**+0.7**
TAP	**Taipei** baz=273	**1.25 272**		*e*P	**Pn**	**11 00 09.0**	**+0.7**
ENTT	**Nioudou** baz=254	**1.26 253**		*e*P	**Pn**	**11 00 09.3**	**+0.9**
HATJ	**Hateruma jima**	**1.26 138**		P	**Pn**	**11 00 09.2**	**+0.7**
HATJ				S	**Sn**	**11 00 30.4**	**+0.5**
TATO	**Taipei** baz=270	**1.27 269**		*e*P	**Pn**	**11 00 09.2**	**+0.7**
JKRS	**Kuro-shima**	**1.28 127**		P	**Pn**	**11 00 09.2**	**+0.6**
JKRS				S	**Sn**	**11 00 29.7**	**-0.4**
JIJ	**Ishigaki jima**	**1.31 119**		P	**Pn**	**11 00 08.9**	**0.0**
JIJ				S	**Sn**	**11 00 30.5**	**-0.1**
NDT	**Datong Townshi** baz=253	**1.31 252**		*e*P	**Pn**	**11 00 10.1**	**+1.1**
NDT	baz=253			*e*S	**Sn**	**11 00 30.1**	**-0.6**
TWS1	**Kuangyinshan** baz=275	**1.34 274**		*e*P	**Pn**	**11 00 09.8**	**+0.6**
JISG	**Ishigakijimahi**	**1.36 108**		P	**Pn**	**11 00 09.2**	**-0.2**
JISG				S	**Sn**	**11 00 30.9**	**-0.5**
YHNB	**Yeheng** baz=257	**1.42 256**		P	**Pn**	**11 00 10.9**	**+0.8**
YHNB	baz=257			*e*S	**Sn**	**11 00 31.8**	**-0.8**
NSK	**Sanguang** baz=258	**1.43 257**		⇓P	**Pn**	**11 00 10.9**	**+0.8**
NSK	baz=258			*e*S	**Sn**	**11 00 32.1**	**-0.7**
NACB	**Ninganchiao** baz=236	**1.44 235**		*e*P	**Pn**	**11 00 10.5**	**+0.3**
NACB	baz=236			*e*S	**Sn**	**11 00 31.9**	**-1.0**
NNSB	**Datong** baz=248	**1.49 247**		*e*P	**Pn**	**11 00 11.6**	**+0.8**
NNSB	baz=248			*e*S	**Sn**	**11 00 33.1**	**-0.9**
NNS	**Nan Shan** baz=249	**1.49 248**		*e*P	**Pn**	**11 00 11.6**	**+0.8**
NNS	baz=249			*e*S	**Sn**	**11 00 34.3**	**+0.2**
WLTB	**Daxi** baz=265	**1.49 264**		*e*P	**Pn**	**11 00 11.7**	**+1.1**
TWD	**Chiawan** baz=232	**1.50 232**		*e*P	**Pn**	**11 00 11.3**	**+0.6**
TWD	baz=232			S	**Sn**	**11 00 33.2**	**-0.7**
ETLH	**Xiulin Townshi** baz=239	**1.51 238**		P	**Pn**	**11 00 11.4**	**+0.5**
ETLH	baz=239			*e*S	**Sn**	**11 00 33.2**	**-1.1**
HWA	**Hwalien** baz=229	**1.56 229**		*e*P	**Pn**	**11 00 12.0**	**+0.6**
ENLB	**Shoufeng** baz=227	**1.61 227**		*e*P	**Pn**	**11 00 12.0**	**+0.1**
ENLB	baz=227			*e*S	**Sn**	**11 00 35.1**	**-0.9**
JTJ	**Tarama**	**1.69 102**		P	**Pn**	**11 00 12.9**	**+0.2**
JTJ				*e*S	**Sn**	**11 00 36.7**	**-0.7**
WHF	**Hehuan Shan** baz=240	**1.71 240**		*e*P	**Pn**	**11 00 14.2**	**+0.8**
WHF	baz=240			*e*S	**Sn**	**11 00 37.8**	**-0.9**
LIOB	**Emei** baz=259	**1.74 258**		*e*P	**Pn**	**11 00 14.2**	**+0.8**
LIOB	baz=259			*e*S	**Sn**	**11 00 37.9**	**-0.6**
SBCB	**Hsinchu** baz=264	**1.74 263**		*e*P	**Pn**	**11 00 14.7**	**+1.4**
NSTT	**Nanjuang** baz=258	**1.76 258**		*e*P	**Pn**	**11 00 14.3**	**+0.9**
NSTT	baz=258			*e*S	**Sn**	**11 00 38.3**	**-0.5**
ESL	**Shilin** baz=228	**1.78 228**		*e*P	**Pn**	**11 00 13.8**	**0.0**
ESL	baz=228			*e*S	**Sn**	**11 00 38.1**	**-1.2**
CHGB	**Renai** baz=239	**1.83 239**		*e*P	**Pn**	**11 00 15.5**	**+1.0**
CHGB	baz=239			*e*S	**Sn**	**11 00 39.7**	**-0.8**
OWD	**Renai** baz=237	**1.88 236**		*e*P	**Pn**	**11 00 15.9**	**+0.8**
OWD	baz=237			*e*S	**Sn**	**11 00 40.7**	**-0.9**
EGFH	**Guangfu** baz=225	**1.89 225**		*e*P	**Pn**	**11 00 15.4**	**+0.5**
EGFH	baz=225			*e*S	**Sn**	**11 00 40.4**	**-1.0**
WHP	**Taichung City** baz=248	**1.91 248**		*e*P	**Pn**	**11 00 16.6**	**+1.3**
WHP	baz=248			*e*S	**Sn**	**11 00 41.0**	**-1.0**
HGSD	**Ruisui** baz=222	**2.02 222**		*e*P	**Pn**	**11 00 16.9**	**+0.5**
HGSD	baz=222			*e*S	**Sn**	**11 00 43.5**	**-0.5**
NSY	**Sanyi** baz=254	**2.02 253**		*e*P	**Pn**	**11 00 17.8**	**+1.3**
VWDT	**VWDT** baz=232	**2.03 232**		*e*P	**Pn**	**11 00 17.6**	**+1.1**
VWDT	baz=232			*e*S	**Sn**	**11 00 43.5**	**-0.7**
TWQ1	**Liyutan** baz=252	**2.04 252**		*e*P	**Pn**	**11 00 17.6**	**+1.0**
TWQ1	baz=252			*e*S	**Sn**	**11 00 43.9**	**-0.5**
EHY	**Hungye** baz=224	**2.07 224**		*e*P	**Pn**	**11 00 17.7**	**+0.7**
EHY	baz=224			*e*S	**Sn**	**11 00 43.7**	**-1.5**
JIRB	**Irabujima**	**2.08 95**		P	**Pn**	**11 00 17.3**	**+0.2**
JIRB				S	**Sn**	**11 00 45.3**	**0.0**
SMLT	**Sun Moon Lake** baz=239	**2.13 239**		*e*P	**Pn**	**11 00 19.5**	**+1.7**
JIKM	**Ikemajima**	**2.14 92**		P	**Pn**	**11 00 18.1**	**+0.3**
JIKM				S	**Sn**	**11 00 46.1**	**-0.5**
SSLB	**Suanglung** baz=236	**2.14 236**		*e*P	**Pn**	**11 00 19.8**	**+1.9**
TYC	**Yuchr** baz=240	**2.15 240**		*e*P	**Pn**	**11 00 19.4**	**+1.4**
YULB	**Yu-li** baz=222	**2.17 222**		*e*P	**Pn**	**11 00 18.5**	**+0.2**
YULB	baz=222			*e*S	**Sn**	**11 00 46.0**	**-1.3**
JMJ	**Miyako jima 2**	**2.19 95**		*e*P	**Pn**	**11 00 19.5**	**+1.1**

baz=93
JMJ eS Sn 11 00 47.5 -0.1
baz=93
JMJ2 Miyako jima3 2.23 96 P Pn 11 00 19.5 +0.6
JMJ2 S Sn 11 00 48.0 -0.4
WHYT Xinyi Township 2.27 235 eP Pn 11 00 21.1 +1.7
baz=235
JOGS Gusukube 2.30 96 P Pn 11 00 20.5 +0.8
JOGS S Sn 11 00 50.9 +1.0
YUS Yu-Shan 2.33 230 eP Pn 11 00 21.8 +1.3
baz=230
CHKT Chengkung 2.36 217 eP Pn 11 00 20.9 +0.5
baz=216
CHKT eS Sn 11 00 49.9 -1.3
baz=216
ALS Alishan 2.42 232 eP Pn 11 00 23.0 +1.6
baz=232
CHN5 Tsauling 2.46 236 eP Pn 11 00 21.7 0.0
baz=235
ELDTW Lidau 2.49 224 eP Pn 11 00 22.7 +0.5
baz=223
RLNB Erlin 2.56 245 eP Pn 11 00 23.7 +0.9
baz=245
TPUB Ta-pu 2.67 231 eP Pn 11 00 25.8 +1.5
baz=231
TPUB eS Sn 11 00 56.6 -1.4
baz=231
WTP Ta-pu 2.72 230 eP Pn 11 00 26.2 +1.4
baz=230
TWGBT Beinan 2.74 218 eP Pn 11 00 25.4 +0.3
baz=217
TWGBT eS Sn 11 00 58.2 -1.3
baz=217
TWG Pinlang 2.74 218 eP Pn 11 00 25.8 +0.7
baz=217
TWG eS Sn 11 00 58.2 -1.4
baz=217
CHN1 Nanshi 2.82 230 eP Pn 11 00 27.4 +1.3
baz=230
CHN1 eS Sn 11 01 00.7 -0.6
baz=230
MATB Ma-tsu 2.89 294 eP Pn 11 00 26.9 0.0
baz=294
VWUC VWUC 3.12 270 eP Pn 11 00 30.4 +0.6
baz=270
MASBT Mashibuluo 3.16 221 eP Pn 11 00 31.9 +1.6
baz=221
LAY Lan-yu 3.20 203 eP Pn 11 00 31.5 +0.7
baz=202
EAST Anshuo 3.21 216 eP Pn 11 00 32.9 +1.9
baz=215
PHUB P'eng-hu 3.37 244 eP Pn 11 00 33.3 +0.3
baz=244
PHUB eS Sn 11 01 11.8 -1.9
baz=244
JKE Kume jima 2 3.75 69 P Pn 11 00 37.7 -0.1
JKE eS Sn 11 01 20.7 -1.7
KNMB Chin-men Tao 4.13 263 eP Pn 11 00 43.8 +1.1
baz=263

SJA 21 11:03:50.9±0.6, 30°.04S×67°.50W, h7km±2km, ML2.6, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**0.78**	**38**	eP	Pb	11 04 06.8	-0.1
ACLC				eS	Sb	11 04 18.0	+0.3
APLL	**PUNTA DE LOS L**	**0.91**	**113**	eP	Pg	11 04 08.4	0.0
APLL				eS	Sb	11 04 22.2	+0.8
APLL				IAML		11 04 25.6	
	comp=Z,180nm,0.3s						
AGUA	**GUANDACOL**	**1.02**	**303**	eP	Pb	11 04 11.1	+0.1
AMOG	**MOGNA**	**1.24**	**224**	eP	Pn	11 04 15.2	+0.5
AMOG				eS	Sn	11 04 32.4	+0.7
ACDV	**Cuesta del Vie**	**1.41**	**264**	eP	Pg	11 04 18.3	+0.4
ACDV				eS	Sg	11 04 38.0	+1.7
VCA	**Vinchina**	**1.44**	**335**	eP	Pg	11 04 18.6	0.0
VCA				eS	Sg	11 04 39.0	+1.8
VCA				IAML		11 04 47.4	
	comp=Z,75nm,0.4s						
ACCO	**Cerro Coronel**	**1.46**	**248**	eP	Pg	11 04 19.4	+0.5
ACCO				eS	Sg	11 04 40.1	+2.2
AROD	**Rodeo**	**1.71**	**265**	eP	Pg	11 04 23.8	-0.1
AROD				eS	Sg	11 04 48.3	+2.2
RTCV	**Cerro Valdivia**	**2.02**	**206**	eP	Pb	11 04 27.3	-0.7
RTCV				eS	Sg	11 04 55.2	-0.7
ACAN	**Cantantal**	**2.24**	**173**	eP	Pb	11 04 30.9	-0.8
ACAN				eS	Sb	11 05 00.2	+0.5
AUSP	**Uspallata**	**2.71**	**216**	eP	Pb	11 04 37.9	-2.0
AUSP				eS	Sb	11 05 13.0	-0.4
ASAL	**Salagasta**	**2.78**	**204**	eP	Pb	11 04 38.6	-2.4
ASAL				eS	Sb	11 05 14.2	-1.2

*IDC **21** 11:12:23.7±0.6, 52°.37N×159°.94E, h0km, mb4.1/23, mb1 4.2/25, mb1mx4.1/51, mbtmp4.1/25, ML3.9/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/51, Error ellipse: s-maj=18.2km s-min=12.7km az=125.0*
*KRSC **21** 11:12:25.4±10.0, 52°.16N×160°.25E, h58km±10km, ML4.8*
*NEIC **21** 11:12:28.7±2.6, 52°.25N×159°.94E, h35km, mb4.4/45, Error ellipse: s-maj=16.7km s-min=15.5km az=155.0*
*MOS **21** 11:12:28.5±1.0, 52°.27N×160°.03E, h56km, mb4.5/12, Error ellipse: s-maj=7.4km s-min=3.7km az=91.5*
*ISCJB **21** 11:12:29.2±0.5, 52°.28N±0°.03×160°.01E±0°.05, h60km±3km, mb4.3/60, Error ellipse: s-maj=6.4km s-min=3.2km az=137.0*

ISC 21 11:12:28.9±1.0, 52°.21N±0°.04×160°.15E±0°.04, h43km±9km, n210, σ1$34/234, mb4.2/60, 6C-5D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.89**	**355**	eP	Pn	11 12 43.7	-1.3
SPN				eS	Sn	11 12 56.3	-0.5
SPN	**Mys Shipunski**	**0.89**	**355**	PN	Pn	11 12 43.7	-1.3
SPN				S	Sn	11 12 56.3	-0.5
RUS	**Russkaya**	**1.03**	**283**	eP	Pn	11 12 45.6	-1.2
RUS				eS	Sn	11 12 59.5	-0.6
RUS	**Russkaya**	**1.03**	**283**	PN	Pn	11 12 45.6	-1.2
RUS				S	Sn	11 12 59.5	-0.6
NLC	**Nalytchevo**	**1.08**	**333**	eP	Pn	11 12 46.8	-0.7
NLC				eS	Sn	11 13 02.1	+0.8
NLC	**Nalytchevo**	**1.08**	**333**	PN	Pn	11 12 46.8	-0.7
NLC				S	Sn	11 13 02.1	+0.8
DALK	**Dalny**	**1.19**	**315**	eP	Pn	11 12 48.1	-0.8
DALK				eS	Sn	11 13 03.7	-0.2
DALK	**Dalny**	**1.19**	**315**	PN	Pn	11 12 48.1	-0.8
DALK				S	Sn	11 13 03.7	-0.2
PET	**Petropavlovsk**	**1.23**	**312**	ePn	Pn	11 12 48.7	-0.7
PET				eSn	Sn	11 13 04.5	-0.3
PET	**Petropavlovsk**	**1.23**	**312**	PN	Pn	11 12 48.8	-0.7
PET				S	Sn	11 13 05.1	+0.3
MTVR	**Mutnovka**	**1.24**	**284**	eP	Pn	11 12 49.2	-0.6
MTVR	**Mutnovka**	**1.24**	**284**	PN	Pn	11 12 49.2	-0.6
UGLR	**Uglovaya**	**1.29**	**322**	eP	Pn	11 12 50.4	-0.1
UGLR				eS	Sn	11 13 07.9	+1.3
UGLR	**Uglovaya**	**1.29**	**322**	PN	Pn	11 12 50.4	-0.1
UGLR				S	Sn	11 13 07.9	+1.3
GRL	**Gorelyy**	**1.32**	**286**	eP	Pn	11 12 50.3	-0.6
GRL	**Gorelyy**	**1.32**	**286**	PN	Pn	11 12 50.3	-0.6
SDLR	**Sedlovina**	**1.32**	**325**	eP	Pn	11 12 50.5	-0.4
SDLR	**Sedlovina**	**1.32**	**325**	PN	Pn	11 12 50.5	-0.4
SMAR	**Somma**	**1.34**	**323**	eP	Pn	11 12 50.7	-0.6
SMAR	**Somma**	**1.34**	**323**	PN	Pn	11 12 50.7	-0.6
KDTR	**Khodutka, Kamc**	**1.34**	**253**	eP	Pn	11 12 50.5	-0.6
KDTR				eS	Sn	11 13 07.9	+0.2
KDTR	**Khodutka, Kamc**	**1.34**	**253**	PN	Pn	11 12 50.5	-0.6
KDTR				S	Sn	11 13 07.9	+0.2
AVH	**Avacha**	**1.36**	**321**	eP	Pn	11 12 51.5	0.0
AVH				eS	Sn	11 13 09.4	+1.0
AVH	**Avacha**	**1.36**	**321**	PN	Pn	11 12 51.5	0.0
AVH				S	Sn	11 13 09.4	+1.0
KRMR	**Karymshinskiy**	**1.38**	**298**	eP	Pn	11 12 51.2	-0.5
KRMR				eS	Sn	11 13 09.4	+0.7
KRMR	**Karymshinskiy**	**1.38**	**298**	PN	Pn	11 12 51.2	-0.5
KRMR				S	Sn	11 13 09.4	+0.7
KRER	**Koryakskii**	**1.39**	**323**	eP	Pn	11 12 51.8	-0.2
KRER	**Koryakskii**	**1.39**	**323**	PN	Pn	11 12 51.8	-0.2
ASAK	**Asacha**	**1.39**	**278**	eP	Pn	11 12 51.8	-0.1
ASAK	**Asacha**	**1.39**	**278**	PN	Pn	11 12 51.8	-0.1
KOK	**Koryaka**	**1.42**	**320**	eP	Pn	11 12 52.1	-0.2
KOK	**Koryaka**	**1.42**	**320**	PN	Pn	11 12 52.1	-0.2
KRX	**Arik**	**1.47**	**322**	eP	Pn	11 12 53.0	0.0
KRX	**Arik**	**1.47**	**322**	PN	Pn	11 12 53.0	0.0
PEA0B	**Petropavlovsk-**	**1.74**	**302**	ePn	Pn	11 12 57.0	+0.3
PEA0B				eSn	Sn	11 13 14.0	-3.6
PETK	**Petropavlovsk-**	**1.74**	**302**	ePn	Pn	11 12 56.8	+0.1
PETK				eSn	Sn	11 13 13.4	-4.3
PETK	**Petropavlovsk-**	**1.74**	**302**	ePN	Pn	11 12 56.8	+0.1
PETK				e		11 13 13.4	
PETK	**Petropavlovsk-**	**1.74**	**302**	Pn	Pn	11 12 57.3	+0.7
	144nm,0.3s,baz=108,slow=19,SNR=3036						
PETK				Sn	Sn	11 13 19.9	+2.2
	170nm,0.3s,baz=134,slow=17,SNR=11						
PETK				LR	LR	11 13 47.8	
	comp=Z,859nm,18.3s,baz=115,slow=54						
PEA1	**Petropavlovsk-**	**1.75**	**302**	ePn	Pn	11 12 57.3	+0.6
PEA1				eSn	Sn	11 13 19.9	+2.1
APC	**Apacha**	**1.96**	**293**	eP	Pn	11 13 00.6	+1.0
APC				eS	Sn	11 13 24.8	+1.8
APC	**Apacha**	**1.96**	**293**	PN	Pn	11 13 00.6	+1.0
APC				S	Sn	11 13 24.8	+1.8
PAU	**Pauzhetka**	**2.20**	**252**	eP	Pn	11 13 02.8	-0.1
PAU	**Pauzhetka**	**2.20**	**252**	PN	Pn	11 13 02.8	-0.1
MKZ	**Mys Kozlova**	**2.54**	**21**	eP	Pn	11 13 06.7	-0.7
MKZ				eS	Sn	11 13 36.0	-1.0
MKZ	**Mys Kozlova**	**2.54**	**21**	PN	Pn	11 13 06.7	-0.7
MKZ				S	Sn	11 13 36.0	-1.0
KZV	**Kizimen**	**2.91**	**2**	eP	Pn	11 13 14.2	+1.4
KZV	**Kizimen**	**2.91**	**2**	PN	Pn	11 13 14.2	+1.4
SKR	**Severo-Kuril's**	**2.95**	**240**	eP	Pn	11 13 13.0	-0.1
SKR				eS	Sn	11 13 46.6	-0.7
SKR	**Severo-Kuril's**	**2.95**	**240**	ePN	Pn	11 13 12.8	-0.3
SKR				eS	Sn	11 13 47.1	-0.2
SKR				pmax	pmax		
	comp=Z,83nm,0.6s						
SKR				smax	smax		
	comp=N,1μm,0.7s						
SKR				smax	smax		
	comp=E,1μm,0.7s						
TUMD	**Tumrok D**	**3.00**	**3**	eP	Pn	11 13 14.1	+0.2
TUMD				eS	Sn	11 13 48.4	-0.3
TUMR	**Tumrok**	**3.08**	**360**	eP	Pn	11 13 16.4	+1.3
TUMR	**Tumrok**	**3.08**	**360**	PN	Pn	11 13 14.1	-1.0
TUMR				S	Sn	11 13 48.4	-2.3
ALID	**Alaid**	**3.17**	**247**	eP	Pn	11 13 16.8	+0.5
ALID	**Alaid**	**3.17**	**247**	PN	Pn	11 13 16.8	+0.5
BZMR	**Bezymyannaya**	**3.74**	**3**	eP	Pn	11 13 23.0	-1.1
BZMR	**Bezymyannaya**	**3.74**	**3**	PN	Pn	11 13 23.0	-1.1
BZGR	**Bezymyannyi-Gr**	**3.75**	**5**	eP	Pn	11 13 25.9	+1.6
BZGR	**Bezymyannyi-Gr**	**3.75**	**5**	PN	Pn	11 13 25.9	+1.6
BZWR	**Bezymyannyi-We**	**3.77**	**3**	eP	Pn	11 13 24.6	0.0
BZWR	**Bezymyannyi-We**	**3.77**	**3**	PN	Pn	11 13 24.6	0.0
ESO	**Esso**	**3.82**	**348**	eP	Pn	11 13 25.9	+0.8
ESO	**Esso**	**3.82**	**348**	PN	Pn	11 13 25.9	+0.8
KOZ	**Kozyrevsk**	**3.86**	**358**	eP	Pn	11 13 25.5	-0.2
KOZ	**Kozyrevsk**	**3.86**	**358**	PN	Pn	11 13 25.5	-0.2
LGNR	**Loginova**	**3.90**	**4**	eP	Pn	11 13 27.9	+1.5
LGNR	**Loginova**	**3.90**	**4**	PN	Pn	11 13 27.9	+1.5
CIRR	**Tsirk**	**3.93**	**5**	eP	Pn	11 13 27.4	+0.6
CIRR	**Tsirk**	**3.93**	**5**	PN	Pn	11 13 27.4	+0.6
KLY	**Klyuchi**	**4.12**	**4**	eP	Pn	11 13 30.2	+1.0
KLY	**Klyuchi**	**4.12**	**4**	PN	Pn	11 13 30.2	+1.0
SRDR	**Sredinnyy**	**4.12**	**357**	eP	Pn	11 13 31.1	+1.8
SRDR	**Sredinnyy**	**4.12**	**357**	PN	Pn	11 13 31.1	+1.8
KBTR	**Krutoberegovo**	**4.30**	**20**	eP	Pn	11 13 32.2	+0.5
KBTR	**Krutoberegovo**	**4.30**	**20**	PN	Pn	11 13 32.2	+0.5
KBG	**Krutoberegovo**	**4.32**	**19**	eP	Pn	11 13 33.0	+1.0
KBG	**Krutoberegovo**	**4.32**	**19**	PN	Pn	11 13 33.0	+1.0
BDR	**Baidarnaya**	**4.41**	**8**	eP	Pn	11 13 34.0	+0.7
BDR	**Baidarnaya**	**4.41**	**8**	PN	Pn	11 13 34.0	+0.7
SMKR	**Semkarok**	**4.45**	**9**	eP	Pn	11 13 36.1	+2.3
SMKR	**Semkarok**	**4.45**	**9**	PN	Pn	11 13 36.1	+2.3
SRKR	**Sorokina**	**4.49**	**7**	eP	Pn	11 13 36.3	+1.9
SRKR	**Sorokina**	**4.49**	**7**	PN	Pn	11 13 36.3	+1.9
BKI	**Bering**	**4.58**	**47**	eP	Pn	11 13 34.6	-0.9
BKI				eS	Sn	11 14 22.5	-4.8
BKI	**Bering**	**4.58**	**47**	PN	Pn	11 13 34.6	-0.9
OSSR	**Ossora**	**7.25**	**12**	eP	Pn	11 14 15.1	+3.1
OSSR	**Ossora**	**7.25**	**12**	PN	Pn	11 14 15.1	+3.1
TILK	**Tilichiki**	**8.90**	**20**	eP	Pn	11 14 36.2	+1.5
TILK	**Tilichiki**	**8.90**	**20**	PN	Pn	11 14 36.2	+1.5
MA2	**Magadan**	**9.06**	**328**	LR	LR	11 18 40.2	
	comp=E,183nm,18.6s,baz=141,slow=42						
YSS	**Yuzh-Sakhalins**	**12.44**	**252**	ePN	Pn	11 15 23.6	+0.4
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ASAJ	**Asahikawa**	**14.21**	**242**	Pn	Pn	11 15 47.3	0.0
	comp=Z,0.7nm,0.3s,baz=62,slow=16,SNR=7.0						
ASAJ				LR	LR	11 20 32.9	
	comp=Z,71nm,20.8s,baz=22,slow=34						
ERM	**Erimo**	**15.38**	**235**	ePn	Pn	11 16 02.2	-0.5
	comp=Z,12nm,0.8s						
ERM	**Erimo**	**15.38**	**235**	eP	Pn	11 16 02.2	-0.5
ERM				pmax	pmax		
	comp=Z,12nm,0.8s						
BILL	**Bilibino**	**16.16**	**8**	ePn	Pn	11 16 12.1	-0.4
	comp=Z,5.6nm,0.8s						
BILL	**Bilibino**	**16.16**	**8**	↓eP	P	11 16 14.3	-0.9
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,132nm,18.0s						
KLR	**Kul'dur**	**18.18**	**272**	↓eP	Pn	11 16 39.1	+1.4
KLR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KLR	**Kul'dur**	**18.18**	**272**	P	P	11 16 37.4	-0.2
	comp=Z,0.6nm,0.3s,baz=73,slow=11,SNR=9.7						
KLR				LR	LR	11 24 12.5	
	comp=Z,132nm,18.1s,baz=66,slow=39						
USRK	**Ussuriysk Ar.**	**20.31**	**258**	eP	P	11 16 58.9	-2.1
USRK	**Ussuriysk Ar.**	**20.31**	**258**	P	P	11 16 57.7	-3.2
	comp=Z,2.5nm,0.8s,baz=24,slow=12,SNR=4.7						
MJA0	**Matsu Arr-Jizo**	**22.01**	**233**	eP	P	11 17 20.7	+1.3
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MJB9	**Matsu-Tunnel**	**22.03**	**233**	eP	P	11 17 20.3	+0.7
	comp=Z,14nm,0.8s						
MAJO	**Matsushiro**	**22.03**	**233**	eP	P	11 17 20.0	+0.4
	comp=Z,14nm,0.8s						
MAJO	**Matsushiro**	**22.03**	**233**	↑eP	P	11 17 20.5	+0.9
MAJO				pmax	pmax		
	comp=Z,15nm,1.0s						
MAT	**Matsushiro**	**22.03**	**233**	P	P	11 17 19.7	+0.1
MJAR	**Matsushiro Arr**	**22.03**	**233**	eP	P	11 17 20.2	+0.6
MJAR	**Matsushiro Arr**	**22.03**	**233**	eP	P	11 17 20.2	+0.6
MJAR	**Matsushiro Arr**	**22.03**	**233**	P	P	11 17 20.8	+1.2
	comp=Z,4.4nm,0.6s,baz=22,slow=9.6,SNR=15						
TIXI	**Tiksi**	**23.90**	**336**	eP	P	11 17 37.0	-1.1
TIXI	**Tiksi**	**23.90**	**336**	↓eP	P	11 17 36.7	-1.4
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TIXI	**Tiksi**	**23.90**	**336**	P	P	11 17 37.1	-1.0
	comp=Z,3.0nm,0.5s,baz=125,slow=9.1,SNR=16						
JHJ2	**Mitsune**	**24.10**	**226**	eP	P	11 17 43.0	+2.7
	comp=Z,136nm,1.0s						
HIA	**Hailar**	**25.51**	**280**	↓eP	P	11 17 52.5	-0.5
HIA				pmax	pmax		
	comp=Z,50nm,0.9s						
IMAR	**Indian Mountai**	**26.64**	**41**	eP	P	11 18 04.3	+1.3
KSRS	**Korea Array**	**26.93**	**250**	P	P	11 18 06.4	+0.6
	comp=Z,2.1nm,0.9s,baz=40,slow=11,SNR=5.5						
JNU	**Nakatsue**	**28.46**	**239**	eP	P	11 18 20.0	+0.3
	comp=Z,8.6nm,0.9s						
JNU	**Nakatsue**	**28.46**	**239**	P	P	11 18 20.4	+0.8
	comp=Z,2.8nm,0.5s,baz=24,slow=5.0,SNR=6.3						
SML	**Sawmill**	**28.89**	**50**	eP	P	11 18 24.2	+1.1
	comp=Z,3.7nm,1.0s						
SCM	**Sheep Creek Mo**	**29.36**	**50**	eP	P	11 18 29.0	+1.6
	comp=Z,2.3nm,1.0s						
HDA	**Harding Lake**	**29.40**	**45**	eP	P	11 18 27.8	+0.2
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**29.42**	**44**	P	P	11 18 28.1	+0.3
	comp=Z,0.4nm,0.7s,baz=257,slow=7.7,SNR=6.4						
ILB	**Eielson Array**	**29.42**	**44**	eP	P	11 18 28.1	+0.3
	comp=Z,1.4nm,0.8s						
BCAR	**Beaver Creek A**	**31.79**	**47**	eP	P	11 18 50.4	+1.6
EGAK	**Eagle**	**31.87**	**44**	eP	P	11 18 50.0	+0.6
	comp=Z,2.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**32.84**	**168**	T	T	11 54 13.7	
	baz=351,slow=76,SNR=296						
H11N3	**WAKE ISLAND Hy**	**32.85**	**168**	T	T	11 54 12.7	
	baz=351,slow=76,SNR=58						
H11N1	**WAKE ISLAND Hy**	**32.86**	**168**	T	T	11 54 12.8	
	baz=351,slow=76,SNR=188						
ULN	**Ulaanbaatar**	**33.74**	**284**	↑eP	P	11 19 05.3	-0.8
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**34.02**	**169**	T	T	11 55 39.2	
	baz=351,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**34.03**	**169**	T	T	11 55 42.1	
	baz=351,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**34.04**	**169**	T	T	11 55 42.6	
	baz=351,slow=76,SNR=8.1						
SONA0	**Songino Array**	**34.15**	**285**	eP	P	11 19 09.2	-0.4
SONM	**Songino Array**	**34.15**	**285**	P	P	11 19 09.2	-0.4
	comp=Z,0.7nm,0.3s,baz=66,slow=7.4,SNR=6.1						
INK	**Inuvik**	**34.55**	**37**	eP	P	11 19 14.1	+1.4
	comp=Z,1.7nm,1.0s						
WHN	**Wuhan**	**39.76**	**255**	P	P	11 20 06.6	+9.3
ZAA1	**Zalesovo Array**	**43.29**	**303**	eP	P	11 20 23.6	-2.3
ZALV	**Zalesovo Beam**	**43.29**	**303**	eP	P	11 20 23.2	-2.7
ZALV	**Zalesovo Beam**	**43.29**	**303**	P	P	11 20 23.6	-2.3
	comp=Z,0.9nm,0.4s,baz=82,slow=6.2,SNR=2.8						
NVS	**Novosibirsk**	**43.65**	**305**	iP	P	11 20 26.7	-2.0
YKA	**Yellowknife Ar**	**43.80**	**42**	P	P	11 20 31.0	+1.2
	comp=Z,0.2nm,0.6s,baz=299,slow=7.8,SNR=4.6						
YKB5	**Yellowknife Ar**	**43.80**	**42**	eP	P	11 20 31.1	+1.2
DGZ	**Jazzator, Alta**	**44.10**	**297**	↓iP	P	11 20 31.6	-1.0
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
RES	**Resolute Bay**	**44.13**	**22**	eP	P	11 20 34.0	+1.6
	comp=Z,2.1nm,0.8s						
RES	**Resolute Bay**	**44.13**	**22**	P	P	11 20 32.4	0.0
	comp=Z,1.5nm,0.7s,baz=296,slow=6.7,SNR=6.1						
SPA0	**Spitsbergen Ar**	**48.02**	**351**	eP	P	11 21 03.2	+0.3
	comp=Z,12nm,0.5s						
KURK	**Kurchatov**	**48.23**	**303**	eP	P	11 21 03.4	-1.6
	comp=Z,6.3nm,0.8s						
KURK	**Kurchatov**	**48.23**	**303**	c iP	P	11 21 02.6	-2.3
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MK31	**Makanchi Array**	**48.57**	**296**	eP	P	11 21 04.5	-3.1
	comp=Z,4.5nm,1.1s						
MK32	**Makanchi Array**	**48.57**	**296**	eP	P	11 21 05.8	-1.8
MKAR	**Makanchi Array**	**48.57**	**296**	P	P	11 21 05.8	-1.8
	comp=Z,1.1nm,0.5s,baz=57,slow=7.5,SNR=12						
BRVK	**Borovoye**	**51.00**	**309**	eP	P	11 21 23.9	-2.1
	comp=Z,3.3nm,0.6s						
BRVK	**Borovoye**	**51.00**	**309**	↑eP	P	11 21 23.8	-2.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BSMT	**Bassoo Peak**	**51.81**	**59**	eP	P	11 21 34.4	+2.1
WVOR	**Wild Horse Val**	**53.16**	**66**	eP	P	11 21 45.8	+3.5
	comp=Z,4.7nm,0.6s						
ARU	**Arti**	**54.07**	**318**	c iP	P	11 21 48.3	-0.3
ARU						11 23 45.6	
ARU				S	S	11 29 19.6	-1.9
ARU				SS	SKiKP	11 32 53.5	-2.7
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**54.14**	**342**	eP	P	11 21 49.0	+0.1
ARCES	**ARCESS Array B**	**54.14**	**342**	P	P	11 21 48.3	-0.6
	comp=Z,3.1nm,0.6s,baz=43,slow=9.0,SNR=12						
ARE0	**ARCESS Array S**	**54.14**	**342**	eP	P	11 21 48.6	-0.3
	comp=Z,0.4nm,1.1s						
FCC	**Fort Churchill**	**54.15**	**38**	eP	P	11 21 50.9	+1.8
	comp=Z,5.2nm,1.0s						
KSH	**Kashi**	**56.78**	**293**	P	P	11 22 09.8	+1.3
KK31	**Karatay Array**	**57.35**	**300**	eP	P	11 22 10.1	-2.2
	comp=Z,2.0nm,1.0s						
KKAR	**Karatay Array**	**57.35**	**300**	eP	P	11 22 10.4	-2.0
SPUT	**South Promonto**	**57.36**	**63**	eP	P	11 22 11.8	-0.8
	comp=Z,53nm,1.1s						
HWUT	**Hardware Ranch**	**57.64**	**63**	eP	P	11 22 14.5	-0.1
	comp=Z,29nm,0.8s						
CM31	**Chiang Mai Arr**	**58.04**	**259**	eP	P	11 22 16.4	-1.0
	comp=Z,8.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**58.04**	**259**	P	P	11 22 18.9	+1.4
	comp=Z,1.1nm,0.3s,baz=24,slow=6.6,SNR=6.1						
ABKAR	**Akbulak array**	**58.40**	**311**	eP	P	11 22 17.8	-1.7
PSUT	**Pine Spring**	**58.48**	**67**	eP	P	11 22 21.8	+1.2
	comp=Z,4.8nm,0.7s						
RSSD	**Black Hills**	**59.87**	**56**	eP	P	11 22 29.8	-0.3
	comp=Z,4.7nm,0.6s						
GAR	**Garm**	**60.30**	**296**	eP	P	11 22 31.5	-1.5
	comp=Z,6.5nm,0.6s						
FIA0	**FINESS Array S**	**60.95**	**337**	eP	P	11 22 37.0	+0.2
FINES	**FINESS Array B**	**60.95**	**337**	P	P	11 22 37.0	+0.2
	comp=Z,5.1nm,0.5s,baz=32,slow=7.5,SNR=13						
PV09	**Paradox Valley**	**61.14**	**64**	eP	P	11 22 41.0	+2.0
N23A	**Red Feather La**	**61.16**	**60**	eP	P	11 22 38.4	-0.6
	comp=Z,3.4nm,0.7s						
PV16	**Nyswonger Mesa**	**61.40**	**64**	eP	P	11 22 42.0	+1.4
	comp=Z,4.2nm,1.0s						
PV11	**David Mesa, Pa**	**61.43**	**64**	eP	P	11 22 43.1	+2.3
	comp=Z,8.2nm,0.7s						
SMCO	**Snowmass**	**61.84**	**62**	eP	P	11 22 45.4	+1.6
	comp=Z,2.4nm,0.9s						
NC405	**NORSAR Array S**	**64.25**	**344**	eP	P	11 22 58.9	-0.1
	comp=Z,7.8nm,0.9s						
NB2	**NORSAR Subarra**	**64.40**	**344**	P	P	11 22 59.7	-0.3
	comp=Z,0.8nm,0.5s,baz=23,slow=6.9						
NB200	**NORSAR Array S**	**64.40**	**344**	eP	P	11 22 59.9	-0.1
NOA	**NORSAR Array B**	**64.40**	**344**	P	P	11 22 59.9	-0.1
	comp=Z,0.8nm,0.4s,baz=22,slow=6.7,SNR=6.0				

PAGZ	Pagadian	2.66	344	*e*P	Pn	11 15 34.8 +1.0
PAGZ				*e*S	Sn	11 16 07.0 +2.1
MATI	Mati	2.68	52	*e*P	Pn	11 15 34.7 +0.6
BUKP	Musuan	2.75	20	*e*P	Pn	11 15 36.9 +1.9
IPIL	Ipil	2.94	328	*e*P	Pn	11 15 39.7 +2.0
IPIL				*e*S	Sn	11 16 12.3 +0.5
CGP	Cagayan de Oro	3.21	10⇓	*e*P	Pn	11 15 47.1 +5.8

IDC ***21*** *11:20:36.4±2.0, 44°.76N×112°.55W, h0km, mb1 3.3/2, mb1mx3.1/51, mbtmp2.9/2, ML2.9/3, Error ellipse: s-maj=25.6km s-min=13.1km az=22.0*

NEIC ***21*** *11:20:36.0±0.0, 44°.57N×112°.72W, h11km, ML3.5(BUT), After BUT.*

ISC 21 11:20:36.4±1.0, **44°.61N**±0°.02×**112°.67W**±0°.02, **h9**km±9km, **n66**, σ1§**42**/99, **Eastern Idaho**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCMT	**McKenzie Canyo**	**0.26**	**329**	*e*Pg	**Pg**	**11 20 42.4**	**+0.7**
MCMT				*e*Sg	**Sg**	**11 20 46.8**	**+1.7**
DLMT	**Dillon**	**0.76**	**4**	*e*Pg	**Pb**	**11 20 51.7**	**-0.1**
DLMT				*e*Sn	**Sb**	**11 21 00.6**	**-1.7**
QLMT	**Earthquake Lak**	**0.91**	**75**	*e*Pg	**Pb**	**11 20 54.4**	**0.0**
QLMT				*e*Sg	**Sb**	**11 21 06.3**	**-0.4**
YHB	**Horse Butte**	**1.06**	**82**	*e*Pg	**Pb**	**11 20 57.0**	**0.0**
YHB				*e*Sg	**Sn**	**11 21 12.1**	**-0.5**
YMR	**Madison River**	**1.22**	**87**	*e*Pn	**Pn**	**11 21 00.1**	**+0.4**
YMR				*e*Sn	**Sn**	**11 21 16.7**	**+0.3**
BOZ	**Bozeman (W)**	**1.23**	**36**	*e*Pn	**Pn**	**11 21 00.3**	**+0.4**
BOZ				*e*Sn	**Sn**	**11 21 18.4**	**+1.6**
YHH	**Holmes Hill**	**1.31**	**81**	*e*Pn	**Pn**	**11 21 01.0**	**-0.1**
YHH				*e*Sg	**Sn**	**11 21 19.4**	**+0.5**
YFT	**Old Faithful**	**1.32**	**96**	*e*Pn	**Pg**	**11 21 00.3**	**-1.4**
YPP	**Pitchstone Pla**	**1.38**	**104**	*e*Pn	**Pg**	**11 21 03.1**	**+0.3**
YPP				*e*Sn	**Sn**	**11 21 20.6**	**+0.1**
YNR	**Norris Junctio**	**1.42**	**85**	*e*Pn	**Pg**	**11 21 03.4**	**-0.2**
IMW	**Indian Meadow**	**1.43**	**119**	*e*Pn	**Pn**	**11 21 03.2**	**+0.4**
IMW				*e*Sn	**Sn**	**11 21 22.6**	**+0.8**
FLWY	**Flagg Ranch**	**1.50**	**110**	*e*Pn	**Pg**	**11 21 05.0**	**-0.2**
FLWY				*e*Sn	**Sg**	**11 21 25.5**	**+0.7**
H17A	**Grant Village**	**1.51**	**97**	*e*Pn	**Pg**	**11 21 05.7**	**+0.3**
FXWY	**Fox Creek**	**1.53**	**129**	*e*Pn	**Pn**	**11 21 04.6**	**+0.5**
FXWY				*e*Sn	**Sn**	**11 21 24.5**	**+0.3**
LKWY	**Lake**	**1.62**	**91**	*e*Pn	**Pg**	**11 21 07.8**	**+0.4**
LKWY				*e*Sn	**Sg**	**11 21 28.0**	**-0.4**
MOOW	**Moose Ponds**	**1.63**	**121**	*e*Pn	**Pn**	**11 21 06.0**	**+0.6**
MOOW				*e*Sn	**Sn**	**11 21 27.4**	**+0.7**
HLID	**Hailey**	**1.64**	**231**	*e*Pn	**Pb**	**11 21 05.8**	**+0.3**
HLID				*e*Sn	**Sn**	**11 21 25.9**	**-0.9**
TPAW	**Teton Pass**	**1.67**	**132**	*e*Pn	**Pb**	**11 21 07.4**	**0.0**
TPAW				*e*Sn	**Sb**	**11 21 29.7**	**+1.1**
LOHW	**Long Hollow**	**1.79**	**123**	*e*Pn	**Pb**	**11 21 09.5**	**+0.1**
SNOW	**Snow King Moun**	**1.79**	**129**	*e*Pn	**Pb**	**11 21 09.4**	**-0.1**
SNOW				*e*Sn	**Sg**	**11 21 34.8**	**+0.8**
REDW	**Red Top Meadow**	**1.81**	**133**	*e*Pn	**Pb**	**11 21 09.8**	**0.0**
REDW				*e*Sn	**Sb**	**11 21 33.8**	**+1.2**
AHID	**Auburn Hatcher**	**2.16**	**148**	*e*Pn	**Pn**	**11 21 14.0**	**+1.2**
HRY	**Holter Researc**	**2.18**	**15**	*e*Pn	**Pb**	**11 21 14.4**	**-1.7**
CHMT	**Chamberlain Mo**	**2.34**	**350**	*e*Pn	**Pb**	**11 21 16.7**	**-2.2**
MSO	**Missoula**	**2.39**	**339**	*e*Pn	**Pn**	**11 21 16.9**	**+1.0**
MSO				*e*Sn	**Sg**	**11 21 53.4**	**+0.2**
PLID	**Pearl Lake**	**2.42**	**283**	*e*Pn	**Pn**	**11 21 16.4**	**+0.1**
PLID				*e*Sn	**Sb**	**11 21 51.8**	**+1.5**
GCMT	**Greycliff**	**2.43**	**60**	*e*Pn	**Pn**	**11 21 17.2**	**+0.8**
RLMT	**Red Lodge**	**2.47**	**77**	*e*Pn	**Pn**	**11 21 18.5**	**+1.5**
RLMT				*e*Sn	**Sg**	**11 21 55.8**	**0.0**
HVU	**Hansel Valley**	**2.83**	**182**	*e*Pn	**Pn**	**11 21 22.4**	**+0.5**
HVU				*e*Sn	**Sb**	**11 22 03.2**	**+1.2**
BW06	**Boulder Array**	**2.91**	**128**	*e*Pn	**Pn**	**11 21 22.5**	**-0.5**
BW06				*e*Sn	**Sg**	**11 22 08.3**	**-1.5**
PD31	**Pinedale Array**	**2.91**	**128**	*e*Pn	**Pn**	**11 21 22.5**	**-0.6**
PD31				*e*Sn	**Sg**	**11 22 09.5**	**-0.4**
PDAR	**Pinedale Array**	**2.91**	**128**	*e*Pn	**Pn**	**11 21 21.9**	**-1.2**
PDAR	**Pinedale Array**	**2.91**	**128**	Pn	**Pb**	**11 21 27.6**	**-1.0**
	0.7nm,0.3s,baz=312,slow=12,SNR=35						
PDAR				Lg	Lg	11 22 08.8	
	1.4nm,0.3s,baz=325,slow=26,SNR=10.0						
HWUT	**Hardware Ranch**	**3.11**	**165**	*e*Pn	**Pn**	**11 21 23.3**	**-2.4**
SPUT	**South Promonto**	**3.30**	**177**	*e*Pn	**Pn**	**11 21 27.2**	**-1.3**
BMO	**Blue Mountains**	**3.32**	**276**	*e*Pn	**Pn**	**11 21 28.6**	**+0.1**
BMO				*e*Sg	**Sg**	**11 22 21.0**	**-1.9**
F10A	**Beach Ranch, E**	**3.50**	**295**	*e*P	**Pn**	**11 21 32.5**	**+1.5**
	21nm,0.6s						
F10A	**Beach Ranch, E**	**3.50**	**295**	*e*Pn	**Pn**	**11 21 32.5**	**+1.5**
F10A				*e*Sg	**Sg**	**11 22 26.0**	**-2.6**
TCUT	**Toone Canyon**	**3.61**	**165**	*e*Pn	**Pn**	**11 21 30.2**	**-2.6**
TCUT				*e*Sg	**Sg**	**11 22 30.1**	**-2.2**
BGU	**Big Grassy Mou**	**3.69**	**184**	*e*Pn	**Pn**	**11 21 32.5**	**-1.3**
BGU				*e*Sg	**Sb**	**11 22 30.8**	**+4.1**
EGMT	**Eagleton**	**3.97**	**30**	*e*Pn	**Pn**	**11 21 36.8**	**-0.6**
EGMT				*e*Sg	**Sg**	**11 22 42.8**	**-0.9**
CTU	**Camp Tracy**	**3.97**	**170**	*e*Pn	**Pn**	**11 21 35.8**	**-1.9**
E09A	**Wood Farm, Sta**	**4.29**	**298**	*e*Pn	**Pn**	**11 21 40.5**	**-1.3**
E09A				*e*Sg	**Sg**	**11 22 51.0**	**-3.3**
ELK	**Elko**	**4.30**	**207**	*e*Pn	**Pn**	**11 21 39.9**	**-2.4**
J08A	**Circle Bar Ran**	**4.38**	**255**	*e*Pn	**Pn**	**11 21 44.4**	**+1.2**
DUG	**Dugway, Tooele**	**4.41**	**181**	*e*Pn	**Pn**	**11 21 42.0**	**-1.7**
G08A	**Pilot Rock**	**4.52**	**281**	*e*Pn	**Pn**	**11 21 44.4**	**-0.7**
G08A				*e*Sg	**Sb**	**11 22 55.9**	**+5.3**
WALA	**Waterton Lakes**	**4.53**	**350**	*e*Pn	**Pn**	**11 21 46.0**	**+0.7**
WALA				*e*Sg	**Sg**	**11 22 59.3**	**-2.6**
NEW	**Newport**	**4.78**	**321**	*e*Pn	**Pn**	**11 21 48.1**	**-0.5**
NEW				*e*Sg	**Sg**	**11 23 08.6**	**-1.2**
WVOR	**Wild Horse Val**	**4.86**	**245**	*e*Pn	**Pn**	**11 21 50.3**	**+0.6**
I07A	**Izee**	**4.93**	**266**	*e*Pn	**Pn**	**11 21 51.5**	**+0.7**
LAO	**LASA Array**	**4.97**	**63**	*e*Pn	**Pn**	**11 21 49.6**	**-1.6**
C09A	**Chrisman Ranch**	**5.03**	**311**	*e*Pn	**Pn**	**11 21 50.7**	**-1.4**
BMN	**Battle Mountai**	**5.36**	**220**	*e*Pn	**Pn**	**11 21 55.8**	**-0.9**
G06A	**Carlson Farm,**	**5.70**	**279**	*e*Pn	**Pn**	**11 22 02.1**	**+0.9**
SRU	**San Rafael Swe**	**5.72**	**163**	*e*Pn	**Pn**	**11 22 00.5**	**-1.2**
B08A	**Colville Reser**	**5.94**	**312**	*e*Pn	**Pn**	**11 22 05.6**	**+1.1**
PINE	**Pine Mountain**	**6.01**	**265**	*e*Pn	**Pn**	**11 22 04.6**	**-1.0**
LTY	**Liberty**	**6.18**	**298**	*e*Pn	**Pn**	**11 22 05.3**	**-2.5**
K05A	**Summer Lake**	**6.26**	**255**	*e*Pn	**Pn**	**11 22 11.0**	**+2.0**
GLK	**Glacier Lake**	**6.57**	**290**	*e*Pn	**Pn**	**11 22 13.5**	**+0.2**
GLK				*e*Sn	**Sn**	**11 23 29.4**	**+1.0**
R11A	**Troy Canyon, C**	**6.63**	**200**	*e*Pn	**Pn**	**11 22 13.1**	**-1.0**
PANH	**Panhandle Gap,**	**6.67**	**293**	*e*Pn	**Pn**	**11 22 13.7**	**-1.0**
NVAR	**Mina Array Bea**	**7.48**	**216**	Pn	Pn	11 22 30.8	+4.9
	0.1nm,0.3s,baz=6.8,slow=8.4,SNR=4.4						
NVAR				Pg	**Pb**	**11 22 49.4**	**+2.9**
	0.2nm,0.3s,baz=39,slow=16,SNR=8.9						
NVAR				Lg	Lg	11 24 30.4	
	0.3nm,0.3s,baz=148,slow=5.2,SNR=4.6						
YKA	**Yellowknife Ar**	**17.95**	**357**	P	**Pn**	**11 24 45.2**	**-0.7**
	0.0nm,0.3s,baz=171,slow=12,SNR=4.3						
YKB5	**Yellowknife Ar**	**17.95**	**357**	*e*Pn	**Pn**	**11 24 45.2**	**-0.7**

NIED ***21*** *11:25:00,36°.90N×139°.40E, h5km, Mw4.5 Best double couple: M0 6.08000×10^15 NP1:φs8.00000°, δ66.00000°, λ-12.00000°. NP2:φs103.00000°, δ79.00000°, λ-156.00000°.*

IDC ***21*** *11:25:49.4±0.5, 36°.83N×139°.47E, h0km, mb4.2/29, mb1 4.3/35, mb1mx4.2/58, mbtmp4.2/35, ML3.6/6, MS3.5/15, Ms1 3.5/15, ms1mx3.4/37, Error ellipse: s-maj=12.0km s-min=8.3km az=148.0*

ISCJB ***21*** *11:25:49.5±0.5, 36°.87N±0°.02×139°.37E±0°.03, h11km±2km, mb4.3/118, MS3.6/11, Error ellipse: s-maj=4.3km s-min=3.0km az=136.1*

JMA ***21*** *11:25:49.6, 36°.91N×139°.40E, h4km±1km, M4.7 Broadband fault plane solution: P waves. NP1: φs15.00000°, δ69.00000°, λ-29.00000°. NP2:φs116.00000°, δ63.00000°, λ-156.00000°. Principal axes: T Plg4.0000°, Azm67.0000°; N Plg55.0000°, Azm163.0000°; P Plg35.0000°, Azm334.0000°;*

JMA Felt III J1.

NEIC ***21*** *11:25:50.7±2.1, 36°.87N×139°.31E, h10km±1km, mb4.4/99 Error ellipse: s-maj=11.7km s-min=7.8km az=149.0*

NEIC Felt at Hitachi and Utsunomiya. Recorded [3 JMA] in Fukushima, Gumma and Tochigi.

MOS ***21*** *11:25:52.2±1.3, 36°.83N×139°.38E, h33km, mb4.5/12, Error ellipse: s-maj=10.0km s-min=6.1km az=92.2*

ISC 21 11:25:50.1±0.9, **36°.89N**±0°.03×**139°.41E**±0°.03, **h5**km±5km, **n240**, σ1§**87**/253, **mb4.4**/118, **MS3.6**/11, **13C-11D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.17**	**227**	⇑P	**Pg**	**11 25 53.6**	**0.0**
JKT				*e*S	**Sg**	**11 25 56.4**	**+0.5**
JSB	**Shiboa**	**0.42**	**78**	⇑P	**Pg**	**11 25 58.4**	**+0.1**
JAG	**Ashikaga**	**0.46**	**175**	⇓P	**Pg**	**11 25 59.2**	**+0.2**
JHK	**Hiroka**	**0.48**	**320**	⇓P	**Pg**	**11 25 58.6**	**-0.8**
JHK				S	**Sg**	**11 26 04.9**	**-0.7**
JFY	**Yanaizu**	**0.57**	**25**	⇑P	**Pg**	**11 26 00.5**	**-0.7**
JFY				S	**Sg**	**11 26 07.7**	**-1.0**
MJAR	**Matsushiro Arr**	**1.02**	**251**	*e*Pg	**Pg**	**11 26 07.9**	**-1.8**
MJAR				*e*Sg	**Sg**	**11 26 21.1**	**-1.8**
MJAR	**Matsushiro Arr**	**1.02**	**251**	*e*P	**Pg**	**11 26 07.9**	**-1.8**
MJAR				*e*		11 26 21.1	
MJAR	**Matsushiro Arr**	**1.02**	**251**	Pg	**Pg**	**11 26 09.0**	**-0.7**
	98nm,0.3s,baz=71,slow=18,SNR=4365						
MJAR				Lg	Lg	11 26 22.4	
	62nm,0.3s,baz=85,slow=29,SNR=16						
MAJO	**Matsushiro**	**1.02**	**251**	*e*Pg	**Pg**	**11 26 09.3**	**-0.5**
MAJO				*e*Sg	**Sg**	**11 26 17.5**	**-5.4**
MAJO				*e*Sn	**Sb**	**11 26 22.4**	**-1.7**
MAJO	**Matsushiro**	**1.02**	**251**	*c i*P	**Pg**	**11 26 09.2**	**-0.5**
MAT	**Matsushiro**	**1.02**	**251**	P	**Pg**	**11 26 09.3**	**-0.4**
MAT				S	**Sg**	**11 26 22.5**	**-0.5**
MJB9	**Matsu-Tunnel**	**1.02**	**251**	*e*Pg	**Pg**	**11 26 09.3**	**-0.5**
MJB9				*e*Sg	**Sg**	**11 26 17.6**	**-5.4**
INU	**Inuyama**	**2.47**	**232**	*e*Pn	**Pn**	**11 26 32.2**	**+1.2**
INU				*e*Sn	**Sn**	**11 26 58.5**	**-3.0**
JHJ	**Hachijo jima 2**	**3.77**	**175**	Pn	**Pn**	**11 26 49.2**	**+0.2**
	43nm,0.3s,baz=131,slow=23,SNR=16						
JHJ				Sn	**Sn**	**11 27 32.5**	**-1.2**
	baz=53,slow=20,SNR=1.7						
JHJ				LR	LR	11 28 20.4	
	comp=Z,1μm,20.7s,baz=320,slow=41						
JHJ2	**Mitsune**	**3.78**	**175**	*e*Pn	**Pn**	**11 26 49.9**	**+0.8**
JHJ2				*e*Sn	**Sn**	**11 27 31.6**	**-2.3**
ERM	**Erimo**	**5.89**	**28**	*e*Pn	**Pn**	**11 27 18.7**	**+0.7**
ERM				*e*Sn	**Sn**	**11 28 20.3**	**-5.5**
ERM	**Erimo**	**5.89**	**28**	*ce*P	**Pn**	**11 27 19.4**	**+1.4**
ERM				pmax	pmax		
	comp=Z,92nm,1.0s						
ASAJ	**Asahikawa**	**7.62**	**18**	P	**Pn**	**11 27 43.0**	**+1.2**
ASAJ	**Asahikawa**	**7.62**	**18**	Pn	**Pn**	**11 27 43.0**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=196,slow=9.9,SNR=13						
ASAJ				LR	LR	11 30 50.4	
	comp=Z,688nm,18.7s,baz=211,slow=39						
JNU	**Nakatsue**	**7.94**	**244**	*e*Pn	**Pn**	**11 27 47.7**	**+1.4**
JNU	**Nakatsue**	**7.94**	**244**	Pn	**Pn**	**11 27 48.0**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=60,slow=5.4,SNR=21						
TEY	**Ternei**	**8.41**	**346**	⇑*e*P	Pn	11 28 00.5	+7.8
TEY				pmax	pmax		
	comp=E,10.0nm,1.2s						
TEY				pmax	pmax		
	comp=N,10.0nm,1.9s						
TEY				pmax	pmax		
	comp=Z,20nm,1.6s						
YUK	**Yuzh-Kuril'sk**	**8.67**	**33**	⇓*i*P	**Pn**	**11 27 56.8**	**+0.6**
YUK				pmax	pmax		
	comp=E,31nm,0.5s						
YUK				pmax	pmax		
	comp=Z,76nm,0.5s						
YUK				pmax	pmax		
	comp=N,22nm,0.2s						
YUK				MLR	MLR		
	comp=Z,496nm,12.0s						
YUK				MLR	MLR		
	comp=N,817nm,17.0s						
KSRS	**Korea Array**	**9.18**	**277**	Pn	**Pn**	**11 28 06.5**	**+3.3**
	comp=N,1.7nm,0.3s,baz=90,slow=14,SNR=16						
KSRS				LR	LR	11 31 22.5	
	comp=N,143nm,21.4s,baz=90,slow=36						
KS15	**Wonju Array Si**	**9.21**	**277**	*e*Pn	**Pn**	**11 28 06.3**	**+2.6**
KS15				*e*Sn	**Sn**	**11 29 41.3**	**-6.4**
KSAR	**Wonju Array Be**	**9.21**	**277**	*e*Pn	**Pn**	**11 28 04.5**	**+0.8**
USRK	**Ussuriysk Ar.**	**9.23**	**325**	*e*Pn	**Pn**	**11 28 01.9**	**-2.0**
USRK				*e*Sn	**Sn**	**11 29 44.5**	**-3.6**
USRK	**Ussuriysk Ar.**	**9.23**	**325**	Pn	**Pn**	**11 28 04.8**	**+0.9**
	comp=N,0.6nm,0.3s,baz=144,slow=13,SNR=6.4						
USRK				Sn	**Sn**	**11 29 45.9**	**-2.2**
	comp=N,0.3nm,0.3s,baz=156,slow=14,SNR=4.4						
USRK				LR	LR	11 31 23.8	
	comp=N,161nm,21.5s,baz=145,slow=36						
TJN	**Taejon**	**9.69**	**271**	⇑*e*P	**Pn**	**11 28 08.1**	**-2.1**
YSS	**Yuzh-Sakhalins**	**10.37**	**13**	*e*P	Pn	11 28 24.4	+5.0
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YSS				MLR	MLR		
	comp=N,700nm,14.0s						
YSS				MLR	MLR		
	comp=Z,800nm,14.0s						
YSS				MLR	MLR		
	comp=E,600nm,13.0s						
MDJ	**Mudanjiang**	**10.72**	**319**	*e*Pn	**Pn**	**11 28 24.3**	**0.0**
KLR	**Kul'dur**	**13.54**	**338**	*de*P	**Pn**	**11 29 05.8**	**+3.0**
KLR				pmax	pmax		
	comp=Z,20nm,1.4s						
KLR	**Kul'dur**	**13.54**	**338**	Pn	**Pn**	**11 29 05.8**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=149,slow=9.3,SNR=9.0						
KLR				LR	LR	11 33 46.0	
	comp=Z,163nm,21.4s,baz=140,slow=35						
GRNR	**Gornyy**	**14.04**	**352**	*e*P	**P**	**11 29 18.0**	**+0.3**
NJ2	**Nanjing**	**17.61**	**260**	*e*P	**Pn**	**11 29 56.1**	**-0.2**
TIA	**Tai'an**	**17.91**	**275**	P	**P**	**11 30 04.5**	**+3.8**
TIA				S	**S**	**11 33 33.0**	**+6.2**
BJT	**Baijiatuau**	**18.46**	**287**	*e*Pn	**Pn**	**11 30 07.9**	**+1.2**
	comp=Z,11nm,0.9s						
ZEA	**Zeya**	**18.85**	**337**	*e*P	**P**	**11 30 10.8**	**0.0**
ZEA				pmax	pmax		
	comp=Z,11nm,0.9s						
ZEA				MLR	MLR		
	comp=Z,500nm,15.0s						
ZEA				MLR	MLR		
	comp=E,200nm,12.0s						
HIA	**Hailar**	**18.89**	**317**	*e*P	**P**	**11 30 10.3**	**-1.1**
	comp=E,9.3nm,0.6s						
PETK	**Petropavlovsk-**	**20.65**	**32**	LR	LR	11 38 54.2	
	comp=E,220nm,18.0s,baz=233,slow=38						
HHC	**Hu-ho-hao-te**	**22.00**	**289**	*e*P	**P**	**11 30 46.3**	**+1.1**
HHC				S	**S**	**11 34 49.9**	**+1.5**
HHC				SS	**SnSn**	**11 35 23.8**	**+10**
MA2	**Magadan**	**23.87**	**14**	*e*P	**P**	**11 31 03.7**	**-0.5**
	comp=E,9.8nm,0.9s						
MA2	**Magadan**	**23.87**	**14**	⇓*e*P	**P**	**11 31 04.2**	**0.0**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MA2	**Magadan**	**23.87**	**14**	P	**P**	**11 31 03.4**	**-0.8**
	comp=Z,5.8nm,0.7s,baz=159,slow=3.7,SNR=5.2						
MA2				LR	LR	11 41 37.7	
	comp=Z,136nm,18.0s,baz=204,slow=40						
XAN	**Xi'an**	**24.94**	**273**	P	P	11 31 23.3	+8.9
XAN				pP	sP	11 31 34.3	+17
XAN				PP	PnPn	11 32 02.1	+15
XAN				PcP	**PcP**	**11 34 55.9**	**+6.0**
XAN				S	**S**	**11 35 43.4**	**+5.0**
ULN	**Ulaanbaatar**	**26.11**	**305**	*e*P	**P**	**11 31 24.7**	**-0.4**
	comp=Z,3.3nm,0.8s						
ULN	**Ulaanbaatar**	**26.11**	**305**	*ce*P	**P**	**11 31 26.6**	**+1.5**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.7s						
SONA0	**Songino Array**	**26.54**	**305**	*e*P	**P**	**11 31 27.7**	**-1.2**
SONM	**Songino Array**	**26.54**	**305**	*e*P	**P**	**11 31 27.6**	**-1.3**
SONM	**Songino Array**	**26.54**	**305**	P	**P**	**11 31 27.7**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=111,slow=8.9,SNR=7.6						
SONM				LR	LR	11 42 02.0	
	comp=Z,130nm,18.0s,baz=96,slow=36						
BOD	**Bodaibo**	**26.82**	**329**	*e*P	**P**	**11 31 29.8**	**-1.3**
BOD				pmax	pmax		
	comp=Z,12nm,1.6s						
SEY	**Seymchan**	**27.27**	**13**	⇑*e*P	**P**	**11 31 35.9**	**+0.8**
SEY	**Seymchan**	**27.27**	**13**	P	**P**	**11 31 35.3**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=198,slow=8.4,SNR=6.2						
LZH	**Lanzhou**	**28.50**	**279**	*e*P	**P**	**11 31 50.8**	**+4.2**
LZH				pP	sP	11 31 53.4	+3.9
LZH				sP	pP	11 31 54.5	+5.8
LZH				SS	SS	11 38 10.6	-24
H11N2	**WAKE ISLAND Hy**	**29.48**	**118**	T	T	12 02 01.3	
	baz=312,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**29.48**	**118**	T	T	12 02 04.8	
	baz=312,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**29.50**	**118**	T	T	12 02 06.0	
	baz=312,slow=75,SNR=22						
CD2	**Chengdu**	**30.06**	**269**	*e*P	**P**	**11 31 59.4**	**-1.0**
H11S1	**WAKE ISLAND Hy**	**30.15**	**120**	T	T	12 02 48.6	
	baz=314,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**30.15**	**120**	T	T	12 02 52.4	
	baz=314,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy**	**30.17**	**120**	T	T	12 02 55.3	
	baz=314,slow=76,SNR=23						
QIZ	**Qiongzhong**	**31.41**	**244**	P	**P**	**11 32 13.3**	**+1.0**
QIZ				S	**S**	**11 37 22.1**	**+1.6**
BILL	**Bilibino**	**34.64**	**17**	⇓*e*P	**P**	**11 32 40.5**	**+0.5**
BILL				*e*S	**S**	**11 38 03.9**	**-5.8**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,241nm,20.0s						
TIXI	**Tiksi**	**35.26**	**354**	*e*P	**P**	**11 32 45.1**	**-0.2**
TIXI	**Tiksi**	**35.26**	**354**	⇓*e*P	**P**	**11 32 46.0**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TIXI	**Tiksi**	**35.26**	**354**	P	**P**	**11 32 45.0**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=151,slow=5.5,SNR=8.3						
DGZ	**Jazzator, Alta**	**39.18**	**306**	⇑*e*P	**P**	**11 33 19.1**	**+0.1**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WMQ	**Urumqi**	**39.47**	**297**	*e*P	**P**	**11 33 22.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**39.91**	**254**	*e*P	**P**	**11 33 23.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**39.91**	**254**	LR	LR	11 51 04.4	
	comp=Z,69nm,18.4s,baz=34,slow=38						
LUWI	**Luwuk**	**40.77**	**206**	*e*P	**P**	**11 33 32.2**	**-0.2**
	comp=Z,31nm,1.0s						
ZAA0	**Zalesovo Array**	**40.83**	**313**	*e*P	**P**	**11 33 30.5**	**-1.9**
	comp=Z,2.1nm,0.9s						
ZAA1	**Zalesovo Array**	**40.83**	**313**	*e*P	**P**	**11 33 33.5**	**+1.1**
ZALV	**Zalesovo Beam**	**40.83**	**313**	*e*P	**P**	**11 33 30.5**	**-1.9**
ZALV	**Zalesovo Beam**	**40.83**	**313**	P	**P**	**11 33 33.5**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=97,slow=12,SNR=5.2						
NRIK	**Noril'sk**	**42.73**	**336**	LR	LR	11 52 38.4	
	comp=Z,122nm,18.2s,baz=34,slow=38						
MK32	**Makanchi Array**	**42.83**	**302**	*e*P	**P**	**11 33 49.6**	**+0.6**
MKAR	**Makanchi Array**	**42.83**	**302**	P	**P**	**11 33 49.6**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=74,slow=11,SNR=2.8						
KURK	**Kurchatov**	**44.76**	**308**	*e*P	**P**	**11 34 04.3**	**-0.1**
	comp=Z,5.2nm,1.0s						
KURK	**Kurchatov**	**44.76**	**308**	⇓*e*P	**P**	**11 34 03.0**	**-1.4**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KURBB	**Kurchatov Arra**	**44.82**	**308**	P	**P**	**11 34 04.3**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=84,slow=8.4,SNR=19						
KAPI	**Kappang**	**45.55**	**208**	P	**P**	**11 34 10.2**	**-0.8**
	comp=Z,2.6nm,0.3s,baz=113,slow=5.2,SNR=4.0						
IMAR	**Indian Mountai**	**47.60**	**31**	*e*P	**P**	**11 34 27.4**	**+0.8**
RSO	**Redoubt South**	**48.01**	**38**	*e*P	**P**	**11 34 28.4**	**-1.7**
CAST	**Castle Rocks**	**48.25**	**34**	*e*P	**P**	**11 34 33.8**	**+2.1**
	comp=Z,4.2nm,0.9s						
KDAK	**Kodiak Island**	**48.28**	**42**	*e*P	**P**	**11 34 33.5**	**+1.6**
	comp=Z,1.0nm,1.0s						
KDAK	**Kodiak Island**	**48.28**	**42**	P	**P**	**11 34 32.1**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=267,slow=4.0,SNR=7.2						
MLY	**Manley**	**48.83**	**32**	*e*P	**P**	**11 34 38.6**	**+2.5**
	comp=Z,4.3nm,0.9s						
SUA	**Susitna One**	**48.94**	**37**	*e*P	**P**	**11 34 39.3**	**+2.2**
	comp=Z,7.6nm,0.9s						
KSH	**Kashi**	**48.99**	**294**	P	**P**	**11 34 41.0**	**+3.1**
COLD	**Coldfoot**	**49.06**	**29**	*e*P	**P**	**11 34 37.0**	**-0.8**
	comp=Z,2.4nm,0.9s						
TOLK	**Toolik Lake Re**	**49.34**	**27**	*

YKA	Yellowknife Ar	64.74	30	eP	P	11 36 28.7	-0.3
YKA	Yellowknife Ar	64.74	30	P	P	11 36 28.4	-0.6
	comp=Z,0.9nm,0.8s,baz=304,slow=6.6,SNR=12						
YKA				LR	LR	12 06 08.5	
	comp=Z,5.0nm,19.0s,baz=276,slow=37						
YKB5	Yellowknife Ar	64.74	30	eP	P	11 36 28.4	-0.6
LLLB	Lillooet	67.47	43	eP	P	11 36 47.0	-0.2
	comp=Z,4.9nm,0.9s						
STKA	Stephens Creek	68.44	178	eP	P	11 36 52.7	-0.2
	comp=Z,0.1nm,0.7s						
STKA	Stephens Creek	68.44	178	P	P	11 36 51.5	-1.5
	comp=Z,1.5nm,0.7s,baz=21,slow=7.9,SNR=4.3						
STKA				LR	LR	12 06 36.1	
	comp=Z,62nm,18.7s,baz=23,slow=36						
KBZ	Khabaz	69.77	310	P	P	11 37 03.0	+1.8
	comp=Z,1.0nm,0.4s,baz=59,slow=5.0,SNR=4.0						
SUMG	Summit	70.82	359	eP	P	11 37 08.5	+0.7
	comp=Z,6.3nm,0.9s						
C09A	Chrisman Ranch	70.97	44	eP	P	11 37 10.1	+1.5
	comp=Z,5.3nm,0.9s						
NEW	Newport	71.35	43	P	P	11 37 11.1	+0.1
	comp=Z,1.2nm,0.5s,baz=321,slow=6.5,SNR=3.0						
BMO	Blue Mountains	73.20	46	eP	P	11 37 23.5	+1.4
	comp=Z,1.7nm,0.8s						
J08A	Circle Bar Ran	73.38	48	eP	P	11 37 23.8	+0.5
	comp=Z,2.9nm,1.0s						
AKASG	Malin Array Be	73.42	321	P	P	11 37 25.2	+2.1
	comp=Z,0.7nm,0.4s,baz=50,slow=6.4,SNR=4.0						
AKBB	Malin Array Si	73.42	321	eP	P	11 37 24.1	+0.9
	comp=Z,3.5nm,0.8s						
KIEV	Kiev	73.43	321	eP	P	11 37 22.3	-0.9
	comp=Z,3.4nm,0.8s						
KIEV	Kiev	73.43	321⇑	eP	P	11 37 23.0	-0.2
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS	Hagfors	73.55	335	P	P	11 37 25.5	+1.8
	comp=Z,2.3nm,0.9s,baz=44,slow=4.8,SNR=3.5						
NB2	NORSAR Subarra	73.69	337	P	P	11 37 26.1	+1.4
	comp=Z,2.0nm,0.8s,baz=41,slow=6.2						
NB200	NORSAR Array S	73.69	337	eP	P	11 37 24.2	-0.4
NOA	NORSAR Array B	73.69	337	P	P	11 37 24.2	-0.4
	comp=Z,1.6nm,0.8s,baz=39,slow=5.9,SNR=4.5						
WVOR	Wild Horse Val	73.81	49	eP	P	11 37 25.1	-0.7
	comp=Z,1.9nm,1.1s						
FFC	Flin Flon	74.69	32	eP	P	11 37 31.3	+0.8
	comp=Z,3.9nm,0.9s						
FFC	Flin Flon	74.69	32	iP	P	11 37 32.4	+1.9
HRY	Holter Researc	75.16	42	eP	P	11 37 33.7	+0.1
LRM	Limekiln Ridge	75.37	43	eP	P	11 37 31.5	-3.5
EGMT	Eagleton	75.44	40	eP	P	11 37 33.5	-1.6
	comp=Z,9.9nm,0.9s						
YERR	Yerington	75.44	52	eP	P	11 37 36.2	+0.8
	comp=Z,5.2nm,1.1s						
DLMT	Dillon	75.57	44	eP	P	11 37 36.1	+0.1
	comp=Z,4.2nm,1.1s						
HLID	Hailey	75.64	46	eP	P	11 37 36.8	+0.3
	comp=Z,1.6nm,1.0s						
BMN	Battle Mountai	75.85	50	eP	P	11 37 36.3	-1.4
	comp=Z,2.7nm,0.8s						
BOZ	Bozeman (W)	75.96	43	eP	P	11 37 38.2	0.0
	comp=Z,4.5nm,1.0s						
KVN	Kaiserville	76.12	52	eP	P	11 37 40.1	+0.8
	comp=Z,3.6nm,0.8s						
NV01	Mina Array Sit	76.36	52	eP	P	11 37 41.6	+0.9
NVAR	Mina Array Bea	76.36	52	eP	P	11 37 41.1	+0.4
NVAR	Mina Array Bea	76.36	52	P	P	11 37 41.6	+0.9
	comp=Z,2.5nm,0.8s,baz=293,slow=5.1,SNR=13						
NV11	Mina Array Sit	76.45	52	eP	P	11 37 41.7	+0.5
	comp=Z,0.2nm,1.0s						
QLMT	Earthquake Lak	76.55	44	eP	P	11 37 43.3	+1.6
ELK	Elko	76.86	49	eP	P	11 37 45.0	+1.4
	comp=Z,1.4nm,0.9s						
ILGA	Ilgaz	76.88	312	eP	P	11 37 43.6	0.0
	comp=Z,4.1nm,0.6s						
GCMT	Greycliff	76.90	42	eP	P	11 37 44.7	+1.2
YPP	Pitchstone Pla	77.25	44	eP	P	11 37 47.1	+1.4
	comp=Z,1.2nm,0.8s						
LKWY	Lake	77.29	43	eP	P	11 37 47.1	+1.3
	comp=Z,1.9nm,0.7s						
H17A	Grant Village	77.30	44	eP	P	11 37 44.5	-1.5
	comp=Z,4.9nm,0.9s						
IMW	Indian Meadow	77.41	44	eP	P	11 37 46.8	+0.2
	comp=Z,4.5nm,1.1s						
BURAR	Bucovina Array	77.42	321	eP	P	11 37 45.4	-1.0
RLMT	Red Lodge	77.55	42	eP	P	11 37 46.8	-0.5
	comp=Z,2.3nm,0.8s						
MOOW	Moose Ponds	77.61	44	eP	P	11 37 46.9	-0.8
	comp=Z,1.4nm,1.1s						
TPAW	Teton Pass	77.66	45	eP	P	11 37 49.5	+1.4
	comp=Z,3.7nm,0.9s						
HVU	Hansel Valley	77.69	47	eP	P	11 37 49.0	+0.9
BR101	Keskin Array S	77.74	311	eP	P	11 37 50.2	+1.9
BRTR	Keskin Array B	77.74	311	eP	P	11 37 45.6	-2.7
BRTR	Keskin Array B	77.74	311	eP	P	11 37 45.6	-2.7
BRTR	Keskin Array B	77.74	311	P	P	11 37 50.2	+1.9
	comp=Z,1.2nm,0.9s,baz=57,slow=4.6,SNR=6.1						
AHID	Auburn Hatcher	78.04	45	eP	P	11 37 48.7	-1.3
	comp=Z,1.0nm,0.6s						
R11A	Troy Canyon, C	78.11	51	eP	P	11 37 48.9	-1.6
	comp=Z,2.7nm,0.9s						
OJC	Ojcow	78.25	325	eP	P	11 37 49.3	-1.6
	comp=Z,4.6nm,0.7s						
MLR	Muntele Rosu	78.45	319	eP	P	11 37 51.1	-1.0
	comp=Z,1.9nm,0.8s						
HWUT	Hardware Ranch	78.50	46	eP	P	11 37 51.4	-1.2
	comp=Z,2.5nm,1.1s						
TPNV	Topopah Spring	78.55	52	eP	P	11 37 53.0	+0.1
	comp=Z,3.6nm,0.9s						
DUG	Dugway, Tooele	78.66	48	eP	P	11 37 53.0	-0.5
	comp=Z,2.7nm,0.8s						
TCUT	Toone Canyon	78.91	47	eP	P	11 37 55.7	+0.8
	comp=Z,6.6nm,0.9s						
PD31	Pinedale Array	78.91	44	eP	P	11 37 54.3	-0.6
	comp=Z,1.6nm,0.9s						
PDAR	Pinedale Array	78.91	44	eP	P	11 37 53.8	-1.1
PDAR	Pinedale Array	78.91	44	P	P	11 37 55.0	+0.2
	comp=Z,1.4nm,0.8s,baz=279,slow=2.8,SNR=7.8						
PSUT	Pine Spring	79.07	50	eP	P	11 37 55.9	+0.1
	comp=Z,3.3nm,1.1s						
GSC	Goldstone, Bar	79.19	54	eP	P	11 37 57.2	+0.8
	comp=Z,2.4nm,0.9s						
MPU	Maple Canyon	79.47	48	eP	P	11 37 57.8	-0.2
	comp=Z,2.8nm,1.1s						
CCUT	Cedar City	79.98	50	eP	P	11 38 00.4	-0.4
	comp=Z,1.2nm,0.9s						
MSU	Marysvale	80.10	49	eP	P	11 38 00.7	-0.8
P17A	Butcher Ranch,	80.35	48	eP	P	11 38 01.8	-0.9
	comp=Z,4.6nm,0.9s						
MTPU	Mount Pierson	80.40	49	eP	P	11 38 03.2	0.0
	comp=Z,2.6nm,0.9s						
CLL	Collm	80.41	329	eP	P	11 38 01.9	-0.7
	comp=Z,3.3nm,0.8s						
CLL	Collm	80.41	329	eP	P	11 38 02.0	-0.6
CLL				e		11 38 09.0	
CLL	Collm	80.41	329	eP	P	11 38 02.0	-0.6
CLL				e(sP)	PcP	11 38 09.0	-0.6
CLL				e		11 38 19.0	
SRU	San Rafael Swe	80.71	48	eP	P	11 38 04.6	-0.1
	comp=Z,4.3nm,1.0s						
RWWY	Rawlins	80.93	44	eP	P	11 38 05.7	-0.2
	comp=Z,3.9nm,0.8s						
RSSD	Black Hills	81.00	41	eP	P	11 38 05.5	-0.6
	comp=Z,2.6nm,1.1s						
U15A	North Rim	81.36	51	eP	P	11 38 09.7	+1.4
	comp=Z,2.7nm,0.9s						
PV09	Paradox Valley	81.93	48	eP	P	11 38 09.2	-2.2
PHWY	Pilot Hill	82.16	44	eP	P	11 38 09.4	-3.1
	comp=Z,2.3nm,0.6s						
PV03	Paradox Valley	82.26	48	eP	P	11 38 13.3	+0.4
	comp=Z,3.8nm,1.1s						
PV13	Radium Mtn., P	82.34	48	eP	P	11 38 12.7	-0.7
	comp=Z,3.4nm,0.9s						
T25A	Trinidad	85.61	46	eP	P	11 38 29.2	-0.9
	comp=Z,2.7nm,0.8s						
ANMO	Albuquerque	85.90	49⇑	eP	P	11 38 31.2	-0.3
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.6s						
SCHQ	Schefferville	85.91	15	LR	LR	12 18 08.9	
	comp=Z,44nm,22.0s,baz=318,slow=36						
LTX	Lajitas	91.48	51	eP	P	11 38 58.3	+0.3
TXAR	Lajitas Array	91.48	51	P	P	11 38 58.3	+0.3
	comp=Z,0.7nm,0.8s,baz=306,slow=4.1,SNR=6.0						
TXAR				LR	LR	12 17 28.4	
	comp=Z,16nm,20.0s,baz=0.0,slow=34						
SNAA	Sanae	140.13	198	PKiKP	PKiKP	11 45 23.0	+1.7
VNA2	Neumayer--Watz	141.72	197	PKPdf	PKPdf	11 45 18.3	-3.3
VNA3	Neumayer Olymp	142.00	196	PKPdf	PKPdf	11 45 19.6	-2.5
VNA1	Neumayer--Stat	142.12	197	PKPdf	PKPdf	11 45 18.8	-3.5
LPAZ	La Paz	148.14	57	ePKPdf	PKPdf	11 45 31.9	-3.2
LPAZ				ePKPbc	pPKPdf	11 45 36.5	-0.8
LPAZ				ePKPab	PKiKP	11 45 40.2	+0.1
LPAZ	La Paz	148.14	57	ePKIKP	PKPdf	11 45 31.9	-3.2
LPAZ				e		11 45 36.5	
LPAZ				e		11 45 40.2	
LPAZ	La Paz	148.14	57	PKPbc	PKPbc	11 45 38.4	+0.1
	comp=Z,1.5nm,0.8s,baz=288,slow=6.4,SNR=4.9						
PLCA	Paso Flores	156.40	109	ePKPdf	PKPdf	11 45 45.0	-0.9
PLCA	Paso Flores	156.40	109	ePKIKP	PKPdf	11 45 45.1	-0.9
PLCA	Paso Flores	156.40	109	PKP	PKPdf	11 45 46.8	+0.9
	comp=Z,2.9nm,1.1s,baz=169,slow=4.2,SNR=2.8						

*KRSC **21** 11:27:42.4±10.0, 52°.27N×160°.89E, h45km±10km, ML4.2*
*IDC **21** 11:27:43.2±1.9, 52°.60N×160°.34E, h0km, mb3.8/8,*
mb1 3.9/8, mb1mx3.5/50, mbtmp3.8/8, MS3.4/2, Ms1 3.4/2,
ms1mx2.6/45, Error ellipse: s-maj=54.2km s-min=23.8km
az=103.0
*NEIC **21** 11:27:45.0±1.9, 52°.56N×160°.79E, h16km±9km, mb4.0/2,*
Error ellipse: s-maj=24.9km s-min=18.5km az=82.0

ISC 21 11:27:43.3±1.7, 52°.51N±0°.05×160°.77E±0°.04, h12km±9km,
n57, σ1§52/77, mb4.0/10, Off east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.75	323	P	Pn		11 28 00.2	+0.5
SPN				S	Sn		11 28 11.3	+0.3
NLC	Nalytchevo	1.09	308	P	Pg		11 28 05.1	+0.8
NLC				S	Sn		11 28 20.5	+1.0
DALK	Dalny	1.33	294	P	Pg		11 28 08.8	-0.1
DALK				S	Sg		11 28 26.1	-0.1
UGLR	Uglovaya	1.38	302	P	Pg		11 28 10.4	+0.7
UGLR				S	Sg		11 28 30.0	+2.4
SDLR	Sedlovina	1.38	305	P	Pg		11 28 10.0	+0.2
SDLR				S	Sg		11 28 28.3	+0.5
RUS	Russkaya	1.38	268	P	Pb		11 28 08.6	-0.5
RUS				S	Sn		11 28 26.0	-0.6
PET	Petropavlovsk	1.39	293	ePn	Pb		11 28 08.9	-0.2
PET				eSn	Sg		11 28 27.4	-0.5
SMAR	Somma	1.41	303	P	Pg		11 28 10.5	0.0
AVH	Avacha	1.45	303	P	Pg		11 28 11.4	+0.3
AVH				S	Sg		11 28 32.3	+2.4
KRER	Koryakskii	1.46	304	P	Pg		11 28 11.7	+0.3
KRER				S	Sg		11 28 32.0	+1.6
KOK	Koryaka	1.51	302	P	Pg		11 28 12.2	-0.2
KRX	Arik	1.54	305	P	Pg		11 28 12.5	-0.4
KRX				S	Sg		11 28 33.8	+0.8
MTVR	Mutnovka	1.58	270	P	Pb		11 28 11.9	-0.7
MTVR				S	Sb		11 28 33.2	+0.6
KRMR	Karymshinskiy	1.64	283	P	Pb		11 28 12.6	-0.9
KRMR				S	Sb		11 28 34.6	+0.5
GRL	Gorelyy	1.65	273	P	Pn		11 28 11.4	-0.8
GRL				S	Sn		11 28 32.4	-1.0
ASAK	Asacha	1.76	267	P	Pb		11 28 14.6	-1.0
ASAK				S	Sb		11 28 37.7	0.0
KDTR	Khodutka, Kamc	1.80	248	P	Pn		11 28 13.4	-0.7
KDTR				S	Sn		11 28 36.3	-0.6
PEA0B	Petropavlovsk-	1.96	289	ePn	Pb		11 28 17.8	-1.2
PEA0B				eSn	Sn		11 28 40.5	-0.4
PETK	Petropavlovsk-	1.96	289	ePn	Pb		11 28 17.5	-1.5
PETK				eSn	Sn		11 28 40.6	-0.3
PETK	Petropavlovsk-	1.96	289	Pn	Pb		11 28 17.8	-1.1
	21nm,0.3s,baz=104,slow=19,SNR=172							
PETK				Sn	Sg		11 28 46.6	+0.4
	51nm,0.3s,baz=89,slow=22,SNR=12							
PETK				LR	LR		11 29 13.8	
	comp=Z,234nm,18.5s,baz=102,slow=54							
PEA1	Petropavlovsk-	1.96	289	ePn	Pb		11 28 17.8	-1.1
PEA1				eSn	Sg		11 28 46.6	+0.3
MKZ	Mys Kozlova	2.13	15	P	Pb		11 28 20.9	-1.0
MKZ				S	Sb		11 28 47.4	-0.9
APC	Apacha	2.24	282	P	Pb		11 28 22.3	-1.3
APC				S	Sb		11 28 51.1	-0.2
KZV	Kizimen	2.63	354	P	Pb		11 28 30.2	-0.2
KZV				S	Sg		11 29 04.6	-3.1
PAU	Pauzhetka	2.66	249	P	Pn		11 28 24.7	-1.3
TUMD	Tumrok D	2.71	356	P	Pb		11 28 30.4	-1.4
TUMD				S	Sb		11 29 04.5	-0.5
TUMR	Tumrok	2.81	353	P	Pb		11 28 32.8	-0.7
TUMR				S	Sb		11 29 08.2	+0.4
SKR	Severo-Kuril's	3.43	240	P	Pn		11 28 35.7	-0.8
SKR				S	Sn		11 29 13.1	-3.9
BZGR	Bezymyannyi-Gr	3.44	359	S	Sb		11 29 21.5	-4.6
LGNR	Loginova	3.59	359	P	Pb		11 28 45.2	-1.6
ESO	Esso	3.64	341	P	Pb		11 28 43.6	-3.9
ESO				S	Sb		11 29 29.5	-2.0
KRSR	Krestovskiy	3.72	358	P	Pb		11 28 45.3	-3.7
KLY	Klyuchi	3.82	359	P	Pb		11 28 48.1	-2.5
KBTR	Krutoberegovo	3.90	17	P	Pn		11 28 45.9	+2.9
BKI	Bering	4.10	47	P	Pn		11 28 47.3	+1.6
BKI				S	Sn		11 29 32.9	-0.7
SRKR	Sorokina	4.17	3	P	Pn		11 28 48.9	+2.2
MJAR	Matsushiro Arr	22.52	234	P	P		11 32 44.4	+1.6
	1.0nm,0.5s,baz=22,slow=13,SNR=4.3							
MJAR				LR	LR		11 40 50.7	
	comp=Z,78nm,19.2s,baz=50,slow=35							
MAJO	Matsushiro	22.52	234	eP	P		11 32 44.4	+1.6
H11N2	WAKE ISLAND Hy	33.06	169	T	T		12 10 14.8	
	baz=352,slow=76,SNR=20							
H11N3	WAKE ISLAND Hy	33.07	169	T	T		12 10 11.4	
	baz=352,slow=76,SNR=16							
H11N1	WAKE ISLAND Hy	33.07	169	T	T		12 10 33.8	
	baz=352,slow=76,SNR=14							
H11S1	WAKE ISLAND Hy	34.24	170	T	T		12 12 23.3	
	baz=351							
H11S3	WAKE ISLAND Hy	34.26	170	T	T		12 12 19.9	
	baz=351							
H11S2	WAKE ISLAND Hy	34.26	170	T	T		12 12 20.4	
	baz=351							
SPITS	Spitsbergen Ar	47.78	351	P	P		11 36 21.1	+1.3
	1.4nm,0.4s,baz=49,slow=8.9,SNR=18							
KURK	Kurchatov	48.40	303	eP	P		11 36 22.8	-2.0
	2.7nm,0.9s							
KURBB	Kurchatov Arra	48.50	303	P	P		11 36 23.8	-1.8
	0.6nm,0.5s,baz=61,slow=7.4,SNR=6.9							
MK32	Makanchi Array	48.78	296	eP	P		11 36 26.0	-1.9
MKAR	Makanchi Array	48.78	296	eP	P		11 36 26.9	-1.0
MKAR	Makanchi Array	48.78	296	P	P		11 36 26.0	-1.9
	0.4nm,0.5s,baz=58,slow=6.1,SNR=3.3							
ARCES	ARCESS Array B	53.98	342	P	P		11 37 06.9	+0.5
	1.9nm,0.8s,baz=49,slow=9.7,SNR=3.7							
CMAR	Chiang Mai Arr	58.47	259	P	P		11 37 40.2	+1.1
	0.8nm,0.4s,baz=24,slow=7.2,SNR=4.0							
FIA0	FINESS Array S	60.82	337	eP	P		11 37 55.5	+0.8
FINES	FINESS Array B	60.82	337	P	P		11 37 55.5	+0.8
	1.0nm,0.6s,baz=39,slow=12,SNR=3.8							
GERES	GERESS Array B	75.21	338	LR	LR		12 18 04.8	
	comp=Z,25nm,20.0s,baz=74,slow=40							
AS31	Alice Springs	79.39	205	eP	P		11 39 49.9	+0.8
	1.2nm,1.1s							
ASAR	Alice Springs	79.39	205	P	P		11 39 49.8	+0.8
	0.2nm,0.8s,baz=10,slow=4.7,SNR=3.1							

*ISK **21** 11:28:05.4, 39°.88N×42°.80E, h4km, ML2.5/4*
*DDA **21** 11:28:06.2, 39°.87N×42°.84E, h7km±2km, ML2.6*
*ISCJB **21** 11:28:07.5±0.8, 39°.85N±0°.04×42°.87E±0°.05, h7km±6km,*
Error ellipse: s-maj=9.0km s-min=3.9km az=39.8

ISC 21 11:28:06.8±1.0, 39°.83N±0°.04×42°.79E±0°.04, h13km±8km,
n14, σ0§48/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EATA	Eleskirt	0.23	277	IAML_P				
	comp=Z,5μm,0.1s							
EATA				iP	Pg		11 28 12.0	-0.1
EATA				iS	Sb		11 28 17.3	0.0
AGRB	Hanur-Agry	0.30	149	PG	Pg		11 28 12.6	-0.5
AGRB				SG	Sg		11 28 18.0	+0.6
TUTA	Tutak	0.43	178	iP	Pb		11 28 16.1	-0.3
TUTA				iS	Sb		11 28 23.4	+0.5
HOMI	Horasan	0.71	288	IAML_P				
	comp=Z,778nm,0.3s							
HOMI				iP	Pg		11 28 19.9	-0.9
HOMI				iS	Sn		11 28 33.2	-0.6
DYDN	Diyadin	0.75	112	iP	Pg		11 28 20.9	-0.6
DYDN				iS	Sb		11 28 32.2	+0.1
ADCV	BITLIS_Adilcev	1.02	183	IAML_P				
	comp=Z,285nm,0.1s							
ADCV				iP	Pn		11 28 27.2	+0.2
VMUR	Van-Muradiye	1.04	144	iP	Pb		11 28 26.4	-0.4
VMUR				iS	Sn		11 28 42.1	+0.5
CLDR	Caldiran	1.11	128	PN	Pb		11 28 27.8	-0.2
CLDR				SN	Sn		11 28 43.9	+0.4
CLDR	Caldiran	1.11	128	iP	Pb		11 28 21.6	-6.4
DAGI	Agillar	1.41	332	IAML_P				
	comp=Z,336nm,0.3s							
DAGI				iP	Pb		11 28 33.0	-0.1
DAGI				iS	Sg		11 28 52.8	+0.4
DBAD	Bademkaya	1.45	325	IAML_P				
	comp=Z,426nm,0.2s							
DBAD				iP	Pg		11 28 34.4	-0.4
DBAD				iS	Sg		11 28 54.4	+0.8
AKDM	Akdamar-Van	1.51	174	PN	Pb		11 28 34.5	-0.3
KRIK	Erzurum-spir	1.52	290	iP	Pg		11 28 36.1	+0.1
GNI	Garni	1.53	77	PN	Pn		11 28 34.1	+0.1

KRSC 21 11:38:31.6±10.0, 52°.13N×161°.22E, h17km±10km, ML4.1,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.21	324	P	Pb		11 38 54.3	+0.2
SPN				S	Sb		11 39 07.8	-1.7
NLC	Nalytchevo	1.55	313	P	Pb		11 38 59.7	-0.1
RUS	Russkaya	1.69	281	P	Pn		11 39 00.4	+0.1
DALK	Dalny	1.75	302	P	Pn		11 39 02.0	+0.8
DALK				S	Sb		11 39 24.3	-0.7
UGLR	Uglovaya	1.81	308	P	Pb		11 39 03.5	-0.9
SDLR	Sedlovina	1.83	310	P	Pn		11 39 03.5	+1.1
SMAR	Somma	1.86	309	P	Pb		11 39 04.7	-0.5
AVH	Avacha	1.89	308	P	Pb		11 39 04.9	-0.8
MTVR	Mutnovka	1.90	282	P	Pn		11 39 04.0	+0.7
MTVR				S	Sn		11 39 27.7	+0.8
KRER	Koryakskii	1.91	309	P	Pb		11 39 05.3	-0.8
KOK	Koryaka	1.96	308	P	Pb		11 39 05.8	-1.0
KOK				S	Sg		11 39 33.0	-1.5
KDTR	Khodutka, Kamc	1.97	262	P	Pn		11 39 04.0	-0.2
KDTR				S	Sb		11 39 31.7	+0.5
GRL	Gorelyy	1.97	284	P	Pb		11 39 06.9	-0.3
KRX	Arik	1.99	309	P	Pn		11 39 06.0	+1.4
KRMR	Karymshinskiy	2.01	292	P	Pn		11 39 05.6	+0.8
KRMR				S	Sb		11 39 32.7	+0.2
ASAK	Asacha	2.05	278	P	Pn		11 39 06.6	+1.2
ASAK				S	Sb		11 39 35.4	+1.6
MKZ	Mys Kozlova	2.45	7	P	Pb		11 39 14.4	-0.8
MKZ				S	Sn		11 39 41.9	+1.6
APC	Apacha	2.60	289	P	Pn		11 39 14.7	+1.8
APC				S	Sb		11 39 47.7	-1.8
PAU	Pauzhetka	2.81	258	P	Pn		11 39 17.8	+2.0
KZV	Kizimen	3.04	350	P	Pb		11 39 22.8	-2.5
KZV				S	Sn		11 39 57.4	+2.3
TUMD	Tumrok D	3.12	351	P	Pb		11 39 23.6	-3.0
TUMD				S	Sn		11 39 58.7	+1.9
TUMR	Tumrok	3.22	349	P	Pb		11 39 26.0	-2.4
ALID	Alaid	3.76	253	P	Pb		11 39 34.2	-3.4
BKI	Bering	4.18	41	P	Pn		11 39 37.7	+3.1
BKI				S	Sn		11 40 25.1	+2.1
KBTR	Krutoberegovo	4.19	12	P	Pn		11 39 39.5	+4.8

*ISCJB **21** 11:45:22.0±1.2, 24°.87N±0°.08×123°.35E±0°.04,*
h23km±10km, mb3.6/4, Error ellipse: s-maj=14.0km
s-min=6.0km az=177.8
*JMA **21** 11:45:21.3±0.1, 24°.92N×123°.35E, h22km±5km, M3.2*
*IDC **21** 11:45:37.5±6.3, 24°.70N×122°.99E, h152km±62km, mb3.2/4,*
mb1 3.4/5, mb1mx3.1/49, mbtmp3.6/5, MS2.9/2, Ms1 2.9/2,
ms1mx2.5/25, Error ellipse: s-maj=65.3km s-min=19.6km
az=81.0

ISC 21 11:45:23.4±1.2, 24°.77N±0°.06×123°.38E±0°.04, h20km±4km,
n13, σ0§76/19, mb3.6/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.45	228	P	Pg		11 45 31.9	-0.8
YOJ				eS	Sb		11 45 39.4	+0.3
JYNG	Yonagunijimaku	0.51	231	P	Pg		11 45 32.8	-0.9
JYNG				S	Sg		11 45 40.8	+0.2
IRIF	Iriomote-Funau	0.54	144	P	Pb		11 45 34.4	+0.3
IRIF				S	Sn		11 45 43.3	-1.1
JKRS	Kuro-shima	0.78	133	P	Pb		11 45 38.2	-0.1
JKRS				eS	Sg		11 45 49.6	+0.5
JIJ	Ishigaki jima	0.80	120	P	Pb		11 45 37.8	-0.9
JIJ				S	Sg		11 45 50.4	+0.5
HATJ	Hateruma jima	0.81	151	P	Pg		11 45 39.1	-0.1
HATJ				eS	Sn		11 45 51.7	+0.6
JISG	Ishigakijimahi	0.87	102	P	Pb		11 45 38.6	-1.2
JISG				eS	Sb		11 45 50.5	-0.4
KSRS	Korea Array	13.23	16	P	P		11 48

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.92**	**303**	*eP*	**Pn**	**11 56 23.2**	**-0.6**
DDMP				*eS*	**Sn**	**11 56 37.0**	**-1.2**
MATI	**Mati**	**1.35**	**350**	*eP*	**Pn**	**11 56 28.7**	**-0.2**
MATI				*eS*	**Sn**	**11 56 47.6**	**+0.5**
DAV	**Davao City (W)**	**1.72**	**328**	Sn	**Sn**	**11 56 53.5**	**-1.7**
	41nm,0.3s,baz=95,slow=11,SNR=1.5						
DMPH	**Davao City--Mi**	**1.77**	**326**	*eP*	**Pn**	**11 56 35.6**	**+1.5**
DMPH				*eS*	**Sn**	**11 56 58.2**	**+1.8**
SKMP	**Bagumbayan, Su**	**2.14**	**295**	*eP*	**Pn**	**11 56 39.5**	**+0.6**
BUKP	**Musuan**	**2.67**	**328**	*eP*	**Pn**	**11 56 45.9**	**-0.1**
BUKP				*eS*	**Sn**	**11 57 21.4**	**+3.7**
CTBH	**Cotabato--PC H**	**2.75**	**306**	*iP*	**Pn**	**11 56 45.8**	**-1.2**
CTBH				*i* S	**Sn**	**11 57 19.9**	**+0.4**
BUTP	**Butuan**	**3.46**	**346**	*eP*	Pn	11 56 40.3	-16
PAGZ	**Pagadian**	**3.81**	**306**	*eP*	**Pn**	**11 57 02.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**23.56**	**182**	P	**P**	**12 01 07.8**	**+0.9**
	0.5nm,0.5s,baz=354,slow=12,SNR=1.1						
WRA	**Warramunga Arr**	**26.53**	**163**	P	**P**	**12 01 33.9**	**+0.2**
	0.5nm,0.4s,baz=346,slow=11,SNR=13						
ASAR	**Alice Springs**	**29.98**	**166**	P	**P**	**12 02 05.0**	**+0.6**
	0.9nm,0.3s,baz=341,slow=7.2,SNR=44						
ASAR				PcP	**PcP**	**12 05 04.9**	**+0.1**
	0.2nm,0.5s,baz=3.2,slow=3.0,SNR=6.1						
STKA	**Stephens Creek**	**39.95**	**160**	P	**P**	**12 03 30.9**	**+0.9**
	1.4nm,0.9s,baz=340,slow=12,SNR=1.6						
MKAR	**Makanchi Array**	**55.90**	**325**	P	**P**	**12 05 30.8**	**-2.0**
	0.3nm,0.4s,baz=111,slow=7.5,SNR=2.0						
ILAR	**Eielson Array**	**83.53**	**26**	P	**P**	**12 08 20.8**	**-1.2**
	0.1nm,0.5s,baz=249,slow=5.3,SNR=4.7						

JMA 21 12:14:38.1±0.1,24°.91N×123°.40E,h23km±4km,M1.9,
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.57**	**218**	P	Pb	12 14 49.1	-0.3
YOJ				S	Sb	12 14 56.5	-0.6
JYNG	**Yonagunijimaku**	**0.62**	**222**	P	Pb	12 14 50.0	-0.2
JYNG				*eS*	Sb	12 14 58.3	-0.2
IRIF	**Iriomote-Funau**	**0.65**	**152**	P	Pb	12 14 50.5	-0.2
IRIF				*eS*	Sb	12 14 59.3	0.0
JIJ	**Ishigaki jima**	**0.87**	**129**	P	Pb	12 14 53.9	-0.6
JIJ				S	Sb	12 15 05.0	-0.7
JKRS	**Kuro-shima**	**0.87**	**140**	P	Pb	12 14 54.3	-0.2
JKRS				S	Sb	12 15 05.7	0.0
JISG	**Ishigakijimahi**	**0.89**	**111**	P	Pb	12 14 54.5	-0.3
JISG				*eS*	Sb	12 15 06.5	+0.2
HATJ	**Hateruma jima**	**0.93**	**156**	P	Pb	12 14 55.1	-0.4
HATJ				*eS*	Sn	12 15 08.0	-0.3

TAP 21 12:14:42.2,24°.30N×121°.74E,h13km±1km,ML2.5,C,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.13**	**359**	P	Pb	12 14 46.4	-0.2
	baz=2.0						
ENA				S	Sb	12 14 49.2	-0.2
	baz=2.0						
NANB	**Nanao**	**0.13**	**3**	P	Pb	12 14 46.2	-0.3
	baz=2.0						
NANB				S	Sb	12 14 49.1	-0.3
	baz=2.0						
NACB	**Ninganchiao**	**0.18**	**228**	*eP*	Pb	12 14 47.4	-0.1
	baz=227						
NACB				*eS*	Sb	12 14 50.6	-0.3
	baz=227						
ETLH	**Xiulin Townshi**	**0.26**	**249**	*eP*	Pb	12 14 48.5	-0.2
	baz=249						
ETLH				*eS*	Sb	12 14 53.1	0.0
	baz=249						
TWD	**Chiawan**	**0.26**	**212**	P	Pb	12 14 48.3	-0.4
	baz=210						
TWC	**Suao**	**0.33**	**17**	*eP*	Pb	12 14 49.6	-0.2
	baz=19						
NNSB	**Datong**	**0.35**	**292**	P	Pb	12 14 50.7	+0.3
	baz=291						
NNSB				S	Sb	12 14 55.9	0.0
	baz=291						
NNS	**Nan Shan**	**0.37**	**293**	*eP*	Pb	12 14 50.4	-0.2
	baz=292						
NNS				S	Sb	12 14 56.0	-0.3
	baz=292						
ENTT	**Nioudou**	**0.38**	**335**	*eP*	Pb	12 14 50.8	+0.1
	baz=335						
ENTT				S	Sb	12 14 56.7	+0.1
	baz=335						
TWE	**Neicheng**	**0.43**	**351**	*eP*	Pb	12 14 51.2	-0.4
	baz=352						
EOS1	**EOS1**	**0.43**	**54**	*eP*	Pb	12 14 51.3	-0.4
	baz=54						
WHF	**Hehuan Shan**	**0.46**	**251**	*eP*	Pb	12 14 53.4	+0.9
	baz=250						

KRSC ***21*** *12:20:15.2±10.0, 52°.33N×160°.78E, h59km±10km, ML4.4*
IDC ***21*** *12:20:17.4±0.8, 52°.82N×159°.78E, h0km, mb3.9/19, mb1 4.0/20, mb1mx3.9/49, mbtmp3.9/20, ML3.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/45, Error ellipse: s-maj=21.8km s-min=16.6km az=136.0*
MOS ***21*** *12:20:17.2±0.8, 52°.34N×160°.71E, h49km, mb4.6/5, Error ellipse: s-maj=7.8km s-min=3.9km az=98.3*
NEIC ***21*** *12:20:21.5±0.7, 52°.62N×160°.14E, h35km, mb4.5/11, Error ellipse: s-maj=15.2km s-min=9.6km az=158.0*
ISC 21 12:20:17.5±2.1,52°.39N±0°.05×160°.69E±0°.04,h26km±14km,
n159,σ1°59/170,mb4.2/28,1C,Off east coast of
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.82**	**331**	*eP*	**Pn**	**12 20 31.9**	**-1.5**
SPN				*eS*	**Sb**	**12 20 43.5**	**-0.3**
SPN	**Mys Shipunski**	**0.82**	**331**	PN	**Pn**	**12 20 31.9**	**-1.5**
SPN				S	**Sb**	**12 20 43.5**	**-0.3**
NLC	**Nalytchevo**	**1.14**	**314**	*eP*	**Pn**	**12 20 37.0**	**-0.7**
NLC				*eS*	**Sn**	**12 20 52.2**	**-0.2**
NLC	**Nalytchevo**	**1.14**	**314**	PN	**Pn**	**12 20 37.0**	**-0.7**
NLC				S	**Sn**	**12 20 52.2**	**-0.2**
RUS	**Russkaya**	**1.34**	**273**	*eP*	**Pn**	**12 20 40.4**	**-0.1**
RUS				*eS*	**Sn**	**12 20 57.8**	**+0.4**
RUS	**Russkaya**	**1.34**	**273**	PN	**Pn**	**12 20 40.4**	**-0.1**
RUS				S	**Sn**	**12 20 57.8**	**+0.4**
DALK	**Dalny**	**1.34**	**300**	*i* P	**Pn**	**12 20 40.5**	**-0.1**
DALK				*eS*	**Sn**	**12 20 57.9**	**+0.3**
DALK	**Dalny**	**1.34**	**300**	PN	**Pn**	**12 20 40.5**	**-0.1**
DALK				S	**Sn**	**12 20 57.9**	**+0.3**
PET	**Petropavlovsk**	**1.40**	**298**	*ePn*	**Pn**	**12 20 41.2**	**-0.1**
PET				*eSn*	**Sn**	**12 20 51.9**	**-6.9**
PET	**Petropavlovsk**	**1.40**	**298**	*iPN*	**Pn**	**12 20 41.2**	**-0.1**
PET				*eS*	**Sn**	**12 20 58.9**	**+0.1**
PET				pmax	pmax		
	comp=Z,539nm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.6s						
UGLR	**Uglovaya**	**1.40**	**307**	*eP*	**Pn**	**12 20 41.8**	**+0.3**
UGLR	**Uglovaya**	**1.40**	**307**	PN	**Pn**	**12 20 41.8**	**+0.3**
SDLR	**Sedlovina**	**1.42**	**310**	*eP*	**Pn**	**12 20 41.7**	**0.0**
SDLR	**Sedlovina**	**1.42**	**310**	PN	**Pn**	**12 20 41.7**	**0.0**
SMAR	**Somma**	**1.45**	**308**	*eP*	**Pn**	**12 20 42.1**	**-0.1**
SMAR	**Somma**	**1.45**	**308**	PN	**Pn**	**12 20 42.1**	**-0.1**
AVH	**Avacha**	**1.48**	**307**	*eP*	**Pn**	**12 20 42.9**	**+0.4**
AVH	**Avacha**	**1.48**	**307**	PN	**Pn**	**12 20 42.9**	**+0.4**
KRER	**Koryakskii**	**1.50**	**309**	*eP*	**Pn**	**12 20 43.4**	**+0.5**
KRER	**Koryakskii**	**1.50**	**309**	PN	**Pn**	**12 20 43.4**	**+0.5**
MTVR	**Mutnovka**	**1.54**	**275**	*eP*	**Pn**	**12 20 43.8**	**+0.4**
MTVR				*eS*	**Sn**	**12 21 04.0**	**+1.4**
MTVR	**Mutnovka**	**1.54**	**275**	PN	**Pn**	**12 20 43.8**	**+0.4**
MTVR				S	**Sn**	**12 21 04.0**	**+1.4**
KOK	**Koryaka**	**1.54**	**307**	*eP*	**Pn**	**12 20 43.7**	**+0.3**
KOK	**Koryaka**	**1.54**	**307**	PN	**Pn**	**12 20 43.7**	**+0.3**
KRX	**Arik**	**1.58**	**309**	*eP*	**Pn**	**12 20 43.9**	**0.0**
KRX	**Arik**	**1.58**	**309**	PN	**Pn**	**12 20 43.9**	**0.0**
GRL	**Gorelyy**	**1.61**	**277**	*eP*	**Pn**	**12 20 45.3**	**+0.9**
GRL	**Gorelyy**	**1.61**	**277**	PN	**Pn**	**12 20 45.3**	**+0.9**
KRMR	**Karymshinskiy**	**1.62**	**287**	*eP*	**Pn**	**12 20 44.5**	**+0.1**
KRMR				*eS*	**Sn**	**12 21 05.1**	**+0.6**
KRMR	**Karymshinskiy**	**1.62**	**287**	PN	**Pn**	**12 20 44.5**	**+0.1**
KRMR				S	**Sn**	**12 21 05.1**	**+0.6**
ASAK	**Asacha**	**1.71**	**271**	*eP*	**Pn**	**12 20 46.2**	**+0.5**
ASAK	**Asacha**	**1.71**	**271**	PN	**Pn**	**12 20 46.2**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.71**	**251**	*eP*	**Pn**	**12 20 45.0**	**-0.6**
KDTR				*eS*	**Sn**	**12 21 06.0**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.71**	**251**	PN	**Pn**	**12 20 45.0**	**-0.6**
KDTR				S	**Sn**	**12 21 06.0**	**-0.7**
PEA0B	**Petropavlovsk-**	**1.96**	**293**	*ePn*	**Pn**	**12 20 49.6**	**+0.6**
PEA0B				*eSn*	**Sn**	**12 21 06.2**	**-6.6**
PETK	**Petropavlovsk-**	**1.96**	**293**	*ePn*	**Pn**	**12 20 49.4**	**+0.3**
PETK				*eSn*	**Sn**	**12 21 05.7**	**-7.0**
PETK	**Petropavlovsk-**	**1.96**	**293**	*ePN*	**Pn**	**12 20 49.4**	**+0.3**
PETK	**Petropavlovsk-**	**1.96**	**293**	Pn	**Pn**	**12 20 49.2**	**+0.2**
	comp=E,52nm,0.3s,baz=104,slow=18,SNR=237						
PETK				Sn	**Sn**	**12 21 14.3**	**+1.5**
	comp=E,41nm,0.3s,baz=138,slow=16,SNR=6.8						
PETK				LR	LR	12 21 20.5	
	comp=E,122nm,20.0s,baz=70,slow=49						
PEA1	**Petropavlovsk-**	**1.96**	**293**	*ePn*	**Pn**	**12 20 49.2**	**+0.2**
PEA1				*eSn*	**Sn**	**12 21 14.3**	**+1.5**
APC	**Apacha**	**2.22**	**285**	*eP*	**Pn**	**12 20 54.0**	**+1.4**
APC				*eS*	**Sn**	**12 21 21.7**	**+2.5**
APC	**Apacha**	**2.22**	**285**	PN	**Pn**	**12 20 54.0**	**+1.4**
APC				S	**Sn**	**12 21 21.7**	**+2.5**
MKZ	**Mys Kozlova**	**2.26**	**16**	*eP*	**Pn**	**12 20 52.8**	**-0.4**
MKZ				*eS*	**Sn**	**12 21 19.5**	**-0.7**
MKZ	**Mys Kozlova**	**2.26**	**16**	PN	**Pn**	**12 20 52.8**	**-0.4**
MKZ				S	**Sn**	**12 21 19.5**	**-0.7**
PAU	**Pauzhetka**	**2.57**	**251**	*eP*	**Pn**	**12 20 58.0**	**+0.5**
PAU	**Pauzhetka**	**2.57**	**251**	PN	**Pn**	**12 20 58.0**	**+0.5**
KZV	**Kizimen**	**2.74**	**355**	*eP*	**Pn**	**12 21 00.9**	**+0.9**
KZV	**Kizimen**	**2.74**	**355**	PN	**Pn**	**12 21 00.9**	**+0.9**
TUMD	**Tumrok D**	**2.83**	**357**	*eP*	**Pn**	**12 21 01.5**	**+0.5**
TUMD				*eS*	**Sn**	**12 21 34.5**	**+0.3**
TUMR	**Tumrok**	**2.92**	**354**	*eP*	**Pn**	**12 21 03.8**	**+1.4**
TUMR	**Tumrok**	**2.92**	**354**	PN	**Pn**	**12 21 01.5**	**-0.9**
TUMR				S	**Sn**	**12 21 34.5**	**-2.2**
SKR	**Severo-Kuril's**	**3.33**	**241**	*eP*	**Pn**	**12 21 07.5**	**-0.3**
SKR				*eS*	**Sn**	**12 21 45.1**	**-1.4**
SKR	**Severo-Kuril's**	**3.33**	**241**	*ePN*	**Pn**	**12 21 07.3**	**-0.5**
SKR				*eS*	**Sn**	**12 21 44.8**	**-1.7**
SKR				pmax	pmax		
	comp=Z,41nm,0.6s						
SKR				smax	smax		
	comp=N,335nm,0.6s						
SKR				smax	smax		
	comp=E,450nm,0.6s						
ALID	**Alaid**	**3.55**	**247**	*eP*	**Pn**	**12 21 11.3**	**+0.3**
ALID	**Alaid**	**3.55**	**247**	PN	**Pn**	**12 21 11.3**	**+0.3**
BZMR	**Bezymyannaya**	**3.56**	**358**	*eP*	**Pn**	**12 21 11.1**	**-0.1**
BZMR	**Bezymyannaya**	**3.56**	**358**	PN	**Pn**	**12 21 11.1**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**3.56**	**0**	*eP*	**Pn**	**12 21 13.2**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**3.56**	**0**	PN	**Pn**	**12 21 13.2**	**+2.0**
BZWR	**Bezymyannyi-We**	**3.59**	**358**	*eP*	**Pn**	**12 21 11.6**	**0.0**
BZWR	**Bezymyannyi-We**	**3.59**	**358**	PN	**Pn**	**12 21 11.6**	**0.0**
KPT	**Kopyto**	**3.60**	**356**	*eP*	**Pn**	**12 21 12.7**	**+1.0**
KPT	**Kopyto**	**3.60**	**356**	PN	**Pn**	**12 21 12.7**	**+1.0**
LGNR	**Loginova**	**3.71**	**360**	*eP*	**Pn**	**12 21 15.0**	**+1.7**
LGNR	**Loginova**	**3.71**	**360**	PN	**Pn**	**12 21 15.0**	**+1.7**
KOZ	**Kozyrevsk**	**3.71**	**353**	*eP*	**Pn**	**12 21 15.0**	**+1.9**
KOZ	**Kozyrevsk**	**3.71**	**353**	PN	**Pn**	**12 21 15.0**	**+1.9**
ESO	**Esso**	**3.73**	**343**	*eP*	**Pn**	**12 21 15.5**	**+2.0**
ESO	**Esso**	**3.73**	**343**	PN	**Pn**	**12 21 15.5**	**+2.0**
CIRR	**Tsirk**	**3.74**	**0**	*eP*	**Pn**	**12 21 13.4**	**-0.2**
CIRR	**Tsirk**	**3.74**	**0**	PN	**Pn**	**12 21 13.4**	**-0.2**
KLY	**Klyuchi**	**3.94**	**360**	*eP*	**Pn**	**12 21 18.0**	**+1.8**
KLY	**Klyuchi**	**3.94**	**360**	PN	**Pn**	**12 21 18.0**	**+1.8**
SRDR	**Sredinnyy**	**3.98**	**352**	*eP*	**Pn**	**12 21 17.6**	**+0.7**
SRDR	**Sredinnyy**	**3.98**	**352**	PN	**Pn**	**12 21 17.6**	**+0.7**
KBTR	**Krutoberegovo**	**4.03**	**17**	*eP*	**Pn**	**12 21 17.7**	**+0.2**
KBTR	**Krutoberegovo**	**4.03**	**17**	PN	**Pn**	**12 21 17.7**	**+0.2**
KBG	**Krutoberegovo**	**4.05**	**16**	*eP*	**Pn**	**12 21 19.9**	**+2.1**
KBG	**Krutoberegovo**	**4.05**	**16**	PN	**Pn**	**12 21 19.9**	**+2.1**
BDR	**Baidarnaya**	**4.20**	**4**	*eP*	**Pn**	**12 21 22.2**	**+2.3**
BDR	**Baidarnaya**	**4.20**	**4**	PN	**Pn**	**12 21 22.2**	**+2.3**
BKI	**Bering**	**4.21**	**46**	*eP*	**Pn**	**12 21 19.7**	**-0.3**
BKI				*eS*	**Sn**	**12 22 04.6**	**-3.7**
BKI	**Bering**	**4.21**	**46**	PN	**Pn**	**12 21 19.7**	**-0.3**
SMKR	**Semkarok**	**4.23**	**6**	*eP*	**Pn**	**12 21 22.6**	**+2.3**
SMKR	**Semkarok**	**4.23**	**6**	PN	**Pn**	**12 21 22.6**	**+2.3**
SRKR	**Sorokina**	**4.29**	**4**	*eP*	**Pn**	**12 21 23.8**	**+2.7**
SRKR	**Sorokina**	**4.29**	**4**	PN	**Pn**	**12 21 23.8**	**+2.7**
OSSR	**Ossora**	**7.01**	**10**	*eP*	**Pn**	**12 21 58.8**	**+0.5**
OSSR	**Ossora**	**7.01**	**10**	PN	**Pn**	**12 21 58.8**	**+0.5**
TILK	**Tilichiki**	**8.62**	**18**	*eP*	**Pn**	**12 22 22.7**	**+2.2**
TILK	**Tilichiki**	**8.62**	**18**	PN	**Pn**	**12 22 22.7**	**+2.2**
MA2	**Magadan**	**9.09**	**326**	LR	LR	12 26 33.0	
	comp=E,113nm,18.9s,baz=138,slow=45						
BILL	**Bilibino**	**15.94**	**8**	*ePn*	**Pn**	**12 24 01.4**	**+1.7**
	comp=E,4.2nm,0.8s						
BILL	**Bilibino**	**15.94**	**8**	*eP*	**Pn**	**12 24 01.4**	**+1.7**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLR	**Kul'dur**	**18.50**	**272**	P	**P**	**12 24 29.8**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=67,slow=13,SNR=2.9						
USRK	**Ussuriysk Ar.**	**20.67**	**258**	P	**P**	**12 24 54.7**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=52,slow=12,SNR=3.4						
USRK				LR	LR	12 33 16.3	
	comp=Z,75nm,21.1s,baz=136,slow=38						
MJAR	**Matsushiro Ar**	**22.41**	**234**	P	**P**	**12 25 15.8**	**+1.8**
	comp=Z,2.7nm,0.7s,baz=16,slow=10,SNR=9.6						
MJB9	**Matsu-Tunnel**	**22.41**	**234**	*eP*	**P**	**12 25 15.3**	**+1.4**
	comp=Z,7.4nm,0.7s						
MAJO	**Matsushiro**	**22.41**	**234**	*eP*	**P**	**12 25 15.2**	**+1.3**
	comp=Z,7.1nm,0.8s						
MAJO	**Matsushiro**	**22.41**	**234**	*eP*	**P**	**12 25 15.3**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIXI	**Tiksi**	**23.88**	**336**	*eP*	**P**	**12 25 26.1**	**-2.4**
TIXI	**Tiksi**	**23.88**	**336**	*eP*	**P**	**12 25 26.1**	**-2.4**
TIXI	**Tiksi**	**23.88**	**336**	P	**P**	**12 25 26.3**	**-2.2**
	comp=Z,1.8nm,0.3s,baz=117,slow=11,SNR=14						
KSRS	**Korea Array**	**27.30**	**250**	P	**P**	**12 26 01.3**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=38,slow=9.6,SNR=3.1						
KS15	**Wonju Array Si**	**27.33**	**250**	*eP*	**P**	**12 26 00.7**	**+0.6**
	comp=Z,17nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**32.95**	**169**	T	T	13 02 39.8	
	baz=351						
H11N3	**WAKE ISLAND Hy**	**32.96**	**169**	T	T	13 02 40.9	
	baz=351						
H11N1	**WAKE ISLAND Hy**	**32.97**	**169**	T	T	13 02 41.0	
	baz=351						
H11S1	**WAKE ISLAND Hy**	**34.13**	**170**	T	T	13 04 04.1	
	baz=354						
H11S3	**WAKE ISLAND Hy**	**34.15**	**170**	T	T	13 04 04.4	
	baz=354						
H11S2	**WAKE ISLAND Hy**	**34.15**	**170**	T	T	13 04 05.5	
	baz=354						
ZAA1	**Zalesovo Array**	**43.47**	**304**	*eP*	**P**	**12 28 15.5**	**-2.5**
ZALV	**Zalesovo Beam**	**43.47**	**304**	P	**P**	**12 28 15.5**	**-2.5**
	comp=Z,0.5nm,0.4s,baz=43,slow=6.7,SNR=2.5						
NVS	**Novosibirsk**	**43.82**	**305**	*i* P	**P**	**12 28 19.5**	**-1.3**
SPA0	**Spitsbergen Ar**	**47.89**	**351**	*eP*	**P**	**12 28 53.2**	**+0.5**
	comp=Z,18nm,1.2s						
KURK	**Kurchatov**	**48.42**	**303**	*eP*	**P**	**12 28 54.6**	**-2.5**
	comp=Z,4.4nm,0.6s						
KURK	**Kurchatov**	**48.42**	**303**	*eP*	**P**	**12 28 54.6**	**-2.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WPW	**White Pass**	**48.50**	**64**	*eP*	P	12 29 02.8	+4.8
MK32	**Makanchi Array**	**48.79**	**297**	*eP*	**P**	**12 28 58.0**	**-2.1**
MKAR	**Makanchi Array**	**48.79**	**297**	*eP*	**P**	**12 28 58.1**	**-2.0**
MKAR	**Makanchi Array**	**48.79**	**297**	P	**P**	**12 28 58.0**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=56,slow=6.8,SNR=9.7						
NEW	**Newport**	**49.94**	**60**	P	P	12 29 16.2	+7.3
	comp=Z,0.8nm,0.3s,baz=315,slow=2.9,SNR=2.2						
BRVK	**Borovoye**	**51.15**	**309**	*eP*	**P**	**12 29 16.7**	**-1.1**
	comp=Z,2.2nm,0.7s						
BRVK	**Borovoye**	**51.15**	**309**	*eP*	**P**	**12 29 16.7**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**54.07**	**342**	*eP*	**P**	**12 29 38.7**	**-0.6**
ARCES	**ARCESS Array B**	**54.07**	**342**	P	**P**	**12 29 38.9**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=48,slow=9.9,SNR=9.8						
SUMG	**Summit**	**54.62**	**7**	*eP*	**P**	**12 29 44.5**	**+0.9**
	comp=Z,16nm,1.5s						
SUMG	**Summit**	**54.62**	**7**	*eP*	**P**	**12 29 44.5**	**+0.9**
SUMG				pmax	pmax		
	comp=Z,16nm,1.5s						
KK31	**Karatay Array**	**57.55**	**300**	*eP*	**P**	**12 30 03.5**	**-1.0**
	comp=Z,9.3nm,1.8s						
KK31	**Karatay Array**	**57.55**	**300**	*eP*	**P**	**12 30 03.5**	**-1.0**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.8s						
KKAR	**Karatay Array**	**57.55**	**300**	*eP*	**P**	**12 30 03.4**	**-1.2**
KKAR	**Karatay Array**	**57.55**	**300**	*eP*	**P**	**12 30 03.4**	**-1.2**
PD31	**Pinedale Array**	**57.55**	**61**	*eP*	P	12 30 09.8	+4.9
	comp=Z,5.5nm,1.6s						
PDAR	**Pinedale Array**	**57.55**	**61**	P	P	12 30 11.5	+6.6
	comp=Z,0.2nm,0.4s,baz=284,slow=3.6,SNR=2.4						
TCUT	**Toone Canyon**	**57.68**	**63**	*eP*	P	12 30 11.8	+6.0
	comp=Z,24nm,2.0s						
CMAR	**Chiang Mai Arr**	**58.40**	**259**	*eP*	**P**	**12 30 11.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**58.40**	**259**	*eP*	**P**	**12 30 11.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**58.40**	**259**	P	**P**	**12 30 11.8**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=21,slow=7.5,SNR=8.3						
ABKAR	**Akbulak array**	**58.53**	**311**	*eP*	**P**	**12 30 10.4**	**-0.9**
FIA0	**FINESS Array S**	**60.91**	**337**	*eP*	**P**	**12 30 27.3**	**-0.2**
FIA0	**FINESS Array S**	**60.91**	**337**	*eP*	**P**	**12 30 27.3**	**-0.2**
FINES	**FINESS Array B**	**60.91**	**337**	P	**P**	**12 30 27.3**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=38,slow=8.7,SNR=14						
NB200	**NORSAR Array S**	**64.32**	**344**	*eP*	**P**	**12 30 50.2**	**-0.1**
NOA	**NORSAR Array B**	**64.32**	**344**	P	**P**	**12 30 50.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=1.4,slow=2.8,SNR=3.2						
AKASG	**Malin Array Be**	**69.41**	**329**	*eP*	**P**	**12 31 22.9**	**+0.1**
AKASG	**Malin Array Be**	**69.41**	**329**	P	**P**	**12 31 22.0**	**-0.8**
AKASG	**Malin Array Be**	**69.41**	**329**	P	**P**	**12 31 22.0**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=28,slow=6.2,SNR=6.2						
LTX	**Lajitas**	**70.58**	**67**	*eP*	P	12 31 36.2	+5.8
LTX	**Lajitas**	**70.58**	**67**	*eP*	P	12 31 36.2	+5.8
TXAR	**Lajitas Array**	**70.58**	**67**	P	P	12 31 36.2	+5.8
	comp=Z,0.2nm,0.5s,baz=302,slow=5.2,SNR=2.4						
CLL	**Collm**	**73.14**	**339**	*eP*	**P**	**12 31 48.0**	**+2.7**
BURAR	**Bucovina Array**	**73.37**	**330**	*eP*	**P**	**12 31 46.5**	**-0.4**
V53A	**Saluda**	**76.35**	**49**	*eP*	**P**	**12 32 08.4**	**+4.2**
	comp=Z,29nm,0.4s						
BR101	**Keskin Array S**	**77.40**	**321**	*eP*	**P**	**12 32 10.2**	**+0.1**
BRTR	**Keskin Array B**	**77.40**	**321**	P	**P**	**12 32 10.2**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=52,slow=4.8,SNR=4.0						
ASAR	**Alice Springs**	**79.27**	**205**	P	P	12 32 24.8	+4.5
	comp=Z,0.2nm,0.8s,baz=10,slow=5.3,SNR=4.3						
STKA	**Stephens Creek**	**85.56**	**196**	P	P	12 32 57.0	+4.1
STKA	**Stephens Creek**	**85.56**	**196**	P	P	12 32 57.0	+4.1
	comp=Z,3.2nm,1.0s,baz=0.0,slow=7.1,SNR=3.9						
ESDC	**Sonseca Array**	**87.35**	**348**	P	**P**	**12 33 02.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=358,slow=4.1,SNR=3.0						
KEST	**Kesra**	**88.75**	**337**	P	**P**	**12 33 09.0**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=7.6,slow=15,SNR=2.5						

RSNC 21 12:35:46.4±0.9,12°.10N×72°.86W,h32km±20km,ML3.4,
Mw3.7,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.94**	**115**	*eP*	Pn	12 36 03.0	-0.4
URIC				*eS*	Sn	12 36 14.4	-1.3
URIC				*i*		12 36 15.8	
	comp=Z,2μm,0.3s						
SMRC	**Santa Marta, M**	**1.63**	**235**	*eP*	Pn	12 36 12.5	-0.4
SMRC				*eS*	Sn	12 36 31.6	-1.2
SMRC				*i*		12 36 37.2	

COEN	Coen	14.54 126	P	Pn	12 42 48.0 +0.5
	baz=15,SNR=14				
WC1	Warramunga Arr	14.57 168	P	Pn	12 42 43.3 -4.5
	baz=15				
WRAB	Tennant Creek	14.58 168	ePn	Pn	12 42 43.5 -4.4
WR1	Warramunga Arr	14.59 168	ePn	Pn	12 42 43.6 -4.5
WR1			eSn	Sn	12 45 17.8 -11
WRA	Warramunga Arr	14.59 168	P	Pn	12 42 43.6 -4.5
	2.1nm,0.3s,baz=323,slow=25,SNR=101				
WRA			S	Sn	12 45 17.8 -11
	9.8nm,0.3s,baz=246,slow=12,SNR=13				
WB2	Warramunga Arr	14.59 168	ePn	Pn	12 42 43.6 -4.5
WC3	Warramunga Arr	14.61 167	ePn	Pn	12 42 43.9 -4.5
PMG	Port Moresby	16.42 104	ePn	Pn	12 43 10.8 -0.5
	20nm,1.0s				
PMG			eSn	Sn	12 46 14.7 +1.6
PMG	Port Moresby	16.42 104	LR	LR	12 51 15.3
	comp=Z,74nm,18.8s,baz=244,slow=43				
AS31	Alice Springs	18.15 172	eP	P	12 43 31.1 -0.7
	17nm,0.6s				
ASAR	Alice Springs	18.15 172	eP	P	12 43 28.6 -3.2
ASAR	Alice Springs	18.15 172	P	P	12 43 31.3 -0.5
	3.2nm,0.3s,baz=352,slow=14,SNR=169				
ASAR			S	Sn	12 46 43.4 -11
	2.9nm,0.3s,baz=352,slow=26,SNR=8.7				
ASAR			LR	LR	12 51 25.8
	comp=Z,111nm,19.9s,baz=332,slow=40				
MBWA	Marble Bar	18.93 214	eP	P	12 43 39.0 -1.4
PSAD1	Pilbara Seismi	19.12 214	eP	P	12 43 42.4 0.0
	16nm,0.6s				
PSAC2	Pilbara Seismi	19.16 213	eP	P	12 43 42.8 -0.1
	12nm,0.6s				
PSAD2	Pilbara Seismi	19.18 213	eP	P	12 43 41.5 -1.5
	12nm,0.7s				
PSAB2	Pilbara Seismi	19.18 213	eP	P	12 43 43.1 0.0
	19nm,0.7s				
PSAC1	Pilbara Seismi	19.19 213	eP	P	12 43 43.2 0.0
	18nm,0.6s				
PSAA2	Pilbara Seismi	19.19 213	eP	P	12 43 43.3 0.0
	22nm,0.8s				
PSA00	Pilbara Seismi	19.20 213	eP	P	12 43 43.0 -0.3
	25nm,0.7s				
PSAA3	Pilbara Seismi	19.20 213	eP	P	12 43 43.5 +0.2
	22nm,0.8s				
PSAA1	Pilbara Seismi	19.21 213	eP	P	12 43 43.5 +0.1
	28nm,0.8s				
PSAB1	Pilbara Seismi	19.21 213	eP	P	12 43 43.5 0.0
	20nm,0.7s				
PSAB3	Pilbara Seismi	19.21 213	eP	P	12 43 43.6 +0.1
	20nm,0.6s				
PSAC3	Pilbara Seismi	19.25 213	eP	P	12 43 43.9 0.0
	14nm,0.6s				
PSAD3	Pilbara Seismi	19.30 213	eP	P	12 43 44.4 +0.1
	14nm,0.8s				
WRKA	Warakurna	19.48 187	P	Pn	12 43 47.5 -0.8
	baz=20,SNR=23				
SBUM	Sibu	20.43 293	eP	P	12 43 54.4 -2.4
	1.3nm,0.8s				
CTA	Charters Tower	20.63 136	P	Pn	12 44 02.8 +1.0
	baz=21				
CTA	Charters Tower	20.63 136	P	Pn	12 44 01.9 +0.1
	24nm,0.8s,baz=314,slow=12,SNR=15				
CTA			S	S	12 47 44.4 -0.9
	4.6nm,0.9s,baz=334,slow=12,SNR=2.4				
CTAO	Charters Tower	20.63 136	eP	Pn	12 44 02.0 +0.2
	29nm,0.9s				
CISI	Cisompet, Garu	23.14 264	eP	P	12 44 23.8 -1.8
	32nm,0.8s				
GIRL	Giralia	23.44 222	eP	P	12 44 23.9 -4.2
	317nm,1.4s				
GIRL	Giralia	23.44 222	P	P	12 44 29.2 +1.1
	baz=23,SNR=3.7				
MEEK	Meekatharra	24.02 208	P	P	12 44 34.1 +0.8
	baz=24,SNR=5.3				
FORT	Forrest	25.18 186	eP	P	12 44 44.6 +0.8
	41nm,0.8s				
FORT	Forrest	25.18 186	P	P	12 44 44.7 +1.0
	baz=25,SNR=9.2				
RMQ	Roma	26.77 143	P	P	12 45 01.0 +2.7
	baz=27,SNR=4.6				
KMBL	Kambalda	27.01 197	P	P	12 45 01.0 +0.7
	baz=27,SNR=35				
MORW	Morawa	27.29 210	eP	P	12 45 02.8 -0.1
	23nm,1.4s				
MORW	Morawa	27.29 210	P	P	12 45 03.0 +0.1
	baz=27,SNR=6.3				
BBOO	Buckleboo	27.45 171	eP	P	12 45 03.8 -0.5
	22nm,1.0s				
BBOO	Buckleboo	27.45 171	P	P	12 45 05.2 +1.0
	baz=28,SNR=15				
STKA	Stephens Creek	27.93 161	eP	P	12 45 09.3 +0.8
	2.7nm,1.0s				
STKA	Stephens Creek	27.93 161	P	P	12 45 09.0 +0.5
	6.5nm,0.4s,baz=343,slow=7.8,SNR=42				
STKA			LR	LR	12 57 50.8
	comp=Z,69nm,19.5s,baz=22,slow=40				
BLDU	Ballidu	28.28 207	P	P	12 45 11.9 +0.3
	baz=28,SNR=9.9				
HTT	Hallett	28.62 166	P	P	12 45 16.5 +1.7
	baz=29,SNR=9.8				
KLBR	Kellerberrin	28.67 204	P	P	12 45 15.9 +0.8
	baz=29,SNR=16				
HNR	Honiara	28.91 99	LR	LR	12 58 56.8
	comp=Z,45nm,18.8s,baz=234,slow=40				
CMSA	Cobar Meteorol	29.21 154	P	P	12 45 22.3 +2.4
	baz=29,SNR=15				
MUN	Mundaring	29.66 206	P	P	12 45 24.7 +0.8
	baz=30,SNR=3.4				
NWAO	Narrogin (SRO)	30.05 204	eP	P	12 45 26.9 -0.4
	13nm,0.6s				
NWAO	Narrogin (SRO)	30.05 204	P	P	12 45 27.4 0.0
	12nm,0.6s,baz=40,slow=7.8,SNR=15				
ARMA	Armidale	31.37 144	eP	P	12 45 38.8 -0.4
	8.0nm,0.7s				
ARMA	Armidale	31.37 144	P	P	12 45 43.2 +4.0
	baz=32,SNR=7.5				
RKGY	Rocky Gully	31.64 202	P	P	12 45 43.6 +2.3
	baz=32,SNR=8.8				
ARPS	Mount Arapiles	32.54 164	P	P	12 45 51.7 +2.6
	baz=33,SNR=12				
YNG	Young	32.75 153	P	P	12 45 53.9 +2.8
	baz=33,SNR=12				
CAN	Canberra	33.88 153	eP	P	12 45 58.8 -2.1
	19nm,0.8s				
CAN	Canberra	33.88 153	P	P	12 46 04.2 +3.3
	baz=34				
TOO	Toolangi	34.42 159	eP	P	12 46 05.7 0.0
	14nm,0.9s				
TOO	Toolangi	34.42 159	P	P	12 46 09.2 +3.6
	baz=35,SNR=7.4				
JNU	Nakatsue	38.53 360	LR	LR	13 03 39.5
	comp=Z,170nm,18.5s,baz=56,slow=38				
MOO	Moorlands	39.37 161	P	P	12 46 50.9 +3.4
	baz=40,SNR=4.2				
CM31	Chiang Mai Arr	39.67 308	eP	P	12 46 50.1 -0.3
	4.7nm,1.0s				
CMAR	Chiang Mai Arr	39.67 308	eP	P	12 46 50.2 -0.1
CMAR	Chiang Mai Arr	39.67 308	P	P	12 46 49.8 -0.5
	1.3nm,0.7s,baz=134,slow=7.8,SNR=6.7				
CMAR			ScP	ScP	12 52 36.5 -1.5
	0.8nm,0.6s,baz=165,slow=3.7,SNR=3.9				
CHTO	Chiang Mai	39.87 308	eP	P	12 46 51.2 -0.8
	3.8nm,0.9s				
MJAR	Matsushiro Arr	42.48 9	eP	P	12 47 12.0 -1.1
MJAR	Matsushiro Arr	42.48 9	P	P	12 47 13.2 +0.2
	4.2nm,0.9s,baz=193,slow=10,SNR=6.4				
MJAR			pP	sP	12 47 36.8 -1.1
	2.9nm,0.8s,baz=195,slow=9.8,SNR=3.5				
MAJO	Matsushiro	42.48 9	eP	P	12 47 13.2 +0.1
MAT	Matsushiro	42.48 9	P	P	12 47 12.8 -0.3
MJB9	Matsu-Tunnel	42.48 9	eP	P	12 47 13.7 +0.6
	6.9nm,0.8s				
KS15	Wonju Array Si	42.95 356	eP	P	12 47 16.9 +0.1
	5.0nm,1.0s				
KSAR	Wonju Array Be	42.95 356	eP	P	12 47 14.8 -1.9
KSRS	Korea Array	42.95 356	P	P	12 47 17.7 +0.9
	0.8nm,0.7s,baz=172,slow=8.1,SNR=4.2				
KSRS			pP	sP	12 47 40.7 -0.9
	0.8nm,0.6s,baz=174,slow=8.6,SNR=2.3				
USRK	Ussuriysk Ar.	49.60 1	eP	P	12 48 08.6 -0.3
USRK	Ussuriysk Ar.	49.60 1	P	P	12 48 10.0 +1.1
	2.4nm,0.5s,baz=186,slow=7.6,SNR=8.1				
WHZ	Wether Hill Ro	51.28 147	eP	P	12 48 20.7 -1.0
	17nm,1.3s				
LSA	Lhasa	51.94 315	eP	P	12 48 27.5 +0.1
	4.1nm,0.6s				
SNZO	South Karori	52.67 139	eP	P	12 48 32.5 +0.5
	81nm,1.4s				
BKZ	Black Stump Fm	52.85 136	eP	P	12 48 33.8 +0.3
	25nm,1.3s				
URZ	Urewera	52.88 135	eP	P	12 48 31.9 -1.7
	16nm,1.1s				
ULN	Ulaanbaatar	57.30 341	eP	P	12 49 07.0 +1.6
	2.4nm,0.5s				
SONA0	Songino Array	57.48 341	eP	P	12 49 07.2 +0.5
SONM	Songino Array	57.48 341	P	P	12 49 07.2 +0.5
	1.0nm,0.5s,baz=161,slow=8.2,SNR=4.2				
SONM			pP	sP	12 49 32.1 +0.1
	0.9nm,0.5s,baz=164,slow=7.5,SNR=2.2				
PEA0B	Petropavlovsk-	62.71 18	eP	P	12 49 40.6 -1.5
	30nm,1.4s				
PETK	Petropavlovsk-	62.71 18	eP	P	12 49 41.5 -0.6
PETK	Petropavlovsk-	62.71 18	P	P	12 49 43.0 +0.9
	2.8nm,0.8s,baz=156,slow=4.7,SNR=4.1				
PEA1	Petropavlovsk-	62.71 18	eP	P	12 49 43.0 +0.9
MK31	Makanchi Array	67.66 326	eP	P	12 50 14.0 -0.4
	4.9nm,0.9s				
MK32	Makanchi Array	67.66 326	eP	P	12 50 15.2 +0.8
MKAR	Makanchi Array	67.66 326	eP	P	12 50 14.1 -0.3
MKAR	Makanchi Array	67.66 326	P	P	12 50 15.2 +0.8
	2.4nm,0.5s,baz=114,slow=8.1,SNR=12				
MKAR			pP	PcP	12 50 38.4 -2.4
	3.9nm,0.7s,baz=122,slow=7.8,SNR=4.0				
SEY	Seymchan	70.28 10	P	P	12 50 32.4 +2.2
	2.7nm,0.3s,baz=190,slow=3.4,SNR=8.9				
SEY			pP	sP	12 50 55.9 -0.2
	4.1nm,0.7s,baz=225,slow=3.6,SNR=6.6				
ARSB	Arslanbob	70.57 317	eP	P	12 50 31.5 -1.2
	6.5nm,0.8s				
ZALV	Zalesovo Beam	70.82 333	eP	P	12 50 33.0 -0.7
ZALV	Zalesovo Beam	70.82 333	P	P	12 50 33.9 +0.2
	1.7nm,0.6s,baz=132,slow=6.8,SNR=3.9				
ZALV			pP	sP	12 50 59.5 0.0
	3.7nm,0.7s,baz=118,slow=4.7,SNR=5.6				
ZAA1	Zalesovo Array	70.82 333	eP	P	12 50 33.9 +0.2
KURK	Kurchatov	71.89 328	eP	P	12 50 39.5 -0.7
	4.4nm,1.0s				
KKAR	Karatay Array	73.00 318	eP	P	12 50 44.9 -2.2
	2.6nm,0.9s				
VNDA	Vanda	73.68 173	eP	P	12 50 52.2 +1.8
	6.1nm,1.0s				
VNDA	Vanda	73.68 173	P	P	12 50 52.0 +1.6
	5.4nm,0.8s,baz=323,slow=6.7,SNR=31				
SBA	Scott Base	74.56 173	eP	P	12 50 58.2 +2.8
	3.9nm,0.6s				
MAW	Mawson	76.60 201	eP	P	12 51 06.4 -0.8
	1.4nm,0.9s				
MAW	Mawson	76.60 201	P	P	12 51 08.9 +1.7
	baz=76,SNR=5.4				
MAW	Mawson	76.60 201	P	P	12 51 06.6 -0.7
	6.2nm,0.9s,baz=96,slow=8.6,SNR=9.3				
TIXI	Tiksi	77.14 359	P	P	12 51 11.0 +0.8
	1.4nm,0.5s,baz=167,slow=2.4,SNR=4.4				
BVAR	Borovoye Array	77.46 327	LR	LR	13 27 55.7
	comp=Z,119nm,20.0s,baz=194,slow=38				
QSPA	South Pole Qui	84.34 180	eP	P	12 51 50.0 +1.0
	5.8nm,0.9s				
ILAR	Eielson Array	91.67 25	P	P	12 52 23.9 0.0
	0.3nm,0.7s,baz=251,slow=5.3,SNR=4.1				
ILAR			pP	sP	12 52 49.9 -0.4
	0.8nm,0.8s,baz=259,slow=4.5,SNR=5.9				
ILB	Eielson Array	91.67 25	eP	P	12 52 22.8 -1.1
	3.9nm,1.4s				
LTX	Lajitas	123.34 59	ePKPdf	PKiKP	12 58 16.3 +1.6
TXAR	Lajitas Array	123.34 59	PKP	PKiKP	12 58 16.3 +1.6
	0.1nm,0.5s,baz=309,slow=0.6,SNR=3.0				
TORD	Torodi Ar. Bea	129.54 282	PKP	PKPdf	12 58 26.9 +0.4
	0.9nm,0.9s,baz=78,slow=1.6,SNR=4.4				
TORD			pPKP	sPKPdf	12 58 55.0 +1.6
	0.7nm,0.8s,baz=122,slow=2.2,SNR=2.3				
TOA1	Torodi Ar. Sit	129.54 282	ePKPdf	PKPdf	12 58 26.9 +0.4
TOA1			epPKPdf	sPKPdf	12 58 55.0 +1.6
LPAZ	La Paz	151.13 139	ePKPdf	PKPdf	12 59 00.0 -5.7
LPAZ			ePKPbc	PKPbc	12 59 08.5 -3.1
LPAZ			ePKPab	PKiKP	12 59 14.3 +2.2
LPAZ	La Paz	151.13 139	PKPbc	PKPbc	12 59 11.9 +0.3
	4.1nm,0.8s,baz=106,slow=3.5,SNR=5.6				

IDC ***21*** *12:39:26.9±0.6,52°.38N×160°.46E,h0km,mb4.3/29, mb1 4.5/33,mb1mx4.4/57,mbtmp4.3/33,ML3.8/4,MS4.2/15, Ms1 4.2/15,ms1mx3.8/50,Error ellipse: s-maj=15.3km s-min=10.5km az=157.0*

KRSC ***21*** *12:39:26.9±10.0,52°.14N×160°.87E,h60km±10km,ML5.0*

ISCJB ***21*** *12:39:30.3±0.4,52°.23N±0°.03×160°.69E±0°.03,h39km±3km, mb4.7/185,MS4.5/31,Error ellipse: s-maj=5.0km s-min=2.8km az=149.6*

BJI ***21*** *12:39:31.1±0.0,52°.76N×160°.28E,h42km,mb4.8/38, mB4.8/30,Ms4.8/28,Ms7 4.7/27*

MOS ***21*** *12:39:31.2±1.0,52°.29N×160°.56E,h50km,mb5.0/54, MS4.5/11,Error ellipse: s-maj=5.9km s-min=3.1km az=98.1*

NEIC ***21*** *12:39:31.6±0.2,52°.32N×160°.54E,h35km,mb4.6/110, Error ellipse: s-maj=6.5km s-min=3.2km az=163.0*

GCMT ***21*** *12:39:34.6±0.5,52°.26N±0°.05×161°.06E±0°.06,h21km±1km, MW4.8/60,Moment Tensor Solution. s22,c24; s60,c82; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.08±.19; Mθθ-1.16±.12; Mφφ-0.91±.10; Mrθ0.56±.20; Mrφ-0.67±.06; Mθφ0.61±.17; Best double couple: M0 2.07300×10^16 NP1:φ=47.00000°,δ57.00000°,λ87.00000°. NP2: φ=232.00000°,δ33.00000°,λ94.00000°. Principal axes: T 2.2550, Plg78.0000°, Azm308.0000°; N -0.3580, Plg2.0000°, Azm49.0000°; P -1.8910, Plg12.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 12:39:31.8±0.7,52°.27N±0°.04×160°.71E±0°.04,h43km±5km, n480,σ1§48/510,mb4.7/185,MS4.6/31,30C-23D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.93	333	eP	Pn	12 39 46.6	-1.8
SPN				eS	Sn	12 40 00.5	0.0
SPN	Mys Shipunski	0.93	333	PN	Pn	12 39 46.6	-1.8
SPN				S	Sn	12 40 00.5	0.0
NLC	Nalytchevo	1.22	318	eP	Pn	12 39 51.6	-0.8
NLC				eS	Sn	12 40 08.7	+1.0
NLC	Nalytchevo	1.22	318	PN	Pn	12 39 51.6	-0.8
NLC				S	Sn	12 40 08.7	+1.0
RUS	Russkaya	1.36	278	eP	Pn	12 39 53.2	-1.0
RUS				eS	Sn	12 40 11.3	+0.3
RUS	Russkaya	1.36	278	PN	Pn	12 39 53.2	-1.0
RUS				S	Sn	12 40 11.3	+0.3
DALK	Dalny	1.41	303	eP	Pn	12 39 54.4	-0.6
DALK				eS	Sn	12 40 13.1	+0.7
DALK	Dalny	1.41	303	PN	Pn	12 39 54.4	-0.6
DALK				S	Sn	12 40 13.1	+0.7
PET	Petropavlovsk	1.46	302	ePn	Pn	12 39 55.1	-0.6
PET	Petropavlovsk	1.46	302	‖ePN	Pn	12 39 55.1	-0.6
PET				eS	Sn	12 40 17.0	+3.4
PET				pmax	pmax		
	comp=Z,2μm,0.4s						
PET				smax	smax		
	comp=N,4μm,0.5s						
PET				smax	smax		
	comp=E,6μm,0.7s						
UGLR	Uglovaya	1.48	310	eP	Pn	12 39 56.0	-0.1
UGLR	Uglovaya	1.48	310	PN	Pn	12 39 56.0	-0.1
SDLR	Sedlovina	1.50	313	eP	Pn	12 39 56.0	-0.3
SDLR	Sedlovina	1.50	313	PN	Pn	12 39 56.0	-0.3
SMAR	Somma	1.52	311	eP	Pn	12 39 55.7	-1.1
SMAR	Somma	1.52	311	PN	Pn	12 39 55.7	-1.1
AVH	Avacha	1.56	310	eP	Pn	12 39 57.2	+0.1
AVH	Avacha	1.56	310	PN	Pn	12 39 57.2	+0.1
MTVR	Mutnovka	1.56	279	eP	Pn	12 39 56.7	-0.5
MTVR	Mutnovka	1.56	279	PN	Pn	12 39 56.7	-0.5
KRER	Koryakskii	1.57	312	eP	Pn	12 39 57.8	+0.3
KRER	Koryakskii	1.57	312	PN	Pn	12 39 57.8	+0.3
KOK	Koryaka	1.62	310	eP	Pn	12 39 57.9	-0.1
KOK	Koryaka	1.62	310	PN	Pn	12 39 57.9	-0.1
GRL	Gorelyy	1.64	281	eP	Pn	12 39 58.4	+0.1
GRL	Gorelyy	1.64	281	PN	Pn	12 39 58.4	+0.1
KRX	Arik	1.66	312	eP	Pn	12 39 58.6	+0.1
KRX	Arik	1.66	312	PN	Pn	12 39 58.6	+0.1
KRMR	Karymshinskiy	1.67	290	eP	Pn	12 39 58.3	-0.3
KRMR				eS	Sn	12 40 20.1	+1.4
KRMR	Karymshinskiy	1.67	290	PN	Pn	12 39 58.3	-0.3
KRMR				S	Sn	12 40 20.1	+1.4
KDTR	Khodutka, Kamc	1.69	255	eP	Pn	12 39 57.2	-1.6
KDTR				eS	Sn	12 40 17.4	-1.8
KDTR	Khodutka, Kamc	1.69	255	PN	Pn	12 39 57.2	-1.6
KDTR				S	Sn	12 40 17.4	-1.8
ASAK	Asacha	1.73	275	eP	Pn	12 39 59.2	-0.2
ASAK	Asacha	1.73	275	PN	Pn	12 39 59.2	-0.2
PEA0B	Petropavlovsk-	2.01	296	ePn	Pn	12 40 03.7	+0.4
PETK	Petropavlovsk-	2.01	296	ePn	Pn	12 40 03.1	-0.2
PETK	Petropavlovsk-	2.01	296	ePn	Pn	12 40 03.1	-0.2
PETK	Petropavlovsk-	2.01	296	Pn	Pn	12 40 03.3	0.0
	comp=E,333nm,0.3s,baz=114,slow=16,SNR=1491						
PETK				Sn	Sn	12 40 29.3	+2.1
	comp=E,135nm,0.3s,baz=97,slow=19,SNR=7.1						
PETK				LR	LR	12 40 36.1	
	comp=E,2μm,20.3s,baz=45,slow=38						
PEA1	Petropavlovsk-	2.02	296	ePn	Pn	12 40 03.3	0.0
PEA1				eSn	Sn	12 40 29.3	+2.0
APC	Apacha	2.26	288	eP	Pn	12 40 07.3	+0.6
APC				eS	Sn	12 40 35.3	+2.0
APC	Apacha	2.26	288	PN	Pn	12 40 07.3	+0.6
APC				S	Sn	12 40 35.3	+2.0
MKZ	Mys Kozlova	2.37	15	eP	Pn	12 40 06.6	-1.5
MKZ				eS	Sn	12 40 34.6	-1.2
MKZ	Mys Kozlova	2.37	15	PN	Pn	12 40 06.6	-1.5
MKZ				S	Sn	12 40 34.6	-1.2
PAU	Pauzhetka	2.55	253	eP	Pn	12 40 09.3	-1.3
PAU	Pauzhetka	2.55	253	PN	Pn	12 40 09.3	-1.3
KZV	Kizimen	2.85	355	eP	Pn	12 40 15.3	+0.3
KZV	Kizimen	2.85	355	PN	Pn	12 40 15.3	+0.3
TUMD	Tumrok D	2.94	357	eP	Pn	12 40 15.7	-0.3
TUMD				eS	Sn	12 40 50.3	+0.2
TUMR	Tumrok	3.03	354	eP	Pn	12 40 18.1	+0.7
TUMR	Tumrok	3.03	354	PN	Pn	12 40 15.7	-1.7
TUMR				S	Sn	12 40 50.3	-2.2
SKR	Severo-Kuril's	3.28	243	eP	Pn	12 40 18.7	-1.9
SKR				eS	Sn	12 40 55.5	-2.9
SKR	Severo-Kuril's	3.28	243	ePN	Pn	12 40 18.8	-1.9
SKR				eS	Sn	12 40 55.3	-3.1
SKR				pmax	pmax		
	comp=Z,299nm,0.6s						
SKR				smax	smax		
	comp=N,2μm,0.6s						
SKR				smax	smax		
	comp=E,2μm,0.7s						
ALID	Alaid	3.51	248	eP	Pn	12 40 23.0	-1.0
ALID	Alaid	3.51	248	PN	Pn	12 40 23.0	-1.0
BZMR	Bezymyannaya	3.67	358	eP	Pn	12 40 26.5	+0.3
BZMR	Bezymyannaya	3.67	358	PN	Pn	12 40 26.5	+0.3
BZGR	Bezymyannyi-Gr	3.67	360	eP	Pn	12 40 25.7	-0.5
BZGR	Bezymyannyi-Gr	3.67	360	PN	Pn	12 40 25.7	-0.5
BZWR	Bezymyannyi-We	3.70	358	eP	Pn	12 40 27.5	+0.9
BZWR	Bezymyannyi-We	3.70	358	PN	Pn	12 40 27.5	+0.9
KPT	Kopyto	3.71	356	eP	Pn	12 40 28.1	+1.5
KPT	Kopyto	3.71	356	PN	Pn	12 40 28.1	+1.5
LGNR	Loginova	3.82	360	eP	Pn	12 40 29.8	+1.5
LGNR	Loginova	3.82	360	PN	Pn	12 40 29.8	+1.5
KOZ	Kozyrevsk	3.82	353	eP	Pn	12 40 29.4	+1.3
KOZ	Kozyrevsk	3.82	353	PN	Pn	12 40 29.4	+1.3
ESO	Esso	3.84	343	eP	Pn	12 40 28.8	+0.4
ESO	Esso	3.84	343	PN	Pn	12 40 28.8	+0.4
CIRR	Tsirk	3.85 0		eP	Pn	12 40 28.3	-0.3
CIRR	Tsirk	3.85 0		PN	Pn	12 40 28.3	-0.3
KLY	Klyuchi	4.05	360	eP	Pn	12 40 31.3	+0.1
KLY	Klyuchi	4.05	360	PN	Pn	12 40 31.3	+0.1
SRDR	Sredinnyy	4.09	352	eP	Pn	12 40 31.8	-0.1
SRDR	Sredinnyy	4.09	352	PN	Pn	12 40 31.8	-0.1
KBG	Krutoberegovo	4.16	16	eP	Pn	12 40 32.8	+0.1
KBG	Krutoberegovo	4.16	16	PN	Pn	12 40 32.8	+0.1
BKI	Bering	4.29	45	eP	Pn	12 40 32.9	-1.5
BKI				eS	Sn	12 41 18.3	-4.8
BKI	Bering	4.29	45	PN	Pn	12 40 32.9	-1.5
BDR	Baidarnaya	4.31 4		eP	Pn	12 40 36.6	+1.7
BDR	Baidarnaya	4.31 4		PN	Pn	12 40 36.6	+1.7
SMKR	Semkarok	4.34 6		eP	Pn	12 40 36.7	+1.4
SMKR	Semkarok	4.34 6		PN	Pn	12 40 36.7	+1.4
SRKR	Sorokina	4.40 3		eP	Pn	12 40 35.9	-0.1
SRKR	Sorokina	4.40 3		PN	Pn	12 40 35.9	-0.1
PALN	Palana	6.84	357	eP	Pn	12 41 10.2	+0.7
PALN	Palana	6.84	357	PN	Pn	12 41 10.2	+0.7
OSSR	Ossora	7.12 10		eP	Pn	12 41 15.1	+1.9
OSSR	Ossora	7.12 10		PN	Pn	12 41 15.1	+1.9
TILK	Tilichiki	8.73 18		eP	Pn	12 41 37.2	+1.9
TILK	Tilichiki	8.73 18		PN	Pn	12 41 37.2	+1.9
MA2	Magadan	9.19	327	ePn	Pn	12 41 41.9	+0.2
MA2	Magadan	9.19	327	ePN	Pn	12 41 41.9	+0.2
MA2	Magadan	9.19	327	Pn	Pn	12 41 42.9	+1.3
	comp=E,0.0nm,0.3s,baz=155,slow=14,SNR=2.9						
MA2				LR	LR	12 45 60.0	
	comp=E,853nm,18.6s,baz=146,slow=44						
OKH	Okha	10.81	284	dePN	Pn	12 42 16.5	+13
OKH				pmax	pmax		
	comp=Z,200nm,8.8s						
OKH				MLR	MLR		
	comp=Z,2μm,14.0s						
SEY	Seymchan	11.57	341	‖iPn	Pn	12 42 16.2	+2.1
SEY	Seymchan	11.57	341	Pn	Pn	12 42 13.8	-0.3
	comp=Z,0.1nm,0.3s,baz=105,slow=19,SNR=4.7						
YSS	Yuzh-Sakhalins	12.79	253	ePn	Pn	12 42 31.4	+0.5
YSS	Yuzh-Sakhalins	12.79	253	ePN	Pn	12 42 31.6	+0.7
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
YUK	Yuzh-Kuril'sk	12.87	236	‖ePN	Pn	12 42 31.7	-0.3
ASAJ	Asahikawa	14.55	243	Pn	Pn	12 42 53.2	-1.6
	comp=Z,2.6nm,0.3s,baz=80,slow=13,SNR=13						
ASAJ				LR	LR	12 49 15.2	
	comp=Z,804nm,18.6s,baz=52,slow=41						
GRNR	Gornyy	15.18	274	eP	P	12 43 06.4	-1.0
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
ERM	Erimo	15.70	236	ePn	Pn	12 43 09.2	-0.6
	comp=Z,23nm,0.5s						
ERM	Erimo	15.70	236

USA0B **Ussuriysk Arra** 20.66 258 *eP* **P** 12 44 06.6 -1.1
comp=E,24nm,0.9s
USRK **Ussuriysk Ar.** 20.66 258 P **P** 12 44 06.2 -1.4
comp=E,19nm,0.9s,baz=56,slow=9.6,SNR=26
USRK LR LR 12 53 08.3
comp=E,692nm,18.2s,baz=58,slow=40
VLA **Vladivostok** 21.33 256⇓ *eP* **P** 12 44 15.8 +0.9
VLA pmax pmax
comp=Z,50nm,1.1s
MJB9 **Matsu-Tunnel** 22.35 234 *eP* **P** 12 44 26.1 +0.1
comp=Z,38nm,0.8s
MAJO **Matsushiro** 22.35 234 *eP* **P** 12 44 26.0 +0.1
comp=Z,37nm,0.8s
MAJO **Matsushiro** 22.35 234 *eP* **P** 12 44 26.0 +0.1
MAJO pmax pmax
comp=Z,37nm,0.8s
MAT **Matsushiro** 22.35 234 P **P** 12 44 25.1 -0.9
MAT S Sn 12 48 36.2 -6.7
MJAR **Matsushiro Arr** 22.35 234 *eP* **P** 12 44 26.1 +0.1
MJAR **Matsushiro Arr** 22.35 234 P **P** 12 44 26.0 +0.1
MJAR **Matsushiro Arr** 22.35 234 P **P** 12 44 26.0 0.0
comp=Z,17nm,0.8s,baz=27,slow=7.9,SNR=57
MJAR LR LR 12 53 36.9
comp=Z,709nm,21.7s,baz=55,slow=38
RDOG **Red Dog Mine** 23.50 34 *eP* **P** 12 44 38.7 +1.2
comp=Z,13nm,1.0s
INU **Inuyama** 23.88 234 *eP* **P** 12 44 41.1 -0.1
comp=Z,23nm,0.7s
TIXI **Tiksi** 23.98 336 *eP* **P** 12 44 40.4 -1.4
TIXI **Tiksi** 23.98 336⇑ *eP* **P** 12 44 40.1 -1.7
TIXI pmax pmax
comp=Z,25nm,1.0s
TIXI **Tiksi** 23.98 336 P **P** 12 44 40.8 -1.0
comp=Z,10nm,0.5s,baz=123,slow=10,SNR=45
TIXI PcP **PcP** 12 48 24.2 +1.6
comp=Z,1.8nm,0.6s,baz=89,slow=2.5,SNR=3.6
HIA **Hailar** 25.84 280 *eP* **P** 12 44 56.3 -2.6
comp=Z,28nm,0.8s
HIA **Hailar** 25.84 280⇓ *iP* **P** 12 44 57.3 -1.7
HIA pmax pmax
comp=Z,198nm,0.8s
IMAR **Indian Mountai** 26.36 41 *eP* **P** 12 45 05.0 +1.4
RSO **Redoubt South** 26.53 54 *eP* **P** 12 45 04.8 -0.5
PPLA **Purkeypile** 26.76 48 *eP* **P** 12 45 06.1 -1.2
comp=Z,3.2nm,1.0s
CAST **Castle Rocks** 26.82 47 *eP* **P** 12 45 09.4 +1.6
comp=Z,3.7nm,1.1s
BOD **Bodaibo** 26.88 301 *eP* **P** 12 45 07.0 -1.2
BOD pmax pmax
comp=Z,27nm,1.4s
KDAK **Kodiak Island** 26.89 60 *eP* **P** 12 45 07.0 -1.2
KDAK **Kodiak Island** 26.89 60 *eP* **P** 12 45 07.0 -1.2
KDAK **Kodiak Island** 26.89 60 P **P** 12 45 10.3 +2.1
comp=Z,7.4nm,0.9s,baz=232,slow=8.8,SNR=4.1
KSRS **Korea Array** 27.27 250 P **P** 12 45 11.7 -0.2
comp=Z,3.7nm,0.7s,baz=45,slow=9.6,SNR=15
KSRS PcP **PcP** 12 48 31.3 +0.7
comp=Z,0.4nm,0.5s,baz=18,slow=4.2,SNR=4.3
KSRS LR LR 12 57 03.9
comp=Z,541nm,18.1s,baz=58,slow=39
KS15 **Wonju Array Si** 27.30 250 *eP* **P** 12 45 11.6 -0.6
comp=Z,6.0nm,0.8s
KSAR **Wonju Array Be** 27.30 250 *eP* **P** 12 45 11.2 -1.0
KSAR **Wonju Array Be** 27.30 250 *eP* **P** 12 45 11.2 -1.0
BPAW **Bear Paw Mtn.** 27.34 46 *eP* **P** 12 45 13.0 +0.7
comp=Z,8.1nm,1.0s
TOLK **Toolik Lake Re** 28.40 36 *eP* **P** 12 45 22.7 +0.9
comp=Z,3.3nm,0.9s
KNK **Knik Glacier** 28.55 51 *eP* **P** 12 45 24.1 +0.9
comp=Z,13nm,1.2s
MDM **Murphy Dome** 28.56 44 *eP* **P** 12 45 25.1 +1.9
comp=Z,3.0nm,1.0s
SML **Sawmill** 28.58 50 *eP* **P** 12 45 23.7 +0.2
comp=Z,10nm,1.0s
SML **Sawmill** 28.58 50 *eP* **P** 12 45 23.7 +0.2
SML pmax pmax
comp=Z,11nm,1.0s
WRH **Wood River Hil** 28.61 45 *eP* **P** 12 45 23.9 +0.3
comp=Z,6.1nm,1.1s
COLA **College** 28.72 44 *eP* **P** 12 45 25.5 +0.9
comp=Z,5.3nm,1.0s
COLA **College** 28.72 44 *eP* **P** 12 45 25.5 +0.9
COLA pmax pmax
comp=Z,5.0nm,1.0s
CCB **Clear Creek Bu** 28.74 44 *eP* **P** 12 45 26.1 +1.3
comp=Z,6.0nm,1.2s
JNU **Nakatsue** 28.79 240 *eP* **P** 12 45 23.7 -1.9
comp=Z,29nm,0.8s
JNU **Nakatsue** 28.79 240 P **P** 12 45 25.7 +0.1
comp=Z,8.4nm,0.9s,baz=53,slow=6.2,SNR=5.3
DHY **Denali Highway** 28.96 48 *eP* **P** 12 45 26.9 0.0
comp=Z,2.1nm,0.9s
SCM **Sheep Creek Mo** 29.06 50 *eP* **P** 12 45 29.0 +1.3
comp=Z,15nm,1.2s
SCM **Sheep Creek Mo** 29.06 50 *eP* **P** 12 45 29.0 +1.3
SCM pmax pmax
comp=Z,15nm,1.2s
ILAR **Eielson Array** 29.13 44 P **P** 12 45 29.7 +1.4
comp=Z,0.7nm,0.8s,baz=263,slow=7.7,SNR=7.9
ILB **Eielson Array** 29.13 44 *eP* **P** 12 45 28.4 +0.1
comp=Z,3.3nm,1.1s
PRP **Porcupine Dome** 29.71 43 *eP* **P** 12 45 32.7 -0.9
comp=Z,5.7nm,1.1s
DOT **Dot Lake** 30.41 46 *eP* **P** 12 45 40.6 +1.0
comp=Z,1.8nm,0.9s
SCRK **Sand Creek** 30.42 46 *eP* **P** 12 45 40.4 +0.6
comp=Z,2.6nm,1.0s
BCAR **Beaver Creek A** 31.49 47 *eP* **P** 12 45 50.0 +0.8
H11N2 **WAKE ISLAND Hy** 32.84 169 T T 13 22 03.5
baz=353,slow=74
H11N3 **WAKE ISLAND Hy** 32.85 169 T T 13 21 54.4
baz=353
H11N1 **WAKE ISLAND Hy** 32.85 169 T T 13 22 07.9
baz=353,slow=74
HYT **Haines Junctio** 33.89 51 *eP* **P** 12 46 10.5 +0.2
comp=Z,3.7nm,1.2s
H11S1 **WAKE ISLAND Hy** 34.02 170 T T 13 23 35.6
baz=352,slow=76,SNR=7.4
H11S3 **WAKE ISLAND Hy** 34.03 170 T T 13 23 37.1
baz=352,slow=76,SNR=12
H11S2 **WAKE ISLAND Hy** 34.04 170 T T 13 23 32.8
baz=352,slow=76,SNR=6.9
ULN **Ulaanbaatar** 34.06 284 *eP* **P** 12 46 10.6 -1.2
comp=Z,7.7nm,1.1s
ULN **Ulaanbaatar** 34.06 284 *ceP* **P** 12 46 10.6 -1.2
ULN pmax pmax
comp=Z,9.0nm,1.3s
INK **Inuvik** 34.29 37 *eP* **P** 12 46 14.1 +0.7
comp=Z,4.0nm,0.9s
INK **Inuvik** 34.29 37 P **P** 12 46 14.2 +0.8
comp=Z,0.9nm,0.8s,baz=296,slow=8.2,SNR=3.1
TLY **Talaya** 34.37 292 *eP* **P** 12 46 13.6 -0.8
comp=Z,6.3nm,1.1s
TLY **Talaya** 34.37 292 *c iP* **P** 12 46 13.7 -0.7
TLY **Talaya** 34.37 292 P **P** 12 46 14.5 +0.1
SONA0 **Songino Array** 34.46 285 *eP* **P** 12 46 13.8 -1.5
SONA0 *ePcP* **PcP** 12 48 50.2 +0.5
SONM **Songino Array** 34.46 285 *eP* **P** 12 46 14.0 -1.4
SONM **Songino Array** 34.46 285 P **P** 12 46 13.8 -1.5
comp=Z,1.0nm,0.3s,baz=52,slow=6.3,SNR=8.6
SONM PcP **PcP** 12 48 50.2 +0.5
comp=Z,1.9nm,0.8s,baz=123,slow=1.3,SNR=4.8
SONM LR LR 13 02 05.2
comp=Z,1μm,18.8s,baz=65,slow=40
TIA **Tai'an** 34.51 260 P **P** 12 46 16.6 +0.9
TIA pmax pmax
comp=Z,19nm,0.8s
HHC **Hu-ho-hao-te** 35.02 271 *eP* **P** 12 46 20.5 +0.3
HHC S **S** 12 51 47.8 -1.5
HHC SS SS 12 54 04.8 -17
HHC pmax pmax
comp=Z,280nm,4.4s
HHC LR LR
comp=Z,870nm,12.8s
HHC LR LR
comp=Z,640nm,12.3s
HHC LR LR
comp=Z,1μm,13.9s
ZAK **Zakamensk** 35.13 290 *eP* **P** 12 46 19.5 -1.5
ZAK pmax pmax
comp=Z,8.0nm,1.3s
MOY **Mondy** 35.88 293 *eP* **P** 12 46 26.6 -0.9
MOY pmax pmax
comp=Z,21nm,1.6s
NJ2 **Nanjing** 36.36 253 *eP* **P** 12 46 30.8 -0.8
NJ2 pmax pmax
comp=Z,12nm,0.5s

NRIK **Noril'sk** 36.79 325 P **P** 12 46 34.5 -0.4
comp=Z,1.8nm,0.4s,baz=96,slow=7.4,SNR=6.3
NRIK LR LR 13 03 10.1
comp=Z,791nm,18.2s,baz=72,slow=39
DLBC **Dease Lake** 38.24 53 *eP* **P** 12 46 48.1 +0.7
comp=Z,8.0nm,1.0s
DLBC **Dease Lake** 38.24 53 P **P** 12 46 48.5 +1.2
comp=Z,2.0nm,0.8s,baz=287,slow=16,SNR=3.2
WHN **Wuhan** 40.11 256 P P 12 46 55.9 -7.3
XAN **Xi'an** 40.96 264 P P 12 47 13.3 +3.1
XAN sP sP 12 47 30.3 +4.1
XAN PP **PnPn** 12 48 49.9 +0.4
XAN PcP **PcP** 12 49 14.3 +4.5
XAN S **S** 12 53 19.3 +0.2
XAN SS **SS** 12 56 14.6 -7.1
XAN pmax pmax
comp=Z,4.0nm,0.7s
XAN pmax pmax
comp=Z,83nm,5.2s
XAN LR LR
comp=Z,420nm,17.2s
XAN LR LR
comp=Z,670nm,15.7s
XAN LR LR
comp=Z,730nm,16.2s
TWG **Pinlang** 42.20 241 *eP* **P** 12 47 21.1 +0.7
comp=Z,52nm,0.9s
LZH **Lanzhou** 42.72 271 *eP* **P** 12 47 22.0 -2.7
LZH pP pP 12 47 35.3 -0.6
LZH sP sP 12 47 39.8 -0.9
LZH pmax pmax
comp=Z,17nm,1.0s
LZH LR LR
comp=Z,710nm,15.2s
LZH LR LR
comp=Z,1μm,16.5s
LZH LR LR
comp=Z,870nm,16.8s
GTA **Gaotai** 43.08 278 *eP* **P** 12 47 27.3 -0.2
GTA pP pP 12 47 37.5 -1.2
GTA sP pwP 12 47 41.5 -0.1
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,29nm,5.7s
GTA LR LR
comp=Z,630nm,15.9s
GTA LR LR
comp=Z,450nm,16.8s
GTA LR LR
comp=Z,860nm,15.9s
YKW3 **Yellowknife Ar** 43.48 42 *eP* **P** 12 47 30.8 +0.5
comp=Z,4.2nm,1.0s
YKA **Yellowknife Ar** 43.52 42 P **P** 12 47 31.7 +1.2
comp=Z,1.0nm,0.9s,baz=299,slow=8.1,SNR=11
YKB5 **Yellowknife Ar** 43.52 42 *eP* **P** 12 47 31.7 +1.2
ZAA1 **Zalesovo Array** 43.54 304 *eP* **P** 12 47 28.8 -2.1
ZAA1 *ePP* **PcP** 12 49 18.1 +0.2
ZAA0 **Zalesovo Array** 43.54 304 *eP* **P** 12 47 28.1 -2.7
comp=Z,5.1nm,1.0s
ZALV **Zalesovo Beam** 43.54 304 *eP* **P** 12 47 28.6 -2.3
ZALV **Zalesovo Beam** 43.54 304 *eP* **P** 12 47 28.6 -2.3
ZALV **Zalesovo Beam** 43.54 304 P **P** 12 47 28.8 -2.1
comp=Z,1.1nm,0.3s,baz=73,slow=5.0,SNR=12
ZALV PcP **PcP** 12 49 18.1 +0.2
comp=Z,0.7nm,0.4s,baz=62,slow=4.6,SNR=2.8
NVS **Novosibirsk** 43.89 305⇑ *iP* **P** 12 47 33.1 -0.6
NVS *i* 12 49 14.3
NVS pmax pmax
comp=E,39nm,1.2s
NVS pmax pmax
comp=Z,54nm,1.2s
NVS pmax pmax
comp=N,6.0nm,0.6s
RES **Resolute Bay** 43.95 22 *eP* **P** 12 47 33.7 -0.2
comp=N,4.8nm,1.1s
RES **Resolute Bay** 43.95 22 *eP* **P** 12 47 33.7 -0.2
RES pmax pmax
comp=Z,5.0nm,1.1s
RES **Resolute Bay** 43.95 22 P **P** 12 47 34.8 +0.9
comp=Z,3.5nm,1.1s,baz=306,slow=8.7,SNR=3.2
DGZ **Jazzator, Alta** 44.37 297 *d iP* **P** 12 47 37.7 -0.1
DGZ pmax pmax
comp=Z,9.0nm,0.8s
CD2 **Chengdu** 46.27 266 P **P** 12 47 51.5 -1.4
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,760nm,21.8s
CD2 LR LR
comp=Z,720nm,18.0s
CD2 LR LR
comp=Z,750nm,15.3s
WMQ **Urumqi** 47.60 290 *eP* **P** 12 48 03.8 +0.6
WMQ pP pwP 12 48 16.5 -1.0
WMQ pmax pmax
comp=Z,47nm,1.3s
WMQ pmax pmax
comp=Z,310nm,4.3s
WMQ LR LR
comp=Z,2μm,15.9s
WMQ LR LR
comp=Z,2μm,14.3s
WMQ LR LR
comp=Z,2μm,14.9s
SP2 **Seward Park 2** 47.64 63 *eP* **P** 12 48 05.7 +2.3
KBS **Kingsbay** 47.74 352⇑ *eP* **P** 12 48 05.1 +1.3
KBS pmax pmax
comp=Z,54nm,1.3s
SPA0 **Spitsbergen Ar** 48.01 351 *eP* **P** 12 48 04.1 -1.7
comp=Z,38nm,1.0s
KURK **Kurchatov** 48.49 303 *eP* **P** 12 48 07.5 -2.4
comp=Z,50nm,1.0s
KURK **Kurchatov** 48.49 303 *c iP* **P** 12 48 08.3 -1.6
KURK pmax pmax
comp=Z,64nm,1.3s
KURK **Kurchatov** 48.49 303 P **P** 12 48 08.6 -1.3
SNR=25
MK31 **Makanchi Array** 48.85 297 *eP* **P** 12 48 10.6 -2.2
comp=Z,4.0nm,0.9s
MK31 **Makanchi Array** 48.85 297 *eP* **P** 12 48 10.6 -2.2
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MK32 **Makanchi Array** 48.85 297 *eP* **P** 12 48 11.5 -1.2
MKAR **Makanchi Array** 48.85 297 *eP* **P** 12 48 10.9 -1.9
MKAR **Makanchi Array** 48.85 297 *eP* **P** 12 48 10.9 -1.9
MKAR **Makanchi Array** 48.85 297 P **P** 12 48 11.5 -1.2
comp=Z,2.8nm,0.5s,baz=57,slow=6.3,SNR=39
MKAR LR LR 13 10 16.2
comp=Z,342nm,18.1s,baz=38,slow=38
HSPB **Hornsund (broa** 49.13 350 *eP* **P** 12 48 16.4 +1.9
KMI **Kunming** 51.06 261 P **P** 12 48 30.6 +0.6
KMI pmax pmax
comp=Z,17nm,0.5s
BRVK **Borovoye** 51.22 309 *eP* **P** 12 48 29.4 -1.2
comp=Z,12nm,0.8s
BRVK **Borovoye** 51.22 309 *d iP* **P** 12 48 29.9 -0.7
BRVK pmax pmax
comp=Z,14nm,0.8s
BRVK **Borovoye** 51.22 309 P **P** 12 48 29.7 -0.9
SNR=7.2
BMO **Blue Mountains** 52.01 63 *eP* **P** 12 48 37.5 +0.8
comp=Z,1.0nm,0.8s
BMO **Blue Mountains** 52.01 63 *eP* **P** 12 48 37.5 +0.8
BMO pmax pmax
comp=Z,1.0nm,0.8s
MOD **Modoc Plateau** 52.22 68 *eP* **P** 12 48 38.6 +0.2
comp=Z,6.6nm,1.1s
SLVN **Son La** 53.20 257 *eP* **P** 12 48 46.7 +0.9
comp=Z,13nm,0.8s
FFC **Flin Flon** 53.33 46 *eP* **P** 12 48 47.1 +0.9
comp=Z,1.9nm,0.8s
FFC **Flin Flon** 53.33 46 *eP* **P** 12 48 47.1 +0.9
FFC pmax pmax
comp=Z,2.0nm,0.8s
LVZ **Lovozero** 53.60 338 *eP* **P** 12 48 47.7 -0.3
comp=Z,11nm,0.8s
LVZ **Lovozero** 53.60 338⇓ *eP* **P** 12 48 48.6 +0.5
LVZ pmax pmax
comp=Z,10.0nm,1.0s
ARCES **ARCESS Array B** 54.18 342 P **P** 12 48 52.7 +0.4
comp=Z,12nm,0.9s,baz=43,slow=8.4,SNR=17
ARU **Arti** 54.26 318 *eP* **P** 12 48 51.9 -1.0
comp=Z,14nm,0.5s
ARU **Arti** 54.26 318 *c iP* **P** 12 48 52.7 -0.2
ARU 12 49 53.3

ARU 12 50 50.5
ARU S **S** 12 56 25.9 -1.1
ARU SS **SS** 13 00 01.6 -6.9
ARU pmax pmax
comp=Z,10.0nm,0.6s
ARU MLR MLR
comp=Z,278nm,15.0s
BOZ **Bozeman (W)** 54.59 59 *eP* **P** 12 48 57.5 +1.7
comp=Z,2.8nm,1.1s
BOZ **Bozeman (W)** 54.59 59 *eP* **P** 12 48 57.5 +1.7
BOZ pmax pmax
comp=Z,3.0nm,1.1s
SUMG **Summit** 54.73 7 *eP* **P** 12 48 57.7 +1.1
comp=Z,25nm,1.0s
SUMG **Summit** 54.73 7 *eP* **P** 12 48 57.7 +1.1
SUMG pmax pmax
comp=Z,25nm,1.0s
BMN **Battle Mountai** 54.94 67 *eP* **P** 12 49 01.1 +2.7
comp=Z,5.2nm,1.1s
BMN **Battle Mountai** 54.94 67 *eP* **P** 12 49 01.1 +2.7
BMN pmax pmax
comp=Z,5.0nm,1.1s
PRGR **Permogore** 55.33 328 *eP* **P** 12 48 59.2 -1.4
PRGR pmax pmax
comp=Z,24nm,0.9s
KVN **Kaiserville** 55.37 69 *eP* **P** 12 49 04.0 +2.5
comp=Z,4.9nm,1.1s
NV01 **Mina Array Sit** 55.67 70 *eP* **P** 12 49 06.1 +2.4
NVAR **Mina Array Bea** 55.67 70 *eP* **P** 12 49 04.3 +0.6
NVAR **Mina Array Bea** 55.67 70 P **P** 12 49 06.1 +2.4
comp=Z,1.2nm,0.7s,baz=301,slow=7.7,SNR=11
NVAR LR LR 13 12 18.1
comp=Z,46nm,18.0s,baz=210,slow=35
TMCR **Tamitsa** 55.68 333 *eP* **P** 12 49 03.5 +0.4
TMCR pmax pmax
comp=Z,87nm,1.1s
AAK **Ala-Archa** 55.78 297 *eP* **P** 12 49 03.9 -0.5
comp=Z,4.5nm,0.8s
AAK **Ala-Archa** 55.78 297 *eP* **P** 12 49 03.9 -0.5
AAK pmax pmax
comp=Z,5.0nm,0.8s
H17A **Grant Village** 55.95 60 *eP* **P** 12 49 08.1 +2.5
comp=Z,3.3nm,1.0s
PANO **Nakornpanom** 56.02 253 P **P** 12 49 08.9 +2.8
comp=Z,0.6nm,1.1s
IMW **Indian Meadow** 56.09 61 *eP* **P** 12 49 09.2 +2.4
comp=Z,1.4nm,0.8s
FLWY **Flagg Ranch** 56.09 60 *eP* **P** 12 49 09.2 +2.5
comp=Z,3.6nm,0.6s
RLMT **Red Lodge** 56.15 58 *eP* **P** 12 49 07.7 +0.7
comp=Z,3.0nm,1.0s
MOOW **Moose Ponds** 56.29 61 *eP* P 12 49 12.5 +4.4
comp=Z,1.4nm,0.9s
REDW **Red Top Meadow** 56.50 61 *eP* **P** 12 49 13.0 +3.4
comp=Z,4.1nm,1.1s
SKNT **Sakolnakorn** 56.53 254 P **P** 12 49 11.8 +2.0
comp=Z,19nm,0.9s
KSH **Kashi** 57.07 293 P **P** 12 49 16.1 +2.6
KSH pP pP 12 49 26.0 +1.0
KSH PP **PP** 12 51 25.5 +5.2
KSH S **S** 12 57 06.3 +1.1
KSH SS **SS** 13 00 56.5 +2.8
KSH pmax pmax
comp=Z,74nm,6.0s
KSH LR LR
comp=Z,320nm,10.8s
KSH LR LR
comp=Z,240nm,9.8s
KSH LR LR
comp=Z,800nm,12.1s
PAYA **Payao** 57.14 259 P **P** 12 49 16.1 +2.0
comp=Z,56μm,0.8s
PHRA **Phrae** 57.58 258 P **P** 12 49 19.1 +1.9
comp=Z,4.5nm,1.0s,comp=Z,153nm
BW06 **Boulder Array** 57.60 61 *eP* **P** 12 49 17.6 +0.2
comp=Z,3.6nm,0.9s
PD31 **Pinedale Array** 57.60 61 *eP* **P** 12 49 17.2 -0.1
comp=Z,3.6nm,1.0s
PDAR **Pinedale Array** 57.60 61 *eP* **P** 12 49 18.5 +1.1
PDAR **Pinedale Array** 57.60 61 P **P** 12 49 18.6 +1.3
comp=Z,0.8nm,0.5s,baz=302,slow=3.3,SNR=12
KK31 **Karatay Array** 57.61 300 *eP* **P** 12 49 16.6 -0.6
comp=Z,6.1nm,0.9s
KK31 **Karatay Array** 57.61 300 *eP* **P** 12 49 16.6 -0.6
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR **Karatay Array** 57.61 300 *eP* **P** 12 49 16.3 -0.9
KKAR **Karatay Array** 57.61 300 *eP* **P** 12 49 16.3 -0.9
KLMR **Klimovskoe** 57.85 330 *eP* **P** 12 49 17.8 -0.7
KLMR pmax pmax
comp=Z,23nm,0.8s
TPNV **Topopah Spring** 57.87 70 *eP* **P** 12 49 20.7 +1.4
comp=Z,4.4nm,1.0s
TPNV **Topopah Spring** 57.87 70 *eP* **P** 12 49 20.7 +1.4
TPNV pmax pmax
comp=Z,4.0nm,1.0s
LAMP **Lampang** 57.92 259 P **P** 12 49 21.8 +2.2
comp=Z,43μm,1.0s,comp=Z,405μm
UTTA **Uttaradit** 57.97 257 P **P** 12 49 22.0 +2.1
comp=Z,35μm,0.9s
CMMT **Chiang Mai** 58.11 259 P **P** 12 49 22.4 +1.4
comp=Z,18nm,1.0s,comp=Z,201nm
CHTO **Chiang Mai** 58.11 259 *eP* **P** 12 49 21.9 +0.9
comp=Z,23nm,0.8s
CHTO **Chiang Mai** 58.11 259 *eP* **P** 12 49 21.9 +0.9
CHTO pmax pmax
comp=Z,23nm,0.8s
CHTO **Chiang Mai** 58.11 259 P **P** 12 49 22.5 +1.5
SNR=6.1
CHTO P **P** 12 49 22.5 +1.5
SNR=6.1
CM31 **Chiang Mai Arr** 58.39 259 *eP* **P** 12 49 24.1 +1.2
comp=Z,18nm,0.8s
CMAR **Chiang Mai Arr** 58.39 259 P **P** 12 49 24.3 +1.4
comp=Z,11nm,0.8s,baz=24,slow=7.1,SNR=51
CMAR LR LR 13 16 59.9
comp=Z,207nm,18.9s,baz=53,slow=39
CHAI **Chaiyaphum** 58.55 255 P **P** 12 49 26.4 +2.4
comp=Z,22μm,1.1s
ABKAR **Akbulak array** 58.61 311 *eP* **P** 12 49 22.9 -1.1
comp=Z,3.8nm,0.7s
PBKT **Sadao Pong** 58.63 256 P P 12 49 28.2 +3.7
comp=Z,4.0nm,1.6s
MSU **Marysvale** 59.10 66 *eP* **P** 12 49 30.0 +2.1
CCUT **Cedar City** 59.10 68 *eP* **P** 12 49 29.3 +1.4
comp=Z,1.9nm,0.9s
LCMT **Little Creek M** 59.55 68 *eP* **P** 12 49 30.6 -0.3
comp=Z,4.9nm,1.1s
RSSD **Black Hills** 59.55 56 *eP* **P** 12 49 30.1 -0.8
comp=Z,4.5nm,0.8s
RSSD **Black Hills** 59.55 56 *eP* **P** 12 49 30.1 -0.8
RSSD pmax pmax
comp=Z,5.0nm,0.8s
BTK **Batken** 59.56 297 *eP* **P** 12 49 29.3 -1.6
comp=Z,10nm,0.7s
BTK **Batken** 59.56 297 *eP* **P** 12 49 29.3 -1.6
BTK pmax pmax
comp=Z,10.0nm,0.7s
RAMN **Ramite** 59.61 276 *eP* **P** 12 49 31.5 -0.1
comp=Z,47nm,0.5s
KKN **Kakani** 59.81 277 *eP* **P** 12 49 33.6 +0.7
comp=Z,34nm,0.5s
PKI **Pulchoki** 59.89 277 *eP* **P** 12 49 33.5 -0.1
comp=Z,18nm,0.5s
PKIN **Phulchoki** 59.89 277 *eP* **P** 12 49 34.2 +0.7
comp=Z,13nm,0.5s
DMN **Daman** 60.05 277 *eP* **P** 12 49 34.8 +0.2
comp=Z,34nm,0.6s
UMPA **Umpang Tak** 60.17 258 P P 12 49 39.5 +4.2
comp=Z,43μm,1.1s
DANN **Dangsing** 60.33 279 *eP* **P** 12 49 36.9 +0.3
comp=Z,23nm,0.6s
W13A **Hualapai Mount** 60.53 70 *eP* **P** 12 49 39.5 +1.8
comp=Z,1.8nm,1.0s
GAR **Garm** 60.58 297 *eP* **P** 12 49 37.9 0.0
comp=Z,23nm,0.7s
GAR **Garm** 60.58 297 *eP* **P** 12 49 37.9 0.0
GAR pmax pmax
comp=Z,23nm,0.7s
KOLN **Koldanda** 60.85 278 *eP* **P** 12 49 39.9 -0.1
comp=Z,16nm,0.5s
PYUN **Piuthan** 60.98 279 *eP* **P** 12 49 40.6 -0.3
comp=Z,23nm,0.6s
FIA1 **FINESS Array S** 61.02 337 *eP* **P** 12 49 41.3 +1.0
comp=Z,10nm,0.8s
FIA0 **FINESS Array S** 61.02 337 *eP* **P** 12 49 40.8 +0.4
FIA0 **FINESS Array S** 61.02 337 *eP* **P** 12 49 40.8 +0.4

FINES FINESS Array B 61.02 337 *eP* **P 12 49 40.9 +0.6**
FINES FINESS Array B 61.02 337 P **P 12 49 40.8 +0.4**
comp=Z,4.3nm0.4s,baz=38,slow=7.1,SNR=64
FINES LR LR 13 19 38.3
comp=Z,213nm,18.2s,baz=30,slow=40
PV17 East Wray Mesa 61.06 64 *eP* **P 12 49 42.0 +0.7**
comp=Z,9.9nm,1.2s
PV03 Paradox Valley 61.14 64 *eP* **P 12 49 43.1 +1.2**
comp=Z,6.0nm,1.2s
PV13 Radium Mtn., P 61.22 64 *eP* **P 12 49 44.9 +2.5**
comp=Z,3.7nm,0.8s
DREC Desert Rsrch C 61.26 73 *eP* P 12 49 47.0 +4.7
CHGR Chuyangaron 61.46 297 *eP* **P 12 49 44.9 +1.0**
comp=Z,19nm,0.9s
SMCO Snowmass 61.51 62 *eP* **P 12 49 46.4 +1.8**
comp=Z,2.1nm,1.0s
ISCO Idaho Springs 61.79 61 *eP* **P 12 49 46.4 0.0**
comp=Z,2.9nm,1.0s
ISCO Idaho Springs 61.79 61 *eP* **P 12 49 46.4 0.0**
ISCO pmax pmax
comp=Z,3.0nm,1.0s
S22A 4UR Ranch, Cre 62.61 63 *eP* **P 12 49 54.3 +2.5**
comp=Z,1.7nm,0.9s
NIL Nilore 62.75 290 *eP* **P 12 49 52.4 -0.1**
comp=Z,16nm,0.7s
NIL Nilore 62.75 290 *eP* **P 12 49 52.4 -0.1**
NIL pmax pmax
comp=Z,16nm,0.7s
OBN Obninsk 63.41 328 *ceP* **P 12 49 56.5 +0.1**
OBN *e* 12 50 07.2
OBN *e**PP **sP 12 50 14.0 +1.5**
OBN 12 50 37.0
OBN 12 52 14.0
OBN *e*SSS SSS 13 05 26.3
OBN pmax pmax
comp=Z,26nm,1.3s
OBN MLR MLR
comp=Z,178nm,19.0s
VSU Vasula 63.45 335 *d iP* **P 12 49 58.2 +1.5**
VSU pmax pmax
comp=Z,68nm,1.3s
SBUM Sibu 63.87 236 *eP* **P 12 50 01.7 +1.7**
comp=Z,2.6nm,0.8s
NC405 NORSAR Array S 64.28 344 *eP* **P 12 50 02.8 +0.7**
comp=Z,12nm,0.9s
NC204 NORSAR Array S 64.29 344 *eP* **P 12 50 03.0 +0.8**
comp=Z,16nm,0.9s
NB201 NORSAR Array S 64.41 344 *eP* **P 12 50 03.7 +0.7**
comp=Z,15nm,0.8s
NB2 NORSAR Subarra 64.43 344 P **P 12 50 04.0 +0.8**
comp=Z,2.3nm,0.5s,baz=29,slow=6.5
NB200 NORSAR Array S 64.43 344 *eP* **P 12 50 03.1 0.0**
NOA NORSAR Array B 64.43 344 P **P 12 50 03.1 0.0**
comp=Z,1.9nm,0.4s,baz=22,slow=6.6,SNR=17
NOA LR LR 13 19 54.5
comp=Z,125nm,20.9s,baz=20,slow=38
KBL Kabul 64.50 294 *eP* **P 12 50 02.7 -1.5**
comp=Z,7.8nm,0.8s
KBL Kabul 64.50 294 *eP* **P 12 50 02.7 -1.5**
KBL pmax pmax
comp=Z,8.0nm,0.8s
NBO00 NORSAR Array S 64.52 344 *eP* **P 12 50 01.8 -1.9**
comp=Z,9.3nm,0.9s
LPSR Galich'ya Gora 64.67 325 *eP* **P 12 50 04.6 -0.2**
LPSR pmax pmax
comp=Z,30nm,0.7s
VRH Novokhopyorsk 64.79 323 *eP* **P 12 50 04.7 -0.9**
VRH pmax pmax
comp=Z,20nm,0.6s
ANMO Albuquerque 64.85 65⇓ *eP* **P 12 50 10.2 +3.7**
ANMO pmax pmax
comp=Z,3.0nm,2.1s
KSM Kuching 65.69 238 *eP* **P 12 50 11.4 -0.5**
comp=Z,13nm,1.1s
VSR Storozhevoye 65.72 324 *ceP* **P 12 50 12.0 +0.4**
VSR pmax pmax
comp=Z,33nm,1.0s
VORD Divnogorie 65.88 324 *eP* **P 12 50 12.5 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.7s
GEYT Alibeck 67.85 304 P **P 12 50 25.9 +0.4**
comp=Z,6.5nm,0.6s,baz=48,slow=2.2,SNR=11
GYA0B ALIBECK ARRAY 67.85 304 *eP* **P 12 50 26.6 +1.1**
comp=Z,10nm,0.9s
SUW Suwalki 68.32 335 *eP* **P 12 50 28.8 +0.7**
SUW Suwalki 68.32 335 *eP* **P 12 50 28.7 +0.7**
AKASG Malin Array Be 69.51 329 P **P 12 50 35.7 +0.2**
comp=Z,4.5nm,0.3s,baz=30,slow=6.6,SNR=36
AKASG LR LR 13 23 33.5
comp=Z,157nm,19.1s,baz=25,slow=38
AKBB Malin Array Si 69.51 329 *eP* **P 12 50 35.3 -0.2**
comp=Z,24nm,1.0s
AKBB Malin Array Si 69.51 329 *eP* **P 12 50 35.3 -0.2**
AKBB pmax pmax
comp=Z,24nm,1.0s
KIEV Kiev 69.52 329⇑ *iP* **P 12 50 36.3 +0.8**
KIEV Kiev 69.52 329 *c iP* **P 12 50 35.6 +0.1**
KIEV pmax pmax
comp=Z,27nm,1.1s
NCK Nalchik 70.29 317⇑ *eP* **P 12 50 41.3 +0.9**
NCK pmax pmax
comp=Z,26nm,1.1s
KIV Kislovodsk 70.29 317 *eP* **P 12 50 41.6 +1.0**
comp=Z,7.2nm,0.6s
KIV Kislovodsk 70.29 317 *eP* **P 12 50 41.3 +0.7**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,445nm,17.0s
KIV Kislovodsk 70.29 317 P **P 12 50 41.1 +0.6**
KBZ Khabaz 70.39 317 P **P 12 50 41.4 +0.4**
comp=Z,12nm,0.9s,baz=58,slow=2.4,SNR=17
TX31 Lajitas Ar. Si 70.61 67 *eP* **P 12 50 44.0 +1.3**
comp=Z,2.4nm,0.9s
LTX Lajitas 70.61 67 *eP* **P 12 50 44.2 +1.5**
LTX Lajitas 70.61 67 *eP* **P 12 50 44.2 +1.5**
TXAR Lajitas Array 70.61 67 *eP* **P 12 50 44.0 +1.3**
TXAR Lajitas Array 70.61 67 *eP* **P 12 50 44.0 +1.3**
TXAR Lajitas Array 70.61 67 P **P 12 50 44.2 +1.5**
comp=Z,1.0nm,0.6s,baz=299,slow=5.2,SNR=18
ZEI Tsey 70.73 316 *eP* **P 12 50 42.3 -1.1**
ZEI pmax pmax
comp=Z,11nm,0.9s
NEY Neytrino 70.86 317⇓ *eP* **P 12 50 45.3 +1.2**
NEY pmax pmax
comp=Z,3.0nm,1.8s
AKH Akhalkalaki 72.03 315 *eP* **P 12 50 51.5 +0.3**
comp=Z,18nm,1.1s
AKH Akhalkalaki 72.03 315⇑ *iP* **P 12 50 52.8 +1.6**
AKH Akhalkalaki 72.03 315 *eP* **P 12 50 51.5 +0.3**
AKH pmax pmax
comp=Z,18nm,1.1s
KWP Kalwaria Pacla 72.39 333 *eP* **P 12 50 54.9 +1.9**
KWP Kalwaria Pacla 72.39 333 *eP* **P 12 50 54.9 +1.9**
UALR University of 72.51 56 *eP* **P 12 50 53.2 -0.7**
comp=Z,5.2nm,0.5s
GNI Garni 72.51 314 *ceP* **P 12 50 55.9 +1.8**
GNI pmax pmax
comp=Z,81nm,1.3s
OJC Ojcow 72.65 335 *eP* **P 12 50 56.0 +1.5**
OJC Ojcow 72.65 335 *eP* **P 12 50 54.8 +0.3**
comp=Z,7.4nm,0.9s
OJC Ojcow 72.65 335 *eP* **P 12 50 54.8 +0.3**
OJC pmax pmax
comp=Z,7.0nm,0.9s
SIM Simferopol' 72.82 323 *eP* **P 12 50 57.1 +1.5**
SIM pmax pmax
comp=Z,10.0nm,0.9s
SIM MLR MLR
comp=Z,300nm,15.0s
KOLS Kolonicke sedl 73.15 333 *eP* **P 12 50 58.8 +1.3**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 73.15 333 *eP* **P 12 50 58.8 +1.3**
NIE Niedzica 73.25 334 *eP* **P 12 50 59.7 +1.6**
NIE Niedzica 73.25 334 *eP* **P 12 50 59.7 +1.6**
CLL Collm 73.25 340 *eP* **P 12 50 58.8 +0.7**
comp=Z,11nm,0.9s
CLL Collm 73.25 340 *eP* **P 12 50 58.8 +0.7**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 73.25 340⇑ *iP* **P 12 50 58.9 +0.8**
comp=Z,13nm,1.0s
UPC Upice 73.32 337 AMS AMS 13 29 50.0
comp=Z,300nm,14.1s
DPC Dobruska-Polom 73.39 337 *eP* **P 12 51 00.7 +1.7**
DPC MLR MLR
comp=Z,300nm,16.3s
DPC Dobruska-Polom 73.39 337 *eP* **P 12 51 00.7 +1.7**
DPC AMS AMS 13 29 50.0
comp=Z,300nm,16.3s
BUR08 Bucovina Ar. S 73.45 330 *eP* **P 12 51 00.4 +0.9**
comp=Z,8.1nm,0.8s
BRG Berggiesshubel 73.46 339 *i P* **P 12 51 00.9 +1.6**
comp=Z,6.8nm,1.2s
BRG Berggiesshubel 73.46 339 *i P* **P 12 51 00.9 +1.6**
BRG pmax pmax
comp=Z,7.0nm,1.3s
BURAR Bucovina Array 73.47 330 *eP* **P 12 50 60.0 +0.4**
BURAR Bucovina Array 73.47 330⇑ *iP* **P 12 51 00.6 +1.0**
MORC Moravsky Berou 73.63 336 *eP* **P 12 51 01.2 +0.8**
comp=Z,10nm,1.0s
MORC Moravsky Berou 73.63 336⇓ *iP* **P 12 51 02.0 +1.6**
MORC Moravsky Berou 73.63 336 *eP* **P 12 51 01.2 +0.8**
MORC pmax pmax
comp=Z,10.0nm,1.0s
MORC Moravsky Berou 73.63 336 *eP* **P 12 51 01.8 +1.4**
PVCC Panska Ves 73.64 338 AMS AMS 13 29 00.0
comp=Z,300nm,15.3s
LANS Liptovska Anna 73.71 335 *eP* **P 12 51 03.5 +2.6**
LANS Liptovska Anna 73.71 335 *eP* **P 12 51 03.5 +2.6**
TRPA Tarpa 73.80 332⇓ *iP* **P 12 51 03.1 +1.8**
BIZ Bicaz 73.80 329⇓ *iP* **P 12 51 02.0 +0.6**
TESR Tescani 74.01 329⇓ *iP* **P 12 51 03.6 +1.0**
PRU Pruhonice 74.15 338 AMS AMS 13 30 00.0
comp=Z,300nm,14.1s
GOPC GO Pecny, Ondr 74.16 338 *eP* **P 12 51 04.5 +1.0**
GOPC MLR MLR
comp=Z,200nm,15.0s
GOPC GO Pecny, Ondr 74.16 338 *eP* **P 12 51 04.5 +1.0**
GOPC AMS AMS 13 29 40.0
comp=Z,200nm,15.0s
ARCR ARCALIA 74.21 331⇑ *iP* **P 12 51 05.3 +1.5**
JAVC Velka Javorina 74.44 336 *eP* **P 12 51 07.7 +2.5**
TLCR 74.47 327⇑ *iP* **P 12 51 06.6 +1.3**
VYHS Vyhne 74.48 335 *eP* **P 12 51 06.9 +1.6**
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 74.48 335 *eP* **P 12 51 06.9 +1.6**
VRI Vrincioaia 74.56 329⇑ *iP* **P 12 51 07.3 +1.5**
KRIC Moravsky 74.57 337 *eP* **P 12 51 07.4 +1.6**
TREC Trest 74.58 337 *eP* **P 12 51 07.4 +1.5**
TREC MLR MLR
comp=Z,300nm,13.9s
TREC Trest 74.58 337 *eP* **P 12 51 07.4 +1.5**
TREC AMS AMS 13 30 30.0
comp=Z,300nm,13.9s
PLOR Plostina 74.60 329⇓ *iP* **P 12 51 06.9 +0.8**
CFR Carcaliu 74.71 327⇓ *iP* **P 12 51 07.7 +1.1**
DOPR Dopca 74.89 329⇓ *iP* **P 12 51 09.8 +2.0**
MODS Modra-Piesok 74.99 336 *eP* **P 12 51 09.3 +1.0**
MODS pmax pmax
comp=Z,11nm,1.2s
MODS Modra-Piesok 74.99 336 *eP* **P 12 51 09.3 +1.0**
MLR Muntele Rosu 75.14 329 *eP* **P 12 51 10.3 +1.0**
comp=Z,8.9nm,0.7s
MLR Muntele Rosu 75.14 329⇑ *iP* **P 12 51 11.8 +2.4**
KHC Kasperske Hory 75.17 338 *eP* **P 12 51 08.8 -0.5**
comp=Z,3.8nm,1.1s
KHC Kasperske Hory 75.17 338 *eP* **P 12 51 08.8 -0.5**
KHC pmax pmax
comp=Z,4.0nm,1.1s
KHC Kasperske Hory 75.17 338 *eP* **P 12 51 10.9 +1.5**
KHC AMS AMS 13 30 30.0
comp=Z,400nm,15.8s
ZST Bratislava 75.20 336 *eP* **P 12 51 10.8 +1.3**
ZST Bratislava 75.20 336 *eP* **P 12 51 10.8 +1.3**
HARR Harsova 75.21 327⇑ *iP* **P 12 51 11.4 +1.9**
DIKM Dikmen 75.21 321⇑ *iP* **P 12 51 11.7 +2.1**
TIRR Tirgusor 75.25 327⇑ *iP* **P 12 51 11.3 +1.5**
TLB Topalu 75.26 327⇑ *iP* **P 12 51 11.5 +1.6**
MEM Membach 75.28 344⇓ *P* **P 12 51 11.6 +1.7**
comp=Z,17nm,0.9s
GEC2 GERESS Array S 75.41 338 *eP* **P 12 51 11.7 +0.9**
comp=Z,6.1nm,1.1s
GEC2 GERESS Array S 75.41 338 *eP* **P 12 51 11.7 +0.9**
GEC2 pmax pmax
comp=Z,6.0nm,1.1s
GERES GERESS Array B 75.41 338 *eP* **P 12 51 11.6 +0.8**
GERES GERESS Array B 75.41 338 *eP* **P 12 51 11.6 +0.8**
GERES GERESS Array B 75.41 338 P **P 12 51 12.0 +1.2**
comp=Z,1.3nm,0.5s,baz=38,slow=5.0,SNR=9.7
VOIR 75.47 329⇓ *iP* **P 12 51 13.4 +2.2**
WR1 Warramunga Arr 75.50 206 *eP* **P 12 51 13.4 +2.0**
WRA Warramunga Arr 75.50 206 P **P 12 51 13.4 +2.0**
comp=Z,1.3nm,0.7s,baz=17,slow=6.1,SNR=2.4
ARR Arges 75.67 330⇓ *iP* **P 12 51 14.4 +2.1**
CONA Conrad Observa 75.76 336 *eP* **P 12 51 15.2 +2.4**
comp=Z,7.4nm,1.1s,SNR=5.6
ICOR Ion Corvin 75.76 327⇑ *iP* **P 12 51 14.8 +2.1**
MOA Molln 76.22 337 *eP* **P 12 51 17.2 +1.9**
comp=Z,3.6nm,1.1s
HUMR Humele 76.31 329⇑ *iP* **P 12 51 17.2 +1.3**
ARSA Arzberg 76.47 336 *eP* **P 12 51 19.2 +2.5**
comp=Z,4.7nm,0.8s
BFO Black Forest 77.04 341 *i P* **P 12 51 22.1 +2.1**
MDVR Moldovita 77.08 331⇓ *iP* **P 12 51 21.0 +0.7**
SOKA Soboth 77.13 337 *eP* **P 12 51 22.2 +1.6**
comp=Z,4.3nm,0.5s,SNR=6.9
KBA Koelnbreinsper 77.16 338 *eP* **P 12 51 23.2 +2.4**
comp=Z,18nm,0.8s,SNR=16
RETA Reutte 77.35 340 *eP* **P 12 51 24.2 +2.5**
comp=Z,0.1nm,0.3s
WTTA Wattenberg 77.37 339 *eP* **P 12 51 24.5 +2.5**
comp=Z,13nm,1.3s
ECH Echery 77.37 342 *eP* **P 12 51 20.3 -1.6**
comp=Z,13nm,1.1s
ECH Echery 77.37 342 *eP* **P 12 51 20.3 -1.6**
ECH pmax pmax
comp=Z,13nm,1.1s
OBKA Obir 77.41 337 *eP* **P 12 51 25.0 +2.9**
comp=Z,7.9nm,1.1s
MOTA Moosalm 77.41 339 *eP* **P 12 51 23.6 +1.4**
comp=Z,3.8nm,0.6s
BR101 Keskin Array S 77.49 321 *eP* **P 12 51 23.6 +0.8**
BR131 Keskin Array S 77.49 321 *eP* **P 12 51 23.5 +0.7**
comp=Z,11nm,1.1s
BR131 Keskin Array S 77.49 321 P **P 12 51 24.0 +1.2**
SNR=6.9
BRTR Keskin Array B 77.49 321 *eP* **P 12 51 23.0 +0.2**
BRTR Keskin Array B 77.49 321 *eP* **P 12 51 23.0 +0.2**
BRTR Keskin Array B 77.49 321 P **P 12 51 23.6 +0.8**
comp=Z,5.0nm,0.9s,baz=54,slow=3.2,SNR=27
BRTR LR LR 13 30 55.6
comp=Z,63nm,20.5s,baz=13,slow=40
SQTA Sankt Quirin 77.50 339 *eP* **P 12 51 24.8 +2.1**
comp=Z,12nm,0.9s
ABTA Abfaltersbach 77.66 338 *eP* **P 12 51 25.4 +1.9**
comp=Z,8.6nm,0.8s,SNR=5.9
ANTO Ankara 77.69 322 P **P 12 51 25.1 +1.3**
MDUB Mudurnu 77.77 323 *eP* **P 12 51 25.0 +0.7**
comp=Z,59nm,0.8s
FETA Feichten 77.80 340 *eP* **P 12 51 26.4 +2.0**
comp=Z,4.9nm,0.8s
VTS Vitosha 78.58 329 *eP* **P 12 51 28.5 -0.3**
comp=Z,5.4nm,0.6s
VTS Vitosha 78.58 329⇑ *iP* **P 12 51 30.2 +1.4**
VTS Vitosha 78.58 329 *eP* **P 12 51 28.5 -0.3**
VTS pmax pmax
comp=Z,5.0nm,0.6s
TUE Stuetta 78.61 340 *eP* **P 12 51 27.7 -1.3**
comp=Z,9.9nm,0.8s
WSAR Wadi Sarin 78.97 294 P **P 12 51 32.5 +1.4**
HATD Hatta, Dubai 79.11 296 P **P 12 51 32.9 +1.1**
SNR=6.0
ASAR Alice Springs 79.17 205 *eP* **P 12 51 30.5 -1.4**
ASAR Alice Springs 79.17 205 *eP* **P 12 51 30.5 -1.4**
ASAR Alice Springs 79.17 205 P **P 12 51 30.4 -1.5**
comp=Z,1.4nm,0.7s,baz=16,slow=4.5,SNR=4.3
ALN Alexandroupoli 79.22 327 *eP* **P 12 51 33.1 +1.0**
comp=Z,8.8nm,1.1s
ASHO Ashiyiah 79.27 296 P **P 12 51 33.2 +0.5**
ASHO P **P 12 51 33.2 +0.5**
BALB Balikesir 79.70 325 *eP* **P 12 51 34.8 0.0**
comp=Z,63nm,1.0s
TTG Podgorica 79.95 332 *eP* **P 12 51 35.6 -0.4**
comp=Z,13nm,1.1s
TTG Podgorica 79.95 332 *eP* **P 12 51 35.6 -0.4**
TTG pmax pmax
comp=Z,13nm,1.1s
MANT Manisa 80.48 324 *eP* **P 12 51 39.5 +0.2**
comp=Z,38nm,0.9s
BNI Bardonecchia 80.51 342 *eP* **P 12 51 39.2 0.0**
comp=Z,9.1nm,0.9s
BNI Bardonecchia 80.51 342 *eP* **P 12 51 39.2 0.0**
BNI pmax pmax
comp=Z,9.0nm,0.9s
SSB Saint Sauveur 80.68 343 *eP* **P 12 51 40.9 +0.9**
comp=Z,5.7nm,0.9s
SSB Saint Sauveur 80.68 343 *eP* **P 12 51 40.9 +0.9**
SSB pmax pmax
comp=Z,6.0nm,0.9s
FNA Florina 80.83 330 *eP* **P 12 51 41.4 +0.5**
comp=Z,5.3nm,1.0s
FNA Florina 80.83 330 *eP* **P 12 51 41.4 +0.5**
FNA pmax pmax
comp=Z,5.0nm,1.0s
MHTO MHTO 81.12 293 P **P 12 51 43.8 +1.2**
SNR=5.6
MHTO P **P 12 51 43.8 +1.2**
SNR=5.6
CSS Mathiatis 81.74 319 *eP* **P 12 51 45.8 0.0**
comp=Z,15nm,0.9s
ESDC Sonseca Array 87.46 348 P **P 12 52 15.3 +0.7**
comp=Z,0.9nm,0.5s,baz=6.8,slow=4.7,SNR=12
TORD Torodi Ar. Bea 112.37 338 PP **PP 12 58 46.2 -1.8**
comp=Z,2.0nm,1.0s,baz=26,slow=3.1,SNR=6.9

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*ISK **21** 12:40:24.4, 39°.62N×28°.89E, h2km, ML2.4/16*
*ISCJB **21** 12:40:25.2±0.4, 39°.64N±0°.02×28°.89E±0°.03, h1km±6km, Error ellipse: s-maj=4.3km s-min=4.0km az=43.9*
*DDA **21** 12:40:25.0, 39°.64N×28°.89E, h8km±2km, ML2.7*
ISC 21 12:40:25.0±1.4, 39°.65N±0°.03×28°.88E±0°.03, h8km±12km, n27, σ0s65/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.32**	**262**	*i* P	**Pg**	**12 40 31.6**	**+0.2**
DURS				*i* S	**Sb**	**12 40 36.9**	**-1.6**
TVSB	**Tavsanli**	**0.49**	**113**	PG	**Pg**	**12 40 34.8**	**+0.3**
TVSB				SG	**Sb**	**12 40 42.5**	**-0.8**
ULDT	**Uludag**	**0.53**	**21**	*i* P	**Pb**	**12 40 36.7**	**0.0**
ULDT				*i* S	**Sb**	**12 40 44.0**	**-0.7**
SHAP	**Saphane-Kutahy**	**0.68**	**157**	PG	**Pg**	**12 40 38.0**	**0.0**
SHAP				SG	**Sb**	**12 40 47.4**	**-1.3**
MDNY	**Mudanya-Bursa**	**0.72**	**0**	PG	**Pg**	**12 40 39.4**	**+0.4**
GDZ	**Gediz**	**0.72**	**140**	*i* P	**Pb**	**12 40 39.6**	**-0.3**
KCTX	**Karacabey (Bur**	**0.74**	**327**	PG	**Pb**	**12 40 40.1**	**-0.1**
BALB	**Balikesir**	**0.78**	**270**	PG	**Pb**	**12 40 40.7**	**-0.1**
GEMT	**Gemlik**	**0.82**	**16**	PG	**Pg**	**12 40 40.8**	**-0.1**
ARMT	**Armutlu**	**0.92**	**359**	PG	**Pb**	**12 40 43.1**	**-0.2**
AUBOZ	**BOZOYUK**	**0.92**	**73**	PG	**Pb**	**12 40 43.5**	**+0.1**
CAVI	**Cavuskoy**	**0.92**	**53**	PG	**Pb**	**12 40 43.3**	**0.0**
USAK	**Uak-Merkez**	**0.94**	**174**	*i* P	**Pb**	**12 40 43.6**	**+0.1**
USAK				*i* S	**Sb**	**12 40 56.8**	**+0.6**
STEP	**BALIKESIR_Sava**	**0.94**	**254**	*i* P	**Pb**	**12 40 43.2**	**-0.4**
STEP				*i* S	**Sn**	**12 41 00.5**	**+2.2**
BALY	**Balya**	**0.98**	**276**	IAML_P			
BALY				*i* P	**Pb**	**12 40 44.1**	**-0.2**
BALY				*i* S	**Sn**	**12 40 58.7**	**-0.6**
GONE	**Gonen-Balikesi**	**1.00**	**294**	PG	**Pb**	**12 40 44.6**	**-0.1**
EDC	**Edincik**	**1.05**	**312**	PG	**Pn**	**12 40 46.1**	**0.0**
AKHS	**Akhisar**	**1.13**	**228**	IAML_P			
AKHS				*i* P	**Pn**	**12 40 47.4**	**+0.2**
BORA	**Eskisehir**	**1.23**	**79**	PN	**Pn**	**12 40 48.8**	**+0.1**
SRCK	**Saricakaya, Es**	**1.40**	**73**	PN	**Pg**	**12 40 51.9**	**0.0**
KAVV	**Kandilli-Istan**	**1.42**	**5**	PN	**Pg**	**12 40 53.0**	**+0.7**
ISK	**Istanbul-Kandi**	**1.43**	**5**	PN	**Pg**	**12 40 52.4**	**0.0**
GULT	**Gulveren**	**1.48**	**57**	PN	**Pg**	**12 40 53.1**	**-0.3**
KLYT	**Kilyos**	**1.61**	**4**	PN	**Pb**	**12 40 55.1**	**+0.1**
CTKS	**Kestanelik-??a**	**1.61**	**350**	PN	**Pb**	**12 40 55.2**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.67**	**309**	PN	**Pb**	**12 40 56.1**	**0.0**
LPK	**Lapseki**	**1.79**	**295**	PN	**Pb**	**12 40 57.5**	**-0.5**

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*IDC **21** 12:51:50.6±0.5, 45°.61S×76°.76W, h0km, mb4.6/15, mb1 4.6/17, mb1mx4.6/27, mbtmp4.5/17, ML4.0/2, MS4.8/18, Ms1 4.8/18, ms1mx4.6/27, Error ellipse: s-maj=21.8km s-min=13.2km az=92.0*
*NEIC **21** 12:51:52.4±1.9, 45°.53S×76°.53W, h10km, mb5.3/170, MS5.0/146, Error ellipse: s-maj=19.4km s-min=12.8km az=271.0*
*ISCJB **21** 12:51:52.2±0.2, 45°.57S±0°.03×76°.69W±0°.05, h17km, mb5.1/107, MS5.0/165, Error ellipse: s-maj=5.4km s-min=4.8km az=166.0*
*GCMT **21** 12:51:52.4±0.2, 45°.70S±0°.01×77°.04W±0°.02, h12km, MW5.2/109, Moment Tensor Solution. s61,c100; s109,c189; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.56±.01; Mθθ0.35±.01; Mφφ0.21±.02; Mrθ0.25±.04; Mφφ-0.61±.01; Mφr-0.37±.04; Best double couple: M=0.86600×10^17 NP1:φ=326.00000°, δ62.00000°, λ-73.00000°. NP2:φ=113.00000°, δ32.00000°, λ-118.00000°. Principal axes: T 1.0190, Plg15.0000°, Azm43.0000°; N -0.3060, Plg15.0000°, Azm137.0000°; P -0.7130, Plg68.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **21** 12:51:53.1±0.4, 45°.76S×76°.92W, h10km, mb4.9*
*MOS **21** 12:51:55.6±1.4, 45°.36S×76°.48W, h33km, mb5.4/27, MS5.2/4, Error ellipse: s-maj=18.2km s-min=8.1km az=87.1*
*BJI **21** 12:51:56.0±0.0, 45°.60S×76°.60W, h29km, mB5.2/7, Ms5.2/9, Ms7 5.1/11*
ISC 21 12:51:53.6±0.2, 45°.56S±0°.04×76°.65W±0°.06, h17km, h17km:pP-P, n743, σ1s27/628, mb5.3/107, MS5.0/165, 21C-14D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**3.25**	**42**	*e*Pn	**Pn**	**12 52 43.5**	**-0.3**
GO07	**Milladeo Hill,**	**3.25**	**42**	*e*P	**Pn**	**12 52 43.7**	**-0.1**
GO07				*i* S	**Sg**	**12 53 37.5**	**-0.5**
GO09	**Cerro Castillo**	**6.39**	**155**	*e*Pn	**Pn**	**12 53 26.7**	**-0.2**
PLCA	**Paso Flores**	**6.57**	**45**	*e*Pn	**Pn**	**12 53 30.3**	**+0.8**
PLCA	**Paso Flores**	**6.57**	**45**	*e*P	**Pn**	**12 53 30.3**	**+0.8**
PLCA	**Paso Flores**	**6.57**	**45**	Pn	**Pn**	**12 53 29.7**	**+0.2**
	1.0nm,0.3s,baz=246,slow=12,SNR=12						
PLCA				Sn	**Sn**	**12 54 47.2**	**+3.2**
	0.1nm,0.3s,baz=322,slow=11,SNR=1.4						
PLCA				LR	LR	12 56 06.0	
	comp=Z,19μm,19.9s,baz=239,slow=38						
PLCA	**Paso Flores**	**6.57**	**45**	*e*P	**Pn**	**12 53 31.9**	**+2.4**
GO06	**Curarrehue**	**7.09**	**34**	*e*Pn	**Pn**	**12 53 36.8**	**+0.2**
GO06	**Curarrehue**	**7.09**	**34**	*e*P	**Pn**	**12 53 36.7**	**0.0**
GO10	**Punta Arenas**	**8.43**	**156**	*e*Pn	**Pn**	**12 53 55.1**	**+0.1**
USHA	**Ushuaia**	**10.66**	**153**	Pn	**Pn**	**12 54 24.8**	**-0.6**
	0.7nm,0.3s,baz=357,slow=11,SNR=4.0						
USHA				Sn	**Sn**	**12 56 21.1**	**-3.2**
	baz=336,slow=11,SNR=3.1						
USHA				LR	LR	12 58 48.0	
	comp=Z,3μm,20.4s,baz=324,slow=39						
GO05	**Huala**	**11.14**	**20**	*e*Pn	**Pn**	**12 54 30.6**	**-1.5**
GO05	**Huala**	**11.14**	**20**	*e*P	**Pn**	**12 54 30.6**	**-1.5**
PEL	**Peldehue**	**13.23**	**22**	*e*Pn	**Pn**	**12 54 58.0**	**-2.6**
PEL	**Peldehue**	**13.23**	**22**	*e*P	**Pn**	**12 54 58.0**	**-2.6**
TRQA	**Tornquist**	**13.26**	**61**	*e*Pn	**Pn**	**12 54 59.4**	**-1.6**
TRQA				*e*Sn	**Sn**	**12 57 24.1**	**-3.8**
TRQA	**Tornquist**	**13.26**	**61**	*e*P	**Pn**	**12 55 05.5**	**+4.6**
ROC1	**El Roble**	**13.30**	**21**	*e*Pn	**Pn**	**12 54 59.0**	**-2.8**
ROC1				*e*Sn	**Sn**	**12 57 25.1**	**-4.3**
EFI	**East Falkland**	**13.72**	**123**	*e*Pn	**Pn**	**12 55 04.3**	**-2.8**
EFI	**East Falkland**	**13.72**	**123**⇑	*e*P	**Pn**	**12 55 08.8**	**+1.7**
GO04	**Tololo Observa**	**16.04**	**19**	*e*Pn	**Pn**	**12 55 34.9**	**-3.6**
	172nm,1.5s						
LCO	**Las Campanas**	**17.18**	**18**	*e*Pn	**Pn**	**12 55 48.6**	**-4.4**
	176nm,1.9s						
LCO	**Las Campanas**	**17.18**	**18**	*e*P	**Pn**	**12 55 48.6**	**-4.4**
LCO				pmax	pmax		
	comp=Z,176nm,1.9s						
LCO	**Las Campanas**	**17.18**	**18**	*e*P	**P**	**12 55 55.9**	**+1.3**
GO03	**Copiap**	**18.65**	**18**	*e*P	**P**	**12 56 04.3**	**-6.2**
	comp=Z,128nm,1.6s						
PMSA	**Palmer Station**	**20.48**	**164**	*e*P	**P**	**12 56 24.6**	**-5.5**
	comp=Z,373nm,1.6s						
PMSA	**Palmer Station**	**20.48**	**164**	LR	LR	13 02 40.2	
	comp=Z,1μm,21.1s,baz=329,slow=32						
PMSA	**Palmer Station**	**20.48**	**164**	*e*P	**P**	**12 56 28.9**	**-1.2**

GO02	**Mina Guanaco**	**21.14**	**18**	*eP*	**P**		**12 56 32.1 -5.9**
	comp=Z,139nm,1.5s						
GO02				LR	LR		
	comp=Z,2μm,20.0s						
PB10	**IPOC Station P**	**22.55**	**15**	*eP*	**P**		**12 56 50.7 -2.1**
	comp=Z,150nm,1.4s						
PB10				LR	LR		
	comp=Z,2μm,20.0s						
LVC	**Limon Verde**	**23.75**	**18**	*eP*	**P**		**12 57 04.1 -1.3**
	comp=Z,140nm,1.5s						
LVC				LR	LR		
	comp=Z,2μm,20.0s						
LVC	**Limon Verde**	**23.75**	**18**	*eP*	**P**		**12 57 04.1 -1.3**
LVC				pmax	pmax		
	comp=Z,140nm,1.5s						
LVC				MLR	MLR		
	comp=Z,2μm,20.0s						
LVC	**Limon Verde**	**23.75**	**18**	LR	LR		13 06 52.4
	comp=Z,1μm,20.4s,baz=192,slow=38						
LVC	**Limon Verde**	**23.75**	**18**	*eP*	**P**		**12 57 07.7 +2.3**
CPUP	**Villa Florida**	**24.65**	**45**	*eP*	**P**		**12 57 12.7 -0.5**
	comp=Z,115nm,1.3s						
CPUP	**Villa Florida**	**24.65**	**45**	*eP*	**P**		**12 57 12.7 -0.5**
CPUP				pmax	pmax		
	comp=Z,115nm,1.3s						
CPUP	**Villa Florida**	**24.65**	**45**	P	**P**		**12 57 14.0 +0.8**
	comp=Z,41nm,1.1s,baz=224,slow=9.2,SNR=27						
CPUP				LR	LR		13 07 37.1
	comp=Z,5μm,19.2s,baz=218,slow=38						
CPUP	**Villa Florida**	**24.65**	**45**	*eP*	**P**		**12 57 16.6 +3.4**
CNLB	**Canela**	**25.97**	**60**	*eP*	**P**		**12 57 28.1 +2.8**
PB11	**IPOC Station P**	**26.37**	**15**	*eP*	**P**		**12 57 29.7 +0.6**
	comp=Z,39nm,1.0s						
PB11				LR	LR		
	comp=Z,1μm,19.0s						
GO01	**Chusmiza**	**26.55**	**16**	*eP*	**P**		**12 57 30.6 -0.4**
	comp=Z,50nm,1.5s						
GO01				LR	LR		
	comp=Z,2μm,18.0s						
ITAB	**Concordia**	**26.74**	**55**	*eP*	**P**		**12 57 34.5 +2.2**
MNMC	**Minye Minye**	**27.00**	**15**	PFAKE			12 57 50.0 +15
MNMC				LR	LR		
	comp=Z,1μm,20.0s						
TER01	**Tubaro-SC**	**27.58**	**61**	*eP*	**P**		**12 57 43.9 +4.1**
PTGB	**Pitanga**	**28.73**	**52**	*eP*	P		12 57 55.0 +4.8
TIJ01	**Guaruva-PR**	**30.01**	**57**	*eP*	**P**		**12 58 04.8 +3.3**
LPAZ	**La Paz**	**30.05**	**17**	*eP*	**P**		**12 58 02.0 -0.4**
	comp=Z,42nm,1.7s						
LPAZ	**La Paz**	**30.05**	**17**	*eP*	**P**		**12 58 02.1 -0.4**
LPAZ				pmax	pmax		
	comp=Z,42nm,1.7s						
LPAZ	**La Paz**	**30.05**	**17**	P	**P**		**12 58 02.8 +0.4**
	comp=Z,3.1nm,0.9s,baz=176,slow=6.5,SNR=15						
LPAZ	**La Paz**	**30.05**	**17**	*eP*	**P**		**12 58 04.9 +2.5**
RPN	**Rapa Nui**	**31.81**	**294**	LR	LR		13 07 40.8
	comp=Z,924nm,18.4s,baz=131,slow=30						
SIV	**San Ignacio**	**32.25**	**29**	P	**P**		**12 58 22.0 +0.8**
	comp=Z,11nm,1.1s,baz=230,slow=12						
SIV				LR	LR		13 12 32.0
	comp=Z,2μm,20.1s,baz=225,slow=38						
SPB	**Sao Paulo**	**32.25**	**57**	PFAKE			12 58 30.0 +8.8
SPB				LR	LR		
	comp=Z,5μm,18.0s						
SPB	**Sao Paulo**	**32.25**	**57**	*eP*	**P**		**12 58 24.2 +3.0**
NNA	**Nana**	**33.46**	**360**	PFAKE			12 58 40.0 +8.2
NNA				LR	LR		
	comp=Z,2μm,19.0s						
NNA	**Nana**	**33.46**	**360**	LR	LR		13 09 02.0
	comp=Z,1μm,19.6s,baz=142,slow=31						
BB19B	**Bebedouro**	**33.59**	**53**	*eP*	**P**		**12 58 35.0 +2.1**
ITRB	**Itarama**	**33.70**	**49**	*eP*	**P**		**12 58 36.6 +2.7**
ESAR	**Angra dos Reis**	**34.48**	**60**	*eP*	**P**		**12 58 43.5 +2.9**
VAS01	**Vassouras-RJ**	**35.64**	**61**	*eP*	**P**		**12 58 53.8 +3.1**
BSCB	**Bom Sucesso**	**35.81**	**58**	*eP*	**P**		**12 58 53.9 +1.7**
CAM01	**Campos-RJ**	**37.08**	**62**	*eP*	**P**		**12 59 06.2 +3.3**
BDFB	**Brasilia**	**38.31**	**48**	*eP*	**P**		**12 59 13.2 -0.2**
	comp=Z,44nm,1.3s						
BDFB				LR	LR		
	comp=Z,9μm,18.0s						
BDFB	**Brasilia**	**38.31**	**48**	*eP*	**P**		**12 59 13.2 -0.2**
BDFB				pmax	pmax		
	comp=Z,44nm,1.3s						
BDFB				MLR	MLR		
	comp=Z,9μm,18.0s						
BDFB	**Brasilia**	**38.31**	**48**	P	**P**		**12 59 14.3 +0.9**
	comp=Z,11nm,0.9s,baz=230,slow=6.2,SNR=11						
BDFB				LR	LR		13 16 28.3
	comp=Z,7μm,18.6s,baz=214,slow=38						
ATAH	**Atahualpa**	**38.31**	**357**	P	**P**		**12 59 13.3 -0.5**
	comp=Z,1.4nm,0.3s,baz=169,slow=5.2						
ALF01	**Guarapari-ES**	**38.56**	**62**	*eP*	**P**		**12 59 18.1 +2.7**
CLDB	**Colider**	**38.90**	**34**	*eP*	**P**		**12 59 19.8 +1.5**
MCI6	**Montes Claros**	**39.61**	**54**	*eP*	**P**		**12 59 26.6 +2.3**
MCI9	**Montes Claros**	**39.70**	**54**	*eP*	**P**		**12 59 27.4 +2.3**
MCI8	**Montes Claros**	**39.72**	**54**	*eP*	**P**		**12 59 28.0 +2.9**
SJMB	**Sao Joao De Ma**	**39.72**	**59**	*eP*	**P**		**12 59 27.5 +2.4**
RIB01	**Linhares ES**	**39.74**	**61**	*eP*	**P**		**12 59 27.8 +2.5**
BSFB	**Barra de Sao F**	**39.83**	**60**	*eP*	**P**		**12 59 28.1 +2.1**
VNA3	**Neumayer Olymp**	**40.34**	**153**	P	**P**		**12 59 29.8 +0.1**
VNA1	**Neumayer--Stat**	**40.78**	**152**	P	**P**		**12 59 34.7 +1.4**
VNA2	**Neumayer--Watz**	**41.07**	**152**	P	**P**		**12 59 36.0 +0.2**
	baz=279,slow=9.2						
SNAA	**Sanae**	**42.52**	**153**	P	**P**		**12 59 48.1 +0.5**
SNAA	**Sanae**	**42.52**	**153**	*eP*	**P**		**12 59 47.5 -0.2**
	comp=Z,131nm,1.5s						
SNAA				*e*PcP	**PcP**		**13 01 40.1 +0.2**
SNAA				LR	LR		
	comp=Z,800nm,20.0s						
SNAA	**Sanae**	**42.52**	**153**	*d iP*	**P**		**12 59 48.3 +0.6**
SNAA	**Sanae**	**42.52**	**153**	P	**P**		**12 59 47.5 -0.2**
	comp=Z,43nm,1.2s,baz=259,slow=7.3,SNR=38						
SNAA				PcP	**PcP**		**13 01 39.9 0.0**
	comp=Z,2.9nm,1.0s,baz=234,slow=8.7,SNR=2.5						
QSPA	**South Pole Qui**	**44.69**	**180**	*eP*	**P**		**13 00 05.2 -0.1**
	comp=Z,56nm,1.4s						
OTAV	**Otavalo**	**45.63**	**357**	*eP*	**P**		**13 00 11.1 -2.5**
	comp=Z,39nm,1.4s						
OTAV				LR	LR		
	comp=Z,600nm,21.0s						
OTAV	**Otavalo**	**45.63**	**357**	*eP*	**P**		**13 00 11.1 -2.5**
OTAV				pmax	pmax		
	comp=Z,39nm,1.4s						
OTAV				MLR	MLR		
	comp=Z,600nm,21.0s						
OTAV	**Otavalo**	**45.63**	**357**	*eP*	**P**		**13 00 16.1 +2.5**
PAYG	**Puerto Ayora**	**46.29**	**341**	*eP*	**P**		**13 00 17.4 -0.9**
	comp=Z,89nm,1.1s						
PTGA	**Pitinga**	**47.01**	**23**	*eP*	**P**		**13 00 22.7 -1.2**
	comp=Z,59nm,1.6s						
PTGA				LR	LR		
	comp=Z,1μm,21.0s						
PTGA	**Pitinga**	**47.01**	**23**	*eP*	**P**		**13 00 25.3 +1.3**
ROSC	**El Rosal**	**50.22**	**3**	*eP*	**P**		**13 00 49.3 +0.2**
	comp=Z,48nm,1.8s						
ROSC				LR	LR		
	comp=Z,1μm,19.0s						
ROSC	**El Rosal**	**50.22**	**3**	P	**P**		**13 00 49.4 +0.4**
	comp=Z,3.6nm,0.5s,baz=121,slow=11,SNR=7.6						
ROSC				LR	LR		13 20 19.4
	comp=Z,1μm,18.9s,baz=200,slow=34						
SBA	**Scott Base**	**51.03**	**194**	*eP*	**P**		**13 00 54.6 +0.5**
	comp=Z,45nm,1.5s						
SBA	**Scott Base**	**51.03**	**194**	*eP*	**P**		**13 00 54.6 +0.5**
SBA				pmax	pmax		
	comp=Z,45nm,1.5s						
VNDA	**Vanda**	**52.06**	**194**	*eP*	**P**		**13 01 01.6 -0.2**
	comp=Z,38nm,1.4s						
VNDA	**Vanda**	**52.06**	**194**	*eP*	**P**		**13 01 01.7 -0.2**
VNDA				pmax	pmax		
	comp=Z,38nm,1.4s						
VNDA	**Vanda**	**52.06**	**194**	P	**P**		**13 01 01.6 -0.2**
	comp=Z,12nm,1.2s,baz=134,slow=8.8,SNR=21						
RCBR	**Riachuelo**	**53.04**	**54**	PFAKE			13 01 20.0 +10
RCBR				LR	LR		
	comp=Z,2μm,18.0s						
SDV	**Santo Domingo**	**54.47**	**7**	PFAKE			13 01 30.0 +10
SDV				LR	LR		
	comp=Z,800nm,21.0s						
SDV	**Santo Domingo**	**54.47**	**7**	*eP*	**P**		**13 01 22.6 +2.3**
JTS	**Las Juntas de**	**56.09**	**350**	PFAKE			13 01 40.0 +8.1
JTS				LR	LR		
	comp=Z,600nm,18.0s						
JTS	**Las Juntas de**	**56.09**	**350**	*c iP*	**P**		**13 01 33.9 +2.0**
SYO	**Syowa Base**	**56.50**	**157**	‖*eP*	**P**		**13 01 31.4 -2.8**
SYO	**Syowa Base**	**56.50**	**157**	‖*ep*P	pP		13 01 39.6 +0.9
SYO	**Syowa Base**	**56.50**	**157**	‖*es*P	sP		13 01 45.0 +4.6
GRGR	**Grenville**	**59.00**	**17**	PFAKE			13 02 00.0 +7.7
GRGR				LR	LR		
	comp=Z,700nm,21.0s						
TGUH	**Tegucigalpa,Un**	**60.11**	**348**	PFAKE			13 02 10.0 +10
TGUH				LR	LR		
	comp=Z,500nm,21.0s						
FDF	**Fort de France**	**61.63**	**17**	PFAKE			13 02 20.0 +10
FDF				LR	LR		
	comp=Z,600nm,21.0s						
TBI	**Tubuai**	**61.88**	**265**	*eS*	**S**		**13 10 35.2 +0.1**
	comp=Z,612nm,28.5s						
TBI				*e*LQ	LQ		13 18 02.5
	comp=Z,851nm,34.5s						
TBI				*e*LR	LR		13 20 37.3
	comp=Z,1μm,26.0s						
MAW	**Mawson**	**63.09**	**164**	*eP*	**P**		**13 02 20.4 +0.9**
	comp=Z,9.8nm,1.3s						
MAW	**Mawson**	**63.09**	**164**	*eP*	**P**		**13 02 20.4 +0.9**
MAW				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MAW	**Mawson**	**63.09**	**164**	P	**P**		**13 02 19.6 +0.2**
	comp=Z,18nm,1.1s,baz=206,slow=7.4,SNR=17						
MAW				LR	LR		13 28 39.5
	comp=Z,1μm,21.7s,baz=207,slow=35						
ICMP	**Isla Caja de M**	**63.81**	**11**	PFAKE			13 02 40.0 +15
ICMP				LR	LR		
	comp=Z,1μm,20.0s						
CRPR	**Cabo Rojo, PR**	**63.85**	**10**	PFAKE			13 02 40.0 +15
CRPR				LR	LR		
	comp=Z,700nm,21.0s						
SKI	**Saint Kitts**	**63.86**	**15**	PFAKE			13 02 40.0 +15
SKI				LR	LR		
	comp=Z,1μm,22.0s						
OBIP	**Obispado Ponce**	**63.95**	**11**	PFAKE			13 02 40.0 +14
OBIP				LR	LR		
	comp=Z,800nm,20.0s						
SJG	**San Juan**	**64.08**	**11**	PFAKE			13 02 40.0 +13
SJG				LR	LR		
	comp=Z,900nm,20.0s						
HUMP	**Col San Antoni**	**64.15**	**11**	PFAKE			13 02 40.0 +13
HUMP				LR	LR		
	comp=Z,1μm,20.0s						
AGP	**Aguadilla**	**64.25**	**10**	PFAKE			13 02 40.0 +12
AGP				LR	LR		
	comp=Z,700nm,20.0s						
CBYP	**Canovanas**	**64.28**	**11**	PFAKE			13 02 40.0 +12
CBYP				LR	LR		
	comp=Z,900nm,18.0s						
ANWB	**Willy Bob**	**64.36**	**16**	PFAKE			13 02 40.0 +12
ANWB				LR	LR		
	comp=Z,500nm,21.0s						
CUPR	**Culebra, Puert**	**64.40**	**12**	PFAKE			13 02 40.0 +11
CUPR				LR	LR		
	comp=Z,900nm,19.0s						
SDDR	**Presa de Saban**	**64.42**	**6**	PFAKE			13 02 40.0 +11
SDDR				LR	LR		
	comp=Z,500nm,20.0s						
STVI	**Saint Thomas**	**64.49**	**12**	PFAKE			13 02 40.0 +11
STVI				LR	LR		
	comp=Z,1μm,22.0s						
GTBY	**Guantanamo Bay**	**65.19**	**2**	*eP*	**P**		**13 02 31.6 -2.1**
	comp=Z,126nm,1.3s						
PPT2	**Papeete2**	**65.76**	**269**	*eS*	**S**		**13 11 22.9 -0.7**
	comp=Z,556nm,28.8s						
PPT2	**Papeete2**	**65.76**	**269**	*e*LR	LR		13 22 14.9
	comp=Z,683nm,26.2s						
PPT	**Papeete**	**65.78**	**269**	LR	LR		13 24 56.0
	comp=Z,337nm,19.0s,baz=140,slow=30						
TLIG	**Tlapa**	**65.90**	**337**	*eP*	**P**		**13 02 40.2 +1.7**
	comp=Z,36nm,1.4s						
CASY	**Casey**	**68.36**	**183**	PFAKE			13 03 10.0 +17
CASY				LR	LR		
	comp=Z,1μm,19.0s						
ZAIG	**Zacatecas**	**71.98**	**335**	*eP*	**P**		**13 03 18.0 +1.5**
	comp=Z,30nm,1.8s						
OXZ	**Oxford**	**72.53**	**225**	PFAKE			13 03 30.0 +11
OXZ				LR	LR		
	comp=Z,2μm,18.0s						
SNZO	**South Karori**	**72.61**	**228**	PFAKE			13 03 30.0 +10
SNZO				LR	LR		
	comp=Z,1μm,20.0s						
RPZ	**Rata Peaks**	**72.73**	**225**	PFAKE			13 03 30.0 +9.4
RPZ				LR	LR		
	comp=Z,2μm,20.0s						
RPZ	**Rata Peaks**	**72.73**	**225**	LR	LR		13 28 24.6
	comp=Z,1μm,19.0s,baz=94,slow=30						
957A	**Wimauma**	**73.06**	**355**	*eP*	**P**		**13 03 23.1 +0.8**
	comp=Z,110nm,1.4s						
LNIG	**Linares**	**73.13**	**338**	*eP*	**P**		**13 03 22.0 -0.9**
	comp=Z,18nm,1.5s						
BKZ	**Black Stump Fm**	**73.18**	**231**	*eP*	**P**		**13 03 23.6 +0.2**
	comp=Z,52nm,1.5s						
BKZ				LR	LR		
	comp=Z,900nm,20.0s						
URZ	**Urewera**	**73.49**	**232**	LR	LR		13 27 06.6
	comp=Z,374nm,22.0s,baz=166,slow=29						
757A	**Oxford**	**74.31**	**355**	P	**P**		**13 03 29.7 0.0**
	baz=176						
HIZ	**Hauiti**	**74.54**	**231**	PFAKE			13 03 40.0 +8.7
HIZ				LR	LR		
	comp=Z,900nm,20.0s						
655A	**Horseshoe Beac**	**74.96**	**354**	P	**P**		**13 03 33.4 0.0**
	baz=175						
556A	**Lake Butler**	**75.39**	**355**	P	**P**		**13 03 35.5 -0.4**
	baz=176						
833A	**Chaparral WMA,**	**76.39**	**339**	*eP*	**P**		**13 03 43.4 +1.6**
	comp=Z,15nm,0.8s						
833A	**Chaparral WMA,**	**76.39**	**339**	P	**P**		**13 03 42.9 +1.2**
	baz=164						
356A	**Blackshear**	**76.68**	**355**	P	**P**		**13 03 43.2 -0.1**
	baz=176						
HPIG		**76.83**	**334**	*eP*	**P**		**13 03 45.3 +0.8**
	comp=Z,35nm,1.6s						
BRAL	**Brewton**	**76.95**	**351**	*eP*	**P**		**13 03 45.9 +1.1**
	comp=Z,250nm,1.8s						
BRAL	**Brewton**	**76.95**	**351**	P	**P**		**13 03 45.2 +0.4**
	baz=172						
352A	**Blakely**	**77.04**	**353**	*eP*	**P**		**13 03 47.0 +1.6**
	comp=Z,142nm,1.8s						
349A	**Repton**	**77.14**	**351**	P	**P**		**13 03 46.3 +0.4**
	baz=172						
HKT	**Hockley**	**77.15**	**343**	‖*eP*	**P**		**13 03 46.6 +0.7**
HKT				pmax	pmax		
	comp=Z,23nm,1.9s						
254A	**Abbeville**	**77.38**	**354**	P	**P**		**13 03 47.2 +0.1**
	baz=175						
251A	**Midway**	**77.70**	**352**	P	**P**		**13 03 49.1 +0.1**
	baz=174,SNR=6.9						
BOSA	**Boshof**	**77.79**	**118**	*eP*	**P**		**13 03 50.5 +0.5**
	comp=Z,58nm,1.5s						
BOSA	**Boshof**	**77.79**	**118**	*eP*	**P**		**13 03 50.6 +0.5**
BOSA				pmax	pmax		
	comp=Z,58nm,1.5s						
BOSA	**Boshof**	**77.79**	**118**	P	**P**		**13 03 49.5 -0.5**
	comp=Z,18nm,1.1s,baz=209,slow=5.9,SNR=7.4						
BOSA				LR	LR		13 34 45.2
	comp=Z,179nm,18.1s,baz=224,slow=33						
157A	**Early Branch**	**77.97**	**356**	P	**P**		**13 03 50.2 -0.3**
	baz=177						
155A	**Kite**	**78.00**	**355**	P	**P**		**13 03 50.5 -0.2**
	baz=176						
154A	**Montrose**	**78.03**	**354**	*eP*	**P**		**13 03 50.8 0.0**
	comp=Z,36nm,0.6s						
154A				LR	LR		
	comp=Z,400nm,21.0s						
154A	**Montrose**	**78.03**	**354**	P	**P**		**13 03 50.7 -0.1**
	baz=175						
151A	**Opelika**	**78.12**	**353**	P	**P**		**13 03 51.6 +0.3**
	baz=174						
152A	**Waverly Hall**	**78.21**	**353**	*eP*	**P**		**13 03 52.4 +0.6**
	comp=Z,74nm,1.8s						
152A	**Waverly Hall**	**78.21**	**353**	P	**P**		**13 03 51.8 0.0**
	baz=174						
CSU	**Charleston Sou**	**78.24**	**357**	*eP*	**P**		**13 03 52.2 +0.2**
150A	**Eclectic**	**78.26**	**352**	P	**P**		**13 03 52.5 +0.4**
	baz=173,SNR=6.8						
435B	**Jarrell**	**78.33**	**342**	*eP*	**P**		**13 03 52.4 -0.1**
	comp=Z,50nm,1.4s						
149A	**Jones**	**78.33**	**351**	P	**P**		**13 03 52.7 +0.2**
	baz=173						
NHSC	**New Hope**	**78.36**	**357**	P	**P**		**13 03 52.2 -0.5**
	baz=177						
Z59A	**Georgetown, SC**	**78.47**	**358**	P	**P**		**13 03 52.3 -1.0**
	baz=178						
TXAR	**Lajitas Array**	**78.48**	**336**	*eP*	**P**		**13 03 52.3 -1.2**
TXAR	**Lajitas Array**	**78.48**	**336**	*eP*	**P**		**13 03 52.3 -1.2**
TXAR	**Lajitas Array**	**78.48**	**336**	P	**P**		**13 03 53.4 -0.1**
	comp=Z,5.5nm,1.2s,baz=157,slow=6.8,SNR=19						
LTX	**Lajitas**	**78.48**	**336**	*eP*	**P**		**13 03 53.4 -0.1**
LTX	**Lajitas**	**78.48**	**336**	*eP*	**P**		**13 03 53.4 -0.1**
TX31	**Lajitas Ar. Si**	**78.48**	**336**	*eP*	**P**		**13 03 54.2 +0.7**
	comp=Z,20nm,1.5s						
JCT	**Junction City**	**78.55**	**340**	*eP*	**P**		**13 03 54.2 +0.4**
	comp=Z,76nm,1.5s						
JCT	**Junction City**	**78.55**	**340**	*eP*	**P**		**13 03 54.2 +0.4**
JCT				pmax	pmax		
	comp=Z,76nm,1.5s						
JCT	**Junction City**	**78.55**	**340**	P	**P**		**13 03 54.5 +0.7**
	baz=164						
Z57A	**Bowman**	**78.58**	**357**	P	**P**		**13 03 53.3 -0.5**
	baz=177						
147A	**Livingston**	**78.58**	**350**	PFAKE			13 04 10.0 +16
147A				LR	LR		
	comp=Z,645μm,19.0s						
Z58A	**St. Stephen**	**78.58**	**357**	P	**P**		**13 03 53.3 -0.5**
	baz=178						
Z54A	**Sparta**	**78.63**	**355**	P	**P**		**13 03 54.2 +0.1**
	baz=176						
Z56A	**Williston**	**78.63**	**356**	PFAKE			13 04 10.0 +16
Z56A				LR	LR		
	comp=Z,400nm,21.0s						
NATX	**Nacogdoches**	**78.67**	**344**	P	**P**		**13 03 55.3 +0.9**
	baz=167						
Z52A	**Williamson**	**78.70**	**353**	P	**P**		**13 03 54.7 +0.2**
	baz=174,SNR=8.9						
Z53A	**Monticello**	**78.72**	**354**	P	**P**		**13 03 54.5 -0.1**
	baz=175,SNR=8.3						
LRAL	**Lakeview Retre**	**78.79**	**351**	*eP*	**P**		**13 03 53.5 -1.5**
	comp=Z,22nm,1.4s						
LRAL	**Lakeview Retre**	**78.79**	**351**	P	**P**		**13 03 55.4 +0.4**
	baz=173						
GOGA	**Godfrey**	**78.85**	**354**	*eP*	**P**		**13 03 55.5 +0.2**
	comp=Z,39nm,1.2s						
GOGA	**Godfrey**	**78.85**	**354**	*eP*	**P**		**13 03 55.5 +0.2**
GOGA				pmax	pmax		
	comp=Z,39nm,1.2s						
GOGA	**Godfrey**	**78.85**	**354**	P	**P**		**13 03 54.8 -0.5**
	baz=175,SNR=8.3						
Z51A	**Franklin**	**78.89**	**353**	P	**P**		**13 03 55.7 +0.1**
	baz=174						
Z50A	**Ashland**	**78.90**	**352**	*eP*	**P**		**13 03 55.5 -0.1**
	comp=Z,34nm,1.4s						
Z50A	**Ashland**	**78.90**	**352**	P	**P**		**13 03 56.0 +0.4**
	baz=173						
Z49A	**Columbiana**	**78.90**	**352**	P	**P**		**13 03 55.9 +0.4**
	baz=173,SNR=6.4						
Y54A	**Tignall**	**79.24**	**355**	P	**P**		**13 03 57.6 +0.2**
	baz=176,SNR=5.0						
Y55A	**Saluda**	**79.27**	**356**	P	**P**		**13 03 57.7 +0.1**
	baz=176						
Y53A	**Monroe**	**79.30**	**354**	P	**P**		**13 03 58.0 +0.2**
	baz=175						
Y52A	**Lilburn**	**79.34**	**354**	*eP*	**P**		**13 03 58.6 +0.6**
	comp=Z,47nm,1.3s						
Y52A				LR	LR		
	comp=Z,300nm,20.0s						
Y52A	**Lilburn**	**79.34**	**354**	P	**P**		**13 03 57.9 -0.1**
	baz=175,SNR=6.8						
TSUM	**Tsumeb**	**79.42**	**107**	*eP*	**P**		**13 04 00.7 +1.5**
	comp=Z,55nm,1.8s						
Y51A	**Rockmart**	**79.46**	**353**	P	**P**		**13 03 58.8 +0.1**
	baz=174						
WHTX	**Lake Whitney,**	**79.46**	**342**	*eP*	**P**		**13 03 59.4 +0.7**
	comp=Z,32nm,1.4s						
WHTX	**Lake Whitney,**	**79.46**	**342**	P	**P**		**13 04 00.3 +1.5**
	baz=165						
Y50A	**Piedmont**	**79.51**	**352**	P	**P**		**13 03 59.3 +0.3**
	baz=174						
Y49A	**Blount Mountai**	**79.54**	**352**	*eP*	**P**		**13 03 59.0 -0.1**
	comp=Z,37nm,1.5s						
Y49A	**Blount Mountai**	**79.54**	**352**	P	**P**		**13 03 59.5 +0.4**
	baz=173						
HODGE	**Hodges**	**79.58**	**355**	*eP*	**P**		**13 04 00.0 +0.7**
	comp=Z,43nm,1.6s						
HODGE				LR	LR		
	comp=Z,300nm,20.0s						
X56A	**White Oak**	**79.78**	**356**	P	**P**		**13 04 00.1 -0.3**
	baz=177						
X55A	**Gracelyn & Ava**	**79.79**	**356**	P	**P**		**13 03 59.8 -0.6**
	baz=176						
Z41A	**Richland Creek**	**79.81**	**346**	*eP*	**P**		**13 04 01.7 +1.1**
	comp=Z,23nm,0.7s						
X54A	**Belton**	**79.91**	**355**	P	**P**		**13 04 00.9 -0.1**
	baz=176						
X53A	**Estanollee**	**79.92**	**354**	P	**P**		**13 04 01.2 0.0**
	baz=175						
X52A	**Dahlonega**	**80.06**	**354**	P	**P**		**13 04 01.8 -0.1**
	baz=175						
X50B	**Fort Payne**	**80.07**	**352**	P	**P**		**13 04 02.2 +0.2**
	baz=174						
X51A	**Calhoun**	**80.10**	**353**	*eP*	**P**		**13 04 02.7 +0.6**
	comp=Z,94nm,1.8s						
X51A	**Calhoun**	**80.10**	**353**	P	**P**		**13 04 02.2 +0.1**
	baz=174						
PAULI	**Pauline**	**80.15**	**356**	*eP*	**P**		**13 04 04.0 +1.7**
	comp=Z,37nm,1.3s						
PAULI				LR	LR		
	comp=Z,500nm,19.0s						
X49A	**Woodville**	**80.18**	**352**	P	**P**		**13 04 02.9 +0.4**
	baz=173,SNR=5.4						
X48A	**Hartselle**	**80.19**	**351**	*eP*	**P**		**13 04 02.0 -0.6**
	comp=Z,27nm,1.1s						
X48A	**Hartselle**	**80.19**	**351**	P	**P**		**13 04 03.0 +0.3**
	baz=173,SNR=6.0						
W58A	**Raeford**	**80.24**	**358**	P	**P**		**13 04 02.7 -0.1**
	baz=178						
W60A	**Pink Hill**	**80.25**	**359**	P	**P**		**13 04 02.3 -0.6**
	baz=179						
WLAR	**White Oak Lake**	**80.28**	**346**	*eP*	**P**		**13 04 02.0 -1.0**
	comp=Z,83nm,1.5s						
CCAR	**Cane Creek**	**80.28**	**347**	*eP*	**P**		**13 04 04.4 +1.3**
	comp=Z,41nm,1.1s						
X47A	**Russelville**	**80.35**	**351**	P	**P**		**13 04 03.6 +0.1**
	baz=172						
W59A	**Clinton**	**80.37**	**359**	P	**P**		**13 04 03.1 -0.5**
	baz=179						
W57A	**Gilead**	**80.40**	**357**	*eP*	**P**		**13 04 03.3 -0.3**
	comp=Z,43nm,1.4s						
W57A	**Gilead**	**80.40**	**357**	P	**P**		**13 04 03.5 -0.2**
	baz=178						
W56A	**Indian Trail**	**80.40**	**357

V60A	Jim Taylor Roa	80.95	359	eP	P	13 04 08.2	+1.6
	comp=Z,40nm,1.3s						
V59A	Middlesex	80.96	359	P	P	13 04 06.4	-0.3
	baz=179						
V58A	Windy Hill, Pi	81.01	358	P	P	13 04 06.3	-0.7
	baz=178						
X40A	Basin Creek Fa	81.01	347	P	P	13 04 07.6	+0.6
	baz=169						
W47A	Westpoint	81.05	351	P	P	13 04 07.1	-0.1
	baz=172,SNR=9.6						
V53A	Saluda	81.05	355	eP	P	13 04 06.3	-1.0
	comp=Z,8.5nm,0.6s						
V53A	Saluda	81.05	355	P	P	13 04 07.0	-0.2
	baz=176						
V56A	Mocksville	81.07	357	eP	P	13 04 07.5	+0.2
	comp=Z,47nm,1.4s						
V56A	Mocksville	81.07	357	P	P	13 04 06.9	-0.3
	baz=177						
V54A	Nebo	81.11	356	P	P	13 04 07.3	-0.2
	baz=176						
V57A	Coltrane Farms	81.12	357	P	P	13 04 06.7	-0.9
	baz=178						
V55A	Taylorsville	81.14	356	P	P	13 04 07.4	-0.3
	baz=177						
MIAR	Mount Ida	81.19	346	eP	P	13 04 08.2	+0.2
	comp=Z,12nm,1.4s						
MIAR	Mount Ida	81.19	346	eP	P	13 04 08.2	+0.2
MIAR				pmax	pmax		
	comp=Z,12nm,1.4s						
MIAR	Mount Ida	81.19	346	P	P	13 04 08.5	+0.5
	baz=168						
MNTX	Cornudas Mount	81.20	336	eP	P	13 04 08.1	0.0
	comp=Z,18nm,1.7s						
MNTX	Cornudas Mount	81.20	336	P	P	13 04 09.5	+1.3
	baz=160						
UALR	University of	81.22	347	eP	P	13 04 07.1	-1.0
	comp=Z,13nm,1.1s						
V50A	Pikevile	81.22	353	P	P	13 04 07.7	-0.4
	baz=174,SNR=5.1						
V52A	Sevierville	81.27	354	eP	P	13 04 08.3	-0.1
	comp=Z,38nm,1.6s						
V52A	Sevierville	81.27	354	P	P	13 04 08.0	-0.3
	baz=175						
V51A	Loudon	81.29	354	P	P	13 04 08.4	-0.1
	baz=174						
V49A	McMinnville	81.38	352	P	P	13 04 09.0	0.0
	baz=173						
V48A	Smith Brothers	81.45	352	eP	P	13 04 09.8	+0.4
	comp=Z,39nm,1.3s						
V48A	Smith Brothers	81.45	352	P	P	13 04 09.2	-0.1
	baz=173,SNR=6.9						
U59A	Littleton	81.54	359	PFAKE		13 04 20.0	+10
U59A				LR	LR		
	comp=Z,400nm,21.0s						
U59A	Littleton	81.54	359	P	P	13 04 09.8	0.0
	baz=179						
W41B	Gary Mavity, V	81.59	347	eP	P	13 04 10.3	+0.2
	comp=Z,44nm,1.6s						
W41B	Gary Mavity, V	81.59	347	P	P	13 04 10.2	+0.2
	baz=169						
U56A	King	81.60	357	P	P	13 04 09.5	-0.6
	baz=177						
V47A	Nunnelly	81.61	351	P	P	13 04 09.9	-0.3
	baz=172,SNR=9.9						
V46A	Holladay	81.65	351	P	P	13 04 10.0	-0.3
	baz=172,SNR=6.3						
U57A	Blanch	81.65	358	P	P	13 04 09.6	-0.8
	baz=178						
WHAR	Wooly Hollow	81.71	347	eP	P	13 04 10.9	+0.2
	comp=Z,37nm,1.3s						
U53A	Fall Branch	81.72	355	P	P	13 04 10.3	-0.5
	baz=176						
CLTN	Cedars of Leba	81.75	352	eP	P	13 04 10.8	-0.1
	comp=Z,31nm,1.6s						
U55A	TA2, Sparta	81.78	356	P	P	13 04 11.0	-0.2
	baz=177						
U52A	Thorn Hill	81.80	355	P	P	13 04 10.7	-0.5
	baz=175						
U51A	La Follette	81.83	354	P	P	13 04 11.1	-0.3
	baz=175						
U54A	Nelsons Funny	81.84	356	eP	P	13 04 11.8	+0.4
	comp=Z,64nm,1.6s						
U54A	Nelsons Funny	81.84	356	P	P	13 04 10.9	-0.5
	baz=176						
W39A	Magazine	81.86	346	P	P	13 04 12.2	+0.7
	baz=168						
U50A	Jamestown	81.94	353	P	P	13 04 11.3	-0.6
	baz=174						
WVT	Waverly	81.94	351	eP	P	13 04 10.8	-1.1
	comp=Z,48nm,1.5s						
WVT	Waverly	81.94	351	eP	P	13 04 10.8	-1.1
WVT				pmax	pmax		
	comp=Z,48nm,1.5s						
WVT	Waverly	81.94	351	P	P	13 04 11.9	0.0
	baz=172						
TZTN	Tazewell	81.97	354	P	P	13 04 11.4	-0.6
	baz=175						
U49A	Red Boiling Sp	82.11	353	P	P	13 04 12.5	-0.2
	baz=174,SNR=8.7						
T58A	Grand View Acr	82.15	358	P	P	13 04 12.2	-0.7
	baz=179						
T59A	Double "B" Far	82.16	359	P	P	13 04 12.2	-0.8
	baz=179						
U48A	Cassie Pea, Po	82.18	352	P	P	13 04 13.1	-0.1
	baz=173						
U47A	Clarksville	82.19	351	P	P	13 04 13.2	0.0
	baz=172,SNR=6.6						
DBIC	Dimbokro	82.19	72	P	P	13 04 12.8	-1.0
	comp=Z,5.3nm,0.9s,baz=211,slow=8.0,SNR=2.5						
DBIC				LR	LR	13 35 54.8	
	comp=Z,166nm,21.2s,baz=230,slow=32						
U46A	Springville	82.21	351	P	P	13 04 13.4	+0.1
	baz=172						
T57A	Hurt	82.22	358	eP	P	13 04 13.9	+0.6
	comp=Z,18nm,1.1s						
T57A	Hurt	82.22	358	P	P	13 04 13.3	0.0
	baz=178						
GLAT	Glass	82.25	350	eP	P	13 04 14.0	+0.5
	comp=Z,148nm,1.1s						
GLAT				LR	LR		
	comp=Z,200nm,18.0s						
T56A	Rocky Mt	82.27	357	P	P	13 04 13.4	-0.2
	baz=178						
T53A	Wise	82.34	355	P	P	13 04 14.0	-0.1
	baz=176						
T54A	Tazewell	82.36	356	P	P	13 04 13.7	-0.5
	baz=176						
T55A	Pulaski	82.39	357	P	P	13 04 14.2	-0.1
	baz=177						
WMOK	Wichita Mounta	82.40	342	P	P	13 04 15.5	+1.1
	baz=165						
T51A	Gray	82.41	354	P	P	13 04 14.5	+0.1
	baz=175						
BLA	Blacksburg	82.47	357	P	P	13 04 14.3	-0.3
	baz=177						
T52A	Hallie	82.49	355	P	P	13 04 14.6	-0.2
	baz=176						
T50A	Nancy	82.53	353	P	P	13 04 14.7	-0.3
	baz=174						
MSTX	Muleshoe	82.62	338	P	P	13 04 16.3	+0.7
	baz=162						
T49A	Edmonton	82.68	353	PFAKE		13 04 30.0	+14
T49A				LR	LR		
	comp=Z,400nm,21.0s						
T49A	Edmonton	82.68	353	P	P	13 04 15.5	-0.3
	baz=174						
121A	Cookes Peak, D	82.70	334	P	P	13 04 17.6	+1.5
	baz=159						
T47A	Sharon Grove	82.71	352	P	P	13 04 15.8	-0.1
	baz=173						
T48A	Bowling Green	82.76	352	P	P	13 04 16.0	-0.2
	baz=173						
S58A	Poland Farm, P	82.81	359	P	P	13 04 15.4	-0.9
	baz=179						
U40A	Yellville	82.84	347	P	P	13 04 16.8	+0.1
	baz=169,SNR=7.2						
T46A	Princeton	82.85	351	P	P	13 04 16.8	+0.2
	baz=172,SNR=6.7						
PBMO	Poplar Bluff	82.90	349	eP	P	13 04 15.8	-1.1
	comp=Z,51nm,1.5s						
S56A	Natural Bridge	82.90	358	P	P	13 04 17.0	+0.1
	baz=178						
TUL1	Leonard	82.92	344	eP	P	13 04 17.0	-0.1
	comp=Z,69nm,1.4s						
TUL1	Leonard	82.92	344	P	P	13 04 17.3	+0.3
	baz=167						
S57A	Dark Hollow, R	82.97	358	P	P	13 04 17.4	+0.2
	baz=178						
S55A	Lewisburg	83.03	357	P	P	13 04 17.2	-0.4
	baz=177						
S51A	Beattyville	83.06	354	P	P	13 04 17.1	-0.5
	baz=175						
R58B	Mineral	83.15	359	PFAKE		13 04 30.0	+12
R58B				LR	LR		
	comp=Z,400nm,20.0s						
R58B	Mineral	83.15	359	P	P	13 04 18.2	+0.1
	baz=179						
S50A	Richmond	83.16	354	P	P	13 04 18.0	-0.1
	baz=174						
S48A	Wiedeman Farm,	83.27	352	P	P	13 04 18.1	-0.7
	baz=173						
S49A	Springfield	83.33	353	P	P	13 04 18.6	-0.5
	baz=174						
R54A	Victor	83.45	357	P	P	13 04 19.0	-0.8
	baz=177						
TUC	Tucson	83.46	331	eP	P	13 04 20.4	+0.4
	comp=Z,13nm,1.5s						
TUC	Tucson	83.46	331	eP	P	13 04 20.4	+0.4
TUC				pmax	pmax		
	comp=Z,13nm,1.5s						
TUC	Tucson	83.46	331	P	P	13 04 21.6	+1.6
	baz=157						
S46A	Don Dixon Farm	83.47	351	P	P	13 04 19.9	+0.2
	baz=172						
R58A	Rapidan	83.49	359	P	P	13 04 19.2	-0.6
	baz=179						
R57A	Stanardsville	83.50	359	P	P	13 04 18.8	-1.1
	baz=179						
S45A	Carrier Mills	83.55	351	P	P	13 04 19.7	-0.5
	baz=172						
R53A	Hurricane	83.65	356	P	P	13 04 20.2	-0.6
	baz=176						
S44A	Carbondale	83.65	350	P	P	13 04 20.7	-0.1
	baz=171						
SIUC	Southern Illin	83.67	350	PFAKE		13 04 30.0	+9.2
SIUC				LR	LR		
	comp=Z,200nm,18.0s						
R52A	Catlettsburg	83.69	355	P	P	13 04 20.5	-0.4
	baz=176						
R51A	Hillsboro	83.72	355	P	P	13 04 20.6	-0.5
	baz=175						
R50A	Paris	83.75	354	P	P	13 04 20.6	-0.6
	baz=175						
R49A	Shelbyville	83.83	353	P	P	13 04 21.0	-0.6
	baz=174						
214A	Organ Pipe Nat	83.84	330	P	P	13 04 23.5	+1.6
	baz=155						
BNM	Barren Site	83.86	335	eP	P	13 04 21.3	-0.9
WCI	Wyandotte Cave	83.86	352	P	P	13 04 21.2	-0.6
	baz=173						
S41A	Jillco Farms,	83.88	348	P	P	13 04 22.1	+0.2
	baz=169,SNR=15						
R47A	Wooly Knot Far	83.95	352	P	P	13 04 21.5	-0.7
	baz=173						
Q59A	Harwood	84.05	360	P	P	13 04 21.2	-1.5
	baz=180						
R45A	Skylar, Fairfi	84.13	351	P	P	13 04 22.9	-0.2
	baz=172						
Q53A	Leroy	84.15	356	P	P	13 04 22.5	-0.8
	baz=176						
Q57A	Strasburg	84.23	359	P	P	13 04 22.7	-1.0
	baz=179						
Q55A	Buckhannon	84.23	357	P	P	13 04 23.6	-0.2
	baz=178						
CCM	Cathedral Cave	84.27	348	eP	P	13 04 24.0	+0.1
	comp=Z,75nm,1.4s						
CCM	Cathedral Cave	84.27	348	eP	P	13 04 24.0	+0.1
CCM				pmax	pmax		
	comp=Z,75nm,1.4s						
CCM	Cathedral Cave	84.27	348	P	P	13 04 24.1	+0.2
	baz=170						
Q52A	Bidwell	84.29	356	P	P	13 04 23.6	-0.4
	baz=178						
Q51A	Peebles	84.42	355	eP	P	13 04 24.9	+0.3
	comp=Z,36nm,1.4s						
Q51A	Peebles	84.42	355	P	P	13 04 24.5	-0.2
	baz=175						
Q48A	North Vernon	84.50	353	P	P	13 04 24.6	-0.4
	baz=174						
Q49A	Aurora	84.51	354	P	P	13 04 24.8	-0.3
	baz=174						
R41A	Rosebud	84.53	348	P	P	13 04 25.4	+0.2
	baz=170,SNR=10.0						
OLIL	Olney	84.54	351	eP	P	13 04 25.3	0.0
	comp=Z,21nm,0.9s						
ANMO	Albuquerque	84.55	336	eP	P	13 04 26.1	+0.5
	comp=Z,26nm,1.5s						
ANMO	Albuquerque	84.55	336	eP	P	13 04 27.3	+1.7
ANMO				pmax	pmax		
	comp=Z,18nm,1.5s						
ANMO	Albuquerque	84.55	336	P	P	13 04 26.6	+1.0
	baz=160						
TASM	ASL Pad, Albuq	84.55	336	P	P	13 04 26.7	+1.1
	baz=160						
TASM	ASL Pad, Albuq	84.55	336	P	P	13 04 26.8	+1.1
	baz=160						
Q47A	Bedord North L	84.58	352	P	P	13 04 25.4	0.0
	baz=173						
Q45A	Warren Harvey,	84.71	351	P	P	13 04 25.7	-0.4
	baz=172,SNR=5.6						
P55A	Reedsville	84.74	358	P	P	13 04 26.0	-0.3
	baz=178						
P53A	Whipple	84.77	356	P	P	13 04 26.2	-0.2
	baz=177						
P59A	Jarrettsville	84.79	0	P	P	13 04 26.3	-0.2
	baz=180						
113A	Mohawk Valley,	84.91	329	PFAKE		13 04 40.0	+13
113A				LR	LR		
	comp=Z,300nm,21.0s						
P52A	Corning	84.96	356	P	P	13 04 26.7	-0.6
	baz=176						
P60A	Greenville	85.00	1	P	P	13 04 27.1	-0.4
	baz=181						
P48A	Milroy	85.01	353	P	P	13 04 26.7	-0.8
	baz=174						
Q42A	Golden Eagle	85.01	349	P	P	13 04 27.7	+0.1
	baz=170						
P49A	Miami Univ. Ec	85.02	354	P	P	13 04 27.2	-0.4
	baz=174						
P50A	Jamestown	85.03	354	P	P	13 04 27.2	-0.5
	baz=175						
P47A	Martinsville	85.11	353	P	P	13 04 27.3	-0.8
	baz=173						
MVL	Millersville	85.18	0	PFAKE		13 04 40.0	+12
MVL				LR	LR		
	comp=Z,900nm,20.0s						
P45A	Graceland, Par	85.29	351	P	P	13 04 28.5	-0.5
	baz=172						
O52A	Adamsville	85.42	356	P	P	13 04 29.4	-0.2
	baz=176						
O56A	Blue Knob Stat	85.47	359	P	P	13 04 29.3	-0.6
	baz=179						
O59A	Robesonia	85.49	0	P	P	13 04 29.7	-0.2
	baz=180						
O53A	New Philadelph	85.53	357	P	P	13 04 29.9	-0.3
	baz=177						
GLA	Glamis	85.55	329	P	P	13 04 32.6	+2.1
	baz=154						
P43A	Skaggs, Pawnee	85.60	350	P	P	13 04 30.4	-0.1
	baz=171						
O49A	Covington	85.64	354	P	P	13 04 30.4	-0.3
	baz=175						
IKP	In-Ko-Pah, Jac	85.67	327	P	P	13 04 33.1	+1.9
	baz=154						
W18A	Petrified Fore	85.70	333	P	P	13 04 32.6	+1.2
	baz=157						
O48A	Farmland	85.78	353	P	P	13 04 30.4	-0.9
	baz=174						
SWSC	Sam W. Stewart	85.82	328	P	P	13 04 33.7	+1.9
	baz=154						
SSPA	Standing Stone	85.82	359	P	P	13 04 30.6	-1.1
	baz=179						
O47A	Sheridan	85.84	353	P	P	13 04 30.9	-0.8
	baz=173						
N55A	Marion Center	85.98	358	P	P	13 04 31.9	-0.6
	baz=178						
MONP2	Monument Peak	86.00	327	P	P	13 04 34.7	+1.8
	baz=153						
T25A	Trinidad	86.04	338	P	P	13 04 33.7	+0.6
	baz=161,SNR=7.6						
N59A	State Game Lan	86.10	1	eP	P	13 04 32.2	-0.8
	comp=Z,34nm,1.5s						
N59A	State Game Lan	86.10	1	P	P	13 04 32.5	-0.5
	baz=181						
N50A	Nevada	86.15	355	P	P	13 04 32.6	-0.6
	baz=175						
BC3	Big Chuckawall	86.32	328	P	P	13 04 36.2	+1.8
	baz=154						
N48A	Decatur	86.36	354	P	P	13 04 33.5	-0.8
	baz=174						
N49A	Columbus Grove	86.36	354	P	P	13 04 33.6	-0.7
	baz=175						
PDMCI	Parker Dam,Lak	86.43	330	P	P	13 04 36.9	+2.1
	baz=155						
N47A	Urbana	86.44	353	P	P	13 04 34.0	-0.6
	baz=174						
HDIL	Hopedale	86.48	350	P	P	13 04 34.9	0.0
	baz=171						
CBKS	Cedar Bluff	86.52	342	P	P	13 04 35.8	+0.6
	baz=164						
YLE	Yale	86.56	3	PFAKE		13 04 50.0	+15
YLE				LR	LR		
	comp=Z,200nm,19.0s						
N45A	Kentland	86.57	352	P	P	13 04 35.0	-0.3
	baz=172						
WUAZ	Wupatki	86.59	332	eP	P	13 04 35.8	0.0
	comp=Z,34nm,1.5s						
WUAZ	Wupatki	86.59	332	P	P	13 04 37.4	+1.6
	baz=156						
PFO	Pinyon Flats O	86.66	328	eP	P	13 04 36.6	+0.5
	comp=Z,29nm,1.4s						
PFO	Pinyon Flats O	86.66	328	eP	P	13 04 36.6	+0.5
PFO				pmax	pmax		
	comp=Z,29nm,1.4s						
PFO	Pinyon Flats O	86.66	328	P	P	13 04 38.0	+1.9
	baz=153,SNR=7.2						
IRM	Iron Mountain	86.66	329	P	P	13 04 37.8	+1.8
	baz=154						
M55A	Ridgway	86.67	358	P	P	13 04 34.7	-1.1
	baz=178						
BELC	Belle Mtn. Jos	86.83	328	P	P	13 04 39.1	+2.2
	baz=154						
M49A	Liberty Center	86.90	354	P	P	13 04 36.5	-0.4
	baz=175						
SDCO	Great Sand Dun	86.90	337	eP	P	13 04 36.9	-0.5
	comp=Z,12nm,1.4s						
SDCO	Great Sand Dun	86.90	337	P	P	13 04 38.2	+0.8
	baz=160,SNR=8.5						
MURC	Murrieta	86.93	327	P	P	13 04 39.0	+1.8
	baz=153						
W13A	Hualapai Mount	87.06	330	eP	P	13 04 38.3	+0.2
	comp=Z,24nm,1.8s						
N40A	Mertquake, Sal	87.09	349	P	P	13 04 37.8	-0.1
	baz=170						
CIS	Catalina Islan	87.22	326	P	P	13 04 40.3	+1.6
	baz=152						
MVCO	Mesa Verde	87.25	335	eP	P	13 04 39.8	+0.7
	comp=Z,47nm,1.9s						
MVCO	Mesa Verde	87.25	335	P	P	13 04 40.0	+1.0
	baz=158						
S22A	4UR Ranch, Cre	87.27	336	P	P	13 04 40.4	+1.2
	baz=159,SNR=14						
M43A	Waltham Townsh	87.31	351	P	P	13 04 38.9	0.0
	baz=171						
GMRC	Granite Mounta	87.41	329	P	P	13 04 41.4	+1.7
	baz=154,SNR=7.0						
BFSC	Mount Baldy Ra	87.67	327	P	P	13 04 42.7	+1.7
	baz=153						
HEC	Hector,Ludlow	87.70	328	P	P	13 04 42.9	+1.8
	baz=153						
L42A	Oliver, Polo	87.95	350	P	P	13 04 41.7	-0.2
	baz=171						
Q24A	Divide	87.96	338	eP	P	13 04 42.7	+0.2
	comp=Z,57nm,1.8s						
Q24A	Divide	87.96	338	P	P	13 04 43.3	+0.8
	baz=160,SNR=5.6						
L43A	Garden Prairie	88.03	351	P	P	13 04 41.9	-0.4
	baz=172						
TUQ	Turquoise Moun	88.09	329	P	P	13 04 44.9	+1.9
	baz=154						
PV01	Paradox Valley	88.13	335	PFAKE		13 04 50.0	+6.8
PV01				LR	LR		
	comp=Z,400nm,22.0s						
L40A	Anamosa	88.20	349	PFAKE		13 04 50.0	+6.9
L40A				LR	LR		
	comp=Z,300nm,20.0s						
L40A	Anamosa	88.20	349	P	P	13 04 43.0	-0.2
	baz=170						
SCZ2	Santa Cruz Isl	88.23	325	P	P	13 04 45.6	+2.1
	baz=152						
K48A	Perry	88.23	355	P	P	13 04 42.6	-0.6
	baz=175						
GSC	Goldstone, Bar	88.29	328	P	P	13 04 45.7	+1.8
	baz=153						
MEDO	Medina	88.36	359	PFAKE		13 04 50.0	+6.2
MEDO				LR	LR		
	comp=Z,300nm,20.0s						
EDW2	Edwards Air Fo	88.36	327	P	P	13 04 45.7	+1.5
	baz=152						
L39A	Vinton	88.37	349	P	P	13 04 44.0	+0.1
	baz=169						
PV11	David Mesa, Pa	88.37	335	eP	P	13 04 44.9	+0.6
	comp=Z,47nm,1.8s						
PV16	Nyswonger Mesa	88.39	335	PFAKE		13 05 00.0	+16
PV16				LR	LR		
	comp=Z,400nm,21.0s						
KNB	Kanab	88.43	332	eP	P	13 04 45.2	+0.6
	comp=Z,69nm,1.8s						
KNB	Kanab	88.43	332	eP	P	13 04 45.2	+0.6
KNB				pmax	pmax		
	comp=Z,69nm,1.8s						
J55A	Hilton	88.45	359	P	P	13 04 42.8	-1.4
	baz=179						
J52A	Paris	88.48	357	P	P	13 04 44.1	-0.4
	baz=177						
PV14	Lion Creek, Pa	88.48	335	eP	P	13 04 44.3	-0.6
	comp=Z,50nm,1.9s						
K43A	Burlington	88.50	351	P	P	13 04 44.2	-0.3
	baz=172						
SHOC	Shoshone, Teco	88.63	329	P	P	13 04 47.3	+1.9
	baz=153						
PV21	Cone Mtn., Par	88.64	335	PFAKE		13 05 00.0	+14
PV21				LR	LR		
	comp=Z,500nm,18.0s						
SMCO	Snowmass	88.65	337	eP	P	13 04 45.6	-0.3
	comp=Z,30nm,1.6s						
K42A	Prairie Point,	88.68	351	P	P	13 04 45.5	+0.1
	baz=171						
SHPR	Sheep Range	88.77	330	eP	P	13 04 46.2	0.0
	comp=Z,61nm,1.8s						
K40A	Colesburg	88.82	349	P	P	13 04 46.3	+0.2
	baz=170						
ACTO	Acton	88.84	358	P	P	13 04 45.5	-0.6
	baz=178						
ISCO	Idaho Springs	88.86	338	eP	P	13 04 46.6	-0.1
	comp=Z,22nm,1.5s						
ISCO	Idaho Springs	88.86	338	eP	P	13 04 46.6	-0.1
ISCO				pmax	pmax		
	comp=Z,22nm,1.5s						
ISCO	Idaho Springs	88.86	338	P	P	13 04 47.4	+0.6
	baz=160,SNR=9.0						
JFWS	Jewell Farm	88.92	350	eP	P	13 04 46.9	+0.4
	comp=Z,78nm,1.4s						
JFWS	Jewell Farm	88.92	350	eP	P	13 04 46.9	+0.4
JFWS				pmax	pmax		
	comp=Z,78nm,1.4s						
JFWS	Jewell Farm	88.92	350	P	P	13 04 46.5	0.0
	baz=170						
K39A	Oelwein	88.92	349	P	P	13 04 46.1	-0.5
	baz=169						
I51A	Listowel	89.06	357	P	P	13 04 46.9	-0.2
	baz=177						
OGNE	Ogallala	89.07	341	PFAKE		13 05 00.0	+13
OGNE				LR	LR		
	comp=Z,300nm,18.0s						
PKM	Mcpherson Peak	89.08	326	P	P	13 04 49.9	+2.2
	baz=151						
PECO	Prince Edward	89.11	360	P	P	13 04 46.4	-0.9
	baz=180						
WLVO	Wesleyville	89.11	359	P	P	13 04 47.2	-0.1
	baz=179						
J43A	Natural Harves	89.17	351	P	P	13 04 47.6	-0.1
	baz=172						
J42A	Columbus	89.19	351	P	P	13 04 47.6	-0.2
	baz=171						
MPMC	Manual Prospec	89.22	328	P	P	13 04 50.4	+2.1
	baz=153						
ISA	Isabella, Lake	89.24	327	eP	P	13 04 49.1	+0.8
	comp=Z,22nm,1.6s						
ISA	Isabella, Lake	89.24	327	eP	P	13 04 49.1	+0.8
ISA				pmax	pmax		
	comp=Z,22nm,1.6s						
ISA	Isabella, Lake	89.24	327	P	P	13 04 50.3	+2.0
	baz=152						

LSZ	Lusaka	89.28	111	eP	P	13 04 48.3	-0.8
	comp=Z,34nm,1.6s						
LSZ	Lusaka	89.28	111	eP	P	13 04 48.3	-0.8
LSZ				pmax	pmax		
	comp=Z,34nm,1.6s						
J41A	Loganville	89.34	350	P	P	13 04 48.3	-0.2
	baz=171						
FURC	Furnace Creek,	89.35	329	P	P	13 04 50.5	+1.9
	baz=153						
I55A	Frankford	89.40	359	P	P	13 04 47.9	-0.8
	baz=179						
J40A	Soldiers Grove	89.46	350	P	P	13 04 49.2	+0.2
	baz=170						
CAN	Canberra	89.54	216	PFAKE		13 05 00.0	+10
CAN				LR	LR		
	comp=Z,600nm,18.0s						
TPNV	Topopah Spring	89.56	329	eP	P	13 04 50.2	+0.4
	comp=Z,20nm,1.5s						
TPNV	Topopah Spring	89.56	329	P	P	13 04 51.6	+1.8
	baz=154						
MSU	Marysvale	89.58	333	eP	P	13 04 49.2	-0.8
MSU	Marysvale	89.58	333	eP	P	13 04 49.2	-0.8
VES	Vestal, Richgr	89.63	327	P	P	13 04 51.8	+1.8
	baz=152						
DELO	Deloro Mine	89.70	359	P	P	13 04 49.1	-1.0
	baz=179						
H55A	Tweed	89.73	360	P	P	13 04 49.4	-0.8
	baz=180						
I42A	Draeeger Farm,	89.73	351	P	P	13 04 50.4	+0.1
	baz=171						
H56A	Elgin	89.77	0	P	P	13 04 49.5	-0.9
	baz=180						
LONY	Lake Ozonia	89.81	1	eP	P	13 04 49.2	-1.4
	comp=Z,55nm,1.6s						
LONY	Lake Ozonia	89.81	1	P	P	13 04 50.0	-0.7
	baz=181						
O20A	White River Ci	89.89	336	P	P	13 04 52.3	+0.9
	baz=158						
N23A	Red Feather La	89.98	338	P	P	13 04 52.5	+0.7
	baz=160,SNR=7.0						
I39A	Houston	90.01	349	P	P	13 04 51.6	0.0
	baz=170						
H43A	Windswept, Lux	90.19	352	P	P	13 04 52.3	-0.1
	baz=172						
BANO	Bancroft	90.20	359	P	P	13 04 51.5	-1.0
	baz=179						
PLVO	Plevna	90.22	360	P	P	13 04 51.9	-0.6
	baz=180						
G53A	Haliburton	90.31	359	P	P	13 04 52.1	-0.8
	baz=179						
G55A	Calabogie	90.43	360	P	P	13 04 52.0	-1.5
	baz=180						
HAL	Halifax	90.56	9	PFAKE		13 05 10.0	+16
HAL				LR	LR		
	comp=Z,700nm,22.0s						
R11A	Troy Canyon, C	90.57	330	P	P	13 04 56.0	+1.3
	baz=154						
H40A	Chili	90.62	350	P	P	13 04 53.1	-1.3
	baz=170						
BUKO	Buck Lake	90.65	358	P	P	13 04 53.4	-1.1
	baz=178						
ECSD	EROS Data Cent	90.66	346	P	P	13 04 54.4	-0.3
	baz=166						
PKME	Peaks-Kenny Pk	90.67	5	P	P	13 04 53.5	-1.1
	baz=185						
ALFO	Alfred	90.82	1	P	P	13 04 54.0	-1.2
	baz=181						
F52A	Sundridge	91.00	358	P	P	13 04 55.6	-0.6
	baz=178						
ALGO	Algonquin Park	91.14	359	P	P	13 04 56.2	-0.6
	baz=179						
F51A	Arnstein	91.15	358	P	P	13 04 56.0	-0.9
	baz=178						
G40A	Rib Lake	91.24	350	P	P	13 04 57.4	+0.1
	baz=170						
TOA0	Torodi Ar. Sit	91.30	73	eP	P	13 04 58.3	0.0
	comp=Z,30nm,1.7s						
TORD	Torodi Ar. Bea	91.30	73	P	P	13 04 57.9	-0.4
	comp=Z,1.3nm,1.0s,baz=198,slow=4.1,SNR=8.1						
TORD				PP	PP	13 08 48.3	+12
	comp=Z,0.3nm,0.7s,baz=202,slow=7.2,SNR=3.6						
TORD				LR	LR	13 39 38.8	
	comp=Z,165nm,21.9s,baz=295,slow=31						
TOC7	Torodi Ar. Sit	91.30	73	PFAKE		13 05 10.0	+12
TOC7				LR	LR		
	comp=Z,300nm,20.0s						
TOA1	Torodi Ar. Sit	91.30	73	eP	P	13 04 57.9	-0.4
TOA1				ePP	PP	13 08 48.3	+12
TOB2	Torodi Ar. Sit	91.31	73	PFAKE		13 05 10.0	+12
TOB2				LR	LR		
	comp=Z,6μm,22.0s						
DUG	Dugway, Tooele	91.32	333	P	P	13 04 58.7	+0.7
	baz=156						
G39A	Holcombe	91.37	350	P	P	13 04 57.6	-0.2
	baz=170						
F44A	Big Bay de Noc	91.56	353	P	P	13 04 58.1	-0.6
	baz=173						
E54A	Lac Daplat, Po	91.61	360	P	P	13 04 58.3	-0.7
	baz=180						
NV01	Mina Array Sit	91.62	329	eP	P	13 05 00.8	+1.2
NVAR	Mina Array Bea	91.62	329	P	P	13 05 00.7	+1.2
	comp=Z,0.5nm,0.7s,baz=184,slow=3.2,SNR=4.8						
DZM	Mont Dzumac	91.66	236	eLR	LR	13 34 23.5	
	comp=Z,1μm,30.2s						
K22A	Casper	91.77	338	eP	P	13 05 00.3	+0.3
	comp=Z,37nm,1.4s						
K22A	Casper	91.77	338	P	P	13 05 00.9	+0.8
	baz=160						
HWUT	Hardware Ranch	92.22	335	PFAKE		13 05 10.0	+7.8
HWUT				LR	LR		
	comp=Z,200nm,20.0s						
RSSD	Black Hills	92.55	341	PFAKE		13 05 10.0	+6.3
RSSD				LR	LR		
	comp=Z,300nm,19.0s						
BW06	Boulder Array	92.70	336	P	P	13 05 04.4	0.0
	baz=158						
PDAR	Pinedale Array	92.70	336	P	P	13 05 04.3	-0.1
	comp=Z,0.1nm,0.3s,baz=148,slow=5.3,SNR=3.4						
D41A	Chassel	92.83	352	P	P	13 05 03.5	-1.1
	baz=172						
AHID	Auburn Hatcher	93.14	335	PFAKE		13 05 20.0	+14
AHID				LR	LR		
	comp=Z,300nm,18.0s						
C40A	Isle Royale Na	93.73	352	PFAKE		13 05 20.0	+11
C40A				LR	LR		
	comp=Z,700nm,21.0s						
H17A	Grant Village	94.49	336	PFAKE		13 05 20.0	+7.4
H17A				LR	LR		
	comp=Z,300nm,19.0s						
PMOZ	Porto Moniz, M	94.78	47	eLR	LR	13 39 51.1	
	comp=Z,757nm,20.0s						
RLMT	Red Lodge	94.80	337	P	P	13 05 14.3	+0.3
	baz=158						
STKA	Stephens Creek	95.47	212	LR	LR	13 40 30.6	
	comp=Z,477nm,19.5s,baz=157,slow=31						
JCUZ	Jacuzzi	95.85	292	PFAKE		13 05 30.0	+11
JCUZ				LR	LR		
	comp=Z,2μm,21.0s						
NPH	North Pit	95.99	292	PFAKE		13 05 30.0	+10
NPH				LR	LR		
	comp=Z,2μm,20.0s						
SBLHI	Steaming Bluff	95.99	292	PFAKE		13 05 30.0	+10
SBLHI				LR	LR		
	comp=Z,2μm,18.0s						
EIDS	Eidsvold	97.14	222	PFAKE		13 05 40.0	+15
EIDS				LR	LR		
	comp=Z,500nm,20.0s						
TAM	Tamanrasset	100.71	69	PFAKE		13 05 50.0	+8.9
TAM				LR	LR		
	comp=Z,300nm,20.0s						
RTC	Rabat Centre	101.21	53	PFAKE		13 05 50.0	+7.2
RTC				LR	LR		
	comp=Z,3μm,20.0s						
MBAR	Mbarara	101.69	103	PFAKE		13 06 00.0	+14
MBAR				LR	LR		
	comp=Z,1μm,22.0s						
PFVI	Vila Bisbo	102.47	49	PFAKE		13 06 00.0	+12
PFVI				LR	LR		
	comp=Z,900nm,22.0s						
SFS	San Fernando	103.39	51	PFAKE		13 06 00.0	+7.5
SFS				LR	LR		
	comp=Z,300nm,19.0s						
CTAO	Charters Tower	103.93	221	PFAKE		13 06 10.0	+15
CTAO				LR	LR		
	comp=Z,400nm,18.0s						
PMRV	Marv??o	104.92	49	eLR	LR	13 46 01.1	
	comp=Z,644nm,22.0s						

COI	Coimbra	104.96	47	PFAKE		13 06 10.0	+11
COI				LR	LR		
	comp=Z,900nm,20.0s						
NAI	Nairobi	105.30	108	PFAKE		13 10 30.0	+14
NAI				LR	LR		
	comp=Z,400nm,19.0s						
MTE	Manteigas	105.55	48	eLR	LR	13 44 36.8	
	comp=Z,946nm,20.0s						
MTE	Manteigas	105.55	48	PFAKE		13 10 30.0	+15
MTE				LR	LR		
	comp=Z,1μm,21.0s						
PGAV	Gavieira, Arco	106.33	46	eLR	LR	13 45 05.0	
	comp=Z,645nm,20.0s						
MVO	Moncorvo	106.38	48	eLR	LR	13 44 52.5	
	comp=Z,826nm,20.0s						
PAB	San Pablo	106.63	50	PFAKE		13 10 30.0	+13
PAB				LR	LR		
	comp=Z,600nm,19.0s						
ESLA	Sonseca Array	106.93	50	PFAKE		13 10 30.0	+12
ESLA				LR	LR		
	comp=Z,500nm,19.0s						
CART	Cartagena	107.09	54	PFAKE		13 10 30.0	+12
CART				LR	LR		
	comp=Z,300nm,19.0s						
IVI	Ivigtut	108.89	14	PFAKE		13 10 30.0	+9.3
IVI				LR	LR		
	comp=Z,400nm,20.0s						
WB2	Warramunga Arr	108.98	211	PFAKE		13 10 30.0	+7.6
WB2				LR	LR		
	comp=Z,1μm,21.0s						
WRAB	Tennant Creek	108.99	211	PFAKE		13 10 30.0	+7.6
WRAB				LR	LR		
	comp=Z,1μm,20.0s						
WC1	Warramunga Arr	109.00	211	PFAKE		13 10 30.0	+7.5
WC1				LR	LR		
	comp=Z,800nm,20.0s						
NRS	Narsarsuaq	109.34	15	PFAKE		13 10 30.0	+8.4
NRS				LR	LR		
	comp=Z,300nm,22.0s						
PSAD2	Pilbara Seismi	111.45	197	PFAKE		13 10 40.0	+13
PSAD2				LR	LR		
	comp=Z,1μm,22.0s						
PSAC3	Pilbara Seismi	111.48	196	PFAKE		13 10 40.0	+13
PSAC3				LR	LR		
	comp=Z,1μm,20.0s						
PMG	Port Moresby	112.62	228	PFAKE		13 10 40.0	+11
PMG				LR	LR		
	comp=Z,400nm,22.0s						
JIS	Juneau Island	113.95	331	PFAKE		13 10 40.0	+10
JIS				LR	LR		
	comp=Z,300nm,22.0s						
SFJD	Kangerlussuaq	113.97	11	PFAKE		13 10 40.0	+10
SFJD				LR	LR		
	comp=Z,300nm,20.0s						
SSB	Saint Sauveur	115.34	51	PFAKE		13 10 50.0	+16
SSB				LR	LR		
	comp=Z,800nm,21.0s						
CLF	Chambon-Foret	115.90	47	PFAKE		13 10 50.0	+15
CLF				LR	LR		
	comp=Z,500nm,21.0s						
WHY	Whitehorse	115.92	332	PFAKE		13 10 50.0	+16
WHY				LR	LR		
	comp=Z,300nm,18.0s						
BNI	Bardonecchia	116.37	52	PFAKE		13 10 50.0	+14
BNI				LR	LR		
	comp=Z,800nm,22.0s						
SENIN	Lac Senin/Sane	117.53	51	PFAKE		13 10 50.0	+12
SENIN				LR	LR		
	comp=Z,1μm,20.0s						
CEL	Celeste	117.61	63	PFAKE		13 10 50.0	+12
CEL				LR	LR		
	comp=Z,600nm,22.0s						
VLC	Villacollemand	117.90	54	PFAKE		13 10 50.0	+11
VLC				LR	LR		
	comp=Z,300nm,20.0s						
DOU	Dourbes	118.40	46	⇑PKP	PKiKP	13 10 46.9	+7.6
AQU	L'Aquila	118.57	58	PFAKE		13 10 50.0	+10
AQU				LR	LR		
	comp=Z,600nm,21.0s						
ECH	Echery	118.58	49	PFAKE		13 10 50.0	+10
ECH				LR	LR		
	comp=Z,600nm,20.0s						
TIP	Timpagrande	118.70	62	PFAKE		13 10 50.0	+10
TIP				LR	LR		
	comp=Z,400nm,20.0s						
TUE	Stuetta	118.72	52	PFAKE		13 10 50.0	+10
TUE				LR	LR		
	comp=Z,600nm,20.0s						
WLF	Walferdange	118.93	47	PFAKE		13 10 50.0	+10
WLF				LR	LR		
	comp=Z,3μm,19.0s						
BCLA	Clavier	118.95	46	⇓pPKP	pPKPdf	13 10 53.1	+8.1
BFO	Black Forest	119.28	50	PFAKE		13 10 50.0	+8.9
BFO				LR	LR		
	comp=Z,700nm,21.0s						
FUORN	Ofenpass-Fuorn	119.31	52	PFAKE		13 10 50.0	+8.4
FUORN				LR	LR		
	comp=Z,700nm,21.0s						
MEM	Membach	119.43	47	⇓PKiKP	PKPdf	13 10 41.0	-0.3
STU	Stuttgart	120.00	50	PFAKE		13 10 50.0	+7.5
STU				LR	LR		
	comp=Z,600nm,20.0s						
TRI	Trieste	120.75	55	PFAKE		13 11 00.0	+16
TRI				LR	LR		
	comp=Z,300nm,20.0s						
ITM	Ithomi	120.79	67	PFAKE		13 11 00.0	+16
ITM				LR	LR		
	comp=Z,300nm,21.0s						
KNK	Knik Glacier	121.22	328	PFAKE		13 11 00.0	+15
KNK				LR	LR		
	comp=Z,300nm,22.0s						
H11S2	WAKE ISLAND Hyl	121.55	265	T	T	15 23 53.4	
	baz=134,slow=77						
H11S1	WAKE ISLAND Hyl	121.57	265	T	T	15 23 45.2	
	baz=134,slow=77						
H11S3	WAKE ISLAND Hyl	121.57	265	T	T	15 23 53.8	
	baz=134,slow=77						
GRFO	Grafenberg	121.62	50	PFAKE		13 11 00.0	+14
GRFO				LR	LR		
	comp=Z,400nm,20.0s						
GRA1	Grafenberg Arr	121.62	50	PFAKE		13 11 00.0	+14
GRA1				LR	LR		
	comp=Z,500nm,20.0s						
DAMY	Dhamar	121.92	102	PFAKE		13 11 00.0	+12
DAMY				LR	LR		
	comp=Z,300nm,22.0s						
TTG	Podgorica	122.14	60	PFAKE		13 11 00.0	+13
TTG				LR	LR		
	comp=Z,200nm,19.0s						
H11N3	WAKE ISLAND Hyl	122.23	266	T	T	15 24 33.0	
	baz=132						
H11N1	WAKE ISLAND Hyl	122.24	266	T	T	15 24 33.4	
	baz=132						
H11N2	WAKE ISLAND Hyl	122.25	266	T	T	15 24 30.8	
	baz=132						
GEC2	GERESS Array S	122.49	52	ePKPdf	PKPdf	13 10 45.6	-1.7
GEC2				LR	LR		
	comp=Z,600nm,20.0s						
GEC2	GERESS Array S	122.49	52	ePKIKP	PKPdf	13 10 45.6	-1.7
GEC2				MLR	MLR		
	comp=Z,600nm,20.0s						
GERES	GERESS Array B	122.49	52	PKP	PKPdf	13 10 47.1	-0.2
	comp=Z,0.8nm,0.4s,baz=220,slow=0.8,SNR=5.8						
FNA	Florina	122.52	63	PFAKE		13 11 00.0	+12
FNA				LR	LR		
	comp=Z,300nm,22.0s						
NKC	Novy Kostel	122.58	50	AMS	AMS	14 02 40.0	
	comp=Z,500nm,18.5s						
KHC	Kasperske Hory	122.58	51	AMS	AMS	14 01 00.0	
	comp=Z,600nm,21.4s						
ILAR	Eielson Array	122.76	331	PKP	PKPdf	13 10 47.2	0.0
	comp=Z,0.6nm,0.7s,baz=175,slow=1.3,SNR=5.6						
ILB	Eielson Array	122.76	331	ePKPdf	PKiKP	13 10 48.1	+0.7
LIT	Litokhoron	122.84	64	PFAKE		13 11 00.0	+12
LIT				LR	LR		
	comp=Z,200nm,20.0s						
COLA	College	123.15	331	⇓iPKIKP	PKiKP	13 10 49.4	+1.3
BWN	Browne	123.28	330	ePKPdf	PKPdf	13 10 48.1	-0.2
CLL	Collm	123.46	49	PFAKE		13 11 00.0	+11
CLL				LR	LR		
	comp=Z,600nm,22.0s						
PRU	Pruhonice	123.57	51	AMS	AMS	13 59 30.0	
	comp=Z,400nm,22.5s						
GOPC	GO Pecny, Ondr	123.67	51	AMS	AMS	14 07 40.0	
	comp=Z,400nm,16.3s						
TREC	Trest	123.72	52	AMS	AMS	14 01 40.0	

	comp=Z,500nm,21.7s						
BPAW	Bear Paw Mtn.	123.78	329	ePKPdf	PKPdf	13 10 49.1	-0.1
PVCC	Panska Ves	123.88	50	AMS	AMS	13 59 30.0	
	comp=Z,500nm,20.7s						
UPC	Upice	124.65	51	AMS	AMS	14 00 40.0	
	comp=Z,400nm,20.5s						
VTS	Vitosha	124.69	62	PFAKE		13 11 00.0	+7.8
VTS				LR	LR		
	comp=Z,300nm,19.0s						
DPC	Dobruska-Polom	124.74	51	AMS	AMS	14 01 00.0	
	comp=Z,400nm,20.3s						
MORC	Moravsky Berou	125.11	52	PFAKE		13 11 00.0	+7.4
MORC				LR	LR		
	comp=Z,400nm,22.0s						
VYHS	Vyhne	125.17	54	ePKIKP	PKiKP	13 10 53.0	+0.3
VYHS	Vyhne	125.17	54	ePKP	PKiKP	13 10 53.0	+0.3
RGN	Rugen	125.33	46	PFAKE		13 11 00.0	+7.2
RGN				LR	LR		
	comp=Z,600nm,19.0s						
FAKI	Fak Fak	125.33	216	PFAKE		13 11 10.0	+16
FAKI				LR	LR		
	comp=Z,300nm,20.0s						
PSZ	Piszkesteto	125.48	55	PFAKE		13 11 00.0	+6.5
PSZ				LR	LR		
	comp=Z,400nm,20.0s						
ALN	Alexandroupoli	125.54	65	PFAKE		13 11 00.0	+6.3
ALN				LR	LR		
	comp=Z,100nm,19.0s						
MANT	Manisa	125.86	69	PFAKE		13 11 10.0	+15
MANT				LR	LR		
	comp=Z,900nm,21.0s						
TOLK	Toolik Lake Re	125.91	334	ePKPdf	PKPdf	13 10 52.3	-1.0
BALB	Balikesir	126.04	68	PFAKE		13 11 10.0	+15
BALB				LR	LR		
	comp=Z,700nm,20.0s						
KONO	Kongsberg	126.14	39	PFAKE		13 11 10.0	+16
KONO				LR	LR		
	comp=Z,700nm,21.0s						
ISP	Isparta	126.79	71	PFAKE		13 11 10.0	+14
ISP				LR	LR		
	comp=Z,200nm,20.0s						
NB200	NORSAR Array S	127.51	38	ePKPdf	PKPdf	13 10 56.4	-0.1
NOA	NORSAR Array B	127.51	38	PKP	PKPdf	13 10 56.4	-0.1
	comp=Z,4.0nm,1.2s,baz=239,slow=1.8,SNR=2.7						
MLR	Muntele Rosu	127.85	60	ePKPdf	PKPdf	13 10 57.6	-0.1
MLR				LR	LR		
	comp=Z,500nm,20.0s						
MLR	Muntele Rosu	127.85	60	ePKIKP	PKPdf	13 10 57.6	-0.1
MLR				MLR	MLR		
	comp=Z,500nm,20.0s						
KWP	Kalwaria Pacla	127.95	54	PFAKE		13 11 10.0	+12
KWP				LR	LR		
	comp=Z,6μm,21.0s						
BUR08	Bucovina Ar. S	128.45	58	ePKPdf	PKiKP	13 10 59.3	-0.1
ANTO	Ankara	129.38	70	PFAKE		13 11 10.0	+8.5
ANTO				LR	LR		
	comp=Z,200nm,20.0s						
BR101	Keskin Array S	129.86	70	ePKPdf	PKPdf	13 11 02.1	+0.3
BR101				ePP	PP	13 13 15.2	+1.2
BRTR	Keskin Array B	129.86	70c	iPKIKP	PKiKP	13 11 02.5	-0.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRTR	Keskin Array B	129.86	70	PKP	PKPdf	13 11 02.1	+0.3
	comp=Z,1.9nm,1.1s,baz=195,slow=3.3,SNR=10.0						
BRTR				PP	PP	13 13 15.2	+1.2
	comp=Z,0.2nm,0.3s,baz=248,slow=6.5,SNR=3.7						
SUW	Suwalki	130.19	50	PFAKE		13 11 10.0	+7.5
SUW				LR	LR		
	comp=Z,500nm,19.0s						
ILGA	Ilgaz	130.58	69	PFAKE		13 11 10.0	+5.9
ILGA				LR	LR		
	comp=Z,200nm,19.0s						
GAMB	Gambell	131.68	324	PFAKE		13 11 20.0	+15
GAMB				LR	LR		
	comp=Z,200nm,21.0s						
KIEV	Kiev	132.17	56	⇑iPKIKP	PKPdf	13 11 05.2	-0.4
AKASG	Malin Array Be	132.18	56	iPKIKP	PKPdf	13 11 06.1	+0.5
AKASG	Malin Array Be	132.18	56	PKP	PKPdf	13 11 05.1	-0.5
	comp=Z,0.2nm,0.3s,baz=268,slow=2.1,SNR=6.4						
AKASG				PP	PP	13 13 28.2	-0.4
	comp=Z,0.3nm,0.4s,baz=251,slow=6.5,SNR=4.9						
AKBB	Malin Array Si	132.18	56	ePKPdf	PKPdf	13 11 04.2	-1.4
AKBB	Malin Array Si	132.18	56	ePKIKP	PKPdf	13 11 04.2	-1.4
VSU	Vasula	133.70	45	⇓ePKIKP	PKiKP	13 11 09.5	0.0
KBS	Kingsbay	134.02	16	⇑iPKIKP	PKiKP	13 11 11.4	+1.8
KSM	Kuching	135.67	190	PFAKE		13 11 30.0	+15
KSM				LR	LR		
	comp=Z,300nm,22.0s						
MYKOM	Kota Tinggi	136.41	181	PFAKE		13 11 30.0	+14
MYKOM				LR	LR		
	comp=Z,200nm,21.0s						
GNI	Garni	137.53	76c	iPKIKP	PKiKP	13 11 18.1	0.0
NEY	Neytrino	137.53	71	⇑iPKIKP	PKiKP	13 11 19.5	+1.5
KIV	Kislovodsk	137.80	70	iPKIKP	PKiKP	13 11 17.6	-0.9
KIV				pmax	pmax		
	comp=Z,39nm,1.1s						
KIV				MLR	MLR		
	comp=Z,522nm,24.0s						
KBZ	Khabaz	137.85	70	PKP	PKPdf	13 11 16.2	-0.1
	comp=Z,1.8nm,0.7s,baz=143,slow=3.4,SNR=5.5						
OBN	Obninsk	137.87	52	PFAKE		13 11 30.0	+12
OBN				LR	LR		
	comp=Z,300nm,19.0s						
OBN	Obninsk	137.87	52	⇓iPKIKP	PKiKP	13 11 17.8	-0.2
OBN				e		13 11 33.8	
OBN				ePPP	PPP	13 17 01.9	
OBN				pmax	pmax		
	comp=Z,25nm,1.7s						
ZEI	Tsey	138.12	72	iPKHKP	PKPpre	13 11 09.1	
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NCK	Nalchik	138.22	71	⇑iPKIKP	PKiKP	13 11 19.7	+0.5
VSR	Storozhevoye	138.22	58	⇓iPKIKP	PKiKP	13 11 19.2	+0.3
KLMR	Klimovskoe	140.56	44	ePKHKP	PKPpre	13 11 12.4	
KLMR				pmax	pmax		
	comp=Z,17nm,1.2s						
BILL	Bilibino	141.23	328	PFAKE		13 11 30.0	+5.4
BILL				LR	LR		
	comp=Z,400nm,20.0s						
BILL	Bilibino	141.23	328	⇑ePKIKP	PKPdf	13 11 22.4	+0.6
BILL				e		13 14 26.3	
BILL				pmax	pmax		
	comp=Z,12nm,1.5s						
PRGR	Permogore	143.56	43	⇑iPKIKP	PKPbc	13 11 24.2	+0.6
PRGR				pmax	pmax		
	comp=Z,78nm,1.6s						
PETK	Petropavlovsk-	144.55	302	PKP	PKPbc	13 11 27.2	+0.3
	comp=Z,2.9nm,0.8s,baz=88,slow=9.5,SNR=7.0						
PEA1	Petropavlovsk-	144.55	302	ePKPdf	PKPbc	13 11 27.2	+0.3
HYB	Hyderabad	145.15	136	iP	PKPab	13 11 30.0	+0.1
	comp=Z,86nm,1.2s						
GEYT	Alibeck	145.78	87	PKPbc	PKPdf	13 11 30.2	-0.7
	comp=Z,11nm,0.9s,baz=264,slow=4.5,SNR=32						
GYA0B	ALIBECK ARRAY	145.78	87	ePKPdf	PKPab	13 11 31.7	-0.1
GYA0B				LR	LR		
	comp=Z,200nm,18.0s						
SEY	Seymchan	147.51	320	⇑iPKP2	PKPbc	13 11 35.9	+0.4
SEY	Seymchan	147.51	320	PKPbc	PKPbc	13 11 34.8	-0.8
	comp=Z,16nm,1.1s,baz=108,slow=3.0,SNR=29						
MA2	Magadan	148.70	314	ePKPdf	PKPdf	13 11 32.8	-2.2
MA2				ePKPbc	PKPbc	13 11 38.7	-0.1
MA2				ePKPab	sPKPbc	13 11 45.6	+0.5
MA2	Magadan	148.70	314	diPKP2	PKPbc	13 11 38.2	-0.6
AKTO	Aktyubinsk	149.65	64	PKPbc	PKPbc	13 11 41.5	0.0
	comp=Z,32nm,1.3s,baz=269,slow=3.8,SNR=6.4						
AKTO				PP	PP	13 15 20.1	+4.6
	comp=Z,0.5nm,0.3s,baz=238,slow=7.1,SNR=3.7						
ARU	Arti	150.31	52	ePKPbc	PKiKP	13 11 43.3	-0.3
ARU				ePKPab	sPKPbc	13 11 49.9	+0.7
ARU	Arti	150.31	52	iPKIKP	PKPbc	13 11 43.2	+0.4
ABKAR	Akbulak array	150.70	67	ePKPdf	PKPdf	13 11 37.7	-0.8
ABKAR				ePKPbc	PKPbc	13 11 43.7	-0.3
ABKAR				ePKPab	PKPab	13 11

PANO	Nakornpanom	151.65	183	P	PKPab	13 11 56.2	+0.5
MJAR	Matsushiro Arr	152.39	263	PKPbc	PKPbc	13 11 47.2	-1.1
	comp=Z,3.1nm,1.1s,baz=208,slow=2.9,SNR=7.7						
MAJO	Matsushiro	152.39	263	*e*PKPbc	PKPbc	13 11 47.0	-1.4
MAJO				*e*PKPab	sPKPbc	13 11 54.8	0.0
MAJO	Matsushiro	152.39	263	⇑*i*PKIKP	PKPbc	13 11 47.6	-0.7
MJB9	Matsu-Tunnel	152.39	263	*e*PKPbc	PKPbc	13 11 46.7	-1.6
CM31	Chiang Mai Arr	152.73	171	*e*PKPbc	PKPbc	13 11 49.5	-0.1
CM31				*e*PKPab	PKPab	13 12 00.1	-0.1
CMAR	Chiang Mai Arr	152.73	171	PKP	PKPdf	13 11 40.3	-2.2
	comp=Z,0.4nm,0.4s,baz=242,slow=2.4,SNR=6.2						
CMAR				PKPbc	sPKPdf	13 11 48.9	+0.1
	comp=Z,6.7nm,1.2s,baz=229,slow=3.1,SNR=13						
PHRA	Phrae	152.89	174	P	PKiKP	13 11 50.9	+0.8
	comp=Z,1.7nm,1.6s						
CHTO	Chiang Mai	153.08	171	*e*PKPbc	PKPbc	13 11 49.7	-0.6
CHTO				*e*PKPab	PKPab	13 12 01.5	-0.2
CMMT	Chiang Mai	153.08	171	P	PKiKP	13 11 51.2	+0.7
	comp=Z,5.7nm,1.5s						
CHGR	Chuyangaron	153.86	93	*e*PKPdf	PKPdf	13 11 43.9	+0.2
CHGR				*e*PKPbc	PKPbc	13 11 51.1	-0.5
CHGR				*e*PKPab	PKPab	13 12 03.0	-1.9
NIL	Nilore	154.10	107	*e*PKPdf	PKPdf	13 11 43.9	-0.1
NIL				*e*PKPbc	PKiKP	13 11 53.0	+0.8
NIL				*e*PKPab	PKPab	13 12 03.6	-2.3
NIL				LR	LR		
	comp=Z,400nm,19.0s						
GAR	Garm	154.82	93	*e*PKPbc	PKPbc	13 11 53.2	-0.4
GAR				*e*PKPab	PKPab	13 12 08.1	-0.8
NRIK	Noril'sk	154.86	13	PKPbc	PKPbc	13 11 52.0	-0.6
	comp=Z,2.2nm,0.4s,baz=158,slow=4.6,SNR=4.4						
NRIK				PKPab	PKPab	13 12 07.8	-0.1
	comp=Z,1.5nm,0.4s,baz=316,slow=4.6,SNR=5.2						
BTK	Batken	155.62	91	*e*PKPdf	PKPdf	13 11 43.4	-2.6
BTK				*e*PKPab	PKPab	13 12 10.4	-1.8
BTK	Batken	155.62	91	*e*PKIKP	PKPdf	13 11 43.4	-2.6
BTK				*e*		13 12 10.4	
BRVK	Borovoye	157.34	59	*e*PKPdf	PKPdf	13 11 47.7	0.0
BRVK				*e*PKPab	PKPab	13 12 18.0	-1.1
BRVK	Borovoye	157.34	59	*d i*PKIKP	PKPdf	13 11 48.1	+0.4
ARSB	Arslanbob	157.62	90	*e*PKPdf	PKPdf	13 11 47.2	-1.4
ARSB				*e*PKPab	PKPab	13 12 18.2	-2.7
KSH	Kashi	159.00	97	PKP	PKPdf	13 11 52.6	+2.2
KSH				PP	PP	13 16 11.3	+2.9
KSH				SKS	SKSdf	13 18 54.5	-0.6
KSH				SS	SS	13 36 11.3	-0.8
KSH				AMB	AMB		
	comp=Z,67nm,5.1s						
KSH				LR	LR		
	comp=Z,220nm,9.3s						
KSH				LR	LR		
	comp=Z,230nm,10.9s						
KSH				LR	LR		
	comp=Z,540nm,10.2s						
AAK	Ala-Archa	159.12	88	⇓*e*PKIKP	PKPdf	13 11 50.8	+0.3
KLR	Kul'dur	160.48	291	⇓*e*PKIKP	PKPdf	13 11 49.8	-1.7
NJ2	Nanjing	161.93	227	*e*PKP	PKPdf	13 11 56.3	+2.7
ZEA	Zeya	162.56	307	*e*PKIKP	PKPdf	13 11 50.2	-3.3
ZEA				pmax	pmax		
	comp=Z,32nm,1.8s						
KURBB	Kurchatov Arra	162.70	64	PP	PP	13 16 28.8	+0.9
	comp=Z,0.6nm,1.0s,baz=281,slow=7.1,SNR=4.5						
WHN	Wuhan	162.71	214	PKP	PKPdf	13 11 56.8	+2.4
KURK	Kurchatov	162.75	64	*e*PKPdf	PKPdf	13 11 53.5	-0.4
KURK				*e*PKPab	PKPab	13 12 42.0	-0.8
KURK	Kurchatov	162.75	64	*d i*PKIKP	PKPdf	13 11 53.4	-0.4
NVS	Novosibirsk	164.18	47	*i*PKIKP	PKPdf	13 11 54.8	-0.2
MK32	Makanchi Array	165.36	78	*e*PKPab	PKPab	13 12 54.2	-0.3
MKAR	Makanchi Array	165.36	78	PKPab	PKPab	13 12 54.2	-0.3
	comp=Z,2.9nm,1.0s,baz=210,slow=3.6,SNR=5.1						
CD2	Chengdu	165.37	181	PKP	PKPdf	13 11 56.9	-0.1
ZAA1	Zalesovo Array	165.41	48	*e*PKPdf	PKPdf	13 11 54.8	-1.3
ZAA1				*e*PKPab	PKPab	13 12 54.3	0.0
ZAA0	Zalesovo Array	165.41	48	*e*PKPdf	PKPdf	13 11 55.4	-0.8
ZAA0				*e*PKPab	PKPab	13 12 53.4	-1.0
ZALV	Zalesovo Beam	165.41	48	PKP	PKPdf	13 11 54.8	-1.3
	comp=Z,9.0nm,1.1s,baz=259,slow=2.4,SNR=18						
ZALV				PKPab	PKPab	13 12 54.3	0.0
	comp=Z,0.5nm,0.3s,baz=297,slow=6.3,SNR=3.5						
BOD	Bodaibo	166.08	336	*e*PKP2	PKPab	13 12 56.2	-1.0
BOD				pmax	pmax		
	comp=Z,9.0nm,1.9s						
XAN	Xi'an	167.72	202	PKP	PKPdf	13 11 58.0	-0.7
XAN				pPKP	sPKPdf	13 12 09.3	+4.3
XAN				PP	PP	13 16 56.6	+3.4
XAN				SS	SS	13 37 37.8	-2.2
XAN				AMB	AMB		
	comp=Z,170nm,7.4s						
XAN				LR	LR		
	comp=Z,250nm,21.1s						
XAN				LR	LR		
	comp=Z,140nm,18.1s						
XAN				LR	LR		
	comp=Z,230nm,21.1s						
DGZ	Jazzator, Alta	168.50	63	*ce*PKIKP	PKPdf	13 11 59.3	+0.5
WMQ	Urumqi	168.72	93	*e*PKP	PKPdf	13 12 00.8	+1.8
WMQ				LR	LR		
	comp=Z,1μm,26.5s						
LZH	Lanzhou	170.53	182	*e*PKP	PKPdf	13 12 00.4	-0.1
LZH				pPKP	sPKPdf	13 12 15.8	+8.9
HHC	Hu-ho-hao-te	172.37	235	*e*PKIKP	PKPdf	13 12 00.5	-0.7
HHC				LR	LR		
	comp=Z,1μm,19.1s						
GTA	Gaotai	173.32	156	⇓PKP	PKPdf	13 12 02.1	+0.4
GTA				pPKP	sPKPdf	13 12 11.8	+3.8
GTA				sPKP		13 12 15.9	
GTA				PKPab	PKPab	13 12 29.3	-0.6
GTA				LR	LR		
	comp=Z,160nm,17.5s						
GTA				LR	LR		
	comp=Z,160nm,17.5s						
GTA				LR	LR		
	comp=Z,220nm,17.8s						
TLY	Talaya	173.87	358	⇑*i*PKIKP	PKPdf	13 12 00.5	-0.8
ULN	Ulaanbaatar	176.56	313	*c i*PKIKP	PKPdf	13 12 01.6	-0.7
SONA0	Songino Array	176.91	318	*e*PKPdf	PKPdf	13 12 01.6	-0.8
SONA0				*e*PKPab	PKPab	13 13 47.0	+1.3
SONA0				*e*PP	PP	13 17 40.4	+1.4
SONM	Songino Array	176.91	318	PKP	PKPdf	13 12 01.6	-0.8
	comp=Z,0.7nm,1.0s,baz=150,slow=6.2,SNR=7.7						
SONM				PKPab	PKPab	13 13 47.0	+1.3
	comp=Z,0.1nm,0.3s,baz=75,slow=2.7,SNR=4.6						
SONM				PP	PP	13 17 40.4	+1.4
	comp=Z,0.4nm,0.8s,baz=44,slow=4.7,SNR=4.6						

IDC 21 12:55:24.8±4.3, 14°.75S×165°.22E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.7/37, mbtmp3.9/5, ML3.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/34, Error ellipse: s-maj=82.5km s-min=27.3km az=37.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.37	171	Pn	Pn	12 57 14.5	+0.7
	0.4nm,0.3s,baz=347,slow=14,SNR=6.0						
DZM				Sn	Sn	12 58 37.6	-0.8
	0.1nm,0.3s,baz=146,slow=22,SNR=1.4						
URZ	Urewera	25.67	158	P	P	13 00 56.4	0.0
	2.2nm,0.5s,baz=0.0,slow=9.1,SNR=4.9						
STKA	Stephens Creek	27.49	228	P	P	13 01 12.6	-0.4
	1.4nm,0.4s,baz=54,slow=8.6,SNR=7.1						
WRA	Warramunga Arr	29.89	256	P	P	13 01 34.6	+0.1
	0.4nm,0.6s,baz=83,slow=9.1,SNR=9.0						
ASAR	Alice Springs	30.81	248	P	P	13 01 42.8	+0.1
	0.8nm,0.4s,baz=79,slow=9.1,SNR=13						
RAR	Rarotonga	33.86	106	LR	LR	13 13 28.7	
	comp=Z,71nm,20.3s,baz=288,slow=32						

*IDC **21** 12:57:21.6±0.8, 45°.60S×76°.49W, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/29, mbtmp3.9/12, ML3.5/1, MS4.4/1, Ms1 4.4/1, ms1mx3.6/23, Error ellipse: s-maj=30.1km s-min=18.6km az=101.0*

*ISCJB **21** 12:57:22.8±0.5, 45°.51S±0°.06×76°.4W±0°.1, h17km, mb3.9/12, MS4.5/1, Error ellipse: s-maj=15.6km s-min=6.6km az=18.8*

*NEIC **21** 12:57:23.0±1.5, 45°.54S×76°.59W, h10km, mb4.3/5, Error ellipse: s-maj=32.8km s-min=18.0km az=287.0*

ISC 21 12:57:24.3±0.6, 45°.53S±0°.09×76°.5W±0°.1, h17km, n43, σ1§05/44, mb4.0/12, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	Milladeo Hill,	3.15	41	*e*Pn	Pn	12 58 12.0	-1.0
GO07				*e*Sn	Sn	12 58 48.7	-1.6
PLCA	Paso Flores	6.46	44	*e*Pn	Pn	12 59 00.5	+1.8
PLCA	Paso Flores	6.46	44	Pn	Pn	12 58 59.1	+0.4
	0.3nm,0.3s,baz=231,slow=14,SNR=3.6						
GO06	Curarrehue	7.00	34	*e*Pn	Pn	12 59 06.8	+0.8
GO05	Huala	11.07	20	*e*Pn	Pn	13 00 01.2	-0.5
PEL	Peldehue	13.15	22	*e*Pn	Pn	13 00 28.3	-2.0
ROC1	El Roble	13.23	20	*e*Pn	Pn	13 00 29.2	-2.3
GO04	Tololo Observa	15.97	18	*e*Pn	Pn	13 01 07.6	-0.7
	22nm,1.1s						
CPUP	Villa Florida	24.54	45	*e*P	P	13 02 43.2	+0.3
	15nm,1.0s						
CPUP	Villa Florida	24.54	45	P	P	13 02 43.6	+0.7
	5.9nm,1.1s,baz=220,slow=9.8,SNR=5.8						
SIV	San Ignacio	32.17	29	P	P	13 03 51.8	+0.7
	0.3nm,0.3s,baz=218,slow=19,SNR=2.8						
BDFB	Brasilia	38.20	48	P	P	13 04 43.6	+0.5
	1.6nm,0.5s,baz=239,slow=5.9,SNR=1.9						
VNA3	Neumayer Olymp	40.31	153	P	P	13 04 59.8	-0.4
VNA1	Neumayer--Stat	40.75	152	P	P	13 05 04.0	+0.2
VNA2	Neumayer--Watz	41.04	152	P	P	13 05 05.8	-0.4
	baz=264,slow=5.3						
SNAA	Sanae	42.49	153	P	P	13 05 17.6	-0.6
SNAA	Sanae	42.49	153	*e*P	P	13 05 17.8	-0.3
	5.4nm,1.1s						
SNAA	Sanae	42.49	153	P	P	13 05 17.5	-0.6
	2.4nm,0.9s,baz=276,slow=5.1,SNR=5.6						
QSPA	South Pole Qui	44.72	180	*e*P	P	13 05 35.5	-0.7
	5.2nm,0.9s						
VNDA	Vanda	52.12	194	P	P	13 06 32.6	-0.3
	1.6nm,0.9s,baz=136,slow=8.7,SNR=7.5						
SDV	Santo Domingo	54.42	7	LR	LR	13 29 12.1	
	comp=Z,364nm,19.2s,baz=147,slow=35						
MAW	Mawson	63.09	164	*e*P	P	13 07 50.5	+0.3
	0.4nm,0.8s						
MAW	Mawson	63.09	164	P	P	13 07 50.0	-0.2
	1.9nm,0.8s,baz=219,slow=9.6,SNR=3.7						
BOSA	Boshof	77.69	118	P	P	13 09 20.3	+0.1
	0.6nm,0.4s,baz=243,slow=2.3,SNR=1.5						
LTX	Lajitas	78.50	336	*e*P	P	13 09 24.4	+0.1
TXAR	Lajitas Array	78.50	336	P	P	13 09 24.4	+0.1
	0.3nm,0.7s,baz=185,slow=6.3,SNR=4.1						
LBTB	Lobatse	80.47	116	P	P	13 09 35.7	+0.3
	1.4nm,0.8s,baz=208,slow=8.2						
TORD	Torodi Ar. Bea	91.17	72	P	P	13 10 30.6	+2.2
	0.8nm,1.1s,baz=227,slow=4.4,SNR=3.0						
TOA1	Torodi Ar. Sit	91.17	72	*e*P	P	13 10 30.6	+2.2
NV01	Mina Array Sit	91.65	328	*e*P	P	13 10 31.4	+1.0
NVAR	Mina Array Bea	91.65	328	P	P	13 10 31.4	+1.0
	0.1nm,0.3s,baz=160,slow=6.4,SNR=2.3						
KDAK	Kodiak Island	120.67	323	PKP	PKiKP	13 16 15.0	+0.9
	5.2nm,1.0s,baz=117,slow=4.5,SNR=2.6						
IDI	Anoyia	121.50	70	PKP	PKiKP	13 16 16.3	-0.4
	2.4nm,0.4s,baz=276,slow=11,SNR=3.0						
BR101	Keskin Array S	129.74	70	*e*PKPdf	PKiKP	13 16 32.5	-0.5
BRTR	Keskin Array B	129.74	70	PKP	PKiKP	13 16 32.5	-0.5
	0.3nm,0.5s,baz=209,slow=2.6,SNR=2.5						
KIRV	Kirov	145.26	48	PKPbc	PKPbc	13 16 59.0	-0.7
	8.0nm,0.5s,baz=270,slow=1.0,SNR=2.0						
AKTO	Aktyubinsk	149.53	64	PKPbc	PKPbc	13 17 11.2	-0.6
	0.6nm,0.3s,baz=239,slow=5.9,SNR=3.3						
ARU	Arti	150.20	52	*e*PKPbc	PKiKP	13 17 14.8	+0.7
ARU				*e*PKPab	sPKPbc	13 17 19.8	+0.2
ARU	Arti	150.20	52	PKPbc	PKPbc	13 17 11.8	-1.5
	0.7nm,0.3s,baz=269,slow=1.7,SNR=3.0						
CMAR	Chiang Mai Arr	152.74	170	PKPbc	PKPbc	13 17 19.3	-1.0
	0.9nm,0.8s,baz=191,slow=4.3,SNR=3.9						
KURBB	Kurchatov Arra	162.58	64	PKPab	PKPab	13 18 11.5	-1.3
	0.4nm,0.9s,baz=282,slow=5.6,SNR=3.0						
MK32	Makanchi Array	165.24	77	*e*PKPab	PKPab	13 18 23.0	-1.6
MKAR	Makanchi Array	165.24	77	PKPab	PKPab	13 18 23.0	-1.6
	1.2nm,0.9s,baz=268,slow=4.3,SNR=3.0						

*KRSC **21** 13:00:18.4±10.0, 52°.17N×160°.64E, h46km±10km, ML4.3*

*IDC **21** 13:00:18.2±1.0, 52°.42N×160°.15E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.6/51, mbtmp3.7/11, ML3.2/1, Error ellipse: s-maj=28.7km s-min=19.5km az=148.0*

*ISCJB **21** 13:00:19.8±0.5, 52°.18N±0°.03×160°.59E±0°.05, h30km, mb3.8/10, Error ellipse: s-maj=4.9km s-min=3.6km az=147.7*

*MOS **21** 13:00:21.3±0.6, 52°.24N×160°.47E, h46km, mb4.0/1, Error ellipse: s-maj=8.9km s-min=5.2km az=103.6*

ISC 21 13:00:21.5±0.7, 52°.22N±0°.04×160°.48E±0°.04, h30km, n77, σ0§97/105, mb3.8/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.92	342	*e*P	Pn	13 00 37.3	-1.1
SPN				*e*S	Sn	13 00 49.3	-1.4
SPN	Mys Shipunski	0.92	342	PN	Pn	13 00 37.3	-1.1
SPN				S	Sn	13 00 49.3	-1.4
NLC	Nalytchevo	1.18	324	*e*P	Pn	13 00 41.6	-0.3
NLC				*e*S	Sn	13 00 57.6	+0.7
NLC	Nalytchevo	1.18	324	PN	Pn	13 00 41.6	-0.3
NLC				S	Sn	13 00 57.6	+0.7
RUS	Russkaya	1.23	281	*e*P	Pn	13 00 41.8	-0.8
RUS				*e*S	Sn	13 00 57.3	-0.9
RUS	Russkaya	1.23	281	PN	Pn	13 00 41.8	-0.8
RUS				S	Sn	13 00 57.3	-0.9
DALK	Dalny	1.33	308	*e*P	Pn	13 00 43.4	-0.6
DALK				*e*S	Sn	13 01 00.4	-0.3
DALK	Dalny	1.33	308	PN	Pn	13 00 43.4	-0.6
DALK				S	Sn	13 01 00.4	-0.3
PET	Petropavlovsk	1.38	307	PN	Pn	13 00 44.2	-0.5
PET				S	Sn	13 01 01.6	-0.2
UGLR	Uglovaya	1.41	315	*e*P	Pn	13 00 45.5	+0.2
UGLR				*e*S	Sb	13 01 04.5	-0.5
UGLR	Uglovaya	1.41	315	PN	Pn	13 00 45.5	+0.2
UGLR				S	Sb	13 01 04.5	-0.5
MTVR	Mutnovka	1.44	281	*e*P	Pn	13 00 45.4	-0.2
MTVR				*e*S	Sn	13 01 04.0	+0.5
MTVR	Mutnovka	1.44	281	PN	Pn	13 00 45.4	-0.2
MTVR				S	Sn	13 01 04.0	+0.5
SDLR	Sedlovina	1.44	318	*e*P	Pn	13 00 45.4	-0.2
SDLR	Sedlovina	1.44	318	PN	Pn	13 00 45.4	-0.2
SMAR	Somma	1.46	316	*e*P	Pn	13 00 46.0	-0.1
SMAR	Somma	1.46	316	PN	Pn	13 00 46.0	-0.1
AVH	Avacha	1.49	315	*i*P	Pn	13 00 46.6	+0.3
AVH				*e*S	Sb	13 01 06.5	-0.7
AVH	Avacha	1.49	315	PN	Pn	13 00 46.6	+0.3
AVH				S	Sb	13 01 06.5	-0.7
KRER	Koryakskii	1.51	317	*e*P	Pn	13 00 47.2	+0.4
KRER				*e*S	Sn	13 01 06.7	+1.2
KRER	Koryakskii	1.51	317	PN	Pn	13 00 47.2	+0.4
KRER				S	Sn	13 01 06.7	+1.2
GRL	Gorelyy	1.51	284	*e*P	Pn	13 00 47.3	+0.6
GRL				*e*S	Sb	13 01 07.3	-0.6
GRL	Gorelyy	1.51	284	PN	Pn	13 00 47.3	+0.6
GRL				S	Sb	13 01 07.3	-0.6
KDTR	Khodutka, Kamc	1.54	255	*e*P	Pn	13 00 46.1	-0.8
KDTR				*e*S	Sn	13 01 05.1	-0.8
KDTR	Khodutka, Kamc	1.54	255	PN	Pn	13 00 46.1	-0.8
KDTR				S	Sn	13 01 05.1	-0.8
KOK	Koryaka	1.55	314	*e*P	Pn	13 00 47.5	+0.3
KOK	Koryaka	1.55	314	PN	Pn	13 00 47.5	+0.3
KRMR	Karymshinskiy	1.56	294	*e*P	Pn	13 00 47.0	-0.2
KRMR				*e*S	Sn	13 01 07.6	+1.2
KRMR	Karymshinskiy	1.56	294	PN	Pn	13 00 47.0	-0.2
KRMR				S	Sn	13 01 07.6	+1.2
KRX	Arik	1.59	316	*e*P	Pn	13 00 48.0	+0.2
KRX	Arik	1.59	316	PN	Pn	13 00 48.0	+0.2
ASAK	Asacha	1.59	277	*e*P	Pn	13 00 47.9	+0.1
ASAK				S	Sn	13 01 08.6	+1.2
ASAK	Asacha	1.59	277	PN	Pn	13 00 47.9	+0.1
ASAK				S	Sn	13 01 08.6	+1.2
PETK	Petropavlovsk-	1.92	299	Pn	Pn	13 00 53.0	+0.9
	38nm,0.3s,baz=112,slow=20,SNR=667						
PETK				Sn	Sn	13 01 14.8	-0.3
	38nm,0.3s,baz=107,slow=23,SNR=5.5						
APC	Apacha	2.15	290	*e*P	Pn	13 00 56.2	+0.9
APC				S	Sb	13 01 24.7	-1.2
APC	Apacha	2.15	290	PN	Pn	13 00 56.2	+0.9
APC				S	Sb	13 01 24.7	-1.2
PAU	Pauzhetka	2.40	253	P	Pn	13 00 58.9	+0.2
PAU	Pauzhetka	2.40	253	PN	Pn	13 00 58.9	+0.2
MKZ	Mys Kozlova	2.46	17	*e*P	Pn	13 00 59.2	-0.3
MKZ				*e*S	Sn	13 01 28.1	-0.3
MKZ	Mys Kozlova	2.46	17	PN	Pn	13 00 59.2	-0.3
MKZ				S	Sn	13 01 28.1	-0.3
KZV	Kizimen	2.90	358	P	Pn	13 01 06.7	+0.9
KZV	Kizimen	2.90	358	PN	Pn	13 01 06.7	+0.9
TUMD	Tumrok D	2.99	359	P	Pn	13 01 07.4	+0.5
TUMD				S	Sn	13 01 41.8	+0.1
TUMR	Tumrok	3.08	356	P	Pn	13 01 09.2	+1.1
TUMR	Tumrok	3.08	356	PN	Pn	13 01 07.4	-0.7
TUMR				S	Sn	13 01 41.8	-2.1
SKR	Severo-Kuril's	3.14	242	*e*PN	Pn	13 01 09.8	+1.0
SKR				*e*S	Sn	13 01 44.0	-1.2
SKR				pmax	pmax		
	comp=Z,51nm,0.6s						
SKR				smax	smax		
	comp=N,197nm,0.6s						
SKR				smax	smax		
	comp=E,118nm,0.7s						
ALID	Alaid	3.36	248	P	Pn	13 01 12.0	-0.1
ALID	Alaid	3.36	248	PN	Pn	13 01 12.0	-0.1
ESO	Esso	3.86	345	*e*P	Pn	13 01 20.5	+1.7
ESO	Esso	3.86	345	PN	Pn	13 01 20.5	+1.7
KLY	Klyuchi	4.10	1	P	Pn	13 01 25.2	+3.1
KLY	Klyuchi	4.10	1	PN	Pn	13 01 25.2	+3.1
KBTR	Krutoberegovo	4.22	18	*e*P	Pn	13 01 24.9	+1.1
KBTR	Krutoberegovo	4.22	18	PN	Pn	13 01 24.9	+1.1
BDR	Baidarnaya	4.38	5	P	Pn	13 01 26.8	+0.8
BDR	Baidarnaya	4.38	5	PN	Pn	13 01 26.8	+0.8
BKI	Bering	4.42	45	P	Pn	13 01 26.7	+0.2
BKI				S	Sn	13 02 14.4	-2.5
BKI	Bering	4.42	45	PN	Pn	13 01 26.7	+0.2
SRKR	Sorokina	4.46	5	P	Pn	13 01 26.5	-0.6
SRKR	Sorokina	4.46	5	PN	Pn	13 01 26.5	-0.6
KLR	Kul'dur	18.38	272	Pn	P	13 04 33.0	-0.7
	comp=E,0.1nm,0.3s,baz=61,slow=10,SNR=6.2						
MJAR	Matsushiro Arr	22.21	234	P	P	13 05 15.9	+0.6
	comp=E,1.3nm,0.6s,baz=15,slow=10,SNR=6.3						
H11N2	WAKE ISLAND Hy	32.81	169	T	T	13 42 40.0	
	baz=352,slow=76,SNR=12						
H11N3	WAKE ISLAND Hy	32.83	169	T	T	13 42 43.8	
	baz=352,slow=76,SNR=5.8						
H11N1	WAKE ISLAND Hy	32.83	169	T	T	13 42 47.9	
	baz=352,slow=76,SNR=7.8						
H11S1	WAKE ISLAND Hy	33.99	169	T	T	13 44 18.9	
	baz=352						
H11S3	WAKE ISLAND Hy	34.01	169	T	T	13 44 23.5	
	baz=352						
H11S2	WAKE ISLAND Hy	34.01	169	T	T	13 44 23.9	
	baz=352						
SONM	Songino Array	34.34	285	P	P	13 07 04.7	-0.7
	comp=E,0.5nm,0.3s,baz=49,slow=10,SNR=3.8						
YKA	Yellowknife Ar	43.65	42	P	P	13 08 23.3	+0.4
	comp=E,0.1nm,0.3s,baz=299,slow=8.0,SNR=3.3						
MKAR	Makanchi Array	48.75	297	P	P	13 09 01.3	-1.9
	comp=E,0.9nm,0.4s,baz=63,slow=10,SNR=3.0						
ARCES	ARCESS Array B	54.19	342	P	P	13 09 43.1	-0.4
	comp=E,4.7nm,1.0s,baz=32,slow=7.1,SNR=5.1						
CMAR	Chiang Mai Arr	58.24	259	P	P	13 10 13.3	+0.2
	comp=E,0.5nm,0.6s,baz=17,slow=5.8,SNR=4.2						
FINES	FINESS Array B	61.02	337	P	P	13 10 31.6	+0.1
	comp=E,3.3nm,0.6s,baz=38,slow=7.9,SNR=13						
AKASG	Malin Array Be	69.48	329	P	P	13 11 25.8	-0.8
	comp=E,0.5nm,0.4s,baz=29,slow=6.5,SNR=2.2						
TXAR	Lajitas Array	70.76	67	P	P	13 11 37.6	+2.6
	comp=E,0.2nm,0.6s,baz=330,slow=5.2,SNR=3.3						
ASAR	Alice Springs	79.06	205	P	P	13 12 24.2	+1.5
	comp=E,0.3nm,0.6s,baz=19,slow=4.9,SNR=4.6						

*SOME **21** 13:04:43.3, 41°.53N×83°.13E, h5km*

*NNC **21** 13:04:46.0±2.5, 41°.74N×83°.11E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=19.1km s-min=13.9km az=173.0*

ISC 21 13:04:45.3±2.5, 41°.7N±0°.1×83°.04E±0°.07, h10km, n29, σ2§69/43, 4C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.64	312	Pg	Pb	13 05 34.3	+1.5
	8.9nm,0.3s						
KTMS				Lg	Lg	13 06 11.3	
	61nm,0.5s						
KTMS	Ketmen	2.64	312	*e*P	Pb	13 05 34.3	+1.5
	8.9nm,0.3s						
KTMS				*e*S	Sg	13 06 11.3	+1.0
	61nm,0.5s						
SHLS	Shalkode	3.02	300	Pg	Pb	13 05 37.1	-2.2
	22nm,0.5s						
SHLS				Lg	Lg	13 06 16.4	
	107nm,0.5s						
SHLS	Shalkode	3.02

8.8nm,2.0s
KST *e*S **Sg** **13 07 36.6 -2.4**
18nm,1.1s
DGS Degeres 5.59 288 Pg **Pg** **13 06 28.1 -4.2**
2.9nm,0.4s
DGS Lg Lg 13 07 43.6
13nm,0.5s
DGS Degeres 5.59 288 *e*P **Pg** **13 06 28.1 -4.2**
2.9nm,0.4s
DGS *e*S **Sg** **13 07 43.6 -1.2**
13nm,0.5s
TKM2 Tokmak 2 5.65 285 ⇑Pg **Pg** **13 06 34.4 +0.8**
1.6nm,0.6s
TKM2 ⇓Lg Lg 13 07 42.3
18nm,0.7s
ZSN Zaisan 5.90 12 Pg **Pb** **13 06 31.2 +3.0**
1.6nm,0.4s
ZSN Lg Lg 13 07 48.8
5.7nm,0.8s
ZSN Zaisan 5.90 12 *e*P **Pg** **13 06 35.3 -2.9**
1.6nm,0.4s
ZSN *e*S **Sg** **13 07 55.5 +1.0**
5.7nm,0.8s

*ISK **21** 13:14:56.6, 38.03N×25.84E, h9km, ML2.7/12*
*ISCJB **21** 13:14:57.6±0.6, 38.00N±0.02×25.96E±0.04, h8km±5km, Error ellipse: s-maj=5.2km s-min=3.8km az=15.8*
*ATH **21** 13:14:57.4, 38.00N×26.01E, h32km±2km, ML2.4/5, Error ellipse: s-maj=2.8km s-min=1.3km az=62.0*
*THE **21** 13:14:58.1, 37.99N×25.97E, h10km±1km, ML2.3/6, Error ellipse: s-maj=1.7km s-min=0.6km az=93.0*

ISC 21 13:14:57.5±1.1, 37.99N±0.02×25.97E±0.03, h12km±10km, n31, σ0.952/45, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.40**	**9**	PG	**Pg**	**13 15 05.5**	**+0.1**
CHOS				SG	**Sg**	**13 15 11.1**	**+0.3**
CHOS	**Chios island**	**0.40**	**9**	P	**Pg**	**13 15 05.6**	**+0.1**
CHOS				S	**Sb**	**13 15 12.6**	**0.0**
CHOS	**Chios island**	**0.40**	**9**	P	**Pg**	**13 15 05.6**	**+0.1**
CHOS				S	**Sb**	**13 15 12.9**	**+0.3**
CHOS				AML	AML	13 15 13.7	
	comp=E,1342μm,0.2s						
CHOS				AML	AML	13 15 14.1	
	comp=N,814μm,0.2s						
CESE	**eme**	**0.42**	**37**	PG	**Pg**	**13 15 06.1**	**+0.2**
URLA	**Izmir**	**0.61**	**53**	PG	**Pb**	**13 15 10.1**	**0.0**
URLA				SG	**Sb**	**13 15 20.1**	**+1.4**
PSRA	**Psara**	**0.64**	**330**	P	**Pb**	**13 15 11.1**	**+0.6**
PSRA				S	**Sb**	**13 15 20.2**	**+0.9**
SMG	**Samos**	**0.74**	**112**	P	**Pb**	**13 15 12.4**	**+0.1**
SMG				S	**Sb**	**13 15 23.1**	**+0.7**
SMG	**Samos**	**0.74**	**112**	P	**Pb**	**13 15 12.3**	**+0.1**
SMG				S	**Sb**	**13 15 22.5**	**+0.1**
SMG				AML	AML	13 15 25.6	
	comp=E,354μm,0.2s						
SMG				AML	AML	13 15 25.7	
	comp=N,550μm,0.5s						
KRBN	**Karaburun**	**0.75**	**37**	PG	**Pb**	**13 15 12.2**	**-0.3**
TNSA	**Tinos**	**0.79**	**235**	P	**Pn**	**13 15 14.3**	**0.0**
TNSA				S	**Sb**	**13 15 24.7**	**+1.1**
TNSA				AML	AML	13 15 26.3	
	comp=E,1138μm,0.3s						
TNSA				AML	AML	13 15 26.4	
	comp=N,1482μm,0.2s						
FOCM	**Foa**	**0.93**	**39**	PG	**Pb**	**13 15 15.5**	**-0.1**
APE	**Apeiranthos**	**0.99**	**201**	PG	**Pg**	**13 15 16.2**	**-0.3**
APE	**Apeiranthos**	**0.99**	**201**	P	**Pb**	**13 15 16.6**	**0.0**
APE				S	**Sb**	**13 15 30.1**	**+0.6**
APE	**Apeiranthos**	**0.99**	**201**	P	**Pg**	**13 15 16.4**	**-0.2**
APE				S	**Sb**	**13 15 30.2**	**+0.6**
APE				AML	AML	13 15 32.6	
	comp=E,240μm,0.3s						
APE				AML	AML	13 15 34.1	
	comp=N,282μm,0.4s						
GCAM	**G?zelcaml?**	**1.04**	**106**	PN	**Pn**	**13 15 18.0**	**+0.2**
AMGA	**Amorgos Island**	**1.16**	**183**	P	**Pb**	**13 15 18.7**	**-0.8**
AMGA	**Amorgos Island**	**1.16**	**183**	P	**Pb**	**13 15 18.8**	**-0.8**
SIGR	**SIGRI**	**1.22**	**356**	PN	**Pn**	**13 15 19.5**	**-0.8**
SIGR	**SIGRI**	**1.22**	**356**	P	**Pn**	**13 15 19.6**	**-0.8**
SIGR				S	**Sn**	**13 15 36.7**	**0.0**
SIGR	**SIGRI**	**1.22**	**356**	P	**Pn**	**13 15 19.4**	**-0.9**
SIGR				S	**Sb**	**13 15 36.1**	**-0.1**
PRK	**Paraskevi**	**1.27**	**11**	P	**Pb**	**13 15 21.4**	**0.0**
PRK				S	**Sg**	**13 15 37.9**	**-0.6**
PRK	**Paraskevi**	**1.27**	**11**	P	**Pb**	**13 15 21.3**	**0.0**
PRK				AML	AML	13 15 41.9	
	comp=N,240μm,0.3s						
PRK				AML	AML	13 15 43.5	
	comp=E,253μm,0.5s						
BODT	**Bodrum**	**1.41**	**131**	PN	**Pg**	**13 15 24.9**	**+0.3**
SKY	**Skiros Island**	**1.42**	**309**	P	**Pn**	**13 15 23.0**	**-0.2**
SERI	**Serifos**	**1.45**	**235**	P	**Pn**	**13 15 23.3**	**-0.2**
SERI				S	**Sb**	**13 15 43.1**	**+0.4**
GPNR	**Gulpinar-Canak**	**1.47**	**5**	PN	**Pn**	**13 15 23.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**91**	PN	**Pg**	**13 15 26.6**	**0.0**
DION	**Dionisos Attik**	**1.61**	**274**	P	**Pn**	**13 15 25.6**	**-0.2**
VLY	**Voula,Athens**	**1.73**	**266**	P	**Pn**	**13 15 27.3**	**0.0**
BOZC	**Bozcaada**	**1.85**	**2**	PN	**Pn**	**13 15 28.0**	**-1.0**
EZN	**Ezine**	**1.85**	**8**	PN	**Pn**	**13 15 28.5**	**-0.5**

KRSC 21 13:19:56.7±10.0, 52.18N×160.28E, h56km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.93**	**351**	P	Pn	13 20 14.8	+1.2
SPN				S	Sn	13 20 26.8	+0.7
RUS	**Russkaya**	**1.11**	**284**	P	Pn	13 20 16.7	+0.7
RUS				S	Sn	13 20 30.7	+0.4
NLC	**Nalytchevo**	**1.14**	**331**	P	Pn	13 20 18.3	+1.9
NLC				S	Sn	13 20 32.8	+1.8
DALK	**Dalny**	**1.26**	**313**	P	Pn	13 20 19.2	+1.3
DALK				S	Sn	13 20 34.5	+0.7
PET	**Petropavlovsk**	**1.30**	**311**	P	Pn	13 20 20.1	+1.6
PET				S	Sn	13 20 35.4	+0.6
MTVR	**Mutnovka**	**1.32**	**284**	P	Pn	13 20 20.5	+1.6
MTVR				S	Sn	13 20 36.5	+1.0
UGLR	**Uglovaya**	**1.35**	**320**	P	Pn	13 20 21.6	+2.2
UGLR				S	Sn	13 20 38.5	+2.1
SDLR	**Sedlovina**	**1.39**	**323**	P	Pn	13 20 21.7	+1.9
GRL	**Gorelyy**	**1.40**	**286**	P	Pn	13 20 23.0	+3.0
GRL				S	Sn	13 20 40.6	+3.1
SMAR	**Somma**	**1.41**	**321**	P	Pn	13 20 22.0	+1.9
KDTR	**Khodutka, Kamc**	**1.41**	**255**	P	Pn	13 20 21.6	+1.6
KDTR				S	Sn	13 20 39.0	+1.5
AVH	**Avacha**	**1.43**	**320**	P	Pn	13 20 22.7	+2.3
AVH				S	Sn	13 20 40.6	+2.4
KRER	**Koryakskii**	**1.46**	**321**	P	Pn	13 20 23.2	+2.4
KRER				S	Sn	13 20 41.0	+2.0
KRMR	**Karymshinskiy**	**1.46**	**297**	P	Pn	13 20 22.4	+1.7
KRMR				S	Sn	13 20 39.8	+1.0
ASAK	**Asacha**	**1.47**	**279**	P	Pn	13 20 23.1	+2.2
ASAK				S	Sn	13 20 41.2	+2.0
KOK	**Koryaka**	**1.49**	**319**	P	Pn	13 20 23.6	+2.4
KRX	**Arik**	**1.54**	**321**	P	Pn	13 20 24.1	+2.2
KRX				S	Sn	13 20 43.3	+2.5
APC	**Apacha**	**2.04**	**293**	P	Pn	13 20 32.0	+3.4
APC				S	Sn	13 20 57.0	+4.1
PAU	**Pauzhetka**	**2.27**	**253**	P	Pn	13 20 34.3	+2.7
MKZ	**Mys Kozlova**	**2.53**	**20**	P	Pn	13 20 37.9	+2.7
MKZ				S	Sn	13 21 07.3	+2.4
KZV	**Kizimen**	**2.94**	**0**	P	Pn	13 20 45.0	+4.1
TUMD	**Tumrok D**	**3.03**	**1**	P	Pn	13 20 46.3	+4.2
TUMD				S	Sn	13 21 19.6	+2.5
TUMR	**Tumrok**	**3.11**	**359**	P	Pn	13 20 47.8	+4.5
TUMR				S	Sn	13 21 24.2	+5.0
ALID	**Alaid**	**3.23**	**248**	P	Pn	13 20 48.1	+3.1
KBG	**Krutoberegovo**	**4.32**	**18**	P	Pn	13 21 03.8	+4.1
BKI	**Bering**	**4.54**	**46**	P	Pn	13 21 05.8	+3.1
BKI				S	Sn	13 21 53.9	-0.2

KRSC 21 13:22:35.8±10.0, 52.12N×160.65E, h18km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.05**	**339**	*e*P	Pb	13 22 55.3	-0.2
SPN				*e*S	Sb	13 23 07.6	-1.3
NLC	**Nalytchevo**	**1.32**	**324**	P	Pn	13 22 59.5	+0.2
RUS	**Russkaya**	**1.35**	**284**	P	Pb	13 23 00.8	+0.3
RUS				*e*S	Sn	13 23 17.1	+0.1
DALK	**Dalny**	**1.48**	**309**	P	Pb	13 23 02.3	-0.3
DALK				*e*S	Sn	13 23 20.0	-0.2
PET	**Petropavlovsk**	**1.52**	**308**	P	Pb	13 23 03.0	-0.4
PET				*e*S	Sn	13 23 21.6	+0.4
MTVR	**Mutnovka**	**1.56**	**285**	*e*P	Pb	13 23 04.3	+0.2
MTVR				*e*S	Sb	13 23 23.7	+0.2
UGLR	**Uglovaya**	**1.56**	**315**	*e*P	Pb	13 23 04.0	-0.1
UGLR				S	Sb	13 23 23.7	+0.2
SDLR	**Sedlovina**	**1.58**	**318**	*e*P	Pn	13 23 03.7	+0.7
SMAR	**Somma**	**1.61**	**316**	*e*P	Pb	13 23 05.7	+0.7
SMAR				S	Sb	13 23 25.2	+0.2
KDTR	**Khodutka, Kamc**	**1.62**	**260**	P	Pb	13 23 05.3	+0.2
KDTR				*e*S	Sb	13 23 25.7	+0.6
AVH	**Avacha**	**1.64**	**315**	P	Pb	13 23 05.4	0.0
AVH				*e*S	Sb	13 23 25.7	0.0
GRL	**Gorelyy**	**1.64**	**286**	P	Pg	13 23 06.4	-0.9
KRER	**Koryakskii**	**1.66**	**317**	P	Pb	13 23 05.2	-0.7
KOK	**Koryaka**	**1.70**	**315**	P	Pb	13 23 05.6	-0.9
KRMR	**Karymshinskiy**	**1.70**	**296**	P	Pb	13 23 06.0	-0.4
KRMR				S	Sb	13 23 27.2	-0.2
ASAK	**Asacha**	**1.71**	**280**	P	Pb	13 23 07.3	+0.6
ASAK				S	Sb	13 23 28.1	+0.3
KRX	**Arik**	**1.74**	**316**	P	Pn	13 23 05.7	+0.5
PAU	**Pauzhetka**	**2.47**	**256**	P	Pn	13 23 15.9	+0.9
MKZ	**Mys Kozlova**	**2.53**	**14**	P	Pn	13 23 16.4	+0.6
KZV	**Kizimen**	**3.01**	**356**	P	Pb	13 23 27.0	-1.9
TUMD	**Tumrok D**	**3.10**	**357**	*e*P	Pn	13 23 26.7	+3.0
SKR	**Severo-Kuril's**	**3.18**	**245**	*e*P	Pn	13 23 27.0	+2.2
TUMR	**Tumrok**	**3.19**	**355**	*e*P	Pn	13 23 27.4	+2.4

*KRSC **21** 13:23:12.0±10.0, 52.04N×160.78E, h42km±10km, ML5.0*
*IDC **21** 13:23:12.5±0.5, 52.32N×160.17E, h0km, mb4.1/30, mb1 4.3/33, mb1mx4.3/47, mbtmp4.1/33, ML3.7/3, MS3.9/10, Ms1 3.9/10, ms1mx3.5/61, Error ellipse: s-maj=11.7km s-min=10.3km az=150.0*
*ISCJB **21** 13:23:16.3±0.5, 52.10N±0.03×160.49E±0.05, h45km±3km, mb4.4/73, MS4.0/10, Error ellipse: s-maj=5.7km s-min=3.4km az=135.0*
*MOS **21** 13:23:16.9±1.2, 52.19N×160.38E, h50km, mb4.9/25, MS3.9/7, Error ellipse: s-maj=6.4km s-min=3.3km az=98.0*
*NEIC **21** 13:23:17.6±0.4, 52.32N×160.18E, h35km, mb4.7/12, Error ellipse: s-maj=9.9km s-min=7.1km az=152.0*

ISC 21 13:23:16.6±0.7, 52.14N±0.04×160.55E±0.03, h34km±2km, n266, σ1.983/315, mb4.5/75, MS4.1/10, 27C-20D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.01**	**342**	*e*P	**Pn**	**13 23 32.8**	**-1.6**
SPN				*e*S	**Sn**	**13 23 45.5**	**-2.0**
SPN	**Mys Shipunski**	**1.01**	**342**	PN	**Pn**	**13 23 32.8**	**-1.6**
SPN				S	**Sn**	**13 23 45.5**	**-2.0**
NLC	**Nalytchevo**	**1.27**	**325**	*e*P	**Pn**	**13 23 37.6**	**-0.3**
NLC	**Nalytchevo**	**1.27**	**325**	PN	**Pn**	**13 23 37.6**	**-0.3**
RUS	**Russkaya**	**1.28**	**284**	*e*P	**Pn**	**13 23 37.6**	**-0.5**
RUS				*e*S	**Sn**	**13 23 54.3**	**+0.2**
RUS	**Russkaya**	**1.28**	**284**	PN	**Pn**	**13 23 37.6**	**-0.5**
RUS				S	**Sn**	**13 23 54.3**	**+0.2**
DALK	**Dalny**	**1.41**	**310**	*e*P	**Pn**	**13 23 39.4**	**-0.5**
DALK				*e*S	**Sn**	**13 23 57.2**	**-0.1**
DALK	**Dalny**	**1.41**	**310**	PN	**Pn**	**13 23 39.4**	**-0.5**
DALK				S	**Sn**	**13 23 57.2**	**-0.1**
PET	**Petropavlovsk**	**1.46**	**308**	*e*Pn	**Pn**	**13 23 40.0**	**-0.5**
PET	**Petropavlovsk**	**1.46**	**308**	*e*PN	**Pn**	**13 23 39.9**	**-0.6**
PET				*e*S	**Sn**	**13 24 00.0**	**+1.6**
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax	smax		
	comp=N,7μm,0.5s						
PET				smax	smax		
	comp=E,7μm,0.6s						
MTVR	**Mutnovka**	**1.49**	**284**	*e*P	**Pn**	**13 23 40.6**	**-0.5**
MTVR				*e*S	**Sn**	**13 23 59.6**	**+0.1**
MTVR	**Mutnovka**	**1.49**	**284**	PN	**Pn**	**13 23 40.6**	**-0.5**
MTVR				S	**Sn**	**13 23 59.6**	**+0.1**
UGLR	**Uglovaya**	**1.50**	**316**	*e*P	**Pn**	**13 23 41.5**	**+0.3**
UGLR	**Uglovaya**	**1.50**	**316**	PN	**Pn**	**13 23 41.5**	**+0.3**
SDLR	**Sedlovina**	**1.53**	**319**	*e*P	**Pn**	**13 23 41.4**	**-0.2**
SDLR	**Sedlovina**	**1.53**	**319**	PN	**Pn**	**13 23 41.4**	**-0.2**
SMAR	**Somma**	**1.55**	**317**	*e*P	**Pn**	**13 23 42.4**	**+0.4**
SMAR				*e*S	**Sn**	**13 24 02.0**	**+1.0**
SMAR	**Somma**	**1.55**	**317**	PN	**Pn**	**13 23 42.4**	**+0.4**
SMAR				S	**Sn**	**13 24 02.0**	**+1.0**
KDTR	**Khodutka, Kamc**	**1.56**	**259**	*e*P	**Pn**	**13 23 41.6**	**-0.3**
KDTR				*e*S	**Sn**	**13 24 00.6**	**-0.4**
KDTR	**Khodutka, Kamc**	**1.56**	**259**	PN	**Pn**	**13 23 41.6**	**-0.3**
KDTR				S	**Sn**	**13 24 00.6**	**-0.4**
GRL	**Gorelyy**	**1.57**	**286**	*e*P	**Pn**	**13 23 42.7**	**+0.5**
GRL	**Gorelyy**	**1.57**	**286**	PN	**Pn**	**13 23 42.7**	**+0.5**
AVH	**Avacha**	**1.58**	**317**	*e*P	**Pn**	**13 23 43.1**	**+0.9**
AVH				*e*S	**Sn**	**13 24 03.1**	**+1.6**
AVH	**Avacha**	**1.58**	**317**	PN	**Pn**	**13 23 43.1**	**+0.9**
AVH				S	**Sn**	**13 24 03.1**	**+1.6**
KRER	**Koryakskii**	**1.60**	**318**	*e*P	**Pn**	**13 23 42.7**	**0.0**
KRER				*e*S	**Sn**	**13 24 03.3**	**+1.1**
KRER	**Koryakskii**	**1.60**	**318**	PN	**Pn**	**13 23 42.7**	**0.0**
KRER				S	**Sn**	**13 24 03.3**	**+1.1**
KRMR	**Karymshinskiy**	**1.63**	**296**	*e*P	**Pn**	**13 23 43.0**	**+0.1**
KRMR				*e*S	**Sn**	**13 24 03.4**	**+0.7**
KRMR	**Karymshinskiy**	**1.63**	**296**	PN	**Pn**	**13 23 43.0**	**+0.1**
KRMR				S	**Sn**	**13 24 03.4**	**+0.7**
KOK	**Koryaka**	**1.64**	**316**	*e*P	**Pn**	**13 23 43.8**	**+0.7**
KOK				*e*S	**Sb**	**13 24 06.2**	**-0.4**
KOK	**Koryaka**	**1.64**	**316**	PN	**Pn**	**13 23 43.8**	**+0.7**
KOK				S	**Sb**	**13 24 06.2**	**-0.4**
ASAK	**Asacha**	**1.64**	**280**	*e*P	**Pn**	**13 23 43.7**	**+0.5**
ASAK				*e*S	**Sn**	**13 24 04.8**	**+1.6**
ASAK	**Asacha**	**1.64**	**280**	PN	**Pn**	**13 23 43.7**	**+0.5**
ASAK				S	**Sn**	**13 24 04.8**	**+1.6**
KRX	**Arik**	**1.68**	**317**	*e*P	**Pn**	**13 23 44.4**	**+0.7**
KRX				*e*S	**Sn**	**13 24 05.8**	**+1.6**
KRX	**Arik**	**1.68**	**317**	PN	**Pn**	**13 23 44.4**	**+0.7**
KRX				S	**Sn**	**13 24 05.8**	**+1.6**
PETK	**Petropavlovsk-**	**1.99**	**300**	Pn	**Pn**	**13 23 48.6**	**+0.8**
	comp=E,88nm,0.3s,baz=100,slow=19,SNR=23						
PETK				Sn	**Sb**	**13 24 17.1**	**+0.7**
	comp=E,214nm,0.3s,baz=261,slow=28,SNR=4.2						
PETK				LR	LR	13 24 20.1	
	comp=E,834nm,20.0s,baz=41,slow=40						
APC	**Apacha**	**2.21**	**292**	*e*P	**Pn**	**13 23 52.5**	**+1.6**
APC				*e*S	**Sn**	**13 24 20.4**	**+3.3**
APC	**Apacha**	**2.21**	**292**	PN	**Pn**	**13 23 52.5**	**+1.6**
APC				S	**Sn**	**13 24 20.4**	**+3.3**
PAU	**Pauzhetka**	**2.41**	**255**	*e*P	**Pn**	**13 23 52.2**	**-1.4**
PAU	**Pauzhetka**	**2.41**	**255**	PN	**Pn**	**13 23 52.2**	**-1.4**
MKZ	**Mys Kozlova**	**2.53**	**16**	*e*P	**Pn**	**13 23 54.1**	**-1.1**
MKZ				*e*S	**Sn**	**13 24 22.4**	**-2.3**
MKZ	**Mys Kozlova**	**2.53**	**16**	PN	**Pn**	**13 23 54.1**	**-1.1**
MKZ				S	**Sn**	**13 24 22.4**	**-2.3**
KZV	**Kizimen**	**2.99**	**357**	*e*P	**Pn**	**13 24 02.9**	**+1.2**
KZV				*e*S	**Sn**	**13 24 37.6**	**+1.3**
KZV	**Kizimen**	**2.99**	**357**	PN	**Pn**	**13 24 02.9**	**+1.2**
KZV				S	**Sn**	**13 24 37.6**	**+1.3**
TUMD	**Tumrok D**	**3.07**	**358**	*e*P	**Pn**	**13 24 05.0**	**+2.3**
TUMD				*e*S	**Sb**	**13 24 43.8**	**-3.8**
SKR	**Severo-Kuril's**	**3.13**	**244**	*e*P	**Pn**	**13 24 03.1**	**-0.4**
SKR				*e*S	**Sn**	**13 24 39.4**	**-0.3**
SKR	**Severo-Kuril's**	**3.13**	**244**	*e*PN	**Pn**	**13 24 03.7**	**+0.2**
SKR				*e*S	**Sn**	**13 24 39.4**	**-0.3**
SKR				pmax	pmax		
	comp=Z,190nm,0.6s						
SKR				smax	smax		
	comp=E,770nm,0.7s						
SKR				smax	smax		
	comp=N,857nm,0.9s						
TUMR	**Tumrok**	**3.16**	**356**	*e*P	**Pn**	**13 24 05.2**	**+1.2**
TUMR				*e*S	**Sn**	**13 24 45.4**	**+4.8**
TUMR	**Tumrok**	**3.16**	**356**	PN	**Pn**	**13 24 05.0**	**+1.0**
TUMR				S	**Sn**	**13 24 43.8**	**+3.2**
ALID	**Alaid**	**3.37**	**250**	*e*P	**Pn**	**13 24 07.7**	**+0.8**
ALID	**Alaid**	**3.37**	**250**	PN	**Pn**	**13 24 07.7**	**+0.8**
BZMR	**Bezymyannaya**	**3.81**	**360**	*e*P	**Pn**	**13 24 14.8**	**+1.9**
BZMR	**Bezymyannaya**	**3.81**	**360**	PN	**Pn**	**13 24 14.8**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**3.81**	**1**	P	**Pn**	**13 24 13.7**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**3.81**	**1**	PN	**Pn**	**13 24 13.7**	**+0.7**
KIRR	**Kirishev**	**3.83**	**358**	*e*P	**Pn**	**13 24 14.7**	**+1.5**
KIRR	**Kirishev**	**3.83**	**358**	PN	**Pn**	**13 24 14.7**	**+1.5**
BZWR	**Bezymyannyi-We**	**3.83**	**360**	*e*P	**Pn**	**13 24 15.3**	**+2.0**
BZWR	**Bezymyannyi-We**	**3.83**	**360**	PN	**Pn**	**13 24 15.3**	**+2.0**
ESO	**Esso**	**3.95**	**345**	*e*P	**Pn**	**13 24 15.3**	**+0.6**
ESO	**Esso**	**3.95**	**345**	PN	**Pn**	**13 24 15.3**	**+0.6**
KOZ	**Kozyrevsk**	**3.95**	**355**	*e*P	**Pn**	**13 24 16.7**	**+1.9**
KOZ	**Kozyrevsk**	**3.95**	**355**	PN	**Pn**	**13 24 16.7**	**+1.9**
LGNR	**Loginova**	**3.96**	**1**	*e*P	**Pn**	**13 24 16.8**	**+1.7**
LGNR	**Loginova**	**3.96**	**1**	PN	**Pn**	**13 24 16.8**	**+1.7**
CIRR	**Tsirk**	**3.99**	**2**	*e*P	**Pn**	**13 24 17.4**	**+2.0**
CIRR	**Tsirk**	**3.99**	**2**	PN	**Pn**	**13 24 17.4**	**+2.0**
KRSR	**Krestovskiy**	**4.09**	**0**	*e*P	**Pn**	**13 24 18.5**	**+1.8**
KRSR	**Krestovskiy**	**4.09**	**0**	PN	**Pn**	**13 24 18.5**	**+1.8**
KLY	**Klyuchi**	**4.19**	**1**	*e*P	**Pn**	**13 24 19.1**	**+1.1**
KLY	**Klyuchi**	**4.19**	**1**	PN	**Pn**	**13 24 19.1**	**+1.1**
SRDR	**Sredinnyy**	**4.22**	**354**	*e*P	**Pn**	**13 24 18.6**	**+0.1**
SRDR	**Sredinnyy**	**4.22**	**354**	PN	**Pn**	**13 24 18.6**	**+0.1**
KBTR	**Krutoberegovo**	**4.29**	**17**	*e*P	**Pn**	**13 24 18.9**	**-0.5**
KBTR	**Krutoberegovo**	**4.29**	**17**	PN	**Pn**	**13 24 18.9**	**-0.5**
BKI	**Bering**	**4.46**	**44**	*e*P	**Pn**	**13 24 20.6**	**-1.1**
BKI				*e*S	**Sn**	**13 25 06.1**	**-6.2**
BKI	**Bering**	**4.46**	**44**	PN	**Pn**	**13 24 20.6**	**-1.1**
BDR	**Baidarnaya**	**4.46**	**5**	*e*P	**Pn**	**13 24 23.1**	**+1.3**
BDR	**Baidarnaya**	**4.46**	**5**	PN	**Pn**	**13 24 23.1**	**+1.3**
SMKR	**Semkarok**	**4.49**	**7**	*e*P	**Pn**	**13 24 24.3**	**+2.1**
SMKR				*e*S	**Sn**	**13 25 17.4**	**+4.2**
SMKR	**Semkarok**	**4.49**	**7**	PN	**Pn**	**13 24 24.3**	**+2.1**
SMKR				S	**Sn**	**13 25 17.4**	**+4.2**
SRKR	**Sorokina**	**4.54**	**4**	*e*P	**Pn**	**13 24 23.4**	**+0.5**
SRKR				*e*S	**Sn**	**13 25 19.2**	**+4.7**
SRKR	**Sorokina**	**4.54**	**4**	PN	**Pn**	**13 24 23.4**	**+0.5**
SRKR				S	**Sn**	**13 25 19.2**	**+4.7**
OSSR	**Ossora**	**7.27**	**10**	*e*P	**Pn**	**13 24 59.2**	**-1.1**
OSSR	**Ossora**	**7.27**	**10**	PN	**Pn**	**13 24 59.2**	**-1.1**
TILK	**Tilichiki**	**8.89**	**18**	*e*P	**Pn**	**13 25 21.7**	**-0.7**
TILK	**Tilichiki**	**8.89**	**18**	PN	**Pn**	**13 25 21.7**	**-0.7**
MA2	**Magadan**	**9.25**	**327**	**Pn**	**Pn**	**13 25 26.6**	**-0.8**
	comp=N,0.1nm,0.3s,baz=136,slow=16,SNR=2.7						
MA2				LR	LR	13 29 37.0	
	comp=N,671nm,19.5s,baz=144,slow=43						
OKH	**Okha**	**10.75**	**285**	*de*PN	**Pn**	**13 25 50.9**	**+3.0**
OKH				MLR	MLR		
	comp=Z,1μm,15.0s						
SEY	**Seymchan**	**11.67**	**341**	⇓*e*PN	**Pn**	**13 26 02.1**	**+1.7**
SEY	**Seymchan**	**11.67**	**341**	Pn	**Pn**	**13 25 59.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=140,slow=16,SNR=2.6						
SEY				Sn	Sn	13 27 54.5	-15
	baz=4.1,slow=23,SNR=0.9						
YSS	**Yuzh-Sakhalins**	**12.65**	**253**	*e*PN	**P**	**13 26 22.4**	**-2.5**
YSS				MLR	MLR		
	comp=Z,600nm,13.0s						
YUK	**Yuzh-Kuril'sk**	**12.71**	**236**	*e*PN	**P**	**13 26 22.7**	**-2.9**
YUK				MLR	MLR		
	comp=Z,619nm,18.0s						
YUK				MLR	MLR		
	comp=E,933nm,17.0s						
YUK				MLR	MLR		
	comp=N,148nm,12.0s						
ASAJ	**Asahikawa**	**14.40**	**243**	Pn	**Pn**	**13 26 37.7**	**-0.1**
	comp=N,0.8nm,0.3s,baz=57,slow=14,SNR=7.6						
ASAJ				LR	LR	13 32 57.3	
	comp=N,398nm,19.0s,baz=18,slow=41						
GRNR	**Gornyy**	**15.09**	**274**	*e*P	**P**	**13 26 54.7**	**+2.8**
GRNR				pmax	pmax		
	comp=Z,39nm,1.0s						
ERM	**Erimo**	**15.54**	**236**	*e*Pn	**Pn**	**13 26 51.9**	**-1.1**
	comp=Z,45nm,1.4s						
ERM	**Erimo**	**15.54**	**236**	*e*P	**Pn**	**13 26 51.9**	**-1.1**
ERM				pmax	pmax		
	comp=Z,45nm,1.4s						
BILL	**Bilibino**	**16.19**	**8**	*e*Pn	**Pn**	**13 26 58.6**	**-2.6**
	comp=Z,18nm,0.7s						
BILL	**Bilibino**	**16.19**	**8**	⇓*e*P	**P**	**13 27 04.8**	**+0.7**
BILL				*e*S	**Sn**	**13 30 04.2**	**+4.7**
BILL				pmax	pmax		
	comp=Z,20nm,0.8s						
BILL				MLR	MLR		
	comp=Z,406nm,17.0s						
TEY	**Ternei**	**17.31**	**255**	⇑*e*P	**P**	**13 27 16.4**	**-0.1**
TEY				pmax	pmax		
	comp=Z,20nm,0.9s						
KLR	**Kul'dur**	**18.42**	**272**	⇓*i*P	**Pn**	**13 27 29.2**	**+0.1**
KLR	**Kul'dur**	**18.42**	**272**	P	**P**	**

baz=351,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 33.92 169 T T 14 07 14.2
baz=351,slow=76,SNR=4.5
ULN Ulaanbaatar 33.99 285⇓*e*P **P** **13 29 55.8 -1.2**
ULN pmax pmax
comp=Z,3.0nm,0.7s
TLY Talaya 34.33 292⇓*e*P **P** **13 29 58.1 -1.6**
TIA Tai'an 34.39 260 P **P** **13 30 01.1 +0.7**
SONM Songino Array 34.40 285 P **P** **13 29 58.3 -2.2**
comp=Z,0.7nm,0.5s,baz=100,slow=4.5,SNR=5.6
SONM PcP **PcP** **13 32 36.8 +1.4**
comp=Z,0.2nm,0.3s,baz=54,slow=2.5,SNR=3.6
INK Inuvik 34.47 37 P **P** **13 30 00.8 +0.2**
comp=Z,1.1nm,0.8s,baz=280,slow=12,SNR=5.7
INK LR LR 13 45 08.1
comp=Z,89nm,19.4s,baz=318,slow=38
HHC Hu-ho-hao-te 34.92 271 *e*P **P** **13 30 02.5 -2.5**
ZAK Zakamensk 35.08 290 *e*P **P** **13 30 04.2 -2.1**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
NJ2 Nanjing 36.22 253 *e*P **P** **13 30 16.4 +0.3**
NRIK Noril'sk 36.85 326 P **P** **13 30 19.4 -1.6**
comp=Z,4.0nm,0.7s,baz=84,slow=8.4,SNR=5.9
NRIK LR LR 13 46 55.3
comp=Z,626nm,18.1s,baz=52,slow=39
WHN Wuhan 39.98 256 P **P** **13 30 50.6 +2.8**
XAN Xi'an 40.84 265 P P 13 31 04.8 +10
XAN pP pwP 13 31 15.4 +7.2
XAN PP **PnPn** **13 32 41.8 +8.2**
XAN PcP PcP 13 33 06.4 +11
XAN S **S** **13 37 09.8 +6.0**
XAN SS **SnSn** **13 40 15.4 +2.2**
XAN ScS **ScS** **13 40 58.8 +1.6**
LZH Lanzhou 42.62 271 *e*P **P** **13 31 08.4 -1.2**
LZH pP pwP 13 31 30.8 +7.8
LZH sP sP 13 31 43.5 +22
GTA Gaotai 43.00 278 *e*P **P** **13 31 12.3 -0.3**
GTA pP pP 13 31 22.4 +1.0
GTA sP pwP 13 31 26.6 +0.5
ZALV Zalesovo Beam 43.53 304 P **P** **13 31 14.0 -2.5**
comp=Z,1.2nm,0.6s,baz=79,slow=7.5,SNR=6.4
YKA Yellowknife Ar 43.69 42 P **P** **13 31 18.4 +0.7**
comp=Z,0.2nm,0.6s,baz=298,slow=7.8,SNR=3.5
YKA PcP **PcP** **13 33 05.8 +1.6**
comp=Z,0.2nm,0.7s,baz=307,slow=3.4,SNR=2.4
NVS Novosibirsk 43.89 306⇑*i*P **P** **13 31 17.9 -1.5**
NVS pmax pmax
comp=Z,21nm,1.0s
NVS pmax pmax
comp=N,7.0nm,1.1s
NVS pmax pmax
comp=E,13nm,1.1s
RES Resolute Bay 44.11 22 P **P** **13 31 21.2 +0.3**
comp=E,2.1nm,1.0s,baz=274,slow=9.1,SNR=2.7
DGZ Jazzator, Alta 44.34 297*d i*P **P** **13 31 22.5 -0.9**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
CD2 Chengdu 46.16 266 *e*P **P** **13 31 35.0 -2.8**
WMQ Urumqi 47.55 290 *e*P **P** **13 31 47.3 -1.3**
KURK Kurchatov 48.48 303 *e*P **P** **13 31 53.0 -2.5**
comp=Z,17nm,0.9s
KURK Kurchatov 48.48 303*c i*P **P** **13 31 53.4 -2.1**
KURK pmax pmax
comp=Z,26nm,1.3s
MK32 Makanchi Array 48.82 297 *e*P **P** **13 31 56.2 -2.1**
MKAR Makanchi Array 48.82 297 P **P** **13 31 56.2 -2.1**
comp=Z,1.9nm,0.6s,baz=56,slow=6.9,SNR=15
MKAR LR LR 13 54 08.3
comp=Z,252nm,18.1s,baz=56,slow=38
NEW Newport 50.15 60 P **P** **13 32 10.0 +1.6**
comp=Z,1.2nm,0.4s,baz=333,slow=12,SNR=2.6
KMI Kunming 50.94 261 P **P** **13 32 15.6 +0.7**
YBH Yreka Blue Hor 51.10 69 P **P** **13 32 18.5 +2.7**
comp=Z,1.9nm,0.8s,baz=322,slow=12,SNR=3.2
BRVK Borovoye 51.23 309 *e*P **P** **13 32 14.6 -1.9**
comp=Z,13nm,0.9s
BRVK Borovoye 51.23 309*c i*P **P** **13 32 14.1 -2.4**
BRVK pmax pmax
comp=Z,13nm,0.8s
LVZ Lovozero 53.69 338⇑*i*P **P** **13 32 34.5 0.0**
LVZ pmax pmax
comp=Z,27nm,1.7s
ARCES ARCESS Array B 54.28 342 P **P** **13 32 37.7 -1.1**
comp=Z,8.1nm,0.9s,baz=36,slow=9.0,SNR=10
ARU Arti 54.29 318 *e*P **P** **13 32 36.7 -2.2**
comp=Z,10nm,0.6s
ARU Arti 54.29 318*d i*P **P** **13 32 38.0 -1.0**
ARU 13 34 35.8
ARU S **S** **13 40 12.5 -1.5**
ARU SS **SKiKP** **13 43 48.4 +2.0**
ARU pmax pmax
comp=Z,11nm,0.7s
ARU MLR MLR
comp=Z,204nm,16.0s
PRGR Permogore 55.40 328 *e*P **P** **13 32 44.5 -2.4**
PRGR *e* 13 34 48.6
PRGR pmax pmax
comp=Z,13nm,0.6s
AAK Ala-Archa 55.75 297 *e*P **P** **13 32 47.2 -2.8**
comp=Z,5.2nm,1.0s
AAK Ala-Archa 55.75 297*de*P **P** **13 32 49.2 -0.8**
AAK pmax pmax
comp=Z,6.0nm,1.1s
TMCR Tamitsa 55.76 333 *e*P **P** **13 32 49.0 -0.4**
NV01 Mina Array Sit 55.81 70 *e*P **P** **13 32 52.8 +2.3**
NVAR Mina Array Bea 55.81 70 P **P** **13 32 52.8 +2.3**
baz=299,slow=7.5,SNR=9.0
SKNT Sakolnakorn 56.39 254 P P 13 33 00.7 +6.1
comp=Z,16nm,1.0s
KSH Kashi 57.03 293 P **P** **13 33 02.0 +2.9**
KSH pP sP 13 33 11.9 +0.8
KSH PP **PP** **13 35 08.5 +2.9**
KSH S **S** **13 40 44.5 -6.8**
KSH Kashi 57.03 293 SS **SS** **13 44 32.3 -7.3**
PHRA Phrae 57.45 258 P **P** **13 33 04.3 +2.2**
comp=Z,1.9nm,1.2s
PDAR Pinedale Array 57.75 61 P **P** **13 33 05.8 +1.5**
comp=Z,1.2nm,0.8s,baz=319,slow=3.4,SNR=11
KLMR Klimovskoe 57.92 330 *e*P **P** **13 33 03.6 -1.2**
KLMR pmax pmax
comp=Z,20nm,1.0s
CMMT Chiang Mai 57.99 259 P **P** **13 33 07.4 +1.5**
comp=Z,6.4nm,0.9s
CHTO Chiang Mai 57.99 259 *e*P **P** **13 33 06.7 +0.8**
comp=Z,12nm,1.0s
CHTO Chiang Mai 57.99 259 *e*P **P** **13 33 06.7 +0.8**
CHTO pmax pmax
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 58.26 259 P **P** **13 33 08.3 +0.5**
comp=Z,3.9nm,0.7s,baz=26,slow=7.0,SNR=21
JIRN Jiri 59.27 276 *e*P **P** **13 33 13.3 -1.8**
comp=Z,18nm,0.7s
RAMN Ramite 59.53 276 *e*P **P** **13 33 15.6 -1.2**
comp=Z,27nm,0.6s
KKN Kakani 59.73 277 *e*P **P** **13 33 16.4 -1.7**
comp=Z,24nm,0.7s
PKI Pulchoki 59.81 277 *e*P **P** **13 33 17.1 -1.7**
comp=Z,14nm,0.7s
PKIN Phulchoki 59.81 277 *e*P **P** **13 33 17.0 -1.8**
comp=Z,10nm,0.6s
DANN Dangsing 60.25 279 *e*P **P** **13 33 20.3 -1.5**
comp=Z,24nm,0.7s
KOLN Koldanda 60.77 278 *e*P **P** **13 33 24.2 -1.0**
comp=Z,13nm,0.7s
PYUN Piuthan 60.90 279 *e*P **P** **13 33 25.6 -0.5**
comp=Z,20nm,0.8s
FINES FINESS Array B 61.11 337 P **P** **13 33 26.3 -0.4**
comp=Z,8.9nm,0.6s,baz=33,slow=8.3,SNR=39
HNR Honiara 61.32 181 P **P** **13 33 30.3 +1.7**
comp=Z,43nm,0.4s,baz=316,slow=2.4,SNR=8.2
NIL Nilore 62.70 290 *e*P **P** **13 33 36.2 -1.8**
comp=Z,6.6nm,0.8s
NIL Nilore 62.70 290 *e*P **P** **13 33 36.2 -1.8**
NIL pmax pmax
comp=Z,7.0nm,0.8s
OBN Obninsk 63.47 328⇓*e*P **P** **13 33 42.6 0.0**
OBN *e*PP **pP** **13 33 53.8 +2.0**
OBN S S 13 42 03.0 -10
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,253nm,27.0s
VSU Vasula 63.53 335⇑*e*P **P** **13 33 43.0 0.0**
VSU pmax pmax
comp=Z,54nm,1.7s
NB2 NORSAR Subarra 64.54 344 P **P** **13 33 49.4 -0.2**
comp=Z,2.8nm,0.7s,baz=21,slow=6.9
NOA NORSAR Array B 64.54 344 P **P** **13 33 49.5 -0.2**
comp=Z,3.5nm,0.7s,baz=21,slow=6.6,SNR=14
NOA LR LR 14 05 35.8
comp=Z,81nm,19.9s,baz=240,slow=40
VSR Storozhevoye 65.77 324⇓*i*P **P** **13 33 57.4 -0.3**
VSR pmax pmax
comp=Z,29nm,1.7s
KONO Kongsberg 66.12 344⇓*e*P **P** **13 33 59.5 -0.4**
KONO pmax pmax
comp=Z,6.0nm,0.9s
IDID Didziasalis 66.28 333 *e*P **P** **13 34 01.4 +0.5**
IDID IAmb IAmb 13 34 02.6
comp=Z,3.7nm,0.8s
IIGN Ignalina 66.39 334 *e*P **P** **13 34 01.4 -0.3**
IIGN IAmb IAmb 13 34 03.3
comp=Z,8.7nm,0.7s
GEYT Alibeck 67.84 304 P **P** **13 34 11.2 -0.1**
comp=Z,3.6nm,0.6s,baz=111,slow=3.3,SNR=4.8
AKASG Malin Array Be 69.58 329 P **P** **13 34 21.2 -0.5**
comp=Z,3.4nm,0.6s,baz=30,slow=6.4,SNR=17
AKASG LR LR 14 10 13.9
comp=Z,176nm,18.0s,baz=325,slow=41
KIEV Kiev 69.59 329 *e*P **P** **13 34 19.2 -2.6**
comp=Z,8.9nm,0.9s
KIEV Kiev 69.59 329⇓*i*P **P** **13 34 21.9 +0.1**
KIEV Kiev 69.59 329*ce*P **P** **13 34 21.2 -0.6**
KIEV pmax pmax
comp=Z,12nm,1.1s
NCK Nalchik 70.32 316⇑*e*P **P** **13 34 26.3 -0.2**
NCK pmax pmax
comp=Z,6.0nm,0.4s
KBZ Khabaz 70.42 317 P **P** **13 34 27.2 +0.2**
comp=Z,4.8nm,0.8s,baz=118,slow=4.2,SNR=9.8
TXAR Lajitas Array 70.76 67 P **P** **13 34 31.1 +1.7**
comp=Z,0.8nm,0.6s,baz=297,slow=4.6,SNR=11
HYB Hyderabad 71.56 275 *i* P **P** **13 34 34.5 +0.1**
KWP Kalwaria Pacla 72.47 333 *e*P **P** **13 34 40.3 +1.0**
KWP Kalwaria Pacla 72.47 333 *e*P **P** **13 34 40.3 +1.0**
KOLS Kolonicke sedl 73.22 333 *e*P **P** **13 34 44.8 +1.0**
KOLS pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 73.22 333 *e*P **P** **13 34 44.8 +1.0**
CLL Collm 73.35 339 *i* P **P** **13 34 44.7 +0.2**
CLL *e* 13 34 57.0
CLL *e* 13 35 09.0
CLL pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 73.35 339 *i* P **P** **13 34 44.7 +0.2**
comp=Z,7.0nm,0.6s
CLL *e*pP **sP** **13 34 57.0 +0.3**
CLL *e* 13 35 09.0
CLL LmV 14 12 00.0
comp=Z,200nm,18.9s
DPC Dobruska-Polom 73.48 337 *e*P **P** **13 34 46.8 +1.4**
DPC Dobruska-Polom 73.48 337 *e*P **P** **13 34 46.8 +1.4**
BURAR Bucovina Array 73.54 330⇑*i*P **P** **13 34 46.0 +0.2**
BURAR Bucovina Array 73.54 330⇑P **P** **13 34 46.0 +0.2**
BRG Berggiesshubel 73.55 339 *e*P **P** **13 34 46.3 +0.6**
comp=Z,4.6nm,1.0s
BRG Berggiesshubel 73.55 339 *e*P **P** **13 34 46.3 +0.6**
BRG pmax pmax
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 73.71 336⇑*i*P **P** **13 34 47.6 +0.8**
MORC Moravsky Berou 73.71 336⇑P **P** **13 34 47.6 +0.8**
MORC Moravsky Berou 73.71 336 *e*P **P** **13 34 47.5 +0.8**
LANS Liptovska Anna 73.79 335 *e*P **P** **13 34 49.1 +1.9**
LANS Liptovska Anna 73.79 335 *e*P **P** **13 34 49.1 +1.9**
TRPA Tarpa 73.87 332⇓*i*P **P** **13 34 48.5 +0.9**
JAVC Velka Javorina 74.53 336 *e*P **P** **13 34 53.3 +1.8**
VYHS Vyhne 74.56 335 *e*P **P** **13 34 52.7 +1.1**
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 74.56 335 *e*P **P** **13 34 52.7 +1.1**
VRI Vrincioaia 74.62 328⇑*i*P **P** **13 34 54.8 +2.7**
VRI Vrincioaia 74.62 328⇑P **P** **13 34 54.8 +2.7**
KRUC Moravsky 74.66 336 *e*P **P** **13 34 52.9 +0.7**
PLOR Plostina 74.66 329⇑*i*P **P** **13 34 53.3 +1.0**
PLOR Plostina 74.66 329⇑P **P** **13 34 53.3 +1.0**
CFR Carcaliu 74.77 327⇑*i*P **P** **13 34 53.1 +0.3**
CFR Carcaliu 74.77 327⇑P **P** **13 34 53.1 +0.3**
MODS Modra-Piesok 75.08 336 *e*P **P** **13 34 55.0 +0.4**
MODS pmax pmax
comp=Z,5.0nm,1.1s
MODS Modra-Piesok 75.08 336 *e*P **P** **13 34 55.0 +0.4**
MLR Muntele Rosu 75.21 329⇑*i*P **P** **13 34 56.8 +1.2**
MLR Muntele Rosu 75.21 329⇑P **P** **13 34 56.8 +1.2**
KHC Kasperske Hory 75.26 338 *e*P **P** **13 34 56.8 +1.1**
KHC Kasperske Hory 75.26 338 *e*P **P** **13 34 56.8 +1.1**
WRAB Tennant Creek 75.32 205⇑*e*P **P** **13 34 55.2 -1.0**
WRAB pmax pmax
comp=Z,31nm,2.9s
WRA Warramunga Arr 75.33 205 P **P** **13 34 57.1 +0.8**
comp=Z,1.4nm,1.1s,baz=25,slow=5.3,SNR=4.0
GEC2 GERESS Array S 75.50 338 *e*P **P** **13 34 57.4 +0.2**
comp=Z,4.9nm,1.2s
GERES GERESS Array B 75.50 338 P **P** **13 34 57.4 +0.2**
comp=Z,0.6nm,0.2s,baz=44,slow=5.9,SNR=8.1
VOIR 75.54 329⇓*i*P **P** **13 34 58.4 +1.0**
VOIR 75.54 329⇓P **P** **13 34 58.4 +1.0**
ARR Arges 75.73 330⇓*i*P **P** **13 35 00.0 +1.5**
ICOR Ion Corvin 75.82 327⇑*i*P **P** **13 35 00.0 +1.1**
CONA Conrad Observa 75.84 336 *e*P **P** **13 35 00.5 +1.4**
comp=Z,3.0nm,0.9s
FITZ Fitzroy Crossi 76.25 214 P **P** **13 35 02.5 +0.9**
comp=Z,0.8nm,0.7s,baz=31,slow=5.9,SNR=2.8
GZR Gura Zlata 76.28 331⇑*i*P **P** **13 35 01.8 +0.2**
GZR Gura Zlata 76.28 331⇑P **P** **13 35 01.8 +0.2**
MOA Molln 76.31 337 *e*P **P** **13 35 03.4 +1.7**
comp=Z,1.0nm,0.5s
BZS Buzias 76.42 332⇓*i*P **P** **13 35 02.9 +0.6**
BZS Buzias 76.42 332⇓P **P** **13 35 02.9 +0.6**
ARSA Arzberg 76.56 336 *e*P **P** **13 35 04.9 +1.7**
comp=Z,3.0nm,0.7s
SOKA Soboth 77.22 336 *e*P **P** **13 35 08.1 +1.2**
comp=Z,6.2nm,1.4s
KBA Koelnbreinsper 77.25 338 *e*P **P** **13 35 08.7 +1.5**
comp=Z,11nm,0.8s
OBKA Obir 77.49 337 *e*P **P** **13 35 10.7 +2.2**
comp=Z,5.5nm,0.7s
MOTA Moosalm 77.50 339 *e*P **P** **13 35 09.4 +0.8**
comp=Z,4.8nm,0.9s
BRTR Keskin Array B 77.54 321 P **P** **13 35 08.5 -0.4**
comp=Z,1.8nm,0.9s,baz=48,slow=3.7,SNR=13
SQTA Sankt Quirin 77.60 339 *e*P **P** **13 35 10.7 +1.6**
comp=Z,6.9nm,0.7s
ABTA Abfaltersbach 77.75 338 *e*P **P** **13 35 11.6 +1.7**
comp=Z,7.7nm,1.1s
DAVA Damuels 77.82 340 *e*P **P** **13 35 11.8 +1.4**
comp=Z,5.2nm,0.9s
FETA Feichten 77.89 339 *e*P **P** **13 35 12.8 +2.0**
comp=Z,6.3nm,1.1s
ASAR Alice Springs 79.00 205 P **P** **13 35 18.9 +2.0**
comp=Z,0.6nm,0.6s,baz=19,slow=5.3,SNR=6.0
ESDC Sonseca Array 87.57 348 P **P** **13 36 01.5 +0.5**
comp=Z,0.6nm,0.4s,baz=10,slow=5.0,SNR=5.8

*MOS **21** 13:27:48.7±0.8, 15°.12S×71°.40W,h109km,mb5.1/36, Error ellipse: s-maj=14.8km s-min=5.8km az=115.8*
*IDC **21** 13:27:49.2±0.4, 15°.09S×71°.27W,h100km±3km,mb4.8/22, mb1 5.0/26,mb1mx4.8/35,mbtmp5.1/26,MS4.0/4, Ms1 4.0/4,ms1mx3.6/35,Error ellipse: s-maj=14.7km s-min=8.6km az=64.0*
*ISCJB **21** 13:27:49.1±0.4, 15°.10S±0°.02×71°.38W±0°.03,h115km±4km, mb5.2/280,Error ellipse: s-maj=5.2km s-min=3.0km az=156.2*
*NEIC **21** 13:27:49.4±0.1, 15°.13S×71°.35W,mb5.2/272, MW4.9(GUC),Error ellipse: s-maj=4.5km s-min=2.0km az=67.0*
*BJI **21** 13:27:51.3±0.0, 15°.10S×71°.30W,h107km,mB5.3/8*
*GUC **21** 13:27:52.4±0.7, 15°.59S×71°.88W,h204km±19km,MW4.9*
*VAO **21** 13:27:54.2±0.3, 15°.32S×71°.46W,h146km,mb5.3*
*GCMT **21** 13:27:58.3±0.1, 15°.29S±0°.01×71°.55W±0°.01,h150km±1km, MW5.4/113,Moment Tensor Solution. s85,c128; s113,c205; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr-0.21±.03; Mθθ-1.28±.02; Mφφ1.49±.03; Mrθ0.75±.02; Mθφ-0.53±.03; Mφr0.69±.02; Best double couple: M=1.80900×10^17 NP1:φ=213.00000°,δ83.00000°, λ-34.00000°. NP2:φ=307.00000°,δ56.00000°, λ-171.00000°. Principal axes: T 1.7600, Plg17.0000°, Azm265.0000°; N 0.1000, Plg55.0000°, Azm22.0000°; P -1.8580, Plg29.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 13:27:51.7±0.4, 15°.27S±0°.04×71°.56W±0°.05, h125km±3km, h124km:pP-P,n1090,σ1§34/1144, mb5.1/277, 12C-23D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	**LAS PENAS INFR**	**3.13**	**108**	P	**Pn**	**13 28 44.0**	**+3.6**
baz=281,slow=19,SNR=2.0							
LPAZ	**La Paz**	**3.45**	**108**	*e*P	**Pn**	**13 28 47.4**	**+2.8**
LPAZ				⇓*e*S	**Sn**	**13 29 29.1**	**+3.8**
LPAZ	**La Paz**	**3.45**	**108**	⇑*i*P	**Pn**	**13 28 48.5**	**+3.8**
LPAZ	**La Paz**	**3.45**	**108**	P	**Pn**	**13 28 48.4**	**+3.8**
153nm,0.3s,baz=294,slow=11,SNR=1424							
LPAZ				S	**Sn**	**13 29 24.9**	**-0.5**
13nm,0.3s,baz=316,slow=4.4,SNR=1.8							
PB12	**IPOC Station P**	**3.53**	**161**	*e*P	**Pn**	**13 28 45.5**	**+0.4**
PB12				*e*S	**Sn**	**13 29 26.1**	**-0.4**
PB12	**IPOC Station P**	**3.53**	**161**	⇓*i*P	**Pn**	**13 28 46.3**	**+1.2**
PB12				*i* S	**Sn**	**13 29 27.2**	**+0.8**
PB16	**IPOC Station P**	**3.62**	**148**	⇓*i*P	**Pn**	**13 28 49.5**	**+2.7**
PB16				*i* S	**Sn**	**13 29 34.3**	**+4.8**
MNMC	**Minye Minye**	**4.27**	**154**	*e*Pn	**Pn**	**13 28 56.6**	**+1.4**
MNMC	**Minye Minye**	**4.27**	**154**	⇓*i*P	**Pn**	**13 28 56.6**	**+1.4**
MNMC				*e*S	**Sn**	**13 29 45.3**	**+0.8**
MNMCX	**Minye Minye**	**4.27**	**154**	*e*P	**Pn**	**13 28 56.2**	**+1.0**
MNMCX				*e*S	**Sn**	**13 29 44.5**	**0.0**
PSGC	**Pisagua**	**4.52**	**163**	⇓*i*P	**Pn**	**13 28 58.1**	**-0.2**
PSGC				*e*S	**Sn**	**13 29 48.8**	**-1.2**
PSGCX	**Pisagua**	**4.52**	**163**	*e*P	**Pn**	**13 28 58.3**	**0.0**
PB11	**IPOC Station P**	**4.82**	**158**	*e*Pn	**Pn**	**13 29 02.3**	**-0.1**
PB11	**IPOC Station P**	**4.82**	**158**	*e*P	**Pn**	**13 29 02.6**	**+0.2**
PB11	**IPOC Station P**	**4.82**	**158**	⇓*i*P	**Pn**	**13 29 02.3**	**-0.1**
PB11				*e*S	**Sn**	**13 29 56.6**	**-0.8**
GO01	**Chusmiza**	**4.92**	**153**	*e*Pn	**Pn**	**13 29 06.1**	**+2.0**
GO01	**Chusmiza**	**4.92**	**153**	⇓*i*P	**Pn**	**13 29 06.2**	**+2.1**
GO01				*e*S	**Sn**	**13 30 02.7**	**+2.3**
PB08	**IPOC Station P**	**5.36**	**155**	*e*P	**Pn**	**13 29 10.2**	**+0.3**
PB08				*e*S	**Sn**	**13 30 09.6**	**-1.1**
PB08	**IPOC Station P**	**5.36**	**155**	⇓*i*P	**Pn**	**13 29 10.7**	**+0.8**
PB08				*e*S	**Sn**	**13 30 10.4**	**-0.4**
PB01	**IPOC Station P**	**6.07**	**161**	*e*Pn	**Pn**	**13 29 18.1**	**-1.1**
PB01	**IPOC Station P**	**6.07**	**161**	⇓*i*P	**Pn**	**13 29 18.1**	**-1.1**
PB01				*e*S	**Sn**	**13 30 25.4**	**-2.0**
NNA	**Nana**	**6.09**	**302**	*e*Pn	**Pn**	**13 29 18.9**	**-0.5**
NNA	**Nana**	**6.09**	**302**	P	**Pn**	**13 29 19.4**	**0.0**
59nm,0.3s,baz=136,slow=10,SNR=42							
NNA				S	**Sn**	**13 30 24.2**	**-3.7**
195nm,0.3s,baz=333,slow=5.9,SNR=21							
PB02	**IPOC Station P**	**6.22**	**166**	⇓*e*P	**Pn**	**13 29 20.5**	**-0.7**
PB02	**IPOC Station P**	**6.22**	**166**	*e*P	**Pn**	**13 29 20.3**	**-0.9**
PB02				*e*S	**Sn**	**13 30 27.2**	**-3.9**
PB07	**IPOC Station P**	**6.62**	**166**	*e*P	**Pn**	**13 29 26.3**	**-0.3**
PB09	**IPOC Station P**	**6.85**	**162**	*e*P	**Pn**	**13 29 29.5**	**-0.3**
PB03	**IPOC Station P**	**6.96**	**166**	*e*P	**Pn**	**13 29 30.8**	**-0.4**
PB04	**IPOC Station P**	**7.15**	**169**	*e*Pn	**Pn**	**13 29 32.1**	**-1.8**
PB04	**IPOC Station P**	**7.15**	**169**	*e*P	**Pn**	**13 29 33.1**	**-0.8**
PB06	**IPOC Station P**	**7.63**	**166**	*e*P	**Pn**	**13 29 39.4**	**-0.9**
PB05	**IPOC Station P**	**7.65**	**171**	*e*P	**Pn**	**13 29 39.2**	**-1.3**
LVC	**Limon Verde**	**7.72**	**161**	*e*Pn	**Pn**	**13 29 40.6**	**-1.1**
LVC	**Limon Verde**	**7.72**	**161**	*e*P	**Pn**	**13 29 41.5**	**-0.2**
LVC				IAML		13 29 43.0	
comp=Z,323nm,0.2s							
LVC	**Limon Verde**	**7.72**	**161**	*ce*P	**Pn**	**13 29 41.3**	**-0.3**
LVC				pmax	pmax		
comp=Z,1μm,0.8s							
LVC	**Limon Verde**	**7.72**	**161**	P	**Pn**	**13 29 41.5**	**-0.2**
comp=Z,180nm,0.3s,baz=357,slow=9.6,SNR=1016							
LVC				S	**Sn**	**13 31 08.4**	**+0.7**
comp=Z,130nm,0.3s,baz=167,slow=22,SNR=19							
LVC				LR	LR	13 32 29.0	
comp=Z,824nm,20.8s,baz=356,slow=36							
LVC	**Limon Verde**	**7.72**	**161**	*e*P	**Pn**	**13 29 41.3**	**-0.3**
PB10	**IPOC Station P**	**8.26**	**174**	*e*Pn	**Pn**	**13 29 46.5**	**-2.1**
PB10	**IPOC Station P**	**8.26**	**174**	*e*P	**Pn**	**13 29 46.5**	**-2.1**
GO02	**Mina Guanaco**	**10.01**	**170**	*e*Pn	**Pn**	**13 30 10.1**	**-2.4**
SIV	**San Ignacio**	**10.12**	**95**	P	**Pn**	**13 30 12.1**	**-1.7**
comp=Z,20nm,0.3s,baz=284,slow=12,SNR=229							
SIV				S	**Sn**	**13 32 03.0**	**-2.6**
baz=206,slow=9.2,SNR=4.0							
ATAH	**Atahualpa**	**10.50**	**320**	P	**Pn**	**13 30 18.9**	**-0.5**
comp=Z,1.9nm,0.3s,baz=139,slow=5.9,SNR=15							
ATAH				S	**Sn**	**13 32 23.8**	**+8.4**
comp=Z,2.7nm,0.3s,baz=311,slow=1.5,SNR=4.2							
AZAP	**Zapla**	**10.80**	**147**	*e*P	**Pn**	**13 30 22.7**	**-0.4**
SLA	**San Lorenzo**	**10.99**	**150**	*e*P	**Pn**	**13 30 24.9**	**-0.6**
GO03	**Copiap**	**12.32**	**175**	*e*Pn	**Pn**	**13 30 40.6**	**-2.5**
AHML	**Horco Molle**	**12.84**	**154**	*e*P	**Pn**	**13 30 46.6**	**-3.1**
LCO	**Las Campanas**	**13.70**	**177**	*e*Pn	**Pn**	**13 31 01.4**	**+0.4**
LCO	**Las Campanas**	**13.70**	**177**	*ce*P	**Pn**	**13 31 02.1**	**+1.1**
LCO	**Las Campanas**	**13.70**	**177**	*e*P	**Pn**	**13 31 02.1**	**+1.1**
AGUA	**GUANDACOL**	**14.43**	**169**	*e*P	**Pn**	**13 31 10.5**	**+0.3**
GO04	**Tololo Observa**	**14.85**	**177**	*e*Pn	**Pn**	**13 31 15.8**	**+0.2**
comp=Z,702nm,0.9s							
AROD	**Rodeo**	**14.95**	**173**	*e*P	**P**	**13 31 18.9**	**-0.5**
ACDV	**Cuesta del Vie**	**15.00**	**172**	*e*P	**Pn**	**13 31 18.1**	**+0.7**
ACCO	**Cerro Coronel**	**15.42**	**172**	*e*P	**Pn**	**13 31 23.6**	**+0.8**
PTLC	**Puerto Leguiza**	**15.67**	**348**	*e*P	**Pn**	**13 31 19.0**	**-6.8**
PTLC	**Puerto Leguiza**	**15.67**	**348**	*e*P	**Pn**	**13 31 19.0**	**-6.8**
AQDB	**Aquidauana**	**15.95**	**111**	*e*P	**P**	**13 31 29.6**	**-0.7**
OTAV	**Otavalo**	**16.85**	**336**	*e*Pn	**P**	**13 31 41.9**	**+1.2**
comp=Z,196nm,1.1s							
OTAV	**Otavalo**	**16.85**	**336**	*e*P	**P**	**13 31 42.5**	**+1.8**
OTAV	**Otavalo**	**16.85**	**336**	*e*P	**P**	**13 31 41.9**	**+1.2**
OTAV				pmax	pmax		
comp=Z,196nm,1.1s							
OTAV	**Otavalo**	**16.85**	**336**	*e*P	**P**	**13 31 42.5**	**+1.8**
OTAV	**Otavalo**	**16.85**	**336**	*e*P	**P**	**13 31 42.2**	**+1.5**
AUSP	**Uspallata**	**16.99**	**174**	*e*P	**P**	**13 31 41.9**	**-0.1**
FLOC	**Florencia**	**17.23**	**346**	*e*P	**Pn**	**13 31 44.7**	**-0.2**
FLOC	**Florencia**	**17.23**	**346**	*e*P	**Pn**	**13 31 44.7**	**-0.2**
CPUP	**Villa Florida**	**17.25**	**132**	*e*P	**P**	**13 31 43.3**	**-1.2**
comp=Z,321nm,1.0s							
CPUP	**Villa Florida**	**17.25**	**132**	P	**P**	**13 31 42.8**	**-1.7**
comp=Z,4.9nm,0.3s,baz=309,slow=11,SNR=132							
CPUP				S	**Sn**	**13 34 54.2**	**-3.2**
comp=Z,0.4nm,0.3s,baz=272,slow=16,SNR=1.2							
CPUP	**Villa Florida**	**17.25**	**132**	*e*P	**P**	**13 31 44.1**	**-0.4**
GCUF	**Volcan Galeras**	**17.36**	**340**	*e*P	**Pn**	**13 31 49.9**	**+3.0**
GCUF	**Volcan Galeras**	**17.36**	**340**	*e*P	**Pn**	**13 31 49.9**	**+3.0**
ACAN	**Cantantal**	**17.39**	**168**	*e*P	**P**	**13 31 45.6**	**-0.5**
ASAL	**Salagasta**	**17.42**	**172**	*e*P	**Pn**	**13 31 47.0**	**-0.1**
CRUC	**La Cruz**	**17.56**	**342**	*e*P	**Pn**	**13 31 51.6**	**+2.4**
CRUC	**La Cruz**	**17.56**	**342**	*e*P	**Pn**	**13 31 51.6**	**+2.4**
ROC1	**El Roble**	**17.64**	**179**	*e*P	**P**	**13 31 49.4**	**+0.4**
ARCO	**CERRO ARCO**	**17.66**	**173**	*e*P	**Pn**	**13 31 51.4**	**+1.4**
PEL	**Peldehue**	**17.81**	**178**	*e*P	**Pn**	**13 31 51.5**	**-0.3**
comp=Z,303nm,0.9s							
PEL	**Peldehue**	**17.81**	**178**	*e*P	**Pn**	**13 31 51.5**	**-0.3**
PEL				pmax	pmax		
comp=Z,303nm,0.9s							
AAGR	**Agrelo**	**17.91**	**173**	*e*P	**P**	**13 31 51.3**	**-0.6**
SOTA	**Rioblanco**	**18.00**	**343**	*e*P	**Pn**	**13 31 55.9**	**+1.3**
SOTA	**Rioblanco**	**18.00**	**343**	*e*P	**Pn**	**13 31 55.9**	**+1.3**
BBAC	**Balboa, Cauca**	**18.08**	**341**	*e*P	**Pn**	**13 31 55.7**	**+0.5**
BBAC	**Balboa, Cauca**	**18.08**	**341**	*e*P	**Pn**	**13 31 55.7**	**+

CHIC	Chingaza	19.89	354	eP	Pn	13 32 17.4 +0.7
MALC	Bahia Malaga	20.00	343	eP	Pn	13 32 16.6 -0.9
MALC	Bahia Malaga	20.00	343	eP	Pn	13 32 16.6 -0.9
ROSC	El Rosal	20.17	352	eP	P	13 32 15.9 -0.9
	comp=Z,72nm,1.1s					
ROSC	El Rosal	20.17	352	P	P	13 32 17.7 +0.9
	comp=Z,11nm,0.6s,baz=197,slow=6.4,SNR=5.7					
ROSC				S	S	13 35 57.9 +1.1
	comp=Z,5.4nm,0.4s,baz=150,slow=23,SNR=1.2					
RREF	El Recreo	20.39	349	eP	P	13 32 20.0 +0.5
RREF	El Recreo	20.39	349	eP	P	13 32 20.0 +0.5
YOPC	Yopal, Colombi	20.51	358	eP	P	13 32 20.4 +0.2
YOPC	Yopal, Colombi	20.51	358	eP	P	13 32 20.4 +0.2
PTGB	Pitanga	20.56	120	eP	P	13 32 21.1 +0.3
PLMC	San Jos del P	20.58	346	eP	P	13 32 21.2 +0.2
PLMC	San Jos del P	20.58	346	eP	P	13 32 21.2 +0.2
ITRB	Iturama	20.69	105	eP	P	13 32 21.7 -0.4
GUY2C	Guyana, Caldas	20.71	349	eP	P	13 32 23.2 +0.5
GUY2C	Guyana, Caldas	20.71	349	eP	P	13 32 23.2 +0.5
NORC	Norcasia	20.96	351	eP	P	13 32 23.8 -1.2
NORC	Norcasia	20.96	351	eP	P	13 32 23.8 -1.2
RUSC	La Rusia	21.08	356	eP	P	13 32 25.3 -1.4
RUSC	La Rusia	21.08	356	eP	P	13 32 25.3 -1.4
TAMC	Tame, Arauca	21.57	359	eP	P	13 32 32.4 +1.0
TAMC	Tame, Arauca	21.57	359	eP	P	13 32 32.4 +1.0
ITAB	Concordia	21.63	127	eP	P	13 32 31.4 -0.7
HELC	Santa Helena	21.68	349	eP	P	13 32 33.8 +0.7
HELC	Santa Helena	21.68	349	eP	P	13 32 33.8 +0.7
BARC	Barichara	21.78	356	eP	P	13 32 31.4 -2.5
BARC	Barichara	21.78	356	eP	P	13 32 31.4 -2.5
PTBC	PUERTO BERRIO,	21.86	352	eP	P	13 32 31.2 -3.4
PTBC	PUERTO BERRIO,	21.86	352	eP	P	13 32 31.2 -3.4
SOLC	Bahia Solano	22.13	344	eP	P	13 32 39.2 +1.8
SOLC	Bahia Solano	22.13	344	eP	P	13 32 39.2 +1.8
FRTB	Fartura	22.23	115	eP	P	13 32 38.5 +0.1
BRRC	Barranca, Sant	22.34	354	eP	P	13 32 37.6 -1.8
BRRC	Barranca, Sant	22.34	354	eP	P	13 32 37.6 -1.8
PAMC	Pamplona, Colo	22.49	357	eP	P	13 32 38.6 -2.8
PAMC	Pamplona, Colo	22.49	357	eP	P	13 32 38.6 -2.8
BB19B	Bebedouro	22.61	108	eP	P	13 32 41.1 -1.2
BDFB	Brasilia	22.69	94	eP	P	13 32 41.0 -2.1
	comp=Z,125nm,1.3s					
BDFB	Brasilia	22.69	94	eP	P	13 32 41.0 -2.1
BDFB				pmax	pmax	
	comp=Z,125nm,1.3s					
BDFB	Brasilia	22.69	94	P	P	13 32 41.6 -1.5
	comp=Z,41nm,0.5s,baz=266,slow=12,SNR=42					
ZARC	Zaragoza, Cauc	22.85	352	eP	P	13 32 41.8 -2.6
ZARC	Zaragoza, Cauc	22.85	352	eP	P	13 32 41.8 -2.6
TIJ01	Guaruva-PR	23.36	119	eP	P	13 32 49.2 -0.1
CNLB	Canela	23.66	130	eP	P	13 32 50.8 -1.1
SDV	Santo Domingo	24.02	2	eP	P	13 32 52.7 -2.6
	comp=Z,128nm,1.0s					
SDV	Santo Domingo	24.02	2	eP	P	13 32 54.9 -0.5
SDV	Santo Domingo	24.02	2	eP	P	13 32 54.9 -0.5
SDV	Santo Domingo	24.02	2	P	P	13 32 54.1 -1.2
	comp=Z,102nm,0.9s,baz=212,slow=7.9,SNR=70					
SDV	Santo Domingo	24.02	2	eP	P	13 32 54.5 -0.8
SMLC	San Martn de	24.05	354	eP	P	13 32 53.5 -1.9
SMLC	San Martn de	24.05	354	eP	P	13 32 53.5 -1.9
SPB	Sao Paulo	24.18	114	eP	P	13 32 55.1 -1.5
	comp=Z,119nm,0.8s					
SPB	Sao Paulo	24.18	114	eP	P	13 32 55.7 -0.9
TRQA	Tornquist	24.23	161	eP	P	13 32 56.7 -0.2
	comp=Z,475nm,1.8s					
TRQA	Tornquist	24.23	161	eP	P	13 32 56.7 -0.2
TRQA				pmax	pmax	
	comp=Z,475nm,1.8s					
TRQA	Tornquist	24.23	161	eP	P	13 32 55.5 -1.4
TER01	Tubaro-SC	24.58	126	eP	P	13 33 00.1 -0.2
ARGC	Ariguani, Magd	25.11	354	eP	P	13 33 05.0 -0.1
ARGC	Ariguani, Magd	25.11	354	eP	P	13 33 05.0 -0.1
CODC	Agustn Codazz	25.11	356	eP	P	13 33 02.3 -2.8
CODC				eP	P	13 33 02.3 -2.8
CODC	Agustn Codazz	25.11	356	eP	P	13 33 02.3 -2.8
CODC				eP	P	13 33 02.3 -2.8
SJCC	San Jacinto, C	25.26	352	eP	P	13 33 05.2 -1.3
SJCC	San Jacinto, C	25.26	352	eP	P	13 33 05.2 -1.3
PLCA	Paso Flores	25.39	178	eP	P	13 33 08.5 +1.1
	comp=Z,380nm,1.3s					
PLCA	Paso Flores	25.39	178	eP	P	13 33 08.5 +1.1
PLCA				pmax	pmax	
	comp=Z,380nm,1.3s					
PLCA	Paso Flores	25.39	178	P	P	13 33 08.5 +1.1
	comp=Z,170nm,1.1s,baz=226,slow=14,SNR=4.6					
PLCA				ScP	ScP	13 40 05.5 +0.9
	comp=Z,9.6nm,1.1s,baz=16,slow=3.6,SNR=5.2					
PLCA	Paso Flores	25.39	178	eP	P	13 33 07.0 -0.4
VAS01	Vassouras-RJ	27.48	109	eP	P	13 33 26.5 0.0
DUB01	Friburgo-RJ	28.43	108	eP	P	13 33 35.5 +0.6
CAM01	Campos-RJ	29.05	107	eP	P	13 33 40.5 +0.2
SJMB	Sao Joao De Ma	29.23	101	eP	P	13 33 41.3 -0.6
BSFB	Barra de Sao F	29.55	101	eP	P	13 33 44.2 -0.6
ALF01	Guarapari-ES	29.78	105	eP	P	13 33 47.1 +0.3
RIB01	Linhares ES	30.00	102	eP	P	13 33 47.6 -1.2
CRPR	Cabo Rojo, PR	33.35	8	eP	P	13 34 16.5 -1.6
	comp=Z,85nm,1.1s					
CBYP	Canovanas	33.80	10	eP	P	13 34 18.6 -3.4
	comp=Z,39nm,0.8s					
RCBR	Riachuelo	36.23	79	eP	P	13 34 43.3 +0.3
EFI	East Falkland	37.89	166	eP	P	13 34 57.8 +1.3
	comp=Z,109nm,0.8s					
EFI	East Falkland	37.89	166	||P	P	13 34 56.7 +0.2
USHA	Ushuaia	39.55	177	P	P	13 35 12.1 +1.8
	comp=Z,43nm,0.7s,baz=3.8,slow=7.4,SNR=20					
TLIG	Tlapa	42.12	320	eP	P	13 35 32.8 +0.9
	comp=Z,15nm,0.9s					
060Z	West Palm Beac	42.34	348	P	P	13 35 34.6 +1.2
	baz=167					
059A	Moore Haven	43.01	347	P	P	13 35 38.6 -0.2
	baz=166					
058A	Arcadia	43.23	347	P	P	13 35 41.0 +0.3
	baz=165					
859A	Kempfer Cattle	44.01	348	P	P	13 35 47.1 +0.2
	baz=167					
857A	Zephyrhills	44.50	347	P	P	13 35 51.3 +0.6
	baz=165					
757A	Oxford	45.11	347	P	P	13 35 56.4 +0.8
	baz=165					
658A	Bunnell	45.41	348	P	P	13 35 58.5 +0.5
	baz=167					
656A	Willston	45.63	347	P	P	13 36 00.4 +0.8
	baz=165					
657A	Interlachen	45.69	347	P	P	13 36 01.3 +1.2
	baz=166					
655A	Horseshoe Beac	45.93	346	P	P	13 36 02.6 +0.6
	baz=164					
557A	Orange Park	46.08	348	P	P	13 36 03.7 +0.5
	baz=166					
556A	Lake Butler	46.21	347	P	P	13 36 05.0 +0.8
	baz=165					
555A	McAlpin	46.45	346	P	P	13 36 07.1 +1.1
	baz=164					
455A	Stateville	47.06	346	P	P	13 36 11.9 +1.1
	baz=165					
454A	Quitman	47.17	346	P	P	13 36 12.8 +1.1
	baz=164					
356A	Blackshear	47.43	348	P	P	13 36 14.3 +0.6
	baz=166					
453A	Whigham	47.47	345	P	P	13 36 15.2 +1.2
	baz=163					
HOPE	Hope Point	47.53	153	eP	P	13 36 15.4 +1.2
	comp=Z,217nm,0.9s					
452A	Marianna	47.69	344	P	P	13 36 16.4 +0.7
	baz=162					
353A	Camilla	47.92	345	P	P	13 36 18.2 +0.8
	baz=163					
256A	Glennville	48.01	348	P	P	13 36 18.4 +0.2
	baz=166					
255A	Hazlehurst	48.08	347	P	P	13 36 19.0 +0.3
	baz=166					
254A	Abbeville	48.28	347	P	P	13 36 20.1 -0.1
	baz=164,SNR=5.7					
LNIG	Linares	48.32	325	eP	P	13 36 20.9 +0.2
	comp=Z,50nm,0.9s					
158A	Hollywood	48.44	350	P	P	13 36 20.7 -0.8
	baz=169					
ZAIG	Zacatecas	48.49	321	eP	P	13 36 21.9 -0.5
	comp=Z,34nm,1.0s					
349A	Repton	48.73	342	P	P	13 36 23.1 -0.6
	baz=160					
155A	Kite	48.75	348	P	P	13 36 23.7 -0.1
	baz=166,SNR=6.0					
154A	Montrose	48.88	347	eP	P	13 36 21.9 -2.9
	comp=Z,292nm,1.4s					
154A	Montrose	48.88	347	P	P	13 36 24.5 -0.3
	baz=165					
251A	Midway	48.93	344	P	P	13 36 24.3 -0.9
	baz=162,SNR=9.7					
Z57A	Bowman	49.08	350	P	P	13 36 25.8 -0.5
	baz=168					
249A	Camden	49.29	342	P	P	13 36 28.1 +0.2
	baz=160					
152A	Waverly Hall	49.30	345	eP	P	13 36 26.9 -1.1
	comp=Z,149nm,1.7s					
152A	Waverly Hall	49.30	345	P	P	13 36 27.7 -0.4
	baz=163,SNR=10					
Z54A	Sparta	49.42	348	P	P	13 36 28.6 -0.3
	baz=165					
Y58A	Scranton	49.51	351	P	P	13 36 28.7 -0.9
	baz=170					
150A	Eclectic	49.58	344	P	P	13 36 30.1 0.0
	baz=161					
Z53A	Monticello	49.62	347	P	P	13 36 30.3 -0.1
	baz=164					
PMSA	Palmer Station	49.72	176	eP	P	13 36 33.0 +2.2
	comp=Z,364nm,1.3s					
PMSA	Palmer Station	49.72	176	P	P	13 36 32.9 +2.2
	comp=Z,159nm,1.1s,baz=349,slow=5.0,SNR=4.8					
PMSA	Palmer Station	49.72	176	eP	P	13 36 32.8 +2.0
GOGA	Godfrey	49.73	347	eP	P	13 36 31.5 +0.3
	comp=Z,130nm,1.6s					
GOGA	Godfrey	49.73	347	eP	P	13 36 31.5 +0.3
GOGA				pmax	pmax	
	comp=Z,130nm,1.6s					
GOGA	Godfrey	49.73	347	P	P	13 36 30.6 -0.6
	baz=165					
Z52A	Williamson	49.73	346	P	P	13 36 31.0 -0.3
	baz=163,SNR=5.6					
149A	Jones	49.78	343	P	P	13 36 31.3 -0.4
	baz=160					
Y55A	Saluda	49.91	349	P	P	13 36 32.2 -0.4
	baz=167,SNR=6.5					
Y54A	Tignall	50.00	348	P	P	13 36 33.0 -0.3
	baz=166,SNR=8.2					
Z51A	Franklin	50.03	345	P	P	13 36 33.3 -0.2
	baz=163					
Z50A	Ashland	50.16	344	eP	P	13 36 34.1 -0.5
	comp=Z,91nm,1.1s					
Z50A	Ashland	50.16	344	P	P	13 36 34.1 -0.5
	baz=162,SNR=8.7					
Y53A	Monroe	50.18	347	P	P	13 36 34.6 -0.1
	baz=165					
LRAL	Lakeview Retre	50.25	343	eP	P	13 36 34.5 -0.7
	comp=Z,63nm,1.4s					
LRAL	Lakeview Retre	50.25	343	P	P	13 36 35.2 0.0
	baz=160					
HODGE	Hodges	50.27	348	eP	P	13 36 35.5 +0.2
	comp=Z,109nm,1.6s					
Z49A	Columbiana	50.27	344	P	P	13 36 35.7 +0.4
	baz=161					
Y52A	Lilburn	50.29	346	eP	P	13 36 34.4 -1.1
	comp=Z,84nm,1.5s					
Y52A	Lilburn	50.29	346	P	P	13 36 35.4 -0.1
	baz=164					
X56A	White Oak	50.30	350	P	P	13 36 35.3 -0.2
	baz=168					
BIRD	Birdtown, Kers	50.35	350	eP	P	13 36 35.1 -0.9
	comp=Z,101nm,1.8s					
X55A	Gracelyn & Ava	50.38	349	P	P	13 36 36.0 -0.1
	baz=167					
W61A	Ground Anchor	50.43	354	P	P	13 36 36.3 -0.3
	baz=173					
W58A	Raeford	50.54	352	P	P	13 36 36.2 -1.1
	baz=170,SNR=11					
Y51A	Rockmart	50.56	345	P	P	13 36 37.0 -0.5
	baz=163,SNR=8.6					
X54A	Belton	50.60	348	P	P	13 36 37.7 -0.1
	baz=166,SNR=5.6					
Y50A	Piedmont	50.72	345	P	P	13 36 38.6 -0.2
	baz=162					
X53A	Estanollee	50.74	347	P	P	13 36 38.2 -0.7
	baz=165					
PAULI	Pauline	50.76	349	eP	P	13 36 38.7 -0.3
	comp=Z,191nm,1.9s					
W57A	Gilead	50.78	351	eP	P	13 36 37.5 -1.6
	comp=Z,30nm,1.4s					
W57A	Gilead	50.78	351	P	P	13 36 38.5 -0.7
	baz=169					
W56A	Indian Trail	50.85	350	P	P	13 36 38.8 -0.9
	baz=168					
Y49A	Blount Mountai	50.86	344	eP	P	13 36 38.4 -1.4
	comp=Z,141nm,1.8s					
Y49A	Blount Mountai	50.86	344	P	P	13 36 39.8 -0.1
	baz=161					
X52A	Dahlonega	50.97	347	P	P	13 36 40.3 -0.3
	baz=164					
KMSC	Kings Mountain	50.99	350	eP	P	13 36 39.7 -1.0
	comp=Z,166nm,2.0s					
KMSC	Kings Mountain	50.99	350	P	P	13 36 40.1 -0.6
	baz=168					
833A	Chaparral WMA,	51.03	328	eP	P	13 36 41.8 +0.6
	comp=Z,48nm,0.8s					
833A	Chaparral WMA,	51.03	328	P	P	13 36 41.0 -0.2
	baz=144,SNR=5.5					
W54A	Cherokee Point	51.09	349	P	P	13 36 41.2 -0.3
	baz=167,SNR=8.8					
Y48A	Jasper	51.12	343	P	P	13 36 41.4 -0.3
	baz=160					
BG3	Lake Jocassee	51.14	348	eP	P	13 36 41.9 0.0
	comp=Z,143nm,1.9s					
V59A	Middlesex	51.15	353	P	P	13 36 41.5 -0.3
	baz=172					
X51A	Calhoun	51.15	346	eP	P	13 36 41.8 -0.1
	comp=Z,161nm,1.7s					
X51A	Calhoun	51.15	346	P	P	13 36 41.8 -0.1
	baz=163					
X50B	Fort Payne	51.24	345	P	P	13 36 42.5 -0.1
	baz=162					
V58A	Windy Hill, Pi	51.29	352	P	P	13 36 42.2 -0.7
	baz=170					
W53A	Cullowhee	51.36	348	P	P	13 36 42.9 -0.8
	baz=165,SNR=12					
W52A	Murphy	51.44	347	eP	P	13 36 43.4 -0.8
	comp=Z,82nm,1.5s					
X49A	Woodville	51.46	344	P	P	13 36 43.7 -0.6
	baz=162					
V57A	Coltrane Farms	51.47	351	P	P	13 36 43.8 -0.5
	baz=170					
V56A	Mocksville	51.50	351	eP	P	13 36 43.1 -1.4
	comp=Z,161nm,1.8s					
V56A	Mocksville	51.50	351	P	P	13 36 43.6 -0.9
	baz=169					
X48A	Hartselle	51.59	344	eP	P	13 36 44.1 -1.1
	comp=Z,156nm,1.5s					
X48A	Hartselle	51.59	344	P	P	13 36 44.9 -0.4
	baz=161					
V55A	Taylorsville	51.66	350	P	P	13 36 45.0 -0.7
	baz=168,SNR=5.2					
U59A	Littleton	51.68	354	P	P	13 36 44.6 -1.2
	baz=172					
W51A	Cleveland	51.70	346	P	P	13 36 45.4 -0.6
	baz=164					
V54A	Nebo	51.71	349	P	P	13 36 45.1 -1.0
	baz=167,SNR=10					
U60A	Pendleton	51.73	354	P	P	13 36 45.2 -1.0
	baz=173					
V53A	Saluda	51.77	348	eP	P	13 36 46.1 -0.5
	comp=Z,11nm,0.9s					
V53A	Saluda	51.77	348	P	P	13 36 46.0 -0.6
	baz=166					
W50A	Signal Mountai	51.86	346	eP	P	13 36 46.1 -1.2
	comp=Z,134nm,1.6s					
W50A	Signal Mountai	51.86	346	P	P	13 36 46.5 -0.8
	baz=163,SNR=5.2					
X47A	Russelville	51.88	343	P	P	13 36 46.6 -0.8
	baz=160					
CPCT	Cooper Cave	51.92	347	eP	P	13 36 46.9 -0.8
	comp=Z,140nm,1.9s					
U57A	Blanch	51.94	352	P	P	13 36 46.8 -1.0
	baz=170					
U56A	King	52.01	351	P	P	13 36 47.0 -1.3
	baz=169					
W49A	Belvidere	52.02	345	P	P	13 36 47.7 -0.7
	baz=162					
SWET	Sewanee	52.03	345	eP	P	13 36 47.2 -1.3
	comp=Z,168nm,1.9s					
V52A	Sevierville	52.09	348	eP	P	13 36 47.1 -1.9
	comp=Z,136nm,1.5s					
V52A	Sevierville	52.09	348	P	P	13 36 48.1 -0.8
	baz=165,SNR=9.3					
W48A	Pulaski	52.21	344	P	P	13 36 49.5 -0.3
	baz=161					
V51A	Loudon	52.22	347	eP	P	13 36 49.2 -0.7
	comp=Z,203nm,2.0s					
V51A	Loudon	52.22	347	P	P	13 36 49.4 -0.5
	baz=164					
V50A	Pikevile	52.26	346	P	P	13 36 49.7 -0.5
	baz=163,SNR=6.3					
T59A	Double "B" Far	52.27	354	eP	P	13 36 49.0 -1.1
	comp=Z,67nm,1.8s					
T59A	Double "B" Far	52.27	354	P	P	13 36 49.2 -1.0
	baz=172					
U55A	TA2, Sparta	52.27	350	P	P	13 36 49.5 -0.8
	baz=168,SNR=5.7					
OXF	Oxford	52.34	341	P	P	13 36 50.5 -0.2
	baz=158					
T58A	Grand View Acr	52.35	353	P	P	13 36 49.6 -1.2
	baz=171					
T60A	Surry	52.35	355	P	P	13 36 49.3 -1.5
	baz=174					
PLAL	Pickwick Lake	52.38	343	eP	P	13 36 50.0 -1.1
	comp=Z,58nm,1.3s					
U53A	Fall Branch	52.40	349	P	P	13 36 50.0 -1.2
	baz=166,SNR=6.1					
U54A	Nelsons Funny	52.41	350	eP	P	13 36 50.0 -1.3
	comp=Z,95nm,1.5s					
U54A	Nelsons Funny	52.41	350	P	P	13 36 50.3 -1.1
	baz=167,SNR=5.3					
T57A	Hurt	52.49	352	eP	P	13 36 50.5 -1.3
	comp=Z,96nm,1.7s					
T57A	Hurt	52.49	352	P	P	13 36 51.0 -0.8
	baz=170,SNR=8.1					
W47A	Westpoint	52.50	343	P	P	13 36 51.7 -0.2
	baz=160					
V49A	McMinnville	52.55	345	P	P	13 36 51.8 -0.5
	baz=162					
U52A	Thorn Hill	52.58	348	P	P	13 36 52.2 -0.4
	baz=165					
T56A	Rocky Mt	52.63	351	P	P	13 36 51.6 -1.3
	baz=170,SNR=6.1					
U51A	La Follette	52.70	347	P	P	13 36 53.2 -0.2
	baz=165					
V48A	Smith Brothers	52.75	344	eP	P	13 36 52.6 -1.2
	comp=Z,227nm,1.8s					
V48A	Smith Brothers	52.75	344	P	P	13 36 53.6 -0.2
	baz=161					
TZTN	Tazewell	52.76	348	eP	P	13 36 53.3 -0.6
	comp=Z,157nm,1.8s					
TZTN	Tazewell	52.76	348	P	P	13 36 53.6 -0.3
	baz=165					
T55A	Pulaski	52.83	351	P	P	13 36 54.5 +0.1
	baz=169,SNR=10					
BLA	Blacksburg	52.86	351	eP	P	13 36 53.5 -1.1
	comp=Z,237nm,2.0s					
BLA	Blacksburg	52.86	351	eP	P	13 36 53.5 -1.1
BLA				pmax	pmax	
	comp=Z,237nm,2.0s					
BLA	Blacksburg	52.86	351	P	P	13 36 54.8 +0.1
	baz=169					
T54A	Tazewell	52.90	350	P	P	13 36 55.0 0.0
	baz=168					
U50A	Jamestown	52.92	347	P	P	13 36 54.9 -0.2
	baz=164					
S58A	Poland Farm, P	52.95	354	P	P	13 36 54.8 -0.4
	baz=172					
CLTN	Cedars of Leba	52.96	345	eP	P	13 36 54.3 -1.0
	comp=Z,57nm,1.6s					
T53A	Wise	52.99	349	P	P	13 36 55.4 -0.3
	baz=166					
JCT	Junction City	52.99	329	eP	P	13 36 55.6 -0.2
	comp=Z,19nm,1.0s					
JCT	Junction City	52.99	329	eP	P	13 36 55.6 -0.2
JCT				pmax	pmax	
	comp=Z,19nm,1.0s					
JCT	Junction City	52.99	329	P	P	13 36 56.3 +0.5
	baz=145					
V47A	Nunnelly	53.02	344	P	P	13 36 55.9 +0.2
	baz=160					
WHTX	Lake Whitney,	53.15	332	eP	P	13 36 55.9 -0.9
	comp=Z,50nm,1.0s					
WHTX	Lake Whitney,	53.15	332	P	P	13 36 57.2 +0.4
	baz=148,SNR=5.2					
T52A	Hallie	53.20	349	eP	P	13 36 55.9 -1.1
	comp=Z,116nm,1.6s					
T52A	Hallie	53.20	349	P	P	13 36 56.8 -0.3
	baz=166					
S56A	Natural Bridge	53.20	352	P	P	13 36 56.5 -0.5
	baz=170					
S57A	Dark Hollow, R	53.20	353	eP	P	13 36 57.2 +0.2
	comp=Z,61nm,1.5s					
S57A	Dark Hollow, R	53.20	353	P	P	13 36 56.7 -0.4
	baz=171					
U49A	Red Boiling Sp	53.23	346	P	P	13 36 57.0 -0.3
	baz=163					
T51A	Gray	53.25	348	P	P	13 36 56.4 -1.1
	baz=165,SNR=6.8					
R58B	Mineral	53.28	354	P	P	13 36 56.3 -1.3
	baz=172					
WVT	Waverly	53.39	344	eP	P	13 36 56.5 -1.9
	comp=Z,74nm,1.5s					
WVT	Waverly	53.39	344	eP	P	13 36 56.5 -1.9
WVT				pmax	pmax	
	comp=Z,74nm,1.5s					
WVT	Waverly	53.39	344	P	P	13 36 57.9 -0.6
	baz=160					
U48A	Cassie Pea, Po	53.41	345	P	P	13 36 58.4 -0.2
	baz=162					
S55A	Lewisburg	53.42	351	P	P	13 36 58.3 -0.4
	baz=169,SNR=11					
HPIG		53.45	321	eP	P	13 36 58.1 -1.3
	comp=Z,14nm,0.8s					
X40A	Basin Creek Fa	53.46	338	P	P	13 36 59.3 +0.3
	baz=154					
T50A	Nancy	53.49	347	P	P	13 36 58.8 -0.4
	baz=164					
U47A	Clarksville	53.54	344	P	P	13 36 59.1 -0.4
	baz=161					
UALR	University of	53.55	339	eP	P	13 36 58.4 -1.3
	comp=Z,77nm,1.4s					
S53A	Williamson	53.60	350	P	P	13 36 60.0 0.0
	baz=167					
R58A	Rapidan	53.63	354	P	P	13 36 59.7 -0.5
	baz=172					
R57A	Stanardsville	53.68	353	P	P	13 36 59.6 -1.0
	baz=171					
T49A	Edmonton	53.73	346	eP	P	13 36 59.6 -1.4
	comp=Z,200nm,1.8s					
T49A	Edmonton	53.73	346	P	P	13 36 59.9 -1.1
	baz=163,SNR=11					
MIAR	Mount Ida	53.78	337	eP	P	13 37 00.6 -0.8
	comp=Z,16nm,0.8s					
MIAR	Mount Ida	53.78	337	eP	P	13 37 00.6 -0.8
MIAR				pmax	pmax	
	comp=Z,16nm,0.8s					
MIAR	Mount Ida	53.78	337	P	P	13 37 01.0 -0.3
	baz=153,SNR=9.8					
S51A	Beattyville	53.83	348	P	P	13 37 01.1 -0.5
	baz=165					
W41B	Gary Mavity, V	53.87	339	eP	P	13 37 01.2 -0.8
	comp=Z,52nm,1.4s					
W41B	Gary Mavity, V	53.87	339	P	P	13 37 01.3 -0.6
	baz=155,SNR=5.9					
R54A	Victor	53.90	351	P	P	13 37 00.6 -1.6
	baz=168,SNR=6.7					
T48A	Bowling Green	53.94	345	P	P	13 37 01.9 -0.5
	baz=162					
WHAR	Wooly Hollow	53.99	339	eP	P	13 37 01.8 -1.0
	comp=Z,96nm,1.5s					
T47A	Sharon Grove	54.01	345	eP	P	13 37 02.2 -0.7
	comp=Z,253nm,1.9s					
T47A	Sharon Grove	54.01	345	P	P	13 37 02.2 -0.7
	baz=161					
S50A	Richmond	54.03	347	P	P	13 37 01.6 -1.5
	baz=164,SNR=6.4					
Q59A	Harwood	54.06	355	P	P	13 37 02.2 -1.1
	baz=174					
LTX	Lajitas	54.11	325	eP	P	13 37 04.3 +0.3
LTX				epP	pP	13 37 29.2 -5.5
LTX				esP	sP	13 37 38.6 -10
LTX	Lajitas	54.11	325	eP	P	13 37 04.3 +0.3
LTX				e*PP	pP	13 37 29.2 -5.5
LTX				e*SP	sP	13 37 38.6 -10
TX31	Lajitas Ar. Si

comp=Z,2.6nm,0.8s,baz=158,slow=9.3,SNR=3.1
R53A Hurricane 54.20 350 P P 13 37 03.4 -0.9
baz=167
T46A Princeton 54.26 344 P P 13 37 04.3 -0.5
baz=160
R52A Catlettsburg 54.33 349 P P 13 37 04.3 -0.9
baz=167
S49A Springfield 54.33 347 P P 13 37 04.5 -0.8
baz=163
S48A Wiedeman Farm, 54.38 346 P P 13 37 04.7 -0.9
baz=162,SNR=6.9
Q57A Strasburg 54.40 353 P P 13 37 04.9 -0.8
baz=172
W39A Magazine 54.44 338 eP P 13 37 05.4 -0.8
comp=Z,20nm,0.9s
W39A Magazine 54.44 338 P P 13 37 06.1 0.0
baz=153,SNR=9.6
R51A Hillsboro 54.47 348 P P 13 37 05.7 -0.5
baz=166
S47A Hartford 54.52 345 P P 13 37 05.9 -0.7
baz=162
Q55A Buckhannon 54.57 352 P P 13 37 06.7 -0.3
baz=170
R50A Paris 54.60 348 P P 13 37 06.7 -0.5
baz=165
Q53A Leroy 54.65 350 P P 13 37 07.1 -0.4
baz=168,SNR=11
Q54A Coxs Mills 54.66 351 eP P 13 37 06.7 -1.0
comp=Z,23nm,0.8s
Q54A Coxs Mills 54.66 351 P P 13 37 06.1 -1.6
baz=169,SNR=7.4
ABTX Abilene, Hawle 54.68 331 eP P 13 37 07.0 -0.9
comp=Z,52nm,0.8s
ABTX epP pP 13 37 32.4 -6.5
ABTX Abilene, Hawle 54.68 331 P P 13 37 08.3 +0.3
baz=146,SNR=13
PBMO Poplar Bluff 54.75 341 eP P 13 37 07.3 -1.0
comp=Z,64nm,1.3s
R49A Shelbyville 54.79 347 P P 13 37 07.6 -0.9
baz=164
S46A Don Dixon Farm 54.82 344 P P 13 37 07.8 -1.0
baz=161
U41A Viola 54.82 340 P P 13 37 08.1 -0.8
baz=156
Q52A Bidwell 54.87 350 P P 13 37 08.1 -1.1
baz=167
P60A Greenville 54.93 356 P P 13 37 07.9 -1.6
baz=175
WCI Wyandotte Cave 54.98 346 eP P 13 37 08.8 -1.1
comp=Z,291nm,1.9s
WCI Wyandotte Cave 54.98 346 eP P 13 37 08.9 -1.1
WCI pmax pmax
comp=Z,291nm,1.9s
WCI Wyandotte Cave 54.98 346 P P 13 37 09.0 -1.0
baz=162
P55A Reedsville 55.04 352 P P 13 37 09.4 -1.0
baz=170
S45A Carrier Mills 55.05 344 P P 13 37 09.7 -0.7
baz=160,SNR=6.1
R48A Northridge Ran 55.05 346 P P 13 37 09.6 -0.9
baz=163
Q50A Georgetown 55.07 348 P P 13 37 09.6 -1.0
baz=165
R47A Wooly Knot Far 55.10 346 P P 13 37 09.8 -1.0
baz=162
Q51A Peebles 55.12 349 P P 13 37 09.7 -1.3
baz=166
U40A Yellville 55.15 339 P P 13 37 10.5 -0.7
baz=154,SNR=9.8
P54A Burton 55.22 352 P P 13 37 11.2 -0.4
baz=169,SNR=9.0
P53A Whipple 55.24 351 eP P 13 37 11.2 -0.6
comp=Z,46nm,0.8s
P53A Whipple 55.24 351 P P 13 37 10.8 -0.9
baz=168,SNR=8.3
S44A Carbondale 55.25 343 P P 13 37 11.0 -0.9
baz=159,SNR=12
SIUC Southern Illin 55.26 343 eP P 13 37 11.0 -0.9
comp=Z,101nm,1.1s
R46A Gibon Southern 55.27 345 P P 13 37 11.1 -0.9
baz=161
Q49A Aurora 55.41 347 P P 13 37 13.0 -0.1
baz=164
HHAR Hobbs 55.47 338 eP P 13 37 12.5 -1.0
comp=Z,47nm,1.3s
P52A Corning 55.50 350 P P 13 37 13.4 -0.2
baz=167
P51A Williamsport 55.52 349 P P 13 37 13.3 -0.5
baz=166
Q48A North Vernon 55.52 347 P P 13 37 13.6 -0.2
baz=163
R45A Skylar, Fairfi 55.54 344 P P 13 37 13.2 -0.7
baz=160,SNR=7.3
O56A Blue Knob Stat 55.63 354 eP P 13 37 13.9 -0.7
comp=Z,9.3nm,0.9s
O56A Blue Knob Stat 55.63 354 P P 13 37 14.7 0.0
baz=172
O55A Ligonier 55.66 353 P P 13 37 13.8 -1.0
baz=171,SNR=6.1
Q47A Bedord North L 55.69 346 P P 13 37 14.7 -0.4
baz=162
O54A Avella 55.77 352 P P 13 37 15.4 -0.2
baz=170
P50A Jamestown 55.77 349 P P 13 37 15.4 -0.3
baz=166
TUL1 Leonard 55.83 336 eP P 13 37 15.4 -0.7
comp=Z,28nm,1.0s
TUL1 Leonard 55.83 336 P P 13 37 16.5 +0.4
baz=151
FVM French Village 55.86 342 eP P 13 37 16.2 0.0
comp=Z,290nm,1.4s
P49A Miami Univ. Ec 55.88 348 P P 13 37 16.1 -0.3
baz=164
S41A Jillco Farms, 55.90 341 P P 13 37 15.5 -1.1
baz=156,SNR=11
O52A Adamsville 55.92 350 eP P 13 37 14.5 -2.2
comp=Z,214nm,2.0s
O52A Adamsville 55.92 350 P P 13 37 16.4 -0.2
baz=168
O53A New Philadelph 55.96 351 P P 13 37 16.8 -0.1
baz=168
P48A Milroy 55.96 347 P P 13 37 16.2 -0.8
baz=164
N59A State Game Lan 56.03 356 P P 13 37 16.6 -0.9
baz=175
Q45A Warren Harvey, 56.08 344 P P 13 37 17.0 -0.8
baz=160
CCM Cathedral Cave 56.17 341 eP P 13 37 15.8 -2.7
comp=Z,80nm,1.4s
CCM Cathedral Cave 56.17 341 eP P 13 37 15.8 -2.7
CCM pmax pmax
comp=Z,80nm,1.4s
CCM Cathedral Cave 56.17 341 P P 13 37 18.5 0.0
baz=157
OK024 West corner E0 56.17 335 eP P 13 37 16.3 -2.3
comp=Z,62nm,1.6s
P47A Martinsville 56.18 346 P P 13 37 18.0 -0.5
baz=163
N55A Marion Center 56.19 353 eP P 13 37 17.9 -0.7
comp=Z,22nm,0.8s
N55A Marion Center 56.19 353 P P 13 37 18.0 -0.6
baz=171,SNR=7.3
OK023 East Waterloo 56.22 335 eP P 13 37 17.7 -1.1
comp=Z,94nm,1.6s
ACSO Alum Creek Sta 56.23 349 eP P 13 37 18.2 -0.6
comp=Z,60nm,1.3s
ACSO Alum Creek Sta 56.23 349 P P 13 37 18.5 -0.3
baz=166
O50A Cable 56.26 349 P P 13 37 18.8 -0.3
baz=166
R41A Rosebud 56.44 341 P P 13 37 19.3 -1.0
baz=157,SNR=16
O49A Covington 56.44 348 eP P 13 37 19.1 -1.2
comp=Z,166nm,1.8s
O49A Covington 56.44 348 P P 13 37 19.7 -0.6
baz=165
N53A Lisbon 56.45 352 eP P 13 37 19.0 -1.4
comp=Z,98nm,1.5s
N53A Lisbon 56.45 352 P P 13 37 19.7 -0.7
baz=169,SNR=6.5
N54A Moraine State 56.49 352 eP P 13 37 20.5 -0.2
comp=Z,109nm,1.6s
N54A Moraine State 56.49 352 P P 13 37 20.2 -0.5
baz=170,SNR=5.3
CLNB Carlsbad 56.50 327 eP P 13 37 21.5 +0.5
P46A Rosedale 56.52 346 P P 13 37 20.2 -0.8
baz=162
P45A Graceland, Par 56.57 345 eP P 13 37 20.0 -1.2
comp=Z,131nm,1.6s
P45A Graceland, Par 56.57 345 P P 13 37 20.5 -0.8
baz=161
N52A McGinn's Farm, 56.58 351 P P 13 37 20.6 -0.7
baz=168
O48A Farmland 56.67 348 P P 13 37 21.8 -0.2
baz=164
GDL2 Guadalupe Moun 56.71 327 eP P 13 37 22.5 0.0
Q42A Golden Eagle 56.75 342 P P 13 37 22.4 -0.1
baz=158
N50A Nevada 56.78 349 P P 13 37 22.3 -0.4
baz=166
N51A Ashland 56.80 350 P P 13 37 22.1 -0.7
baz=167
M55A Ridgway 56.84 354 P P 13 37 23.2 0.0
baz=172
MNTX Cornudas Mount 56.87 325 eP P 13 37 22.9 -0.7
comp=Z,22nm,0.9s
MNTX Cornudas Mount 56.87 325 P P 13 37 23.6 0.0
baz=140,SNR=41
O47A Sheridan 56.87 347 P P 13 37 22.6 -0.8
baz=163
M54A Oil Creek Stat 56.99 353 eP P 13 37 23.1 -1.1
comp=Z,156nm,1.9s
M54A Oil Creek Stat 56.99 353 P P 13 37 23.3 -0.9
baz=170
M53A WI Miller and 57.05 352 P P 13 37 23.3 -1.3
baz=169,SNR=6.9
N49A Columbus Grove 57.12 349 eP P 13 37 24.4 -0.7
comp=Z,234nm,1.8s
N49A Columbus Grove 57.12 349 P P 13 37 23.6 -1.5
baz=165,SNR=9.6
P43A Skaggs, Pawnee 57.14 344 P P 13 37 24.0 -1.3
baz=159,SNR=5.1
M51A Elyria 57.17 350 P P 13 37 25.0 -0.4
baz=168
ALLY Alegheny Colle 57.19 352 eP P 13 37 24.4 -1.2
comp=Z,246nm,2.0s
SFIN Lafayette 57.22 346 P P 13 37 25.1 -0.8
baz=162
N48A Decatur 57.22 348 P P 13 37 25.6 -0.3
baz=164
M52A Chesterland 57.24 351 P P 13 37 25.2 -0.8
baz=168
O45A Potomac 57.24 345 P P 13 37 25.4 -0.6
baz=161
MSTX Muleshoe 57.29 329 eP P 13 37 25.6 -1.0
comp=Z,61nm,1.1s
MSTX Muleshoe 57.29 329 P P 13 37 26.3 -0.3
baz=143,SNR=11
O44A Mansfield 57.34 345 P P 13 37 26.3 -0.3
baz=160
M50A Fremont 57.38 350 eP P 13 37 26.0 -0.9
comp=Z,77nm,1.3s
M50A Fremont 57.38 350 P P 13 37 26.7 -0.3
baz=167
N47A Urbana 57.38 347 P P 13 37 26.2 -0.8
baz=164
HRV Adam Dziewonsk 57.49 360 P P 13 37 25.7 -2.0
baz=180
L53A Girard 57.50 352 P P 13 37 27.4 -0.4
baz=170,SNR=6.0
L55A Hinsdale 57.52 354 P P 13 37 27.1 -0.8
baz=172
U32A Winter Ranch, 57.54 334 eP P 13 37 28.8 +0.6
comp=Z,49nm,1.1s
M49A Liberty Center 57.62 349 P P 13 37 27.2 -1.4
baz=166,SNR=5.7
ERPA Erie 57.63 353 eP P 13 37 28.0 -0.6
comp=Z,243nm,2.0s
ERPA Erie 57.63 353 P P 13 37 28.1 -0.6
baz=170
N46A Monticello 57.63 346 P P 13 37 28.3 -0.4
baz=162
PLIO Pelee Island, 57.65 350 P P 13 37 27.7 -1.1
baz=167
L54A Sinclairville 57.66 353 P P 13 37 28.3 -0.6
baz=171,SNR=6.5
L50A Kingsville 57.96 350 P P 13 37 30.2 -0.8
baz=167
K54A Basiliko Farm, 57.96 354 P P 13 37 31.1 0.0
baz=172
L48A N Adams 58.15 349 P P 13 37 31.2 -1.1
baz=165
L49A Milan 58.19 349 P P 13 37 32.2 -0.3
baz=166
HSIG 58.20 319 eP P 13 37 30.7 -2.3
comp=Z,23nm,1.2s
N43A Stutzman Famil 58.26 344 P P 13 37 31.8 -1.3
baz=160,SNR=6.3
L47A Sherwood 58.33 348 P P 13 37 33.0 -0.6
baz=164
N41A Harden Midland 58.50 343 eP P 13 37 33.1 -1.7
comp=Z,133nm,1.4s
N41A Harden Midland 58.50 343 P P 13 37 33.6 -1.2
baz=158,SNR=5.3
TYNO Tyneside 58.58 353 P P 13 37 34.3 -0.9
baz=170
K50A Casco 58.65 350 eP P 13 37 34.0 -1.7
comp=Z,45nm,0.9s
K50A Casco 58.65 350 P P 13 37 34.9 -0.8
baz=167
M43A Waltham Townsh 58.67 345 P P 13 37 35.3 -0.6
baz=160
J52A Paris 58.79 352 P P 13 37 36.2 -0.6
baz=170
121A Cookes Peak, D 58.83 324 P P 13 37 38.5 +1.0
baz=138,SNR=19
319A Douglas 58.85 322 eP P 13 37 37.5 -0.1
comp=Z,33nm,0.7s
N40A Mertquake, Sal 58.88 342 P P 13 37 37.1 -0.3
baz=157
K48A Perry 58.93 349 P P 13 37 36.1 -1.6
baz=166,SNR=5.9
KSU1 Kansas State U 58.94 337 P P 13 37 38.2 +0.3
baz=151
K47A Vermontville 58.96 348 P P 13 37 37.3 -0.7
baz=165
M41A Milan 59.04 343 P P 13 37 37.8 -0.7
baz=158
PECO Prince Edward 59.12 355 P P 13 37 38.1 -0.9
baz=174
K46A Dorr 59.13 348 P P 13 37 38.3 -0.8
baz=164
WLVO Wesleyville 59.23 354 P P 13 37 39.4 -0.4
baz=172
J49A Marlette 59.30 350 P P 13 37 39.7 -0.5
baz=167
L43A Garden Prairie 59.32 345 P P 13 37 39.8 -0.6
baz=160
L42A Oliver, Polo 59.39 344 P P 13 37 40.6 -0.3
baz=159
BNM Barren Site 59.41 326 eP P 13 37 41.3 -0.3
I51A Listowel 59.42 352 P P 13 37 40.2 -0.8
baz=169
I55A Frankford 59.46 355 P P 13 37 40.5 -0.8
baz=173
J47A Sunmer 59.48 349 eP P 13 37 40.4 -1.1
comp=Z,280nm,1.8s
J47A Sunmer 59.48 349 P P 13 37 40.4 -1.1
baz=165,SNR=5.3
I52A Shelburne 59.57 353 P P 13 37 41.1 -1.0
baz=170
LENM Lemitar 59.61 326 eP P 13 37 41.1 -1.7
LONY Lake Ozonia 59.66 357 P P 13 37 41.6 -1.1
baz=176
BASO Ashfield 59.71 352 P P 13 37 42.1 -0.9
baz=168
K43A Burlington 59.72 346 P P 13 37 42.1 -1.0
baz=161
H56A Elgin 59.73 356 P P 13 37 42.1 -1.0
baz=174
BWLO Walkerton 59.74 352 P P 13 37 41.9 -1.4
baz=169,SNR=6.9
H55A Tweed 59.75 355 P P 13 37 42.5 -0.8
baz=174
DELO Deloro Mine 59.75 355 P P 13 37 42.1 -1.2
baz=173
I49A Point Hope 59.81 351 P P 13 37 43.1 -0.7
baz=167
L40A Anamosa 59.86 343 P P 13 37 43.6 -0.5
baz=158
LAZ Ladron 59.88 326 eP P 13 37 44.5 -0.1
BRCO Bruce Peninsul 59.91 352 P P 13 37 43.5 -0.9
baz=169
CBKS Cedar Bluff 59.92 335 P P 13 37 44.9 +0.2
baz=148
ANMO Albuquerque 59.93 327 eP P 13 37 44.0 -1.1
comp=Z,13nm,0.8s
ANMO Albuquerque 59.93 327 ↓↓iP P 13 37 45.2 +0.2
ANMO pmax pmax
comp=Z,15nm,0.8s
ANMO Albuquerque 59.93 327 P P 13 37 45.6 +0.5
baz=140
TASM ASL Pad, Albuq 59.93 327 P P 13 37 45.6 +0.5
baz=140,SNR=21
TASM ASL Pad, Albuq 59.93 327 P P 13 37 45.7 +0.7
baz=140,SNR=21
K42A Prairie Point, 60.03 345 P P 13 37 45.1 -0.2
baz=160
H52A Wyevale 60.10 353 P P 13 37 45.1 -0.6
baz=170
I47A Gladwin 60.18 349 P P 13 37 46.4 +0.2
baz=165
I48A Sherman Twp 60.20 350 P P 13 37 46.0 -0.4
baz=166
BMRO Meriville Lake 60.22 352 P P 13 37 46.1 -0.4
baz=169
PLVO Plevna 60.23 355 P P 13 37 45.5 -1.1
baz=174
I46A Reed City 60.28 348 P P 13 37 46.5 -0.5
baz=164
BANO Bancroft 60.28 355 P P 13 37 46.3 -0.6
baz=173
J43A Natural Harves 60.38 346 P P 13 37 47.4 -0.2
baz=161
TUC Tucson 60.41 322 P P 13 37 49.1 +0.9
baz=135
G55A Calabogie 60.41 356 P P 13 37 46.3 -1.6
baz=174
K40A Colesburg 60.43 343 P P 13 37 47.5 -0.5
baz=158
G53A Haliburton 60.44 354 P P 13 37 47.5 -0.5
baz=172
J42A Columbus 60.48 345 P P 13 37 48.1 -0.2
baz=160
T25A Trinidad 60.62 330 eP P 13 37 49.5 -0.2
comp=Z,27nm,1.0s
T25A Trinidad 60.62 330 P P 13 37 50.1 +0.4
baz=143,SNR=12
H48A Harrisville 60.64 350 P P 13 37 48.6 -0.7
baz=167
ALFO Alfred 60.68 357 P P 13 37 48.3 -1.3
baz=176
J41A Loganville 60.75 345 P P 13 37 50.1 -0.1
baz=159
H46A Fife Lake 60.81 349 P P 13 37 50.2 -0.3
baz=165
BUKO Buck Lake 60.84 354 P P 13 37 50.0 -0.8
baz=171
KLBO Killbear Provi 60.85 353 P P 13 37 49.6 -1.1
baz=170,SNR=9.4
PEMO Pembroke 60.88 355 P P 13 37 50.1 -0.8
baz=174
TOBO Tobermory, Bru 60.88 352 P P 13 37 50.2 -0.7
baz=169
J40A Soldiers Grove 60.97 344 P P 13 37 50.6 -1.1
baz=159,SNR=5.4
I42A Draeger Farm, 60.98 346 P P 13 37 51.2 -0.5
baz=161
LMN Caledonia Moun 61.14 5 eP P 13 37 51.2 -1.5
J39A Decorah 61.17 343 P P 13 37 52.6 -0.5
baz=158
F52A Sundridge 61.18 354 P P 13 37 52.0 -1.0
baz=171
G47A Hillman 61.18 350 P P 13 37 52.2 -0.8
baz=166
ALGO Algonquin Park 61.22 355 P P 13 37 52.1 -1.1
baz=173
KSCO Kaye Shedlock' 61.32 333 eP P 13 37 53.5 -0.7
comp=Z,56nm,1.0s
KSCO Kaye Shedlock' 61.32 333 P P 13 37 54.5 +0.2
baz=145
F51A Arnstein 61.38 353 P P 13 37 53.1 -1.2
baz=171
214A Organ Pipe Nat 61.39 320 P P 13 37 55.9 +1.1
baz=133,SNR=28
H42A Shiocton 61.47 346 P P 13 37 54.7 -0.2
baz=161
F49A Sandfield 61.48 352 P P 13 37 54.0 -1.0
baz=168
X18A Snowflake 61.52 324 eP P 13 37 56.2 +0.4
comp=Z,26nm,1.0s
BGNE Belgrade 61.53 337 eP P 13 37 55.5 0.0
comp=Z,104nm,1.0s
BGNE Belgrade 61.53 337 P P 13 37 55.8 +0.3
baz=150
E52A Mattawa 61.60 354 P P 13 37 54.9 -0.9
baz=172
I39A Houston 61.60 344 eP P 13 37 55.0 -0.9
comp=Z,140nm,1.5s
I39A Houston 61.60 344 P P 13 37 55.6 -0.3
baz=158
E53A Dumoine, Ponti 61.61 355 P P 13 37 55.1 -0.8
baz=173
E54A Lac Daplat, Po 61.62 356 P P 13 37 54.9 -1.1
baz=174,SNR=5.6
F48A Evansville 61.63 351 P P 13 37 55.4 -0.6
baz=168
SDCO Great Sand Dun 61.63 330 eP P 13 37 56.6 +0.1
comp=Z,33nm,0.8s
SDCO epP pP 13 38 22.5 -5.7
SDCO Great Sand Dun 61.63 330 P P 13 37 57.3 +0.7
baz=142,SNR=71
W18A Petrified Fore 61.83 325 eP P 13 37 58.7 +0.8
comp=Z,23nm,0.9s
W18A Petrified Fore 61.83 325 P P 13 37 58.9 +1.1
baz=137
H41A Junction City 61.84 345 P P 13 37 57.6 +0.1
baz=160
F46A Macinaw City C 61.92 350 P P 13 37 57.7 -0.2
baz=165
E51A G1948 Merrick 61.93 354 P P 13 37 58.2 +0.1
baz=171
E50A Wahnapitae 61.96 353 P P 13 37 57.8 -0.4
baz=170
G43A Wallace 61.99 347 P P 13 37 58.3 -0.2
baz=162
H40A Chili 62.02 345 P P 13 37 58.4 -0.3
baz=159
G42A Mountain 62.14 347 P P 13 37 59.8 +0.3
baz=161
E48A Lockeyer 62.20 352 P P 13 37 59.4 -0.5
baz=168
D52A ZEK Kipawa Sen 62.26 355 P P 13 37 59.6 -0.6
baz=172
S22A 4UR Ranch, Cre 62.28 329 eP P 13 38 01.5 +0.5
comp=Z,12nm,0.9s
S22A 4UR Ranch, Cre 62.28 329 P P 13 38 01.4 +0.5
baz=141,SNR=21
X16A Lo Mia Camp, P 62.29 323 eP P 13 38 01.7 +0.8
comp=Z,25nm,0.9s
D54A Lac Fusel, La 62.30 356 P P 13 37 59.8 -0.7
baz=174
D53A Lac Vacive, Po 62.30 355 P P 13 38 00.1 -0.4
baz=173
H39A Augusta 62.31 344 P P 13 38 00.5 -0.1
baz=158
E47A Iron Bridge 62.34 351 P P 13 38 00.3 -0.5
baz=167
LATQ La Tuque 62.37 359 P P 13 38 00.4 -0.6
baz=178
E46A Sault Ste Mari 62.42 350 P P 13 38 01.1 -0.2
baz=166
F44A Big Bay de Noc 62.42 348 P P 13 38 01.1 -0.2
baz=164
Q24A Divide 62.43 331 eP P 13 38 01.7 -0.2
comp=Z,22nm,1.0s
Q24A epP pP 13 38 26.8 -6.8
Q24A esP PcP 13 38 36.5 -3.8
Q24A Divide 62.43 331 P P 13 38 02.2 +0.2
baz=143,SNR=12
F43A Flat Rock, Esc 62.43 348 P P 13 38 01.2 -0.2
baz=163
BATG Bathurst New B 62.45 4 eP P 13 38 00.8 -0.7
comp=Z,10nm,0.9s
113A Mohawk Valley, 62.53 320 eP P 13 38 02.3 0.0
comp=Z,24nm,0.9s
E45A Wooded Hills, 62.56 349 P P 13 38 02.3 +0.1
baz=165
H38A Maiden Rock 62.57 343 P P 13 38 02.6 +0.3
baz=157
G40A Rib Lake 62.58 345 P P 13 38 02.7 +0.3
baz=160
OGNE Ogallala 62.66 334 P P 13 38 03.5 +0.4
baz=146

MVCO	Mesa Verde	62.73 327	eP	P	13 38 03.7	-0.2
	comp=Z,43nm,1.3s					
MVCO	Mesa Verde	62.73 327	P	P	13 38 04.5	+0.6
	baz=139,SNR=15					
F41A	Three Lakes	62.77 346	eP	P	13 38 03.2	-0.5
	comp=Z,224nm,1.7s					
F41A	Three Lakes	62.77 346	P	P	13 38 03.2	-0.5
	baz=161					
D48A	Paudash Townsh	62.83 352	P	P	13 38 03.1	-1.0
	baz=169					
G39A	Holcombe	62.84 345	P	P	13 38 03.5	-0.6
	baz=158					
Y14A	Wickenburg	62.87 322	eP	P	13 38 04.9	+0.2
	comp=Z,20nm,0.9s					
D46A	Sault St. Mari	62.88 350	P	P	13 38 03.4	-1.0
	baz=166					
D47A	Chapleau	62.90 351	P	P	13 38 03.4	-1.1
	baz=167					
G38A	Ridgeland	62.91 344	P	P	13 38 04.2	-0.4
	baz=158					
E43A	Lone Tree Farm	62.92 348	P	P	13 38 04.1	-0.5
	baz=163					
ECSD	EROS Data Cent	63.03 340	eP	P	13 38 04.0	-1.4
	comp=Z,27nm,1.2s					
ECSD	EROS Data Cent	63.03 340	P	P	13 38 05.1	-0.3
	baz=152,SNR=11					
WUAZ	Wupatki	63.04 324	eP	P	13 38 06.2	+0.3
	comp=Z,38nm,0.9s					
WUAZ	Wupatki	63.04 324	P	P	13 38 06.9	+1.0
	baz=136,SNR=24					
SHEL	Horse Pasture	63.13 100	eP	P	13 38 07.2	+0.5
	comp=Z,67nm,1.1s					
E42A	Champion	63.16 347	P	P	13 38 06.1	-0.1
	baz=162					
F40A	Park Falls	63.17 346	P	P	13 38 06.1	-0.2
	baz=160					
SPMN	Marine on St.	63.22 343	eP	P	13 38 05.9	-0.8
	comp=Z,28nm,1.0s					
SPMN	Marine on St.	63.22 343	P	P	13 38 06.6	0.0
	baz=157					
ISCO	Idaho Springs	63.31 331	eP	P	13 38 07.2	-0.5
	comp=Z,12nm,0.9s					
ISCO	Idaho Springs	63.31 331	eP	P	13 38 07.2	-0.5
ISCO			pmax	pmax		
	comp=Z,12nm,0.9s					
ISCO	Idaho Springs	63.31 331	P	P	13 38 08.3	+0.6
	baz=143,SNR=10					
GLA	Glamis	63.38 320	eP	P	13 38 07.9	-0.1
	comp=Z,19nm,1.0s					
GLA	Glamis	63.38 320	eP	P	13 38 07.9	-0.1
GLA			pmax	pmax		
	comp=Z,19nm,1.0s					
GLA	Glamis	63.38 320	P	P	13 38 09.3	+1.3
	baz=132,SNR=6.6					
PV01	Paradox Valley	63.46 328	eP	P	13 38 09.1	+0.4
	comp=Z,29nm,0.8s					
PV02	Paradox Valley	63.60 328	eP	P	13 38 10.0	+0.4
	comp=Z,21nm,0.9s					
PV13	Radium Mtn., P	63.61 328	eP	P	13 38 09.9	+0.2
	comp=Z,26nm,0.8s					
PV13			epP	pP	13 38 36.2	-5.2
E40A	Wakefield	63.62 346	P	P	13 38 09.3	+0.1
	baz=160					
F37A	Hinrichs Farm,	63.63 344	P	P	13 38 09.6	+0.2
	baz=157					
F38A	Pierce - Schro	63.65 344	P	P	13 38 08.9	-0.5
	baz=158					
Y12C	Blythe	63.66 321	eP	P	13 38 10.2	+0.5
	comp=Z,24nm,1.1s					
Y12C	Blythe	63.66 321	P	P	13 38 11.3	+1.5
	baz=133					
PV05	Paradox Valley	63.69 328	eP	P	13 38 09.6	-0.6
	comp=Z,18nm,0.9s					
PV03	Paradox Valley	63.70 328	eP	P	13 38 10.3	+0.1
	comp=Z,70nm,2.0s					
PV12	Saucer Basin,	63.72 328	eP	P	13 38 11.2	+0.9
	comp=Z,76nm,1.8s					
PV18	Skein Mesa, Pa	63.72 328	eP	P	13 38 10.8	+0.5
	comp=Z,12nm,0.9s					
PV07	Paradox Valley	63.73 328	eP	P	13 38 11.0	+0.6
	comp=Z,15nm,0.9s					
PV07			epP	pP	13 38 36.7	-5.5
PV11	David Mesa, Pa	63.74 328	eP	P	13 38 11.3	+0.8
	comp=Z,74nm,1.8s					
PV11			epP	pP	13 38 36.6	-5.7
PV17	East Wray Mesa	63.77 328	eP	P	13 38 11.0	+0.3
	comp=Z,65nm,1.9s					
PV16	Nyswonger Mesa	63.77 328	eP	P	13 38 10.9	+0.2
	comp=Z,47nm,1.8s					
PDMCI	Parker Dam,Lak	63.80 321	P	P	13 38 11.6	+0.9
	baz=133					
PV19	Morning Glory	63.81 328	eP	P	13 38 11.2	+0.3
	comp=Z,46nm,1.8s					
PV20	West Nyswonger	63.82 328	eP	P	13 38 11.2	+0.2
	comp=Z,33nm,1.8s					
PV04	Paradox Valley	63.83 328	eP	P	13 38 11.2	+0.2
	comp=Z,58nm,1.9s					
PV14	Lion Creek, Pa	63.88 328	eP	P	13 38 11.0	-0.4
	comp=Z,14nm,1.0s					
PV22	Blue Mesa, Par	63.88 328	eP	P	13 38 11.4	+0.1
	comp=Z,19nm,0.9s					
SWSC	Sam W. Stewart	63.91 319	P	P	13 38 12.7	+1.2
	baz=131					
IKP	In-Ko-Pah, Jac	63.92 319	P	P	13 38 13.1	+1.5
	baz=131,SNR=8.5					
PV23	Carpenter Ridg	63.93 328	eP	P	13 38 11.7	-0.1
	comp=Z,11nm,1.0s					
PV21	Cone Mtn., Par	63.99 328	eP	P	13 38 12.3	+0.1
	comp=Z,40nm,1.6s					
PV09	Paradox Valley	64.03 328	eP	P	13 38 12.5	0.0
E38A	The Farm, Brul	64.17 345	P	P	13 38 12.9	+0.1
	baz=158					
BC3	Big Chuckawall	64.17 320	P	P	13 38 14.5	+1.3
	baz=132,SNR=17					
W13A	Hualapai Mount	64.20 322	eP	P	13 38 13.8	+0.2
	comp=Z,14nm,0.8s					
U15A	North Rim	64.21 324	eP	P	13 38 14.0	+0.3
	comp=Z,19nm,0.9s					
MONP2	Monument Peak	64.28 319	P	P	13 38 15.6	+1.5
	baz=131,SNR=11					
BAR	Barrett	64.30 318	eP	P	13 38 14.2	+0.2
	comp=Z,37nm,1.0s					
IRM	Iron Mountain	64.32 321	P	P	13 38 15.6	+1.5
	baz=132,SNR=26					
N23A	Red Feather La	64.34 332	eP	P	13 38 13.5	-0.9
	comp=Z,11nm,0.9s					
N23A	Red Feather La	64.34 332	P	P	13 38 14.2	-0.1
	baz=143,SNR=8.4					
NEE2	Needles Airpor	64.41 321	P	P	13 38 15.7	+1.1
	baz=133					
SUSD	Miller	64.46 339	P	P	13 38 14.6	-0.2
	baz=150					
109C	Camp Elliot, M	64.71 318	P	P	13 38 18.0	+1.3
	baz=130					
BELC	Belle Mtn. Jos	64.74 320	P	P	13 38 18.3	+1.3
	baz=132,SNR=9.3					
PFO	Pinyon Flats O	64.77 319	eP	P	13 38 17.0	-0.2
	comp=Z,23nm,1.2s					
PFO	Pinyon Flats O	64.77 319	eP	P	13 38 17.0	-0.2
PFO			pmax	pmax		
	comp=Z,23nm,1.2s					
PFO	Pinyon Flats O	64.77 319	P	P	13 38 18.6	+1.4
	baz=131,SNR=9.5					
O20A	White River Ci	64.83 330	eP	P	13 38 17.6	+0.1
	comp=Z,26nm,0.9s					
O20A	White River Ci	64.83 330	P	P	13 38 17.9	+0.3
	baz=140,SNR=11					
C40A	Isle Royale Na	64.83 347	P	P	13 38 17.5	+0.4
	baz=161					
LDFC	Landfair	64.92 321	eP	P	13 38 19.3	+1.2
	comp=Z,33nm,0.9s					
KNB	Kanab	64.93 324	eP	P	13 38 19.6	+1.4
	comp=Z,51nm,1.0s					
KNB	Kanab	64.93 324	eP	P	13 38 19.6	+1.4
KNB			pmax	pmax		
	comp=Z,51nm,1.0s					
CHGQ	Chibougamau	64.94 358	P	P	13 38 16.7	-1.0
	baz=177					
MATQ	Matagami	64.96 356	P	P	13 38 17.5	-0.4
	baz=173					
GMRC	Granite Mounta	65.05 321	P	P	13 38 20.2	+1.2
	baz=132,SNR=24					
LCMT	Little Creek M	65.16 324	eP	P	13 38 20.1	+0.4
	comp=Z,15nm,0.9s					
SRU	San Rafael Swe	65.20 327	eP	P	13 38 20.0	0.0
	comp=Z,20nm,0.9s					
SRU			epP	PcP	13 38 46.0	-5.5
SRU	San Rafael Swe	65.20 327	eP	P	13 38 20.0	0.0
SRU			e*PP	PcP	13 38 46.0	-5.5
SRU			pmax	pmax		
	comp=Z,21nm,0.9s					
MURC	Murrieta	65.23 319	P	P	13 38 21.2	+1.2
	baz=130					
MTPU	Mount Pierson	65.31 326	eP	P	13 38 21.0	+0.1
	comp=Z,12nm,0.8s					
Q16A	Castle Valley	65.40 327	eP	P	13 38 20.8	-0.5
	comp=Z,70nm,1.8s					
EYMN	Ely	65.40 345	P	P	13 38 20.3	-0.6
	baz=159					
BBRC	Big Bear Solar	65.48 320	P	P	13 38 23.2	+1.2
	baz=131					
HEC	Hector,Ludlow	65.50 320	P	P	13 38 23.4	+1.6
	baz=132,SNR=16					
RWWY	Rawlins	65.55 331	eP	P	13 38 22.0	-0.2
	comp=Z,67nm,1.8s					
P17A	Butcher Ranch,	65.59 328	eP	P	13 38 22.7	+0.3
	comp=Z,31nm,0.8s					
CCUT	Cedar City	65.61 324	eP	P	13 38 23.7	+1.1
	comp=Z,25nm,0.9s					
MSU	Marysvale	65.64 326	eP	P	13 38 23.5	+0.7
MSU	Marysvale	65.64 326	eP	P	13 38 23.5	+0.7
TUQ	Turquoise Moun	65.65 321	P	P	13 38 23.9	+1.1
	baz=132,SNR=6.2					
SCI2	San Clemente I	65.70 318	P	P	13 38 24.5	+1.4
	baz=129					
TMUT	Trail Mountain	65.70 327	eP	P	13 38 23.6	+0.3
	comp=Z,9.1nm,0.7s					
TCRU	Three Creeks R	65.86 326	eP	P	13 38 25.0	+0.7
	comp=Z,22nm,0.9s					
CIS	Catalina Islan	65.88 318	P	P	13 38 25.6	+1.4
	baz=129					
SHPR	Sheep Range	65.92 323	eP	P	13 38 25.4	+0.8
	comp=Z,22nm,0.8s					
BFSC	Mount Baldy Ra	65.93 319	P	P	13 38 25.8	+1.1
	baz=130,SNR=8.7					
RRX	Edison Barstow	65.93 320	P	P	13 38 26.1	+1.6
	baz=131					
K22A	Casper	66.00 332	eP	P	13 38 25.6	+0.7
	comp=Z,20nm,0.9s					
K22A	Casper	66.00 332	P	P	13 38 25.4	+0.4
	baz=143					
FMP	Fort Macarthur	66.00 318	P	P	13 38 26.4	+1.4
	baz=130					
GSC	Goldstone, Bar	66.10 321	eP	P	13 38 26.7	+1.1
	comp=Z,25nm,1.0s					
GSC	Goldstone, Bar	66.10 321	eP	P	13 38 26.7	+1.1
GSC			pmax	pmax		
	comp=Z,25nm,1.0s					
GSC	Goldstone, Bar	66.10 321	P	P	13 38 27.0	+1.3
	baz=131,SNR=9.7					
RSSD	Black Hills	66.12 335	eP	P	13 38 26.3	+0.5
	comp=Z,12nm,0.7s					
RSSD	Black Hills	66.12 335	eP	P	13 38 26.3	+0.5
RSSD			pmax	pmax		
	comp=Z,12nm,0.7s					
RSSD	Black Hills	66.12 335	P	P	13 38 26.4	+0.6
	baz=145					
SHOC	Shoshone, Teco	66.17 321	P	P	13 38 27.2	+1.1
	baz=132,SNR=10					
MWC	Mount Wilson	66.18 319	eP	P	13 38 26.9	+0.6
	comp=Z,24nm,1.0s					
MWC	Mount Wilson	66.18 319	eP	P	13 38 26.9	+0.6
MWC			pmax	pmax		
	comp=Z,24nm,1.0s					
DECC	Green Verdugo	66.37 319	P	P	13 38 28.6	+1.3
	baz=130					
MPU	Maple Canyon	66.45 327	eP	P	13 38 28.4	+0.4
	comp=Z,21nm,1.1s					
SNCC	San Nicolas Is	66.50 317	P	P	13 38 29.4	+1.2
	baz=128					
EDW2	Edwards Air Fo	66.56 320	P	P	13 38 29.6	+1.0
	baz=130,SNR=11					
PSUT	Pine Spring	66.58 325	eP	P	13 38 29.7	+0.9
	comp=Z,20nm,0.9s					
NLU	North Lily Min	66.64 327	eP	P	13 38 29.5	+0.4
	comp=Z,15nm,1.0s					
BLG	Laguna Peak, P	66.75 318	P	P	13 38 31.0	+1.3
	baz=129					
VNA3	Neumayer Olymp	66.75 162	P	P	13 38 30.5	+1.3
LRMC	Laurel Mtn Rad	66.75 320	P	P	13 38 31.0	+1.1
	baz=131					
JLU	Jordanelle	66.79 328	eP	P	13 38 30.5	+0.3
	comp=Z,23nm,0.9s					
OSI	Osito Audit: C	66.85 319	P	P	13 38 31.5	+1.1
	baz=130					
TPNV	Topopah Spring	66.86 322	eP	P	13 38 31.6	+1.0
	comp=Z,27nm,0.9s					
TPNV	Topopah Spring	66.86 322	eP	P	13 38 31.6	+1.0
TPNV			pmax	pmax		
	comp=Z,27nm,0.9s					
TPNV	Topopah Spring	66.86 322	P	P	13 38 32.0	+1.5
	baz=132,SNR=36					
AGMN	Agassiz Nation	66.89 343	eP	P	13 38 29.7	-0.5
	comp=Z,24nm,0.8s					
AGMN	Agassiz Nation	66.89 343	P	P	13 38 30.2	-0.1
	baz=154					
FURC	Furnace Creek,	66.90 321	P	P	13 38 32.4	+1.9
	baz=132,SNR=25					
VNA1	Neumayer--Stat	66.96 161	P	P	13 38 32.3	+1.8
CTU	Camp Tracy	67.01 328	eP	P	13 38 31.6	+0.2
	comp=Z,9.4nm,0.7s					
MPMC	Manual Prospec	67.01 321	P	P	13 38 32.7	+1.1
	baz=131,SNR=11					
SCZ2	Santa Cruz Isl	67.04 318	P	P	13 38 32.6	+1.0
	baz=129					
TCUT	Toone Canyon	67.15 328	eP	P	13 38 32.0	-0.4
	comp=Z,27nm,0.9s					
DUG	Dugway, Tooele	67.20 327	eP	P	13 38 33.3	+0.7
	comp=Z,33nm,1.0s					
DUG	Dugway, Tooele	67.20 327	eP	P	13 38 33.3	+0.7
DUG			pmax	pmax		
	comp=Z,33nm,1.0s					
DUG	Dugway, Tooele	67.20 327	P	P	13 38 33.8	+1.2
	baz=136,SNR=28					
DAC	Darwin (Calif)	67.22 321	eP	P	13 38 34.3	+1.4
	comp=Z,21nm,1.0s					
DAC	Darwin (Calif)	67.22 321	eP	P	13 38 34.3	+1.4
DAC			pmax	pmax		
	comp=Z,21nm,1.0s					
ARVC	Arvin	67.24 319	P	P	13 38 34.4	+1.6
	baz=130					
VNA2	Neumayer--Watz	67.33 161	P	P	13 38 34.1	+1.2
	baz=277,slow=5.0					
ISA	Isabella, Lake	67.36 320	eP	P	13 38 34.9	+1.3
	comp=Z,22nm,0.9s					
ISA	Isabella, Lake	67.36 320	eP	P	13 38 34.9	+1.3
ISA			pmax	pmax		
	comp=Z,22nm,0.9s					
ISA	Isabella, Lake	67.36 320	P	P	13 38 35.3	+1.7
	baz=130,SNR=15					
R11A	Troy Canyon, C	67.42 324	eP	P	13 38 35.5	+1.4
	comp=Z,19nm,0.9s					
R11A	Troy Canyon, C	67.42 324	P	P	13 38 35.8	+1.7
	baz=133,SNR=34					
BW06	Boulder Array	67.48 331	eP	P	13 38 33.9	-0.6
	comp=Z,17nm,1.3s					
BW06	Boulder Array	67.48 331	P	P	13 38 34.5	0.0
	baz=140,SNR=18					
PD31	Pinedale Array	67.48 331	eP	P	13 38 33.9	-0.6
	comp=Z,16nm,1.3s					
PDAR	Pinedale Array	67.48 331	eP	P	13 38 33.9	-0.6
PDAR	Pinedale Array	67.48 331	P	P	13 38 34.6	+0.1
	comp=Z,5.3nm,0.8s,baz=148,slow=6.5,SNR=30					
PDAR			pP	PcP	13 38 59.8	-1.1
	comp=Z,1.5nm,0.5s,baz=127,slow=8.4,SNR=3.4					
PDAR			sP	pP	13 39 10.4	+4.0
	comp=Z,1.6nm,0.6s,baz=140,slow=4.8,SNR=2.4					
PDAR			PKPPKP	P'P'df	14 06 56.9	+0.4
	comp=Z,0.7nm,0.9s,baz=327,slow=2.5,SNR=6.2					
GRAC	Grapevine Rang	67.56 322	P	P	13 38 36.4	+1.6
	baz=131,SNR=7.3					
HWUT	Hardware Ranch	67.59 329	eP	P	13 38 35.0	-0.1
	comp=Z,10nm,0.8s					
CWC	Cottonwood Cre	67.62 321	P	P	13 38 36.9	+1.4
	baz=131					
MDND	Maddock	67.65 340	eP	P	13 38 35.7	+0.6
	comp=Z,108nm,1.1s					
MDND	Maddock	67.65 340	P	P	13 38 35.5	+0.4
	baz=150					
PKM	Mcpherson Peak	67.72 318	P	P	13 38 37.3	+1.3
	baz=129,SNR=5.6					
SPUT	South Promonto	67.82 328	eP	P	13 38 37.4	+0.9
	comp=Z,17nm,1.1s					
BGU	Big Grassy Mou	67.84 327	eP	P	13 38 36.9	+0.2
	comp=Z,15nm,1.0s					
VES	Vestal, Richgr	67.86 320	P	P	13 38 38.4	+1.8
	baz=130					
SMMC	Simmler	68.10 319	P	P	13 38 40.5	+2.2
	baz=129,SNR=5.9					
TIN	Tinemaha, Big	68.11 321	P	P	13 38 40.1	+1.7
	baz=131					
AHID	Auburn Hatcher	68.22 330	eP	P	13 38 39.5	+0.4
	comp=Z,18nm,0.8s					
HVU	Hansel Valley	68.33 328	eP	P	13 38 39.7	0.0
	comp=Z,17nm,0.8s					
HVU	Hansel Valley	68.33 328	eP	P	13 38 39.7	0.0
HVU			pmax	pmax		
	comp=Z,17nm,0.8s					
PAGB	Antelope Grade	68.52 319	eP	P	13 38 40.6	-0.2
	comp=Z,26nm,1.0s					
REDW	Red Top Meadow	68.55 330	eP	P	13 38 41.5	+0.4
	comp=Z,70nm,1.8s					
SNOW	Snow King Moun	68.58 330	eP	P	13 38 41.8	+0.5
	comp=Z,15nm,0.6s					
LOHW	Long Hollow	68.62 331	eP	P	13 38 41.2	-0.3
	comp=Z,13nm,0.8s					
ULM	Lac du Bonnet	68.66 344	eP	P	13 38 40.5	-0.8
	comp=Z,62nm,1.3s					
ULM	Lac du Bonnet	68.66 344	P	P	13 38 41.1	-0.2
	comp=Z,13nm,0.8s,baz=156,slow=5.2,SNR=14					
ULM			sP	pP	13 39 17.6	+4.1
	comp=Z,12nm,0.8s,baz=147,slow=5.5,SNR=3.3					
TPAW	Teton Pass	68.69 330	eP	P	13 38 42.1	0.0
	comp=Z,12nm,0.8s					
MOOW	Moose Ponds	68.79 331	eP	P	13 38 42.6	0.0
	comp=Z,14nm,1.1s					
FXWY	Fox Creek	68.84 330	eP	P	13 38 43.1	+0.2
	comp=Z,13nm,0.9s					
MLAC	Mammoth, Mammo	68.86 321	P	P	13 38 44.3	+1.1
	baz=130					
ELK	Elko	68.89 326	eP	P	13 38 43.6	+0.3
	comp=Z,10.0nm,0.9s					
ELK	Elko	68.89 326	eP	P	13 38 43.6	+0.3
ELK			pmax	pmax		
	comp=Z,10.0nm,0.9s					
SNAA	Sanae	68.95 162	P	P	13 38 44.3	+1.3
SNAA	Sanae	68.95 162	eP	P	13 38 44.0	+0.9
	comp=Z,93nm,0.9s					
SNAA	Sanae	68.95 162	diP	P	13 38 44.0	+0.9
NV11	Mina Array Sit	68.97 322	eP	P	13 38 43.9	+0.1
	comp=Z,1.0nm,1.1s					
IMW	Indian Meadow	69.00 331	eP	P	13 38 44.4	+0.4
	comp=Z,17nm,0.8s					
MDPB	Devils Postpil	69.00 321	eP	P	13 38 44.3	+0.2
	comp=Z,19nm,0.9s					
FLWY	Flagg Ranch	69.02 331	eP	P	13 38 44.4	+0.3
	comp=Z,39nm,0.9s					
NV01	Mina Array Sit	69.06 322	eP	P	13 38 45.8	+1.4
NV01			epP	PcP	13 39 08.7	+1.1
NV01			esP	pP	13 39 21.9	+5.3
NVAR	Mina Array Bea	69.06 322	eP	P	13 38 44.4	0.0
NVAR	Mina Array Bea	69.06 322	P	P	13 38 45.8	+1.4
	comp=Z,8.5nm,0.8s,baz=149,slow=7.0,SNR=48					
NVAR			pP	PcP	13 39 08.7	+1.1
	comp=Z,1.5nm,0.6s,baz=137,slow=4.6,SNR=3.6					
NVAR			sP	pP	13 39 21.9	+5.3
	comp=Z,5.4nm,1.0s,baz=136,slow=4.6,SNR=3.3					
NVAR			PKPPKP	P'P'df	14 06 52.5	-1.8
	comp=Z,2.6nm,1.1s,baz=277,slow=3.4,SNR=7.3					
NVAR			LR	LR	14 07 18.2	
	comp=Z,103nm,21.9s,baz=170,slow=34					
LAO	LASA Array	69.11 335	eP	P	13 38 44.3	0.0
	comp=Z,28nm,1.1s					
LAO	LASA Array	69.11 335	P	P	13 38 44.8	+0.5
	baz=144,SNR=7.7					
RLMT	Red Lodge	69.16 332	eP	P	13 38 44.8	-0.1
	comp=Z,23nm,1.1s					
RLMT	Red Lodge	69.16 332	P	P	13 38 45.5	+0.6
	baz=141,SNR=13					
H17A	Grant Village	69.20 331	eP	P	13 38 44.8	-0.4
	comp=Z,13nm,1.3s					
H17A	Grant Village	69.20 331	P	P	13 38 46.3	+1.1
	baz=139,SNR=8.2					
YPP	Pitchstone Pla	69.22 331	eP	P	13 38 45.5	+0.2
	comp=Z,29nm,1.9s					
LKWY	Lake	69.25 331	eP	P	13 38 45.8	+0.4
	comp=Z,24nm,0.8s					
RYN	Ryan	69.32 322	eP	P	13 38 46.9	+1.0
	comp=Z,13nm,1.0s					
KVN	Kaiserville	69.35 323	eP	P	13 38 46.9	+0.8
	comp=Z,19nm,1.2s					
KVN	Kaiserville	69.35 323	eP	P	13 38 46.9	+0.8
KVN			pmax	pmax		
	comp=Z,19nm,1.2s					
YNR	Norris Junctio	69.49 331	eP	P	13 38 47.8	+0.9
	comp=Z,11nm,0.7s					
DBIC	Dimbokro	69.57 77	eP	P	13 38 45.5	-2.3
	comp=Z,35nm,0.8s					
DBIC	Dimbokro	69.57 77	eP	P	13 38 45.5	-2.3
DBIC			pmax	pmax		
	comp=Z,35nm,0.8s					
DBIC	Dimbokro	69.57 77	P	P	13 38 45.4	-2.3
	comp=Z,30nm,0.8s,baz=234,slow=6.4,SNR=22					
DBIC			LR	LR	14 08 41.1	
	comp=Z,199nm,18.2s,baz=246,slow=35					
YMR	Madison River	69.59 331	eP	P	13 38 48.4	+0.9
	comp=Z,24nm,0.9s					
YHH	Holmes Hill	69.63 331	eP	P	13 38 48.3	+0.5
	comp=Z,20nm,1.1s					
YHB	Horse Butte	69.76 331	eP	P	13 38 49.0	+0.4
	comp=Z,21nm,0.8s					
BMN	Battle Mountai	69.77 324	eP	P	13 38 48.4	-0.2
	comp=Z,4.7nm,0.9s					
BMN	Battle Mountai	69.77 324	eP	P	13 38 48.4	-0.2
BMN			pmax	pmax		
	comp=Z,5.0nm,0.9s					
WAKR	Walker	69.78 322	eP	P	13 38 50.1	+1.3
	comp=Z,18nm,1.0s					
DGMT	Dagmar	69.79 338	eP	P	13 38 48.3	-0.1
	comp=Z,33nm,0.8s					
DGMT	Dagmar	69.79 338	P	P	13 38 48.6	+0.2
	baz=146,SNR=5.4					
GCMT	Greycliff	69.86 333	eP	P	13 38 49.6	+0.6
QLMT	Earthquake Lak	69.93 331	eP	P	13 38 49.9	+0.3
YERR	Yerington	69.98 322	eP	P	13 38 49.7	-0.3
	comp=Z,27nm,0.9s					
CMB	Columbia Colle	70.06 321	eP	P	13 38 50.4	+0.1
	comp=Z,8.2nm,1.0s					
CMB	Columbia Colle	70.06 321	eP	P	13 38 50.4	+0.1
CMB			pmax	pmax		
	comp=Z,8.0nm,1.0s					
PNTR	Pine Nut	70.26 322	eP	P	13 38 52.3	+0.6
	comp=Z,27nm,0.9s					
VCNR	Virginia City	70.42 322	eP	P	13 38 53.8	+1.1
	comp=Z,23nm,1.0s					
HLID	Hailey	70.45 328	eP	P	13 38 53.6	+0.8
	comp=Z,14nm,1.0s					
HLID	Hailey	70.45 328	P	P	13 38 54.1	+1.4
	baz=136,SNR=20					
PAHR	Pah Rah Range	70.53 323	eP	P	13 38 54.4	+1.2
	comp=Z,41nm,1.0s					
BOZ	Bozeman (W)	70.60 331	eP	P	13 38 53.8	+0.2
	comp=Z,14nm,1.0s					
BOZ	Bozeman (W)	70.60 331	eP	P	13 38 53.8	+0.2
BOZ			pmax	pmax		
	comp=Z,14nm,1.0s					
BOZ	Bozeman (W)	70.60 331	P	P	13 38 54.2	+0.6
	baz=139,SNR=20					
MCMT	McKenzie Canyo	70.60 330	eP	P	13 38 54.7	+1.0
DLMT	Dillon	70.88 331	eP	P	13 38 55.8	+0.6
	comp=Z,23nm,1.4s					
AFDM	Forest Hills D	70.99 321	eP	P	13 38 56.4	+0.5
	comp=Z,16nm,1.0s					
HRY	Holter Researc	71.53 332	eP	P	13 38 58.2	-0.9
EGMT	Eagleton	71.63 334	eP	P	13 39 00.2	+0.6
	comp=Z,17nm,0.9s					
EGMT	Eagleton	71.63 334	P	P	13 38 59.9	+0.2
	baz=141,SNR=12					
ORV	Oroville	71.69 321	eP	P	13 39 00.7	+0.6
	comp=Z,43nm,1.0s					
ORV	Oroville	71.69 321	eP	P	13 39 00.7	+0.6
ORV			pmax	pmax		
	comp=Z,43nm,1.0s					
WVOR	Wild Horse Val	71.91 325	eP	P	13 39 01.8	+0.3
	comp=Z,9.8nm,1.3s					
WVOR	Wild Horse Val	71.91 325	eP	P	13 39 01.8	+0.3
WVOR			pmax	pmax		

comp=Z,30nm,0.9s
MSO Missoula 72.59 331 *e*P **P 13 39 04.5 -0.9**
comp=Z,29nm,1.4s
MSO Missoula 72.59 331 P **P 13 39 06.5 +1.1**
baz=137,SNR=10
BMO Blue Mountains 72.84 328 *e*P **P 13 39 06.5 -0.3**
comp=Z,11nm,0.8s
BMO Blue Mountains 72.84 328 *e*P **P 13 39 06.6 -0.3**
BMO pmax pmax
comp=Z,11nm,0.8s
O02D Mt. Diablo Mer 72.85 321 P **P 13 39 07.4 +0.3**
baz=128
M04C Macdoel 73.29 323 P **P 13 39 10.5 +0.8**
baz=129,SNR=11
N02D Trinity Center 73.29 322 P **P 13 39 10.0 +0.3**
baz=128,SNR=5.3
K05A Summer Lake 73.35 324 *e*P **P 13 39 10.3 +0.2**
comp=Z,29nm,1.1s
F10A Beach Ranch, E 73.58 329 *e*P **P 13 39 11.3 +0.1**
comp=Z,16nm,1.0s
M02C Callahan 73.64 322 P **P 13 39 12.2 +0.6**
baz=128
YBH Yreka Blue Hor 73.77 323 *e*P **P 13 39 12.3 -0.2**
comp=Z,11nm,0.9s
K04D Chiloquin, OR 73.78 324 P **P 13 39 13.4 +0.9**
baz=129
L04D Klamath Falls 73.83 323 P **P 13 39 13.3 +0.4**
baz=129,SNR=5.1
J05D Fort Rock, OR 73.90 325 P **P 13 39 14.0 +0.7**
baz=130,SNR=10.0
G08A Pilot Rock 74.00 327 *e*P **P 13 39 13.7 0.0**
comp=Z,9.3nm,0.9s
PINE Pine Mountain 74.07 325 *e*P **P 13 39 14.2 0.0**
comp=Z,29nm,1.0s
WALA Waterton Lakes 74.22 333 *e*P **P 13 39 14.9 0.0**
comp=Z,14nm,0.9s
FFC Flin Flon 74.36 342 *e*P **P 13 39 15.1 -0.4**
comp=Z,44nm,1.8s
FFC Flin Flon 74.36 342 *ce*P **P 13 39 16.1 +0.7**
FFC pmax pmax
comp=Z,21nm,1.7s
J04D Umpqua Nationa 74.37 324 P **P 13 39 17.0 +1.0**
baz=129,SNR=5.4
E09A Wood Farm, Sta 74.41 329 *e*P **P 13 39 15.6 -0.3**
comp=Z,22nm,1.0s
L02E Cave Junction 74.55 323 P **P 13 39 18.2 +1.3**
baz=128
I05D Terrebonne, OR 74.64 325 P **P 13 39 18.8 +1.4**
baz=130,SNR=10
QSPA South Pole Qui 74.89 180 *e*P **P 13 39 19.9 +1.3**
comp=Z,178nm,1.4s
I04A Tendick Farm, 74.89 324 P **P 13 39 19.4 +0.6**
baz=129
K02D Willamette Mer 74.92 323 P **P 13 39 20.1 +1.1**
baz=128
HAWA Hanford 75.03 328 *e*P **P 13 39 20.3 +0.8**
comp=Z,20nm,0.9s
NEW Newport 75.12 330 P **P 13 39 20.9 +0.8**
baz=134
NEW Newport 75.12 330 P **P 13 39 20.6 +0.5**
comp=Z,1.7nm,0.4s,baz=149,slow=6.9,SNR=4.5
D08A Wollman Farm, 75.17 329 *e*P **P 13 39 21.1 +0.8**
comp=Z,46nm,1.7s
G05D Wamic, OR 75.21 326 P **P 13 39 21.7 +1.0**
baz=130
H04A Detroit Lake 75.33 325 *e*P **P 13 39 20.8 -0.5**
comp=Z,20nm,1.2s
C09A Chrisman Ranch 75.36 330 *e*P **P 13 39 22.0 +0.6**
comp=Z,16nm,1.0s
I03D Drain, OR 75.36 324 P **P 13 39 22.6 +1.2**
baz=128
J01E Myrtle Point 75.36 323 P **P 13 39 23.2 +1.7**
baz=128
H04D Lebanon 75.53 325 P **P 13 39 23.8 +1.4**
baz=129
LTY Liberty 76.19 328 *e*P **P 13 39 26.7 +0.5**
comp=Z,21nm,1.2s
G03D McMinnville, O 76.25 325 P **P 13 39 27.1 +0.6**
baz=129
B08A Colville Reser 76.26 329 *e*P **P 13 39 27.1 +0.6**
comp=Z,11nm,1.0s
LON Longmire 76.45 327 *e*P **P 13 39 27.9 +0.2**
comp=Z,6.6nm,0.9s
LON Longmire 76.45 327 *e*P **P 13 39 27.9 +0.2**
LON pmax pmax
comp=Z,7.0nm,0.9s
E04D Cinebar 76.73 327 P **P 13 39 30.0 +0.8**
baz=129
D05A Enumclaw 76.83 327 *e*P **P 13 39 29.4 -0.2**
comp=Z,44nm,0.9s
D04E Lakebay 77.23 327 P **P 13 39 33.4 +1.5**
baz=129
B05A Bryant 77.58 328 P **P 13 39 34.5 +0.7**
baz=130,SNR=6.2
D03D Eldon 77.62 327 P **P 13 39 35.5 +1.4**
baz=129,SNR=6.3
TOA1 Torodi Ar. Sit 77.77 73 *e*P **P 13 39 33.8 -1.9**
TOA0 Torodi Ar. Sit 77.77 73 *e*P **P 13 39 33.5 -2.2**
comp=Z,39nm,0.7s
TORD Torodi Ar. Bea 77.77 73 *e*P **P 13 39 32.3 -3.3**
TORD Torodi Ar. Bea 77.77 73 P **P 13 39 33.8 -1.9**
comp=Z,3.9nm,0.5s,baz=353,slow=30,SNR=65
NLWA Neilton Lookou 77.94 327 *e*P **P 13 39 36.0 0.0**
comp=Z,23nm,0.9s
A04D Lummi Island 78.18 328 P **P 13 39 38.4 +1.3**
baz=130
IVI Ivigtut 78.47 11 *e*P **P 13 39 37.0 -1.4**
comp=Z,29nm,1.1s
PGC Sidney 78.52 328 *e*P **P 13 39 38.7 -0.3**
comp=Z,18nm,0.8s
MORF Marmelete 78.90 46 *e*P P 13 39 47.1 +5.7
PNCL Nicolau / Gran 79.37 46 *e*P **P 13 39 44.6 +0.7**
comp=Z,35nm,1.7s
PNCL Nicolau / Gran 79.37 46 *e*PcP **PcP 13 39 49.5 -2.1**
MESJ Messejana 79.45 46 *e*P P 13 39 50.3 +5.9
PCVE Castro Verde 79.48 46 *e*P P 13 39 49.5 +5.0
comp=Z,40nm,1.6s
PBEJ Beja 79.79 46 *e*P **P 13 39 47.8 +1.6**
comp=Z,26nm,1.6s
PBEJ Beja 79.79 46 *e*PcP **PcP 13 39 52.3 -1.2**
MTE Manteigas 81.14 44 *e*P **P 13 39 53.5 0.0**
comp=Z,32nm,1.6s
MTE Manteigas 81.14 44 *e*PcP **PcP 13 39 58.8 -0.6**
SBA Scott Base 81.47 191 *e*P **P 13 39 55.7 +1.2**
comp=Z,42nm,1.2s
SBA Scott Base 81.47 191 *e*P **P 13 39 55.7 +1.2**
SBA pmax pmax
comp=Z,42nm,1.2s
VNDA Vanda 82.51 190 *e*P **P 13 40 01.5 +1.5**
comp=Z,26nm,1.1s
VNDA Vanda 82.51 190 *e*P **P 13 40 01.5 +1.5**
VNDA pmax pmax
comp=Z,26nm,1.1s
VNDA Vanda 82.51 190 P **P 13 40 02.3 +2.3**
comp=Z,12nm,0.9s,baz=130,slow=4.6,SNR=55
PAB San Pablo 82.93 46 *e*P **P 13 40 02.2 -0.6**
comp=Z,15nm,1.3s
PAB San Pablo 82.93 46 *e*P **P 13 40 02.3 -0.6**
PAB pmax pmax
comp=Z,15nm,1.3s
SYO Syowa Base 83.18 160⇑ *e*X **P 13 40 00.8 -2.8**
SYO Syowa Base 83.18 160⇓ *i*X **P 13 40 03.6 0.0**
ESDC Sonseca Array 83.25 46 *e*P **P 13 40 03.1 -1.3**
ESDC Sonseca Array 83.25 46 P **P 13 40 03.9 -0.6**
comp=Z,1.2nm,0.5s,baz=241,slow=5.6,SNR=16
ESLA Sonseca Array 83.25 46 *e*P **P 13 40 03.6 -0.9**
comp=Z,7.5nm,0.9s
SUR Sutherland 83.93 122 *e*P **P 13 40 09.6 +1.2**
comp=Z,63nm,0.9s
TSUM Tsumeb 84.30 108 *e*P **P 13 40 10.5 0.0**
comp=Z,71nm,0.9s
TAM Tamanrasset 84.36 65 *e*P **P 13 40 09.9 -0.7**
comp=Z,4.9nm,0.7s
TAM Tamanrasset 84.36 65 *e*P **P 13 40 09.9 -0.7**
TAM pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 84.51 341 *e*P **P 13 40 10.2 -0.1**
YKA Yellowknife Ar 84.51 341 P **P 13 40 10.0 -0.2**
comp=Z,9.9nm,0.7s,baz=135,slow=5.0,SNR=182
YKA sP **pP 13 40 46.8 +3.3**
comp=Z,5.3nm,0.8s,baz=135,slow=5.3,SNR=2.4
YKW3 Yellowknife Ar 84.56 341 *e*P **P 13 40 10.0 -0.5**
comp=Z,12nm,0.7s
DLBC Dease Lake 87.54 333 *e*P **P 13 40 25.2 -0.2**
comp=Z,16nm,0.9s
DLBC Dease Lake 87.54 333 P **P 13 40 25.5 +0.1**
comp=Z,5.0nm,0.3s,baz=132,slow=4.8,SNR=10

BOSA Boshof 88.62 119 *e*P **P 13 40 30.6 -0.7**
comp=Z,24nm,0.8s
BOSA Boshof 88.62 119 *e*P **P 13 40 30.6 -0.7**
BOSA pmax pmax
comp=Z,24nm,0.8s
BOSA Boshof 88.62 119 P **P 13 40 30.6 -0.7**
comp=Z,23nm,0.8s,baz=258,slow=3.8,SNR=34
LBTB Lobatse 89.94 116 *e*P **P 13 40 37.1 -0.4**
comp=Z,77nm,1.6s
LBTB Lobatse 89.94 116 *e*P **P 13 40 37.1 -0.4**
LBTB pmax pmax
comp=Z,77nm,1.6s
SUMG Summit 90.34 9 *e*P **P 13 40 38.6 0.0**
comp=Z,57nm,1.2s
SUMG Summit 90.34 9 *e*P **P 13 40 38.6 0.0**
SUMG pmax pmax
comp=Z,57nm,1.2s
RES Resolute Bay 90.96 354 *e*P **P 13 40 41.6 +0.8**
comp=Z,51nm,1.6s
RES Resolute Bay 90.96 354 *e*P **P 13 40 41.7 +0.8**
RES pmax pmax
comp=Z,51nm,1.6s
RES Resolute Bay 90.96 354 P **P 13 40 41.7 +0.8**
comp=Z,3.7nm,0.7s,baz=185,slow=9.4,SNR=12
RES sP **pP 13 41 18.9 +4.5**
comp=Z,8.0nm,1.2s,baz=136,slow=7.5,SNR=2.3
MAW Mawson 90.98 164 *e*P **P 13 40 42.2 +1.0**
comp=Z,17nm,1.3s
MAW Mawson 90.98 164 *e*P **P 13 40 42.3 +1.0**
MAW pmax pmax
comp=Z,17nm,1.3s
MAW Mawson 90.98 164 P **P 13 40 41.6 +0.3**
comp=Z,38nm,1.1s,baz=228,slow=5.7,SNR=32
INK Inuvik 94.26 341 *e*P **P 13 40 56.1 -0.1**
comp=Z,8.6nm,1.1s
INK *es*P **pP 13 41 33.2 +3.3**
INK Inuvik 94.26 341 P **P 13 40 56.4 +0.2**
comp=Z,5.0nm,0.9s,baz=96,slow=6.8,SNR=16
INK sP **pP 13 41 33.2 +3.3**
comp=Z,2.9nm,1.0s,baz=66,slow=2.1,SNR=3.2
DAWY Dawson 94.30 336 *e*P **P 13 40 56.0 -0.6**
comp=Z,8.9nm,1.5s
EPYK Eagle Plains 94.36 338 P **P 13 40 57.3 +0.5**
baz=118
BCAR Beaver Creek A 94.84 335 *e*P **P 13 40 58.5 -0.6**
JMIC Jan Mayen 95.96 17 LR LR 14 20 55.0
comp=Z,40nm,21.6s,baz=248,slow=33
DOT Dot Lake 96.01 335 *e*P **P 13 41 04.5 0.0**
comp=Z,4.3nm,1.0s
KLU Klutina 96.02 332 *e*P **P 13 41 04.1 -0.5**
comp=Z,8.2nm,1.0s
SCRK Sand Creek 96.11 335 *e*P **P 13 41 04.7 -0.3**
comp=Z,13nm,2.0s
PAX Paxson 96.35 334 *e*P **P 13 41 05.8 -0.3**
comp=Z,3.6nm,0.9s
PAX Paxson 96.35 334 *e*P **P 13 41 05.8 -0.3**
PAX pmax pmax
comp=Z,4.0nm,0.9s
SML Sawmill 97.21 332 *e*P **P 13 41 09.4 -0.5**
comp=Z,8.9nm,1.0s
SML Sawmill 97.21 332 *e*P **P 13 41 09.4 -0.5**
SML pmax pmax
comp=Z,9.0nm,1.0s
HDA Harding Lake 97.47 335 P Pdif 13 41 11.2 +0.2
baz=109
ILAR Eielson Array 97.57 335 P Pdif 13 41 11.6 +0.2
comp=Z,0.9nm,0.8s,baz=142,slow=3.0,SNR=10
CCB Clear Creek Bu 97.90 335 *e*P **P 13 41 12.5 -0.4**
comp=Z,3.2nm,0.6s
POKR Poker Plat Res 97.90 336 P **P 13 41 12.8 -0.1**
baz=109
COLA College 97.99 335 *e*P Pdif 13 41 13.3 0.0
comp=Z,7.0nm,0.8s
COLA College 97.99 335⇓ *i*P Pdif 13 41 13.4 +0.1
COLA pmax pmax
comp=Z,5.0nm,0.8s
TCOL CIGO, UAF Yank 98.00 335 P **P 13 41 13.0 -0.2**
baz=108
MDM Murphy Dome 98.17 335 *e*P **P 13 41 13.7 -0.5**
comp=Z,9.9nm,1.1s
GERES GERESS Array B 98.27 42 P **P 13 41 14.1 -1.0**
comp=Z,0.4nm,0.4s,baz=298,slow=2.9,SNR=5.4
BPAW Bear Paw Mtn. 99.06 334 *e*P **Pdif 13 41 17.7 -0.4**
comp=Z,5.2nm,0.9s
CAST Castle Rocks 99.34 333 *e*P **Pdif 13 41 18.8 -0.6**
comp=Z,5.0nm,1.0s
SPITS Spitsbergen Ar 104.41 12 PKKPbc PKKPbc 13 57 43.4 +12
comp=Z,1.1nm,0.6s,baz=72,slow=4.7,SNR=5.0
FINES FINESS Array B 106.92 30 PKKPbc PKKPbc 13 57 21.1 -1.7
comp=Z,1.8nm,0.8s,baz=103,slow=6.1,SNR=7.3
AKASG Malin Array Be 108.47 41 PKiKP **PKiKP 13 46 05.0 -0.4**
comp=Z,0.2nm,0.3s,baz=258,slow=4.6,SNR=2.1
AKBB Malin Array Si 108.47 41 *e*PKiKP **PKiKP 13 46 05.0 -0.4**
BR101 Keskin Array S 111.20 53 *e*PKiKP **PKiKP 13 46 11.2 +0.1**
BRTR Keskin Array B 111.20 53 PKiKP **PKiKP 13 46 11.2 +0.1**
comp=Z,1.0nm,0.9s,baz=242,slow=4.1,SNR=6.9
ANN Anapa 114.04 47 *i* PKIKP PKPdf 13 46 14.5 -1.6
ANN pmax pmax
comp=Z,24nm,0.8s
VSR Storozhevoye 114.72 40⇑ *i*PKIKP **PKiKP 13 46 17.8 +0.5**
KIV Kislovodsk 117.85 48 *e*PKIKP **PKiKP 13 46 25.1 +1.4**
KIV pmax pmax
comp=Z,19nm,1.1s
KBZ Khabaz 118.03 48 PKP **PKiKP 13 46 23.9 0.0**
comp=Z,4.1nm,0.9s,baz=171,slow=0.6,SNR=7.6
TIXI Tiksi 122.33 352⇓ *i*PKIKP **PKiKP 13 46 33.0 +1.5**
STKA Stephens Creek 123.36 214 PKP **PKPdf 13 46 33.5 -1.1**
comp=Z,1.4nm,0.5s,baz=165,slow=5.2,SNR=3.8
SEY Seymchan 123.41 338⇓ *i*PKIKP **PKiKP 13 46 35.9 +2.0**
SEY Seymchan 123.41 338 PKP **PKiKP 13 46 34.1 +0.3**
comp=Z,2.2nm,0.7s,baz=138,slow=3.6,SNR=7.4
ARU Arti 124.27 31 *e*PKPdf **PKiKP 13 46 35.6 -0.2**
ARU Arti 124.27 31 *i* PKIKP **PKiKP 13 46 36.9 +1.1**
ARU 13 48 22.2
ARU 13 53 38.0
ARU SP SP 13 58 03.8 -3.3
ARU Arti 124.27 31 PKP **PKPdf 13 46 34.1 -1.4**
comp=Z,1.0nm,0.4s,baz=293,slow=2.6,SNR=5.1
PEA1 Petropavlovsk- 126.06 326 *e*PKPdf **PKiKP 13 46 39.9 +0.4**
PETK Petropavlovsk- 126.06 326 PKP **PKiKP 13 46 39.9 +0.4**
comp=Z,2.6nm,0.9s,baz=69,slow=8.1,SNR=4.1
AKTO Aktyubinsk 126.47 38 PKP **PKPdf 13 46 39.7 -0.2**
comp=Z,5.5nm,0.9s,baz=283,slow=3.1,SNR=11
GEYT Alibeck 130.35 53 PKP **PKPdf 13 46 46.6 -1.1**
comp=Z,6.4nm,0.8s,baz=270,slow=3.9,SNR=5.5
GEYT SKPab **SKPbc 13 50 00.8 +1.0**
comp=Z,4.9nm,0.7s,baz=292,slow=4.0,SNR=8.8
BRVK Borovoye 131.81 30 *d*PKIKP **PKiKP 13 46 51.2 +0.2**
BVAR Borovoye Array 131.88 30 PKP **PKPdf 13 46 50.6 +0.5**
comp=Z,2.3nm,0.9s,baz=229,slow=5.7,SNR=9.3
BVAR SKPbc **SKPab 13 50 06.7 +1.0**
comp=Z,9.3nm,0.8s,baz=298,slow=3.2,SNR=27
AS31 Alice Springs 133.99 213 *e*PKPdf **PKPdf 13 46 55.1 0.0**
ASAR Alice Springs 133.99 213 *e*PKPdf **PKPdf 13 46 55.0 -0.1**
ASAR Alice Springs 133.99 213 PKhKP PKPpre 13 46 39.1
comp=Z,0.3nm,0.7s,baz=147,slow=1.9,SNR=3.8
ASAR PKP **PKPdf 13 46 55.1 0.0**
comp=Z,0.9nm,0.5s,baz=131,slow=1.6,SNR=13
ASAR SKPbc **SKPbc 13 50 12.3 -0.7**
comp=Z,5.5nm,1.0s,baz=143,slow=3.7,SNR=12
ASAR SKP 13 50 21.7
comp=Z,1.2nm,0.7s,baz=148,slow=3.3,SNR=4.5
NVS Novosibirsk 135.94 21 *i* PKIKP **PKiKP 13 46 59.6 +0.3**
WR1 Warramunga Arr 136.73 217 *e*PKPdf **PKPdf 13 47 00.8 +0.5**
WRA Warramunga Arr 136.73 217 PKhKP PKPpre 13 46 46.8
comp=Z,0.3nm,0.5s,baz=90,slow=1.9,SNR=7.6
WRA PKP **PKPdf 13 47 00.8 +0.5**
comp=Z,4.0nm,0.8s,baz=135,slow=1.7,SNR=14
WRA SKPbc **SKPbc 13 50 21.9 +0.2**
comp=Z,7.7nm,0.9s,baz=136,slow=2.7,SNR=16
WRAB Tennant Creek 136.73 217⇓ *e*PKIKP **PKPdf 13 47 00.8 +0.5**
ZAA1 Zalesovo Array 137.20 20 *e*PKPpre PKPpre 13 46 50.9
ZAA1 *e*PKPdf **PKPdf 13 46 59.0 -1.0**
ZAA1 *e*SKPbc **SKPbc 13 50 22.4 +0.5**
ZAA0 Zalesovo Array 137.20 20 *e*PKPdf **PKPdf 13 46 58.8 -1.2**
ZALV Zalesovo Beam 137.20 20 *e*PKPdf **PKPdf 13 47 00.1 +0.1**
ZALV Zalesovo Beam 137.20 20 *e*PKIKP **PKPdf 13 47 00.1 +0.1**
ZALV Zalesovo Beam 137.20 20 PKhKP PKPpre 13 46 50.9
comp=Z,1.7nm,0.6s,baz=341,slow=3.1,SNR=6.5
ZALV PKP **PKPdf 13 46 59.0 -1.0**
comp=Z,6.4nm,0.6s,baz=284,slow=2.4,SNR=16
ZALV SKPbc **SKPbc 13 50 22.4 +0.5**
comp=Z,6.2nm,0.9s,baz=305,slow=5.2,SNR=9.6
KURK Kurchatov 137.25 28 *e*PKPdf **PKPdf 13 47 00.4 +0.2**
KURK Kurchatov 137.25 28 *d*PKIKP **PKPdf 13 47 00.7 +0.5**
KURBB Kurchatov Arra 137.28 28 PKhKP PKPpre 13 46 52.1
comp=Z,0.3nm,0.4s,baz=314,slow=2.5,SNR=5.3
KURBB PKP **PKPdf 13 47 00.9 +0.6**
comp=Z,2.1nm,0.6s,baz=309,slow=2.4,SNR=9.0
KURBB SKPbc **SKPbc 13 50 22.6 +0.4**
comp=Z,3.6nm,1.0s,baz=306,slow=3.7,SNR=10.0
CHGR Chuyangaron 138.39 48 *e*PKPdf **PKPdf 13 47 01.9 -0.9**
GAR Garm 139.08 47 *e*PKPdf **PKPdf 13 47 02.7 -1.4**
GAR Garm 139.08 47 *e*PKIKP **PKPdf 13 47 02.7 -1.4**
ERM Erimo 139.97 319 *d*PKIKP **PKiKP 13 47 08.6 +0.7**
AAK Ala-Archa 140.12 40 *d*PKIKP **PKiKP 13 47 07.9 -0.6**
AAK Ala-Archa 140.12 40 PKP **PKPdf 13 47 05.0 -1.0**
comp=Z,4.6nm,0.8s,baz=122,slow=3.2,SNR=5.4
AAK SKPbc **SKiKP 13 50 32.3 -1.0**
comp=Z,12nm,1.0s,baz=209,slow=0.8,SNR=7.3
KLR Kul'dur 141.14 336⇑ *e*PKIKP **PKPdf 13 47 08.6 +1.2**
KLR Kul'dur 141.14 336 PKP **PKPdf 13 47 08.3 +0.9**
comp=Z,1.4nm,0.6s,baz=1.2,slow=2.2,SNR=4.8
KLR SKP 13 50 33.1
comp=Z,2.1nm,0.9s,baz=338,slow=5.7,SNR=3.9
DGZ Jazzator, Alta 141.63 22⇑ *e*PKIKP **PKPdf 13 47 07.5 -1.0**
MK32 Makanchi Array 141.76 29 *e*SKPbc **SKiKP 13 50 35.6 -0.6**
MKAR Makanchi Array 141.76 29 *e*PKPpre PKPpre 13 47 02.8
MKAR Makanchi Array 141.76 29 *e*PKHKP PKPpre 13 47 02.8
MKAR Makanchi Array 141.76 29 PKhKP PKPpre 13 47 03.6
comp=Z,2.5nm,0.5s,baz=333,slow=3.1,SNR=15
MKAR SKPbc **SKiKP 13 50 35.7 -0.6**
comp=Z,5.7nm,0.9s,baz=308,slow=4.5,SNR=8.7
KSH Kashi 142.72 43 PKP **PKPdf 13 47 11.3 +0.6**
KSH pPKP pPKPdf 13 47 38.9 -6.9
KSH PP **PP 13 50 20.9 +0.8**
KSH SS SS 14 08 42.9 -4.5
KSH AMB AMB
comp=Z,130nm,4.4s
KSH LR LR
comp=Z,290nm,10.7s
KSH LR LR
comp=Z,240nm,9.3s
KSH LR LR
comp=Z,390nm,6.8s
FITZ Fitzroy Crossi 142.76 208 PKhKP PKPpre 13 47 07.5
comp=Z,8.8nm,0.8s,baz=186,slow=1.8,SNR=44
TLY Talaya 143.47 5 *i* PKIKP PKPbc 13 47 10.2 +1.1
GENI Genyem 143.94 243 PKP **PKPdf 13 47 13.8 +0.4**
MTN Manton Dam 144.16 220 *e*PKPdf PKPbc 13 47 12.4 +0.3
GUMO Guam 144.71 272 PKP **PKPdf 13 47 14.3 -0.3**
comp=Z,48nm,0.7s,baz=160,slow=12,SNR=4.3
ZAK Zakamensk 144.73 6 *e*PKIKP **PKPdf 13 47 13.7 -0.1**
ZAK pmax pmax
comp=Z,22nm,1.3s
HIA Hailar 144.86 347 *e*PKPdf **PKPdf 13 47 13.8 -0.2**
HIA Hailar 144.86 347 *e*PKIKP **PKPdf 13 47 13.8 -0.2**
USA0B Ussuriysk Arra 144.91 330 *e*PKPbc PKPbc 13 47 13.3 -0.3
USRK Ussuriysk Ar. 144.91 330 *e*PKPbc PKPbc 13 47 13.4 -0.2
USRK Ussuriysk Ar. 144.91 330 PKP **PKPdf 13 47 14.0 -0.1**
comp=Z,14nm,0.9s,baz=355,slow=3.4,SNR=20
VLA Vladivostok 145.75 329⇓ *e*PKP2 **PKPdf 13 47 15.2 -0.4**
MJAR Matsushiro Arr 146.09 314 *e*PKPdf **PKPbc 13 47 17.1 -0.5**
MJAR Matsushiro Arr 146.09 314 PKPbc **PKPab 13 47 18.1 -0.2**
comp=Z,27nm,0.9s,baz=86,slow=0.4,SNR=70
MJAR pPKPbc **pPKPdf 13 47 44.1 -7.6**
comp=Z,6.8nm,0.7s,baz=114,slow=2.0,SNR=3.3
MAJO Matsushiro 146.09 314 *e*PKPdf **PKPbc 13 47 17.8 +0.3**
MAJO *ep*PKPdf **pPKPdf 13 47 44.0 -7.6**
MAJO Matsushiro 146.09 314 *c i* PKP2 **PKPbc 13 47 17.9 +0.3**
MAT Matsushiro 146.09 314 PKP **PKPdf 13 47 15.6 -0.9**
MJB9 Matsu-Tunnel 146.09 314 *e*PKPdf **PKPbc 13 47 17.8 +0.2**
WMQ Urumqi 146.50 28 *e*PKPbc **PKPdf 13 47 16.9 -0.1**
WMQ LR LR
comp=Z,6μm,24.5s
WMQ LR LR
comp=Z,6μm,23.3s
WMQ LR LR
comp=Z,2μm,21.9s
ULN Ulaanbaatar 147.48 2 *e*PKPbc **PKPbc 13 47 21.2 -0.1**
ULN Ulaanbaatar 147.48 2⇑ *e*PKP2 **PKPbc 13 47 20.2 -1.1**
SONA0 Songino Array 147.48 3 *e*PKPdf **PKPdf 13 47 19.8 +1.2**
SONM Songino Array 147.48 3 *e*PKPdf **PKPdf 13 47 19.2 +0.6**
SONM *e*PKPbc **PKPbc 13 47 21.7 +0.4**
SONM Songino Array 147.48 3 *e*PKIKP **PKPdf 13 47 19.2 +0.6**
SONM *e* 13 47 21.7
SONM Songino Array 147.48 3 PKPbc **PKPdf 13 47 19.8 +1.2**
comp=Z,10nm,0.5s,baz=321,slow=2.2,SNR=63
SONM SKPbc **SKiKP 13 50 48.4 +0.2**
comp=Z,3.5nm,1.0s,baz=340,slow=1.7,SNR=3.2
INU Inuyama 147.53 313 *e*PKPbc **PKPbc 13 47 21.5 -0.2**
FAKI Fak Fak 150.31 234 *e*PKPbc **PKiKP 13 47 30.0 0.0**
FAKI Fak Fak 150.31 234 PKP **PKPdf 13 47 25.9 +1.9**
FAKI PKP **PKPbc 13 47 26.2 -3.1**
FAKI PKP **PKiKP 13 47 30.8 +0.7**
SOEI Soe 150.61 213 *e*PKPbc **PKiKP 13 47 31.3 +0.5**
SOEI Soe 150.61 213 PKP **PKiKP 13 47 32.1 +1.3**
HYB Hyderabad 151.25 82 *i* PKP **PKPdf 13 47 25.5 +0.1**
HYB *e* 13 47 32.0
HYB *e* 13 48 12.0
KSRS Korea Array 151.96 326 PKP **PKPdf 13 47 25.3 -0.5**
comp=Z,1.6nm,0.8s,baz=63,slow=1.0,SNR=8.6
KSRS PKPbc **PKiKP 13 47 33.4 +0.7**
comp=Z,12nm,0.7s,baz=1.0,slow=2.4,SNR=41
KS15 Wonju Array Si 151.99 326 *e*PKPdf **PKPdf 13 47 25.3 -0.6**
KS15 *e*PKPbc **PKiKP 13 47 33.0 +0.2**
KSAR Wonju Array Be 151.99 326 *e*PKPdf **PKPdf 13 47 25.6 -0.3**
KSAR *e*PKPbc **PKiKP 13 47 33.3 +0.5**
KSAR Wonju Array Be 151.99 326 *e*PKIKP **PKPdf 13 47 25.6 -0.3**
MMRI Maumere 152.60 211 PKP **PKPdf 13 47 28.5 +1.0**
MMRI PKP **PKPbc 13 47 30.5 -4.0**
JNU Nakatsue 153.00 315 *e*PKPbc **PKiKP 13 47 35.1 0.0**
JNU Nakatsue 153.00 315 PKPbc **PKPbc 13 47 34.5 -0.5**
comp=Z,8.5nm,0.9s,baz=87,slow=3.5,SNR=6.8
HHC Hu-ho-hao-te 154.37 355 *e*PKPbc **PKPdf 13 47 26.1 -3.3**
HHC LR LR
comp=Z,1μm,18.7s
HHC LR LR
comp=Z,1μm,19.9s
HHC LR LR
comp=Z,2μm,19.2s
GTA Gaotai 154.79 16⇓ PKPbc **PKPdf 13 47 31.0 +1.0**
GTA PKPab **PKPab 13 47 54.1 0.0**
GTA LR LR
comp=Z,74nm,19.7s
GTA LR LR
comp=Z,71nm,20.3s
GTA LR LR
comp=Z,130nm,19.4s
KAPI Kappang 156.94 210 PKP **PKPdf 13 47 33.6 +0.2**
comp=Z,2.9nm,0.4s,baz=32,slow=2.5,SNR=4.9
KAPI PKPab **PKPab 13 48 05.6 +1.8**
comp=Z,41nm,1.2s,baz=201,slow=2.3,SNR=17
LZH Lanzhou 158.86 10 *e*PKP **PKPdf 13 47 37.3 +1.9**
LZH pPKP pPKPdf 13 48 04.6 -6.0
LZH PKPab **PKPab 13 48 11.8 0.0**
LZH sPKP 13 48 15.0
LZH LR LR
comp=Z,260nm,16.0s
LZH LR LR
comp=Z,140nm,15.2s
LZH LR LR
comp=Z,250nm,18.2s
NJ2 Nanjing 160.79 332 *e*PKP **PKPdf 13 47 36.9 -0.5**
XAN Xi'an 161.31 359 PKP **PKPdf 13 47 39.3 +1.3**
XAN pPKP pPKPdf 13 48 06.0 -7.3
XAN PP **PP 13 52 09.8 +5.3**
XAN SS SS 14 12 09.6 +0.2
XAN LR LR
comp=Z,250nm,21.0s
XAN LR LR
comp=Z,140nm,18.8s
XAN LR LR
comp=Z,230nm,21.1s
GSI Gunungsitoli 162.46 141 *e*PKPab **PKPab 13 48 29.7 +1.8**
CD2 Chengdu 163.85 15 PKP **PKPdf 13 47 39.3 -1.3**
WHN Wuhan 163.86 341 PKPbc PKPdf 13 47 56.3 +16
PSI Prapat 164.46 142 *e*PKPab **PKPab 13 48 37.1 +0.3**
CMMT Chiang Mai 170.26 67 PKP **PKPdf 13 47 48.3 +2.7**
CM31 Chiang Mai Arr 170.37 69 *e*PKPdf **PKPdf 13 47 46.4 +0.7**
CM31 *e*PKPab **PKPab 13 49 02.1 -0.8**
CMAR Chiang Mai Arr 170.37 69 *e*PKPdf **PKPdf 13 47 45.6 0.0**
CMAR Chiang Mai Arr 170.37 69 *e*PKIKP **PKPdf 13 47 45.7 0.0**
CMAR Chiang Mai Arr 170.37 69 PKP **PKPdf 13 47 46.4 +0.7**
comp=Z,2.0nm,1.1s,baz=227,slow=1.0,SNR=7.9
CMAR PKPab **PKPab 13 49 02.1 -0.8**
comp=Z,3.5nm,0.9s,baz=276,slow=5.7,SNR=8.6
PHRA Phrae 171.50 67 PKP **PKPdf 13 47 49.4 +3.2**
NANT Nan 171.80 64 PKP **PKPdf 13 47 48.4 +2.0**
PANO Nakornpanom 175.87 63 PKP **PKPdf 13 47 49.1 +1.2**

*IDC **21** 13:32:38.9±1.0, 52°.37N×160°.35E, h0km, mb3.9/16, mb1 4.0/18, mb1mx3.8/54, mbtmp3.9/18, ML3.7/2, MS3.8/4, Ms1 3.9/4, ms1mx3.1/61, Error ellipse: s-maj=26.4km s-min=15.3km az=125.0*

*KRSC **21** 13:32:40.3±10.0, 52°.17N×160°.69E, h40km±10km, ML4.5*

*ISCJB **21** 13:32:42.8±0.6, 52°.16N±0°.04×160°.56E±0°.06, h52km±5km, mb4.1/20, MS4.1/3, Error ellipse: s-maj=7.3km s-min=4.0km az=137.9*

*NEIC **21** 13:32:43.7±0.6, 52°.24N×160°.40E, h35km, mb4.5/7, Error ellipse: s-maj=11.5km s-min=8.5km az=150.0*

*MOS **21** 13:32:43.1±0.9, 52°.20N×160°.47E, h55km, mb4.5/4, Error ellipse: s-maj=7.8km s-min=4.0km az=96.2*

ISC 21 13:32:43.3±1.6, 52°.19N±0°.05×160°.60E±0°.04, h34km±5km, n138, σ1§48/159, mb4.0/20, MS4.2/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97**	**339**	*eP*	**Pn**	**13 32 58.4**	**-2.1**
SPN				*eS*	**Sn**	**13 33 11.0**	**-2.1**
SPN	**Mys Shipunski**	**0.97**	**339**	PN	**Pn**	**13 32 58.4**	**-2.1**
SPN				S	**Sn**	**13 33 11.0**	**-2.1**
NLC	**Nalytchevo**	**1.24**	**323**	*eP*	**Pn**	**13 33 03.4**	**-0.8**
NLC				*eS*	**Sn**	**13 33 20.1**	**+0.3**
NLC	**Nalytchevo**	**1.24**	**323**	PN	**Pn**	**13 33 03.4**	**-0.8**
NLC				S	**Sn**	**13 33 20.1**	**+0.3**
RUS	**Russkaya**	**1.30**	**281**	*eP*	**Pn**	**13 33 04.4**	**-0.7**
RUS				*eS*	**Sn**	**13 33 21.6**	**+0.3**
RUS	**Russkaya**	**1.30**	**281**	PN	**Pn**	**13 33 04.4**	**-0.7**
RUS				S	**Sn**	**13 33 21.6**	**+0.3**
DALK	**Dalny**	**1.40**	**307**	*eP*	**Pn**	**13 33 05.6**	**-0.9**
DALK				*eS*	**Sn**	**13 33 23.8**	**0.0**
DALK	**Dalny**	**1.40**	**307**	PN	**Pn**	**13 33 05.6**	**-0.9**
DALK				S	**Sn**	**13 33 23.8**	**0.0**
PET	**Petropavlovsk**	**1.45**	**306**	*ePn*	**Pn**	**13 33 06.2**	**-0.9**
PET	**Petropavlovsk**	**1.45**	**306**	*ePN*	**Pn**	**13 33 06.3**	**-0.8**
PET				*eS*	**Sn**	**13 33 26.8**	**+1.9**
PET	comp=Z,460nm,0.5s			pmax	pmax		
PET	comp=N,3μm,0.8s			smax	smax		
PET	comp=E,2μm,0.8s			smax	smax		
UGLR	**Uglovaya**	**1.48**	**314**	*eP*	**Pn**	**13 33 07.4**	**-0.3**
UGLR				*eS*	**Sn**	**13 33 26.6**	**+0.7**
UGLR	**Uglovaya**	**1.48**	**314**	PN	**Pn**	**13 33 07.4**	**-0.3**
UGLR				S	**Sn**	**13 33 26.6**	**+0.7**
SDLR	**Sedlovina**	**1.50**	**317**	*eP*	**Pn**	**13 33 07.1**	**-0.9**
SDLR	**Sedlovina**	**1.50**	**317**	PN	**Pn**	**13 33 07.1**	**-0.9**
MTVR	**Mutnovka**	**1.51**	**282**	*eP*	**Pn**	**13 33 07.9**	**-0.2**
MTVR				*eS*	**Sn**	**13 33 27.6**	**+1.0**
MTVR	**Mutnovka**	**1.51**	**282**	PN	**Pn**	**13 33 07.9**	**-0.2**
MTVR				S	**Sn**	**13 33 27.6**	**+1.0**
SMAR	**Somma**	**1.53**	**315**	*eP*	**Pn**	**13 33 07.9**	**-0.5**
SMAR	**Somma**	**1.53**	**315**	PN	**Pn**	**13 33 07.9**	**-0.5**
AVH	**Avacha**	**1.56**	**314**	*eP*	**Pn**	**13 33 08.6**	**-0.1**
AVH				*eS*	**Sn**	**13 33 28.8**	**+1.0**
AVH	**Avacha**	**1.56**	**314**	PN	**Pn**	**13 33 08.6**	**-0.1**
AVH				S	**Sn**	**13 33 28.8**	**+1.0**
KRER	**Koryakskii**	**1.58**	**315**	*eP*	**Pn**	**13 33 08.8**	**-0.3**
KRER	**Koryakskii**	**1.58**	**315**	PN	**Pn**	**13 33 08.8**	**-0.3**
GRL	**Gorelyy**	**1.59**	**284**	*eP*	**Pn**	**13 33 09.9**	**+0.8**
GRL	**Gorelyy**	**1.59**	**284**	PN	**Pn**	**13 33 09.9**	**+0.8**
KDTR	**Khodutka, Kamc**	**1.61**	**257**	*eP*	**Pn**	**13 33 08.7**	**-0.5**
KDTR				*eS*	**Sn**	**13 33 28.3**	**-0.5**
KDTR	**Khodutka, Kamc**	**1.61**	**257**	PN	**Pn**	**13 33 08.7**	**-0.5**
KDTR				S	**Sn**	**13 33 28.3**	**-0.5**
KOK	**Koryaka**	**1.62**	**313**	*eP*	**Pn**	**13 33 09.3**	**-0.3**
KOK	**Koryaka**	**1.62**	**313**	PN	**Pn**	**13 33 09.3**	**-0.3**
KRMR	**Karymshinskiy**	**1.64**	**294**	*eP*	**Pn**	**13 33 09.4**	**-0.3**
KRMR				*eS*	**Sn**	**13 33 29.6**	**0.0**
KRMR	**Karymshinskiy**	**1.64**	**294**	PN	**Pn**	**13 33 09.4**	**-0.3**
KRMR				S	**Sn**	**13 33 29.6**	**0.0**
KRX	**Arik**	**1.66**	**315**	*eP*	**Pn**	**13 33 09.6**	**-0.6**
KRX	**Arik**	**1.66**	**315**	PN	**Pn**	**13 33 09.6**	**-0.6**
ASAK	**Asacha**	**1.67**	**278**	*eP*	**Pn**	**13 33 10.6**	**+0.4**
ASAK	**Asacha**	**1.67**	**278**	PN	**Pn**	**13 33 10.6**	**+0.4**
PEA0B	**Petropavlovsk-**	**1.99**	**299**	*ePn*	**Pn**	**13 33 14.5**	**0.0**
PETK	**Petropavlovsk-**	**1.99**	**299**	*ePn*	**Pn**	**13 33 14.1**	**-0.4**
PETK	**Petropavlovsk-**	**1.99**	**299**	*ePN*	**Pn**	**13 33 14.1**	**-0.4**
PETK	**Petropavlovsk-**	**1.99**	**299**	Pn	**Pn**	**13 33 14.6**	**0.0**
PETK	comp=E,37nm,0.3s,baz=106,slow=16,SNR=210			Sn	**Sn**	**13 33 39.7**	**+1.4**
PETK	comp=E,42nm,0.3s,baz=99,slow=18,SNR=9.4			LR	LR	13 34 12.0	
PEA1	**Petropavlovsk-**	**1.99**	**299**	*ePn*	**Pn**	**13 33 14.6**	**0.0**
PEA1				*eSn*	**Sn**	**13 33 39.7**	**+1.4**
APC	**Apacha**	**2.22**	**291**	*eP*	**Pn**	**13 33 18.6**	**+0.9**
APC				*eS*	**Sn**	**13 33 44.6**	**+0.6**
APC	**Apacha**	**2.22**	**291**	PN	**Pn**	**13 33 18.6**	**+0.9**
APC				S	**Sn**	**13 33 44.6**	**+0.6**
MKZ	**Mys Kozlova**	**2.46**	**16**	*eP*	**Pn**	**13 33 19.3**	**-1.7**
MKZ				*eS*	**Sn**	**13 33 47.5**	**-2.3**
MKZ	**Mys Kozlova**	**2.46**	**16**	PN	**Pn**	**13 33 19.3**	**-1.7**
MKZ				S	**Sn**	**13 33 47.5**	**-2.3**
PAU	**Pauzhetka**	**2.46**	**254**	*eP*	**Pn**	**13 33 21.3**	**+0.3**
PAU	**Pauzhetka**	**2.46**	**254**	PN	**Pn**	**13 33 21.3**	**+0.3**
KZV	**Kizimen**	**2.93**	**357**	*eP*	**Pn**	**13 33 27.9**	**+0.3**
KZV	**Kizimen**	**2.93**	**357**	PN	**Pn**	**13 33 27.9**	**+0.3**
TUMD	**Tumrok D**	**3.02**	**358**	*eP*	**Pn**	**13 33 30.9**	**+2.2**
TUMD				*eS*	**Sn**	**13 34 06.9**	**+3.3**
TUMR	**Tumrok**	**3.11**	**355**	*eP*	**Pn**	**13 33 32.8**	**+2.8**
TUMR	**Tumrok**	**3.11**	**355**	PN	**Pn**	**13 33 30.9**	**+0.9**
TUMR				S	**Sn**	**13 34 06.9**	**+0.9**
SKR	**Severo-Kuril's**	**3.19**	**243**	*ePN*	**Pn**	**13 33 31.8**	**+0.8**
SKR				*eS*	**Sn**	**13 34 07.4**	**-0.3**
SKR	comp=Z,30nm,0.6s			pmax	pmax		
SKR	comp=N,255nm,0.6s			smax	smax		
SKR	comp=E,438nm,0.6s			smax	smax		
ALID	**Alaid**	**3.42**	**249**	*eP*	**Pn**	**13 33 34.0**	**-0.3**
ALID	**Alaid**	**3.42**	**249**	PN	**Pn**	**13 33 34.0**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**3.75**	**1**	*eP*	**Pn**	**13 33 41.3**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**3.75**	**1**	PN	**Pn**	**13 33 41.3**	**+2.4**
BZWR	**Bezymyannyi-We**	**3.78**	**359**	*eP*	**Pn**	**13 33 42.1**	**+2.8**
BZWR	**Bezymyannyi-We**	**3.78**	**359**	PN	**Pn**	**13 33 42.1**	**+2.8**
KPT	**Kopyto**	**3.79**	**357**	*eP*	**Pn**	**13 33 39.9**	**+0.6**
KPT	**Kopyto**	**3.79**	**357**	PN	**Pn**	**13 33 39.9**	**+0.6**
KOZ	**Kozyrevsk**	**3.90**	**354**	*eP*	**Pn**	**13 33 42.4**	**+1.7**
KOZ	**Kozyrevsk**	**3.90**	**354**	PN	**Pn**	**13 33 42.4**	**+1.7**
LGNR	**Loginova**	**3.90**	**1**	*eP*	**Pn**	**13 33 43.8**	**+2.8**
LGNR	**Loginova**	**3.90**	**1**	PN	**Pn**	**13 33 43.8**	**+2.8**
ESO	**Esso**	**3.90**	**344**	*eP*	**Pn**	**13 33 41.9**	**+1.1**
ESO	**Esso**	**3.90**	**344**	PN	**Pn**	**13 33 41.9**	**+1.1**
CIRR	**Tsirk**	**3.93**	**1**	*eP*	**Pn**	**13 33 43.8**	**+2.5**
CIRR	**Tsirk**	**3.93**	**1**	PN	**Pn**	**13 33 43.8**	**+2.5**
KLY	**Klyuchi**	**4.13**	**0**	*eP*	**Pn**	**13 33 46.9**	**+3.0**
KLY	**Klyuchi**	**4.13**	**0**	PN	**Pn**	**13 33 46.9**	**+3.0**
SRDR	**Sredinnyy**	**4.16**	**353**	*eP*	**Pn**	**13 33 46.4**	**+1.9**
SRDR	**Sredinnyy**	**4.16**	**353**	PN	**Pn**	**13 33 46.4**	**+1.9**
KBTR	**Krutoberegovo**	**4.23**	**17**	*eP*	**Pn**	**13 33 47.8**	**+2.5**
KBTR	**Krutoberegovo**	**4.23**	**17**	PN	**Pn**	**13 33 47.8**	**+2.5**
KBG	**Krutoberegovo**	**4.25**	**16**	*eP*	**Pn**	**13 33 48.5**	**+2.9**
KBG	**Krutoberegovo**	**4.25**	**16**	PN	**Pn**	**13 33 48.5**	**+2.9**
BKI	**Bering**	**4.39**	**45**	*eP*	**Pn**	**13 33 46.7**	**-0.8**
BKI				*eS*	**Sn**	**13 34 34.4**	**-3.0**
BKI	**Bering**	**4.39**	**45**	PN	**Pn**	**13 33 46.7**	**-0.8**
BDR	**Baidarnaya**	**4.40**	**4**	*eP*	**Pn**	**13 33 48.4**	**+0.7**
BDR	**Baidarnaya**	**4.40**	**4**	PN	**Pn**	**13 33 48.4**	**+0.7**
SMKR	**Semkarok**	**4.43**	**6**	*eP*	**Pn**	**13 33 50.0**	**+1.9**
SMKR	**Semkarok**	**4.43**	**6**	PN	**Pn**	**13 33 50.0**	**+1.9**
SRKR	**Sorokina**	**4.48**	**4**	*eP*	**Pn**	**13 33 49.9**	**+1.1**
SRKR	**Sorokina**	**4.48**	**4**	PN	**Pn**	**13 33 49.9**	**+1.1**
ASAJ	**Asahikawa**	**14.45**	**243**	Pn	**Pn**	**13 36 04.1**	**-1.2**
ASAJ	comp=E,0.6nm,0.3s,baz=56,slow=12,SNR=6.7			LR	LR	13 42 25.6	
ASAJ	comp=E,78nm,19.8s,baz=343,slow=41						
GRNR	**Gornyy**	**15.12**	**274**	*eP*	**P**	**13 36 21.4**	**+2.4**
GRNR	comp=Z,13nm,1.0s			pmax	pmax		
ERM	**Erimo**	**15.60**	**236**	*ePn*	**Pn**	**13 36 19.7**	**-0.8**
ERM	**Erimo**	**15.60**	**236**	*eP*	**Pn**	**13 36 19.7**	**-0.8**
ERM	comp=Z,47nm,1.3s			pmax	pmax		
BILL	**Bilibino**	**16.13**	**8**	*ePn*	**Pn**	**13 36 27.4**	**+0.2**
BILL	comp=Z,5.6nm,1.0s			pmax	pmax		
BILL	**Bilibino**	**16.13**	**8**	*eP*	**Pn**	**13 36 27.4**	**+0.2**
BILL	comp=Z,6.0nm,1.0s			pmax	pmax		
KLR	**Kul'dur**	**18.45**	**272**	P	**P**	**13 36 53.6**	**-2.2**
USRK	**Ussuriysk Ar.**	**20.58**	**259**	P	**P**	**13 37 17.6**	**-1.4**
MAJO	**Matsushiro**	**22.25**	**234**	*eP*	**P**	**13 37 36.9**	**-0.2**
MAJO	**Matsushiro**	**22.25**	**234**	*eP*	**P**	**13 37 36.9**	**-0.2**
MJAR	**Matsushiro Arr**	**22.25**	**234**	P	**P**	**13 37 36.8**	**-0.2**
TIXI	**Tiksi**	**24.03**	**336**	*eP*	**P**	**13 37 52.3**	**-2.3**
TIXI	**Tiksi**	**24.03**	**336**	*eP*	**P**	**13 37 52.3**	**-2.3**
TIXI	**Tiksi**	**24.03**	**336**	P	**P**	**13 37 51.8**	**-2.9**
BOD	**Bodaibo**	**26.86**	**301**	*eP*	**P**	**13 38 18.1**	**-2.3**
BOD	comp=Z,5.0nm,1.4s			pmax	pmax		
ILAR	**Eielson Array**	**29.24**	**44**	P	**P**	**13 38 42.3**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**32.77**	**169**	T	T	14 15 10.3	
H11N3	**WAKE ISLAND Hy**	**32.79**	**169**	T	T	14 15 09.2	
H11N1	**WAKE ISLAND Hy**	**32.79**	**169**	T	T	14 15 04.5	
H11S1	**WAKE ISLAND Hy**	**33.96**	**170**	T	T	14 16 51.1	
H11S3	**WAKE ISLAND Hy**	**33.97**	**170**	T	T	14 16 46.3	
H11S2	**WAKE ISLAND Hy**	**33.97**	**170**	T	T	14 16 51.3	
INK	**Inuvik**	**34.40**	**37**	*eP*	**P**	**13 39 25.8**	**-0.9**
INK	**Inuvik**	**34.40**	**37**	*eP*	**P**	**13 39 25.8**	**-0.9**
INK	comp=Z,8.0nm,1.6s			pmax	pmax		
INK	**Inuvik**	**34.40**	**37**	P	**P**	**13 39 25.9**	**-0.9**
YKB5	**Yellowknife Ar**	**43.62**	**42**	*eP*	**P**	**13 40 46.8**	**+2.9**
NVS	**Novosibirsk**	**43.88**	**305**	*i* P	**P**	**13 40 44.7**	**-1.4**
B927	**Port Alberni**	**45.39**	**63**	*eP*	**P**	**13 41 00.3**	**+2.2**
KURK	**Kurchatov**	**48.48**	**303**	*eP*	**P**	**13 41 20.0**	**-2.2**
KURK	**Kurchatov**	**48.48**	**303**	*eP*	**P**	**13 41 20.0**	**-2.2**
KURK	comp=Z,8.4nm,1.0s			pmax	pmax		
MK32	**Makanchi Array**	**48.83**	**297**	*eP*	**P**	**13 41 23.2**	**-1.8**
MKAR	**Makanchi Array**	**48.83**	**297**	P	**P**	**13 41 23.2**	**-1.8**
ARCES	**ARCESS Array B**	**54.24**	**342**	P	**P**	**13 42 05.2**	**+0.1**
ARCES	comp=Z,2.5nm,0.9s,baz=22,slow=7.3,SNR=2.7			LR	LR	14 08 33.6	
PDAR	**Pinedale Array**	**57.70**	**61**	LR	LR	14 06 32.5	
CM31	**Chiang Mai Arr**	**58.30**	**259**	*eP*	**P**	**13 42 33.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**58.30**	**259**	P	**P**	**13 42 35.7**	**+0.9**
BRDH	**Bariadhala**	**59.59**	**268**	LR	LR	14 13 42.9	
DEVC	**Devers**	**59.88**	**72**	*eP*	**P**	**13 42 50.1**	**+4.6**
LDFC	**Landfair**	**59.93**	**71**	*eP*	**P**	**13 42 46.6**	**+0.6**
FIA0	**FINESS Array S**	**61.07**	**337**	*eP*	**P**	**13 42 52.5**	**-0.7**
FIA0	**FINESS Array S**	**61.07**	**337**	*eP*	**P**	**13 42 52.5**	**-0.7**
FINES	**FINESS Array B**	**61.07**	**337**	P	**P**	**13 42 52.4**	**-0.7**
NB200	**NORSAR Array S**	**64.49**	**344**	*eP*	**P**	**13 43 15.5**	**-0.6**
NOA	**NORSAR Array B**	**64.49**	**344**	P	**P**	**13 43 15.5**	**-0.6**
HFS	**Hagfors**	**64.90**	**342**	P	**P**	**13 43 18.6**	**0.0**
GEYT	**Alibeck**	**67.84**	**304**	P	**P**	**13 43 37.2**	**-0.7**
AKASG	**Malin Array Be**	**69.54**	**329**	P	**P**	**13 43 47.4**	**-0.8**
AKBB	**Malin Array Si**	**69.54**	**329**	*eP*	**P**	**13 43 47.3**	**-0.9**
AKBB	**Malin Array Si**	**69.54**	**329**	*eP*	**P**	**13 43 47.3**	**-0.9**
AKBB	comp=Z,3.0nm,0.6s			pmax	pmax		
FITZ	**Fitzroy Crossi**	**76.32**	**214**	*eP*	**P**	**13 44 29.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**76.32**	**214**	P	**P**	**13 44 29.4**	**+0.8**
BR101	**Keskin Array S**	**77.51**	**321**	*eP*	**P**	**13 44 34.5**	**-1.0**
BRTR	**Keskin Array B**	**77.51**	**321**	P	**P**	**13 44 34.5**	**-1.0**
AS31	**Alice Springs**	**79.06**	**205**	*eP*	**P**	**13 44 44.2**	**+0.4**
ASAR	**Alice Springs**	**79.07**	**205**	P	**P**	**13 44 45.2**	**+1.3**
ASAR	comp=Z,0.3nm,0.7s,baz=16,slow=5.2,SNR=6.1						

KRSC 21 13:36:01.8±10.0, 52°.11N×160°.79E, h54km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.09**	**335**	P	Pn	13 36 21.7	+0.8
SPN				S	Sn	13 36 36.5	+1.5
NLC	**Nalytchevo**	**1.38**	**321**	P	Pn	13 36 26.3	+1.6
NLC				S	Sn	13 36 44.2	+2.4
RUS	**Russkaya**	**1.43**	**284**	P	Pn	13 36 26.9	+1.5
RUS				S	Sn	13 36 44.7	+1.6
DALK	**Dalny**	**1.54**	**307**	P	Pn	13 36 28.7	+1.8
DALK				S	Sn	13 36 48.2	+2.3
UGLR	**Uglovaya**	**1.62**	**313**	P	Pn	13 36 30.8	+2.7
MTVR	**Mutnovka**	**1.64**	**284**	P	Pn	13 36 30.0	+1.6
MTVR				S	Sn	13 36 50.9	+2.4
SDLR	**Sedlovina**	**1.65**	**316**	P	Pn	13 36 30.7	+2.3
SMAR	**Somma**	**1.67**	**314**	P	Pn	13 36 31.3	+2.4
AVH	**Avacha**	**1.70**	**314**	P	Pn	13 36 31.8	+2.7
KDTR	**Khodutka, Kamc**	**1.70**	**261**	P	Pn	13 36 30.2	+1.1
KDTR				S	Sn	13 36 50.5	+0.8
KRER	**Koryakskii**	**1.72**	**315**	P	Pn	13 36 32.0	+2.5
KOK	**Koryaka**	**1.76**	**313**	P	Pn	13 36 33.4	+3.4
KRMR	**Karymshinskiy**	**1.78**	**295**	P	Pn	13 36 32.0	+1.9
KRMR				S	Sn	13 36 53.8	+2.3
ASAK	**Asacha**	**1.79**	**280**	P	Pn	13 36 32.9	+2.5
KRX	**Arik**	**1.80**	**315**	P	Pn	13 36 33.0	+2.4
APC	**Apacha**	**2.36**	**292**	P	Pn	13 36 41.2	+3.1
MKZ	**Mys Kozlova**	**2.51**	**13**	P	Pn	13 36 41.9	+1.8
KZV	**Kizimen**	**3.02**	**355**	P	Pn	13 36 50.3	+3.0
TUMR	**Tumrok**	**3.20**	**353**	P	Pn	13 36 52.4	+2.7
KBTR	**Krutoberegovo**	**4.28**	**15**	P	Pn	13 37 07.7	+3.4

*ISCJB **21** 13:36:39.7±0.6, 52°.13N±0°.04×160°.81E±0°.07, h30km, mb4.0/20, Error ellipse: s-maj=6.5km s-min=5.5km az=34.7*

*KRSC **21** 13:36:39.3±10.0, 52°.15N×160°.80E, h41km±10km, ML4.0*

*IDC **21** 13:36:41.2±1.3, 52°.54N×159°.85E, h0km, mb3.8/15, mb1 4.0/16, mb1mx3.7/58, mbtmp3.9/16, ML3.7/1, Error ellipse: s-maj=30.6km s-min=18.6km az=132.0*

*NEIC **21** 13:36:45.1±1.1, 52°.24N×160°.24E, h35km, mb4.7/5, Error ellipse: s-maj=21.3km s-min=12.3km az=129.0*

*MOS **21** 13:36:47.0±1.1, 52°.40N×159°.86E, h63km, mb4.8/2, Error ellipse: s-maj=14.1km s-min=8.2km az=89.7*

ISC 21 13:36:42.3±0.8, 52°.16N±0°.06×160°.63E±0°.06, h30km, n61, σ0§93/58, mb4.0/20, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.01**	**339**	S	**Sn**	**13 37 12.8**	**-0.7**
NLC	**Nalytchevo**	**1.28**	**323**	P	**Pn**	**13 37 03.9**	**-0.1**
NLC				S	**Sn**	**13 37 19.8**	**-0.3**
NLC	**Nalytchevo**	**1.28**	**323**	PN	**Pn**	**13 37 03.9**	**-0.1**
NLC				S	**Sn**	**13 37 19.8**	**-0.3**
RUS	**Russkaya**	**1.32**	**283**	P	**Pn**	**13 37 04.7**	**0.0**
RUS				S	**Sn**	**13 37 21.3**	**0.0**
RUS	**Russkaya**	**1.32**	**283**	PN	**Pn**	**13 37 04.7**	**0.0**
DALK	**Dalny**	**1.44**	**308**	P	**Pn**	**13 37 06.4**	**+0.2**
DALK				S	**Sn**	**13 37 24.1**	**+0.1**
DALK	**Dalny**	**1.44**	**308**	PN	**Pn**	**13 37 06.4**	**+0.2**
PET	**Petropavlovsk**	**1.48**	**306**	*ePn*	**Pn**	**13 37 07.0**	**+0.1**
PET	**Petropavlovsk**	**1.48**	**306**	*ePN*	**Pn**	**13 37 07.0**	**+0.1**
MTVR	**Mutnovka**	**1.53**	**283**	S	**Sb**	**13 37 29.6**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.61**	**258**	S	**Sn**	**13 37 27.9**	**-0.5**
KRMR	**Karymshinskiy**	**1.67**	**295**	S	**Sb**	**13 37 33.0**	**+0.2**
PETK	**Petropavlovsk-**	**2.02**	**299**	Pn	**Pn**	**13 37 15.3**	**+1.0**
PETK	17nm,0.3s,baz=113,slow=20,SNR=6.5			Sn	**Sb**	**13 37 43.6**	**+0.7**
PETK	10nm,0.3s,baz=95,slow=20,SNR=1.5						
PEA1	**Petropavlovsk-**	**2.02**	**299**	*ePn*	**Pn**	**13 37 15.3**	**+1.0**
PEA1				*e*		13 37 43.6	
MKZ	**Mys Kozlova**	**2.49**	**15**	S	**Sn**	**13 37 48.2**	**-1.8**
TUMR	**Tumrok**	**3.14**	**355**	P	**Pn**	**13 37 30.9**	**+1.1**
TUMR	**Tumrok**	**3.14**	**355**	PN	**Pn**	**13 37 30.9**	**+1.1**
SKR	**Severo-Kuril's**	**3.19**	**244**	*ePN*	**Pn**	**13 37 30.2**	**-0.1**
SKR				*eS*	**Sn**	**13 38 05.4**	**-1.8**
SKR	comp=Z,32nm,0.5s			pmax	pmax		
SKR	comp=E,217nm,0.5s			smax	smax		
SKR	comp=N,230nm,0.5s			smax	smax		
ASAJ	**Asahikawa**	**14.45**	**243**	Pn	**Pn**	**13 40 03.8**	**-0.8**
ASAJ	comp=N,0.5nm,0.3s,baz=72,slow=16,SNR=5.3						
ERM	**Erimo**	**15.60**	**236**	*ePn*	**Pn**	**13 40 21.4**	**+1.6**
ERM	**Erimo**	**15.60**	**236**	*eP*	**Pn**	**13 40 21.4**	**+1.6**
ERM	comp=N,78nm,1.6s			pmax	pmax		
BILL	**Bilibino**	**16.16**	**8**	*ePn*	**P**	**13 40 30.3**	**+0.4**
BILL	**Bilibino**	**16.16**	**8**	*eP*	**P**	**13 40 30.3**	**+0.4**
BILL	comp=Z,2.0nm,0.8s			pmax	pmax		
KLR	**Kul'dur**	**18.47**	**272**	P	**Pn**	**13 40 55.8**	**+0.1**
MAJO	**Matsushiro**	**22.24**	**234**	*eP*	**P**	**13 41 38.0**	**+1.6**
MAJO	**Matsushiro**	**22.24**	**234**	*eP*	**P**	**13 41 38.0**	**+1.6**
MJAR	**Matsushiro Arr**	**22.24**	**234**	P	**P**	**13 41 38.0**	**+1.6**
TIXI	**Tiksi**	**24.07**	**336**	P	**P**	**13 41 53.5**	**-0.9**
KSRS	**Korea Array**	**27.18**	**250**	P	**P**	**13 42 23.5**	**+0.5**
KS15	**Wonju Array Si**	**27.21**	**250**	*eP*	**P**	**13 42 23.5**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**32.73**	**169**	T	T	14 19 17.2	
H11N3	**WAKE ISLAND Hy**	**32.75**	**169**	T	T	14 19 19.7	
H11N1	**WAKE ISLAND Hy**	**32.75**	**169**	T	T	14 19 22.8	
H11S1	**WAKE ISLAND Hy**	**33.92**	**170**	T	T	14 21 02.8	
H11S3	**WAKE ISLAND Hy**	**33.93**	**170**	T	T	14 20 58.6	
H11S2	**WAKE ISLAND Hy**	**33.94**	**170**	T	T	14 21 03.9	
SPITS	**Spitsbergen Ar**	**48.11**	**351**	P	**P**	**13 45 18.4**	**-0.2**
KURK	**Kurchatov**	**48.51**	**303**	P	**P**	**13 45 20.8**	**-1.2**
KURBB	**Kurchatov Arra**	**48.61**	**303**	P	**P**	**13 45 20.8**	**-1.9**
MK32	**Makanchi Array**	**48.86**	**297**	*eP*	**P**	**13 45 22.8**	**-2.0**
MKAR	**Makanchi Array**	**48.86**	**297**	P	**P**	**13 45 22.8**	**-2.0**
BVAR	**Borovoye Array**	**51.23**	**309**	P	**P**	**13 45 41.4**	**-1.2**
ARCES	**ARCESS Array B**	**54.27**	**342**	P	**P**	**13 46 04.0**	**-0.9**
CM31	**Chiang Mai Arr**	**58.31**	**259**	*eP*	**P**	**13 46 34.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**58.31**	**259**	P	**P**	**13 46 35.4**	**+1.1**
FIA0	**FINESS Array S**	**61.11**	**337**	*eP*	**P**	**13 46 53.4**	**+0.4**
FIA0	**FINESS Array S**	**61.11**	**337**	*eP*	**P**	**13 46 53.4**	**+0.4**
FINES	**FINESS Array B**	**61.11**	**337**	P	**P**	**13 46 53.4**	**+0.4**
NB200	**NORSAR Array S**	**64.53**	**344**	*eP*	**P**	**13 47 15.7**	**-0.1**
NOA	**NORSAR Array B**	**64.53**	**344**	P	**P**	**13 47 15.7**	**-0.1**
HFS	**Hagfors**	**64.94**	**342**	P	**P**	**13 47 18.5**	**+0.1**
AKASG	**Malin Array Be**	**69.58**	**329**	P	**P**	**13 47 47.8**	**-0.1**
AKBB	**Malin Array Si**	**69.58**	**329**	*eP*	**P**	**13 47 47.2**	**-0.8**
AKBB	**Malin Array Si**	**69.58**	**329**	*eP*	**P**	**13 47 47.2**	**-0.8**
AKBB	comp=Z,5.0nm,1.2s			pmax	pmax		
KVAR	**Kislovodsk Arr**	**70.34**	**317**	P	**P**	**13 47 53.6**	**+0.7**
KIV	**Kislovodsk**	**70.34**	**317**	*eP*	**P**	**13 47 52.5**	**-0.3**
KIV	**Kislovodsk**	**70.34**	**317**	*eP*	**P**	**13 47 52.6**	**-0.3**
KIV	comp=Z,9.0nm,1.1s			pmax	pmax		
LTX	**Lajitas**	**70.70**	**67**	*eP*	P	13 48 00.7	+5.4
LTX	**Lajitas**	**70.70**	**67**	*eP*	P	13 48 00.7	+5.4
TXAR	**Lajitas Array**	**70.70**	**67**	P	P	13 48 00.7	+5.4
EKA	**Eskdalemuir Ar**	**72.03**	**350**	P	**P**	**13 48 03.9**	**+1.1**
EKA	comp=Z,1.0nm,0.8s,baz=32,slow=4.2,SNR=2.6						

*ISCJB **21** 13:51:12.8±0.6, 45°.55S±0°.05×76°.5W±0°.2, h17km, mb4.1/6, MS4.2/9, Error ellipse: s-maj=16.3km s-min=6.8km az=8.5*

*IDC **21** 13:51:12.1±1.1, 45°.71S×76°.46W, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.9/26, mbtmp3.8/7, ML3.7/2, MS4.1/11, Ms1 4.1/11, ms1mx3.9/19, Error ellipse: s-maj=42.5km s-min=20.4km az=102.0*

*NEIC **21** 13:51:13.3±0.6, 45°.58S×76°.56W, h10km, mb4.7/5, Error ellipse: s-maj=16.5km s-min=7.1km az=98.0*

*GCMT **21** 13:51:16.3±0.3, 45°.96S±0°.04×76°.86W±

14nm,1.1s
ROSC El Rosal 50.23 3 LR LR 14 20 10.0
comp=Z,116nm,18.8s,baz=258,slow=34
VNDA Vanda 52.06 194 *e*P **P 14 00 23.4 +0.6**
9.3nm,1.2s
VNDA Vanda 52.06 194 P **P 14 00 22.8 0.0**
2.9nm,1.1s,baz=128,slow=5.9,SNR=7.3
PPT Papeete 65.82 269 LR LR 14 22 28.6
comp=Z,271nm,19.9s,baz=120,slow=28
RAR Rarotonga 70.49 259 LR LR 14 24 29.6
comp=Z,442nm,20.4s,baz=115,slow=28
URZ Urewera 73.51 232 LR LR 14 28 24.8
comp=Z,39nm,18.8s,baz=147,slow=30
LTX Lajitas 78.51 336 *e*P **P 14 03 15.9 +1.2**
TXAR Lajitas Array 78.51 336 P **P 14 03 15.9 +1.2**
0.2nm,0.6s,baz=159,slow=7.7,SNR=3.3
TXAR LR LR 14 31 24.7
comp=Z,46nm,19.6s,baz=0.0,slow=31
DBIC Dimbokro 82.16 72 LR LR 14 35 15.9
comp=Z,80nm,20.3s,baz=178,slow=32
BAR Barrett 85.94 327 *e*P **P 14 03 52.6 -0.9**
TORD Torodi Ar. Bea 91.26 73 LR LR 14 41 41.4
comp=Z,59nm,20.0s,baz=315,slow=33
HYB Hyderabad 145.11 135 *i* PKP **PKiKP 14 10 57.0 +1.8**
AKTO Aktyubinsk 149.62 64 PKPbc **PKPbc 14 11 02.1 -0.3**
0.8nm,0.3s,baz=208,slow=4.6,SNR=6.5
CMAR Chiang Mai Arr 152.71 171 PKPbc **PKPbc 14 11 09.3 -1.3**
0.3nm,0.5s,baz=242,slow=1.9,SNR=5.4

*ISCJB **21** 14:06:52.5±0.7, 36°.94N±0°.05×71°.3E±0°.1, h100km, mb3.3/1, Error ellipse: s-maj=12.2km s-min=6.3km az=156.2*
*IDC **21** 14:06:55.7±5.8, 37°.21N×71°.19E, h98km±36km, mb3.1/1, mb1 3.5/6, mb1mx3.1/49, mbtmp3.8/6, Error ellipse: s-maj=76.6km s-min=24.1km az=147.0*
*NNC **21** 14:07:00.6±7.6, 37°.81N×71°.26E, h0km, mb4.3, mpv3.8, Error ellipse: s-maj=75.0km s-min=39.3km az=155.0*
ISC 21 14:06:53.6±1.0, 37°.05N±0°.09×71°.23E±0°.07, h100km, n24, σ**2**º**12/26, 3C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.42**	**20**	P	**Pn**	**14 08 13.8**	**+1.5**
SNR=39							
UCH	**Uchtor**	**5.76**	**25**	P	**Pn**	**14 08 18.6**	**+1.6**
SNR=5.9							
EKS2	**Erkin-Say**	**5.94**	**18**	P	**Pn**	**14 08 21.4**	**+2.2**
SNR=8.2							
KK31	**Karatay Array**	**6.08**	**355**	P	**Pn**	**14 08 22.3**	**+1.5**
8.9nm,0.4s,baz=179,slow=13,SNR=73							
KK31				⇓S	**Sn**	**14 09 26.6**	**-2.3**
5.3nm,0.6s,baz=175,slow=23,SNR=4.0							
AAK	**Ala-Archa**	**6.12**	**23**	P	**Pn**	**14 08 23.7**	**+2.1**
SNR=7.6							
AAK	**Ala-Archa**	**6.12**	**23**	⇓P	**Pn**	**14 08 23.5**	**+1.8**
4.6nm,0.3s							
AAK				⇑S	**Sn**	**14 09 28.6**	**-1.7**
13nm,0.7s							
AAK	**Ala-Archa**	**6.12**	**23**	P	**Pn**	**14 08 23.7**	**+2.1**
3.8nm,0.3s,baz=161,slow=7.6,SNR=24							
AAK				S	**Sn**	**14 09 28.8**	**-1.6**
1.4nm,0.3s,baz=333,slow=20,SNR=7.4							
CHMS	**Chumysh**	**6.53**	**23**	P	**Pn**	**14 08 28.7**	**+1.7**
SNR=11							
USP	**Ospenovka**	**6.70**	**21**	P	**Pn**	**14 08 30.5**	**+1.2**
SNR=7.6							
TKM2	**Tokmak 2**	**6.76**	**28**	P	**Pn**	**14 08 31.8**	**+1.5**
SNR=6.6							
TKM2	**Tokmak 2**	**6.76**	**28**	⇑P	**Pn**	**14 08 32.0**	**+1.7**
3.9nm,0.6s							
TKM2				⇓S	**Sn**	**14 09 40.5**	**-5.3**
6.5nm,0.8s							
GEYT	**Alibeck**	**10.46**	**279**	P	**Pn**	**14 09 20.8**	**+0.2**
0.7nm,0.3s,baz=93,slow=12,SNR=5.0							
GEYT				S	**Sn**	**14 11 12.0**	**-3.7**
2.9nm,0.3s,baz=275,slow=20,SNR=9.7							
MKAR	**Makanchi Array**	**12.74**	**37**	P	**Pn**	**14 09 51.0**	**+0.1**
0.1nm,0.3s,baz=228,slow=14,SNR=3.4							
PYUN	**Piuthan**	**13.33**	**129**	*e*P	Pn	14 09 57.5	-1.5
12nm,0.3s							
DANN	**Dangsing**	**13.65**	**126**	*e*P	Pn	14 10 02.1	-1.1
7.2nm,0.2s							
KOLN	**Koldanda**	**13.94**	**128**	*e*P	Pn	14 10 04.9	-2.1
4.5nm,0.3s							
KKN	**Kakani**	**15.02**	**124**	*e*P	**Pn**	**14 10 19.8**	**-0.9**
PKI	**Pulchoki**	**15.25**	**124**	*e*P	**Pn**	**14 10 22.8**	**-1.0**
JIRN	**Jiri**	**15.71**	**122**	*e*P	**Pn**	**14 10 28.6**	**-1.0**
18nm,0.3s							
AKTO	**Aktyubinsk**	**16.40**	**329**	⇑P	**P**	**14 10 41.3**	**+2.6**
4.3nm,0.7s							
AKTO	**Aktyubinsk**	**16.40**	**329**	P	**P**	**14 10 39.5**	**+0.8**
0.6nm,0.3s,baz=133,slow=12,SNR=7.9							
RAMN	**Ramite**	**16.45**	**123**	*e*P	**Pn**	**14 10 36.8**	**-1.9**
14nm,0.5s							
ZALV	**Zalesovo Beam**	**19.34**	**25**	P	**P**	**14 11 11.9**	**+1.0**
0.2nm,0.3s,baz=220,slow=11,SNR=5.2							
YKA	**Yellowknife Ar**	**80.69**	**3**	P	**P**	**14 18 56.6**	**+1.4**
0.2nm,0.4s,baz=350,slow=5.6,SNR=4.9							

SJA 21 14:23:51.3±0.4, 24°.64S×67°.99W, h161km±5km, ML2.2, MW3.7, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**1.97**	**316**	*e*P	Pn	14 24 27.7	+0.7
PB15				*e*S	Sn	14 24 54.7	+0.3
PB14	**IPOC Station P**	**2.20**	**270**	*e*P	Pn	14 24 30.5	+0.9
PB14				*e*S	Sn	14 24 59.5	+0.3
PB06	**IPOC Station P**	**2.42**	**323**	*e*P	Pn	14 24 33.0	+0.9
PB06				*e*S	Sn	14 25 03.4	-0.2
PB10	**IPOC Station P**	**2.60**	**295**	*e*P	Pn	14 24 35.2	+1.0
PB10				*e*S	Sn	14 25 07.2	-0.1
AZAP	**Zapla**	**2.70**	**82**	*e*P	Pn	14 24 36.7	+1.1
AZAP				IAML		14 24 37.2	
comp=Z,5.2nm,0.2s							
PB05	**IPOC Station P**	**2.70**	**311**	*e*P	Pn	14 24 36.3	+0.8
PB05				*e*S	Sn	14 25 09.6	-0.2
HJA	**Humahuaca**	**2.76**	**59**	*e*P	Pn	14 24 37.9	+1.4
HJA				IAML		14 24 39.4	
comp=Z,9.4nm,0.3s							
PB04	**IPOC Station P**	**3.04**	**319**	*e*P	Pn	14 24 40.6	+0.8
PB03	**IPOC Station P**	**3.05**	**328**	*e*P	Pn	14 24 40.7	+0.8
PB03				*e*S	Sn	14 25 16.6	-1.0
PB09	**IPOC Station P**	**3.06**	**338**	*e*P	Pn	14 24 41.3	+1.3
PB07	**IPOC Station P**	**3.39**	**329**	*e*P	Pn	14 24 44.8	+0.6
GO03	**Copiap**	**3.56**	**214**	*e*P	Pn	14 24 47.0	+0.7
PB08	**IPOC Station P**	**4.61**	**346**	*e*P	Pn	14 25 01.0	+0.8

*IDC **21** 14:24:58.4±4.3, 33°.02N×83°.93E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.3/40, mbtmp3.4/6, ML3.4/3, Error ellipse: s-maj=191.6km s-min=22.1km az=70.0*
*ISCJB **21** 14:25:03.1±3.6, 33°.3N±0°.4×8°.5E±°, h33km, mb3.4/2, Error ellipse: s-maj=160.4km s-min=13.5km az=157.3*
ISC 21 14:25:05.4±3.9, 33°.3N±0°.4×8°.5E±°, h35km, n6, σ**0**º**65/6, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.59**	**353**	Pn	**Pn**	**14 28 14.9**	**-0.6**
0.2nm,0.3s,baz=181,slow=14,SNR=6.2							
KURBB	**Kurchatov Arra**	**17.88**	**347**	P	**Pn**	**14 29 11.1**	**0.0**
0.0nm,0.3s,baz=165,slow=10,SNR=5.8							
CMAR	**Chiang Mai Arr**	**19.55**	**136**	P	**Pn**	**14 29 31.6**	**0.0**
0.2nm,0.3s,baz=325,slow=11,SNR=4.2							
ZALV	**Zalesovo Beam**	**20.63**	**0**	P	**P**	**14 29 42.5**	**+0.9**
0.6nm,0.5s,baz=193,slow=5.9,SNR=3.1							
WRA	**Warramunga Arr**	**71.06**	**131**	P	**P**	**14 36 19.8**	**-0.2**
0.3nm,0.6s,baz=321,slow=5.6,SNR=3.6							
ASAR	**Alice Springs**	**73.55**	**134**	P	**P**	**14 36 34.9**	**0.0**
0.4nm,0.8s,baz=327,slow=5.8,SNR=9.2							

KRSC 21 14:31:29.8±10.0, 52°.17N×160°.79E, h58km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.04**	**334**	*e*P	Pn	14 31 49.0	+0.6
SPN				*e*S	Sn	14 32 01.6	-0.5
NLC	**Nalytchevo**	**1.34**	**319**	*e*P	Pn	14 31 53.6	+1.4
RUS	**Russkaya**	**1.42**	**282**	*e*P	Pn	14 31 55.0	+1.6
RUS				*e*S	Sn	14 32 13.0	+1.9
DALK	**Dalny**	**1.52**	**306**	*e*P	Pn	14 31 56.2	+1.6
DALK				*e*S	Sn	14 32 15.4	+2.1
UGLR	**Uglovaya**	**1.59**	**312**	*e*P	Pn	14 31 58.1	+2.3
UGLR				S	Sn	14 32 18.2	+2.9
SDLR	**Sedlovina**	**1.61**	**315**	*e*P	Pn	14 31 58.0	+2.0
MTVR	**Mutnovka**	**1.63**	**282**	*e*P	Pn	14 31 58.5	+2.1
MTVR				*e*S	Sn	14 32 19.2	+2.8
SMAR	**Somma**	**1.64**	**313**	*e*P	Pn	14 31 58.4	+1.9
AVH	**Avacha**	**1.67**	**312**	*e*P	Pn	14 31 59.1	+2.3
KRER	**Koryakskii**	**1.69**	**313**	*e*P	Pn	14 31 59.4	+2.2
KDTR	**Khodutka, Kamc**	**1.71**	**259**	*e*P	Pn	14 31 59.3	+2.0
KDTR				*e*S	Sn	14 32 20.0	+1.8
KOK	**Koryaka**	**1.73**	**312**	*e*P	Pn	14 31 59.9	+2.3
KRMR	**Karymshinskiy**	**1.76**	**293**	*e*P	Pn	14 32 00.0	+2.1
KRMR				*e*S	Sn	14 32 22.1	+2.9
KRX	**Arik**	**1.77**	**313**	*e*P	Pn	14 32 00.2	+2.0
ASAK	**Asacha**	**1.79**	**278**	*e*P	Pn	14 32 01.0	+2.6
ASAK				*e*S	Sn	14 32 23.3	+3.2
APC	**Apacha**	**2.34**	**290**	*e*P	Pn	14 32 09.3	+3.4
MKZ	**Mys Kozlova**	**2.46**	**13**	*e*P	Pn	14 32 09.9	+2.4
MKZ				*e*S	Sn	14 32 38.0	+1.7
PAU	**Pauzhetka**	**2.57**	**256**	*e*P	Pn	14 32 12.4	+3.5
KZV	**Kizimen**	**2.97**	**354**	*e*P	Pn	14 32 19.0	+4.4
TUMD	**Tumrok D**	**3.05**	**356**	*e*P	Pn	14 32 18.5	+2.9
TUMD				*e*S	Sn	14 32 53.1	+2.2
TUMR	**Tumrok**	**3.15**	**353**	*e*P	Pn	14 32 20.8	+3.8
SKR	**Severo-Kuril's**	**3.28**	**245**	*e*P	Pn	14 32 21.2	+2.5
SKR				*e*S	Sn	14 32 58.0	+1.6
ALID	**Alaid**	**3.52**	**250**	*e*P	Pn	14 32 25.1	+3.0
ESO	**Esso**	**3.96**	**343**	*e*P	Pn	14 32 31.7	+3.6
KBTR	**Krutoberegovo**	**4.22**	**16**	*e*P	Pn	14 32 34.9	+3.3

*GCMT **21** 14:40:19.0±0.2, 58°.09S×6°.59W, 0°.02×7°.58W±0°.02, h24km±1km, MW5.1/94, Moment Tensor Solution. s33,c44; s94,c123; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-0.71±.25; $M_{\theta\theta}$-0.96±.23; $M_{\phi\phi}$ 1.67±.20; $M_{r\theta}$-0.09±.30; $M_{\theta\phi}$5.26±.15; $M_{\phi r}$-0.76±.27; Best double couple: M₀5.47200×10^16 NP1:φs173.00000°, δ90.00000°, λ172.00000°. NP2: φs263.00000°, δ82.00000°, λ0.00000°. Principal axes: T 5.8440, Plg6.0000°, Azm128.0000°; N -0.7380, Plg82.0000°, Azm351.0000°; P -5.1010, Plg5.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
AWI 21 14:40:28.3, 59°.09S×6°.59W, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.63**	**183**	P	Pn	14 43 15.2	0.0
VNA1	**Neumayer--Stat**	**11.63**	**183**	S	Sn	14 45 27.4	+1.9
VNA2	**Neumayer--Watz**	**11.89**	**181**	P	Pn	14 43 17.1	-1.7
baz=357,slow=16							
VNA2	**Neumayer--Watz**	**11.89**	**181**	S	Sn	14 45 31.3	-0.7
baz=0.5,slow=22							
VNA3	**Neumayer Olymp**	**12.27**	**185**	P	Pn	14 43 22.5	-1.5
VNA3	**Neumayer Olymp**	**12.27**	**185**	S	Sn	14 45 39.7	-1.6
SNAA	**Sanae**	**12.72**	**175**	P	Pn	14 43 29.9	-0.4
SNAA	**Sanae**	**12.72**	**175**	S	Sn	14 45 50.2	-2.3

*IDC **21** 14:42:43.2±0.6, 28°.56N×52°.39E, h0km, mb4.1/29, mb1 4.2/35, mb1mx4.1/60, mbtmp4.1/35, ML3.9/6, MS3.6/11, Ms1 3.6/11, ms1mx3.4/45, Error ellipse: s-maj=15.2km s-min=11.7km az=177.0*
*ISCJB **21** 14:42:44.1±0.2, 28°.56N±0°.02×52°.41E±0°.03, h16km, mb4.3/46, MS3.6/5, Error ellipse: s-maj=3.9km s-min=2.2km az=140.6*
*NEIC **21** 14:42:44.7±0.3, 28°.58N×52°.39E, h10km, mb4.4/31, ML4.3(THR), MN4.4(TEH), Error ellipse: s-maj=6.3km s-min=4.0km az=168.0*
*TEH **21** 14:42:45.2, 28°.65N×52°.41E, h17km, ML4.4*
*OMAN **21** 14:42:49.7±0.7, 28°.62N×52°.97E, h10km, ml4.5/6, Error ellipse: s-maj=42.6km s-min=9.9km az=238.0*
*DSN **21** 14:42:50.0±1.3, 28°.52N×52°.85E, h10km, ML4.7/7, Error ellipse: s-maj=26.1km s-min=6.4km az=23.0*
ISC 21 14:42:45.6±0.4, 28°.60N±0°.04×52°.44E±0°.04, h16km, n190, σ**1**º**39/198, mb4.3/46, MS3.4/5, 10C-6D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.58**	**123**	*e*Pg	**Pg**	**14 42 53.1**	**-4.0**
JHRM	**Jahrom**	**1.01**	**95**	IAMB	IAmb	14 43 27.6	
comp=N,0.0nm,0.6s							
JHRM				*e*Pg	**Pg**	**14 43 05.2**	**+0.1**
SHI	**Shiraz**	**1.04**	**4**	IAMB	IAmb	14 43 28.5	
comp=Z,63μm,0.6s							
SHI				*e*Pg	**Pb**	**14 43 03.2**	**-2.1**
IKAZ	**Kazeroun**	**1.28**	**336**	IAMB	IAmb	14 43 38.1	
comp=N,56μm,0.6s							
IKAZ				*e*Pg	**Pn**	**14 43 09.1**	**-0.1**
IPAR	**Pars**	**1.34**	**23**	IAMB	IAmb	14 43 34.1	
comp=Z,52μm,0.7s							
IPAR				*e*Pg	**Pn**	**14 43 09.0**	**-1.0**
LMD1	**Lamerd**	**1.41**	**153**	*e*Pn	**Pg**	**14 43 13.5**	**+0.7**
IRAM	**Ramesheh**	**3.19**	**359**	*e*Pn	**Pn**	**14 43 36.3**	**+0.9**
IRAM				IAMB	IAmb	14 44 39.6	
comp=Z,9μm,1.0s							
IMEH	**Mehriz**	**3.36**	**34**	*e*Pn	**Pn**	**14 43 39.8**	**+2.2**
IMEH				IAMB	IAmb	14 44 38.1	
comp=Z,4μm,0.8s							
ISAD	**Sadrabad**	**3.47**	**18**	*e*Pn	**Pn**	**14 43 40.7**	**+1.5**
ISAD				IAMB	IAmb	14 43 44.7	
comp=Z,4μm,0.3s							
GENO	**Geno**	**3.51**	**109**	*e*Pn	**Pn**	**14 43 40.0**	**+0.3**
ZNGN	**Zangian**	**3.76**	**339**	*e*Pn	**Pn**	**14 43 43.9**	**+0.7**
IGAR	**Gharneh**	**3.80**	**355**	*e*Pn	**Pn**	**14 43 45.8**	**+2.1**
NGRK	**Negar Kerman**	**3.90**	**74**	*e*Pn	**Pn**	**14 43 47.0**	**+1.8**
ROKH	**ROKH**	**3.92**	**342**	*e*Pn	**Pn**	**14 43 45.9**	**+0.5**
JHBN	**Jahan bin**	**3.93**	**337**	*e*Pn	**Pn**	**14 43 46.2**	**+0.7**
KHGB	**Koh Gabri**	**3.94**	**62**	*e*Pn	**Pn**	**14 43 47.5**	**+1.9**
ICHK	**Chekchek**	**4.01**	**25**	*e*Pn	**Pn**	**14 43 48.5**	**+1.9**
ICHK				IAMB	IAmb	14 43 50.1	
comp=Z,3μm,0.4s							
TVBK	**TV Kerman**	**4.02**	**69**	*e*Pn	**Pn**	**14 43 48.5**	**+1.7**
NIAN	**Nian**	**4.02**	**104**	*e*Pn	**Pn**	**14 43 45.5**	**-1.1**
SHME	**Shamm**	**4.16**	**127**	*i* P	**Pn**	**14 43 49.2**	**+0.7**
SNR=8.8							
SHME				S	**Sn**	**14 44 35.1**	**-1.8**
SHME	**Shamm**	**4.16**	**127**	*e*Pn	**Pn**	**14 43 49.7**	**+1.2**
IPIR	**Pirpir**	**4.28**	**342**	*e*Pn	**Pn**	**14 43 51.7**	**+1.3**
IPIR				IAMB	IAmb	14 44 16.8	
comp=Z,2μm,0.6s							
IZEF	**Zefreh**	**4.28**	**359**	*e*Pn	**Pn**	**14 43 50.9**	**+0.6**
NAZ	**Nazwa, Dubai**	**4.61**	**141**	*i* P	**Pn**	**14 43 56.4**	**+1.7**
SNR=23							
NAZ	**Nazwa, Dubai**	**4.61**	**141**	P	**Pn**	**14 43 57.0**	**+2.3**
SNR=8.7							
NAZ				S	**Sn**	**14 44 48.4**	**+0.5**
NAZ	**Nazwa, Dubai**	**4.61**	**141**	*e*Pn	**Pn**	**14 43 53.4**	**-1.3**
AJN	**Ajban**	**4.63**	**150**	*e*Pn	**Pn**	**14 43 59.3**	**+4.4**
CHMN	**Cheshme madani**	**4.63**	**73**	*e*Pn	**Pn**	**14 43 56.8**	**+1.6**
MSFE	**Esma-Masafi**	**4.63**	**133**	*i* P	**Pn**	**14 43 55.7**	**+0.7**
SNR=23							
MSFE	**Esma-Masafi**	**4.63**	**133**	*e*Pn	**Pn**	**14 43 56.1**	**+1.1**
ASUD	**Al Ashush, Dub**	**4.73**	**146**	*i* P	**Pn**	**14 43 58.1**	**+1.9**
SNR=14							
ASUD	**Al Ashush, Dub**	**4.73**	**146**	*e*Pn	**Pn**	**14 43 58.2**	**+1.9**
IKLH	**Kolahrood**	**4.76**	**351**	*e*Pn	**Pn**	**14 43 58.3**	**+1.4**
FAQ	**Al Faqa, Dubai**	**4.77**	**143**	*i* P	**Pn**	**14 43 58.1**	**+1.3**
SNR=8.7							
FAQ	**Al Faqa, Dubai**	**4.77**	**143**	P	**Pn**	**14 43 58.3**	**+1.4**
SNR=9.1							
FAQ				S	**Sn**	**14 44 53.1**	**+1.3**
FAQ	**Al Faqa, Dubai**	**4.77**	**143**	*e*Pn	**Pn**	**14 43 58.8**	**+2.0**
HATD	**Hatta, Dubai**	**5.01**	**138**	*i* P	**Pn**	**14 44 01.0**	**+0.9**
SNR=19							
HATD	**Hatta, Dubai**	**5.01**	**138**	P	**Pn**	**14 44 01.7**	**+1.6**
SNR=19							
HATD				S	**Sn**	**14 44 57.0**	**-0.7**
HATD	**Hatta, Dubai**	**5.01**	**138**	*e*Pn	**Pn**	**14 44 01.2**	**+1.1**
ASHO	**Ashiyiah**	**5.07**	**139**	*i* P	**Pn**	**14 44 01.6**	**+0.6**
SNR=19							
ASHO	**Ashiyiah**	**5.07**	**139**	P	**Pn**	**14 44 01.9**	**+0.9**
SNR=19							
ASHO				S	**Sn**	**14 44 58.9**	**-0.5**
ASHO	**Ashiyiah**	**5.07**	**139**	*e*Pn	**Pn**	**14 44 01.8**	**+0.7**
KRSH	**Karshahi**	**5.36**	**357**	*e*Pn	**Pn**	**14 44 06.2**	**+1.2**
ALNE	**Al Ain**	**5.42**	**146**	*e*Pn	**Pn**	**14 44 07.2**	**+1.4**
KHMZ	**Khomeyn**	**5.54**	**338**	*e*Pn	**Pn**	**14 44 08.8**	**+1.2**
MZR	**Muzera**	**5.66**	**170**	*e*Pn	**Pn**	**14 44 12.1**	**+3.0**
TPRV	**Parvadeh(Tabas**	**5.73**	**39**	*e*Pn	**Pn**	**14 44 11.7**	**+1.6**
SOHO	**SOHO**	**5.77**	**140**	P	**Pn**	**14 44 11.9**	**+1.3**
SNR=23							
SOHO				S	**Sn**	**14 45 17.2**	**+0.7**
GHVR	**GHOM**	**5.94**	**351**	*e*Pn	**Pn**	**14 44 14.6**	**+1.6**
IKMR	**Kamar-syah**	**6.01**	**326**	*e*Pn	**Pn**	**14 44 14.1**	**+0.3**
IDOB	**Doab**	**6.33**	**326**	*e*Pn	**Pn**	**14 44 18.8**	**+0.4**
TKDS	**Koohdasht(Taba**	**6.41**	**38**	*e*Pn	**Pn**	**14 44 20.9**	**+1.5**
TNSJ	**Nastanj**	**6.42**	**33**	*e*Pn	**Pn**	**14 44 21.4**	**+1.7**
TABS	**Tabas**	**6.43**	**37**	*e*Pn	**Pn**	**14 44 19.5**	**-0.3**
HOQ	**Hoqain**	**6.65**	**138**	P	**Pn**	**14 44 23.3**	**+0.6**
SNR=13							
HOQ				S	**Sn**	**14 45 35.1**	**-3.0**
HOQ	**Hoqain**	**6.65**	**138**	*e*Pn	**Pn**	**14 44 24.0**	**+1.3**
IANJ	**Anjilo**	**6.96**	**10**	*e*Pn	**Pn**	**14 44 28.6**	**+1.5**
IKOM	**Komasi**	**6.97**	**324**	*e*Pn	**Pn**	**14 44 27.2**	**0.0**
BIDO	**Bidbid**	**7.20**	**133**	*e*Pn	Pn	14 44 36.6	+6.4
ISHM	**Shahmirzad**	**7.22**	**6**	*e*Pn	**Pn**	**14 44 32.1**	**+1.4**
BSY	**Bisya**	**7.24**	**143**	P	**Pn**	**14 44 31.6**	**+0.7**
SNR=10							
BSY				S	**Sn**	**14 45 51.8**	**-1.0**
QABG	**Abgarm-Qazvin**	**7.49**	**342**	*e*Pn	**Pn**	**14 44 35.6**	**+1.3**
SMDO	**Samad**	**7.49**	**136**	P	**Pn**	**14 44 34.8**	**+0.6**
SNR=32							
SMDO				S	**Sn**	**14 45 57.6**	**-1.3**
IVIS	**Veis**	**7.59**	**322**	*e*Pn	**Pn**	**14 44 35.5**	**-0.1**
IPRN	**Peran**	**7.62**	**359**	*e*Pn	**Pn**	**14 44 38.3**	**+2.3**
WSAR	**Wadi Sarin**	**7.72**	**132**	P	**Pn**	**14 44 37.3**	**-0.1**
SNR=15							
WSAR	**Wadi Sarin**	**7.72**	**132**	Pn	**Pn**	**14 44 37.2**	**-0.1**
comp=Z,2.1nm,0.3s,baz=312,slow=11,SNR=22							
WSAR				Sn	**Sn**	**14 46 01.9**	**-2.6**
comp=Z,3.5nm,0.3s,baz=315,slow=19,SNR=3.8							
WSAR				LR	LR	14 48 26.8	
comp=Z,370nm,18.7s,baz=340,slow=44							
SHRO	**Shahrood**	**7.96**	**21**	*e*Pn	**Pn**	**14 44 41.5**	**+0.7**
IDHR	**Dehrash**	**7.97**	**321**	*e*Pn	**Pn**	**14 44 40.1**	**-0.9**
GEYT	**Alibeck**	**10.44**	**26**	Pn	**Pn**	**14 45 16.5**	**+1.8**
comp=Z,1.4nm,0.3s,baz=215,slow=13,SNR=24							
GEYT				LR	LR	14 50 10.9	
comp=Z,290nm,18.4s,baz=215,slow=43							
GYA0B	**ALIBECK ARRAY**	**10.44**	**26**	*e*Pn	**Pn**	**14 45 14.0**	**-0.7**
GNI	**Garni**	**13.15**	**333**	LR	LR	14 50 42.5	
comp=Z,135nm,18.1s,baz=136,slow=36							
ASF	**Jabal al Asfar**	**13.88**	**289**	Pn	**Pn**	**14 46 00.2**	**-1.6**
comp=Z,0.2nm,0.3s,baz=45,slow=11,SNR=2.3							
ASF				Sn	**Sn**	**14 48 31.5**	**-4.1**
comp=Z,0.3nm,0.3s,baz=252,slow=19,SNR=5.9							
MMAI	**Mount Meron Ar**	**15.28**	**291**	Pn	**Pn**	**14 46 18.9**	**-1.9**
comp=Z,0.8nm,0.3s,baz=112,slow=16,SNR=4.6							
MMAI				LR	LR	14 53 50.4	
comp=Z,270nm,18.0s,baz=110,slow=44							
EIL	**Elat**	**15.32**	**278**	Pn	**Pn**	**14 46 22.8**	**+1.6**
comp=Z,0.3nm,0.3s,baz=11,slow=16,SNR=4.1							
EIL				LR	LR	14 53 20.4	
comp=Z,208nm,20.2s,baz=70,slow=42							
KBL	**Kabul**	**15.34**	**63**	*e*Pn	**P**	**14 46 24.2**	**-2.1**
comp=Z,8.8nm,0.9s							
DAMY	**Dhamar**	**15.83**	**210**	*e*Pn	**Pn**	**14 46 27.6**	**-0.6**
comp=Z,19nm,0.9s							
KBZ	**Khabaz**	**16.93**	**336**	Pn	**P**	**14 46 43.9**	**+0.3**
comp=Z,0.1nm,0.3s,baz=153,slow=11,SNR=6.7							
CHGR	**Chuyangaron**	**17.13**	**50**	*e*Pn	**Pn**	**14 46 40.4**	**-4.0**
comp=Z,26nm,0.9s							
KIV	**Kislovodsk**	**17.20**	**336**	*e*P	**P**	**14 46 47.5**	**+0.8**
comp=Z,11nm,0.8s							
CSS	**Mathiatis**	**17.43**	**296**	*e*Pn	**Pn**	**14 46 46.8**	**-1.3**
comp=Z,14nm,0.9s							
GAR	**Garm**	**18.09**	**50**	*e*Pn	**P**	**14 46 57.0**	**+0.4**
comp=Z,51nm,1.0s							
NIL	**Nilore**	**18.51**	**69**	*e*P	**Pn**	**14 47 01.8**	**+0.4**
comp=Z,14nm,0.8s							
BR101	**Keskin Array S**	**19.07**	**310**	*e*P	**Pn**	**14 47 07.9**	**-0.3**
BRTR	**Keskin Array B**	**19.07**	**310**	*e*P	**P**	**14 47 06.8**	**-0.7**
BRTR	**Keskin Array B**	**19.07**	**310**	P	**Pn**	**14 47 07.9**	**-0.3**
comp=Z,0.8nm,0.3s,baz=131,slow=13,SNR=40							
BRTR				LR	LR	14 57 01.5	
comp=Z,122nm,18.0s,baz=112,slow=45							
BR131	**Keskin Array S**	**19.07**	**310**	*e*P	**P**	**14 47 07.1**	**-0

MBAR	Mbarara	35.71	219	P	P	14 49 44.9 +1.1
	comp=Z,2.4nm,0.3s,baz=13,slow=10,SNR=3.8					
GERES	GERESS Array B	35.84	315	eP	P	14 49 44.3 -0.2
GERES	GERESS Array B	35.84	315	P	P	14 49 43.9 -0.6
	comp=Z,0.7nm,0.5s,baz=106,slow=10,SNR=5.4					
KHC	Kasperske Hory	36.02	316	eP	P	14 49 45.5 -0.4
	comp=Z,1.6nm,0.9s					
KHC	Kasperske Hory	36.02	316	eP	P	14 49 46.9 +1.0
BRG	Berggiesshubel	36.44	318	eP	P	14 49 53.8 +4.3
	comp=Z,3.5nm,1.0s					
CLL	Collm	37.15	319	eP	P	14 49 55.7 +0.2
	comp=Z,7.4nm,0.8s					
CLL	Collm	37.15	319	eP	P	14 49 56.0 +0.5
CLL				epP	pP	14 50 00.0 -0.7
	comp=Z,8.0nm,0.9s					
FIA0	FINESS Array S	37.23	339	eP	P	14 49 56.1 +0.1
FINES	FINESS Array B	37.23	339	eP	P	14 49 55.6 -0.4
FINES	FINESS Array B	37.23	339	P	P	14 49 56.1 +0.2
	comp=Z,4.1nm,0.5s,baz=142,slow=10.0,SNR=18					
GTA	Gaotai	40.32	62	eP	P	14 50 25.0 +2.5
GTA				pP	sP	14 50 30.9 +1.2
GTA				sP	pP	14 50 34.0 +6.2
NC405	NORSAR Array S	42.27	332	eP	P	14 50 36.8 -1.2
	comp=Z,64nm,1.8s					
NB2	NORSAR Subarra	42.44	332	P	P	14 50 39.3 -0.2
	comp=Z,1.1nm,0.5s,baz=122,slow=8.6					
NB200	NORSAR Array S	42.44	332	eP	P	14 50 38.0 -1.5
NOA	NORSAR Array B	42.44	332	P	P	14 50 38.0 -1.5
	comp=Z,0.8nm,0.4s,baz=121,slow=8.2,SNR=5.8					
CMAR	Chiang Mai Arr	43.59	93	P	P	14 50 50.9 +1.6
	comp=Z,1.0nm,0.7s,baz=282,slow=7.9,SNR=5.6					
CMAR				PcP	PcP	14 52 36.8 0.0
	comp=Z,0.7nm,0.6s,baz=289,slow=5.6,SNR=3.4					
ARCES	ARCESS Array B	43.82	347	P	P	14 50 54.4 0.0
	comp=Z,0.8nm,0.3s,baz=134,slow=8.7,SNR=11					
NRIK	Noril'sk	45.53	17	P	P	14 51 05.8 +1.7
	comp=Z,1.7nm,0.6s,baz=190,slow=7.8,SNR=3.8					
SONA0	Songino Array	45.53	50	eP	P	14 51 05.9 +1.4
SONM	Songino Array	45.53	50	P	P	14 51 05.9 +1.4
	comp=Z,0.8nm,0.6s,baz=266,slow=10,SNR=6.0					
HHC	Hu-ho-hao-te	49.26	59	eP	P	14 51 32.9 -0.8
TOA0	Torodi Ar. Sit	49.48	263	eP	P	14 51 35.0 -0.5
	comp=Z,25nm,1.9s					
TOA1	Torodi Ar. Sit	49.48	263	eP	P	14 51 35.1 -0.4
TORD	Torodi Ar. Bea	49.48	263	P	P	14 51 35.1 -0.4
	comp=Z,1.9nm,0.7s,baz=51,slow=7.6,SNR=13					
DBIC	Dimbokro	58.20	260	eP	P	14 52 38.9 -0.5
	comp=Z,50nm,1.4s					
DBIC	Dimbokro	58.20	260	P	P	14 52 38.2 -1.1
	comp=Z,7.7nm,0.8s,baz=18,slow=3.2,SNR=3.2					
TIXI	Tiksi	58.86	21	eP	P	14 52 43.3 +0.2
TIXI	Tiksi	58.86	21	P	P	14 52 43.7 +0.6
	comp=Z,0.9nm,0.4s,baz=278,slow=4.0,SNR=12					
LBTB	Lobatse	59.23	208	eP	P	14 52 47.1 +0.8
	comp=Z,19nm,0.6s					
KLR	Kul'dur	62.19	47	P	P	14 53 06.8 +0.6
	comp=Z,1.2nm,0.8s,baz=261,slow=8.3,SNR=3.7					
KSAR	Wonju Array Be	62.34	60	P	P	14 53 06.3 -1.1
KSRS	Korea Array	62.37	60	P	P	14 53 06.3 -1.3
	comp=Z,1.1nm,0.6s,baz=280,slow=7.3,SNR=5.8					
USRK	Ussuriysk Ar.	63.54	52	P	P	14 53 14.2 -1.0
	comp=Z,1.3nm,0.6s,baz=277,slow=4.5,SNR=5.7					
SEY	Seymchan	69.26	29	P	P	14 53 52.7 +1.1
	comp=Z,2.5nm,0.7s,baz=237,slow=5.5,SNR=9.0					
INK	Inuvik	83.28	2	eP	P	14 55 10.7 -0.4
	comp=Z,46nm,1.4s					
INK	Inuvik	83.28	2	P	P	14 55 11.9 +0.9
	comp=Z,0.9nm,0.9s,baz=320,slow=7.2,SNR=2.7					
IMAR	Indian Mountai	83.59	10	eP	P	14 55 12.2 -0.5
FITZ	Fitzroy Crossi	84.57	114	P	P	14 55 18.5 0.0
	comp=Z,1.1nm,0.6s,baz=295,slow=17,SNR=4.4					
MDM	Murphy Dome	85.36	9	eP	P	14 55 22.6 +0.8
	comp=Z,21nm,1.0s					
ILAR	Eielson Array	85.72	8	P	P	14 55 23.9 +0.4
	comp=Z,0.5nm,0.7s,baz=326,slow=3.5,SNR=5.4					
ILB	Eielson Array	85.72	8	eP	P	14 55 23.3 -0.2
	comp=Z,26nm,1.1s					
BPAW	Bear Paw Mtn.	85.78	10	eP	P	14 55 24.1 +0.3
	comp=Z,33nm,1.0s					
CAST	Castle Rocks	86.25	11	eP	P	14 55 26.6 +0.4
	comp=Z,50nm,1.4s					
BCAR	Beaver Creek A	87.94	6	eP	P	14 55 35.0 +0.6
YKA	Yellowknife Ar	88.63	354	eP	P	14 55 38.2 +0.6
YKA	Yellowknife Ar	88.63	354	P	P	14 55 38.0 +0.4
	comp=Z,0.7nm,0.7s,baz=6.9,slow=4.5,SNR=12					
YKB5	Yellowknife Ar	88.63	354	eP	P	14 55 38.0 +0.4
MOQ	Mont Orford	90.90	325	eP	P	14 55 47.9 -0.8
ASAR	Alice Springs	94.04	115	P	P	14 56 02.8 -0.7
	comp=Z,0.5nm,0.5s,baz=309,slow=5.4,SNR=5.1					

ISC 21 14:43:28.7±1.6, 48°.26N±0°.08×16°.99E±0°.07, h4km±12km, n5, c0§67/9, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZST	Bratislava	0.10	130	ePG	Pg	14 43 30.7	-0.1
MODS	Modra-Piesok	0.22	60	ePG	Pg	14 43 32.5	-0.6
MODS				eSG	Sg	14 43 36.6	+0.6
MODS				eLG	Lg	14 43 40.5	
JAVC	Velka Javorina	0.75	37	ePG	Pn	14 43 46.5	+0.3
JAVC				eSG	Sn	14 43 58.6	+0.6
KRUC	Moravsky	0.89	334	ePG	Pb	14 43 46.2	-0.5
KRUC				eSG	Sg	14 43 58.0	+0.7
VYHS	Vyhne	1.25	79	ePG	Pg	14 43 52.8	+0.1
VYHS				eSG	Sb	14 44 08.8	-0.7

*KRSC **21** 14:49:36.0±10.0, 52°.24N×161°.13E, h48km±10km, ML4.3*
*IDC **21** 14:49:35.9±2.6, 52°.27N×160°.40E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/59, mbtmp3.7/7, Error ellipse: s-maj=76.9km s-min=33.3km az=10.0*
*ISCJB **21** 14:49:36.5±1.0, 52°.28N±0°.04×161°.10E±0°.05, h17km±7km, mb3.7/7, Error ellipse: s-maj=6.9km s-min=4.3km az=152.2*

ISC 21 14:49:35.9±2.0, 52°.29N±0°.05×160°.96E±0°.05, h5km±11km, n35, c1§20/57, mb3.8/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.99	325	P	Pb	14 49 55.4	-0.1
SPN				S	Sg	14 50 07.7	0.0
NLC	Nalytchevo	1.32	313	P	Pn	14 50 00.6	-0.3
NLC				S	Sb	14 50 17.5	-0.8
RUS	Russkaya	1.51	276	P	Pb	14 50 04.2	-0.1
RUS				S	Sn	14 50 23.0	-0.5
DALK	Dalny	1.54	300	P	Pn	14 50 04.0	+0.1
DALK				S	Sn	14 50 23.2	-1.0
UGLR	Uglovaya	1.59	306	P	Pb	14 50 05.7	-0.1
UGLR				S	Sg	14 50 27.0	0.0
SDLR	Sedlovina	1.60	309	P	Pn	14 50 05.4	+0.4
SDLR				S	Sb	14 50 26.2	-0.4
SMAR	Somma	1.63	308	P	Pg	14 50 07.2	0.0
AVH	Avacha	1.67	307	P	Pn	14 50 06.3	+0.5
AVH				S	Sb	14 50 28.7	+0.3
KRER	Koryakskii	1.68	308	P	Pn	14 50 06.6	+0.5
KRER				S	Sb	14 50 29.0	0.0
MTVR	Mutnovka	1.71	278	P	Pn	14 50 07.3	+0.8
MTVR				S	Sb	14 50 30.0	+0.3
KOK	Koryaka	1.73	306	P	Pn	14 50 07.4	+0.7
KOK				S	Sg	14 50 30.8	-0.7
KRX	Arik	1.76	308	P	Pb	14 50 08.2	-0.6
GRL	Gorelyy	1.79	280	P	Pb	14 50 09.2	+0.1
GRL				S	Sb	14 50 32.5	+0.6
KRMR	Karymshinskiy	1.81	289	P	Pn	14 50 08.1	+0.4
KRMR				S	Sb	14 50 31.9	-0.5
KDTR	Khodutka, Kamc	1.84	256	P	Pn	14 50 08.6	+0.5
KDTR				S	Sn	14 50 32.8	+1.0
ASAK	Asacha	1.88	274	P	Pb	14 50 10.1	-0.6
ASAK				S	Sb	14 50 35.4	+0.9
PETK	Petropavlovsk-	2.15	294	Pn	Pn	14 50 13.2	+0.8
	13nm,0.3s,baz=104,slow=18,SNR=209						
PETK				Sn	Sn	14 50 38.7	-0.6
	34nm,0.3s,baz=70,slow=26,SNR=8.3						
MKZ	Mys Kozlova	2.32	11	P	Pn	14 50 15.0	+0.4
MKZ				S	Sn	14 50 42.5	-1.0
APC	Apacha	2.40	287	P	Pn	14 50 17.7	+1.9
APC				S	Sb	14 50 48.6	-0.9
PAU	Pauzhetka	2.70	254	P	Pn	14 50 21.6	+1.7
KZV	Kizimen	2.86	352	P	Pn	14 50 23.2	+1.0
KZV				S	Sn	14 50 56.7	-0.3
TUMD	Tumrok D	2.94	354	P	Pn	14 50 25.6	+2.4
TUMD				S	Sn	14 51 00.9	+2.0
TUMR	Tumrok	3.04	351	P	Pn	14 50 26.8	+2.1
SKR	Severo-Kuril's	3.43	244	P	Pn	14 50 31.1	+1.2
SKR				S	Sn	14 51 08.9	-1.9
ESO	Esso	3.88	341	P	Pn	14 50 37.7	+1.6
KLY	Klyuchi	4.04	358	P	Pn	14 50 40.9	+2.6
KBTR	Krutoberegovo	4.08	15	P	Pn	14 50 40.0	+1.2
KBTR				S	Sn	14 51 27.4	+0.6
BKI	Bering	4.17	44	P	Pn	14 50 39.7	-0.4
BKI				S	Sn	14 51 25.9	-3.2
TIXI	Tiksi	24.03	336	P	P	14 54 50.0	-1.3
	2.0nm,0.7s,baz=122,slow=7.1,SNR=6.1						
KURBB	Kurchatov Arra	48.71	303	P	P	14 58 19.4	-1.4
	0.8nm,0.6s,baz=58,slow=7.9,SNR=8.2						
MKAR	Makanchi Array	48.98	297	P	P	14 58 21.1	-1.9
	0.3nm,0.6s,baz=61,slow=6.1,SNR=5.2						
BVAR	Borovoye Array	51.30	309	P	P	14 58 39.6	-0.9
	0.6nm,0.6s,baz=41,slow=12,SNR=3.9						
FINES	FINESS Array B	61.07	337	P	P	14 59 50.7	+0.6
	0.7nm,0.4s,baz=24,slow=7.3,SNR=9.5						
AKASG	Malin Array Be	69.57	330	P	P	15 00 45.5	+0.1
	0.4nm,0.4s,baz=31,slow=5.0,SNR=4.6						
TXAR	Lajitas Array	70.47	67	P	P	15 00 54.1	+2.7
	0.2nm,0.4s,baz=268,slow=4.9,SNR=3.5						

JMA 21 14:50:45.5±0.2, 44°.62N×145°.07E, h15km±3km, M1.6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTKR	Abashiri--Toko	1.06	233	P	Pb	14 51 05.0	-0.5
JTKR				eS	Sb	14 51 18.8	-0.3
JNK	Nakash	1.06	194	eS	Sb	14 51 18.3	-1.0
NEM2	Nemuro 2	1.34	159	P	Pn	14 51 09.4	-0.3
NEM2				eS	Sn	14 51 27.2	-0.1
JMP	Maruseppu	1.37	244	P	Pn	14 51 10.2	+0.1
JMP				eS	Sn	14 51 28.1	+0.1

*KRSC **21** 14:51:14.0±10.0, 52°.24N×160°.93E, h50km±10km, ML5.6*
*IDC **21** 14:51:15.3±0.6, 52°.80N×160°.58E, h0km, mb5.0/33, mb1 5.1/33, mb1mx4.9/59, mbtmp5.0/33, ML4.0/1, MS5.3/27, Ms1 5.3/27, ms1mx5.2/32, Error ellipse: s-maj=15.0km s-min=10.1km az=163.0*
*MOS **21** 14:51:18.2±0.9, 52°.40N×160°.67E, h49km, mb5.5/78, MS5.2/38, Error ellipse: s-maj=5.9km s-min=3.2km az=92.6*
*ISCJB **21** 14:51:18.7±0.3, 52°.43N±0°.02×160°.69E±0°.02, h48km±2km, mb5.2/357, MS5.3/188, Error ellipse: s-maj=3.9km s-min=2.1km az=169.0*
*BJI **21** 14:51:19.2±0.0, 52°.60N×160°.24E, h43km, mb5.2/42, mB5.5/41, Ms5.7/41, Ms7 5.6/33*
*NEIC **21** 14:51:19.9±0.4, 52°.59N×160°.64E, h37km±3km, mb5.3/275, MS5.2/123, MW5.5, Error ellipse: s-maj=3.9km s-min=1.8km az=175.0, Moment Tensor Solution. s69 Moment tensor: Scale 10^{17}Nm; M_{rr}1.61; $M_{\theta\theta}$-1.24; $M_{\phi\phi}$-0.37; $M_{r\theta}$0.76; $M_{\theta\phi}$-0.73; $M_{\phi r}$1.15; Best double couple: $M_0$2.10000×10^{17} NP1:ϕ_s255.00000°, δ28.00000°, λ118.00000°. NP2:ϕ_s44.00000°, δ65.00000°, λ76.00000°. Principal axes: T 2.1800, Plg67.0000°, Azm288.0000°; N -0.1000, Plg13.0000°, Azm50.0000°; P -2.0800, Plg19.0000°, Azm144.0000°;*
*GCMT **21** 14:51:20.9±0.1, 52°.40N±0°.01×161°.03E±0°.01, h21km, MW5.5/124, Moment Tensor Solution. s103, c193; s124, c274; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.66±.03; $M_{\theta\theta}$-0.44±.02; $M_{\phi\phi}$-1.21±.02; $M_{r\theta}$0.84±.04; $M_{\theta\phi}$-0.82±.02; $M_{\phi r}$1.05±.04; Best double couple: $M_0$2.16400×10^{17} NP1:ϕ_s36.00000°, δ64.00000°, λ94.00000°. NP2:ϕ_s208.00000°, δ26.00000°, λ83.00000°. Principal axes: T 2.1330, Plg71.0000°, Azm314.0000°; N 0.0700, Plg3.0000°, Azm215.0000°; P -2.1960, Plg19.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 21 14:51:18.3±0.5, 52°.42N±0°.03×160°.68E±0°.03, h29km±2km, h28km:pP-P, n1226, c1§40/1225, mb5.3/368, MS5.2/191, 35C-15D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.79	330	eP	Pb	14 51 31.8	-1.6
SPN				eS	Sn	14 51 44.9	+0.6
SPN	Mys Shipunski	0.79	330	PN	Pb	14 51 31.8	-1.6
SPN				S	Sn	14 51 44.9	+0.6
NLC	Nalytchevo	1.11	313	eP	Pn	14 51 37.2	-0.6
NLC				eS	Sn	14 51 54.0	+1.9
NLC	Nalytchevo	1.11	313	PN	Pn	14 51 37.2	-0.6
NLC				S	Sn	14 51 54.0	+1.9
DALK	Dalny	1.32	298	eP	Pn	14 51 40.1	-0.7
DALK				eS	Sb	14 51 59.8	+0.8
DALK	Dalny	1.32	298	PN	Pn	14 51 40.1	-0.7
DALK				S	Sb	14 51 59.8	+0.8
RUS	Russkaya	1.33	271	eP	Pn	14 51 40.3	-0.5
RUS				eS	Sb	14 51 59.6	+0.5
RUS	Russkaya	1.33	271	PN	Pn	14 51 40.3	-0.5
RUS				S	Sb	14 51 59.6	+0.5
PET	Petropavlovsk	1.38	297	ePn	Pn	14 51 41.3	-0.2
PET	Petropavlovsk	1.38	297	iPN	Pn	14 51 41.3	-0.2
PET				eS	Sb	14 52 01.3	+0.8
PET				pmax	pmax		
	comp=Z,8μm,0.6s						
PET				smax	smax		
	comp=N,27μm,0.6s						
PET				smax	smax		
	comp=E,42μm,1.1s						
UGLR	Uglovaya	1.38	306	eP	Pb	14 51 43.0	-0.4
UGLR	Uglovaya	1.38	306	PN	Pb	14 51 43.0	-0.4
SDLR	Sedlovina	1.39	309	eP	Pn	14 51 42.0	+0.2
SDLR	Sedlovina	1.39	309	PN	Pn	14 51 42.0	+0.2
SMAR	Somma	1.42	307	eP	Pn	14 51 42.0	-0.3
SMAR	Somma	1.42	307	PN	Pn	14 51 42.0	-0.3
AVH	Avacha	1.45	306	eP	Pb	14 51 43.6	-1.1
AVH				eS	Sb	14 52 04.3	+1.5
AVH	Avacha	1.45	306	PN	Pb	14 51 43.6	-1.1
AVH				S	Sb	14 52 04.3	+1.5
KRER	Koryakskii	1.47	308	eP	Pb	14 51 43.8	-1.2
KRER	Koryakskii	1.47	308	PN	Pb	14 51 43.8	-1.2
KOK	Koryaka	1.52	306	eP	Pb	14 51 44.9	-0.9
KOK	Koryaka	1.52	306	PN	Pb	14 51 44.9	-0.9
MTVR	Mutnovka	1.53	273	eP	Pn	14 51 43.4	-0.4
MTVR	Mutnovka	1.53	273	PN	Pn	14 51 43.4	-0.4
KRX	Arik	1.55	308	eP	Pb	14 51 45.1	-1.3
KRX	Arik	1.55	308	PN	Pb	14 51 45.1	-1.3
GRL	Gorelyy	1.60	276	eP	Pb	14 51 46.0	-1.2
GRL	Gorelyy	1.60	276	PN	Pb	14 51 46.0	-1.2
KRMR	Karymshinskiy	1.61	286	eP	Pn	14 51 44.8	+0.1
KRMR				eS	Sb	14 52 06.4	-0.8
KRMR	Karymshinskiy	1.61	286	PN	Pn	14 51 44.8	+0.1
KRMR				S	Sb	14 52 06.4	-0.8
ASAK	Asacha	1.71	270	eP	Pn	14 51 46.3	+0.2
ASAK	Asacha	1.71	270	PN	Pn	14 51 46.3	+0.2
KDTR	Khodutka, Kamc	1.72	250	eP	Pn	14 51 44.9	-1.3
KDTR				eS	Sn	14 52 07.0	-0.2
KDTR	Khodutka, Kamc	1.72	250	PN	Pn	14 51 44.9	-1.3
KDTR				S	Sn	14 52 07.0	-0.2
PEA0B	Petropavlovsk-	1.94	292	ePn	Pn	14 51 49.7	+0.4
PETK	Petropavlovsk-	1.94	292	ePn	Pn	14 51 50.0	+0.7
PETK				Sn	Sb	14 52 19.8	+3.1
PETK	Petropavlovsk-	1.94	292	ePN	Pn	14 51 50.0	+0.7
PETK	Petropavlovsk-	1.94	292	Pn	Pn	14 51 49.7	+0.4
	comp=E,308nm,0.3s,baz=104,slow=18,SNR=49						
PETK				Sn	Sb	14 52 19.8	+3.1
	comp=E,480nm,0.3s,baz=98,slow=27,SNR=11						
PETK				LR	LR	14 52 22.5	
	comp=E,32μm,19.1s,baz=69,slow=38						
PEA1	Petropavlovsk-	1.94	292	ePn	Pn	14 51 49.7	+0.4
PEA1				eSn	Sb	14 52 19.8	+3.0
APC	Apacha	2.21	285	eP	Pn	14 51 54.3	+1.4
APC				eS	Sb	14 52 22.8	-1.5
APC	Apacha	2.21	285	PN	Pn	14 51 54.3	+1.4
APC				S	Sb	14 52 22.8	-1.5
MKZ	Mys Kozlova	2.23	16	eP	Pn	14 51 52.3	-0.9
MKZ				eS	Sn	14 52 20.4	+0.6
MKZ	Mys Kozlova	2.23	16	PN	Pn	14 51 52.3	-0.9
MKZ				S	Sn	14 52 20.4	+0.6
PAU	Pauzhetka	2.58	250	eP	Pn	14 51 57.4	-0.6
PAU	Pauzhetka	2.58	250	PN	Pn	14 51 57.4	-0.6
KZV	Kizimen	2.71	355	eP	Pn	14 52 00.7	+0.7
KZV	Kizimen	2.71	355	PN	Pn	14 52 00.7	+0.7
TUMD	Tumrok D	2.79	357	eP	Pn	14 52 02.5	+1.5
TUMD				eS	Sn	14 52 36.3	+2.5
TUMR	Tumrok	2.89	354	eP	Pn	14 52 03.5	+1.1
TUMR	Tumrok	2.89	354	PN	Pn	14 52 02.5	+0.1
TUMR				S	Sn	14 52 36.3	+0.1
SKR	Severo-Kuril's	3.34	240	eP	Pn	14 52 07.1	-1.3
SKR				eS	Sn	14 52 46.7	-0.4
SKR	Severo-Kuril's	3.34	240	ePN	Pn	14 52 09.2	+0.8
SKR				eS	Sn	14 52 44.4	-2.7
SKR				pmax	pmax		
	comp=Z,687nm,0.5s						
SKR				smax	smax		
	comp=N,5μm,0.9s						
SKR				smax	smax		
	comp=E,5μm,0.8s						
KMNR	Kamenistaya	3.35	356	eP	Pn	14 52 10.8	+2.0
KMNR	Kamenistaya	3.35	356	PN	Pn	14 52 10.8	+2.0
BZMR	Bezymyannaya	3.52	358	eP	Pn	14 52 13.4	+2.2
BZMR	Bezymyannaya	3.52	358	PN	Pn	14 52 13.4	+2.2
BZGR	Bezymyannyi-Gr	3.53	0	eP	Pn	14 52 14.1	+2.9
BZGR	Bezymyannyi-Gr	3.53	0	PN	Pn	14 52 14.1	+2.9
KIRR	Kirishev	3.55	357	eP	Pn	14 52 12.2	+0.7
KIRR	Kirishev	3.55	357	PN	Pn	14 52 12.2	+0.7
BZWR	Bezymyannyi-We	3.55	358	eP	Pn	14 52 14.3	+2.7
BZWR	Bezymyannyi-We	3.55	358	PN	Pn	14 52 14.3	+2.7
ALID	Alaid	3.56	246	eP	Pn	14 52 11.4	-0.2
ALID	Alaid	3.56	246	PN	Pn	14 52 11.4	-0.2
KPT	Kopyto	3.56	356	eP	Pn	14 52 13.3	+1.6
KPT	Kopyto	3.56	356	PN	Pn	14 52 13.3	+1.6
LGNR	Loginova	3.67	0	eP	Pn	14 52 15.1	+1.8
LGNR	Loginova	3.67	0	PN	Pn	14 52 15.1	+1.8
KOZ	Kozyrevsk	3.68	353	eP	Pn	14 52 13.5	+0.4
KOZ	Kozyrevsk	3.68	353	PN	Pn	14 52 13.5	+0.4
ESO	Esso	3.70	342	eP	Pn	14 52 15.1	+1.6
ESO	Esso	3.70	342	PN	Pn	14 52 15.1	+1.6
CIRR	Tsirk	3.70	1	eP	Pn	14 52 16.7	+3.1
CIRR	Tsirk	3.70	1	PN	Pn	14 52 16.7	+3.1
KRSR	Krestovskiy	3.81	359	eP	Pn	14 52 18.1	+3.1
KRSR	Krestovskiy	3.81	359	PN	Pn	14 52 18.1	+3.1
KLY	Klyuchi	3.90	360	eP	Pn	14 52 18.6	+2.4
KLY	Klyuchi	3.90	360	PN	Pn	14 52 18.6	+2.4
SRDR	Sredinnyy	3.95	352	eP	Pn	14 52 19.1	+2.2
SRDR	Sredinnyy	3.95	352	PN	Pn	14 52 19.1	+2.2
KBTR	Krutoberegovo	4.00	17	eP	Pn	14 52 17.4	-0.1
KBTR	Krutoberegovo	4.00	17	PN	Pn	14 52 17.4	-0.1
KBG	Krutoberegovo	4.02	16	eP	Pn	14 52 18.5	+0.7
KBG	Krutoberegovo	4.02	16	PN	Pn	14 52 18.5	+0.7
BDR	Baidarnaya	4.17	4	eP	Pn	14 52 22.8	+2.9
BDR	Baidarnaya	4.17	4	PN	Pn	14 52 22.8	+2.9
BKI	Bering	4.20	46	eP	Pn	14 52 18.4	-1.8
BKI				eS	Sn	14 53 02.9	-5.3
BKI	Bering	4.20	46	PN	Pn	14 52 18.4	-1.8
SMKR	Semkarok	4.20	6	eP	Pn	14 52 22.1	+1.8
SMKR	Semkarok	4.20	6	PN	Pn	14 52 22.1	+1.8
SRKR	Sorokina	4.25	4	eP	Pn	14 52 23.3	+2.2
SRKR	Sorokina	4.25	4	PN	Pn	14 52 23.3	+2.2
PALN	Palana	6.70	357	eP	Pn	14 52 56.8	+2.3
PALN	Palana	6.70	357	PN	Pn	14 52 56.8	+2.3
OSSR	Ossora	6.98	10	eP	Pn	14 52 58.8	+0.5
OSSR	Ossora	6.98	10	PN	Pn	14 52 58.8	+0.5
TILK	Tilichiki	8.59	18	eP	Pn	14 53 22.8	+2.3
TILK	Tilichiki	8.59	18	PN	Pn	14 53 22.8	+2.3
MA2	Magadan	9.06	326	ePn	Pn	14 53 25.9	-1.0
MA2	Magadan	9.06	326	cePN	Pn	14 53 27.7	+0.7
MA2	Magadan	9.06	326	Pn	Pn	14 53 25.2	-1.8
	comp=E,0.2nm,0.3s,baz=137,slow=19,SNR=3.2						
MA2				LR	LR	14 57 27.1	
	comp=E,15μm,19.9s,baz=156,slow=43						
KMSK	Kamenskaya	10.50	14	eP	Pn	14 53 47.6	+1.0
KMSK	Kamenskaya	10.50	14	PN	Pn	14 53 47.6	+1.0
OKH	Okha	10.76	283	c iPN	Pn	14 53 54.0	+3.8
OKH				i S	Sn	14 55 56.0	+6.4
OKH				pmax	pmax		
	comp=Z,2μm,10.0s						
OKH				smax	smax		
	comp=N,1μm,9.9s						
OKH				MLR	MLR		
	comp=Z,29μm,13.0s						
SEY	Seymchan	11.43	341	LR	LR	14 58 51.8	
	comp=Z,13μm,19.1s,baz=150,slow=41						
NKL	Nikolayevsk	12.13	281	i PN	Pn	14 54 12.0	+3.0
NKL				pmax	pmax		
	comp=Z,4μm,9.0s						
NKL				MLR	MLR		
	comp=N,6μm,14.0s						
NKL				MLR	MLR		
	comp=E,22μm,14.0s						
NKL				MLR	MLR		
	comp=Z,49μm,14.0s						
UGL	Uglegorsk	12.25	262	PN	Pn	14 54 16.3	+5.7
UGL				MLR	MLR		
	comp=Z,25μm,13.0s						
UGL				MLR	MLR		
	comp=E,31μm,12.0s						
YSS	Yuzh-Sakhalins	12.82	252	ePN	Pn	14 54 21.2	+2.8
YSS				MLR	MLR		

HIA pmax pmax
comp=Z,354nm,0.9s
SII Sitkinak Islan 26.17 63 *e*P **P 14 56 50.8 +1.0**
comp=Z,127nm,0.9s
IMAR Indian Mountai 26.27 41 *e*P **P 14 56 50.0 -0.6**
RSO Redoubt South 26.45 54 *e*P **P 14 56 53.4 +0.8**
PPLA Purkeypile 26.67 48 *e*P **P 14 56 55.5 +1.0**
comp=Z,95nm,1.3s
CAST Castle Rocks 26.74 47 *e*P **P 14 56 54.7 -0.2**
comp=Z,50nm,1.4s
SPU Mount Spurr 26.76 52 *e*P **P 14 56 56.4 +1.2**
KDAK Kodiak Island 26.82 60 *e*P **P 14 56 54.4 -1.3**
comp=Z,42nm,0.7s
KDAK Kodiak Island 26.82 60 *e*P **P 14 56 54.4 -1.3**
KDAK pmax pmax
comp=Z,42nm,0.7s
KDAK Kodiak Island 26.82 60 P **P 14 56 55.4 -0.3**
comp=Z,77nm,1.2s,baz=322,slow=3.2,SNR=15
KDAK LR LR 15 08 22.1
comp=Z,4μm,19.6s,baz=252,slow=38
SNY Shenyang 27.09 262 ⇑P **P 14 56 55.3 -2.9**
SNY S **S 15 01 35.0 +0.6**
SNY pmax pmax
comp=Z,810nm,8.6s
SNY LR LR
comp=Z,14μm,19.1s
SNY LR LR
comp=Z,12μm,20.6s
BPAW Bear Paw Mtn. 27.25 46 *e*P **P 14 56 58.7 -0.8**
comp=Z,33nm,1.0s
KSRS Korea Array 27.31 250 P **P 14 57 03.6 +3.4**
comp=Z,13nm,0.8s,baz=43,slow=9.3,SNR=4.7
KSRS PcP **PcP 15 00 19.9 +0.9**
comp=Z,5.2nm,0.8s,baz=17,slow=1.8,SNR=6.6
KSRS LR LR 15 09 04.3
comp=Z,7μm,18.3s,baz=58,slow=39
KS15 Wonju Array Si 27.34 250 *e*P **P 14 57 01.0 +0.5**
comp=Z,27nm,0.9s
KSAR Wonju Array Be 27.34 250 P **P 14 57 03.6 +3.1**
KSAR PcP **PcP 15 00 19.9 +0.8**
KSAR Wonju Array Be 27.34 250 P **P 14 57 03.6 +3.1**
KSAR 15 00 20.0
MLY Manley 27.41 44 *e*P **P 14 57 01.0 +0.1**
comp=Z,40nm,1.4s
BRLK Bradley Lake 27.44 55 *e*P **P 14 57 00.9 -0.4**
comp=Z,29nm,0.8s
COLD Coldfoot 27.85 39 *e*P **P 14 57 05.3 +0.6**
comp=Z,16nm,0.9s
RC01 Rabbit Creek A 27.89 52 *e*P **P 14 57 05.0 -0.2**
comp=Z,16nm,0.9s
BWN Browne 27.92 46 *e*P **P 14 57 06.5 +1.1**
comp=Z,283nm,1.3s
SEW Seward 28.12 54 *e*P **P 14 57 06.1 -1.1**
comp=Z,51nm,0.9s
MCK McKinley 28.15 47 *e*P **P 14 57 07.8 +0.2**
comp=Z,38nm,1.1s
MCK McKinley 28.15 47 *e*P **P 14 57 07.8 +0.2**
MCK pmax pmax
comp=Z,38nm,1.1s
GHO Glory Hole Cre 28.23 51 *e*P **P 14 57 08.4 +0.1**
comp=Z,24nm,1.0s
TOLK Toolik Lake Re 28.29 36 *e*P **P 14 57 08.4 -0.4**
comp=Z,26nm,0.9s
TOLK Toolik Lake Re 28.29 36 P **P 14 57 08.8 0.0**
baz=261,SNR=17
TJN Taejon 28.38 249 *c e*P **P 14 57 09.4 -0.4**
MDM Murphy Dome 28.47 44 *e*P **P 14 57 10.6 +0.2**
comp=Z,21nm,1.0s
KNK Knik Glacier 28.48 51 *e*P **P 14 57 10.2 -0.3**
comp=Z,74nm,1.1s
SML Sawmill 28.50 51 *e*P **P 14 57 10.2 -0.5**
comp=Z,72nm,0.8s
SML Sawmill 28.50 51 *e*P **P 14 57 10.2 -0.5**
SML pmax pmax
comp=Z,72nm,0.8s
WRH Wood River Hil 28.52 45 *e*P **P 14 57 11.7 +0.9**
comp=Z,80nm,1.4s
TCOL CIGO, UAF Yank 28.62 44 P **P 14 57 13.6 +1.9**
baz=269
COLA College 28.63 44 *e*P **P 14 57 12.5 +0.7**
comp=Z,42nm,1.1s
COLA LR LR
comp=Z,2μm,19.0s
COLA College 28.63 44 *c i*P **P 14 57 13.2 +1.5**
COLA pmax pmax
comp=Z,38nm,1.5s
CCB Clear Creek Bu 28.65 45 *e*P **P 14 57 12.0 +0.1**
comp=Z,48nm,1.1s
POKR Poker Plat Res 28.81 44 P **P 14 57 14.8 +1.4**
baz=269,SNR=6.9
JNU Nakatsue 28.85 240 *e*P **P 14 57 14.8 +0.7**
comp=Z,76nm,0.9s
JNU Nakatsue 28.85 240 P **P 14 57 16.8 +2.7**
comp=Z,17nm,0.9s,baz=52,slow=8.4,SNR=2.6
JNU LR LR 15 10 10.4
comp=Z,5μm,19.0s,baz=42,slow=39
DHY Denali Highway 28.87 48 *e*P **P 14 57 13.9 -0.2**
comp=Z,63nm,1.4s
SCM Sheep Creek Mo 28.98 51 *e*P **P 14 57 14.0 -1.0**
comp=Z,50nm,1.0s
SCM Sheep Creek Mo 28.98 51 *e*P **P 14 57 14.0 -1.0**
SCM pmax pmax
comp=Z,50nm,1.0s
HDA Harding Lake 29.02 45 *e*P **P 14 57 14.5 -0.8**
comp=Z,72nm,1.7s
HDA Harding Lake 29.02 45 P **P 14 57 16.3 +1.1**
baz=271,SNR=9.9
ILAR Eielson Array 29.04 44 *e*P **P 14 57 14.3 -1.2**
ILAR Eielson Array 29.04 44 *e*P **P 14 57 14.3 -1.2**
ILAR Eielson Array 29.04 44 P **P 14 57 14.5 -0.9**
comp=Z,4.9nm,0.9s,baz=260,slow=8.1,SNR=36
ILAR LR LR 15 10 35.3
comp=Z,3μm,18.5s,baz=275,slow=40
ILB Eielson Array 29.04 44 *e*P **P 14 57 14.8 -0.6**
comp=Z,26nm,1.1s
MIDW Midway 29.18 137 PFAKE 14 57 30.0 +13
MIDW LR LR
comp=Z,5μm,21.0s
GLI Glacier Island 29.19 52 *e*P **P 14 57 16.7 -0.1**
comp=Z,22nm,0.8s
PRP Porcupine Dome 29.62 43 *e*P **P 14 57 20.0 -0.7**
comp=Z,43nm,1.2s
KLU Klutina 29.68 51 *e*P **P 14 57 21.3 +0.1**
PAX Paxson 29.74 48 *e*P **P 14 57 21.9 +0.1**
comp=Z,18nm,1.1s
PAX Paxson 29.74 48 *e*P **P 14 57 21.9 +0.1**
PAX pmax pmax
comp=Z,18nm,1.1s
FYU Fort Yukon 29.75 41 *e*P **P 14 57 21.8 +0.1**
comp=Z,90nm,1.3s
DIV Divide 29.80 52 *e*P **P 14 57 22.2 0.0**
comp=Z,29nm,1.0s
EYAK Cordova Ski Ar 29.89 53 *e*P **P 14 57 23.1 +0.1**
comp=Z,23nm,0.7s
HARP HAARP 29.94 49 *e*P **P 14 57 23.7 +0.3**
comp=Z,134nm,1.7s
RIDG Independent Ri 29.97 46 *e*P **P 14 57 23.6 -0.2**
comp=Z,42nm,1.3s
DL2 Dalian 30.06 259 P **P 14 57 21.6 -3.0**
DL2 S **S 15 02 16.6 -4.4**
DL2 pmax pmax
comp=Z,54nm,0.9s
DL2 pmax pmax
comp=Z,540nm,6.3s
DL2 LR LR
comp=Z,9μm,14.4s
DL2 LR LR
comp=Z,8μm,15.3s
DL2 LR LR
comp=Z,8μm,13.3s
DOT Dot Lake 30.32 47 *e*P **P 14 57 26.8 -0.1**
comp=Z,26nm,1.2s
SCRK Sand Creek 30.33 46 *e*P **P 14 57 26.5 -0.5**
comp=Z,16nm,0.9s
HMT Hamilton 30.65 53 *e*P **P 14 57 29.8 0.0**
comp=Z,37nm,0.9s
TGL Tana Glacier 31.27 52 *e*P **P 14 57 36.3 +1.0**
comp=Z,35nm,1.1s
BCAR Beaver Creek A 31.40 48 *e*P **P 14 57 36.0 -0.4**
BALM Baldy 31.46 51 *e*P **P 14 57 37.2 +0.3**
comp=Z,15nm,0.9s
BALM Baldy 31.46 51 *e*P **P 14 57 37.2 +0.3**
BALM pmax pmax
comp=Z,15nm,0.9s
EGAK Eagle 31.49 44 *e*P **P 14 57 36.4 -0.7**
comp=Z,20nm,0.9s
EGAK LR LR
comp=Z,3μm,19.0s
CTGM Chitina Glacie 31.95 51 *e*P **P 14 57 41.0 -0.3**
comp=Z,22nm,0.9s
DAWY Dawson 32.33 45 *e*P **P 14 57 44.3 -0.2**
comp=Z,34nm,1.5s
PCA Pinnacle 32.66 53 *e*P **P 14 57 48.3 +0.8**
comp=Z,56nm,1.0s
BJT Baijiatuau 32.68 266 PFAKE 14 58 00.0 +12
BJT LR LR
comp=Z,19μm,20.0s
H11N2 WAKE ISLAND Hy 32.98 169 T T 15 33 40.6
baz=352,slow=76,SNR=14
H11N3 WAKE ISLAND Hy 33.00 169 T T 15 33 34.5
baz=352,slow=76,SNR=10
H11N1 WAKE ISLAND Hy 33.00 169 T T 15 34 05.2
baz=352,slow=76,SNR=13
EPYK Eagle Plains 33.17 41 *e*P **P 14 57 52.0 +0.2**
comp=Z,56nm,1.3s
EPYK Eagle Plains 33.17 41 P **P 14 57 52.9 +1.1**
baz=277,SNR=8.8
WAKE Wake Island 33.40 170 PFAKE 14 58 10.0 +16
WAKE LR LR
comp=Z,5μm,20.0s
HYT Haines Junctio 33.81 51 *e*P **P 14 57 57.8 +0.3**
comp=Z,32nm,1.1s
ULN Ulaanbaatar 34.01 284 PFAKE 14 58 10.0 +11
ULN LR LR
comp=Z,13μm,20.0s
INK Inuvik 34.19 37 *e*P **P 14 58 00.3 -0.2**
comp=Z,48nm,1.4s
INK Inuvik 34.19 37 *e*P **P 14 58 00.3 -0.2**
INK pmax pmax
comp=Z,48nm,1.4s
INK Inuvik 34.19 37 P **P 14 58 00.3 -0.2**
comp=Z,8.0nm,0.6s,baz=294,slow=6.1,SNR=42
TLY Talaya 34.30 292 PFAKE 14 58 10.0 +8.2
TLY LR LR
comp=Z,2μm,19.0s
TLY Talaya 34.30 292 *c i*P **P 14 58 01.4 -0.4**
SONA0 Songino Array 34.41 285 *e*P **P 14 58 03.4 +0.5**
SONA0 *e*PcP **PcP 15 00 40.0 +2.1**
SONM Songino Array 34.41 285 P **P 14 58 03.4 +0.5**
comp=Z,4.5nm,0.4s,baz=74,slow=7.7,SNR=2.2
SONM PcP **PcP 15 00 40.0 +2.1**
comp=Z,4.2nm,0.7s,baz=70,slow=3.6,SNR=3.5
SONM LR LR 15 13 44.5
comp=Z,16μm,18.9s,baz=66,slow=39
TIA Tai'an 34.52 260 P **P 14 58 04.0 +0.2**
TIA pmax pmax
comp=Z,21nm,0.9s
HHC Hu-ho-hao-te 35.00 271 *e*P **P 14 58 08.3 +0.3**
HHC PP **PnPn 14 59 26.3 +1.0**
HHC S **S 15 03 35.1 -3.0**
HHC pmax pmax
comp=Z,1μm,4.6s
HHC LR LR
comp=Z,4μm,12.8s
HHC LR LR
comp=Z,2μm,11.1s
HHC LR LR
comp=Z,2μm,12.9s
WHY Whitehorse 35.10 51 *e*P **P 14 58 08.6 0.0**
comp=Z,74nm,1.8s
JOW Kunigami 35.22 236 P **P 14 58 13.5 +3.6**
comp=Z,1.1nm,0.5s,baz=114,slow=12,SNR=3.1
SSE Sheshan 35.74 249 PFAKE 14 58 30.0 +16
SSE LR LR
comp=Z,6μm,20.0s
JIS Juneau Island 36.08 54 *e*P **P 14 58 17.5 +0.6**
comp=Z,46nm,1.1s
BTO Baotou 36.09 272 *e*P **P 14 58 14.3 -3.1**
BTO S S 15 03 43.5 -11
NJ2 Nanjing 36.39 253 *e*P **P 14 58 19.6 -0.3**
NJ2 sP pwP 14 58 35.4 +4.6
NJ2 S **S 15 03 57.3 -2.0**
NJ2 pmax pmax
comp=Z,55nm,1.0s
NJ2 pmax pmax
comp=Z,530nm,4.9s
NJ2 LR LR
comp=Z,9μm,18.6s
NJ2 LR LR
comp=Z,5μm,16.2s
NJ2 LR LR
comp=Z,8μm,17.7s
NRIK Noril'sk 36.67 325 P **P 14 58 21.8 -0.1**
comp=Z,14nm,0.3s,baz=77,slow=6.8,SNR=18
NRIK LR LR 15 15 03.2
comp=Z,23μm,18.0s,baz=77,slow=39
WRAK Wrangell Islan 37.78 57 PFAKE 14 58 40.0 +8.6
WRAK LR LR
comp=Z,2μm,20.0s
DLBC Dease Lake 38.16 53 *e*P **P 14 58 34.8 +0.1**
comp=Z,25nm,0.8s
WHN Wuhan 40.13 256 P **P 14 58 52.6 +1.2**
WHN pP **pwP 14 59 04.0 +1.7**
WHN Wuhan 40.13 256 P **P 14 58 48.6 -2.8**
WHN pP **pwP 14 59 04.0 +1.7**
WHN S **S 15 04 56.0 +0.1**
WHN pmax pmax
comp=Z,1μm,12.2s
TATO Taipei 40.30 242 PFAKE 14 59 10.0 +17
TATO LR LR
comp=Z,6μm,19.0s
GUMO Guam 40.75 204 PFAKE 14 59 10.0 +13
GUMO LR LR
comp=Z,2μm,19.0s
XAN Xi'an 40.95 264 P **P 14 58 57.0 -1.2**
XAN sP pwP 14 59 13.4 +4.2
XAN PP **PP 15 00 34.1 +1.3**
XAN PcP **PcP 15 01 01.1 +3.0**
XAN S **S 15 05 07.5 -0.7**
XAN pmax pmax
comp=Z,350nm,11.2s
XAN LR LR
comp=Z,6μm,16.7s
XAN LR LR
comp=Z,11μm,16.7s
QZH Quanzhou 41.92 246 ⇑*i*P **P 14 59 06.3 +0.2**
QZH S **S 15 05 22.9 +0.4**
QZH pmax pmax
comp=Z,890nm,9.8s
QZH LR LR
comp=Z,3μm,18.0s
QZH LR LR
comp=Z,2μm,14.2s
QZH LR LR
comp=Z,2μm,15.7s
JOHN Johnston Islan 42.65 135 PFAKE 14 59 30.0 +18
JOHN LR LR
comp=Z,354nm,19.0s
LZH Lanzhou 42.70 271 *e*P **P 14 59 11.0 -1.6**
LZH pP pwP 14 59 22.3 -1.2
LZH sP sP 14 59 27.3 +3.9
LZH PP **PP 15 00 50.8 -0.9**
LZH *e*S **S 15 05 33.0 -1.2**
LZH sS sS 15 05 46.6 -0.5
LZH pmax pmax
comp=Z,100nm,1.2s
LZH pmax pmax
comp=Z,570nm,6.0s
GTA Gaotai 43.04 278 *e*P **P 14 59 14.8 -0.5**
GTA pP sP 14 59 22.8 -3.3
GTA sP pwP 14 59 26.9 +0.6
GTA PP **PP 15 00 56.1 +0.8**
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA pmax pmax
comp=Z,500nm,5.2s
GTA LR LR
comp=Z,7μm,15.2s
ENH Enshi 43.24 260 PFAKE 14 59 30.0 +13
ENH LR LR
comp=Z,372nm,20.0s
YKW3 Yellowknife Ar 43.38 42 *e*P **P 14 59 16.3 -1.3**
comp=Z,53nm,1.7s
YKA Yellowknife Ar 43.42 42 *e*P **P 14 59 17.0 -0.9**
YKA Yellowknife Ar 43.42 42 P **P 14 59 17.4 -0.5**
comp=Z,5.9nm,0.9s,baz=298,slow=7.9,SNR=40
ZALV Zalesovo Beam 43.45 304 P **P 14 59 16.7 -1.5**
comp=Z,3.8nm,0.4s,baz=56,slow=7.8,SNR=4.0
ZALV LR LR 15 18 45.4
comp=Z,5μm,18.9s,baz=72,slow=38
RES Resolute Bay 43.82 22 *e*P **P 14 59 20.4 -0.5**
comp=Z,123nm,0.6s
RES Resolute Bay 43.82 22 *e*P **P 14 59 20.4 -0.5**
RES pmax pmax
comp=Z,123nm,0.6s
RES Resolute Bay 43.82 22 P **P 14 59 20.1 -0.9**
comp=Z,15nm,0.9s,baz=301,slow=8.4,SNR=22
DGZ Jazzator, Alta 44.29 297 *d i*P **P 14 59 24.1 -1.2**
KIP Kipapa 44.30 118 PFAKE 14 59 40.0 +15
KIP LR LR
comp=Z,3μm,19.0s
KIP Kipapa 44.30 118 ⇓*e*P **P 14 59 26.9 +1.5**
KIP pmax pmax
comp=Z,172nm,2.5s
LLLB Lilloet 46.04 60 *e*P **P 14 59 40.0 +1.1**
comp=Z,27nm,1.0s
GZH Guangzhou 46.34 249 P **P 14 59 37.8 -3.7**
GZH S **S 15 06 21.4 -5.5**
GZH LR LR
comp=Z,4μm,18.4s
GZH LR LR
comp=Z,6μm,17.3s
NLWA Neilton Lookou 46.80 64 *e*P **P 14 59 46.5 +1.6**
comp=Z,41nm,0.9s
NLWA LR LR
comp=Z,2μm,22.0s
POHA Pohakuloa 46.99 117 PFAKE 15 00 00.0 +13
POHA LR LR
comp=Z,2μm,20.0s
D03D Eldon 47.14 64 P **P 14 59 49.5 +1.9**
baz=306
B05A Bryant 47.26 63 P **P 14 59 50.3 +1.8**
baz=306
WMQ Urumqi 47.54 290 *e*P **P 14 59 50.8 0.0**
WMQ pP pwP 15 00 02.3 +0.5
WMQ pmax pmax
comp=Z,110nm,1.1s
WMQ pmax pmax
comp=Z,2μm,11.1s
WMQ Urumqi 47.54 290 *e*P **P 14 59 50.3 -0.5**
comp=Z,203nm,1.9s
WMQ Urumqi 47.54 290 *e*P **P 14 59 50.3 -0.5**
WMQ pmax pmax
comp=Z,203nm,1.9s
KBS Kingsbay 47.59 352 *e*P **P 14 59 51.5 +0.8**
comp=Z,39nm,0.8s
KBS LR LR
comp=Z,3μm,19.0s
KBS Kingsbay 47.59 352 *d e*P **P 14 59 51.4 +0.7**
KBS pmax pmax
comp=Z,156nm,0.7s
KBS Kingsbay 47.59 352 *e*P **P 14 59 51.7 +1.0**
GYA Guiyang 47.71 259 ⇑*i*P **P 14 59 53.3 +0.9**
GYA pP pwP 15 00 05.4 +2.0
GYA sP sP 15 00 11.6 +8.5
GYA PP **PP 15 01 44.3 +0.2**
GYA S **S 15 06 44.4 -2.3**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.4s
GYA LR LR
comp=Z,5μm,16.2s
GYA LR LR
comp=Z,10μm,18.7s
SPA0 Spitsbergen Ar 47.86 351 *e*P **P 14 59 52.5 -0.3**
comp=Z,94nm,0.9s
SPA0 Spitsbergen Ar 47.86 351 *e*P **P 14 59 52.8 0.0**
E04D Cinebar 48.01 65 P **P 14 59 56.1 +1.7**
baz=307
LON Longmire 48.31 64 *e*P **P 14 59 57.7 +0.9**
comp=Z,14nm,1.1s
LON Longmire 48.31 64 *e*P **P 14 59 57.7 +0.9**
LON pmax pmax
comp=Z,14nm,1.1s
KURK Kurchatov 48.40 303 PFAKE 15 00 10.0 +13
KURK LR LR
comp=Z,11μm,19.0s
KURK Kurchatov 48.40 303 *c i*P **P 14 59 54.4 -2.9**
KURK pmax pmax
comp=Z,104nm,1.3s
KURBB Kurchatov Arra 48.50 303 P **P 14 59 55.4 -2.7**
comp=Z,43nm,0.8s,baz=60,slow=7.8,SNR=23
LTY Liberty 48.63 63 *e*P **P 14 59 59.3 +0.1**
comp=Z,13nm,0.6s
B08A Colville Reser 48.70 61 *e*P **P 15 00 00.4 +0.7**
comp=Z,62nm,1.6s
MKAR Makanchi Array 48.77 297 P **P 14 59 59.0 -1.2**
comp=Z,8.9nm,0.5s,baz=38,slow=4.4,SNR=6.3
MKAR LR LR 15 21 55.3
comp=Z,4μm,18.0s,baz=45,slow=38
HSPB Hornsund (broa 48.99 350 *e*P **P 15 00 00.7 -0.7**
H04D Lebanon 49.15 67 P **P 15 00 04.2 +1.1**
baz=308
H04A Detroit Lake 49.36 66 *e*P **P 15 00 05.5 +0.7**
comp=Z,41nm,0.8s
G05D Wamic, OR 49.50 65 P **P 15 00 07.4 +1.6**
baz=308
C09A Chrisman Ranch 49.60 61 *e*P **P 15 00 06.7 +0.2**
comp=Z,34nm,0.8s
K02D Willamette Mer 49.76 69 P **P 15 00 09.8 +1.8**
baz=309
HAWA Hanford 49.78 63 *e*P **P 15 00 08.5 +0.5**
comp=Z,28nm,0.8s
HAWA LR LR
comp=Z,2μm,22.0s
I04A Tendick Farm, 49.78 67 P **P 15 00 09.8 +1.8**
baz=309
F07A Phinny Hill Vi 49.87 64 *e*P **P 15 00 09.3 +0.8**
comp=Z,48nm,0.8s
NEW Newport 49.93 60 *e*P **P 15 00 09.7 +0.6**
comp=Z,25nm,0.8s
NEW LR LR
comp=Z,2μm,22.0s
NEW Newport 49.93 60 *e*P **P 15 00 09.7 +0.6**
NEW pmax pmax
comp=Z,25nm,0.8s
NEW MLR MLR
comp=Z,2μm,22.0s
NEW Newport 49.93 60 P **P 15 00 10.4 +1.3**
baz=308
E08A Dider Farm, El 49.98 63 *e*P **P 15 00 09.7 +0.3**
comp=Z,30nm,0.8s
I05D Terrebonne, OR 50.05 66 P **P 15 00 11.1 +1.1**
baz=309
L02E Cave Junction 50.13 70 P **P 15 00 13.0 +2.3**
baz=310
HUMO Hull Mountain 50.22 69 *e*P **P 15 00 11.6 +0.3**
comp=Z,102nm,1.3s
J04D Umpqua Nationa 50.30 68 P **P 15 00 14.0 +1.8**
baz=309
E09A Wood Farm, Sta 50.46 62 *e*P **P 15 00 13.9 +0.8**
comp=Z,36nm,0.8s
PINE Pine Mountain 50.62 67 *e*P **P 15 00 15.4 +0.9**
comp=Z,66nm,0.8s
J05D Fort Rock, OR 50.77 67 P **P 15 00 17.3 +1.6**
baz=310,SNR=7.2
KULLO Kullorsuaq 50.77 12 *i*P **P 15 00 14.8 -0.2**
KULLO MLR MLR
comp=Z,3μm,17.0s
KULLO Kullorsuaq 50.77 12 *i*P **P 15 00 14.8 -0.2**
G08A Pilot Rock 50.78 64 *e*P **P 15 00 16.1 +0.5**
comp=Z,9.1nm,0.9s
L04D Klamath Falls 50.84 69 P **P 15 00 17.8 +1.6**
baz=310,SNR=5.6
K04D Chiloquin, OR 50.90 68 P **P 15 00 18.4 +1.8**
baz=310
YBH Yreka Blue Hor 50.92 70 *e*P **P 15 00 17.5 +0.8**
comp=Z,18nm,0.8s
M02C Callahan 51.05 70 P **P 15 00 20.1 +2.3**
baz=310,SNR=5.6
KMI Kunming 51.06 261 P **P 15 00 19.1 +1.0**
KMI pP pwP 15 00 30.8 +1.6
KMI sP sP 15 00 35.8 +6.9
KMI PP **PP 15 02 11.5 -3.2**
KMI S **S 15 07 30.3 -3.6**
KMI sS sS 15 07 50.8 +3.5
KMI ScS **ScS 15 10 04.6 -2.2**
KMI SS **SS 15 11 05.1 -3.9**
KMI pmax pmax
comp=Z,15nm,0.5s
KMI LR LR
comp=Z,4μm,23.3s
DAG Danmarks Havn 51.08 360 *i*P **P 15 00 16.6 -0.7**
DAG MLR MLR
comp=Z,2μm,18.0s
DAG Danmarks Havn 51.08 360 *i*P **P 15 00 16.6 -0.7**
BVAR Borovoye Array 51.09 309 P **P 15 00 17.0 -0.7**
BVAR Borovoye Array 51.09 309 P **P 15 00 17.0 -0.7**

comp=Z,24nm,0.5s,baz=62,slow=8.1,SNR=11
WALA Waterton Lakes 51.12 57 *eP* **P 15 00 18.1 -0.1**
comp=Z,31nm,0.9s
BRVK Borovoye 51.12 309 PFAKE 15 00 30.0 +12
BRVK LR LR
comp=Z,3μm,19.0s
BRVK Borovoye 51.12 309*c i P* **P 15 00 17.1 -0.8**
I07A Izee 51.24 65 *eP* **P 15 00 19.5 +0.4**
comp=Z,19nm,0.9s
F10A Beach Ranch, E 51.29 62 *eP* **P 15 00 20.0 +0.5**
comp=Z,13nm,0.8s
M04C Macdoel 51.39 69 P **P 15 00 21.9 +1.6**
baz=310
N02D Trinity Center 51.41 70 P **P 15 00 22.4 +2.0**
baz=311
QIZ Qiongzhong 51.53 250 P **P 15 00 20.8 -0.6**
QIZ S **S 15 07 39.6 -0.4**
QIZ sS sS 15 08 00.0 +6.8
QIZ pmax pmax
comp=Z,19nm,1.4s
QIZ pmax pmax
comp=Z,600nm,4.5s
QIZ LR LR
comp=Z,3μm,15.7s
QIZ LR LR
comp=Z,3μm,13.7s
QIZ LR LR
comp=Z,3μm,17.7s
QIZ Qiongzhong 51.53 250 PFAKE 15 00 30.0 +8.6
QIZ LR LR
comp=Z,400nm,20.0s
WDC Whiskeytown Da 51.76 71 *eP* **P 15 00 22.7 -0.2**
comp=Z,14nm,0.8s
WDC Whiskeytown Da 51.76 71 *eP* **P 15 00 22.7 -0.2**
WDC pmax pmax
comp=Z,14nm,0.8s
O02D Mt. Diablo Mer 51.88 71 P **P 15 00 26.0 +2.1**
baz=311
TARA Tarawa 51.91 164 PFAKE 15 00 40.0 +16
TARA LR LR
comp=Z,153nm,20.0s
BMO Blue Mountains 51.96 63 *eP* **P 15 00 24.4 -0.1**
comp=Z,27nm,1.3s
BMO LR LR
comp=Z,2μm,22.0s
BMO Blue Mountains 51.96 63 *eP* **P 15 00 24.4 -0.1**
BMO pmax pmax
comp=Z,27nm,1.3s
BMO MLR MLR
comp=Z,2μm,22.0s
MOD Modoc Plateau 52.18 68 *eP* **P 15 00 26.6 +0.3**
comp=Z,18nm,0.7s
J08A Circle Bar Ran 52.27 66 *eP* **P 15 00 27.7 +0.8**
O03E Paynes Creek 52.37 71 P **P 15 00 29.0 +1.4**
baz=311,SNR=13
MSO Missoula 52.51 60 *eP* **P 15 00 29.3 +0.8**
comp=Z,31nm,1.0s
MSO Missoula 52.51 60 P **P 15 00 29.6 +1.0**
baz=310,SNR=5.3
PLID Pearl Lake 52.52 62 *eP* **P 15 00 29.2 +0.4**
comp=Z,15nm,0.8s
WVOR Wild Horse Val 52.78 67 *eP* **P 15 00 31.1 +0.5**
comp=Z,34nm,1.1s
WVOR LR LR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 52.78 67 *eP* **P 15 00 31.1 +0.5**
WVOR pmax pmax
comp=Z,34nm,1.1s
WVOR MLR MLR
comp=Z,1μm,20.0s
ORV Oroville 53.03 71 *eP* **P 15 00 32.2 -0.2**
comp=Z,18nm,0.8s
ORV Oroville 53.03 71 *eP* **P 15 00 32.2 -0.2**
ORV pmax pmax
comp=Z,18nm,0.8s
SLVN Son La 53.22 257 *eP* **P 15 00 34.0 0.0**
comp=Z,56nm,1.2s
FFC Flin Flon 53.23 46 *eP* **P 15 00 33.5 -0.1**
comp=Z,51nm,1.0s
FFC LR LR
comp=Z,1μm,20.0s
FFC Flin Flon 53.23 46 *eP* **P 15 00 33.5 -0.1**
FFC pmax pmax
comp=Z,51nm,1.0s
FFC MLR MLR
comp=Z,1μm,20.0s
HAMF Hammerfest 53.42 344 *eP* **P 15 00 33.6 -1.1**
LVZ Lovozero 53.46 338 *eP* **P 15 00 33.8 -1.3**
comp=Z,57nm,0.8s
LVZ LR LR
comp=Z,2μm,21.0s
LVZ Lovozero 53.46 338*d i P* **P 15 00 34.3 -0.8**
LVZ pmax pmax
comp=Z,44nm,0.7s
BEKR Beckworth 53.49 70 *eP* **P 15 00 36.6 +0.7**
comp=Z,31nm,0.9s
DAV Davao City (W) 53.56 225 PFAKE 15 00 50.0 +14
DAV LR LR
comp=Z,679nm,21.0s
KEV Kevo 53.57 342 *eP* **P 15 00 35.9 +0.1**
comp=Z,26nm,0.7s
KEV LR LR
comp=Z,3μm,19.0s
KEV Kevo 53.57 342 *eP* **P 15 00 35.9 +0.1**
KEV pmax pmax
comp=Z,26nm,0.7s
KEV MLR MLR
comp=Z,3μm,19.0s
HRY Holter Researc 53.70 59 *eP* **P 15 00 36.2 -1.1**
AFDM Forest Hills D 53.74 71 *eP* **P 15 00 38.0 +0.4**
comp=Z,24nm,1.2s
FCC Fort Churchill 53.78 39 *eP* **P 15 00 36.7 -0.8**
comp=Z,225nm,1.4s
FCC Fort Churchill 53.78 39 *eP* **P 15 00 36.7 -0.8**
FCC pmax pmax
comp=Z,225nm,1.4s
EGMT Eagleton 53.91 56 *eP* **P 15 00 39.0 +0.2**
comp=Z,38nm,0.8s
EGMT LR LR
comp=Z,2μm,20.0s
EGMT Eagleton 53.91 56 P **P 15 00 39.6 +0.8**
baz=311
APA Apatity 54.01 338⇑ *i P* **P 15 00 37.3 -1.8**
APA pmax pmax
comp=Z,19nm,0.6s
APA MLR MLR
comp=Z,5μm,17.0s
ARCES ARCESS Array B 54.04 342 *eP* **P 15 00 37.9 -1.4**
ARCES ARCESS Array B 54.04 342 *eP* **P 15 00 37.9 -1.4**
ARCES ARCESS Array B 54.04 342 P **P 15 00 38.6 -0.7**
comp=Z,40nm,0.8s,baz=40,slow=7.9,SNR=53
ARCES LR LR 15 30 30.4
comp=Z,2μm,18.0s,baz=34,slow=44
ARE0 ARCESS Array S 54.04 342 *eP* **P 15 00 38.0 -1.3**
comp=Z,2.3nm,0.9s
ARE0 ARCESS Array S 54.04 342 *eP* **P 15 00 39.0 -0.4**
ARU Arti 54.14 318 *eP* **P 15 00 39.4 -0.8**
comp=Z,32nm,0.7s
ARU LR LR
comp=Z,3μm,20.0s
ARU Arti 54.14 318*d i P* **P 15 00 39.9 -0.3**
ARU *PP **pwP 15 00 50.9 -0.1**
ARU 15 01 46.2
ARU S **S 15 08 11.9 -2.8**
ARU sS **SS 15 11 53.2 -2.5**
ARU pmax pmax
comp=Z,29nm,0.7s
ARU MLR MLR
comp=Z,5μm,15.0s
ARU Arti 54.14 318 P **P 15 00 40.2 0.0**
comp=Z,12nm,0.5s,baz=349,slow=3.6,SNR=12
PAHR Pah Rah Range 54.15 70 *eP* **P 15 00 41.2 +0.4**
comp=Z,38nm,0.8s
HLID Hailey 54.38 63 *eP* **P 15 00 42.2 -0.2**
comp=Z,12nm,1.0s
HLID LR LR
comp=Z,2μm,22.0s
HLID Hailey 54.38 63 P **P 15 00 43.1 +0.7**
baz=312,SNR=11
PNTR Pine Nut 54.44 70 *eP* **P 15 00 43.5 +0.6**
comp=Z,31nm,0.8s
BOZ Bozeman (W) 54.53 59 PFAKE 15 01 00.0 +17
BOZ LR LR
comp=Z,1μm,21.0s
SUMG Summit 54.59 7 *eP* **P 15 00 43.2 -0.6**
comp=Z,83nm,0.9s
SUMG Summit 54.59 7 *eP* **P 15 00 43.2 -0.6**
SUMG pmax pmax
comp=Z,83nm,0.9s
SUMG Summit 54.59 7 *i P* **P 15 00 43.9 +0.2**
CMB Columbia Colle 54.70 72 *eP* **P 15 00 45.1 +0.5**
comp=Z,67nm,1.0s
CMB Columbia Colle 54.70 72 *eP* **P 15 00 45.1 +0.5**
CMB pmax pmax
comp=Z,67nm,1.0s
YERR Yerington 54.72 70 *eP* **P 15 00 44.2 -0.7**
comp=Z,48nm,0.9s
LSA Lhasa 54.83 274 *eP* **P 15 00 46.3 +0.1**
comp=Z,20nm,0.9s
LSA LR LR
comp=Z,9μm,19.0s
LSA Lhasa 54.83 274 *eP* **P 15 00 46.3 +0.1**
LSA pmax pmax
comp=Z,20nm,0.9s
LSA MLR MLR
comp=Z,9μm,19.0s
BMN Battle Mountai 54.90 68 *eP* **P 15 00 47.3 +1.1**
comp=Z,29nm,0.8s
BMN Battle Mountai 54.90 68 *eP* **P 15 00 47.3 +1.1**
BMN pmax pmax
comp=Z,29nm,0.8s
KTK1 Kautokeino 54.91 343 *eP* **P 15 00 45.6 0.0**
WAKR Walker 54.93 71 *eP* **P 15 00 47.3 +0.8**
comp=Z,22nm,0.9s
TRO Tromso 55.10 345 *eP* **P 15 00 46.8 -0.2**
QLMT Earthquake Lak 55.15 60 *eP* **P 15 00 47.4 -0.5**
PRGR Permogore 55.20 326⇓ *i P* **P 15 00 47.6 -0.2**
PRGR *e**PP **pwP 15 01 00.5 +0.8**
PRGR *e* 15 01 44.7
PRGR pmax pmax
comp=Z,88nm,0.7s
KVN Kaiserville 55.33 69 *eP* **P 15 00 49.6 +0.3**
comp=Z,50nm,0.7s
KVN Kaiserville 55.33 69 *eP* **P 15 00 49.6 +0.3**
KVN pmax pmax
comp=Z,50nm,0.7s
RYN Ryan 55.37 70 *eP* **P 15 00 49.6 0.0**
comp=Z,26nm,1.0s
MANU Manus Island 55.42 196 *eP* **P 15 00 51.1 +1.3**
comp=Z,45nm,0.8s
GCMT Greycliff 55.43 58 *eP* **P 15 00 50.5 +0.6**
TMCR Tamitsa 55.54 333 *eP* **P 15 00 49.5 -0.7**
TMCR pmax pmax
comp=Z,157nm,0.8s
YNR Norris Junctio 55.62 60 *eP* **P 15 00 50.5 -0.9**
comp=Z,21nm,1.2s
NVAR Mina Array Bea 55.63 70 *eP* **P 15 00 51.0 -0.6**
NVAR Mina Array Bea 55.63 70 P **P 15 00 51.9 +0.3**
comp=Z,8.5nm,0.9s,baz=296,slow=7.0,SNR=34
AAK Ala-Archa 55.70 297 PFAKE 15 01 00.0 +8.1
AAK LR LR
comp=Z,4μm,19.0s
AAK Ala-Archa 55.70 297*c i P* **P 15 00 51.3 -0.6**
AAK pmax pmax
comp=Z,21nm,0.8s
YFT Old Faithful 55.71 60 *eP* **P 15 00 52.9 +0.8**
comp=Z,26nm,0.9s
NV11 Mina Array Sit 55.72 70 *eP* **P 15 00 52.5 +0.4**
comp=Z,1.4nm,0.8s
MDPB Devils Postpil 55.73 71 *eP* **P 15 00 52.8 +0.4**
comp=Z,19nm,1.1s
ELK Elko 55.81 66 *eP* **P 15 00 52.7 -0.1**
comp=Z,16nm,0.9s
ELK Elko 55.81 66 *eP* **P 15 00 52.7 -0.1**
ELK pmax pmax
comp=Z,16nm,0.9s
LKWY Lake 55.87 60 *eP* **P 15 00 53.0 -0.2**
comp=Z,27nm,1.0s
LKWY LR LR
comp=Z,2μm,21.0s
LKWY Lake 55.87 60 *eP* **P 15 00 53.0 -0.2**
LKWY pmax pmax
comp=Z,27nm,1.0s
LKWY MLR MLR
comp=Z,2μm,21.0s
H17A Grant Village 55.89 60 P **P 15 00 56.0 +2.6**
baz=313,SNR=8.9
FLWY Flagg Ranch 56.03 60 *eP* **P 15 00 54.1 -0.2**
comp=Z,25nm,1.0s
RLMT Red Lodge 56.09 59 *eP* **P 15 00 55.1 +0.3**
comp=Z,21nm,0.8s
RLMT LR LR
comp=Z,1μm,20.0s
RLMT Red Lodge 56.09 59 P **P 15 00 56.1 +1.4**
baz=313,SNR=14
DGMT Dagmar 56.38 53 PFAKE 15 01 10.0 +13
DGMT LR LR
comp=Z,1μm,20.0s
LOHW Long Hollow 56.40 61 *eP* **P 15 00 57.1 +0.1**
comp=Z,41nm,1.6s
ILULI Ilulissat 56.46 13 *eP* **P 15 00 56.2 -0.5**
comp=Z,57nm,1.0s
ILULI Ilulissat 56.46 13 *eP* **P 15 00 56.2 -0.5**
ILULI pmax pmax
comp=Z,57nm,1.0s
ILULI Ilulissat 56.46 13 *i P* **P 15 00 57.0 +0.3**
HVU Hansel Valley 56.47 64 *eP* **P 15 00 57.5 +0.1**
comp=Z,19nm,1.0s
HVU Hansel Valley 56.47 64 *eP* **P 15 00 57.5 +0.1**
HVU pmax pmax
comp=Z,19nm,1.0s
LAO LASA Array 56.59 55 *eP* **P 15 00 57.8 -0.3**
comp=Z,35nm,1.0s
LAO LR LR
comp=Z,2μm,19.0s
LAO LASA Array 56.59 55 P **P 15 00 58.7 +0.6**
baz=313
TIN Tinemaha, Big 56.62 71 P **P 15 00 59.4 +0.9**
baz=314
AHID Auburn Hatcher 56.71 62 *eP* **P 15 00 59.7 +0.5**
comp=Z,45nm,1.3s
AHID LR LR
comp=Z,2μm,22.0s
BGU Big Grassy Mou 56.91 64 *eP* **P 15 01 00.7 +0.1**
comp=Z,11nm,0.8s
VES Vestal, Richgr 56.96 73 P **P 15 01 02.5 +1.8**
baz=314
SPUT South Promonto 56.97 64 *eP* **P 15 01 01.6 +0.6**
comp=Z,24nm,0.9s
KSH Kashi 57.00 293 P **P 15 01 04.8 +3.6**
KSH PP **PP 15 03 11.8 +4.2**
KSH S **S 15 08 55.5 +1.9**
KSH SS **SS 15 12 43.5 +1.8**
KSH pmax pmax
comp=Z,37nm,1.0s
KSH pmax pmax
comp=Z,740nm,4.6s
KSH LR LR
comp=Z,2μm,10.7s
KSH LR LR
comp=Z,2μm,10.2s
CWC Cottonwood Cre 57.13 72 P **P 15 01 03.9 +1.7**
baz=314
GRAC Grapevine Rang 57.16 71 P **P 15 01 04.1 +1.9**
baz=314
STEI Steigen 57.23 345 *eP* **P 15 01 01.4 -0.7**
R11A Troy Canyon, C 57.25 68 *eP* **P 15 01 02.5 -0.6**
comp=Z,19nm,0.6s
R11A Troy Canyon, C 57.25 68 P **P 15 01 04.1 +1.1**
baz=314,SNR=17
HWUT Hardware Ranch 57.25 63 *eP* **P 15 01 03.5 +0.5**
comp=Z,24nm,0.9s
HWUT LR LR
comp=Z,830nm,20.0s
LOF Lofoten 57.30 346 *eP* **P 15 01 02.8 +0.1**
SHL Shillong 57.36 270 *eP* **P 15 01 03.8 -0.1**
comp=Z,27nm,0.8s
SHL Shillong 57.36 270 *eP* **P 15 01 03.8 -0.1**
SHL pmax pmax
comp=Z,27nm,0.8s
SHL Shillong 57.36 270 *eP* **P 15 01 03.9 -0.1**
SHL IAmb IAmb 15 01 06.3
comp=Z,44nm,1.4s
SCO Scoresbysund 57.39 1 *i P* **P 15 01 05.3 +2.0**
SCO MLR MLR
comp=Z,3μm,17.0s
SCO Scoresbysund 57.39 1 *i P* **P 15 01 05.3 +2.0**
ISA Isabella, Lake 57.44 73 *eP* **P 15 01 04.1 -0.2**
comp=Z,9.1nm,0.8s
ISA Isabella, Lake 57.44 73 *eP* **P 15 01 04.1 -0.2**
ISA pmax pmax
comp=Z,9.0nm,0.8s
ISA Isabella, Lake 57.44 73 P **P 15 01 05.3 +1.0**
baz=314
DAC Darwin (Calif) 57.52 71 *eP* **P 15 01 06.1 +1.1**
comp=Z,25nm,1.3s
DUG Dugway, Tooele 57.53 65 *eP* **P 15 01 05.7 +0.7**
comp=Z,33nm,0.8s
DUG LR LR
comp=Z,971nm,20.0s
DUG Dugway, Tooele 57.53 65 *eP* **P 15 01 05.7 +0.7**
DUG pmax pmax
comp=Z,33nm,0.8s
DUG MLR MLR
comp=Z,971nm,20.0s
DUG Dugway, Tooele 57.53 65 P **P 15 01 06.6 +1.6**
baz=314,SNR=16
BW06 Boulder Array 57.54 61 PFAKE 15 01 20.0 +15
BW06 LR LR
comp=Z,1μm,21.0s
BW06 Boulder Array 57.54 61 P **P 15 01 05.9 +0.8**
baz=314
PD31 Pinedale Array 57.54 61 *eP* **P 15 01 05.0 -0.1**
comp=Z,33nm,0.9s
PDAR Pinedale Array 57.54 61 *eP* **P 15 01 04.7 -0.4**
PDAR Pinedale Array 57.54 61 P **P 15 01 05.2 +0.2**
comp=Z,6.5nm,0.8s,baz=323,slow=2.2,SNR=38
PDAR LR LR 15 23 01.8
comp=Z,868nm,21.7s,baz=334,slow=33
TCUT Toone Canyon 57.67 63 *eP* **P 15 01 06.8 +0.7**
comp=Z,52nm,0.8s
KLMR Klimovskoe 57.71 330 *eP* **P 15 01 03.8 -1.9**
KLMR pmax pmax
comp=Z,117nm,1.3s
MPMC Manual Prospec 57.74 72 P **P 15 01 07.9 +1.4**
baz=314,SNR=7.9
CTU Camp Tracy 57.78 64 *eP* **P 15 01 07.7 +1.0**
comp=Z,20nm,1.0s
FURC Furnace Creek, 57.81 71 P **P 15 01 08.5 +1.7**
baz=314,SNR=9.3
TPNV Topopah Spring 57.84 70 *eP* **P 15 01 08.0 +0.8**
comp=Z,41nm,0.8s
TPNV Topopah Spring 57.84 70 P **P 15 01 08.3 +1.2**
baz=314,SNR=11
JLU Jordanelle 58.01 64 *eP* **P 15 01 08.2 -0.3**
comp=Z,14nm,0.7s
LRMC Laurel Mtn Rad 58.03 72 P **P 15 01 09.0 +0.6**
baz=315
PSUT Pine Spring 58.10 67 *eP* **P 15 01 09.2 +0.2**
comp=Z,23nm,0.8s
NLU North Lily Min 58.11 65 *eP* **P 15 01 09.6 +0.5**
comp=Z,30nm,0.8s
CHTO Chiang Mai 58.12 259 PFAKE 15 01 20.0 +11
CHTO LR LR
comp=Z,3μm,19.0s
BLG Laguna Peak, P 58.18 74 P **P 15 01 10.1 +0.7**
baz=315
EDW2 Edwards Air Fo 58.26 73 P **P 15 01 11.3 +1.2**
baz=315,SNR=6.2
MPU Maple Canyon 58.31 64 *eP* **P 15 01 11.1 +0.6**
comp=Z,35nm,0.6s
CM31 Chiang Mai Arr 58.40 259 *eP* **P 15 01 10.9 -0.2**
comp=Z,41nm,0.9s
CMAR Chiang Mai Arr 58.40 259 *eP* **P 15 01 11.2 +0.1**
CMAR Chiang Mai Arr 58.40 259 *i P* **P 15 01 12.0 +0.9**
CMAR pmax pmax
comp=Z,24nm,0.8s
CMAR Chiang Mai Arr 58.40 259 P **P 15 01 12.2 +1.1**
comp=Z,23nm,0.8s,baz=27,slow=6.6,SNR=23
CMAR LR LR 15 29 33.0
comp=Z,4μm,19.4s,baz=52,slow=39
SHOC Shoshone, Teco 58.55 71 P **P 15 01 13.7 +1.7**
baz=315
SFJD Kangerlussuaq 58.59 14 *eP* **P 15 01 11.2 -0.5**
comp=Z,36nm,0.6s
SFJD LR LR
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 58.59 14 *eP* **P 15 01 11.2 -0.5**
SFJD pmax pmax
comp=Z,36nm,0.6s
SFJD MLR MLR
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 58.59 14 *i P* **P 15 01 12.7 +1.0**
GSC Goldstone, Bar 58.66 72 *eP* **P 15 01 13.5 +0.6**
comp=Z,11nm,0.6s
GSC Goldstone, Bar 58.66 72 *eP* **P 15 01 13.5 +0.6**
GSC pmax pmax
comp=Z,11nm,0.6s
GSC Goldstone, Bar 58.66 72 P **P 15 01 14.0 +1.1**
baz=315,SNR=6.6
BFSC Mount Baldy Ra 58.91 73 P **P 15 01 15.8 +1.1**
baz=315
ULM Lac du Bonnet 59.02 47 *eP* **P 15 01 14.7 -0.3**
comp=Z,32nm,0.6s
ULM Lac du Bonnet 59.02 47 P **P 15 01 14.6 -0.4**
comp=Z,4.4nm,0.7s,baz=313,slow=6.0,SNR=4.7
ULM LR LR 15 28 50.5
comp=Z,2μm,18.8s,baz=316,slow=38
TMUT Trail Mountain 59.05 65 *eP* **P 15 01 14.9 -0.9**
comp=Z,28nm,0.7s
MSU Marysvale 59.06 66 *eP* **P 15 01 15.2 -0.5**
MSU Marysvale 59.06 66 *eP* **P 15 01 15.2 -0.5**
CCUT Cedar City 59.06 68 *eP* **P 15 01 15.5 -0.3**
comp=Z,17nm,0.9s
TUQ Turquoise Moun 59.08 71 P **P 15 01 16.8 +1.0**
baz=315,SNR=7.6
P17A Butcher Ranch, 59.18 64 *eP* **P 15 01 16.3 -0.2**
comp=Z,67nm,1.3s
SZCU Shurtz Canyon 59.19 67 *eP* **P 15 01 16.1 -0.5**
comp=Z,14nm,0.8s
K22A Casper 59.23 59 P **P 15 01 17.1 +0.4**
baz=315
HEC Hector,Ludlow 59.27 72 P **P 15 01 18.0 +0.9**
baz=315,SNR=9.5
Q16A Castle Valley 59.33 65 *eP* **P 15 01 17.6 0.0**
comp=Z,54nm,1.6s
MTPU Mount Pierson 59.38 66 *eP* **P 15 01 18.4 +0.3**
comp=Z,19nm,0.7s
RSSD Black Hills 59.48 56 *eP* **P 15 01 17.9 -0.7**
comp=Z,27nm,0.8s
RSSD Black Hills 59.48 56 *eP* **P 15 01 17.9 -0.7**
RSSD pmax pmax
comp=Z,27nm,0.8s
RSSD Black Hills 59.48 56 P **P 15 01 18.5 -0.1**
baz=315
LCMT Little Creek M 59.51 68 *eP* **P 15 01 18.6 -0.2**
comp=Z,17nm,0.8s
RWWY Rawlins 59.54 60 *eP* **P 15 01 19.4 +0.3**
comp=Z,48nm,0.9s
SRU San Rafael Swe 59.56 64 *eP* **P 15 01 19.2 +0.1**
comp=Z,44nm,0.8s
MURC Murrieta 59.64 73 P **P 15 01 20.6 +1.0**
baz=316
GMRC Granite Mounta 59.69 71 P **P 15 01 21.2 +1.1**
baz=316,SNR=14
PKCU Pink Cliffs 59.73 67 *eP* **P 15 01 19.6 -0.9**
comp=Z,30nm,0.9s
KNB Kanab 59.74 68 *eP* **P 15 01 21.3 +0.9**
comp=Z,20nm,0.9s
LDFC Landfair 59.80 71 *eP* **P 15 01 19.6 -1.2**
comp=Z,38nm,0.8s
BELC Belle Mtn. Jos 60.05 72 P **P 15 01 23.4 +0.8**
baz=316
PFO Pinyon Flats O 60.06 73 *eP* **P 15 01 22.3 -0.2**
comp=Z,10.0nm,1.0s
PFO LR LR
comp=Z,2μm,22.0s
PFO Pinyon Flats O 60.06 73 P **P 15 01 23.8 +1.2**
baz=316
O20A White River Ci 60.08 62 *eP* **P 15 01 22.8 +0.1**
comp=Z,26nm,0.8s
O20A White River Ci 60.08 62 P **P 15 01 23.6 +0.9**
baz=315
NEE2 Needles Airpor 60.31 71 P **P 15 01 25.8 +1.7**
baz=316
IRM Iron Mountain 60.44 72 P **P 15 01 26.4 +1.3**
baz=316,SNR=10
AGMN Agassiz Nation 60.44 48 PFAKE 15 01 40.0 +15
AGMN LR LR
comp=Z,1μm,20.0s
AGMN Agassiz Nation 60.44 48 P **P 15 01 24.6 -0.3**
baz=317
U15A North Rim 60.46 68 *eP* **P 15 01 25.6 +0.2**
comp=Z,46nm,0.8s
W13A Hualapai Mount 60.49 70 *eP* **P 15 01 25.1 -0.5**
comp=Z,12nm,0.7s
MONP2 Monument Peak 60.59 73 P **P 15 01 27.9 +1.5**
baz=316
BC3 Big Chuckawall 60.62 72 P **P 15 01 27.0 +0.7**
baz=316,SNR=5.6
PV09 Paradox Valley 60.76 64 *eP* **P 15 01 27.8 +0.3**
N23A Red Feather La 60.78 60 *eP* **P 15 01 27.3 -0.3**

comp=Z,22nm,1.0s
N23A Red Feather La 60.78 60 P **P** 15 01 28.0 +0.4
baz=316
PV21 Cone Mtn., Par 60.80 64 *e*P **P** 15 01 27.8 +0.1
comp=Z,46nm,0.8s
PV23 Carpenter Ridg 60.86 64 *e*P **P** 15 01 28.8 +0.7
comp=Z,58nm,1.0s
FIA1 FINESS Array S 60.88 337 *e*P **P** 15 01 27.2 -0.4
comp=Z,113nm,1.1s
FINES FINESS Array B 60.88 337 *e*P **P** 15 01 26.6 -1.0
FINES FINESS Array B 60.88 337 *e*P **P** 15 01 26.6 -1.0
FINES FINESS Array B 60.88 337 P **P** 15 01 27.3 -0.2
comp=Z,24nm,0.5s,baz=30,slow=8.6,SNR=69
FINES LR LR 15 31 42.4
comp=Z,3μm,19.3s,baz=32,slow=40
NSS Namsos 60.89 345 *e*P **P** 15 01 28.6 +1.0
PV14 Lion Creek, Pa 60.91 64 *e*P **P** 15 01 29.0 +0.5
comp=Z,108nm,1.3s
PDMCI Parker Dam,Lak 60.91 71 P **P** 15 01 29.4 +1.2
baz=316
PV22 Blue Mesa, Par 60.92 64 *e*P **P** 15 01 29.1 +0.6
comp=Z,42nm,0.8s
SWSC Sam W. Stewart 60.92 73 P **P** 15 01 29.4 +1.1
baz=316
IKP In-Ko-Pah, Jac 60.95 73 P **P** 15 01 29.8 +1.2
baz=316
PV04 Paradox Valley 60.96 64 *e*P **P** 15 01 28.6 -0.1
comp=Z,28nm,0.8s
PV20 West Nyswonger 60.96 64 *e*P **P** 15 01 28.6 -0.1
comp=Z,32nm,0.8s
PV19 Morning Glory 60.97 64 *e*P **P** 15 01 29.0 +0.1
comp=Z,49nm,0.8s
PV17 East Wray Mesa 61.01 64 *e*P **P** 15 01 29.0 -0.1
comp=Z,54nm,0.7s
PV16 Nyswonger Mesa 61.01 64 *e*P **P** 15 01 28.9 -0.2
comp=Z,50nm,1.1s
PV11 David Mesa, Pa 61.04 64 *e*P **P** 15 01 29.8 +0.5
comp=Z,95nm,1.2s
PV18 Skein Mesa, Pa 61.06 64 *e*P **P** 15 01 29.2 -0.2
comp=Z,27nm,0.8s
PV07 Paradox Valley 61.07 64 *e*P **P** 15 01 29.8 +0.3
comp=Z,16nm,0.8s
PV12 Saucer Basin, 61.07 64 *e*P **P** 15 01 30.0 +0.5
comp=Z,38nm,1.0s
PV05 Paradox Valley 61.07 64 *e*P **P** 15 01 29.4 -0.1
comp=Z,82nm,1.2s
PV03 Paradox Valley 61.09 64 *e*P **P** 15 01 29.9 +0.2
comp=Z,25nm,0.7s
Y12C Blythe 61.09 71 *e*P **P** 15 01 29.6 +0.1
comp=Z,41nm,1.3s
Y12C Blythe 61.09 71 P **P** 15 01 31.2 +1.8
baz=316
PV13 Radium Mtn., P 61.17 64 *e*P **P** 15 01 30.3 +0.1
comp=Z,26nm,0.7s
PV02 Paradox Valley 61.18 64 *e*P **P** 15 01 30.0 -0.3
PUL Pulkovo 61.24 334 *e*P **P** 15 01 28.8 -1.2
PV01 Paradox Valley 61.33 64 *e*P **P** 15 01 31.4 +0.1
comp=Z,34nm,1.2s
GLA Glamis 61.41 72 *e*P **P** 15 01 31.5 -0.2
comp=Z,19nm,0.9s
GLA Glamis 61.41 72 *e*P **P** 15 01 31.5 -0.2
GLA pmax pmax
comp=Z,19nm,0.9s
GLA Glamis 61.41 72 P **P** 15 01 33.1 +1.4
baz=316
SMCO Snowmass 61.45 62 *e*P **P** 15 01 32.0 -0.3
comp=Z,24nm,0.8s
HNR Honiara 61.61 181 PFAKE 15 01 50.0 +17
HNR LR LR
comp=Z,2μm,19.0s
WUAZ Wupatki 61.63 68 *e*P **P** 15 01 33.3 0.0
comp=Z,35nm,1.0s
WUAZ LR LR
comp=Z,2μm,22.0s
WUAZ Wupatki 61.63 68 P **P** 15 01 35.0 +1.7
baz=316,SNR=9.2
ISCO Idaho Springs 61.74 61 *e*P **P** 15 01 35.1 +1.1
comp=Z,22nm,1.0s
ISCO LR LR
comp=Z,1μm,20.0s
ISCO Idaho Springs 61.74 61 *e*P **P** 15 01 35.2 +1.1
ISCO pmax pmax
comp=Z,22nm,1.0s
ISCO MLR MLR
comp=Z,1μm,20.0s
ISCO Idaho Springs 61.74 61 P **P** 15 01 35.5 +1.4
baz=316,SNR=13
Y14A Wickenburg 61.83 70 *e*P **P** 15 01 34.4 -0.2
comp=Z,57nm,1.5s
DHRM DHARAMSHALA 61.93 287 *e*P **P** 15 01 33.6 -1.8
MVCO Mesa Verde 62.03 65 *e*P **P** 15 01 36.4 +0.4
comp=Z,23nm,0.7s
MVCO LR LR
comp=Z,1μm,20.0s
MVCO Mesa Verde 62.03 65 P **P** 15 01 37.0 +0.9
baz=316,SNR=5.8
SMLA Simla 62.23 286 *e*P **P** 15 01 35.1 -2.0
113A Mohawk Valley, 62.23 72 *e*P **P** 15 01 38.0 +0.9
comp=Z,9.2nm,0.9s
DDI Dehra Dun 62.29 284 *e*P **P** 15 01 37.7 0.0
BOK Bokaro 62.34 274 *ex* **P** 15 01 33.6 -4.3
BOK IAmb IAmb 15 01 34.4
comp=Z,12nm,1.0s
X16A Lo Mia Camp, P 62.38 69 *e*P **P** 15 01 38.4 0.0
comp=Z,19nm,0.9s
MOS Moscow 62.42 328 *e*P **P** 15 01 36.6 -1.4
MOS *e**PP **sP** 15 01 46.7 -2.0
MOS *e*S **S** 15 09 58.5 -4.1
MOS *e*SSS SSS 15 16 44.2
MOS pmax pmax
comp=Z,96nm,1.2s
MOS pmax pmax
comp=Z,400nm,2.4s
MOS smax smax
comp=E,800nm,4.1s
MOS MLR MLR
comp=N,3μm,17.0s
MOS MLR MLR
comp=E,2μm,17.0s
MOS MLR MLR
comp=Z,4μm,17.0s
S22A 4UR Ranch, Cre 62.56 63 *e*P **P** 15 01 40.6 +0.9
comp=Z,22nm,0.9s
S22A 4UR Ranch, Cre 62.56 63 P **P** 15 01 41.0 +1.4
baz=317,SNR=14
PMG Port Moresby 62.66 195 PFAKE 15 01 50.0 +10
PMG LR LR
comp=Z,1μm,19.0s
EYMN Ely 62.67 46 PFAKE 15 01 50.0 +10
EYMN LR LR
comp=Z,2μm,20.0s
NIL Nilore 62.69 290 PFAKE 15 01 50.0 +10
NIL LR LR
comp=Z,2μm,19.0s
FUNA Funafuti 62.74 159 PFAKE 15 01 50.0 +9.4
FUNA LR LR
comp=Z,6μm,19.0s
OGNE Ogallala 62.79 58 PFAKE 15 01 50.0 +9.1
OGNE LR LR
comp=Z,1μm,19.0s
W18A Petrified Fore 62.85 67 *e*P **P** 15 01 42.0 +0.5
comp=Z,20nm,1.1s
W18A Petrified Fore 62.85 67 P **P** 15 01 43.0 +1.6
baz=317
X18A Snowflake 63.15 68 *e*P **P** 15 01 43.9 +0.4
comp=Z,15nm,0.9s
BORG Borgarnes 63.16 1 PFAKE 15 01 50.0 +7.2
BORG LR LR
comp=Z,581nm,19.0s
OBN Obninsk 63.28 328 P **P** 15 01 42.4 -1.3
OBN LR LR
comp=Z,2μm,20.0s
OBN Obninsk 63.28 328 || *i*P **P** 15 01 42.1 -1.6
OBN *i* *PP **pwP** 15 01 55.2 -0.4
OBN *e* 15 04 08.9
OBN *e*S **S** 15 10 13.6 +0.2
OBN *i* PS **PnS** 15 10 25.8 -5.8
OBN SSS SSS 15 17 04.0
OBN pmax pmax
comp=Z,169nm,1.7s
OBN MLR MLR
comp=Z,3μm,16.0s
OBN Obninsk 63.28 328 P **P** 15 01 42.4 -1.3
comp=Z,8.4nm,0.4s,baz=31,slow=6.6,SNR=15
SDCO Great Sand Dun 63.28 62 *e*P **P** 15 01 43.6 -0.8
comp=Z,13nm,0.9s
SDCO LR LR
comp=Z,1μm,22.0s
SDCO Great Sand Dun 63.28 62 P **P** 15 01 45.1 +0.7
baz=317,SNR=9.4
VSU Vasula 63.31 335 *ce*P **P** 15 01 43.5 -0.4
VSU pmax pmax
comp=Z,187nm,0.7s
VSU Vasula 63.31 335 *e*P **P** 15 01 43.3 -0.6
VSU IAmb IAmb 15 01 47.0
comp=Z,202nm,0.7s
214A Organ Pipe Nat 63.38 72 P **P** 15 01 46.0 +1.2
baz=317,SNR=7.9
MOL Molde 63.41 346 *e*P **P** 15 01 46.1 +1.6
ECSD EROS Data Cent 63.45 52 PFAKE 15 02 00.0 +15
ECSD LR LR
comp=Z,2μm,19.0s
ECSD EROS Data Cent 63.45 52 P **P** 15 01 44.7 -0.5
baz=318,SNR=7.6
E38A The Farm, Brul 63.66 47 P **P** 15 01 46.3 -0.1
baz=320
DOMB Dombas 63.69 346 *e*P **P** 15 01 47.7 +1.2
F37A Hinrichs Farm, 63.84 48 P **P** 15 01 47.4 -0.2
baz=319
AKN Aaknes 63.86 347 *e*P **P** 15 01 48.3 +0.7
SBUM Sibu 63.94 236 *e*P **P** 15 01 48.8 +0.2
comp=Z,28nm,1.5s
F38A Pierce - Schro 64.00 48 P **P** 15 01 48.5 -0.2
baz=320
NC303 NORSAR Array S 64.09 344 *e*P **P** 15 01 48.5 -0.6
comp=Z,44nm,0.9s
SPMN Marine on St. 64.13 49 P **P** 15 01 49.4 -0.2
baz=320
NC405 NORSAR Array S 64.14 344 *e*P **P** 15 01 49.0 -0.4
comp=Z,51nm,0.9s
NC204 NORSAR Array S 64.14 344 *e*P **P** 15 01 48.9 -0.5
comp=Z,62nm,0.8s
NB201 NORSAR Array S 64.27 344 *e*P **P** 15 01 49.5 -0.7
comp=Z,67nm,0.9s
E39A Mellen 64.28 47 P **P** 15 01 50.0 -0.5
baz=320
NB2 NORSAR Subarra 64.29 344 P **P** 15 01 50.4 0.0
comp=Z,26nm,0.8s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.29 344 P **P** 15 01 50.4 0.0
baz=22,slow=6.9
NOA NORSAR Array B 64.29 344 P **P** 15 01 49.2 -1.2
comp=Z,16nm,0.7s,baz=21,slow=6.6,SNR=67
TUC Tucson 64.29 70 *e*P **P** 15 01 52.1 +1.2
comp=Z,16nm,1.3s
TUC LR LR
comp=Z,924nm,22.0s
TUC Tucson 64.29 70 P **P** 15 01 52.6 +1.7
baz=318
T25A Trinidad 64.32 62 *e*P **P** 15 01 51.6 +0.4
comp=Z,28nm,0.7s
T25A Trinidad 64.32 62 P **P** 15 01 52.2 +1.0
baz=318
NBO00 NORSAR Array S 64.37 344 *e*P **P** 15 01 49.9 -1.0
comp=Z,152nm,1.6s
IVI Ivigtut 64.41 15 *e*P **P** 15 01 49.8 -1.3
comp=Z,56nm,0.7s
KBL Kabul 64.42 294 *e*P **P** 15 01 49.8 -2.1
comp=Z,28nm,0.9s
KBL Kabul 64.42 294 *e*P **P** 15 01 49.8 -2.1
KBL pmax pmax
comp=Z,28nm,0.9s
F39A Loretta 64.47 47 P **P** 15 01 50.6 -1.2
baz=320
E40A Wakefield 64.52 46 P **P** 15 01 51.8 -0.3
baz=320
NC602 NORSAR Array S 64.52 344 *e*P **P** 15 01 51.3 -0.5
comp=Z,32nm,1.1s
NAO01 NORSAR Array S 64.53 344 *e*P **P** 15 01 50.9 -1.0
comp=Z,46nm,1.1s
NAO01 NORSAR Array S 64.53 344 *e*P **P** 15 01 52.0 +0.1
G38A Ridgeland 64.61 48 P **P** 15 01 52.9 +0.2
baz=320
VRH Novokhopyorsk 64.67 322 *e*P **P** 15 01 51.8 -1.1
VRH pmax pmax
comp=Z,130nm,0.6s
VRH MLR MLR
comp=Z,10μm,17.0s
H38A Maiden Rock 64.79 49 P **P** 15 01 54.5 +0.6
baz=320
TASM ASL Pad, Albuq 64.81 65 P **P** 15 01 55.6 +1.2
baz=318
TASM ASL Pad, Albuq 64.81 65 P **P** 15 01 55.5 +1.1
baz=318
ANMO Albuquerque 64.81 65 *e*P **P** 15 01 54.9 +0.5
comp=Z,29nm,1.3s
ANMO LR LR
comp=Z,725nm,20.0s
ANMO Albuquerque 64.81 65 *e*P **P** 15 01 54.9 +0.5
ANMO pmax pmax
comp=Z,29nm,1.3s
ANMO MLR MLR
comp=Z,725nm,20.0s
ANMO Albuquerque 64.81 65 P **P** 15 01 55.7 +1.3
baz=318
F40A Park Falls 64.82 47 P **P** 15 01 54.1 0.0
baz=320
LAZ Ladron 64.83 66 *e*P **P** 15 01 55.6 +1.1
G39A Holcombe 64.83 48 P **P** 15 01 54.2 0.0
baz=320
E41A Kenton 64.91 46 P **P** 15 01 54.2 -0.5
baz=321
HYA Hoyanger 64.95 347 *e*P **P** 15 01 54.8 +0.3
BWNR Bhubaneshwar 65.00 271 *ex* **P** 15 01 51.0 -4.5
LENM Lemitar 65.09 66 *e*P **P** 15 01 56.0 -0.2
SKAR Skarslia 65.10 345 *e*P **P** 15 01 56.2 +0.5
COWI Conover 65.12 46 PFAKE 15 02 10.0 +14
COWI LR LR
comp=Z,2μm,20.0s
SLIT Slitere, Latvi 65.17 337 *e*P **P** 15 01 54.8 -1.2
SLIT IAmb IAmb 15 01 59.0
comp=Z,566nm,0.8s
H39A Augusta 65.25 48 P **P** 15 01 57.3 +0.5
baz=320
BNM Barren Site 65.30 66 *e*P **P** 15 01 58.2 +0.6
E42A Champion 65.40 45 P **P** 15 01 57.3 -0.5
baz=321
F41A Three Lakes 65.41 46 P **P** 15 01 58.1 +0.2
baz=321
CBKS Cedar Bluff 65.55 58 PFAKE 15 02 10.0 +11
CBKS LR LR
comp=Z,1μm,21.0s
CBKS Cedar Bluff 65.55 58 P **P** 15 01 59.4 +0.4
baz=319
VSR Storozhevoye 65.59 324 *e*P **P** 15 01 57.2 -1.7
VSR pmax pmax
comp=Z,60nm,0.7s
VSR MLR MLR
comp=Z,6μm,17.0s
H40A Chili 65.70 48 P **P** 15 01 59.6 -0.2
baz=321
VORD Divnogorie 65.75 324 *e*P **P** 15 01 58.3 -1.7
VORD pmax pmax
comp=Z,50nm,0.9s
I39A Houston 65.77 49 *e*P **P** 15 01 59.4 -0.9
comp=Z,39nm,0.9s
I39A Houston 65.77 49 P **P** 15 01 59.7 -0.5
baz=320
IZAR Zarasai 65.82 334 *e*P **P** 15 01 59.4 -1.0
IZAR IAmb IAmb 15 02 03.4
comp=Z,18nm,0.9s
121A Cookes Peak, D 65.84 68 P **P** 15 02 03.3 +2.3
baz=318
319A Douglas 65.84 70 *e*P **P** 15 02 01.1 +0.1
comp=Z,38nm,1.0s
KONO Kongsberg 65.87 344 *ce*P **P** 15 02 01.7 +1.1
KONO pmax pmax
comp=Z,18nm,1.3s
KONO Kongsberg 65.87 344 *e*P **P** 15 02 00.9 +0.3
H41A Junction City 66.04 47 *e*P **P** 15 02 01.9 -0.1
comp=Z,30nm,1.1s
IDID Didziasalis 66.07 333 *e*P **P** 15 02 00.6 -1.3
IDID IAmb IAmb 15 02 05.1
comp=Z,17nm,0.8s
SCHQ Schefferville 66.08 28 *e*P **P** 15 02 02.0 -0.1
SCHQ Schefferville 66.08 28 P **P** 15 02 02.2 +0.2
comp=Z,13nm,0.8s,baz=346,slow=7.6,SNR=5.5
G42A Mountain 66.10 46 P **P** 15 02 02.4 +0.1
baz=322
DGPR DIGLIPUR 66.11 260 *e*P **P** 15 02 02.4 -0.4
DGPR IAmb IAmb 15 02 14.3
comp=Z,9μm,4.8s
IIGN Ignalina 66.18 334 *e*P **P** 15 02 01.6 -1.1
IIGN IAmb IAmb 15 02 05.9
comp=Z,30nm,0.7s
F43A Flat Rock, Esc 66.19 45 P **P** 15 02 03.6 +0.7
baz=322
F44A Big Bay de Noc 66.40 45 P **P** 15 02 04.2 0.0
baz=322
G43A Wallace 66.41 46 P **P** 15 02 04.1 -0.2
baz=322
NACGM Naroch 66.42 333 *e*P **P** 15 02 03.0 -1.2
NACGM *e*P **P** 15 02 03.0 -1.2
NACGM *e*S **S** 15 10 54.0 +2.0
NACGM *e*PS 15 11 22.0
NACGM *e*SS SS 15 15 19.0 +11
NACGM *e*SSS SSS 15 18 32.0
NACGM *e*LQ LQ 15 26 14.0
NACGM *e*LR LR 15 30 30.0
NACGM LRM MLR 15 34 42.0
comp=Z,8.3nm,16.0s
MICGM Minsk 66.46 332 *e* **P** 15 02 04.0 -0.4
MICGM *e*LR LR 15 29 36.0
MICGM LRM MLR 15 34 34.0
comp=Z,7.1nm,16.0s
MNK Minsk 66.46 332 *e*P **P** 15 02 04.0 -0.4
MNK MLR MLR
comp=Z,7μm,16.0s
SCIA State Center 66.47 51 *e*P **P** 15 02 04.5 -0.2
comp=Z,64nm,0.8s
SCIA LR LR
comp=Z,2μm,20.0s
SCIA State Center 66.47 51 P **P** 15 02 05.1 +0.4
baz=320
J40A Soldiers Grove 66.49 49 P **P** 15 02 05.2 +0.3
baz=321
K39A Oelwein 66.49 50 P **P** 15 02 05.2 +0.3
baz=321
BLS5 Blasjo 66.58 346 *e*P **P** 15 02 04.3 -0.9
PABE Paberze 66.64 335 *e*P **P** 15 02 04.5 -1.1
PABE IAmb IAmb 15 02 08.7
comp=Z,108nm,0.7s
D46A Sault St. Mari 66.68 42 P **P** 15 02 05.4 -0.6
baz=323
PBUR Paburg 66.69 336 *e*P **P** 15 02 05.4 -0.5
PBUR IAmb IAmb 15 02 09.0
comp=Z,82nm,0.8s
K40A Colesburg 66.84 50 P **P** 15 02 07.4 +0.3
baz=321
J41A Loganville 66.84 48 P **P** 15 02 07.2 0.0
baz=321
MATQ Matagami 66.85 37 P **P** 15 02 05.8 -1.2
baz=326
L39A Vinton 66.88 51 P **P** 15 02 07.2 -0.2
baz=321
KAPI Kappang 66.90 225 PFAKE 15 02 20.0 +12
KAPI LR LR
comp=Z,554nm,20.0s
I42A Draeger Farm, 66.94 47 P **P** 15 02 07.3 -0.4
baz=322
KSU1 Kansas State U 66.94 56 PFAKE 15 02 20.0 +12
KSU1 LR LR
comp=Z,2μm,22.0s
E46A Sault Ste Mari 66.98 43 P **P** 15 02 07.2 -0.7
baz=323
F45A CMU Biological 67.02 44 P **P** 15 02 09.0 +0.8
baz=323
JFWS Jewell Farm 67.09 49 PFAKE 15 02 20.0 +11
JFWS LR LR
comp=Z,1μm,20.0s
F46A Macinaw City C 67.27 44 P **P** 15 02 08.6 -1.1
baz=323
I43A Langenfeld Bro 67.28 47 P **P** 15 02 09.6 -0.3
baz=322
J42A Columbus 67.29 48 P **P** 15 02 09.0 -1.0
baz=322
L40A Anamosa 67.30 50 *e*P **P** 15 02 09.3 -0.7
comp=Z,24nm,1.0s
L40A Anamosa 67.30 50 P **P** 15 02 09.7 -0.3
baz=321
E47A Iron Bridge 67.34 42 P **P** 15 02 09.3 -0.9
baz=324
D48A Paudash Townsh 67.36 41 P **P** 15 02 09.1 -1.2
baz=324
PBA Port Blair 67.42 260 *e*P P 15 02 11.1 0.0
D49A Beulah Townshi 67.46 41 P **P** 15 02 09.3 -1.6
baz=324
AMTX Amarillo 67.47 62 *e*P **P** 15 02 11.4 0.0
comp=Z,42nm,0.6s
AMTX Amarillo 67.47 62 P **P** 15 02 12.8 +1.5
baz=319
SNART Snartemo 67.51 345 *e*P **P** 15 02 11.0 0.0
MSTX Muleshoe 67.56 63 *e*P **P** 15 02 12.0 +0.1
comp=Z,20nm,1.0s
MSTX Muleshoe 67.56 63 P **P** 15 02 13.0 +1.1
baz=319
K42A Prairie Point, 67.61 48 P **P** 15 02 12.2 +0.2
baz=322
LSQQ Lebel-sur-Quev 67.67 37 P **P** 15 02 10.9 -1.4
baz=326
GEYT Alibeck 67.76 304 P **P** 15 02 11.7 -1.4
comp=Z,12nm,0.7s,baz=351,slow=2.0,SNR=6.5
GEYT LR LR 15 34 25.1
comp=Z,4μm,18.5s,baz=40,slow=38
E48A Lockeyer 67.77 42 P **P** 15 02 12.6 -0.4
baz=324
MNTX Cornudas Mount 67.82 67 *e*P **P** 15 02 13.6 +0.1
comp=Z,50nm,1.6s
MNTX LR LR
comp=Z,1μm,22.0s
MNTX Cornudas Mount 67.82 67 P **P** 15 02 14.4 +1.0
baz=319,SNR=15
CHGQ Chibougamau 67.89 35 P **P** 15 02 12.4 -1.2
baz=327
BHPL Bhopal 67.90 280 *e*P **P** 15 02 11.5 -2.6
BHPL IAmb IAmb 15 02 15.8
comp=Z,34nm,1.0s
GDL2 Guadalupe Moun 68.01 66 *e*P **P** 15 02 14.5 -0.4
N40A Mertquake, Sal 68.04 51 P **P** 15 02 14.0 -0.7
baz=321
L42A Oliver, Polo 68.07 49 P **P** 15 02 13.6 -1.2
baz=322
GLMI Grayling 68.08 44 PFAKE 15 02 30.0 +15
GLMI LR LR
comp=Z,1μm,21.0s
G47A Hillman 68.13 43 P **P** 15 02 14.9 -0.3
baz=324
M41A Milan 68.15 50 P **P** 15 02 15.3 -0.1
baz=322
SUW Suwalki 68.18 335 *e*P **P** 15 02 14.4 -1.0
SUW Suwalki 68.18 335 *e*P **P** 15 02 14.4 -1.0
VLDQ Val d'Or 68.28 38 *e*P **P** 15 02 14.0 -2.0
comp=Z,52nm,0.9s
L43A Garden Prairie 68.35 48 P **P** 15 02 15.4 -1.2
baz=322
E50A Wahnapitae 68.40 41 P **P** 15 02 15.5 -1.3
baz=325
F49A Sandfield 68.41 42 P **P** 15 02 16.1 -0.8
baz=324
NGP Nagpur 68.48 277 *e*P **P** 15 02 17.1 -0.6
N41A Harden Midland 68.52 51 *e*P **P** 15 02 16.4 -1.3
comp=Z,65nm,1.0s
N41A Harden Midland 68.52 51 P **P** 15 02 17.3 -0.4
baz=322,SNR=8.9
MAK Makhachkala 68.91 314 *e*P **P** 15 02 19.3 -0.8
MAK *e*S **S** 15 11 20.7 -1.5
MAK pmax pmax
comp=Z,43nm,0.4s
MAK MLR MLR
comp=Z,4μm,17.0s
D53A Lac Vacive, Po 69.04 39 *e*P **P** 15 02 19.6 -1.3
comp=Z,20nm,0.6s
D53A Lac Vacive, Po 69.04 39 P **P** 15 02 19.9 -1.0
baz=326
COP Copenhagen 69.11 341 *e*P **P** 15 02 23.0 +1.9
COP MLR MLR
comp=Z,2μm,16.0s
COP Copenhagen 69.11 341 *i* P **P** 15 02 23.0 +1.9
N43A Stutzman Famil 69.13 50 P **P** 15 02 21.7 +0.2
baz=322
WMOK Wichita Mounta 69.13 60 PFAKE 15 02 30.0 +8.3
WMOK LR LR
comp=Z,990nm,19.0s
WMOK Wichita Mounta 69.13 60 P **P** 15 02 22.6 +0.9
baz=320
BSD Bornholm Skovb 69.14 340 *i* P **P** 15 02 22.6 +1.3
BSD pmax pmax
comp=Z,36nm,0.7s
BSD MLR MLR
comp=Z,3μm,13.0s
BSD Bornholm Skovb 69.14 340 *i* P **P** 15 02 22.6 +1.3
comp=Z,36nm,0.7s

J47A	Sunmer	69.27	45	P	P	15 02 21.7 -0.6
	baz=324					
M44A	Midewin, Midew	69.30	49	P	P	15 02 22.2 -0.4
	baz=323					
E52A	Mattawa	69.33	40	P	P	15 02 20.9 -1.7
	baz=326					
AKASG	Malin Array Be	69.38	329	LR	LR	15 36 13.6
	comp=Z,3µm,18.9s,baz=20,slow=39					
HDIL	Hopedale	69.38	50	eP	P	15 02 21.5 -1.5
	comp=Z,48nm,0.9s					
HDIL				LR	LR	
	comp=Z,2µm,20.0s					
HDIL	Hopedale	69.38	50	P	P	15 02 22.9 -0.1
	baz=322					
D54A	Lac Fusel, La	69.38	38	P	P	15 02 20.5 -2.4
	baz=327					
KIEV	Kiev	69.39	329	PFAKE		15 02 30.0 +7.1
KIEV				LR	LR	
	comp=Z,3µm,21.0s					
F52A	Sundridge	69.47	40	P	P	15 02 22.7 -0.9
	baz=326					
KLBO	Killbear Provi	69.48	41	P	P	15 02 22.7 -0.9
	baz=325					
I49A	Point Hope	69.56	44	P	P	15 02 23.2 -0.9
	baz=324					
E53A	Dumoine, Ponti	69.64	39	P	P	15 02 23.2 -1.4
	baz=326					
K47A	Vermontville	69.64	46	P	P	15 02 24.2 -0.5
	baz=324					
J48A	Bridge Port	69.67	45	P	P	15 02 27.4 +2.6
	baz=324					
BMRO	Meriville Lake	69.69	42	P	P	15 02 24.0 -0.9
	baz=325					
N44A	Piper City	69.73	49	P	P	15 02 25.1 -0.1
	baz=323					
BUKO	Buck Lake	69.73	41	P	P	15 02 23.7 -1.4
	baz=326					
E54A	Lac Daplat, Po	69.78	39	P	P	15 02 24.0 -1.4
	baz=327					
TUL1	Leonard	69.80	57	eP	P	15 02 25.6 -0.2
	comp=Z,49nm,0.7s					
TUL1	Leonard	69.80	57	P	P	15 02 26.3 +0.5
	baz=321					
ALGO	Algonquin Park	69.84	39	P	P	15 02 24.8 -1.0
	baz=326					
BRCO	Bruce Peninsul	69.89	43	P	P	15 02 25.4 -0.8
	baz=325					
J49A	Marlette	69.89	44	P	P	15 02 25.5 -0.7
	baz=324					
K48A	Perry	69.92	45	P	P	15 02 26.3 -0.1
	baz=324					
N45A	Kentland	69.97	49	P	P	15 02 26.6 -0.1
	baz=323					
BASO	Ashfield	69.98	43	P	P	15 02 26.2 -0.5
	baz=325					
P43A	Skaggs, Pawnee	69.99	51	P	P	15 02 27.2 +0.4
	baz=322					
M46A	Old House Fiel	70.05	47	P	P	15 02 27.6 +0.4
	baz=323					
O44A	Mansfield	70.08	50	P	P	15 02 28.1 +0.7
	baz=323					
Q42A	Golden Eagle	70.08	52	P	P	15 02 27.9 +0.5
	baz=322,SNR=5.5					
L47A	Sherwood	70.11	46	P	P	15 02 27.0 -0.6
	baz=324					
BWLO	Walkerton	70.12	42	P	P	15 02 27.2 -0.3
	baz=325					
R41A	Rosebud	70.16	53	P	P	15 02 28.0 +0.1
	baz=322,SNR=5.8					
NCK	Nalchik	70.17	316⇓	eP	P	15 02 27.6 -0.3
NCK				pmax	pmax	
	comp=Z,52nm,1.2s					
KIV	Kislovodsk	70.18	317	PFAKE		15 02 40.0 +12
KIV				LR	LR	
	comp=Z,2µm,20.0s					
KIV	Kislovodsk	70.18	317	eP	P	15 02 30.0 +2.0
KIV				pmax	pmax	
	comp=Z,91nm,0.9s					
K49A	Clarkson	70.22	45	P	P	15 02 28.6 +0.4
	baz=324					
KBZ	Khabaz	70.27	317	P	P	15 02 27.8 -0.6
	comp=Z,25nm,0.8s,baz=13,slow=3.2,SNR=7.6					
KBZ				LR	LR	15 38 38.5
	comp=Z,4µm,18.4s,baz=12,slow=41					
ABTX	Abilene, Hawle	70.29	62	eP	P	15 02 29.0 +0.2
	comp=Z,19nm,0.8s					
ABTX	Abilene, Hawle	70.29	62	P	P	15 02 29.3 +0.5
	baz=320					
G53A	Haliburton	70.31	40	P	P	15 02 28.2 -0.5
	baz=326					
GKP	Gorka Klasztor	70.33	338	eP	P	15 02 30.1 +1.4
GKP	Gorka Klasztor	70.33	338	eP	P	15 02 30.1 +1.4
CMBY	CAMPBELL BAY	70.38	256	eP	P	15 02 28.3 -1.2
PEMO	Pembroke	70.39	39	P	P	15 02 28.6 -0.5
	baz=327					
CCM	Cathedral Cave	70.41	53	eP	P	15 02 29.2 -0.2
	comp=Z,32nm,0.8s					
CCM	Cathedral Cave	70.41	53	eP	P	15 02 29.2 -0.2
CCM				pmax	pmax	
	comp=Z,32nm,0.8s					
CCM	Cathedral Cave	70.41	53	P	P	15 02 29.1 -0.4
	baz=322					
AAM	Ann Arbor	70.53	45	PFAKE		15 02 40.0 +10
AAM				LR	LR	
	comp=Z,1µm,20.0s					
S41A	Jillco Farms,	70.53	53	P	P	15 02 29.9 -0.4
	baz=322,SNR=8.8					
SFIN	Lafayette	70.54	49	P	P	15 02 29.9 -0.2
	baz=323					
TX31	Lajitas Ar. Si	70.57	67	eP	P	15 02 29.8 -0.9
	comp=Z,21nm,0.8s					
TXAR	Lajitas Array	70.57	67	eP	P	15 02 30.0 -0.7
TXAR	Lajitas Array	70.57	67	eP	P	15 02 30.0 -0.7
TXAR	Lajitas Array	70.57	67	P	P	15 02 30.6 -0.1
	comp=Z,2.9nm,0.5s,baz=306,slow=4.3,SNR=28					
L49A	Milan	70.64	45	P	P	15 02 30.3 -0.5
	baz=324					
BANO	Bancroft	70.67	40	P	P	15 02 29.3 -1.6
	baz=327					
N47A	Urbana	70.77	47	P	P	15 02 30.9 -0.7
	baz=324					
BEL	Belsk	70.78	335	eP	P	15 02 33.1 +1.7
BEL	Belsk	70.78	335	eP	P	15 02 33.1 +1.7
FVM	French Village	70.86	52	eP	P	15 02 32.9 +0.7
FVM	French Village	70.86	52	eP	P	15 02 32.9 +0.7
G55A	Calabogie	70.94	39	P	P	15 02 31.0 -1.6
	baz=327					
U40A	Yellville	70.94	55	P	P	15 02 32.8 +0.1
	baz=322					
M49A	Liberty Center	71.06	46	P	P	15 02 32.3 -1.0
	baz=324					
O47A	Sheridan	71.07	48	P	P	15 02 33.0 -0.5
	baz=324					
N48A	Decatur	71.09	47	P	P	15 02 32.9 -0.6
	baz=324					
P46A	Rosedale	71.09	49	P	P	15 02 33.6 0.0
	baz=323					
L50A	Kingsville	71.11	45	P	P	15 02 32.9 -0.7
	baz=325					
DELO	Deloro Mine	71.21	40	P	P	15 02 32.6 -1.6
	baz=327					
Q45A	Warren Harvey,	71.23	50	P	P	15 02 34.6 +0.2
	baz=323					
ALFO	Alfred	71.32	38	P	P	15 02 33.2 -1.6
	baz=328					
H55A	Tweed	71.35	40	P	P	15 02 34.1 -1.0
	baz=327					
W39A	Magazine	71.38	56	P	P	15 02 35.0 -0.3
	baz=322					
OLIL	Olney	71.38	50	eP	P	15 02 35.6 +0.3
	comp=Z,38nm,0.9s					
WLVO	Wesleyville	71.39	41	P	P	15 02 34.5 -0.8
	baz=327					
ANN	Anapa	71.58	321	eP	P	15 02 35.2 -1.2
ANN				e*PP	PcP	15 02 52.8 -2.8
ANN				eS	S	15 11 49.9 -3.4
ANN				pmax	pmax	
	comp=Z,84nm,1.9s					
ANN				MLR	MLR	
	comp=E,4µm,18.0s					
ANN				MLR	MLR	
	comp=N,3µm,18.0s					
ANN				MLR	MLR	
	comp=Z,3µm,18.0s					
HYB	Hyderabad	71.63	275	i P	P	15 02 36.5 -0.6
HYB				e		15 02 48.0
HYB	Hyderabad	71.63	275	eP	P	15 02 36.7 -0.4
P47A	Martinsville	71.63	49	P	P	15 02 36.7 -0.1
	baz=324					
R45A	Skylar, Fairfi	71.65	51	P	P	15 02 37.2 +0.2
	baz=323					
S44A	Carbondale	71.66	52	P	P	15 02 38.1 +1.1
	baz=323					
SIUC	Southern Illin	71.66	52	eP	P	15 02 36.4 -0.6
	comp=Z,90nm,0.6s					
H56A	Elgin	71.67	39	P	P	15 02 36.5 -0.5
	baz=328					
SOC	Sochi	71.70	319	eP	P	15 02 36.4 -0.7
SOC				e*PP	pwP	15 02 50.9 +0.9
SOC				ePPP	PPP	15 06 55.6
SOC				eS	S	15 11 51.9 -2.9
SOC				eSS	SS	15 16 24.4 -5.2
SOC				eSSS	SSS	15 19 41.9
SOC				pmax	pmax	
	comp=Z,61nm,1.2s					
SOC				MLR	MLR	
	comp=Z,3µm,15.0s					
LVV	L'vov	71.71	332	eP	P	15 02 36.3 -0.8
LVV				e		15 05 16.4
LVV				e		15 06 58.8
LVV				eS	S	15 11 55.2 +0.4
LVV				e		15 12 36.9
LVV				e		15 19 38.5
LVV	L'vov	71.71	332	eS	S	15 12 00.0 +5.2
ESK	Eskdalemuir	71.80	350	PFAKE		15 02 50.0 +12
ESK				LR	LR	
	comp=Z,922nm,19.0s					
PBMO	Poplar Bluff	71.81	53	eP	P	15 02 38.1 +0.2
	comp=Z,39nm,1.0s					
J54A	Appleton	71.84	41	P	P	15 02 37.3 -0.7
	baz=327					
RUE	Ruedersdorf	71.84	339	eP	P	15 02 37.7 -0.1
RUE				IAmb	IAmb	15 02 43.6
	comp=Z,54nm,0.7s					
JCT	Junction City	71.85	64	eP	P	15 02 38.0 -0.3
	comp=Z,104nm,1.8s					
JCT				LR	LR	
	comp=Z,812nm,19.0s					
JCT	Junction City	71.85	64	eP	P	15 02 38.0 -0.3
JCT				pmax	pmax	
	comp=Z,104nm,1.8s					
JCT				MLR	MLR	
	comp=Z,812nm,19.0s					
JCT	Junction City	71.85	64	P	P	15 02 39.6 +1.3
	baz=321					
PECO	Prince Edward	71.94	40	P	P	15 02 37.9 -0.7
	baz=327					
O49A	Covington	71.94	47	P	P	15 02 38.6 -0.1
	baz=324					
WHTX	Lake Whitney,	71.95	61	P	P	15 02 38.4 -0.5
	baz=321					
MIAR	Mount Ida	72.00	57	PFAKE		15 02 50.0 +11
MIAR				LR	LR	
	comp=Z,1µm,19.0s					
MIAR	Mount Ida	72.00	57	P	P	15 02 39.3 +0.2
	baz=322					
S45A	Carrier Mills	72.00	51	P	P	15 02 38.8 -0.2
	baz=323					
MEDO	Medina	72.00	41	P	P	15 02 38.7 -0.2
	baz=327					
Q47A	Bedord North L	72.00	49	P	P	15 02 39.1 0.0
	baz=324					
P48A	Milroy	72.04	48	P	P	15 02 39.1 -0.2
	baz=324					
R46A	Gibon Southern	72.08	50	P	P	15 02 39.3 -0.2
	baz=324					
M52A	Chesterland	72.14	44	P	P	15 02 39.3 -0.5
	baz=326					
J55A	Hilton	72.17	41	P	P	15 02 39.2 -0.8
	baz=327					
W41B	Gary Mavity, V	72.18	55	eP	P	15 02 40.2 +0.1
	comp=Z,24nm,0.8s					
W41B	Gary Mavity, V	72.18	55	P	P	15 02 40.1 0.0
	baz=322					
N51A	Ashland	72.21	45	eP	P	15 02 40.4 +0.1
	comp=Z,40nm,0.6s					
N51A	Ashland	72.21	45	P	P	15 02 39.5 -0.8
	baz=325					
ERPA	Erie	72.24	43	P	P	15 02 39.3 -1.1
	baz=326					
KWP	Kalwaria Pacla	72.26	333	eP	P	15 02 40.1 -0.2
	comp=Z,688nm,0.9s					
KWP	Kalwaria Pacla	72.26	333	eP	P	15 02 40.2 -0.2
L53A	Girard	72.26	43	P	P	15 02 39.5 -1.1
	baz=326					
LONY	Lake Ozonia	72.29	38	PFAKE		15 02 50.0 +9.3
LONY				LR	LR	
	comp=Z,852nm,22.0s					
LONY	Lake Ozonia	72.29	38	P	P	15 02 39.7 -1.0
	baz=328					
O50A	Cable	72.30	46	P	P	15 02 38.9 -1.9
	baz=325					
P49A	Miami Univ. Ec	72.30	48	P	P	15 02 40.0 -0.8
	baz=324					
Q48A	North Vernon	72.33	49	P	P	15 02 39.8 -1.2
	baz=324					
GNI	Garni	72.40	314	PFAKE		15 02 50.0 +8.4
GNI				LR	LR	
	comp=Z,4µm,19.0s					
GNI	Garni	72.40	314	deP	P	15 02 42.8 +1.2
GNI				pmax	pmax	
	comp=Z,292nm,1.3s					
S46A	Don Dixon Farm	72.40	51	P	P	15 02 41.4 -0.1
	baz=324					
X40A	Basin Creek Fa	72.42	56	P	P	15 02 41.7 +0.1
	baz=322					
L54A	Sinclairville	72.42	42	P	P	15 02 40.2 -1.3
	baz=326					
IDGL	Inch Island, C	72.43	353	ePP	P	15 02 42.4 +1.1
R47A	Wooly Knot Far	72.47	50	P	P	15 02 41.1 -0.8
	baz=324					
ACSO	Alum Creek Sta	72.51	46	PFAKE		15 02 50.0 +7.9
ACSO				LR	LR	
	comp=Z,1µm,20.0s					
ACSO	Alum Creek Sta	72.51	46	P	P	15 02 41.4 -0.7
	baz=325					
OJC	Ojcow	72.51	335	eP	P	15 02 41.6 -0.3
OJC	Ojcow	72.51	335	eP	P	15 02 41.5 -0.3
	comp=Z,54nm,0.9s					
OJC	Ojcow	72.51	335	eP	P	15 02 41.6 -0.3
M53A	W I Miller and	72.51	44	P	P	15 02 41.4 -0.7
	baz=326,SNR=5.5					
K55A	Perry	72.52	41	P	P	15 02 40.5 -1.6
	baz=327					
BHJ	Bhuj	72.53	285	eP	P	15 02 42.0 -0.4
MMNY	Mt. Morris Dam	72.58	41	eP	P	15 02 41.5 -1.0
	comp=Z,33nm,0.6s					
N52A	McGinn's Farm,	72.60	45	P	P	15 02 41.9 -0.7
	baz=326					
WCI	Wyandotte Cave	72.63	49	eP	P	15 02 43.1 +0.3
	comp=Z,33nm,0.7s					
WCI	Wyandotte Cave	72.63	49	eP	P	15 02 43.1 +0.3
WCI				pmax	pmax	
	comp=Z,33nm,0.7s					
WCI	Wyandotte Cave	72.63	49	P	P	15 02 42.8 0.0
	baz=324					
P50A	Jamestown	72.65	47	P	P	15 02 42.3 -0.6
	baz=325					
SIM	Simferopol'	72.69	323	eP	P	15 02 43.8 +0.7
SIM				eS	S	15 12 08.0 +1.8
SIM				eSS	SS	15 16 51.0 +6.2
SIM				pmax	pmax	
	comp=Z,18nm,0.9s					
SIM				pmax	pmax	
	comp=Z,230nm,8.8s					
KSP	Ksiaz	72.80	337	eP	P	15 02 43.3 -0.3
KSP	Ksiaz	72.80	337	eP	P	15 02 43.3 -0.3
L55A	Hinsdale	72.83	42	P	P	15 02 43.0 -1.0
	baz=327					
T46A	Princeton	72.83	51	P	P	15 02 44.2 +0.2
	baz=324,SNR=10					
S47A	Hartford	72.87	50	P	P	15 02 44.4 +0.2
	baz=324					
M54A	Oil Creek Stat	72.88	43	P	P	15 02 44.1 -0.2
	baz=326					
BATG	Bathurst New B	72.95	31	eP	P	15 02 44.7 +0.1
	comp=Z,21nm,0.9s					
N53A	Lisbon	72.97	44	P	P	15 02 44.1 -0.7
	baz=326					
R49A	Shelbyville	73.10	49	P	P	15 02 45.2 -0.5
	baz=324					
O52A	Adamsville	73.11	45	eP	P	15 02 45.2 -0.4
	comp=Z,29nm,0.8s					
O52A	Adamsville	73.11	45	P	P	15 02 45.4 -0.2
	baz=326					
NIE	Niedzica	73.11	334	eP	P	15 02 46.3 +0.8
NIE	Niedzica	73.11	334	eP	P	15 02 46.3 +0.8
CLL	Collm	73.11	339	eP	P	15 02 44.9 -0.6
	comp=Z,41nm,0.8s					
CLL	Collm	73.11	339	eP	P	15 02 45.0 -0.4
CLL				i		15 02 56.2
CLL				i		15 03 01.1
CLL				eS	S	15 12 07.0 -3.7
CLL				pmax	pmax	
	comp=Z,43nm,0.8s					
CLL	Collm	73.11	339	eP	P	15 02 45.0 -0.4
	comp=Z,43nm,0.8s					
CLL				i		15 02 47.0
	comp=Z,36nm,0.9s					
CLL				ePmax		15 02 48.0
CLL				i Pmax		15 02 49.8
	comp=Z,43nm,0.8s					
CLL				i pP	pwP	15 02 56.2 -1.0
CLL				i sP	PcP	15 03 01.1 -0.9
CLL				ePP	PP	15 05 24.0 -3.6
CLL				ePPP	PPP	15 07 18.0
CLL				eS	S	15 12 07.0 -3.7
CLL				esS	SKiKP	15 12 25.0 +10
CLL				ePPS	PPS	15 12 57.0
CLL				eSS	SS	15 16 54.0 +3.2
CLL				eSSS	SSS	15 20 24.0
CLL				eSSSS		15 22 00.0
CLL				Lmax		15 41 00.0
UPC	Upice	73.18	337	eP	P	15 02 48.5 +2.6
UPC				eS	S	15 12 13.8 +2.2
UPC				MLR	MLR	
	comp=Z,5µm,14.5s					
UPC	Upice	73.18	337	eP	P	15 02 48.5 +2.6
UPC				eS	S	15 12 13.8 +2.2
UPC				AMS	AMS	15 41 30.0
	comp=Z,5µm,14.5s					
N54A	Moraine State	73.20	44	eP	P	15 02 46.0 -0.1
	comp=Z,23nm,0.8s					
N54A	Moraine State	73.20	44	P	P	15 02 45.6 -0.6
	baz=326					
S48A	Wiedeman Farm,	73.20	50	P	P	15 02 45.6 -0.6
	baz=324,SNR=5.6					
T47A	Sharon Grove	73.25	51	eP	P	15 02 47.3 +0.8
	comp=Z,36nm,0.6s					
T47A	Sharon Grove	73.25	51	P	P	15 02 46.8 +0.3
	baz=324,SNR=5.1					
DPC	Dobruska-Polom	73.25	337	eP	P	15 02 46.8 +0.4
DPC				eS	S	15 12 04.8 -7.7
DPC				MLR	MLR	
	comp=Z,4µm,14.8s					
DPC	Dobruska-Polom	73.25	337	eP	P	15 02 46.8 +0.4
DPC				eS	S	15 12 04.8 -7.7
DPC				AMS	AMS	15 41 30.0
	comp=Z,4µm,14.8s					
O53A	New Philadelph	73.27	45	P	P	15 02 45.8 -0.8
	baz=326					
UZH	Uzhgorod	73.28	333	eP	P	15 02 47.0 +0.5
UZH				i		15 02 56.7
UZH				i S	S	15 12 09.0 -3.7
UZH				i SP	SKSac	15 12 43.7 -6.5
UZH				MLR	MLR	
	comp=N,480nm,17.0s					
UZH				MLR	MLR	
	comp=E,400nm,17.0s					
UZH				MLR	MLR	
	comp=Z,400nm,17.0s					
CTAO	Charters Tower	73.29	194	PFAKE		15 03 00.0 +13
CTAO				LR	LR	
	comp=Z,1µm,21.0s					
M55A	Ridgway	73.29	43	P	P	15 02 45.8 -0.9
	baz=327					
BRG	Berggiesshubel	73.31	339	eP	P	15 02 46.6 0.0
	comp=Z,14nm,1.1s					
BRG				i		15 02 57.0
	comp=Z,25nm,1.1s					
BRG				PP	PP	15 05 27.0 -2.4
BRG				S	S	15 12 14.0 +0.9
BRG				SS	SS	15 17 01.0 +7.1
BRG	Berggiesshubel	73.31	339	eP	P	15 02 46.6 0.0
BRG				i		15 02 57.0
BRG						15 05 27.0
BRG				S	S	15 12 14.0 +0.9
BRG				SS	SS	15 17 01.0 +7.1
BRG				pmax	pmax	
	comp=Z,14nm,1.1s					
BRG				MLR	MLR	
	comp=N,4µm,14.5s					
BRG				MLR	MLR	
	comp=E,2µm,15.1s					
BRG				MLR	MLR	
	comp=Z,6µm,14.9s					
BUR08	Bucovina Ar. S	73.32	330	eP	P	15 02 46.2 -0.7
	comp=Z,29nm,0.7s					
Q51A	Peebles	73.33	47	P	P	15 02 47.0 0.0
	baz=325					
KRLC	Kraliky	73.40	337	eP	P	15 02 47.8 +0.6
KRLC	Kraliky	73.40	337	eP	P	15 02 47.8 +0.6
S49A	Springfield	73.46	49	P	P	15 02 48.5 +0.8
	baz=325					
T48A	Bowling Green	73.49	50	P	P	15 02 48.0 +0.1
	baz=324					
MORC	Moravsky Berou	73.49	336	eP	P	15 02 46.8 -1.0
	comp=Z,30nm,0.7s					
MORC	Moravsky Berou	73.49	336⇑	iP	P	15 02 47.5 -0.3
MORC	Moravsky Berou	73.49	336	eP	P	15 02 46.8 -1.0
MORC				pmax	pmax	
	comp=Z,30nm,0.7s					
MORC	Moravsky Berou	73.49	336	⇑P	P	15 02 47.5 -0.3
MORC	Moravsky Berou	73.49	336	eP	P	15 02 47.7 -0.1
R50A	Paris	73.50	48	P	P	15 02 48.2 +0.3
	baz=325					
PVCC	Panska Ves	73.50	338	AMS	AMS	15 41 30.0
	comp=Z,6µm,14.1s					
LANS	Liptovska Anna	73.57	335	eP	P	15 02 49.7 +1.4
LANS	Liptovska Anna	73.57	335	eP	P	15 02 49.7 +1.4
WVT	Waverly	73.59	52	eP	P	15 02 48.4 -0.1
	comp=Z,24nm,0.7s					
WVT	Waverly	73.59	52	eP	P	15 02 48.4 -0.1
WVT				pmax	pmax	
	comp=Z,24nm,0.7s					
WVT	Waverly	73.59	52	P	P	15 02 49.0 +0.5
	baz=324					
U47A	Clarksville	73.60	51	P	P	15 02 49.0 +0.5
	baz=324					
NATX	Nacogdoches	73.62	59	PFAKE		15 03 00.0 +11
NATX				LR	LR	
	comp=Z,2µm,22.0s					
POO	Poona	73.63	279	eP	P	15 02 48.4 -0.6
POO				IAmb	IAmb	15 02 51.6
	comp=Z,70nm,1.1s					
PKME	Peaks-Kenny Pk	73.65	34	PFAKE		15 03 00.0 +11
PKME				LR	LR	
	comp=Z,1µm,21.0s					
O54A	Avella	73.68	44	P	P	15 02 48.7 -0.3
	baz=326					
WTSB	Winterswijk	73.69	344	eP	P	15 02 49.8 +1.0
	comp=Z,50nm,0.8s					
WTSB				epP	pwP	15 03 01.5 +1.0
V46A	Holladay	73.72	52	P	P	15 02 49.1 -0.1
	baz=324					
833A	Chaparral WMA,	73.74	65	P	P	15 02 50.8 +1.4
	baz=321					
N55A	Marion Center	73.77	43	eP	P	15 02 49.0 -0.6
	comp=Z,20nm,0.6s					
N55A	Marion Center	73.77	43	P	P	15 02 48.9 -0.7
	baz=327					
BINY	Binghamton	73.80	40	PFAKE		15 03 00.0 +10
BINY				LR	LR	
	comp=Z,2µm,20.0s					
BINY	Binghamton	73.80	40	P	P	15 02 48.9 -0.8
	baz=328					
P53A	Whipple	73.82	45	P	P	15 02 49.2 -0.6
	baz=326					
R51A	Hillsboro	73.82	48	P	P	15 02 49.4 -0.4
	baz=325					
Q52A	Bidwell	73.86	46	P	P	15 02 49.6 -0.5
	baz=326					
T49A	Edmonton	73.89	50	eP	P	15 02 50.4 +0.1
	comp=Z,17nm,0.6s					
T49A	Edmonton	73.89	50	P	P	15 02 50.4 +0.1
	baz=325					
U48A	Cassie Pea, Po	73.90	51	P	P	15 02 50.7 +0.4
	baz=324					
MDRS	Chennai	73.93	271	eP	P	15 02 47.1 -3.7

S50A	Richmond	73.95	48	P	P	15 02 50.4	-0.2
	baz=325						
V47A	Nunnelly	73.98	52	P	P	15 02 51.2	+0.4
	baz=324						
PRU	Pruhonice	74.01	338	eP	P	15 02 51.5	+0.8
PRU				eS	S	15 12 21.0	+0.1
PRU				MLR	MLR		
	comp=Z,6µm,14.1s						
PRU	Pruhonice	74.01	338	eP	P	15 02 51.5	+0.8
PRU				eS	S	15 12 21.0	+0.1
PRU				AMS	AMS	15 41 40.0	
	comp=Z,6µm,14.1s						
GOPC	GO Pecny, Ondr	74.02	338	eP	P	15 02 51.3	+0.4
GOPC				MLR	MLR		
	comp=Z,5µm,14.2s						
GOPC	GO Pecny, Ondr	74.02	338	eP	P	15 02 51.3	+0.4
GOPC				AMS	AMS	15 41 40.0	
	comp=Z,5µm,14.2s						
O55A	Ligonier	74.11	44	P	P	15 02 51.1	-0.4
	baz=327						
P54A	Burton	74.12	45	P	P	15 02 51.3	-0.3
	baz=326,SNR=7.4						
OXF	Oxford	74.12	54	P	P	15 02 51.7	+0.1
	baz=324						
DSB	Dublin	74.15	352	ePP	P	15 02 52.7	+1.2
VRAC	Vranov	74.16	336	⇑iP	P	15 02 52.8	+1.2
VRAC	Vranov	74.16	336	⇑P	P	15 02 52.8	+1.2
VRAC	Vranov	74.16	336	eP	P	15 02 51.8	+0.2
R52A	Catlettsburg	74.21	47	P	P	15 02 51.5	-0.6
	baz=326						
NKC	Novy Kostel	74.24	339	eP	P	15 02 52.8	+0.7
NKC				MLR	MLR		
	comp=Z,2µm,15.0s						
NKC	Novy Kostel	74.24	339	eP	P	15 02 52.8	+0.7
NKC				AMS	AMS	15 41 30.0	
	comp=Z,2µm,15.0s						
U49A	Red Boiling Sp	74.26	50	P	P	15 02 52.5	+0.1
	baz=325						
Q53A	Leroy	74.28	46	P	P	15 02 51.9	-0.6
	baz=326						
T50A	Nancy	74.29	49	P	P	15 02 52.4	-0.2
	baz=325						
JAVC	Velka Javorina	74.31	336	eP	P	15 02 53.5	+0.9
CLTN	Cedars of Leba	74.34	51	eP	P	15 02 52.6	-0.3
	comp=Z,14nm,0.7s						
DZM	Mont Dzumac	74.34	174	eS	S	15 12 27.4	+2.2
	comp=Z,1µm,25.9s						
DZM	Mont Dzumac	74.34	174	eLQ	LQ	15 22 31.7	
	comp=Z,1µm,27.4s						
DZM				eLR	LR	15 25 44.0	
	comp=Z,1µm,20.9s						
VYHS	Vyhne	74.34	335	eP	P	15 02 52.9	+0.2
VYHS				pmax	pmax		
	comp=Z,114nm,2.6s						
VYHS	Vyhne	74.34	335	eP	P	15 02 52.9	+0.2
VYHS				eS	S	15 12 27.3	+2.5
SSPA	Standing Stone	74.35	42	eP	P	15 02 52.6	-0.3
	comp=Z,16nm,0.9s						
SSPA	Standing Stone	74.35	42	P	P	15 02 52.2	-0.7
	baz=327						
S51A	Beattyville	74.35	48	P	P	15 02 52.3	-0.6
	baz=325						
O56A	Blue Knob Stat	74.37	43	eP	P	15 02 52.8	-0.3
	comp=Z,27nm,0.6s						
O56A	Blue Knob Stat	74.37	43	P	P	15 02 52.8	-0.3
	baz=327						
V48A	Smith Brothers	74.39	51	eP	P	15 02 53.2	0.0
	comp=Z,26nm,0.7s						
V48A	Smith Brothers	74.39	51	P	P	15 02 52.7	-0.5
	baz=324						
KRUC	Moravsky	74.44	337	eP	P	15 02 53.4	+0.2
TREC	Trest	74.44	337	eP	P	15 02 53.9	+0.6
TREC				eS	S	15 12 26.5	+0.7
TREC				MLR	MLR		
	comp=Z,4µm,14.2s						
TREC	Trest	74.44	337	eP	P	15 02 53.9	+0.6
TREC				eS	S	15 12 26.5	+0.7
TREC				AMS	AMS	15 42 10.0	
	comp=Z,4µm,14.2s						
P55A	Reedsville	74.47	44	P	P	15 02 52.6	-1.1
	baz=327						
Q54A	Coxs Mills	74.48	45	eP	P	15 02 53.5	-0.2
	comp=Z,52nm,0.6s						
Q54A	Coxs Mills	74.48	45	P	P	15 02 52.9	-0.8
	baz=326						
PSZ	Piszkesteto	74.59	334	eP	P	15 02 53.9	-0.4
	comp=Z,33nm,0.9s						
PSZ	Piszkesteto	74.59	334	eP	P	15 02 53.9	-0.4
PSZ				pmax	pmax		
	comp=Z,33nm,0.9s						
CJR	Cluj-Napoca	74.64	331	⇑iP	P	15 02 54.6	+0.1
CJR	Cluj-Napoca	74.64	331	⇑P	P	15 02 54.6	+0.1
T51A	Gray	74.74	49	P	P	15 02 55.1	-0.1
	baz=325						
U50A	Jamestown	74.78	50	P	P	15 02 55.4	-0.1
	baz=325						
Q55A	Buckhannon	74.79	45	P	P	15 02 55.1	-0.5
	baz=327						
V49A	McMinnville	74.81	51	P	P	15 02 55.1	-0.5
	baz=325						
DRGR		74.83	332	⇑iP	P	15 02 56.3	+0.7
DRGR		74.83	332	⇑P	P	15 02 56.4	+0.8
MODS	Modra-Piesok	74.85	336	eP	P	15 02 56.1	+0.4
MODS				pmax	pmax		
	comp=Z,95nm,1.8s						
MODS	Modra-Piesok	74.85	336	eP	P	15 02 56.1	+0.4
N59A	State Game Lan	74.97	41	P	P	15 02 54.6	-1.9
	baz=328						
HGN	Heimansgroeve	75.00	344	eP	P	15 02 56.1	-0.3
	comp=Z,56nm,1.3s						
GRA1	Grafenberg Arr	75.02	340	eP	P	15 02 56.1	-0.5
	comp=Z,40nm,1.0s						
GRF	Grafenberg Arr	75.02	340	eP	P	15 02 56.1	-0.5
GRF				pmax	pmax		
	comp=Z,40nm,1.0s						
KHC	Kasperske Hory	75.03	338	eP	P	15 02 56.5	-0.3
	comp=Z,11nm,0.9s						
KHC	Kasperske Hory	75.03	338	eP	P	15 02 57.1	+0.3
KHC				eS	S	15 12 30.9	-1.6
KHC				MLR	MLR		
	comp=Z,8µm,14.0s						
KHC	Kasperske Hory	75.03	338	eP	P	15 02 57.1	+0.3
KHC				eS	S	15 12 30.9	-1.6
KHC				AMS	AMS	15 42 20.0	
	comp=Z,8µm,14.0s						
ZST	Bratislava	75.06	336	eP	P	15 02 57.0	+0.1
ZST	Bratislava	75.06	336	eP	P	15 02 57.0	+0.1
T52A	Hallie	75.07	48	eP	P	15 02 57.2	+0.1
	comp=Z,23nm,0.8s						
T52A	Hallie	75.07	48	P	P	15 02 57.0	-0.1
	baz=326						
R54A	Victor	75.07	46	P	P	15 02 56.4	-0.7
	baz=326						
MEM	Membach	75.14	344	⇓P	P	15 02 57.6	+0.4
	comp=Z,40nm,0.9s						
KVTX	Kingsville	75.17	64	PFAKE		15 03 10.0	+12
KVTX				LR	LR		
	comp=Z,885nm,20.0s						
U51A	La Follette	75.19	49	P	P	15 02 57.2	-0.6
	baz=325						
SWET	Sewanee	75.24	51	eP	P	15 02 56.7	-1.5
	comp=Z,38nm,0.7s						
V50A	Pikevile	75.26	50	P	P	15 02 58.1	-0.1
	baz=325						
GEC2	GERESS Array S	75.27	338	eP	P	15 02 57.5	-0.7
	comp=Z,28nm,1.3s						
GEC2	GERESS Array S	75.27	338	eP	P	15 02 57.5	-0.7
GEC2				pmax	pmax		
	comp=Z,28nm,1.3s						
GERES	GERESS Array B	75.27	338	eP	P	15 02 57.6	-0.7
GERES	GERESS Array B	75.27	338	eP	P	15 02 57.6	-0.7
GERES	GERESS Array B	75.27	338	P	P	15 02 58.4	+0.2
	comp=Z,5.5nm,0.7s,baz=36,slow=5.3,SNR=34						
GERES				LR	LR	15 40 37.7	
	comp=Z,2µm,18.8s,baz=26,slow=40						
O59A	Robesonia	75.32	41	P	P	15 02 57.6	-1.0
	baz=328						
T53A	Wise	75.37	48	P	P	15 02 58.8	-0.1
	baz=326						
BCLA	Clavier	75.44	344	⇑P	P	15 02 59.6	+0.6
Q57A	Strasburg	75.47	44	P	P	15 02 59.5	+0.1
	baz=327						
U52A	Thorn Hill	75.48	49	P	P	15 02 59.5	0.0
	baz=326						
V51A	Loudon	75.51	50	eP	P	15 02 59.6	0.0
	comp=Z,25nm,0.8s						
V51A	Loudon	75.51	50	P	P	15 02 59.4	-0.2
	baz=325						
SNF	Seneffe	75.52	345	⇑P	P	15 03 00.1	+0.7
CSKK	Cskako	75.54	335	eP	P	15 02 59.1	-0.5
W50A	Signal Mountai	75.55	51	eP	P	15 03 00.0	+0.1
	comp=Z,23nm,0.8s						
W50A	Signal Mountai	75.55	51	P	P	15 03 00.2	+0.3
	baz=325						
WRAB	Tennant Creek	75.61	206	PFAKE		15 03 10.0	+10
WRAB				LR	LR		
	comp=Z,1µm,22.0s						
CONA	Conrad Observa	75.62	336	eP	P	15 03 00.9	+0.7
	comp=Z,12nm,0.7s,SNR=13						
SOP	Sopron	75.68	336	eP	P	15 02 58.1	-2.4
CPCT	Cooper Cave	75.72	50	eP	P	15 03 01.2	+0.4
	comp=Z,31nm,0.7s						
T54A	Tazewell	75.74	47	P	P	15 03 01.2	+0.1
	baz=326						
P59A	Jarrettsville	75.81	42	P	P	15 03 00.6	-0.7
	baz=325						
V52A	Sevierville	75.83	49	eP	P	15 03 02.0	+0.5
	comp=Z,24nm,0.6s						
V52A	Sevierville	75.83	49	P	P	15 03 01.6	+0.2
	baz=326						
W51A	Cleveland	75.84	50	P	P	15 03 01.9	+0.3
	baz=325						
U53A	Fall Branch	75.86	48	P	P	15 03 01.5	-0.2
	baz=326						
DOU	Dourbes	75.87	344	⇑P	P	15 03 01.9	+0.5
	comp=Z,10nm,1.3s						
PSN	Preselentsi	75.89	327	eP	P	15 03 02.0	+0.3
PSN	Preselentsi	75.89	327	eP	P	15 03 05.3	+3.6
GOA	Goa	75.98	277	eP	P	15 03 02.6	0.0
GOA				IAmb	IAmb	15 03 05.2	
	comp=Z,38nm,0.4s						
X50B	Fort Payne	75.99	51	P	P	15 03 02.1	-0.3
	baz=325						
WLF	Walferdange	76.02	343	⇑P	P	15 03 04.9	+2.6
R57A	Stanardsville	76.04	44	P	P	15 03 02.0	-0.7
	baz=327						
T55A	Pulaski	76.05	46	P	P	15 03 02.1	-0.6
	baz=327						
TIH	Tihany	76.06	335	eP	P	15 03 03.1	+0.5
GZR	Gura Zlata	76.07	331	⇑iP	P	15 03 02.3	-0.5
GZR	Gura Zlata	76.07	331	⇑P	P	15 03 02.3	-0.5
U54A	Nelsons Funny	76.08	47	eP	P	15 03 03.2	+0.2
	comp=Z,21nm,0.8s						
U54A	Nelsons Funny	76.08	47	P	P	15 03 02.9	-0.1
	baz=326						
MOA	Molln	76.08	337	eP	P	15 03 03.3	+0.6
	comp=Z,8.7nm,1.1s						
BLA	Blacksburg	76.13	46	PFAKE		15 03 10.0	+6.8
BLA				LR	LR		
	comp=Z,966nm,19.0s						
BZS	Buzias	76.21	332	⇑iP	P	15 03 03.1	-0.4
BZS	Buzias	76.21	332	⇑P	P	15 03 03.1	-0.4
R58A	Rapidan	76.26	44	P	P	15 03 03.3	-0.6
	baz=328						
X51A	Calhoun	76.28	51	P	P	15 03 04.7	+0.6
	baz=325						
S57A	Dark Hollow, R	76.31	45	eP	P	15 03 04.8	+0.6
	comp=Z,32nm,1.3s						
S57A	Dark Hollow, R	76.31	45	P	P	15 03 05.0	+0.8
	baz=327						
V53A	Saluda	76.33	49	eP	P	15 03 05.2	+0.8
	comp=Z,8.2nm,0.8s						
V53A	Saluda	76.33	49	P	P	15 03 04.8	+0.4
	baz=326						
ARSA	Arzberg	76.33	336	eP	P	15 03 05.2	+1.0
	comp=Z,13nm,1.3s,SNR=9.3						
U55A	TA2, Sparta	76.44	47	P	P	15 03 05.4	+0.4
	baz=327						
T56A	Rocky Mt	76.45	46	P	P	15 03 05.2	+0.1
	baz=327						
PRD	Provadia	76.58	327	eP	P	15 03 07.9	+2.3
W53A	Cullowhee	76.58	49	P	P	15 03 05.3	-0.6
	baz=326						
Z49A	Columbiana	76.59	53	P	P	15 03 05.9	0.0
	baz=325						
R58B	Mineral	76.60	44	eP	P	15 03 05.9	+0.1
	comp=Z,27nm,1.3s						
R58B	Mineral	76.60	44	P	P	15 03 06.2	+0.4
	baz=328						
CBN	Corbin Frederi	76.61	43	PFAKE		15 03 20.0	+14
CBN				LR	LR		
	comp=Z,1µm,19.0s						
V54A	Nebo	76.63	48	P	P	15 03 05.8	-0.3
	baz=326						
X52A	Dahlonega	76.70	50	P	P	15 03 06.2	-0.3
	baz=326						
R59A	King George, V	76.72	43	P	P	15 03 05.6	-0.9
	baz=328						
Y51A	Rockmart	76.73	51	P	P	15 03 06.2	-0.4
	baz=325						
Z50A	Ashland	76.84	52	eP	P	15 03 06.9	-0.4
	comp=Z,31nm,0.8s						
Z50A	Ashland	76.84	52	P	P	15 03 07.1	-0.2
	baz=325						
U56A	King	76.86	47	P	P	15 03 06.6	-0.8
	baz=327						
BFO	Black Forest	76.90	341	eP	P	15 03 06.8	-0.6
	comp=Z,98nm,1.9s						
BFO				LR	LR		
	comp=Z,37nm,19.0s						
BFO	Black Forest	76.90	341	eP	P	15 03 06.8	-0.6
BFO				pmax	pmax		
	comp=Z,98nm,1.9s						
V55A	Taylorsville	76.90	47	P	P	15 03 07.1	-0.5
	baz=327						
MDVR	Moldovita	76.94	331	⇓iP	P	15 03 07.3	-0.4
149A	Jones	76.95	53	P	P	15 03 07.9	0.0
	baz=325						
SOKA	Soboth	76.99	337	eP	P	15 03 08.5	+0.5
	comp=Z,11nm,0.7s,SNR=11						
PERS	Pernice	77.01	336	iP	P	15 03 08.4	+0.3
PERS				eS	S	15 12 56.3	+2.0
KBA	Koelnbreinsper	77.02	338	eP	P	15 03 09.4	+1.1
	comp=Z,58nm,0.7s,SNR=52						
X53A	Estanollee	77.06	50	P	P	15 03 08.3	-0.2
	baz=326						
W54A	Cherokee Point	77.10	48	P	P	15 03 08.5	-0.2
	baz=326						
FRGS	Fruska Gora	77.15	333	eP	P	15 03 08.2	-0.6
WATA	Walderalm	77.17	339	eP	P	15 03 10.4	+1.3
	comp=Z,9.2nm,0.8s						
T58A	Grand View Acr	77.17	45	P	P	15 03 08.4	-0.7
	baz=328						
RETA	Reutte	77.20	340	eP	P	15 03 10.8	+1.6
	comp=Z,12nm,0.8s,SNR=5.7						
WTTA	Wattenberg	77.23	339	eP	P	15 03 10.5	+1.0
	comp=Z,28nm,1.3s,SNR=8.6						
Y52A	Lilburn	77.23	51	P	P	15 03 09.2	-0.3
	baz=326						
ECH	Echery	77.23	342	eP	P	15 03 08.7	-0.6
	comp=Z,36nm,1.3s						
ECH	Echery	77.23	342	eP	P	15 03 08.7	-0.6
ECH				pmax	pmax		
	comp=Z,36nm,1.3s						
U57A	Blanch	77.25	46	P	P	15 03 08.9	-0.6
	baz=327						
OBKA	Obir	77.27	337	eP	P	15 03 10.2	+0.6
	comp=Z,14nm,0.7s						
MOTA	Moosalm	77.27	339	eP	P	15 03 09.7	0.0
	comp=Z,11nm,0.6s						
150A	Eclectic	77.32	53	P	P	15 03 09.3	-0.6
	baz=325						
SQTA	Sankt Quirin	77.36	339	eP	P	15 03 10.5	+0.4
	comp=Z,16nm,0.7s,SNR=9.3						
MYKA	Terra Mystica	77.37	337	eP	P	15 03 11.1	+1.0
	comp=Z,4.4nm,0.6s						
BRTR	Keskin Array B	77.37	321	P	P	15 03 09.8	-0.5
	comp=Z,7.6nm,0.7s,baz=45,slow=3.7,SNR=12						
BRTR				LR	LR	15 43 12.5	
	comp=Z,1µm,18.2s,baz=20,slow=40						
KMSC	Kings Mountain	77.44	48	P	P	15 03 10.1	-0.5
	baz=327						
X54A	Belton	77.46	49	P	P	15 03 10.7	0.0
	baz=326						
JMB	Yambol	77.50	327	eP	P	15 03 12.6	+1.8
V57A	Coltrane Farms	77.52	46	P	P	15 03 10.9	-0.1
	baz=327						
ABTA	Abfaltersbach	77.52	338	eP	P	15 03 11.1	+0.1
	comp=Z,24nm,1.0s,SNR=13						
ANTO	Ankara	77.57	322	PFAKE		15 03 20.0	+8.6
ANTO				LR	LR		
	comp=Z,2µm,22.0s						
T59A	Double "B" Far	77.57	44	P	P	15 03 10.5	-0.8
	baz=328						
DAVA	Damuels	77.58	340	eP	P	15 03 12.5	+1.1
	comp=Z,20nm,1.2s,SNR=7.3						
Z52A	Williamson	77.61	51	P	P	15 03 10.7	-0.9
	baz=326						
U58A	Oxford	77.63	45	P	P	15 03 10.4	-1.3
	baz=328						
FETA	Feichten	77.66	339	eP	P	15 03 12.8	+1.0
	comp=Z,20nm,0.9s,SNR=13						
CRES	Cresnjev	77.68	336	eP	P	15 03 10.8	-1.0
LJU	Ljubljana	77.71	337	eP	P	15 03 10.8	-1.1
LJU	Ljubljana	77.71	337	eP	P	15 03 10.3	-1.6
HODGE	Hodges	77.77	49	eP	P	15 03 11.5	-0.9
	comp=Z,13nm,1.1s						
X55A	Gracelyn & Ava	77.86	48	P	P	15 03 11.8	-1.2
	baz=327						
Y54A	Tignall	77.88	50	P	P	15 03 12.6	-0.5
	baz=326						
GOGA	Godfrey	77.88	50	PFAKE		15 03 20.0	+6.9
GOGA				LR	LR		
	comp=Z,2µm,20.0s						
GOGA	Godfrey	77.88	50	P	P	15 03 13.4	+0.3
	baz=326						
V58A	Windy Hill, Pi	77.89	46	P	P	15 03 12.4	-0.6
	baz=328						
152A	Waverly Hall	77.90	52	eP	P	15 03 13.4	+0.2
	comp=Z,81nm,1.0s						
152A	Waverly Hall	77.90	52	P	P	15 03 13.8	+0.6
	baz=326						
Z53A	Monticello	77.94	50	P	P	15 03 13.6	+0.2
	baz=326						
BRAL	Brewton	77.98	54	PFAKE		15 03 30.0	+16
BRAL				LR	LR		
	comp=Z,1µm,19.0s						
BOJS	Bojanci	78.03	336	eP	P	15 03 13.6	-0.1
BOJS				eS	S	15 13 05.2	-0.1
W57A	Gilead	78.03	47	P	P	15 03 14.2	+0.3
	baz=327						
251A	Midway	78.04	52	P	P	15 03 12.7	-1.3
	baz=325						
DIVS	Divibare	78.07	332	eP	P	15 03 13.0	-1.1
X56A	White Oak	78.12	48	P	P	15 03 14.7	+0.4
	baz=327						
FUORN	Ofenpass-Fuorn	78.14	340	eP	P	15 03 14.4	-0.3
	comp=Z,30nm,0.8s						
PALK	Pallekele	78.16	267	eP	P	15 03 15.2	+0.3
	comp=Z,45nm,1.2s						
PALK	Pallekele	78.16	267	eP	P	15 03 15.2	+0.3
PALK				pmax	pmax		
	comp=Z,45nm,1.2s						
PALK	Pallekele	78.16	267	P	P	15 03 15.7	+0.8
	comp=Z,13nm,0.7s,baz=296,slow=2.1,SNR=5.6						
Y55A	Saluda	78.20	49	P	P	15 03 14.1	-0.7
	baz=327						
BLY	Banja Luka	78.24	334	eP	P	15 03 14.7	-0.2
CLF	Chambon-Foret	78.25	345	eP	P	15 03 14.7	-0.2
	comp=Z,123nm,1.6s						
V59A	Middlesex	78.30	45	P	P	15 03 15.2	-0.1
	baz=328						
Z54A	Sparta	78.32	50	P	P	15 03 15.4	-0.1
	baz=326						
BBLS	Lazići	78.45	332	eP	P	15 03 15.5	-0.7
TUE	Stuetta	78.47	340	eP	P	15 03 16.5	+0.1
	comp=Z,40nm,0.7s						
W58A	Raeford	78.48	46	P	P	15 03 15.4	-1.0
	baz=328						
UDBI	Udbina	78.82	335	P	P	15 03 19.0	+0.8
CNNC	Cliffs of the	78.89	45	PFAKE		15 03 30.0	+11
CNNC				LR	LR		
	comp=Z,1µm,20.0s						
SENIN	Lac Senin/Sane	78.98	342	eP	P	15 03 18.9	-0.3
	comp=Z,73nm,1.8s						
NVLJ	Novalja	79.01	336	P	P	15 03 18.8	-0.2
451A	Vernon	79.08	54	P	P	15 03 20.4	+0.7
	baz=325						
SKO	Skopje	79.59	330	iP	P	15 03 21.4	-0.9
NHSC	New Hope	79.66	48	PFAKE		15 03 30.0	+7.1
NHSC				LR	LR		
	comp=Z,2µm,20.0s						
TREB	Trebinje	79.80	333	eP	P	15 03 22.6	-0.9
PDG	Podgorica	79.81	332	eP	P	15 03 22.3	-1.2
STON	Ston	79.84	333	P	P	15 03 23.1	-0.6
STON	Ston	79.84	333	eP	P	15 03 22.3	-1.4
HCY	Herceg Novi	80.01	333	eP	P	15 03 24.0	-0.6
MANT	Manisa	80.35	324	eP	P	15 03 26.1	-0.7
	comp=Z,347nm,1.7s						
BNI	Bardonecchia	80.36	342	eP	P	15 03 27.4	+0.8
	comp=Z,30nm,1.0s						
SSB	Saint Sauveur	80.54	343	eP	P	15 03 27.0	-0.5
	comp=Z,42nm,1.3s						
AQU	L'Aquila	81.45	336	eP	P	15 03 32.6	+0.2
KPRO	Kipourio	81.45	330	P	P	15 03 32.9	+0.4
MBWA	Marble Bar	81.48	218	PFAKE		15 03 50.0	+17
MBWA				LR	LR		
	comp=Z,5.0nm,21.0s						
CSS	Mathiatis	81.62	319	eP	P	15 03 32.8	-0.6
	comp=Z,253nm,1.9s						
PPT	Papeete	81.93	133	LR	LR	15 34 09.3	
	comp=Z,915nm,19.3s,baz=301,slow=31						
PPT2	Papeete2	81.95	133	eS	S	15 13 48.8	+1.7
	comp=Z,771nm,26.5s						
PPT2	Papeete2	81.95	133	eLR	LR	15 29 21.0	
	comp=Z,2µm,24.5s,baz=329						
MNCY	Minicoy	82.08	273	eP	P	15 03 35.8	-0.2
TIP	Timpagrande	83.53	333	eP	P	15 03 43.1	-0.2
	comp=Z,26nm,1.0s						
TIP	Timpagrande	83.53	333	⇑iP	P	15 03 43.5	+0.2
PGAV	Gavieira, Arco	85.51	352	eLR	LR	15 38 44.9	
PBRG	Braganca	85.52	351	eP	P	15 03 55.3	+2.0
	comp=Z,60nm,1.7s						
MAHO	Mahon	85.80	342	P	P	15 03 52.5	-2.2
MAHO				S	S	15 14 25.1	-0.3
POLO	Lamas de Olo	86.05	351	eP	P	15 03 57.5	+1.5
	comp=Z,25nm,1.8s						
PVRL	Vila Real	86.14	351	eP	P	15 03 58.6	+2.2
	comp=Z,84nm,1.7s						
MVO	Moncorvo	86.19	351	eP	P	15 03 58.9	+2.3
	comp=Z,56nm,1.8s						
MVO	Moncorvo	86.19	351	eS	S	15 14 25.0	-4.4
MVO	Moncorvo	86.19	351	eLR	LR	15 38 45.9	
	comp=Z,1µm,20.0s						
UCM	Universidad Co	86.60	348	iP	P	15 03 58.7	+0.1
UCM				iS	S	15 14 31.8	-1.5
PVIS	Viseu	86.71	351	eP	P	15 04 01.2	+2.0
	comp=Z,27nm,1.5s						
MTE	Manteigas	86.99	351	eP	P	15 04 02.1	+1.5
	comp=Z,28nm,1.3s						
MTE	Manteigas	86.99	351	eS	S	15 14 33.9	-3.3
MTE	Manteigas	86.99	351	eLR	LR	15 39 01.9	
	comp=Z,1µm,16.0s						
MTE	Manteigas	86.99	351	eP	P	15 04 00.2	-0.4
	comp=Z,16nm,0.9s						
TBI	Tubuai	87.06	135	eS	S	15 14 39.2	+1.5
	comp=Z,1µm,26.9s						
TBI	Tubuai	87.06	135	eLR	LR	15 31 40.8	
	comp=Z,2µm,24.5s,baz=329						
ESDC	Sonseca Array	87.31	348	eP	P	15 04 01.6	-0.6
ESDC	Sonseca Array	87.31	348	P	P	15 04 02.2	0.0
	comp=Z,12nm,0.9s,baz=2.0,slow=5.0,SNR=31						
ESLA	Sonseca Array	87.31	348	eP	P	15 04 02.2	0.0
	comp=Z,29nm,1.2s						
PCAS	Casmilo, Conde	87.42	352	eP	P	15 04 04.7	+2.1
	comp=Z,43nm,2.0s						
PAB	San Pablo	87.49	348	eP	P	15 04 03.0	-0.1
	comp=Z,22nm,1.4s						
PAB				LR	LR		
	comp=Z,2µm,20.0s						
PAB	San Pablo	87.49	348	eP	P	15 04 03.0	-0.1
PAB				pmax	pmax		
	comp=Z,22nm,1.4s						
PAB				MLR	MLR		
	comp=Z,2µm,20.0

MESJ AMb AMB 15 04 15.0
comp=Z,19nm,1.9s
MESJ Messejana 89.59 351 *e*P **P 15 04 12.6 -0.3**
PVAQ Vaqueiros 89.98 351 *e*S **SKSac 15 14 50.3 +6.9**
MORF Marmelete 90.16 352 *e*P **P 15 04 15.1 -0.5**
MORF AMb AMB 15 04 17.1
comp=Z,57nm,1.5s
MORF Marmelete 90.16 352 *e*P **P 15 04 15.1 -0.5**
EMAL Malaga-Limoner 90.24 348 *i* P **P 15 04 14.4 -1.5**
EMAL *e*S SKSac 15 14 55.9 +11
SFS San Fernando 90.75 349 *e*P **P 15 04 19.4 +1.1**
MELI Melilla 91.49 347 *i* P **P 15 04 19.9 -1.8**
PVLZ Peæn de 91.79 348 *i* P **P 15 04 20.1 -3.1**
PVLZ Peæn de 91.79 348 *i* PP PP 15 08 01.9 +0.7
GTBY Guantanamo Bay 93.22 51 PFAKE 15 04 40.0 +10
GTBY LR LR
comp=Z,1μm,22.0s
MTDJ Mount Denham 93.49 54 PFAKE 15 04 40.0 +8.6
MTDJ LR LR
comp=Z,958nm,19.0s
GRTK Grand Turk 93.69 47 PFAKE 15 04 40.0 +7.9
GRTK LR LR
comp=Z,1μm,19.0s
RKT Rikitea 93.70 124 *e*LR LR 15 34 47.6
comp=Z,2μm,23.0s
AVE Averroes 94.01 350 *e*P P 15 04 39.2 +5.8
AVE *i* S **S 15 15 45.4 +3.6**
SNZO South Karori 94.14 169 PFAKE 15 04 50.0 +17
SNZO LR LR
comp=Z,1μm,19.0s
PMOZ Porto Moniz, M 95.10 358 *e*LR LR 15 37 42.9
comp=Z,401nm,20.0s
TAU Tasmania Unive 95.65 190 PFAKE 15 04 50.0 +10
TAU LR LR
comp=Z,699nm,19.0s
SDDR Presa de Saban 95.82 49 PFAKE 15 04 50.0 +8.0
SDDR LR LR
comp=Z,868nm,20.0s
JTS Las Juntas de 96.22 64 PFAKE 15 05 00.0 +16
JTS LR LR
comp=Z,625nm,22.0s
SJG San Juan 98.87 45 PFAKE 15 05 10.0 +14
SJG LR LR
comp=Z,623nm,20.0s
BCIP Isla Barro Col 99.93 61 PFAKE 15 05 10.0 +10
BCIP LR LR
comp=Z,623nm,21.0s
ANWB Willy Bob 101.08 41 PFAKE 15 05 20.0 +14
ANWB LR LR
comp=Z,609nm,19.0s
MSEY Mahe Island 102.95 279 PFAKE 15 05 30.0 +16
MSEY LR LR
comp=Z,1μm,19.0s
SDV Santo Domingo 104.89 53 PFAKE 15 05 30.0 +7.3
SDV LR LR
comp=Z,581nm,20.0s
BBGH Gun Hill 106.07 41 PFAKE 15 09 50.0 +10
BBGH LR LR
comp=Z,1μm,21.0s
GRGR Grenville 106.12 43 PFAKE 15 09 50.0 +10
GRGR LR LR
comp=Z,645nm,20.0s
OTAV Otavalo 108.12 65 PFAKE 15 10 00.0 +16
OTAV LR LR
comp=Z,93nm,20.0s
KMBO Kilima Mbogo 110.66 297 PFAKE 15 10 00.0 +11
KMBO LR LR
comp=Z,970nm,20.0s
MBAR Mbarara 113.67 303 PFAKE 15 10 10.0 +16
MBAR LR LR
comp=Z,448nm,19.0s
PTGA Pitinga 118.34 48 PFAKE 15 10 10.0 +7.0
PTGA LR LR
comp=Z,9μm,20.0s
NNA Nana 119.00 71 PFAKE 15 10 20.0 +16
NNA LR LR
comp=Z,199nm,20.0s
ABPO Ambohimpanom 119.12 277 PFAKE 15 10 20.0 +15
ABPO LR LR
comp=Z,605nm,20.0s
DBIC Dimbokro 119.86 343 PKP **PKiKP 15 10 06.5 +0.5**
comp=Z,6.5nm,1.1s,baz=331,slow=9.7,SNR=3.7
LSZ Lusaka 127.32 297 PFAKE 15 10 30.0 +9.3
LSZ LR LR
comp=Z,2μm,19.0s
SBA Scott Base 130.06 178 PFAKE 15 10 40.0 +16
SBA LR LR
comp=Z,721nm,20.0s
LVC Limon Verde 131.99 71 PFAKE 15 10 40.0 +10
LVC LR LR
comp=Z,356nm,20.0s
TSUM Tsumeb 136.16 305 PFAKE 15 10 50.0 +12
TSUM LR LR
comp=Z,701nm,19.0s
BOSA Boshof 139.48 288 PKP **PKPdf 15 10 43.8 +1.1**
comp=Z,5.7nm,0.9s,baz=24,slow=3.9,SNR=3.1
QSPA South Pole Qui 142.16 180 PFAKE 15 11 00.0 +11
QSPA LR LR
comp=Z,730nm,20.0s
PLCA Paso Flores 143.63 92 PKP **PKPdf 15 10 50.1 +0.4**
comp=Z,3.8nm,1.1s,baz=315,slow=1.4,SNR=3.1
SUR Sutherland 144.84 289 PFAKE 15 11 00.0 +4.0
SUR LR LR
comp=Z,2μm,20.0s
TRQA Tornquist 147.22 81 *e*PKPbc **PKPbc 15 10 58.3 +0.1**
TRQA LR LR
comp=Z,3.0nm,22.0s
TRQA Tornquist 147.22 81 *e*PKP2 **PKPbc 15 10 58.3 +0.1**
SYO Syowa Base 148.36 216⇑ *e*PKPdf **PKPdf 15 10 58.0 +1.3**
SYO Syowa Base 148.36 216⇓ *e*PKPbc **PKiKP 15 11 02.4 +0.6**
SYO Syowa Base 148.36 216⇓ *e*pPKPdf **PKPab 15 11 10.0 +6.5**
SYO Syowa Base 148.36 216⇓ *i*pPKPbc PKPab 15 11 14.6 +11
EFI East Falkland 156.34 104 PFAKE 15 11 20.0 +11
EFI LR LR
comp=Z,1μm,20.0s
HOPE Hope Point 169.56 107 PFAKE 15 11 30.0 +8.4
HOPE LR LR
comp=Z,642nm,20.0s

NIED ***21*** *14:51:00,45.°20N×142.°90E,h300km,Mw5.0 Best double couple: M0=4.04000×10^16 NP1:φs=68.00000°, δ66.00000°,λ-178.00000°. NP2:φs=337.00000°, δ88.00000°,λ-24.00000°.*
BJI ***21*** *14:51:46.5±0.0,45.°18N×142.°90E,h272km,mb5.3/72, mB4.9/31*
ISCJB ***21*** *14:51:47.4±0.1,45.°11N±0.°02×142.°84E±0.°02, h277km±1km,mb5.1/222,Error ellipse: s-maj=2.6km s-min=1.9km az=149.0*
MOS ***21*** *14:51:47.4±0.9,45.°16N×142.°88E,h282km,mb5.1/62, Error ellipse: s-maj=6.6km s-min=5.2km az=111.4*
NEIC ***21*** *14:51:48.1±0.3,45.°14N×142.°84E,h272km±3km, mb5.1/166,Error ellipse: s-maj=4.1km s-min=2.2km az=161.0*
NEIC Recorded [2 JMA] in Aomori, Honshu.
IDC ***21*** *14:51:48.2±0.4,45.°29N×142.°84E,h267km±4km,mb4.7/27, mb1 4.9/33,mb1mx4.6/56,mbtmp5.4/33,Error ellipse: s-maj=9.4km s-min=7.2km az=154.0*
JMA ***21*** *14:51:48.1±0.2,45.°17N×142.°91E,h277km±2km,M5.0*
JMA Felt II J1.
SKHL ***21*** *14:51:49.3±0.6,45.°17N×142.°84E,h270km±25km,mb5.8/3, Ms5.5/5,msh6.0/4*
ISC 21 14:51:48.0±0.4,45.°13N±0.°03×142.°85E±0.°03,h273km±3km, n1137,σ1904/1197,mb5.1/222,105C-49D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.25**	**227**	⇑P	**Pn**	**14 52 23.6**	**+0.6**
JSE				*e*S	**S**	**14 52 50.6**	**-0.1**
JWK2	**Keihoku**	**0.69**	**286**	⇑P	**Pn**	**14 52 25.2**	**+1.1**
JWK2				*e*S	**S**	**14 52 53.2**	**+0.6**
JSS	**Shosan**	**1.02**	**224**	⇑P	**Pn**	**14 52 26.7**	**+1.1**
JSS				*e*S	**S**	**14 52 56.6**	**+1.3**
ASAJ	**Asahikawa**	**1.03**	**190**	⇑P	**Pn**	**14 52 26.8**	**+1.1**
ASAJ				*e*S	**S**	**14 52 57.1**	**+1.6**
ASAJ	**Asahikawa**	**1.03**	**190**	P	**Pn**	**14 52 26.9**	**+1.1**
ASAJ	463nm,0.3s,baz=3.2,slow=6.5,SNR=4248			S	**S**	**14 52 56.3**	**+0.8**
	70nm,0.3s,baz=222,slow=32,SNR=9.6						
JRR	**Rishiri**	**1.08**	**271**	⇑P	**Pn**	**14 52 26.7**	**+0.8**
JRR				*e*S	**S**	**14 52 56.9**	**+1.1**
JMP	**Maruseppu**	**1.18**	**162**	⇑P	**Pn**	**14 52 27.3**	**+0.7**
JMP				*e*S	**S**	**14 52 57.5**	**+0.4**
JYG	**Yagishiri**	**1.23**	**236**	⇑P	**Pn**	**14 52 27.7**	**+0.9**
JYG				*e*S	**S**	**14 52 58.6**	**+1.2**
JKK2	**Kamakawa 2**	**1.26**	**183**	⇑P	**Pn**	**14 52 28.1**	**+1.1**
JKK2				*e*S	**S**	**14 52 59.3**	**+1.4**
JTKR	**Abashiri--Toko**	**1.39**	**146**	⇓P	**Pn**	**14 52 28.7**	**+0.9**
JTKR				*e*S	**S**	**14 52 59.9**	**+0.6**
JHR	**Hokuryu**	**1.60**	**210**	⇑P	**Pn**	**14 52 30.6**	**+1.3**
JAB	**Ashibetsu**	**1.69**	**196**	⇑P	**Pn**	**14 52 31.1**	**+1.2**
YSS	**Yuzh-Sakhalins**	**1.82**	**358**	*e*Pn	**Pn**	**14 52 31.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**1.82**	**358**	α *i*PN	**Pn**	**14 52 31.1**	**+0.3**
YSS				*e*S	**S**	**14 53 03.6**	**-1.3**
YSS	comp=Z,2μm,0.8s			pmax	pmax		
YSS	comp=N,7μm,0.8s			smax	smax		
YSS	comp=E,5μm,0.6s			smax	smax		
YSS	comp=E,9μm,2.0s			smax	smax		
YSS	**Yuzh-Sakhalins**	**1.82**	**358**	⇑ *i*P	**Pn**	**14 52 31.1**	**+0.3**
YSS	comp=E,2μm,0.4s			AMB	AMB	14 52 31.3	
YSS				*e*S	**S**	**14 53 03.4**	**-1.5**
YSS				A	A	14 53 04.6	
YSS	comp=E,7μm,0.7s			A	A	14 53 04.6	
YSS	comp=E,5μm,0.7s			A	A	14 53 05.3	
YSS	comp=E,9μm,2.0s			A	A	14 53 05.3	
JAR	**Ashorobuto**	**1.95**	**160**	⇑P	**Pn**	**14 52 33.1**	**+1.1**
JAR				*e*S	**S**	**14 53 07.8**	**+0.8**
JFR	**Furan**	**1.98**	**185**	⇑P	**Pn**	**14 52 33.1**	**+0.8**
KHLM	**Kholmsk**	**2.00**	**344**	*e*P	**Pn**	**14 52 32.6**	**+0.3**
KHLM				AMB	AMB	14 52 33.1	
KHLM	comp=E,1μm,0.6s			*e*S	**S**	**14 53 06.9**	**-0.6**
KHLM				A	A	14 53 08.4	
KHLM	comp=E,9μm,0.8s			A	A	14 53 08.4	
KHLM	comp=E,12μm,0.8s						
JRA	**Rausu**	**2.02**	**125**	⇓P	**Pn**	**14 52 33.5**	**+1.0**
JNK	**Nakash**	**2.05**	**138**	⇓P	**Pn**	**14 52 33.4**	**+0.5**
JISS	**Ishikarishitsu**	**2.12**	**209**	P	**Pn**	**14 52 35.5**	**+2.0**
JOB	**Onbets**	**2.34**	**162**	⇑P	**Pn**	**14 52 35.7**	**+0.2**
LAGR	**Lagunnoye**	**2.36**	**116**	*d* iPN	**Pn**	**14 52 36.2**	**+0.6**
LAGR				*e*S	**S**	**14 53 12.7**	**-0.7**
LAGR	comp=N,1μm,0.6s			pmax	pmax		
LAGR	comp=Z,8μm,0.6s			pmax	pmax		
LAGR	comp=E,1μm,0.3s			pmax	pmax		
LAGR	**Lagunnoye**	**2.36**	**116**	⇑ *i*P	**Pn**	**14 52 36.2**	**+0.6**
LAGR	comp=E,1μm,0.6s			AMB	AMB	14 52 36.9	
LAGR	comp=E,1μm,0.6s			AMB	AMB	14 52 36.9	
LAGR	comp=E,8μm,0.6s			AMB	AMB	14 52 36.9	
LAGR				*e*S	**S**	**14 53 12.7**	**-0.7**
GLVR	**Golovnino**	**2.37**	**125**	*e*P	**Pn**	**14 52 36.3**	**+0.6**
GLVR				AMB	AMB	14 52 39.3	
GLVR	comp=E,470nm,0.4s			AMB	AMB	14 52 39.3	
GLVR	comp=E,1μm,0.4s			AMB	AMB	14 52 39.3	
GLVR	comp=E,4μm,0.4s			AMB	AMB	14 52 39.3	
GLVR				*e*S	**S**	**14 53 13.1**	**-0.4**
GRPR	**Tuman**	**2.38**	**118**	*d* iPN	**Pn**	**14 52 36.5**	**+0.7**
GRPR				*i* S	**S**	**14 53 13.7**	**-0.1**
GRPR	comp=N,1μm,0.5s			pmax	pmax		
GRPR	comp=E,4μm,0.5s			pmax	pmax		
GRPR	comp=Z,5μm,0.5s			pmax	pmax		
GRPR	**Tuman**	**2.38**	**118**	*e*P	**Pn**	**14 52 36.5**	**+0.7**
GRPR				AMB	AMB	14 52 37.6	
GRPR	comp=Z,1μm,0.5s			AMB	AMB	14 52 37.6	
GRPR	comp=Z,4μm,0.5s			AMB	AMB	14 52 37.6	
GRPR	comp=Z,5μm,0.5s						
GRPR				*e*S	**S**	**14 53 13.7**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**2.42**	**116**	*d* iPN	**Pn**	**14 52 36.7**	**+0.6**
YUK				*e*S	**S**	**14 53 14.0**	**-0.4**
YUK	comp=E,1μm,0.7s			pmax	pmax		
YUK	comp=Z,5μm,0.7s			pmax	pmax		
YUK	comp=N,1μm,0.3s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**2.42**	**116**	⇓ *i*P	**Pn**	**14 52 37.7**	**+1.6**
YUK				AMB	AMB	14 52 38.3	
YUK	comp=N,10μm,0.5s			*e*S	**S**	**14 53 17.1**	**+2.7**
JSK	**Shakotan**	**2.46**	**225**	⇑P	**Pn**	**14 52 37.8**	**+1.2**
JEW	**Eniwo**	**2.50**	**204**	⇑P	**Pn**	**14 52 38.5**	**+1.5**
JEW				*e*S	**S**	**14 53 17.7**	**+1.8**
JAK	**Akkeshi**	**2.52**	**147**	⇓P	**Pn**	**14 52 36.2**	**-0.9**
JAK				*e*S	**S**	**14 53 14.1**	**-2.0**
JCH	**Churui**	**2.54**	**171**	⇑P	**Pn**	**14 52 36.7**	**-0.7**
JCH				*e*S	**S**	**14 53 13.6**	**-3.1**
JIAM	**Iburiatsuma**	**2.60**	**195**	P	**Pn**	**14 52 39.3**	**+1.4**
NEM2	**Nemuro 2**	**2.73**	**129**	⇓P	**Pn**	**14 52 37.5**	**-1.7**
NEM2				*e*S	**S**	**14 53 16.5**	**-3.4**
JNBK	**Urakawa-nobuka**	**2.85**	**181**	⇑P	**Pn**	**14 52 40.1**	**-0.3**
JTHR	**Tokachihiroo**	**2.86**	**173**	⇑P	**Pn**	**14 52 39.2**	**-1.3**
JNB	**Noboribetsu**	**2.97**	**207**	⇑P	**Pn**	**14 52 42.5**	**+0.9**
ERM	**Erimo**	**3.12**	**176**	*e*Pn	**Pn**	**14 52 43.2**	**-0.1**
ERM	**Erimo**	**3.12**	**176**	*c* iPN	**Pn**	**14 52 43.2**	**-0.1**
JSH	**Shimam**	**3.21**	**220**	⇑P	**Pn**	**14 52 45.3**	**+1.2**
JHST	**Hiyamasetana**	**3.46**	**219**	⇑P	**Pn**	**14 52 48.0**	**+1.2**
JKB	**Kayabe**	**3.50**	**203**	⇑P	**Pn**	**14 52 47.3**	**0.0**
JKB				S	**S**	**14 53 31.9**	**-2.6**
KUR	**Kuril'sk**	**3.55**	**87**	*d* iPN	**Pn**	**14 52 48.4**	**+0.7**
KUR				*i* S	**S**	**14 53 35.6**	**+0.2**
KUR	comp=Z,3μm,0.5s			pmax	pmax		
KUR	comp=E,549nm,0.6s			pmax	pmax		
KUR	comp=N,598nm,0.3s			pmax	pmax		
KUR	comp=Z,8μm,1.1s			smax	smax		
KUR	comp=N,236nm,0.6s			smax	smax		
KUR	comp=E,358nm,0.6s			smax	smax		
KUR	comp=N,10μm,2.9s			smax	smax		
KUR	comp=E,4μm,1.6s						
KUR	**Kuril'sk**	**3.55**	**87**	⇓ *i*P	**Pn**	**14 52 48.5**	**+0.7**
KUR				AMB	AMB	14 52 49.2	
KUR	comp=E,6μm,0.9s			*e*S	**S**	**14 53 35.4**	**0.0**
KUR				A	A	14 53 38.1	
KUR	comp=E,900nm,0.9s			A	A	14 53 38.1	
KUR	comp=E,1μm,0.9s			AMS	AMS	14 58 41.6	
KUR	comp=E,42μm,18.0s			AMS	AMS	14 58 41.6	
KUR	comp=E,40μm,18.0s			AMS	AMS	14 58 41.6	
KUR	comp=E,20μm,18.0s						
JOT	**Ohata**	**3.97**	**200**	⇑P	**Pn**	**14 52 52.1**	**-0.4**
UGL	**Uglegorsk**	**3.98**	**353**	⇑ iPN	**Pn**	**14 52 53.1**	**+0.6**
UGL				*i* S	**S**	**14 53 44.0**	**0.0**
UGL	comp=Z,3μm,1.5s			pmax	pmax		
UGL	comp=Z,1μm,1.3s			pmax	pmax		
UGL	comp=E,795nm,0.7s			pmax	pmax		
UGL	comp=E,14μm,3.0s			smax	smax		
UGL	comp=N,17μm,1.8s			smax	smax		
UGL	comp=E,2μm,0.8s			smax	smax		
UGL	comp=N,3μm,1.1s			smax	smax		
UGL	**Uglegorsk**	**3.98**	**353**	⇑ *i*P	**Pn**	**14 52 53.1**	**+0.6**
UGL	comp=N,3μm,1.5s			AMB	AMB	14 52 54.0	
UGL	comp=N,1μm,0.9s			AMB	AMB	14 52 54.4	
UGL				*i* S	**S**	**14 53 44.4**	**+0.4**
UGL	comp=N,17μm,2.0s			A	A	14 53 46.0	
UGL	comp=N,14μm,2.0s			A	A	14 53 46.0	
UGL	comp=N,3μm,1.1s			A	A	14 53 47.2	
UGL	comp=N,2μm,1.1s			A	A	14 53 47.2	
JSR	**Shiriuchi**	**4.01**	**207**	⇑P	**Pn**	**14 52 53.0**	**0.0**
JAHD	**Aomorihigashid**	**4.02**	**196**	⇑P	**Pn**	**14 52 52.1**	**-1.0**
JARK	**Aomorirokkasho**	**4.26**	**195**	P	**Pn**	**14 52 54.8**	**-1.1**
TEY	**Ternei**	**4.42**	**271**	⇓ iPN	**Pn**	**14 52 58.8**	**+1.2**
TEY				*e*S	**S**	**14 53 49.9**	**-3.4**
TEY	comp=E,540nm,0.7s			pmax	pmax		
TEY	comp=E,1μm,2.1s			pmax	pmax		
TEY	comp=Z,1μm,3.1s			pmax	pmax		
TEY	comp=N,50nm,0.6s			pmax	pmax		
TEY	comp=Z,610nm,0.6s			pmax	pmax		
TEY	comp=E,3μm,3.1s			smax	smax		
TEY	comp=N,8μm,5.9s			smax	smax		
TEY	**Ternei**	**4.42**	**271**	⇓ *i*P	**Pn**	**14 52 58.6**	**+1.0**
TEY				AMB	AMB	14 52 59.4	
TEY	comp=N,610nm,0.6s			*e*S	**S**	**14 53 52.9**	**-0.4**
TEY				A	A	14 53 54.3	
TEY	comp=N,8μm,3.1s			A	A	14 53 54.3	
TEY	comp=N,3μm,3.1s			A	A	14 53 55.3	
TEY	comp=N,590nm,1.1s			A	A	14 53 55.3	
TEY	comp=N,370nm,1.1s						
JSI2	**Shiura 2**	**4.45**	**204**	⇑P	**Pn**	**14 52 57.9**	**-0.1**
JTM	**Tenmabayashi**	**4.53**	**197**	⇑P	**Pn**	**14 52 58.2**	**-0.8**
JHHS	**Hirosakihyakuz**	**4.83**	**203**	P	**Pn**	**14 53 02.5**	**-0.1**
JANG	**Nango**	**4.86**	**192**	⇑P	**Pn**	**14 53 01.0**	**-1.9**
JIW	**Iwasaki**	**4.99**	**206**	⇑P	**Pn**	**14 53 04.0**	**-0.5**
JKEN	**Kujiedanarisaw**	**4.99**	**190**	P	**Pn**	**14 53 03.0**	**-1.5**
JAH	**Hinai**	**5.20**	**199**	⇑P	**Pn**	**14 53 06.3**	**-0.7**
JTH	**Tanohata**	**5.24**	**188**	⇑P	**Pn**	**14 53 05.3**	**-2.1**
JNTW	**Noshirotokiwa**	**5.24**	**203**	P	**Pn**	**14 53 07.3**	**-0.2**
JKZ	**Kuzumaki**	**5.26**	**193**	⇑P	**Pn**	**14 53 06.6**	**-1.2**
JSZI	**Iwateshizukuis**	**5.57**	**195**	⇑P	**Pn**	**14 53 10.8**	**-0.6**
MIYJ	**Miyakonagasawa**	**5.60**	**188**	⇑P	**Pn**	**14 53 10.1**	**-1.7**
TYV	**Tymovskoe**	**5.74**	**359**	*e*PN	**Pn**	**14 53 13.0**	**-0.3**
TYV				*e*S	**S**	**14 54 20.0**	**-1.6**
TYV	comp=Z,349nm,0.8s			pmax	pmax		
TYV	comp=E,171nm,0.9s			smax	smax		
TYV	**Tymovskoe**	**5.74**	**359**	⇑ *i*P	**Pn**	**14 53 12.9**	**-0.3**
TYV				AMB	AMB	14 53 14.4	
TYV	comp=E,820nm,0.5s			*e*S	**S**	**14 54 19.7**	**-1.9**
TYV				A	A	14 54 23.8	
TYV	comp=E,360nm,1.0s			A	A	14 54 23.8	
TYV	comp=E,410nm,1.0s			AMS	AMS	14 54 40.7	
TYV	comp=E,36μm,14.0s			AMS	AMS	14 54 40.7	
TYV	comp=E,39μm,14.0s						
JOM	**Ohasama**	**5.77**	**192**	⇑P	**Pn**	**14 53 12.7**	**-1.2**
JOG3	**Oga3**	**5.90**	**209**	P	**Pn**	**14 53 11.9**	**-3.6**
JYW	**Yuwa**	**5.92**	**200**	⇑P	**Pn**	**14 53 15.4**	**-0.2**
JRG	**Rokugo**	**5.96**	**197**	⇑P	**Pn**	**14 53 15.8**	**-0.4**
OFUJ	**Ofunato**	**6.11**	**189**	⇑P	**Pn**	**14 53 16.7**	**-1.3**
JMK	**Ichinoseki**	**6.29**	**192**	⇑P	**Pn**	**14 53 19.0**	**-1.2**
JKMT	**Kesennumamotoy**	**6.40**	**190**	P	**Pn**	**14 53 20.4**	**-1.1**
JTB	**Tobi-shima**	**6.42**	**204**	⇑P	**Pn**	**14 53 21.1**	**-0.6**
JYK	**Kaneyama**	**6.48**	**197**	P	**Pn**	**14 53 21.7**	**-0.8**
JYYZ	**Yamagatayuza**	**6.48**	**201**	P	**Pn**	**14 53 22.6**	**0.0**
JOFO	**Osakifurukawao**	**6.68**	**193**	P	**Pn**	**14 53 24.4**	**-0.6**
JIO	**Ouri**	**6.76**	**190**	P	**Pn**	**14 53 24.7**	**-1.3**
JIKH	**Ishinomakikobu**	**6.89**	**189**	P	**Pn**	**14 53 26.1**	**-1.5**
JOU	**Okura**	**6.95**	**194**	⇑P	**Pn**	**14 53 27.9**	**-0.5**
GRNR	**Gornyy**	**7.10**	**325**	⇓ iPN	**Pn**	**14 53 32.5**	**+2.5**
GRNR	comp=N,140nm,0.5s			pmax	pmax		
GRNR	comp=Z,240nm,0.5s			pmax	pmax		
GRNR	**Gornyy**	**7.10**	**325**	⇓ *i*P	**Pn**	**14 53 32.7**	**+2.7**
GRNR				AMB	AMB	14 53 32.8	
GRNR	comp=Z,140nm,0.5s			AMB	AMB	14 53 32.8	
GRNR	comp=Z,240nm,0.5s						
GRNR				⇓ *i*P	**Pn**	**14 53 33.0**	**+3.0**
GRNR				AMB	AMB	14 53 34.5	
GRNR	comp=Z,240nm,0.5s						
GRNR				*e*S	**S**	**14 54 56.3**	**+4.1**
JAW	**Awa shima**	**7.19**	**203**	⇑P	**Pn**	**14 53 30.6**	**-0.7**
JYS	**Shirataka**	**7.21**	**198**	P	**Pn**	**14 53 31.4**	**-0.2**
JMM	**Marumori**	**7.42**	**193**	P	**Pn**	**14 53 32.9**	**-1.3**
JYAR	**Yonezawaarcadi**	**7.49**	**197**	P	**Pn**	**14 53 34.7**	**-0.4**
JNS	**Sasagawa**	**7.77**	**201**	P	**Pn**	**14 53 37.8**	**-0.7**
USA0B	**Ussuriysk Arra**	**7.80**	**267**	*e*Pn	**Pn**	**14 53 39.6**	**+0.9**
USRK	**Ussuriysk Ar.**	**7.80**	**267**	*e*Pn	**Pn**	**14 53 39.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**7.80**	**267**	P	**Pn**	**14 53 40.2**	**+1.5**
USRK	comp=Z,20nm,0.3s,baz=82,slow=11,SNR=518			S	**S**	**14 55 08.5**	**+0.3**
	baz=84,slow=18,SNR=5.5						
JFT	**Otama**	**7.84**	**195**	P	**Pn**	**14 53 38.8**	**-0.6**
JFK	**Kawauchi**	**7.90**	**191**	P	**Pn**	**14 53 38.9**	**-1.3**
JFY	**Yanaizu**	**8.07**	**198**	P	**Pn**	**14 53 41.9**	**-0.4**
VLA	**Vladivostok**	**8.14**	**260**	*d* iPN	**Pn**	**14 53 44.2**	**+1.2**
VLA	**Vladivostok**	**8.14**	**260**	*e*P	**Pn**	**14 53 44.2**	**+1.2**
NKL	**Nikolayevsk**	**8.15**	**351**	*e*PN	**Pn**	**14 53 43.0**	**0.0**
NKL	comp=Z,88nm,1.1s			pmax	pmax		
NKL	**Nikolayevsk**	**8.15**	**351**	*e*P	**Pn**	**14 53 42.7**	**-0.3**
NKL				AMB	AMB	14 53 44.2	
NKL	comp=Z,88nm,1.1s			AMB	AMB	14 54 20.0	
NKL	comp=Z,4μm,9.0s						
NKL				*e*S	**S**	**14 55 17.0**	**+1.0**
ONAJ	**Iwakimizuishiy**	**8.17**	**192**	P	**Pn**	**14 53 42.1**	**-1.5**
JIZZ	**Izumozaki**	**8.20**	**204**	P	**Pn**	**14 53 44.2**	**+0.3**
JFFD	**Fukushimafurud**	**8.22**	**193**	P	**Pn**	**14 53 42.7**	**-1.4**
JHK	**Hiroka**	**8.39**	**201**	P	**Pn**	**14 53 45.5**	**-0.7**
OKH	**Okha**	**8.43**	**0**	*e*P	**Pn**	**14 53 46.8**	**+0.4**
OKH				AMB	AMB	14 53 53.4	
OKH	comp=Z,170nm,0.8s			AMB	AMB	14 54 48.0	
OKH	comp=Z,2μm,10.0s			AMB	AMB	14 54 48.0	
OKH	comp=Z,280nm,0.6s						
OKH				*e*S	**S**	**14 55 29.5**	**+7.1**
OKH				A	A	14 55 31.0	
OKH	comp=Z,80nm,1.4s			AMS	AMS	14 59 29.6	
OKH	comp=Z,45μm,14.0s			AMS	AMS	14 59 29.6	
OKH	comp=Z,32μm,14.0s						
JSB	**Shiboa**	**8.45**	**196**	P	**Pn**	**14 53 46.6**	**-0.4**
JHG	**Hegura jima**	**8.53**	**213**	P	**Pn**	**14 53 47.9**	**0.0**
KLR	**Kul'dur**	**8.60**	**302**	P	**Pn**	**14 53 49.6**	**+1.0**
	comp=Z,51nm,0.3s,baz=114,slow=13,SNR=1050						
JHO	**Hitachi**	**8.69**	**192**	P	**Pn**	**14 53 47.9**	**-2.0**
JSZ	**Suzu**	**8.71**	**210**	P	**Pn**	**14 53 50.1**	**-0.1**
JJN	**Nakama**	**8.76**	**205**	P	**Pn**	**14 53 50.8**	**-0.1**
JKT	**Katashina**	**8.79**	**199**	P	**Pn**	**14 53 50.8**	**-0.5**
MSHR	**Mys Shultsa**	**8.82**	**257**	*d* iPN	**Pn**	**14 53 52.1**	**+0.6**
JAG	**Ashikaga**	**9.07**	**198**	P	**Pn**	**14 53 53.8**	**-0.9**
JGK	**Kuni**	**9.13**	**202**	P	**Pn**	**14 53 55.4**	**-0.2**
MJB9	**Matsu-Tunnel**	**9.27**	**204**	*e*Pn	**Pn**	**14 53 56.4**	**-0.9**
MAJO	**Matsushiro**	**9.27**	**204**	*e*Pn	**Pn**	**14 53 56.3**	**-1.0**
MAJO	**Matsushiro**	**9.27**	**204**	*c* iPN	**Pn**	**14 53 56.3**	**-1.0**
MAT	**Matsushiro**	**9.27**	**204**	P	**Pn**	**14 53 56.3**	**-1.0**
MAT				S	**S**	**14 55 38.4**	**-3.8**

MAT	**Matsushiro**	**9.27 204**	P	**Pn**	**14 53 56.6**	**-0.7**
MJAR	**Matsushiro Arr**	**9.27 204**	*e*Pn	**Pn**	**14 53 56.0**	**-1.3**
MJAR	**Matsushiro Arr**	**9.27 204**	*e*PN	**Pn**	**14 53 56.0**	**-1.3**
MJAR	**Matsushiro Arr**	**9.27 204**	P	**Pn**	**14 53 56.6**	**-0.6**
	comp=Z,17nm,0.3s,baz=7.6,slow=13,SNR=755					
JJH	**Hakui**	**9.39 211**	P	**Pn**	**14 53 58.5**	**-0.2**
MDJ	**Mudanjiang**	**9.43 272**	ScS	ScS	15 06 18.9	-10
MDJ	**Mudanjiang**	**9.43 272**	P	**Pn**	**14 53 59.9**	**+0.8**
MDJ			pmax	pmax		
	comp=Z,640nm,0.9s					
JNG	**Nsakai**	**9.43 204**	P	**Pn**	**14 53 58.6**	**-0.7**
JTT	**Ttatey**	**9.48 208**	P	**Pn**	**14 53 59.5**	**-0.4**
JRY	**Ryogami san**	**9.59 200**	P	**Pn**	**14 54 00.1**	**-1.1**
JGN	**Niukaw**	**9.84 207**	P	**Pn**	**14 54 03.8**	**-0.6**
JNT	**Takato**	**9.91 203**	P	**Pn**	**14 54 04.4**	**-1.0**
JKG	**Kaga**	**10.13 211**	P	**Pn**	**14 54 07.6**	**-0.3**
JYN	**Shimob**	**10.17 200**	P	**Pn**	**14 54 06.9**	**-1.6**
EKMR	**Ekimchan**	**10.25 324**	⇓*i*P	**Pn**	**14 54 08.9**	**-0.3**
EKMR			AMB	AMB	14 54 10.1	
	comp=Z,340nm,0.9s					
EKMR			AMB	AMB	14 54 10.1	
	comp=Z,86nm,0.9s					
EKMR			AMB	AMB	14 54 10.1	
	comp=Z,520nm,0.9s					
JOD2	**Odawara 2**	**10.27 198**	P	**Pn**	**14 54 07.4**	**-2.3**
JGF	**Kuroka**	**10.40 206**	P	**Pn**	**14 54 10.5**	**-0.8**
SKR	**Severo-Kuril's**	**10.49 53**	*e*P	**Pn**	**14 54 13.2**	**+1.0**
SKR			AMB	AMB	14 54 14.0	
	comp=Z,1μm,0.7s					
JHTM	**Izuhatsuma**	**10.58 197**	P	**Pn**	**14 54 11.4**	**-2.1**
JYTA	**Yamagatataniai**	**10.60 208**	P	**Pn**	**14 54 13.0**	**-0.8**
INU	**Inuyama**	**10.73 206**	*e*Pn	**Pn**	**14 54 14.3**	**-1.1**
JSG	**Sagara**	**11.04 200**	P	**Pn**	**14 54 19.5**	**+0.3**
PAU	**Pauzhetka**	**11.25 51**	*e*P	**Pn**	**14 54 21.3**	**-0.2**
PAU			AMB	AMB	14 54 22.5	
	comp=Z,2μm,0.8s					
JWT	**Wachi**	**11.36 213**	P	**Pn**	**14 54 22.8**	**-0.3**
JIE	**Ise**	**11.71 206**	P	**Pn**	**14 54 26.2**	**-1.3**
JAD	**Aida**	**12.15 216**	P	**Pn**	**14 54 32.8**	**-0.1**
JHJ	**Hachijo jima 2**	**12.23 192**	P	**Pn**	**14 54 33.3**	**-0.6**
	comp=Z,329nm,0.3s,baz=86,slow=21,SNR=62					
JHJ			S	**S**	**14 56 42.0**	**-8.0**
	comp=Z,22nm,0.3s,baz=233,slow=20,SNR=4.8					
JHJ2	**Mitsune**	**12.23 192**	*e*Pn	**Pn**	**14 54 32.9**	**-0.9**
JMMH	**Miemihama**	**12.46 207**	P	**Pn**	**14 54 34.5**	**-2.2**
CN2	**Changchun**	**12.50 270**	*e*P	**Pn**	**14 54 36.3**	**-0.8**
CN2			*es*P		14 55 42.5	
CN2			*e*S	**S**	**14 56 49.8**	**-6.2**
CN2			pmax	pmax		
	comp=Z,150nm,0.7s					
CN2			pmax	pmax		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=Z,9μm,14.0s					
CN2			LR	LR		
	comp=Z,14μm,14.0s					
CN2			LR	LR		
	comp=Z,17μm,15.0s					
JHS	**Saijyo**	**12.56 220**	P	**Pn**	**14 54 37.9**	**0.0**
PEA0B	**Petropavlovsk-**	**12.57 45**	*e*Pn	**Pn**	**14 54 37.9**	**+0.2**
PETK	**Petropavlovsk-**	**12.57 45**	*e*Pn	**P**	**14 54 38.8**	**-0.5**
PETK	**Petropavlovsk-**	**12.57 45**	*e*PN	**P**	**14 54 38.8**	**-0.5**
PETK	**Petropavlovsk-**	**12.57 45**	P	**P**	**14 54 39.2**	**-0.2**
	comp=Z,12nm,0.3s,baz=228,slow=9.5,SNR=3.6					
PEA1	**Petropavlovsk-**	**12.57 45**	*e*Pn	**P**	**14 54 39.2**	**-0.2**
BMKR	**Bomnak**	**13.14 322**	⇓*i*P	**Pn**	**14 54 44.0**	**-0.7**
BMKR			AMB	AMB	14 54 45.5	
	comp=Z,66nm,0.4s					
BMKR			AMB	AMB	14 54 45.5	
	comp=Z,72nm,0.4s					
BMKR			AMB	AMB	14 54 45.5	
	comp=Z,144nm,0.4s					
ZEA	**Zeya**	**13.29 316**	*de*PN	**Pn**	**14 54 46.0**	**-0.5**
ZEA			pmax	pmax		
	comp=E,900nm,3.0s					
ZEA			pmax	pmax		
	comp=Z,1μm,3.0s					
ZEA			pmax	pmax		
	comp=N,700nm,2.0s					
ZEA			pmax	pmax		
	comp=E,210nm,0.9s					
ZEA			pmax	pmax		
	comp=N,240nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,420nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,2μm,10.0s					
ZEA	**Zeya**	**13.29 316**	⇓*i*P	**Pn**	**14 54 46.0**	**-0.5**
ZEA			AMB	AMB	14 54 49.0	
	comp=Z,420nm,1.0s					
JMN	**Monobe**	**13.32 214**	P	**Pn**	**14 54 46.5**	**-0.7**
KSRS	**Korea Array**	**13.58 241**	P	**P**	**14 54 51.0**	**+0.3**
KSRS	**Korea Array**	**13.58 241**	P	**P**	**14 54 51.0**	**+0.3**
	comp=Z,4.5nm,0.3s,baz=53,slow=11,SNR=79					
KSRS			ScP	**ScP**	**15 03 03.1**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=22,slow=1.2,SNR=10					
KS15	**Wonju Array Si**	**13.61 241**	*e*Pn	**Pn**	**14 54 50.3**	**-0.3**
KSAR	**Wonju Array Be**	**13.61 241**	*e*Pn	**Pn**	**14 54 49.7**	**-0.9**
KSAR	**Wonju Array Be**	**13.61 241**	*e*P	**Pn**	**14 54 49.7**	**-0.9**
KROS	**Kirovskiy**	**13.82 318**	*e*P	Pn	14 54 46.9	-6.0
KROS			AMB	AMB	14 54 51.4	
	comp=Z,6.0nm,0.4s					
TJN	**Taejon**	**14.61 239**	*ce*P	**Pn**	**14 55 03.4**	**+0.7**
JTU	**Tsushima**	**14.78 229**	P	**Pn**	**14 55 05.2**	**+0.6**
JNU	**Nakatsue**	**15.15 222**	*e*P	**Pn**	**14 55 09.0**	**-0.1**
	comp=Z,206nm,1.1s					
JNU	**Nakatsue**	**15.15 222**	P	**Pn**	**14 55 09.6**	**+0.5**
JNU	**Nakatsue**	**15.15 222**	P	**Pn**	**14 55 09.6**	**+0.5**
	comp=Z,16nm,0.3s,baz=5.7,slow=3.2,SNR=142					
JII	**Iki**	**15.17 226**	P	**Pn**	**14 55 09.6**	**+0.4**
MA2	**Magadan**	**15.24 15**	*e*P	**P**	**14 55 08.9**	**+0.1**
	comp=Z,294nm,0.8s					
MA2	**Magadan**	**15.24 15**	*d i*P	**Pn**	**14 55 09.5**	**-0.3**
MA2	**Magadan**	**15.24 15**	P	**P**	**14 55 08.8**	**+0.1**
	comp=Z,32nm,0.3s,baz=194,slow=12,SNR=46					
HIA	**Hailar**	**16.22 293**	*e*P	**P**	**14 55 19.4**	**-0.3**
	comp=Z,477nm,0.7s					
HIA	**Hailar**	**16.22 293**	*d i*P	**P**	**14 55 19.4**	**-0.3**
HIA			pmax	pmax		
	comp=Z,3μm,0.7s					
JFU	**Fukue jima 2**	**16.57 226**	P	**Pn**	**14 55 25.4**	**-0.3**
DL2	**Dalian**	**16.93 256**	P	**Pn**	**14 55 29.0**	**-0.9**
DL2			sP	**sP**	**14 56 40.9**	**-1.8**
DL2			S	**S**	**14 58 31.4**	**+1.6**
DL2			pmax	pmax		
	comp=Z,180nm,0.7s					
DL2			pmax	pmax		
	comp=Z,300nm,4.3s					
JKC	**Kuchinoerabu**	**17.70 218**	P	**Pn**	**14 55 37.5**	**-1.5**
CBIJ	**Chichi jima**	**18.01 182**	P	**P**	**14 55 40.2**	**+0.9**
YAK	**Yakutsk**	**18.58 340**	*e*P	P	14 55 35.7	-9.3
YAK			*e*S	**S**	**14 58 56.8**	**-5.0**
YAK			pmax	pmax		
	comp=Z,274nm,1.1s					
YAK			pmax	pmax		
	comp=N,48nm,0.9s					
YAK			pmax	pmax		
	comp=E,192nm,1.0s					
YAK			smax	smax		
	comp=N,3μm,1.1s					
YAK			smax	smax		
	comp=E,2μm,1.3s					
SEY	**Seymchan**	**18.66 14**	*c i*P	**P**	**14 55 45.3**	**-0.5**
SEY	**Seymchan**	**18.66 14**	P	**P**	**14 55 45.2**	**-0.6**
	comp=E,51nm,0.3s,baz=195,slow=9.3,SNR=157					
BJT	**Baijiatuau**	**20.25 265**	*e*P	**P**	**14 56 02.9**	**-0.2**
	comp=E,172nm,0.8s					
BJT	**Baijiatuau**	**20.25 265**	*e*P	**P**	**14 56 02.9**	**-0.2**
BJT			pmax	pmax		
	comp=Z,172nm,0.8s					
CIT	**Chita**	**20.47 300**	*e*P	**P**	**14 56 02.2**	**-3.1**
CIT			pmax	pmax		
	comp=Z,148nm,1.1s					
TIA	**Tai'an**	**21.38 254**	P	**P**	**14 56 14.8**	**+0.5**
TIA			pmax	pmax		
	comp=Z,50nm,0.6s					
TIA			pmax	pmax		
	comp=Z,240nm,4.4s					
TIA			LR	LR		
	comp=Z,1μm,19.2s					
TIA			LR	LR		
	comp=Z,2μm,17.3s					
TIA			LR	LR		
	comp=Z,780nm,16.5s					
JOW	**Kunigami**	**21.68 217**	*e*P	**P**	**14 56 17.2**	**0.0**
	comp=Z,20nm,0.6s					
JOW	**Kunigami**	**21.68 217**	P	**P**	**14 56 18.0**	**+0.9**
JOW	**Kunigami**	**21.68 217**	P	**P**	**14 56 18.1**	**+0.9**
	comp=Z,3.6nm,0.6s,baz=110,slow=16,SNR=16					
BOD	**Bodaibo**	**21.79 316**	*e*P	**P**	**14 56 15.5**	**-2.4**
BOD			pmax	pmax		
	comp=Z,71nm,1.4s					
NJ2	**Nanjing**	**22.75 243**	*e*P	**P**	**14 56 28.1**	**+1.3**
NJ2			S	**S**	**15 00 15.1**	**+0.4**
NJ2			pmax	pmax		
	comp=Z,230nm,0.8s					
NJ2			pmax	pmax		
	comp=Z,290nm,4.8s					
NJ2			LR	LR		
	comp=Z,9μm,18.6s					
NJ2			LR	LR		
	comp=Z,4μm,15.7s					
NJ2			LR	LR		
	comp=Z,8μm,17.7s					
HHC	**Hu-ho-hao-te**	**23.20 270**	*e*P	**P**	**14 56 32.9**	**+1.9**
HHC			S	**S**	**15 00 29.5**	**+7.5**
HHC			ScP	**ScP**	**15 03 24.8**	**+3.2**
HHC			PcS	**PcS**	**15 03 46.8**	**-2.9**
HHC			ScS	**ScS**	**15 07 05.3**	**-2.9**
HHC			pmax	pmax		
	comp=Z,210nm,0.7s					
HHC			pmax	pmax		
	comp=Z,970nm,3.9s					
TIY	**Taiyuan**	**23.88 263**	*e*P	**P**	**14 56 38.9**	**+1.8**
TIY			S	**S**	**15 00 35.3**	**+2.5**
TIY			pmax	pmax		
	comp=Z,98nm,0.6s					
TIY			LR	LR		
	comp=Z,840nm,13.2s					
TIY			LR	LR		
	comp=Z,310nm,10.2s					
TIY			LR	LR		
	comp=Z,1μm,15.4s					
ULN	**Ulaanbaatar**	**24.65 289**	*e*P	**P**	**14 56 44.8**	**+0.6**
	comp=Z,160nm,0.6s					
ULN	**Ulaanbaatar**	**24.65 289**	*d i*P	**P**	**14 56 44.9**	**+0.8**
ULN			pmax	pmax		
	comp=Z,149nm,0.7s					
SONA0	**Songino Array**	**25.10 289**	*e*P	**P**	**14 56 48.9**	**+0.9**
SONA0			*e*ScP	**ScP**	**15 03 28.1**	**+1.3**
SONM	**Songino Array**	**25.10 289**	*e*P	**P**	**14 56 48.7**	**+0.7**
SONM	**Songino Array**	**25.10 289**	P	**P**	**14 56 48.9**	**+0.9**
	comp=Z,169nm,0.6s,baz=84,slow=8.9,SNR=713					
SONM			ScP	**ScP**	**15 03 28.1**	**+1.3**
	comp=Z,5.4nm,0.8s,baz=123,slow=3.0,SNR=8.1					
BILL	**Bilibino**	**26.00 20**	‖*e*P	**P**	**14 56 53.7**	**-2.0**
BILL			*i* *PP	**pP**	**14 57 49.9**	**+2.2**
BILL			*e*S	**S**	**15 01 09.5**	**+4.1**
BILL			pmax	pmax		
	comp=Z,16nm,0.5s					
IRK	**Irkutsk**	**26.19 300**	*e*P	**P**	**14 56 55.9**	**-1.8**
IRK			*e*		14 57 52.3	
IRK			pmax	pmax		
	comp=Z,105nm,1.4s					
TLY	**Talaya**	**26.58 298**	*e*P	**P**	**14 57 00.6**	**-0.6**
	comp=Z,26nm,0.8s					
TLY	**Talaya**	**26.58 298**	*d i*P	**P**	**14 57 00.8**	**-0.4**
WHN	**Wuhan**	**26.63 247**	P	**P**	**14 57 02.5**	**+0.7**
XAN	**Xi'an**	**28.20 259**	P	**P**	**14 57 16.4**	**+0.7**
XAN			pmax	pmax		
	comp=Z,25nm,0.8s					
XAN	**Xi'an**	**28.20 259**	*e*P	**P**	**14 57 15.8**	**+0.1**
	comp=Z,33nm,1.1s					
XAN	**Xi'an**	**28.20 259**	*e*P	**P**	**14 57 15.8**	**+0.1**
XAN			pmax	pmax		
	comp=Z,33nm,1.1s					
MOY	**Mondy**	**28.23 299**	*e*P	**P**	**14 57 15.7**	**-0.2**
MOY			pmax	pmax		
	comp=Z,31nm,1.5s					
ENH	**Enshi**	**30.03 252**	*e*P	**P**	**14 57 32.0**	**+0.2**
	comp=Z,48nm,0.7s					
LZH	**Lanzhou**	**30.70 267**	*e*P	**P**	**14 57 39.6**	**+1.7**
LZH			sP	sP	14 59 01.4	-1.1
LZH			pmax	pmax		
	comp=Z,210nm,1.1s					
LZH			pmax	pmax		
	comp=Z,180nm,4.1s					
GTA	**Gaotai**	**32.06 275**	⇓P	**P**	**14 57 51.5**	**+1.9**
GTA			pmax	pmax		
	comp=Z,84nm,0.6s					
GTA			pmax	pmax		
	comp=Z,260nm,4.1s					
CD2	**Chengdu**	**33.56 259**	P	**P**	**14 58 01.8**	**-0.8**
CD2	**Chengdu**	**33.56 259**	⇓*i*P	**P**	**14 58 03.8**	**+1.2**
CD2			pmax	pmax		
	comp=Z,80nm,0.9s					
CD2			pmax	pmax		
	comp=Z,170nm,7.9s					
CD2			LR	LR		
	comp=Z,8μm,21.2s					
CD2			LR	LR		
	comp=Z,8μm,20.0s					
CD2			LR	LR		
	comp=Z,12μm,17.1s					
GYA	**Guiyang**	**34.39 250**	⇑*i*P	**P**	**14 58 10.5**	**+0.7**
GYA			pP	pP	14 59 07.8	+4.2
GYA			sP	sP	14 59 39.5	+4.5
GYA			S	**S**	**15 03 15.0**	**-2.1**
GYA			sS	sS	15 04 55.6	+1.3
GYA			pmax	pmax		
	comp=Z,20nm,0.8s					
GYA			pmax	pmax		
	comp=Z,120nm,4.8s					
GYA			LR	LR		
	comp=Z,710nm,18.4s					
GYA			LR	LR		
	comp=Z,540nm,15.6s					
GYA			LR	LR		
	comp=Z,540nm,13.7s					
NRIK	**Noril'sk**	**36.54 331**	P	**P**	**14 58 26.2**	**-1.1**
	comp=Z,14nm,0.3s,baz=128,slow=6.7,SNR=30					
DGZ	**Jazzator, Alta**	**37.05 297**	*d i*P	**P**	**14 58 32.9**	**+0.8**
DGZ			pmax	pmax		
	comp=Z,12nm,0.6s					
ZAA1	**Zalesovo Array**	**37.69 305**	*e*P	**P**	**14 58 36.2**	**-1.0**
ZAA0	**Zalesovo Array**	**37.69 305**	*e*P	**P**	**14 58 36.1**	**-1.1**
	comp=Z,27nm,0.8s					
ZALV	**Zalesovo Beam**	**37.69 305**	*e*P	**P**	**14 58 35.9**	**-1.3**
ZALV	**Zalesovo Beam**	**37.69 305**	P	**P**	**14 58 36.2**	**-1.0**
	comp=Z,20nm,0.4s,baz=86,slow=9.1,SNR=75					
ZALV			ScP	**ScP**	**15 04 09.9**	**+1.1**
	comp=Z,3.9nm,0.6s,baz=74,slow=4.1,SNR=4.7					
KMI	**Kunming**	**37.91 252**	P	**P**	**14 58 41.0**	**+1.4**
KMI			pP	pP	14 59 37.4	+3.0
KMI			S	**S**	**15 04 13.8**	**+3.3**
KMI			pmax	pmax		
	comp=Z,54nm,0.9s					
KMI			LR	LR		
	comp=Z,7μm,19.8s					
KMI			LR	LR		
	comp=Z,5μm,19.1s					
KMI			LR	LR		
	comp=Z,4μm,22.8s					
KMI	**Kunming**	**37.91 252**	*e*P	**P**	**14 58 40.6**	**+1.0**
	comp=Z,65nm,1.1s					
KMI	**Kunming**	**37.91 252**	*e*P	**P**	**14 58 40.6**	**+1.0**
KMI			pmax	pmax		
	comp=Z,65nm,1.1s					
NVS	**Novosibirsk**	**38.43 307**	⇑*i*P	**P**	**14 58 42.6**	**-0.7**
NVS			*i* S	**S**	**15 04 16.0**	**-1.3**
NVS			pmax	pmax		
	comp=Z,19nm,0.5s					
NVS			pmax	pmax		
	comp=N,10.0nm,0.5s					
NVS			pmax	pmax		
	comp=E,10.0nm,0.5s					
NVS			smax	smax		
	comp=N,18nm,1.3s					
NVS			smax	smax		
	comp=E,12nm,0.9s					
WMQ	**Urumqi**	**38.73 288**	P	**P**	**14 58 47.4**	**+1.4**
WMQ			pmax	pmax		
	comp=E,410nm,1.1s					
WMQ			pmax	pmax		
	comp=E,1μm,3.7s					
WMQ			LR	LR		
	comp=E,21μm,17.3s					
WMQ			LR	LR		
	comp=E,17μm,18.3s					
WMQ			LR	LR		
	comp=E,26μm,16.3s					
WMQ	**Urumqi**	**38.73 288**	*e*P	**P**	**14 58 46.9**	**+0.9**
	comp=E,247nm,1.1s					
WMQ	**Urumqi**	**38.73 288**	*e*P	**P**	**14 58 46.9**	**+0.9**
WMQ			pmax	pmax		
	comp=Z,247nm,1.1s					
SLVN	**Son La**	**39.76 246**	*e*P	**P**	**14 58 54.5**	**-0.2**
	comp=Z,37nm,1.3s					
KDAK	**Kodiak Island**	**40.60 48**	*e*P	**P**	**14 59 00.5**	**-0.5**
	comp=Z,173nm,1.1s					
KDAK	**Kodiak Island**	**40.60 48**	P	**P**	**14 59 00.6**	**-0.5**
	comp=Z,62nm,0.4s,baz=282,slow=4.6,SNR=49					
TOLK	**Toolik Lake Re**	**40.88 31**	P	**P**	**14 59 00.9**	**-2.4**
	baz=271					
BRLK	**Bradley Lake**	**41.12 45**	*e*P	**P**	**14 59 04.1**	**-1.2**
	comp=Z,97nm,0.6s					
MK31	**Makanchi Array**	**41.21 295**	*e*P	**P**	**14 59 06.3**	**+0.1**
	comp=Z,91nm,0.8s					
MK31	**Makanchi Array**	**41.21 295**	*i* P	**P**	**14 59 06.5**	**+0.3**
MK31			pmax	pmax		
	comp=Z,66nm,0.6s					
MK32	**Makanchi Array**	**41.21 295**	*e*P	**P**	**14 59 06.6**	**+0.4**
MK32			*e*ScP	**ScP**	**15 04 23.9**	**+1.3**
MKAR	**Makanchi Array**	**41.21 295**	*e*P	**P**	**14 59 06.3**	**+0.1**
MKAR	**Makanchi Array**	**41.21 295**	P	**P**	**14 59 06.6**	**+0.4**
	comp=Z,72nm,0.6s,baz=80,slow=8.8,SNR=307					
MKAR			ScP	**ScP**	**15 04 23.9**	**+1.3**
	comp=Z,5.9nm,0.7s,baz=60,slow=4.9,SNR=7.0					
MAKZ	**Makanchi**	**41.40 295**	*e*P	**P**	**14 59 07.4**	**-0.4**
	comp=Z,92nm,0.8s					
MAKZ	**Makanchi**	**41.40 295**	P	**P**	**14 59 07.8**	**0.0**
MAKZ			pmax	pmax		
	comp=Z,94nm,0.9s					
RC01	**Rabbit Creek A**	**41.46 43**	*e*P	**P**	**14 59 06.9**	**-1.1**
	comp=Z,45nm,0.6s					
TCOL	**CIGO, UAF Yank**	**41.79 37**	P	**P**	**14 59 09.2**	**-1.3**
	baz=276,SNR=14					
COLA	**College**	**41.79 37**	*e*P	**P**	**14 59 09.8**	**-0.8**
	comp=Z,63nm,0.6s					
COLA	**College**	**41.79 37**	*e*P	**P**	**14 59 09.8**	**-0.8**
COLA			pmax	pmax		
	comp=Z,63nm,0.6s					
POKR	**Poker Plat Res**	**41.94 36**	P	**P**	**14 59 10.9**	**-0.9**
	baz=277,SNR=20					
KURK	**Kurchatov**	**42.19 302**	*e*P	**P**	**14 59 13.6**	**-0.4**
	comp=Z,76nm,0.6s					
KURK	**Kurchatov**	**42.19 302**	*d i*P	**P**	**14 59 13.6**	**-0.4**
KURK			pmax	pmax		
	comp=Z,61nm,0.6s					
ILAR	**Eielson Array**	**42.22 37**	P	**P**	**14 59 12.6**	**-1.5**
	comp=Z,33nm,0.6s,baz=254,slow=5.6,SNR=64					
ILAR			ScP	**ScP**	**15 04 26.4**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=280,slow=3.9,SNR=4.1					
ILB	**Eielson Array**	**42.22 37**	*e*P	**P**	**14 59 12.7**	**-1.3**
	comp=Z,46nm,0.8s					
HDA	**Harding Lake**	**42.24 37**	P	**P**	**14 59 12.4**	**-1.9**
	baz=278,SNR=9.6					
KURBB	**Kurchatov Arra**	**42.27 301**	P	**P**	**14 59 14.4**	**-0.3**
	comp=Z,74nm,0.6s,baz=71,slow=8.8,SNR=356					
GLI	**Glacier Island**	**42.76 43**	*e*P	**P**	**14 59 18.1**	**-0.4**
	comp=Z,33nm,0.6s					
SKNT	**Sakolnakorn**	**42.91 242**	P	**P**	**14 59 21.9**	**+1.7**
	comp=Z,22nm,0.8s					
LSA	**Lhasa**	**43.12 267**	*e*P	**P**	**14 59 23.7**	**+1.4**
	comp=Z,30nm,0.6s					
LSA	**Lhasa**	**43.12 267**	*i* P	**P**	**14 59 24.4**	**+2.1**
	SNR=17					
PAX	**Paxson**	**43.12 39**	*e*P	**P**	**14 59 20.8**	**-0.6**
	comp=Z,10.0nm,0.7s					
PAX	**Paxson**	**43.12 39**	*e*P	**P**	**14 59 20.8**	**-0.6**
PAX			pmax	pmax		
	comp=Z,10.0nm,0.7s					
DIV	**Divide**	**43.34 42**	*e*P	**P**	**14 59 22.5**	**-0.7**
	comp=Z,51nm,0.6s					
HARP	**HAARP**	**43.37 40**	*e*P	**P**	**14 59 23.1**	**-0.3**
	comp=Z,96nm,0.6s					
EYAK	**Cordova Ski Ar**	**43.48 43**	*e*P	**P**	**14 59 23.8**	**-0.4**
	comp=Z,42nm,0.5s					
PAYA	**Payao**	**43.80 248**	P	**P**	**14 59 29.2**	**+1.9**
	comp=Z,89μm,0.8s,comp=Z,787μm					
PHRA	**Phrae**	**44.18 247**	P	**P**	**14 59 32.0**	**+1.7**
	comp=Z,10nm,0.8s,comp=Z,111nm					
HMT	**Hamilton**	**44.25 43**	*e*P	**P**	**14 59 30.5**	**+0.2**
	comp=Z,56nm,1.1s					
PDGK	**Podgornoye**	**44.39 291**	P	**P**	**14 59 31.8**	**0.0**
PDGK			pmax	pmax		
	comp=Z,58nm,0.7s					
UTTA	**Uttaradit**	**44.52 246**	P	**P**	**14 59 34.8**	**+1.9**
	comp=Z,19μm,0.8s,comp=Z,180μm					
LAMP	**Lampang**	**44.56 248**	P	**P**	**14 59 35.1**	**+1.9**
	comp=Z,116μm,0.7s,comp=Z,877μm					
CMMT	**Chiang Mai**	**44.80 249**	P	**P**	**14 59 36.4**	**+1.2**
	comp=Z,16nm,0.7s,comp=Z,202nm					
CHTO	**Chiang Mai**	**44.80 249**	*e*P	**P**	**14 59 36.0**	**+0.8**
	comp=Z,46nm,0.9s					
CHTO	**Chiang Mai**	**44.80 249**	*e*P	**P**	**14 59 36.0**	**+0.8**
CHTO			pmax	pmax		
	comp=Z,46nm,0.9s					
TGL	**Tana Glacier**	**44.83 42**	*e*P	**P**	**14 59 35.7**	**+0.7**
	comp=Z,42nm,1.0s					
CHAI	**Chaiyaphum**	**44.97 243**	P	**P**	**14 59 37.8**	**+1.3**
	comp=Z,36μm,0.7s,comp=Z,405μm					
BALM	**Baldy**	**44.98 42**	*e*P	**P**	**14 59 36.2**	**0.0**
	comp=Z,28nm,0.8s					
BALM	**Baldy**	**44.98 42**	*e*P	**P**	**14 59 36.2**	**0.0**
BALM			pmax	pmax		
	comp=Z,28nm,0.8s					
CM31	**Chiang Mai Arr**	**45.06 248**	*e*P	**P**	**14 59 38.4**	**+1.2**
	comp=Z,41nm,0.9s					
CMAR	**Chiang Mai Arr**	**45.06 248**	*e*P	**P**	**14 59 38.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**45.06 248**	P	**P**	**14 59 38.7**	**+1.5**
	comp=Z,8.6nm,0.8s,baz=37,slow=6.9,SNR=44					
PBKT	**Sadao Pong**	**45.12 245**	P	**P**	**14 59 39.6**	**+2.0**
	comp=Z,5.4nm,0.7s					
CTGM	**Chitina Glacie**	**45.48 42**	*e*P	**P**	**14 59 40.4**	**+0.3**
	comp=Z,56nm,0.7s					
EPYK	**Eagle Plains**	**46.06 34**	P	**P**	**14 59 43.7**	**-0.8**
	baz=284,SNR=20					
TARG	**Taragay, Kyrgy**	**46.21 290**	*e*P	**P**	**14 59 47.7**	**+1.3**
	comp=Z,60nm,1.1s					
BVAR	**Borovoye Array**	**46.23 307**	P	**P**	**14 59 45.4**	**-0.4**
	comp=Z,21nm,0.5s,baz=72,slow=9.5,SNR=100					
PCA	**Pinnacle**	**46.24 43**	*e*P	**P**	**14 59 46.3**	**+0.4**
	comp=Z,35nm,1.0s					
BRVK	**Borovoye**	**46.27 307**	*e*P	**P**	**14 59 45.6**	**-0.6**
	comp=Z,37nm,0.8s					
BRVK	**Borovoye**	**46.27 307**	*d i*P	**P**	**14 59 45.8**	**-0.4**
BRVK			pmax	pmax		
	comp=Z,40nm,0.8s					
KDJ	**Kajisay**	**46.44 291**	*e*P	**P**	**14 59 49.1**	**+1.2**
	comp=Z,103nm,0.6s					
UMPA	**Umpang Tak**	**46.74 246**	P	**P**	**14 59 54.8**	**+4.5**
	comp=Z,50μm,0.9s					
INK	**Inuvik**	**46.77 30**	*e*P	**P**	**14 59 48.8**	**-1.0**
	comp=Z,55nm,0.5s					
INK	**Inuvik**	**46.77 30**	*e*P	**P**	**14 59 48.8**	**-1.0**
INK			pmax	pmax		
	comp=Z,55nm,0.5s					
INK	**Inuvik**	**46.77 30**	P	**P**	**14 59 48.8**	**-1.0**
	comp=Z,51nm,0.4s,baz=279,slow=5.8,SN

FRU1 pmax pmax
comp=Z,83nm,0.6s
JIRN Jiri 47.83 269 *eP* **P 15 00 00.4 +1.4**
comp=Z,239nm,0.6s
RAMN Ramite 47.97 268 *eP* **P 15 00 01.1 +1.2**
comp=Z,208nm,0.6s
AAK Ala-Archa 47.98 293 P **P 15 00 00.7 +1.0**
SNR=37
AAK Ala-Archa 47.98 293 *eP* **P 14 59 59.7 +0.1**
comp=Z,143nm,1.4s
AAK Ala-Archa 47.98 293 *i* P **P 15 00 00.7 +1.0**
SNR=46
AAK Ala-Archa 47.98 293 P **P 15 00 00.3 +0.6**
AAK pmax pmax
comp=Z,44nm,0.7s
UCH Uchtor 48.16 292 P **P 15 00 02.5 +1.2**
SNR=12
KKN Kakani 48.40 269 *eP* **P 15 00 04.3 +1.2**
comp=Z,56nm,0.5s
EKS2 Erkin-Say 48.43 293 P **P 15 00 04.2 +1.1**
SNR=24
PKI Pulchoki 48.44 269 *eP* **P 15 00 04.6 +1.1**
comp=Z,83nm,0.7s
PKIN Phulchoki 48.44 269 *eP* **P 15 00 04.5 +1.0**
comp=Z,31nm,0.4s
KSH Kashi 48.49 288 P P 15 00 08.4 +4.8
KSH pmax pmax
comp=Z,35nm,0.8s
WHY Whitehorse 48.58 41 *eP* **P 15 00 04.3 +0.5**
comp=Z,58nm,1.4s
DMN Daman 48.63 269 *eP* **P 15 00 06.2 +1.3**
comp=Z,144nm,0.8s
GKN Gorkha 48.73 270 *eP* **P 15 00 06.7 +1.2**
comp=Z,208nm,0.6s
AML Almayashu 48.74 292 P **P 15 00 07.1 +1.4**
SNR=16
DANN Dangsing 49.14 271 *eP* **P 15 00 10.5 +1.7**
comp=Z,509nm,0.7s
BESE Bessie Mountai 49.36 43 *eP* **P 15 00 10.8 +1.1**
comp=Z,88nm,0.8s
KOLN Koldanda 49.60 271 *eP* **P 15 00 13.6 +1.4**
comp=Z,174nm,0.8s
JIS Juneau Island 49.70 43 *eP* **P 15 00 13.4 +1.2**
comp=Z,122nm,0.6s
PYUN Piuthan 49.83 271 *eP* **P 15 00 15.4 +1.5**
comp=Z,328nm,1.0s
SVE Sverdlovsk 50.00 315*c i*P **P 15 00 14.2 -0.3**
SVE *e*S **S 15 06 59.8 -3.6**
SVE pmax pmax
comp=Z,80nm,0.9s
KK31 Karatay Array 50.34 295 *eP* **P 15 00 17.7 +0.4**
comp=Z,82nm,0.8s
KK31 Karatay Array 50.34 295 *i* P **P 15 00 17.7 +0.4**
KK31 pmax pmax
comp=Z,73nm,0.8s
KKAR Karatay Array 50.34 295 *eP* **P 15 00 17.7 +0.5**
comp=Z,82nm,0.8s
KKAR Karatay Array 50.34 295 *eP* **P 15 00 17.7 +0.5**
KKAR pmax pmax
comp=Z,82nm,0.8s
ARU Arti 51.21 315 *eP* **P 15 00 22.5 -1.0**
comp=Z,50nm,0.9s
ARU Arti 51.21 315*d i*P **P 15 00 22.6 -0.8**
ARU 15 01 33.5
ARU 15 02 20.7
ARU PPP PPP 15 03 29.7
ARU S **S 15 07 20.0 0.0**
ARU 15 09 42.4
ARU SS **SS 15 10 54.7 -3.8**
ARU pmax pmax
comp=Z,54nm,0.9s
ARU Arti 51.21 315 P **P 15 00 22.7 -0.8**
comp=Z,15nm,0.6s,baz=73,slow=3.4,SNR=52
DLBC Dease Lake 51.73 42 *eP* **P 15 00 28.8 +1.4**
comp=Z,91nm,0.8s
GAR Garm 52.53 291 *eP* **P 15 00 33.9 +0.2**
comp=Z,196nm,1.3s
GAR Garm 52.53 291 *eP* **P 15 00 33.9 +0.2**
GAR pmax pmax
comp=Z,196nm,1.3s
NIL Nilore 53.45 283 *eP* **P 15 00 41.3 +1.0**
comp=Z,102nm,0.8s
NIL Nilore 53.45 283 *eP* **P 15 00 41.3 +1.0**
NIL pmax pmax
comp=Z,102nm,0.8s
AB31 Akbulak array 53.78 306 *eP* **P 15 00 42.4 +0.1**
AB31 pmax pmax
comp=Z,16nm,0.5s
ABKAR Akbulak array 53.78 306 *eP* **P 15 00 42.2 -0.1**
comp=Z,45nm,0.8s
RES Resolute Bay 54.51 16 *eP* **P 15 00 46.0 -1.1**
comp=Z,123nm,0.6s
RES Resolute Bay 54.51 16 P **P 15 00 46.2 -1.0**
comp=Z,116nm,0.6s,baz=298,slow=5.4,SNR=93
BBB Bella Bella 55.67 48 *eP* **P 15 00 56.4 +0.6**
comp=Z,33nm,0.8s
KBL Kabul 55.83 287 *eP* **P 15 00 56.9 -0.6**
comp=Z,59nm,0.6s
KBL Kabul 55.83 287 *eP* **P 15 00 56.9 -0.6**
KBL pmax pmax
comp=Z,59nm,0.6s
YKW3 Yellowknife Ar 56.30 33 *eP* **P 15 00 59.8 -0.3**
comp=Z,90nm,0.6s
YKA Yellowknife Ar 56.34 33 P **P 15 01 00.2 -0.2**
comp=Z,88nm,0.6s,baz=308,slow=7.3,SNR=229
YKB5 Yellowknife Ar 56.34 33 *eP* **P 15 01 00.2 -0.2**
PSI Prapat 57.07 236 *eP* **P 15 01 07.0 +0.7**
comp=Z,21nm,1.0s
PSI Prapat 57.07 236 P **P 15 01 07.7 +1.4**
comp=Z,3.6nm,0.4s,baz=244,slow=1.4,SNR=4.1
HYB Hyderabad 59.78 265 *i* P **P 15 01 25.0 +0.2**
comp=Z,50nm,1.0s
LLLB Lillooet 59.80 47 *eP* **P 15 01 24.4 -0.1**
comp=Z,27nm,1.0s
PGC Sidney 60.11 50 *eP* **P 15 01 26.8 +0.4**
comp=Z,37nm,0.7s
A04D Lummi Island 60.47 49 P **P 15 01 29.9 +0.9**
baz=306
NLWA Neilton Lookou 60.61 51 *eP* **P 15 01 31.3 +1.3**
comp=Z,41nm,0.9s
MBW Mount Baker 60.86 49 *eP* **P 15 01 32.6 +0.8**
D03D Eldon 60.96 51 P **P 15 01 33.6 +1.4**
baz=306,SNR=8.8
B05A Bryant 61.06 50 P **P 15 01 33.7 +0.8**
baz=306,SNR=7.7
GEYT Alibeck 61.06 296 *eP* **P 15 01 33.9 +0.6**
GEYT Alibeck 61.06 296 P **P 15 01 34.0 +0.7**
comp=Z,41nm,0.6s,baz=31,slow=3.5,SNR=113
GYA0B ALIBECK ARRAY 61.06 296 *eP* **P 15 01 33.9 +0.6**
comp=Z,46nm,0.6s
B06A Marblemount 61.24 49 *eP* **P 15 01 34.5 +0.4**
comp=Z,54nm,1.0s
D04E Lakebay 61.34 51 P **P 15 01 35.8 +1.0**
baz=307
E04D Cinebar 61.83 51 P **P 15 01 39.5 +1.4**
baz=307,SNR=8.5
F04D Rainier, OR 61.86 52 P **P 15 01 39.6 +1.2**
baz=307
C06D Leavenworth 61.91 49 P **P 15 01 39.8 +1.1**
baz=307
LON Longmire 62.13 51 *eP* **P 15 01 40.6 +0.5**
comp=Z,44nm,1.8s
FIA0 FINESS Array S 62.21 331 *eP* **P 15 01 40.4 +0.1**
FIA0 FINESS Array S 62.21 331 *eP* **P 15 01 40.4 +0.1**
FINES FINESS Array B 62.21 331 P **P 15 01 40.4 +0.1**
comp=Z,42nm,0.7s,baz=45,slow=8.1,SNR=16
G03D McMinnville, O 62.25 53 P **P 15 01 42.6 +1.7**
baz=307
OBN Obninsk 62.34 321 *eP* **P 15 01 41.3 0.0**
comp=Z,330nm,1.7s
OBN Obninsk 62.34 321 *e* 15 04 04.7
OBN PPP PPP 15 05 35.0
OBN *e*S **S 15 09 42.0 -3.2**
OBN pmax pmax
comp=Z,173nm,1.7s
VRH Novokhopyorsk 62.41 316 *eP* **P 15 01 41.0 -0.8**
VRH pmax pmax
comp=Z,30nm,0.6s
LTY Liberty 62.44 50 *eP* **P 15 01 42.8 +0.5**
comp=Z,13nm,0.6s
B08A Colville Reser 62.48 48 *eP* **P 15 01 42.6 +0.2**
comp=Z,62nm,1.6s
F05D White Salmon 62.84 51 P **P 15 01 46.4 +1.6**
baz=308
H04D Lebanon 62.96 53 P **P 15 01 47.3 +1.7**
baz=308
J01E Myrtle Point 63.11 55 P **P 15 01 48.2 +1.6**
baz=308
I03D Drain, OR 63.12 54 P **P 15 01 48.4 +1.8**
baz=308
H04A Detroit Lake 63.17 53 *eP* **P 15 01 47.6 +0.5**
comp=Z,41nm,0.8s
G05D Wamic, OR 63.32 52 P **P 15 01 49.5 +1.5**
baz=308
C09A Chrisman Ranch 63.38 48 *eP* **P 15 01 48.4 +0.1**
comp=Z,34nm,0.8s
D08A Wollman Farm, 63.50 49 *eP* **P 15 01 49.4 +0.2**
comp=Z,18nm,0.7s
K02D Willamette Mer 63.55 55 P **P 15 01 51.1 +1.6**
baz=308
HAWA Hanford 63.59 50 *eP* **P 15 01 50.4 +0.8**
comp=Z,28nm,0.8s
I04A Tendick Farm, 63.59 54 P **P 15 01 50.7 +0.8**
baz=308,SNR=6.2
VSR Storozhevoye 63.65 317 *eP* **P 15 01 49.4 -0.5**
VSR pmax pmax
comp=Z,30nm,0.4s
F07A Phinny Hill Vi 63.68 51 *eP* **P 15 01 49.9 -0.3**
comp=Z,48nm,0.8s
NEW Newport 63.70 47 *eP* **P 15 01 50.2 -0.2**
comp=Z,25nm,0.8s
NEW Newport 63.70 47 *eP* **P 15 01 50.2 -0.2**
NEW pmax pmax
comp=Z,25nm,0.8s
NEW Newport 63.70 47 P **P 15 01 51.0 +0.6**
baz=309,SNR=7.6
G06A Carlson Farm, 63.70 52 *eP* **P 15 01 51.1 +0.6**
comp=Z,24nm,1.0s
VORD Divnogorie 63.75 317 *eP* **P 15 01 49.7 -0.9**
VORD pmax pmax
comp=Z,20nm,0.6s
E08A Dider Farm, El 63.78 50 *eP* **P 15 01 51.5 +0.6**
comp=Z,30nm,0.8s
I05D Terrebonne, OR 63.86 53 P **P 15 01 52.5 +0.9**
baz=308,SNR=7.0
L02E Cave Junction 63.91 56 P **P 15 01 53.4 +1.5**
baz=308
HUMO Hull Mountain 64.01 55 *eP* **P 15 01 53.6 +1.0**
comp=Z,25nm,1.3s
J04D Umpqua Nationa 64.11 54 P **P 15 01 54.8 +1.4**
baz=308,SNR=6.5
PINE Pine Mountain 64.43 53 *eP* **P 15 01 56.4 +0.9**
comp=Z,66nm,0.8s
J05D Fort Rock, OR 64.58 54 P **P 15 01 57.9 +1.6**
baz=309,SNR=5.4
L04D Klamath Falls 64.63 55 P **P 15 01 57.9 +1.2**
baz=309,SNR=7.3
YBH Yreka Blue Hor 64.70 56 *eP* **P 15 01 58.4 +1.3**
comp=Z,18nm,0.8s
YBH Yreka Blue Hor 64.70 56 *eP* **P 15 01 58.4 +1.3**
YBH pmax pmax
comp=Z,18nm,0.8s
M02C Callahan 64.83 56 P **P 15 01 59.4 +1.5**
baz=309
I07A Izee 65.05 52 *eP* **P 15 02 00.4 +1.0**
comp=Z,19nm,0.9s
K05A Summer Lake 65.13 54 *eP* **P 15 02 01.5 +1.6**
comp=Z,50nm,0.9s
M04C Macdoel 65.17 55 P **P 15 02 01.4 +1.2**
baz=309,SNR=7.7
N02D Trinity Center 65.18 56 P **P 15 02 01.8 +1.7**
baz=309,SNR=7.4
WR1 Warrmunga Arr 65.22 189 *eP* **P 15 02 01.4 +1.0**
WRA Warramunga Arr 65.22 189 P **P 15 02 01.4 +1.0**
comp=Z,6.2nm,0.6s,baz=8.7,slow=6.1,SNR=4.7
GROC Groznyy 65.27 307 *eP* **P 15 02 01.2 +0.6**
GROC pmax pmax
comp=Z,28nm,0.6s
ILULI Ilulissat 65.51 5 *eP* **P 15 02 00.8 -0.8**
comp=Z,57nm,1.0s
ILULI Ilulissat 65.51 5 *eP* **P 15 02 00.8 -0.8**
ILULI pmax pmax
comp=Z,57nm,1.0s
O02D Mt. Diablo Mer 65.63 57 P **P 15 02 04.6 +1.6**
baz=309,SNR=7.9
BMO Blue Mountains 65.77 50 *eP* **P 15 02 04.4 +0.6**
comp=Z,27nm,1.3s
BMO Blue Mountains 65.77 50 *eP* **P 15 02 04.4 +0.6**
BMO pmax pmax
comp=Z,27nm,1.3s
O03E Paynes Creek 66.14 56 P **P 15 02 06.6 +0.3**
baz=310
MSO Missoula 66.27 47 P **P 15 02 07.7 +0.7**
baz=311
NCK Nalchik 66.32 308⇑ *eP* **P 15 02 08.5 +1.3**
NCK pmax pmax
comp=Z,59nm,0.7s
FCC Fort Churchill 66.32 28 *eP* **P 15 02 06.5 -0.4**
comp=Z,225nm,1.4s
FCC Fort Churchill 66.32 28 *eP* **P 15 02 06.5 -0.4**
FCC pmax pmax
comp=Z,225nm,1.4s
PLID Pearl Lake 66.33 49 *eP* **P 15 02 07.6 +0.1**
comp=Z,15nm,0.8s
FFC Flin Flon 66.38 35 *eP* **P 15 02 07.5 +0.1**
comp=Z,51nm,1.0s
FFC Flin Flon 66.38 35 *i* P **P 15 02 08.0 +0.6**
KIV Kislovodsk 66.52 309 *eP* **P 15 02 09.3 +0.8**
comp=Z,144nm,0.7s
KIV Kislovodsk 66.52 309⇑ *i*P **P 15 02 10.0 +1.4**
KIV Kislovodsk 66.52 309 *i* P **P 15 02 09.8 +1.2**
SNR=40
KIV Kislovodsk 66.52 309 *eP* **P 15 02 09.4 +0.8**
KIV *e* 15 10 37.5
KIV pmax pmax
comp=Z,564nm,1.0s
KBZ Khabaz 66.55 309 P **P 15 02 09.7 +1.0**
comp=Z,74nm,0.8s,baz=43,slow=5.4,SNR=122
ZEI Tsey 66.60 308 *eP* **P 15 02 07.2 -2.1**
ZEI pmax pmax
comp=Z,48nm,0.8s
ORV Oroville 66.79 57 *eP* **P 15 02 10.1 -0.2**
comp=Z,18nm,0.8s
ORV Oroville 66.79 57 *eP* **P 15 02 10.1 -0.2**
ORV pmax pmax
comp=Z,18nm,0.8s
TBLG Delisi 66.81 306 *eP* **P 15 02 11.4 +1.0**
comp=Z,68nm,0.7s
TBLG Delisi 66.81 306 *eP* **P 15 02 11.4 +1.0**
TBLG pmax pmax
comp=Z,68nm,0.7s
NEY Neytrino 66.96 309⇑ *eP* **P 15 02 12.8 +1.3**
NEY pmax pmax
comp=Z,8.0nm,1.0s
NB200 NORSAR Array S 67.16 337 *eP* **P 15 02 10.8 -1.5**
NOA NORSAR Array B 67.16 337 P **P 15 02 10.8 -1.5**
comp=Z,4.4nm,0.6s,baz=20,slow=6.6,SNR=6.9
HRY Holter Researc 67.43 46 *eP* **P 15 02 15.2 +0.9**
EGMT Eagleton 67.58 44 *eP* **P 15 02 15.5 +0.4**
comp=Z,38nm,0.8s
EGMT Eagleton 67.58 44 P **P 15 02 15.6 +0.4**
baz=313,SNR=8.2
SFJD Kangerlussuaq 67.73 6 *eP* **P 15 02 15.0 -0.6**
comp=Z,36nm,0.6s
SFJD Kangerlussuaq 67.73 6 *eP* **P 15 02 15.0 -0.6**
SFJD pmax pmax
comp=Z,36nm,0.6s
AKH Akhalkalaki 67.73 307 *eP* **P 15 02 17.0 +0.7**
comp=Z,56nm,1.1s
AKH Akhalkalaki 67.73 307⇓ *i*P **P 15 02 17.4 +1.1**
AKH Akhalkalaki 67.73 307 *eP* **P 15 02 17.0 +0.7**
AKH pmax pmax
comp=Z,56nm,1.1s
GNI Garni 67.84 305 *eP* **P 15 02 18.3 +1.2**
comp=Z,65nm,1.1s
GNI Garni 67.84 305 P **P 15 02 19.1 +2.0**
GNI Garni 67.84 305*c e*P **P 15 02 18.2 +1.2**
GNI pmax pmax
comp=Z,189nm,1.5s
DLMT Dillon 67.94 47 *eP* **P 15 02 18.5 +0.9**
comp=Z,48nm,0.8s
HLID Hailey 68.19 50 P **P 15 02 19.9 +0.8**
baz=312
BOZ Bozeman (W) 68.29 47 P **P 15 02 20.4 +0.7**
baz=313,SNR=9.8
YERR Yerington 68.49 56 *eP* **P 15 02 21.7 +0.6**
comp=Z,48nm,0.9s
AKASG Malin Array Be 68.61 321 *eP* **P 15 02 20.6 -0.7**
AKASG Malin Array Be 68.61 321 P **P 15 02 20.8 -0.5**
comp=Z,8.9nm,0.3s,baz=37,slow=6.7,SNR=88
AKBB Malin Array Si 68.61 321 *eP* **P 15 02 20.7 -0.6**
comp=Z,46nm,1.0s
BATM Batumi 68.62 308⇑ *i*P **P 15 02 22.6 +1.0**
KIEV Kiev 68.62 321 *eP* **P 15 02 20.5 -0.8**
comp=Z,45nm,1.0s
KIEV Kiev 68.62 321⇑ *i*P **P 15 02 21.2 -0.2**
KIEV Kiev 68.62 321 *i* P **P 15 02 21.0 -0.4**
SNR=13
KIEV Kiev 68.62 321 ⇑P **P 15 02 21.2 -0.2**
BMN Battle Mountai 68.71 54 *eP* **P 15 02 23.2 +0.9**
comp=Z,29nm,0.8s
BMN Battle Mountai 68.71 54 *eP* **P 15 02 23.3 +0.9**
BMN pmax pmax
comp=Z,29nm,0.8s
BCA Borcka 68.76 308⇑ *i*P **P 15 02 23.6 +1.1**
ANN Anapa 68.77 313 *eP* **P 15 02 22.2 -0.2**
ANN *e**PP **pP 15 03 25.0 +0.6**
ANN *e*S **S 15 11 01.5 -1.6**
ANN pmax pmax
comp=Z,65nm,0.7s
AS31 Alice Springs 68.95 189 *eP* **P 15 02 24.8 +1.1**
comp=Z,14nm,0.7s
ASAR Alice Springs 68.95 189 P **P 15 02 25.5 +1.8**
comp=Z,9.6nm,0.6s,baz=360,slow=5.3,SNR=10
GCMT Greycliff 69.16 46 *eP* **P 15 02 25.6 +0.6**
NV01 Mina Array Sit 69.41 56 *eP* **P 15 02 28.0 +1.2**
NVAR Mina Array Bea 69.41 56 P **P 15 02 28.0 +1.2**
comp=Z,22nm,0.7s,baz=296,slow=5.9,SNR=13
TUTA Tutak 69.45 305 *i* P **P 15 02 29.8 +2.7**
MDPB Devils Postpil 69.48 57 *eP* **P 15 02 26.1 -1.2**
comp=Z,14nm,0.9s
ELK Elko 69.62 52 *eP* **P 15 02 28.7 +0.6**
comp=Z,16nm,0.9s
ELK Elko 69.62 52 *eP* **P 15 02 28.7 +0.6**
ELK pmax pmax
comp=Z,16nm,0.9s
MLAC Mammoth, Mammo 69.63 57 P **P 15 02 29.5 +1.4**
baz=312
H17A Grant Village 69.66 47 *eP* **P 15 02 29.9 +1.7**
comp=Z,38nm,1.0s
H17A Grant Village 69.66 47 P **P 15 02 30.4 +2.2**
baz=314,SNR=5.6
SHME Shamm 69.81 287 *i* P **P 15 02 29.6 +0.5**
SNR=14
RLMT Red Lodge 69.82 46 P **P 15 02 30.2 +1.0**
baz=314
DGMT Dagmar 69.91 41 *eP* **P 15 02 29.8 +0.3**
comp=Z,60nm,0.6s
DGMT Dagmar 69.91 41 P **P 15 02 29.7 +0.3**
baz=316,SNR=6.0
MOOW Moose Ponds 70.01 48 *eP* **P 15 02 31.3 +1.0**
comp=Z,32nm,1.1s
PAGB Antelope Grade 70.04 59 *eP* **P 15 02 31.1 +0.7**
comp=Z,39nm,1.1s
HAKT HAKKARI 70.16 303 *i* P **P 15 02 33.0 +1.7**
LOHW Long Hollow 70.18 48 *eP* **P 15 02 32.4 +1.0**
comp=Z,41nm,1.6s
LAO LASA Array 70.23 43 P **P 15 02 32.4 +1.0**
baz=316
MSFE Esma-Masafi 70.25 286 *i* P **P 15 02 32.3 +0.5**
SNR=7.8
SIM Simferopol' 70.37 314*de*P **P 15 02 32.6 +0.4**
SIM pmax pmax
comp=Z,45nm,0.9s
SIM MLR MLR
comp=Z,5μm,17.0s
TIN Tinemaha, Big 70.37 57 P **P 15 02 33.7 +1.2**
baz=312
SMMC Simmler 70.47 59 P **P 15 02 34.2 +1.2**
baz=312
HATD Hatta, Dubai 70.62 286 *i* P **P 15 02 34.7 +0.7**
SNR=22
VES Vestal, Richgr 70.67 58 P **P 15 02 34.7 +0.5**
baz=312
BNGL BINGOL 70.71 306 *i* P **P 15 02 35.1 +0.5**
ASHO Ashiyiah 70.77 286 *i* P **P 15 02 35.3 +0.4**
SNR=14
NAZ Nazwa, Dubai 70.83 286 *i* P **P 15 02 35.6 +0.3**
SNR=5.2
PKM Mcpherson Peak 70.86 60 P **P 15 02 36.7 +1.2**
baz=312
CWC Cottonwood Cre 70.87 57 P **P 15 02 36.4 +0.8**
baz=312
SEVA Sevastopol 70.89 314⇑ *i*P **P 15 02 35.9 +0.6**
GRAC Grapevine Rang 70.92 57 P **P 15 02 37.1 +1.4**
baz=313,SNR=5.7
FAQ Al Faqa, Dubai 71.04 286 *i* P **P 15 02 36.9 +0.4**
SNR=16
R11A Troy Canyon, C 71.05 55 P **P 15 02 37.4 +0.8**
baz=313,SNR=8.1
ISA Isabella, Lake 71.16 58 P **P 15 02 37.2 0.0**
baz=312
ASUD Al Ashush, Dub 71.30 286 *i* P **P 15 02 39.0 +0.9**
SNR=19
BW06 Boulder Array 71.32 48 P **P 15 02 38.7 +0.4**
baz=315,SNR=7.0
PD31 Pinedale Array 71.32 48 *eP* **P 15 02 38.5 +0.3**
comp=Z,33nm,0.9s
PDAR Pinedale Array 71.32 48 P **P 15 02 38.8 +0.5**
comp=Z,28nm,0.8s,baz=317,slow=2.6,SNR=18
DUG Dugway, Tooele 71.35 52 P **P 15 02 39.7 +1.4**
baz=314,SNR=5.2
ALNE Al Ain 71.39 286 *i* P **P 15 02 39.3 +0.7**
SNR=16
KIS Kishinev 71.48 319⇑ *i*P **P 15 02 38.0 -0.8**
comp=Z,210nm,2.0s
KIS Kishinev 71.48 319 *i* PcP **PcP 15 02 55.0 -1.5**
KIS *e*S SKiKP 15 12 00.0 +11
KIS Kishinev 71.48 319 *e*PS 15 12 20.0
KIS *e*ScS SKiKP 15 12 40.0 +51
KIS LRM MLR 15 38 48.0
comp=Z,6μm,16.0s
KIS Kishinev 71.48 319⇑ *i*P **P 15 02 38.0 -0.8**
KIS *i* 15 02 55.0
KIS *e*S SKiKP 15 12 00.0 +11
KIS *e* 15 12 40.0
KIS pmax pmax
comp=Z,210nm,2.0s
KIS MLR MLR
comp=Z,6μm,16.0s
KIS MLR MLR
comp=N,5μm,17.0s
MPMC Manual Prospec 71.48 57 P **P 15 02 40.0 +0.8**
baz=313,SNR=5.3
TCUT Toone Canyon 71.48 50 *eP* **P 15 02 40.2 +1.0**
comp=N,52nm,0.8s
LVV L'vov 71.51 323 *eP* **P 15 02 38.0 -0.9**
FURC Furnace Creek, 71.58 57 P **P 15 02 40.7 +1.1**
baz=313,SNR=6.8
TPNV Topopah Spring 71.61 56 P **P 15 02 40.6 +0.6**
baz=313,SNR=7.3
LRMC Laurel Mtn Rad 71.76 58 P **P 15 02 41.6 +0.8**
baz=313
SNOP Sinop 71.86 312 *eP* **P 15 02 41.4 +0.3**
comp=N,27nm,0.8s
NLU North Lily Min 71.92 51 *eP* **P 15 02 42.5 +0.7**
comp=N,30nm,0.8s
EDW2 Edwards Air Fo 71.97 59 P **P 15 02 42.9 +0.8**
baz=313,SNR=5.4
DIKM Dikmen 72.10 311⇑ *i*P **P 15 02 44.0 +1.4**
MPU Maple Canyon 72.13 51 *eP* **P 15 02 43.8 +0.7**
comp=N,35nm,0.6s
ULM Lac du Bonnet 72.20 35 *eP* **P 15 02 42.5 -0.5**
comp=N,32nm,0.6s
ULM Lac du Bonnet 72.20 35 P **P 15 02 42.6 -0.4**
comp=N,30nm,0.6s,baz=319,slow=6.3,SNR=23
KWP Kalwaria Pacla 72.21 324 *eP* **P 15 02 41.7 -1.4**
KWP Kalwaria Pacla 72.21 324 *eP* **P 15 02 41.7 -1.4**
PRAR RASCA 72.40 320⇑ *i*P **P 15 02 43.6 -0.6**
GSC Goldstone, Bar 72.40 58 P **P 15 02 45.3 +0.7**
baz=313
MDND Maddock 72.45 39 P **P 15 02 45.0 +0.5**
baz=319
BZK Bozkurt 72.54 312⇑ *i*P **P 15 02 46.4 +1.3**
BFSC Mount Baldy Ra 72.61 59 P **P 15 02 46.8 +0.9**
baz=313
BURAR Bucovina Array 72.66 321 *eP* **P 15 02 46.1 +0.3**
BURAR Bucovina Array 72.66 321⇑ *i*P **P 15 02 46.4 +0.5**
BURAR Bucovina Array 72.66 321 ⇑P **P 15 02 46.4 +0.5**
BIZ Bicaz 72.77 320⇓ *i*P **P 15 02 47.2 +0.8**
TLCR 72.81 317⇑ *i*P **P 15 02 47.4 +0.8**
TLCR 72.81 317 ⇑P **P 15 02 47.4 +0.8**
TUQ Turquoise Moun 72.83 57 P **P 15 02 48.1 +0.9**
baz=314,SNR=6.6
TESR Tescani 72.84 320⇑ *i*P **P 15 02 47.3 +0.5**
KOLS Kolonicke sedl 72.93 324 *eP* **P 15 02 46.0 -1.3**
K22A Casper 72.97 46 P **P 15 02 48.4 +0.5**
baz=316
HEC Hector,Ludlow 73.00 58 P **P 15 02 48.9 +0.8**
baz=314

BBRC	Big Bear Solar	73.04	58	P		P	15 02 48.8 +0.2
	baz=313						
CFR	Carcaliu	73.14	318	⇑iP		P	15 02 48.6 0.0
CFR	Carcaliu	73.14	318	⇑P		P	15 02 48.6 0.0
RSSD	Black Hills	73.15	44	P		P	15 02 49.1 +0.1
	baz=317						
PETR	Petresti	73.16	319	⇑iP		P	15 02 50.0 +1.3
ODBI	Odobesti	73.21	319	⇑iP		P	15 02 48.9 -0.1
VRI	Vrincioaia	73.29	319	⇑iP		P	15 02 50.5 +1.0
VRI	Vrincioaia	73.29	319	⇑P		P	15 02 50.5 +1.0
RWWY	Rawlins	73.31	47	eP		P	15 02 50.0 0.0
	comp=N,48nm,0.9s						
MURC	Murrieta	73.33	59	P		P	15 02 50.3 +0.3
	baz=313						
PLOR	Plostina	73.33	319	⇑iP		P	15 02 50.4 +0.6
PLOR	Plostina	73.33	319	⇑P		P	15 02 50.4 +0.6
ILGA	Ilgaz	73.34	312	eP		P	15 02 50.8 +0.7
	comp=N,60nm,0.9s						
BMR	Baia Mare	73.37	322	⇓iP		P	15 02 49.4 -0.5
BMR	Baia Mare	73.37	322	⇓P		P	15 02 49.4 -0.5
TRPA	Tarpa	73.43	323	⇑iP		P	15 02 49.1 -1.1
TRPA	Tarpa	73.43	323	eP		P	15 02 49.0 -1.2
GMRC	Granite Mounta	73.44	57	P		P	15 02 51.5 +0.8
	baz=314						
GRER		73.53	319	⇓iP		P	15 02 51.7 +0.8
PKCU	Pink Cliffs	73.54	53	eP		P	15 02 53.1 +1.6
	comp=N,30nm,0.9s						
TLB	Topalu	73.62	317	⇓iP		P	15 02 51.9 +0.5
MZR	Muzera	73.64	286	iP		P	15 02 52.7 +0.8
	SNR=16						
IVI	Ivigtut	73.64	6	eP		P	15 02 50.9 -0.3
	comp=N,56nm,0.7s						
AGMN	Agassiz Nation	73.72	36	P		P	15 02 51.0 -0.9
	baz=321						
MFTR	Murfatlar	73.74	317	⇓iP		P	15 02 52.8 +0.7
PFO	Pinyon Flats O	73.77	59	P		P	15 02 53.1 +0.5
	baz=314						
BELC	Belle Mtn. Jos	73.78	58	P		P	15 02 53.0 +0.3
	baz=314						
DOPR	Dopca	73.83	320	⇑iP		P	15 02 52.9 +0.3
109C	Camp Elliot, M	73.87	60	P		P	15 02 53.6 +0.5
	baz=314						
O20A	White River Ci	73.88	49	P		P	15 02 53.9 +0.6
	baz=316						
MLR	Muntele Rosu	73.93	319	eP		P	15 02 53.6 +0.3
	comp=N,43nm,1.1s						
MLR	Muntele Rosu	73.93	319	⇑iP		P	15 02 54.3 +0.9
ISR	Istrita	73.93	319	⇓iP		P	15 02 54.5 +1.2
KECS	Kecovo	74.02	324	eP		P	15 02 52.2 -1.5
KECS				pmax	pmax		
	comp=Z,45nm,0.9s						
KECS	Kecovo	74.02	324	eP		P	15 02 52.2 -1.5
NEE2	Needles Airpor	74.07	57	P		P	15 02 54.9 +0.7
	baz=314						
ICOR	Ion Corvin	74.09	317	⇑iP		P	15 02 55.6 +1.5
UPC	Upice	74.18	328	eP		P	15 02 55.6 +1.1
UPC	Upice	74.18	328	eP		P	15 02 55.6 +1.1
IRM	Iron Mountain	74.18	57	P		P	15 02 55.8 +0.9
	baz=314						
MORC	Moravsky Berou	74.18	327	eP		P	15 02 55.7 +1.1
DPC	Dobruska-Polom	74.19	328	eP		P	15 02 55.9 +1.3
DPC	Dobruska-Polom	74.19	328	eP		P	15 02 55.9 +1.3
KRLC	Kraliky	74.23	327	eP		P	15 02 55.7 +0.8
KRLC	Kraliky	74.23	327	eP		P	15 02 55.7 +0.8
W13A	Hualapai Mount	74.27	56	eP		P	15 02 55.7 +0.1
	comp=Z,12nm,0.7s						
LTVH	Ltavrtes, Hu	74.28	323	⇓eP		P	15 02 55.0 -0.1
MONP2	Monument Peak	74.28	59	P		P	15 02 56.2 +0.5
	baz=314,SNR=5.4						
BR101	Keskin Array S	74.33	311	eP		P	15 02 56.2 +0.5
BR131	Keskin Array S	74.33	311	eP		P	15 02 56.1 +0.4
	comp=Z,18nm,0.9s						
BRTR	Keskin Array B	74.33	311	eP		P	15 02 56.0 +0.2
BRTR	Keskin Array B	74.33	311	P		P	15 02 56.2 +0.4
	comp=Z,8.5nm,0.7s,baz=75,slow=3.8,SNR=44						
BC3	Big Chuckawall	74.34	58	P		P	15 02 56.4 +0.4
	baz=314						
VOIR		74.38	320	⇑iP		P	15 02 57.0 +1.1
N23A	Red Feather La	74.54	47	P		P	15 02 57.9 +0.7
	baz=317						
CLL	Collm	74.62	330	iP		P	15 02 57.4 +0.4
CLL	Collm	74.62	330	iP		P	15 02 57.4 +0.4
SWSC	Sam W. Stewart	74.62	59	P		P	15 02 58.1 +0.7
	baz=314						
ARR	Arges	74.63	320	⇓iP		P	15 02 57.0 -0.3
IKP	In-Ko-Pah, Jac	74.64	59	P		P	15 02 58.2 +0.6
	baz=314						
PDMCI	Parker Dam,Lak	74.67	57	P		P	15 02 58.2 +0.6
	baz=314,SNR=6.1						
ANTO	Ankara	74.68	311	eP		P	15 02 58.4 +0.7
	comp=Z,79nm,1.4s						
ANTO	Ankara	74.68	311	⇑iP		P	15 02 59.1 +1.4
ANTO	Ankara	74.68	311	⇑P		P	15 02 59.1 +1.4
PV10	Paradox Valley	74.71	51	eP		P	15 02 59.2 +1.1
	comp=Z,94nm,0.8s						
PSZ	Piszkesteto	74.71	324	⇓iP		P	15 02 56.8 -0.9
PSZ	Piszkesteto	74.71	324	⇓P		P	15 02 56.8 -0.9
PV19	Morning Glory	74.79	51	eP		P	15 02 59.2 +0.7
	comp=Z,49nm,0.8s						
Y12C	Blythe	74.83	57	eP		P	15 02 59.5 +1.0
	comp=Z,41nm,1.3s						
Y12C	Blythe	74.83	57	P		P	15 02 59.5 +1.0
	baz=314						
PV11	David Mesa, Pa	74.86	51	eP		P	15 02 58.9 0.0
	comp=Z,95nm,1.2s						
JAVC	Velka Javorina	74.86	326	eP		P	15 03 00.7 +2.1
VRAC	Vranov	74.92	327	eP		P	15 03 00.1 +1.3
LOT	Lotru	74.96	320	⇑iP		P	15 02 59.2 0.0
PRD	Provadia	74.97	317	eP		P	15 02 59.8 +0.7
MDUB	Mudurnu	75.08	313	eP		P	15 03 00.2 +0.2
	comp=Z,1μm,2.0s						
GOPC	GO Pecny, Ondr	75.12	328	eP		P	15 02 59.8 -0.1
GOPC	GO Pecny, Ondr	75.12	328	eP		P	15 02 59.8 -0.1
GOPC	GO Pecny, Ondr	75.12	328	eS		S	15 12 12.5 -2.6
GOPC	GO Pecny, Ondr	75.12	328	eS		S	15 12 12.5 -2.6
GLA	Glamis	75.14	58	P		P	15 03 01.2 +0.8
	baz=314						
PRU	Pruhonice	75.15	328	eP		P	15 03 00.9 +0.8
PRU	Pruhonice	75.15	328	eP		P	15 03 00.9 +0.8
KRUC	Moravsky	75.20	327	eP		P	15 03 01.5 +1.1
SIRR	Siria	75.26	322	⇑iP		P	15 03 00.7 -0.1
SUSD	Miller	75.33	41	P		P	15 03 01.2 0.0
	baz=320,SNR=8.6						
TREC	Trest	75.36	327	eP		P	15 03 02.0 +0.7
TREC	Trest	75.36	327	eP		P	15 03 02.0 +0.7
WUAZ	Wupatki	75.44	54	eP		P	15 03 02.8 +0.6
	comp=Z,35nm,1.0s						
WUAZ	Wupatki	75.44	54	P		P	15 03 03.4 +1.2
	baz=315						
ISCO	Idaho Springs	75.52	48	P		P	15 03 03.9 +1.1
	baz=317						
SZH	Strazhica	75.62	318	eP		P	15 03 03.3 +0.4
SZH	Strazhica	75.62	318	eP		P	15 03 03.9 +1.0
NKC	Novy Kostel	75.71	330	eP		P	15 03 03.8 +0.5
NKC	Novy Kostel	75.71	330	eP		P	15 03 03.8 +0.5
EYMN	Ely	75.79	34	P		P	15 03 03.6 -0.2
	baz=324						
CTYL	Yalikoy Yolu	75.82	315	⇑iP		P	15 03 04.9 +0.9
MVCO	Mesa Verde	75.84	51	P		P	15 03 05.3 +0.7
	baz=316,SNR=5.2						
JMB	Yambol	75.91	317	eP		P	15 03 05.4 +0.9
HERR	Herculane	76.00	321	⇓iP		P	15 03 05.3 +0.3
PHSR	Pinarhisar	76.08	316	⇑iP		P	15 03 06.5 +1.0
KHC	Kasperske Hory	76.21	328	eP		P	15 03 06.8 +0.6
KHC	Kasperske Hory	76.21	328	eP		P	15 03 06.8 +0.6
PUNG	Punghina	76.24	320	⇑iP		P	15 03 07.0 +0.7
SOP	Sopron	76.25	326	eS		S	15 12 29.1 +1.6
EDRB	Edirne	76.30	316	P		P	15 03 07.9 +1.2
S22A	4UR Ranch, Cre	76.37	50	P		P	15 03 08.9 +1.3
	baz=317						
Q24A	Divide	76.37	48	eP		P	15 03 07.2 -0.4
	comp=Z,20nm,0.8s						
Q24A	Divide	76.37	48	P		P	15 03 07.9 +0.3
	baz=318,SNR=7.0						
OGNE	Ogallala	76.50	45	eP		P	15 03 07.9 0.0
	comp=Z,81nm,0.9s						
OGNE	Ogallala	76.50	45	P		P	15 03 08.3 +0.3
	baz=319						
MPEP	Malo Peshtene	76.58	319	P		P	15 03 09.0 +0.7
W18A	Petrified Fore	76.66	54	P		P	15 03 09.6 +0.6
	baz=316						
E38A	The Farm, Brul	76.85	35	eP		P	15 03 09.2 -0.6
	comp=Z,69nm,1.0s						
E38A	The Farm, Brul	76.85	35	P		P	15 03 09.1 -0.6
	baz=324,SNR=5.7						
ECSD	EROS Data Cent	76.95	40	P		P	15 03 10.1 -0.3
	baz=321,SNR=7.8						
SDCO	Great Sand Dun	77.08	49	P		P	15 03 12.1 +0.5
	baz=318,SNR=6.8						
PLD	Plovdiv	77.09	318	eP		P	15 03 17.5 +6.4
KDZ	Kurdzhali	77.10	317	eP		P	15 03 23.2 +12
F37A	Hinrichs Farm,	77.11	36	P		P	15 03 10.8 -0.4
	baz=323						
214A	Organ Pipe Nat	77.12	58	P		P	15 03 12.4 +0.9
	baz=315						
F38A	Piero - Schro	77.24	36	P		P	15 03 11.5 -0.4
	baz=324,SNR=5.1						
SCHQ	Schefferville	77.27	17	eP		P	15 03 11.9 0.0
	comp=Z,12nm,0.6s						
SCHQ	Schefferville	77.27	17	P		P	15 03 12.8 +0.8
	comp=Z,6.4nm,0.4s,baz=259,slow=12,SNR=6.3						
ALN	Alexandroupoli	77.36	316	eP		P	15 03 13.2 +0.6
	comp=Z,42nm,1.6s						
ALN	Alexandroupoli	77.36	316	P		P	15 03 13.4 +0.8
ISP	Isparta	77.38	311	eP		P	15 03 13.6 +0.7
	comp=Z,136nm,1.8s						
ISP				eP	cP	PcP	15 03 23.6 +1.3
VTS	Vitosha	77.39	319	eP		P	15 03 13.6 +0.6
	comp=Z,27nm,1.0s						
VTS	Vitosha	77.39	319	P		P	15 03 13.6 +0.6
VTS	Vitosha	77.39	319	⇑iP		P	15 03 14.3 +1.3
VTS	Vitosha	77.39	319	⇑P		P	15 03 14.3 +1.3
VTS	Vitosha	77.39	319	eP		P	15 03 13.3 +0.3
VTS	Vitosha	77.39	319	eP		P	15 03 14.3 +1.3
BALB	Balikesir	77.40	314	eP		P	15 03 13.2 +0.4
	comp=Z,101nm,0.8s						
RDO	Rodhopi	77.42	317	eP		P	15 03 13.8 +0.8
RDO	Rodhopi	77.42	317	P		P	15 03 13.8 +0.8
E39A	Mellen	77.44	35	P		P	15 03 12.5 -0.5
	baz=324,SNR=7.3						
SPMN	Marine on St.	77.44	37	P		P	15 03 12.4 -0.6
	baz=323						
HGN	Heimansgroeve	77.45	334	eP		P	15 03 08.1 -4.8
E40A	Wakefield	77.65	34	P		P	15 03 14.4 +0.3
	baz=325,SNR=11						
F39A	Loretta	77.67	35	P		P	15 03 14.0 -0.2
	baz=324,SNR=5.6						
G38A	Ridgeland	77.88	36	P		P	15 03 14.5 -1.0
	baz=324						
MANT	Manisa	77.92	313	eP		P	15 03 16.4 +0.4
	comp=Z,347nm,1.7s						
SMTH	Samothraki Isl	77.94	316	eP		P	15 03 15.9 0.0
SMTH	Samothraki Isl	77.94	316	P		P	15 03 15.9 0.0
CSS	Mathiatis	77.95	308	eP		P	15 03 16.5 +0.5
	comp=Z,253nm,1.9s						
CSS	Mathiatis	77.95	308	P		P	15 03 16.7 +0.7
MMB	Musomiste	77.95	318	eP		P	15 03 16.6 +0.7
MMB	Musomiste	77.95	318	eP		P	15 03 17.2 +1.3
F40A	Park Falls	77.99	35	P		P	15 03 15.6 -0.4
	baz=325,SNR=6.1						
E41A	Kenton	78.00	34	P		P	15 03 15.6 -0.4
	baz=325						
KAVA	Kavala	78.03	317	eP		P	15 03 17.4 +1.1
KAVA	Kavala	78.03	317	P		P	15 03 17.4 +1.1
BGNE	Belgrade	78.04	42	P		P	15 03 16.2 -0.2
	baz=321						
KKB	Krupnik	78.04	318	eP		P	15 03 17.5 +1.1
KKB	Krupnik	78.04	318	eP		P	15 03 17.4 +1.1
EZN	Ezine	78.04	315	⇑iP		P	15 03 17.3 +0.9
EZN	Ezine	78.04	315	⇑P		P	15 03 17.3 +0.9
TUC	Tucson	78.06	56	P		P	15 03 17.6 +0.8
	baz=316						
G39A	Holcombe	78.07	36	P		P	15 03 15.5 -1.0
	baz=324						
NVR	Nevrokopi	78.07	318	P		P	15 03 15.3 -1.3
H38A	Maiden Rock	78.10	37	P		P	15 03 16.1 -0.6
	baz=324						
T25A	Trinidad	78.11	49	P		P	15 03 17.7 +0.5
	baz=318,SNR=6.5						
HAPS	Han Pijesak,Bl	78.15	322	eP		P	15 03 16.9 -0.2
BLY	Banja Luka	78.37	324	⇑iP		P	15 03 17.5 -0.6
SRS	Serrai	78.38	318	P		P	15 03 18.9 +0.6
E42A	Champion	78.44	33	P		P	15 03 18.1 -0.4
	baz=326						
G40A	Rib Lake	78.48	35	eP		P	15 03 18.3 -0.5
	comp=Z,26nm,1.0s						
G40A	Rib Lake	78.48	35	P		P	15 03 18.5 -0.2
	baz=325						
H39A	Augusta	78.52	36	P		P	15 03 18.6 -0.3
	baz=324						
F41A	Three Lakes	78.54	34	eP		P	15 03 18.9 -0.1
	comp=Z,37nm,0.8s						
F41A	Three Lakes	78.54	34	P		P	15 03 18.9 -0.1
	baz=325,SNR=6.4						
LIA	Limnos Island	78.55	316	P		P	15 03 19.4 +0.2
STIP	Stip	78.59	319	iP		P	15 03 19.1 -0.2
TASM	ASL Pad, Albuq	78.62	52	P		P	15 03 20.3 +0.4
	baz=318,SNR=6.0						
TASM	ASL Pad, Albuq	78.62	52	P		P	15 03 20.2 +0.3
	baz=318,SNR=6.1						
ANMO	Albuquerque	78.62	52	eP		P	15 03 20.9 +0.9
	comp=Z,29nm,1.3s						
ANMO	Albuquerque	78.62	52	cP		P	15 03 21.0 +1.1
ANMO				pmax	pmax		
	comp=Z,21nm,1.3s						
ANMO	Albuquerque	78.62	52	P		P	15 03 19.6 -0.3
	baz=318						
LAZ	Ladron	78.64	52	eP		P	15 03 19.6 -0.5
KNT	Kendrikon	78.68	318	P		P	15 03 18.9 -1.0
CEY	Cerknica	78.69	326	eP		P	15 03 12.8 -7.1
VAY	Valandovo	78.71	318	iP		P	15 03 21.2 +1.2
E43A	Lone Tree Farm	78.84	33	P		P	15 03 20.3 -0.3
	baz=327						
UPM	Unac-Piva	78.88	322	eP		P	15 03 21.3 +0.1
H40A	Chili	78.94	36	P		P	15 03 20.9 -0.3
	baz=325						
PLG	Polygyros	79.03	317	P		P	15 03 22.0 +0.2
GRG	Griva	79.07	318	P		P	15 03 22.2 +0.2
I39A	Houston	79.08	37	eP		P	15 03 21.2 -0.8
	comp=Z,39nm,0.9s						
I39A	Houston	79.08	37	P		P	15 03 21.3 -0.7
	baz=324						
BNM	Barren Site	79.11	52	eP		P	15 03 23.8 +1.1
MATQ	Matagami	79.13	25	P		P	15 03 21.4 -0.7
	baz=332						
G42A	Mountain	79.22	34	eP		P	15 03 22.5 -0.2
	comp=Z,32nm,0.8s						
G42A	Mountain	79.22	34	P		P	15 03 21.9 -0.8
	baz=326						
F43A	Flat Rock, Esc	79.22	33	P		P	15 03 22.2 -0.5
	baz=327						
H41A	Junction City	79.24	35	P		P	15 03 22.3 -0.6
	baz=325						
PAIG	Paliouri	79.26	317	P		P	15 03 22.9 -0.1
CBKS	Cedar Bluff	79.26	45	P		P	15 03 22.6 -0.5
	baz=320,SNR=5.4						
CHOS	Chios island	79.28	314	P		P	15 03 23.7 +0.5
BRY	Bratogost	79.28	322	eP		P	15 03 22.6 -0.7
KRUS	Krusevo	79.28	319	iP		P	15 03 23.1 -0.2
PDG	Podgorica	79.34	321	⇓iP		P	15 03 23.7 +0.3
TTG	Podgorica	79.34	321	eP		P	15 03 22.9 -0.5
	comp=Z,40nm,1.0s						
F44A	Big Bay de Noc	79.39	33	P		P	15 03 23.3 -0.3
	baz=327						
J39A	Decorah	79.43	37	P		P	15 03 23.3 -0.6
	baz=324						
I40A	Norwalk	79.44	36	P		P	15 03 23.5 -0.4
	baz=325						
D46A	Sault St. Mari	79.50	31	P		P	15 03 23.3 -0.9
	baz=328,SNR=7.4						
G43A	Wallace	79.50	34	P		P	15 03 23.8 -0.4
	baz=326						
E45A	Wooded Hills,	79.54	32	P		P	15 03 23.7 -0.7
	baz=328						
DRME	Dracevica, Mon	79.57	321	eP		P	15 03 24.0 -0.7
121A	Cookes Peak, D	79.65	54	P		P	15 03 26.4 +0.9
	baz=317,SNR=5.3						
FNA	Florina	79.69	319	eP		P	15 03 26.1 +0.7
	comp=Z,16nm,0.8s						
FNA	Florina	79.69	319	P		P	15 03 25.8 +0.4
D47A	Chapleau	79.69	30	P		P	15 03 24.3 -0.9
	baz=329						
OHR	Ohrid	79.69	319	iP		P	15 03 22.3 -3.1
LIT	Litokhoron	79.70	318	eP		P	15 03 25.1 -0.4
E46A	Sault Ste Mari	79.85	31	P		P	15 03 25.3 -0.7
	baz=328						
K39A	Oelwein	79.86	38	P		P	15 03 25.7 -0.5
	baz=324						
SCIA	State Center	79.92	39	P		P	15 03 26.8 +0.3
	baz=324						
TIR	Tirane	79.94	320	eP		P	15 03 26.6 0.0
	comp=Z,40nm,0.8s						
TIR	Tirane	79.94	320	⇑iP		P	15 03 27.1 +0.5
TIR	Tirane	79.94	320	eP		P	15 03 26.6 0.0
TIR				pmax	pmax		
	comp=Z,40nm,0.8s						
TIR	Tirane	79.94	320	⇑P		P	15 03 27.1 +0.5
XOR	Xorichti	79.94	317	P		P	15 03 26.3 -0.4
CHGQ	Chibougamau	79.95	23	P		P	15 03 26.1 -0.5
	baz=334						
LSQQ	Lebel-sur-Quev	79.95	25	P		P	15 03 26.3 -0.3
	baz=333						
F45A	CMU Biological	79.98	32	P		P	15 03 26.5 -0.2
	baz=328						
D48A	Paudash Townsh	80.04	29	P		P	15 03 26.5 -0.6
	baz=330						
D49A	Beulah Townshi	80.11	29	P		P	15 03 26.6 -0.8
	baz=330						
J41A	Loganville	80.12	36	P		P	15 03 26.6 -1.0
	baz=325						
H43A	Windswept, Lux	80.12	34	P		P	15 03 27.3 -0.2
	baz=326						
I42A	Draeger Farm,	80.14	35	P		P	15 03 27.4 -0.3
	baz=326						
E47A	Iron Bridge	80.14	30	P		P	15 03 27.1 -0.6
	baz=329						
F46A	Macinaw City C	80.19	32	P		P	15 03 27.5 -0.3
	baz=328						
K40A	Colesburg	80.19	37	P		P	15 03 27.4 -0.5
	baz=325						
MRKA	Markates	80.26	316	P		P	15 03 27.9 -0.5
L39A	Vinton	80.28	38	P		P	15 03 27.6 -0.8
	baz=324						
JFWS	Jewell Farm	80.39	37	P		P	15 03 28.2 -0.8
	baz=325						
I43A	Langenfeld Bro	80.46	35	P		P	15 03 28.9 -0.5
	baz=326						
G45A	Suttons Bay	80.47	33	P		P	15 03 28.9 -0.5
	baz=328						
E48A	Lockeyer	80.52	30	P		P	15 03 28.8 -0.8
	baz=330						
J42A	Columbus	80.53	36	P		P	15 03 29.4 -0.4
	baz=326						
G46A	Petoskey	80.53	32	P		P	15 03 29.1 -0.6
	baz=328,SNR=7.1						
ATAL	Atalanti	80.55	317	eP		P	15 03 29.6 -0.3
ATAL	Atalanti	80.55	317	P		P	15 03 29.6 -0.3
KSU1	Kansas State U	80.58	43	P		P	15 03 29.5 -0.5
	baz=322						
VLDQ	Val d'Or	80.65	26	eP		P	15 03 29.0 -1.2
	comp=Z,52nm,0.9s						
L40A	Anamosa	80.67	38	P		P	15 03 30.1 -0.4
	baz=325						
H45A	Beulah	80.67	33	P		P	15 03 30.0 -0.5
	baz=327						
K42A	Prairie Point,	80.88	36	P		P	15 03 31.1 -0.5
	baz=326						
F48A	Evansville	80.92	30	P		P	15 03 30.9 -0.8
	baz=329						
DSF	Desfina	81.00	317	P		P	15 03 31.3 -1.1
G47A	Hillman	81.03	31	P		P	15 03 32.0 -0.3
	baz=329						
E50A	Wahnapitae	81.06	29	P		P	15 03 31.2 -1.2
	baz=330						
H46A	Fife Lake	81.06	33	P		P	15 03 31.9 -0.7
	baz=328						
ANX	Ano Chora	81.16	317	P		P	15 03 33.0 -0.2
IGT	Igoumenitsa	81.17	319	eP		P	15 03 32.5 -0.7
IGT	Igoumenitsa	81.17	319	P		P	15 03 32.5 -0.7
F49A	Sandfield	81.18	30	P		P	15 03 32.2 -0.9
	baz=330						
SERG	Sergoula	81.23	317	P		P	15 03 32.9 -0.7
AMTX	Amarillo	81.27	49	eP		P	15 03 34.2 +0.3
	comp=Z,42nm,0.6s						
AMTX	Amarillo	81.27	49	P		P	15 03 34.6 +0.7
	baz=320						
EFP	Efpalio	81.29	317	P		P	15 03 33.7 -0.1
D52A	ZEK Kipawa Sen	81.35	27	P		P	15 03 33.1 -0.9
	baz=332						
K43A	Burlington	81.36	36	P		P	15 03 33.4 -0.7
	baz=326						
DID	Didima	81.37	316	P		P	15 03 32.0 -2.3
MSTX	Muleshoe	81.37	50	P		P	15 03 34.2 -0.3
	baz=319						
L42A	Oliver, Polo	81.38	37	P		P	15 03 33.2 -1.0
	baz=326						
E51A	G1948 Merrick	81.39	28	P		P	15 03 33.6 -0.5
	baz=331						
GUR	Goura	81.47	316	eP		P	15 03 33.7 -1.2
GUR	Goura	81.47	316	P		P	15 03 33.7 -1.2
N40A	Mertquake, Sal	81.47	39	P		P	15 03 34.4 -0.3
	baz=324						
I46A	Reed City	81.47	33	P		P	15 03 34.2 -0.5
	baz=328						
KLV	Kalavryta, Ach	81.48	317	P		P	15 03 34.0 -0.9
D53A	Lac Vacive, Po	81.49	27	P		P	15 03 34.1 -0.6
	baz=332						
M41A	Milan	81.52	38	P		P	15 03 34.8 -0.2
	baz=325						
J45A	Montague	81.53	34	P		P	15 03 34.4 -0.6
	baz=327						
L43A	Garden Prairie	81.62	36	P		P	15 03 34.4 -1.1
	baz=326						
H48A	Harrisville	81.63	31	P		P	15 03 35.1 -0.3
	baz=329						
MNTX	Cornudas Mount	81.63	53	P		P	15 03 36.2 +0.5
	baz=318						
D54A	Lac Fusel, La	81.75	26	P		P	15 03 35.3 -0.8
	baz=333						
F51A	Arnstein	81.77	29	P		P	15 03 35.2 -1.0
	baz=331						
TOBO	Tobermory, Bru	81.83	30	P		P	15 03 35.7 -0.8
	baz=330						
GDL2	Guadalupe Moun	81.83	52	eP		P	15 03 37.7 +0.8
E52A	Mattawa	81.88	28	P		P	15 03 35.7 -1.0
	baz=332						
MATE	Matera	81.91	322	⇓iP		P	15 03 38.3 +1.3
FSK	Fiskardo	81.91	318	P		P	15 03 36.7 -0.3
I48A	Sherman Twp	81.93	32	P		P	15 03 36.6 -0.4
	baz=329						
N41A	Harden Midland	81.93	38	P		P	15 03 36.9 -0.2
	baz=325						
L44A	Lake County Fo	81.97	36	P		P	15 03 36.8 -0.5
	baz=326						
LAST	Lasithi	82.05	313	P		P	15 03 38.3 +0.4

	baz=326							
L46A	Eue Claire	82.77	35	P		P	15 03 41.0	-0.4
	baz=327							
BASO	Ashfield	82.83	31	P		P	15 03 41.7	+0.1
	baz=330							
J49A	Marlette	82.85	32	P		P	15 03 41.7	-0.1
	baz=329							
PEMO	Pembroke	82.88	27	P		P	15 03 41.4	-0.5
	baz=333							
WMOK	Wichita Mounta	82.90	47	P		P	15 03 42.4	+0.1
	baz=321							
G53A	Haliburton	82.92	28	P		P	15 03 41.6	-0.5
	baz=332							
BWLO	Walkerton	82.92	30	P		P	15 03 42.1	-0.1
	baz=330							
K48A	Perry	82.95	33	P		P	15 03 42.3	0.0
	baz=329,SNR=5.2							
OK023	East Waterloo	82.95	45	eP		P	15 03 42.1	-0.4
	comp=Z,94nm,1.6s							
F55A	Otter Lake	83.02	26	P		P	15 03 41.8	-0.8
	baz=333							
N44A	Piper City	83.03	36	P		P	15 03 42.2	-0.5
	baz=326							
K49A	Clarkson	83.22	32	P		P	15 03 43.6	-0.1
	baz=329							
L47A	Sherwood	83.23	34	P		P	15 03 43.4	-0.4
	baz=328							
BANO	Bancroft	83.24	28	P		P	15 03 43.2	-0.6
	baz=332,SNR=6.8							
I51A	Listowel	83.24	30	P		P	15 03 43.9	+0.1
	baz=330							
N45A	Kentland	83.25	36	P		P	15 03 43.8	0.0
	baz=327							
M46A	Old House Fiel	83.25	35	P		P	15 03 43.7	-0.2
	baz=328							
P43A	Skaggs, Pawnee	83.39	38	P		P	15 03 44.2	-0.4
	baz=326							
O44A	Mansfield	83.42	37	P		P	15 03 44.4	-0.3
	baz=326							
G55A	Calabogie	83.42	27	P		P	15 03 43.8	-0.9
	baz=333							
TUL1	Leonard	83.49	44	eP		P	15 03 45.4	+0.2
	comp=Z,49nm,0.7s							
TUL1	Leonard	83.49	44	P		P	15 03 45.5	+0.3
	baz=323,SNR=6.3							
PLVO	Plevna	83.50	27	eP		P	15 03 44.2	-0.8
	comp=Z,19nm,0.7s							
PLVO	Plevna	83.50	27	P		P	15 03 44.4	-0.7
	baz=333,SNR=8.6							
K50A	Casco	83.54	32	P		P	15 03 45.5	+0.2
	baz=330							
Q42A	Golden Eagle	83.54	39	P		P	15 03 45.8	+0.4
	baz=325							
L48A	N Adams	83.56	33	P		P	15 03 45.4	-0.1
	baz=329							
M47A	Cromwell	83.59	35	P		P	15 03 45.6	0.0
	baz=328							
ORIO	Orleans, Innes	83.63	26	P		P	15 03 45.1	-0.6
	baz=334							
O45A	Potomac	83.66	36	P		P	15 03 45.6	-0.3
	baz=327,SNR=7.1							
ALFO	Alfred	83.66	26	P		P	15 03 45.2	-0.6
	baz=334,SNR=6.8							
R41A	Rosebud	83.67	40	P		P	15 03 45.9	-0.1
	baz=325							
L49A	Milan	83.68	33	P		P	15 03 46.2	+0.2
	baz=329							
I53A	Kortright Cn E	83.73	29	P		P	15 03 45.8	-0.4
	baz=331							
ACTO	Acton	83.75	30	P		P	15 03 46.2	-0.2
	baz=331							
PKRO	Pickering	83.78	29	P		P	15 03 46.0	-0.5
	baz=332							
DELO	Deloro Mine	83.78	28	P		P	15 03 46.0	-0.5
	baz=333,SNR=5.4							
SFIN	Lafayette	83.81	36	eP		P	15 03 46.3	-0.5
	comp=Z,17nm,0.7s							
SFIN	Lafayette	83.81	36	P		P	15 03 46.2	-0.5
	baz=327							
M48A	Edgerton	83.84	34	eP		P	15 03 46.7	-0.2
	comp=Z,35nm,0.6s							
M48A	Edgerton	83.84	34	P		P	15 03 46.4	-0.5
	baz=328							
H55A	Tweed	83.90	28	P		P	15 03 46.6	-0.5
	baz=333,SNR=7.7							
CCM	Cathedral Cave	83.92	40	P		P	15 03 47.0	-0.3
	baz=325							
J52A	Paris	83.92	30	P		P	15 03 47.0	-0.2
	baz=331							
N47A	Urbana	83.97	35	P		P	15 03 47.2	-0.3
	baz=328,SNR=7.0							
DRWO	Darlington Wes	83.98	29	P		P	15 03 46.9	-0.6
	baz=332							
K51A	Iona Station	84.00	31	P		P	15 03 48.2	+0.6
	baz=330							
I55A	Frankford	84.03	28	P		P	15 03 47.2	-0.6
	baz=333							
WLVO	Wesleyville	84.05	29	P		P	15 03 47.6	-0.2
	baz=332,SNR=6.4							
S41A	Jillco Farms,	84.08	41	P		P	15 03 47.8	-0.3
	baz=325							
ABTX	Abilene, Hawle	84.08	49	P		P	15 03 48.5	+0.2
	baz=321							
L50A	Kingsville	84.10	32	P		P	15 03 48.1	-0.1
	baz=330							
M49A	Liberty Center	84.14	33	P		P	15 03 48.3	-0.1
	baz=329							
H56A	Elgin	84.16	27	P		P	15 03 48.0	-0.4
	baz=333							
K52A	Tillsonburg	84.24	31	P		P	15 03 48.6	-0.2
	baz=331							
P45A	Graceland, Par	84.25	37	eP		P	15 03 49.0	0.0
	comp=Z,33nm,0.7s							
P45A	Graceland, Par	84.25	37	P		P	15 03 48.6	-0.3
	baz=327,SNR=6.7							
N48A	Decatur	84.25	34	P		P	15 03 48.7	-0.3
	baz=328							
TYNO	Tyneside	84.27	30	P		P	15 03 48.7	-0.3
	baz=331							
O47A	Sheridan	84.31	36	P		P	15 03 48.9	-0.4
	baz=328							
LTX	Lajitas	84.38	54	eP		P	15 03 50.9	+1.0
LTX	Lajitas	84.38	54	eP		P	15 03 50.9	+1.0
TXAR	Lajitas Array	84.38	54	P		P	15 03 50.9	+1.0
	comp=Z,17nm,0.7s,baz=290,slow=3.9,SNR=11							
P46A	Rosedale	84.40	37	P		P	15 03 49.4	-0.3
	baz=327,SNR=9.6							
STCO	Saint Catharin	84.41	29	P		P	15 03 49.4	-0.3
	baz=332							
PLIO	Pelee Island,	84.42	32	P		P	15 03 49.7	0.0
	baz=330							
PECO	Prince Edward	84.51	28	P		P	15 03 49.6	-0.5
	baz=333,SNR=6.0							
N49A	Columbus Grove	84.53	34	P		P	15 03 50.3	0.0
	baz=329							
J54A	Appleton	84.54	29	P		P	15 03 49.9	-0.4
	baz=332							
U40A	Yellville	84.56	42	P		P	15 03 50.5	-0.1
	baz=324,SNR=9.0							
M50A	Fremont	84.56	33	P		P	15 03 50.1	-0.3
	baz=329							
Q45A	Warren Harvey,	84.60	38	P		P	15 03 50.6	-0.2
	baz=327							
LONY	Lake Ozonia	84.66	26	P		P	15 03 50.5	-0.4
	baz=334							
MEDO	Medina	84.70	29	P		P	15 03 50.5	-0.6
	baz=332							
O48A	Farmland	84.71	35	P		P	15 03 50.8	-0.4
	baz=328							
OLIL	Olney	84.76	38	eP		P	15 03 52.0	+0.5
	comp=Z,38nm,0.9s							
J55A	Hilton	84.83	29	eP		P	15 03 51.2	-0.5
	comp=Z,27nm,0.8s							
J55A	Hilton	84.83	29	P		P	15 03 51.2	-0.5
	baz=332							
P47A	Martinsville	84.90	36	P		P	15 03 52.1	-0.1
	baz=328							
M51A	Elyria	84.95	32	P		P	15 03 52.0	-0.4
	baz=330							
U41A	Viola	85.00	41	P		P	15 03 52.6	-0.1
	baz=325							
W39A	Magazine	85.04	43	P		P	15 03 52.8	-0.2
	baz=324							
R45A	Skylar, Fairfi	85.05	38	P		P	15 03 53.1	+0.2
	baz=326							
N50A	Nevada	85.07	33	P		P	15 03 52.9	-0.1
	baz=329							
ERPA	Erie	85.08	31	eP		P	15 03 53.0	0.0
	comp=Z,39nm,0.5s							
ERPA	Erie	85.08	31	P		P	15 03 52.8	-0.2
	baz=331							
M52A	Chesterland	85.08	32	P		P	15 03 53.2	+0.1
	baz=330							
O49A	Covington	85.10	34	eP		P	15 03 53.0	-0.2
	comp=Z,16nm,0.7s							
O49A	Covington	85.10	34	P		P	15 03 53.1	0.0
	baz=329							
SIUC	Southern Illin	85.11	39	eP		P	15 03 53.6	+0.3
	comp=Z,90nm,0.6s							
S44A	Carbondale	85.12	39	P		P	15 03 53.6	+0.3
	baz=326,SNR=12							
L53A	Girard	85.12	31	P		P	15 03 53.1	-0.2
	baz=331,SNR=6.7							
K55A	Perry	85.22	29	P		P	15 03 53.4	-0.3
	baz=332,SNR=5.5							
L54A	Sinclairville	85.22	30	P		P	15 03 53.4	-0.3
	baz=332							
N51A	Ashland	85.24	33	P		P	15 03 53.5	-0.4
	baz=330							
P48A	Milroy	85.28	35	P		P	15 03 53.8	-0.2
	baz=328							
Q47A	Bedord North L	85.30	36	P		P	15 03 53.9	-0.3
	baz=328,SNR=13							
O50A	Cable	85.42	34	P		P	15 03 54.5	-0.2
	baz=329							
M53A	WI Miller and	85.42	31	P		P	15 03 55.1	+0.3
	baz=331							
S45A	Carrier Mills	85.43	38	P		P	15 03 54.9	+0.1
	baz=326,SNR=5.7							
ALLY	Alegheny Colle	85.43	31	eP		P	15 03 54.9	+0.1
	comp=Z,55nm,1.1s							
R46A	Gibon Southern	85.45	37	P		P	15 03 55.1	+0.2
	baz=327							
P49A	Miami Univ. Ec	85.50	35	P		P	15 03 55.1	-0.1
	baz=328							
L55A	Hinsdale	85.57	29	P		P	15 03 55.2	-0.3
	baz=332							
N52A	McGinn's Farm,	85.59	32	P		P	15 03 55.9	+0.3
	baz=330							
ACSO	Alum Creek Sta	85.59	33	eP		P	15 03 55.8	+0.1
	comp=Z,29nm,0.6s							
ACSO	Alum Creek Sta	85.59	33	P		P	15 03 55.5	-0.1
	baz=330							
PKME	Peaks-Kenny Pk	85.60	22	P		P	15 03 55.5	0.0
	baz=338							
Q48A	North Vernon	85.60	36	P		P	15 03 55.4	-0.3
	baz=328,SNR=7.0							
JCT	Junction City	85.66	50	P		P	15 03 56.6	+0.4
	baz=321							
MIAR	Mount Ida	85.67	44	eP		P	15 03 56.6	+0.5
	comp=Z,32nm,0.7s							
MIAR	Mount Ida	85.67	44	eP		P	15 03 56.6	+0.5
MIAR				pmax		pmax		
	comp=Z,32nm,0.7s							
MIAR	Mount Ida	85.67	44	P		P	15 03 56.4	+0.4
	baz=324,SNR=6.6							
WHAR	Wooly Hollow	85.69	42	eP		P	15 03 56.2	+0.1
	comp=Z,64nm,0.7s							
M54A	Oil Creek Stat	85.73	31	P		P	15 03 55.9	-0.4
	baz=331							
WHTX	Lake Whitney,	85.73	48	P		P	15 03 56.7	+0.3
	baz=322							
R47A	Wooly Knot Far	85.80	37	P		P	15 03 56.4	-0.2
	baz=328,SNR=10							
S46A	Don Dixon Farm	85.80	38	P		P	15 03 56.6	-0.1
	baz=327							
W41B	Gary Mavity, V	85.80	42	P		P	15 03 56.7	0.0
	baz=324							
P50A	Jamestown	85.81	34	P		P	15 03 56.5	-0.2
	baz=329							
Q49A	Aurora	85.88	35	P		P	15 03 57.1	+0.1
	baz=328							
N53A	Lisbon	85.91	32	P		P	15 03 57.3	+0.1
	baz=331							
WCI	Wyandotte Cave	85.95	37	P		P	15 03 57.5	+0.1
	baz=328							
R48A	Northridge Ran	85.99	36	P		P	15 03 57.7	+0.1
	baz=328							
X40A	Basin Creek Fa	86.07	43	P		P	15 03 58.4	+0.4
	baz=324,SNR=5.1							
M55A	Ridgway	86.09	30	P		P	15 03 58.1	0.0
	baz=332							
N54A	Moraine State	86.09	31	P		P	15 03 58.1	0.0
	baz=331							
O52A	Adamsville	86.14	33	P		P	15 03 58.3	0.0
	baz=330							
P51A	Williamsport	86.21	34	P		P	15 03 58.4	-0.2
	baz=330							
S47A	Hartford	86.24	37	P		P	15 03 58.7	-0.1
	baz=327							
O53A	New Philadelph	86.26	32	P		P	15 03 58.9	+0.1
	baz=331							
T46A	Princeton	86.26	38	P		P	15 03 59.4	+0.5
	baz=327							
R49A	Shelbyville	86.37	36	P		P	15 03 59.7	+0.3
	baz=328							
BINY	Binghamton	86.39	28	P		P	15 03 59.4	-0.1
	baz=334							
P52A	Corning	86.44	33	P		P	15 03 59.6	-0.2
	baz=330							
Q51A	Peebles	86.49	34	eP		P	15 03 60.0	0.0
	comp=Z,46nm,0.8s							
Q51A	Peebles	86.49	34	P		P	15 04 00.3	+0.3
	baz=329,SNR=6.5							
S48A	Wiedeman Farm,	86.54	37	P		P	15 04 00.4	+0.1
	baz=328,SNR=5.4							
N55A	Marion Center	86.61	30	P		P	15 04 00.8	+0.2
	baz=332							
O54A	Avella	86.63	32	P		P	15 04 01.0	+0.3
	baz=331							
T47A	Sharon Grove	86.65	38	P		P	15 04 01.2	+0.4
	baz=327							
U46A	Springville	86.70	39	P		P	15 04 01.3	+0.2
	baz=327							
R50A	Paris	86.73	35	P		P	15 04 01.5	+0.3
	baz=329,SNR=5.3							
S49A	Springfield	86.75	36	P		P	15 04 01.6	+0.4
	baz=328							
P53A	Whipple	86.85	33	P		P	15 04 02.0	+0.3
	baz=330							
T48A	Bowling Green	86.85	37	P		P	15 04 01.9	+0.2
	baz=328							
Q52A	Bidwell	86.97	34	P		P	15 04 02.3	0.0
	baz=330							
O55A	Ligonier	87.00	31	P		P	15 04 02.6	+0.1
	baz=332							
R51A	Hillsboro	87.01	35	P		P	15 04 02.8	+0.3
	baz=329							
U47A	Clarksville	87.03	38	P		P	15 04 02.9	+0.3
	baz=327							
WVT	Waverly	87.05	39	P		P	15 04 03.1	+0.4
	baz=327							
Z41A	Richland Creek	87.08	44	P		P	15 04 03.6	+0.6
	baz=324							
P54A	Burton	87.10	32	P		P	15 04 03.5	+0.5
	baz=331							
SSPA	Standing Stone	87.13	30	P		P	15 04 03.2	+0.1
	baz=333							
V46A	Holladay	87.19	39	P		P	15 04 03.7	+0.2
	baz=327,SNR=5.4							
S50A	Richmond	87.21	36	P		P	15 04 03.8	+0.3
	baz=329,SNR=8.0							
O56A	Blue Knob Stat	87.22	30	P		P	15 04 03.6	+0.1
	baz=332							
T49A	Edmonton	87.22	37	P		P	15 04 03.8	+0.2
	baz=328							
MCWV	Mont Chateau	87.29	32	P		P	15 04 04.1	+0.3
	baz=331							
U48A	Cassie Pea, Po	87.30	38	P		P	15 04 04.2	+0.3
	baz=328							
Q53A	Leroy	87.35	33	P		P	15 04 04.6	+0.5
	baz=330,SNR=5.9							
R52A	Catlettsburg	87.36	34	P		P	15 04 04.3	+0.1
	baz=330							
P55A	Reedsville	87.42	32	P		P	15 04 05.1	+0.6
	baz=331							
V47A	Nunnelly	87.44	39	P		P	15 04 05.0	+0.4
	baz=327,SNR=7.0							
HRV	Adam Dziewonsk	87.50	25	P		P	15 04 05.2	+0.4
	baz=336							
Q54A	Coxs Mills	87.50	33	eP		P	15 04 05.3	+0.5
	comp=Z,52nm,0.6s							
Q54A	Coxs Mills	87.50	33	P		P	15 04 05.4	+0.6
	baz=331,SNR=8.4							
S51A	Beattyville	87.58	35	eP		P	15 04 05.4	+0.2
	comp=Z,22nm,0.8s							
S51A	Beattyville	87.58	35	P		P	15 04 05.3	+0.2
	baz=329							
T50A	Nancy	87.59	36	P		P	15 04 05.5	+0.2
	baz=328,SNR=6.4							
N59A	State Game Lan	87.61	28	eP		P	15 04 05.7	+0.4
	comp=Z,27nm,1.0s							
N59A	State Game Lan	87.61	28	P		P	15 04 05.6	+0.2
	baz=334							
U49A	Red Boiling Sp	87.62	37	P		P	15 04 05.8	+0.4
	baz=328,SNR=5.6							
R53A	Hurricane	87.64	34	P		P	15 04 05.8	+0.3
	baz=330							
OXF	Oxford	87.68	41	P		P	15 04 06.0	+0.3
	baz=326							
S52A	Salyersville	87.75	35	P		P	15 04 06.4	+0.4
	baz=330							
Q55A	Buckhannon	87.78	32	P		P	15 04 06.7	+0.5
	baz=331,SNR=5.6							
V48A	Smith Brothers	87.82	38	P		P	15 04 06.6	+0.2
	baz=327,SNR=5.7							
W47A	Westpoint	87.89	39	P		P	15 04 07.0	+0.3
	baz=327,SNR=5.3							
T51A	Gray	88.01	36	P		P	15 04 07.4	+0.2
	baz=329							
O59A	Robesonia	88.01	29	P		P	15 04 07.3	+0.1
	baz=334							
X46A	Booneville	88.02	40	P		P	15 04 07.5	+0.2
	baz=326							
U50A	Jamestown	88.10	37	P		P	15 04 08.1	+0.4
	baz=328							
PAL	Palisades	88.14	27	P		P	15 04 07.8	0.0
	baz=335							
R54A	Victor	88.14	33	P		P	15 04 08.2	+0.3
	baz=331							
V49A	McMinnville	88.20	38	P		P	15 04 08.4	+0.2
	baz=328							
O60A	Telford	88.27	28	P		P	15 04 08.4	+0.1
	baz=334							
W48A	Pulaski	88.28	39	P		P	15 04 08.8	+0.3
	baz=327,SNR=8.3							
T52A	Hallie	88.28	35	P		P	15 04 08.9	+0.4
	baz=330							
Q57A	Strasburg	88.36	31	P		P	15 04 08.9	0.0
	baz=332							
X47A	Russelville	88.38	40	P		P	15 04 09.0	0.0
	baz=327							
U51A	La Follette	88.48	36	P		P	15 04 09.7	+0.2
	baz=329							
TZTN	Tazewell	88.53	36	P		P	15 04 10.1	+0.4
	baz=329							
P59A	Jarrettsville	88.55	29	P		P	15 04 09.9	+0.2
	baz=334							
T53A	Wise	88.57	35	P		P	15 04 10.4	+0.4
	baz=330							
W49A	Belvidere	88.59	38	P		P	15 04 10.3	+0.3
	baz=328,SNR=5.0							
V50A	Pikevile	88.62	37	P		P	15 04 10.3	+0.1
	baz=328							
P60A	Greenville	88.64	29	P		P	15 04 10.2	0.0
	baz=334							
S55A	Lewisburg	88.69	33	P		P	15 04 10.7	+0.3
	baz=331							
U52A	Thorn Hill	88.74	36	P		P	15 04 11.1	+0.4
	baz=329,SNR=5.0							
X48A	Hartselle	88.80	39	P		P	15 04 11.0	0.0
	baz=327							
V51A	Loudon	88.83	37	P		P	15 04 11.4	+0.3
	baz=329							
T54A	Tazewell	88.89	34	P		P	15 04 11.9	+0.4
	baz=330							
W50A	Signal Mountai	88.93	38	P		P	15 04 11.9	+0.2
	baz=328							
R57A	Stanardsville	88.97	31	P		P	15 04 12.3	+0.6
	baz=332							
X49A	Woodville	89.07	39	P		P	15 04 12.6	+0.3
	baz=328							
U53A	Fall Branch	89.08	35	P		P	15 04 12.6	+0.3
	baz=330							
V52A	Sevierville	89.11	36	eP		P	15 04 12.9	+0.4
	comp=Z,24nm,0.6s							
V52A	Sevierville	89.11	36	P		P	15 04 12.9	+0.4
	baz=329,SNR=5.5							
S56A	Natural Bridge	89.13	32	P		P	15 04 12.8	+0.3
	baz=332							
Q59A	Harwood	89.14	30	P		P	15 04 13.0	+0.5
	baz=333							
T55A	Pulaski	89.15	33	P		P	15 04 13.1	+0.5
	baz=331,SNR=7.2							
R58A	Rapidan	89.16	31	P		P	15 04 12.8	+0.2
	baz=332							
Y48A	Jasper	89.20	40	P		P	15 04 13.3	+0.4
	baz=327							
W51A	Cleveland	89.20	37	P		P	15 04 13.2	+0.3
	baz=329							
BLA	Blacksburg	89.21	33	P		P	15 04 13.2	+0.3
	baz=331							
U54A	Nelsons Funny	89.25	34	P		P	15 04 13.5	+0.3
	baz=330							
S57A	Dark Hollow, R	89.28	32	P		P	15 04 13.6	+0.4
	baz=332							
X50B	Fort Payne	89.41	38	P		P	15 04 14.0	+0.1
	baz=328							
R58B	Mineral	89.50	31	P		P	15 04 14.7	+0.5
	baz=333							
T56A	Rocky Mt	89.52	33	P		P	15 04 14.7	+0.4
	baz=331							
R59A	King George, V	89.57	30	P		P	15 04 14.9	+0.4
	baz=333							
U55A	TA2, Sparta	89.58	34	P		P	15 04 14.8	+0.1
	baz=331							
Y49A	Blount Mountai	89.58	39	P		P	15 04 14.9	+0.2
	baz=328							
V53A	Saluda	89.59	36	eP		P	15 04 14.8	+0.1
	comp=Z,8.2nm,0.8s							
V53A	Saluda	89.59	36	P		P	15 04 15.0	+0.3
	baz=330							
W52A	Murphy	89.61	37	P		P	15 04 15.2	+0.4
	baz=329							
X51A	Calhoun	89.67	38	P		P	15 04 15.3	+0.3
	baz=329							
T57A	Hurt	89.84	32	P		P	15 04 16.2	+0.4
	baz=332							
V54A	Nebo	89.85	35	P		P	15 04 16.2	+0.3
	baz=330							
Y50A	Piedmont	89.86	39	P		P	15 04 16.2	+0.2
	baz=328							
W53A	Cullowhee	89.87	36	P		P	15 04 16.4	+0.3
	baz=330							
U56A	King	89.98	34	P		P	15 04 16.6	+0.1
	baz=331							
LRAL	Lakeview Retre	90.01	40	P		P	15 04 16.9	+0.3
	baz=327							
X52A	Dahlonega	90.05	37	P		P	15 04 17.4	+0.5
	baz=329							
Z49A	Columbiana	90.09	40	P		P	15 04 16.7	-0.3
	baz=328							
Y51A	Rockmart	90.14	38	P		P	15 04 17.6	+0.3
	baz=328,SNR=5.5							
T58A	Grand View Acr	90.16	32	P		P	15 04 17.3	0.0
	baz=332							
U57A	Blanch	90.31	33	P		P	15 04 18.2	+0.2
	baz=332							
Z50A	Ashland	90.31	39	P		P	15 04 18.4	+0.3
	baz=328,SNR=8.0							
W54A	Cherokee Point	90.35	35	P		P	15 04 18.7	+0.5
	baz=330							
X53A	Estanollee	90.39	37	P		P	15 04 19.2	+0.8
	baz=329,SNR=5.9							
V56A	Mocksville	90.40	34	P		P	15 04 19.0	+0.6
	baz=331							
149A	Jones	90.47	40	P		P	15 04 19.2	+0.4
	baz=328							
Z51A	Franklin	90.59	38	P		P	15 04 19.7	+0.3
	baz=328							
Y52A	Lilburn	90.61	37	P		P	15 04 20.1	+0.6
	baz=329							
V57A	Coltrane Farms	90.61	33	P		P	15 04 19.7	+0.3
	baz=332							
U58A	Oxford	90.64	32	P		P	15 04 20.0	+0.5
	baz=332							
KMSC	Kings Mountain	90.65	35	eP		P	15 04 19.8	+0.2
	comp=Z,22nm,1.0s							
KMSC	Kings Mountain	90.65	35	P		P	15 04 19.7	+0.2
	baz=331							
X54A	Belton	90.73	36	P		P	15 04 20.3	+0.2
	baz=330							
150A	Eclectic	90.81	39	P		P	15 04 20.7	+0.3
	baz=328							

Y53A	Monroe	90.82	37	P	P	15 04 20.9	+0.4
	baz=329						
249A	Camden	90.84	41	P	P	15 04 21.5	+1.0
	baz=327						
Z52A	Williamson	91.03	38	P	P	15 04 22.2	+0.8
	baz=329						
W57A	Gilead	91.17	34	P	P	15 04 22.4	+0.4
	baz=331						
Y54A	Tignall	91.19	36	P	P	15 04 22.7	+0.6
	baz=330						
GOGA	Godfrey	91.25	37	P	P	15 04 23.0	+0.6
	baz=329						
V59A	Middlesex	91.31	32	P	P	15 04 23.1	+0.4
	baz=332						
Z53A	Monticello	91.32	37	P	P	15 04 23.3	+0.5
	baz=329						
X56A	White Oak	91.33	35	P	P	15 04 23.1	+0.4
	baz=331						
152A	Waverly Hall	91.34	39	P	P	15 04 23.2	+0.3
	baz=329						
Y55A	Saluda	91.48	36	P	P	15 04 23.7	+0.3
	baz=330						
W58A	Raeford	91.59	33	P	P	15 04 24.3	+0.4
	baz=332						
W60A	Pink Hill	92.14	32	P	P	15 04 27.3	+0.8
	baz=333						
452A	Marianna	92.68	40	P	P	15 04 30.4	+1.4
	baz=328						
353A	Camilla	92.69	39	P	P	15 04 29.9	+0.8
	baz=329						
TOA1	Torodi Ar. Sit	112.17	319	*e*PKiKP	PKiKP	15 09 51.1	-0.3
TORD	Torodi Ar. Bea	112.17	319	PKiKP	PKiKP	15 09 51.1	-0.3
	comp=Z,1.1nm,0.8s,baz=359,slow=2.7,SNR=5.7						
SYO	Syowa Base	135.84	210⇑	*e*X	Pdif	15 07 37.0	-3.3
SYO	Syowa Base	135.84	210⇓	*ep*Pdiff	pPdif	15 08 50.0	+3.6
LPAZ	La Paz	141.24	52	PKP	PKPdf	15 10 47.2	+0.2
	comp=Z,2.0nm,1.0s,baz=301,slow=7.9,SNR=3.6						
LVC	Limon Verde	145.71	60	PKPbc	PKPab	15 10 56.3	+0.1
	comp=Z,3.5nm,0.5s,baz=195,slow=5.3,SNR=9.5						
SNAA	Sanae	148.76	200	PKPbc	PKPbc	15 11 01.0	-0.7
BDFB	Brasilia	149.21	21	*e*PKPbc	PKPbc	15 11 04.0	-0.6
BDFB				*e*PKPab	PKPab	15 11 09.9	+0.1
BDFB	Brasilia	149.21	21	*e*PKP2	PKPbc	15 11 04.0	-0.6
BDFB	Brasilia	149.21	21	PKPbc	PKPbc	15 11 04.0	-0.6
	comp=Z,6.9nm,0.8s,baz=314,slow=2.2,SNR=4.1						
VNA2	Neumayer--Watz	150.36	199	PKPbc	PKiKP	15 11 06.0	-0.2
VNA3	Neumayer Olymp	150.64	198	PKPbc	PKiKP	15 11 07.0	+0.2
VNA1	Neumayer--Stat	150.75	199	PKPbc	PKiKP	15 11 06.8	-0.2
CPUP	Villa Florida	155.22	48	*e*PKPab	PKPab	15 11 34.9	+0.1
CPUP	Villa Florida	155.22	48	*e*PKP2	PKPab	15 11 34.9	+0.1
CPUP	Villa Florida	155.22	48	PKPab	PKPab	15 11 35.3	+0.5
	comp=Z,6.0nm,0.8s,baz=336,slow=3.0,SNR=8.9						

ROM 21 14:54:59.1±0.1, 43°.209N±0°.006×12°.64E±0°.01, h11km, ML1.0/3, Error ellipse: s-maj=1.0km s-min=0.5km az=64.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATCC	AVT- Casa Cast	0.02	187	P	Pg	14 55 01.4	+0.3
ATCC				S	Sg	14 55 02.5	+0.1
ATCC				AML	AML		
	comp=E,154μm,0.1s						
ATCC				AML	AML		
	comp=N,355μm,0.3s						
ATCC				AML	AML		
	comp=E,154μm,0.1s						
ATCC				AML	AML		
	comp=N,355μm,0.3s						
ATCC	AVT- Casa Cast	0.02	187	P	Pg	14 55 01.4	+0.3
ATCC	AVT- Casa Cast	0.02	187	S	Sg	14 55 02.5	0.0
MURB	Monte Urbino	0.10	302	P	Pg	14 55 02.4	+0.5
MURB				S	Sg	14 55 04.6	+0.7
MURB				AML	AML		
	comp=E,160μm,0.2s						
MURB				AML	AML		
	comp=N,129μm,0.2s						
MURB				AML	AML		
	comp=E,160μm,0.2s						
MURB				AML	AML		
	comp=N,129μm,0.2s						
MURB	Monte Urbino	0.10	302	P	Pg	14 55 02.4	+0.5
MURB	Monte Urbino	0.10	302	S	Sg	14 55 04.5	+0.6
FOSV	Fossato di Vic	0.12	45	P	Pg	14 55 02.1	+0.1
FOSV	Fossato di Vic	0.12	45	P	Pg	14 55 02.6	+0.5
ASSB	Assisi San Ben	0.17	176	P	Pb	14 55 03.6	-0.7
ASSB				S	Sg	14 55 06.4	+1.1
ASSB				AML	AML		
	comp=E,51μm,0.2s						
ASSB				AML	AML		
	comp=N,44μm,1.1s						
ASSB				AML	AML		
	comp=N,44μm,1.1s						
ASSB				AML	AML		
	comp=E,51μm,0.2s						
ASSB	Assisi San Ben	0.17	176	P	Pb	14 55 03.6	-0.7
ASSB	Assisi San Ben	0.17	176	P	Pb	14 55 03.6	-0.6
ASSB	Assisi San Ben	0.17	176	S	Sg	14 55 06.6	+1.2
ATVO	AVT- Monte Val	0.24	315	P	Pg	14 55 04.8	+0.6
ATVO				S	Sg	14 55 08.7	+1.1
ATVO	AVT- Monte Val	0.24	315	P	Pg	14 55 04.8	+0.6
ATVO	AVT- Monte Val	0.24	315	P	Pg	14 55 04.8	+0.6

*BJI **21** 14:56:15.4±0.0, 10°.15S×124°.39E, h91km, mb4.9/22, mB5.0/9*

*IDC **21** 14:56:19.7±3.6, 9°.08S×123°.87E, h38km±32km, mb4.1/11, mb1 4.4/15, mb1mx4.1/41, mbtmp4.5/15, ML4.7/3, MS3.5/6, Ms1 3.5/6, ms1mx3.4/33, Error ellipse: s-maj=22.0km s-min=13.7km az=69.0*

*ISCJB **21** 14:56:22.2±0.2, 9°.42S±0°.03×123°.87E±0°.03, h100km, mb4.6/26, Error ellipse: s-maj=5.3km s-min=3.7km az=33.7*

*NEIC **21** 14:56:23.1±0.6, 9°.30S×123°.80E, h82km±6km, mb4.7/17, Error ellipse: s-maj=8.8km s-min=6.1km az=214.0*

*DJA **21** 14:56:24.0±0.2, 9°S±2°×12°4E±°, h82km±3km, M4.6/31, mB5.1/17, mb4.8/31, MLv5.0/14, Mw(mB)4.5/17*

ISC 21 14:56:24.0±0.4, 9°44S±0°.05×123°.84E±0°.05, h100km, n112, σ1§85/110, mb4.8/26, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.53	127	*e*Pn	Pn	14 56 39.9	-0.2
SOEI	Soe	0.53	127	P	Pn	14 56 40.0	-0.2
SOEI				S	Sn	14 56 50.0	-2.3
BATI	Baumata	0.78	193	P	Pn	14 56 43.7	+1.4
MMRI	Maumere	1.77	297	*e*Pn	Pn	14 56 53.1	-0.6
MMRI	Maumere	1.77	297	P	Pn	14 56 53.0	-0.6
MMRI				S	Sn	14 57 15.4	-0.8
BASI	Baing, Sumba	3.30	256	P	Pn	14 57 15.5	+1.6
WSI	Waingapu	3.50	266	P	Pn	14 57 17.9	+1.4
BBSI	Bau Bau	4.12	342	P	Pn	14 57 24.1	-0.8
BSSI	Bau Bau, Buton	4.66	314	P	Pn	14 57 32.3	+0.1
BKSI	Bulukumba	5.50	318	P	Pn	14 57 43.1	-0.5
KDI	Kendari	5.58	347	P	Pn	14 57 43.8	-0.8
KAPI	Kappang	5.98	317	*e*Pn	Pn	14 57 50.0	0.0
KAPI	Kappang	5.98	317	Pn	Pn	14 57 50.2	+0.2
	7.1nm,0.3s,baz=128,slow=9.3,SNR=48						
KAPI				LR	LR	15 00 17.5	
	comp=Z,532nm,18.2s,baz=132,slow=41						
PLAI	Plampang	6.01	275	P	Pn	14 57 51.0	+0.4
BNSI	Bone	6.22	323	P	Pn	14 57 54.1	+0.7
SPSI	Sidrap Palu	6.77	323	P	Pn	14 58 01.8	+0.9
TTSI	Tana Toraja	7.50	328	P	Pn	14 58 13.2	+2.4
SAUI	Saumlaki	7.52	79	*e*Pn	Pn	14 58 10.1	-0.9
SAUI	Saumlaki	7.52	79	P	Pn	14 58 10.4	-0.6
SANI	Sanana	7.64	16	P	Pn	14 58 13.1	+0.4
MTN	Manton Dam	7.92	116	*e*Pn	Pn	14 58 15.8	-0.7
LUWI	Luwuk	8.41	353	*e*Pn	Pn	14 58 22.3	-0.9
LUWI	Luwuk	8.41	353	P	Pn	14 58 26.4	+3.3
SRBI	Singaraja	8.63	278	P	Pn	14 58 24.9	-1.2
FITZ	Fitzroy Crossi	8.79	169	*e*Pn	Pn	14 58 27.7	-0.5
FITZ				*e*Sn	Sn	15 00 00.1	-5.4
FITZ	Fitzroy Crossi	8.79	169	Pn	Pn	14 58 28.4	+0.2
	5.6nm,0.3s,baz=0.6,slow=8.8,SNR=144						
FITZ				Sn	Sn	15 00 00.2	-5.4
	14nm,0.3s,baz=181,slow=6.5,SNR=18						
FITZ				LR	LR	15 02 41.8	
	comp=Z,127nm,21.5s,baz=340,slow=42						
JAGI	Jajag, Banyuwa	9.62	275	*e*Pn	Pn	14 58 35.4	-4.1
JAGI	Jajag, Banyuwa	9.62	275	P	Pn	14 58 36.3	-3.3
MRSI	Marisa	10.03	349	P	Pn	14 58 46.8	+1.6
MPSI	Mapaga	10.47	338	P	Pn	14 58 52.4	+1.2
FAKI	Fak Fak	10.57	53	*e*Pn	Pn	14 58 49.6	-3.0
FAKI	Fak Fak	10.57	53	P	Pn	14 58 50.6	-2.0
PWJI	Pagerwojo	11.98	276	P	Pn	14 59 09.8	-1.7
MTKI	Muara Teweh, K	12.26	313	P	P	14 59 29.3	+5.8
PCJI	Pacitan	12.57	275	P	Pn	14 59 17.9	-1.5
PSA00	Pilbara Seismi	12.66	197	*e*Pn	Pn	14 59 21.7	+1.2
UGM	Wanagama	13.25	276	*e*Pn	Pn	14 59 25.9	-2.4
SMRI	Semarang	13.47	279	*e*Pn	Pn	14 59 30.4	-0.8
WRA	Warramunga Arr	14.56	137	Pn	Pn	14 59 42.5	-2.7
	3.0nm,0.3s,baz=326,slow=14,SNR=80						
WRA				Sn	Sn	15 02 13.7	-12
	5.1nm,0.3s,baz=312,slow=22,SNR=15						
WRAB	Tennant Creek	14.56	137	*e*Pn	Pn	14 59 42.2	-3.0
WB2	Warramunga Arr	14.57	137	*e*Pn	Pn	14 59 42.3	-3.1
CISI	Cisompet, Garu	15.96	276	*e*Pn	Pn	14 59 59.9	-3.0
	62nm,0.6s						
CISI	Cisompet, Garu	15.96	276	P	P	15 00 05.6	+1.0
GIRL	Giralia	16.04	214	*e*Pn	P	15 00 05.0	-0.3
	820nm,1.8s						
LEM	Lembang	16.26	278	Pn	P	15 00 06.0	-2.0
	4.2nm,0.3s,baz=147,slow=22,SNR=6.3						
LEM				LR	LR	15 06 43.0	
	comp=Z,212nm,20.7s,baz=40,slow=38						
SBUM	Sibu	16.54	315	*e*Pn	P	15 00 08.4	-2.5
	8.9nm,1.1s						
CBJI	Citeko	17.09	279	P	Pn	15 00 14.0	-2.8
AS31	Alice Springs	17.11	147	*e*Pn	P	15 00 17.6	+0.4
	9.3nm,0.6s						
ASAR	Alice Springs	17.11	147	P	Pn	15 00 17.9	+0.8
	2.5nm,0.3s,baz=322,slow=12,SNR=152						
ASAR				S	Sn	15 03 16.5	-11
	0.9nm,0.3s,baz=318,slow=21,SNR=6.8						
ASAR				LR	LR	15 07 40.5	
	comp=Z,130nm,20.1s,baz=20,slow=39						
KSM	Kuching	17.29	308	*e*Pn	P	15 00 19.7	+0.4
	21nm,1.2s						
TPI	Tanjungpandan	17.40	291	P	P	15 00 18.5	-1.9
GENI	Genyem	17.60	68	P	P	15 00 20.1	-2.5
JAY	Jayapura	18.12	69	P	P	15 00 27.6	-0.9
	baz=266,slow=8.9						
CGJI	Cibinong	18.18	278	P	Pn	15 00 28.3	-1.8
PPBI	Pangkal Pinang	19.02	291	P	Pn	15 00 38.5	-1.6
COEN	Coen	19.46	105	*e*P	Pn	15 00 45.5	+0.3
	16nm,0.8s						
DSRI	Dabo	21.13	294	P	P	15 01 05.8	+4.7
MYKOM	Kota Tinggi	22.82	298	*e*P	P	15 01 19.1	+0.3
	51nm,1.7s						
CTA	Charters Tower	24.09	119	P	P	15 01 34.1	+3.6
	12nm,1.0s,baz=286,slow=13,SNR=8.0						
CTA				LR	LR	15 12 45.3	
	comp=Z,250nm,19.9s,baz=2.0,slow=41						
CTAO	Charters Tower	24.09	119	*e*P	P	15 01 33.4	+3.0
	14nm,1.0s						
MANU	Manus Island	24.52	74	*e*P	P	15 01 35.7	+1.3
	45nm,0.8s						
PDSI	Padang	24.75	289	P	P	15 01 34.5	-2.1
STKA	Stephens Creek	27.75	146	*e*P	P	15 02 06.8	+3.5
	2.4nm,0.9s						
STKA	Stephens Creek	27.75	146	P	P	15 02 06.7	+3.4
	5.9nm,0.7s,baz=328,slow=9.5,SNR=10						
STKA				LR	LR	15 15 14.3	
	comp=Z,119nm,19.3s,baz=15,slow=40						
TOO	Toolangi	34.15	149	*e*P	P	15 03 01.4	+1.8
	17nm,1.2s						
CM31	Chiang Mai Arr	37.04	318	*e*P	P	15 03 23.8	-0.6
	10nm,0.8s						
CMAR	Chiang Mai Arr	37.04	318	P	P	15 03 24.7	+0.2
	8.2nm,0.8s,baz=150,slow=7.2,SNR=14						
KMI	Kunming	40.04	330	P	P	15 03 52.8	+3.1
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2	Nanjing	41.53	354	*e*P	P	15 04 03.0	+1.4
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
CD2	Chengdu	44.51	335	*e*P	P	15 04 26.4	+0.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KS15	Wonju Array Si	46.79	4	*e*P	P	15 04 43.3	-0.2
	34nm,1.6s						
KSAR	Wonju Array Be	46.79	4	P	P	15 04 43.1	-0.4
KSRS	Korea Array	46.80	4	P	P	15 04 43.1	-0.5
	0.7nm,0.6s,baz=187,slow=8.1,SNR=3.3						
MJAR	Matsushiro Arr	47.69	16	P	P	15 04 48.9	-1.7
	3.2nm,0.7s,baz=198,slow=9.1,SNR=11						
MAJO	Matsushiro	47.69	16	*e*P	P	15 04 48.9	-1.7
LZH	Lanzhou	49.04	338	*e*P	P	15 05 04.4	+3.2
LZH				pP	pwP	15 05 27.4	-1.0
LZH				sP	sP	15 05 39.3	+4.5
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LSA	Lhasa	50.05	322	*e*P	P	15 05 09.6	+0.3
	12nm,0.8s						
ODAN	Odare	50.52	317	*e*P	P	15 05 12.5	-0.1
RAMN	Ramle	51.12	316	*e*P	P	15 05 17.4	+0.3
	52nm,0.7s						
HHC	Hu-ho-hao-te	51.30	348	*e*P	P	15 05 20.4	+2.3
HHC				S	S	15 12 30.3	+0.7
HHC				pmax	pmax		
	comp=Z,65nm,1.0s						
HHC				pmax	pmax		
	comp=Z,240nm,4.9s						
HHC				LR	LR		
	comp=N,890nm,14.5s						
HHC				LR	LR		
	comp=E,630nm,14.2s						
HHC				LR	LR		
	comp=Z,830nm,13.3s						
JIRN	Jiri	51.85	316	*e*P	P	15 05 22.6	-0.1
PKI	Pulchoki	52.33	316	*e*P	P	15 05 25.7	-0.5
	18nm,0.4s						
PKIN	Phulchoki	52.34	316	*e*P	P	15 05 25.7	-0.5
	21nm,0.5s						
KKN	Kakani	52.56	316	*e*P	P	15 05 27.5	-0.3
DMN	Daman	52.56	316	*e*P	P	15 05 27.5	-0.4
KOLN	Koldanda	53.71	315	*e*P	P	15 05 35.9	-0.3
	22nm,0.6s						
USRK	Ussuriysk Ar.	53.89	7	P	P	15 05 36.9	-0.1
	2.2nm,0.6s,baz=199,slow=8.1,SNR=7.4						
DANN	Dangsing	53.95	315	*e*P	P	15 05 37.8	-0.3
	52nm,0.5s						
PYUN	Piuthan	54.34	315	*e*P	P	15 05 40.7	-0.1
	36nm,0.5s						
ASAJ	Asahikawa	55.95	16	P	P	15 05 51.2	-0.6
	4.2nm,0.8s,baz=278,slow=8.13,SNR=4.6						
WMQ	Urumqi	62.33	331	*e*P	P	15 06 39.3	+3.3
WMQ				sP	sP	15 07 08.3	-2.1
WMQ				pmax	pmax		
	comp=Z,60nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,830nm,7.7s						
WMQ				LR	LR		
	comp=N,3μm,15.5s						
WMQ				LR	LR		
	comp=E,4μm,13.9s						
WMQ				LR	LR		
	comp=Z,4μm,15.1s						
NIL	Nilore	64.36	314	*e*P	P	15 06 49.1	-0.4
	9.0nm,0.6s						
MK31	Makanchi Array	67.11	330	*e*P	P	15 07 07.0	+0.1
	23nm,1.5s						
MK32	Makanchi Array	67.11	330	*e*P	P	15 07 07.6	+0.7
MKAR	Makanchi Array	67.11	330	*e*P	P	15 07 07.4	+0.5
MKAR	Makanchi Array	67.11	330	P	P	15 07 07.6	+0.7
	5.2nm,0.5s,baz=136,slow=7.5,SNR=35						
KBL	Kabul	67.81	313	*e*P	P	15 07 11.0	-0.8
	12nm,0.6s						
VNDA	Vanda	70.85	172	*e*P	P	15 07 33.2	+3.6
VNDA	Vanda	70.85	172	P	P	15 07 34.7	+5.2
	0.7nm,0.6s,baz=314,slow=5.9,SNR=6.6						
ZALV	Zalesovo Beam	71.23	337	*e*P	P	15 07 31.1	-1.0
ZALV	Zalesovo Beam	71.23	337	P	P	15 07 31.3	-0.9
	1.7nm,0.4s,baz=144,slow=5.1,SNR=5.5						
ZAA1	Zalesovo Array	71.24	337	*e*P	P	15 07 31.3	-0.9
OPO	Ambohidratompo	74.47	253	P	P	15 07 56.0	+3.7
	3.7nm,0.6s,baz=85,slow=1.6,SNR=5.5						
HLNC	Highland	119.15	56	*e*PKPdf	PKiKP	15 15 01.4	-0.4
TORD	Torodi Ar. Bea	123.24	280	PKP	PKiKP	15 15 12.6	+2.2
	0.5nm,0.6s,baz=132,slow=4.3,SNR=3.6						
TOA1	Torodi Ar. Sit	123.24	280	*e*PKPdf	PKiKP	15 15 12.6	+2.1
CPUP	Villa Florida	144.43	178	*e*PKPdf	PKPdf	15 15 49.6	+0.2
CPUP	Villa Florida	144.43	178	PKP	PKiKP	15 15 51.9	-1.1
	4.0nm,0.8s,baz=226,slow=3.4,SNR=7.0						
APG	El Apazote	146.05	77	PKPbc	PKiKP	15 15 56.0	-0.9
	9.6nm,0.8s,baz=329,slow=12,SNR=6.3						
V60A	Jim Taylor Roa	147.50	33	*e*PKPdf	PKPdf	15 15 53.4	-0.9
NNA	Nana	150.41	136	PKPbc	PKPab	15 16 08.8	-2.8
	3.5nm,0.3s,baz=279,slow=6.0,SNR=4.5						
LPAZ	La Paz	151.83	155	PKPbc	PKiKP	15 16 12.9	+3.6
	1.5nm,0.6s,baz=161,slow=5.6,SNR=4.4						

SAR 21 15:02:09.5±0.2, 43°.06N×18°.75E, h3km±2km, ML1.5/7, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	Unac-Piva	0.18	38	*e*Pg	Pg	15 02 12.7	-0.4
UPM				*e*Sg	Sg	15 02 15.9	+0.4
BRY	Bratogost	0.22	225	*e*Pg	Pg	15 02 13.7	-0.1
BRY				*e*Sg	Sg	15 02 17.6	+0.9
TREB	Trebinje	0.45	221	*e*Pg	Pg	15 02 17.3	-0.9
TREB				*e*Sg	Sg	15 02 24.5	+0.5
HCY	Herceg Novi	0.64	197	*e*Sg	Sg	15 02 29.8	-0.3
PDG	Podgorica	0.73	149	*e*Pg	Pg	15 02 22.4	-1.1
PDG				*e*Sg	Sg	15 02 33.1	+0.2
STON	Ston	0.80	257	*e*Pg	Pg	15 02 23.4	-1.3
STON				Sg	Sg	15 02 35.6	+0.6
STON	Ston	0.80	257	*e*Pg	Pg	15 02 23.1	-1.6
STON				*e*Sg	Sg	15 02 35.2	+0.2
DRME	Dracevica, Mon	0.93	160	*e*Pg	Pg	15 02 26.6	-0.7
DRME				*e*Sg	Sg	15 02 39.2	-0.1
BBLS	Lazići	0.94	30	*e*Pg	Pg	15 02 26.6	-0.9
BBLS				*e*Sg	Sg	15 02 39.3	-0.3
HAPS	Han Pijesak,Bl	1.04	8	*e*Pg	Pg	15 02 28.4	-1.0
HAPS				*e*Sg	Sg	15 02 42.7	-0.1
DIVS	Divibare	1.38	40	*e*Pn	Pn	15 02 35.2	-0.4
DIVS				*e*Sn	Sn	15 02 54.5	+0.1

KRSC 21 15:03:13.4±10.0, 52°.31N×161°.01E, h55km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.99	323	*e*P	Pn	15 03 32.1	+1.0
SPN				*e*S	Sn	15 03 44.8	+0.6
NLC	Nalytchevo	1.33	311	*e*P	Pn	15 03 37.2	+1.6
NLC				*e*S	Sn	15 03 53.6	+1.4
RUS	Russkaya	1.53	276	*e*P	Pn	15 03 40.4	+2.0
RUS				*e*S	Sn	15 03 58.3	+1.1
DALK	Dalny	1.55	299	*e*P	Pn	15 03 40.6	+2.0
DALK				*e*S	Sn	15 03 59.3	+1.7
PET	Petropavlovsk	1.60	297	*e*P	Pn	15 03 41.3	+2.0
UGLR	Uglovaya	1.60	305	*e*P	Pn	15 03 41.9	+2.5
SDLR	Sedlovina	1.61	308	*e*P	Pn	15 03 41.6	+2.0
SMAR	Somma	1.65	306	*e*P	Pn	15 03 42.2	+2.1
AVH	Avacha	1.68	306	*e*P	Pn	15 03 43.0	+2.6
KRER	Koryakskii	1.69	307	*e*P	Pn	15 03 43.8	+3.0
MTVR	Mutnovka	1.74	277	*e*P	Pn	15 03 43.6	+2.3
MTVR				*e*S	Sn	15 04 04.6	+2.2
KOK	Koryaka	1.74	305	*e*P	Pn	15 03 44.2	+2.9
KRX	Arik	1.78	307	*e*P	Pn	15 03 44.7	+2.9
KRMR	Karymshinskiy	1.83	288	*e*P	Pn	15 03 44.5	+2.1
KRMR				*e*S	Sn	15 04 06.2	+1.7
KDTR	Khodutka, Kamc	1.88	256	*e*P	Pn	15 03 44.8	+1.8
KDTR				*e*S	Sn	15 04 06.6	+1.1
ASAK	Asacha	1.91	273	*e*P	Pn	15 03 46.2	+2.7
MKZ	Mys Kozlova	2.29	11	*e*P	Pn	15 03 51.1	+2.4
MKZ				*e*S	Sn	15 04 18.0	+2.3
APC	Apacha	2.43	286	*e*P	Pn	15 03 54.2	+3.7
KZV	Kizimen	2.84	352	*e*P	Pn	15 04 00.0	+3.6
KZV				*e*S	Sn	15 04 33.0	+3.6
TUMD	Tumrok D	2.92	353	*e*S	Sn	15 04 34.6	+3.4
TUMR	Tumrok	3.02	351	*e*P	Pn	15 04 03.4	+4.6
ALID	Alaid	3.70	249	*e*P	Pn	15 04 10.5	+2.4
BKI	Bering	4.13	43	*e*S	Sn	15 05 01.0	+0.1

*ISCJB **21** 15:05:22.4±0.2, 5°.88N±0°.03×82°.65W±0°.02, h14km, mb4.5/98, MS4.1/1, Error ellipse: s-maj=5.1km s-min=2.3km az=34.7*

*IDC **21** 15:05:22.6±1.1, 5°.90N×82°.74W, h0km, mb4.1/11, mb1 4.5/17, mb1mx4.3/34, mbtmp4.3/17, ML3.4/4, MS4.0/6, Ms1 4.0/6, ms1mx3.7/31, Error ellipse: s-maj=31.3km s-min=14.5km az=38.0*

*NEIC **21** 15:05:23.3±1.9, 5°.96N×82°.69W, h4km±11km, mb4.6/100, Error ellipse: s-maj=6.9km s-min=3.9km az=205.0*

*UCR **21** 15:05:24.3±2.0, 5°.87N×82°.48W, h34km±999km, MD4.6, ML4.0, mb4.6(NEIC)*

*GCMT **21** 15:05:26.3±0.3, 5°.78N±0°.01×82°.66W±0°.02, h24km±1km, MW5.0/78, Moment Tensor Solution. s22,c25; s78,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.69±.19; $M_{\theta\theta}$1.06±.15; $M_{\phi\phi}$-0.37±.16; $M_{r\theta}$0.62±.19; $M_{\theta\phi}$3.47±.12; $M_{r\phi}$0.02±.18; Best double couple: $M_0$3.59700×10^{16} NP1:ϕ_s276.00000°, δ88.00000°, λ-10.00000°. NP2: ϕ_s6.00000°, δ80.00000°, λ-178.00000°. Principal axes: T 3.9390, Plg6.0000°, Azm321.0000°; N -0.6840, Plg80.0000°, Azm86.0000°; P -3.2560, Plg8.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 15:05:24.3±0.6, 5°.92N±0°.06×82°.54W±0°.05, h14km, n221, σ1§55/221, mb4.6/97, 12C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	Puerto Jimnez	2.71	344	*e*P	Pn	15 06 06.1	-1.4
PTJ1				*e*S	Sn	15 06 39.8	-0.3
BRU2	Volcan	2.86	357⇑	*i*P	Pn	15 06 08.9	-0.8
BRU2				*e*S	Sn	15 06 44.6	+0.6
EDSV	San Vito	2.92	352	*e*P	Pn	15 06 10.5	+0.1
AZU	Azuero	2.92	50⇓	*e*P	Pn	15 06 09.9	-0.5
AZU				*e*S	Sn	15 06 41.5

UREC	San Jos de Ur	7.19	75	eP	Pn	15 07 12.4 +3.2
RREF	El Recreo	7.23	98	eP	Pn	15 07 13.5 +3.2
MARP	Paez Belalcaza	7.24	115	eP	Pn	15 07 10.4 +0.3
COPN	Copaltepe	7.40	328	eP	Pn	15 07 13.6 +1.7
NORC	Norcasia	7.64	92	eP	Pn	15 07 18.7 +3.3
CNGN	Cerro Negro	7.72	328	⇑eP	Pn	15 07 17.2 +0.8
CNGN				IAML		15 08 56.3
	comp=E,96nm,0.7s					
MATN	Matagalpa	7.72	335	eP	Pn	15 07 17.5 +1.0
BETC	Betania	7.78	114	eP	Pn	15 07 19.0 +1.8
ZARC	Zaragoza, Cauc	7.79	78	eP	Pn	15 07 20.3 +2.9
PRAC	Prado	7.94	106	eP	Pn	15 07 20.6 +1.2
PTBC	PUERTO BERRIO,	8.06	85	eP	Pn	15 07 24.7 +3.6
CRIN	San Cristobal	8.07	327	⇑eP	Pn	15 07 23.2 +1.8
ESTN	Estel	8.07	332	ePn	Pn	15 07 17.9 -3.5
FLOC	Florencia	8.11	122	eP	Pn	15 07 22.0 +0.2
ROSC	El Rosal	8.26	97	ePn	Pn	15 07 27.8 +3.7
ROSC	El Rosal	8.26	97	Pn	Pn	15 07 28.6 +4.4
	comp=E,3.8nm,0.3s,baz=126,slow=14,SNR=7.8					
SJCC	San Jacinto, C	8.29	61	eP	Pn	15 07 27.3 +2.9
RCON	San Juan de Ri	8.32	335	eP	Pn	15 07 25.0 +0.2
SOMN	Somoto	8.47	332	eP	Pn	15 07 27.9 +1.2
BRRC	Barranca, Sant	8.85	82	eP	Pn	15 07 35.5 +3.6
CHIC	Chingaza	8.87	98	eP	Pn	15 07 35.1 +2.6
VILC	Villavicencio,	8.99	101	eP	Pn	15 07 37.8 +3.7
BARC	Barichara	9.33	85	eP	Pn	15 07 42.4 +3.7
TGUH	Tegucigalpa,Un	9.33	330	ePn	Pn	15 07 36.6 -1.9
GIRC	Giron, Santand	9.36	82	eP	Pn	15 07 42.8 +3.8
RUSC	La Rusia	9.41	90	eP	Pn	15 07 43.8 +3.8
OCAC	Ocana	9.44	75	eP	Pn	15 07 42.3 +2.1
PTLC	Puerto Leguiza	9.61	126	eP	Pn	15 07 45.3 +2.9
CODC	Agustn Codazz	9.85	66	eP	Pn	15 07 48.4 +2.7
PAMC	Pamplona, Colo	9.88	81	eP	Pn	15 07 50.1 +3.6
URIC	Uribia, Colomb	11.90	60	eP	Pn	15 08 16.5 +2.7
APG	El Apazote	11.92	320	Pn	Pn	15 08 16.4 +2.2
	comp=E,6.1nm,0.3s,baz=116,slow=7.5,SNR=40					
APG				Sn	Sn	15 10 23.6 -3.6
	comp=E,0.5nm,0.3s,baz=317,slow=18,SNR=2.4					
SDV	Santo Domingo	12.17	75	ePn	Pn	15 08 19.7 +2.1
SDV				eSn	Sn	15 10 27.6 -5.7
SDV	Santo Domingo	12.17	75	eP	Pn	15 08 19.7 +2.1
SDV	Santo Domingo	12.17	75	Pn	Pn	15 08 20.5 +2.9
	comp=E,2.2nm,0.3s,baz=250,slow=10,SNR=29					
SDV				Sn	Sn	15 10 27.6 -5.7
	comp=E,0.9nm,0.3s,baz=302,slow=13,SNR=2.0					
MTDJ	Mount Denham	13.17	21	ePn	Pn	15 08 29.4 -1.8
ATAH	Atahualpa	13.61	162	Pn	Pn	15 08 37.7 +0.2
	comp=E,0.7nm,0.3s,baz=42,slow=12,SNR=4.0					
ATAH				LR	LR	15 13 16.6
	comp=E,849nm,20.1s,baz=337,slow=35					
CCIG	Comitan	13.95	318	ePn	Pn	15 08 39.9 -2.0
CMIG	Matias Romero	16.41	314	Pn	Pn	15 09 13.0 -1.3
	comp=E,0.2nm,0.3s,baz=100,slow=7.5,SNR=5.1					
MYIG	Mrida	16.50	336	ePn	Pn	15 09 16.4 +0.9
	comp=E,187nm,1.3s					
SDDR	Presa de Saban	17.00	39	ePn	P	15 09 24.9 +1.2
	comp=E,85nm,1.3s					
NNA	Nana	18.67	162	P	P	15 09 41.0 -1.1
	baz=330,slow=10,SNR=4.5					
CRPR	Cabo Rojo, PR	19.27	50	eP	Pn	15 09 51.9 +2.1
	comp=E,316nm,1.9s					
TLIG	Tlapa	19.47	308	eP	P	15 09 51.3 +0.2
	comp=E,28nm,0.9s					
OBIP	Obispado Ponce	19.68	51	eP	P	15 09 54.5 +1.3
	comp=E,71nm,1.0s					
AOPR	Arecibo Observ	19.75	50	eP	Pn	15 09 55.9 +0.4
	comp=E,80nm,0.7s					
SJG	San Juan	20.07	51	eP	Pn	15 09 59.5 +0.2
	comp=E,125nm,1.1s					
SJG	San Juan	20.07	51	P	Pn	15 10 00.2 +0.9
	comp=E,43nm,0.7s,baz=244,slow=4.1,SNR=12					
SJG				LR	LR	15 17 06.0
	comp=E,226nm,21.5s,baz=266,slow=35					
HUMP	Col San Antoni	20.32	52	eP	Pn	15 10 01.9 -0.4
	comp=E,141nm,1.1s					
CBYP	Canovanas	20.39	52	eP	P	15 10 02.6 +1.6
	comp=E,164nm,1.4s					
CUPR	Culebra, Puert	20.86	52	eP	P	15 10 07.8 +1.7
	comp=E,82nm,0.9s					
CDVI	St. Croix	20.97	54	eP	P	15 10 09.0 +1.7
	comp=E,152nm,1.0s					
STVI	Saint Thomas	21.15	53	eP	P	15 10 10.2 +1.0
	comp=E,88nm,1.1s					
PTGA	Pitinga	23.49	106	P	P	15 10 37.6 +3.6
	comp=E,6.3nm,0.8s,baz=303,slow=18,SNR=2.2					
PTGA				LR	LR	15 19 37.8
	comp=E,420nm,19.9s,baz=265,slow=36					
LNIG	Linares	24.89	321	eP	P	15 10 47.8 +0.9
	comp=E,52nm,1.3s					
ZAIG	Zacatecas	25.57	313	eP	P	15 10 54.9 +1.4
	comp=E,17nm,1.2s					
LPAZ	La Paz	26.27	147	LR	LR	15 22 23.3
	comp=E,524nm,19.4s,baz=316,slow=39					
152A	Waverly Hall	26.69	356	eP	P	15 11 03.5 +0.4
	comp=E,34nm,1.7s					
LRAL	Lakeview Retre	27.30	352	eP	P	15 11 08.3 -0.2
	comp=E,11nm,1.1s					
Z50A	Ashland	27.38	354	eP	P	15 11 09.7 +0.3
	comp=E,9.4nm,1.0s					
833A	Chaparral WMA,	27.42	326	eP	P	15 11 10.1 +0.3
	comp=E,26nm,0.8s					
JCT	Junction City	29.34	328	eP	P	15 11 26.9 0.0
	comp=E,16nm,1.4s					
V48A	Smith Brothers	29.94	353	eP	P	15 11 31.6 -0.5
	comp=E,12nm,1.0s					
W41B	Gary Mavity, V	30.46	344	eP	P	15 11 35.9 -0.8
	comp=E,14nm,1.1s					
WHAR	Wooly Hollow	30.58	344	eP	P	15 11 37.0 -0.8
	comp=E,11nm,1.0s					
TXAR	Lajitas Array	30.67	322	eP	P	15 11 39.0 +0.3
TXAR	Lajitas Array	30.67	322	P	P	15 11 39.7 +1.0
	comp=E,1.8nm,1.1s,baz=142,slow=4.7,SNR=9.1					
W39A	Magazine	30.93	342	eP	P	15 11 40.2 -0.6
	comp=E,32nm,1.7s					
S51A	Beattyville	31.59	358	eP	P	15 11 46.2 -0.4
	comp=E,15nm,0.8s					
FVM	French Village	32.72	348	eP	P	15 11 55.5 -1.1
	comp=E,17nm,1.2s					
CCM	Cathedral Cave	32.95	347	eP	P	15 11 57.3 -1.3
	comp=E,14nm,0.9s					
Q51A	Peebles	32.97	359	eP	P	15 11 58.2 -0.6
	comp=E,26nm,1.2s					
OLIL	Olney	33.05	352	eP	P	15 11 58.6 -0.8
	comp=E,18nm,0.8s					
MNTX	Cornudas Mount	33.39	323	eP	P	15 12 02.7 +0.2
	comp=E,7.3nm,0.8s					
AMTX	Amarillo	33.81	331	eP	P	15 12 05.5 -0.7
	comp=E,14nm,1.0s					
HDIL	Hopedale	35.02	351	eP	P	15 12 15.7 -0.8
	comp=E,38nm,0.6s					
N41A	Harden Midland	35.43	349	eP	P	15 12 18.6 -1.5
	comp=E,38nm,0.6s					
319A	Douglas	35.62	319	eP	P	15 12 23.2 +1.2
	comp=E,11nm,1.0s					
BNM	Barren Site	35.87	325	eP	P	15 12 25.4 +1.1
LENM	Lemitar	36.08	324	eP	P	15 12 27.1 +1.1
ANMO	Albuquerque	36.35	326	eP	P	15 12 27.1 -1.2
	comp=E,13nm,1.3s					
L40A	Anamosa	36.81	349	eP	P	15 12 30.6 -1.3
	comp=E,27nm,0.8s					
TUC	Tucson	37.20	318	eP	P	15 12 35.0 -0.4
	comp=E,4.4nm,1.0s					
JFWS	Jewell Farm	37.47	351	eP	P	15 12 36.2 -1.3
	comp=E,19nm,0.6s					
X18A	Snowflake	38.11	322	eP	P	15 12 42.6 -0.6
	comp=E,5.8nm,0.6s					
W18A	Petrified Fore	38.37	323	eP	P	15 12 45.9 +0.5
	comp=E,27nm,1.1s					
S22A	4UR Ranch, Cre	38.63	329	eP	P	15 12 47.2 -0.5
	comp=E,5.5nm,1.0s					
Q24A	Divide	38.73	331	eP	P	15 12 47.0 -1.5
	comp=E,28nm,1.7s					
X16A	Lo Mia Camp, P	38.96	321	eP	P	15 12 49.6 -0.8
	comp=E,5.2nm,0.8s					
MVCO	Mesa Verde	39.13	326	eP	P	15 12 52.0 +0.2
	comp=E,9.6nm,0.9s					
PLVO	Plevna	39.26	6	eP	P	15 12 52.5 0.0
	comp=E,10nm,1.0s					
ISCO	Idaho Springs	39.62	332	eP	P	15 12 55.8 -0.1
	comp=E,7.4nm,1.3s					
WUAZ	Wupatki	39.63	322	eP	P	15 12 55.2 -0.8
	comp=E,11nm,0.9s					
ECSD	EROS Data Cent	39.65	344	eP	P	15 12 54.6 -1.2
	comp=E,10.0nm,1.1s					
Y14A	Wickenburg	39.67	319	eP	P	15 12 55.8 -0.4
	comp=E,3.6nm,1.0s					
PV02	Paradox Valley	39.98	327	eP	P	15 12 58.4 -0.5
	comp=E,11nm,1.0s					
PV13	Radium Mtn., P	39.99	327	eP	P	15 12 58.4 -0.6
	comp=E,10nm,0.8s					
PV03	Paradox Valley	40.08	327	eP	P	15 12 59.5 -0.2
	comp=E,12nm,1.2s					
PV05	Paradox Valley	40.08	327	eP	P	15 12 58.8 -1.0
	comp=E,8.5nm,0.9s					
PV12	Saucer Basin,	40.10	327	eP	P	15 12 59.5 -0.4
	comp=E,14nm,0.9s					
PV07	Paradox Valley	40.10	328	eP	P	15 12 59.4 -0.5
	comp=E,11nm,1.0s					
PV18	Skein Mesa, Pa	40.10	327	eP	P	15 12 59.3 -0.6
	comp=E,11nm,1.1s					
PV11	David Mesa, Pa	40.12	327	eP	P	15 12 59.2 -0.9
	comp=E,44nm,1.7s					
PV16	Nyswonger Mesa	40.15	327	eP	P	15 13 00.4 +0.1
	comp=E,12nm,1.1s					
PV17	East Wray Mesa	40.16	327	eP	P	15 13 00.7 +0.4
	comp=E,7.6nm,0.8s					
SPMN	Marine on St.	40.16	349	eP	P	15 12 58.5 -1.5
	comp=E,18nm,0.9s					
PV20	West Nyswonger	40.20	327	eP	P	15 13 00.6 -0.1
	comp=E,5.5nm,0.9s					
CPUP	Villa Florida	40.32	144	LR	LR	15 31 12.5
	comp=E,101nm,18.8s,baz=316,slow=38					
BDFB	Brasilia	40.35	122	LR	LR	15 29 36.8
	comp=E,237nm,19.1s,baz=252,slow=36					
W13A	Hualapai Mount	40.95	319	eP	P	15 13 06.8 -0.2
	comp=E,4.8nm,1.0s					
KNB	Kanab	41.50	322	eP	P	15 13 10.9 -0.5
	comp=E,9.3nm,1.3s					
SRU	San Rafael Swe	41.60	327	eP	P	15 13 11.9 -0.3
	comp=E,8.8nm,1.0s					
RWWY	Rawlins	41.85	332	eP	P	15 13 13.9 -0.3
	comp=E,15nm,1.2s					
SZCU	Shurtz Canyon	42.04	323	eP	P	15 13 15.8 0.0
	comp=E,3.9nm,1.0s					
K22A	Casper	42.30	334	eP	P	15 13 17.6 -0.2
	comp=E,22nm,1.5s					
RSSD	Black Hills	42.47	337	eP	P	15 13 19.8 +0.5
	comp=E,8.6nm,1.1s					
PSUT	Pine Spring	43.11	323	eP	P	15 13 24.8 +0.2
	comp=E,3.9nm,0.9s					
AGMN	Agassiz Nation	43.73	347	eP	P	15 13 27.6 -1.5
	comp=E,8.4nm,0.9s					
PD31	Pinedale Array	43.79	331	eP	P	15 13 29.4 -0.6
	comp=E,4.4nm,1.1s					
PDAR	Pinedale Array	43.79	331	eP	P	15 13 29.6 -0.4
PDAR	Pinedale Array	43.79	331	P	P	15 13 30.4 +0.4
	comp=E,1.1nm,0.9s,baz=125,slow=9.3,SNR=7.4					
HWUT	Hardware Ranch	43.94	328	eP	P	15 13 30.8 -0.4
	comp=E,6.1nm,0.9s					
R11A	Troy Canyon, C	44.03	322	eP	P	15 13 31.6 -0.4
	comp=E,4.7nm,1.3s					
BGU	Big Grassy Mou	44.24	327	eP	P	15 13 33.5 -0.1
	comp=E,4.4nm,1.1s					
REDW	Red Top Meadow	44.86	331	eP	P	15 13 38.7 +0.1
	comp=E,9.3nm,1.1s					
MOOW	Moose Ponds	45.10	331	eP	P	15 13 40.4 -0.1
	comp=E,3.3nm,1.1s					
FXWY	Fox Creek	45.15	331	eP	P	15 13 40.5 -0.4
	comp=E,6.1nm,1.4s					
ELK	Elko	45.36	325	eP	P	15 13 41.8 -0.8
	comp=E,2.4nm,0.8s					
RLMT	Red Lodge	45.47	333	eP	P	15 13 43.1 -0.2
	comp=E,7.5nm,1.0s					
ULM	Lac du Bonnet	45.58	348	eP	P	15 13 42.1 -1.7
	comp=E,11nm,0.9s					
ULM	Lac du Bonnet	45.58	348	P	P	15 13 42.1 -1.7
	comp=E,8.2nm,0.8s,baz=179,slow=7.7,SNR=6.1					
NV11	Mina Array Sit	45.69	320	eP	P	15 13 45.7 +0.5
	comp=E,0.4nm,1.1s					
NV01	Mina Array Sit	45.78	320	eP	P	15 13 46.3 +0.3
NVAR	Mina Array Bea	45.78	320	eP	P	15 13 45.6 -0.3
NVAR	Mina Array Bea	45.78	320	P	P	15 13 46.3 +0.3
	comp=E,2.7nm,0.8s,baz=133,slow=7.9,SNR=14					
PVCM	Vineyard Canyo	45.88	316	eP	P	15 13 46.1 -0.5
YHH	Holmes Hill	45.93	332	eP	P	15 13 47.1 0.0
	comp=E,4.1nm,1.0s					
BMN	Battle Mountai	46.32	323	eP	P	15 13 49.9 -0.2
	comp=E,9.1nm,1.2s					
BOZ	Bozeman (W)	46.90	332	eP	P	15 13 54.7 +0.1
	comp=E,7.2nm,1.0s					
WVOR	Wild Horse Val	48.40	324	eP	P	15 14 06.3 +0.1
	comp=E,12nm,1.3s					
VALT	Mount Saint He	52.73	326	eP	P	15 14 38.6 -0.4
YKA	Yellowknife Ar	61.18	344	eP	P	15 15 37.5 -0.8
YKA	Yellowknife Ar	61.18	344	P	P	15 15 38.1 -0.2
	comp=E,5.0nm,0.8s,baz=138,slow=6.7,SNR=81					
YKB5	Yellowknife Ar	61.18	344	eP	P	15 15 38.1 -0.2
YKW3	Yellowknife Ar	61.23	344	eP	P	15 15 37.9 -0.7
	comp=E,8.4nm,0.9s					
TGL	Tana Glacier	70.65	333	eP	P	15 16 37.6 -1.9
	comp=E,8.8nm,1.0s					
INK	Inuvik	70.86	342	eP	P	15 16 40.8 +0.3
	comp=E,18nm,1.3s					
BCAR	Beaver Creek A	71.17	336	eP	P	15 16 42.7 +0.2
SUMG	Summit	71.77	13	eP	P	15 16 45.5 -0.8
	comp=E,10nm,0.9s					
DIV	Divide	72.12	333	eP	P	15 16 48.6 +0.3
	comp=E,5.9nm,0.6s					
DOT	Dot Lake	72.34	336	eP	P	15 16 49.8 +0.2
	comp=E,6.6nm,0.9s					
SCRK	Sand Creek	72.44	336	eP	P	15 16 49.9 -0.3
	comp=E,3.3nm,1.0s					
PAX	Paxson	72.67	335	eP	P	15 16 51.7 +0.2
	comp=E,4.2nm,1.1s					
RIDG	Independent Ri	72.70	336	eP	P	15 16 51.9 +0.2
	comp=E,7.4nm,1.1s					
SCM	Sheep Creek Mo	73.07	333	eP	P	15 16 53.9 0.0
	comp=E,11nm,0.7s					
SML	Sawmill	73.51	333	eP	P	15 16 56.7 +0.2
	comp=E,11nm,0.9s					
HDA	Harding Lake	73.81	336	eP	P	15 16 57.9 -0.3
	comp=E,9.5nm,1.0s					
ILAR	Eielson Array	73.91	336	eP	P	15 16 57.9 -0.8
ILAR	Eielson Array	73.91	336	P	P	15 16 59.1 +0.3
	comp=E,1.7nm,0.7s,baz=118,slow=4.4,SNR=18					
ILB	Eielson Array	73.91	336	eP	P	15 16 58.4 -0.4
	comp=E,2.8nm,0.8s					
RSO	Redoubt South	75.18	331	eP	P	15 17 05.9 -0.6
BPAW	Bear Paw Mtn.	75.37	335	eP	P	15 17 06.7 -0.6
	comp=E,5.7nm,0.9s					
PPLA	Purkeypile	75.55	334	eP	P	15 17 07.4 -1.0
	comp=E,12nm,1.0s					
CAST	Castle Rocks	75.65	334	eP	P	15 17 08.1 -0.7
	comp=E,4.7nm,0.9s					
COLD	Coldfoot	76.02	338	eP	P	15 17 11.9 +1.0
	comp=E,3.9nm,1.0s					
IMAR	Indian Mountai	77.02	337	eP	P	15 17 15.8 -0.7
ESDC	Sonseca Array	77.46	51	P	P	15 17 19.8 +0.1
	comp=E,0.3nm,0.3s,baz=284,slow=4.1,SNR=3.0					
TOA1	Torodi Ar. Sit	83.08	77	eP	P	15 17 51.7 +1.3
TORD	Torodi Ar. Bea	83.08	78	P	P	15 17 51.7 +1.3
	comp=E,0.4nm,0.6s,baz=285,slow=5.7,SNR=3.2					
GERES	GERESS Array B	89.69	41	P	P	15 18 24.9 +2.7
	comp=E,0.4nm,0.4s,baz=250,slow=4.0,SNR=4.3					
CD2	Chengdu	142.89	351	PKP	PKPdf	15 24 57.3 -1.0

*ISCJB **21** 15:08:17.9±1.9, 33°.80N±0°.05×35°.7E±0°.1, h18km±27km, Error ellipse: s-maj=17.3km s-min=7.8km az=164.8*
*GRAL **21** 15:08:18.4±0.3, 33°.80N×35°.76E, h14km±3km, MD2.7*
*NSSC **21** 15:08:18.2±1.0, 33°.79N×35°.77E, h4km±20km, ML1.2*

ISC 21 15:08:18.3±1.5, 33°.81N±0°.04×35°.78E±0°.06, h12km±18km, n7, c0°32/12, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	Bhannes	0.14	313	eP	Pg	15 08 21.9	+0.1
DQRL	Deir Qamar	0.20	240	eP	Pg	15 08 22.6	-0.1
DQRL				eS	Sg	15 08 25.6	-0.2
RCY	Rachaya	0.31	171	eP	Pg	15 08 24.5	-0.2
RCY				eS	Sg	15 08 29.0	0.0
BRBR	Barbar	0.42	160	eP	Pg	15 08 26.5	-0.2
BRBR				eS	Sg	15 08 32.0	-0.2
BRBR				AML	AML	15 08 37.6	
	comp=E,13nm,0.7s						
BRBR				AML	AML	15 08 38.5	
	comp=N,23nm,0.5s						
HWQ	Hawqa	0.49	16	eP	Pg	15 08 27.6	-0.4
QASN	Qassioun	0.50	123	eP	Pg	15 08 27.7	-0.4
QASN				eS	Sg	15 08 35.1	+0.5
QASN				AML	AML	15 08 37.6	
	comp=E,23nm,0.3s						
QASN				AML	AML	15 08 39.5	
	comp=N,43nm,0.2s						
TOTH	TOTAH	0.70	129	eP	Pb	15 08 32.7	+0.2
TOTH				eS	Sg	15 08 41.3	+0.2
TOTH				AML	AML	15 08 48.5	
	comp=N,5.7nm,0.4s						
TOTH				AML	AML	15 08 50.9	
	comp=E,5.7nm,0.6s						

DDA 21 15:09:44.6, 38°.57N×28°.64E, h7km±2km, ML2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANT	Manisa	0.10	218	iP	Pg	15 09 47.1	+0.1
MANT				iS	Sg	15 09 49.5	+0.8
USAK	Uak-Merkez	0.33	64	IAML_P			
	comp=Z,2μm,0.2s						
USAK				iP	Pg	15 09 51.4	+0.3
USAK				iS	Sg	15 09 56.7	+1.1
KHAL	Karahalli	0.70	106	IAML_P			
	comp=Z,1μm,0.1s						
KHAL				iP	Pb	15 09 59.2	0.0
KHAL				iS	Sb	15 10 08.8	-0.3
AKHS	Akhisar	0.71	296	IAML_P			
	comp=Z,1μm,0.2s						
AKHS				iP	Pb	15 09 58.9	-0.4
AKHS				iS	Sb	15 10 09.2	-0.2
DURS	Dursunbey	1.04	353	IAML_P			
	comp=Z,695nm,0.1s						
DURS				iP	Pn	15 10 05.6	-0.1
DURS				iS	Sn	15 10 22.1	+1.5
KZIL	AFYON_Kizioren	1.22	104	IAML_P			
	comp=Z,515nm,0.1s						
KZIL				iP	Pb	15 10 08.2	0.0
KZIL				iS	Sn	15 10 25.0	0.0
ULDT	Uludag	1.62	14	iP	Pb	15 10 15.1	+0.2
ULDT				iS	Sg	15 10 38.8	+2.1

KRSC 21 15:15:05.4±10.0, 52°.31N×161°.00E, h61km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	0.99	324	eP	Pn	15 15 23.9	+0.6
SPN				S	Sn	15 15 35.3	-1.2
NLC	Nalytchevo	1.32	311	eP	Pn	15 15 28.7	+1.0
NLC				eS	Sn	15 15 45.8	+1.4
RUS	Russkaya	1.53	276	eP	Pn	15 15 32.4	+2.0
RUS				eS	Sn	15 15 50.9	+1.7
DALK	Dalny	1.54	299	eP	Pn	15 15 32.8	+2.2
DALK				eS	Sn	15 15 51.7	+2.0
UGLR	Uglovaya	1.60	305	eP	Pn	15 15 34.7	+3.2
SDLR	Sedlovina	1.61	308	eP	Pn	15 15 34.2	+2.6
SMAR	Somma	1.64	307	eP	Pn	15 15 35.2	+3.1
AVH	Avacha	1.67	306	eP	Pn	15 15 35.7	+3.2
KRER	Koryakskii	1.69	307	eP	Pn	15 15 35.7	+2.9
MTVR	Mutnovka	1.73	277	eP	Pn	15 15 36.2	+2.9
MTVR				eS	Sn	15 15 56.8	+2.3
KOK	Koryaka	1.74	305	eP	Pn	15 15 36.6	+3.2
KRMR	Karymshinskiy	1.82	288	eP	Pn	15 15 37.0	+2.6
KRMR				eS	Sn	15 15 58.0	+1.5
KDTR	Khodutka, Kamc	1.87	256	eP	Pn	15 15 36.9	+1.9
KDTR				eS	Sn	15 15 58.1	+0.6
ASAK	Asacha	1.90	273	eP	Pn	15 15 38.7	+3.2
ASAK				eS	Sn	15 16 01.2	+2.8
MKZ	Mys Kozlova	2.29	11	eP	Pn	15 15 43.9	+3.1
MKZ				eS	Sn	15 16 10.0	+2.2
APC	Apacha	2.42	286	eP	Pn	15 15 46.5	+4.0
TUMD	Tumrok D	2.92	353	eS	Sn	15 16 26.9	+3.6
SKR	Severo-Kuril's	3.46	244	eS	Sn	15 16 36.3	0.0
BKI	Bering	4.14	44	eS	Sn	15 16 53.8	+0.8

*ISCJB **21** 15:15:08.8±0.4, 54°.34S±0°.05×158°.83E±0°.09, h10km, mb4.6/16, MS3.8/3, Error ellipse: s-maj=8.0km s-min=5.8km az=34.6*
*IDC **21** 15:15:08.9±0.8, 54°.47S×158°.53E, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.3/17, mbtmp4.4/9, ML4.1/1, MS3.9/4, Ms1 3.9/4, ms1mx3.7/17, Error ellipse: s-maj=30.1km s-min=19.0km az=88.0*
*NEIC **21** 15:15:10.6±0.3, 54°.46S×158°.62E, h10km, mb4.7/16, Error ellipse: s-maj=8.7km s-min=8.3km az=123.0*

ISC 21 15:15:10.4±0.5, 54°.42S±0°.07×158°.75E±0°.09, h10km, n68, σ1°28/62, mb4.6/16, MS3.8/3, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	Macquarie Isla	0.15	123	ePg	Pg	15 15 11.9	-1.8
WHZ	Wether Hill Ro	10.37	38	ePn	Pn	15 17 37.3	-1.8
DCZ	Deep Cove	10.46	35	ePn	Pn	15 17 39.8	-0.6
MLZ	Mavora Lakes	10.88	37	ePn	Pn	15 17 45.9	-0.3
WKZ	Wanaka	11.67	39	ePn	Pn	15 17 58.1	+1.1
ODZ	Otahua Downs	12.12	44	ePn	Pn	15 18 02.3	-0.7
LBZ	Lake Benmore	12.48	41	ePn	Pn	15 18 06.4	-1.6
RPZ	Rata Peaks	13.39	42	ePn	Pn	15 18 20.8	+0.5
RPZ	Rata Peaks	13.39	42	Pn	Pn	15 18 23.7	+3.4
	0.9nm,0.3s,baz=62,slow=16,SNR=3.7						
RPZ				LR	LR	15 22 36.1	
	comp=Z,382nm,21.5s,baz=228,slow=33						
TAU	Tasmania Unive	13.75	322	ePn	Pn	15 18 23.2	-2.0
MQZ	McQueen's Vall	14.04	46	ePn	Pn	15 18 28.2	-1.1
OXZ	Oxford	14.10	44	ePn	Pn	15 18 29.5	-0.6
CRLZ	Canterbury Las	14.14	46	ePn	Pn	15 18 29.7	-0.8
LTZ	Lake Taylor	14.65	43	ePn	Pn	15 18 36.5	-1.2
KHZ	Kahutara	15.47	45	ePn	Pn	15 18 46.5	-2.1
	58nm,1.3s						
THZ	Tophouse	15.77	42	ePn	Pn	15 18 51.2	-1.2
	55nm,1.2s						
TOO	Toolangi	19.14	326	eP	P	15 19 33.7	0.

69nm,2.0s
MTN Manton Dam 46.82 322 *e*P **P 15 23 39.8 -0.5**
16nm,0.9s
SNAA Sanae 53.54 187 PKPdf **P 15 24 30.2 -0.4**
SNAA Sanae 53.54 187 *e*P **P 15 24 31.3 +0.6**
7.8nm,1.2s
VNA3 Neumayer Olymp 54.37 185 PKPab **P 15 24 37.9 +1.2**
VNA2 Neumayer--Watz 54.56 186 P **P 15 24 37.8 -0.3**
baz=44,slow=1.6
H08S2 Diego Garcia H 81.66 269 T T 16 57 23.0
baz=144,slow=76,SNR=6974
H08S1 Diego Garcia H 81.67 269 T T 16 57 23.6
baz=144,slow=76,SNR=4873
H08S3 Diego Garcia H 81.68 269 T T 16 57 24.5
baz=144,slow=76,SNR=7008
BOSA Boshof 88.11 220 P **P 15 28 00.4 -1.0**
2.1nm,0.8s,baz=139,slow=7.1,SNR=4.7
CMAR Chiang Mai Arr 88.64 305 *e*P **P 15 28 02.9 -0.8**
CMAR Chiang Mai Arr 88.64 305 P **P 15 28 03.8 +0.1**
0.9nm,0.9s,baz=175,slow=4.4,SNR=5.5
KMI Kunming 92.66 311 P **P 15 28 24.5 +2.0**
NJ2 Nanjing 92.74 327 *e*P **P 15 28 24.1 +1.8**
WHN Wuhan 92.87 323 P **P 15 28 25.5 +2.5**
CD2 Chengdu 97.27 315 *e*P Pdif 15 28 44.0 +0.7
WMQ Urumqi 114.99 311 *e*P **PKiKP 15 33 52.4 +1.6**
ILAR Eielson Array 125.96 25 PKP **PKPdf 15 34 10.1 -1.0**
0.9nm,1.1s,baz=248,slow=3.3,SNR=4.7
YKA Yellowknife Ar 134.65 41 PKP **PKPdf 15 34 28.1 +0.5**
0.1nm,0.4s,baz=260,slow=1.7,SNR=2.9
YKB5 Yellowknife Ar 134.65 41 *e*PKPdf **PKPdf 15 34 28.1 +0.5**
TORD Torodi Ar. Bea 135.04 213 PKP **PKPdf 15 34 28.8 -1.0**
0.3nm,0.6s,baz=157,slow=5.1,SNR=2.6
TOA1 Torodi Ar. Sit 135.05 213 *e*PKPdf **PKPdf 15 34 28.8 -1.1**
U54A Nelsons Funny 135.41 88 *e*PKPdf **PKPdf 15 34 30.9 +0.9**
MLR Muntele Rosu 148.88 273 *e*PKPdf **PKPbc 15 34 55.7 -1.9**
AKASG Malin Array Be 149.63 284 *e*PKPdf **PKPdf 15 34 56.0 +1.5**
AKASG Malin Array Be 149.63 284 PKPbc **PKPbc 15 34 58.0 -1.0**
1.5nm,0.5s,baz=72,slow=3.0,SNR=8.1
BURAR Bucovina Array 150.44 276 *e*PKPbc **PKPbc 15 35 01.1 -0.3**
FIA0 FINESS Array S 154.42 305 *e*PKPbc **PKPbc 15 35 08.7 -0.9**
FINES FINESS Array B 154.42 305 PKPbc **PKPbc 15 35 08.7 -0.9**
1.6nm,0.7s,baz=70,slow=1.6,SNR=4.5

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*DRS **21** 15:20:23.7±0.0, 42°.54N×45°.23E, h15km, ML2.2/2*
*NORS **21** 15:20:24.3±0.0, 42°.54N×45°.37E, h15km, MPVA3.5*
*TIF **21** 15:20:26.0, 42°.57N×45°.31E, h13km±4km*
ISC 21 15:20:23.7±1.1, 42°.62N±0°.04×45°.39E±0°.02, h11km±10km, n18, σ0s73/36, 2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.61**	**86**	*e*Pg	**Pb**	**15 20 36.3**	**-0.2**
	17nm,0.1s						
BTLR				⇓*e*Sg	**Sb**	**15 20 45.4**	**+0.2**
	97nm,0.2s						
GROC	**Groznyy**	**0.65**	**27**	*e*Pg	**Pb**	**15 20 37.3**	**+0.2**
GROC				*e*Sg	**Sb**	**15 20 46.9**	**+0.7**
GUDG	**Gudauri**	**0.69**	**257**	P	**Pn**	**15 20 38.6**	**-1.1**
GUDG				S	**Sb**	**15 20 47.4**	**-0.3**
LACR	**Lac**	**0.83**	**285**	*e*Pg	**Pg**	**15 20 39.4**	**-0.4**
LACR				*e*Sg	**Sg**	**15 20 50.1**	**-0.6**
XNZR	**Khunzakh**	**0.97**	**94**	*e*Pg	**Pg**	**15 20 41.8**	**-0.7**
XNZR				*e*Sg	**Sb**	**15 20 55.6**	**0.0**
LGD	**Lagodekhi**	**1.01**	**141**	P	**Pn**	**15 20 43.6**	**-0.2**
LGD				S	**Sn**	**15 20 57.7**	**-0.3**
BTNK	**Botanikuri**	**1.04**	**205**	P	**Pn**	**15 20 44.8**	**+0.6**
BTNK				S	**Sn**	**15 20 59.1**	**+0.4**
KORR	**Kora**	**1.08**	**296**	*e*Pg	**Pb**	**15 20 43.8**	**-0.6**
KORR				*e*Sg	**Sg**	**15 20 58.2**	**-0.3**
ZEI	**Tsey**	**1.11**	**279**	*e*Pg	**Pb**	**15 20 44.4**	**-0.7**
ZEI				*e*Sg	**Sg**	**15 20 59.5**	**-0.1**
DBC	**Dubki**	**1.13**	**69**	*e*Pg	**Pg**	**15 20 45.7**	**+0.2**
DBC				*e*Sg	**Sn**	**15 21 02.1**	**+1.0**
GNBR	**Gunib**	**1.18**	**101**	*e*Pg	**Pg**	**15 20 46.3**	**-0.2**
	19nm,0.1s						
GNBR				⇓*e*Sg	**Sn**	**15 21 03.0**	**+0.6**
	61nm,0.5s						
LSNR	**Lesken**	**1.32**	**300**	*e*Pg	**Pg**	**15 20 49.4**	**+0.2**
LSNR				*e*Sg	**Sg**	**15 21 07.1**	**+0.7**
KMKR	**Kumukh**	**1.35**	**111**	*e*Pg	**Pg**	**15 20 50.0**	**+0.2**
KMKR				*e*Sg	**Sn**	**15 21 06.0**	**-0.8**
DIGR	**Digorskoe uzhe**	**1.36**	**282**	*e*Pg	**Pn**	**15 20 48.2**	**-0.7**
DIGR				*e*Sg	**Sn**	**15 21 06.6**	**-0.5**
ONI	**Oni**	**1.43**	**269**	P	**Pg**	**15 20 52.2**	**+0.9**
ONI				S	**Sg**	**15 21 11.9**	**+2.1**
KZRT	**Kazreti**	**1.44**	**211**	P	**Pg**	**15 20 51.5**	**+0.1**
KZRT				S	**Sg**	**15 21 10.4**	**+0.4**
SRKG	**Sareki**	**1.54**	**260**	P	**Pg**	**15 20 54.4**	**+1.1**
SRKG				S	**Sg**	**15 21 11.8**	**-1.4**
NEY	**Neytrino**	**2.06**	**289**	*e*Pg	**Pb**	**15 21 01.4**	**+0.1**
NEY				*e*Sg	**Sb**	**15 21 27.7**	**+0.8**

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*GRAL **21** 15:25:51.1±0.3, 33°.79N×35°.77E, h3km±20km, MD2.7*
*NSSC **21** 15:25:52.3±0.5, 33°.73N×35°.92E, h5km±10km, ML1.1*
ISC 21 15:25:50.1±1.3, 33°.80N±0°.04×35°.81E±0°.05, h7km±23km, n7, σ0s65/12, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.17**	**310**	*e*P	**Pg**	**15 25 53.9**	**+0.2**
DQRL	**Deir Qamar**	**0.22**	**246**	*e*P	**Pg**	**15 25 54.5**	**+0.1**
DQRL				*e*S	**Sg**	**15 25 57.0**	**-0.4**
RCY	**Rachaya**	**0.30**	**176**	*e*P	**Pg**	**15 25 56.4**	**+0.4**
RCY				*e*S	**Sg**	**15 26 00.5**	**+0.5**
BRBR	**Barbar**	**0.40**	**163**	*e*P	**Pg**	**15 25 58.5**	**+0.5**
BRBR				*e*S	**Sg**	**15 26 03.6**	**+0.3**
BRBR				AML	AML	15 26 07.7	
	comp=N,28nm,0.3s						
BRBR				AML	AML	15 26 09.6	
	comp=E,20nm,0.7s						
QASN	**Qassioun**	**0.47**	**124**	*e*P	**Pg**	**15 25 59.7**	**+0.4**
QASN				*e*S	**Sg**	**15 26 04.3**	**-1.2**
QASN				AML	AML	15 26 07.7	
	comp=E,25nm,0.2s						
QASN				AML	AML	15 26 10.0	
	comp=N,70nm,0.5s						
HWQ	**Hawqa**	**0.49**	**13**	*e*P	**Pg**	**15 26 00.3**	**+0.6**
TOTH	**TOTAH**	**0.68**	**130**	*e*P	**Pb**	**15 26 04.1**	**-0.2**
TOTH				*e*S	**Sg**	**15 26 11.2**	**-0.7**
TOTH				AML	AML	15 26 19.4	
	comp=N,4.3nm,0.2s						
TOTH				AML	AML	15 26 20.5	
	comp=E,5.2nm,0.6s						

KRSC 21 15:33:46.4±10.0, 52°.17N×160°.85E, h65km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.05**	**332**	*e*P	Pn	15 34 06.0	+0.8
SPN				*e*S	Sn	15 34 18.8	-0.5
NLC	**Nalytchevo**	**1.35**	**318**	*e*P	Pn	15 34 11.3	+2.1
NLC				*e*S	Sn	15 34 28.6	+2.3
RUS	**Russkaya**	**1.46**	**281**	*e*P	Pn	15 34 12.3	+1.8
RUS				*e*S	Sn	15 34 29.6	+0.9
DALK	**Dalny**	**1.54**	**305**	*e*P	Pn	15 34 13.5	+1.9
DALK				*e*S	Sn	15 34 32.8	+2.1
PET	**Petropavlovsk**	**1.59**	**303**	*e*P	Pn	15 34 14.2	+1.9
UGLR	**Uglovaya**	**1.61**	**311**	*e*P	Pn	15 34 15.2	+2.5
SDLR	**Sedlovina**	**1.63**	**314**	*e*P	Pn	15 34 15.2	+2.2
SMAR	**Somma**	**1.66**	**312**	*e*P	Pn	15 34 16.6	+3.2
MTVR	**Mutnovka**	**1.66**	**282**	*e*P	Pn	15 34 15.7	+2.2
MTVR				*e*S	Sn	15 34 35.7	+1.8
AVH	**Avacha**	**1.69**	**311**	*e*P	Pn	15 34 16.1	+2.4
KRER	**Koryakskii**	**1.71**	**312**	*e*P	Pn	15 34 16.9	+2.8
KOK	**Koryaka**	**1.75**	**311**	*e*P	Pn	15 34 17.2	+2.6
KDTR	**Khodutka, Kamc**	**1.75**	**259**	*e*P	Pn	15 34 16.4	+1.9
KDTR				*e*S	Sn	15 34 36.8	+1.0
KRMR	**Karymshinskiy**	**1.79**	**293**	*e*P	Pn	15 34 17.3	+2.4
KRMR				*e*S	Sn	15 34 38.6	+2.0
ASAK	**Asacha**	**1.82**	**278**	*e*P	Pn	15 34 18.2	+2.7
APC	**Apacha**	**2.38**	**290**	*e*P	Pn	15 34 26.5	+3.6
MKZ	**Mys Kozlova**	**2.44**	**12**	*e*P	Pn	15 34 26.4	+2.6
MKZ				*e*S	Sn	15 34 53.8	+1.2
KZV	**Kizimen**	**2.96**	**354**	*e*P	Pn	15 34 34.8	+3.7
KZV				*e*S	Sn	15 35 08.7	+3.2
TUMD	**Tumrok D**	**3.05**	**355**	*e*S	Sn	15 35 07.5	+0.1
TUMR	**Tumrok**	**3.14**	**353**	*e*P	Pn	15 34 37.6	+4.1
SKR	**Severo-Kuril's**	**3.32**	**245**	*e*P	Pn	15 34 38.4	+2.7
SKR				*e*S	Sn	15 35 14.5	+0.6
BKI	**Bering**	**4.30**	**43**	*e*S	Sn	15 35 39.7	+1.8

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*IDC **21** 15:40:53.5±0.7, 52°.36N×160°.33E, h0km, mb3.8/16, mb1 4.0/17, mb1mx3.8/37, mbtmp3.8/17, ML3.5/1, Error ellipse: s-maj=21.1km s-min=14.4km az=144.0*
*KRSC **21** 15:40:53.5±10.0, 52°.15N×160°.78E, h54km±10km, ML4.5*
*ISCJB **21** 15:40:54.8±0.9, 52°.19N±0°.03×160°.74E±0°.03, h23km±6km, mb4.1/22, Error ellipse: s-maj=4.6km s-min=3.5km az=171.6*
*MOS **21** 15:40:57.3±0.7, 52°.28N×160°.56E, h44km, mb4.6/2, Error ellipse: s-maj=8.0km s-min=4.7km az=96.5*
*NEIC **21** 15:40:58.3±0.4, 52°.30N×160°.51E, h35km, mb4.5/9, Error ellipse: s-maj=10.6km s-min=6.8km az=164.0*
ISC 21 15:40:57.3±2.1, 52°.24N±0°.04×160°.66E±0°.04, h29km±15km, n115, σ1s24/154, mb4.0/22, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.94**	**336**	P	**Pn**	**15 41 12.8**	**-1.8**
SPN				S	**Sn**	**15 41 25.8**	**-1.3**
SPN	**Mys Shipunski**	**0.94**	**336**	PN	**Pn**	**15 41 12.8**	**-1.8**
SPN				S	**Sn**	**15 41 25.8**	**-1.3**
NLC	**Nalytchevo**	**1.23**	**320**	P	**Pn**	**15 41 17.2**	**-1.3**
NLC				S	**Sn**	**15 41 34.9**	**+0.8**
NLC	**Nalytchevo**	**1.23**	**320**	PN	**Pn**	**15 41 17.2**	**-1.3**
NLC				S	**Sn**	**15 41 34.9**	**+0.8**
RUS	**Russkaya**	**1.33**	**279**	P	**Pn**	**15 41 18.3**	**-1.6**
RUS				S	**Sn**	**15 41 35.3**	**-1.3**
RUS	**Russkaya**	**1.33**	**279**	PN	**Pn**	**15 41 18.3**	**-1.6**
RUS				S	**Sn**	**15 41 35.3**	**-1.3**
DALK	**Dalny**	**1.41**	**305**	P	**Pn**	**15 41 19.7**	**-1.3**
DALK				S	**Sn**	**15 41 38.2**	**-0.3**
DALK	**Dalny**	**1.41**	**305**	PN	**Pn**	**15 41 19.7**	**-1.3**
DALK				S	**Sn**	**15 41 38.2**	**-0.3**
PET	**Petropavlovsk**	**1.45**	**304**	*e*Pn	**Pn**	**15 41 20.2**	**-1.4**
PET	**Petropavlovsk**	**1.45**	**304**	P	**Pn**	**15 41 20.5**	**-1.1**
PET				S	**Sn**	**15 41 40.0**	**+0.3**
PET	**Petropavlovsk**	**1.45**	**304**	PN	**Pn**	**15 41 20.4**	**-1.1**
PET				S	**Sn**	**15 41 40.0**	**+0.3**
UGLR	**Uglovaya**	**1.48**	**312**	P	**Pn**	**15 41 21.6**	**-0.5**
UGLR				S	**Sb**	**15 41 42.3**	**-0.3**
UGLR	**Uglovaya**	**1.48**	**312**	PN	**Pn**	**15 41 21.6**	**-0.5**
UGLR				S	**Sb**	**15 41 42.3**	**-0.3**
SDLR	**Sedlovina**	**1.50**	**315**	P	**Pn**	**15 41 21.6**	**-0.8**
SDLR				S	**Sn**	**15 41 42.3**	**+1.3**
SDLR	**Sedlovina**	**1.50**	**315**	PN	**Pn**	**15 41 21.6**	**-0.8**
SDLR				S	**Sn**	**15 41 42.3**	**+1.3**
SMAR	**Somma**	**1.52**	**313**	P	**Pn**	**15 41 21.6**	**-1.2**
SMAR	**Somma**	**1.52**	**313**	PN	**Pn**	**15 41 21.6**	**-1.2**
MTVR	**Mutnovka**	**1.54**	**280**	P	**Pn**	**15 41 21.9**	**-1.0**
MTVR				S	**Sn**	**15 41 41.7**	**-0.3**
MTVR	**Mutnovka**	**1.54**	**280**	PN	**Pn**	**15 41 21.9**	**-1.0**
MTVR				S	**Sn**	**15 41 41.7**	**-0.3**
AVH	**Avacha**	**1.56**	**312**	P	**Pn**	**15 41 22.7**	**-0.4**
AVH				S	**Sn**	**15 41 43.8**	**+1.5**
AVH	**Avacha**	**1.56**	**312**	PN	**Pn**	**15 41 22.7**	**-0.4**
AVH				S	**Sn**	**15 41 43.8**	**+1.5**
KRER	**Koryakskii**	**1.58**	**313**	P	**Pn**	**15 41 22.9**	**-0.6**
KRER				S	**Sn**	**15 41 44.6**	**+1.6**
KRER	**Koryakskii**	**1.58**	**313**	PN	**Pn**	**15 41 22.9**	**-0.6**
KRER				S	**Sn**	**15 41 44.6**	**+1.6**
GRL	**Gorelyy**	**1.61**	**282**	P	**Pn**	**15 41 24.2**	**+0.3**
GRL				S	**Sn**	**15 41 45.7**	**+1.9**
GRL	**Gorelyy**	**1.61**	**282**	PN	**Pn**	**15 41 24.2**	**+0.3**
GRL				S	**Sn**	**15 41 45.7**	**+1.9**
KOK	**Koryaka**	**1.62**	**312**	P	**Pn**	**15 41 23.6**	**-0.4**
KOK				S	**Sn**	**15 41 45.7**	**+1.8**
KOK	**Koryaka**	**1.62**	**312**	PN	**Pn**	**15 41 23.6**	**-0.4**
KOK				S	**Sn**	**15 41 45.7**	**+1.8**
KDTR	**Khodutka, Kamc**	**1.65**	**256**	P	**Pn**	**15 41 22.6**	**-1.7**
KDTR				S	**Sn**	**15 41 43.6**	**-0.9**
KDTR	**Khodutka, Kamc**	**1.65**	**256**	PN	**Pn**	**15 41 22.6**	**-1.7**
KDTR				S	**Sn**	**15 41 43.6**	**-0.9**
KRMR	**Karymshinskiy**	**1.65**	**292**	P	**Pn**	**15 41 23.5**	**-0.9**
KRMR				S	**Sn**	**15 41 45.3**	**+0.7**
KRMR	**Karymshinskiy**	**1.65**	**292**	PN	**Pn**	**15 41 23.5**	**-0.9**
KRMR				S	**Sn**	**15 41 45.3**	**+0.7**
ASAK	**Asacha**	**1.70**	**276**	P	**Pn**	**15 41 24.5**	**-0.6**
ASAK				S	**Sn**	**15 41 47.1**	**+1.2**
ASAK	**Asacha**	**1.70**	**276**	PN	**Pn**	**15 41 24.5**	**-0.6**
ASAK				S	**Sn**	**15 41 47.1**	**+1.2**
PEA0B	**Petropavlovsk-**	**2.00**	**297**	*e*Pn	**Pn**	**15 41 28.4**	**-0.7**
PETK	**Petropavlovsk-**	**2.00**	**297**	Pn	**Pn**	**15 41 28.6**	**-0.5**
	46nm,0.3s,baz=104,slow=19,SNR=314						
PETK				Sn	**Sn**	**15 41 54.0**	**+0.8**
	45nm,0.3s,baz=105,slow=32,SNR=20						
PEA1	**Petropavlovsk-**	**2.00**	**297**	*e*Pn	**Pn**	**15 41 28.6**	**-0.6**
PEA1				*e*Sn	**Sn**	**15 41 54.0**	**+0.7**
APC	**Apacha**	**2.24**	**289**	*e*P	**Pn**	**15 41 32.5**	**0.0**
APC				S	**Sn**	**15 42 00.9**	**+1.8**
APC	**Apacha**	**2.24**	**289**	PN	**Pn**	**15 41 32.5**	**0.0**
APC				S	**Sn**	**15 42 00.9**	**+1.8**
MKZ	**Mys Kozlova**	**2.41**	**15**	P	**Pn**	**15 41 34.1**	**-0.6**
MKZ				S	**Sn**	**15 42 02.5**	**-0.7**
MKZ	**Mys Kozlova**	**2.41**	**15**	PN	**Pn**	**15 41 34.1**	**-0.6**
MKZ				S	**Sn**	**15 42 02.5**	**-0.7**
PAU	**Pauzhetka**	**2.51**	**254**	P	**Pn**	**15 41 35.9**	**-0.2**
PAU	**Pauzhetka**	**2.51**	**254**	PN	**Pn**	**15 41 35.9**	**-0.2**
KZV	**Kizimen**	**2.89**	**356**	P	**Pn**	**15 41 42.1**	**+0.6**
KZV				S	**Sn**	**15 42 16.5**	**+1.2**
KZV	**Kizimen**	**2.89**	**356**	PN	**Pn**	**15 41 42.1**	**+0.6**
KZV				S	**Sn**	**15 42 16.5**	**+1.2**
TUMD	**Tumrok D**	**2.98**	**357**	P	**Pn**	**15 41 42.2**	**-0.4**
TUMD				S	**Sn**	**15 42 17.4**	**+0.1**
TUMR	**Tumrok**	**3.07**	**355**	P	**Pn**	**15 41 44.7**	**+0.8**
TUMR	**Tumrok**	**3.07**	**355**	PN	**Pn**	**15 41 42.2**	**-1.7**
TUMR				S	**Sn**	**15 42 17.4**	**-2.2**
SKR	**Severo-Kuril's**	**3.24**	**243**	S	**Sn**	**15 42 21.3**	**-2.4**
SKR	**Severo-Kuril's**	**3.24**	**243**	*e*PN	**Pn**	**15 41 48.2**	**+2.1**
SKR				*e*S	**Sn**	**15 42 26.5**	**+2.8**
SKR				pmax	pmax		
	comp=Z,49nm,0.5s						
SKR				smax	smax		
	comp=N,345nm,0.8s						
SKR				smax	smax		
	comp=E,321nm,0.6s						
ALID	**Alaid**	**3.47**	**249**	P	**Pn**	**15 41 48.3**	**-1.2**
ALID	**Alaid**	**3.47**	**249**	PN	**Pn**	**15 41 48.3**	**-1.2**
LGNR	**Loginova**	**3.85**	**0**	P	**Pn**	**15 41 55.2**	**+0.3**
LGNR	**Loginova**	**3.85**	**0**	PN	**Pn**	**15 41 55.2**	**+0.3**
ESO	**Esso**	**3.87**	**343**	P	**Pn**	**15 41 54.8**	**-0.1**
ESO	**Esso**	**3.87**	**343**	PN	**Pn**	**15 41 54.8**	**-0.1**
CIRR	**Tsirk**	**3.89**	**1**	P	**Pn**	**15 41 57.2**	**+2.0**
CIRR	**Tsirk**	**3.89**	**1**	PN	**Pn**	**15 41 57.2**	**+2.0**
KLY	**Klyuchi**	**4.08**	**360**	P	**Pn**	**15 41 58.8**	**+1.1**
KLY	**Klyuchi**	**4.08**	**360**	PN	**Pn**	**15 41 58.8**	**+1.1**
KBTR	**Krutoberegovo**	**4.18**	**17**	P	**Pn**	**15 41 58.8**	**-0.2**
KBTR	**Krutoberegovo**	**4.18**	**17**	PN	**Pn**	**15 41 58.8**	**-0.2**
BKI	**Bering**	**4.33**	**45**	P	**Pn**	**15 42 01.2**	**0.0**
BKI				S	**Sn**	**15 42 47.7**	**-3.0**
BKI	**Bering**	**4.33**	**45**	PN	**Pn**	**15 42 01.2**	**0.0**
BDR	**Baidarnaya**	**4.35**	**4**	P	**Pn**	**15 42 03.0**	**+1.5**
BDR	**Baidarnaya**	**4.35**	**4**	PN	**Pn**	**15 42 03.0**	**+1.5**
SRKR	**Sorokina**	**4.44**	**4**	P	**Pn**	**15 42 04.5**	**+1.8**
SRKR	**Sorokina**	**4.44**	**4**	PN	**Pn**	**15 42 04.5**	**+1.8**
ASAJ	**Asahikawa**	**14.50**	**243**	Pn	**Pn**	**15 44 19.3**	**-1.1**
	comp=E,0.4nm,0.3s,baz=75,slow=12,SNR=3.8						
GRNR	**Gornyy**	**15.15**	**274**	*e*P	**P**	**15 44 36.0**	**+2.1**
ERM	**Erimo**	**15.65**	**236**	*e*Pn	**Pn**	**15 44 36.4**	**+0.7**
	comp=E,165nm,2.0s						
ERM	**Erimo**	**15.65**	**236**	*e*P	**Pn**	**15 44 36.4**	**+0.7**
ERM				pmax	pmax		
	comp=Z,165nm,2.0s						
BILL	**Bilibino**	**16.09**	**8**	*e*Pn	**Pn**	**15 44 42.3**	**+1.2**
	comp=Z,5.2nm,0.6s						
BILL	**Bilibino**	**16.09**	**8**	*e*P	**Pn**	**15 44 42.3**	**+1.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FALS	**False Pass**	**21.36**	**69**	*e*P	**P**	**15 45 42.2**	**+0.3**
	comp=Z,146nm,0.6s						
MAJO	**Matsushiro**	**22.30**	**234**	*e*P	**P**	**15 45 52.9**	**+0.6**
MAJO	**Matsushiro**	**22.30**	**234**	*e*P	**P**	**15 45 52.9**	**+0.6**
MJAR	**Matsushiro Arr**	**22.30**	**234**	P	**P**	**15 45 52.9**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=3.4,slow=6.1,SNR=6.3						
TIXI	**Tiksi**	**24.00**	**336**	*e*P	**P**	**15 46 06.5**	**-2.5**
TIXI	**Tiksi**	**24.00**	**336**	*e*P	**P**	**15 46 06.5**	**-2.5**
TIXI	**Tiksi**	**24.00**	**336**	P	**P**	**15 46 06.9**	**-2.1**
	comp=Z,1.6nm,0.5s,baz=120,slow=10,SNR=12						
RC01	**Rabbit Creek A**	**28.01**	**52**	*e*P	**P**	**15 46 45.5**	**+0.2**
	comp=Z,15nm,0.6s						
ILAR	**Eielson Array**	**29.18**	**44**	P	**P**	**15 46 56.3**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=248,slow=7.4,SNR=3.1						
DOT	**Dot Lake**	**30.46**	**46**	*e*P	**P**	**15 47 08.3**	**+1.2**
	comp=Z,14nm,1.8s						
H11N2	**WAKE ISLAND Hy**	**32.81**	**169**	T	T	16 22 07.6	
	baz=353,slow=74,SNR=44						
H11N3	**WAKE ISLAND Hy**	**32.82**	**169**	T	T	16 22 09.4	
	baz=353,SNR=20						
H11N1	**WAKE ISLAND Hy**	**32.82**	**169**	T	T	16 22 12.3	
	baz=353,slow=74,SNR=34						
INK	**Inuvik**	**34.34**	**37**	*e*P	**P**	**15 47 41.0**	**+0.1**
	comp=Z,3.2nm,1.2s						
INK	**Inuvik**	**34.34**	**37**	*e*P	**P**	**15 47 41.0**	**+0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
INK	**Inuvik**	**34.34**	**37**	P	**P**	**15 47 41.9**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=302,slow=3.8,SNR=4.9						
YKA	**Yellowknife Ar**	**43.56**	**42**	P	**P**	**15 48 59.3**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=297,slow=9.6,SNR=3.0						
YKB5	**Yellowknife Ar**	**43.56**	**42**	*e*P	**P**	**15 48 59.3**	**+1.2**
MK32	**Makanchi Array**	**48.84**	**297**	*e*P	**P**	**15 49 37.3**	**-2.5**
MKAR	**Makanchi Array**	**48.84**	**297**	P	**P**	**15 49 37.3**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=56,slow=6.6,SNR=8.2						
ARCES	**ARCESS Array B**	**54.21**	**342**	P	**P**	**15 50 17.9**	**-1.7**
	comp=Z,1.9nm,0.9s,baz=42,slow=12,SNR=4.3						
NV01	**Mina Array Sit**	**55.71**	**70**	*e*P	**P**	**15 50 33.9**	**+2.7**
NVAR	**Mina Array Bea**	**55.71**	**70**	P	**P**	**15 50 33.9**	**+2.7**
	comp=Z,0.4nm,0.6s,baz=297,slow=6.0,SNR=3.5						
PJUM	**Juniper Ridge**	**55.88**	**73**	*e*P	**P**	**15 50 31.3**	**-0.9**
PD31	**Pinedale Array**	**57.64**	**61**	*e*P	**P**	**15 50 45.0**	**+0.1**
	comp=Z,7.2nm,1.8s						
PDAR	**Pinedale Array**	**57.64**	**61**	P	**P**	**15 50 46.9**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=323,slow=3.7,SNR=4.3						
CMAR	**Chiang Mai Arr**	**58.35**	**259**	P	**P**	**15 50 50.0**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=23,slow=7.2,SNR=5.8						
FIA0	**FINESS Array S**	**61.04**	**337**	*e*P	**P**	**15 51 07.5**	**-0.2**
FIA0	**FINESS Array S**	**61.04**	**337**	*e*P	**P**	**15 51 07.5**	**-0.2**
FINES	**FINESS Array B**	**61.04**	**337**	P	**P**	**15 51 07.5**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=39,slow=8.5,SNR=14						
GEYT	**Alibeck**	**67.84**	**304**	P	**P**	**15 51 52.6**	**0.0**
	comp=Z,1.7nm,0.8s,baz=39,slow=9.6,SNR=4.5						
AKASG	**Malin Array Be**	**69.53**	**329**	P	**P**	**15 52 01.8**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=26,slow=6.2,SNR=5.0						
AKBB	**Malin Array Si**	**69.53**	**329**	*e*P	**P**	**15 52 01.4**	**-1.4**
	comp=Z,14nm,1.8s						
AKBB	**Malin Array Si**	**69.53**	**329**	*e*P	**P**	**15 52 01.4**	**-1.4**
AKBB				pmax	pmax		
	comp=Z,14nm,1.8s						
LTX	**Lajitas**	**70.66**	**67**	*e*P	**P**	**15 52 10.2**	**0.0**
LTX	**Lajitas**	**70.66**	**67**	*e*P	**P**	**15 52 10.3**	**0.0**
TXAR	**Lajitas Array**	**70.66**	**67**	P	**P**	**15 52 10.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=311,slow=6.5,SNR=5.1						
KWP	**Kalwaria Pacla**	**72.41**	**333**	*e*P	**P**	**15 52 20.1**	**-0.3**
	comp=Z,795nm,0.5s						
WR1	**Warramunga Arr**	**75.45**	**206**	*e*P	**P**	**15 52 38.1**	**-0.3**
WRA	**Warramunga Arr**	**75.45**	**206**	P	**P**	**15 52 38.1**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=33,slow=5.8,SNR=3.4						
AS31	**Alice Springs**	**79.12**	**205**	*e*P	**P**	**15 52 59.5**	**+0.6**
	comp=Z,6.3nm,1.9s						
ASAR	**Alice Springs**	**79.12**	**205**	P	**P**	**15 52 59.5**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=16,slow=5.1,SNR=10						

KRSC 21 15:51:35.1±10.0, 52°.15N×160°.85E, h53km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipun

MTVR S Sn 15 54 10.3 -0.2
MTVR Mutnovka 1.64 275 PN Pn 15 53 49.5 +0.1
MTVR S Sn 15 54 10.3 -0.2
GRL Gorelyy 1.71 277 P Pb 15 53 51.3 -0.7
GRL Gorelyy 1.71 277 PN Pb 15 53 51.3 -0.7
KRMR Karymshinskiy 1.73 286 P Pn 15 53 50.3 -0.1
KRMR S Sn 15 54 11.6 -0.8
KRMR Karymshinskiy 1.73 286 PN Pn 15 53 50.3 -0.1
KRMR S Sn 15 54 11.6 -0.8
KDTR Khodutka, Kamc 1.81 253 P Pn 15 53 51.2 -0.3
KDTR S Sn 15 54 12.7 -1.7
KDTR Khodutka, Kamc 1.81 253 PN Pn 15 53 51.2 -0.3
KDTR S Sn 15 54 12.7 -1.7
ASAK Asacha 1.81 271 P Pn 15 53 52.4 +0.7
ASAK Asacha 1.81 271 PN Pn 15 53 52.4 +0.7
PEA0B Petropavlovsk- 2.06 292 ePn Pn 15 53 55.1 +0.2
PETK Petropavlovsk- 2.06 292 ePn Pn 15 53 54.9 -0.1
PETK Petropavlovsk- 2.06 292 ePN Pn 15 53 54.9 -0.1
PETK Petropavlovsk- 2.06 292 Pn Pn 15 53 55.4 +0.4
comp=N,31nm,0.3s,baz=107,slow=16,SNR=41
PETK LR LR 15 54 18.4
comp=N,468nm,19.3s,baz=141,slow=31
PETK Sn **Sb 15 54 21.9 -1.5**
comp=N,37nm,0.3s,baz=96,slow=39,SNR=12
PEA1 Petropavlovsk- 2.06 292 ePn Pn 15 53 55.4 +0.4
MKZ Mys Kozlova 2.25 13 P Pn 15 53 56.8 -0.7
MKZ S Sn 15 54 22.8 -2.4
MKZ Mys Kozlova 2.25 13 PN Pn 15 53 56.8 -0.7
MKZ S Sn 15 54 22.8 -2.4
APC Apacha 2.32 285 P Pn 15 53 59.6 +1.0
APC Apacha 2.32 285 PN Pn 15 53 59.6 +1.0
PAU Pauzhetka 2.67 252 P Pn 15 54 03.7 +0.4
PAU Pauzhetka 2.67 252 PN Pn 15 54 03.7 +0.4
KZV Kizimen 2.76 353 P Pn 15 54 05.9 +1.1
KZV S Sn 15 54 38.0 -0.2
KZV Kizimen 2.76 353 PN Pn 15 54 05.9 +1.1
KZV S Sn 15 54 38.0 -0.2
TUMD Tumrok D 2.84 355 P Pn 15 54 06.2 +0.4
TUMD S Sn 15 54 39.2 -0.8
TUMR Tumrok 2.94 352 P Pn 15 54 09.4 +2.2
TUMR Tumrok 2.94 352 PN Pn 15 54 06.2 -1.0
TUMR S Sn 15 54 39.2 -3.4
SKR Severo-Kuril's 3.41 242 P Pn 15 54 13.6 0.0
SKR S Sn 15 54 52.1 -1.8
SKR Severo-Kuril's 3.41 242 ePN Pn 15 54 13.9 +0.3
SKR eS Sn 15 54 50.9 -3.0
SKR pmax pmax
comp=Z,70nm,0.7s
SKR smax smax
comp=N,772nm,1.0s
SKR smax smax
comp=E,832nm,0.7s
BZGR Bezymyannyi-Gr 3.57 359 P Pn 15 54 19.3 +3.4
BZGR Bezymyannyi-Gr 3.57 359 PN Pn 15 54 19.3 +3.4
ALID Alaid 3.64 248 P Pn 15 54 17.0 +0.2
ALID Alaid 3.64 248 PN Pn 15 54 17.0 +0.2
KOZ Kozyrevsk 3.73 351 P Pn 15 54 19.2 +1.2
KOZ Kozyrevsk 3.73 351 PN Pn 15 54 19.2 +1.2
ESO Esso 3.77 341 P Pn 15 54 19.3 +0.7
ESO Esso 3.77 341 PN Pn 15 54 19.3 +0.7
KRSR Krestovskiy 3.85 358 P Pn 15 54 21.6 +1.9
KRSR Krestovskiy 3.85 358 PN Pn 15 54 21.6 +1.9
KLY Klyuchi 3.95 358 P Pn 15 54 23.0 +2.1
KLY S Sn 15 55 08.6 +1.5
KLY Klyuchi 3.95 358 PN Pn 15 54 23.0 +2.1
KLY S Sn 15 55 08.6 +1.5
SRDR Sredinnyy 4.00 351 P Pn 15 54 22.1 +0.3
SRDR Sredinnyy 4.00 351 PN Pn 15 54 22.1 +0.3
KBTR Krutoberegovo 4.01 16 P Pn 15 54 21.6 -0.1
KBTR S Sn 15 55 06.3 -2.3
KBTR Krutoberegovo 4.01 16 PN Pn 15 54 21.6 -0.1
KBTR S Sn 15 55 06.3 -2.3
BKI Bering 4.15 45 P Pn 15 54 23.1 -0.6
BKI S Sn 15 55 06.4 -5.7
BKI Bering 4.15 45 PN Pn 15 54 23.1 -0.6
BDR Baidarnaya 4.21 3 P Pn 15 54 26.9 +2.4
BDR Baidarnaya 4.21 3 PN Pn 15 54 26.9 +2.4
SMKR Semkarok 4.23 5 P Pn 15 54 26.3 +1.4
SMKR Semkarok 4.23 5 PN Pn 15 54 26.3 +1.4
MA2 Magadan 9.16 326 LR LR 15 59 21.1
comp=E,368nm,20.5s,baz=130,slow=40
SEY Seymchan 11.50 340 Pn Pn 15 56 10.7 +6.3
comp=E,0.1nm,0.3s,baz=147,slow=11,SNR=6.8
YSS Yuzh-Sakhalins 12.91 252 ePN **Pn 15 56 22.4 -1.3**
YSS MLR MLR
comp=Z,900nm,12.0s
ADK Adak 13.80 83 ePn **Pn 15 56 36.8 +1.0**
ADK Adak 13.80 83 eP **Pn 15 56 36.8 +1.0**
ASAJ Asahikawa 14.68 243 Pn **Pn 15 56 48.6 +0.8**
comp=Z,0.4nm,0.3s,baz=73,slow=12,SNR=5.5
GRNR Gornyy 15.26 274 eP **P 15 57 03.9 +3.3**
GRNR pmax pmax
comp=Z,16nm,1.0s
ERM Erimo 15.84 236 ePn **Pn 15 56 59.7 -3.5**
comp=Z,63nm,1.4s
ERM Erimo 15.84 236 eP **Pn 15 56 59.7 -3.5**
ERM pmax pmax
comp=Z,63nm,1.4s
BILL Bilibino 15.93 7 ePn **Pn 15 57 00.0 -4.3**
comp=Z,9.2nm,0.9s
BILL Bilibino 15.93 7⇓ eP **Pn 15 57 05.7 +1.4**
BILL eS **Sn 16 00 02.5 +1.9**
BILL pmax pmax
comp=Z,9.0nm,0.8s
BILL MLR MLR
comp=Z,414nm,18.0s
TEY Ternei 17.56 255 eP **P 15 57 29.6 +3.6**
NIKH Nikolski High 18.32 76 eP **Pn 15 57 31.7 -2.5**
comp=Z,521nm,1.7s
KLR Kul'dur 18.61 272⇑ eP **P 15 57 37.4 -0.2**
KLR pmax pmax
comp=Z,5.0nm,1.0s
KLR Kul'dur 18.61 272 P **Pn 15 57 38.0 +0.1**
comp=Z,0.2nm,0.3s,baz=64,slow=13,SNR=6.4
KLR LR LR 16 05 24.8
comp=Z,417nm,19.2s,baz=74,slow=39
ZEA Zeya 20.14 287 eP **P 15 57 52.0 -2.3**
ZEA pmax pmax
comp=Z,14nm,1.2s
USRK Ussuriysk Ar. 20.77 258 P **P 15 57 59.5 -1.7**
comp=Z,6.4nm,1.0s,baz=65,slow=9.0,SNR=7.4
MJB9 Matsu-Tunnel 22.48 234 eP **P 15 58 21.1 +1.4**
comp=Z,15nm,0.7s
MAJO Matsushiro 22.48 234 eP **P 15 58 20.9 +1.2**
comp=Z,15nm,0.8s
MAJO Matsushiro 22.48 234 eP **P 15 58 20.9 +1.2**
MAJO pmax pmax
comp=Z,15nm,0.8s
MAT Matsushiro 22.48 234 P **P 15 58 22.0 +2.3**
MJAR Matsushiro Arr 22.48 234 eP **P 15 58 21.8 +2.1**
MJAR Matsushiro Arr 22.48 234 P **P 15 58 20.8 +1.1**
comp=Z,9.2nm,1.0s,baz=28,slow=8.7,SNR=23
TIXI Tiksi 23.93 336 eP **P 15 58 31.4 -2.5**
TIXI Tiksi 23.93 336⇓ iP **P 15 58 31.6 -2.4**
TIXI pmax pmax
comp=Z,9.0nm,1.3s
TIXI Tiksi 23.93 336 P **P 15 58 32.2 -1.8**
comp=Z,2.8nm,0.4s,baz=122,slow=10,SNR=22
INU Inuyama 24.02 234 eP **P 15 58 36.4 +1.2**
comp=Z,12nm,0.8s
HIA Hailar 25.91 280⇓ eP **P 15 58 51.2 -1.1**
HIA pmax pmax
comp=Z,90nm,1.2s
IMAR Indian Mountai 26.23 41 eP **P 15 58 55.0 0.0**
RSO Redoubt South 26.39 54 eP **P 15 58 57.8 +1.1**
KDAK Kodiak Island 26.75 60 eP **P 15 58 59.3 -0.5**
comp=Z,12nm,0.9s
KDAK Kodiak Island 26.75 60 eP **P 15 58 59.3 -0.5**
KDAK pmax pmax
comp=Z,12nm,0.9s
KDAK Kodiak Island 26.75 60 P **P 15 58 59.3 -0.5**
comp=Z,4.1nm,0.4s,baz=318,slow=5.0,SNR=4.9
BOD Bodaibo 26.91 300 eP **P 15 58 58.6 -2.6**
BOD pmax pmax
comp=Z,8.0nm,1.3s
BRLK Bradley Lake 27.38 55 eP **P 15 59 04.8 -0.7**
comp=Z,6.2nm,0.9s
KSRS Korea Array 27.39 250 P **P 15 59 06.8 +1.2**
comp=Z,1.5nm,0.9s,baz=47,slow=9.5,SNR=5.8
KS15 Wonju Array Si 27.42 250 eP **P 15 59 06.8 +0.9**
comp=Z,46nm,1.7s
SML Sawmill 28.45 51 eP **P 15 59 15.6 +0.6**
comp=Z,12nm,0.7s
SML Sawmill 28.45 51 eP **P 15 59 15.6 +0.6**
SML pmax pmax
comp=Z,12nm,0.7s
WRH Wood River Hil 28.48 45 eP **P 15 59 15.2 +0.1**
comp=Z,7.7nm,1.3s
JNU Nakatsue 28.92 240 eP **P 15 59 20.6 +1.1**
comp=Z,13nm,0.9s
JNU Nakatsue 28.92 240 P **P 15 59 23.8 +4.4**
comp=Z,5.4nm,1.1s,baz=50,slow=16,SNR=2.7
SCM Sheep Creek Mo 28.92 50 eP **P 15 59 19.4 +0.2**
comp=Z,7.1nm,0.9s
SCM Sheep Creek Mo 28.92 50 eP **P 15 59 19.4 +0.2**
SCM pmax pmax
comp=Z,7.0nm,0.9s
ILAR Eielson Array 29.00 44 P **P 15 59 19.3 -0.5**
comp=Z,0.7nm,0.7s,baz=262,slow=7.5,SNR=10
ILB Eielson Array 29.00 44 eP **P 15 59 19.3 -0.5**
comp=Z,7.4nm,1.5s
PRP Porcupine Dome 29.57 43 eP **P 15 59 25.2 +0.1**
comp=Z,2.9nm,0.9s
BCAR Beaver Creek A 31.35 47 eP **P 15 59 41.0 +0.3**
H11N2 WAKE ISLAND Hy 32.92 169 T T 16 35 35.1
baz=353,slow=76,SNR=10
H11N3 WAKE ISLAND Hy 32.94 169 T T 16 35 31.2
baz=353,slow=76,SNR=11
H11N1 WAKE ISLAND Hy 32.94 170 T T 16 35 45.9
baz=353,slow=76,SNR=12
H11S1 WAKE ISLAND Hy 34.11 170 T T 16 37 41.9
baz=352,slow=74,SNR=2.5
H11S3 WAKE ISLAND Hy 34.12 170 T T 16 37 52.9
baz=352,slow=74,SNR=3.9
ULN Ulaanbaatar 34.12 284⇑ iP **P 16 00 04.2 -1.0**
ULN pmax pmax
comp=Z,6.0nm,1.1s
H11S2 WAKE ISLAND Hy 34.13 170 T T 16 37 50.3
baz=352
INK Inuvik 34.16 37 eP **P 16 00 05.1 +0.1**
comp=Z,7.7nm,1.5s
INK Inuvik 34.16 37 eP **P 16 00 05.1 +0.1**
INK pmax pmax
comp=Z,8.0nm,1.5s
INK Inuvik 34.16 37 P **P 16 00 05.3 +0.3**
comp=Z,1.1nm,0.6s,baz=289,slow=5.1,SNR=12
TLY Talaya 34.42 292⇑ eP **P 16 00 06.8 -0.8**
TLY pmax pmax
comp=Z,19nm,1.5s
SONA0 Songino Array 34.52 285 eP **P 16 00 07.2 -1.5**
SONM Songino Array 34.52 285 P **P 16 00 07.2 -1.5**
comp=Z,0.4nm,0.4s,baz=54,slow=7.5,SNR=3.9
DLBC Dese Lake 38.10 53 P **P 16 00 41.4 +2.3**
comp=Z,3.7nm,0.8s,baz=283,slow=12,SNR=4.8
WHN Wuhan 40.23 256 P P 16 00 48.3 -8.6
YKA Yellowknife Ar 43.38 42 P **P 16 01 22.8 +0.4**
comp=Z,1.3nm,0.8s,baz=296,slow=8.5,SNR=12
YKB5 Yellowknife Ar 43.38 42 eP **P 16 01 22.8 +0.5**
ZAA1 Zalesovo Array 43.56 304 eP **P 16 01 21.3 -2.6**
ZALV Zalesovo Beam 43.56 304 eP **P 16 01 20.9 -3.0**
ZALV Zalesovo Beam 43.56 304 eP **P 16 01 20.9 -3.0**
ZALV Zalesovo Beam 43.56 304 P **P 16 01 21.3 -2.6**
comp=Z,1.2nm,0.9s,baz=27,slow=7.5,SNR=4.4
RES Resolute Bay 43.82 22 eP **P 16 01 26.3 +0.6**
comp=Z,6.7nm,1.4s
RES Resolute Bay 43.82 22 eP **P 16 01 26.3 +0.6**
RES pmax pmax
comp=Z,7.0nm,1.4s
RES Resolute Bay 43.82 22 P **P 16 01 26.3 +0.6**
comp=Z,1.4nm,0.8s,baz=319,slow=9.8,SNR=4.3
NVS Novosibirsk 43.91 305⇓ iP **P 16 01 25.3 -1.4**
NVS pmax pmax
comp=Z,19nm,1.2s
NVS pmax pmax
comp=N,4.0nm,1.1s
NVS pmax pmax
comp=E,12nm,1.0s
DGZ Jazzator, Alta 44.41 297 c iP **P 16 01 30.0 -1.0**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
CD2 Chengdu 46.37 266 eP **P 16 01 44.4 -2.2**
JCW Jim Creek 47.32 63 eP **P 16 01 57.9 +4.1**
WMQ Urumqi 47.65 290 eP **P 16 01 57.4 +0.9**
KURK Kurchatov 48.51 303 eP **P 16 02 00.0 -2.9**
comp=Z,18nm,1.1s
KURK Kurchatov 48.51 303 de P **P 16 02 00.7 -2.3**
KURK pmax pmax
comp=Z,22nm,1.3s
KURBB Kurchatov Arra 48.61 303 P **P 16 02 01.4 -2.3**
comp=Z,6.4nm,0.9s,baz=61,slow=8.1,SNR=18
MK32 Makanchi Array 48.89 297 eP **P 16 02 03.8 -2.2**
MKAR Makanchi Array 48.89 297 eP **P 16 02 02.9 -3.1**
MKAR Makanchi Array 48.89 297 eP **P 16 02 02.9 -3.1**
MKAR Makanchi Array 48.89 297 P **P 16 02 03.8 -2.2**
comp=Z,1.6nm,0.8s,baz=68,slow=8.0,SNR=7.1
KMI Kunming 51.16 261 P **P 16 02 23.6 -0.1**
FFC Flin Flon 53.19 46 i P **P 16 02 39.2 +1.1**
SLVN Son La 53.31 257 eP **P 16 02 38.9 -0.6**
comp=Z,5.8nm,1.0s
PAHR Pah Rah Range 54.07 70 eP **P 16 02 46.3 +1.3**
comp=Z,4.8nm,1.0s
ARCES ARCESS Array B 54.11 342 P **P 16 02 43.3 -1.4**
comp=Z,4.8nm,0.9s,baz=41,slow=8.4,SNR=6.2
ARU Arti 54.24 318 eP **P 16 02 45.8 0.0**
comp=Z,4.6nm,1.0s
ARU Arti 54.24 318 c iP **P 16 02 45.9 +0.1**
ARU S **S 16 10 23.0 +0.4**
ARU SS **SS 16 14 01.8 -1.9**
ARU pmax pmax
comp=Z,6.0nm,1.2s
ARU Arti 54.24 318 P **P 16 02 45.6 -0.2**
comp=Z,0.4nm,0.3s,baz=80,slow=10,SNR=5.6
BOZ Bozeman (W) 54.46 60 eP **P 16 02 48.7 +0.9**
comp=Z,3.0nm,0.9s
SUMG Summit 54.62 7 eP **P 16 02 48.3 -0.5**
comp=Z,8.4nm,0.9s
SUMG Summit 54.62 7 eP **P 16 02 48.3 -0.5**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
KVN Kaiserville 55.25 69 eP **P 16 02 55.1 +1.6**
comp=Z,4.9nm,0.9s
KVN Kaiserville 55.25 69 eP **P 16 02 55.2 +1.6**
KVN pmax pmax
comp=Z,5.0nm,0.9s
PRGR Permogore 55.30 328 eP **P 16 02 49.8 -3.5**
PRGR e*PP **pwP 16 03 02.7 +1.5**
PRGR pmax pmax
comp=Z,8.0nm,0.9s
YHH Holmes Hill 55.41 60 eP **P 16 02 55.8 +1.0**
comp=Z,3.3nm,0.9s
NV01 Mina Array Sit 55.55 70 eP **P 16 02 57.7 +1.8**
NVAR Mina Array Bea 55.55 70 eP **P 16 02 57.2 +1.3**
NVAR Mina Array Bea 55.55 70 P **P 16 02 57.7 +1.8**
comp=Z,2.1nm,0.7s,baz=300,slow=7.1,SNR=12
TMCR Tamitsa 55.63 334 eP **P 16 02 55.4 -0.3**
TMCR pmax pmax
comp=Z,19nm,0.8s
ELK Elko 55.73 66 eP **P 16 02 58.6 +1.6**
comp=Z,2.2nm,0.8s
ELK Elko 55.73 66 eP **P 16 02 58.7 +1.6**
ELK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 55.81 297⇑ eP **P 16 02 57.7 +0.1**
AAK pmax pmax
comp=Z,11nm,2.5s
RLMT Red Lodge 56.02 59 eP **P 16 03 00.5 +1.4**
comp=Z,7.3nm,1.0s
KIRV Kirov 56.25 324 P **P 16 03 01.5 +1.3**
comp=Z,5.6nm,0.5s,baz=14,slow=4.2,SNR=3.9
SKNT Sakolnakorn 56.65 254 P **P 16 03 06.5 +2.9**
comp=Z,11nm,1.5s
KSH Kashi 57.11 293 P P 16 03 12.3 +5.4
KSH sP pwP 16 03 30.8 +16
KSH PP **PP 16 05 20.8 +7.4**
KSH S **S 16 11 02.4 +0.7**
KSH Kashi 57.11 293 SS **SS 16 14 52.5 +2.6**
R11A Troy Canyon, C 57.16 68 eP **P 16 03 08.3 +1.0**
comp=Z,6.4nm,1.8s
BW06 Boulder Array 57.47 61 eP **P 16 03 10.3 +0.8**
comp=Z,4.8nm,0.9s
PD31 Pinedale Array 57.47 61 eP **P 16 03 10.2 +0.8**
comp=Z,4.5nm,0.9s
PDAR Pinedale Array 57.47 61 P **P 16 03 10.4 +0.9**
comp=Z,1.2nm,0.6s,baz=298,slow=3.1,SNR=15
KK31 Karatay Array 57.64 300 eP **P 16 03 09.3 -1.1**
comp=Z,3.3nm,0.9s
KK31 Karatay Array 57.64 300 eP **P 16 03 09.3 -1.1**
KK31 pmax pmax
comp=Z,3.3nm,0.9s
KKAR Karatay Array 57.64 300 eP **P 16 03 09.1 -1.3**
comp=Z,3.3nm,0.9s
KKAR Karatay Array 57.64 300 eP **P 16 03 09.1 -1.3**
KKAR pmax pmax
comp=Z,3.0nm,0.9s
PHRA Phrae 57.69 258 P **P 16 03 13.0 +2.0**
comp=Z,2.3nm,1.1s
KLMR Klimovskoe 57.80 330 eP **P 16 03 10.4 -0.8**
KLMR pmax pmax
comp=Z,17nm,1.4s
UTTA Uttaradit 58.08 257 P **P 16 03 16.1 +2.4**
comp=Z,20μm,0.9s,comp=Z,180μm
CMMT Chiang Mai 58.22 259 P **P 16 03 16.7 +2.0**
comp=Z,4.8nm,1.2s
CHTO Chiang Mai 58.22 259 eP **P 16 03 15.0 +0.3**
comp=Z,7.6nm,0.9s
CHTO Chiang Mai 58.22 259 eP **P 16 03 15.0 +0.3**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CM31 Chiang Mai Arr 58.50 259 eP **P 16 03 16.3 -0.4**
comp=Z,6.8nm,0.9s
CMAR Chiang Mai Arr 58.50 259 eP **P 16 03 15.6 -1.1**
CMAR Chiang Mai Arr 58.50 259 eP **P 16 03 15.6 -1.1**
CMAR Chiang Mai Arr 58.50 259 P **P 16 03 17.7 +1.1**
comp=Z,3.8nm,0.8s,baz=24,slow=7.0,SNR=20
CMAR LR LR 16 30 36.0
comp=Z,46nm,19.0s,baz=315,slow=38
ABKAR Akbulak array 58.62 311 eP **P 16 03 16.0 -1.1**
AKTO Aktyubinsk 58.65 313 P **P 16 03 17.3 0.0**
comp=Z,0.8nm,0.5s,baz=80,slow=9.1,SNR=4.3
TMUT Trail Mountain 58.97 65 eP **P 16 03 21.3 +1.2**
comp=Z,4.0nm,1.0s
RSSD Black Hills 59.41 56 eP **P 16 03 23.8 +0.8**
comp=Z,7.4nm,0.8s
RSSD Black Hills 59.41 56 eP **P 16 03 23.8 +0.8**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
PV22 Blue Mesa, Par 60.84 64 eP **P 16 03 33.4 +0.6**
comp=Z,3.7nm,1.0s
FIA0 FINESS Array S 60.96 337 eP **P 16 03 32.8 -0.2**
FIA0 FINESS Array S 60.96 337 eP **P 16 03 32.8 -0.2**
FINES FINESS Array B 60.96 337 P **P 16 03 32.8 -0.2**
comp=Z,1.6nm,0.5s,baz=31,slow=7.5,SNR=14
PV13 Radium Mtn., P 61.09 64 eP **P 16 03 35.1 +0.5**
comp=Z,5.6nm,1.0s
OBN Obninsk 63.37 328⇑ iP **P 16 03 50.3 +1.1**
OBN e 16 04 31.9
OBN eSS SS 16 16 17.8 -9.0
OBN eSSS SSS 16 19 17.6
OBN pmax pmax
comp=Z,10.0nm,0.4s
OBN MLR MLR
comp=Z,151nm,15.0s
NB2 NORSAR Subarra 64.36 344 P **P 16 03 55.8 0.0**
comp=Z,0.5nm,0.5s,baz=23,slow=6.9
NB200 NORSAR Array S 64.36 344 eP **P 16 03 56.0 +0.2**
NOA NORSAR Array B 64.36 344 P **P 16 03 56.0 +0.2**
NOA NORSAR Array B 64.36 344 P **P 16 03 56.0 +0.2**
comp=Z,1.1nm,0.8s,baz=14,slow=5.3,SNR=3.1
ANMO Albuquerque 64.73 65⇑ eP **P 16 03 58.0 -0.8**
ANMO pmax pmax
comp=Z,2.0nm,1.7s
VRH Novokhopyorsk 64.77 323 eP **P 16 03 56.0 -2.5**
VRH pmax pmax
comp=Z,10.0nm,1.2s
VSR Storozhevoye 65.69 324⇓ eP **P 16 04 03.7 -0.8**
VSR pmax pmax
comp=Z,20nm,1.4s
VORD Divnogorie 65.85 324 eP **P 16 04 04.7 -0.8**
VORD pmax pmax
comp=Z,10.0nm,1.2s
GEYT Alibeck 67.87 304 P **P 16 04 19.5 +0.8**
comp=Z,1.8nm,1.0s,baz=110,slow=8.1,SNR=4.1
WMOK Wichita Mounta 69.06 60 eP **P 16 04 26.2 +0.1**
comp=Z,4.2nm,0.8s
WMOK Wichita Mounta 69.06 60 eP **P 16 04 26.3 +0.1**
WMOK pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 69.47 330 i P **P 16 04 27.6 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 69.47 330 P **P 16 04 27.7 -0.6**
comp=Z,0.9nm,0.5s,baz=33,slow=6.6,SNR=7.9
AKBB Malin Array Si 69.47 330 eP **P 16 04 27.7 -0.6**
KIEV Kiev 69.48 330 eP **P 16 04 26.8 -1.6**
comp=Z,5.9nm,1.1s
KIEV Kiev 69.48 330⇑ eP **P 16 04 27.0 -1.4**
KIEV pmax pmax
comp=Z,7.0nm,1.2s
KBZ Khabaz 70.38 317 P **P 16 04 34.5 +0.4**
comp=Z,4.8nm,0.9s,baz=332,slow=1.7,SNR=7.0
TX31 Lajitas Ar. Si 70.49 67 eP **P 16 04 35.6 +0.5**
comp=Z,2.1nm,0.6s
LTX Lajitas 70.49 67 eP **P 16 04 35.7 +0.6**
LTX Lajitas 70.49 67 eP **P 16 04 35.7 +0.6**
TXAR Lajitas Array 70.49 67 eP **P 16 04 35.5 +0.4**
TXAR Lajitas Array 70.49 67 eP **P 16 04 35.5 +0.4**
TXAR Lajitas Array 70.49 67 P **P 16 04 35.7 +0.6**
comp=Z,2.0nm,0.6s,baz=301,slow=4.8,SNR=28
GNI Garni 72.51 314⇑ eP **P 16 04 47.4 +0.2**
GNI pmax pmax
comp=Z,31nm,1.2s
CLL Collm 73.19 340 eP **P 16 04 52.0 +1.2**
CLL Collm 73.19 340 eP **P 16 04 52.0 +1.2**
Z41A Richland Creek 73.34 57 eP **P 16 04 53.4 +1.4**
comp=Z,45nm,0.6s
BUR08 Bucovina Ar. S 73.41 330 eP **P 16 04 51.3 -1.1**
comp=Z,4.9nm,1.1s
BURAR Bucovina Array 73.43 330 eP **P 16 04 51.6 -0.9**
Q54A Coxs Mills 74.43 45 eP **P 16 04 58.8 +0.4**
comp=Z,32nm,1.2s
WRAB Tennant Creek 75.62 206⇓ eP **P 16 05 05.4 +0.2**
WRAB pmax pmax
comp=Z,55nm,5.0s
WR1 Warramunga Arr 75.63 206 eP **P 16 05 04.5 -0.8**
WRA Warramunga Arr 75.63 206 P **P 16 05 04.5 -0.8**
comp=Z,0.9nm,0.8s,baz=27,slow=5.1,SNR=5.8
BFO Black Forest 76.97 342 i P **P 16 05 14.6 +1.8**
BR101 Keskin Array S 77.47 321 eP **P 16 05 14.9 -1.0**
BRTR Keskin Array B 77.47 321 eP **P 16 05 15.1 -0.7**
BRTR Keskin Array B 77.47 321 P **P 16 05 14.9 -1.0**
comp=Z,2.9nm,1.2s,baz=31,slow=2.9,SNR=6.1
AS31 Alice Springs 79.30 205 eP **P 16 05 26.4 +0.6**
comp=Z,3.7nm,1.6s
ASAR Alice Springs 79.30 205 eP **P 16 05 26.1 +0.3**
ASAR Alice Springs 79.30 205 eP **P 16 05 26.1 +0.3**
ASAR Alice Springs 79.30 205 P **P 16 05 26.4 +0.6**
comp=Z,1.5nm,0.7s,baz=17,slow=4.9,SNR=22
ESDC Sonseca Array 87.38 348 eP **P 16 06 07.1 -0.4**
ESDC Sonseca Array 87.38 348 P **P 16 06 08.6 +1.1**
comp=Z,0.1nm,0.3s,baz=25,slow=4.0,SNR=4.0

MAN 21 15:53:38.0, 7.18N×122.07E, h16km, mb3.5, ML2.2, MS1.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZCP	**Zamboanga City**	**0.24**	**180**	⇓ iP	Pb	15 53 44.5	+0.5
ZCP				i S	Sb	15 53 48.8	+0.8
IPIL	**Ipil**	**0.78**	**39**	eP	Pb	15 53 52.3	-0.9
IPIL				eS	Sg	15 54 01.4	-2.2
PAGZ	**Pagadian**	**1.46**	**63**	eP	Pn	15 54 03.5	-0.2
PAGZ				eS	Sb	15 54 23.1	0.0
DCPH	**Dipolog City**	**1.89**	**42**⇑	eP	Sg	15 54 38.5	-0.3

MEX 21 15:55:27.8±0.5, 14.42N×92.76W, h52km±30km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.35**	**341**	eP	Pn	15 55 49.5	-0.8
PCIG				i S	Sn	15 56 04.7	-2.5
CCIG	**Comitan**	**1.95**	**18**	eP	Pn	15 55 57.7	-0.9
CCIG				eS	Sn	15 56 19.7	-2.3
TGIG		**2.37**	**352**	i P	Pn	15 56 03.1	-1.2
TGIG				i S	Sn	15 56 31.1	-1.1
CMIG	**Matias Romero**	**3.35**	**323**	i P	Pn	15 56 16.9	-0.8
CMIG				i S	Sn	15 56 55.1	-1.2
HUIG	**Huatulco**	**3.50**	**293**	eP	Pn	15 56 19.4	-0.3
HUIG				i S	Sn	15 56 59.1	-0.8
PNIG	**Pinotepa**	**5.53**	**291**	i P	Pn	15 56 47.9	+0.3
PNIG				i S	Sn	15 57 49.2	-0.8

KRSC 21 15:56:29.5±10.0, 52°.14N×160°.88E, h62km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.10**	**332**	P	Pn	15 56 49.7	+0.8
SPN				S	Sn	15 57 02.9	-0.3
NLC	**Nalytchevo**	**1.40**	**318**	P	Pn	15 56 54.8	+2.0
NLC				S	Sn	15 57 12.7	+2.4
RUS	**Russkaya**	**1.49**	**282**	P	Pn	15 56 55.7	+1.7
RUS				S	Sn	15 57 13.6	+1.2
DALK	**Dalny**	**1.58**	**305**	P	Pn	15 56 57.7	+2.4
DALK				S	Sn	15 57 17.0	+2.3
UGLR	**Uglovaya**	**1.65**	**311**	P	Pn	15 56 58.7	+2.3
SDLR	**Sedlovina**	**1.67**	**314**	P	Pn	15 56 58.7	+2.1
MTVR	**Mutnovka**	**1.69**	**283**	P	Pn	15 56 59.2	+2.2
MTVR				S	Sn	15 57 19.8	+2.1
SMAR	**Somma**	**1.70**	**313**	P	Pn	15 56 59.7	+2.6
AVH	**Avacha**	**1.73**	**312**	P	Pn	15 56 59.7	+2.3
AVH				S	Sn	15 57 20.6	+2.2
KDTR	**Khodutka, Kamc**	**1.77**	**260**	P	Pn	15 56 59.4	+1.6
KDTR				S	Sn	15 57 19.8	+0.6
KOK	**Koryaka**	**1.79**	**311**	P	Pn	15 57 01.1	+2.9
KRMR	**Karymshinskiy**	**1.82**	**294**	P	Pn	15 57 00.9	+2.4
KRMR				S	Sn	15 57 22.3	+1.7
ASAK	**Asacha**	**1.85**	**279**	P	Pn	15 57 01.5	+2.5
APC	**Apacha**	**2.41**	**291**	P	Pn	15 57 10.2	+3.7
APC				S	Sn	15 57 39.2	+4.4
MKZ	**Mys Kozlova**	**2.48**	**11**	P	Pn	15 57 10.1	+2.7
MKZ				S	Sn	15 57 37.9	+1.4
TUMD	**Tumrok D**	**3.09**	**355**	P	Pn	15 57 19.5	+3.7
TUMD				S	Sn	15 57 53.4	+1.9
TUMR	**Tumrok**	**3.18**	**352**	P	Pn	15 57 21.4	+4.2
SKR	**Severo-Kuril's**	**3.32**	**246**	S	Sn	15 57 58.3	+1.2
KBTR	**Krutoberegovo**	**4.24**	**15**	P	Pn	15 57 35.7	+4.2
BKI	**Bering**	**4.31**	**43**	S	Sn	15 58 22.3	+0.9

*ISCJB **21** 15:57:32.6±0.6, 43°.59N±0°.04×121°.69E±0°.05, h10km, mb4.0/2, Error ellipse: s-maj=6.3km s-min=5.4km az=6.4*
*IDC **21** 15:57:33.0±1.3, 43°.54N×121°.40E, h0km, mb3.9/2, mb1 3.8/5, mb1mx3.4/52, mbtmp3.7/5, ML3.0/3, Error ellipse: s-maj=34.2km s-min=20.2km az=54.0*
*BJI **21** 15:57:35.9±0.0, 43°.67N×121°.56E, h6km, mb4.1/8, ML4.0/18*

ISC 21 15:57:38.0±0.7, 43°.65N±0°.06×121°.41E±0°.04, h10km, n16, σ2§64/20, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**2.43**	**138**	⇑Pg	Pn	15 58 17.8	+0.1
SNY				Sg	Sn	15 58 48.5	+1.1
SNY				smax	smax		
	comp=N,560nm,0.3s						
SNY				smax	smax		
	comp=E,580nm,0.3s						
CN2	**Changchun**	**2.93**	**86**	*e*Pg	Pn	15 58 27.0	+2.3
CN2				*e*Sg	Sn	15 59 01.3	+1.4
CN2				smax	smax		
	comp=N,440nm,0.6s						
CN2				smax	smax		
	comp=E,480nm,0.6s						
DL2	**Dalian**	**4.75**	**178**	*e*Pg	Pb	15 59 04.6	+3.4
DL2				Sg	Sg	16 00 07.9	-2.4
DL2				smax	smax		
	comp=N,60nm,0.6s						
DL2				smax	smax		
	comp=E,110nm,0.8s						
MDJ	**Mudanjiang**	**5.97**	**78**	Pg	Pb	15 59 23.4	+1.3
MDJ				Sg	Sb	16 00 37.4	+3.8
MDJ				smax	smax		
	comp=E,79nm,0.7s						
USRK	**Ussuriysk Ar.**	**7.66**	**82**	Pn	Pn	15 59 24.8	-4.8
	0.9nm,0.3s,baz=255,slow=13,SNR=18						
USRK				Lg	Lg	16 01 31.1	
	2.3nm,0.3s,baz=280,slow=23,SNR=12						
HHC	**Hu-ho-hao-te**	**7.82**	**252**	*e*Pg	Pg	16 00 10.8	+3.1
HHC				Sg	Sg	16 01 51.0	+2.1
HHC				smax	smax		
	comp=N,120nm,0.5s						
HHC				smax	smax		
	comp=E,100nm,0.7s						
KSRS	**Korea Array**	**7.93**	**139**	Pn	Pn	15 59 29.6	-3.7
	comp=E,0.5nm,0.3s,baz=324,slow=14,SNR=8.5						
KSRS				Pg	Pb	15 59 57.9	+2.4
	comp=E,1.3nm,0.3s,baz=333,slow=17,SNR=9.7						
KSRS				Lg	Lg	16 01 42.1	
	comp=E,3.1nm,0.3s,baz=326,slow=31,SNR=8.2						
KLR	**Kul'dur**	**9.06**	**48**	Pn	Pn	15 59 47.3	-1.4
	comp=E,0.1nm,0.3s,baz=192,slow=9.3,SNR=2.3						
KLR				Lg	Lg	16 02 14.6	
	comp=E,1.5nm,0.3s,baz=163,slow=11,SNR=4.5						
SONM	**Songino Array**	**11.29**	**297**	Lg	Lg	16 03 32.9	
	comp=E,0.8nm,0.3s,baz=97,slow=25,SNR=4.6						
NJ2	**Nanjing**	**11.75**	**191**	*e*P	Pn	16 00 26.3	+0.6
NJ2				pmax	pmax		
	comp=E,10.0nm,0.6s						
XAN	**Xi'an**	**13.65**	**230**	P	Pn	16 00 54.0	+2.3
XAN				pmax	pmax		
	comp=E,3.0nm,0.8s						
LZH	**Lanzhou**	**15.44**	**247**	*e*P	Pn	16 01 14.0	-2.0
LZH				pP	pP	16 01 22.9	-0.5
LZH				sP	sP	16 01 26.8	+2.0
LZH				pmax	pmax		
	comp=E,17nm,1.1s						
GTA	**Gaotai**	**16.70**	**263**	*e*P	Pn	16 01 30.8	-1.4
GTA				pP	sP	16 01 39.8	+1.1
GTA				sP	pP	16 01 44.8	+7.4
GTA				pmax	pmax		
	comp=E,2.0nm,1.6s						
WMQ	**Urumqi**	**24.27**	**282**	*e*P	P	16 02 54.4	-0.9
FINES	**FINESS Array B**	**55.19**	**324**	P	P	16 07 07.8	-2.7
	comp=E,1.6nm,0.5s,baz=66,slow=7.1,SNR=13						
WRA	**Warramunga Arr**	**64.39**	**166**	P	P	16 08 09.5	-4.6
	comp=E,0.6nm,0.8s,baz=354,slow=7.4,SNR=3.2						

*IDC **21** 15:59:04.6±1.1, 55°.04N×160°.47W, h0km, mb4.0/19, mb1 4.1/22, mb1mx3.9/55, mbtmp3.9/22, ML3.4/3, Error ellipse: s-maj=29.2km s-min=14.7km az=165.0*
*ISCJB **21** 15:59:06.4±0.7, 54°.59N±0°.06×159°.97W±0°.05, h50km±5km, mb3.9/22, Error ellipse: s-maj=11.2km s-min=3.7km az=161.8*
*AEIC **21** 15:59:08.3±0.0, 54°.55N×160°.08W, h33km*
*NEIC **21** 15:59:08.4±0.6, 54°.64N×160°.10W, h46km±4km, mb4.2/4, ML3.8(AEIC), Error ellipse: s-maj=10.8km s-min=3.1km az=160.0*

ISC 21 15:59:08.7±1.4, 54°.69N±0°.10×160°.05W±0°.05, h44km±11km, n96, σ1§41/103, mb4.0/22, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**1.15**	**295**	*e*Pn	Pn	15 59 27.8	-0.6
PVV	**Pavlof Volcano**	**1.22**	**305**	*e*Pn	Pn	15 59 29.4	+0.1
PVV				*e*Sn	Sn	15 59 44.9	+0.3
PS1A	**Pavlof South-1**	**1.22**	**308**	P	Pn	15 59 29.2	-0.2
PS4A	**Pavlof South-4**	**1.24**	**303**	*e*Pn	Pn	15 59 29.5	-0.1
PS4A				*e*Sn	Sn	15 59 45.5	+0.5
DRIA	**Deer Island**	**1.31**	**283**	*e*Pn	Pn	15 59 29.6	-1.1
DT1	**Dutton Round H**	**1.36**	**289**	*e*Pn	Pn	15 59 30.1	-1.1
VNWF	**Veniaminof 8**	**1.50**	**10**	*e*Pn	Pn	15 59 33.7	+0.5
VNWF				*e*Sn	Sn	15 59 53.9	+2.4
VNHG	**Veniaminof 1**	**1.62**	**18**	P	Pn	15 59 35.4	+0.5
VNHG				*e*Sn	Sn	15 59 57.1	+2.6
FALS	**False Pass**	**1.96**	**276**	*e*Pn	Pn	15 59 39.5	+0.1
FALS				S	Sn	16 00 02.2	-0.6
ANPB	**Aniakchak Plen**	**2.34**	**24**	P	Pn	15 59 46.2	+1.4
ANPK	**Aniakchak Peak**	**2.42**	**26**	P	Pn	15 59 46.7	+0.9
AZAC	**Aniakchak**	**2.44**	**24**	*e*Pn	Pn	15 59 47.8	+1.7
ANNW	**Aniakchak Nort**	**2.51**	**24**	*e*Pn	Pn	15 59 48.6	+1.5
WESP	**Westdahl Peak**	**2.73**	**268**	*e*Pn	Pn	15 59 49.6	-0.5
AKSA	**Akutan Strait**	**3.35**	**263**	P	Pn	15 59 58.0	-0.5
PLK4	**Peulik 4**	**3.60**	**33**	P	Pn	16 00 03.1	+1.1
PLK1	**Peulik 1**	**3.67**	**30**	P	Pn	16 00 04.1	+1.3
SII	**Sitkinak Islan**	**3.82**	**58**	*e*Pn	Pn	16 00 06.6	+1.7
UNV	**Unalaska Valle**	**3.88**	**260**	*e*Pn	Pn	16 00 04.4	-1.3
MTBL	**Makushin Table**	**3.95**	**262**	P	Pn	16 00 05.0	-1.8
KELA	**Mount Kelaz**	**4.45**	**31**	*e*Pn	Pn	16 00 14.2	+0.5
KAHC	**Katmai Hardscr**	**4.85**	**33**	*e*Pn	Pn	16 00 19.6	+0.4
KDAK	**Kodiak Island**	**5.19**	**50**	*e*Pn	Pn	16 00 24.7	+0.9
KDAK				Sn	Sn	16 01 17.7	-4.6
KDAK				Lg	Lg	16 01 44.6	
KDAK	**Kodiak Island**	**5.19**	**50**	Pn	Pn	16 00 22.9	-0.9
	1.2nm,0.3s,baz=207,slow=5.8,SNR=4.3						
KDAK				Sn	Sn	16 01 17.7	-4.6
	3.6nm,0.3s,baz=345,slow=20,SNR=3.5						
KDAK				Lg	Lg	16 01 44.6	
	6.9nm,0.3s,baz=319,slow=22,SNR=9.0						
FONW	**Fourpeaked Sta**	**5.35**	**37**	*e*Pn	Pn	16 00 26.8	+0.8
RDWB	**Redoubt West**	**6.99**	**31**	P	Pn	16 00 48.7	+0.2
RSO	**Redoubt South**	**6.99**	**31**	*e*Pn	Pn	16 00 50.6	+1.9
BRLK	**Bradley Lake**	**7.11**	**41**	*e*Pn	Pn	16 00 49.2	-1.0
SEW	**Seward**	**7.88**	**42**	*e*Pn	Pn	16 01 02.1	+1.5
TT01	**Tatalina**	**8.51**	**13**	P	Pn	16 01 09.6	+0.4
PWL	**Port Wells**	**8.79**	**41**	P	Pn	16 01 12.5	-0.6
PPLA	**Purkeypile**	**9.18**	**23**	*e*Pn	Pn	16 01 18.6	+0.1
GHO	**Glory Hole Cre**	**9.20**	**35**	*e*Pn	Pn	16 01 18.1	-0.6
GLI	**Glacier Island**	**9.28**	**43**	*e*Pn	Pn	16 01 20.3	+0.5
SML	**Sawmill**	**9.43**	**36**	*e*Pn	Pn	16 01 21.1	-0.8
JPK	**Jack Peak**	**9.58**	**43**	P	Pn	16 01 23.4	-0.5
EYAK	**Cordova Ski Ar**	**9.65**	**47**	*e*Pn	Pn	16 01 24.6	-0.2
CAST	**Castle Rocks**	**9.66**	**22**	*e*Pn	Pn	16 01 26.1	+1.1
SCM	**Sheep Creek Mo**	**9.79**	**38**	*e*Pn	Pn	16 01 26.9	0.0
DIV	**Divide**	**9.95**	**44**	*e*Pn	Pn	16 01 29.5	+0.5
KLU	**Klutina**	**10.10**	**42**	*e*Pn	Pn	16 01 29.6	-1.5
HMT	**Hamilton**	**10.19**	**50**	*e*Pn	Pn	16 01 31.8	-0.4
BPAW	**Bear Paw Mtn.**	**10.50**	**22**	*e*Pn	Pn	16 01 37.5	+1.1
TGL	**Tana Glacier**	**11.01**	**50**	*e*Pn	Pn	16 01 44.2	+0.7
PAX	**Paxson**	**11.20**	**36**	*e*Pn	Pn	16 01 45.9	-0.1
BALM	**Baldy**	**11.35**	**49**	*e*Pn	Pn	16 01 47.9	-0.3
MLY	**Manley**	**11.37**	**20**	*e*Pn	Pn	16 01 49.6	+1.3
WRH	**Wood River Hil**	**11.51**	**27**	*e*Pn	Pn	16 01 48.9	-1.3
CCB	**Clear Creek Bu**	**11.72**	**27**	*e*Pn	Pn	16 01 51.9	-1.2
IMAR	**Indian Mountai**	**11.75**	**13**	*e*Pn	Pn	16 01 54.8	+1.4
CTGM	**Chitina Glacie**	**11.77**	**50**	*e*Pn	Pn	16 01 54.1	+0.3
HDA	**Harding Lake**	**11.77**	**29**	*e*Pn	Pn	16 01 52.3	-1.4
RIDG	**Independent Ri**	**11.93**	**34**	*e*Pn	Pn	16 01 56.9	+1.0
ILAR	**Eielson Array**	**12.06**	**28**	*e*Pn	Pn	16 01 58.3	+0.5
ILAR	**Eielson Array**	**12.06**	**28**	Pn	Pn	16 01 51.2	-6.6
	0.1nm,0.3s,baz=260,slow=5.4,SNR=2.9						
BCPM	**Bancas Point**	**12.20**	**56**	*e*Pn	Pn	16 01 60.0	+0.3
SCRK	**Sand Creek**	**12.37**	**35**	*e*Pn	Pn	16 02 01.7	-0.3
BCAR	**Beaver Creek A**	**12.59**	**41**	*e*Pn	Pn	16 02 05.3	+0.2
PRP	**Porcupine Dome**	**13.01**	**28**	*e*Pn	Pn	16 02 09.8	-1.0
COLD	**Coldfoot**	**13.43**	**17**	*e*Pn	Pn	16 02 17.2	+0.7
EGAK	**Eagle**	**13.82**	**35**	*e*Pn	Pn	16 02 23.4	+1.6
DAWY	**Dawson**	**14.04**	**40**	*e*Pn	Pn	16 02 24.7	0.0
JIS	**Juneau Island**	**14.59**	**65**	*e*Pn	Pn	16 02 33.1	+1.1
WHY	**Whitehorse**	**14.67**	**56**	*e*Pn	Pn	16 02 34.2	+0.9
TOLK	**Toolik Lake Re**	**14.82**	**15**	*e*Pn	Pn	16 02 37.8	+2.7
EPYK	**Eagle Plains**	**16.26**	**35**	*e*Pn	Pn	16 02 54.9	+1.3
EPYK				*e*P	P	16 02 57.8	+1.6
INK	**Inuvik**	**18.39**	**32**	*e*P	P	16 03 18.1	-1.4
	9.7nm,1.5s						
INK	**Inuvik**	**18.39**	**32**	P	P	16 03 17.9	-1.6
	0.4nm,0.3s,baz=205,slow=12,SNR=12						
YKA	**Yellowknife Ar**	**24.46**	**53**	P	P	16 04 23.9	+0.9
	0.8nm,0.8s,baz=264,slow=7.7,SNR=7.4						
PETK	**Petropavlovsk-**	**24.68**	**284**	P	P	16 04 25.2	+0.1
	4.1nm,0.5s,baz=78,slow=14,SNR=30						
SEY	**Seymchan**	**25.42**	**308**	P	P	16 04 29.8	-1.9
	2.0nm,0.9s,baz=71,slow=6.0,SNR=5.2						
TIXI	**Tiksi**	**33.71**	**327**	P	P	16 05 43.6	-1.5
	0.6nm,0.5s,baz=76,slow=6.2,SNR=5.4						
MJAR	**Matsushiro Arr**	**45.25**	**273**	P	P	16 07 21.6	+0.1
	0.9nm,0.7s,baz=40,slow=6.9,SNR=4.1						
NRIK	**Noril'sk**	**46.95**	**333**	P	P	16 07 31.9	-2.6
	2.7nm,0.7s,baz=45,slow=7.6,SNR=6.4						
LTX	**Lajitas**	**47.35**	**99**	*e*P	P	16 07 42.3	+4.1
TXAR	**Lajitas Array**	**47.35**	**99**	P	P	16 07 42.3	+4.1
	0.2nm,0.5s,baz=339,slow=7.2,SNR=3.1						
KSRS	**Korea Array**	**50.54**	**281**	P	P	16 08 03.4	+1.0
	1.2nm,0.8s,baz=47,slow=6.4,SNR=4.8						
KSAR	**Wonju Array Be**	**50.57**	**281**	P	P	16 08 03.4	+0.7
SONA0	**Songino Array**	**54.74**	**305**	*e*P	P	16 08 32.9	-0.5
SONM	**Songino Array**	**54.74**	**305**	P	P	16 08 32.9	-0.5
	1.2nm,0.7s,baz=32,slow=9.0,SNR=5.2						
FIA0	**FINESS Array S**	**64.11**	**357**	*e*P	P	16 09 37.1	-0.6
FINES	**FINESS Array B**	**64.11**	**357**	P	P	16 09 37.1	-0.6
	2.1nm,0.8s,baz=357,slow=14,SNR=3.8						
KURBB	**Kurchatov Arra**	**64.23**	**323**	P	P	16 09 37.5	-1.1
	1.0nm,0.2s,baz=24,slow=6.5,SNR=4.4						
MK32	**Makanchi Array**	**66.03**	**318**	*e*P	P	16 09 48.0	-2.4
MKAR	**Makanchi Array**	**66.03**	**318**	P	P	16 09 48.0	-2.4
	1.1nm,0.9s,baz=34,slow=8.2,SNR=3.9						
AKTO	**Aktyubinsk**	**70.52**	**335**	P	P	16 10 18.2	-0.1
	baz=14,slow=5.8						
ABKAR	**Akbulak array**	**71.12**	**334**	*e*P	P	16 10 22.1	+0.1
	1.9nm,0.9s						
AKASG	**Malin Array Be**	**74.70**	**354**	P	P	16 10 42.8	-0.4
	1.0nm,0.5s,baz=9.7,slow=6.0,SNR=7.1						
AKBB	**Malin Array Si**	**74.70**	**354**	*e*P	P	16 10 42.6	-0.5
	5.2nm,1.1s						
KIEV	**Kiev**	**74.71**	**354**	*e*P	P	16 10 42.6	-0.6
	4.3nm,1.0s						
GERES	**GERESS Array B**	**76.71**	**4**	P	P	16 10 56.0	+1.2
	0.5nm,0.7s,baz=356,slow=5.5,SNR=4.3						
KBZ	**Khabaz**	**80.03**	**343**	P	P	16 11 13.2	+0.1
	1.7nm,0.7s,baz=305,slow=5.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**81.32**	**290**	P	P	16 11 20.9	+0.4
	1.4nm,0.9s,baz=9.0,slow=6.0,SNR=9.9						
GEYT	**Alibeck**	**82.11**	**330**	P	P	16 11 25.1	+0.8
	1.6nm,0.8s,baz=318,slow=2.0,SNR=4.5						
ESDC	**Sonseca Array**	**83.80**	**18**	P	P	16 11 34.6	+1.5
	0.3nm,0.4s,baz=345,slow=4.2,SNR=7.4						
BRTR	**Keskin Array B**	**85.23**	**349**	P	P	16 11 41.4	+0.9
	0.9nm,0.9s,baz=48,slow=1.8,SNR=5.8						

*IDC **21** 16:03:05.8±1.6, 29°.94S×177°.80W, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.9/30, mbtmp4.3/4, ML3.3/1, Error ellipse: s-maj=44.3km s-min=37.8km az=169.0*
*NEIC **21** 16:03:08.0±0.9, 30°.02S×177°.92W, h10km, mb4.5/4, Error ellipse: s-maj=20.7km s-min=17.3km az=97.0*

ISC 21 16:03:16.0±1.5, 30°.5S±0°.1×178°.2W±0°.3, h50km, n16, σ1§52/17, mb4.2/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.64**	**205**	*e*Pn	Pn	16 05 20.0	+1.6
URZ	**Urewera**	**8.64**	**205**	Pn	Pn	16 05 20.0	+1.6
	0.3nm,0.3s,baz=163,slow=19,SNR=4.9						
URZ				Sn	Sn	16 06 51.9	-2.5
	2.3nm,0.3s,baz=171,slow=15,SNR=14						
BKZ	**Black Stump Fm**	**9.67**	**205**	*e*Pn	Pn	16 05 31.4	-1.2
DCZ	**Deep Cove**	**18.82**	**213**	*e*P	Pn	16 07 34.8	+2.4
	72nm,1.6s						
STKA	**Stephens Creek**	**34.27**	**257**	*e*P	P	16 09 58.5	+1.0
	5.7nm,1.4s						
STKA	**Stephens Creek**	**34.27**	**257**	P	P	16 09 58.8	+1.3
	4.7nm,0.4s,baz=103,slow=12,SNR=28						
AS31	**Alice Springs**	**42.91**	**267**	*e*P	P	16 11 09.0	-1.1
	1.3nm,1.2s						
ASAR	**Alice Springs**	**42.92**	**267**	P	P	16 11 09.4	-0.7
	0.9nm,0.4s,baz=105,slow=7.5,SNR=60						
WB2	**Warramunga Arr**	**43.90**	**272**	*e*P	P	16 11 17.2	-0.8
	34nm,1.8s						
WR1	**Warramunga Arr**	**43.91**	**272**	*e*P	P	16 11 16.8	-1.4
WRA	**Warramunga Arr**	**43.91**	**272**	P	P	16 11 16.8	-1.4
	2.4nm,0.5s,baz=109,slow=5.7,SNR=5.3						
FIA0	**FINESS Array S**	**145.18**	**340**	*e*PKPdf	PKPbc	16 22 45.8	-1.2
FINES	**FINESS Array B**	**145.18**	**340**	PKP	PKPbc	16 22 45.8	-1.2
	1.4nm,0.4s,baz=56,slow=4.5,SNR=25						
AKASG	**Malin Array Be**	**151.27**	**322**	PKPbc	PKPdf	16 22 58.7	+1.1
	0.4nm,0.4s,baz=44,slow=2.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**162.72**	**180**	PKPab	PKPab	16 24 01.1	-0.6
	0.4nm,0.8s,baz=196,slow=1.0,SNR=2.9						
TOA1	**Torodi Ar. Sit**	**162.73**	**180**	*e*PKPab	PKPab	16 24 01.1	-0.6

KRSC 21 16:10:06.8±10.0, 52°.30N×160°.95E, h50km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.98**	**325**	P	Pn	16 10 24.8	+0.6
SPN				S	Sn	16 10 36.4	-0.6
NLC	**Nalytchevo**	**1.31**	**312**	P	Pn	16 10 29.9	+1.3
RUS	**Russkaya**	**1.50**	**276**	P	Pn	16 10 33.1	+1.9
RUS				S	Sn	16 10 50.8	+1.2
DALK	**Dalny**	**1.53**	**300**	P	Pn	16 10 33.3	+1.7
DALK				S	Sn	16 10 51.4	+1.1
UGLR	**Uglovaya**	**1.58**	**306**	P	Pn	16 10 34.7	+2.2
SDLR	**Sedlovina**	**1.59**	**309**	P	Pn	16 10 34.7	+2.1
SMAR	**Somma**	**1.62**	**307**	P	Pn	16 10 35.1	+2.0
AVH	**Avacha**	**1.66**	**307**	P	Pn	16 10 35.8	+2.3
AVH				S	Sn	16 10 56.5	+2.9
KRER	**Koryakskii**	**1.67**	**308**	P	Pn	16 10 36.2	+2.4
MTVR	**Mutnovka**	**1.71**	**277**	P	Pn	16 10 36.7	+2.5
MTVR				S	Sn	16 10 57.6	+2.7
KOK	**Koryaka**	**1.72**	**306**	P	Pn	16 10 37.1	+2.7
KRMR	**Karymshinskiy**	**1.80**	**288**	P	Pn	16 10 37.3	+1.9
KRMR				S	Sn	16 10 59.0	+2.0
KDTR	**Khodutka, Kamc**	**1.84**	**256**	P	Pn	16 10 37.6	+1.7
KDTR				S	Sn	16 10 58.9	+0.9
ASAK	**Asacha**	**1.87**	**274**	P	Pn	16 10 40.3	+3.9
ASAK				S	Sn	16 11 03.9	+5.0
MKZ	**Mys Kozlova**	**2.31**	**11**	P	Pn	16 10 45.6	+3.3
MKZ				S	Sn	16 11 12.8	+3.4
APC	**Apacha**	**2.40**	**287**	P	Pn	16 10 46.9	+3.4
APC				S	Sn	16 11 16.0	+4.4
KZV	**Kizimen**	**2.85**	**352**	P	Pn	16 10 53.5	+3.7
KZV				S	Sn	16 11 27.1	+4.2
TUMD	**Tumrok D**	**2.93**	**354**	P	Pn	16 10 52.8	+2.0
TUMD				S	Sn	16 11 30.3	+5.6
TUMR	**Tumrok**	**3.03**	**351**	P	Pn	16 10 55.5	+3.3
SKR	**Severo-Kuril's**	**3.43**	**244**	S	Sn	16 11 38.8	+1.9
ALID	**Alaid**	**3.66**	**249**	P	Pn	16 11 04.1	+3.1
KBTR	**Krutoberegovo**	**4.07**	**15**	P	Pn	16 11 09.7	+3.3
BKI	**Bering**	**4.16**	**44**	S	Sn	16 11 58.0	+3.0

MEX 21 16:21:06.6±0.8, 15°.22N×94°.60W, h16km±10km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.42**	**70**	*e*P	Pn	16 21 27.5	-4.2
PCIG				*e*S	Sn	16 21 44.1	-5.9
HUIG	**Huatulco**	**1.55**	**291**	*e*P	Pn	16 21 30.3	-3.3
HUIG				*e*S	Sn	16 21 47.7	-5.7
CMIG	**Matias Romero**	**1.88**	**352**	*e*P	Pn	16 21 34.8	-3.3
CMIG				*e*S	Sn	16 21 56.3	-5.3
TGIG		**2.10**	**42**	*i* P	Pn	16 21 38.9	-2.4
TGIG				*e*S	Sn	16 22 03.2	-3.9
CCIG	**Comitan**	**2.60**	**66**	*e*P	Pn	16 21 45.8	-2.4
CCIG				*i* S	Sn	16 22 14.5	-5.0
PNIG	**Pinotepa**	**3.59**	**289**	*e*P	Pn	16 21 59.1	-2.5
PNIG				*i* S	Sn	16 22 40.5	-3.2

*KRSC **21** 16:24:41.4±10.0, 52°.26N×161°.02E, h43km±10km, ML4.5*
*IDC **21** 16:24:42.4±0.8, 52°.61N×160°.54E, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.7/68, mbtmp3.8/16, ML3.5/2, Error ellipse: s-maj=22.8km s-min=16.4km az=151.0*
*ISCJB **21** 16:24:45.7±0.7, 52°.37N±0°.04×160°.76E±0°.06, h46km±6km, mb4.1/19, Error ellipse: s-maj=8.3km s-min=4.3km az=137.0*
*NEIC **21** 16:24:45.5±0.7, 52°.29N×160°.72E, h35km, mb4.6/8, Error ellipse: s-maj=19.2km s-min=9.4km az=176.0*
*MOS **21** 16:24:46.1±1.1, 52°.42N×160°.71E, h47km, mb4.5/1, Error ellipse: s-maj=7.8km s-min=4.7km az=99.3*

ISC 21 16:24:45.5±1.8, 52°.36N±0°.04×160°.86E±0°.04, h31km±12km, n125, σ1§57/139, mb4.0/19, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.90**	**326**	*e*P	Pn	16 24 59.7	-2.3
SPN				S	Sn	16 25 11.8	-2.2
SPN	**Mys Shipunski**	**0.90**	**326**	PN	Pn	16 24 59.7	-2.3
SPN				S	Sn	16 25 11.8	-2.2
NLC	**Nalytchevo**	**1.23**	**312**	*e*P	Pn	16 25 05.1	-1.4
NLC	**Nalytchevo**	**1.23**	**312**	PN	Pn	16 25 05.1	-1.4
RUS	**Russkaya**	**1.44**	**274**	*e*P	Pn	16 25 08.8	-0.6
RUS				S	Sn	16 25 26.9	-0.3
RUS	**Russkaya**	**1.44**	**274**	PN	Pn	16 25 08.8	-0.6
RUS				S	Sn	16 25 26.9	-0.3
DALK	**Dalny**	**1.45**	**299**	*i* P	Pn	16 25 08.7

KBTR	Krutoberegovo	4.03	16	PN	Pn	16 25 44.9	-0.1
KBG	Krutoberegovo	4.05	15	P	Pn	16 25 45.8	+0.5
KBG	Krutoberegovo	4.05	15	PN	Pn	16 25 45.8	+0.5
BKI	Bering	4.17	45	*e*P	Pn	16 25 45.9	-0.9
BKI				*e*S	Sn	16 26 30.0	-4.4
BKI	Bering	4.17	45	PN	Pn	16 25 45.9	-0.9
ASAJ	Asahikawa	14.67	243	Pn	Pn	16 28 10.3	-0.3
	comp=Z,0.4nm,0.3s,baz=40,slow=12,SNR=4.6						
GRNR	Gornyy	15.26	274	*e*P	P	16 28 26.3	+3.2
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
ERM	Erimo	15.82	236	*e*Pn	Pn	16 28 22.5	-3.4
	comp=Z,68nm,1.5s						
ERM	Erimo	15.82	236	*e*P	Pn	16 28 22.5	-3.4
ERM				pmax	pmax		
	comp=Z,68nm,1.5s						
BILL	Biiibino	15.95	7	*e*Pn	P	16 28 31.4	+0.8
	comp=Z,4.5nm,0.7s						
BILL	Biiibino	15.95	7	*e*P	P	16 28 31.4	+0.8
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KLR	Kul'dur	18.61	272	P	P	16 28 58.0	-2.1
	comp=Z,0.1nm,0.3s,baz=0,0,slow=18,SNR=3.7						
ZEA	Zeya	20.15	287	*e*P	Pn	16 29 22.0	+3.1
MAJO	Matsushiro	22.47	234	*e*P	P	16 29 44.2	+2.2
MAJO	Matsushiro	22.47	234	*e*P	P	16 29 44.3	+2.2
MJAR	Matsushiro Arr	22.47	234	P	P	16 29 44.2	+2.2
	comp=Z,0.8nm,0.5s,baz=29,slow=12,SNR=4.2						
TIXI	Tiksi	23.95	336	*e*P	P	16 29 53.6	-2.8
TIXI	Tiksi	23.95	336	*e*P	P	16 29 53.6	-2.8
TIXI	Tiksi	23.95	336	P	P	16 29 54.4	-2.1
	comp=Z,3.0nm,0.7s,baz=121,slow=9.0,SNR=17						
H11N2	WAKE ISLAND Hy	32.90	169	T	T	17 07 02.9	
	baz=352,slow=74,SNR=47						
H11N3	WAKE ISLAND Hy	32.91	169	T	T	17 06 53.8	
	baz=352,slow=74,SNR=44						
H11N1	WAKE ISLAND Hy	32.92	170	T	T	17 07 35.3	
	baz=352,SNR=64						
H11S1	WAKE ISLAND Hy	34.09	170	T	T	17 09 12.0	
	baz=352,slow=76,SNR=2.5						
H11S3	WAKE ISLAND Hy	34.10	170	T	T	17 09 11.7	
	baz=352,slow=76,SNR=5.6						
H11S2	WAKE ISLAND Hy	34.10	170	T	T	17 09 04.3	
	baz=352,slow=76,SNR=2.7						
YKA	Yellowknife Ar	43.39	42	P	P	16 32 46.2	+1.6
	comp=Z,0.1nm,0.3s,baz=296,slow=9.1,SNR=3.1						
YKB5	Yellowknife Ar	43.39	42	*e*P	P	16 32 46.2	+1.6
NVS	Novosibirsk	43.92	305	*i* P	P	16 32 47.8	-1.2
KURK	Kurchatov	48.52	303	*e*P	P	16 33 22.5	-2.7
	comp=Z,26nm,2.0s						
KURK	Kurchatov	48.52	303	*e*P	P	16 33 22.5	-2.7
MK32	Makanchi Array	48.90	297	*e*P	P	16 33 26.1	-2.1
MKAR	Makanchi Array	48.90	297	P	P	16 33 26.1	-2.1
	comp=Z,0.6nm,0.5s,baz=70,slow=5.8,SNR=11						
ARCES	ARCESS Array B	54.13	342	P	P	16 34 06.3	-0.7
	comp=Z,1.3nm,0.7s,baz=34,slow=8.7,SNR=4.3						
YHB	Horse Butte	55.26	60	*e*pP	P	16 34 25.6	+10
NV01	Mina Array Sit	55.56	70	*e*P	P	16 34 20.3	+2.3
NVAR	Mina Array Bea	55.56	70	P	P	16 34 20.3	+2.3
	comp=Z,0.3nm,0.3s,baz=303,slow=5.9,SNR=3.7						
BW06	Boulder Array	57.48	61	*e*PcP	PcP	16 35 25.8	+0.8
PD31	Pinedale Array	57.48	61	*e*P	P	16 34 31.3	-0.3
	comp=Z,6.7nm,1.8s						
PDAR	Pinedale Array	57.48	61	P	P	16 34 33.5	+1.9
	comp=Z,0.3nm,0.6s,baz=269,slow=2.7,SNR=5.0						
CMAR	Chiang Mai Arr	58.49	259	P	P	16 34 40.5	+1.8
	comp=Z,0.8nm,0.6s,baz=27,slow=7.7,SNR=8.3						
HOLC	Holcomb Ridge	58.56	73	*e*P	P	16 34 38.4	-0.8
PHWY	Pilot Hill	60.68	60	*e*P	P	16 34 52.4	-1.6
	comp=Z,17nm,0.9s						
FIA0	FINESS Array S	60.98	337	*e*P	P	16 34 54.9	-0.3
FIA0	FINESS Array S	60.98	337	*e*P	P	16 34 54.9	-0.3
FINES	FINESS Array B	60.98	337	P	P	16 34 54.9	-0.3
	comp=Z,2.3nm,0.5s,baz=34,slow=8.6,SNR=18						
NB2	NORSAR Subarra	64.38	344	P	P	16 35 18.2	+0.2
	comp=Z,0.7nm,0.7s,baz=24,slow=6.5						
NB200	NORSAR Array S	64.38	344	*e*P	P	16 35 17.9	-0.1
NOA	NORSAR Array B	64.38	344	P	P	16 35 17.9	-0.1
	comp=Z,0.4nm,0.5s,baz=22,slow=6.6,SNR=4.1						
HFS	Hagfors	64.80	343	P	P	16 35 20.6	0.0
	comp=Z,1.4nm,0.6s,baz=41,slow=4.7,SNR=7.8						
AKASG	Malin Array Be	69.49	330	P	P	16 35 50.2	-0.3
	comp=Z,0.7nm,0.4s,baz=31,slow=6.5,SNR=4.0						
AKBB	Malin Array Si	69.49	330	*e*P	P	16 35 48.8	-1.7
	comp=Z,3.0nm,1.0s						
AKBB	Malin Array Si	69.49	330	*e*P	P	16 35 48.8	-1.7
AKBB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LTX	Lajitas	70.50	67	*e*P	P	16 35 58.9	+1.7
LTX	Lajitas	70.50	67	*e*P	P	16 35 58.9	+1.7
TXAR	Lajitas Array	70.50	67	P	P	16 35 58.9	+1.7
	comp=Z,0.6nm,0.6s,baz=301,slow=4.5,SNR=4.2						
T47A	Sharon Grove	73.21	51	*e*P	P	16 36 13.2	0.0
	comp=Z,16nm,0.3s						
BUR08	Bucovina Ar. S	73.42	330	*e*P	P	16 36 16.6	+2.2
	comp=Z,4.8nm,1.5s						
BUR08				*e*S	S	16 45 40.0	-1.5
ASAR	Alice Springs	79.28	205	P	P	16 36 49.1	+1.5
	comp=Z,0.4nm,0.8s,baz=21,slow=5.4,SNR=5.6						

*GII **21** 16:31:24.7±0.0,34°.46′N×24°.03′E,h1km,MD3.7/1*
*IDC **21** 16:33:29.8±1.1,34°.46′N×23°.90′E,h0km,mb4.0/7,*
mb1 3.9/12,mb1mx3.6/58,mbtmp3.9/12,ML3.8/5,MS3.2/2,
Ms1 3.3/2,ms1mx2.6/53,Error ellipse: s-maj=23.5km
s-min=13.4km az=140.0
*ATH **21** 16:33:33.4,34°.54N×23°.87E,h19km±1km,ML3.5/13,Error*
ellipse: s-maj=3.3km s-min=1.3km az=21.0
*ISK **21** 16:33:34.6,34°.66N×23°.90E,h24km,ML3.7/13*
*THE **21** 16:33:34.7,34°.62N×23°.87E,h0km±1km,ML3.6/5,Error*
ellipse: s-maj=2.2km s-min=0.8km az=223.0
*HLW **21** 16:33:34.4,34°.60N×24°.31E,h11km±18km,Md3.9,Ml3.7*

ISC 21 16:33:33.9±1.0,34°.56N±0°.05×23°.88E±0°.03,h31km±6km,
n115,σ3$24/134,mb3.9/7,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.33	32	PG	Pb	16 33 41.0	-0.8
GVD				SG	Sb	16 33 45.8	-1.4
GVD	Gavdhos	0.33	32	P	Pb	16 33 41.3	-0.5
GVD				S	Sb	16 33 46.0	-1.2
GVD	Gavdhos	0.33	32	P	Pb	16 33 41.3	-0.5
GVD				S	Sb	16 33 46.0	-1.2
GVD				AML	AML	16 33 47.3	
GVD				AML	AML	16 33 47.9	
VAM	Vamos	0.88	17	P	Pn	16 33 50.1	-0.1
VAM				S	Sb	16 34 03.4	+1.2
VAM	Vamos	0.88	17	P	Pn	16 33 50.1	-0.1
VAM				S	Sb	16 34 02.8	+0.6
VAM				AML	AML	16 34 06.8	
	comp=E,9879μm,0.8s						
VAM				AML	AML	16 34 07.4	
	comp=N,9806μm,0.4s						
TMBK	Timbaki Herakl	0.89	55	P	Pb	16 33 51.1	+0.3
TMBK				S	Sb	16 34 04.5	+2.1
SIVA	Sivas	0.89	59	P	Pb	16 33 50.9	0.0
SIVA				S	Sb	16 34 05.4	+3.0
SIVA	Sivas	0.89	59	P	Pb	16 33 50.8	0.0
SIVA				S	Sb	16 34 03.8	+1.4
SIVA				AML	AML	16 34 10.3	
	comp=E,31276μm,0.6s						
SIVA				AML	AML	16 34 16.0	
	comp=N,17004μm,0.5s						
IMMV	Iera Moni Meta	0.90	5	PG	Pb	16 33 50.9	-0.1
IMMV				SG	Sn	16 34 02.6	+0.2
IMMV	Iera Moni Meta	0.90	5	P	Pn	16 33 50.4	0.0
IMMV				S	Sb	16 34 03.9	+1.2
IMMV	Iera Moni Meta	0.90	5	P	Pn	16 33 50.4	0.0
IMMV				S	Sb	16 34 04.5	+1.8
IMMV				AML	AML	16 34 07.7	
	comp=N,15508μm,0.5s						
IMMV				AML	AML	16 34 10.4	
	comp=E,14978μm,0.3s						
PRNS	Prines Rethymn	0.95	32	P	Pn	16 33 50.7	-0.4
PRNS				S	Sb	16 34 04.2	+0.1
CHAN	Chania	0.96	8	P	Pb	16 33 51.9	-0.2
CHAN				S	Sb	16 34 06.1	+1.6
IDI	Anoyia	1.10	49	Pg	Pn	16 33 53.3	+0.1
	comp=E,76nm,0.3s,baz=230,slow=15,SNR=156						
IDI				Lg	Lg	16 34 09.1	
	comp=E,197nm,0.3s,baz=331,slow=18,SNR=18						
IDI				LR	LR	16 34 30.5	
	comp=E,244nm,18.0s,baz=240,slow=52						
KSTL	Kastelli Herak	1.23	53	P	Pb	16 33 59.5	+3.0
KSTL				S	Sb	16 34 19.6	+7.6
ANKY	Antikythira Is	1.39	340	P	Pb	16 34 00.0	+0.8
ANKY	Antikythira Is	1.39	340	P	Pb	16 34 00.5	+1.3
ANKY				S	Sb	16 34 19.8	+3.3
ANKY				AML	AML	16 34 33.7	
	comp=E,2291μm,0.7s						
ANKY				AML	AML	16 34 37.0	
	comp=N,2715μm,0.6s						
LAST	Lasithi	1.45	65	P	Pb	16 34 00.6	+0.3
LAST				S	Sb	16 34 21.5	+3.2
LAST	Lasithi	1.45	65	P	Pb	16 34 00.5	+0.2
LAST				S	Sb	16 34 21.5	+3.2
LAST				AML	AML	16 34 32.6	
	comp=N,1567μm,0.7s						
LAST				AML	AML	16 34 33.6	
	comp=E,1601μm,0.9s						
NPS	Neapolis	1.59	63	P	Pb	16 34 03.3	+0.7
NPS				S	Sb	16 34 25.4	+3.1
NPS	Neapolis	1.59	63	P	Pb	16 34 03.3	+0.7
NPS				S	Sb	16 34 24.6	+2.3
NPS				AML	AML	16 34 40.3	
	comp=N,1860μm,0.7s						
NPS				AML	AML	16 34 41.6	
	comp=E,1943μm,0.7s						
KYTH	Kithira	1.83	338	P	Pb	16 34 06.8	0.0
KYTH	Kithira	1.83	338	P	Pb	16 34 07.0	+0.2
KYTH				AML	AML	16 34 40.4	
	comp=N,1141μm,0.8s						
KYTH				AML	AML	16 34 52.3	
	comp=E,1546μm,0.7s						
ZKR	Zakros	2.00	73	PN	Pn	16 34 07.3	+1.7
ZKR	Zakros	2.00	73	P	Pb	16 34 08.9	-0.7
ZKR				AML	AML	16 34 53.5	
	comp=E,1440μm,0.6s						
ZKR				AML	AML	16 35 00.4	
	comp=N,617μm,0.6s						
MHLO	Agia Marina, M	2.17	11	P	Pb	16 34 10.4	-2.1
MHLO	Agia Marina, M	2.17	11	P	Pb	16 34 10.3	-2.1
MHLO				AML	AML	16 34 53.9	
	comp=E,4172μm,0.8s						
MHLO				AML	AML	16 35 04.0	
	comp=N,3446μm,0.9s						
THR6	Thira Island,	2.18	34	P	Pb	16 34 11.0	-1.6
THR5	Thira Island,	2.21	33	P	Pn	16 34 10.5	+2.1
THR3	Thira Island,	2.22	34	P	Pb	16 34 11.2	-2.2
VLI	Veliai	2.28	341	P	Pb	16 34 12.6	-1.9
VLI	Veliai	2.28	341	P	Pb	16 34 12.3	-2.1
VLI				S	Sb	16 34 41.2	-1.1
VLI				AML	AML	16 35 03.8	
	comp=N,614μm,0.6s						
VLI				AML	AML	16 35 09.2	
	comp=E,586μm,0.7s						
DYR	Agios Nikonas	2.53	331	P	Pb	16 34 16.3	-2.3
DYR				S	Sb	16 34 48.4	-1.0
DYR				AML	AML	16 35 22.2	
	comp=N,136μm,0.9s						
DYR				AML	AML	16 35 25.7	
	comp=E,127μm,0.9s						
SERI	Serifos	2.64	11	P	Pn	16 34 16.1	+1.7
AMGA	Amorgos Island	2.80	35	P	Pn	16 34 18.6	+2.1
APE	Apeiranthos	2.84	28	PN	Pn	16 34 18.0	+0.9
KARP	Karpathos	2.87	69	PN	Pn	16 34 19.9	+2.4
KARP	Karpathos	2.87	69	P	Pn	16 34 20.5	+3.0
KARP	Karpathos	2.87	69	P	Pn	16 34 20.4	+3.0
MES2	Methoni	2.87	323	P	Pn	16 34 20.1	+2.6
KRND	KRANIDI	2.88	348	P	Pn	16 34 20.4	+2.8
DID	Didima	2.98	350	P	Pn	16 34 21.3	+2.2
DID	Didima	2.98	350	P	Pn	16 34 21.4	+2.3
VLX	Vlachokerasia	3.05	337	P	Pb	16 34 24.6	-3.1
VLX				AML	AML	16 35 36.0	
	comp=N,337μm,0.8s						
VLX				AML	AML	16 35 53.2	
	comp=E,405μm,0.8s						
ITM	Ithomi	3.06	329	PN	Pn	16 34 22.0	+1.9
TRIP	Tripoli	3.23	337	P	Pb	16 34 27.4	-3.3
SLUM	Salum	3.26	160	P	Pn	16 34 25.5	+2.6
	baz=166						
SLUM				AMP		16 35 00.0	
	baz=166						
SLUM				S	Sn	16 35 01.4	+0.8
	baz=166						
VLY	Voula,Athens	3.28	359	P	Pn	16 34 25.1	+1.9
PTL	Penteli	3.48	360	P	Pn	16 34 27.8	+1.9
DION	Dionisos Attik	3.51	1	P	Pn	16 34 28.1	+1.8
GUR	Goura	3.59	340	P	Pn	16 34 31.1	+3.6
GUR	Goura	3.59	340	P	Pn	16 34 31.0	+3.6
VILL	Villia	3.62	353	P	Pn	16 34 29.9	+2.0
DAT	Datca	3.71	53	PN	Pn	16 34 31.1	+2.0
KLV	Kalavryta, Ach	3.74	339	P	Pn	16 34 32.9	+3.3
ARG	Arkhangelos	3.84	63	PN	Pn	16 34 33.0	+2.1
ARG	Arkhangelos	3.84	63	P	Pn	16 34 33.2	+2.3
DSF	Desfina	3.99	345	P	Pn	16 34 35.9	+2.9
KALE	Kalithea	4.07	340	P	Pn	16 34 36.8	+2.7
LKR	Lokris	4.14	350	P	Pn	16 34 36.9	+1.9
MRKA	Markates	4.14	357	P	Pn	16 34 36.9	+1.9
ATAL	Atalanti	4.18	351	P	Pn	16 34 37.6	+2.1
CHOS	Chios island	4.20	24	PN	Pn	16 34 37.7	+1.8
URLA	Izmir	4.38	29	PN	Pn	16 34 39.9	+1.6
TURN	Turunc	4.48	58	PN	Pn	16 34 37.3	-2.1
DALY	Daiyan (Mula)	4.49	59	PN	Pn	16 34 42.1	+2.3
AYDB	Zeytinkoy-Aydi	4.68	43	PN	Pn	16 34 44.6	+2.1
SIGR	SIGRI	4.90	18	PN	Pn	16 34 47.6	+2.2
SWA2		5.47	165	P	Pn	16 34 55.3	+2.0
	baz=169						
KORT	Korkueli	5.80	63	PN	Pn	16 35 00.2	+2.4
HNAT	Natroun	7.54	129	P	Pn	16 35 22.3	+0.6
	baz=131						
CSS	Mathiatis	7.79	84	Sn	Sn	16 36 46.4	-5.8
HSAF	As Saff	8.16	125	P	Pn	16 35 30.4	+0.1
	baz=127						
GLL	Jalalah	8.29	125	P	Pn	16 35 32.2	+0.1
	baz=126						
HFRF	Wahat Farafira	8.31	152	P	Pn	16 35 34.3	+2.0
	baz=154						
HFRF				S	Sn	16 37 01.9	-3.2
	baz=154						
SUZ	Suez	8.93	119	P	Pn	16 35 40.8	+0.1
	baz=121						
RSH		9.03	111	P	Pn	16 35 41.6	-0.5
	baz=112						
BRTR	Keskin Array B	9.34	54	Pn	Pn	16 35 46.8	+0.3
	comp=E,0.2nm,0.3s,baz=224,slow=14,SNR=9.3						
KZIT	Kziot	9.58	109	Pn	Pn	16 35 42.4	-7.3
KZIT				Sn	Sn	16 37 29.3	-6.9
SLTI	Sal'it	9.61	101	Pn	Pn	16 35 42.0	-8.1
SLTI				Sn	Sn	16 37 30.3	-6.8
MMA0B	Mount Meron ar	9.72	96	Pn	Pn	16 35 44.0	-7.6
MMA0B				Sn	Sn	16 37 33.6	-6.1
MMAI	Mount Meron Ar	9.72	96	Pn	Pn	16 35 48.4	-3.2
	comp=E,1.3nm,0.3s,baz=316,slow=16,SNR=4.4						
MMAI				Sn	Sn	16 37 34.4	-5.3
	comp=E,3.6nm,0.3s,baz=279,slow=22,SNR=5.3						
AMAZ	Amatzia	9.74	105	Pn	Pn	16 35 44.4	-7.5
AMAZ				Sn	Sn	16 37 33.9	-6.4
MMLI	Mount Malkishu	9.87	99	Pn	Pn	16 35 46.8	-6.9
MMLI				Sn	Sn	16 37 36.9	-6.5
GEM	Giv'at Ha'Em	9.89	95	Pn	Pn	16 35 46.2	-7.7
GEM				Sn	Sn	16 37 37.5	-6.3
KSDI	Kefar Szold	9.89	95	Pn	Pn	16 35 46.8	-7.1
KSDI				Sn	Sn	16 37 36.9	-6.9
NATI	Neve Ativ	9.94	94	Pn	Pn	16 35 47.3	-7.3
NATI				Sn	Sn	16 37 38.9	-6.1
YTIR	Yattir	9.96	106	Pn	Pn	16 35 47.6	-7.4
YTIR				Sn	Sn	16 37 39.2	-6.6
HMDT	Nahal Hemdat	10.01	100	Pn	Pn	16 35 48.8	-6.7
HMDT				Sn	Sn	16 37 39.4	-7.3
KSHT	Keshet	10.06	96	Pn	Pn	16 35 48.6	-7.7
BRBR	Barbar	10.09	93	*e*P	Sn	16 37 41.7	-7.4
DSI	Dead Sea	10.10	104	Pn	Pn	16 35 49.6	-7.2
DSI				Sn	Sn	16 37 41.4	-7.6
MZDA	Masada	10.18	105	Pn	Pn	16 35 50.1	-7.7
MZDA				Sn	Sn	16 37 44.2	-6.7
KRMI	Paran Flat	10.19	113	Pn	Pn	16 35 50.7	-7.3
KRMI				Sn	Sn	16 37 43.6	-7.6
QASN	Qassioun	10.34	92	*e*P	Sn	16 37 42.7	-12
GHAJ	Ghor Haditha	10.35	105	Pn	Pn	16 35 51.8	-8.3
HRFI	Mount Harif	10.46	112	Pn	Pn	16 35 54.4	-7.4
MBRI	Mt Berech	10.49	114	Pn	Pn	16 35 54.6	-7.6
MBRI				Sn	Sn	16 37 51.8	-6.8
TOTH	TOTAH	10.49	93	*e*P	Sn	16 37 52.5	-6.2
EIL	Elat	10.58	114	Pn	Pn	16 35 55.8	-7.5
EIL				Sn	Sn	16 37 53.9	-6.8
EIL	Elat	10.58	114	Pn	Pn	16 36 02.0	-1.3
	comp=E,0.9nm,0.3s,baz=248,slow=2.1,SNR=12						
EIL				Sn	Sn	16 37 53.9	-6.8
	comp=E,2.6nm,0.3s,baz=334,slow=7.8,SNR=8.9						
ASF	Jabal al Asfar	11.14	99	Sn	Sn	16 38 09.4	-5.4
	comp=E,0.3nm,0.3s,baz=243,slow=2.3,SNR=3.0						
VYHS	Vyhne	14.42	346	*e*PN	Pn	16 36 57.0	+1.3
GERES	GERESS Array B	16.14	335	Pn	P	16 37 22.7	+1.3
	comp=E,0.1nm,0.3s,baz=146,slow=13,SNR=7.0						
AKASG	Malin Array Be	16.59	12	Pn	P	16 37 26.1	-0.2
	comp=E,1.2nm,0.3s,baz=207,slow=9.9,SNR=7.3						
KBZ	Khabaz	17.33	52	P	P	16 37 37.0	+2.5
	comp=E,0.1nm,0.3s,baz=338,slow=4.8,SNR=4.7						
HFS	Hagfors	26.43	349	P	P	16 39 07.7	+0.1
	comp=E,0.7nm,0.3s,baz=143,slow=8.6,SNR=8.8						
NOA	NORSAR Array B	27.72	347	LR	LR	16 51 55.5	
	comp=E,28nm,18.7s,baz=65,slow=40						
TORD	Torodi Ar. Bea	29.30	229	P	P	16 39 35.1	+1.5
	comp=E,1.4nm,0.7s,baz=46,slow=8.8,SNR=9.8						
AKTO	Aktyubinsk	29.43	47	P	P	16 39 33.9	-0.6
	comp=E,1.2nm,0.6s,baz=245,slow=7.9,SNR=5.3						
ARCES	ARCESS Array B	35.04	1	P	P	16 40 23.3	-0.1
	comp=E,1.4nm,0.9s,baz=182,slow=5.4,SNR=4.2						
KURBB	Kurchatov Arra	42.31	51	P	P	16 41 26.2	+1.6
	comp=E,1.1nm,0.3s,baz=280,slow=8.6,SNR=5.4						
MKAR	Makanchi Array	44.98	56	P	P	16 41 47.5	+1.3
	comp=E,1.2nm,0.5s,baz=270,slow=8.1,SNR=14						
ZALV	Zalesovo Beam	46.18	46	P	P	16 41 56.0	+0.5
	comp=E,1.3nm,0.3s,baz=270,slow=9.4,SNR=7.4						
CMAR	Chiang Mai Arr	67.69	82	LR	LR	17 22 15.6	
	comp=E,23nm,18.2s,baz=130,slow=43						

ISC 21 16:57:06.9±1.2,51°.41N±0°.06×15°.99E±0°.03,h0km,n22,
σ1$04/46,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.59	161	*e*Pg	Pg	16 57 17.8	-0.4
KSP				*e*Sg	Sg	16 57 26.5	+0.6
UPC	Upice	0.90	179	*e*PG	Pg	16 57 24.0	-0.1
UPC				*e*SG	Sb	16 57 37.1	-0.8
	comp=Z,119nm,0.4s						
DPC	Dobruska-Polom	1.08	169	*e*PG	Pg	16 57 26.6	-0.9
DPC				*e*SG	Sb	16 57 41.8	-1.2
	comp=Z,37nm,0.6s						
PVCC	Panska Ves	1.26	226	*e*PG	Pn	16 57 31.5	-0.2
PVCC				*e*SG	Sn	16 57 49.9	+0.6
	comp=Z,141nm,0.3s						
BRG	Berggiesshubel	1.40	248	PG	Pg	16 57 33.1	-0.6
BRG				SG	Sn	16 57 53.8	+1.0
	71nm,0.3s						
KRLC	Kraliky	1.42	159	*e*PG	Pg	16 57 33.0	-1.1
KRLC				*e*SG	Sg	16 57 52.4	-0.1
	comp=Z,9.2nm,0.6s						
GOPC	GO Pecny, Ondr	1.68	208	*e*PG	Pg	16 57 38.5	-0.5
GOPC				*e*SG	Sb	16 58 01.7	+1.4
	comp=Z,14nm,0.2s						
PRU	Pruhonice	1.69	214	*e*PG	Pg	16 57 38.9	-0.4
PRU				*e*SG	Sg	16 58 02.7	+1.5
	comp=Z,23nm,0.2s						
CLL	Collm	1.88	268	*e*Pn	Pn	16 57 39.0	-1.2
CLL				*e*Pg	Pb	16 57 41.0	-1.0
CLL				*i* Sg	Sg	16 58 07.7	+0.5
	comp=Z,21nm,0.5s						
MORC	Moravsky Berou	1.91	148	*e*PN	Pn	16 57 38.5	-2.2
MORC				*e*SG	Sn	16 58 05.8	+0.4
VRAC	Vranov	2.13	169	*e*PN	Pn	16 57 43.8	0.0
VRAC				*e*SG	Sg	16 58 15.1	-0.3
TREC	Trest	2.14	189	*e*PG	Pg	16 57 47.0	-0.8
TREC				*e*SG	Sg	16 58 15.9	+0.4
	comp=Z,16nm,0.4s						
KRUC	Moravsky	2.36	174	*e*PN	Pn	16 57 47.6	+0.7
KRUC				*e*SG	Sg	16 58 22.4	-0.3
NKC	Novy Kostel	2.54	244	*e*PG	Pg	16 57 55.3	-0.2
NKC				*e*SG	Sg	16 58 30.5	+2.2
	comp=Z,32nm,0.4s						
OJC	Ojcow	2.69	115	*e*Pg	Pb	16 57 56.4	+0.5
OJC				*e*Sg	Sb	16 58 30.6	+1.2
KHC	Kasperske Hory	2.75	215	*e*PN	Pn	16 57 51.5	-0.8
KHC				*e*PG	Pg	16 57 57.5	-2.1
KHC				*e*SN	Sn	16 58 26.5	+0.2
KHC				*e*SG	Sg	16 58 37.0	+1.7
	comp=Z,12nm,0.6s						
JAVC	Velka Javorina	2.77	156	*e*PN	Pn	16 57 52.7	+0.2
LANS	Liptovska Anna	3.17	134	*e*PG	Pb	16 58 06.2	+2.1
LANS				*e*SG	Sb	16 58 44.8	+1.5
VYHS	Vyhne	3.44	147	*e*PN	Pn	16 58 00.8	-1.0
VYHS				*e*PG	Pg	16 58 11.9	-1.0
VYHS				*e*SG	Sg	16 58 57.4	-0.1
CONA	Conrad Observa	3.48	181	Pn	Pn	16 58 01.7	-0.6
	comp=Z,0.4nm,0.3s						
CONA				Sg	Sg	16 58 57.9	-0.8
	comp=Z,9.1nm,0.4s						
MOA	Molln	3.73	198	*e*Pn	Pn	16 58 06.0

baz=353,slow=76,SNR=9.8
SONM Songino Array 34.53 285 P P 17 10 18.9 -1.3
0.3nm,0.5s,baz=69,slow=7.9,SNR=2.5
MKAR Makanchi Array 48.88 297 P P 17 12 16.7 -0.8
0.4nm,0.5s,baz=61,slow=7.1,SNR=3.4
FINES FINESS Array B 60.92 337 P P 17 13 46.4 +2.0
0.9nm,0.5s,baz=38,slow=9.2,SNR=6.0
AKASG Malin Array Be 69.44 330 P P 17 14 41.4 +1.7
0.2nm,0.3s,baz=29,slow=6.6,SNR=4.6

TAP 21 17:04:44.5,24°.38N×121°.51E,h8km,ML1.9,2C-2D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.12**	**292**	⇑*i*P	Pg	17 04 48.0	+0.7
	baz=291						
NNSB				*e*S	Sg	17 04 49.4	+0.2
	baz=291						
NNS	**Nan Shan**	**0.14**	**295**	⇑*i*P	Pg	17 04 48.2	+0.7
	baz=295						
NNS				S	Sg	17 04 49.8	+0.2
	baz=295						
ETLH	**Xiulin Townshi**	**0.18**	**188**	*e*P	Pg	17 04 49.7	+1.6
	baz=188						
ETLH				*e*S	Sg	17 04 52.3	+1.7
	baz=188						
ENA	**Nanau**	**0.22**	**78**	⇓P	Pg	17 04 49.9	+1.1
	baz=78						
NDT	**Datong Townshi**	**0.22**	**1**	P	Pg	17 04 50.2	+1.3
NDT				*e*S	Sg	17 04 53.2	+1.3
NACB	**Ninganchiao**	**0.22**	**160**	*e*P	Pg	17 04 50.5	+1.6
	baz=159						
NANB	**Nanao**	**0.22**	**78**	⇓*e*P	Pg	17 04 49.9	+1.0
	baz=78						
ENTT	**Nioudou**	**0.26**	**11**	P	Pb	17 04 51.1	-0.4
	baz=12						
ENTT				*e*S	Sb	17 04 54.7	-1.5
	baz=12						
TWD	**Chiawan**	**0.31**	**165**	P	Pb	17 04 51.5	-0.7
	baz=163						
TWD				*e*S	Sg	17 04 55.5	+0.8
	baz=163						
YHNB	**Yeheng**	**0.31**	**337**	*e*P	Pb	17 04 52.0	-0.4
	baz=336						
YHNB				*e*S	Sg	17 04 56.0	+1.2
	baz=336						
NSK	**Sanguang**	**0.32**	**335**	P	Pb	17 04 52.1	-0.5
	baz=335						
NSK				*e*S	Sg	17 04 56.0	+0.8
	baz=335						
WHF	**Hehuan Shan**	**0.33**	**224**	P	Pg	17 04 51.9	+0.8
	baz=222						
TWE	**Neicheng**	**0.37**	**23**	P	Pb	17 04 53.3	0.0
	baz=25						
TWE				*e*S	Sb	17 04 59.9	+0.7
	baz=25						
TWC	**Suao**	**0.38**	**54**	P	Pb	17 04 53.1	-0.4
	baz=54						
TWC				*e*S	Sg	17 04 57.9	+0.9
	baz=54						
CHGB	**Renai**	**0.44**	**224**	*e*P	Pg	17 04 53.9	+0.8
	baz=223						
LIOB	**Emei**	**0.52**	**300**	*e*P	Pb	17 04 56.4	+0.5
	baz=300						
LIOB				*e*S	Sb	17 05 03.3	-0.4
	baz=300						
OWD	**Renai**	**0.52**	**216**	*e*P	Pg	17 04 55.2	+0.6
	baz=215						
OWD				*e*S	Sg	17 05 01.9	+0.4
	baz=215						
ESL	**Shilin**	**0.57**	**187**	*e*P	Pb	17 04 57.0	+0.3
	baz=186						
TIPB	**Shuangxi**	**0.65**	**26**	*e*P	Pb	17 04 58.5	+0.3
	baz=26						
TIPB				*e*S	Sb	17 05 08.2	+0.7
	baz=26						
VWDT	**VWDT**	**0.71**	**208**	*e*P	Pb	17 04 58.7	-0.4
	baz=208						
EGFH	**Guangfu**	**0.71**	**186**	*e*P	Pb	17 04 59.8	+0.6
	baz=186						
EGFH				*e*S	Sb	17 05 09.9	+0.7
	baz=186						
SMLT	**Sun Moon Lake**	**0.75**	**228**	P	Pb	17 04 60.0	+0.2
	baz=227						
TYC	**Yuchr**	**0.76**	**232**	*e*P	Pb	17 05 00.1	+0.1
	baz=230						
YM01	**YM01**	**0.76**	**4**	*e*P	Pn	17 05 01.7	+0.1
	baz=4.0						
YM04	**YM04**	**0.77**	**2**	*e*P	Pn	17 05 01.6	-0.1
	baz=1.0						
YM10	**YM10**	**0.77**	**3**	*e*P	Pn	17 05 01.9	+0.1
	baz=3.0						
YM05	**YM05**	**0.78**	**4**	*e*P	Pn	17 05 01.9	0.0
	baz=3.0						
YM03	**YM03**	**0.79**	**2**	*e*P	Pn	17 05 02.2	+0.1
	baz=1.0						
YM07	**YM07**	**0.80**	**7**	*e*P	Pn	17 05 02.0	-0.1
	baz=7.0						
EHY	**Hungye**	**0.89**	**191**	*e*P	Pn	17 05 03.5	+0.1
	baz=190						
HGSD	**Ruisui**	**0.89**	**185**	*e*P	Pn	17 05 03.1	-0.2
	baz=185						
YULB	**Yu-li**	**1.00**	**191**	*e*P	Pb	17 05 04.4	+0.2
	baz=191						
YULB				*e*S	Sn	17 05 19.3	0.0
	baz=191						

TAP 21 17:04:47.2,24°.28N×121°.76E,h8km,ML2.1,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.15**	**357**	*e*S	Sg	17 04 52.8	+0.1
	baz=357						
NANB	**Nanao**	**0.15**	**357**	*e*S	Sg	17 04 52.7	0.0
	baz=78						
ENA	**Nanau**	**0.15**	**354**	*e*S	Sg	17 04 52.8	+0.1
	baz=356						
ENA	**Nanau**	**0.15**	**354**	*e*S	Sg	17 04 52.8	+0.1
	baz=78						
NACB	**Ninganchiao**	**0.18**	**236**	*e*S	Sg	17 04 53.8	+0.3
	baz=235						
NACB	**Ninganchiao**	**0.18**	**236**	*e*S	Sg	17 04 53.8	+0.4
	baz=159						
ETLH	**Xiulin Townshi**	**0.26**	**255**	*i* S	Sg	17 04 56.1	+0.1
	baz=254						
NNSB	**Datong**	**0.37**	**294**	*e*P	Pg	17 04 54.4	-0.2
	baz=293						
NNSB				*e*S	Sg	17 04 59.7	+0.2
	baz=293						
NNS	**Nan Shan**	**0.39**	**295**	*i* P	Pg	17 04 54.6	-0.2
	baz=295						
NNS				*e*S	Sg	17 05 00.1	+0.2
	baz=295						
EOS1	**EOS1**	**0.43**	**51**	*e*P	Pg	17 04 55.1	-0.5
	baz=73						
EOS1				*e*S	Sg	17 05 02.1	+0.8
	baz=73						
EOS1	**EOS1**	**0.43**	**51**	*e*P	Pg	17 04 55.5	-0.1
	baz=51						
EOS1				*e*S	Sg	17 05 02.0	+0.7
	baz=51						
TWE	**Neicheng**	**0.45**	**349**	*e*S	Sg	17 05 02.0	+0.1
	baz=351						
WHF	**Hehuan Shan**	**0.47**	**254**	*e*P	Pg	17 04 56.3	-0.1
	baz=253						
WHF				*e*S	Sg	17 05 02.8	+0.2
	baz=253						
WHF	**Hehuan Shan**	**0.47**	**254**	*e*S	Pg	17 04 56.5	+0.1
	baz=222						
YHNB	**Yeheng**	**0.52**	**318**	*e*S	Sg	17 05 04.6	+0.3
	baz=318						

*JMA **21** 17:09:41.0±0.2,24°.93N×123°.39E,h19km±5km,M2.7*
*TAP **21** 17:09:41.4,24°.80N×122°.62E,h31km±1km,ML2.1,D*
ISC 21 17:09:33.1±1.6,**25°.21N**±0°.08×**123°.03E**±0°.03,**h27**km±15km,
n26,σ2**s49**/36,**1C,Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.74**	**181**	⇑P	**Pn**	**17 09 52.0**	**+4.2**
	baz=133						
YOJ				S	**Sn**	**17 09 59.7**	**+1.5**
	baz=133						
YOJ	**Yonaguni jima**	**0.74**	**181**	P	**Pn**	**17 09 52.1**	**+4.2**
YOJ				S	**Sn**	**17 10 00.1**	**+1.9**
JYNG	**Yonagunijimaku**	**0.76**	**186**	P	Pn	17 09 53.0	+5.0
JYNG				S	**Sn**	**17 10 01.4**	**+2.8**
TWB1	**Santiao Chiao**	**0.96**	**258**	*e*P	**Pb**	**17 09 53.9**	**+2.7**
	baz=289						
EOS1	**EOS1**	**1.05**	**231**	P	**Pn**	**17 09 52.3**	**+0.3**
	baz=240						
EOS1				S	**Sb**	**17 10 00.7**	**-5.2**
	baz=240						
EGS		**1.06**	**250**	*e*P	**Pb**	**17 09 54.1**	**+1.4**
	baz=273						
IRIF	**Iriomote-Funau**	**1.08**	**144**	P	**Pb**	**17 09 53.8**	**+0.7**
IRIF				*e*S	**Sn**	**17 10 03.1**	**-3.4**
TIPB	**Shuangxi**	**1.12**	**258**	*e*P	**Pb**	**17 09 55.3**	**+1.5**
	baz=283						
TWC	**Suao**	**1.23**	**241**	*e*P	**Pn**	**17 09 54.3**	**-0.1**
	baz=254						
TWC				*e*S	**Sn**	**17 10 05.0**	**-5.2**
	baz=254						
ILA	**Ilan**	**1.24**	**249**	*e*P	**Pb**	**17 09 56.7**	**+0.8**
	baz=267						
JKRS	**Kuro-shima**	**1.31**	**137**	P	**Pb**	**17 09 57.7**	**+0.6**
JKRS				S	**Sn**	**17 10 09.0**	**-3.3**
JIJ	**Ishigaki jima**	**1.32**	**130**	P	**Pb**	**17 09 57.2**	**+0.1**
JIJ				S	**Sn**	**17 10 08.5**	**-3.9**
JISG	**Ishigakijimahi**	**1.32**	**118**	P	**Pb**	**17 09 57.8**	**+0.6**
JISG				S	**Sn**	**17 10 09.9**	**-2.5**
TWE	**Neicheng**	**1.33**	**249**	*e*P	**Pn**	**17 09 57.1**	**+1.3**
	baz=264						
HATJ	**Hateruma jima**	**1.35**	**148**	P	**Pb**	**17 09 58.6**	**+0.9**
HATJ				*e*S	**Sn**	**17 10 10.6**	**-2.5**
NANB	**Nanao**	**1.40**	**236**	*e*P	**Pn**	**17 09 58.0**	**+1.2**
	baz=244						
ENA	**Nanau**	**1.41**	**237**	*e*P	**Pn**	**17 09 58.1**	**+1.1**
	baz=244						
NTST	**Danshui**	**1.43**	**269**	*e*P	**Pb**	**17 10 02.9**	**+3.8**
	baz=288						
NSK	**Sanguang**	**1.61**	**251**	*e*P	**Pb**	**17 10 02.1**	**0.0**
	baz=263						
JTJ	**Tarama**	**1.62**	**110**	P	**Pb**	**17 10 03.9**	**+1.6**
JTJ				*e*S	**Sn**	**17 10 19.9**	**0.0**
NACB	**Ninganchiao**	**1.66**	**232**	*e*P	**Pn**	**17 10 01.1**	**+0.6**
	baz=236						
NNSB	**Datong**	**1.69**	**243**	*e*P	**Pn**	**17 10 02.2**	**+1.4**
	baz=251						
NNS	**Nan Shan**	**1.69**	**243**	*e*P	**Pn**	**17 10 02.2**	**+1.3**
	baz=252						
TWD	**Chiawan**	**1.72**	**230**	*e*P	**Pn**	**17 10 02.6**	**+1.4**
	baz=232						
ETLH	**Xiulin Townshi**	**1.73**	**235**	*e*P	**Pn**	**17 10 02.7**	**+1.3**
	baz=240						
JIRB	**Irabujima**	**1.98**	**101**	P	**Pb**	**17 10 09.7**	**+1.2**

*KRSC **21** 17:13:28.0±10.0,52°.13N×160°.97E,h43km±10km,ML4.6*
*IDC **21** 17:13:28.9±0.8,52°.44N×160°.44E,h0km,mb4.0/20,*
mb1 4.1/22,mb1mx3.9/48,mbtmp4.0/22,ML3.8/2,MS3.3/3,
Ms1 3.3/3,ms1mx2.8/40,Error ellipse: s-maj=21.1km
s-min=14.9km az=148.0
*ISCJB **21** 17:13:33.5±0.6,52°.34N±0°.04×160°.62E±0°.05,h51km±4km,*
mb4.3/45,MS3.7/1,Error ellipse: s-maj=7.2km
s-min=4.0km az=141.2
*MOS **21** 17:13:33.0±0.9,52°.34N×160°.63E,h48km,mb4.6/13,Error ellipse: s-maj=7.6km s-min=4.7km az=105.1*
*NEIC **21** 17:13:34.7±2.6,52°.41N×160°.54E,h38km±8km,mb4.6/27,*
Error ellipse: s-maj=17.0km s-min=11.5km az=176.0
ISC 21 17:13:33.5±0.5,**52°.30N**±0°.04×**160°.71E**±0°.04,**h38**km±1km,
n170,σ1**s78**/196,**mb4.4**/45,**4C-10D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.91**	**333**	*i* P	**Pn**	**17 13 48.4**	**-1.3**
SPN				*e*S	**Sn**	**17 14 01.2**	**-0.3**
SPN	**Mys Shipunski**	**0.91**	**333**	PN	**Pn**	**17 13 48.4**	**-1.3**
SPN				S	**Sn**	**17 14 01.2**	**-0.3**
NLC	**Nalytchevo**	**1.21**	**317**	*e*P	**Pn**	**17 13 53.0**	**-0.8**
NLC	**Nalytchevo**	**1.21**	**317**	PN	**Pn**	**17 13 53.0**	**-0.8**
RUS	**Russkaya**	**1.35**	**277**	*e*P	**Pn**	**17 13 54.6**	**-1.2**
RUS				S	**Sn**	**17 14 13.2**	**+0.7**
RUS	**Russkaya**	**1.35**	**277**	PN	**Pn**	**17 13 54.6**	**-1.2**
RUS				S	**Sn**	**17 14 13.2**	**+0.7**
DALK	**Dalny**	**1.40**	**303**	*i* P	**Pn**	**17 13 55.6**	**-0.8**
DALK				*e*S	**Sn**	**17 14 15.2**	**+1.6**
DALK	**Dalny**	**1.40**	**303**	PN	**Pn**	**17 13 55.6**	**-0.8**
DALK				S	**Sn**	**17 14 15.2**	**+1.6**
PET	**Petropavlovsk**	**1.45**	**301**	*e*Pn	**Pn**	**17 13 56.3**	**-0.8**
PET				*e*Sn	**Sn**	**17 14 18.6**	**+3.8**
PET	**Petropavlovsk**	**1.45**	**301**	*e*PN	**Pn**	**17 13 56.4**	**-0.7**
PET				*e*S	**Sn**	**17 14 15.1**	**+0.3**
PET				pmax	pmax		
	comp=Z,631nm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.7s						
PET				smax	smax		
	comp=N,1μm,0.5s						
UGLR	**Uglovaya**	**1.47**	**309**	*e*P	**Pn**	**17 13 57.4**	**0.0**
UGLR	**Uglovaya**	**1.47**	**309**	PN	**Pn**	**17 13 57.4**	**0.0**
SDLR	**Sedlovina**	**1.48**	**312**	P	**Pn**	**17 13 57.5**	**-0.2**
SDLR	**Sedlovina**	**1.48**	**312**	PN	**Pn**	**17 13 57.5**	**-0.2**
SMAR	**Somma**	**1.51**	**311**	*e*P	**Pn**	**17 13 57.8**	**-0.4**
SMAR	**Somma**	**1.51**	**311**	PN	**Pn**	**17 13 57.8**	**-0.4**
AVH	**Avacha**	**1.54**	**310**	*e*P	**Pn**	**17 13 58.6**	**+0.1**
AVH	**Avacha**	**1.54**	**310**	PN	**Pn**	**17 13 58.6**	**+0.1**
MTVR	**Mutnovka**	**1.56**	**278**	*e*P	**Pn**	**17 13 58.0**	**-0.8**
MTVR				*e*S	**Sn**	**17 14 19.5**	**+1.7**
MTVR	**Mutnovka**	**1.56**	**278**	PN	**Pn**	**17 13 58.0**	**-0.8**
MTVR				S	**Sn**	**17 14 19.5**	**+1.7**
KRER	**Koryakskii**	**1.56**	**311**	*e*P	**Pn**	**17 13 58.9**	**+0.1**
KRER	**Koryakskii**	**1.56**	**311**	PN	**Pn**	**17 13 58.9**	**+0.1**
KOK	**Koryaka**	**1.60**	**309**	*e*P	**Pn**	**17 13 59.4**	**0.0**
KOK	**Koryaka**	**1.60**	**309**	PN	**Pn**	**17 13 59.4**	**0.0**
GRL	**Gorelyy**	**1.63**	**280**	P	**Pn**	**17 14 00.3**	**+0.5**
GRL	**Gorelyy**	**1.63**	**280**	PN	**Pn**	**17 14 00.3**	**+0.5**
KRMR	**Karymshinskiy**	**1.66**	**290**	*e*P	**Pn**	**17 13 59.4**	**-0.6**
KRMR				*e*S	**Sn**	**17 14 22.8**	**+2.7**
KRMR	**Karymshinskiy**	**1.66**	**290**	PN	**Pn**	**17 13 59.4**	**-0.6**
KRMR				S	**Sn**	**17 14 22.8**	**+2.7**
KDTR	**Khodutka, Kamc**	**1.70**	**254**	*e*P	**Pn**	**17 13 58.8**	**-1.7**
KDTR				*e*S	**Sn**	**17 14 22.5**	**+1.6**
KDTR	**Khodutka, Kamc**	**1.70**	**254**	PN	**Pn**	**17 13 58.8**	**-1.7**
KDTR				S	**Sn**	**17 14 22.5**	**+1.6**
ASAK	**Asacha**	**1.73**	**274**	*e*P	**Pn**	**17 14 00.6**	**-0.4**
ASAK				S	**Sn**	**17 14 25.8**	**+4.0**
ASAK	**Asacha**	**1.73**	**274**	PN	**Pn**	**17 14 00.6**	**-0.4**
ASAK				S	**Sn**	**17 14 25.8**	**+4.0**
PEA0B	**Petropavlovsk-**	**2.00**	**295**	*e*Pn	**Pn**	**17 14 04.1**	**-0.7**
PEA0B				*e*Sn	**Sn**	**17 14 35.0**	**+6.4**
PETK	**Petropavlovsk-**	**2.00**	**295**	*e*Pn	**Pn**	**17 14 04.1**	**-0.7**
PETK				*e*Sn	**Sn**	**17 14 35.8**	**+7.3**
PETK	**Petropavlovsk-**	**2.00**	**295**	*e*PN	**Pn**	**17 14 04.1**	**-0.7**
PETK	**Petropavlovsk-**	**2.00**	**295**	Pn	**Pn**	**17 14 04.8**	**+0.1**
	comp=N,64nm,0.3s,baz=108,slow=17,SNR=139						
PETK				Sn	**Sn**	**17 14 27.0**	**-1.5**
	comp=N,34nm,0.3s,baz=102,slow=19,SNR=6.2						
PETK				LR	LR	17 15 02.6	
	comp=N,418nm,18.5s,baz=84,slow=52						
PEA1	**Petropavlovsk-**	**2.01**	**295**	*e*Pn	**Pn**	**17 14 04.8**	**0.0**
PEA1				*e*Sn	**Sn**	**17 14 27.0**	**-1.6**
PEA1				*e*		17 15 02.6	
APC	**Apacha**	**2.25**	**288**	*e*P	**Pn**	**17 14 08.8**	**+0.6**
APC				S	**Sn**	**17 14 39.3**	**+4.6**
APC	**Apacha**	**2.25**	**288**	PN	**Pn**	**17 14 08.8**	**+0.6**
APC				S	**Sn**	**17 14 39.3**	**+4.6**
MKZ	**Mys Kozlova**	**2.34**	**15**	*e*P	**Pn**	**17 14 09.1**	**-0.3**
MKZ				*e*S	**Sn**	**17 14 37.2**	**+0.3**
MKZ	**Mys Kozlova**	**2.34**	**15**	PN	**Pn**	**17 14 09.1**	**-0.3**
MKZ				S	**Sn**	**17 14 37.2**	**+0.3**
PAU	**Pauzhetka**	**2.55**	**253**	P	**Pn**	**17 14 11.1**	**-1.2**
PAU	**Pauzhetka**	**2.55**	**253**	PN	**Pn**	**17 14 11.1**	**-1.2**
KZV	**Kizimen**	**2.83**	**355**	*e*P	**Pn**	**17 14 17.0**	**+0.7**
KZV				*e*S	**Sn**	**17 14 52.3**	**+3.1**
KZV	**Kizimen**	**2.83**	**355**	PN	**Pn**	**17 14 17.0**	**+0.7**
KZV				S	**Sn**	**17 14 52.3**	**+3.1**
TUMD	**Tumrok D**	**2.92**	**357**	P	**Pn**	**17 14 17.5**	**+0.2**
TUMR	**Tumrok**	**3.01**	**354**	P	**Pn**	**17 14 20.2**	**+1.5**
TUMR	**Tumrok**	**3.01**	**354**	PN	**Pn**	**17 14 17.5**	**-1.2**
SKR	**Severo-Kuril's**	**3.29**	**242**	P	**Pn**	**17 14 20.9**	**-1.5**
SKR	**Severo-Kuril's**	**3.29**	**242**	*e*PN	**Pn**	**17 14 26.2**	**+3.8**
SKR				*e*S	**Sn**	**17 15 02.5**	**+2.2**
SKR				pmax	pmax		
	comp=Z,70nm,0.6s						
SKR				smax	smax		
	comp=E,235nm,0.6s						
SKR				smax	smax		
	comp=N,290nm,0.7s						
ALID	**Alaid**	**3.52**	**248**	*e*P	**Pn**	**17 14 24.7**	**-1.0**
ALID	**Alaid**	**3.52**	**248**	PN	**Pn**	**17 14 24.7**	**-1.0**
KOZ	**Kozyrevsk**	**3.80**	**353**	P	**Pn**	**17 14 31.1**	**+1.7**
KOZ	**Kozyrevsk**	**3.80**	**353**	PN	**Pn**	**17 14 31.1**	**+1.7**
KRSR	**Krestovskiy**	**3.93**	**359**	P	**Pn**	**17 14 33.6**	**+2.3**
KRSR	**Krestovskiy**	**3.93**	**359**	PN	**Pn**	**17 14 33.6**	**+2.3**
KLY	**Klyuchi**	**4.03**	**360**	*e*P	**Pn**	**17 14 34.3**	**+1.8**
KLY	**Klyuchi**	**4.03**	**360**	PN	**Pn**	**17 14 34.3**	**+1.8**
SRDR	**Sredinnyy**	**4.07**	**352**	P	**Pn**	**17 14 33.7**	**+0.5**
SRDR	**Sredinnyy**	**4.07**	**352**	PN	**Pn**	**17 14 33.7**	**+0.5**
KBTR	**Krutoberegovo**	**4.11**	**17**	P	**Pn**	**17 14 33.9**	**+0.2**
KBTR	**Krutoberegovo**	**4.11**	**17**	PN	**Pn**	**17 14 33.9**	**+0.2**
KBG	**Krutoberegovo**	**4.14**	**16**	P	**Pn**	**17 14 35.5**	**+1.5**
KBG	**Krutoberegovo**	**4.14**	**16**	PN	**Pn**	**17 14 35.5**	**+1.5**
BKI	**Bering**	**4.27**	**45**	*e*S	**Sn**	**17 15 20.9**	**-3.4**
SMY	**Shemya**	**8.18**	**82**	*e*Pn	**Pn**	**17 15 30.6**	**+1.1**
SMY				*e*Sn	**Sn**	**17 16 57.1**	**-3.5**
SMY	**Shemya**	**8.18**	**82**	*e*PN	**Pn**	**17 15 30.6**	**+1.1**
MA2	**Magadan**	**9.17**	**327**	LR	LR	17 19 59.6	
	comp=N,111nm,18.5s,baz=144,slow=44						
SEY	**Seymchan**	**11.55**	**341**	LR	LR	17 20 59.9	
	comp=N,113nm,20.4s,baz=289,slow=40						
GSTR	**Great Sitkin T**	**14.24**	**82**	*e*Pn	**Pn**	**17 16 56.1**	**-2.9**
ASAJ	**Asahikawa**	**14.56**	**243**	Pn	**Pn**	**17 16 53.5**	**-3.2**
	comp=N,0.7nm,0.3s,baz=74,slow=14,SNR=8.1						
ERM	**Erimo**	**15.71**	**236**	*e*Pn	**Pn**	**17 17 12.7**	**+0.9**
	comp=N,104nm,1.5s						
ERM	**Erimo**	**15.71**	**236**	*e*P	**Pn**	**17 17 12.7**	**+0.9**
ERM				pmax	pmax		
	comp=Z,104nm,1.5s						
BILL	**Bilibino**	**16.02**	**8**	*e*Pn	**P**	**17 17 17.5**	**-1.2**
	comp=Z,5.5nm,0.7s						
BILL	**Bilibino**	**16.02**	**8**	⇑*e*P	**Pn**	**17 17 16.3**	**+0.7**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.9s						
BILL				MLR	MLR		
	comp=Z,202nm,19.0s						
KLR	**Kul'dur**	**18.52**	**272**	⇑*e*P	**P**	**17 17 45.8**	**-0.5**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KLR	**Kul'dur**	**18.52**	**272**	P	**P**	**17 17 44.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=346,slow=19,SNR=5.7						
USRK	**Ussuriysk Ar.**	**20.66**	**258**	*e*P	**P**	**17 18 07.8**	**-2.0**
MSHR	**Mys Shultsa**	**22.08**	**256**	⇓*e*P	**P**	**17 18 25.7**	**+0.7**
MJB9	**Matsu-Tunnel**	**22.36**	**234**	*e*P	**P**	**17 18 29.6**	**+1.5**
	comp=Z,14nm,1.4s						
MAJO	**Matsushiro**	**22.36**	**234**	*e*P	**P**	**17 18 29.8**	**+1.7**
	comp=Z,13nm,1.4s						
MAJO	**Matsushiro**	**22.36**	**234**	⇓*i*P	**P**	**17 18 29.3**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MJAR	**Matsushiro Arr**	**22.36**	**234**	*e*P	**P**	**17 18 30.1**	**+2.0**
MJAR	**Matsushiro Arr**	**22.36**	**234**	P	**P**	**17 18 28.5**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=25,slow=8.4,SNR=12						
TIXI	**Tiksi**	**23.96**	**336**	*e*P	**P**	**17 18 42.5**	**-1.2**
TIXI	**Tiksi**	**23.96**	**336**	⇓*i*P	**P**	**17 18 42.7**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TIXI	**Tiksi**	**23.96**	**336**	P	**P**	**17 18 41.8**	**-1.9**
	comp=Z,3.1nm,0.5s,baz=125,slow=8.9,SNR=22						
HIA	**Hailar**	**25.83**	**280**	⇑*e*P	**P**	**17 18 59.7**	**-1.3**
HIA				pmax	pmax		
	comp=Z,36nm,0.7s						
IMAR	**Indian Mountai**	**26.35**	**41**	*e*P	**P**	**17 19 07.3**	**+1.8**
BOD	**Bodaibo**	**26.87**	**300**	*e*P	**P**	**17 19 08.1**	**-2.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s						
JNU	**Nakatsue**	**28.80**	**240**	*e*P	**P**	**17 19 29.7**	**+1.9**
	comp=Z,8.6nm,1.0s						
JNU	**Nakatsue**	**28.80**	**240**	P	**P**	**17 19 27.2**	**-0.6**
	comp=Z,3.9nm,1.1s,baz=315,slow=4.3,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**32.86**	**169**	T	T	17 55 59.3	
	baz=354						
H11N3	**WAKE ISLAND Hy**	**32.87**	**169**	T	T	17 55 59.3	
	baz=354						
H11N1	**WAKE ISLAND Hy**	**32.88**	**169**	T	T	17 55 59.3	
	baz=354						
H11S1	**WAKE ISLAND Hy**	**34.04**	**170**	T	T	17 57 17.9	
	baz=352,slow=76,SNR=4.6						
ULN	**Ulaanbaatar**	**34.05**	**284**	⇓*e*P	**P**	**17 20 14.8**	**+0.9**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**34.06**	**170**	T	T	17 57 16.7	
	baz=352,slow=76,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**34.06**	**170**	T	T	17 57 19.1	
	baz=352,slow=76,SNR=3.7						
INK	**Inuvik**	**34.28**	**37**	*e*P	**P**	**17 20 17.1**	**+1.7**
	comp=Z,9.4nm,1.8s						
INK	**Inuvik**	**34.28**	**37**	P	**P**	**17 20 16.1**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=284,slow=19,SNR=3.4						
SONA0	**Songino Array**	**34.46**	**285**	*e*P	**P**	**17 20 16.6**	**-0.8**
SONM	**Songino Array**	**34.46**	**285**	P	**P**	**17 20 16.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=68,slow=8.5,SNR=3.0						
SONM				LR	LR	17 35 55.2	
	comp=Z,120nm,18.5s,baz=63,slow=39						
HHC	**Hu-ho-hao-te**	**35.02**	**271**	*e*P	**P**	**17 20 24.0**	**+1.7**
HHC				S	**S**	**17 25 45.3**	**-6.4**
NJ2	**Nanjing**	**36.37**	**253**	*e*P	**P**	**17 20 35.0**	**+1.2**
SARN	**Sarigan**	**37.43**	**204**	*e*P	**P**	**17 20 46.5**	**+3.5**
	comp=Z,99nm,1.5s						
DLBC	**Dease Lake**	**38.23**	**53**	*e*P	**P**	**17 20 52.7**	**+3.4**
	comp=Z,28nm

comp=Z,12nm,1.4s
CMAR Chiang Mai Arr 58.39 259 P **P 17 23 26.1 +1.1**
comp=Z,2.0nm,0.7s,baz=30,slow=7.1,SNR=15
ABKAR Akbulak array 58.60 311 *eP* **P 17 23 25.2 -0.9**
ABKAR *eP* **P 17 23 25.7 -0.4**
FINES FINESS Array B 61.00 337 P **P 17 23 42.8 +0.3**
comp=Z,1.6nm,0.4s,baz=34,slow=7.7,SNR=20
OBN Obninsk 63.39 328⇓ *eP* **P 17 23 57.1 -1.4**
OBN *PP **pP** 17 24 08.0 -0.6
OBN 17 24 37.0
OBN pmax pmax
comp=Z,7.0nm,0.6s
NB201 NORSAR Array S 64.39 344 *eP* **P 17 24 06.3 +1.3**
comp=Z,85nm,1.8s
NB2 NORSAR Subarra 64.41 344 P **P 17 24 05.7 +0.5**
comp=Z,0.7nm,0.5s,baz=20,slow=6.9
NOA NORSAR Array B 64.41 344 P **P 17 24 05.2 0.0**
comp=Z,0.8nm,0.5s,baz=20,slow=6.7,SNR=5.8
VSR Storozhevoye 65.70 324⇓ *eP* **P 17 24 13.6 -0.1**
VSR pmax pmax
comp=Z,5.0nm,0.5s
GEYT Alibeck 67.84 304 P **P 17 24 27.4 -0.2**
comp=Z,5.0nm,0.8s,baz=28,slow=6.7,SNR=8.3
AKASG Malin Array Be 69.49 329 *eP* **P 17 24 37.2 -0.4**
AKASG Malin Array Be 69.49 329 *eP* **P 17 24 37.2 -0.4**
AKASG Malin Array Be 69.49 329 P **P 17 24 37.5 0.0**
comp=Z,4.3nm,0.6s,baz=30,slow=6.4,SNR=13
AKBB Malin Array Si 69.49 329 *eP* **P 17 24 37.6 0.0**
comp=Z,3.8nm,0.8s
KIEV Kiev 69.50 329 *eP* **P 17 24 37.6 0.0**
comp=Z,3.7nm,0.8s
KIEV Kiev 69.50 329⇓ *eP* **P 17 24 37.9 +0.3**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 70.28 317 *eP* **P 17 24 43.3 +0.6**
KIV pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 70.37 317 P **P 17 24 43.0 -0.1**
KBZ Khabaz 70.37 317 P **P 17 24 43.0 -0.1**
comp=Z,1.3nm,0.5s,baz=110,slow=2.5,SNR=4.3
LTX Lajitas 70.60 67 *eP* **P 17 24 45.8 +0.9**
TXAR Lajitas Array 70.61 67 P **P 17 24 45.8 +0.9**
comp=Z,0.4nm,0.7s,baz=284,slow=5.0,SNR=3.6
CLL Collm 73.23 339 *eP* **P 17 25 02.0 +1.9**
CLL Collm 73.23 339 *eP* **P 17 25 02.0 +1.9**
BUR08 Bucovina Ar. S 73.43 330 *eP* **P 17 25 02.1 +0.6**
comp=Z,5.2nm,1.4s
BURAR Bucovina Array 73.45 330 *eP* **P 17 25 02.3 +0.6**
VYHS Vyhne 74.46 335 *eP* **P 17 25 09.1 +1.6**
VYHS Vyhne 74.46 335 *eP* **P 17 25 09.0 +1.6**
GERES GERESS Array B 75.39 338 P **P 17 25 11.9 -1.0**
comp=Z,0.3nm,0.5s,baz=46,slow=5.8,SNR=3.7
BRTR Keskin Array B 77.47 321 *eP* **P 17 25 25.5 +0.6**
BRTR Keskin Array B 77.47 321 *eP* **P 17 25 25.5 +0.6**
BRTR Keskin Array B 77.47 321 P **P 17 25 25.7 +0.8**
comp=Z,1.0nm,0.9s,baz=22,slow=4.0,SNR=6.2
WSAR Wadi Sarin 78.96 294 P **P 17 25 34.2 +1.0**
comp=Z,4.7nm,0.8s,baz=121,slow=5.1,SNR=3.5
ASAR Alice Springs 79.19 205 P **P 17 25 35.3 +1.1**
comp=Z,0.5nm,0.6s,baz=15,slow=4.8,SNR=9.7

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*KRSC **21** 17:15:45.5±10.0, 52°.26N×160°.92E, h18km±10km, ML4.2*
*IDC **21** 17:15:46.9±2.0, 52°.65N×160°.67E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.4/46, mbtmp3.8/6, MS3.8/2, Ms1 3.8/2, ms1mx2.8/38, Error ellipse: s-maj=43.8km s-min=22.7km az=156.0*
*ISCJB **21** 17:15:47.8±1.0, 52°.28N±0°.03×160°.88E±0°.04, h28km±7km, mb4.1/10, MS3.9/2, Error ellipse: s-maj=5.9km s-min=4.3km az=165.4*
*MOS **21** 17:15:47.6±1.2, 52°.34N×160°.89E, h24km, mb4.8/1, Error ellipse: s-maj=9.4km s-min=5.9km az=121.3*
*NEIC **21** 17:15:50.1±2.4, 52°.55N×160°.69E, h24km±7km, mb4.4/4, Error ellipse: s-maj=16.7km s-min=11.8km az=212.0*
ISC 21 17:15:47.0±1.4, 52°.49N±0°.04×160°.88E±0°.04, h11km±8km, n90, σ1§58/115, mb4.1/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.80**	**320**	P		**Pn**	**17 16 04.3**	**+0.2**
SPN				S		**Sn**	**17 16 16.6**	**+0.6**
SPN	**Mys Shipunski**	**0.80**	**320**	PN		**Pn**	**17 16 04.3**	**+0.2**
SPN				S		**Sn**	**17 16 16.6**	**+0.6**
NLC	**Nalytchevo**	**1.15**	**307**	P		**Pg**	**17 16 09.3**	**+0.2**
NLC				S		**Sg**	**17 16 25.1**	**+1.1**
NLC	**Nalytchevo**	**1.15**	**307**	PN		**Pg**	**17 16 09.3**	**+0.2**
NLC				S		**Sg**	**17 16 25.1**	**+1.1**
DALK	**Dalny**	**1.40**	**293**	P		**Pb**	**17 16 12.9**	**-0.1**
DALK				S		**Sg**	**17 16 31.2**	**-0.7**
DALK	**Dalny**	**1.40**	**293**	PN		**Pb**	**17 16 12.9**	**-0.1**
DALK				S		**Sg**	**17 16 31.2**	**-0.7**
UGLR	**Uglovaya**	**1.44**	**301**	P		**Pg**	**17 16 14.4**	**-0.1**
UGLR	**Uglovaya**	**1.44**	**301**	PN		**Pg**	**17 16 14.4**	**-0.1**
SDLR	**Sedlovina**	**1.44**	**304**	P		**Pb**	**17 16 13.8**	**-0.1**
SDLR	**Sedlovina**	**1.44**	**304**	PN		**Pb**	**17 16 13.8**	**-0.1**
RUS	**Russkaya**	**1.45**	**269**	P		**Pn**	**17 16 12.5**	**-0.5**
RUS				S		**Sn**	**17 16 31.2**	**-0.8**
RUS	**Russkaya**	**1.45**	**269**	PN		**Pn**	**17 16 12.5**	**-0.5**
RUS				S		**Sn**	**17 16 31.2**	**-0.8**
PET	**Petropavlovsk**	**1.45**	**292**	*e*Pn		**Pb**	**17 16 13.4**	**-0.6**
PET	**Petropavlovsk**	**1.45**	**292**	*e*PN		**Pb**	**17 16 13.4**	**-0.6**
PET				*e*S		**Sb**	**17 16 32.5**	**+0.1**
PET				pmax		pmax		
	comp=Z,243nm,0.5s							
PET				smax		smax		
	comp=N,724nm,0.5s							
PET				smax		smax		
	comp=E,853nm,0.6s							
SMAR	**Somma**	**1.47**	**302**	P		**Pg**	**17 16 15.7**	**+0.4**
SMAR	**Somma**	**1.47**	**302**	PN		**Pg**	**17 16 15.7**	**+0.4**
AVH	**Avacha**	**1.51**	**302**	P		**Pg**	**17 16 15.5**	**-0.4**
AVH				S		**Sg**	**17 16 36.4**	**+0.9**
AVH	**Avacha**	**1.51**	**302**	PN		**Pg**	**17 16 15.5**	**-0.4**
AVH				S		**Sg**	**17 16 36.4**	**+0.9**
KRER	**Koryakskii**	**1.52**	**303**	P		**Pg**	**17 16 16.7**	**+0.5**
KRER	**Koryakskii**	**1.52**	**303**	PN		**Pg**	**17 16 16.7**	**+0.5**
KOK	**Koryaka**	**1.57**	**301**	P		**Pg**	**17 16 16.8**	**-0.4**
KOK				S		**Sg**	**17 16 39.4**	**+1.8**
KOK	**Koryaka**	**1.57**	**301**	PN		**Pg**	**17 16 16.8**	**-0.4**
KOK				S		**Sg**	**17 16 39.4**	**+1.8**
MTVR	**Mutnovka**	**1.65**	**271**	P		**Pn**	**17 16 15.9**	**0.0**
MTVR				S		**Sn**	**17 16 36.8**	**-0.3**
MTVR	**Mutnovka**	**1.65**	**271**	PN		**Pn**	**17 16 15.9**	**0.0**
MTVR				S		**Sn**	**17 16 36.8**	**-0.3**
KRMR	**Karymshinskiy**	**1.71**	**282**	P		**Pn**	**17 16 16.7**	**+0.1**
KRMR				S		**Sb**	**17 16 39.6**	**-0.1**
KRMR	**Karymshinskiy**	**1.71**	**282**	PN		**Pn**	**17 16 16.7**	**+0.1**
KRMR				S		**Sb**	**17 16 39.6**	**-0.1**
GRL	**Gorelyy**	**1.71**	**273**	P		**Pb**	**17 16 17.8**	**-0.7**
GRL				S		**Sg**	**17 16 41.7**	**-0.4**
GRL	**Gorelyy**	**1.71**	**273**	PN		**Pb**	**17 16 17.8**	**-0.7**
GRL				S		**Sg**	**17 16 41.7**	**-0.4**
ASAK	**Asacha**	**1.82**	**268**	P		**Pn**	**17 16 18.6**	**+0.3**
ASAK				S		**Sb**	**17 16 43.4**	**+0.2**
ASAK	**Asacha**	**1.82**	**268**	PN		**Pn**	**17 16 18.6**	**+0.3**
ASAK				S		**Sb**	**17 16 43.4**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.85**	**249**	P		**Pn**	**17 16 16.7**	**-1.9**
KDTR				S		**Sn**	**17 16 38.1**	**-3.9**
KDTR	**Khodutka, Kamc**	**1.85**	**249**	PN		**Pn**	**17 16 16.7**	**-1.9**
KDTR				S		**Sn**	**17 16 38.1**	**-3.9**
PEA0B	**Petropavlovsk-**	**2.02**	**289**	*e*Pn		**Pn**	**17 16 21.3**	**+0.3**
PEA0B	**Petropavlovsk-**	**2.02**	**289**	*e*PN		**Pn**	**17 16 21.3**	**+0.3**
PETK	**Petropavlovsk-**	**2.02**	**289**	*e*Pn		**Pn**	**17 16 21.9**	**+0.9**
PETK	**Petropavlovsk-**	**2.02**	**289**	Pn		**Pn**	**17 16 22.0**	**+1.0**
	comp=E,17nm,0.3s,baz=107,slow=18,SNR=6.0							
PETK				Sn		**Sn**	**17 16 44.1**	**-2.2**
	comp=E,13nm,0.3s,baz=99,slow=16,SNR=4.5							
PEA1	**Petropavlovsk-**	**2.03**	**289**	*e*Pn		**Pn**	**17 16 22.0**	**+1.0**
PEA1				*e*Sn		**Sn**	**17 16 44.1**	**-2.2**
MKZ	**Mys Kozlova**	**2.13**	**14**	P		**Pb**	**17 16 25.0**	**-0.5**
MKZ				S		**Sg**	**17 16 52.1**	**-3.2**
MKZ	**Mys Kozlova**	**2.13**	**14**	PN		**Pb**	**17 16 25.0**	**-0.5**
MKZ				S		**Sg**	**17 16 52.1**	**-3.2**
APC	**Apacha**	**2.30**	**282**	P		**Pn**	**17 16 26.3**	**+1.5**
APC				S		**Sb**	**17 16 57.6**	**+0.7**
APC	**Apacha**	**2.30**	**282**	PN		**Pn**	**17 16 26.3**	**+1.5**
APC				S		**Sb**	**17 16 57.6**	**+0.7**
KZV	**Kizimen**	**2.65**	**353**	P		**Pb**	**17 16 33.4**	**-1.0**
KZV				S		**Sg**	**17 17 07.9**	**-4.1**
KZV	**Kizimen**	**2.65**	**353**	PN		**Pb**	**17 16 33.4**	**-1.0**
KZV				S		**Sg**	**17 17 07.9**	**-4.1**
TUMD	**Tumrok D**	**2.73**	**354**	P		**Pb**	**17 16 35.5**	**-0.3**
TUMD				S		**Sg**	**17 17 12.2**	**-2.4**
TUMR	**Tumrok**	**2.83**	**352**	P		**Pb**	**17 16 36.1**	**-1.4**
TUMR	**Tumrok**	**2.83**	**352**	PN		**Pb**	**17 16 35.5**	**-2.0**
TUMR				S		**Sb**	**17 17 12.2**	**+0.1**
SKR	**Severo-Kuril's**	**3.48**	**240**	S		**Sn**	**17 17 17.3**	**-4.7**
ESO	**Esso**	**3.67**	**340**	P		**Pb**	**17 16 48.9**	**-2.9**
ESO	**Esso**	**3.67**	**340**	PN		**Pb**	**17 16 48.9**	**-2.9**
ALID	**Alaid**	**3.69**	**246**	P		**Pn**	**17 16 43.4**	**-0.7**
ALID	**Alaid**	**3.69**	**246**	PN		**Pn**	**17 16 43.4**	**-0.7**
KBTR	**Krutoberegovo**	**3.89**	**16**	P		**Pn**	**17 16 49.9**	**+3.3**
KBTR	**Krutoberegovo**	**3.89**	**16**	PN		**Pn**	**17 16 49.9**	**+3.3**
SMY	**Shemya**	**8.06**	**83**	*e*Pn		**Pn**	**17 17 46.6**	**+2.8**
SMY	**Shemya**	**8.06**	**83**	*e*PN		**Pn**	**17 17 46.6**	**+2.8**
ADK	**Adak**	**13.77**	**84**	*e*Pn		**Pn**	**17 19 05.2**	**+3.2**
ADK	**Adak**	**13.77**	**84**	*e*P		**Pn**	**17 19 05.2**	**+3.2**
GSTR	**Great Sitkin T**	**14.11**	**82**	*e*Pn		**Pn**	**17 19 09.2**	**+2.5**
MAJO	**Matsushiro**	**22.56**	**234**	*e*P		**P**	**17 20 48.7**	**+1.7**
MAJO	**Matsushiro**	**22.56**	**234**	*e*P		**P**	**17 20 48.7**	**+1.7**
MJAR	**Matsushiro Arr**	**22.56**	**234**	P		**P**	**17 20 48.7**	**+1.7**
	comp=E,0.8nm,0.5s,baz=18,slow=11,SNR=4.8							
TIXI	**Tiksi**	**23.82**	**335**	*e*P		**P**	**17 20 58.5**	**-1.0**
TIXI	**Tiksi**	**23.82**	**335**	*e*P		**P**	**17 20 58.5**	**-1.0**
INU	**Inuyama**	**24.09**	**234**	*e*P		**P**	**17 21 01.9**	**-0.5**
	comp=E,3.7nm,0.7s							
MENT	**Mentasta**	**30.41**	**48**	*e*S		**S**	**17 26 58.9**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**33.03**	**170**	T		T	17 57 59.5	
	baz=354,slow=74,SNR=62							
H11N3	**WAKE ISLAND Hy**	**33.05**	**170**	T		T	17 58 03.3	
	baz=354							
H11N1	**WAKE ISLAND Hy**	**33.05**	**170**	T		T	17 57 59.5	
	baz=354,slow=74,SNR=44							
INK	**Inuvik**	**34.06**	**37**	P		**P**	**17 22 31.8**	**+1.1**
	comp=E,0.7nm,0.9s,baz=225,slow=1.4,SNR=9.4							
H11S1	**WAKE ISLAND Hy**	**34.22**	**170**	T		T	17 59 37.3	
	baz=350							
H11S3	**WAKE ISLAND Hy**	**34.23**	**170**	T		T	17 59 41.9	
	baz=350							
H11S2	**WAKE ISLAND Hy**	**34.24**	**170**	T		T	17 59 39.0	
	baz=350							
MK31	**Makanchi Array**	**48.84**	**297**	*e*P		**P**	**17 24 30.8**	**-1.3**
	comp=E,12nm,1.6s							
MK31	**Makanchi Array**	**48.84**	**297**	*e*P		**P**	**17 24 30.8**	**-1.3**
MK31				pmax		pmax		
	comp=Z,12nm,1.6s							
MK32	**Makanchi Array**	**48.84**	**297**	*e*P		**P**	**17 24 30.4**	**-1.7**
MKAR	**Makanchi Array**	**48.84**	**297**	*e*P		**P**	**17 24 30.6**	**-1.5**
MKAR	**Makanchi Array**	**48.84**	**297**	*e*P		**P**	**17 24 30.6**	**-1.5**
MKAR	**Makanchi Array**	**48.84**	**297**	P		**P**	**17 24 30.4**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=59,slow=6.6,SNR=5.7							
ARCES	**ARCESS Array B**	**54.00**	**342**	*e*P		**P**	**17 25 10.1**	**-0.3**
ARCES	**ARCESS Array B**	**54.00**	**342**	P		**P**	**17 25 10.3**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=39,slow=9.2,SNR=3.8							
PNTR	**Pine Nut**	**54.31**	**70**	*e*PcP		**PcP**	**17 26 16.6**	**-0.7**
ISA	**Isabella, Lake**	**57.30**	**73**	*e*P		**P**	**17 25 34.8**	**+0.1**
	comp=Z,2.9nm,0.8s							
ARSB	**Arslanbob**	**57.49**	**297**	*e*P		**P**	**17 25 36.3**	**+0.3**
	comp=Z,8.2nm,1.4s							
BRDH	**Bariadhala**	**59.76**	**268**	LR		LR	17 56 22.9	
	comp=Z,119nm,19.5s,baz=118,slow=41							
FIA0	**FINESS Array S**	**60.86**	**337**	*e*P		**P**	**17 25 59.5**	**+0.7**
FIA0	**FINESS Array S**	**60.86**	**337**	*e*P		**P**	**17 25 59.5**	**+0.7**
FINES	**FINESS Array B**	**60.86**	**337**	P		**P**	**17 25 59.5**	**+0.7**
	comp=Z,3.0nm,1.0s,baz=33,slow=8.3,SNR=3.9							
NB200	**NORSAR Array S**	**64.25**	**344**	*e*P		**P**	**17 26 22.7**	**+1.2**
NOA	**NORSAR Array B**	**64.25**	**344**	P		**P**	**17 26 22.7**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=21,slow=7.0,SNR=3.1							
PSI	**Prapat**	**71.00**	**249**	LR		LR	17 59 18.7	
	comp=Z,37nm,18.2s,baz=242,slow=37							

TEH 21 17:24:00.7, 30°.83N×49°.35E, h12km, ML3.6, Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.78**	**309**	*e*Pg		Pb	17 24 16.1	-0.1
JHBN	**Jahan bin**	**1.79**	**39**	*e*Pg		Pb	17 24 33.8	+0.2
ZNGN	**Zangian**	**1.81**	**45**	*e*Pn		Pb	17 24 34.1	0.0
IBRJ	**Brojen**	**1.96**	**56**	*e*Pn		Pb	17 24 37.1	+0.7
ROKH	**ROKH**	**2.08**	**43**	*e*Pn		Pb	17 24 37.5	-1.1
ROKH				IAMB		IAmb	17 25 13.1	
	comp=Z,0.0nm,0.6s							
IPIR	**Pirpir**	**2.27**	**35**	*e*Pn		Pb	17 24 40.2	-1.5
IKAZ	**Kazeroun**	**2.40**	**115**	*e*Pn		Pn	17 24 41.9	+1.8
IKAZ				IAMB		IAmb	17 25 22.4	
	comp=Z,0.0nm,0.5s							
IGAR	**Gharneh**	**2.78**	**55**	*e*Pn		Pn	17 24 47.6	+2.3
IKMR	**Kamar-syah**	**2.80**	**343**	*e*Pn		Pn	17 24 46.8	+1.5
IKMR				IAMB		IAmb	17 25 39.1	
	comp=Z,0.0nm,0.5s							
KHMZ	**Khomeyn**	**2.94**	**10**	*e*Pn		Pb	17 24 50.4	-2.8
IKFM	**Kafar-mosalman**	**2.97**	**335**	*e*Pn		Pn	17 24 49.0	+1.4
IDOB	**Doab**	**3.11**	**342**	*e*Pn		Pn	17 24 50.8	+1.0
IDOB				IAMB		IAmb	17 25 45.7	
	comp=Z,0.0nm,0.8s							
IKLH	**Kolahrood**	**3.12**	**37**	*e*Pn		Pn	17 24 52.4	+2.4
IKLH				IAMB		IAmb	17 24 54.7	
	comp=Z,0.0nm,0.2s							
IZEF	**Zefreh**	**3.27**	**50**	*e*Pn		Pn	17 24 54.0	+2.0
NASN	**Na'in**	**3.54**	**55**	*e*Pn		Pn	17 24 56.8	+1.0
IKOM	**Komasi**	**3.67**	**335**	*e*Pn		Pn	17 24 58.4	+0.9
IKOM				IAMB		IAmb	17 26 05.3	
	comp=Z,0.0nm,0.5s							
ASAO	**Ashtian**	**3.75**	**9**	*e*Pn		Pn	17 25 01.7	+3.1
IBZA	**Bozab**	**3.84**	**341**	*e*Pn		Pn	17 25 00.7	+0.9
IBZA				IAMB		IAmb	17 25 52.3	
	comp=Z,0.0nm,0.3s							
ISAD	**Sadrabad**	**3.86**	**73**	*e*Pn		Pn	17 25 02.3	+2.1
KRSH	**Karshahi**	**3.92**	**36**	*e*Pn		Pn	17 25 03.1	+2.3
GHVR	**GHOM**	**3.99**	**24**	*e*Pn		Pn	17 25 03.9	+2.1
IVIS	**Veis**	**4.24**	**331**	*e*Pn		Pn	17 25 06.1	+0.8
ILIN	**Lien**	**4.54**	**334**	*e*Pn		Pn	17 25 10.1	+0.6
IRAZ	**Razeghan**	**4.58**	**6**	*e*Pn		Pn	17 25 12.1	+2.0

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*OMAN **21** 17:41:10.8±27.0, 28°.26N×61°.17E, h8km, ml5.0/2, Error ellipse: s-maj=513.3km s-min=25.5km az=234.0*
*IDC **21** 17:41:40.9±13.0, 26°.13N×59°.57E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/39, mbtmp3.7/4, Error ellipse: s-maj=274.3km s-min=62.3km az=103.0*
*TEH **21** 17:41:54.6, 26°.72N×57°.79E, h15km, ML3.8*
*DSN **21** 17:41:54.2±3.3, 26°.54N×57°.99E, h10km, ML3.8/7, Error ellipse: s-maj=46.0km s-min=12.8km az=9.0*
ISC 21 17:41:52.5±0.8, 26°.26N±0°.06×57°.91E±0°.04, h10km, n48, σ1§50/49, mb3.7/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JSK1	**Jask**	**0.64**	**192**	*e*Pg		Pn	17 42 16.2	+8.7
SHME	**Shamm**	**1.61**	**263**	*e*P		**Pg**	**17 42 24.2**	**+0.9**
	SNR=18							
SHME				S		**Sg**	**17 42 47.5**	**+3.3**
SHME	**Shamm**	**1.61**	**263**	*e*Pn		**Pg**	**17 42 24.7**	**+1.4**
NIAN	**Nian**	**1.61**	**324**	*e*Pg		Pn	**17 42 18.8**	**-2.2**
NIAN				IAMB		IAmb	17 42 20.7	
	comp=Z,0.0nm,0.2s							
KHNJ	**Kahnooj**	**1.69**	**354**	*e*Pg		**Pn**	**17 42 17.8**	**-4.3**
MSFE	**Esma-Masafi**	**1.82**	**241**	*e*P		**Pg**	**17 42 27.3**	**-0.1**
	SNR=5.7							
GENO	**Geno**	**1.93**	**306**	*e*Pn		**Pn**	**17 42 25.2**	**-0.3**
GENO				*e*Sg		**Sn**	**17 42 49.4**	**-0.5**
GENO				IAMB		IAmb	17 42 54.3	
	comp=Z,0.0nm,0.5s							
HATD	**Hatta, Dubai**	**2.15**	**229**	*e*P		**Pb**	**17 42 32.3**	**+0.8**
	SNR=12							
HATD	**Hatta, Dubai**	**2.15**	**229**	P		**Pb**	**17 42 32.3**	**+0.7**
	SNR=12							
HATD	**Hatta, Dubai**	**2.15**	**229**	*e*Pn		**Pb**	**17 42 32.5**	**+0.9**
UMQ	**Umm Al-Quwin**	**2.16**	**251**	P		**Pg**	**17 42 34.9**	**+1.1**
UMQ	**Umm Al-Quwin**	**2.16**	**251**	*e*Pn		**Pg**	**17 42 35.0**	**+1.2**
ASHO	**Ashiyiah**	**2.30**	**227**	*e*P		**Pb**	**17 42 35.2**	**+1.2**
	SNR=34							
ASHO	**Ashiyiah**	**2.30**	**227**	P		**Pg**	**17 42 35.9**	**-0.6**
	SNR=14							
ASHO	**Ashiyiah**	**2.30**	**227**	*e*Pn		**Pg**	**17 42 38.9**	**+2.3**
NAZ	**Nazwa, Dubai**	**2.40**	**239**	*e*P		**Pb**	**17 42 36.8**	**+1.0**
	SNR=18							
NAZ	**Nazwa, Dubai**	**2.40**	**239**	P		**Pg**	**17 42 38.7**	**+0.2**
	SNR=18							
NAZ	**Nazwa, Dubai**	**2.40**	**239**	*e*Pn		**Pg**	**17 42 38.8**	**+0.4**
CHBR	**Chabahar**	**2.41**	**105**	*e*Pn		**Pg**	**17 42 40.3**	**+1.7**
SOHO	**SOHO**	**2.46**	**211**	P		**Pb**	**17 42 37.3**	**+0.5**
	SNR=20							
FAQ	**Al Faqa, Dubai**	**2.58**	**235**	*e*P		**Pg**	**17 42 40.9**	**-1.2**
	SNR=24							
FAQ	**Al Faqa, Dubai**	**2.58**	**235**	P		**Pg**	**17 42 41.3**	**-0.7**
	SNR=24							
FAQ	**Al Faqa, Dubai**	**2.58**	**235**	*e*Pn		**Pg**	**17 42 41.4**	**-0.6**
HOQ	**Hoqain**	**2.72**	**192**	*e*Pn		**Pb**	**17 42 40.7**	**-0.6**
BIDO	**Bidbid**	**2.74**	**176**	*e*Pn		**Pg**	**17 42 44.2**	**-0.7**
ASUD	**Al Ashush, Dub**	**2.85**	**236**	*i* P		**Pb**	**17 42 44.1**	**+0.6**
	SNR=14							
ASUD	**Al Ashush, Dub**	**2.85**	**236**	P		**Pb**	**17 42 45.1**	**+1.7**
	SNR=14							
ASUD	**Al Ashush, Dub**	**2.85**	**236**	*e*Pn		**Pb**	**17 42 45.3**	**+1.9**
ALNE	**Al Ain**	**2.94**	**222**	*e*Pn		**Pb**	**17 42 47.1**	**+2.0**
AJN	**Ajban**	**3.14**	**238**	P		**Pg**	**17 42 51.2**	**-1.5**
AJN	**Ajban**	**3.14**	**238**	*e*Pn		**Pg**	**17 42 53.2**	**+0.5**
NGRK	**Negar Kerman**	**3.53**	**343**	*e*Pn		**Pn**	**17 42 46.3**	**-1.4**
NGRK				IAMB		IAmb	17 43 45.1	
	comp=Z,0.0nm,0.7s							
CHMN	**Cheshme madani**	**3.60**	**355**	*e*Pn		**Pn**	**17 42 49.5**	**+0.8**
TVBK	**TV Kerman**	**3.85**	**345**	*e*Pn		**Pn**	**17 42 52.3**	**+0.2**
TVBK				IAMB		IAmb	17 43 51.3	
	comp=Z,0.0nm,0.6s							
ZHSF	**Zahedan**	**4.19**	**37**	*e*Pn		**Pn**	**17 42 57.3**	**+0.7**
KHGB	**Koh Gabri**	**4.29**	**343**	*e*Pn		**Pn**	**17 42 56.8**	**-1.3**
KHGB				IAMB		IAmb	17 44 08.8	
	comp=Z,0.0nm,0.7s							
GHIR	**Ghir-Karzin**	**4.83**	**296**	*e*Pn		**Pn**	**17 43 03.9**	**-1.4**
BSRN	**Basiran**	**5.78**	**10**	*e*Pn		**Pn**	**17 43 17.3**	**-1.2**
IMEH	**Mehriz**	**5.87**	**331**	*e*Pn		**Pn**	**17 43 18.3**	**-1.5**
IKOO	**Kooshah**	**6.21**	**9**	*e*Pn		**Pn**	**17 43 23.0**	**-1.5**
IKAZ	**Kazeroun**	**6.41**	**305**	*e*Pn		**Pn**	**17 43 24.8**	**-2.5**
ISAD	**Sadrabad**	**6.74**	**328**	*e*Pn		**Pn**	**17 43 30.2**	**-1.5**
TPRV	**Parvadeh(Tabas**	**6.83**	**351**	*e*Pn		**Pn**	**17 43 32.2**	**-0.6**
IRAM	**Rameshe'h**	**7.35**	**320**	*e*Pn		**Pn**	**17 43 37.7**	**-2.4**
BRTR	**Keskin Array B**	**24.30**	**310**	P		**P**	**17 47 11.6**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=125,slow=11,SNR=12							
AKASG	**Malin Array Be**	**32.80**	**326**	P		**P**	**17 48 24.4**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=121,slow=7.7,SNR=4.6							
GERES	**GERESS Array B**	**40.92**	**315**	P		**P**	**17 49 33.9**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=120,slow=5.8,SNR=4.9							
TORD	**Torodi Ar. Bea**	**54.14**	**267**	P		**P**	**17 51 18.9**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=62,slow=8.2,SNR=4.5							

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*KRSC **21** 17:42:11.6±10.0, 51°.95N×160°.72E, h61km±10km, ML5.5*
*IDC **21** 17:42:12.5±0.5, 52°.26N×160°.11E, h0km, mb4.5/31, mb1 4.6/35, mb1mx4.5/50, mbtmp4.5/35, ML4.2/3, MS4.5/27, Ms1 4.5/27, ms1mx4.3/43, Error ellipse: s-maj=13.2km s-min=10.2km az=147.0*
*MOS **21** 17:42:17.6±1.1, 52°.23N×160°.20E, h53km, mb5.2/35, MS4.9/21, Error ellipse: s-maj=6.3km s-min=3.2km az=99.1*
*ISCJB **21** 17:42:18.4±0.3, 52°.25N±0°.02×160°.09E±0°.03, h55km±2km, mb4.9/329, MS4.8/58, Error ellipse: s-maj=4.2km s-min=2.4km az=152.2*
*NEIC **21** 17:42:18.2±1.9, 52°.33N×159°.97E, h36km±4km, mb4.9/257, Error ellipse: s-maj=14.5km s-min=11.6km az=147.0*
*BJI **21** 17:42:19.1±0.0, 52°.77N×159°.45E, h43km, mb4.9/62, mB4.9/44, Ms5.1/55, Ms7 4.9/50*
*GCMT **21** 17:42:20.2±0.3, 52°.07N±0°.02×160°.69E±0°.04, h27km, MW5.0/73, Moment Tensor Solution. s39,c51; s73,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.24±.17; $M_{\theta\theta}$-1.54±.11; $M_{\phi\phi}$-1.70±.11; $M_{r\theta}$1.71±.20

TUMR	**Tumrok**	**3.09 358**	PN	**Pn**	**17 43 03.0**	**-1.6**
TUMR			S	**Sn**	**17 43 39.2**	**-1.1**
ALID	**Alaid**	**3.27 248**	*e*P	**Pn**	**17 43 05.7**	**-1.4**
ALID	**Alaid**	**3.27 248**	PN	**Pn**	**17 43 05.7**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**3.75 3**	P	**Pn**	**17 43 15.4**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**3.75 3**	PN	**Pn**	**17 43 15.4**	**+1.8**
KIRR	**Kirishev**	**3.76 0**	P	**Pn**	**17 43 13.3**	**-0.5**
KIRR	**Kirishev**	**3.76 0**	PN	**Pn**	**17 43 13.3**	**-0.5**
ESO	**Esso**	**3.85 346**	*e*P	**Pn**	**17 43 15.3**	**+0.4**
ESO	**Esso**	**3.85 346**	PN	**Pn**	**17 43 15.3**	**+0.4**
KOZ	**Kozyrevsk**	**3.87 356**	*e*P	**Pn**	**17 43 15.2**	**0.0**
KOZ	**Kozyrevsk**	**3.87 356**	PN	**Pn**	**17 43 15.2**	**0.0**
LGNR	**Loginova**	**3.90 3**	P	**Pn**	**17 43 17.2**	**+1.4**
LGNR	**Loginova**	**3.90 3**	PN	**Pn**	**17 43 17.2**	**+1.4**
CIRR	**Tsirk**	**3.93 3**	P	**Pn**	**17 43 17.9**	**+1.8**
CIRR	**Tsirk**	**3.93 3**	PN	**Pn**	**17 43 17.9**	**+1.8**
KRSR	**Krestovskiy**	**4.03 2**	P	**Pn**	**17 43 17.6**	**+0.2**
KRSR	**Krestovskiy**	**4.03 2**	PN	**Pn**	**17 43 17.6**	**+0.2**
KLY	**Klyuchi**	**4.12 2**	P	**Pn**	**17 43 19.8**	**+1.2**
KLY	**Klyuchi**	**4.12 2**	PN	**Pn**	**17 43 19.8**	**+1.2**
SRDR	**Sredinnyy**	**4.14 355**	*e*P	**Pn**	**17 43 18.5**	**-0.4**
SRDR	**Sredinnyy**	**4.14 355**	PN	**Pn**	**17 43 18.5**	**-0.4**
KBTR	**Krutoberegovo**	**4.27 19**	P	**Pn**	**17 43 19.6**	**-1.0**
KBTR	**Krutoberegovo**	**4.27 19**	PN	**Pn**	**17 43 19.6**	**-1.0**
KBG	**Krutoberegovo**	**4.29 18**	P	**Pn**	**17 43 20.5**	**-0.4**
KBG	**Krutoberegovo**	**4.29 18**	PN	**Pn**	**17 43 20.5**	**-0.4**
BDR	**Baidarnaya**	**4.41 6**	*e*P	**Pn**	**17 43 23.5**	**+0.9**
BDR	**Baidarnaya**	**4.41 6**	PN	**Pn**	**17 43 23.5**	**+0.9**
SMKR	**Semkarok**	**4.44 8**	P	**Pn**	**17 43 24.2**	**+1.2**
SMKR	**Semkarok**	**4.44 8**	PN	**Pn**	**17 43 24.2**	**+1.2**
SRKR	**Sorokina**	**4.49 6**	*e*P	**Pn**	**17 43 24.4**	**+0.7**
SRKR	**Sorokina**	**4.49 6**	PN	**Pn**	**17 43 24.4**	**+0.7**
BKI	**Bering**	**4.50 46**	*e*P	**Pn**	**17 43 21.4**	**-2.4**
BKI			S	**Sn**	**17 44 08.5**	**-6.3**
BKI	**Bering**	**4.50 46**	PN	**Pn**	**17 43 21.4**	**-2.4**
MA2	**Magadan**	**9.13 328**	*e*Pn	**Pn**	**17 44 23.8**	**-3.4**
MA2	**Magadan**	**9.13 328**‖	*e*PN	**Pn**	**17 44 28.6**	**+1.4**
MA2			pmax	pmax		
	comp=Z,18nm,1.8s					
MA2	**Magadan**	**9.13 328**	Pn	**Pn**	**17 44 27.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=160,slow=10,SNR=5.1					
MA2			LR	LR	17 48 47.2	
	comp=Z,4μm,18.1s,baz=144,slow=44					
OKH	**Okha**	**10.61 284**	*d i* PN	Pn	17 44 54.6	+7.2
OKH			*i* S	Sn	17 46 55.5	+11
OKH			pmax	pmax		
	comp=Z,200nm,11.4s					
OKH			smax	smax		
	comp=N,200nm,18.5s					
OKH			MLR	MLR		
	comp=Z,5μm,14.0s					
KUR	**Kuril'sk**	**10.78 235**‖	*e*PN	**Pn**	**17 44 52.1**	**+2.3**
TYV	**Tymovskoe**	**11.10 270**	*e*PN	**Pn**	**17 44 56.5**	**+2.4**
TYV			*e*S	**Sn**	**17 47 00.7**	**+4.1**
TYV			pmax	pmax		
	comp=Z,400nm,5.1s					
TYV			pmax	pmax		
	comp=Z,16nm,1.3s					
TYV			smax	smax		
	comp=E,10.0nm,0.9s					
TYV			MLR	MLR		
	comp=Z,5μm,16.0s					
TYV			MLR	MLR		
	comp=N,4μm,16.0s					
SEY	**Seymchan**	**11.56 342**⇑	*e*PN	**Pn**	**17 44 59.8**	**-0.6**
SEY	**Seymchan**	**11.56 342**	Pn	**Pn**	**17 45 01.5**	**+1.1**
	comp=N,0.1nm,0.3s,baz=138,slow=10.0,SNR=10					
SEY			LR	LR	17 49 45.9	
	comp=N,2μm,21.3s,baz=154,slow=40					
NKL	**Nikolayevsk**	**11.97 282**	*e*PN	**Pn**	**17 45 08.0**	**+2.0**
NKL			*e*		17 47 30.0	
NKL			pmax	pmax		
	comp=Z,22nm,1.0s					
NKL			pmax	pmax		
	comp=E,800nm,9.0s					
NKL			pmax	pmax		
	comp=Z,600nm,9.0s					
NKL			MLR	MLR		
	comp=N,2μm,14.0s					
NKL			MLR	MLR		
	comp=E,3μm,14.0s					
NKL			MLR	MLR		
	comp=Z,8μm,14.0s					
YSS	**Yuzh-Sakhalins**	**12.55 252**	*e*Pn	**Pn**	**17 45 13.7**	**-0.3**
YSS	**Yuzh-Sakhalins**	**12.55 252**	*oe*PN	**Pn**	**17 45 14.3**	**+0.3**
YSS			pmax	pmax		
	comp=Z,300nm,5.2s					
YSS			pmax	pmax		
	comp=Z,40nm,1.0s					
YSS			MLR	MLR		
	comp=Z,2μm,12.0s					
YSS			MLR	MLR		
	comp=E,1μm,17.0s					
YUK	**Yuzh-Kuril'sk**	**12.64 235**	*e*PN	**Pn**	**17 45 17.8**	**+2.6**
YUK			MLR	MLR		
	comp=Z,3μm,18.0s					
YUK			MLR	MLR		
	comp=N,2μm,16.0s					
YUK			MLR	MLR		
	comp=E,5μm,17.0s					
ASAJ	**Asahikawa**	**14.31 243**	Pn	**Pn**	**17 45 36.0**	**-1.9**
	comp=E,2.1nm,0.3s,baz=65,slow=12,SNR=20					
ASAJ			LR	LR	17 51 54.4	
	comp=E,2μm,18.2s,baz=46,slow=41					
GRNR	**Gornyy**	**14.95 274**	*e*P	**P**	**17 45 50.1**	**-1.1**
GRNR			pmax	pmax		
	comp=Z,20nm,1.1s					
ERM	**Erimo**	**15.47 236**	*e*Pn	**Pn**	**17 45 46.5**	**-6.7**
	comp=Z,107nm,1.4s					
ERM	**Erimo**	**15.47 236**	*e*P	**Pn**	**17 45 46.5**	**-6.7**
ERM			pmax	pmax		
	comp=Z,107nm,1.4s					
BILL	**Bilibino**	**16.15 8**	*e*Pn	**Pn**	**17 46 00.1**	**-1.6**
	comp=Z,36nm,0.9s					
BILL	**Bilibino**	**16.15 8**‖	*e*P	**Pn**	**17 46 01.3**	**-0.4**
BILL			*e*S	**Sn**	**17 49 03.8**	**+4.3**
BILL			pmax	pmax		
	comp=Z,62nm,1.7s					
BILL			MLR	MLR		
	comp=Z,2μm,19.0s					
TEY	**Ternei**	**17.20 255**‖	*e*P	**P**	**17 46 15.8**	**-0.3**
TEY			pmax	pmax		
	comp=E,40nm,0.8s					
TEY			pmax	pmax		
	comp=Z,30nm,2.4s					
KLR	**Kul'dur**	**18.29 272**	*c e*P	**P**	**17 46 28.0**	**-0.1**
KLR			pmax	pmax		
	comp=Z,34nm,1.0s					
KLR	**Kul'dur**	**18.29 272**	P	**P**	**17 46 27.7**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=60,slow=11,SNR=34					
KLR			LR	LR	17 54 27.5	
	comp=Z,2μm,18.4s,baz=74,slow=40					
YAK	**Yakutsk**	**19.14 313**	*c i* P	**P**	**17 46 35.1**	**-2.2**
YAK			*e*S	**S**	**17 50 07.0**	**-4.7**
YAK			pmax	pmax		
	comp=Z,503nm,1.0s					
YAK			pmax	pmax		
	comp=N,112nm,1.1s					
YAK			pmax	pmax		
	comp=E,383nm,0.9s					
YAK			pmax	pmax		
	comp=Z,296nm,1.4s					
YAK			pmax	pmax		
	comp=N,185nm,1.4s					
YAK			pmax	pmax		
	comp=E,544nm,1.4s					
YAK			smax	smax		
	comp=N,78nm,1.0s					
YAK			smax	smax		
	comp=E,173nm,1.8s					
YAK			MLR	MLR		
	comp=Z,3μm,14.0s					
YAK			MLR	MLR		
	comp=N,5μm,13.0s					
YAK			MLR	MLR		
	comp=E,4μm,14.0s					
ZEA	**Zeya**	**19.89 288**	*e*P	**P**	**17 46 43.9**	**-1.6**
ZEA			pmax	pmax		
	comp=N,16nm,0.9s					
ZEA			pmax	pmax		
	comp=E,24nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,29nm,1.0s					
ZEA			MLR	MLR		
	comp=N,2μm,14.0s					
ZEA			MLR	MLR		
	comp=E,4μm,14.0s					
ZEA			MLR	MLR		
	comp=Z,7μm,14.0s					
USA0B	**Ussuriysk Arra**	**20.42 258**	*e*P	**P**	**17 46 48.6**	**-2.8**
	comp=Z,63nm,1.0s					
USRK	**Ussuriysk Ar.**	**20.42 258**	*e*P	**P**	**17 46 48.9**	**-2.4**
USRK	**Ussuriysk Ar.**	**20.42 258**	P	**P**	**17 46 48.8**	**-2.6**
	comp=Z,41nm,0.9s,baz=58,slow=8.9,SNR=36					
USRK			LR	LR	17 54 49.9	
	comp=Z,1μm,20.4s,baz=56,slow=37					
VLA	**Vladivostok**	**21.09 256**⇑	*e*P	**P**	**17 46 55.8**	**-2.8**
VLA			pmax	pmax		
	comp=Z,35nm,0.9s					
ANM	**Nome**	**21.49 42**	*e*P	P	17 47 10.7	+8.0
	comp=Z,22nm,1.0s					
MDJ	**Mudanjiang**	**21.65 262**	P	**P**	**17 47 02.3**	**-2.3**
MDJ			pmax	pmax		
	comp=Z,42nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,150nm,3.5s					
MDJ			LR	LR		
	comp=Z,3μm,19.4s					
MDJ			LR	LR		
	comp=Z,1μm,17.4s					
MDJ			LR	LR		
	comp=Z,2μm,16.6s					
MJB9	**Matsu-Tunnel**	**22.12 234**	*e*P	**P**	**17 47 09.7**	**-0.1**
	comp=Z,58nm,0.8s					
MAJO	**Matsushiro**	**22.12 234**	*e*P	**P**	**17 47 09.5**	**-0.2**
	comp=Z,56nm,0.8s					
MAJO	**Matsushiro**	**22.12 234**	*de*P	**P**	**17 47 09.5**	**-0.2**
MAJO			pmax	pmax		
	comp=Z,95nm,1.2s					
MAT	**Matsushiro**	**22.12 234**	P	**P**	**17 47 08.5**	**-1.2**
MAT			S	**S**	**17 51 10.8**	**0.0**
MJAR	**Matsushiro Arr**	**22.12 234**	*e*P	**P**	**17 47 10.2**	**+0.5**
MJAR	**Matsushiro Arr**	**22.12 234**	P	**P**	**17 47 09.5**	**-0.2**
	comp=Z,52nm,1.1s,baz=23,slow=9.2,SNR=65					
MJAR			LR	LR	17 56 16.4	
	comp=Z,2μm,21.1s,baz=60,slow=38					
SDPT	**Sand Point**	**23.16 67**	*e*P	**P**	**17 47 23.5**	**+3.1**
	comp=Z,80nm,1.0s					
INU	**Inuyama**	**23.65 234**	*e*P	**P**	**17 47 25.6**	**+0.3**
	comp=Z,55nm,1.0s					
RDOG	**Red Dog Mine**	**23.69 34**	*e*P	**P**	**17 47 26.3**	**+0.8**
	comp=Z,60nm,1.4s					
TIXI	**Tiksi**	**23.95 336**	*e*P	**P**	**17 47 25.4**	**-2.4**
TIXI	**Tiksi**	**23.95 336**	*c e*P	**P**	**17 47 26.3**	**-1.5**
TIXI			pmax	pmax		
	comp=Z,59nm,1.3s					
TIXI	**Tiksi**	**23.95 336**	P	**P**	**17 47 26.5**	**-1.3**
	comp=Z,32nm,0.9s,baz=123,slow=10,SNR=114					
JHJ2	**Mitsune**	**24.17 226**	*e*P	**P**	**17 47 30.8**	**+0.6**
	comp=Z,291nm,1.4s					
CN2	**Changchun**	**24.61 264**	*e*P	**P**	**17 47 30.6**	**-3.4**
CN2			*e*pP	pP	17 47 42.1	-3.0
CN2			*e*S	**S**	**17 51 42.8**	**-9.1**
CN2			*e*SS	**SnSn**	**17 52 38.3**	**-1.8**
CN2			pmax	pmax		
	comp=Z,30nm,1.1s					
CN2			pmax	pmax		
	comp=Z,60nm,3.0s					
CN2			LR	LR		
	comp=Z,2μm,14.0s					
CN2			LR	LR		
	comp=Z,1μm,14.0s					
CN2			LR	LR		
	comp=Z,3μm,13.0s					
SVW2	**Sparrowhn**	**25.35 52**	*e*P	**P**	**17 47 42.4**	**+1.7**
	comp=Z,13nm,1.2s					
HIA	**Hailar**	**25.62 280**	*e*P	**P**	**17 47 40.7**	**-2.5**
	comp=Z,47nm,0.9s					
HIA	**Hailar**	**25.62 280**	*c i* P	**P**	**17 47 40.9**	**-2.3**
HIA			pmax	pmax		
	comp=Z,326nm,1.0s					
IMAR	**Indian Mountai**	**26.57 41**	*e*P	**P**	**17 47 51.5**	**-0.1**
IMAR			*e*PcP	**PcP**	**17 51 15.7**	**+1.0**
BOD	**Bodaibo**	**26.72 301**	*e*P	**P**	**17 47 50.7**	**-2.3**
BOD			pmax	pmax		
	comp=Z,28nm,2.1s					
PPLA	**Purkeypile**	**26.98 48**	*e*P	**P**	**17 47 56.8**	**+1.3**
	comp=Z,48nm,1.6s					
KSRS	**Korea Array**	**27.03 250**	P	**P**	**17 47 56.9**	**+1.0**
	comp=Z,17nm,1.0s,baz=44,slow=8.9,SNR=32					
KSRS			LR	LR	17 59 41.2	
	comp=Z,1μm,18.8s,baz=58,slow=39					
CAST	**Castle Rocks**	**27.04 47**	*e*P	**P**	**17 47 56.2**	**+0.3**
	comp=Z,16nm,1.5s					
KS15	**Wonju Array Si**	**27.06 250**	*e*P	**P**	**17 47 57.5**	**+1.2**
	comp=Z,21nm,1.0s					
KSAR	**Wonju Array Be**	**27.06 250**	*e*P	**P**	**17 47 55.3**	**-0.9**
KDAK	**Kodiak Island**	**27.12 59**	*e*P	**P**	**17 48 00.1**	**+3.5**
	comp=Z,66nm,1.9s					
BPAW	**Bear Paw Mtn.**	**27.56 45**	*e*P	**P**	**17 48 00.6**	**+0.1**
	comp=Z,28nm,1.8s					
MLY	**Manley**	**27.71 43**	*e*P	**P**	**17 48 03.8**	**+1.9**
	comp=Z,9.3nm,1.1s					
BRLK	**Bradley Lake**	**27.75 55**	*e*P	**P**	**17 48 01.7**	**-0.5**
	comp=Z,20nm,1.3s					
TJN	**Taejon**	**28.10 249**‖	*e*P	**P**	**17 48 05.1**	**-0.4**
COLD	**Coldfoot**	**28.15 39**	*e*P	**P**	**17 48 09.2**	**+3.5**
	comp=Z,4.2nm,1.0s					
JNU	**Nakatsue**	**28.55 240**	*e*P	**P**	**17 48 10.3**	**+0.7**
	comp=Z,49nm,1.0s					
JNU	**Nakatsue**	**28.55 240**	P	**P**	**17 48 10.3**	**+0.7**
	comp=Z,20nm,0.9s,baz=15,slow=5.4,SNR=10					
TOLK	**Toolik Lake Re**	**28.59 36**	*e*P	**P**	**17 48 09.9**	**+0.2**
	comp=Z,6.6nm,0.9s					
MDM	**Murphy Dome**	**28.77 44**	*e*P	**P**	**17 48 12.5**	**+1.2**
	comp=Z,10nm,1.4s					
KNK	**Knik Glacier**	**28.78 51**	*e*P	**P**	**17 48 15.1**	**+3.6**
	comp=Z,9.8nm,0.9s					
SML	**Sawmill**	**28.81 50**	*e*P	**P**	**17 48 11.8**	**+0.1**
	comp=Z,14nm,0.8s					
WRH	**Wood River Hil**	**28.83 45**	*e*P	**P**	**17 48 13.2**	**+1.4**
	comp=Z,25nm,1.5s					
COLA	**College**	**28.93 44**‖	*e*P	**P**	**17 48 16.1**	**+3.4**
COLA			pmax	pmax		
	comp=Z,3.0nm,0.8s					
CCB	**Clear Creek Bu**	**28.95 44**	*e*P	**P**	**17 48 17.2**	**+4.3**
	comp=Z,10nm,1.2s					
DHY	**Denali Highway**	**29.18 48**	*e*P	**P**	**17 48 15.5**	**+0.4**
	comp=Z,16nm,1.4s					
SCM	**Sheep Creek Mo**	**29.28 50**	*e*P	**P**	**17 48 15.9**	**0.0**
	comp=Z,16nm,1.0s					
HDA	**Harding Lake**	**29.32 45**	*e*P	**P**	**17 48 16.9**	**+0.7**
	comp=Z,3.4nm,0.7s					
ILAR	**Eielson Array**	**29.35 44**	*e*P	**P**	**17 48 16.8**	**+0.5**
ILAR	**Eielson Array**	**29.35 44**	P	**P**	**17 48 16.9**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=250,slow=6.9,SNR=11					
ILAR			PcP	**PcP**	**17 51 21.5**	**0.0**
	comp=Z,0.5nm,0.9s,baz=271,slow=4.3,SNR=2.9					
ILAR			LR	LR	18 01 42.2	
	comp=Z,454nm,19.5s,baz=278,slow=40					
ILB	**Eielson Array**	**29.35 44**	*e*P	**P**	**17 48 17.1**	**+0.8**
	comp=Z,5.8nm,0.9s					
PRP	**Porcupine Dome**	**29.92 43**	*e*P	**P**	**17 48 21.7**	**+0.1**
	comp=Z,8.5nm,1.0s					
RIDG	**Independent Ri**	**30.27 46**	*e*P	**P**	**17 48 26.8**	**+2.1**
	comp=Z,12nm,1.2s					
DOT	**Dot Lake**	**30.63 46**	*e*P	**P**	**17 48 30.4**	**+2.7**
	comp=Z,21nm,1.9s					
SCRK	**Sand Creek**	**30.64 46**	*e*P	**P**	**17 48 32.0**	**+4.1**
	comp=Z,8.3nm,1.2s					
BCAR	**Beaver Creek A**	**31.71 47**	*e*P	**P**	**17 48 37.5**	**+0.3**
EGAK	**Eagle**	**31.80 44**	*e*P	**P**	**17 48 37.3**	**-0.7**
	comp=Z,8.2nm,0.9s					
CTGM	**Chitina Glacie**	**32.26 51**	*e*P	P	17 48 47.4	+5.2
	comp=Z,6.8nm,0.8s					
H11N2	**WAKE ISLAND Hy**	**32.81 169**	T	T	18 24 09.6	
	baz=354,slow=74,SNR=459					
H11N3	**WAKE ISLAND Hy**	**32.83 169**	T	T	18 24 10.2	
	baz=354,slow=74,SNR=536					
H11N1	**WAKE ISLAND Hy**	**32.83 169**	T	T	18 24 09.0	
	baz=354,SNR=388					
IRK	**Irkutsk**	**33.61 293**	*e*P	**P**	**17 48 52.1**	**-1.8**
IRK			pmax	pmax		
	comp=Z,89nm,2.0s					
ULN	**Ulaanbaatar**	**33.85 284**	*e*P	**P**	**17 48 53.8**	**-2.5**
	comp=Z,11nm,1.0s					
ULN	**Ulaanbaatar**	**33.85 284**	*c i* P	**P**	**17 48 54.7**	**-1.6**
ULN			pmax	pmax		
	comp=Z,10.0nm,0.8s					
ULN	**Ulaanbaatar**	**33.85 284**	P	**P**	**17 48 54.5**	**-1.8**
H11S1	**WAKE ISLAND Hy**	**33.99 169**	T	T	18 25 37.6	
	baz=353,slow=76,SNR=13					
H11S3	**WAKE ISLAND Hy**	**34.01 169**	T	T	18 25 36.5	
	baz=353,SNR=20					
H11S2	**WAKE ISLAND Hy**	**34.01 169**	T	T	18 25 37.0	
	baz=353,slow=76,SNR=8.6					
HYT	**Haines Junctio**	**34.12 51**	*e*P	**P**	**17 49 00.4**	**+2.0**
	comp=Z,9.0nm,1.1s					
TLY	**Talaya**	**34.19 292**	*e*P	**P**	**17 48 57.6**	**-1.4**
	comp=Z,32nm,1.1s					
TLY	**Talaya**	**34.19 292**	*c i* P	**P**	**17 48 58.0**	**-1.0**
TLY	**Talaya**	**34.19 292**	P	**P**	**17 48 58.0**	**-1.0**
TLY			P	**P**	**17 48 58.0**	**-1.0**
SONM	**Songino Array**	**34.26 285**	*e*P	**P**	**17 48 58.1**	**-1.7**
SONM	**Songino Array**	**34.26 285**	P	**P**	**17 48 58.4**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=57,slow=7.2,SNR=14					
SONM			LR	LR	18 04 28.1	
	comp=Z,3μm,18.3s,baz=64,slow=39					
TIA	**Tai'an**	**34.27 260**	P	**P**	**17 49 00.3**	**+0.4**
TIA			pmax	pmax		
	comp=Z,33nm,0.9s					
TIA			pmax	pmax		
	comp=Z,94nm,8.1s					
TIA			LR	LR		
	comp=Z,900nm,15.1s					
TIA			LR	LR		
	comp=Z,870nm,14.7s					
TIA			LR	LR		
	comp=Z,430nm,14.2s					
INK	**Inuvik**	**34.49 37**	*e*P	**P**	**17 49 01.3**	**0.0**
	comp=Z,40nm,1.9s					
INK	**Inuvik**	**34.49 37**	P	**P**	**17 49 01.7**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=286,slow=9.2,SNR=11					
HHC	**Hu-ho-hao-te**	**34.79 271**	*e*P	**P**	**17 49 02.9**	**-1.5**
HHC			S	**S**	**17 54 30.8**	**-0.9**
HHC			pmax	pmax		
	comp=Z,120nm,0.9s					
HHC			pmax	pmax		
	comp=Z,320nm,4.6s					
HHC			LR	LR		
	comp=Z,1μm,12.2s					
HHC			LR	LR		
	comp=Z,1μm,13.0s					
HHC			LR	LR		
	comp=Z,2μm,12.5s					
JOW	**Kunigami**	**34.92 236**	*e*P	**P**	**17 49 07.7**	**+2.1**
	comp=Z,31nm,1.1s					
ZAK	**Zakamensk**	**34.94 290**	*e*P	**P**	**17 49 04.1**	**-1.5**
ZAK			pmax	pmax		
	comp=Z,21nm,1.2s					
WHY	**Whitehorse**	**35.40 50**	*e*P	**P**	**17 49 13.4**	**+3.9**
	comp=Z,30nm,1.7s					
MOY	**Mondy**	**35.70 293**	*e*P	**P**	**17 49 11.2**	**-0.9**
MOY			pmax	pmax		
	comp=Z,45nm,1.3s					
BTO	**Baotou**	**35.88 272**	*e*P	**P**	**17 49 11.3**	**-2.5**
NJ2	**Nanjing**	**36.12 253**	*e*P	**P**	**17 49 15.3**	**-0.4**
NJ2			pmax	pmax		
	comp=Z,15nm,0.7s					
NRIK	**Noril'sk**	**36.72 325**	P	**P**	**17 49 19.4**	**-1.1**
	comp=Z,16nm,1.1s,baz=94,slow=8.6,SNR=22					
NRIK			LR	LR	18 05 56.6	
	comp=Z,3μm,18.4s,baz=69,slow=39					
KRAR	**Krasnoyarsk**	**38.31 303**‖	*e*P	**P**	**17 49 31.0**	**-3.1**
DLBC	**Dease Lake**	**38.47 52**	*e*P	**P**	**17 49 38.7**	**+3.2**
DLBC	**Dease Lake**	**38.47 52**	P	**P**	**17 49 37.0**	**+1.6**
	comp=Z,2.2nm,0.8s,baz=301,slow=12,SNR=3.9					
DLBC			LR	LR	18 07 18.2	
	comp=Z,263nm,18.1s,baz=319,slow=39					
XAN	**Xi'an**	**40.72 264**	P	**P**	**17 49 54.1**	**-0.3**
XAN			PcP	**PcP**	**17 51 55.4**	**+0.2**
XAN			S	**S**	**17 55 58.9**	**-2.6**
XAN			pmax	pmax		
	comp=Z,8.0nm,1.2s					
XAN			LR	LR		
	comp=Z,2μm,19.6s					
XAN			LR	LR		
	comp=Z,1μm,20.1s					
XAN			LR	LR		
	comp=Z,1μm,15.2s					
YULB	**Yu-li**	**41.38 241**	*e*P	**P**	**17 50 01.3**	**+1.4**
	comp=Z,19nm,1.0s					
QZH	**Quanzhou**	**41.63 245**	*e*P	**P**	**17 50 06.5**	**+4.6**
QZH			S	**S**	**17 56 20.9**	**+5.8**
QZH			LR	LR		
	comp=Z,570nm,21.3s					
QZH			LR	LR		
	comp=Z,330nm,18.5s					
QZH			LR	LR		
	comp=Z,500nm,16.6s					
LZH	**Lanzhou**	**42.49 271**	*e*P	**P**	**17 50 07.8**	**-1.2**
LZH			pP	pP	17 50 19.5	-1.1
LZH			sP	sP	17 50 24.3	-1.3
LZH			PP	**PP**	**17 51 53.3**	**+5.4**
LZH			*e*S	**S**	**17 56 29.3**	**+1.4**
LZH			sS	sS	17 56 47.6	+0.5
LZH			pmax	pmax		
	comp=Z,15nm,1.3s					
LZH			pmax	pmax		
	comp=Z,110nm,4.6s					
LZH			LR	LR		
	comp=Z,2μm,16.8s					
LZH			LR	LR		
	comp=Z,2μm,16.0s					
LZH			LR	LR		
	comp=Z,2μm,17.6s					
GTA	**Gaotai**	**42.86 277**	P	**P**	**17 50 11.3**	**-0.7**
GTA			pP	pP	17 50 21.6	-1.9
GTA			sP	pwP	17 50 25.5	-1.2
GTA			PcP	**PcP**	**17 52 02.9**	**+0.7**
GTA			pmax	pmax		
	comp=Z,12nm,1.3s					
GTA			pmax	pmax		
	comp=Z,79nm,5.1s					
GTA			LR	LR		
	comp=Z,2μm,15.5s					
GTA			LR	LR		
	comp=Z,1μm,15.2s					
GTA			LR	LR		
	comp=Z,2μm,17.1s					
ENH	**Enshi**	**42.99 260**	*e*P	**P**	**17 50 11.2**	**-1.7**
	comp=Z,39nm,1.0s					
ZAA0	**Zalesovo Array**	**43.39 304**	*e*P	**P**	**17 50 13.1**	**-2.8**
	comp=Z,7.3nm,0.9s					
ZALV	**Zalesovo Beam**	**43.39 304**	*e*P	**P**	**17 50 12.6**	**-3.3**
ZALV	**Zalesovo Beam**	**43.39 304**	P	**P**	**17 50 13.3**	**-2.5**
	comp=Z,7.1nm,0.9s,baz=63,slow=6.8,SNR=20					
ZALV			LR	LR	18 09 49.2	
	comp=Z,1μm,18.5s,baz=70,slow=38					
YKW3	**Yellowknife Ar**	**43.69 42**	*e*P	**P**	**17 50 21.6**	**+3.4**
	comp=Z,8.2nm,1.4s					
YKA	**Yellowknife Ar**	**43.73 42**	P	**P**	**17 50 19.6**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=300,slow=8.0,SNR=9.2					
NVS	**Novosibirsk**	**43.74 305**‖	*i* P	**P**	**17 50 17.3**	**-1.4**
NVS			*e*S	**S**	**17 56 43.5**	**-2.0**
NVS			pmax	pmax		
	comp=Z,54nm,0.9s					
NVS			pmax	pmax		
	comp=N,14nm,1.0s					
NVS			pmax	pmax		
	comp=E,39nm,1.0s					
NVS			smax	smax		
	comp=N,7.0nm,1.3s					
NVS			smax	smax		
	comp=E,6.0nm,1.0s					
RES	**Resolute Bay**	**44.10 22**	*e*P	**P**	**17 50 22.1**	**+0.8**
	comp=E,34nm,1.9s					
RES	**Resolute Bay**	**44.10 22**	P	**P**	**17 50 21.2**	**-0.1**
	comp=E,2.8nm,0.8s,baz=307,slow=7.3,SNR=7.3					
DGZ	**Jazzator, Alta**	**44.20 297**	*i* P	**P**	**17 50 21.5**	**-1.2**
DGZ			pmax	pmax		
	comp=Z,14nm,0.9s					
CD2	**Cheng

WMQ Urumqi 47.41 290 P P 17 50 48.0 +0.1
WMQ pP pP 17 50 58.3 -1.4
WMQ sP sP 17 51 04.8 +0.1
WMQ pmax pmax
comp=Z,97nm,1.1s
WMQ pmax pmax
comp=Z,340nm,5.3s
WMQ LR LR
comp=Z,4μm,15.9s
WMQ LR LR
comp=Z,6μm,14.7s
WMQ LR LR
comp=Z,6μm,15.5s
GYA Guiyang 47.46 259 P P 17 50 47.8 -0.7
GYA pP pP 17 50 59.8 -0.3
GYA sP sP 17 51 05.5 +0.4
GYA PP **PP 17 52 38.8 -1.3**
GYA S **S 17 57 41.4 +1.5**
GYA sS sS 17 58 02.0 +2.8
GYA SS **SS 18 00 58.8 -9.0**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,550nm,17.9s
GYA LR LR
comp=Z,520nm,17.2s
GYA LR LR
comp=Z,540nm,18.7s
KBS Kingsbay 47.78 352 *e*P **P 17 50 50.0 -0.3**
comp=Z,30nm,1.0s
KBS Kingsbay 47.78 352‖ *e*P **P 17 50 51.8 +1.5**
KBS Kingsbay 47.78 352 *e*P **P 17 50 50.1 -0.1**
SPA0 Spitsbergen Ar 48.04 351 *e*P **P 17 50 52.1 -0.1**
comp=Z,136nm,1.3s
SPA0 Spitsbergen Ar 48.04 351 *e*P **P 17 50 52.5 +0.2**
KURK Kurchatov 48.33 303 *e*P **P 17 50 52.4 -2.5**
comp=Z,51nm,0.9s
KURK Kurchatov 48.33 303*c i*P **P 17 50 52.8 -2.1**
KURK pmax pmax
comp=Z,63nm,1.0s
KURK Kurchatov 48.33 303 P **P 17 50 53.1 -1.8**
SNR=22
KURK P **P 17 50 53.1 -1.8**
SNR=22
MK31 Makanchi Array 48.68 296 *e*P **P 17 50 54.9 -2.7**
comp=Z,18nm,1.4s
MKAR Makanchi Array 48.68 296 *e*P **P 17 50 55.3 -2.3**
MKAR Makanchi Array 48.68 296 P **P 17 50 56.0 -1.6**
comp=Z,4.9nm,0.6s,baz=57,slow=6.9,SNR=67
MKAR LR LR 18 12 49.7
comp=Z,902nm,20.1s,baz=46,slow=38
MAKZ Makanchi 48.84 297 *e*P **P 17 50 56.1 -2.7**
comp=Z,22nm,1.1s
KMI Kunming 50.82 261 P **P 17 51 15.8 +1.4**
KMI pmax pmax
comp=Z,13nm,0.7s
KMI LR LR
comp=Z,1μm,19.8s
KMI LR LR
comp=Z,960nm,20.1s
KMI LR LR
comp=Z,620nm,22.9s
KULLO Kullorsuaq 51.03 12 *i*P **P 17 51 12.4 -2.6**
KULLO Kullorsuaq 51.03 12 *i*P **P 17 51 12.4 -2.6**
BVAR Borovoye Array 51.06 309 P **P 17 51 14.0 -1.6**
BVAR Borovoye Array 51.06 309 P **P 17 51 14.0 -1.6**
baz=55,slow=7.6
BRVK Borovoye 51.09 309 *e*P **P 17 51 14.1 -1.7**
comp=Z,38nm,1.0s
BRVK Borovoye 51.09 309*c i*P **P 17 51 13.9 -1.9**
BRVK pmax pmax
comp=Z,29nm,0.8s
BRVK Borovoye 51.09 309 P **P 17 51 14.2 -1.7**
SNR=16
BRVK P **P 17 51 14.2 -1.7**
SNR=16
QIZ Qiongzhong 51.25 249 P **P 17 51 16.8 -0.6**
QIZ S **S 17 58 32.3 -0.6**
QIZ pmax pmax
comp=Z,210nm,2.7s
QIZ LR LR
comp=Z,340nm,19.6s
QIZ LR LR
comp=Z,440nm,16.7s
QIZ LR LR
comp=Z,540nm,17.7s
DAG Danmarks Havn 51.30 360 *i*P **P 17 51 16.6 -0.4**
DAG pmax pmax
comp=Z,15nm,1.1s
DAG Danmarks Havn 51.30 360 *i*P **P 17 51 16.6 -0.4**
comp=Z,12nm,1.1s
WALA Waterton Lakes 51.42 57 *e*P P 17 51 24.4 +5.9
HOPS Hopland Field 52.76 72 *e*P P 17 51 36.3 +7.9
comp=Z,118nm,1.6s
MSO Missoula 52.81 59 *e*P P 17 51 37.8 +9.0
comp=Z,8.8nm,1.1s
PLID Pearl Lake 52.81 62 *e*P P 17 51 33.9 +4.9
comp=Z,5.5nm,0.8s
SLVN Son La 52.96 257 *e*P **P 17 51 30.6 +0.4**
comp=Z,21nm,1.1s
SVE Sverdlovsk 53.03 317 *e*P **P 17 51 30.2 +0.1**
SVE pmax pmax
comp=Z,17nm,1.3s
SVE MLR MLR
comp=Z,1μm,15.0s
HAMF Hammerfest 53.57 343 *e*P **P 17 51 34.0 +0.1**
LVZ Lovozero 53.58 338 *e*P **P 17 51 33.5 -0.6**
comp=Z,34nm,1.0s
LVZ Lovozero 53.58 338*de*P **P 17 51 34.0 -0.1**
LVZ pmax pmax
comp=Z,76nm,2.5s
ARU Arti 54.15 318 *e*P **P 17 51 36.6 -1.8**
comp=Z,12nm,0.6s
ARU Arti 54.15 318*c i*P **P 17 51 37.3 -1.1**
ARU *PP **pwP 17 51 51.8 -1.7**
ARU 17 53 35.3
ARU S **S 17 59 10.6 -1.0**
ARU SS **SS 18 02 50.0 -2.9**
ARU pmax pmax
comp=Z,12nm,0.7s
ARU MLR MLR
comp=Z,888nm,16.0s
ARCES ARCESS Array B 54.18 342 *e*P **P 17 51 37.6 -0.7**
ARCES ARCESS Array B 54.18 342 *e*P **P 17 51 37.7 -0.7**
ARCES ARCESS Array B 54.18 342 P **P 17 51 38.5 0.0**
comp=Z,12nm,0.9s,baz=41,slow=7.2,SNR=22
ARE0 ARCESS Array S 54.18 342 *e*P **P 17 51 37.9 -0.5**
comp=Z,1.4nm,1.1s
PAHR Pah Rah Range 54.43 69 *e*P **P 17 51 44.8 +3.9**
comp=Z,6.6nm,1.0s
KDJ Kajisay 54.45 295 *e*P **P 17 51 37.6 -3.5**
comp=Z,73nm,1.5s
DLMT Dillon 54.47 60 *e*P **P 17 51 44.3 +3.3**
comp=Z,12nm,1.3s
LSA Lhasa 54.63 274 *e*P **P 17 51 42.6 -0.2**
comp=Z,8.9nm,0.9s
LSA Lhasa 54.63 274 P **P 17 51 43.2 +0.4**
TKM2 Tokmak 2 54.81 296 P **P 17 51 42.9 -0.7**
SNR=6.4
BOZ Bozeman (W) 54.83 59 *e*P P 17 51 48.9 +5.3
comp=Z,13nm,1.6s
SUMG Summit 54.83 7 *e*P **P 17 51 43.9 +0.3**
comp=Z,21nm,0.9s
SUMG Summit 54.83 7 *i*P **P 17 51 44.2 +0.7**
SUMG pmax pmax
comp=Z,100nm,1.3s
SUMG Summit 54.83 7 *i*P **P 17 51 44.2 +0.7**
comp=Z,103nm,1.3s
BOOM Boomskoye usch 54.91 296 *e*P **P 17 51 43.4 -0.9**
comp=Z,19nm,1.0s
CMB Columbia Colle 54.97 71 *e*P P 17 51 50.7 +6.0
comp=Z,15nm,1.5s
KTK1 Kautokeino 55.05 343 *e*P **P 17 51 44.9 +0.2**
BMN Battle Mountai 55.18 67 *e*P **P 17 51 49.1 +2.8**
comp=Z,8.5nm,1.0s
WAKR Walker 55.21 70 *e*P **P 17 51 49.5 +2.9**
comp=Z,5.5nm,0.9s
CHMS Chumysh 55.22 297 P **P 17 51 45.8 -0.6**
SNR=9.6
TRO Tromso 55.26 345 *e*P **P 17 51 46.2 +0.1**
PRGR Permogore 55.27 328 *e*P **P 17 51 42.5 -3.9**
PRGR pmax pmax
comp=Z,24nm,0.9s
KBK Karagaybulak 55.34 297 P **P 17 51 46.9 -0.5**
SNR=6.3
FRU1 Bishkek 55.42 297 *e*P **P 17 51 46.9 -0.9**
comp=Z,41nm,1.1s
QLMT Earthquake Lak 55.44 60 *e*P **P 17 51 49.8 +1.6**
NRN Naryn 55.58 295 *e*P **P 17 51 48.1 -1.2**
comp=Z,7.8nm,1.3s
AAK Ala-Archa 55.61 297 P **P 17 51 48.4 -0.9**
SNR=6.7
AAK Ala-Archa 55.61 297 *e*P **P 17 51 48.4 -0.9**
comp=Z,20nm,1.0s
AAK Ala-Archa 55.61 297 *i*P **P 17 51 48.3 -0.9**
SNR=7.2
AAK Ala-Archa 55.61 297*c i*P **P 17 51 48.3 -0.9**
AAK pmax pmax
comp=Z,21nm,1.0s
AAK Ala-Archa 55.61 297 P **P 17 51 48.4 -0.9**
SNR=5.9
AAK P **P 17 51 48.4 -0.9**
SNR=5.9
AAK Ala-Archa 55.61 297 P **P 17 51 48.5 -0.9**
comp=Z,14nm,1.0s,baz=80,slow=5.2,SNR=19
KVN Kaiserville 55.61 69 *e*P **P 17 51 51.5 +2.1**
comp=Z,7.8nm,1.1s
YHB Horse Butte 55.62 60 *e*P **P 17 51 51.0 +1.6**
comp=Z,6.9nm,1.0s
TMCR Tamitsa 55.64 333 *e*P **P 17 51 49.0 0.0**
TMCR pmax pmax
comp=Z,104nm,1.3s
RYN Ryan 55.65 70 *e*P **P 17 51 51.4 +1.7**
comp=Z,5.2nm,0.9s
YHH Holmes Hill 55.78 59 *e*P **P 17 51 52.3 +1.6**
comp=Z,3.1nm,0.8s
PANO Nakornpanom 55.78 253 P **P 17 51 52.5 +1.9**
comp=Z,1.2nm,1.1s,comp=Z,302nm
NVAR Mina Array Bea 55.91 70 *e*P **P 17 51 51.5 -0.1**
NVAR Mina Array Bea 55.91 70 P **P 17 51 54.0 +2.4**
comp=Z,1.3nm,0.7s,baz=268,slow=7.0,SNR=9.1
NVAR LR LR 18 15 00.7
comp=Z,82nm,19.3s,baz=299,slow=35
EKS2 Erkin-Say 55.98 297 P **P 17 51 51.7 -0.3**
SNR=8.0
ELK Elko 56.09 66 *e*P **P 17 51 55.7 +2.8**
comp=Z,3.1nm,0.9s
YPP Pitchstone Pla 56.15 60 *e*P **P 17 51 57.7 +4.4**
comp=Z,7.1nm,1.2s
H17A Grant Village 56.19 60 *e*P **P 17 51 57.1 +3.6**
comp=Z,20nm,1.5s
SKNT Sakonhakorn 56.29 253 P **P 17 51 55.4 +1.2**
comp=Z,48nm,1.1s
IMW Indian Meadow 56.33 60 *e*P **P 17 51 57.8 +3.2**
comp=Z,12nm,1.5s
FLWY Flagg Ranch 56.33 60 *e*P **P 17 51 57.0 +2.4**
comp=Z,13nm,1.1s
RLMT Red Lodge 56.39 58 *e*P **P 17 51 58.5 +3.6**
comp=Z,11nm,1.1s
FXWY Fox Creek 56.45 61 *e*P **P 17 51 56.8 +1.3**
comp=Z,15nm,1.8s
MOOW Moose Ponds 56.53 60 *e*P **P 17 51 56.5 +0.5**
comp=Z,12nm,1.6s
TPAW Teton Pass 56.59 61 *e*P **P 17 51 58.8 +2.3**
comp=Z,7.0nm,1.1s
RABL Rabaul 56.61 190 *e*P **P 17 51 57.4 +0.9**
comp=Z,59nm,1.7s
LOHW Long Hollow 56.70 60 *e*P **P 17 51 58.3 +1.2**
comp=Z,3.8nm,1.0s
PAYA Pao 56.90 259 P **P 17 52 00.0 +1.4**
comp=Z,32μm,0.8s,comp=Z,360μm
AHID Auburn Hatcher 57.01 61 *e*P **P 17 52 01.6 +2.3**
comp=Z,10.0nm,1.2s
SHL Shillong 57.15 270 *e*P **P 17 51 59.5 -1.0**
comp=Z,11nm,0.7s
ARSB Arslanbob 57.32 297 *e*P **P 17 52 00.1 -1.4**
PHRA Phrae 57.34 258 P **P 17 52 03.0 +1.3**
comp=Z,6.5nm,1.3s,comp=Z,72nm
STEI Steigen 57.38 345 *e*P **P 17 52 01.4 +0.1**
KK31 Karatay Array 57.45 300 *e*P **P 17 52 00.7 -1.5**
comp=Z,18nm,1.1s
KKAR Karatay Array 57.45 300 *e*P **P 17 52 00.1 -2.2**
KKAR *e*P **P 17 52 00.7 -1.5**
LOF Lofoten 57.46 346 *e*P **P 17 52 02.2 +0.4**
KHON Khomkaen 57.47 254 P **P 17 52 04.5 +1.9**
comp=Z,40μm,1.1s
R11A Troy Canyon, C 57.53 68 *e*P **P 17 52 07.6 +4.6**
comp=Z,17nm,1.9s
LAMP Lampang 57.68 258 P **P 17 52 05.6 +1.5**
comp=Z,41μm,1.1s,comp=Z,360μm
UTTA Uttaradit 57.73 257 P **P 17 52 05.8 +1.4**
comp=Z,35μm,0.9s,comp=Z,292μm
KLMR Klimovskoe 57.80 330 *e*P **P 17 52 01.6 -2.7**
KLMR pmax pmax
comp=Z,40nm,1.1s
DUG Dugway, Tooele 57.82 65 *e*P **P 17 52 07.8 +2.7**
comp=Z,8.5nm,1.0s
BW06 Boulder Array 57.83 60 *e*P **P 17 52 07.4 +2.2**
comp=Z,31nm,1.8s
PD31 Pinedale Array 57.83 60 *e*P **P 17 52 06.7 +1.5**
comp=Z,24nm,1.8s
PDAR Pinedale Array 57.83 60 *e*P **P 17 52 06.6 +1.4**
PDAR Pinedale Array 57.83 60 P **P 17 52 06.8 +1.7**
comp=Z,0.9nm,0.7s,baz=300,slow=2.4,SNR=8.0
PDAR LR LR 18 13 55.9
comp=Z,89nm,21.7s,baz=338,slow=33
CMMT Chiang Mai 57.87 259 P **P 17 52 06.2 +0.8**
comp=Z,18nm,1.1s,comp=Z,264nm
CHTO Chiang Mai 57.87 259 *e*P **P 17 52 05.9 +0.4**
comp=Z,38nm,1.1s
CHTO Chiang Mai 57.87 259 P **P 17 52 06.0 +0.6**
SNR=8.2
CHTO P **P 17 52 06.0 +0.6**
SNR=8.2
TCUT Toone Canyon 57.96 63 *e*P **P 17 52 08.2 +2.0**
comp=Z,23nm,1.5s
TPNV Topopah Spring 58.11 70 *e*P **P 17 52 09.2 +2.1**
comp=Z,13nm,1.4s
CM31 Chiang Mai Arr 58.15 259 *e*P **P 17 52 07.8 +0.4**
comp=Z,28nm,1.1s
CM31 Chiang Mai Arr 58.15 259 P **P 17 52 08.5 +1.1**
SNR=5.7
CMAR Chiang Mai Arr 58.15 259 *e*P **P 17 52 07.4 0.0**
CMAR Chiang Mai Arr 58.15 259 P **P 17 52 08.4 +1.1**
comp=Z,11nm,0.9s,baz=23,slow=7.3,SNR=52
CMAR LR LR 18 19 39.9
comp=Z,441nm,19.6s,baz=55,slow=39
JLU Jordanelle 58.30 63 *e*P **P 17 52 10.8 +2.3**
comp=Z,13nm,1.4s
CHAI Chaiyaphum 58.31 254 P **P 17 52 10.1 +1.6**
comp=Z,31μm,1.3s,comp=Z,405μm
PBKT Sadao Pong 58.39 256 P **P 17 52 10.6 +1.6**
comp=Z,11nm,1.4s,comp=Z,373nm
NLU North Lily Min 58.40 64 *e*P **P 17 52 10.7 +1.6**
comp=Z,4.9nm,1.0s
ABKAR Akbulak array 58.49 311 *e*P **P 17 52 07.7 -1.7**
ABKAR *e*P **P 17 52 07.8 -1.5**
ABKAR *e*PcP **PcP 17 53 03.0 +3.6**
ABKAR *e*PcP **PcP 17 53 03.2 +3.7**
MPU Maple Canyon 58.60 64 *e*P **P 17 52 14.1 +3.6**
comp=Z,8.0nm,1.1s
ODAN Odare 58.97 275 *e*P **P 17 52 12.1 -1.2**
KONS Konsvik 59.03 345 *e*P **P 17 52 13.0 +0.2**
JIRN Jiri 59.13 276 *e*P **P 17 52 14.0 -0.6**
TMUT Trail Mountain 59.34 64 *e*P **P 17 52 18.0 +2.2**
comp=Z,5.6nm,0.9s
CCUT Cedar City 59.34 67 *e*P **P 17 52 20.1 +4.3**
comp=Z,4.0nm,1.1s
RAMN Ramite 59.39 275 *e*P **P 17 52 15.6 -0.6**
comp=Z,37nm,0.5s
P17A Butcher Ranch, 59.47 64 *e*P **P 17 52 19.3 +2.8**
comp=Z,27nm,1.9s
K22A Casper 59.52 59 *e*P **P 17 52 19.9 +3.0**
comp=Z,16nm,1.5s
KKN Kakani 59.59 277 *e*P **P 17 52 17.2 -0.4**
comp=Z,16nm,0.5s
PKI Pulchoki 59.67 277 *e*P **P 17 52 17.3 -1.0**
comp=Z,26nm,0.8s
PKIN Phulchoki 59.67 277 *e*P **P 17 52 17.4 -0.8**
comp=Z,41nm,1.2s
RSSD Black Hills 59.78 56 *e*P **P 17 52 20.0 +1.3**
comp=Z,24nm,1.3s
LCMT Little Creek M 59.79 68 *e*P **P 17 52 21.3 +2.5**
comp=Z,4.2nm,0.9s
DMN Daman 59.83 277 *e*P **P 17 52 18.8 -0.4**
comp=Z,33nm,0.8s
SRU San Rafael Swe 59.84 64 *e*P **P 17 52 20.8 +1.7**
comp=Z,8.5nm,0.9s
UMPA Umpang Tak 59.93 257 P **P 17 52 23.1 +3.3**
comp=Z,64μm,1.1s,comp=Z,854μm
KNB Kanab 60.03 67 *e*P **P 17 52 24.0 +3.6**
comp=Z,12nm,1.2s
DANN Dangsing 60.11 279 *e*P **P 17 52 20.9 -0.3**
comp=Z,28nm,0.7s
GAR Garm 60.41 296 *e*P **P 17 52 21.6 -1.3**
comp=Z,46nm,1.0s
KOLN Koldanda 60.63 278 *e*P **P 17 52 24.1 -0.6**
comp=Z,19nm,0.7s
U15A North Rim 60.74 67 *e*P **P 17 52 27.5 +2.1**
comp=Z,7.3nm,1.4s
PYUN Piuthan 60.76 279 *e*P **P 17 52 24.9 -0.7**
comp=Z,27nm,0.7s
W13A Hualapai Mount 60.77 70 *e*P **P 17 52 26.8 +1.2**
comp=Z,7.5nm,1.4s
FIA1 FINESS Array S 61.00 337 *e*P **P 17 52 26.8 +0.4**
comp=Z,24nm,0.8s
FINES FINESS Array B 61.00 337 *e*P **P 17 52 26.4 0.0**
FINES FINESS Array B 61.00 337 *i*P **P 17 52 27.0 +0.6**
FINES pmax pmax
comp=Z,13nm,0.6s
FINES FINESS Array B 61.00 337 P **P 17 52 27.0 +0.6**
comp=Z,13nm,0.7s,baz=35,slow=8.0,SNR=60
FINES LR LR 18 22 47.7
comp=Z,568nm,18.6s,baz=29,slow=40
PV09 Paradox Valley 61.05 64 *e*P **P 17 52 30.7 +3.3**
NSS Namsos 61.05 345 *e*P **P 17 52 26.9 +0.3**
N23A Red Feather La 61.07 60 *e*P **P 17 52 30.1 +2.5**
comp=Z,5.5nm,0.9s
PV21 Cone Mtn., Par 61.09 64 *e*P **P 17 52 29.4 +1.7**
comp=Z,34nm,1.9s
PV23 Carpenter Ridg 61.15 64 *e*P **P 17 52 30.2 +2.1**
comp=Z,10nm,0.9s
PV10 Paradox Valley 61.18 64 *e*P **P 17 52 31.0 +2.6**
comp=Z,9.3nm,0.8s
PV14 Lion Creek, Pa 61.20 64 *e*P **P 17 52 30.9 +2.5**
comp=Z,6.9nm,1.0s
PV22 Blue Mesa, Par 61.21 63 *e*P **P 17 52 29.7 +1.2**
comp=Z,5.5nm,0.9s
PV04 Paradox Valley 61.25 64 *e*P **P 17 52 31.0 +2.3**
comp=Z,12nm,1.1s
PV20 West Nyswonger 61.25 64 *e*P **P 17 52 30.2 +1.5**
comp=Z,8.0nm,1.0s
PV19 Morning Glory 61.26 64 *e*P **P 17 52 30.7 +1.9**
comp=Z,6.9nm,0.8s
CHGR Chuyangaron 61.29 297 *e*P **P 17 52 29.1 +0.3**
comp=Z,22nm,0.9s
PV17 East Wray Mesa 61.30 64 *e*P **P 17 52 30.7 +1.6**
comp=Z,9.9nm,0.8s
PV16 Nyswonger Mesa 61.30 64 *e*P **P 17 52 30.4 +1.3**
comp=Z,8.2nm,1.0s
PV11 David Mesa, Pa 61.33 64 *e*P **P 17 52 30.5 +1.2**
comp=Z,15nm,1.0s
PV18 Skein Mesa, Pa 61.35 64 *e*P **P 17 52 31.7 +2.3**
comp=Z,9.5nm,1.0s
PV07 Paradox Valley 61.36 63 *e*P **P 17 52 29.9 +0.4**
comp=Z,6.3nm,1.0s
PV12 Saucer Basin, 61.36 64 *e*P **P 17 52 30.6 +1.1**
comp=Z,8.6nm,0.9s
PV05 Paradox Valley 61.36 64 *e*P **P 17 52 31.4 +1.9**
comp=Z,11nm,0.8s
PV03 Paradox Valley 61.38 64 *e*P **P 17 52 30.9 +1.3**
comp=Z,6.7nm,0.9s
PV13 Radium Mtn., P 61.46 64 *e*P **P 17 52 31.8 +1.6**
comp=Z,14nm,1.1s
PV02 Paradox Valley 61.47 64 *e*P **P 17 52 31.2 +1.0**
comp=Z,8.8nm,1.0s
PV01 Paradox Valley 61.62 64 *e*P **P 17 52 33.4 +2.2**
comp=Z,14nm,1.6s
SMCO Snowmass 61.74 62 *e*P **P 17 52 34.1 +1.8**
comp=Z,7.2nm,1.1s
WUAZ Wupatki 61.91 68 *e*P **P 17 52 35.4 +2.2**
comp=Z,6.8nm,1.0s
ISCO Idaho Springs 62.03 60 *e*P **P 17 52 34.9 +0.8**
comp=Z,4.5nm,0.8s
Y14A Wickenburg 62.11 70 *e*P **P 17 52 35.7 +1.3**
comp=Z,19nm,2.0s
MOS Moscow 62.49 328 *e*P **P 17 52 35.7 -0.8**
MOS *e* 17 52 45.7
MOS *e* 17 54 54.6
MOS *e*S **S 18 01 04.4 +4.3**
MOS pmax pmax
comp=Z,28nm,0.9s
MOS MLR MLR
comp=Z,400nm,17.0s
NIL Nilore 62.56 290 *e*P **P 17 52 36.5 -0.9**
comp=Z,38nm,1.0s
X16A Lo Mia Camp, P 62.66 68 *e*P **P 17 52 40.6 +2.3**
comp=Z,4.9nm,1.1s
S22A 4UR Ranch, Cre 62.85 63 *e*P **P 17 52 41.7 +2.1**
comp=Z,4.9nm,0.9s
OGNE Ogallala 63.09 57 *e*P **P 17 52 41.6 +0.7**
comp=Z,57nm,1.0s
W18A Petrified Fore 63.13 67 *e*P **P 17 52 42.4 +1.0**
comp=Z,3.7nm,0.8s
OBN Obninsk 63.35 328 *e*P **P 17 52 41.7 -0.5**
comp=Z,99nm,1.7s
OBN Obninsk 63.35 328*c i*P **P 17 52 41.8 -0.4**
OBN *e**SP **pwP 17 52 56.5 -0.8**
OBN *i*S S 18 01 21.0 +10
OBN *e*SS **SS 18 05 13.2 -3.7**
OBN pmax pmax
comp=Z,67nm,1.7s
OBN MLR MLR
comp=Z,421nm,15.0s
VSU Vasula 63.42 335*c i*P **P 17 52 43.0 +0.4**
VSU pmax pmax
comp=Z,103nm,1.7s
VSU Vasula 63.42 335 *e*P **P 17 52 42.4 -0.2**
VSU IAmb IAmb 17 52 43.7
comp=Z,57nm,0.9s
X18A Snowflake 63.43 67 *e*P **P 17 52 44.4 +1.0**
comp=Z,6.9nm,1.0s
SDCO Great Sand Dun 63.58 62 *e*P **P 17 52 46.3 +1.9**
comp=Z,8.8nm,1.5s
SBUM Sibu 63.64 236 *e*P **P 17 52 45.0 +0.3**
comp=Z,28nm,1.9s
ECSD EROS Data Cent 63.76 52 *e*P **P 17 52 46.0 +0.9**
comp=Z,16nm,1.5s
DOMB Dombas 63.84 345 *e*P **P 17 52 45.7 +0.2**
AKN Aaknes 64.02 346 *e*P **P 17 52 47.6 +1.0**
KSCO Kaye Shedlock' 64.19 59 *e*P **P 17 52 48.7 +0.5**
comp=Z,73nm,1.9s
NC303 NORSAR Array S 64.24 344 *e*P **P 17 52 47.1 -1.0**
comp=Z,127nm,1.9s
NC405 NORSAR Array S 64.29 344 *e*P **P 17 52 47.6 -0.7**
comp=Z,34nm,1.1s
NC204 NORSAR Array S 64.29 344 *e*P **P 17 52 47.2 -1.3**
comp=Z,34nm,1.0s
KBL Kabul 64.32 294 *e*P **P 17 52 46.9 -2.3**
comp=Z,10nm,0.9s
NB201 NORSAR Array S 64.42 344 *e*P **P 17 52 48.5 -0.7**
comp=Z,148nm,1.8s
NB2 NORSAR Subarra 64.44 344 P **P 17 52 49.2 -0.2**
comp=Z,71nm,2.5s,baz=23,slow=6.9
NB2 NORSAR Subarra 64.44 344 P **P 17 52 49.2 -0.2**
baz=23,slow=6.9
NOA NORSAR Array B 64.44 344 P **P 17 52 49.5 +0.1**
comp=Z,4.6nm,0.8s,baz=22,slow=6.5,SNR=17
NOA LR LR 18 23 34.8
comp=Z,217nm,19.7s,baz=15,slow=39
NBO00 NORSAR Array S 64.52 344 *e*P **P 17 52 48.1 -1.7**
comp=Z,130nm,1.9s
TUC Tucson 64.57 70 *e*P **P 17 52 53.1 +2.4**
comp=Z,2.7nm,0.9s
LPSR Galich'ya Gora 64.60 325 *e*P **P 17 52 49.6 -0.8**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR MLR MLR
comp=Z,840nm,17.0s
T25A Trinidad 64.61 62 *e*P **P 17 52 55.0 +3.8**
comp=Z,20nm,1.8s
NC602 NORSAR Array S 64.67 344 *e*P **P 17 52 51.0 +0.2**
IVI Ivigtut 64.67 15 *e*P **P 17 52 50.1 -0.7**
comp=Z,17nm,1.2s
NAO01 NORSAR Array S 64.68 344 *e*P **P 17 52 50.7 -0.2**
comp=Z,112nm,1.8s
VRH Novokhopyorsk 64.71 322 *e*P **P 17 52 49.6 -1.6**
VRH pmax pmax
comp=Z,50nm,1.6s
VRH MLR MLR
comp=Z,2μm,18.0s
HYA Hoyanger 65.11 347 *e*P **P 17 52 54.0 +0.4**
SKAR Skarslia 65.25 345 *e*P **P 17 52 54.6 -0.1**
SLIT Slitere, Latvi 65.28 337 *e*P **P 17 52 53.3 -1.5**
SLIT IAmb IAmb 17 52 55.7
comp=Z,237nm,1.0s
LENM Lemitar 65.38 66 *e*P **P 17 52 57.7 +1.6**
KSM Kuching 65.45 237 *e*P **P 17 52 57.1 +0.6**

comp=Z,19nm,1.1s
VSR Storozhevoye 65.64 324 *e*P **P 17 52 56.7 -0.6**
VSR pmax pmax
comp=Z,40nm,1.9s
VSR MLR MLR
comp=Z,1µm,20.0s
VORD Divnogorie 65.80 324 *e*P **P 17 52 57.5 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.8s
BER Bergen 65.98 347 *e*P **P 17 52 59.2 -0.1**
I39A Houston 66.08 49 *e*P **P 17 53 00.7 +0.5**
comp=Z,22nm,1.4s
319A Douglas 66.12 69 *e*P **P 17 53 01.0 +0.1**
comp=Z,8.4nm,0.9s
IDID Didziasalis 66.17 333 *e*P **P 17 53 00.3 -0.3**
IDID IAmb IAmb 17 53 02.6
comp=Z,11nm,1.1s
ODD1 Odda 66.25 346 *e*P **P 17 53 01.3 +0.3**
IIGN Ignalina 66.28 333 *e*P **P 17 53 00.9 -0.4**
IIGN IAmb IAmb 17 53 02.3
comp=Z,11nm,1.0s
SCHQ Schefferville 66.37 28 *e*P **P 17 53 01.4 -0.6**
comp=Z,39nm,1.8s
SCHQ Schefferville 66.37 28 LR LR 18 26 34.4
comp=Z,212nm,18.7s,baz=354,slow=40
MICGM Minsk 66.55 332 *e* **P 17 53 03.0 0.0**
MICGM *e*LR LR 18 23 19.0
MNK Minsk 66.55 332 *e*P **P 17 53 03.0 0.0**
H43A Windswept, Lux 67.30 46 *e*P **P 17 53 10.8 +2.8**
comp=Z,24nm,0.9s
COEN Coen 67.54 198 *e*P **P 17 53 10.6 +0.9**
comp=Z,16nm,1.2s
GEYT Alibeck 67.70 303 P **P 17 53 10.1 -0.6**
comp=Z,3.7nm,0.6s,baz=350,slow=3.3,SNR=16
GEYT LR LR 18 25 38.0
comp=Z,1µm,18.4s,baz=20,slow=39
GYA0B ALIBECK ARRAY 67.70 303 *e*P **P 17 53 09.4 -1.2**
comp=Z,11nm,1.0s
AMTX Amarillo 67.76 62 *e*P **P 17 53 11.4 +0.2**
comp=Z,14nm,1.3s
G45A Suttons Bay 67.77 44 *e*P **P 17 53 11.6 +0.7**
comp=Z,56nm,1.1s
MSTX Muleshoe 67.85 63 *e*P **P 17 53 12.7 +0.9**
comp=Z,9.7nm,1.0s
IPM Ipoh 68.02 248 *e*P **P 17 53 11.8 -1.0**
comp=Z,13nm,1.0s
MNTX Cornudas Mount 68.10 66 *e*P **P 17 53 14.5 +1.2**
comp=Z,6.1nm,1.1s
SUW Suwalki 68.29 334 *e*P **P 17 53 13.7 -0.3**
SUW Suwalki 68.29 334 *e*P **P 17 53 13.0 -1.0**
comp=Z,36nm,1.1s
SUW Suwalki 68.29 334 *e*P **P 17 53 13.7 -0.3**
MMRI Maumere 68.82 221 *e*P **P 17 53 18.1 +0.3**
comp=Z,17nm,1.0s
MAK Makhachkala 68.91 314 *e*P **P 17 53 19.7 +1.7**
MAK *e*S **S 18 02 20.5 +1.8**
MAK pmax pmax
comp=Z,168nm,1.5s
MAK MLR MLR
comp=Z,622nm,15.0s
WMOK Wichita Mounta 69.43 60 *e*P **P 17 53 22.8 +1.3**
comp=Z,6.1nm,0.9s
AKASG Malin Array Be 69.45 329 *e*P **P 17 53 20.6 -0.7**
AKASG Malin Array Be 69.45 329 *e*P **P 17 53 20.6 -0.7**
AKASG Malin Array Be 69.45 329 P **P 17 53 21.0 -0.3**
comp=Z,3.0nm,0.5s,baz=30,slow=6.4,SNR=59
AKASG LR LR 18 29 35.4
comp=Z,544nm,18.2s,baz=15,slow=41
AKBB Malin Array Si 69.45 329 *e*P **P 17 53 20.8 -0.5**
comp=Z,25nm,1.0s
KIEV Kiev 69.47 329 *e*P **P 17 53 20.6 -0.7**
comp=Z,22nm,1.0s
KIEV Kiev 69.47 329⇑*i*P **P 17 53 21.0 -0.4**
KIEV Kiev 69.47 329 *i* P **P 17 53 21.0 -0.4**
SNR=5.9
KIEV Kiev 69.47 329*c i* P **P 17 53 20.8 -0.6**
KIEV pmax pmax
comp=Z,31nm,1.3s
NCK Nalchik 70.18 316⇓*i*P **P 17 53 26.7 +0.7**
NCK pmax pmax
comp=Z,4.0nm,0.3s
KIV Kislovodsk 70.19 317 *e*P **P 17 53 25.1 -1.0**
comp=Z,7.8nm,1.0s
KIV Kislovodsk 70.19 317 *i* P **P 17 53 26.5 +0.3**
SNR=6.6
KIV Kislovodsk 70.19 317 *e*P **P 17 53 26.4 +0.3**
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,1µm,18.0s
KIV Kislovodsk 70.19 317 P **P 17 53 26.2 +0.1**
SNR=6.1
KIV P **P 17 53 26.2 +0.1**
SNR=6.1
KBZ Khabaz 70.28 317 P **P 17 53 26.9 +0.4**
comp=Z,9.7nm,0.9s,baz=49,slow=2.6,SNR=18
KBZ LR LR 18 29 16.8
comp=Z,617nm,18.5s,baz=11,slow=40
ABTX Abilene, Hawle 70.58 62 *e*P **P 17 53 29.4 +0.8**
comp=Z,10nm,1.0s
PSI Prapat 70.58 248 *e*P **P 17 53 27.8 -1.0**
comp=Z,7.7nm,0.9s
ZEI Tsey 70.62 316 *e*P **P 17 53 25.5 -3.4**
ZEI pmax pmax
comp=Z,14nm,1.3s
NEY Neytrino 70.75 317⇑*e*P **P 17 53 30.8 +1.2**
NEY pmax pmax
comp=Z,1.0nm,1.0s
HHAR Hobbs 70.76 55 *e*P **P 17 53 30.1 +0.6**
comp=Z,11nm,1.2s
TX31 Lajitas Ar. Si 70.85 67 *e*P **P 17 53 30.3 0.0**
comp=Z,12nm,1.4s
TXAR Lajitas Array 70.85 67 *e*P **P 17 53 30.5 +0.1**
TXAR Lajitas Array 70.85 67 P **P 17 53 30.9 +0.5**
comp=Z,1.0nm,0.5s,baz=302,slow=4.7,SNR=13
TBLG Delisi 71.12 314 *e*P **P 17 53 31.7 0.0**
comp=Z,20nm,1.0s
HYB Hyderabad 71.43 275⇑*i*P **P 17 53 33.5 -0.4**
ANN Anapa 71.61 321 *e*P **P 17 53 32.9 -1.6**
ANN *e*PP **pwP 17 53 49.4 0.0**
ANN *e*S S 18 02 41.2 -9.0
ANN pmax pmax
comp=Z,39nm,1.9s
SOC Sochi 71.72 319 *e*P **P 17 53 35.4 +0.2**
SOC *e* 17 56 14.4
SOC *e*PPP PPP 17 57 57.0
SOC *e*S **S 18 02 50.2 -1.4**
SOC *e*SS **SS 18 07 26.2 -0.6**
SOC *e*SSS SSS 18 10 39.9
SOC pmax pmax
comp=Z,16nm,0.6s
SOC MLR MLR
comp=Z,892nm,16.0s
AKH Akhalkalaki 71.92 315 *e*P **P 17 53 37.1 +0.4**
comp=Z,14nm,1.0s
AKH Akhalkalaki 71.92 315⇓*i*P **P 17 53 37.8 +1.1**
PBMO Poplar Bluff 72.12 53 *e*P **P 17 53 39.4 +1.6**
comp=Z,26nm,1.4s
KWP Kalwaria Pacla 72.35 333 *e*P **P 17 53 40.0 +1.0**
KWP Kalwaria Pacla 72.35 333 *e*P **P 17 53 39.5 +0.6**
comp=Z,569nm,1.1s
KWP Kalwaria Pacla 72.35 333 *e*P **P 17 53 40.0 +1.0**
GNI Garni 72.40 314 *e*P **P 17 53 40.4 +0.8**
comp=Z,16nm,0.9s
GNI Garni 72.40 314 *i* P **P 17 53 40.7 +1.1**
SNR=5.2
GNI Garni 72.40 314*c i*P **P 17 53 39.9 +0.3**
GNI pmax pmax
comp=Z,141nm,1.3s
GNI Garni 72.40 314 P **P 17 53 40.1 +0.5**
SNR=6.0
GNI P **P 17 53 40.1 +0.5**
SNR=6.0
OJC Ojcow 72.61 335 *e*P **P 17 53 41.5 +1.0**
OJC Ojcow 72.61 335 *e*P **P 17 53 40.7 +0.3**
comp=Z,31nm,1.4s
OJC Ojcow 72.61 335 *e*P **P 17 53 41.5 +1.0**
BCA Borcka 72.69 316⇑*i*P **P 17 53 41.8 +0.6**
KIS Kishinev 72.82 328 *e*P **P 17 53 41.0 -0.7**
comp=Z,130nm,2.0s
KIS *e*S **S 18 03 06.0 +2.0**
KIS LRM MLR 18 29 28.0
comp=Z,800nm,16.0s
KIS Kishinev 72.82 328 *e*P **P 17 53 41.0 -0.7**
KIS *e*S **S 18 03 06.0 +2.0**
KIS *e* 18 03 28.0
KIS *e* 18 03 38.0
KIS pmax pmax
comp=Z,130nm,2.0s
KIS MLR MLR
comp=Z,800nm,16.0s
KIS MLR MLR
comp=N,500nm,16.0s
ALLY Alegheny Colle 72.87 43 *e*P **P 17 53 44.1 +1.9**
comp=N,47nm,1.5s
MMNY Mt. Morris Dam 72.89 41 *e*P **P 17 53 43.7 +1.5**
comp=N,16nm,1.2s
KSP Ksiaz 72.92 337 *e*P **P 17 53 43.5 +1.2**
KSP Ksiaz 72.92 337 *e*P **P 17 53 43.5 +1.2**
KOLS Kolonicke sedl 73.11 333 *e*P **P 17 53 44.3 +0.9**
KOLS pmax pmax
comp=Z,13nm,1.3s
KOLS Kolonicke sedl 73.11 333 *e*P **P 17 53 44.3 +0.9**
NIE Niedzica 73.21 334 *e*P **P 17 53 44.9 +0.8**
NIE Niedzica 73.21 334 *e*P **P 17 53 44.9 +0.8**
CLL Collm 73.24 339 *e*P **P 17 53 44.0 -0.1**
comp=Z,21nm,1.1s
CLL Collm 73.24 339⇑*i*P **P 17 53 44.6 +0.5**
CLL *i* 17 53 56.9
CLL *e*S **S 18 03 09.0 +0.3**
CLL pmax pmax
comp=Z,22nm,1.1s
CLL Collm 73.24 339⇑*i*P **P 17 53 44.6 +0.5**
comp=Z,22nm,1.1s
CLL *i* 17 53 54.4
CLL *i* pP **pP 17 53 56.9 +0.4**
CLL *i* sP **sP 17 54 01.0 -0.4**
CLL *e*PPPP 17 59 06.0
CLL *e*S **S 18 03 09.0 +0.3**
CLL *e*PPS PPS 18 04 06.0
CLL *e* 18 04 36.0
CLL *e*SS SS 18 08 06.0 +16
CLL *e*SSSS 18 13 00.0
BATG Bathurst New B 73.25 31 *e*P **P 17 53 44.8 +0.5**
comp=Z,50nm,1.6s
UPC Upice 73.30 337 *e*P **P 17 53 45.5 +1.0**
UPC *e* 17 53 57.9
UPC MLR MLR
comp=Z,900nm,16.0s
UPC Upice 73.30 337 *e*P **P 17 53 45.5 +1.0**
UPC *e*pP **pP 17 53 57.9 +1.0**
UPC AMS AMS 18 32 20.0
comp=Z,900nm,16.0s
DPC Dobruska-Polom 73.37 337 *e*P **P 17 53 46.0 +1.0**
DPC *e* 17 53 59.4
DPC MLR MLR
comp=Z,600nm,14.0s
DPC Dobruska-Polom 73.37 337 *e*P **P 17 53 46.0 +1.0**
DPC *e*x x 17 53 59.4
DPC AMS AMS 18 32 20.0
comp=Z,600nm,14.0s
UZH Uzhgorod 73.37 332*d i*P **P 17 53 44.5 -0.5**
UZH *i* 17 54 06.8
BUR08 Bucovina Ar. S 73.40 330 *e*P **P 17 53 45.3 0.0**
comp=Z,18nm,1.1s
BURAR Bucovina Array 73.42 330 *e*P **P 17 53 45.5 0.0**
BURAR Bucovina Array 73.42 330⇓*i*P **P 17 53 46.2 +0.8**
BRG Berggiesshubel 73.44 339 *e*P **P 17 53 46.0 +0.7**
comp=Z,10nm,1.3s
BRG Berggiesshubel 73.44 339 *e*P **P 17 53 46.0 +0.7**
BRG pmax pmax
comp=Z,10.0nm,1.3s
N54A Moraine State 73.50 43 *e*P **P 17 53 47.1 +1.2**
comp=Z,51nm,1.8s
KRLC Kraliky 73.51 336 *e*P **P 17 53 46.7 +0.8**
KRLC Kraliky 73.51 336 *e*P **P 17 53 46.7 +0.8**
T47A Sharon Grove 73.56 50 *e*P **P 17 53 47.4 +1.1**
comp=Z,12nm,1.1s
MORC Moravsky Berou 73.60 336 *e*P **P 17 53 46.8 +0.4**
comp=Z,15nm,1.1s
MORC Moravsky Berou 73.60 336⇑*i*P **P 17 53 47.4 +1.0**
MORC Moravsky Berou 73.60 336 *e*P **P 17 53 47.2 +0.8**
PVCC Panska Ves 73.62 338 AMS AMS 18 31 40.0
comp=Z,700nm,16.1s
LANS Liptovska Anna 73.68 334 *e*P **P 17 53 48.4 +1.6**
LANS Liptovska Anna 73.68 334 *e*P **P 17 53 48.4 +1.6**
BIZ Bicaz 73.75 329⇓*i*P **P 17 53 47.9 +0.7**
TRPA Tarpa 73.75 332⇑*i*P **P 17 53 48.4 +1.2**
TRPA Tarpa 73.75 332⇑*e*P **P 17 53 48.0 +0.8**
TESR Tescani 73.95 329⇑*i*P **P 17 53 48.9 +0.5**
KECS Kecovo 74.01 333 *e*P **P 17 53 50.0 +1.2**
KECS pmax pmax
comp=Z,29nm,1.1s
KECS Kecovo 74.01 333 *e*P **P 17 53 50.0 +1.2**
PRU Pruhonice 74.13 338 *e*P **P 17 53 50.3 +0.9**
PRU MLR MLR
comp=Z,600nm,15.3s
PRU Pruhonice 74.13 338 *e*P **P 17 53 50.3 +0.9**
PRU AMS AMS 18 31 40.0
comp=Z,600nm,15.3s
GOPC GO Pecny, Ondr 74.14 338 AMS AMS 18 30 50.0
comp=Z,600nm,15.8s
DZM Mont Dzumac 74.15 174 *e*LR LR 18 16 52.0
comp=Z,230nm,21.5s
ARCR ARCALIA 74.16 330⇑*i*P **P 17 53 51.0 +1.4**
VRAC Vranov 74.27 336⇓*i*P **P 17 53 51.6 +1.3**
VRAC Vranov 74.27 336 *e*P **P 17 53 51.4 +1.1**
NKC Novy Kostel 74.37 339 *e*P **P 17 53 52.4 +1.6**
NKC *e* 17 54 01.9
NKC MLR MLR
comp=Z,400nm,14.0s
NKC Novy Kostel 74.37 339 *e*P **P 17 53 52.4 +1.6**
NKC *e*pP **pP 17 54 01.9 -1.3**
NKC AMS AMS 18 33 20.0
comp=Z,400nm,14.0s
JAVC Velka Javorina 74.41 335 *e*P **P 17 53 53.0 +1.8**
VYHS Vyhne 74.45 335 *e*P **P 17 53 52.1 +0.8**
VYHS pmax pmax
comp=Z,8.0nm,1.2s
VYHS Vyhne 74.45 335 *e*P **P 17 53 52.1 +0.8**
ODBI Odobesti 74.48 328⇓*i*P **P 17 53 53.6 +2.1**
VRI Vrincioaia 74.50 328⇓*i*P **P 17 53 52.3 +0.6**
PLOR Plostina 74.54 328⇑*i*P **P 17 53 51.8 -0.1**
KRUC Moravsky 74.55 336 *e*P **P 17 53 52.8 +0.9**
TREC Trest 74.55 337 *e*P **P 17 53 52.8 +0.9**
TREC *e* 17 54 02.4
TREC Trest 74.55 337 *e*P **P 17 53 52.8 +0.9**
TREC *e*pP **pP 17 54 02.4 -1.9**
TREC AMS AMS 18 30 50.0
comp=Z,800nm,16.4s
OZUR 74.60 329⇑*i*P **P 17 53 53.4 +1.2**
LTVH Ltavrtes, Hu 74.61 332 *e*P **P 17 53 53.0 +0.8**
CFR Carcaliu 74.64 327⇓*i*P **P 17 53 52.6 +0.2**
CLTN Cedars of Leba 74.64 50 *e*P **P 17 53 53.9 +1.2**
comp=Z,5.7nm,1.0s
SSPA Standing Stone 74.65 42 *e*P **P 17 53 53.1 +0.5**
comp=Z,11nm,1.1s
O56A Blue Knob Stat 74.68 43 *e*P **P 17 53 53.7 +0.8**
comp=Z,9.4nm,0.9s
PSZ Piszkesteto 74.69 334 *e*P **P 17 53 53.5 +0.7**
comp=Z,21nm,1.3s
PSZ Piszkesteto 74.69 334⇑*i*P **P 17 53 53.9 +1.1**
PLAL Pickwick Lake 74.70 52 *e*P **P 17 53 53.3 +0.3**
comp=Z,7.1nm,0.9s
SNOP Sinop 74.83 321 *e*P **P 17 53 52.6 -0.9**
comp=Z,14nm,1.2s
DOPR Dopca 74.84 329⇓*i*P **P 17 53 54.5 +0.9**
DRGR 74.91 331⇑*i*P **P 17 53 54.6 +0.5**
LMN Caledonia Moun 74.91 31 *e*P **P 17 53 55.1 +1.0**
comp=Z,20nm,1.4s
MODS Modra-Piesok 74.96 335 *e*P **P 17 53 54.9 +0.6**
MODS pmax pmax
comp=Z,12nm,1.0s
MODS Modra-Piesok 74.96 335 *e*P **P 17 53 54.9 +0.6**
MLR Muntele Rosu 75.08 329 *e*P **P 17 53 55.3 +0.1**
comp=Z,13nm,0.7s
MLR Muntele Rosu 75.08 329⇓*i*P **P 17 53 55.8 +0.6**
DIKM Dikmen 75.12 321⇓*i*P **P 17 53 56.5 +1.2**
GRA1 Grafenberg Arr 75.15 340 *e*P **P 17 53 54.9 -0.4**
comp=Z,18nm,1.0s
GRFO Grafenberg 75.15 340 *e*P **P 17 53 54.9 -0.4**
comp=Z,17nm,1.0s
KHC Kasperske Hory 75.16 338 *e*P **P 17 53 54.9 -0.5**
comp=Z,7.2nm,1.2s
KHC Kasperske Hory 75.16 338 *e*P **P 17 53 56.5 +1.1**
KHC *e* 17 54 09.0
KHC *e*S **S 18 03 31.1 +0.8**
KHC MLR MLR
comp=Z,700nm,15.4s
KHC Kasperske Hory 75.16 338 *e*P **P 17 53 56.5 +1.1**
KHC *e*pP **PcP 17 54 09.0 +0.2**
KHC *e*S **S 18 03 31.1 +0.8**
KHC AMS AMS 18 32 10.0
comp=Z,700nm,15.4s
ZST Bratislava 75.17 336 *e*P **P 17 53 55.9 +0.4**
ZST Bratislava 75.17 336 *e*P **P 17 53 55.9 +0.4**
TLB Topalu 75.20 327⇑*i*P **P 17 53 55.3 -0.3**
N59A State Game Lan 75.28 41 *e*P **P 17 53 57.1 +0.8**
comp=Z,26nm,1.6s
MEM Membach 75.28 343⇑P **P 17 53 57.1 +1.1**
MEM ⇑pP **pwP 17 54 10.8 -0.6**
comp=Z,34nm,1.0s
WRAB Tennant Creek 75.32 205⇓*e*P **P 17 53 55.7 -0.8**
WRAB pmax pmax
comp=Z,23nm,3.0s
WB2 Warramunga Arr 75.33 205 *e*P **P 17 53 57.0 +0.4**
comp=Z,39nm,1.8s
WRA Warramunga Arr 75.33 205 P **P 17 53 56.4 -0.2**
comp=Z,4.6nm,1.1s,baz=26,slow=5.0,SNR=12
BZK Bozkurt 75.34 322⇑*i*P **P 17 53 56.5 0.0**
GEC2 GERESS Array S 75.39 338 *e*P **P 17 53 57.2 +0.4**
comp=Z,6.9nm,1.1s
GERES GERESS Array B 75.39 338 *e*P **P 17 53 57.2 +0.4**
GERES GERESS Array B 75.39 338 P **P 17 53 57.6 +0.8**
comp=Z,1.0nm,0.4s,baz=43,slow=6.0,SNR=16
GERES LR LR 18 31 26.0
comp=Z,216nm,20.0s,baz=24,slow=39
VOIR 75.42 329⇑*i*P **P 17 53 58.2 +1.2**
SWET Sewanee 75.54 51 *e*P **P 17 53 58.1 +0.3**
comp=Z,7.4nm,0.8s
BCLA Clavier 75.59 344⇑P **P 17 53 58.6 +0.8**
comp=Z,11nm,1.3s
ARR Arges 75.61 329⇑*i*P **P 17 53 59.8 +1.7**
ICOR Ion Corvin 75.69 327⇑*i*P **P 17 53 58.8 +0.3**
SIRR Siria 75.70 332⇑*i*P **P 17 53 59.6 +1.1**
CONA Conrad Observa 75.73 336 *e*P **P 17 54 00.4 +1.6**
comp=Z,16nm,1.3s,SNR=9.8
SOP Sopron 75.79 336 *e*P **P 17 54 00.0 +1.1**
CPCT Cooper Cave 76.02 50 *e*P **P 17 54 01.4 +0.9**
comp=Z,5.3nm,0.9s
DOU Dourbes 76.02 344⇓P **P 17 54 00.6 +0.3**
DOU ⇓pP **pwP 17 54 14.8 -0.8**
GZR Gura Zlata 76.16 331⇓*i*P **P 17 54 01.5 +0.3**
TIH Tihany 76.16 335 *e*P **P 17 54 02.0 +0.9**
WLF Walferdange 76.17 343⇑P **P 17 54 03.0 +1.9**
MOA Molln 76.19 337 *e*P **P 17 54 02.4 +1.0**
comp=Z,5.6nm,1.0s
ILGA Ilgaz 76.23 321 *e*P **P 17 54 02.4 +0.4**
comp=Z,43nm,1.1s
HUMR Humele 76.25 329⇑*i*P **P 17 54 01.6 -0.1**
BZS Buzias 76.30 332⇑*i*P **P 17 54 02.1 +0.1**
ARSA Arzberg 76.45 336 *e*P **P 17 54 04.4 +1.6**
comp=Z,11nm,1.1s,SNR=6.0
HERR Herculane 76.73 331⇓*i*P **P 17 54 04.2 -0.2**
MDVR Moldovita 77.03 331⇑*i*P **P 17 54 06.3 +0.1**
BFO Black Forest 77.03 341 *e*P **P 17 54 05.5 -0.6**
comp=Z,10nm,1.2s
BFO Black Forest 77.03 341 *i* P **P 17 54 07.3 +1.2**
SOKA Soboth 77.10 336 *e*P **P 17 54 08.2 +1.7**
comp=Z,9.4nm,0.7s,SNR=10
KBA Koelnbreinsper 77.14 338 *e*P **P 17 54 08.7 +1.8**
comp=Z,22nm,0.8s,SNR=15
WATA Walderalm 77.30 339 *e*P **P 17 54 08.8 +1.1**
comp=Z,5.9nm,0.8s
RETA Reutte 77.33 339 *e*P **P 17 54 09.5 +1.6**
comp=Z,7.6nm,1.2s
WTTA Wattenberg 77.35 339 *e*P **P 17 54 09.5 +1.4**
comp=Z,19nm,1.3s,SNR=9.4
ECH Echery 77.37 342 *e*P **P 17 54 08.0 0.0**
comp=Z,12nm,0.9s
OBKA Obir 77.38 337 *e*P **P 17 54 09.5 +1.3**
comp=Z,9.9nm,0.8s
MOTA Moosalm 77.39 339 *e*P **P 17 54 08.8 +0.5**
comp=Z,4.6nm,0.8s,SNR=7.0
BR131 Keskin Array S 77.40 321 *e*P **P 17 54 08.2 -0.2**
comp=Z,16nm,1.3s
BR131 Keskin Array S 77.40 321 P **P 17 54 08.7 +0.2**
SNR=13
BRTR Keskin Array B 77.40 321 *e*P **P 17 54 07.8 -0.6**
BRTR Keskin Array B 77.40 321 *e*P **P 17 54 07.8 -0.6**
BRTR Keskin Array B 77.40 321 P **P 17 54 08.8 +0.2**
comp=Z,6.2nm,1.0s,baz=35,slow=3.0,SNR=34
BRTR LR LR 18 33 43.7
comp=Z,334nm,19.9s,baz=18,slow=40
MYKA Terra Mystica 77.49 337 *e*P **P 17 54 10.7 +2.0**
comp=Z,6.3nm,1.0s
SQTA Sankt Quirin 77.49 339 *e*P **P 17 54 10.2 +1.4**
comp=Z,18nm,1.2s,SNR=7.9
Y52A Lilburn 77.53 50 *e*P **P 17 54 12.7 +3.6**
comp=Z,24nm,1.4s
ANTO Ankara 77.61 321 *e*P **P 17 54 09.8 +0.2**
comp=Z,29nm,1.3s
ANTO Ankara 77.61 321 P **P 17 54 10.4 +0.9**
SNR=7.0
ANTO P **P 17 54 10.4 +0.9**
SNR=7.0
BR231 Keskin MP Arra 77.64 321 *e*P **P 17 54 09.8 +0.1**
comp=Z,20nm,1.1s
ABTA Abfaltersbach 77.64 338 *e*P **P 17 54 10.9 +1.3**
comp=Z,15nm,1.1s,SNR=6.5
EIDS Eidsvold 77.66 189 *e*P **P 17 54 12.8 +3.2**
comp=Z,14nm,1.6s
MDUB Mudurnu 77.69 323 *e*P **P 17 54 10.4 +0.4**
comp=Z,110nm,1.1s
DAVA Damuels 77.71 340 *e*P **P 17 54 11.4 +1.3**
comp=Z,9.8nm,1.1s
FETA Feichten 77.78 339 *e*P **P 17 54 11.5 +1.0**
comp=Z,7.9nm,0.9s
PALK Pallekele 77.94 266 *e*P **P 17 54 11.0 -0.6**
comp=Z,41nm,1.2s
PALK Pallekele 77.94 266 P **P 17 54 11.5 -0.1**
comp=Z,6.0nm,0.8s,baz=118,slow=4.0,SNR=2.7
SHME Shamm 77.97 297 P **P 17 54 11.2 -0.4**
PHSR Pinarhisar 77.99 326⇑*i*P **P 17 54 12.0 +0.5**
AUMIH MIHALICIK 78.11 322 *i* P **P 17 54 13.3 +1.0**
MSFE Esma-Masafi 78.50 296 *i* P **P 17 54 14.1 -0.5**
SNR=7.7
VTS Vitosha 78.52 329 *e*P **P 17 54 14.2 -0.4**
comp=Z,11nm,1.0s
VTS Vitosha 78.52 329⇑*i*P **P 17 54 14.9 +0.3**
TUE Stuetta 78.60 340 *e*P **P 17 54 16.0 +1.0**
comp=Z,12nm,0.8s
UMQ Umm Al-Quwin 78.64 297 P **P 17 54 15.9 +0.6**
UMQ P **P 17 54 15.9 +0.6**
WSAR Wadi Sarin 78.79 293 P **P 17 54 16.2 0.0**
HATD Hatta, Dubai 78.94 296 *i* P **P 17 54 17.0 0.0**
SNR=13
HATD Hatta, Dubai 78.94 296 P **P 17 54 16.7 -0.3**
SNR=13
HATD P **P 17 54 16.7 -0.3**
SNR=13
AS31 Alice Springs 79.00 205 *e*P **P 17 54 18.0 +0.8**
comp=Z,6.5nm,1.8s
ASAR Alice Springs 79.00 205 *e*P **P 17 54 17.4 +0.2**
ASAR Alice Springs 79.00 205 P **P 17 54 17.8 +0.6**
comp=Z,1.3nm,0.7s,baz=16,slow=4.7,SNR=22
ASAR LR LR 18 27 29.4
comp=Z,97nm,21.7s,baz=12,slow=34
NAZ Nazwa, Dubai 79.07 297 P **P 17 54 17.9 +0.2**
NAZ Nazwa, Dubai 79.07 297 P **P 17 54 17.9 +0.2**
SNR=5.1
NAZ P **P 17 54 17.9 +0.2**
SNR=5.1
ASHO Ashiyiah 79.09 296 *i* P **P 17 54 18.7 +0.8**
SNR=7.0
ASHO Ashiyiah 79.09 296 P **P 17 54 17.3 -0.6**
SNR=12
ASHO P **P 17 54 17.3 -0.6**
SNR=12
ALN Alexandroupoli 79.15 326 *e*P **P 17 54 17.5 -0.4**
comp=Z,13nm,1.2s
SOHO SOHO 79.26 295 P **P 17 54 17.9 -0.9**
SNR=9.3
SOHO P **P 17 54 17.9 -0.9**
SNR=9.3
FAQ Al Faqa, Dubai 79.30 297 P **P 17 54 18.6 -0.4**
BALB Balikesir 79.63 325 *e*P **P 17 54 20.5 0.0**
comp=Z,118nm,1.2s
STIP Stip 79.69 329 *i* P **P 17 54 20.2 -0.6**
ALNE Al Ain 79.76 296 *i* P **P 17 54 21.8 +0.3**
SNR=5.8
AJN Ajban 79.78 297 P **P 17 54 21.2 -0.4**
PDG Podgorica 79.90 332⇓*i*P **P 17 54 21.3 -0.6**
TTG Podgorica 79.90 332 *e*P **P 17 54 21.6 -0.3**
comp=Z,18nm,1.1s
VAY Valandovo 79.91 329 *i* P **P 17 54 22.7 +0.7**

EZN	Ezine	80.01 326	⇑ *i* P	P	17 54 22.6	0.0
ISP	Isparta	80.26 322	*e*P	P	17 54 23.7	-0.4
	comp=Z,14nm,0.7s					
KRUS	Krusevo	80.28 330	*i* P	P	17 54 21.9	-2.2
MANT	Manisa	80.40 324	*e*P	P	17 54 24.2	-0.8
	comp=Z,76nm,1.1s					
BNI	Bardonecchia	80.50 341	*e*P	P	17 54 25.6	+0.2
	comp=Z,16nm,1.2s					
VLC	Villacollemand	80.57 339	*e*P	P	17 54 26.8	+1.2
	comp=Z,82nm,1.8s					
OHR	Ohrid	80.65 330	*i* P	P	17 54 22.8	-3.3
SSB	Saint Sauveur	80.69 343	*e*P	P	17 54 27.0	+0.8
	comp=Z,8.2nm,0.8s					
TIR	Tirane	80.72 331	*e*P	P	17 54 26.2	-0.1
	comp=Z,21nm,0.7s					
FNA	Florina	80.77 330	*e*P	P	17 54 26.4	-0.4
	comp=Z,6.9nm,0.8s					
MHTO	MHTO	80.94 292	P	P	17 54 28.4	+0.6
	SNR=19					
MHTO			P	P	17 54 28.4	+0.6
	SNR=19					
AQU	L'Aquila	81.56 336	*e*P	P	17 54 31.8	+0.9
	comp=Z,34nm,1.2s					
CSS	Mathiatis	81.64 318	*e*P	P	17 54 30.9	-0.5
	comp=Z,17nm,0.9s					
PPT	Papeete	81.94 132	LR	LR	18 22 33.1	
	comp=Z,174nm,21.6s,baz=310,slow=30					
PPT2	Papeete2	81.96 132	*e*LR	LR	18 20 22.6	
	comp=Z,370nm,23.8s,baz=323					
TIP	Timpagrande	83.63 332	*e*P	P	17 54 42.2	+0.5
	comp=Z,13nm,1.1s					
TIP	Timpagrande	83.63 332	⇓ *i* P	P	17 54 42.5	+0.8
TBI	Tubuai	87.05 135	*e*LR	LR	18 22 44.9	
	comp=Z,373nm,26.2s,baz=337					
ESDC	Sonseca Array	87.48 348	*e*P	P	17 55 00.1	-0.7
ESDC	Sonseca Array	87.48 348	P	P	17 55 02.1	+1.2
	comp=Z,2.0nm,0.9s,baz=5.9,slow=5.5,SNR=11					
ESLA	Sonseca Array	87.48 348	*e*P	P	17 55 01.5	+0.6
	comp=Z,6.3nm,0.9s					
KEST	Kesra	88.83 337	*e*P	P	17 55 07.3	-0.1
	comp=Z,16nm,1.0s					
KEST	Kesra	88.83 337	LR	LR	18 40 50.2	
	comp=Z,362nm,18.1s,baz=342,slow=40					
TORD	Torodi Ar. Bea	112.35 337	PP	PP	18 01 32.9	-1.1
	comp=Z,2.8nm,1.1s,baz=18,slow=6.4,SNR=9.8					

KRSC 21 17:45:21.5±10.0, 52°.15N×160°.78E, h41km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.06	335	P	Pn	17 45 40.3	+0.5
SPN				S	Sn	17 45 54.1	+0.8
NLC	Nalytchevo	1.35	320	P	Pn	17 45 44.6	+0.9
NLC				S	Sn	17 46 01.4	+1.0
RUS	Russkaya	1.42	283	P	Pn	17 45 46.1	+1.4
RUS				S	Sn	17 46 03.5	+1.3
DALK	Dalny	1.52	306	P	Pn	17 45 47.9	+1.8
DALK				S	Sn	17 46 07.5	+2.9
PET	Petropavlovsk	1.56	305	P	Pn	17 45 48.6	+1.9
PET				S	Sn	17 46 07.9	+2.1
UGLR	Uglovaya	1.59	313	P	Pn	17 45 49.9	+2.6
SDLR	Sedlovina	1.61	315	P	Pn	17 45 50.2	+2.6
MTVR	Mutnovka	1.63	283	P	Pn	17 45 49.3	+1.6
MTVR				S	Sn	17 46 09.3	+1.8
SMAR	Somma	1.64	314	P	Pn	17 45 51.4	+3.4
AVH	Avacha	1.67	313	P	Pn	17 45 50.8	+2.5
KDTR	Khodutka, Kamc	1.70	260	P	Pn	17 45 50.3	+1.7
KDTR				S	Sn	17 46 10.2	+1.1
KOK	Koryaka	1.73	312	P	Pn	17 45 51.4	+2.2
KRMR	Karymshinskiy	1.76	294	P	Pn	17 45 51.3	+1.9
KRMR				S	Sn	17 46 13.3	+2.8
ASAK	Asacha	1.78	279	P	Pn	17 45 52.0	+2.2
MKZ	Mys Kozlova	2.48	13	S	Sn	17 46 30.2	+1.9

KRSC 21 17:48:02.7±10.0, 51°.93N×160°.76E, h56km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.25	339	P	Pn	17 48 25.0	+1.1
SPN				S	Sn	17 48 41.2	+1.4
RUS	Russkaya	1.47	291	P	Pn	17 48 28.3	+1.4
RUS				S	Sn	17 48 45.3	+0.3
NLC	Nalytchevo	1.51	326	P	Pn	17 48 29.5	+2.1
NLC				S	Sn	17 48 48.9	+2.9
DALK	Dalny	1.65	313	P	Pn	17 48 30.8	+1.5
DALK				S	Sn	17 48 51.5	+2.2
KDTR	Khodutka, Kamc	1.67	267	P	Pn	17 48 31.4	+1.9
KDTR				S	Sn	17 48 52.4	+2.6
MTVR	Mutnovka	1.68	290	P	Pn	17 48 31.4	+1.6
MTVR				S	Sn	17 48 51.8	+1.5
UGLR	Uglovaya	1.74	318	P	Pn	17 48 32.9	+2.2
UGLR				S	Sn	17 48 54.9	+3.1
SDLR	Sedlovina	1.77	320	P	Pn	17 48 33.1	+2.1
SMAR	Somma	1.79	319	P	Pn	17 48 33.5	+2.1
ASAK	Asacha	1.82	286	P	Pn	17 48 34.2	+2.5
ASAK				S	Sn	17 48 57.6	+4.0
AVH	Avacha	1.82	318	P	Pn	17 48 33.5	+1.8
AVH				S	Sn	17 48 56.4	+2.8
KRER	Koryakskii	1.84	319	P	Pn	17 48 35.5	+3.4
KRMR	Karymshinskiy	1.85	300	P	Pn	17 48 33.8	+1.9
KRMR				S	Sn	17 48 56.4	+2.2
KOK	Koryaka	1.88	317	P	Pn	17 48 34.8	+2.3
APC	Apacha	2.42	296	P	Pn	17 48 43.2	+3.4
APC				S	Sn	17 49 13.5	+5.3
MKZ	Mys Kozlova	2.69	12	P	Pn	17 48 46.5	+3.0
MKZ				S	Sn	17 49 16.5	+1.6
SKR	Severo-Kuril's	3.17	249	S	Sn	17 49 28.9	+2.4
KZV	Kizimen	3.20	355	P	Pn	17 48 54.3	+3.7
KZV				S	Sn	17 49 30.7	+3.1
TUMD	Tumrok D	3.29	356	S	Sn	17 49 31.2	+1.7
TUMR	Tumrok	3.38	354	P	Pn	17 48 56.8	+3.8
KBTR	Krutoberegovo	4.46	15	P	Pn	17 49 11.8	+4.2

*IDC **21** 17:59:50.0±2.2, 52°.36N×160°.03E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/37, mbtmp3.5/7, ML3.3/1, Error ellipse: s-maj=53.3km s-min=26.6km az=94.0*
*KRSC **21** 17:59:52.2±10.0, 52°.13N×160°.34E, h51km±10km, ML4.2*
ISC 21 17:59:51.4±1.8, 52°.20N±0°.05×160°.31E±0°.05, h14km±10km, n34, σ1§40/49, mb3.5/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.91	349	*e*P	Pn	18 00 11.1	+1.3
SPN				*e*S	Sn	18 00 23.6	+0.8
RUS	Russkaya	1.12	283	*e*P	Pb	18 00 13.0	+0.4
RUS				*e*S	Sg	18 00 27.0	-0.7
NLC	Nalytchevo	1.13	329	*e*P	Pg	18 00 14.6	+1.4
NLC				*e*S	Sn	18 00 29.5	+1.3
DALK	Dalny	1.26	312	*e*P	Pg	18 00 15.7	+0.1
DALK				*e*S	Sg	18 00 31.1	-0.9
MTVR	Mutnovka	1.33	283	*e*P	Pb	18 00 16.6	+0.4
MTVR				*e*S	Sn	18 00 33.0	-0.3
UGLR	Uglovaya	1.35	319	*e*P	Pg	18 00 17.8	+0.4
UGLR				*e*S	Sg	18 00 35.3	+0.3
SDLR	Sedlovina	1.38	322	*e*P	Pg	18 00 17.9	-0.1
SDLR				*e*S	Sg	18 00 35.1	-0.8
SMAR	Somma	1.40	320	*i* P	Pg	18 00 18.4	0.0
GRL	Gorelyy	1.41	285	*e*P	Pg	18 00 18.5	0.0
GRL				*e*S	Sg	18 00 36.7	-0.2
AVH	Avacha	1.43	319	*i* P	Pg	18 00 19.0	+0.1
KDTR	Khodutka, Kamc	1.43	255	*e*P	Pn	18 00 18.0	+1.1
KDTR				*e*S	Sn	18 00 35.4	-0.2
KRER	Koryakskii	1.45	320	*e*P	Pg	18 00 19.5	+0.2
KRMR	Karymshinskiy	1.47	296	*e*P	Pb	18 00 18.8	+0.3
KRMR				*e*S	Sg	18 00 37.6	-1.1
ASAK	Asacha	1.49	278	*e*P	Pb	18 00 19.4	+0.5
ASAK				*e*S	Sg	18 00 38.6	-0.7
KOK	Koryaka	1.49	318	*e*P	Pg	18 00 19.8	-0.2
PETK	Petropavlovsk-	1.83	301	Pn	Pb	18 00 24.4	-0.2
	45nm,0.3s,baz=107,slow=19,SNR=303						
PETK				Sn	Sb	18 00 46.4	-1.0
	26nm,0.3s,baz=101,slow=15,SNR=6.9						
APC	Apacha	2.05	292	*e*P	Pb	18 00 28.1	-0.3
APC				*e*S	Sb	18 00 54.1	+0.3
PAU	Pauzhetka	2.29	253	*e*P	Pn	18 00 30.5	+1.8
MKZ	Mys Kozlova	2.51	19	*e*P	Pn	18 00 34.2	+2.5
MKZ				*e*S	Sn	18 01 03.2	+1.1
KZV	Kizimen	2.92	360	*e*S	Sb	18 01 16.4	-2.4
TUMD	Tumrok D	3.01	1	*e*P	Pb	18 00 43.1	-1.6
SKR	Severo-Kuril's	3.03	242	*e*P	Pn	18 00 40.6	+1.7
SKR				*e*S	Sn	18 01 14.3	-0.7
TUMR	Tumrok	3.09	358	*e*P	Pb	18 00 44.5	-1.7
ALID	Alaid	3.26	248	*e*P	Pn	18 00 44.0	+1.8
ESO	Esso	3.85	346	*e*P	Pn	18 00 54.3	+4.1
KBTR	Krutoberegovo	4.28	19	*e*P	Pn	18 00 59.7	+3.7
BKI	Bering	4.51	46	S	Sn	18 01 49.8	-1.7
KLR	Kul'dur	18.27	272	Pn	Pn	18 04 04.0	-0.3
	0.1nm,0.3s,baz=13,slow=13,SNR=2.3						
MJAR	Matsushiro Arr	22.11	234	P	P	18 04 47.7	+1.5
	0.6nm,0.5s,baz=19,slow=12,SNR=4.8						
TIXI	Tiksi	23.95	336	P	P	18 05 03.8	-0.9
	0.7nm,0.4s,baz=137,slow=12,SNR=7.8						
ZALV	Zalesovo Beam	43.37	304	P	P	18 07 50.5	-2.5
	0.3nm,0.4s,baz=60,slow=8.5,SNR=2.5						
MKAR	Makanchi Array	48.66	296	P	P	18 08 33.0	-1.8
	0.4nm,0.5s,baz=62,slow=8.7,SNR=5.5						
FINES	FINESS Array B	60.99	337	P	P	18 10 03.7	0.0
	1.3nm,0.8s,baz=40,slow=7.4,SNR=8.2						
ASAR	Alice Springs	79.00	205	P	P	18 11 55.4	+0.8
	0.2nm,0.8s,baz=17,slow=5.1,SNR=5.3						

*KRSC **21** 18:01:49.8±10.0, 52°.12N×160°.69E, h55km±10km, ML4.6*
*IDC **21** 18:01:49.4±0.6, 52°.33N×160°.29E, h0km, mb4.1/28, mb1 4.3/31, mb1mx4.2/40, mbtmp4.1/31, ML3.6/2, MS3.9/4, Ms1 3.9/4, ms1mx3.2/46, Error ellipse: s-maj=15.8km s-min=10.9km az=145.0*
*MOS **21** 18:01:53.6±1.2, 52°.27N×160°.42E, h51km, mb4.9/21, Error ellipse: s-maj=7.1km s-min=4.7km az=103.9*
*ISCJB **21** 18:01:54.5±0.4, 52°.26N±0°.03×160°.38E±0°.04, h53km±3km, mb4.5/140, Error ellipse: s-maj=5.5km s-min=3.2km az=154.0*
*NEIC **21** 18:01:55.4±1.4, 52°.37N×160°.22E, h41km±6km, mb4.5/114, Error ellipse: s-maj=14.6km s-min=11.1km az=178.0*
ISC 21 18:01:54.7±0.6, 52°.24N±0°.04×160°.43E±0°.03, h41km±5km, n305, σ1§63/338, mb4.5/143, 15C-18D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.90	344	*e*P	Pn	18 02 09.2	-1.6
SPN				*e*S	Sn	18 02 21.6	-1.0
SPN	Mys Shipunski	0.90	344	PN	Pn	18 02 09.2	-1.6
SPN				S	Sn	18 02 21.6	-1.0
NLC	Nalytchevo	1.15	325	*e*P	Pn	18 02 13.6	-0.6
NLC				*e*S	Sn	18 02 31.0	+2.3
NLC	Nalytchevo	1.15	325	PN	Pn	18 02 13.6	-0.6
NLC				S	Sn	18 02 31.0	+2.3
RUS	Russkaya	1.20	280	*e*P	Pn	18 02 14.1	-0.8
RUS				*e*S	Sn	18 02 32.4	+2.5
RUS	Russkaya	1.20	280	PN	Pn	18 02 14.1	-0.8
RUS				S	Sn	18 02 32.4	+2.5
DALK	Dalny	1.30	308	*e*P	Pn	18 02 15.7	-0.6
DALK				*e*S	Sn	18 02 33.4	+1.0
DALK	Dalny	1.30	308	PN	Pn	18 02 15.7	-0.6
DALK				S	Sn	18 02 33.4	+1.0
PET	Petropavlovsk	1.34	307	*e*Pn	Pn	18 02 16.5	-0.4
PET	Petropavlovsk	1.34	307	⇑ *i*PN	Pn	18 02 16.5	-0.4
PET				*e*S	Sn	18 02 35.4	+1.9
PET				pmax	pmax		
	comp=Z,1μm,0.7s						
PET				smax	smax		
	comp=N,4μm,0.7s						
PET				smax	smax		
	comp=E,6μm,0.8s						
MTVR	Mutnovka	1.40	281	*e*P	Pn	18 02 17.6	-0.3
MTVR				*e*S	Sn	18 02 37.3	+2.1
MTVR	Mutnovka	1.40	281	PN	Pn	18 02 17.6	-0.3
MTVR				S	Sn	18 02 37.3	+2.1
SDLR	Sedlovina	1.40	318	*e*P	Pn	18 02 17.8	-0.1
SDLR	Sedlovina	1.40	318	PN	Pn	18 02 17.8	-0.1
SMAR	Somma	1.43	317	*e*P	Pn	18 02 18.4	+0.1
SMAR	Somma	1.43	317	PN	Pn	18 02 18.4	+0.1
AVH	Avacha	1.46	316	*e*P	Pn	18 02 18.7	+0.2
AVH	Avacha	1.46	316	PN	Pn	18 02 18.7	+0.2
KRER	Koryakskii	1.48	317	P	Pn	18 02 19.9	+0.9
KRER	Koryakskii	1.48	317	PN	Pn	18 02 19.9	+0.9
GRL	Gorelyy	1.48	283	*e*P	Pn	18 02 19.8	+0.9
GRL	Gorelyy	1.48	283	PN	Pn	18 02 19.8	+0.9
KDTR	Khodutka, Kamc	1.52	254	*e*P	Pn	18 02 18.3	-1.0
KDTR				*e*S	Sn	18 02 37.9	+0.1
KDTR	Khodutka, Kamc	1.52	254	PN	Pn	18 02 18.3	-1.0
KDTR				S	Sn	18 02 37.9	+0.1
KRMR	Karymshinskiy	1.53	294	P	Pn	18 02 19.3	-0.1
KRMR				*e*S	Sn	18 02 40.5	+2.5
KRMR	Karymshinskiy	1.53	294	PN	Pn	18 02 19.3	-0.1
KRMR				S	Sn	18 02 40.5	+2.5
ASAK	Asacha	1.56	276	*e*P	Pn	18 02 20.4	+0.4
ASAK	Asacha	1.56	276	PN	Pn	18 02 20.4	+0.4
PEA0B	Petropavlovsk-	1.88	299	*e*Pn	Pn	18 02 24.9	+0.6
PETK	Petropavlovsk-	1.88	299	Pn	Pn	18 02 24.6	+0.3
	comp=E,51nm,0.3s,baz=108,slow=20,SNR=44						
PETK				Sn	Sn	18 02 48.2	+1.5
	comp=E,32nm,0.3s,baz=120,slow=21,SNR=6.1						
PETK				LR	LR	18 02 56.0	
	comp=E,360nm,20.3s,baz=84,slow=38						
PEA1	Petropavlovsk-	1.88	299	*e*Pn	Pn	18 02 24.6	+0.3
PEA1				*e*Sn	Sn	18 02 48.2	+1.4
PEA1				*e*		18 02 56.0	
APC	Apacha	2.11	290	*e*P	Pn	18 02 28.5	+1.0
APC				*e*S	Sn	18 02 55.9	+3.4
APC	Apacha	2.11	290	PN	Pn	18 02 28.5	+1.0
APC				S	Sn	18 02 55.9	+3.4
PAU	Pauzhetka	2.38	252	*e*P	Pn	18 02 30.6	-0.5
PAU	Pauzhetka	2.38	252	PN	Pn	18 02 30.6	-0.5
MKZ	Mys Kozlova	2.45	18	*e*P	Pn	18 02 30.7	-1.4
MKZ				*e*S	Sn	18 02 59.1	-1.6
MKZ	Mys Kozlova	2.45	18	PN	Pn	18 02 30.7	-1.4
MKZ				S	Sn	18 02 59.1	-1.6
KZV	Kizimen	2.88	358	*e*P	Pn	18 02 39.5	+1.3
KZV				*e*S	Sn	18 03 15.7	+4.1
KZV	Kizimen	2.88	358	PN	Pn	18 02 39.5	+1.3
KZV				S	Sn	18 03 15.7	+4.1
TUMD	Tumrok D	2.97	360	*e*P	Pn	18 02 39.2	-0.1
TUMR	Tumrok	3.06	357	*e*P	Pn	18 02 41.4	+0.9
TUMR	Tumrok	3.06	357	PN	Pn	18 02 39.2	-1.3
SKR	Severo-Kuril's	3.12	242	*e*P	Pn	18 02 40.7	-0.5
SKR				*e*S	Sn	18 03 16.7	-0.5
SKR	Severo-Kuril's	3.12	242	*e*PN	Pn	18 02 40.5	-0.7
SKR				*e*S	Sn	18 03 16.5	-0.7
SKR				pmax	pmax		
	comp=Z,205nm,0.8s						
SKR				smax	smax		
	comp=E,803nm,0.8s						
SKR				smax	smax		
	comp=N,818nm,0.9s						
ALID	Alaid	3.34	248	*e*P	Pn	18 02 44.4	-0.1
ALID	Alaid	3.34	248	PN	Pn	18 02 44.4	-0.1
ESO	Esso	3.83	345	*e*P	Pn	18 02 52.5	+1.4
ESO	Esso	3.83	345	PN	Pn	18 02 52.5	+1.4
KLY	Klyuchi	4.08	2	*e*P	Pn	18 02 56.3	+1.8
KLY	Klyuchi	4.08	2	PN	Pn	18 02 56.3	+1.8
KBTR	Krutoberegovo	4.22	18	*e*P	Pn	18 02 56.0	-0.3
KBTR	Krutoberegovo	4.22	18	PN	Pn	18 02 56.0	-0.3
BKI	Bering	4.43	46	*e*P	Pn	18 02 57.9	-1.4
BKI				*e*S	Sn	18 03 44.4	-5.1
BKI	Bering	4.43	46	PN	Pn	18 02 57.9	-1.4
SMY	Shemya	8.36	81	*e*Pn	Pn	18 03 53.1	0.0
SMY	Shemya	8.36	81	*e*PN	Pn	18 03 53.2	0.0
MA2	Magadan	9.13	327	LR	LR	18 08 08.3	
	comp=N,660nm,18.1s,baz=144,slow=42						
SEY	Seymchan	11.55	341	Pn	Pn	18 04 35.1	-1.6
	comp=N,0.0nm,0.3s,baz=118,slow=15,SNR=1.7						
YSS	Yuzh-Sakhalins	12.62	252	*e*PN	Pn	18 04 53.7	+2.3
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				MLR	MLR		
	comp=Z,900nm,14.0s						
ASAJ	Asahikawa	14.38	243	Pn	Pn	18 05 14.6	-0.8
	comp=Z,0.6nm,0.3s,baz=74,slow=15,SNR=12						
GRNR	Gornyy	15.01	274	*e*P	P	18 05 32.1	+3.5
GRNR				pmax	pmax		
	comp=Z,20nm,1.0s						
ERM	Erimo	15.54	236	*e*Pn	Pn	18 05 26.1	-4.6
	comp=Z,165nm,1.8s						
ERM	Erimo	15.54	236	*e*P	Pn	18 05 26.1	-4.6
ERM				pmax	pmax		
	comp=Z,165nm,1.8s						
BILL	Bilibino	16.10	8	*e*Pn	P	18 05 40.0	-0.5
	comp=Z,10nm,0.7s						
BILL	Bilibino	16.10	8	⇓ *e*P	P	18 05 41.6	+1.0
BILL				*e*S	S	18 08 42.0	-5.0
BILL				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,428nm,20.0s						
TEY	Ternei	17.27	255	*e*P	P	18 05 54.3	+0.7
KLR	Kul'dur	18.35	272	*c*eP	Pn	18 06 06.7	+0.9
KLR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KLR	Kul'dur	18.35	272	P	P	18 06 04.8	-0.8
	comp=Z,0.1nm,0.3s,baz=53,slow=11,SNR=12						
KLR				LR	LR	18 14 03.4	
	comp=Z,281nm,18.2s,baz=78,slow=40						
NIKH	Nikolski High	18.60	76	*e*P	Pn	18 06 09.6	+0.8
	comp=Z,596nm,1.9s						
YAK	Yakutsk	19.16	313	*e*P	P	18 06 12.0	-2.3
YAK				pmax	pmax		
	comp=Z,57nm,0.6s						
YAK				pmax	pmax		
	comp=N,8.0nm,0.6s						
YAK				pmax	pmax		
	comp=E,33nm,0.8s						
ZEA	Zeya	19.93	288	*e*P	P	18 06 21.1	-1.7
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
USRK	Ussuriysk Ar.	20.48	258	*e*P	P	18 06 24.9	-3.9
USRK	Ussuriysk Ar.	20.48	258	P	P	18 06 27.3	-1.5
	comp=Z,5.8nm,1.0s,baz=49,slow=8.6,SNR=5.3						
MJB9	Matsu-Tunnel	22.19	234	*e*P	P	18 06 46.0	-1.2
	comp=Z,20nm,1.0s						
MAJO	Matsushiro	22.19	234	*e*P	P	18 06 46.0	-1.2
	comp=Z,20nm,1.0s						
MAJO	Matsushiro	22.19	234	*e*P	P	18 06 46.0	-1.2
MAJO				pmax	pmax		
	comp=Z,20nm,1.0s						
MJAR	Matsushiro Arr	22.19	234	*e*P	P	18 06 52.6	+5.3
MJAR	Matsushiro Arr	22.19	234	P	P	18 06 46.8	-0.4
	comp=Z,12nm,1.1s,baz=14,slow=9.4,SNR=24						
MJAR				LR	LR	18 15 34.2	
	comp=Z,282nm,19.5s,baz=65,slow=37						
INU	Inuyama	23.73	234	*e*P	P	18 07 04.0	+1.2
	comp=Z,9.6nm,1.0s						
TIXI	Tiksi	23.95	336	*e*P	P	18 07 03.2	-1.3
TIXI	Tiksi	23.95	336	⇓ *e*P	P	18 07 03.3	-1.3
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIXI	Tiksi	23.95	336	P	P	18 07 03.4	-1.2
	comp=Z,7.3nm,0.7s,baz=125,slow=9.1,SNR=44						
HIA	Hailar	25.68	280	*e*P	P	18 07 18.4	-2.1
	comp=Z,15nm,1.0s						
HIA	Hailar	25.68	280	⇓ *i*P	P	18 07 18.6	-1.9
HIA				pmax	pmax		
	comp=Z,65nm,0.7s						
IMAR	Indian Mountai	26.50	41	*e*P	P	18 07 28.4	+0.6
IMAR				*e*PcP	PcP	18 10 52.9	+1.5
BOD	Bodaibo	26.75	301	*e*P	P	18 07 28.6	-1.5
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s						
OHAK	Old Harbor	26.76	61	*e*P	P	18 07 29.7	-0.4
	comp=Z,17nm,1.2s						
KSRS	Korea Array	27.10	250	P	P	18 07 34.1	+0.7
	comp=Z,1.7nm,0.8s,baz=41,slow=9.4,SNR=5.3						
KS15	Wonju Array Si	27.13	250	*e*P	P	18 07 35.4	+1.7
	comp=Z,31nm,1.5s						
KSAR	Wonju Array Be	27.13	250	*e*P	P	18 07 34.8	+1.2
BPAW	Bear Paw Mtn.	27.49	46	*e*P	P	18 07 37.7	+1.0
	comp=Z,3.5nm,1.1s						
MLY	Manley	27.64	44	*e*P	P	18 07 38.5	+0.4
	comp=Z,8.6nm,1.6s						
MLY				*e*PcP	PcP	18 10 55.9	+1.7
TOLK	Toolik Lake Re	28.53	36	*e*P	P	18 07 45.5	-0.5
	comp=Z,9.5nm,1.6s						
JNU	Nakatsue	28.63	240	*e*P	P	18 07 47.7	+0.6
	comp=Z,10nm,0.9s						
JNU	Nakatsue	28.63	240	P	P	18 07 45.3	-1.9
	comp=Z,2.8nm,0.8s,baz=93,slow=7.5,SNR=3.0						
MDM	Murphy Dome	28.71	44	*e*P	P	18 07 48.0	+0.4
	comp=Z,5.5nm,1.4s						
KNK	Knik Glacier	28.71	51	*e*P	P	18 07 47.8	+0.2
	comp=Z,18nm,1.7s						
SML	Sawmill	28.74	50	*e*P	P	18 07 48.5	+0.7
	comp=Z,5.8nm,0.6s						
CCB	Clear Creek Bu	28.88	44	*e*P	P	18 07 49.3	+0.2
	comp=Z,14nm,2.0s						
DHY	Denali Highway	29.11	48	*e*P	P	18 07 51.5	+0.3
	comp=Z,11nm,1.5s						
SCM	Sheep Creek Mo	29.21	50	*e*P	P	18 07 52.9	+0.8
	comp=Z,14nm,1.4s						
ILAR	Eielson Array	29.28	44	*e*P	P	18 07 53.3	+0.7
ILAR	Eielson Array	29.28	44	P	P	18 07 52.2	-0.4
	comp=Z,0.6nm,0.8s,baz=256,slow=7.7,SNR=7.2						
ILAR				PcP	PcP	18 10 57.5	-0.7
	comp=Z,0.4nm,0.6s,baz=305,slow=5.2,SNR=4.7						
ILB	Eielson Array	29.28	44	*e*P	P	18 07 52.0	-0.6
	comp=Z,1.5nm,0.8s						
PRP	Porcupine Dome	29.85	43	*e*P	P	18 07 58.0	+0.2
	comp=Z,2.4nm,0.8s						
DOT	Dot Lake	30.56	46	*e*P	P	18 08 04.0	+0.1
	comp=Z,8.1nm,1.6s						
BCAR	Beaver Creek A	31.64	47	*e*P	P	18 08 14.5	+1.0
BALM	Baldy	31.69	51	*e*P	P	18 08 15.2	+1.2
	comp=Z,18nm,2.0s						
CTGM

comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,8.0nm,1.0s
RES Resolute Bay 44.04 22 *e*P **P 18 09 58.0 +0.4**
comp=E,13nm,1.6s
RES Resolute Bay 44.04 22 P **P 18 09 57.0 -0.7**
comp=E,1.1nm,0.9s,baz=321,slow=17,SNR=5.0
DGZ Jazzator, Alta 44.24 297*d i P* **P 18 09 59.3 -0.5**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
CD2 Chengdu 46.10 265 *e*P **P 18 10 13.3 -1.3**
WMQ Urumqi 47.45 290 *e*P **P 18 10 24.6 -0.5**
WMQ pP pP 18 10 36.8 +0.7
HLP Hilina Pali 47.54 117 *e*P **P 18 10 30.3 +4.3**
comp=Z,135nm,1.1s
SPA0 Spitsbergen Ar 48.01 351 *e*P **P 18 10 29.5 +0.5**
comp=Z,35nm,1.2s
KURK Kurchatov 48.37 303 *e*P **P 18 10 30.5 -1.4**
comp=Z,9.6nm,0.8s
KURK Kurchatov 48.37 303*de*P **P 18 10 30.6 -1.4**
KURK pmax pmax
comp=Z,17nm,1.3s
LON Longmire 48.53 64 *e*P **P 18 10 34.9 +1.5**
comp=Z,11nm,1.4s
MK31 Makanchi Array 48.72 297 *e*P **P 18 10 33.0 -1.8**
comp=Z,5.2nm,1.2s
MKAR Makanchi Array 48.72 297 *e*P **P 18 10 33.5 -1.3**
MKAR Makanchi Array 48.72 297 P **P 18 10 33.2 -1.6**
comp=Z,1.2nm,0.6s,baz=54,slow=7.7,SNR=6.9
MAKZ Makanchi 48.88 297 *e*P **P 18 10 34.5 -1.5**
comp=Z,8.2nm,1.2s
KMI Kunming 50.88 261 P **P 18 10 51.3 -0.4**
BRVK Borovoye 51.12 309 *e*P **P 18 10 51.3 -1.5**
comp=Z,6.0nm,0.8s
BRVK Borovoye 51.12 309*d i P* **P 18 10 51.5 -1.4**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
WALA Waterton Lakes 51.35 57 *e*P **P 18 10 55.3 +0.5**
comp=Z,16nm,1.8s
FCC Fort Churchill 54.02 38 *e*P **P 18 11 15.3 +1.1**
comp=Z,7.4nm,1.2s
ARCES ARCESS Array B 54.17 342 *e*P **P 18 11 14.3 -0.9**
ARCES ARCESS Array B 54.17 342 *e*P **P 18 11 14.3 -0.9**
ARCES ARCESS Array B 54.17 342 P **P 18 11 14.5 -0.7**
comp=Z,7.5nm,0.9s,baz=48,slow=12,SNR=8.1
ARE0 ARCESS Array S 54.17 342 *e*P **P 18 11 13.7 -1.4**
comp=Z,1.0nm,1.1s
ARU Arti 54.17 318 *e*P **P 18 11 14.4 -1.0**
comp=Z,6.0nm,0.7s
ARU Arti 54.17 318*d i P* **P 18 11 14.4 -1.0**
ARU 18 13 12.0
ARU S **S 18 18 46.5 -2.5**
ARU SS **SKiKP 18 22 25.5 +2.8**
ARU pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 54.69 274 *e*P **P 18 11 20.4 +0.4**
comp=Z,2.3nm,0.8s
BOZ Bozeman (W) 54.76 59 *e*P **P 18 11 21.5 +1.5**
comp=Z,8.7nm,1.8s
SUMG Summit 54.79 7 *e*P **P 18 11 20.4 +0.3**
comp=Z,14nm,1.2s
SUMG Summit 54.79 7 *i* P **P 18 11 20.6 +0.5**
SUMG pmax pmax
comp=Z,39nm,1.2s
SUMG Summit 54.79 7 *i* P **P 18 11 20.6 +0.5**
comp=Z,39nm,1.2s
PRGR Permogore 55.28 328 *e*P **P 18 11 21.2 -2.1**
PRGR pmax pmax
comp=Z,9.0nm,0.6s
KVN Kaiserville 55.54 69 *e*P **P 18 11 27.2 +1.4**
comp=Z,6.9nm,1.5s
TMCR Tamitsa 55.63 333 *e*P **P 18 11 26.2 +0.4**
TMCR pmax pmax
comp=Z,25nm,0.8s
GCMT Greycliff 55.66 58 *e*P **P 18 11 29.9 +3.5**
YHH Holmes Hill 55.70 60 *e*P **P 18 11 28.2 +1.2**
comp=Z,1.6nm,0.9s
NVAR Mina Array Bea 55.84 70 *e*P **P 18 11 29.9 +1.9**
NVAR Mina Array Bea 55.84 70 P **P 18 11 29.1 +1.1**
comp=Z,1.1nm,0.7s,baz=295,slow=7.2,SNR=5.5
RLMT Red Lodge 56.31 58 *e*P **P 18 11 32.0 +0.7**
comp=Z,8.2nm,1.4s
KSH Kashi 56.93 293 P **P 18 11 35.6 0.0**
KSH pP pP 18 11 45.3 -1.6
KSH PP **PP 18 13 44.4 +2.4**
KSH S **S 18 19 28.3 +1.7**
KSH Kashi 56.93 293 SS **SS 18 23 15.9 +1.2**
PHRA Phrae 57.41 258 P **P 18 11 41.6 +2.6**
comp=Z,2.1nm,1.5s,comp=Z,88nm
R11A Troy Canyon, C 57.46 68 *e*P **P 18 11 40.4 +0.9**
comp=Z,2.1nm,1.1s
KK31 Karatay Array 57.48 300 *e*P **P 18 11 38.2 -1.1**
comp=Z,3.3nm,1.0s
KKAR Karatay Array 57.48 300 *e*P **P 18 11 37.8 -1.5**
comp=Z,3.3nm,1.0s
KKAR *e*P **P 18 11 37.9 -1.5**
PD31 Pinedale Array 57.76 61 *e*P **P 18 11 43.1 +1.5**
comp=Z,2.2nm,0.8s
PDAR Pinedale Array 57.76 61 P **P 18 11 42.8 +1.2**
comp=Z,1.6nm,0.8s,baz=318,slow=2.0,SNR=10
UTTA Uttaradit 57.79 257 P **P 18 11 44.1 +2.4**
comp=Z,12μm,1.0s
KLMR Klimovskoe 57.80 330 *e*P **P 18 11 40.4 -0.8**
KLMR pmax pmax
comp=Z,12nm,1.0s
CMMT Chiang Mai 57.94 259 P **P 18 11 44.6 +1.8**
comp=Z,5.0nm,1.3s
CHTO Chiang Mai 57.94 259 *e*P **P 18 11 43.8 +1.0**
comp=Z,8.0nm,1.0s
CM31 Chiang Mai Arr 58.21 259 *e*P **P 18 11 46.2 +1.5**
comp=Z,6.9nm,0.9s
CMAR Chiang Mai Arr 58.21 259 *e*P **P 18 11 45.0 +0.3**
CMAR Chiang Mai Arr 58.21 259 P **P 18 11 46.5 +1.8**
comp=Z,2.8nm,0.8s,baz=25,slow=6.9,SNR=19
ABKAR Akbulak array 58.51 311 *e*P **P 18 11 45.0 -1.3**
ABKAR *e*P **P 18 11 45.6 -0.8**
BTK Batken 59.43 297 *e*P **P 18 11 52.2 -0.8**
comp=Z,9.5nm,1.4s
RSSD Black Hills 59.71 56 *e*P **P 18 11 56.0 +0.9**
comp=Z,4.7nm,0.8s
LCMT Little Creek M 59.72 68 *e*P **P 18 11 57.2 +2.1**
comp=Z,1.8nm,0.9s
SRU San Rafael Swe 59.77 64 *e*P **P 18 11 57.4 +1.9**
comp=Z,2.9nm,0.8s
GAR Garm 60.45 296 *e*P **P 18 11 59.0 -1.1**
comp=Z,6.8nm,0.8s
FIA1 FINESS Array S 60.99 337 *e*P **P 18 12 03.4 +0.2**
comp=Z,8.8nm,0.8s
FINES FINESS Array B 60.99 337 *e*P **P 18 12 03.4 +0.2**
FINES FINESS Array B 60.99 337 *i* P **P 18 12 04.0 +0.8**
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 60.99 337 P **P 18 12 04.0 +0.8**
comp=Z,6.5nm,0.7s,baz=38,slow=9.6,SNR=20
PV21 Cone Mtn., Par 61.02 64 *e*P **P 18 12 05.5 +1.4**
comp=Z,4.3nm,0.9s
PV23 Carpenter Ridg 61.07 64 *e*P **P 18 12 05.3 +0.8**
comp=Z,4.5nm,0.9s
PV14 Lion Creek, Pa 61.12 64 *e*P **P 18 12 06.5 +1.7**
comp=Z,8.6nm,0.9s
PV17 East Wray Mesa 61.23 64 *e*P **P 18 12 06.8 +1.3**
comp=Z,3.6nm,0.8s
PV16 Nyswonger Mesa 61.23 64 *e*P **P 18 12 06.8 +1.3**
comp=Z,7.1nm,1.3s
PV18 Skein Mesa, Pa 61.28 64 *e*P **P 18 12 06.0 +0.2**
comp=Z,5.8nm,1.1s
PV05 Paradox Valley 61.29 64 *e*P **P 18 12 07.4 +1.4**
comp=Z,3.8nm,0.8s
PV03 Paradox Valley 61.30 64 *e*P **P 18 12 07.3 +1.3**
comp=Z,6.7nm,1.4s
PV13 Radium Mtn., P 61.39 64 *e*P **P 18 12 07.9 +1.3**
comp=Z,2.7nm,0.8s
GLA Glamis 61.61 72 *e*P **P 18 12 09.5 +1.6**
comp=Z,2.6nm,0.8s
WUAZ Wupatki 61.84 68 *e*P **P 18 12 11.3 +1.7**
comp=Z,8.2nm,1.4s
ISCO Idaho Springs 61.96 61 *e*P **P 18 12 09.5 -1.0**
comp=Z,1.9nm,0.8s
Y14A Wickenburg 62.04 70 *e*P **P 18 12 11.7 +0.9**
comp=Z,2.6nm,1.0s
NIL Nilore 62.60 290 *e*P **P 18 12 14.2 -0.4**
comp=Z,6.9nm,0.9s
OBN Obninsk 63.35 328↓*e*P **P 18 12 19.1 0.0**
OBN *e**PP **pwP 18 12 32.4 -0.8**
OBN *SP **sP 18 12 36.0 +1.1**
OBN S **S 18 20 45.0 -3.1**
OBN pmax pmax
comp=Z,8.0nm,0.6s
OBN MLR MLR
comp=Z,100nm,18.0s
VSU Vasula 63.41 335↓*e*P **P 18 12 20.3 +0.8**
VSU pmax pmax
comp=Z,39nm,0.9s
VSU Vasula 63.41 335 *e*P **P 18 12 19.2 -0.2**
VSU IAmb IAmb 18 12 21.3
comp=Z,28nm,0.8s
NB2 NORSAR Subarra 64.42 344 P **P 18 12 26.6 +0.5**
comp=Z,1.0nm,0.7s,baz=21,slow=6.9
NOA NORSAR Array B 64.42 344 P **P 18 12 26.8 +0.7**
comp=Z,1.0nm,0.7s,baz=22,slow=6.7,SNR=6.1
LPSR Galich'ya Gora 64.60 325 *e*P **P 18 12 26.3 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VRH Novokhopyorsk 64.72 322 *e*P **P 18 12 26.1 -2.0**
VRH pmax pmax
comp=Z,10.0nm,0.5s
LPM Los Pinos Moun 65.39 65 *e*P **P 18 12 34.2 +1.2**
KSM Kuching 65.53 237 *e*P **P 18 12 34.5 +0.6**
comp=Z,8.2nm,1.3s
VSR Storozhevoye 65.65 324↓*e*P **P 18 12 34.0 -0.2**
VSR pmax pmax
comp=Z,8.0nm,0.6s
319A Douglas 66.05 69 *e*P **P 18 12 38.3 +1.0**
comp=Z,3.4nm,0.8s
IDID Didziasalis 66.16 333 *e*P **P 18 12 38.6 +1.2**
IDID IAmb IAmb 18 12 39.3
comp=Z,5.4nm,1.1s
IIGN Ignalina 66.27 333 *e*P **P 18 12 39.6 +1.4**
IIGN IAmb IAmb 18 12 40.1
comp=Z,4.4nm,0.7s
PABE Paberze 66.74 335 *e*P **P 18 12 41.6 +0.5**
PABE IAmb IAmb 18 12 42.9
comp=Z,24nm,0.9s
GEYT Alibeck 67.73 303 P **P 18 12 48.5 +0.8**
comp=Z,5.3nm,0.7s,baz=16,slow=11,SNR=4.9
MNTX Cornudas Mount 68.03 66 *e*P **P 18 12 51.4 +1.7**
comp=Z,2.2nm,1.1s
SUW Suwalki 68.28 334 *e*P **P 18 12 50.8 0.0**
comp=Z,22nm,0.9s
AKASG Malin Array Be 69.45 329 *e*P **P 18 12 58.0 -0.2**
AKASG Malin Array Be 69.45 329 *e*P **P 18 12 58.0 -0.2**
AKASG Malin Array Be 69.45 329 P **P 18 12 58.0 -0.2**
comp=Z,1.6nm,0.5s,baz=31,slow=6.3,SNR=22
AKBB Malin Array Si 69.45 329 *e*P **P 18 12 57.3 -0.9**
comp=Z,8.2nm,1.0s
KIEV Kiev 69.47 329 *e*P **P 18 12 57.3 -0.9**
comp=Z,6.8nm,0.9s
KIEV Kiev 69.47 329↑*i*P **P 18 12 58.0 -0.2**
KIEV Kiev 69.47 329↓*i*P **P 18 12 58.1 -0.2**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 70.20 317 *e*P **P 18 13 02.2 -0.9**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 70.30 317 P **P 18 13 04.2 +0.7**
comp=Z,3.5nm,0.9s,baz=72,slow=4.4,SNR=6.5
TX31 Lajitas Ar. Si 70.78 67 *e*P **P 18 13 07.8 +1.0**
comp=Z,2.2nm,0.9s
TXAR Lajitas Array 70.78 67 *e*P **P 18 13 07.8 +1.0**
TXAR Lajitas Array 70.78 67 P **P 18 13 08.2 +1.4**
comp=Z,1.6nm,0.8s,baz=294,slow=4.0,SNR=10
HYB Hyderabad 71.49 275 *i* P **P 18 13 10.5 -0.6**
AKH Akhalkalaki 71.94 315 *e*P **P 18 13 13.9 +0.2**
comp=Z,7.0nm,0.3s
AKH Akhalkalaki 71.94 315↑*i*P **P 18 13 12.5 -1.2**
KWP Kalwaria Pacla 72.35 333 *e*P **P 18 13 15.1 -0.8**
comp=Z,162nm,1.1s
KOLS Kolonicke sedl 73.10 333 *e*P **P 18 13 21.6 +1.3**
KOLS pmax pmax
comp=Z,4.0nm,1.2s
KOLS Kolonicke sedl 73.10 333 *e*P **P 18 13 21.6 +1.3**
CLL Collm 73.23 339 *e*P **P 18 13 21.4 +0.4**
comp=Z,4.4nm,0.8s
CLL Collm 73.23 339 *i* P **P 18 13 21.4 +0.4**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 73.23 339 *i* P **P 18 13 21.4 +0.4**
comp=Z,7.0nm,1.0s
CLL *i* pP **pwP 18 13 34.7 -0.7**
P51A Williamsport 73.32 46 *e*P **P 18 13 22.8 +1.1**
comp=Z,47nm,1.8s
DPC Dobruska-Polom 73.36 337 *e*P **P 18 13 23.5 +1.6**
DPC Dobruska-Polom 73.36 337 *e*P **P 18 13 23.5 +1.6**
BUR08 Bucovina Ar. S 73.40 330 *e*P **P 18 13 22.9 +0.7**
comp=Z,4.3nm,1.0s
BURAR Bucovina Array 73.42 330 *e*P **P 18 13 22.3 0.0**
BURAR Bucovina Array 73.42 330↑*i*P **P 18 13 23.0 +0.7**
MORC Moravsky Berou 73.59 336 *e*P **P 18 13 21.9 -1.3**
comp=Z,3.6nm,1.0s
MORC Moravsky Berou 73.59 336↓*i*P **P 18 13 24.7 +1.5**
LANS Liptovska Anna 73.67 334 *e*P **P 18 13 26.8 +3.1**
LANS Liptovska Anna 73.67 334 *e*P **P 18 13 26.8 +3.1**
BIZ Bicaz 73.75 329↑*i*P **P 18 13 24.3 +0.2**
TRPA Tarpa 73.75 332↑*i*P **P 18 13 24.3 +0.2**
TESR Tescani 73.95 329↑*i*P **P 18 13 26.2 +0.9**
VRAC Vranov 74.26 336↑*i*P **P 18 13 29.0 +1.9**
VYHS Vyhne 74.44 335 *e*P **P 18 13 29.0 +0.8**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 74.44 335 *e*P **P 18 13 29.0 +0.8**
PLOR Plostina 74.54 328↑*i*P **P 18 13 29.1 +0.3**
CLTN Cedars of Leba 74.57 51 *e*P **P 18 13 30.4 +1.3**
comp=Z,5.0nm,1.1s
SSPA Standing Stone 74.58 42 *e*P **P 18 13 29.6 +0.4**
comp=Z,26nm,1.6s
O56A Blue Knob Stat 74.61 43 *e*P **P 18 13 30.1 +0.8**
comp=Z,47nm,1.9s
CFR Carcaliu 74.65 327↑*i*P **P 18 13 29.2 -0.2**
LMN Caledonia Moun 74.85 31 *e*P **P 18 13 31.5 +0.9**
comp=Z,43nm,1.8s
MLR Muntele Rosu 75.09 329 *e*P **P 18 13 32.6 +0.5**
comp=Z,7.9nm,1.3s
MLR Muntele Rosu 75.09 329↓*i*P **P 18 13 34.0 +1.9**
KHC Kasperske Hory 75.14 338 *e*P **P 18 13 32.1 -0.2**
comp=Z,1.6nm,1.0s
KHC Kasperske Hory 75.14 338 *e*P **P 18 13 33.8 +1.6**
KHC Kasperske Hory 75.14 338 *e*P **P 18 13 33.8 +1.6**
WRAB Tennant Creek 75.38 205↓*e*P **P 18 13 34.7 +0.9**
WRAB pmax pmax
comp=Z,14nm,1.7s
GEC2 GERESS Array S 75.38 338 *e*P **P 18 13 34.4 +0.7**
comp=Z,3.7nm,1.2s
GERES GERESS Array B 75.38 338 *e*P **P 18 13 33.9 +0.2**
GERES GERESS Array B 75.38 338 P **P 18 13 34.4 +0.7**
comp=Z,0.9nm,0.7s,baz=37,slow=3.3,SNR=5.5
WRA Warramunga Arr 75.39 205 P **P 18 13 34.4 +0.6**
comp=Z,1.3nm,0.8s,baz=22,slow=5.2,SNR=6.0
VOIR 75.42 329↑*i*P **P 18 13 35.1 +1.2**
ARR Arges 75.61 330↑*i*P **P 18 13 37.4 +2.4**
ICOR Ion Corvin 75.70 327↓*i*P **P 18 13 35.2 -0.2**
GZR Gura Zlata 76.16 331↑*i*P **P 18 13 39.0 +0.9**
BZS Buzias 76.30 332↓*i*P **P 18 13 39.3 +0.5**
VTS Vitosha 78.53 329 *e*P **P 18 13 51.1 -0.4**
comp=Z,2.7nm,0.7s
AS31 Alice Springs 79.06 205 *e*P **P 18 13 55.2 +0.8**
comp=Z,2.7nm,1.4s
ASAR Alice Springs 79.06 205 *e*P **P 18 13 55.0 +0.7**
ASAR Alice Springs 79.06 205 P **P 18 13 55.5 +1.2**
comp=Z,1.8nm,0.8s,baz=14,slow=5.4,SNR=20
ALN Alexandroupoli 79.15 327 *e*P **P 18 13 54.2 -0.6**
comp=Z,2.6nm,1.0s
PDG Podgorica 79.90 332↓*i*P **P 18 13 59.0 +0.2**
TTG Podgorica 79.90 332 *e*P **P 18 13 58.5 -0.3**
comp=Z,6.9nm,1.0s
MANT Manisa 80.41 324 *e*P **P 18 14 01.4 -0.6**
comp=Z,16nm,0.8s
CSS Mathiatis 81.65 319 *e*P **P 18 14 08.2 -0.2**
comp=Z,7.8nm,0.9s
TIP Timpagrande 83.62 332 *e*P **P 18 14 18.5 -0.1**
comp=Z,17nm,1.6s
STKA Stephens Creek 85.37 196 *e*P **P 18 14 28.0 +0.9**
STKA Stephens Creek 85.37 196 P **P 18 14 28.2 +1.1**
comp=Z,0.9nm,0.4s,baz=14,slow=17,SNR=3.4
ESDC Sonseca Array 87.46 348 *e*P **P 18 14 38.1 +0.4**
comp=Z,3.2nm,1.3s
ESDC Sonseca Array 87.46 348 P **P 18 14 38.2 +0.5**
comp=Z,0.9nm,0.7s,baz=4.0,slow=5.5,SNR=6.6
TORD Torodi Ar. Bea 112.34 338 PP **PP 18 21 10.1 -0.7**
comp=Z,0.6nm,0.9s,baz=359,slow=7.2,SNR=3.5

TEH 21 18:07:18.2, 31°.72N×56°.88E, h9km, ML3.8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPRV	**Parvadeh(Tabas**	**1.31**	**353**	*e*Pg	Pg	18 07 43.5	+0.1
TPRV				IAMB	IAmb	18 08 07.1	
comp=Z,0.0nm,0.3s							
KHGB	**Koh Gabri**	**1.38**	**194**	*e*Pg	Pg	18 07 44.6	-0.2
KHGB				IAMB	IAmb	18 08 09.7	
comp=Z,0.0nm,0.4s							
TVBK	**TV Kerman**	**1.73**	**183**	*e*Pn	Pb	18 07 50.9	+0.5
TVBK				IAMB	IAmb	18 08 22.5	
comp=Z,0.0nm,0.5s							
KRBR	**Kerman**	**1.73**	**183**	*e*Pg	Pg	18 07 51.9	+0.4
TKDS	**Koohdasht(Taba**	**1.90**	**6**	*e*Pn	Pb	18 07 52.6	-0.6
TKDS				IAMB	IAmb	18 08 29.0	
comp=Z,0.0nm,0.9s							
BSRN	**Basiran**	**1.93**	**82**	*e*Pn	Pb	18 07 54.3	+0.6
TABS	**Tabas**	**1.94**	**6**	*e*Pg	Pb	18 07 53.5	-0.2
CHMN	**Cheshme madani**	**1.94**	**163**	*e*Pn	Pb	18 07 53.4	-0.6
CHMN				IAMB	IAmb	18 08 23.3	
comp=Z,0.0nm,0.7s							
IKOO	**Kooshah**	**1.94**	**68**	*e*Pn	Pb	18 07 52.8	-1.1
IKOO				IAMB	IAmb	18 08 24.7	
comp=Z,15μm,0.2s							
IMEH	**Mehriz**	**1.96**	**261**	*e*Pn	Pb	18 07 53.9	-0.3
IMEH				IAMB	IAmb	18 08 24.2	
comp=Z,5μm,0.6s							
ITEG	**Tejag**	**1.97**	**53**	*e*Pn	Pn	18 07 53.2	+1.2
ITEG				IAMB	IAmb	18 08 25.1	
comp=Z,7μm,0.3s							
YZKH	**Yazd**	**2.05**	**290**	*e*Pn	Pb	18 07 54.4	-1.3
NGRK	**Negar Kerman**	**2.07**	**183**	*e*Pn	Pb	18 07 55.5	-0.8
NGRK				IAMB	IAmb	18 08 27.4	
comp=Z,0.0nm,0.3s							
ICHK	**Chekchek**	**2.16**	**285**	*e*Pn	Pb	18 07 57.0	-0.7
ICHK				IAMB	IAmb	18 08 33.8	
comp=Z,5μm,0.5s							
TNSJ	**Nastanj**	**2.25**	**354**	*e*Pn	Pb	18 07 57.9	-1.2
TNSJ				IAMB	IAmb	18 08 36.3	
comp=Z,0.0nm,0.8s							
ISAD	**Sadrabad**	**2.72**	**275**	*e*Pn	Pn	18 08 04.1	+1.7
ISAD				IAMB	IAmb	18 08 50.0	
comp=Z,2μm,0.4s							
IDAH	**Dahanechah**	**2.73**	**67**	*e*Pn	Pb	18 08 05.4	-2.0
IDAH				IAMB	IAmb	18 08 59.1	
comp=Z,3μm,0.6s							
IMON	**Monand**	**2.78**	**57**	*e*Pn	Pn	18 08 04.9	+1.7
IMON				IAMB	IAmb	18 08 56.5	
comp=Z,3μm,0.3s							
IRAM	**Ramesheh**	**3.83**	**273**	*e*Pn	Pn	18 08 19.4	+1.8
IZEF	**Zefreh**	**4.02**	**288**	*e*Pn	Pn	18 08 22.2	+1.9
KRSH	**Karshahi**	**4.58**	**301**	*e*Pn	Pn	18 08 29.4	+1.6
SBZV	**Sabzevar**	**4.70**	**7**	*e*Pn	Pn	18 08 31.7	+2.2
IKLH	**Kolahrood**	**4.75**	**291**	*e*Pn	Pn	18 08 33.4	+3.1
IPAY	**Payeh**	**5.04**	**20**	*e*Pn	Pn	18 08 37.0	+2.8
IAKL	**Akhelmad**	**5.11**	**17**	*e*Pn	Pn	18 08 37.0	+1.7
IKRD	**Kardeh**	**5.22**	**15**	*e*Pn	Pb	18 08 43.5	-6.4
IMYA	**Miami**	**5.33**	**29**	*e*Pn	Pn	18 08 40.6	+2.4
ISFR	**Sfrayin**	**5.40**	**10**	*e*Pn	Pn	18 08 41.7	+2.4
IEMG	**Emamgholi**	**5.87**	**14**	*e*Pn	Pn	18 08 47.8	+2.1
MRVT	**Maraveh tapeh**	**5.96**	**354**	*e*Pn	Pn	18 08 48.0	+1.3

KRSC 21 18:33:22.7±10.0, 52°.28N×160°.85E, h49km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.96**	**329**	*e*P	Pn	18 33 39.9	+0.1
SPN				*e*S	Sn	18 33 51.8	-0.7
NLC	**Nalytchevo**	**1.28**	**315**	*e*P	Pn	18 33 45.1	+1.0
NLC				*e*S	Sn	18 34 00.8	+0.7
RUS	**Russkaya**	**1.44**	**277**	*e*P	Pn	18 33 48.4	+2.1
RUS				*e*S	Sn	18 34 05.9	+1.8
DALK	**Dalny**	**1.48**	**301**	*e*P	Pn	18 33 48.6	+1.7
DALK				*e*S	Sn	18 34 06.7	+1.6
PET	**Petropavlovsk**	**1.53**	**300**	*e*P	Pn	18 33 49.4	+1.8
PET				*e*S	Sn	18 34 08.3	+2.0
UGLR	**Uglovaya**	**1.54**	**308**	*e*P	Pn	18 33 50.1	+2.2
SDLR	**Sedlovina**	**1.56**	**311**	*e*P	Pn	18 33 49.9	+1.8
SMAR	**Somma**	**1.59**	**309**	*e*P	Pn	18 33 50.7	+2.1
AVH	**Avacha**	**1.62**	**308**	*e*P	Pn	18 33 51.1	+2.2
KRER	**Koryakskii**	**1.64**	**310**	*e*P	Pn	18 33 51.5	+2.3
MTVR	**Mutnovka**	**1.65**	**278**	*e*P	Pn	18 33 51.7	+2.4
MTVR				*e*S	Sn	18 34 12.0	+2.6
KOK	**Koryaka**	**1.68**	**308**	*e*P	Pn	18 33 52.0	+2.2
KRMR	**Karymshinskiy**	**1.75**	**289**	*e*P	Pn	18 33 52.5	+1.9
KRMR				*e*S	Sn	18 34 13.9	+2.2
KDTR	**Khodutka, Kamc**	**1.78**	**256**	*e*P	Pn	18 33 53.1	+2.2
KDTR				*e*S	Sn	18 34 14.1	+1.8
ASAK	**Asacha**	**1.81**	**274**	*e*P	Pn	18 33 54.4	+2.9
ASAK				*e*S	Sn	18 34 16.3	+2.9
MKZ	**Mys Kozlova**	**2.34**	**13**	*e*P	Pn	18 34 00.7	+2.1
MKZ				*e*S	Sn	18 34 27.8	+1.7
APC	**Apacha**	**2.34**	**287**	*e*P	Pn	18 34 02.3	+3.6
APC				*e*S	Sn	18 34 32.4	+6.2
PAU	**Pauzhetka**	**2.63**	**254**	*e*P	Pn	18 34 05.8	+3.1
KZV	**Kizimen**	**2.86**	**354**	*e*P	Pn	18 34 07.3	+1.4
TUMD	**Tumrok D**	**2.94**	**355**	*e*P	Pn	18 34 12.2	+5.3
TUMD				*e*S	Sn	18 34 46.6	+5.7
TUMR	**Tumrok**	**3.04**	**352**	*e*P	Pn	18 34 13.7	+5.4
SKR	**Severo-Kuril's**	**3.37**	**243**	*e*S	Sn	18 34 53.2	+1.9
KBTR	**Krutoberegovo**	**4.10**	**16**	*e*P	Pn	18 34 25.8	+3.0

DJA 21 18:33:59.0±11.0, 0°.S±2°.×12°.3E±°, h23km±10km, M3.8/13, mb4.0/2, MLv3.7/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.94**	**181**	P	Pb	18 34 14.5	-2.2
MRSI	**Marisa**	**1.01**	**304**	P	Pn	18 34 17.3	-0.5
MRSI				S	Sb	18 34 30.6	-0.1
KMSI	**Cibinong**	**1.37**	**61**	P	Pn	18 34 23.0	+0.3
APSI	**Ampana**	**1.39**	**234**	P	Pn	18 34 22.9	-0.2
APSI				S	Sb	18 34 43.5	+1.7
MPSI	**Mapaga**	**2.91**	**278**	P	Pn	18 34 43.5	-0.5
SANI	**Sanana**	**3.75**	**121**	P	Pn	18 34 54.4	-1.1
TTSI	**Tana Toraja**	**4.17**	**225**	P	Pn	18 35 02.1	+0.9
TTSI				S	Sn	18 35 48.2	-1.1
SPSI	**Sidrap Palu**	**4.88**	**218**	P	Pn	18 35 12.0	+0.9
BNSI	**Bone**	**5.05**	**212**	P	Pn	18 35 14.2	+0.9
BKSI	**Bulukumba**	**5.83**	**207**	P	Pn	18 35 24.5	+0.3
BSSI	**Bau Bau, Buton**	**6.43**	**201**	P	Pn	18 35 32.7	+0.3

*IDC **21** 18:47:14.0±2.3, 52°.36N×160°.71E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/38, mbtmp3.7/4, Error ellipse: s-maj=41.8km s-min=31.9km az=130.0*
*KRSC **21** 18:47:14.8±10.0, 52°.08N×160°.73E, h50km±10km, ML4.2*
ISC 21 18:47:13.7±1.8, 52°.12N±0°.05×160°.62E±0°.05, h3km±10km, n36, σ1§62/52, mb3.7/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.05**	**340**	*e*P	**Pb**	**18 47 34.9**	**+0.4**
SPN				*e*S	**Sg**	**18 47 47.4**	**+0.1**
NLC	**Nalytchevo**	**1.31**	**324**	*e*P	**Pg**	**18 47 38.9**	**+0.1**
NLC				*e*S	**Sb**	**18 47 55.3**	**-0.9**
RUS	**Russkaya**	**1.33**	**285**	*e*P	**Pn**	**18 47 39.7**	**+0.5**
RUS				*e*S	**Sn**	**18 47 57.0**	**-0.4**
DALK	**Dalny**	**1.46**	**310**	*e*P	**Pb**	**18 47 41.4**	**-0.1**
DALK				*e*S	**Sn**	**18 48 00.0**	**-0.6**
PET	**Petropavlovsk**	**1.50**	**308**	*e*P	**Pb**	**18 47 42.2**	**0.0**
PET				*e*S	**Sn**	**18 48 01.5**	**-0.2**
MTVR	**Mutnovka**	**1.54**	**285**	*e*P	**Pb**	**18 47 43.2**	**+0.3**
MTVR				*e*S	**Sn**	**18 48 02.9**	**+0.1**
UGLR	**Uglovaya**	**1.55**	**316**	*e*P	**Pb**	**18 47 43.3**	**+0.3**
UGLR				*e*S	**Sn**	**18 48 03.7**	**+0.8**
SDLR	**Sedlovina**	**1.57**	**319**	*e*P	**Pg**	**18 47 43.4**	**-0.4**
SDLR				*e*S	**Sn**	**18 48 04.0**	**+0.5**
SMAR	**Somma**	**1.59**	**317**	*e*P	**Pg**	**18 47 43.7**	**-0.5**
KDTR	**Khodutka, Kamc**	**1.60**	**260**	*e*P	**Pb**	**18 47 43.7**	**-0.2**
KDTR				*e*S	**Sn**	**18 48 03.7**	**-0.3**
AVH	**Avacha**	**1.62**	**316**	*e*P	**Pb**	**18 47 44.3**	**0.0**
AVH				*e*S	**Sn**	**18 48 05.3**	**+0.5**
KRER	**Koryakskii**	**1.65**	**317**	*e*P	**Pg**	**18 47 44.9**	**-0.3**
KRMR	**Karymshinskiy**	**1.68**	**296**	*e*P	**Pb**	**18

ASAK	**Asacha**	**1.69 280**	*e*P		**Pg**	**18 47 45.7 -0.4**
ASAK			*e*S		**Sg**	**18 48 08.2 +0.2**
PETK	**Petropavlovsk-**	**2.04 300**	Pn		**Pb**	**18 47 50.1 -1.2**
	19nm,0.3s,baz=114,slow=19,SNR=108					
PETK			Sn		**Sb**	**18 48 14.8 -2.3**
	18nm,0.3s,baz=116,slow=20,SNR=22					
APC	**Apacha**	**2.26 292**	*e*P		**Pb**	**18 47 54.1 -1.1**
APC			*e*S		**Sb**	**18 48 22.1 -1.5**
PAU	**Pauzhetka**	**2.45 256**	*e*P		**Pb**	**18 47 57.4 -1.0**
MKZ	**Mys Kozlova**	**2.54 15**	*e*P		**Pn**	**18 47 56.1 +0.4**
KZV	**Kizimen**	**3.01 356**	*e*P		**Pn**	**18 48 04.7 +2.3**
TUMD	**Tumrok D**	**3.10 358**	*e*P		**Pn**	**18 48 04.6 +1.1**
TUMD			*e*S		**Sn**	**18 48 40.4 -0.6**
SKR	**Severo-Kuril's**	**3.16 245**	*e*P		**Pn**	**18 48 06.2 +1.9**
SKR			*e*S		**Sn**	**18 48 41.9 -0.6**
TUMR	**Tumrok**	**3.19 355**	*e*P		**Pn**	**18 48 06.8 +2.0**
ALID	**Alaid**	**3.40 250**	*e*P		**Pn**	**18 48 09.8 +2.0**
LGNR	**Loginova**	**3.98 1**	*e*P		**Pn**	**18 48 18.7 +2.9**
KRSR	**Krestovskiy**	**4.11 360**	*e*P		**Pn**	**18 48 19.1 +1.6**
SRDR	**Sredinnyy**	**4.24 353**	*e*P		**Pn**	**18 48 21.8 +2.5**
KBTR	**Krutoberegovo**	**4.30 17**	*e*P		**Pn**	**18 48 21.7 +1.7**
BKI	**Bering**	**4.44 44**	*e*S		**Sn**	**18 49 09.6 -4.4**
BDR	**Baidarnaya**	**4.47 4**	*e*P		**Pn**	**18 48 25.0 +2.5**
SMKR	**Semkarok**	**4.50 6**	*e*P		**Pn**	**18 48 26.7 +3.9**
SRKR	**Sorokina**	**4.56 4**	*e*P		**Pn**	**18 48 26.9 +3.3**
MJAR	**Matsushiro Arr**	**22.21 234**	P		**P**	**18 52 15.0 +3.8**
	0.8nm,0.5s,baz=12,slow=13,SNR=4.5					
MKAR	**Makanchi Array**	**48.87 297**	P		**P**	**18 55 58.8 -1.7**
	0.4nm,0.6s,baz=54,slow=6.6,SNR=6.8					
FINES	**FINESS Array B**	**61.15 337**	P		**P**	**18 57 28.8 0.0**
	1.0nm,0.4s,baz=36,slow=8.4,SNR=11					
AKASG	**Malin Array Be**	**69.62 329**	P		**P**	**18 58 23.2 -0.6**
	0.2nm,0.3s,baz=31,slow=6.9,SNR=4.4					

MOS ***21*** *18:51:56.3±1.1, 6°.42S×154°.53E, h33km, mb4.9/16, Error ellipse: s-maj=9.0km s-min=6.9km az=105.8*

ISCJB ***21*** *18:51:57.6±1.0, 6°.55S±0°.03×154°.59E±0°.03, h47km±9km, mb5.0/181, MS4.1/26, Error ellipse: s-maj=5.1km s-min=4.5km az=143.3*

IDC ***21*** *18:51:57.9±2.3, 6°.57S×154°.76E, h38km±18km, mb4.4/28, mb1 4.5/30, mb1mx4.4/37, mbtmp4.6/30, ML2.6/1, MS4.0/19, Ms1 4.0/19, ms1mx3.8/35, Error ellipse: s-maj=17.8km s-min=10.5km az=92.0*

BJI ***21*** *18:51:59.5±0.0, 6°.09S×155°.08E, h62km, mb4.9/53, mB5.0/34, Ms4.6/23, Ms7 4.3/24*

GCMT ***21*** *18:52:00.2±0.2, 6°.83S±0°.02×154°.60E±0°.03, h28km, MW5.0/63, Moment Tensor Solution. s44,c50; s63,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.42±.18; Mθθ-1.75±.11; Mφφ-1.68±.12; Mrθ2.23±.21; Mrφ1.81±.09; Mθφ-1.56±.22; Best double couple: M0=4.41300×10^16 NP1:φs321.00000°, δ64.00000°, λ85.00000°. NP2: φs=7.00000°, δ26.00000°, λ101.00000°. Principal axes: T 4.3790, Plg70.0000°, Azm27.0000°; N 0.0580, Plg5.0000°, Azm131.0000°; P -4.4470, Plg19.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***21*** *18:52:00.2±1.7, 6°.52S×154°.58E, h58km±5km, mb5.0/154 Error ellipse: s-maj=12.4km s-min=11.7km az=67.0*

DJA ***21*** *18:52:01.9±0.8, 6°S±5°×15°5E±°, h77km±9km, M5.1/15, mB5.8/5, mb5.0/15, Mw(mB)5.3/5*

ISC 21 18:52:01.1±0.8, 6°.51S±0°.05×154°.58E±0°.04, h64km±7km, n391, σ1°37/405, mb5.0/181, 7C-11D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.33**	**314**	*e*Pn	**Pn**	**18 52 50.8**	**0.0**
HNR	**Honiara**	**6.06**	**119**	*e*P	**Pn**	**18 53 30.0**	**+1.9**
HNR				*e*S	**Sn**	**18 54 44.0**	**+7.9**
HNR	**Honiara**	**6.06**	**119**	*e*Pn	**Pn**	**18 53 28.8**	**+0.7**
HNR	**Honiara**	**6.06**	**119**	*e*P	**Pn**	**18 53 28.8**	**+0.7**
HNR	**Honiara**	**6.06**	**119**	Pn	**Pn**	**18 53 30.2**	**+2.1**
	48nm,0.3s,baz=218,slow=2.6,SNR=14						
HNR				Sn	**Sn**	**18 54 42.0**	**+6.0**
	baz=228,slow=4.3,SNR=4.0						
HNR				LR	LR	18 55 50.9	
	comp=Z,4μm,18.5s,baz=272,slow=40						
PMG	**Port Moresby**	**7.89**	**248**	*e*Pn	**Pn**	**18 53 53.0**	**-0.2**
PMG				*e*Sn	**Sn**	**18 55 24.1**	**+3.0**
PMG				*e*		18 57 19.1	
PMG	**Port Moresby**	**7.89**	**248**	*e*P	**Pn**	**18 53 53.0**	**-0.2**
PMG				*e*		18 55 24.1	
PMG	**Port Moresby**	**7.89**	**248**	Pn	**Pn**	**18 53 52.2**	**-1.0**
	4.5nm,0.3s,baz=73,slow=10,SNR=18						
PMG				Sn	**Sn**	**18 55 24.1**	**+3.0**
	4.4nm,0.3s,baz=74,slow=23,SNR=6.8						
PMG				LR	LR	18 57 19.1	
	comp=Z,2μm,18.8s,baz=58,slow=40						
MANU	**Manus Island**	**8.45**	**301**	*e*Pn	**Pn**	**18 54 01.3**	**+0.4**
COEN	**Coen**	**13.44**	**236**	*e*Pn	**Pn**	**18 55 08.8**	**-0.2**
PATS	**Pohnpei**	**13.77**	**16**	*e*Pn	**Pn**	**18 55 12.1**	**-1.3**
CTA	**Charters Tower**	**15.73**	**210**	Pn	**P**	**18 55 40.9**	**-0.7**
	0.5nm,0.3s,baz=34,slow=12,SNR=27						
CTAO	**Charters Tower**	**15.73**	**210**	*e*P	**P**	**18 55 41.9**	**+0.3**
	34nm,0.8s						
CTAO	**Charters Tower**	**15.73**	**210**	*e*P	**P**	**18 55 41.9**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,34nm,0.8s						
EIDS	**Eidsvold**	**19.05**	**190**	*e*P	**P**	**18 56 17.9**	**-0.3**
	comp=Z,17nm,1.0s						
DZM	**Mont Dzumac**	**19.25**	**145**	*e*P	**P**	**18 56 20.1**	**-0.4**
	comp=Z,66nm,1.1s						
DZM				*e*S	**Sn**	**18 59 56.8**	**-0.7**
	comp=Z,264nm,25.6s						
DZM				*e*LR	LR	19 00 59.6	
	comp=Z,913nm,22.4s						
DZM	**Mont Dzumac**	**19.25**	**145**	*e*P	**P**	**18 56 20.1**	**-0.4**
	comp=Z,32nm,1.0s						
DZM	**Mont Dzumac**	**19.25**	**145**	P	**P**	**18 56 19.4**	**-1.1**
	baz=336,slow=20						
DZM				LR	LR	19 02 55.0	
	comp=Z,644nm,20.7s,baz=358,slow=34						
OUENC	**Ouen Island, N**	**19.75**	**144**	*e*P	**P**	**18 56 24.4**	**-1.5**
	comp=Z,64nm,1.6s						
MARNC	**Mare, Loyalty**	**19.77**	**140**	*e*P	**P**	**18 56 25.6**	**-0.4**
	comp=Z,135nm,1.3s						
TARA	**Tarawa**	**19.91**	**68**	*e*P	**P**	**18 56 24.7**	**-3.0**
	comp=Z,76nm,0.9s						
KWAJ	**Kwajalein Atol**	**20.01**	**41**	*e*P	**Pn**	**18 56 29.6**	**-1.3**
	comp=Z,346nm,1.0s						
KWAJ	**Kwajalein Atol**	**20.01**	**41**	*e*P	**Pn**	**18 56 29.6**	**-1.3**
KWAJ				pmax	pmax		
	comp=Z,346nm,1.0s						
PINNC	**Pines Island,**	**20.25**	**144**	*e*P	**P**	**18 56 31.6**	**+0.3**
	comp=Z,28nm,1.0s						
GUMO	**Guam**	**22.18**	**334**	P	**P**	**18 56 53.7**	**+1.7**
	comp=Z,45nm,0.8s,baz=167,slow=18,SNR=1.9						
GUMO				LR	LR	19 05 14.3	
	comp=Z,75nm,19.8s,baz=150,slow=36						
FAKI	**Fak Fak**	**22.54**	**278**	*e*P	**P**	**18 56 54.8**	**-1.2**
	comp=Z,42nm,1.4s						
SAUI	**Saumlaki**	**23.14**	**265**	*e*P	**P**	**18 57 00.1**	**-2.0**
	comp=Z,299nm,1.5s						
WRAB	**Tennant Creek**	**23.74**	**234**	*e*P	**P**	**18 57 07.1**	**-0.6**
	comp=Z,36nm,1.1s						
WRAB	**Tennant Creek**	**23.74**	**234**	||*e*P	**P**	**18 57 08.1**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,23nm,0.7s						
WB2	**Warramunga Arr**	**23.75**	**234**	*e*P	**P**	**18 57 06.9**	**-0.8**
	comp=Z,34nm,1.1s						
WR1	**Warramunga Arr**	**23.76**	**234**	*e*PcP	**PcP**	**19 00 50.1**	**-0.1**
WR1				*e*ScP	**ScP**	**19 04 26.7**	**+3.4**
WRA	**Warramunga Arr**	**23.76**	**234**	P	**P**	**18 57 07.1**	**-0.7**
	comp=Z,9.7nm,0.5s,baz=57,slow=9.3,SNR=22						
WRA				PcP	**PcP**	**19 00 50.1**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=66,slow=2.3,SNR=6.5						
WRA				ScP	**ScP**	**19 04 26.7**	**+3.4**
	comp=Z,2.0nm,1.0s,baz=62,slow=3.2,SNR=6.0						
MTN	**Manton Dam**	**23.94**	**253**	*e*P	**P**	**18 57 10.2**	**+0.6**
	comp=Z,34nm,1.2s						
ARMA	**Armidale**	**23.94**	**186**	*e*P	**P**	**18 57 09.1**	**-0.4**
	comp=Z,51nm,1.4s						
ANA2	**Anatahan**	**24.34**	**339**	*e*P	**P**	**18 57 14.3**	**+1.2**
	comp=Z,111nm,0.6s						
AS31	**Alice Springs**	**26.19**	**227**	*e*P	**P**	**18 57 28.9**	**-1.0**
	comp=Z,2.6nm,0.9s						
ASAR	**Alice Springs**	**26.19**	**227**	*e*P	**P**	**18 57 28.5**	**-1.4**
ASAR	**Alice Springs**	**26.19**	**227**	*e*P	**P**	**18 57 28.5**	**-1.4**
ASAR	**Alice Springs**	**26.19**	**227**	P	**P**	**18 57 29.3**	**-0.6**
	comp=Z,3.9nm,0.8s,baz=59,slow=8.4,SNR=36						
ASAR				PcP	**PcP**	**19 00 56.7**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=60,slow=2.3,SNR=4.9						
ASAR				ScP	**ScP**	**19 04 33.1**	**+3.1**
	comp=Z,2.7nm,0.8s,baz=58,slow=2.7,SNR=16						
ASAR				LR	LR	19 07 11.8	
	comp=Z,535nm,20.9s,baz=58,slow=35						
STKA	**Stephens Creek**	**28.00**	**204**	*e*P	**P**	**18 57 44.9**	**-1.1**
	comp=Z,6.5nm,1.5s						
STKA	**Stephens Creek**	**28.00**	**204**	*e*P	**P**	**18 57 44.9**	**-1.1**
STKA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
STKA	**Stephens Creek**	**28.00**	**204**	P	**P**	**18 57 44.5**	**-1.5**
	comp=Z,4.6nm,0.8s,baz=33,slow=13,SNR=5.5						
STKA				LR	LR	19 09 00.8	
	comp=Z,590nm,19.2s,baz=12,slow=36						
TNTI	**Ternate**	**28.11**	**284**	*e*P	**P**	**18 57 46.2**	**-1.0**
	comp=Z,14nm,0.8s						
SOEI	**Soe**	**30.17**	**262**	*e*P	**P**	**18 58 02.5**	**-3.1**
	comp=Z,23nm,0.9s						
FITZ	**Fitzroy Crossi**	**30.47**	**245**	*e*P	**P**	**18 58 07.8**	**-0.3**
	comp=Z,79nm,2.0s						
BBOO	**Buckleboo**	**31.33**	**211**	*e*P	**P**	**18 58 13.4**	**-2.1**
	comp=Z,139nm,1.9s						
KMSI	**Cibinong**	**31.34**	**282**	P	**P**	**18 58 17.4**	**+1.6**
DAV	**Davao City (W)**	**31.92**	**294**	*e*P	**P**	**18 58 19.7**	**-1.2**
	comp=Z,347nm,0.4s						
DAV	**Davao City (W)**	**31.92**	**294**	LR	LR	19 12 22.6	
	comp=Z,166nm,18.2s,baz=98,slow=38						
MMRI	**Maumere**	**32.12**	**264**	*e*P	**P**	**18 58 22.4**	**-0.2**
	comp=Z,19nm,0.7s						
MMRI	**Maumere**	**32.12**	**264**	P	**P**	**18 58 22.3**	**-0.4**
LUWI	**Luwuk**	**32.19**	**278**	*e*P	**P**	**18 58 24.3**	**+1.1**
	comp=Z,43nm,1.0s						
LUWI	**Luwuk**	**32.19**	**278**	P	**P**	**18 58 25.2**	**+2.0**
BSSI	**Bau Bau, Buton**	**33.88**	**269**	P	**P**	**18 58 38.9**	**+0.9**
BKSI	**Bulukumba**	**34.29**	**270**	P	**P**	**18 58 40.5**	**-1.1**
FORT	**Forrest**	**34.66**	**223**	*e*P	**P**	**18 58 43.7**	**-0.9**
	comp=Z,43nm,0.9s						
KAPI	**Kappang**	**34.68**	**271**	*e*P	**P**	**18 58 44.0**	**-1.0**
	comp=Z,9.3nm,0.8s						
KAPI	**Kappang**	**34.68**	**271**	*e*P	**P**	**18 58 44.0**	**-1.0**
KAPI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MPSI	**Mapaga**	**35.27**	**280**	P	**P**	**18 58 50.9**	**+0.9**
PSA00	**Pilbara Seismi**	**36.75**	**242**	*e*P	**P**	**18 59 00.8**	**-1.8**
	comp=Z,106nm,2.0s						
HIZ	**Hauiti**	**36.77**	**153**	*e*P	**P**	**18 59 00.6**	**-1.9**
	comp=Z,220nm,1.5s						
TAU	**Tasmania Unive**	**36.81**	**189**	*e*P	**P**	**18 59 02.9**	**+0.1**
	comp=Z,110nm,1.9s						
TAU	**Tasmania Unive**	**36.81**	**189**	*e*P	**P**	**18 59 02.9**	**+0.1**
TAU				pmax	pmax		
	comp=Z,110nm,1.9s						
URZ	**Urewera**	**37.63**	**150**	*e*P	**P**	**18 59 09.1**	**-0.7**
	comp=Z,35nm,1.3s						
MXZ	**Matakaoa Point**	**37.70**	**148**	*e*P	**P**	**18 59 09.6**	**-0.8**
	comp=Z,219nm,1.8s						
BKZ	**Black Stump Fm**	**38.05**	**152**	*e*P	**P**	**18 59 12.4**	**-1.0**
	comp=Z,60nm,1.7s						
THZ	**Tophouse**	**38.70**	**158**	*e*P	**P**	**18 59 20.4**	**+1.5**
	comp=Z,114nm,1.8s						
SNZO	**South Karori**	**39.02**	**156**	*e*P	**P**	**18 59 20.6**	**-0.8**
	comp=Z,183nm,1.4s						
BFZ	**Birch Farm**	**39.16**	**154**	*e*P	**P**	**18 59 21.9**	**-0.8**
	comp=Z,62nm,1.3s						
FOZ	**Fox Glacier**	**39.23**	**162**	*e*P	**P**	**18 59 22.4**	**-0.8**
	comp=Z,285nm,1.8s						
LTZ	**Lake Taylor**	**39.36**	**159**	*e*P	**P**	**18 59 24.0**	**-0.3**
	comp=Z,120nm,2.0s						
KHZ	**Kahutara**	**39.50**	**158**	*e*P	**P**	**18 59 23.8**	**-1.6**
	comp=Z,67nm,1.4s						
OXZ	**Oxford**	**39.76**	**160**	*e*P	**P**	**18 59 26.6**	**-1.0**
	comp=Z,59nm,1.4s						
RPZ	**Rata Peaks**	**39.78**	**161**	*e*P	**P**	**18 59 27.1**	**-0.7**
	comp=Z,151nm,1.9s						
RPZ	**Rata Peaks**	**39.78**	**161**	P	**P**	**18 59 26.5**	**-1.3**
	comp=Z,8.4nm,0.8s,baz=41,slow=10,SNR=3.2						
JAGI	**Jajag, Banyuwa**	**40.12**	**265**	*e*P	**P**	**18 59 27.8**	**-3.2**
	comp=Z,31nm,0.8s						
MQZ	**McQueen's Vall**	**40.31**	**160**	*e*P	**P**	**18 59 32.9**	**+0.9**
	comp=Z,260nm,2.0s						
DCZ	**Deep Cove**	**40.31**	**166**	*e*P	**P**	**18 59 32.2**	**+0.1**
	comp=Z,227nm,2.0s						
MLZ	**Mavora Lakes**	**40.46**	**165**	*e*P	**P**	**18 59 34.2**	**+0.8**
	comp=Z,82nm,1.7s						
ODZ	**Otahua Downs**	**40.85**	**163**	*e*P	**P**	**18 59 35.7**	**-0.9**
	comp=Z,200nm,1.9s						
JHJ2	**Mitsune**	**41.83**	**341**	*e*P	**P**	**18 59 44.3**	**-0.4**
	comp=Z,521nm,1.5s						
JHJ	**Hachijo jima 2**	**41.84**	**341**	LR	LR	19 13 58.5	
	comp=Z,72nm,19.8s,baz=58,slow=32						
MORW	**Morawa**	**42.71**	**234**	*e*P	**P**	**18 59 51.4**	**-0.6**
	comp=Z,101nm,1.9s						
SBUM	**Sibu**	**43.22**	**281**	*e*P	**P**	**18 59 56.9**	**+0.6**
	comp=Z,4.4nm,1.3s						
YULB	**Yu-li**	**44.05**	**314**	*e*P	**P**	**19 00 03.4**	**+0.5**
	comp=Z,23nm,0.8s						
NACB	**Ninganchiao**	**44.33**	**315**	*e*P	**P**	**19 00 03.5**	**-1.6**
	comp=Z,40nm,0.9s						
TPUB	**Ta-pu**	**44.48**	**313**	*e*P	**P**	**19 00 05.2**	**-1.1**
	comp=Z,22nm,0.7s						
SSLB	**Suanglung**	**44.54**	**314**	*e*P	**P**	**19 00 07.2**	**+0.3**
	comp=Z,18nm,0.6s						
YHNB	**Yeheng**	**44.79**	**315**	*e*P	**P**	**19 00 10.7**	**+1.8**
	comp=Z,92nm,1.3s						
KSM	**Kuching**	**44.90**	**279**	*e*P	**P**	**19 00 09.0**	**-0.8**
	comp=Z,12nm,1.2s						
JNU	**Nakatsue**	**45.39**	**332**	*e*P	**P**	**19 00 13.2**	**-0.2**
	comp=Z,14nm,0.7s						
JNU	**Nakatsue**	**45.39**	**332**	P	**P**	**19 00 13.2**	**-0.2**
	comp=Z,12nm,0.8s,baz=164,slow=2.0,SNR=9.4						
MJAR	**Matsushiro Arr**	**45.49**	**341**	*e*P	**P**	**19 00 13.3**	**-0.9**
MJAR	**Matsushiro Arr**	**45.49**	**341**	*e*P	**P**	**19 00 13.3**	**-0.9**
MJAR	**Matsushiro Arr**	**45.49**	**341**	P	**P**	**19 00 15.9**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=170,slow=7.0,SNR=4.7						
MJAR				LR	LR	19 18 34.1	
	comp=Z,61nm,20.2s,baz=205,slow=35						
MAJO	**Matsushiro**	**45.50**	**341**	*e*P	**P**	**19 00 14.7**	**+0.5**
	comp=Z,22nm,1.9s						
MAJO	**Matsushiro**	**45.50**	**341**	*e*P	**P**	**19 00 14.7**	**+0.5**
MJB9	**Matsu-Tunnel**	**45.50**	**341**	*e*P	**P**	**19 00 14.3**	**+0.1**
	comp=Z,22nm,1.9s						
CISI	**Cisompet, Garu**	**46.41**	**266**	*e*P	**P**	**19 00 22.1**	**+0.3**
	comp=Z,173nm,1.5s						
TJN	**Taejon**	**49.72**	**331**	||*e*P	**P**	**19 00 46.3**	**-0.5**
KSRS	**Korea Array**	**50.32**	**332**	P	**P**	**19 00 51.5**	**+0.1**
	comp=Z,4.7nm,0.9s,baz=151,slow=9.0,SNR=18						
KSRS				LR	LR	19 19 08.3	
	comp=Z,68nm,21.4s,baz=138,slow=32						
KS15	**Wonju Array Si**	**50.33**	**332**	*e*P	**P**	**19 00 51.1**	**-0.4**
	comp=Z,9.8nm,0.8s						
KSAR	**Wonju Array Be**	**50.33**	**332**	*e*P	**P**	**19 00 51.1**	**-0.4**
KSAR	**Wonju Array Be**	**50.33**	**332**	*e*P	**P**	**19 00 51.1**	**-0.4**
NJ2	**Nanjing**	**51.28**	**321**	*e*P	**P**	**19 01 01.4**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ASAJ	**Asahikawa**	**51.54**	**349**	P	**P**	**19 01 00.3**	**-0.1**
	comp=Z,19nm,1.3s,baz=90,slow=15,SNR=2.2						
WHN	**Wuhan**	**53.31**	**316**	P	**P**	**19 01 15.5**	**+1.7**
WHN				LR	LR		
	comp=Z,1μm,23.3s						
WHN				LR	LR		
	comp=Z,670nm,19.6s						
WHN				LR	LR		
	comp=Z,530nm,19.9s						
USA0B	**Ussuriysk Arra**	**54.44**	**340**	*e*P	**P**	**19 01 21.0**	**-0.8**
	comp=Z,65nm,2.0s						
USA0B	**Ussuriysk Arra**	**54.44**	**340**	*e*P	**P**	**19 01 21.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**54.44**	**340**	*e*P	**P**	**19 01 19.6**	**-2.2**
USRK	**Ussuriysk Ar.**	**54.44**	**340**	*e*P	**P**	**19 01 19.6**	**-2.2**
USRK	**Ussuriysk Ar.**	**54.44**	**340**	P	**P**	**19 01 22.5**	**+0.7**
	comp=Z,4.0nm,1.0s,baz=141,slow=5.8,SNR=3.5						
IPM	**Ipoh**	**54.56**	**280**	*e*P	**P**	**19 01 21.8**	**-1.6**
	comp=Z,10nm,0.9s						
KULM	**Kulim**	**55.09**	**281**	*e*P	**P**	**19 01 25.6**	**-1.5**
	comp=Z,14nm,1.2s						
KHU	**Kahuku**	**55.32**	**61**	*e*P	**P**	**19 01 28.3**	**-0.6**
	comp=Z,107nm,1.1s						
KHU	**Kahuku**	**55.32**	**61**	*e*P	**P**	**19 01 28.3**	**-0.6**
PPT	**Papeete**	**55.53**	**107**	LR	LR	19 21 12.5	
	comp=Z,105nm,19.0s,baz=255,slow=32						
PPT2	**Papeete2**	**55.53**	**107**	*e*LR	LR	19 17 48.9	
	comp=Z,95nm,21.5s						
POHA	**Pohakuloa**	**55.59**	**61**	*e*P	**P**	**19 01 30.6**	**-0.2**
	comp=Z,82nm,1.3s						
HLP	**Hilina Pali**	**55.61**	**61**	*e*P	**P**	**19 01 30.9**	**+0.1**
	comp=Z,156nm,1.1s						
TBI	**Tubuai**	**56.25**	**114**	*e*LR	LR	19 18 15.0	
	comp=Z,169nm,36.5s						
ENH	**Enshi**	**56.61**	**313**	*e*P	**P**	**19 01 38.2**	**+0.4**
	comp=Z,36nm,1.0s						
GYA	**Guiyang**	**56.83**	**307**	⇑*i*P	**P**	**19 01 41.3**	**+1.8**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
SLVN	**Son La**	**56.88**	**301**	*e*P	**P**	**19 01 40.3**	**+0.5**
	comp=Z,14nm,1.3s						
GSI	**Gunungsitoli**	**57.42**	**276**	*e*P	**P**	**19 01 43.1**	**-0.6**
	comp=Z,22nm,0.9s						
BJT	**Baijiatuau**	**58.28**	**326**	*e*P	**P**	**19 01 49.3**	**+0.1**
	comp=Z,5.0nm,0.6s						
BJT	**Baijiatuau**	**58.28**	**326**	*e*P	**P**	**19 01 49.3**	**+0.1**
UTTA	**Uttaradit**	**58.52**	**295**	P	**P**	**19 01 55.8**	**+4.5**
	comp=Z,13μm,0.8s						
NANT	**Nan**	**58.75**	**296**	P	**P**	**19 01 55.6**	**+2.7**
	comp=Z,26μm,0.6s,comp=Z,270μm						
KLR	**Kul'dur**	**58.98**	**343**	*c*eP	**P**	**19 01 54.1**	**+0.2**
KLR				pmax	pmax		
	comp=Z,11nm,1.1s						
KLR	**Kul'dur**	**58.98**	**343**	P	**P**	**19 01 54.3**	**+0.4**
	comp=Z,6.0nm,1.0s,baz=177,slow=3.2,SNR=14						
PHRA	**Phrae**	**59.07**	**296**	P	**P**	**19 01 59.4**	**+4.3**
	comp=Z,1.6nm,1.6s						
XAN	**Xi'an**	**59.07**	**316**	P	**P**	19 02 01.4	+6.5
XAN				pP	pwP	19 02 17.3	+0.4
XAN				PcP	**PcP**	**19 02 46.4**	**+3.2**
XAN				S	**S**	**19 10 02.9**	**+5.5**
XAN				pmax	pmax		
	comp=Z,14nm,0.6s						
XAN				pmax	pmax		
	comp=Z,57nm,3.6s						
XAN				LR	LR		
	comp=Z,110nm,18.8s						
XAN				LR	LR		
	comp=Z,160nm,17.7s						
XAN				LR	LR		
	comp=Z,210nm,19.2s						
XAN	**Xi'an**	**59.07**	**316**	*e*P	**P**	**19 01 54.8**	**-0.1**
	comp=Z,11nm,0.6s						
XAN	**Xi'an**	**59.07**	**316**	*e*P	**P**	**19 01 54.8**	**-0.1**
KMI	**Kunming**	**59.41**	**304**	P	**P**	**19 02 00.5**	**+2.9**
KMI				pP	sP	19 02 18.4	-0.7
KMI				sP	pwP	19 02 25.0	+4.5
KMI				pmax	pmax		
	comp=Z,39nm,1.2s						
KMI				LR	LR		
	comp=Z,140nm,14.3s						
KMI				LR	LR		
	comp=Z,170nm,18.3s						
KMI				LR	LR		
	comp=Z,200nm,18.8s						
KMI	**Kunming**	**59.41**	**304**	*e*P	**P**	**19 01 59.7**	**+2.1**
	comp=Z,30nm,0.8s						
KMI	**Kunming**	**59.41**	**304**	*e*P	**P**	**19 01 59.7**	**+2.1**
PET	**Petropavlovsk**	**59.41 3**		*e*P	**P**	**19 01 59.7**	**+3.0**
	comp=Z,17nm,0.6s						
PET	**Petropavlovsk**	**59.41 3**		*e*P	**P**	**19 01 59.7**	**+3.0**
PEA0B	**Petropavlovsk-**	**59.45 2**		*e*P	**P**	**19 01 58.1**	**+1.0**
	comp=Z,21nm,0.9s						
PEA0B	**Petropavlovsk-**	**59.45 2**		*e*P	**P**	**19 01 58.1**	**+1.0**
PETK	**Petropavlovsk-**	**59.45 2**		*e*P	**P**	**19 01 57.5**	**+0.4**
PETK	**Petropavlovsk-**	**59.45 2**		*e*P	**P**	**19 01 57.5**	**+0.4**
PETK	**Petropavlovsk-**	**59.45 2**		P	**P**	**19 01 57.8**	**+0.7**
	comp=Z,21nm,0.8s,baz=151,slow=3.4,SNR=4.9						
LAMP	**Lampang**	**59.61**	**296**	P	**P**	**19 02 02.5**	**+3.7**
	comp=Z,23μm,0.8s						
PAYA	**Payao**	**59.68**	**297**	P	**P**	**19 02 03.4**	**+4.1**
	comp=Z,18μm,0.8s						
CM31	**Chiang Mai Arr**	**60.20**	**295**	*e*P	**P**	**19 02 02.6**	**-0.3**
	comp=Z,18nm,1.1s						
CM31				*e*PcP	**PcP**	**19 02 49.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**60.20**	**295**	*e*P	**P**	**19 02 03.6**	**+0.6**
CMAR				*e*PcP	**PcP**	**19 02 48.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**60.20**	**295**	*e*P	**P**	**19 02 03.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**60.20**	**295**	P	**P**	**19 02 05.2**	**+2.2**
	comp=Z,6.9nm,0.9s,baz=115,slow=4.9,SNR=45			

comp=Z,1.7nm,0.8s,baz=187,slow=2.4,SNR=4.9
LSA Lhasa 70.66 304 *e*P **P 19 03 12.4 +1.5**
comp=Z,30nm,0.8s
LSA Lhasa 70.66 304 *e*P **P 19 03 12.4 +1.5**
VNDA Vanda 71.07 178 *e*P **P 19 03 12.2 +0.2**
VNDA *e* 19 03 12.4
VNDA Vanda 71.07 178 P **P 19 03 12.2 +0.2**
comp=Z,2.1nm,0.7s,baz=326,slow=7.1,SNR=16
VNDA LR LR 19 30 41.0
comp=Z,85nm,18.2s,baz=286,slow=33
ZAK Zakamensk 71.87 328 *e*P **P 19 03 16.6 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
BOD Bodaibo 72.02 339 *e*P **P 19 03 17.6 -0.3**
BOD pmax pmax
comp=Z,5.0nm,1.7s
ODAN Odare 72.93 301 *e*P **P 19 03 25.9 +1.6**
comp=Z,185nm,0.8s
RAMN Ramite 73.63 300 *e*P **P 19 03 29.9 +1.4**
comp=Z,40nm,0.8s
JIRN Jiri 74.18 301 *e*P **P 19 03 33.3 +1.5**
comp=Z,95nm,0.7s
PKI Pulchoki 74.82 301 *e*P **P 19 03 36.6 +1.1**
comp=Z,140nm,1.1s
BILL Bilibino 74.83 5 *e*P **P 19 03 34.4 +0.1**
comp=Z,17nm,0.7s
BILL Bilibino 74.83 5⇓ *i*P **P 19 03 35.0 +0.8**
BILL *e* 19 03 45.0
BILL *e* 19 06 19.7
BILL pmax pmax
comp=Z,16nm,0.8s
PKIN Phulchoki 74.84 301 *e*P **P 19 03 36.6 +1.1**
comp=Z,115nm,1.2s
KKN Kakani 74.99 301 *e*P **P 19 03 37.5 +1.2**
comp=Z,91nm,0.7s
DMN Daman 75.09 301 *e*P **P 19 03 38.6 +1.7**
comp=Z,196nm,0.8s
GKN Gorkha 75.60 301 *e*P **P 19 03 41.1 +1.4**
comp=Z,158nm,0.8s
KOLN Koldanda 76.42 300 *e*P **P 19 03 45.6 +1.1**
comp=Z,102nm,0.7s
DANN Dangsing 76.44 301 *e*P **P 19 03 45.5 +0.9**
comp=Z,115nm,0.7s
PYUN Piuthan 77.03 301 *e*P **P 19 03 48.7 +0.8**
comp=Z,147nm,0.9s
SVW2 Sparrevohn 77.71 22 *e*P **P 19 03 50.6 -0.1**
comp=Z,54nm,1.8s
WMQ Urumqi 78.19 317 *e*P **P 19 03 54.6 +0.7**
WMQ pP sP 19 04 13.8 -2.4
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,230nm,4.3s
WMQ LR LR
comp=Z,700nm,29.3s
WMQ LR LR
comp=Z,330nm,19.3s
HYB Hyderabad 78.72 289 *i*P **P 19 03 58.0 +0.7**
BRLK Bradley Lake 78.78 25 *e*P **P 19 03 57.4 +0.7**
comp=Z,15nm,1.0s
SEW Seward 79.57 25 *e*P **P 19 04 01.2 +0.4**
comp=Z,9.3nm,1.0s
TIXI Tiksi 79.82 352 *e*P **P 19 04 01.2 -0.8**
TIXI Tiksi 79.82 352⇓ *e*P **P 19 04 01.8 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.5s
TIXI Tiksi 79.82 352 P **P 19 04 02.2 +0.2**
comp=Z,1.6nm,0.5s,baz=112,slow=4.7,SNR=12
RC01 Rabbit Creek A 80.00 24 *e*P **P 19 04 03.0 -0.2**
comp=Z,16nm,1.2s
PPLA Purkeypile 80.08 22 *e*P **P 19 04 04.6 +0.8**
comp=Z,47nm,2.0s
RDOG Red Dog Mine 80.16 15 *e*P **P 19 04 03.2 -0.7**
comp=Z,6.9nm,0.6s
CAST Castle Rocks 80.43 21 *e*P **P 19 04 04.7 -0.9**
comp=Z,12nm,1.1s
DGZ Jazzator, Alta 80.51 323 *de*P **P 19 04 07.1 +0.6**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
KNK Knik Glacier 80.69 24 *e*P **P 19 04 06.9 -0.1**
comp=Z,29nm,1.7s
SML Sawmill 80.95 24 *e*P **P 19 04 08.3 -0.1**
comp=Z,23nm,1.2s
SML Sawmill 80.95 24 *e*P **P 19 04 08.3 -0.1**
GLI Glacier Island 80.97 25 *e*P **P 19 04 07.1 -1.3**
comp=Z,9.5nm,0.8s
BPAW Bear Paw Mtn. 81.22 21 *e*P **P 19 04 09.2 -0.5**
comp=Z,19nm,1.8s
IMAR Indian Mountai 81.41 19 *e*P **P 19 04 10.6 -0.1**
MCK McKinley 81.77 22 *e*P **P 19 04 11.4 -1.3**
comp=Z,25nm,1.1s
MCK McKinley 81.77 22 *e*P **P 19 04 08.3 -4.3**
KLU Klutina 81.77 25 *e*P **P 19 04 12.2 -0.6**
comp=Z,16nm,1.0s
MLY Manley 81.85 20 *e*P **P 19 04 12.9 -0.2**
comp=Z,6.1nm,1.1s
HMT Hamilton 81.91 26 *e*P **P 19 04 13.5 0.0**
comp=Z,10nm,0.9s
DHY Denali Highway 82.01 23 *e*P **P 19 04 14.4 +0.3**
comp=Z,5.6nm,1.0s
WRH Wood River Hil 82.48 22 *e*P **P 19 04 16.3 0.0**
comp=Z,17nm,1.4s
CCB Clear Creek Bu 82.68 22 *e*P **P 19 04 16.7 -0.7**
comp=Z,16nm,2.0s
MDM Murphy Dome 82.69 21 *e*P **P 19 04 16.9 -0.6**
comp=Z,17nm,1.6s
PAX Paxson 82.70 23 *e*P **P 19 04 16.5 -1.1**
comp=Z,10nm,1.5s
PAX Paxson 82.70 23 *e*P **P 19 04 16.5 -1.1**
MK31 Makanchi Array 82.77 319 *e*P **P 19 04 16.5 -1.8**
comp=Z,4.9nm,0.8s
MK31 Makanchi Array 82.77 319 *e*P **P 19 04 16.5 -1.8**
MKAR Makanchi Array 82.77 319 *e*P **P 19 04 17.1 -1.2**
MKAR Makanchi Array 82.77 319 *e*P **P 19 04 17.1 -1.2**
MKAR Makanchi Array 82.77 319 P **P 19 04 19.6 +1.3**
comp=Z,6.8nm,0.7s,baz=101,slow=5.6,SNR=34
COLA College 82.78 21⇑ *e*P **P 19 04 16.6 -1.2**
COLA pmax pmax
comp=Z,7.0nm,1.1s
HDA Harding Lake 82.87 22 *e*P **P 19 04 18.1 -0.3**
comp=Z,7.8nm,1.1s
MAKZ Makanchi 82.98 319 *e*P **P 19 04 19.4 +0.1**
comp=Z,8.6nm,0.8s
MAKZ Makanchi 82.98 319 *e*P **P 19 04 19.5 +0.1**
POKR Poker Plat Res 83.06 21 P **P 19 04 18.6 -0.8**
baz=238
BALM Baldy 83.07 26 *e*P **P 19 04 21.1 +1.4**
comp=Z,12nm,1.4s
BALM Baldy 83.07 26 *e*P **P 19 04 21.1 +1.4**
ILAR Eielson Array 83.08 22 *e*P **P 19 04 17.8 -1.6**
ILAR Eielson Array 83.08 22 *e*P **P 19 04 17.8 -1.6**
ILAR Eielson Array 83.08 22 P **P 19 04 18.5 -0.9**
comp=Z,2.3nm,0.9s,baz=265,slow=5.2,SNR=14
ILAR LR LR 19 39 37.7
comp=Z,215nm,19.1s,baz=270,slow=34
ILB Eielson Array 83.08 22 *e*P **P 19 04 18.4 -1.1**
comp=Z,10.0nm,1.4s
COLD Coldfoot 83.29 19 *e*P **P 19 04 19.6 -0.9**
comp=Z,7.1nm,1.5s
RIDG Independent Ri 83.33 23 *e*P **P 19 04 18.4 -2.4**
comp=Z,15nm,1.2s
QSPA South Pole Qui 83.46 180 *e*P **P 19 04 21.3 -0.3**
comp=Z,19nm,1.0s
CTGM Chitina Glacie 83.48 26 *e*P **P 19 04 22.0 +0.2**
comp=Z,8.1nm,1.0s
ZAA0 Zalesovo Array 83.55 326 *e*P **P 19 04 21.3 -0.8**
comp=Z,8.2nm,1.1s
ZALV Zalesovo Beam 83.55 326 *e*P **P 19 04 20.9 -1.2**
ZALV Zalesovo Beam 83.55 326 *e*P **P 19 04 20.9 -1.2**
ZALV Zalesovo Beam 83.55 326 P **P 19 04 21.7 -0.3**
comp=Z,4.6nm,0.7s,baz=115,slow=5.7,SNR=22
DOT Dot Lake 83.58 23 *e*P **P 19 04 22.0 -0.1**
comp=Z,5.5nm,0.8s
BCAR Beaver Creek A 84.22 24 *e*P **P 19 04 25.4 0.0**
TOLK Toolik Lake Re 84.29 18 *e*P **P 19 04 25.1 -0.5**
comp=Z,3.9nm,0.9s
TOLK Toolik Lake Re 84.29 18 P **P 19 04 25.8 +0.2**
baz=236
TARG Taragay, Kyrgy 84.52 313 *e*P **P 19 04 29.1 +1.2**
comp=Z,45nm,1.9s
MAW Mawson 84.68 203 *e*P **P 19 04 27.8 +0.2**
comp=Z,1.4nm,0.8s
MAW Mawson 84.68 203 *e*P **P 19 04 27.8 +0.2**
MAW Mawson 84.68 203 P **P 19 04 28.1 +0.5**
comp=Z,4.2nm,0.6s,baz=88,slow=6.5,SNR=19
MAW LR LR 19 38 36.5
comp=Z,125nm,19.5s,baz=67,slow=33

NVS Novosibirsk 84.72 327 *i*P **P 19 04 28.2 +0.2**
KDJ Kajisay 85.07 313 *e*P **P 19 04 30.1 -0.2**
comp=Z,104nm,1.7s
KDJ Kajisay 85.07 313 *e*P **P 19 04 27.8 -2.5**
HYT Haines Junctio 85.13 27 *e*P **P 19 04 30.9 +0.8**
comp=Z,7.7nm,0.7s
EGAK Eagle 85.23 23 *e*P **P 19 04 30.6 +0.3**
comp=Z,4.9nm,0.8s
KSH Kashi 85.39 310 P **P 19 04 35.4 +3.5**
KSH pmax pmax
comp=Z,15nm,1.0s
DAWY Dawson 85.62 24 *e*P **P 19 04 33.0 +0.6**
comp=Z,7.5nm,1.4s
NRN Naryn 85.77 312 *e*P **P 19 04 34.1 +0.1**
comp=Z,13nm,1.4s
NRN Naryn 85.77 312 *e*P **P 19 04 34.1 +0.1**
KURK Kurchatov 86.20 322 *e*P **P 19 04 35.0 -0.5**
comp=Z,7.2nm,1.3s
KURK Kurchatov 86.20 322⇑ *e*P **P 19 04 34.8 -0.6**
KURK pmax pmax
comp=Z,6.0nm,1.2s
WHY Whitehorse 86.27 28 *e*P **P 19 04 35.1 -0.7**
comp=Z,24nm,2.0s
NIL Nilore 86.40 304 *e*P **P 19 04 36.1 -0.7**
comp=Z,16nm,0.6s
NIL Nilore 86.40 304 *e*P **P 19 04 36.2 -0.7**
AAK Ala-Archa 87.12 313 *e*P **P 19 04 41.0 +0.6**
comp=Z,3.4nm,0.6s
AAK Ala-Archa 87.12 313⇑ *e*P **P 19 04 41.9 +1.5**
AAK pmax pmax
comp=Z,4.0nm,1.0s
EPYK Eagle Plains 87.57 22 *e*P **P 19 04 42.0 +0.1**
comp=Z,11nm,1.0s
EPYK Eagle Plains 87.57 22 P **P 19 04 42.5 +0.6**
baz=248
DLBC Dease Lake 87.94 31 LR LR 19 37 12.1
comp=Z,121nm,21.6s,baz=290,slow=31
NRIK Noril'sk 88.15 341 P **P 19 04 42.8 -1.7**
comp=Z,4.9nm,0.7s,baz=88,slow=4.7,SNR=7.0
INK Inuvik 89.42 21 *e*P **P 19 04 50.0 -0.4**
comp=Z,5.8nm,1.3s
INK Inuvik 89.42 21 *e*P **P 19 04 50.0 -0.4**
INK Inuvik 89.42 21 P **P 19 04 49.5 -0.9**
comp=Z,0.7nm,0.4s,baz=264,slow=3.7,SNR=6.0
INK LR LR 19 42 56.2
comp=Z,194nm,19.1s,baz=242,slow=34
GAR Garm 89.61 309 *e*P **P 19 04 52.7 +0.5**
comp=Z,7.7nm,0.5s
AFDM Forest Hills D 89.75 51 *e*P **P 19 04 53.0 +0.2**
comp=Z,20nm,1.7s
KKAR Karatay Array 90.08 313 *e*P **P 19 04 54.6 +0.4**
KKAR Karatay Array 90.08 313 *e*P **P 19 04 54.6 +0.4**
VCNR Virginia City 90.81 51 *e*P **P 19 04 57.5 -0.4**
comp=Z,23nm,1.1s
PAHR Pah Rah Range 91.07 50 *e*P **P 19 04 58.7 -0.3**
comp=Z,7.0nm,1.0s
ISA Isabella, Lake 91.28 54 P **P 19 05 00.4 +0.4**
baz=263
MWC Mount Wilson 91.44 56 *e*P **P 19 05 00.6 -0.4**
comp=Z,21nm,1.0s
EDW2 Edwards Air Fo 91.57 55 P **P 19 05 02.5 +1.1**
baz=263
RYN Ryan 91.60 51 *e*P **P 19 05 01.1 -0.4**
comp=Z,9.8nm,0.6s
CWC Cottonwood Cre 91.69 54 P **P 19 05 03.2 +1.2**
baz=263
BRVK Borovoye 91.73 323 *e*P **P 19 05 01.1 -0.5**
comp=Z,4.3nm,1.1s
BRVK Borovoye 91.73 323⇓ *e*P **P 19 05 00.8 -0.8**
BRVK pmax pmax
comp=Z,4.0nm,1.1s
NVAR Mina Array Bea 91.75 52 *e*P **P 19 05 03.0 +0.8**
NVAR Mina Array Bea 91.75 52 P **P 19 05 02.5 +0.2**
comp=Z,8.4nm,0.9s,baz=252,slow=5.6,SNR=6.8
BFSC Mount Baldy Ra 91.77 56 P **P 19 05 03.6 +1.3**
baz=263
NV11 Mina Array Sit 91.86 52 *e*P **P 19 05 03.6 +0.8**
comp=Z,1.1nm,1.1s
LRMC Laurel Mtn Rad 91.90 55 P **P 19 05 04.2 +1.2**
baz=263
KVN Kaiserville 91.98 51 *e*P **P 19 05 03.4 +0.1**
comp=Z,13nm,1.2s
KVN Kaiserville 91.98 51 *e*P **P 19 05 03.4 +0.1**
DAC Darwin (Calif) 92.06 54 *e*P **P 19 05 03.8 0.0**
comp=Z,13nm,1.0s
DAC Darwin (Calif) 92.06 54 *e*P **P 19 05 03.8 0.0**
MPMC Manual Prospec 92.12 54 P **P 19 05 05.3 +1.3**
baz=264
B08A Colville Reser 92.22 42 *e*P **P 19 05 03.4 -0.6**
comp=Z,13nm,1.4s
GSC Goldstone, Bar 92.59 55 P **P 19 05 06.6 +0.6**
baz=264
SYO Syowa Base 92.64 199⇑ *e*P **P 19 05 05.4 -0.1**
MONP2 Monument Peak 92.65 57 P **P 19 05 07.4 +0.8**
baz=264
FURC Furnace Creek, 92.67 54 P **P 19 05 07.5 +1.2**
baz=264
PFO Pinyon Flats O 92.70 57 P **P 19 05 07.7 +1.1**
baz=264
TPFO Pinon Flats 92.70 57 P **P 19 05 07.7 +1.0**
baz=264
BMN Battle Mountai 92.81 50 *e*P **P 19 05 07.4 +0.3**
comp=Z,8.7nm,1.1s
BMN Battle Mountai 92.81 50 *e*P **P 19 05 07.4 +0.3**
HEC Hector,Ludlow 92.92 55 P **P 19 05 08.4 +0.7**
baz=264
BELC Belle Mtn. Jos 93.12 56 P **P 19 05 09.7 +1.0**
baz=264
TPNV Topopah Spring 93.21 53 *e*P **P 19 05 09.1 +0.1**
comp=Z,9.3nm,1.0s
TPNV Topopah Spring 93.21 53 *e*P **P 19 05 09.1 +0.1**
TPNV Topopah Spring 93.21 53 P **P 19 05 09.7 +0.7**
baz=264
GMRC Granite Mounta 93.47 56 P **P 19 05 11.5 +1.3**
baz=264
BC3 Big Chuckawall 93.54 57 P **P 19 05 12.0 +1.5**
baz=265
NEW Newport 93.67 42 P **P 19 05 10.6 -0.2**
baz=264
NEW Newport 93.67 42 P **P 19 05 10.3 -0.4**
comp=Z,3.0nm,0.7s,baz=274,slow=19,SNR=3.9
IRM Iron Mountain 93.84 56 P **P 19 05 12.9 +1.1**
baz=265
R11A Troy Canyon, C 93.86 52 *e*P **P 19 05 12.1 +0.1**
comp=Z,5.3nm,1.0s
R11A Troy Canyon, C 93.86 52 P **P 19 05 12.7 +0.7**
baz=265
SHPR Sheep Range 94.04 54 *e*P **P 19 05 12.5 -0.3**
comp=Z,7.8nm,1.1s
ELK Elko 94.34 50 *e*P **P 19 05 14.3 +0.1**
comp=Z,8.6nm,1.5s
ELK Elko 94.34 50 *e*P **P 19 05 14.3 +0.1**
PDMCI Parker Dam,Lak 94.68 56 P **P 19 05 17.1 +1.5**
baz=265
W13A Hualapai Mount 94.95 55 *e*P **P 19 05 17.7 +0.5**
comp=Z,4.9nm,1.0s
PSUT Pine Spring 95.23 52 *e*P **P 19 05 18.5 +0.2**
comp=Z,9.3nm,1.3s
YKW3 Yellowknife Ar 96.10 28 *e*P **P 19 05 21.4 0.0**
comp=Z,2.6nm,1.0s
YKA Yellowknife Ar 96.11 28 *e*P **P 19 05 20.8 -0.6**
YKA Yellowknife Ar 96.11 28 *e*P **P 19 05 20.8 -0.6**
YKA Yellowknife Ar 96.11 28 P **P 19 05 21.4 0.0**
comp=Z,1.6nm,0.6s,baz=267,slow=4.6,SNR=15
U15A North Rim 96.34 54 *e*P **P 19 05 24.5 +1.0**
comp=Z,5.3nm,1.0s
MTPU Mount Pierson 96.51 53 *e*P **P 19 05 25.3 +1.0**
comp=Z,6.0nm,1.1s
BW06 Boulder Array 98.68 48 P **P 19 05 33.3 -0.5**
baz=269
PDAR Pinedale Array 98.68 48 P **P 19 05 32.6 -1.2**
comp=Z,1.0nm,0.9s,baz=267,slow=3.0,SNR=4.3
PDAR LR LR 19 46 29.1
comp=Z,64nm,18.9s,baz=316,slow=33
ARU Arti 98.72 326 *d i*P **P 19 05 31.4 -1.9**
ARU 19 09 33.4
ARU S **SKSac 19 16 04.0 -1.8**
ARU SS **SS 19 23 46.7 +2.0**
ARU pmax pmax
comp=Z,4.0nm,1.2s
AKTO Aktyubinsk 99.16 320 LR LR 19 52 47.0
comp=Z,32nm,18.7s,baz=136,slow=37
KIV Kislovodsk 110.21 314 *i* PKIKP **PKiKP 19 10 24.5 -1.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,117nm,22.0s

I39A Houston 111.65 45 P **PKiKP 19 10 28.1 -0.6**
baz=282
U40A Yellville 111.98 54 P **PKiKP 19 10 28.9 -0.7**
baz=278
AKASG Malin Array Be 116.91 324 *e*PKPdf **PKPdf 19 10 38.0 -0.5**
AKASG Malin Array Be 116.91 324 *e*PKIKP **PKPdf 19 10 38.0 -0.5**
AKASG Malin Array Be 116.91 324 PKP **PKPdf 19 10 37.9 -0.6**
comp=Z,0.8nm,0.6s,baz=55,slow=2.4,SNR=5.8
AKASG PKKPbc **PKKPbc 19 21 03.2 -2.9**
comp=Z,0.4nm,0.5s,baz=257,slow=3.5,SNR=4.6
KMBO Kilima Mbogo 116.99 265 PKP **PKPdf 19 10 39.7 -0.4**
comp=Z,0.8nm,0.3s,baz=57,slow=9.9,SNR=4.2
LRAL Lakeview Retre 117.28 56 P **PKPdf 19 10 39.2 -0.5**
baz=280
BRTR Keskin Array B 117.76 312 *e*PKPdf **PKPdf 19 10 40.1 -0.6**
BRTR Keskin Array B 117.76 312 *e*PKIKP **PKPdf 19 10 40.1 -0.6**
BRTR Keskin Array B 117.76 312 PKP **PKPdf 19 10 39.8 -0.9**
comp=Z,0.3nm,0.3s,baz=104,slow=3.7,SNR=8.7
W52A Murphy 119.35 53 P **PKPdf 19 10 43.4 -0.3**
baz=284
V52A Sevierville 119.43 52 P **PKPdf 19 10 43.5 -0.4**
baz=284
X52A Dahlonega 119.49 54 P **PKPdf 19 10 43.9 -0.1**
baz=283
Y53A Monroe 119.91 55 P **PKiKP 19 10 44.9 0.0**
baz=283
W53A Cullowhee 119.94 53 P **PKiKP 19 10 45.2 +0.1**
baz=284
BOSA Boshof 120.00 232 PKP **PKPdf 19 10 43.7 -1.6**
comp=Z,1.8nm,0.8s,baz=158,slow=2.9,SNR=5.8
V53A Saluda 120.09 52 P **PKPdf 19 10 45.2 0.0**
baz=285
U53A Fall Branch 120.10 52 P **PKiKP 19 10 45.4 +0.1**
baz=285
P53A Whipple 120.11 48 P **PKPdf 19 10 44.9 -0.2**
baz=288
Q53A Leroy 120.20 49 P **PKPdf 19 10 45.0 -0.2**
baz=287
Q54A Coxs Mills 120.68 48 P **PKPdf 19 10 46.0 -0.1**
baz=288
P54A Burton 120.74 47 P **PKPdf 19 10 45.9 -0.4**
baz=289
V54A Nebo 120.75 52 P **PKiKP 19 10 46.4 -0.1**
baz=285
Y55A Saluda 121.29 54 P **PKPdf 19 10 47.4 -0.1**
baz=284
X55A Gracelyn & Ava 121.33 54 P **PKiKP 19 10 47.7 +0.1**
baz=285
O55A Ligonier 121.40 46 P **PKPdf 19 10 47.4 -0.1**
baz=290
KOLS Kolonicke sedl 121.72 325 *e*PKIKP **PKiKP 19 10 49.2 +1.2**
KOLS Kolonicke sedl 121.72 325 *e*PKP **PKiKP 19 10 49.2 +1.2**
LSZ Lusaka 122.65 247 *e*PKPdf **PKiKP 19 10 51.4 +0.5**
LSZ Lusaka 122.65 247 *e*PKIKP **PKiKP 19 10 51.4 +0.5**
CLL Collm 125.19 331 *e*PKIKP **PKPdf 19 10 52.0 -2.4**
CLL Collm 125.19 331 *e*PKPdf **PKPdf 19 10 52.0 -2.4**
CLL *e*PP **PP 19 12 44.0 -0.1**
CLL Lm MLR 20 12 00.0
comp=Z,100nm,18.0s
IDI Anoyia 125.72 309 PKP **PKPdf 19 10 55.7 -0.3**
comp=Z,4.4nm,1.0s,baz=146,slow=14,SNR=3.0
FNA Florina 126.14 317 *e*PKPdf **PKPdf 19 10 56.4 -0.2**
FNA Florina 126.14 317 *e*PKIKP **PKPdf 19 10 56.4 -0.2**
GERES GERESS Array B 126.43 329 PKP **PKPdf 19 10 56.9 -0.1**
comp=Z,0.6nm,0.6s,baz=53,slow=5.2,SNR=4.4
EKA Eskdalemuir Ar 128.16 344 PKP **PKPdf 19 11 00.2 +0.2**
comp=Z,0.4nm,0.5s,baz=29,slow=4.9,SNR=3.8
LPAZ La Paz 132.05 119 *e*PKPdf **PKPdf 19 11 08.0 -1.2**
LPAZ La Paz 132.05 119 *e*PKIKP **PKPdf 19 11 08.0 -1.2**
LPAZ La Paz 132.05 119 PKP **PKPdf 19 11 08.6 -0.7**
comp=Z,0.7nm,0.5s,baz=211,slow=23,SNR=4.9
CPUP Villa Florida 135.01 138 *e*PKPdf **PKPdf 19 11 13.2 -0.6**
CPUP Villa Florida 135.01 138 *e*PKIKP **PKPdf 19 11 13.2 -0.6**
CPUP Villa Florida 135.01 138 PKP **PKPdf 19 11 13.7 -0.1**
comp=Z,1.0nm,0.4s,baz=234,slow=19,SNR=4.2
SDV Santo Domingo 135.15 84 *e*PKPdf **PKPdf 19 11 13.8 -0.8**
PTGA Pitinga 144.78 101 *e*PKPdf **PKPab 19 11 29.5 -1.4**
TAM Tamanrasset 146.08 302 *e*PKPdf **PKPbc 19 11 35.0 +0.1**
TAM Tamanrasset 146.08 302 *e*PKP2 **PKPbc 19 11 35.1 +0.1**
BDFB Brasilia 148.61 135 *e*PKPdf **PKPdf 19 11 38.4 +0.1**
BDFB Brasilia 148.61 135 *e*PKIKP **PKPdf 19 11 38.4 +0.1**
BDFB Brasilia 148.61 135 PKPbc **PKPdf 19 11 39.8 +1.4**
comp=Z,6.1nm,0.7s,baz=189,slow=2.3,SNR=7.1
TOA0 Torodi Ar. Sit 152.50 286 *e*PKPdf **PKPdf 19 11 43.0 -1.3**
TOA0 *e*PKPbc **PKPbc 19 11 51.0 -0.2**
TORD Torodi Ar. Bea 152.50 286 PKP **PKPdf 19 11 43.3 -1.0**
comp=Z,2.6nm,0.9s,baz=357,slow=3.9,SNR=11
TORD PKPbc **PKPbc 19 11 49.6 -1.6**
comp=Z,18nm,0.9s,baz=43,slow=2.6,SNR=47

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*IDC **21** 18:53:19.4±1.2,52°.23N×160°.26E,h0km,mb3.9/14, mb1 4.0/16,mb1mx3.8/50,mbtmp3.9/16,ML3.5/2,MS3.2/2, Ms1 3.2/2,ms1mx2.7/46,Error ellipse: s-maj=29.8km s-min=19.9km az=125.0*
*KRSC **21** 18:53:20.0±10.0,51°.96N×160°.60E,h63km±10km,ML4.3*
*MOS **21** 18:53:22.1±0.8,51°.98N×160°.52E,h50km,mb3.9/1,Error ellipse: s-maj=8.7km s-min=4.8km az=102.7*
*NEIC **21** 18:53:24.9±2.6,52°.08N×160°.18E,h38km±8km,mb4.5/18, Error ellipse: s-maj=19.9km s-min=15.7km az=171.0*
ISC 21 18:53:21.7±1.1,52°.03N±0°.04×160°.45E±0°.03,h19km±4km, n123,σ1§20/149,mb4.2/26,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.10**	**347**	*e*P	**Pn**	**18 53 41.8**	**-0.3**
SPN				*e*S	**Sn**	**18 53 57.1**	**+0.4**
SPN	**Mys Shipunski**	**1.10**	**347**	PN	**Pn**	**18 53 41.8**	**-0.3**
SPN				S	**Sn**	**18 53 57.1**	**+0.4**
RUS	**Russkaya**	**1.25**	**289**	*e*P	**Pn**	**18 53 44.2**	**0.0**
RUS				*e*S	**Sn**	**18 54 01.0**	**+0.5**
RUS	**Russkaya**	**1.25**	**289**	PN	**Pn**	**18 53 44.2**	**0.0**
RUS				S	**Sn**	**18 54 01.0**	**+0.5**
NLC	**Nalytchevo**	**1.32**	**330**	*e*P	**Pb**	**18 53 45.9**	**0.0**
NLC				*e*S	**Sg**	**18 54 03.9**	**-0.7**
NLC	**Nalytchevo**	**1.32**	**330**	PN	**Pb**	**18 53 45.9**	**0.0**
NLC				S	**Sg**	**18 54 03.9**	**-0.7**
DALK	**Dalny**	**1.44**	**315**	*e*P	**Pn**	**18 53 47.3**	**+0.6**
DALK				*e*S	**Sb**	**18 54 06.3**	**+0.5**
DALK	**Dalny**	**1.44**	**315**	PN	**Pn**	**18 53 47.3**	**+0.6**
DALK				S	**Sb**	**18 54 06.3**	**+0.5**
MTVR	**Mutnovka**	**1.46**	**289**	*e*P	**Pn**	**18 53 47.8**	**+0.6**
MTVR				*e*S	**Sb**	**18 54 07.9**	**+1.3**
MTVR	**Mutnovka**	**1.46**	**289**	PN	**Pn**	**18 53 47.8**	**+0.6**
MTVR				S	**Sb**	**18 54 07.9**	**+1.3**
PET	**Petropavlovsk**	**1.48**	**313**	*e*Pn	**Pb**	**18 53 47.9**	**-0.6**
PET	**Petropavlovsk**	**1.48**	**313**	PN	**Pb**	**18 53 47.9**	**-0.6**
PET				S	**Sg**	**18 54 08.9**	**-0.6**
KDTR	**Khodutka, Kamc**	**1.48**	**262**	*e*P	**Pn**	**18 53 47.0**	**-0.3**
KDTR				*e*S	**Sn**	**18 54 06.0**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.48**	**262**	PN	**Pn**	**18 53 47.0**	**-0.3**
KDTR				S	**Sn**	**18 54 06.0**	**-0.1**
UGLR	**Uglovaya**	**1.54**	**321**	*e*P	**Pb**	**18 53 49.3**	**-0.4**
UGLR	**Uglovaya**	**1.54**	**321**	PN	**Pb**	**18 53 49.3**	**-0.4**
GRL	**Gorelyy**	**1.55**	**291**	*e*P	**Pb**	**18 53 50.1**	**+0.3**
GRL	**Gorelyy**	**1.55**	**291**	PN	**Pb**	**18 53 50.1**	**+0.3**
SDLR	**Sedlovina**	**1.57**	**323**	*e*P	**Pb**	**18 53 49.6**	**-0.6**
SDLR	**Sedlovina**	**1.57**	**323**	PN	**Pb**	**18 53 49.6**	**-0.6**
SMAR	**Somma**	**1.59**	**322**	*e*P	**Pb**	**18 53 49.9**	**-0.7**
SMAR	**Somma**	**1.59**	**322**	PN	**Pb**	**18 53 49.9**	**-0.7**
ASAK	**Asacha**	**1.60**	**284**	P	**Pb**	**18 53 50.3**	**-0.5**
ASAK				*e*S	**Sg**	**18 54 12.4**	**-1.2**
ASAK	**Asacha**	**1.60**	**284**	PN	**Pb**	**18 53 50.3**	**-0.5**
ASAK				S	**Sg**	**18 54 12.4**	**-1.2**
AVH	**Avacha**	**1.61**	**321**	*e*P	**Pb**	**18 53 50.3**	**-0.6**
AVH	**Avacha**	**1.61**	**321**	PN	**Pb**	**18 53 50.3**	**-0.6**
KRMR	**Karymshinskiy**	**1.63**	**300**	*e*P	**Pn**	**18 53 50.1**	**+0.8**
KRMR				*e*S	**Sb**	**18 54 10.8**	**-0.4**
KRMR	**Karymshinskiy**	**1.63**	**300**	PN	**Pn**	**18 53 50.1**	**+0.8**
KRMR				S	**Sb**	**18 54 10.8**	**-0.4**
KRER	**Koryakskii**	**1.64**	**322**	*e*P	**Pb**	**18 53 50.6**	**-0.8**
KRER	**Koryakskii**	**1.64**	**322**	PN	**Pb**	**18 53 50.6**	**-0.8**
KOK	**Koryaka**	**1.68**	**320**	*e*P	**Pb**	**18 53 51.2**	**-0.8**
KOK	**Koryaka**	**1.68**	**320**	PN	**Pb**	**18 53 51.2**	**-0.8**
PEA0B	**Petropavlovsk-**	**1.99**	**304**	*e*Pn	**Pn**	**18 53 55.3**	**+0.9**
PETK	**Petropavlovsk-**	**1.99**	**304**	*e*Pn	**Pn**	**18 53 55.4**	**+1.1**
PETK	**Petropavlovsk-**	**1.99**	**304**	*e*PN	**Pn**	**18 53 55.4**	**+1.1**
PETK	**Petropavlovsk-**	**1.99**	**304**	Pn	**Pn**	**18 53 55.6**	**+1.3**
	26nm,0.3s,baz=120,slow=19,SNR=154						
PETK				Sn	**Sb**	**18 54 20.8**	**-1.0**
	17nm,0.3s,baz=108,slow=18,SNR=6.3						

PETK			LR	LR	18 54 55.1	
	comp=Z,294nm,21.8s,baz=152,slow=53					
PEA1	**Petropavlovsk-**	**2.00 304**	*e*Pn	**Pn**	**18 53 55.6**	**+1.2**
APC	**Apacha**	**2.20 295**	*e*P	**Pb**	**18 53 59.1**	**-1.7**
APC			*e*S	**Sb**	**18 54 26.3**	**-1.4**
APC	**Apacha**	**2.20 295**	PN	**Pb**	**18 53 59.1**	**-1.7**
APC			S	**Sb**	**18 54 26.3**	**-1.4**
PAU	**Pauzhetka**	**2.33 257**	*e*P	**Pn**	**18 53 59.8**	**+0.9**
PAU	**Pauzhetka**	**2.33 257**	PN	**Pn**	**18 53 59.8**	**+0.9**
MKZ	**Mys Kozlova**	**2.65 16**	*e*P	**Pn**	**18 54 03.4**	**+0.1**
MKZ			*e*S	**Sn**	**18 54 33.7**	**-1.0**
MKZ	**Mys Kozlova**	**2.65 16**	PN	**Pn**	**18 54 03.4**	**+0.1**
MKZ			S	**Sn**	**18 54 33.7**	**-1.0**
SKR	**Severo-Kuril's**	**3.03 245**	*e*P	**Pn**	**18 54 09.0**	**+0.4**
SKR			*e*S	**Sn**	**18 54 43.0**	**-1.3**
SKR	**Severo-Kuril's**	**3.03 245**	*e*PN	**Pn**	**18 54 08.7**	**+0.1**
SKR			*e*S	**Sn**	**18 54 43.7**	**-0.6**
SKR			pmax	pmax		
	comp=Z,52nm,0.7s					
SKR			smax	smax		
	comp=N,224nm,0.7s					
SKR			smax	smax		
	comp=E,262nm,0.9s					
KZV	**Kizimen**	**3.09 358**	*e*P	**Pn**	**18 54 11.1**	**+1.6**
KZV			*e*S	**Sn**	**18 54 46.6**	**+0.6**
KZV	**Kizimen**	**3.09 358**	PN	**Pn**	**18 54 11.1**	**+1.6**
KZV			S	**Sn**	**18 54 46.6**	**+0.6**
TUMD	**Tumrok D**	**3.18 360**	*e*P	**Pn**	**18 54 11.8**	**+1.2**
TUMD			*e*S	**Sn**	**18 54 48.0**	**0.0**
TUMR	**Tumrok**	**3.26 357**	*e*P	**Pn**	**18 54 13.8**	**+1.9**
TUMR	**Tumrok**	**3.26 357**	PN	**Pn**	**18 54 11.8**	**-0.1**
TUMR			S	**Sn**	**18 54 48.0**	**-2.2**
ALID	**Alaid**	**3.28 251**	*e*P	**Pn**	**18 54 13.1**	**+1.0**
ALID	**Alaid**	**3.28 251**	PN	**Pn**	**18 54 13.1**	**+1.0**
ESO	**Esso**	**4.04 346**	*e*P	**Pn**	**18 54 24.1**	**+1.7**
ESO	**Esso**	**4.04 346**	PN	**Pn**	**18 54 24.1**	**+1.7**
CIRR	**Tsirk**	**4.10 2**	*e*P	**Pn**	**18 54 23.9**	**+0.5**
CIRR	**Tsirk**	**4.10 2**	PN	**Pn**	**18 54 23.9**	**+0.5**
KBTR	**Krutoberegovo**	**4.41 18**	*e*P	**Pn**	**18 54 28.3**	**+0.8**
KBTR	**Krutoberegovo**	**4.41 18**	PN	**Pn**	**18 54 28.3**	**+0.8**
BDR	**Baidarnaya**	**4.57 5**	P	**Pn**	**18 54 32.7**	**+2.9**
BDR	**Baidarnaya**	**4.57 5**	PN	**Pn**	**18 54 32.7**	**+2.9**
BKI	**Bering**	**4.57 44**	P	**Pn**	**18 54 29.1**	**-0.7**
BKI			S	**Sn**	**18 55 17.9**	**-4.4**
BKI	**Bering**	**4.57 44**	PN	**Pn**	**18 54 29.1**	**-0.7**
SMKR	**Semkarok**	**4.60 7**	*e*P	**Pn**	**18 54 31.5**	**+1.3**
SMKR	**Semkarok**	**4.60 7**	PN	**Pn**	**18 54 31.5**	**+1.3**
SRKR	**Sorokina**	**4.65 5**	*e*P	**Pn**	**18 54 33.7**	**+2.8**
SRKR	**Sorokina**	**4.65 5**	PN	**Pn**	**18 54 33.7**	**+2.8**
MA2	**Magadan**	**9.31 328**	LR	LR	18 59 46.4	
	comp=E,141nm,18.9s,baz=134,slow=43					
ASAJ	**Asahikawa**	**14.29 243**	Pn	**Pn**	**18 56 42.8**	**-0.1**
	comp=E,0.4nm,0.3s,baz=64,slow=11,SNR=5.7					
ERM	**Erimo**	**15.43 236**	*e*Pn	**Pn**	**18 56 57.9**	**-0.3**
	comp=E,160nm,1.8s					
ERM	**Erimo**	**15.43 236**	*e*P	**Pn**	**18 56 57.9**	**-0.3**
ERM			pmax	pmax		
	comp=Z,160nm,1.8s					
BILL	**Bilibino**	**16.31 8**	*e*Pn	**P**	**18 57 12.4**	**+0.2**
	comp=Z,6.6nm,1.3s					
BILL	**Bilibino**	**16.31 8**	*e*P	**P**	**18 57 12.4**	**+0.2**
BILL			pmax	pmax		
	comp=Z,7.0nm,1.3s					
KLR	**Kul'dur**	**18.37 273**	P	**P**	**18 57 34.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=19,slow=18,SNR=3.1					
USRK	**Ussuriysk Ar.**	**20.45 259**	*e*P	**P**	**18 57 56.6**	**-1.2**
USRK	**Ussuriysk Ar.**	**20.45 259**	P	**P**	**18 57 56.3**	**-1.5**
	comp=Z,3.5nm,0.9s,baz=57,slow=14,SNR=5.2					
USRK			LR	LR	19 05 36.5	
	comp=Z,84nm,20.3s,baz=87,slow=36					
USA0B	**Ussuriysk Arra**	**20.45 259**	*e*P	**P**	**18 57 56.6**	**-1.3**
	comp=Z,31nm,1.7s					
MJB9	**Matsu-Tunnel**	**22.07 234**	*e*P	**P**	**18 58 16.8**	**+1.4**
	comp=Z,7.4nm,1.1s					
MAJO	**Matsushiro**	**22.07 234**	*e*P	**P**	**18 58 16.4**	**+1.0**
	comp=Z,7.5nm,1.1s					
MJAR	**Matsushiro Arr**	**22.07 234**	*e*P	**P**	**18 58 15.1**	**-0.3**
MJAR	**Matsushiro Arr**	**22.07 234**	*e*P	**P**	**18 58 15.1**	**-0.3**
MJAR	**Matsushiro Arr**	**22.07 234**	P	**P**	**18 58 16.9**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=18,slow=12,SNR=7.5					
INU	**Inuyama**	**23.61 234**	*e*P	**P**	**18 58 31.8**	**+0.5**
	comp=Z,5.3nm,0.7s					
TIXI	**Tiksi**	**24.14 336**	*e*P	**P**	**18 58 34.5**	**-1.5**
TIXI	**Tiksi**	**24.14 336**	P	**P**	**18 58 34.9**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=121,slow=10,SNR=16					
RSO	**Redoubt South**	**26.80 53**	*e*P	**P**	**18 59 03.0**	**+2.6**
KSAR	**Wonju Array Be**	**27.07 250**	*e*P	**P**	**18 59 00.2**	**-2.6**
SML	**Sawmill**	**28.86 50**	*e*P	**P**	**18 59 21.3**	**+2.6**
	comp=Z,23nm,1.8s					
H11N2	**WAKE ISLAND Hy**	**32.63 169**	T	T	19 34 26.9	
	baz=351					
H11N3	**WAKE ISLAND Hy**	**32.64 169**	T	T	19 34 27.8	
	baz=351					
H11N1	**WAKE ISLAND Hy**	**32.65 169**	T	T	19 34 24.3	
	baz=351					
ZAA1	**Zalesovo Array**	**43.54 304**	*e*P	**P**	**19 01 21.2**	**-2.5**
ZALV	**Zalesovo Beam**	**43.54 304**	P	**P**	**19 01 21.2**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=60,slow=5.7,SNR=3.1					
SPA0	**Spitsbergen Ar**	**48.22 351**	*e*P	**P**	**19 02 01.4**	**+1.0**
	comp=Z,34nm,1.4s					
KURK	**Kurchatov**	**48.48 303**	*e*P	**P**	**19 02 00.9**	**-1.8**
	comp=Z,7.0nm,1.3s					
MK31	**Makanchi Array**	**48.82 297**	*e*P	**P**	**19 02 03.7**	**-1.7**
	comp=Z,5.4nm,1.3s					
MK32	**Makanchi Array**	**48.82 297**	*e*P	**P**	**19 02 03.8**	**-1.6**
MKAR	**Makanchi Array**	**48.82 297**	*e*P	**P**	**19 02 04.0**	**-1.4**
MKAR	**Makanchi Array**	**48.82 297**	P	**P**	**19 02 03.8**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=57,slow=6.7,SNR=29					
MAKZ	**Makanchi**	**48.98 297**	*e*P	**P**	**19 02 04.7**	**-2.0**
	comp=Z,7.4nm,1.3s					
BRVK	**Borovoye**	**51.25 309**	*e*P	**P**	**19 02 22.4**	**-1.4**
	comp=Z,3.4nm,0.6s					
ARU	**Arti**	**54.33 318**	*e*P	**P**	**19 02 45.5**	**-0.8**
	comp=Z,2.5nm,0.4s					
ARCES	**ARCESS Array B**	**54.37 342**	*e*P	**P**	**19 02 46.8**	**+0.3**
ARCES	**ARCESS Array B**	**54.37 342**	P	**P**	**19 02 45.1**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=19,slow=12,SNR=4.4					
MMSM	**Mammoth Summit**	**56.02 71**	*e*P	**P**	**19 03 00.8**	**+1.4**
KKAR	**Karatay Array**	**57.59 300**	*e*P	**P**	**19 03 09.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**58.18 259**	P	**P**	**19 03 15.3**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=34,slow=5.9,SNR=4.7					
ABKAR	**Akbulak array**	**58.65 311**	*e*P	**P**	**19 03 15.5**	**-1.8**
	comp=Z,1.8nm,1.0s					
ABKAR			*e*P	**P**	**19 03 16.6**	**-0.6**
GAR	**Garm**	**60.54 297**	*e*P	**P**	**19 03 30.4**	**-0.2**
	comp=Z,7.7nm,0.5s					
FIA1	**FINESS Array S**	**61.18 337**	*e*P	**P**	**19 03 35.3**	**+0.9**
	comp=Z,23nm,1.4s					
FIA0	**FINESS Array S**	**61.18 337**	*e*P	**P**	**19 03 34.8**	**+0.3**
FINES	**FINESS Array B**	**61.18 337**	*e*P	**P**	**19 03 35.1**	**+0.7**
FINES	**FINESS Array B**	**61.18 337**	P	**P**	**19 03 34.8**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=39,slow=9.7,SNR=11					
NB2	**NORSAR Subarra**	**64.62 344**	P	**P**	**19 03 57.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=20,slow=6.9					
NB200	**NORSAR Array S**	**64.62 344**	*e*P	**P**	**19 03 57.7**	**+0.3**
NOA	**NORSAR Array B**	**64.62 344**	P	**P**	**19 03 57.7**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=20,slow=6.7,SNR=5.1					
AKASG	**Malin Array Be**	**69.64 329**	P	**P**	**19 04 27.7**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=33,slow=6.3,SNR=6.7					
LTX	**Lajitas**	**70.86 67**	*e*P	**P**	**19 04 37.5**	**+0.2**
TXAR	**Lajitas Array**	**70.86 67**	P	**P**	**19 04 37.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=303,slow=7.3,SNR=3.4					
CLL	**Collm**	**73.42 339**	*e*P	**P**	**19 04 53.0**	**+0.9**
MLR	**Muntele Rosu**	**75.27 329**	*e*P	**P**	**19 05 04.1**	**+1.0**
	comp=Z,2.4nm,0.6s					
MLR	**Muntele Rosu**	**75.27 329**	P	**P**	**19 05 02.8**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=114,slow=2.4,SNR=4.6					
ASAR	**Alice Springs**	**78.88 205**	P	**P**	**19 05 25.1**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=3.9,slow=4.2,SNR=3.0					
MMAI	**Mount Meron Ar**	**82.62 316**	P	**P**	**19 05 44.7**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=56,slow=4.4,SNR=5.4					

*IDC **21** 19:02:03.1±3.6, 17°.94N×120°.30E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.2/58, mbtmp3.5/4, Error ellipse: s-maj=402.3km s-min=21.0km az=62.0*
*MAN **21** 19:02:11.9, 18°.81N×121°.28E, h70km, mb4.5, ML3.4, MS3.2*
*ISCJB **21** 19:02:12.1±0.6, 18°.84N±0°.04×121°.22E±0°.07, h75km±10km, mb3.5/4, Error ellipse: s-maj=11.4km s-min=6.4km az=19.7*
ISC 21 19:02:12.3±1.0, 18°.80N±0°.05×121°.30E±0°.07, h87km±10km, n20, σ1§52/23, mb3.6/4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.90**	**128**	*e*P	**Pn**	**19 02 30.6**	**0.0**
SGCP				*e*S	**Sn**	**19 02 44.1**	**-0.1**
APYP	**Conner**	**0.93**	**183**	*e*P	**Pn**	**19 02 30.9**	**-0.1**
APYP				*e*S	**Sn**	**19 02 44.8**	**-0.1**
CVP	**Callao Caves**	**1.20**	**155**	⇑*i*P	**Pn**	**19 02 33.6**	**-0.4**
CVP				*i* S	**Sn**	**19 02 50.5**	**+0.1**
ABRA	**Dolores**	**1.27**	**206**	*e*P	**Pn**	**19 02 34.9**	**-0.1**
ABRA				*e*S	**Sn**	**19 02 51.8**	**-0.3**
BBP	**Basco**	**1.75**	**21**	*e*P	**Pn**	**19 02 41.6**	**+0.5**
BBP				*e*S	**Sn**	**19 03 02.7**	**-0.3**
CAUP	**Cauayan**	**1.91**	**165**	*e*P	**Pn**	**19 02 44.7**	**+1.5**
CAUP				*e*S	**Sn**	**19 03 09.1**	**+2.4**
PALP	**Palanan**	**2.03**	**148**	*e*P	**Pn**	**19 02 45.3**	**+0.5**
PALP				*e*S	**Sn**	**19 03 12.3**	**+2.7**
SMPP	**San Manuel, Pa**	**2.70**	**193**	*e*P	**Pn**	**19 02 54.0**	**+0.3**
SMPP				*e*S	**Sn**	**19 03 25.6**	**+0.1**
BOLP	**Bolinao**	**2.74**	**209**	*e*P	**Pn**	**19 02 54.4**	**+0.1**
BOLP				*e*S	**Sn**	**19 03 28.0**	**+1.5**
BALP	**Baler**	**3.05**	**175**	*e*P	**Pn**	**19 02 58.7**	**+0.3**
WRA	**Warramunga Arr**	**40.57**	**161**	P	**P**	**19 09 39.9**	**-3.5**
	0.8nm,0.9s,baz=334,slow=9.8,SNR=11						
MKAR	**Makanchi Array**	**42.40**	**320**	P	**P**	**19 10 00.3**	**+2.2**
	0.7nm,0.6s,baz=111,slow=8.9,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**42.92**	**83**	T	T	19 55 33.5	
	baz=274						
H11S1	**WAKE ISLAND Hy**	**42.93**	**83**	T	T	19 55 41.5	
	baz=274						
H11S2	**WAKE ISLAND Hy**	**42.93**	**83**	T	T	19 55 38.0	
	baz=274						
H11N1	**WAKE ISLAND Hy**	**42.95**	**81**	T	T	19 55 59.4	
	baz=277,slow=74,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**42.96**	**81**	T	T	19 55 59.6	
	baz=277,slow=74,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**42.97**	**81**	T	T	19 56 01.3	
	baz=277,slow=74,SNR=6.1						
ASAR	**Alice Springs**	**43.96**	**163**	P	**P**	**19 10 08.6**	**-2.4**
	0.2nm,0.3s,baz=347,slow=6.7,SNR=9.2						
KURBB	**Kurchatov Arra**	**46.38**	**323**	P	**P**	**19 10 31.4**	**+1.6**
	0.6nm,0.7s,baz=124,slow=7.8,SNR=5.1						

MEX 21 19:06:07.2±0.6, 16°.35N×97°.95W, h6km±5km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**284**	*e*P	Pg	19 06 10.2	-0.5
PNIG				*i* S	Sg	19 06 13.3	+0.3
TLIG	**Tlapa**	**1.34**	**334**	*i* P	Pn	19 06 29.0	-3.5
TLIG				*i* S	Sb	19 06 45.4	-4.9

*IDC **21** 19:15:20.0±1.1, 27°.98N×56°.13E, h0km, mb3.7/8, mb1 3.6/10, mb1mx3.4/45, mbtmp3.6/10, ML3.2/2, MS3.5/3, Ms1 3.5/3, ms1mx2.6/38, Error ellipse: s-maj=22.4km s-min=21.8km az=123.0*
*ISCJB **21** 19:15:20.9±0.6, 28°.13N±0°.06×55°.93E±0°.07, h10km, mb3.6/8, Error ellipse: s-maj=9.2km s-min=8.2km az=14.2*
*TEH **21** 19:15:22.3, 28°.35N×55°.83E, h19km, ML3.3*
ISC 21 19:15:22.8±0.8, 28°.31N±0°.05×55°.88E±0°.06, h10km, n24, σ1§66/20, mb3.6/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.95**	**164**	*e*Pg	**Pg**	**19 15 41.2**	**+0.1**
GENO				IAMB	IAmb	19 16 08.9	
	comp=Z,0.0nm,0.4s						
BNDS	**Bandar-Abbas**	**0.95**	**164**	*e*Pg	Pg	19 15 34.6	-6.5
NIAN	**Nian**	**1.13**	**131**	*e*Pg	**Pb**	**19 15 43.6**	**-0.9**
NGRK	**Negar Kerman**	**1.52**	**29**	*e*Pg	**Pn**	**19 15 49.1**	**-1.3**
NGRK				IAMB	IAmb	19 16 16.8	
	comp=Z,0.0nm,0.3s						
KHNJ	**Kahnooj**	**1.65**	**102**	*e*Pn	**Pn**	**19 15 52.1**	**+0.2**
KRBR	**Kerman**	**1.83**	**25**	*e*Pn	**Pb**	**19 15 55.0**	**-1.6**
TVBK	**TV Kerman**	**1.84**	**25**	*e*Pn	**Pb**	**19 15 55.3**	**-1.4**
TVBK				IAMB	IAmb	19 16 27.9	
	comp=Z,0.0nm,0.4s						
CHMN	**Cheshme madani**	**2.12**	**43**	*e*Pn	**Pn**	**19 15 58.8**	**+0.2**
CHMN				IAMB	IAmb	19 16 07.3	
	comp=Z,0.0nm,0.4s						
KHGB	**Koh Gabri**	**2.12**	**14**	*e*Pn	**Pb**	**19 15 59.6**	**-1.9**
KHGB				IAMB	IAmb	19 16 38.7	
	comp=Z,0.0nm,0.6s						
GHIR	**Ghir-Karzin**	**2.55**	**270**	*e*Pn	**Pn**	**19 16 03.4**	**-1.0**
IKOO	**Kooshah**	**4.91**	**33**	*e*Pn	**Pn**	**19 16 37.3**	**+0.4**
ITEG	**Tejag**	**5.19**	**28**	*e*Pn	**Pn**	**19 16 42.5**	**+1.7**
WSAR	**Wadi Sarin**	**5.63**	**153**	Pn	Pn	19 16 39.5	-7.1
	comp=Z,0.1nm,0.3s,baz=355,slow=12,SNR=2.1						
WSAR				Sn	Sn	19 17 41.5	-10
	comp=Z,0.2nm,0.3s,baz=319,slow=11,SNR=2.5						
MMAI	**Mount Meron Ar**	**18.22**	**290**	P	**P**	**19 19 39.2**	**+3.0**
	comp=Z,0.4nm,0.3s,baz=79,slow=13,SNR=2.9						
BRTR	**Keskin Array B**	**21.61**	**308**	P	**P**	**19 20 16.6**	**+3.5**
	comp=Z,1.3nm,0.7s,baz=123,slow=14,SNR=8.9						
AKTO	**Aktyubinsk**	**22.15**	**4**	P	**P**	**19 20 21.1**	**+2.4**
	comp=Z,1.7nm,0.7s,baz=165,slow=12,SNR=5.4						
AKTO				LR	LR	19 30 49.9	
	comp=Z,40nm,18.4s,baz=65,slow=41						
BVAR	**Borovoye Array**	**26.92**	**20**	P	**P**	**19 21 04.5**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=208,slow=8.0,SNR=3.1						
MKAR	**Makanchi Array**	**27.70**	**41**	P	**P**	**19 21 10.9**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=227,slow=11,SNR=2.6						
KURBB	**Kurchatov Arra**	**28.11**	**31**	P	**P**	**19 21 15.5**	**+0.8**
	comp=Z,0.2nm,0.2s,baz=233,slow=7.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**33.21**	**31**	P	**P**	**19 21 58.9**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=236,slow=8.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**52.47**	**265**	P	**P**	**19 24 35.4**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=52,slow=7.5,SNR=9.7						
SPITS	**Spitsbergen Ar**	**52.99**	**351**	LR	LR	19 52 07.1	
	comp=Z,39nm,18.9s,baz=190,slow=41						
BOSA	**Boshof**	**63.75**	**210**	LR	LR	19 53 41.0	
	comp=Z,112nm,22.0s,baz=129,slow=36						
ASAR	**Alice Springs**	**91.18**	**116**	P	**P**	**19 28 26.6**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=307,slow=5.2,SNR=4.6						

*ISCJB **21** 19:22:02.6±0.4, 24°.27N±0°.02×121°.80E±0°.03, h6km±4km, Error ellipse: s-maj=4.3km s-min=2.5km az=23.7*
*JMA **21** 19:22:02.6±0.1, 24°.27N×121°.78E, h10km±3km*
*TAP **21** 19:22:02.4, 24°.27N×121°.78E, h14km, ML2.6, C*
ISC 21 19:22:02.5±0.9, 24°.26N±0°.02×121°.79E±0°.02, h12km±7km, n52, σ0§45/70, 7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.17**	**346**	⇓P	**Pg**	**19 22 06.4**	**-0.1**
NANB				S	**Sg**	**19 22 09.2**	**-0.1**
	baz=351						
ENA	**Nanau**	**0.17**	**344**	⇓*i*P	**Pg**	**19 22 06.4**	**-0.1**
ENA				S	**Sg**	**19 22 09.1**	**-0.2**
	baz=350						
NACB	**Ninganchiao**	**0.20**	**245**	P	**Pg**	**19 22 07.0**	**0.0**
NACB				S	**Sg**	**19 22 09.9**	**-0.1**
	baz=234						
TWD	**Chiawan**	**0.26**	**225**	P	**Pg**	**19 22 08.0**	**+0.1**
TWD				*e*S	**Sg**	**19 22 12.0**	**+0.5**
	baz=220						
ETLH	**Xiulin Townshi**	**0.29**	**259**	⇓P	**Pg**	**19 22 08.5**	**-0.1**
ETLH				S	**Sg**	**19 22 12.7**	**0.0**
	baz=257						
HWA	**Hwalien**	**0.33**	**212**	*e*P	**Pb**	**19 22 10.5**	**+0.2**
	baz=215						
TWC	**Suao**	**0.35**	**8**	P	**Pg**	**19 22 09.5**	**-0.1**
TWC				*e*S	**Sg**	**19 22 14.2**	**-0.1**
	baz=8.0						
ENLB	**Shoufeng**	**0.40**	**206**	*e*P	**Pb**	**19 22 11.9**	**+0.5**
	baz=211						
NNSB	**Datong**	**0.41**	**294**	P	**Pg**	**19 22 10.8**	**0.0**
NNSB				S	**Sg**	**19 22 16.0**	**-0.3**
	baz=294						
EOS1	**EOS1**	**0.42**	**47**	*e*P	**Pb**	**19 22 11.7**	**-0.1**
NNS	**Nan Shan**	**0.42**	**295**	⇓*i*P	**Pg**	**19 22 10.9**	**-0.1**
NNS				S	**Sg**	**19 22 16.4**	**-0.3**
	baz=295						
NDT	**Datong Townshi**	**0.43**	**323**	P	**Pg**	**19 22 11.1**	**+0.1**
NDT				S	**Sg**	**19 22 16.8**	**0.0**
	baz=324						
ENTT	**Nioudou**	**0.43**	**331**	⇓*i*P	**Pg**	**19 22 11.1**	**-0.1**
ENTT				*i* S	**Sg**	**19 22 17.1**	**+0.2**
	baz=332						
TWE	**Neicheng**	**0.47**	**346**	⇓*i*P	**Pg**	**19 22 11.8**	**0.0**
TWE				*i* S	**Sg**	**19 22 18.3**	**+0.1**
	baz=348						
WHF	**Hehuan Shan**	**0.50**	**257**	*e*P	**Pg**	**19 22 12.1**	**-0.3**
WHF				S	**Sg**	**19 22 19.0**	**-0.1**
	baz=256						
ILA	**Ilan**	**0.50**	**355**	P	**Pg**	**19 22 12.2**	**-0.2**
ILA				S	**Sb**	**19 22 19.6**	**-1.0**
	baz=351						
SLBB	**Yuanshan**	**0.51**	**344**	P	**Pg**	**19 22 12.8**	**+0.2**
SLBB				S	**Sg**	**19 22 19.6**	**+0.2**
	baz=344						
ESL	**Shilin**	**0.55**	**217**	*e*P	**Pg**	**19 22 13.3**	**0.0**
YHNB	**Yeheng**	**0.56**	**317**	⇓P	**Pg**	**19 22 13.5**	**0.0**
YHNB				S	**Sg**	**19 22 20.7**	**-0.3**
	baz=317						
NSK	**Sanguang**	**0.57**	**316**	*e*P	**Pg**	**19 22 13.7**	**-0.1**
NSK				*e*S	**Sg**	**19 22 20.5**	**-0.9**
	baz=317						
NTC	**Toucheng**	**0.59**	**3**	*e*P	**Pg**	**19 22 13.9**	**-0.2**
CHGB	**Renai**	**0.60**	**251**	*e*P	**Pg**	**19 22 14.4**	**+0.1**
OWD	**Renai**	**0.64**	**242**	*e*P	**Pg**	**19 22 15.2**	**+0.1**
EGFH	**Guangfu**	**0.68**	**210**	*e*P	**Pg**	**19 22 16.0**	**+0.2**
TIPB	**Shuangxi**	**0.71**	**2**	*e*P	**Pg**	**19 22 16.1**	**-0.2**
NHDH	**Xindian Distri**	**0.74**	**341**	*e*P	**Pb**	**19 22 17.7**	**+0.4**
WLTB	**Daxi**	**0.77**	**320**	*e*P	**Pn**	**19 22 18.7**	**-0.5**
WHP	**Taichung City**	**0.78**	**271**	*e*P	**Pb**	**19 22 18.1**	**+0.1**
VWDT	**VWDT**	**0.78**	**230**	*e*P	**Pb**	**19 22 17.9**	**-0.1**
LIOB	**Emei**	**0.81**	**299**	*e*P	**Pb**	**19 22 18.9**	**+0.4**
NWF	**Wu-fen Shan**	**0.81**	**359**	*e*P	**Pb**	**19 22 18.2**	**-0.3**
HGSD	**Ruisui**	**0.84**	**204**	P	**Pb**	**19 22 19.3**	**+0.3**
EHY	**Hungye**	**0.87**	**210**	*e*P	**Pg**	**19 22 19.3**	**0.0**
SMLT	**Sun Moon Lake**	**0.90**	**245**	*e*P	**Pb**	**19 22 20.4**	**+0.3**
SSLB	**Suanglung**	**0.90**	**239**	*e*P	**Pn**	**19 22 21.1**	**+0.1**
TWS1	**Kuangyinshan**	**0.90**	**338**	*e*P	**Pb**	**19 22 20.4**	**+0.3**
YM01	**YM01**	**0.91**	**347**	*e*P	**Pb**	**19 22 20.4**	**+0.2**
SBCB	**Hsinchu**	**0.91**	**306**	*e*P	**Pn**	**19 22 21.4**	**+0.4**
YM10	**YM10**	**0.92**	**347**	*e*P	**Pb**	**19 22 20.6**	**+0.3**
YM11	**YM11**	**0.92**	**348**	*e*P	**Pb**	**19 22 20.8**	**+0.2**
YM07	**YM07**	**0.92**	**350**	*e*P	**Pb**	**19 22 20.4**	**-0.1**
TYC	**Yuchr**	**0.93**	**248**	*e*P	**Pb**	**19 22 20.7**	**+0.1**
TWQ1	**Liyutan**	**0.94**	**276**	*e*P	**Pn**	**19 22 22.2**	**+0.7**
NMLH	**Miaoli**	**0.95**	**287**	*e*P	**Pn**	**19 22 22.6**	**+0.9**
YULB	**Yu-li**	**0.98**	**208**	*e*P	**Pg**	**19 22 20.4**	**-1.0**
TWF1	**Yuli**	**1.01**	**207**	*e*P	**Pb**	**19 22 21.2**	**-0.8**
WNT	**Mingjian**	**1.08**	**250**	*e*P	**Pn**	**19 22 25.4**	**+1.9**
YOJ	**Yonaguni jima**	**1.13**	**80**	*e*P	**Pb**	**19 22 23.9**	**-0.1**
YOJ	**Yonaguni jima**	**1.13**	**80**	P	**Pb**	**19 22 24.1**	**+0.2**
YOJ				S	**Sg**	**19 22 39.4**	**+0.4**
ELDTW	**Lidau**	**1.28**	**214**	*e*P	**Pn**	**19 22 25.8**	**-0.6**
IRIF	**Iriomote-Funau**	**1.77**	**87**	P	**Pn**	**19 22 33.8**	**+0.9**
IRIF				S	**Sb**	**19 22 56.8**	**-0.2**
MASBT	**Mashibuluo**	**1.96**	**213**	*e*P	**Pb**	**19 22 37.3**	**-0.8**
	baz=217						

MAN 21 19:25:33.2, 19°.06N×121°.15E, h22km, mb4.2, ML3.1, MS2.8, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.18**	**133**	*e*P	Pn	19 25 53.5	-0.8
SGCP				*e*S	Sn	19 26 10.2	+0.5
APYP	**Conner**	**1.19**	**176**	*e*P	Pn	19 25 53.7	-0.9
APYP				*e*S	Sb	19 26 10.7	+0.5
ABRA	**Dolores**	**1.46**	**196**	*e*P	Pn	19 25 57.5	-0.8
CVP	**

comp=E,1μm,0.3s
PB12 IPOC Station P 1.63 319 *e*P **Pn 19 32 58.2 -0.7**
PB12 *e*S **Sn 19 33 20.4 +0.5**
PB12 IPOC Station P 1.63 319 *e*P **Pn 19 32 57.9 -1.1**
PB12 *e*S **Sn 19 33 20.1 +0.2**
PB12 IAML 19 33 26.5
comp=E,490nm,0.2s
PB09 IPOC Station P 1.93 181 *e*P **Pn 19 33 02.8 -0.1**
PB09 IPOC Station P 1.93 181 *e*P **Pn 19 33 02.2 -0.6**
PB09 *e*S **Sn 19 33 27.3 +0.4**
PB09 IAML 19 33 32.1
comp=N,337nm,0.5s
PB07 IPOC Station P 1.97 199 *e*P **Pn 19 33 03.0 -0.4**
PB07 IPOC Station P 1.97 199 *e*P **Pn 19 33 02.9 -0.5**
PB07 *e*S **Sn 19 33 28.2 +0.4**
PB07 IAML 19 33 35.5
comp=E,513nm,0.3s
PB03 IPOC Station P 2.24 193 *e*P **Pn 19 33 06.3 -0.6**
PB03 IPOC Station P 2.24 193 *e*P **Pn 19 33 06.2 -0.7**
PB03 *e*S **Sn 19 33 34.4 +0.2**
PB03 IAML 19 33 41.1
comp=E,404nm,0.5s
PB04 IPOC Station P 2.62 200 *e*P **Pn 19 33 12.0 0.0**
PB04 IPOC Station P 2.62 200 *e*P **Pn 19 33 12.1 +0.1**
PB04 IAML 19 33 53.2
comp=E,241nm,0.4s
LVC Limon Verde 2.75 175 *e*P **Pn 19 33 13.8 -0.1**
LVC IAML 19 33 59.3
comp=Z,39nm,0.2s
PB06 IPOC Station P 2.86 187 *e*P **Pn 19 33 14.8 -0.3**
PB06 IPOC Station P 2.86 187 *e*P **Pn 19 33 14.4 -0.7**
PB06 *e*S **Sn 19 33 49.1 +0.3**
PB06 IAML 19 33 57.6
comp=E,274nm,0.4s
PB05 IPOC Station P 3.13 197 *e*P **Pn 19 33 19.0 +0.4**
PB05 IPOC Station P 3.13 197 *e*P **Pn 19 33 17.6 -1.0**
PB05 IAML 19 34 06.3
comp=E,203nm,0.3s
LPAZ La Paz 3.69 16 *e*P **Pn 19 33 26.4 -0.3**
LPAZ La Paz 3.69 16 P **Pn 19 33 26.8 +0.1**
comp=E,3.9nm,0.3s,baz=183,slow=5.2,SNR=62
LPAZ S **Sn 19 34 09.8 +0.3**
baz=191,slow=8.1,SNR=2.2
CPUP Villa Florida 12.68 123 P Pn 19 35 12.0 -16
comp=E,0.3nm,0.3s,baz=350,slow=18,SNR=3.6
BDFB Brasília 20.60 82 LR LR 19 43 58.6
comp=E,126nm,20.8s,baz=147,slow=36
TORD Torodi Ar. Bea 77.06 71 P P 19 44 08.3 -6.4
comp=E,0.1nm,0.3s,baz=256,slow=4.8,SNR=4.1

MEX 21 19:35:08.1±0.6, 18°.18N×99°.34W, h48km±5km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.26**	**324**	*e*P	Pn	19 35 15.1	-1.8
PLIG				*i* S	Sn	19 35 21.5	-1.5
MEIG	**Mezcala**	**0.37**	**227**	*e*P	Pn	19 35 16.0	-1.8
MEIG				*i* S	Sn	19 35 23.0	-1.7
TLIG	**Tlapa**	**0.96**	**130**	*e*P	Pn	19 35 23.7	-1.6
TLIG				*i* S	Sn	19 35 36.0	-1.9
ARIG	**Puente Sto Nin**	**0.96**	**276**	*e*P	Pn	19 35 23.7	-1.6
ARIG				*i* S	Sn	19 35 36.1	-1.9
PPM	**Popocatepetl**	**1.11**	**37**	*e*P	Pn	19 35 32.5	+4.7
PPM				*e*S	Sn	19 35 46.2	+4.0

*IDC **21** 19:37:35.9±0.6, 52°.21N×160°.15E, h0km, mb4.5/36, mb1 4.6/40, mb1mx4.6/49, mbtmp4.5/40, ML4.3/3, MS4.2/25, Ms1 4.2/25, ms1mx4.1/33, Error ellipse: s-maj=13.2km s-min=10.4km az=147.0*
*KRSC **21** 19:37:36.3±10.0, 52°.00N×160°.60E, h60km±10km, ML5.3*
*BJI **21** 19:37:39.0±0.0, 52°.56N×159°.51E, h17km, mb4.8/56, mB4.9/38, Ms4.8/48, Ms7 4.7/46*
*ISCJB **21** 19:37:40.1±0.1, 52°.26N±0°.02×159°.83E±0°.03, h30km, mb4.9/285, MS4.5/50, Error ellipse: s-maj=3.7km s-min=2.3km az=144.6*
*MOS **21** 19:37:41.5±1.2, 52°.21N×160°.16E, h54km, mb5.2/37, MS4.6/14, Error ellipse: s-maj=6.3km s-min=3.0km az=97.9*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
*NEIC **21** 19:37:43.1±2.1, 52°.34N×159°.67E, h39km±6km, mb4.8/214, Error ellipse: s-maj=15.3km s-min=11.7km az=150.0*
ISC 21 19:37:40.7±0.3, 52°.18N±0°.04×160°.18E±0°.04, h30km, h30km:pP-P, n655, σt=74/685, mb4.8/289, MS4.5/50, 42C-35D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.92**	**354**	*i* P	**Pn**	**19 37 57.3**	**-0.3**
SPN				*e*S	**Sb**	**19 38 12.7**	**+2.7**
SPN	**Mys Shipunski**	**0.92**	**354**	PN	**Pn**	**19 37 57.3**	**-0.3**
SPN				S	**Sb**	**19 38 12.7**	**+2.7**
RUS	**Russkaya**	**1.05**	**284**	*e*P	**Pb**	**19 38 00.3**	**0.0**
RUS				*e*S	**Sb**	**19 38 17.8**	**+4.1**
RUS	**Russkaya**	**1.05**	**284**	PN	**Pb**	**19 38 00.3**	**0.0**
RUS				S	**Sb**	**19 38 17.8**	**+4.1**
NLC	**Nalytchevo**	**1.11**	**333**	*i* P	**Pb**	**19 38 01.6**	**+0.3**
NLC				*e*S	**Sb**	**19 38 19.9**	**+4.5**
NLC	**Nalytchevo**	**1.11**	**333**	PN	**Pb**	**19 38 01.6**	**+0.3**
NLC				S	**Sb**	**19 38 19.9**	**+4.5**
DALK	**Dalny**	**1.22**	**315**	*i* P	**Pb**	**19 38 03.0**	**0.0**
DALK				*e*S	**Sb**	**19 38 22.1**	**+3.8**
DALK	**Dalny**	**1.22**	**315**	PN	**Pb**	**19 38 03.0**	**0.0**
DALK				S	**Sb**	**19 38 22.1**	**+3.8**
PET	**Petropavlovsk**	**1.26**	**313**	*e*Pn	**Pb**	**19 38 03.2**	**-0.5**
PET	**Petropavlovsk**	**1.26**	**313**	*i* P	**Pb**	**19 38 03.9**	**+0.2**
PET	**Petropavlovsk**	**1.26**	**313**	PN	**Pb**	**19 38 03.8**	**+0.1**
PET				S	**Sb**	**19 38 23.1**	**+3.6**
MTVR	**Mutnovka**	**1.26**	**285**	*i* P	**Pb**	**19 38 03.8**	**-0.1**
MTVR	**Mutnovka**	**1.26**	**285**	PN	**Pb**	**19 38 03.8**	**-0.1**
UGLR	**Uglovaya**	**1.32**	**322**	*e*P	**Pb**	**19 38 04.9**	**+0.1**
UGLR	**Uglovaya**	**1.32**	**322**	PN	**Pb**	**19 38 04.9**	**+0.1**
GRL	**Gorelyy**	**1.34**	**287**	*e*P	**Pb**	**19 38 05.8**	**+0.5**
GRL	**Gorelyy**	**1.34**	**287**	PN	**Pb**	**19 38 05.8**	**+0.5**
SDLR	**Sedlovina**	**1.35**	**325**	*i* P	**Pb**	**19 38 05.0**	**-0.4**
SDLR	**Sedlovina**	**1.35**	**325**	PN	**Pb**	**19 38 05.0**	**-0.4**
KDTR	**Khodutka, Kamc**	**1.35**	**255**	*i* P	**Pn**	**19 38 03.5**	**+0.1**
KDTR				*e*S	**Sb**	**19 38 22.3**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.35**	**255**	PN	**Pn**	**19 38 03.5**	**+0.1**
KDTR				S	**Sb**	**19 38 22.3**	**+0.1**
SMAR	**Somma**	**1.37**	**323**	*e*P	**Pb**	**19 38 05.3**	**-0.5**
SMAR	**Somma**	**1.37**	**323**	PN	**Pb**	**19 38 05.3**	**-0.5**
AVH	**Avacha**	**1.40**	**322**	*e*P	**Pb**	**19 38 06.1**	**0.0**
AVH	**Avacha**	**1.40**	**322**	PN	**Pb**	**19 38 06.1**	**0.0**
KRMR	**Karymshinskiy**	**1.41**	**298**	*i* P	**Pb**	**19 38 06.0**	**-0.3**
KRMR				*e*S	**Sb**	**19 38 27.4**	**+3.5**
KRMR	**Karymshinskiy**	**1.41**	**298**	PN	**Pb**	**19 38 06.0**	**-0.3**
KRMR				S	**Sb**	**19 38 27.4**	**+3.5**
ASAK	**Asacha**	**1.42**	**279**	*i* P	**Pb**	**19 38 06.2**	**-0.2**
ASAK	**Asacha**	**1.42**	**279**	PN	**Pb**	**19 38 06.2**	**-0.2**
KRER	**Koryakskii**	**1.42**	**323**	*e*P	**Pb**	**19 38 06.7**	**+0.1**
KRER	**Koryakskii**	**1.42**	**323**	PN	**Pb**	**19 38 06.7**	**+0.1**
KOK	**Koryaka**	**1.46**	**320**	*e*P	**Pb**	**19 38 06.7**	**-0.4**
KOK	**Koryaka**	**1.46**	**320**	PN	**Pb**	**19 38 06.7**	**-0.4**
PEA0B	**Petropavlovsk-**	**1.77**	**302**	*e*Pn	**Pn**	**19 38 11.0**	**+1.8**
PETK	**Petropavlovsk-**	**1.77**	**302**	*e*Pn	**Pn**	**19 38 10.1**	**+0.8**
PETK	**Petropavlovsk-**	**1.77**	**302**	*e*PN	**Pn**	**19 38 10.1**	**+0.8**
PETK	**Petropavlovsk-**	**1.77**	**302**	Pn	**Pb**	**19 38 11.5**	**-1.0**
	170nm,0.3s,baz=110,slow=18,SNR=558						
PETK				Sn	**Sb**	**19 38 35.7**	**+1.4**
	193nm,0.3s,baz=102,slow=25,SNR=7.1						
PETK				LR	LR	19 38 44.1	
	comp=Z,2μm,19.6s,baz=56,slow=39						
PEA1	**Petropavlovsk-**	**1.78**	**303**	*e*Pn	**Pb**	**19 38 11.5**	**-1.0**
APC	**Apacha**	**1.99**	**293**	*e*P	**Pb**	**19 38 14.9**	**-1.2**
APC				*e*S	**Sb**	**19 38 41.9**	**+1.4**
APC	**Apacha**	**1.99**	**293**	PN	**Pb**	**19 38 14.9**	**-1.2**
APC				S	**Sb**	**19 38 41.9**	**+1.4**
PAU	**Pauzhetka**	**2.21**	**252**	*e*P	**Pn**	**19 38 15.7**	**+0.5**
PAU	**Pauzhetka**	**2.21**	**252**	PN	**Pn**	**19 38 15.7**	**+0.5**
MKZ	**Mys Kozlova**	**2.55**	**21**	*e*P	**Pn**	**19 38 18.7**	**-1.2**
MKZ				*e*S	**Sn**	**19 38 48.7**	**-1.2**
MKZ	**Mys Kozlova**	**2.55**	**21**	PN	**Pn**	**19 38 18.7**	**-1.2**
MKZ				S	**Sn**	**19 38 48.7**	**-1.2**
KZV	**Kizimen**	**2.94**	**1**	*e*P	**Pn**	**19 38 26.9**	**+1.5**
KZV	**Kizimen**	**2.94**	**1**	PN	**Pn**	**19 38 26.9**	**+1.5**
SKR	**Severo-Kuril's**	**2.95**	**241**	*e*P	**Pn**	**19 38 25.0**	**-0.4**
SKR				*e*S	**Sn**	**19 39 00.0**	**+0.2**
SKR	**Severo-Kuril's**	**2.95**	**241**	*e*PN	**Pn**	**19 38 25.4**	**0.0**
SKR				*e*S	**Sn**	**19 39 02.6**	**+2.8**
SKR				pmax	pmax		
	comp=Z,423nm,0.8s						
SKR				smax	smax		
	comp=N,2μm,0.9s						
SKR				smax	smax		
	comp=E,2μm,0.9s						
SKR				MLR	MLR		
	comp=Z,4μm,12.0s						
TUMD	**Tumrok D**	**3.03**	**2**	*e*P	**Pn**	**19 38 27.1**	**+0.6**
TUMD				*e*S	**Sn**	**19 39 03.2**	**+1.4**
TUMR	**Tumrok**	**3.11**	**360**	*e*P	**Pn**	**19 38 29.1**	**+1.4**
TUMR	**Tumrok**	**3.11**	**360**	PN	**Pn**	**19 38 27.1**	**-0.6**
TUMR				S	**Sn**	**19 39 03.2**	**-0.6**
ALID	**Alaid**	**3.18**	**247**	*e*P	**Pn**	**19 38 29.3**	**+0.6**
ALID	**Alaid**	**3.18**	**247**	PN	**Pn**	**19 38 29.3**	**+0.6**
BZMR	**Bezymyannaya**	**3.76**	**3**	*e*P	**Pn**	**19 38 36.5**	**-0.2**
BZMR	**Bezymyannaya**	**3.76**	**3**	PN	**Pn**	**19 38 36.5**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**3.78**	**4**	*e*P	**Pn**	**19 38 36.6**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**3.78**	**4**	PN	**Pn**	**19 38 36.6**	**-0.3**
KIRR	**Kirishev**	**3.78**	**1**	*e*P	**Pn**	**19 38 39.6**	**+2.6**
KIRR	**Kirishev**	**3.78**	**1**	PN	**Pn**	**19 38 39.6**	**+2.6**
KPT	**Kopyto**	**3.79**	**0**	*e*P	**Pn**	**19 38 39.2**	**+2.1**
KPT	**Kopyto**	**3.79**	**0**	PN	**Pn**	**19 38 39.2**	**+2.1**
BZWR	**Bezymyannyi-We**	**3.79**	**3**	*e*P	**Pn**	**19 38 39.9**	**+2.7**
BZWR	**Bezymyannyi-We**	**3.79**	**3**	PN	**Pn**	**19 38 39.9**	**+2.7**
ESO	**Esso**	**3.85**	**347**	*e*P	**Pn**	**19 38 39.7**	**+1.9**
ESO	**Esso**	**3.85**	**347**	PN	**Pn**	**19 38 39.7**	**+1.9**
KOZ	**Kozyrevsk**	**3.89**	**357**	*e*P	**Pn**	**19 38 40.0**	**+1.7**
KOZ	**Kozyrevsk**	**3.89**	**357**	PN	**Pn**	**19 38 40.0**	**+1.7**
LGNR	**Loginova**	**3.92**	**4**	*e*P	**Pn**	**19 38 40.9**	**+1.9**
LGNR	**Loginova**	**3.92**	**4**	PN	**Pn**	**19 38 40.9**	**+1.9**
CIRR	**Tsirk**	**3.96**	**5**	*e*P	**Pn**	**19 38 41.6**	**+2.2**
CIRR	**Tsirk**	**3.96**	**5**	PN	**Pn**	**19 38 41.6**	**+2.2**
KRSR	**Krestovskiy**	**4.05**	**3**	*e*P	**Pn**	**19 38 42.5**	**+1.9**
KRSR	**Krestovskiy**	**4.05**	**3**	PN	**Pn**	**19 38 42.5**	**+1.9**
KLY	**Klyuchi**	**4.15**	**4**	*e*P	**Pn**	**19 38 44.4**	**+2.5**
KLY	**Klyuchi**	**4.15**	**4**	PN	**Pn**	**19 38 44.4**	**+2.5**
SRDR	**Sredinnyy**	**4.15**	**356**	*e*P	**Pn**	**19 38 43.4**	**+1.4**
SRDR	**Sredinnyy**	**4.15**	**356**	PN	**Pn**	**19 38 43.4**	**+1.4**
KBTR	**Krutoberegovo**	**4.32**	**20**	*e*P	**Pn**	**19 38 43.7**	**-0.5**
KBTR	**Krutoberegovo**	**4.32**	**20**	PN	**Pn**	**19 38 43.7**	**-0.5**
KBG	**Krutoberegovo**	**4.34**	**19**	*e*P	**Pn**	**19 38 44.8**	**+0.3**
KBG				*e*S	**Sn**	**19 39 35.3**	**+1.3**
KBG	**Krutoberegovo**	**4.34**	**19**	PN	**Pn**	**19 38 44.8**	**+0.3**
KBG				S	**Sn**	**19 39 35.3**	**+1.3**
BDR	**Baidarnaya**	**4.43**	**7**	*e*P	**Pn**	**19 38 48.0**	**+2.1**
BDR	**Baidarnaya**	**4.43**	**7**	PN	**Pn**	**19 38 48.0**	**+2.1**
SMKR	**Semkarok**	**4.47**	**9**	*e*P	**Pn**	**19 38 46.9**	**+0.5**
SMKR	**Semkarok**	**4.47**	**9**	PN	**Pn**	**19 38 46.9**	**+0.5**
SRKR	**Sorokina**	**4.52**	**7**	*e*P	**Pn**	**19 38 48.9**	**+1.9**
SRKR	**Sorokina**	**4.52**	**7**	PN	**Pn**	**19 38 48.9**	**+1.9**
BKI	**Bering**	**4.58**	**46**	*e*P	**Pn**	**19 38 45.2**	**-2.6**
BKI				*e*S	**Sn**	**19 39 32.5**	**-7.5**
BKI	**Bering**	**4.58**	**46**	PN	**Pn**	**19 38 45.2**	**-2.6**
PALN	**Palana**	**6.92**	**359**	*e*P	**Pn**	**19 39 23.0**	**+3.1**
PALN	**Palana**	**6.92**	**359**	PN	**Pn**	**19 39 23.0**	**+3.1**
OSSR	**Ossora**	**7.27**	**12**	*e*P	**Pn**	**19 39 26.3**	**+1.7**
OSSR	**Ossora**	**7.27**	**12**	PN	**Pn**	**19 39 26.3**	**+1.7**
TILK	**Tilichiki**	**8.92**	**19**	*e*P	**Pn**	**19 39 45.6**	**-1.6**
TILK	**Tilichiki**	**8.92**	**19**	PN	**Pn**	**19 39 45.6**	**-1.6**
MA2	**Magadan**	**9.10**	**328**	*e*Pn	**Pn**	**19 39 45.9**	**-3.8**
MA2	**Magadan**	**9.10**	**328**	⇑*e*PN	**Pn**	**19 39 52.4**	**+2.7**
MA2				pmax	pmax		
	comp=Z,14nm,2.3s						
MA2	**Magadan**	**9.10**	**328**	Pn	**Pn**	**19 39 51.9**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=134,slow=9.6,SNR=8.5						
MA2				LR	LR	19 44 11.5	
	comp=Z,2μm,18.1s,baz=144,slow=44						
OKH	**Okha**	**10.52**	**284**	*e*PN	Pn	19 40 14.0	+4.8
OKH				MLR	MLR		
	comp=Z,3μm,14.0s						
KMSK	**Kamenskaya**	**10.81**	**15**	*e*P	**Pn**	**19 40 12.6**	**-0.5**
KMSK	**Kamenskaya**	**10.81**	**15**	PN	**Pn**	**19 40 12.6**	**-0.5**
TYV	**Tymovskoe**	**11.00**	**270**	*e*PN	Pn	19 40 25.5	+10
TYV				*e*		19 42 33.7	
SEY	**Seymchan**	**11.55**	**342**	⇓*e*PN	**Pn**	**19 40 26.8**	**+3.5**
SEY	**Seymchan**	**11.55**	**342**	Pn	**Pn**	**19 40 25.1**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=137,slow=11,SNR=12						
YSS	**Yuzh-Sakhalins**	**12.45**	**252**	*e*Pn	**Pn**	**19 40 35.1**	**-0.5**
YSS	**Yuzh-Sakhalins**	**12.45**	**252**	*e*PN	**Pn**	**19 40 37.3**	**+1.6**
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**12.55**	**235**	*e*PN	Pn	19 40 42.1	+5.1
YUK				MLR	MLR		
	comp=N,999nm,18.0s						
YUK				MLR	MLR		
	comp=E,2μm,18.0s						
YUK				MLR	MLR		
	comp=Z,2μm,18.0s						
ASAJ	**Asahikawa**	**14.22**	**242**	Pn	**Pn**	**19 40 59.0**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=64,slow=13,SNR=16						
ASAJ				LR	LR	19 47 26.3	
	comp=Z,1μm,18.1s,baz=54,slow=42						
GRNR	**Gornyy**	**14.86**	**274**	*e*P	**P**	**19 41 13.5**	**-0.4**
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
ERM	**Erimo**	**15.38**	**235**	*e*Pn	**Pn**	**19 41 12.3**	**-3.1**
	comp=Z,40nm,0.9s						
ERM	**Erimo**	**15.38**	**235**	*e*P	**Pn**	**19 41 12.3**	**-3.1**
ERM				pmax	pmax		
	comp=Z,39nm,0.9s						
BILL	**Bilibino**	**16.18**	**8**	*e*Pn	**Pn**	**19 41 25.5**	**0.0**
	comp=Z,31nm,0.9s						
BILL	**Bilibino**	**16.18**	**8**	⇓*e*P	**Pn**	**19 41 26.4**	**+0.9**
BILL				pmax	pmax		
	comp=Z,39nm,1.0s						
BILL				MLR	MLR		
	comp=Z,1μm,19.0s						
TEY	**Ternei**	**17.10**	**255**	⇓*e*P	**P**	**19 41 39.1**	**+0.3**
TEY				pmax	pmax		
	comp=E,30nm,0.8s						
TEY				pmax	pmax		
	comp=Z,20nm,0.9s						
KLR	**Kul'dur**	**18.20**	**272**	⇑*e*P	**P**	**19 41 51.7**	**+0.9**
KLR				pmax	pmax		
	comp=Z,18nm,0.9s						
KLR	**Kul'dur**	**18.20**	**272**	P	**P**	**19 41 51.3**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=53,slow=9.1,SNR=28						
KLR				LR	LR	19 49 50.9	
	comp=Z,1μm,18.7s,baz=74,slow=40						
YAK	**Yakutsk**	**19.09**	**313**	*c i*P	**P**	**19 41 58.9**	**-1.6**
YAK				*e*S	Sn	19 45 19.3	-15
YAK				pmax	pmax		
	comp=Z,315nm,0.8s						
YAK				pmax	pmax		
	comp=N,28nm,0.8s						
YAK				pmax	pmax		
	comp=E,271nm,0.9s						
YAK				pmax	pmax		
	comp=Z,604nm,1.6s						
YAK				pmax	pmax		
	comp=N,214nm,1.3s						
YAK				pmax	pmax		
	comp=E,461nm,1.4s						
YAK				smax	smax		
	comp=N,94nm,2.0s						
YAK				smax	smax		
	comp=E,148nm,2.1s						
ZEA	**Zeya**	**19.80**	**288**	*e*P	**P**	**19 42 07.3**	**-1.1**
ZEA				pmax	pmax		
	comp=E,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA				MLR	MLR		
	comp=N,700nm,14.0s						
ZEA				MLR	MLR		
	comp=E,2μm,14.0s						
ZEA				MLR	MLR		
	comp=Z,4μm,14.0s						
USA0B	**Ussuriysk Arra**	**20.32**	**258**	*e*P	**P**	**19 42 11.6**	**-2.4**
	comp=Z,45nm,1.1s						
USRK	**Ussuriysk Ar.**	**20.32**	**258**	*e*P	**P**	**19 42 11.3**	**-2.7**
USRK	**Ussuriysk Ar.**	**20.32**	**258**	P	**P**	**19 42 11.9**	**-2.2**
	comp=Z,33nm,1.0s,baz=63,slow=9.6,SNR=23						
USRK				LR	LR	19 50 02.7	
	comp=Z,666nm,21.4s,baz=55,slow=37						
MDJ	**Mudanjiang**	**21.55**	**262**	P	**P**	**19 42 25.8**	**-1.5**
MDJ				pmax	pmax		
	comp=Z,28nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,140nm,2.8s						
MDJ				LR	LR		
	comp=Z,2μm,19.8s						
MDJ				LR	LR		
	comp=Z,720nm,20.6s						
MDJ				LR	LR		
	comp=Z,740nm,16.8s						
MDJ	**Mudanjiang**	**21.55**	**262**	*e*P	**P**	**19 42 25.0**	**-2.3**
	comp=Z,24nm,1.0s						
ANM	**Nome**	**21.57**	**42**	*e*P	**P**	**19 42 30.4**	**+3.1**
	comp=Z,69nm,1.6s						
ANM	**Nome**	**21.57**	**42**	*e*P	**P**	**19 42 30.4**	**+3.1**
ANM				pmax	pmax		
	comp=Z,69nm,1.6s						
MSHR	**Mys Shultsa**	**21.74**	**255**	⇓*e*P	**P**	**19 42 29.8**	**+0.4**
MJB9	**Matsu-Tunnel**	**22.03**	**233**	*e*P	**P**	**19 42 33.0**	**+0.4**
	comp=Z,67nm,1.1s						
MAJO	**Matsushiro**	**22.03**	**233**	*e*P	**P**	**19 42 32.9**	**+0.3**
	comp=Z,68nm,1.1s						
MAJO	**Matsushiro**	**22.03**	**233**	*d i*P	**P**	**19 42 32.9**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,32nm,0.8s						
MAT	**Matsushiro**	**22.03**	**233**	P	**P**	**19 42 32.2**	**-0.4**
MAT				S	Sn	19 46 42.8	-2.5
MJAR	**Matsushiro Arr**	**22.03**	**233**	*e*P	**P**	**19 42 32.7**	**+0.1**
MJAR	**Matsushiro Arr**	**22.03**	**233**	*e*P	**P**	**19 42 32.7**	**+0.1**
MJAR	**Matsushiro Arr**	**22.03**	**233**	P	**P**	**19 42 32.9**	**+0.3**
	comp=Z,18nm,0.9s,baz=23,slow=9.5,SNR=43						
MJAR				LR	LR	19 51 39.2	
	comp=Z,872nm,21.1s,baz=30,slow=38						
INU	**Inuyama**	**23.57**	**234**	*e*P	**P**	**19 42 48.8**	**+0.4**
	comp=Z,27nm,0.8s						
TIXI	**Tiksi**	**23.93**	**336**	*e*P	**P**	**19 42 49.7**	**-1.8**
TIXI	**Tiksi**	**23.93**	**336**	⇑*e*P	**P**	**19 42 49.9**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,54nm,1.3s						
TIXI	**Tiksi**	**23.93**	**336**	P	**P**	**19 42 50.5**	**-1.1**
	comp=Z,22nm,0.6s,baz=122,slow=11,SNR=141						
JHJ	**Hachijo jima 2**	**24.10**	**226**	LR	LR	19 52 48.4	
	comp=Z,75nm,18.9s,baz=88,slow=38						
CN2	**Changchun**	**24.51**	**264**	*e*P	**P**	**19 42 54.6**	**-2.6**
CN2				*ep*P	pP	19 43 00.1	-5.0
CN2				*e*S	**S**	**19 47 07.8**	**-7.8**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,650nm,14.0s						
CN2				LR	LR		
	comp=Z,800nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
SVW2	**Sparrevohn**	**25.44**	**52**	*e*P	**P**	**19 43 08.6**	**+3.2**
	comp=Z,16nm,1.4s						
HIA	**Hailar**	**25.53**	**280**	*e*P	**P**	**19 43 05.2**	**-1.2**
	comp=Z,51nm,0.8s						
HIA	**Hailar**	**25.53**	**280**	*d i*P	**P**	**19 43 05.2**	**-1.2**
HIA				pmax	pmax		
	comp=Z,264nm,0.9s						
BOD	**Bodaibo**	**26.64**	**301**	*e*P	**P**	**19 43 14.4**	**-1.9**
BOD				pmax	pmax		
	comp=Z,19nm,1.2s						
IMAR	**Indian Mountai**	**26.65**	**41**	*e*P	**P**	**19 43 16.2**	**-0.1**
RSO	**Redoubt South**	**26.84**	**53**	*e*P	**P**	**19 43 25.2**	**+6.9**
OHAK	**Old Harbor**	**26.92**	**61**	*e*P	**P**	**19 43 22.8**	**+4.0**
	comp=Z,16nm,1.0s						
KSRS	**Korea Array**	**26.93**	**250**	P	**P**	**19 43 20.7**	**+1.6**
	comp=Z,7.0nm,0.9s,baz=40,slow=9.8,SNR=22						
KS15	**Wonju Array Si**	**26.97**	**250**	*e*P	**P**	**19 43 18.7**	**-0.7**
	comp=Z,30nm,1.1s						
KSAR	**Wonju Array Be**	**26.97**	**250**	*e*P	**P**	**19 43 18.8**	**-0.6**
CAST	**Castle Rocks**	**27.12**	**47**	*e*P	**P**	**19 43 26.1**	**+5.4**
	comp=Z,5.6nm,1.1s						
KDAK	**Kodiak Island**	**27.21**	**59**	*e*P	**P**	**19 43 25.1**	**+3.7**
	comp=Z,25nm,1.1s						
BPAW	**Bear Paw Mtn.**	**27.64**	**45**	*e*P	**P**	**19 43 28.2**	**+3.0**
	comp=Z,4.5nm,0.8s						
MLY	**Manley**	**27.79**	**43**	*e*P	**P**	**19 43 32.4**	**+5.7**
	comp=Z,4.1nm,1.0s						
BRLK	**Bradley Lake**	**27.83**	**55**	*e*P	**P**	**19 43 32.5**	**+5.5**
	comp=Z,9.2nm,1.0s						
TJN	**Taejon**	**28.00**	**249**	⇓*e*P	**P**	**19 43 29.9**	**+1.2**
JNU	**Nakatsue**	**28.46**	**240**	*e*P	**P**	**19 43 33.3**	**+0.4**
	comp=Z,32nm,0.9s						
JNU	**Nakatsue**	**28.46**	**240**	P	**P**	**19 43 32.4**	**-0.5**
	comp=Z,11nm,0.9s,baz=18,slow=3.2,SNR=3.9						
SEW	**Seward**	**28.51**	**54**	*e*P	**P**	**19 43 36.2**	**+3.3**
	comp=Z,29nm,1.5s						
TOLK	**Toolik Lake Re**	**28.67**	**36**	*e*P	**P**	**19 43 35.2**	**+0.8**
	comp=Z,5.8nm,0.9s						
MDM	**Murphy Dome**	**28.85**	**44**	*e*P	**P**	**19 43 38.3**	**+2.3**
	comp=Z,6.9nm,1.2s						
KNK	**Knik Glacier**	**28.87**	**51**	*e*P	**P**	**19 43 39.7**	**+3.5**
	comp=Z,16nm,1.3s						
SML

SONM LR LR 20 00 09.8
comp=Z,2µm,18.0s,baz=87,slow=40
TIA Tai'an 34.18 259 P **P 19 44 23.9 +0.8**
TIA pmax pmax
comp=Z,28nm,0.9s
TIA pmax pmax
comp=Z,50nm,3.8s
TIA LR LR
comp=Z,200nm,23.7s
TIA LR LR
comp=Z,550nm,22.8s
TIA LR LR
comp=Z,390nm,20.5s
INK Inuvik 34.56 37 *e*P **P 19 44 25.4 -0.6**
comp=Z,7.0nm,1.1s
INK Inuvik 34.56 37 P **P 19 44 23.9 -2.2**
comp=Z,1.4nm,0.7s,baz=278,slow=7.9,SNR=9.1
HHC Hu-ho-hao-te 34.70 271 *e*P **P 19 44 27.0 -0.6**
HHC S **S 19 49 54.4 -1.2**
HHC pmax pmax
comp=Z,90nm,0.8s
HHC pmax pmax
comp=Z,320nm,4.7s
HHC LR LR
comp=Z,1µm,13.1s
HHC LR LR
comp=Z,680nm,13.5s
HHC LR LR
comp=Z,1µm,12.7s
ZAK Zakamensk 34.86 290 *e*P **P 19 44 27.8 -1.1**
ZAK pmax pmax
comp=Z,16nm,1.0s
WHY Whitehorse 35.49 50 *e*P **P 19 44 38.2 +3.9**
comp=Z,12nm,1.4s
MOY Mondy 35.62 293 *e*P **P 19 44 34.9 -0.6**
MOY pmax pmax
comp=Z,26nm,1.3s
NJ2 Nanjing 36.02 252 *e*P **P 19 44 38.6 -0.4**
NJ2 pmax pmax
comp=Z,17nm,0.9s
NJ2 LR LR
comp=Z,690nm,17.2s
NJ2 LR LR
comp=Z,530nm,15.2s
NJ2 LR LR
comp=Z,650nm,17.7s
NRIK Noril'sk 36.69 325 LR LR 20 01 20.8
comp=Z,1µm,18.2s,baz=56,slow=39
KRAR Krasnoyarsk 38.24 303|| *e*P **P 19 44 54.6 -3.0**
DLBC Dease Lake 38.55 52 *e*P **P 19 45 01.3 +1.0**
comp=Z,8.8nm,1.0s
DLBC Dease Lake 38.55 52 P **P 19 45 00.8 +0.5**
comp=Z,1.4nm,0.7s,baz=336,slow=20,SNR=2.6
XAN Xi'an 40.62 264 P P 19 45 25.1 +7.4
XAN pP sP 19 45 39.3 +10
XAN PP PP 19 47 04.0 +13
XAN S **S 19 51 27.5 +2.1**
XAN SS **SS 19 54 27.8 +1.9**
XAN ScS **ScS 19 55 22.6 +1.7**
LZH Lanzhou 42.39 271 *e*P **P 19 45 32.8 +0.4**
LZH pP pP 19 45 38.9 -1.6
LZH sP pwP 19 45 41.9 -1.8
LZH SS SS 19 54 54.3 -6.8
LZH pmax pmax
comp=Z,18nm,1.2s
LZH LR LR
comp=Z,740nm,18.4s
LZH LR LR
comp=Z,740nm,18.2s
LZH LR LR
comp=Z,940nm,18.4s
GTA Gaotai 42.77 277 *e*P **P 19 45 35.1 -0.2**
GTA pP pP 19 45 39.3 -4.2
GTA sP pwP 19 45 42.6 -4.1
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,65nm,6.0s
GTA LR LR
comp=Z,900nm,15.9s
GTA LR LR
comp=Z,740nm,13.7s
GTA LR LR
comp=Z,1µm,17.1s
ENH Enshi 42.89 260 *e*P **P 19 45 35.5 -0.7**
comp=Z,40nm,1.1s
ZAA0 Zalesovo Array 43.32 304 *e*P **P 19 45 36.8 -2.6**
comp=Z,6.3nm,0.9s
ZALV Zalesovo Beam 43.32 304 *e*P **P 19 45 36.5 -2.9**
ZALV Zalesovo Beam 43.32 304 P **P 19 45 37.4 -2.0**
comp=Z,5.9nm,0.8s,baz=60,slow=6.6,SNR=25
ZALV LR LR 20 05 13.0
comp=Z,737nm,18.6s,baz=70,slow=38
NVS Novosibirsk 43.68 305|| *i*P **P 19 45 41.0 -1.3**
NVS *i* *PP **pP 19 45 51.6 +1.0**
NVS *i* S **S 19 52 07.4 -2.5**
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=Z,41nm,0.9s
NVS pmax pmax
comp=E,5.0nm,1.0s
NVS smax smax
comp=N,3.0nm,1.0s
NVS smax smax
comp=E,5.0nm,1.0s
YKA Yellowknife Ar 43.80 42 P **P 19 45 41.9 -1.3**
comp=E,0.9nm,0.8s,baz=300,slow=7.9,SNR=8.2
DGZ Jazzator, Alta 44.12 297*c i*P **P 19 45 45.5 -0.7**
DGZ pmax pmax
comp=Z,12nm,0.8s
RES Resolute Bay 44.15 22 *e*P **P 19 45 46.0 +0.2**
comp=Z,5.0nm,0.8s
RES Resolute Bay 44.15 22 P **P 19 45 46.2 +0.4**
comp=Z,3.9nm,0.8s,baz=294,slow=10,SNR=8.8
CD2 Chengdu 45.94 265 P **P 19 45 58.9 -1.7**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,1µm,22.2s
CD2 LR LR
comp=Z,940nm,21.0s
WMQ Urumqi 47.33 290 P **P 19 46 11.1 -0.3**
WMQ pP pP 19 46 15.6 -4.1
WMQ sP pwP 19 46 19.3 -3.6
WMQ pmax pmax
comp=Z,85nm,1.1s
WMQ pmax pmax
comp=Z,400nm,4.3s
WMQ LR LR
comp=Z,2µm,15.7s
WMQ LR LR
comp=Z,3µm,16.1s
WMQ LR LR
comp=Z,3µm,15.1s
WMQ Urumqi 47.33 290 *e*P **P 19 46 10.0 -1.4**
comp=Z,29nm,1.0s
KBS Kingsbay 47.79 352 *e*P **P 19 46 15.2 +0.8**
comp=Z,40nm,0.9s
KBS Kingsbay 47.79 352*ce*P **P 19 46 14.8 +0.4**
KBS pmax pmax
comp=Z,35nm,0.7s
KBS Kingsbay 47.79 352 *e*P **P 19 46 15.0 +0.6**
SPA0 Spitsbergen Ar 48.04 351 *e*P **P 19 46 16.8 +0.4**
comp=Z,46nm,0.8s
SPA0 Spitsbergen Ar 48.04 351 *e*P **P 19 46 16.9 +0.4**
SPITS Spitsbergen Jr 48.04 351 P **P 19 46 16.7 +0.2**
comp=Z,14nm,0.5s,baz=60,slow=8.7,SNR=68
KURK Kurchatov 48.26 303 *e*P **P 19 46 16.8 -1.7**
comp=Z,40nm,0.9s
KURK Kurchatov 48.26 303*c i*P **P 19 46 16.6 -1.9**
KURK pmax pmax
comp=Z,49nm,1.0s
KURK Kurchatov 48.26 303 P **P 19 46 17.0 -1.5**
SNR=20
KURK P **P 19 46 17.0 -1.5**
SNR=20
KURBB Kurchatov Arra 48.36 303 P **P 19 46 17.5 -1.7**
comp=Z,22nm,0.8s,baz=60,slow=7.7,SNR=141
MK31 Makanchi Array 48.60 296 *e*P **P 19 46 19.4 -1.8**
comp=Z,21nm,1.4s
MKAR Makanchi Array 48.60 296 *e*P **P 19 46 19.5 -1.7**
MKAR Makanchi Array 48.60 296 P **P 19 46 19.7 -1.5**
comp=Z,5.5nm,0.5s,baz=57,slow=6.9,SNR=107
MKAR LR LR 20 08 13.3
comp=Z,420nm,20.0s,baz=48,slow=38

MAKZ Makanchi 48.77 297 *e*P **P 19 46 20.4 -2.1**
comp=Z,17nm,1.0s
HSPB Hornsund (broa 49.17 350 *e*P **P 19 46 24.8 -0.3**
F07A Phinny Hill Vi 50.25 63 *e*P P 19 46 38.7 +5.0
comp=Z,11nm,0.8s
KMI Kunming 50.72 261 P **P 19 46 38.1 +0.3**
KMI pmax pmax
comp=Z,12nm,0.5s
BVAR Borovoye Array 51.00 309 P **P 19 46 37.9 -1.4**
comp=Z,17nm,0.5s,baz=59,slow=7.9,SNR=164
BRVK Borovoye 51.03 309 *e*P **P 19 46 37.6 -1.9**
comp=Z,27nm,0.7s
BRVK Borovoye 51.03 309*c i*P **P 19 46 37.6 -1.9**
BRVK pmax pmax
comp=Z,26nm,0.7s
BRVK Borovoye 51.03 309 P **P 19 46 38.0 -1.5**
SNR=15
BRVK P **P 19 46 38.0 -1.5**
SNR=15
QIZ Qiongzhong 51.16 249 P **P 19 46 42.0 +1.1**
QIZ S **S 19 53 59.4 +2.4**
QIZ pmax pmax
comp=Z,150nm,4.5s
QIZ LR LR
comp=Z,330nm,13.7s
QIZ LR LR
comp=Z,280nm,15.7s
QIZ LR LR
comp=Z,250nm,18.6s
MOD Modoc Plateau 52.56 68 *e*P P 19 46 56.3 +5.0
comp=Z,21nm,1.5s
SLVN Son La 52.87 257 *e*P **P 19 46 54.0 +0.4**
comp=Z,15nm,1.0s
MSO Missoula 52.90 59 *e*P **P 19 46 57.4 +3.8**
comp=Z,6.3nm,1.1s
SVE Sverdlovsk 52.98 317 *e*P **P 19 46 54.0 +0.1**
SVE pmax pmax
comp=Z,13nm,1.0s
LVZ Lovozero 53.56 337 *e*P **P 19 46 57.3 -0.8**
comp=Z,24nm,1.0s
LVZ Lovozero 53.56 337|| *e*P **P 19 46 57.3 -0.8**
LVZ pmax pmax
comp=Z,63nm,2.5s
HAMF Hammerfest 53.56 343 *e*P **P 19 46 56.0 -2.0**
FFC Flin Flon 53.62 46 *i* P **P 19 46 59.2 +0.5**
KEV Kevo 53.70 342 *e*P **P 19 46 58.5 -0.5**
comp=Z,86nm,1.8s
ARU Arti 54.10 318 *e*P **P 19 47 01.0 -1.2**
comp=Z,17nm,0.8s
ARU Arti 54.10 318*c i*P **P 19 47 00.5 -1.7**
ARU 19 48 03.3
ARU 19 48 59.6
ARU S **S 19 54 32.5 -3.9**
ARU pmax pmax
comp=Z,18nm,0.8s
ARU MLR MLR
comp=Z,483nm,17.0s
ARU Arti 54.10 318 P **P 19 47 01.4 -0.8**
comp=Z,8.3nm,0.7s,baz=49,slow=2.4,SNR=34
FCC Fort Churchill 54.16 38 *e*P **P 19 47 04.2 +1.7**
comp=Z,4.9nm,0.8s
ARCES ARCESS Array B 54.17 342 *e*P **P 19 47 01.5 -1.0**
ARCES ARCESS Array B 54.17 342 *e*P **P 19 47 01.5 -1.0**
ARCES ARCESS Array B 54.17 342 P **P 19 47 02.0 -0.5**
comp=Z,9.7nm,0.8s,baz=43,slow=8.5,SNR=18
ARE0 ARCESS Array S 54.17 342 *e*P **P 19 47 02.1 -0.4**
comp=Z,2.2nm,1.4s
ARE0 ARCESS Array S 54.17 342 *e*P **P 19 47 01.9 -0.6**
KDJ Kajisay 54.38 295 *e*P **P 19 47 04.1 -0.6**
comp=Z,26nm,0.9s
LSA Lhasa 54.54 274 *e*P **P 19 47 04.3 -2.0**
comp=Z,8.3nm,0.8s
TKM2 Tokmak 2 54.73 296 P **P 19 47 06.0 -1.3**
SNR=7.1
BOOM Boomskoye usch 54.83 296 *e*P **P 19 47 06.1 -1.8**
comp=Z,28nm,1.2s
SUMG Summit 54.86 7 *e*P **P 19 47 08.1 +0.1**
comp=Z,23nm,0.9s
BOZ Bozeman (W) 54.92 59 *e*P P 19 47 15.2 +6.7
comp=Z,4.1nm,0.9s
KTK1 Kautokeino 55.04 343 *e*P **P 19 47 09.0 +0.2**
USP Ospenovka 55.11 297 P **P 19 47 09.1 -0.6**
SNR=14
CHMS Chumysh 55.15 297 P **P 19 47 09.5 -0.5**
SNR=5.7
PRGR Permogore 55.24 328 *e*P **P 19 47 09.7 -0.6**
PRGR *e* 19 47 19.6
PRGR pmax pmax
comp=Z,14nm,0.6s
TRO Tromso 55.25 345 *e*P **P 19 47 09.9 -0.4**
KBK Karagaybulak 55.27 297 P **P 19 47 10.1 -1.0**
SNR=9.6
BMN Battle Mountai 55.28 67 *e*P **P 19 47 15.3 +4.1**
comp=Z,6.1nm,0.9s
FRU1 Bishkek 55.34 297 *e*P **P 19 47 10.4 -1.0**
comp=Z,21nm,0.8s
NRN Naryn 55.50 295 *e*P **P 19 47 09.7 -3.2**
comp=Z,6.6nm,1.0s
AAK Ala-Archa 55.53 297 P **P 19 47 12.3 -0.7**
SNR=9.0
AAK Ala-Archa 55.53 297 *e*P **P 19 47 11.0 -2.0**
comp=Z,14nm,1.0s
AAK Ala-Archa 55.53 297 *i* P **P 19 47 11.8 -1.2**
SNR=12
AAK Ala-Archa 55.53 297*c i*P **P 19 47 11.9 -1.0**
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 55.53 297 P **P 19 47 11.2 -1.7**
AAK P **P 19 47 11.2 -1.7**
AAK Ala-Archa 55.53 297 P **P 19 47 12.1 -0.8**
comp=Z,10nm,0.9s,baz=104,slow=4.1,SNR=28
TMCR Tamitsa 55.62 333 *e*P **P 19 47 12.8 -0.2**
TMCR pmax pmax
comp=Z,55nm,1.0s
PANO Nakornpanom 55.68 253 P **P 19 47 16.3 +2.2**
comp=Z,0.5nm,0.9s,comp=Z,440nm
KVN Kaiserville 55.70 69 *e*P P 19 47 20.9 +6.6
comp=Z,6.2nm,1.1s
YHB Horse Butte 55.71 60 *e*P P 19 47 19.1 +4.8
comp=Z,7.4nm,1.2s
RYN Ryan 55.75 70 *e*P **P 19 47 18.9 +4.4**
comp=Z,6.7nm,1.1s
YHH Holmes Hill 55.87 59 *e*P **P 19 47 19.5 +4.0**
comp=Z,2.3nm,0.8s
EKS2 Erkin-Say 55.91 297 P **P 19 47 15.0 -0.6**
SNR=8.2
NVAR Mina Array Bea 56.01 70 P **P 19 47 16.6 +0.1**
comp=Z,0.8nm,0.5s,baz=292,slow=8.4,SNR=4.8
NVAR LR LR 20 09 35.2
comp=Z,56nm,18.8s,baz=290,slow=34
YFT Old Faithful 56.10 60 *e*P **P 19 47 20.4 +3.3**
comp=Z,4.1nm,0.7s
KIRV Kirov 56.16 324 P **P 19 47 17.1 +0.2**
comp=Z,16nm,0.5s,baz=11,slow=3.7,SNR=6.6
SKNT Sakolnakorn 56.19 253 P **P 19 47 19.1 +1.4**
comp=Z,34nm,1.1s
RLMT Red Lodge 56.48 58 *e*P **P 19 47 22.7 +2.9**
comp=Z,5.5nm,0.9s
PAYA Payao 56.80 259 P **P 19 47 23.6 +1.5**
comp=Z,55µm,0.8s,comp=Z,405µm
KSH Kashi 56.81 293 P **P 19 47 24.6 +2.5**
KSH PP **PP 19 49 31.6 +3.4**
KSH pmax pmax
comp=Z,220nm,5.2s
KSH LR LR
comp=Z,350nm,9.3s
KSH LR LR
comp=Z,350nm,10.8s
KSH LR LR
comp=Z,790nm,13.5s
SHL Shillong 57.05 270 *e*P **P 19 47 22.1 -1.9**
comp=Z,11nm,0.8s
PHRA Phrae 57.24 258 P **P 19 47 26.7 +1.5**
comp=Z,4.5nm,1.2s,comp=Z,112nm
ARSB Arslanbob 57.25 297 *e*P **P 19 47 24.1 -1.1**
comp=Z,12nm,0.9s
SPUT South Promonto 57.35 63 *e*P P 19 47 31.5 +5.6
comp=Z,7.9nm,1.0s
KHON Khonkaen 57.37 254 P **P 19 47 28.0 +1.9**
comp=Z,32µm,1.0s
KK31 Karatay Array 57.38 300 *e*P **P 19 47 24.3 -1.6**
comp=Z,8.6nm,0.8s
KKAR Karatay Array 57.38 300 *e*P **P 19 47 24.1 -1.8**
KKAR *e*P **P 19 47 24.5 -1.4**
KKAR *e*PcP **PcP 19 48 22.5 +3.0**
LOF Lofoten 57.46 346 *e*P **P 19 47 25.4 -0.6**
LAMP Lampang 57.58 258 P **P 19 47 29.3 +1.7**
comp=Z,39µm,0.9s,comp=Z,337µm
R11A Troy Canyon, C 57.62 68 *e*P P 19 47 35.0 +7.1
comp=Z,4.7nm,1.3s
UTTA Uttaradit 57.63 257 P **P 19 47 29.3 +1.4**
comp=Z,35µm,1.2s,comp=Z,270µm
KLMR Klimovskoe 57.77 330 *e*P **P 19 47 27.1 -1.2**
KLMR pmax pmax
comp=Z,25nm,1.0s
CMMT Chiang Mai 57.77 259 P **P 19 47 29.9 +0.9**
comp=Z,14nm,0.9s
CHTO Chiang Mai 57.78 259 *e*P **P 19 47 29.6 +0.6**
comp=Z,23nm,0.9s
CHTO Chiang Mai 57.78 259 P **P 19 47 30.1 +1.1**
SNR=6.0
CHTO P **P 19 47 30.1 +1.1**
SNR=6.0
DUG Dugway, Tooele 57.91 65 *e*P **P 19 47 33.8 +3.9**
comp=Z,19nm,1.8s
BW06 Boulder Array 57.92 60 *e*P **P 19 47 32.6 +2.6**
comp=Z,5.2nm,0.9s
PD31 Pinedale Array 57.92 60 *e*P **P 19 47 32.1 +2.1**
comp=Z,5.2nm,0.9s
PDAR Pinedale Array 57.92 60 *e*P **P 19 47 29.8 -0.2**
PDAR Pinedale Array 57.92 60 P **P 19 47 30.1 +0.1**
comp=Z,1.0nm,0.8s,baz=336,slow=3.3,SNR=7.0
CM31 Chiang Mai Arr 58.05 259 *e*P **P 19 47 32.2 +1.4**
comp=Z,21nm,0.9s
CM31 Chiang Mai Arr 58.05 259 P **P 19 47 31.6 +0.7**
CMAR Chiang Mai Arr 58.05 259 *e*P **P 19 47 31.6 +0.7**
CMAR Chiang Mai Arr 58.05 259 P **P 19 47 32.1 +1.2**
comp=Z,10nm,0.8s,baz=25,slow=7.1,SNR=68
CMAR LR LR 20 15 02.3
comp=Z,222nm,18.9s,baz=55,slow=39
TPNV Topopah Spring 58.21 69 *e*P **P 19 47 34.5 +2.5**
comp=Z,5.7nm,0.7s
CHAI Chaiyaphum 58.21 254 P **P 19 47 33.6 +1.6**
comp=Z,22µm,1.0s
PBKT Sadao Pong 58.29 256 P **P 19 47 34.5 +2.0**
comp=Z,5.6nm,1.1s
ABKAR Akbulak array 58.43 311 *e*P **P 19 47 30.9 -2.2**
ABKAR *e*P **P 19 47 31.2 -1.9**
PSUT Pine Spring 58.48 67 *e*P P 19 47 39.0 +5.1
comp=Z,2.9nm,0.9s
AKTO Aktyubinsk 58.48 313 P **P 19 47 32.4 -1.1**
comp=Z,6.2nm,0.8s,baz=68,slow=6.9,SNR=11
NLU North Lily Min 58.49 64 *e*P **P 19 47 37.1 +3.1**
comp=Z,3.8nm,1.0s
JIRN Jiri 59.04 276 *e*P **P 19 47 37.6 -0.5**
comp=Z,29nm,0.8s
RAMN Ramite 59.30 275 *e*P **P 19 47 39.3 -0.5**
comp=Z,40nm,0.6s
BTK Batken 59.31 297 *e*P **P 19 47 38.4 -1.1**
comp=Z,22nm,0.8s
MSU Marysvale 59.44 66 *e*P **P 19 47 41.9 +1.3**
KKN Kakani 59.50 277 *e*P **P 19 47 40.9 -0.2**
comp=Z,28nm,0.7s
PKI Pulchoki 59.58 277 *e*P **P 19 47 41.3 -0.5**
comp=Z,23nm,0.7s
PKIN Phulchoki 59.58 277 *e*P **P 19 47 41.3 -0.5**
comp=Z,18nm,0.7s
DMN Daman 59.74 277 *e*P **P 19 47 42.6 -0.2**
comp=Z,43nm,0.7s
GKN Gorkha 59.74 278 *e*P **P 19 47 42.3 -0.4**
comp=Z,34nm,0.8s
UMPA Umpang Tak 59.84 257 P **P 19 47 47.0 +3.7**
comp=Z,54µm,0.9s,comp=Z,427µm
RSSD Black Hills 59.87 56 *e*P **P 19 47 44.6 +1.1**
comp=Z,8.7nm,0.8s
LCMT Little Creek M 59.88 67 *e*P **P 19 47 46.9 +3.3**
comp=Z,3.4nm,0.8s
RWWY Rawlins 59.93 60 *e*P **P 19 47 46.3 +2.4**
comp=Z,6.5nm,1.1s
SRU San Rafael Swe 59.94 64 *e*P **P 19 47 46.5 +2.5**
comp=Z,7.7nm,1.0s
DANN Dangsing 60.02 278 *e*P **P 19 47 44.5 -0.3**
comp=Z,48nm,0.7s
KNB Kanab 60.12 67 *e*P P 19 47 50.7 +5.4
comp=Z,6.8nm,1.1s
GAR Garm 60.33 296 *e*P **P 19 47 45.3 -1.2**
comp=Z,39nm,0.9s
O20A White River Ci 60.47 62 *e*P **P 19 47 50.1 +2.5**
comp=Z,9.0nm,1.1s
KOLN Koldanda 60.54 278 *e*P **P 19 47 47.8 -0.5**
comp=Z,29nm,0.7s
PYUN Piuthan 60.67 279 *e*P **P 19 47 48.7 -0.5**
comp=Z,34nm,0.7s
FIA1 FINESS Array S 60.98 337 *e*P **P 19 47 50.3 -0.2**
comp=Z,31nm,0.9s
FINES FINESS Array B 60.98 337 *e*P **P 19 47 50.1 -0.3**
FINES FINESS Array B 60.98 337 P **P 19 47 50.5 0.0**
comp=Z,17nm,0.7s,baz=42,slow=8.8,SNR=55
FINES LR LR 20 18 12.1
comp=Z,294nm,18.6s,baz=24,slow=40
NSS Namsos 61.04 345 *e*P **P 19 47 51.2 +0.4**
N23A Red Feather La 61.16 60 *e*P **P 19 47 56.2 +3.8**
comp=Z,30nm,1.8s
PV21 Cone Mtn., Par 61.18 63 *e*P **P 19 47 57.0 +4.5**
comp=Z,4.9nm,1.0s
CHGR Chuyangaron 61.21 297 *e*P **P 19 47 53.5 +1.0**
comp=Z,16nm,0.7s
PV14 Lion Creek, Pa 61.29 64 *e*P **P 19 47 57.3 +4.1**
comp=Z,5.6nm,1.0s
PV22 Blue Mesa, Par 61.30 63 *e*P **P 19 47 56.6 +3.3**
comp=Z,11nm,1.4s
PV04 Paradox Valley 61.34 64 *e*P **P 19 47 56.2 +2.7**
comp=Z,8.8nm,1.0s
PV20 West Nyswonger 61.34 64 *e*P **P 19 47 57.3 +3.7**
comp=Z,11nm,1.3s
PV17 East Wray Mesa 61.39 64 *e*P **P 19 47 54.9 +1.0**
comp=Z,8.0nm,0.9s
PV16 Nyswonger Mesa 61.39 64 *e*P **P 19 47 55.6 +1.6**
comp=Z,11nm,1.3s
PV11 David Mesa, Pa 61.42 64 *e*P **P 19 47 56.3 +2.2**
comp=Z,9.4nm,0.9s
PV18 Skein Mesa, Pa 61.44 64 *e*P **P 19 47 56.9 +2.6**
comp=Z,9.1nm,1.1s
PV07 Paradox Valley 61.45 63 *e*P **P 19 47 57.4 +3.1**
comp=Z,4.1nm,0.8s
PV12 Saucer Basin, 61.45 64 *e*P **P 19 47 57.2 +2.9**
comp=Z,15nm,1.4s
Y12C Blythe 61.46 71 *e*P **P 19 47 56.6 +2.4**
comp=Z,7.4nm,1.3s
PV03 Paradox Valley 61.47 64 *e*P **P 19 47 58.6 +4.2**
comp=Z,8.2nm,1.2s
PV13 Radium Mtn., P 61.55 64 *e*P **P 19 47 57.2 +2.2**
comp=Z,8.0nm,0.9s
PV02 Paradox Valley 61.56 64 *e*P **P 19 47 56.5 +1.4**
comp=Z,7.1nm,1.2s
PV01 Paradox Valley 61.71 64 *e*P **P 19 47 57.7 +1.6**
comp=Z,24nm,1.9s
GLA Glamis 61.78 72 *e*P **P 19 47 59.2 +2.8**
comp=Z,6.7nm,0.8s
SMCO Snowmass 61.84 62 *e*P **P 19 47 59.6 +2.4**
comp=Z,4.1nm,1.0s
WUAZ Wupatki 62.01 67 *e*P **P 19 47 57.4 -0.7**
comp=Z,9.9nm,1.5s
ISCO Idaho Springs 62.12 60 *e*P **P 19 48 01.5 +2.6**
comp=Z,4.0nm,0.8s
Y14A Wickenburg 62.20 70 *e*P **P 19 48 01.8 +2.5**
comp=Z,4.9nm,1.1s
MVCO Mesa Verde 62.41 64 *e*P **P 19 48 03.1 +2.3**
comp=Z,4.7nm,0.9s
MOS Moscow 62.45 327 *e*P **P 19 47 58.1 -2.4**
MOS *e* 19 48 09.9
MOS pmax pmax
comp=Z,28nm,0.9s
NIL Nilore 62.48 290 *e*P **P 19 48 00.5 -0.6**
comp=Z,46nm,1.0s
113A Mohawk Valley, 62.60 71 *e*P P 19 48 07.7 +5.8
comp=Z,14nm,1.8s
X16A Lo Mia Camp, P 62.76 68 *e*P **P 19 48 07.5 +4.3**
comp=Z,2.5nm,0.8s
S22A 4UR Ranch, Cre 62.94 63 *e*P **P 19 48 08.8 +4.3**
comp=Z,6.5nm,1.3s
OBN Obninsk 63.31 328 *e*P **P 19 48 05.7 -0.4**
comp=Z,39nm,0.4s
OBN Obninsk 63.31 328*d i*P **P 19 48 06.1 -0.1**
OBN *i* *PP **pwP 19 48 16.4 -1.0**
OBN S **S 19 56 32.0 -3.9**
OBN SSS SSS 20 03 34.0
OBN pmax pmax
comp=Z,58nm,2.5s
OBN MLR MLR
comp=Z,236nm,15.0s
OBN Obninsk 63.31 328 P **P 19 48 05.9 -0.3**
comp=Z,3.6nm,0.4s,baz=20,slow=5.0,SNR=6.6
VSU Vasula 63.40 335*c i*P **P 19 48 06.6 -0.1**
VSU pmax pmax

comp=Z,90nm,1.7s
VSU Vasula 63.40 335 *eP* **P 19 48 06.7 0.0**
VSU IAmb IAmb 19 48 07.5
comp=Z,64nm,0.9s
SBUM Sibu 63.55 236 *eP* **P 19 48 09.2 +0.9**
comp=Z,7.1nm,1.3s
DOMB Dombas 63.84 345 *eP* **P 19 48 09.8 +0.2**
AKN Aaknes 64.02 346 *eP* **P 19 48 11.2 +0.4**
NC303 NORSAR Array S 64.23 344 *eP* **P 19 48 11.2 -1.0**
comp=Z,25nm,0.8s
KBL Kabul 64.24 294 *eP* **P 19 48 10.5 -2.4**
comp=Z,9.4nm,0.8s
NC405 NORSAR Array S 64.28 344 *eP* **P 19 48 11.9 -0.6**
comp=Z,47nm,1.4s
NC204 NORSAR Array S 64.29 344 *eP* **P 19 48 12.4 -0.3**
comp=Z,55nm,1.3s
NB201 NORSAR Array S 64.41 344 *eP* **P 19 48 13.0 -0.4**
comp=Z,80nm,1.4s
NB2 NORSAR Subarra 64.43 344 P **P 19 48 13.0 -0.6**
comp=Z,4.5nm,0.6s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.43 344 P **P 19 48 13.0 -0.6**
baz=22,slow=6.9
NOA NORSAR Array B 64.43 344 P **P 19 48 13.4 -0.1**
comp=Z,11nm,0.8s,baz=21,slow=6.6,SNR=36
NOA LR LR 20 18 58.6
comp=Z,108nm,19.6s,baz=55,slow=39
NBO00 NORSAR Array S 64.52 344 *eP* **P 19 48 13.2 -0.9**
comp=Z,134nm,1.8s
LPSR Galich'ya Gora 64.56 325 *eP* **P 19 48 13.4 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.8s
NC602 NORSAR Array S 64.66 344 *eP* **P 19 48 14.3 -0.7**
comp=Z,98nm,1.6s
NC602 NORSAR Array S 64.66 344 *eP* **P 19 48 14.7 -0.3**
VRH Novokhopyorsk 64.67 322 *eP* **P 19 48 14.1 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.5s
NAO01 NORSAR Array S 64.67 344 *eP* **P 19 48 15.3 +0.2**
comp=Z,115nm,2.0s
SKAR Skarslia 65.25 345 *eP* **P 19 48 19.2 +0.3**
KSM Kuching 65.37 237 *eP* **P 19 48 21.2 +1.1**
comp=Z,18nm,1.3s
LENM Lemitar 65.47 66 *eP* **P 19 48 22.0 +1.1**
VSR Storozhevoye 65.60 324*c iP* **P 19 48 20.7 -0.5**
VSR pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 65.76 323 *eP* **P 19 48 21.4 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.8s
IDID Didziasalis 66.14 333 *eP* **P 19 48 24.3 -0.3**
IDID IAmb IAmb 19 48 26.3
comp=Z,10nm,1.1s
IIGN Ignalina 66.25 333 *eP* **P 19 48 25.3 -0.1**
IIGN IAmb IAmb 19 48 27.0
comp=Z,12nm,0.8s
SCHQ Schefferville 66.43 27 *eP* **P 19 48 26.0 -0.6**
SCHQ Schefferville 66.43 27 LR LR 20 21 39.2
comp=Z,111nm,18.0s,baz=316,slow=40
KAPI Kappang 66.52 225 *eP* **P 19 48 27.5 0.0**
comp=Z,22nm,1.8s
MICGM Minsk 66.52 332 *e* **P 19 48 27.0 -0.1**
MICGM *e*LR LR 20 21 20.0
MNK Minsk 66.52 332 *eP* **P 19 48 27.0 -0.1**
PABE Paberze 66.72 335 *eP* **P 19 48 27.2 -1.1**
PABE IAmb IAmb 19 48 29.8
comp=Z,36nm,0.8s
BLS5 Blasjo 66.74 346 *eP* **P 19 48 29.0 +0.6**
PBUR Paburg 66.79 336 *eP* **P 19 48 26.4 -2.4**
PBUR IAmb IAmb 19 48 29.3
comp=Z,21nm,0.7s
JFWS Jewell Farm 67.48 49 *eP* **P 19 48 35.8 +2.4**
comp=Z,36nm,1.8s
COEN Coen 67.49 198 *eP* **P 19 48 34.6 +1.0**
comp=Z,15nm,1.1s
GEYT Alibeck 67.63 303 *eP* **P 19 48 33.9 -0.6**
GEYT Alibeck 67.63 303 P **P 19 48 34.4 -0.1**
comp=Z,10nm,0.8s,baz=2.7,slow=3.1,SNR=29
GEYT LR LR 20 21 01.8
comp=Z,644nm,18.1s,baz=20,slow=39
GYA0B ALIBECK ARRAY 67.63 303 *eP* **P 19 48 33.5 -1.0**
comp=Z,10nm,0.9s
IPM Ipoh 67.92 247 *eP* **P 19 48 36.6 +0.1**
comp=Z,14nm,0.8s
MNTX Cornudas Mount 68.20 66 *eP* **P 19 48 41.3 +3.2**
comp=Z,6.7nm,1.2s
SUW Suwalki 68.26 334 *eP* **P 19 48 37.7 -0.4**
SUW Suwalki 68.26 334 *eP* **P 19 48 36.4 -1.7**
comp=Z,23nm,0.9s
SUW Suwalki 68.26 334 *eP* **P 19 48 37.7 -0.4**
MAK Makhachkala 68.85 313 *eP* **P 19 48 44.1 +2.2**
MAK *e* 19 51 15.2
MAK *e*S **S 19 57 43.8 +0.2**
MAK pmax pmax
comp=Z,81nm,0.9s
MAK MLR MLR
comp=Z,305nm,15.0s
N41A Harden Midland 68.91 50 *eP* **P 19 48 45.9 +3.5**
comp=Z,14nm,0.8s
GROC Groznyy 69.41 315 *eP* **P 19 48 41.6 -3.8**
GROC *e**SP **PcP 19 49 06.3 -2.4**
GROC *e*S **S 19 57 46.6 -3.7**
GROC pmax pmax
comp=Z,14nm,0.6s
AKASG Malin Array Be 69.42 329 *eP* **P 19 48 44.6 -0.8**
AKASG Malin Array Be 69.42 329 *eP* **P 19 48 44.6 -0.8**
AKASG Malin Array Be 69.42 329 P **P 19 48 44.8 -0.6**
comp=Z,8.5nm,0.6s,baz=30,slow=6.3,SNR=60
AKASG LR LR 20 24 50.5
comp=Z,266nm,18.3s,baz=20,slow=41
AKBB Malin Array Si 69.42 329 *eP* **P 19 48 44.3 -1.1**
comp=Z,28nm,1.0s
KIEV Kiev 69.43 329 *eP* **P 19 48 44.0 -1.4**
comp=Z,25nm,1.0s
KIEV Kiev 69.43 329⇓*iP* **P 19 48 45.2 -0.2**
KIEV Kiev 69.43 329 *i* P **P 19 48 44.9 -0.5**
SNR=20
KIEV Kiev 69.43 329*c iP* **P 19 48 44.4 -1.0**
WMOK Wichita Mounta 69.52 60 *eP* **P 19 48 51.0 +4.7**
comp=Z,5.2nm,0.9s
OK023 East Waterloo 69.62 58 *eP* **P 19 48 50.7 +3.8**
comp=Z,49nm,1.8s
NCK Nalchik 70.13 316⇓*iP* **P 19 48 50.4 +0.5**
NCK pmax pmax
comp=Z,12nm,0.7s
KIV Kislovodsk 70.14 317 *eP* **P 19 48 49.6 -0.5**
comp=Z,5.7nm,0.7s
KIV Kislovodsk 70.14 317 P **P 19 48 49.1 -0.9**
KIV Kislovodsk 70.14 317 *eP* **P 19 48 50.2 +0.2**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,579nm,18.0s
KBZ Khabaz 70.23 317 P **P 19 48 50.9 +0.5**
comp=Z,11nm,0.8s,baz=66,slow=3.3,SNR=24
KBZ LR LR 20 24 40.7
comp=Z,326nm,18.5s,baz=8.0,slow=40
GKP Gorka Klasztor 70.44 337 *eP* **P 19 48 51.8 +0.3**
GKP Gorka Klasztor 70.44 337 *eP* **P 19 48 51.8 +0.3**
ZEI Tsey 70.57 316 *eP* **P 19 48 50.4 -2.4**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
NEY Neytrino 70.70 317⇓*eP* **P 19 48 55.2 +1.6**
NEY pmax pmax
comp=Z,2.0nm,1.3s
BEL Belsk 70.86 335 *eP* **P 19 48 55.2 +1.0**
BEL Belsk 70.86 335 *eP* **P 19 48 55.2 +1.0**
TX31 Lajitas Ar. Si 70.95 67 *eP* **P 19 48 55.5 +0.3**
comp=Z,6.0nm,1.0s
TXAR Lajitas Array 70.95 67 *eP* **P 19 48 54.7 -0.5**
TXAR Lajitas Array 70.95 67 P **P 19 48 55.0 -0.2**
TXAR Lajitas Array 70.95 67 P **P 19 48 55.0 -0.2**
comp=Z,0.7nm,0.5s,baz=301,slow=5.1,SNR=8.9
TXAR LR LR 20 19 59.8
comp=Z,38nm,19.4s,baz=0.0,slow=36
TBLG Delisi 71.06 314 *eP* **P 19 48 55.5 -0.2**
comp=Z,11nm,0.7s
HYB Hyderabad 71.34 274⇑*iP* **P 19 48 57.5 -0.1**
HYB *e* 19 49 08.0
ANN Anapa 71.56 321 *eP* **P 19 48 53.9 -4.6**
ANN *e**PP **PcP 19 49 15.6 -2.1**
ANN *e*S S 19 58 05.7 -10
ANN pmax pmax
comp=Z,21nm,1.4s
AKH Akhalkalaki 71.87 315 *eP* **P 19 48 60.0 -0.7**
comp=Z,13nm,0.9s
AKH Akhalkalaki 71.87 315⇓*iP* **P 19 49 01.8 +1.1**

JAGI Jajag, Banyuwa 72.09 228 *eP* **P 19 49 02.1 +0.1**
comp=Z,52nm,1.0s
PBMO Poplar Bluff 72.20 53 *eP* **P 19 49 06.2 +3.7**
comp=Z,9.9nm,1.1s
KWP Kalwaria Pacla 72.33 333 *eP* **P 19 49 03.8 +0.7**
KWP Kalwaria Pacla 72.33 333 *eP* **P 19 49 03.3 +0.2**
comp=Z,477nm,1.0s
KWP Kalwaria Pacla 72.33 333 *eP* **P 19 49 03.8 +0.7**
GNI Garni 72.34 313 *eP* **P 19 49 02.9 -0.6**
comp=Z,16nm,1.0s
GNI Garni 72.34 313 P **P 19 49 04.2 +0.7**
GNI Garni 72.34 313*c iP* **P 19 49 04.4 +0.9**
GNI pmax pmax
comp=Z,102nm,1.3s
BATM Batumi 72.48 316⇑*iP* **P 19 49 04.5 +0.4**
OJC Ojcow 72.59 335 *eP* **P 19 49 05.3 +0.7**
OJC Ojcow 72.59 335 *eP* **P 19 49 04.2 -0.5**
comp=Z,16nm,1.0s
OJC Ojcow 72.59 335 *eP* **P 19 49 05.3 +0.7**
BCA Borcka 72.64 316⇓*iP* **P 19 49 05.4 +0.3**
SIM Simferopol' 72.70 323 *eP* **P 19 49 05.3 0.0**
SIM 19 49 16.0
SIM pmax pmax
comp=Z,7.0nm,1.0s
SIM MLR MLR
comp=Z,250nm,18.1s
KIS Kishinev 72.78 327 *eP* **P 19 49 04.0 -1.8**
KIS LRM MLR 20 24 58.0
comp=Z,300nm,16.0s
KIS Kishinev 72.78 327 *eP* **P 19 49 04.0 -1.8**
KIS MLR MLR
comp=Z,300nm,16.0s
KIS MLR MLR
comp=N,300nm,17.0s
KSP Ksiaz 72.90 337 *eP* **P 19 49 06.9 +0.4**
KSP Ksiaz 72.90 337 *eP* **P 19 49 06.9 +0.4**
WCI Wyandotte Cave 73.02 49 *eP* **P 19 49 12.0 +4.6**
comp=N,127nm,0.6s
KOLS Kolonicke sedl 73.08 332 *eP* **P 19 49 07.7 +0.2**
KOLS pmax pmax
comp=Z,9.0nm,0.9s
KOLS Kolonicke sedl 73.08 332 *eP* **P 19 49 07.7 +0.2**
NIE Niedzica 73.19 334 *eP* **P 19 49 09.1 +0.8**
NIE Niedzica 73.19 334 *eP* **P 19 49 09.0 +0.8**
CLL Collm 73.22 339 *eP* **P 19 49 08.2 -0.1**
comp=Z,19nm,1.0s
CLL Collm 73.22 339⇑*iP* **P 19 49 08.3 0.0**
CLL *i* 19 49 21.0
CLL *e*S **S 19 58 30.0 -4.1**
CLL pmax pmax
comp=Z,16nm,1.0s
CLL Collm 73.22 339⇑*iP* **P 19 49 08.3 0.0**
comp=Z,16nm,1.0s
CLL *i* 19 49 17.9
CLL *i* pP **sP 19 49 21.0 +0.7**
comp=Z,20nm,1.0s
CLL *e*S **S 19 58 30.0 -4.1**
CLL *e* 20 04 00.0
UPC Upice 73.28 337 *eP* **P 19 49 09.3 +0.6**
UPC *e* 19 49 21.6
UPC MLR MLR
comp=Z,400nm,15.4s
UPC Upice 73.28 337 *eP* **P 19 49 09.3 +0.6**
UPC *e*pP **sP 19 49 21.6 +0.9**
UPC AMS AMS 20 27 50.0
comp=Z,400nm,15.4s
DPC Dobruska-Polom 73.35 337 *eP* **P 19 49 09.8 +0.6**
DPC MLR MLR
comp=Z,300nm,15.6s
DPC Dobruska-Polom 73.35 337 *eP* **P 19 49 09.8 +0.6**
DPC *e*pP **pP 19 49 17.7 -0.2**
DPC AMS AMS 20 27 40.0
comp=Z,300nm,15.6s
BUR08 Bucovina Ar. S 73.37 330 *eP* **P 19 49 09.0 -0.4**
comp=Z,15nm,0.8s
BURAR Bucovina Array 73.39 330 *eP* **P 19 49 09.1 -0.4**
BURAR Bucovina Array 73.39 330⇓*iP* **P 19 49 09.9 +0.4**
BRG Berggiesshubel 73.42 338 *eP* **P 19 49 09.8 +0.3**
comp=Z,6.4nm,1.1s
BRG *e* 19 49 19.6
comp=Z,8.7nm,1.2s
BRG Berggiesshubel 73.42 338 *eP* **P 19 49 09.8 +0.3**
BRG *e* 19 49 19.6
BRG pmax pmax
comp=Z,6.0nm,1.2s
KRLC Kraliky 73.49 336 *eP* **P 19 49 10.5 +0.5**
KRLC Kraliky 73.49 336 *eP* **P 19 49 10.5 +0.5**
MORC Moravsky Berou 73.58 336 *eP* **P 19 49 10.9 +0.4**
comp=Z,13nm,0.9s
MORC Moravsky Berou 73.58 336⇑*iP* **P 19 49 11.1 +0.6**
MORC Moravsky Berou 73.58 336 *eP* **P 19 49 11.1 +0.6**
PVCC Panska Ves 73.60 338 AMS AMS 20 27 00.0
comp=Z,300nm,14.9s
LANS Liptovska Anna 73.65 334 *eP* **P 19 49 12.1 +1.1**
LANS Liptovska Anna 73.65 334 *eP* **P 19 49 12.1 +1.1**
BIZ Bicaz 73.71 329⇑*iP* **P 19 49 11.5 +0.2**
TRPA Tarpa 73.73 332⇑*iP* **P 19 49 12.3 +1.0**
TRPA Tarpa 73.73 332⇑*iP* **P 19 49 12.0 +0.7**
WTSB Winterswijk 73.83 343 *eP* **P 19 49 11.5 -0.3**
comp=Z,25nm,0.8s
TESR Tescani 73.92 329⇑*iP* **P 19 49 12.3 -0.2**
KECS Kecovo 73.99 333 *eP* **P 19 49 13.4 +0.5**
KECS pmax pmax
comp=Z,22nm,0.9s
KECS Kecovo 73.99 333 *eP* **P 19 49 13.4 +0.5**
PRU Pruhonice 74.11 338 *eP* **P 19 49 14.5 +0.9**
PRU *e* 19 49 22.1
PRU MLR MLR
comp=Z,300nm,15.8s
PRU Pruhonice 74.11 338 *eP* **P 19 49 14.5 +0.9**
PRU *e*pP **pP 19 49 22.1 -0.2**
PRU AMS AMS 20 27 00.0
comp=Z,300nm,15.8s
GOPC GO Pecny, Ondr 74.12 338 AMS AMS 20 26 10.0
comp=Z,300nm,13.6s
ARCR ARCALIA 74.13 330⇑*iP* **P 19 49 14.9 +1.2**
DZM Mont Dzumac 74.14 174 *e*LR LR 20 12 16.2
comp=Z,124nm,21.8s
VRAC Vranov 74.25 336⇑*iP* **P 19 49 15.5 +1.1**
VRAC Vranov 74.25 336 *eP* **P 19 49 15.2 +0.8**
NKC Novy Kostel 74.36 339 *eP* **P 19 49 15.3 +0.3**
NKC MLR MLR
comp=Z,200nm,20.2s
NKC Novy Kostel 74.36 339 *eP* **P 19 49 15.3 +0.3**
NKC AMS AMS 20 27 30.0
comp=Z,200nm,20.2s
JAVC Velka Javorina 74.39 335 *eP* **P 19 49 16.8 +1.5**
VYHS Vyhne 74.42 334 *eP* **P 19 49 16.2 +0.8**
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 74.42 334 *eP* **P 19 49 16.2 +0.8**
PETR Petresti 74.43 328⇓*iP* **P 19 49 16.4 +0.9**
VRI Vrincioaia 74.47 328⇑*iP* **P 19 49 16.0 +0.3**
PLOR Plostina 74.50 328⇓*iP* **P 19 49 16.4 +0.4**
KRUC Moravsky 74.53 336 *eP* **P 19 49 16.7 +0.7**
TREC Trest 74.53 337 *eP* **P 19 49 16.7 +0.6**
TREC *e* 19 49 25.1
TREC MLR MLR
comp=Z,400nm,18.0s
TREC Trest 74.53 337 *eP* **P 19 49 16.7 +0.6**
TREC *e*pP **pP 19 49 25.1 +0.2**
TREC AMS AMS 20 26 30.0
comp=Z,400nm,18.0s
OZUR 74.56 329⇑*iP* **P 19 49 16.9 +0.6**
LTVH Ltavrtes, Hu 74.58 332 *eP* P 19 49 27.1 +11
CFR Carcaliu 74.61 327⇓*iP* **P 19 49 16.4 -0.1**
PSZ Piszkesteto 74.67 334 *eP* **P 19 49 17.6 +0.7**
comp=Z,11nm,0.9s
PSZ Piszkesteto 74.67 334⇑*iP* **P 19 49 17.6 +0.7**
CJR Cluj-Napoca 74.69 331⇓*iP* **P 19 49 19.3 +2.2**
CLTN Cedars of Leba 74.73 50 *eP* **P 19 49 20.0 +2.6**
comp=Z,5.4nm,0.5s
V48A Smith Brothers 74.78 51 *eP* **P 19 49 20.1 +2.3**
comp=Z,5.3nm,0.9s
SNOP Sinop 74.78 321 *eP* **P 19 49 17.0 -0.6**
comp=Z,5.8nm,0.8s
PLAL Pickwick Lake 74.79 52 *eP* **P 19 49 20.3 +2.5**
comp=Z,4.7nm,0.7s
DOPR Dopca 74.81 329⇓*iP* **P 19 49 18.7 +1.0**
GRER 74.82 328⇓*iP* P 19 49 25.8 +8.1
DRGR 74.89 331⇑*iP* **P 19 49 18.6 +0.4**
LMN Caledonia Moun 74.98 31 *eP* **P 19 49 18.9 +0.2**
comp=Z,60nm,1.9s
MLR Muntele Rosu 75.05 329 *eP* **P 19 49 18.6 -0.7**

comp=Z,14nm,0.7s
MLR Muntele Rosu 75.05 329⇑*iP* **P 19 49 20.3 +1.0**
GRA1 Grafenberg Arr 75.13 340 *eP* **P 19 49 19.4 -0.1**
comp=Z,16nm,1.0s
GRFO Grafenberg 75.13 340 *eP* **P 19 49 20.2 +0.7**
comp=Z,15nm,1.0s
KHC Kasperske Hory 75.14 338 *eP* **P 19 49 19.8 +0.2**
comp=Z,4.5nm,1.0s
KHC Kasperske Hory 75.14 338 *eP* **P 19 49 20.5 +0.9**
KHC *e* 19 49 31.9
KHC MLR MLR
comp=Z,300nm,15.4s
KHC Kasperske Hory 75.14 338 *eP* **P 19 49 20.5 +0.9**
KHC *e*pP **sP 19 49 31.9 +0.3**
KHC AMS AMS 20 28 00.0
comp=Z,300nm,15.4s
HGN Heimansgroeve 75.14 343 *eP* **P 19 49 19.2 -0.2**
comp=Z,30nm,1.0s
ZST Bratislava 75.15 335 *eP* **P 19 49 19.6 -0.1**
ZST Bratislava 75.15 335 *eP* **P 19 49 19.5 -0.1**
TLB Topalu 75.16 327⇓*iP* **P 19 49 20.1 +0.4**
SRO Srobarova 75.19 334 *eP* **P 19 49 21.2 +1.4**
SRO Srobarova 75.19 334 *eP* **P 19 49 21.2 +1.4**
WRAB Tennant Creek 75.27 205*cP* **P 19 49 21.7 +1.2**
WRAB pmax pmax
comp=Z,16nm,2.5s
MEM Membach 75.27 343⇑P **P 19 49 20.8 +0.5**
comp=Z,30nm,1.2s
WRA Warramunga Arr 75.28 205 P **P 19 49 19.7 -0.8**
comp=Z,3.2nm,1.1s,baz=22,slow=6.2,SNR=7.6
BZK Bozkurt 75.30 322⇓*iP* **P 19 49 21.1 +0.6**
GEC2 GERESS Array S 75.38 338 *eP* **P 19 49 20.9 -0.2**
comp=Z,7.7nm,1.1s
GERES GERESS Array B 75.38 338 *eP* **P 19 49 20.6 -0.5**
GERES GERESS Array B 75.38 338 P **P 19 49 21.4 +0.4**
comp=Z,3.0nm,0.8s,baz=35,slow=4.9,SNR=26
GERES LR LR 20 26 59.1
comp=Z,117nm,18.0s,baz=24,slow=39
VOIR 75.39 329⇓*iP* **P 19 49 21.8 +0.7**
MFTR Murfatlar 75.39 326⇑*iP* **P 19 49 22.0 +0.9**
BCLA Clavier 75.58 344⇓P **P 19 49 22.6 +0.6**
comp=Z,20nm,2.1s
CSKK Cskako 75.62 334 *eP* **P 19 49 23.1 +0.8**
ICOR Ion Corvin 75.66 327⇓*iP* **P 19 49 23.7 +1.1**
SIRR Siria 75.67 332⇓*iP* **P 19 49 23.1 +0.4**
LEHL Lehliu 75.67 328⇓*iP* **P 19 49 23.4 +0.8**
SULR 75.67 328⇓*iP* **P 19 49 23.2 +0.5**
CONA Conrad Observa 75.71 336 *eP* **P 19 49 24.2 +1.3**
comp=Z,4.9nm,0.7s,SNR=6.3
SOP Sopron 75.76 336 *eP* **P 19 49 24.0 +0.9**
LOT Lotru 75.78 330⇓*iP* **P 19 49 23.7 +0.3**
DOU Dourbes 76.01 344⇑P **P 19 49 24.6 +0.1**
GZR Gura Zlata 76.13 331⇑*iP* **P 19 49 25.5 +0.1**
TIH Tihany 76.14 334 *eP* **P 19 49 26.1 +0.8**
WLF Walferdange 76.16 343⇑P **P 19 49 25.3 -0.1**
MOA Molln 76.18 337 *eP* **P 19 49 26.3 +0.8**
comp=Z,4.3nm,0.8s
ILGA Ilgaz 76.19 321 *eP* **P 19 49 26.6 +0.7**
comp=Z,30nm,0.9s
HUMR Humele 76.22 329⇓*iP* **P 19 49 25.3 -0.5**
BZS Buzias 76.27 331⇓*iP* **P 19 49 26.3 +0.2**
ARSA Arzberg 76.43 336 *eP* **P 19 49 28.2 +1.3**
comp=Z,3.8nm,0.7s
HERR Herculane 76.70 331⇑*iP* **P 19 49 28.3 -0.2**
MDVR Moldovita 77.00 331⇑*iP* **P 19 49 30.1 -0.2**
BFO Black Forest 77.02 341 *eP* **P 19 49 29.8 -0.6**
comp=Z,8.9nm,1.1s
BFO Black Forest 77.02 341 *i* P **P 19 49 31.5 +1.2**
SOKA Soboth 77.08 336 *eP* **P 19 49 31.7 +0.9**
comp=Z,14nm,1.1s,SNR=5.4
PUNG Punghina 77.09 330⇓*iP* **P 19 49 30.9 +0.2**
KBA Koelnbreinsper 77.12 337 *eP* **P 19 49 32.4 +1.3**
comp=Z,25nm,0.8s,SNR=18
WATA Walderalm 77.28 339 *eP* **P 19 49 33.4 +1.5**
comp=Z,8.0nm,1.1s
RETA Reutte 77.32 339 *eP* **P 19 49 33.1 +1.1**
comp=Z,5.8nm,0.8s
WTTA Wattenberg 77.34 339 *i* P **P 19 49 33.5 +1.2**
comp=Z,6.6nm,0.8s,SNR=6.5
BR131 Keskin Array S 77.36 321 *eP* **P 19 49 32.2 -0.3**
comp=Z,15nm,1.3s
BR131 Keskin Array S 77.36 321 P **P 19 49 32.7 +0.2**
SNR=11
BRTR Keskin Array B 77.36 321 *eP* **P 19 49 31.9 -0.6**
BRTR Keskin Array B 77.36 321 *eP* **P 19 49 31.9 -0.6**
BRTR Keskin Array B 77.36 321 P **P 19 49 32.6 +0.1**
comp=Z,5.8nm,0.9s,baz=34,slow=3.3,SNR=28
BRTR LR LR 20 29 07.5
comp=Z,176nm,19.5s,baz=24,slow=40
OBKA Obir 77.36 336 *eP* **P 19 49 33.0 +0.7**
comp=Z,6.0nm,0.7s
ECH Echery 77.36 342 *eP* **P 19 49 32.1 -0.1**
comp=Z,11nm,1.0s
MOTA Moosalm 77.38 339 *i* P **P 19 49 32.5 0.0**
comp=Z,5.1nm,0.8s,SNR=6.3
SQTA Sankt Quirin 77.47 339 *eP* **P 19 49 34.1 +1.1**
comp=Z,13nm,0.9s
ANTO Ankara 77.56 321 *eP* **P 19 49 34.3 +0.7**
comp=Z,28nm,1.3s
BR231 Keskin MP Arra 77.59 321 *eP* **P 19 49 34.3 +0.5**
comp=Z,23nm,1.3s
ABTA Abfaltersbach 77.62 338 *eP* **P 19 49 34.5 +0.7**
comp=Z,9.8nm,1.0s,SNR=5.1
MDUB Mudurnu 77.64 323 *eP* **P 19 49 34.0 0.0**
comp=Z,94nm,0.9s
DAVA Damuels 77.70 340 *eP* **P 19 49 35.9 +1.7**
comp=Z,5.7nm,0.9s
FETA Feichten 77.77 339 *eP* **P 19 49 35.8 +1.1**
comp=Z,5.0nm,0.9s
SHME Shamm 77.89 297 *i* P **P 19 49 34.8 -0.7**
SNR=7.0
FUORN Ofenpass-Fuorn 78.25 339 *eP* **P 19 49 37.6 +0.1**
comp=Z,9.7nm,0.9s
152A Waverly Hall 78.29 51 *eP* **P 19 49 41.7 +4.1**
comp=Z,35nm,1.9s
W57A Gilead 78.42 47 *eP* **P 19 49 41.1 +2.8**
comp=Z,8.8nm,0.7s
MSFE Esma-Masafi 78.42 296 *i* P **P 19 49 37.8 -0.7**
SNR=5.9
VTS Vitosha 78.49 329 *eP* **P 19 49 38.4 -0.3**
comp=Z,9.2nm,0.8s
TUE Stuetta 78.59 340 *eP* **P 19 49 39.8 +0.5**
comp=Z,13nm,0.9s
BIRD Birdtown, Kers 78.64 47 *eP* **P 19 49 42.7 +3.3**
comp=Z,69nm,1.9s
WSAR Wadi Sarin 78.71 293 P **P 19 49 40.2 +0.2**
HATD Hatta, Dubai 78.86 296 *i* P **P 19 49 40.6 -0.3**
SNR=11
HATD Hatta, Dubai 78.86 296 P **P 19 49 41.0 +0.1**
SNR=11
HATD P **P 19 49 41.0 +0.1**
SNR=11
AS31 Alice Springs 78.95 204 *eP* **P 19 49 40.7 -0.5**
comp=Z,1.4nm,1.0s
ASAR Alice Springs 78.95 204 *eP* **P 19 49 40.7 -0.5**
ASAR Alice Springs 78.95 204 P **P 19 49 41.1 0.0**
comp=Z,0.9nm,0.7s,baz=16,slow=5.2,SNR=9.6
ASAR LR LR 20 22 30.6
comp=Z,46nm,21.8s,baz=26,slow=34
NAZ Nazwa, Dubai 78.99 296 P **P 19 49 41.6 0.0**
NAZ P **P 19 49 41.6 0.0**
ASHO Ashiyiah 79.01 296 *i* P **P 19 49 41.7 -0.1**
SNR=13
ASHO Ashiyiah 79.01 296 P **P 19 49 40.9 -0.8**
SNR=9.7
ASHO P **P 19 49 40.9 -0.8**
SNR=9.7
SENIN Lac Senin/Sane 79.11 341 *eP* **P 19 49 42.8 +0.6**
comp=Z,38nm,1.9s
ALN Alexandroupoli 79.11 326 *eP* **P 19 49 41.1 -0.9**
comp=Z,8.2nm,1.0s
SOHO SOHO 79.18 295 P **P 19 49 42.3 -0.3**
SNR=7.9
SOHO P **P 19 49 42.3 -0.3**
SNR=7.9
FAQ Al Faqa, Dubai 79.22 296 P **P 19 49 42.4 -0.5**
FAQ Al Faqa, Dubai 79.22 296 P **P 19 49 42.3 -0.5**
ASUD Al Ashush, Dub 79.46 297 P **P 19 49 43.9 -0.2**
ASUD Al Ashush, Dub 79.46 297 P **P 19 49 43.8 -0.4**
BALB Balikesir 79.59 325 *eP* **P 19 49 43.8 -0.8**
comp=Z,71nm,1.0s
STIP Stip 79.66 329 *i* P **P 19 49 44.0 -0.9**
PDG Podgorica 79.87 332⇓*iP* **P 19 49 46.1 0.0**
TTG Podgorica 79.87 332 *eP* **P 19 49 45.5 -0.6**
comp=Z,23nm,1.1s
VAY Valandovo 79.88 329 *i* P **P 19 49 46.6 +0.5**

CSU	**Charleston Sou**	**80.20**	**48**	*e*P	**P**	**19 49 51.0**	**+3.0**
KRUS	**Krusevo**	**80.25**	**330**	*i* P	**P**	**19 49 47.9**	**-0.4**
MANT	**Manisa**	**80.36**	**323**	*e*P	**P**	**19 49 47.9**	**-1.1**
	comp=Z,105nm,1.4s						
BNI	**Bardonecchia**	**80.49**	**341**	*e*P	**P**	**19 49 50.0**	**+0.5**
	comp=Z,17nm,1.1s						
TIR	**Tirane**	**80.69**	**331**	*e*P	**P**	**19 49 50.2**	**-0.3**
	comp=Z,19nm,0.7s						
FNA	**Florina**	**80.74**	**330**	*e*P	**P**	**19 49 50.2**	**-0.7**
	comp=Z,6.9nm,1.0s						
MHTO	**MHTO**	**80.86**	**292**	P	**P**	**19 49 51.5**	**-0.2**
	SNR=21						
MHTO				P	**P**	**19 49 51.5**	**-0.2**
	SNR=21						
AQU	**L'Aquila**	**81.54**	**336**	*e*P	**P**	**19 49 56.4**	**+1.3**
	comp=Z,20nm,1.0s						
CSS	**Mathiatis**	**81.59**	**318**	*e*P	**P**	**19 49 54.7**	**-0.7**
	comp=Z,17nm,0.8s						
PPT	**Papeete**	**82.00**	**132**	LR	LR	20 19 11.6	
	comp=Z,69nm,21.2s,baz=342,slow=30						
PPT2	**Papeete2**	**82.02**	**132**	*e*LR	LR	20 15 45.7	
	comp=Z,179nm,24.5s						
ITM	**Ithomi**	**83.84**	**328**	*e*P	**P**	**19 50 06.1**	**-1.0**
	comp=Z,18nm,1.2s						
TBI	**Tubuai**	**87.11**	**135**	*e*LR	LR	20 18 07.5	
	comp=Z,118nm,23.0s						
ESDC	**Sonseca Array**	**87.48**	**348**	*e*P	**P**	**19 50 25.1**	**-0.2**
	comp=Z,7.3nm,1.1s						
ESDC	**Sonseca Array**	**87.48**	**348**	P	**P**	**19 50 25.0**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=0.8,slow=5.5,SNR=8.1						
KEST	**Kesra**	**88.81**	**337**	LR	LR	20 36 05.4	
	comp=Z,194nm,18.5s,baz=301,slow=40						
TORD	**Torodi Ar. Bea**	**112.33**	**337**	PP	**PP**	**19 56 55.3**	**-2.8**
	comp=Z,0.9nm,0.9s,baz=52,slow=2.6,SNR=5.7						

KRSC 21 20:14:59.9±10.0, 52°.08N×160°.48E, h40km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.06**	**345**	*e*P	Pn	20 15 18.5	+0.3
SPN				*e*S	Sn	20 15 31.8	0.0
RUS	**Russkaya**	**1.26**	**287**	*e*P	Pn	20 15 22.0	+1.1
RUS				*e*S	Sn	20 15 37.9	+1.2
NLC	**Nalytchevo**	**1.30**	**328**	*e*P	Pn	20 15 23.0	+1.6
NLC				*e*S	Sn	20 15 39.6	+2.1
DALK	**Dalny**	**1.42**	**313**	*e*P	Pn	20 15 24.4	+1.2
DALK				*e*S	Sn	20 15 42.1	+1.4
PET	**Petropavlovsk**	**1.47**	**311**	*e*P	Pn	20 15 25.7	+2.0
PET				*e*S	Sn	20 15 44.3	+2.6
MTVR	**Mutnovka**	**1.47**	**287**	*e*P	Pn	20 15 25.5	+1.5
MTVR				*e*S	Sn	20 15 44.0	+2.0
KDTR	**Khodutka, Kamc**	**1.51**	**261**	*e*P	Pn	20 15 25.6	+1.2
KDTR				*e*S	Sn	20 15 44.2	+1.4
UGLR	**Uglovaya**	**1.52**	**319**	*e*P	Pn	20 15 26.4	+1.8
SDLR	**Sedlovina**	**1.55**	**322**	*e*P	Pn	20 15 26.7	+1.7
SDLR				*e*S	Sn	20 15 46.2	+2.3
SMAR	**Somma**	**1.57**	**320**	*e*P	Pn	20 15 27.6	+2.2
AVH	**Avacha**	**1.59**	**319**	*e*P	Pn	20 15 27.8	+2.2
ASAK	**Asacha**	**1.62**	**282**	*e*P	Pn	20 15 27.6	+1.7
KRER	**Koryakskii**	**1.62**	**320**	*e*P	Pn	20 15 28.4	+2.3
KRMR	**Karymshinskiy**	**1.62**	**299**	*e*P	Pn	20 15 27.8	+1.9
KRMR				*e*S	Sn	20 15 48.0	+2.4
KOK	**Koryaka**	**1.66**	**318**	*e*P	Pn	20 15 28.0	+1.5
KRX	**Arik**	**1.70**	**320**	*e*P	Pn	20 15 29.6	+2.5
APC	**Apacha**	**2.20**	**294**	*e*P	Pn	20 15 36.8	+3.0
APC				*e*S	Sn	20 16 03.8	+4.0
KZV	**Kizimen**	**3.04**	**358**	*e*P	Pn	20 15 51.1	+5.5
TUMD	**Tumrok D**	**3.13**	**359**	*e*P	Pn	20 15 50.6	+3.9
KBTR	**Krutoberegovo**	**4.36**	**17**	*e*P	Pn	20 16 06.2	+2.7

ATH 21 20:16:38.3, 38°.23N×22°.13E, h10km±2km, ML1.0/9, Error ellipse: s-maj=2.6km s-min=0.7km az=295.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRAZ	**Trapeza**	**0.09**	**131**	P	Pg	20 16 40.7	-0.1
TRAZ				S	Sg	20 16 43.6	+0.9
TRAZ				AML	AML	20 16 44.1	
	comp=N,1147μm,0.2s						
TRAZ				AML	AML	20 16 44.9	
	comp=E,1014μm,0.1s						
TRAZ	**Trapeza**	**0.09**	**131**	P	Pg	20 16 40.6	-0.2
TRAZ				S	Sg	20 16 43.3	+0.6
LAKA	**Lakka**	**0.12**	**276**	P	Pg	20 16 40.7	-0.5
LAKA				S	Sg	20 16 43.4	+0.2
LAKA				AML	AML	20 16 43.6	
	comp=E,184μm,0.2s						
LAKA				AML	AML	20 16 43.8	
	comp=N,234μm,0.2s						
LAKA	**Lakka**	**0.12**	**276**	P	Pg	20 16 40.6	-0.6
LAKA				S	Sg	20 16 43.4	+0.2
LAKA				AML	AML	20 16 43.6	
	comp=E,184μm,0.2s						
LAKA				AML	AML	20 16 43.8	
	comp=N,234μm,0.2s						
TRIZ	**Trizonia**	**0.14**	**343**	P	Pg	20 16 41.9	+0.3
TRIZ				S	Sg	20 16 44.4	+0.5
TRIZ	**Trizonia**	**0.14**	**343**	P	Pg	20 16 41.9	+0.3
TRIZ				S	Sg	20 16 44.3	+0.4
KALE	**Kalithea**	**0.16**	**4**	P	Pg	20 16 41.6	-0.3
KALE				S	Sg	20 16 45.1	+0.6
KALE				AML	AML	20 16 45.8	
	comp=N,278μm,0.2s						
KALE				AML	AML	20 16 46.1	
	comp=E,193μm,0.2s						
KALE	**Kalithea**	**0.16**	**4**	P	Pg	20 16 41.6	-0.3
KALE				S	Sg	20 16 44.9	+0.4
KALE				AML	AML	20 16 45.8	
	comp=N,278μm,0.2s						
KALE				AML	AML	20 16 46.1	
	comp=E,193μm,0.2s						
KLV	**Kalavryta, Ach**	**0.18**	**174**	P	Pg	20 16 41.9	-0.4
KLV				S	Sg	20 16 45.7	+0.7
KLV				AML	AML	20 16 46.2	
	comp=E,84μm,0.1s						
KLV				AML	AML	20 16 46.7	
	comp=N,96μm,0.2s						
KLV	**Kalavryta, Ach**	**0.18**	**174**	P	Pg	20 16 42.0	-0.2
KLV				S	Sg	20 16 45.6	+0.6
KLV				AML	AML	20 16 46.2	
	comp=E,84μm,0.1s						
KLV				AML	AML	20 16 46.7	
	comp=N,96μm,0.2s						
SERG	**Sergoula**	**0.19**	**344**	P	Pg	20 16 42.0	-0.4
SERG				S	Sg	20 16 45.9	+0.6
SERG				AML	AML	20 16 46.4	
	comp=N,227μm,0.2s						
SERG				AML	AML	20 16 47.9	
	comp=E,177μm,0.2s						
SERG	**Sergoula**	**0.19**	**344**	P	Pg	20 16 42.0	-0.4
SERG				S	Sg	20 16 45.8	+0.5
SERG				AML	AML	20 16 46.4	
	comp=N,227μm,0.2s						
SERG				AML	AML	20 16 47.9	
	comp=E,177μm,0.2s						
EFP	**Efpalio**	**0.26**	**319**	P	Pg	20 16 43.5	-0.2
EFP				S	Sg	20 16 47.7	+0.4
EFP				AML	AML	20 16 48.3	
	comp=E,69μm,0.1s						
EFP				AML	AML	20 16 51.9	
	comp=N,56μm,0.1s						
EFP	**Efpalio**	**0.26**	**319**	P	Pg	20 16 43.9	+0.2
EFP				S	Sg	20 16 47.7	+0.5
EFP				AML	AML	20 16 48.3	
	comp=E,69μm,0.1s						
EFP				AML	AML	20 16 51.9	
	comp=N,56μm,0.1s						
GUR	**Goura**	**0.34**	**149**	P	Pg	20 16 44.7	-0.4
GUR				S	Sg	20 16 50.4	+0.8
GUR				AML	AML	20 16 51.5	
	comp=E,93μm,0.2s						
GUR				AML	AML	20 16 52.4	
	comp=N,134μm,0.4s						
GUR	**Goura**	**0.34**	**149**	P	Pg	20 16 44.7	-0.4
GUR				S	Sg	20 16 50.1	+0.5
GUR				AML	AML	20 16 51.5	
	comp=E,93μm,0.2s						
GUR				AML	AML	20 16 52.4	
	comp=N,134μm,0.4s						
DSF	**Desfina**	**0.36**	**60**	P	Pg	20 16 45.8	+0.2
DSF				S	Sg	20 16 51.5	+1.0
DSF				AML	AML	20 16 53.2	
	comp=E,54μm,0.2s						
DSF				AML	AML	20 16 53.4	
	comp=N,70μm,0.1s						
DSF	**Desfina**	**0.36**	**60**	P	Pg	20 16 45.9	+0.3
DSF				S	Sg	20 16 51.3	+0.8
DSF				AML	AML	20 16 53.2	
	comp=E,54μm,0.2s						
DSF				AML	AML	20 16 53.4	
	comp=N,70μm,0.1s						
ANX	**Ano Chora**	**0.40**	**336**	P	Pg	20 16 45.7	-0.6
ANX	**Ano Chora**	**0.40**	**336**	P	Pg	20 16 45.9	-0.4
ANX				S	Sg	20 16 51.9	+0.3
ANX				AML	AML	20 16 55.5	
	comp=N,76μm,0.3s						
ANX				AML	AML	20 16 57.7	
	comp=E,62μm,0.5s						
DRO	**Drossia**	**0.43**	**230**	P	Pg	20 16 46.6	-0.1
DRO	**Drossia**	**0.43**	**230**	P	Pg	20 16 47.2	+0.5
DRO				S	Sg	20 16 52.8	+0.5
DRO				AML	AML	20 16 56.0	
	comp=N,108μm,0.2s						
DRO				AML	AML	20 16 56.5	
	comp=E,114μm,0.2s						
PVO	**Paravola**	**0.61**	**310**	P	Pg	20 16 50.6	+0.4
TRIP	**Tripoli**	**0.71**	**171**	P	Pg	20 16 52.1	+0.1
EVR	**Evrytania**	**0.73**	**340**	P	Pg	20 16 52.4	-0.1
AMT	**Artemida-Makis**	**0.77**	**206**	P	Pg	20 16 53.3	+0.1
VLX	**Vlachokerasia**	**0.88**	**167**	P	Pg	20 16 54.9	-0.3
PYL	**PYLOS**	**1.36**	**193**	P	Pb	20 17 03.8	-0.1

*MAN **21** 20:23:28.1, 5°.90N×126°.01E, h78km, mb4.4, ML3.2, MS3.0*
*ISCJB **21** 20:23:29.0±0.5, 6°.09N±0°.04×126°.09E±0°.08, h107km±5km, mb3.6/7, Error ellipse: s-maj=12.9km s-min=6.0km az=178.3*
*IDC **21** 20:23:30.3±0.9, 6°.03N×125°.87E, h108km±9km, mb3.4/7, mb1 3.6/7, mb1mx3.2/42, mbtmp3.7/7, Error ellipse: s-maj=56.8km s-min=13.7km az=83.0*
*DJA **21** 20:23:31.5±0.7, 6°N±4°×12°6E±1°2, h10km, M4.3/7, mb4.4/6, mB4.7/5, MLv4.4/7, Mw(mB)4.0/5*

ISC 21 20:23:29.8±0.8, 6°.08N±0°.04×126°.08E±0°.08, h94km±7km, n23, σ1§98/31, mb3.6/7, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.36**	**273**	*e*P	**Pn**	**20 23 42.8**	**-1.3**
DDMP				*e*S	**Sn**	**20 23 52.7**	**-2.0**
MATI	**Mati**	**0.88**	**12**	*e*P	**Pn**	**20 23 47.8**	**-0.7**
MATI				*e*S	**Sn**	**20 24 02.4**	**0.0**
DAV	**Davao City (W)**	**1.10**	**333**	P	**Pn**	**20 23 51.1**	**+0.1**
	139nm,0.3s,baz=264,slow=5.4,SNR=11						
DAV				S	**Sn**	**20 24 08.9**	**+2.1**
	392nm,0.3s,baz=271,slow=13,SNR=17						
DAV				LR	LR	20 24 14.7	
	comp=Z,45nm,18.4s,baz=149,slow=41						
DMPH	**Davao City--Mi**	**1.14**	**330**	*e*P	**Pn**	**20 23 53.1**	**+1.7**
DMPH				*e*S	**Sn**	**20 24 10.2**	**+2.4**
SKMP	**Bagumbayan, Su**	**1.59**	**286**	*e*P	**Pn**	**20 23 56.0**	**-0.8**
BUKP	**Musuan**	**2.05**	**331**	*e*P	**Pn**	**20 24 03.4**	**+0.5**
BUKP				*e*S	**Sn**	**20 24 29.3**	**+1.2**
CTBH	**Cotabato--PC H**	**2.14**	**302**	*i* P	**Pn**	**20 24 02.2**	**-1.8**
CTBH				*i* S	**Sn**	**20 24 29.7**	**-0.5**
SGSI	**Sangihe**	**2.44**	**193**	P	**Pn**	**20 24 09.0**	**+0.9**
SGSI				S	**Sn**	**20 24 38.9**	**+1.6**
CGP	**Cagayan de Oro**	**2.73**	**330**	*e*P	**Pn**	**20 24 13.9**	**+2.1**
BUTP	**Butuan**	**2.90**	**351**	*e*P	**Pn**	**20 24 16.1**	**+1.9**
BUTP				*e*S	**Sn**	**20 24 51.7**	**+3.5**
PAGZ	**Pagadian**	**3.20**	**303**	*e*P	**Pn**	**20 24 17.4**	**-0.7**
KMSI	**Cibinong**	**5.86**	**201**	P	**Pn**	**20 24 57.5**	**+3.3**
MRSI	**Marisa**	**6.93**	**217**	P	**Pn**	**20 25 09.9**	**+1.1**
LUWI	**Luwuk**	**7.81**	**205**	P	**Pn**	**20 25 24.7**	**+3.9**
	40nm,0.9s,696nm0.4nm						
SANI	**Sanana**	**8.08**	**181**	P	**Pn**	**20 25 21.4**	**-3.1**
BNSI	**Bone**	**12.00**	**210**	P	**Pn**	**20 26 21.2**	**+3.5**
FITZ	**Fitzroy Crossi**	**24.03**	**181**	P	**P**	**20 28 35.5**	**-0.8**
	1.5nm,0.5s,baz=7.9,slow=8.9,SNR=15						
WRA	**Warramunga Arr**	**27.11**	**163**	P	**P**	**20 29 03.3**	**-0.8**
	1.0nm,0.6s,baz=200,slow=16,SNR=20						
ASAR	**Alice Springs**	**30.54**	**166**	P	**P**	**20 29 33.6**	**-1.0**
	1.1nm,0.6s,baz=345,slow=7.2,SNR=25						
KSRS	**Korea Array**	**31.27**	**3**	P	**P**	**20 29 41.0**	**+0.2**
	0.7nm,0.5s,baz=187,slow=9.8,SNR=4.3						
USRK	**Ussuriysk Ar.**	**38.32**	**7**	P	**P**	**20 30 41.6**	**+0.3**
	1.0nm,0.6s,baz=176,slow=8.2,SNR=3.2						
MKAR	**Makanchi Array**	**55.27**	**325**	P	**P**	**20 32 51.4**	**-2.1**
	0.1nm,0.3s,baz=117,slow=7.4,SNR=5.2						
ILAR	**Eielson Array**	**83.27**	**26**	P	**P**	**20 35 44.4**	**-1.5**
	0.3nm,0.7s,baz=260,slow=4.9,SNR=4.1						

*ATH **21** 20:26:12.0, 37°.39N×26°.97E, h23km±1km, ML2.5/5, Error ellipse: s-maj=2.7km s-min=1.1km az=297.0*
*DDA **21** 20:26:11.7, 37°.39N×27°.01E, h5km, ML2.4*
*ISK **21** 20:26:11.0, 37°.38N×26°.97E, h1km, ML2.6/12*
*ISCJB **21** 20:26:12.2±0.5, 37°.38N±0°.02×26°.96E±0°.03, h1km±5km, Error ellipse: s-maj=3.9km s-min=3.1km az=146.1*
*THE **21** 20:26:12.9, 37°.38N×26°.94E, h0km±2km, ML2.5/4, Error ellipse: s-maj=3.9km s-min=1.0km az=107.0*

ISC 21 20:26:12.3±1.1, 37°.39N±0°.02×26°.98E±0°.02, h11km±9km, n51, σ1§06/71, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.34**	**340**	P	**Pg**	**20 26 19.1**	**-0.1**
SMG				S	**Sb**	**20 26 24.9**	**-1.0**
SMG	**Samos**	**0.34**	**340**	P	**Pg**	**20 26 19.3**	**+0.1**
SMG				S	**Sb**	**20 26 25.0**	**-1.0**
SMG				AML	AML	20 26 26.0	
	comp=N,3106μm,0.2s						
SMG				AML	AML	20 26 26.2	
	comp=E,4716μm,0.4s						
GCAM	**G?zelcaml?**	**0.37**	**32**	PG	**Pg**	**20 26 19.7**	**0.0**
GCAM				SG	**Sb**	**20 26 26.4**	**-0.3**
GCAM	**G?zelcaml?**	**0.37**	**32**	*i* P	**Pg**	**20 26 20.0**	**+0.3**
GCAM				*i* S	**Sb**	**20 26 25.8**	**-0.9**
BODT	**Bodrum**	**0.41**	**141**	PG	**Pg**	**20 26 20.3**	**-0.2**
BODT				SG	**Sg**	**20 26 26.9**	**+0.9**
BDRM	**Kayabasi**	**0.49**	**131**	IAML_P			
	comp=Z,1μm,0.2s						
BDRM				*i* P	**Pb**	**20 26 22.6**	**-0.2**
BDRM				*i* S	**Sb**	**20 26 29.6**	**-0.5**
AYDN	**Tasoluk**	**0.76**	**69**	*i* P	**Pg**	**20 26 26.7**	**-0.3**
AYDN				*i* S	**Sb**	**20 26 38.9**	**+0.8**
DAT	**Datca**	**0.81**	**144**	PG	**Pg**	**20 26 27.7**	**-0.2**
DAT				SG	**Sb**	**20 26 40.0**	**+0.6**
DAT	**Datca**	**0.81**	**144**	IAML_P			
	comp=Z,148nm,0.1s						
DAT				*i* P	**Pg**	**20 26 27.8**	**-0.1**
DAT				*i* S	**Sb**	**20 26 40.6**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**0.91**	**52**	PG	**Pg**	**20 26 29.3**	**-0.6**
ZEY	**zmir**	**0.93**	**336**	*i* P	**Pn**	**20 26 31.3**	**-0.1**
ZEY				*i* S	**Sn**	**20 26 44.6**	**-0.2**
URLA	**Izmir**	**1.02**	**343**	PG	**Pb**	**20 26 31.9**	**-0.1**
URLA	**Izmir**	**1.02**	**343**	IAML_P			
	comp=Z,2μm,0.3s						
URLA				*i* P	**Pb**	**20 26 32.2**	**+0.2**
URLA				*i* S	**Sn**	**20 26 47.2**	**+0.2**
AMGA	**Amorgos Island**	**1.03**	**238**	P	**Pg**	**20 26 31.8**	**-0.3**
AMGA				S	**Sn**	**20 26 47.0**	**-0.2**
AMGA	**Amorgos Island**	**1.03**	**238**	P	**Pg**	**20 26 31.8**	**-0.3**
AMGA				S	**Sb**	**20 26 45.7**	**0.0**
AMGA				AML	AML	20 26 48.4	
	comp=N,1009μm,0.6s						
AMGA				AML	AML	20 26 48.7	
	comp=E,847μm,0.5s						
APE	**Apeiranthos**	**1.20**	**255**	PN	**Pg**	**20 26 34.5**	**-0.9**
APE	**Apeiranthos**	**1.20**	**255**	P	**Pg**	**20 26 34.4**	**-0.9**
APE				S	**Sn**	**20 26 52.5**	**+1.1**
APE	**Apeiranthos**	**1.20**	**255**	P	**Pg**	**20 26 34.5**	**-0.9**
APE				S	**Sn**	**20 26 51.5**	**+0.1**
APE				AML	AML	20 26 54.9	
	comp=N,279μm,0.2s						
APE				AML	AML	20 26 55.2	
	comp=E,256μm,0.2s						
CHOS	**Chios island**	**1.24**	**324**	PN	**Pn**	**20 26 36.1**	**+0.4**
CHOS	**Chios island**	**1.24**	**324**	P	**Pb**	**20 26 35.9**	**+0.1**
CHOS				S	**Sn**	**20 26 53.7**	**+1.2**
CHOS	**Chios island**	**1.24**	**324**	P	**Pg**	**20 26 35.7**	**-0.5**
CHOS				S	**Sn**	**20 26 53.3**	**+0.9**
CHOS				AML	AML	20 26 55.4	
	comp=N,193μm,0.3s						
CHOS				AML	AML	20 26 55.8	
	comp=E,319μm,0.2s						
TURN	**Turunc**	**1.39**	**111**	PN	**Pn**	**20 26 34.7**	**-2.9**
TURN	**Turunc**	**1.39**	**111**	IAML_P			
	comp=Z,398nm,0.3s						
TURN				*i* P	**Pn**	**20 26 33.9**	**-3.7**
TURN				*i* S	**Sb**	**20 26 52.3**	**-3.7**
ANAF	**Anafi Island**	**1.41**	**224**	P	**Pb**	**20 26 38.6**	**-0.1**
ANAF				S	**Sn**	**20 26 57.8**	**+1.2**
DALY	**Dalyan (Mula)**	**1.45**	**112**	PN	**Pb**	**20 26 39.6**	**+0.3**
DALY	**Dalyan (Mula)**	**1.45**	**112**	*i* P	**Pg**	**20 26 40.7**	**+0.6**
ARG	**Arkhangelos**	**1.48**	**141**	PN	**Pb**	**20 26 39.9**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.54**	**86**	IAML_P			
	comp=Z,240nm,0.2s						
TAVA				*i* P	**Pg**	**20 26 41.9**	**+0.1**
ZEDA	**zmir-Bergama**	**1.58**	**3**	IAML_P			
	comp=Z,229nm,0.2s						
ZEDA				*i* P	**Pg**	**20 26 42.7**	**+0.1**
THR3	**Thira Island,**	**1.60**	**233**	P	**Pb**	**20 26 41.5**	**-0.3**
THR3	**Thira Island,**	**1.60**	**233**	P	**Pn**	**20 26 41.0**	**+0.5**
THR6	**Thira Island,**	**1.64**	**232**	P	**Pn**	**20 26 41.5**	**+0.5**
MANT	**Manisa**	**1.66**	**48**	IAML_P			
	comp=Z,354nm,0.3s						
MANT				*i* P	**Pg**	**20 26 44.6**	**+0.4**
KULA	**Kula-Manisa**	**1.74**	**49**	PN	**Pn**	**20 26 43.6**	**+1.0**
FETY	**Fethiye**	**1.84**	**113**	PN	**Pn**	**20 26 45.2**	**+1.3**
FETY	**Fethiye**	**1.84**	**113**	IAML_P			
	comp=Z,651nm,0.3s						
FETY				*i* P	**Pb**	**20 26 46.5**	**+0.6**
FETY				*i* S	**Sg**	**20 27 11.3**	**-0.2**
PRK	**Paraskevi**	**1.94**	**343**	P	**Pn**	**20 26 45.6**	**+0.4**
SIGR	**SIGRI**	**2.03**	**334**	PN	**Pn**	**20 26 47.1**	**+0.6**
SIGR	**SIGRI**	**2.03**	**334**	P	**Pn**	**20 26 47.0**	**+0.6**
SIGR	**SIGRI**	**2.03**	**334**	P	**Pn**	**20 26 46.4**	**0.0**
SIGR				AML	AML	20 27 21.5	
	comp=N,50μm,0.6s						
SIGR				AML	AML	20 27 30.3	
	comp=E,45μm,0.6s						
USAK	**Uak-Merkez**	**2.08**	**50**	IAML_P			
	comp=Z,219nm,0.6s						
USAK				*i* P	**Pg**	**20 26 52.8**	**+0.5**
KHAL	**Karahalli**	**2.21**	**63**	IAML_P			
	comp=Z,67nm,0.2s						
KHAL				*i* P	**Pn**	**20 26 50.0**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**2.38**	**352**	IAML_P			
	comp=Z,70nm,0.2s						
BAYC				*i* P	**Pn**	**20 26 51.2**	**0.0**
AKAS	**Kas**	**2.40**	**118**	IAML_P			
	comp=Z,219nm,0.3s						
AKAS				*i* P	**Pb**	**20 26 54.4**	**-1.1**
BALY	**Balya**	**2.40**	**12**	IAML_P			
	comp=Z,104nm,0.3s						
BALY				*i* P	**Pg**	**20 26 57.4**	**-1.0**
KSL	**Kastellorizon**	**2.42**	**120**	P	**Pn**	**20 26 53.3**	**+1.4**
DURS	**Dursunbey**	**2.50**	**27**	IAML_P			
	comp=Z,85nm,0.3s						
DURS				*i* P	**Pg**	**20 27 00.6**	**+0.4**
DION	**Dionisos Attik**	**2.52**	**287**	P	**Pn**	**20 26 53.6**	**+0.4**
BOZC	**Bozcaada**	**2.56**	**344**	IAML_P			
	comp=Z,78nm,0.1s						
BOZC				*i* P	**Pn**	**20 26 50.3**	**-3.4**
VLY	**Voula,Athens**	**2.58**	**281**	P	**Pn**	**20 26 54.9**	**+0.9**
EREA	**Eretria**	**2.62**	**294**	P	**Pn**	**20 26 55.3**	**+0.6**

*ISCJB **21** 20:28:30.0±0.5, 44°.16N±0°.03×128°.79W±0°.05, h13km, mb3.8/10, MS3.1/3, Error ellipse: s-maj=6.0km s-min=3.5km az=153.8*
*IDC **21** 20:28:30.6±2.6, 44°.26N×128°.68W, h0km, mb3.4/4, mb1 3.7/8, mb1mx3.5/52, mbtmp3.5/8, ML3.0/4, MS3.1/10, Ms1 3.1/10, ms1mx2.9/34, Error ellipse: s-maj=49.3km s-min=15.5km az=52.0*
*NEIC **21** 20:28:30.8±2.5, 44°.07N×128°.93W, h12km±9km, mb3.9/31, Error ellipse: s-maj=23.3km s-min=13.7km az=59.0*
*ANF **21** 20:28:35.4±2.3, 44°.20N×128°.29W, ML3.5/3, Error ellipse: s-maj=27.5km s-min=5.6km az=51.0*

ISC 21 20:28:32.0±1.1, 44°.10N±0°.06×128°.67W±0°.09, h13km, n139, σ1§91/136, mb4.0/10, MS3.1/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02D	**Swisshome**	**3.48**	**88**	P	**Pn**	**20 29 26.8**	**+1.0**
	baz=271						
J01E	**Myrtle Point**	**3.57**	**104**	S	**Sn**	**20 30 09.7**	**+0.7**
	baz=286						
I03D	**Drain, OR**	**3.87**	**94**	P	**Pn**	**20 29 31.9**	**+0.8**
	baz=277,SNR=99						
COR	**Corvallis**	**3.88**	**81**	*e*Pn	**Pn**	**20 29 31.4**	**0.0**
K02D	**Willamette Mer**	**3.91**	**109**	S	**Sn**	**20 30 18.5**	**+1.0**
	baz=292						
G03D	**McMinnville, O**	**4.02**	**72**	P	**Pn**	**20 29 33.8**	**+0.6**
	baz=256,SNR=5.7						
F03A	**Seaside**	**4.06**	**61**	*e*Pn	**Pn**	**20 29 34.1**	**+0.2**
HUMO	**Hull Mountain**	**4.42**	**108**	*e*Pn	**Pn**	**20 29 38.7**	**-0.2**
HUMO				*e*Sn	**Sn**	**20 30 31.1**	**+0.8**
I04A	**Tendick Farm,**	**4.53**	**92**	P	**Pn**	**20 29 41.8**	**+1.5**
	baz=276,SNR=7.8						
H04A	**Detroit Lake**	**4.69**	**81**	*e*Pn	**Pn**	**20 29 44.2**	**+1.8**
NLWA	**Neilton Lookou**	**4.71**	**44**	*e*Pn	**Pn**	**20 29 42.6**	**-0.2**
NLWA				*e*Sn	**Sn**	**20 30 37.5**	**+0.2**
KOMM	**Orleans Mounta**	**4.77**	**124**	*e*Sg	**Sg**	**20 31 03.2**	**-1.8**
KHMM	**Horse Mountain**	**4.87**	**130**	*e*Pn	**Pn**	**20 29 43.4**	**-1.7**
E04D	**Cinebar**	**4.96**	**58**	P	**Pn**	**20 29 47.0**	**+0.9**
	baz=243						
YBH	**Yreka Blue Hor**	**4.97**	**116**	*e*Pn	**Pn**	**20 29 46.6**	**+0.1**
YBH	**Yreka Blue Hor**	**4.97**	**116**	Pn	**Pn**	**20 29 48.7**	**+2.2**
	0.7nm,0.3s,baz=319,slow=13,SNR=8.2						
YBH				Sn	**Sn**	**20 30 46.4**	**+2.5**
	0.2nm,0.3s,baz=178,slow=18,SNR=3.2						
YBH				LR	LR

WALA	Waterton Lakes	11.30	59	*e*Pn	Pn	20 31 13.8	+0.5
MCMT	McKenzie Canyo	11.34	81	*e*Pn	Pn	20 31 12.8	-1.1
MCMT				*e*Sn	Sn	20 33 14.3	-6.2
ISA	Isabella, Lake	11.49	134	*e*Pn	Pn	20 31 15.2	-0.7
LRM	Limekiln Ridge	11.62	76	*e*Pn	Pn	20 31 18.9	+1.2
BOZ	Bozeman (W)	12.19	77	*e*Pn	Pn	20 31 26.9	+1.4
PSUT	Pine Spring	12.44	111	*e*Pn	Pn	20 31 30.0	+1.0
YHB	Horse Butte	12.52	81	*e*Pn	Pn	20 31 31.7	+1.8
GSC	Goldstone, Bar	12.66	130	*e*Pn	Pn	20 31 33.5	+1.6
FXWY	Fox Creek	12.75	86	*e*Pn	Pn	20 31 33.5	+0.4
YHH	Holmes Hill	12.76	81	*e*Pn	Pn	20 31 31.0	-2.4
IMW	Indian Meadow	12.78	85	*e*Pn	Pn	20 31 36.3	+2.8
YFT	Old Faithful	12.79	82	*e*Pn	Pn	20 31 34.4	+0.7
PASC	Pasadena Art C	12.81	137	*e*Pn	Pn	20 31 33.5	-0.3
PASC				*e*Sn	Sn	20 33 52.7	-3.6
TPAW	Teton Pass	12.82	87	*e*Pn	Pn	20 31 36.4	+2.2
YPP	Pitchstone Pla	12.83	83	*e*Pn	Pn	20 31 37.0	+2.6
REDW	Red Top Meadow	12.91	87	*e*Pn	Pn	20 31 37.5	+2.1
FLWY	Flagg Ranch	12.93	84	*e*Pn	Pn	20 31 38.8	+3.2
MOOW	Moose Ponds	12.93	85	*e*Pn	Pn	20 31 39.1	+3.5
H17A	Grant Village	12.98	82	*e*Pn	Pn	20 31 41.3	+5.0
LOHW	Long Hollow	13.05	86	*e*Pn	Pn	20 31 39.4	+2.1
TCUT	Toone Canyon	13.06	97	*e*Pn	Pn	20 31 36.8	-0.6
JLU	Jordanelle	13.21	99	*e*Pn	Pn	20 31 39.1	-0.4
CCUT	Cedar City	13.30	114	*e*Pn	Pn	20 31 40.9	+0.1
GCMT	Greycliff	13.57	76	*e*Pn	Pn	20 31 46.5	+2.3
MSU	Marysvale	13.59	109	*e*Pn	Pn	20 31 47.7	+3.1
LCMT	Little Creek M	13.69	116	*e*Pn	Pn	20 31 47.7	+1.8
EGMT	Eagleton	13.71	67	*e*Pn	Pn	20 31 48.3	+2.3
MTPU	Mount Pierson	13.82	110	*e*Pn	Pn	20 31 51.7	+3.8
RLMT	Red Lodge	13.87	79	*e*Pn	Pn	20 31 52.9	+4.5
BW06	Boulder Array	13.96	89	*e*Pn	Pn	20 31 51.8	+2.2
PD31	Pinedale Array	13.96	89	*e*Pn	Pn	20 31 50.8	+1.2
PDAR	Pinedale Array	13.96	89	*e*Pn	Pn	20 31 50.8	+1.2
PDAR	Pinedale Array	13.96	89	Pn	Pn	20 31 53.1	+3.5
	baz=284,slow=12,SNR=4.5						
PDAR				LR	LR	20 37 35.8	
	comp=Z,76nm,19.7s,baz=270,slow=39						
KNB	Kanab	13.96	115	*e*Pn	Pn	20 31 51.0	+1.4
Q16A	Castle Valley	14.09	106	*e*Pn	Pn	20 31 53.0	+1.6
P17A	Butcher Ranch,	14.15	103	*e*Pn	Pn	20 31 54.7	+2.5
DLBC	Dease Lake	14.39	357	LR	LR	20 36 47.1	
	comp=Z,163nm,18.9s,baz=104,slow=35						
SRU	San Rafael Swe	14.46	104	*e*Pn	Pn	20 32 01.1	+4.6
W13A	Hualapai Mount	14.50	123	*e*Pn	Pn	20 32 00.5	+3.4
U15A	North Rim	14.65	116	*e*Pn	Pn	20 32 01.5	+2.3
Y12C	Blythe	15.08	128	*e*Pn	Pn	20 32 05.7	+1.0
	4.3nm,0.9s						
O20A	White River Ci	15.66	98	*e*Pn	Pn	20 32 13.0	+0.4
	17nm,1.4s						
PV09	Paradox Valley	15.70	104	*e*Pn	Pn	20 32 14.6	+1.4
PV21	Cone Mtn., Par	15.78	104	*e*Pn	Pn	20 32 15.5	+1.3
	9.8nm,1.1s						
PV23	Carpenter Ridg	15.81	104	*e*Pn	Pn	20 32 15.3	+0.8
	17nm,1.4s						
PV04	Paradox Valley	15.91	104	*e*Pn	Pn	20 32 17.5	+1.8
	4.4nm,1.0s						
PV17	East Wray Mesa	15.92	105	*e*Pn	Pn	20 32 18.0	+2.1
	19nm,1.7s						
PV22	Blue Mesa, Par	15.93	104	*e*Pn	Pn	20 32 18.1	+2.1
	7.2nm,1.0s						
PV16	Nyswonger Mesa	15.94	104	*e*Pn	Pn	20 32 17.3	+1.1
	5.0nm,1.1s						
PV11	David Mesa, Pa	15.97	104	*e*Pn	Pn	20 32 18.7	+2.1
	6.3nm,0.9s						
PV03	Paradox Valley	16.01	105	*e*Pn	Pn	20 32 17.8	+0.7
	4.9nm,1.2s						
PV12	Saucer Basin,	16.02	104	*e*Pn	Pn	20 32 20.0	+2.9
	5.5nm,1.1s						
PV01	Paradox Valley	16.26	105	*e*Pn	Pn	20 32 21.5	+1.2
	20nm,1.6s						
X16A	Lo Mia Camp, P	16.45	120	*e*Pn	Pn	20 32 24.2	+1.6
	6.6nm,1.5s						
MVCO	Mesa Verde	16.76	107	*e*Pn	Pn	20 32 27.7	+1.0
	6.9nm,1.0s						
SMCO	Snowmass	16.93	99	*e*Pn	Pn	20 32 30.0	+1.0
	4.2nm,1.4s						
N23A	Red Feather La	17.05	93	*e*Pn	Pn	20 32 31.5	+1.1
	8.6nm,1.1s						
W18A	Petrified Fore	17.10	115	*e*Pn	Pn	20 32 31.9	+1.1
	11nm,1.0s						
SDCO	Great Sand Dun	18.59	102	*e*P	P	20 32 50.1	+0.9
	6.3nm,1.4s						
LENM	Lemitar	19.48	113	*e*P	P	20 32 58.4	-0.5
T25A	Trinidad	19.64	102	*e*P	P	20 33 02.6	+1.9
	4.6nm,0.9s						
BNM	Barren Site	19.72	113	*e*P	P	20 33 02.3	+0.8
YKA	Yellowknife Ar	20.17	19	*e*P	P	20 33 06.5	+0.6
YKA	Yellowknife Ar	20.17	19	P	P	20 33 05.0	-0.9
	0.0nm,0.3s,baz=209,slow=11,SNR=8.3						
YKW3	Yellowknife Ar	20.23	19	*e*P	P	20 33 06.8	+0.3
	3.7nm,1.0s						
FFC	Flin Flon	20.24	49	*e*P	P	20 33 07.6	+0.9
	6.8nm,0.8s						
DHY	Denali Highway	21.86	337	*e*P	P	20 33 22.8	-1.5
	21nm,1.8s						
EPYK	Eagle Plains	22.75	352	*e*P	P	20 33 31.7	-2.0
	5.8nm,1.1s						
ULM	Lac du Bonnet	23.00	63	*e*P	P	20 33 37.3	+0.9
	40nm,1.9s						
ULM	Lac du Bonnet	23.00	63	P	P	20 33 36.6	+0.3
	2.8nm,0.7s,baz=281,slow=11,SNR=2.8						
ULM				LR	LR	20 42 27.1	
	comp=Z,64nm,20.3s,baz=114,slow=36						
ECSD	EROS Data Cent	23.02	80	*e*P	P	20 33 36.7	0.0
	6.0nm,1.0s						
ILAR	Eielson Array	23.10	340	*e*P	P	20 33 35.3	-1.9
ILAR	Eielson Array	23.10	340	P	P	20 33 35.1	-2.1
	1.1nm,1.0s,baz=144,slow=9.3,SNR=9.1						
ILAR				LR	LR	20 40 17.5	
	comp=Z,62nm,18.2s,baz=182,slow=31						
WRH	Wood River Hil	23.16	339	*e*P	P	20 33 37.1	-0.8
	6.5nm,1.3s						
MLY	Manley	24.31	337	*e*P	P	20 33 45.3	-3.8
	1.6nm,0.9s						
INK	Inuvik	24.40	356	*e*P	P	20 33 46.6	-3.1
	3.1nm,1.3s						
TXAR	Lajitas Array	24.75	118	*e*P	P	20 33 52.8	-0.6
TXAR	Lajitas Array	24.75	118	P	P	20 33 55.1	+1.8
	0.5nm,0.6s,baz=314,slow=9.6,SNR=4.7						
WMOK	Wichita Mounta	24.80	102	*e*P	P	20 33 56.0	+2.4
	7.3nm,1.3s						
IMAR	Indian Mountai	25.87	337	*e*P	P	20 34 00.9	-2.2
RES	Resolute Bay	34.14	15	LR	LR	20 48 16.9	
	comp=Z,42nm,18.4s,baz=216,slow=35						
H11N3	WAKE ISLAND Hy 58.29	267		T	T	21 40 59.5	
	baz=49,slow=75,SNR=2059						
H11N2	WAKE ISLAND Hy 58.29	267		T	T	21 41 00.4	
	baz=49,slow=75,SNR=1032						
H11N1	WAKE ISLAND Hy 58.30	267		T	T	21 41 12.1	
	baz=49,slow=75,SNR=846						
H11S1	WAKE ISLAND Hy 59.22	266		T	T	21 42 09.9	
	baz=50,slow=75,SNR=179						
H11S2	WAKE ISLAND Hy 59.23	266		T	T	21 42 15.3	
	baz=50,slow=75,SNR=114						
H11S3	WAKE ISLAND Hy 59.24	266		T	T	21 42 11.2	
	baz=50,slow=75,SNR=88						

KRSC 21 20:31:04.4±10.0, 52°31.N×160°.99E, h16km±10km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.98	323	*e*P	Pb	20 31 22.3	-0.7
SPN				*e*S	Sb	20 31 34.4	-1.3
NLC	Nalytchevo	1.32	311	*e*P	Pn	20 31 28.0	-0.1
NLC				*e*S	Sn	20 31 44.7	-0.6
RUS	Russkaya	1.53	275	*e*P	Pb	20 31 32.1	-0.1
RUS				*e*S	Sn	20 31 50.1	-0.3
DALK	Dalny	1.54	299	*e*P	Pb	20 31 31.9	-0.6
DALK				*e*S	Sn	20 31 50.7	-0.1
PET	Petropavlovsk	1.59	297	*e*P	Pb	20 31 32.8	-0.6
PET				*e*S	Sn	20 31 52.1	+0.1
UGLR	Uglovaya	1.59	305	*e*P	Pb	20 31 33.1	-0.4
UGLR				*e*S	Sg	20 31 55.2	-0.6
SDLR	Sedlovina	1.60	308	*e*P	Pn	20 31 32.8	+0.7
SDLR				*e*S	Sb	20 31 53.5	-0.2
SMAR	Somma	1.64	306	*e*P	Pb	20 31 33.6	-0.7
AVH	Avacha	1.67	306	*e*P	Pb	20 31 34.3	-0.4
KRER	Koryakskii	1.69	307	*e*P	Pb	20 31 34.2	-0.9
KRER				*e*S	Sb	20 31 55.5	-0.6
MTVR	Mutnovka	1.73	277	*e*P	Pb	20 31 35.2	-0.6
MTVR				*e*S	Sb	20 31 57.5	+0.2
KOK	Koryaka	1.73	305	*e*P	Pb	20 31 35.1	-0.8
KRX	Arik	1.77	307	*e*P	Pb	20 31 35.7	-0.7
KRMR	Karymshinskiy	1.82	288	*e*P	Pn	20 31 35.9	+0.9
KRMR				*e*S	Sn	20 31 58.7	+1.0
KDTR	Khodutka, Kamc	1.87	255	*e*P	Pn	20 31 36.8	+1.2
KDTR				*e*S	Sn	20 31 58.1	-0.7
ASAK	Asacha	1.90	273	*e*P	Pb	20 31 38.3	-0.3
APC	Apacha	2.42	286	*e*P	Pb	20 31 46.6	-0.8
APC				*e*S	Sb	20 32 16.4	-0.5
KZV	Kizimen	2.84	352	*e*P	Pb	20 31 52.7	-2.0
KZV				*e*S	Sb	20 32 28.5	-0.6
TUMD	Tumrok D	2.92	353	*e*P	Pn	20 31 51.9	+1.8
TUMD				*e*S	Sn	20 32 27.4	+2.7
TUMR	Tumrok	3.02	351	*e*P	Pb	20 31 54.7	-3.0
KBTR	Krutoberegovo	4.05	15	*e*P	Pn	20 32 08.3	+2.8

*IDC **21** 20:40:08.8±4.6, 17°.62S×174°.82W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/41, mbtmp4.0/4, Error ellipse: s-maj=202.8km s-min=33.2km az=138.0*
*ISCJB **21** 20:40:31.3±0.5, 17°.57S±0°.09×175°.26W±0°.06, h200km, mb4.2/16, Error ellipse: s-maj=12.3km s-min=7.8km az=12.0*
*NEIC **21** 20:40:31.2±1.5, 17°.67S×175°.35W, h174km±9km, mb4.6/15, Error ellipse: s-maj=22.2km s-min=19.6km az=176.0*
ISC 21 20:40:32.4±0.7, 17°.5S±0°.1×175°.25W±0°.08, h200km, n24, σ1§31/25, mb4.3/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.29	108	*e*Pn	Pn	20 41 50.0	-0.5
NIUE				*e*Sn	Sn	20 42 50.6	-1.4
FUNA	Funafuti	10.46	328	*e*Pn	Pn	20 42 56.0	-1.8
MARNC	Mare, Loyalty	16.24	253	*e*P	Pn	20 44 06.9	-2.8
	138nm,1.6s						
URZ	Urewera	21.70	196	*e*P	P	20 45 06.3	-1.2
	10nm,1.0s						
BKZ	Black Stump Fm	22.71	197	*e*P	P	20 45 16.2	-1.0
	11nm,1.2s						
BFZ	Birch Farm	24.20	196	*e*P	P	20 45 30.9	+0.3
	44nm,1.2s						
THZ	Tophouse	26.18	200	*e*P	P	20 45 47.4	-1.2
	41nm,1.5s						
MQZ	McQueen's Vall	28.02	199	*e*P	P	20 46 07.7	+2.9
	50nm,1.3s						
STKA	Stephens Creek	41.44	242	*e*P	P	20 48 00.3	+0.6
	1.5nm,1.3s						
STKA	Stephens Creek	41.44	242	P	P	20 48 00.7	+1.0
	0.9nm,0.5s,baz=104,slow=8.3,SNR=4.1						
BBOO	Buckleboo	46.21	241	*e*P	P	20 48 38.3	+0.6
	79nm,1.6s						
WB2	Warramunga Arr	47.64	259	*e*P	P	20 48 49.4	+0.5
WRAB	Tennant Creek	47.64	259	*e*P	P	20 48 48.9	0.0
	13nm,1.6s						
WR1	Warramunga Arr	47.65	259	*e*P	P	20 48 49.9	+0.9
WRA	Warramunga Arr	47.65	259	P	P	20 48 49.9	+0.9
	0.5nm,0.3s,baz=98,slow=7.0,SNR=48						
AS31	Alice Springs	47.78	254	*e*P	P	20 48 50.6	+0.7
	2.7nm,0.8s						
ASAR	Alice Springs	47.78	254	*e*P	P	20 48 50.5	+0.5
ASAR	Alice Springs	47.78	254	P	P	20 48 51.0	+1.0
	9.7nm,0.7s,baz=90,slow=8.0,SNR=139						
MTN	Manton Dam	51.82	267	*e*P	P	20 49 21.2	+0.8
	25nm,1.6s						
FITZ	Fitzroy Crossi	56.05	260	*e*P	P	20 49 52.4	+1.3
VNDA	Vanda	61.08	186	*e*P	P	20 50 25.4	+0.6
	1.6nm,1.2s						
QSPA	South Pole Qui	72.51	180	*e*P	P	20 51 36.6	-0.6
	9.7nm,1.6s						
PAHR	Pah Rah Range	77.16	41	*e*P	P	20 52 05.9	+1.7
	28nm,1.1s						
ILAR	Eielson Array	84.89	12	P	P	20 52 45.1	+0.8
	0.2nm,0.6s,baz=225,slow=6.3,SNR=3.9						

SNET 21 20:46:06.6±0.8, 15°.66N×86°.87W, h35km±999km, ML3.5, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	Tegucigalpa,Un	1.64	194	*e*P	Pn	20 46 32.6	-0.5
TGUH				*e*S	Sn	20 46 53.4	+0.4
PACA	Pacayal	2.59	213	*e*P	Pn	20 46 47.3	+1.1
PACA				*e*S	Sn	20 47 17.9	+1.3
PACA				IAML		20 47 22.2	
	comp=Z,220nm,0.1s						
MTO3	Montecristo	2.72	243	*e*P	Pn	20 46 48.5	+0.5

*IDC **21** 20:53:00.9±0.8, 15°.87S×174°.21W, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.0/35, mbtmp4.1/9, Error ellipse: s-maj=43.6km s-min=16.7km az=140.0*
*ISCJB **21** 20:53:15.7±1.7, 16°.04S±0°.08×174°.33W±0°.06, h132km±16km, mb4.5/40, Error ellipse: s-maj=13.8km s-min=8.2km az=147.5*
*NEIC **21** 20:53:17.0±1.3, 16°.05S×174°.29W, h132km±5km, mb4.7/41, Error ellipse: s-maj=21.0km s-min=16.0km az=133.0*
ISC 21 20:53:17.9±1.9, 16°.1S±0°.1×174°.24W±0°.10, h141km±19km, n109, σ0§80/115, mb4.6/40, 11C-10D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.05	126	*e*Pn	Pn	20 54 31.6	-0.2
NIUE				*e*Sn	Sn	20 55 18.9	-11
RAO	Raoul Island	13.51	194	*e*Pn	Pn	20 56 23.0	-0.9
MARNC	Mare, Loyalty	17.61	250	*e*P	P	20 57 13.6	0.0
	76nm,1.3s						
PINNC	Pines Island,	18.44	247	*e*P	P	20 57 23.3	+0.6
	37nm,1.4s						
DZM	Mont Dzumac	19.19	249	*e*P	P	20 57 31.4	+0.5
	6.6nm,0.9s						
TARA	Tarawa	21.50	323	*e*P	P	20 57 56.2	+0.5
	65nm,0.5s						
MXZ	Matakaoa Point	22.36	196	*e*P	P	20 58 06.3	+2.0
	80nm,1.2s						
URZ	Urewera	23.34	197	*e*P	P	20 58 13.6	+0.2
	120nm,2.0s						
URZ	Urewera	23.34	197	P	P	20 58 13.7	+0.3
	8.7nm,0.4s,baz=6.5,slow=6.8,SNR=10						
BKZ	Black Stump Fm	24.36	198	*e*P	P	20 58 23.0	+0.2
	51nm,1.7s						
BFZ	Birch Farm	25.83	197	*e*P	P	20 58 36.8	+0.7
	63nm,1.3s						
HNR	Honiara	26.02	282	*e*P	P	20 58 36.7	-1.4
	35nm,0.4s						
SNZO	South Karori	26.86	199	*e*P	P	20 58 47.4	+2.1
	264nm,1.5s						
THZ	Tophouse	27.86	201	*e*P	P	20 58 55.5	+1.3
	159nm,1.9s						
KHZ	Kahutara	28.23	199	*e*P	P	20 58 59.6	+2.1
	70nm,1.6s						
STKA	Stephens Creek	42.98	240	*e*P	P	21 01 02.9	-0.5
	8.8nm,2.0s						
STKA	Stephens Creek	42.98	240	P	P	21 01 03.6	+0.3
	1.8nm,0.8s,baz=81,slow=7.5,SNR=4.5						
MIDW	Midway	44.18	356	*e*P	P	21 01 13.8	+1.1
	230nm,1.5s						
BBOO	Buckleboo	47.76	240	*e*P	P	21 01 40.8	-0.1
	90nm,1.8s						
WB2	Warramunga Arr	48.89	257	*e*P	P	21 01 49.0	-0.8
	12nm,1.3s						
WB2				*e*PcP	PcP	21 03 12.5	+0.3
WRAB	Tennant Creek	48.89	257	*e*P	P	21 01 49.0	-0.7
	25nm,1.8s						
WRAB				*e*PcP	PcP	21 03 12.3	+0.1
WR1	Warramunga Arr	48.90	257	*e*P	P	21 01 49.7	-0.1
WR1				*e*PcP	PcP	21 03 12.6	+0.4
WRA	Warramunga Arr	48.90	257	P	P	21 01 49.7	-0.1
	0.6nm,0.4s,baz=91,slow=7.0,SNR=27						
WRA				PcP	PcP	21 03 12.6	+0.4
	0.5nm,0.9s,baz=94,slow=3.6,SNR=5.4						
AS31	Alice Springs	49.12	252	*e*P	P	21 01 51.0	-0.6
	5.0nm,1.8s						
ASAR	Alice Springs	49.13	252	*e*P	P	21 01 49.9	-1.7
ASAR				*e*PcP	PcP	21 03 13.2	+0.2
ASAR	Alice Springs	49.13	252	P	P	21 01 51.5	-0.1
	1.8nm,0.4s,baz=89,slow=7.9,SNR=38						
FITZ	Fitzroy Crossi	57.28	259	*e*P	P	21 02 52.2	+1.0
	50nm,2.0s						
FITZ	Fitzroy Crossi	57.28	259	P	P	21 02 51.9	+0.7
	2.6nm,1.1s,baz=257,slow=12,SNR=3.5						
SOEI	Soe	60.09	268	*e*P	P	21 03 11.2	+0.3
	14nm,0.8s						
LUWI	Luwuk	63.81	277	*e*P	P	21 03 35.7	+0.1
	14nm,0.7s						
YBH	Yreka Blue Hor	74.65	37	*e*P	P	21 04 42.6	+0.7
	51nm,1.8s						
HUMO	Hull Mountain	75.06	37	*e*P	P	21 04 44.8	+0.6
	49nm,1.6s						
NV01	Mina Array Sit	75.40	42	*e*P	P	21 04 46.5	+0.1
NVAR	Mina Array Bea	75.40	42	P	P	21 04 46.5	+0.1
	baz=232,slow=8.7,SNR=4.4						
BRLK	Bradley Lake	77.96	12	*e*P	P	21 04 59.7	-0.3
	10nm,1.1s						
U15A	North Rim	78.38	47	*e*P	P	21 05 03.7	+0.4
	3.3nm,0.8s						
RC01	Rabbit Creek A	79.40	12	*e*P	P	21 05 08.0	+0.1
	4.6nm,0.8s						
MSU	Marysvale	79.50	45	*e*P	P	21 05 10.0	+0.7
PMR	Palmer	79.98	12	*e*P	P	21 05 10.7	-0.3
	5.2nm,0.6s						
DIV	Divide	80.28	14	*e*P	P	21 05 12.6	-0.1
	9.5nm,0.8s						
PLID	Pearl Lake	80.58	38	*e*P	P	21 05 14.5	-0.4
	16nm,1.8s						
PPLA	Purkeypile	80.63	10	*e*P	P	21 05 14.0	-0.6
	37nm,1.8s						
HLID	Hailey	80.69	40	*e*P	P	21 05 15.3	-0.2
	1.9nm,0.8s						
LTX	Lajitas	81.68	56	*e*P	P	21 05 20.8	-0.2
TXAR	Lajitas Array	81.68	56	P	P	21 05 20.8	-0.2
	0.4nm,0.6s,baz=218,slow=7.3,SNR=5.4						
MCK	McKinley	81.98	11	*e*P	P	21 05 22.0	+0.4
	13nm,0.8s						
WRH	Wood River Hil	82.81	11	*e*P	P	21 05 25.7	-0.1
	11nm,1.0s						
S22A	4UR Ranch, Cre	82.84	48	*e*P	P	21 05 27.2	+0.2
	6.2nm,1.2s						
CCB	Clear Creek Bu	83.02	11	*e*P	P	21 05 26.6	-0.3
	16nm,1.2s						
MDM	Murphy Dome	83.22	11	*e*P	P	21 05 27.8	-0.3
	6.4nm,0.9s						
ILAR	Eielson Array	83.30	11	P	P	21 05 28.2	-0.2
	1.7nm,0.5s,baz=220,slow=5.3,SNR=41						
ILB	Eielson Array	83.30	11	*e*P	P	21 05 28.5	+0.1
	16nm,1.8s						
PD31	Pinedale Array	83.33	42	*e*P	P	21 05 29.2	-0.1
	2.6nm,0.7s						
PDAR	Pinedale Array	83.33	42	P	P	21 05 29.1	-0.3
	2.7nm,0.7s,baz=205,slow=3.4,SNR=22						
PRP	Porcupine Dome	84.23	12	*e*P	P	21 05 33.3	0.0
	6.6nm,0.9s						
YKA	Yellowknife Ar	91.07	24	P	P	21 06 06.5	+0.5
	0.2nm,0.4s,baz=222,slow=4.4,SNR=5.3						
YKB5	Yellowknife Ar	91.07	24	*e*P	P	21 06 06.5	+0.5
ARCES	ARCESS Array B	125.20	352	PKP	PKPdf	21 12 00.5	-0.6
	1.1nm,0.5s,baz=45,slow=1.9,SNR=11						
FIA0	FINESS Array S	132.46	347	*e*PKPdf	PKiKP	21 12 15.4	-0.8
FINES	FINESS Array B	132.46	347	PKP	PKiKP	21 12 15.4	-0.8
	1.1nm,0.6s,baz=29,slow=4.4,SNR=4.8						
CLL	Collm	144.42	352	*e*PKPdf	PKPbc	21 12 35.8	-0.3
CLL	Collm	144.42	352	*i* PKPdf	PKPab	21 12 35.2	-0.6
	comp=Z,5.0nm,0.7s						
BZK	Bozkurt	144.62	322 ⇑	*i*P	PKPdf	21 12 37.8	-0.1
BUR08	Bucovina Ar. S	144.70	337	*e*PKPdf	PKPdf	21 12 38.0	0.0
BURAR	Bucovina Array	144.72	337 ⇑	*i*P	PKPdf	21 12 37.8	-0.3
TSSL	Sulina	144.73	330 ⇑	*i*P	PKiKP	21 12 46.6	+4.8
BIZ	Bicaz	144.94	336 ⇓	*i*P	PKPdf	21 12 38.3	0.0
TESR	Tescani	145.06	335 ⇓	*i*P	PKPdf	21 12 38.2	-0.4
MORC	Moravsky Berou	145.09	347	*e*PKPbc	PKPdf	21 12 38.4	-0.1
MORC	Moravsky Berou	145.09	347 ⇑	*i*P	PKPdf	21 12 38.5	-0.1
MORC	Moravsky Berou	145.09	347	*e*PKP	PKPdf	21 12 38.8	+0.2
TLCR		145.14	331 ⇑	*i*P	PKPab	21 12 39.0	+0.3
TRPA	Tarpa	145.22	340 ⇑	*i*P	PKPab	21 12 39.2	+0.3
CFR	Carcaliu	145.46	332 ⇓	*i*P	PKPab	21 12 40.0	+0.1
VRI	Vrincioaia	145.54	334 ⇓	*i*P	PKPab	21 12 40.2	0.0
PLOR	Plostina	145.59	334 ⇓	*i*P	PKPbc	21 12 39.7	-0.3
JAVC	Velka Javorina	145.92	346	*e*PKP	PKPab	21 12 42.6	+1.0
KRUC	Moravsky	146.01	347	*e*PKP	PKPab	21 12 41.6	-0.3
EFOR	EFORIE	146.05	330 ⇓	*i*P	PKPab	21 12 41.7	-0.4
BR101	Keskin Array S	146.19	320	*e*PKPdf	PKPab	21 12 42.6	-0.4
BR131	Keskin Array S	146.19	320	*e*PKPdf	PKPab	21 12 42.6	-0.4
BRTR	Keskin Array B	146.19	320	PKPbc	PKPab	21 12 42.6	-0.4
	comp=Z,3.0nm,0.8s,baz=117,slow=1.8,SNR=20						
DRGR		146.33	339 ⇓	*i*P	PKPbc	21 12 42.1	-0.1
KHC	Kasperske Hory	146.46	351	*e*PKPdf	PKPbc	21 12 42.4	-0.1
WLF	Walferdange	146.54	360	*e*PKPdf	PKPab	21 12 43.2	-0.6
VOIR		146.59	335 ⇑	*i*P	PKPab	21 12 43.6	-0.7
GERES	GERESS Array B	146.72	350	PKPbc	PKPbc	21 12 43.7	+0.4
	comp=Z,1.4nm,0.6s,baz=26,slow=3.6,SNR=17

s-min=14.4km az=70.0
*ISCJB **21** 20:59:09.4±0.5, 9°.56N±0°.03×122°.00E±0°.04, h34km±5km, mb4.4/35, MS2.9/1, Error ellipse: s-maj=6.2km s-min=4.4km az=152.4*
*MAN **21** 20:59:09.2, 9°.61N×121°.98E, h30km, mb5.5, ML4.4, MS4.7*
MAN INTENSITY III - SIPALAY NEGROS OCCIDENTAL.
*NEIC **21** 20:59:12.5±1.7, 9°.54N×122°.24E, h47km±7km, mb4.6/25, Error ellipse: s-maj=20.9km s-min=13.7km az=73.0*
NEIC Felt [III PIVS] at Sipalay.

ISC 21 20:59:11.4±0.6, 9°.57N±0°.04×122°.04E±0°.04, h38km±2km, n76, σ1°.41/87, mb4.4/35, 1C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAP	**San Jose, Anti**	**1.18**	**355**	⇑*eP*	**Pn**	**20 59 29.3**	**-2.0**
JAP				*eS*	**Sn**	**20 59 52.0**	**+5.9**
GUIM	**Jordan**	**1.18**	**27**	*eP*	**Pn**	**20 59 28.6**	**-2.9**
GUIM				*eS*	**Sn**	**20 59 45.1**	**-1.2**
SNPH	**Sibulan**	**1.20**	**101**	⇓*iP*	**Pn**	**20 59 30.2**	**-1.5**
SNPH				*i S*	**Sn**	**20 59 47.3**	**+0.4**
CUYO	**Cuyo Island**	**1.62**	**322**	*eP*	**Pn**	**20 59 35.9**	**-1.7**
TBP	**Tagbilaran**	**1.80**	**86**	*eP*	**Pn**	**20 59 39.8**	**-0.2**
IPIL	**Ipil**	**1.84**	**163**	*eP*	**Pn**	**20 59 39.6**	**-0.9**
IPIL				*eS*	**Sn**	**21 00 01.9**	**-0.7**
LLP	**Lapu-Lapu**	**2.04**	**68**	*eP*	**Pn**	**20 59 42.1**	**-1.1**
LLP				*i S*	**Sn**	**21 00 08.6**	**+1.2**
PAGZ	**Pagadian**	**2.16**	**142**	*eP*	**Pn**	**20 59 45.3**	**+0.4**
OTRP	**Odiongan**	**2.78**	**360**	*eP*	**Pn**	**20 59 51.4**	**-2.0**
MSLP	**Maasin**	**2.83**	**78**	*eP*	**Pn**	**20 59 54.4**	**+0.3**
CGP	**Cagayan de Oro**	**2.84**	**113**	*eP*	**Pn**	**20 59 54.2**	**-0.1**
OCLP	**Ormoc**	**2.92**	**60**	*eP*	**Pn**	**20 59 54.4**	**-1.0**
SJMP	**San Jose**	**3.01**	**343**	*eP*	**Pn**	**20 59 54.7**	**-1.9**
BUSP	**Coron**	**3.02**	**323**	*eP*	**Pn**	**20 59 55.0**	**-1.7**
ENPP	**El Nido**	**3.04**	**303**	*eP*	**Pn**	**20 59 55.7**	**-1.3**
CTBH	**Cotabato--PC H**	**3.19**	**137**	⇓*iP*	**Pn**	**20 59 59.6**	**+0.5**
PLP	**Palo**	**3.30**	**61**	⇓*eP*	**Pn**	**21 00 00.3**	**-0.2**
BUKP	**Musuan**	**3.43**	**119**	*eP*	**Pn**	**21 00 04.2**	**+1.8**
BUTP	**Butuan**	**3.58**	**99**	*eP*	**Pn**	**21 00 05.6**	**+1.1**
BOAC	**Boac**	**3.87**	**357**	*eP*	**Pn**	**21 00 07.2**	**-1.2**
CNP	**Catarman**	**3.90**	**41**	*eP*	**Pn**	**21 00 08.7**	**0.0**
BESP	**Borongan**	**3.90**	**59**	*eP*	**Pn**	**21 00 07.8**	**-1.0**
BATP	**Bataraza**	**4.26**	**260**	*eP*	**Pn**	**21 00 12.7**	**-1.0**
LUBP	**Lubang**	**4.50**	**337**	*eP*	**Pn**	**21 00 16.3**	**-0.7**
LUWI	**Luwuk**	**10.57**	**176**	*e*Pn	**Pn**	**21 01 39.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**24.07**	**294**	*eP*	**P**	**21 04 25.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**24.07**	**294**	P	**P**	**21 04 24.9**	**+1.4**
	0.6nm,0.3s,baz=88,slow=8.0,SNR=5.6						
CMAR				LR	LR	21 12 47.6	
	comp=Z,41nm,20.4s,baz=135,slow=34						
GSI	**Gunungsitoli**	**25.68**	**253**	*eP*	**P**	**21 04 39.4**	**+1.2**
	34nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.72**	**173**	*eP*	**P**	**21 04 55.7**	**-0.7**
	19nm,1.6s						
WRAB	**Tennant Creek**	**31.72**	**158**	*eP*	**P**	**21 05 31.3**	**-0.7**
	15nm,1.5s						
WRA	**Warramunga Arr**	**31.73**	**158**	P	**P**	**21 05 31.4**	**-0.6**
	3.2nm,1.0s,baz=339,slow=9.5,SNR=14						
WRA				PcP	**PcP**	**21 08 23.2**	**+0.1**
	0.5nm,0.8s,baz=336,slow=2.1,SNR=7.3						
WR1	**Warramunga Arr**	**31.73**	**158**	*eP*	**P**	**21 05 31.4**	**-0.6**
WR1				*e*PcP	**PcP**	**21 08 23.2**	**+0.1**
WB2	**Warramunga Arr**	**31.73**	**158**	*eP*	**P**	**21 05 31.3**	**-0.7**
	39nm,1.9s						
AS31	**Alice Springs**	**35.01**	**161**	*eP*	**P**	**21 06 00.2**	**-0.3**
	1.9nm,0.7s						
ASAR	**Alice Springs**	**35.01**	**161**	*eP*	**P**	**21 06 01.1**	**+0.5**
ASAR	**Alice Springs**	**35.01**	**161**	P	**P**	**21 06 01.2**	**+0.6**
	4.5nm,0.6s,baz=342,slow=7.4,SNR=63						
ASAR				PcP	**PcP**	**21 08 32.8**	**+0.4**
	1.5nm,0.7s,baz=345,slow=2.3,SNR=10						
USRK	**Ussuriysk Ar.**	**35.57**	**12**	*eP*	**P**	**21 06 05.3**	**+0.2**
USRK	**Ussuriysk Ar.**	**35.57**	**12**	P	**P**	**21 06 05.8**	**+0.7**
	2.1nm,0.6s,baz=203,slow=7.1,SNR=4.4						
HIA	**Hailar**	**39.62**	**358**	*eP*	**P**	**21 06 40.8**	**+1.5**
	8.1nm,0.4s						
ULN	**Ulaanbaatar**	**40.22**	**344**	*eP*	**P**	**21 06 46.5**	**+2.0**
	2.0nm,0.5s						
KLR	**Kul'dur**	**40.36**	**10**	P	**P**	**21 06 45.7**	**+0.3**
	0.7nm,0.5s,baz=188,slow=1.2,SNR=4.3						
FORT	**Forrest**	**40.53**	**172**	*eP*	**P**	**21 06 48.7**	**+1.6**
	99nm,1.3s						
NWAO	**Narrogin (SRO)**	**42.51**	**186**	*eP*	**P**	**21 07 03.1**	**-0.1**
	94nm,1.6s						
BBOO	**Buckleboo**	**44.21**	**163**	*eP*	**P**	**21 07 16.3**	**-0.7**
	152nm,1.9s						
STKA	**Stephens Creek**	**45.26**	**156**	*eP*	**P**	**21 07 25.6**	**+0.2**
	9.8nm,1.9s						
STKA				*e*PcP	**PcP**	**21 09 05.4**	**+0.5**
STKA	**Stephens Creek**	**45.26**	**156**	P	**P**	**21 07 25.1**	**-0.2**
	2.1nm,0.6s,baz=353,slow=10,SNR=5.8						
STKA				PcP	**PcP**	**21 09 05.1**	**+0.2**
	1.8nm,0.7s,baz=334,slow=3.1,SNR=4.6						
ARMA	**Armidale**	**48.88**	**146**	*eP*	**P**	**21 07 52.8**	**-1.0**
	45nm,1.8s						
MK31	**Makanchi Array**	**50.13**	**325**	*eP*	**P**	**21 08 05.0**	**+1.9**
	2.2nm,1.0s						
MK32	**Makanchi Array**	**50.13**	**325**	*eP*	**P**	**21 08 05.0**	**+1.9**
MKAR	**Makanchi Array**	**50.13**	**325**	*eP*	**P**	**21 08 05.5**	**+2.4**
MKAR	**Makanchi Array**	**50.13**	**325**	P	**P**	**21 08 05.0**	**+1.9**
	1.0nm,0.8s,baz=127,slow=9.4,SNR=7.1						
MAKZ	**Makanchi**	**50.32**	**325**	*eP*	**P**	**21 08 03.4**	**-1.1**
	6.1nm,1.4s						
NIL	**Nilore**	**50.72**	**306**	*eP*	**P**	**21 08 08.7**	**+0.9**
	5.9nm,0.9s						
PETK	**Petropavlovsk-**	**52.06**	**26**	*eP*	**P**	**21 08 16.9**	**-0.4**
KURBB	**Kurchatov Arra**	**54.34**	**327**	P	**P**	**21 08 36.2**	**+2.0**
	baz=128,slow=6.1						
KURK	**Kurchatov**	**54.35**	**327**	*eP*	**P**	**21 08 34.8**	**+0.6**
	4.7nm,1.3s						
KK31	**Karatay Array**	**55.82**	**316**	*eP*	**P**	**21 08 45.8**	**+0.7**
	2.6nm,0.9s						
KKAR	**Karatay Array**	**55.82**	**316**	*eP*	**P**	**21 08 45.6**	**+0.6**
	2.6nm,0.9s						
KKAR				*eP*	**P**	**21 08 46.6**	**+1.6**
BRVK	**Borovoye**	**59.99**	**327**	*eP*	**P**	**21 09 16.7**	**+2.6**
	2.3nm,1.1s						
ABKAR	**Akbulak array**	**64.71**	**320**	*eP*	**P**	**21 09 44.9**	**-0.9**
RAO	**Raoul Island**	**69.51**	**126**	*eP*	**P**	**21 10 12.8**	**-3.7**
	937nm,1.1s						
BKZ	**Black Stump Fm**	**70.01**	**138**	*eP*	**P**	**21 10 17.6**	**-1.9**
	51nm,1.7s						
IMAR	**Indian Mountai**	**78.97**	**25**	*eP*	**P**	**21 11 09.6**	**-1.4**
CAST	**Castle Rocks**	**79.67**	**27**	*eP*	**P**	**21 11 14.2**	**-0.7**
	9.2nm,1.5s						
BPAW	**Bear Paw Mtn.**	**80.14**	**26**	*eP*	**P**	**21 11 17.2**	**-0.3**
	11nm,1.7s						
SML	**Sawmill**	**81.47**	**29**	*eP*	**P**	**21 11 24.6**	**0.0**
	15nm,1.5s						
ILAR	**Eielson Array**	**81.88**	**26**	P	**P**	**21 11 25.7**	**-1.0**
	0.3nm,0.8s,baz=250,slow=4.5,SNR=3.7						
AKASG	**Malin Array Be**	**84.45**	**320**	P	**P**	**21 11 40.9**	**+0.7**
	0.2nm,0.2s,baz=74,slow=4.7,SNR=3.3						
FIA0	**FINESS Array S**	**84.51**	**331**	*eP*	**P**	**21 11 41.3**	**+1.0**
FINES	**FINESS Array B**	**84.51**	**331**	P	**P**	**21 11 41.3**	**+1.0**
	2.8nm,1.0s,baz=134,slow=6.0,SNR=4.4						
VNDA	**Vanda**	**89.79**	**172**	*eP*	**P**	**21 12 05.7**	**+0.2**
VNDA	**Vanda**	**89.79**	**172**	P	**P**	**21 12 06.2**	**+0.8**
	0.8nm,0.9s,baz=287,slow=7.3,SNR=3.1						
YKA	**Yellowknife Ar**	**96.06**	**23**	P	**P**	**21 12 33.4**	**-1.3**
	0.2nm,0.6s,baz=300,slow=3.8,SNR=3.7						
YKB5	**Yellowknife Ar**	**96.06**	**23**	*eP*	**P**	**21 12 33.4**	**-1.3**
V56A	**Mocksville**	**130.11**	**24**	*e*Pdif	**Pdif**	**21 15 05.8**	**-1.1**
PLCA	**Paso Flores**	**147.01**	**162**	PKPbc	**PKPab**	**21 18 52.2**	**+0.1**
	4.0nm,0.8s,baz=219,slow=6.0,SNR=8.1						

SVSA 21 21:02:41.5±0.8, 38°.72N×30°.06W, h10km, MD3.5, ML2.4, 1C, Error ellipse: s-maj=19.4km s-min=6.5km az=10.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.07**	**94**	*eP*	Pg	21 02 57.6	-4.4
PCED				*eS*	Sg	21 03 09.8	-6.1
PCED				A	A	21 03 11.3	
	39nm,0.3s						
CALA	**Caldeira**	**1.07**	**97**	*eP*	Pg	21 02 58.3	-3.8
HOR	**Horta**	**1.14**	**99**	*eS*	Sb	21 03 11.9	-6.2
HOR				A	A	21 03 12.4	
	70nm,0.3s						
PCAN	**Candelaria**	**1.26**	**101**	⇑*eP*	Pn	21 03 00.9	-4.3
PCAN				*eS*	Sb	21 03 14.8	-6.9
PCAN				A	A	21 03 19.9	
	18nm,0.5s						
PICO	**Pico**	**1.30**	**99**	*eP*	Pn	21 03 00.8	-5.0
PICO				*eS*	Sb	21 03 15.8	-7.0
PICO				A	A	21 03 21.8	
	25nm,0.6s						
ROSA	**Rosais**	**1.42**	**89**	*eP*	Pn	21 03 02.5	-4.9
ROSA				*eS*	Sn	21 03 18.9	-7.3
PPNO	**Prainha do Nor**	**1.43**	**99**	*eP*	Pn	21 03 02.9	-4.7
PPNO				*eS*	Sn	21 03 18.7	-7.7

*NIED **21** 21:09:00, 39°.10N×142°.40E, h29km, Mw3.6 Best double couple: M₀2.42000×10¹⁴ NP1:φ₀s12.00000°, δ31.00000°, λ-73.00000°. NP2:φ₀s173.00000°, δ60.00000°, λ-100.00000°.*
*ISCJB **21** 21:09:35.0±1.1, 39°.02N±0°.04×142°.42E±0°.07, h30km±6km, mb3.6/5, Error ellipse: s-maj=9.9km s-min=6.5km az=22.6*
*JMA **21** 21:09:35.8±0.1, 39°.09N×142°.40E, h32km±1km, M3.9*
JMA Felt I J1.
*IDC **21** 21:09:40.5±2.5, 39°.05N×142°.42E, h69km±23km, mb3.3/5, mb1 3.4/7, mb1mx3.2/30, mbtmp3.5/7, MS2.4/2, Ms1 2.4/2, ms1mx2.2/18, Error ellipse: s-maj=29.7km s-min=11.0km az=114.0*

ISC 21 21:09:37.2±1.8, 39°.07N±0°.05×142°.26E±0°.09, h31km±11km, n21, σ2°.00/24, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.46**	**271**	P	**Pb**	**21 09 47.3**	**+0.2**
OFUJ				S	**Sb**	**21 09 55.2**	**+1.3**
MIYJ	**Miyakonagasawa**	**0.61**	**326**	P	**Pn**	**21 09 48.5**	**-1.2**
MIYJ				S	**Sb**	**21 09 57.4**	**-0.5**
JKMT	**Kesennumamotoy**	**0.67**	**247**	P	**Pn**	**21 09 50.1**	**-0.4**
JKMT				S	**Sn**	**21 10 00.0**	**+0.1**
JMK	**Ichinoseki**	**0.82**	**262**	P	**Pn**	**21 09 52.7**	**+0.1**
JMK				S	**Sn**	**21 10 04.9**	**+1.3**
JOM	**Ohasama**	**0.85**	**298**	P	**Pn**	**21 09 53.1**	**+0.1**
JOM				S	**Sb**	**21 10 05.5**	**+0.8**
JTH	**Tanohata**	**0.92**	**340**	P	**Pn**	**21 09 52.7**	**-1.2**
JIO	**Ouri**	**0.95**	**229**	P	**Pn**	**21 09 53.6**	**-0.7**
JIO				S	**Sn**	**21 10 06.1**	**-0.6**
JKZ	**Kuzumaki**	**1.16**	**322**	P	**Pn**	**21 09 57.4**	**+0.1**
JKZ				S	**Sb**	**21 10 13.1**	**-0.4**
MJAR	**Matsushiro Arr**	**4.09**	**233**	P	**Pn**	**21 10 40.6**	**+3.2**
	0.2nm,0.3s,baz=41,slow=11,SNR=18						
MJAR				S	**Sn**	**21 11 29.9**	**+5.7**
	0.1nm,0.3s,baz=82,slow=25,SNR=2.5						
MJAR				LR	LR	21 12 21.8	
	comp=Z,37nm,20.6s,baz=125,slow=39						
ASAJ	**Asahikawa**	**5.04**	**3**	P	**Pn**	**21 10 53.6**	**+3.0**
	0.6nm,0.3s,baz=131,slow=20,SNR=2.3						
ASAJ				S	**Sn**	**21 11 52.0**	**+4.2**
	0.6nm,0.3s,baz=53,slow=20,SNR=2.4						
ASAJ				LR	LR	21 13 24.9	
	comp=Z,42nm,19.1s,baz=152,slow=44						
H11N2	**WAKE ISLAND Hy**	**28.69**	**125**	T	T	21 45 51.6	
	baz=318,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	21 46 01.2	
	baz=318,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**28.71**	**125**	T	T	21 46 01.8	
	baz=318,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	21 46 55.0	
	baz=319,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	21 47 03.6	
	baz=319,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**29.49**	**127**	T	T	21 47 01.6	
	baz=319,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**41.07**	**311**	P	**P**	**21 17 18.3**	**+0.8**
	0.5nm,0.4s,baz=90,slow=7.2,SNR=2.9						
MKAR	**Makanchi Array**	**43.63**	**300**	P	**P**	**21 17 37.9**	**-0.7**
	0.6nm,0.7s,baz=88,slow=8.4,SNR=4.2						
ILAR	**Eielson Array**	**47.42**	**33**	P	**P**	**21 18 07.3**	**-0.9**
	0.5nm,0.9s,baz=264,slow=5.4,SNR=6.5						
WRA	**Warramunga Arr**	**59.17**	**189**	P	**P**	**21 19 33.9**	**-1.1**
	0.7nm,0.7s,baz=8.9,slow=6.8,SNR=8.1						
ASAR	**Alice Springs**	**62.90**	**189**	P	**P**	**21 19 59.6**	**-0.7**
	0.3nm,0.6s,baz=4.2,slow=6.0,SNR=4.7						

MEX 21 21:11:22.9±1.0, 16°.96N×94°.18W, h159km±8km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.69**	**281**	*eP*	Pn	21 11 45.1	-1.2
CMIG				*eS*	Sn	21 12 02.1	-2.1
TGIG		**1.03**	**100**	*eP*	Pn	21 11 47.0	-1.9
TGIG				*eS*	Sn	21 12 06.0	-2.7
PCIG		**1.55**	**143**	*i* P	Pn	21 11 52.8	-0.8
PCIG				*i* S	Sn	21 12 15.8	-1.5
CCIG	**Comitan**	**2.07**	**109**	*i* P	Pn	21 11 58.2	-1.4
CCIG				*eS*	Sn	21 12 26.3	-1.6
HUIG	**Huatulco**	**2.19**	**238**	*eP*	Pn	21 11 58.6	-2.2
HUIG				*i* S	Sn	21 12 28.4	-1.7
TPIG	**Tehuac#an**	**3.36**	**296**	*i* P	Pn	21 12 14.7	-0.7
TPIG				*eS*	Sn	21 12 53.7	-2.4
PNIG	**Pinotepa**	**3.82**	**262**	*eP*	Pn	21 12 19.4	-1.7
PNIG				*i* S	Sn	21 13 04.7	-1.7

*ISCJB **21** 21:14:04.9±0.7, 37°.38N±0°.05×38°.62E±0°.04, h8km±6km, Error ellipse: s-maj=8.2km s-min=5.0km az=150.9*
*DDA **21** 21:14:04.4, 37°.36N×38°.57E, h7km±3km, ML2.7*
*ISK **21** 21:14:04.1, 37°.37N×38°.60E, h11km, ML1.9/4*

ISC 21 21:14:04.6±1.0, 37°.37N±0°.05×38°.59E±0°.03, h12km±8km, n12, σ0°.60/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.20**	**69**	PG	**Pg**	**21 14 08.8**	**-0.2**
URFA				SG	**Sg**	**21 14 11.8**	**-0.2**
ATAB	**Bozova**	**0.25**	**293**	IAML_P			
	comp=Z,5μm,0.2s						
ATAB				*i* P	**Pb**	**21 14 10.7**	**-0.5**
ATAB				*i* S	**Sg**	**21 14 14.0**	**+0.5**
SURC	**SANLIURFA_SURC**	**0.49**	**178**	IAML_P			
	comp=Z,472nm,0.1s						
SURC				*i* P	**Pg**	**21 14 14.3**	**0.0**
SURC				*i* S	**Sb**	**21 14 21.2**	**-1.2**
GZT	**Gaziantep**	**0.82**	**269**	IAML_P			
	comp=Z,1μm,0.1s						
GZT				*i* P	**Pb**	**21 14 20.9**	**+0.1**
GZT				*i* S	**Sn**	**21 14 34.2**	**0.0**
GAZ	**Gaziantep**	**1.11**	**260**	PN	**Pn**	**21 14 26.1**	**-0.1**
GAZ				SN	**Sn**	**21 14 41.9**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.16**	**29**	PN	**Pn**	**21 14 26.9**	**+0.1**
SVRC				SN	**Sn**	**21 14 43.0**	**+0.3**
DIYA	**Diyarbakir**	**1.34**	**65**	IAML_P			
	comp=Z,583nm,0.2s						
DIYA				*i* P	**Pg**	**21 14 31.1**	**+0.8**
HCB	**Kahramanmara**	**1.34**	**269**	IAML_P			
	comp=Z,472nm,0.1s						
HCB				*i* P	**Pg**	**21 14 30.1**	**-0.3**
HCB				*i* S	**Sg**	**21 14 47.4**	**-0.4**
KUZU	**Kuzuini**	**1.35**	**244**	IAML_P			
	comp=Z,562nm,0.2s						
KUZU				*i* P	**Pg**	**21 14 31.4**	**+0.8**
KUZU				*i* S	**Sg**	**21 14 49.4**	**+1.4**
DARE	**Darende-Malaty**	**1.48**	**324**	PN	**Pn**	**21 14 31.3**	**+0.1**
KAMA	**Osmaniye**	**1.54**	**264**	IAML_P			
	comp=Z,314nm,0.1s						
KAMA				*i* P	**Pg**	**21 14 34.2**	**-0.1**
KAMA				*i* S	**Sg**	**21 14 54.7**	**+0.5**
ANDN	**Andirin**	**1.80**	**277**	IAML_P			
	comp=Z,263nm,0.1s						
ANDN				*i* P	**Pg**	**21 14 38.6**	**-0.5**

*ISCJB **21** 21:21:20.5±0.3, 24°.27N±0°.01×121°.78E±0°.02, h10km±2km, Error ellipse: s-maj=2.9km s-min=2.0km az=31.2*
*TAP **21** 21:21:20.2, 24°.28N×121°.77E, h14km, ML3.0, B*
*JMA **21** 21:21:20.7±0.2, 24°.27N×121°.76E, h8km±5km, M2.4*

ISC 21 21:21:20.4±0.8, 24°.27N±0°.02×121°.78E±0°.02, h13km±6km, n85, σ0°.54/115, 3C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.16**	**348**	⇓*iP*	**Pg**	**21 21 24.2**	**-0.1**
	baz=351						
ENA				S	**Sg**	**21 21 26.8**	**-0.2**
	baz=351						
NACB	**Ninganchiao**	**0.19**	**241**	⇓P	**Pg**	**21 21 24.6**	**-0.1**
	baz=231						
NACB				S	**Sg**	**21 21 27.7**	**0.0**
	baz=231						
TWD	**Chiawan**	**0.25**	**221**	⇓*iP*	**Pg**	**21 21 25.7**	**0.0**
	baz=219						
TWD				S	**Sg**	**21 21 29.9**	**+0.7**
	baz=219						
ETLH	**Xiulin Townshi**	**0.28**	**257**	⇓P	**Pg**	**21 21 26.2**	**0.0**
	baz=255						
ETLH				S	**Sg**	**21 21 30.3**	**+0.2**
	baz=255						
HWA	**Hwalien**	**0.33**	**208**	*eP*	**Pb**	**21 21 27.8**	**-0.4**
	baz=214						
TWC	**Suao**	**0.35**	**11**	⇓*iP*	**Pg**	**21 21 27.3**	**-0.1**
	baz=9.0						
TWC				S	**Sg**	**21 21 32.0**	**-0.2**
	baz=9.0						
NNSB	**Datong**	**0.39**	**294**	⇓P	**Pg**	**21 21 28.4**	**+0.1**
	baz=293						
NNSB				S	**Sg**	**21 21 33.7**	**0.0**
	baz=293						
ENLB	**Shoufeng**	**0.40**	**204**	*eP*	**Pb**	**21 21 29.3**	**-0.1**
	baz=210						
NNS	**Nan Shan**	**0.41**	**295**	⇓*iP*	**Pg**	**21 21 28.6**	**0.0**
	baz=294						
NNS				S	**Sg**	**21 21 33.9**	**-0.2**
	baz=294						
NDT	**Datong Townshi**	**0.41**	**324**	⇑*iP*	**Pg**	**21 21 28.8**	**+0.2**
	baz=323						
NDT				S	**Sg**	**21 21 34.3**	**+0.1**
	baz=323						
ENTT	**Nioudou**	**0.42**	**333**	⇓*iP*	**Pg**	**21 21 28.8**	**0.0**
	baz=332						
ENTT				S	**Sg**	**21 21 34.5**	**+0.1**
	baz=332						
EOS1	**EOS1**	**0.43**	**49**	*eP*	**Pg**	**21 21 29.4**	**+0.5**
	baz=43						
EOS1				*eS*	**Sb**	**21 21 36.6**	**+0.4**
	baz=43						
TWE	**Neicheng**	**0.46**	**348**	P	**Pg**	**21 21 29.5**	**-0.1**
	baz=349						
TWE				S	**Sg**	**21 21 36.0**	**+0.2**
	baz=349						
WHF	**Hehuan Shan**	**0.48**	**255**	P	**Pg**	**21 21 30.0**	**-0.1**
	baz=255						
WHF				S	**Sg**	**21 21 36.8**	**+0.2**
	baz=255						
ILA	**Ilan**	**0.50**	**357**	*eP*	**Pg**	**21 21 30.4**	**+0.1**
	baz=352						
ILA				S	**Sb**	**21 21 37.5**	**-0.7**
	baz=352						
YHNB	**Yeheng**	**0.54**	**318**	⇑P	**Pg**	**21 21 31.0**	**-0.1**
	baz=317						
YHNB				S	**Sg**	**21 21 38.4**	**+0.1**
	baz=317						
ESL	**Shilin**	**0.55**	**215**	*eP*	**Pg**	**21 21 30.9**	**-0.3**
	baz=221						
NSK	**Sanguang**	**0.56**	**317**	⇑*iP*	**Pg**	**21 21 31.3**	**-0.1**
	baz=316						
NSK				S	**Sg**	**21 21 39.0**	**+0.1**
	baz=316						
NTC	**Toucheng**	**0.59**	**5**	P	**Pg**	**21 21 31.8**	**-0.1**
	baz=5.0						
CHGB	**Renai**	**0.59**	**250**	P	**Pg**	**21 21 32.0**	**0.0**
	baz=244						
CHGB				S	**Sg**	**21 21 40.1**	**+0.3**
	baz=244						
EGS		**0.59**	**14**	*eP*	**Pg**	**21 21 31.7**	**-0.3**
	baz=23						
OWD	**Renai**	**0.63**	**241**	P	**Pg**	**21 21 32.9**	**+0.1**
	baz=235						
EGFH	**Guangfu**	**0.68**	**208**	*eP*	**Pg**	**21 21 33.5**	**-0.2**
	baz=223						
TIPB	**Shuangxi**	**0.70**	**4**	P	**Pg**	**21 21 34.0**	**-0.2**
	baz=3.0						
TIPB				S	**Sg**	**21 21 42.5**	**-0.9**
	baz=3.0						
NHDH	**Xindian Distri**	**0.73**	**342**	*eP*	**Pb**	**21 21 35.7**	**+0.7**
	baz=335						
TATO	**Taipei**	**0.75**	**340**	*eP*	**Pb**	**21 21 35.5**	**0.0**
	baz=339						
WLTB	**Daxi**	**0.75**	**321**	*eP*	**Pn**	**21 21 36.7**	**-0.1**
	baz=320						
WHP	**Taichung City**	**0.76**	**271**	*eP*	**Pb**	**21 21 36.2**	**+0.6**
	baz=270						
TWB1	**Santiao Chiao**	**0.76**	**15**	*eP*	**Pb**	**21 21 35.5**	**-0.2**
	baz=14						
TWB1				*eS*	**Sg**	**21 21 44.5**	**-0.8**
	baz=14						
VWDT	**VWDT**	**0.77**	**229**	*eP*	**Pg**	**21 21 35.5**	**+0.1**
	baz=229						
VWDT				*eS*	**Sb**	**21 21 46.3**	**+0.1**
	baz=229						
LIOB	**Emei**	**0.79**	**299**	*eP*	**Pb**	**21 21 36.2**	**+0.1**
	baz=298						
NSTT	**Nanjuang**	**0.79**	**297**	P	**Pb**	**21 21 35.9**	**-0.2**
	baz=297						
NSTT				S	**Sb**	**21 21 46.3**	**-0.5**
	baz=297						
NWF	**Wu-fen Shan**	**0.80**	**0**	*eP*	**Pg**	**21 21 36.0**	**0.0**
	baz=360						
WFSB	**Wu-fen Shan**	**0.80**	**0**	*eP*	**Pb**	**21 21 36.1**	**-0.2**
	baz=360						
HGSD	**Ruisui**	**0.84**	**203**	*eP*	**Pb**	**21 21 37.0**	**+0.1**
	baz=220						
EHY	**Hungye**	**0.86**	**209**	*eP*	**Pg**	**21 21 37.0**	**-0.2**
	baz=221						
NCUH	**Zhongli**	**0.88**	**322**	*eP*	**Pb**	**21 21 38.1**	**+0.4**
	baz=316					

	baz=214					
RLNB	Erlin	1.35	254	eP	Pg	21 21 46.0 -0.3
	baz=255					
RLNB				eS	Sg	21 22 05.7 +1.8
	baz=255					
TPUB	Ta-pu	1.43	228	eP	Pb	21 21 47.4 +0.5
	baz=230					
WTP	Ta-pu	1.47	227	eP	Pb	21 21 47.7 0.0
	baz=229					
CHN1	Nanshi	1.57	227	eP	Pg	21 21 50.1 -0.5
	baz=230					
TWG	Pinlang	1.58	204	eP	Pn	21 21 46.8 -1.4
	baz=192					
TWGBT	Beinan	1.58	204	eP	Pn	21 21 46.5 -1.7
	baz=192					
SLGT	Liugui	1.64	219	eP	Pb	21 21 50.4 -0.2
	baz=223					
IRIF	Iriomote-Funau	1.78	87	P	Pn	21 21 50.6 -0.4
IRIF				S	Sb	21 22 15.4 +0.1
SSD	Sandimen	1.84	215	eP	Pb	21 21 54.1 0.0
	baz=229					
MASBT	Mashibuluo	1.95	213	eP	Pn	21 21 54.3 +1.0
	baz=217					
JKRS	Kuro-shima	2.04	90	P	Pn	21 21 56.1 +1.6
PNG	Penghu	2.15	252	eP	Pn	21 21 55.8 -0.2
	baz=253					
PHUB	P'eng-hu	2.15	250	eP	Pn	21 21 55.7 -0.4
	baz=252					
JIJ	Ishigaki jima	2.16	87	P	Pn	21 21 55.8 -0.4
JIJ				eS	Sn	21 22 23.1 +0.2
PTTC	Pingtan	2.20	304	eP	Pn	21 21 56.3 -0.4
	baz=304					
VWUC	VWUC	2.24	289	eP	Pn	21 21 56.9 -0.3
	baz=289					
JISG	Ishigakijimahi	2.33	82	P	Pn	21 21 58.7 +0.2
JISG				eS	Sn	21 22 27.8 +0.7
MATB	Ma-tsu	2.50	319	eP	Pn	21 22 00.5 -0.5
	baz=318					
PTMZ	Houxiangcun	2.54	288	eP	Pn	21 22 01.1 -0.3
	baz=288					
XPSS	Dashiqiu	3.01	332	eP	Pn	21 22 07.8 -0.1
	baz=331					
KNMB	Chin-men Tao	3.10	274	eP	Pn	21 22 08.6 -0.4
	baz=274					
AXDP	Jialang	3.52	281	eP	Pn	21 22 15.0 0.0
	baz=281					

*IDC **21** 21:41:48.4±0.9, 6°.80N×126°.88E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.7/37, mbtmp4.0/9, ML4.3/1, MS3.1/4, Ms1 3.1/4, ms1mx2.6/35, Error ellipse: s-maj=28.9km s-min=14.8km az=58.0*
*ISCJB **21** 21:41:55.9±0.8, 6°.53N±0°.05×126°.50E±0°.08, h68km±6km, mb3.8/9, Error ellipse: s-maj=12.6km s-min=8.1km az=173.5*
*NEIC **21** 21:41:55.0±1.8, 6°.75N×126°.74E, h56km±11km, mb4.0/3, Error ellipse: s-maj=18.1km s-min=10.6km az=125.0*
*MAN **21** 21:41:58.6, 6°.58N×126°.20E, h12km, mb4.5, ML3.3, MS3.1*

ISC 21 21:41:55.5±1.1, 6°.59N±0°.06×126°.63E±0°.09, h60km±10km, n35, σ2§09/34, mb3.9/9, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.51	314	eP	Pn	21 42 07.2	-0.4
MATI				eS	Sn	21 42 16.6	+0.1
DDMP	Don Marcelino,	1.03	242	eP	Pn	21 42 11.5	-2.5
DDMP				eS	Sn	21 42 24.7	-3.1
DAV	Davao City (W)	1.15	295	Pn	Pn	21 42 15.2	-0.3
	166nm,0.3s,baz=158,slow=0.7,SNR=20						
DAV				Sn	Sn	21 42 31.3	+0.9
	196nm,0.3s,baz=112,slow=20,SNR=9.3						
DMPH	Davao City--Mi	1.22	294	‖eP	Pn	21 42 18.3	+1.9
DMPH				eS	Sn	21 42 36.2	+4.1
BIPH	Bislig	1.60	350	‖iP	Pn	21 42 27.2	+5.5
BIPH				i S	Sn	21 42 48.3	+6.9
BUKP	Musuan	2.02	310	eP	Pn	21 42 24.4	-2.9
BUKP				eS	Sn	21 42 52.9	+1.5
SKMP	Bagumbayan, Su	2.08	268	eP	Pn	21 42 26.6	-1.4
SKMP				eS	Sn	21 42 49.2	-3.6
CTBH	Cotabato--PC H	2.45	285	⇑iP	Pn	21 42 33.1	0.0
BUTP	Butuan	2.57	337	eP	Pn	21 42 39.9	+5.2
BUTP				eS	Sn	21 43 17.7	+13
SCPH	Surigao	3.37	340	‖eP	Pn	21 43 00.6	+15
LUWI	Luwuk	8.50	207	ePn	Pn	21 43 59.5	+3.4
KAPI	Kappang	13.42	211	ePn	Pn	21 45 04.8	+1.5
KAPI	Kappang	13.42	211	Pn	Pn	21 45 04.6	+1.4
	1.4nm,0.3s,baz=22,slow=7.5,SNR=8.5						
SBUM	Sibu	14.94	255	ePn	Pn	21 45 25.6	+2.3
	5.4nm,0.9s						
SARN	Sarigan	21.25	60	eP	P	21 46 34.4	-2.5
	20nm,1.1s						
FITZ	Fitzroy Crossi	24.55	182	eP	P	21 47 11.2	+1.5
	5.5nm,1.0s						
FITZ	Fitzroy Crossi	24.55	182	P	P	21 47 11.2	+1.5
	2.2nm,0.7s,baz=9.6,slow=11,SNR=8.1						
WRA	Warramunga Arr	27.44	164	P	P	21 47 36.9	+1.0
	0.3nm,0.5s,baz=346,slow=11,SNR=5.1						
WR1	Warramunga Arr	27.44	164	eP	P	21 47 36.9	+1.0
PSA00	Pilbara Seismi	28.77	193	eP	P	21 47 48.2	+0.5
JHJ	Hachijo jima 2	29.09	23	LR	LR	22 01 53.2	
	comp=Z,9.8nm,18.0s,baz=298,slow=42						
CMAR	Chiang Mai Arr	29.44	296	eP	P	21 47 51.2	-2.5
KSRS	Korea Array	30.74	2	LR	LR	22 01 02.7	
	comp=Z,14nm,19.0s,baz=293,slow=38						
ASAR	Alice Springs	30.90	167	P	P	21 48 08.4	+1.7
	0.4nm,0.5s,baz=346,slow=7.8,SNR=7.9						
STKA	Stephens Creek	40.83	160	P	P	21 49 33.6	+2.2
	0.8nm,0.4s,baz=333,slow=9.0,SNR=2.8						
PALK	Pallekele	45.58	274	LR	LR	22 09 24.4	
	comp=Z,22nm,19.7s,baz=114,slow=36						
MK32	Makanchi Array	55.18	324	eP	P	21 51 22.7	+0.6
MKAR	Makanchi Array	55.18	324	P	P	21 51 22.7	+0.6
	0.7nm,0.5s,baz=112,slow=7.3,SNR=10						
ZALV	Zalesovo Beam	58.02	332	P	P	21 51 42.0	-0.1
	0.4nm,0.4s,baz=112,slow=6.4,SNR=2.5						
ZAA1	Zalesovo Array	58.02	332	eP	P	21 51 42.0	-0.1
MAW	Mawson	86.39	200	LR	LR	22 33 56.1	
	comp=Z,64nm,19.8s,baz=228,slow=36						
ARCES	ARCESS Array B	87.75	340	P	P	21 54 38.3	+0.7
	1.9nm,0.7s,baz=67,slow=7.1,SNR=5.3						
FIA0	FINESS Array S	89.28	332	eP	P	21 54 46.2	+1.3
FINES	FINESS Array B	89.28	332	P	P	21 54 46.2	+1.3
	1.7nm,0.8s,baz=93,slow=12,SNR=5.8						
GDR	Gold River	96.03	38	eP	P	21 55 12.4	-3.9

*ATH **21** 21:49:42.7, 37°.27N×19°.87E, h17km±2km, ML2.5/4, Error ellipse: s-maj=6.5km s-min=1.7km az=61.0*
*ISCJB **21** 21:49:44.0±3.6, 37°.29N±0°.06×19°.8E±0°.1, h15km±36km, Error ellipse: s-maj=18.4km s-min=9.2km az=161.8*
*THE **21** 21:49:46.3, 37°.43N×20°.04E, h0km±2km, ML2.4/3, Error ellipse: s-maj=3.6km s-min=1.6km az=255.0*

ISC 21 21:49:42.8±2.6, 37°.32N±0°.07×19°.83E±0°.09, h13km±12km, n26, σ1§06/32, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	Anninata	1.09	44	P	Pg	21 50 03.7	-0.2
KFL				S	Sg	21 50 16.9	-1.3
KFL	Anninata	1.09	44	P	Pg	21 50 03.8	-0.2
KFL				S	Sn	21 50 18.5	-0.4
KFL				AML	AML	21 50 22.8	
	comp=N,733μm,0.9s						
KFL				AML	AML	21 50 25.9	
	comp=E,854μm,0.4s						
VTN	Vitineika	1.23	61	P	Pb	21 50 06.3	+0.4
FSK	Fiskardo	1.28	27	P	Pb	21 50 06.8	+0.1
FSK				S	Sb	21 50 23.2	+0.2
FSK	Fiskardo	1.28	27	P	Pb	21 50 07.3	+0.6
EVGI	Lefkada island	1.45	26	P	Pb	21 50 10.5	+0.8
EVGI				S	Sb	21 50 28.4	+0.2
EVGI	Lefkada island	1.45	26	P	Pb	21 50 10.5	+0.8
MES3	Kyparissia	1.47	92	P	Pb	21 50 10.2	+0.2
RLS	Riolos of Patr	1.49	60	P	Pb	21 50 10.7	+0.3
RLS	Riolos of Patr	1.49	60	P	Pb	21 50 10.8	+0.3
AMT	Artemida-Makis	1.51	81	P	Pn	21 50 10.6	+0.9
AMT	Artemida-Makis	1.51	81	P	Pn	21 50 10.5	+0.9
AMT				AML	AML	21 50 42.4	
	comp=N,202μm,0.5s						
AMT				AML	AML	21 50 44.3	
	comp=E,178μm,0.7s						
MES2	Methoni	1.58	108	P	Pn	21 50 11.1	+0.5
PYL	PYLOS	1.59	105	P	Pn	21 50 11.4	+0.8
LKD2	Lefkada island	1.60	24	P	Pn	21 50 12.7	+1.8
LKD2				S	Sg	21 50 34.1	-0.4
LKD2	Lefkada island	1.60	24	P	Pn	21 50 12.7	+1.8
LKD2				AML	AML	21 50 47.3	
	comp=N,162μm,0.4s						
LKD2				AML	AML	21 50 47.9	
	comp=E,157μm,0.4s						
DRO	Drossia	1.62	67	P	Pb	21 50 12.4	-0.2
DRO	Drossia	1.62	67	P	Pb	21 50 12.5	-0.2
TSLK	Tsoukalades, L	1.64	23	P	Pb	21 50 13.6	+0.7
TSLK	Tsoukalades, L	1.64	23	P	Pb	21 50 13.5	+0.7
TSLK				AML	AML	21 50 48.2	
	comp=E,231μm,0.7s						
TSLK				AML	AML	21 50 51.6	
	comp=N,182μm,0.6s						
PDO	Prodromos	1.67	40	P	Pb	21 50 13.8	+0.5
ITM	Ithomi	1.68	94	P	Pn	21 50 12.9	+1.0
PVO	Paravola	1.86	46	P	Pb	21 50 16.9	+0.1
PVO	Paravola	1.86	46	P	Pb	21 50 16.8	+0.1
DYR	Agios Nikonas	2.08	105	P	Pn	21 50 18.7	+1.3
STON	Ston	5.78	344	ePn	Pn	21 51 09.1	+0.9
STON				Sn	Sn	21 52 10.7	-3.7

RSNC 21 21:49:45.5±0.7, 3°.73N×71°.09W, h22km±8km, ML3.5, Mw3.9, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUVC	San Jose del G	1.94	233	eP	Pn	21 50 15.8	-1.3
GUVC				eS	Sn	21 50 40.4	-0.4
GUVC				i		21 50 49.8	
	comp=Z,568nm,0.3s						
YOPC	Yopal, Colombi	2.09	321	eP	Pn	21 50 18.9	-0.5
YOPC				eS	Sn	21 50 44.8	0.0
YOPC				i		21 50 46.0	
	comp=Z,418nm,0.2s						
VILC	Villavicencio,	2.63	278	eP	Pn	21 50 25.5	-1.3
VILC				eS	Sn	21 50 56.7	-1.4
VILC				i		21 51 05.7	
	comp=Z,476nm,0.4s						
TAMC	Tame, Arauca	2.78	345	eP	Pn	21 50 28.1	-0.6
TAMC				eS	Sn	21 51 01.0	-0.7
TAMC				i		21 51 03.0	
	comp=Z,147nm,0.4s						
CHIC	Chingaza	2.79	289	eP	Pn	21 50 27.6	-1.6
CHIC				eS	Sn	21 50 58.9	-3.4
CHIC				i		21 51 18.6	
	comp=Z,268nm,0.4s						
RUSC	La Rusia	2.93	317	eP	Pn	21 50 29.6	-1.6
RUSC				eS	Sn	21 51 05.2	-0.8
RUSC				i		21 51 22.8	
	comp=Z,111nm,0.5s						
BARC	Barichara	3.53	324	eP	Pb	21 50 44.4	-3.1
PRAC	Prado	3.79	270	eP	Pn	21 50 41.7	-1.0
PRAC				i Pg	Pb	21 50 51.3	-0.5
PRAC				eS	Sn	21 51 25.5	-1.2
PRAC				i		21 51 42.5	
	comp=Z,68nm,0.4s						
PAMC	Pamplona, Colo	3.93	336	eP	Pn	21 50 43.7	-1.3
PAMC				i Pg	Pb	21 50 53.0	-1.4
PAMC				i		21 51 53.4	
	comp=Z,67nm,0.3s						
NORC	Norcasia	4.19	296	eP	Pn	21 50 46.5	-1.7
NORC				eS	Sn	21 51 32.4	-4.1
NORC				i		21 51 53.2	
	comp=Z,35nm,0.5s						
BRRC	Barranca, Sant	4.25	322	eS	Sn	21 51 37.0	-1.1
BRRC				i		21 52 02.2	
	comp=N,97nm,0.4s						
PTBC	PUERTO BERRIO,	4.37	310	eP	Pn	21 50 49.6	-1.0
PTBC				i Pg	Pb	21 50 58.8	-2.8
PTBC				i		21 51 60.0	
	comp=Z,29nm,0.5s						
GUY2C	Guyana, Caldas	4.52	289	eP	Pn	21 50 52.0	-1.1
GUY2C				eS	Sn	21 51 39.5	-5.7
GUY2C				i		21 52 06.6	
	comp=Z,39nm,0.5s						
OCAC	Ocana	5.00	334	eP	Pn	21 50 58.4	-1.0
OCAC				i		21 52 25.9	
	comp=Z,47nm,0.4s						
FLOC	Florencia	5.03	245	eP	Pn	21 50 59.6	-0.1
FLOC				i Pg	Pb	21 51 10.7	-2.3
FLOC				eS	Sb	21 52 11.3	-1.8
HELC	Santa Helena	5.06	299	eS	Sn	21 51 54.3	-4.1
HELC				i		21 52 25.1	
	comp=Z,12nm,0.5s						
PTLC	Puerto Leguiza	5.12	226	eP	Pb	21 51 16.1	+1.7
PTLC				eS	Sb	21 52 22.4	+6.8
SDV	Santo Domingo	5.14	5	eP	Pn	21 50 59.9	-1.5
YOTC	Yotoco, Valle	5.25	273	eP	Pn	21 51 00.3	-2.5
YOTC				eS	Sn	21 51 56.9	-5.9
PCON	Cinco Dias	5.48	255	eP	Pn	21 51 05.9	-0.5
PCON				i Pg	Pb	21 51 19.3	-1.6
PCON				i		21 52 36.1	
	comp=Z,49nm,0.4s						
SOTA	Rioblanco	5.74	254	eP	Pn	21 51 09.2	-0.7
SOTA				eS	Sb	21 52 38.9	+5.2
SOTA				i		21 52 55.9	
	comp=Z,29nm,0.7s						

*MAN **21** 21:57:43.9, 4°.88N×126°.31E, h34km, mb4.8, ML3.7, MS3.7*
*ISCJB **21** 21:57:46.2±0.4, 5°.24N±0°.02×126°.50E±0°.05, h131km±4km, mb4.1/33, Error ellipse: s-maj=7.8km s-min=3.9km az=0.1*
*NEIC **21** 21:57:46.3±1.9, 5°.25N×126°.45E, h115km±4km, mb4.4/23, Error ellipse: s-maj=19.4km s-min=9.4km az=75.0*
*IDC **21** 21:57:48.3±1.1, 5°.21N×126°.37E, h134km±9km, mb3.8/21, mb1 4.0/23, mb1mx3.8/42, mbtmp4.3/23, MS2.7/6, Ms1 2.8/6, ms1mx2.5/39, Error ellipse: s-maj=19.3km s-min=8.7km az=86.0*
*DJA **21** 21:57:51.1±1.1, 5°.7N±8°.12°.7E±°, h109km±7km, M4.6/13, mB5.0/12, mb4.8/13, MLv5.0/9, Mw(mB)4.3/12*

ISC 21 21:57:46.5±0.7, 5°.18N±0°.04×126°.48E±0°.07, h118km±6km, n103, σ1§62/112, mb4.2/33, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	1.20	320	eP	Pn	21 58 09.5	-0.9
DDMP				eS	Sn	21 58 26.3	-2.3
SGSI	Sangihe	1.76	213	P	Pn	21 58 17.7	+0.7
SGSI				S	Sn	21 58 38.8	-1.4
MATI	Mati	1.77	353	eP	Pn	21 58 16.6	-0.4
MATI				eS	Sn	21 58 41.6	+1.2
DAV	Davao City (W)	2.08	334	ePn	Pn	21 58 19.5	-1.4
DAV				eSn	Sn	21 58 40.3	-7.0
DAV	Davao City (W)	2.08	334	P	Pn	21 58 21.4	+0.4
	99nm,0.3s,baz=180,slow=4.0,SNR=3.7						
DAV				S	Sn	21 58 50.2	+2.9
	202nm,0.3s,baz=90,slow=20,SNR=10.0						
DAV				LR	LR	21 59 18.9	
	comp=Z,276nm,20.8s,baz=100,slow=45						
DMPH	Davao City--Mi	2.13	333	‖eP	Pn	21 58 26.1	+4.6
DMPH				eS	Sn	21 58 50.4	+2.1
SKMP	Bagumbayan, Su	2.35	305	eP	Pn	21 58 24.0	-0.3
SKMP				eS	Sn	21 58 55.1	+1.8
CTBH	Cotabato--PC H	3.01	312	⇑iP	Pn	21 58 31.8	-1.1
BUKP	Musuan	3.03	332	eP	Pn	21 58 33.2	0.0
BUKP				eS	Sn	21 59 10.5	+1.2
CGP	Cagayan de Oro	3.71	331	‖eP	Pn	21 58 42.2	0.0
BUTP	Butuan	3.86	347	eP	Pn	21 58 46.9	+2.6
BUTP				eS	Sn	21 59 34.4	+5.5
PAGZ	Pagadian	4.07	311	eP	Pn	21 58 46.9	-0.1
TNTI	Ternate	4.46	169	ePn	Pn	21 58 52.8	+0.5
TNTI				eSn	Sn	21 59 32.8	-11
TNTI	Ternate	4.46	169	P	Pn	21 58 52.7	+0.4
DCPH	Dipolog City	4.59	318	eP	Pn	21 58 47.0	-7.0
MSLP	Maasin	5.18	342	eP	Pn	21 59 00.9	-1.1
KMSI	Cibinong	5.21	209	P	Pn	21 59 03.4	+1.1
MRSI	Marisa	6.51	224	P	Pn	21 59 21.6	+1.7
SANI	Sanana	7.20	184	P	Pn	21 59 26.7	-2.5
LUWI	Luwuk	7.21	211	ePn	Pn	21 59 32.3	+3.0
LUWI	Luwuk	7.21	211	P	Pn	21 59 32.6	+3.3
APSI	Ampana	7.74	219	P	Pn	21 59 38.7	+2.2
MPSI	Mapaga	8.15	234	P	Pn	21 59 44.8	+2.8
PALU	Palau	8.23	74	P	Pn	21 59 41.7	-1.5
	baz=8.2,SNR=4.3						
FAKI	Fak Fak	9.89	144	ePn	Pn	22 00 06.5	+0.8
TTSI	Tana Toraja	10.54	219	P	Pn	22 00 16.2	+1.8
SPSI	Sidrap Palu	11.29	217	P	Pn	22 00 25.1	+0.6
BNSI	Bone	11.45	214	P	Pn	22 00 28.3	+1.7
KAPI	Kappang	12.15	214	ePn	Pn	22 00 35.6	-0.3
KAPI	Kappang	12.15	214	P	Pn	22 00 36.1	+0.2
	1.9nm,0.3s,baz=20,slow=8.4,SNR=32						
BKSI	Bulukumba	12.21	211	P	Pn	22 00 36.4	-0.2
BSSI	Bau Bau, Buton	12.74	208	P	Pn	22 00 46.6	+3.1
BSSI				S	P	22 00 44.5	-5.5
MMRI	Maumere	14.36	197	ePn	Pn	22 01 05.9	+1.4
MMRI	Maumere	14.36	197	P	Pn	22 01 06.3	+1.8
SBUM	Sibu	14.49	260	eP	P	22 01 11.3	+1.9
SOEI	Soe	15.00	188	ePn	P	22 01 14.8	-0.4
	21nm,0.7s						
SOEI	Soe	15.00	188	S	P	22 01 13.0	-2.2
PLAI	Plampang	16.40	212	P	P	22 01 33.1	+2.5
KSM	Kuching	16.56	258	ePn	P	22 01 33.2	+0.8
	29nm,0.7s						
SRBI	Singaraja	17.32	221	P	Pn	22 01 42.0	+0.8
JAGI	Jajag, Banyuwa	18.30	222	eP	P	22 01 50.5	-1.1
	39nm,0.6s						
KDU	Kakadu	18.72	162	P	Pn	22 01 57.9	0.0
	baz=19,SNR=6.8						
TPI	Tanjungpandan	20.39	248	P	P	22 02 14.4	+0.1
KNRA	Kununurra	20.84	174	P	P	22 02 20.0	+1.0
	baz=21,SNR=30						
JOW	Kunigami	21.60	4	eP	P	22 02 27.4	+0.3
	11nm,0.9s						
JOW	Kunigami	21.60	4	P	P	22 02 27.4	+0.3
	1.5nm,0.7s,baz=193,slow=11,SNR=5.3						
LEM	Lembang	22.29	238	P	P	22 02 34.8	+0.2
	21nm,0.6s,baz=60,slow=5.6,SNR=7.2						
MYKOM	Kota Tinggi	22.84	262	eP	P	22 02 39.5	-0.4
	20nm,0.7s						
FITZ	Fitzroy Crossi	23.14	182	P	P	22 02 43.4	+0.8
	baz=23,SNR=7.1						
FITZ	Fitzroy Crossi	23.14	182	P	P	22 02 42.7	0.0
	6.5nm,0.5s,baz=17,slow=8.1,SNR=45						
COEN	Coen	25.21	139	P	P	22 03 01.0	-0.6
	baz=25,SNR=5.1						
WRAB	Tennant Creek	26.12	163	eP	P	22 03 10.8	+1.1
	6.0nm,1.1s						
WRA	Warramunga Arr	26.13	163	P	P	22 03 11.0	+1.2
	2.3nm,0.5s,baz=340,slow=10,SNR=7.6						
WB2	Warramunga Arr	26.14	163	eP	P	22 03 10.8	+1.0
	5.7nm,0.8s						
JNU	Nakatsue	28.10	8	LR	LR	22 14 39.7	
	comp=Z,20nm,19.1s,baz=181,slow=36						
ASAR	Alice Springs	29.57	166	P	P	22 03 40.9	+0.5
	1.9nm,0.6s,baz=341,slow=7.0,SNR=31						
ASAR				PcP	PcP	22 06 43.0	+0.2
	1.0nm,0.5s,baz=346,slow=2.1,SNR=6.9						
ASAR				ScP	ScP	22 10 13.4	-0.6
	1.4nm,1.0s,baz=356,slow=3.2,SNR=4.8						
CM31	Chiang Mai Arr	29.95	298	eP	P	22 03 41.4	-2.5
	5.2nm,0.4s						
CM31				eScP	ScP	22 10 15.4	+0.1
CMAR	Chiang Mai Arr	29.95	298	P	P	22 03 43.5	-0.4
	0.8nm,0.3s,baz=113,slow=6.9,SNR=4.1						
CMAR				ScP	ScP	22 10 15.4	+0.1
	0.6nm,0.3s,baz=154,slow=3.6,SNR=4.6						
CMAR				LR	LR	22 18 03.7	
	comp=Z,15nm,18.2s,baz=110,slow=41						
WRKA	Warakurna	30.09	177	P	P	22 03 45.1	+0.1
	baz=30,SNR=7.0						
GIRL	Giralia	30.13	203	P	P	22 03 46.7	+1.4
	baz=30,SNR=3.2						
KMI	Kunming	30.20	313	P	P	22 03 50.3	+4.0
JHJ	Hachijo jima 2	30.44	22	LR	LR	22 17 58.7	
	comp=Z,15nm,18.5s,baz=39,slow=40						
KS15	Wonju Array Si	32.14	2	eP	P	22 04 02.5	-0.4
	4.4nm,1.1s						
KSRS	Korea Array	32.15	2	P	P	22 04 02.5	-0.5
	1.5nm,0.6s,baz=177,slow=9.8,SNR=8.1						
KSRS				LR	LR	22 17 02.0	
	comp=Z,9.0nm,19.9s,baz=180,slow=36						
MEEK	Meekatharra	32.53	193	P	P	22 04 06.2	-0.2
	baz=33,SNR=7.2						
MJAR	Matsushiro Arr	33.02	17	LR	LR	22 19 59.3	
	comp=Z,9.6nm,18.7s,baz=115,slow=40						
MORW	Morawa	35.50	196	P	P	22 04 31.9	-0.2
	baz=36,SNR=6.3						
KMBL	Kambalda	36.60	187	P	P	22 04 41.8	+0.3
	baz=37,SNR=14						
BLDU	Ballidu	36.80	194	P	P	22 04 42.9	-0.2
	baz=37,SNR=13						
KLBR	Kellerberrin	37.50	192	P	P	22 04 49.1	+0.1
	baz=38,SNR=6.7						
MUN	Mundaring	38.22	194	P	P	22 04 55.3	+0.3
	baz=38,SNR=7.3						
BBOO	Buckleboo	38.86	167	P	P	22 05 01.3	+1.0
	baz=39,SNR=12						
USRK	Ussuriysk Ar.	39.16	6	P	P	22 05 02.8	0.0
	2.6nm,0.7s,baz=190,slow=7.0,SNR=7.5						
STKA	Stephens Creek	39.56	160	eP	P	22 05 06.9	+0.7
	1.6nm,0.8s						
STKA	Stephens Creek	39.56	160	P	P	22 05 06.9	+0.7
	7.7nm,0.7s,baz=310,slow=6.3,SNR=5.2						
RKGY	Rocky Gully	40.58	192	P	P	22 05 16.2	+1.6
	baz=41,SNR=10.0						
ASAJ	Asahikawa	41.29	18	P	P	22 05 20.6	+0.3
	4.3nm,0.6s,baz=207,slow=7.7,SNR=3.6						
SONA0	Songino Array	45.86	341	eP	P	22 05 56.5	-0.5
SONM	Songino Array	45.86	341	P	P	22 05 56.5	-0.5
	0.3nm,0.3s,baz=146,slow=6.1,SNR=2.9						
PETK	Petropavlovsk-	54.19	23	P	P	22 07 00.2	+0.4
	2.2nm,0.6s,baz=174,slow=4.0,SNR=8.5						
PEA1	Petropavlovsk-	54.20	23	eP	P	22 07 00.2	+0.4
MK31	Makanchi Array	56.24	325	eP	P	22 07 13.9	-0.6
	1.0nm,0.6s						
MKAR	Makanchi Array	56.24	325	P	P	22 07 13.2	-1.4
	0.5nm,0.3s,baz=120,slow=6.7,SNR=14						
MA2	Magadan	57.37	14	P	P	22 07 22.2	-0.1
	3.4nm,0.4s,baz=168,slow=20,SNR=3.1						
ZALV	Zalesovo Beam	59.20	333	P	P	22 07 34.4	-0.7
	0.3nm,0.3s,baz=127,slow=9.3,SNR=2.7						
ZAA1	Zalesovo Array	59.20	333	eP	P	22 07 34.4	-0.7
KURK	Kurchatov	60.40	327	eP	P	22 07 43.1	-0.3
	3.0nm,0.6s						
SEY	Seymchan	60.69	13	P	P	22 07 45.4	+0.3
	1.4nm,0.3s,baz=154,slow=2.5,SNR=5.4						
GAR	Garm	60.77	312	eP	P	22

YUH	Yuha Desert	0.58	301	⇓iP	Pg	22 05 59.0	-0.8
RMX	La Rumorosa	0.68	292	eP	Pg	22 05 59.8	-1.9
RMX				eS	Sg	22 06 08.2	-2.4
IKP	In-Ko-Pah, Jac	0.72	295	⇓eP	Pg	22 06 01.5	-1.0
IKP				eS	Sg	22 06 11.3	-0.6
CRR	Carrizo Plain	0.76	315	ePg	Pg	22 06 02.3	-0.9
GLA	Glamis	0.82	31	ePg	Pg	22 06 02.6	-1.7
GLA	Glamis	0.82	31	⇑eP	Pg	22 06 02.6	-1.7
ECBX	El Chinero	0.91	165	⇓eP	Pg	22 06 04.7	-1.3
ECBX				eS	Sg	22 06 16.8	-1.0
CBX	Cerro Bola	1.13	268	⇑eP	Pg	22 06 08.5	-1.8
CBX				IAML		22 06 24.8	
	comp=N,295nm,0.3s						
BAR	Barrett	1.18	286	ePn	Pg	22 06 09.4	-1.9
BAR				eSg	Sg	22 06 24.9	-1.7
BAR	Barrett	1.18	286	⇓eP	Pg	22 06 09.3	-2.0
SPIG	San Pedro Mart	1.31	185	⇑eP	Pg	22 06 10.4	-3.3
SPX	San Pedro Mart	1.31	185	⇑eP	Pg	22 06 10.4	-3.3
SPX				IAML		22 06 32.8	
	comp=N,101nm,0.1s						
113A	Mohawk Valley,	1.38	72	ePn	Pn	22 06 11.1	-3.6
113A				eSg	Sb	22 06 27.7	-5.3
Y12C	Blythe	1.55	26	ePn	Pn	22 06 14.9	-2.1
PFO	Pinyon Flats O	1.58	323	ePn	Pn	22 06 13.8	-3.7
CPE	Camp Elliot	1.59	290	ePn	Pn	22 06 16.3	-1.3
CPE				eSn	Sn	22 06 36.8	-1.8
BBRC	Big Bear Solar	2.33	325	ePn	Pb	22 06 31.8	+0.5
HLLC	North Hollywoo	3.12	306	ePn	Pn	22 06 33.5	-5.2
STCC	Santa Clara	3.77	302	ePn	Pn	22 06 41.9	-5.6
TUC	Tucson	3.85	89	ePn	Pn	22 06 45.9	-2.8

IDC 21 22:08:29.1±2.0, 1°.03S×127°.63E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/34, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=156.3km s-min=25.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.91	161	P	P	22 13 02.4	-0.1
	0.2nm,0.3s,baz=340,slow=11,SNR=21						
ASAR	Alice Springs	23.31	165	P	P	22 13 39.1	+0.1
	0.8nm,0.5s,baz=344,slow=11,SNR=9.2						
MKAR	Makanchi Array	61.97	326	P	P	22 18 50.9	-0.1
	0.3nm,0.5s,baz=130,slow=7.9,SNR=4.0						

TRN 21 22:11:02.9, 10°.80N×62°.33W, h57km, MD3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.93	99	eP	Pn	22 11 20.5	+0.7
TRN				eS	Sn	22 11 33.0	+0.7
GRGR	Grenville	1.48	27	eP	Pn	22 11 26.8	-0.5
GRGR				eS	Sn	22 11 45.5	-0.1
GRHS	Sauteurs	1.57	25	eS	Sn	22 11 46.9	-0.8
TOSP	Speyside	1.83	74	eP	Pn	22 11 31.6	-0.4
TOSP				eS	Sn	22 11 53.5	-0.6
SVB	Belmont	2.67	23	eP	Pn	22 11 44.4	+0.9
SVB				eS	Sn	22 12 14.1	-0.7
SVCV	St. Vincent, C	2.72	25	eP	Pn	22 11 44.2	+0.1
SSV	Crater Summit	2.75	24	eS	Sn	22 12 15.9	-0.8
MCLT	Moule a Chique	3.19	25	eP	Pn	22 11 50.6	0.0
MCLT				eS	Sn	22 12 23.2	-4.3
SLBI	Saint Lucia, B	3.47	22	eP	Pn	22 11 55.7	+1.3
SLBI				eS	Sn	22 12 33.6	-0.6

KRSC 21 22:11:52.4±10.0, 52°.28N×160°.98E, h17km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.00	325	eP	Pb	22 12 11.0	-0.3
SPN				eS	Sb	22 12 22.8	-1.4
NLC	Nalytchevo	1.33	312	eP	Pn	22 12 16.3	+0.1
DALK	Dalny	1.55	300	eP	Pb	22 12 20.1	-0.5
DALK				eS	Sn	22 12 39.0	+0.1
PET	Petropavlovsk	1.60	299	eP	Pn	22 12 20.5	+0.6
PET				eS	Sn	22 12 40.6	+0.5
UGLR	Uglovaya	1.61	306	eP	Pb	22 12 21.1	-0.5
UGLR				eS	Sb	22 12 42.9	+1.2
SDLR	Sedlovina	1.62	309	eP	Pn	22 12 20.9	+0.7
SDLR				eS	Sb	22 12 42.9	+0.9
SMAR	Somma	1.65	307	eP	Pb	22 12 21.9	-0.5
AVH	Avacha	1.68	307	eP	Pb	22 12 22.2	-0.7
AVH				eS	Sb	22 12 43.4	-0.4
KRER	Koryakskii	1.70	308	eP	Pb	22 12 22.9	-0.4
KRER				eS	Sb	22 12 45.3	+0.9
MTVR	Mutnovka	1.73	278	eP	Pb	22 12 23.1	-0.6
MTVR				eS	Sn	22 12 44.2	+0.7
KOK	Koryaka	1.75	306	eP	Pb	22 12 23.6	-0.4
KRX	Arik	1.78	308	eP	Pn	22 12 23.4	+0.9
KRX				eS	Sn	22 12 45.7	+0.9
KRMR	Karymshinskiy	1.82	289	eP	Pb	22 12 24.7	-0.6
KRMR				eS	Sb	22 12 47.8	0.0
KDTR	Khodutka, Kamc	1.86	256	eP	Pn	22 12 24.5	+1.1
KDTR				eS	Sn	22 12 46.6	+0.2
APC	Apacha	2.42	287	eP	Pb	22 12 34.0	-1.4
KZV	Kizimen	2.87	352	eP	Pn	22 12 40.1	+2.7
KZV				eS	Sb	22 13 15.8	-2.1
TUMD	Tumrok D	2.95	353	eP	Pn	22 12 41.2	+2.8
TUMD				eS	Sb	22 13 17.5	-2.6
KBTR	Krutoberegovo	4.08	15	eP	Pn	22 12 56.8	+2.9
BDR	Baidarnaya	4.30	2	eP	Pn	22 13 00.9	+3.9

*NIED **21** 22:12:00, 37°.80N×142°.00E, h38km, Mw3.5 Best double couple: M0 1.74000×10^14 NP1: φ0=94.00000°, δ 14.00000°, λ-17.00000°. NP2: φ0=200.00000°, δ86.00000°, λ-104.00000°.*

JMA 21 22:12:07.3±0.1, 37°.84N×142°.03E, h38km±2km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.65	317	P	Pn	22 12 20.0	-0.1
JIKH				S	Sn	22 12 28.7	-0.4
JIO	Ouri	0.81	319	P	Pn	22 12 22.5	+0.3
JIO				S	Sn	22 12 33.0	-0.1
JMM	Marumori	0.98	272	P	Pn	22 12 24.9	+0.4
JMM				S	Sn	22 12 37.2	+0.1
JFK	Kawauchi	1.03	243	P	Pn	22 12 25.3	0.0
JFK				S	Sn	22 12 38.4	-0.1
JKMT	Kesennumamotoy	1.06	336	P	Pn	22 12 25.8	+0.2
JKMT				S	Sn	22 12 38.8	-0.4
JOU	Okura	1.20	296	P	Pn	22 12 28.5	+1.0
JOU				S	Sn	22 12 43.8	+1.2
JMK	Ichinoseki	1.28	330	P	Pn	22 12 29.1	+0.5
JMK				S	Sn	22 12 44.8	+0.3
JFT	Otama	1.38	257	P	Pn	22 12 31.4	+1.4
JYK	Kaneyama	1.70	310	P	Pn	22 12 35.6	+1.2
JOM	Ohasama	1.73	341	P	Pn	22 12 35.6	+0.8
JFY	Yanaizu	1.90	258	P	Pn	22 12 38.6	+1.5
JRG	Rokugo	1.90	325	P	Pn	22 12 38.8	+1.6
MAT	Matsushiro	3.32	248	P	Pn	22 13 00.1	+3.5
MAT				eS	Sn	22 13 39.2	+4.4

*NNC **21** 22:12:22.7±5.8, 37°.43N×71°.00E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=62.7km s-min=31.1km az=149.0*

ISC 21 22:12:20.9±3.6, 37°.0N±0°.2×71°.0E±0°.1, h50km, n10, σ1°.70/13, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.53	21	P	Pn	22 13 42.4	+1.4
	SNR=30						
UCH	Uchtor	5.88	27	P	Pn	22 13 47.3	+1.4
	SNR=5.8						
EKS2	Erkin-Say	6.04	20	P	Pn	22 13 49.9	+2.1
	SNR=6.8						
KK31	Karatay Array	6.10	357	⇑P	Pn	22 13 50.4	+2.0
	0.9nm,0.3s,baz=176,slow=12,SNR=19						
KK31				⇑S	Sn	22 14 56.9	+0.1
	0.9nm,0.3s,baz=135,slow=26,SNR=4.2						
AAK	Ala-Archa	6.24	25	P	Pn	22 13 52.1	+1.7
	SNR=8.9						
AAK	Ala-Archa	6.24	25	⇓P	Pn	22 13 52.0	+1.5
	2.8nm,0.3s						
AAK				⇓S	Sn	22 15 00.8	+0.3
	8.1nm,0.8s						
CHMS	Chumysh	6.65	25	P	Pn	22 13 57.2	+1.3
	SNR=6.2						
TKM2	Tokmak 2	6.89	30	⇓P	Pn	22 13 59.8	+0.4
	1.6nm,0.5s						
TKM2				⇑S	Sn	22 15 14.2	-2.3
	3.2nm,0.9s						
AB31	Akbulak array	14.63	330	P	Pn	22 15 42.6	-2.1
	0.3nm,0.3s,baz=146,slow=14,SNR=19						
AKTO	Aktyubinsk	16.33	329	⇓P	Pn	22 16 06.4	-0.2
	1.2nm,0.6s						

KRSC 21 22:30:08.9±10.0, 52°.35N×160°.83E, h17km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.90	327	eP	Pb	22 30 25.3	-0.7
SPN				eS	Sb	22 30 37.8	+0.1
NLC	Nalytchevo	1.22	313	eP	Pn	22 30 30.8	-0.4
NLC				eS	Sb	22 30 45.9	-1.1
RUS	Russkaya	1.42	274	eP	Pb	22 30 34.5	-0.4
RUS				eS	Sb	22 30 53.0	+0.3
DALK	Dalny	1.44	299	eP	Pn	22 30 34.6	+0.5
DALK				eS	Sn	22 30 52.7	+0.1
UGLR	Uglovaya	1.49	306	eP	Pb	22 30 35.7	-0.5
SDLR	Sedlovina	1.50	309	eP	Pn	22 30 35.6	+0.4
SMAR	Somma	1.54	308	eP	Pb	22 30 37.1	+0.1
SMAR				eS	Sb	22 30 56.9	+0.6
AVH	Avacha	1.57	307	eP	Pn	22 30 36.7	+0.7
KRER	Koryakskii	1.59	308	eP	Pb	22 30 37.3	-0.6
MTVR	Mutnovka	1.63	276	eP	Pb	22 30 38.1	-0.4
MTVR				eS	Sb	22 30 59.0	+0.2
KOK	Koryaka	1.63	306	eP	Pb	22 30 38.1	-0.5
KOK				eS	Sb	22 30 59.8	+0.8
KRX	Arik	1.67	308	eP	Pn	22 30 38.1	+0.6
KRMR	Karymshinskiy	1.72	287	eP	Pn	22 30 38.7	+0.7
KRMR				eS	Sn	22 31 00.1	+0.6
KDTR	Khodutka, Kamc	1.78	254	eP	Pn	22 30 39.2	+0.3
KDTR				eS	Sn	22 31 00.4	-0.7
ASAK	Asacha	1.80	272	eP	Pb	22 30 40.9	-0.5
APC	Apacha	2.31	286	eP	Pb	22 30 49.5	-0.6
APC				eS	Sb	22 31 18.6	+0.3
KZV	Kizimen	2.79	354	eP	Pn	22 30 54.5	+1.6
KZV				eS	Sb	22 31 29.5	-2.8
TUMD	Tumrok D	2.88	355	eP	Pn	22 30 56.4	+2.5
TUMD				eS	Sb	22 31 32.3	-2.3
TUMR	Tumrok	2.97	352	eP	Pn	22 30 57.4	+2.0

IDC 21 22:45:03.7±4.0, 6°.48S×128°.24E, h383km±44km, mb3.4/2, mb1 3.5/5, mb1mx3.0/41, mbtmp4.2/5, Error ellipse: s-maj=59.5km s-min=14.1km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.83	192	P	P	22 47 40.4	-1.6
	1.0nm,0.3s,baz=7.2,slow=9.0,SNR=37						
FITZ				S	S	22 49 55.6	+2.6
	0.1nm,0.3s,baz=87,slow=18,SNR=2.1						
WRA	Warramunga Arr	14.64	157	P	P	22 48 13.4	+0.4
	1.5nm,0.3s,baz=336,slow=11,SNR=125						
WRA				S	S	22 50 49.8	+0.1
	0.5nm,0.3s,baz=333,slow=22,SNR=7.0						
ASAR	Alice Springs	17.94	163	P	P	22 48 49.0	+0.6
	1.0nm,0.3s,baz=343,slow=12,SNR=52						
ASAR				S	S	22 51 55.2	+0.6
	0.2nm,0.3s,baz=350,slow=20,SNR=6.3						
MKAR	Makanchi Array	66.84	328	P	P	22 55 15.7	0.0
	1.2nm,0.4s,baz=117,slow=8.0,SNR=32						
ZALV	Zalesovo Beam	70.35	334	P	P	22 55 36.9	0.0
	0.5nm,0.4s,baz=131,slow=4.6,SNR=3.0						

*TIR **21** 22:55:00.4, 43°.10N×18°.71E, h6km, Md3.7/4*
*SAR **21** 22:55:01.9±0.2, 43°.08N×18°.75E, h4km±1km, ML3.6/1*
*PDG **21** 22:55:02.1±0.3, 43°.07N×18°.75E, h3km, MD3.6/14, ML3.6/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*BEO **21** 22:55:02.5±0.2, 43°.08N×18°.75E, h2km±2km, ML3.4/20*
*LDG **21** 22:55:03.5±0.2, 43°.23N×18°.98E, h2km, Ml3.7/9, Error ellipse: s-maj=10.5km s-min=4.0km az=6.0*
*IDC **21** 22:55:03.4±1.2, 43°.19N×18°.61E, h0km, mb3.3/1, mb1 3.5/9, mb1mx3.3/43, mbtmp3.4/9, ML3.4/8, MS2.6/6, Ms1 2.6/6, ms1mx2.4/38, Error ellipse: s-maj=15.0km s-min=10.7km az=21.0*
*PRU **21** 22:55:04.1±0.0, 43°.20N×18°.85E, h0km*
*ROM **21** 22:55:06.2±1.0, 43°.1N±0°.1×18°.58E±0°.04, h10km, ML3.6/29*

ISC 21 22:55:02.1±0.9, 43°.09N±0°.01×18°.72E±0°.01, h6km±7km, n278, σ1°.93/367, 27C-26D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	Unac-Piva	0.18	50	⇓iPg	Pg	22 55 05.5	-0.3
UPM				eSg	Sg	22 55 08.6	+0.3
UPM	Unac-Piva	0.18	50	⇓iPg	Pg	22 55 05.3	-0.5
UPM				eSg	Sg	22 55 08.5	+0.3
BRY	Bratogost	0.23	215	⇓iPg	Pg	22 55 06.4	-0.2
BRY				eSg	Sg	22 55 10.1	+0.5
BRY	Bratogost	0.23	215	⇓iPg	Pg	22 55 06.3	-0.3
BRY				eSg	Sg	22 55 09.9	+0.3
NKY	Niksic	0.34	143	⇑iPg	Pg	22 55 08.1	-0.7
NKY				eSg	Sg	22 55 13.1	-0.2
NKME	Niksic	0.36	151	⇑iPg	Pg	22 55 08.4	-0.8
NKME				eSg	Sg	22 55 13.9	-0.1
TREB	Trebinje	0.46	216	ePg	Pg	22 55 10.2	-0.7
TREB				eSg	Sg	22 55 18.3	+1.4
TREB	Trebinje	0.46	216	⇓iPg	Pg	22 55 10.1	-0.8
TREB				eSg	Sg	22 55 17.8	+0.9
PLE	Pljevlja	0.55	63	⇓iPg	Pg	22 55 12.1	-0.6
PLE				eSg	Sg	22 55 20.4	+0.5
CEME	Cevo	0.56	165	⇑iPg	Pg	22 55 11.6	-1.3
CEME				eSg	Sg	22 55 20.4	+0.2
KOME	Kolasin	0.63	112	⇑iPg	Pg	22 55 13.0	-1.3
KOME				eSg	Sg	22 55 22.9	+0.4
HCY	Herceg Novi	0.66	194	⇑iPg	Pg	22 55 13.7	-1.1
HCY				i Sg	Sg	22 55 24.2	+0.9
HCY	Herceg Novi	0.66	194	⇓iPg	Pg	22 55 13.7	-1.1
HCY				eSg	Sg	22 55 23.4	+0.1
PDG	Podgorica	0.77	149	i Pg	Pg	22 55 15.0	-1.9
PDG				eSg	Sg	22 55 26.5	-0.3
PDG	Podgorica	0.77	149	⇑iP	Pg	22 55 15.2	-1.6
PDG				S	Sg	22 55 26.8	0.0
PDG	Podgorica	0.77	149	⇑iPg	Pg	22 55 14.9	-1.9
PDG				eSg	Sg	22 55 25.7	-1.1
TTG	Podgorica	0.77	149	⇑iPg	Pg	22 55 15.0	-1.9
TTG				i Sg	Sg	22 55 27.1	+0.3
STON	Ston	0.78	254	ePg	Pg	22 55 15.8	-1.2
STON				eSg	Sb	22 55 28.8	0.0
STON	Ston	0.78	254	i Pg	Pg	22 55 15.6	-1.4
STON				Sg	Sb	22 55 28.1	-0.7
STON	Ston	0.78	254	⇓iPg	Pg	22 55 15.5	-1.5
STON				eSg	Sg	22 55 27.6	+0.5
STON	Ston	0.78	254	P	Pg	22 55 15.8	-1.2
STON				S	Sb	22 55 28.7	0.0
STON				AML	AML		
	comp=E,2520μm,0.7s						
STON				AML	AML		
	comp=N,5425μm,1.2s						
STON				AML	AML		
	comp=N,5425μm,1.2s						
STON				AML	AML		
	comp=E,2520μm,0.7s						
STON	Ston	0.78	254	P	Pn	22 55 28.7	+9.1
BUM	Brajici-Budva	0.80	170	⇑iPg	Pg	22 55 15.9	-1.5
BUM				eSg	Sg	22 55 28.4	+0.7
IVA	Berane	0.89	104	⇑iPg	Pg	22 55 17.9	-1.3
IVA				eSg	Sb	22 55 31.5	-0.7
BBLS	Lazići	0.93	33	ePg	Pg	22 55 19.3	-0.6
BBLS				eSg	Sb	22 55 32.5	-0.8
BBLS	Lazići	0.93	33	⇓iPg	Pg	22 55 18.8	-1.1
BBLS				eSg	Sg	22 55 31.7	-0.2
SJES	Sjenica	0.94	79	ePg	Pg	22 55 19.3	-0.8
SJES				eSg	Sg	22 55 31.6	-0.6
DRME	Dracevica, Mon	0.96	159	⇑iPg	Pg	22 55 19.3	-1.3
DRME				eSg	Sb	22 55 34.1	-0.1
DRME	Dracevica, Mon	0.96	159	⇓iPg	Pg	22 55 18.9	-1.7
DRME				eSg	Sg	22 55 32.3	-0.8
HAPS	Han Pijesak,Bl	1.01	10	ePg	Pg	22 55 19.9	-1.7
HAPS				eSg	Sg	22 55 34.7	-0.1
HAPS	Han Pijesak,Bl	1.01	10	⇓iPg	Pg	22 55 19.8	-1.8
HAPS				eSg	Sg	22 55 34.4	-0.4
PVY	Plav	1.04	118	⇓iPg	Pg	22 55 20.6	-1.4
PVY				i Sg	Sb	22 55 36.2	-0.3
IVAS	Ivanjica	1.16	64	ePg	Pg	22 55 22.8	-1.5
ULC	Ulcinj	1.19	161	⇓iPg	Pg	22 55 23.0	-1.9
ULC				i Sg	Sn	22 55 41.6	-0.2
BCI	Bajram Curri	1.23	125	i PN	Pg	22 55 24.5	-1.1
BCI				i SN	Sn	22 55 43.2	+0.4
DIVS	Divibare	1.37	42	ePg	Pn	22 55 27.8	-0.1
DIVS				eSg	Sb	22 55 45.9	-0.2
DIVS	Divibare	1.37	42	⇓iPg	Pn	22 55 26.8	-1.1
DIVS				eSg	Sb	22 55 45.0	-1.1
TEKS	Tekeris	1.58	22	ePn	Pn	22 55 30.6	-0.1
TEKS	Tekeris	1.58	22	ePn	Pn	22 55 30.2	-0.5
TEKS				eSg	Sb	22 55 51.9	0.0
GRUS	Gruza	1.66	60	ePn	Pn	22 55 31.7	-0.1
GRUS				eSn	Sg	22 55 54.8	-0.7
TRUS	Trudelj	1.67	47	ePn	Pn	22 55 31.3	-0.7
TRUS				eSn	Sg	22 55 55.3	-0.6
DOB	Doboj	1.71	345	ePn	Pb	22 55 33.4	-0.5
DOB	Doboj	1.71	345	ePn	Pn	22 55 32.5	+0.1
DOB				eSn	Sn	22 55 54.6	+0.1
SELS	Selova	1.76	85	ePn	Pn	22 55 32.9	-0.3
SELS				eSn	Sn	22 55 55.2	-0.8
PHP	Peshkopia	1.90	137	P	Pb	22 55 36.2	-1.0
PHP	Peshkopia	1.90	137	i PN	Pb	22 55 37.5	+0.3
PHP				i SN	Sg	22 56 05.4	+2.4
TIR	Tirane	1.94	153	ePn	Pb	22 55 37.1	-0.7
TIR	Tirane	1.94	153	P	Pb	22 55 37.2	-0.6
TIR	Tirane	1.94	153	⇑iP	Pb	22 55 38.0	+0.2
TIR	Tirane	1.94	153	i PN	Pb	22 55 37.6	-0.2
TIR				i SN	Sg	22 56 08.6	+4.3
BLY	Banja Luka	2.00	327	ePn	Pn	22 55 37.5	+1.1
BLY				eSn	Sb	22 56 04.5	+0.5
BLY	Banja Luka	2.00	327	⇓iP	Pn	22 55 37.3	+0.9
BLY	Banja Luka	2.00	327	S	Sb	22 56 04.5	+0.5
BLY	Banja Luka	2.00	327	⇓iPn	Pn	22 55 37.1	+0.7
BLY				eSn	Sn	22 56 01.9	+0.1
BEO	Beograd	2.14	36	ePn	Pb	22 55 39.9	-1.4
SVIS	Svilajnac	2.16	56	ePn	Pn	22 55 40.0	+1.3
FRGS	Fruska Gora	2.22	20	ePn	Pn	22 55 38.6	-0.9
FRGS	Fruska Gora	2.22	20	ePn	Pn	22 55 38.4	-1.1
FRGS				eSn	Sn	22 56 07.2	0.0
BOVS	Bovan	2.25	75	ePn	Pn	22 55 40.1	+0.2
BARS	Barje	2.29	96	ePn	Pn	22 55 40.8	+0.3
BARS	Barje	2.29	96	ePn	Pb	22 55 43.2	-0.7
BARS				eSn	Sn	22 56 10.2	+1.2
BAI	Bari	2.40	215	ePn	Pn	22 55 42.5	+0.5
FASA	Fasano	2.49	205	ePn	Pn	22 55 42.6	-0.5
MSAG	Monte S. Angel	2.49	237	P	Pn	22 55 44.9	+1.6
OHR	Ohrid	2.51	141	i Pn	Pb	22 55 47.2	-0.4
OHR				i Sn	Sg	22 56 23.7	+1.0
KUBS	Kucevo	2.52	57	ePn	Pn	22 55 44.2	+0.6
KRUS	Krusevo	2.55	132	i Pn	Pb	22 55 46.4	-1.9
KRUS				i Sn	Sg	22 56 22.1	-1.8
SGRT	San Giovanni R	2.57	240	P	Pb	22 55 47.2	-1.5
SGRT				AML	AML		
	comp=E,621μm,0.7s						
SGRT				AML	AML		
	comp=N,583μm,0.8s						
SGRT				AML	AML		
	comp=E,621μm,0.7s						
SGRT				AML	AML		
	comp=N,583μm,0.8s						
UDBI	Udbina	2.58	305	ePn	Pb	22 55 47.8	-1.0
UDBI				Sn	Sg	22 56 23.3	-1.6
CGL1	Ceglie Messapi	2.60	201	ePn	Pn	22 55 44.5	-0.2
ZAGS	Zajecar	2.66	73	ePn	Pn	22 55 46.8	+1.2
VLO	Vlora	2.68	167	S	Sg	22 56 53.0	+25
MASS	Massafra	2.72	206	ePn	Pb	22 55 49.3	-1.8
MDVR	Moldovita	2.75	51	⇑iP	Pn	22 55 46.4	-0.4
MDVR	Moldovita	2.75	51	S	Sn	22 56 21.4	+1.0
TAR1	Taranto	2.77	203	ePn	Pb	22 55 50.1	-2.0
BOSS	Bosilegrad	2.83	101	ePn	Pn	22 55 47.7	-0.2
BIA	Bitola	2.83	136	i Pn	Pb	22 55 51.3	-1.9
BIA				i Sn	Sg	22 56 30.9	-2.2
MATE	Matera	2.86	212	⇑iP	Pn	22 55 43.0	-5.3
MATE	Matera	2.86	212	S	Sg	22 56 38.7	+4.7
ZAPS	Zavoj	2.87	85	ePn	Pn	22 55 49.3	+0.8
BANR	Banloc	2.88	36	⇓iP	Pn	22 55 48.1	-0.4
BANR	Banloc	2.88	36	S	Sn	22 56 25.0	+1.5
STIP	Stip	2.92	117	i Pn	Pn	22 55 51.6	+2.5
STIP				i Sn	Sb	22 56 30.6	0.0
PALZ	Palazzo San Ge	2.97	225	P	Pb	22 55 53.1	-2.2
PALZ				AML	AML		
	comp=E,882μm,1.0s						
PALZ				AML	AML		
	comp=N,757μm,1.2s						
PALZ				AML	AML		
	comp=N,757μm,1.2s						
PALZ				AML	AML		
	comp=E,882μm,1.0s						
MELA	Melanico ??? S	3.00	244	P	Pn	22 55 52.0	+1.9
MELA				AML	AML		
	comp=E,880μm,0.7s						
MELA				AML	AML		
	comp=N,739μm,1.3s						
MELA				AML	AML		
	comp=N,739μm,1.3s						
MELA				AML	AML		
	comp=E,880μm,0.7s						
FNA	Florina	3.04	138	P	Pn	22 55 53.3	+2.5
ACER	Acerenza	3.09	223	P	Pb	22 55 54.9	-2.7
ACER				AML	AML		
	comp=E,940μm,0.8s						
ACER				AML	AML		
	comp=N,850μm,0.8s						
ACER				AML	AML		
	comp=E,972μm,0.8s						
ACER				AML	AML		
	comp=N,872μm,0.8s						
ACER				AML	AML		
	comp=E,940μm,0.8s						
ACER				AML	AML		
	comp=E,972μm,0.8s						
ACER				AML	AML		
	comp=N,850μm,0.8s						
ACER				AML	AML		
	comp=N,872μm,0.8s						
NVLJ	Novalja	3.15	299	ePn	Pn	22 55 54.6	+2.4
NVLJ				Sn	Sb	22 56 35.8	-1.3
NEST	Nestorio	3.19	146	P	Pn	22 55 55.1

VAY	Valandovo	3.36 120	*i* Pn	Pn	22 55 57.4	+2.2
ZAG	Zagreb	3.37 325	*e*Pn	Pn	22 55 55.3	+0.1
ZAG			*e*Sn	Sn	22 56 35.1	-0.4
MRB1	Monte Rocchett	3.41 236	P	Pn	22 55 57.2	+1.4
OZLJ	Ozalj	3.44 318	*i* Pn	Pn	22 55 57.5	+1.3
KKB	Krupnik	3.45 109	*e*P	Pn	22 55 58.7	+2.2
KEK	Kerkira	3.47 166	P	Pn	22 55 56.9	+0.3
BOJS	Bojanci	3.47 315	*i* Pn	Pn	22 55 57.9	+1.3
BOJS	Bojanci	3.47 315	P	Pg	22 56 14.1	+5.6
GRG	Griva	3.47 127	P	Pn	22 55 59.2	+2.4
LPEL	Lama dei Pelig	3.51 254	P	Pn	22 56 00.4	+3.2
SLCN	Sala Consilina	3.55 222	P	Pn	22 56 01.1	+3.3
SLCN			AML	AML		
	comp=E,322μm,0.6s					
SLCN			AML	AML		
	comp=N,205μm,1.6s					
SLCN			AML	AML		
	comp=E,322μm,0.6s					
SLCN			AML	AML		
	comp=N,205μm,1.6s					
PTRJ	Pietraroja	3.55 242	P	Pn	22 55 59.1	+1.2
PTRJ			AML	AML		
	comp=E,432μm,0.6s					
PTRJ			AML	AML		
	comp=N,426μm,0.6s					
PTRJ			AML	AML		
	comp=E,432μm,0.6s					
PTRJ			AML	AML		
	comp=N,426μm,0.6s					
CRES	Cresnjev	3.60 321	*e*Pn	Pn	22 55 59.0	+0.6
CRES			*e*Sn	Sn	22 56 41.5	+0.2
KZN	Kozani	3.60 140	P	Pn	22 56 00.5	+2.0
SIRI	Monte Sirino -	3.60 217	P	Pb	22 56 02.9	-3.4
SIRI			AML	AML		
	comp=E,174μm,0.9s					
SIRI			AML	AML		
	comp=N,151μm,0.8s					
SIRI			AML	AML		
	comp=E,174μm,0.9s					
SIRI			AML	AML		
	comp=N,151μm,0.8s					
MIDA	Miranda	3.61 248	P	Pn	22 56 01.1	+2.4
MIDA			AML	AML		
	comp=E,239μm,0.9s					
MIDA			AML	AML		
	comp=N,876μm,1.6s					
MIDA			AML	AML		
	comp=N,876μm,1.6s					
MIDA			AML	AML		
	comp=E,239μm,0.9s					
SRE	Strehaia	3.61 63 ⇓	*i*P	Pn	22 56 00.0	+1.4
RNI2	Rionero Sannit	3.65 249	P	Pn	22 56 01.4	+2.2
RNI2			AML	AML		
	comp=E,251μm,1.6s					
RNI2			AML	AML		
	comp=N,306μm,1.0s					
RNI2			AML	AML		
	comp=E,266μm,0.8s					
RNI2			AML	AML		
	comp=N,314μm,1.0s					
RNI2			AML	AML		
	comp=N,314μm,1.0s					
RNI2			AML	AML		
	comp=E,251μm,1.6s					
RNI2			AML	AML		
	comp=E,266μm,0.8s					
RNI2			AML	AML		
	comp=N,306μm,1.0s					
BEHE	Becsehely	3.66 338	*e*Pn	Pn	22 55 59.7	+0.5
BEHE			*e*Sn	Sn	22 56 42.2	-0.4
BEHE	Becsehely	3.66 338	*e*Pn	Pn	22 55 59.1	-0.1
BEHE			Sn	Sg	22 56 58.1	-1.4
KNT	Kendrikon	3.66 120	P	Pn	22 56 01.2	+1.9
KPRO	Kipourio	3.71 147	P	Pn	22 56 03.6	+3.6
PAOL	Paolisi	3.71 238	P	Pn	22 56 03.7	+3.7
PAOL			AML	AML		
	comp=E,154μm,0.8s					
PAOL			AML	AML		
	comp=N,190μm,1.0s					
PAOL			AML	AML		
	comp=E,154μm,0.8s					
PAOL			AML	AML		
	comp=N,190μm,1.0s					
INTR	Introdacqua	3.71 255	P	Pn	22 56 01.8	+1.6
GZR	Gura Zlata	3.72 50 ⇓	*i*P	Pn	22 55 59.5	-0.7
IGT	Igoumenitsa	3.75 161	P	Pn	22 56 01.4	+0.8
RIY	Rijeka	3.78 308	*e*Pn	Pn	22 56 01.1	+0.2
RIY			*e*Sn	Sn	22 56 45.4	-0.3
CERA	Filignano	3.79 248	P	Pn	22 56 05.2	+4.1
CERA			AML	AML		
	comp=E,272μm,0.9s					
CERA			AML	AML		
	comp=N,269μm,0.8s					
CERA			AML	AML		
	comp=N,269μm,0.8s					
CERA			AML	AML		
	comp=E,272μm,0.9s					
TERO	Teramo	3.79 265	P	Pn	22 56 04.3	+3.2
TERO			AML	AML		
	comp=E,56μm,1.2s					
TERO			AML	AML		
	comp=N,72μm,1.4s					
TERO			AML	AML		
	comp=E,56μm,1.2s					
TERO			AML	AML		
	comp=N,72μm,1.4s					
SIRR	Siria	3.81 32 ⇓	*i*P	Pn	22 56 00.1	-1.3
SIRR	Siria	3.81 32	S	Sn	22 56 42.4	-4.1
TIH	Tihany	3.86 352	*e*Pn	Pn	22 56 03.0	+1.0
FAGN	Fagnano	3.87 260	P	Pn	22 56 06.0	+3.7
T0702	Acquaformosa (	3.90 211	P	Pn	22 56 04.2	+1.6
POFI	Posta Fibreno	3.95 251	P	Pn	22 56 07.3	+4.0
POFI			AML	AML		
	comp=E,140μm,0.9s					
POFI			AML	AML		
	comp=N,114μm,1.2s					
POFI			AML	AML		
	comp=N,114μm,1.2s					
POFI			AML	AML		
	comp=E,140μm,0.9s					
VVLD	Villa Vallelon	3.96 254	P	Pn	22 56 05.9	+2.4
VVLD			AML	AML		
	comp=E,194μm,1.0s					
VVLD			AML	AML		
	comp=N,210μm,1.0s					
VVLD			AML	AML		
	comp=E,194μm,1.0s					
VVLD			AML	AML		
	comp=N,210μm,1.0s					
AQU	L'Aquila	3.98 261	*e*Pn	Pn	22 56 03.6	-0.2
AQU			*e*Sn	Sn	22 56 50.2	-0.6
PDKS	Podkum	3.99 320	*i* Pn	Pn	22 56 05.3	+1.4
MMB	Musomiste	4.00 110	*e*P	Pn	22 56 04.3	+0.2
CSP1	Cessapalombo	4.04 272	P	Pn	22 56 08.3	+3.8
CING	Cingoli	4.04 276	P	Pn	22 56 06.5	+1.9
CING			AML	AML		
	comp=E,59μm,0.3s					
CING			AML	AML		
	comp=N,36μm,0.4s					
CING			AML	AML		
	comp=E,116μm,0.5s					
CING			AML	AML		
	comp=N,138μm,1.0s					
CING			AML	AML		
	comp=E,116μm,0.5s					
CING			AML	AML		
	comp=N,138μm,1.0s					
CEY	Cerknica	4.06 312	*e*Pn	Pn	22 56 05.3	+0.5
CEY			*e*Sn	Sn	22 56 52.6	-0.1
PTQR	Pietraquaria	4.07 257	P	Pn	22 56 08.1	+3.1
PTQR			AML	AML		
	comp=E,93μm,1.6s					
PTQR			AML	AML		
	comp=N,134μm,1.1s					
PTQR			AML	AML		
	comp=N,134μm,1.1s					
PTQR			AML	AML		
	comp=E,93μm,1.6s					
DEV	Deva	4.10 46 ⇑	*i*P	Pb	22 56 17.1	+2.4
EL6	Elcito	4.11 275	P	Pn	22 56 07.0	+1.4
NRCA	Norcia	4.12 268	P	Pn	22 56 07.9	+2.2
NRCA			AML	AML		
	comp=E,131μm,0.5s					
NRCA			AML	AML		
	comp=N,124μm,0.7s					
NRCA			AML	AML		
	comp=N,124μm,0.7s					
NRCA			AML	AML		
	comp=E,131μm,0.5s					
FDMO	Fiordimonte	4.12 271	P	Pn	22 56 08.8	+3.1
SRS	Serrai	4.13 117	P	Pn	22 56 07.4	+1.7
TIP	Timpagrande	4.17 201	P	Pn	22 56 06.1	-0.3
TIP	Timpagrande	4.17 201 ⇑	*i*P	Pn	22 56 06.1	-0.3
LNSS	Leonessa	4.20 265	P	Pn	22 56 11.2	+4.4
LJU	Ljubljana	4.21 316	*e*Pn	Pn	22 56 07.0	+0.2
LJU			*e*Sn	Sn	22 56 56.0	-0.3
FIAM	Fiamignano	4.21 261	P	Pn	22 56 11.4	+4.5
ARVD	Arcevia	4.24 278	P	Pn	22 56 11.1	+3.9
ARVD			AML	AML		
	comp=E,73μm,0.9s					
ARVD			AML	AML		
	comp=N,61μm,1.4s					
ARVD			AML	AML		
	comp=N,61μm,1.4s					
ARVD			AML	AML		
	comp=E,73μm,0.9s					
CSKK	Cskako	4.29 356	*e*Pn	Pn	22 56 12.0	+4.1
CSKK			Sn	Sn	22 56 59.0	+0.8
CSKK			*e*Sg	Sg	22 57 26.0	+6.2
THL	Klokotos Trika	4.31 144	P	Pn	22 56 09.4	+1.2
LOT	Lotru	4.33 55 ⇓	*i*P	Pn	22 56 09.7	+1.1
FOSV	Fossato di Vic	4.36 275	P	Pn	22 56 12.7	+3.8
FOSV			AML	AML		
	comp=E,97μm,1.3s					
FOSV			AML	AML		
	comp=N,182μm,1.4s					
FOSV			AML	AML		
	comp=E,97μm,1.3s					
FOSV			AML	AML		
	comp=N,182μm,1.4s					
FSSB	Fossombrone	4.37 280	P	Pn	22 56 11.4	+2.3
CERT	Cerreto	4.39 257	P	Pn	22 56 08.0	-1.4
ARRO	Arrone	4.41 265	S	Sn	22 56 59.0	-2.2
TRI	Trieste	4.41 308	S	Sn	22 57 06.0	+4.7
ASSB	Assisi San Ben	4.44 271	P	Pn	22 56 13.8	+3.8
ASSB			AML	AML		
	comp=E,103μm,0.6s					
ASSB			AML	AML		
	comp=N,139μm,1.1s					
ASSB			AML	AML		
	comp=N,139μm,1.1s					
ASSB			AML	AML		
	comp=E,103μm,0.6s					
SOKA	Soboth	4.44 325	*i* Pn	Pn	22 56 10.9	+0.8
SOKA	comp=E,3.2nm,0.2s,SNR=23					
			*e*Sn	Sn	22 57 01.7	-0.5
	comp=E,8.9nm,0.7s					
ATCC	AVT- Casa Cast	4.45 273	P	Pn	22 56 13.4	+3.2
ATCC			AML	AML		
	comp=E,254μm,0.6s					
ATCC			AML	AML		
	comp=N,258μm,1.3s					
ATCC			AML	AML		
	comp=E,254μm,0.6s					
ATCC			AML	AML		
	comp=N,258μm,1.3s					
PLG	Polygyros	4.46 126	P	Pn	22 56 12.5	+2.2
ATFO	Monte Foce - G	4.50 276	P	Pn	22 56 12.7	+1.8
ATFO			AML	AML		
	comp=E,208μm,1.3s					
ATFO			AML	AML		
	comp=N,156μm,1.0s					
ATFO			AML	AML		
	comp=E,208μm,1.3s					
ATFO			AML	AML		
	comp=N,156μm,1.0s					
TSLK	Tsoukalades, L	4.50 160	P	Pn	22 56 10.9	0.0
MOMA	Monte Martano	4.52 269	P	Pn	22 56 14.0	+2.8
MOMA			AML	AML		
	comp=E,112μm,0.4s					
MOMA			AML	AML		
	comp=N,162μm,0.4s					
MOMA			AML	AML		
	comp=N,162μm,0.4s					
MOMA			AML	AML		
	comp=E,112μm,0.4s					
OBKA	Obir	4.53 321	*e*Pn	Pn	22 56 13.3	+2.0
	SNR=6.4					
OBKA			Pg	Pg	22 56 28.3	-0.5
	comp=E,12nm,0.4s					
PIEI	Pieia	4.53 278	P	Pn	22 56 15.7	+4.4
PIEI			AML	AML		
	comp=E,82μm,0.3s					
PIEI			AML	AML		
	comp=N,62μm,1.3s					
PIEI			AML	AML		
	comp=E,82μm,0.3s					
PIEI			AML	AML		
	comp=N,62μm,1.3s					
LKD2	Lefkada island	4.54 160	P	Pn	22 56 11.0	-0.4
RZN	Rozhen	4.66 105	*e*P	Pn	22 56 17.0	+3.8
DRGR		4.67 36 ⇑	*i*P	Pg	22 56 31.7	+0.2
DRGR		4.67 36	S	Sn	22 57 04.9	-2.8
SRO2	Moca	4.68 357	*e*PN	Pn	22 56 15.7	+2.4
SRO2			*e*SN	Sn	22 57 08.2	+0.3
ATMI	Monte Miggiano	4.72 275	P	Pb	22 56 19.8	-5.5
ATMI			AML	AML		
	comp=E,178μm,0.5s					
ATMI			AML	AML		
	comp=N,184μm,0.4s					
ATMI			AML	AML		
	comp=N,184μm,0.4s					
ATMI			AML	AML		
	comp=E,178μm,0.5s					
ARSA	Arzberg	4.74 333	*i* Pn	Pn	22 56 15.0	+0.9
ARSA	comp=E,26nm,0.4s					
			*e*Sn	Sn	22 57 08.2	-1.2
	comp=E,6.4nm,0.3s					
SRO	Srobarova	4.74 357	*e*PN	Pn	22 56 16.2	+2.2
SRO			*e*SN	Sn	22 57 09.8	+0.6
HUMR	Humele	4.76 70 ⇑	*i*P	Pn	22 56 14.8	+0.4
HUMR	Humele	4.76 70	S	Sg	22 57 33.4	-1.4
EVR	Evrytania	4.78 150	P	Pn	22 56 17.1	+2.4
FSK	Fiskardo	4.83 163	P	Pn	22 56 14.4	-1.0
SOP	Sopron	4.84 342	*e*Pn	Pn	22 56 17.0	+1.5
SOP			Sn	Sn	22 57 13.0	+1.2
MGAB	Montegabbione	4.85 270	P	Pn	22 56 19.5	+3.8
PAIG	Paliouri	4.88 129	P	Pn	22 56 17.6	+1.5
PSZ	Piszkesteto	4.90 9 ⇓	*i*P	Pn	22 56 15.8	-0.6
PVO	Paravola	4.95 154	P	Pn	22 56 17.9	+0.9
XOR	Xorichti	5.02 136	P	Pn	22 56 18.9	+0.9
MYKA	Terra Mystica	5.06 316	Pn	Pn	22 56 21.1	+2.6
	comp=E,3.1nm,0.3s					
SFI	Santa Sofia	5.06 282	P	Pn	22 56 22.2	+3.6
ASQU	Asqua	5.09 280	P	Pn	22 56 22.7	+3.6
ASQU			AML	AML		
	comp=E,84μm,1.5s					
ASQU			AML	AML		
	comp=N,72μm,1.5s					
ASQU			AML	AML		
	comp=E,84μm,1.5s					
ASQU			AML	AML		
	comp=N,72μm,1.5s					
ANX	Ano Chora	5.10 150	P	Pn	22 56 21.4	+2.2
VLS	Valsamata	5.11 163	P	Pn	22 56 18.2	-1.0
VOIR		5.12 61 ⇓	*i*P	Pn	22 56 20.4	+1.0
THAS	Thassos island	5.12 117	P	Pn	22 56 20.4	+1.0
ZST	Bratislava	5.23 348	*e*SN	Sn	22 57 16.8	-4.7
CONA	Conrad Observa	5.24 338	*e*Pn	Pn	22 56 22.1	+1.0
CONA	comp=N,4.6nm,0.3s					
			Sn	Sn	22 57 20.9	-0.9
	comp=N,5.9nm,0.3s					
SZH	Strazhica	5.28 86	*e*P	Pn	22 56 24.6	+3.0
RUFI	Rufina	5.30 281	P	Pn	22 56 24.6	+2.8
MODS	Modra-Piesok	5.38 350	*e*Pn	Pn	22 56 23.6	+0.6
MODS			*e*SN	Sn	22 57 21.5	-3.8
MODS			*e*LG	Lg	22 57 23.7	
VYHS	Vyhne	5.41 1	*e*PN	Pn	22 56 22.8	-0.5
VYHS			*e*SN	Sn	22 57 24.1	-1.8
DSF	Desfina	5.49 147	P	Pn	22 56 26.0	+1.5
KBA	Koelnbreinsper	5.51 318	*e*Pn	Pn	22 56 26.3	+1.4
KBA	comp=N,4.0nm,0.3s,SNR=7.1					
			Sn	Sn	22 57 30.2	+1.5
	comp=N,5.4nm,0.4s					
KECS	Kecovo	5.54 12	*e*PN	Pn	22 56 25.1	0.0
KECS			*e*SN	Sn	22 57 26.4	-2.6
DOPR	Dopca	5.57 57 ⇑	*i*P	Pn	22 56 28.6	+3.0
MOA	Molln	5.70 328	*e*Pn	Pn	22 56 29.3	+2.0
MOA	comp=N,7.6nm,0.3s,SNR=27					
			*e*Sn	Sn	22 57 33.8	+0.8
	comp=N,19nm,0.5s					
TRPA	Tarpa	5.71 27	*e*Pn	Pn	22 56 27.1	-0.4
TRPA			Sn	Sn	22 57 27.1	-6.2
MLR	Muntele Rosu	5.72 63 ⇑	*i*P	Pn	22 56 27.6	-0.1
MLR	Muntele Rosu	5.72 63	Pn	Pn	22 56 32.2	+4.5
	comp=N,0.2nm,0.3s,baz=193,slow=14,SNR=5.8					
MLR			Sn	Sn	22 57 34.9	+1.2
	comp=N,0.2nm,0.3s,baz=156,slow=20,SNR=2.6					
MLR			Lg	Lg	22 58 08.5	
	comp=N,0.7nm,0.3s,baz=280,slow=20,SNR=3.2					
MLR			LR	LR	22 58 53.0	
	comp=N,68nm,21.1s,baz=297,slow=40					
ABTA	Abfaltersbach	5.73 312	*e*Pn	Pn	22 56 29.1	+1.4
	comp=N,5.7nm,0.3s,SNR=14					
JAVC	Velka Javorina	5.82 353	*e*PN	Pn	22 56 29.9	+0.9
JAVC			*e*SN	Sn	22 57 34.6	-1.5
ALN	Alexandroupoli	5.88 109	P	Pn	22 56 30.6	+0.8
LANS	Liptovska Anna	6.09 5	*e*PN	Pn	22 56 35.1	+2.4
LANS			*e*SN	Sn	22 57 40.0	-2.7
SARO	Sassorosso	6.13 283	P	Pn	22 56 35.6	+2.2
ERBM	Eremo	6.16 285	P	Pn	22 56 37.1	+3.4
KRUC	Moravsky	6.19 346	*e*PN	Pn	22 56 35.2	+1.2
KRUC			*e*SN	Sn	22 57 43.5	-1.6
PLOR	Plostina	6.31 61 ⇑	*i*P	Pn	22 56 36.9	+1.1
KOLS	Kolonicke sedl	6.35 22	*e*PN	Pn	22 56 36.0	-0.2
KOLS			*e*SN	Sn	22 57 45.8	-3.3
VRI	Vrincioaia	6.37 61 ⇓	*i*P	Pn	22 56 31.2	-5.3
DION	Dionisos Attik	6.39 140	P	Pn	22 56 38.0	+1.2
VRAC	Vranov	6.39 347	*e*SN	Sn	22 57 48.3	-1.9
VRAC	Vranov	6.39 347	Pn	Pn	22 56 37.8	+0.9
	comp=N,0.3nm,0.3s,baz=164,slow=15,SNR=2.9					
VRAC			Sn	Sn	22 57 47.3	-2.8
	comp=N,0.8nm,0.3s,baz=136,slow=12,SNR=5.5					
VRAC			LR	LR	22 59 04.7	
	comp=N,39nm,21.5s,baz=242,slow=38					
BURAR	Bucovina Array	6.44 43 ⇑	*i*P	Pn	22 56 37.8	+0.2
VLY	Voula,Athens	6.50 142	P	Pn	22 56 39.1	+0.7
WTTA	Wattenberg	6.52 312	*e*Pn	Pn	22 56 40.7	+2.0
	comp=N,5.2nm,0.3s					
WTTA			Sn	Sn	22 58 02.6	+9.2
	comp=N,14nm,0.5s					
EZN	Ezine	6.58 117 ⇑	*i*P	Pn	22 56 40.1	+0.7
WATA	Walderalm	6.59 313	*i* Pn	Pn	22 56 43.0	+3.3
	comp=N,1.4nm,0.2s					
TREC	Trest	6.60 341	AMS	AMS	22 59 00.0	
	comp=N,200nm,7.8s					
GERES	GERESS Array B	6.74 331	Pn	Pn	22 56 43.1	+1.5
	comp=N,1.1nm,0.3s,baz=162,slow=14,SNR=29					
GERES			Sn	Sn	22 57 58.3	-0.4
	comp=N,1.4nm,0.3s,baz=147,slow=22,SNR=9.0					
GERES			LR	LR	22 59 46.5	
	comp=N,52nm,20.9s,baz=149,slow=43					
MORC	Moravsky Berou	6.74 354	*e*SN	Sn	22 57 56.0	-2.7
MOTA	Moosalm	6.86 311	*e*Pn	Pn	22 56 45.4	+2.1
	comp=N,2.4nm,0.3s,SNR=7.8					
FETA	Feichten	6.89 308	*e*Pn	Pn	22 56 47.0	+3.3
	comp=N,1.3nm,0.3s					
FETA			Sn	Sn	22 58 05.6	+3.0
	comp=N,6.7nm,0.9s					
KHC	Kasperske Hory	7.02 331	*e*PN	Pn	22 56 47.3	+1.8
KHC			*e*SN	Sn	22 58 04.4	-1.2
KHC			AMS	AMS	22 59 30.0	
	comp=N,200nm,7.4s					
KRLC	Kraliky	7.12 350	*e*SN	Sn	22 58 05.2	-2.8
PGF	Pioggiola	7.17 269	*e*Pn	Pn	22 56 50.4	+2.9
DAVOX	Davos/Dischmat	7.28 304	Pn	Pn	22 56 50.8	+1.7
	comp=N,1.7nm,0.3s,baz=336,slow=18,SNR=20					
DAVOX			Sn	Sn	22 58 12.9	+0.7
	comp=N,1.0nm,0.3s,baz=259,slow=10,SNR=2.0					
DAVOX			LR	LR	22 59 40.3	
	comp=N,31nm,18.4s,baz=116,slow=39					
DPC	Dobruska-Polom	7.45 348	*e*SN	Sn	22 58 12.7	-3.5
PRU	Pruhonice	7.48 339	AMS	AMS	22 59 50.0	
	comp=N,100nm,10.2s					
DAVA	Damuels	7.52 307	*e*Pn	Pn	22 56 57.1	+4.6
	comp=N,3.1nm,0.3s,SNR=5.1					
DAVA			Sn	Sn	22 58 22.4	+4.3
	comp=N,9.8nm,0.5s					
UPC	Upice	7.65 347	AMS	AMS	22 59 50.0	
	comp=N,200nm,6.3s					
APE	Apeiranthos	7.96 137 ⇑	*i*P	Pn	22 56 59.1	+0.7
SBF	Sospel	8.24 279	*e*Pn	Pn	22 57 04.5	+2.2
SBF			*e*Sn	Sn	22 58 36.5	+0.8
NKC	Novy Kostel	8.35 331	AMS	AMS	23 00 30.0	
	comp=N,200nm,7.7s					
MBDF	Montbardon	8.78 285	*e*Pn	Pn	22 57 09.6	-0.1
FRF	La Foret Royal	8.81 277	*e*Pn	Pn	22 57 12.1	+2.1
FRF			*e*Sn	Sn	22 58 50.5	+0.8
LPG	La Plagne	8.91 290	*e*Pn	Pn	22 57 11.3	-0.4
LPG			*e*Sn	Sn	22 58 47.2	-5.3
	comp=N,21nm,0.9s					
LMR	La Mourre	8.92 276	*e*Pn	Pn	22 57 14.3	+2.8
LMR			*e*Sn	Sn	22 58 52.5	+0.2
LPL	La Plagne	8.93 290	*e*Pn	Pn	22 57 11.8	-0.1
LPL			*e*Sn	Sn	22 58 50.0	-2.9
	comp=N,6.5nm,0.4s					
IDI	Anoyia	9.14 146	Pn	Pn	22 57 12.3	-2.3
	comp=N,0.4nm,0.3s,baz=347,slow=5.4,SNR=7.9					
IDI			Sn	Sn	22 58 55.2	-2.6
	comp=N,1.0nm,0.3s,baz=126,slow=22,SNR=6.4					
ORIF	Oris-en-Rattie	9.43 286	*e*Pn	Pn	22 57 19.7	+1.1
ORIF			*e*Sn	Sn	22 59 04.8	-0.2
	comp=N,4.1nm,0.4s					
HINF	Hinteralfeld	9.58 304	*e*Pn	Pn	22 57 22.4	+1.8
HINF			*e*Sn	Sn	22 59 05.5	-3.1
	comp=N,3.3nm,0.4s					
CDF	Champ du Feu	9.60 308	*e*Pn	Pn	22 57 21.3	+0.4
CABF	La Chapelle	9.64 296	*e*Pn	Pn	22 57 22.0	+0.6
HAU	Haudompre	9.97 304	*e*Pn	Pn	22 57 27.6	+1.7
HAU			*e*Sn	Sn	22 59 14.4	-3.7
	comp=N,4.0nm,0.4s					
VIVF	Saint-Julien-l	10.28 285	*e*Pn	Pn	22 57 30.7	+0.6
SMF	Signal de Mont	11.14 294	*e*Pn	Pn	22 57 41.9	0.0
SMF			*e*Sn	Sn	22 59 44.2	-2.5
	comp=N,2.9nm,0.4s					
LOR	Lormes	11.29 297	*e*Pn	Pn	22 57 45.6	+1.7
LOR			*e*Sn	Sn	22 59 45.9	-4.5
	comp=N,2.7nm,0.3s					
SSF	Saint Saulge	11.46 296	*e*Pn	Pn	22 57 45.3	-1.0
SSF			*e*Sn	Sn	22 59 50.7	-4.0
	comp=N,1.6nm,0.4s					
AVF	Avril sur Loir	11.50 294	*e*Pn	Pn	22 57 46.5	-0.3
BGF	Bois d'Agland	11.79 293	*e*Pn	Pn	22 57 50.2	-0.6
BGF			*e*Sn	Sn	23 00 00.5	-2.2
	comp=N,3.9nm,0.4s					
MMAI	Mount Meron Ar	16.52 122	Pn	P	22 58 58.2	+1.0
	comp=N,0.6nm,0.3s,baz=324,slow=11,SNR=5.5					
HFS	Hagfors	17.34 352	P	Pn	22 59 05.2	+0.6
	comp=N,0.1nm,0.3s,baz=161,slow=14,SNR=2.8					
NOA	NORSAR Array B	18.54 348	LR	LR	23 07 00.8	
	comp=N,9.1nm,18.3s,baz=130,slow=39					
EKA	Eskdalemuir Ar	18.73 318	P	Pn	22 59 22.0	+0.3
	baz=120,slow=9.2,SNR=3.5					
FINES	FINESS Array B	18.91 11	P	Pn	22 59 24.4	+0.6
	comp=N,0.0nm,0.3s,baz=195,slow=9.5,SNR=2.6					
AKTO	Aktyubinsk	27.65 61	LR	LR	23 13 18.0	
	comp=N,29nm,18.4s,baz=284,slow=40					
TORD	Torodi Ar. Bea	33.26 211	P	P	23 01 42.0	+1.7
	comp=N,0.4nm,0.9s,baz=18,slow=11,SNR=2.4					

*ISCJB **21** 23:02:37.4± 0.5, 13°.73S± 0°.02×72°.35W± 0°.02, h39km± 4km, mb5.7/353, MS4.9/46, Error ellipse: s-maj=4.4km s-min=2.3km az=153.4*

*MOS **21** 23:02:44.0± 1.2, 13°.61S×72°.47W, h85km, mb5.7/45, MS4.9/6, Error ellipse: s-maj=9.5km s-min=5.0km az=111.4*

*NEIC **21** 23:02:44.0± 0.0, 13°.69S×72°.22W, h90km, Moment Tensor Solution. s27 Moment tensor: Scale 10^{17}Nm; M_{rr}=4.08; $M_{\theta\theta}$=5.40; $M_{\phi\phi}$=-1.32; $M_{r\theta}$=1.24; $M_{\theta\phi}$=-0.30; $M_{\phi r}$=2.00; Best double couple: M_0=5.40000×10^{17} NP1:φ_s=248.00000°, δ=58.00000°, λ=-122.00000°. NP2:φ_s=118.00000°, δ=44.00000°, λ=-49.00000°. Principal axes: T 5.5600, Plg=7.0000°, Azm=0.0000°; N -0.2800, Plg=26.0000°, Azm=266.0000°; P -5.2700, Plg=62.0000°, Azm=104.0000°;*

*NEIC **21** 23:02:45.1± 0.1, 13°.79S×72°.26W, h92km, mb5.7/297, ME6.0, MW5.8, MW5.8, ML5.7(ARE) Error ellipse: s-maj=4.7km s-min=2.6km az=69.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^{17}Nm; M_{rr}=3.75; $M_{\theta\theta}$=5.58; $M_{\phi\phi}$=-1.83; $M_{r\theta}$=0.57; $M_{\theta\phi}$=-1.64; $M_{\phi r}$=1.22; Best double couple: M_0=5.40000×10^{17} NP1:φ_s=256.00000°, δ=54.00000°, λ=-128.00000°. NP2:φ_s=128.00000°,*

δ50.00000°,λ-50.00000°. Principal axes: T 5.9400, Plg2.0000°, Azm12.0000°; N -1.4400, Plg29.0000°, Azm281.0000°; P -4.5000, Plg61.0000°, Azm105.0000°; Broadband fault plane solution: P waves. NP1: ϕ_s116.00000°,δ36.00000°,λ-59.00000°. NP2: ϕ_s260.00000°,δ60.00000°,λ-110.00000°. Principal axes: T Plg13.0000°, Azm4.0000°; N Plg0.0000°, Azm0.0000°; P Plg68.0000°, Azm129.0000°; Apparent Stress 1.48 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

NEIC Felt [IV] at Abancay and [III] at Cusco. Also felt at Nazca.

VAO **21** 23:02:45.0±0.5, 14°.01S×72°.36W, h86km, mb5.2

IDC **21** 23:02:45.2±0.4, 13°.74S×72°.28W, h93km±3km, mb4.6/21, mb1 4.8/25, mb1mx4.7/32, mbtmp5.0/25, MS4.7/24, Ms1 4.7/24, ms1mx4.7/27, Error ellipse: s-maj=13.7km s-min=10.5km az=63.0

GCMT **21** 23:02:47.1±0.1, 13°.82S±0°.01×72°.56W±0°.01, h99km, MW5.7/125, Moment Tensor Solution. s125, c242; s109, c251; Duration: 1^{s}8 Moment tensor: Scale 10^{17} Nm; M_{rr}-3.81±.05; $M_{\theta\theta}$5.12±.05; $M_{\phi\phi}$-1.31±.07; $M_{r\theta}$0.97±.04; $M_{\theta\phi}$-0.93±.05; $M_{\phi r}$1.90±.05; Best double couple: $M_0$5.15500×10^{17} NP1:ϕ_s252.00000°,δ56.00000°, λ-126.00000°. NP2:ϕ_s125.00000°,δ48.00000°, λ-49.00000°. Principal axes: T 5.3090, Plg5.0000°, Azm7.0000°; N -0.3080, Plg29.0000°, Azm274.0000°; P -5.0010, Plg60.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISC 21 23:02:44.0±0.2, 13°.87S±0°.03×72°.42W±0°.04, h85km±1km, h85km:pP-P, n1568, σ1^{s}54/1811, mb5.7/354, 17C-21D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.70**	**293**	*e*Pn	**Pn**	**23 03 49.9**	**-2.7**
NNA				*e*Sn	**Sn**	23 04 42.2	-3.8
NNA	**Nana**	**4.70**	**293**	*e*P	**Pn**	**23 03 49.9**	**-2.7**
NNA				*e*		23 04 42.2	
NNA	**Nana**	**4.70**	**293**	P	**Pn**	**23 03 50.0**	**-2.6**
	245nm,0.3s,baz=126,slow=11,SNR=236						
NNA				S	**Sn**	**23 04 42.8**	**-3.1**
	1μm,0.3s,baz=219,slow=14,SNR=9.1						
LPAZ	**La Paz**	**4.79**	**121**	*e*Pn	**Pn**	**23 03 57.8**	**+3.6**
LPAZ	**La Paz**	**4.79**	**121**	⇑*i*P	**Pn**	**23 03 58.1**	**+3.9**
LPAZ	**La Paz**	**4.79**	**121**	P	**Pn**	**23 03 58.1**	**+3.9**
	53nm,0.3s,baz=314,slow=9.0,SNR=520						
PB12	**IPOC Station P**	**5.13**	**157**	⇑*i*P	**Pn**	**23 03 57.2**	**-1.2**
PB12				*i* S	**Sn**	**23 04 55.4**	**-1.0**
MNMC	**Minye Minye**	**5.89**	**153**	*e*Pn	**Pn**	**23 04 08.2**	**-0.8**
MNMC	**Minye Minye**	**5.89**	**153**	⇑*i*P	**Pn**	**23 04 08.0**	**-1.0**
MNMC				*i* S	**Sn**	**23 05 14.3**	**-1.0**
MNMCx	**Minye Minye**	**5.89**	**153**	*e*P	**Pn**	**23 04 07.4**	**-1.6**
PSGC	**Pisagua**	**6.11**	**159**	⇑*i*P	**Pn**	**23 04 09.0**	**-2.8**
PSGC				*i* S	**Sn**	**23 05 15.4**	**-4.8**
PSGCX	**Pisagua**	**6.11**	**159**	*e*P	**Pn**	**23 04 08.2**	**-3.5**
PB11	**IPOC Station P**	**6.43**	**156**	*e*Pn	**Pn**	**23 04 13.8**	**-2.3**
PB11	**IPOC Station P**	**6.43**	**156**	*e*P	**Pn**	**23 04 13.6**	**-2.6**
PB11	**IPOC Station P**	**6.43**	**156**	⇑*i*P	**Pn**	**23 04 13.6**	**-2.6**
GO01	**Chusmiza**	**6.54**	**152**	*e*Pn	**Pn**	**23 04 17.4**	**-0.6**
GO01				*e*Sn	**Sn**	**23 05 31.6**	**+0.2**
GO01	**Chusmiza**	**6.54**	**152**	⇑*i*P	**Pn**	**23 04 17.6**	**-0.4**
PB08	**IPOC Station P**	**6.97**	**154**	⇑*i*P	**Pn**	**23 04 22.1**	**-1.7**
PB08				*i* S	**Sn**	**23 05 38.6**	**-3.3**
PB01	**IPOC Station P**	**7.66**	**159**	*e*Pn	**Pn**	**23 04 29.6**	**-3.4**
PB01				*e*Sn	**Sn**	**23 05 52.6**	**-5.7**
PB02	**IPOC Station P**	**7.79**	**162**	*e*P	**Pn**	**23 04 30.3**	**-4.4**
PB02				*e*S	Sn	23 05 51.4	-10
PB02	**IPOC Station P**	**7.79**	**162**	⇑*i*P	**Pn**	**23 04 30.6**	**-4.1**
PB02				*i* S	**Sn**	**23 05 54.0**	**-7.4**
PB07	**IPOC Station P**	**8.18**	**163**	*e*P	Pn	23 04 35.4	-4.7
PB07				*e*S	Sn	23 06 00.6	-10
PB09	**IPOC Station P**	**8.44**	**159**	*e*P	**Pn**	**23 04 39.1**	**-4.6**
PB09	**IPOC Station P**	**8.44**	**159**	⇑*i*P	**Pn**	**23 04 40.0**	**-3.7**
PB04	**IPOC Station P**	**8.69**	**166**	*e*Pn	Pn	23 04 42.4	-4.7
PB04	**IPOC Station P**	**8.69**	**166**	*e*P	Pn	23 04 41.6	-5.5
ATAH	**Atahualpa**	**8.90**	**318**	P	**Pn**	**23 04 46.0**	**-4.2**
	32nm,0.3s,baz=146,slow=9.5,SNR=33						
LVC	**Limon Verde**	**9.31**	**160**	*e*Pn	**Pn**	**23 04 52.8**	**-2.9**
LVC				*e*Sn	**Sn**	**23 06 34.6**	**-4.3**
LVC	**Limon Verde**	**9.31**	**160**	*e*P	**Pn**	**23 04 52.1**	**-3.6**
LVC	**Limon Verde**	**9.31**	**160**	*e*P	**Pn**	**23 04 52.8**	**-2.9**
LVC	**Limon Verde**	**9.31**	**160**	P	**Pn**	**23 04 53.0**	**-2.7**
	13nm,0.3s,baz=357,slow=8.8,SNR=54						
LVC				S	**Sn**	**23 06 35.8**	**-3.1**
	21nm,0.3s,baz=212,slow=21,SNR=16						
LVC				LR	LR	23 08 60.0	
	comp=Z,9μm,21.7s,baz=314,slow=40						
LVC	**Limon Verde**	**9.31**	**160**	*e*P	**Pn**	**23 04 52.9**	**-2.8**
PB10	**IPOC Station P**	**9.75**	**170**	*e*Pn	Pn	23 04 56.3	-5.1
PB10				*e*Sn	Sn	23 06 40.4	-8.9
SIV	**San Ignacio**	**11.17**	**102**	P	**Pn**	**23 05 20.2**	**-0.6**
	16nm,0.3s,baz=297,slow=9.5,SNR=183						
SIV				S	**Sn**	**23 07 17.5**	**-6.3**
	1.1nm,0.3s,baz=248,slow=11,SNR=4.6						
HJA	**Humahuaca**	**11.42**	**145**	*e*P	**Pn**	**23 05 22.6**	**-1.9**
GO02	**Mina Guanaco**	**11.54**	**167**	*e*Pn	**Pn**	**23 05 21.6**	**-4.5**
GO02				*e*Sn	**Sn**	**23 07 27.0**	**-6.3**
AZAP	**Zapla**	**12.42**	**147**	*e*P	**Pn**	**23 05 34.7**	**-3.2**
FSA	**Cafayete**	**13.59**	**155**	*e*P	**Pn**	**23 05 50.1**	**-3.3**
GO03	**Copiap**	**13.81**	**172**	*e*Pn	**Pn**	**23 05 52.3**	**-3.8**
PTLC	**Puerto Leguiza**	**14.15**	**350**	*e*P	Pn	23 05 49.5	-11
PTLC	**Puerto Leguiza**	**14.15**	**350**	*e*P	Pn	23 05 49.5	-11
AHML	**Horco Molle**	**14.46**	**154**	*e*P	**Pn**	**23 06 00.6**	**-3.9**
LCO	**Las Campanas**	**15.15**	**174**	*e*Pn	**Pn**	**23 06 11.5**	**-2.1**
	510nm,0.9s						
LCO	**Las Campanas**	**15.15**	**174**	*e*P	**Pn**	**23 06 11.5**	**-2.1**
LCO				pmax	pmax		
	comp=Z,510nm,0.9s						
LCO	**Las Campanas**	**15.15**	**174**	*e*P	**Pn**	**23 06 11.6**	**-2.1**
OTAV	**Otavalo**	**15.24**	**336**	*e*Pn	**Pn**	**23 06 13.4**	**-1.5**
	comp=Z,363nm,1.4s						
OTAV	**Otavalo**	**15.24**	**336**	*e*P	**Pn**	**23 06 12.8**	**-2.2**
OTAV	**Otavalo**	**15.24**	**336**	*e*P	**Pn**	**23 06 13.5**	**-1.5**
OTAV				pmax	pmax		
	comp=Z,363nm,1.4s						
OTAV	**Otavalo**	**15.24**	**336**	*e*P	**Pn**	**23 06 12.8**	**-2.2**
FLOC	**Florencia**	**15.68**	**348**	*e*P	**Pn**	**23 06 16.6**	**-3.6**
FLOC	**Florencia**	**15.68**	**348**	*e*P	**Pn**	**23 06 16.6**	**-3.6**
CYA	**Choya**	**15.75**	**158**	*e*P	**Pn**	**23 06 20.2**	**-0.7**
CYA				IAML		23 06 26.8	
	comp=Z,150nm,0.6s						
GCUF	**Volcan Galeras**	**15.77**	**342**	*e*P	**Pn**	**23 06 20.0**	**-1.7**
GCUF	**Volcan Galeras**	**15.77**	**342**	*e*P	**Pn**	**23 06 20.0**	**-1.7**
AGUA	**GUANDACOL**	**15.96**	**167**	*e*P	**Pn**	**23 06 22.3**	**-1.4**
CRUC	**La Cruz**	**15.98**	**343**	*e*P	**Pn**	**23 06 22.8**	**-1.5**
CRUC	**La Cruz**	**15.98**	**343**	*e*P	**Pn**	**23 06 22.8**	**-1.5**
GO04	**Tololo Observa**	**16.29**	**175**	*e*Pn	**Pn**	**23 06 25.1**	**-2.8**
	comp=Z,476nm,1.0s						
GUVC	**San Jose del G**	**16.31**	**359**	*e*P	**Pn**	**23 06 26.5**	**-1.5**
GUVC	**San Jose del G**	**16.31**	**359**	*e*P	**Pn**	**23 06 26.5**	**-1.5**
SOTA	**Rioblanco**	**16.43**	**345**	*e*P	**Pn**	**23 06 26.1**	**-4.0**
SOTA	**Rioblanco**	**16.43**	**345**	*e*P	**Pn**	**23 06 26.1**	**-4.0**
BBAC	**Balboa, Cauca**	**16.50**	**343**	*e*P	**Pn**	**23 06 26.5**	**-4.1**
BBAC	**Balboa, Cauca**	**16.50**	**343**	*e*P	**Pn**	**23 06 26.5**	**-4.1**
CLDB	**Colider**	**16.51**	**81**	*e*P	**P**	**23 06 30.9**	**-0.7**
PCON	**Cinco Dias**	**16.57**	**346**	*e*P	**Pn**	**23 06 29.4**	**-2.4**
PCON	**Cinco Dias**	**16.57**	**346**	*e*P	**Pn**	**23 06 29.4**	**-2.4**
BETC	**Betania**	**16.71**	**349**	*e*P	**Pn**	**23 06 32.9**	**-0.2**
BETC	**Betania**	**16.71**	**349**	*e*P	**Pn**	**23 06 32.9**	**-0.2**
POPC	**Popayan, Colom**	**16.84**	**345**	*e*P	**Pn**	**23 06 30.1**	**-4.7**
POPC	**Popayan, Colom**	**16.84**	**345**	*e*P	**Pn**	**23 06 30.1**	**-4.7**
MARP	**Paez Belalcaza**	**16.97**	**348**	*e*P	**Pn**	**23 06 31.2**	**-5.2**
MARP	**Paez Belalcaza**	**16.97**	**348**	*e*P	**Pn**	**23 06 31.2**	**-5.2**
AQDB	**Aquidauana**	**17.26**	**115**	*e*P	**Pn**	**23 06 39.6**	**-0.1**
APLL	**PUNTA DE LOS L**	**17.32**	**163**	*e*P	**Pn**	**23 06 38.2**	**-2.2**
PRAC	**Prado**	**17.64**	**352**	*e*P	**P**	**23 06 42.7**	**-1.5**
PRAC	**Prado**	**17.64**	**352**	*e*P	**P**	**23 06 42.7**	**-1.5**
VILC	**Villavicencio,**	**17.91**	**356**	*e*P	**Pn**	**23 06 48.8**	**+1.0**
VILC	**Villavicencio,**	**17.91**	**356**	*e*P	**Pn**	**23 06 48.8**	**+1.0**
PTGA	**Pitinga**	**17.95**	**44**	*e*P	**P**	**23 06 46.1**	**-1.5**
	comp=Z,300nm,0.6s						
PTGA				*e*Sn	**Sn**	**23 09 58.0**	**-10**
PTGA	**Pitinga**	**17.95**	**44**	P	**P**	**23 06 45.6**	**-2.0**
	comp=Z,41nm,0.3s,baz=322,slow=22,SNR=275						
PTGA				S	**Sn**	**23 09 58.1**	**-10**
	comp=Z,12nm,0.3s,baz=324,slow=19,SNR=3.8						
PTGA				LR	LR	23 14 13.7	
	comp=Z,8μm,18.2s,baz=226,slow=39						
YOTC	**Yotoco, Valle**	**18.16**	**347**	*e*P	**P**	**23 06 45.5**	**-4.5**
YOTC	**Yotoco, Valle**	**18.16**	**347**	*e*P	**P**	**23 06 45.5**	**-4.5**
CVER	**Cruz Verde, Cu**	**18.34**	**355**	*e*P	**Pn**	**23 06 54.9**	**+1.6**
CVER	**Cruz Verde, Cu**	**18.34**	**355**	*e*P	**Pn**	**23 06 54.9**	**+1.6**
CHIC	**Chingaza**	**18.43**	**356**	*e*P	**P**	**23 06 49.5**	**-3.7**
CHIC	**Chingaza**	**18.43**	**356**	*e*P	**P**	**23 06 49.5**	**-3.7**
AUSP	**Uspallata**	**18.48**	**172**	*e*P	**P**	**23 06 53.6**	**+0.1**
ROSC	**El Rosal**	**18.68**	**354**	*e*P	**P**	**23 06 56.7**	**+0.6**
	comp=Z,218nm,1.2s						
ROSC	**El Rosal**	**18.68**	**354**	P	**P**	**23 06 56.7**	**+0.6**
	comp=Z,3.5nm,0.3s,baz=146,slow=7.3,SNR=11						
ROSC				LR	LR	23 14 56.9	
	comp=Z,5μm,18.3s,baz=198,slow=39						
CPUP	**Villa Florida**	**18.80**	**134**	*e*P	**P**	**23 06 56.5**	**-0.4**
	comp=Z,283nm,1.1s						
CPUP	**Villa Florida**	**18.80**	**134**	P	**P**	**23 06 56.9**	**0.0**
	comp=Z,2.8nm,0.3s,baz=311,slow=11,SNR=169						
CPUP	**Villa Florida**	**18.80**	**134**	*e*P	**P**	**23 06 56.3**	**-0.5**
RREF	**El Recreo**	**18.87**	**351**	*e*P	**P**	**23 06 58.1**	**-0.2**
RREF	**El Recreo**	**18.87**	**351**	*e*P	**P**	**23 06 58.1**	**-0.2**
ASAL	**Salagasta**	**18.92**	**171**	*e*P	**P**	**23 06 59.1**	**+0.9**
ACAN	**Cantantal**	**18.93**	**166**	*e*P	**P**	**23 06 54.1**	**-4.2**
PLMC	**San Jos del P**	**19.04**	**348**	*e*P	**P**	**23 06 58.6**	**-1.1**
PLMC	**San Jos del P**	**19.04**	**348**	*e*P	**P**	**23 06 58.6**	**-1.1**
ROC1	**El Roble**	**19.06**	**176**	*e*P	**P**	**23 06 59.7**	**-0.2**
YOPC	**Yopal, Colombi**	**19.10**	**360**	*e*P	**P**	**23 07 00.2**	**-0.1**
YOPC	**Yopal, Colombi**	**19.10**	**360**	*e*P	**P**	**23 07 00.2**	**-0.1**
ARCO	**CERRO ARCO**	**19.15**	**171**	*e*P	**P**	**23 07 01.6**	**+0.8**
GUY2C	**Guyana, Caldas**	**19.19**	**351**	*e*P	**P**	**23 07 00.8**	**-0.9**
GUY2C	**Guyana, Caldas**	**19.19**	**351**	*e*P	**P**	**23 07 00.8**	**-0.9**
PEL	**Peldehue**	**19.25**	**176**	*e*P	**P**	**23 07 01.4**	**-0.4**
	comp=Z,239nm,0.8s						
PEL	**Peldehue**	**19.25**	**176**	*e*P	**P**	**23 07 01.4**	**-0.4**
PEL				pmax	pmax		
	comp=Z,239nm,0.8s						
AAGR	**Agrelo**	**19.41**	**171**	*e*P	**P**	**23 06 59.1**	**-4.4**
MRA	**San Martin**	**19.45**	**163**	IAML		23 07 08.7	
	comp=Z,134nm,0.7s						
NORC	**Norcia**	**19.46**	**353**	*e*P	**P**	**23 07 02.3**	**-1.9**
NORC	**Norcasia**	**19.46**	**353**	*e*P	**P**	**23 07 02.3**	**-1.9**
RUSC	**La Rusia**	**19.64**	**358**	*e*P	**P**	**23 07 03.9**	**-2.7**
RUSC	**La Rusia**	**19.64**	**358**	*e*P	**P**	**23 07 03.9**	**-2.7**
AVIZ	**Vizcacheras**	**19.84**	**170**	*e*P	**P**	**23 07 08.3**	**+0.1**
HELC	**Santa Helena**	**20.17**	**351**	*e*P	**P**	**23 07 10.4**	**-1.8**
HELC	**Santa Helena**	**20.17**	**351**	*e*P	**P**	**23 07 10.4**	**-1.8**
TAMC	**Tame, Arauca**	**20.18**	**2**	*e*P	**P**	**23 07 10.4**	**-1.5**
TAMC	**Tame, Arauca**	**20.18**	**2**	*e*P	**P**	**23 07 10.4**	**-1.5**
PTBC	**PUERTO BERRIO,**	**20.38**	**354**	*e*P	**P**	**23 07 08.4**	**-5.7**
PTBC	**PUERTO BERRIO,**	**20.38**	**354**	*e*P	**P**	**23 07 08.4**	**-5.7**
SOLC	**Bahia Solano**	**20.57**	**346**	*e*P	**P**	**23 07 14.1**	**-2.0**
SOLC	**Bahia Solano**	**20.57**	**346**	*e*P	**P**	**23 07 14.1**	**-2.0**
GIRC	**Giron, Santand**	**20.83**	**358**	*e*P	**P**	**23 07 15.9**	**-3.1**
GIRC	**Giron, Santand**	**20.83**	**358**	*e*P	**P**	**23 07 15.9**	**-3.1**
BRRC	**Barranca, Sant**	**20.88**	**356**	*e*P	**P**	**23 07 15.6**	**-3.9**
BRRC	**Barranca, Sant**	**20.88**	**356**	*e*P	**P**	**23 07 15.6**	**-3.9**
GO05	**Huala**	**21.05**	**179**	*e*P	**P**	**23 07 21.4**	**+0.2**
	comp=Z,678nm,1.3s						
PAMC	**Pamplona, Colo**	**21.07**	**359**	*e*P	**P**	**23 07 18.9**	**-3.1**
PAMC	**Pamplona, Colo**	**21.07**	**359**	*e*P	**P**	**23 07 18.9**	**-3.1**
ZARC	**Zaragoza, Cauc**	**21.36**	**353**	*e*P	**P**	**23 07 22.5**	**-2.1**
ZARC	**Zaragoza, Cauc**	**21.36**	**353**	*e*P	**P**	**23 07 22.5**	**-2.1**
UREC	**San Jos de Ur**	**21.70**	**352**	*e*P	**P**	**23 07 24.7**	**-3.5**
UREC	**San Jos de Ur**	**21.70**	**352**	*e*P	**P**	**23 07 24.7**	**-3.5**
ITRB	**Iturama**	**21.89**	**108**	*e*P	**P**	**23 07 30.2**	**0.0**
PTGB	**Pitanga**	**22.00**	**122**	*e*P	**P**	**23 07 31.2**	**-0.3**
PAYG	**Puerto Ayora**	**22.02**	**305**	*e*P	**P**	**23 07 31.8**	**+0.2**
	comp=Z,290nm,1.1s						
SMLC	**San Martn de**	**22.58**	**356**	*e*P	**P**	**23 07 31.0**	**-6.6**
SMLC	**San Martn de**	**22.58**	**356**	*e*P	**P**	**23 07 31.0**	**-6.6**
SDV	**Santo Domingo**	**22.68**	**5**	*e*P	**P**	**23 07 36.7**	**-2.1**
	comp=Z,479nm,1.9s						
SDV	**Santo Domingo**	**22.68**	**5**	*e*P	**P**	**23 07 34.3**	**-4.6**
SDV	**Santo Domingo**	**22.68**	**5**	*e*P	**P**	**23 07 34.3**	**-4.6**
SDV	**Santo Domingo**	**22.68**	**5**	P	**P**	**23 07 36.4**	**-2.4**
	comp=Z,59nm,0.8s,baz=193,slow=9.9,SNR=26						
SDV				LR	LR	23 17 00.2	
	comp=Z,4μm,19.4s,baz=171,slow=38						
ITAB	**Concordia**	**23.14**	**128**	*e*P	**P**	**23 07 42.2**	**-0.9**
FRTB	**Fartura**	**23.59**	**117**	*e*P	**P**	**23 07 48.3**	**+0.9**
ARGC	**Ariguani, Magd**	**23.64**	**356**	*e*P	**P**	**23 07 44.7**	**-3.1**
ARGC	**Ariguani, Magd**	**23.64**	**356**	*e*P	**P**	**23 07 44.7**	**-3.1**
BDFB	**Brasilia**	**23.66**	**97**	P	**P**	**23 07 47.2**	**-0.9**
	comp=Z,86nm,1.3s,baz=270,slow=12,SNR=34						
BDFB				LR	LR	23 17 47.6	
	comp=Z,2μm,18.2s,baz=261,slow=38						
CODC	**Agustn Codazz**	**23.67**	**357**	*e*P	**P**	**23 07 42.3**	**-5.8**
CODC	**Agustn Codazz**	**23.67**	**357**	*e*P	**P**	**23 07 42.3**	**-5.8**
SJCC	**San Jacinto, C**	**23.77**	**353**	*e*P	**P**	**23 07 46.2**	**-2.8**
SJCC	**San Jacinto, C**	**23.77**	**353**	*e*P	**P**	**23 07 46.2**	**-2.8**
BB19B	**Bebedouro**	**23.87**	**111**	*e*P	**P**	**23 07 49.6**	**-0.2**
CPSB	**Cacapava Do Su**	**24.02**	**136**	*e*P	**P**	**23 07 51.8**	**+0.7**
BCIP	**Isla Barro Col**	**24.04**	**342**	*e*P	**P**	**23 07 51.5**	**+0.1**
	comp=Z,1μm,1.8s						
BCIP	**Isla Barro Col**	**24.04**	**342**	*e*P	**P**	**23 07 51.4**	**+0.1**
BCIP	**Isla Barro Col**	**24.04**	**342**	*e*P	**P**	**23 07 51.5**	**+0.1**
BCIP				pmax	pmax		
	comp=Z,1μm,1.8s						
BCIP	**Isla Barro Col**	**24.04**	**342**	*e*P	**P**	**23 07 51.4**	**+0.1**
TIJ01	**Guaruva-PR**	**24.78**	**121**	*e*P	**P**	**23 07 58.9**	**+0.7**
PLTB	**Pedras Altas**	**24.79**	**139**	*e*P	**P**	**23 07 58.1**	**+0.1**
SMRC	**Santa Marta, M**	**24.94**	**356**	*e*P	**P**	**23 07 54.4**	**-5.1**
SMRC	**Santa Marta, M**	**24.94**	**356**	*e*P	**P**	**23 07 54.4**	**-5.1**
CNLB	**Canela**	**25.20**	**131**	*e*P	**P**	**23 08 01.8**	**0.0**
URIC	**Uribia, Colomb**	**25.41**	**1**	*e*P	**P**	**23 07 59.0**	**-4.8**
URIC	**Uribia, Colomb**	**25.41**	**1**	*e*P	**P**	**23 07 59.0**	**-4.8**
SPB	**Sao Paulo**	**25.52**	**116**	*e*P	**P**	**23 08 04.0**	**-0.9**
	comp=Z,290nm,1.7s						
SPB	**Sao Paulo**	**25.52**	**116**	*e*P	**P**	**23 08 04.7**	**-0.1**
GO06	**Curarrehue**	**25.63**	**178**	*e*P	**P**	**23 08 05.7**	**0.0**
	comp=Z,335nm,1.2s						
TRQA	**Tornquist**	**25.81**	**161**	*e*P	**P**	**23 08 06.9**	**-0.4**
	comp=Z,233nm,1.4s						
TRQA	**Tornquist**	**25.81**	**161**	*e*P	**P**	**23 08 06.9**	**-0.4**
TRQA				pmax	pmax		
	comp=Z,233nm,1.4s						
TRQA	**Tornquist**	**25.81**	**161**	*e*P	**P**	**23 08 06.9**	**-0.4**
TER01	**Tubaro-SC**	**26.09**	**128**	*e*P	**P**	**23 08 10.1**	**+0.2**
TPP	**Pointe-a-Pierr**	**26.38**	**25**	*e*P	**P**	**23 08 12.9**	**+0.4**
HDC	**Heredia**	**26.40**	**333**	*e*P	**P**	**23 08 12.6**	**-0.4**
	comp=Z,286nm,1.3s						
TRN	**Trinidad (W)**	**26.70**	**25**	*e*P	**P**	**23 08 13.7**	**-1.7**
PLCA	**Paso Flores**	**26.81**	**177**	*e*P	**P**	**23 08 17.0**	**+0.7**
	comp=Z,285nm,1.4s						
PLCA	**Paso Flores**	**26.81**	**177**	P	**P**	**23 08 17.2**	**+0.9**
	comp=Z,56nm,0.9s,baz=13,slow=9.9,SNR=50						
PLCA	**Paso Flores**	**26.81**	**177**	*e*P	**P**	**23 08 17.2**	**+0.9**
JTS	**Las Juntas de**	**27.03**	**332**	*ce*P	**P**	**23 08 19.9**	**+1.4**
JTS				pmax	pmax		
	comp=Z,47nm,1.3s						
MDP	**Montagnes des**	**27.21**	**47**	LR	LR	23 20 27.2	
	comp=Z,2μm,18.5s,baz=210,slow=39						
JANB	**Januaria**	**27.23**	**96**	*e*P	**P**	**23 08 19.6**	**-0.8**
BSCB	**Bom Sucesso**	**27.28**	**109**	*e*P	**P**	**23 08 20.2**	**-0.6**
MCI8	**Montes Claros**	**27.62**	**99**	*e*P	**P**	**23 08 23.3**	**-0.5**
TOSP	**Speyside**	**27.64**	**26**	*e*P	**P**	**23 08 24.5**	**+0.6**
MCI9	**Montes Claros**	**27.65**	**100**	*e*P	**P**	**23 08 23.8**	**-0.3**
MCI6	**Montes Claros**	**27.65**	**100**	*e*P	**P**	**23 08 23.7**	**-0.4**
GRGR	**Grenville**	**27.95**	**23**	*e*P	**P**	**23 08 25.0**	**-1.6**
ESAR	**Angra dos Reis**	**28.01**	**113**	*e*P	**P**	**23 08 26.3**	**-0.8**
GRHS	**Sauteurs**	**28.04**	**23**	*e*P	**P**	**23 08 25.0**	**-2.4**
ESPN	**Las Esperanzas**	**28.45**	**335**	*e*P	**P**	**23 08 32.2**	**+1.1**
	comp=Z,70nm,1.1s						
ACON	**Acoyapa**	**28.62**	**333**	*e*P	**P**	**23 08 31.9**	**-0.7**
	comp=Z,106nm,1.3s						
ACON				*e*PcP	**PcP**	**23 11 42.7**	**+0.8**
VAS01	**Vassouras-RJ**	**28.75**	**111**	*e*P	**P**	**23 08 34.4**	**+0.6**
FCV	**Fort Charlotte**	**29.04**	**23**	*e*P	**P**	**23 08 38.1**	**+1.7**
SVB	**Belmont**	**29.15**	**23**	*e*P	**P**	**23 08 36.1**	**-1.2**
	comp=Z,547nm,1.6s						
SVB	**Belmont**	**29.15**	**23**	*e*P	**P**	**23 08 37.0**	**-0.3**
GO07	**Milladeo Hill,**	**29.16**	**182**	*e*P	**P**	**23 08 37.0**	**-0.2**
	comp=Z,131nm,1.1s						
SVCV	**St. Vincent, C**	**29.19**	**23**	*e*P	**P**	**23 08 37.0**	**-0.7**
SVV	**Soufriere Volc**	**29.20**	**23**	*e*P	**P**	**23 08 39.0**	**+1.2**
SSV	**Crater Summit**	**29.22**	**23**	*e*P	**P**	**23 08 39.6**	**+1.6**
MCLT	**Moule a Chique**	**29.66**	**23**	*e*P	**P**	**23 08 44.3**	**+2.5**
DUB01	**Friburgo-RJ**	**29.68**	**110**	*e*P	**P**	**23 08 42.1**	**+0.1**
SLB	**Belfond**	**29.74**	**23**	*e*P	**P**	**23 08 43.6**	**+1.1**
SLBI	**Saint Lucia, B**	**29.94**	**23**	*e*P	**P**	**23 08 44.7**	**+0.4**
CAM01	**Campos-RJ**	**30.29**	**110**	*e*P	**P**	**23 08 46.6**	**-0.8**
SJMB	**Sao Joao De Ma**	**30.34**	**103**	*e*P	**P**	**23 08 47.4**	**-0.5**
FDF	**Fort de France**	**30.53**	**22**	*e*P	**P**	**23 08 48.5**	**-1.0**
FDF	**Fort de France**	**30.53**	**22**	*e*P	**P**	**23 08 46.2**	**-3.3**
FDF	**Fort de France**	**30.53**	**22**	*e*P	**P**	**23 08 48.5**	**-1.0**
FDF				pmax	pmax		
	comp=Z,134nm,1.3s						
BSFB	**Barra de Sao F**	**30.67**	**104**	*e*P	**P**	**23 08 49.8**	**-1.0**
ALF01	**Guarapari-ES**	**30.96**	**107**	*e*P	**P**	**23 08 54.0**	**+0.6**
RIB01	**Linhares ES**	**31.13**	**104**	*e*P	**P**	**23 08 54.7**	**-0.1**
TGUH	**Tegucigalpa,Un**	**31.41**	**331**	*e*P	**P**	**23 08 58.1**	**+0.9**
	comp=Z,84nm,1.3s						
CRPR	**Cabo Rojo, PR**	**32.10**	**10**	*e*P	**P**	**23 09 02.5**	**-0.8**
	comp=Z,497nm,1.8s						
BANI	**BANI**	**32.12**	**4**	*e*P	**P**	**23 09 01.0**	**-2.6**
OBIP	**Obispado Ponce**	**32.22**	**10**	*e*P	**P**	**23 09 02.1**	**-2.2**
	comp=Z,93nm,1.0s						
MTDJ	**Mount Denham**	**32.29**	**351**	*e*P	**P**	**23 09 02.9**	**-2.2**
	comp=Z,145nm,0.9s						
MPR	**Mayaguez**	**32.30**	**9**	*e*P	**P**	**23 09 03.2**	**-1.8**
	comp=Z,295nm,1.5s						
CDVI	**St. Croix**	**32.31**	**14**	*e*P	**P**	**23 09 03.5**	**-1.6**
	comp=Z,72nm,0.7s						
SJG	**San Juan**	**32.37**	**11**	*e*P	**P**	**23 09 04.0**	**-1.6**
	comp=Z,149nm,1.4s						
SJG	**San Juan**	**32.37**	**11**	*e*P	**P**	**23 09 04.0**	**-1.6**
SJG				pmax	pmax		
	comp=Z,149nm,1.4s						
SKI	**Saint Kitts**	**32.44**	**17**	*e*P	**P**	**23 09 02.2**	**-4.1**
HUMP	**Col San Antoni**	**32.46**	**12**	*e*P	**P**	**23

TIGA	Tifton	46.31 347	eP	P	23 11 02.0	+0.6
TIGA			epP	pP	23 11 24.6	+1.4
TIGA	Tifton	46.31 347	P	P	23 11 00.8	-0.6
	baz=165					
257A	Skidaway Islan	46.32 350	eP	P	23 11 02.6	+1.2
257A			epP	pP	23 11 25.6	+2.2
257A	Skidaway Islan	46.32 350	P	P	23 11 01.1	-0.4
	baz=168					
353A	Camilla	46.36 346	P	P	23 11 02.0	+0.2
	baz=164					
450A	Crestview	46.46 343	P	P	23 11 01.0	-1.5
	baz=161					
256A	Glennville	46.48 349	P	P	23 11 02.2	-0.5
	baz=167,SNR=7.0					
255A	Hazlehurst	46.55 348	eP	P	23 11 04.3	+1.1
255A			epP	pP	23 11 26.2	+1.1
255A	Hazlehurst	46.55 348	P	P	23 11 02.3	-0.9
	baz=166					
BBSR	BB Station	46.57 9	eP	P	23 11 03.0	-0.4
	comp=Z,46nm,1.2s					
449A	Pace	46.60 342	P	P	23 11 02.6	-1.1
	baz=160					
351A	Pinckard	46.64 344	P	P	23 11 03.4	-0.6
	baz=162					
352A	Blakely	46.66 345	eP	P	23 11 05.2	+1.1
352A			epP	pP	23 11 26.8	+0.7
352A	Blakely	46.66 345	P	P	23 11 03.8	-0.3
	baz=163					
LNIG	Linares	46.70 325	eP	P	23 11 04.4	-0.2
	comp=Z,70nm,1.1s					
254A	Abbeville	46.73 347	P	P	23 11 04.2	-0.4
	baz=165					
ZAIG	Zacatecas	46.88 321	eP	P	23 11 08.1	+1.7
ZAIG			epP	pP	23 11 28.8	+0.9
158A	Hollywood	46.94 351	P	P	23 11 06.3	+0.1
	baz=170					
BRAL	Brewton	46.94 343	eP	P	23 11 06.8	+0.6
BRAL			epP	pP	23 11 29.5	+1.8
BRAL	Brewton	46.94 343	P	P	23 11 05.9	-0.4
	baz=160					
350A	Dozier	46.97 344	P	P	23 11 05.8	-0.7
	baz=161					
157A	Early Branch	47.01 350	P	P	23 11 05.4	-1.4
	baz=168					
253A	Americus	47.03 346	eP	P	23 11 06.0	-1.0
253A			epP	pP	23 11 30.3	+1.3
253A	Americus	47.03 346	P	P	23 11 06.1	-0.9
	baz=164					
156A	Sylvania	47.07 350	P	P	23 11 07.3	+0.1
	baz=168,SNR=5.7					
RGRS	Roger Stewart	47.10 351	eP	P	23 11 09.0	+1.5
RGRS			epP	pP	23 11 31.7	+2.3
252A	Lumpkin	47.11 346	P	P	23 11 07.3	-0.3
	baz=163					
349A	Repton	47.15 343	P	P	23 11 07.3	-0.6
	baz=160,SNR=9.0					
CSU	Charleston Sou	47.16 351	eP	P	23 11 09.3	+1.3
CSU			epP	pP	23 11 31.8	+1.9
155A	Kite	47.22 348	P	P	23 11 08.0	-0.4
	baz=166,SNR=11					
NHSC	New Hope	47.30 351	eP	P	23 11 10.1	+1.0
NHSC			epP	pP	23 11 33.5	+2.6
NHSC	New Hope	47.30 351	P	P	23 11 08.9	-0.1
	baz=170					
Z59A	Georgetown, SC	47.30 352	P	P	23 11 09.1	0.0
	baz=171					
154A	Montrose	47.34 348	eP	P	23 11 09.6	+0.2
154A			epP	pP	23 11 32.5	+1.2
154A			ePcP	PcP	23 12 35.1	-3.9
154A			ePP	PP	23 13 03.0	+1.6
154A	Montrose	47.34 348	P	P	23 11 09.0	-0.4
	baz=166,SNR=6.1					
251A	Midway	47.37 345	P	P	23 11 08.6	-1.0
	baz=163,SNR=16					
Z58A	St. Stephen	47.47 352	P	P	23 11 10.0	-0.3
	baz=170					
250A	Grady	47.48 344	eP	P	23 11 09.2	-1.3
250A			epP	pP	23 11 33.4	+1.4
250A			ePP	PP	23 13 01.4	-1.4
250A	Grady	47.48 344	P	P	23 11 09.3	-1.2
	baz=162					
153A	Fort Valley	47.53 347	P	P	23 11 09.9	-1.0
	baz=165					
Z57A	Bowman	47.56 351	P	P	23 11 10.9	-0.2
	baz=169,SNR=6.7					
Z56A	Williston	47.70 350	eP	P	23 11 12.8	+0.6
Z56A			epP	pP	23 11 36.1	+1.9
Z56A	Williston	47.70 350	P	P	23 11 11.2	-0.9
	baz=168					
249A	Camden	47.71 343	P	P	23 11 11.1	-1.2
	baz=160					
Z55A	Blythe	47.74 349	P	P	23 11 11.8	-0.6
	baz=167					
152A	Waverly Hall	47.75 346	eP	P	23 11 12.2	-0.4
	comp=Z,135nm,1.3s					
152A			ePcP	PcP	23 12 40.1	-0.4
152A			ePP	PP	23 13 04.8	-0.4
152A	Waverly Hall	47.75 346	P	P	23 11 11.6	-1.0
	baz=164,SNR=16					
151A	Opelika	47.76 345	P	P	23 11 11.7	-0.9
	baz=163					
Z54A	Sparta	47.89 348	P	P	23 11 12.2	-1.4
	baz=166,SNR=6.8					
Y60A	Bolivia	47.93 354	eP	P	23 11 14.8	+0.9
	comp=Z,298nm,0.9s					
Y60A			epP	pP	23 11 37.8	+2.0
Y60A	Bolivia	47.93 354	P	P	23 11 13.0	-0.9
	baz=172,SNR=7.8					
Y58A	Scranton	48.01 352	eP	P	23 11 15.2	+0.7
	comp=Z,458nm,1.5s					
Y58A	Scranton	48.01 352	P	P	23 11 13.9	-0.7
	baz=170,SNR=11					
150A	Eclectic	48.01 345	P	P	23 11 13.1	-1.5
	baz=162,SNR=8.1					
Z53A	Monticello	48.08 347	P	P	23 11 13.9	-1.2
	baz=165,SNR=8.9					
Y56A	Pelion	48.15 350	P	P	23 11 15.0	-0.6
	baz=168					
Z52A	Williamson	48.18 346	P	P	23 11 15.1	-0.8
	baz=164,SNR=18					
GOGA	Godfrey	48.18 348	eP	P	23 11 15.7	-0.2
	comp=Z,112nm,1.3s					
GOGA	Godfrey	48.18 348	eP	P	23 11 15.7	-0.2
GOGA			pmax	pmax		
	comp=Z,112nm,1.3s					
GOGA	Godfrey	48.18 348	P	P	23 11 15.2	-0.7
	baz=165,SNR=12					
149A	Jones	48.21 344	P	P	23 11 15.0	-1.1
	baz=161,SNR=8.3					
Y57A	Sumter	48.22 351	eP	P	23 11 16.7	+0.5
Y57A			epP	pP	23 11 39.9	+1.7
Y57A	Sumter	48.22 351	P	P	23 11 15.8	-0.3
	baz=169					
Y55A	Saluda	48.38 349	P	P	23 11 17.2	-0.2
	baz=168,SNR=25					
Y54A	Tignall	48.46 349	P	P	23 11 17.4	-0.6
	baz=166,SNR=21					
X60A	Albert Glenn T	48.47 354	P	P	23 11 17.6	-0.4
	baz=173,SNR=10					
148A	Greensboro	48.47 343	P	P	23 11 16.9	-1.3
	baz=160					
Z51A	Franklin	48.48 346	P	P	23 11 17.2	-1.0
	baz=163					
X59A	McDuffie Farm,	48.53 353	P	P	23 11 18.1	-0.4
	baz=172,SNR=13					
Z50A	Ashland	48.60 345	eP	P	23 11 18.2	-0.9
	comp=Z,171nm,1.3s					
Z50A	Ashland	48.60 345	P	P	23 11 18.1	-1.0
	baz=162,SNR=23					
X58A	Rowland	48.60 352	eP	P	23 11 19.7	+0.6
	comp=Z,72nm,0.9s					
X58A			epP	pP	23 11 43.0	+1.9
X58A	Rowland	48.60 352	P	P	23 11 18.9	-0.2
	baz=171,SNR=9.0					
JSC	Jenkinsville	48.62 350	eP	P	23 11 18.7	-0.5
	comp=Z,116nm,1.1s					
JSC			ePcP	PcP	23 12 43.8	+0.2
JSC			ePP	PP	23 13 07.7	-5.4
JSC	Jenkinsville	48.62 350	eP	P	23 11 18.7	-0.5
JSC			e		23 12 43.8	
JSC			e		23 13 07.7	
JSC			pmax	pmax		
	comp=Z,116nm,1.1s					
X57A	Johnson Farm,	48.62 352	P	P	23 11 18.8	-0.4
	baz=170					
Y53A	Monroe	48.64 348	P	P	23 11 18.2	-1.2
	baz=165,SNR=13					
LRAL	Lakeview Retre	48.68 344	eP	P	23 11 19.1	-0.6
	comp=Z,84nm,1.3s					
LRAL			ePP	PP	23 13 07.9	-5.8
LRAL	Lakeview Retre	48.68 344	P	P	23 11 18.4	-1.2
	baz=161,SNR=8.5					
Z49A	Columbiana	48.70 344	P	P	23 11 18.6	-1.2
	baz=162,SNR=12					
HODGE	Hodges	48.74 349	eP	P	23 11 20.3	+0.2
	comp=Z,116nm,1.3s					
Y52A	Lilburn	48.75 347	eP	P	23 11 19.9	-0.4
	comp=Z,111nm,1.3s					
Y52A			ePP	PP	23 13 08.9	-5.3
Y52A	Lilburn	48.75 347	P	P	23 11 19.3	-1.0
	baz=165,SNR=6.5					
X56A	White Oak	48.79 351	P	P	23 11 19.6	-0.9
	baz=169,SNR=11					
BIRD	Birdtown, Kers	48.85 351	eP	P	23 11 21.3	+0.3
	comp=Z,315nm,1.4s					
BIRD			ePP	PP	23 13 09.7	-5.5
X55A	Gracelyn & Ava	48.86 350	P	P	23 11 20.6	-0.5
	baz=168,SNR=18					
W60A	Pink Hill	48.91 354	P	P	23 11 21.3	-0.2
	baz=173,SNR=12					
W61A	Ground Anchor	48.97 355	P	P	23 11 21.7	-0.2
	baz=174					
VBMS	Vicksburg	49.00 340	eP	P	23 11 21.9	-0.2
	comp=Z,351nm,1.6s					
VBMS	Vicksburg	49.00 340	P	P	23 11 20.8	-1.3
	baz=156					
Y51A	Rockmart	49.01 346	P	P	23 11 20.9	-1.3
	baz=164,SNR=23					
W58A	Raeford	49.05 353	P	P	23 11 22.1	-0.4
	baz=171,SNR=40					
HKT	Hockley	49.07 333	eP	P	23 11 24.1	+1.4
	comp=Z,221nm,1.7s					
HKT			ePP	PP	23 13 10.4	-6.7
HKT	Hockley	49.07 333	eP	P	23 11 24.1	+1.4
HKT			e		23 13 10.4	
HKT			pmax	pmax		
	comp=Z,221nm,1.7s					
X54A	Belton	49.07 349	P	P	23 11 22.0	-0.7
	baz=167,SNR=16					
W59A	Clinton	49.10 353	P	P	23 11 22.6	-0.3
	baz=172,SNR=6.0					
CNNC	Cliffs of the	49.11 354	P	P	23 11 22.6	-0.4
	baz=173,SNR=5.5					
HOPE	Hope Point	49.15 153	eP	P	23 11 24.1	+1.1
HOPE			epP	pP	23 11 46.6	+1.6
HOPE			esP	sP	23 11 57.3	+2.2
Y50A	Piedmont	49.16 345	P	P	23 11 22.2	-1.2
	baz=163,SNR=12					
X53A	Estanollee	49.20 348	P	P	23 11 22.9	-0.8
	baz=166,SNR=7.0					
PAULI	Pauline	49.24 350	eP	P	23 11 24.2	+0.3
	comp=Z,182nm,1.2s					
V62A	Hyde County Ai	49.27 356	P	P	23 11 23.5	-0.7
	baz=175					
W57A	Gilead	49.28 352	eP	P	23 11 24.4	+0.2
W57A			epP	pP	23 11 47.1	+1.1
W57A			esP	sP	23 11 56.6	+0.6
W57A	Gilead	49.28 352	P	P	23 11 23.6	-0.6
	baz=170,SNR=17					
Y49A	Blount Mountai	49.30 345	eP	P	23 11 23.6	-0.9
	comp=Z,61nm,1.1s					
Y49A	Blount Mountai	49.30 345	P	P	23 11 23.2	-1.2
	baz=162,SNR=10					
W56A	Indian Trail	49.35 351	P	P	23 11 24.5	-0.3
	baz=169,SNR=9.1					
833A	Chaparral WMA,	49.41 328	eP	P	23 11 25.9	+0.4
	comp=Z,93nm,1.4s					
833A			epP	pP	23 11 48.8	+1.4
833A	Chaparral WMA,	49.41 328	P	P	23 11 24.7	-0.7
	baz=144,SNR=7.7					
X52A	Dahlonega	49.42 348	P	P	23 11 24.3	-1.1
	baz=165,SNR=7.7					
KMSC	Kings Mountain	49.47 350	eP	P	23 11 25.7	-0.1
KMSC			epP	pP	23 11 48.0	+0.5
KMSC			esP	sP	23 11 58.7	+1.2
KMSC	Kings Mountain	49.47 350	P	P	23 11 25.4	-0.3
	baz=168,SNR=13					
V61A	Roper	49.55 356	eP	P	23 11 25.3	-1.0
	comp=Z,118nm,1.0s					
V61A	Roper	49.55 356	P	P	23 11 26.1	-0.1
	baz=174					
Y48A	Jasper	49.55 344	P	P	23 11 24.7	-1.7
	baz=161,SNR=6.3					
W54A	Cherokee Point	49.56 349	P	P	23 11 26.3	-0.1
	baz=167,SNR=24					
V60A	Jim Taylor Roa	49.58 355	eP	P	23 11 26.0	-0.4
	comp=Z,67nm,0.8s					
V60A			epP	pP	23 11 50.6	+2.4
V60A	Jim Taylor Roa	49.58 355	P	P	23 11 26.3	-0.1
	baz=174,SNR=9.0					
X51A	Calhoun	49.60 346	eP	P	23 11 26.3	-0.4
	comp=Z,139nm,1.2s					
X51A	Calhoun	49.60 346	P	P	23 11 25.6	-1.1
	baz=164,SNR=7.4					
BG3	Lake Jocassee	49.61 349	eP	P	23 11 27.3	+0.5
	comp=Z,94nm,1.2s					
V59A	Middlesex	49.67 354	P	P	23 11 27.1	-0.2
	baz=172,SNR=46					
X50B	Fort Payne	49.68 346	P	P	23 11 26.2	-1.2
	baz=163,SNR=20					
V58A	Windy Hill, Pi	49.80 353	P	P	23 11 28.0	-0.2
	baz=171,SNR=26					
W53A	Cullowhee	49.82 348	P	P	23 11 28.1	-0.5
	baz=166,SNR=20					
X49A	Woodville	49.90 345	P	P	23 11 27.7	-1.3
	baz=162,SNR=7.3					
W52A	Murphy	49.90 348	P	P	23 11 27.6	-1.4
	baz=165					
V57A	Coltrane Farms	49.97 352	P	P	23 11 28.8	-0.8
	baz=170,SNR=16					
V56A	Mocksville	50.00 351	eP	P	23 11 30.1	+0.4
V56A			epP	pP	23 11 52.3	+0.7
V56A			esP	sP	23 12 01.8	+0.3
V56A	Mocksville	50.00 351	P	P	23 11 29.4	-0.3
	baz=170,SNR=20					
X48A	Hartselle	50.03 344	eP	P	23 11 29.2	-0.7
	comp=Z,158nm,1.3s					
X48A	Hartselle	50.03 344	P	P	23 11 28.8	-1.2
	baz=161,SNR=18					
U61A	Possum Corner	50.07 356	eP	P	23 11 30.4	+0.1
	comp=Z,188nm,1.1s					
U61A	Possum Corner	50.07 356	P	P	23 11 29.1	-1.1
	baz=175					
NATX	Nacogdoches	50.13 335	eP	P	23 11 33.0	+2.2
NATX			epP	pP	23 11 55.1	+2.3
NATX	Nacogdoches	50.13 335	P	P	23 11 31.0	+0.2
	baz=151					
ETX06	Route 59 and C	50.15 335	eP	P	23 11 31.8	+0.9
	comp=Z,94nm,0.9s					
V55A	Taylorsville	50.15 351	P	P	23 11 30.6	-0.2
	baz=169,SNR=15					
W51A	Cleveland	50.15 347	P	P	23 11 30.3	-0.6
	baz=164,SNR=11					
V54A	Nebo	50.19 350	P	P	23 11 31.2	0.0
	baz=168,SNR=25					
U59A	Littleton	50.21 354	eP	P	23 11 31.2	-0.1
	comp=Z,184nm,1.5s					
U59A	Littleton	50.21 354	P	P	23 11 30.8	-0.5
	baz=173,SNR=18					
V53A	Saluda	50.24 349	eP	P	23 11 31.5	-0.2
	comp=Z,70nm,1.1s					
V53A	Saluda	50.24 349	P	P	23 11 31.1	-0.5
	baz=167,SNR=9.8					
U60A	Pendleton	50.27 355	P	P	23 11 31.1	-0.6
	baz=174,SNR=12					
X47A	Russelville	50.31 343	P	P	23 11 30.5	-1.6
	baz=160,SNR=14					
W50A	Signal Mountai	50.31 346	eP	P	23 11 31.7	-0.4
	comp=Z,154nm,1.3s					
W50A	Signal Mountai	50.31 346	P	P	23 11 30.8	-1.3
	baz=164,SNR=23					
U58A	Oxford	50.33 354	P	P	23 11 32.1	0.0
	baz=172,SNR=21					
CPCT	Cooper Cave	50.37 347	eP	P	23 11 32.1	-0.5
	comp=Z,83nm,1.1s					
U57A	Blanch	50.45 353	P	P	23 11 33.1	-0.1
	baz=171,SNR=29					
W49A	Belvidere	50.46 345	P	P	23 11 32.0	-1.2
	baz=162,SNR=7.5					
SWET	Sewanee	50.47 346	eP	P	23 11 32.7	-0.7
	comp=Z,144nm,1.3s					
U56A	King	50.51 352	P	P	23 11 33.6	0.0
	baz=170,SNR=10					
X46A	Booneville	50.55 343	P	P	23 11 32.3	-1.6
	baz=159					
V52A	Sevierville	50.56 348	eP	P	23 11 33.0	-0.9
V52A			epP	pP	23 11 56.5	+0.8
V52A			esP	sP	23 12 03.3	-2.4
V52A	Sevierville	50.56 348	P	P	23 11 32.9	-1.0
	baz=166,SNR=16					
435B	Jarrell	50.57 332	eP	P	23 11 34.6	+0.5
	comp=Z,64nm,1.0s					
435B	Jarrell	50.57 332	P	P	23 11 32.5	-1.6
	baz=148					
W48A	Pulaski	50.65 345	P	P	23 11 33.3	-1.3
	baz=162,SNR=22					
V51A	Loudon	50.68 347	eP	P	23 11 34.4	-0.4
V51A			epP	pP	23 11 56.9	+0.2
V51A			esP	sP	23 12 02.5	-4.0
V51A	Loudon	50.68 347	P	P	23 11 33.8	-1.0
	baz=165,SNR=8.9					
V50A	Pikevile	50.71 347	P	P	23 11 33.4	-1.7
	baz=164,SNR=11					
Z41A	Richland Creek	50.74 338	eP	P	23 11 35.7	+0.3
Z41A			epP	pP	23 11 58.4	+1.1
Z41A	Richland Creek	50.74 338	P	P	23 11 34.4	-1.0
	baz=154					
OXF	Oxford	50.75 342	eP	P	23 11 34.6	-0.8
OXF			epP	pP	23 11 57.5	+0.2
OXF	Oxford	50.75 342	eP	P	23 11 34.6	-0.8
OXF			e*PP	pP	23 11 57.5	+0.2
OXF	Oxford	50.75 342	P	P	23 11 33.5	-1.9
	baz=158					
U55A	TA2, Sparta	50.76 351	P	P	23 11 35.3	-0.3
	baz=169,SNR=8.0					
T59A	Double "B" Far	50.80 355	eP	P	23 11 35.6	-0.1
	comp=Z,124nm,0.9s					
T59A	Double "B" Far	50.80 355	P	P	23 11 35.5	-0.2
	baz=173,SNR=44					
PLAL	Pickwick Lake	50.81 343	eP	P	23 11 34.1	-1.7
PLAL			epP	pP	23 11 56.8	-0.8
T58A	Grand View Acr	50.87 354	P	P	23 11 36.1	-0.1
	baz=172,SNR=51					
U53A	Fall Branch	50.88 349	P	P	23 11 35.1	-1.3
	baz=167,SNR=12					
T60A	Surry	50.90 356	eP	P	23 11 36.3	-0.2
	comp=Z,91nm,0.9s					
T60A	Surry	50.90 356	P	P	23 11 35.8	-0.7
	baz=174					
U54A	Nelsons Funny	50.90 350	eP	P	23 11 35.8	-0.7
U54A			epP	pP	23 11 58.5	0.0
U54A	Nelsons Funny	50.90 350	P	P	23 11 35.8	-0.7
	baz=168,SNR=12					
W47A	Westpoint	50.93 344	P	P	23 11 35.0	-1.8
	baz=161,SNR=21					
CCAR	Cane Creek	50.97 339	eP	P	23 11 37.8	+0.7
CCAR			epP	pP	23 12 00.8	+1.8
V49A	McMinnville	50.99 346	P	P	23 11 35.3	-1.9
	baz=163,SNR=13					
T57A	Hurt	51.00 353	eP	P	23 11 37.4	+0.1
	comp=Z,332nm,1.4s					
T57A	Hurt	51.00 353	P	P	23 11 37.2	0.0
	baz=171,SNR=38					
W46A	Michie	51.03 343	P	P	23 11 35.3	-2.2
	baz=160					
U52A	Thorn Hill	51.05 349	P	P	23 11 36.3	-1.4
	baz=166,SNR=7.2					
T56A	Rocky Mt	51.13 352	P	P	23 11 38.1	-0.2
	baz=170,SNR=24					
U51A	La Follette	51.16 348	P	P	23 11 37.4	-1.2
	baz=165,SNR=7.1					
V48A	Smith Brothers	51.19 345	eP	P	23 11 38.0	-0.7
	comp=Z,177nm,1.0s					
V48A	Smith Brothers	51.19 345	P	P	23 11 37.6	-1.1
	baz=162,SNR=20					
X43A	Marvell	51.22 340	eP	P	23 11 38.2	-0.7
	comp=Z,516nm,1.8s					
X43A	Marvell	51.22 340	P	P	23 11 37.3	-1.6
	baz=157					
TZTN	Tazewell	51.23 348	eP	P	23 11 38.5	-0.5
	comp=Z,106nm,1.1s					
TZTN	Tazewell	51.23 348	P	P	23 11 38.0	-1.0
	baz=166,SNR=7.1					
WLAR	White Oak Lake	51.24 338	eP	P	23 11 40.0	+0.9
	comp=Z,470nm,1.4s					
T55A	Pulaski	51.32 351	P	P	23 11 40.1	+0.3
	baz=169,SNR=18					
BLA	Blacksburg	51.36 352	eP	P	23 11 41.6	+1.6
	comp=Z,223nm,1.4s					
BLA	Blacksburg	51.36 352	P	P	23 11 40.2	+0.2
	baz=170					
U50A	Jamestown	51.37 347	P	P	23 11 38.8	-1.3
	baz=164,SNR=14					
JCT	Junction City	51.37 329	eP	P	23 11 41.4	+1.2
	comp=Z,83nm,1.1s					
JCT	Junction City	51.37 329	eP	P	23 11 41.4	+1.2
JCT			pmax	pmax		
	comp=Z,83nm,1.1s					
JCT	Junction City	51.37 329	P	P	23 11 39.5	-0.7
	baz=145,SNR=5.8					
T54A	Tazewell	51.39 351	P	P	23 11 39.6	-0.6
	baz=168,SNR=12					
CLTN	Cedars of Leba	51.40 346	eP	P	23 11 39.4	-0.8
	comp=Z,66nm,1.3s					
V47A	Nunnelly	51.45 344	P	P	23 11 38.9	-1.8
	baz=161,SNR=9.5					
S60A	Water View	51.45 356	P	P	23 11 39.9	-0.7
	baz=175					
T53A	Wise	51.47 350	P	P	23 11 40.0	-0.9
	baz=167,SNR=8.6					
S58A	Poland Farm, P	51.48 354	eP	P	23 11 40.9	+0.1
	comp=Z,80nm,1.0s					
S58A	Poland Farm, P	51.48 354	P	P	23 11 40.7	-0.1
	baz=173,SNR=21					
WHTX	Lake Whitney,	51.53 333	eP	P	23 11 41.6	+0.3
	comp=Z,128nm,1.1s					
WHTX	Lake Whitney,	51.53 333	P	P	23 11 41.0	-0.3
	baz=148,SNR=5.2					
S59A	Mechanicsville	51.56 355	P	P	23 11 40.6	-0.8
	baz=174					
V46A	Holladay	51.59 344	P	P	23 11 39.4	-2.2
	baz=160,SNR=6.1					
T52A	Hallie	51.67 349	eP	P	23 11 41.9	-0.4
	comp=Z,168nm,1.1s					
T52A	Hallie	51.67 349	P	P	23 11 41.4	-0.9
	baz=167,SNR=7.7					
U49A	Red Boiling Sp	51.67 346	P	P	23 11 40.7	-1.6
	baz=163,SNR=12					
S56A	Natural Bridge	51.71 353	P	P	23 11 42.6	0.0
	baz=171,SNR=6.0					
T51A	Gray	51.72 348	P	P	23 11 41.5	-1.1
	baz=166,SNR=13					
S57A	Dark Hollow, R	51.72 353	eP	P	23 11 43.4	+0.7
	comp=Z,425nm,1.5s					
S57A	Dark Hollow, R	51.72 353	P	P	23 11 42.6	0.0
	baz=172,SNR=44					
R58B	Mineral	51.81 355	eP	P	23 11 44.0	+0.7
	comp=Z,193nm,1.4s					
R58B	Mineral	51.81 355	P	P	23 11 43.2	-0.1
	baz=173,SNR=25					
WVT	Waverly	51.82 344	eP	P	23 11 41.6	-1.8
	comp=Z,97nm,1.0s					
WVT	Waverly	51.82 344	eP	P	23 11 41.6	-1.8
WVT			pmax	pmax		
	comp=Z,97nm,1.0s					
WVT	Waverly	51.82 344	P	P	23 11 41.7	-1.6
	baz=161					
HPIG		51.84 322	eP	P	23 11 44.2	+0.2
	comp=Z,233nm,2.0s					
U48A	Cassie Pea, Po	51.85 346	P	P	23 11 42.5	-1.2
	baz=162,SNR=12					
X40A	Basin Creek Fa	51.86 339	eP	P	23 11 44.7	+1.0
	comp=Z,100nm,1.8s					
X40A	Basin Creek Fa	51.86 339	P	P	23 11 42.6	-1.1
	baz=154					
S55A	Lewisburg	51.92 352	P	P	23 11 43.8	-0.4
	baz=170,SNR=24					
UALR	University of	51.95 339	eP	P	23 11 44.0	-0.3
	comp=Z,107nm,1.1s					
T50A	Nancy	51.95 347	P	P	23 11 43.1	-1.2
	baz=164,SNR=11					
U47A	Clarksville	51.97 345	P	P	23 11 42.8	-1.7
	baz=161,SNR=12					
R59A	King George, V	51.98 355	P	P	23 11 43.1	-1.5
	baz=174,SNR=9.6					
CBN	Corbin Frederi	52.01 355	eP	P	23 11 45.3	+0.6
CBN			epP	pP	23 12 09.2	+2.6
CBN	Corbin Frederi	52.01 355	P	P	23 11 44.3	-0.4
	baz=174					
R60A	Leonardtown, M	52.01 356	P	P	23 11 44.3	-0.5

baz=175
S53A Williamson 52.08 350 P P 23 11 44.6 -0.8
baz=168
HBAR Harrisburg 52.10 341 eP P 23 11 44.8 -0.7
HBAR epP pP 23 12 08.4 +1.0
U46A Springville 52.13 344 P P 23 11 43.8 -1.9
baz=160,SNR=6.7
R58A Rapidan 52.16 354 P P 23 11 46.1 +0.2
baz=173,SNR=38
MIAR Mount Ida 52.18 338 eP P 23 11 45.5 -0.6
comp=Z,125nm,1.3s
MIAR Mount Ida 52.18 338 eP P 23 11 45.5 -0.6
MIAR pmax pmax
comp=Z,125nm,1.3s
MIAR Mount Ida 52.18 338 P P 23 11 45.4 -0.7
baz=154,SNR=30
T49A Edmonton 52.19 347 eP P 23 11 44.8 -1.3
comp=Z,185nm,1.1s
T49A Edmonton 52.19 347 P P 23 11 45.0 -1.1
baz=164,SNR=29
R57A Stanardsville 52.20 354 P P 23 11 46.5 +0.3
baz=172,SNR=37
S52A Salyersville 52.24 349 P P 23 11 45.1 -1.5
baz=167
W41B Gary Mavity, V 52.28 339 eP P 23 11 45.8 -1.0
comp=Z,120nm,1.3s
W41B Gary Mavity, V 52.28 339 P P 23 11 45.3 -1.5
baz=155,SNR=21
S51A Beattyville 52.30 349 eP P 23 11 47.4 +0.4
S51A epP pP 23 12 09.3 +0.4
S51A ePcP PcP 23 12 54.5 -2.6
S51A Beattyville 52.30 349 P P 23 11 45.4 -1.6
baz=166,SNR=5.9
UTMT University of 52.30 343 eP P 23 11 46.6 -0.4
UTMT epP pP 23 12 09.6 +0.7
SLBS Sierra La Lagu 52.34 315 eP P 23 11 48.5 +0.9
comp=Z,63nm,1.1s
GLAT Glass 52.35 343 eP P 23 11 46.6 -0.7
comp=Z,533nm,0.5s
T48A Bowling Green 52.39 346 P P 23 11 46.2 -1.4
baz=163,SNR=14
WHAR Wooly Hollow 52.40 339 eP P 23 11 47.1 -0.5
comp=Z,221nm,1.5s
R54A Victor 52.40 351 P P 23 11 47.2 -0.4
baz=169,SNR=11
T47A Sharon Grove 52.44 345 eP P 23 11 46.6 -1.4
comp=Z,132nm,1.2s
T47A Sharon Grove 52.44 345 P P 23 11 46.4 -1.6
baz=162,SNR=11
TXAR Lajitas Array 52.49 325 P P 23 11 48.4 -0.2
comp=Z,3.7nm,0.4s,baz=152,slow=8.9,SNR=98
LTX Lajitas 52.49 325 eP P 23 11 48.4 -0.2
LTX Lajitas 52.49 325 eP P 23 11 48.4 -0.2
TX31 Lajitas Ar. Si 52.49 325 eP P 23 11 48.0 -0.7
comp=Z,139nm,1.7s
S50A Richmond 52.50 348 P P 23 11 47.4 -1.0
baz=165,SNR=20
PVMO Portageville 52.61 342 eP P 23 11 48.5 -0.7
comp=Z,245nm,0.6s
Q59A Harwood 52.61 356 P P 23 11 48.6 -0.5
baz=175
R53A Hurricane 52.69 351 eP P 23 11 50.0 +0.2
comp=Z,75nm,1.0s
R53A Hurricane 52.69 351 P P 23 11 48.5 -1.3
baz=168
T46A Princeton 52.70 344 P P 23 11 47.9 -1.9
baz=161,SNR=8.2
S49A Springfield 52.78 347 P P 23 11 49.0 -1.5
baz=164,SNR=14
R52A Catlettsburg 52.81 350 P P 23 11 49.6 -1.1
baz=167
S48A Wiedeman Farm, 52.83 346 P P 23 11 49.2 -1.7
baz=163,SNR=18
W39A Magazine 52.84 338 eP P 23 11 50.5 -0.5
comp=Z,222nm,1.4s
W39A Magazine 52.84 338 P P 23 11 50.7 -0.3
baz=154,SNR=24
PARMO Parma 52.85 343 eP P 23 11 50.3 -0.7
PARMO epP pP 23 12 14.7 +1.6
T45A Paducah 52.88 344 P P 23 11 48.8 -2.4
baz=160
Q57A Strasburg 52.92 354 P P 23 11 52.1 +0.6
baz=172,SNR=46
R51A Hillsboro 52.94 349 P P 23 11 50.7 -1.0
baz=166,SNR=11
S47A Hartford 52.96 346 P P 23 11 50.4 -1.5
baz=162,SNR=16
ABTX Abilene, Hawle 53.06 331 eP P 23 11 52.5 -0.2
comp=Z,180nm,1.3s
ABTX Abilene, Hawle 53.06 331 P P 23 11 51.7 -1.0
baz=146,SNR=27
R50A Paris 53.06 348 P P 23 11 51.2 -1.3
baz=165,SNR=12
Q55A Buckhannon 53.07 353 P P 23 11 52.2 -0.4
baz=170,SNR=15
Q53A Leroy 53.14 351 P P 23 11 52.1 -0.9
baz=169,SNR=16
PBMO Poplar Bluff 53.16 342 eP P 23 11 52.1 -1.2
comp=Z,124nm,1.0s
Q54A Coxs Mills 53.16 352 eP P 23 11 53.1 -0.1
comp=Z,80nm,1.0s
Q54A Coxs Mills 53.16 352 P P 23 11 52.4 -0.8
baz=170,SNR=15
SDMD Soldier's Deli 53.16 356 eP P 23 11 54.1 +0.9
comp=Z,29nm,1.1s
U41A Viola 53.23 340 P P 23 11 52.0 -1.8
baz=156,SNR=17
R49A Shelbyville 53.25 347 P P 23 11 52.3 -1.6
baz=164,SNR=8.7
S46A Don Dixon Farm 53.26 345 P P 23 11 52.4 -1.6
baz=161,SNR=16
P59A Jarrettsville 53.33 356 P P 23 11 53.3 -1.2
baz=175,SNR=8.0
Q52A Bidwell 53.36 350 P P 23 11 54.0 -0.7
baz=168,SNR=6.1
WCI Wyandotte Cave 53.43 346 eP P 23 11 54.4 -0.9
comp=Z,194nm,1.1s
WCI Wyandotte Cave 53.43 346 eP P 23 11 54.4 -0.9
WCI pmax pmax
comp=Z,194nm,1.1s
WCI Wyandotte Cave 53.43 346 P P 23 11 53.9 -1.3
baz=163
S45A Carrier Mills 53.48 344 P P 23 11 54.3 -1.3
baz=160,SNR=14
P60A Greenville 53.49 357 P P 23 11 54.6 -1.0
baz=176,SNR=9.2
R48A Northridge Ran 53.50 347 P P 23 11 54.2 -1.6
baz=164,SNR=6.7
USIN University of 53.51 345 eP P 23 11 54.9 -0.9
comp=Z,378nm,1.1s
P55A Reedsville 53.55 353 P P 23 11 56.4 +0.3
baz=171,SNR=8.0
R47A Wooly Knot Far 53.55 346 P P 23 11 54.6 -1.4
baz=163,SNR=11
U40A Yellville 53.55 339 P P 23 11 55.3 -0.9
baz=155,SNR=17
PSUB Penn St. - Bra 53.59 357 eP P 23 11 56.4 0.0
comp=Z,60nm,1.3s
PSUB epP pP 23 12 21.6 +3.3
Q51A Peebles 53.60 349 eP P 23 11 56.4 -0.1
Q51A epP pP 23 12 19.0 +0.4
Q51A Peebles 53.60 349 P P 23 11 55.1 -1.4
baz=167
S44A Carbondale 53.67 343 P P 23 11 55.4 -1.6
baz=159,SNR=8.4
SIUC Southern Illin 53.68 343 eP P 23 11 56.4 -0.7
SIUC epP pP 23 12 19.2 0.0
SIUC esP sP 23 12 28.9 -0.1
MCWV Mont Chateau 53.70 353 eP P 23 11 57.1 -0.1
MCWV epP pP 23 12 21.3 +2.0
MCWV Mont Chateau 53.70 353 P P 23 11 56.0 -1.1
baz=171,SNR=5.1
R46A Gibon Southern 53.71 345 P P 23 11 55.6 -1.7
baz=162,SNR=7.6
MVL Millersville 53.72 356 eP P 23 11 57.8 +0.5
comp=Z,75nm,1.0s
P54A Burton 53.72 352 P P 23 11 57.0 -0.3
baz=170,SNR=18
P53A Whipple 53.73 351 eP P 23 11 57.5 +0.1
comp=Z,106nm,0.9s
P53A Whipple 53.73 351 P P 23 11 56.6 -0.8
baz=169,SNR=17
HHAR Hobbs 53.87 338 eP P 23 11 57.8 -0.7
comp=Z,149nm,1.1s
Q49A Aurora 53.88 348 P P 23 11 56.9 -1.5
baz=165,SNR=6.4
PAGS Pennsylvania G 53.97 356 eP P 23 11 59.5 +0.4
comp=Z,85nm,1.5s
R45A Skylar, Fairfi 53.98 345 P P 23 11 58.0 -1.2
baz=161,SNR=25
Q48A North Vernon 53.98 347 P P 23 11 57.9 -1.3
baz=164,SNR=11
O60A Telford 53.98 357 P P 23 11 58.3 -0.8
baz=176,SNR=10
P52A Corning 53.99 351 P P 23 11 57.9 -1.4
baz=168,SNR=7.9
P51A Williamsport 53.99 350 eP P 23 11 59.5 +0.2
P51A epP pP 23 12 21.8 +0.3
P51A Williamsport 53.99 350 P P 23 11 57.9 -1.4
baz=167
O59A Robesonia 54.02 356 P P 23 11 57.9 -1.6
baz=175,SNR=19
Q47A Bedord North L 54.14 347 P P 23 11 58.7 -1.7
baz=163,SNR=14
O56A Blue Knob Stat 54.16 354 eP P 23 12 01.2 +0.6
comp=Z,194nm,1.2s
O56A Blue Knob Stat 54.16 354 P P 23 12 00.6 -0.1
baz=172,SNR=30
O55A Ligonier 54.18 353 P P 23 12 00.4 -0.2
baz=172,SNR=15
TUL1 Leonard 54.22 337 eP P 23 12 01.0 -0.1
comp=Z,234nm,1.5s
TUL1 Leonard 54.22 337 P P 23 12 00.7 -0.4
baz=152,SNR=9.4
P50A Jamestown 54.25 349 P P 23 12 00.9 -0.3
baz=166,SNR=6.3
LUPA Lehigh Univers 54.26 357 eP P 23 12 00.7 -0.6
comp=Z,3.0nm,1.1s
FVM French Village 54.28 342 eP P 23 12 01.1 -0.3
FVM French Village 54.28 342 eP P 23 12 01.1 -0.3
O54A Avella 54.28 352 P P 23 12 00.7 -0.7
baz=170
BRNJ Basking Ridge 54.31 358 eP P 23 12 00.9 -0.7
comp=Z,29nm,0.7s
S41A Jillco Farms, 54.31 341 P P 23 12 00.5 -1.2
baz=157,SNR=27
OLIL Olney 54.35 345 eP P 23 12 00.8 -1.1
OLIL epP pP 23 12 23.6 -0.4
P49A Miami Univ. Ec 54.35 348 P P 23 12 00.1 -1.9
baz=165
BLO Bloomington 54.38 347 eP P 23 12 01.2 -1.0
comp=Z,138nm,1.0s
BLO Bloomington 54.38 347 eP P 23 12 01.2 -1.0
BLO pmax pmax
comp=Z,138nm,1.0s
O52A Adamsville 54.42 351 eP P 23 12 02.4 0.0
comp=Z,92nm,1.1s
O52A Adamsville 54.42 351 P P 23 12 01.2 -1.2
baz=169,SNR=7.0
P48A Milroy 54.42 348 P P 23 12 00.6 -1.9
baz=164,SNR=5.4
Q46A CEJHS Indians, 54.44 346 P P 23 12 01.1 -1.4
baz=162
WMOK Wichita Mounta 54.44 333 eP P 23 12 02.0 -0.7
comp=Z,50nm,1.0s
WMOK Wichita Mounta 54.44 333 eP P 23 12 02.0 -0.7
WMOK pmax pmax
comp=Z,50nm,1.0s
WMOK Wichita Mounta 54.44 333 P P 23 12 01.4 -1.3
baz=148,SNR=13
O53A New Philadelph 54.46 352 P P 23 12 01.8 -0.9
baz=169,SNR=7.1
SSPA Standing Stone 54.46 355 eP P 23 12 03.0 +0.3
comp=Z,121nm,1.3s
SSPA Standing Stone 54.46 355 P P 23 12 02.7 0.0
baz=173
Q45A Warren Harvey, 54.51 345 P P 23 12 01.8 -1.3
baz=161,SNR=14
CCM Cathedral Cave 54.59 342 eP P 23 12 02.4 -1.3
comp=Z,96nm,1.0s
CCM Cathedral Cave 54.59 342 eP P 23 12 02.4 -1.3
CCM pmax pmax
comp=Z,96nm,1.0s
CCM Cathedral Cave 54.59 342 P P 23 12 02.3 -1.4
baz=157
N59A State Game Lan 54.59 357 eP P 23 12 04.0 +0.3
comp=Z,29nm,1.1s
N59A State Game Lan 54.59 357 P P 23 12 03.7 0.0
baz=176,SNR=6.8
PAL Palisades 54.61 359 P P 23 12 02.2 -1.5
baz=178
P47A Martinsville 54.63 347 P P 23 12 02.4 -1.5
baz=163,SNR=6.4
ODNJ Ogdensburg 54.71 358 eP P 23 12 05.6 +1.1
comp=Z,30nm,1.1s
ACSO Alum Creek Sta 54.71 350 eP P 23 12 03.9 -0.6
ACSO epP pP 23 12 27.0 +0.3
ACSO Alum Creek Sta 54.71 350 P P 23 12 03.4 -1.2
baz=167,SNR=10
N55A Marion Center 54.71 354 eP P 23 12 05.0 +0.5
comp=Z,256nm,1.0s
N55A Marion Center 54.71 354 P P 23 12 04.9 +0.3
baz=172,SNR=52
O50A Cable 54.74 349 P P 23 12 03.4 -1.3
baz=166,SNR=5.8
SLM Saint Louis 54.83 343 eP P 23 12 04.8 -0.6
SLM epP pP 23 12 27.8 +0.2
SLM Saint Louis 54.83 343 eP P 23 12 04.8 -0.6
SLM e*PP pP 23 12 27.8 +0.2
R41A Rosebud 54.85 342 P P 23 12 04.5 -1.1
baz=157,SNR=38
CLNB Carlsbad 54.88 327 eP P 23 12 06.6 +0.6
YLE Yale 54.91 360 eP P 23 12 06.1 +0.2
comp=Z,85nm,1.1s
O49A Covington 54.91 349 eP P 23 12 05.0 -1.0
O49A epP pP 23 12 28.0 -0.1
O49A Covington 54.91 349 P P 23 12 03.5 -2.4
baz=166,SNR=7.3
N53A Lisbon 54.95 352 eP P 23 12 07.3 +1.0
comp=Z,214nm,1.7s
N53A Lisbon 54.95 352 P P 23 12 05.3 -1.0
baz=170,SNR=5.8
P46A Rosedale 54.97 346 P P 23 12 04.7 -1.7
baz=162
N54A Moraine State 55.00 353 eP P 23 12 07.2 +0.5
comp=Z,248nm,1.3s
N54A Moraine State 55.00 353 P P 23 12 06.6 0.0
baz=171,SNR=12
P45A Graceland, Par 55.01 346 eP P 23 12 05.3 -1.4
P45A epP pP 23 12 28.4 -0.5
P45A Graceland, Par 55.01 346 P P 23 12 04.9 -1.8
baz=162,SNR=6.2
N52A McGinn's Farm, 55.08 351 P P 23 12 06.2 -0.9
baz=169
Q48A Fairland 55.13 348 P P 23 12 05.9 -1.6
baz=165,SNR=16
Q42A Golden Eagle 55.17 343 P P 23 12 06.8 -1.0
baz=158,SNR=14
M65A Busby, Falmout 55.18 2 P P 23 12 06.5 -1.3
baz=182
MNTX Cornudas Mount 55.25 326 eP P 23 12 07.6 -1.0
comp=Z,101nm,1.6s
MNTX Cornudas Mount 55.25 326 P P 23 12 08.4 -0.2
baz=140,SNR=20
N50A Nevada 55.27 350 P P 23 12 07.2 -1.3
baz=167,SNR=6.7
N51A Ashland 55.28 351 eP P 23 12 09.0 +0.3
N51A epP pP 23 12 31.2 +0.3
N51A Ashland 55.28 351 P P 23 12 07.2 -1.5
baz=168
KSCT Kent School, K 55.32 359 eP P 23 12 09.3 +0.4
comp=Z,65nm,1.4s
O47A Sheridan 55.33 347 P P 23 12 07.0 -2.0
baz=164
M55A Ridgway 55.37 354 P P 23 12 09.2 -0.1
baz=172,SNR=40
M54A Oil Creek Stat 55.50 353 eP P 23 12 10.1 -0.1
comp=Z,198nm,1.1s
M54A Oil Creek Stat 55.50 353 P P 23 12 09.7 -0.6
baz=171,SNR=11
BRYW Bryant College 55.51 1 eP P 23 12 10.2 -0.1
comp=Z,63nm,0.8s
M53A Wt Miller and 55.56 352 P P 23 12 09.8 -0.8
baz=170,SNR=9.9
P43A Skaggs, Pawnee 55.57 344 P P 23 12 09.2 -1.5
baz=160,SNR=14
N49A Columbus Grove 55.59 349 eP P 23 12 09.9 -0.9
comp=Z,176nm,1.1s
N49A Columbus Grove 55.59 349 P P 23 12 09.6 -1.3
baz=166,SNR=15
M51A Elyria 55.66 351 P P 23 12 10.4 -0.9
baz=168
MSTX Muleshoe 55.67 329 eP P 23 12 11.0 -0.7
comp=Z,115nm,1.4s
MSTX Muleshoe 55.67 329 P P 23 12 09.9 -1.8
baz=143
SFIN Lafayette 55.67 346 eP P 23 12 09.8 -1.6
SFIN epP pP 23 12 32.9 -0.8
SFIN Lafayette 55.67 346 P P 23 12 09.7 -1.6
baz=162
O45A Potomac 55.69 346 P P 23 12 09.0 -2.6
baz=162
N48A Decatur 55.69 348 P P 23 12 09.8 -1.7
baz=165,SNR=7.2
ALLY Alegheny Colle 55.70 353 eP P 23 12 12.8 +1.1
comp=Z,168nm,1.0s
M52A Chesterland 55.75 352 eP P 23 12 12.8 +0.8
M52A epP pP 23 12 34.2 +0.1
M52A Chesterland 55.75 352 P P 23 12 10.9 -1.0
baz=169
O44A Mansfield 55.78 345 P P 23 12 10.4 -1.8
baz=161
N47A Urbana 55.84 348 P P 23 12 10.7 -2.0
baz=164,SNR=6.9
M50A Fremont 55.87 350 eP P 23 12 13.2 +0.4
M50A epP pP 23 12 35.3 +0.2
M50A Fremont 55.87 350 P P 23 12 11.4 -1.3
baz=167
AMTX Amarillo 55.88 331 eP P 23 12 12.5 -0.6
comp=Z,44nm,0.9s
AMTX Amarillo 55.88 331 P P 23 12 12.1 -1.0
baz=145
BINY Binghamton 55.88 357 eP P 23 12 13.2 +0.2
comp=Z,98nm,0.8s
BINY Binghamton 55.88 357 P P 23 12 12.6 -0.3
baz=176,SNR=37
U32A Winter Ranch, 55.93 334 eP P 23 12 13.4 +0.1
U32A epP pP 23 12 36.1 +0.2
L53A Girard 56.01 353 P P 23 12 13.5 -0.3
baz=171,SNR=18
L55A Hinsdale 56.05 355 P P 23 12 14.0 -0.1
baz=173,SNR=27
N46A Monticello 56.08 347 P P 23 12 12.1 -2.2
baz=163,SNR=7.0
M49A Liberty Center 56.09 350 P P 23 12 13.0 -1.4
baz=166,SNR=7.9
HRV Adam Dziewonsk 56.10 1 eP P 23 12 15.6 +1.2
comp=Z,34nm,0.8s
HRV Adam Dziewonsk 56.10 1 eP P 23 12 15.6 +1.2
HRV pmax pmax
comp=Z,34nm,0.8s
HRV Adam Dziewonsk 56.10 1 P P 23 12 14.0 -0.5
baz=181
PLIO Pelee Island, 56.14 351 P P 23 12 14.4 -0.3
baz=168
ERPA Erie 56.14 353 eP P 23 12 14.9 +0.2
comp=Z,353nm,1.4s
ERPA Erie 56.14 353 P P 23 12 14.1 -0.7
baz=171,SNR=12
L54A Sinclairville 56.18 354 P P 23 12 15.1 0.0
baz=172,SNR=19
N45A Kentland 56.21 346 P P 23 12 13.4 -1.9
baz=162
M48A Edgerton 56.24 349 eP P 23 12 15.1 -0.4
comp=Z,66nm,1.0s
M48A Edgerton 56.24 349 P P 23 12 13.8 -1.6
baz=165
M47A Cromwell 56.29 348 P P 23 12 14.3 -1.5
baz=164
SRIG Santa Rosalia 56.30 317 eP P 23 12 17.2 +1.0
comp=Z,33nm,1.0s
N44A Piper City 56.31 346 P P 23 12 14.2 -1.8
baz=161
TRY Troy 56.33 359 eP P 23 12 16.4 +0.3
comp=Z,46nm,1.0s
HDIL Hopedale 56.37 345 eP P 23 12 15.0 -1.4
HDIL epP pP 23 12 38.0 -0.7
HDIL Hopedale 56.37 345 P P 23 12 14.7 -1.7
baz=160
L50A Kingsville 56.45 351 P P 23 12 15.5 -1.4
baz=168
M46A Old House Fiel 56.49 347 eP P 23 12 15.8 -1.5
M46A epP pP 23 12 39.0 -0.6
M46A Old House Fiel 56.49 347 P P 23 12 15.9 -1.3
baz=164
MMNY Mt. Morris Dam 56.55 355 eP P 23 12 18.0 +0.4
comp=Z,284nm,1.6s
K55A Perry 56.56 355 P P 23 12 17.3 -0.4
baz=173,SNR=14
HSIG 56.60 319 eP P 23 12 17.7 -0.6
HSIG epP pP 23 12 40.5 +0.1
L48A N Adams 56.63 349 P P 23 12 17.0 -1.3
baz=166
M45A Boilermakers S 56.66 347 P P 23 12 17.0 -1.5
baz=163
L49A Milan 56.67 350 P P 23 12 17.4 -1.1
baz=167,SNR=6.6
N43A Stutzman Famil 56.70 345 P P 23 12 16.7 -2.0
baz=160,SNR=18
L47A Sherwood 56.80 349 P P 23 12 17.7 -1.7
baz=165
AAM Ann Arbor 56.84 350 eP P 23 12 18.8 -0.9
AAM epP pP 23 12 42.0 0.0
AAM Ann Arbor 56.84 350 eP P 23 12 18.8 -0.9
AAM e*PP pP 23 12 42.0 0.0
AAM Ann Arbor 56.84 350 P P 23 12 18.8 -0.9
baz=167
M44A Midewin, Midew 56.85 346 eP P 23 12 19.6 -0.2
M44A epP pP 23 12 41.0 -1.1
M44A Midewin, Midew 56.85 346 P P 23 12 18.4 -1.4
baz=162
K52A Tillsonburg 56.88 353 P P 23 12 19.5 -0.5
baz=170
K51A Iona Station 56.93 352 P P 23 12 19.4 -0.9
baz=169
N41A Harden Midland 56.93 343 eP P 23 12 19.1 -1.3
N41A epP pP 23 12 41.7 -1.0
N41A Harden Midland 56.93 343 P P 23 12 18.3 -2.0
baz=158
ACCN Adirondack Com 56.98 359 eP P 23 12 21.1 +0.4
comp=Z,35nm,0.9s
MEDO Medina 57.02 355 P P 23 12 20.0 -0.9
baz=173,SNR=6.9
L46A Eue Claire 57.06 348 eP P 23 12 19.8 -1.4
L46A epP pP 23 12 42.8 -0.8
L46A Eue Claire 57.06 348 P P 23 12 18.8 -2.4
baz=164
J55A Hilton 57.07 355 eP P 23 12 21.6 +0.3
comp=Z,130nm,1.0s
J55A epP pP 23 12 45.4 +1.8
J55A Hilton 57.07 355 P P 23 12 20.3 -0.9
baz=174,SNR=16
TYNO Tyneside 57.09 354 P P 23 12 20.6 -0.8
baz=171,SNR=6.1
M43A Waltham Townsh 57.11 345 P P 23 12 19.5 -2.1
baz=161,SNR=11
STCO Saint Catharin 57.13 354 P P 23 12 20.8 -0.9
baz=172
K50A Casco 57.14 351 eP P 23 12 21.5 -0.3
K50A epP pP 23 12 44.1 0.0
K50A Casco 57.14 351 P P 23 12 20.7 -1.1
baz=168
J54A Appleton 57.15 355 eP P 23 12 22.2 +0.4
J54A epP pP 23 12 45.9 +1.8
J54A Appleton 57.15 355 P P 23 12 21.2 -0.6
baz=173
121A Cookes Peak, D 57.21 324 P P 23 12 22.0 -0.7
baz=138,SNR=14
319A Douglas 57.23 322 eP P 23 12 23.9 +1.1
comp=Z,72nm,1.1s
K49A Clarkson 57.28 350 P P 23 12 21.7 -1.1
baz=167
N40A Mertquake, Sal 57.30 343 P P 23 12 21.3 -1.7
baz=158,SNR=5.5
J52A Paris 57.31 353 P P 23 12 22.2 -0.7
baz=170,SNR=16
KSU1 Kansas State U 57.34 338 P P 23 12 22.0 -1.3
baz=152
K48A Perry 57.41 350 P P 23 12 22.4 -1.3
baz=166,SNR=8.4
K47A Vermontville 57.44 349 P P 23 12 22.3 -1.6
baz=165,SNR=6.4
M41A Milan 57.47 344 P P 23 12 22.1 -2.0
baz=159
TORO Toronto--Lesli 57.55 354 P P 23 12 23.7 -0.9
baz=172
L44A Lake County Fo 57.57 346 P P 23 12 22.1 -2.8
baz=162
NCB Newcomb 57.58 358 eP P 23 12 25.1 +0.2
comp=Z,57nm,1.5s
K46A Dorr 57.60 348 P P 23 12 23.8 -1.2

baz=164
ACTO Acton 57.62 353 P P 23 12 24.0 -1.2
baz=171
PECO Prince Edward 57.67 356 P P 23 12 24.9 -0.6
baz=175,SNR=15
DRWO Darlington Wes 57.75 355 P P 23 12 25.5 -0.6
baz=173,SNR=6.9
DRCO St. Marys Ceme 57.75 355 P P 23 12 25.8 -0.2
baz=173
L43A Garden Prairie 57.77 346 P P 23 12 24.6 -1.6
baz=161,SNR=13
WLVO Wesleyville 57.77 355 P P 23 12 26.0 -0.2
baz=173,SNR=24
I53A Kortright Cn E 57.78 354 P P 23 12 24.8 -1.5
baz=172
J49A Marlette 57.79 351 P P 23 12 24.7 -1.7
baz=168
BNM Barren Site 57.79 327 eP P 23 12 28.0 +1.1
L42A Oliver, Polo 57.83 345 eP P 23 12 25.2 -1.4
L42A epP pP 23 12 48.2 -0.8
L42A Oliver, Polo 57.83 345 P P 23 12 24.5 -2.1
baz=160
LBNH Lisbon 57.83 0 eP P 23 12 27.0 +0.4
comp=Z,55nm,1.3s
LBNH Lisbon 57.83 0 eP P 23 12 27.0 +0.4
LBNH pmax pmax
comp=Z,55nm,1.3s
LBNH Lisbon 57.83 0 P P 23 12 26.6 0.0
baz=180,SNR=7.1
J48A Bridge Port 57.83 350 eP P 23 12 25.6 -1.0
comp=Z,100nm,1.0s
J48A Bridge Port 57.83 350 P P 23 12 23.4 -3.2
baz=167,SNR=5.5
PKRO Pickering 57.87 354 P P 23 12 25.9 -1.1
baz=172
Y22D IRIS PASSCAL I 57.89 326 eP P 23 12 28.2 +0.7
comp=Z,44nm,0.7s
Y22D IRIS PASSCAL I 57.89 326 P P 23 12 25.7 -1.8
baz=139
LPM Los Pinos Moun 57.92 327 eP P 23 12 29.1 +1.4
VT1 Waterbury 57.92 360 eP P 23 12 27.7 +0.4
comp=Z,70nm,1.7s
I51A Listowel 57.93 353 P P 23 12 26.2 -1.1
baz=170,SNR=7.8
J47A Sunmer 57.95 349 eP P 23 12 26.2 -1.3
comp=Z,214nm,1.1s
J47A Sunmer 57.95 349 P P 23 12 26.2 -1.3
baz=166,SNR=8.6
LENM Lemitar 57.99 326 eP P 23 12 29.7 +1.5
I55A Frankford 58.00 356 P P 23 12 27.4 -0.5
baz=174,SNR=34
I52A Shelburne 58.09 353 P P 23 12 27.6 -0.9
baz=171
K43A Burlington 58.16 346 eP P 23 12 27.5 -1.5
K43A epP pP 23 12 50.8 -0.7
K43A Burlington 58.16 346 P P 23 12 27.3 -1.7
baz=162
J46A Howard City 58.21 349 P P 23 12 28.4 -0.9
baz=165
BASO Ashfield 58.22 352 P P 23 12 28.4 -1.0
baz=169
LONY Lake Ozonia 58.24 358 eP P 23 12 29.7 +0.2
comp=Z,24nm,0.8s
LONY Lake Ozonia 58.24 358 P P 23 12 29.3 -0.3
baz=177,SNR=14
BWLO Walkerton 58.25 353 P P 23 12 28.7 -0.8
baz=170,SNR=10
LAZ Ladron 58.26 326 eP P 23 12 30.1 0.0
H56A Elgin 58.29 357 P P 23 12 29.3 -0.5
baz=175,SNR=28
L40A Anamosa 58.29 344 eP P 23 12 29.1 -0.8
comp=Z,191nm,1.2s
L40A Anamosa 58.29 344 P P 23 12 28.1 -1.8
baz=158,SNR=9.6
DELO Deloro Mine 58.30 356 P P 23 12 29.5 -0.4
baz=174,SNR=28
H55A Tweed 58.30 356 P P 23 12 28.9 -1.0
baz=174,SNR=21
CBKS Cedar Bluff 58.30 335 eP P 23 12 30.7 +0.6
CBKS epP pP 23 12 53.5 +1.1
CBKS Cedar Bluff 58.30 335 P P 23 12 29.2 -0.9
baz=148
I49A Point Hope 58.31 351 eP P 23 12 30.0 +0.1
I49A epP pP 23 12 51.4 -1.0
I49A Point Hope 58.31 351 P P 23 12 28.5 -1.4
baz=168
ANMO Albuquerque 58.31 327 eP P 23 12 29.9 -0.6
comp=Z,37nm,1.3s
ANMO Albuquerque 58.31 327 deP P 23 12 29.8 -0.6
ANMO pmax pmax
comp=Z,29nm,1.9s
ANMO Albuquerque 58.31 327 P P 23 12 29.3 -1.1
baz=140
TASM ASL Pad, Albuq 58.31 327 P P 23 12 29.9 -0.6
baz=140,SNR=13
TASM ASL Pad, Albuq 58.31 327 P P 23 12 30.1 -0.3
baz=140,SNR=12
BRCO Bruce Peninsul 58.41 352 P P 23 12 29.9 -0.8
baz=170
FRNY Flat Rock 58.43 359 eP P 23 12 31.0 +0.2
comp=Z,64nm,1.1s
J45A Montague 58.44 348 P P 23 12 29.7 -1.2
baz=164
EMMW East Machias 58.47 4 eP P 23 12 31.3 +0.3
comp=Z,90nm,1.7s
EMMW epP pP 23 12 55.9 +2.3
K42A Prairie Point, 58.48 345 P P 23 12 29.8 -1.4
baz=160,SNR=8.9
L39A Vinton 58.56 343 P P 23 12 30.8 -1.0
baz=157
H52A Wyevale 58.63 354 P P 23 12 31.5 -0.7
baz=171,SNR=6.2
I47A Gladwin 58.66 350 eP P 23 12 31.3 -1.1
I47A epP pP 23 12 54.6 -0.2
I47A Gladwin 58.66 350 P P 23 12 30.7 -1.7
baz=166
SADO Sadowa 58.68 354 eP P 23 12 31.9 -0.6
comp=Z,146nm,1.1s
I48A Sherman Twp 58.69 351 P P 23 12 31.2 -1.4
baz=167
SCIA State Center 58.72 342 eP P 23 12 32.2 -0.6
SCIA epP pP 23 12 55.1 -0.3
SCIA State Center 58.72 342 P P 23 12 30.7 -2.2
baz=156
BMRO Meriville Lake 58.73 353 P P 23 12 31.8 -1.1
baz=170,SNR=6.7
I46A Reed City 58.75 349 P P 23 12 31.4 -1.7
baz=165
PLVO Plevna 58.78 356 eP P 23 12 33.5 +0.2
comp=Z,147nm,1.8s
PLVO Plevna 58.78 356 P P 23 12 32.9 -0.4
baz=174,SNR=15
TUC Tucson 58.80 322 eP P 23 12 34.3 +0.6
comp=Z,41nm,1.3s
TUC Tucson 58.80 322 eP P 23 12 34.3 +0.6
TUC pmax pmax
comp=Z,41nm,1.3s
TUC Tucson 58.80 322 P P 23 12 32.7 -1.0
baz=135
BANO Bancroft 58.82 355 P P 23 12 33.0 -0.5
baz=174,SNR=14
J43A Natural Harves 58.83 346 P P 23 12 32.1 -1.5
baz=162,SNR=6.3
JFWS Jewell Farm 58.83 345 eP P 23 12 32.6 -1.0
comp=Z,136nm,1.2s
JFWS Jewell Farm 58.83 345 eP P 23 12 32.6 -1.0
JFWS pmax pmax
comp=Z,136nm,1.2s
JFWS Jewell Farm 58.83 345 P P 23 12 32.6 -1.0
baz=160
K40A Colesburg 58.86 344 P P 23 12 32.0 -1.9
baz=158
MOQ Mont Orford 58.90 0 eP P 23 12 34.0 -0.1
PKME Peaks-Kenny Pk 58.92 3 eP P 23 12 33.1 -1.1
comp=Z,195nm,1.9s
PKME Peaks-Kenny Pk 58.92 3 P P 23 12 33.9 -0.3
baz=183
GGN Saint George 58.92 5 eP P 23 12 35.1 +0.9
comp=Z,68nm,1.3s
J42A Columbus 58.93 346 P P 23 12 33.5 -0.8
baz=161
G55A Calabogie 58.97 356 P P 23 12 34.2 -0.3
baz=175,SNR=27
G53A Haliburton 58.98 355 P P 23 12 33.7 -0.9
baz=173,SNR=29
I45A Fountain 58.99 348 P P 23 12 33.5 -1.2
baz=164

T25A Trinidad 59.00 330 eP P 23 12 35.5 +0.3
comp=Z,94nm,1.3s
T25A Trinidad 59.00 330 P P 23 12 36.1 +0.9
baz=143,SNR=8.9
K39A Oelwein 59.07 343 P P 23 12 34.3 -1.0
baz=158
ORIO Orleans, Innes 59.11 357 P P 23 12 34.2 -1.2
baz=176,SNR=8.1
H48A Harrisville 59.13 351 eP P 23 12 35.9 +0.2
H48A epP pP 23 12 58.5 +0.4
H48A Harrisville 59.13 351 P P 23 12 34.8 -0.8
baz=168
H47A Mio 59.17 350 P P 23 12 34.3 -1.7
baz=166
J41A Loganville 59.19 345 P P 23 12 34.7 -1.4
baz=160,SNR=8.0
I43A Langenfeld Bro 59.24 347 P P 23 12 34.9 -1.6
baz=162
ALFO Alfred 59.26 358 P P 23 12 36.2 -0.3
baz=177,SNR=16
H46A Fife Lake 59.28 349 P P 23 12 36.0 -0.8
baz=165
KLBO Killbear Provi 59.37 354 P P 23 12 36.5 -0.8
baz=171,SNR=14
BUKO Buck Lake 59.37 354 P P 23 12 36.7 -0.6
baz=172,SNR=24
TOBO Tobermory, Bru 59.39 353 P P 23 12 36.5 -0.9
baz=170
J40A Soldiers Grove 59.41 345 P P 23 12 36.1 -1.5
baz=159,SNR=11
I42A Draeger Farm, 59.42 346 eP P 23 12 36.9 -0.8
I42A epP pP 23 13 00.1 -0.1
I42A Draeger Farm, 59.42 346 P P 23 12 36.4 -1.3
baz=161
PEMO Pembroke 59.43 356 P P 23 12 37.4 -0.2
baz=174,SNR=13
GLMI Grayling 59.46 350 eP P 23 12 37.9 0.0
comp=Z,60nm,0.9s
GLMI Grayling 59.46 350 P P 23 12 36.8 -1.1
baz=166
H45A Beulah 59.52 349 P P 23 12 37.3 -1.0
baz=164
F55A Otter Lake 59.53 357 P P 23 12 38.1 -0.2
baz=175
J39A Decorah 59.60 344 P P 23 12 38.1 -0.9
baz=158
RKT Rikitea 59.66 251 eLR LR 23 30 23.2
comp=Z,2µm,28.8s
G47A Hillman 59.67 351 P P 23 12 39.3 -0.1
baz=167
KSCO Kaye Shedlock' 59.70 333 eP P 23 12 41.2 +1.3
comp=Z,153nm,1.3s
KSCO Kaye Shedlock' 59.70 333 P P 23 12 39.7 -0.2
baz=145
F52A Sundridge 59.71 354 P P 23 12 39.3 -0.4
baz=172,SNR=10
H43A Windswept, Lux 59.72 347 eP P 23 12 39.1 -0.6
comp=Z,101nm,1.1s
H43A Windswept, Lux 59.72 347 P P 23 12 39.2 -0.6
baz=162
ALGO Algonquin Park 59.76 355 P P 23 12 39.5 -0.5
baz=174,SNR=19
214A Organ Pipe Nat 59.78 320 P P 23 12 39.8 -0.7
baz=133,SNR=23
I41A Arkdale 59.81 346 eP P 23 12 39.5 -0.9
I41A epP pP 23 13 02.9 -0.1
I41A Arkdale 59.81 346 P P 23 12 39.3 -1.0
baz=160
GBN Guysborough 59.82 9 eP P 23 12 39.3 -1.1
GBN epP pP 23 13 03.3 +0.4
I40A Norwalk 59.84 345 P P 23 12 39.1 -1.4
baz=159
LMN Caledonia Moun 59.84 6 eP P 23 12 40.2 -0.3
comp=Z,57nm,1.0s
G45A Suttons Bay 59.85 349 eP P 23 12 39.4 -1.2
comp=Z,64nm,0.9s
G45A Suttons Bay 59.85 349 P P 23 12 39.4 -1.2
baz=165
F51A Arnstein 59.90 354 P P 23 12 40.4 -0.6
baz=171
X18A Snowflake 59.90 324 eP P 23 12 42.0 +0.5
comp=Z,67nm,1.3s
H42A Shiocton 59.92 347 P P 23 12 39.8 -1.4
baz=162
BGNE Belgrade 59.92 338 eP P 23 12 41.0 -0.2
BGNE epP pP 23 13 04.2 +0.7
BGNE Belgrade 59.92 338 P P 23 12 40.7 -0.6
baz=151,SNR=6.0
G46A Petoskey 59.98 350 P P 23 12 40.0 -1.4
baz=166
F49A Sandfield 59.99 352 P P 23 12 39.9 -1.6
baz=169,SNR=5.8
SDCO Great Sand Dun 60.01 330 eP P 23 12 42.1 -0.1
comp=Z,83nm,1.1s
SDCO Great Sand Dun 60.01 330 P P 23 12 41.9 -0.3
baz=142,SNR=38
I39A Houston 60.04 344 P P 23 12 40.4 -1.5
baz=158,SNR=8.1
F48A Evansville 60.13 352 P P 23 12 40.2 -2.3
baz=168,SNR=5.4
E52A Mattawa 60.14 355 P P 23 12 41.6 -0.9
baz=173,SNR=14
E53A Dumoine, Ponti 60.15 356 P P 23 12 42.0 -0.7
baz=174,SNR=13
E54A Lac Daplat, Po 60.18 356 P P 23 12 42.2 -0.6
baz=174,SNR=20
W18A Petrified Fore 60.21 325 eP P 23 12 44.9 +1.4
comp=Z,183nm,1.5s
W18A Petrified Fore 60.21 325 P P 23 12 43.7 +0.1
baz=137,SNR=14
H41A Junction City 60.28 346 P P 23 12 42.9 -0.7
baz=160
PQI Presque Isle 60.39 3 eP P 23 12 45.1 +0.9
comp=Z,60nm,1.3s
F46A Macinaw City C 60.40 350 P P 23 12 44.1 -0.3
baz=166
F45A CMU Biological 60.45 349 P P 23 12 43.8 -0.8
baz=165
G43A Wallace 60.45 348 eP P 23 12 45.5 +0.7
comp=Z,85nm,1.2s
G43A Wallace 60.45 348 P P 23 12 43.6 -1.1
baz=163
E51A G1948 Merrick 60.46 354 P P 23 12 44.6 -0.1
baz=172,SNR=12
H40A Chili 60.47 345 P P 23 12 44.1 -0.7
baz=160
E50A Wahnapitae 60.48 353 P P 23 12 44.3 -0.6
baz=171
G42A Mountain 60.60 347 eP P 23 12 45.6 -0.1
comp=Z,85nm,1.3s
G42A Mountain 60.60 347 P P 23 12 45.0 -0.7
baz=162
S22A 4UR Ranch, Cre 60.66 329 eP P 23 12 46.8 +0.1
comp=Z,68nm,1.4s
S22A 4UR Ranch, Cre 60.66 329 P P 23 12 45.3 -1.4
baz=141,SNR=12
X16A Lo Mia Camp, P 60.68 323 eP P 23 12 46.8 0.0
comp=Z,49nm,1.1s
E48A Lockeyer 60.71 352 P P 23 12 45.8 -0.6
baz=169,SNR=5.0
H39A Augusta 60.74 345 P P 23 12 46.1 -0.6
baz=159
D52A ZEK Kipawa Sen 60.80 355 P P 23 12 46.8 -0.2
baz=173,SNR=25
Q24A Divide 60.81 331 eP P 23 12 48.9 +1.2
comp=Z,77nm,1.3s
Q24A Divide 60.81 331 P P 23 12 46.3 -1.3
baz=143
E47A Iron Bridge 60.84 351 P P 23 12 46.9 -0.4
baz=168,SNR=5.9
D53A Lac Vacive, Po 60.85 356 eP P 23 12 46.8 -0.6
comp=Z,72nm,1.1s
D53A Lac Vacive, Po 60.85 356 P P 23 12 47.1 -0.3
baz=174
D54A Lac Fusel, La 60.86 357 P P 23 12 46.7 -0.8
baz=175,SNR=30
F44A Big Bay de Noc 60.89 349 P P 23 12 46.5 -1.2
baz=164
F43A Flat Rock, Esc 60.90 348 P P 23 12 46.1 -1.7
baz=163
E46A Sault Ste Mari 60.91 351 eP P 23 12 47.8 0.0
comp=Z,78nm,1.1s
E46A Sault Ste Mari 60.91 351 P P 23 12 47.0 -0.7
baz=167
113A Mohawk Valley, 60.92 320 eP P 23 12 48.7 +0.5
comp=Z,90nm,1.4s
LATQ La Tuque 60.97 360 P P 23 12 48.1 -0.1
baz=179,SNR=13

D51A Lot 18 Range I 61.00 355 P P 23 12 47.6 -0.8
baz=172
H38A Maiden Rock 61.00 344 P P 23 12 47.1 -1.4
baz=158
F42A Maple Grove Fa 61.03 347 P P 23 12 48.4 -0.2
baz=162
G40A Rib Lake 61.03 346 P P 23 12 48.0 -0.6
baz=160
E45A Wooded Hills, 61.04 350 P P 23 12 47.7 -1.0
baz=166
OGNE Ogallala 61.05 335 eP P 23 12 48.7 -0.3
comp=Z,204nm,1.2s
OGNE Ogallala 61.05 335 P P 23 12 47.7 -1.3
baz=147
MVCO Mesa Verde 61.10 328 eP P 23 12 49.6 0.0
comp=Z,193nm,1.6s
MVCO Mesa Verde 61.10 328 P P 23 12 48.8 -0.8
baz=139,SNR=12
BATG Bathurst New B 61.13 5 eP P 23 12 50.2 +0.9
comp=Z,56nm,1.1s
F41A Three Lakes 61.22 347 P P 23 12 48.9 -1.0
baz=161,SNR=6.3
Y14A Wickenburg 61.26 322 eP P 23 12 51.0 +0.5
comp=Z,67nm,1.2s
G39A Holcombe 61.28 345 P P 23 12 49.5 -0.8
baz=159
D48A Paudash Townsh 61.34 353 P P 23 12 49.5 -1.3
baz=169
G38A Ridgeland 61.35 344 P P 23 12 48.7 -2.1
baz=158
D46A Sault St. Mari 61.37 351 P P 23 12 50.0 -1.0
baz=167
D49A Beulah Townshi 61.39 353 P P 23 12 50.8 -0.3
baz=170
E43A Lone Tree Farm 61.39 349 P P 23 12 50.4 -0.6
baz=164
D47A Chapleau 61.40 352 P P 23 12 50.6 -0.5
baz=168
E44A Grand Marais A 61.42 349 P P 23 12 51.7 +0.4
baz=165
WUAZ Wupatki 61.42 324 eP P 23 12 52.4 +0.7
comp=Z,101nm,1.1s
WUAZ Wupatki 61.42 324 P P 23 12 51.8 +0.1
baz=136,SNR=18
ECSD EROS Data Cent 61.44 340 eP P 23 12 51.0 -0.6
comp=Z,158nm,1.3s
ECSD EROS Data Cent 61.44 340 P P 23 12 50.9 -0.6
baz=153,SNR=19
COWI Conover 61.57 347 eP P 23 12 51.8 -0.5
COWI epP pP 23 13 14.9 -0.2
F40A Park Falls 61.62 346 P P 23 12 53.0 +0.3
baz=160
E42A Champion 61.62 348 P P 23 12 52.8 +0.1
baz=163
SPMN Marine on St. 61.65 344 eP P 23 12 52.0 -0.8
SPMN epP pP 23 13 15.2 -0.5
SPMN Marine on St. 61.65 344 P P 23 12 51.4 -1.4
baz=157,SNR=6.1
ISCO Idaho Springs 61.69 331 eP P 23 12 54.1 +0.5
comp=Z,76nm,1.4s
ISCO Idaho Springs 61.69 331 eP P 23 12 54.1 +0.5
ISCO pmax pmax
comp=Z,76nm,1.4s
ISCO Idaho Springs 61.69 331 P P 23 12 53.1 -0.5
baz=143,SNR=12
GLA Glamis 61.77 320 eP P 23 12 54.7 +0.7
comp=Z,57nm,1.3s
GLA Glamis 61.77 320 eP P 23 12 54.7 +0.7
GLA pmax pmax
comp=Z,57nm,1.3s
F39A Loretta 61.81 345 pP pP 23 13 15.1 -1.6
baz=159
PV01 Paradox Valley 61.84 328 eP P 23 12 55.0 +0.4
comp=Z,124nm,1.3s
SMCO Snowmass 61.85 330 eP P 23 12 55.1 +0.3
comp=Z,81nm,1.3s
VLDQ Val d'Or 61.87 356 eP P 23 12 54.2 0.0
comp=Z,60nm,1.1s
E41A Kenton 61.87 347 pP pP 23 13 15.7 -1.4
baz=162
PV02 Paradox Valley 61.98 328 eP P 23 12 56.2 +0.7
comp=Z,129nm,1.3s
PV13 Radium Mtn., P 61.99 328 eP P 23 12 55.7 +0.1
comp=Z,135nm,1.4s
Y12C Blythe 62.05 321 eP P 23 12 57.5 +1.7
Y12C epP pP 23 13 19.6 +1.4
Y12C Blythe 62.05 321 P P 23 12 55.9 +0.1
baz=132,SNR=8.2
E40A Wakefield 62.06 346 P P 23 12 55.6 0.0
baz=161
F37A Hinrichs Farm, 62.06 344 P P 23 12 55.2 -0.4
baz=158
PV05 Paradox Valley 62.07 328 eP P 23 12 56.6 +0.5
comp=Z,126nm,1.4s
PV03 Paradox Valley 62.07 328 eP P 23 12 56.8 +0.7
comp=Z,127nm,1.5s
PV12 Saucer Basin, 62.10 328 eP P 23 12 57.1 +0.9
comp=Z,258nm,1.8s
PV18 Skein Mesa, Pa 62.10 328 eP P 23 12 57.0 +0.7
comp=Z,198nm,1.8s
PV07 Paradox Valley 62.11 328 eP P 23 12 57.3 +1.0
comp=Z,160nm,1.8s
PV11 David Mesa, Pa 62.12 328 eP P 23 12 58.4 +2.0
comp=Z,183nm,1.6s
PV17 East Wray Mesa 62.15 328 eP P 23 12 56.4 -0.2
comp=Z,244nm,1.9s
PV16 Nyswonger Mesa 62.15 328 eP P 23 12 57.2 +0.6
comp=Z,175nm,1.7s
E39A Mellen 62.15 346 pP pP 23 13 17.7 -1.3
baz=160
IKP In-Ko-Pah, Jac 62.32 319 P P 23 12 56.7 -1.0
baz=131
D41A Chassel 62.36 348 P P 23 12 56.7 -0.9
baz=162
PV09 Paradox Valley 62.41 328 eP P 23 12 59.8 +1.4
BC3 Big Chuckawall 62.57 320 P P 23 12 59.1 -0.3
baz=132,SNR=11
W13A Hualapai Mount 62.59 322 eP P 23 13 00.3 +0.7
comp=Z,44nm,1.3s
U15A North Rim 62.59 324 eP P 23 13 00.5 +0.7
comp=Z,82nm,1.4s
E38A The Farm, Brul 62.61 345 P P 23 12 58.9 -0.3
baz=159
MONP2 Monument Peak 62.68 319 P P 23 13 00.2 0.0
baz=130,SNR=6.1
BAR Barrett 62.70 319 eP P 23 13 00.1 -0.1
comp=Z,159nm,1.7s
N23A Red Feather La 62.71 332 eP P 23 13 01.1 +0.7
comp=Z,58nm,1.3s
N23A Red Feather La 62.71 332 P P 23 12 59.4 -1.0
baz=143
LSQQ Lebel-sur-Quev 62.78 357 pP pP 23 13 22.0 -1.0
baz=175
NEE2 Needles Airpor 62.80 322 pP pP 23 13 22.3 -0.9
baz=133
PHWY Pilot Hill 62.82 332 eP P 23 13 02.2 +1.0
PHWY epP pP 23 13 24.6 +1.0
CPE Camp Elliot 63.11 318 eP P 23 13 03.6 +0.8
CPE epP pP 23 13 27.4 +1.6
BELC Belle Mtn. Jos 63.13 320 P P 23 13 03.0 -0.2
baz=131,SNR=5.9
PFO Pinyon Flats O 63.17 319 eP P 23 13 04.0 +0.6
comp=Z,56nm,1.1s
PFO Pinyon Flats O 63.17 319 eP P 23 13 04.0 +0.6
PFO pmax pmax
comp=Z,56nm,1.1s
O20A White River Ci 63.21 330 eP P 23 13 03.8 +0.2
comp=Z,106nm,1.1s
O20A White River Ci 63.21 330 P P 23 13 03.4 -0.2
baz=140,SNR=14
LDFC Landfair 63.31 322 eP P 23 13 06.2 +2.0
comp=Z,77nm,1.1s
KNB Kanab 63.31 325 eP P 23 13 05.4 +1.1
comp=Z,249nm,1.5s
KNB Kanab 63.31 325 eP P 23 13 05.4 +1.1
KNB pmax pmax
comp=Z,249nm,1.5s
PKCU Pink Cliffs 63.33 325 eP P 23 13 05.3 +0.7
comp=Z,183nm,1.5s
GMRC Granite Mounta 63.45 321 P P 23 13 05.4 +0.2
baz=132,SNR=11
MATQ Matagami 63.52 356 P P 23 13 04.5 -0.6
baz=174,SNR=14
CHGQ Chibougamau 63.52 359 P P 23 13 04.3 -0.9
baz=178,SNR=25
LCMT Little Creek M 63.55 324 eP P 23 13 06.5 +0.7
comp=Z,98nm,1.6s
SRU San Rafael Swe 63.58 328 eP P 23 13 06.5 +0.5

comp=Z,104nm,1.2s
SRU San Rafael Swe 63.58 328 *eP* **P 23 13 06.6 +0.5**
SRU pmax pmax
comp=Z,104nm,1.2s
MTPU Mount Pierson 63.69 326 *eP* **P 23 13 07.1 +0.1**
comp=Z,180nm,1.9s
Q16A Castle Valley 63.78 327 *eP* **P 23 13 08.4 +1.0**
comp=Z,240nm,1.7s
EYMN Ely 63.85 346 *eP* **P 23 13 07.9 +0.5**
EYMN *epP* **pP 23 13 30.0 +0.1**
SZCU Shurtz Canyon 63.87 325 *eP* **P 23 13 10.0 +2.0**
comp=Z,95nm,1.5s
HEC Hector,Ludlow 63.89 321 P **P 23 13 07.8 -0.2**
baz=131,SNR=9.1
RWWY Rawlins 63.92 332 *eP* **P 23 13 08.7 +0.3**
comp=Z,204nm,1.4s
P17A Butcher Ranch, 63.96 328 *eP* **P 23 13 06.3 -2.3**
comp=Z,142nm,1.2s
CCUT Cedar City 63.99 325 *eP* **P 23 13 10.0 +1.1**
comp=Z,83nm,1.3s
MSU Marysvale 64.02 326 *eP* **P 23 13 09.8 +0.7**
MSU Marysvale 64.02 326 *eP* **P 23 13 09.8 +0.7**
TMUT Trail Mountain 64.08 327 *eP* **P 23 13 10.3 +0.8**
comp=Z,24nm,1.0s
SHPR Sheep Range 64.30 323 *eP* **P 23 13 11.6 +0.7**
comp=Z,79nm,1.2s
K22A Casper 64.38 333 *eP* **P 23 13 11.3 +0.1**
comp=Z,104nm,1.1s
GSC Goldstone, Bar 64.49 321 *eP* **P 23 13 13.6 +1.6**
GSC *epP* **pP 23 13 36.0 +1.5**
GSC Goldstone, Bar 64.49 321 *eP* **P 23 13 13.6 +1.6**
GSC *e*PP* **pP 23 13 36.0 +1.5**
GSC Goldstone, Bar 64.49 321 P **P 23 13 11.8 -0.2**
baz=131,SNR=7.8
RSSD Black Hills 64.51 335 *eP* **P 23 13 12.9 +0.8**
comp=Z,156nm,1.5s
RSSD Black Hills 64.51 335 *eP* **P 23 13 12.9 +0.8**
RSSD pmax pmax
comp=Z,156nm,1.5s
MWC Mount Wilson 64.58 319 *eP* **P 23 13 13.8 +1.1**
MWC *epP* **pP 23 13 37.0 +1.5**
MWC Mount Wilson 64.58 319 *eP* **P 23 13 13.8 +1.1**
MWC *e*PP* **pP 23 13 37.0 +1.5**
PASC Pasadena Art C 64.62 319 *eP* **P 23 13 13.5 +0.7**
PASC *epP* **pP 23 13 37.6 +2.1**
MPU Maple Canyon 64.83 328 *eP* **P 23 13 15.8 +1.6**
comp=Z,89nm,1.2s
PSUT Pine Spring 64.96 325 *eP* **P 23 13 15.9 +0.8**
comp=Z,76nm,1.2s
NLU North Lily Min 65.02 327 *eP* **P 23 13 17.1 +1.6**
comp=Z,99nm,1.3s
JLU Jordanelle 65.17 328 *eP* **P 23 13 17.1 +0.7**
comp=Z,170nm,1.3s
TPNV Topopah Spring 65.25 322 *eP* **P 23 13 18.1 +1.1**
TPNV *epP* **pP 23 13 41.7 +2.1**
TPNV Topopah Spring 65.25 322 *eP* **P 23 13 18.1 +1.1**
TPNV *e*PP* **pP 23 13 41.7 +2.1**
FURC Furnace Creek, 65.29 322 P **P 23 13 17.0 0.0**
baz=132,SNR=15
AGMN Agassiz Nation 65.31 343 *eP* **P 23 13 16.2 -0.7**
comp=Z,123nm,1.0s
AGMN Agassiz Nation 65.31 343 P **P 23 13 16.1 -0.8**
baz=155,SNR=7.9
CTU Camp Tracy 65.39 328 *eP* **P 23 13 18.7 +0.9**
comp=Z,26nm,0.9s
MPMC Manual Prospec 65.41 321 P **P 23 13 17.8 -0.2**
baz=131,SNR=6.7
TCUT Toone Canyon 65.53 329 *eP* **P 23 13 19.1 +0.3**
comp=Z,767nm,1.9s
DUG Dugway, Tooele 65.58 327 *eP* **P 23 13 19.7 +0.7**
comp=Z,162nm,1.2s
DUG Dugway, Tooele 65.58 327 *eP* **P 23 13 19.7 +0.7**
DUG pmax pmax
comp=Z,162nm,1.2s
DUG Dugway, Tooele 65.58 327 P **P 23 13 18.9 -0.1**
baz=136,SNR=20
DAC Darwin (Calif) 65.61 321 *eP* **P 23 13 22.4 +3.0**
DAC *epP* **pP 23 13 44.5 +2.2**
WORM Onyx Ranch 65.64 320 *eP* **P 23 13 20.7 +1.3**
ARVC Arvin 65.64 319 P **P 23 13 18.7 -0.6**
baz=129
ISA Isabella, Lake 65.76 320 *eP* **P 23 13 21.0 +0.8**
ISA *epP* **pP 23 13 43.4 +0.4**
ISA Isabella, Lake 65.76 320 *eP* **P 23 13 21.0 +0.8**
ISA *e*PP* **pP 23 13 43.4 +0.4**
ISA Isabella, Lake 65.76 320 P **P 23 13 19.9 -0.2**
baz=130,SNR=9.2
R11A Troy Canyon, C 65.81 324 *eP* **P 23 13 21.4 +0.8**
comp=Z,104nm,1.4s
R11A Troy Canyon, C 65.81 324 P **P 23 13 20.6 0.0**
baz=133,SNR=9.7
BW06 Boulder Array 65.86 331 *eP* **P 23 13 21.3 +0.4**
comp=Z,101nm,1.4s
BW06 Boulder Array 65.86 331 P **P 23 13 20.1 -0.8**
baz=140,SNR=14
PD31 Pinedale Array 65.86 331 *eP* **P 23 13 21.3 +0.4**
comp=Z,102nm,1.4s
PDAR Pinedale Array 65.86 331 *eP* **P 23 13 21.2 +0.4**
PDAR Pinedale Array 65.86 331 P **P 23 13 20.9 0.0**
comp=Z,1.4nm,0.5s,baz=120,slow=8.8,SNR=23
HWUT Hardware Ranch 65.97 329 *eP* **P 23 13 22.4 +0.9**
HWUT *epP* **pP 23 13 45.1 +1.0**
CWC Cottonwood Cre 66.02 321 P **P 23 13 22.1 +0.1**
baz=130
MDND Maddock 66.06 340 *eP* **P 23 13 22.4 +0.7**
MDND *epP* **pP 23 13 45.9 +1.6**
MDND Maddock 66.06 340 P **P 23 13 22.4 +0.7**
baz=151,SNR=6.7
SPUT South Promonto 66.20 328 *eP* **P 23 13 24.5 +1.5**
SPUT *epP* **pP 23 13 46.9 +1.3**
BGU Big Grassy Mou 66.22 327 *eP* **P 23 13 24.0 +0.9**
comp=Z,82nm,1.2s
VES Vestal, Richgr 66.25 320 P **P 23 13 23.7 +0.4**
baz=129,SNR=5.8
TAOE Nuku Hiva Isla 66.41 266 *e*LR LR 23 33 30.5
comp=Z,4µm,27.5s
AHID Auburn Hatcher 66.60 330 *eP* **P 23 13 26.1 +0.5**
comp=Z,105nm,1.2s
HVU Hansel Valley 66.71 328 *eP* **P 23 13 26.1 -0.1**
comp=Z,73nm,1.1s
HVU Hansel Valley 66.71 328 *eP* **P 23 13 26.1 -0.1**
HVU pmax pmax
comp=Z,73nm,1.1s
PAGB Antelope Grade 66.92 319 *eP* **P 23 13 28.3 +0.8**
PAGB *epP* **pP 23 13 52.2 +1.8**
REDW Red Top Meadow 66.93 330 *eP* **P 23 13 28.6 +0.9**
comp=Z,185nm,1.4s
SNOW Snow King Moun 66.96 331 *eP* **P 23 13 28.5 +0.6**
SNOW *epP* **pP 23 13 51.9 +1.3**
LOHW Long Hollow 67.00 331 *eP* **P 23 13 28.3 +0.1**
comp=Z,48nm,1.0s
TPAW Teton Pass 67.07 331 *eP* **P 23 13 29.8 +1.2**
comp=Z,110nm,1.4s
ULM Lac du Bonnet 67.09 344 *eP* **P 23 13 27.1 -1.1**
comp=Z,92nm,1.0s
ULM Lac du Bonnet 67.09 344 *eP* **P 23 13 27.1 -1.1**
ULM pmax pmax
comp=Z,92nm,1.0s
ULM Lac du Bonnet 67.09 344 P **P 23 13 27.1 -1.1**
comp=Z,8.3nm,0.6s,baz=161,slow=5.8,SNR=16
ULM pP **pP 23 13 50.9 0.0**
comp=Z,44nm,0.8s,baz=122,slow=2.7,SNR=12
ULM LR LR 23 45 58.7
comp=Z,380nm,18.6s,baz=141,slow=39
MOOW Moose Ponds 67.17 331 *eP* **P 23 13 29.4 +0.2**
comp=Z,104nm,1.4s
FXWY Fox Creek 67.22 331 *eP* **P 23 13 29.9 +0.4**
comp=Z,75nm,1.1s
MLAC Mammoth, Mammo 67.25 321 P **P 23 13 29.6 -0.3**
baz=130
ELK Elko 67.27 326 *eP* **P 23 13 30.1 +0.2**
comp=Z,49nm,1.2s
ELK Elko 67.27 326 *eP* **P 23 13 30.1 +0.2**
ELK pmax pmax
comp=Z,49nm,1.2s
ELK Elko 67.27 326 LR LR 23 43 56.7
comp=Z,430nm,18.5s,baz=126,slow=37
OMMB Old Mammoth Mi 67.34 321 *eP* **P 23 13 31.2 +0.7**
comp=Z,97nm,1.0s
NV11 Mina Array Sit 67.36 322 *eP* **P 23 13 31.4 +0.9**
comp=Z,6.6nm,1.4s
IMW Indian Meadow 67.37 331 *eP* **P 23 13 30.7 +0.2**
comp=Z,120nm,1.1s
MDPB Devils Postpil 67.40 321 *eP* **P 23 13 29.7 -1.1**
comp=Z,57nm,1.0s
FLWY Flagg Ranch 67.40 331 *eP* **P 23 13 31.3 +0.6**
comp=Z,246nm,1.1s
NV01 Mina Array Sit 67.45 322 *eP* **P 23 13 31.8 +0.7**
NV01 *epP* **pP 23 13 55.5 +1.4**
NVAR Mina Array Bea 67.45 322 P **P 23 13 31.8 +0.7**
baz=145,slow=5.4,SNR=14
NVAR pP **pP 23 13 55.5 +1.4**
comp=Z,17nm,0.9s,baz=148,slow=6.8,SNR=18
NVAR LR LR 23 42 57.8
comp=Z,351nm,19.4s,baz=138,slow=36
LAO LASA Array 67.50 336 *eP* **P 23 13 33.0 +2.1**
comp=Z,193nm,1.4s
LAO LASA Array 67.50 336 P **P 23 13 31.6 +0.6**
baz=144
RLMT Red Lodge 67.54 333 *eP* **P 23 13 31.3 -0.3**
comp=Z,189nm,1.4s
RLMT Red Lodge 67.54 333 P **P 23 13 31.2 -0.3**
baz=141,SNR=13
H17A Grant Village 67.58 331 *eP* **P 23 13 35.2 +3.4**
comp=Z,139nm,1.5s
H17A Grant Village 67.58 331 P **P 23 13 32.3 +0.5**
baz=139,SNR=5.4
YPP Pitchstone Pla 67.59 331 *eP* **P 23 13 33.8 +1.8**
comp=Z,130nm,1.6s
LKWY Lake 67.63 332 *eP* **P 23 13 34.6 +2.5**
comp=Z,142nm,1.1s
RYN Ryan 67.71 322 *eP* **P 23 13 33.3 +0.6**
comp=Z,65nm,1.3s
KVN Kaiserville 67.74 323 *eP* **P 23 13 33.7 +0.9**
comp=Z,87nm,1.4s
KVN Kaiserville 67.74 323 *eP* **P 23 13 33.7 +0.9**
KVN pmax pmax
comp=Z,87nm,1.4s
YFT Old Faithful 67.74 331 *eP* **P 23 13 34.8 +2.0**
comp=Z,168nm,1.4s
YNR Norris Junctio 67.87 332 *eP* **P 23 13 34.8 +1.2**
comp=Z,90nm,1.3s
YMR Madison River 67.97 331 *eP* **P 23 13 35.7 +1.5**
comp=Z,186nm,1.2s
YHH Holmes Hill 68.01 331 *eP* **P 23 13 35.5 +0.9**
comp=Z,150nm,1.2s
YHB Horse Butte 68.14 331 *eP* **P 23 13 36.5 +1.3**
comp=Z,135nm,1.1s
BMN Battle Mountai 68.15 325 *eP* **P 23 13 36.7 +1.3**
comp=Z,55nm,1.3s
BMN Battle Mountai 68.15 325 *eP* **P 23 13 36.7 +1.3**
BMN pmax pmax
comp=Z,55nm,1.3s
WAKR Walker 68.17 322 *eP* **P 23 13 37.7 +2.1**
comp=Z,107nm,1.3s
DGMT Dagmar 68.18 338 *eP* **P 23 13 36.6 +1.4**
DGMT *epP* **pP 23 13 59.3 +1.3**
DGMT Dagmar 68.18 338 P **P 23 13 36.4 +1.2**
baz=146
GCMT Greycliff 68.24 333 *eP* **P 23 13 37.3 +1.5**
QLMT Earthquake Lak 68.31 331 *eP* **P 23 13 38.0 +1.6**
VNA3 Neumayer Olymp 68.33 162 P **P 23 13 36.8 +1.0**
CMB Columbia Colle 68.45 321 *eP* **P 23 13 38.0 +0.9**
CMB *epP* **PcP 23 14 01.2 -0.7**
CMB Columbia Colle 68.45 321 *eP* **P 23 13 38.0 +0.9**
CMB *e*PP* **PcP 23 14 01.2 -0.7**
VNA1 Neumayer--Stat 68.55 161 P **P 23 13 38.9 +1.7**
SCHQ Schefferville 68.59 3 *eP* **P 23 13 37.5 -0.2**
SCHQ *epP* **PcP 23 14 02.4 +0.3**
SCHQ Schefferville 68.59 3 P **P 23 13 36.8 -0.9**
comp=Z,16nm,0.8s,baz=178,slow=5.5,SNR=13
SCHQ pP **pP 23 14 00.7 +0.1**
comp=Z,27nm,0.9s,baz=186,slow=3.6,SNR=7.9
SCHQ LR LR 23 44 03.4
comp=Z,362nm,21.7s,baz=204,slow=36
PNTR Pine Nut 68.65 322 *eP* **P 23 13 39.4 +0.9**
comp=Z,119nm,1.0s
VCNR Virginia City 68.81 322 *eP* **P 23 13 41.8 +2.3**
VCNR *epP* **PcP 23 14 04.8 +1.2**
HLID Hailey 68.83 329 *eP* **P 23 13 39.8 +0.2**
comp=Z,79nm,1.2s
HLID Hailey 68.83 329 P **P 23 13 41.0 +1.4**
baz=136,SNR=16
VNA2 Neumayer--Watz 68.91 161 P **P 23 13 40.3 +0.9**
baz=279,slow=6.4
PAHR Pah Rah Range 68.92 323 *eP* **P 23 13 42.2 +2.0**
comp=Z,184nm,1.1s
BOZ Bozeman (W) 68.98 332 *eP* **P 23 13 40.2 -0.2**
comp=Z,133nm,1.3s
BOZ Bozeman (W) 68.98 332 *eP* **P 23 13 40.2 -0.2**
BOZ pmax pmax
comp=Z,133nm,1.3s
BOZ Bozeman (W) 68.98 332 P **P 23 13 41.0 +0.6**
baz=139,SNR=19
MCMT McKenzie Canyo 68.98 330 *eP* **P 23 13 41.8 +1.3**
DLMT Dillon 69.25 331 *eP* **P 23 13 43.5 +1.4**
DLMT *epP* **PcP 23 14 06.4 +1.1**
AFDM Forest Hills D 69.38 321 *eP* **P 23 13 44.1 +1.2**
AFDM *epP* **pP 23 14 06.8 +0.9**
LRM Limekiln Ridge 69.53 331 *eP* **P 23 13 44.8 +0.8**
BEKR Beckworth 69.59 322 *eP* **P 23 13 45.6 +1.2**
comp=Z,87nm,1.1s
HRY Holter Researc 69.91 332 *eP* **P 23 13 47.7 +1.7**
HRY *epP* **pP 23 14 09.6 +0.7**
EGMT Eagleton 70.01 334 *eP* **P 23 13 47.0 +0.4**
EGMT *epP* **pP 23 14 10.5 +1.1**
EGMT Eagleton 70.01 334 P **P 23 13 47.3 +0.7**
baz=141
DBIC Dimbokro 70.08 78 *eP* **P 23 13 47.3 -0.3**
comp=Z,117nm,1.6s
DBIC Dimbokro 70.08 78 *eP* **P 23 13 47.3 -0.3**
DBIC pmax pmax
comp=Z,117nm,1.6s
DBIC Dimbokro 70.08 78 P **P 23 13 46.7 -0.9**
comp=Z,14nm,1.0s,baz=232,slow=7.3,SNR=8.1
DBIC LR LR 23 43 03.3
comp=Z,1µm,19.2s,baz=229,slow=35
ORV Oroville 70.08 322 *eP* **P 23 13 48.3 +1.1**
ORV *epP* **pP 23 14 11.7 +1.5**
WVOR Wild Horse Val 70.28 325 *eP* **P 23 13 48.1 -0.3**
WVOR *epP* **pP 23 14 12.5 +0.9**
WVOR Wild Horse Val 70.28 325 *eP* **P 23 13 48.2 -0.3**
WVOR *e*PP* **pP 23 14 12.5 +0.9**
GSGM Seigler Mounta 70.40 320 *eP* **P 23 13 48.0 -1.0**
GDXM Geysers 70.41 320 *eP* **P 23 13 48.4 -0.8**
comp=Z,72nm,1.4s
SNAA Sanae 70.54 162 P **P 23 13 50.3 +0.8**
SNAA Sanae 70.54 162 *eP* **P 23 13 50.3 +0.8**
comp=Z,161nm,1.1s
SNAA Sanae 70.54 162 *d i*P **P 23 13 50.3 +0.8**
PLID Pearl Lake 70.72 329 *eP* **P 23 13 52.1 +1.0**
comp=Z,88nm,1.3s
J08A Circle Bar Ran 70.81 326 *eP* **P 23 13 51.6 0.0**
comp=Z,33nm,1.0s
MOD Modoc Plateau 70.87 324 *eP* **P 23 13 52.7 +0.6**
comp=Z,156nm,1.0s
MSO Missoula 70.97 331 *eP* **P 23 13 53.4 +0.9**
MSO *epP* **pP 23 14 17.2 +1.9**
MSO Missoula 70.97 331 P **P 23 13 52.8 +0.3**
baz=137,SNR=7.4
BMO Blue Mountains 71.22 328 *eP* **P 23 13 53.2 -0.8**
BMO *epP* **pP 23 14 17.8 +0.5**
WDC Whiskeytown Da 71.34 322 *eP* **P 23 13 53.0 -1.8**
comp=Z,26nm,0.9s
WDC Whiskeytown Da 71.34 322 *eP* **P 23 13 53.0 -1.8**
WDC pmax pmax
comp=Z,26nm,0.9s
K05A Summer Lake 71.73 324 *eP* **P 23 13 59.1 +1.8**
comp=Z,504nm,1.8s
I07A Izee 71.85 326 *eP* **P 23 13 59.2 +1.3**
comp=Z,181nm,1.4s
F10A Beach Ranch, E 71.95 329 *eP* **P 23 14 00.1 +1.7**
comp=Z,235nm,1.7s
YBH Yreka Blue Hor 72.16 323 LR LR 23 44 02.3
comp=Z,288nm,21.8s,baz=128,slow=34
G08A Pilot Rock 72.37 327 *eP* **P 23 14 02.1 +1.1**
G08A *epP* **pP 23 14 25.4 +1.2**
PINE Pine Mountain 72.45 325 *eP* **P 23 14 03.1 +1.5**
PINE *epP* **pP 23 14 26.5 +1.7**
WALA Waterton Lakes 72.60 333 *eP* **P 23 14 03.4 +1.2**
comp=Z,103nm,1.1s
FFC Flin Flon 72.78 343 *eP* **P 23 14 02.6 -0.5**
comp=Z,58nm,1.3s
FFC Flin Flon 72.78 343 *i*P **P 23 14 03.5 +0.5**
TBI Tubuai 72.90 250 *e*LQ LQ 23 33 27.3
comp=Z,1µm,35.8s
TBI *e*LR LR 23 36 30.7
comp=Z,2µm,28.2s
F07A Phinny Hill Vi 73.28 327 *eP* **P 23 14 07.5 +1.3**
F07A *epP* **pP 23 14 31.6 +2.1**
HAWA Hanford 73.41 328 *eP* **P 23 14 08.8 +1.8**
HAWA *epP* **pP 23 14 31.7 +1.4**
NEW Newport 73.50 331 *eP* **P 23 14 07.4 -0.1**
NEW *epP* **pP 23 14 31.2 +0.4**
NEW Newport 73.50 331 *eP* **P 23 14 07.4 -0.1**
NEW *e*PP* **pP 23 14 31.2 +0.4**
NEW Newport 73.50 331 LR LR 23 48 21.4
comp=Z,196nm,22.0s,baz=130,slow=37
D08A Wollman Farm, 73.55 329 *eP* **P 23 14 08.5 +0.7**
D08A *epP* **pP 23 14 32.2 +1.2**
E07A Sunnyside 73.69 328 *eP* **P 23 14 10.1 +1.5**
E07A *epP* **pP 23 14 33.8 +1.9**
H04A Detroit Lake 73.71 325 *eP* **P 23 14 08.3 -0.4**
comp=Z,75nm,1.1s
C09A Chrisman Ranch 73.73 330 *eP* **P 23 14 09.6 +0.7**
comp=Z,185nm,1.5s
PPT2 Papeete2 73.89 255 *e*S **SKiKP 23 23 33.8 +2.1**
comp=Z,779nm,25.5s
PPT2 Papeete2 73.89 255 *e*LR LR 23 36 56.2
comp=Z,1µm,29.2s
PPT Papeete 73.90 255 LR LR 23 41 05.6
comp=Z,180nm,18.1s,baz=26,slow=31
FCC Fort Churchill 74.51 348 *eP* **P 23 14 13.3 +0.3**
comp=Z,142nm,1.3s
FCC Fort Churchill 74.51 348 *eP* **P 23 14 13.3 +0.3**
FCC pmax pmax
comp=Z,142nm,1.3s
LTY Liberty 74.57 328 *eP* **P 23 14 14.1 +0.4**
LTY *epP* **pP 23 14 38.3 +1.2**
B08A Colville Reser 74.63 330 *eP* **P 23 14 14.3 +0.2**
comp=Z,64nm,1.2s
LON Longmire 74.83 327 *eP* **P 23 14 15.7 +0.4**
LON *epP* **pP 23 14 39.4 +0.8**
LON Longmire 74.83 327 *eP* **P 23 14 15.7 +0.4**
LON *e*PP* **pP 23 14 39.4 +0.8**
B06A Marblemount 75.81 329 *eP* **P 23 14 21.9 +1.2**
B06A *epP* **pP 23 14 44.8 +0.7**
QSPA South Pole Qui 76.28 180 *eP* **P 23 14 24.3 +0.9**
comp=Z,221nm,1.3s
NLWA Neilton Lookou 76.32 327 *eP* **P 23 14 24.8 +1.1**
NLWA *epP* **pP 23 14 49.1 +1.9**
IVI Ivigtut 77.27 12 *eP* **P 23 14 28.9 +0.3**
IVI *epP* **pP 23 14 51.6 -0.5**
LLLB Lillooet 77.37 330 *eP* **P 23 14 30.1 +0.5**
LLLB *epP* **pP 23 14 54.0 +1.0**
FRB Frobisher Bay 77.43 2 LR LR 23 49 25.7
comp=Z,417nm,21.9s,baz=180,slow=36
AVE Averroes 77.67 51 *i*P **P 23 14 32.8 +1.2**
AVE Averroes 77.67 51 *i*P **P 23 14 32.8 +1.2**
AVE *i*S **S 23 24 20.1 +3.0**
AVE *i*S **ScS 23 24 49.6 +6.4**
NRS Narsarsuaq 77.80 13 *eP* **P 23 14 31.1 -0.6**
comp=Z,47nm,0.9s
NRS Narsarsuaq 77.80 13 *eP* **P 23 14 31.1 -0.6**
NRS pmax pmax
comp=Z,47nm,0.9s
TOA1 Torodi Ar. Sit 78.16 73 *eP* **P 23 14 32.6 -2.1**
TOA1 *epP* **pP 23 14 57.5 -0.5**
TOA0 Torodi Ar. Sit 78.16 73 *eP* **P 23 14 33.9 -0.8**
comp=Z,336nm,1.9s
TOA0 *epP* **pP 23 14 57.1 -0.9**
TOA0 Torodi Ar. Sit 78.16 73 P **P 23 14 34.0 -0.7**
SNR=15
TORD Torodi Ar. Bea 78.16 73 *eP* **P 23 14 33.2 -1.5**
TORD Torodi Ar. Bea 78.16 73 P **P 23 14 32.6 -2.1**
comp=Z,17nm,0.9s,baz=262,slow=3.0,SNR=101
TORD pP **pP 23 14 57.5 -0.5**
comp=Z,21nm,0.9s,baz=296,slow=6.8,SNR=7.1
TORD LR LR 23 48 38.2
comp=Z,722nm,18.4s,baz=275,slow=35
MORF Marmelete 78.55 47 *eP* **P 23 14 36.0 -0.5**
MORF AMb AMB 23 14 41.0
comp=Z,126nm,2.5s
MORF *e*S **S 23 24 26.3 -0.1**
MORF Marmelete 78.55 47 *eP* **P 23 14 38.2 +1.8**
comp=Z,126nm,1.9s
MORF Marmelete 78.55 47 *eP* **P 23 14 35.9 -0.5**
MORF *e*S **S 23 24 26.3 -0.1**
PTEO Sao Teotonio 78.61 47 *eP* **P 23 14 37.4 +0.8**
comp=Z,105nm,1.9s
LIS Lisbon 78.85 45 *eP* **P 23 14 37.8 -0.1**
LIS AMb AMB 23 14 43.2
comp=Z,106nm,1.0s
LIS *e*S **S 23 24 29.7 +0.2**
LIS Lisbon 78.85 45 *eP* **P 23 14 37.8 -0.1**
LIS *e*S **S 23 24 29.6 +0.2**
PNCL Nicolau / Gran 79.00 46 *eP* **P 23 14 39.0 +0.2**
comp=Z,51nm,1.9s
PBDV Barranco-do-Ve 79.03 47 *eP* **P 23 14 39.7 +0.7**
comp=Z,88nm,1.8s
MESJ Messejana 79.09 47 *eP* **P 23 14 39.0 -0.4**
MESJ AMb AMB 23 14 45.2
comp=Z,44nm,2.0s
MESJ *e*S **S 23 24 32.4 +0.3**
MESJ Messejana 79.09 47 *eP* **P 23 14 40.3 +1.0**
comp=Z,41nm,1.7s
MESJ Messejana 79.09 47 *eP* **P 23 14 38.9 -0.4**
MESJ *e*S **S 23 24 32.3 +0.3**
PCVE Castro Verde 79.13 47 *eP* **P 23 14 40.3 +0.8**
comp=Z,60nm,1.8s
PBEJ Beja 79.43 47 *eP* **P 23 14 43.3 +2.1**
comp=Z,45nm,1.7s
PMTG Montargil 79.65 45 *eP* **P 23 14 42.2 -0.1**
comp=Z,46nm,1.7s
PTOM Tomar 79.78 45 *eP* **P 23 14 44.0 +1.0**
comp=Z,62nm,1.6s
PCAS Casmilo, Conde 79.92 44 *eP* **P 23 14 44.0 +0.2**
comp=Z,43nm,2.0s
SFS San Fernando 79.93 49 *i*P **P 23 14 46.0 +2.2**
SFS *i*S **S 23 24 46.0 +5.0**
PMRV Marv??o 80.39 45 *eP* **P 23 14 46.2 -0.2**
comp=Z,12nm,2.2s
PCBR Castelo Branco 80.52 45 *eP* **P 23 14 47.1 +0.1**
comp=Z,27nm,1.8s
PVIS Viseu 80.63 44 *eP* **P 23 14 47.8 +0.1**
comp=Z,39nm,1.8s
MTE Manteigas 80.73 44 *eP* **P 23 14 48.3 +0.1**
comp=Z,30nm,2.0s
PGAV Gavieira, Arco 80.96 43 *eP* **P 23 14 49.3 -0.1**
comp=Z,75nm,2.0s
PCAB Cabril 81.00 43 *eP* **P 23 14 49.4 -0.2**
comp=Z,66nm,1.8s
POLO Lamas de Olo 81.00 44 *eP* **P 23 14 49.4 -0.3**
comp=Z,23nm,1.9s
EMAL Malaga-Limoner 81.35 49 *i*P **P 23 14 51.0 -0.5**
EMAL *i*S **S 23 25 01.2 +5.5**
MVO Moncorvo 81.42 44 *eP* **P 23 14 52.2 +0.3**
comp=Z,39nm,1.7s
MELI Melilla 81.87 51 *eP* **P 23 14 53.4 -0.9**
PBRG Braganca 81.90 43 *eP* **P 23 14 54.4 +0.1**
SFJD Kangerlussuaq 82.22 8 P **P 23 14 56.2 +0.9**
comp=Z,5.1nm,0.9s,baz=178,slow=11,SNR=3.8
SFJD Kangerlussuaq 82.22 8 *i*P **P 23 14 54.6 -0.7**
SFJD *i* 23 15 18.2
PAB San Pablo 82.56 46 *eP* **P 23 14 59.1 +1.2**
comp=Z,102nm,1.8s
PAB San Pablo 82.56 46 *eP* **P 23 14 59.1 +1.2**
PAB pmax pmax
comp=Z,102nm,1.8s
SBA Scott Base 82.68 191 *eP* **P 23 14 59.4 +1.6**
comp=Z,94nm,1.4s
SBA Scott Base 82.68 191 *eP* **P 23 14 59.4 +1.6**
SBA pmax pmax
comp=Z,94nm,1.4s
ESDC Sonseca Array 82.89 46 P **P 23 15 00.2 +0.6**
comp=Z,6.8nm,0.9s,baz=252,slow=5.2,SNR=30
ESDC LR LR 23 47 50.5
comp=Z,383nm,21.9s,baz=230,slow=33
ESLA Sonseca Array 82.89 46 *eP* **P 23 15 00.4 +0.8**
comp=Z,120nm,1.8s
ESLA *epP* **pP 23 15 25.2 +2.2**
YKA Yellowknife Ar 82.93 342 P **P 23 14 58.2 -0.9**
comp=Z,5.3nm,0.8s,baz=136,slow=5.4,SNR=67
YKA pP **pP 23 15 22.7 0.0**
comp=Z,42nm,0.9s,baz=135,slow=5.1,SNR=21
YKA LR LR 23 55 38.2
comp=Z,27nm,19.5s,baz=130,slow=38
YKB5 Yellowknife Ar 82.93 342 *eP* **P 23 14 58.2 -0.9**
YKB5 *epP* **pP 23 15 22.7 0.0**
YKW3 Yellowknife Ar 82.98 342 *eP* **P 23 14 58.6 -0.7**
comp=Z,90nm,1.0s
UCM Universidad Co 83.65 46 *i*P **P 23 15 07.4 +3.9**
UCM *i*S S 23 25 30.8 +12
VNDA Vanda 83.73 190 *eP* **P 23 15 04.6 +1.4**
comp=Z,71nm,1.4s
VNDA Vanda 83.73 190 P **P 23 15 04.7 +1.4**

comp=Z,20nm,1.0s,baz=131,slow=4.5,SNR=49
VNDA LR LR 23 44 53.5
comp=Z,552nm,20.7s,baz=120,slow=30
CART Cartagena 84.19 49 *i* P **P 23 15 04.3 -1.8**
CART *i* S **S 23 25 22.0 -2.6**
ILULI Ilulissat 84.23 7 *i* P **P 23 15 04.8 -0.8**
ILULI Ilulissat 84.23 7 *i* P **P 23 15 04.8 -0.8**
TAM Tamanrasset 84.52 65 *e*P **P 23 15 09.3 +0.9**
comp=Z,79nm,1.6s
TAM Tamanrasset 84.52 65 *e*P **P 23 15 09.3 +0.9**
TAM pmax pmax
comp=Z,79nm,1.6s
VAL Valentia 84.63 33 *e*S **S 23 25 28.8 +0.5**
SYO Syowa Base 84.78 160⇑ *e*P **P 23 15 07.0 -1.6**
SYO Syowa Base 84.78 160⇓ *i*P **P 23 15 08.2 -0.4**
SYO Syowa Base 84.78 160⇓ *e*P **P 23 15 13.2 +4.6**
SUR Sutherland 85.37 122 *e*P **P 23 15 14.5 +1.9**
comp=Z,251nm,1.7s
SUR Sutherland 85.37 122 P **P 23 15 12.6 0.0**
TSUM Tsumeb 85.53 109 *e*P **P 23 15 14.1 +0.5**
comp=Z,141nm,1.4s
IGLA Glengowla, Co 85.83 32 *e*S **S 23 25 41.7 +1.6**
DLBC Dease Lake 85.92 334 *e*P **P 23 15 15.2 +0.8**
comp=Z,95nm,1.1s
DSB Dublin 87.33 33 *e*S **S 23 25 54.7 +0.1**
IDGL Inch Island, C 87.59 31 *e*S **SKSac 23 25 46.6 +4.0**
JIS Juneau Island 87.77 332 *e*P **P 23 15 24.4 +1.1**
JIS *e*pP **pP 23 15 48.5 +1.5**
BESE Bessie Mountai 88.14 332 *e*P **P 23 15 25.6 +0.4**
BESE *e*pP **pP 23 15 50.3 +1.4**
KULLO Kullorsuaq 88.78 4 *i* P **P 23 15 27.6 -0.2**
KULLO *i* 23 15 51.7
KULLO Kullorsuaq 88.78 4 *i* P **P 23 15 27.6 -0.2**
KULLO *i* 23 15 51.7
SKAG Skagway 88.79 333 *e*P **P 23 15 28.9 +0.8**
SKAG *e*pP **pP 23 15 53.3 +1.5**
MAHO Mahon 88.86 48 *i* P **P 23 15 28.9 0.0**
MAHO *i* S **SKSac 23 25 54.3 +3.4**
SUMG Summit 89.11 10 *e*P **P 23 15 30.0 +0.1**
comp=Z,69nm,1.1s
SUMG Summit 89.11 10 *i* P **P 23 15 30.5 +0.6**
SUMG *i* 23 15 56.4
SUMG Summit 89.11 10 *i* P **P 23 15 30.5 +0.6**
SUMG *i* 23 15 56.4
WHY Whitehorse 89.21 334 *e*P **P 23 15 30.9 +0.7**
comp=Z,38nm,1.3s
RES Resolute Bay 89.49 354 *e*P **P 23 15 31.7 +0.6**
comp=Z,62nm,1.0s
RES Resolute Bay 89.49 354 *e*P **P 23 15 31.7 +0.6**
RES pmax pmax
comp=Z,62nm,1.0s
EKA Eskdalemuir Ar 89.94 32 P **P 23 15 32.2 -1.3**
comp=Z,1.8nm,0.8s,baz=289,slow=3.6,SNR=5.9
BOSA Boshof 90.03 119 *e*P **P 23 15 35.3 +0.4**
comp=Z,75nm,1.5s
BOSA Boshof 90.03 119 *e*P **P 23 15 35.3 +0.4**
BOSA pmax pmax
comp=Z,75nm,1.5s
BOSA Boshof 90.03 119 P **P 23 15 34.6 -0.3**
comp=Z,22nm,1.1s,baz=269,slow=5.1,SNR=16
BOSA LR LR 23 53 49.2
comp=Z,461nm,19.3s,baz=252,slow=34
HYT Haines Junctio 90.41 334 *e*P **P 23 15 37.0 +1.1**
HYT *e*pP **pP 23 16 00.4 +0.8**
SCO Scoresbysund 90.95 15 *e*P **P 23 15 40.0 +2.1**
SCO Scoresbysund 90.95 15 *i* P **P 23 15 40.0 +2.1**
PCA Pinnacle 91.29 332 *e*P **P 23 15 40.0 +0.2**
comp=Z,105nm,1.1s
LBTB Lobatse 91.30 116 *e*P **P 23 15 41.6 +0.7**
comp=Z,166nm,1.8s
LBTB Lobatse 91.30 116 *e*P **P 23 15 41.6 +0.7**
LBTB pmax pmax
comp=Z,166nm,1.8s
KEST Kesra 91.45 54 LR LR 23 57 49.5
comp=Z,610nm,19.1s,baz=212,slow=36
CTGM Chitina Glacie 92.15 333 *e*P **P 23 15 44.8 +0.9**
comp=Z,56nm,1.2s
MAW Mawson 92.55 164 *e*P **P 23 15 46.4 +0.9**
comp=Z,21nm,1.3s
MAW Mawson 92.55 164 P **P 23 15 46.4 +0.9**
comp=Z,44nm,1.0s,baz=220,slow=6.4,SNR=49
MAW LR LR 23 56 21.0
comp=Z,447nm,21.9s,baz=231,slow=35
INK Inuvik 92.67 341 *e*P **P 23 15 45.4 -0.6**
comp=Z,87nm,1.1s
INK Inuvik 92.67 341 *e*P **P 23 15 45.4 -0.6**
INK pmax pmax
comp=Z,87nm,1.1s
DAWY Dawson 92.69 336 *e*P **P 23 15 46.0 -0.3**
DAWY *e*pP **pP 23 16 10.3 +0.3**
EPYK Eagle Plains 92.77 339 *e*P **P 23 15 47.1 +0.6**
EPYK *e*pP **pP 23 16 10.8 +0.4**
EGAK Eagle 93.69 336 *e*P **P 23 15 51.2 +0.5**
EGAK *e*pP **pP 23 16 14.9 +0.3**
DIV Divide 94.20 332 *e*P **P 23 15 53.7 +0.4**
DIV *e*pP **pP 23 16 17.3 +0.2**
DOT Dot Lake 94.40 335 *e*P **P 23 15 54.0 -0.1**
DOT *e*pP **pP 23 16 14.8 -3.1**
SCRK Sand Creek 94.49 335 *e*P **P 23 15 52.6 -2.0**
comp=Z,26nm,1.1s
GLI Glacier Island 94.72 332 *e*P **P 23 15 55.0 -0.5**
GLI *e*pP **pP 23 16 19.1 -0.2**
PAX Paxson 94.73 334 *e*P **P 23 15 55.3 -0.4**
PAX *e*pP **pP 23 16 19.4 -0.1**
PAX Paxson 94.73 334 *e*P **P 23 15 55.3 -0.4**
PAX *e*'PP **pP 23 16 19.4 -0.1**
RIDG Independent Ri 94.75 335 *e*P **P 23 15 55.8 +0.1**
RIDG *e*pP **pP 23 16 20.0 +0.4**
DAVOX Davos/Dischmat 94.79 43 P **P 23 15 54.5 -2.0**
comp=Z,1.6nm,0.7s,baz=213,slow=5.7,SNR=6.3
DHY Denali Highway 95.58 334 *e*P **P 23 15 59.9 +0.2**
DHY *e*pP **pP 23 16 23.6 +0.1**
PRP Porcupine Dome 95.68 336 *e*P **P 23 15 59.6 -0.4**
PRP *e*pP **pP 23 16 22.8 -1.0**
GHO Glory Hole Cre 95.84 332 *e*P **P 23 16 01.0 +0.2**
GHO *e*pP **pP 23 16 24.1 -0.5**
HDA Harding Lake 95.86 335 *e*P **P 23 15 58.3 -2.4**
HDA *e*pP **pP 23 16 24.4 -0.1**
PMR Palmer 95.88 332 *e*P **P 23 15 59.5 -1.3**
PMR *e*pP **pP 23 16 24.8 +0.2**
PMR Palmer 95.88 332 *e*P **P 23 15 59.5 -1.3**
PMR *e*'PP **pP 23 16 24.8 +0.2**
ILAR Eielson Array 95.96 335 P **P 23 16 00.7 -0.5**
comp=Z,0.6nm,0.6s,baz=141,slow=3.0,SNR=12
ILAR pP **pP 23 16 24.3 -0.7**
comp=Z,4.5nm,0.9s,baz=143,slow=3.6,SNR=16
ILB Eielson Array 95.96 335 *e*P **P 23 16 00.8 -0.3**
ILB *e*pP **pP 23 16 24.6 -0.3**
RC01 Rabbit Creek A 96.00 332 *e*P **P 23 16 00.6 -0.8**
RC01 *e*pP **pP 23 16 25.5 +0.3**
BRLK Bradley Lake 96.15 330 *e*P **P 23 16 01.1 -1.1**
comp=Z,40nm,1.1s
CCB Clear Creek Bu 96.29 335 *e*P **P 23 16 01.8 -0.8**
CCB *e*pP **pP 23 16 26.3 -0.1**
LSZ Lusaka 96.32 107 *e*P **P 23 16 05.0 +0.9**
comp=Z,37nm,1.5s
LSZ Lusaka 96.32 107 P **P 23 16 05.4 +1.3**
WRH Wood River Hil 96.35 335 *e*P **P 23 16 02.2 -0.7**
comp=Z,23nm,1.1s
COLA College 96.38 335 *e*P **P 23 16 03.4 +0.4**
COLA *e*pP **pP 23 16 27.1 +0.2**
COLA College 96.38 335 *de*P **P 23 16 02.6 -0.4**
COLA pmax pmax
comp=Z,19nm,1.7s
MCK McKinley 96.46 334 *e*P **P 23 16 01.9 -1.6**
comp=Z,15nm,1.0s
MCK McKinley 96.46 334 *e*P **P 23 16 01.9 -1.6**
MCK pmax pmax
comp=Z,15nm,1.0s
MDM Murphy Dome 96.56 335 *e*P **P 23 16 03.4 -0.5**
comp=Z,61nm,1.1s
BWN Browne 96.82 335 *e*P **P 23 16 04.5 -0.5**
BWN *e*pP **pP 23 16 29.0 +0.1**
NKC Novy Kostel 97.28 40 *e*SKS **SKSac 23 26 38.8 +1.7**
NKC AMS AMS 23 54 20.0
comp=Z,600nm,24.0s
BPAW Bear Paw Mtn. 97.44 334 *e*P **P 23 16 07.0 -0.9**
comp=Z,31nm,1.0s
MLY Manley 97.60 335 *e*P **P 23 16 08.1 -0.5**
MLY *e*pP **pP 23 16 32.2 -0.3**
PPLA Purkeypile 97.63 333 *e*P **P 23 16 08.2 -0.7**
PPLA *e*pP **pP 23 16 32.7 0.0**
CAST Castle Rocks 97.72 333 *e*P **P 23 16 08.7 -0.5**
comp=Z,37nm,1.1s

KHC Kasperske Hory 97.76 41 *e*P **P 23 16 09.1 -0.6**
KHC *e* 23 16 34.0
KHC *e* 23 26 42.5
KHC MLR MLR
comp=Z,400nm,22.0s
KHC Kasperske Hory 97.76 41 *e*P **P 23 16 09.1 -0.6**
KHC *e*pP **pP 23 16 34.0 +0.4**
KHC *e*SKS **SKSac 23 26 42.5 +2.9**
KHC AMS AMS 23 55 30.0
comp=Z,400nm,22.0s
GEC2 GERESS Array S 97.78 42 *e*P **P 23 16 07.6 -2.3**
GEC2 pmax pmax
comp=Z,9.1nm,1.6s
GEC2 GERESS Array S 97.78 42 *e*P **P 23 16 07.6 -2.3**
GEC2 pmax pmax
comp=Z,9.0nm,1.6s
GERES GERESS Array B 97.78 42 P **P 23 16 07.6 -2.3**
comp=Z,0.6nm,0.8s,baz=246,slow=2.3,SNR=5.5
GERES LR LR 23 55 43.9
comp=Z,239nm,21.3s,baz=262,slow=33
CLL Collm 97.86 39 *e*Pdif Pdif 23 16 11.0 +0.9
CLL *e*sP sP 23 16 45.0 +1.6
CLL *e*pPP 23 20 36.0
CLL *e*pPPP 23 22 36.0
CLL *e* 23 24 35.0
CLL *e*SKSac **SKSac 23 26 41.0 +1.1**
CLL *e*SKKSac **SKKSac 23 27 07.0 -1.7**
CLL *e*Sdif Sdif 23 27 30.0 +0.8
CLL *e*sS sS 23 28 12.0 +1.4
CLL *e* 23 28 46.0
CLL *e*SP **SP 23 28 54.0 +1.4**
CLL *e*sPS 23 29 31.0
CLL *e*PPS PPS 23 29 53.0
CLL *e*SS **SS 23 34 09.0 -3.3**
CLL *e*sSS 23 34 54.0
CLL *e* 23 35 42.0
CLL *e*SSS SSS 23 38 06.0
CLL *e* 23 39 06.0
CLL *e*SSSS 23 41 18.0
CLL *e* 23 44 24.0
CLL Lm MLR 23 58 00.0
comp=N,200nm,20.6s
CLL Lm MLR 23 58 00.0
comp=E,500nm,20.9s
CLL Lm MLR 23 58 00.0
comp=Z,600nm,20.5s
BRG Berggiesshubel 98.35 40 *e*PDIFF Pdif 23 16 12.8 +0.6
comp=Z,33nm,2.0s
BRG SKS **SKSac 23 26 46.0 +3.6**
BRG SDIFF **S 23 27 32.0 -1.3**
BRG SS **SS 23 34 23.0 +3.8**
BRG Berggiesshubel 98.35 40 *e*P Pdif 23 16 12.8 +0.5
BRG 23 26 46.0
BRG S **S 23 27 32.0 -1.3**
BRG SS **SS 23 34 23.0 +3.8**
BRG pmax pmax
comp=Z,33nm,2.0s
BRG MLR MLR
comp=N,138nm,17.2s
BRG MLR MLR
comp=E,413nm,20.9s
BRG MLR MLR
comp=Z,638nm,20.1s
PRU Pruhonice 98.55 41 *e*SKS **SKSac 23 26 48.0 +4.5**
PRU AMS AMS 23 55 00.0
comp=Z,600nm,24.8s
PVCC Panska Ves 98.67 40 AMS AMS 23 55 40.0
comp=Z,600nm,23.8s
GOPC GO Pecny, Ondr 98.69 41 *e*SKS **SKSac 23 26 43.8 -0.5**
GOPC AMS AMS 23 55 00.0
comp=Z,500nm,21.8s
NB200 NORSAR Array S 98.95 29 *e*P **P 23 16 13.7 -1.1**
NOA NORSAR Array B 98.95 29 P **P 23 16 13.6 -1.1**
comp=Z,0.6nm,0.9s,baz=254,slow=2.9,SNR=2.1
NOA LR LR 23 59 46.9
comp=Z,330nm,18.1s,baz=255,slow=35
TREC Trest 99.02 41 *e*P **Pdif 23 16 15.9 +0.6**
TREC *e* 23 16 40.3
TREC *e* 23 26 48.5
TREC MLR MLR
comp=Z,300nm,18.9s
TREC Trest 99.02 41 *e*P **Pdif 23 16 15.9 +0.6**
TREC *e*pP **pP 23 16 40.3 +1.0**
TREC *e*SKS **SKSac 23 26 48.5 +2.6**
TREC AMS AMS 23 56 20.0
comp=Z,300nm,18.9s
KRUC Moravsky 99.57 42 *e*PDIFF **Pdif 23 16 18.5 +0.8**
UPC Upice 99.57 40 *e*P **Pdif 23 16 18.2 +0.5**
UPC *e* 23 26 49.1
UPC MLR MLR
comp=Z,400nm,20.0s
UPC Upice 99.57 40 *e*P **Pdif 23 16 18.2 +0.5**
UPC *e*SKS **SKSac 23 26 49.1 +0.5**
UPC AMS AMS 23 56 30.0
comp=Z,400nm,20.0s
VRAC Vranov 99.74 42 *e*PDIFF **Pdif 23 16 19.1 +0.6**
DPC Dobruska-Polom 99.74 41 *e*P **Pdif 23 16 19.3 +0.7**
DPC *e* 23 16 42.7
DPC *e* 23 26 49.9
DPC MLR MLR
comp=Z,500nm,25.7s
DPC Dobruska-Polom 99.74 41 *e*P **Pdif 23 16 19.3 +0.7**
DPC *e*pP **pP 23 16 42.7 +0.2**
DPC *e*SKS **SKSac 23 26 49.9 +0.4**
DPC AMS AMS 23 56 00.0
comp=Z,500nm,25.7s
JAVC Velka Javorina 100.36 42 *e*PDIFF **Pdif 23 16 23.0 +1.6**
MORC Moravsky Berou 100.42 41 *e*PDIFF **Pdif 23 16 22.6 +1.0**
VYHS Vyhne 101.07 43 *e*P **Pdif 23 16 26.5 +2.0**
VYHS Vyhne 101.07 43 *e*PDIF **Pdif 23 16 26.5 +2.0**
VYHS *e*pPDIF 23 16 53.2
AKBB Malin Array Si 107.97 41 *e*PKIKP **PKiKP 23 21 01.8 +0.1**
AKASG Malin Array Be 107.97 41 PKiKP **PKiKP 23 21 01.8 +0.1**
comp=Z,0.2nm,0.3s,baz=278,slow=2.4,SNR=4.3
ANTO Ankara 110.38 52 P **PKiKP 23 21 06.2 -0.5**
BR101 Keskin Array S 111.03 53 *e*PKiKP **PKiKP 23 21 08.4 +0.3**
BR131 Keskin Array S 111.03 53 P **PKiKP 23 21 08.8 +0.7**
BRTR Keskin Array B 111.03 53 PKiKP **PKiKP 23 21 08.4 +0.3**
comp=Z,2.4nm,1.0s,baz=199,slow=2.6,SNR=11
OBN Obninsk 112.12 36 *i*PKIKP **PKiKP 23 21 10.8 +1.4**
OBN *e* 23 21 52.0
OBN *i* 23 27 49.9
OBN *e*PS **PS 23 31 20.4 -8.9**
OBN *i* PPS PPS 23 32 31.5
OBN *i* SS SS 23 37 31.6 +4.9
OBN pmax pmax
OBN MLR MLR
comp=Z,328nm,20.0s
DZM Mont Dzumac 112.14 239 *e*SP SP 23 31 15.9 -4.6
comp=Z,351nm,30.7s
DZM Mont Dzumac 112.14 239 *e*LR LR 23 54 42.5
comp=Z,2μm,29.4s
ANN Anapa 113.71 47 *i*PKIKP **PKiKP 23 21 13.1 +0.3**
ANN pmax pmax
comp=Z,17nm,1.0s
VSR Storozhevoye 114.20 40 *c i*PKIKP **PKiKP 23 21 13.9 +0.4**
VORD Divnogorie 114.31 40 *e*PKIKP **PKiKP 23 21 14.4 +0.7**
VORD pmax pmax
comp=Z,10.0nm,1.5s
PRGR Permogore 115.30 28 *e*PKIKP **PKiKP 23 21 13.5 -1.8**
PRGR pmax pmax
comp=Z,11nm,1.3s
KIV Kislovodsk 117.54 48 *e*PKIKP **PKiKP 23 21 21.3 +0.9**
KIV pmax pmax
comp=Z,15nm,1.1s
NEY Neytrino 117.65 48⇑ *i*PKIKP **PKiKP 23 21 22.2 +1.5**
KBZ Khabaz 117.72 48 PKP **PKiKP 23 21 21.4 +0.8**
comp=Z,8.3nm,1.1s,baz=265,slow=2.7,SNR=11
KARS Kars 118.21 51 *e*PKPdf **PKiKP 23 21 23.9 +2.0**
KARS Kars 118.21 51 *e*PKIKP **PKiKP 23 21 23.9 +2.0**
NCK Nalchik 118.25 48 *c i*PKIKP **PKiKP 23 21 22.9 +1.2**
AKH Akhalkalaki 118.44 50 *e*PKPdf **PKiKP 23 21 24.4 +2.1**
AKH Akhalkalaki 118.44 50 *e*PKIKP **PKiKP 23 21 24.4 +2.1**
GNI Garni 119.52 52 *i*PKIKP **PKiKP 23 21 25.1 +0.6**
TIXI Tiksi 120.84 352⇑ *i*PKIKP **PKPdf 23 21 25.1 -0.6**
SEY Seymchan 121.81 338⇑ *i*PKIKP **PKiKP 23 21 29.5 +1.5**
NRIK Noril'sk 123.13 8 PKP **PKPdf 23 21 30.2 0.0**
comp=Z,0.8nm,0.4s,baz=309,slow=1.6,SNR=6.1
ARU Arti 123.50 30 *e*PKPdf **PKiKP 23 21 31.6 +0.1**
ARU Arti 123.50 30 *i*PKIKP **PKiKP 23 21 31.6 +0.1**
ARU 23 23 14.3
ARU 23 28 34.7
ARU SP SP 23 32 59.8 -1.1

ARU Arti 123.50 30 PKP **PKPdf 23 21 30.5 -0.8**
comp=Z,2.3nm,0.5s,baz=348,slow=1.4,SNR=16
STKA Stephens Creek 124.04 215 PKP **PKiKP 23 21 33.5 0.0**
comp=Z,9.1nm,1.0s,baz=90,slow=2.6,SNR=9.9
PEA1 Petropavlovsk- 124.44 326 *e*PKPdf **PKPdf 23 21 32.5 -0.7**
PETK Petropavlovsk- 124.44 326 PKP **PKPdf 23 21 32.5 -0.7**
comp=Z,4.7nm,0.9s,baz=116,slow=3.4,SNR=6.3
AKTO Aktyubinsk 125.87 37 PKP **PKiKP 23 21 37.1 +0.7**
comp=Z,12nm,1.1s,baz=328,slow=0.7,SNR=27
ABKAR Akbulak array 127.50 38 *e*PKPdf **PKiKP 23 21 40.2 +0.5**
CTAO Charters Tower 129.15 229 *e*PKPdf **PKiKP 23 21 44.1 +0.1**
CTAO Charters Tower 129.15 229 *e*PKIKP **PKiKP 23 21 44.1 +0.1**
YAK Yakutsk 129.37 347 *e*PKIKP **PKPdf 23 21 42.7 +0.4**
YAK pmax pmax
comp=Z,182nm,1.1s
YAK pmax pmax
comp=N,23nm,1.1s
YAK pmax pmax
comp=E,14nm,1.0s
AJN Ajban 129.47 70 P **PKiKP 23 21 44.9 +0.5**
ASUD Al Ashush, Dub 129.78 69 P **PKiKP 23 21 46.0 +1.0**
SNR=5.7
FAQ Al Faqa, Dubai 130.01 69 P **PKiKP 23 21 45.2 -0.3**
SNR=6.1
NAZ Nazwa, Dubai 130.06 69 P **PKPdf 23 21 45.1 +0.3**
SNR=5.4
GEYT Alibeck 130.16 52 PKP **PKiKP 23 21 45.6 +0.1**
comp=E,5.3nm,0.8s,baz=267,slow=5.3,SNR=20
GEYT pPKP **pPKPdf 23 22 11.0 +1.4**
comp=E,4.2nm,0.8s,baz=276,slow=4.2,SNR=5.0
GYA0B ALIBECK ARRAY 130.16 52 *e*PKPdf **PKiKP 23 21 45.9 +0.4**
ASHO Ashiyiah 130.44 69 P **PKPdf 23 21 45.7 +0.1**
SNR=6.2
HATD Hatta, Dubai 130.50 69 P **PKPdf 23 21 46.1 +0.4**
SNR=7.4
SOHO SOHO 130.89 70 P **PKiKP 23 21 47.1 -0.2**
SNR=9.4
BRVK Borovoye 131.01 29 *e*PKPdf **PKiKP 23 21 46.7 +0.1**
BRVK Borovoye 131.01 29 *d i*PKIKP **PKiKP 23 21 46.3 -0.4**
BRVK Borovoye 131.01 29 P **PKiKP 23 21 46.8 +0.2**
SNR=12
BVAR Borovoye Array 131.08 29 PKP **PKiKP 23 21 47.3 +0.5**
comp=E,8.3nm,1.0s,baz=264,slow=1.5,SNR=42
BVAR pPKP **pPKPdf 23 22 11.9 +1.0**
comp=E,5.1nm,0.9s,baz=274,slow=2.4,SNR=7.0
MHTO MHTO 132.29 74 P **PKiKP 23 21 49.8 -0.4**
BIDO Bidbid 132.38 71 P **PKiKP 23 21 50.1 -0.2**
SNR=5.6
WSAR Wadi Sarin 132.85 71 P **PKiKP 23 21 50.7 -0.6**
SNR=6.5
PMG Port Moresby 134.43 242 *d i*PKIKP **PKPdf 23 21 53.8 +0.5**
ASAR Alice Springs 134.68 215 *e*PKPdf **PKPdf 23 21 53.2 -0.4**
ASAR Alice Springs 134.68 215 PKP **PKPdf 23 21 52.8 -0.9**
comp=E,3.9nm,1.1s,baz=127,slow=1.9,SNR=6.2
ASAR pPKP **pPKPdf 23 22 19.1 +0.4**
comp=E,12nm,0.8s,baz=140,slow=2.0,SNR=12
AS31 Alice Springs 134.68 215 *e*PKPdf **PKPdf 23 21 52.8 -0.9**
NVS Novosibirsk 134.92 20⇓ *i*PKIKP **PKiKP 23 21 55.0 +0.5**
NVS *i* 23 22 19.4
NVS pmax pmax
comp=Z,233nm,2.0s
NVS pmax pmax
comp=E,14nm,1.0s
COEN Coen 135.21 233 *e*PKPdf **PKPdf 23 21 54.7 0.0**
BOD Bodaibo 135.87 355 *e*PKHKP PKPpre 23 21 47.2
BOD pmax pmax
comp=Z,22nm,1.9s
ZAA1 Zalesovo Array 136.18 19 *e*PKPdf **PKPdf 23 21 55.6 +0.2**
ZAA0 Zalesovo Array 136.18 19 *e*PKPdf **PKPdf 23 21 54.3 -1.1**
ZALV Zalesovo Beam 136.18 19 *e*PKPdf **PKPdf 23 21 55.9 +0.5**
ZALV Zalesovo Beam 136.18 19 PKP **PKPdf 23 21 55.6 +0.2**
comp=Z,13nm,0.8s,baz=282,slow=2.9,SNR=31
KURK Kurchatov 136.39 27 *d i*PKIKP **PKPdf 23 21 56.5 +0.6**
KURK Kurchatov 136.39 27 P **PKiKP 23 21 57.0 -0.7**
SNR=17
KURBB Kurchatov Arra 136.42 27 PKP **PKPdf 23 21 56.5 +0.6**
comp=Z,3.7nm,0.5s,baz=314,slow=2.4,SNR=27
KURBB pPKP **pPKPdf 23 22 22.6 +1.7**
comp=Z,7.8nm,0.8s,baz=308,slow=2.7,SNR=8.6
KKAR Karatay Array 136.87 40 *e*PKPdf **PKPdf 23 21 55.7 -1.3**
ZEA Zeya 137.30 343 *e*PKIKP **PKPdf 23 21 58.1 +0.6**
ZEA pmax pmax
comp=Z,12nm,1.0s
WB2 Warramunga Arr 137.31 219 *e*PKPdf **PKPdf 23 21 57.6 -1.0**
WR1 Warramunga Arr 137.31 219 *e*PKPdf **PKPdf 23 21 58.5 -0.1**
WR1 *ep*PKPdf **pPKPdf 23 22 24.3 +0.6**
WRA Warramunga Arr 137.31 219 PKP **PKPdf 23 21 58.5 -0.1**
comp=Z,31nm,1.0s,baz=149,slow=1.7,SNR=40
WRA pPKP **pPKPdf 23 22 24.3 +0.6**
comp=Z,52nm,1.0s,baz=153,slow=1.8,SNR=18
WRAB Tennant Creek 137.31 219 *e*PKPdf **PKPdf 23 21 58.6 0.0**
WRAB Tennant Creek 137.31 219 *c i*PKIKP **PKPdf 23 21 57.5 -1.1**
MANU Manus Island 137.51 251 *e*PKPdf **PKPdf 23 21 59.5 +0.4**
CHGR Chuyangaron 138.06 47 *e*PKPdf **PKPdf 23 21 58.6 -1.0**
CHGR *e*PP **PP 23 24 45.7 -2.8**
BTK Batken 138.58 44 *e*PKPdf **PKPdf 23 22 00.9 +0.5**
GAR Garm 138.73 46 *e*PKPdf **PKPdf 23 22 01.8 +1.0**
EKS2 Erkin-Say 139.12 39 P **PKiKP 23 22 04.6 +1.0**
SNR=10
USP Ospenovka 139.21 38 P **PKiKP 23 22 03.5 -0.2**
SNR=8.8
ARSB Arslanbob 139.36 41 *e*PKPdf **PKiKP 23 22 03.7 -0.5**
CHMS Chumysh 139.52 38 P **PKiKP 23 22 04.0 -0.3**
SNR=6.7
KLR Kul'dur 139.53 336 *de*PKIKP **PKPdf 23 22 01.8 +0.1**
KLR Kul'dur 139.53 336 PKP **PKPdf 23 22 00.5 -1.3**
comp=Z,5.6nm,1.0s,baz=344,slow=4.7,SNR=8.6
AAK Ala-Archa 139.57 38 P **PKiKP 23 22 04.7 +0.1**
SNR=10.0
AAK Ala-Archa 139.57 38 *e*PKPdf **PKPdf 23 22 03.4 +1.1**
AAK Ala-Archa 139.57 38 *d i*PKIKP **PKiKP 23 22 03.9 -0.7**
AAK Ala-Archa 139.57 38 P **PKiKP 23 22 04.2 -0.4**
SNR=12
KBL Kabul 139.60 53 *e*PKPdf **PKPdf 23 22 03.1 +0.5**
UCH Uchtor 139.82 39 P **PKiKP 23 22 05.3 -0.2**
SNR=17
KBK Karagaybulak 139.83 38 P **PKiKP 23 22 04.8 -0.3**
SNR=7.2
TKM2 Tokmak 2 140.06 37 P **PKiKP 23 22 05.2 -0.4**
SNR=8.9
TEY Ternei 140.37 327 *e*PKIKP **PKPdf 23 22 03.6 +0.3**
DGZ Jazzator, Alta 140.64 21 *d i*PKIKP **PKPdf 23 22 04.9 +0.9**
MAKZ Makanchi 140.78 28 *e*PKPpre PKPpre 23 21 54.7
MAKZ *e*PKPdf **PKPdf 23 22 04.2 0.0**
MAKZ Makanchi 140.78 28 *e*PKHKP PKPpre 23 21 54.7
MAKZ *e* 23 22 04.2
MK31 Makanchi Array 140.93 28 *e*PKPpre PKPpre 23 21 58.4
MK31 *e*PKPdf **PKPdf 23 22 04.5 +0.1**
MK32 Makanchi Array 140.93 28 *e*PKPdf **PKPdf 23 22 04.0 -0.4**
MKAR Makanchi Array 140.93 28 *e*PKPpre PKPpre 23 21 58.5
MKAR *e*PKPdf **PKPdf 23 22 03.9 -0.4**
MKAR Makanchi Array 140.93 28 PKIKP **PKPdf 23 22 04.0 -0.4**
MKAR Makanchi Array 140.93 28 PKP **PKPdf 23 22 04.0 -0.4**
comp=Z,2.4nm,0.7s,baz=326,slow=1.9,SNR=17
KDJ Kajisay 141.47 37 *e*PKPdf **PKiKP 23 22 07.6 -1.0**
IRK Irkutsk 141.63 3 *e*PKIKP **PKPdf 23 22 06.4 +0.9**
IRK pmax pmax
comp=Z,99nm,2.1s
MOY Mondy 141.93 7 *e*PKIKP **PKiKP 23 22 08.0 -1.1**
MOY pmax pmax
comp=Z,61nm,2.7s
TLY Talaya 142.15 4 *e*PKPpre PKPpre 23 21 57.7
TLY *e*PKPdf **PKPdf 23 22 03.6 -2.8**
TLY Talaya 142.15 4 *d i*PKIKP **PKPdf 23 22 07.3 +0.9**
KSH Kashi 142.26 41 PKP **PKPdf 23 22 03.8 -3.3**
KSH pPKP pPKPdf 23 22 30.3 -1.8
KSH PP **PP 23 25 15.8 +1.8**
KSH SKS **SKSdf 23 29 01.9 -7.9**
KSH SS **SS 23 43 37.9 -4.1**
KSH AMB AMB
comp=Z,460nm,3.7s
KSH LR LR
comp=Z,300nm,11.1s
KSH LR LR
comp=Z,280nm,12.0s
KSH LR LR
comp=Z,680nm,17.7s
BHJ Bhuj 142.95 70 *e*P **PKPdf 23 22 08.8 +0.1**
NIL Nilore 143.17 52 *e*PKPdf **PKPdf 23 22 09.3 +0.5**
USRK Ussuriysk Ar. 143.28 330 PKP PKPbc 23 22 06.2 +0.4
comp=Z,5.2nm,0.8s,baz=7.5,slow=2.2,SNR=11
HIA Hailar 143.31 347 *d i*PKIKP **PKPdf 23 22 08.4 -0.2**
ZAK Zakamensk 143.42 5 *e*PKIKP PKPbc 23 22 05.7 -0.5
ZAK pmax pmax
comp=Z,16nm,1.5s

MDJ	**Mudanjiang**	**144.08**	**333**	PKP	**PKPab**	**23 22 06.1**	**-1.6**	
MDJ				AMB	AMB			
comp=Z,380nm,5.4s								
MJAR	**Matsushiro Arr**	**144.51**	**315**	*e*PKPdf	**PKPdf**	**23 22 12.2**	**+1.1**	
MJAR	**Matsushiro Arr**	**144.51**	**315**	*e*PKIKP	**PKPdf**	**23 22 12.2**	**+1.1**	
MJAR	**Matsushiro Arr**	**144.51**	**315**	PKP	**PKPab**	**23 22 09.2**	**-0.4**	
comp=Z,25nm,1.1s,baz=33,slow=0.3,SNR=60								
MAJO	**Matsushiro**	**144.51**	**315**	*e*PKPdf	**PKPab**	**23 22 08.1**	**-1.5**	
MAJO	**Matsushiro**	**144.51**	**315**	*d i*PKIKP	PKPpre	23 22 08.0		
MAT	**Matsushiro**	**144.51**	**315**	PKP	**PKPab**	**23 22 08.4**	**-1.2**	
MJB9	**Matsu-Tunnel**	**144.51**	**315**	*e*PKPdf	**PKPab**	**23 22 08.1**	**-1.5**	
MTN	**Manton Dam**	**144.66**	**222**	*e*PKPdf	**PKPab**	**23 22 09.9**	**-0.8**	
MSHR	**Mys Shultsa**	**144.89**	**329**	*de*PKIKP	**PKPab**	**23 22 10.0**	**-0.7**	
THN	**Thein Dam**	**145.55**	**52**	*ex*	**PKPdf**	**23 22 07.0**	**-5.9**	
WMQ	**Urumqi**	**145.63**	**26**	PKPbc	**PKPab**	**23 22 13.8**	**+0.2**	
WMQ				pPKP	pPKPdf	23 22 38.9	+1.1	
WMQ				PP	**PP**	**23 25 36.5**	**+3.0**	
WMQ				AMB	AMB			
comp=Z,470nm,6.9s								
WMQ				LR	LR			
comp=Z,1μm,19.5s								
WMQ				LR	LR			
comp=Z,660nm,24.3s								
WMQ				LR	LR			
comp=Z,1μm,20.9s								
WMQ	**Urumqi**	**145.63**	**26**	*e*PKPdf	**PKPab**	**23 22 14.1**	**+0.5**	
WMQ	**Urumqi**	**145.63**	**26**	*e*PKP2	**PKPab**	**23 22 14.1**	**+0.5**	
MNCY	**Minicoy**	**145.66**	**96**	*e*P	**PKPdf**	**23 22 13.0**	**-0.6**	
MNCI	**Minicoy**	**145.69**	**96**	*e*PKPdf	**PKPab**	**23 22 15.1**	**+0.5**	
INU	**Inuyama**	**145.96**	**314**	*e*PKPdf	**PKPdf**	**23 22 13.6**	**+0.1**	
DHRM	**DHARAMSHALA**	**146.08**	**52**	*e*P	**PKPdf**	**23 22 12.5**	**-1.7**	
DHRM				IAmb	IAmb	23 22 16.3		
comp=Z,19μm,5.5s								
DHRM				IAMs_20	IAMs_20	23 50 51.8		
comp=Z,896nm,15.7s								
ULN	**Ulaanbaatar**	**146.10**	**1**	*e*PKPdf	**PKPab**	**23 22 15.7**	**+0.4**	
ULN	**Ulaanbaatar**	**146.10**	**1**	*d i*PKP2	**PKPbc**	**23 22 14.2**	**-0.4**	
ULN	**Ulaanbaatar**	**146.10**	**1**	P	**PKPab**	**23 22 15.0**	**-0.3**	
SNR=75								
SONA0	**Songino Array**	**146.12**	**1**	*e*PKPdf	**PKPab**	**23 22 15.8**	**+0.4**	
SONA0				*ep*PKPdf	pPKPab	23 22 40.5	+0.8	
SONM	**Songino Array**	**146.12**	**1**	*e*PKPdf	**PKPab**	**23 22 16.3**	**+0.9**	
SONM	**Songino Array**	**146.12**	**1**	PKPbc	**PKPab**	**23 22 15.8**	**+0.4**	
comp=Z,8.0nm,0.8s,baz=321,slow=2.1,SNR=51								
SONM				pPKPbc	pPKPab	23 22 40.5	+0.8	
comp=Z,24nm,0.9s,baz=320,slow=1.6,SNR=11								
BOM	**Bombay**	**146.31**	**77**	*e*P	**PKPdf**	**23 22 12.3**	**-2.3**	
CN2	**Changchun**	**146.47**	**336**	*e*PKPbc	**PKPdf**	**23 22 13.0**	**-1.1**	
CN2				*ep*PKP	pPKPdf	23 22 39.5	+0.4	
CN2				*e*PP	**PP**	**23 25 41.6**	**+3.3**	
CN2				AMB	AMB			
comp=Z,200nm,4.0s								
CN2				LR	LR			
comp=Z,280nm,25.0s								
CN2				LR	LR			
comp=Z,180nm,25.0s								
CN2				LR	LR			
comp=Z,260nm,26.0s								
SMLA	**Simla**	**147.22**	**53**	*e*P	**PKPdf**	**23 22 14.6**	**-1.2**	
SMLA				IAMs_20	IAMs_20	23 51 20.0		
comp=Z,1μm,14.6s								
POO	**Poona**	**147.31**	**77**	*e*P	**PKPdf**	**23 22 14.8**	**-1.5**	
POO				IAMs_20	IAMs_20	23 52 32.8		
comp=Z,463nm,13.8s								
GOA	**Goa**	**147.32**	**83**	*e*P	**PKPdf**	**23 22 14.1**	**-2.2**	
GOA				IAmb	IAmb	23 22 20.1		
comp=Z,96nm,1.2s								
DDI	**Dehra Dun**	**148.25**	**54**	*e*P	**PKPdf**	**23 22 16.4**	**-1.2**	
DDI				IAmb	IAmb	23 22 22.9		
comp=Z,135nm,0.7s								
TRD	**Trivandrum**	**149.51**	**97**	*e*P	**PKPdf**	**23 22 17.6**	**-2.4**	
LATR	**Latur**	**149.88**	**77**	*ex*	**PKPdf**	**23 22 15.1**	**-5.3**	
BHPL	**Bhopal**	**149.98**	**67**	*e*P	**PKPdf**	**23 22 19.3**	**-1.2**	
BHPL				IAMs_20	IAMs_20	23 51 37.9		
comp=Z,1μm,11.4s								
KSRS	**Korea Array**	**150.34**	**326**	PKP	**PKPdf**	**23 22 20.9**	**+0.3**	
comp=Z,9.0nm,1.1s,baz=44,slow=0.7,SNR=34								
KSRS				PKPbc	**PKiKP**	**23 22 26.6**	**-0.1**	
comp=Z,40nm,1.1s,baz=22,slow=1.4,SNR=51								
KSRS				pPKPbc	**pPKPbc**	**23 22 51.4**	**+0.7**	
comp=Z,54nm,0.9s,baz=19,slow=1.8,SNR=13								
KS15	**Wonju Array Si**	**150.37**	**326**	*e*PKPdf	**PKPdf**	**23 22 21.8**	**+1.1**	
KS15				*e*PKPbc	**PKPbc**	**23 22 26.2**	**+0.2**	
KS15				*e*PKPab	**PKPab**	**23 22 32.6**	**+0.1**	
KSAR	**Wonju Array Be**	**150.37**	**326**	*e*PKPdf	**PKPdf**	**23 22 21.3**	**+0.6**	
KSAR				*e*PKPbc	**PKiKP**	**23 22 26.6**	**-0.1**	
KSAR				*e*PKPab	**PKPab**	**23 22 32.6**	**+0.1**	
KSAR	**Wonju Array Be**	**150.37**	**326**	*e*PKIKP	**PKPdf**	**23 22 21.3**	**+0.6**	
KSAR				*e*		23 22 32.6		
FAKI	**Fak Fak**	**150.39**	**238**	*e*PKPdf	**PKPdf**	**23 22 22.3**	**+0.9**	
FAKI				*e*PKPbc	**PKiKP**	**23 22 28.0**	**+0.5**	
FAKI	**Fak Fak**	**150.39**	**238**	PKP	**PKPdf**	**23 22 22.6**	**+1.2**	
SOEI	**Soe**	**151.28**	**216**	*e*PKPdf	**PKPdf**	**23 22 24.6**	**+1.7**	
SOEI				*e*PKPbc	**PKiKP**	**23 22 30.3**	**+0.9**	
JNU	**Nakatsue**	**151.42**	**316**	*e*PKPdf	**PKPdf**	**23 22 22.7**	**+0.2**	
JNU				*e*PKPbc	**PKPbc**	**23 22 28.1**	**-0.5**	
JNU	**Nakatsue**	**151.42**	**316**	PKP	**PKPdf**	**23 22 22.4**	**0.0**	
comp=Z,5.6nm,0.9s,baz=145,slow=3.2,SNR=3.7								
JNU				PKPbc	**PKPbc**	**23 22 28.4**	**-0.2**	
comp=Z,26nm,1.0s,baz=77,slow=5.3,SNR=11								
TJN	**Taejon**	**151.43**	**325**	*d i*PKIKP	**PKPdf**	**23 22 22.5**	**+0.2**	
HYB	**Hyderabad**	**151.84**	**79**	*i* PKP	**PKPdf**	**23 22 24.0**	**+0.5**	
HYB				*e*		23 22 30.5		
HYB				*e*		23 22 56.5		
NGP	**Nagpur**	**151.88**	**71**	*e*P	**PKPdf**	**23 22 21.6**	**-1.8**	
DL2	**Dalian**	**152.14**	**336**	⇓*i*PKPbc	**PKPdf**	**23 22 22.5**	**-0.8**	
DL2				PP	**PP**	**23 26 14.4**	**+3.3**	
DL2				AMB	AMB			
comp=Z,280nm,4.9s								
DL2				LR	LR			
comp=Z,360nm,17.2s								
DL2				LR	LR			
comp=Z,220nm,17.4s								
DL2				LR	LR			
comp=Z,420nm,32.1s								
BJT	**Baijiatuau**	**152.88**	**345**	*e*PKPdf	**PKPdf**	**23 22 25.4**	**+1.0**	
BJT				*e*PKPbc	**PKPbc**	**23 22 31.3**	**-0.3**	
BJT	**Baijiatuau**	**152.88**	**345**	*e*PKIKP	**PKPdf**	**23 22 25.4**	**+1.0**	
HHC	**Hu-ho-hao-te**	**152.90**	**353**	*e*PKPbc	**PKPdf**	**23 22 26.1**	**+1.5**	
HHC				sPKP		23 22 57.6		
HHC				PP	**PP**	**23 26 13.4**	**-1.8**	
HHC				SKKS		23 32 59.5		
HHC				SS	**SS**	**23 45 43.3**	**+3.3**	
HHC				AMB	AMB			
comp=Z,510nm,8.5s								
HHC				LR	LR			
comp=Z,660nm,18.2s								
HHC				LR	LR			
comp=Z,790nm,18.6s								
HHC				LR	LR			
comp=Z,850nm,18.1s								
BTO	**Baotou**	**153.28**	**356**	*e*PKPbc	**PKPdf**	**23 22 25.3**	**+0.2**	
MMRI	**Maumere**	**153.33**	**214**	*e*PKPdf	**PKPdf**	**23 22 25.9**	**+0.1**	
MMRI				*e*PKPbc	**PKPbc**	**23 22 32.4**	**-1.0**	
MDRS	**Chennai**	**153.41**	**88**	*e*P	**PKPdf**	**23 22 24.6**	**-1.2**	
GTA	**Gaotai**	**153.65**	**14**	PKPbc	**PKPdf**	**23 22 26.6**	**+0.9**	
GTA				pPKP	pPKPdf	23 22 52.3	+1.5	
GTA				sPKP		23 23 04.6		
GTA				PP	**PP**	**23 26 24.0**	**+4.4**	
GTA				SKKS		23 33 04.0		
GTA				SS	**SS**	**23 45 51.3**	**+2.8**	
GTA				LR	LR			
comp=Z,240nm,23.2s								
GTA				LR	LR			
comp=Z,190nm,21.9s								
TIY	**Taiyuan**	**155.86**	**351**	PKP	**PKPdf**	**23 22 29.8**	**+1.1**	
TIY				PKPab	**PKPab**	**23 22 56.8**	**+1.1**	
TIY				AMB	AMB			
comp=Z,320nm,9.0s								
TIA	**Tai'an**	**156.16**	**341**	PKP	**PKPdf**	**23 22 29.8**	**+0.7**	
TIA				SS	SS	23 46 13.4	-2.2	
TIA				AMB	AMB			
comp=Z,380nm,4.8s								
TIA				LR	LR			
comp=Z,140nm,22.6s								
TIA				LR	LR			
comp=Z,260nm,33.3s								
TIA				LR	LR			
comp=Z,140nm,16.1s								
BSSI	**Bau Bau, Buton**	**156.35**	**214**	PKP	**PKPdf**	**23 22 29.9**	**-0.1**	
BSSI				PKP	**PKPdf**	**23 22 31.1**	**+1.1**	
BOK	**Bokaro**	**157.25**	**61**	*e*P	**PKPdf**	**23 22 29.8**	**-1.1**	
BOK				IAMs_20	IAMs_20	23 55 13.2		
comp=Z,729nm,9.5s								
LZH	**Lanzhou**	**157.62**	**8**	*e*PKP	**PKPdf**	**23 22 28.9**	**-2.3**	
LZH				pPKP	pPKPdf	23 22 57.5	+1.3	
LZH				sPKP		23 23 07.8		
LZH				SKKS		23 33 26.3		
LZH				SS	**SS**	**23 46 33.9**	**+2.7**	
LZH				AMB	AMB			
comp=Z,260nm,5.4s								
LZH				LR	LR			
comp=Z,280nm,17.6s								
LZH				LR	LR			
comp=Z,400nm,17.3s								
LZH				LR	LR			
comp=Z,500nm,18.4s								
KAPI	**Kappang**	**157.69**	**214**	*e*PKPdf	**PKPdf**	**23 22 32.7**	**+1.0**	
KAPI	**Kappang**	**157.69**	**214**	*e*PKIKP	**PKPdf**	**23 22 32.7**	**+1.0**	
KAPI	**Kappang**	**157.69**	**214**	P	**PKPdf**	**23 22 33.1**	**+1.4**	
SNR=8.1								
LSA	**Lhasa**	**158.11**	**41**	*e*PKPdf	**PKPdf**	**23 22 33.6**	**+1.2**	
BWNR	**Bhubaneshwar**	**158.24**	**70**	*e*P	**PKPdf**	**23 22 28.8**	**-3.3**	
BWNR				IAmb	IAmb	23 22 29.9		
comp=Z,56nm,1.4s								
SPSI	**Sidrap Palu**	**158.55**	**215**	PKP	**PKPdf**	**23 22 32.9**	**+0.2**	
SPSI				PKP	**PKPdf**	**23 22 34.3**	**+1.6**	
SSE	**Sheshan**	**158.78**	**326**	PKP	**PKPdf**	**23 22 30.8**	**-1.7**	
SSE				PP	**PP**	**23 26 46.6**	**-1.8**	
SSE				SS	SS	23 46 41.3	-3.1	
SSE				AMB	AMB			
comp=Z,83nm,7.8s								
SSE				LR	LR			
comp=Z,75nm,27.1s								
SSE				LR	LR			
comp=Z,74nm,27.6s								
NJ2	**Nanjing**	**159.17**	**332**	*e*PKP	**PKPdf**	**23 22 32.0**	**-0.9**	
LEM	**Lembang**	**159.44**	**180**	PKP	**PKPdf**	**23 22 34.0**	**+0.1**	
comp=Z,7.8nm,0.4s,baz=288,slow=20								
LEM				PKPab	**PKPab**	**23 23 12.7**	**+0.9**	
comp=Z,42nm,0.7s,baz=159,slow=8.5,SNR=5.7								
XAN	**Xi'an**	**159.88**	**357**	PKP	**PKPdf**	**23 22 33.5**	**-0.3**	
XAN				PP	**PP**	**23 26 52.6**	**-1.2**	
XAN				SKS	**SKSdf**	**23 29 30.9**	**-0.9**	
XAN				SS	**SS**	**23 46 52.6**	**-2.2**	
XAN				AMB	AMB			
comp=Z,180nm,8.2s								
XAN				LR	LR			
comp=Z,150nm,21.4s								
XAN				LR	LR			
comp=Z,250nm,25.7s								
XAN				LR	LR			
comp=Z,280nm,33.3s								
XAN	**Xi'an**	**159.88**	**357**	*e*PKPdf	**PKPdf**	**23 22 33.4**	**-0.3**	
XAN	**Xi'an**	**159.88**	**357**	*e*PKIKP	**PKPdf**	**23 22 33.4**	**-0.3**	
SHL	**Shillong**	**161.21**	**49**	*e*PKPdf	**PKPdf**	**23 22 35.5**	**-0.1**	
SHL				*e*PP	**PP**	**23 27 02.1**	**-0.4**	
SHL	**Shillong**	**161.21**	**49**	*e*PKIKP	**PKPdf**	**23 22 35.5**	**-0.1**	
SHL				*e*		23 27 02.1		
SHL	**Shillong**	**161.21**	**49**	*e*P	**PKPdf**	**23 22 35.1**	**-0.5**	
WHN	**Wuhan**	**162.27**	**340**	PKP	**PKPdf**	**23 22 37.1**	**+0.8**	
WHN				pPKP	**pPKPdf**	**23 23 01.9**	**+0.5**	
WHN				AMB	AMB			
comp=Z,660nm,13.4s								
WHN				LR	LR			
comp=Z,790nm,16.8s								
WHN				LR	LR			
comp=Z,520nm,12.9s								
WHN				LR	LR			
comp=Z,1μm,31.4s								
CD2	**Chengdu**	**162.68**	**11**	PKP	**PKPdf**	**23 22 36.6**	**-0.2**	
CD2				PP	**PP**	**23 27 08.1**	**-0.7**	
CD2				SKS	**SKSdf**	**23 29 33.0**	**-1.3**	
CD2				SS	**SS**	**23 47 28.8**	**+4.6**	
CD2				AMB	AMB			
comp=Z,290nm,9.4s								
CD2				LR	LR			
comp=Z,560nm,32.4s								
CD2				LR	LR			
comp=Z,500nm,30.9s								
CD2				LR	LR			
comp=Z,480nm,38.2s								
SSLB	**Suanglung**	**163.97**	**310**	*e*PKPdf	**PKPdf**	**23 22 39.5**	**+1.3**	
QZH	**Quanzhou**	**164.87**	**318**	*i* PKP	**PKPdf**	**23 22 40.0**	**+1.1**	
QZH				pPKP	**pPKPdf**	**23 23 05.4**	**+1.5**	
QZH				PKPab	**PKPab**	**23 23 35.8**	**+0.5**	
QZH				PP	**PP**	**23 27 20.6**	**-0.7**	
QZH				SS	SS	23 47 49.0	+0.6	
QZH				LR	LR			
comp=Z,370nm,37.9s								
PBA	**Port Blair**	**165.36**	**97**	*e*P	PKPdf	23 22 37.5	-2.1	
DGPR	**DIGLIPUR**	**165.74**	**91**	*ex*	**PKPdf**	**23 22 43.5**	**+3.6**	
PSI	**Prapat**	**166.07**	**141**	*e*PKPdf	**PKPdf**	**23 22 39.6**	**-0.8**	
PSI				*e*PKPab	**PKPab**	**23 23 41.7**	**+0.8**	
PSI	**Prapat**	**166.07**	**141**	*e*PKIKP	**PKPdf**	**23 22 39.6**	**-0.8**	
PSI				*e*		23 23 41.7		
PSI	**Prapat**	**166.07**	**141**	PKP	**PKPdf**	**23 22 39.6**	**-0.8**	
comp=Z,7.4nm,0.7s,baz=246,slow=8.0,SNR=13								
PSI				PKPab	**PKPab**	**23 23 40.9**	**0.0**	
comp=Z,28nm,1.0s,baz=204,slow=7.1,SNR=13								
GYA	**Guiyang**	**167.45**	**4**	*i* PKP	**PKPdf**	**23 22 41.8**	**+0.7**	
GYA				pPKP	pPKPdf	23 23 06.4	-0.1	
GYA				PKS		23 26 12.8		
GYA				AMB	AMB			
comp=Z,350nm,7.8s								
GYA				LR	LR			
comp=Z,430nm,23.9s								
GYA				LR	LR			
comp=Z,480nm,23.5s								
GYA				LR	LR			
comp=Z,420nm,23.0s								
KMI	**Kunming**	**167.91**	**21**	PKP	**PKPdf**	**23 22 42.4**	**+0.8**	
KMI				pPKP	pPKPdf	23 23 07.3	+0.4	
KMI				sPKP		23 23 18.5		
PKDT	**Phuket**	**169.15**	**122**	P	**PKPab**	**23 23 56.5**	**+2.0**	
comp=Z,94nm,1.4s,comp=Z,2μm								
KRAB	**Krabi**	**170.04**	**123**	P	**PKPab**	**23 24 01.0**	**+2.5**	
comp=Z,119μm,1.1s								
TRTT	**Trang**	**170.20**	**127**	P	**PKPab**	**23 24 01.4**	**+2.2**	
comp=Z,27nm,1.4s								
CHTO	**Chiang Mai**	**170.36**	**58**	*e*PKPdf	**PKPdf**	**23 22 42.5**	**-0.5**	
CHTO	**Chiang Mai**	**170.36**	**58**	*e*PKIKP	**PKPdf**	**23 22 42.5**	**-0.5**	
CHTO	**Chiang Mai**	**170.36**	**58**	P	**PKPdf**	**23 22 43.8**	**+0.8**	
CM31	**Chiang Mai Arr**	**170.53**	**60**	*e*PKPdf	**PKPdf**	**23 22 43.4**	**+0.3**	
CM31				*e*PKPab	**PKPab**	**23 24 00.1**	**-0.5**	
CM31	**Chiang Mai Arr**	**170.53**	**60**	P	**PKPdf**	**23 22 43.9**	**+0.9**	
SNR=5.0								
CMAR	**Chiang Mai Arr**	**170.53**	**60**	*e*PKPdf	**PKPdf**	**23 22 42.9**	**-0.2**	
CMAR				*e*PKPab	**PKPab**	**23 24 00.3**	**-0.2**	
CMAR	**Chiang Mai Arr**	**170.53**	**60**	*e*PKIKP	**PKPdf**	**23 22 42.9**	**-0.2**	
CMAR				*e*		23 24 00.4		
CMAR	**Chiang Mai Arr**	**170.53**	**60**	PKP	**PKPdf**	**23 22 43.5**	**+0.4**	
comp=Z,7.5nm,1.0s,baz=284,slow=1.9,SNR=29								
CMAR				PKPab	**PKPab**	**23 24 00.1**	**-0.5**	
comp=Z,1.5nm,0.9s,baz=275,slow=4.4,SNR=2.5								
SLVN	**Son La**	**171.79**	**25**	*e*PKPdf	**PKPdf**	**23 22 45.2**	**+1.4**	

IDC 21 23:03:35.9±2.1, 0°.53N×126°.73E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/32, mbtmp3.5/3, Error ellipse: s-maj=187.4km s-min=25.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.67**	**160**	P	P	23 08 28.1	-0.2
0.8nm,0.6s,baz=339,slow=11,SNR=11							
ASAR	**Alice Springs**	**25.04**	**164**	P	P	23 09 02.2	+0.2
0.6nm,0.8s,baz=334,slow=8.9,SNR=6.0							
MKAR	**Makanchi Array**	**60.18**	**326**	P	P	23 13 45.6	-0.1
0.3nm,0.4s,baz=134,slow=6.2,SNR=7.5							

BER 21 23:05:44.1±1.1, 71°.12N×10°.88W, h15km, ML2.5, 4C, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.73**	**104**	⇑*i P*	Pg	23 05 55.0	-3.3
JMI				*eS*	Sg	23 06 02.9	-4.9
JMI				IAML		23 06 04.2	
comp=Z,570nm,0.3s							
JMIC	**Jan Mayen**	**0.79**	**99**	⇑*i P*	Pg	23 05 54.8	-4.6
JMIC				*eS*	Sg	23 06 02.3	-7.4
JMIC				IAML		23 06 03.1	
comp=Z,442nm,0.4s							
JNW	**Jan Mayen West**	**0.81**	**95**	⇑*i P*	Pg	23 05 54.9	-4.8
JNW				*eS*	Sg	23 06 02.5	-7.8
JNW				IAML		23 06 03.3	
comp=Z,727nm,0.1s							
JNE	**Jan Mayen East**	**0.85**	**98**	⇑*i P*	Pb	23 05 55.5	-5.0
JNE				*eS*	Sb	23 06 03.5	-8.3
JNE				IAML		23 06 04.9	
comp=Z,662nm,0.2s							
SCO	**Scoresbysund**	**3.71**	**265**	*i* P	Pb	23 06 49.5	+0.3
SCO				*eS*	Sb	23 07 31.1	-2.9
DAG	**Danmarks Havn**	**6.07**	**343**	*i* P	Pn	23 07 10.6	-2.5
DAG				*eS*	Sn	23 08 12.1	-10
LOF	**Lofoten**	**8.99**	**98**	*e*P	Pn	23 07 49.5	-3.7
LOF				*eS*	Sn	23 09 21.6	-12
LOF				IAML		23 09 31.5	
comp=Z,2.8nm,0.8s							
HSPB	**Hornsund (broa**	**9.26**	**39**	*e*P	Pn	23 07 52.1	-4.6
HSPB				*eS*	Sn	23 09 27.5	-13
HSPB				IAML		23 09 39.1	
comp=Z,3.1nm,0.7s							
BJO	**Bjornoya**	**9.44**	**55**	*e*P	Pn	23 07 54.6	-4.6
KBS	**Kingsbay**	**9.70**	**26**	*e*P	Pn	23 07 57.7	-5.1
KBS				*eS*	Sn	23 09 36.8	-14
KBS				IAML		23 09 44.6	
comp=Z,5.5nm,0.8s							
SPA0	**Spitsbergen Ar**	**9.97**	**33**	*e*P	Pn	23 08 02.7	-3.9
TRO	**Tromso**	**10.07**	**84**	*e*P	Pn	23 08 02.3	-5.6
HOPEN	**Hopen**	**11.18**	**45**	*e*P	Pn	23 08 18.5	-4.6

ISCJB ***21*** *23:10:45.3±0.2, 20°.59S±0°.02×69°.57W±0°.05, h101km±2km, mb4.5/56, Error ellipse: s-maj=7.7km s-min=3.1km az=174.3*

SJA ***21*** *23:10:45.0±0.6, 20°.71S×69°.68W, h71km±5km, ML4.2, MW3.4*

NEIC ***21*** *23:10:46.0±0.0, 20°.57S×69°.58W, h86km, mb4.6/55, ML4.8(GUC), After GUC.*

NEIC Felt [IV] at Alto Hospicio, Iquique, La Tirana and Pozo Almonte; [III] at Camina, Huara, Mamina and Pica; [II] at Pisagua.

IDC ***21*** *23:10:46.4±0.5, 20°.51S×69°.39W, h92km±4km, mb4.1/8, mb1 4.3/10, mb1mx4.0/28, mbtmp4.5/10, Error ellipse: s-maj=19.0km s-min=7.5km az=79.0*

GUC ***21*** *23:10:46.5±0.6, 20°.56S×69°.55W, h93km±3km, ML4.9*

ISC 21 23:10:45.3±0.4, **20°.63S**±0°.03×**69°.67W**±0°.06, **h95**km±3km, **h95**km:**pP-P, n134,** σ1°**66**/170, **mb4.6**/56, **4C-7D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.45**	**158**	*e*Pn	**Pn**	**23 11 01.2**	**+0.8**
PB01				*eSn*	**Sn**	**23 11 11.7**	**+0.2**
PB01	**IPOC Station P**	**0.45**	**158**	*e*P	**Pn**	**23 11 01.3**	**+0.8**
PB01	**IPOC Station P**	**0.45**	**158**	*e*P	**Pn**	**23 11 01.1**	**+0.8**
PB01				*eS*	**Sn**	**23 11 12.3**	**+0.7**
PB01				IAML		23 11 13.7	
comp=E,27μm,0.1s							
PB08	**IPOC Station P**	**0.69**	**45**	*e*P	**Pn**	**23 11 01.9**	**-0.7**
PB08				*eS*	**Sn**	**23 11 14.5**	**-0.9**
PB08	**IPOC Station P**	**0.69**	**45**	⇑*i P*	**Pn**	**23 11 02.5**	**-0.1**
PB08				*i* S	**Sn**	**23 11 14.2**	**-1.2**
PB08				IAML		23 11 14.8	
comp=N,39μm,0.2s							
PB02	**IPOC Station P**	**0.72**	**197**	⇑*i P*	**Pn**	**23 11 04.4**	**+1.8**
PB02				*eS*	**Sn**	**23 11 17.4**	**+1.9**
PB02				IAML		23 11 19.4	
comp=N,91μm,0.3s							
PB11	**IPOC Station P**	**0.86**	**1**	*e*Pn	**Pn**	**23 11 04.3**	**+0.2**
PB11				*eSn*	**Sn**	**23 11 17.8**	**-0.3**
PB11	**IPOC Station P**	**0.86**	**1**	*e*P	**Pn**	**23 11 04.1**	**0.0**
PB11				*eS*	**Sn**	**23 11 18.3**	**+0.2**
PB11	**IPOC Station P**	**0.86**	**1**	⇓*i P*	**Pn**	**23 11 04.3**	**+0.2**
PB11				*i* S	**Sn**	**23 11 17.8**	**-0.3**
PB11				IAML		23 11 19.4	
comp=E,48μm,0.3s							
GO01	**Chusmiza**	**1.05**	**25**	*e*Pn	**Pn**	**23 11 06.4**	**-0.1**
GO01				*eSn*	**Sn**	**23 11 21.3**	**-1.0**
PSGC	**Pisagua**	**1.11**	**337**	⇓*e*P	**Pn**	**23 11 07.2**	**+0.4**
PSGC				*i* S	**Sn**	**23 11 23.1**	**+0.3**
PSGC				IAML		23 11 24.7	
comp=E,21μm,0.5s							
PSGCX	**Pisagua**	**1.11**	**337**	*e*P	**Pn**	**23 11 07.2**	**+0.5**
PB07	**IPOC Station P**	**1.11**	**190**	*e*P	**Pn**	**23 11 08.6**	**+1.7**
PB07				*eS*	**Sn**	**23 11 24.8**	**+1.7**
PB07				IAML		23 11 28.3	
comp=E,25μm,0.3s							
PB09	**IPOC Station P**	**1.23**	**161**	⇓*i P*	**Pn**	**23 11 09.9**	**+1.6**
PB09				*i* S	**Sn**	**23 11 27.4**	**+1.9**
PB09				IAML		23 11 29.2	
comp=E,54μm,0.4s							
PB03	**IPOC Station P**	**1.42**	**183**	⇓*e*P	**Pn**	**23 11 12.2**	**+1.7**
PB03				*i* S	**Sn**	**23 11 30.8**	**+1.3**
PB03				IAML		23 11 31.8	
comp=E,22μm,0.4s							
MNMC	**Minye Minye**	**1.49**	**3**	*e*Pn	**Pn**	**23 11

MTP	Monte Pirata	38.70	6	eP	P	23 17 58.0	-2.1
	comp=Z,17nm,0.8s						
AOPR	Arecibo Observ	38.84	4	eP	P	23 17 59.1	-2.1
	comp=Z,22nm,0.6s						
CBYP	Canovanas	38.84	6	eP	P	23 18 00.3	-1.1
	comp=Z,25nm,0.9s						
CUPR	Culebra, Puert	38.93	7	eP	P	23 18 00.1	-1.9
	comp=Z,27nm,0.9s						
MTDJ	Mount Denham	39.37	348	eP	P	23 18 05.9	+0.1
	comp=Z,20nm,1.0s						
BIRD	Birdtown, Kers	55.91	349	eP	P	23 20 13.0	-0.4
	comp=Z,18nm,1.1s						
T49A	Edmonton	59.34	345	eP	P	23 20 37.8	+0.4
	comp=Z,12nm,1.0s						
LTX	Lajitas	59.51	325	eP	P	23 20 40.3	+1.5
LTX				epP	pP	23 21 03.6	+0.8
TXAR	Lajitas Array	59.51	325	P	P	23 20 40.3	+1.5
	comp=Z,0.6nm,0.5s,baz=152,slow=7.2,SNR=8.4						
TXAR				pP	pP	23 21 03.6	+0.8
	comp=Z,0.6nm,0.7s,baz=170,slow=7.6,SNR=3.6						
VNA3	Neumayer Olymp	61.13	161	P	P	23 20 51.0	+1.8
VNA1	Neumayer--Stat	61.34	161	P	P	23 20 51.5	+0.9
N55A	Marion Center	61.70	352	eP	P	23 20 54.7	+1.3
	comp=Z,21nm,0.9s						
VNA2	Neumayer--Watz	61.71	161	P	P	23 20 55.0	+1.9
	baz=284,slow=7.0						
MNTX	Cornudas Mount	62.28	326	eP	P	23 20 58.2	+0.7
	comp=Z,2.1nm,0.7s						
M54A	Oil Creek Stat	62.51	352	eP	P	23 20 59.8	+1.0
	comp=Z,14nm,0.9s						
N49A	Columbus Grove	62.70	348	eP	P	23 21 00.2	+0.2
	comp=Z,16nm,0.8s						
MSTX	Muleshoe	62.78	329	eP	P	23 21 01.6	+0.7
	comp=Z,16nm,1.1s						
ERPA	Erie	63.15	351	eP	P	23 21 02.7	-0.3
	comp=Z,17nm,0.6s						
SNAA	Sanae	63.33	161	P	P	23 21 05.8	+1.8
SNAA	Sanae	63.33	161	eP	P	23 21 05.6	+1.6
	comp=Z,7.2nm,0.9s						
BNM	Barren Site	64.85	327	eP	P	23 21 13.6	-1.0
SDCO	Great Sand Dun	67.14	330	eP	P	23 21 30.6	+1.3
	comp=Z,4.2nm,0.8s						
X16A	Lo Mia Camp, P	67.64	323	eP	P	23 21 34.6	+2.2
	comp=Z,3.5nm,0.9s						
WUAZ	Wupatki	68.41	324	eP	P	23 21 40.4	+3.2
	comp=Z,10nm,1.0s						
SMCO	Snowmass	68.97	330	eP	P	23 21 43.5	+2.6
	comp=Z,3.9nm,0.8s						
U15A	North Rim	69.58	324	eP	P	23 21 46.1	+1.6
	comp=Z,7.7nm,1.0s						
KNB	Kanab	70.30	324	eP	P	23 21 50.8	+2.0
	comp=Z,18nm,1.1s						
KNB				ePP	PP	23 24 14.8	-11
SRU	San Rafael Swe	70.66	327	eP	P	23 21 52.4	+1.5
	comp=Z,10nm,0.7s						
MTPU	Mount Pierson	70.72	326	eP	P	23 21 53.3	+1.8
	comp=Z,4.7nm,0.9s						
CCUT	Cedar City	70.99	325	eP	P	23 21 55.8	+2.8
	comp=Z,9.3nm,0.9s						
P17A	Butcher Ranch,	71.04	327	eP	P	23 21 55.6	+2.3
	comp=Z,10nm,0.9s						
MSU	Marysvale	71.06	326	eP	P	23 21 56.2	+2.8
SHPR	Sheep Range	71.24	323	eP	P	23 21 55.1	+0.6
	comp=Z,3.9nm,1.1s						
MPU	Maple Canyon	71.90	327	eP	P	23 21 58.9	+0.4
	comp=Z,9.6nm,1.0s						
PSUT	Pine Spring	71.97	325	eP	P	23 22 01.1	+2.3
	comp=Z,5.2nm,0.8s						
JLU	Jordanelle	72.25	328	eP	P	23 22 02.6	+2.0
	comp=Z,7.7nm,0.8s						
TCUT	Toone Canyon	72.62	328	eP	P	23 22 04.3	+1.5
	comp=Z,7.8nm,0.7s						
DUG	Dugway, Tooele	72.64	327	eP	P	23 22 03.5	+0.8
	comp=Z,6.4nm,1.0s						
PD31	Pinedale Array	73.00	330	eP	P	23 22 06.5	+1.5
	comp=Z,2.6nm,1.0s						
PDAR	Pinedale Array	73.00	330	eP	P	23 22 05.7	+0.7
PDAR	Pinedale Array	73.00	330	P	P	23 22 06.5	+1.5
	comp=Z,0.9nm,0.6s,baz=128,slow=7.5,SNR=6.7						
HWUT	Hardware Ranch	73.07	328	eP	P	23 22 05.8	+0.5
	comp=Z,6.4nm,0.7s						
BGU	Big Grassy Mou	73.29	327	eP	P	23 22 08.2	+1.6
	comp=Z,4.3nm,0.9s						
AHID	Auburn Hatcher	73.72	329	eP	P	23 22 10.0	+0.9
	comp=Z,9.7nm,0.8s						
TPAW	Teton Pass	74.21	330	eP	P	23 22 13.1	+1.1
	comp=Z,5.2nm,0.8s						
ULM	Lac du Bonnet	74.28	343	P	P	23 22 12.8	+0.9
	comp=Z,2.4nm,0.6s,baz=131,slow=3.2,SNR=4.1						
ELK	Elko	74.30	326	eP	P	23 22 13.2	+0.5
	comp=Z,2.3nm,0.8s						
ELK				ePP	PP	23 24 55.4	-4.7
MOOW	Moose Ponds	74.31	330	eP	P	23 22 14.3	+1.7
	comp=Z,1.8nm,0.6s						
FXWY	Fox Creek	74.36	330	eP	P	23 22 13.7	+0.8
	comp=Z,3.6nm,1.0s						
NV01	Mina Array Sit	74.37	322	eP	P	23 22 15.6	+2.6
NVAR	Mina Array Bea	74.37	322	eP	P	23 22 14.9	+1.9
NVAR	Mina Array Bea	74.37	322	P	P	23 22 15.6	+2.6
	baz=150,slow=7.0,SNR=5.5						
IMW	Indian Meadow	74.52	330	eP	P	23 22 14.9	+1.1
	comp=Z,5.5nm,0.9s						
FLWY	Flagg Ranch	74.55	331	eP	P	23 22 16.6	+2.7
	comp=Z,12nm,0.8s						
KVN	Kaiserville	74.68	323	eP	P	23 22 17.6	+2.8
	comp=Z,5.9nm,1.0s						
RLMT	Red Lodge	74.71	332	eP	P	23 22 15.8	+0.9
	comp=Z,5.8nm,0.8s						
YHH	Holmes Hill	75.16	331	eP	P	23 22 19.4	+1.9
	comp=Z,7.2nm,0.8s						
HLID	Hailey	75.93	328	eP	P	23 22 22.2	+0.4
	comp=Z,4.7nm,0.8s						
MCMT	McKenzie Canyo	76.11	330	eP	P	23 22 26.0	+3.1
BOZ	Bozeman (W)	76.13	331	eP	P	23 22 25.0	+2.1
	comp=Z,3.3nm,0.9s						
SYO	Syowa Base	77.57	160	eP	P	23 22 29.8	-0.7
SYO	Syowa Base	77.57	160	ePcP	PcP	23 22 39.6	-0.8
TOA1	Torodi Ar. Sit	77.74	71	eP	P	23 22 31.2	-1.2
TOA1				epP	pP	23 22 56.6	-1.0
TOA0	Torodi Ar. Sit	77.74	71	eP	P	23 22 31.9	-0.5
	comp=Z,8.8nm,0.9s						
TORD	Torodi Ar. Bea	77.74	71	P	P	23 22 31.2	-1.2
	comp=Z,1.5nm,0.6s,baz=251,slow=4.9,SNR=18						
TORD				pP	pP	23 22 56.6	-1.0
	comp=Z,1.8nm,0.6s,baz=250,slow=5.8,SNR=2.9						
BMO	Blue Mountains	78.30	328	eP	P	23 22 37.6	+2.6
	comp=Z,4.4nm,0.9s						
YKA	Yellowknife Ar	90.13	341	P	P	23 23 35.6	+1.3
	comp=Z,2.8nm,0.7s,baz=135,slow=4.5,SNR=42						
YKA				pP	pP	23 23 59.0	-0.8
	comp=Z,3.9nm,0.7s,baz=134,slow=4.9,SNR=12						
YKB5	Yellowknife Ar	90.13	341	eP	P	23 23 35.6	+1.3
YKB5				epP	pP	23 23 59.0	-0.8
YKW3	Yellowknife Ar	90.19	341	eP	P	23 23 36.0	+1.5
	comp=Z,5.8nm,0.9s						
WR1	Warramunga Arr	133.33	212	ePKPdf	PKiKP	23 29 52.7	+0.4
WR1				epPKPdf	pPKPdf	23 30 18.3	+0.5
WRA	Warramunga Arr	133.33	212	PKP	PKiKP	23 29 52.7	+0.4
	comp=Z,0.7nm,0.8s,baz=183,slow=3.3,SNR=3.2						
WRA				pPKP	pPKPdf	23 30 18.3	+0.5
	comp=Z,1.5nm,1.0s,baz=150,slow=1.1,SNR=3.5						
KURBB	Kurchatov Arra	140.99	32	pPKP	pPKPdf	23 30 31.2	+0.4
	comp=Z,1.1nm,0.8s,baz=294,slow=2.0,SNR=6.0						
ZAA1	Zalesovo Array	141.46	24	ePKPdf	PKPdf	23 30 05.6	+0.7
ZAA1				epPKPdf	pPKPdf	23 30 29.8	-1.8
ZALV	Zalesovo Beam	141.46	24	PKP	PKPdf	23 30 05.6	+0.7
	comp=Z,1.5nm,0.6s,baz=276,slow=4.1,SNR=5.8						
ZALV				pPKP	pPKPdf	23 30 29.8	-1.8
	comp=Z,3.1nm,0.7s,baz=276,slow=3.7,SNR=4.5						
MAKZ	Makanchi	145.16	35	ePKPbc	PKPdf	23 30 12.7	+1.0
MK31	Makanchi Array	145.33	35	ePKPbc	PKPab	23 30 12.8	+0.5
MK32	Makanchi Array	145.33	35	ePKPbc	PKPab	23 30 12.9	+0.6
MK32				epPKPab	pPKPbc	23 30 38.3	-0.1
MKAR	Makanchi Array	145.33	35	PKPbc	PKPab	23 30 12.9	+0.6
	comp=Z,4.0nm,0.8s,baz=325,slow=4.4,SNR=22						
MKAR				pPKPbc	pPKPbc	23 30 38.3	-0.1
	comp=Z,5.8nm,0.9s,baz=336,slow=2.7,SNR=12						
TARG	Taragay, Kyrgy	145.43	45	ePKPbc	PKPab	23 30 14.6	+1.3
KLR	Kul'dur	146.73	334	PKPbc	PKPab	23 30 17.3	-0.2
	comp=Z,1.2nm,0.6s,baz=32,slow=3.0,SNR=6.7						
USRK	Ussuriysk Ar.	150.39	327	PKPbc	PKiKP	23 30 27.6	+1.1
	comp=Z,4.4nm,0.8s,baz=346,slow=0.2,SNR=8.4						
MJAR	Matsushiro Arr	150.97	309	PKPbc	PKiKP	23 30 28.9	+1.0
	comp=Z,1.0nm,0.5s,baz=113,slow=1.2,SNR=4.0						
MJAR				PKPab	PKPab	23 30 36.5	+1.4
	comp=Z,0.5nm,0.3s,baz=186,slow=1.6,SNR=4.9						
MAJO	Matsushiro	150.97	309	ePKPbc	PKiKP	23 30 28.9	+1.0
MAJO				ePKPab	PKPab	23 30 36.5	+1.4
SONA0	Songino Array	152.67	6	ePKPbc	PKiKP	23 30 31.8	+0.6
SONA0				e		23 30 57.2	
SONM	Songino Array	152.67	6	PKPbc	PKiKP	23 30 31.8	+0.6
	comp=Z,1.6nm,0.6s,baz=279,slow=0.7,SNR=6.1						
SONM				pPKPbc	pPKPbc	23 30 57.2	-0.4
	comp=Z,3.4nm,0.8s,baz=290,slow=1.5,SNR=7.1						
HHC	Hu-ho-hao-te	159.81	357	eP	PKPdf	23 30 32.8	-0.7
LZH	Lanzhou	163.58	19	ePKP	PKPdf	23 30 32.5	-5.1
LZH				pPKP	pPKPdf	23 30 57.5	-6.9
LZH				sPKP		23 31 06.9	
LZH				PKP	PKPab	23 31 25.6	-3.8
CD2	Chengdu	168.18	29	PKP	PKPdf	23 30 40.1	-1.2

KRSC 21 23:15:50.5±10.0, 52°.08N×160°.60E, h18km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.08	341	eP	Pb	23 16 09.8	-0.8
SPN				eS	Sb	23 16 23.0	-1.4
RUS	Russkaya	1.33	286	eP	Pb	23 16 14.8	-0.1
RUS				eS	Sn	23 16 31.4	0.0
NLC	Nalytchevo	1.33	326	eP	Pb	23 16 14.8	-0.1
NLC				eS	Sb	23 16 32.1	+0.4
DALK	Dalny	1.48	311	eP	Pn	23 16 16.6	+0.5
DALK				eS	Sg	23 16 37.0	-1.1
MTVR	Mutnovka	1.54	286	eP	Pb	23 16 18.1	-0.4
MTVR				eS	Sb	23 16 37.5	-0.2
UGLR	Uglovaya	1.56	317	eP	Pb	23 16 18.7	-0.3
KDTR	Khodutka, Kamc	1.58	261	eP	Pb	23 16 18.6	-0.6
KDTR				eS	Sn	23 16 37.9	+0.2
SDLR	Sedlovina	1.59	320	eP	Pn	23 16 18.5	+0.6
SMAR	Somma	1.61	318	eP	Pb	23 16 19.5	-0.3
AVH	Avacha	1.64	317	eP	Pb	23 16 19.6	-0.6
ASAK	Asacha	1.69	281	eP	Pb	23 16 20.2	-0.8
KRMR	Karymshinskiy	1.69	297	eP	Pn	23 16 20.4	+0.9
KRMR				eS	Sn	23 16 40.9	+0.7
KOK	Koryaka	1.70	316	eP	Pb	23 16 20.9	-0.4
APC	Apacha	2.27	293	eP	Pn	23 16 28.9	+1.9

*IDC **21** 23:24:55.3±1.6, 35°.76N×141°.02E, h0km, mb3.8/6, mb1 3.8/9, mb1mx3.6/53, mbtmp3.8/9, ML3.2/3, MS3.4/2, Ms1 3.4/2, ms1mx2.7/47, Error ellipse: s-maj=44.3km s-min=22.2km az=73.0*
*ISCJB **21** 23:25:05.4±0.5, 35°.51N±0°.04×140°.13E±0°.05, h75km±4km, mb3.7/6, Error ellipse: s-maj=7.0km s-min=6.1km az=141.7*
*JMA **21** 23:25:05.8±0.2, 35°.59N×140°.10E, h67km±2km, M3.1*
JMA Felt I J1.

ISC 21 23:25:06.5±0.8, 35°.51N±0°.04×140°.12E±0°.05, h70km±7km, n26, σ1°11/32, mb3.8/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.11	144	P	Pn	23 25 16.6	-0.2
JCN				S	Sn	23 25 24.8	+0.6
JSMT	Sammumatsuo	0.30	63	P	Pn	23 25 17.0	-0.7
JSMT				eS	Sn	23 25 25.9	+0.1
BSO3	Boso 3	0.77	156	P	Pn	23 25 21.9	-0.1
JOD2	Odawara 2	0.88	254	P	Pn	23 25 23.0	-0.6
JOD2				S	Sn	23 25 35.5	-0.7
JIM2	Oshima 3	0.97	216	P	Pn	23 25 23.9	-0.8
JIM2				S	Sn	23 25 37.6	-0.6
JAG	Ashikaga	1.06	330	P	Pn	23 25 24.5	-1.3
BSO1	Boso 1	1.10	140	P	Pn	23 25 25.2	-0.6
BSO1				eS	Sn	23 25 41.2	+1.0
JRY	Ryogami san	1.12	297	P	Pn	23 25 26.0	-0.5
JFNN	Fujinakano	1.22	256	P	Pn	23 25 27.6	-0.2
JFNN				S	Sn	23 25 43.6	-0.1
JYN	Shimob	1.29	270	P	Pn	23 25 28.4	-0.4
JIZS	Izushimoda	1.29	233	P	Pn	23 25 28.4	-0.3
JIZS				S	Sn	23 25 44.9	-0.4
JKT	Katashina	1.44	331	P	Pn	23 25 29.5	-1.3
MJAR	Matsushiro Arr	1.86	304	Pn	Pn	23 25 36.1	-0.3
	3.7nm,0.3s,baz=145,slow=14,SNR=103						
MJAR				Sn	Sn	23 26 03.2	+4.2
	1.9nm,0.3s,baz=69,slow=25,SNR=7.0						
MJAR				LR	LR	23 26 20.5	
	comp=Z,181nm,20.5s,baz=240,slow=36						
MAT	Matsushiro	1.86	304	P	Pn	23 25 36.3	-0.1
MAT				S	Sn	23 25 58.7	-0.3
JHJ	Hachijo jima 2	2.40	187	Pn	Pn	23 25 43.6	0.0
	21nm,0.3s,baz=75,slow=21,SNR=6.6						
JHJ				Sn	Sn	23 26 12.4	+0.5
	40nm,0.3s,baz=224,slow=23,SNR=7.2						
KSRS	Korea Array	10.02	285	Pn	Pn	23 27 30.2	+2.7
	0.2nm,0.3s,baz=86,slow=13,SNR=4.2						
H11S1	WAKE ISLAND Hy	28.97	119	T	T	00 01 06.8	
	baz=311						
H11S3	WAKE ISLAND Hy	28.97	119	T	T	00 01 13.5	
	baz=311						
H11S2	WAKE ISLAND Hy	28.99	119	T	T	00 01 10.4	
	baz=311						
ZALV	Zalesovo Beam	42.19	314	P	P	23 32 52.6	+0.4
	0.7nm,0.4s,baz=96,slow=10,SNR=3.6						
MKAR	Makanchi Array	44.06	303	P	P	23 33 07.4	-0.1
	0.7nm,0.7s,baz=86,slow=9.9,SNR=4.5						
KURBB	Kurchatov Arra	46.13	309	P	P	23 33 23.2	-0.6
	1.1nm,0.6s,baz=83,slow=7.6,SNR=10						
WRA	Warramunga Arr	55.42	187	P	P	23 34 33.1	-0.7
	0.7nm,0.7s,baz=0.9,slow=7.3,SNR=7.2						
STKA	Stephens Creek	67.04	179	LR	LR	00 06 13.2	
	comp=Z,98nm,19.9s,baz=146,slow=37						
FINES	FINESS Array B	69.67	332	P	P	23 36 08.2	-0.1
	1.1nm,0.7s,baz=54,slow=7.1,SNR=3.2						
AKASG	Malin Array Be	74.86	322	P	P	23 36 39.4	-0.1
	0.3nm,0.3s,baz=41,slow=6.0,SNR=4.5						

*IDC **21** 23:26:42.0±0.8, 52°.41N×160°.49E, h0km, mb4.0/23, mb1 4.2/24, mb1mx4.0/56, mbtmp4.1/24, ML3.8/1, MS4.3/2, Ms1 4.3/2, ms1mx3.3/42, Error ellipse: s-maj=19.7km s-min=15.9km az=133.0*
*KRSC **21** 23:26:42.6±10.0, 52°.17N×160°.78E, h61km±10km, ML4.6*
*ISCJB **21** 23:26:45.6±0.6, 52°.25N±0°.03×160°.69E±0°.05, h42km±4km, mb4.2/35, MS4.3/2, Error ellipse: s-maj=6.6km s-min=4.0km az=138.0*
*MOS **21** 23:26:46.1±1.0, 52°.28N×160°.59E, h46km, mb4.7/8, Error ellipse: s-maj=7.8km s-min=4.9km az=108.1*
*NEIC **21** 23:26:47.3±0.3, 52°.37N×160°.49E, h35km, mb4.4/15, Error ellipse: s-maj=7.6km s-min=5.3km az=168.0*

ISC 21 23:26:45.3±3.4, 52°.22N±0°.04×160°.74E±0°.04, h27km±25km, n148, σ1°24/173, mb4.3/35, 5C-3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.98	334	eP	Pn	23 27 01.5	-1.8
SPN				eS	Sn	23 27 14.5	-1.9
SPN	Mys Shipunski	0.98	334	PN	Pn	23 27 01.5	-1.8
SPN				S	Sn	23 27 14.5	-1.9
NLC	Nalytchevo	1.28	319	eP	Pn	23 27 06.7	-0.6
NLC				eS	Sn	23 27 23.6	0.0
NLC	Nalytchevo	1.28	319	PN	Pn	23 27 06.7	-0.6
NLC				S	Sn	23 27 23.6	0.0
RUS	Russkaya	1.38	280	eP	Pn	23 27 07.7	-1.1
RUS				eS	Sn	23 27 25.0	-1.2
RUS	Russkaya	1.38	280	PN	Pn	23 27 07.7	-1.1
RUS				S	Sn	23 27 25.0	-1.2
DALK	Dalny	1.46	305	eP	Pn	23 27 09.1	-0.7
DALK				eS	Sn	23 27 28.0	-0.1
DALK	Dalny	1.46	305	PN	Pn	23 27 09.1	-0.7
DALK				S	Sn	23 27 28.0	-0.1
PET	Petropavlovsk	1.51	303	ePn	Pn	23 27 09.1	-1.4
PET	Petropavlovsk	1.51	303	α iPN	Pn	23 27 09.6	-0.9
PET				eS	Sn	23 27 29.0	-0.2
PET				pmax	pmax		
	comp=Z,1μm,1.5s						
PET				pmax	pmax		
	comp=Z,672nm,0.5s						
PET				smax	smax		
	comp=E,3μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.5s						
UGLR	Uglovaya	1.53	311	eP	Pn	23 27 10.5	-0.5
UGLR	Uglovaya	1.53	311	PN	Pn	23 27 10.5	-0.5
SDLR	Sedlovina	1.55	314	eP	Pn	23 27 10.4	-0.8
SDLR	Sedlovina	1.55	314	PN	Pn	23 27 10.4	-0.8
SMAR	Somma	1.58	312	i P	Pn	23 27 11.1	-0.6
SMAR	Somma	1.58	312	PN	Pn	23 27 11.1	-0.6
MTVR	Mutnovka	1.59	281	eP	Pn	23 27 11.1	-0.7
MTVR				eS	Sn	23 27 31.8	+0.3
MTVR	Mutnovka	1.59	281	PN	Pn	23 27 11.1	-0.7
MTVR				S	Sn	23 27 31.8	+0.3
AVH	Avacha	1.61	312	i P	Pn	23 27 11.6	-0.4
AVH	Avacha	1.61	312	PN	Pn	23 27 11.6	-0.4
KRER	Koryakskii	1.63	313	eP	Pn	23 27 13.1	+0.7
KRER	Koryakskii	1.63	313	PN	Pn	23 27 13.1	+0.7
GRL	Gorelyy	1.67	283	eP	Pn	23 27 14.0	+1.2
GRL	Gorelyy	1.67	283	PN	Pn	23 27 14.0	+1.2
KOK	Koryaka	1.67	311	eP	Pn	23 27 12.5	-0.4
KOK	Koryaka	1.67	311	PN	Pn	23 27 12.5	-0.4
KDTR	Khodutka, Kamc	1.69	257	eP	Pn	23 27 11.9	-1.2
KDTR				eS	Sn	23 27 32.0	-1.8
KDTR	Khodutka, Kamc	1.69	257	PN	Pn	23 27 11.9	-1.2
KDTR				S	Sn	23 27 32.0	-1.8
KRMR	Karymshinskiy	1.71	292	eP	Pn	23 27 12.6	-0.7
KRMR				eS	Sn	23 27 33.4	-0.8
KRMR	Karymshinskiy	1.71	292	PN	Pn	23 27 12.6	-0.7
KRMR				S	Sn	23 27 33.4	-0.8
KRX	Arik	1.71	313	eP	Pn	23 27 13.6	+0.2
KRX	Arik	1.71	313	PN	Pn	23 27 13.6	+0.2
ASAK	Asacha	1.75	277	eP	Pn	23 27 13.6	-0.3
ASAK				eS	Sn	23 27 36.0	+0.6
ASAK	Asacha	1.75	277	PN	Pn	23 27 13.6	-0.3
ASAK				S	Sn	23 27 36.0	+0.6
PEA0B	Petropavlovsk-	2.06	297	ePn	Pn	23 27 17.8	-0.3
PETK	Petropavlovsk-	2.06	297	ePn	Pn	23 27 17.9	-0.1
PETK				Sn	Sn	23 27 44.4	+1.6
PETK	Petropavlovsk-	2.06	297	ePN	Pn	23 27 17.9	-0.1
PETK						23 27 44.4	
PETK	Petropavlovsk-	2.06	297	Pn	Pn	23 27 18.4	+0.3
	comp=N,65nm,0.3s,baz=108,slow=17,SNR=501						
PETK				Sn	Sn	23 27 44.4	+1.6
	comp=N,65nm,0.3s,baz=115,slow=16,SNR=8.4						
PETK				LR	LR	23 27 49.5	
	comp=N,380nm,19.2s,baz=90,slow=37						
PEA1	Petropavlovsk-	2.06	297	ePn	Pn	23 27 18.4	+0.3
PEA1				eSn	Sn	23 27 44.4	+1.6
APC	Apacha	2.30	289	eP	Pn	23 27 21.9	+0.6
APC				eS	Sn	23 27 50.0	+1.3
APC	Apacha	2.30	289	PN	Pn	23 27 21.9	+0.6
APC				S	Sn	23 27 50.0	+1.3
MKZ	Mys Kozlova	2.42	14	P	Pn	23 27 22.8	-0.2
MKZ				eS	Sn	23 27 49.7	-2.0
MKZ	Mys Kozlova	2.42	14	PN	Pn	23 27 22.8	-0.2
MKZ				S	Sn	23 27 49.7	-2.0
PAU	Pauzhetka	2.55	254	eP	Pn	23 27 24.8	0.0
PAU	Pauzhetka	2.55	254	PN	Pn	23 27 24.8	0.0
KZV	Kizimen	2.92	355	i P	Pn	23 27 30.4	+0.4
KZV				eS	Sn	23 28 03.7	-0.5
KZV	Kizimen	2.92	355	PN	Pn	23 27 30.4	+0.4
KZV				S	Sn	23 28 03.7	-0.5
TUMD	Tumrok D	3.00	356	eP	Pn	23 27 31.0	-0.1
TUMD				eS	Sn	23 28 06.3	+0.2
TUMR	Tumrok	3.09	354	eP	Pn	23 27 33.3	+0.9
TUMR	Tumrok	3.09	354	PN	Pn	23 27 31.0	-1.4
TUMR				S	Sn	23 28 06.3	-2.3
SKR	Severo-Kuril's	3.27	244	eP	Pn	23 27 34.2	-0.6
SKR				eS	Sn	23 28 11.4	-1.4
SKR	Severo-Kuril's	3.27	244	ePN	Pn	23 27 33.9	-0.8
SKR				eS	Sn	23 28 11.3	-1.5
SKR				pmax	pmax		
	comp=Z,85nm,0.7s						
SKR				smax	smax		
	comp=N,519nm,0.6s						
SKR				smax	smax		
	comp=E,370nm,0.6s						
ALID	Alaid	3.51	249	eP	Pn	23 27 37.6	-0.5
ALID	Alaid	3.51	249	PN	Pn	23 27 37.6	-0.5
ESO	Esso	3.91	343	eP	Pn	23 27 45.8	+2.3
ESO	Esso	3.91	343	PN	Pn	23 27 45.8	+2.3
KBTR	Krutoberegovo	4.18	16	eP	Pn	23 27 47.2	-0.1
KBTR	Krutoberegovo	4.18	16	PN	Pn	23 27 47.2	-0.1
BKI	Bering	4.32	44	eP	Pn	23 27 49.5	+0.4
BKI				eS	Sn	23 28 34.8	-3.7
BKI	Bering	4.32	44	PN	Pn	23 27 49.5	+0.4
SMKR	Semkarok	4.40	5	eP	Pn	23 27 52.9	+2.6
SMKR	Semkarok	4.40	5	PN	Pn	23 27 52.9	+2.6
ASAJ	Asahikawa	14.54	243	Pn	Pn	23 30 09.2	+0.1
	comp=E,0.6nm,0.3s,baz=52,slow=8.7,SNR=4.4						
BILL	Bilibino	16.10	8	ePn	Pn	23 30 29.8	+0.4
	comp=E,6.6nm,1.0s						
BILL	Bilibino	16.10	8	eP	Pn	23 30 29.8	+0.4
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
USRK	Ussuriysk Ar.	20.66	259	P	P	23 31 22.3	-0.5
	comp=Z,2.1nm,0.

PD31	Pinedale Array	57.61	61	eP	P	23 36 33.7	+0.8
	comp=Z,3.6nm,1.4s						
PDAR	Pinedale Array	57.61	61	P	P	23 36 33.7	+0.8
	comp=Z,0.2nm,0.4s,baz=343,slow=4.6,SNR=4.4						
CHTO	Chiang Mai	58.12	259	eP	P	23 36 36.8	+0.3
	comp=Z,7.2nm,1.1s						
CHTO	Chiang Mai	58.12	259	eP	P	23 36 36.8	+0.3
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CM31	Chiang Mai Arr	58.39	259	eP	P	23 36 39.8	+1.4
	comp=Z,30nm,1.8s						
CMAR	Chiang Mai Arr	58.39	259	P	P	23 36 39.8	+1.4
	comp=Z,2.3nm,0.8s,baz=27,slow=6.7,SNR=10.0						
ABKAR	Akbulak array	58.66	311	eP	P	23 36 39.3	-0.6
	comp=Z,3.4nm,1.1s						
FIA0	FINESS Array S	61.08	337	eP	P	23 36 56.8	+0.5
FIA0	FINESS Array S	61.08	337	eP	P	23 36 56.8	+0.5
FINES	FINESS Array B	61.08	337	P	P	23 36 56.8	+0.5
	comp=Z,2.0nm,0.7s,baz=36,slow=7.3,SNR=19						
SDCO	Great Sand Dun	63.35	62	eP	P	23 37 13.8	+1.6
	comp=Z,1.9nm,0.8s						
NB2	NORSAR Subarra	64.50	344	P	P	23 37 19.5	+0.4
	comp=Z,1.0nm,0.6s,baz=21,slow=6.9						
NB200	NORSAR Array S	64.50	344	eP	P	23 37 19.4	+0.4
NOA	NORSAR Array B	64.50	344	P	P	23 37 19.4	+0.4
	comp=Z,1.1nm,0.6s,baz=22,slow=6.8,SNR=6.9						
GEYT	Alibeck	67.90	304	P	P	23 37 40.5	-0.8
	comp=Z,2.5nm,0.7s,baz=51,slow=0.9,SNR=6.8						
AKASG	Malin Array Be	69.57	329	P	P	23 37 50.2	-1.1
	comp=Z,2.8nm,0.5s,baz=30,slow=6.5,SNR=8.4						
AKBB	Malin Array Si	69.57	329	eP	P	23 37 50.2	-1.1
	comp=Z,5.5nm,1.0s						
AKBB	Malin Array Si	69.57	329	eP	P	23 37 50.3	-1.1
AKBB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KBZ	Khabaz	70.44	317	P	P	23 37 56.9	0.0
	comp=Z,1.9nm,0.8s,baz=68,slow=8.0,SNR=5.5						
LTX	Lajitas	70.62	67	eP	P	23 38 00.1	+1.8
LTX	Lajitas	70.62	67	eP	P	23 38 00.1	+1.8
TXAR	Lajitas Array	70.62	67	P	P	23 38 00.1	+1.8
	comp=Z,0.5nm,0.6s,baz=303,slow=5.0,SNR=3.4						
BUR08	Bucovina Ar. S	73.51	330	eP	P	23 38 15.5	+0.1
	comp=Z,10nm,1.9s						
BURAR	Bucovina Array	73.53	330	eP	P	23 38 15.3	-0.2
BURAR	Bucovina Array	73.53	330	⇓iP	P	23 38 16.3	+0.8
BURAR	Bucovina Array	73.53	330	⇓P	P	23 38 16.3	+0.8
TRPA	Tarpa	73.86	332	⇓iP	P	23 38 17.9	+0.7
VRI	Vrincioaia	74.62	329	⇑iP	P	23 38 23.3	+1.6
VRI	Vrincioaia	74.62	329	⇑P	P	23 38 23.3	+1.6
MLR	Muntele Rosu	75.20	329	eP	P	23 38 25.9	+0.6
	comp=Z,2.4nm,0.6s						
MLR	Muntele Rosu	75.20	329	⇑iP	P	23 38 26.5	+1.2
MLR	Muntele Rosu	75.20	329	eP	P	23 38 25.9	+0.6
MLR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WR1	Warramunga Arr	75.45	206	eP	P	23 38 27.1	+0.4
WRA	Warramunga Arr	75.45	206	P	P	23 38 27.1	+0.4
	comp=Z,0.5nm,0.6s,baz=20,slow=5.9,SNR=8.9						
GERES	GERESS Array B	75.47	338	P	P	23 38 25.9	-0.8
	comp=Z,0.6nm,0.8s,baz=48,slow=6.0,SNR=4.3						
BR101	Keskin Array S	77.55	321	eP	P	23 38 39.0	+0.4
BRTR	Keskin Array B	77.55	321	P	P	23 38 39.0	+0.4
	comp=Z,0.7nm,0.8s,baz=117,slow=1.9,SNR=4.5						
AS31	Alice Springs	79.12	205	eP	P	23 38 48.5	+1.3
	comp=Z,5.1nm,1.6s						
ASAR	Alice Springs	79.12	205	P	P	23 38 48.5	+1.3
	comp=Z,0.6nm,0.5s,baz=16,slow=5.5,SNR=9.8						
ASAR				LR	LR	00 09 53.8	
	comp=Z,196nm,21.8s,baz=172,slow=33						
MMAI	Mount Meron Ar	82.61	316	P	P	23 39 06.4	+0.4
	comp=Z,1.6nm,0.6s,baz=36,slow=7.2,SNR=7.1						
ESDC	Sonseca Array	87.52	348	P	P	23 39 30.8	+0.2
	comp=Z,0.8nm,0.8s,baz=12,slow=4.2,SNR=3.9						

KRSC 21 23:36:18.0±10.0, 52°.15N×160°.83E, h55km±10km, ML4.1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.07	333	eP	Pn	23 36 37.7	+0.9
SPN				eS	Sn	23 36 50.1	-0.7
NLC	Nalytchevo	1.37	319	eP	Pn	23 36 42.5	+1.7
NLC				eS	Sn	23 37 01.1	+3.2
RUS	Russkaya	1.45	282	eP	Pn	23 36 43.7	+1.8
RUS				eS	Sn	23 37 00.7	+0.8
DALK	Dalny	1.55	306	eP	Pn	23 36 44.9	+1.7
DALK				eS	Sn	23 37 03.1	+0.9
UGLR	Uglovaya	1.62	312	eP	Pn	23 36 47.0	+2.7
UGLR				eS	Sn	23 37 07.8	+3.6
SDLR	Sedlovina	1.64	315	eP	Pn	23 36 46.4	+1.8
MTVR	Mutnovka	1.66	283	eP	Pn	23 36 47.2	+2.3
MTVR				eS	Sn	23 37 07.0	+1.8
KRER	Koryakskii	1.72	313	eP	Pn	23 36 48.1	+2.4
KDTR	Khodutka, Kamc	1.74	260	eP	Pn	23 36 48.0	+2.2
KDTR				eS	Sn	23 37 08.0	+1.2
KOK	Koryaka	1.76	312	eP	Pn	23 36 49.2	+3.0
KRMR	Karymshinskiy	1.79	294	eP	Pn	23 36 48.8	+2.3
KRMR				eS	Sn	23 37 11.7	+3.6
KRX	Arik	1.80	313	eP	Pn	23 36 48.9	+2.1
ASAK	Asacha	1.82	279	eP	Pn	23 36 49.6	+2.6
ASAK				eS	Sn	23 37 13.1	+4.2
APC	Apacha	2.38	291	eP	Pn	23 36 57.8	+3.3
APC				eS	Sn	23 37 27.4	+5.0
MKZ	Mys Kozlova	2.48	12	eS	Sn	23 37 26.7	+1.9
PAU	Pauzhetka	2.59	256	eP	Pn	23 36 59.7	+2.3
KZV	Kizimen	2.99	354	eP	Pn	23 37 06.3	+3.2
KZV				eS	Sn	23 37 41.1	+3.4
TUMD	Tumrok D	3.08	355	eP	Pn	23 37 06.6	+2.5
TUMD				eS	Sn	23 37 42.5	+2.9
TUMR	Tumrok	3.17	353	eP	Pn	23 37 09.6	+4.1
ALID	Alaid	3.54	251	eP	Pn	23 37 13.6	+3.0

TEH ***21*** *23:38:45.1, 26°.73N×57°.98E, h5km, ML4.8*
ISCJB ***21*** *23:38:45.9±0.1, 26°.65N±0°.02×57°.98E±0°.02, h10km, mb4.4/111, MS4.1/20, Error ellipse: s-maj=2.7km s-min=2.1km az=19.0*
IDC ***21*** *23:38:45.8±0.6, 26°.74N×57°.96E, h0km, mb4.1/33, mb1 4.2/36, mb1mx4.1/57, mbtmp4.2/36, ML4.1/3, MS4.1/17, Ms1 4.1/17, ms1mx3.8/43, Error ellipse: s-maj=13.4km s-min=11.1km az=153.0*
DSN ***21*** *23:38:46.0±0.5, 26°.34N×58°.27E, h10km, mb4.9/2, ML4.7/10, Error ellipse: s-maj=14.2km s-min=5.0km az=152.0*
NEIC ***21*** *23:38:46.3±0.0, 26°.74N×57°.88E, h6km, mb4.6/64, ML4.7(THR), MN4.8(TEH), After TEH.*
BJI ***21*** *23:38:47.3±0.0, 26°.98N×57°.74E, h14km, mb4.7/27, mB4.8/18, Ms4.6/16, Ms7 4.4/16*
OMAN ***21*** *23:38:47.9±0.4, 26°.57N×57°.99E, h10km, ml4.5/15, ms3.9/2, Error ellipse: s-maj=8.6km s-min=3.2km az=42.0*
MOS ***21*** *23:38:47.7±1.2, 26°.76N×57°.98E, h20km, mb4.6/41, Error ellipse: s-maj=6.8km s-min=4.8km az=91.6*

ISC 21 23:38:47.2±0.3, 26°.69N±0°.03×57°.91E±0°.03, h10km, n380, σ1°98/389, mb4.5/112, MS4.1/20, 19C-13D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	Jask	1.05	187	ePg	Pn	23 39 08.2	+0.2
KHNJ	Kahnooj	1.27	352	eSg	Sb	23 39 27.8	+0.1
NIAN	Nian	1.29	313	ePn	Pb	23 39 11.8	+0.1
NIAN	Nian	1.29	313	ePg	Pb	23 39 11.6	-0.1
NIAN				IAMB	IAmb	23 39 48.8	
	comp=Z,0.0nm,0.8s						
GENO	Geno	1.70	295	ePn	Pb	23 39 18.0	-0.7
GENO	Geno	1.70	295	ePn	Pb	23 39 18.1	-0.7
GENO				IAMB	IAmb	23 39 50.6	
	comp=Z,0.0nm,0.6s						
SHME	Shamm	1.71	249	eP	Pn	23 39 17.7	+0.6
	SNR=75						
SHME				S	Sg	23 39 44.9	+2.8
SHME	Shamm	1.71	249	ePn	Pn	23 39 17.7	+0.6
MSFE	Esma-Masafi	2.05	230	eP	Pn	23 39 20.3	-1.5
	SNR=33						
MSFE	Esma-Masafi	2.05	230	ePn	Pn	23 39 20.7	-1.2
UMQ	Umm Al-Quwin	2.33	241	eP	Pn	23 39 26.1	+0.5
	SNR=24						
UMQ	Umm Al-Quwin	2.33	241	P	Pb	23 39 29.3	0.0
UMQ	Umm Al-Quwin	2.33	241	ePn	Pn	23 39 27.2	+1.6
HATD	Hatta, Dubai	2.45	221	eP	Pn	23 39 24.8	-2.5
	SNR=72						
HATD	Hatta, Dubai	2.45	221	P	Pn	23 39 25.5	-1.8
HATD				S	Sn	23 39 57.2	-0.1
HATD	Hatta, Dubai	2.45	221	ePn	Pn	23 39 25.5	-1.8
CHBR	Chabahar	2.56	115	ePn	Pb	23 39 33.0	-0.2
CHBR	Chabahar	2.56	115	ePn	Pb	23 39 33.1	-0.2
ASHO	Ashiyiah	2.60	220	eP	Pn	23 39 27.9	-1.5
	SNR=37						
ASHO	Ashiyiah	2.60	220	P	Pn	23 39 27.8	-1.5
	SNR=36						
ASHO	Ashiyiah	2.60	220	ePn	Pn	23 39 28.2	-1.2
NAZ	Nazwa, Dubai	2.64	231	eP	Pn	23 39 30.6	+0.8
	SNR=136						
NAZ	Nazwa, Dubai	2.64	231	P	Pn	23 39 31.5	+1.7
NAZ				S	Sn	23 40 02.9	+0.9
NAZ	Nazwa, Dubai	2.64	231	ePn	Pn	23 39 31.4	+1.5
SOHO	SOHO	2.83	206	P	Pn	23 39 30.0	-2.5
	SNR=289						
FAQ	Al Faqa, Dubai	2.84	228	eP	Pn	23 39 33.7	+0.9
	SNR=76						
FAQ	Al Faqa, Dubai	2.84	228	P	Pn	23 39 34.4	+1.6
	SNR=28						
FAQ				S	Sn	23 40 04.5	-2.5
FAQ	Al Faqa, Dubai	2.84	228	ePn	Pn	23 39 34.1	+1.4
ASUD	Al Ashush, Dub	3.10	229	iP	Pn	23 39 37.0	+0.7
	SNR=91						
ASUD	Al Ashush, Dub	3.10	229	P	Pn	23 39 38.2	+2.0
	SNR=91						
ASUD	Al Ashush, Dub	3.10	229	ePn	Pn	23 39 38.2	+2.0
NGRK	Negar Kerman	3.12	341	ePn	Pn	23 39 38.5	+1.6
NGRK	Negar Kerman	3.12	341	ePn	Pn	23 39 38.6	+1.6
NGRK				IAMB	IAmb	23 40 33.6	
	comp=Z,0.0nm,1.4s						
HOQ	Hoqain	3.14	190	P	Pn	23 39 35.4	-1.4
	SNR=37						
HOQ				S	Sn	23 40 13.2	-1.2
HOQ	Hoqain	3.14	190	ePn	Pn	23 39 35.2	-1.6
BIDO	Bidbid	3.16	176	P	Pn	23 39 35.7	-1.4
BIDO				S	Sn	23 40 12.9	-1.9
BIDO	Bidbid	3.16	176	ePn	Pn	23 39 35.9	-1.1
CHMN	Cheshme madani	3.18	354	ePn	Pb	23 39 41.4	-2.7
CHMN	Cheshme madani	3.18	354	ePn	Pn	23 39 40.2	+2.5
CHMN				IAMB	IAmb	23 40 45.1	
	comp=N,0.0nm,1.0s						
ALNE	Al Ain	3.27	217	iP	Pn	23 39 36.6	-1.9
	SNR=42						
ALNE	Al Ain	3.27	217	ePn	Pn	23 39 39.5	+1.0
AJN	Ajban	3.38	232	iP	Pn	23 39 39.4	-0.7
	SNR=12						
AJN	Ajban	3.38	232	P	Pn	23 39 41.6	+1.6
	SNR=12						
AJN				S	Sn	23 40 17.8	-2.4
AJN	Ajban	3.38	232	ePn	Pn	23 39 42.2	+2.1
KRBR	Kerman	3.44	343	ePn	Pn	23 39 42.7	+1.5
TVBK	TV Kerman	3.44	343	ePn	Pn	23 39 43.8	+2.6
TVBK				IAMB	IAmb	23 40 50.9	
	comp=Z,0.0nm,0.6s						
WSAR	Wadi Sarin	3.49	169	P	Pn	23 39 40.8	-0.9
WSAR	Wadi Sarin	3.49	169	Pn	Pn	23 39 40.9	-0.9
	comp=Z,53nm,0.3s,baz=348,slow=6.0,SNR=440						
WSAR				Sn	Sn	23 40 19.6	-3.5
	comp=Z,104nm,0.3s,baz=26,slow=11,SNR=4.4						
SZD1	Zahaedan-tmp	3.82	42	ePn	Pn	23 39 48.8	+2.5
ZHSF	Zahedan	3.86	40	ePn	Pn	23 39 49.0	+2.1
ZHSF	Zahedan	3.86	40	ePn	Pn	23 39 49.8	+2.9
KHGB	Koh Gabri	3.88	341	ePn	Pn	23 39 49.9	+2.6
KHGB				IAMB	IAmb	23 40 57.4	
	comp=Z,0.0nm,1.0s						
BSY	Bisya	3.98	189	P	Pn	23 39 49.3	+1.0
	SNR=59						
WBK	Wadi Bani Khal	4.17	166	P	Pn	23 39 50.6	-0.5
	SNR=13						
WBK				S	Sn	23 40 36.6	-3.3
JHRM	Jahrom	4.25	296	ePn	Pn	23 39 53.5	+1.4
LMD1	Lamerd	4.28	280	ePn	Pn	23 39 56.1	+3.6
JMDO	Jabal Madar	4.30	178	P	Pn	23 39 53.8	+1.0
	SNR=9.4						
JMDO				S	Sn	23 40 42.9	-0.1
GHIR	Ghir-Karzin	4.65	291	ePn	Pn	23 39 58.0	+0.3
GHIR	Ghir-Karzin	4.65	291	ePn	Pn	23 39 58.6	+0.9
BSRN	Basiran	5.37	11	ePn	Pn	23 40 09.9	+2.3
IMEH	Mehriz	5.50	329	ePn	Pn	23 40 11.3	+1.8
SHI	Shiraz	5.60	303	ePn	Pn	23 40 11.4	+0.6
IKOO	Kooshah	5.80	9	ePn	Pn	23 40 14.0	+0.4
IKOO	Kooshah	5.80	9	ePn	Pn	23 40 13.9	+0.4
IKAZ	Kazeroun	6.17	301	ePn	Pn	23 40 17.4	-1.4
ITEG	Tejag	6.23	7	ePn	Pn	23 40 21.3	+1.8
ITEG	Tejag	6.23	7	ePn	Pn	23 40 20.1	+0.6
IDAH	Dahanechah	6.27	15	ePn	Pn	23 40 23.2	+3.2
ICHK	Chekchek	6.32	332	ePn	Pn	23 40 22.4	+1.6
TKDS	Koohdasht(Taba	6.94	355	ePn	Pn	23 40 31.5	+2.4
IRAM	Ramesheh	7.02	318	ePn	Pn	23 40 30.9	+0.5
TNSJ	Nastanj	7.34	352	ePn	Pn	23 40 38.1	+3.5
IGAR	Gharneh	7.65	320	ePn	Pn	23 40 40.8	+1.8
IZEF	Zefreh	7.86	323	ePn	Pn	23 40 42.1	+0.2
ZNGN	Zangian	8.19	313	ePn	Pn	23 40 47.4	+0.9
ROKH	ROKH	8.22	315	ePn	Pn	23 40 47.6	+0.7
JHBN	Jahan bin	8.39	313	ePn	Pn	23 40 49.8	+0.6
IPIR	Pirpir	8.54	316	ePn	Pn	23 40 51.7	+0.4
IKLH	Kolahrood	8.59	322	ePn	Pn	23 40 54.1	+2.2
KRSH	Karshahi	8.80	327	ePn	Pn	23 40 56.5	+1.7
ISFB	Sefidab	9.07	329	ePn	Pn	23 40 59.0	+0.7
DMTO	DMTO	9.34	198	P	Pn	23 40 59.2	-2.7
	SNR=39						
JRKH	Jarkhoshk	9.43	12	ePn	Pn	23 41 06.5	+3.2
IMOG	Moghan	9.47	7	ePn	Pn	23 41 08.0	+4.0
SBZV	Sabzevar	9.68	359	ePn	Pn	23 41 10.9	+4.1
IPAY	Payeh	9.78	5	ePn	Pn	23 41 10.3	+2.1
IMYA	Miami	9.81	10	ePn	Pn	23 41 11.9	+3.4
ISHM	Shahmirzad	9.91	338	ePn	Pn	23 41 12.8	+2.8
IAKL	Akhelmad	9.91	4	ePn	Pn	23 41 11.8	+1.7
IKRD	Kardeh	10.07	3	ePn	Pn	23 41 17.6	+5.4
ABTO	Aybut	10.22	206	P	Pn	23 41 12.3	-1.8
	SNR=5.8						
IALA	Alasht	10.33	336	ePn	Pn	23 41 18.2	+2.4
ISFR	Sfrayin	10.34	0	ePn	Pn	23 41 18.4	+2.5
IKMR	Kamar-syah	10.69	312	ePn	Pn	23 41 21.1	+0.6
IDOB	Doab	10.99	312	ePn	Pn	23 41 23.7	-1.1
IKFM	Kafar-mosalman	11.05	310	ePn	Pn	23 41 24.7	-0.7
GEYT	Alibeck	11.21	1	ePn	Pn	23 41 27.9	+0.2
GEYT				Lg	Lg	23 44 45.4	
GEYT	Alibeck	11.21	1	Pn	Pn	23 41 27.5	-0.1
	comp=Z,0.3nm,0.3s,baz=178,slow=13,SNR=3.5						
GEYT				Lg	Lg	23 44 45.4	
	comp=Z,0.2nm,0.3s,baz=201,slow=31,SNR=2.8						
GEYT				LR	LR	23 46 42.3	
	comp=Z,636nm,21.9s,baz=185,slow=43						
GYA0B	ALIBECK ARRAY	11.21	1	ePn	Pn	23 41 30.5	+2.9
IBZA	Bozab	11.62	314	ePn	Pn	23 41 33.6	+0.2
IKOM	Komasi	11.66	312	ePn	Pn	23 41 32.9	-1.0
KCHF	Cheshme Sefid,	12.04	312	ePn	Pn	23 41 41.0	+1.9
IVIS	Veis	12.31	312	ePn	Pn	23 41 40.2	-2.6
KBL	Kabul	12.37	48	ePn	Pn	23 41 45.9	+2.2
KBL	Kabul	12.37	48	eP	Pn	23 41 45.9	+2.2
IDHR	Dehrash	12.72	312	ePn	Pn	23 41 46.1	-2.4
THW	Thamme Wali	13.47	60	P	Pn	23 41 56.0	-2.5
CEP	Cherat	14.03	56	P	Pn	23 42 05.3	-1.0
NIL	Nilore	14.97	59	ePn	Pn	23 42 17.3	-1.7
NIL	Nilore	14.97	59	eP	Pn	23 42 17.3	-1.7
CHCP	Chirah Chowk	14.98	59	P	Pn	23 42 16.9	-2.2
CHGR	Chuyangaron	15.22	36	ePn	Pn	23 42 20.7	-1.7
	comp=Z,56nm,1.2s						
GAR	Garm	16.09	37	ePn	Pn	23 42 32.7	-1.0
	comp=Z,43nm,1.0s						
GAR	Garm	16.09	37	eP	Pn	23 42 32.7	-1.0
GAR				pmax	pmax		
	comp=Z,43nm,1.0s						
BTK	Batken	17.12	36	ePn	Pn	23 42 44.8	-2.0
	comp=Z,31nm,0.8s						
BTK	Batken	17.12	36	eP	Pn	23 42 44.8	-2.0
BTK				pmax	pmax		
	comp=Z,31nm,0.8s						
GNI	Garni	17.32	324	ePn	Pn	23 42 45.6	-3.8
	comp=Z,23nm,1.0s						
GNI	Garni	17.32	324	ceP	P	23 42 52.7	+1.9
GNI				pmax	pmax		
	comp=Z,152nm,1.7s						
GNI	Garni	17.32	324	P	Pn	23 42 45.5	-3.8
	comp=Z,0.8nm,0.3s,baz=24,slow=3.5,SNR=6.5						
GNI				LR	LR	23 50 43.0	
	comp=Z,742nm,18.7s,baz=112,slow=41						
DAMY	Dhamar	17.45	229	ePn	Pn	23 42 49.4	-1.8
	comp=Z,33nm,0.8s						
DAMY				eSn	Sn	23 45 54.8	-11
MAK	Makhachkala	18.32	335	ciP	P	23 43 02.5	+1.0
MAK				eS	S	23 46 28.5	-2.4
MAK				pmax	pmax		
	comp=Z,49nm,0.6s						
MAK				MLR	MLR		
	comp=Z,403nm,18.0s						
TBLG	Delisi	18.51	328	eP	P	23 43 02.5	-1.1
	comp=Z,9.5nm,1.1s						
TBLG	Delisi	18.51	328	eP	P	23 43 02.5	-1.1
TBLG				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AKH	Akhalkalaki	18.89	325	eP	Pn	23 43 09.0	+0.4
	comp=Z,7.2nm,1.0s						
AKH				eSn	Sn	23 46 35.5	-4.7
ASF	Jabal al Asfar	19.09	292	P	Pn	23 43 11.0	0.0
	comp=Z,17nm,1.1s						
ASF	Jabal al Asfar	19.09	292	P	P	23 43 08.6	-1.6
	comp=Z,0.8nm,0.3s,baz=66,slow=6.3,SNR=16						
ASF				S	Sn	23 46 32.1	-13
	comp=Z,0.2nm,0.3s,baz=234,slow=18,SNR=3.8						
ASF				LR	LR	23 52 23.7	
	comp=Z,242nm,20.4s,baz=58,slow=43						
ARSB	Arslanbob	19.18	37	eP	P	23 43 09.9	-1.2
	comp=Z,35nm,0.9s						
ARSB				eSn	Sn	23 46 40.5	-6.5
ARSB				ePcP	PcP	23 47 26.0	-8.8
GROC	Groznyy	19.20	332	eP	P	23 43 11.4	+0.2
GROC				pmax	pmax		
	comp=Z,26nm,1.2s						
KK31	Karatay Array	19.33	29	eP	P	23 43 12.9	+0.2
	comp=Z,18nm,0.9s						
KK31	Karatay Array	19.33	29	eP	P	23 43 12.9	+0.2
KK31				pmax	pmax		
	comp=Z,18nm,0.9s						
KKAR	Karatay Array	19.33	29	eP	P	23 43 13.0	+0.3
	comp=Z,18nm,0.9s						
KKAR	Karatay Array	19.33	29	eP	P	23 43 13.0	+0.3
KKAR				pmax	pmax		
	comp=Z,18nm,0.9s						
SWQJ	Swaqa	19.64	289	P	Pn	23 43 18.5	+0.9
	comp=Z,84nm,1.5s						
ZEI	Tsey	19.72	328	eP	Pn	23 43 19.9	+1.4
ZEI				pmax	pmax		
	comp=Z,16nm,1.0s						
TOTH	TOTAH	19.73	295	eP	Pn	23 43 22.2	+3.5
KSH	Kashi	19.77	45	P	P	23 43 11.8	-5.9
KSH				PP	PnPn	23 43 29.8	-3.1
KSH				S	S	23 46 44.5	-16
KSH				SS	SnSn	23 47 10.3	-5.5
KSH				pmax	pmax		
	comp=Z,64nm,1.1s						
KSH				pmax	pmax		
	comp=Z,330nm,4.1s						
KSH				LR	LR		
	comp=Z,640nm,10.3s						
KSH				LR	LR		
	comp=Z,680nm,9.8s						
KSH				LR	LR		
	comp=Z,1μm,13.0s						
WALJ	Wala	19.89	289	P	Pn	23 43 22.3	+1.8
	comp=Z,56nm,0.9s						
QASN	Qassioun	19.90	295	eP	P	23 43 12.9	-6.2
JDRJ	Daraweish	19.91	287	P	P	23 43 20.0	+0.7
	comp=Z,80nm,0.9s						
BCA	Borcka	19.92	322	⇓iP	Pn	23 43 23.3	+2.5
BATM	Batumi	19.99	322	⇑iP	Pn	23 43 28.6	+7.1
GHAJ	Ghor Haditha	20.07	289	P	P	23 43 21.3	+0.6
	comp=Z,59nm,1.2s						
AML	Almayashu	20.12	36	P	P	23 43 21.2	-0.6
	SNR=26						
BRBR	Barbar	20.13	295	eP	Pn	23 43 26.2	+2.6
SHMJ	Saham	20.14	293	P	Pn	23 43 25.4	+2.0
	comp=Z,66nm,1.3s						
AQBJ	Aqaba	20.36	284	P	Pn	23 43 28.3	+2.2
	comp=Z,80nm,0.8s						
NCK	Nalchik	20.40	329	⇑eP	Pn	23 43 28.1	+1.6
NCK				pmax	pmax		
	comp=Z,15nm,0.9s						
EIL	Elat	20.45	284	P	P	23 43 25.7	+0.8
	comp=Z,61nm,1.0s,baz=95,slow=3.8,SNR=40						
EIL				LR	LR	23 53 05.4	
	comp=Z,480nm,19.2s,baz=94,slow=42						
MMAI	Mount Meron Ar	20.49	293	P	Pn	23 43 27.1	-0.6
	comp=Z,23nm,1.1s,baz=356,slow=6.5,SNR=13						
MMAI				S	S	23 47 06.1	-8.8
	comp=Z,0.7nm,0.6s,baz=119,slow=18,SNR=2.7						
MMAI				LR	LR	23 53 29.0	
	comp=Z,496nm,18.2s,baz=105,slow=43						
EKS2	Erkin-Say	20.54	35	P	P	23 43 26.3	+0.3
	SNR=44						
UCH	Uchtor	20.63	37	P	P	23 43 26.5	-0.8
	SNR=27						
NEY	Neytrino	20.63	327	⇓eP	Pn	23 43 31.6	+2.3
NEY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AMAZ	Amatzia	20.65	289	P	Pn	23 43 29.8	+0.4
	comp=Z,86nm,1.1s						
ATD	Arta Tunnel	20.70	226	P	Pn	23 43 29.1	-1.0
	comp=Z,23nm,1.1s,baz=356,slow=6.5,SNR=13						
ATD				LR	LR	23 52

comp=Z,7.0nm,0.6s,baz=178,slow=10,SNR=19
AKTO LR LR 23 53 49.4
comp=Z,504nm,21.2s,baz=159,slow=38
BR101 Keskin Array S 24.02 309 *e*P **P 23 44 03.4 +0.9**
BR131 Keskin Array S 24.02 309 *e*P **P 23 44 03.1 +0.6**
comp=Z,24nm,1.1s
BRTR Keskin Array B 24.02 309 *e*P **P 23 44 02.1 -0.4**
BRTR Keskin Array B 24.02 309 P **P 23 44 03.4 +0.9**
comp=Z,5.8nm,0.8s,baz=128,slow=4.8,SNR=22
SNOP Sinop 24.09 315 *e*P **P 23 44 03.4 +0.5**
comp=Z,22nm,1.0s
ANN Anapa 24.44 323 *e*P **P 23 44 06.2 +0.1**
ANN *e*S **S 23 48 30.3 +4.4**
ANN pmax pmax
comp=Z,32nm,1.6s
ANN MLR MLR
comp=Z,685nm,23.0s
ILGA Ilgaz 24.57 312 *e*P **P 23 44 07.7 +0.1**
comp=Z,11nm,0.8s
ANTO Ankara 24.67 309 *e*P **P 23 44 09.4 +1.0**
comp=Z,13nm,0.7s
ANTO Ankara 24.67 309 *e*P **P 23 44 09.4 +1.0**
ANTO pmax pmax
comp=Z,13nm,0.7s
BR231 Keskin MP Arra 24.68 308 *e*P **P 23 44 09.8 +1.4**
comp=Z,18nm,1.1s
BZK Bozkurt 24.82 314⇑ *i*P **P 23 44 16.1 +6.5**
FURI Furi 25.39 229 *e*P **P 23 44 17.8 +2.4**
comp=Z,8.2nm,0.8s
ISP Isparta 25.59 303 *e*P **P 23 44 15.9 -0.9**
comp=Z,16nm,0.8s
ISP Isparta 25.59 303 *e*P **P 23 44 15.9 -0.9**
ISP pmax pmax
comp=Z,16nm,0.8s
MDUB Mudurnu 26.04 309 *e*P **P 23 44 22.4 +1.6**
comp=Z,126nm,1.1s
SIM Simferopol' 26.38 320 *de*P **P 23 44 25.6 +1.9**
SIM *e**PP **sP 23 44 31.0 +2.5**
SIM S **S 23 48 58.0 +1.1**
SIM pmax pmax
comp=Z,15nm,0.9s
MANT Manisa 27.27 303 *e*P **P 23 44 32.7 +0.7**
comp=Z,26nm,1.0s
VRH Novokhopyorsk 27.41 338 *e*P **P 23 44 35.9 +3.1**
VRH pmax pmax
comp=Z,20nm,1.7s
MAKZ Makanchi 27.66 37 *e*P **P 23 44 36.2 +1.0**
comp=Z,17nm,1.1s
KARP Karpathos 27.68 296 *e*P **P 23 44 36.6 +1.1**
comp=Z,28nm,0.9s
MK31 Makanchi Array 27.82 37 *e*P **P 23 44 38.1 +1.5**
MK31 *e*PcP **PcP 23 47 47.8 -4.8**
MK32 Makanchi Array 27.82 37 *e*P **P 23 44 36.6 0.0**
MKAR Makanchi Array 27.82 37 P **P 23 44 36.6 0.0**
MKAR Makanchi Array 27.82 37 P **P 23 44 36.6 0.0**
comp=Z,0.8nm,0.6s,baz=226,slow=8.3,SNR=15
BVAR Borovoye Array 27.91 16 P **P 23 44 36.1 -1.3**
comp=Z,5.1nm,1.0s,baz=200,slow=7.9,SNR=19
BRVK Borovoye 27.92 16 *e*P **P 23 44 36.2 -1.2**
comp=Z,6.2nm,0.7s
BRVK Borovoye 27.92 16⇑ *e*P **P 23 44 38.6 +1.2**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
VORD Divnogorie 28.09 335 *e*P **P 23 44 39.0 0.0**
VORD pmax pmax
comp=Z,3.0nm,0.6s
BALB Balikesir 28.12 305 *e*P **P 23 44 41.0 +1.6**
comp=Z,47nm,1.2s
VSR Storozhevoye 28.34 335 *e*P **P 23 44 41.9 +0.7**
VSR pmax pmax
comp=Z,4.0nm,0.6s
KURBB Kurchatov Arra 28.63 28 P **P 23 44 42.6 -1.2**
comp=Z,2.6nm,0.8s,baz=226,slow=8.6,SNR=21
KURK Kurchatov 28.74 28 *e*P **P 23 44 44.4 -0.3**
comp=Z,5.0nm,0.8s
KURK Kurchatov 28.74 28 *de*P **P 23 44 46.3 +1.6**
KURK pmax pmax
comp=Z,6.0nm,1.3s
IDI Anoyia 29.47 295 P **P 23 44 51.4 -0.1**
comp=Z,3.8nm,0.6s,baz=106,slow=11,SNR=12
WMQ Urumqi 29.51 47 *e*P **P 23 44 52.6 +0.8**
WMQ pP sP 23 44 59.8 +3.1
WMQ sP pP 23 45 03.4 +8.2
WMQ S **S 23 49 47.9 +1.4**
WMQ ScS **ScS 23 55 32.8 -0.8**
WMQ pmax pmax
comp=Z,46nm,1.1s
WMQ pmax pmax
comp=Z,220nm,3.6s
WMQ LR LR
comp=Z,2μm,16.1s
WMQ LR LR
comp=Z,1μm,15.3s
WMQ LR LR
comp=Z,2μm,19.5s
WMQ Urumqi 29.51 47 *e*P **P 23 44 51.7 -0.1**
comp=Z,12nm,0.8s
WMQ Urumqi 29.51 47 *e*P **P 23 44 51.7 -0.1**
WMQ pmax pmax
comp=Z,12nm,0.8s
MLR Muntele Rosu 31.63 315 *e*P **P 23 45 10.1 -0.5**
comp=Z,3.2nm,0.9s
MLR Muntele Rosu 31.63 315 *e*P **P 23 45 10.1 -0.5**
MLR pmax pmax
comp=Z,3.0nm,0.9s
TESR Tescani 31.65 317⇓ *i*P **P 23 45 13.5 +2.9**
HUMR Humele 31.86 313⇑ *i*P **P 23 45 15.3 +2.8**
ITM Ithomi 32.11 298 *e*P **P 23 45 15.3 +0.5**
comp=Z,5.2nm,0.7s
VOIR 32.18 314⇑ *i*P **P 23 45 18.7 +3.3**
DGZ Jazzator, Alta 32.31 37 *de*P **P 23 45 18.2 +1.7**
DGZ pmax pmax
comp=Z,4.0nm,1.5s
VTS Vitosha 32.38 308 *e*P **P 23 45 17.0 -0.2**
comp=Z,4.3nm,1.0s
OBN Obninsk 32.39 337⇓ *i*P **P 23 45 17.9 +1.0**
OBN *i* *SP **sP 23 45 21.7 -0.1**
OBN *e* 23 45 28.8
OBN *e*PPP PPP 23 46 29.2
OBN *e*S **S 23 50 36.4 +5.4**
OBN *e*SSS SSS 23 52 41.1
OBN pmax pmax
comp=Z,21nm,1.7s
AKASG Malin Array Be 32.45 325 *e*P **P 23 45 16.7 -0.8**
AKASG Malin Array Be 32.45 325 *ce*P **P 23 45 18.2 +0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 32.45 325 P **P 23 45 17.6 +0.1**
comp=Z,1.1nm,0.4s,baz=125,slow=8.1,SNR=6.9
AKBB Malin Array Si 32.45 325 *e*P **P 23 45 16.4 -1.1**
comp=Z,8.2nm,1.0s
AKBB Malin Array Si 32.45 325 *e*P **P 23 45 16.4 -1.1**
KIEV Kiev 32.45 325 *e*P **P 23 45 16.5 -1.1**
comp=Z,8.1nm,1.0s
KIEV Kiev 32.45 325⇑ *i*P **P 23 45 19.9 +2.4**
KIEV Kiev 32.45 325⇓ *e*P **P 23 45 18.5 +1.0**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
LOT Lotru 33.01 314⇓ *i*P **P 23 45 25.1 +2.4**
BURAR Bucovina Array 33.03 318 *e*P **P 23 45 23.2 +0.4**
BURAR Bucovina Array 33.03 318⇓ *i*P **P 23 45 27.0 +4.2**
BUR08 Bucovina Ar. S 33.05 318 *e*P **P 23 45 20.6 -2.4**
comp=Z,1.8nm,1.0s
FNA Florina 33.22 304 *e*P **P 23 45 25.1 +0.6**
comp=Z,13nm,1.0s
FNA Florina 33.22 304 *e*P **P 23 45 25.1 +0.6**
FNA pmax pmax
comp=Z,13nm,1.0s
GZR Gura Zlata 33.64 313⇑ *i*P **P 23 45 29.7 +1.6**
NVS Novosibirsk 33.68 27⇓ *i*P **P 23 45 29.5 +1.3**
NVS *e* 23 50 53.7
NVS pmax pmax
comp=Z,17nm,1.5s
NVS pmax pmax
comp=N,7.0nm,1.4s
NVS pmax pmax
comp=E,2.0nm,0.7s
ZAA0 Zalesovo Array 33.71 29 *e*P **P 23 45 27.4 -1.1**
comp=E,6.7nm,0.8s
ZALV Zalesovo Beam 33.71 29 *e*P **P 23 45 27.8 -0.7**
ZALV Zalesovo Beam 33.71 29 P **P 23 45 27.1 -1.4**
comp=E,1.9nm,0.3s,baz=240,slow=11,SNR=19
ZAA1 Zalesovo Array 33.71 29 *e*P **P 23 45 27.1 -1.4**
KMBO Kilima Mbogo 34.08 219 P **P 23 45 34.1 +1.8**
comp=E,2.3nm,0.8s,baz=37,slow=11,SNR=6.8

KMBO LR LR 00 00 16.1
comp=E,374nm,20.5s,baz=251,slow=38
MDVR Moldovita 34.13 311⇑ *i*P **P 23 45 33.0 +0.7**
DRGR 34.22 315⇑ *i*P **P 23 45 36.4 +3.3**
BZS Buzias 34.48 313⇑ *i*P **P 23 45 36.8 +1.5**
SIRR Siria 34.69 314⇑ *i*P **P 23 45 40.0 +2.9**
KOLS Kolonicke sedl 35.38 318 *e*P **P 23 45 46.0 +3.0**
KOLS Kolonicke sedl 35.38 318 *e*P **P 23 45 46.0 +3.0**
KWP Kalwaria Pacla 35.44 320 *e*P **P 23 45 44.7 +1.1**
KWP Kalwaria Pacla 35.44 320 *e*P **P 23 45 44.6 +1.1**
comp=E,120nm,1.1s
KWP Kalwaria Pacla 35.44 320 *e*P **P 23 45 44.6 +1.1**
KWP pmax pmax
comp=Z,120nm,1.1s
KLMR Klimovskoe 36.38 345 *e*P **P 23 45 52.5 +1.1**
KLMR pmax pmax
comp=Z,19nm,1.4s
TIP Timpagrande 36.42 301 *e*P **P 23 45 52.3 +0.1**
comp=Z,10nm,1.0s
TIP Timpagrande 36.42 301⇑ *i*P **P 23 45 55.0 +2.8**
GTA Gaotai 37.03 59 *e*P **P 23 46 00.1 +2.6**
GTA pP sP 23 46 04.3 +2.0
GTA sP pP 23 46 07.4 +6.5
GTA pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 37.29 316 *e*P **P 23 46 02.1 +2.7**
VYHS Vyhne 37.29 316 *e*P **P 23 46 02.1 +2.7**
OJC Ojcow 37.39 319 *e*P **P 23 46 00.9 +0.8**
OJC Ojcow 37.39 319 *e*P **P 23 46 00.7 +0.6**
comp=Z,4.6nm,0.7s
OJC Ojcow 37.39 319 *e*P **P 23 46 00.7 +0.6**
OJC pmax pmax
comp=Z,5.0nm,0.7s
JAVC Velka Javorina 38.14 316 *e*P **P 23 46 05.9 -0.7**
MORC Moravsky Berou 38.55 318 *e*P **P 23 46 10.3 +0.2**
CMAR Chiang Mai Arr 38.63 94 *i*P **P 23 46 11.3 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 38.63 94 LR LR 00 03 58.4
comp=Z,310nm,21.3s,baz=260,slow=39
VRAC Vranov 38.96 317 *e*P **P 23 46 14.0 +0.5**
CONA Conrad Observa 38.98 314 *e*P **P 23 46 16.1 +2.4**
comp=Z,6.6nm,1.2s
ARSA Arzberg 38.99 313 *e*P **P 23 46 16.5 +2.7**
comp=Z,7.8nm,1.1s
KRUC Moravsky 39.00 316 *e*P **P 23 46 14.1 +0.3**
SOKA Soboth 39.16 312 P **P 23 46 17.5 +2.3**
comp=Z,6.4nm,1.3s
DPC Dobruska-Polom 39.49 318 *e*P **P 23 46 22.6 +4.7**
DPC Dobruska-Polom 39.49 318 *e*P **P 23 46 22.6 +4.7**
TREC Trest 39.64 316 *e*P **P 23 46 22.6 +3.5**
TREC Trest 39.64 316 *e*P **P 23 46 22.6 +3.5**
MOA Molln 39.98 314 *e*P **P 23 46 24.3 +2.3**
comp=Z,9.8nm,1.3s
LZH Lanzhou 40.01 65 *e*P **P 23 46 26.3 +3.7**
LZH pP sP 23 46 29.3 +1.9
LZH sP pP 23 46 31.5 +5.4
LZH pmax pmax
comp=Z,14nm,1.0s
CD2 Chengdu 40.19 73 *e*P **P 23 46 23.8 -0.2**
KMI Kunming 40.20 82 P **P 23 46 26.1 +1.7**
KMI pmax pmax
comp=Z,6.0nm,0.7s
KBA Koelnbreinsper 40.38 312 *e*P **P 23 46 27.9 +2.4**
comp=Z,13nm,1.1s
GEC2 GERESS Array S 40.62 315 *e*P **P 23 46 27.6 +0.2**
comp=Z,3.6nm,0.9s
GEC2 GERESS Array S 40.62 315 *e*P **P 23 46 27.6 +0.2**
GEC2 pmax pmax
comp=Z,4.0nm,0.9s
GERES GERESS Array B 40.62 315 P **P 23 46 28.5 +1.1**
comp=Z,1.7nm,0.9s,baz=108,slow=8.6,SNR=13
KHC Kasperske Hory 40.78 315 *e*P **P 23 46 28.6 0.0**
comp=Z,5.2nm,1.1s
KHC *e*PP **PP 23 47 55.1 -7.4**
KHC Kasperske Hory 40.78 315 *e*P **P 23 46 28.6 0.0**
KHC pmax pmax
comp=Z,5.0nm,1.1s
KHC Kasperske Hory 40.78 315 *e*P **P 23 46 29.6 +1.0**
KHC *ex* x 23 46 43.6
FIA0 FINESS Array S 40.80 337 *e*P **P 23 46 29.0 +0.5**
FIA0 FINESS Array S 40.80 337 *e*P **P 23 46 29.0 +0.5**
FINES FINESS Array B 40.80 337 P **P 23 46 29.0 +0.5**
FINES FINESS Array B 40.80 337 P **P 23 46 29.0 +0.5**
comp=Z,2.1nm,0.6s,baz=129,slow=11,SNR=13
ABTA Abfaltersbach 40.86 312 *e*P **P 23 46 30.7 +1.4**
comp=Z,14nm,1.1s,SNR=5.9
BRG Berggiesshubel 41.10 318 *e*P P 23 46 36.3 +5.1
comp=Z,3.6nm,0.9s
BRG Berggiesshubel 41.10 318 *e*P P 23 46 36.3 +5.2
BRG pmax pmax
comp=Z,4.0nm,1.0s
WTTA Wattenberg 41.56 312 P **P 23 46 37.0 +1.8**
comp=Z,27nm,1.3s,SNR=5.9
WATA Walderalm 41.61 312 *e*P **P 23 46 37.1 +1.5**
comp=Z,14nm,1.0s
CLL Collm 41.80 318 *e*P **P 23 46 37.4 +0.5**
comp=Z,3.8nm,0.8s
CLL Collm 41.80 318 *e*P **P 23 46 37.4 +0.5**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 41.80 318 *e*P **P 23 46 38.0 +1.1**
CLL *e* 23 46 42.0
CLL *e* 23 47 06.0
SQTA Sankt Quirin 41.83 312 *e*P **P 23 46 38.8 +1.5**
comp=Z,14nm,1.1s,SNR=5.3
MOTA Moosalm 41.93 312 *e*pP **P 23 46 38.3 +0.1**
comp=Z,15nm,1.1s,SNR=7.8
FETA Feichten 42.11 312 *e*P **P 23 46 40.7 +1.0**
comp=Z,20nm,1.0s,SNR=8.2
RETA Reutte 42.19 312 P **P 23 46 41.1 +0.9**
comp=Z,5.7nm,0.9s
FUORN Ofenpass-Fuorn 42.34 311 *e*P **P 23 46 39.0 -2.7**
comp=Z,6.3nm,0.8s
DAVA Damuels 42.73 312 *e*P **P 23 46 45.7 +0.9**
comp=Z,15nm,0.6s,SNR=8.2
SONA0 Songino Array 43.15 48 *e*P **P 23 46 47.6 -0.5**
SONM Songino Array 43.15 48 *e*P **P 23 46 48.5 +0.4**
SONM Songino Array 43.15 48 P **P 23 46 47.6 -0.5**
comp=Z,1.1nm,0.6s,baz=255,slow=10.0,SNR=7.4
ULN Ulaanbaatar 43.59 48 *e*P **P 23 46 53.2 +1.5**
comp=Z,3.4nm,0.9s
ULN Ulaanbaatar 43.59 48 *e*P **P 23 46 53.2 +1.5**
ULN pmax pmax
comp=Z,3.0nm,0.9s
XAN Xi'an 44.25 68 *e*P **P 23 46 59.7 +2.6**
comp=Z,7.2nm,0.9s
XAN Xi'an 44.25 68 *e*P **P 23 46 59.7 +2.6**
XAN pmax pmax
comp=Z,7.0nm,0.9s
BNI Bardonecchia 44.58 308 *e*P **P 23 47 00.1 +0.5**
comp=Z,12nm,1.1s
BNI Bardonecchia 44.58 308 *e*P **P 23 47 00.2 +0.5**
BNI pmax pmax
comp=Z,12nm,1.1s
ECH Echery 44.71 313 *e*P **P 23 47 01.6 +1.1**
comp=Z,8.3nm,1.1s
ECH Echery 44.71 313 *e*P **P 23 47 01.6 +1.1**
ECH pmax pmax
comp=Z,8.0nm,1.1s
NRIK Noril'sk 46.09 14 P **P 23 47 09.8 -1.3**
comp=Z,3.7nm,0.8s,baz=208,slow=4.9,SNR=7.1
NRIK LR LR 00 09 49.4
comp=Z,433nm,18.1s,baz=348,slow=40
SSB Saint Sauveur 46.11 308 *e*P **P 23 47 11.4 -0.3**
comp=Z,7.1nm,0.9s
SSB Saint Sauveur 46.11 308 *e*P **P 23 47 11.4 -0.3**
SSB pmax pmax
comp=Z,7.0nm,0.9s
HHC Hu-ho-hao-te 46.11 58 *e*P **P 23 47 13.0 +1.2**
HHC pmax pmax
comp=Z,69nm,0.9s
HHC pmax pmax
comp=Z,200nm,4.3s
HHC LR LR
comp=Z,560nm,12.4s
HHC LR LR
comp=Z,460nm,13.4s
HHC LR LR
comp=Z,570nm,13.5s
NB2 NORSAR Subarra 46.46 331 P **P 23 47 14.9 +0.7**
comp=Z,3.5nm,1.1s,baz=114,slow=7.9
NB200 NORSAR Array S 46.46 331 *e*P **P 23 47 13.9 -0.2**
NOA NORSAR Array B 46.46 331 P **P 23 47 13.9 -0.2**
comp=Z,1.4nm,1.0s,baz=120,slow=7.6,SNR=3.2

NOA LR LR 00 09 43.3
comp=Z,177nm,20.7s,baz=255,slow=40
ARCES ARCESS Array B 46.86 345 P **P 23 47 16.3 -0.9**
comp=Z,1.1nm,0.6s,baz=138,slow=7.5,SNR=8.9
TAM Tamanrasset 47.47 277 *e*P **P 23 47 22.7 0.0**
comp=Z,6.5nm,1.0s
TAM Tamanrasset 47.47 277 *e*P **P 23 47 22.7 0.0**
TAM pmax pmax
comp=Z,7.0nm,1.0s
BOD Bodaibo 49.88 36 *e*P **P 23 47 39.8 -0.8**
BOD pmax pmax
comp=Z,12nm,1.5s
ESDC Sonseca Array 52.44 301 P **P 23 48 00.1 -0.1**
comp=Z,0.6nm,0.5s,baz=69,slow=7.3,SNR=7.8
NJ2 Nanjing 52.78 69 *e*P **P 23 48 04.5 +1.7**
NJ2 pmax pmax
comp=Z,19nm,0.6s
TOA0 Torodi Ar. Sit 54.15 267 *e*P **P 23 48 13.8 +0.8**
comp=Z,11nm,0.8s
TOA1 Torodi Ar. Sit 54.15 267 *e*P **P 23 48 11.7 -1.3**
TORD Torodi Ar. Bea 54.15 267 P **P 23 48 11.7 -1.3**
comp=Z,2.6nm,0.6s,baz=60,slow=7.7,SNR=23
PBRG Braganca 54.33 304 *e*P **P 23 48 17.1 +3.0**
comp=Z,20nm,1.7s
MVO Moncorvo 54.62 303 *e*P **P 23 48 13.9 -2.3**
comp=Z,20nm,1.5s
POLO Lamas de Olo 55.16 303 A A 23 48 31.0
comp=Z,16nm,1.3s
TIXI Tiksi 58.93 20⇑ *e*P **P 23 48 46.6 +0.4**
TIXI pmax pmax
comp=Z,7.0nm,2.4s
KS15 Wonju Array Si 59.05 61 *e*P **P 23 48 48.6 +1.0**
comp=Z,6.6nm,1.1s
KSAR Wonju Array Be 59.05 61 *e*P **P 23 48 49.2 +1.6**
KSAR Wonju Array Be 59.05 61 *e*P **P 23 48 49.2 +1.6**
KSRS Korea Array 59.08 61 P **P 23 48 48.6 +0.8**
comp=Z,1.8nm,0.7s,baz=273,slow=6.5,SNR=5.7
KLR Kul'dur 59.97 47 P **P 23 48 53.5 -0.2**
comp=Z,2.0nm,0.8s,baz=265,slow=11,SNR=2.4
UGM Wanagama 61.51 116 *e*P **P 23 49 05.8 +1.0**
comp=Z,60nm,1.1s
BOSA Boshof 63.29 212 P **P 23 49 17.6 +1.1**
comp=Z,1.7nm,0.7s,baz=39,slow=6.0,SNR=5.7
BOSA LR LR 00 20 36.8
comp=Z,169nm,18.1s,baz=2.5,slow=40
SUMG Summit 66.67 341 *e*P **P 23 49 39.2 +1.0**
comp=Z,4.7nm,0.7s
SUMG Summit 66.67 341 *e*P **P 23 49 39.2 +1.0**
SUMG pmax pmax
comp=Z,5.0nm,0.7s
MAJO Matsushiro 67.28 59 *e*P **P 23 49 43.6 +1.3**
MAJO Matsushiro 67.28 59 *e*P **P 23 49 43.7 +1.3**
MJAR Matsushiro Arr 67.28 59 P **P 23 49 43.6 +1.3**
comp=Z,0.4nm,0.4s,baz=280,slow=7.3,SNR=2.8
SEY Seymchan 68.58 29 P **P 23 49 49.4 -0.5**
comp=Z,3.6nm,0.6s,baz=278,slow=7.4,SNR=11
BILL Bilibino 72.07 22⇓ *e*P **P 23 50 13.3 +2.0**
BILL *e* 23 50 31.0
BILL *e* 23 52 53.7
BILL pmax pmax
comp=Z,11nm,1.9s
BILL MLR MLR
comp=Z,269nm,16.0s
FRB Frobisher Bay 80.58 339 P **P 23 50 59.8 +0.2**
comp=Z,3.5nm,1.0s,baz=77,slow=5.3,SNR=3.5
TOLK Toolik Lake Re 82.83 10 *e*P **P 23 51 12.9 +1.4**
comp=Z,6.6nm,1.0s
IMAR Indian Mountai 84.50 12 *e*P **P 23 51 20.1 0.0**
INK Inuvik 84.92 4 *e*P **P 23 51 23.2 +1.1**
comp=Z,2.6nm,1.1s
INK Inuvik 84.92 4 *e*P **P 23 51 23.2 +1.1**
INK pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 84.92 4 P **P 23 51 23.2 +1.1**
baz=220,slow=9.3
SCHQ Schefferville 86.02 332 LR LR 00 32 34.2
comp=Z,74nm,19.1s,baz=2.5,slow=38
MDM Murphy Dome 86.42 11 *e*P **P 23 51 30.5 +0.8**
comp=Z,7.6nm,1.0s
BPAW Bear Paw Mtn. 86.72 12 *e*P **P 23 51 32.5 +1.3**
comp=Z,12nm,1.1s
ILAR Eielson Array 86.82 10 *e*P **P 23 51 30.2 -1.4**
ILAR Eielson Array 86.82 10 *e*P **P 23 51 30.3 -1.4**
ILAR Eielson Array 86.82 10 P **P 23 51 32.5 +0.9**
comp=Z,0.6nm,0.7s,baz=304,slow=3.6,SNR=6.3
ILAR LR LR 00 36 10.8
comp=Z,97nm,19.5s,baz=341,slow=40
ILB Eielson Array 86.82 10 *e*P **P 23 51 32.5 +0.9**
comp=Z,1.9nm,1.0s
CAST Castle Rocks 87.11 13 *e*P **P 23 51 31.7 -1.4**
comp=Z,8.9nm,1.0s
WR1 Warramunga Arr 87.36 114 *e*P **P 23 51 33.7 -1.3**
WRA Warramunga Arr 87.36 114 P **P 23 51 33.7 -1.3**
comp=Z,0.7nm,0.9s,baz=303,slow=3.7,SNR=7.2
AS31 Alice Springs 88.84 117 *e*P **P 23 51 41.1 -0.9**
comp=Z,1.2nm,1.1s
ASAR Alice Springs 88.84 117 P **P 23 51 41.1 -0.9**
comp=Z,0.5nm,0.7s,baz=316,slow=5.2,SNR=4.2
YKA Yellowknife Ar 90.93 357 P **P 23 51 52.2 +1.2**
comp=Z,0.4nm,0.8s,baz=359,slow=4.1,SNR=4.1
YKA LR LR 00 38 33.9
comp=Z,7.0nm,19.6s,baz=18,slow=40
YKB5 Yellowknife Ar 90.93 357 *e*P **P 23 51 52.2 +1.2**
STKA Stephens Creek 98.69 121 LR LR 00 35 35.5
comp=Z,92nm,20.3s,baz=316,slow=35
ULM Lac du Bonnet 99.95 343 LR LR 00 40 26.6
comp=Z,74nm,19.7s,baz=346,slow=37

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*IDC **21** 23:39:02.4±0.7, 52°.41N×160°.42E, h0km, mb3.8/18, mb1 3.9/19, mb1mx3.7/56, mbtmp3.8/19, ML3.4/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/34, Error ellipse: s-maj=20.8km s-min=14.5km az=159.0*
*KRSC **21** 23:39:04.1±10.0, 52°.22N×160°.68E, h60km±10km, ML4.6*
*MOS **21** 23:39:07.6±0.7, 52°.36N×160°.49E, h53km, mb4.2/1, Error ellipse: s-maj=8.9km s-min=6.0km az=116.9*
*NEIC **21** 23:39:07.6±0.3, 52°.37N×160°.50E, h35km, mb4.3/3, Error ellipse: s-maj=8.5km s-min=5.4km az=175.0*
ISC 21 23:39:06.3±1.7, 52°.25N±0°.04×160°.48E±0°.07, h28km±11km, n103, σ1§04/118, mb3.9/21, MS3.8/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.89**	**342**	*e*P	**Pn**	**23 39 22.1**	**-0.8**
SPN				*e*S	**Sb**	**23 39 34.6**	**-0.1**
SPN	**Mys Shipunski**	**0.89**	**342**	PN	**Pn**	**23 39 22.1**	**-0.8**
SPN				S	**Sb**	**23 39 34.6**	**-0.1**
NLC	**Nalytchevo**	**1.15**	**323**	*e*P	**Pb**	**23 39 27.4**	**-0.1**
NLC				*e*S	**Sb**	**23 39 44.0**	**+2.0**
NLC	**Nalytchevo**	**1.15**	**323**	PN	**Pb**	**23 39 27.4**	**-0.1**
NLC				S	**Sb**	**23 39 44.0**	**+2.0**
RUS	**Russkaya**	**1.22**	**279**	*e*P	**Pb**	**23 39 28.2**	**-0.5**
RUS				*e*S	**Sb**	**23 39 45.1**	**+1.0**
RUS	**Russkaya**	**1.22**	**279**	PN	**Pb**	**23 39 28.2**	**-0.5**
RUS				S	**Sb**	**23 39 45.1**	**+1.0**
DALK	**Dalny**	**1.31**	**307**	*e*P	**Pb**	**23 39 29.4**	**-0.8**
DALK				*e*S	**Sb**	**23 39 47.4**	**+0.8**
DALK	**Dalny**	**1.31**	**307**	PN	**Pb**	**23 39 29.4**	**-0.8**
DALK				S	**Sb**	**23 39 47.4**	**+0.8**
PET	**Petropavlovsk**	**1.36**	**305**	*e*Pn	**Pb**	**23 39 29.6**	**-1.3**
PET	**Petropavlovsk**	**1.36**	**305**	*e*P	**Pb**	**23 39 30.2**	**-0.8**
PET	**Petropavlovsk**	**1.36**	**305**	PN	**Pb**	**23 39 30.0**	**-1.0**
PET				S	**Sb**	**23 39 48.4**	**+0.5**
UGLR	**Uglovaya**	**1.39**	**314**	*e*P	**Pb**	**23 39 31.2**	**-0.5**
UGLR	**Uglovaya**	**1.39**	**314**	PN	**Pb**	**23 39 31.2**	**-0.5**
SDLR	**Sedlovina**	**1.41**	**317**	*e*P	**Pb**	**23 39 31.1**	**-0.9**
SDLR	**Sedlovina**	**1.41**	**317**	PN	**Pb**	**23 39 31.1**	**-0.9**
MTVR	**Mutnovka**	**1.43**	**280**	*e*P	**Pb**	**23 39 31.6**	**-0.7**
MTVR	**Mutnovka**	**1.43**	**280**	PN	**Pb**	**23 39 31.6**	**-0.7**
SMAR	**Somma**	**1.44**	**315**	*e*P	**Pb**	**23 39 31.5**	**-1.0**
SMAR	**Somma**	**1.44**	**315**	PN	**Pb**	**23 39 31.5**	**-1.0**
AVH	**Avacha**	**1.47**	**314**	*e*P	**Pb**	**23 39 32.3**	**-0.6**
AVH	**Avacha**	**1.47**	**314**	PN	**Pb**	**23 39 32.3**	**-0.6**
KRER	**Koryakskii**	**1.49**	**316**	*e*P	**Pb**	**23 39 32.6**	**-0.8**
KRER	**Koryakskii**	**1.49**	**316**	PN	**Pb**	**23 39 32.6**	**-0.8**
GRL	**Gorelyy**	**1.51**	**282**	*e*P	**Pb**	**23 39 33.2**	**-0.4**
GRL	**Gorelyy**	**1.51**	**282**	PN	**Pb**	**23 39 33.2**	**-0.4**
KOK	**Koryaka**	**1.53**	**314**	*e*P	**Pb**	**23 39 33.1**	**-0.9**
KOK	**Koryaka**	**1.53**	**314**	PN	**Pb**	**23 39 33.1**	**-0.9**
KRMR	**Karymshinskiy**	**1.55**	**293**	*e*P	**Pb**	**23 39 33.2**	**-1.1**
KRMR				*e*S	**Sb**	**23 39 54.2**	**+0.8**
KRMR	**Karymshinskiy**	**1.55**	**293**	PN	**Pb**	**23 39 33.2**	**-1.1**

KRMR			S	Sb	23 39 54.2	+0.8
KDTR	**Khodutka, Kamc**	**1.55 254**	*e*P	Pn	23 39 32.3	+0.4
KDTR			*e*S	Sb	23 39 52.8	-0.7
KDTR	**Khodutka, Kamc**	**1.55 254**	PN	Pn	23 39 32.3	+0.4
KDTR			S	Sb	23 39 52.8	-0.7
KRX	**Arik**	**1.57 316**	*e*P	Pb	23 39 34.2	-0.5
KRX	**Arik**	**1.57 316**	PN	Pb	23 39 34.2	-0.5
ASAK	**Asacha**	**1.59 276**	*e*P	Pb	23 39 34.0	-1.0
ASAK	**Asacha**	**1.59 276**	PN	Pb	23 39 34.0	-1.0
PEA0B	**Petropavlovsk-**	**1.90 298**	*e*Pn	Pb	23 39 38.4	-1.9
PETK	**Petropavlovsk-**	**1.90 298**	*e*Pn	Pb	23 39 37.7	-2.5
PETK			Sn	Sb	23 40 04.3	+0.8
PETK	**Petropavlovsk-**	**1.90 298**	*e*PN	Pb	23 39 37.7	-2.5
PETK					23 40 04.3	
PETK	**Petropavlovsk-**	**1.90 298**	Pn	Pb	23 39 38.4	-1.8
72nm,0.3s,baz=105,slow=19,SNR=69						
PETK			Sn	Sb	23 40 04.3	+0.8
48nm,0.3s,baz=114,slow=18,SNR=9.4						
PEA1	**Petropavlovsk-**	**1.90 298**	*e*Pn	Pb	23 39 38.4	-1.8
PEA1			*e*Sn	Sb	23 40 04.3	+0.7
APC	**Apacha**	**2.14 290**	*e*P	Pb	23 39 42.5	-1.8
APC	**Apacha**	**2.14 290**	PN	Pb	23 39 42.5	-1.8
PAU	**Pauzhetka**	**2.41 252**	P	Pb	23 39 48.7	-0.2
PAU	**Pauzhetka**	**2.41 252**	PN	Pb	23 39 48.7	-0.2
MKZ	**Mys Kozlova**	**2.42 17**	S	Sn	23 40 10.6	-2.0
KZV	**Kizimen**	**2.87 358**	*e*P	Pn	23 39 50.8	+0.6
KZV	**Kizimen**	**2.87 358**	PN	Pn	23 39 50.8	+0.6
TUMD	**Tumrok D**	**2.96 359**	P	Pn	23 39 53.0	+1.7
TUMD			S	Sn	23 40 26.0	+0.2
TUMR	**Tumrok**	**3.04 356**	*e*P	Pn	23 39 53.9	+1.4
TUMR	**Tumrok**	**3.04 356**	PN	Pn	23 39 53.0	+0.5
TUMR			S	Sn	23 40 26.0	-2.0
SKR	**Severo-Kuril's**	**3.15 242**	P	Pn	23 39 54.7	+0.8
SKR	**Severo-Kuril's**	**3.15 242**	*e*PN	Pb	23 39 58.5	-3.0
SKR			*e*S	Sb	23 40 38.9	-0.5
SKR			pmax	pmax		
comp=Z,69nm,0.6s						
SKR			smax	smax		
comp=E,446nm,0.5s						
SKR			smax	smax		
comp=N,563nm,0.6s						
ALID	**Alaid**	**3.38 248**	P	Pn	23 39 58.0	+0.8
ALID	**Alaid**	**3.38 248**	PN	Pn	23 39 58.0	+0.8
KBTR	**Krutoberegovo**	**4.19 18**	*e*P	Pn	23 40 08.4	+0.2
KBTR	**Krutoberegovo**	**4.19 18**	PN	Pn	23 40 08.4	+0.2
KLR	**Kul'dur**	**18.38 272**	P	P	23 43 18.6	-0.1
comp=N,0.1nm,0.3s,baz=70,slow=10,SNR=4.0						
MAJO	**Matsushiro**	**22.23 234**	*e*P	P	23 44 01.8	+1.4
MAJO	**Matsushiro**	**22.23 234**	*e*P	P	23 44 01.8	+1.4
MJAR	**Matsushiro Arr**	**22.23 234**	P	P	23 44 01.8	+1.4
comp=N,1.7nm,0.6s,baz=18,slow=11,SNR=4.3						
MJAR			LR	LR	23 53 41.4	
comp=N,96nm,21.4s,baz=220,slow=39						
ILAR	**Eielson Array**	**29.25 44**	LR	LR	23 57 23.1	
comp=N,217nm,20.8s,baz=118,slow=38						
H11N2	**WAKE ISLAND Hy**	**32.84 169**	T	T	00 21 02.6	
baz=352,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**32.86 169**	T	T	00 21 03.8	
baz=352,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**32.86 169**	T	T	00 21 03.9	
baz=352,slow=75,SNR=23						
SONA0	**Songino Array**	**34.33 285**	*e*P	P	23 45 49.9	-0.3
SONM	**Songino Array**	**34.33 285**	P	P	23 45 49.9	-0.3
comp=N,0.4nm,0.3s,baz=60,slow=7.4,SNR=5.5						
INK	**Inuvik**	**34.39 37**	*e*P	P	23 45 50.7	+0.3
comp=N,4.1nm,1.3s						
INK	**Inuvik**	**34.39 37**	P	P	23 45 50.7	+0.3
comp=N,0.5nm,0.7s,baz=281,slow=5.2,SNR=2.4						
YKA	**Yellowknife Ar**	**43.62 42**	P	P	23 47 07.4	-0.2
comp=N,0.1nm,0.6s,baz=299,slow=6.3,SNR=3.1						
YKB5	**Yellowknife Ar**	**43.62 42**	*e*P	P	23 47 07.4	-0.2
KURK	**Kurchatov**	**48.38 303**	P	P	23 47 45.0	-0.2
KURBB	**Kurchatov Arra**	**48.48 303**	P	P	23 47 45.0	-1.0
comp=N,1.2nm,0.3s,baz=59,slow=7.6,SNR=9.5						
GLK	**Glacier Lake**	**48.72 64**	*e*P	P	23 47 47.5	-0.5
MK32	**Makanchi Array**	**48.74 297**	*e*P	P	23 47 47.0	-1.1
MKAR	**Makanchi Array**	**48.74 297**	P	P	23 47 47.0	-1.1
MKAR	**Makanchi Array**	**48.74 297**	P	P	23 47 47.0	-1.1
comp=N,0.5nm,0.4s,baz=52,slow=6.4,SNR=9.4						
BVAR	**Borovoye Array**	**51.10 309**	P	P	23 48 05.1	-0.8
comp=N,1.7nm,0.5s,baz=55,slow=7.0,SNR=9.8						
BVAR			LR	LR	00 11 23.1	
comp=N,79nm,18.7s,baz=170,slow=38						
BMN	**Battle Mountai**	**55.08 67**	*e*P	P	23 48 36.1	+0.5
comp=N,6.0nm,0.6s						
BMN	**Battle Mountai**	**55.08 67**	*e*P	P	23 48 36.1	+0.5
NV01	**Mina Array Sit**	**55.81 70**	*e*P	P	23 48 41.9	+1.0
NVAR	**Mina Array Bea**	**55.81 70**	P	P	23 48 41.9	+1.0
baz=300,slow=6.1						
PDAR	**Pinedale Array**	**57.73 61**	P	P	23 48 53.9	-0.6
comp=N,0.6nm,0.7s,baz=321,slow=1.9,SNR=4.8						
CMAR	**Chiang Mai Arr**	**58.25 259**	P	P	23 48 59.9	+1.8
comp=N,0.5nm,0.3s,baz=37,slow=6.1,SNR=4.6						
FIA0	**FINESS Array S**	**60.99 337**	*e*P	P	23 49 16.6	+0.3
FIA0	**FINESS Array S**	**60.99 337**	*e*P	P	23 49 16.6	+0.3
FINES	**FINESS Array B**	**60.99 337**	P	P	23 49 16.6	+0.3
comp=N,3.7nm,1.0s,baz=38,slow=7.0,SNR=7.0						
NB200	**NORSAR Array S**	**64.42 344**	*e*P	P	23 49 38.0	-1.3
NOA	**NORSAR Array B**	**64.42 344**	P	P	23 49 38.0	-1.3
NOA	**NORSAR Array B**	**64.42 344**	P	P	23 49 38.0	-1.3
comp=N,0.5nm,0.6s,baz=14,slow=5.5,SNR=2.8						
GEYT	**Alibeck**	**67.75 303**	P	P	23 49 59.8	-1.2
comp=N,1.7nm,0.8s,baz=330,slow=2.4,SNR=5.1						
AKASG	**Malin Array Be**	**69.46 329**	P	P	23 50 11.1	-0.3
comp=N,0.7nm,0.4s,baz=29,slow=6.3,SNR=5.3						
AKBB	**Malin Array Si**	**69.46 329**	*e*P	P	23 50 11.1	-0.3
comp=N,21nm,1.8s						
AKBB	**Malin Array Si**	**69.46 329**	*e*P	P	23 50 11.1	-0.3
LTX	**Lajitas**	**70.75 67**	*e*P	P	23 50 19.5	-0.3
LTX	**Lajitas**	**70.75 67**	*e*P	P	23 50 19.5	-0.3
TXAR	**Lajitas Array**	**70.75 67**	P	P	23 50 19.5	-0.3
comp=N,0.8nm,0.8s,baz=315,slow=6.8,SNR=4.4						
WR1	**Warramunga Arr**	**75.42 205**	*e*P	P	23 50 48.0	+0.8
WRA	**Warramunga Arr**	**75.42 205**	P	P	23 50 48.0	+0.8
comp=N,0.7nm,0.9s,baz=16,slow=5.9,SNR=7.1						
BR101	**Keskin Array S**	**77.42 321**	*e*P	P	23 50 58.6	-0.1
BRTR	**Keskin Array B**	**77.42 321**	P	P	23 50 58.6	-0.1
comp=N,0.5nm,0.7s,baz=14,slow=6.5,SNR=3.7						
AS31	**Alice Springs**	**79.09 205**	*e*P	P	23 51 09.2	+1.4
comp=N,2.7nm,1.4s						
ASAR	**Alice Springs**	**79.09 205**	P	P	23 51 09.2	+1.4
comp=N,0.5nm,0.6s,baz=15,slow=5.2,SNR=6.5						
MMAI	**Mount Meron Ar**	**82.48 316**	P	P	23 51 27.3	+1.3
comp=N,0.8nm,0.6s,baz=43,slow=6.2,SNR=4.7						

PDG 21 23:50:13.1±0.2, 43°.07N×18°.75E, h4km±1km, MD3.8/1, ML1.5/13, 9C-4D, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.18**	**40**	↑*i*Pg	Pg	23 50 16.4	-0.3
UPM				*e*Sg	Sg	23 50 19.2	+0.1
BRY	**Bratogost**	**0.22**	**223**	↓*i*Pg	Pg	23 50 17.5	0.0
BRY				*e*Sg	Sg	23 50 21.0	+0.6
NKY	**Niksic**	**0.31**	**144**	↓*i*Pg	Pg	23 50 19.1	0.0
NKY				*e*Sg	Sg	23 50 24.1	+0.9
NKME	**Niksic**	**0.33**	**153**	↑*i*Pg	Pg	23 50 19.5	-0.1
NKME				*e*Sg	Sg	23 50 24.6	+0.7
CEME	**Cevo**	**0.53**	**166**	↑*i*Pg	Pg	23 50 22.6	-0.7
CEME				*e*Sg	Sg	23 50 31.4	+1.1
PLE	**Pljevlja**	**0.54**	**60**	↑*i*Pg	Pg	23 50 23.2	-0.3
PLE				*e*Sg	Sg	23 50 31.3	+0.8
KOME	**Kolasin**	**0.60**	**111**	↑*i*Pg	Pg	23 50 24.5	-0.2
KOME				*e*Sg	Sg	23 50 33.7	+1.2
HCY	**Herceg Novi**	**0.65**	**197**	↑*i*Pg	Pg	23 50 25.4	-0.1
HCY				*e*Sg	Sb	23 50 35.3	-1.0
TTG	**Podgorica**	**0.74**	**149**	↑*i*Pg	Pg	23 50 26.3	-0.9
TTG				*e*Sg	Sb	23 50 38.3	-0.6
BUM	**Brajici-Budva**	**0.77**	**172**	↓*i*Pg	Pg	23 50 27.2	-0.7
BUM				*e*Sg	Sb	23 50 39.5	-0.5
STON	**Ston**	**0.79**	**256**	*e*Pg	Pg	23 50 26.6	-1.7
STON				Sg	Sg	23 50 39.5	+0.9
IVA	**Berane**	**0.86**	**103**	↓*i*Pg	Pg	23 50 29.1	-0.5
IVA				*e*Sg	Sb	23 50 42.5	-0.1
DRME	**Dracevica, Mon**	**0.94**	**160**	↑*i*Pg	Pg	23 50 30.0	-1.0
DRME				*e*Sg	Sb	23 50 44.9	+0.3
ULC	**Ulcinj**	**1.16**	**161**	↑*i*Pg	Pg	23 50 34.4	-0.9
ULC				*e*Sg	Sn	23 50 52.6	+0.2

*ISCJB **22** 00:58:49.8±0.5, 28°.21N±0°.04×51°.71E±0°.05, h10km, mb3.5/4, MS3.1/1, Error ellipse: s-maj=7.0km s-min=4.6km az=142.7*
*IDC **22** 00:58:49.4±2.5, 28°.26N×51°.81E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/28, mbtmp3.5/5, ML3.2/1, MS2.9/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=59.9km s-min=32.1km az=156.0*
*TEH **22** 00:58:51.0, 28°.23N×51°.76E, h15km, ML3.5*
ISC 22 00:58:51.1±0.9, 28°.22N±0°.05×51°.78E±0°.06, h10km, n38, σ0s89/38, mb3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.07**	**86**	*e*Pn	**Pg**	**00 59 10.9**	**-0.7**
LMD1	**Lamerd**	**1.51**	**125**	*e*Pn	**Pb**	**00 59 19.4**	**+0.2**
LMD1				IAMB	IAmb	00 59 55.8	
comp=Z,0.0nm,0.4s							
IKAZ	**Kazeroun**	**1.56**	**2**	*e*Pn	**Pb**	**00 59 20.1**	**-0.1**
IKAZ				IAMB	IAmb	00 59 45.9	
comp=Z,0.0nm,0.6s							
SHI	**Shiraz**	**1.56**	**24**	*e*Pn	**Pb**	**00 59 19.8**	**-0.3**
SHI				IAMB	IAmb	00 59 22.4	
comp=Z,0.0nm,0.6s							
SHI				*e*Sg	**Sg**	**00 59 42.4**	**+1.1**
JHRM	**Jahrom**	**1.61**	**79**	*e*Pn	**Pb**	**00 59 21.0**	**0.0**
JHRM				IAMB	IAmb	00 59 51.7	
comp=Z,0.0nm,0.4s							
IRAM	**Ramesheh**	**3.62**	**8**	*e*Pn	**Pn**	**00 59 47.7**	**+0.3**
ZNGN	**Zangian**	**3.97**	**349**	*e*Pn	**Pn**	**00 59 53.8**	**+1.5**
IMEH	**Mehriz**	**4.01**	**37**	*e*Pn	**Pn**	**00 59 54.2**	**+1.4**
ISAD	**Sadrabad**	**4.04**	**24**	*e*Pn	**Pn**	**00 59 54.4**	**+1.2**
ROKH	**ROKH**	**4.16**	**351**	*e*Pn	**Pn**	**00 59 56.5**	**+1.6**
SHME	**Shamm**	**4.45**	**118**	*e*Pn	**Pn**	**00 59 58.8**	**+0.2**
IPIR	**Pirpir**	**4.52**	**350**	*e*Pn	**Pn**	**00 59 59.8**	**0.0**
NIAN	**Nian**	**4.52**	**97**	*e*Pn	**Pn**	**00 59 59.6**	**0.0**
NGRK	**Negar Kerman**	**4.57**	**71**	*e*Pn	**Pn**	**01 00 01.0**	**+0.4**
NGRK				IAMB	IAmb	01 01 00.5	
comp=Z,0.0nm,0.3s							
ICHK	**Chekchek**	**4.61**	**29**	*e*Pn	**Pn**	**01 00 01.8**	**+0.7**
KHGB	**Koh Gabri**	**4.63**	**61**	IAMB	IAmb	01 00 06.1	
comp=Z,0.0nm,0.3s							
KHGB				*e*Pn	**Pn**	**01 00 02.5**	**+1.1**
IZEF	**Zefreh**	**4.69**	**6**	*e*Pn	**Pn**	**01 00 03.0**	**+0.9**
KRBR	**Kerman**	**4.70**	**67**	*e*Pn	**Pn**	**01 00 03.1**	**+0.8**
TVBK	**TV Kerman**	**4.70**	**67**	IAMB	IAmb	01 00 05.8	
comp=Z,0.0nm,0.4s							
TVBK				*e*Pn	**Pn**	**01 00 03.6**	**+1.2**
NAZ	**Nazwa, Dubai**	**4.74**	**132**	*e*Pn	**Pn**	**01 00 04.2**	**+1.6**
MSFE	**Esma-Masafi**	**4.84**	**125**	*e*Pn	**Pn**	**01 00 04.9**	**+0.9**
IKLH	**Kolahrood**	**5.09**	**358**	*e*Pn	**Pn**	**01 00 08.9**	**+1.3**
HATD	**Hatta, Dubai**	**5.16**	**130**	*e*Pn	**Pn**	**01 00 09.8**	**+1.4**
ASHO	**Ashiyiah**	**5.21**	**132**	*e*Pn	**Pn**	**01 00 10.2**	**+1.1**
CHMN	**Cheshme madani**	**5.30**	**71**	*e*Pn	**Pn**	**01 00 12.0**	**+1.3**
CHMN				IAMB	IAmb	01 00 14.4	
comp=Z,0.0nm,0.5s							
KRSH	**Karshahi**	**5.74**	**3**	*e*Pn	**Pn**	**01 00 16.0**	**-0.5**
IKOM	**Komasi**	**6.97**	**329**	*e*Pn	**Pn**	**01 00 34.1**	**+0.7**
TNSJ	**Nastanj**	**7.07**	**35**	*e*Pn	**Pn**	**01 00 34.7**	**0.0**
TKDS	**Koohdasht(Taba**	**7.07**	**39**	*e*Pn	**Pn**	**01 00 35.1**	**+0.4**
IGHG	**Ghaleghazi**	**7.55**	**325**	*e*Pn	**Pn**	**01 00 41.8**	**+0.4**
IVIS	**Veis**	**7.57**	**327**	*e*Pn	**Pn**	**01 00 42.3**	**+0.7**
ILIN	**Lien**	**7.84**	**330**	*e*Pn	**Pn**	**01 00 45.5**	**+0.1**
BRTR	**Keskin Array B**	**18.88**	**312**	P	**Pn**	**01 03 11.8**	**-0.5**
comp=Z,0.1nm,0.3s,baz=128,slow=12,SNR=4.6							
BRTR				LR	LR	01 12 00.6	
comp=Z,26nm,19.9s,baz=78,slow=42							
MKAR	**Makanchi Array**	**30.22**	**44**	P	**P**	**01 05 01.5**	**-0.3**
comp=Z,0.4nm,0.6s,baz=238,slow=8.1,SNR=4.7							
FINES	**FINESS Array B**	**37.38**	**340**	P	**P**	**01 06 03.2**	**-0.5**
comp=Z,2.0nm,1.0s,baz=138,slow=8.6,SNR=3.9							
ESDC	**Sonseca Array**	**46.96**	**299**	LR	LR	01 32 35.5	
comp=Z,21nm,18.2s,baz=210,slow=43							
TORD	**Torodi Ar. Bea**	**48.86**	**263**	P	**P**	**01 07 37.3**	**+0.1**
comp=Z,0.3nm,0.6s,baz=67,slow=7.8,SNR=6.0							
YKA	**Yellowknife Ar**	**88.95**	**354**	P	**P**	**01 11 45.1**	**-0.5**
comp=Z,0.1nm,0.5s,baz=11,slow=6.0,SNR=3.6							

IDC 22 01:16:10.2±4.3, 7°.93S×156°.33E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/23, mbtmp3.7/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/24, Error ellipse: s-maj=163.0km s-min=41.1km az=121.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.18**	**260**	LR	LR	01 21 06.5	
comp=Z,67nm,21.4s,baz=300,slow=32							
WRA	**Warramunga Arr**	**24.42**	**238**	P	P	01 21 30.1	-0.7
2.5nm,0.9s,baz=76,slow=8.0,SNR=12							
ASAR	**Alice Springs**	**26.59**	**231**	P	P	01 21 51.1	+0.7
0.5nm,0.7s,baz=61,slow=9.0,SNR=5.4							
MKAR	**Makanchi Array**	**84.97**	**318**	P	P	01 28 47.6	+0.1
0.1nm,0.3s,baz=98,slow=6.3,SNR=4.2							
TORD	**Torodi Ar. Bea**	**154.54**	**284**	PKPbc	PKiKP	01 36 14.2	0.0
0.2nm,0.6s,baz=90,slow=1.9,SNR=3.0							

*ISCJB **22** 01:21:56.3±1.3, 3°.9S±0°.2×153°.4E±0°.4, h350km, mb3.6/6, Error ellipse: s-maj=54.5km s-min=19.3km az=19.8*
*IDC **22** 01:21:59.9±6.5, 3°.91S×153°.39E, h375km±67km, mb3.4/6, mb1 3.5/7, mb1mx3.2/28, mbtmp4.1/7, Error ellipse: s-maj=55.2km s-min=30.1km az=121.0*
ISC 22 01:21:57.4±1.3, 3°.9S±0°.2×153°.5E±0°.4, h350km, n8, σ0s91/8, mb3.8/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**17.61**	**203**	P	**P**	**01 25 41.9**	**+1.6**
baz=16,slow=12,SNR=3.8							
WRA	**Warramunga Arr**	**24.57**	**228**	P	**P**	**01 26 46.7**	**-0.3**
2.5nm,0.4s,baz=49,slow=10,SNR=50							
ASAR	**Alice Springs**	**27.30**	**222**	P	**P**	**01 27 10.5**	**-0.8**
3.3nm,0.4s,baz=54,slow=8.8,SNR=60							
STKA	**Stephens Creek**	**30.03**	**200**	P	**P**	**01 27 34.9**	**-0.3**
0.8nm,0.3s,baz=10,slow=11,SNR=2.7							
MKAR	**Makanchi Array**	**80.05**	**319**	P	**P**	**01 33 29.3**	**+0.4**
0.3nm,0.5s,baz=92,slow=7.2,SNR=2.1							
ILAR	**Eielson Array**	**81.03**	**22**	P	**P**	**01 33 33.8**	**+0.1**
0.8nm,0.7s,baz=236,slow=5.4,SNR=8.5							
MAW	**Mawson**	**86.70**	**203**	P	**P**	**01 34 01.3**	**-0.7**
1.6nm,0.9s,baz=76,slow=4.2,SNR=2.0							
TORD	**Torodi Ar. Bea**	**150.62**	**290**	PKPbc	**PKPbc**	**01 41 09.3**	**-0.1**
0.6nm,0.5s,baz=65,slow=2.1,SNR=16							

KRSC 22 01:31:36.1±10.0, 52°.30N×160°.91E, h21km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97**	**326**	*e*P	Pb	01 31 54.1	-0.1
SPN				*e*S	Sb	01 32 06.5	0.0
NLC	**Nalytchevo**	**1.29**	**313**	*e*P	Pb	01 31 59.7	0.0
NLC				*e*S	Sb	01 32 15.8	-0.1
RUS	**Russkaya**	**1.48**	**276**	*e*P	Pb	01 32 02.7	-0.1
RUS				S	Sb	01 32 21.2	+0.1
DALK	**Dalny**	**1.51**	**300**	*e*P	Pb	01 32 02.8	-0.5
DALK				*e*S	Sb	01 32 21.4	-0.6
PET	**Petropavlovsk**	**1.56**	**299**	*e*S	Sb	01 32 24.0	+0.6
UGLR	**Uglovaya**	**1.56**	**307**	*e*P	Pb	01 32 04.6	+0.2
UGLR				*e*S	Sb	01 32 25.7	+2.0
SDLR	**Sedlovina**	**1.58**	**309**	P	Pb	01 32 04.3	-0.3
SDLR				S	Sb	01 32 24.0	-0.1
SMAR	**Somma**	**1.61**	**308**	P	Pb	01 32 05.1	-0.1
AVH	**Avacha**	**1.64**	**307**	*e*P	Pb	01 32 05.9	+0.3
AVH				S	Sb	01 32 27.7	+1.8
KRER	**Koryakskii**	**1.66**	**308**	*e*P	Pb	01 32 06.4	+0.4
MTVR	**Mutnovka**	**1.68**	**277**	*e*P	Pb	01 32 05.9	-0.5
MTVR				*e*S	Sb	01 32 27.0	-0.2
KOK	**Koryaka**	**1.70**	**307**	*e*P	Pb	01 32 06.6	-0.2
KRX	**Arik**	**1.74**	**309**	P	Pn	01 32 06.2	+1.0
KRMR	**Karymshinskiy**	**1.78**	**289**	*e*P	Pb	01 32 07.4	-0.6
KRMR				*e*S	Sb	01 32 29.2	-0.6
KDTR	**Khodutka, Kamc**	**1.82**	**256**	*e*P	Pn	01 32 07.2	+1.1
KDTR				*e*S	Sn	01 32 28.5	0.0
ASAK	**Asacha**	**1.85**	**274**	*e*P	Pb	01 32 08.5	-0.7
ASAK				S	Sb	01 32 30.8	-1.1
APC	**Apacha**	**2.37**	**287**	P	Pb	01 32 16.4	-1.7
KZV	**Kizimen**	**2.85**	**353**	P	Pb	01 32 23.4	-2.9
KZV				S	Sn	01 32 56.5	+2.4
TUMD	**Tumrok D**	**2.93**	**354**	P	Pb	01 32 25.2	-2.4
TUMD				S	Sb	01 33 00.6	-2.3
TUMR	**Tumrok**	**3.03**	**352**	P	Pb	01 32 26.1	-3.2
KBTR	**Krutoberegovo**	**4.08**	**15**	P	Pn	01 32 39.0	+1.9

*IDC **22** 01:41:29.8±0.8, 27°.59S×176°.53W, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.2/35, mbtmp4.2/13, MS3.8/15, Ms1 3.8/15, ms1mx3.7/20, Error ellipse: s-maj=29.7km s-min=21.9km az=142.0*
*ISCJB **22** 01:41:33.7±0.4, 27°.72S±0°.06×176°.65W±0°.09, h34km, mb4.3/21, MS3.8/15, Error ellipse: s-maj=12.3km s-min=7.3km az=22.7*
*NEIC **22** 01:41:39.7±2.4, 27°.68S×176°.60W, h77km±6km, mb4.3/15, Error ellipse: s-maj=22.1km s-min=16.7km az=113.0*
ISC 22 01:41:35.2±0.5, 27°.72S±0°.07×176°.6W±0°.1, h34km, n71, σ1s54/64, mb4.3/21, MS3.9/15, 4C-3D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.94**	**218**	*e*Pn	**Pb**	**01 42 10.8**	**+0.8**
RAO				*e*Sn	**Sb**	**01 42 33.7**	**-0.2**
URZ	**Urewera**	**11.77**	**205**	Sn	**Sn**	**01 46 30.2**	**-0.7**
1.2nm,0.3s,baz=253,slow=19,SNR=5.8							
BKZ	**Black Stump Fm**	**12.80**	**205**	*e*Pn	**Pn**	**01 44 33.5**	**-1.3**
BKZ				*e*Sn	**Sn**	**01 46 51.9**	**-4.2**
BFZ	**Birch Farm**	**14.23**	**203**	*e*Pn	**Pn**	**01 44 54.8**	**+0.6**
DZM	**Mont Dzumac**	**16.41**	**286**	*e*P	**P**	**01 45 26.2**	**+0.6**
58nm,1.2s							
DZM				*e*LR	LR	01 49 22.8	
comp=Z,1μm,24.1s							
DZM	**Mont Dzumac**	**16.41**	**286**	*e*Pn	**P**	**01 45 25.0**	**-0.6**
18nm,1.0s							
DZM	**Mont Dzumac**	**16.41**	**286**	Pn	**P**	**01 45 26.6**	**+1.1**
0.1nm,0.3s,baz=79,slow=16,SNR=3.9							
DZM				LR	LR	01 50 34.3	
comp=Z,820nm,19.1s,baz=166,slow=33							
THZ	**Tophouse**	**16.45**	**209**	*e*Pn	**Pn**	**01 45 22.4**	**-1.0**
33nm,1.2s							
RAR	**Rarotonga**	**16.59**	**71**	LR	LR	01 50 30.7	
comp=Z,182nm,21.7s,baz=256,slow=33							
KHZ	**Kahutara**	**16.74**	**206**	*e*Pn	**Pn**	**01 45 24.2**	**-2.7**
20nm,0.9s							
OXZ	**Oxford**	**18.10**	**208**	*e*P	**Pn**	**01 45 44.2**	**+0.3**
19nm,1.1s							
TBI	**Tubuai**	**24.81**	**86**	*e*LR	LR	01 52 47.9	
comp=Z,418nm,27.5s,baz=249							
TBI	**Tubuai**	**24.81**	**86**	*e*T	T	02 11 50.0	
7.9nm,0.3s							
PAE	**Paea**	**26.77**	**74**	*e*T	T	02 14 27.0	
4.3nm,0.3s							
PPT2	**Papeete2**	**26.81**	**74**	*e*LR	LR	01 53 44.9	
comp=Z,501nm,27.8s,baz=234							
PPT	**Papeete**	**26.82**	**74**	LR	LR	01 54 53.6	
comp=Z,140nm,20.0s,baz=228,slow=30							
HNR	**Honiara**	**28.66**	**305**	LR	LR	01 57 37.0	
comp=Z,254nm,19.3s,baz=143,slow=34							
EIDS	**Eidsvold**	**29.00**	**267**	*e*P	**P**	**01 47 30.9**	**-1.1**
5.8nm,1.1s							
CTAO	**Charters Tower**	**34.73**	**274**	*e*P	**P**	**01 48 24.1**	**+1.7**
16nm,1.5s							
STKA	**Stephens Creek**	**36.39**	**253**	P	**P**	**01 48 37.8**	**+1.3**
1.0nm,0.5s,baz=100,slow=14,SNR=3.0							
STKA				LR	LR	02 01 58.1	
comp=Z,258nm,19.6s,baz=39,slow=34							
COEN	**Coen**	**39.86**	**282**	*e*P	**P**	**01 49 07.5**	**+1.7**
13nm,1.1s							
AS31	**Alice Springs**	**44.59**	**264**	*e*P	**P**	**01 49 43.8**	**-0.6**
0.9nm,0.9s							
ASAR	**Alice Springs**	**44.59**	**264**	P	**P**	**01 49 43.8**	**-0.6**
1.6nm,0.9s,baz=101,slow=

Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.31**	**213**	P	Pn	01 46 16.6	-3.1
MRSI	**Marisa**	**1.63**	**126**	P	Pn	01 46 22.8	-1.3
MRSI				S	Sn	01 46 43.3	-1.8
APSI	**Ampana**	**2.55**	**156**	P	Pn	01 46 38.4	+1.6
APSI				S	Sn	01 47 10.0	+2.1
LUWI	**Luwuk**	**3.27**	**139**	P	Pn	01 46 48.8	+2.1
LUWI				S	Sn	01 47 27.4	+1.7
KMSI	**Cibinong**	**3.47**	**104**	P	Pn	01 46 49.6	+0.2
TTSI	**Tana Toraja**	**4.53**	**190**	P	Pn	01 47 04.7	+0.8
SPSI	**Sidrap Palu**	**5.43**	**189**	P	Pn	01 47 17.2	+0.8
	13nm,1.2s,0.1nm						
BNSI	**Bone**	**5.82**	**185**	P	Pn	01 47 23.1	+1.3
	22nm,0.7s,0.1nm						
SANI	**Sanana**	**6.39**	**123**	P	Pn	01 47 29.5	-0.1
	8.6nm,0.6s,0.1nm						
BKSI	**Bulukumba**	**6.74**	**184**	P	Pn	01 47 35.1	+0.8
	7.1nm,0.8s,0.0nm						
BSSI	**Bau Bau, Buton**	**7.53**	**181**	P	Pn	01 47 46.0	+0.7

ISCJB ***22*** *01:55:09.0±0.7, 18°.1S±0°.1×178°.1W±0°.2, h600km, mb3.8/10, Error ellipse: s-maj=19.5km s-min=15.8km az=21.9*
IDC ***22*** *01:55:11.8±4.6, 18°.04S×178°.27W, h614km±57km, mb3.3/10, mb1 3.5/11, mb1mx3.2/27, mbtmp4.3/11, Error ellipse: s-maj=27.3km s-min=18.9km az=77.0*

ISC 22 01:55:10.4±0.8, 18°.1S±0°.1×178°.2W±0°.2, h600km, n14, σ0s82/15, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.00**	**252**	P	**P**	**01 58 19.5**	**+0.8**
	0.6nm,0.3s,baz=338,slow=23,SNR=7.6						
RPZ	**Rata Peaks**	**27.14**	**197**	P	**P**	**02 00 07.0**	**-0.1**
	23nm,1.2s,baz=83,slow=8.1,SNR=3.3						
STKA	**Stephens Creek**	**38.76**	**241**	P	**P**	**02 01 45.4**	**+0.5**
	5.7nm,0.5s,baz=85,slow=12,SNR=11						
WRA	**Warramunga Arr**	**44.83**	**260**	P	**P**	**02 02 32.2**	**-0.6**
	2.7nm,0.3s,baz=45,slow=11						
ASAR	**Alice Springs**	**44.97**	**254**	P	**P**	**02 02 33.5**	**-0.2**
	8.1nm,0.5s,baz=90,slow=8.0,SNR=80						
ASAR				PcP	**PcP**	**02 04 01.2**	**-0.7**
	0.7nm,0.5s,baz=98,slow=3.8,SNR=4.8						
VNDA	**Vanda**	**60.31**	**185**	P	**P**	**02 04 22.7**	**+0.9**
	0.5nm,0.6s,baz=38,slow=4.9,SNR=4.8						
MJAR	**Matsushiro Arr**	**68.17**	**323**	P	**P**	**02 05 11.7**	**-0.3**
	1.7nm,0.7s,baz=168,slow=6.3,SNR=4.2						
PETK	**Petropavlovsk-**	**73.89**	**345**	P	**P**	**02 05 45.2**	**+0.2**
	1.8nm,0.6s,baz=116,slow=7.2,SNR=7.0						
MAW	**Mawson**	**83.79**	**200**	P	**P**	**02 06 37.0**	**-0.3**
	1.3nm,0.8s,baz=135,slow=4.0,SNR=5.8						
TXAR	**Lajitas Array**	**85.88**	**58**	P	**P**	**02 06 49.3**	**+1.1**
	0.4nm,0.7s,baz=223,slow=5.1,SNR=6.1						
ILAR	**Eielson Array**	**85.99**	**13**	P	**P**	**02 06 47.3**	**-0.4**
	0.6nm,0.6s,baz=220,slow=4.9,SNR=8.6						
SNAA	**Sanae**	**90.44**	**179**	PKPdf	**P**	**02 07 06.9**	**-1.7**
VNA3	**Neumayer Olymp**	**90.57**	**176**	PKPdf	**P**	**02 07 08.3**	**-0.9**
VNA2	**Neumayer--Watz**	**91.01**	**177**	PKPdf	**P**	**02 07 10.9**	**-0.3**
	baz=189,slow=3.3						

KRSC 22 01:59:08.5±10.0, 52°.14N×160°.70E, h41km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.05**	**337**	*e*P	Pn	01 59 27.0	+0.3
SPN				*e*S	Sn	01 59 39.9	-0.1
NLC	**Nalytchevo**	**1.32**	**322**	*e*P	Pn	01 59 31.9	+1.5
NLC				*e*S	Sn	01 59 49.0	+2.2
RUS	**Russkaya**	**1.38**	**283**	*e*P	Pn	01 59 32.4	+1.3
RUS				*e*S	Sn	01 59 49.5	+1.4
DALK	**Dalny**	**1.49**	**308**	*e*P	Pn	01 59 33.8	+1.1
DALK				*e*S	Sn	01 59 52.2	+1.4
PET	**Petropavlovsk**	**1.53**	**306**	*e*P	Pn	01 59 34.2	+0.9
PET				*e*S	Sn	01 59 53.4	+1.4
UGLR	**Uglovaya**	**1.57**	**314**	*e*P	Pn	01 59 36.2	+2.3
UGLR				*e*S	Sn	01 59 55.9	+2.9
MTVR	**Mutnovka**	**1.58**	**284**	*e*P	Pn	01 59 35.8	+1.7
MTVR				*e*S	Sn	01 59 55.4	+1.9
SDLR	**Sedlovina**	**1.59**	**317**	*e*P	Pn	01 59 35.9	+1.7
SDLR				*e*S	Sn	01 59 55.6	+2.0
SMAR	**Somma**	**1.61**	**315**	*e*P	Pn	01 59 36.1	+1.5
AVH	**Avacha**	**1.64**	**314**	*e*P	Pn	01 59 37.0	+2.1
AVH				*e*S	Sn	01 59 58.3	+3.5
KDTR	**Khodutka, Kamc**	**1.66**	**260**	*e*P	Pn	01 59 36.6	+1.6
KDTR				*e*S	Sn	01 59 56.3	+1.3
KRER	**Koryakskii**	**1.67**	**315**	*e*P	Pn	01 59 37.5	+2.2
KRER				*e*S	Sn	01 59 58.5	+2.9
KOK	**Koryaka**	**1.71**	**313**	*e*P	Pn	01 59 38.0	+2.2
KRMR	**Karymshinskiy**	**1.72**	**295**	*e*P	Pn	01 59 37.5	+1.7
KRMR				*e*S	Sn	01 59 59.2	+2.7
ASAK	**Asacha**	**1.74**	**279**	*e*P	Pn	01 59 38.4	+2.2
ASAK				S	Sn	01 59 59.8	+2.6
KRX	**Arik**	**1.75**	**315**	P	Pn	01 59 38.8	+2.4
KRX				*e*S	Sn	02 00 01.5	+4.0
APC	**Apacha**	**2.30**	**291**	*e*P	Pn	01 59 46.6	+2.7
KZV	**Kizimen**	**2.99**	**356**	P	Pn	01 59 57.1	+3.6
KZV				S	Sn	02 00 32.5	+4.4
TUMD	**Tumrok D**	**3.08**	**357**	P	Pn	01 59 57.2	+2.7
TUMD				S	Sn	02 00 32.7	+2.6
TUMR	**Tumrok**	**3.17**	**354**	P	Pn	02 00 01.9	+6.0
KBTR	**Krutoberegovo**	**4.26**	**16**	P	Pn	02 00 14.0	+3.2

ROM 22 02:26:03.0±0.1, 43°.508N±0°.003×12°.408E±0°.003, h10km, ML0.5/1, Error ellipse: s-maj=0.3km s-min=0.1km az=24.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.06**	**184**	P	Pg	02 26 05.2	+0.2
ATPI	**Pietralunga -**	**0.06**	**184**	P	Pg	02 26 05.3	+0.2
ATPI				S	Sg	02 26 06.7	+0.2
ATPI	**Pietralunga -**	**0.06**	**184**	S	Sg	02 26 06.7	+0.2
PIEI	**Pieia**	**0.10**	**73**	P	Pg	02 26 05.9	+0.3
PIEI	**Pieia**	**0.10**	**73**	P	Pg	02 26 05.9	+0.4
PIEI				S	Sg	02 26 08.1	+0.8
PIEI				AML	AML		
	comp=E,52μm,0.4s						
PIEI				AML	AML		
	comp=N,29μm,0.2s						
PIEI				AML	AML		
	comp=N,29μm,0.2s						
PIEI				AML	AML		
	comp=E,52μm,0.4s						
PIEI	**Pieia**	**0.10**	**73**	P	Pg	02 26 06.0	+0.4
PIEI	**Pieia**	**0.10**	**73**	S	Sg	02 26 08.1	+0.7
BADI	**Badiali**	**0.12**	**271**	P	Pg	02 26 06.2	+0.4
BADI				S	Sg	02 26 08.5	+0.7
BADI	**Badiali**	**0.12**	**271**	S	Sg	02 26 08.5	+0.7
ATVO	**AVT- Monte Val**	**0.13**	**180**	P	Pg	02 26 06.5	+0.6
ATVO				S	Sg	02 26 09.0	+1.0
ATVO	**AVT- Monte Val**	**0.13**	**180**	P	Pg	02 26 06.5	+0.6
ATVO	**AVT- Monte Val**	**0.13**	**180**	S	Sg	02 26 09.1	+1.0
ATFO	**Monte Foce - G**	**0.18**	**140**	P	Pg	02 26 07.5	+0.6
ATFO				S	Sg	02 26 10.9	+1.3
ATFO	**Monte Foce - G**	**0.18**	**140**	P	Pg	02 26 07.6	+0.6
PARC	**Parchiule**	**0.19**	**319**	P	Pg	02 26 07.5	+0.5
PARC				S	Sg	02 26 11.1	+1.4
PARC	**Parchiule**	**0.19**	**319**	P	Pg	02 26 07.5	+0.6
PARC	**Parchiule**	**0.19**	**319**	P	Pg	02 26 07.5	+0.6
FRON	**Frontone**	**0.23**	**87**	P	Pg	02 26 08.3	+0.5
FRON				S	Sg	02 26 12.4	+1.5
FRON	**Frontone**	**0.23**	**87**	P	Pg	02 26 08.3	+0.6

ROM 22 02:26:17.7±0.1, 42°.709N±0°.008×13°.253E±0°.010, h10km, ML1.1/6, Error ellipse: s-maj=1.0km s-min=0.5km az=214.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.10**	**142**	P	Pg	02 26 20.9	+0.5
SMA1	**SAN MARTINO**	**0.10**	**142**	P	Pg	02 26 20.9	+0.5
SMA1				S	Sg	02 26 22.8	+0.6
SMA1				AML	AML		
	comp=E,144μm,0.2s						
SMA1				AML	AML		
	comp=N,129μm,0.5s						
SMA1				AML	AML		
	comp=E,144μm,0.2s						
SMA1				AML	AML		
	comp=N,129μm,0.5s						
SMA1				AML	AML		
	comp=E,144μm,0.2s						
SMA1	**SAN MARTINO**	**0.10**	**142**	S	Sg	02 26 22.7	+0.4
NRCA	**Norcia**	**0.16**	**321**	P	Pg	02 26 21.6	+0.4
NRCA	**Norcia**	**0.16**	**321**	P	Pg	02 26 21.7	+0.4
NRCA				S	Sg	02 26 24.3	+0.6
NRCA				AML	AML		
	comp=E,360μm,0.2s						
NRCA				AML	AML		
	comp=N,220μm,0.1s						
NRCA				AML	AML		
	comp=E,360μm,0.2s						
NRCA				AML	AML		
	comp=N,220μm,0.1s						
NRCA				AML	AML		
	comp=E,360μm,0.2s						
NRCA				AML	AML		
	comp=N,220μm,0.1s						
NRCA	**Norcia**	**0.16**	**321**	S	Sg	02 26 24.3	+0.6
LNSS	**Leonessa**	**0.19**	**236**	P	Pg	02 26 22.4	+0.7
LNSS	**Leonessa**	**0.19**	**236**	P	Pg	02 26 22.5	+0.7
LNSS				S	Sg	02 26 25.9	+1.4
CAMP	**Campotosto**	**0.21**	**146**	P	Pg	02 26 22.7	+0.6
CAMP	**Campotosto**	**0.21**	**146**	P	Pg	02 26 22.7	+0.6
CAMP				S	Sg	02 26 26.2	+1.1
CAMP	**Campotosto**	**0.21**	**146**	P	Pg	02 26 22.7	+0.6
CAMP	**Campotosto**	**0.21**	**146**	S	Sg	02 26 26.2	+1.1
TERO	**Teramo**	**0.27**	**108**	P	Pg	02 26 23.6	+0.4
TERO	**Teramo**	**0.27**	**108**	P	Pg	02 26 23.7	+0.4
TERO				S	Sg	02 26 28.0	+1.1
TERO				AML	AML		
	comp=E,52μm,0.1s						
TERO				AML	AML		
	comp=N,80μm,0.1s						
TERO				AML	AML		
	comp=E,52μm,0.1s						
TERO				AML	AML		
	comp=N,80μm,0.1s						
TERO				AML	AML		
	comp=N,80μm,0.1s						
TERO				AML	AML		
	comp=E,52μm,0.1s						
TERO	**Teramo**	**0.27**	**108**	S	Sg	02 26 28.1	+1.2
FDMO	**Fiordimonte**	**0.35**	**340**	P	Pg	02 26 24.9	+0.2
FDMO	**Fiordimonte**	**0.35**	**340**	P	Pg	02 26 25.0	+0.3
FDMO	**Fiordimonte**	**0.35**	**340**	P	Pg	02 26 25.1	+0.4
OFFI	**Offida**	**0.39**	**55**	P	Pg	02 26 26.0	+0.6
OFFI	**Offida**	**0.39**	**55**	P	Pb	02 26 26.6	-0.1
OFFI	**Offida**	**0.39**	**55**	P	Pb	02 26 26.7	0.0
CESI	**CESI - Serrava**	**0.39**	**319**	P	Pg	02 26 25.3	-0.2
CESI	**CESI - Serrava**	**0.39**	**319**	P	Pg	02 26 25.7	+0.3
CESI				S	Sb	02 26 32.1	-0.8
CESI				AML	AML		
	comp=E,18μm,0.3s						
CESI				AML	AML		
	comp=N,23μm,0.5s						
CESI				AML	AML		
	comp=E,18μm,0.3s						
CESI				AML	AML		
	comp=N,23μm,0.5s						
CESI	**CESI - Serrava**	**0.39**	**319**	P	Pg	02 26 25.8	+0.3
CESI	**CESI - Serrava**	**0.39**	**319**	S	Sb	02 26 32.2	-0.7
MOMA	**Monte Martano**	**0.51**	**281**	P	Pg	02 26 28.2	+0.5
MOMA	**Monte Martano**	**0.51**	**281**	P	Pg	02 26 28.2	+0.6
MOMA	**Monte Martano**	**0.51**	**281**	AML	AML		
	comp=E,21μm,1.5s						
MOMA				AML	AML		
	comp=E,21μm,1.5s						
MOMA				AML	AML		
	comp=N,19μm,0.7s						
MOMA				AML	AML		
	comp=E,21μm,1.5s						
MOMA				AML	AML		
	comp=N,19μm,0.7s						
MOMA				AML	AML		
	comp=N,19μm,0.7s						
ASSB	**Assisi San Ben**	**0.55**	**308**	P	Pg	02 26 28.4	+0.1
ASSB	**Assisi San Ben**	**0.55**	**308**	P	Pg	02 26 28.5	+0.1
ASSB				S	Sb	02 26 37.2	-0.2
ASSB				AML	AML		
	comp=E,21μm,0.7s						
ASSB				AML	AML		
	comp=N,20μm,1.4s						
ASSB				AML	AML		
	comp=E,21μm,0.7s						
ASSB				AML	AML		
	comp=N,20μm,1.4s						
ASSB				AML	AML		
	comp=E,21μm,0.7s						
ASSB				AML	AML		
	comp=N,20μm,1.4s						
ASSB	**Assisi San Ben**	**0.55**	**308**	P	Pg	02 26 28.5	+0.1
GUMA	**Gualdo di Mace**	**0.61**	**55**	P	Pg	02 26 25.7	-3.9
GUMA	**Gualdo di Mace**	**0.61**	**55**	P	Pg	02 26 25.7	-3.9

DJA 22 02:44:24.5±0.6, 1°S±5°×13°3E±°, h10km, M3.9/3, MLv3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.30**	**126**	P	Pn	02 44 48.6	-0.1
RKPI				S	Sg	02 45 06.5	+0.1
SWI	**Sorong**	**1.86**	**267**	P	Pn	02 44 56.2	-0.3
SWI				S	Sb	02 45 21.2	-0.8
FAKI	**Fak Fak**	**2.32**	**202**	P	Pn	02 45 02.5	-0.4
FAKI				S	Sn	02 45 31.8	+0.3

SJA 22 02:49:32.8±0.6, 29°.57S×67°.74W, h129km±4km, ML3.4, MW3.8, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**0.66**	**277**	*i* P	Pn	02 49 52.9	0.0
AGUA				*i* S	Sn	02 50 08.8	+0.8
ACLC	**CERRO LA CRUZ**	**0.70**	**79**	*i* P	Pn	02 49 53.7	+0.4
VCA	**Vinchina**	**0.92**	**334**	*i* P	Pn	02 49 55.5	+0.4
VCA				*i* S	Sn	02 50 13.0	+1.0
VCA				IAML		02 50 13.8	
	comp=Z,697nm,0.2s						
APLL	**PUNTA DE LOS L**	**1.34**	**128**	*i* P	Pn	02 50 00.1	+1.0
APLL				*i* S	Sn	02 50 19.7	+0.6
APLL				IAML		02 50 20.4	
	comp=Z,566nm,0.1s						
ACDV	**Cuesta del Vie**	**1.34**	**243**	*i* P	Pn	02 50 00.2	+1.0
AMOG	**MOGNA**	**1.51**	**205**	*i* P	Pn	02 50 02.0	+0.9
RTLL	**Cerro Villicun**	**1.87**	**200**	*i* P	Pn	02 50 06.0	+0.8
CYA	**Choya**	**2.04**	**57**	*i* P	Pn	02 50 08.0	+0.8
CYA				*i* S	Sn	02 50 34.2	+0.7
CYA				IAML		02 50 34.2	
	comp=Z,132nm,0.3s						
RTLS	**Leoncito**	**2.60**	**211**	*i* P	Pn	02 50 16.0	+1.5
RTLS				IAML		02 50 18.1	
	comp=Z,148nm,0.2s						

NDI 22 03:20:56.9±2.1, 22°.03N×95°.03E, h10km, ML3.6, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**1.94**	**284**	*e*P	Pb	03 21 31.7	-0.8
SAIH				*e*S	Sn	03 21 54.8	+0.1
SAIH				IAML		03 22 01.3	
	comp=E,351nm,0.1s						
SAIH				IAML		03 22 02.1	
	comp=N,184nm,0.2s						
IMP	**Imphal**	**2.96**	**341**	*e*P	Pn	03 21 45.9	+1.8
KOHI	**KOHIMA**	**3.77**	**347**	*e*P	Pn	03 21 54.5	-0.7
KOHI				*e*S	Sn	03 22 37.8	-2.0
KOHI				IAML		03 22 46.4	
	comp=N,134nm,0.3s						
KOHI				IAML		03 22 46.5	
	comp=E,148nm,0.2s						
SHL	**Shillong**	**4.55**	**321**	*e*P	Pn	03 22 04.6	-1.4
SHL				*e*S	Sn	03 22 55.9	-3.1
TEZP	**TEZPUR**	**5.00**	**336**	*e*P	Pn	03 22 10.8	-1.1
TEZP				*e*S	Sn	03 23 06.3	-3.5
TEZP				IAML		03 23 13.5	
TEZP				IAML		03 23 14.0	
GUWA	**GUWAHATI**	**5.14**	**324**	*e*P	Pn	03 22 13.2	-0.8
GUWA				*e*S	Sn	03 23 09.8	-3.7
TURI	**Tura**	**5.55**	**310**	*e*P	Pn	03 22 20.6	+1.0
TURI				*e*S	Sn	03 23 21.6	-1.9
ZIRO	**ZIRO**	**5.58**	**349**	*e*P	Pn	03 22 18.7	-1.4
ZIRO				*e*S	Sn	03 23 20.6	-3.8
ZIRO				IAML		03 23 26.3	
	comp=N,278nm,0.1s						
ZIRO				IAML		03 23 26.4	
	comp=E,287nm,0.1s						

IPEC ***22*** *03:21:46.6±0.1, 47°.53N×12°.66E, h11km, ML2.9/3, Error ellipse: s-maj=0.7km s-min=0.5km az=151.0*
VIE ***22*** *03:21:46.1±0.1, 47°.54N×12°.67E, h9km, mb2.3/13, ml3.1/13, Error ellipse: s-maj=1.2km s-min=0.7km az=140.0, felt 4-5 ems98 at Lofer / Salzburg*
LDG ***22*** *03:21:47.2±0.1, 47°.53N×12°.62E, h9km, Ml2.9/26, Error ellipse: s-maj=2.6km s-min=2.3km az=23.0*
BGR ***22*** *03:21:47.5±0.2, 47°.56N×12°.70E, h10km, ML2.9/14, Error ellipse: s-maj=3.3km s-min=2.2km az=150.0*
BGR Some people felt strong vibrations in buildings, objects toppled down, a bang was heard.
ISCJB ***22*** *03:21:48.7±0.5, 47°.51N±0°.02×12°.50E±0°.02, h15km±4km, Error ellipse: s-maj=3.5km s-min=2.2km az=27.2*
PRU ***22*** *03:21:48.5±0.0, 47°.61N×12°.69E, h0km*
ROM ***22*** *03:21:49.5±0.5, 47°.43N±0°.04×12°.61E±0°.03, h10km, ML2.7/21, Error ellipse: s-maj=4.4km s-min=2.1km az=11.0*
STR ***22*** *03:21:55.4±0.7, 48°N±5°×1°2E±°, h10km, M3.3/6, mb3.7/2, MLv3.1/6*

ISC 22 03:21:46.5±0.9, 47°.57N±0°.01×12°.59E±0°.01, h9km±8km, n182, σ2s13/264, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RJOB	**Jochberg**	**0.21**	**40**	*e*Pg	**Pg**	**03 21 50.4**	**-0.5**
RJOB				*e*Sg	**Sg**	**03 21 53.6**	**-0.3**
KBA	**Koelnbreinsper**	**0.71**	**134**	*e*Pg	**Pg**	**03 21 58.8**	**-1.5**
	22nm,0.3s						
KBA				Sg	**Sg**	**03 22 07.8**	**-1.8**
	19nm,0.2s						
KBA	**Koelnbreinsper**	**0.71**	**134**	*e*Pg	**Pg**	**03 21 58.8**	**-1.5**
KBA				*e*Sg	**Sg**	**03 22 08.1**	**-1.5**
RISI	**Rein**	**0.72**	**209**	P	**Pg**	**03 21 59.9**	**-0.4**
RISI	**Rein**	**0.72**	**209**	P	**Pg**	**03 22 00.0**	**-0.4**
RISI	**Rein**	**0.72**	**209**	S	**Sg**	**03 22 08.6**	**-1.1**
WTTA	**Wattenberg**	**0.72**	**245**	*e*Pg	**Pg**	**03 22 00.5**	**+0.1**
	19nm,0.1s,SNR=50						
WTTA				*e*Sg	**Sg**	**03 22 10.1**	**+0.3**
	43nm,0.2s						
WTTA	**Wattenberg**	**0.72**	**245**	*e*Pg	**Pg**	**03 22 00.4**	**+0.1**
WTTA	**Wattenberg**	**0.72**	**245**	P	**Pg**	**03 22 00.6**	**+0.1**
WTTA				AML	AML		
	comp=E,243μm,0.9s						
WTTA				AML	AML		
	comp=N,214μm,0.9s					

	comp=N,80μm,0.4s					
PTCC				AML	AML	
	comp=E,91μm,0.4s					
PTCC				AML	AML	
	comp=N,80μm,0.4s					
PTCC	**Patocco-Chiusa**	**1.28**	**156**	P	**Pg**	**03 22 09.9 -1.2**
STAL	**STALIGIAL**	**1.32**	**176**	P	**Pg**	**03 22 11.0 -0.7**
STAL	**STALIGIAL**	**1.32**	**176**	P	**Pg**	**03 22 11.1 -0.6**
STAL	**STALIGIAL**	**1.32**	**176**	P	**Pg**	**03 22 11.2 -0.6**
STAL				AML	AML	
	comp=E,358μm,1.1s					
STAL				AML	AML	
	comp=N,290μm,1.2s					
STAL				AML	AML	
	comp=E,358μm,1.1s					
STAL				AML	AML	
	comp=N,290μm,1.2s					
STAL				AML	AML	
	comp=E,358μm,1.1s					
STAL				AML	AML	
	comp=N,290μm,1.2s					
AGOR	**Agordo**	**1.34**	**196**	P	**Pn**	**03 22 12.5 +1.0**
AGOR				AML	AML	
	comp=E,197μm,0.4s					
AGOR				AML	AML	
	comp=N,407μm,0.4s					
AGOR				AML	AML	
	comp=E,196μm,0.4s					
AGOR				AML	AML	
	comp=N,407μm,0.4s					
AGOR				AML	AML	
	comp=N,407μm,0.4s					
AGOR				AML	AML	
	comp=E,196μm,0.4s					
AGOR	**Agordo**	**1.34**	**196**	P	**Pb**	**03 22 14.6 +2.8**
GEPF	**Gemona**	**1.35**	**164**	P	**Pg**	**03 22 11.7 -0.7**
GEPF				AML	AML	
	comp=E,102μm,0.5s					
GEPF				AML	AML	
	comp=N,115μm,0.7s					
GEPF				AML	AML	
	comp=E,102μm,0.5s					
GEPF				AML	AML	
	comp=N,115μm,0.7s					
GEPF				AML	AML	
	comp=E,102μm,0.5s					
GEPF				AML	AML	
	comp=N,115μm,0.7s					
GEPF	**Gemona**	**1.35**	**164**	P	**Pg**	**03 22 11.7 -0.7**
FETA	**Feichten**	**1.38**	**247**	Pg	**Pg**	**03 22 12.8 -0.3**
	comp=N,3.0nm,0.1s,SNR=40					
FETA				Sg	**Sn**	**03 22 33.2 +2.6**
	comp=N,38nm,0.2s					
KOSI	**Kohlern**	**1.39**	**217**	P	**Pg**	**03 22 12.7 -0.3**
KOSI	**Kohlern**	**1.39**	**217**	P	**Pg**	**03 22 12.8 -0.3**
APPI	**Appiano**	**1.44**	**221**	P	**Pg**	**03 22 14.1 0.0**
APPI	**Appiano**	**1.44**	**221**	P	**Pg**	**03 22 14.1 0.0**
APPI	**Appiano**	**1.44**	**221**	P	**Pg**	**03 22 14.2 0.0**
APPI				AML	AML	
	comp=E,246μm,0.4s					
APPI				AML	AML	
	comp=N,318μm,0.3s					
APPI				AML	AML	
	comp=E,246μm,0.4s					
APPI				AML	AML	
	comp=N,317μm,0.3s					
APPI				AML	AML	
	comp=E,246μm,0.4s					
APPI				AML	AML	
	comp=N,317μm,0.3s					
ROBS	**Robic**	**1.47**	**154**	*i* Pn	**Pn**	**03 22 13.2 0.0**
ROBS				*i* Sn	**Sg**	**03 22 33.5 -0.2**
GEC2	**GERESS Array S**	**1.47**	**30**	*e*Pn	**Pn**	**03 22 13.1 -0.2**
GEC2				*e*Sg	**Sn**	**03 22 34.7 +2.0**
POLC	**Polcenigo**	**1.55**	**182**	P	**Pg**	**03 22 16.7 +0.6**
POLC				AML	AML	
	comp=E,478μm,0.4s					
POLC				AML	AML	
	comp=N,414μm,0.3s					
POLC				AML	AML	
	comp=E,478μm,0.4s					
POLC				AML	AML	
	comp=N,414μm,0.3s					
POLC				AML	AML	
	comp=E,478μm,0.4s					
POLC				AML	AML	
	comp=N,414μm,0.3s					
POLC	**Polcenigo**	**1.55**	**182**	P	**Pg**	**03 22 16.8 +0.6**
CADS	**Cadrg**	**1.56**	**149**	*i* Pn	**Pn**	**03 22 15.0 +0.6**
OBER	**Oberstdorf**	**1.57**	**265**	*e*Pn	**Pg**	**03 22 16.7 +0.2**
GORS	**Gorjuse**	**1.58**	**142**	*i* Pn	**Pn**	**03 22 15.3 +0.5**
GORS				*i* Sn	**Sn**	**03 22 36.5 +1.1**
WET	**Wettzell**	**1.58**	**7**	*e*Pn	**Pn**	**03 22 14.9 +0.2**
WET				*e*Sg	**Sg**	**03 22 38.0 +0.7**
CTI	**Castel Tesino**	**1.66**	**203**	P	**Pb**	**03 22 18.1 +0.9**
CTI				AML	AML	
	comp=E,406μm,0.4s					
CTI				AML	AML	
	comp=N,398μm,0.3s					
CTI				AML	AML	
	comp=E,406μm,0.4s					
CTI				AML	AML	
	comp=N,398μm,0.3s					
CTI				AML	AML	
	comp=N,398μm,0.3s					
CTI				AML	AML	
	comp=E,406μm,0.4s					
CTI	**Castel Tesino**	**1.66**	**203**	P	**Pg**	**03 22 19.3 +1.0**
UBR	**Ueberruh**	**1.68**	**275**	*e*Pn	**Pg**	**03 22 18.7 -0.1**
UBR				*e*Sg	**Sg**	**03 22 43.0 +2.4**
KHC	**Kasperske Hory**	**1.69**	**22**	*e*Pn	**Pn**	**03 22 16.2 -0.1**
KHC				*e*Sg	**Sg**	**03 22 41.1 +0.2**
KHC	**Kasperske Hory**	**1.69**	**22**	*e*PN	**Pn**	**03 22 16.0 -0.2**
KHC				*e*PG	**Pb**	**03 22 18.1 +0.3**
KHC				*e*SN	**Sn**	**03 22 37.5 -0.5**
KHC				*e*SG	**Sb**	**03 22 40.0 +0.8**
	comp=E,205nm,0.3s					
MOSI	**Grossmontoni**	**1.69**	**236**	P	**Pg**	**03 22 19.4 +0.5**
MOSI	**Grossmontoni**	**1.69**	**236**	P	**Pg**	**03 22 19.8 +0.8**
OBKA	**Obir**	**1.71**	**128**	Pg	**Pn**	**03 22 17.1 +0.6**
	comp=E,6.7nm,0.2s,SNR=23					
OBKA				Sg	**Sg**	**03 22 41.5 +0.1**
	comp=E,36nm,0.4s					
OBKA	**Obir**	**1.71**	**128**	*e*Pn	**Pn**	**03 22 18.1 +1.6**
SABO	**M.te Sabotino**	**1.74**	**156**	P	**Pb**	**03 22 18.6 0.0**
SABO				AML	AML	
	comp=E,222μm,1.2s					
SABO				AML	AML	
	comp=N,227μm,1.6s					
SABO				AML	AML	
	comp=E,222μm,1.2s					
SABO				AML	AML	
	comp=N,227μm,1.6s					
SABO				AML	AML	
	comp=N,227μm,1.6s					
SABO				AML	AML	
	comp=E,222μm,1.2s					
SABO	**M.te Sabotino**	**1.74**	**156**	P	**Pb**	**03 22 18.8 +0.3**
SABO	**M.te Sabotino**	**1.74**	**156**	S	**Sg**	**03 22 44.0 +1.7**
NORI	**Noerdlinger Ri**	**1.75**	**312**	*e*Pg	**Pg**	**03 22 23.0 +3.1**
NORI				*e*Sg	**Sg**	**03 22 43.6 +1.0**
VOJS	**Vojsko**	**1.78**	**150**	*i* Pn	**Pn**	**03 22 19.0 +1.5**
VOJS				*i* Sn	**Sg**	**03 22 43.9 +0.2**
CGRP	**Cima Grappa**	**1.78**	**198**	P	**Pb**	**03 22 20.0 +0.6**
CGRP	**Cima Grappa**	**1.78**	**198**	P	**Pb**	**03 22 20.0 +0.6**
CGRP				AML	AML	
	comp=E,195μm,1.5s					
CGRP				AML	AML	
	comp=N,314μm,0.6s					
CGRP				AML	AML	
	comp=E,195μm,1.5s					
CGRP				AML	AML	
	comp=N,314μm,0.6s					
CGRP				AML	AML	
	comp=N,314μm,0.6s					
CGRP				AML	AML	
	comp=E,195μm,1.5s					
MOZS	**Mozjanca**	**1.80**	**135**	*i* Pn	**Pn**	**03 22 19.0 +1.3**
MOZS				*i* Sn	**Sn**	**03 22 42.3 +1.6**
FUORN	**Ofenpass-Fuorn**	**1.86**	**240**	P	**Pg**	**03 22 22.1 0.0**
FUORN	**Ofenpass-Fuorn**	**1.86**	**240**	P	**Pg**	**03 22 22.3 +0.2**
FUORN				AML	AML	
	comp=E,116μm,1.6s					
FUORN				AML	AML	
	comp=N,175μm,0.4s					
FUORN				AML	AML	
	comp=E,116μm,1.6s					
FUORN				AML	AML	
	comp=N,175μm,0.4s					
FUORN				AML	AML	
	comp=E,116μm,1.6s					
DAVA	**Damuels**	**1.86**	**262**	Pg	**Pg**	**03 22 22.1 -0.1**
	comp=E,14nm,0.2s,SNR=32					
DAVA				Sg	**Sg**	**03 22 48.2 +1.8**
	comp=E,42nm,0.2s					
DAVA	**Damuels**	**1.86**	**262**	*e*Pn	**Pg**	**03 22 22.1 -0.1**
SOKA	**Soboth**	**1.89**	**117**	Pg	**Pn**	**03 22 20.3 +1.2**
	comp=E,6.7nm,0.4s,SNR=16					
SOKA				Sg	**Sn**	**03 22 45.1 +2.1**
	comp=E,5.4nm,0.3s					
DAVOX	**Davos/Dischmat**	**2.01**	**248**	P	**Pb**	**03 22 23.6 +0.3**
DAVOX	**Davos/Dischmat**	**2.01**	**248**	P	**Pb**	**03 22 23.7 +0.3**
DAVOX				AML	AML	
	comp=E,120μm,0.7s					
DAVOX				AML	AML	
	comp=N,232μm,0.5s					
DAVOX				AML	AML	
	comp=E,120μm,0.7s					
DAVOX				AML	AML	
	comp=N,232μm,0.5s					
ARSA	**Arzberg**	**2.02**	**98**	Pg	**Pb**	**03 22 23.4 +0.2**
	comp=N,12nm,0.5s,SNR=11					
ARSA				Sg	**Sb**	**03 22 50.2 +1.7**
	comp=N,16nm,0.5s					
ARSA	**Arzberg**	**2.02**	**98**	P	**Pb**	**03 22 23.4 +0.2**
ARSA	**Arzberg**	**2.02**	**98**	P	**Pb**	**03 22 23.5 +0.2**
ARSA				AML	AML	
	comp=E,44μm,0.4s					
ARSA				AML	AML	
	comp=N,49μm,0.6s					
ARSA				AML	AML	
	comp=E,44μm,0.4s					
ARSA				AML	AML	
	comp=N,49μm,0.6s					
ARSA	**Arzberg**	**2.02**	**98**	S	**Sg**	**03 22 51.0 -0.2**
TRI	**Trieste**	**2.03**	**156**	P	**Pn**	**03 22 22.5 +1.7**
TRI	**Trieste**	**2.03**	**156**	S	**Sg**	**03 22 51.0 -0.8**
ROVR	**Rover Verones**	**2.19**	**209**	P	**Pb**	**03 22 26.4 0.0**
CONA	**Conrad Observa**	**2.23**	**80**	Pn	**Pn**	**03 22 25.3 +1.6**
	comp=N,3.5nm,0.2s,SNR=17					
CONA				Sn	**Sn**	**03 22 53.0 +1.5**
	comp=N,25nm,0.2s					
PLONS	**Plons/SG**	**2.25**	**258**	*e*Pn	**Pb**	**03 22 26.9 -0.4**
PLONS				*e*Pg	**Pg**	**03 22 30.1 +0.5**
PLONS				*e*Sg	**Sg**	**03 23 00.1 +1.4**
PLONS	**Plons/SG**	**2.25**	**258**	P	**Pb**	**03 22 28.1 +0.8**
PLONS				AML	AML	
	comp=E,58μm,1.2s					
PLONS				AML	AML	
	comp=N,51μm,1.3s					
PLONS				AML	AML	
	comp=E,58μm,1.2s					
PLONS				AML	AML	
	comp=N,51μm,1.3s					
PLONS	**Plons/SG**	**2.25**	**258**	P	**Pg**	**03 22 31.5 +2.0**
MAGA	**Magasa**	**2.25**	**218**	P	**Pb**	**03 22 26.7 -0.6**
MAGA	**Magasa**	**2.25**	**218**	P	**Pb**	**03 22 26.7 -0.6**
SKDS	**Skadanscina**	**2.25**	**154**	*i* Pn	**Pn**	**03 22 25.3 +1.4**
SKDS				*i* Sn	**Sb**	**03 22 56.3 +1.0**
TEOL	**Teolo**	**2.31**	**196**	P	**Pn**	**03 22 26.6 +1.9**
TEOL				AML	AML	
	comp=E,391μm,0.7s					
TEOL				AML	AML	
	comp=N,310μm,0.6s					
TEOL				AML	AML	
	comp=N,310μm,0.6s					
TEOL				AML	AML	
	comp=E,391μm,0.7s					
TEOL	**Teolo**	**2.31**	**196**	P	**Pn**	**03 22 26.7 +2.0**
GRF	**Grafenberg Arr**	**2.31**	**337**	*e*Pg	**Pg**	**03 22 31.8 +1.1**
MANZ	**Manzenberg**	**2.44**	**353**	*e*Pn	**Pn**	**03 22 25.9 -0.5**
MANZ				*e*Pg	**Pg**	**03 22 33.7 +0.6**
WILA	**Wila**	**2.50**	**268**	*e*Pn	**Pn**	**03 22 29.4 +1.9**
TREC	**Trest**	**2.58**	**47**	*e*PG	**Pb**	**03 22 34.2 +1.2**
TREC				*e*SG	**Sg**	**03 23 07.8 -1.7**
	comp=E,26nm,0.5s					
NKC	**Novy Kostel**	**2.66**	**358**	*e*Pg	**Pg**	**03 22 38.2 +0.7**
NKC	**Novy Kostel**	**2.66**	**358**	*e*PG	**Pb**	**03 22 36.0 +1.7**
NKC				*e*SG	**Sg**	**03 23 11.4 -0.6**
	comp=E,28nm,0.3s					
PRU	**Pruhonice**	**2.74**	**27**	*e*Pg	**Pb**	**03 22 37.5 +1.9**
PRU	**Pruhonice**	**2.74**	**27**	*e*PG	**Pb**	**03 22 37.3 +1.7**
PRU				*e*SG	**Sg**	**03 23 12.6 -1.8**
	comp=E,23nm,0.3s					
KOGS	**Kog**	**2.74**	**113**	P	**Pn**	**03 22 32.2 +1.5**
GOPC	**GO Pecny, Ondr**	**2.75**	**31**	*e*PG	**Pb**	**03 22 37.4 +1.5**
GOPC				*e*SG	**Sg**	**03 23 13.6 -1.3**
	comp=E,33nm,0.7s					
BOJS	**Bojanci**	**2.77**	**137**	P	**Pn**	**03 22 32.4 +1.4**
BOJS	**Bojanci**	**2.77**	**137**	AML	AML	
	comp=E,22μm,0.7s					
BOJS				AML	AML	
	comp=E,22μm,0.7s					
BOJS				AML	AML	
	comp=N,17μm,1.5s					
BOJS				AML	AML	
	comp=N,17μm,1.5s					
SLE	**Schleitheim**	**2.78**	**275**	*e*Pn	**Pn**	**03 22 32.6 +1.5**
OZLJ	**Ozalj**	**2.79**	**134**	*e*Pn	**Pn**	**03 22 31.9 +0.7**
OZLJ				Sn	**Sn**	**03 23 05.4 +0.5**
KRUC	**Moravsky**	**2.94**	**58**	*e*PN	**Pn**	**03 22 32.7 -0.7**
KRUC				*e*PG	**Pb**	**03 22 40.0 +0.9**
KRUC				*e*SG	**Sb**	**03 23 18.0 +2.9**
KRUC	**Moravsky**	**2.94**	**58**	*e*Pn	**Pn**	**03 22 32.7 -0.7**
	baz=240					
KRUC	**Moravsky**	**2.94**	**58**	*e*Pg	**Pb**	**03 22 40.0 +0.9**
	baz=240					
KRUC				*e*Sg	**Sb**	**03 23 17.9 +2.9**
	comp=N,49nm,0.7s,baz=240					
BFO	**Black Forest**	**2.96**	**286**	*e*Pn	**Pn**	**03 22 35.1 +1.4**
OPP	**Oppenau**	**3.10**	**289**	Pn	Pb	03 22 37.2 -4.5
OPP				P	**Pn**	**03 22 37.2 +1.7**
OPP				Sn	**Sn**	**03 23 11.8 -0.8**
ZST	**Bratislava**	**3.10**	**77**	*e*SG	**Sb**	**03 23 18.8 -0.8**
MOX	**Moxa**	**3.14**	**349**	*e*Pn	**Pn**	**03 22 36.7 +0.6**
KIZ	**Kirchzarten**	**3.18**	**279**	Pn	**Pn**	**03 22 37.9 +1.2**
KIZ				Sn	**Sn**	**03 23 14.1 -0.5**
VRAC	**Vranov**	**3.18**	**55**	*e*PN	**Pn**	**03 22 36.2 -0.4**
VRAC				*e*PG	**Pb**	**03 22 44.4 +1.3**
VRAC				*e*SG	**Sg**	**03 23 26.0 -2.6**
VRAC	**Vranov**	**3.18**	**55**	*e*Pn	**Pn**	**03 22 36.1 -0.5**
	baz=237					
VRAC	**Vranov**	**3.18**	**55**	*e*Pg	**Pb**	**03 22 44.3 +1.2**
	baz=237					
VRAC				*e*Sg	**Sg**	**03 23 25.9 -2.6**
	comp=N,42nm,0.6s,baz=237					
PVCC	**Panska Ves**	**3.23**	**23**	*e*PG	**Pb**	**03 22 46.3 +2.3**
PVCC				*e*SG	**Sg**	**03 23 29.6 -0.5**
	comp=N,49nm,0.5s					
MODS	**Modra-Piesok**	**3.25**	**74**	*e*PG	**Pb**	**03 22 44.7 +0.4**
MODS				*e*SG	**Sb**	**03 23 25.9 +2.0**
BALST	**Balsthal**	**3.33**	**268**	*e*Pn	**Pn**	**03 22 40.6 +1.8**
NVLJ	**Novalja**	**3.40**	**151**	*e*Pn	**Pn**	**03 22 40.9 +1.3**
BRG	**Berggiesshubel**	**3.42**	**14**	PG	**Pg**	**03 22 50.7 -1.2**
BRG				SG	**Sg**	**03 23 34.2 -2.0**
	comp=N,18nm,0.4s					
LANF	**Langenberg**	**3.49**	**296**	Pn	**Pn**	**03 22 43.3 +2.3**
BRIS	**BRISIGHELLA**	**3.51**	**193**	S	**Sn**	**03 23 16.0 -6.7**
WLS	**Welschbruch**	**3.62**	**285**	Pn	**Pn**	**03 22 44.8 +2.1**
CDF	**Champ du Feu**	**3.67**	**285**	*e*P	**Pn**	**03 22 44.8 +1.4**
CDF				*e*Sn	**Sn**	**03 23 23.3 -3.5**
CDF				*e*Sg	**Sg**	**03 23 43.3 -0.9**
	comp=N,6.1nm,0.3s					
MOF	**Molkenrain**	**3.70**	**276**	Pn	**Pn**	**03 22 45.8 +1.9**
UPC	**Upice**	**3.70**	**36**	*e*PG	**Pb**	**03 22 54.3 +2.4**
UPC				*e*SG	**Sg**	**03 23 43.2 -2.0**
	comp=N,17nm,0.5s					
DPC	**Dobruska-Polom**	**3.71**	**40**	*e*SG	**Sg**	**03 23 43.3 -2.2**
	comp=N,16nm,0.6s					
ECH	**Echery**	**3.71**	**282**	Pn	**Pn**	**03 22 45.1 +1.1**
ECH				Sn	**Sn**	**03 23 26.8 -1.0**
KRLC	**Kraliky**	**3.73**	**46**	*e*SG	**Sg**	**03 23 45.0 -1.2**
	comp=N,5.5nm,0.7s					
CLL	**Collm**	**3.75**	**4**	*e*Pn	**Pn**	**03 22 45.0 +0.6**
CLL				*e*Pg	**Pg**	**03 22 59.0 +0.8**
CLL				*e*Sn	Sn	03 23 16.0 -13
CLL				*e*Sg	**Sg**	**03 23 44.0 -2.7**
	comp=Z,16nm,0.6s					
UDBI	**Udbina**	**3.76**	**143**	*e*Pn	**Pn**	**03 22 47.1 +2.4**
TNS	**Taunus Mts**	**3.81**	**316**	*e*Pn	**Pn**	**03 22 47.1 +1.8**
PE3	**Peglio**	**3.88**	**181**	P	**Pn**	**03 22 47.7 +1.4**
HINF	**Hinteralfeld**	**3.88**	**276**	*e*Sn	**Sn**	**03 23 29.6 -2.5**
	comp=Z,4.4nm,0.2s					
HINF				*e*Sg	**Sg**	**03 23 50.6 -0.6**
	comp=Z,9.0nm,0.4s					
LOMF	**Lomont**	**3.92**	**269**	Pn	**Pn**	**03 22 48.3 +1.4**
MORC	**Moravsky Berou**	**3.95**	**54**	*e*PN	**Pn**	**03 22 46.5 -0.8**
MORC				*e*SG	**Sg**	**03 23 49.9 -3.4**
MORC	**Moravsky Berou**	**3.95**	**54**	*e*Pn	**Pn**	**03 22 46.5 -0.8**
	baz=237					
MORC				*e*Sg	**Sg**	**03 23 49.8 -3.5**
	comp=Z,29nm,1.0s,baz=237					
MORC	**Moravsky Berou**	**3.95**	**54**	*e*Pn	**Pn**	**03 22 46.6 -0.8**
CHMF	**Charmoille**	**4.05**	**268**	Pn	**Pn**	**03 22 50.0 +1.3**
ABH	**Alteburg**	**4.06**	**307**	Pn	**Pn**	**03 22 50.3 +1.6**
ARVD	**Arcevia**	**4.08**	**176**	P	**Pn**	**03 22 50.1 +1.0**
ARVD	**Arcevia**	**4.08**	**176**	AML	AML	
	comp=N,20μm,1.5s					
ARVD				AML	AML	
	comp=E,19μm,1.4s					
ARVD				AML	AML	
	comp=N,20μm,1.5s					
ARVD				AML	AML	
	comp=E,19μm,1.4s					
CSNT	**Castellina Chi**	**4.20**	**193**	S	**Sn**	**03 23 47.0 +7.0**
HAU	**Haudompre**	**4.23**	**278**	*e*P	**Pn**	**03 22 52.8 +1.7**
HAU				*e*Sn	**Sn**	**03 23 36.5 -4.2**
	comp=E,3.7nm,0.2s					
HAU				*e*Sg	**Sg**	**03 24 00.8 -1.5**
	comp=E,8.1nm,0.3s					
EL6	**Elcito**	**4.26**	**175**	P	**Pn**	**03 22 52.4 +0.8**
VYHS	**Vyhne**	**4.29**	**75**	*e*PG	**Pb**	**03 23 00.7 -1.3**
VYHS				*e*SG	**Sb**	**03 23 53.3 -0.5**
LPG	**La Plagne**	**4.54**	**245**	*e*P	**Pn**	**03 22 58.0 +2.5**
LPG				*e*Sn	**Sn**	**03 23 43.8 -4.7**
	comp=E,2.2nm,0.3s					
LPL	**La Plagne**	**4.54**	**245**	*e*P	**Pn**	**03 22 58.0 +2.5**
LPL				*e*Sn	**Sn**	**03 23 43.5 -5.0**
	comp=E,1.6nm,0.4s					
CABF	**La Chapelle**	**4.55**	**260**	*e*P	**Pn**	**03 22 58.0 +2.5**
CABF				*e*Sn	**Sn**	**03 23 44.0 -4.5**
	comp=E,1.7nm,0.2s					
CABF				*e*Sg	**Sg**	**03 24 09.8 -2.6**
	comp=E,1.9nm,0.3s					
OG02	**Monnetier-Morn**	**4.60**	**254**	Pn	**Pn**	**03 22 57.7 +1.6**
PAGF	**Fort de Pagny**	**4.71**	**285**	*e*P	**Pn**	**03 22 59.8 +2.1**
PAGF				*e*Sn	**Sn**	**03 23 48.0 -4.4**
PAGF				*e*Sg	**Sg**	**03 24 15.5 -2.1**
	comp=E,11nm,0.6s					
MBDF	**Montbardon**	**4.95**	**237**	*e*P	**Pn**	**03 23 03.6 +2.5**
MBDF				*e*Sn	**Sn**	**03 23 53.1 -5.3**
	comp=E,1.0nm,0.3s					
ARRO	**Arrone**	**5.00**	**179**	P	**Pb**	**03 23 15.8 +1.8**
SFTF	**Sexfontaines**	**5.12**	**280**	*e*P	**Pn**	**03 23 05.6 +2.3**
SFTF				*e*Sn	**Sn**	**03 23 58.3 -4.2**
	comp=E,4.3nm,0.3s					
SFTF				*e*Sg	**Sg**	**03 24 28.1 -2.7**
	comp=E,4.0nm,0.3s					
OGSM	**Saint Maurice**	**5.14**	**250**	Pn	**Pn**	**03 23 05.0 +1.4**
SBF	**Sospel**	**5.18**	**226**	*e*P	**Pn**	**03 23 05.9 +1.7**
SBF				*e*Sn	**Sn**	**03 23 58.3 -5.7**
	comp=E,2.3nm,0.2s					
ORIF	**Oris-en-Rattie**	**5.36**	**243**	*e*P	**Pn**	**03 23 09.2 +2.5**
ORIF				*e*Sn	**Sn**	**03 24 03.1 -5.5**
	comp=E,1.6nm,0.2s					
CALF	**Calern**	**5.51**	**228**	Pn	**Pn**	**03 23 12.4 +3.6**
RMP	**Rome, Mte Porz**	**5.76**	**179**	P	**Pb**	**03 23 24.6 -2.6**
FRF	**La Foret Royal**	**5.79**	**228**	*e*P	**Pn**	**03 23 14.9 +2.4**
DOU	**Dourbes**	**5.85**	**298**	Pn	**Pn**	**03 23 15.2 +1.9**
LOR	**Lormes**	**5.94**	**270**	*e*P	**Pn**	**03 23 17.1 +2.6**
LOR				*e*Sn	**Sn**	**03 24 17.5 -5.1**
	comp=E,1.7nm,0.3s					
LOR				*e*Sg	**Sg**	**03 24 53.3 -3.6**
	comp=E,1.4nm,0.3s					
SMF	**Signal de Mont**	**6.05**	**264**	*e*P	**Pn**	**03 23 19.1 +3.1**
SMF				*e*Sn	**Sn**	**03 24 20.1 -5.2**
	comp=E,1.6nm,0.2s					
BAIF	**Baives**	**6.07**	**297**	*e*P	**Pn**	**03 23 19.2 +2.9**
BAIF				*e*Sn	**Sn**	**03 24 20.6 -5.3**
	comp=E,2.1nm,0.3s					
BAIF				*e*Sg	**Sg**	**03 24 57.8 -3.4**
	comp=E,2.1nm,0.3s					
SMRF	**Simiane la Rot**	**6.08**	**236**	*e*P	**Pn**	**03 23 18.8 +2.2**
VIVF	**Saint-Julien-l**	**6.13**	**247**	*e*P	**Pn**	**03 23 20.2 +3.0**
VIVF				*e*Sn	**Sn**	**03 24 21.5 -6.0**
	comp=E,1.2nm,0.2s					
SSF	**Saint Saulge**	**6.20**	**269**	*e*P	**Pn**	**03 23 20.5 +2.4**
SSF				*e*Sn	**Sn**	**03 24 23.5 -5.6**
SSF				*e*Sg	**Sg**	**03 25 01.5 -3.9**
	comp=E,2.0nm,0.5s					
AVF	**Avril sur Loir**	**6.35**	**266**	*e*P	**Pn**	**03 23 22.6 +2.5**
AVF				*e*Sn	**Sn**	**03 24 27.2 -5.5**
BGF	**Bois d'Agland**	**6.74**	**265**	*e*P	**Pn**	**03 23 26.8 +1.3**
BGF				*e*Sn	**Sn**	**03 24 36.6 -5.7**
	comp=E,3.8nm,0.2s					
TCF	**Toulx Ste Croi**	**7.23**	**264**	*e*P	**Pn**	**03 23 33.3 +1.1**
TCF				*e*Sn	**Sn**	**03 24 48.3 -6.1**
	comp=E,1.8nm,0.2s					
CAF	**Calviac**	**7.76**	**254**	*e*P	**Pn**	**03 23 41.3 +1.7**
CAF				*e*Sn	Sn	03 25 00.3 -7.3
	comp=E,1.0nm,0.2s					
RJF	**Les Rejaudoux**	**7.98**	**258**	*e*P	**Pn**	**03 23 46.2 +3.6**
MMN	**Mormanno**	**8.06**	**161**	P	**Pn**	**03 23 41.5 -2.2**
MFF	**Saint Martin d**	**8.75**	**268**	*e*P	**Pn**	**03 23 55.6 +2.5**
MFF				*e*Sn	Sn	03 25 24.2 -7.6
	comp=E,0.2nm,0.2s					

DJA 22 03:22:39.3±0.6, 9°S±4′×11°9E±°, h75km±9km, M3.6/6, MLv3.6/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.11**	**278**	P	Pn	03 22 59.3	-0.2
PLAI				S	Sn	03 23 14.9	+0.3
WSI	**Waingapu**	**1.54**	**116**	P	Pn	03 23 05.0	0.0
WSI				S	Sn	03 23 24.1	-0.4
BSSI	**Bau Bau, Buton**	**3.24**	**29**	P	Pn	03 23 28.1	+0.2
BSSI				S	Sn	03 24 05.9	+0.4
BKSI	**Bulukumba**	**3.84**	**19**	P	Pn	03 23 35.9	-0.2
BKSI				S	Sn	03 24 19.6	-0.5
JAGI	**Jajag, Banyuwa**	**4.71**	**276**	P	Pn	03 23 49.6	+1.7
JAGI				S	Sn	03 24 41.5	+0.1

NIED ***22*** *03:29:00, 46.00N×151.60E, h44km, Mw4.2 Best double couple: M0=2.29000×10^15 NP1:φ=226.00000°, δ=59.00000°, λ=-146.00000°. NP2:φ=117.00000°, δ=61.00000°, λ=-36.00000°.*

JMA ***22*** *03:29:50.3±0.6, 45.98N×151.65E, h30km, M4.7*

ISCJB ***22*** *03:29:50.7±0.4, 45.86N±0.06×151.60E±0.06, h48km, mb3.9/26, MS3.3/10, Error ellipse: s-maj=9.6km s-min=3.4km az=143.8*

SKHL ***22*** *03:29:52.0±0.2, 45.74N×151.76E, h63km±7km, mb4.4/6*

MOS ***22*** *03:29:52.6±1.2, 45.93N×151.48E, h64km, mb4.3/4, Error ellipse: s-maj=10.2km s-min=6.8km az=59.1*

IDC ***22*** *03:29:57.0±2.5, 46.10N×151.34E, h80km±21km, mb3.6/21, mb1 3.8/27, mb1mx3.6/56, mbtmp3.9/27, MS3.2/17, Ms1 3.2/17, ms1mx3.1/33, Error ellipse: s-maj=20.9km s-min=13.2km az=149.0*

**ISC 22 03:29:51.9±

KUR AMB AMB 03 30 35.0
comp=N,40nm,0.3s
KUR *i* S **Sn** **03 31 04.6 +0.1**
KUR A A 03 31 06.6
comp=N,470nm,0.5s
KUR A A 03 31 06.6
comp=N,180nm,0.5s
YUK Yuzh-Kuril'sk 4.46 249 *e*PN **Pn** **03 30 59.4 +2.5**
YUK *i* S **Sn** **03 31 49.8 +2.3**
YUK pmax pmax
comp=Z,232nm,0.2s
YUK pmax pmax
comp=E,168nm,0.3s
YUK pmax pmax
comp=N,34nm,0.2s
YUK smax smax
comp=E,431nm,0.5s
YUK smax smax
comp=N,388nm,0.4s
YUK Yuzh-Kuril'sk 4.46 249 *e*P **Pn** **03 30 59.1 +2.2**
YUK AMB AMB 03 31 01.0
comp=N,30nm,0.2s
YUK AMB AMB 03 31 01.0
comp=N,20nm,0.2s
YUK *i* S **Sn** **03 31 49.6 +2.1**
YUK A A 03 31 54.2
comp=N,190nm,0.5s
YUK A A 03 31 54.2
comp=N,130nm,0.5s
LAGR Lagunnoye 4.50 250 *e*PN **Pn** **03 31 00.5 +3.0**
LAGR *e*S **Sn** **03 31 50.9 +2.4**
LAGR pmax pmax
comp=Z,241nm,0.4s
LAGR pmax pmax
comp=E,121nm,0.3s
LAGR pmax pmax
comp=N,75nm,0.4s
LAGR smax smax
comp=N,775nm,0.5s
LAGR smax smax
comp=E,612nm,0.4s
LAGR Lagunnoye 4.50 250 *e*P **Pn** **03 31 00.0 +2.5**
LAGR AMB AMB 03 31 01.0
comp=E,80nm,0.4s
LAGR AMB AMB 03 31 01.0
comp=E,10.0nm,0.4s
LAGR AMB AMB 03 31 01.0
comp=E,30nm,0.4s
LAGR *e*S **Sn** **03 31 50.0 +1.5**
LAGR A A 03 32 01.3
comp=E,180nm,0.5s
LAGR A A 03 32 01.3
comp=E,110nm,0.5s
GRPR Tuman 4.54 249 *e*PN **Pn** **03 31 00.8 +2.8**
GRPR *e*S **Sn** **03 31 53.6 +4.2**
GRPR pmax pmax
comp=N,109nm,0.4s
GRPR pmax pmax
comp=E,118nm,0.4s
GRPR pmax pmax
comp=Z,207nm,0.4s
GRPR smax smax
comp=N,156nm,0.2s
GRPR smax smax
comp=E,290nm,0.5s
GRPR Tuman 4.54 249 *e*P **Pn** **03 31 00.0 +2.0**
GRPR AMB AMB 03 31 12.0
comp=E,10.0nm,0.2s
GRPR AMB AMB 03 31 12.0
comp=E,20nm,0.2s
GRPR *e*S **Sn** **03 31 53.0 +3.6**
GRPR A A 03 31 55.2
comp=E,160nm,0.5s
GRPR A A 03 31 55.2
comp=E,110nm,0.5s
GLVR Golovnino 4.81 247 *e*S **Sn** **03 31 58.0 +1.8**
NEM2 Nemuro 2 4.86 242 P **Pn** **03 31 01.9 -0.4**
NEM2 *e*S **Sn** **03 31 55.1 -2.1**
JRA Rausu 4.99 251 P **Pn** **03 31 06.5 +2.3**
JAK Akkeshi 5.70 243 P **Pn** **03 31 13.5 -0.4**
JAK *e*S **Sn** **03 32 15.5 -2.5**
SKR Severo-Kuril's 5.75 30 *e*PN **Pn** **03 31 15.5 +0.9**
SKR pmax pmax
comp=Z,162nm,0.6s
SKR Severo-Kuril's 5.75 30 *e*P **Pn** **03 31 15.5 +0.9**
SKR AMB AMB 03 31 17.0
comp=Z,20nm,0.5s
SKR *e*S **Sn** **03 32 16.7 -2.5**
SKR A A 03 32 21.5
comp=Z,140nm,0.7s
SKR A A 03 32 21.5
comp=Z,90nm,0.7s
JTKR Abashiri--Toko 5.79 255 P **Pn** **03 31 17.1 +2.0**
JMP Maruseppu 6.14 256 P **Pn** **03 31 22.6 +2.5**
JAR Ashorobuto 6.15 249 P **Pn** **03 31 21.3 +1.2**
JAR *e*S **Sn** **03 32 29.8 +0.7**
YSS Yuzh-Sakhalins 6.27 284‖ *e*PN **Pn** **03 31 23.6 +1.9**
YSS *e*S **Sn** **03 32 32.8 +0.9**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=E,100nm,15.0s
YSS Yuzh-Sakhalins 6.27 284 *e*P **Pn** **03 31 23.6 +1.9**
YSS AMB AMB 03 31 24.4
comp=E,20nm,1.0s
YSS *e*S **Sn** **03 32 32.8 +0.9**
JKK2 Kamakawa 2 6.61 256 P **Pn** **03 31 29.4 +3.0**
JKA Kamikawa-asahi 6.63 259 *e*P **Pn** **03 31 30.0 +3.3**
ASAJ Asahikawa 6.63 259 PN **Pn** **03 31 30.0 +3.3**
ASAJ Asahikawa 6.63 259 P **Pn** **03 31 30.0 +3.3**
comp=E,3.2nm,0.3s,baz=83,slow=24,SNR=11
ASAJ LR LR 03 34 03.7
comp=E,167nm,20.6s,baz=118,slow=38
JCH Churui 6.74 245 P **Pn** **03 31 28.0 -0.2**
JCH *e*S **Sn** **03 32 40.4 -3.1**
ERM Erimo 7.19 242‖ *e*PN **Pn** **03 31 35.9 +1.6**
JEM Erimo 7.19 242 P **Pn** **03 31 34.3 0.0**
JNBK Urakawa-nobuka 7.30 245 P **Pn** **03 31 35.2 -0.6**
JNB Noboribetsu 8.31 250 P **Pn** **03 31 50.3 +0.5**
JNB *e*S **Sn** **03 33 19.9 -2.3**
PETK Petropavlovsk- 8.33 26 P Pn 03 31 51.7 +1.7
comp=E,0.5nm,0.3s,baz=186,slow=12,SNR=5.0
JKB Kayabe 8.60 247 P **Pn** **03 31 53.1 -0.5**
JYM2 Yakumo 2 8.92 250 P **Pn** **03 31 57.1 -0.9**
JANG Nango 9.16 238 P **Pn** **03 31 58.9 -2.5**
JSR Shiriuchi 9.18 246 P **Pn** **03 32 00.5 -1.1**
JTM Tenmabayashi 9.18 241 *e*S **Sn** **03 33 36.8 -6.7**
MJA0 Matsu Arr-Jizo 13.65 232 *e*P **Pn** **03 33 03.2 +0.4**
MJAR Matsushiro Arr 13.68 232 *e*P **Pn** **03 33 03.3 +0.2**
MJAR Matsushiro Arr 13.68 232 P **Pn** **03 33 01.6 -1.5**
comp=E,0.1nm,0.3s,baz=24,slow=13,SNR=4.5
MJAR LR LR 03 38 55.9
comp=E,49nm,18.7s,baz=80,slow=39
MAJO Matsushiro 13.68 232‖ *e*P **Pn** **03 33 02.9 -0.2**
MAJO pmax pmax
comp=Z,3.0nm,0.7s
MA2 Magadan 13.84 358 P **Pn** **03 33 04.2 -1.0**
comp=Z,1.6nm,0.3s,baz=167,slow=18,SNR=3.4
MA2 LR LR 03 37 55.9
comp=Z,28nm,18.8s,baz=136,slow=36
KLR Kul'dur 13.88 292‖ *e*P **P** **03 33 10.4 -2.4**
KLR Kul'dur 13.88 292 P **Pn** **03 33 07.4 +1.6**
comp=Z,0.2nm,0.3s,baz=106,slow=15,SNR=9.2
KLR LR LR 03 38 31.7
comp=Z,107nm,19.6s,baz=120,slow=38
USRK Ussuriysk Ar. 14.00 271 P **Pn** **03 33 08.7 +1.3**
comp=Z,0.3nm,0.3s,baz=71,slow=11,SNR=5.1
USRK LR LR 03 38 29.4
comp=Z,112nm,19.1s,baz=42,slow=37
JHJ Hachijo jima 2 15.58 220 LR LR 03 39 54.9
comp=Z,29nm,21.7s,baz=334,slow=38
BMKR Bomnak 17.05 310 *e*P **P** **03 33 46.5 -1.3**
BMKR AMB AMB 03 33 52.2
comp=Z,10.0nm,1.0s
KROS Kirovskiy 17.97 308 *e*P **Pn** **03 33 54.8 -3.2**
KROS AMB AMB 03 33 58.0
comp=Z,8.0nm,0.9s
KSRS Korea Array 19.54 253 P **Pn** **03 34 17.2 +0.4**
baz=62,slow=11,SNR=4.1
KSRS LR LR 03 40 53.0
comp=Z,63nm,19.9s,baz=86,slow=34
KSRS Korea Array 19.54 253 *e*P **Pn** **03 34 17.1 +0.2**
JNU Nakatsue 20.34 239 LR LR 03 42 16.1
comp=Z,41nm,19.8s,baz=359,slow=36
HIA Hailar 21.74 291‖ *e*P **P** **03 34 43.7 +4.6**
HIA pmax pmax
comp=Z,43nm,1.0s
TIXI Tiksi 28.14 345 P **P** **03 35 37.1 -1.8**
comp=Z,1.8nm,0.3s,baz=165,slow=8.6,SNR=2.3
H11N2 WAKE ISLAND Hy 28.86 149 T T 04 06 20.7
baz=338,slow=75,SNR=3012
H11N1 WAKE ISLAND Hy 28.87 149 T T 04 06 21.9
baz=338,slow=75,SNR=1505
H11N3 WAKE ISLAND Hy 28.88 149 T T 04 06 22.0
baz=338,slow=75,SNR=2075
H11S1 WAKE ISLAND Hy 29.92 150 T T 04 07 42.3
baz=339,slow=76,SNR=1652
H11S3 WAKE ISLAND Hy 29.93 150 T T 04 07 37.8
baz=339,slow=76,SNR=1006
H11S2 WAKE ISLAND Hy 29.94 150 T T 04 07 41.9
baz=339,slow=76,SNR=731
ULN Ulaanbaatar 30.27 290‖ *e*P P 03 36 03.6 +5.2
ULN pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 30.71 290 LR LR 03 49 17.8
comp=Z,54nm,19.6s,baz=97,slow=38
GUMO Guam 32.59 192 LR LR 03 48 36.6
comp=Z,24nm,20.0s,baz=140,slow=34
COLA College 37.54 38‖ *e*P P 03 37 03.6 +2.7
COLA pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 37.95 38 P **P** **03 37 05.0 +0.6**
ILAR Eielson Array 37.95 38 P **P** **03 37 05.0 +0.6**
comp=Z,0.2nm,0.4s,baz=254,slow=6.4,SNR=4.0
NRIK Noril'sk 39.08 330 LR LR 03 53 06.7
comp=Z,23nm,20.6s,baz=106,slow=36
DGZ Jazzator, Alta 42.20 299‖ *e*P **P** **03 37 40.9 +1.0**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
ZALV Zalesovo Beam 42.36 306 LR LR 03 56 25.9
comp=Z,76nm,18.1s,baz=67,slow=38
INK Inuvik 43.02 32 P **P** **03 37 47.5 +1.3**
comp=Z,0.7nm,0.5s,baz=289,slow=7.0,SNR=8.8
MKAR Makanchi Array 46.49 298 P **P** **03 38 13.5 -0.6**
comp=Z,1.3nm,0.6s,baz=72,slow=7.3,SNR=18
MKAR PcP **PcP** **03 39 47.5 -0.4**
comp=Z,0.7nm,0.6s,baz=64,slow=2.9,SNR=5.1
MKAR LR LR 03 58 45.9
comp=Z,60nm,18.4s,baz=60,slow=38
KURK Kurchatov 47.06 304 P **P** **03 38 18.0 -0.5**
KURK Kurchatov 47.06 304 *e*P **P** **03 38 18.0 -0.5**
KURBB Kurchatov Arra 47.15 304 P **P** **03 38 18.0 -1.2**
comp=Z,0.4nm,0.5s,baz=72,slow=8.7,SNR=4.5
BVAR Borovoye Array 50.70 310 P **P** **03 38 44.4 -1.9**
comp=Z,0.6nm,0.5s,baz=53,slow=5.6,SNR=3.7
BVAR PcP **PcP** **03 39 59.2 -3.8**
comp=Z,1.4nm,0.4s,baz=43,slow=7.5,SNR=7.5
CMAR Chiang Mai Arr 51.15 256 *i* P **P** **03 38 51.2 +1.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 51.15 256 P **P** **03 38 51.1 +1.1**
comp=Z,1.9nm,0.3s,baz=40,slow=8.2,SNR=5.5
CMAR LR LR 04 01 48.1
comp=Z,13nm,18.2s,baz=160,slow=38
RES Resolute Bay 52.09 18 P **P** **03 38 56.6 +0.2**
comp=Z,0.7nm,0.5s,baz=260,slow=5.3,SNR=4.3
YKA Yellowknife Ar 52.32 36 P **P** **03 38 59.1 +0.9**
comp=Z,0.2nm,0.6s,baz=299,slow=7.0,SNR=3.6
AAK Ala-Archa 53.35 296‖ *e*P **P** **03 39 08.6 +2.2**
AAK pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa 53.35 296 *e*P **P** **03 39 08.6 +2.2**
DAG Danmarks Havn 57.58 357 *i* P **P** **03 39 35.2 -0.8**
DAG Danmarks Havn 57.58 357 *i* P **P** **03 39 35.2 -0.8**
ARCES ARCESS Array B 58.44 341 P **P** **03 39 41.2 -1.0**
comp=Z,2.1nm,0.9s,baz=52,slow=7.9,SNR=5.0
SUMG Summit 61.74 3 *i* P **P** **03 40 05.6 +0.4**
SUMG pmax pmax
comp=Z,16nm,0.6s
SUMG Summit 61.74 3 *i* P **P** **03 40 05.6 +0.4**
comp=Z,16nm,0.6s
NVAR Mina Array Bea 63.79 61 P **P** **03 40 21.2 +2.0**
comp=Z,0.5nm,0.7s,baz=297,slow=6.0,SNR=3.3
FINES FINESS Array B 64.49 334 P **P** **03 40 21.9 -1.1**
comp=Z,0.9nm,0.4s,baz=32,slow=7.1,SNR=8.0
NOA NORSAR Array B 68.82 341 P **P** **03 40 49.7 -1.0**
comp=Z,0.7nm,0.5s,baz=29,slow=6.3,SNR=3.7
NOA LR LR 04 16 31.9
comp=Z,11nm,18.1s,baz=15,slow=41
HFS Hagfors 69.01 339 P **P** **03 40 50.9 -1.0**
comp=Z,3.3nm,0.6s,baz=56,slow=5.6,SNR=20
ASAR Alice Springs 70.96 197 P **P** **03 41 07.0 +2.7**
ASAR Alice Springs 70.96 197 P **P** **03 41 07.0 +2.7**
comp=Z,0.4nm,0.7s,baz=15,slow=7.7,SNR=4.2
ASAR LR LR 04 12 14.7
comp=Z,48nm,19.9s,baz=97,slow=36
AKASG Malin Array Be 71.79 326 P **P** **03 41 07.9 -1.1**
comp=Z,0.7nm,0.3s,baz=34,slow=6.6,SNR=5.4
CLL Collm 76.93 335 *i* P **P** **03 41 38.4 -0.4**
EKA Eskdalemuir Ar 77.04 346 P **P** **03 41 38.9 -0.5**
comp=Z,0.7nm,0.6s,baz=20,slow=5.1,SNR=3.9
MLR Muntele Rosu 77.27 324 P **P** **03 41 40.7 -0.4**
comp=Z,1.7nm,0.6s,baz=91,slow=7.7,SNR=4.3
BRTR Keskin Array B 78.40 316 P **P** **03 41 47.3 -0.1**
comp=Z,1.0nm,0.8s,baz=90,slow=4.9,SNR=6.3
TXAR Lajitas Array 78.86 59 P **P** **03 41 51.4 +1.3**
comp=Z,0.2nm,0.6s,baz=318,slow=5.4,SNR=3.5
GERES GERESS Array B 78.88 333 P **P** **03 41 49.5 -0.3**
comp=Z,0.6nm,0.5s,baz=32,slow=5.2,SNR=4.9
PPT Papeete 82.42 125 LR LR 04 17 32.4
comp=Z,54nm,19.3s,baz=84,slow=34
SNAA Sanae 151.33 197 PKPbc **PKiKP** **03 49 40.4 +1.1**
comp=Z,1.1nm,0.9s,baz=12,slow=2.3,SNR=3.0

IDC ***22*** *03:40:54.7±1.5, 50°.24S×112°.73E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.9/25, mbtmp4.0/3, MS3.3/3, Ms1 3.3/3, ms1mx3.0/12, Error ellipse: s-maj=67.0km s-min=29.0km az=87.0*

ISC 22 03:40:56.1±1.4, 50°.3S±0°.2×112°.8E±0°.4, h10km, n10, σ0$45/6, mb4.0/3, MS3.3/3, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.39**	**4**	T	T	04 00 15.5	
	baz=183,slow=74,SNR=136						
H01W1	**Cape Leeuwin H**	**15.40**	**4**	T	T	04 00 16.1	
	baz=183,slow=74,SNR=111						
H01W3	**Cape Leeuwin H**	**15.41**	**4**	T	T	04 00 16.8	
	baz=183,slow=74,SNR=130						
MAW	**Mawson**	**29.92**	**216**	LR	LR	03 57 02.1	
	comp=Z,40nm,20.7s,baz=86,slow=32						
ASAR	**Alice Springs**	**31.24**	**40**	P	**P**	**03 47 16.0**	**+0.2**
	1.0nm,0.8s,baz=209,slow=7.5,SNR=11						
VNDA	**Vanda**	**32.86**	**162**	P	**P**	**03 47 29.8**	**+0.3**
	1.5nm,0.8s,baz=288,slow=8.0,SNR=6.5						
VNDA				LR	LR	03 59 36.5	
	comp=Z,72nm,21.6s,baz=308,slow=34						
CMAR	**Chiang Mai Arr**	**69.51**	**346**	P	**P**	**03 52 04.9**	**+0.2**
	1.2nm,0.3s,baz=185,slow=4.7,SNR=4.1						
CMAR				LR	LR	04 18 03.0	
	comp=Z,23nm,21.8s,baz=180,slow=32						
TXAR	**Lajitas Array**	**145.54**	**114**	PKPbc	**PKPab**	**04 00 34.5**	**-0.2**
	3.1nm,1.2s,baz=195,slow=3.9,SNR=9.6						
PDAR	**Pinedale Array**	**150.24**	**88**	PKPbc	**PKiKP**	**04 00 47.2**	**-0.6**
	0.6nm,0.8s,baz=232,slow=1.0,SNR=4.6						
YKA	**Yellowknife Ar**	**151.76**	**46**	PKPbc	**PKPbc**	**04 00 49.3**	**-0.2**
	0.6nm,0.6s,baz=288,slow=2.3,SNR=9.3						

ISCJB ***22*** *03:43:21.3±0.2, 16°.43S±0°.06×173°.36W±0°.06, h10km, mb4.4/49, MS3.5/12, Error ellipse: s-maj=10.6km s-min=5.9km az=136.1*

IDC ***22*** *03:43:21.0±0.6, 16°.28S×173°.40W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.2/26, mbtmp4.2/10, MS3.4/11, Ms1 3.4/11, ms1mx3.3/24, Error ellipse: s-maj=34.2km s-min=16.5km az=125.0*

NEIC ***22*** *03:43:24.0±2.2, 16°.41S×173°.16W, h15km±4km, mb4.6/46, Error ellipse: s-maj=18.0km s-min=15.0km az=130.0*

ISC 22 03:43:22.6±0.4, 16°.49S±0°.08×173°.10W±0°.06, h10km, n145, σ1$51/125, mb4.6/49, MS3.4/13, 7C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.97**	**131**	*e*Pn	**Pn**	**03 44 24.2**	**+0.6**
NIUE				*e*Sn	**Sn**	**03 45 06.3**	**-3.9**
RAR	**Rarotonga**	**13.46**	**112**	Pn	**Pn**	**03 46 33.7**	**-0.1**
	3.2nm,0.3s,baz=308,slow=17,SNR=4.6						
RAR				LR	LR	03 50 47.5	
	comp=Z,194nm,18.5s,baz=294,slow=32						
MARNC	**Mare, Loyalty**	**18.52**	**252**	*e*P	**P**	**03 47 37.9**	**-1.3**
	79nm,0.9s						
PINNC	**Pines Island,**	**19.31**	**249**	*e*P	**P**	**03 47 46.1**	**-1.9**
	9.9nm,0.8s						
OUENC	**Ouen Island, N**	**19.80**	**250**	*e*P	**Pn**	**03 47 59.5**	**+4.6**
	26nm,1.0s						
DZM	**Mont Dzumac**	**20.08**	**251**	*e*P	Pn	03 47 59.2	+0.9
	50nm,0.9s						
DZM				*e*LR	LR	03 52 36.5	
	comp=Z,340nm,25.2s						
DZM	**Mont Dzumac**	**20.08**	**251**	LR	LR	03 54 16.4	
	comp=Z,208nm,21.2s,baz=66,slow=33						
PAE	**Paea**	**22.51**	**96**	*e*T	T	04 11 37.0	
	6.0nm,0.4s						
PPT2	**Papeete2**	**22.52**	**96**	*e*S	**S**	**03 52 32.7**	**+2.6**
	79nm,26.0s						
PPT2				*e*LQ	LQ	03 52 43.9	
	147nm,26.2s						
PPT2				*e*LR	LR	03 53 52.7	
	comp=Z,169nm,23.2s,baz=258						
PPT2	**Papeete2**	**22.52**	**96**	*e*T	T	04 11 37.8	
	5.8nm,0.4s						
PPT	**Papeete**	**22.52**	**96**	LR	LR	03 54 34.9	
	comp=Z,105nm,21.3s,baz=266,slow=30						
TVO	**Taravao**	**22.82**	**97**	*e*T	T	04 12 01.7	
	2.1nm,0.4s						
TBI	**Tubuai**	**23.23**	**111**	*e*LR	LR	03 54 14.3	
	comp=Z,279nm,25.0s						
TBI	**Tubuai**	**23.23**	**111**	*e*T	T	04 12 44.8	
	11nm,0.4s						
URZ	**Urewera**	**23.33**	**200**	*e*P	**P**	**03 48 31.3**	**+0.3**
	20nm,1.1s						
URZ	**Urewera**	**23.33**	**200**	P	**P**	**03 48 31.6**	**+0.6**
	2.6nm,0.3s,baz=27,slow=9.0,SNR=2.6						
URZ				LR	LR	03 56 10.2	
	comp=Z,119nm,21.6s,baz=42,slow=33						
XMAS	**Kiritimati**	**24.05**	**41**	*e*P	**P**	**03 48 34.1**	**-4.0**
	43nm,0.9s						
HIZ	**Hauiti**	**24.36**	**203**	*e*P	**P**	**03 48 39.5**	**-1.3**
	72nm,1.1s						
BKZ	**Black Stump Fm**	**24.36**	**200**	*e*P	**P**	**03 48 39.7**	**-1.2**
	15nm,1.1s						
TAOE	**Nuku Hiva Isla**	**33.00**	**81**	*e*LR	LR	03 58 13.9	
	comp=Z,2μm,33.5s						
TAOE	**Nuku Hiva Isla**	**33.00**	**81**	*e*T	T	04 24 24.0	
	26nm,0.2s						
WHZ	**Wether Hill Ro**	**33.32**	**204**	*e*P	**P**	**03 49 59.9**	**-0.7**
	17nm,1.2s						
ARMA	**Armidale**	**35.04**	**240**	*e*P	**P**	**03 50 14.3**	**-1.6**
	6.6nm,0.6s						
CAN	**Canberra**	**38.61**	**234**	*e*P	**P**	**03 50 46.2**	**+0.1**
	8.9nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**40.04**	**329**	T	T	04 33 19.8	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**40.05**	**329**	T	T	04 32 40.5	
	baz=149,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.06**	**329**	T	T	04 32 53.3	
	baz=149,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.99**	**331**	T	T	04 34 33.7	
	baz=150,slow=76,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**41.00**	**331**	T	T	04 34 40.2	
	baz=150,slow=76,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**41.01**	**331**	T	T	04 34 30.8	
	baz=150,slow=76,SNR=8.6						
COEN	**Coen**	**42.21**	**267**	*e*P	**P**	**03 51 15.2**	**-1.0**
	4.7nm,0.9s						
STKA	**Stephens Creek**	**43.75**	**241**	*e*P	**P**	**03 51 26.7**	**-1.8**
	1.2nm,0.8s						
STKA	**Stephens Creek**	**43.75**	**241**	P	**P**	**03 51 26.7**	**-1.8**
	3.7nm,0.7s,baz=93,slow=11,SNR=6.3						
STKA				LR	LR	04 07 49.4	
	comp=Z,42nm,18.5s,baz=26,slow=34						
AS31	**Alice Springs**	**50.05**	**253**	*e*P	**P**	**03 52 15.7**	**-2.3**
	3.3nm,0.6s						
ASAR	**Alice Springs**	**50.06**	**253**	P	**P**	**03 52 15.8**	**-2.1**
	7.9nm,0.6s,baz=89,slow=7.6,SNR=76						
SOEI	**Soe**	**61.17**	**268**	*e*P	**P**	**03 53 37.3**	**-0.8**
	20nm,0.7s						
VNDA	**Vanda**	**62.33**	**186**	*e*P	**P**	**03 53 44.4**	**-0.4**
VNDA	**Vanda**	**62.33**	**186**	P	**P**	**03 53 46.4**	**+1.6**
	0.7nm,0.9s,baz=323,slow=7.3,SNR=3.1						
VNDA				LR	LR	04 15 23.1	
	comp=Z,23nm,21.8s,baz=146,slow=31						
PSA00	**Pilbara Seismi**	**63.17**	**254**	*e*P	**P**	**03 53 49.5**	**-1.8**
	11nm,1.0s						
MJAR	**Matsushiro Arr**	**69.95**	**320**	LR	LR	04 19 48.6	
	comp=Z,26nm,21.9s,baz=120,slow=31						
GDXM	**Geysers**	**72.38**	**39**	*e*P	**P**	**03 54 51.0**	**+1.9**
	8.6nm,0.8s						
JNU	**Nakatsue**	**72.75**	**313**	LR	LR	04 20 00.1	
	comp=Z,27nm,21.4s,baz=179,slow=30						
QSPA	**South Pole Qui**	**73.56**	**180**	*e*P	**P**	**03 54 57.9**	**+2.1**
	6.1nm,1.0s						
PETK	**Petropavlovsk-**	**73.75**	**342**	P	**P**	**03 54 55.6**	**-1.2**
	5.0nm,0.7s,baz=124,slow=8.5,SNR=9.9						
PETK				LR	LR	04 22 28.5	
	comp=Z,21nm,21.5s,baz=133,slow=32						
PEA1	**Petropavlovsk-**	**73.75**	**342**	*e*P	**P**	**03 54 55.6**	**-1.2**
NV01	**Mina Array Sit**	**74.94**	**42**	*e*P	**P**	**03 55 04.7**	**+0.4**
NVAR	**Mina Array Bea**	**74.94**	**42**	P	**P**	**03 55 04.7**	**+0.4**
	baz=226,slow=10,SNR=18						
NVAR				LR	LR	04 19 48.1	
	comp=Z,62nm,20.5s,baz=277,slow=29						
NV11	**Mina Array Sit**	**75.04**	**42**	*e*P	**P**	**03 55 05.2**	**+0.4**
	0.3nm,0.9s						
KVN	**Kaiserville**	**75.44**	**41**	*e*P	**P**	**03 55 07.7**	**+0.6**
	4.4nm,1.2s						
SHPR	**Sheep Range**	**75.92**	**45**	*e*P	**P**	**03 55 10.6**	**+0.7**
	2.6nm,0.9s						
KSRS	**Korea Array**	**77.13**	**316**	LR	LR	04 23 54.4	
	comp=Z,18nm,21.1s,baz=165,slow=32						
U15A	**North Rim**	**77.84**	**46**	*e*P	**P**	**03 55 22.1**	**+1.2**
	4.8nm,1.0s						
ELK	**Elko**	**78.21**	**41**	*e*P	**P**	**03 55 23.2**	**+0.4**
	2.4nm,0.8s						
PKCU	**Pink Cliffs**	**78.35**	**45**	*e*P	**P**	**03 55 25.7**	**+1.9**
	6.8nm,0.9s						
MTPU	**Mount Pierson**	**78.75**	**45**	*e*P	**P**	**03 55 27.7**	**+1.7**
	5.0nm,1.0s						
MSU	**Marysvale**	**79.00**	**44**	*e*P	**P**	**03 55 28.6**	**+1.4**
F10A	**Beach Ranch, E**	**80.03**	**36**	*e*P	**P**	**03 55 32.3**	**-0.1**
	6.6nm,0.9s						
TMUT	**Trail Mountain**	**80.05**	**44**	*e*P	**P**	**03 55 34.4**	**+1.4**
	7.5nm,0.9s						
HLID	**Hailey**	**80.29**	**39**	*e*P	**P**	**03 55 34.3**	**+0.3**
	3.0nm,0.9s						
SRU	**San Rafael Swe**	**80.41**	**44**	*e*P	**P**	**03 55 35.9**	**+1.1**
	3.2nm,0.9s						
LTX	**Lajitas**	**80.98**	**56**	*e*P	**P**	**03 55 38.5**	**+0.5**
TXAR	**Lajitas Array**	**80.98**	**56**	P	**P**	**03 55 38.5**	**+0.5**
	0.6nm,1.0s,baz=198,slow=7.8,SNR=6.4						
NJ2	**Nanjing**	**81.05**	**307**	*e*P	**P**	**03 55 37.4**	**-0.7**
PV09	**Paradox Valley**	**81.05**	**46**	*e*P	**P**	**03 55 39.3**	**+0.9**
PV20	**West Nyswonger**	**81.09**	**46**	*e*P	**P**	**03 55 39.6**	**+1.2**
	3.8nm,0.9s						
PV13	**Radium Mtn., P**	**81.10**	**46**	*e*P	**P**	**03 55 39.7**	**+1.1**
	4.0nm,1.2s						
PV04	**Paradox Valley**	**81.16**	**46**	*e*P	**P**	**03 55 40.0**	**+1.1**
	3.3nm,0.8s						
PV21	**Cone Mtn., Par**	**81.19**	**46**	*e*P	**P**	**03 55 40.0**	**+0.9**
	3.4nm,0.8s						
MCMT	**McKenzie Canyo**	**81.92**	**39**	*e*P	**P**	**03 55 43.5**	**+0.7**
MCK	**McKinley**	**82.13**	**11**	*e*P	**P**	**03 55 42.4**	**-0.8**
	7.1nm,0.8s						
S22A	**4UR Ranch, Cre**	**82.30**	**47**	*e*P	**P**	**03 55 46.1**	**+1.1**
	4.9nm,0.8s						
IMW	**Indian Meadow**	**82.59**	**40**	*e*P	**P**	**03 55 47.0**	**+0.7**
	3.8nm,0.8s						
FLWY	**Flagg Ranch**	**82.83**	**40**	*e*P	**P**	**03 55 48.6**	**+1.0**
	7.1nm,0.9s						
SMCO	**Snowmass**	**82.86**	**46**	*e*P	**P**	**03 55 48.7**	**+0.7**
	3.3nm,0.9s						
BW06	**Boulder Array**	**82.88**	**42**	*e*P	**P**	**03 55 47.8**	**-0.1**
	4.1nm,0.8s						
PD31	**Pinedale Array**	**82.88**	**42**	*e*P	**P**	**03 55 47.7**	**-0.1**
	3.6nm,0.8s						
PDAR	**Pinedale Array**	**82.88**	**42**	P	**P**	**03 55 47.8**	**-0.1**
	2.9nm,0.7s,baz=207,slow=3.7,SNR=28						
BOZ	**Bozeman (W)**	**83.06**	**38**	*e*P	**P**	**03 55 49.1**	**+0.5**
	4.7nm,1.1s						
YHH	**Holmes Hill**	**83.11**	**39**	*e*P	**P**	**03 55 50.0**	**+0.9**
	3.7nm,0.9s						
LKWY	**Lake**	**83.27**	**40**	*e*P	**P**	**03 55 51.7**	**+1.9**

7.2nm,1.0s
ILAR Eielson Array 83.45 11 P P 03 55 48.7 -1.3
1.5nm,0.7s,baz=232,slow=6.3,SNR=21
HRY Holter Researc 83.53 37 eP P 03 55 51.2 +0.2
RLMT Red Lodge 84.24 40 eP P 03 55 55.3 +0.6
4.3nm,0.9s
PRP Porcupine Dome 84.38 11 eP P 03 55 54.2 -0.7
4.7nm,0.8s
DAWY Dawson 84.40 14 eP P 03 55 54.5 -0.4
5.8nm,0.9s
MAW Mawson 86.86 199 eP P 03 56 08.2 +1.0
0.5nm,1.0s
MAW Mawson 86.86 199 P P 03 56 08.2 +1.0
2.6nm,1.0s,baz=196,slow=7.4,SNR=4.1
HHC Hu-ho-hao-te 89.97 313 eP P 03 56 22.8 +0.2
YKA Yellowknife Ar 90.98 23 P P 03 56 25.7 -0.8
0.7nm,0.8s,baz=234,slow=4.7,SNR=11
YKB5 Yellowknife Ar 90.98 23 eP P 03 56 25.7 -0.8
VNA3 Neumayer Olymp 91.75 175 P P 03 56 31.4 +1.2
SNAA Sanae 91.81 177 P P 03 56 31.0 +0.4
VNA2 Neumayer--Watz 92.25 175 P P 03 56 33.0 +0.5
baz=203,slow=3.8
VNA1 Neumayer--Stat 92.45 175 P P 03 56 34.2 +0.8
CD2 Chengdu 92.62 301 eP P 03 56 33.9 -1.1
LZH Lanzhou 94.10 306 eP P 03 56 39.6 -2.2
LZH pP PcP 03 56 42.8 +0.5
LZH sP pwP 03 56 47.5 -0.1
LZH ePP PP 04 00 19.0 -9.5
KSH Kashi 116.35 306 PKP PKPdf 04 02 08.1 +1.1
KSH PP **PP 04 03 20.1 +6.9**
KSH SKS **SKSdf 04 09 23.1 +3.7**
KSH SKKS **SKKSac 04 10 14.8 +0.2**
ARCES ARCESS Array B 125.72 352 PKP PKPdf 04 02 23.0 -0.9
2.2nm,1.0s,baz=28,slow=4.1,SNR=5.7
CLL Collm 144.92 353 *i* PKPdf **PKPab 04 02 58.6 -0.5**
UPC Upice 145.28 350 *e*PKP **PKPbc 04 03 00.2 -0.1**
KOLS Kolonicke sedl 145.29 342 *e*PKP **PKPbc 04 03 00.1 -0.3**
KMBO Kilima Mbogo 145.31 243 *e*PKPbc **PKPbc 04 03 03.0 +1.2**
KMBO Kilima Mbogo 145.31 243 PKPbc **PKPbc 04 03 00.6 -1.3**
3.9nm,0.9s,baz=19,slow=2.5,SNR=7.1
DPC Dobruska-Polom 145.38 349 *e*PKP **PKPbc 04 03 00.7 0.0**
DPC *ex* x 04 03 13.6
BURAR Bucovina Array 145.48 338⇑*i*P **PKPbc 04 03 01.5 +0.3**
BZK Bozkurt 145.58 323⇓*i*P **PKPdf 04 03 02.0 +0.6**
MORC Moravsky Berou 145.69 348⇓*i*P **PKPdf 04 03 01.7 +0.3**
MORC Moravsky Berou 145.69 348 *e*PKP **PKPdf 04 03 01.4 0.0**
MORC *e* 04 03 14.2
BIZ Bicaz 145.72 336⇑*i*P **PKPdf 04 03 02.2 +0.7**
LANS Liptovska Anna 145.85 345 *e*PKP **PKPdf 04 03 03.1 +1.4**
TRPA Tarpa 145.93 341⇓*i*P **PKPdf 04 03 02.2 +0.4**
PRU Pruhonice 146.02 351 *e*PKP **PKPdf 04 03 02.3 +0.4**
PRU *ex* x 04 03 15.4
NKC Novy Kostel 146.04 354 *e*PKP **PKPdf 04 03 02.4 +0.4**
NKC *ex* x 04 03 15.6
GOPC GO Pecny, Ondr 146.05 351 *e*PKP **PKPdf 04 03 02.8 +0.8**
GOPC *ex* x 04 03 15.3
VRAC Vranov 146.33 349 *e*PKP **PKPdf 04 03 03.1 +0.6**
VRAC *e* 04 03 15.7
JAVC Velka Javorina 146.54 347 *e*PKP **PKPdf 04 03 04.6 +1.7**
OZUR 146.54 336⇓*i*P **PKPdf 04 03 04.7 +1.7**
TREC Trest 146.54 350 *e*PKP **PKPdf 04 03 04.1 +1.2**
TREC *ex* x 04 03 12.9
KRUC Moravsky 146.60 349 *e*PKP **PKPdf 04 03 03.4 +0.5**
KRUC *e* 04 03 16.7
VYHS Vyhne 146.62 346 *e*PKP **PKPdf 04 03 04.1 +1.1**
KHC Kasperske Hory 146.99 352 *e*PKP **PKPdf 04 03 05.2 +1.6**
KHC *ex* x 04 03 18.4
DRGR 147.06 340⇑*i*P **PKPdf 04 03 05.8 +1.9**
MODS Modra-Piesok 147.08 347 *e*PKP **PKPdf 04 03 05.7 +1.9**
BR101 Keskin Array S 147.18 320 *e*PKPdf **PKPdf 04 03 05.8 +1.4**
BRTR Keskin Array B 147.18 320 PKPbc **PKPdf 04 03 05.8 +1.4**
7.0nm,0.8s,baz=124,slow=1.8,SNR=48
GERES GERESS Array B 147.25 352 PKPbc **PKPdf 04 03 05.4 +1.2**
2.6nm,0.7s,baz=31,slow=3.1,SNR=20
VOIR 147.37 336⇑*i*P **PKPbc 04 03 07.5 +0.6**
ARR Arges 147.59 336⇑*i*P **PKPbc 04 03 08.6 +1.2**
ANTO Ankara 147.60 321⇑*i*P **PKPbc 04 03 08.3 +0.6**
CONA Conrad Observa 147.79 349 *e*PKPbc **PKPbc 04 03 07.9 0.0**
6.0nm,0.7s
MOA Molln 148.14 351 *e*PKPbc **PKPbc 04 03 08.4 -0.4**
1.9nm,0.8s
GZR Gura Zlata 148.25 339⇓*i*P **PKPbc 04 03 09.0 -0.2**
ARSA Arzberg 148.51 349 *ep*PKPdf pPKPdf 04 03 10.0 +1.2
2.4nm,0.8s
HERR Herculane 148.82 338⇑*i*P **PKPbc 04 03 10.6 0.0**
RETA Reutte 148.93 355 *ep*PKPdf pPKPdf 04 03 10.9 +1.4
5.3nm,1.1s
KBA Koelnbreinsper 149.03 351 *e*PKPbc **PKPbc 04 03 10.8 -0.5**
1.4nm,0.5s
MOTA Moosalm 149.04 354 *e*PKPbc **PKPdf 04 03 10.2 +3.0**
6.4nm,1.2s
WTTA Wattenberg 149.06 354 *ep*PKPdf pPKPdf 04 03 11.1 +1.2
3.2nm,0.5s
SOKA Soboth 149.15 349 *i* PKPbc **PKPdf 04 03 10.6 +3.2**
3.2nm,0.9s
SQTA Sankt Quirin 149.15 354 *e*PKPbc **PKPbc 04 03 11.0 -0.5**
8.5nm,1.4s
DAVA Damuels 149.19 356 *ep*PKPdf pPKPdf 04 03 11.8 +1.7
5.2nm,1.1s
FETA Feichten 149.39 355 *ep*PKPdf pPKPdf 04 03 11.9 +1.5
5.5nm,1.0s
ABTA Abfaltersbach 149.47 352 *e*PKPbc **PKPdf 04 03 11.2 +3.3**
4.2nm,0.7s
EZN Ezine 151.25 328⇓*i*P **PKPbc 04 03 16.5 -0.1**
ESDC Sonseca Array 155.03 20 PKPab **PKPab 04 03 40.1 -0.4**
0.3nm,0.5s,baz=328,slow=4.7,SNR=3.5

*ISCJB **22** 03:44:32.4±1.1, 13°.21N±0°.05×90°.23W±0°.04, h24km±7km, Error ellipse: s-maj=9.7km s-min=4.3km az=28.5*
*SNET **22** 03:44:34.3±1.1, 13°.27N×90°.10W, h23km±4km, ML3.6*
*UCR **22** 03:44:34.4±1.4, 13°.32N×90°.14W, h28km±3km, MD3.2, ML3.4*
*MEX **22** 03:44:38.4±0.5, 12°.98N×90°.88W, h23km±999km, MD3.9*
ISC 22 03:44:31.9±1.9, 13°.26N±0°.07×90°.21W±0°.04, h18km±5km, n45, σ1§26/63, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.80**	**45**	*i* P	**Pn**	**03 44 48.6**	**+0.1**
CEVE				*e*S	**Sn**	**03 45 00.0**	**-0.1**
CEVE				IAML		03 45 01.2	
	comp=Z,12μm,0.3s						
CEVE	**Cerro Verde**	**0.80**	**45**	*i* P	**Pn**	**03 44 48.6**	**+0.1**
CEVE				*e*S	**Sn**	**03 45 00.0**	**-0.1**
CEVE				IAML		03 45 01.2	
	comp=Z,12μm,0.3s						
SBLS	**San Blas**	**0.81**	**45**	*e*P	**Pn**	**03 44 48.6**	**0.0**
SBLS	**San Blas**	**0.81**	**45**	⇓*i*P	**Pn**	**03 44 48.7**	**0.0**
RTR	**El Retiro**	**0.84**	**41**	*i* P	**Pn**	**03 44 49.1**	**+0.1**
RTR	**El Retiro**	**0.84**	**41**	*i* P	**Pn**	**03 44 49.1**	**+0.1**
SNJE	**San Jose**	**0.84**	**44**	*e*P	**Pn**	**03 44 49.1**	**0.0**
SNJE	**San Jose**	**0.84**	**44**	*e*P	**Pn**	**03 44 49.1**	**0.0**
IXG	**Ixpaco**	**0.94**	**345**	⇑*e*P	**Pn**	**03 44 51.3**	**+1.0**
IXG				*e*S	**Sb**	**03 45 03.1**	**+1.1**
BOQS	**Boqueron**	**1.02**	**62**	*e*P	**Pn**	**03 44 51.6**	**+0.1**
BOQS				*e*S	**Sn**	**03 45 04.9**	**-0.6**
SNET	**Serv Nac Est T**	**1.04**	**66**	*e*P	**Pn**	**03 44 51.7**	**0.0**
SNET				*e*S	**Sn**	**03 45 05.1**	**-0.8**
SNET				IAML		03 45 10.7	
	comp=Z,749nm,0.3s						
SNET	**Serv Nac Est T**	**1.04**	**66**	*e*P	**Pn**	**03 44 51.7**	**0.0**
SNET				*e*S	**Sn**	**03 45 05.1**	**-0.8**
SNET				IAML		03 45 10.7	
	comp=Z,749nm,0.3s						
UEES	**San Salvador**	**1.05**	**64**	*e*P	**Pn**	**03 44 51.9**	**+0.2**
UEES				IAML		03 45 08.1	
	comp=Z,1μm,0.2s						
UEES	**San Salvador**	**1.05**	**64**	*e*P	**Pn**	**03 44 51.9**	**+0.2**
UEES				IAML		03 45 08.1	
	comp=Z,1μm,0.2s						
OPAM	**San Salvador**	**1.08**	**65**	*e*P	**Pn**	**03 44 53.4**	**+1.2**
OPAM				*e*S	**Sn**	**03 45 06.7**	**-0.1**
OPAM	**San Salvador**	**1.08**	**65**	*e*P	**Pn**	**03 44 53.4**	**+1.2**
OPAM				*e*S	**Sn**	**03 45 06.7**	**-0.1**
LFU	**La Fuente**	**1.17**	**65**	*e*P	**Pn**	**03 44 53.9**	**+0.5**
LFU	**La Fuente**	**1.17**	**65**	*e*P	**Pn**	**03 44 53.9**	**+0.5**
LFRS	**El Faro**	**1.17**	**72**	⇑*i*P	**Pn**	**03 44 54.1**	**+0.6**
PCG	**Pacaya**	**1.19**	**341**	*e*P	**Pb**	**03 44 55.3**	**+1.2**
PCG				*e*S	**Sg**	**03 45 08.9**	**-1.9**
LBRS	**Las Brisas**	**1.23**	**67**	*e*P	**Pn**	**03 44 54.7**	**+0.4**
PAVA	**Las Pavas**	**1.32**	**70**	*e*P	**Pn**	**03 44 56.2**	**+0.7**
PAVA				*e*S	**Sn**	**03 45 14.0**	**+1.4**
PAVA	**Las Pavas**	**1.32**	**70**	*e*P	**Pn**	**03 44 56.2**	**+0.7**
PAVA				*e*S	**Sn**	**03 45 14.0**	**+1.4**
NBG	**Las Nubes**	**1.33**	**354**	*e*P	**Pg**	**03 44 57.9**	**+0.3**
NBG				*e*S	**Sg**	**03 45 14.1**	**-0.9**
FUG	**Fuego 3**	**1.33**	**333**	*e*P	**Pn**	**03 44 57.0**	**+1.3**
SNVI	**San Vicente**	**1.38**	**75**	*e*P	**Pb**	**03 44 56.8**	**-0.5**
TECA	**Tecapa**	**1.68**	**82**	*e*P	**Pn**	**03 45 00.8**	**+0.3**
TECA	**Tecapa**	**1.68**	**82**	*e*P	**Pn**	**03 45 00.8**	**+0.3**
PACA	**Pacayal**	**1.85**	**83**	*e*P	**Pn**	**03 45 03.4**	**+0.6**
PACA				*e*S	**Sb**	**03 45 27.0**	**-1.1**
PACA	**Pacayal**	**1.85**	**83**	*e*P	**Pn**	**03 45 03.4**	**+0.6**
PACA				*e*S	**Sb**	**03 45 27.0**	**-1.1**
CAHU	**Cacacuatique**	**2.01**	**75**	*e*P	**Pn**	**03 45 05.1**	**0.0**
LCND	**La Caada**	**2.26**	**88**	*e*P	**Pn**	**03 45 08.7**	**+0.4**
LCND				IAML		03 45 40.3	
	comp=Z,303nm,0.2s						
LCND	**La Caada**	**2.26**	**88**	*e*P	**Pn**	**03 45 08.7**	**+0.4**
LCND				IAML		03 45 40.3	
	comp=Z,303nm,0.2s						
CNCH	**Conchagua**	**2.31**	**89**	*e*P	**Pn**	**03 45 10.0**	**+0.8**
CNCH				IAML		03 45 42.0	
	comp=Z,2μm,0.2s						
CNCH	**Conchagua**	**2.31**	**89**	*e*P	**Pn**	**03 45 10.5**	**+1.3**
CNCH				IAML		03 45 42.0	
	comp=Z,2μm,0.2s						
THIG		**2.58**	**310**	*i* P	**Pn**	**03 45 13.4**	**+0.6**
THIG				*i* S	**Sn**	**03 45 40.7**	**-3.0**
CSGN	**Cosiguina Volc**	**2.60**	**96**	*e*P	**Pn**	**03 45 14.7**	**+1.6**
SOMN	**Somoto**	**3.50**	**87**	*e*P	**Pn**	**03 45 26.8**	**+1.2**
CNGN	**Cerro Negro**	**3.51**	**102**	*e*P	**Pn**	**03 45 27.5**	**+1.9**
CCIG	**Comitan**	**3.54**	**328**	*i* P	**Pn**	**03 45 30.1**	**+4.0**
CCIG				*i* S	**Sn**	**03 46 08.9**	**+1.3**
MOMN	**Momotombo**	**3.68**	**103**	*e*P	**Pn**	**03 45 29.7**	**+1.7**
COPN	**Copaltepe**	**3.69**	**106**	*e*P	**Pn**	**03 45 28.9**	**+0.9**
PCIG		**3.80**	**310**	*i* P	**Pn**	**03 45 30.4**	**+0.9**
PCIG				*e*S	**Sn**	**03 46 09.4**	**-4.3**
MATN	**Matagalpa**	**4.19**	**94**	*e*P	**Pn**	**03 45 35.3**	**+0.3**
MATN				IAML		03 45 38.8	
	comp=N,21nm,0.4s						
CMIG	**Matias Romero**	**5.91**	**311**	*i* P	**Pn**	**03 45 59.9**	**+1.3**
CMIG				*i* S	**Sn**	**03 47 02.8**	**-2.9**

DJA 22 03:47:33.4±0.5, 9°.S±4°.×11°.9E±°., h51km±17km, M3.9/6, MLv3.9/6, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.27**	**284**	P	Pn	03 47 54.5	-0.3
PLAI				S	Sn	03 48 11.1	+0.4
BASI	**Baing, Sumba**	**1.87**	**125**	P	Pn	03 48 03.4	+0.4
MMRI	**Maumere**	**3.22**	**81**	P	Pn	03 48 20.8	-0.7
BSSI	**Bau Bau, Buton**	**3.31**	**26**	P	Pn	03 48 23.1	+0.3
BSSI				S	Sn	03 49 01.5	+0.5
SRBI	**Singaraja**	**3.91**	**285**	P	Pn	03 48 30.9	0.0
BKSI	**Bulukumba**	**3.95**	**16**	P	Pn	03 48 32.1	+0.6
BKSI				S	Sn	03 49 16.4	-0.2

JMA 22 04:39:09.1±0.1, 39°.54N×142°.59E, h34km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.60**	**274**	P	Pn	04 39 21.0	-0.1
MIYJ				S	Sn	04 39 29.5	-0.1
JTH	**Tanohata**	**0.69**	**306**	P	Pn	04 39 22.3	-0.1
JTH				S	Sn	04 39 31.4	-0.5
OFUJ	**Ofunato**	**0.85**	**238**	P	Pn	04 39 24.7	+0.1
OFUJ				S	Sn	04 39 35.9	0.0
JOM	**Ohasama**	**1.01**	**267**	P	Pn	04 39 27.4	+0.6
JKZ	**Kuzumaki**	**1.07**	**295**	P	Pn	04 39 28.4	+0.7
JKMT	**Kesennumamotoy**	**1.13**	**230**	P	Pn	04 39 28.8	+0.3
JKMT				S	Sn	04 39 43.0	+0.1
JANG	**Nango**	**1.17**	**316**	P	Pn	04 39 29.2	+0.1
JANG				*e*S	Sn	04 39 43.5	-0.4
JMK	**Ichinoseki**	**1.22**	**242**	P	Pn	04 39 30.3	+0.6
JMK				S	Sn	04 39 45.9	+1.0
JIO	**Ouri**	**1.45**	**222**	P	Pn	04 39 33.3	+0.4
JRG	**Rokugo**	**1.52**	**265**	P	Pb	04 39 35.4	-1.3

*NORS **22** 04:41:39.6±0.0, 41°.90N×47°.91E, h8km, MPVA3.9*
DRS 22 04:41:38.8±0.0, 41°.90N×47°.91E, h7km, ML2.6/3, 2C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URKR	**Urkarakh**	**0.34**	**323**	*e*Pg	Pb	04 41 47.4	+0.2
URKR				*e*Sg	Sb	04 41 53.7	+0.9
KSMR	**Kasumkent**	**0.34**	**151**	*e*Pg	Pb	04 41 47.0	-0.2
KSMR				*e*Sg	Sb	04 41 54.3	+1.4
DRN	**Derbent**	**0.34**	**67**	*i* Pg	Pb	04 41 46.5	-0.7
DRN	209nm,0.3s						
	404nm,0.3s			⇓*e*Sg	Sb	04 41 51.9	-1.0
AKT	**Akhty**	**0.44**	**198**	*i* Pg	Pb	04 41 48.6	-0.4
AKT	180nm,0.2s						
	896nm,0.3s			⇑*e*Sg	Sb	04 41 55.8	0.0
KMKR	**Kumukh**	**0.65**	**291**	*e*Pg	Pn	04 41 54.0	-0.6
KMKR				*i* Sg	Sn	04 42 04.5	-0.7
GNBR	**Gunib**	**0.85**	**305**	*e*Pg	Pn	04 41 57.3	0.0
GNBR	15nm,0.6s						
	84nm,0.8s			⇑*e*Sg	Sn	04 42 12.0	+1.8
XNZR	**Khunzakh**	**1.10**	**306**	*e*Pg	Pn	04 42 01.2	+0.5
XNZR				*e*Sg	Sn	04 42 17.7	+1.4
KRNR	**Karanay**	**1.19**	**322**	*e*Pg	Pn	04 42 05.0	+3.1
KRNR				*e*Sg	Sn	04 42 23.0	+4.6
DBC	**Dubki**	**1.37**	**325**	*e*Pg	Pg	04 42 08.0	+2.8
DBC				*e*Sg	Sg	04 42 28.5	+5.5
BTLR	**Botlikh**	**1.47**	**302**	*e*Pg	Pn	04 42 04.8	-0.9
BTLR				*e*Sg	Sg	04 42 28.2	+2.3
DVE	**Vedeno**	**1.69**	**309**	*e*Pg	Pg	04 42 14.2	+3.0
DVE				*e*Sg	Sg	04 42 35.8	+2.7

*IDC **22** 04:48:21.5±2.7, 52°.34N×159°.50E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.3/26, mbtmp3.4/2, Error ellipse: s-maj=57.9km s-min=22.0km az=14.0*
*KRSC **22** 04:48:23.2±10.0, 52°.09N×159°.06E, h67km±10km, ML4.0*
ISC 22 04:48:20.6±2.1, 52°.04N±0°.05×159°.31E±0°.06, h10km±13km, n26, σ1§20/29, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.63**	**309**	*e*P	**Pn**	**04 48 37.3**	**+1.7**
RUS				*e*S	**Sn**	**04 48 45.1**	**-0.7**
KDTR	**Khodutka, Kamc**	**0.80**	**253**	*e*P	**Pn**	**04 48 39.1**	**+1.1**
KDTR				*e*S	**Sb**	**04 48 48.0**	**+0.4**
MTVR	**Mutnovka**	**0.82**	**303**	*e*P	**Pn**	**04 48 39.5**	**+1.0**
MTVR				*e*S	**Sb**	**04 48 49.1**	**+0.8**
GRL	**Gorelyy**	**0.92**	**304**	*e*P	**Pn**	**04 48 41.1**	**+1.4**
GRL				*e*S	**Sn**	**04 48 51.8**	**-1.3**
ASAK	**Asacha**	**0.93**	**292**	*e*P	**Pn**	**04 48 40.9**	**+1.0**
ASAK				*e*S	**Sb**	**04 48 51.4**	**-0.1**
DALK	**Dalny**	**1.05**	**341**	*e*P	**Pn**	**04 48 43.9**	**+2.5**
DALK				*e*S	**Sn**	**04 48 56.1**	**0.0**
KRMR	**Karymshinskiy**	**1.07**	**318**	*e*P	**Pn**	**04 48 43.0**	**+1.3**
KRMR				*e*S	**Sb**	**04 48 55.0**	**-0.3**
NLC	**Nalytchevo**	**1.13**	**1**	*e*S	**Sn**	**04 48 57.8**	**-0.3**
UGLR	**Uglovaya**	**1.20**	**346**	*i* P	**Pb**	**04 48 43.1**	**-0.5**
SDLR	**Sedlovina**	**1.26**	**348**	*e*P	**Pn**	**04 48 42.9**	**-1.6**
AVH	**Avacha**	**1.27**	**344**	*e*P	**Pn**	**04 48 44.0**	**-0.6**
KRER	**Koryakskii**	**1.31**	**345**	*e*S	**Sn**	**04 49 03.3**	**+0.4**
KOK	**Koryaka**	**1.32**	**342**	*e*P	**Pn**	**04 48 45.0**	**-0.2**
PETK	**Petropavlovsk-**	**1.45**	**318**	Pn	**Pg**	**04 48 48.2**	**-0.2**
PETK	6.5nm,0.3s,baz=127,slow=17,SNR=177						
	27nm,0.3s,baz=96,slow=24,SNR=33			Sn	**Sn**	**04 49 05.3**	**-0.8**
APC	**Apacha**	**1.59**	**305**	*e*P	**Pb**	**04 48 50.0**	**-0.1**
APC				*e*S	**Sn**	**04 49 07.3**	**-2.1**
PAU	**Pauzhetka**	**1.66**	**251**	*e*P	**Pb**	**04 48 50.8**	**-0.5**
SKR	**Severo-Kuril's**	**2.42**	**237**	*e*S	**Sn**	**04 49 27.5**	**-2.5**
ALID	**Alaid**	**2.63**	**245**	*e*P	**Pn**	**04 49 04.3**	**+1.0**
ILAR	**Eielson Array**	**29.90**	**44**	P	**P**	**04 54 27.7**	**-0.5**
	0.3nm,0.7s,baz=268,slow=7.2,SNR=4.9						
H11N2	**WAKE ISLAND Hy 32.79 167**			T	T	05 29 52.1	
	baz=351,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy 32.81 167**			T	T	05 29 56.4	
	baz=351,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy 32.81 167**			T	T	05 29 54.7	
	baz=351,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy 33.97 167**			T	T	05 31 24.0	
	baz=351,slow=76,SNR=8.6						
H11S3	**WAKE ISLAND Hy 33.98 167**			T	T	05 31 24.2	
	baz=351,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy 33.98 167**			T	T	05 31 24.3	
	baz=351,slow=76,SNR=7.8						
TXAR	**Lajitas Array**	**71.49**	**66**	P	**P**	**04 59 42.7**	**+1.1**
	0.2nm,0.4s,baz=298,slow=5.0,SNR=4.1						

*ISCJB **22** 05:05:54.7±1.1, 11°.4S±0°.1×166°.3E±0°.1, h59km, mb4.0/7, MS3.5/2, Error ellipse: s-maj=21.3km s-min=16.0km az=149.9*
*IDC **22** 05:05:56.3±4.1, 11°.32S×166°.34E, h60km±33km, mb3.8/7, mb1 4.0/9, mb1mx3.7/31, mbtmp4.1/9, ML4.2/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/30, Error ellipse: s-maj=31.8km s-min=27.3km az=73.0*
ISC 22 05:05:56.2±1.2, 11°.4S±0°.1×166°.4E±0°.2, h59km, n11, σ1§65/11, mb4.0/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.62**	**287**	P	**Pn**	**05 07 30.1**	**-0.9**
	19nm,0.3s,baz=135,slow=5.7,SNR=2.3						
HNR				LR	LR	05 10 12.5	
	comp=Z,221nm,19.9s,baz=149,slow=39						
DZM	**Mont Dzumac**	**10.58**	**180**	P	**Pn**	**05 08 27.0**	**+1.8**
	0.4nm,0.3s,baz=18,slow=20,SNR=7.2						
DZM				S	**Sn**	**05 10 18.8**	**-3.5**
	0.2nm,0.3s,baz=143,slow=20,SNR=2.5						
DZM				LR	LR	05 12 08.6	
	comp=Z,125nm,19.9s,baz=46,slow=35						
PMG	**Port Moresby**	**18.99**	**274**	LR	LR	05 17 02.3	
	comp=Z,96nm,18.1s,baz=94,slow=35						
CTA	**Charters Tower**	**21.16**	**244**	P	**P**	**05 10 38.1**	**+1.3**
	1.4nm,0.4s,baz=75,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**30.58**	**224**	P	**P**	**05 12 05.8**	**+1.2**
	2.6nm,0.8s,baz=42,slow=7.8,SNR=3.4						
ASAR	**Alice Springs**	**33.16**	**244**	P	**P**	**05 12 26.6**	**-0.8**
	2.8nm,0.7s,baz=74,slow=9.4,SNR=29						
ASAR				PcP	**PcP**	**05 15 09.1**	**-0.2**
	0.6nm,0.6s,baz=69,slow=2.5,SNR=4.8						
ASAR				LR	LR	05 24 44.0	
	comp=Z,47nm,20.8s,baz=60,slow=34						
FITZ	**Fitzroy Crossi**	**39.87**	**255**	P	**P**	**05 13 24.4**	**-0.1**
	3.3nm,0.7s,baz=81,slow=7.6,SNR=8.1						
VNDA	**Vanda**	**66.12**	**181**	P	**P**	**05 16 37.6**	**+0.8**
	0.9nm,0.7s,baz=11,slow=5.2,SNR=5.5						
DLBC	**Dease Lake**	**86.46**	**28**	LR	LR	05 50 50.3	
	comp=Z,34nm,20.7s,baz=302,slow=31						
MKAR	**Makanchi Array**	**94.22**	**317**	P	**P**	**05 19 09.0**	**0.0**
	0.9nm,0.5s,baz=88,slow=6.4,SNR=13						
YKA	**Yellowknife Ar**	**95.04**	**27**	P	**P**	**05 19 11.3**	**-1.0**
	0.1nm,0.5s,baz=256,slow=4.6,SNR=4.3						

JMA 22 05:18:25.9±0.2, 37°.56N×144°.40E, h55km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.44**	**289**	P	Pn	05 19 04.3	+1.1
JIKH				*e*S	Sn	05 19 33.1	+1.2
JIO	**Ouri**	**2.57**	**291**	P	Pn	05 19 06.6	+1.6
JIO				*e*S	Sn	05 19 36.7	+1.6
JKMT	**Kesennumamotoy**	**2.62**	**299**	P	Pn	05 19 06.7	+0.9
JKMT				*e*S	Sn	05 19 37.6	+1.2
OFUJ	**Ofunato**	**2.63**	**306**	P	Pn	05 19 07.4	+1.5
OFUJ				*e*S	Sn	05 19 37.9	+1.3
JMK	**Ichinoseki**	**2.86**	**300**	P	Pn	05 19 10.4	+1.3
JMK				*e*S	Sn	05 19 44.2	+1.9
JOM	**Ohasama**	**3.10**	**309**	P	Pn	05 19 13.8	+1.5
JOM				*e*S	Sn	05 19 49.8	+1.8
JFT	**Otama**	**3.23**	**270**	P	Pn	05 19 15.5	+1.4
JFT				*e*S	Sn	05 19 52.9	+1.5
JYK	**Kaneyama**	**3.46**	**294**	P	Pn	05 19 19.6	+2.4
JYK				*e*S	Sn	05 19 59.3	+2.4
JOT	**Ohata**	**4.61**	**327**	P	Pn	05 19 34.8	+1.8
JRY	**Ryogami san**	**4.67**	**252**	P	Pn	05 19 34.6	+0.7
JRY				S	Sn	05 20 26.8	-0.1
JKB	**Kayabe**	**5.04**	**330**	*e*S	Sn	05 20 33.7	-2.1
JCH	**Churui**	**5.11**	**351**	P	Pn	05 19 39.2	-0.6
JCH				*e*S	Sn	05 20 34.4	-3.1
NEM2	**Nemuro 2**	**5.89**	**10**	P	Pn	05 19 46.8	-3.7
NEM2				*e*S	Sn	05 20 50.0	-6.6
JTKR	**Abashiri--Toko**	**6.42**	**357**	P	Pn	05 19 56.2	-1.5
JTKR				*e*S	Sn	05 21 04.4	-5.1

*NNC **22** 05:35:18.1±2.4, 49°.89N×88°.55E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=20.5km s-min=11.5km az=103.0*
*ISCJB **22** 05:35:21.0±0.6, 50°.14N±0°.03×88°.07E±0°.06, h11km, mb3.5/8, MS2.9/1, Error ellipse: s-maj=6.8km s-min=3.7km az=34.7*
*IDC **22** 05:35:22.3±1.3, 50°.29N×88°.09E, h0km, mb3.5/5, mb1 3.8/11, mb1mx3.7/49, mbtmp3.8/11, ML3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.3/34, Error ellipse: s-maj=17.1km s-min=13.0km az=131.0*
*MOS **22** 05:35:24.6±2.7, 50°.11N×87°.56E, h17km, mb4.1/4, Error ellipse: s-maj=13.0km s-min=8.2km az=92.4*
*ASRS **22** 05:35:25.3±0.7, 50°.18N×87°.80E, h15km, Ms3.4/3*
ISC 22 05:35:24.0±0.7, 50°.11N±0°.04×88°.03E±0°.04, h11km, n42, σ2§54/58, mb3.5/8, 14C-12D, Southwestern Siberia

| Code | Station Name | Δ° | AZ

KURK ⇑Lg Lg 05 38 40.6
comp=Z,86nm,0.7s
KURK Kurchatov 6.04 279 c *i*PN **Pn 05 36 53.4 +0.2**
KURBB Kurchatov Arra 6.10 278 ⇓Pn **Pn 05 36 54.0 0.0**
comp=Z,26nm,0.4s
KURBB ⇑Sn **Sn 05 38 09.0 +5.3**
comp=Z,60nm,0.6s
KURBB ⇓Lg Lg 05 38 41.2
comp=Z,206nm,0.8s
KURBB Kurchatov Arra 6.10 278 Pn **Pn 05 36 54.4 +0.4**
comp=Z,2.5nm,0.3s,baz=89,slow=14,SNR=161
KURBB Sn **Sn 05 38 04.6 +0.9**
comp=Z,1.7nm,0.3s,baz=89,slow=28,SNR=6.0
KURBB Lg Lg 05 38 31.4
comp=Z,2.6nm,0.3s,baz=85,slow=34,SNR=12
PDGK Podgornoye 8.96 224 ⇓Pn **Pn 05 37 33.0 -0.5**
comp=Z,5.0nm,0.6s
PDGK ⇑Sn **Sn 05 39 13.2 -1.2**
comp=Z,19nm,0.8s
PDGK ⇓Lg Lg 05 40 03.2
comp=Z,27nm,0.8s
OTUK Ortayu 10.44 266 ⇓Pn **Pn 05 37 52.2 -1.4**
comp=Z,2.5nm,0.5s
OTUK ⇑Sn **Sn 05 39 55.7 +5.2**
comp=Z,4.8nm,0.9s
TKM2 Tokmak 2 11.18 235 ⇑Pn **Pn 05 38 03.3 -0.5**
comp=Z,1.3nm,0.5s
TKM2 ⇑Sn **Sn 05 40 07.9 -0.8**
comp=Z,4.3nm,0.6s
TKM2 ⇓Lg Lg 05 41 18.0
comp=Z,15nm,1.2s
BVAR Borovoye Array 11.36 292 Pn **Pn 05 38 04.3 -1.7**
comp=Z,1.9nm,0.3s,baz=106,slow=14,SNR=21
BVAR Sn **Sn 05 40 04.9 -7.8**
comp=Z,1.0nm,0.3s,baz=101,slow=22,SNR=5.1
BRVK Borovoye 11.42 292 *i* P **Pn 05 38 05.7 -1.2**
AAK Ala-Archa 11.96 236 *i* P **Pn 05 38 15.1 +0.7**
AAK pmax pmax
comp=Z,1.0nm,0.8s
AAK Ala-Archa 11.96 236 Pn **Pn 05 38 16.5 +2.1**
comp=Z,0.5nm,0.3s,baz=90,slow=19,SNR=5.3
AAK Sn **Sn 05 40 23.7 -4.1**
comp=Z,0.2nm,0.3s,baz=261,slow=21,SNR=5.9
AAK Lg Lg 05 41 42.5
comp=Z,0.2nm,0.3s,baz=142,slow=17,SNR=4.0
SONM Songino Array 12.28 94 Lg Lg 05 41 49.8
comp=Z,0.2nm,0.3s,baz=287,slow=34,SNR=3.2
ARU Arti 18.62 301 *d i*P **P 05 39 38.6 -2.6**
ARU S **Sn 05 43 04.8 -4.6**
ARU Arti 18.62 301 P **P 05 39 40.0 -1.3**
comp=Z,0.0nm,0.3s,baz=101,slow=5.5,SNR=4.2
AKTO Aktyubinsk 19.13 283 P **P 05 39 46.3 -0.5**
comp=Z,0.3nm,0.3s,baz=90,slow=11,SNR=21
AKTO Lg Lg 05 45 31.1
comp=Z,0.2nm,0.3s,baz=43,slow=12,SNR=3.7
KLR Kul'dur 28.01 75 *i* P **P 05 41 17.2 +2.5**
KLR pmax pmax
comp=Z,1.0nm,1.0s
KLR Kul'dur 28.01 75 LR LR 05 53 43.5
comp=Z,30nm,21.0s,baz=70,slow=39
TIXI Tiksi 28.35 26 *i* P **P 05 41 18.4 +0.9**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
VSR Storozhevoye 30.54 291 *i* P **P 05 41 37.5 +0.4**
VSR pmax pmax
comp=Z,5.0nm,0.5s
FINES FINESS Array B 35.26 313 *e*P **P 05 42 17.4 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 35.26 313 P **P 05 42 17.3 -0.9**
comp=Z,1.5nm,0.7s,baz=98,slow=12,SNR=8.3
BRTR Keskin Array B 39.08 276 P **P 05 42 51.1 0.0**
comp=Z,0.7nm,0.8s,baz=72,slow=7.9,SNR=5.1
NB2 NORSAR Subarra 42.27 315 P **P 05 43 16.0 -1.1**
comp=Z,0.5nm,0.5s,baz=68,slow=7.9
NOA NORSAR Array B 42.27 315 P **P 05 43 16.3 -0.8**
comp=Z,0.2nm,0.4s,baz=68,slow=7.2,SNR=3.5
ILAR Eielson Array 57.81 24 P **P 05 45 13.2 -1.6**
comp=Z,0.1nm,0.5s,baz=323,slow=6.1,SNR=3.5
TORD Torodi Ar. Bea 77.70 276 P **P 05 47 21.0 +0.1**
comp=Z,0.1nm,0.5s,baz=34,slow=6.9,SNR=2.5

KRSC 22 05:37:29.6±10.0, 52°.21N×160°.75E, h57km±10km, ML4.2, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.99**	**334**	*e*P	Pn	05 37 48.4	+1.0
SPN				*e*S	Sn	05 38 00.5	-0.1
NLC	**Nalytchevo**	**1.29**	**319**	*e*P	Pn	05 37 52.8	+1.5
NLC				*e*S	Sn	05 38 09.7	+2.2
RUS	**Russkaya**	**1.39**	**280**	*e*P	Pn	05 37 54.4	+1.7
RUS				*e*S	Sn	05 38 11.3	+1.3
DALK	**Dalny**	**1.47**	**305**	*e*P	Pn	05 37 55.7	+2.0
DALK				*e*S	Sn	05 38 13.4	+1.5
PET	**Petropavlovsk**	**1.52**	**303**	*e*P	Pn	05 37 56.5	+2.1
PET				*e*S	Sn	05 38 14.7	+1.7
UGLR	**Uglovaya**	**1.54**	**311**	*e*P	Pn	05 37 57.2	+2.4
UGLR				*e*S	Sn	05 38 16.9	+3.1
SDLR	**Sedlovina**	**1.56**	**314**	*e*P	Pn	05 37 57.1	+2.0
SDLR				*e*S	Sn	05 38 16.4	+2.1
SMAR	**Somma**	**1.59**	**312**	*e*P	Pn	05 37 57.6	+2.1
MTVR	**Mutnovka**	**1.60**	**281**	*e*P	Pn	05 37 57.9	+2.3
MTVR				*e*S	Sn	05 38 17.0	+1.7
AVH	**Avacha**	**1.62**	**312**	*e*P	Pn	05 37 58.4	+2.6
KRER	**Koryakskii**	**1.64**	**313**	*e*P	Pn	05 37 58.6	+2.4
GRL	**Gorelyy**	**1.68**	**283**	*e*P	Pn	05 38 00.1	+3.4
KOK	**Koryaka**	**1.68**	**311**	*e*P	Pn	05 37 59.1	+2.4
KDTR	**Khodutka, Kamc**	**1.70**	**257**	*e*P	Pn	05 37 58.7	+1.8
KDTR				*e*S	Sn	05 38 17.4	-0.1
KRMR	**Karymshinskiy**	**1.72**	**292**	*e*P	Pn	05 37 59.4	+2.3
KRMR				*e*S	Sn	05 38 20.8	+2.9
KRX	**Arik**	**1.72**	**313**	*e*P	Pn	05 37 59.6	+2.3
ASAK	**Asacha**	**1.76**	**277**	*e*P	Pn	05 38 00.5	+2.7
APC	**Apacha**	**2.31**	**289**	*e*P	Pn	05 38 08.4	+3.3
MKZ	**Mys Kozlova**	**2.42**	**14**	*e*P	Pn	05 38 08.9	+2.2
MKZ				*e*S	Sn	05 38 36.5	+1.4
PAU	**Pauzhetka**	**2.55**	**255**	*e*P	Pn	05 38 10.7	+2.2
KZV	**Kizimen**	**2.92**	**355**	*e*P	Pn	05 38 18.0	+4.3
KZV				*e*S	Sn	05 38 50.6	+3.0
TUMD	**Tumrok D**	**3.01**	**356**	*e*P	Pn	05 38 18.9	+4.2
TUMD				*e*S	Sn	05 38 52.0	+2.5
TUMR	**Tumrok**	**3.10**	**354**	*e*P	Pn	05 38 20.7	+4.6
ALID	**Alaid**	**3.51**	**250**	*e*P	Pn	05 38 23.7	+1.9
KBTR	**Krutoberegovo**	**4.19**	**16**	*e*P	Pn	05 38 34.2	+3.4
BKI	**Bering**	**4.32**	**44**	*e*S	Sn	05 39 22.1	+0.6

MAN 22 05:38:03.6, 7°.12N×125°.62E, h25km, mb3.6, ML2.4, MS1.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.11**	**253**	⇑*e*P	Pn	05 38 09.3	-0.6
DMPH				*e*S	Sb	05 38 15.9	+4.2
BUKP	**Musuan**	**0.94**	**324**	*e*P	Pb	05 38 20.5	-0.8
BUKP				*e*S	Sn	05 38 34.1	+0.2
DDMP	**Don Marcelino,**	**1.01**	**175**	*e*P	Pn	05 38 22.1	-0.1
DDMP				*e*S	Sb	05 38 35.5	+0.1

*IDC **22** 05:42:15.9±2.0, 51°.84N×160°.51E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/38, mbtmp3.8/8, ML3.1/2, MS2.7/2, Ms1 2.7/2, ms1mx2.4/43, Error ellipse: s-maj=58.7km s-min=23.6km az=13.0*
*KRSC **22** 05:42:18.3±10.0, 52°.14N×160°.75E, h61km±10km, ML4.3*
*MOS **22** 05:42:21.6±0.8, 52°.18N×160°.54E, h52km, mb4.0/1, Error ellipse: s-maj=10.8km s-min=6.2km az=115.0*
ISC 22 05:42:17.7±1.9, 52°.15N±0°.05×160°.68E±0°.05, h7km±11km, n62, σ1°28/80, mb4.0/6, 2C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.03**	**337**	*e*P	**Pn**	**05 42 38.4**	**-0.2**
SPN				*e*S	**Sb**	**05 42 51.2**	**-0.3**
SPN	**Mys Shipunski**	**1.03**	**337**	PN	**Pn**	**05 42 38.4**	**-0.2**
SPN				S	**Sb**	**05 42 51.2**	**-0.3**
NLC	**Nalytchevo**	**1.30**	**322**	*e*P	**Pg**	**05 42 42.8**	**+0.1**
NLC				S	**Sg**	**05 42 59.3**	**-0.3**
NLC	**Nalytchevo**	**1.30**	**322**	PN	**Pg**	**05 42 42.8**	**+0.1**
NLC				S	**Sg**	**05 42 59.3**	**-0.3**
RUS	**Russkaya**	**1.36**	**283**	*e*P	**Pb**	**05 42 43.3**	**-0.2**
RUS				*e*S	**Sb**	**05 43 00.3**	**-0.8**
RUS	**Russkaya**	**1.36**	**283**	PN	**Pb**	**05 42 43.3**	**-0.2**
RUS				S	**Sb**	**05 43 00.3**	**-0.8**
DALK	**Dalny**	**1.47**	**308**	*e*P	**Pb**	**05 42 45.1**	**-0.2**
DALK				*e*S	**Sn**	**05 43 03.2**	**-0.8**
DALK	**Dalny**	**1.47**	**308**	PN	**Pb**	**05 42 45.1**	**-0.2**
DALK				S	**Sn**	**05 43 03.2**	**-0.8**
PET	**Petropavlovsk**	**1.51**	**306**	*e*P	**Pb**	**05 42 46.2**	**+0.1**
PET				*e*S	**Sb**	**05 43 05.2**	**-0.3**
PET	**Petropavlovsk**	**1.51**	**306**	⇑*i*PN	**Pb**	**05 42 45.8**	**-0.3**
PET				*e*S	**Sg**	**05 43 06.7**	**+0.4**
PET				pmax	pmax		
	comp=Z,254nm,0.5s						
PET				smax	smax		
	comp=E,1μm,0.7s						
PET				smax	smax		
	comp=N,1μm,0.4s						
UGLR	**Uglovaya**	**1.55**	**314**	*e*P	**Pb**	**05 42 47.0**	**+0.2**
UGLR	**Uglovaya**	**1.55**	**314**	PN	**Pb**	**05 42 47.0**	**+0.2**
MTVR	**Mutnovka**	**1.57**	**283**	*e*P	**Pb**	**05 42 46.8**	**-0.3**
MTVR				*e*S	**Sn**	**05 43 06.3**	**-0.4**
MTVR	**Mutnovka**	**1.57**	**283**	PN	**Pb**	**05 42 46.8**	**-0.3**
MTVR				S	**Sn**	**05 43 06.3**	**-0.4**
SDLR	**Sedlovina**	**1.57**	**317**	*e*P	**Pb**	**05 42 47.0**	**-0.1**
SDLR	**Sedlovina**	**1.57**	**317**	PN	**Pb**	**05 42 47.0**	**-0.1**
SMAR	**Somma**	**1.59**	**315**	*e*P	**Pb**	**05 42 47.5**	**-0.1**
SMAR	**Somma**	**1.59**	**315**	PN	**Pb**	**05 42 47.5**	**-0.1**
AVH	**Avacha**	**1.62**	**314**	*e*P	**Pb**	**05 42 48.2**	**+0.2**
AVH	**Avacha**	**1.62**	**314**	PN	**Pb**	**05 42 48.2**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.65**	**259**	*e*P	**Pn**	**05 42 47.3**	**+0.3**
KDTR				*e*S	**Sn**	**05 43 06.8**	**-1.6**
KDTR	**Khodutka, Kamc**	**1.65**	**259**	PN	**Pn**	**05 42 47.3**	**+0.3**
KDTR				S	**Sn**	**05 43 06.8**	**-1.6**
KRER	**Koryakskii**	**1.65**	**315**	*e*P	**Pb**	**05 42 48.3**	**-0.2**
KRER				*e*S	**Sb**	**05 43 08.7**	**-0.8**
KRER	**Koryakskii**	**1.65**	**315**	PN	**Pb**	**05 42 48.3**	**-0.2**
KRER				S	**Sb**	**05 43 08.7**	**-0.8**
KOK	**Koryaka**	**1.69**	**313**	*e*P	**Pb**	**05 42 48.8**	**-0.3**
KOK	**Koryaka**	**1.69**	**313**	PN	**Pb**	**05 42 48.8**	**-0.3**
KRMR	**Karymshinskiy**	**1.70**	**295**	*e*P	**Pb**	**05 42 48.6**	**-0.7**
KRMR				*e*S	**Sn**	**05 43 09.4**	**-0.4**
KRMR	**Karymshinskiy**	**1.70**	**295**	PN	**Pb**	**05 42 48.6**	**-0.7**
KRMR				S	**Sn**	**05 43 09.4**	**-0.4**
ASAK	**Asacha**	**1.72**	**279**	*e*P	**Pb**	**05 42 49.3**	**-0.4**
ASAK	**Asacha**	**1.72**	**279**	PN	**Pb**	**05 42 49.3**	**-0.4**
KRX	**Arik**	**1.73**	**315**	*e*P	**Pb**	**05 42 49.3**	**-0.5**
KRX	**Arik**	**1.73**	**315**	PN	**Pb**	**05 42 49.3**	**-0.5**
PETK	**Petropavlovsk-**	**2.05**	**299**	Pn	**Pb**	**05 42 54.3**	**-1.0**
	comp=N,20nm,0.3s,baz=102,slow=18,SNR=56						
PETK				Sn	**Sg**	**05 43 22.0**	**-1.6**
	comp=N,34nm,0.3s,baz=123,slow=16,SNR=15						
PETK				LR	LR	05 43 26.4	
	comp=N,81nm,18.9s,baz=59,slow=33						
APC	**Apacha**	**2.29**	**291**	*e*P	**Pb**	**05 42 57.6**	**-1.6**
APC	**Apacha**	**2.29**	**291**	PN	**Pb**	**05 42 57.6**	**-1.6**
MKZ	**Mys Kozlova**	**2.49**	**14**	*e*P	**Pn**	**05 42 59.3**	**+0.7**
MKZ				*e*S	**Sn**	**05 43 26.5**	**-2.7**
MKZ	**Mys Kozlova**	**2.49**	**14**	PN	**Pn**	**05 42 59.3**	**+0.7**
MKZ				S	**Sn**	**05 43 26.5**	**-2.7**
PAU	**Pauzhetka**	**2.50**	**256**	*e*P	**Pn**	**05 42 59.8**	**+1.1**
PAU	**Pauzhetka**	**2.50**	**256**	PN	**Pn**	**05 42 59.8**	**+1.1**
KZV	**Kizimen**	**2.98**	**356**	*e*P	**Pn**	**05 43 07.1**	**+1.6**
KZV	**Kizimen**	**2.98**	**356**	PN	**Pn**	**05 43 07.1**	**+1.6**
TUMR	**Tumrok**	**3.15**	**354**	*e*P	**Pn**	**05 43 10.2**	**+2.3**
TUMR	**Tumrok**	**3.15**	**354**	PN	**Pn**	**05 43 10.2**	**+2.3**
SKR	**Severo-Kuril's**	**3.21**	**245**	*e*S	**Sn**	**05 43 44.5**	**-2.5**
SKR	**Severo-Kuril's**	**3.21**	**245**	*e*PN	**Pn**	**05 43 09.9**	**+1.4**
SKR				*e*S	**Sn**	**05 43 44.6**	**-2.5**
SKR				smax	smax		
	comp=E,288nm,0.6s						
SKR				smax	smax		
	comp=N,200nm,0.8s						
ALID	**Alaid**	**3.45**	**250**	*e*P	**Pn**	**05 43 13.4**	**+1.4**
ALID	**Alaid**	**3.45**	**250**	PN	**Pn**	**05 43 13.4**	**+1.4**
KBTR	**Krutoberegovo**	**4.25**	**16**	*e*P	**Pn**	**05 43 24.3**	**+1.5**
KBTR	**Krutoberegovo**	**4.25**	**16**	PN	**Pn**	**05 43 24.3**	**+1.5**
BKI	**Bering**	**4.39**	**44**	*e*S	**Sn**	**05 44 10.5**	**-5.4**
BILL	**Bilibino**	**16.17**	**8**	⇑*e*P	**P**	**05 46 11.1**	**+2.8**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KLR	**Kul'dur**	**18.50**	**272**	P	**P**	**05 46 32.8**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=61,slow=10,SNR=2.8						
MJAR	**Matsushiro Arr**	**22.26**	**234**	LR	LR	05 56 35.9	
	comp=Z,44nm,19.2s,baz=80,slow=39						
H11N2	**WAKE ISLAND Hy**	**32.72**	**169**	T	T	06 23 35.6	
	baz=352						
H11N3	**WAKE ISLAND Hy**	**32.73**	**169**	T	T	06 23 42.2	
	baz=352						
H11N1	**WAKE ISLAND Hy**	**32.74**	**169**	T	T	06 23 38.5	
	baz=352						
MKAR	**Makanchi Array**	**48.89**	**297**	P	**P**	**05 51 02.5**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=54,slow=6.2,SNR=6.2						
ARCES	**ARCESS Array B**	**54.29**	**342**	P	**P**	**05 51 44.3**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=42,slow=9.6,SNR=2.9						
FINES	**FINESS Array B**	**61.13**	**337**	P	**P**	**05 52 32.8**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=46,slow=6.6,SNR=13						
NOA	**NORSAR Array B**	**64.55**	**344**	P	**P**	**05 52 56.1**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=21,slow=6.6,SNR=3.3						
TXAR	**Lajitas Array**	**70.68**	**67**	P	**P**	**05 53 35.4**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=295,slow=4.9,SNR=3.4						
BRTR	**Keskin Array B**	**77.58**	**321**	P	**P**	**05 54 15.2**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=21,slow=4.8,SNR=4.0						

*ISCJB **22** 05:53:24.4±1.0, 48°.4N±0°.2×147°.8E±0°.3, h450km, mb3.0/3, Error ellipse: s-maj=33.1km s-min=14.1km az=144.2*
*IDC **22** 05:53:25.6±2.4, 48°.34N×147°.94E, h448km±32km, mb2.7/3, mb1 3.0/6, mb1mx2.7/30, mbtmp3.6/6, Error ellipse: s-maj=54.5km s-min=25.2km az=144.0*
ISC 22 05:53:25.7±1.0, 48°.4N±0°.2×147°.9E±0°.2, h450km, n7, σ0°37/7, mb3.0/3, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.82**	**49**	P	**P**	**05 55 19.3**	**+0.3**
	0.4nm,0.3s,baz=226,slow=7.8,SNR=4.4						
KLR	**Kul'dur**	**10.70**	**281**	P	**P**	**05 55 50.4**	**+0.1**
	0.4nm,0.3s,baz=90,slow=8.4,SNR=7.9						
MJAR	**Matsushiro Arr**	**13.80**	**215**	P	**P**	**05 56 23.9**	**-0.1**
	0.1nm,0.3s,baz=38,slow=12,SNR=3.7						
ILAR	**Eielson Array**	**37.52**	**40**	P	**P**	**05 59 59.0**	**-0.3**
	0.6nm,0.6s,baz=252,slow=6.1,SNR=8.5						
INK	**Inuvik**	**42.20**	**33**	P	**P**	**06 00 36.7**	**-0.3**
	baz=232,slow=15						
YKA	**Yellowknife Ar**	**51.71**	**36**	P	**P**	**06 01 48.9**	**-0.4**
	0.4nm,0.5s,baz=302,slow=7.2,SNR=6.1						
TXAR	**Lajitas Array**	**79.68**	**57**	P	**P**	**06 04 46.0**	**+0.4**
	0.2nm,0.6s,baz=287,slow=3.4,SNR=3.8						

TRN 22 06:02:49.3, 11°.93N×60°.37W, h39km, MD4.0, 1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSP	**Speyside**	**0.65**	**195**	*i* P	Pn	06 03 03.4	+1.4
TOSP				*e*S	Sn	06 03 11.7	+0.7
TPR	**Prospect**	**0.84**	**209**	*e*P	Pn	06 03 06.7	+2.0
GRSS	**Sisters**	**1.27**	**287**	*e*P	Pn	06 03 12.7	+2.2
GRSS				*e*S	Sn	06 03 28.5	+2.2
GRHS	**Sauteurs**	**1.28**	**283**	*e*P	Pn	06 03 12.9	+2.3
GRHS				*e*S	Sn	06 03 28.9	+2.3
BBGH	**Gun Hill**	**1.44**	**33**	*e*P	Pn	06 03 13.7	+0.8
BBGH				*e*S	Sn	06 03 32.4	+1.8
BBSP	**Saint Philip**	**1.47**	**37**	*e*P	Pn	06 03 14.8	+1.5
BBSP				*e*S	Sn	06 03 32.3	+1.1
FCV	**Fort Charlotte**	**1.49**	**325**	*e*P	Pn	06 03 15.3	+1.8
FCV				*e*S	Sn	06 03 33.5	+1.7
SVCV	**St. Vincent, C**	**1.54**	**330**	*e*P	Pn	06 03 15.0	+0.8
SVCV				*e*S	Sn	06 03 34.5	+1.5
SVB	**Belmont**	**1.59**	**327**	*e*P	Pn	06 03 15.8	+0.9
SVB				*e*S	Sn	06 03 35.4	+1.2
TBH	**Brigand Hill**	**1.59**	**206**	*e*P	Pn	06 03 16.2	+1.3
TBH				*e*S	Sn	06 03 35.0	+0.8
SSV	**Crater Summit**	**1.61**	**330**	*e*P	Pn	06 03 17.1	+1.8
SSV				*e*S	Sn	06 03 36.2	+1.4
SVV	**Soufriere Volc**	**1.61**	**339**	*e*P	Pn	06 03 17.2	+2.0
SVV				*e*S	Sn	06 03 37.0	+2.2
TRN	**Trinidad (W)**	**1.63**	**219**	*e*P	Pn	06 03 17.1	+1.7
TRN				*e*S	Sn	06 03 36.1	+0.9
SFAN	**Fancy Village**	**1.65**	**332**	*e*P	Pn	06 03 17.1	+1.4
SFAN				*e*S	Sn	06 03 36.3	+0.7
MCLT	**Moule a Chique**	**1.86**	**343**	*e*P	Pn	06 03 19.9	+1.3
MCLT				*e*S	Sn	06 03 41.5	+0.7
TPP	**Pointe-a-Pierr**	**1.92**	**214**	*e*P	Pn	06 03 21.4	+1.9
SLDE	**Delcer**	**1.98**	**340**	*e*P	Pn	06 03 22.9	+2.6
SLDE				*e*S	Sn	06 03 46.3	+2.4
SLPA	**Patience**	**1.99**	**344**	*e*P	Pn	06 03 22.7	+2.4
SLPA				*e*S	Sn	06 03 46.0	+1.9
SLB	**Belfond**	**2.00**	**341**	*e*P	Pn	06 03 22.9	+2.3
SLB				*e*S	Sn	06 03 45.4	+1.0
SLW	**Petit Monier**	**2.15**	**345**	*e*P	Pn	06 03 24.9	+2.2
SLW				*e*S	Sn	06 03 48.8	+0.7
SLBI	**Saint Lucia, B**	**2.16**	**344**	*e*P	Pn	06 03 24.0	+1.2
SLBI				*e*S	Sn	06 03 49.1	+0.7
MPOM	**Morne Pois Mar**	**2.55**	**349**	⇓*e*P	Pn	06 03 29.4	+1.3
MVM	**Montagne Vaucl**	**2.66**	**349**	*e*P	Pn	06 03 31.5	+1.9
BIM	**Bigot**	**2.66**	**345**	*e*P	Pn	06 03 31.5	+1.8
TRMF	**Trois Ilets**	**2.68**	**346**	*e*P	Pn	06 03 31.7	+1.8
LPMF	**Morne Lapointe**	**2.69**	**348**	*e*P	Pn	06 03 31.7	+1.6
ZAM	**Aeronautique**	**2.71**	**346**	*e*P	Pn	06 03 32.2	+1.9
FDF	**Fort de France**	**2.89**	**345**	*e*P	Pn	06 03 35.0	+2.2
FDF				*e*S	Sn	06 04 07.6	+1.2
PML	**Morne Lenard**	**2.94**	**344**	*e*P	Pn	06 03 35.7	+2.1
BAMF	**Morne Balai**	**2.97**	**345**	*e*P	Pn	06 03 36.6	+2.7
PCM	**Pelee Case Pet**	**2.98**	**344**	*e*P	Pn	06 03 36.2	+2.1
DSHT	**Scott's Head**	**3.41**	**343**	*e*P	Pn	06 03 42.0	+2.1
DSHT				*e*S	Sn	06 04 20.4	+1.3
DSTT	**Stowe**	**3.42**	**345**	*e*P	Pn	06 03 42.5	+2.4
DSTT				*e*S	Sn	06 04 19.4	-0.1
DPMT	**Pointe Michel**	**3.45**	**344**	*e*P	Pn	06 03 41.8	+1.3
DPMT				*e*S	Sn	06 04 21.6	+1.4
DBCT	**Belle View Cho**	**3.46**	**344**	*e*P	Pn	06 03 42.4	+1.8
DBCT				*e*S	Sn	06 04 20.6	+0.3
DLPL	**La Plaine**	**3.49**	**346**	*e*P	Pn	06 03 42.8	+1.7
DLPL				*e*S	Sn	06 04 21.2	0.0
MDN	**Morne-Daniel**	**3.51**	**344**	*e*P	Pn	06 03 43.8	+2.5
MDN				*e*S	Sn	06 04 22.4	+0.7
DWS	**Wesley**	**3.73**	**346**	*e*P	Pn	06 03 46.1	+1.8
DWS				*e*S	Sn	06 04 28.5	+1.4
BBL	**Barber's Block**	**3.73**	**343**	*e*P	Pn	06 03 46.0	+1.6
BBL				*e*S	Sn	06 04 28.1	+0.9
MDPO	**Dominica; Chan**	**3.77**	**344**	*e*P	Pn	06 03 47.4	+2.4
MDPO				*e*S	Sn	06 04 28.9	+0.7
MDPV	**Dominica, Penn**	**3.82**	**345**	*e*P	Pn	06 03 47.0	+1.5
MDPV				*e*S	Sn	06 04 29.9	+0.7
TBG	**Guadaloupe-3**	**4.09**	**343**	*e*P	Pn	06 03 51.4	+2.0
TBG				*e*S	Sn	06 04 36.1	+0.1
MLYT	**Lee's Yard**	**5.08**	**340**	*e*P	Pn	06 04 04.4	+1.4
MLYT	**Lee's Yard**	**5.08**	**340**	*e*S	Sn	06 05 00.0	-0.4
BPA	**Boggy Peak**	**5.29**	**344**	*e*P	Pn	06 04 07.2	+1.4
BPA	**Boggy Peak**	**5.29**	**344**	*e*S	Sn	06 05 05.0	-0.5
NVBH	**Bath Hotel, Ne**	**5.60**	**337**	*e*P	Pn	06 04 12.0	+2.0
NEV	**Hard Times**	**5.60**	**338**	*e*P	Pn	06 04 11.9	+1.8
NVDO	**Nevis, Disaste**	**5.60**	**337**	*e*P	Pn	06 04 12.6	+2.6
NVRH	**Round Hill, Ne**	**5.65**	**338**	*e*P	Pn	06 04 13.2	+2.4
SKTB	**Turtle Beach**	**5.68**	**338**	*e*P	Pn	06 04 13.5	+2.4
SKI	**Saint Kitts**	**5.84**	**337**	*e*P	Pn	06 04 15.6	+2.2
SKI	**Saint Kitts**	**5.84**	**337**	*e*S	Sn	06 05 18.4	-0.8
ANWB	**Willy Bob**	**5.87**	**347**	*e*P	Pn	06 04 16.2	+2.4
ANWB	**Willy Bob**	**5.87**	**347**	*e*S	Sn	06 05 18.8	-1.0
SMRT	**St. Maarten**	**6.62**	**337**	*e*P	Pn	06 04 26.5	+2.3

RSNC 22 06:08:09.3±1.2, 6°.57N×73°.54W, h113km±5km, ML3.2, Mw3.5, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.35**	**86**	⇑*i*P	Pn	06 08 25.9	-0.1
BARC				*e*S	Sn	06 08 38.1	-0.3
BARC				*i*		06 08 40.0	
	comp=Z,2μm,0.4s						
BRRC	**Barranca, Sant**	**0.56**	**342**	*e*P	Pn	06 08 26.6	-0.4
BRRC				*e*S	Sn	06 08 40.4	+0.3
BRRC				*i*		06 08 41.3	
	comp=Z,306nm,0.1s						
GIRC	**Giron, Santand**	**0.61**	**34**	*e*P	Pn	06 08 27.3	-0.1
GIRC				*e*S	Sn	06 08 40.9	-0.1
GIRC				*i*		06 08 41.8	
	comp=Z,453nm,0.1s						
RUSC	**La Rusia**	**0.81**	**146**	*e*P	Pn	06 08 28.9	-0.6
RUSC				*e*S	Sn	06 08 44.5	-0.1
RUSC				*i*		06 08 47.6	
	comp=Z,146nm,0.3s						
PTBC	**PUERTO BERRIO,**	**0.91**	**268**	*e*P	Pn	06 08 28.7	-1.2
PTBC				*e*S	Sn	06 08 43.7	-1.7
PTBC				*i*		06 08 45.0	
	comp=Z,568nm,0.2s						
PAMC	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.26**	**346**	*e*P	**Pn**	**06 36 45.7**	**-1.5**
SPN				*e*S	**Sn**	**06 36 51.2**	**-2.3**
SPN	**Mys Shipunski**	**0.26**	**346**	PN	**Pn**	**06 36 45.7**	**-1.5**
NLC	**Nalytchevo**	**0.57**	**305**	*e*P	**Pn**	**06 36 49.8**	**-0.7**
NLC				*e*S	**Sn**	**06 36 58.8**	**-0.4**
NLC	**Nalytchevo**	**0.57**	**305**	PN	**Pn**	**06 36 49.8**	**-0.7**
NLC				S	**Sn**	**06 36 58.8**	**-0.4**
DALK	**Dalny**	**0.85**	**283**	*e*P	**Pn**	**06 36 53.9**	**-0.2**
DALK				*e*S	**Sn**	**06 37 05.7**	**+0.1**
DALK	**Dalny**	**0.85**	**283**	PN	**Pn**	**06 36 53.9**	**-0.2**
DALK				S	**Sn**	**06 37 05.7**	**+0.1**
SDLR	**Sedlovina**	**0.86**	**301**	*i* P	**Pn**	**06 36 54.3**	**-0.2**
SDLR	**Sedlovina**	**0.86**	**301**	PN	**Pn**	**06 36 54.3**	**-0.2**
UGLR	**Uglovaya**	**0.86**	**295**	*i* P	**Pn**	**06 36 54.4**	**0.0**
UGLR	**Uglovaya**	**0.86**	**295**	PN	**Pn**	**06 36 54.4**	**0.0**
SMAR	**Somma**	**0.90**	**298**	*i* P	**Pn**	**06 36 54.5**	**-0.5**
SMAR	**Somma**	**0.90**	**298**	PN	**Pn**	**06 36 54.5**	**-0.5**
PET	**Petropavlovsk**	**0.91**	**282**	*e*Pn	**Pn**	**06 36 54.6**	**-0.3**
PET	**Petropavlovsk**	**0.91**	**282**	||*i*PN	**Pn**	**06 36 54.7**	**-0.2**
PET				*e*S	**Sn**	**06 37 07.0**	**0.0**
PET	comp=Z,22μm,0.6s			pmax	pmax		
PET	comp=N,45μm,0.7s			smax	smax		
PET	comp=E,39μm,0.6s			smax	smax		
AVH	**Avacha**	**0.94**	**297**	*i* P	**Pn**	**06 36 55.5**	**+0.1**
AVH	**Avacha**	**0.94**	**297**	PN	**Pn**	**06 36 55.5**	**+0.1**
KRER	**Koryakskii**	**0.95**	**299**	*e*P	**Pn**	**06 36 55.9**	**+0.3**
KRER	**Koryakskii**	**0.95**	**299**	PN	**Pn**	**06 36 55.9**	**+0.3**
KOK	**Koryaka**	**1.00**	**297**	*i* P	**Pn**	**06 36 56.3**	**0.0**
KOK	**Koryaka**	**1.00**	**297**	PN	**Pn**	**06 36 56.3**	**0.0**
KRX	**Arik**	**1.03**	**301**	*i* P	**Pn**	**06 36 56.6**	**0.0**
KRX	**Arik**	**1.03**	**301**	PN	**Pn**	**06 36 56.6**	**0.0**
RUS	**Russkaya**	**1.06**	**248**	*e*P	**Pn**	**06 36 56.2**	**-0.8**
RUS				*e*S	**Sn**	**06 37 10.4**	**-0.3**
RUS	**Russkaya**	**1.06**	**248**	PN	**Pn**	**06 36 56.2**	**-0.8**
RUS				S	**Sn**	**06 37 10.4**	**-0.3**
KRMR	**Karymshinskiy**	**1.21**	**270**	*e*P	**Pn**	**06 36 58.9**	**0.0**
KRMR				*e*S	**Sn**	**06 37 15.0**	**+0.8**
KRMR	**Karymshinskiy**	**1.21**	**270**	PN	**Pn**	**06 36 58.9**	**0.0**
KRMR				S	**Sn**	**06 37 15.0**	**+0.8**
MTVR	**Mutnovka**	**1.24**	**254**	*e*P	**Pn**	**06 36 59.3**	**-0.2**
MTVR	**Mutnovka**	**1.24**	**254**	PN	**Pn**	**06 36 59.3**	**-0.2**
GRL	**Gorelyy**	**1.28**	**258**	*e*P	**Pn**	**06 37 00.4**	**+0.3**
GRL	**Gorelyy**	**1.28**	**258**	PN	**Pn**	**06 37 00.4**	**+0.3**
ASAK	**Asacha**	**1.43**	**252**	*e*P	**Pn**	**06 37 02.4**	**+0.3**
ASAK	**Asacha**	**1.43**	**252**	PN	**Pn**	**06 37 02.4**	**+0.3**
I44RU	**PETROPAVLOVSK-**	**1.48**	**281**	P	**Pn**	**06 37 03.4**	**+0.7**
	baz=86,slow=14,SNR=3.9						
I44RU				S	**Sn**	**06 37 22.7**	**+1.8**
PEA0B	**Petropavlovsk-**	**1.49**	**281**	*e*Pn	**Pn**	**06 37 03.5**	**+0.8**
PETK	**Petropavlovsk-**	**1.49**	**281**	*e*Pn	**Pn**	**06 37 03.2**	**+0.4**
PETK	**Petropavlovsk-**	**1.49**	**281**	*e*PN	**Pn**	**06 37 03.2**	**+0.4**
PETK	**Petropavlovsk-**	**1.49**	**281**	P	**Pn**	**06 37 03.5**	**+0.7**
	comp=E,2μm,0.3s,baz=92,slow=20						
PETK				S	**Sn**	**06 37 23.1**	**+2.0**
	comp=E,1μm,0.3s,baz=199,slow=29,SNR=12						
PETK				LR	LR	06 37 52.1	
	comp=E,7μm,18.9s,baz=145,slow=53						
PEA1	**Petropavlovsk-**	**1.49**	**281**	*e*Pn	**Pn**	**06 37 03.5**	**+0.7**
PEA1				*e*Sn	**Sn**	**06 37 23.1**	**+1.9**
KDTR	**Khodutka, Kamc**	**1.63**	**231**	*e*P	**Pn**	**06 37 04.1**	**-0.6**
KDTR				*e*S	**Sn**	**06 37 25.5**	**+1.0**
KDTR	**Khodutka, Kamc**	**1.63**	**231**	PN	**Pn**	**06 37 04.1**	**-0.6**
KDTR				S	**Sn**	**06 37 25.5**	**+1.0**
MKZ	**Mys Kozlova**	**1.96**	**28**	*i* P	**Pn**	**06 37 07.9**	**-1.3**
MKZ	**Mys Kozlova**	**1.96**	**28**	PN	**Pn**	**06 37 07.9**	**-1.3**
KZV	**Kizimen**	**2.27**	**2**	*i* P	**Pn**	**06 37 14.5**	**+0.9**
KZV	**Kizimen**	**2.27**	**2**	PN	**Pn**	**06 37 14.5**	**+0.9**
TUMD	**Tumrok D**	**2.37**	**4**	*e*P	**Pn**	**06 37 15.4**	**+0.6**
TUMD				*e*S	**Sn**	**06 37 45.0**	**+2.4**
TUMR	**Tumrok**	**2.44**	**0**	*e*P	**Pn**	**06 37 17.4**	**+1.5**
TUMR	**Tumrok**	**2.44**	**0**	PN	**Pn**	**06 37 15.4**	**-0.5**
TUMR				S	**Sn**	**06 37 45.0**	**+0.4**
PAU	**Pauzhetka**	**2.46**	**237**	*e*P	**Pn**	**06 37 17.1**	**+1.0**
PAU	**Pauzhetka**	**2.46**	**237**	PN	**Pn**	**06 37 17.1**	**+1.0**
BZMR	**Bezymyannaya**	**3.10**	**4**	*e*P	**Pn**	**06 37 26.9**	**+1.9**
BZMR	**Bezymyannaya**	**3.10**	**4**	PN	**Pn**	**06 37 26.9**	**+1.9**
KIRR	**Kirishev**	**3.12**	**2**	*e*P	**Pn**	**06 37 27.1**	**+1.9**
KIRR	**Kirishev**	**3.12**	**2**	PN	**Pn**	**06 37 27.1**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**3.12**	**6**	*e*P	**Pn**	**06 37 27.2**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**3.12**	**6**	PN	**Pn**	**06 37 27.2**	**+2.0**
KPT	**Kopyto**	**3.13**	**1**	*e*P	**Pn**	**06 37 27.1**	**+1.8**
KPT	**Kopyto**	**3.13**	**1**	PN	**Pn**	**06 37 27.1**	**+1.8**
BZWR	**Bezymyannyi-We**	**3.13**	**4**	*e*P	**Pn**	**06 37 27.6**	**+2.2**
BZWR	**Bezymyannyi-We**	**3.13**	**4**	PN	**Pn**	**06 37 27.6**	**+2.2**
ESO	**Esso**	**3.19**	**345**	*e*P	**Pn**	**06 37 27.3**	**+1.2**
ESO	**Esso**	**3.19**	**345**	PN	**Pn**	**06 37 27.3**	**+1.2**
KOZ	**Kozyrevsk**	**3.22**	**358**	*e*P	**Pn**	**06 37 28.2**	**+1.7**
KOZ	**Kozyrevsk**	**3.22**	**358**	PN	**Pn**	**06 37 28.2**	**+1.7**
LGNR	**Loginova**	**3.26**	**6**	*e*P	**Pn**	**06 37 29.7**	**+2.4**
LGNR	**Loginova**	**3.26**	**6**	PN	**Pn**	**06 37 29.7**	**+2.4**
CIRR	**Tsirk**	**3.30**	**6**	*e*P	**Pn**	**06 37 30.0**	**+2.4**
CIRR	**Tsirk**	**3.30**	**6**	PN	**Pn**	**06 37 30.0**	**+2.4**
SKR	**Severo-Kuril's**	**3.30**	**231**	*e*P	**Pn**	**06 37 27.9**	**+0.4**
SKR	**Severo-Kuril's**	**3.30**	**231**	*e*PN	**Pn**	**06 37 27.6**	**+0.1**
SKR				*e*S	**Sn**	**06 38 04.0**	**-1.5**
SKR	comp=Z,266nm,0.5s			pmax	pmax		
SKR	comp=E,3μm,0.6s			smax	smax		
SKR	comp=N,4μm,0.8s			smax	smax		
KRSR	**Krestovskiy**	**3.39**	**4**	*e*P	**Pn**	**06 37 30.3**	**+1.5**
KRSR	**Krestovskiy**	**3.39**	**4**	PN	**Pn**	**06 37 30.3**	**+1.5**
ALID	**Alaid**	**3.46**	**237**	*e*P	**Pn**	**06 37 31.1**	**+1.2**
ALID	**Alaid**	**3.46**	**237**	PN	**Pn**	**06 37 31.1**	**+1.2**
SRDR	**Sredinnyy**	**3.49**	**356**	*e*P	**Pn**	**06 37 31.5**	**+1.4**
SRDR	**Sredinnyy**	**3.49**	**356**	PN	**Pn**	**06 37 31.5**	**+1.4**
KLY	**Klyuchi**	**3.49**	**5**	*e*P	**Pn**	**06 37 32.0**	**+1.9**
KLY				*e*S	**Sn**	**06 38 13.2**	**+3.1**
KLY	**Klyuchi**	**3.49**	**5**	PN	**Pn**	**06 37 32.0**	**+1.9**
KLY				S	**Sn**	**06 38 13.2**	**+3.1**
KBTR	**Krutoberegovo**	**3.72**	**24**	*i* P	**Pn**	**06 37 33.9**	**+0.7**
KBTR	**Krutoberegovo**	**3.72**	**24**	PN	**Pn**	**06 37 33.9**	**+0.7**
KBG	**Krutoberegovo**	**3.73**	**23**	*e*P	**Pn**	**06 37 35.1**	**+1.7**
KBG	**Krutoberegovo**	**3.73**	**23**	PN	**Pn**	**06 37 35.1**	**+1.7**
BDR	**Baidarnaya**	**3.78**	**9**	*e*P	**Pn**	**06 37 36.5**	**+2.3**
BDR	**Baidarnaya**	**3.78**	**9**	PN	**Pn**	**06 37 36.5**	**+2.3**
SMKR	**Semkarok**	**3.82**	**11**	*e*P	**Pn**	**06 37 36.6**	**+1.8**
SMKR	**Semkarok**	**3.82**	**11**	PN	**Pn**	**06 37 36.6**	**+1.8**
SRKR	**Sorokina**	**3.86**	**9**	*e*P	**Pn**	**06 37 37.9**	**+2.6**
SRKR	**Sorokina**	**3.86**	**9**	PN	**Pn**	**06 37 37.9**	**+2.6**
BKI	**Bering**	**4.18**	**53**	*e*P	**Pn**	**06 37 38.8**	**-0.8**
BKI				*e*S	**Sn**	**06 38 21.7**	**-5.4**
BKI	**Bering**	**4.18**	**53**	PN	**Pn**	**06 37 38.8**	**-0.8**
SMY	**Shemya**	**8.48**	**85**	*e*Pn	**Pn**	**06 38 37.9**	**-0.5**
SMY				*e*Sn	**Sn**	**06 40 07.5**	**-5.0**
SMY	**Shemya**	**8.48**	**85**	*e*PN	**Pn**	**06 38 37.9**	**-0.5**
MA2	**Magadan**	**8.52**	**326**	*e*Pn	**Pn**	**06 38 37.8**	**-1.2**
MA2	**Magadan**	**8.52**	**326**	*i* PN	**Pn**	**06 38 37.8**	**-1.2**
MA2	**Magadan**	**8.52**	**326**	P	**Pn**	**06 38 39.7**	**+0.7**
	comp=N,1.2nm,0.3s,baz=126,slow=10,SNR=12						
MA2				LR	LR	06 42 27.3	
	comp=N,1μm,19.2s,baz=122,slow=42						
OKH	**Okha**	**10.34**	**281**	*de*PN	Pn	06 39 13.8	+10
OKH				*e*S	**Sn**	**06 41 02.6**	**+4.4**
OKH	comp=Z,100nm,11.2s			pmax	pmax		
OKH	comp=Z,600nm,17.0s			MLR	MLR		
SEY	**Seymchan**	**10.91**	**341**	*i* PN	**Pn**	**06 39 13.7**	**+2.1**
SEY	**Seymchan**	**10.91**	**341**	P	**Pn**	**06 39 13.6**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=148,slow=12,SNR=16						
SEY				LR	LR	06 43 44.7	
	comp=Z,666nm,21.6s,baz=138,slow=39						
TYV	**Tymovskoe**	**10.99**	**267**	*e*PN	Pn	06 39 18.3	+5.6
TYV				*e*		06 41 24.3	
TYV	comp=Z,18nm,1.0s			pmax	pmax		
TYV	comp=Z,1μm,18.0s			MLR	MLR		
KUR	**Kuril'sk**	**11.07**	**231**	*i* PN	**Pn**	**06 39 15.0**	**+1.1**
NKL	**Nikolayevsk**	**11.72**	**279**	*e*PN	Pn	06 39 30.0	+7.3
NKL	comp=Z,42nm,1.2s			pmax	pmax		
NKL	comp=N,300nm,14.0s			MLR	MLR		
NKL	comp=E,600nm,14.0s			MLR	MLR		
NKL	comp=Z,1μm,14.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**12.64**	**249**	*e*PN	**Pn**	**06 39 37.4**	**+2.1**
YSS				*e*S	**Sn**	**06 41 56.7**	**+2.2**
YSS	comp=Z,600nm,15.0s			MLR	MLR		
YSS	comp=E,500nm,14.0s			MLR	MLR		
YUK	**Yuzh-Kuril'sk**	**12.92**	**233**	*e*PN	**P**	**06 39 44.2**	**-4.2**
YUK	comp=N,48nm,0.5s			pmax	pmax		
YUK	comp=Z,160nm,0.5s			pmax	pmax		
YUK	comp=E,89nm,0.3s			pmax	pmax		
YUK	comp=Z,529nm,18.0s			MLR	MLR		
YUK	comp=N,459nm,16.0s			MLR	MLR		
YUK	comp=E,259nm,15.0s			MLR	MLR		
ASAJ	**Asahikawa**	**14.51**	**240**	P	**Pn**	**06 40 01.8**	**+1.1**
	comp=E,5.1nm,0.3s,baz=63,slow=12,SNR=31						
ASAJ				LR	LR	06 45 31.7	
	comp=E,230nm,19.4s,baz=44,slow=37						
GRNR	**Gornyy**	**14.79**	**271**	*e*P	**P**	**06 40 12.9**	**+3.6**
GRNR	comp=Z,21nm,1.0s			pmax	pmax		
BILL	**Bilibino**	**15.53**	**9**	*e*Pn	**Pn**	**06 40 15.5**	**+1.7**
	comp=Z,60nm,0.9s						
BILL	**Bilibino**	**15.53**	**9**	*ce*P	**Pn**	**06 40 14.0**	**+0.3**
BILL	comp=Z,81nm,1.3s			pmax	pmax		
BILL	comp=Z,584nm,22.0s			MLR	MLR		
ERM	**Erimo**	**15.74**	**233**	*e*Pn	**Pn**	**06 40 13.1**	**-3.6**
	comp=Z,30nm,0.4s						
ERM	**Erimo**	**15.74**	**233**	*e*P	**Pn**	**06 40 13.1**	**-3.6**
ERM	comp=Z,30nm,0.4s			pmax	pmax		
KLR	**Kul'dur**	**18.15**	**270**	P	**Pn**	**06 40 46.5**	**0.0**
	comp=Z,4.3nm,0.3s,baz=64,slow=10,SNR=68						
KLR				PcP	**PcP**	**06 45 18.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=0.0,slow=6.1,SNR=3.2						
KLR				LR	LR	06 48 32.1	
	comp=Z,440nm,18.1s,baz=69,slow=39						
YAK	**Yakutsk**	**18.61**	**312**	*e*P	**P**	**06 40 50.4**	**-0.9**
YAK	comp=Z,566nm,1.1s			pmax	pmax		
YAK	comp=E,224nm,1.3s			pmax	pmax		
YAK	comp=N,455nm,1.9s			pmax	pmax		
YAK	comp=Z,771nm,1.6s			pmax	pmax		
YAK	comp=N,212nm,1.5s			pmax	pmax		
YAK	comp=E,819nm,1.9s			pmax	pmax		
YAK	comp=Z,3μm,25.0s			MLR	MLR		
YAK	comp=N,2μm,21.0s			MLR	MLR		
YAK	comp=E,2μm,22.0s			MLR	MLR		
ZEA	**Zeya**	**19.58**	**286**	*e*P	**P**	**06 41 00.5**	**-1.5**
ZEA	comp=N,36nm,0.8s			pmax	pmax		
ZEA	comp=E,41nm,1.0s			pmax	pmax		
ZEA	comp=Z,41nm,1.0s			pmax	pmax		
ZEA	comp=N,400nm,15.0s			MLR	MLR		
ZEA	comp=Z,600nm,15.0s			MLR	MLR		
ZEA	comp=E,600nm,16.0s			MLR	MLR		
USA0B	**Ussuriysk Arra**	**20.43**	**256**	*e*P	**P**	**06 41 11.2**	**-0.1**
	comp=E,41nm,0.7s						
USRK	**Ussuriysk Ar.**	**20.43**	**256**	P	**P**	**06 41 10.6**	**-0.8**
	comp=E,36nm,0.6s,baz=57,slow=10,SNR=32						
USRK				LR	LR	06 49 53.1	
	comp=E,408nm,18.4s,baz=53,slow=39						
VLA	**Vladivostok**	**21.13**	**254**	*i* P	**P**	**06 41 18.4**	**-0.4**
VLA	comp=Z,32nm,0.6s			pmax	pmax		
MDJ	**Mudanjiang**	**21.62**	**260**	P	**P**	**06 41 22.9**	**-1.2**
MDJ	comp=Z,25nm,0.9s			pmax	pmax		
MDJ	comp=Z,52nm,2.6s			pmax	pmax		
MDJ	**Mudanjiang**	**21.62**	**260**	*e*P	**P**	**06 41 23.6**	**-0.5**
	comp=Z,15nm,0.8s						
MJB9	**Matsu-Tunnel**	**22.41**	**232**	*e*P	**P**	**06 41 32.9**	**+0.3**
	comp=Z,68nm,0.9s						
MAJO	**Matsushiro**	**22.41**	**232**	*e*P	**P**	**06 41 32.7**	**+0.1**
	comp=Z,67nm,0.9s						
MAJO	**Matsushiro**	**22.41**	**232**	*e*P	**P**	**06 41 32.7**	**+0.1**
MAJO	comp=Z,67nm,0.9s			pmax	pmax		
MAT	**Matsushiro**	**22.41**	**232**	P	**P**	**06 41 33.1**	**+0.5**
MAT				S	**S**	**06 45 39.6**	**+4.2**
MJAR	**Matsushiro Arr**	**22.41**	**232**	P	**P**	**06 41 33.3**	**+0.7**
	comp=Z,24nm,0.8s,baz=20,slow=9.7,SNR=61						
MJAR				LR	LR	06 51 38.1	
	comp=Z,218nm,19.9s,baz=50,slow=40						
TIXI	**Tiksi**	**23.31**	**335**	*e*P	**P**	**06 41 39.9**	**-1.6**
TIXI	**Tiksi**	**23.31**	**335**	*ce*P	**P**	**06 41 39.9**	**-1.6**
TIXI	comp=Z,24nm,0.8s			pmax	pmax		
TIXI	**Tiksi**	**23.31**	**335**	P	**P**	**06 41 40.0**	**-1.6**
	comp=Z,25nm,0.8s,baz=122,slow=9.6,SNR=21						
INU	**Inuyama**	**23.94**	**232**	*e*P	**P**	**06 41 47.6**	**0.0**
	comp=Z,31nm,0.6s						
JHJ	**Hachijo jima 2**	**24.55**	**225**	LR	LR	06 51 01.3	
	comp=Z,32nm,20.2s,baz=64,slow=35						
SVW2	**Sparrevohn**	**25.06**	**53**	*e*P	**P**	**06 41 59.4**	**+1.6**
	comp=Z,6.9nm,0.9s						
HIA	**Hailar**	**25.39**	**278**	*e*P	**P**	**06 41 59.7**	**-1.2**
	comp=Z,42nm,0.6s						
HIA	**Hailar**	**25.39**	**278**	*e*P	**P**	**06 41 59.7**	**-1.2**
HIA	comp=Z,42nm,0.6s			pmax	pmax		
IMAR	**Indian Mountai**	**26.17**	**42**	*e*P	**P**	**06 42 08.1**	**+0.4**
BOD	**Bodaibo**	**26.28**	**299**	*e*P	**P**	**06 42 06.5**	**-2.3**
BOD	comp=Z,11nm,1.0s			pmax	pmax		
RSO	**Redoubt South**	**26.48**	**55**	*e*S	**S**	**06 46 40.8**	**-0.2**
OHAK	**Old Harbor**	**26.64**	**62**	*e*P	**P**	**06 42 10.6**	**-1.3**
	comp=Z,23nm,1.0s						
PPLA	**Purkeypile**	**26.65**	**49**	*e*P	**P**	**06 42 13.4**	**+1.2**
	comp=Z,6.4nm,0.9s						
CAST	**Castle Rocks**	**26.70**	**48**	*e*P	**P**	**06 42 13.7**	**+1.2**
	comp=Z,7.3nm,1.0s						
SPU	**Mount Spurr**	**26.77**	**53**	*e*P	**P**	**06 42 14.6**	**+1.4**
KDAK	**Kodiak Island**	**26.91**	**60**	*ce*P	**P**	**06 42 16.4**	**+2.0**
KSRS	**Korea Array**	**27.14**	**248**	P	**P**	**06 42 16.7**	**+0.1**
	comp=Z,18nm,0.8s,baz=45,slow=9.0,SNR=41						
KSRS				PcP	**PcP**	**06 45 37.0**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=5.3,slow=2.2,SNR=6.3						
KSRS				LR	LR	06 52 53.5	
	comp=Z,169nm,18.9s,baz=50,slow=36						
KS15	**Wonju Array Si**	**27.17**	**248**	*e*P	**P**	**06 42 17.2**	**+0.2**
	comp=Z,24nm,1.0s						
BPAW	**Bear Paw Mtn.**	**27.20**	**46**	*e*P	**P**	**06 42 17.1**	**+0.1**
	comp=Z,7.6nm,1.1s						
MLY	**Manley**	**27.34**	**44**	*e*P	**P**	**06 42 18.8**	**+0.6**
	comp=Z,6.4nm,1.0s						
COLD	**Coldfoot**	**27.73**	**40**	*e*P	**P**	**06 42 20.8**	**-0.9**
	comp=Z,3.7nm,1.0s						
BWN	**Browne**	**27.87**	**46**	*e*P	**P**	**06 42 24.1**	**+1.2**
	comp=Z,46nm,0.8s						
MCK	**McKinley**	**28.11**	**47**	*e*P	**P**	**06 42 26.0**	**+0.9**
	comp=Z,7.6nm,1.2s						
MCK	**McKinley**	**28.11**	**47**	*e*P	**P**	**06 42 26.0**	**+0.9**
MCK	comp=Z,8.0nm,1.2s			pmax	pmax		
PMR	**Palmer**	**28.14**	**52**	*e*P	**P**	**06 42 26.2**	**+0.8**
	comp=Z,1.9nm,0.6s						
PMR	**Palmer**	**28.14**	**52**	*e*P	**P**	**06 42 26.2**	**+0.8**
PMR	comp=Z,2.0nm,0.6s			pmax	pmax		
TOLK	**Toolik Lake Re**	**28.15**	**37**	*e*P	**P**	**06 42 26.2**	**+0.7**
	comp=Z,7.7nm,0.7s						
TOLK	**Toolik Lake Re**	**28.15**	**37**	P	**P**	**06 42 26.0**	**+0.5**
	baz=262,SNR=14						
TJN	**Taejon**	**28.22**	**247**	*ce*P	**P**	**06 42 27.4**	**+1.1**
GHO	**Glory Hole Cre**	**28.22**	**51**	*e*P	**P**	**06 42 26.9**	**+0.7**
	comp=Z,4.3nm,0.6s						
MDM	**Murphy Dome**	**28.40**	**45**	*e*P	**P**	**06 42 28.5**	**+0.8**
	comp=Z,2.2nm,0.7s						
WRH	**Wood River Hil**	**28.46**	**46**	*e*P	**P**	**06 42 29.2**	**+1.0**
	comp=Z,21nm,1.2s						
WRH				*e*PcP	**PcP**	**06 45 39.1**	**+0.3**
KNK	**Knik Glacier**	**28.48**	**52**	*e*P	**P**	**06 42 29.0**	**+0.5**
	comp=Z,12nm,0.8s						
SML	**Sawmill**	**28.50**	**51**	*e*P	**P**	**06 42 28.6**	**-0.1**
	comp=Z,11nm,0.8s						
SML	**Sawmill**	**28.50**	**51**	*e*P	**P**	**06 42 28.6**	**-0.1**
SML	comp=Z,11nm,0.8s			pmax	pmax		
TCOL	**CIGO, UAF Yank**	**28.56**	**45**	P	**P**	**06 42 29.7**	**+0.7**
	baz=271						
COLA	**College**	**28.56**	**45**	*i* P	**P**	**06 42 30.2**	**+1.1**
COLA	comp=Z,9.0nm,1.1s			pmax	pmax		
CCB	**Clear Creek Bu**	**28.58**	**45**	*e*P	**P**	**06 42 30.1**	**+0.8**
	comp=Z,6.0nm,0.8s						
POKR	**Poker Plat Res**	**28.74**	**44**	P	**P**	**06 42 31.7**	**+1.0**
	baz=271						
JNU	**Nakatsue**	**28.78**	**238**	*e*P	**P**	**06 42 32.4**	**+1.0**
	comp=Z,26nm,1.0s						
JNU	**Nakatsue**	**28.78**	**238**	P	**P**	**06 42 31.8**	**+0.5**
	comp=Z,11nm,0.5s,baz=24,slow=6.7,SNR=16						
JNU				LR	LR	06 54 46.0	
	comp=Z,140nm,21.7s,baz=26,slow=38						
DHY	**Denali Highway**	**28.84**	**48**	*e*P	**P**	**06 42 32.2**	**+0.4**
	comp=Z,8.8nm,1.2s						
HDA	**Harding Lake**	**28.96**	**46**	*e*P	**P**	**06 42 33.4**	**+0.7**
	comp=Z,4.9nm,0.6s						
HDA	**Harding Lake**	**28.96**	**46**	P	**P**	**06 42 33.0**	**+0.4**
	baz=272,SNR=9.2						
SCM	**Sheep Creek Mo**	**28.97**	**51**	*e*P	**P**	**06 42 33.6**	**+0.7**
	comp=Z,11nm,0.8s						
SCM	**Sheep Creek Mo**	**28.97**	**51**	*e*P	**P**	**06 42 33.6**	**+0.7**
SCM	comp=Z,11nm,0.8s			pmax	pmax		
ILAR	**Eielson Array**	**28.98**	**45**	P	**P**	**06 42 33.1**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=262,slow=7.4,SNR=19						
ILAR				PcP	**PcP**	**06 45 39.5**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=294,slow=3.4,SNR=5.1						
ILAR				LR	LR	06 54 35.6	
	comp=Z,90nm,18.4s,baz=284,slow=37						
ILB	**Eielson Array**	**28.98**	**45**	*e*P	**P**	**06 42 33.1**	**+0.3**
	comp=Z,5.2nm,0.9s						
PRP	**Porcupine Dome**	**29.54**	**43**	*e*P	**P**	**06 42 39.0**	**+1.1**
	comp=Z,6.6nm,0.8s						
KLU	**Klutina**	**29.68**	**52**	*e*P	**P**	**06 42 40.5**	**+1.4**
	comp=Z,4.9nm,1.0s						
RIDG	**Independent Ri**	**29.92**	**47**	*e*P	**P**	**06 42 40.7**	**-0.5**
	comp=Z,3.3nm,0.8s						
DOT	**Dot Lake**	**30.28**	**47**	*e*P	**P**	**06 42 44.0**	**-0.3**
	comp=Z,2.3nm,0.8s						
BCAR	**Beaver Creek A**	**31.37**	**48**	*e*P	**P**	**06 42 54.9**	**+0.9**
EPYK	**Eagle Plains**	**33.07**	**41**	*e*P	**P**	**06 43 10.2**	**+1.4**
	comp=Z,5.5nm,0.8s						
EPYK	**Eagle Plains**	**33.07**	**41**	P	**P**	**06 43 09.8**	**+0.9**
	baz=278,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**33.47**	**168**	T	T	07 18 50.4	
	baz=353,slow=76,SNR=2579						
H11N3	**WAKE ISLAND Hy**	**33.48**	**168**	T	T	07 18 48.2	
	baz=353,slow=76,SNR=3505						
H11N1	**WAKE ISLAND Hy**	**33.48**	**168**	T	T	07 18 48.4	
	baz=353,slow=76,SNR=4160						
ULN	**Ulaanbaatar**	**33.57**	**283**	*e*P	**P**	**06 43 13.6**	**+0.1**
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**33.57**	**283**	*ce*P	**P**	**06 43 12.8**	**-0.8**
ULN	comp=Z,13nm,1.0s			pmax	pmax		
TLY	**Talaya**	**33.83**	**291**	*i* P	**P**	**06 43 15.2**	**-0.4**
SONA0	**Songino Array**	**33.98**	**284**	*e*P	**P**	**06 43 16.3**	**-0.8**
SONA0				*e*PcP	**PcP**	**06 45 54.3**	**+0.3**
SONM	**Songino Array**	**33.98**	**284**	P	**P**	**06 43 16.3**	**-0.8**
	comp=Z,7.0nm,0.7s,baz=74,slow=7.0,SNR=11						
SONM				PcP	**PcP**	**06 45 54.3**	**+0.3**
	comp=Z,8.8nm,0.7s,baz=89,slow=1.6,SNR=14						
SONM				LR	LR	06 58 37.2	
	comp=Z,578nm,18.6s,baz=88,slow=39						
INK	**Inuvik**	**34.05**	**37**	*e*P	**P**	**06 43 18.3**	**+1.0**
	comp=Z,10.0nm,0.8s						
INK	**Inuvik**	**34.05**	**37**	P	**P**	**06 43 18.1**	**+0.9**
	comp=Z,8.7nm,0.7s,baz=282,slow=6.8,SNR=34						
INK				PcP	**PcP**	**06 45 54.5**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=339,slow=2.4,SNR=9.5						
TIA	**Tai'an**	**34.27**	**258**	P	**P**	**06 43 18.3**	**-1.2**
TIA	comp=Z,10.0nm,0.7s			pmax	pmax		
TIA	comp=Z,140nm,14.2s			LR	LR		
TIA	comp=Z,130nm,17.8s			LR	LR		
TIA	comp=Z,140nm,15.0s			LR	LR		

ZAA1 Zalesovo Array 42.92 303 *e*P **P 06 44 29.6 -2.2**
ZAA1 *e*PcP **PcP 06 46 20.8 -0.8**
ZAA0 Zalesovo Array 42.92 303 *e*P **P 06 44 30.1 -1.7**
comp=Z,3.9nm,0.6s
ZALV Zalesovo Beam 42.92 303 P **P 06 44 29.6 -2.3**
comp=Z,5.0nm,0.7s,baz=55,slow=6.8,SNR=10
ZALV PcP **PcP 06 46 20.8 -0.8**
comp=Z,1.7nm,0.5s,baz=64,slow=4.6,SNR=3.8
ZALV LR LR 07 03 44.1
comp=Z,298nm,18.4s,baz=62,slow=38
NVS Novosibirsk 43.27 305 *e*P **P 06 44 33.1 -1.5**
NVS *e* 06 44 45.4
NVS *e* 06 46 18.3
NVS pmax pmax
comp=Z,26nm,0.8s
NVS pmax pmax
comp=N,17nm,1.2s
NVS pmax pmax
comp=E,29nm,0.9s
YKW3 Yellowknife Ar 43.30 42 *e*P **P 06 44 35.6 +1.0**
comp=E,7.7nm,1.1s
YKA Yellowknife Ar 43.33 42 P **P 06 44 36.0 +1.1**
comp=E,4.0nm,0.6s,baz=299,slow=7.9,SNR=45
YKA PcP **PcP 06 46 23.6 +0.9**
comp=E,0.6nm,0.7s,baz=307,slow=3.5,SNR=4.6
YKA LR LR 07 03 50.9
comp=E,11nm,20.1s,baz=299,slow=38
YKB5 Yellowknife Ar 43.33 42 *e*P **P 06 44 36.0 +1.1**
YKB5 *e*PP **PcP 06 46 23.6 +0.9**
RES Resolute Bay 43.55 22 *e*P **P 06 44 37.5 +1.0**
comp=E,9.2nm,0.8s
RES Resolute Bay 43.55 22 *e*P **P 06 44 37.5 +1.0**
RES pmax pmax
comp=Z,9.0nm,0.8s
DGZ Jazzator, Alta 43.79 296*c i*P **P 06 44 38.2 -0.9**
DGZ pmax pmax
comp=Z,9.0nm,0.9s
CD2 Chengdu 45.96 265 P **P 06 44 55.3 -1.1**
CD2 S **S 06 51 32.0 -5.5**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,90nm,6.1s
CD2 LR LR
comp=Z,280nm,22.8s
CD2 LR LR
comp=Z,180nm,23.2s
CD2 LR LR
comp=Z,280nm,16.9s
WMQ Urumqi 47.07 290 *e*P **P 06 45 04.5 -0.4**
WMQ pP pP 06 45 15.1 -3.3
WMQ pmax pmax
comp=Z,64nm,1.1s
WMQ pmax pmax
comp=Z,230nm,5.1s
WMQ LR LR
comp=Z,2μm,35.7s
WMQ LR LR
comp=Z,860nm,33.9s
WMQ LR LR
comp=Z,640nm,30.1s
SPA0 Spitsbergen Ar 47.38 350 *e*P **P 06 45 06.2 -0.6**
comp=Z,35nm,0.8s
SPA0 Spitsbergen Ar 47.38 350 *e*P **P 06 45 06.0 -0.9**
SPITS Spitsbergen Ar 47.38 350 P **P 06 45 06.6 -0.2**
comp=Z,18nm,0.5s,baz=60,slow=8.8,SNR=101
KURK Kurchatov 47.88 302 *e*P **P 06 45 09.2 -1.9**
comp=Z,22nm,0.8s
KURK Kurchatov 47.88 302*ce*P **P 06 45 09.3 -1.7**
KURK pmax pmax
comp=Z,19nm,0.6s
KURK Kurchatov 47.88 302 P **P 06 45 09.0 -2.0**
SNR=9.6
KURK P **P 06 45 09.0 -2.0**
SNR=9.6
KURBB Kurchatov Arra 47.98 302 P **P 06 45 09.9 -1.9**
comp=Z,13nm,0.5s,baz=57,slow=7.8,SNR=61
KURBB PcP **PcP 06 46 39.1 -0.1**
comp=Z,3.3nm,0.6s,baz=58,slow=2.8,SNR=6.9
MK31 Makanchi Array 48.28 296 *e*P **P 06 45 12.2 -2.0**
comp=Z,9.9nm,0.5s
MK31 Makanchi Array 48.28 296 *e*P **P 06 45 12.2 -2.0**
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MK32 Makanchi Array 48.28 296 *e*P **P 06 45 12.2 -2.0**
MK32 *e*PcP **PcP 06 46 40.4 0.0**
MKAR Makanchi Array 48.28 296 P **P 06 45 12.2 -2.0**
comp=Z,10.0nm,0.5s,baz=56,slow=6.8,SNR=167
MKAR PcP **PcP 06 46 40.4 0.0**
comp=Z,1.7nm,0.7s,baz=30,slow=4.9,SNR=2.6
MKAR LR LR 07 06 47.2
comp=Z,180nm,19.9s,baz=43,slow=38
MAKZ Makanchi 48.44 296 *e*P **P 06 45 13.4 -2.1**
comp=Z,20nm,1.1s
MAKZ Makanchi 48.44 296 *e*P **P 06 45 13.4 -2.1**
MAKZ pmax pmax
comp=Z,20nm,1.1s
WPW White Pass 48.61 64 *e*P **P 06 45 17.9 +1.0**
KULLO Kullorsuaq 50.43 12⇑*i*P **P 06 45 30.3 +0.1**
KULLO pmax pmax
comp=Z,23nm,0.6s
KULLO Kullorsuaq 50.43 12⇑*i*P **P 06 45 30.3 +0.1**
comp=Z,23nm,0.6s
BVAR Borovoye Array 50.56 309 P **P 06 45 29.4 -2.0**
comp=Z,10nm,0.4s,baz=61,slow=7.4,SNR=60
BVAR PcP **PcP 06 46 48.4 -0.1**
comp=Z,2.9nm,0.4s,baz=56,slow=2.7,SNR=4.7
BRVK Borovoye 50.59 309 *e*P **P 06 45 30.1 -1.6**
comp=Z,13nm,0.6s
BRVK Borovoye 50.59 309*ce*P **P 06 45 30.2 -1.5**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 50.59 309 P **P 06 45 29.7 -2.0**
BRVK P **P 06 45 29.7 -2.0**
DAG Danmarks Havn 50.65 360⇑*i*P **P 06 45 31.7 -0.1**
DAG pmax pmax
comp=Z,26nm,0.9s
DAG Danmarks Havn 50.65 360⇑*i*P **P 06 45 31.7 -0.1**
comp=Z,31nm,0.9s
KMI Kunming 50.80 260 P **P 06 45 36.0 +2.1**
KMI pmax pmax
comp=Z,15nm,0.5s
KMI LR LR
comp=Z,140nm,17.7s
KMI LR LR
comp=Z,120nm,10.4s
KMI LR LR
comp=Z,200nm,19.7s
J05D Fort Rock, OR 50.92 67 P **P 06 45 35.9 +1.3**
baz=310
L04D Klamath Falls 51.01 69 P **P 06 45 36.2 +1.0**
baz=311
MSO Missoula 52.59 60 *e*P **P 06 45 47.0 +0.2**
comp=Z,5.2nm,1.0s
MSO Missoula 52.59 60 P **P 06 45 48.0 +1.1**
baz=311
OTUK Ortayu 52.63 303 P **P 06 45 45.1 -1.9**
OTUK pmax pmax
comp=Z,10.0nm,0.7s
SLVN Son La 52.99 256 *e*P **P 06 45 49.7 -0.3**
comp=Z,7.5nm,0.8s
FFC Flin Flon 53.18 46 *e*P **P 06 45 51.4 +0.4**
comp=Z,6.1nm,0.9s
FFC Flin Flon 53.18 46 *e*P **P 06 45 51.4 +0.4**
FFC pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 53.53 342 *e*P **P 06 45 51.9 -1.4**
ARCES ARCESS Array B 53.53 342 P **P 06 45 52.0 -1.3**
comp=Z,5.6nm,0.7s,baz=41,slow=9.5,SNR=27
ARCES PcP **PcP 06 46 59.3 -0.1**
comp=Z,3.9nm,0.8s,baz=34,slow=3.4,SNR=2.6
ARU Arti 53.59 317 *e*P **P 06 45 52.4 -1.5**
comp=Z,19nm,0.8s
ARU Arti 53.59 317*c i*P **P 06 45 52.4 -1.5**
ARU *PP **pP 06 46 08.0 +0.4**
ARU 06 47 50.5
ARU S **S 06 53 21.0 -2.2**
ARU SS **SS 06 56 54.9 -8.5**
ARU pmax pmax
comp=Z,17nm,0.7s
ARU Arti 53.59 317 P **P 06 45 52.7 -1.2**
comp=Z,7.5nm,0.6s,baz=12,slow=1.0,SNR=18
FCC Fort Churchill 53.66 39 *e*P **P 06 45 55.0 +0.7**
comp=Z,17nm,0.7s
TARG Taragay, Kyrgy 53.99 294 *e*P **P 06 45 56.9 -0.7**
comp=Z,5.4nm,0.6s
KDJ Kajisay 54.07 294 *e*P **P 06 45 56.7 -1.2**
comp=Z,19nm,0.6s
SUMG Summit 54.20 7 *e*P **P 06 45 58.6 -0.1**
comp=Z,31nm,0.9s
SUMG Summit 54.20 7⇑*i*P **P 06 45 59.3 +0.6**
SUMG pmax pmax
comp=Z,78nm,0.9s
SUMG Summit 54.20 7⇑*i*P **P 06 45 59.3 +0.6**
comp=Z,78nm,0.9s
KTK1 Kautokeino 54.40 342 *e*P **P 06 45 58.8 -0.9**
TKM2 Tokmak 2 54.41 296 P **P 06 45 59.0 -1.4**
SNR=11
ULHL Ulahol 54.51 295 P **P 06 46 00.0 -1.1**
SNR=7.3
BOOM Boomskoye usch 54.51 295 *e*P **P 06 45 59.9 -1.2**
comp=Z,10nm,0.8s
TRO Tromso 54.60 344 *e*P **P 06 46 00.2 -0.9**
BOZ Bozeman (W) 54.61 59 *e*P **P 06 46 02.2 +0.6**
comp=Z,6.7nm,1.1s
BOZ Bozeman (W) 54.61 59 P **P 06 46 02.8 +1.1**
baz=312,SNR=5.8
USP Ospenovka 54.77 297 P **P 06 46 01.7 -1.1**
SNR=16
KBK Karagaybulak 54.94 296 P **P 06 46 03.0 -1.2**
SNR=6.2
TMCR Tamitsa 55.01 333 *e*P **P 06 46 03.3 -0.7**
TMCR pmax pmax
comp=Z,54nm,1.2s
BMN Battle Mountai 55.05 67 *e*P **P 06 46 06.6 +1.6**
comp=Z,10nm,1.1s
AAK Ala-Archa 55.20 296 P **P 06 46 05.2 -0.8**
SNR=13
AAK Ala-Archa 55.20 296 *e*P **P 06 46 05.2 -0.8**
comp=Z,14nm,0.7s
AAK Ala-Archa 55.20 296 *i* P **P 06 46 04.8 -1.3**
SNR=18
AAK Ala-Archa 55.20 296*ce*P **P 06 46 04.9 -1.1**
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 55.20 296 P **P 06 46 04.8 -1.3**
SNR=10
AAK P **P 06 46 04.8 -1.3**
SNR=10
YHB Horse Butte 55.40 60 *e*P **P 06 46 09.3 +1.8**
comp=Z,5.5nm,0.9s
KVN Kaiserville 55.50 69 *e*P **P 06 46 10.4 +2.1**
comp=Z,5.6nm,1.0s
RYN Ryan 55.55 70 *e*P **P 06 46 10.9 +2.3**
comp=Z,3.2nm,0.7s
YHH Holmes Hill 55.56 60 *e*P **P 06 46 10.6 +1.8**
comp=Z,6.1nm,1.1s
EKS2 Erkin-Say 55.57 297 P **P 06 46 07.6 -1.0**
SNR=19
KIRV Kirov 55.60 324 P **P 06 46 07.5 -0.9**
comp=Z,19nm,0.5s,baz=216,slow=22,SNR=5.8
NV01 Mina Array Sit 55.81 70 *e*P **P 06 46 12.3 +1.8**
NVAR Mina Array Bea 55.81 70 P **P 06 46 12.3 +1.8**
comp=Z,3.8nm,0.7s,baz=296,slow=7.3,SNR=25
PANO Nakornpanom 55.85 252 P **P 06 46 12.3 +1.6**
comp=Z,0.9nm,1.1s
NV11 Mina Array Sit 55.89 70 *e*P **P 06 46 13.3 +2.2**
comp=Z,0.4nm,1.0s
YPP Pitchstone Pla 55.94 60 *e*P **P 06 46 15.0 +3.5**
comp=Z,4.1nm,1.1s
ELK Elko 55.95 66 *e*P **P 06 46 13.9 +2.4**
comp=Z,2.3nm,0.8s
H17A Grant Village 55.97 60 *e*P **P 06 46 13.0 +1.4**
comp=Z,7.1nm,1.0s
IMW Indian Meadow 56.12 61 *e*P **P 06 46 14.8 +2.0**
comp=Z,7.2nm,1.1s
RLMT Red Lodge 56.16 58 *e*P **P 06 46 15.2 +2.2**
comp=Z,5.2nm,0.8s
RLMT Red Lodge 56.16 58 P **P 06 46 14.4 +1.5**
baz=313,SNR=5.4
FXWY Fox Creek 56.25 61 *e*P **P 06 46 15.9 +2.3**
comp=Z,3.4nm,1.0s
MOOW Moose Ponds 56.32 61 *e*P **P 06 46 17.2 +3.1**
comp=Z,4.4nm,1.1s
SKNT Sakolnakorn 56.35 253 P **P 06 46 15.2 +0.8**
comp=Z,38nm,1.0s
DGMT Dagmar 56.39 53 P **P 06 46 15.3 +0.9**
baz=314
LOHW Long Hollow 56.49 61 *e*P **P 06 46 18.4 +3.1**
comp=Z,6.3nm,1.1s
KSH Kashi 56.52 293 P **P 06 46 17.8 +2.4**
KSH sP pP 06 46 31.0 +1.8
KSH PP **PP 06 48 25.5 +4.3**
KSH S **S 06 54 04.1 +1.0**
KSH pmax pmax
comp=Z,17nm,0.7s
KSH pmax pmax
comp=Z,170nm,4.5s
KSH LR LR
comp=Z,860nm,11.3s
KSH LR LR
comp=Z,700nm,11.2s
KSH LR LR
comp=Z,430nm,14.3s
LAO LASA Array 56.63 55 P **P 06 46 17.8 +1.8**
baz=314
STEI Steigen 56.73 345 *e*P **P 06 46 16.0 -0.3**
LOF Lofoten 56.80 346 *e*P **P 06 46 15.9 -1.0**
PAYA Payao 56.90 258 P **P 06 46 21.3 +3.1**
comp=Z,17μm,0.7s
ARSB Arslanbob 56.92 296 *e*P **P 06 46 17.6 -0.7**
comp=Z,12nm,0.9s
KK31 Karatay Array 57.02 299 *e*P **P 06 46 17.2 -1.6**
comp=Z,10nm,0.7s
KK31 Karatay Array 57.02 299 *i* P **P 06 46 16.8 -2.0**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 57.02 299 *e*P **P 06 46 17.2 -1.6**
comp=Z,10nm,0.7s
KLMR Klimovskoe 57.17 330 *e*P **P 06 46 18.7 -0.9**
KLMR pmax pmax
comp=Z,24nm,1.2s
CWC Cottonwood Cre 57.32 71 P **P 06 46 22.7 +1.5**
baz=315
GRAC Grapevine Rang 57.34 71 P **P 06 46 23.3 +2.1**
baz=315
PHRA Phrae 57.35 257 P **P 06 46 22.7 +1.3**
comp=Z,1.5nm,1.2s
R11A Troy Canyon, C 57.41 68 *e*P **P 06 46 23.6 +1.7**
comp=Z,4.1nm,1.1s
R11A Troy Canyon, C 57.41 68 P **P 06 46 23.3 +1.5**
baz=315
BW06 Boulder Array 57.63 61 *e*P **P 06 46 25.0 +1.6**
comp=Z,6.8nm,1.0s
BW06 Boulder Array 57.63 61 P **P 06 46 24.8 +1.4**
baz=314,SNR=7.3
PD31 Pinedale Array 57.63 61 *e*P **P 06 46 25.0 +1.6**
comp=Z,6.9nm,1.0s
PDAR Pinedale Array 57.63 61 P **P 06 46 24.9 +1.5**
comp=Z,2.2nm,0.7s,baz=307,slow=3.0,SNR=19
PDAR LR LR 07 11 56.5
comp=Z,44nm,19.0s,baz=324,slow=37
DUG Dugway, Tooele 57.66 65 *e*P **P 06 46 24.4 +0.9**
comp=Z,6.4nm,1.1s
DUG Dugway, Tooele 57.66 65 P **P 06 46 25.2 +1.6**
baz=314
LAMP Lampang 57.69 258 P **P 06 46 26.8 +3.0**
comp=Z,29μm,0.7s
UTTA Uttaradit 57.75 256 P **P 06 46 25.3 +1.1**
comp=Z,15μm,0.9s
CMMT Chiang Mai 57.87 259 P **P 06 46 26.0 +0.9**
comp=Z,5.9nm,0.9s,comp=Z,299nm
CHTO Chiang Mai 57.87 259 *e*P **P 06 46 25.2 +0.2**
comp=Z,7.7nm,0.7s
CHTO Chiang Mai 57.87 259 P **P 06 46 25.5 +0.4**
CHTO P **P 06 46 25.5 +0.4**
AB31 Akbulak array 57.97 310 *e*P **P 06 46 23.4 -2.0**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 57.97 310 *e*P **P 06 46 24.2 -1.2**
comp=Z,6.7nm,0.9s
FURC Furnace Creek, 58.00 71 P **P 06 46 27.6 +1.9**
baz=315
AKTO Aktyubinsk 58.00 312 P **P 06 46 24.1 -1.5**
comp=Z,5.6nm,0.4s,baz=52,slow=6.1,SNR=19
AKTO PcP **PcP 06 47 17.1 0.0**
comp=Z,2.1nm,0.5s,baz=84,slow=5.8,SNR=4.6
TPNV Topopah Spring 58.01 70 P **P 06 46 27.4 +1.4**
baz=315
CMAR Chiang Mai Arr 58.15 258 P **P 06 46 27.6 +0.6**
comp=Z,4.2nm,0.7s,baz=24,slow=6.9,SNR=16
CMAR PcP **PcP 06 47 18.6 +0.5**
comp=Z,2.8nm,0.5s,baz=8.9,slow=3.0,SNR=7.2
CMAR LR LR 07 12 53.6
comp=Z,118nm,19.3s,baz=40,slow=37
SFJD Kangerlussuaq 58.25 14 *i* P **P 06 46 26.9 -0.1**
SFJD Kangerlussuaq 58.25 14 *i* P **P 06 46 26.9 -0.1**
KONS Konsvik 58.38 345 *e*P **P 06 46 27.7 -0.2**
PBKT Sadao Pong 58.43 255 P **P 06 46 31.5 +2.6**
comp=Z,4.9nm,0.8s
ODAN Odare 58.79 274 *e*P **P 06 46 30.8 -0.9**
comp=Z,16nm,0.5s
GSC Goldstone, Bar 58.85 72 P **P 06 46 33.4 +1.6**
baz=316
JIRN Jiri 58.93 276 *e*P **P 06 46 31.8 -1.1**
ULM Lac du Bonnet 58.98 47 *e*P **P 06 46 32.7 +0.3**
comp=Z,8.9nm,0.6s
ULM Lac du Bonnet 58.98 47 P **P 06 46 33.4 +1.0**
comp=Z,7.4nm,0.5s,baz=319,slow=6.8,SNR=29
ULM LR LR 07 14 32.6
comp=Z,68nm,19.0s,baz=330,slow=38
MDND Maddock 59.02 51 *e*P **P 06 46 34.5 +1.8**
comp=Z,35nm,1.1s
MDND Maddock 59.02 51 P **P 06 46 34.1 +1.4**
baz=316
TMUT Trail Mountain 59.17 65 *e*P **P 06 46 36.5 +2.2**
comp=Z,4.7nm,0.9s
RAMN Ramite 59.20 275 *e*P **P 06 46 33.5 -1.1**
comp=Z,54nm,0.5s
K22A Casper 59.30 59 P **P 06 46 36.8 +1.9**
baz=316
KKN Kakani 59.39 276 *e*P **P 06 46 35.0 -0.8**
comp=Z,30nm,0.4s
PKI Pulchoki 59.47 276 *e*P **P 06 46 35.2 -1.3**
comp=Z,31nm,0.7s
PKIN Phulchoki 59.47 276 *e*P **P 06 46 35.4 -1.1**
comp=Z,22nm,0.6s
BBRC Big Bear Solar 59.52 73 *e*P **P 06 46 38.4 +1.7**
RSSD Black Hills 59.53 56 *e*P **P 06 46 38.0 +1.4**
comp=Z,19nm,0.7s
RSSD Black Hills 59.53 56 P **P 06 46 37.6 +1.0**
baz=316
DMN Daman 59.62 276 *e*P **P 06 46 36.6 -0.9**
comp=Z,26nm,0.5s
LCMT Little Creek M 59.66 68 *e*P **P 06 46 39.8 +2.3**
comp=Z,7.7nm,1.1s
SRU San Rafael Swe 59.68 64 *e*P **P 06 46 39.7 +2.1**
comp=Z,12nm,1.0s
MURC Murrieta 59.84 73 P **P 06 46 40.4 +1.7**
baz=316
DANN Dangsing 59.89 278 *e*P **P 06 46 38.4 -1.0**
comp=Z,42nm,0.6s
KNB Kanab 59.90 68 *e*P **P 06 46 41.1 +1.9**
comp=Z,4.4nm,1.1s
GAR Garm 60.01 296 *e*P **P 06 46 38.7 -1.1**
comp=Z,36nm,0.8s
O20A White River Ci 60.19 62 P **P 06 46 42.5 +1.4**
baz=316
FIA1 FINESS Array S 60.35 337 *e*P **P 06 46 40.3 -1.3**
comp=Z,33nm,0.9s
FIA0 FINESS Array S 60.35 337 *e*P **P 06 46 41.2 -0.4**
FINES FINESS Array B 60.35 337 P **P 06 46 41.2 -0.4**
comp=Z,12nm,0.5s,baz=32,slow=7.9,SNR=84
FINES LR LR 07 16 32.9
comp=Z,100nm,19.2s,baz=34,slow=40
NSS Namsos 60.39 345 *e*P **P 06 46 41.4 -0.4**
109C Camp Elliot, M 60.40 74 P **P 06 46 44.9 +2.5**
baz=317
AGMN Agassiz Nation 60.41 48 *e*P **P 06 46 42.2 -0.1**
comp=Z,7.5nm,0.9s
AGMN Agassiz Nation 60.41 48 P **P 06 46 42.8 +0.5**
baz=318,SNR=5.3
KOLN Koldanda 60.41 278 *e*P **P 06 46 41.8 -1.0**
comp=Z,27nm,0.5s
PYUN Piuthan 60.54 278 *e*P **P 06 46 42.5 -1.2**
comp=Z,51nm,0.9s
BC3 Big Chuckawall 60.81 72 P **P 06 46 47.0 +1.7**
baz=317
N23A Red Feather La 60.86 60 *e*P **P 06 46 47.9 +2.1**
comp=Z,6.6nm,0.8s
N23A Red Feather La 60.86 60 P **P 06 46 47.3 +1.5**
baz=316
PV09 Paradox Valley 60.88 64 *e*P **P 06 46 46.2 +0.2**
CHGR Chuyangaron 60.88 296 *e*P **P 06 46 46.3 +0.6**
comp=Z,17nm,0.7s
PV21 Cone Mtn., Par 60.92 64 *e*P **P 06 46 46.6 +0.4**
comp=Z,5.0nm,0.9s
PV23 Carpenter Ridg 60.98 64 *e*P **P 06 46 48.0 +1.4**
comp=Z,11nm,1.1s
PV14 Lion Creek, Pa 61.03 64 *e*P **P 06 46 48.9 +2.0**
comp=Z,8.8nm,1.1s
PV22 Blue Mesa, Par 61.04 64 *e*P **P 06 46 48.9 +1.9**
comp=Z,5.8nm,1.0s
PV04 Paradox Valley 61.08 64 *e*P **P 06 46 49.5 +2.3**
comp=Z,12nm,1.1s
PV20 West Nyswonger 61.08 64 *e*P **P 06 46 48.1 +0.9**
comp=Z,9.1nm,1.1s
ANGG Ammassalik, Gr 61.09 8 *e*P **P 06 46 46.2 -0.3**
comp=Z,11nm,0.7s
PV17 East Wray Mesa 61.13 64 *e*P **P 06 46 48.7 +1.2**
comp=Z,13nm,1.0s
PV16 Nyswonger Mesa 61.13 64 *e*P **P 06 46 49.5 +1.9**
comp=Z,8.2nm,0.9s
PV11 David Mesa, Pa 61.16 64 *e*P **P 06 46 48.5 +0.8**
comp=Z,8.8nm,0.8s
PV18 Skein Mesa, Pa 61.18 64 *e*P **P 06 46 49.0 +1.0**
comp=Z,10nm,1.0s
PV12 Saucer Basin, 61.19 64 *e*P **P 06 46 49.9 +1.9**
comp=Z,8.6nm,1.1s
PV05 Paradox Valley 61.20 64 *e*P **P 06 46 50.2 +2.1**
comp=Z,14nm,1.1s
PV03 Paradox Valley 61.21 64 *e*P **P 06 46 49.9 +1.8**
comp=Z,7.1nm,1.0s
PV13 Radium Mtn., P 61.29 64 *e*P **P 06 46 50.6 +1.9**
comp=Z,12nm,1.1s
SMCO Snowmass 61.55 62 *e*P **P 06 46 52.0 +1.4**
comp=Z,3.6nm,0.8s
WUAZ Wupatki 61.79 68 *e*P **P 06 46 53.6 +1.6**
comp=Z,3.8nm,0.9s
ISCO Idaho Springs 61.83 61 *e*P **P 06 46 54.8 +2.4**
comp=Z,4.8nm,0.9s
ISCO Idaho Springs 61.83 61 P **P 06 46 53.8 +1.4**
baz=317,SNR=6.4
NIL Nilore 62.22 290 *e*P **P 06 46 53.4 -1.4**
comp=Z,28nm,0.6s
EYMN Ely 62.62 46 P **P 06 46 58.0 +0.9**
baz=320
S22A 4UR Ranch, Cre 62.67 63 *e*P **P 06 46 59.7 +1.7**
comp=Z,4.6nm,1.1s
S22A 4UR Ranch, Cre 62.67 63 P **P 06 46 59.7 +1.7**
baz=317
OBN Obninsk 62.73 327*ce*P **P 06 46 57.8 +0.1**
OBN *e*S S 06 55 41.7 +19
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR
comp=Z,110nm,17.0s
VSU Vasula 62.78 335*ce*P **P 06 46 59.1 +1.1**
VSU pmax pmax
comp=Z,39nm,0.6s
VSU Vasula 62.78 335 *e*P **P 06 46 57.6 -0.5**
VSU IAmb IAmb 06 46 59.8
comp=Z,58nm,0.8s
OGNE Ogallala 62.85 57 P **P 06 47 00.3 +1.3**
baz=318
DOMB Dombas 63.19 345 *e*P **P 06 47 00.6 -0.2**
AKN Aaknes 63.37 346 *e*P **P 06 47 02.1 +0.2**
SDCO Great Sand Dun 63.39 62 *e*P **P 06 47 04.8 +2.0**
comp=Z,2.0nm,1.0s
SDCO Great Sand Dun 63.39 62 P **P 06 47 04.3 +1.6**
baz=318,SNR=6.1
ECSD EROS Data Cent 63.46 52 *e*P **P 06 47 03.5 +0.6**
comp=Z,6.9nm,0.8s
ECSD EROS Data Cent 63.46 52 P **P 06 47 03.3 +0.4**
baz=319,SNR=6.4
NC303 NORSAR Array S 63.58 344 *e*P **P 06 47 03.4 0.0**
comp=Z,47nm,1.0s
NC405 NORSAR Array S 63.63 344 *e*P **P 06 47 03.6 0.0**
comp=Z,63nm,1.1s
NC204 NORSAR Array S 63.64 344 *e*P **P 06 47 03.8 0.0**
comp=Z,66nm,0.9s
C40A Isle Royale Na 63.65 45 P **P 06 47 05.1 +1.2**
baz=321
NB201 NORSAR Array S 63.76 344 *e*P **P 06 47 04.4 -0.2**
comp=Z,70nm,0.8s
NB2 NORSAR Subarra 63.78 344 P **P 06 47 04.3 -0.4**
comp=Z,14nm,0.5s,baz=20,slow=6.9
NB2 NORSAR Subarra 63.78 344 P **P 06 47 04.3 -0.4**
baz=20,slow=6.9
NB200 NORSAR Array S 63.78 344 *e*P **P 06 47 04.0 -0.7**
NOA NORSAR Array B 63.78 344 P **P 06 47 04.0 -0.7**

comp=Z,16nm,0.6s,baz=14,slow=5.1,SNR=66
NOA LR LR 07 20 04.9
comp=Z,45nm,18.2s,baz=35,slow=41
F37A Hinrichs Farm, 63.81 48 P **P 06 47 05.6 +0.5**
baz=320
NBO00 NORSAR Array S 63.87 344 *e*P **P 06 47 05.4 +0.1**
comp=Z,21nm,0.6s
KBL Kabul 63.94 293 *e*P **P 06 47 04.5 -1.9**
comp=Z,11nm,0.9s
F38A Pierce - Schro 63.97 48 P **P 06 47 07.0 +0.9**
baz=320,SNR=5.7
KSCO Kaye Shedlock' 63.97 59 P **P 06 47 07.4 +1.0**
baz=318
LPSR Galich'ya Gora 64.00 325 *e*P **P 06 47 04.8 -1.3**
LPSR pmax pmax
comp=Z,20nm,0.7s
NC602 NORSAR Array S 64.01 343 *e*P **P 06 47 06.2 +0.1**
comp=Z,33nm,1.1s
NAO01 NORSAR Array S 64.02 344 *e*P **P 06 47 05.9 -0.3**
comp=Z,22nm,1.0s
NAO01 NORSAR Array S 64.02 344 *e*P **P 06 47 05.6 -0.6**
IVI Ivigtut 64.08 15 *e*P **P 06 47 06.6 0.0**
comp=Z,14nm,0.7s
SPMN Marine on St. 64.11 49 *e*P **P 06 47 08.1 +1.0**
comp=Z,8.1nm,0.8s
SPMN Marine on St. 64.11 49 P **P 06 47 07.4 +0.4**
baz=320
VRH Novokhopyorsk 64.12 322 *e*P **P 06 47 05.0 -2.0**
VRH pmax pmax
comp=Z,20nm,0.5s
HFS Hagfors 64.19 342 P **P 06 47 06.8 -0.5**
comp=Z,24nm,0.5s,baz=46,slow=4.3,SNR=170
E39A Mellen 64.23 47 P **P 06 47 08.1 +0.2**
baz=321
T25A Trinidad 64.42 62 P **P 06 47 10.3 +0.9**
baz=318
F39A Loretta 64.43 47 P **P 06 47 09.5 +0.4**
baz=321
HYA Hoyanger 64.45 346 *e*P **P 06 47 09.6 +0.6**
BGNE Belgrade 64.46 55 P **P 06 47 10.2 +0.7**
baz=319
E40A Wakefield 64.47 46 P **P 06 47 10.2 +0.8**
baz=321,SNR=5.5
G38A Ridgeland 64.58 48 P **P 06 47 10.4 +0.2**
baz=321
SKAR Skarslia 64.60 345 *e*P **P 06 47 10.3 +0.2**
SLIT Slitere, Latvi 64.64 336 *e*P **P 06 47 10.2 0.0**
SLIT IAmb IAmb 06 47 11.5
comp=Z,307nm,0.6s
H38A Maiden Rock 64.77 49 P **P 06 47 11.8 +0.5**
baz=321
F40A Park Falls 64.78 47 P **P 06 47 11.7 +0.3**
baz=321
G39A Holcombe 64.80 48 P **P 06 47 11.8 +0.2**
baz=321
E41A Kenton 64.86 46 P **P 06 47 11.7 -0.2**
baz=322
TASM ASL Pad, Albuq 64.93 65 P **P 06 47 13.5 +0.6**
baz=318
ANMO Albuquerque 64.94 65*ce*P **P 06 47 14.8 +1.9**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
ANMO Albuquerque 64.94 65 P **P 06 47 13.5 +0.7**
baz=318
VSR Storozhevoye 65.05 323 *e*P **P 06 47 11.5 -1.5**
VSR pmax pmax
comp=Z,9.0nm,0.6s
VORD Divnogorie 65.20 323 *e*P **P 06 47 12.1 -1.9**
VORD pmax pmax
comp=Z,10.0nm,0.7s
H39A Augusta 65.22 48 P **P 06 47 14.4 +0.2**
baz=321
G40A Rib Lake 65.25 47 P **P 06 47 14.2 -0.3**
baz=321
BER Bergen 65.32 347 *e*P **P 06 47 14.6 0.0**
E42A Champion 65.33 45 P **P 06 47 15.0 0.0**
baz=322
F41A Three Lakes 65.36 46 P **P 06 47 15.4 +0.1**
baz=322
KONO Kongsberg 65.37 344*ce*P **P 06 47 16.4 +1.4**
KONO pmax pmax
comp=Z,15nm,1.3s
IDID Didziasalis 65.53 333 *e*P **P 06 47 16.1 0.0**
IDID IAmb IAmb 06 47 17.7
comp=Z,13nm,0.8s
IIGN Ignalina 65.64 333 *e*P **P 06 47 17.2 +0.3**
IIGN IAmb IAmb 06 47 18.4
comp=Z,28nm,0.5s
H40A Chili 65.66 48 P **P 06 47 17.4 +0.2**
baz=321
I39A Houston 65.75 49 P **P 06 47 17.4 -0.3**
baz=321
E43A Lone Tree Farm 65.77 44 P **P 06 47 17.9 +0.1**
baz=322
SCHQ Schefferville 65.86 28 *e*P **P 06 47 18.8 +0.5**
comp=Z,16nm,0.8s
SCHQ Schefferville 65.86 28 P **P 06 47 18.5 +0.2**
comp=Z,11nm,0.6s,baz=310,slow=6.7,SNR=7.9
SCHQ LR LR 07 17 51.0
comp=Z,50nm,21.1s,baz=346,slow=38
H41A Junction City 66.00 47 P **P 06 47 19.0 -0.3**
baz=322
E44A Grand Marais A 66.03 44 P **P 06 47 19.6 +0.1**
baz=323
G42A Mountain 66.05 46 P **P 06 47 19.6 -0.1**
baz=322
J39A Decorah 66.07 49 P **P 06 47 20.1 +0.3**
baz=321
PABE Paberze 66.11 334 *e*P **P 06 47 19.6 -0.2**
PABE IAmb IAmb 06 47 21.2
comp=Z,86nm,0.9s
I40A Norwalk 66.13 48 P **P 06 47 20.3 +0.1**
baz=322
I41A Arkdale 66.34 48 P **P 06 47 21.3 -0.1**
baz=322
G43A Wallace 66.36 46 P **P 06 47 21.5 0.0**
baz=322
J40A Soldiers Grove 66.46 49 P **P 06 47 21.8 -0.5**
baz=322
SCIA State Center 66.47 51 *e*P **P 06 47 23.3 +1.0**
comp=Z,48nm,0.7s
SCIA State Center 66.47 51 P **P 06 47 23.1 +0.8**
baz=321,SNR=7.2
K39A Oelwein 66.47 50 P **P 06 47 21.9 -0.5**
baz=321
E45A Wooded Hills, 66.55 43 P **P 06 47 22.6 -0.2**
baz=323
D46A Sault St. Mari 66.59 42 P **P 06 47 23.0 -0.1**
baz=324
MATQ Matagami 66.71 37 P **P 06 47 23.2 -0.5**
baz=326
J41A Loganville 66.81 48 P **P 06 47 24.5 -0.1**
baz=322
K40A Colesburg 66.82 49 P **P 06 47 24.7 +0.1**
baz=322
D47A Chapleau 66.83 42 P **P 06 47 24.2 -0.4**
baz=324
L39A Vinton 66.87 50 P **P 06 47 25.1 +0.2**
baz=321
I42A Draeger Farm, 66.90 47 P **P 06 47 24.7 -0.4**
baz=322
E46A Sault Ste Mari 66.90 43 P **P 06 47 24.4 -0.6**
baz=324
F45A CMU Biological 66.94 44 P **P 06 47 25.1 -0.2**
baz=323
SNART Snartemo 67.00 345 *e*P **P 06 47 26.3 +0.8**
JFWS Jewell Farm 67.06 49 P **P 06 47 25.9 -0.3**
baz=322
F46A Macinaw City C 67.19 43 P **P 06 47 26.3 -0.6**
baz=324,SNR=5.3
GEYT Alibeck 67.24 303 P **P 06 47 26.6 -0.8**
comp=Z,4.0nm,0.5s,baz=75,slow=2.3,SNR=8.7
GEYT LR LR 07 19 24.2
comp=Z,221nm,18.3s,baz=30,slow=38
GYA0B ALIBECK ARRAY 67.24 303 *e*P **P 06 47 27.4 0.0**
comp=Z,6.5nm,0.8s
I43A Langenfeld Bro 67.24 47 P **P 06 47 27.2 0.0**
baz=323
E47A Iron Bridge 67.25 42 P **P 06 47 26.6 -0.6**
baz=324
J42A Columbus 67.25 48 P **P 06 47 27.4 0.0**
baz=322
D48A Paudash Townsh 67.26 41 P **P 06 47 26.5 -0.8**
baz=325
L40A Anamosa 67.28 50 P **P 06 47 27.8 +0.3**
baz=322
D49A Beulah Townshi 67.36 40 P **P 06 47 27.9 0.0**
baz=325
G46A Petoskey 67.51 44 P **P 06 47 28.6 -0.3**
baz=324
J43A Natural Harves 67.52 47 P **P 06 47 28.9 -0.1**
baz=323
LSQQ Lebel-sur-Quev 67.53 37 P **P 06 47 28.7 -0.3**
baz=327
AMTX Amarillo 67.57 62 P **P 06 47 30.3 +0.7**
baz=320
H45A Beulah 67.57 45 P **P 06 47 29.1 -0.2**
baz=323
K42A Prairie Point, 67.58 48 P **P 06 47 29.1 -0.3**
baz=322,SNR=5.4
MSTX Muleshoe 67.67 63 *e*P **P 06 47 31.6 +1.3**
comp=Z,10nm,1.1s
MSTX Muleshoe 67.67 63 P **P 06 47 31.1 +0.8**
baz=320
E48A Lockeyer 67.68 41 P **P 06 47 29.2 -0.7**
baz=325
CHGQ Chibougamau 67.74 35 P **P 06 47 29.7 -0.6**
baz=328,SNR=7.7
I45A Fountain 67.96 45 P **P 06 47 32.0 +0.2**
baz=324
MNTX Cornudas Mount 67.96 66 *e*P **P 06 47 33.1 +1.1**
comp=Z,5.2nm,1.1s
MNTX Cornudas Mount 67.96 66 P **P 06 47 33.3 +1.3**
baz=320,SNR=6.5
H46A Fife Lake 68.00 44 P **P 06 47 32.0 0.0**
baz=324
GLMI Grayling 68.01 44 P **P 06 47 32.0 -0.1**
baz=324
F48A Evansville 68.03 42 P **P 06 47 31.6 -0.5**
baz=325
N40A Mertquake, Sal 68.03 51 P **P 06 47 32.2 -0.1**
baz=322,SNR=6.1
L42A Oliver, Polo 68.04 49 *e*P **P 06 47 32.4 0.0**
comp=Z,8.9nm,0.6s
L42A Oliver, Polo 68.04 49 P **P 06 47 31.9 -0.4**
baz=322
G47A Hillman 68.05 43 P **P 06 47 31.4 -0.9**
baz=324
K43A Burlington 68.09 48 P **P 06 47 32.9 +0.3**
baz=323
M41A Milan 68.14 50 P **P 06 47 32.8 -0.1**
baz=322
VLDQ Val d'Or 68.15 38 *e*P **P 06 47 31.6 -1.2**
comp=Z,16nm,0.8s
D51A Lot 18 Range I 68.28 39 P **P 06 47 33.0 -0.7**
baz=326
E50A Wahnapitae 68.29 41 P **P 06 47 33.3 -0.5**
baz=326
F49A Sandfield 68.31 42 P **P 06 47 33.5 -0.5**
baz=325
L43A Garden Prairie 68.32 48 P **P 06 47 34.1 +0.1**
baz=323
H47A Mio 68.37 44 P **P 06 47 34.4 0.0**
baz=324
N41A Harden Midland 68.52 51 P **P 06 47 35.2 -0.1**
baz=322
COP Copenhagen 68.59 341 *i* P **P 06 47 36.2 +0.7**
COP pmax pmax
comp=Z,51nm,0.7s
COP Copenhagen 68.59 341 *i* P **P 06 47 36.2 +0.7**
comp=Z,51nm,0.7s
BSD Bornholm Skovb 68.62 339 *i* P **P 06 47 35.9 +0.2**
BSD pmax pmax
comp=Z,36nm,0.5s
BSD Bornholm Skovb 68.62 339 *i* P **P 06 47 35.9 +0.2**
comp=Z,36nm,0.5s
E51A G1948 Merrick 68.69 40 P **P 06 47 35.4 -0.9**
baz=326
L44A Lake County Fo 68.70 48 P **P 06 47 36.4 -0.1**
baz=323
D52A ZEK Kipawa Sen 68.74 39 P **P 06 47 36.2 -0.3**
baz=327
J46A Howard City 68.76 46 P **P 06 47 37.1 +0.3**
baz=324
M43A Waltham Townsh 68.82 49 P **P 06 47 36.8 -0.4**
baz=323
AKASG Malin Array Be 68.83 329 P **P 06 47 36.4 -0.7**
comp=Z,27nm,0.5s,baz=29,slow=6.3,SNR=74
AKASG LR LR 07 21 04.3
comp=Z,143nm,19.1s,baz=30,slow=39
KIEV Kiev 68.84 329 *c i* P **P 06 47 36.7 -0.5**
SNR=16
KIEV Kiev 68.84 329 *c i* P **P 06 47 36.4 -0.8**
KIEV pmax pmax
comp=Z,34nm,0.8s
I48A Sherman Twp 68.91 44 P **P 06 47 37.2 -0.5**
baz=325
D53A Lac Vacive, Po 68.92 38 *e*P **P 06 47 37.6 -0.1**
comp=Z,7.4nm,0.9s
D53A Lac Vacive, Po 68.92 38 P **P 06 47 37.1 -0.6**
baz=327
F51A Arnstein 69.03 40 P **P 06 47 37.6 -0.7**
baz=326
J47A Sunmer 69.21 45 P **P 06 47 40.0 +0.4**
baz=324
WMOK Wichita Mounta 69.22 60 *e*P **P 06 47 40.6 +0.8**
comp=Z,8.2nm,0.8s
WMOK Wichita Mounta 69.22 60 P **P 06 47 40.5 +0.8**
baz=321,SNR=12
E52A Mattawa 69.22 39 P **P 06 47 38.9 -0.6**
baz=327
K46A Dorr 69.24 46 P **P 06 47 39.8 0.0**
baz=324
D54A Lac Fusel, La 69.25 38 P **P 06 47 39.2 -0.6**
baz=327,SNR=5.1
M44A Midewin, Midew 69.27 48 P **P 06 47 40.2 +0.2**
baz=323
HDIL Hopedale 69.36 50 *e*P **P 06 47 40.3 -0.2**
comp=Z,18nm,0.8s
HDIL Hopedale 69.36 50 P **P 06 47 40.7 +0.1**
baz=323,SNR=5.0
F52A Sundridge 69.37 40 P **P 06 47 40.0 -0.5**
baz=326
KLBO Killbear Provi 69.38 41 P **P 06 47 40.1 -0.5**
baz=326
I49A Point Hope 69.48 43 P **P 06 47 41.0 -0.2**
baz=325
E53A Dumoine, Ponti 69.52 39 P **P 06 47 40.9 -0.6**
baz=327
L46A Eue Claire 69.55 47 P **P 06 47 41.3 -0.4**
baz=324
K47A Vermontville 69.59 46 P **P 06 47 42.0 +0.1**
baz=324
BMRO Meriville Lake 69.61 42 P **P 06 47 41.6 -0.3**
baz=326
KIV Kislovodsk 69.63 317 *e*P **P 06 47 42.4 +0.1**
KIV pmax pmax
comp=Z,20nm,0.9s
KIV MLR MLR
comp=Z,378nm,18.0s
BUKO Buck Lake 69.63 40 P **P 06 47 41.5 -0.6**
baz=326
E54A Lac Daplat, Po 69.65 38 P **P 06 47 41.6 -0.7**
baz=327
N44A Piper City 69.70 49 P **P 06 47 42.5 -0.1**
baz=323
KBZ Khabaz 69.73 317 P **P 06 47 42.5 -0.2**
comp=Z,12nm,1.0s,baz=81,slow=1.2,SNR=18
KBZ LR LR 07 22 38.8
comp=Z,174nm,19.5s,baz=24,slow=40
ALGO Algonquin Park 69.73 39 P **P 06 47 42.0 -0.8**
baz=327
BRCO Bruce Peninsul 69.80 42 P **P 06 47 42.8 -0.4**
baz=326
J49A Marlette 69.82 44 P **P 06 47 43.5 +0.2**
baz=325
TUL1 Leonard 69.85 57 P **P 06 47 44.0 +0.3**
baz=322
K48A Perry 69.86 45 P **P 06 47 43.7 +0.1**
baz=325
BASO Ashfield 69.90 43 P **P 06 47 43.7 -0.1**
baz=326
N45A Kentland 69.94 48 P **P 06 47 44.1 0.0**
baz=324
P43A Skaggs, Pawnee 69.98 50 P **P 06 47 44.7 +0.3**
baz=323
M46A Old House Fiel 70.02 47 P **P 06 47 44.7 +0.2**
baz=324
L47A Sherwood 70.06 46 P **P 06 47 44.6 -0.2**
baz=324
O44A Mansfield 70.06 49 P **P 06 47 44.8 -0.1**
baz=323
ZEI Tsey 70.07 315 *e*P **P 06 47 42.3 -2.9**
ZEI pmax pmax
comp=Z,5.0nm,0.6s
Q42A Golden Eagle 70.08 52 P **P 06 47 45.5 +0.4**
baz=323
H52A Wyevale 70.10 41 P **P 06 47 44.7 -0.3**
baz=326
K49A Clarkson 70.16 44 P **P 06 47 45.6 +0.2**
baz=325
R41A Rosebud 70.17 52 P **P 06 47 45.6 +0.1**
baz=323,SNR=7.2
G53A Haliburton 70.20 40 P **P 06 47 45.4 -0.3**
baz=327
BEL Belsk 70.24 335 *e*P **P 06 47 46.9 +1.2**
BEL Belsk 70.24 335 *e*P **P 06 47 46.9 +1.2**
N46A Monticello 70.26 48 P **P 06 47 45.8 -0.2**
baz=324
PEMO Pembroke 70.27 39 P **P 06 47 45.7 -0.3**
baz=327
O45A Potomac 70.33 49 P **P 06 47 46.5 0.0**
baz=324
I51A Listowel 70.34 42 P **P 06 47 46.7 +0.2**
baz=326
M47A Cromwell 70.38 47 P **P 06 47 46.9 +0.2**
baz=324
ABTX Abilene, Hawle 70.39 62 *e*P **P 06 47 48.2 +1.2**
comp=Z,8.0nm,0.8s
ABTX Abilene, Hawle 70.39 62 P **P 06 47 47.9 +0.9**
baz=321
CCM Cathedral Cave 70.42 53 *e*P **P 06 47 47.5 +0.4**
comp=Z,6.3nm,1.0s
CCM Cathedral Cave 70.42 53 P **P 06 47 47.3 +0.2**
baz=323
L48A N Adams 70.42 46 P **P 06 47 47.2 +0.2**
baz=325
AAM Ann Arbor 70.47 45 P **P 06 47 47.5 +0.2**
baz=325
F55A Otter Lake 70.47 38 P **P 06 47 47.2 -0.1**
baz=328
HHAR Hobbs 70.50 56 *e*P **P 06 47 47.7 +0.1**
comp=Z,11nm,0.6s
SFIN Lafayette 70.51 48 P **P 06 47 47.7 +0.1**
baz=324
K50A Casco 70.52 44 P **P 06 47 47.7 +0.1**
baz=325
S41A Jillco Farms, 70.55 53 P **P 06 47 47.7 -0.2**
baz=323,SNR=6.7
BANO Bancroft 70.56 40 P **P 06 47 47.5 -0.3**
baz=327
L49A Milan 70.58 45 P **P 06 47 48.4 +0.5**
baz=325
M48A Edgerton 70.67 46 *e*P **P 06 47 48.9 +0.3**
comp=Z,11nm,0.9s
M48A Edgerton 70.67 46 P **P 06 47 48.4 -0.2**
baz=325
LTX Lajitas 70.72 67 *e*P **P 06 47 50.3 +1.2**
TX31 Lajitas Ar. Si 70.72 67 *e*P **P 06 47 50.8 +1.6**
comp=Z,3.6nm,0.8s
TXAR Lajitas Array 70.72 67 P **P 06 47 50.3 +1.2**
comp=Z,1.7nm,0.6s,baz=294,slow=4.8,SNR=27
N47A Urbana 70.73 47 P **P 06 47 48.7 -0.3**
baz=324
G55A Calabogie 70.82 39 P **P 06 47 48.7 -0.7**
baz=328
PLVO Plevna 70.87 39 P **P 06 47 49.4 -0.3**
baz=328
FVM French Village 70.87 52 *e*P **P 06 47 50.3 +0.4**
comp=Z,6.9nm,0.7s
U40A Yellville 70.98 55 P **P 06 47 50.4 -0.1**
baz=322,SNR=15
PKRO Pickering 70.99 41 P **P 06 47 50.2 -0.3**
baz=327
M49A Liberty Center 71.01 46 P **P 06 47 50.7 +0.1**
baz=325
O47A Sheridan 71.04 48 P **P 06 47 50.3 -0.5**
baz=324
L50A Kingsville 71.04 45 P **P 06 47 50.8 0.0**
baz=326
N48A Decatur 71.05 47 P **P 06 47 50.8 -0.1**
baz=325,SNR=5.1
P46A Rosedale 71.07 49 P **P 06 47 50.8 -0.2**
baz=324
DELO Deloro Mine 71.10 40 P **P 06 47 50.5 -0.6**
baz=328
ORIO Orleans, Innes 71.11 38 P **P 06 47 50.3 -0.9**
baz=328
SOC Sochi 71.15 319 *e*P **P 06 47 49.5 -1.9**
SOC *e* 06 50 28.7
SOC *e*PPP PPP 06 52 15.8
SOC *e*S **S 06 57 02.1 -2.1**
SOC pmax pmax
comp=Z,8.0nm,0.3s
SOC MLR MLR
comp=Z,206nm,21.0s
LVV L'vov 71.17 332 *e*P **P 06 47 51.4 -0.1**
ALFO Alfred 71.19 37 P **P 06 47 50.9 -0.7**
baz=329
Q45A Warren Harvey, 71.22 50 P **P 06 47 51.9 0.0**
baz=324,SNR=5.3
H55A Tweed 71.24 39 P **P 06 47 51.3 -0.6**
baz=328
HYB Hyderabad 71.25 274 *i* P **P 06 47 51.5 -0.9**
WLVO Wesleyville 71.29 41 P **P 06 47 52.1 -0.2**
baz=327
EKA Eskdalemuir Ar 71.30 350 P **P 06 47 52.4 +0.2**
comp=Z,12nm,0.5s,baz=16,slow=5.0,SNR=95
RUE Ruedersdorf 71.32 339 *e*P **P 06 47 52.5 +0.2**
RUE IAmb IAmb 06 47 53.5
comp=Z,47nm,0.6s
ESK Eskdalemuir 71.32 350 *e*P **P 06 47 52.9 +0.7**
comp=Z,22nm,0.6s
ESK Eskdalemuir 71.32 350*ce*P **P 06 47 53.2 +0.9**
I55A Frankford 71.33 40 P **P 06 47 52.1 -0.4**
baz=328
N49A Columbus Grove 71.37 46 P **P 06 47 52.7 -0.1**
baz=325
AKH Akhalkalaki 71.37 315 *e*P **P 06 47 54.4 +1.3**
comp=Z,21nm,1.2s
AKH Akhalkalaki 71.37 315⇑ *i*P **P 06 47 53.7 +0.6**
W39A Magazine 71.43 56 P **P 06 47 53.3 0.0**
baz=322
U41A Viola 71.45 54 P **P 06 47 53.1 -0.3**
baz=323
O48A Farmland 71.48 47 P **P 06 47 53.0 -0.5**
baz=325
P47A Martinsville 71.60 48 P **P 06 47 54.0 -0.2**
baz=324,SNR=6.1
R45A Skylar, Fairfi 71.64 50 P **P 06 47 54.5 +0.1**
baz=324
S44A Carbondale 71.66 51 P **P 06 47 54.8 +0.2**
baz=324
KWP Kalwaria Pacla 71.72 332 *e*P **P 06 47 55.9 +1.1**
KWP Kalwaria Pacla 71.72 332 *e*P **P 06 47 55.5 +0.8**
comp=Z,1μm,1.0s
KWP Kalwaria Pacla 71.72 332 *e*P **P 06 47 55.9 +1.1**
J54A Appleton 71.74 41 P **P 06 47 54.9 -0.1**
baz=327
PECO Prince Edward 71.83 40 P **P 06 47 54.8 -0.7**
baz=328
GNI Garni 71.86 313 P **P 06 47 55.2 -0.8**
GNI Garni 71.86 313*ce*P **P 06 47 56.8 +0.8**
GNI pmax pmax
comp=Z,32nm,1.1s
GNI Garni 71.86 313 P **P 06 47 56.6 +0.7**
comp=Z,4.8nm,0.3s,baz=336,slow=2.1,SNR=6.4
MEDO Medina 71.91 41 P **P 06 47 55.9 -0.1**
baz=327
N50A Nevada 71.94 46 P **P 06 47 56.5 +0.3**
baz=326
OJC Ojcow 71.97 334 *e*P **P 06 47 57.1 +0.9**
OJC Ojcow 71.97 334 *e*P **P 06 47 56.0 -0.3**
comp=Z,46nm,1.1s
OJC Ojcow 71.97 334 *e*P **P 06 47 57.2 +0.9**
Q47A Bedord North L 71.98 49 P **P 06 47 56.5 0.0**
baz=324
BATM Batumi 71.98 316⇑ *i*P **P 06 47 56.9 +0.4**
S45A Carrier Mills 71.99 51 P **P 06 47 56.8 +0.2**
baz=324
P48A Milroy 72.01 48 P **P 06 47 56.4 -0.2**
baz=325
WHTX Lake Whitney, 72.04 61 P **P 06 47 57.3 +0.3**
baz=322
MIAR Mount Ida 72.05 56 P **P 06 47 57.4 +0.4**
baz=323
M52A Chesterland 72.07 44 P **P 06 47 57.3 +0.3**
baz=326
J55A Hilton 72.07 41 P **P 06 47 56.5 -0.5**
baz=328
BCA Borcka 72.14 316⇓ *i*P **P 06 47 57.0 -0.5**
SIM Simferopol' 72.15 323 *e*P **P 06 47 58.4 +1.0**
SIM pmax pmax

comp=Z,16nm,0.7s
SIM MLR MLR
N51A Ashland 72.15 45 P P 06 47 57.4 -0.1
baz=326
ERPA Erie 72.16 43 P P 06 47 57.6 +0.1
baz=327
LONY Lake Ozonia 72.16 38 P P 06 47 57.6 0.0
baz=329
L53A Girard 72.18 43 P P 06 47 57.6 -0.1
baz=327
KIS Kishinev 72.21 327 *eP* **P 06 47 57.5 -0.2**
KIS *eL* L 07 16 40.0
KIS LRM MLR 07 23 40.0
comp=Z,300nm,18.0s
KIS Kishinev 72.21 327 *eP* **P 06 47 57.5 -0.2**
KIS MLR MLR
comp=Z,300nm,18.0s
W41B Gary Mavity, V 72.21 55 *eP* **P 06 47 58.1 +0.1**
comp=Z,7.7nm,0.8s
W41B Gary Mavity, V 72.21 55 P P 06 47 58.0 +0.1
baz=323,SNR=6.9
O50A Cable 72.25 46 P P 06 47 58.3 +0.2
baz=326
PARMO Parma 72.25 52 *eP* **P 06 47 59.8 +1.7**
comp=Z,56nm,0.8s
P49A Miami Univ. Ec 72.26 47 P P 06 47 58.2 0.0
baz=325
KSP Ksiaz 72.28 337 *eP* **P 06 47 58.6 +0.5**
KSP Ksiaz 72.28 337 *eP* **P 06 47 58.6 +0.5**
L54A Sinclairville 72.34 42 P P 06 47 58.3 -0.3
baz=327
S46A Don Dixon Farm 72.39 50 P P 06 47 59.4 +0.5
baz=324
K55A Perry 72.42 41 P P 06 47 58.9 -0.2
baz=328
M53A Wl Miller and 72.44 44 P P 06 47 59.4 +0.2
baz=327
R47A Wooly Knot Far 72.45 49 P P 06 47 59.1 -0.2
baz=325
ACSO Alum Creek Sta 72.45 46 P P 06 47 59.6 +0.3
baz=326
X40A Basin Creek Fa 72.47 56 P P 06 47 60.0 +0.5
baz=323
KOLS Kolonicke sedl 72.47 332 *eP* **P 06 47 59.9 +0.6**
KOLS pmax pmax
comp=Z,27nm,1.0s
KOLS Kolonicke sedl 72.47 332 *eP* **P 06 47 59.9 +0.6**
N52A McGinn's Farm, 72.53 45 P P 06 47 59.6 -0.2
baz=326
CLL Collm 72.59 339 *eP* **P 06 48 00.2 +0.3**
comp=Z,45nm,1.0s
CLL Collm 72.59 339⇑*iP* **P 06 48 00.2 +0.3**
CLL pmax pmax
comp=Z,46nm,1.0s
CLL Collm 72.59 339⇑*iP* **P 06 48 00.2 +0.3**
comp=Z,46nm,1.0s
CLL *e* 07 03 42.0
P50A Jamestown 72.61 47 P P 06 48 00.3 +0.1
baz=326
WCI Wyandotte Cave 72.61 49 P P 06 48 00.3 +0.1
baz=325
UPC Upice 72.66 337 *eP* **P 06 48 00.8 +0.5**
UPC MLR MLR
comp=Z,200nm,17.3s
UPC Upice 72.66 337 *eP* **P 06 48 00.8 +0.5**
UPC AMS AMS 07 26 10.0
comp=Z,200nm,17.3s
R48A Northridge Ran 72.67 49 P P 06 48 00.6 0.0
baz=325
DPC Dobruska-Polom 72.73 337 *eP* **P 06 48 01.8 +1.0**
DPC MLR MLR
comp=Z,100nm,12.7s
DPC Dobruska-Polom 72.73 337 *eP* **P 06 48 01.8 +1.0**
DPC AMS AMS 07 26 10.0
comp=Z,100nm,12.7s
L55A Hinsdale 72.74 42 P P 06 48 00.7 -0.3
baz=328
UZH Uzhgorod 72.74 332 *d iP* **P 06 48 00.9 0.0**
UZH *e* 06 48 15.5
BUR08 Bucovina Ar. S 72.78 330 *eP* **P 06 48 01.4 +0.1**
comp=Z,32nm,0.8s
BRG Berggiesshubel 72.79 338 *eP* **P 06 48 01.3 +0.2**
comp=Z,24nm,1.3s
BRG Berggiesshubel 72.79 338 *eP* **P 06 48 01.3 +0.2**
BRG pmax pmax
comp=Z,24nm,1.3s
BRG MLR MLR
comp=N,114nm,12.9s
BRG MLR MLR
comp=E,47nm,12.0s
BRG MLR MLR
comp=Z,133nm,13.2s
BURAR Bucovina Array 72.80 330⇑*iP* **P 06 48 01.6 +0.2**
BURAR Bucovina Array 72.80 330⇑*iP* **P 06 48 01.6 +0.2**
M54A Oil Creek Stat 72.80 43 P P 06 48 01.5 +0.2
baz=327
T46A Princeton 72.83 51 P P 06 48 02.4 +0.8
baz=324,SNR=6.2
S47A Hartford 72.86 50 P P 06 48 02.2 +0.4
baz=325
KRLC Kraliky 72.87 336 *eP* **P 06 48 02.5 +0.8**
KRLC Kraliky 72.87 336 *eP* **P 06 48 02.5 +0.8**
N53A Lisbon 72.90 44 P P 06 48 02.1 +0.1
baz=327
MORC Moravsky Berou 72.96 336 *eP* **P 06 48 02.8 +0.6**
comp=Z,36nm,1.0s
MORC Moravsky Berou 72.96 336⇑*iP* **P 06 48 03.3 +1.1**
MORC Moravsky Berou 72.96 336⇑*iP* **P 06 48 03.4 +1.2**
MORC Moravsky Berou 72.96 336 *eP* **P 06 48 03.0 +0.8**
PVCC Panska Ves 72.97 338 AMS AMS 07 26 20.0
comp=Z,200nm,13.7s
LANS Liptovska Anna 73.04 334 *eP* **P 06 48 04.5 +1.8**
LANS Liptovska Anna 73.04 334 *eP* **P 06 48 04.5 +1.8**
O52A Adamsville 73.05 45 P P 06 48 02.9 +0.1
baz=326
R49A Shelbyville 73.07 48 P P 06 48 03.2 +0.1
baz=325
N54A Moraine State 73.12 43 P P 06 48 03.4 +0.1
baz=327
TRPA Tarpa 73.12 332⇑*iP* **P 06 48 04.2 +1.1**
TRPA Tarpa 73.12 332⇑*iP* **P 06 48 03.1 0.0**
BIZ Bicaz 73.13 329⇑*iP* **P 06 48 03.6 +0.4**
Q50A Georgetown 73.16 47 P P 06 48 03.8 +0.3
baz=326
WTSB Winterswijk 73.18 343 *eP* **P 06 48 03.8 +0.5**
comp=Z,68nm,0.6s
S48A Wiedeman Farm, 73.19 49 P P 06 48 03.9 +0.2
baz=325
O53A New Philadelph 73.20 45 P P 06 48 03.8 0.0
baz=326
M55A Ridgway 73.20 42 P P 06 48 03.9 +0.1
baz=327
T47A Sharon Grove 73.24 50 *eP* **P 06 48 05.0 +0.9**
comp=Z,11nm,0.8s
T47A Sharon Grove 73.24 50 P P 06 48 04.6 +0.5
baz=325
U46A Springville 73.25 52 P P 06 48 04.5 +0.4
baz=324
Q51A Peebles 73.29 47 P P 06 48 04.5 +0.2
baz=326
TESR Tescani 73.33 328⇓*iP* **P 06 48 04.5 +0.1**
KECS Kecovo 73.38 333 *eP* **P 06 48 05.5 +0.8**
KECS pmax pmax
comp=Z,64nm,1.0s
KECS Kecovo 73.38 333 *eP* **P 06 48 05.4 +0.8**
S49A Springfield 73.43 49 P P 06 48 05.7 +0.5
baz=325
LBNH Lisbon 73.46 36 P P 06 48 05.3 +0.1
baz=330
R50A Paris 73.46 48 P P 06 48 05.7 +0.4
baz=326
T48A Bowling Green 73.47 50 P P 06 48 05.5 +0.1
baz=325
PRU Pruhonice 73.48 338 *eP* **P 06 48 05.9 +0.7**
PRU MLR MLR
comp=Z,200nm,14.0s
PRU Pruhonice 73.48 338 *eP* **P 06 48 05.9 +0.7**
PRU AMS AMS 07 26 30.0
comp=Z,200nm,14.0s
GOPC GO Pecny, Ondr 73.50 337 *eP* **P 06 48 05.2 -0.1**
GOPC GO Pecny, Ondr 73.50 337 *eP* **P 06 48 05.2 -0.1**
ARCR ARCALIA 73.53 330⇑*iP* **P 06 48 06.9 +1.3**
WVT Waverly 73.60 51 *eP* **P 06 48 07.2 +1.1**
comp=Z,5.5nm,0.7s
WVT Waverly 73.60 51 P P 06 48 06.4 +0.3
baz=324
U47A Clarksville 73.60 51 P P 06 48 06.4 +0.3
baz=325
O54A Avella 73.61 44 P P 06 48 06.0 -0.2
baz=327
VRAC Vranov 73.63 336⇑*iP* **P 06 48 07.4 +1.3**
VRAC Vranov 73.63 336⇑*iP* **P 06 48 07.4 +1.3**
VRAC Vranov 73.63 336 *eP* **P 06 48 07.1 +1.0**
VRAC Vranov 73.63 336 P P 06 48 07.1 +1.0
comp=Z,24nm,0.8s,baz=25,slow=6.7,SNR=22
N55A Marion Center 73.69 43 P P 06 48 06.8 +0.2
baz=327
BINY Binghamton 73.69 40 P P 06 48 06.2 -0.5
baz=329
NKC Novy Kostel 73.72 339 *eP* **P 06 48 07.3 +0.6**
NKC MLR MLR
comp=Z,200nm,26.4s
NKC Novy Kostel 73.72 339 *eP* **P 06 48 07.3 +0.6**
NKC AMS AMS 07 21 10.0
comp=Z,200nm,26.4s
V46A Holladay 73.72 52 P P 06 48 06.8 -0.1
baz=324
P53A Whipple 73.76 45 P P 06 48 06.9 -0.1
baz=327
JAVC Velka Javorina 73.77 335 *eP* **P 06 48 08.8 +1.8**
R51A Hillsboro 73.78 47 P P 06 48 07.3 +0.1
baz=326
TLCR 73.80 326⇓*iP* **P 06 48 07.5 +0.4**
TLCR 73.80 326⇓*iP* **P 06 48 07.5 +0.4**
VYHS Vyhne 73.81 334 *eP* **P 06 48 08.1 +0.9**
VYHS pmax pmax
comp=Z,20nm,1.2s
VYHS Vyhne 73.81 334 *eP* **P 06 48 08.1 +0.9**
Q52A Bidwell 73.81 46 P P 06 48 07.0 -0.4
baz=326
833A Chaparral WMA, 73.86 64 P P 06 48 08.5 +0.7
baz=322
T49A Edmonton 73.88 49 *eP* **P 06 48 08.4 +0.7**
comp=Z,4.5nm,0.8s
T49A Edmonton 73.88 49 P P 06 48 08.3 +0.5
baz=325
VRI Vrincioaia 73.88 328⇑*iP* **P 06 48 07.8 +0.1**
VRI Vrincioaia 73.88 328⇑*iP* **P 06 48 07.8 +0.1**
U48A Cassie Pea, Po 73.89 50 P P 06 48 08.3 +0.4
baz=325
KRUC Moravsky 73.91 336 *eP* **P 06 48 08.6 +0.9**
TREC Trest 73.91 337 *eP* **P 06 48 08.6 +0.8**
TREC MLR MLR
comp=Z,200nm,20.2s
TREC Trest 73.91 337 *eP* **P 06 48 08.6 +0.8**
TREC AMS AMS 07 21 10.0
comp=Z,200nm,20.2s
PLOR Plostina 73.92 328⇑*iP* **P 06 48 08.0 +0.1**
PLOR Plostina 73.92 328⇑*iP* **P 06 48 08.0 +0.1**
LTVH Ltavrtes, Hu 73.98 332 *i P* **P 06 48 08.1 -0.1**
V47A Nunnelly 73.99 51 P P 06 48 08.6 +0.2
baz=325
CFR Carcaliu 74.03 327⇑*iP* **P 06 48 08.2 -0.3**
CFR Carcaliu 74.03 327⇑*iP* **P 06 48 08.2 -0.3**
O55A Ligonier 74.04 43 P P 06 48 08.6 -0.1
baz=327
P54A Burton 74.05 44 P P 06 48 09.0 +0.2
baz=327
PSZ Piszkesteto 74.06 333 *eP* **P 06 48 09.5 +0.8**
comp=Z,26nm,0.9s
PSZ Piszkesteto 74.06 333⇓*iP* **P 06 48 09.7 +1.0**
PSZ Piszkesteto 74.06 333⇓*iP* **P 06 48 09.7 +1.0**
PSZ Piszkesteto 74.06 333⇑*iP* **P 06 48 09.1 +0.3**
CJR Cluj-Napoca 74.09 331⇑*iP* **P 06 48 09.7 +0.8**
CJR Cluj-Napoca 74.09 331⇑*iP* **P 06 48 09.7 +0.8**
OXF Oxford 74.14 54 P P 06 48 09.5 +0.2
baz=324
R52A Catlettsburg 74.17 47 P P 06 48 09.3 -0.1
baz=326
Q53A Leroy 74.22 46 P P 06 48 09.9 +0.2
baz=327
GRER 74.24 328⇓*iP* **P 06 48 11.6 +1.9**
U49A Red Boiling Sp 74.25 50 P P 06 48 10.4 +0.5
baz=325
SSPA Standing Stone 74.26 42 P P 06 48 09.9 0.0
baz=328
T50A Nancy 74.26 49 P P 06 48 10.2 +0.2
baz=326
MCWV Mont Chateau 74.27 44 P P 06 48 10.3 +0.2
baz=327
DRGR 74.29 331⇓*iP* **P 06 48 10.5 +0.4**
DRGR 74.29 331⇓*iP* **P 06 48 10.5 +0.4**
O56A Blue Knob Stat 74.29 43 P P 06 48 10.4 +0.1
baz=328
S51A Beattyville 74.32 48 P P 06 48 10.7 +0.4
baz=326
MODS Modra-Piesok 74.32 335 *eP* **P 06 48 10.3 +0.1**
MODS pmax pmax
comp=Z,30nm,1.0s
MODS Modra-Piesok 74.32 335 *eP* **P 06 48 10.3 +0.1**
CLTN Cedars of Leba 74.33 50 *eP* **P 06 48 11.5 +1.1**
comp=Z,4.7nm,0.7s
V48A Smith Brothers 74.39 51 *eP* **P 06 48 11.3 +0.6**
comp=Z,6.3nm,0.6s
V48A Smith Brothers 74.39 51 P P 06 48 11.0 +0.2
baz=325
P55A Reedsville 74.41 44 P P 06 48 11.2 +0.3
baz=327
PLAL Pickwick Lake 74.41 52 *eP* **P 06 48 11.5 +0.6**
comp=Z,6.6nm,0.8s
Q54A Coxs Mills 74.42 45 P P 06 48 11.2 +0.3
baz=327
W47A Westpoint 74.42 52 P P 06 48 11.2 +0.3
baz=325
LMN Caledonia Moun 74.42 31 *eP* **P 06 48 11.2 +0.4**
comp=Z,10nm,0.8s
MLR Muntele Rosu 74.47 328 *eP* **P 06 48 11.3 0.0**
comp=Z,37nm,0.7s
MLR Muntele Rosu 74.47 328⇑*iP* **P 06 48 12.1 +0.9**
MLR Muntele Rosu 74.47 328⇑*iP* **P 06 48 12.1 +0.9**
MLR Muntele Rosu 74.47 328 P P 06 48 11.9 +0.7
comp=Z,36nm,0.6s,baz=224,slow=0.4,SNR=61
HGN Heimansgroeve 74.49 343 *eP* **P 06 48 11.3 +0.3**
comp=Z,53nm,0.8s
GRA1 Grafenberg Arr 74.50 340 *eP* **P 06 48 12.3 +1.1**
comp=Z,50nm,0.9s
GRFO Grafenberg 74.50 340 *eP* **P 06 48 12.4 +1.2**
comp=Z,44nm,0.9s
BEBN Eben Emael 74.50 343⇑*iP* **P 06 48 11.7 +0.6**
KHC Kasperske Hory 74.51 338 *eP* **P 06 48 12.2 +1.0**
comp=Z,12nm,1.0s
KHC Kasperske Hory 74.51 338 *eP* **P 06 48 12.3 +1.0**
KHC *e* 06 48 23.5
KHC MLR MLR
comp=Z,200nm,12.7s
KHC Kasperske Hory 74.51 338 *eP* **P 06 48 12.3 +1.0**
KHC *ep*P **PcP 06 48 23.5 -2.1**
KHC AMS AMS 07 27 20.0
comp=Z,200nm,12.7s
ZST Bratislava 74.53 335 *eP* **P 06 48 11.8 +0.4**
ZST Bratislava 74.53 335 *eP* **P 06 48 11.8 +0.4**
DIKM Dikmen 74.54 320 P P 06 48 12.4 +0.8
DIKM Dikmen 74.54 320⇓*iP* **P 06 48 11.9 +0.3**
TLB Topalu 74.59 327⇓*iP* **P 06 48 11.7 0.0**
TLB Topalu 74.59 327⇓*iP* **P 06 48 11.7 0.0**
ISR Istrita 74.61 328⇑*iP* **P 06 48 13.5 +1.5**
ISR Istrita 74.61 328⇑*iP* **P 06 48 13.5 +1.5**
MEM Membach 74.63 343⇑*iP* **P 06 48 12.6 +0.8**
comp=Z,98nm,0.8s
T51A Gray 74.72 48 P P 06 48 12.7 0.0
baz=326
KVT Kavak 74.72 320 P P 06 48 13.5 +0.8
Q55A Buckhannon 74.73 45 P P 06 48 12.6 -0.1
baz=327
GEC2 GERESS Array S 74.75 338 *eP* **P 06 48 13.7 +0.9**
comp=Z,10nm,0.7s
GERES GERESS Array B 74.75 338 P P 06 48 13.2 +0.5
comp=Z,7.4nm,0.6s,baz=35,slow=4.9,SNR=45
GERES LR LR 07 24 54.1
comp=Z,119nm,21.3s,baz=70,slow=39
U50A Jamestown 74.76 49 P P 06 48 13.4 +0.5
baz=326
VOIR 74.80 329⇑*iP* **P 06 48 13.8 +0.7**
VOIR 74.80 329⇑*iP* **P 06 48 13.8 +0.7**
V49A McMinnville 74.80 50 P P 06 48 13.3 +0.2
baz=325
DZM Mont Dzumac 74.80 174 *eP* **P 06 48 15.3 +2.1**
comp=Z,29nm,1.6s
DZM Mont Dzumac 74.80 174 *eLR* LR 07 11 15.8
comp=Z,172nm,27.2s
MFTR Murfatlar 74.82 326⇑*iP* **P 06 48 13.5 +0.4**
W48A Pulaski 74.83 51 P P 06 48 13.6 +0.3
baz=325,SNR=8.1
N59A State Game Lan 74.87 41 P P 06 48 13.4 -0.1
baz=329
X47A Russelville 74.89 52 P P 06 48 13.8 +0.1
baz=325
BCLA Clavier 74.93 344⇑*iP* **P 06 48 14.1 +0.5**
comp=Z,23nm,0.8s
ARR Arges 74.99 329⇑*iP* **P 06 48 15.4 +1.2**
CSKK Cskako 75.00 334 *eP* **P 06 48 14.1 0.0**
SNF Seneffe 75.02 344⇑*iP* **P 06 48 14.6 +0.5**
comp=Z,43nm,0.8s
R54A Victor 75.02 46 P P 06 48 14.9 +0.5
baz=327
T52A Hallie 75.03 48 P P 06 48 15.0 +0.5
baz=326
SIRR Siria 75.07 332⇓*iP* **P 06 48 15.4 +0.9**
ICOR Ion Corvin 75.08 327⇓*iP* **P 06 48 15.6 +1.0**
CONA Conrad Observa 75.09 336 *i P* **P 06 48 16.0 +1.3**
comp=Z,18nm,0.7s,SNR=13
SOP Sopron 75.14 335 *eP* **P 06 48 13.1 -1.9**
W49A Belvidere 75.16 51 P P 06 48 15.5 +0.3
baz=325
U51A La Follette 75.17 49 P P 06 48 15.4 +0.2
baz=326
TOKT Tokat 75.17 319 P P 06 48 15.6 +0.3
O59A Robesonia 75.22 41 P P 06 48 15.6 +0.1
baz=329
SWET Sewanee 75.23 51 *eP* **P 06 48 16.1 +0.4**
comp=Z,12nm,0.7s
TZTN Tazewell 75.24 48 P P 06 48 16.0 +0.3
baz=326
V50A Pikevile 75.25 50 P P 06 48 15.9 +0.1
baz=326
R55A Marlinton 75.31 45 P P 06 48 15.9 -0.2
baz=327
SVSK Karacayir 75.33 318 P P 06 48 16.6 +0.5
X48A Hartselle 75.33 52 P P 06 48 16.2 0.0
baz=325
T53A Wise 75.33 47 P P 06 48 16.5 +0.2
baz=326
DOU Dourbes 75.36 344⇑*iP* **P 06 48 16.6 +0.4**
comp=Z,20nm,0.8s
Q57A Strasburg 75.40 43 P P 06 48 16.9 +0.4
baz=328
U52A Thorn Hill 75.45 48 P P 06 48 17.2 +0.3
baz=326
V51A Loudon 75.49 49 P P 06 48 17.3 +0.2
baz=326
PAL Palisades 75.52 39 P P 06 48 16.7 -0.4
baz=330
TIH Tihany 75.53 334 *eP* **P 06 48 21.1 +4.0**
O60A Telford 75.53 41 P P 06 48 16.9 -0.4
baz=329
GZR Gura Zlata 75.53 330⇑*iP* **P 06 48 17.1 -0.2**
GZR Gura Zlata 75.53 330⇑*iP* **P 06 48 17.1 -0.2**
W50A Signal Mountai 75.54 50 *eP* **P 06 48 17.6 +0.2**
comp=Z,9.4nm,0.8s
W50A Signal Mountai 75.54 50 P P 06 48 17.7 +0.2
baz=326
MOA Molln 75.55 337 *eP* **P 06 48 18.3 +1.0**
comp=Z,8.6nm,0.8s
X49A Woodville 75.62 51 P P 06 48 18.3 +0.4
baz=325
ILGA Ilgaz 75.65 321 *eP* **P 06 48 19.5 +1.2**
comp=Z,62nm,0.9s
BZS Buzias 75.67 331⇓*iP* **P 06 48 17.8 -0.2**
BZS Buzias 75.67 331⇓*iP* **P 06 48 17.8 -0.2**
T54A Tazewell 75.69 47 P P 06 48 17.9 -0.4
baz=327
Y48A Jasper 75.71 52 P P 06 48 18.6 +0.2
baz=325
P59A Jarrettsville 75.72 42 P P 06 48 18.4 0.0
baz=329
V52A Sevierville 75.80 49 P P 06 48 19.0 +0.1
baz=326
ARSA Arzberg 75.81 336 *i P* **P 06 48 20.1 +1.4**
comp=Z,7.9nm,0.7s
W51A Cleveland 75.83 50 P P 06 48 19.1 0.0
baz=326
U53A Fall Branch 75.83 48 P P 06 48 19.2 +0.1
baz=326
WRAB Tennant Creek 75.85 205 *ceP* **P 06 48 20.7 +1.5**
WRAB pmax pmax
comp=Z,16nm,2.5s
P60A Greenville 75.87 41 P P 06 48 19.1 -0.1
baz=329
X50B Fort Payne 75.98 51 P P 06 48 20.3 +0.2
baz=326
CORM Corum 76.05 320 P P 06 48 21.4 +1.0
CANT Cankiri 76.07 321 P P 06 48 21.3 +0.9
BLA Blacksburg 76.08 46 P P 06 48 20.7 +0.2
baz=327
HERR Herculane 76.10 330⇑*iP* **P 06 48 20.2 -0.3**
Y49A Blount Mountai 76.12 52 P P 06 48 20.7 0.0
baz=325
R58A Rapidan 76.19 43 P P 06 48 21.3 +0.2
baz=328
BEHE Becsehely 76.22 335 *eP* **P 06 48 22.1 +1.0**
YOZ Yozgat 76.24 319 P P 06 48 21.7 +0.2
S57A Dark Hollow, R 76.24 44 P P 06 48 21.7 +0.3
baz=328
W52A Murphy 76.27 49 *eP* **P 06 48 24.2 +2.6**
comp=Z,54nm,0.7s
X51A Calhoun 76.27 50 P P 06 48 21.6 0.0
baz=326
DARE Darende-Malaty 76.28 317 P P 06 48 22.4 +0.7
V53A Saluda 76.30 48 P P 06 48 22.2 +0.4
baz=326
BFO Black Forest 76.38 341 *eP* **P 06 48 22.6 +0.6**
comp=Z,14nm,0.7s
BFO Black Forest 76.38 341 *ceP* **P 06 48 22.7 +0.7**
U55A TA2, Sparta 76.39 47 P P 06 48 22.4 0.0
baz=327
T56A Rocky Mt 76.40 46 P P 06 48 22.6 +0.3
baz=328
MDVR Moldovita 76.40 331⇑*iP* **P 06 48 21.9 -0.3**
Y50A Piedmont 76.41 51 P P 06 48 22.8 +0.4
baz=326
SZH Strazhica 76.46 327 *eP* **P 06 48 22.0 -0.5**
SOKA Soboth 76.46 336 *i P* **P 06 48 23.5 +1.0**
comp=Z,12nm,0.6s,SNR=15
PERS Pernice 76.48 336 *i P* **P 06 48 23.5 +0.9**
KBA Koelnbreinsper 76.49 337 *eP* **P 06 48 24.4 +1.6**
comp=Z,68nm,0.8s,SNR=44
PUNG Punghina 76.50 330⇓*iP* **P 06 48 22.4 -0.3**
LRAL Lakeview Retre 76.51 53 P P 06 48 22.9 -0.1
baz=325
R58B Mineral 76.53 44 P P 06 48 23.4 +0.4
baz=328
148A Greensboro 76.55 53 P P 06 48 23.1 0.0
baz=325
W53A Cullowhee 76.55 49 P P 06 48 23.3 -0.1
baz=326
V54A Nebo 76.60 48 P P 06 48 23.8 +0.4
baz=327
Z49A Columbiana 76.60 52 P P 06 48 23.4 -0.1
baz=325
R59A King George, V 76.64 43 P P 06 48 23.2 -0.4
baz=329
WATA Walderalm 76.65 339 *i P* **P 06 48 24.8 +1.1**
comp=Z,9.2nm,0.5s
URFA Urfa 76.67 316 P P 06 48 24.8 +0.9
RETA Reutte 76.68 339 *i P* **P 06 48 24.7 +0.9**
comp=Z,12nm,0.7s,SNR=7.7
WTTA Wattenberg 76.70 339 *i P* **P 06 48 25.4 +1.3**
comp=Z,12nm,0.7s,SNR=9.8
ECH Echery 76.72 342 *eP* **P 06 48 24.5 +0.6**
comp=Z,23nm,0.8s
Y51A Rockmart 76.72 51 P P 06 48 24.4 +0.3
baz=326
OBKA Obir 76.74 336 *eP* **P 06 48 25.3 +1.1**
comp=Z,25nm,1.0s,SNR=9.3
MOTA Moosalm 76.75 339 *eP* **P 06 48 24.1 -0.1**
comp=Z,12nm,0.7s,SNR=10
T57A Hurt 76.76 45 P P 06 48 24.0 -0.3
baz=328
BR101 Keskin Array S 76.82 320 *eP* **P 06 48 24.7 -0.1**
BR131 Keskin Array S 76.82 320 *eP* **P 06 48 24.9 0.0**
comp=Z,17nm,0.6s
BR131 Keskin Array S 76.82 320 P P 06 48 24.6 -0.2
SNR=18
BRTR Keskin Array B 76.82 320 P P 06 48 24.7 -0.2
comp=Z,12nm,0.5s,baz=46,slow=3.2,SNR=70
BRTR LR LR 07 28 13.3
comp=Z,66nm,18.5s,baz=51,slow=40
SQTA Sankt Quirin 76.84 339 *eP* **P 06 48 25.9 +1.1**

comp=Z,29nm,0.7s,SNR=11
MYKA Terra Mystica 76.84 337 *e*P P 06 48 25.4 +0.7
comp=Z,4.9nm,0.7s,SNR=6.4
Z50A Ashland 76.84 52 P P 06 48 25.1 +0.2
baz=326
V55A Taylorsville 76.86 47 P P 06 48 25.1 +0.2
baz=327
149A Jones 76.97 53 P P 06 48 25.8 +0.3
baz=325
ABTA Abfaltersbach 76.99 338 *e*P P 06 48 26.4 +0.8
comp=Z,26nm,0.8s,SNR=17
ANTO Ankara 77.02 321 P P 06 48 26.3 +0.4
ANTO Ankara 77.02 321 *e*P P 06 48 26.7 +0.8
comp=Z,30nm,0.6s
ANTO Ankara 77.02 321⇑ *i*P P 06 48 26.2 +0.4
ANTO Ankara 77.02 321⇑P P 06 48 26.2 +0.4
ANTO Ankara 77.02 321 P P 06 48 26.3 +0.4
SNR=7.0
X53A Estanollee 77.04 49 P P 06 48 26.5 +0.6
baz=326
DAVA Damuels 77.06 340 *e*P P 06 48 27.0 +0.9
comp=Z,19nm,1.1s,SNR=6.3
W54A Cherokee Point 77.07 48 P P 06 48 26.3 +0.2
baz=327
MDUB Mudurnu 77.10 322 P P 06 48 26.4 +0.1
MDUB Mudurnu 77.10 322 *e*P P 06 48 26.9 +0.6
comp=Z,158nm,0.8s
T58A Grand View Acr 77.11 45 P P 06 48 26.7 +0.5
baz=328
FETA Feichten 77.13 339 *e*P P 06 48 27.6 +1.2
comp=Z,12nm,0.7s,SNR=10
Z51A Franklin 77.15 51 P P 06 48 26.7 +0.1
baz=326
KLYT Kilyos 77.19 324⇓ *i*P P 06 48 26.6 0.0
V56A Mocksville 77.22 47 P P 06 48 27.3 +0.4
baz=328
Y52A Lilburn 77.22 50 P P 06 48 27.3 +0.4
baz=326
CTYL Yalikoy Yolu 77.26 325⇑ *i*P P 06 48 26.9 -0.1
AFSR Afar-Bala (An 77.28 321 P P 06 48 28.2 +0.9
249A Camden 77.31 53 P P 06 48 27.7 +0.2
baz=325
VISS Visnje 77.33 336 *i*P P 06 48 27.4 +0.1
150A Eclectic 77.33 52 P P 06 48 27.6 0.0
baz=326
HRT Hereke 77.35 324 P P 06 48 27.4 -0.2
GULT Gulveren 77.38 323 P P 06 48 27.9 0.0
PHSR Pinarhisar 77.38 326 P P 06 48 27.9 +0.2
PHSR Pinarhisar 77.38 326⇓ *i*P P 06 48 28.2 +0.5
CTKS Kestanelik-??a 77.39 325 P P 06 48 27.9 +0.1
KMSC Kings Mountain 77.40 48 P P 06 48 28.1 +0.1
baz=327
KMRS Kahramanmaras 77.42 317 P P 06 48 28.6 +0.5
X54A Belton 77.43 49 P P 06 48 28.4 +0.3
baz=327
JAVS Javornik 77.43 336 *i*P P 06 48 27.8 -0.3
Y53A Monroe 77.45 50 P P 06 48 28.5 +0.3
baz=326
V57A Coltrane Farms 77.47 46 P P 06 48 28.5 +0.2
baz=328
BOJS Bojanci 77.50 336 *i*P P 06 48 28.7 +0.4
AUMIH MIHALICIK 77.52 322 P P 06 48 28.9 +0.2
SERE Sereflikochisa 77.53 320 P P 06 48 28.9 +0.2
DAVOX Davos/Dischmat 77.54 340 P P 06 48 30.0 +1.2
DAVOX Davos/Dischmat 77.54 340 P P 06 48 29.9 +1.2
comp=Z,16nm,0.6s,baz=62,slow=3.1,SNR=15
SHME Shamm 77.56 297 P P 06 48 28.2 -0.8
U58A Oxford 77.57 45 P P 06 48 29.0 +0.1
baz=328
GAZ Gaziantep 77.58 317 P P 06 48 30.1 +1.1
Z52A Williamson 77.61 51 P P 06 48 29.8 +0.6
baz=326
FUORN Ofenpass-Fuorn 77.61 339 *e*P P 06 48 29.7 +0.4
comp=Z,24nm,0.8s
KULU Kulu 77.66 321 P P 06 48 30.0 +0.5
PGB Panagyurishte 77.67 328 *e*P P 06 48 29.5 +0.1
CLF Chambon-Foret 77.75 345 *e*P P 06 48 31.1 +1.5
comp=Z,37nm,1.1s
CAVI Cavuskoy 77.83 323 P P 06 48 30.7 +0.4
X55A Gracelyn & Ava 77.83 48 P P 06 48 30.6 +0.2
baz=327
V58A Windy Hill, Pi 77.83 46 P P 06 48 30.8 +0.5
baz=328
PALK Pallekele 77.85 266 P P 06 48 30.9 +0.1
Y54A Tignall 77.86 49 P P 06 48 31.1 +0.6
baz=327,SNR=6.5
ARMT Armutlu 77.86 324 P P 06 48 29.3 -1.1
KOZT Kozan 77.89 318 P P 06 48 31.2 +0.6
VTS Vitosha 77.90 329 *e*P P 06 48 30.9 +0.1
comp=Z,38nm,1.0s
VTS Vitosha 77.90 329⇓ *i*P P 06 48 30.9 +0.1
VTS Vitosha 77.90 329⇓P P 06 48 30.9 +0.1
VTS Vitosha 77.90 329 *e*P P 06 48 30.7 -0.1
Z53A Monticello 77.93 50 P P 06 48 31.5 +0.5
baz=326
TUE Stuetta 77.95 340 *e*P P 06 48 32.2 +1.1
comp=Z,39nm,0.7s
W57A Gilead 77.99 47 P P 06 48 31.4 +0.2
baz=328
AUBOZ BOZOYUK 78.02 323 P P 06 48 31.7 +0.3
251A Midway 78.05 52 P P 06 48 32.3 +0.7
baz=326
KDZ Kurdzhali 78.08 327 *e*P P 06 48 35.7 +4.1
X56A White Oak 78.08 48 P P 06 48 32.1 +0.3
baz=327
U60A Pendleton 78.09 44 P P 06 48 32.0 +0.2
baz=329
CIFT Cifteler, Eski 78.12 322 P P 06 48 31.8 -0.2
Y55A Saluda 78.17 49 P P 06 48 32.8 +0.6
baz=327
KIZT Kizilcal 78.23 321 P P 06 48 32.6 0.0
V59A Middlesex 78.24 45 P P 06 48 32.8 +0.2
baz=328
RZN Rozhen 78.27 328 *e*P P 06 48 32.6 -0.3
KCTX Karacabey (Bur 78.30 324 P P 06 48 33.3 +0.4
Z54A Sparta 78.31 50 P P 06 48 33.9 +0.9
baz=327
KARA Karaisali 78.39 318 P P 06 48 34.1 +0.7
EDC Edincik 78.41 325 P P 06 48 33.8 +0.4
PLE Pljevlja 78.41 332⇓ *i*P P 06 48 34.0 +0.5
WSAR Wadi Sarin 78.42 293 P P 06 48 33.6 -0.1
W58A Raeford 78.44 46 P P 06 48 34.2 +0.5
baz=328
SENIN Lac Senin/Sane 78.47 341 *e*P P 06 48 34.8 +0.8
comp=Z,10nm,0.8s
YURE YUREGIR 78.53 318 P P 06 48 35.5 +1.3
HATD Hatta, Dubai 78.54 296 P P 06 48 33.7 -0.7
HATD Hatta, Dubai 78.54 296 P P 06 48 33.8 -0.7
ALN Alexandroupoli 78.54 326 *e*P P 06 48 34.6 +0.4
comp=Z,21nm,1.0s
351A Pinckard 78.62 53 P P 06 48 35.6 +0.8
baz=326
TVSB Tavsanli 78.63 323 P P 06 48 34.9 +0.1
KKB Krupnik 78.63 329 *e*P P 06 48 35.0 +0.3
Z55A Blythe 78.64 49 P P 06 48 35.5 +0.6
baz=327
MMB Musomiste 78.68 328 *e*P P 06 48 35.3 +0.3
IVA Berane 78.68 331⇓ *i*P P 06 48 34.7 -0.3
TAHT Tahtakopru-Hat 78.69 317 P P 06 48 36.0 +1.0
ASHO Ashiyiah 78.69 296 *i*P P 06 48 34.3 -1.0
SNR=6.8
ASHO Ashiyiah 78.69 296 P P 06 48 34.8 -0.5
SOHO SOHO 78.87 295 P P 06 48 35.1 -1.1
SOHO P P 06 48 35.1 -1.1
FAQ Al Faqa, Dubai 78.90 296 P P 06 48 34.9 -1.4
PVY Plav 78.92 331⇓ *i*P P 06 48 36.2 -0.2
MERS Mersin 78.94 318 P P 06 48 35.8 -0.7
SHUT Suhut-Afyon 79.02 322 P P 06 48 37.5 +0.5
BRY Bratogost 79.04 332⇓ *i*P P 06 48 36.6 -0.5
NKME Niksic 79.05 332⇓ *i*P P 06 48 36.3 -0.7
STIP Stip 79.07 329 *i*P P 06 48 36.3 -0.8
ASUD Al Ashush, Dub 79.13 296 P P 06 48 36.7 -0.9
ASUD Al Ashush, Dub 79.13 296 P P 06 48 37.5 -0.2
CEME Cevo 79.26 332⇓ *i*P P 06 48 37.6 -0.6
PDG Podgorica 79.27 332⇓ *i*P P 06 48 38.1 0.0
TTG Podgorica 79.27 332⇓ *i*P P 06 48 37.7 -0.4
TTG Podgorica 79.27 332 *e*P P 06 48 37.9 -0.2
comp=Z,65nm,1.0s
VAY Valandovo 79.29 329 *i*P P 06 48 38.7 +0.4
AJN Ajban 79.37 297 P P 06 48 38.0 -0.9
HCY Herceg Novi 79.47 332⇓ *i*P P 06 48 38.4 -0.9
BUM Brajici-Budva 79.50 332⇓ *i*P P 06 48 39.1 -0.4
DRME Dracevica, Mon 79.52 332⇓ *i*P P 06 48 39.4 -0.1
ASAR Alice Springs 79.54 204 P P 06 48 40.6 +1.0
comp=Z,3.1nm,0.6s,baz=16,slow=5.2,SNR=37
453A Whigham 79.59 52 P P 06 48 41.0 +1.0
baz=326
Z58A St. Stephen 79.60 47 P P 06 48 40.7 +0.6
baz=328
KEBE Keben-Mersin 79.63 319 P P 06 48 38.9 -1.4
KRUS Krusevo 79.65 330 *i*P P 06 48 40.5 +0.1
ULC Ulcinj 79.70 331⇓ *i*P P 06 48 40.9 +0.3
KULA Kula-Manisa 79.75 323 P P 06 48 40.9 0.0
MANT Manisa 79.81 323 *e*P P 06 48 41.5 +0.1
comp=Z,122nm,0.9s
BNI Bardonecchia 79.85 341 *e*P P 06 48 42.1 +0.7
comp=Z,16nm,0.8s
BIA Bitola 79.95 330 *i*P P 06 48 42.0 +0.1
OHR Ohrid 80.03 330 *i*P P 06 48 42.2 -0.2
SSB Saint Sauveur 80.03 343 *e*P P 06 48 42.5 +0.2
comp=Z,16nm,0.6s
TIR Tirane 80.09 331 *e*P P 06 48 43.5 +0.9
comp=Z,50nm,0.7s
FNA Florina 80.15 329 *e*P P 06 48 42.8 -0.3
comp=Z,21nm,0.9s
EREN Erenkoy 80.24 318 P P 06 48 43.9 +0.4
LIT Litokhoron 80.42 328 *e*P P 06 48 43.9 -0.5
comp=Z,17nm,0.8s
MHTO MHTO 80.58 292 P P 06 48 45.1 -0.4
SNR=16
PMOR Pomariorio Ree 81.00 130 *e*T T 08 17 55.7
comp=Z,5.5nm,0.2s
CSS Mathiatis 81.07 318 P P 06 48 47.7 -0.3
CSS Mathiatis 81.07 318 *e*P P 06 48 47.8 -0.3
comp=Z,43nm,0.7s
LEF Lefka 81.11 319 P P 06 48 47.9 -0.3
TURN Turunc 81.22 323 P P 06 48 49.9 +1.2
FETY Fethiye 81.25 322 P P 06 48 48.7 -0.2
MZR Muzera 81.44 297 P P 06 48 49.1 -1.0
SNR=5.0
557A Orange Park 81.52 51 P P 06 48 51.7 +1.3
baz=328
DQM DQM 81.66 292 P P 06 48 50.5 -0.7
656A Willston 81.68 52 P P 06 48 52.8 +1.5
baz=327
MMLI Mount Malkishu 82.39 315 P P 06 48 55.6 +0.6
PPT Papeete 82.47 132 LR LR 07 16 51.6
comp=Z,80nm,21.9s,baz=326,slow=29
PPT2 Papeete2 82.49 132 *e*LR LR 07 14 20.8
comp=Z,205nm,25.5s
758A Lake Helen 82.65 51 P P 06 48 57.7 +1.4
baz=328
KARP Karpathos 82.93 323 *e*P P 06 48 56.1 -1.7
comp=Z,43nm,0.8s
TIP Timpagrande 83.00 332 *e*P P 06 48 58.7 +0.6
comp=Z,19nm,0.9s
TIP Timpagrande 83.00 332⇓ *i*P P 06 48 58.6 +0.6
DWPF Disney Wildern 83.25 51 P P 06 49 00.5 +1.0
baz=328
ITM Ithomi 83.26 328 *e*P P 06 48 58.7 -0.7
comp=Z,21nm,0.8s
COCO West Island 84.28 241 *i*P P 06 49 05.7 +1.0
HRFI Mount Harif 84.63 315 P P 06 49 06.1 -0.4
PBRG Braganca 85.04 350 *e*P P 06 49 10.6 +2.2
060Z West Palm Beac 85.11 52 P P 06 49 09.2 +0.3
baz=328
POLO Lamas de Olo 85.58 351 *e*P P 06 49 12.2 +1.0
PVRL Vila Real 85.67 351 *e*P P 06 49 12.8 +1.3
comp=Z,32nm,1.8s
MVO Moncorvo 85.71 350 *e*P P 06 49 13.0 +1.2
comp=Z,15nm,0.9s
STKA Stephens Creek 85.90 196 P P 06 49 12.8 +0.3
comp=Z,3.1nm,0.7s,baz=17,slow=1.8,SNR=4.2
PVIS Viseu 86.24 351 *e*P P 06 49 14.7 +0.3
ESDC Sonseca Array 86.83 348 P P 06 49 17.3 0.0
comp=Z,3.3nm,0.5s,baz=1.8,slow=4.9,SNR=20
PCAS Casmilo, Conde 86.95 351 *e*P P 06 49 19.1 +1.3
comp=Z,39nm,1.2s
PCBR Castelo Branco 87.06 350 *e*P P 06 49 19.4 +1.1
comp=Z,19nm,1.1s
KEST Kesra 88.19 337 P P 06 49 23.5 -0.4
comp=Z,5.0nm,0.7s,baz=329,slow=6.5,SNR=4.5
KEST LR LR 07 34 29.7
comp=Z,102nm,18.8s,baz=185,slow=39
RPZ Rata Peaks 96.64 172 LR LR 07 29 41.4
comp=Z,58nm,19.1s,baz=2.5,slow=33
TOA1 Torodi Ar. Sit 111.70 337 *e*PKiKP **PKiKP 06 55 06.5 -1.0**
TORD Torodi Ar. Bea 111.70 337 PKiKP **PKiKP 06 55 06.5 -1.0**
comp=Z,0.4nm,0.4s,baz=3.7,slow=3.0,SNR=6.9
DBIC Dimbokro 119.35 343 PKP **PKPdf 06 55 22.1 -0.2**
comp=Z,5.6nm,0.8s,baz=32,slow=5.1,SNR=4.4
LPAZ La Paz 127.55 65 PKP **PKPdf 06 55 38.8 +0.2**
comp=Z,1.4nm,0.7s,baz=356,slow=7.1,SNR=5.6
BDFB Brasilia 136.75 42 PKP **PKPdf 06 55 55.7 +0.4**
comp=Z,1.4nm,0.5s,baz=272,slow=4.7,SNR=3.2
BOSA Boshof 139.03 288 PKIKP **PKPdf 06 55 59.0 -0.2**
BOSA Boshof 139.03 288 PKP **PKPdf 06 55 59.0 -0.2**
comp=Z,2.2nm,0.8s,baz=185,slow=0.5,SNR=4.3
PLCA Paso Flores 143.99 91 PKP PKPbc 06 56 06.5 +0.8
comp=Z,3.3nm,0.8s,baz=320,slow=3.6,SNR=12
TRQA Tornquist 147.49 80 *e*PKPdf **PKPdf 06 56 14.8 +1.2**
TRQA Tornquist 147.49 80 *e*PKIKP **PKPdf 06 56 14.8 +1.2**

IDC 22 06:46:07.7±72.0, 21°.86S×178°.93W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.7/19, mbtmp4.0/2, Error ellipse: s-maj=1305.0km s-min=174.1km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.42**	**246**	P	P	06 53 13.5	-0.8
	1.8nm,0.6s,baz=80,slow=6.1,SNR=3.4						
ASAR	**Alice Springs**	**43.38**	**258**	P	P	06 54 12.2	-0.1
	0.9nm,0.5s,baz=105,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**43.57**	**264**	P	P	06 54 14.1	+0.3
	baz=95,slow=8.4						

IDC 22 07:00:37.3±1.4, 10°.89S×165°.59E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=55.3km s-min=30.9km az=119.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.14**	**176**	Pn	Pn	07 03 19.2	+1.1
	0.8nm,0.3s,baz=349,slow=17,SNR=12						
DZM				Sn	Sn	07 05 16.7	-6.8
	1.0nm,0.3s,baz=335,slow=23,SNR=8.2						
ASAR	**Alice Springs**	**32.73**	**243**	P	P	07 07 11.1	-0.9
	0.3nm,0.5s,baz=67,slow=10,SNR=4.2						
ILAR	**Eielson Array**	**83.42**	**19**	P	P	07 13 07.0	+0.7
	0.9nm,0.6s,baz=229,slow=5.3,SNR=11						
MKAR	**Makanchi Array**	**93.31**	**317**	P	P	07 13 55.4	+1.2
	0.4nm,0.7s,baz=91,slow=5.9,SNR=3.9						
YKA	**Yellowknife Ar**	**94.91**	**27**	P	P	07 13 59.1	-2.0
	0.2nm,0.6s,baz=258,slow=4.3,SNR=3.2						

*ATH **22** 07:04:03.1, 39°.18N×18°.80E, h16km±4km, ML2.7/3, Error ellipse: s-maj=5.1km s-min=1.5km az=36.0*
*THE **22** 07:04:03.3, 39°.34N×18°.81E, h2km±1km, ML2.9/8, Error ellipse: s-maj=1.7km s-min=0.8km az=341.0*
ISC 22 07:04:03.2±1.3, 39°.30N±0°.04×18°.81E±0°.03, h10km±10km, n25, σ0°.83/40, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCTE	**Santa Cesarea**	**0.81**	**341**	P	**Pb**	**07 04 20.6**	**+1.1**
SCTE				S	**Sn**	**07 04 34.1**	**+1.2**
SCTE				AML	AML	07 04 35.1	
	comp=E,765μm,0.6s						
SCTE				AML	AML	07 04 35.3	
	comp=N,706μm,0.6s						
KEK	**Kerkira**	**0.87**	**61**	P	**Pg**	**07 04 19.6**	**-0.4**
KEK				S	**Sg**	**07 04 31.5**	**+0.1**
KEK	**Kerkira**	**0.87**	**61**	P	**Pg**	**07 04 20.4**	**+0.4**
KEK				S	**Sn**	**07 04 34.1**	**-0.3**
KEK				AML	AML	07 04 35.1	
	comp=N,1818μm,0.7s						
KEK				AML	AML	07 04 35.7	
	comp=E,1152μm,0.8s						
KASA	**Kassiopi**	**0.98**	**63**	P	**Pn**	**07 04 23.2**	**+0.2**
KASA				S	**Sn**	**07 04 37.8**	**+0.9**
KASA				AML	AML	07 04 39.2	
	comp=E,850μm,0.5s						
KASA				AML	AML	07 04 43.0	
	comp=N,908μm,0.6s						
SRN	**Sarande**	**1.09**	**57**	P	**Pg**	**07 04 23.9**	**-0.3**
SRN				S	**Sg**	**07 04 38.8**	**+0.5**
IGT	**Igoumenitsa**	**1.21**	**78**	P	**Pb**	**07 04 25.0**	**-1.1**
IGT				S	**Sn**	**07 04 42.7**	**+0.2**
IGT	**Igoumenitsa**	**1.21**	**78**	P	**Pb**	**07 04 26.0**	**-0.1**
TPE	**Tepelena**	**1.36**	**43**	P	**Pn**	**07 04 28.3**	**0.0**
TPE				S	**Sn**	**07 04 47.5**	**+1.1**
TSLK	**Tsoukalades, L**	**1.52**	**108**	P	**Pn**	**07 04 30.4**	**0.0**
TSLK				S	**Sg**	**07 04 52.7**	**+0.7**
TSLK	**Tsoukalades, L**	**1.52**	**108**	P	**Pb**	**07 04 31.4**	**0.0**
TSLK				S	**Sg**	**07 04 52.1**	**+0.2**
LKD2	**Lefkada island**	**1.53**	**109**	P	**Pb**	**07 04 31.5**	**-0.1**
LKD2				S	**Sg**	**07 04 51.8**	**-0.6**
LKD2	**Lefkada island**	**1.53**	**109**	P	**Pb**	**07 04 31.5**	**-0.1**
TIP	**Timpagrande**	**1.59**	**266**	P	**Pn**	**07 04 31.6**	**0.0**
TIP				S	**Sb**	**07 04 53.6**	**+0.6**
FSK	**Fiskardo**	**1.61**	**121**	P	**Pb**	**07 04 33.0**	**0.0**
FSK				S	**Sg**	**07 04 54.9**	**0.0**
JAN	**Janina**	**1.62**	**77**	P	**Pn**	**07 04 32.1**	**+0.2**
VLS	**Valsamata**	**1.79**	**128**	P	**Pb**	**07 04 35.2**	**-0.8**
KFL	**Anninata**	**1.95**	**127**	P	**Pb**	**07 04 38.5**	**-0.4**
KFL				S	**Sb**	**07 05 03.0**	**-0.3**
NEST	**Nestorio**	**2.05**	**56**	P	**Pn**	**07 04 39.5**	**+1.6**
KPRO	**Kipourio**	**2.08**	**71**	P	**Pn**	**07 04 38.1**	**-0.1**
KPRO				S	**Sb**	**07 05 06.4**	**-0.6**
FNA	**Florina**	**2.47**	**52**	P	**Pn**	**07 04 43.5**	**0.0**
ANX	**Ano Chora**	**2.53**	**105**	P	**Pn**	**07 04 44.7**	**+0.3**
SERG	**Sergoula**	**2.69**	**108**	P	**Pn**	**07 04 48.4**	**+1.9**
LAKA	**Lakka**	**2.70**	**112**	P	**Pn**	**07 04 46.4**	**-0.3**
KALE	**Kalithea**	**2.76**	**108**	P	**Pn**	**07 04 48.4**	**+0.9**
STON	**Ston**	**3.67**	**347**	*e*Pn	**Pn**	**07 04 57.9**	**-2.0**
STON				Sn	**Sn**	**07 05 41.1**	**-2.1**

*SJA **22** 07:15:52.1±0.5, 23°.63S×67°.16W, h214km±8km, ML2.6, MW3.5*
*ISCJB **22** 07:15:54.7±1.2, 23°.68S±0°.06×67°.30W±0°.05, h182km±14km, Error ellipse: s-maj=10.5km s-min=6.0km az=23.3*
*GUC **22** 07:15:56.5±0.7, 23°.69S×67°.49W, h199km±8km, ML3.6*
ISC 22 07:15:52.9±2.6, 23°.69S±0°.07×67°.25W±0°.05, h203km±23km, n17, σ1§17/29, 6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.76**	**74**	*i*P	**Pn**	**07 16 30.1**	**+0.4**
HJA				IAML		07 16 30.6	
	comp=Z,199nm,0.5s						
HJA				*i*S	**S**	**07 16 57.5**	**-0.3**
LVC	**Limon Verde**	**1.87**	**305**⇓	*e*P	**Pn**	**07 16 31.6**	**+0.7**
LVC				*i*S	**S**	**07 16 58.8**	**-1.0**
SLA	**San Lorenzo**	**1.89**	**123**	*i*P	**Pn**	**07 16 31.3**	**+0.5**
SLA				IAML		07 16 32.9	
	comp=Z,55nm,0.6s						
AZAP	**Zapla**	**2.07**	**105**	*i*P	**Pn**	**07 16 32.7**	**0.0**
AZAP				IAML		07 16 41.0	
	comp=Z,16nm,0.5s						
PB15	**IPOC Station P**	**2.10**	**283**	*i*P	**Pn**	**07 16 33.7**	**+0.8**
PB15				*i*S	**S**	**07 17 05.1**	**+1.7**
PB15	**IPOC Station P**	**2.10**	**283**⇑	*i*P	**Pn**	**07 16 33.7**	**+0.8**
PB15				*e*S	**S**	**07 17 02.3**	**-1.2**
PB06	**IPOC Station P**	**2.35**	**294**	*i*P	**Pn**	**07 16 36.4**	**+0.9**
PB06				*i*S	**S**	**07 17 09.5**	**+1.3**
PB06	**IPOC Station P**	**2.35**	**294**⇑	*i*P	**Pn**	**07 16 36.5**	**+0.9**
PB06				*e*S	**S**	**07 17 07.0**	**-1.2**
PB06				IAML		07 17 08.7	
	comp=N,176nm,0.2s						
GO02	**Mina Guanaco**	**2.59**	**235**	*e*P	**Pn**	**07 16 39.0**	**+0.7**
GO02				*e*S	**S**	**07 17 12.4**	**-0.7**
PB09	**IPOC Station P**	**2.63**	**315**	*e*P	**Pn**	**07 16 40.4**	**+1.6**
PB09				*e*S	**S**	**07 17 14.0**	**+0.1**
PB09				IAML		07 17 17.2	
	comp=E,423nm,1.0s						
FSA	**Cafayete**	**2.67**	**155**	*i*P	**Pn**	**07 16 39.8**	**+0.7**
FSA				IAML		07 16 40.4	
	comp=Z,1.7nm,0.4s						
PB03	**IPOC Station P**	**2.83**	**305**⇑	*i*P	**Pn**	**07 16 41.8**	**+0.8**
PB03				*e*S	**S**	**07 17 16.0**	**-1.8**
PB03				IAML		07 17 17.6	
	comp=N,144nm,0.1s						
PB05	**IPOC Station P**	**2.84**	**286**⇑	*e*P	**Pn**	**07 16 41.5**	**+0.4**
PB05				*e*S	**S**	**07 17 15.6**	**-2.4**
PB05				IAML		07 17 21.5	
	comp=N,72nm,0.5s						
PB04	**IPOC Station P**	**3.00**	**296**⇑	*i*P	**Pn**	**07 16 43.6**	**+0.7**
PB04				*e*S	**S**	**07 17 19.4**	**-1.9**
PB04				IAML		07 17 27.9	
	comp=E,110nm,0.3s						
PB10	**IPOC Station P**	**3.04**	**273**⇑	*e*P	**Pn**	**07 16 43.6**	**+0.4**
PB07	**IPOC Station P**	**3.12**	**308**	*e*P	**Pn**	**07 16 45.3**	**+0.9**
PB01	**IPOC Station P**	**3.35**	**321**	*e*P	**Pn**	**07 16 47.9**	**+0.8**
PB01				*e*S	**S**	**07 17 27.2**	**-1.6**

*IDC **22** 07:48:07.0±1.0, 28°.34N×51°.72E, h0km, mb3.9/13, mb1 3.9/15, mb1mx3.7/42, mbtmp3.8/15, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/46, Error ellipse: s-maj=24.0km s-min=17.2km az=163.0*
*ISCJB **22** 07:48:09.0±0.5, 28°.35N±0°.04×51°.55E±0°.05, h24km, mb3.8/13, Error ellipse: s-maj=7.0km s-min=4.2km az=150.3*
*TEH **22** 07:48:09.4, 28°.42N×51°.60E, h18km, ML3.8*
*DSN **22** 07:48:14.7±1.6, 28°.19N×51°.95E, h10km, ML3.9/6, Error ellipse: s-maj=45.3km s-min=13.4km az=39.0*
ISC 22 07:48:10.7±0.7, 28°.35N±0°.05×51°.62E±0°.07, h24km, n55, σ1§37/58, mb3.9/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.21**	**93**	*e*Pg	**Pn**	**07 48 33.3**	**+1.1**
IKAZ	**Kazeroun**	**1.43**	**8**	*e*Pn	**Pn**	**07 48 34.5**	**-1.1**
IKAZ				IAMB	IAmb	07 49 03.9	
	comp=Z,0.0nm,0.5s						
SHI	**Shiraz**	**1.50**	**31**	*e*Pn	**Pn**	**07 48 36.2**	**-0.2**
SHI				*e*Sg	**Sn**	**07 48 56.8**	**+1.5**
SHI				IAMB	IAmb	07 48 58.0	
	comp=Z,0.0nm,0.5s						
LMD1	**Lamerd**	**1.70**	**126**	*e*Pn	**Pn**	**07 48 38.7**	**-0.2**
LMD1				IAMB	IAmb	07 49 31.1	
	comp=Z,0.0nm,0.9s						
JHRM	**Jahrom**	**1.73**	**85**	*e*Pn	**Pn**	**07 48 40.7**	**+1.3**
IPAR	**Pars**	**1.94**	**40**	*e*Pn	**Pn**	**07 48 43.0**	**+0.5**
IRAM	**Ramesheh**	**3.51**	**11**	*e*Pn	**Pn**	**07 49 03.9**	**-0.1**
ISAD	**Sadrabad**	**3.97**	**26**	*e*Pn	**Pn**	**07 49 11.3**	**+0.9**
IMEH	**Mehriz**	**3.99**	**40**	*e*Pn	**Pn**	**07 49 11.8**	**+1.2**
IGAR	**Gharneh**	**4.05**	**5**	*e*Pn	**Pn**	**07 49 11.6**	**+0.1**
BNDS	**Bandar-Abbas**	**4.14**	**102**	*e*Pn	**Pn**	**07 49 15.6**	**+3.0**
NASN	**Na'in**	**4.55**	**13**	*e*Pn	**Pn**	**07 49 17.7**	**-0.7**
IZEF	**Zefreh**	**4.57**	**7**	*e*Pn	**Pn**	**07 49 18.5**	**-0.1**
SHME	**Shamm**	**4.63**	**119**	P	**Pn**	**07 49 20.2**	**+0.9**
SHME	**Shamm**	**4.63**	**119**	*e*Pn	**Pn**	**07 49 20.5**	**+1.2**
NGRK	**Negar Kerman**	**4.66**	**73**	*e*Pn	**Pn**	**07 49 20.6**	**+0.7**
NIAN	**Nian**	**4.68**	**99**	*e*Pn	**Pn**	**07 49 21.6**	**+1.7**
KHGB	**Koh Gabri**	**4.69**	**63**	*e*Pn	**Pn**	**07 49 21.0**	**+0.7**
YZKH	**Yazd**	**4.77**	**32**	*e*Pn	**Pn**	**07 49 22.1**	**+0.9**
KRBR	**Kerman**	**4.78**	**69**	*e*Pn	**Pn**	**07 49 23.1**	**+1.6**
TVBK	**TV Kerman**	**4.78**	**69**	*e*Pn	**Pn**	**07 49 22.4**	**+0.8**
TVBK				IAMB	IAmb	07 49 48.0	
	comp=Z,0.0nm,0.6s						
NAZ	**Nazwa, Dubai**	**4.93**	**132**	P	**Pn**	**07 49 22.5**	**-0.8**
NAZ	**Nazwa, Dubai**	**4.93**	**132**	*e*Pn	**Pn**	**07 49 23.3**	**0.0**
IKLH	**Kolahrood**	**4.95**	**360**	*e*Pn	**Pn**	**07 49 24.0**	**+0.2**
ASUD	**Al Ashush, Dub**	**4.98**	**137**	*i*P	**Pn**	**07 49 26.5**	**+2.5**
	SNR=14						
ASUD	**Al Ashush, Dub**	**4.98**	**137**	*e*Pn	**Pn**	**07 49 27.0**	**+3.0**
MSFE	**Esma-Masafi**	**5.03**	**125**	*i*P	**Pn**	**07 49 26.1**	**+1.3**
	SNR=8.0						
MSFE				S	**Sn**	**07 50 21.4**	**-0.8**
MSFE	**Esma-Masafi**	**5.03**	**125**	*e*Pn	**Pn**	**07 49 26.4**	**+1.6**
HATD	**Hatta, Dubai**	**5.35**	**130**	P	**Pn**	**07 49 31.1**	**+1.9**
HATD	**Hatta, Dubai**	**5.35**	**130**	*e*Pn	**Pn**	**07 49 31.6**	**+2.4**
ASHO	**Ashiyiah**	**5.40**	**132**	*i*P	**Pn**	**07 49 31.2**	**+1.4**
	SNR=17						
ASHO				S	**Sn**	**07 50 30.7**	**-0.6**
ASHO	**Ashiyiah**	**5.40**	**132**	*e*Pn	**Pn**	**07 49 31.6**	**+1.8**
KHMZ	**Khomeyn**	**5.55**	**346**	*e*Pn	**Pn**	**07 49 32.4**	**+0.3**
KRSH	**Karshahi**	**5.62**	**4**	*e*Pn	**Pn**	**07 49 32.6**	**-0.3**
GHVR	**GHOM**	**6.11**	**357**	*e*Pn	**Pn**	**07 49 39.4

TKDS Koohdasht(Taba 7.05 41 *e*Pn **Pn 07 49 52.7 +0.1**
WSAR Wadi Sarin 8.11 127 Pn **Pn 07 50 06.7 -0.4**
comp=Z,1.1nm,0.3s,baz=308,slow=11,SNR=9.7
WSAR Sn **Sn 07 51 33.0 -5.1**
comp=Z,0.2nm,0.3s,baz=135,slow=20,SNR=2.9
GNI Garni 13.06 336 LR LR 07 56 51.1
comp=Z,96nm,22.0s,baz=187,slow=40
BRTR Keskin Array B 18.69 312 P **Pn 07 52 28.9 +1.1**
comp=Z,0.1nm,0.3s,baz=139,slow=13,SNR=3.9
AKTO Aktyubinsk 22.58 11 P **P 07 53 09.3 0.0**
comp=Z,0.8nm,0.3s,baz=186,slow=12,SNR=5.1
AAK Ala-Archa 23.35 46 P **P 07 53 16.9 -0.6**
comp=Z,1.0nm,0.4s,baz=217,slow=10,SNR=2.8
IDI Anoyia 23.70 294 P **P 07 53 22.7 +1.9**
comp=Z,2.0nm,0.6s,baz=102,slow=10,SNR=4.6
BVAR Borovoye Array 28.29 24 P **P 07 54 02.3 +0.1**
comp=Z,1.3nm,0.5s,baz=231,slow=7.4,SNR=9.1
KURBB **Kurchatov Arra 30.14 35** P **P 07 54 18.3 -0.3**
comp=Z,0.5nm,0.4s,baz=233,slow=9.1,SNR=7.1
MKAR Makanchi Array 30.22 44 P **P 07 54 19.3 -0.1**
comp=Z,0.4nm,0.6s,baz=234,slow=8.7,SNR=4.9
ZALV Zalesovo Beam 35.21 34 P **P 07 55 02.4 -0.5**
comp=Z,2.3nm,0.6s,baz=236,slow=9.3,SNR=5.5
FINES FINESS Array B 37.21 340 P **P 07 55 19.1 -0.8**
comp=Z,3.6nm,0.9s,baz=147,slow=10,SNR=6.2
NOA NORSAR Array B 42.32 332 P **P 07 56 01.3 -1.2**
comp=Z,0.6nm,0.6s,baz=122,slow=8.4,SNR=3.0
TORD Torodi Ar. Bea 48.74 263 P **P 07 56 54.4 +0.6**
comp=Z,0.8nm,0.7s,baz=73,slow=7.2,SNR=6.8
DBIC Dimbokro 57.45 259 P **P 07 57 59.0 +1.0**
comp=Z,3.3nm,0.7s,baz=57,slow=7.1,SNR=4.1
YKA Yellowknife Ar 88.80 354 P **P 08 01 02.4 +0.1**
comp=Z,0.1nm,0.5s,baz=13,slow=5.7,SNR=4.0
ASAR Alice Springs 94.59 114 P **P 08 01 28.0 -1.9**
comp=Z,0.4nm,0.6s,baz=299,slow=4.3,SNR=3.7

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*ISCJB **22** 07:55:58.3±0.7, 24°.00S×0°.09×112°.2W±0°.1, h8km, mb3.9/8, MS3.8/15, Error ellipse: s-maj=20.9km s-min=8.1km az=146.2*
*IDC **22** 07:56:00.1±1.1, 23°.97S×112°.08W, h0km, mb3.7/5, mb1 4.1/6, mb1mx3.8/28, mbtmp3.7/6, ML4.1/1, MS3.7/11, Ms1 3.7/11, ms1mx3.6/18, Error ellipse: s-maj=44.4km s-min=26.9km az=56.0*
*NEIC **22** 07:56:02.1±2.4, 23°.78S×111°.81W, h10km±3km, mb4.1/5, Error ellipse: s-maj=25.4km s-min=15.4km az=95.0*
ISC 22 07:56:00.9±0.7, 23°.9S±0°.1×112°.1W±0°.1, h8km, n42, σ1s21/28, mb4.0/8, MS3.8/15, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**4.07**	**142**	Pn	**Pn**	**07 57 01.8**	**-1.6**
	12nm,0.3s,baz=318,slow=16,SNR=2.7						
RPN				Sn	**Sn**	**07 57 50.4**	**-0.8**
	7.6nm,0.3s,baz=128,slow=17,SNR=3.5						
TAOE	**Nuku Hiva Isla**	**30.68**	**295**	*e*LR	LR	08 10 02.2	
	comp=Z,357nm,27.9s						
TBI	**Tubuai**	**34.13**	**263**	*e*LR	LR	08 11 38.9	
	comp=Z,483nm,33.2s						
PPT2	**Papeete2**	**35.49**	**273**	*e*S	**S**	**08 08 31.6**	**-2.6**
	58nm,24.5s						
PPT2				*e*LR	LR	08 12 28.5	
	comp=Z,188nm,26.2s						
PLCA	**Paso Flores**	**38.53**	**126**	LR	LR	08 15 04.8	
	comp=Z,269nm,18.2s,baz=285,slow=30						
LPAZ	**La Paz**	**41.89**	**88**	*e*P	**P**	**08 03 52.5**	**-0.3**
	1.3nm,0.9s						
LPAZ	**La Paz**	**41.89**	**88**	P	**P**	**08 03 52.9**	**+0.1**
	1.1nm,0.7s,baz=292,slow=5.5,SNR=6.0						
LPAZ				LR	LR	08 17 03.2	
	comp=Z,141nm,20.0s,baz=242,slow=30						
TGUH	**Tegucigalpa,Un**	**44.91**	**35**	*e*P	**P**	**08 04 16.9**	**+0.5**
	7.6nm,0.9s						
ROSC	**El Rosal**	**46.65**	**57**	LR	LR	08 21 04.0	
	comp=Z,68nm,18.5s,baz=220,slow=32						
CPUP	**Villa Florida**	**49.37**	**105**	LR	LR	08 21 50.2	
	comp=Z,103nm,18.7s,baz=228,slow=31						
PMSA	**Palmer Station**	**51.21**	**156**	LR	LR	08 19 37.8	
	comp=Z,65nm,19.4s,baz=200,slow=28						
LTX	**Lajitas**	**53.59**	**9**	*e*P	**P**	**08 05 24.0**	**+1.3**
TXAR	**Lajitas Array**	**53.59**	**9**	*e*P	**P**	**08 05 21.0**	**-1.7**
TXAR	**Lajitas Array**	**53.59**	**9**	P	**P**	**08 05 24.0**	**+1.3**
	0.2nm,0.5s,baz=195,slow=9.3,SNR=4.6						
TXAR				LR	LR	08 23 04.2	
	comp=Z,64nm,20.7s,baz=0.0,slow=30						
JCT	**Junction City**	**55.39**	**13**	*e*P	**P**	**08 05 34.6**	**-1.1**
	8.1nm,1.1s						
LENM	**Lemitar**	**57.99**	**5**	*e*P	**P**	**08 05 52.4**	**-1.9**
BDFB	**Brasilia**	**60.48**	**95**	LR	LR	08 28 33.1	
	comp=Z,86nm,20.8s,baz=180,slow=32						
NV01	**Mina Array Sit**	**62.31**	**355**	*e*P	**P**	**08 06 23.7**	**-0.2**
NVAR	**Mina Array Bea**	**62.31**	**355**	*e*P	**P**	**08 06 22.2**	**-1.7**
NVAR	**Mina Array Bea**	**62.31**	**355**	P	**P**	**08 06 23.7**	**-0.2**
	1.5nm,0.9s,baz=184,slow=6.8,SNR=5.5						
NVAR				LR	LR	08 28 22.1	
	comp=Z,39nm,21.6s,baz=148,slow=31						
VNDA	**Vanda**	**65.94**	**194**	LR	LR	08 29 39.9	
	comp=Z,82nm,20.8s,baz=148,slow=31						
QSPA	**South Pole Qui**	**66.22**	**180**	*e*P	**P**	**08 06 52.0**	**+2.8**
	1.2nm,0.9s						
PDAR	**Pinedale Array**	**66.41**	**2**	P	**P**	**08 06 51.1**	**+0.4**
	0.3nm,0.7s,baz=188,slow=10.0,SNR=3.7						
PDAR				LR	LR	08 30 46.8	
	comp=Z,46nm,19.4s,baz=176,slow=31						
DZM	**Mont Dzumac**	**73.89**	**253**	*e*LR	LR	08 30 23.7	
	comp=Z,165nm,27.6s						
SADO	**Sadowa**	**74.73**	**24**	LR	LR	08 41 11.1	
	comp=Z,20nm,18.3s,baz=166,slow=36						
YKA	**Yellowknife Ar**	**86.15**	**359**	P	**P**	**08 08 41.7**	**-0.4**
	0.7nm,1.0s,baz=176,slow=4.3,SNR=8.8						
YKB5	**Yellowknife Ar**	**86.15**	**359**	*e*P	**P**	**08 08 41.7**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**89.63**	**290**	T	T	09 48 39.1	
	baz=115,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**89.65**	**290**	T	T	09 48 24.9	
	baz=115,slow=75,SNR=36						
H11S3	**WAKE ISLAND Hy**	**89.65**	**290**	T	T	09 48 39.0	
	baz=115,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**89.98**	**292**	T	T	09 49 04.6	
	baz=116,slow=75,SNR=48						
H11N1	**WAKE ISLAND Hy**	**90.00**	**292**	T	T	09 49 01.4	
	baz=116,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**90.00**	**292**	T	T	09 49 02.2	
	baz=116,slow=75,SNR=68						
BR101	**Keskin Array S**	**147.18**	**53**	*e*PKPdf	**PKPdf**	**08 15 44.0**	**+1.1**
BRTR	**Keskin Array B**	**147.18**	**53**	PKPbc	**PKPdf**	**08 15 44.0**	**+1.1**
	1.8nm,1.0s,baz=225,slow=1.6,SNR=7.9						
CMAR	**Chiang Mai Arr**	**150.55**	**265**	PKPbc	**PKPbc**	**08 15 55.3**	**+1.2**
	1.5nm,0.4s,baz=132,slow=2.1,SNR=5.7						
BVAR	**Borovoye Array**	**150.89**	**357**	PKPbc	**PKiKP**	**08 15 54.8**	**+0.3**
	0.9nm,0.8s,baz=40,slow=2.5,SNR=5.3						
KBZ	**Khabaz**	**151.56**	**40**	PKPbc	**PKiKP**	**08 15 56.2**	**+0.1**
	1.7nm,0.8s,baz=241,slow=1.7,SNR=3.1						
KURBB	**Kurchatov Arra**	**152.10**	**345**	PKPbc	**PKPbc**	**08 15 56.5**	**-0.2**
	0.5nm,0.5s,baz=11,slow=2.1,SNR=5.0						
AKTO	**Aktyubinsk**	**152.46**	**14**	PKPbc	**PKPbc**	**08 15 57.9**	**+0.3**
	1.0nm,0.6s,baz=243,slow=2.7,SNR=3.6						
AKTO				PKPab	**sPKPab**	**08 16 09.9**	**-0.1**
	1.4nm,0.8s,baz=309,slow=6.5,SNR=4.6						
MK32	**Makanchi Array**	**154.42**	**337**	*e*PKPbc	**PKPbc**	**08 16 02.5**	**+0.5**
MKAR	**Makanchi Array**	**154.42**	**337**	PKPbc	**PKPbc**	**08 16 02.5**	**+0.5**
	0.4nm,0.7s,baz=40,slow=2.1,SNR=4.1						

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*VLA **22** 07:59:31.0, 52°.30N×35°.45E, M2.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC 22 07:59:33.0±4.0, 52°.26N×35°.59E, h0km, mb1 3.7/2, mb1mx3.1/41, mbtmp3.6/2, ML2.9/3, Error ellipse: s-maj=50.6km s-min=15.3km az=126.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.92**	**11**	Lg	Lg	08 01 04.9	
	3.2nm,0.3s,baz=29,slow=24,SNR=3.5						
AKASG	**Malin Array Be**	**4.28**	**251**	Pn	Pn	08 00 38.3	-1.0
	0.5nm,0.3s,baz=56,slow=13,SNR=3.6						
AKASG				Sn	Sn	08 01 26.7	-3.1
	0.9nm,0.3s,baz=64,slow=19,SNR=3.2						
AKASG				Lg	Lg	08 01 51.0	
	2.2nm,0.3s,baz=66,slow=30,SNR=4.5						
FINES	**FINESS Array B**	**10.56**	**334**	Pn	Pn	08 02 01.0	-4.4
	0.2nm,0.3s,baz=152,slow=15,SNR=3.0						
I26DE	**FREYUNG INFRAS**	**14.31**	**265**	*i*		09 20 40.0	
	baz=65,slow=328,SNR=3.2						
ARCES	**ARCESS Array B**	**17.96**	**348**	P	Pn	08 03 42.0	-1.9
	0.1nm,0.3s,baz=169,slow=10,SNR=3.5						

IDC 22 08:03:38.3±2.3, 1°.60S×150°.55E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/34, mbtmp3.3/2, Error ellipse: s-maj=192.8km s-min=35.2km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**27.22**	**215**	P	P	08 09 24.3	+0.1
	0.2nm,0.5s,baz=50,slow=8.0,SNR=4.8						
ILAR	**Eielson Array**	**80.08**	**23**	P	P	08 15 49.8	+0.1
	0.2nm,0.5s,baz=242,slow=6.2,SNR=5.6						
TORD	**Torodi Ar. Bea**	**147.10**	**292**	PKPbc	PKPbc	08 23 23.5	-0.9
	0.2nm,0.5s,baz=76,slow=1.5,SNR=4.5						

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*ISK **22** 08:25:49.6, 37°.33N×38°.74E, h8km, ML2.5/5*
*ISCJB **22** 08:25:50.7±0.6, 37°.38N±0°.04×38°.72E±0°.05, h9km±4km, Error ellipse: s-maj=7.6km s-min=4.7km az=41.9*
*DDA **22** 08:25:50.4, 37°.39N×38°.65E, h7km±2km, ML3.4*
ISC 22 08:25:50.2±1.0, 37°.39N±0°.04×38°.69E±0°.04, h9km±8km, n14, σ0s55/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.12**	**61**	PG	**Pg**	**08 25 52.9**	**-0.1**
URFA				SG	**Sg**	**08 25 55.1**	**+0.1**
ATAB	**Bozova**	**0.33**	**285**	*i* P	**Pb**	**08 25 57.7**	**-0.6**
ATAB				*i* S	**Sb**	**08 26 02.7**	**-1.0**
SURC	**SANLIURFA_SURC**	**0.51**	**187**	*i* P	**Pb**	**08 26 01.4**	**+0.1**
SURC				*i* S	**Sb**	**08 26 08.2**	**-0.6**
GZT	**Gaziantep**	**0.90**	**268**	IAML_P			
	comp=Z,4μm,0.1s						
GZT				*i* P	**Pb**	**08 26 08.4**	**+0.3**
GZT				*i* S	**Sn**	**08 26 22.6**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.10**	**26**	PN	**Pb**	**08 26 11.8**	**+0.2**
SVRC				SN	**Sn**	**08 26 27.9**	**+0.4**
GAZ	**Gaziantep**	**1.20**	**260**	PN	**Pn**	**08 26 13.5**	**+0.2**
GAZ				SN	**Sn**	**08 26 30.8**	**+1.1**
HCB	**Kahramanmara**	**1.42**	**269**	IAML_P			
	comp=Z,2μm,0.1s						
HCB				*i* P	**Pn**	**08 26 16.6**	**+0.3**
HCB				*i* S	**Sb**	**08 26 34.7**	**-0.5**
KUZU	**Kuzuini**	**1.43**	**245**	*i* P	**Pg**	**08 26 17.7**	**0.0**
KUZU				*i* S	**Sg**	**08 26 37.2**	**+1.0**
KMRS	**Kahramanmaras**	**1.43**	**275**	PN	**Pn**	**08 26 15.6**	**-0.8**
DARE	**Darende-Malaty**	**1.52**	**321**	PN	**Pb**	**08 26 19.0**	**+0.3**
DARE				SN	**Sg**	**08 26 39.8**	**+0.6**
HEKM	**Malatya_Hekimh**	**1.60**	**339**	*i* P	**Pb**	**08 26 20.2**	**+0.2**
HEKM				*i* S	**Sg**	**08 26 42.1**	**+0.4**
KAMA	**Osmaniye**	**1.63**	**264**	*i* P	**Pn**	**08 26 18.6**	**-0.5**
KAMA				*i* S	**Sn**	**08 26 40.6**	**+0.3**
ANDN	**Andirin**	**1.88**	**277**	*i* P	**Pn**	**08 26 22.2**	**-0.4**
ANDN				*i* S	**Sn**	**08 26 46.7**	**+0.2**
SAIM	**ADANA**	**2.15**	**287**	IAML_P			
	comp=Z,749nm,0.2s						
SAIM				*i* P	**Pb**	**08 26 29.1**	**-0.4**

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*BJI **22** 08:32:01.8±0.0, 38°.69N×90°.80E, h9km, ML3.6/7*
*NNC **22** 08:32:06.8±1.9, 39°.05N×90°.19E, h0km, mb4.1, Error ellipse: s-maj=29.3km s-min=12.9km az=72.0*
ISC 22 08:32:06.8±4.8, 38°.9N±0°.2×90°.2E±0°.3, h10km, n4, σ0s58/6, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.25**	**340**	*e*Pn	**Pn**	**08 33 25.8**	**+0.4**
MK31	**Makanchi Array**	**9.79**	**326**	⇓P	**Pn**	**08 34 27.4**	**-0.1**
	0.4nm,0.2s,baz=142,slow=13,SNR=50						
MK31				S	**Sn**	**08 36 17.7**	**+0.2**
	1.4nm,0.5s,baz=139,slow=23,SNR=5.8						
MAKZ	**Makanchi**	**9.94**	**325**	⇓P	**Pn**	**08 34 28.7**	**-0.9**
	0.8nm,0.3s						
MAKZ				⇑S	**Sn**	**08 36 21.2**	**0.0**
	1.3nm,0.5s						
TKM2	**Tokmak 2**	**11.77**	**295**	⇑P	**Pn**	**08 34 55.0**	**+0.2**
	4.5nm,0.4s						

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*DDA **22** 08:32:37.9, 39°.14N×44°.25E, h7km±4km, ML2.6*
*ISCJB **22** 08:32:39.8±1.3, 39°.12N±0°.04×44°.24E±0°.07, h7km±7km, Error ellipse: s-maj=9.9km s-min=5.3km az=21.3*
*ISK **22** 08:32:39.6, 39°.18N×43°.91E, h23km, ML2.3/3*
ISC 22 08:32:40.2±1.1, 39°.19N±0°.04×44°.09E±0°.06, h18km±5km, n12, σ1s38/20, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.14**	**251**	PG	**Pb**	**08 32 43.7**	**-0.5**
CLDR	**Caldiran**	**0.14**	**251**	*i* P	**Pg**	**08 32 44.7**	**0.0**
CLDR				*i* S	**Sg**	**08 32 48.7**	**+1.1**
VMUR	**Van-Muradiye**	**0.45**	**244**	IAML_P			
	comp=Z,524nm,0.1s						
VMUR				*i* P	**Pg**	**08 32 48.5**	**-1.0**
VMUR				*i* S	**Sb**	**08 32 57.3**	**+1.0**
DYDN	**Diyadin**	**0.47**	**319**	IAML_P			
	comp=Z,964nm,0.2s						
DYDN				*i* P	**Pg**	**08 32 49.7**	**-0.2**
DYDN				*i* S	**Sn**	**08 33 01.9**	**+1.6**
IGDI	**IGDIR**	**0.68**	**359**	IAML_P			
	comp=Z,361nm,0.2s						
IGDI				*i* P	**Pb**	**08 32 52.0**	**-1.5**
IGDI				*i* S	**Sn**	**08 33 05.0**	**-0.2**
VANB	**Van**	**0.81**	**223**	PG	**Pb**	**08 32 55.7**	**-0.1**
TVAN	**Van**	**0.85**	**219**	IAML_P			
	comp=Z,2μm,0.3s						
TVAN				*i* P	**Pb**	**08 32 55.9**	**-0.7**
TVAN				*i* S	**Sb**	**08 33 07.6**	**-0.2**
AGRB	**Hanur-Agry**	**0.94**	**295**	PG	**Pb**	**08 32 55.9**	**-2.2**
TUTA	**Tutak**	**1.01**	**282**	*i* P	**Pg**	**08 33 01.4**	**+1.4**
TUTA				*i* S	**Sn**	**08 33 16.3**	**+2.6**
GNI	**Garni**	**1.08**	**27**	PN	**Pn**	**08 33 00.9**	**+0.2**
GNI				SN	**Sg**	**08 33 16.7**	**+1.3**
AKDM	**Akdamar-Van**	**1.22**	**226**	PN	**Pn**	**08 33 00.1**	**-2.5**
HAKT	**HAKKARI**	**1.66**	**191**	*i* P	**Pb**	**08 33 10.5**	**+0.1**
HAKT				*i* S	**Sb**	**08 33 31.4**	**+0.3**

KRSC 22 08:38:46.0±10.0, 52°.00N×160°.87E, h17km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.22**	**335**	*e*P	Pn	08 39 07.8	-0.4
SPN				*e*S	Sb	08 39 24.0	+0.1
NLC	**Nalytchevo**	**1.50**	**322**	*e*P	Pb	08 39 13.0	-0.3
NLC				*e*S	Sb	08 39 32.7	+0.7
RUS	**Russkaya**	**1.51**	**288**	*e*P	Pn	08 39 12.6	+0.4
RUS				*e*S	Sn	08 39 31.5	0.0
DALK	**Dalny**	**1.66**	**310**	*e*P	Pn	08 39 14.9	+0.7
DALK				*e*S	Sb	08 39 36.0	-0.5
PET	**Petropavlovsk**	**1.70**	**308**	*e*P	Pb	08 39 16.5	-0.2
PET				*e*S	Sb	08 39 38.6	+0.8
MTVR	**Mutnovka**	**1.72**	**287**	*e*P	Pn	08 39 16.1	+0.8
MTVR				*e*S	Sb	08 39 38.2	-0.4
KDTR	**Khodutka, Kamc**	**1.74**	**265**	*e*P	Pb	08 39 16.6	-0.8
KDTR				*e*S	Sb	08 39 39.0	+0.1
UGLR	**Uglovaya**	**1.74**	**315**	*e*P	Pb	08 39 16.9	-0.6
UGLR				*e*S	Sb	08 39 39.5	+0.4
SDLR	**Sedlovina**	**1.76**	**317**	*e*P	Pn	08 39 16.7	+0.9
SDLR				*e*S	Sb	08 39 39.4	-0.4
SMAR	**Somma**	**1.79**	**316**	*e*P	Pb	08 39 17.6	-0.8
AVH	**Avacha**	**1.82**	**315**	*e*P	Pb	08 39 17.8	-1.0
KRER	**Koryakskii**	**1.84**	**316**	*e*P	Pb	08 39 18.6	-0.6
ASAK	**Asacha**	**1.87**	**283**	*e*P	Pb	08 39 18.8	-0.9
KRMR	**Karymshinskiy**	**1.87**	**298**	*e*P	Pn	08 39 18.1	+0.9
KRMR				*e*S	Sb	08 39 41.6	-1.2
KOK	**Koryaka**	**1.88**	**314**	*e*P	Pb	08 39 18.9	-1.0
KRX	**Arik**	**1.92**	**316**	*e*P	Pb	08 39 20.2	-0.4
APC	**Apacha**	**2.45**	**294**	*e*P	Pn	08 39 27.1	+2.0
APC				*e*S	Sn	08 39 56.9	+2.2
MKZ	**Mys Kozlova**	**2.62**	**11**	*e*P	Pn	08 39 28.9	+1.5

VIE 22 08:38:49.0±0.8, 47°.40N×11°.84E, h3km, ml1.4/3, Error ellipse: s-maj=5.1km s-min=3.2km az=17.0, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATA	**Walderalm**	**0.19**	**249**	*e*Pg	Pg	08 38 52.7	0.0
	2.1nm,0.1s						
WATA				*e*Sg	Sg	08 38 55.6	+0.5
	16nm,0.1s						
WTTA	**Wattenberg**	**0.20**	**224**	*e*Pg	Pg	08 38 53.1	+0.3
	0.9nm,0.1s						
WTTA				*e*Sg	Sg	08 38 55.8	+0.5
	2.6nm,0.1s						

ATH 22 08:39:57.1, 38°.25N×22°.13E, h9km±3km, ML1.9/10, Error ellipse: s-maj=3.5km s-min=0.8km az=324.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRAZ	**Trapeza**	**0.11**	**141**	P	Pg	08 39 59.9	+0.2
TRAZ				S	Sg	08 40 02.3	+0.8
TRAZ				AML	AML	08 40 02.6	
	comp=E,5594μm,0.1s						
TRAZ				AML	AML	08 40 03.1	
	comp=N,5043μm,0.2s						
LAKA	**Lakka**	**0.12**	**264**	P	Pg	08 39 59.9	+0.1
LAKA				S	Sg	08 40 02.0	+0.2
LAKA				AML	AML	08 40 02.3	
	comp=N,2101μm,0.1s						
LAKA				AML	AML	08 40 02.3	
	comp=E,1662μm,0.1s						
TRIZ	**Trizonia**	**0.12**	**340**	P	Pg	08 39 59.9	+0.1
TRIZ				S	Sg	08 40 02.2	+0.4
KALE	**Kalithea**	**0.14**	**4**	P	Pg	08 39 60.0	-0.3
KALE				S	Sg	08 40 01.9	-0.4
KALE				AML	AML	08 40 04.3	
	comp=E,1026μm,0.2s						
KALE				AML	AML	08 40 05.1	
	comp=N,1287μm,0.3s						
SERG	**Sergoula**	**0.17**	**341**	P	Pg	08 40 00.4	-0.3
SERG				S	Sg	08 40 03.1	-0.1
SERG				AML	AML	08 40 04.9	
	comp=N,1749μm,0.2s						
SERG				AML	AML	08 40 05.7	
	comp=E,1387μm,0.2s						
KLV	**Kalavryta, Ach**	**0.21**	**175**	P	Pg	08 40 01.2	-0.2
KLV				S	Sg	08 40 04.1	-0.2
KLV				AML	AML	08 40 05.1	
	comp=N,434μm,0.1s						
KLV				AML	AML	08 40 05.8	
	comp=E,424μm,0.2s						
EFP	**Efpalio**	**0.24**	**315**	P	Pg	08 40 02.4	+0.3
EFP				S	Sg	08 40 06.3	+0.9
EFP				AML	AML	08 40 06.9	
	comp=E,679μm,0.2s						
EFP				AML	AML	08 40 08.5	
	comp=N,550μm,0.2s						
DSF	**Desfina**	**0.35**	**63**	P	Pg	08 40 04.4	+0.3
DSF				S	Sg	08 40 08.7	-0.1
DSF				AML	AML	08 40 11.4	
	comp=N,359μm,0.1s						
DSF				AML	AML	08 40 11.7	
	comp=E,327μm,0.2s						
GUR	**Goura**	**0.36**	**152**	P	Pg	08 40 04.0	-0.3
GUR				S	Sg	08 40 09.5	+0.6
GUR				AML	AML	08 40 10.7	
	comp=N,660μm,0.2s						
GUR				AML	AML	08 40 10.8	
	comp=E,519μm,0.2s						
ANX	**Ano Chora**	**0.38**	**335**	P	Pg	08 40 04.7	+0.2
ANX				S	Sg	08 40 09.6	0.0
ANX				AML	AML	08 40 14.2	
	comp=N,457μm,0.2s						
ANX				AML	AML	08 40 14.4	
	comp=E,476μm,0.1s						
DRO	**Drossia**	**0.44**	**228**	P	Pg	08 40 05.9	+0.1
DRO				S	Sg	08 40 11.5	-0.2
DRO				AML	AML	08 40 13.2	
	comp=N,673μm,0.1s						
DRO				AML	AML	08 40 13.7	
	comp=E,572μm,0.2s						

ROM 22 08:41:20.0±0.2, 41°.89N±0°.01×15°.381E±0°.009, h8km, ML1.9/4, Error ellipse: s-maj=1.6km s-min=0.7km az=0.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELA	**Melanico ??? S**	**0.26**	**226**	P	Pb	08 41 26.4	-0.5
MELA				S	Sb	08 41 30.5	-1.1
MELA				AML	AML		
	comp=E,622μm,0.4s						
MELA				AML	AML		
	comp=N,1055μm,0.5s						
MELA				AML	AML		
	comp=E,622μm,0.4s						
MELA				AML	AML		
	comp=N,1055μm,0.5s						
MELA	**Melanico ??? S**	**0.26**	**226**	S	Sb	08 41 30.4	-1.2
SGRT	**San Giovanni R**	**0.30**	**116**	P	Pg	08 41 26.6	+0.6
SGRT				AML	AML		
	comp=E,476μm,0.2s						
SGRT				AML	AML		
	comp=N,531μm,0.7s						
SGRT				AML	AML		
	comp=E,476μm,0.2s						
SGRT				AML	AML		
	comp=N,530μm,0.7s						
SGRT				AML	AML		
	comp=E,476μm,0.2s						
SGRT				AML	AML		
	comp=N,530μm,0.7s						
CIGN	**Sant'Elia a Pi**	**0.43**	**237**	P	Pb	08 41 29.1	-0.7
CIGN				S	Sg	08 41 35.1	+1.2
CIGN				AML	AML		
	comp=E,50μm,0.6s						
CIGN				AML	AML		
	comp=N,40μm,1.6s						
CIGN				AML	AML		
	comp=E,50μm,0.6s						
CIGN				AML	AML		
	comp=N,40μm,1.6s						
CIGN				AML	AML		
	comp=N,40μm,1.6s						
CIGN				AML	AML		
	comp=E,50μm,0.6s						
CIGN	**Sant'Elia a Pi**	**0.43**	**237**	P	Pb	08 41 29.1	-0.6
CIGN	**Sant'Elia a Pi**	**0.43**	**237**	P	Pb	08 41 29.1	-0.6
CIGN	**Sant'Elia a Pi**	**0.43**	**237**	S	Sg	08 41 35.0	+1.0
MSAG	**Monte S. Angel**	**0.43**	**114**	P	Pg	08 41 28.7	+0.3
MSAG	**Monte S. Angel**	**0.43**	**114**	P	Pg	08 41 28.8	+0.3
MSAG				S	Sb	08 41 36.3	-0.2
MSAG	**Monte S. Angel**	**0.43**	**114**	P	Pg	08 41 28.8	+0.3
MSAG	**Monte S. Angel**

CAVE	Cavezzo	4.36 314	S	Sg	08 43 37.0	-3.1
CRJA	Costa Raja	4.47 205	S	Sg	08 43 39.0	-4.6
PLMA	Palmaria, Port	4.60 300	P	Pb	08 42 43.4	+2.6
DGI	Dorgali Grotta	4.64 252	S	Sn	08 43 28.0	+3.7
LEOD	Capriano del C	5.22 315	S	Sn	08 43 40.0	+1.4

*KRSC **22** 08:42:06.1±10.0, 56.05N×164.64E, h48km±10km, ML3.9*
*ISCJB **22** 08:42:07.6±0.7, 56.08N±0.04×164.65E±0.07, h35km, mb3.7/8, Error ellipse: s-maj=7.2km s-min=4.6km az=39.1*
*IDC **22** 08:42:11.2±1.0, 56.52N×163.06W, h0km, mb3.6/8, mb1 4.0/10, mb1mx3.7/40, mbtmp3.7/10, ML2.2/1, MS2.2/1, Ms1 2.2/1, ms1mx2.0/32, Error ellipse: s-maj=47.2km s-min=16.7km az=155.0*

ISC 22 08:42:08.7±1.1, 56.12N±0.07×164.70E±0.06, h35km, n39, σ1§26/41, mb3.6/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.06	276	eP	Pn	08 42 24.4	-2.6
KBTR				eS	Sn	08 42 37.3	-3.2
KBG	Krutoberegovo	1.12	278	eP	Pn	08 42 25.5	-2.4
KBG				eS	Sn	08 42 39.5	-2.6
BKI	Bering	1.16	141	eP	Pn	08 42 27.1	-1.4
BKI				eS	Sn	08 42 42.0	-1.1
SMKR	Semkarok	1.86	286	eP	Pn	08 42 37.4	-0.7
SMKR				eS	Sn	08 43 00.5	+0.1
BDR	Baidarnaya	2.00	285	eP	Pn	08 42 39.8	-0.2
BDR				eS	Sn	08 43 04.6	+0.8
SRKR	Sorokina	2.04	287	eP	Pn	08 42 40.2	-0.3
SRKR				eS	Sn	08 43 05.4	+0.6
CIRR	Tsirk	2.21	272	eP	Pn	08 42 43.3	+0.3
LGNR	Loginova	2.25	271	eP	Pn	08 42 43.7	+0.1
BZGR	Bezymyannyi-Gr	2.25	267	eP	Pn	08 42 43.9	+0.3
KLY	Klyuchi	2.27	277	eP	Pn	08 42 42.0	-1.7
KLY				eS	Sn	08 43 08.3	-2.1
MKZ	Mys Kozlova	2.31	229	eP	Pn	08 42 42.6	-1.6
MKZ				eS	Sn	08 43 09.0	-2.3
BZWR	Bezymyannyi-We	2.36	268	eP	Pn	08 42 44.0	-1.1
TUMD	Tumrok D	2.60	251	eP	Pn	08 42 48.5	+0.2
KZV	Kizimen	2.69	250	eP	Pn	08 42 49.9	+0.2
KOZ	Kozyrevsk	2.71	271	eP	Pn	08 42 51.2	+1.5
TUMR	Tumrok	2.71	254	eP	Pn	08 42 50.6	+0.8
SPN	Mys Shipunski	4.07	224	eP	Pn	08 43 08.6	+0.2
TILK	Tilichiki	4.41	9	eP	Pn	08 43 13.7	+0.7
SDLR	Sedlovina	4.41	232	eP	Pn	08 43 13.4	+0.2
SDLR				eS	Sn	08 44 03.3	-0.1
KRER	Koryakskii	4.46	233	eP	Pn	08 43 14.6	+0.7
SMAR	Somma	4.46	233	eP	Pn	08 43 14.2	+0.2
AVH	Avacha	4.49	233	eP	Pn	08 43 14.7	+0.5
UGLR	Uglovaya	4.49	232	eP	Pn	08 43 14.5	+0.3
KOK	Koryaka	4.51	234	eP	Pn	08 43 15.5	+0.9
DALK	Dalny	4.64	231	eP	Pn	08 43 16.5	+0.3
KRMR	Karymshinskiy	5.05	232	eP	Pn	08 43 23.3	+1.4
PETK	Petropavlovsk-	5.06	236	Pn	Pn	08 43 22.8	+0.8
	0.6nm,0.3s,baz=74,slow=18,SNR=6.3						
PETK				LR	LR	08 44 44.0	
	comp=Z,23nm,18.5s,baz=51,slow=33						
RUS	Russkaya	5.17	227	eP	Pn	08 43 23.3	-0.2
MTVR	Mutnovka	5.27	229	eP	Pn	08 43 25.5	+0.4
KDTR	Khodutka, Kamc	5.82	225	eP	Pn	08 43 32.2	-0.2
ASAJ	Asahikawa	18.48	239	P	Pn	08 46 22.6	+0.8
	baz=36,slow=12,SNR=7.7						
ILAR	Eielson Array	24.79	50	P	P	08 47 37.6	+11
	1.7nm,0.9s,baz=257,slow=8.2,SNR=14						
INK	Inuvik	29.83	41	P	P	08 48 23.2	+11
	1.0nm,0.8s,baz=290,slow=7.6,SNR=5.4						
YKA	Yellowknife Ar	39.12	47	P	P	08 49 43.6	+11
	0.4nm,0.7s,baz=298,slow=9.1,SNR=4.0						
MKAR	Makanchi Array	49.25	296	P	P	08 50 53.3	-0.2
	0.3nm,0.5s,baz=45,slow=5.9,SNR=2.2						
NVAR	Mina Array Bea	52.28	75	P	P	08 51 29.9	+13
	0.7nm,0.7s,baz=316,slow=6.2,SNR=3.9						
PDAR	Pinedale Array	53.76	66	P	P	08 51 39.5	+12
	0.9nm,0.9s,baz=336,slow=3.3,SNR=5.9						
CMAR	Chiang Mai Arr	61.38	260	P	P	08 52 22.8	+1.7
	1.4nm,0.3s,baz=25,slow=7.4,SNR=5.1						
TXAR	Lajitas Array	67.06	71	P	P	08 53 11.0	+13
	0.3nm,0.7s,baz=298,slow=5.5,SNR=3.6						

MEX 22 09:04:09.1±1.0, 16.29N×98.26W, h6km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.16	51	eP	Pg	09 04 12.1	-0.3
PNIG				eS	Sg	09 04 14.8	+0.3
TLIG	Tlapa	1.30	347	eP	Pn	09 04 30.6	-3.4
TLIG				i S	Sg	09 04 46.2	-4.7
HUIG	Huatulco	2.13	104	i P	Pn	09 04 41.4	-3.9
HUIG				i S	Sn	09 05 08.0	-4.2

MEX 22 09:06:06.2±0.6, 14.79N×92.18W, h5km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.35	312	eP	Pn	09 06 28.2	-3.6
PCIG				eS	Sb	09 06 45.2	-4.5
CCIG	Comitan	1.49	2	i P	Pn	09 06 30.7	-3.1
CCIG				i S	Sn	09 06 49.1	-4.6
TGIG		2.18	336	eP	Pn	09 06 40.1	-3.1
TGIG				i S	Sn	09 07 06.1	-4.4

*IDC **22** 09:10:34.3±1.3, 22.04S×173.90W, h0km, mb3.8/4, mb1 4.2/6, mb1mx3.8/33, mbtmp4.0/6, ML3.6/2, MS3.1/5, Ms1 3.1/5, ms1mx2.9/26, Error ellipse: s-maj=85.4km s-min=22.8km az=160.0*
*ISCJB **22** 09:10:37.0±0.8, 22.75±0.2×173.7W±0.1, h33km, mb3.8/4, MS3.1/3, Error ellipse: s-maj=27.9km s-min=13.1km az=158.1*

ISC 22 09:10:39.0±0.8, 22.75±0.2×173.7W±0.1, h35km, n12, σ1§24/10, mb3.8/4, MS3.0/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.02	86	Pn	Pn	09 13 41.7	+0.1
	3.1nm,0.3s,baz=273,slow=10,SNR=7.1						
RAR				LR	LR	09 18 58.8	
	comp=Z,49nm,19.1s,baz=266,slow=38						
URZ	Urewera	17.42	205	P	Pn	09 14 38.4	-0.8
	0.4nm,0.3s,baz=13,slow=14,SNR=3.0						
DZM	Mont Dzumac	18.36	268	eP	Pn	09 15 04.8	+14
	28nm,1.4s						
DZM				eLR	LR	09 19 38.6	
	comp=Z,98nm,20.9s						
DZM	Mont Dzumac	18.36	268	P	P	09 14 50.7	-0.1
	0.2nm,0.3s,baz=90,slow=18,SNR=4.0						
DZM				LR	LR	09 20 06.4	
	comp=Z,74nm,20.4s,baz=69,slow=31						
PPT	Papeete	23.22	82	LR	LR	09 24 29.5	
	comp=Z,36nm,18.2s,baz=150,slow=36						
HNR	Honiara	28.46	293	LR	LR	09 25 46.3	
	comp=Z,41nm,19.0s,baz=125,slow=32						
STKA	Stephens Creek	40.53	247	P	P	09 18 15.6	+0.7
	2.6nm,0.8s,baz=149,slow=10,SNR=3.6						
STKA				LR	LR	09 35 14.5	
	comp=Z,49nm,18.1s,baz=34,slow=36						
ASAR	Alice Springs	47.94	258	P	P	09 19 14.1	-0.3
	2.1nm,0.7s,baz=100,slow=7.5,SNR=30						
ASAR				PcP	PcP	09 20 44.4	+2.0
	0.4nm,0.8s,baz=114,slow=4.5,SNR=2.5						
NVAR	Mina Array Bea	79.95	41	P	P	09 22 43.4	-1.4
	0.4nm,0.6s,baz=220,slow=9.6,SNR=3.8						
TXAR	Lajitas Array	84.93	55	P	P	09 23 12.2	+1.4
	0.2nm,0.5s,baz=186,slow=7.3,SNR=1.8						
AKASG	Malin Array Be	146.79	333	PKPbc	PKPdf	09 30 14.6	-0.8
	0.8nm,0.4s,baz=39,slow=4.2,SNR=7.9						
BRTR	Keskin Array B	151.24	313	PKPbc	PKPbc	09 30 28.0	-1.1
	0.8nm,0.7s,baz=54,slow=6.3,SNR=3.5						

KRSC 22 09:35:22.6±10.0, 52.31N×160.86E, h61km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.94	328	eP	Pn	09 35 40.3	+0.4
SPN				eS	Sn	09 35 53.1	+0.5
NLC	Nalytchevo	1.26	314	eP	Pn	09 35 45.4	+1.3
NLC				eS	Sn	09 36 01.7	+1.6
RUS	Russkaya	1.44	276	P	Pn	09 35 48.2	+1.7
RUS				eS	Sn	09 36 06.2	+1.8
DALK	Dalny	1.47	300	eP	Pn	09 35 48.9	+2.0
DALK				eS	Sn	09 36 07.7	+2.6
PET	Petropavlovsk	1.52	299	eP	Pn	09 35 49.7	+2.2
UGLR	Uglovaya	1.53	307	P	Pn	09 35 50.0	+2.2
SDLR	Sedlovina	1.54	310	P	Pn	09 35 50.1	+2.1
SMAR	Somma	1.57	308	P	Pn	09 35 50.9	+2.4
AVH	Avacha	1.60	308	P	Pn	09 35 51.2	+2.4
KRER	Koryakskii	1.62	309	eP	Pn	09 35 50.7	+1.6
MTVR	Mutnovka	1.65	277	eP	Pn	09 35 51.6	+2.2
MTVR				eS	Sn	09 36 12.5	+2.9
KOK	Koryaka	1.67	307	P	Pn	09 35 52.0	+2.3
KRX	Arik	1.70	309	eP	Pn	09 35 52.4	+2.2
KRMR	Karymshinskiy	1.74	289	eP	Pn	09 35 52.6	+2.0
KRMR				eS	Sn	09 36 14.4	+2.7
KDTR	Khodutka, Kamc	1.79	255	eP	Pn	09 35 52.7	+1.6
KDTR				eS	Sn	09 36 14.2	+1.4
ASAK	Asacha	1.81	274	eP	Pn	09 35 54.0	+2.4
MKZ	Mys Kozlova	2.31	13	P	Pn	09 36 00.0	+1.7
MKZ				S	Sn	09 36 27.3	+1.8
APC	Apacha	2.34	287	eP	Pn	09 36 02.2	+3.6
KZV	Kizimen	2.83	353	eS	Sn	09 36 41.7	+3.2
TUMD	Tumrok D	2.91	355	eS	Sn	09 36 43.3	+3.0
TUMR	Tumrok	3.01	352	P	Pn	09 36 11.4	+3.5
SKR	Severo-Kuril's	3.38	243	eS	Sn	09 36 52.6	+0.9

*NIED **22** 09:49:00, 37.20N×142.40E, h8km, Mw4.2 Best double couple: M0 1.98000×10^15 NP1:φ=225.00000°, δ=46.00000°, λ=-28.00000°. NP2:φ=335.00000°, δ=71.00000°, λ=-132.00000°.*
*ISCJB **22** 09:49:32.5±0.3, 37.14N±0.04×142.44E±0.04, h9km, mb4.3/26, MS3.2/5, Error ellipse: s-maj=5.8km s-min=4.3km az=154.2*
*JMA **22** 09:49:32.7±0.3, 37.16N×142.40E, h14km, M4.5*
*IDC **22** 09:49:32.5±0.6, 37.05N×142.50E, h0km, mb4.1/15, mb1 4.1/23, mb1mx4.0/49, mbtmp4.0/23, ML3.3/7, MS3.2/9, Ms1 3.2/9, ms1mx2.9/36, Error ellipse: s-maj=15.5km s-min=12.9km az=114.0*
*NEIC **22** 09:49:37.3±2.1, 37.15N×142.48E, h28km±2km, mb4.4/14, Error ellipse: s-maj=20.2km s-min=12.6km az=130.0*

ISC 22 09:49:34.1±0.6, 37.11N±0.06×142.48E±0.07, h9km, n74, σ1§40/69, mb4.4/26, MS3.2/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.31	282	P	Pn	09 49 55.7	-2.8
ONAJ	Iwakimizuishiy	1.34	270	P	Pn	09 49 55.6	-3.5
JIKH	Ishinomakikobu	1.44	326	P	Pn	09 49 57.3	-3.1
JMM	Marumori	1.54	300	P	Pn	09 49 58.8	-2.9
JIO	Ouri	1.61	327	P	Pn	09 49 59.8	-2.9
JOU	Okura	1.91	312	P	Pn	09 50 04.8	-2.0
JOU				eS	Sn	09 50 27.6	-3.4
JMK	Ichinoseki	2.09	332	P	Pn	09 50 07.1	-2.2
JYK	Kaneyama	2.46	318	P	Pn	09 50 12.7	-1.7
JAG	Ashikaga	2.52	255	P	Pn	09 50 14.2	-1.0
MJAR	Matsushiro Arr	3.47	262	ePn	Pn	09 50 28.7	+0.4
MJAR	Matsushiro Arr	3.47	262	Pn	Pn	09 50 29.5	+1.2
	0.9nm,0.3s,baz=89,slow=15,SNR=32						
MJAR				Sn	Sn	09 51 09.9	+0.3
	0.5nm,0.3s,baz=62,slow=18,SNR=4.5						
MJAR				LR	LR	09 51 54.7	
	comp=Z,395nm,19.0s,baz=85,slow=41						
MAJO	Matsushiro	3.48	262	ePn	Pn	09 50 29.6	+1.2
MAJO				eSn	Sn	09 51 09.9	+0.3
MJB9	Matsu-Tunnel	3.48	262	ePn	Pn	09 50 29.6	+1.2
JHJ	Hachijo jima 2	4.55	210	Pn	Pn	09 50 42.3	-0.8
	20nm,0.3s,baz=332,slow=19,SNR=10.0						
JHJ				Sn	Sn	09 51 33.7	-2.5
	12nm,0.3s,baz=279,slow=23,SNR=2.0						
INU	Inuyama	4.75	250	ePn	Pn	09 50 47.7	+1.9
ERM	Erimo	4.93	6	ePn	Pn	09 50 46.3	-1.9
ASAJ	Asahikawa	7.00	1	Pn	Pn	09 51 16.5	-0.3
	1.3nm,0.3s,baz=221,slow=9.2,SNR=13						
ASAJ				Sn	Sn	09 52 34.6	-1.8
	0.1nm,0.3s,baz=207,slow=23,SNR=1.8						
JNU	Nakatsue	10.30	251	ePn	Pn	09 52 03.8	+1.8
JNU	Nakatsue	10.30	251	Pn	Pn	09 52 01.0	-1.1
	0.2nm,0.3s,baz=50,slow=10,SNR=5.6						
JNU				LR	LR	09 56 29.4	
	comp=Z,82nm,20.6s,baz=60,slow=40						
USRK	Ussuriysk Ar.	10.66	315	Pn	Pn	09 52 07.9	+1.1
	0.1nm,0.3s,baz=144,slow=23,SNR=2.9						
KSRS	Korea Array	11.61	276	Pn	Pn	09 52 21.7	+1.9
	0.1nm,0.3s,baz=90,slow=13,SNR=7.4						
KSRS				LR	LR	09 56 17.4	
	comp=Z,99nm,20.1s,baz=66,slow=35						
KS15	Wonju Array Si	11.64	276	ePn	Pn	09 52 20.9	+0.6
KLR	Kul'dur	14.40	331	Pn	Pn	09 52 59.8	+1.7
	0.1nm,0.3s,baz=138,slow=20,SNR=2.6						
PETK	Petropavlovsk-	19.20	29	P	Pn	09 53 58.5	-0.5
	0.1nm,0.3s,baz=248,slow=14,SNR=3.0						
PETK				LR	LR	10 01 47.7	
	comp=Z,44nm,20.6s,baz=211,slow=38						
PEA1	Petropavlovsk-	19.20	29	eP	Pn	09 53 58.5	-0.6
MA2	Magadan	23.11	11	P	P	09 54 40.2	+0.2
	1.6nm,0.3s,baz=98,slow=3.7,SNR=2.6						
MA2				LR	LR	10 04 36.2	
	comp=Z,23nm,20.3s,baz=334,slow=39						
GUMO	Guam	23.52	174	P	P	09 54 42.5	-2.0
	76nm,0.9s,baz=195,slow=16,SNR=2.9						
SEY	Seymchan	26.56	10	P	P	09 55 12.7	+0.7
	1.8nm,0.6s,baz=198,slow=6.3,SNR=6.2						
H11N2	WAKE ISLAND Hy	27.46	122	T	T	10 24 14.2	
	baz=316,slow=75,SNR=440						
H11N1	WAKE ISLAND Hy	27.47	122	T	T	10 24 07.7	
	baz=316,slow=75,SNR=334						
H11N3	WAKE ISLAND Hy	27.48	122	T	T	10 24 22.2	
	baz=316,slow=75,SNR=349						
H11S1	WAKE ISLAND Hy	28.19	125	T	T	10 25 01.2	
	baz=317,slow=76,SNR=201						
H11S3	WAKE ISLAND Hy	28.19	125	T	T	10 25 07.0	
	baz=317,slow=76,SNR=226						
H11S2	WAKE ISLAND Hy	28.21	125	T	T	10 25 00.7	
	baz=317,slow=76,SNR=148						
DAV	Davao City (W)	33.63	211	LR	LR	10 09 56.3	
	comp=Z,38nm,19.0s,baz=38,slow=36						
CMAR	Chiang Mai Arr	42.34	256	LR	LR	10 17 18.4	
	comp=Z,34nm,18.8s,baz=32,slow=39						
ZAA1	Zalesovo Array	42.49	312	eP	P	09 57 29.8	+0.4
ZALV	Zalesovo Beam	42.49	312	P	P	09 57 29.8	+0.4
	1.2nm,0.7s,baz=79,slow=7.5,SNR=4.1						
NRIK	Noril'sk	43.56	335	LR	LR	10 15 54.1	
	comp=Z,52nm,19.6s,baz=44,slow=36						
MK32	Makanchi Array	44.80	302	eP	P	09 57 47.8	-0.3
MKAR	Makanchi Array	44.80	302	P	P	09 57 47.8	-0.3
	1.0nm,0.7s,baz=101,slow=8.5,SNR=6.0						
MAKZ	Makanchi	45.01	302	eP	P	09 57 50.2	+0.4
	4.1nm,0.9s						
KURBB	Kurchatov Arra	46.63	308	P	P	09 58 02.4	0.0
	3.5nm,0.2s,baz=82,slow=7.9,SNR=2.1						
MLY	Manley	47.33	32	eP	P	09 58 08.7	+0.9
	4.9nm,1.2s						
BWN	Browne	47.86	33	eP	P	09 58 12.9	+1.0
	68nm,1.0s						
MDM	Murphy Dome	48.40	32	eP	P	09 58 17.0	+0.9
	6.8nm,1.2s						
ILAR	Eielson Array	48.97	32	P	P	09 58 20.1	-0.4
	1.7nm,0.9s,baz=266,slow=6.5,SNR=17						
ILB	Eielson Array	48.97	32	eP	P	09 58 19.9	-0.6
	4.7nm,1.3s						
MENT	Mentasta	50.49	35	eP	P	09 58 33.1	+1.1
	4.9nm,1.1s						
EPYK	Eagle Plains	53.04	30	eP	P	09 58 52.7	+1.7
	8.0nm,0.9s						
INK	Inuvik	53.93	27	eP	P	09 58 58.5	+1.1
	6.6nm,1.4s						
ARU	Arti	56.87	319	eP	P	09 59 17.4	-1.4
	3.7nm,0.9s						
ARU	Arti	56.87	319	P	P	09 59 18.9	+0.1
	2.7nm,0.2s,baz=103,slow=21,SNR=5.9						
WR1	Warramunga Arr	57.26	189	eP	P	09 59 21.4	-0.6
WRA	Warramunga Arr	57.26	189	P	P	09 59 21.4	-0.6
	2.5nm,0.7s,baz=9.9,slow=10						
AS31	Alice Springs	60.99	189	eP	P	09 59 47.1	-0.7
	1.4nm,1.0s						
ASAR	Alice Springs	60.99	189	P	P	09 59 47.5	-0.3
	1.4nm,0.8s,baz=9.2,slow=6.0,SNR=13						
YKA	Yellowknife Ar	63.31	30	P	P	10 00 03.5	+0.6
	0.2nm,0.6s,baz=300,slow=6.5,SNR=4.0						
YKB5	Yellowknife Ar	63.31	30	eP	P	10 00 03.5	+0.6
FIA0	FINESS Array S	69.14	333	eP	P	10 00 40.0	-0.3
FINES	FINESS Array B	69.14	333	P	P	10 00 40.0	-0.3
	3.6nm,0.9s,baz=79,slow=10,SNR=5.6						
KBZ	Khabaz	71.50	311	P	P	10 00 55.7	+0.7
	1.8nm,0.8s,baz=77,slow=4.6,SNR=4.1						
NV01	Mina Array Sit	74.26	54	eP	P	10 01 11.9	0.0
NVAR	Mina Array Bea	74.26	54	P	P	10 01 11.9	0.0
	baz=280,slow=8.9,SNR=5.2						
NOA	NORSAR Array B	74.44	338	LR	LR	10 37 54.5	
	comp=Z,24nm,18.8s,baz=10.0,slow=39						
AKASG	Malin Array Be	74.76	323	P	P	10 01 13.3	-0.9
	2.1nm,0.7s,baz=45,slow=6.4,SNR=4.3						
AKBB	Malin Array Si	74.76	323	eP	P	10 01 13.6	-0.6
	3.3nm,0.8s						
R11A	Troy Canyon, C	76.04	52	eP	P	10 01 23.3	+1.3
	4.8nm,1.4s						
PD31	Pinedale Array	77.00	46	eP	P	10 01 28.6	+1.0
	1.3nm,1.0s						
PDAR	Pinedale Array	77.00	46	P	P	10 01 28.4	+0.9
	0.3nm,0.6s,baz=295,slow=4.9,SNR=3.3						
LTX	Lajitas	89.40	53	eP	P	10 02 32.6	+1.1
TXAR	Lajitas Array	89.40	53	P	P	10 02 32.6	+1.1
	0.5nm,0.7s,baz=295,slow=2.8,SNR=3.9						
LPAZ	La Paz	145.91	61	ePKPdf	PKPdf	10 09 14.2	-0.3
LPAZ	La Paz	145.91	61	PKPbc	PKPdf	10 09 14.6	+0.1
	1.3nm,0.7s,baz=317,slow=3.5,SNR=6.5						

*IDC **22** 09:57:21.7±0.7, 30.27S×177.56W, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.2/40, mbtmp4.3/9, MS3.8/7, Ms1 3.7/7, ms1mx3.4/21, Error ellipse: s-maj=28.5km s-min=22.2km az=131.0*
*NEIC **22** 09:57:28.9±1.8, 30.27S×177.48W, h54km±5km, mb4.4/15, Error ellipse: s-maj=22.2km s-min=14.6km az=85.0*

ISC 22 09:57:26.7±0.5, 30.50S±0.05×177.55W±0.10, h35km, n99, σ2§46/83, mb4.5/17, MS3.8/7, 2C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.28	345	P	Pn	09 57 46.4	-1.7
GLKZ				S	Sn	09 58 01.5	-2.5
RAO	Raoul Island	1.29	346	ePn	Pn	09 57 46.4	-1.8
RAO				eSn	Sn	09 58 02.0	-2.2
RIZ	Raoul Island	1.30	345	P	Pn	09 57 46.7	-1.6
RIZ				S	Sn	09 58 03.0	-1.5
MXZ	Matakaoa Point	7.83	205	P	Pn	09 59 13.0	-5.1
WMGZ	Waiomatatini S	8.03	204	P	Pn	09 59 16.8	-3.9
WMGZ				S	Sn	10 00 47.7	-2.5
HAZ	Te Kaha	8.20	207	P	Pn	09 59 20.3	-2.9
HAZ				S	Sn	10 00 54.1	-0.5
PKGZ	Pakihiroa	8.21	205	P	Pn	09 59 19.3	-4.0
PKGZ				S	Sn	10 00 51.5	-3.3
PUZ	Puketiti	8.31	204	P	Pn	09 59 20.7	-4.0
RUGZ	Raukumara Rang	8.43	207	P	Pn	09 59 22.8	-3.5
TWGZ	Tauwhareparae	8.50	205	P	Pn	09 59 23.0	-4.2
TWGZ				S	Sn	10 00 59.9	-2.1
WCZ	Waipu Caves	8.69	229	P	Pn	09 59 36.7	+6.9
CNGZ	Carnagh Statio	8.70	203	P	Pn	09 59 25.2	-4.7
MWZ	Matawai	8.80	206	P	Pn	09 59 27.2	-4.2
OUZ	Omahuta	8.81	235	ePn	Pn	09 59 38.0	+6.6
OUZ	Omahuta	8.81	235	P	Pn	09 59 37.4	+6.0
URZ	Urewera	8.90	208	ePn	Pn	09 59 29.8	-3.0
URZ	Urewera	8.90	208	Pn	Pn	09 59 28.2	-4.5
	1.4nm,0.3s,baz=283,slow=6.1,SNR=14						
URZ				Sn	Sn	10 01 10.1	-1.7
	3.9nm,0.3s,baz=261,slow=8.4,SNR=12						
URZ	Urewera	8.90	208	P	Pn	09 59 28.8	-4.0
RAGZ	Rawiri	8.99	206	P	Pn	09 59 28.0	-6.0
RIGZ	Rimuhau	9.05	204	P	Pn	09 59 29.4	-5.4
MUGZ	Murupara	9.23	209	P	Pn	09 59 32.5	-4.8
SNGZ	Shannon Statio	9.27	206	P	Pn	09 59 33.6	-4.2
MHGZ	Mahia Peninsul	9.40	202	P	Pn	09 59 33.3	-6.3
RAHZ	Arahi	9.48	206	P	Pn	09 59 36.4	-4.4
MTHZ	Maungataniwha	9.52	207	P	Pn	09 59 37.3	-4.0
MRHZ	Matea Rd	9.68	209	P	Pn	09 59 39.1	-4.3
NMHZ	Naumai	9.74	207	P	Pn	09 59 40.0	-4.4
ARHZ	Aropaoanui	9.82	206	P	Pn	09 59 40.7	-4.6
BKZ	Black Stump Fm	9.93	208	P	Pn	09 59 41.3	-5.6
MCHZ	McNeill Hill	10.09	206	P	Pn	09 59 44.3	-4.7
KWHZ	Kaweka Forest	10.18	207	P	Pn	09 59 45.2	-5.1
KAHZ	Kahuranaki	10.33	205	P	Pn	09 59 45.2	-7.2
BHHZ	Black Hill Sta	10.38	209	P	Pn	09 59 50.1	-2.9
BFZ	Birch Farm	11.34	205	P	Pn	09 59 58.8	-7.3
TIWZ	Tintock	11.55	206	P	Pn	10 00 01.8	-7.3
RPZ	Rata Peaks	15.99	211	Pn	Pn	10 01 04.6	-4.4
	0.6nm,0.3s,baz=289,slow=5.0,SNR=3.7						
RPZ				Sn	Sn	10 03 49.6	-16
	0.5nm,0.3s,baz=143,slow=22,SNR=5.8						
DZM	Mont Dzumac	16.62	297	eP	P	10 01 22.6	+3.4
	60nm,1.6s						
DZM				eLR	LR	10 05 38.8	
	comp=Z,382nm,22.1s						
DZM	Mont Dzumac	16.62	297	Pn	P	10 01 23.3	+4.1
	0.5nm,0.3s,baz=128,slow=14,SNR=6.0						
DZM				LR	LR	10 06 48.0	
	comp=Z,476n

TXAR	Lajitas Array	92.12	57	LR	LR	10 45 10.6	
	comp=Z,38nm,19.5s,baz=0.0,slow=31						
ANMO	Albuquerque	93.34	51	eP	P	10 10 38.5	+0.2
	2.2nm,1.4s						
ANMO	Albuquerque	93.34	51	P	P	10 10 38.7	+0.5
	0.6nm,0.7s,baz=292,slow=4.3,SNR=3.9						
BOZ	Bozeman (W)	96.45	40	eP	P	10 10 51.2	-1.0
	2.3nm,0.8s						
MK32	Makanchi Array	118.14	310	ePKPdf	PKPdf	10 16 08.7	-1.0
MKAR	Makanchi Array	118.14	310	PKP	PKPdf	10 16 08.7	-1.0
	0.5nm,0.6s,baz=212,slow=1.8,SNR=4.5						
H10S2	ASCENSION HYDR	137.47	155	T	T	12 51 04.4	
	baz=204,slow=74,SNR=6.6						
H10S3	ASCENSION HYDR	137.47	155	T	T	12 51 03.0	
	baz=204,slow=74,SNR=10						
H10S1	ASCENSION HYDR	137.48	155	T	T	12 51 06.3	
	baz=204,slow=74,SNR=8.0						
H10N3	ASCENSION HYDR	138.55	154	T	T	12 52 42.7	
	baz=203,slow=75,SNR=5.1						
H10N1	ASCENSION HYDR	138.55	154	T	T	12 52 31.8	
	baz=203,slow=75,SNR=4.6						
H10N2	ASCENSION HYDR	138.56	154	T	T	12 52 34.2	
	baz=203,slow=75,SNR=5.0						
ARCES	ARCESS Array B	138.77	348	PKhKP	PKPpre	10 16 45.1	
	2.4nm,1.0s,baz=119,slow=1.5,SNR=3.8						
FIA1	FINESS Array S	145.37	340	ePKPbc	PKPbc	10 16 59.4	-0.6
FIA0	FINESS Array S	145.38	340	ePKPbc	PKPbc	10 16 59.2	-0.8
FINES	FINESS Array B	145.38	340	PKPbc	PKPbc	10 16 59.2	-0.8
	10.0nm,0.6s,baz=53,slow=3.6,SNR=50						
KBZ	Khabaz	145.49	304	PKPbc	PKPbc	10 17 01.1	+0.2
	3.0nm,0.7s,baz=54,slow=3.1,SNR=8.5						
NC303	NORSAR Array S	148.71	352	ePKPbc	PKPbc	10 17 09.4	-0.1
NB2	NORSAR Subarra	148.91	352	PKP	PKPdf	10 17 09.1	+3.0
	comp=Z,1.5nm,0.6s,baz=12,slow=2.7						
NB200	NORSAR Array S	148.91	352	ePKPbc	PKPbc	10 17 09.4	-0.6
NOA	NORSAR Array B	148.91	352	PKPbc	PKPbc	10 17 09.4	-0.6
	comp=Z,1.8nm,0.6s,baz=15,slow=4.3,SNR=7.0						
AKASG	Malin Array Be	151.62	323	PKPbc	PKPbc	10 17 16.4	-0.5
	comp=Z,2.2nm,0.4s,baz=48,slow=2.8,SNR=10						
BR101	Keskin Array S	152.99	298	ePKPbc	PKPbc	10 17 19.9	-0.6
BR131	Keskin Array S	152.99	298	ePKPdf	PKPdf	10 17 12.5	-0.7
BR131				ePKPbc	PKPbc	10 17 20.3	-0.2
BRTR	Keskin Array B	152.99	298	PKPbc	PKPbc	10 17 19.9	-0.6
	comp=Z,1.5nm,0.8s,baz=127,slow=3.7,SNR=9.1						
GEC2	GERESS Array S	159.78	338	ePKPdf	PKPdf	10 17 21.7	0.0
GEC2				ePKPab	PKPab	10 17 58.5	-2.2
GERES	GERESS Array B	159.78	338	PKPab	PKPab	10 17 59.3	-1.4
	comp=Z,0.3nm,0.5s,baz=28,slow=4.4,SNR=3.1						
TORD	Torodi Ar. Bea	162.71	178	PKPab	PKPab	10 18 14.3	+0.3
	comp=Z,0.6nm,0.5s,baz=164,slow=3.1,SNR=9.8						
TOA1	Torodi Ar. Sit	162.72	178	ePKPab	PKPab	10 18 14.3	+0.2

*NEIC **22** 10:02:47.2±0.0, 51°.43N×179°.83E, h69km, ML3.2(AEIC), After AEIC.*
*IDC **22** 10:04:29.5±32.0, 54°.27N×167°.41W, h427km±170km, mb2.7/3, mb1 2.9/4, mb1mx2.5/51, mbtmp3.4/4, Error ellipse: s-maj=392.2km s-min=62.0km az=63.0*
ISC 22 10:02:52.2±2.5, 51°.4N±0°.3×179°.9W±0°.1, h69km, n24, σ1§50/30, mb3.5/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	0.77	61	ePn	Pn	10 03 05.5	-2.2
GALAA				eSn	Sn	10 03 19.0	-0.3
GAEA	Gareloi East	0.79	60	ePn	Pn	10 03 05.7	-2.3
GAEA				eSn	Sn	10 03 20.1	+0.3
TASE	Tanaga Southea	1.22	68	ePn	Pn	10 03 11.4	-2.0
TASE				eSn	Sn	10 03 29.0	-0.3
TAFP	Tanaga Falls P	1.27	66	ePn	Pn	10 03 12.2	-1.8
TAFP				eSn	Sn	10 03 30.7	+0.2
TAPA	Tanaga Point A	1.34	71	ePn	Pn	10 03 12.8	-2.2
TAPA				eSn	Sn	10 03 32.0	-0.1
KIMD	Kanaga Island	1.68	76	ePn	Pn	10 03 17.5	-1.9
KICM	Kanaga Island	1.74	71	ePn	Pn	10 03 18.1	-2.1
KIKV	Kanaga Island	1.74	73	ePn	Pn	10 03 18.4	-1.9
KIKV				eSn	Sn	10 03 42.1	+0.5
KIWB	Kanaga Island	1.75	74	ePn	Pn	10 03 18.4	-1.9
KIRH	Kanaga Island	1.79	73	ePn	Pn	10 03 19.2	-1.7
ADK	Adak	2.04	75	ePn	Pn	10 03 22.5	-1.7
ADK				eSn	Sn	10 03 49.0	+0.4
ADAG	Mount Adagdak	2.11	73	ePn	Pn	10 03 23.9	-1.3
ETKA	Kagalaska Isla	2.20	76	ePn	Pn	10 03 25.8	-0.6
GSTD	Great Sitkin T	2.40	73	ePn	Pn	10 03 27.9	-1.3
GSTD				eSn	Sn	10 03 59.0	+1.4
GSMY	Great Sitkin M	2.45	73	ePn	Pn	10 03 28.2	-1.6
GSTR	Great Sitkin T	2.46	72	ePn	Pn	10 03 29.0	-1.0
GSTR				eSn	Sn	10 04 07.5	+8.5
KOWE	Korovin West	3.61	72	ePn	Pn	10 03 44.5	-1.1
CAST	Castle Rocks	19.01	40	eP	Pn	10 07 11.1	+1.7
DHY	Denali Highway	20.84	43	eP	Pn	10 07 29.2	-1.9
HDA	Harding Lake	21.48	40	eP	P	10 07 33.6	-1.1
ILAR	Eielson Array	21.64	39	P	P	10 07 37.5	+1.0
	0.1nm,0.3s,baz=238,slow=8.0,SNR=4.8						
INK	Inuvik	27.82	35	P	P	10 08 42.2	+7.8
	0.5nm,0.7s,baz=219,slow=6.0,SNR=3.7						
YKA	Yellowknife Ar	35.70	46	P	P	10 09 43.9	+0.5
	0.6nm,0.6s,baz=280,slow=7.9,SNR=8.0						
PDAR	Pinedale Array	46.93	72	P	P	10 11 16.8	+0.8
	0.8nm,0.6s,baz=316,slow=3.8,SNR=7.6						

KRSC 22 10:11:50.2±10.0, 49°.53N×157°.11E, h41km±10km, ML4.3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.32	331	eP	Pn	10 12 12.4	+0.3
SKR				eS	Sn	10 12 27.6	-0.8
ALID	Alaid	1.67	324	eP	Pn	10 12 17.2	+0.1
ALID				eS	Sn	10 12 36.3	-1.1
PAU	Pauzhetka	1.95	355	eP	Pn	10 12 23.1	+2.3
PAU				eS	Sn	10 12 46.9	+2.9
KDTR	Khodutka, Kamc	2.36	15	eP	Pn	10 12 30.0	+3.5
KDTR				eS	Sn	10 12 58.3	+4.1
ASAK	Asacha	2.90	10	eP	Pn	10 12 37.8	+3.9
MTVR	Mutnovka	3.03	13	eP	Pn	10 12 40.0	+4.2
MTVR				eS	Sn	10 13 15.4	+4.5
RUS	Russkaya	3.04	16	eP	Pn	10 12 39.2	+3.5
RUS				eS	Sn	10 13 15.0	+4.2
KRMR	Karymshinskiy	3.37	11	eP	Pn	10 12 44.4	+4.2
APC	Apacha	3.40	1	eP	Pn	10 12 44.3	+3.6
DALK	Dalny	3.65	16	eP	Pn	10 12 48.3	+4.1
DALK				eS	Sn	10 13 31.1	+5.1
UGLR	Uglovaya	3.84	16	eP	Pn	10 12 51.5	+4.7
UGLR				eS	Sn	10 13 37.0	+6.3
AVH	Avacha	3.88	15	eP	Pn	10 12 51.9	+4.6
AVH				eS	Sn	10 13 37.3	+5.7
SMAR	Somma	3.88	15	eP	Pn	10 12 52.0	+4.4
SMAR				eS	Sn	10 13 38.3	+6.3
KOK	Koryaka	3.89	14	eP	Pn	10 12 52.7	+5.2
NLC	Nalytchevo	3.91	20	eP	Pn	10 12 50.3	+2.7
NLC				eS	Sn	10 13 34.5	+2.3
SDLR	Sedlovina	3.91	16	eP	Pn	10 12 52.0	+4.1
SDLR				eS	Sn	10 13 37.6	+5.0
KRER	Koryakskii	3.92	15	eP	Pn	10 12 52.8	+4.8
KRER				eS	Sn	10 13 39.1	+6.4
KRX	Arik	3.95	14	eP	Pn	10 12 53.7	+4.7
KRX				eS	Sn	10 13 39.4	+5.8
SPN	Mys Shipunski	4.01	26	eP	Pn	10 12 53.7	+4.6
SPN				eS	Sn	10 13 40.0	+5.2
MKZ	Mys Kozlova	5.78	28	eP	Pn	10 13 16.9	+3.5
MKZ				eS	Sn	10 14 20.1	+1.7
KZV	Kizimen	5.92	18	eP	Pn	10 13 21.0	+5.5
KZV				eS	Sn	10 14 27.5	+5.5
TUMD	Tumrok D	6.03	18	eS	Sn	10 14 28.5	+4.0

*THE **22** 10:19:51.5, 34°.86N×23°.30E, h0km±3km, ML2.2/5, Error ellipse: s-maj=5.0km s-min=1.6km az=210.0*
*ATH **22** 10:19:51.4, 34°.86N×23°.37E, h29km±6km, ML2.2/4, Error ellipse: s-maj=9.1km s-min=1.6km az=94.0*
ISC 22 10:19:51.2±2.4, 34°.80N±0°.10×23°.32E±0°.09, h27km±14km, n14, σ0§79/26, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.63	86	P	Pb	10 20 03.5	-0.2
GVD				S	Sn	10 20 14.9	+1.3
GVD	Gavdhos	0.63	86	P	Pb	10 20 03.8	+0.1
GVD				S	Sb	10 20 12.2	+0.1
GVD				AML	AML	10 20 16.9	
	comp=N,759μm,0.3s						
GVD				AML	AML	10 20 18.2	
	comp=E,735μm,0.6s						
GVD	Gavdhos	0.63	86	P	Pn	10 20 03.9	-0.5
GVD				S	Sb	10 20 12.4	+0.2
GVD				AML	AML	10 20 16.9	
	comp=N,759μm,0.3s						
GVD				AML	AML	10 20 18.2	
	comp=E,735μm,0.6s						
IMMV	Iera Moni Meta	0.86	39	P	Pn	10 20 06.9	-0.6
IMMV				S	Sn	10 20 19.2	0.0
IMMV	Iera Moni Meta	0.86	39	P	Pn	10 20 06.8	-0.6
IMMV				S	Sb	10 20 18.0	-0.6
IMMV				AML	AML	10 20 20.2	
	comp=N,395μm,0.7s						
IMMV				AML	AML	10 20 24.9	
	comp=E,306μm,0.3s						
IMMV	Iera Moni Meta	0.86	39	P	Pn	10 20 06.9	-0.6
IMMV				S	Sb	10 20 17.4	-1.2
IMMV				AML	AML	10 20 20.2	
	comp=N,395μm,0.7s						
IMMV				AML	AML	10 20 24.9	
	comp=E,306μm,0.3s						
VAM	Vamos	0.94	49	P	Pn	10 20 07.9	-0.8
VAM				S	Sb	10 20 22.9	+1.8
VAM	Vamos	0.94	49	P	Pn	10 20 08.2	-0.5
VAM				S	Sb	10 20 21.4	+0.3
VAM				AML	AML	10 20 23.8	
	comp=N,303μm,0.6s						
VAM				AML	AML	10 20 24.9	
	comp=E,281μm,0.6s						
VAM	Vamos	0.94	49	P	Pn	10 20 08.3	-0.4
ANKY	Antikythira Is	1.07	359	P	Pb	10 20 11.1	0.0
ANKY				S	Sb	10 20 25.2	+0.5
ANKY	Antikythira Is	1.07	359	P	Pb	10 20 11.1	0.0
ANKY				S	Sb	10 20 25.2	+0.5
ANKY				AML	AML	10 20 31.4	
	comp=N,207μm,0.5s						
ANKY				AML	AML	10 20 32.2	
	comp=E,186μm,0.8s						
ANKY	Antikythira Is	1.07	359	P	Pb	10 20 11.0	0.0
ANKY				S	Sb	10 20 24.9	+0.2
ANKY				AML	AML	10 20 31.4	
	comp=N,207μm,0.5s						
ANKY				AML	AML	10 20 32.6	
	comp=E,186μm,0.8s						
KYTH	Kithira	1.48	351	P	Pb	10 20 17.6	-0.5
KYTH				S	Sb	10 20 38.4	+1.8
KYTH	Kithira	1.48	351	P	Pb	10 20 17.7	-0.4

*SOME **22** 10:25:17.0, 43°.48N×69°.45E, h0km, mb3.8, mpv3.2, 3C-1D, Error ellipse: s-maj=8.7km s-min=6.4km az=103.0, Suspected Mining explosion., Central Kazakhstan*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.86	116	⇑P	Pg	10 25 34.1	+0.6
	1.1nm,0.3s,baz=296,slow=14,SNR=63						
KK31				⇑S	Sg	10 25 45.7	+1.1
	115nm,1.1s,baz=294,slow=29,SNR=19						
MRKS	Merke	2.86	104	Pg	Pb	10 26 08.8	-0.1
	3.9nm,0.5s						
MRKS				Lg	Lg	10 26 45.6	
	4.8nm,0.3s						
BTLS	Baital	3.65	63	Pg	Pb	10 26 22.3	-0.1
	11nm,0.3s						
BTLS				Lg	Lg	10 27 07.6	
	3.6nm,0.6s						
AAK	Ala-Archa	3.79	101	Pg	Pb	10 26 25.2	+0.3
	3.5nm,0.5s						
AAK				Lg	Lg	10 27 16.3	
	2.5nm,0.4s						
TKM2	Tokmak 2	4.53	95	⇑Pg	Pb	10 26 38.2	+0.8
	1.6nm,0.5s						
TKM2				⇓Lg	Lg	10 27 40.6	
	4.2nm,0.8s						
DGS	Degeres	4.61	91	Pg	Pb	10 26 41.8	+2.9
DGS				Lg	Lg	10 27 41.6	
KST	Kastek	4.77	93	Pg	Pb	10 26 42.3	+0.7
	4.2nm,0.3s						
KST				Lg	Lg	10 27 44.0	
KUU	Kurty	5.01	83	Pg	Pb	10 26 47.9	+2.3
	2.1nm,0.3s						
KUU				Lg	Lg	10 27 51.4	
	5.5nm,0.6s						

*ISCJB **22** 10:27:49.2±0.2, 23°.85N±0°.01×121°.72E±0°.01, h14km, Error ellipse: s-maj=1.9km s-min=1.6km az=158.4*
*JMA **22** 10:27:49.5±0.1, 23°.84N×121°.57E, h52km±2km, M3.3*
*TAP **22** 10:27:50.6, 23°.90N×121°.62E, h42km, ML3.7, B*
ISC 22 10:27:47.8±0.8, 23°.85N±0°.02×121°.64E±0°.02, h14km, n110, σ1§34/155, 21C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	Shoufeng	0.07	325	P	Pg	10 27 57.4	+6.8
	baz=297						
ENLB				S	Sg	10 28 03.2	+11
	baz=297						
HWA	Hwalien	0.13	345	P	Pb	10 27 58.3	+6.3
	baz=354						
ESL	Shilin	0.20	259	⇑iP	Pb	10 27 57.8	+4.7
	baz=251						
ESL				S	Sb	10 28 02.4	+5.6
	baz=251						
TWD	Chiawan	0.23	350	⇑iP	Pb	10 27 58.2	+4.4
	baz=345						
TWD				S	Sb	10 28 03.4	+5.6
	baz=345						
EGFH	Guangfu	0.27	227	eP	Pn	10 27 58.3	+1.0
	baz=227						
ETLH	Xiulin Townshi	0.38	338	⇑P	Pn	10 27 59.4	+0.3
	baz=337						
ETLH				S	Sn	10 28 05.4	-0.8
	baz=337						
HGSD	Ruisui	0.41	209	eP	Pn	10 28 00.8	+1.5
	baz=215						
OWD	Renai	0.44	284	⇑iP	Pn	10 28 00.7	+0.8
	baz=282						
OWD				S	Sn	10 28 07.4	-0.3
	baz=282						
EHY	Hungye	0.45	221	eP	Pn	10 28 00.1	+0.3
	baz=221						
WHF	Hehuan Shan	0.45	310	⇑iP	Pn	10 28 00.7	+0.4
	baz=307						
WHF				S	Sn	10 28 07.5	-0.9
	baz=307						
VWDT	VWDT	0.47	258	⇑P	Pn	10 28 01.1	+1.1
	baz=249						
VWDT				S	Sn	10 28 08.2	0.0
	baz=249						
CHGB	Renai	0.48	296	⇑P	Pn	10 28 01.2	+0.8
	baz=295						
CHGB				S	Sn	10 28 08.1	-0.6
	baz=295						
YULB	Yu-li	0.56	215	eP	Pn	10 28 01.4	+0.1
	baz=211						
ENA	Nanau	0.58	9	⇑iP	Pn	10 28 01.9	+0.3
	baz=5.0						
TWT	Tachien	0.58	313	⇑iP	Pn	10 28 02.7	+0.9
	baz=310						
TWT				S	Sn	10 28 10.9	-0.4
	baz=310						
TWF1	Yuli	0.59	213	eP	Pn	10 28 02.3	+0.5
	baz=217						
NNSB	Datong	0.62	338	⇑P	Pn	10 28 02.6	+0.3
	baz=340						
NNSB				S	Sn	10 28 11.1	-1.1
	baz=340						
SSLB	Suanglung	0.63	264	⇑P	Pn	10 28 03.0	+0.6
	baz=264						
SSLB				eS	Sn	10 28 11.1	-1.2
	baz=264						
NNS	Nan Shan	0.64	337	⇑iP	Pn	10 28 02.8	+0.2
	baz=340						
NNS				S	Sn	10 28 11.7	-0.8
	baz=340						
DPDB	Guoxing	0.68	286	⇑P	Pn	10 28 03.8	+0.8
	baz=282						
SMLT	Sun Moon Lake	0.68	273	P	Pn	10 28 03.8	+0.7
	baz=272						
SMLT				S	Sn	10 28 12.9	-0.6
	baz=272						
TYC	Yuchr	0.72	274	eP	Pn	10 28 04.2	+0.7
	baz=274						
TYC				eS	Sn	10 28 13.5	-0.9
	baz=274						
YUS	Yu-Shan	0.73	241	eP	Pn	10 28 04.8	+0.7
	baz=237						
WHYT	Xinyi Township	0.74	258	eP	Pn	10 28 05.0	+1.2
	baz=255						
NDT	Datong Townshi	0.76	351	⇑iP	Pn	10 28 04.4	+0.3
	baz=350						
NDT				S	Sn	10 28 13.9	-1.5
	baz=350						
WHP	Taichung City	0.77	304	eP	Pn	10 28 05.4	+1.2
	baz=304						
TWC	Suao	0.78	14	P	Pn	10 28 04.8	+0.5
	baz=12						
ENTT	Nioudou	0.79	355	⇑iP	Pn	10 28 04.8	+0.3
	baz=355						
ENTT				S	Sn	10 28 14.7	-1.5
	baz=355						
CHKT	Chengkung	0.79	199	eP	Pn	10 28 05.4	+0.9
	baz=186						
EOS1	EOS1	0.82	32	eP	Pn	10 28 06.5	+1.6
	baz=47						
YHNB	Yeheng	0.85	343	⇑P	Pn	10 28 06.0	+0.5
	baz=349						
YHNB				S	Sn	10 28 16.2	-1.5
	baz=349						
NSK	Sanguang	0.86	343	⇑iP	Pn	10 28 06.1	+0.5
	baz=348						
NSK				iS	Sn	10 28 16.5	-1.5
	baz=348						
TWE	Neicheng	0.87	1	⇑iP	Pn	10 28 05.8	+0.2
	baz=1.0						
TWE				S	Sn	10 28 17.1	-0.9
	baz=1.0						
ELDTW	Lidau	0.87	221	eP	Pn	10 28 05.9	+0.1
	baz=214						
WNT	Mingjian	0.88	272	eP	Pn	10 28 07.3	+1.6
	baz=269						
CHN5	Tsauling	0.92	254	eP	Pn	10 28 07.9	+1.5
	baz=252						
TCU	Taichung	0.93	289	eP	Pn	10 28 08.2	+1.8
	baz=287						
TCU				eS	Sn	10 28 20.8	+1.2
	baz=287						
TWQ1	Liyutan	0.94	302	P	Pn	10 28 07.8	+1.3
	baz=300						
TWQ1				S	Sn	10 28 20.4	+0.7
	baz=300						
NSTT	Nanjuang	0.97	323	⇑iP	Pn	10 28 08.7	+1.7
	baz=308						
NSTT				S	Sn	10 28 20.8	+0.1
	baz=308						
LIOB	Emei	0.98	324	P	Pn	10 28 08.6	+1.4
	baz=309						
LIOB				S	Sn	10 28 20.9	+0.1
	baz=309						
NSY	Sanyi	0.98	305	⇑P	Pn	10 28 08.6	+1.4
	baz=303						
NSY				S	Sn	10 28 21.7	+0.8
	baz=303						
WGK	Gukeng	1.00	261	eP	Pn	10 28 08.9	+1.5
	baz=258						
NTC	Toucheng	1.01	10	eP	Pn	10 28 08.4	+0.8
	baz=1.0						
WCHH	Zhanghua	1.02	283	eP	Pn	10 28 09.2	+1.6
	baz=293						
WCHH				eS	Sn	10 28 23.1	+1.3
	baz=293						
WDLH	Douliu	1.02	261	eP	Pn	10 28 09.3	+1.6
	baz=258						
EGS		1.02	15	eP	Pn	10 28 09.4	+1.7
	baz=7.0						
NMLH	Miaoli	1.03	312	eP	Pn	10 28 08.8	+0.9
	baz=309						
WDJ	Dajia District	1.04	299	eP	Pn	10 28 09.2	+1.3
	baz=297						
WDJ				eS	Sn	10 28 23.2	+0.9
	baz=297						
PTSB	Yuanli	1.04	305	eP	Pn	10 28 08.7	+0.7
	baz=303						
PTSB				eS	Sn	10 28 22.7	+0.4
	baz=303						
WLTB	Daxi	1.06	340	⇑P	Pn	10 28 09.8	+1.6
	baz=344						
WLTB				S	Sn	10 28 23.8	+1.0
	baz=344						
STYT	Tauyuan	1.06	230	eP	Pn	10 28 10.2	+1.9
	baz=220						
TPUB	Ta-pu	1.08	240	eP	Pn	10 28 10.1	+1.6
	baz=238						
TPUB				eS	Sn	10 28 24.7	+1.4
	baz=238						
CHN4	Tsaushan	1.08	243	P	Pn	10 28 10.7	+2.1
	baz=241						
NHDH	Xindian Distri	1.11	355	eP	Pg	10 28 09.5	+0.2
	baz=352						
NHDH				eS	Sn	10 28 23.5	-0.6
	baz=352						
SBCB	Hsinchu	1.11	328	eP	Pg	10 28 10.8	+1.5
	baz=340						
WTP	Ta-pu	1.12	238	eP	Pg	10 28 10.8	+1.4
	baz=236						
HSN	Hsinchu	1.13	327	eP	Pg	10 28 12.0	+2.5
	baz=328						
HSN				eS	Sn	10 28 25.6	+1.2
	baz=328						
TATO	Taipei	1.13	353	eP	Pg	10 28 09.5	0.0
	baz=357						
TATO				S	Sn	10 28 23.4	-1.1
	baz=357						
TIPB	Shuangxi	1.13	8	P	Pg	10 28 09.8	+0.2
	baz=359						
TIPB				S	Sn	10 28 24.7	+0.1
	baz=359						
TWG	Pinlang	1.15	207	eP	Pg	10 28 08.8	-1.2
	baz=196						
TWGBT	Beinan	1.15	207	eP	Pg	10 28 08.9	-1.0
	baz=196						
CHY	Chiayi	1.17	253	eP	Pg	10 28 11.1	+0.7
	baz=250						
RLNB	Erlin	1.18	272	eP	Pg	10 28 11.3	+0.9
	baz=281						
RLNB				eS	Sn	10 28 27.1	+1.5
	baz=281						
NCUH	Zhongli	1.19	340	eP	Pg	10 28 10.5	-0.2
	baz=338						
NCU	National Centr	1.19	340	eP	Pg	10 28 11.2	+0.5
	baz=337						
NCU				eS	Sg	10 28 26.6	+0.4
	baz=337						
TWB1	Santiao Chiao	1.20	15	eP	Pg	10 28 11.3	+0.4
	baz=27						
CHN1	Nanshi	1.22	237	eP	Pg	10 28 12.3	+1.0
	baz=236						
WFSB	Wu-fen Shan	1.22	6	eP	Pg	10 28 11.0	-0.3
	baz=355						
SNST	Tainan City	1.22	239	eP	Pg	10 28 12.8	+1.4
	baz=238						
SGST	Jiashian	1.24	232	eP	Pg	10 28 11.9	+0.3
	baz=221						
SLGT	Liugui	1.25	227	eP	Pg	10 28 13.2	+1.3
	baz=226						
TWS1	Kuangyinshan	1.26	351	eP	Pg	10 28 11.2	-0.9
	baz=3.0						
YM01	YM01	1.29	357	eP	Pg	10 28 11.2	-1.5
	baz=354						
YM01				eS	Sn	10 28 27.3	-1.3
	baz=354						
YM10	YM10	1.30	357	eP	Pg	10 28 11.7	-1.2
	baz=355						
YM11	YM11	1.31	357	eP	Pg	10 28 11.5	-1.5
	baz=356						
WSF	Szhu	1.32	261	eP	Pg	10 28 13.5	+0.4
	baz=247						
YM07	YM07	1.32	359	eP	Pg	10 28 11.8	-1.4
	baz=358						
JYNG	Yonagunijimaku	1.33	63	P	Pg	10 28 13.3	-0.1
JYNG				S	Sb	10 28 30.0	+0.5
YM08	YM08	1.33	358	eP	Pb	10 28 11.4	-1.2
	baz=356						
YOJ	Yonaguni jima	1.39	64	eP	Pg	10 28 13.7	-0.8
	baz=63						
YOJ				eS	Sb	10 28 30.9	-

ECL	Taimali	1.40	207	eP		Pg	10 28 13.7 -1.0
	baz=200						
TWY	Chenhua	1.42	358	eP		Pg	10 28 13.9 -1.2
	baz=357						
SSD	Sandimen	1.44	220	eP		Pg	10 28 15.1 -0.4
	baz=220						
TWM1	Shoushan	1.52	228	eP		Pg	10 28 17.9 +0.9
	baz=227						
MASBT	Mashibuluo	1.54	217	eP		Pg	10 28 16.6 -0.8
	baz=217						
EAST	Anshuo	1.63	207	eP		Pg	10 28 18.1 -1.0
	baz=201						
SSPT	Xinbi	1.68	216	eP		Pg	10 28 19.9 -0.2
	baz=205						
SCZT	Fangliau	1.75	213	eP		Pg	10 28 19.8 -1.6
	baz=213						
WDGT	Dungji	1.91	252	eP		Pb	10 28 20.6 -1.8
	baz=250						
PHUB	P'eng-hu	1.93	260	eP		Pb	10 28 20.7 -2.0
	baz=260						
PHUB				eS		Sb	10 28 43.5 -3.1
	baz=260						
PNG	Penghu	1.93	262	eP		Pb	10 28 20.5 -2.3
	baz=260						
IRIF	Iriomote-Funau	1.97	75	P		Pb	10 28 22.2 -1.2
IRIF				S		Sn	10 28 46.0 +0.8
HATJ	Hateruma jima	1.99	84	P		Pb	10 28 22.9 -0.8
HATJ				S		Sn	10 28 46.9 +1.2
TWKBT	Hengchun	2.05	202	eP		Pb	10 28 22.6 -2.2
	baz=194						
VCHM	Qimei	2.13	253	eP		Pn	10 28 22.6 -0.3
	baz=254						
VCHM				eS		Sn	10 28 48.4 -0.8
	baz=254						
JKRS	Kuro-shima	2.20	79	P		Pb	10 28 26.1 -1.2
JKRS				S		Sn	10 28 52.4 +1.5
VWUC	VWUC	2.30	300	eP		Pn	10 28 24.8 -0.5
	baz=299						
JIJ	Ishigaki jima	2.34	77	P		Pn	10 28 27.2 +1.4
JIJ				S		Sn	10 28 53.9 -0.5
JISG	Ishigakijimahi	2.54	73	P		Pn	10 28 29.9 +1.3
JISG				S		Sn	10 28 58.6 -0.8
MATB	Ma-tsu	2.76	326	eP		Pn	10 28 31.5 -0.1
	baz=325						
JTJ	Tarama	2.90	74	P		Pn	10 28 35.3 +1.8
JTJ				S		Sn	10 29 09.1 +0.9
KNM	Kinmen	2.98	282	eP		Pb	10 28 36.1 -4.7
	baz=280						
KNMB	Chin-men Tao	3.03	282	eP		Pn	10 28 35.1 -0.3
	baz=281						
XPSS	Dashiqiu	3.34	337	eP		Pn	10 28 38.9 -0.6
	baz=346						
JIRB	Irabujima	3.36	72	P		Pn	10 28 41.7 +1.8
JIRB				S		Sn	10 29 19.5 -0.2
JIKM	Ikemajima	3.46	71	P		Pn	10 28 42.5 +1.3
JIKM				S		Sn	10 29 22.0 +0.1
JMJ2	Miyako jima3	3.48	74	P		Pn	10 28 43.6 +2.1
JMJ2				eS		Sn	10 29 22.7 +0.2
JOGS	Gusukube	3.55	74	eS		Sn	10 29 25.1 +0.8
ZPLA	Ao Xicun	3.56	272	eP		Pn	10 28 42.7 0.0
	baz=270						

MAN 22 10:29:12.7, 5°.70N×126°.02E, h127km, mb3.8, ML2.6, MS2.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	0.50	323	eP		Pn	10 29 33.2 +1.8
DDMP				eS		Sn	10 29 48.2 +2.6
MATI	Mati	1.26	11	eP		Pn	10 29 38.5 +0.5
MATI				eS		Sn	10 29 58.6 +1.4
DMPH	Davao City--Mi	1.46	340	eP		Pn	10 29 52.2 +12
DMPH				eS		Sn	10 30 00.7 -0.5
SKMP	Bagumbayan, Su	1.68	299	eP		Pn	10 29 43.4 +0.8

NIED ***22*** *10:51:00, 36°.70N×142°.20E, h20km, Mw4.0 Best double couple: M0 1.08000×1015 NP1:φs200.00000°, δ16.00000°, λ87.00000°. NP2:φs23.00000°, δ74.00000°, λ91.00000°.*
JMA ***22*** *10:51:20.1±0.4, 36°.70N×142°.19E, h27km, M4.0*
IDC ***22*** *10:51:25.4±0.9, 37°.36N×141°.49E, h0km, mb3.6/6, mb1 3.7/11, mb1mx3.6/50, mbtmp3.6/11, ML3.2/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/27, Error ellipse: s-maj=25.0km s-min=16.5km az=153.0*
ISC 22 10:51:25.6±1.0, 36°.99N±0°.06×141°.80E±0°.06, h19km, n34, σ1§69/31, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.81	278	P		Pb	10 51 41.0 -0.1
JFK	Kawauchi	0.83	297	P		Pg	10 51 41.6 -0.2
JFFD	Fukushimafurud	1.00	276	P		Pb	10 51 44.0 -0.2
JFFD				S		Sn	10 52 02.5 +4.4
JHO	Hitachi	1.06	249	P		Pb	10 51 43.0 -2.3
JHYU	Hitachinakayam	1.17	237	P		Pn	10 51 43.7 -3.2
JMM	Marumori	1.19	318	P		Pg	10 51 47.3 -1.3
JFT	Otama	1.28	295	P		Pg	10 51 49.3 -1.1
JIO	Ouri	1.50	346	P		Pb	10 51 51.4 -1.5
JIO				eS		Sg	10 52 14.7 +0.5
JOU	Okura	1.64	327	P		Pb	10 51 54.5 -0.8
JFY	Yanaizu	1.72	285	P		Pb	10 51 55.8 -0.9
JYS	Shirataka	1.84	312	P		Pb	10 51 58.0 -0.7
JAG	Ashikaga	1.97	254	P		Pn	10 51 56.5 -1.4
JMK	Ichinoseki	2.01	347	P		Pn	10 51 58.8 +0.3
JKT	Katashina	2.06	265	P		Pn	10 51 59.3 +0.1
BSO1	Boso 1	2.43	196	P		Pn	10 51 56.8 -6.9
MJAR	Matsushiro Arr	2.92	262	Pn		Pn	10 52 11.3 +0.3
	2.6nm,0.3s,baz=106,slow=10,SNR=139						
MJAR				Sn		Sn	10 52 44.8 -0.8
	1.1nm,0.3s,baz=78,slow=17,SNR=5.3						
MAT	Matsushiro	2.92	262	P		Pn	10 52 11.7 +0.7
MAT				S		Sb	10 52 53.3 +0.9
ASAJ	Asahikawa	7.14	5	Pn		Pn	10 53 07.4 -1.6
	1.2nm,0.3s,baz=223,slow=18,SNR=13						
ASAJ				Sn		Sn	10 54 28.2 -1.4
	0.4nm,0.3s,baz=338,slow=32,SNR=1.9						
JNU	Nakatsue	9.75	250	Pn		Pn	10 53 45.2 +0.3
	0.2nm,0.3s,baz=356,slow=6.4,SNR=2.8						
USRK	Ussuriysk Ar.	10.36	317	Pn		Pn	10 53 51.1 -2.0
	0.1nm,0.3s,baz=126,slow=12,SNR=2.9						
KSRS	Korea Array	11.08	277	Pn		Pn	10 54 01.0 -2.0
	0.1nm,0.3s,baz=117,slow=16,SNR=2.4						
H11N2	WAKE ISLAND Hy	27.86	121	T		T	11 26 21.9
	baz=314,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	27.87	121	T		T	11 26 18.7
	baz=314,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy	27.88	121	T		T	11 26 18.7
	baz=314,slow=75,SNR=12						
H11S1	WAKE ISLAND Hy	28.58	123	T		T	11 27 11.7
	baz=316,slow=76,SNR=17						
H11S3	WAKE ISLAND Hy	28.58	123	T		T	11 27 11.9
	baz=316,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy	28.59	123	T		T	11 27 11.9
	baz=316,slow=76,SNR=6.9						
ZALV	Zalesovo Beam	42.17	312	P		P	10 59 16.0 -0.8
	0.8nm,0.4s,baz=81,slow=9.0,SNR=3.7						
ZALV				LR		LR	11 17 37.1
	comp=Z,38nm,19.5s,baz=248,slow=38						
MKAR	Makanchi Array	44.40	302	P		P	10 59 33.7 -1.2
	0.8nm,0.5s,baz=87,slow=11,SNR=8.7						
ILAR	Eielson Array	49.36	32	P		P	11 00 14.3 +0.9
	0.6nm,0.8s,baz=267,slow=6.0,SNR=4.3						
ASAR	Alice Springs	60.79	188	P		P	11 01 41.7 +5.4
	0.4nm,0.9s,baz=3.4,slow=7.8,SNR=4.3						
YKA	Yellowknife Ar	63.69	30	P		P	11 01 56.3 +1.0
	0.2nm,0.7s,baz=302,slow=6.6,SNR=3.5						
NVAR	Mina Array Bea	74.77	53	P		P	11 03 07.3 +2.6
	baz=321,slow=6.9						
PDAR	Pinedale Array	77.47	46	P		P	11 03 23.3 +3.3
	0.2nm,0.4s,baz=316,slow=7.6,SNR=3.4						

ISCJB ***22*** *10:55:10.6±0.4, 23°.98S±0°.03×66°.88W±0°.05, h210km±7km, mb3.7/3, Error ellipse: s-maj=8.1km s-min=4.8km az=162.5*
IDC ***22*** *10:55:11.4±1.0, 23°.93S×66°.75W, h199km±15km, mb3.4/3, mb1 3.3/9, mb1mx3.1/37, mbtmp3.8/9, Error ellipse: s-maj=20.8km s-min=16.9km az=82.0*
SJA ***22*** *10:55:12.9±0.4, 23°.96S×66°.87W, h172km±7km, ML3.1, MW2.9*
NEIC ***22*** *10:55:13.0±0.0, 23°.94S×67°.39W, h248km, mb4.3/1, ML4.3(GUC), After GUC.*

GUC ***22*** *10:55:13.1±0.5, 23°.95S×67°.24W, h245km±12km, ML4.4*
ISC 22 10:55:11.4±0.7, 23°.96S±0°.05×66°.85W±0°.06, h205km±9km, n41, σ1§37/62, mb3.8/3, 5C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	Zapla	1.66	100	eP		Pn	10 55 47.0 -0.2
AZAP				IAML			10 55 47.8
	comp=Z,561nm,0.6s						
FSA	Cafayete	2.29	160	eP		Pn	10 55 53.6 +0.2
FSA				IAML			10 55 54.4
	comp=Z,16nm,0.8s						
FSA				eS		S	10 56 24.1 -1.9
LVC	Limon Verde	2.32	305	P		Pn	10 55 55.6 +1.5
	comp=Z,34nm,0.3s,baz=145,slow=6.4,SNR=394						
LVC				S		S	10 56 27.6 +1.0
	comp=Z,40nm,0.3s,baz=278,slow=20,SNR=27						
PB15	IPOC Station P	2.51	287	⇑iP		Pn	10 55 57.3 +1.3
PB15				eS		S	10 56 30.7 +0.6
GO02	Mina Guanaco	2.77	244	ePn		Pn	10 55 59.9 +1.0
GO02				eS		S	10 56 36.3 +0.9
GO02	Mina Guanaco	2.77	244	i P		Pn	10 55 59.9 +1.0
GO02				eS		S	10 56 36.2 +0.7
GO02				IAML			10 56 38.6
	comp=N,677nm,0.1s						
PB06	IPOC Station P	2.79	296	eP		Pn	10 55 59.4 +0.4
PB06				eS		S	10 56 34.0 -1.6
PB06	IPOC Station P	2.79	296	⇑iP		Pn	10 56 00.2 +1.2
PB06				eS		S	10 56 35.5 -0.1
PB06				IAML			10 56 37.6
	comp=E,594nm,0.2s						
PB09	IPOC Station P	3.08	314	eP		Pn	10 56 03.9 +1.5
PB09				eS		S	10 56 42.6 +0.8
PB09				IAML			10 56 46.0
	comp=N,239nm,0.3s						
PB05	IPOC Station P	3.27	289	eP		Pn	10 56 05.2 +0.7
PB05	IPOC Station P	3.27	289	eP		Pn	10 56 05.1 +0.5
PB05				eS		S	10 56 44.1 -1.5
PB05				IAML			10 56 46.8
	comp=E,270nm,0.1s						
PB03	IPOC Station P	3.28	305	eP		Pn	10 56 05.4 +0.6
PB03				eS		S	10 56 44.2 -1.8
PB03	IPOC Station P	3.28	305	⇑iP		Pn	10 56 05.5 +0.8
PB03				eS		S	10 56 45.0 -1.0
PB03				IAML			10 56 48.4
	comp=N,418nm,0.3s						
PB10	IPOC Station P	3.42	277	ePn		Pn	10 56 07.2 +0.9
PB10				eS		S	10 56 46.9 -1.8
PB10	IPOC Station P	3.42	277	eP		Pn	10 56 07.0 +0.7
PB10	IPOC Station P	3.42	277	⇑iP		Pn	10 56 07.2 +0.9
PB10				eS		S	10 56 47.5 -1.2
PB10				IAML			10 56 51.8
	comp=E,194nm,0.2s						
PB04	IPOC Station P	3.44	297	ePn		Pn	10 56 07.5 +0.8
PB04				eS		S	10 56 48.4 -1.0
PB04	IPOC Station P	3.44	297	eP		Pn	10 56 07.8 +1.1
PB04	IPOC Station P	3.44	297	eP		Pn	10 56 07.1 +0.4
PB04				eS		S	10 56 48.0 -1.4
PB04				IAML			10 56 49.9
	comp=N,455nm,0.3s						
PB07	IPOC Station P	3.57	308	⇑iP		Pn	10 56 08.9 +0.6
PB07				eS		S	10 56 50.9 -1.4
PB07				IAML			10 56 52.4
	comp=E,536nm,0.5s						
PB01	IPOC Station P	3.79	319	ePn		Pn	10 56 11.6 +0.7
PB01				eS		S	10 56 55.6 -1.3
PB02	IPOC Station P	3.84	312	eP		Pn	10 56 12.8 +1.2
GO03	Copiap	4.73	219	ePn		Pn	10 56 21.9 -0.7
GO03				eS		S	10 57 17.1 -1.3
GO01	Chusmiza	4.79	333	ePn		Pn	10 56 24.8 +1.0
GO01				eS		S	10 57 19.8 -0.4
PB11	IPOC Station P	4.92	328	ePn		Pn	10 56 24.7 -0.4
PB11				eS		S	10 57 19.9 -2.9
MNMC	Minye Minye	5.44	331	ePn		Pn	10 56 31.9 +0.1
MNMC				eS		S	10 57 33.2 -1.8
LCO	Las Campanas	6.10	214	ePn		Pn	10 56 39.0 -1.2
GO04	Tololo Observa	7.12	209	ePn		Pn	10 56 51.8 -1.6
CFA	Coronel Fontan	7.72	189	P		Pn	10 57 00.3 -0.7
	comp=E,0.4nm,0.3s,baz=347,slow=14,SNR=8.8						
LPAZ	La Paz	7.72	351	ePn		Pn	10 57 03.9 +2.2
LPAZ	La Paz	7.72	351	P		Pn	10 57 03.5 +1.8
	comp=E,0.5nm,0.3s,baz=166,slow=6.4,SNR=9.5						
CPUP	Villa Florida	8.95	107	ePn		Pn	10 57 21.2 +4.3
CPUP	Villa Florida	8.95	107	P		Pn	10 57 15.9 -1.1
	comp=E,0.1nm,0.3s,baz=258,slow=9.3,SNR=1.9						
SIV	San Ignacio	9.61	35	P		Pn	10 57 23.5 -2.1
	comp=E,0.5nm,0.3s,baz=243,slow=10,SNR=7.1						
ROC1	El Roble	9.70	201	ePn		Pn	10 57 25.0 -1.9
BDFB	Brasilia	19.55	68	eP		P	10 59 24.8 +1.0
	comp=E,7.7nm,0.7s						
BDFB	Brasilia	19.55	68	P		P	10 59 24.1 +0.2
	comp=E,0.8nm,0.3s,baz=232,slow=12,SNR=9.9						
PTGA	Pitinga	24.03	17	P		P	11 00 07.8 -0.1
	comp=E,1.2nm,0.3s,baz=311,slow=19,SNR=2.7						
SNAA	Sanae	59.35	161	P		P	11 04 53.3 +1.7
	comp=E,0.9nm,0.9s,baz=342,slow=9.6,SNR=3.2						
TORD	Torodi Ar. Bea	76.43	69	P		P	11 06 38.1 -0.8
	comp=E,0.8nm,0.5s,baz=257,slow=5.6,SNR=12						
MKAR	Makanchi Array	146.41	40	PKPbc		PKPdf	11 14 28.1 +1.7
	comp=E,0.3nm,0.5s,baz=278,slow=3.4,SNR=3.3						

SJA 22 10:56:28.4±0.5, 30°.78S×64°.80W, h24km±9km, ML2.2, MW3.6, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCA	Tanti	0.58	162	i P		Pb	10 56 40.5 +0.5
TCA				IAML			10 56 49.2
	comp=Z,83nm,0.2s						
TCA				i S		Sn	10 56 49.3 -0.8
APLL	PUNTA DE LOS L	1.54	284	i P		Pb	10 56 56.7 +0.5
APLL				i S		Sb	10 57 17.1 +1.9
APLL				IAML			10 57 18.0
	comp=Z,37nm,0.6s						
MRA	San Martin	1.81	205	i P		Pb	10 57 00.1 -0.8
MRA				i S		Sb	10 57 24.3 +1.1
MRA				IAML			10 57 25.0
	comp=E,39nm,0.2s						

ISCJB ***22*** *11:00:00.3±0.4, 58°.23N±0°.02×11°.20E±0°.05, h0km, Error ellipse: s-maj=4.3km s-min=3.1km az=143.5*
UPP ***22*** *11:00:01.9±0.2, 58°.21N×11°.27E, h0km, ML2.6, Explosion*
BER ***22*** *11:00:02.4±2.2, 58°.14N×11°.24E, h0km±6km, ML2.0, ML2.0(NAO)*
IDC ***22*** *11:00:04.2±1.9, 58°.36N×11°.13E, h0km, mb1 3.5/3, mb1mx3.2/44, mbtmp3.4/3, ML2.4/4, Error ellipse: s-maj=14.2km s-min=12.5km az=45.0*
NAO ***22*** *11:00:05.0±2.2, 58°.41N×11°.18E, ML2.0*
ISC 22 11:00:00.4±0.8, 58°.23N±0°.03×11°.20E±0°.03, h0km, n30, σ1§22/59, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TJOU	Tjoern	0.30	131	P		Pg	11 00 07.1 +1.0
TJOU				S		Sg	11 00 10.5 +0.6
VANU	Vaenersborg	0.53	60	P		Pg	11 00 11.7 +1.1
VANU				S		Sg	11 00 18.3 +0.8
STRU	Stroemstad	0.81	359	P		Pb	11 00 17.4 0.0
STRU				S		Sb	11 00 28.6 -0.2
STRU	Stroemstad	0.81	359	eP		Pb	11 00 17.2 -0.1
STRU				eS		Sb	11 00 28.9 +0.1
ONAU	Onsala	0.92	155	P		Pg	11 00 18.4 +0.5
BORU	Boraas	1.03	125	P		Pg	11 00 20.0 0.0
NASU	Vaermlandsnaes	1.26	55	P		Pg	11 00 24.9 +0.5
FKPU	Falk	1.34	92	P		Pg	11 00 25.6 -0.4
HOMB	Homborsund	1.43	273	eP		Pb	11 00 27.6 -0.2
HOMB				eS		Sb	11 00 46.2 -0.3
HOMB				IAML			11 00 49.2
	comp=Z,14nm,0.2s						
FABU	Falkenberg	1.48	146	P		Pn	11 00 28.0 -0.2
KONO	Kongsberg	1.65	330	eP		Pg	11 00 32.1 +0.1
KONO				eS		Sg	11 00 54.0 +0.6
KONO				IAML			11 00 57.2
	comp=Z,15nm,0.1s						
GNOU	Gnosjoe	1.66	123	P		Pn	11 00 31.2 +0.4
HFS	Hagfors	2.30	33	Pn		Pn	11 00 40.8 +1.2
	baz=213,slow=16						
HFS				Sn		Sn	11 01 08.1 -0.5
	baz=211,slow=28						
HFS				Lg		Lg	11 01 12.8
	baz=205,slow=37						
HFS	Hagfors	2.30	33	Pn		Pn	11 00 40.8 +1.2
	comp=Z,4.4nm,0.3s,baz=214,slow=14,SNR=179						
HFS				Pg		Pb	11 00 43.1 +0.3
	comp=Z,3.1nm,0.3s,baz=211,slow=16,SNR=12						
HFS				Sn		Sn	11 01 08.7 +0.1
	comp=Z,2.7nm,0.3s,baz=205,slow=27,SNR=5.5						
HFS				Lg		Lg	11 01 13.8
	comp=Z,7.0nm,0.3s,baz=211,slow=28,SNR=12						
HFS	Hagfors	2.30	33	Pn		Pn	11 00 40.8 +1.2
	baz=213,slow=16						
HFS				Sn		Sn	11 01 08.1 -0.5
	baz=211,slow=28						
HFS				Sg		Sb	11 01 12.8 +1.0
	baz=205,slow=37						
NC602	NORSAR Array S	2.52	4	eP		Pn	11 00 43.4 +0.8
NC602				eS		Sn	11 01 15.5 +1.5
NC602				IAML			11 01 29.9
	comp=Z,204nm,0.2s						
NRA0	NORESS Array S	2.52	4	Pn		Pn	11 00 43.5 +1.0
	baz=178,slow=12						
NRA0				Sn		Sn	11 01 13.2 -0.8
	baz=181,slow=22						
NRA0				Lg		Lg	11 01 19.5
	baz=171,slow=37						
NRA0	NORESS Array S	2.52	4	Pn		Pn	11 00 43.5 +1.0
	baz=178,slow=12						
NRA0				Sn		Sn	11 01 13.2 -0.8
	baz=181,slow=22						
NRA0				Sg		Sb	11 01 19.5 +1.5
	baz=171,slow=37						
NAO01	NORSAR Array S	2.63	357	eP		Pn	11 00 44.9 +0.8
NAO01				eS		Sn	11 01 17.6 +0.9
NAO01				IAML			11 01 26.9
	comp=Z,8.0nm,0.2s						
NB2	NORSAR Subarra	2.82	0	Pn		Pn	11 00 47.0 +0.2
	baz=183,slow=16						
NB2				Pg		Pg	11 00 54.1 -0.3
NB2				Sn		Sn	11 01 23.6 +2.2
NB2				Lg		Lg	11 01 29.4
	baz=177,slow=37						
NB2	NORSAR Subarra	2.82	0	Pn		Pn	11 00 47.0 +0.2
	baz=183,slow=16						
NB2				Pg		Pg	11 00 54.1 -0.3
NB2				Sn		Sn	11 01 23.6 +2.2
NB2				Sg		Sg	11 01 29.4 -1.6
	baz=177,slow=37						
NOA	NORSAR Array B	2.82	0	Pn		Pn	11 00 46.8 0.0
	comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=6.7						
NOA				Pg		Pb	11 00 51.5 -0.2
	comp=Z,0.1nm,0.3s,baz=188,slow=16,SNR=8.9						
NOA				Sn		Sn	11 01 21.3 -0.1
	comp=Z,0.2nm,0.3s,baz=228,slow=26,SNR=5.8						
NOA				Lg		Lg	11 01 28.9
	comp=Z,0.3nm,0.3s,baz=203,slow=9.2,SNR=5.7						
NB201	NORSAR Array S	2.83	1	eP		Pn	11 00 48.2 +1.3
NB201				eS		Sn	11 01 22.6 +0.9
NB201				IAML			11 01 32.2
	comp=Z,7.5nm,0.3s						
SKAR	Skarslia	2.87	330	ePg		Pg	11 00 55.5 +0.2
SKAR				eS		Sn	11 01 24.2 +1.5
SKAR				IAML			11 01 33.6
	comp=Z,11nm,0.2s						
NC303	NORSAR Array S	3.01	2	eP		Pn	11 00 50.4 +1.1
KMY	Karmoy	3.26	290	eP		Pn	11 00 54.0 +1.4
KMY				eS		Sn	11 01 31.3 -0.8
FIA0	FINESS Array S	8.15	60	Pn		Pn	11 02 00.9 +1.1
	baz=258,slow=11						
FIA0				Sn		Sn	11 03 29.3 -3.3
	baz=259,slow=28						
FIA0	FINESS Array S	8.15	60	Pn		Pn	11 02 00.9 +1.1
	baz=258,slow=11						
FIA0				Sn		Sn	11 03 29.3 -3.3
	baz=259,slow=28						
FINES	FINESS Array B	8.15	60	Pn		Pn	11 02 00.9 +1.1
	comp=Z,0.3nm,0.3s,baz=255,slow=10,SNR=11						
FINES				Sn		Sn	11 03 29.5 -3.0
	comp=Z,0.3nm,0.3s,baz=252,slow=23,SNR=1.7						
FINES				Lg		Lg	11 04 17.1
	comp=Z,0.3nm,0.3s,baz=259,slow=22,SNR=1.4						
ARCES	ARCESS Array B	12.93	23	Pn		Pn	11 03 02.1 -2.9
	comp=Z,0.1nm,0.3s,baz=211,slow=14,SNR=2.0						
ARCES				Sn		Sn	11 05 18.8 -11
	comp=Z,0.1nm,0.3s,baz=206,slow=22,SNR=2.1						

NIED ***22*** *11:00:00, 37°.80N×140°.00E, h5km, Mw4.0 Best double couple: M0 9.66000×1014 NP1:φs8.00000°, δ40.00000°, λ101.00000°. NP2:φs173.00000°, δ51.00000°, λ81.00000°.*
ISCJB ***22*** *11:00:02.0±0.4, 37°.79N±0°.02×139°.93E±0°.03, h11km±3km, mb4.2/38, MS2.9/1, Error ellipse: s-maj=5.0km s-min=3.3km az=35.0*
JMA ***22*** *11:00:02.4, 37°.77N×139°.98E, h8km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs2.00000°, δ51.00000°, λ88.00000°. NP2:φs186.00000°, δ39.00000°, λ93.00000°. Principal axes: T Plg84.0000°, Azm256.0000°; N Plg2.0000°, Azm4.0000°; P Plg6.0000°, Azm94.0000°;*
JMA Felt III J1.
NEIC ***22*** *11:00:06.0±1.4, 37°.88N×139°.73E, h25km±5km, mb4.3/29 Error ellipse: s-maj=12.7km s-min=1.6km az=189.0*
NEIC Felt at Aizu-Wakamatsu, Koriyama and Yonezawa. Recorded [3 JMA] in Fukushima.
IDC ***22*** *11:00:08.3±1.1, 37°.75N×139°.91E, h50km±11km, mb3.8/18, mb1 3.9/24, mb1mx3.8/49, mbtmp4.0/24, ML3.1/6, MS2.9/3, Ms1 3.0/3, ms1mx2.6/36, Error ellipse: s-maj=13.7km s-min=8.7km az=118.0*
ISC 22 11:00:02.1±0.9, 37°.76N±0°.03×139°.95E±0°.03, h5km±5km, n109, σ1§36/116, mb4.2/38, 8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAR	Yonezawaarcadi	0.21	45	P		Pg	11 00 06.4 +0.1
JYAR				S		Sg	11 00 09.5 +0.4
JFT	Otama	0.39	129	⇓P		Pg	11 00 09.8 +0.2
JFT				S		Sg	11 00 14.9 +0.1
JFY	Yanaizu	0.41	209	⇓P		Pg	11 00 10.7 +0.7
JFY				S		Sg	11 00 16.3 +1.0
JYS	Shirataka	0.47	11	P		Pg	11 00 11.5 +0.4
JYS				S		Sg	11 00 18.0 +0.8
JNS	Sasagawa	0.51	276	⇓P		Pg	11 00 12.5 +0.6
JMM	Marumori	0.67	81	⇓P		Pg	11 00 14.7 -0.3
JOU	Okura	0.82	43	⇓P		Pg	11 00 17.8 -0.1
JFK	Kawauchi	0.83	118	⇓P		Pg	11 00 17.7 -0.4
JAW	Awa shima	0.89	321	⇓P		Pg	11 00 19.6 +0.4
JHK	Hiroka	0.91	236	⇓P		Pg	11 00 19.6 +0.1
MAJO	Matsushiro	1.85	229	ePn		Pn	11 00 35.1 +0.6
MAJO				eSn		Sb	11 01 00.9 +1.0
MAT	Matsushiro	1.85	229	P		Pn	11 00 35.

PETK	Petropavlovsk-	19.68	33	P	Pn	11 04 34.8	+1.6
	0.1nm,0.3s,baz=201,slow=14,SNR=2.5						
PEA1	Petropavlovsk-	19.68	33	eP	Pn	11 04 34.8	+1.6
HHC	Hu-ho-hao-te	22.14	287	eP	P	11 04 57.4	-1.3
WHN	Wuhan	22.34	259	P	P	11 05 10.1	+9.4
MA2	Magadan	22.91	14	eP	P	11 05 07.1	+0.5
	9.3nm,1.0s						
MA2	Magadan	22.91	14	P	P	11 05 07.5	+0.9
	2.6nm,0.4s,baz=208,slow=7.5,SNR=5.2						
SEY	Seymchan	26.32	13	P	P	11 05 40.0	+1.5
	1.4nm,0.7s,baz=150,slow=3.1,SNR=3.8						
SONM	Songino Array	26.41	303	eP	P	11 05 37.9	-1.8
H11N2	WAKE ISLAND Hy	29.52	120	T	T	11 36 18.5	
	baz=313,slow=75,SNR=22						
H11N1	WAKE ISLAND Hy	29.53	120	T	T	11 36 17.6	
	baz=313,slow=75,SNR=25						
H11N3	WAKE ISLAND Hy	29.54	120	T	T	11 36 19.9	
	baz=313,slow=75,SNR=22						
H11S1	WAKE ISLAND Hy	30.23	122	T	T	11 37 09.2	
	baz=315,slow=75,SNR=36						
H11S3	WAKE ISLAND Hy	30.23	122	T	T	11 37 08.7	
	baz=315,slow=75,SNR=24						
H11S2	WAKE ISLAND Hy	30.25	122	T	T	11 37 09.5	
	baz=315,slow=75,SNR=22						
CD2	Chengdu	30.52	268	eP	P	11 06 14.9	-1.5
KMI	Kunming	33.94	259	P	P	11 06 46.9	+0.3
WMQ	Urumqi	39.48	296	eP	P	11 07 32.8	-0.6
WMQ				sP	sP	11 07 41.0	+5.0
ZAA1	Zalesovo Array	40.56	312	eP	P	11 07 42.1	0.0
ZAA1				ePcP	PcP	11 09 44.3	0.0
ZALV	Zalesovo Beam	40.56	312	eP	P	11 07 41.3	-0.9
ZALV	Zalesovo Beam	40.56	312	P	P	11 07 42.1	0.0
	2.3nm,0.8s,baz=90,slow=6.7,SNR=8.1						
ZALV				PcP	PcP	11 09 44.3	0.0
	1.6nm,0.3s,baz=75,slow=1.6,SNR=2.9						
CMAR	Chiang Mai Arr	40.58	253	LR	LR	11 24 58.8	
	comp=Z,14nm,18.6s,baz=180,slow=37						
SHL	Shillong	42.26	268	eP	P	11 07 56.1	-0.6
	15nm,0.3s						
MK31	Makanchi Array	42.75	301	eP	P	11 07 59.6	-0.6
	1.4nm,1.0s						
MK32	Makanchi Array	42.75	301	eP	P	11 07 59.2	-1.1
MK32				ePcP	PcP	11 09 51.6	-0.2
MKAR	Makanchi Array	42.75	301	eP	P	11 07 59.5	-0.8
MKAR	Makanchi Array	42.75	301	P	P	11 07 59.2	-1.1
	1.1nm,0.8s,baz=92,slow=12,SNR=7.1						
MKAR				PcP	PcP	11 09 51.6	-0.2
	0.5nm,0.8s,baz=94,slow=4.3,SNR=3.5						
KURK	Kurchatov	44.57	307	eP	P	11 08 14.0	-0.8
	7.7nm,0.8s						
MLY	Manley	47.85	32	eP	P	11 08 41.9	+1.4
	4.7nm,1.2s						
MDM	Murphy Dome	48.92	32	eP	P	11 08 49.9	+1.1
	2.7nm,1.0s						
KSH	Kashi	49.05	293	P	P	11 08 52.1	+1.9
KSH				S	S	11 15 55.1	-0.4
ILAR	Eielson Array	49.51	33	P	P	11 08 53.5	+0.4
	1.1nm,0.9s,baz=274,slow=5.6,SNR=11						
ILB	Eielson Array	49.51	33	eP	P	11 08 53.3	+0.1
	3.7nm,1.1s						
FYU	Fort Yukon	50.06	30	eSP	sP	11 09 12.9	+13
KK31	Karatay Array	51.75	299	eP	P	11 09 09.9	-0.6
	3.3nm,0.8s						
KKAR	Karatay Array	51.75	299	eP	P	11 09 09.7	-0.8
	3.3nm,0.8s						
KKAR				eP	pP	11 09 10.2	-2.2
BCAR	Beaver Creek A	51.95	34	eP	P	11 09 13.1	+1.4
INK	Inuvik	54.27	27	eP	P	11 09 28.9	+0.3
	1.6nm,0.9s						
INK	Inuvik	54.27	27	P	P	11 09 29.4	+0.8
	1.4nm,0.8s,baz=261,slow=1.5,SNR=5.8						
ABKAR	Akbulak array	56.58	309	eP	P	11 09 44.6	-0.9
ABKAR				eP	P	11 09 44.6	-0.9
AKTO	Aktyubinsk	57.32	311	P	P	11 09 50.6	-0.3
	0.7nm,0.3s,baz=73,slow=11,SNR=7.1						
AS31	Alice Springs	61.37	186	eP	P	11 10 19.8	+0.8
	0.7nm,0.8s						
ASAR	Alice Springs	61.37	186	P	P	11 10 18.6	-0.4
	0.9nm,0.8s,baz=15,slow=6.9,SNR=14						
YKA	Yellowknife Ar	63.76	30	P	P	11 10 34.8	+0.3
	0.1nm,0.4s,baz=301,slow=6.9,SNR=3.9						
YKB5	Yellowknife Ar	63.76	30	eP	P	11 10 34.8	+0.3
FIA0	FINESS Array S	67.62	332	eP	P	11 10 58.8	-0.7
FINES	FINESS Array B	67.62	332	P	P	11 10 58.8	-0.7
	3.2nm,0.8s,baz=22,slow=11,SNR=5.8						
AKASG	Malin Array Be	73.01	322	P	P	11 11 31.9	-0.7
	0.4nm,0.3s,baz=47,slow=7.0,SNR=10.0						
AKBB	Malin Array Si	73.01	322	eP	P	11 11 30.8	-1.8
	4.9nm,0.9s						
NB2	NORSAR Subarra	73.06	337	P	P	11 11 32.0	-0.8
	comp=Z,1.3nm,0.8s,baz=40,slow=6.2						
NB200	NORSAR Array S	73.06	337	eP	P	11 11 32.2	-0.7
NOA	NORSAR Array B	73.06	337	P	P	11 11 32.2	-0.7
	comp=Z,1.9nm,0.8s,baz=39,slow=5.9,SNR=5.2						
BEKR	Beckworth	73.34	52	eP	P	11 11 38.1	+3.0
	comp=Z,9.2nm,1.0s						
KVN	Kaiserville	75.23	52	eP	P	11 11 47.4	+1.3
	comp=Z,3.3nm,0.7s						
NV01	Mina Array Sit	75.48	53	eP	P	11 11 48.3	+0.7
NVAR	Mina Array Bea	75.48	53	eP	P	11 11 48.4	+0.9
NVAR	Mina Array Bea	75.48	53	P	P	11 11 48.3	+0.7
	comp=Z,1.7nm,0.7s,baz=300,slow=5.3,SNR=10.0						
H17A	Grant Village	76.36	44	eP	P	11 11 55.4	+2.8
	comp=Z,4.8nm,1.0s						
BUR08	Bucovina Ar. S	77.00	321	eP	P	11 11 55.7	-0.3
	comp=Z,2.3nm,0.9s						
BURAR	Bucovina Array	77.02	321	eP	P	11 11 56.1	+0.2
BR101	Keskin Array S	77.50	311	eP	P	11 11 58.9	0.0
BRTR	Keskin Array B	77.50	311	eP	P	11 11 58.7	-0.2
BRTR	Keskin Array B	77.50	311	P	P	11 11 58.9	0.0
	comp=Z,1.3nm,0.8s,baz=104,slow=4.0,SNR=6.8						
PD31	Pinedale Array	77.98	45	eP	P	11 12 02.0	+0.4
	comp=Z,1.8nm,0.9s						
PDAR	Pinedale Array	77.98	45	eP	P	11 12 02.3	+0.7
PDAR	Pinedale Array	77.98	45	P	P	11 12 01.3	-0.4
	comp=Z,1.0nm,0.7s,baz=282,slow=2.3,SNR=8.1						
SRU	San Rafael Swe	79.80	48	eP	P	11 12 13.0	+1.3
	comp=Z,3.4nm,0.8s						
U15A	North Rim	80.47	51	eP	P	11 12 16.9	+1.5
	comp=Z,2.5nm,0.8s						
PV13	Radium Mtn., P	81.43	48	eP	P	11 12 22.8	+2.3
	comp=Z,12nm,1.7s						
GERES	GERESS Array B	81.48	327	P	P	11 12 20.4	0.0
	comp=Z,0.8nm,0.6s,baz=44,slow=4.2,SNR=5.8						
ANMO	Albuquerque	85.00	49	eP	P	11 12 40.7	+1.8
	comp=Z,5.8nm,1.6s						
IDI	Anoyia	85.64	312	P	P	11 12 40.7	-1.2
	comp=Z,3.6nm,0.8s,baz=30,slow=15,SNR=3.7						
SSB	Saint Sauveur	88.09	330	eP	P	11 12 52.7	-1.0
	comp=Z,10nm,0.8s						
TX31	Lajitas Ar. Si	90.59	51	eP	P	11 13 05.5	-0.3
	comp=Z,0.9nm,0.8s						
LTX	Lajitas	90.59	51	eP	P	11 13 06.5	+0.8
TXAR	Lajitas Array	90.59	51	eP	P	11 13 06.2	+0.4
TXAR	Lajitas Array	90.59	51	P	P	11 13 06.5	+0.8
	comp=Z,0.9nm,0.7s,baz=302,slow=3.6,SNR=8.6						
ESDC	Sonseca Array	96.12	333	P	P	11 13 27.9	-3.1
	comp=Z,0.1nm,0.3s,baz=24,slow=4.0,SNR=2.5						
VNA2	Neumayer--Watz	142.68	197	PKiKP	PKPdf	11 19 30.1	-5.1
	baz=100,slow=1.9						
LPAZ	La Paz	147.30	57	ePKPdf	PKPdf	11 19 45.6	+0.1
LPAZ	La Paz	147.30	57	PKPbc	PKPbc	11 19 48.3	+0.4
	comp=Z,1.8nm,0.8s,baz=333,slow=3.5,SNR=8.1						

NIED ***22*** *11:06:00,38˚.40N×142˚.20E,h56km,Mw3.8 Best double couple: M0=6.17000×10^14 NP1:φs=212.00000°,δ46.00000°, λ76.00000°. NP2:φs=51.00000°,δ46.00000°,λ104.00000°.*
IDC ***22*** *11:06:29.8±7.4,38˚.53N×142˚.75E,h0km,mb3.7/2, mb1 3.5/4,mb1mx3.3/32,mbtmp3.5/4,ML2.3/2,Error ellipse: s-maj=119.8km s-min=40.8km az=121.0*
JMA ***22*** *11:06:38.4±0.1,38˚.46N×142˚.13E,h50km±1km,M3.7*
JMA Felt II J1.

ISC 22 11:06:36.0±2.2,38˚.48N±0˚.05×142˚.13E±0˚.10,h15km±10km, n24,σ1§17/31,4C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.55	253	P	Pn	11 06 50.2	+0.8
JIKH				S	Sn	11 06 58.3	0.0
JKMT	Kesennumamotoy	0.61	303	P	Pn	11 06 51.2	+0.9
JKMT				S	Sn	11 07 00.3	+0.4
JIO	Ouri	0.61	268	⇑P	Pn	11 06 51.1	+0.8
JIO				S	Sn	11 06 59.9	0.0
OFUJ	Ofunato	0.70	329	⇓P	Pn	11 06 52.4	+0.9
OFUJ				S	Sn	11 07 02.6	+0.5
JMK	Ichinoseki	0.86	304	⇓P	Pn	11 06 54.5	+0.9
JMK				S	Sn	11 07 06.1	+0.2
JOU	Okura	1.16	265	⇓P	Pg	11 06 58.5	+0.1
JOU				S	Sg	11 07 13.2	-0.3
JOM	Ohasama	1.19	327	⇓P	Pg	11 06 59.3	+0.3
JOM				S	Sn	11 07 14.7	+0.5
JMM	Marumori	1.22	240	⇑P	Pb	11 06 58.7	-0.1
JMM				S	Sb	11 07 13.6	-0.8
JYK	Kaneyama	1.46	288	⇓P	Pb	11 07 02.9	0.0
JYK				S	Sb	11 07 21.1	-0.1
JRG	Rokugo	1.49	309	⇓P	Pb	11 07 03.1	-0.3
JFK	Kawauchi	1.49	222	⇑P	Pn	11 07 02.4	+0.1
JYS	Shirataka	1.65	262	P	Pb	11 07 05.5	-0.6
JYS				S	Sn	11 07 25.1	-0.3
JFT	Otama	1.71	237	⇑P	Pn	11 07 06.1	+0.7
JFT				S	Sn	11 07 26.9	-0.1
MAT	Matsushiro	3.67	239	P	Pn	11 07 34.5	+2.2
MAT				S	Sn	11 08 19.2	+3.9
MJAR	Matsushiro Arr	3.67	239	Pn	Pn	11 07 34.0	+1.7
	0.3nm,0.3s,baz=49,slow=11,SNR=10						
MJAR				Sn	Sb	11 08 22.9	-2.0
	0.3nm,0.3s,baz=75,slow=16,SNR=4.0						
USRK	Ussuriysk Ar.	9.53	310	Pn	Pn	11 08 53.2	+0.5
	0.2nm,0.3s,baz=119,slow=12,SNR=1.3						
H11N2	WAKE ISLAND Hy	28.44	124	T	T	11 43 02.1	
	baz=317,slow=75,SNR=187						
H11N1	WAKE ISLAND Hy	28.45	124	T	T	11 42 57.4	
	baz=317,slow=75,SNR=106						
H11N3	WAKE ISLAND Hy	28.46	124	T	T	11 43 03.6	
	baz=317,slow=75,SNR=188						
H11S1	WAKE ISLAND Hy	29.20	126	T	T	11 43 44.5	
	baz=318,slow=76,SNR=86						
H11S3	WAKE ISLAND Hy	29.21	126	T	T	11 43 48.1	
	baz=318,slow=76,SNR=126						
H11S2	WAKE ISLAND Hy	29.22	126	T	T	11 43 46.5	
	baz=318,slow=76,SNR=62						
ZALV	Zalesovo Beam	41.38	311	P	P	11 14 19.5	-1.8
	1.0nm,0.5s,baz=92,slow=7.1,SNR=2.5						
MKAR	Makanchi Array	43.85	301	P	P	11 14 41.0	-0.6
	0.5nm,0.7s,baz=78,slow=10.0,SNR=4.0						

KRSC 22 11:07:49.2±10.0,52˚.05N×160˚.56E,h18km±10km,ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.10	343	eP	Pn	11 08 09.7	0.0
SPN				eS	Sn	11 08 24.5	+0.1
RUS	Russkaya	1.31	288	eP	Pb	11 08 13.0	-0.3
RUS				eS	Sn	11 08 29.1	-0.6
NLC	Nalytchevo	1.34	327	eP	Pb	11 08 13.9	+0.1
NLC				eS	Sb	11 08 31.6	+0.9
DALK	Dalny	1.48	312	eP	Pn	11 08 15.4	+0.6
DALK				eS	Sn	11 08 33.4	-0.3
PET	Petropavlovsk	1.52	311	eP	Pn	11 08 16.1	+0.7
PET				eS	Sn	11 08 34.7	0.0
MTVR	Mutnovka	1.52	287	eP	Pb	11 08 16.6	-0.4
MTVR				eS	Sb	11 08 35.6	-0.4
KDTR	Khodutka, Kamc	1.56	262	eP	Pb	11 08 16.8	-0.6
KDTR				eS	Sn	11 08 35.0	-0.7
UGLR	Uglovaya	1.57	318	eP	Pb	11 08 17.5	-0.2
UGLR				eS	Sb	11 08 37.8	+0.5
SDLR	Sedlovina	1.60	321	eP	Pb	11 08 17.6	-0.6
SMAR	Somma	1.62	319	eP	Pb	11 08 18.0	-0.6
AVH	Avacha	1.65	318	eP	Pb	11 08 18.5	-0.5
AVH				eS	Sg	11 08 41.0	-1.2
ASAK	Asacha	1.67	282	eP	Pb	11 08 19.1	-0.3
ASAK				eS	Sb	11 08 41.3	+1.1
KRER	Koryakskii	1.67	319	eP	Pb	11 08 19.4	-0.1
KRMR	Karymshinskiy	1.68	299	eP	Pb	11 08 18.6	-0.9
KRMR				eS	Sb	11 08 40.6	+0.3
KOK	Koryaka	1.71	317	eP	Pb	11 08 19.2	-0.9
KRX	Arik	1.75	319	eP	Pb	11 08 20.0	-0.9
APC	Apacha	2.26	294	eP	Pn	11 08 27.2	+1.6
MKZ	Mys Kozlova	2.60	15	eP	Pn	11 08 31.4	+1.1

DJA 22 11:15:03.9±0.3,1˚N±4˚×12˚.5E±˚,h10km,M3.6/7,MLv3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.67	233	P	Pg	11 15 15.0	-1.9
KMSI				S	Sg	11 15 24.3	-1.5
MRSI	Marisa	2.63	259	P	Pn	11 15 47.2	+0.8
LUWI	Luwuk	2.66	221	P	Pn	11 15 48.1	+1.2
SANI	Sanana	3.35	154	P	Pn	11 15 56.3	0.0
APSI	Ampana	3.43	237	P	Pn	11 16 00.1	+2.6
MPSI	Mapaga	4.67	262	P	Pn	11 16 16.2	+1.7
TTSI	Tana Toraja	6.17	230	P	Pn	11 16 41.2	+6.0
SPSI	Sidrap Palu	6.83	224	P	Pb	11 16 54.0	-8.8

IDC ***22*** *11:35:17.1±0.5,30˚.33S×177˚.52W,h0km,mb4.4/12, mb1 4.6/12,mb1mx4.5/19,mbtmp4.4/12,MS4.1/15, Ms1 4.1/15,ms1mx4.0/26,Error ellipse: s-maj=22.7km s-min=19.8km az=113.0*
ISCJB ***22*** *11:35:20.1±0.2,30˚.82S±0˚.03×177˚.56W±0˚.05,h33km, mb4.9/67,MS4.3/20,Error ellipse: s-maj=7.0km s-min=3.0km az=29.4*
MOS ***22*** *11:35:21.0±0.9,30˚.39S×177˚.69W,h33km,mb5.1/29, Error ellipse: s-maj=12.7km s-min=9.9km az=64.8*
NEIC ***22*** *11:35:22.3±1.2,30˚.40S×177˚.65W,h35km±2km,mb4.9/65, Error ellipse: s-maj=16.0km s-min=11.7km az=91.0*
GCMT ***22*** *11:35:23.3±0.3,30˚.43S±0˚.03×177˚.19W±0˚.02,h29km, MW5.0/62,Moment Tensor Solution. s55,c73; s62,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.89±.17; Mθθ0.84±.13; Mφφ3.05±.11; Mrθ0.32±.25; Mθφ1.53±.10; Mφr-0.15±.15; Best double couple: M=3.87700×10^16 NP1:φs=212.00000°,δ45.00000°,λ-83.00000°. NP2: φs=22.00000°,δ45.00000°,λ-97.00000°. Principal axes: T 3.8320, Plg0.0000°, Azm297.0000°; N 0.0870, Plg5.0000°, Azm27.0000°; P -3.9210, Plg85.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 11:35:21.6±0.3,30˚.66S±0˚.03×177˚.57W±0˚.05,h33km, n313,σ1§80/291,mb5.0/67,MS4.3/20,8C-5D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.42	348	P	Pn	11 35 41.2	-3.9
GLKZ				S	Sn	11 35 57.2	-5.5
RAO	Raoul Island	1.43	348	ePn	Pn	11 35 42.0	-3.2
RAO				eSn	Sn	11 35 55.5	-7.4
RAO	Raoul Island	1.43	348	eP	Pn	11 35 42.0	-3.2
RAO				e		11 35 55.5	
RIZ	Raoul Island	1.44	347	P	Pn	11 35 41.7	-3.7
RIZ				S	Sn	11 35 58.0	-5.1
MXZ	Matakaoa Point	7.69	205	ePn	Pn	11 37 12.0	+0.8
MXZ	Matakaoa Point	7.69	205	P	Pn	11 37 11.5	+0.3
WMGZ	Waiomatatini S	7.88	204	P	Pn	11 37 12.4	-1.4
WMGZ				S	Sn	11 38 43.7	+1.9
HAZ	Te Kaha	8.06	207	P	Pn	11 37 15.0	-1.3
PKGZ	Pakihiroa	8.06	205	P	Pn	11 37 14.3	-2.1
PUZ	Puketiti	8.16	204	P	Pn	11 37 15.5	-2.2
PUZ				S	Sn	11 38 48.8	+0.1
KUZ	Kuaotunu	8.25	221	P	Pn	11 37 24.6	+5.7
RUGZ	Raukumara Rang	8.28	207	P	Pn	11 37 18.3	-1.2
TWGZ	Tauwhareparae	8.35	205	P	Pn	11 37 18.9	-1.4
CNGZ	Carnagh Statio	8.55	203	P	Pn	11 37 21.1	-1.9
WCZ	Waipu Caves	8.57	230	P	Pn	11 37 32.0	+8.7
TKGZ	Te Karaka	8.63	205	P	Pn	11 37 22.3	-1.8
MWZ	Matawai	8.66	207	P	Pn	11 37 21.8	-2.7
OPRZ	Ohinepanea	8.66	213	P	Pn	11 37 23.8	-0.7
OUZ	Omahuta	8.71	236	ePn	Pn	11 37 33.0	+7.9
OUZ	Omahuta	8.71	236	P	Pn	11 37 33.5	+8.3
URZ	Urewera	8.76	209	ePn	Pn	11 37 24.4	-1.5
URZ	Urewera	8.76	209	Pn	Pn	11 37 22.9	-3.0
	1.5nm,0.3s,baz=63,slow=18,SNR=23						
URZ				Sn	Sn	11 39 04.8	+1.3
	13nm,0.3s,baz=239,slow=21,SNR=14						
URZ	Urewera	8.76	209	P	Pn	11 37 22.6	-3.3
MKAZ	Moumakai	8.82	221	P	Pn	11 37 30.6	+3.8
RAGZ	Rawiri	8.84	206	P	Pn	11 37 25.2	-1.9
RIGZ	Rimuhau	8.90	204	P	Pn	11 37 26.1	-1.8
PRGZ	Paritu Road	9.05	203	P	Pn	11 37 26.9	-3.0
MUGZ	Murupara	9.09	209	P	Pn	11 37 27.7	-2.7
MUGZ				S	Sn	11 39 12.1	+0.5
TOZ	Tahuroa Road	9.09	217	P	Pn	11 37 32.4	+2.0
RTZ	Ruatahuna	9.12	208	P	Pn	11 37 29.2	-1.7
SNGZ	Shannon Statio	9.12	206	P	Pn	11 37 28.4	-2.5
KNZ	Kokohu	9.21	204	P	Pn	11 37 29.4	-2.7
RAHZ	Arahi	9.34	207	P	Pn	11 37 31.2	-2.6
MTHZ	Maungataniwha	9.38	208	P	Pn	11 37 31.6	-2.8
MRHZ	Matea Rd	9.54	210	P	Pn	11 37 34.1	-2.5
NMHZ	Naumai	9.60	207	P	Pn	11 37 35.3	-2.2
ARHZ	Aropaoanui	9.67	206	P	Pn	11 37 35.9	-2.5
BKZ	Black Stump Fm	9.79	208	ePn	Pn	11 37 37.8	-2.2
BKZ	Black Stump Fm	9.79	208	P	Pn	11 37 36.9	-3.1
MCHZ	McNeill Hill	9.94	207	P	Pn	11 37 39.2	-2.9
KWHZ	Kaweka Forest	10.03	208	P	Pn	11 37 41.9	-1.5
KAHZ	Kahuranaki	10.18	205	P	Pn	11 37 40.8	-4.6
BHHZ	Black Hill Sta	10.24	209	P	Pn	11 37 43.5	-2.7
KRHZ	Kereru	10.24	207	P	Pn	11 37 42.9	-3.3
PRHZ	Porangahau	10.69	205	P	Pn	11 37 47.6	-4.6
TSZ	Takapari Road	10.76	208	P	Pn	11 37 48.9	-4.5
BFZ	Birch Farm	11.19	205	ePn	Pn	11 37 57.3	-1.9
BFZ	Birch Farm	11.19	205	P	Pn	11 37 54.0	-5.1
THZ	Tophouse	13.48	212	ePn	Pn	11 38 29.8	-0.7
CRLZ	Canterbury Las	15.06	208	ePn	P	11 38 58.7	+1.9
	269nm,1.6s						
OXZ	Oxford	15.11	210	ePn	P	11 38 58.6	+1.2
	116nm,1.5s						
RPZ	Rata Peaks	15.86	212	Pn	Pn	11 39 03.2	+0.9
	2.4nm,0.3s,baz=335,slow=1.4,SNR=9.4						
RPZ				Sn	Sn	11 41 44.5	-12
	1.4nm,0.3s,baz=258,slow=22,SNR=7.3						
DZM	Mont Dzumac	16.67	297	eP	Pn	11 39 13.0	+0.2
	184nm,1.6s						
DZM				eLR	LR	11 43 01.4	
	comp=Z,1μm,22.3s						
DZM	Mont Dzumac	16.67	297	Pn	P	11 39 16.9	+1.9
	0.4nm,0.3s,baz=118,slow=10,SNR=14						
DZM				LR	LR	11 44 42.3	
	comp=Z,2μm,18.1s,baz=130,slow=34						
MLZ	Mavora Lakes	18.47	213	eP	P	11 39 35.2	+0.6
	51nm,1.4s						
RAR	Rarotonga	18.54	64	LR	LR	11 44 44.9	
	comp=Z,515nm,19.5s,baz=244,slow=31						
WHZ	Wether Hill Ro	18.94	213	eP	P	11 39 38.0	-1.8
	104nm,1.6s						
LHI	Lord Howe Isla	20.03	262	eP	Pn	11 39 58.5	+5.0
	234nm,1.5s						
TBI	Tubuai	26.04	81	eT	T	12 07 46.6	
	30nm,0.4s						
ARMA	Armidale	26.49	263	eP	P	11 40 56.9	+0.9
	41nm,1.6s						
ARMA	Armidale	26.49	263	P	P	11 40 57.6	+1.5
	baz=26,SNR=6.3						
MGCD	Mangrove Creek	26.65	256	P	P	11 40 58.3	+0.9
	baz=26,SNR=10						
EIDS	Eidsvold	28.12	273	eP	P	11 41 10.6	0.0
	20nm,1.1s						
EIDS	Eidsvold	28.12	273	P	P	11 41 14.2	+3.6
	baz=28,SNR=4.5						
CAN	Canberra	28.34	252	eP	P	11 41 13.7	+1.1
	48nm,1.4s						
CAN	Canberra	28.34	252	eP	P	11 41 13.7	+1.1
CAN				pmax	pmax		
	comp=Z,48nm,1.4s						
PAE	Paea	28.54	70	eT	T	12 10 53.2	
	comp=Z,6.6nm,0.3s						
PPT2	Papeete2	28.58	69	eS	S	11 46 03.7	+2.6
	comp=Z,138nm,26.0s						
PPT2				eLR	LR	11 48 31.5	
	comp=Z,531nm,23.2s,baz=238						
PPT2	Papeete2	28.58	69	eT	T	12 10 56.9	
	comp=Z,4.8nm,0.3s						
PPTF	Pamatai, Papee	28.59	69	eP	P	11 41 15.1	+0.3
	comp=Z,247nm,1.6s						
PPT	Papeete	28.59	69	eP	P	11 41 16.1	+1.3
PPT	Papeete	28.59	69	eP	P	11 41 16.1	+1.3
PPT	Papeete	28.59	69	LR	LR	11 52 31.7	
	comp=Z,277nm,18.1s,baz=241,slow=36						
TVO	Taravao	28.74	70	eT	T	12 11 08.7	
	comp=Z,1.8nm,0.3s						
MCQ	Macquarie Isla	29.17	208	eP	P	11 41 23.7	+4.1
	comp=Z,157nm,1.3s						
MCQ	Macquarie Isla	29.17	208	eP	P	11 41 23.7	+4.1
MCQ				pmax	pmax		
	comp=Z,157nm,1.3s						
RMQ	Roma	29.80	270	P	P	11 41 28.0	+2.5
	baz=29,SNR=20						
TAU	Tasmania Unive	30.45	237	eP	P	11 41 32.3	+1.3
	comp=Z,43nm,1.5s						
TAU	Tasmania Unive	30.45	237	eP	P	11 41 32.3	+1.3
TAU				pmax	pmax		
	comp=Z,43nm,1.5s						
TOO	Toolangi	31.20	247	eP	P	11 41 40.3	+2.4
	comp=Z,35nm,1.5s						
TOO	Toolangi	31.20	247	eP	P	11 41 40.3	+2.4
TOO				pmax	pmax		
	comp=Z,35nm,1.5s						
CMSA

baz=55,SNR=3.4
MORW Morawa 56.81 253 P **P 11 45 02.2 -0.7**
baz=56,SNR=4.5
QSPA South Pole Qui 59.45 180 *e*P **P 11 45 24.2 +3.3**
comp=Z,16nm,0.8s
MAW Mawson 72.20 200 *e*P **P 11 46 44.9 +2.1**
comp=Z,3.0nm,1.3s
MAW Mawson 72.20 200 *e*P **P 11 46 44.9 +2.1**
MAW pmax pmax
comp=Z,3.0nm,1.3s
MAW Mawson 72.20 200 P **P 11 46 45.2 +2.5**
comp=Z,3.5nm,0.8s,baz=87,slow=7.0,SNR=5.9
MAW LR LR 12 17 25.0
comp=Z,173nm,20.7s,baz=93,slow=35
LEM Lembang 73.50 272 LR LR 12 21 16.7
comp=Z,224nm,18.7s,baz=160,slow=38
SYO Syowa Base 76.95 193‖ *e*P **P 11 47 10.7 +0.4**
SYO Syowa Base 76.95 193‖ *e*PcP **PcP 11 47 21.6 +0.4**
SYO Syowa Base 76.95 193‖ *e*pP pP 11 47 22.0 +2.8
SNAA Sanae 77.89 178 P **P 11 47 16.9 +1.3**
SNAA Sanae 77.89 178 *e*P **P 11 47 17.4 +1.8**
comp=Z,19nm,1.2s
SNAA Sanae 77.89 178 *c i*P **P 11 47 17.5 +1.8**
VNA3 Neumayer Olymp 78.02 176 P **P 11 47 17.9 +1.5**
VNA2 Neumayer--Watz 78.46 177 P **P 11 47 20.7 +1.9**
baz=173,slow=5.7
MJAR Matsushiro Arr 78.66 325 P **P 11 47 18.8 -1.5**
comp=Z,1.0nm,0.7s,baz=101,slow=41,SNR=3.0
MAJO Matsushiro 78.67 325 *e*P **P 11 47 18.8 -1.5**
MAJO Matsushiro 78.67 325 *e*P **P 11 47 18.8 -1.5**
VNA1 Neumayer--Stat 78.69 176 P **P 11 47 21.7 +1.7**
YUK Yuzh-Kuril'sk 81.50 334 *e*P **P 11 47 31.0 -4.3**
PLCA Paso Flores 82.06 133 *e*P **P 11 47 40.3 +1.5**
comp=Z,14nm,1.6s
PLCA Paso Flores 82.06 133 *e*P **P 11 47 40.3 +1.5**
PLCA pmax pmax
comp=Z,14nm,1.6s
PLCA Paso Flores 82.06 133 P **P 11 47 40.2 +1.4**
comp=Z,1.3nm,0.8s,baz=359,slow=8.1,SNR=2.7
KSRS Korea Array 84.78 319 P **P 11 47 52.6 +0.2**
comp=Z,0.4nm,0.4s,baz=129,slow=6.2,SNR=5.1
KSRS LR LR 12 23 27.3
comp=Z,42nm,19.3s,baz=145,slow=34
KS15 Wonju Array Si 84.80 319 *e*P **P 11 47 52.1 -0.4**
comp=Z,16nm,1.5s
KSAR Wonju Array Be 84.80 319 *e*P **P 11 47 52.3 -0.2**
KSAR Wonju Array Be 84.80 319 *e*P **P 11 47 52.3 -0.2**
YSS Yuzh-Sakhalins 85.14 334 *e*P **P 11 47 53.8 -0.2**
comp=Z,21nm,1.0s
YSS Yuzh-Sakhalins 85.14 334 *e*P **P 11 47 54.7 +0.7**
YSS *e* 11 48 08.0
YSS *e* 11 51 14.8
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,300nm,14.0s
PSI Prapat 85.83 276 *e*P **P 11 47 57.0 -1.4**
comp=Z,7.1nm,1.0s
PSI Prapat 85.83 276 *e*P **P 11 47 57.0 -1.4**
PSI pmax pmax
comp=Z,7.0nm,1.0s
PSI Prapat 85.83 276 LR LR 12 26 30.6
comp=Z,130nm,20.8s,baz=150,slow=36
PFO Pinyon Flats O 86.11 47 *e*P **P 11 48 00.1 +0.7**
comp=Z,6.3nm,1.1s
PFO Pinyon Flats O 86.11 47 *e*P **P 11 48 00.1 +0.7**
PFO pmax pmax
comp=Z,6.0nm,1.1s
PETK Petropavlovsk- 86.15 345 *e*P **P 11 47 57.1 -1.8**
PETK Petropavlovsk- 86.15 345 *e*P **P 11 47 57.1 -1.8**
PETK Petropavlovsk- 86.15 345 P **P 11 47 58.6 -0.3**
comp=Z,7.6nm,0.8s,baz=130,slow=7.1,SNR=9.6
PEA1 Petropavlovsk- 86.16 345 *e*P **P 11 47 58.6 -0.3**
NJ2 Nanjing 86.69 310 *e*P **P 11 48 03.8 +1.7**
NJ2 pmax pmax
comp=Z,16nm,0.5s
GLA Glamis 86.79 48 *e*P **P 11 48 02.3 -0.3**
comp=Z,11nm,0.9s
GLA Glamis 86.79 48 *e*P **P 11 48 02.3 -0.3**
GLA pmax pmax
comp=Z,11nm,0.9s
GSC Goldstone, Bar 87.00 46 *e*P **P 11 48 03.7 +0.1**
comp=Z,20nm,1.3s
GSC Goldstone, Bar 87.00 46 *e*P **P 11 48 03.7 +0.1**
GSC pmax pmax
comp=Z,20nm,1.3s
USRK Ussuriysk Ar. 87.58 326 P **P 11 48 06.7 +0.7**
comp=Z,5.3nm,1.0s,baz=186,slow=5.7,SNR=5.8
NV01 Mina Array Sit 88.18 42 *e*P **P 11 48 09.8 +0.4**
NVAR Mina Array Bea 88.18 42 *e*P **P 11 48 08.9 -0.5**
NVAR Mina Array Bea 88.18 42 P **P 11 48 09.8 +0.4**
comp=Z,3.0nm,0.8s,baz=222,slow=8.1,SNR=17
NVAR LR LR 12 21 08.2
comp=Z,100nm,20.4s,baz=210,slow=31
TPNV Topopah Spring 88.42 45 *e*P **P 11 48 11.0 +0.5**
comp=Z,7.5nm,1.1s
TPNV Topopah Spring 88.42 45 *e*P **P 11 48 11.0 +0.5**
TPNV pmax pmax
comp=Z,8.0nm,1.1s
TYV Tymovskoe 88.44 336 *e*P **P 11 48 07.0 -3.0**
TYV pmax pmax
comp=Z,9.0nm,0.9s
Y14A Wickenburg 88.53 49 *e*P **P 11 48 10.6 -0.4**
comp=Z,8.0nm,0.9s
W13A Hualapai Mount 88.69 47 *e*P **P 11 48 12.0 +0.1**
comp=Z,7.7nm,1.0s
KVN Kaiserville 88.71 42 *e*P **P 11 48 11.6 -0.2**
comp=Z,18nm,1.6s
KVN Kaiserville 88.71 42 *e*P **P 11 48 11.6 -0.2**
KVN pmax pmax
comp=Z,18nm,1.6s
SHPR Sheep Range 88.79 46 *e*P **P 11 48 12.7 +0.5**
comp=Z,6.6nm,1.2s
WHN Wuhan 88.80 307 P P 11 48 06.5 -5.7
319A Douglas 89.44 53 *e*P **P 11 48 15.2 -0.1**
comp=Z,8.2nm,1.0s
X16A Lo Mia Camp, P 89.84 49 *e*P **P 11 48 17.1 -0.1**
comp=Z,11nm,0.9s
LCMT Little Creek M 90.30 46 *e*P **P 11 48 19.3 0.0**
comp=Z,6.7nm,1.1s
U15A North Rim 90.53 47 *e*P **P 11 48 20.5 -0.1**
comp=Z,9.8nm,0.9s
WUAZ Wupatki 90.56 48 *e*P **P 11 48 21.3 +0.8**
comp=Z,13nm,1.0s
CCUT Cedar City 90.57 46 *e*P **P 11 48 21.8 +1.1**
comp=Z,7.2nm,1.3s
KNB Kanab 90.57 46 *e*P **P 11 48 21.4 +0.8**
comp=Z,8.8nm,1.0s
KNB Kanab 90.57 46 *e*P **P 11 48 21.4 +0.8**
KNB pmax pmax
comp=Z,9.0nm,1.0s
X18A Snowflake 90.88 50 *e*P **P 11 48 21.5 -0.6**
comp=Z,8.0nm,1.0s
W18A Petrified Fore 91.38 49 *e*P **P 11 48 23.6 -0.7**
comp=Z,12nm,1.2s
KLR Kul'dur 91.44 330 *i* P **P 11 48 23.4 -0.7**
KLR pmax pmax
comp=Z,15nm,2.0s
ELK Elko 91.48 42 *e*P **P 11 48 24.5 -0.3**
comp=Z,3.2nm,1.4s
ELK Elko 91.48 42 *e*P **P 11 48 24.5 -0.3**
ELK pmax pmax
comp=Z,3.0nm,1.4s
MSU Marysvale 91.90 46 *e*P **P 11 48 27.7 +0.9**
MSU Marysvale 91.90 46 *e*P **P 11 48 27.7 +0.9**
TX31 Lajitas Ar. Si 92.22 57 *e*P **P 11 48 28.1 -0.2**
comp=Z,5.8nm,1.4s
LTX Lajitas 92.22 57 *e*P **P 11 48 28.9 +0.6**
LTX Lajitas 92.22 57 *e*P **P 11 48 28.9 +0.6**
TXAR Lajitas Array 92.22 57 *e*P **P 11 48 28.0 -0.3**
TXAR Lajitas Array 92.22 57 *e*P **P 11 48 28.0 -0.3**
TXAR Lajitas Array 92.22 57 P **P 11 48 28.9 +0.6**
comp=Z,1.4nm,0.9s,baz=216,slow=5.7,SNR=9.6
TXAR LR LR 12 23 16.0
comp=Z,107nm,19.2s,baz=0.0,slow=31
MNTX Cornudas Mount 92.33 54 *e*P **P 11 48 28.9 +0.2**
comp=Z,0.9nm,0.9s
TMUT Trail Mountain 92.98 45 *e*P **P 11 48 31.8 0.0**
comp=Z,13nm,1.5s
SRU San Rafael Swe 93.28 46 *e*P **P 11 48 33.5 +0.4**
comp=Z,4.7nm,1.1s
SRU San Rafael Swe 93.28 46 *e*P **P 11 48 33.5 +0.4**
SRU pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 93.45 51 *e*P **P 11 48 34.1 +0.1**
comp=Z,3.0nm,0.9s
ANMO Albuquerque 93.45 51 *e*P **P 11 48 34.1 +0.1**
ANMO pmax pmax
comp=Z,3.0nm,0.9s
MA2 Magadan 93.64 344 *c e*P **P 11 48 32.5 -1.5**
MA2 pmax pmax
comp=Z,3.0nm,1.1s
HLID Hailey 93.76 41 *e*P **P 11 48 35.5 +0.3**
comp=Z,2.4nm,0.9s
PV12 Saucer Basin, 93.89 47 *e*P **P 11 48 36.2 +0.2**
comp=Z,6.0nm,1.1s
KMI Kunming 94.27 297 P **P 11 48 39.3 +1.3**
KMI pmax pmax
comp=Z,16nm,0.5s
EYAK Cordova Ski Ar 94.54 15 *e*P P 11 48 32.6 -5.5
comp=Z,21nm,1.3s
PDAR Pinedale Array 96.06 43 LR LR 12 26 02.3
comp=Z,69nm,19.4s,baz=250,slow=32
SEY Seymchan 96.31 347 *i* P **P 11 48 45.4 -0.7**
CD2 Chengdu 96.54 302 *e*P **P 11 48 48.8 +0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BOZ Bozeman (W) 96.58 40 *e*P **P 11 48 47.8 -0.2**
comp=Z,2.8nm,1.0s
BOZ Bozeman (W) 96.58 40 *e*P **P 11 48 47.8 -0.2**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
Q24A Divide 96.59 48 *e*P **P 11 48 48.3 -0.1**
comp=Z,5.2nm,0.8s
HHC Hu-ho-hao-te 96.68 314 *e*P **P 11 48 51.3 +2.8**
HHC pmax pmax
comp=Z,54nm,1.3s
HHC pmax pmax
comp=Z,160nm,7.3s
LPAZ La Paz 97.70 114 LR LR 12 24 08.1
comp=Z,56nm,21.6s,baz=182,slow=30
ILAR Eielson Array 98.09 13 P **P 11 48 53.7 -0.4**
comp=Z,0.3nm,0.7s,baz=211,slow=5.1,SNR=3.8
ILAR LR LR 12 27 33.0
comp=Z,40nm,20.4s,baz=184,slow=32
ILB Eielson Array 98.09 13 *e*P **P 11 48 53.7 -0.4**
comp=Z,3.6nm,1.4s
BILL Bilibino 99.14 354 *e*P **Pdif 11 48 59.0 +0.3**
BILL *e* 11 52 58.4
BILL *e*S **SKSac 11 59 35.3 +1.4**
BILL *e*SS **SS 12 07 06.6 -10**
BILL pmax pmax
comp=Z,10.0nm,1.9s
BILL MLR MLR
comp=Z,221nm,19.0s
LZH Lanzhou 99.17 306 *e*P **Pdif 11 49 01.8 +1.9**
LZH pP pwP 11 49 14.3 -0.3
LZH sP sP 11 49 17.5 +5.3
LZH *e*PP **PP 11 53 06.0 +2.9**
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,89nm,6.5s
LZH LR LR
comp=Z,180nm,17.3s
LZH LR LR
comp=Z,180nm,17.5s
LZH LR LR
comp=Z,270nm,19.7s
CPUP Villa Florida 99.54 128 LR LR 12 25 52.4
comp=Z,78nm,19.1s,baz=216,slow=30
WMQ Urumqi 113.67 308 *e*PKP **PKiKP 11 53 57.4 +0.9**
WMQ LR LR
comp=Z,360nm,31.9s
MK32 Makanchi Array 118.22 310 *e*PKPdf **PKPdf 11 54 04.4 -0.6**
MKAR Makanchi Array 118.22 310 *e*PKPdf **PKPdf 11 54 02.5 -2.6**
MKAR Makanchi Array 118.22 310 *e*PKIKP **PKPdf 11 54 02.5 -2.6**
MKAR Makanchi Array 118.22 310 PKP **PKPdf 11 54 04.4 -0.6**
comp=Z,0.9nm,0.7s,baz=75,slow=2.2,SNR=6.0
ZALV Zalesovo Beam 118.47 318 PKP **PKPdf 11 54 04.4 -0.9**
comp=Z,0.5nm,0.3s,baz=104,slow=1.8,SNR=3.4
ZAA1 Zalesovo Array 118.47 318 *e*PKPdf **PKPdf 11 54 04.4 -0.9**
KSH Kashi 120.69 300 PKP **PKiKP 11 54 10.5 +0.2**
KSH PP **PP 11 55 43.8 +5.0**
KSH SKS **SKSdf 12 01 12.8 -7.0**
KSH AMB AMB
comp=Z,190nm,3.6s
KSH LR LR
comp=Z,590nm,12.1s
KSH LR LR
comp=Z,500nm,11.2s
NRN Naryn 121.18 303 *e*PKPdf **PKPdf 11 54 11.1 -0.2**
KURK Kurchatov 121.49 314 *e*PKPdf **PKPdf 11 54 10.0 -1.2**
KURK Kurchatov 121.49 314 *c i*PKIKP **PKPdf 11 54 10.2 -1.0**
KURK pmax pmax
comp=Z,9.0nm,1.7s
KURBB Kurchatov Arra 121.53 313 PKP **PKPdf 11 54 10.2 -1.0**
comp=Z,2.2nm,0.8s,baz=102,slow=1.9,SNR=14
AAK Ala-Archa 122.56 304 *i*PKIKP **PKPdf 11 54 12.3 -1.4**
AAK Ala-Archa 122.56 304 PKP **PKPdf 11 54 13.6 -0.2**
comp=Z,1.1nm,0.5s,baz=168,slow=2.7,SNR=3.7
GAR Garm 124.80 298 *e*PKPdf **PKPdf 11 54 17.9 -0.2**
GAR Garm 124.80 298 *e*PKIKP **PKPdf 11 54 17.9 -0.2**
KK31 Karatay Array 125.52 303 *e*PKPdf **PKPdf 11 54 18.9 -0.3**
KK31 Karatay Array 125.52 303 *e*PKIKP **PKPdf 11 54 18.9 -0.3**
KKAR Karatay Array 125.52 303 *e*PKPdf **PKPdf 11 54 18.4 -0.8**
KKAR *e*PKPdf **PKiKP 11 54 18.9 -0.7**
KKAR Karatay Array 125.52 303 *e*PKIKP **PKPdf 11 54 18.4 -0.8**
CHGR Chuyangaron 125.61 298 *e*PKPdf **PKPdf 11 54 18.8 -0.8**
BVAR Borovoye Array 126.85 316 PKP **PKPdf 11 54 21.3 -0.1**
comp=Z,1.7nm,0.5s,baz=119,slow=1.9,SNR=13
BRVK Borovoye 126.91 316 *e*PKPdf **PKPdf 11 54 19.4 -2.1**
BRVK Borovoye 126.91 316 *c i*PKIKP **PKPdf 11 54 21.4 -0.1**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 133.52 320 *e*PKPdf **PKPdf 11 54 33.6 -0.3**
ARU Arti 133.52 320 *i*PKIKP **PKPdf 11 54 33.2 -0.7**
ARU 11 56 58.3
ARU Arti 133.52 320 PKP **PKPdf 11 54 34.3 +0.3**
comp=Z,1.0nm,0.3s,baz=96,slow=11,SNR=3.1
AKTO Aktyubinsk 134.55 312 PKP **PKPdf 11 54 36.1 0.0**
comp=Z,1.1nm,0.5s,baz=281,slow=3.4,SNR=4.7
H10S3 ASCENSION HYDR 137.34 155 T T 14 29 02.8
baz=204,slow=75,SNR=22
H10S2 ASCENSION HYDR 137.34 155 T T 14 29 06.1
baz=204,slow=75,SNR=26
H10S1 ASCENSION HYDR 137.35 155 T T 14 29 18.5
baz=204,slow=75,SNR=26
H10N3 ASCENSION HYDR 138.42 154 T T 14 30 36.3
baz=203,slow=75,SNR=14
H10N1 ASCENSION HYDR 138.42 154 T T 14 30 36.3
baz=203,slow=75,SNR=9.3
H10N2 ASCENSION HYDR 138.44 154 T T 14 30 38.4
baz=203,slow=75,SNR=16
ARCES ARCESS Array B 138.92 348 PKhKP PKPpre 11 54 35.1
comp=Z,2.3nm,0.8s,baz=26,slow=3.1,SNR=5.2
ARCES PKP **PKPdf 11 54 42.6 -1.0**
comp=Z,2.3nm,0.8s,baz=40,slow=2.1,SNR=5.2
VRH Novokhopyorsk 144.48 317 *e*PKIKP **PKPab 11 54 52.0 -0.4**
VRH pmax pmax
comp=Z,10.0nm,0.6s
GNI Garni 144.52 297 *i*PKIKP **PKPdf 11 54 54.1 -0.6**
MOS Moscow 144.75 326 *e*PKIKP **PKPab 11 54 51.1 -2.2**
MOS *e* 12 16 55.3
MOS pmax pmax
comp=Z,55nm,1.4s
ZEI Tsey 144.96 302 *i*PKIKP **PKPab 11 54 53.3 -1.5**
ZEI pmax pmax
comp=Z,26nm,1.4s
AKH Akhalkalaki 145.39 300 *e*PKPbc **PKPab 11 54 56.4 0.0**
FIA1 FINESS Array S 145.51 340 *e*PKPbc **PKPbc 11 54 54.5 -1.1**
FIA0 FINESS Array S 145.51 340 *e*PKPbc **PKPbc 11 54 55.0 -0.7**
FIA0 FINESS Array S 145.51 340 *e*PKIKP **PKPbc 11 54 55.0 -0.7**
FINES FINESS Array B 145.51 340 *e*PKPbc **PKPbc 11 54 54.4 -1.2**
FINES FINESS Array B 145.51 340 *e*PKIKP **PKPbc 11 54 54.4 -1.2**
FINES FINESS Array B 145.51 340 PKPbc **PKPbc 11 54 55.0 -0.7**
comp=Z,18nm,0.6s,baz=52,slow=3.7,SNR=89
LPSR Galich'ya Gora 145.54 320 *e*PKIKP **PKPdf 11 54 55.2 -0.6**
LPSR pmax pmax
comp=Z,50nm,0.9s
KBZ Khabaz 145.56 304 PKPbc **PKPab 11 54 56.4 -0.2**
comp=Z,12nm,1.1s,baz=136,slow=1.3,SNR=19
OBN Obninsk 145.59 325 *e*PKPbc **PKPdf 11 54 55.4 -0.4**
OBN Obninsk 145.59 325 *d i*PKIKP **PKPdf 11 54 55.3 -0.5**
OBN *e*SS SS 12 17 00.7 -6.5
OBN pmax pmax
comp=Z,91nm,1.1s
OBN Obninsk 145.59 325 PKPbc **PKPbc 11 54 55.9 -0.2**
comp=Z,4.5nm,0.4s,baz=70,slow=3.8,SNR=20
KIV Kislovodsk 145.68 304 *i*PKIKP **PKPdf 11 54 56.1 -0.4**
KIV pmax pmax
comp=Z,45nm,1.1s
NEY Neytrino 145.76 303 *c i*PKP2 **PKPab 11 54 57.7 0.0**
VSR Storozhevoye 145.97 318 *d i*PKP2 **PKPdf 11 54 56.3 -0.3**
VSU Vasula 147.61 336 *c i*PKP2 **PKPbc 11 55 01.3 -0.6**
VSU pmax pmax
comp=Z,207nm,1.7s
VSU Vasula 147.61 336 *e*P **PKPbc 11 55 00.6 -1.3**
NC303 NORSAR Array S 148.86 352 *e*PKPbc **PKPbc 11 55 04.9 -0.2**
NB2 NORSAR Subarra 149.06 352 PKP **PKPbc 11 55 04.6 -1.1**
comp=Z,19nm,1.0s,baz=10,slow=2.7
NB200 NORSAR Array S 149.06 352 *e*PKPbc **PKPbc 11 55 05.0 -0.6**
NOA NORSAR Array B 149.06 352 PKPbc **PKPbc 11 55 05.0 -0.6**
comp=Z,6.0nm,0.8s,baz=15,slow=4.3,SNR=11
ANN Anapa 149.18 307 *i*PKP2 **PKPbc 11 55 06.3 -0.1**
ANN pmax pmax
comp=Z,63nm,1.3s
NAO01 NORSAR Array S 149.29 352 *e*PKPbc **PKPbc 11 55 05.6 -0.6**
SLIT Slitere, Latvi 149.73 339 *e*P **PKPdf 11 54 59.9 -2.7**
IZAR Zarasai 149.79 333 *e*P **PKPbc 11 55 07.1 -0.5**
IIGN Ignalina 150.09 332 *e*P **PKPbc 11 55 08.4 +0.1**
ASF Jabal al Asfar 150.62 282 PKPbc **PKiKP 11 55 11.6 +0.4**
comp=Z,14nm,1.1s,baz=99,slow=1.1,SNR=15
SIM Simferopol' 151.39 309 *i*PKIKP **PKiKP 11 55 12.8 +0.6**
SIM *e* 11 55 21.0
SIM pmax pmax
comp=Z,16nm,1.0s
AKASG Malin Array Be 151.73 323 *e*PKPbc **PKPbc 11 55 11.4 -0.9**
AKASG Malin Array Be 151.73 323 *e*PKIKP **PKPbc 11 55 11.4 -0.9**
AKASG Malin Array Be 151.73 323 PKPbc **PKPbc 11 55 11.9 -0.4**
comp=Z,2.7nm,0.4s,baz=43,slow=2.8,SNR=32
AKBB Malin Array Si 151.73 323 *e*PKPbc **PKPbc 11 55 11.5 -0.8**
AKBB Malin Array Si 151.73 323 *e*PKIKP **PKPbc 11 55 11.5 -0.8**
KIEV Kiev 151.74 323 *e*PKPbc **PKPbc 11 55 11.5 -0.8**
KIEV Kiev 151.74 323 *e*PKIKP **PKPbc 11 55 11.5 -0.8**
EIL Elat 151.91 276 PKPbc **PKiKP 11 55 14.2 +0.4**
comp=Z,9.0nm,0.7s,baz=69,slow=0.7,SNR=14
MMAI Mount Meron Ar 151.95 283 PKPbc **PKiKP 11 55 14.7 +0.8**
comp=Z,3.1nm,0.3s,baz=72,slow=5.4,SNR=24
ILGA Ilgaz 152.73 301 *e*PKPbc **PKiKP 11 55 15.7 +0.3**
BR101 Keskin Array S 153.05 298 *e*PKPbc **PKPbc 11 55 15.4 -0.4**
BR131 Keskin Array S 153.05 298 *e*PKPbc **PKPbc 11 55 15.5 -0.3**
BR131 Keskin Array S 153.05 298 *e*PKIKP **PKPbc 11 55 15.5 -0.3**
BRTR Keskin Array B 153.05 298 PKPbc **PKPbc 11 55 15.4 -0.3**
comp=Z,1.9nm,0.5s,baz=132,slow=3.5,SNR=22
KWP Kalwaria Pacla 155.65 327 *e*PKPab **PKPab 11 55 37.4 -0.5**
BURAR Bucovina Array 155.66 321 *e*PKPbc PKPdf 11 55 21.0 +9.2
BURAR *e*PKPab **PKPab 11 55 38.2 +0.1**
KOLS Kolonicke sedl 156.34 326 *e*PKP2 **PKPab 11 55 39.9 -1.0**
KOLS Kolonicke sedl 156.34 326 *e*PKP **PKPab 11 55 39.9 -1.0**
UZH Uzhgorod 156.53 326 *d i*PKP2 **PKPab 11 55 41.5 -0.2**
DPC Dobruska-Polom 157.74 336 *e*PKP2 **PKPab 11 55 46.5 -0.4**
DPC Dobruska-Polom 157.74 336 *e*PKPAB **PKPab 11 55 46.5 -0.4**
CLL Collm 157.92 342 *e*PKP2 **PKPab 11 55 46.0 -1.5**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 157.92 342 *e*PKPdf **PKPdf 11 55 21.0 +6.6**
CLL *e*PKPab **PKPab 11 55 46.0 -1.5**
comp=Z,9.0nm,1.0s
CLL LmV 13 05 00.0
comp=Z,100nm,21.5s
PSZ Piszkesteto 158.18 327 *e*PKPab **PKPab 11 55 48.6 -0.3**
VYHS Vyhne 158.23 330 *e*PKP2 **PKPab 11 55 48.5 -0.5**
VYHS Vyhne 158.23 330 *e*PKP **PKPab 11 55 48.5 -0.5**
VTS Vitosha 159.54 311 *e*PKPab **PKPab 11 55 54.8 -0.3**
KHC Kasperske Hory 159.70 339 *e*PKPdf **PKPdf 11 55 16.0 -0.7**
KHC *e*PKPab **PKPab 11 55 55.2 -0.2**
KHC Kasperske Hory 159.70 339 *e*PKIKP **PKPdf 11 55 16.0 -0.7**
KHC *e* 11 55 55.2
KHC Kasperske Hory 159.70 339 *e*PKPAB **PKPab 11 55 54.8 -0.6**
KHC *ep*PKP **pPKPab 11 56 01.9 -2.8**
GERES GERESS Array B 159.91 338 *e*PKPdf **PKPdf 11 55 17.1 +0.1**
GERES *e*PKPab **PKPab 11 55 55.6 -0.8**
GERES GERESS Array B 159.91 338 *e*PKIKP **PKPdf 11 55 17.1 +0.1**
GERES *e* 11 55 55.6
TOA0 Torodi Ar. Sit 162.56 178 *e*PKPab **PKPab 11 56 09.2 +0.6**
TORD Torodi Ar. Bea 162.56 178 PKPab **PKPab 11 56 10.2 +1.6**
comp=Z,1.2nm,0.8s,baz=167,slow=7.4,SNR=8.3
TOA1 Torodi Ar. Sit 162.57 178 *e*PKPab **PKPab 11 56 10.2 +1.6**
ESDC Sonseca Array 169.60 28 PKPab **PKPab 11 56 38.8 -0.4**
comp=Z,0.1nm,0.3s,baz=124,slow=29,SNR=2.8

KRSC 22 11:38:00.9±10.0, 52°.37N×160°.88E, h20km±10km, ML3.7,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.90**	**325**	*e*P	Pb	11 38 17.9	+0.1
SPN				*e*S	Sb	11 38 29.3	0.0
NLC	**Nalytchevo**	**1.23**	**311**	*e*P	Pn	11 38 23.2	+0.2
NLC				*e*S	Sb	11 38 38.8	-0.1
RUS	**Russkaya**	**1.45**	**273**	*e*P	Pb	11 38 27.1	-0.1
RUS				*e*S	Sb	11 38 45.0	-0.3
DALK	**Dalny**	**1.46**	**298**	*e*P	Pb	11 38 27.2	-0.1
DALK				*e*S	Sb	11 38 45.7	+0.4
PET	**Petropavlovsk**	**1.51**	**297**	*e*P	Pb	11 38 28.1	0.0
PET				*e*S	Sb	11 38 47.1	+0.3
UGLR	**Uglovaya**	**1.51**	**305**	*e*P	Pb	11 38 28.4	+0.2
SDLR	**Sedlovina**	**1.52**	**308**	*e*P	Pb	11 38 28.2	-0.2
AVH	**Avacha**	**1.58**	**305**	*e*P	Pb	11 38 29.6	+0.1
KRER	**Koryakskii**	**1.60**	**307**	*e*P	Pb	11 38 30.0	+0.2
MTVR	**Mutnovka**	**1.66**	**275**	*e*P	Pb	11 38 30.5	-0.3
MTVR				*e*S	Sb	11 38 51.6	+0.3
KRX	**Arik**	**1.68**	**307**	*e*P	Pn	11 38 30.1	+0.8
KRMR	**Karymshinskiy**	**1.74**	**286**	*e*P	Pb	11 38 31.2	-0.9
KRMR				*e*S	Sb	11 38 53.5	-0.1
KDTR	**Khodutka, Kamc**	**1.82**	**253**	*e*P	Pn	11 38 31.8	+0.8
KDTR				*e*S	Sn	11 38 53.6	+0.1
ASAK	**Asacha**	**1.83**	**272**	*e*P	Pb	11 38 33.2	-0.5
ASAK				*e*S	Sb	11 38 56.4	+0.2
MKZ	**Mys Kozlova**	**2.25**	**13**	*e*P	Pn	11 38 37.9	+1.0
APC	**Apacha**	**2.34**	**285**	*e*P	Pb	11 38 41.1	-1.2

IDC ***22*** *11:44:03.3±1.3, 31°.78N×84°.69E, h0km, mb3.5/6, mb1 3.7/10, mb1mx3.5/46, mbtmp3.6/10, ML3.5/4, MS2.9/6, Ms1 2.9/6, ms1mx2.7/38, Error ellipse: s-maj=43.2km s-min=18.5km az=53.0*
ISCJB ***22*** *11:44:06.1±1.0, 31°.8N±0°.1×84°.8E±0°.2, h33km, mb3.5/6, MS3.0/3, Error ellipse: s-maj=31.4km s-min=11.4km az=143.4*
ISC 22 11:44:08.6±1.2, 31°.8N±0°.2×84°.8E±0°.2, h35km, n12,
σ1§34/10, mb3.6/6, MS2.9/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**13.53**	**326**	Pn	**Pn**	**11 47 18.5**	**+0.3**
	0.3nm,0.3s,baz=178,slow=19,SNR=1.7						
AAK				LR	LR	11 53 12.9	
	comp=Z,62nm,18.4s,baz=121,slow=41						
MKAR	**Makanchi Array**	**15.05**	**353**	Pn	**Pn**	**11 47 37.6**	**-1.1**
	0.0nm,0.3s,baz=167,slow=12,SNR=2.8						
MKAR				LR	LR	11 54 18.5	
	comp=Z,39nm,19.5s,baz=120,slow=41						
CMAR	**Chiang Mai Arr**	**18.46**	**133**	P	**P**	**11 48 20.1**	**-1.3**
	0.4nm,0.3s,baz=322,slow=12,SNR=8.9						
CMAR				LR	LR	11 57 34.9	
	comp=Z,11nm,20.7s,baz=186,slow=44						
KURBB	**Kurchatov Arra**	**19.33**	**348**	P	**P**	**11 48 29.5**	**-1.2**
	0.1nm,0.3s,baz=166,slow=11,SNR=8.4						
ZALV	**Zalesovo Beam**	**22.09**	**0**	P	**P**	**11 49 00.8**	**+0.3**
	0.5nm,0.3s,baz=212,slow=13,SNR=2.8						
ZALV				LR	LR	11 58 20.0	
	comp=Z,29nm,19.8s,baz=66,slow=39						
BVAR	**Borovoye Array**	**23.60**	**338**	P	**P**	**11 49 15.1**	**-1.0**
	0.5nm,0.5s,baz=134,slow=11,SNR=4.2						
AKTO	**Aktyubinsk**	**27.18**	**321**	LR	LR	12 01 42.2	
	comp=Z,29nm,18.2s,baz=135,slow=39						
KSRS	**Korea Array**	**35.69**	**69**	P	**P**	**11 51 03.3**	**-0.2**
	0.6nm,0.5s,baz=269,slow=10,SNR=5.3						
AKASG	**Malin Array Be**	**44.67**	**312**	P	**P**	**11 52 16.9**	**-0.9**
	0.5nm,0.3s,baz=82,slow=6.4,SNR=7.2						
DAV	**Davao City (W)**	**45.27**	**114**	LR	LR	12 11 36.8	
	comp=Z,45nm,18.1s,baz=118,slow=36						
ASAR	**Alice Springs**	**72.47**	**133**	P	**P**	**11 55 32.3**	**+0.5**
	0.8nm,0.7s,baz=317,slow=5.6,SNR=11						
YKA	**Yellowknife Ar**	**84.70**	**9**	P	**P**	**11 56 41.0**	**+2.4**
	0.2nm,0.7s,baz=335,slow=5.4,SNR=3.1						

KRNET ***22*** *11:47:31.1±0.1, 40°.85N×71°.38E, mb2.6*
ISC 22 11:47:29.0±1.4, 41°.08N±0°.06×70°.99E±0°.08, h15km, n6,

σ1°45/10, **9C-1D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.03**	**187**	⇑*i*P	**Pb**	**11 47 48.5**	**0.0**
	baz=9.0						
BTK				⇑*i*S	**Sb**	**11 48 01.1**	**-0.7**
	baz=9.0						
ARSB	**Arslanbob**	**1.52**	**80**	⇑*i*P	**Pn**	**11 47 55.7**	**-0.1**
	baz=68						
ARSB				⇑*i*S	**Sn**	**11 48 14.0**	**-1.5**
	baz=68						
KK31	**Karatay Array**	**2.05**	**350**	⇓Pg	**Sn**	**11 48 27.3**	**-1.1**
	0.4nm,0.3s,baz=149,slow=16,SNR=4.3						
KK31				⇑Lg	Lg	11 49 06.1	
	0.8nm,0.3s,baz=158,slow=30,SNR=5.1						
ARLS	**Aral**	**2.62**	**72**	⇑*i*P	**Pb**	**11 48 14.7**	**-1.1**
	baz=64						
ARLS				⇑*i*S	**Sb**	**11 48 46.4**	**-1.5**
	baz=64						
AAK	**Ala-Archa**	**3.05**	**58**	Pg	**Pb**	**11 48 24.4**	**+1.4**
	2.0nm,0.8s						
AAK				Lg	Lg	11 49 04.8	
	5.0nm,0.7s						
NRN	**Naryn**	**3.79**	**83**	⇑*i*P	**Pn**	**11 48 29.4**	**+2.2**
	baz=79						
NRN				⇑*i*S	**Sn**	**11 49 12.5**	**+0.8**
	baz=79						

ROM 22 12:01:19.3±0.2, 39°.297N±0°.007×16°.532E±0°.008, h28km±1km, ML2.0/5, Error ellipse: s-maj=0.9km s-min=0.3km az=224.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CELI	**Celico**	**0.11**	**351**	P	Pb	12 01 22.2	-2.4
CELI	**Celico**	**0.11**	**351**	S	Sb	12 01 24.4	-3.8
CELI	**Celico**	**0.11**	**351**	P	Pb	12 01 24.5	-0.1
CELI				S	Sb	12 01 28.5	+0.2
CELI				AML	AML		
	comp=E,914μm,0.2s						
CELI				AML	AML		
	comp=N,1065μm,0.2s						
CELI				AML	AML		
	comp=N,1065μm,0.2s						
CELI				AML	AML		
	comp=E,914μm,0.2s						
CELI	**Celico**	**0.11**	**351**	P	Pb	12 01 21.3	-3.3
TIP	**Timpagrande**	**0.21**	**124**	S	Sb	12 01 25.4	-4.3
TIP	**Timpagrande**	**0.21**	**124**	P	Pb	12 01 25.5	0.0
TIP				AML	AML		
	comp=E,114μm,0.7s						
TIP				AML	AML		
	comp=N,65μm,0.6s						
TIP				AML	AML		
	comp=E,148μm,0.5s						
TIP				AML	AML		
	comp=N,95μm,1.6s						
TIP				AML	AML		
	comp=E,148μm,0.5s						
TIP				AML	AML		
	comp=N,95μm,1.6s						
TIP	**Timpagrande**	**0.21**	**124**	P	Pb	12 01 22.3	-3.2
CAR1	**CAROLEI**	**0.25**	**260**	P	Pb	12 01 26.0	0.0
CAR1				S	Sb	12 01 30.9	+0.4
CAR1				AML	AML		
	comp=E,640μm,0.8s						
CAR1				AML	AML		
	comp=N,382μm,0.6s						
CAR1				AML	AML		
	comp=N,382μm,0.6s						
CAR1				AML	AML		
	comp=E,640μm,0.8s						
CAR1	**CAROLEI**	**0.25**	**260**	S	Sb	12 01 30.8	+0.3
CAR1	**CAROLEI**	**0.25**	**260**	P	Pb	12 01 23.8	-2.2
SERS	**Sersale**	**0.29**	**155**	P	Pb	12 01 26.5	0.0
SERS				S	Sb	12 01 32.1	+0.7
SERS				AML	AML		
	comp=E,182μm,0.4s						
SERS				AML	AML		
	comp=N,133μm,0.4s						
SERS				AML	AML		
	comp=E,130μm,0.3s						
SERS				AML	AML		
	comp=N,188μm,0.4s						
SERS				AML	AML		
	comp=E,268μm,0.4s						
SERS				AML	AML		
	comp=N,220μm,1.6s						
SERS				AML	AML		
	comp=E,212μm,0.3s						
SERS				AML	AML		
	comp=N,304μm,0.4s						
SERS				AML	AML		
	comp=N,220μm,1.6s						
SERS				AML	AML		
	comp=E,212μm,0.3s						
SERS				AML	AML		
	comp=E,268μm,0.4s						
SERS				AML	AML		
	comp=N,304μm,0.4s						
SERS	**Sersale**	**0.29**	**155**	P	Pb	12 01 24.4	-2.1
CET2	**Cetraro**	**0.50**	**298**	P	Pb	12 01 30.1	+0.3
CET2				AML	AML		
	comp=E,246μm,0.7s						
CET2				AML	AML		
	comp=N,369μm,0.8s						
CET2				AML	AML		
	comp=E,394μm,0.7s						
CET2				AML	AML		
	comp=N,596μm,0.9s						
CET2				AML	AML		
	comp=E,394μm,0.7s						
CET2				AML	AML		
	comp=N,596μm,0.9s						
CET2	**Cetraro**	**0.50**	**298**	P	Pb	12 01 30.1	+0.4
T0702	**Acquaformosa (**	**0.55**	**321**	P	Pb	12 01 28.6	-1.8
PLAC	**Placanica**	**0.85**	**185**	P	Pn	12 01 34.3	-1.1
SGRT	**San Giovanni R**	**2.53**	**347**	P	Pn	12 01 57.8	-0.8
VVLD	**Villa Vallelon**	**3.39**	**320**	P	Pn	12 02 04.0	-6.5

*ISK **22** 12:04:09.3, 37°.05N×28°.42E, h8km, ML2.3/11*
*DDA **22** 12:04:09.6, 37°.04N×28°.45E, h7km±3km, ML2.7*
ISC 22 12:04:10.3±0.9, 37°.07N±0°.03×28°.41E±0°.02, h12km±8km, n23, σ1°30/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.25**	**141**	PG	**Pg**	**12 04 15.6**	**+0.1**
TURN				SG	**Sg**	**12 04 20.7**	**+1.7**
TURN	**Turunc**	**0.25**	**141**	IAML_P			
	comp=Z,10μm,0.1s						
TURN				*i* P	**Pg**	**12 04 15.9**	**+0.4**
TURN				*i* S	**Sg**	**12 04 20.7**	**+1.7**
DALY	**Dalyan (Mula)**	**0.32**	**141**	PG	**Pg**	**12 04 15.5**	**-1.2**
DALY				SG	**Sg**	**12 04 20.4**	**-0.6**
DALY	**Dalyan (Mula)**	**0.32**	**141**	IAML_P			
	comp=Z,3μm,0.1s						
DALY				*i* P	**Pg**	**12 04 15.8**	**-1.0**
DALY				*i* S	**Sb**	**12 04 20.7**	**-2.3**
BBRN	**Bozburun-Marma**	**0.48**	**216**	PG	**Pg**	**12 04 18.3**	**-1.3**
TAVA	**DENIZLI_Tavas**	**0.57**	**45**	IAML_P			
	comp=Z,2μm,0.1s						
TAVA				*i* P	**Pb**	**12 04 21.5**	**-0.7**
TAVA				*i* S	**Sb**	**12 04 30.0**	**-0.3**
DATC	**Datca-Mugla**	**0.67**	**243**	PG	**Pb**	**12 04 23.2**	**-0.7**
DATC				SG	**Sb**	**12 04 33.1**	**-0.1**
FETY	**Fethiye**	**0.69**	**128**	PG	**Pb**	**12 04 23.2**	**-1.1**
FETY				SG	**Sb**	**12 04 32.8**	**-1.0**
FETY	**Fethiye**	**0.69**	**128**	*i* P	**Pn**	**12 04 25.1**	**-0.9**
FETY				*i* S	**Sb**	**12 04 33.1**	**-0.7**
AYDN	**Tasoluk**	**0.73**	**325**	IAML_P			
	comp=Z,3μm,0.1s						
AYDN				*i* P	**Pb**	**12 04 24.8**	**-0.1**
AYDN				*i* S	**Sg**	**12 04 34.1**	**+0.2**
DAT	**Datca**	**0.74**	**243**	PG	**Pg**	**12 04 23.9**	**-0.8**
DAT				SG	**Sb**	**12 04 34.9**	**-0.5**
DAT	**Datca**	**0.74**	**243**	IAML_P			
	comp=Z,167nm,0.2s						
DAT				*i* P	**Pb**	**12 04 25.4**	**+0.2**
DAT				*i* S	**Sb**	**12 04 36.5**	**+1.1**
BDRM	**Kayabasi**	**0.77**	**270**	IAML_P			
	comp=Z,985nm,0.2s						
BDRM				*i* P	**Pn**	**12 04 26.3**	**-0.6**
BDRM				*i* S	**Sn**	**12 04 37.9**	**-0.6**
BODT	**Bodrum**	**0.88**	**270**	PG	**Pg**	**12 04 26.9**	**-0.3**
BODT				SG	**Sb**	**12 04 39.8**	**+0.7**
ARG	**Arkhangelos**	**0.88**	**195**	PG	**Pb**	**12 04 26.5**	**-0.9**
GCAM	**G?zelcaml?**	**1.13**	**304**	PN	**Pg**	**12 04 31.4**	**-0.6**
ELL	**Elmali**	**1.25**	**104**	PN	**Pn**	**12 04 33.4**	**-0.2**
AKAS	**Kas**	**1.27**	**130**	PN	**Pn**	**12 04 34.0**	**0.0**
AKAS	**Kas**	**1.27**	**130**	IAML_P			
	comp=Z,1μm,0.1s						
AKAS				*i* P	**Pn**	**12 04 34.4**	**+0.4**
AKAS				*i* S	**Sn**	**12 04 56.5**	**+5.4**
KULA	**Kula-Manisa**	**1.46**	**8**	PN	**Pn**	**12 04 36.3**	**-0.2**
KORT	**Korkueli**	**1.56**	**92**	PN	**Pb**	**12 04 38.0**	**-1.1**
KHAL	**Karahalli**	**1.56**	**33**	IAML_P			
	comp=Z,273nm,0.2s						
KHAL				*i* P	**Pb**	**12 04 39.0**	**-0.2**
KARP	**Karpathos**	**1.82**	**214**	PN	**Pn**	**12 04 41.9**	**+0.5**

*GRAL **22** 12:18:58.5±0.3, 33°.40N×35°.66E, h0km±15km, MD2.6*
ISC 22 12:18:57.2±2.5, 33°.39N±0°.08×35°.6E±0°.1, h10km, n7, σ0°62/9, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHBL	**Chebaa**	**0.11**	**110**	*e*P	**Pg**	**12 19 00.1**	**0.0**
SHBL				*e*S	**Sg**	**12 19 01.4**	**-0.8**
QRWL	**Qaraoun**	**0.17**	**18**	*e*P	**Pg**	**12 19 01.1**	**+0.1**
QRWL				*e*S	**Sg**	**12 19 03.2**	**-0.4**
RCY	**Rachaya**	**0.21**	**59**	*e*P	**Pg**	**12 19 01.8**	**0.0**
RCY				*e*S	**Sg**	**12 19 04.1**	**-0.7**
BRBR	**Barbar**	**0.28**	**85**	*e*P	**Pg**	**12 19 03.9**	**+0.9**
BRBR				*e*S	**Sg**	**12 19 06.8**	**0.0**
DQRL	**Deir Qamar**	**0.32**	**353**	*e*P	**Pg**	**12 19 04.2**	**+0.4**
QASN	**Qassioun**	**0.57**	**75**	*e*P	Pg	12 19 03.4	-4.9
TOTH	**TOTAH**	**0.68**	**92**	*e*P	Pg	12 19 04.0	-6.3

MEX 22 12:20:27.2±0.8, 16°.21N×98°.05W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**338**	*e*P	Pg	12 20 30.2	-0.8
PNIG				*e*S	Sg	12 20 33.3	-0.4
TLIG	**Tlapa**	**1.43**	**340**	*e*P	Pn	12 20 51.1	-2.9
TLIG				*e*S	Sb	12 21 08.2	-4.9
HUIG	**Huatulco**	**1.92**	**103**	*i* P	Pn	12 20 57.1	-3.5
HUIG				*i* S	Sn	12 21 21.3	-3.8
CAIG	**El Cayaco**	**2.28**	**292**	*i* P	Pn	12 21 02.9	-2.7
CAIG				*i* S	Sn	12 21 30.4	-3.7
CMIG	**Matias Romero**	**3.16**	**73**	*i* P	Pn	12 21 14.2	-3.4
CMIG				*i* S	Sn	12 21 52.1	-3.7

MEX 22 12:24:45.6±0.7, 16°.21N×98°.09W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**350**	*e*P	Pg	12 24 48.9	-0.4
PNIG				*e*S	Sg	12 24 52.0	+0.2
TLIG	**Tlapa**	**1.42**	**342**	*i* P	Pn	12 25 07.8	-4.4
TLIG				*e*S	Sb	12 25 26.9	-4.3

*ISCJB **22** 12:33:01.9±0.4, 37°.37N±0°.01×26°.94E±0°.02, h4km±3km, Error ellipse: s-maj=3.3km s-min=2.3km az=158.1*
*ATH **22** 12:33:01.8, 37°.40N×26°.99E, h26km±1km, ML3.3/6, Error ellipse: s-maj=2.3km s-min=1.5km az=75.0*
*ISK **22** 12:33:01.4, 37°.37N×26°.93E, h7km, ML3.6/31*
*DDA **22** 12:33:02.3, 37°.39N×27°.03E, h18km±2km, ML3.5*
*THE **22** 12:33:02.4, 37°.38N×26°.98E, h1km±1km, ML3.3/8, Error ellipse: s-maj=1.3km s-min=0.5km az=63.0*
ISC 22 12:33:01.5±1.0, 37°.32N±0°.02×26°.97E±0°.02, h9km±9km, n100, σ1°18/128, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIDI	**Didim-Aydin**	**0.22**	**76**	PG	**Pg**	**12 33 06.1**	**0.0**
BODT	**Bodrum**	**0.38**	**133**	PG	**Pb**	**12 33 10.2**	**-0.2**
BODT				SG	**Sb**	**12 33 16.8**	**+0.4**
BODT	**Bodrum**	**0.38**	**133**	P	**Pb**	**12 33 10.1**	**-0.3**
BODT				S	**Sb**	**12 33 16.8**	**+0.4**
SMG	**Samos**	**0.40**	**345**	P	**Pg**	**12 33 09.1**	**-0.3**
SMG				S	**Sg**	**12 33 14.3**	**-0.3**
SMG	**Samos**	**0.40**	**345**	P	**Pg**	**12 33 08.9**	**-0.4**
SMG				S	**Sg**	**12 33 15.1**	**+0.5**
SMG				AML	AML	12 33 15.8	
	comp=N,19251μm,0.2s						
SMG				AML	AML	12 33 16.3	
	comp=E,26052μm,0.4s						
GCAM	**G?zelcaml?**	**0.43**	**29**	PG	**Pg**	**12 33 09.6**	**-0.4**
GCAM	**G?zelcaml?**	**0.43**	**29**	IAML_P			
	comp=Z,39μm,0.2s						
GCAM				*i* P	**Pg**	**12 33 10.2**	**+0.2**
GCAM				*i* S	**Sg**	**12 33 16.0**	**+0.3**
BDRM	**Kayabasi**	**0.46**	**124**	IAML_P			
	comp=Z,11μm,0.2s						
BDRM				*i* P	**Pb**	**12 33 11.9**	**0.0**
BDRM				*i* S	**Sb**	**12 33 19.0**	**+0.2**
NISR	**Nisiros**	**0.72**	**170**	P	**Pn**	**12 33 18.3**	**+0.4**
NISR				S	**Sn**	**12 33 28.6**	**-0.5**
NISR	**Nisiros**	**0.72**	**170**	P	**Pn**	**12 33 18.4**	**+0.4**
NISR				AML	AML	12 33 37.3	
	comp=N,2539μm,0.4s						
NISR				AML	AML	12 33 39.8	
	comp=E,3468μm,0.5s						
DGB	**zmir**	**0.73**	**355**	IAML_P			
	comp=Z,22μm,0.2s						
DGB				*i* P	**Pg**	**12 33 15.5**	**-0.2**
DGB				*i* S	**Sb**	**12 33 26.3**	**-0.2**
DAT	**Datca**	**0.77**	**140**	PG	**Pn**	**12 33 17.7**	**-1.0**
DAT				SG	**Sn**	**12 33 29.6**	**-0.8**
DAT	**Datca**	**0.77**	**140**	*i* P	**Pn**	**12 33 17.9**	**-0.7**
DAT				*i* S	**Sn**	**12 33 30.5**	**+0.1**
DATC	**Datca-Mugla**	**0.79**	**135**	PG	**Pn**	**12 33 18.0**	**-0.8**
AYDN	**Tasoluk**	**0.80**	**65**	*i* P	**Pg**	**12 33 16.5**	**-0.5**
AYDN				*i* S	**Sb**	**12 33 28.3**	**-0.3**
ZEY	**zmir**	**0.98**	**338**	*i* P	**Pg**	**12 33 20.3**	**-0.2**
ZEY				*i* S	**Sn**	**12 33 35.5**	**0.0**
AMGA	**Amorgos Island**	**0.99**	**240**	P	**Pn**	**12 33 21.6**	**0.0**
AMGA				S	**Sn**	**12 33 36.3**	**+0.6**
AMGA	**Amorgos Island**	**0.99**	**240**	P	**Pn**	**12 33 21.6**	**0.0**
AMGA				S	**Sn**	**12 33 36.3**	**+0.6**
AMGA				AML	AML	12 33 38.5	
	comp=N,6644μm,0.6s						
AMGA				AML	AML	12 33 38.8	
	comp=E,6056μm,0.5s						
URLA	**Izmir**	**1.07**	**344**	PG	**Pb**	**12 33 21.5**	**-0.8**
URLA				SG	**Sg**	**12 33 36.2**	**0.0**
URLA	**Izmir**	**1.07**	**344**	IAML_P			
	comp=Z,16μm,0.4s						
URLA				*i* P	**Pn**	**12 33 22.3**	**-0.5**
URLA				*i* S	**Sn**	**12 33 37.5**	**-0.4**
BBRN	**Bozburun-Marma**	**1.09**	**126**	PN	**Pn**	**12 33 23.9**	**+1.0**
BBRN				SN	**Sn**	**12 33 40.0**	**+2.0**
CESE	**eme**	**1.14**	**332**	PN	**Pb**	**12 33 22.5**	**-0.8**
MRSB	**Marmaris-Mugla**	**1.16**	**121**	PN	**Pn**	**12 33 25.2**	**+1.3**
APE	**Apeiranthos**	**1.17**	**258**	PN	**Pn**	**12 33 24.3**	**+0.1**
APE	**Apeiranthos**	**1.17**	**258**	P	**Pn**	**12 33 24.4**	**+0.2**
APE				S	**Sn**	**12 33 42.2**	**+1.9**
APE	**Apeiranthos**	**1.17**	**258**	P	**Pn**	**12 33 24.3**	**+0.2**
APE				S	**Sn**	**12 33 42.3**	**+2.0**
APE				AML	AML	12 33 45.2	
	comp=E,1584μm,0.2s						
APE				AML	AML	12 33 45.8	
	comp=N,1692μm,0.3s						
CHOS	**Chios island**	**1.28**	**326**	PN	**Pb**	**12 33 25.6**	**-0.3**
CHOS	**Chios island**	**1.28**	**326**	P	**Pn**	**12 33 25.1**	**-0.6**
CHOS				S	**Sg**	**12 33 43.3**	**+0.5**
CHOS	**Chios island**	**1.28**	**326**	P	**Pn**	**12 33 25.1**	**-0.6**
CHOS				AML	AML	12 33 45.5	
	comp=N,1720μm,0.3s						
CHOS				AML	AML	12 33 45.5	
	comp=E,2040μm,0.5s						
KRBN	**Karaburun**	**1.31**	**346**	PN	**Pn**	**12 33 25.8**	**-0.2**
ANAF	**Anafi Island**	**1.36**	**225**	P	**Pg**	**12 33 27.4**	**-0.2**
ANAF				S	**Sg**	**12 33 47.3**	**+2.0**
TURN	**Turunc**	**1.38**	**109**	PN	**Pn**	**12 33 24.3**	**-2.7**
TURN				SN	**Sb**	**12 33 42.2**	**-3.1**
TURN	**Turunc**	**1.38**	**109**	*i* P	**Pn**	**12 33 25.2**	**-1.8**
DALY	**Dalyan (Mula)**	**1.44**	**110**	PN	**Pg**	**12 33 29.5**	**+0.3**
DALY	**Dalyan (Mula)**	**1.44**	**110**	*i* P	**Pg**	**12 33 30.2**	**+1.0**
DALY				*i* S	**Sg**	**12 33 51.7**	**+3.8**
ARG	**Arkhangelos**	**1.45**	**140**	PN	**Pg**	**12 33 28.7**	**-0.6**
ARG	**Arkhangelos**	**1.45**	**140**	P	**Pg**	**12 33 29.0**	**-0.2**
ARG				S	**Sg**	**12 33 49.7**	**+1.7**
ARG	**Arkhangelos**	**1.45**	**140**	P	**Pg**	**12 33 29.1**	**-0.2**
ARG				S	**Sg**	**12 33 48.2**	**+0.1**
ARG				AML	AML	12 33 55.5	
	comp=N,1496μm,0.7s						
ARG				AML	AML	12 33 57.0	
	comp=E,1605μm,0.6s						
THR8	**Santorini-Mono**	**1.50**	**233**	P	**Pg**	**12 33 30.2**	**-0.2**
THR8	**Santorini-Mono**	**1.50**	**233**	P	**Pg**	**12 33 30.5**	**+0.1**
SANT	**Santorini**	**1.54**	**232**	PN	**Pb**	**12 33 29.0**	**-1.2**
TAVA	**DENIZLI_Tavas**	**1.56**	**84**	*i* P	**Pg**	**12 33 30.8**	**-0.6**
THR6	**Thira Island,**	**1.59**	**233**	P	**Pb**	**12 33 30.5**	**-0.5**
THR6	**Thira Island,**	**1.59**	**233**	P	**Pb**	**12 33 30.6**	**-0.5**
THR9	**Santorini-Faro**	**1.61**	**234**	P	**Pg**	**12 33 31.5**	**-0.9**
THR9	**Santorini-Faro**	**1.61**	**234**	P	**Pg**	**12 33 31.3**	**-1.2**
CAND	**Candarli**	**1.63**	**356**	PN	**Pb**	**12 33 31.0**	**-0.8**
ZEDA	**zmir-Bergama**	**1.64**	**3**	*i* P	**Pb**	**12 33 31.3**	**-0.6**
AKHS	**Akhisar**	**1.69**	**23**	*i* P	**Pb**	**12 33 32.3**	**-0.5**
AKS	**Akhisar**	**1.69**	**23**	PN	**Pb**	**12 33 31.8**	**-1.0**
DENT	**Denizli**	**1.70**	**75**	PN	**Pb**	**12 33 32.3**	**-0.7**
MANT	**Manisa**	**1.71**	**47**	IAML_P			
	comp=Z,4μm,0.2s						
MANT				*i* P	**Pb**	**12 33 33.1**	**-0.2**
KARP	**Karpathos**	**1.78**	**175**	PN	**Pb**	**12 33 33.3**	**-1.1**
KARP	**Karpathos**	**1.78**	**175**	P	**Pb**	**12 33 33.1**	**-1.2**
KARP	**Karpathos**	**1.78**	**175**	P	**Pb**	**12 33 33.3**	**-1.1**
KULA	**Kula-Manisa**	**1.79**	**48**	PN	**Pb**	**12 33 33.3**	**-1.3**
KULA	**Kula-Manisa**	**1.79**	**48**	P	**Pn**	**12 33 33.0**	**+0.3**
FETY	**Fethiye**	**1.83**	**111**	PN	**Pb**	**12 33 35.1**	**-0.1**
SERI	**Serifos**	**1.99**	**266**	P	**Pn**	**12 33 35.3**	**0.0**
PRK	**Paraskevi**	**2.00**	**344**	P	**Pn**	**12 33 35.7**	**+0.3**
PRK				S	**Sb**	**12 34 01.8**	**-1.1**
PRK	**Paraskevi**	**2.00**	**344**	P	**Pn**	**12 33 36.1**	**+0.7**
SIGR	**SIGRI**	**2.08**	**335**	PN	**Pn**	**12 33 36.1**	**-0.4**
SIGR	**SIGRI**	**2.08**	**335**	P	**Pn**	**12 33 36.4**	**-0.1**
SIGR	**SIGRI**	**2.08**	**335**	P	**Pn**	**12 33 36.3**	**-0.3**
STEP	**BALIKESIR_Sava**	**2.13**	**16**	*i* P	**Pb**	**12 33 40.9**	**+0.6**
STEP				*i* S	**Sg**	**12 34 10.2**	**+0.1**
USAK	**Uak-Merkez**	**2.13**	**49**	*i* P	**Pg**	**12 33 42.0**	**-0.5**
USAK				*i* S	**Sg**	**12 34 13.0**	**+2.8**
STIA	**Sitia Lasithi**	**2.23**	**199**	P	**Pb**	**12 33 40.6**	**-1.4**
KHAL	**Karahalli**	**2.26**	**62**	*i* P	**Pn**	**12 33 39.7**	**+0.6**
ZKR	**Zakros**	**2.29**	**196**	P	**Pb**	**12 33 41.3**	**-1.7**
AKAS	**Kas**	**2.38**	**116**	PN	**Pb**	**12 33 43.4**	**-1.3**
AKAS	**Kas**	**2.38**	**116**	*i* P	**Pb**	**12 33 44.1**	**-0.6**
BALB	**Balikesir**	**2.42**	**17**	PN	**Pn**	**12 33 42.7**	**+1.4**
ELL	**Elmali**	**2.42**	**103**	PN	**Pb**	**12 33 43.4**	**-2.0**
BAYC	**CANAKKALE_Bayr**	**2.44**	**352**	IAML_P			
	comp=Z,1μm,0.2s						
BAYC				*i* P	**Pn**	**12 33 41.7**	**+0.2**
LAST	**Lasithi**	**2.47**	**210**	P	**Pb**	**12 33 44.3**	**-1.8**
BRDR	**BURDUR-Merkez**	**2.49**	**80**	IAML_P			
	comp=Z,805nm,0.3s						
BRDR				*i* P	**Pb**	**12 33 44.2**	**-2.3**
DION	**Dionisos Attik**	**2.52**	**288**	P	**Pn**	**12 33 43.5**	**+0.8**
DURS	**Dursunbey**	**2.56**	**27**	*i* P	**Pb**	**12 33 48.6**	**+0.9**
VLY	**Voula,Athens**	**2.57**	**283**	P	**Pn**	**12 33 44.5**	**+1.1**
BOZC	**Bozcaada**	**2.61**	**344**	PN	**Pn**	**12 33 43.6**	**-0.3**
EREA	**Eretria**	**2.64**	**295**	P	**Pn**	**12 33 45.3**	**+1.0**
KORT	**Korkueli**	**2.72**	**96**	PN	**Pb**	**12 33 47.5**	**-3.0**
KORT	**Korkueli**	**2.72**	**96**	*i* P	**Pb**	**12 33 50.0**	**-0.5**
AKUM	**Antalya-Kumluc**	**2.89**	**109**	IAML_P			
	comp=Z,603nm,0.1s						
AKUM				*i* P	**Pb**	**12 33 53.4**	**+0.2**
LIA	**Limnos Island**	**2.92**	**332**	P	**Pn**	**12 33 49.1**	**+0.9**
LIA	**Limnos Island**	**2.92**	**332**	P	**Pn**	**12 33 48.0**	**-0.1**
LPK	**Lapseki**	**3.05**	**357**	PN	**Pn**	**12 33 50.0**	**+0.1**
EDC	**Edincik**	**3.10**	**13**	PN	**Pn**	**12 33 52.0**	**+1.4**
BAGO	**Egridir - ISPA**	**3.11**	**76**	*i* P	**Pn**	**12 33 52.6**	**+1.8**
KCTX	**Karacabey (Bur**	**3.13**	**20**	PN	**Pn**	**12 33 52.6**	**+1.5**
ULDT	**Uludag**	**3.29**	**30**	*i* P	**Pg**	**12 34 03.2**	**-1.3**
SMTH	**Samothraki Isl**	**3.34**	**341**	P	**Pn**	**12 33 53.6**	**-0.3**
ATAL	**Atalanti**	**3.40**	**295**	P	**Pn**	**12 33 55.0**	**+0.2**
ALN	**Alexandroupoli**	**3.64**	**349**	P	**Pn**	**12 33 57.9**	**-0.1**
THAS	**Thassos island**	**3.72**	**333**	P	**Pn**	**12 33 58.8**	**-0.2**
KEPZ	**Antalya-Kepez**	**3.73**	**95**	*i* P	**Pb**	**12 34 03.0**	**-4.6**
AGG	**Agios Georgios**	**4.03**	**296**	P	**Pn**	**12 34 04.1**	**+0.7**
KDZ	**Kurdzhali**	**4.48**	**345**	*e*P	**Pn**	**12 34 13.6**	**+4.0**
RZN	**Rozhen**	**4.69**	**339**	*e*P	**Pn**	**12 34 13.2**	**+0.5**
MMB	**Musomiste**	**4.94**	**331**	*e*P	**Pn**	**12 34 17.0**	**+1.0**

IDC 22 12:36:37.6±2.9, 13°.83S×176°.36W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/31, mbtmp3.6/3, Error ellipse: s-maj=176.5km s-min=31.4km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.90**	**251**	P	P	12 45 17.9	-0.1
	0.6nm,0.6s,baz=85,slow=8.0,SNR=11						
NVAR	**Mina Array Bea**	**75.13**	**44**	P	P	12 48 22.3	+0.2
	0.2nm,0.5s,baz=243,slow=9.0,SNR=2.6						
ILAR	**Eielson Array**	**81.50**	**12**	P	P	12 48 56.4	-0.1
	0.2nm,0.5s,baz=216,slow=6.1,SNR=5.1						

*NEIC **22** 12:47:51.4±0.7, 1°.01S×99°.94E, h84km±9km, mb4.5/4, Error ellipse: s-maj=22.6km s-min=14.7km az=215.0*
*ISCJB **22** 12:47:52.3±0.4, 0°.83S±0°.05×99°.97E±0°.04, h100km, mb4.2/15, Error ellipse: s-maj=6.9km s-min=6.2km az=152.0*
*IDC **22** 12:47:52.6±4.1, 0°.89S×99°.95E, h87km±32km, mb3.8/11, mb1 3.8/13, mb1mx3.5/46, mbtmp4.0/13, MS2.6/2, Ms1 2.6/2, ms1mx2.4/43, Error ellipse: s-maj=36.3km s-min=23.5km az=40.0*
*DJA **22** 12:47:54.2±0.4, 1°.5±4°×10°.0E±°, h65km±8km, M3.7/2, MLv3.7/2*
ISC 22 12:47:53.7±0.6, 0°.81S±0°.05×99°.93E±0°.04, h100km, n39, σ1°28/42, mb4.2/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.55**	**100**	P	**Pn**	**12 48 08.0**	**-1.9**
PDSI				S	**Sn**	**12 48 18.5**	**

1.2nm,0.6s,baz=194,slow=10,SNR=4.1
MK31 Makanchi Array 49.87 344 *e*P **P 12 56 37.6 +0.7**
2.1nm,0.6s
MK32 Makanchi Array 49.87 344 *e*P **P 12 56 38.0 +1.1**
MKAR Makanchi Array 49.87 344 *e*P **P 12 56 38.0 +1.1**
2.3nm,0.5s,baz=150,slow=8.2,SNR=28
JHJ Hachijo jima 2 50.47 44 P **P 12 56 42.0 +0.4**
77nm,0.8s,baz=68,slow=18,SNR=3.3
USRK Ussuriysk Ar. 53.15 28 P **P 12 57 02.0 +0.7**
3.2nm,0.6s,baz=246,slow=3.3,SNR=12
ZALV Zalesovo Beam 55.99 349 P **P 12 57 22.5 +0.8**
1.7nm,0.3s,baz=181,slow=6.1,SNR=13
ZAA1 Zalesovo Array 56.00 349 *e*P **P 12 57 22.5 +0.8**
KLR Kul'dur 56.89 24 P **P 12 57 28.9 +0.8**
1.4nm,0.6s,baz=242,slow=8.3,SNR=6.8
KBZ Khabaz 67.37 319 P **P 12 58 39.0 +0.7**
0.5nm,0.3s,baz=124,slow=7.3,SNR=2.6
SEY Seymchan 74.56 22 P **P 12 59 21.8 +0.4**
0.8nm,0.5s,baz=118,slow=22,SNR=2.8
ARCES ARCESS Array B 85.34 340 P **P 13 00 20.4 +1.1**
0.6nm,0.5s,baz=101,slow=5.1,SNR=6.9
LTX Lajitas 143.80 36 *e*PKPdf **PKPdf 13 07 17.3 -0.8**
TXAR Lajitas Array 143.80 36 PKP **PKPdf 13 07 17.3 -0.8**
0.4nm,0.5s,baz=154,slow=0.5,SNR=6.3

KRNET ***22*** *12:48:17.4±0.1, 41°.55N×70°.49E, mb2.6*
SOME ***22*** *12:48:18.0, 41°.13N×71°.05E, h0km*
NNC ***22*** *12:48:19.7±1.4, 41°.17N×70°.96E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=11.3km s-min=4.4km az=12.0*
ISC 22 12:48:21.6±1.6, 41°.29N±0°.05×70°.97E±0°.04, h0km±14km, n14, σ1§56/23, 8C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.11**	**321**	P	**Pb**	**12 48 42.6**	**-1.1**
IUG	10.0nm,0.1s			S	**Sb**	**12 48 58.6**	**-0.2**
IUG	26nm,0.3s **Iuzhnay**	**1.11**	**321**	*e*P	**Pb**	**12 48 42.6**	**-1.1**
IUG	4.4nm,0.2s			*e*S	**Sn**	**12 48 59.9**	**-0.7**
BTK	26nm,0.3s **Batken**	**1.23**	**186**	⇑*i*P	**Pg**	**12 48 45.1**	**-0.1**
BTK	baz=70			⇑*i*S	**Sn**	**12 49 05.4**	**+1.9**
KK31	baz=70 **Karatay Array**	**1.85**	**349**	⇑Pn	**Pn**	**12 48 54.8**	**+0.3**
KK31	2.8nm,0.3s,baz=163,slow=16,SNR=36			⇓Lg	Lg	12 49 22.5	
AML	4.8nm,0.4s,baz=172,slow=26,SNR=14 **Almayashu**	**2.21**	**67**	⇑*i*P	**Pn**	**12 48 59.5**	**-0.3**
AML	baz=75			⇑*i*S	**Sb**	**12 49 30.1**	**-0.4**
MRKS	baz=75 **Merke**	**2.22**	**48**	Pg	**Pb**	**12 49 00.9**	**-1.8**
MRKS	8.0nm,0.3s			Lg	Lg	12 49 32.4	
MRKS	6.7nm,0.5s **Merke**	**2.22**	**48**	*e*P	**Pb**	**12 49 00.9**	**-1.8**
MRKS	4.7nm,0.4s			*e*S	**Sb**	**12 49 31.8**	**+1.0**
ARLS	7.2nm,0.5s **Aral**	**2.58**	**76**	⇓*e*P	**Pn**	**12 49 05.3**	**+0.6**
ARLS	baz=82			⇓*i*S	**Sb**	**12 49 40.0**	**-1.0**
UCH	baz=82 **Uchtor**	**2.81**	**69**	⇑*i*P	**Pn**	**12 49 08.0**	**-0.1**
UCH	baz=76			⇑*i*S	**Sb**	**12 49 44.9**	**-3.1**
AAK	baz=76 **Ala-Archa**	**2.95**	**62**	⇓Pg	**Pb**	**12 49 14.5**	**-0.6**
AAK	1.4nm,0.3s			Lg	Lg	12 49 55.6	
AAK	2.2nm,0.5s **Ala-Archa**	**2.95**	**62**	⇓*i*P	**Pn**	**12 49 09.1**	**-0.7**
AAK	baz=69			⇓*i*S	**Sn**	**12 49 46.4**	**+0.4**
TKM2	baz=69 **Tokmak 2**	**3.81**	**63**	⇓Pg	**Pb**	**12 49 30.3**	**+0.5**
TKM2	1.0nm,0.7s			⇑Lg	Lg	12 50 21.7	
BTLS	1.7nm,0.6s **Baital**	**4.38**	**30**	Pg	**Pb**	**12 49 42.3**	**+3.1**
BTLS	1.1nm,0.3s			Lg	Lg	12 50 42.7	
BTLS	2.9nm,0.5s **Baital**	**4.38**	**30**	*e*P	**Pb**	**12 49 42.3**	**+3.1**
BTLS	1.1nm,0.3s			*e*S	**Sg**	**12 50 42.7**	**+0.6**
	2.9nm,0.5s						

KRSC ***22*** *12:49:53.2±10.0, 52°.11N×160°.95E, h42km±10km, ML4.2*
ISCJB ***22*** *12:49:54.4±1.5, 52°.16N±0°.05×160°.81E±0°.07, h15km±10km, Error ellipse: s-maj=9.6km s-min=6.0km az=142.0*
IDC ***22*** *12:49:55.3±1.4, 52°.45N×160°.33E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/36, mbtmp3.6/9, ML3.5/1, Error ellipse: s-maj=35.5km s-min=22.4km az=127.0*
ISC 22 12:49:54.7±2.2, 52°.20N±0°.06×160°.76E±0°.05, h8km±12km, n32, σ1§40/42, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.01**	**334**	*i* P	**Pg**	**12 50 13.7**	**-0.4**
SPN				*e*S	**Sg**	**12 50 27.0**	**-0.1**
NLC	**Nalytchevo**	**1.30**	**319**	*e*P	**Pn**	**12 50 18.4**	**-0.7**
RUS	**Russkaya**	**1.40**	**281**	*e*P	**Pn**	**12 50 19.8**	**-0.7**
RUS				*e*S	**Sn**	**12 50 38.5**	**-0.6**
DALK	**Dalny**	**1.48**	**305**	*i* P	**Pn**	**12 50 21.0**	**-0.6**
DALK				*e*S	**Sn**	**12 50 40.5**	**-0.6**
UGLR	**Uglovaya**	**1.55**	**312**	*e*P	**Pn**	**12 50 22.7**	**0.0**
SDLR	**Sedlovina**	**1.57**	**314**	*e*P	**Pn**	**12 50 22.7**	**-0.3**
SMAR	**Somma**	**1.60**	**313**	*e*P	**Pn**	**12 50 22.7**	**-0.8**
MTVR	**Mutnovka**	**1.60**	**281**	*e*P	**Pn**	**12 50 23.2**	**-0.3**
MTVR				S	**Sn**	**12 50 44.0**	**-0.4**
AVH	**Avacha**	**1.63**	**312**	*e*P	**Pn**	**12 50 23.8**	**0.0**
KRER	**Koryakskii**	**1.65**	**313**	*e*P	**Pn**	**12 50 23.9**	**-0.3**
KOK	**Koryaka**	**1.69**	**311**	*e*P	**Pn**	**12 50 24.8**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.70**	**258**	*e*P	**Pn**	**12 50 24.0**	**-0.6**
KDTR				S	**Sn**	**12 50 44.3**	**-2.2**
KRMR	**Karymshinskiy**	**1.73**	**293**	*e*P	**Pn**	**12 50 24.7**	**-0.3**
KRMR				*e*S	**Sn**	**12 50 47.2**	**0.0**
KRX	**Arik**	**1.73**	**313**	P	**Pn**	**12 50 24.6**	**-0.6**
ASAK	**Asacha**	**1.77**	**277**	*e*P	**Pn**	**12 50 25.8**	**+0.2**
PETK	**Petropavlovsk-**	**2.08**	**297**	Pn	**Pn**	**12 50 30.7**	**+0.9**
PETK	22nm,0.3s,baz=35,slow=30,SNR=77			Sn	**Sb**	**12 50 59.0**	**+0.5**
APC	21nm,0.3s,baz=228,slow=54,SNR=6.3 **Apacha**	**2.31**	**290**	*e*P	**Pn**	**12 50 33.9**	**+0.8**
APC				S	**Sb**	**12 51 05.2**	**-0.2**
MKZ	**Mys Kozlova**	**2.44**	**13**	*e*P	**Pn**	**12 50 34.4**	**-0.3**
MKZ				S	**Sn**	**12 51 02.6**	**-2.1**
TUMD	**Tumrok D**	**3.02**	**356**	P	**Pn**	**12 50 44.6**	**+1.8**
TUMD				S	**Sn**	**12 51 21.2**	**+2.0**
ALID	**Alaid**	**3.51**	**250**	P	**Pn**	**12 50 49.9**	**+0.2**
LGNR	**Loginova**	**3.90**	**359**	P	**Pn**	**12 50 57.6**	**+2.5**
KBTR	**Krutoberegovo**	**4.20**	**16**	P	**Pn**	**12 50 59.4**	**+0.4**
BKI	**Bering**	**4.32**	**44**	S	**Sn**	**12 51 46.5**	**-4.7**
KLR	**Kul'dur**	**18.55**	**272**	P	**Pn**	**12 54 12.0**	**+0.3**
	0.2nm,0.3s,baz=68,slow=11,SNR=4.8						
MJAR	**Matsushiro Arr**	**22.33**	**234**	P	**P**	**12 54 54.3**	**+1.6**
	0.8nm,0.6s,baz=23,slow=9.5,SNR=4.8						
TIXI	**Tiksi**	**24.07**	**336**	P	**P**	**12 55 07.5**	**-2.5**
	1.5nm,0.3s,baz=126,slow=7.5,SNR=5.2						
YKA	**Yellowknife Ar**	**43.55**	**42**	P	**P**	**12 58 00.5**	**+2.0**
	0.1nm,0.5s,baz=75,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**48.91**	**297**	P	**P**	**12 58 38.3**	**-2.6**
	0.4nm,0.4s,baz=50,slow=6.5,SNR=6.1						
CMAR	**Chiang Mai Arr**	**58.40**	**259**	P	**P**	**12 59 51.8**	**+1.1**
	0.4nm,0.5s,baz=25,slow=6.7,SNR=4.6						
FINES	**FINESS Array B**	**61.11**	**337**	P	**P**	**13 00 08.9**	**+0.2**
	0.9nm,0.4s,baz=44,slow=8.3,SNR=9.8						
AKASG	**Malin Array Be**	**69.59**	**329**	P	**P**	**13 01 03.5**	**-0.3**
	0.6nm,0.3s,baz=29,slow=6.4,SNR=3.0						
ASAR	**Alice Springs**	**79.11**	**205**	P	**P**	**13 02 01.0**	**+1.5**
	0.1nm,0.6s,baz=16,slow=5.3,SNR=3.7						

ISCJB ***22*** *12:55:44.8±0.6, 45°.86N±0°.04×146°.98E±0°.07, h33km, mb3.8/3, Error ellipse: s-maj=7.8km s-min=5.8km az=23.4*
SKHL ***22*** *12:55:44.3±1.1, 45°.89N×146°.97E, h46km±2km, mb3.9/3*
MOS ***22*** *12:55:45.3±1.3, 45°.83N×146°.92E, h38km, mb4.0/3, Error ellipse: s-maj=28.2km s-min=10.8km az=78.8*
JMA ***22*** *12:55:46.2±0.4, 44°.04N×148°.18E, h0km, M3.6*
ISC 22 12:55:46.5±0.8, 45°.77N±0°.07×147°.08E±0°.05, h35km, n29, σ1§49/37, mb3.9/3, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.77**	**134**	*d* PN	**Pn**	**12 56 01.2**	**+0.3**
KUR				*i* S	**Sn**	**12 56 12.6**	**+1.4**
KUR				pmax	pmax		
KUR	comp=Z,428nm,0.3s			pmax	pmax		
KUR	comp=N,148nm,0.4s			pmax	pmax		
KUR	comp=E,209nm,0.3s			smax	smax		
KUR	comp=E,443nm,0.4s			smax	smax		
KUR	comp=N,347nm,0.5s						
KUR	**Kuril'sk**	**0.77**	**134**	*i* P	**Pn**	**12 56 01.0**	**+0.1**
KUR				*i* S	**Sn**	**12 56 12.6**	**+1.4**
KUR				A	A	12 56 16.1	
KUR	comp=N,350nm,0.3s			A	A	12 56 16.1	
KUR	comp=N,440nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.94**	**207**	⇓*i* PN	**Pn**	**12 56 16.5**	**-0.4**
YUK				*i* S	**Sn**	**12 56 40.2**	**+0.3**
YUK				pmax	pmax		
YUK	comp=Z,120nm,0.2s			pmax	pmax		
YUK	comp=N,20nm,0.1s			pmax	pmax		
YUK	comp=E,14nm,0.1s			smax	smax		
YUK	comp=N,420nm,0.4s			smax	smax		
YUK	comp=E,343nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.94**	**207**	*i* P	**Pn**	**12 56 16.0**	**-0.9**
YUK				AMB	AMB	12 56 17.5	
YUK	comp=E,20nm,0.2s			AMB	AMB	12 56 17.5	
YUK	comp=E,10.0nm,0.2s						
YUK				*i* S	**Sn**	**12 56 40.2**	**+0.3**
YUK				A	A	12 56 45.0	
YUK	comp=E,420nm,0.5s			A	A	12 56 45.0	
YUK	comp=E,340nm,0.5s						
LAGR	**Lagunnoye**	**1.94**	**209**	*e*PN	**Pn**	**12 56 16.5**	**-0.5**
LAGR				*i* S	**Sn**	**12 56 41.0**	**+0.9**
LAGR				smax	smax		
LAGR	comp=E,595nm,0.4s			smax	smax		
LAGR	comp=N,258nm,0.2s						
LAGR	**Lagunnoye**	**1.94**	**209**	*e*P	**Pn**	**12 56 16.0**	**-1.0**
LAGR				*i* S	**Sn**	**12 56 41.0**	**+0.9**
LAGR				A	A	12 56 49.0	
LAGR	comp=N,260nm,0.4s			A	A	12 56 49.0	
LAGR	comp=N,300nm,0.4s						
GRPR	**Tuman**	**2.00**	**208**	*e*PN	**Pn**	**12 56 17.5**	**-0.3**
GRPR				*i* S	**Sn**	**12 56 41.7**	**+0.1**
GRPR				pmax	pmax		
GRPR	comp=E,27nm,0.1s			pmax	pmax		
GRPR	comp=Z,107nm,0.1s			smax	smax		
GRPR	comp=N,262nm,0.3s			smax	smax		
GRPR	comp=E,335nm,0.4s						
GRPR	**Tuman**	**2.00**	**208**	*e*P	**Pn**	**12 56 17.0**	**-0.8**
GRPR				AMB	AMB	12 56 23.0	
GRPR	comp=E,30nm,0.2s			AMB	AMB	12 56 23.0	
GRPR	comp=E,10.0nm,0.2s						
GRPR				*i* S	**Sn**	**12 56 41.0**	**-0.6**
GRPR				A	A	12 56 44.0	
GRPR	comp=E,160nm,0.3s			A	A	12 56 44.0	
GRPR	comp=E,140nm,0.3s						
JRA	**Rausu**	**2.30**	**218**	P	**Pn**	**12 56 24.7**	**+2.9**
GLVR	**Golovnino**	**2.31**	**209**	*e*PN	**Pn**	**12 56 22.0**	**0.0**
GLVR				*i* S	**Sn**	**12 56 50.4**	**+1.2**
GLVR				smax	smax		
GLVR	comp=N,282nm,0.3s			smax	smax		
GLVR	comp=E,627nm,0.3s						
GLVR	**Golovnino**	**2.31**	**209**	*e*P	**Pn**	**12 56 22.0**	**0.0**
GLVR				*i* S	**Sn**	**12 56 50.0**	**+0.8**
GLVR				A	A	12 56 54.4	
GLVR	comp=E,280nm,0.4s			A	A	12 56 54.4	
GLVR	comp=E,130nm,0.4s						
NEM2	**Nemuro 2**	**2.58**	**202**	P	Pn	12 56 20.3	-5.5
NEM2				*e*S	Sn	12 56 45.2	-11
JNK	**Nakash**	**2.75**	**218**	P	**Pn**	**12 56 29.7**	**+1.5**
JNK				*e*S	**Sn**	**12 57 01.5**	**+1.3**
JTKR	**Abashiri--Toko**	**2.88**	**233**	P	Pn	12 56 38.0	+8.1
JKHN	**Kushirohamanak**	**3.01**	**208**	P	**Pn**	**12 56 27.9**	**-3.8**
JAK	**Akkeshi**	**3.25**	**212**	P	**Pn**	**12 56 32.5**	**-2.5**
JAR	**Ashorobuto**	**3.42**	**225**	P	Pn	12 56 41.0	+3.7
ERM	**Erimo**	**4.70**	**218**	*i* PN	**Pn**	**12 56 55.9**	**+1.0**
JKB	**Kayabe**	**5.84**	**231**	P	**Pn**	**12 57 13.4**	**+2.8**
BILL	**Bilibino**	**24.44**	**17**	*e*P	**P**	**13 01 03.5**	**+1.9**
BILL	**Bilibino**	**24.44**	**17**	*e*P	**P**	**13 01 03.5**	**+1.9**
TIXI	**Tiksi**	**27.38**	**348**	*i* P	**P**	**13 01 26.1**	**-1.9**
TIXI	**Tiksi**	**27.38**	**348**	*e*P	**P**	**13 01 26.1**	**-1.9**
BRVK	**Borovoye**	**48.25**	**308**	*i* P	**P**	**13 04 23.2**	**-0.4**
BRVK				pmax	pmax		
BRVK	comp=Z,1.0nm,0.9s						
BRVK	**Borovoye**	**48.25**	**308**	*e*P	**P**	**13 04 23.2**	**-0.4**
AAK	**Ala-Archa**	**50.46**	**294**	*i* P	**P**	**13 04 41.0**	**+0.1**
AAK				pmax	pmax		
AAK	comp=Z,1.0nm,1.1s						
AAK	**Ala-Archa**	**50.46**	**294**	*e*P	**P**	**13 04 41.0**	**+0.1**
ARU	**Arti**	**52.85**	**316**	*i* P	**P**	**13 04 56.4**	**-1.9**
ARU				pmax	pmax		
ARU	comp=Z,2.0nm,1.2s						
ARU	**Arti**	**52.85**	**316**	*e*P	**P**	**13 04 56.4**	**-1.9**

ISCJB ***22*** *12:59:44.5±0.5, 24°.52N±0°.04×122°.81E±0°.02, h81km±5km, Error ellipse: s-maj=6.0km s-min=2.7km az=176.3*
TAP ***22*** *12:59:44.6, 24°.50N×122°.78E, h81km, ML2.7, C*
JMA ***22*** *12:59:44.7±0.1, 24°.72N×122°.85E, h77km±2km, M1.5*
ISC 22 12:59:44.7±1.4, 24°.54N±0°.05×122°.81E±0°.02, h82km±8km, n48, σ0§73/79, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.15**	**127**	P	**Pn**	**12 59 56.6**	**0.0**
JYNG				*e*S	**Sn**	**13 00 05.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.20**	**114**	*e*P	**Pn**	**12 59 56.7**	**-0.1**
YOJ	baz=97			S	**Sn**	**13 00 05.8**	**+0.2**
YOJ	baz=97 **Yonaguni jima**	**0.20**	**114**	P	**Pn**	**12 59 56.7**	**-0.1**
YOJ				S	**Sn**	**13 00 05.6**	**0.0**
EOS1	**EOS1**	**0.62**	**271**	P	**Pn**	**12 59 59.7**	**0.0**
EOS1	baz=275			*e*S	**Sn**	**13 00 11.2**	**+0.3**
IRIF	baz=275 **Iriomote-Funau**	**0.86**	**104**	P	**Pn**	**13 00 02.1**	**-0.2**
IRIF				S	**Sn**	**13 00 15.1**	**-0.3**
TWC	**Suao**	**0.88**	**275**	*e*P	**Pn**	**13 00 02.5**	**0.0**
TWC	baz=277			*e*S	**Sn**	**13 00 14.8**	**-0.9**
NTC	**Toucheng**	**0.95**	**289**	*e*S	**Sn**	**13 00 16.6**	**-0.5**
ENA	baz=292 **Nanau**	**0.98**	**264**	*e*P	**Pn**	**13 00 04.1**	**+0.4**
TIPB	baz=265 **Shuangxi**	**0.99**	**296**	*e*P	**Pn**	**13 00 03.6**	**-0.3**
TIPB	baz=298			S	**Sn**	**13 00 18.5**	**+0.4**
HATJ	**Hateruma jima**	**1.03**	**118**	P	**Pn**	**13 00 04.9**	**+0.7**
HATJ				S	**Sn**	**13 00 21.0**	**+2.2**
TWE	**Neicheng**	**1.06**	**280**	*e*P	**Pn**	**13 00 04.4**	**-0.2**
TWE	baz=282			S	**Sn**	**13 00 19.1**	**-0.3**
NWF	baz=282 **Wu-fen Shan**	**1.07**	**300**	*e*P	**Pn**	**13 00 05.0**	**+0.1**
WFSB	baz=302 **Wu-fen Shan**	**1.07**	**300**	*e*P	**Pn**	**13 00 05.0**	**+0.2**
	baz=302						
SLBB	**Yuanshan**	**1.09**	**281**	P	**Pn**	**13 00 05.2**	**+0.2**
SLBB	baz=283			S	**Sn**	**13 00 20.1**	**-0.1**
JKRS	baz=283 **Kuro-shima**	**1.13**	**105**	P	**Pn**	**13 00 05.8**	**+0.3**
JKRS				S	**Sn**	**13 00 22.1**	**+1.0**
ENTT	**Nioudou**	**1.14**	**275**	*e*P	**Pn**	**13 00 06.2**	**+0.6**
NDT	baz=277 **Datong Townshi**	**1.18**	**273**	*e*P	**Pn**	**13 00 07.3**	**+1.1**
NDT	baz=275			*e*S	**Sn**	**13 00 22.7**	**+0.4**
TWD	baz=275 **Chiawan**	**1.20**	**248**	S	**Sn**	**13 00 21.9**	**-0.7**
JIJ	baz=248 **Ishigaki jima**	**1.23**	**98**	P	**Pn**	**13 00 06.4**	**-0.2**
JIJ				*e*S	**Sn**	**13 00 22.6**	**-0.5**
YM07	**YM07**	**1.25**	**300**	*e*P	**Pn**	**13 00 06.7**	**-0.3**
ETLH	baz=302 **Xiulin Townshi**	**1.26**	**255**	*e*P	**Pn**	**13 00 07.6**	**+0.5**
ETLH	baz=256			*e*S	**Sn**	**13 00 23.2**	**-0.8**
TATO	baz=256 **Taipei**	**1.28**	**290**	P	**Pn**	**13 00 07.5**	**+0.2**
YM01	baz=292 **YM01**	**1.28**	**298**	*e*P	**Pn**	**13 00 07.6**	**+0.2**
YM11	baz=300 **YM11**	**1.28**	**299**	*e*P	**Pn**	**13 00 08.1**	**+0.6**
YM10	baz=301 **YM10**	**1.29**	**298**	*e*P	**Pn**	**13 00 08.0**	**+0.5**
NNSB	baz=300 **Datong**	**1.31**	**265**	*e*P	**Pn**	**13 00 08.2**	**+0.4**
NNSB	baz=266			S	**Sn**	**13 00 24.6**	**-0.5**
YM04	**YM04**	**1.31**	**298**	*e*P	**Pn**	**13 00 08.0**	**+0.3**
YHNB	baz=300 **Yeheng**	**1.31**	**276**	P	**Pn**	**13 00 08.2**	**+0.4**
YHNB	baz=277			*e*S	**Sn**	**13 00 25.2**	**0.0**
NNS	baz=277 **Nan Shan**	**1.31**	**266**	*e*S	**Sn**	**13 00 24.8**	**-0.5**
NSK	baz=267 **Sanguang**	**1.33**	**276**	*e*P	**Pn**	**13 00 08.3**	**+0.3**
NSK	baz=277			S	**Sn**	**13 00 25.3**	**-0.2**
JISG	baz=277 **Ishigakijimahi**	**1.36**	**88**	P	**Pn**	**13 00 08.2**	**-0.2**
JISG				S	**Sn**	**13 00 26.3**	**+0.1**
ESL	**Shilin**	**1.45**	**240**	*e*P	**Pn**	**13 00 09.7**	**+0.2**
ESL	baz=240			*e*S	**Sn**	**13 00 27.4**	**-0.9**
WHF	**Hehuan Shan**	**1.47**	**255**	*e*S	**Sn**	**13 00 28.4**	**-0.8**
EGFH	baz=255 **Guangfu**	**1.54**	**236**	*e*S	**Sn**	**13 00 29.3**	**-0.8**
CHGB	baz=236 **Renai**	**1.57**	**253**	*e*P	**Pn**	**13 00 11.7**	**+0.4**
CHGB	baz=253			*e*S	**Sn**	**13 00 30.9**	**-0.4**
OWD	baz=253 **Renai**	**1.60**	**249**	*e*P	**Pn**	**13 00 11.8**	**+0.2**
OWD	baz=249			S	**Sn**	**13 00 31.1**	**-0.8**
HGSD	baz=249 **Ruisui**	**1.65**	**231**	*e*P	**Pn**	**13 00 11.8**	**-0.2**
HGSD	baz=231			*e*S	**Sn**	**13 00 32.4**	**-0.3**
EHY	baz=231 **Hungye**	**1.71**	**233**	*e*P	**Pn**	**13 00 12.7**	**-0.1**
EHY	baz=233			*e*S	**Sn**	**13 00 32.9**	**-1.3**
VWDT	baz=233 **VWDT**	**1.72**	**243**	*e*P	**Pn**	**13 00 13.3**	**+0.4**
VWDT	baz=243			*e*S	**Sn**	**13 00 34.5**	**+0.1**
JTJ	baz=243 **Tarama**	**1.72**	**86**	P	**Pn**	**13 00 13.3**	**+0.3**
JTJ				S	**Sn**	**13 00 33.9**	**-0.6**
YULB	**Yu-li**	**1.80**	**231**	*e*P	**Pn**	**13 00 13.7**	**-0.3**
YULB	baz=230			*e*S	**Sn**	**13 00 35.2**	**-1.1**
TWF1	baz=230 **Yuli**	**1.82**	**230**	*e*P	**Pn**	**13 00 14.2**	**-0.1**
TWF1	baz=229			S	**Sn**	**13 00 36.0**	**-0.9**
TYC	baz=229 **Yuchr**	**1.90**	**251**	*e*P	**Pn**	**13 00 16.1**	**+0.8**
TYC	baz=251			*e*S	**Sn**	**13 00 39.7**	**+1.2**
CHKT	baz=251 **Chengkung**	**1.96**	**223**	*e*S	**Sn**	**13 00 37.8**	**-2.2**
ELDTW	baz=222 **Lidau**	**2.12**	**231**	*e*P	**Pn**	**13 00 18.5**	**+0.1**
ELDTW	baz=230			S	**Sn**	**13 00 43.1**	**-1.1**
JIRB	**Irabujima**	**2.17**	**82**	P	**Pn**	**13 00 18.1**	**-0.8**
JIRB				S	**Sn**	**13 00 44.0**	**-1.0**
CHN4	**Tsaushan**	**2.35**	**240**	*e*P	**Pn**	**13 00 22.7**	**+1.3**
CHN4	baz=240			*e*S	**Sn**	**13 00 51.8**	**+2.3**
SLGT	baz=240 **Liugui**	**2.51**	**233**	*e*P	**Pn**	**13 00 25.1**	**+1.5**
	baz=232						

KRSC ***22*** *13:01:40.5±10.0, 52°.81N×160°.32E, h47km±10km, ML3.9*
ISCJB ***22*** *13:01:42.3±0.7, 52°.82N±0°.05×160°.26E±0°.08, h48km±7km, mb3.7/3, Error ellipse: s-maj=10.9km s-min=4.6km az=138.9*
IDC ***22*** *13:01:45.6±5.8, 53°.09N×160°.11E, h66km±40km, mb3.3/3, mb1 3.3/3, mb1mx2.9/38, mbtmp3.6/3, Error ellipse: s-maj=48.2km s-min=42.9km az=98.0*
ISC 22 13:01:42.3±1.3, 52°.81N±0°.06×160°.28E±0°.05, h41km±11km, n27, σ1§23/39, mb3.5/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.33**	**332**	*i* P	**Pn**	**13 01 51.1**	**+0.2**
SPN				*e*S	**Sn**	**13 01 56.6**	**-0.4**
NLC	**Nalytchevo**	**0.67**	**303**	*e*P	**Pn**	**13 01 55.1**	**-0.2**
NLC				*e*S	**Sn**	**13 02 04.0**	**-0.6**
DALK	**Dalny**	**0.95**	**284**	*i* P	**Pn**	**13 01 59.2**	**+0.1**
DALK				*e*S	**Sn**	**13 02 11.0**	**-0.4**
SDLR	**Sedlovina**	**0.96**	**300**	*e*P	**Pn**	**13 01 59.6**	**+0.2**
UGLR	**Uglovaya**	**0.96**	**295**	*e*P	**Pn**	**13 01 59.8**	**+0.3**
SMAR	**Somma**	**1.00**	**298**	P	**Pn**	**13 01 59.9**	**-0.1**
AVH	**Avacha**	**1.03**	**297**	*e*P	**Pn**	**13 02 00.8**	**+0.4**
KRER	**Koryakskii**	**1.05**	**299**	*e*P	**Pn**	**13 02 01.1**	**+0.4**
KOK	**Koryaka**	**1.10**	**297**	*e*P	**Pn**	**13 02 01.7**	**+0.4**
KRX	**Arik**	**1.13**	**300**	*e*P	**Pn**	**13 02 01.9**	**+0.2**
RUS	**Russkaya**	**1.14**	**251**	*e*P	**Pn**	**13 02 01.7**	**0.0**
RUS				*e*S	**Sn**	**13 02 16.0**	**-0.1**
KRMR	**Karymshinskiy**	**1.30**	**272**	*e*P	**Pn**	**13 02 03.9**	**-0.1**
KRMR				*e*S	**Sn**	**13 02 20.1**	**0.0**
MTVR	**Mutnovka**	**1.32**	**256**	*e*P	**Pn**	**13 02 04.6**	**+0.3**
MTVR				*e*S	**Sn**	**13 02 21.0**	**+0.3**
ASAK	**Asacha**	**1.51**	**255**	*e*P	**Pn**	**13 02 07.7**	**+0.8**
ASAK				*e*S	**Sn**	**13 02 26.9**	**+1.5**
PETK	**Petropavlovsk-**	**1.59**	**282**	P	**Pn**	**13 02 08.8**	**+1.0**
PETK	48nm,0.3s,baz=86,slow=20,SNR=1537			S	**Sn**	**13 02 28.1**	**+0.9**
PETK	23nm,0.3s,baz=88,slow=39,SNR=10.0			LR	LR	13 02 48.4	
KDTR	comp=Z,62nm,18.9s,baz=99,slow=43 **Khodutka, Kamc**	**1.68**	**234**	*e*P	**Pn**	**13 02 10.3**	**+1.2**
KDTR				*e*S	**Sn**	**13 02 30.1**	**+0.7**
APC	**Apacha**	**1.89**	**275**	*e*P	**Pn**	**13 02 13.9**	**+1.8**
APC				*e*S	**Sn**	**13 02 37.4**	**+2.7**
MKZ	**Mys Kozlova**	**1.95**	**26**	*e*P	**Pn**	**13 02 13.3**	**+0.5**
MKZ				*e*S	**Sn**	**13 02 36.1**	**0.0**
TUMD	**Tumrok D**	**2.40**	**2**	P	**Pn**	**13 02 20.6**	**+1.6**
TUMD				S	**Sn**	**13 02 48.7**	**+1.5**
ESO	**Esso**	**3.25**	**344**	P	**Pn**	**13 02 33.1**	**+2.3**
ALID	**Alaid**	**3.52**	**238**	P	**Pn**	**13 02 36.3**	**+1.8**
KLY	**Klyuchi**	**3.52**	**3**	P	**Pn**	**13 02 37.1**	**+2.8**
KBTR	**Krutoberegovo**	**3.71**	**22

1.1nm,0.8s,baz=192,slow=35,SNR=1.2

*IDC **22** 13:45:14.8±3.7,35°.98N×69°.83E,h77km±31km,mb3.5/7, mb1 3.6/13,mb1mx3.4/59,mbtmp3.9/13,Error ellipse: s-maj=28.8km s-min=20.2km az=173.0*
*ISCJB **22** 13:45:16.6±0.4,36°.09N±0°.03×69°.77E±0°.05,h100km, mb4.1/11,Error ellipse: s-maj=5.9km s-min=4.4km az=152.4*
*BJI **22** 13:45:17.0±0.0,35°.84N×69°.83E,h101km,mb5.0/6, mB4.7/4*
*NEIC **22** 13:45:18.4±1.8,36°.08N×69°.82E,h95km±24km,mb4.0/6, Error ellipse: s-maj=21.1km s-min=12.2km az=129.0*
*NNC **22** 13:45:19.5±3.4,36°.62N×69°.49E,h0km,mb4.4,mpv4.3, Error ellipse: s-maj=27.6km s-min=19.5km az=171.0*
ISC 22 13:45:17.7±0.7,36°.15N±0°.06×69°.71E±0°.05,h100km,n63, σ2°01/74,mb4.1/11,5C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.69**	**199**	*e*Pn	**Pn**	**13 45 48.2**	**+1.6**
GAR	**Garm**	**2.89**	**9**	*e*Pn	**Pn**	**13 46 05.0**	**+2.9**
NIL	**Nilore**	**3.83**	**130**	*e*Pn	**Pn**	**13 46 15.6**	**+1.0**
BTK	**Batken**	**4.00**	**12**	*e*Pn	**Pn**	**13 46 20.9**	**+4.0**
ARSB	**Arslanbob**	**5.76**	**25**	*e*Pn	**Pn**	**13 46 41.6**	**+0.7**
KSH	**Kashi**	**5.99**	**54**	P	**Pn**	**13 46 42.8**	**-1.1**
KSH				S	**Sn**	**13 47 45.3**	**-5.9**
KSH				smax	smax		
	comp=N,200nm,0.7s						
KSH				smax	smax		
	comp=E,140nm,0.7s						
AML	**Almayashu**	**6.73**	**26**	P	**Pn**	**13 46 55.8**	**+1.6**
	SNR=41						
KK31	**Karatay Array**	**6.97**	**5**	*e*Pn	**Pn**	**13 46 58.8**	**+1.6**
KK31	**Karatay Array**	**6.97**	**5**	⇑P	**Pn**	**13 46 58.6**	**+1.4**
	6.3nm,0.4s,baz=198,slow=14,SNR=107						
KK31				⇑S	**Sn**	**13 48 14.1**	**-0.9**
	7.2nm,0.3s,baz=194,slow=25,SNR=7.6						
KKAR	**Karatay Array**	**6.97**	**5**	*e*Pn	**Pn**	**13 46 58.4**	**+1.2**
KKAR				*e*Pn	Pn	13 46 58.8	+1.6
UCH	**Uchtor**	**7.12**	**30**	P	**Pn**	**13 47 00.9**	**+1.3**
	SNR=65						
NRN	**Naryn**	**7.21**	**41**	*e*Pn	**Pn**	**13 47 00.4**	**-0.2**
KZA	**Kyzart**	**7.32**	**34**	P	**Pn**	**13 47 03.1**	**+0.9**
	SNR=16						
AAK	**Ala-Archa**	**7.46**	**28**	P	**Pn**	**13 47 05.5**	**+1.6**
	SNR=30						
AAK	**Ala-Archa**	**7.46**	**28**	*e*Pn	**Pn**	**13 47 05.3**	**+1.4**
AAK	**Ala-Archa**	**7.46**	**28**	⇓P	**Pn**	**13 47 05.4**	**+1.5**
	17nm,0.6s						
AAK				⇓S	**Sn**	**13 48 27.6**	**+0.6**
	15nm,0.6s						
AAK	**Ala-Archa**	**7.46**	**28**	P	**Pn**	**13 47 03.8**	**-0.1**
	5.9nm,0.3s,baz=186,slow=5.9,SNR=64						
AAK				S	**Sn**	**13 48 27.0**	**-0.1**
	1.6nm,0.3s,baz=162,slow=20,SNR=5.8						
KBK	**Karagaybulak**	**7.66**	**30**	P	**Pn**	**13 47 08.3**	**+1.7**
	SNR=12						
FRU1	**Bishkek**	**7.66**	**28**	*e*Pn	**Pn**	**13 47 07.6**	**+1.0**
CHMS	**Chumysh**	**7.87**	**28**	P	**Pn**	**13 47 10.9**	**+1.6**
	SNR=12						
BOOM	**Boomskoye usch**	**7.96**	**35**	*e*Pn	**Pn**	**13 47 11.7**	**+0.9**
USP	**Ospenovka**	**8.01**	**26**	P	**Pn**	**13 47 11.6**	**+0.3**
	SNR=10						
TKM2	**Tokmak 2**	**8.15**	**32**	P	**Pn**	**13 47 14.5**	**+1.1**
	SNR=17						
TKM2	**Tokmak 2**	**8.15**	**32**	⇑P	**Pn**	**13 47 13.9**	**+0.5**
	11nm,0.7s						
TKM2				⇑S	**Sn**	**13 48 45.9**	**+2.1**
	5.6nm,0.7s						
KDJ	**Kajisay**	**8.32**	**42**	*e*Pn	**Pn**	**13 47 15.6**	**-0.1**
GEYT	**Alibeck**	**9.44**	**284**	P	**Pn**	**13 47 28.8**	**-2.0**
	0.8nm,0.3s,baz=91,slow=14,SNR=4.4						
GEYT				S	**Sn**	**13 49 12.8**	**-2.3**
	1.2nm,0.3s,baz=98,slow=22,SNR=5.3						
GYA0B	**ALIBECK ARRAY**	**9.44**	**284**	*e*Pn	**Pn**	**13 47 30.5**	**-0.3**
PYUN	**Piuthan**	**13.81**	**122**	*e*P	**Pn**	**13 48 26.9**	**-2.5**
	9.6nm,0.3s						
MAKZ	**Makanchi**	**14.05**	**37**	*e*Pn	**Pn**	**13 48 33.0**	**+0.8**
MK31	**Makanchi Array**	**14.19**	**38**	*e*Pn	**Pn**	**13 48 33.9**	**-0.1**
MKAR	**Makanchi Array**	**14.19**	**38**	*e*Pn	**Pn**	**13 48 34.1**	**+0.1**
MKAR	**Makanchi Array**	**14.19**	**38**	P	**Pn**	**13 48 35.0**	**+0.9**
	0.2nm,0.3s,baz=225,slow=12,SNR=8.9						
DANN	**Dangsing**	**14.20**	**119**	*e*P	**Pn**	**13 48 32.3**	**-2.1**
	14nm,0.3s						
KOLN	**Koldanda**	**14.44**	**121**	*e*P	**Pn**	**13 48 35.5**	**-2.0**
	7.6nm,0.3s						
AB31	**Akbulak array**	**14.92**	**334**	P	**Pn**	**13 48 43.7**	**+0.5**
	0.7nm,0.3s,baz=166,slow=12,SNR=64						
AB31				S	**Sn**	**13 51 24.4**	**-3.3**
	1.6nm,0.4s,baz=153,slow=23,SNR=12						
ABKAR	**Akbulak array**	**14.92**	**334**	*e*Pn	**Pn**	**13 48 43.6**	**+0.4**
ABKAR				*e*Pn	**P**	**13 48 44.0**	**-2.3**
KKN	**Kakani**	**15.61**	**118**	*e*P	**Pn**	**13 48 51.1**	**-1.2**
	17nm,0.5s						
WMQ	**Urumqi**	**15.75**	**55**	*e*P	**Pn**	**13 48 54.8**	**+1.0**
WMQ				sP	pP	13 49 22.3	+7.3
KURBB	**Kurchatov Arra**	**15.81**	**21**	P	**Pn**	**13 48 54.0**	**-0.3**
	0.2nm,0.3s,baz=210,slow=11,SNR=7.1						
PKIN	**Phulchoki**	**15.82**	**118**	*e*P	**Pn**	**13 48 53.6**	**-1.3**
	8.9nm,0.4s						
PKI	**Pulchoki**	**15.83**	**118**	*e*P	**Pn**	**13 48 53.8**	**-1.4**
KURK	**Kurchatov**	**15.91**	**21**	*e*Pn	**Pn**	**13 48 56.9**	**+1.2**
	4.6nm,0.8s						
JIRN	**Jiri**	**16.34**	**117**	*e*P	**Pn**	**13 49 00.6**	**-0.9**
	29nm,0.4s						
AKTO	**Aktyubinsk**	**16.59**	**333**	⇑P	**P**	**13 49 07.6**	**+2.7**
	3.2nm,0.6s						
AKTO				⇓S	**Sn**	**13 52 05.6**	**-2.5**
	4.2nm,0.7s						
AKTO	**Aktyubinsk**	**16.59**	**333**	P	**Pn**	**13 49 04.5**	**+0.4**
	0.8nm,0.3s,baz=151,slow=11,SNR=10.0						
AKTO				S	**Sn**	**13 51 59.0**	**-9.1**
	0.4nm,0.3s,baz=2.8,slow=22,SNR=4.5						
BVAR	**Borovoye Array**	**16.88**	**1**	P	**Pn**	**13 49 08.0**	**+0.3**
	0.7nm,0.3s,baz=177,slow=9.6,SNR=7.1						
BRVK	**Borovoye**	**16.91**	**1**	*e*Pn	**Pn**	**13 49 09.4**	**+1.4**
	2.9nm,0.6s						
RAMN	**Ramite**	**17.05**	**118**	*e*P	**Pn**	**13 49 08.7**	**-1.4**
	9.1nm,0.3s						
ZAA0	**Zalesovo Array**	**20.68**	**26**	*e*P	**P**	**13 49 51.8**	**+2.4**
	7.1nm,0.8s						
ZALV	**Zalesovo Beam**	**20.68**	**26**	*e*P	**P**	**13 49 51.5**	**+2.1**
ZALV	**Zalesovo Beam**	**20.68**	**26**	P	**P**	**13 49 48.8**	**-0.6**
	8.2nm,0.3s,baz=221,slow=11,SNR=16						
ARU	**Arti**	**21.64**	**343**	*e*P	**P**	**13 50 02.7**	**+3.0**
	8.2nm,0.9s						
ARU	**Arti**	**21.64**	**343**	P	**P**	**13 50 00.2**	**+0.4**
	0.7nm,0.3s,baz=129,slow=4.6,SNR=2.0						
KBZ	**Khabaz**	**21.84**	**298**	P	**P**	**13 50 03.2**	**+1.2**
	0.4nm,0.3s,baz=63,slow=6.8,SNR=2.1						
LZH	**Lanzhou**	**27.49**	**80**	⇓P	**P**	**13 50 54.3**	**-0.5**
LZH				pP	pP	13 51 15.9	-2.5
LZH				sP	sP	13 51 27.5	-3.1
LZH				PP	**PnPn**	**13 51 45.4**	**+0.1**
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH				pmax	pmax		
	comp=Z,49nm,5.0s						
BR131	**Keskin Array S**	**28.55**	**288**	*e*P	**P**	**13 51 06.7**	**+2.6**
	3.3nm,0.6s						
CD2	**Chengdu**	**28.77**	**91**	*e*P	**P**	**13 51 05.4**	**-0.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
KMI	**Kunming**	**30.33**	**102**	P	**P**	**13 51 22.0**	**+1.8**
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
HHC	**Hu-ho-hao-te**	**32.86**	**69**	*e*P	**P**	**13 51 43.3**	**+1.3**
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,84nm,4.4s						
FINES	**FINESS Array B**	**37.20**	**327**	P	**P**	**13 52 20.8**	**+1.9**
	2.0nm,0.8s,baz=116,slow=13,SNR=3.7						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**13 52 51.9**	**+0.8**
	1.5nm,0.7s,baz=99,slow=7.5,SNR=10						
NOA	**NORSAR Array B**	**44.04**	**323**	P	**P**	**13 53 15.8**	**+0.7**
	1.0nm,0.7s,baz=98,slow=7.9,SNR=3.4						
ASAR	**Alice Springs**	**84.91**	**124**	P	**P**	**13 57 40.5**	**-1.2**
	0.2nm,0.7s,baz=307,slow=4.9,SNR=3.3						

*IDC **22** 13:48:52.0±0.7,52°.54N×160°.54E,h0km,mb4.0/31, mb1 4.2/35,mb1mx4.1/49,mbtmp4.0/35,ML3.7/4,MS3.9/24,*
Ms1 4.0/24,ms1mx3.7/43,Error ellipse: s-maj=16.4km s-min=11.6km az=161.0
*KRSC **22** 13:48:51.5±10.0,52°.22N×161°.02E,h40km±10km,ML5.0*
*MOS **22** 13:48:55.7±1.1,52°.36N×160°.70E,h45km,mb4.7/31, MS4.2/9,Error ellipse: s-maj=6.6km s-min=4.0km az=101.7*
*ISCJB **22** 13:48:56.1±0.5,52°.35N±0°.03×160°.72E±0°.04,h46km±3km, mb4.5/86,MS4.1/36,Error ellipse: s-maj=5.8km s-min=3.4km az=144.2*
*NEIC **22** 13:48:58.4±0.2,52°.75N×160°.54E,h35km,mb4.6/42,Error ellipse: s-maj=7.3km s-min=3.7km az=164.0*
ISC 22 13:48:56.9±1.0,52°.34N±0°.04×160°.75E±0°.04,h42km±9km, n297,σ1§77/297,mb4.5/86,MS4.1/36,8C-2D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.88**	**330**	*e*P	**Pn**	**13 49 09.5**	**-3.4**
SPN				*e*S	**Sn**	**13 49 22.9**	**-1.6**
SPN	**Mys Shipunski**	**0.88**	**330**	PN	**Pn**	**13 49 09.5**	**-3.4**
SPN				S	**Sn**	**13 49 22.9**	**-1.6**
NLC	**Nalytchevo**	**1.20**	**315**	*e*P	**Pn**	**13 49 15.3**	**-1.9**
NLC				*e*S	**Sn**	**13 49 32.3**	**+0.1**
NLC	**Nalytchevo**	**1.20**	**315**	PN	**Pn**	**13 49 15.3**	**-1.9**
NLC				S	**Sn**	**13 49 32.3**	**+0.1**
RUS	**Russkaya**	**1.38**	**275**	*e*P	**Pn**	**13 49 18.8**	**-0.8**
RUS				*e*S	**Sn**	**13 49 37.7**	**+1.1**
RUS	**Russkaya**	**1.38**	**275**	PN	**Pn**	**13 49 18.8**	**-0.8**
RUS				S	**Sn**	**13 49 37.7**	**+1.1**
DALK	**Dalny**	**1.40**	**301**	*e*P	**Pn**	**13 49 18.8**	**-1.2**
DALK				*e*S	**Sn**	**13 49 38.7**	**+1.5**
DALK	**Dalny**	**1.40**	**301**	PN	**Pn**	**13 49 18.8**	**-1.2**
DALK				S	**Sn**	**13 49 38.7**	**+1.5**
PET	**Petropavlovsk**	**1.45**	**299**	*e*Pn	**Pn**	**13 49 19.5**	**-1.1**
PET	**Petropavlovsk**	**1.45**	**299**	*e*P	**Pn**	**13 49 19.4**	**-1.3**
PET				*e*S	**Sn**	**13 49 38.1**	**-0.4**
PET	**Petropavlovsk**	**1.45**	**299**	PN	**Pn**	**13 49 19.4**	**-1.3**
PET				S	**Sn**	**13 49 38.1**	**-0.4**
UGLR	**Uglovaya**	**1.46**	**307**	*e*P	**Pn**	**13 49 19.9**	**-1.0**
UGLR				*e*S	**Sn**	**13 49 41.6**	**+2.7**
UGLR	**Uglovaya**	**1.46**	**307**	PN	**Pn**	**13 49 19.9**	**-1.0**
UGLR				S	**Sn**	**13 49 41.6**	**+2.7**
SDLR	**Sedlovina**	**1.48**	**310**	*e*P	**Pn**	**13 49 19.9**	**-1.2**
SDLR				*e*S	**Sn**	**13 49 42.3**	**+3.0**
SDLR	**Sedlovina**	**1.48**	**310**	PN	**Pn**	**13 49 19.9**	**-1.2**
SDLR				S	**Sn**	**13 49 42.3**	**+3.0**
SMAR	**Somma**	**1.51**	**309**	*e*P	**Pn**	**13 49 20.4**	**-1.2**
SMAR				*e*S	**Sn**	**13 49 42.8**	**+2.7**
SMAR	**Somma**	**1.51**	**309**	PN	**Pn**	**13 49 20.4**	**-1.2**
SMAR				S	**Sn**	**13 49 42.8**	**+2.7**
AVH	**Avacha**	**1.54**	**308**	*e*P	**Pn**	**13 49 21.2**	**-0.7**
AVH	**Avacha**	**1.54**	**308**	PN	**Pn**	**13 49 21.2**	**-0.7**
KRER	**Koryakskii**	**1.56**	**309**	*e*P	**Pn**	**13 49 21.5**	**-0.8**
KRER				*e*S	**Sn**	**13 49 43.3**	**+2.0**
KRER	**Koryakskii**	**1.56**	**309**	PN	**Pn**	**13 49 21.5**	**-0.8**
KRER				S	**Sn**	**13 49 43.3**	**+2.0**
MTVR	**Mutnovka**	**1.58**	**276**	*e*P	**Pn**	**13 49 22.1**	**-0.5**
MTVR	**Mutnovka**	**1.58**	**276**	PN	**Pn**	**13 49 22.1**	**-0.5**
KOK	**Koryaka**	**1.60**	**308**	*e*P	**Pn**	**13 49 21.9**	**-0.9**
KOK	**Koryaka**	**1.60**	**308**	PN	**Pn**	**13 49 21.9**	**-0.9**
KRX	**Arik**	**1.64**	**310**	*e*P	**Pn**	**13 49 22.4**	**-0.9**
KRX	**Arik**	**1.64**	**310**	PN	**Pn**	**13 49 22.4**	**-0.9**
GRL	**Gorelyy**	**1.65**	**279**	*e*P	**Pn**	**13 49 23.9**	**+0.3**
GRL	**Gorelyy**	**1.65**	**279**	PN	**Pn**	**13 49 23.9**	**+0.3**
KRMR	**Karymshinskiy**	**1.68**	**288**	*e*P	**Pn**	**13 49 22.9**	**-0.8**
KRMR				*e*S	**Sn**	**13 49 45.2**	**+1.2**
KRMR	**Karymshinskiy**	**1.68**	**288**	PN	**Pn**	**13 49 22.9**	**-0.8**
KRMR				S	**Sn**	**13 49 45.2**	**+1.2**
KDTR	**Khodutka, Kamc**	**1.73**	**253**	*e*P	**Pn**	**13 49 23.6**	**-0.9**
KDTR				*e*S	**Sn**	**13 49 45.4**	**0.0**
KDTR	**Khodutka, Kamc**	**1.73**	**253**	PN	**Pn**	**13 49 23.6**	**-0.9**
KDTR				S	**Sn**	**13 49 45.4**	**0.0**
ASAK	**Asacha**	**1.75**	**273**	*e*P	**Pn**	**13 49 24.9**	**+0.1**
ASAK	**Asacha**	**1.75**	**273**	PN	**Pn**	**13 49 24.9**	**+0.1**
PEA0B	**Petropavlovsk-**	**2.01**	**294**	*e*Pn	**Pn**	**13 49 28.1**	**-0.3**
PETK	**Petropavlovsk-**	**2.01**	**294**	*e*Pn	**Pn**	**13 49 27.8**	**-0.6**
PETK	**Petropavlovsk-**	**2.01**	**294**	*e*PN	**Pn**	**13 49 27.8**	**-0.6**
PETK	**Petropavlovsk-**	**2.01**	**294**	Pn	**Pn**	**13 49 27.5**	**-0.9**
	61nm,0.3s,baz=102,slow=19,SNR=664						
PETK				Sn	**Sn**	**13 49 52.0**	**-0.3**
	64nm,0.3s,baz=104,slow=18,SNR=7.0						
PETK				LR	LR	13 49 58.7	
	comp=Z,1μm,18.3s,baz=2.6,slow=37						
PEA1	**Petropavlovsk-**	**2.01**	**294**	*e*Pn	**Pn**	**13 49 27.5**	**-0.9**
PEA1				*e*Sn	**Sn**	**13 49 52.0**	**-0.3**
APC	**Apacha**	**2.27**	**286**	*e*P	**Pn**	**13 49 32.5**	**+0.6**
APC				*e*S	**Sn**	**13 50 02.0**	**+3.4**
APC	**Apacha**	**2.27**	**286**	PN	**Pn**	**13 49 32.5**	**+0.6**
APC				S	**Sn**	**13 50 02.0**	**+3.4**
MKZ	**Mys Kozlova**	**2.30**	**14**	*e*P	**Pn**	**13 49 29.8**	**-2.5**
MKZ	**Mys Kozlova**	**2.30**	**14**	PN	**Pn**	**13 49 29.8**	**-2.5**
PAU	**Pauzhetka**	**2.59**	**252**	*e*P	**Pn**	**13 49 36.2**	**-0.1**
PAU	**Pauzhetka**	**2.59**	**252**	PN	**Pn**	**13 49 36.2**	**-0.1**
TUMD	**Tumrok D**	**2.88**	**356**	*e*P	**Pn**	**13 49 39.0**	**-1.3**
TUMD				*e*S	**Sn**	**13 50 15.2**	**+1.5**
TUMR	**Tumrok**	**2.98**	**353**	PN	**Pn**	**13 49 39.0**	**-2.7**
TUMR				S	**Sn**	**13 50 15.2**	**-0.9**
SKR	**Severo-Kuril's**	**3.34**	**242**	*e*P	**Pn**	**13 49 46.0**	**-0.5**
SKR				*e*S	**Sn**	**13 50 24.9**	**+0.1**
SKR	**Severo-Kuril's**	**3.34**	**242**	*e*PN	**Pn**	**13 49 46.4**	**-0.1**
SKR				*e*S	**Sn**	**13 50 23.4**	**-1.4**
SKR				pmax	pmax		
	comp=Z,94nm,0.5s						
SKR				smax	smax		
	comp=E,1μm,0.7s						
SKR				smax	smax		
	comp=N,1μm,0.7s						
SKR				MLR	MLR		
	comp=Z,2μm,17.0s						
ALID	**Alaid**	**3.56**	**248**	*e*P	**Pn**	**13 49 49.7**	**-0.1**
ALID	**Alaid**	**3.56**	**248**	PN	**Pn**	**13 49 49.7**	**-0.1**
KIRR	**Kirishev**	**3.63**	**356**	*e*P	**Pn**	**13 49 51.9**	**+1.2**
KIRR	**Kirishev**	**3.63**	**356**	PN	**Pn**	**13 49 51.9**	**+1.2**
LGNR	**Loginova**	**3.75**	**359**	*e*P	**Pn**	**13 49 54.4**	**+1.9**
LGNR	**Loginova**	**3.75**	**359**	PN	**Pn**	**13 49 54.4**	**+1.9**
CIRR	**Tsirk**	**3.79**	**360**	*e*P	**Pn**	**13 49 54.4**	**+1.6**
CIRR	**Tsirk**	**3.79**	**360**	PN	**Pn**	**13 49 54.4**	**+1.6**
ESO	**Esso**	**3.79**	**342**	*e*P	**Pn**	**13 49 52.3**	**-0.5**
ESO	**Esso**	**3.79**	**342**	PN	**Pn**	**13 49 52.3**	**-0.5**
KRSR	**Krestovskiy**	**3.89**	**358**	*e*P	**Pn**	**13 49 55.5**	**+1.3**
KRSR	**Krestovskiy**	**3.89**	**358**	PN	**Pn**	**13 49 55.5**	**+1.3**
KLY	**Klyuchi**	**3.99**	**359**	*e*P	**Pn**	**13 49 56.1**	**+0.7**
KLY				*e*S	**Sn**	**13 50 43.4**	**+2.6**
KLY	**Klyuchi**	**3.99**	**359**	PN	**Pn**	**13 49 56.1**	**+0.7**
KLY				S	**Sn**	**13 50 43.4**	**+2.6**
KBTR	**Krutoberegovo**	**4.06**	**17**	*e*P	**Pn**	**13 49 55.2**	**-1.3**
KBTR	**Krutoberegovo**	**4.06**	**17**	PN	**Pn**	**13 49 55.2**	**-1.3**
KBG	**Krutoberegovo**	**4.09**	**15**	*e*P	**Pn**	**13 49 56.7**	**-0.1**
KBG	**Krutoberegovo**	**4.09**	**15**	PN	**Pn**	**13 49 56.7**	**-0.1**
BKI	**Bering**	**4.22**	**45**	*e*P	**Pn**	**13 49 56.2**	**-2.5**
BKI				*e*S	**Sn**	**13 50 41.4**	**-5.3**
BKI	**Bering**	**4.22**	**45**	PN	**Pn**	**13 49 56.2**	**-2.5**
BDR	**Baidarnaya**	**4.25**	**3**	*e*P	**Pn**	**13 50 01.5**	**+2.4**
BDR				*e*S	**Sn**	**13 50 52.5**	**+5.0**
BDR	**Baidarnaya**	**4.25**	**3**	PN	**Pn**	**13 50 01.5**	**+2.4**
BDR				S	**Sn**	**13 50 52.5**	**+5.0**
SMKR	**Semkarok**	**4.28**	**5**	*e*P	**Pn**	**13 50 01.7**	**+2.2**
SMKR				*e*S	**Sn**	**13 50 52.4**	**+4.3**
SMKR	**Semkarok**	**4.28**	**5**	PN	**Pn**	**13 50 01.7**	**+2.2**
SMKR				S	**Sn**	**13 50 52.4**	**+4.3**
SRKR	**Sorokina**	**4.33**	**3**	*e*P	**Pn**	**13 50 02.4**	**+2.1**
SRKR	**Sorokina**	**4.33**	**3**	PN	**Pn**	**13 50 02.4**	**+2.1**
SMY	**Shemya**	**8.15**	**82**	*e*Pn	**Pn**	**13 50 51.6**	**-1.0**
SMY	**Shemya**	**8.15**	**82**	*e*PN	**Pn**	**13 50 51.6**	**-1.0**
MA2	**Magadan**	**9.16**	**326**	*e*Pn	**Pn**	**13 51 02.1**	**-4.1**
MA2	**Magadan**	**9.16**	**326**	*i*Pn	**Pn**	**13 51 07.1**	**+0.8**
MA2	**Magadan**	**9.16**	**326**	Pn	**Pn**	**13 51 06.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=151,slow=13,SNR=3.0						
MA2				LR	LR	13 55 04.8	
	comp=Z,384nm,19.9s,baz=162,slow=42						
OKH	**Okha**	**10.82**	**283**	*de*PN	Pn	13 51 23.8	-5.3
OKH				MLR	MLR		
	comp=Z,900nm,15.0s						
SEY	**Seymchan**	**11.52**	**341**	*i*PN	**Pn**	**13 51 40.1**	**+1.5**
SEY	**Seymchan**	**11.52**	**341**	Pn	**Pn**	**13 51 37.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=146,slow=16,SNR=1.7						
YSS	**Yuzh-Sakhalins**	**12.84**	**252**	*e*PN	**P**	**13 52 04.6**	**-2.0**
YSS				MLR	MLR		
	comp=Z,1μm,12.0s						
ASAJ	**Asahikawa**	**14.60**	**243**	Pn	**Pn**	**13 52 19.9**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=56,slow=12,SNR=12						
GRNR	**Gornyy**	**15.20**	**274**	*e*P	**P**	**13 52 36.1**	**+3.2**
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
ERM	**Erimo**	**15.76**	**236**	*e*Pn	**Pn**	**13 52 31.8**	**-3.9**
	comp=Z,95nm,1.3s						
ERM	**Erimo**	**15.76**	**236**	*e*P	**Pn**	**13 52 31.8**	**-3.9**
ERM				pmax	pmax		
	comp=Z,95nm,1.3s						
BILL	**Bilibino**	**15.98**	**8**	*ce*P	**P**	**13 52 38.8**	**-2.6**
BILL				*e*S	**Sn**	**13 55 34.3**	**+0.1**
BILL				pmax	pmax		
	comp=Z,33nm,1.7s						
BILL				MLR	MLR		
	comp=Z,362nm,16.0s						
TEY	**Ternei**	**17.48**	**255**	⇓*e*P	P	13 53 10.8	+13
TEY				pmax	pmax		
	comp=Z,20nm,0.7s						
KLR	**Kul'dur**	**18.54**	**272**	*i*P	**Pn**	**13 53 12.1**	**+1.8**
KLR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KLR	**Kul'dur**	**18.54**	**272**	P	**Pn**	**13 53 09.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=92,slow=8.8,SNR=7.6						
YAK	**Yakutsk**	**19.24**	**312**	*e*P	**P**	**13 53 14.5**	**-2.8**
YAK				*e*SS	**Sn**	**13 56 55.0**	**+1.9**
YAK				pmax	pmax		
	comp=Z,95nm,1.0s						
YAK				pmax	pmax		
	comp=N,34nm,1.3s						
YAK				pmax	pmax		
	comp=E,52nm,1.1s						
YAK				pmax	pmax		
	comp=Z,173nm,1.0s						
YAK				pmax	pmax		
	comp=N,51nm,1.1s						
YAK				pmax	pmax		
	comp=E,136nm,1.5s						
YAK				MLR	MLR		
	comp=Z,1μm,14.0s						
YAK				MLR	MLR		
	comp=N,2μm,12.0s						
YAK				MLR	MLR		
	comp=E,1μm,11.0s						
ZEA	**Zeya**	**20.09**	**287**	*e*P	Pn	13 53 31.6	+2.8
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEA				MLR	MLR		
	comp=E,500nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,14.0s						
ZEA				MLR	MLR		
	comp=N,200nm,15.0s						
USRK	**Ussuriysk Ar.**	**20.70**	**258**	*e*P	Pn	13 53 36.1	+0.2
USRK	**Ussuriysk Ar.**	**20.70**	**258**	P	**P**	**13 53 32.1**	**-1.1**
	comp=N,1.3nm,0.6s,baz=64,slow=13,SNR=3.1						
USRK				LR	LR	14 02 18.8	
	comp=N,384nm,18.9s,baz=59,slow=39						
MJB9	**Matsu-Tunnel**	**22.41**	**234**	*e*P	**P**	**13 53 56.3**	**+4.6**
	comp=N,20nm,0.6s						
MAJO	**Matsushiro**	**22.41**	**234**	*e*P	**P**	**13 53 56.4**	**+4.6**
	comp=N,20nm,0.6s						
MAT	**Matsushiro**	**22.41**	**234**	P	**P**	**13 53 54.7**	**+2.9**
MAT				S	Sn	13 58 04.4	-5.1
MJAR	**Matsushiro Arr**	**22.41**	**234**	*e*P	**P**	**13 53 54.5**	**+2.8**
MJAR	**Matsushiro Arr**	**22.41**	**234**	P	**P**	**13 53 51.4**	**-0.4**
	comp=N,1.1nm,0.5s,baz=48,slow=7.3,SNR=5.4						
MJAR				LR	LR	14 03 13.7	
	comp=N,382nm,21.1s,baz=50,slow=38						
TIXI	**Tiksi**	**23.94**	**336**	*e*P	**P**	**13 54 04.2**	**-2.5**
	comp=N,7.1nm,0.7s						
TIXI	**Tiksi**	**23.94**	**336**	⇑*e*P	**P**	**13 54 04.8**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TIXI	**Tiksi**	**23.94**	**336**	P	**P**	**13 54 04.3**	**-2.3**
	comp=Z,6.6nm,0.6s,baz=120,slow=9.6,SNR=28						
INU	**Inuyama**	**23.94**	**234**	*e*P	**P**	**13 54 12.0**	**+5.0**
	comp=Z,14nm,0.7s						
HIA	**Hailar**	**25.85**	**280**	*i*P	**P**	**13 54 22.6**	**-1.7**
HIA				pmax	pmax	

RES	Resolute Bay	43.88	22	P	P	13 56 58.2	-0.3
	comp=Z,1.7nm,0.7s,baz=311,slow=7.4,SNR=4.2						
DGZ	Jazzator, Alta	44.37	297	*i* P	P	13 57 02.3	-0.7
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.8s						
CD2	Chengdu	46.30	266	*e*P	P	13 57 18.8	+0.4
WMQ	Urumqi	47.60	290	*e*P	P	13 57 29.8	+1.3
WMQ				sP	sP	13 57 49.5	+5.4
KURK	Kurchatov	48.48	303	*e*P	P	13 57 34.2	-0.8
	comp=Z,8.8nm,0.9s						
KURK	Kurchatov	48.48	303	*i* P	P	13 57 34.4	-0.6
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURBB	Kurchatov Arra	48.58	303	P	P	13 57 33.3	-2.5
	comp=Z,4.3nm,0.6s,baz=54,slow=7.6,SNR=15						
MK31	Makanchi Array	48.85	297	*e*P	P	13 57 36.0	-2.0
	comp=Z,14nm,1.9s						
MK31	Makanchi Array	48.85	297	*e*P	P	13 57 36.0	-2.0
MK31				pmax	pmax		
	comp=Z,14nm,1.9s						
MK32	Makanchi Array	48.85	297	*e*P	P	13 57 36.1	-1.8
MKAR	Makanchi Array	48.85	297	P	P	13 57 36.1	-1.8
	comp=Z,1.3nm,0.5s,baz=58,slow=7.1,SNR=23						
MKAR				LR	LR	14 19 60.0	
	comp=Z,144nm,19.2s,baz=39,slow=38						
MAKZ	Makanchi	49.01	297	*e*P	P	13 57 37.5	-1.7
	comp=Z,1.9nm,0.8s						
MAKZ	Makanchi	49.01	297	*e*P	P	13 57 37.5	-1.7
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMI	Kunming	51.09	261	P	P	13 57 56.8	+1.3
BVAR	Borovoye Array	51.18	309	P	P	13 57 53.6	-1.9
	comp=Z,3.6nm,0.6s,baz=61,slow=8.8,SNR=25						
BRVK	Borovoye	51.21	309	*e*P	P	13 57 55.1	-0.6
	comp=Z,5.2nm,0.6s						
BRVK	Borovoye	51.21	309	*ce*P	P	13 57 55.6	-0.1
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SLVN	Son La	53.24	257	*e*P	P	13 58 13.0	+1.7
	comp=Z,5.8nm,0.7s						
ARCES	ARCESS Array B	54.13	342	P	P	13 58 16.0	-1.1
	comp=Z,2.9nm,0.6s,baz=42,slow=9.3,SNR=18						
ARU	Arti	54.23	318	*e*P	P	13 58 17.1	-0.9
	comp=Z,4.4nm,0.7s						
ARU	Arti	54.23	318	*c i*P	P	13 58 17.2	-0.7
ARU				S	S	14 05 50.4	-1.5
ARU				SS	SS	14 09 28.8	-4.5
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU				MLR	MLR		
	comp=Z,194nm,15.0s						
ARU	Arti	54.23	318	P	P	13 58 17.0	-0.9
	comp=Z,1.3nm,0.4s,baz=30,slow=5.3,SNR=6.3						
BOZ	Bozeman (W)	54.54	59	*e*P	P	13 58 22.0	+1.4
	comp=Z,8.8nm,1.6s						
BOZ	Bozeman (W)	54.54	59	*e*P	P	13 58 22.0	+1.4
BOZ				pmax	pmax		
	comp=Z,9.0nm,1.6s						
KDJ	Kajisay	54.63	295	*e*P	P	13 58 20.9	-0.5
	comp=Z,3.6nm,0.7s						
KDJ	Kajisay	54.63	295	*e*P	P	13 58 20.9	-0.5
KDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KVN	Kaiserville	55.32	69	*e*P	P	13 58 28.9	+2.5
	comp=Z,12nm,1.4s						
KVN	Kaiserville	55.32	69	*e*P	P	13 58 28.9	+2.5
KVN				pmax	pmax		
	comp=Z,12nm,1.4s						
YHH	Holmes Hill	55.48	60	*e*P	P	13 58 29.1	+1.4
	comp=Z,2.3nm,1.0s						
NV01	Mina Array Sit	55.62	70	*e*P	P	13 58 30.6	+2.0
NVAR	Mina Array Bea	55.62	70	*e*P	P	13 58 30.9	+2.3
NVAR	Mina Array Bea	55.62	70	P	P	13 58 30.6	+2.0
	comp=Z,0.9nm,0.6s,baz=306,slow=6.9,SNR=5.2						
AAK	Ala-Archa	55.77	297	*ce*P	P	13 58 29.5	0.0
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
AAK	Ala-Archa	55.77	297	P	P	13 58 29.6	0.0
	comp=Z,1.1nm,0.4s,baz=23,slow=6.6,SNR=3.1						
PANO	Nakornpanom	56.07	253	P	P	13 58 45.7	+14
	comp=Z,0.3nm,1.7s,comp=Z,97nm						
RLMT	Red Lodge	56.09	59	*e*P	P	13 58 33.6	+1.8
	comp=Z,7.8nm,1.4s						
SKNT	Sakolnakorn	56.57	254	P	P	13 58 47.8	+12
	comp=Z,15nm,0.8s						
KSH	Kashi	57.07	293	P	P	13 58 41.1	+2.3
KSH				sP	sP	13 58 55.4	+0.7
KSH				S	S	14 06 20.1	-10
PAYA	Payao	57.17	259	P	P	13 58 47.4	+7.8
	comp=Z,38μm,0.7s						
DUG	Dugway, Tooele	57.53	65	*e*P	P	13 58 43.8	+1.8
	comp=Z,17nm,1.8s						
DUG	Dugway, Tooele	57.53	65	*e*P	P	13 58 43.8	+1.8
DUG				pmax	pmax		
	comp=Z,17nm,1.8s						
BW06	Boulder Array	57.54	61	*e*P	P	13 58 44.1	+1.9
	comp=Z,8.6nm,1.5s						
PD31	Pinedale Array	57.54	61	*e*P	P	13 58 43.7	+1.5
	comp=Z,7.2nm,1.4s						
PDAR	Pinedale Array	57.54	61	*e*P	P	13 58 44.1	+1.9
PDAR	Pinedale Array	57.54	61	P	P	13 58 44.5	+2.3
	comp=Z,0.7nm,0.6s,baz=318,slow=2.7,SNR=9.3						
KK31	Karatay Array	57.61	300	*e*P	P	13 58 41.5	-0.8
	comp=Z,2.5nm,0.6s						
KK31	Karatay Array	57.61	300	*e*P	P	13 58 41.6	-0.8
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KKAR	Karatay Array	57.61	300	*e*P	P	13 58 41.5	-0.8
KKAR	Karatay Array	57.61	300	*e*P	P	13 58 41.6	-0.8
PHRA	Phrae	57.62	258	P	P	13 58 50.4	+7.7
	comp=Z,1.7nm,0.7s,comp=Z,55nm						
KLMR	Klimovskoe	57.81	330	*e*P	P	13 58 42.7	-0.7
KLMR				pmax	pmax		
	comp=Z,16nm,1.5s						
LAMP	Lampang	57.96	259	P	P	13 58 57.9	+13
	comp=Z,20μm,0.7s						
UTTA	Uttaradit	58.01	257	P	P	13 58 57.9	+13
	comp=Z,26μm,0.8s,comp=Z,382μm						
CMMT	Chiang Mai	58.15	259	P	P	13 58 53.3	+6.9
	comp=Z,6.8nm,0.7s						
CHTO	Chiang Mai	58.15	259	*e*P	P	13 58 47.9	+1.5
	comp=Z,8.8nm,0.6s						
CHTO	Chiang Mai	58.15	259	*e*P	P	13 58 47.9	+1.5
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CM31	Chiang Mai Arr	58.42	259	*e*P	P	13 58 50.2	+1.8
	comp=Z,7.8nm,0.6s						
CMAR	Chiang Mai Arr	58.42	259	*e*P	P	13 58 49.9	+1.6
CMAR	Chiang Mai Arr	58.42	259	P	P	13 58 50.2	+1.9
	comp=Z,1.3nm,0.6s,baz=30,slow=7.5,SNR=9.3						
CMAR				LR	LR	14 26 27.9	
	comp=Z,140nm,19.3s,baz=50,slow=39						
CHAI	Chaiyaphum	58.59	255	P	P	13 59 04.0	+14
	comp=Z,14μm,0.7s,comp=Z,405μm						
ABKAR	Akbulak array	58.59	311	*e*P	P	13 58 48.6	-0.5
AKTO	Aktyubinsk	58.63	313	P	P	13 58 49.1	-0.2
	comp=Z,1.9nm,0.5s,baz=61,slow=8.6,SNR=6.5						
RSSD	Black Hills	59.49	56	*e*P	P	13 58 57.1	+1.4
	comp=Z,5.5nm,0.8s						
RSSD	Black Hills	59.49	56	*e*P	P	13 58 57.1	+1.4
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RAMN	Ramite	59.63	276	*e*P	P	13 58 56.3	-0.7
	comp=Z,12nm,0.5s						
KKN	Kakani	59.83	277	*e*P	P	13 58 58.9	+0.6
	comp=Z,10nm,0.5s						
PKI	Pulchoki	59.91	277	*e*P	P	13 58 58.9	0.0
	comp=Z,9.5nm,0.7s						
PKIN	Phulchoki	59.91	277	*e*P	P	13 58 58.9	0.0
	comp=Z,7.5nm,0.6s						
PFO	Pinyon Flats O	60.04	73	LR	LR	14 22 51.4	
	comp=Z,65nm,18.2s,baz=294,slow=34						
DMN	Daman	60.07	277	*e*P	P	13 59 00.3	+0.4
	comp=Z,8.8nm,0.6s						
DANN	Dangsing	60.35	279	*e*P	P	13 59 01.8	-0.1
	comp=Z,8.3nm,0.6s						
GAR	Garm	60.58	297	*e*P	P	13 59 02.3	-0.8
	comp=Z,8.2nm,0.7s						
GAR	Garm	60.58	297	*e*P	P	13 59 02.3	-0.8
GAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KOLN	Koldanda	60.87	278	*e*P	P	13 59 05.3	0.0
	comp=Z,5.5nm,0.5s						
FIA0	FINESS Array S	60.98	337	*e*P	P	13 59 05.5	+0.3
FIA0	FINESS Array S	60.98	337	*e*P	P	13 59 05.6	+0.3
FINES	FINESS Array B	60.98	337	*e*P	P	13 59 05.2	-0.1
FINES	FINESS Array B	60.98	337	P	P	13 59 05.5	+0.3
	comp=Z,4.7nm,0.5s,baz=34,slow=8.6,SNR=39						
FINES				LR	LR	14 29 00.2	
	comp=Z,124nm,19.6s,baz=34,slow=40						
PYUN	Piuthan	61.00	279	*e*P	P	13 59 05.4	-0.8
	comp=Z,6.5nm,0.6s						
CHGR	Chuyangaron	61.45	297	*e*P	P	13 59 08.4	-0.7
	comp=Z,8.6nm,0.8s						
OBN	Obninsk	63.37	328	*e*P	P	13 59 22.1	+0.7
OBN				*e*		14 01 39.2	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,149nm,16.0s						
NB2	NORSAR Subarra	64.38	344	P	P	13 59 28.4	+0.4
	comp=Z,1.4nm,0.6s,baz=18,slow=6.9						
NB200	NORSAR Array S	64.38	344	*e*P	P	13 59 28.1	+0.1
NOA	NORSAR Array B	64.38	344	P	P	13 59 28.1	+0.1
	comp=Z,1.6nm,0.6s,baz=20,slow=6.8,SNR=9.1						
NOA				LR	LR	14 29 46.1	
	comp=Z,64nm,20.2s,baz=40,slow=38						
GEYT	Alibeck	67.84	304	P	P	13 59 51.0	+0.4
	comp=Z,2.5nm,0.7s,baz=86,slow=1.9,SNR=5.7						
GEYT				LR	LR	14 32 01.8	
	comp=Z,123nm,19.1s,baz=30,slow=38						
WMOK	Wichita Mounta	69.14	60	*e*P	P	14 00 00.5	+1.7
	comp=Z,3.6nm,0.9s						
AKASG	Malin Array Be	69.47	329	*e*P	P	13 59 59.9	-0.5
AKASG	Malin Array Be	69.47	329	*ce*P	P	14 00 00.5	0.0
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	Malin Array Be	69.47	329	P	P	14 00 00.1	-0.4
	comp=Z,2.6nm,0.5s,baz=32,slow=6.6,SNR=10.0						
AKASG				LR	LR	14 34 34.4	
	comp=Z,96nm,18.1s,baz=345,slow=40						
AKBB	Malin Array Si	69.47	329	*e*P	P	14 00 00.0	-0.4
	comp=Z,5.8nm,0.8s						
AKBB	Malin Array Si	69.47	329	*e*P	P	14 00 00.0	-0.4
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIEV	Kiev	69.48	329	*e*P	P	14 00 00.1	-0.4
	comp=Z,5.3nm,0.7s						
KIEV	Kiev	69.48	329	*i* P	P	13 59 59.7	-0.8
KIEV				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KIV	Kislovodsk	70.27	317	*e*P	P	14 00 06.0	+0.4
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV				MLR	MLR		
	comp=Z,318nm,18.0s						
KBZ	Khabaz	70.36	317	P	P	14 00 05.5	-0.5
	comp=Z,1.9nm,0.8s,baz=48,slow=5.9,SNR=6.1						
KBZ				LR	LR	14 34 31.8	
	comp=Z,164nm,19.6s,baz=20,slow=39						
LTX	Lajitas	70.56	67	*e*P	P	14 00 09.4	+1.7
LTX	Lajitas	70.56	67	*e*P	P	14 00 09.4	+1.7
TXAR	Lajitas Array	70.56	67	*e*P	P	14 00 09.1	+1.4
TXAR	Lajitas Array	70.56	67	*e*P	P	14 00 09.1	+1.4
TXAR	Lajitas Array	70.56	67	P	P	14 00 09.4	+1.7
	comp=Z,0.7nm,0.5s,baz=306,slow=4.4,SNR=8.4						
HYB	Hyderabad	71.67	275	*i* P	P	14 00 15.0	+0.6
KOLS	Kolonicke sedl	73.10	333	*e*P	P	14 00 23.8	+1.3
KOLS	Kolonicke sedl	73.10	333	*e*P	P	14 00 23.8	+1.3
CLL	Collm	73.20	340	*e*P	P	14 00 25.0	+2.0
CLL	Collm	73.20	340	*e*P	P	14 00 25.0	+2.0
UPC	Upice	73.28	337	AMS	AMS	14 38 50.0	
	comp=Z,200nm,16.2s						
DPC	Dobruska-Polom	73.35	337	*e*P	P	14 00 38.2	+14
DPC				AMS	AMS	14 39 00.0	
	comp=Z,200nm,12.7s						
BUR08	Bucovina Ar. S	73.41	330	*e*P	P	14 00 24.7	+0.3
	comp=Z,4.3nm,0.8s						
BURAR	Bucovina Array	73.43	330	*e*P	P	14 00 24.5	-0.1
PVCC	Panska Ves	73.59	338	AMS	AMS	14 37 50.0	
	comp=Z,200nm,13.3s						
PRU	Pruhonice	74.10	338	AMS	AMS	14 39 40.0	
	comp=Z,200nm,14.4s						
GOPC	GO Pecny, Ondr	74.11	338	AMS	AMS	14 39 10.0	
	comp=Z,200nm,11.9s						
DZM	Mont Dzumac	74.25	175	*e*LR	LR	14 23 37.2	
	comp=Z,62nm,21.9s						
VYHS	Vyhne	74.44	335	*e*P	P	14 00 32.2	+1.9
VYHS	Vyhne	74.44	335	*e*P	P	14 00 32.2	+1.9
TREC	Trest	74.53	337	AMS	AMS	14 39 40.0	
	comp=Z,200nm,14.1s						
KHC	Kasperske Hory	75.12	338	*e*P	P	14 00 37.7	+3.4
KHC				MLR	MLR		
	comp=Z,300nm,14.6s						
KHC	Kasperske Hory	75.12	338	*e*P	P	14 00 37.7	+3.4
KHC				AMS	AMS	14 40 00.0	
	comp=Z,300nm,14.6s						
GEC2	GERESS Array S	75.37	338	*e*P	P	14 00 35.4	-0.4
	comp=Z,4.7nm,0.8s						
GEC2	GERESS Array S	75.37	338	*e*P	P	14 00 35.4	-0.4
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GERES	GERESS Array B	75.37	338	*e*P	P	14 00 36.1	+0.3
GERES	GERESS Array B	75.37	338	*e*P	P	14 00 36.1	+0.3
GERES	GERESS Array B	75.37	338	P	P	14 00 35.4	-0.4
	comp=Z,1.0nm,0.6s,baz=25,slow=7.3,SNR=6.5						
GERES				LR	LR	14 39 17.5	
	comp=Z,91nm,19.8s,baz=65,slow=40						
CONA	Conrad Observa	75.71	336	*i* P	P	14 00 39.9	+2.2
	comp=Z,2.0nm,0.5s						
SOKA	Soboth	77.08	337	*i* P	P	14 00 46.8	+1.3
	comp=Z,3.1nm,0.6s						
KBA	Koelnbreinsper	77.11	338	*i* P	P	14 00 47.6	+1.8
	comp=Z,10nm,0.6s						
WTTA	Wattenberg	77.32	339	*i* P	P	14 00 50.3	+3.3
	comp=Z,6.2nm,0.7s						
OBKA	Obir	77.36	337	*i* P	P	14 00 49.5	+2.4
	comp=Z,3.6nm,0.6s						
SQTA	Sankt Quirin	77.45	339	*i* P	P	14 00 50.9	+3.2
	comp=Z,5.4nm,0.7s						
BR101	Keskin Array S	77.46	321	*e*P	P	14 00 48.6	+0.8
BRTR	Keskin Array B	77.46	321	*e*P	P	14 00 48.2	+0.3
BRTR	Keskin Array B	77.46	321	*ce*P	P	14 00 49.2	+1.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	Keskin Array B	77.46	321	P	P	14 00 48.6	+0.8
	comp=Z,0.8nm,0.6s,baz=56,slow=4.1,SNR=5.8						
ABTA	Abfaltersbach	77.61	338	*i* PcP	PcP	14 00 52.6	-5.9
	comp=Z,5.0nm,0.8s						
FETA	Feichten	77.75	340	*i* P	P	14 00 52.6	+3.3
	comp=Z,3.0nm,0.7s						
DAVOX	Davos/Dischmat	78.16	340	LR	LR	14 41 57.5	
	comp=Z,68nm,18.9s,baz=89,slow=41						
PALK	Pallekele	78.20	267	*e*P	P	14 00 53.7	+1.6
	comp=Z,73nm,1.6s						
PALK	Pallekele	78.20	267	*e*P	P	14 00 53.7	+1.6
PALK				pmax	pmax		
	comp=Z,73nm,1.6s						
PALK	Pallekele	78.20	267	P	P	14 00 53.7	+1.6
	comp=Z,6.9nm,0.8s,baz=117,slow=6.8,SNR=2.2						
TUE	Stuetta	78.56	340	*e*P	P	14 00 53.5	-0.4
	comp=Z,4.6nm,0.8s						
AS31	Alice Springs	79.23	205	*e*P	P	14 00 59.2	+1.7
	comp=Z,5.5nm,1.8s						
ASAR	Alice Springs	79.24	205	*e*P	P	14 01 00.0	+2.5
ASAR	Alice Springs	79.24	205	P	P	14 00 59.1	+1.7
	comp=Z,0.3nm,0.6s,baz=13,slow=5.2,SNR=6.8						
PPT2	Papeete2	81.86	133	*e*LR	LR	14 27 06.5	
	comp=Z,70nm,25.2s						
MMAI	Mount Meron Ar	82.53	316	LR	LR	14 42 27.2	
	comp=Z,34nm,18.0s,baz=45,slow=39						
IDI	Anoyia	84.61	325	LR	LR	14 41 38.1	
	comp=Z,49nm,21.2s,baz=303,slow=38						
VAE	Valguarnera	85.86	334	LR	LR	14 44 31.6	
	comp=Z,108nm,18.5s,baz=171,slow=39						
ESDC	Sonseca Array	87.41	348	*e*P	P	14 01 39.8	+0.2
ESDC	Sonseca Array	87.41	348	P	P	14 01 39.9	+0.3
	comp=Z,0.6nm,0.6s,baz=22,slow=4.1,SNR=5.2						
MDT	Midelt	94.25	348	LR	LR	14 50 24.8	
	comp=Z,31nm,18.1s,baz=12,slow=39						
RPZ	Rata Peaks	96.08	173	LR	LR	14 42 36.0	
	comp=Z,35nm,18.8s,baz=344,slow=34						
ATD	Arta Tunnel	97.16	299	LR	LR	14 51 17.8	
	comp=Z,69nm,19.1s,baz=26,slow=39						

ISCJB ***22*** *14:13:36.0±0.3, 18°.35N±0°.03×100°.53W±0°.02, h86km±3km, mb4.3/80, Error ellipse: s-maj=5.1km s-min=3.6km az=22.6*
NEIC ***22*** *14:13:37.2±0.4, 18°.40N×100°.61W, h70km±3km, mb4.4/107, MD4.3(MEX), Error ellipse: s-maj=4.6km s-min=3.3km az=217.0*
MEX ***22*** *14:13:37.9±0.5, 18°.33N×100°.72W, h47km±4km, MD4.3*
IDC ***22*** *14:13:39.5±2.7, 18°.66N×100°.33W, h81km±21km, mb3.9/13, mb1 4.1/17, mb1mx3.9/39, mbtmp4.2/17, MS3.2/8, Ms1 3.3/8, ms1mx3.0/33, Error ellipse: s-maj=30.1km s-min=12.3km az=48.0*

ISC 22 14:13:35.6±0.6, 18°.33N±0°.03×100°.69W±0°.03, h59km±5km, n347, σ1°37/379, mb4.3/80, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.33	98	*e*P	Pn	14 13 45.5	-0.4
ARIG				*e*S	Sn	14 13 52.5	-0.9
ARIG	Puente Sto Nin	0.33	98	*e*P	Pn	14 13 45.5	-0.4
ARIG				*e*S	Sn	14 13 52.5	-0.9
ZIIG	Zihuatanejo	1.03	226	*e*Sn	Sn	14 14 06.5	-1.1
ZIIG	Zihuatanejo	1.03	226	*i* P	Pn	14 13 54.2	+0.2
ZIIG				*i* S	Sn	14 14 06.5	-1.1
MEIG	Mezcala	1.10	111	*e*P	Pn	14 13 55.7	+0.7
MEIG				*i* S	Sn	14 14 10.0	+0.6
PLIG	Platanillo	1.13	87	*e*Pn	Pn	14 13 56.0	+0.6
PLIG				*e*Sn	Sn	14 14 10.8	+0.5
PLIG	Platanillo	1.13	87	*e*P	Pn	14 13 56.0	+0.6
PLIG				*e*S	Sn	14 14 10.8	+0.5
MAVM	Malinalco, Edo	1.30	61	*e*P	Pn	14 13 58.4	+0.6
MAVM				*e*S	Sn	14 14 14.2	-0.1
MAVM	Malinalco, Edo	1.30	61	*e*P	Pn	14 13 58.4	+0.6
MAVM				*e*S	Sn	14 14 14.2	-0.1
CAIG	El Cayaco	1.34	162	*e*Pn	Pn	14 13 58.4	+0.3
CAIG	El Cayaco	1.34	162	*e*P	Pn	14 13 58.4	+0.3
CAIG				*i* S	Sn	14 14 14.9	0.0
MOIG	Morelia	1.42	341	*e*Pn	Pn	14 13 59.9	+0.4
MOIG				*e*Sn	Sn	14 14 17.0	-0.4
MOIG	Morelia	1.42	341	*e*P	Pn	14 13 59.9	+0.4
MOIG				*e*S	Sn	14 14 17.0	-0.4
YAIG	Yautepec	1.63	71	*e*Pn	Pn	14 14 02.9	+0.7
YAIG				*e*Sn	Sn	14 14 22.2	0.0
YAIG	Yautepec	1.63	71	*e*P	Pn	14 14 02.9	+0.7
YAIG				*i* S	Sn	14 14 22.3	0.0
ACP2	Acapulco	1.64	152	*e*P	Pn	14 14 02.6	+0.4
UNM	Universidad Na	1.75	55	*i* P	Pn	14 14 06.3	+2.4
UNM				*i* S	Sn	14 14 26.0	+0.7
UNM	Universidad Na	1.75	55	*i* P	Pn	14 14 06.3	+2.4
UNM				*i* S	Sn	14 14 26.0	+0.7
PPM	Popocatepetl	2.09	69	*e*Sn	Sn	14 14 34.1	+0.1
PPM	Popocatepetl	2.09	69	*e*P	Pn	14 14 16.5	+7.7
PPM				*i* S	Sn	14 14 34.1	+0.1
TLIG	Tlapa	2.16	110	*e*Pn	Pn	14 14 11.1	+1.6
MMIG	Aquila	2.52	270	*e*P	Pn	14 14 14.3	+0.1
MMIG				*i* S	Sn	14 14 43.0	-0.8
PNIG	Pinotepa	3.12	128	*e*Pn	Pn	14 14 23.7	+1.3
PNIG	Pinotepa	3.12	128	*e*P	Pn	14 14 23.7	+1.3
PNIG				*e*S	Sn	14 14 59.4	+1.0
LVIG	Laguna Verde	4.28	70	*e*Pn	Pn	14 14 39.2	+1.0
CJM	Chamela	4.28	286	*e*Pn	Pn	14 14 39.3	+1.0
CJM	Chamela	4.28	286	*e*P	Pn	14 14 39.3	+1.0
CJM				*i* S	Sn	14 15 27.1	+0.1
ZAIG	Zacatecas	4.75	339	*e*Pn	Pn	14 14 45.3	+0.2
CMIG	Matias Romero	5.67	102	P	Pn	14 14 59.2	+1.8
	9.1nm,0.3s,baz=284,slow=11,SNR=54						
CMIG				S	Sn	14 15 57.8	-3.4
	9.5nm,0.3s,baz=171,slow=19,SNR=4.4						
CMIG				LR	LR	14 17 22.0	
	comp=Z,300nm,20.4s,baz=255,slow=41						
LNIG	Linares	6.64	10	*e*Pn	Pn	14 15 10.3	-0.3
CCIG	Comitan	8.42	103	*e*Pn	Pn	14 15 36.1	+0.9
833A	Chaparral WMA,	10.02	7	*e*Pn	Pn	14 15 59.0	+2.1
833A	Chaparral WMA,	10.02	7	P	Pn	14 15 59.1	+2.2
	baz=187						
SLBS	Sierra La Lagu	10.15	303	*e*Pn	Pn	14 16 01.5	+2.7
APG	El Apazote	10.34	107	P	Pn	14 16 03.8	+2.3
	1.2nm,0.3s,baz=224,slow=18,SNR=9.7						
APG				S	Sn	14 17 53.4	-2.8
	1.5nm,0.3s,baz=4.8,slow=12,SNR=3.3						
LTX	Lajitas	11.29	347	*e*Pn	Pn	14 16 16.5	+2.2
TX31	Lajitas Ar. Si	11.29	347	*e*Pn	Pn	14 16 15.8	+1.5
TXAR	Lajitas Array	11.29	347	*e*Pn	Pn	14 16 16.1	+1.8
TXAR	Lajitas Array	11.29	347	P	Pn	14 16 16.5	+2.2
	0.2nm,0.3s,baz=92,slow=2.7,SNR=12						
TXAR				LR	LR	14 21 05.8	
	comp=Z,190nm,21.4s,baz=0.0,slow=40						
JCT	Junction City	12.12	4	*e*Pn	Pn	14 16 27.9	+2.2
JCT	Junction City	12.12	4	P	Pn	14 16 27.1	+1.4
	baz=184						
WHTX	Lake Whitney,	13.91	12	*e*Pn	Pn	14 16 50.9	+0.9
WHTX	Lake Whitney,	13.91	12	P	Pn	14 16 49.9	0.0
	baz=193						
MNTX	Cornudas Mount	13.97	343	P	Pn	14 16 52.4	+1.7
	baz=161,SNR=7.2						
GDL2	Guadalupe Moun	14.20	347	*e*Pn	Pn	14 16 55.0	+1.0
ABTX	Abilene, Hawle	14.27	4	*e*Pn	Pn	14 16 55.2	+0.6
ABTX	Abilene, Hawle	14.27	4	P	Pn	14 16 54.4	-0.3
	baz=184						
NATX	Nacogdoches	14.44	21	*e*Pn	Pn	14 16 58.0

8.8nm,0.8s
W41B Gary Mavity, V 18.38 22 P P 14 17 43.9 -1.8
baz=206
WHAR Wooly Hollow 18.47 22 eP P 14 17 45.9 -0.8
14nm,0.9s
X16A Lo Mia Camp, P 18.67 331 eP Pn 14 17 50.9 +0.9
5.3nm,0.7s
HHAR Hobbs 18.85 17 eP P 14 17 50.1 -0.8
7.4nm,0.7s
149A Jones 18.93 39 P P 14 17 49.7 -2.1
baz=224
T25A Trinidad 19.02 351 eP P 14 17 53.4 +0.4
11nm,0.8s
T25A Trinidad 19.02 351 P Pn 14 17 53.6 -0.6
baz=169,SNR=12
LRAL Lakeview Retre 19.12 37 eP P 14 17 52.5 -1.4
9.9nm,0.9s
LRAL Lakeview Retre 19.12 37 P P 14 17 52.5 -1.4
baz=223
U40A Yellville 19.25 20 P P 14 17 54.8 -0.4
baz=203,SNR=17
453A Whigham 19.39 47 eP P 14 17 56.2 -0.6
164nm,1.8s
150A Eclectic 19.40 40 P P 14 17 56.6 -0.3
baz=226
X46A Booneville 19.43 31 P P 14 17 55.2 -2.1
baz=217
251A Midway 19.44 42 P P 14 17 55.0 -2.3
baz=229,SNR=5.4
Z49A Columbiana 19.51 38 P P 14 17 55.5 -2.5
baz=224
U41A Viola 19.55 22 P P 14 17 58.2 -0.3
baz=205,SNR=13
WUAZ Wupatki 19.57 333 eP P 14 17 59.5 +0.6
13nm,0.8s
WUAZ Wupatki 19.57 333 P Pn 14 18 00.0 -0.6
baz=148,SNR=7.3
X47A Russelville 19.77 33 P P 14 17 59.2 -1.7
baz=218
SDCO Great Sand Dun 19.80 349 eP P 14 18 01.4 -0.1
9.2nm,0.9s
SDCO Great Sand Dun 19.80 349 P P 14 18 02.4 +0.8
baz=166
Z50A Ashland 19.91 39 eP P 14 18 00.8 -1.7
13nm,0.9s
Z50A Ashland 19.91 39 P P 14 18 00.4 -2.1
baz=225
PDMCI Parker Dam,Lak 19.93 326 P P 14 18 02.4 -0.2
baz=139
555A McAlpin 19.95 51 eP P 14 18 02.6 -0.3
40nm,1.2s
MVCO Mesa Verde 20.02 342 eP P 14 18 03.6 -0.3
24nm,1.4s
MVCO Mesa Verde 20.02 342 P P 14 18 04.2 +0.3
baz=158
PLAL Pickwick Lake 20.02 32 eP P 14 18 02.9 -0.8
25nm,0.8s
Y49A Blount Mountai 20.05 37 eP P 14 18 05.1 +1.0
18nm,0.9s
Y49A Blount Mountai 20.05 37 P P 14 18 03.1 -0.9
baz=223
S22A 4UR Ranch, Cre 20.08 346 eP P 14 18 04.6 0.0
15nm,0.9s
S22A 4UR Ranch, Cre 20.08 346 P Pn 14 18 05.8 -1.0
baz=163,SNR=7.5
X48A Hartselle 20.15 34 eP P 14 18 04.3 -0.7
17nm,0.7s
X48A Hartselle 20.15 34 P P 14 18 03.5 -1.5
baz=220
455A Stateville 20.24 49 P P 14 18 03.1 -3.0
baz=236
152A Waverly Hall 20.25 42 eP P 14 18 05.6 -0.6
15nm,0.6s
152A Waverly Hall 20.25 42 P P 14 18 05.8 -0.4
baz=229
IRM Iron Mountain 20.37 324 P P 14 18 08.1 +0.6
baz=137
Y50A Piedmont 20.47 38 P P 14 18 06.6 -2.0
baz=224
W47A Westpoint 20.48 32 P P 14 18 06.9 -1.7
baz=218
PBMO Poplar Bluff 20.48 24 eP P 14 18 07.2 -1.4
25nm,1.0s
V46A Holladay 20.66 30 P P 14 18 07.9 -2.6
baz=216
KSCO Kaye Shedlock' 20.68 356 P P 14 18 10.6 -0.3
baz=175
S41A Jillco Farms, 20.73 20 P P 14 18 10.0 -1.3
baz=204
W48A Pulaski 20.73 33 P P 14 18 10.4 -1.0
baz=219
U15A North Rim 20.73 333 eP P 14 18 10.3 -1.3
15nm,1.3s
254A Abbeville 20.75 46 P P 14 18 08.6 -2.9
baz=233
BELC Belle Mtn. Jos 20.75 322 P P 14 18 11.2 -0.5
baz=135
Z52A Williamson 20.79 41 P P 14 18 09.4 -2.6
baz=228
Y51A Rockmart 20.87 39 P P 14 18 11.2 -1.6
baz=226
PV01 Paradox Valley 20.90 342 eP P 14 18 11.1 -2.3
6.6nm,1.0s
V47A Nunnelly 20.97 31 P P 14 18 12.8 -1.1
baz=217
PV13 Radium Mtn., P 21.00 342 eP P 14 18 14.4 0.0
5.7nm,0.7s
PV02 Paradox Valley 21.02 342 eP P 14 18 14.3 -0.3
13nm,1.2s
WVT Waverly 21.06 30 eP P 14 18 13.3 -1.6
12nm,0.8s
WVT Waverly 21.06 30 P P 14 18 13.3 -1.6
baz=216
W49A Belvidere 21.07 35 P P 14 18 12.6 -2.4
baz=221
PV03 Paradox Valley 21.09 342 eP P 14 18 15.4 -0.1
16nm,1.4s
PV12 Saucer Basin, 21.14 342 eP P 14 18 16.5 +0.5
9.3nm,0.9s
PV17 East Wray Mesa 21.15 342 eP P 14 18 16.9 +0.8
6.0nm,0.9s
PV07 Paradox Valley 21.20 343 eP P 14 18 17.4 +0.7
9.3nm,1.1s
PV04 Paradox Valley 21.24 342 eP P 14 18 16.8 -0.1
6.9nm,0.9s
V48A Smith Brothers 21.25 33 eP P 14 18 17.2 +0.3
22nm,1.0s
PV14 Lion Creek, Pa 21.25 342 eP P 14 18 16.6 -0.6
6.9nm,1.0s
255A Hazlehurst 21.30 47 P P 14 18 15.3 -2.1
baz=235
CCM Cathedral Cave 21.32 21 eP P 14 18 16.1 -1.5
16nm,1.3s
CCM Cathedral Cave 21.32 21 P P 14 18 16.3 -1.3
baz=205
PV23 Carpenter Ridg 21.32 342 eP P 14 18 18.4 +0.5
19nm,1.3s
PV22 Blue Mesa, Par 21.34 342 eP P 14 18 18.6 +0.6
17nm,1.4s
PV21 Cone Mtn., Par 21.41 342 eP P 14 18 19.5 +0.6
8.9nm,0.9s
R41A Rosebud 21.49 20 P P 14 18 18.0 -1.5
baz=205
FVM French Village 21.54 23 eP P 14 18 17.5 -2.5
13nm,1.1s
U47A Clarksville 21.57 31 P P 14 18 20.1 -0.2
baz=217
W50A Signal Mountai 21.65 36 eP P 14 18 19.3 -2.0
14nm,1.0s
W50A Signal Mountai 21.65 36 P P 14 18 18.8 -2.4
baz=223
S44A Carbondale 21.74 25 P P 14 18 20.4 -1.7
baz=210
V49A McMinnville 21.75 34 P P 14 18 21.0 -1.3
baz=221
CLTN Cedars of Leba 21.77 33 eP P 14 18 22.4 -0.1
14nm,1.1s
T46A Princeton 21.78 29 P P 14 18 20.7 -1.8
baz=214
ISCO Idaho Springs 21.82 350 eP P 14 18 23.9 +0.7
14nm,1.1s
ISCO Idaho Springs 21.82 350 P P 14 18 23.5 +0.2
baz=167,SNR=5.9
W51A Cleveland 21.94 37 P P 14 18 23.1 -1.2
baz=224
U48A Cassie Pea, Po 22.00 32 P P 14 18 22.8 -2.1
baz=218
S45A Carrier Mills 22.00 26 P P 14 18 23.3 -1.6
baz=212

X52A Dahlonega 22.06 39 P P 14 18 22.8 -2.8
baz=227
MTPU Mount Pierson 22.06 335 eP P 14 18 27.1 +1.1
8.8nm,0.9s
V50A Pikevile 22.12 36 P P 14 18 22.4 -3.8
baz=222
CPCT Cooper Cave 22.28 37 eP P 14 18 26.7 -1.2
19nm,1.2s
Q42A Golden Eagle 22.33 21 P P 14 18 26.4 -2.1
baz=206
W52A Murphy 22.37 38 eP P 14 18 27.8 -1.2
20nm,1.4s
W52A Murphy 22.37 38 P P 14 18 26.4 -2.6
baz=226
SRU San Rafael Swe 22.40 340 eP P 14 18 29.9 +0.5
5.8nm,0.7s
Q16A Castle Valley 22.45 338 eP P 14 18 30.5 +0.5
5.8nm,0.8s
MSU Marysvale 22.47 336 eP P 14 18 30.9 +0.7
SNCC San Nicolas Is 22.49 315 P P 14 18 31.4 +1.2
baz=127
T48A Bowling Green 22.54 31 P P 14 18 27.9 -2.8
baz=218
EDW2 Edwards Air Fo 22.55 320 P P 14 18 31.2 +0.3
baz=132
OGNE Ogallala 22.57 357 eP P 14 18 31.2 +0.1
22nm,0.9s
OGNE Ogallala 22.57 357 P P 14 18 30.6 -0.6
baz=176
V51A Loudon 22.63 36 P P 14 18 28.0 -3.7
baz=224
R45A Skylar, Fairfi 22.65 26 P P 14 18 30.0 -1.9
baz=212
O20A White River Ci 22.69 345 eP P 14 18 33.2 +0.7
13nm,1.1s
O20A White River Ci 22.69 345 P P 14 18 31.2 -1.3
baz=161
S47A Hartford 22.69 29 P P 14 18 30.0 -2.4
baz=216
157A Early Branch 22.75 47 P P 14 18 30.2 -2.8
baz=236
TMUT Trail Mountain 22.80 339 eP P 14 18 34.5 +0.7
8.8nm,1.1s
W53A Cullowhee 22.88 39 P P 14 18 32.8 -1.6
baz=227
R46A Gibon Southern 22.91 27 P P 14 18 31.3 -3.3
baz=214
N23A Red Feather La 22.94 350 eP P 14 18 35.1 0.0
15nm,0.9s
N23A Red Feather La 22.94 350 P P 14 18 35.6 +0.5
baz=167,SNR=8.4
X54A Belton 22.96 42 P P 14 18 31.6 -3.5
baz=230
TPNV Topopah Spring 23.05 327 P P 14 18 35.8 -0.4
baz=139
MPMC Manual Prospec 23.07 323 P P 14 18 36.6 +0.2
baz=135
Q45A Warren Harvey, 23.21 25 P P 14 18 35.8 -1.8
baz=211
U51A La Follette 23.23 36 P P 14 18 35.7 -2.1
baz=224
PHWY Pilot Hill 23.26 351 eP P 14 18 38.2 -0.1
18nm,1.4s
T50A Nancy 23.26 34 P P 14 18 35.4 -2.7
baz=221
P43A Skaggs, Pawnee 23.34 22 P P 14 18 36.6 -2.1
baz=208
R47A Wooly Knot Far 23.42 29 P P 14 18 37.3 -2.2
baz=216
N40A Mertquake, Sal 23.80 17 P P 14 18 41.9 -1.1
baz=202
R11A Troy Canyon, C 23.81 330 P P 14 18 43.4 +0.1
baz=143,SNR=7.3
N41A Harden Midland 23.86 19 eP P 14 18 41.8 -1.7
19nm,0.9s
N41A Harden Midland 23.86 19 P P 14 18 42.4 -1.1
baz=203
P45A Graceland, Par 23.92 25 P P 14 18 43.3 -0.8
baz=212
RWWY Rawlins 23.94 348 eP P 14 18 44.2 -0.4
9.6nm,0.9s
Q47A Bedord North L 23.99 28 P P 14 18 43.5 -1.3
baz=215
DUG Dugway, Tooele 24.17 337 eP P 14 18 47.0 +0.4
7.8nm,1.1s
DUG Dugway, Tooele 24.17 337 P P 14 18 46.9 +0.4
baz=151
O44A Mansfield 24.18 23 P P 14 18 44.7 -1.7
baz=209
TIN Tinemaha, Big 24.20 324 P P 14 18 46.5 -0.3
baz=136
HDIL Hopedale 24.23 22 eP P 14 18 45.5 -1.4
68nm,1.4s
HDIL Hopedale 24.23 22 P P 14 18 45.2 -1.7
baz=207
T52A Hallie 24.33 36 P P 14 18 46.0 -1.9
baz=224
SCIA State Center 24.35 14 eP P 14 18 47.1 -0.9
80nm,0.3s
V55A Taylorsville 24.52 41 P P 14 18 46.4 -3.3
baz=230
O45A Potomac 24.54 24 P P 14 18 47.6 -2.2
baz=211
M41A Milan 24.56 19 P P 14 18 48.4 -1.5
baz=204
N43A Stutzman Famil 24.61 21 P P 14 18 48.4 -2.0
baz=207,SNR=9.3
K22A Casper 24.75 350 eP P 14 18 51.7 -0.1
14nm,1.1s
K22A Casper 24.75 350 P P 14 18 52.1 +0.3
baz=166,SNR=5.1
L39A Vinton 24.85 16 P P 14 18 50.7 -1.9
baz=200
N44A Piper City 24.86 23 P P 14 18 50.7 -1.9
baz=209
W57A Gilead 24.87 44 P P 14 18 52.2 -0.6
baz=233
SFIN Lafayette 24.91 25 P P 14 18 51.5 -1.6
baz=212
L40A Anamosa 25.00 17 eP P 14 18 52.6 -1.4
11nm,0.9s
L40A Anamosa 25.00 17 P P 14 18 52.5 -1.4
baz=202
M43A Waltham Townsh 25.13 21 P P 14 18 54.5 -0.6
baz=207
N45A Kentland 25.14 24 P P 14 18 54.3 -0.9
baz=210
NV11 Mina Array Sit 25.16 326 eP P 14 18 57.4 +1.8
0.4nm,0.9s
NV01 Mina Array Sit 25.24 326 eP P 14 18 58.0 +1.6
NV01 ePcP PcP 14 22 30.5 +1.9
NVAR Mina Array Bea 25.24 326 P P 14 18 58.0 +1.6
6.7nm,0.7s,baz=148,slow=9.4,SNR=21
NVAR PcP PcP 14 22 30.5 +1.9
0.7nm,0.6s,baz=134,slow=2.6,SNR=2.8
L42A Oliver, Polo 25.41 19 eP P 14 18 56.2 -1.3
15nm,0.6s
L42A Oliver, Polo 25.41 19 P P 14 18 56.6 -0.9
baz=205
K39A Oelwein 25.42 15 P P 14 18 55.7 -2.1
baz=200
V57A Coltrane Farms 25.45 42 P P 14 18 55.7 -2.4
baz=232
BW06 Boulder Array 25.50 345 eP P 14 18 57.9 -0.9
3.6nm,0.6s
BW06 Boulder Array 25.50 345 P P 14 18 58.4 -0.3
baz=160,SNR=6.6
PD31 Pinedale Array 25.50 345 eP P 14 18 58.7 0.0
3.3nm,0.7s
PD31 ePcP PcP 14 22 29.9 +0.7
PDAR Pinedale Array 25.50 345 eP P 14 18 57.7 -1.0
PDAR ePcP PcP 14 22 29.7 +0.6
PDAR Pinedale Array 25.50 345 P P 14 18 58.4 -0.3
3.2nm,0.6s,baz=148,slow=9.9,SNR=28
PDAR PcP PcP 14 22 29.9 +0.7
1.0nm,0.6s,baz=144,slow=4.6,SNR=4.8
PDAR LR LR 14 30 05.6
comp=Z,103nm,19.3s,baz=184,slow=39
ECSD EROS Data Cent 25.56 7 P P 14 18 59.0 0.0
baz=189,SNR=6.3
KVN Kaiserville 25.59 327 eP P 14 19 00.2 +0.7
6.6nm,0.9s
ELK Elko 25.60 334 P P 14 18 58.8 -0.9
0.3nm,0.4s,baz=205,slow=17,SNR=2.4
ELK PcP PcP 14 22 31.3 +1.9
0.7nm,0.6s,baz=156,slow=20,SNR=3.0
ELK LR LR 14 30 28.8
comp=Z,136nm,18.1s,baz=154,slow=40

K40A Colesburg 25.61 16 P P 14 18 57.4 -2.1
baz=201
L43A Garden Prairie 25.87 21 P P 14 19 00.7 -1.0
baz=207
RSSD Black Hills 25.87 354 eP P 14 19 01.2 -0.8
3.6nm,0.7s
RSSD Black Hills 25.87 354 P P 14 19 01.2 -0.8
baz=172
N47A Urbana 25.91 27 P P 14 19 00.4 -1.8
baz=214
K42A Prairie Point, 26.21 19 P P 14 19 05.0 +0.1
baz=205
V59A Middlesex 26.38 44 P P 14 19 05.5 -1.0
baz=235
K43A Burlington 26.47 21 P P 14 19 07.3 +0.1
baz=207
TPAW Teton Pass 26.54 343 eP P 14 19 07.5 -0.6
11nm,0.8s
LOHW Long Hollow 26.56 344 eP P 14 19 08.5 +0.2
6.5nm,0.8s
I39A Houston 26.59 15 eP P 14 19 07.1 -1.2
19nm,0.6s
I39A Houston 26.59 15 P P 14 19 07.2 -1.1
baz=200
MOOW Moose Ponds 26.72 344 ePcP PcP 14 22 33.6 +1.6
W61A Ground Anchor 26.90 47 P P 14 19 10.0 -1.2
baz=237
SPMN Marine on St. 27.61 12 P P 14 19 16.7 -0.8
baz=196
RLMT Red Lodge 27.66 347 P P 14 19 18.7 +0.6
baz=162
HLID Hailey 27.69 338 P P 14 19 18.5 +0.1
baz=151
MOD Modoc Plateau 28.84 329 eP P 14 19 29.0 +0.4
12nm,1.4s
LRM Limekiln Ridge 29.10 343 ePcP PcP 14 22 39.5 +1.8
PLID Pearl Lake 29.58 338 eP P 14 19 35.6 +0.3
41nm,1.5s
YBH Yreka Blue Hor 29.96 326 P P 14 19 38.0 -0.4
YBH Yreka Blue Hor 29.96 326 P P 14 19 38.0 -0.4
1.3nm,0.6s,baz=164,slow=7.4,SNR=3.4
F44A Big Bay de Noc 30.00 20 P P 14 19 36.9 -1.7
baz=208
AGMN Agassiz Nation 30.15 6 eP P 14 19 38.3 -1.7
6.6nm,1.0s
AGMN Agassiz Nation 30.15 6 P P 14 19 38.5 -1.5
baz=189
F10A Beach Ranch, E 30.79 337 eP P 14 19 45.7 0.0
11nm,1.0s
C40A Isle Royale Na 30.98 15 P P 14 19 47.9 +0.6
baz=202
F49A Sandfield 31.43 25 P P 14 19 49.1 -2.2
baz=215
E47A Iron Bridge 31.52 23 P P 14 19 53.0 +0.9
baz=213
KLBO Killbear Provi 31.89 28 P P 14 19 52.0 -3.2
baz=219
SADO Sadowa 31.93 30 P P 14 19 52.4 -3.2
4.0nm,0.5s,baz=260,slow=5.3,SNR=4.0
ULM Lac du Bonnet 32.08 6 eP P 14 19 54.6 -2.3
4.6nm,0.8s
ULM Lac du Bonnet 32.08 6 P P 14 19 55.0 -1.9
6.4nm,0.8s,baz=190,slow=9.0,SNR=8.5
BUKO Buck Lake 32.32 29 P P 14 19 56.3 -2.8
baz=220
G53A Haliburton 32.44 30 P P 14 19 57.0 -3.1
baz=222
DELO Deloro Mine 32.48 31 P P 14 19 57.8 -2.7
baz=224
F52A Sundridge 32.63 28 P P 14 19 58.9 -2.9
baz=220
D48A Paudash Townsh 32.68 24 P P 14 20 00.7 -1.5
baz=214
E51A G1948 Merrick 33.12 27 P P 14 20 03.8 -2.2
baz=219
H56A Elgin 33.22 33 P P 14 20 04.1 -2.9
baz=226
E53A Dumoine, Ponti 33.82 29 P P 14 20 09.8 -2.4
baz=222
LSQQ Lebel-sur-Quev 36.15 27 P P 14 20 29.4 -2.7
baz=220
FFC Flin Flon 36.34 359 eP P 14 20 32.3 -1.4
3.7nm,0.8s
MATQ Matagami 36.41 25 P P 14 20 31.3 -3.1
baz=219
CHGQ Chibougamau 37.91 28 P P 14 20 44.7 -2.4
baz=223
YKA Yellowknife Ar 45.18 351 eP P 14 21 45.1 -1.2
YKA PcP PcP 14 23 26.2 +0.5
YKA Yellowknife Ar 45.18 351 P P 14 21 44.7 -1.6
0.9nm,0.6s,baz=157,slow=7.6,SNR=15
YKA PcP PcP 14 23 26.2 +0.5
0.9nm,0.8s,baz=155,slow=3.1,SNR=9.1
YKA LR LR 14 42 12.7
comp=Z,7.0nm,20.5s,baz=174,slow=38
YKB5 Yellowknife Ar 45.18 351 eP P 14 21 44.7 -1.6
YKB5 ePcP PcP 14 23 26.2 +0.5
LPAZ La Paz 47.02 135 LR LR 14 39 41.8
comp=Z,55nm,20.5s,baz=250,slow=33
BCAR Beaver Creek A 52.82 338 eP P 14 22 45.6 +0.7
EPYK Eagle Plains 53.44 343 P P 14 22 49.0 -0.4
baz=136
MENT Mentasta 53.45 337 eP P 14 22 50.5 +1.0
6.9nm,1.5s
EGAK Eagle 53.70 340 eP P 14 22 52.0 +0.8
7.0nm,1.2s
DOT Dot Lake 53.99 338 eP P 14 22 54.6 +1.2
4.9nm,1.0s
INK Inuvik 54.06 346 eP P 14 22 54.1 +0.3
4.4nm,0.6s
PAX Paxson 54.12 337 eP P 14 22 54.8 +0.4
5.2nm,1.0s
RIDG Independent Ri 54.33 338 eP P 14 22 57.2 +1.3
16nm,1.2s
PMR Palmer 54.84 334 eP P 14 23 00.3 +0.8
5.2nm,0.6s
HDA Harding Lake 55.47 338 eP P 14 23 04.8 +0.6
5.5nm,0.7s
HDA Harding Lake 55.47 338 P P 14 23 04.5 +0.4
baz=124,SNR=7.2
PRP Porcupine Dome 55.61 339 eP P 14 23 06.2 +0.9
7.6nm,1.0s
ILAR Eielson Array 55.65 338 eP P 14 23 06.1 +0.7
ILAR PcP PcP 14 24 06.2 +2.0
ILAR Eielson Array 55.65 338 P P 14 23 05.7 +0.3
2.5nm,0.8s,baz=155,slow=5.5,SNR=24
ILAR PcP PcP 14 24 06.2 +2.0
1.0nm,0.6s,baz=147,slow=2.4,SNR=9.3
ILB Eielson Array 55.65 338 eP P 14 23 05.9 +0.5
5.2nm,0.9s
ILB ePcP PcP 14 24 06.8 +2.5
MCK McKinley 55.85 336 eP P 14 23 07.6 +0.8
5.0nm,0.7s
RSO Redoubt South 55.88 332 eP P 14 23 07.9 +0.6
SPU Mount Spurr 55.89 333 eP P 14 23 08.2 +0.9
CCB Clear Creek Bu 55.91 338 eP P 14 23 07.1 -0.1
1.8nm,0.7s
WRH Wood River Hil 55.92 337 eP P 14 23 07.6 +0.2
3.1nm,1.0s
POKR Poker Plat Res 56.04 338 P P 14 23 08.1 -0.1
baz=123
TCOL CIGO, UAF Yank 56.06 338 P P 14 23 08.2 0.0
baz=123
MDM Murphy Dome 56.24 338 eP P 14 23 09.7 +0.1
12nm,1.8s
BWN Browne 56.27 337 eP P 14 23 10.0 +0.2
22nm,0.9s
BPAW Bear Paw Mtn. 56.82 336 eP P 14 23 13.8 +0.1
5.1nm,1.1s
CAST Castle Rocks 56.92 335 eP P 14 23 14.3 -0.2
8.2nm,0.9s
MLY Manley 57.19 337 eP P 14 23 16.8 +0.4
6.5nm,1.1s
SVW2 Sparrevohn 57.41 332 eP P 14 23 18.0 +0.1
6.6nm,0.8s
COLD Coldfoot 58.13 340 eP P 14 23 23.7 +0.8
2.6nm,0.6s
TOLK Toolik Lake Re 58.69 341 eP P 14 23 27.3 +0.5
3.8nm,0.6s
TOLK Toolik Lake Re 58.69 341 P P 14 23 27.2 +0.4
baz=123,SNR=6.0
IMAR Indian Mountai 58.74 338 eP P 14 23 26.7 -0.5
CPUP Villa Florida 61.19 135 eP P 14 23 45.1 +0.6
23nm,1.9s
CPUP Villa Florida 61.19 135 P P 14 23 45.1 +0.6
2.8nm,0.7s,baz=320,slow=8.2,SNR=7.3
ESDC Sonseca Array 83.52 50 eP P 14 25 57.8 +0.2
ESDC Sonseca Array 83.52 50 P P 14 25 56.5 -1.1

0.9nm,0.7s,baz=304,slow=5.5,SNR=4.6
TIXI Tiksi 84.19 346 P **P 14 26 00.1 -0.1**
2.0nm,0.3s,baz=22,slow=5.9,SNR=9.7
NB200 NORSAR Array S 84.23 27 *e*P **P 14 26 01.3 +0.6**
NOA NORSAR Array B 84.23 27 P **P 14 26 01.3 +0.6**
1.1nm,0.7s,baz=300,slow=5.1,SNR=3.6
NOA LR LR 15 04 47.7
comp=Z,12nm,18.1s,baz=190,slow=37
ARCES ARCESS Array B 84.53 17 P **P 14 26 01.8 -0.2**
1.7nm,0.6s,baz=308,slow=4.4,SNR=12
MK32 Makanchi Array 115.13 358 *e*PKiKP **PKiKP 14 32 10.2 -0.2**
MKAR Makanchi Array 115.13 358 PKP **PKiKP 14 32 10.2 -0.2**
0.2nm,0.6s,baz=48,slow=2.1,SNR=2.5
GEYT Alibeck 120.60 19 PKP **PKiKP 14 32 22.1 +0.8**
1.4nm,0.5s,baz=284,slow=5.8,SNR=3.1
LZH Lanzhou 121.11 337 *e*PKP **PKiKP 14 32 23.3 +0.8**
LZH pPKP sPKPdf 14 32 43.8 -2.5
LZH sPKP 14 32 52.5
CD2 Chengdu 125.69 334 Pdif **Pdif 14 29 07.7 -2.2**
WR1 Warramunga Arr 128.18 259 *e*PKPdf **PKiKP 14 32 37.2 +0.6**
WRA Warramunga Arr 128.18 259 PKP **PKiKP 14 32 37.2 +0.5**
baz=86,slow=2.2
ASAR Alice Springs 129.00 254 PKP **PKiKP 14 32 38.6 +0.4**
1.1nm,0.7s,baz=78,slow=2.3,SNR=9.9
CMAR Chiang Mai Arr 138.66 331 PKP **PKiKP 14 32 57.4 -0.7**
0.6nm,0.3s,baz=340,slow=2.2,SNR=6.5
PSI Prapat 151.47 315 PKPbc **PKPbc 14 33 24.2 +0.1**
4.8nm,0.8s,baz=346,slow=12,SNR=2.9
PSI PKPab **PKPab 14 33 32.8 +0.3**
3.2nm,0.6s,baz=15,slow=8.1,SNR=2.9

DJA 22 14:28:06.1±0.4,**9°S**±4°×**10°9E**±°,**h10**km,**M4.0**/10,**mb4.8**/2,
MLv3.7/10,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.58**	**332**	P	Pn	14 28 32.8	-1.4
CISI				S	Sb	14 28 55.4	-0.1
YOGI	**Yogyakarta**	**2.06**	**57**	P	Pn	14 28 40.2	-0.6
UGM	**Wanagama**	**2.20**	**62**	P	Pn	14 28 42.7	-0.1
LEM	**Lembang**	**2.32**	**336**	P	Pn	14 28 44.3	-0.2
WOJI	**Wonogiri, Jawa**	**2.59**	**65**	P	Pn	14 28 48.0	-0.1
PCJI	**Pacitan**	**2.70**	**74**	P	Pn	14 28 49.3	-0.3
PWJI	**Pagerwojo**	**3.34**	**74**	P	Pn	14 28 58.1	-0.3
CGJI	**Cibinong**	**3.67**	**309**	P	Pn	14 29 03.1	+0.1

TIF ***22*** *14:29:01.9,41.′24N×45.′70E,h18km±2km*
AZER ***22*** *14:29:02.5±0.1,41.′27N×45.′80E,h11km,ml3.1/22,Error ellipse: s-maj=1.4km s-min=0.9km az=333.0*
NORS ***22*** *14:29:02.6±0.0,41.′23N×45.′80E,h24km,MPVA4.2*
NSSP ***22*** *14:29:02.2,41.′27N×45.′67E,h10km,Ms3.2*
ISK ***22*** *14:29:03.6,41.′28N×45.′53E,h5km,ML3.0/4*
DRS ***22*** *14:29:04.7±0.0,41.′36N×45.′63E,h16km,ML3.2/4*
MOS ***22*** *14:29:04.4±0.8,41.′22N×45.′66E,h23km,mb3.9/3,Error ellipse: s-maj=7.7km s-min=5.3km az=90.0*
DDA ***22*** *14:29:09.8,41.′32N×45.′00E,h5km±3km,ML3.2*
ISC 22 14:29:02.5±1.1,**41.′30N**±0.′01×**45.′67E**±0.′01,**h1**km±9km,
n103,σ0°**82**/163,**10C-7D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZX	**Qazax, Azerbai**	**0.33**	**223**	P	**Pb**	**14 29 11.9**	**+0.7**
SNR=379							
QZX				S	**Sb**	**14 29 18.0**	**+1.0**
DDFL	**Dedoflistskaro**	**0.36**	**66**	P	**Pg**	**14 29 09.5**	**0.0**
DDFL				S	**Sb**	**14 29 18.1**	**0.0**
GDB	**GEDABAY**	**0.58**	**174**	P	**Pb**	**14 29 15.2**	**-0.4**
SNR=1308							
GDB				S	**Sb**	**14 29 23.6**	**-0.8**
LGD	**Lagodekhi**	**0.68**	**38**	P	**Pb**	**14 29 16.9**	**-0.3**
LGD				S	**Sb**	**14 29 26.8**	**-0.5**
LGD	**Lagodekhi**	**0.68**	**38**	⇓*i*PG	**Pb**	**14 29 16.9**	**-0.3**
LGD				*e*S	**Sb**	**14 29 26.7**	**-0.5**
LGD	**Lagodekhi**	**0.68**	**38**	*e*Pg	**Pb**	**14 29 16.9**	**-0.3**
LGD				*e*Sg	**Sb**	**14 29 26.8**	**-0.5**
BTNK	**Botanikuri**	**0.76**	**301**	P	**Pb**	**14 29 18.1**	**-0.5**
BTNK				S	**Sb**	**14 29 28.9**	**-0.5**
BTNK	**Botanikuri**	**0.76**	**301**	*i* P	**Pb**	**14 29 18.1**	**-0.5**
ZKTA	**Zakatala**	**0.79**	**64**	P	**Pg**	**14 29 18.3**	**+0.7**
SNR=32							
ZKTA				S	**Sb**	**14 29 29.4**	**-0.8**
SEAG	**Tbilisi Sea**	**0.80**	**306**	P	**Pb**	**14 29 18.9**	**-0.4**
SEAG				S	**Sb**	**14 29 30.3**	**-0.3**
GANJ	**Ganja**	**0.82**	**143**	P	**Pb**	**14 29 18.7**	**-0.8**
SNR=28							
GANJ				S	**Sb**	**14 29 29.8**	**-1.3**
TBLG	**Delisi**	**0.82**	**302**	PG	**Pb**	**14 29 18.9**	**-0.7**
TBLG				SG	**Sb**	**14 29 30.5**	**-0.7**
TBLG	**Delisi**	**0.82**	**302**	P	**Pb**	**14 29 19.0**	**-0.7**
TBLG				S	**Sb**	**14 29 30.6**	**-0.7**
TBLG	**Delisi**	**0.82**	**302**	⇑*i*PG	**Pb**	**14 29 18.9**	**-0.7**
TBLG				*e*S	**Sb**	**14 29 30.5**	**-0.7**
TBLG	**Delisi**	**0.82**	**302**	*e*Pg	**Pb**	**14 29 19.0**	**-0.7**
KZRT	**Kazreti**	**0.96**	**276**	P	**Pg**	**14 29 21.1**	**+0.2**
KZRT				S	**Sg**	**14 29 33.7**	**+0.3**
SEKA	**Sheki**	**1.15**	**94**	P	**Pg**	**14 29 24.2**	**-0.4**
SEKA				S	**Sb**	**14 29 41.2**	**+0.5**
MNGR	**Mingechevir, A**	**1.19**	**116**	P	**Pb**	**14 29 25.8**	**-0.1**
SNR=3.2							
MNGR				S	**Sn**	**14 29 43.3**	**+0.2**
GNI	**Garni**	**1.35**	**212**	PN	**Pb**	**14 29 29.2**	**+0.5**
GNI				SN	**Sn**	**14 29 47.7**	**+0.4**
GNI	**Garni**	**1.35**	**212**	*d*iPG	**Pb**	**14 29 28.8**	**+0.1**
GNI	**Garni**	**1.35**	**212**	⇓*i*P	**Pb**	**14 29 28.9**	**+0.3**
GNI				⇑*i*S	**Sn**	**14 29 47.7**	**+0.4**
KMKR	**Kumukh**	**1.35**	**52**	*e*PG	**Pg**	**14 29 28.0**	**-0.4**
KMKR				pmax	pmax		
comp=Z,61nm,0.3s							
KMKR	**Kumukh**	**1.35**	**52**	*e*Pg	**Pg**	**14 29 28.0**	**-0.4**
KMKR				*i* Sg	**Sg**	**14 29 46.0**	**+0.1**
BTLR	**Botlikh**	**1.42**	**17**	*e*PG	**Pn**	**14 29 29.5**	**-0.1**
BTLR				pmax	pmax		
comp=Z,156nm,0.6s							
BTLR	**Botlikh**	**1.42**	**17**	*e*Pg	**Pn**	**14 29 29.1**	**-0.4**
comp=Z,156nm,0.6s							
BTLR				⇑*e*Sg	**Sg**	**14 29 47.8**	**-0.4**
comp=Z,204nm,0.7s							
GNBR	**Gunib**	**1.45**	**41**	⇓*i*PG	**Pn**	**14 29 29.7**	**-0.3**
GNBR				pmax	pmax		
comp=Z,196nm,0.6s							
GNBR	**Gunib**	**1.45**	**41**	*e*Pg	**Pn**	**14 29 29.2**	**-0.7**
comp=Z,196nm,0.4s							
GNBR				⇓*e*Sg	**Sg**	**14 29 49.3**	**+0.1**
comp=Z,526nm,0.4s							
XNZR	**Khunzakh**	**1.46**	**31**	⇑*e*PG	**Pg**	**14 29 30.7**	**+0.2**
XNZR	**Khunzakh**	**1.46**	**31**	*e*Pg	**Pb**	**14 29 30.6**	**0.0**
XNZR				*e*Sg	**Sb**	**14 29 49.9**	**+0.1**
GUDG	**Gudauri**	**1.47**	**323**	P	**Pn**	**14 29 30.3**	**0.0**
GUDG				S	**Sn**	**14 29 51.3**	**+1.1**
BRDA	**Brd**	**1.54**	**132**	Pn	**Pb**	**14 29 31.7**	**-0.1**
SNR=5.8							
BRDA				Sn	**Sg**	**14 29 55.1**	**+3.1**
AKT	**Akhty**	**1.56**	**83**	*e*PG	**Pn**	**14 29 30.7**	**-0.7**
AKT	**Akhty**	**1.56**	**83**	*e*Pg	**Pn**	**14 29 30.5**	**-0.9**
comp=Z,39nm,0.2s							
AKT				⇑*e*Sg	**Sn**	**14 29 50.9**	**-1.4**
comp=Z,788nm,0.4s							
BGD	**Bogdanovka**	**1.56**	**269**	P	**Pn**	**14 29 31.6**	**0.0**
BGD				S	**Sg**	**14 29 52.7**	**0.0**
AKH	**Akhalkalaki**	**1.65**	**275**	PN	**Pn**	**14 29 32.8**	**0.0**
AKH	**Akhalkalaki**	**1.65**	**275**	P	**Pn**	**14 29 32.7**	**0.0**
AKH				S	**Sn**	**14 29 53.9**	**-0.7**
AKH	**Akhalkalaki**	**1.65**	**275**	*e*PN	**Pn**	**14 29 32.7**	**0.0**
QBL	**Gabala**	**1.67**	**101**	Pn	**Pn**	**14 29 32.8**	**-0.2**
SNR=6.4							
QBL				Sn	**Sb**	**14 29 55.4**	**-0.3**
HYR	**Heyderabad**	**1.70**	**202**	Pn	**Pg**	**14 29 35.3**	**+0.3**
HYR				Sn	**Sg**	**14 29 59.0**	**+1.9**
URKR	**Urkarakh**	**1.70**	**59**	⇑*e*PN	**Pg**	**14 29 35.6**	**+0.5**
URKR	**Urkarakh**	**1.70**	**59**	*e*Pg	**Pb**	**14 29 34.7**	**0.0**
URKR				*e*Sg	**Sg**	**14 29 57.2**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.71**	**220**	PN	**Pb**	**14 29 34.7**	**0.0**
KRNR	**Karanay**	**1.78**	**31**	*e*PN	**Pb**	**14 29 36.0**	**0.0**
KRNR	**Karanay**	**1.78**	**31**	*e*Pg	**Pb**	**14 29 36.0**	**0.0**
KRNR				*e*Sg	**Sg**	**14 30 00.0**	**+0.3**
ZRD	**Zardab**	**1.84**	**123**	Pn	**Pb**	**14 29 36.6**	**-0.3**
ZRD				Sn	**Sb**	**14 30 00.2**	**-0.1**
LACR	**Lac**	**1.84**	**327**	⇓*i*PN	**Pn**	**14 29 35.5**	**+0.2**
LACR	**Lac**	**1.84**	**327**	*e*Pg	**Pn**	**14 29 35.1**	**-0.2**
XNQ	**Khinaliq**	**1.86**	**93**	Pn	**Pn**	**14 29 35.8**	**0.0**
SNR=18							
XNQ				Sn	**Sn**	**14 30 00.6**	**+0.5**
KSMR	**Kasumkent**	**1.87**	**80**	*e*PN	**Pb**	**14 29 37.0**	**-0.5**
KSMR	**Kasumkent**	**1.87**	**80**	*e*Pg	**Pb**	**14 29 37.0**	**-0.5**
KSMR				*e*Sg	**Sg**	**14 30 02.0**	**-0.5**
comp=Z,598nm,0.3s							
IGDI	**IGDIR**	**1.88**	**221**	*i* P	**Pn**	**14 29 34.6**	**-1.2**
VLKR	**Vladikavkaz**	**1.90**	**337**	*e*PN	**Pg**	**14 29 39.2**	**+0.4**
VLKR	**Vladikavkaz**	**1.90**	**337**	*e*Pg	**Pg**	**14 29 39.0**	**+0.2**
VLKR				*e*Sg	**Sg**	**14 30 04.7**	**+1.3**
SBZ	**Shahbuz**	**1.90**	**183**	Pn	**Pg**	**14 29 39.0**	**0.0**
SNR=14							
SBZ				Sn	**Sg**	**14 30 03.2**	**-0.4**
GROC	**Groznyy**	**1.90**	**3**	*e*PN	**Pb**	**14 29 38.2**	**+0.2**
GROC	**Groznyy**	**1.90**	**3**	*e*Pg	**Pb**	**14 29 38.2**	**+0.2**
GROC				*e*Sg	**Sg**	**14 30 04.5**	**+0.8**
DLMR	**Dylym**	**1.91**	**22**	PN	**Pb**	**14 29 38.0**	**-0.1**
DLMR				pmax	pmax		
comp=Z,107nm,0.2s							
DLMR	**Dylym**	**1.91**	**22**	*e*Pg	**Pb**	**14 29 38.0**	**-0.1**
comp=Z,107nm,0.2s							
DLMR				*e*Sg	**Sg**	**14 30 04.0**	**+0.3**
comp=Z,173nm,0.3s							
DBC	**Dubki**	**1.92**	**26**	⇓*e*PN	**Pn**	**14 29 37.2**	**+0.8**
DBC	**Dubki**	**1.92**	**26**	*i* Sg	**Pb**	**14 29 37.8**	**-0.6**
comp=Z,40nm,0.3s							
DBC				*i* Sg	**Sb**	**14 30 03.6**	**+0.7**
comp=Z,104nm,0.6s							
DIGO	**Kars**	**1.96**	**244**	IAML_P			
comp=Z,2μm,0.2s							
DIGO				*i* P	**Pg**	**14 29 39.7**	**-0.3**
QSAR	**Qusar**	**1.96**	**83**	Pn	**Pb**	**14 29 38.3**	**-0.7**
SNR=11							
QSAR				Sn	**Sb**	**14 30 04.0**	**0.0**
IML	**Ismayilli**	**1.96**	**104**	Pn	**Pn**	**14 29 37.3**	**+0.3**
SNR=3.4							
IML				Sn	**Sn**	**14 30 02.4**	**+0.1**
ZEI	**Tsey**	**1.99**	**319**	*ce*PN	**Pn**	**14 29 38.2**	**+0.7**
ZEI	**Tsey**	**1.99**	**319**	*e*Pg	**Pn**	**14 29 38.0**	**+0.5**
ZEI				*e*Sg	**Sb**	**14 30 05.2**	**+0.3**
SRKG	**Sareki**	**2.01**	**301**	P	**Pn**	**14 29 36.2**	**-1.4**
SRKG				S	**Sn**	**14 30 02.8**	**-0.6**
ONI	**Oni**	**2.10**	**309**	PN	**Pb**	**14 29 40.4**	**-0.9**
ONI	**Oni**	**2.10**	**309**	P	**Pb**	**14 29 40.6**	**-0.8**
ONI				S	**Sb**	**14 30 07.8**	**-0.2**
ONI	**Oni**	**2.10**	**309**	*e*PN	**Pb**	**14 29 40.5**	**-0.9**
ONI	**Oni**	**2.10**	**309**	*e*Pg	**Pb**	**14 29 40.6**	**-0.8**
ONI				*e*Sg	**Sb**	**14 30 07.8**	**-0.2**
KDMR	**Kurdemir**	**2.12**	**115**	Pn	**Pn**	**14 29 38.8**	**-0.2**
KDMR				Sn	**Sn**	**14 30 06.2**	**+0.3**
DRN	**Derbent**	**2.12**	**69**	⇑*i*PN	**Pb**	**14 29 42.1**	**+0.4**
DRN				*e*S	**Sg**	**14 30 09.8**	**-0.8**
DRN				pmax	pmax		
comp=Z,66nm,0.5s							
DRN	**Derbent**	**2.12**	**69**	*e*Pg	**Pb**	**14 29 42.0**	**+0.4**
comp=Z,66nm,0.5s							
DRN				*e*Sg	**Sb**	**14 30 09.4**	**+0.9**
comp=Z,155nm,0.6s							
QUBA	**Quba, Azerbaij**	**2.12**	**88**	Pn	**Pn**	**14 29 40.0**	**+0.8**
SNR=5.6							
QUBA				Sn	**Sn**	**14 30 07.2**	**+1.0**
NAX	**Nakhchivan**	**2.13**	**184**	Pn	**Pb**	**14 29 42.1**	**+0.2**
NAX				Sn	**Sg**	**14 30 10.7**	**-0.1**
ARNR	**Ardon**	**2.14**	**332**	*e*Pg	**Pb**	**14 29 41.9**	**-0.2**
ARNR				*e*Sg	**Sg**	**14 30 11.0**	**-0.3**
KORR	**Kora**	**2.15**	**327**	*e*PN	**Pb**	**14 29 42.3**	**+0.1**
KORR				*e*S	**Sg**	**14 30 11.5**	**0.0**
KORR	**Kora**	**2.15**	**327**	*e*Pg	**Pb**	**14 29 42.3**	**+0.1**
KORR				*e*Sg	**Sg**	**14 30 11.5**	**0.0**
EPOS	**Posof**	**2.23**	**276**	*i* P	**Pb**	**14 29 42.9**	**-0.7**
DIGR	**Digorskoe uzhe**	**2.23**	**316**	*ce*PN	**Pb**	**14 29 43.0**	**-0.7**
DIGR	**Digorskoe uzhe**	**2.23**	**316**	*i* Pn	**Pb**	**14 29 42.5**	**-1.3**
DIGR				*e*Sn	**Sb**	**14 30 10.7**	**-1.2**
TKB	**Tkibuli**	**2.26**	**299**	P	**Pn**	**14 29 42.4**	**+1.4**
PQL	**Pirkuli**	**2.27**	**102**	Pn	**Pn**	**14 29 42.0**	**+0.8**
SNR=7.4							
PQL				Sn	**Sb**	**14 30 11.8**	**-1.1**
ORD	**Ordubad**	**2.38**	**174**	Pn	**Pb**	**14 29 45.0**	**-1.2**
SNR=6.7							
ORD				Sn	**Sb**	**14 30 15.9**	**-0.2**
LSNR	**Lesken**	**2.41**	**326**	*ce*PN	**Pb**	**14 29 46.4**	**-0.2**
LSNR	**Lesken**	**2.41**	**326**	*e*Pn	**Pb**	**14 29 46.4**	**-0.2**
LSNR				*e*Sn	**Sb**	**14 30 17.0**	**+0.2**
SIZA	**Siyzn**	**2.44**	**94**	Pn	**Pn**	**14 29 45.2**	**+1.6**
SIZA				Sn	**Sb**	**14 30 16.5**	**-1.4**
ATGJ	**Altiaghaj**	**2.51**	**99**	Pn	**Pn**	**14 29 45.6**	**+1.1**
SNR=5.4							
ATGJ				Sn	**Sn**	**14 30 15.7**	**-0.1**
VMUR	**Van-Muradiye**	**2.81**	**216**	*i* P	Pg	14 30 10.3	+14
DAGI	**Agillar**	**2.85**	**267**	*i* P	**Pb**	**14 29 55.3**	**+1.2**
NEY	**Neytrino**	**2.93**	**313**	*i* PN	**Pn**	**14 29 51.9**	**+1.5**
BATM	**Batumi**	**3.01**	**277**	PN	**Pn**	**14 29 53.0**	**+1.7**
DBAD	**Bademkaya**	**3.02**	**266**	IAML_P			
comp=Z,806nm,0.3s							
DBAD				*i* P	**Pg**	**14 29 58.9**	**-1.4**
DBAD				*i* S	**Sg**	**14 30 37.0**	**-2.4**
DBOC	**Borcka**	**3.02**	**272**	*i* P	**Pb**	**14 29 57.8**	**+0.7**
BCA	**Borcka**	**3.05**	**274**	PN	**Pn**	**14 29 53.5**	**+1.6**
SHA1	**Shidzhatmaz**	**3.30**	**319**	*i* PN	**Pn**	**14 29 55.9**	**+0.4**
LRK	**Lerik**	**3.35**	**141**	Pn	**Pb**	**14 30 00.1**	**-2.7**
LRK				Sn	**Sn**	**14 30 38.5**	**+1.8**
KIV	**Kislovodsk**	**3.45**	**321**	*i* PN	**Pn**	**14 29 59.7**	**+2.3**
KIV				pmax	pmax		
comp=Z,14nm,0.4s							
OBN	**Obninsk**	**15.08**	**340**	*e*P	**Pn**	**14 32 38.2**	**+1.7**
OBN				pmax	pmax		
comp=Z,7.0nm,0.2s							
APE	**Apeiranthos**	**16.17**	**261**	*i* P	**Pn**	**14 32 50.7**	**-0.3**
APE				pmax	pmax		
comp=Z,15nm,1.1s							
BRVK	**Borovoye**	**20.33**	**46**	*i* P	**P**	**14 33 37.6**	**-2.3**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.9s							
VSU	**Vasula**	**20.94**	**331**	*i* P	**P**	**14 33 46.4**	**0.0**
VSU				pmax	pmax		
comp=Z,19nm,0.9s							
KURK	**Kurchatov**	**24.57**	**56**	*i* P	**P**	**14 34 23.6**	**-0.1**
KURK				pmax	pmax		
comp=Z,1.0nm,1.0s							

IDC ***22*** *14:29:08.2±0.8,36.′15N×23.′27E,h0km,mb4.0/11,mb1 3.9/17,mb1mx3.8/51,mbtmp3.9/17,ML3.8/5,MS3.2/5,Ms1 3.2/5,ms1mx2.7/48,Error ellipse: s-maj=15.9km s-min=14.1km az=39.0*
ISK ***22*** *14:29:09.7,36.′24N×23.′46E,h5km,ML3.7/21*
ATH ***22*** *14:29:10.6,36.′15N×23.′29E,h20km±1km,ML3.8/18,Error ellipse: s-maj=1.7km s-min=0.9km az=235.0*
ISCJB ***22*** *14:29:11.1±0.3,36.′12N±0.′02×23.′26E±0.′03,h25km±2km,mb4.0/13,MS3.1/5,Error ellipse: s-maj=4.6km s-min=2.4km az=44.8*
THE ***22*** *14:29:11.1,36.′16N×23.′30E,h0km±1km,ML3.8/11,Error ellipse: s-maj=1.3km s-min=0.4km az=177.0*
NEIC ***22*** *14:29:14.5±0.5,36.′11N×23.′38E,h52km±5km,mb4.4/2,Error ellipse: s-maj=6.3km s-min=4.1km az=204.0*
ISC 22 14:29:10.8±0.7,**36.′16N**±0.′02×**23.′29E**±0.′02,**h18**km±3km,
n177,σ1°**57**/204,**mb4.1**/13,**MS3.0**/5,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.23**	**299**	P	**Pg**	**14 29 15.7**	**-0.5**
KYTH				S	**Sg**	**14 29 19.1**	**-0.7**
KYTH	**Kithira**	**0.23**	**299**	P	**Pg**	**14 29 15.8**	**-0.4**
KYTH				S	**Sg**	**14 29 19.8**	**0.0**
KYTH				AML	AML	14 29 20.7	
comp=N,82291μm,0.3s							
KYTH				AML	AML	14 29 21.6	
comp=E,87616μm,0.3s							
KTHR	**Kythira**	**0.26**	**294**	P	**Pg**	**14 29 16.4**	**-0.2**
KTHR				S	**Sg**	**14 29 20.4**	**-0.2**
ANKY	**Antikythira Is**	**0.29**	**179**	P	**Pg**	**14 29 16.4**	**-0.8**
ANKY				S	**Sg**	**14 29 21.6**	**+0.1**
ANKY	**Antikythira Is**	**0.29**	**179**	P	**Pg**	**14 29 16.4**	**-0.8**
ANKY				AML	AML	14 29 22.0	
comp=E,41537μm,0.4s							
ANKY				AML	AML	14 29 22.2	
comp=N,42039μm,0.7s							
MNVA	**Monemvasia**	**0.57**	**339**	P	**Pg**	**14 29 22.4**	**+0.3**
MNVA				S	**Sg**	**14 29 29.5**	**-0.3**
MNVA				AML	AML	14 29 30.6	
comp=N,15386μm,0.5s							
MNVA				AML	AML	14 29 30.7	
comp=E,32570μm,0.6s							
VLI	**Veliai**	**0.63**	**333**	P	**Pg**	**14 29 23.3**	**0.0**
VLI				S	**Sg**	**14 29 31.9**	**+0.2**
VLI	**Veliai**	**0.63**	**333**	P	**Pg**	**14 29 23.5**	**+0.2**
VLI				S	**Sg**	**14 29 32.1**	**+0.4**
VLI				AML	AML	14 29 32.7	
comp=N,19309μm,0.4s							
VLI				AML	AML	14 29 33.8	
comp=E,19275μm,0.3s							
CHAN	**Chania**	**0.88**	**136**	P	**Pb**	**14 29 27.4**	**-0.1**
CHAN				S	**Sn**	**14 29 40.9**	**+0.3**
IMMV	**Iera Moni Meta**	**0.89**	**141**	PG	**Pb**	**14 29 27.8**	**0.0**
IMMV	**Iera Moni Meta**	**0.89**	**141**	P	**Pb**	**14 29 27.8**	**0.0**
IMMV				S	**Sn**	**14 29 42.0**	**+1.1**
IMMV	**Iera Moni Meta**	**0.89**	**141**	P	**Pb**	**14 29 27.7**	**0.0**
IMMV				AML	AML	14 29 45.0	
comp=N,11917μm,1.1s							
IMMV				AML	AML	14 29 48.9	
comp=E,12486μm,0.7s							
DYR	**Agios Nikonas**	**0.98**	**308**	P	**Pb**	**14 29 29.7**	**+0.4**
DYR				AML	AML	14 29 55.4	
comp=N,2538μm,0.5s							
DYR				AML	AML	14 29 56.9	
comp=E,3771μm,1.0s							
MHLO	**Agia Marina, M**	**1.04**	**59**	P	**Pn**	**14 29 30.9**	**+0.4**
MHLO				S	**Sg**	**14 29 45.9**	**+1.2**
MHLO	**Agia Marina, M**	**1.04**	**59**	P	**Pn**	**14 29 31.0**	**+0.4**
MHLO				AML	AML	14 29 53.9	
comp=N,30066μm,0.6s							
MHLO				AML	AML	14 29 54.4	
comp=E,15368μm,0.7s							
VAM	**Vamos**	**1.05**	**135**	P	**Pb**	**14 29 30.6**	**+0.1**
VAM				S	**Sg**	**14 29 46.1**	**+1.1**
VAM	**Vamos**	**1.05**	**135**	P	**Pb**	**14 29 30.3**	**-0.1**
VAM				S	**Sg**	**14 29 45.3**	**+0.3**
VAM				AML	AML	14 29 46.5	
comp=E,13475μm,0.5s							
VAM				AML	AML	14 29 47.0	
comp=N,9843μm,0.6s							
MHLA	**Plaka, Milos I**	**1.08**	**57**	P	**Pg**	**14 29 32.0**	**+0.2**
MHLA				AML	AML	14 29 49.0	
comp=N,15312μm,0.8s							
MHLA				AML	AML	14 29 56.5	
comp=E,15318μm,1.0s							
YDRA	**Hydra**	**1.20**	**7**	P	**Pb**	**14 29 33.8**	**+0.8**
KRND	**KRANIDI**	**1.23**	**355**	P	**Pb**	**14 29 33.9**	**+0.4**
KRND				S	**Sg**	**14 29 51.9**	**+1.3**
KRND	**KRANIDI**	**1.23**	**355**	P	**Pb**	**14 29 34.2**	**+0.7**
KRND				S	**Sg**	**14 29 51.5**	**+0.9**
KRND				AML	AML	14 29 55.4	
comp=N,11698μm,0.4s							
KRND				AML	AML	14 29 55.4	
comp=E,11067μm,0.8s							
PRNS	**Prines Rethymn**	**1.26**	**128**	P	**Pg**	**14 29 34.7**	**-0.5**
DID	**Didima**	**1.35**	**358**	P	**Pb**	**14 29 35.6**	**+0.1**
DID				S	**Sg**	**14 29 56.0**	**+1.6**
DID	**Didima**	**1.35**	**358**	P	**Pb**	**14 29 35.9**	**+0.3**
DID				AML	AML	14 29 59.8	
comp=E,8908μm,0.7s							
DID				AML	AML	14 29 60.0	
comp=N,4318μm,0.4s							
VLX	**Vlachokerasia**	**1.42**	**329**	P	**Pb**	**14 29 37.2**	**+0.5**
VLX				S	**Sg**	**14 29 58.1**	**+1.5**
VLX	**Vlachokerasia**	**1.42**	**329**	P	**Pb**	**14 29 37.7**	**+1.0**
VLX				AML	AML	14 30 02.6	
comp=E,6442μm,0.6s							
VLX				AML	AML	14 30 03.3	
comp=N,5884μm,0.6s							
PYL	**PYLOS**	**1.45**	**301**	P	**Pb**	**14 29 37.8**	**+0.5**
PYL				S	**Sg**	**14 29 59.0**	**+1.3**
PYL	**PYLOS**	**1.45**	**301**	P	**Pb**	**14 29 38.1**	**+0.8**
EPID	**Epidavros**	**1.46**	**355**	P	**Pb**	**14 29 37.9**	**+0.4**
GVD	**Gavdhos**	**1.47**	**154**	PN	**Pg**	**14 29 38.7**	**-0.4**
GVD				SN	**Sg**	**14 29 59.7**	**+1.5**
GVD	**Gavdhos**	**1.47**	**154**	P	**Pb**	**14 29 38.2**	**+0.7**
GVD	**Gavdhos**	**1.47**	**154**	P	**Pb**	**14 29 38.2**	**+0.7**
GVD				AML	AML	14 30 09.3	
comp=N,5373μm,0.4s							
GVD				AML	AML	14 30 11.5	
comp=E,5833μm,0.5s							
ITM	**Ithomi**	**1.50**	**313**	PN	**Pg**	**14 29 39.7**	**0.0**
ITM				SN	**Sg**	**14 30 01.7**	**+2.5**
ITM	**Ithomi**	**1.50**	**313**	*e*Pn	**Pg**	**14 29 39.6**	**-0.1**
ITM	**Ithomi**	**1.50**	**313**	P	**Pb**	**14 29 39.0**	**+0.9**
ITM	**Ithomi**	**1.50**	**313**	P	**Pg**	**14 29 39.5**	**-0.1**
ITM				AML	AML	14 30 06.3	
comp=N,7478μm,0.6s							
ITM				AML	AML	14 30 09.3	
comp=E,5279μm,0.8s							
IDI	**Anoyia**	**1.56**	**123**	Pn	**Pn**	**14 29 38.0**	**+0.3**
comp=E,20nm,0.3s,baz=301,slow=15,SNR=96

CHOS Chios island 3.13 44 PN **Pn 14 29 59.8 +0.5**
KARP Karpathos 3.20 100 PN **Pn 14 30 00.8 +0.6**
KARP Karpathos 3.20 100 *e*Pn **Pn 14 30 00.1 -0.2**
BODT Bodrum 3.36 73 PN **Pn 14 30 03.3 +0.9**
URLA Izmir 3.43 49 Pn **Pn 14 30 04.4 +1.0**
BDRM Kayabasi 3.46 74 *i* P **Pn 14 30 04.9 +1.1**
DAT Datca 3.50 79 Pn **Pn 14 30 04.8 +0.4**
SIGR SIGRI 3.67 33 PN **Pn 14 30 07.1 +0.5**
ARG Arkhangelos 3.91 88 PN **Pn 14 30 11.5 +1.5**
OUR Ouranopolis 4.21 7 PN **Pn 14 30 15.7 +1.7**
BOZC Bozcaada 4.28 30 Pn **Pn 14 30 16.1 +1.1**
TURN Turunc 4.34 79 PN **Pn 14 30 12.9 -2.9**
DALY Dalyan (Mula) 4.37 80 Pn **Pn 14 30 18.5 +2.3**
HORT Hortiatis 4.44 358 PN **Pn 14 30 19.5 +2.2**
FETY Fethiye 4.70 82 PN **Pn 14 30 22.6 +1.8**
MANT Manisa 4.80 59 *e*Pn **Pn 14 30 24.0 +1.7**
GRG Griva 4.84 352 PN **Pn 14 30 25.7 +2.9**
FNA Florina 4.86 343 PN **Pn 14 30 25.7 +2.7**
FNA Florina 4.86 343 *e*Pn **Pn 14 30 27.1 +4.0**
GELI Tayfur-Gelibol 4.92 30 PN **Pn 14 30 24.8 +1.0**
KNT Kendrikon 5.01 357 PN **Pn 14 30 27.3 +2.3**
AKAS Kas 5.11 87 Pn **Pn 14 30 28.7 +2.2**
ERIK Erikli-Kesan 5.17 28 PN **Pn 14 30 28.1 +0.9**
VAY Valandovo 5.19 354 *e*Pn **Pn 14 30 29.5 +2.0**
ALN Alexandroupoli 5.20 24 *e*Pn **Pn 14 30 29.9 +2.2**
RDO Rodhopi 5.28 19 PN **Pn 14 30 31.1 +2.3**
STIP Stip 5.60 351 *e*Pn **Pn 14 30 36.2 +3.1**
TIR Tirane 5.83 334 *e*Pn **Pn 14 30 39.9 +3.5**
TIP Timpagrande 6.00 302 *e*Pn **Pn 14 30 40.6 +2.0**
CEL Celeste 6.27 292 *e*Pn **Pn 14 30 44.9 +2.5**
CGL1 Ceglie Messapi 6.40 316 *e*Pn **Pn 14 30 46.1 +1.9**
CGL1 Sn **Sn 14 31 55.7 -1.1**
VTS Vitosha 6.45 360 *e*Pn **Pn 14 30 48.8 +3.8**
MASS Massafra 6.58 315 *e*Pn **Pn 14 30 49.2 +2.6**
FASA Fasano 6.58 317 *e*Pn **Pn 14 30 48.6 +2.0**
KEPZ Antalya-Kepez 6.73 81 *i* P **Pn 14 30 48.2 -0.6**
DRME Dracevica, Mon 6.81 333 *e*Pn **Pn 14 30 51.9 +2.1**
PDG Podgorica 7.00 335 *e*Pn **Pn 14 30 56.7 +4.3**
TTG Podgorica 7.00 335 *e*Pn **Pn 14 30 55.6 +3.3**
MDUB Mudurnu 7.56 53 *e*Pn **Pn 14 31 02.0 +1.8**
TREB Trebinje 7.58 331 *e*Pn **Pn 14 31 01.6 +1.2**
STON Ston 7.97 329 *e*Pn **Pn 14 31 06.7 +0.9**
STON Sn **Sn 14 32 32.9 -2.5**
STON Ston 7.97 329 *e*Pn **Pn 14 31 07.1 +1.4**
BBLS Lazići 8.26 340 *e*Pn **Pn 14 31 10.0 +0.3**
HAPS Han Pijesak,BI 8.59 339 *e*Pn **Pn 14 31 13.5 -0.8**
BR131 Keskin Array S 8.91 63 *e*Pn **Pn 14 31 19.9 +1.1**
BRTR Keskin Array B 8.91 63 *e*Pn **Pn 14 31 19.7 +0.9**
BRTR Keskin Array B 8.91 63 Pn **Pn 14 31 20.4 +1.5**
comp=E,0.0nm,0.3s,baz=232,slow=14,SNR=2.1
MLR Muntele Rosu 9.54 11 Pn **Pn 14 31 29.3 +2.0**
comp=E,0.2nm,0.3s,baz=167,slow=19,SNR=3.3
UDBI Udbina 10.14 328 *e*Pn **Pn 14 31 37.5 +2.1**
MMAI Mount Meron Ar 10.46 104 Pn **Pn 14 31 41.8 +1.8**
comp=E,1.3nm,0.3s,baz=326,slow=13,SNR=3.4
NVLJ Novalja 10.57 325 *e*Pn **Pn 14 31 43.2 +2.0**
BOJS Bojanci 11.14 329 *i* Pn **Pn 14 31 51.2 +2.1**
BOJS *e*Sn **Sn 14 33 51.8 -1.4**
EIL Elat 11.73 120 Pn **Pn 14 31 58.9 +1.6**
comp=E,0.4nm,0.3s,baz=336,slow=20,SNR=4.0
VNDS Vrh nad Dolski 11.85 330 *i* Pn **Pn 14 32 03.1 +4.2**
VNDS *i* Sn **Sn 14 34 11.8 +1.2**
JAVS Javornik 11.96 327 *i* Pn **Pn 14 32 03.0 +2.6**
JAVS *i* Sn **Sn 14 34 10.9 -2.3**
PERS Pernice 12.13 332 *i* Pn **Pn 14 32 05.2 +2.6**
PERS *i* Sn **Sn 14 34 14.4 -2.9**
MOA Molln 13.46 333 *e*Pn **Pn 14 32 24.4 +3.6**
comp=E,1.2nm,0.3s
MOA Sn **Sn 14 34 54.2 +4.3**
comp=E,0.2nm,0.2s
FUORN Ofenpass-Fuorn 14.29 321 *e*Pn **Pn 14 32 36.0 +3.6**
GERES GERESS Array B 14.50 334 Pn **Pn 14 32 37.6 +2.5**
comp=E,0.1nm,0.3s,baz=159,slow=15,SNR=2.7
TUE Stuetta 14.67 319 *e*Pn **P 14 32 41.6 -2.1**
AKASG Malin Array Be 15.15 15 Pn **Pn 14 32 44.2 +0.4**
comp=E,1.0nm,0.3s,baz=206,slow=10,SNR=4.1
CLL Collm 16.84 337 *e*P **Pn 14 33 06.0 +0.5**
CLL *e*pP **sP 14 33 15.0 +0.4**
CLL *e*sP pP 14 33 24.0 +12
ESDC Sonseca Array 21.75 288 P **P 14 34 01.3 -0.1**
comp=E,0.5nm,0.4s,baz=80,slow=10,SNR=9.3
HFS Hagfors 24.78 349 P **P 14 34 31.0 -0.3**
comp=E,2.4nm,0.4s,baz=158,slow=12,SNR=12
HFS LR LR 14 45 40.1
comp=E,45nm,19.4s,baz=116,slow=40
FIA0 FINESS Array S 25.37 3 *e*P **P 14 34 36.5 -0.1**
FINES FINESS Array B 25.37 3 P **P 14 34 36.4 -0.1**
comp=E,1.4nm,0.8s,baz=173,slow=13,SNR=3.6
FINES LR LR 14 45 37.7
comp=E,77nm,18.3s,baz=209,slow=39
NOA NORSAR Array B 26.06 347 LR LR 14 45 51.8
comp=E,35nm,18.8s,baz=150,slow=38
EKA Eskdalemuir Ar 26.35 325 P **P 14 34 46.5 +0.9**
comp=E,2.0nm,0.5s,baz=128,slow=8.3,SNR=6.5
AKTO Aktyubinsk 28.72 49 LR LR 14 47 38.3
comp=E,26nm,21.0s,baz=209,slow=39
TOA1 Torodi Ar. Sit 30.03 226 *e*P **P 14 35 18.8 +0.1**
TORD Torodi Ar. Bea 30.03 226 P **P 14 35 18.8 0.0**
comp=E,2.3nm,0.7s,baz=28,slow=9.4,SNR=14
ARCES ARCESS Array B 33.46 1 P **P 14 35 48.9 +0.6**
comp=E,1.4nm,0.9s,baz=201,slow=7.4,SNR=3.1
DBIC Dimbokro 39.05 228 *e*P **P 14 36 38.0 +1.3**
comp=E,65nm,2.0s
DBIC Dimbokro 39.05 228 P **P 14 36 37.1 +0.4**
comp=E,3.7nm,0.7s,baz=18,slow=9.6,SNR=4.6
MK31 Makanchi Array 44.50 57 *e*P **P 14 37 20.4 -0.7**
comp=E,1.6nm,0.6s
MKAR Makanchi Array 44.50 57 *e*P **P 14 37 20.3 -0.8**
MKAR Makanchi Array 44.50 57 P **P 14 37 20.9 -0.2**
comp=E,1.8nm,0.5s,baz=279,slow=6.9,SNR=23
ZAA1 Zalesovo Array 45.42 47 *e*P **P 14 37 27.4 -0.9**
ZALV Zalesovo Beam 45.42 47 P **P 14 37 27.4 -0.9**
comp=E,0.9nm,0.3s,baz=263,slow=7.3,SNR=4.3
WMQ Urumqi 48.82 60 *e*P **P 14 37 56.3 +1.3**
WMQ sP sP 14 38 18.3 +16
LZH Lanzhou 63.12 64 *e*P **P 14 39 35.4 -2.2**
LZH pP sP 14 39 48.6 +3.4
LZH sP pP 14 39 53.8 +11
LZH *e*PP **PP 14 41 55.5 -0.8**
CD2 Chengdu 65.45 69 *e*P **P 14 39 50.3 -2.5**
HHC Hu-ho-hao-te 66.34 56 *e*P **P 14 39 58.3 -0.2**
KMI Kunming 67.52 75 P **P 14 40 03.6 -2.8**
KLR Kul'dur 74.00 40 LR LR 15 18 09.2
comp=E,27nm,19.9s,baz=30,slow=40
YKA Yellowknife Ar 76.03 341 P **P 14 40 55.2 -1.4**
comp=E,0.3nm,0.7s,baz=53,slow=6.7,SNR=3.6
YKB5 Yellowknife Ar 76.03 341 *e*P **P 14 40 55.2 -1.4**
KS15 Wonju Array Si 78.85 52 *e*P **P 14 41 12.8 0.0**
comp=E,20m,1.4s
KSAR Wonju Array Be 78.85 52 P **P 14 41 12.8 0.0**
KSRS Korea Array 78.87 52 P **P 14 41 12.8 -0.1**
comp=E,0.8nm,0.5s,baz=299,slow=4.2,SNR=4.4

*IDC **22** 14:33:47.2±1.3,59°.55S×27°.41W,h164km±10km,mb4.3/14, mb1 4.3/15,mb1mx4.2/26,mbtmp4.7/15,MS3.4/1, Ms1 3.6/1,ms1mx2.9/17,Error ellipse: s-maj=13.6km s-min=10.7km az=35.0*
*ISCJB **22** 14:33:49.3±0.4,59°.63S±0°.05×27°.4W±0°.1,h200km, mb4.4/21,Error ellipse: s-maj=11.5km s-min=5.3km az=151.6*
*NEIC **22** 14:33:51.2±2.1,59°.56S×27°.46W,h205km±18km,mb4.4/14, Error ellipse: s-maj=9.1km s-min=7.0km az=208.0*
ISC 22 14:33:50.6±0.3,59°.74S±0°.07×27°.35W±0°.09,h200km,n81, σ1°68/107**,mb4.4/21,1C-1D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.47**	**152**	P	**P**	**14 36 55.3**	**-0.7**
VNA1				S	**S**	**14 39 21.5**	**-1.8**
VNA3	**Neumayer Olymp**	**13.59**	**155**	P	**Pn**	**14 36 53.3**	**-1.7**
VNA3				S	**S**	**14 39 21.7**	**-4.4**
VNA2	**Neumayer--Watz**	**13.87**	**152**	P	**P**	**14 36 59.3**	**-1.3**
baz=312,slow=16
VNA2 S **S 14 39 29.1 -3.5**
baz=308,slow=21
SNAA Sanae 15.47 151 P **P 14 37 17.8 -0.4**
SNAA S **S 14 40 08.7 -0.8**
SNAA Sanae 15.47 151 *e*PcP **PcP 14 42 08.4 +1.7**
SNAA *e*ScP **ScP 14 45 27.7 +6.2**
SNAA Sanae 15.47 151 P **Pn 14 37 16.9 -1.2**
0.7nm,0.3s,baz=303,slow=12,SNR=59
SNAA S **S 14 40 08.2 -1.3**
0.1nm,0.3s,baz=313,slow=19,SNR=2.0
SNAA PcP **PcP 14 42 08.5 +1.8**
0.3nm,0.3s,baz=269,slow=4.7,SNR=5.2
SNAA ScP **ScP 14 45 27.2 +5.7**
0.4nm,0.3s,baz=347,slow=3.5,SNR=26
USHA Ushuaia 22.46 264 P **P 14 38 31.8 -0.8**
41nm,0.8s,baz=116,slow=5.7,SNR=13
SYO Syowa Base 28.85 137 *e*P **P 14 39 26.8 -3.0**
PLCA Paso Flores 32.75 286 *e*P **P 14 40 03.2 -1.3**
6.4nm,1.2s
PLCA Paso Flores 32.75 286 P **P 14 40 03.0 -1.4**
2.8nm,0.7s,baz=155,slow=10,SNR=7.1
MAW Mawson 37.27 141 P **P 14 40 43.7 +1.2**
3.7nm,0.9s,baz=230,slow=6.4,SNR=13
MAW PcP **PcP 14 42 59.0 +1.8**
2.2nm,0.9s,baz=230,slow=11,SNR=4.2
CPUP Villa Florida 39.28 315 *e*P **P 14 40 58.4 -1.4**
9.4nm,0.7s
CPUP Villa Florida 39.28 315 P **P 14 40 58.5 -1.2**
12nm,0.6s,baz=154,slow=7.4,SNR=25
VNDA Vanda 42.87 183 P **P 14 41 30.9 +2.5**
2.0nm,0.6s,baz=189,slow=6.9,SNR=22
VNDA PcP **PcP 14 43 16.8 +1.6**
0.8nm,0.6s,baz=207,slow=3.4,SNR=4.1
VNDA ScP **ScP 14 46 53.2 +6.5**
0.7nm,0.7s,baz=207,slow=2.3,SNR=4.1
BOSA Boshof 47.06 73 P **P 14 42 01.8 -0.3**
9.2nm,0.5s,baz=209,slow=6.8,SNR=40
BOSA PcP **PcP 14 43 31.6 +0.9**
3.0nm,0.7s,baz=250,slow=1.2,SNR=3.2
GO01 Chusmiza 49.91 305 *e*P **P 14 42 24.2 -0.1**
21nm,1.6s
LBTB Lobatse 50.25 70 *e*P **P 14 42 26.2 -0.1**
16nm,0.8s
MNMC Minye Minye 50.56 305 *e*P **P 14 42 28.1 -0.8**
10nm,0.8s
TSUM Tsumeb 51.63 58 *e*P **P 14 42 36.9 +0.2**
7.2nm,0.8s
LPAZ La Paz 52.51 308 *e*P **P 14 42 43.2 -0.6**
4.0nm,0.8s
LPAZ La Paz 52.51 308 P **P 14 42 43.9 +0.1**
4.3nm,0.4s,baz=126,slow=5.4,SNR=28
LPAZ LR LR 15 09 55.3
comp=Z,38nm,18.2s,baz=152,slow=41
LSZ Lusaka 59.84 67 *e*P **P 14 43 35.0 -0.1**
14nm,0.8s
LSZ Lusaka 59.84 67 P **P 14 43 35.2 +0.1**
14nm,0.7s,baz=198,slow=6.8,SNR=25
OPO Ambohidratompo 66.36 86 P **P 14 44 19.7 +1.8**
4.9nm,0.8s,baz=202,slow=6.1,SNR=8.5
DBIC Dimbokro 68.58 24 *e*P **P 14 44 31.1 -0.4**
34nm,1.5s
DBIC Dimbokro 68.58 24 P **P 14 44 31.3 -0.3**
4.3nm,0.5s,baz=155,slow=5.1,SNR=6.9
TOA0 Torodi Ar. Sit 76.33 29 *e*P **P 14 45 17.7 +0.4**
27nm,0.7s
TORD Torodi Ar. Bea 76.33 29 P **P 14 45 16.7 -0.6**
20nm,0.5s,baz=200,slow=6.0,SNR=107
TOA1 Torodi Ar. Sit 76.33 29 *e*P **P 14 45 16.7 -0.6**
SDV Santo Domingo 76.59 316 *e*P **P 14 45 18.1 -0.9**
6.6nm,0.8s
NWAO Narrogin (SRO) 83.14 151 P **P 14 45 54.4 +0.6**
7.0nm,0.9s,baz=214,slow=3.6,SNR=3.9
STKA Stephens Creek 88.26 171 *e*P **P 14 46 20.1 +1.1**
7.4nm,1.9s
STKA Stephens Creek 88.26 171 P **P 14 46 20.3 +1.3**
2.1nm,0.6s,baz=175,slow=5.0,SNR=4.9
ASAR Alice Springs 95.48 163 P **P 14 46 53.0 +0.5**
1.9nm,0.6s,baz=181,slow=4.0,SNR=36
ASAR PKKPbc **PKKPbc 15 03 41.3 +1.2**
0.1nm,0.4s,baz=23,slow=2.6,SNR=4.1
AS31 Alice Springs 95.48 163 *e*P **P 14 46 53.2 +0.7**
0.9nm,0.6s
PDAR Pinedale Array 122.20 300 PKP **PKiKP 14 52 19.9 -1.0**
0.1nm,0.3s,baz=111,slow=4.9,SNR=2.7
HFS Hagfors 123.74 23 PKP **PKiKP 14 52 21.7 -1.3**
1.6nm,0.8s,baz=191,slow=5.9,SNR=4.1
CM31 Chiang Mai Arr 123.77 113 *e*PKPdf **PKiKP 14 52 24.7 +0.2**
CMAR Chiang Mai Arr 123.77 113 *e*PKPdf **PKiKP 14 52 24.7 +0.2**
CMAR Chiang Mai Arr 123.77 113 PKP **PKiKP 14 52 25.3 +0.8**
2.3nm,0.7s,baz=228,slow=3.8,SNR=15
FIA0 FINESS Array S 127.68 29 *e*PKPdf **PKiKP 14 52 30.6 -0.3**
FINES FINESS Array B 127.68 29 PKP **PKiKP 14 52 30.6 -0.3**
2.2nm,0.6s,baz=174,slow=1.4,SNR=15
AKTO Aktyubinsk 129.55 56 PKP **PKiKP 14 52 34.7 -0.3**
2.2nm,0.6s,baz=152,slow=2.3,SNR=9.5
KKAR Karatay Array 129.63 70 *e*PKPdf **PKiKP 14 52 34.8 -0.7**
AAK Ala-Archa 131.20 74 *e*PKPdf **PKiKP 14 52 37.8 -1.0**
ARCES ARCESS Array B 134.40 23 PKP **PKiKP 14 52 43.1 -1.2**
0.9nm,0.4s,baz=234,slow=1.5,SNR=10
ARCES SKPbc **SKPab 14 55 56.2 -0.7**
2.1nm,0.7s,baz=193,slow=3.5,SNR=6.6
CD2 Chengdu 136.63 109 Pdif **Pdif 14 49 55.8 +0.5**
MK32 Makanchi Array 138.03 75 *e*PKPdf **PKiKP 14 52 50.6 -1.7**
MKAR Makanchi Array 138.03 75 PKhKP **PKPpre** 14 52 40.1
0.4nm,0.5s,baz=237,slow=4.0,SNR=7.6
MKAR PKP **PKiKP 14 52 50.6 -1.7**
0.5nm,0.5s,baz=250,slow=3.6,SNR=4.8
MKAR SKPbc **SKiKP 14 56 08.6 -0.5**
0.7nm,0.7s,baz=230,slow=1.9,SNR=7.7
WMQ Urumqi 138.60 83 *e*P **PKiKP 14 52 52.8 -0.9**
YKA Yellowknife Ar 138.81 315 PKP **PKiKP 14 52 51.0 -2.4**
1.8nm,0.7s,baz=127,slow=2.3,SNR=24
YKA SKPbc **SKiKP 14 56 10.5 +0.5**
0.5nm,0.5s,baz=126,slow=2.8,SNR=7.0
YKA SKPab **SKPab 14 56 18.2 +1.6**
0.1nm,0.5s,baz=123,slow=3.8,SNR=4.2
YKB5 Yellowknife Ar 138.81 315 *e*PKPdf **PKiKP 14 52 51.0 -2.4**
YKW3 Yellowknife Ar 138.85 315 *e*PKPdf **PKiKP 14 52 50.9 -2.6**
LZH Lanzhou 140.88 105 ||PKP **PKiKP 14 52 58.3 -0.4**
LZH pPKP pPKPdf 14 53 40.3 -6.7
LZH sPKP 14 53 57.5
ZAA0 Zalesovo Array 143.95 68 *e*PKPdf **PKPdf 14 52 58.5 -2.1**
ZALV Zalesovo Beam 143.95 68 PKP **PKPdf 14 52 58.8 -1.8**
12nm,0.4s,baz=240,slow=3.7,SNR=47
ZALV SKP 14 56 16.8
0.3nm,0.4s,baz=186,slow=2.8,SNR=2.3
ZAA1 Zalesovo Array 143.95 68 *e*PKPdf **PKPdf 14 52 58.8 -1.8**
ZAA1 *e*PP **PP 14 56 16.8 -0.8**
INK Inuvik 148.53 317 *e*PKPbc **PKiKP 14 53 11.0 -2.2**
INK Inuvik 148.53 317 PKPbc **PKiKP 14 53 11.1 -2.1**
3.8nm,0.6s,baz=78,slow=2.3,SNR=18
DAWY Dawson 149.10 307 *e*PKPbc **PKiKP 14 53 12.7 -1.9**
BCAR Beaver Creek A 149.67 305 *e*PKPbc **PKiKP 14 53 14.6 -1.2**
SONA0 Songino Array 150.82 93 *e*PKPbc **PKiKP 14 53 19.0 +0.2**
SONA0 *e*PKPab **PKPab 14 53 27.2 +0.9**
SONM Songino Array 150.82 93 PKPbc **PKiKP 14 53 19.0 +0.2**
11nm,0.6s,baz=228,slow=1.7,SNR=16
SONM PKPab **PKPab 14 53 27.2 +0.9**
2.4nm,0.6s,baz=224,slow=6.0,SNR=3.5
DOT Dot Lake 150.84 305 *e*PKPbc **PKiKP 14 53 17.9 -0.3**
RIDG Independent Ri 151.20 305 *e*PKPbc **PKiKP 14 53 18.9 0.0**
NRIK Noril'sk 151.87 43 PKPbc **PKiKP 14 53 20.1 +0.1**
2.0nm,0.6s,baz=209,slow=2.0,SNR=5.1
PRP Porcupine Dome 152.07 308 *e*PKPbc **PKiKP 14 53 20.3 -0.5**
ILAR Eielson Array 152.39 306 PKP **PKPdf 14 53 14.9 +0.8**
0.3nm,0.7s,baz=108,slow=2.9,SNR=3.1
ILAR PKPbc **PKiKP 14 53 20.8 -0.5**
1.6nm,0.4s,baz=130,slow=1.4,SNR=20
ILAR PKPab **PKPab 14 53 32.1 -0.1**
0.7nm,0.7s,baz=72,slow=2.8,SNR=4.6
ILB Eielson Array 152.39 306 *e*PKPbc **PKiKP 14 53 20.6 -0.7**
KS15 Wonju Array Si 152.62 134 *e*PKPbc **PKiKP 14 53 23.6 +0.9**
KS15 *e*PKPab **PKPab 14 53 35.9 +2.0**
KSAR Wonju Array Be 152.62 134 *e*PKPbc **PKiKP 14 53 23.0 +0.4**
KSAR *e*PKPab **PKPab 14 53 35.7 +1.8**
KSRS Korea Array 152.65 134 PKPbc **PKiKP 14 53 23.6 +0.9**
1.4nm,0.8s,baz=207,slow=2.7,SNR=7.7
KSRS PKPab **PKPab 14 53 35.9 +1.9**
1.9nm,0.7s,baz=210,slow=4.2,SNR=8.7
CCB Clear Creek Bu 152.72 306 *e*PKPbc **PKiKP 14 53 21.1 -0.9**
CCB *e*PKPab **PKPab 14 53 32.8 -0.9**
MCK McKinley 152.91 304 *e*PKPbc **PKiKP 14 53 22.9 +0.5**
MDM Murphy Dome 152.99 306 *e*PKPab **PKPab 14 53 34.0 -0.8**
BPAW Bear Paw Mtn. 153.88 304 *e*PKPbc **PKiKP 14 53 24.2 -0.3**
MLY Manley 154.04 306 *e*PKPab **PKPab 14 53 38.4 -0.9**
CAST Castle Rocks 154.15 302 *e*PKPab **PKPab 14 53 39.1 -0.6**
TOLK Toolik Lake Re 154.33 314 *e*PKPbc **PKiKP 14 53 25.3 0.0**
IMAR Indian Mountai 155.47 307 *e*PKPab **PKPab 14 53 45.0 -0.4**
PET Petropavlovsk 172.49 209 *e*PKPab **PKPab 14 55 02.4 +2.0**

*IDC **22** 14:38:50.1±1.0,34°.60N×26°.72E,h0km,mb3.8/9,*
mb1 3.7/14,mb1mx3.6/43,mbtmp3.7/14,ML3.6/4,MS3.1/1, Ms1 3.1/1,ms1mx2.3/43,Error ellipse: s-maj=22.4km s-min=14.3km az=7.0
*ISCJB **22** 14:38:51.9±1.1,34°.40N±0°.05×26°.60E±0°.03,h21km±7km, mb3.6/9,Error ellipse: s-maj=7.9km s-min=4.6km az=176.4*
*ISK **22** 14:38:53.3,34°.55N×26°.59E,h14km,ML3.3/12*
*ATH **22** 14:38:54.2,34°.61N×26°.56E,h29km±3km,ML3.1/4,Error ellipse: s-maj=6.5km s-min=2.2km az=348.0*
*THE **22** 14:38:57.0,34°.71N×26°.43E,h3km±2km,ML3.0/8,Error ellipse: s-maj=2.0km s-min=1.0km az=188.0*
*DDA **22** 14:39:10.5,35°.58N×27°.66E,h27km±3km,ML3.2*
ISC 22 14:38:52.0±1.6,34°.52N±0°.06×26°.61E±0°.03,h14km±9km, n77,σ1°80/89**,mb3.8/9,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.68**	**331**	PG	**Pg**	**14 39 05.9**	**+0.7**
ZKR				SG	**Sb**	**14 39 15.8**	**+0.9**
ZKR	**Zakros**	**0.68**	**331**	P	**Pg**	**14 39 05.8**	**+0.5**
ZKR				S	**Sg**	**14 39 12.5**	**-1.7**
ZKR	**Zakros**	**0.68**	**331**	P	**Pg**	**14 39 05.8**	**+0.5**
ZKR				S	**Sb**	**14 39 15.6**	**+0.7**
ZKR				AML	AML	14 39 26.7	
comp=N,2229μm,0.5s
ZKR AML AML 14 39 28.6
comp=E,5841μm,0.7s
STIA Sitia Lasithi 0.80 328 P **Pg 14 39 08.0 +0.4**
STIA S **Sg 14 39 17.1 -1.1**
NPS Neapolis 1.10 312 P **Pb 14 39 13.7 +0.8**
NPS S **Sb 14 39 27.3 0.0**
NPS Neapolis 1.10 312 P **Pb 14 39 13.8 +0.8**
NPS AML AML 14 39 33.4
comp=E,2165μm,0.5s
NPS AML AML 14 39 37.7
comp=N,1755μm,0.5s
KARP Karpathos 1.12 24 PN **Pn 14 39 15.4 +2.1**
KARP Karpathos 1.12 24 P **Pn 14 39 16.2 +2.8**
KARP S **Sn 14 39 31.7 +3.1**
KARP Karpathos 1.12 24 P **Pn 14 39 15.4 +2.1**
KARP AML AML 14 39 42.4
comp=N,1452μm,0.5s
KARP AML AML 14 39 48.9
comp=E,1678μm,0.6s
LAST Lasithi 1.13 305 P **Pb 14 39 13.5 +0.1**
LAST S **Sb 14 39 27.1 -0.9**
LAST Lasithi 1.13 305 P **Pb 14 39 13.5 +0.1**
LAST S **Sn 14 39 29.6 +0.6**
LAST AML AML 14 39 42.0
comp=N,2070μm,0.8s
LAST AML AML 14 39 43.3
comp=E,1918μm,0.7s
KSTL Kastelli Herak 1.49 302 P **Pn 14 39 16.7 -1.7**
SIVA Sivas 1.56 289 P **Pb 14 39 21.8 +1.0**
SIVA S **Sn 14 39 39.9 +0.4**
SIVA Sivas 1.56 289 P **Pb 14 39 22.0 +1.2**
IDI Anoyia 1.61 299 Pn **Pb 14 39 22.5 +0.9**
comp=E,8.6nm,0.3s,baz=129,slow=13,SNR=33
IDI Sn **Sg 14 39 44.9 +1.0**
comp=E,16nm,0.3s,baz=47,slow=18,SNR=9.0
ANAF Anafi Island 1.96 340 P **Pn 14 39 26.2 +1.4**
ANAF S **Sn 14 39 49.9 +0.7**
ANAF Anafi Island 1.96 340 P **Pn 14 39 26.2 +1.4**
SANT Santorini 2.07 333 PN **Pn 14 39 28.1 +1.7**
SANT Santorini 2.07 333 P **Pn 14 39 28.2 +1.7**
ARG Arkhangelos 2.10 36 PN **Pn 14 39 29.1 +2.4**
ARG Arkhangelos 2.10 36 P **Pb 14 39 29.9 0.0**
ARG S **Sb 14 39 56.3 +0.6**
ARG Arkhangelos 2.10 36 P **Pb 14 39 29.9 0.0**
GVD Gavdhos 2.10 279 PN **Pn 14 39 28.8 +1.9**
NISR Nisiros 2.13 11 P **Pb 14 39 29.8 -0.6**
NISR S **Sb 14 39 55.8 -0.9**
NISR Nisiros 2.13 11 P **Pn 14 39 28.4 +1.2**
THR5 Thira Island, 2.15 332 P **Pn 14 39 29.8 +2.2**
VAM Vamos 2.17 295 P **Pn 14 39 30.5 +2.7**
VAM Vamos 2.17 295 P **Pn 14 39 30.0 +2.2**
DAT Datca 2.34 19 PN **Pn 14 39 32.1 +1.9**
DAT Datca 2.34 19 IAML_P
comp=Z,399nm,0.2s
DAT *i* P **Pn 14 39 32.2 +2.0**
IMMV Iera Moni Meta 2.35 294 PN **Pn 14 39 32.7 +2.4**
IMMV Iera Moni Meta 2.35 294 P **Pn 14 39 33.1 +2.8**
IMMV Iera Moni Meta 2.35 294 P **Pn 14 39 32.9 +2.6**
AMGA Amorgos Island 2.38 346 P **Pn 14 39 32.7 +2.0**
AMGA Amorgos Island 2.38 346 P **Pn 14 39 31.7 +1.0**
BODT Bodrum 2.60 12 PN **Pn 14 39 35.8 +2.1**
APE Apeiranthos 2.69 341 PN **Pn 14 39 36.3 +1.3**
APE Apeiranthos 2.69 341 P **Pn 14 39 36.2 +1.3**
DALY Dalyan (Mula) 2.83 35 PN **Pn 14 39 39.4 +2.6**
DALY Dalyan (Mula) 2.83 35 IAML_P
comp=Z,2μm,0.3s
DALY *i* P **Pn 14 39 40.2 +3.4**
TURN Turunc 2.85 34 PN **Pn 14 39 35.8 -1.3**
TURN Turunc 2.85 34 IAML_P
comp=Z,1μm,0.2s
TURN *i* P **Pn 14 39 35.2 -1.9**
FETY Fethiye 2.92 43 PN **Pn 14 39 39.8 +1.7**
FETY Fethiye 2.92 43 IAML_P
comp=Z,4μm,0.2s
FETY *i* P **Pn 14 39 40.5 +2.4**
KSL Kastellorizon 2.92 55 P **Pn 14 39 39.9 +1.8**
AKAS Kas 2.98 54 PN **Pn 14 39 40.9 +1.8**
AKAS Kas 2.98 54 IAML_P
comp=Z,4μm,0.3s
AKAS *i* P **Pn 14 39 41.4 +2.3**
ANKY Antikythira Is 3.03 297 P **Pn 14 39 41.6 +2.1**
AYDN Tasoluk 3.30 18 IAML_P
comp=Z,570nm,0.3s
AYDN *i* P **Pn 14 39 46.7 +3.4**
KYTH Kithira 3.39 302 P **Pn 14 39 45.8 +1.2**
TAVA DENIZLI_Tavas 3.48 32 IAML_P
comp=Z,869nm,0.2s
TAVA *i* P **Pn 14 39 48.5 +2.6**
ELL Elmali 3.48 49 PN **Pn 14 39 48.7 +2.7**
AKUM Antalya-Kumluc 3.54 58 *i* P **Pn 14 39 47.6 +1.1**
VLI Veliai 3.71 307 P **Pn 14 39 49.7 +0.8**
CHOS Chios island 3.88 354 P **Pn 14 39 52.7 +1.3**
KORT Korkueli 3.92 50 PN **Pn 14 39 54.9 +2.9**
KORT Korkueli 3.92 50 *i* P **Pn 14 39 54.8 +2.8**
DID Didima 4.04 318 P **Pn 14 39 54.8 +1.2**
DYR Agios Nikonas 4.14 304 P **Pn 14 39 56.7 +1.9**
KHAL Karahalli 4.49 30 IAML_P
comp=Z,274nm,0.2s
KHAL *i* P **Pn 14 40 01.4 +1.6**
GAZI Gazipasa 4.96 68 *i* P **Pn 14 40 06.3 +0.1**
MMAI Mount Meron Ar 7.47 99 Pn **Pn 14 40 38.6 -2.1**
comp=Z,1.4nm,0.3s,baz=307,slow=10,0,SNR=3.5
BRTR Keskin Array B 7.65 45 Pn **Pn 14 40 41.8 -1.4**
comp=Z,0.1nm,0.3s,baz=230,slow=9.4,SNR=2.9
EIL Elat 8.57 122 Pn **Pn 14 40 55.6 -0.1**
comp=Z,0.6nm,0.3s,baz=324,slow=3.6,SNR=9.9
MLR Muntele Rosu 10.97 358 LR LR 14 46 18.8
comp=Z,98nm,18.3s,baz=224,slow=41
VYHS Vyhne 15.11 340 *e*PN **Pn 14 42 19.8 -5.3**
AKASG Malin Array Be 16.28 6 Pn **Pn 14 42 38.4 -1.8**
baz=196,slow=12,SNR=1.9
GERES GERESS Array B 17.22 330 Pn **Pn 14 42 53.4 +1.2**
comp=Z,0.2nm,0.3s,baz=141,slow=10,SNR=5.1
ESDC Sonseca Array 24.86 291 P **P 14 44 13.6 -0.6**
comp=Z,2.0nm,0.4s,baz=82,slow=9.3,SNR=3.7
GEYT Alibeck 25.58 73 P **P 14 44 19.4 -1.4**
comp=Z,1.5nm,0.4s,baz=273,slow=11,SNR=3.3
FINES FINESS Array B 26.94 359 P **P 14 44 31.3 -1.4**
comp=Z,1.7nm,0.7s,baz=167,slow=15,SNR=3.4
HFS Hagfors 26.98 346 P **P 14 44 32.4 -0.7**
comp=Z,1.1nm,0.6s,baz=195,slow=16,SNR=2.6
TORD Torodi Ar. Bea 31.02 233 P **P 14 45 10.0 +0.6**
comp=Z,0.3nm,0.3s,baz=36,slow=8.4,SNR=6.0
ARCES ARCESS Array B 35.07 359 P **P 14 45 42.2 -2.1**
comp=Z,0.7nm,0.6s,baz=183,slow=8.5,SNR=5.0
MKAR Makanchi Array 43.13 56 P **P 14 46 52.4 +0.4**
comp=Z,0.4nm,0.3s,baz=284,slow=6.1,SNR=11
ZALV Zalesovo Beam 44.59 46 P **P 14 47 03.6 +0.1**
comp=Z,0.6nm,0.4s,baz=251,slow=9.2,SNR=3.5
KSRS Korea Array 77.72 53 P **P 14 50 48.8 +0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.72**	**16**	P	**Pb**	**14 45 31.6**	**+0.1**
JYNG				S	**Sg**	**14 45 39.9**	**-0.2**
YOJ	**Yonaguni jima**	**0.75**	**20**	*eP*	**Pb**	**14 45 32.3**	**+0.2**
YOJ	baz=35			S	**Sg**	**14 45 40.8**	**-0.3**
YOJ	**Yonaguni jima**	**0.75**	**20**	P	**Pb**	**14 45 32.2**	**+0.2**
YOJ	baz=35			*eS*	**Sg**	**14 45 40.7**	**-0.3**
EOS1	**EOS1**	**0.96**	**326**	*eP*	**Pn**	**14 45 36.5**	**0.0**
EOS1	baz=335			*eS*	**Sb**	**14 45 48.7**	**+0.4**
HATJ	**Hateruma jima**	**1.03**	**73**	P	**Pn**	**14 45 37.6**	**+0.1**
HATJ				*eS*	**Sb**	**14 45 51.0**	**+0.4**
TWD	**Chiawan**	**1.08**	**288**	*eP*	**Pb**	**14 45 37.9**	**+0.2**
TWD	baz=271			*eS*	**Sg**	**14 45 51.8**	**+0.2**
IRIF	**Iriomote-Funau**	**1.08**	**58**	P	**Pn**	**14 45 38.3**	**+0.1**
IRIF				*eS*	**Sb**	**14 45 52.0**	**0.0**
ENA	**Nanau**	**1.12**	**307**	*eP*	**Pn**	**14 45 38.8**	**+0.1**
TWC	baz=306 **Suao**	**1.17**	**317**	P	**Pg**	**14 45 39.6**	**+0.4**
ESL	baz=317 **Shilin**	**1.18**	**273**	*eP*	**Pb**	**14 45 39.3**	**-0.2**
ESL	baz=269			*eS*	**Sb**	**14 45 53.9**	**-1.0**
ETLH	**Xiulin Townshi**	**1.22**	**292**	*eP*	**Pg**	**14 45 40.5**	**+0.2**
HGSD	baz=290 **Ruisui**	**1.22**	**258**	*eP*	**Pn**	**14 45 40.0**	**-0.1**
HGSD	baz=253			*eS*	**Sb**	**14 45 55.7**	**-0.2**
JKRS	**Kuro-shima**	**1.27**	**68**	P	**Pg**	**14 45 41.5**	**+0.3**
JKRS				*eS*	**Sn**	**14 45 57.8**	**-0.1**
EGS	baz=327	**1.30**	**326**	*eP*	**Pg**	**14 45 42.0**	**+0.2**
EHY	**Hungye**	**1.31**	**259**	*eP*	**Pn**	**14 45 41.6**	**+0.3**
EHY	baz=255			*eS*	**Sb**	**14 45 57.3**	**-1.2**
YULB	**Yu-li**	**1.36**	**255**	*eP*	**Pn**	**14 45 42.2**	**+0.2**
YULB	baz=250			*eS*	**Sb**	**14 45 58.6**	**-1.3**
TWE	baz=250 **Neicheng**	**1.36**	**315**	*eP*	**Pg**	**14 45 43.2**	**+0.3**
TWE	baz=315			*eS*	**Sb**	**14 45 58.1**	**-1.9**
NTC	**Toucheng**	**1.36**	**323**	P	**Pg**	**14 45 43.2**	**+0.2**
TWF1	baz=324 **Yuli**	**1.37**	**253**	*eP*	**Pn**	**14 45 42.7**	**+0.5**
ENTT	baz=238 **Nioudou**	**1.38**	**310**	P	**Pg**	**14 45 43.3**	**+0.1**
WHF	baz=309 **Hehuan Shan**	**1.39**	**286**	*eP*	**Pn**	**14 45 42.7**	**-0.1**
NDT	baz=270 **Datong Townshi**	**1.39**	**308**	*eP*	**Pb**	**14 45 43.2**	**+0.2**
NDT	baz=307			*eS*	**Sb**	**14 46 00.6**	**-0.3**
NNSB	**Datong**	**1.40**	**299**	*eP*	**Pb**	**14 45 43.3**	**+0.2**
NNSB	baz=298			*eS*	**Sb**	**14 45 60.0**	**-1.2**
SLBB	**Yuanshan**	**1.40**	**315**	*eP*	**Pg**	**14 45 43.8**	**+0.1**
CHKT	baz=315 **Chengkung**	**1.41**	**243**	*eP*	**Pn**	**14 45 42.5**	**-0.2**
NNS	baz=239 **Nan Shan**	**1.41**	**299**	*eP*	**Pb**	**14 45 43.5**	**+0.1**
NNS	baz=298			*eS*	**Sn**	**14 46 00.2**	**-1.4**
TWB1	**Santiao Chiao**	**1.42**	**332**	*eP*	**Pg**	**14 45 43.9**	**-0.1**
JIJ	baz=333 **Ishigaki jima**	**1.43**	**65**	P	**Pb**	**14 45 43.7**	**0.0**
JIJ				*eS*	**Sn**	**14 46 01.4**	**-0.5**
OWD	**Renai**	**1.43**	**278**	*eP*	**Pb**	**14 45 44.0**	**+0.3**
CHGB	baz=276 **Renai**	**1.45**	**282**	*eP*	**Pn**	**14 45 43.9**	**+0.4**
VWDT	baz=268 **VWDT**	**1.45**	**270**	*eP*	**Pn**	**14 45 43.8**	**+0.6**
VWDT	baz=255			*eS*	**Sn**	**14 46 02.3**	**-0.1**
TIPB	**Shuangxi**	**1.46**	**326**	*eP*	**Pb**	**14 45 44.5**	**+0.3**
YHNB	baz=326 **Yeheng**	**1.53**	**307**	*eP*	**Pb**	**14 45 45.6**	**+0.2**
YHNB	baz=306			*eS*	**Sn**	**14 46 04.0**	**-0.5**
NSK	**Sanguang**	**1.55**	**307**	*eP*	**Pb**	**14 45 45.3**	**-0.4**
NSK	baz=306			*eS*	**Sn**	**14 46 04.5**	**-0.4**
NWF	**Wu-fen Shan**	**1.56**	**327**	*eP*	**Pg**	**14 45 46.5**	**-0.3**
WFSB	baz=327 **Wu-fen Shan**	**1.56**	**327**	*eP*	**Pg**	**14 45 46.5**	**-0.3**
ELDTW	baz=327 **Lidau**	**1.67**	**250**	*eP*	**Pn**	**14 45 46.5**	**+0.2**
ELDTW	baz=246			*eS*	**Sn**	**14 46 07.7**	**-0.2**
JISG	**Ishigakijimahi**	**1.67**	**60**	P	**Pn**	**14 45 46.7**	**+0.5**
JISG				S	**Sn**	**14 46 06.5**	**-1.3**
SMLT	**Sun Moon Lake**	**1.68**	**275**	*eP*	**Pn**	**14 45 47.4**	**+0.9**
WHP	baz=261 **Taichung City**	**1.71**	**288**	*eP*	**Pb**	**14 45 47.9**	**-0.5**
TYC	baz=275 **Yuchr**	**1.72**	**275**	*eP*	**Pn**	**14 45 47.7**	**+0.9**
YM07	baz=261 **YM07**	**1.73**	**325**	*eP*	**Pg**	**14 45 50.9**	**+0.8**
YM01	baz=325 **YM01**	**1.74**	**323**	*eP*	**Pb**	**14 45 49.6**	**+0.7**
YM11	baz=323 **YM11**	**1.75**	**323**	*eP*	**Pb**	**14 45 49.7**	**+0.5**
TWGBT	baz=324 **Beinan**	**1.78**	**239**	*eP*	**Pn**	**14 45 48.2**	**+0.4**
TWGBT	baz=235			*eS*	**Sn**	**14 46 10.6**	**+0.2**
TWG	**Pinlang**	**1.78**	**239**	*eP*	**Pn**	**14 45 48.2**	**+0.4**
TWG	baz=235			*eS*	**Sn**	**14 46 10.3**	**-0.3**
LIOB	baz=235 **Emei**	**1.79**	**300**	*eP*	**Pb**	**14 45 49.4**	**-0.4**
TWQ1	baz=299 **Liyutan**	**1.88**	**289**	*eP*	**Pn**	**14 45 50.3**	**+1.2**
TPUB	baz=287 **Ta-pu**	**1.98**	**257**	*eP*	**Pb**	**14 45 52.3**	**-0.7**
TPUB	baz=245			*eS*	**Sn**	**14 46 16.2**	**+0.8**
CHN4	**Tsaushan**	**2.00**	**259**	*eP*	**Pb**	**14 45 53.0**	**-0.3**
CHN4	baz=244			*eS*	**Sn**	**14 46 17.1**	**+1.2**
WTP	baz=244 **Ta-pu**	**2.00**	**256**	*eP*	**Pb**	**14 45 52.8**	**-0.6**
WTP	baz=252			*eS*	**Sn**	**14 46 16.5**	**+0.3**
JTJ	baz=252 **Tarama**	**2.01**	**64**	P	**Pb**	**14 45 53.1**	**-0.4**
SLGT	**Liugui**	**2.06**	**249**	*eP*	**Pb**	**14 45 53.6**	**-0.7**
CHN1	baz=237 **Nanshi**	**2.10**	**255**	*eP*	**Pb**	**14 45 54.1**	**-0.9**
CHN1	baz=251			*eS*	**Sn**	**14 46 18.5**	**+0.1**
SSD	baz=251 **Sandimen**	**2.17**	**243**	*eP*	**Pn**	**14 45 55.1**	**+2.0**
SSD	baz=233			*eS*	**Sn**	**14 46 21.3**	**+1.1**
EAST	baz=233 **Anshuo**	**2.20**	**232**	*eP*	**Pn**	**14 45 54.6**	**+0.9**
MASBT	baz=240 **Mashibuluo**	**2.24**	**240**	*eP*	**Pn**	**14 45 55.5**	**+1.4**
MASBT	baz=229			*eS*	**Sn**	**14 46 23.6**	**+1.8**
SSPT	baz=229 **Xinbi**	**2.35**	**238**	*eP*	**Pb**	**14 45 58.2**	**-1.2**
SCZT	baz=228 **Fangliau**	**2.38**	**235**	*eP*	**Pb**	**14 45 58.5**	**-1.3**
SCZT	baz=232			*eS*	**Sn**	**14 46 26.5**	**+1.2**
	baz=232						
PNG	**Penghu**	**2.91**	**267**	*eP*	**Pn**	**14 46 04.9**	**+1.6**
	baz=253						
VWUC	**VWUC**	**3.23**	**293**	*eP*	**Pn**	**14 46 08.5**	**+0.8**
	baz=292						
PTMZ	**Houxiangcun**	**3.52**	**292**	*eP*	**Pn**	**14 46 11.9**	**+0.2**
	baz=291						
KNMB	**Chin-men Tao**	**4.02**	**281**	*eP*	**Pn**	**14 46 19.3**	**+0.6**
	baz=279						

*EAF **22** 15:02:04.7±0.9, 15°.08S×27°.07E, h0km±35km, MD3.8*
ISC 22 15:02:00.6±1.2, 16°.06S±0°.06×27°.26E±0°.08, h10km, n8, σ1§22/14, Zambia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**1.18**	**49**	*i* P	**Pn**	**15 02 24.1**	**+0.8**
LSZ				*i* S	**Sn**	**15 02 39.4**	**-0.1**
LSZ	**Lusaka**	**1.18**	**49**	*i* P	**Pn**	**15 02 24.1**	**+0.8**
LSZ				*i* S	**Sn**	**15 02 39.4**	**-0.1**
MATP	**Matopo**	**4.50**	**165**	*i* P	**Pg**	**15 03 26.9**	**0.0**
MATP				*i* S	**Sg**	**15 04 27.2**	**+1.9**
MATP	**Matopo**	**4.50**	**165**	*i* P	**Pg**	**15 03 26.9**	**0.0**
MATP				*i* S	**Sg**	**15 04 27.2**	**+1.9**
MSNA	**Messina**	**6.78**	**158**	*i* P	**Pb**	**15 03 56.6**	**-2.0**
MSNA				*i* S	**Sb**	**15 05 19.6**	**-0.1**
MSNA	**Messina**	**6.78**	**158**	*i* P	**Pb**	**15 03 56.6**	**-2.0**
MSNA				*i* S	**Sb**	**15 05 19.6**	**-0.1**
TSUM	**Tsumeb**	**9.74**	**250**	*i* P	Pn	15 04 26.3	+5.3
TSUM				*i* S	**Sn**	**15 06 10.9**	**+0.2**
TSUM	**Tsumeb**	**9.74**	**250**	*i* P	Pn	15 04 26.3	+5.3
TSUM				*i* S	**Sn**	**15 06 10.9**	**+0.2**

*ISCJB **22** 15:08:18.9±1.1, 49°.4N±0°.2×152°.1E±0°.3, h250km, mb3.2/3, Error ellipse: s-maj=35.5km s-min=16.8km az=38.0*
*IDC **22** 15:08:21.3±2.0, 49°.47N×152°.39E, h266km±22km, mb3.1/3, mb1 3.1/6, mb1mx2.8/44, mbtmp3.7/6, Error ellipse: s-maj=32.2km s-min=21.0km az=109.0*
ISC 22 15:08:20.6±1.2, 49°.5N±0°.2×152°.3E±0°.2, h250km, n6, σ1§45/6, mb3.3/3, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.98**	**41**	P	**Pn**	**15 09 36.9**	**+0.9**
	0.2nm,0.3s,baz=214,slow=11,SNR=6.6						
ASAJ	**Asahikawa**	**8.53**	**235**	P	**Pn**	**15 10 22.1**	**+1.6**
	0.7nm,0.3s,baz=68,slow=13,SNR=8.6						
MJAR	**Matsushiro Arr**	**16.48**	**224**	P	**P**	**15 11 55.7**	**-1.1**
	0.1nm,0.3s,baz=18,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**45.22**	**295**	P	**P**	**15 16 13.0**	**+0.1**
	0.4nm,0.5s,baz=60,slow=8.2,SNR=6.8						
FINES	**FINESS Array B**	**61.32**	**334**	P	**P**	**15 18 08.2**	**-1.1**
	0.9nm,0.8s,baz=28,slow=9.5,SNR=3.9						
ASAR	**Alice Springs**	**74.64**	**197**	P	**P**	**15 19 31.7**	**-0.7**
	0.3nm,0.5s,baz=11,slow=5.7,SNR=9.9						

*NIC **22** 15:15:27.9±0.2, 35°.57N×33°.24E, h25km, ML2.9*
*ISCJB **22** 15:15:30.5±0.6, 35°.38N±0°.03×33°.19E±0°.06, h10km, Error ellipse: s-maj=7.1km s-min=4.3km az=20.6*
*ISK **22** 15:15:30.3, 35°.35N×33°.16E, h12km, ML1.9/8, Suspected Mining explosion.*
ISC 22 15:15:30.3±1.2, 35°.41N±0°.06×33°.20E±0°.06, h10km, n12, σ0§82/14, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKDN	**Akdeniz- Kıbrı**	**0.22**	**239**	PG	**Pg**	**15 15 34.6**	**-0.3**
MAMC	**Mammari**	**0.24**	**177**	P	**Pb**	**15 15 36.4**	**+1.1**
	baz=2.0						
LEF	**Lefka**	**0.39**	**221**	PG	**Pg**	**15 15 37.4**	**-0.6**
LEF				SG	**Sg**	**15 15 43.2**	**+0.1**
CSS	**Mathiatis**	**0.46**	**167**	PG	**Pg**	**15 15 38.9**	**-0.4**
CSS				SG	**Sg**	**15 15 45.2**	**-0.2**
ALFC	**Alefka**	**0.56**	**243**	P	**Pg**	**15 15 40.0**	**-1.1**
	baz=51						
ALFC				S	**Sg**	**15 15 49.3**	**+0.8**
SZAC	**Souni**	**0.71**	**202**	P	**Pg**	**15 15 42.3**	**-1.7**
	baz=19						
TEKE	**Tekeli-Mersin**	**0.73**	**354**	PG	**Pn**	**15 15 46.1**	**-0.6**
AKKU	**Akkuyu-Mersin**	**0.80**	**21**	PG	**Pn**	**15 15 47.4**	**-0.2**
IKL	**Isikli**	**0.91**	**25**	PG	**Pn**	**15 15 49.4**	**+0.2**
BERE	**Bereket-Mersin**	**0.93**	**1**	PG	**Pn**	**15 15 49.7**	**+0.1**
GAZI	**Gazipasa**	**1.09**	**319**	PN	**Pn**	**15 15 51.9**	**+0.2**
KEBE	**Keben-Mersin**	**1.11**	**22**	PN	Pn	15 15 53.4	+1.4

KRSC 22 15:50:32.5±10.0, 51°.53N×158°.46E, h54km±10km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.37**	**320**	*i* P	Pn	15 50 43.8	+1.2
KDTR				*eS*	Sn	15 50 50.5	+0.6
RUS	**Russkaya**	**0.91**	**2**	*eP*	Pn	15 50 50.2	+1.1
RUS				*eS*	Sn	15 51 01.8	+0.6
ASAK	**Asacha**	**0.92**	**338**	*eP*	Pn	15 50 51.3	+1.9
ASAK				*eS*	Sn	15 51 03.2	+1.4
MTVR	**Mutnovka**	**0.97**	**350**	*eP*	Pn	15 50 51.7	+1.6
MTVR				*eS*	Sn	15 51 04.1	+1.1
PAU	**Pauzhetka**	**1.03**	**267**	*eP*	Pn	15 50 52.8	+2.1
PAU				*eS*	Sn	15 51 06.2	+2.0
GRL	**Gorelyy**	**1.05**	**347**	*eP*	Pn	15 50 53.4	+2.3
GRL				*eS*	Sn	15 51 06.8	+1.9
KRMR	**Karymshinskiy**	**1.32**	**351**	*eP*	Pn	15 50 56.7	+2.1
KRMR				*eS*	Sn	15 51 13.7	+2.6
DALK	**Dalny**	**1.52**	**7**	*eP*	Pn	15 50 59.0	+1.8
DALK				*eS*	Sn	15 51 17.4	+1.6
APC	**Apacha**	**1.61**	**331**	*eP*	Pn	15 51 01.0	+2.5
UGLR	**Uglovaya**	**1.70**	**7**	*eP*	Pn	15 51 01.9	+2.1
SKR	**Severo-Kuril's**	**1.70**	**241**	*eP*	Pn	15 51 01.5	+1.7
SKR				*eS*	Sn	15 51 21.5	+1.1
AVH	**Avacha**	**1.75**	**5**	*eP*	Pn	15 51 03.0	+2.5
AVH				*eS*	Sn	15 51 25.2	+3.5
SMAR	**Somma**	**1.75**	**7**	*eP*	Pn	15 51 02.7	+2.1
KOK	**Koryaka**	**1.77**	**3**	*eP*	Pn	15 51 03.6	+2.8
SDLR	**Sedlovina**	**1.77**	**8**	*eP*	Pn	15 51 02.4	+1.6
KRER	**Koryakskii**	**1.79**	**6**	*eP*	Pn	15 51 03.6	+2.5
KRER				*eS*	Sn	15 51 24.7	+1.9
SPN	**Mys Shipunski**	**1.84**	**31**	*eP*	Pn	15 51 03.7	+2.0
SPN				*eS*	Sn	15 51 25.5	+1.7
ALID	**Alaid**	**1.95**	**251**	*eP*	Pn	15 51 05.2	+1.9
ALID				*eS*	Sn	15 51 27.3	+0.7
MKZ	**Mys Kozlova**	**3.62**	**32**	*eP*	Pn	15 51 29.0	+3.1
MKZ				*eS*	Sn	15 52 11.1	+3.8
KBTR	**Krutoberegovo**	**5.35**	**27**	*eP*	Pn	15 51 53.9	+4.2

*IDC **22** 16:09:11.9±2.0, 35°.63N×140°.57E, h58km±18km, mb3.5/9, mb1 3.6/14, mb1mx3.4/37, mbtmp3.7/14, MS2.4/2, Ms1 2.4/2, ms1mx2.1/25, Error ellipse: s-maj=17.7km s-min=14.6km az=68.0*
*ISCJB **22** 16:09:13.6±0.5, 35°.52N±0°.03×140°.16E±0°.05, h81km±3km, mb3.6/9, Error ellipse: s-maj=6.8km s-min=5.7km az=168.4*
*JMA **22** 16:09:14.4±0.2, 35°.58N×140°.13E, h71km±2km, M3.2*
ISC 22 16:09:13.9±0.8, 35°.61N±0°.05×140°.24E±0°.05, h76km±6km, n34, σ1§64/42, mb3.7/9, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.18**	**79**	P	**Pn**	**16 09 26.0**	**+0.8**
JSMT				*eS*	**Sn**	**16 09 35.5**	**+2.1**
JCN	**Nagara**	**0.19**	**188**	‖P	**Pn**	**16 09 25.5**	**+0.3**
JCN				S	**Sn**	**16 09 33.9**	**+0.4**
TOK	**Tokyo**	**0.40**	**282**	P	**Pn**	**16 09 26.9**	**+0.5**
TOK				S	**Sn**	**16 09 36.3**	**+0.7**
BSO3	**Boso 3**	**0.84**	**164**	P	**Pn**	**16 09 30.8**	**+0.3**
JOD2	**Odawara 2**	**1.00**	**250**	‖P	**Pn**	**16 09 32.0**	**-0.7**
JOD2				S	**Sn**	**16 09 44.5**	**-2.3**
JAG	**Ashikaga**	**1.03**	**322**	‖P	**Pn**	**16 09 33.5**	**+0.4**
JAG				S	**Sn**	**16 09 47.4**	**-0.1**
JIM2	**Oshima 3**	**1.11**	**217**	P	**Pn**	**16 09 33.1**	**-1.0**
JIM2				S	**Sn**	**16 09 47.0**	**-2.1**
BSO1	**Boso 1**	**1.13**	**147**	P	**Pn**	**16 09 34.2**	**+0.4**
JRY	**Ryogami san**	**1.16**	**291**	‖P	**Pn**	**16 09 35.2**	**+0.5**
JFNN	**Fujinakano**	**1.33**	**252**	P	**Pn**	**16 09 36.6**	**-0.3**
JFNN				S	**Sn**	**16 09 52.9**	**-1.3**
JYN	**Shimob**	**1.38**	**266**	‖P	**Pn**	**16 09 37.4**	**-0.2**
JYN				S	**Sn**	**16 09 54.4**	**-1.1**
JKT	**Katashina**	**1.41**	**326**	P	**Pn**	**16 09 38.5**	**+0.6**
JKT				*eS*	**Sn**	**16 09 56.6**	**+0.6**
JIZS	**Izushimoda**	**1.42**	**232**	‖P	**Pn**	**16 09 37.4**	**-0.7**
JIZS				S	**Sn**	**16 09 54.3**	**-2.0**
MJAR	**Matsushiro Arr**	**1.89**	**300**	P	**Pn**	**16 09 44.7**	**+0.5**
	3.9nm,0.3s,baz=44,slow=13,SNR=236						
MJAR				S	**Sn**	**16 10 09.6**	**+2.3**
	2.5nm,0.3s,baz=124,slow=22,SNR=6.1						
MJAR				LR	LR	16 10 52.4	
	comp=Z,68nm,21.8s,baz=90,slow=48						
MAT	**Matsushiro**	**1.89**	**300**	P	**Pn**	**16 09 45.1**	**+0.9**
MAT				S	**Sn**	**16 10 03.9**	**-3.4**
JHJ	**Hachijo jima 2**	**2.51**	**189**	P	**Pn**	**16 09 52.4**	**-0.2**
	26nm,0.3s,baz=158,slow=22,SNR=14						
JHJ				S	**Sn**	**16 10 19.4**	**-2.8**
	23nm,0.3s,baz=24,slow=20,SNR=6.1						
JNU	**Nakatsue**	**8.12**	**255**	P	**Pn**	**16 11 09.8**	**+0.7**
	0.2nm,0.3s,baz=157,slow=13,SNR=3.5						
JNU				LR	LR	16 14 28.3	
	comp=Z,31nm,20.8s,baz=118,slow=38						
ASAJ	**Asahikawa**	**8.69**	**11**	P	**Pn**	**16 11 13.9**	**-2.8**
	0.3nm,0.3s,baz=189,slow=19,SNR=3.3						
ASAJ				S	**Sn**	**16 12 49.5**	**-3.5**
	0.3nm,0.3s,baz=146,slow=17,SNR=2.4						
KSRS	**Korea Array**	**10.08**	**284**	P	**Pn**	**16 11 38.0**	**+2.3**
	0.0nm,0.3s,baz=107,slow=13,SNR=4.1						
MA2	**Magadan**	**24.95**	**13**	P	**P**	**16 14 30.7**	**+0.9**
	2.3nm,0.6s,baz=181,slow=13,SNR=6.6						
SONM	**Songino Array**	**27.83**	**307**	P	**P**	**16 14 56.7**	**+0.6**
	0.7nm,0.6s,baz=108,slow=9.3,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.30**	**117**	T	T	16 44 31.0	
	baz=309,slow=75,SNR=7.0						
H11N1	**WAKE ISLAND Hy**	**28.30**	**117**	T	T	16 44 33.8	
	baz=309,slow=75,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**28.31**	**117**	T	T	16 44 30.4	
	baz=309,slow=75,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**28.94**	**119**	T	T	16 45 12.5	
	baz=311,slow=74,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**28.94**	**119**	T	T	16 45 09.7	
	baz=311,slow=74,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**28.96**	**119**	T	T	16 45 08.4	
	baz=311						
ZALV	**Zalesovo Beam**	**42.19**	**314**	P	**P**	**16 16 59.4**	**+0.5**
	0.6nm,0.4s,baz=116,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**44.08**	**303**	P	**P**	**16 17 16.6**	**+2.2**
	1.2nm,0.8s,baz=87,slow=9.1,SNR=10						
ILAR	**Eielson Array**	**51.20**	**32**	P	**P**	**16 18 06.4**	**-2.7**
	0.2nm,0.5s,baz=253,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**59.26**	**187**	P	**P**	**16 19 07.5**	**+0.1**
	0.2nm,0.6s,baz=7.1,slow=13,SNR=7.1						
FINES	**FINESS Array B**	**69.63**	**332**	P	**P**	**16 20 16.2**	**+1.6**
	1.4nm,1.0s,baz=64,slow=8.7,SNR=3.4						
AKASG	**Malin Array**	**74.84**	**322**	P	**P**	**16 20 47.1**	**+1.2**
	0.8nm,0.4s,baz=48,slow=7.0,SNR=9.9						
TXAR	**Lajitas Array**	**91.75**	**52**	P	**P**	**16 22 10.8**	**-2.6**
	0.2nm,0.5s,baz=316,slow=6.3,SNR=2.8						

MAN 22 16:33:07.1, 7°.98N×123°.28E, h29km, mb3.9, ML2.7, MS2.3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.17**	**142**	*eP*	Pb	16 33 11.9	-1.0
PAGZ				*eS*	Sb	16 33 15.9	-0.9
DCPH	**Dipolog City**	**0.60**	**7**	‖*eP*	Pn	16 33 20.1	+0.3
DCPH				*eS*	Sn	16 33 28.0	-0.5
IPIL	**Ipil**	**0.73**	**255**	*eP*	Pn	16 33 21.7	+0.2
IPIL				*eS*	Sn	16 33 32.5	+0.9
CTBH	**Cotabato--PC H**	**1.22**	**128**	⇑*iP*	Pn	16 33 28.7	+0.5
CTBH				*i* S	Sb	16 33 44.5	-0.4
SNPH	**Sibulan**	**1.36**	**358**	‖*iP*	Pn	16 33 30.1	0.0
SNPH				*i* S	Sn	16 33 48.0	+0.8
CGP	**Cagayan de Oro**	**1.48**	**71**	*eP*	Pn	16 33 30.7	-1.1
CGP				*eS*	Sn	16 33 50.0	-0.2

*ISCJB **22** 16:42:15.2±1.6, 52°.35N±0°.05×160°.78E±0°.08, h3km±12km, mb3.5/2, MS2.7/1, Error ellipse: s-maj=9.7km s-min=6.8km az=143.5*
*IDC **22** 16:42:15.9±2.0, 52°.79N×160°.90E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.2/29, mbtmp3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/31, Error ellipse: s-maj=55.7km s-min=24.1km az=3.0*
*KRSC **22** 16:42:16.0±10.0, 52°.35N×160°.80E, h15km±10km, ML3.8*
ISC 22 16:42:16.6±2.8, 52°.38N±0°.06×160°.71E±0°.07, h12km±17km, n25, σ0§95/32, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.83**	**330**	*eP*	**Pb**	**16 42 31.9**	**-1.1**
SPN				*eS*	**Sb**	**16 42 44.0**	**-0.1**
NLC	**Nalytchevo**	**1.15**	**314**	*eP*	**Pn**	**16 42 37.4**	**-1.0**
NLC				*eS*	**Sb**	**16 42 53.7**	**+0.5**
RUS	**Russkaya**	**1.35**	**273**	*eP*	**Pb**	**16 42 41.5**	**-0.2**
RUS				*eS*	**Sb**	**16 42 59.9**	**+1.0**
DALK	**Dalny**	**1.36**	**299**	*eP*	**Pn**	**16 42 41.3**	**0.0**
DALK				*eS*	**Sn**	**16 42 59.3**	**0.0**
PET	**Petropavlovsk**	**1.41**	**298**	*eP*	**Pn**	**16 42 42.3**	**+0.3**
PET				*eS*	**Sb**	**16 43 01.2**	**+0.5**
UGLR	**Uglovaya**	**1.42**	**307**	*eP*	**Pb**	**16 42 42.9**	**-0.1**
AVH	**Avacha**	**1.49**	**307**	*eP*	**Pn**	**16 42 43.6**	**+0.4**
KRER	**Koryakskii**	**1.51**	**309**	*eP*	**Pb**	**16 42 44.5**	**-0.1**
MTVR	**Mutnovka**	**1.55**	**275**	*eP*	**Pb**	**16 42 45.0**	**-0.3**
MTVR				*eS*	**Sb**	**16 43 05.8**	**+0.8**
KOK	**Koryaka**	**1.56**	**307**	*eP*	**Pb**	**16 42 45.4**	**0.0**
KRX	**Arik**	**1.59**	**309**	*eP*	**Pn**	**16 42 44.9**	**+0.2**
KRMR	**Karymshinskiy**	**1.64**	**287**	*eP*	**Pn**	**16 42 45.6**	**+0.4**
KRMR				*eS*	**Sn**	**16 43 06.2**	**0.0**
KDTR	**Khodutka, Kamc**	**1.72**	**252**	*eP*	**Pn**	**16 42 46.4**	**+0.1**
ASAK	**Asacha**	**1.73**	**271**	*eP*	**Pb**	**16 42 48.1**	**-0.1**
ASAK				*eS*	**Sg**	**16 43 12.4**	**+0.4**
PETK	**Petropavlovsk-**	**1.97**	**293**	Pn	**Pn**	**16 42 50.5**	**+0.7**
	8.7nm,0.3s,baz=100,slow=20,SNR=40						
PETK				Sn	**Sb**	**16 43 16.5**	**-0.5**
	6.7nm,0.3s,baz=96,slow=17,SNR=6.9						
APC	**Apacha**	**2.23**	**286**	*eP*	**Pb**	**16 42 55.6**	**-1.2**
TUMD	**Tumrok D**	**2.83**	**356**	*eP*	**Pn**	**16 43 02.8**	**+1.1**
TUMD				*eS*	**Sn**	**16 43 38.1**	**+2.4**
TUMR	**Tumrok**	**2.93**	**354**	*eP*	**Pn**	**16 43 05.4**	**+2.4**
TUMR				*eS*	**Sb**	**16 43 42.6**	**-1.9**
ALID	**Alaid**	**3.56**	**247**	*eP*	**Pn**	**16 43 12.5**	**+0.8**
JNU	**Nakatsue**	**28.85**	**240**	LR	LR	16 59 33.4	
	comp=Z,17nm,18.1s,baz=178,slow=36						
**H11N

ASAR Alice Springs 19.94 149 P **P 16 56 18.6 -0.3**
0.1nm,0.3s,baz=326,slow=11,SNR=17
JHJ Hachijo jima 2 42.74 21 LR LR 17 17 29.5
comp=Z,408nm,19.4s,baz=94,slow=37
MKAR Makanchi Array 64.26 330 P **P 17 02 22.9 +0.7**
0.2nm,0.6s,baz=127,slow=8.3,SNR=3.5

KRSC ***22*** *16:55:55.6±10.0, 52°.27N×161°.06E, h43km±10km, ML4.7*
IDC ***22*** *16:55:56.4±0.6, 52°.62N×160°.75E, h0km, mb3.9/25, mb1 4.1/28, mb1mx4.1/38, mbtmp3.9/28, ML3.6/3, MS3.3/7, Ms1 3.4/7, ms1mx3.0/44, Error ellipse: s-maj=15.7km s-min=10.8km az=159.0*
ISCJB ***22*** *16:55:59.0±0.5, 52°.35N±0°.03×160°.90E±0°.04, h37km±3km, mb4.3/59, MS3.7/11, Error ellipse: s-maj=5.3km s-min=3.2km az=145.1*
MOS ***22*** *16:55:59.4±0.9, 52°.39N×160°.84E, h41km, mb4.6/21, Error ellipse: s-maj=6.6km s-min=3.8km az=98.8*
BJI ***22*** *16:55:59.1±0.0, 52°.57N×160°.60E, h40km, mb4.5/26, mB4.7/20, Ms4.4/14, Ms7 4.1/14*
NEIC ***22*** *16:56:00.7±1.7, 52°.48N×160°.76E, h33km±12km, mb4.6/25, Error ellipse: s-maj=7.1km s-min=4.2km az=161.0*
ISC 22 16:55:58.8±1.3, 52°.35N±0°.04×160°.84E±0°.03, h24km±9km, n216, σ1§49/246, mb4.4/59, MS3.7/12, 5C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res	ISC
SPN	**Mys Shipunski**	**0.90**	**327**	*eP*			**Pn**	**16 56 13.8**	**-2.1**	
SPN				*eS*			**Sn**	**16 56 26.1**	**-2.0**	
SPN	**Mys Shipunski**	**0.90**	**327**	PN			**Pn**	**16 56 13.8**	**-2.1**	
SPN				S			**Sn**	**16 56 26.1**	**-2.0**	
NLC	**Nalytchevo**	**1.22**	**313**	*eP*			**Pn**	**16 56 19.1**	**-1.3**	
NLC	**Nalytchevo**	**1.22**	**313**	PN			**Pn**	**16 56 19.1**	**-1.3**	
RUS	**Russkaya**	**1.43**	**274**	*eP*			**Pn**	**16 56 23.3**	**+0.1**	
RUS				*eS*			**Sn**	**16 56 41.5**	**+0.3**	
RUS	**Russkaya**	**1.43**	**274**	PN			**Pn**	**16 56 23.3**	**+0.1**	
RUS				S			**Sn**	**16 56 41.5**	**+0.3**	
DALK	**Dalny**	**1.44**	**299**	*eP*			**Pn**	**16 56 22.8**	**-0.5**	
DALK				*eS*			**Sn**	**16 56 42.0**	**+0.5**	
DALK	**Dalny**	**1.44**	**299**	PN			**Pn**	**16 56 22.8**	**-0.5**	
DALK				S			**Sn**	**16 56 42.0**	**+0.5**	
PET	**Petropavlovsk**	**1.49**	**298**	*e*Pn			**Pn**	**16 56 23.6**	**-0.4**	
PET	**Petropavlovsk**	**1.49**	**298**	*eP*			**Pn**	**16 56 23.9**	**-0.1**	
PET				*eS*			**Sn**	**16 56 43.5**	**+0.8**	
PET	**Petropavlovsk**	**1.49**	**298**K	*i*PN			**Pn**	**16 56 23.7**	**-0.3**	
PET				*eS*			**Sn**	**16 56 41.7**	**-1.0**	
PET					pmax		pmax			
	comp=Z,300nm,0.6s									
PET					pmax		pmax			
	comp=Z,379nm,0.5s									
PET					smax		smax			
	comp=E,4μm,0.6s									
PET					smax		smax			
	comp=N,5μm,0.7s									
UGLR	**Uglovaya**	**1.50**	**306**	*eP*			**Pn**	**16 56 24.0**	**-0.2**	
UGLR				*eS*			**Sn**	**16 56 44.4**	**+1.4**	
UGLR	**Uglovaya**	**1.50**	**306**	PN			**Pn**	**16 56 24.0**	**-0.2**	
UGLR				S			**Sn**	**16 56 44.4**	**+1.4**	
SDLR	**Sedlovina**	**1.51**	**309**	*eP*			**Pn**	**16 56 23.9**	**-0.5**	
SDLR				*eS*			**Sn**	**16 56 44.1**	**+0.8**	
SDLR	**Sedlovina**	**1.51**	**309**	PN			**Pn**	**16 56 23.9**	**-0.5**	
SDLR				S			**Sn**	**16 56 44.1**	**+0.8**	
SMAR	**Somma**	**1.54**	**307**	*eP*			**Pn**	**16 56 24.9**	**0.0**	
SMAR	**Somma**	**1.54**	**307**	PN			**Pn**	**16 56 24.9**	**0.0**	
AVH	**Avacha**	**1.57**	**307**	*eP*			**Pn**	**16 56 25.6**	**+0.4**	
AVH	**Avacha**	**1.57**	**307**	PN			**Pn**	**16 56 25.6**	**+0.4**	
KRER	**Koryakskii**	**1.59**	**308**	*eP*			**Pn**	**16 56 25.7**	**+0.1**	
KRER				*eS*			**Sn**	**16 56 46.8**	**+1.4**	
KRER	**Koryakskii**	**1.59**	**308**	PN			**Pn**	**16 56 25.7**	**+0.1**	
KRER				S			**Sn**	**16 56 46.8**	**+1.4**	
MTVR	**Mutnovka**	**1.63**	**276**	*eP*			**Pn**	**16 56 26.5**	**+0.4**	
MTVR				*eS*			**Sn**	**16 56 48.1**	**+1.7**	
MTVR	**Mutnovka**	**1.63**	**276**	PN			**Pn**	**16 56 26.5**	**+0.4**	
MTVR				S			**Sn**	**16 56 48.1**	**+1.7**	
KOK	**Koryaka**	**1.64**	**306**	*eP*			**Pn**	**16 56 26.6**	**+0.5**	
KOK	**Koryaka**	**1.64**	**306**	PN			**Pn**	**16 56 26.6**	**+0.5**	
KRX	**Arik**	**1.67**	**308**	*eP*			**Pn**	**16 56 27.2**	**+0.6**	
KRX	**Arik**	**1.67**	**308**	PN			**Pn**	**16 56 27.2**	**+0.6**	
GRL	**Gorelyy**	**1.70**	**278**	*eP*			**Pb**	**16 56 28.8**	**-0.6**	
GRL	**Gorelyy**	**1.70**	**278**	PN			**Pb**	**16 56 28.8**	**-0.6**	
KRMR	**Karymshinskiy**	**1.72**	**287**	*eP*			**Pn**	**16 56 27.3**	**+0.1**	
KRMR	**Karymshinskiy**	**1.72**	**287**	PN			**Pn**	**16 56 27.3**	**+0.1**	
KDTR	**Khodutka, Kamc**	**1.79**	**253**	*eP*			**Pn**	**16 56 28.0**	**-0.1**	
KDTR				*eS*			**Sn**	**16 56 50.3**	**+0.3**	
KDTR	**Khodutka, Kamc**	**1.79**	**253**	PN			**Pn**	**16 56 28.0**	**-0.1**	
KDTR				S			**Sn**	**16 56 50.3**	**+0.3**	
ASAK	**Asacha**	**1.80**	**272**	*eP*			**Pn**	**16 56 29.4**	**+1.0**	
ASAK				*eS*			**Sb**	**16 56 53.0**	**-0.2**	
ASAK	**Asacha**	**1.80**	**272**	PN			**Pn**	**16 56 29.4**	**+1.0**	
ASAK				S			**Sb**	**16 56 53.0**	**-0.2**	
PEA0B	**Petropavlovsk-**	**2.05**	**293**	*e*Pn			**Pn**	**16 56 32.4**	**+0.6**	
PETK	**Petropavlovsk-**	**2.05**	**293**	Pn			**Pn**	**16 56 32.4**	**+0.5**	
	comp=N,65nm,0.3s,baz=113,slow=14,SNR=291									
PETK					Sn		**Sn**	**16 56 53.0**	**-3.7**	
	comp=N,67nm,0.3s,baz=103,slow=25,SNR=8.9									
PEA1	**Petropavlovsk-**	**2.06**	**293**	*e*Pn			**Pn**	**16 56 32.4**	**+0.5**	
PEA1				*e*Sn			**Sn**	**16 56 53.0**	**-3.8**	
MKZ	**Mys Kozlova**	**2.27**	**13**	*eP*			**Pn**	**16 56 33.8**	**-1.0**	
MKZ				*eS*			**Sn**	**16 57 00.6**	**-1.4**	
MKZ	**Mys Kozlova**	**2.27**	**13**	PN			**Pn**	**16 56 33.8**	**-1.0**	
MKZ				S			**Sn**	**16 57 00.6**	**-1.4**	
APC	**Apacha**	**2.31**	**286**	*eP*			**Pn**	**16 56 37.0**	**+1.6**	
APC				*eS*			**Sn**	**16 57 06.4**	**+3.3**	
APC	**Apacha**	**2.31**	**286**	PN			**Pn**	**16 56 37.0**	**+1.6**	
APC				S			**Sn**	**16 57 06.4**	**+3.3**	
PAU	**Pauzhetka**	**2.65**	**252**	*eP*			**Pn**	**16 56 40.4**	**+0.5**	
PAU	**Pauzhetka**	**2.65**	**252**	PN			**Pn**	**16 56 40.4**	**+0.5**	
KZV	**Kizimen**	**2.79**	**354**	*eP*			**Pn**	**16 56 42.8**	**+0.8**	
KZV				*eS*			**Sn**	**16 57 17.0**	**+2.0**	
KZV	**Kizimen**	**2.79**	**354**	PN			**Pn**	**16 56 42.8**	**+0.8**	
KZV				S			**Sn**	**16 57 17.0**	**+2.0**	
TUMD	**Tumrok D**	**2.87**	**355**	*eP*			**Pn**	**16 56 43.7**	**+0.6**	
TUMD				*eS*			**Sn**	**16 57 18.4**	**+1.6**	
TUMR	**Tumrok**	**2.97**	**352**	*eP*			**Pn**	**16 56 45.4**	**+0.9**	
TUMR				*eS*			**Sn**	**16 57 21.7**	**+2.4**	
TUMR	**Tumrok**	**2.97**	**352**	PN			**Pn**	**16 56 43.7**	**-0.8**	
TUMR				S			**Sn**	**16 57 18.4**	**-0.9**	
SKR	**Severo-Kuril's**	**3.39**	**242**	*eP*			**Pn**	**16 56 49.9**	**-0.2**	
SKR				*eS*			**Sn**	**16 57 28.6**	**-0.9**	
SKR	**Severo-Kuril's**	**3.39**	**242**	PN			**Pn**	**16 56 49.9**	**-0.2**	
BZGR	**Bezymyannyi-Gr**	**3.60**	**359**	*eP*			**Pn**	**16 56 55.0**	**+1.9**	
BZGR	**Bezymyannyi-Gr**	**3.60**	**359**	PN			**Pn**	**16 56 55.0**	**+1.9**	
BZMR	**Bezymyannaya**	**3.60**	**357**	*eP*			**Pn**	**16 56 54.7**	**+1.5**	
BZMR	**Bezymyannaya**	**3.60**	**357**	PN			**Pn**	**16 56 54.7**	**+1.5**	
ALID	**Alaid**	**3.61**	**248**	*eP*			**Pn**	**16 56 54.1**	**+0.7**	
ALID	**Alaid**	**3.61**	**248**	PN			**Pn**	**16 56 54.1**	**+0.7**	
KIRR	**Kirishev**	**3.62**	**356**	*eP*			**Pn**	**16 56 54.4**	**+0.9**	
KIRR	**Kirishev**	**3.62**	**356**	PN			**Pn**	**16 56 54.4**	**+0.9**	
BZWR	**Bezymyannyi-We**	**3.63**	**357**	*eP*			**Pn**	**16 56 54.6**	**+1.0**	
BZWR	**Bezymyannyi-We**	**3.63**	**357**	PN			**Pn**	**16 56 54.6**	**+1.0**	
KPT	**Kopyto**	**3.64**	**355**	*eP*			**Pn**	**16 56 53.0**	**-0.7**	
KPT	**Kopyto**	**3.64**	**355**	PN			**Pn**	**16 56 53.0**	**-0.7**	
LGNR	**Loginova**	**3.74**	**359**	*eP*			**Pn**	**16 56 56.5**	**+1.2**	
LGNR	**Loginova**	**3.74**	**359**	PN			**Pn**	**16 56 56.5**	**+1.2**	
KOZ	**Kozyrevsk**	**3.76**	**352**	*eP*			**Pn**	**16 56 57.7**	**+2.5**	
KOZ	**Kozyrevsk**	**3.76**	**352**	PN			**Pn**	**16 56 57.7**	**+2.5**	
CIRR	**Tsirk**	**3.77**	**359**	*eP*			**Pn**	**16 56 56.2**	**+0.6**	
CIRR	**Tsirk**	**3.77**	**359**	PN			**Pn**	**16 56 56.2**	**+0.6**	
ESO	**Esso**	**3.80**	**342**	*eP*			**Pn**	**16 56 56.8**	**+1.0**	
ESO	**Esso**	**3.80**	**342**	PN			**Pn**	**16 56 56.8**	**+1.0**	
KRSR	**Krestovskiy**	**3.88**	**358**	*eP*			**Pn**	**16 56 58.4**	**+1.4**	
KRSR	**Krestovskiy**	**3.88**	**358**	PN			**Pn**	**16 56 58.4**	**+1.4**	
KLY	**Klyuchi**	**3.97**	**359**	*eP*			**Pn**	**16 57 00.0**	**+1.9**	
KLY	**Klyuchi**	**3.97**	**359**	PN			**Pn**	**16 57 00.0**	**+1.9**	
SRDR	**Sredinnyy**	**4.03**	**351**	*eP*			**Pn**	**16 57 01.4**	**+2.4**	
SRDR	**Sredinnyy**	**4.03**	**351**	PN			**Pn**	**16 57 01.4**	**+2.4**	
KBTR	**Krutoberegovo**	**4.04**	**16**	*eP*			**Pn**	**16 56 58.7**	**-0.3**	
KBTR	**Krutoberegovo**	**4.04**	**16**	PN			**Pn**	**16 56 58.7**	**-0.3**	
KBG	**Krutoberegovo**	**4.06**	**15**	*eP*			**Pn**	**16 56 59.2**	**-0.2**	
KBG	**Krutoberegovo**	**4.06**	**15**	PN			**Pn**	**16 56 59.2**	**-0.2**	
BKI	**Bering**	**4.18**	**45**	*eP*			**Pn**	**16 57 00.1**	**-0.8**	
BKI				*eS*			**Sn**	**16 57 44.5**	**-4.4**	
BKI	**Bering**	**4.18**	**45**	PN			**Pn**	**16 57 00.1**	**-0.8**	
BDR	**Baidarnaya**	**4.23**	**3**	*eP*			**Pn**	**16 57 03.3**	**+1.5**	
BDR				*eS*			**Sn**	**16 57 51.5**	**+1.0**	
BDR	**Baidarnaya**	**4.23**	**3**	PN			**Pn**	**16 57 03.3**	**+1.5**	
BDR				S			**Sn**	**16 57 51.5**	**+1.0**	
SMKR	**Semkarok**	**4.26**	**5**	*eP*			**Pn**	**16 57 04.1**	**+2.0**	
SMKR	**Semkarok**	**4.26**	**5**	PN			**Pn**	**16 57 04.1**	**+2.0**	
SMY	**Shemya**	**8.10**	**82**	*e*Pn			**Pn**	**16 57 55.4**	**+0.6**	
SMY	**Shemya**	**8.10**	**82**	*e*PN			**Pn**	**16 57 55.4**	**+0.6**	
MA2	**Magadan**	**9.17**	**326**	*i* PN			**Pn**	**16 58 09.7**	**+0.2**	
MA2	**Magadan**	**9.17**	**326**	Pn			**Pn**	**16 58 09.8**	**+0.3**	
	comp=N,0.1nm,0.3s,baz=144,slow=19,SNR=2.9									
MA2					LR		LR	17 02 10.7		
	comp=N,114nm,19.4s,baz=151,slow=42									
YSS	**Yuzh-Sakhalins**	**12.89**	**252**	*e*PN			**P**	**16 59 07.1**	**-3.8**	
YSS					MLR		MLR			
	comp=Z,400nm,14.0s									
ASAJ	**Asahikawa**	**14.65**	**243**	Pn			**Pn**	**16 59 23.6**	**-0.8**	
	comp=Z,0.4nm,0.3s,baz=95,slow=10,SNR=5.1									
GRNR	**Gornyy**	**15.25**	**274**	*eP*			**P**	**16 59 41.1**	**+4.0**	
ERM	**Erimo**	**15.81**	**236**	*e*Pn			**Pn**	**16 59 36.4**	**-3.3**	
	comp=Z,68nm,1.2s									
ERM	**Erimo**	**15.81**	**236**	*i* P			**Pn**	**16 59 36.4**	**-3.3**	
BILL	**Bilibino**	**15.96**	**7**	*e*Pn			**Pn**	**16 59 40.4**	**-1.0**	
	comp=Z,6.1nm,0.8s									
BILL	**Bilibino**	**15.96**	**7**	*ce*P			**Pn**	**16 59 40.1**	**-1.3**	
BILL					pmax		pmax			
	comp=Z,7.0nm,0.8s									
BILL					MLR		MLR			
	comp=Z,111nm,21.0s									
TEY	**Ternei**	**17.54**	**255**	*eP*			**P**	17 00 11.8	+9.4	
KLR	**Kul'dur**	**18.59**	**272**	*i* P			**Pn**	**17 00 15.8**	**+1.4**	
KLR	**Kul'dur**	**18.59**	**272**	P			**P**	**17 00 13.3**	**-0.7**	
	comp=Z,0.1nm,0.3s,baz=45,slow=7.1,SNR=3.8									
YAK	**Yakutsk**	**19.27**	**312**	*eP*			**P**	**17 00 19.3**	**-2.0**	
YAK				*eS*			**S**	**17 03 53.6**	**-4.1**	
YAK					pmax		pmax			
	comp=Z,113nm,1.2s									
YAK					pmax		pmax			
	comp=N,23nm,1.5s									
YAK					pmax		pmax			
	comp=E,36nm,1.5s									
YAK					pmax		pmax			
	comp=Z,79nm,1.9s									
YAK					pmax		pmax			
	comp=N,50nm,2.5s									
YAK					pmax		pmax			
	comp=E,55nm,2.0s									
YAK					smax		smax			
	comp=N,118nm,2.1s									
YAK					smax		smax			
	comp=E,120nm,2.5s									
YAK					MLR		MLR			
	comp=Z,192nm,27.0s									
YAK					MLR		MLR			
	comp=N,553nm,20.0s									
YAK					MLR		MLR			
	comp=E,494nm,22.0s									
ZEA	**Zeya**	**20.14**	**287**	*eP*			**P**	**17 00 29.1**	**-1.8**	
ZEA					pmax		pmax			
	comp=Z,7.0nm,0.3s									
ZEA					MLR		MLR			
	comp=Z,300nm,13.0s									
ZEA					MLR		MLR			
	comp=E,200nm,12.0s									
USRK	**Ussuriysk Ar.**	**20.75**	**258**	P			Pn	17 00 40.0	-0.1	
USRK	**Ussuriysk Ar.**	**20.75**	**258**	P			Pn	17 00 40.0	-0.1	
	comp=E,1.8nm,0.7s,baz=70,slow=12,SNR=3.1									
MJB9	**Matsu-Tunnel**	**22.46**	**234**	*eP*			**P**	**17 00 57.5**	**+1.5**	
	comp=E,12nm,0.6s									
MAJO	**Matsushiro**	**22.46**	**234**	*eP*			**P**	**17 00 57.6**	**+1.6**	
	comp=E,12nm,0.6s									
MAJO	**Matsushiro**	**22.46**	**234**	*i* P			**P**	**17 00 57.4**	**+1.4**	
MAJO					pmax		pmax			
	comp=Z,8.0nm,1.0s									
MAT	**Matsushiro**	**22.46**	**234**	P			**P**	**17 00 57.6**	**+1.6**	
MAT				S			Sn	17 05 10.6	-3.9	
MJAR	**Matsushiro Arr**	**22.46**	**234**	*eP*			**P**	**17 00 57.8**	**+1.8**	
MJAR	**Matsushiro Arr**	**22.46**	**234**	P			**P**	**17 00 57.1**	**+1.1**	
	comp=Z,2.5nm,0.7s,baz=19,slow=10,SNR=8.5									
TIXI	**Tiksi**	**23.95**	**336**	*eP*			**P**	**17 01 08.7**	**-1.9**	
	comp=Z,7.9nm,1.2s									
TIXI	**Tiksi**	**23.95**	**336**	*i* P			**P**	**17 01 09.0**	**-1.6**	
TIXI					pmax		pmax			
	comp=Z,5.0nm,0.9s									
TIXI	**Tiksi**	**23.95**	**336**	P			**P**	**17 01 08.8**	**-1.9**	
	comp=Z,3.4nm,0.7s,baz=122,slow=9.9,SNR=21									
CN2	**Changchun**	**24.93**	**264**	*eP*			**P**	**17 01 20.1**	**+0.2**	
CN2				*e*sP			pwP	17 01 37.1	+6.6	
CN2				*eS*			**S**	**17 05 36.8**	**-5.0**	
CN2					pmax		pmax			
	comp=Z,10.0nm,0.6s									
CN2					pmax		pmax			
	comp=Z,200nm,3.0s									
CN2					LR		LR			
	comp=Z,190nm,17.0s									
CN2					LR		LR			
	comp=Z,100nm,17.0s									
CN2					LR		LR			
	comp=Z,190nm,19.0s									
HIA	**Hailar**	**25.90**	**280**	*i* P			**P**	**17 01 28.5**	**-0.2**	
HIA					pmax		pmax			
	comp=Z,30nm,0.9s									
IMAR	**Indian Mountai**	**26.26**	**41**	*eP*			**P**	**17 01 31.6**	**-0.1**	
BOD	**Bodaibo**	**26.91**	**300**	*eP*			**P**	**17 01 36.9**	**-0.7**	
KSRS	**Korea Array**	**27.37**	**250**	P			**P**	**17 01 44.8**	**+2.8**	
	comp=Z,1.0nm,0.6s,baz=45,slow=9.6,SNR=3.0									
KSAR	**Wonju Array Be**	**27.40**	**250**	P			**P**	**17 01 44.8**	**+2.5**	
KSAR	**Wonju Array Be**	**27.40**	**250**	P			**P**	**17 01 44.8**	**+2.5**	
BWN	**Browne**	**27.90**	**46**	*eP*			**P**	**17 01 47.5**	**+1.0**	
	comp=Z,37nm,1.0s									
KNK	**Knik Glacier**	**28.45**	**51**	*eP*			**P**	**17 01 52.2**	**+0.8**	
	comp=Z,7.6nm,0.9s									
JNU	**Nakatsue**	**28.90**	**240**	*eP*			**P**	**17 01 56.9**	**+1.2**	
	comp=Z,7.7nm,0.8s									
JNU	**Nakatsue**	**28.90**	**240**	P			**P**	**17 01 58.5**	**+2.8**	
	comp=Z,3.2nm,1.0s,baz=4.9,slow=14,SNR=2.5									
ILAR	**Eielson Array**	**29.02**	**44**	P			**P**	**17 01 54.6**	**-1.9**	
	comp=Z,0.4nm,0.7s,baz=267,slow=8.4,SNR=6.5									
BCAR	**Beaver Creek A**	**31.38**	**47**	*eP*			**P**	**17 02 18.2**	**+0.8**	
H11N2	**WAKE ISLAND Hy**	**32.90**	**169**	T			T	17 38 02.0		
	baz=353,slow=76,SNR=57									
H11N3	**WAKE ISLAND Hy**	**32.91**	**169**	T			T	17 38 00.0		
	baz=353,slow=76,SNR=47									
H11N1	**WAKE ISLAND Hy**	**32.91**	**169**	T			T	17 38 08.8		
	baz=353,slow=76,SNR=85									
H11S1	**WAKE ISLAND Hy**	**34.08**	**170**	T			T	17 39 28.2		
	baz=354									
H11S3	**WAKE ISLAND Hy**	**34.10**	**170**	T			T	17 39 27.6		
	baz=354									
H11S2	**WAKE ISLAND Hy**	**34.10**	**170**	T			T	17 39 27.0		
	baz=354									
ULN	**Ulaanbaatar**	**34.11**	**284**	*ce*P			**P**	**17 02 40.8**	**-0.8**	
ULN					pmax		pmax			
	comp=Z,1.0nm,1.0s									
INK	**Inuvik**	**34.19**	**37**	*eP*			**P**	**17 02 42.2**	**+0.5**	
	comp=Z,2.1nm,0.8s									
INK	**Inuvik**	**34.19**	**37**	P			**P**	**17 02 42.1**	**+0.4**	
	comp=Z,1.3nm,0.7s,baz=286,slow=6.7,SNR=7.0									
SONA0	**Songino Array**	**34.52**	**285**	*eP*			**P**	**17 02 46.2**	**+1.2**	
SONM	**Songino Array**	**34.52**	**285**	P			**P**	**17 02 46.2**	**+1.2**	
	comp=Z,0.7nm,0.5s,baz=70,slow=6.3,SNR=3.2									
SONM					LR		LR	17 18 27.5		
	comp=Z,133nm,18.2s,baz=64,slow=39									
HHC	**Hu-ho-hao-te**	**35.10**	**271**	*eP*			**P**	**17 02 50.3**	**+0.2**	
HHC					pmax		pmax			
	comp=Z,65nm,0.8s									
HHC					pmax		pmax			
	comp=Z,210nm,4.3s									
HHC					LR		LR			
	comp=Z,670nm,12.7s									
HHC					LR		LR			
	comp=Z,510nm,12.9s									
HHC					LR		LR			
	comp=Z,790nm,13.7s									
NJ2	**Nanjing**	**36.46**	**253**	*eP*			**P**	**17 03 00.5**	**-1.2**	
NJ2					pmax		pmax			
	comp=Z,7.0nm,0.5s									
NRIK	**Noril'sk**	**36.78**	**325**	LR			LR	17 18 43.1		
	comp=Z,48nm,19.6s,baz=46,slow=37									
DLBC	**Dease Lake**	**38.13**	**53**	*eP*			**P**	**17 03 15.7**	**0.0**	
	comp=Z,22nm,1.7s									
DLBC	**Dease Lake**	**38.13**	**53**	P			**P**	**17 03 15.5**	**-0.2**	
	comp=Z,3.4nm,0.7s,baz=289,slow=7.8,SNR=6.3									
LZH	**Lanzhou**	**42.79**	**271**	*eP*			**P**	**17 03 54.1**	**-0.5**	
LZH				pP			sP	17 04 05.6	+2.7	
LZH				sP			pwP	17 04 10.8	+4.7	
LZH				*e*PP			**PP**	**17 05 36.5**	**+2.6**	
LZH					pmax		pmax			
	comp=Z,23nm,1.3s									
LZH					pmax		pmax			
	comp=Z,79nm,6.2s									
LZH					LR		LR			
	comp=Z,250nm,13.3s									
LZH					LR		LR			
	comp=Z,270nm,13.2s									
LZH					LR		LR			
	comp=Z,380nm,16.8s									
KEKH	**Kekaha**	**42.82**	**120**	*eP*			**P**	**17 03 54.9**	**+0.3**	
	comp=Z,137nm,1.4s									
YKA	**Yellowknife Ar**	**43.41**	**42**	P			**P**	**17 03 59.9**	**+0.9**	
	comp=Z,1.0nm,0.9s,baz=297,slow=7.6,SNR=7.5									
ZALV	**Zalesovo Beam**	**43.56**	**304**	P			**P**	**17 04 00.0**	**-0.4**	
ZALV	**Zalesovo Beam**	**43.56**	**304**	P			**P**	**17 03 60.0**	**-0.4**	
	comp=Z,0.4nm,0.4s,baz=54,slow=7.3,SNR=3.0									
ZALV					LR		LR	17 23 06.7		
	comp=Z,28nm,18.0s,baz=62,slow=38									
NVS	**Novosibirsk**	**43.91**	**305**	*eP*			P	17 04 10.4	+7.3	
DGZ	**Jazzator, Alta**	**44.41**	**297**	*i* P			**P**	**17 04 07.0**	**-0.4**	
DGZ					pmax		pmax			
	comp=Z,1.0nm,0.7s									
CD2	**Chengdu**	**46.35**	**266**	*eP*			**P**	**17 04 21.3**	**-1.6**	
CD2					pmax		pmax			
	comp=Z,30nm,0.6s									
WMQ	**Urumqi**	**47.65**	**290**	*eP*			**P**	**17 04 34.5**	**+1.6**	
WMQ				pP			pwP	17 04 46.1	+1.7	
WMQ					pmax		pmax			
	comp=Z,26nm,0.7s									
WMQ					LR		LR			
	comp=Z,1μm,36.3s									
WMQ					LR		LR			
	comp=Z,1μm,39.2s									
WMQ					LR		LR			
	comp=Z,320nm,36.3s									
KURK	**Kurchatov**	**48.51**	**303**	*eP*			**P**	**17 04 37.8**	**-1.6**	
	comp=Z,6.0nm,1.0s									
KURK	**Kurchatov**	**48.51**	**303**	*eP*			**P**	**17 04 37.8**	**-1.6**	
KURK					pmax		pmax			
	comp=Z,6.0nm,1.0s									
MK31	**Makanchi Array**	**48.89**	**297**	*eP*			**P**	**17 04 41.2**	**-1.1**	
	comp=Z,1.3nm,0.6s									
MK31	**Makanchi Array**	**48.89**	**297**	*eP*			**P**	**17 04 41.3**	**-1.1**	
MK31					pmax		pmax			
	comp=Z,1.0nm,0.6s									
MKAR	**Makanchi Array**	**48.89**	**297**	*eP*			**P**	**17 04 41.2**	**-1.2**	
MKAR	**Makanchi Array**	**48.89**	**297**	*i* P			**P**	**17 04 41.7**	**-0.7**	
MKAR					pmax		pmax			
	comp=Z,1.0nm,0.4s									
MKAR	**Makanchi Array**	**48.89**	**297**	P			**P**	**17 04 41.5**	**-0.9**	
	comp=Z,0.5nm,0.4s,baz=60,slow=7.5,SNR=11									
KMI	**Kunming**	**51.15**	**261**	P			**P**	**17 05 00.4**	**+0.4**	
KMI					pmax		pmax			
	comp=Z,6.0nm,0.6s									
ARCES	**ARCESS Array B**	**54.13**	**342**	P			**P**	**17 05 20.6**	**-0.7**	
	comp=Z,1.5nm,0.7s,baz=32,slow=4.7,SNR=4.4									
ARU	**Arti**	**54.25**	**318**	*c i*P			**P**	**17 05 22.4**	**+0.1**	
ARU				S			**S**	**17 12 59.0**	**+1.1**	
ARU				SS			**S

VYHS	Vyhne	74.44	335	eP	P	17 07 34.9 +0.3
GERES	GERESS Array B	75.37	338	P	P	17 07 39.2 -0.8
	comp=Z,0.2nm,0.3s,baz=46,slow=8.4,SNR=2.9					
BR101	Keskin Array S	77.48	321	eP	P	17 07 52.2 0.0
BRTR	Keskin Array B	77.48	321	eP	P	17 07 51.5 -0.8
BRTR	Keskin Array B	77.48	321	eP	P	17 07 51.5 -0.8
BRTR	Keskin Array B	77.48	321	P	P	17 07 52.2 0.0
	comp=Z,0.7nm,1.0s,baz=17,slow=3.7,SNR=2.7					
BRTR				LR	LR	17 45 53.7
	comp=Z,8.3nm,18.8s,baz=262,slow=39					
AS31	Alice Springs	79.27	205	eP	P	17 08 03.0 +1.1
	comp=Z,1.2nm,1.2s					
ASAR	Alice Springs	79.27	205	P	P	17 08 03.0 +1.1
	comp=Z,1.1nm,0.8s,baz=14,slow=5.5,SNR=14					
BBSR	BB Station	86.72	37	eP	P	17 08 41.5 +0.9
	comp=Z,16nm,1.2s					

KRSC 22 16:58:59.9±10.0, 52°.33N×160°.80E, h18km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.90	329	eP	Pb	16 59 15.8	-1.2
SPN				eS	Sb	16 59 26.0	-2.7
NLC	Nalytchevo	1.22	314	eP	Pn	16 59 21.7	-0.3
RUS	Russkaya	1.40	275	eP	Pb	16 59 25.5	0.0
RUS				eS	Sb	16 59 43.8	+0.7
DALK	Dalny	1.43	300	eP	Pb	16 59 25.6	-0.3
DALK				eS	Sb	16 59 43.8	0.0
PET	Petropavlovsk	1.48	299	eP	Pb	16 59 26.2	-0.6
PET				eS	Sb	16 59 45.1	-0.1
UGLR	Uglovaya	1.49	307	eP	Pb	16 59 26.9	-0.1
SDLR	Sedlovina	1.50	310	eP	Pn	16 59 26.2	+0.2
SMAR	Somma	1.53	308	eP	Pb	16 59 27.6	-0.2
AVH	Avacha	1.56	308	eP	Pb	16 59 27.7	-0.6
KRER	Koryakskii	1.58	309	P	Pb	16 59 28.9	+0.2
MTVR	Mutnovka	1.61	276	eP	Pb	16 59 28.9	-0.2
MTVR				eS	Sb	16 59 49.7	+0.5
KOK	Koryaka	1.63	307	P	Pb	16 59 29.3	-0.1
KRX	Arik	1.66	309	P	Pn	16 59 28.9	+0.7
KRMR	Karymshinskiy	1.70	288	P	Pb	16 59 30.3	-0.3
KRMR				S	Sb	16 59 51.5	-0.2
KDTR	Khodutka, Kamc	1.76	254	eP	Pn	16 59 30.2	+0.8
KDTR				eS	Sn	16 59 51.5	+0.2
ASAK	Asacha	1.78	273	eP	Pb	16 59 31.8	-0.2
ASAK				eS	Sb	16 59 54.7	+0.7
APC	Apacha	2.30	286	P	Pb	16 59 39.4	-1.3
TUMR	Tumrok	2.98	353	P	Pn	16 59 49.2	+2.8
SKR	Severo-Kuril's	3.36	242	P	Pn	16 59 53.3	+1.9

*ISCJB **22** 17:02:07.0±0.3, 67°.05N±0°.02×20°.93E±0°.06, h0km, Error ellipse: s-maj=3.1km s-min=2.7km az=172.7*
*UPP **22** 17:02:07.6±0.1, 67°.09N×20°.93E, h0km, ML1.9, Explosion*
*NAO **22** 17:02:08.6±0.9, 67°.08N×21°.11E, ML2.8*
*HEL **22** 17:02:08.4±0.1, 67°.08N×20°.90E, h0km, ML2.2, ML1.9(UPP), Explosion*
*IDC **22** 17:02:09.0±1.1, 67°.05N×21°.49E, h0km, mb1 2.8/3, mb1mx2.7/35, mbtmp2.7/3, ML2.0/3, Error ellipse: s-maj=18.5km s-min=8.9km az=100.0*
*BER **22** 17:02:10.6±3.0, 67°.04N×20°.91E, h0km, ML1.7, ML2.8(NAO), Suspected explosion*

ISC 22 17:02:07.8±0.7, 67°.07N±0°.02×20°.92E±0°.02, h0km, n61, σ1§10/86, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.15	291	P	Pg	17 02 10.6	0.0
DUNU				S	Sg	17 02 12.4	-0.1
DUNU	Dundret	0.15	291	i P	Pg	17 02 10.6	0.0
DUNU				i S	Sg	17 02 12.4	-0.1
MASU	Masugnsbyn	0.57	47	P	Pg	17 02 18.2	-0.5
MASU	Masugnsbyn	0.57	47	i P	Pg	17 02 18.2	-0.5
ERTU	Ertsjaerv	0.72	135	P	Pg	17 02 21.4	-0.2
ERTU	Ertsjaerv	0.72	135	eP	Pg	17 02 21.1	-0.5
PAJU	Pajala	0.86	92	P	Pg	17 02 23.5	-0.8
PAJU	Pajala	0.86	92	i P	Pg	17 02 23.5	-0.8
HARU	Harads	0.91	179	P	Pg	17 02 24.6	-0.6
HARU	Harads	0.91	179	eP	Pg	17 02 24.6	-0.6
RATU	Laukkuluspa	0.91	326	P	Pg	17 02 24.4	-0.9
RATU				S	Sg	17 02 37.3	+0.2
RATU	Laukkuluspa	0.91	326	eP	Pg	17 02 24.4	-0.9
RATU				eS	Sg	17 02 37.3	+0.2
KUA	Kurravaara	0.92	346	P	Pg	17 02 24.4	-1.0
KUA				S	Sb	17 02 37.4	-1.9
KUA	Kurravaara	0.92	346	eP	Pg	17 02 24.4	-1.0
KUA				eS	Sb	17 02 37.4	-1.9
SALU	Saltoluokta	0.99	289	P	Pg	17 02 26.0	-0.7
SALU	Saltoluokta	0.99	289	eP	Pg	17 02 26.1	-0.7
SALU				eS	Sb	17 02 40.8	-0.7
SALU	Saltoluokta	0.99	289	eP	Pg	17 02 26.0	-0.7
LANU	Lannavaara	1.07	22	P	Pg	17 02 27.1	-1.2
LANU	Lannavaara	1.07	22	eP	Pg	17 02 26.8	-1.4
LANU				eSN	Sn	17 02 46.9	+1.4
NIKU	Nikkaluokta	1.08	319	P	Pg	17 02 27.5	-1.0
NIKU	Nikkaluokta	1.08	319	eP	Pg	17 02 27.5	-1.0
SJUU	Sjulsmark	1.59	170	P	Pn	17 02 37.0	-0.2
SJUU	Sjulsmark	1.59	170	eP	Pn	17 02 37.0	-0.2
HEF	Hetta	1.70	37	Pg	Pn	17 02 37.9	-0.8
HEF				Lg	Lg	17 03 00.7	
HEF	Hetta	1.70	37	P	Pn	17 02 37.9	-0.8
HEF				S	Sn	17 03 00.7	-0.5
HEF	Hetta	1.70	37	eP	Pn	17 02 38.0	-0.8
	baz=219						
HEF				MSG		17 02 58.9	
	comp=Z,33nm,0.2s						
KIF	Kilpisjarvi	1.94	359	Pn	Pb	17 02 43.4	-0.7
KIF				Sn	Sg	17 03 10.1	0.0
KIF	Kilpisjarvi	1.94	359	eP	Pb	17 02 43.1	-0.9
KIF				Sn	Sg	17 03 10.1	0.0
KIF	Kilpisjarvi	1.94	359	eP	Pb	17 02 42.9	-1.1
KIF				MSG		17 03 06.4	
	comp=Z,20nm,0.2s						
KIF				eSG	Sg	17 03 10.2	0.0
RNF	Rovaniemi	2.07	101	eP	Pn	17 02 44.3	+0.6
RNF				eSG	Sb	17 03 13.0	+0.7
KTK1	Kautokeino	2.14	23	eP	Pb	17 02 47.0	-0.3
KTK1				IAML		17 03 25.0	
	comp=Z,8.9nm,0.2s						
SGF	Sodankyl	2.21	78	eP	Pn	17 02 46.1	+0.4
SGF				eSG	Sb	17 03 16.7	+0.2
STEI	Steigen	2.35	294	eP	Pn	17 02 48.6	+1.0
BURU	Burvik	2.50	175	eP	Pn	17 02 50.6	+0.9
	baz=359						
MOR8	Moi Rana	2.74	254	eP	Pn	17 02 53.8	+0.9
MOR8				IAML		17 03 35.6	
	comp=Z,9.9nm,0.3s						
OUL	Oulu	2.84	132	ePG	Pb	17 02 58.9	-0.5
ARA0	ARCESS Array S	3.00	32	Pn	Pn	17 02 56.9	+0.3
	baz=207,slow=16						
ARA0				Sn	Sn	17 03 34.3	+1.0
	baz=214,slow=28						
ARA0	ARCESS Array S	3.00	32	Pn	Pn	17 02 56.9	+0.3
	baz=207,slow=16						
ARA0				Sn	Sn	17 03 34.3	+1.0
	baz=214,slow=28						
ARCES	ARCESS Array B	3.00	32	Pn	Pn	17 02 56.1	-0.6
	comp=Z,0.3nm,0.3s,baz=212,slow=14,SNR=16						
ARCES				Sn	Sn	17 03 34.3	+1.0
	comp=Z,0.4nm,0.3s,baz=215,slow=19,SNR=5.3						
ARE0	ARCESS Array S	3.00	32	eP	Pn	17 02 57.4	+0.8
ARE0	ARCESS Array S	3.00	32	eP	Pn	17 02 56.9	+0.3
LOF	Lofoten	3.02	294	eP	Pn	17 02 57.6	+0.8
LOF				IAML		17 03 51.4	
	comp=Z,5.5nm,0.2s						
OUF	Merijarvi	3.14	148	ePB	Pb	17 03 03.5	-0.9
OUF				MSG		17 03 40.8	
	comp=Z,4.4nm,0.2s						
UMAU	Umeaa	3.20	182	eP	Pn	17 02 59.9	+0.6
VRF	Varrio	3.42	75	eP	Pn	17 03 04.4	+2.0
MSF	Maaselka	3.46	106	ePG	Pb	17 03 11.5	+1.7
KEV	Kevo	3.51	37	Pn	Pn	17 03 03.0	-0.5
KEV				Sn	Sn	17 03 48.2	+2.5
KEV	Kevo	3.51	37	eP	Pn	17 03 04.9	+1.3
KEV				Sn	Sn	17 03 48.2	+2.5
KEV	Kevo	3.51	37	eP	Pn	17 03 05.7	+2.1
	baz=228						
VAF	Ylistaro	4.11	169	eP	Pn	17 03 13.1	+1.3
HEMU	Hemsoen	4.58	197	eP	Pn	17 03 19.5	+1.3
FIA0	FINESS Array S	6.08	156	Pn	Pn	17 03 39.8	+1.0
	baz=349,slow=16						
FIA0				Sn	Sn	17 04 49.7	+0.7
	baz=349,slow=28						
FIA0				Lg	Lg	17 05 19.0	
	baz=340,slow=37						
FIA0	FINESS Array S	6.08	156	Pn	Pn	17 03 39.8	+1.0
	baz=349,slow=16						
FIA0				Sn	Sn	17 04 49.7	+0.7
	baz=349,slow=28						
FIA0				Sg	Sg	17 05 19.0	-3.8
	baz=340,slow=37						
FINES	FINESS Array B	6.08	156	Pn	Pn	17 03 39.0	+0.2
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=7.5						
FINES				Sn	Sn	17 04 48.0	-0.9
	comp=Z,0.2nm,0.3s,baz=341,slow=25,SNR=4.2						
FINES				Lg	Lg	17 05 15.4	
	comp=Z,0.2nm,0.3s,baz=349,slow=28,SNR=3.7						
NB2	NORSAR Subarra	7.39	220	Pn	Pn	17 03 59.0	+2.2
NB2	NORSAR Subarra	7.39	220	Pn	Pn	17 03 59.0	+2.2
NOA	NORSAR Array B	7.39	220	Pn	Pn	17 03 58.5	+1.6
	comp=Z,0.0nm,0.3s,baz=29,slow=18,SNR=2.5						
NRA0	NORESS Array S	7.58	217	Pn	Pn	17 04 00.3	+1.0
	baz=38,slow=18						
NRA0				Sn	Sn	17 05 26.7	+0.9
	baz=38,slow=37						
NRA0	NORESS Array S	7.58	217	Pn	Pn	17 04 00.3	+1.0
	baz=38,slow=18						
NRA0				Sn	Sn	17 05 26.7	+0.9
	baz=38,slow=37						
HFS	Hagfors	7.67	208	Pn	Pn	17 04 00.1	-0.5
	baz=21,slow=14						
HFS	Hagfors	7.67	208	Pn	Pn	17 04 00.1	-0.5
	baz=21,slow=14						

*IDC **22** 17:17:13.4±1.5, 52°.66N×160°.59E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/51, mbtmp3.7/6, ML3.3/1, MS2.3/1, Ms1 2.3/1, ms1mx2.0/39, Error ellipse: s-maj=31.6km s-min=25.4km az=93.0*
*KRSC **22** 17:17:14.3±10.0, 52°.38N×161°.06E, h45km±10km, ML3.9*

ISC 22 17:17:12.6±1.9, 52°.48N±0°.06×161°.05E±0°.05, h7km±11km, n29, σ1§59/36, mb3.7/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.88	315	eP	Pn	17 17 31.7	+0.3
SPN				eS	Sb	17 17 43.3	+1.2
NLC	Nalytchevo	1.25	305	eS	Sn	17 17 54.7	+1.4
DALK	Dalny	1.50	293	P	Pb	17 17 41.0	+0.3
DALK				S	Sn	17 17 59.8	+0.2
UGLR	Uglovaya	1.54	299	eP	Pg	17 17 42.3	+0.3
UGLR				S	Sg	17 18 03.1	+1.1
RUS	Russkaya	1.55	269	eP	Pb	17 17 42.0	+0.4
RUS				eS	Sn	17 17 59.7	-1.2
SMAR	Somma	1.57	301	eP	Pg	17 17 43.4	+0.6
AVH	Avacha	1.61	300	P	Pg	17 17 44.4	+1.0
KRER	Koryakskii	1.62	302	P	Pg	17 17 43.7	0.0
MTVR	Mutnovka	1.75	271	P	Pb	17 17 44.8	-0.3
MTVR				S	Sn	17 18 05.0	-1.1
KRMR	Karymshinskiy	1.81	282	P	Pb	17 17 46.0	0.0
ASAK	Asacha	1.93	268	P	Pb	17 17 47.6	-0.5
ASAK				S	Sn	17 18 10.1	-0.3
KDTR	Khodutka, Kamc	1.95	251	P	Pn	17 17 45.4	-0.6
MKZ	Mys Kozlova	2.12	11	P	Pg	17 17 51.5	-1.8
MKZ				S	Sn	17 18 15.8	+0.8
PETK	Petropavlovsk-	2.13	289	Pn	Pn	17 17 45.6	-2.9
	1.9nm,0.3s,baz=100,slow=21,SNR=24						
PETK				Sn	Sn	17 18 09.2	-6.0
	10nm,0.3s,baz=101,slow=19,SNR=7.7						
APC	Apacha	2.41	282	P	Pb	17 17 55.7	-0.5
APC				S	Sb	17 18 25.7	-0.4
KZV	Kizimen	2.68	351	P	Pb	17 18 01.3	+0.4
KZV				S	Sn	17 18 31.8	+2.8
TUMD	Tumrok D	2.76	352	P	Pb	17 18 01.1	-1.1
TUMD				S	Sb	17 18 35.7	-0.5
TUMR	Tumrok	2.86	350	P	Pb	17 18 03.2	-0.8
BKI	Bering	4.00	45	S	Sn	17 19 01.2	0.0
MA2	Magadan	9.14	325	LR	LR	17 22 53.1	
	comp=Z,18nm,18.3s,baz=162,slow=38						
ASAJ	Asahikawa	14.82	243	Pn	Pn	17 20 43.5	+1.0
	0.2nm,0.3s,baz=344,slow=10.0,SNR=2.4						
TIXI	Tiksi	23.89	335	P	P	17 22 26.0	-0.3
	0.5nm,0.3s,baz=120,slow=8.4,SNR=5.7						
H11N2	WAKE ISLAND Hy	33.00	170	T	T	17 59 22.5	
	baz=353,slow=75,SNR=3.5						
H11N3	WAKE ISLAND Hy	33.01	170	T	T	17 59 22.3	
	baz=353,slow=75,SNR=5.7						
H11N1	WAKE ISLAND Hy	33.02	170	T	T	17 59 24.3	
	baz=353,slow=75,SNR=4.2						
ARCES	ARCESS Array B	54.05	342	P	P	17 26 35.4	-1.6
	2.1nm,0.9s,baz=42,slow=9.6,SNR=2.6						
FINES	FINESS Array B	60.92	337	P	P	17 27 27.4	+1.9
	0.7nm,0.4s,baz=33,slow=8.4,SNR=13						
AKASG	Malin Array Be	69.44	330	P	P	17 28 19.8	-1.1
	0.2nm,0.3s,baz=29,slow=7.0,SNR=4.8						
ASAR	Alice Springs	79.44	205	P	P	17 29 21.4	+2.1
	0.2nm,0.9s,baz=12,slow=5.9,SNR=3.2						

*CERI **22** 17:19:39.8, 35°.30N×92°.72W, h6km, mbLg3.5(NEIC), MW3.4(NEIC)*
*ANF **22** 17:19:39.2±0.2, 35°.28N×92°.70W, ML4.1/15, Error ellipse: s-maj=2.1km s-min=1.7km az=107.0*
*NEIC **22** 17:19:39.8±0.0, 35°.30N×92°.72W, h6km, MN3.5, MW3.4, Moment Tensor Solution. s17 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.15; $M_{\theta\theta}$=0.13; $M_{\phi\phi}$=0.02; $M_{r\theta}$=0.07; $M_{\theta\phi}$=1.39; $M_{\phi r}$=-1.10; Best double couple: M_0=1.80000×10^{14} NP1: ϕ_s=3.00000°, δ86.00000°, λ-142.00000°. NP2: ϕ_s=269.00000°, δ52.00000°, λ-5.00000°. Principal axes: T 1.7700, Plg23.0000°, Azm130.0000°; N 0.0200, Plg51.0000°, Azm8.0000°; P -1.7900, Plg29.0000°, Azm233.0000°; After CERI.*
NEIC Felt at Atkins, Conway, Morrilton and Rogers. Also felt at Poplar Bluff, Missouri.

ISC 22 17:19:38.6±1.2, 35°.32N±0°.02×92°.70W±0°.02, h3km±10km, n77, σ1§71/94, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	Wooly Hollow	0.34	95	ePg	Pg	17 19 45.7	+0.6
W41B	Gary Mavity, V	0.40	111	ePg	Pg	17 19 46.4	+0.2
W41B	Gary Mavity, V	0.40	111	P	Pg	17 19 46.5	+0.2
	baz=288						
UALR	University of	0.62	151	ePg	Pg	17 19 50.6	+0.1
X40A	Basin Creek Fa	0.84	188	ePg	Pg	17 19 54.7	+0.1
X40A	Basin Creek Fa	0.84	188	P	Pg	17 19 54.8	+0.1
	baz=6.8						
X40A				S	Sg	17 20 05.8	+0.3
	baz=6.8						
W39A	Magazine	0.90	262	ePg	Pg	17 19 56.2	+0.5
W39A	Magazine	0.90	262	P	Pg	17 19 56.3	+0.5
	baz=83						
W39A				S	Sg	17 20 08.5	+1.1
	baz=83						
U40A	Yellville	1.04	353	P	Pg	17 19 59.7	+1.1
	baz=174						
U40A				S	Sg	17 20 14.0	+1.9
	baz=174						
MIAR	Mount Ida	1.06	223	ePg	Pg	17 19 58.2	-0.7
MIAR	Mount Ida	1.06	223	P	Pg	17 19 58.3	-0.5
	baz=43						
U41A	Viola	1.20	32	P	Pg	17 20 02.2	+0.6
	baz=212						
U41A				S	Sb	17 20 19.6	+1.7
	baz=212						
HHAR	Hobbs	1.39	314	ePn	Pn	17 20 05.3	+0.4
CCAR	Cane Creek	1.60	151	ePn	Pn	17 20 07.9	+0.3
WLAR	White Oak Lake	1.66	192	ePn	Pn	17 20 08.9	+0.3
HBAR	Harrisburg	1.69	81	ePn	Pn	17 20 09.8	+0.9
X43A	Marvell	1.70	118	ePn	Pn	17 20 09.7	+0.7
X43A	Marvell	1.70	118	P	Pn	17 20 09.8	+0.7
	baz=298						
X43A				S	Sb	17 20 33.2	+1.1
	baz=298						
Z41A	Richland Creek	2.06	182	ePn	Pn	17 20 14.5	+0.5
Z41A	Richland Creek	2.06	182	P	Pn	17 20 14.6	+0.5
	baz=2.0						
Z41A				S	Sn	17 20 40.5	+0.3
	baz=2.0						
GNAR	Gosnell	2.28	73	ePn	Pn	17 20 16.9	-0.2
X37A	Clayton	2.31	252	ePn	Pn	17 20 18.6	+1.0
PBMO	Poplar Bluff	2.35	51	ePn	Pn	17 20 19.6	+1.5
S41A	Jillco Farms,	2.39	19	P	Pn	17 20 21.4	+2.8
	baz=199						
S41A				S	Sb	17 20 53.0	+0.9
	baz=199						
TUL1	Leonard	2.59	284	ePn	Pn	17 20 22.4	+1.1
TUL1	Leonard	2.59	284	P	Pn	17 20 23.1	+1.8
	baz=103						
TUL1				S	Sn	17 20 55.5	+2.3
	baz=103						
PARMO	Parma	2.74	60	ePn	Pn	17 20 24.3	+0.8
OXF	Oxford	2.82	106	ePn	Pn	17 20 25.4	+0.8
OXF	Oxford	2.82	106	P	Pn	17 20 25.3	+0.8
	baz=287						
GLAT	Glass	2.93	70	ePn	Pn	17 20 27.1	+1.1
CCM	Cathedral Cave	2.97	23	ePn	Pn	17 20 27.8	+1.2
R41A	Rosebud	3.15	19	P	Pn	17 20 31.0	+1.8
	baz=200						
R41A				S	Sn	17 21 10.5	+3.2
	baz=200						
FVM	French Village	3.23	34	ePn	Pn	17 20 31.2	+1.1
X46A	Booneville	3.47	102	Sb	Sb	17 21 26.4	+3.3
	baz=284						
W46A	Michie	3.54	92	P	Pn	17 20 35.4	+1.0
	baz=274						
OK023	East Waterloo	3.66	278	ePn	Pn	17 20 37.3	+1.2
SIUC	Southern Illin	3.69	49	ePn	Pn	17 20 36.8	+0.4
SIUC				eSg	Sg	17 21 35.6	-1.4
T45A	Paducah	3.69	61	ePn	Pn	17 20 37.2	+0.7
T45A				eSg	Sb	17 21 33.8	+4.1
T45A	Paducah	3.69	61	Sb	Sb	17 21 35.0	+5.4
	baz=244						
PLAL	Pickwick Lake	3.81	94	ePn	Pn	17 20 38.3	+0.2
SLM	Saint Louis	3.85	30	ePn	Pn	17 20 39.5	+0.8
SLM				eSg	Sg	17 21 40.9	-1.5
NATX	Nacogdoches	3.91	205	ePn	Pn	17 20 39.8	+0.3
NATX				eSn	Sn	17 21 25.0	-0.9
WVT	Waverly	4.04	77	ePn	Pn	17 20 42.9	+1.5
147A	Livingston	4.53	124	ePn	Pn	17 20 48.9	+0.9
X48A	Hartselle	4.73	99	ePn	Pn	17 20 51.7	+1.0
V48A	Smith Brothers	4.81	83	ePn	Pn	17 20 50.5	-1.5
USIN	University of	4.83	55	ePn	Pn	17 20 51.0	-1.2
OLIL	Olney	5.02	46	ePn	Pn	17 20 56.2	+1.5
WMOK	Wichita Mounta	5.02	265	ePn	Pn	17 20 55.2	+0.3
WHTX	Lake Whitney,	5.17	231	ePn	Pn	17 20 57.2	+0.4
U32A	Winter Ranch,	5.22	283	ePn	Pn	17 20 57.8	+0.2
CLTN	Cedars of Leba	5.24	80	ePn	Pn	17 20 58.0	+0.2
LRAL	Lakeview Retre	5.25	114	ePn	Pn	17 20 57.8	-0.1
Y49A	Blount Mountai	5.39	104	ePn	Pn	17 21 00.2	+0.3
SWET	Sewanee	5.54	89	ePn	Pn	17 21 02.2	+0.3
N41A	Harden Midland	5.57	15	ePn	Pn	17 21 03.0	+0.6
P45A	Graceland, Par	5.76	42	ePn	Pn	17 21 05.2	+0.3
HDIL	Hopedale	5.88	26	ePn	Pn	17 21 05.7	-0.8
HDIL				eSg	Sg	17 22 45.5	-1.8
Z50A	Ashland	5.98	108	ePn	Pn	17 21 08.1	+0.2
W50A	Signal Mountai	6.05	89	ePn	Pn	17 21 08.5	-0.5
T49A	Edmonton	6.06	71	ePn	Pn	17 21 09.4	+0.3
250A	Grady	6.32	120	ePn	Pn	17 21 11.9	-0.7
CBKS	Cedar Bluff	6.62	304	ePn	Pn	17 21 17.8	+1.0
CPCT	Cooper Cave	6.68	87	ePn	Pn	17 21 16.3	-1.3
SFIN	Lafayette	6.72	40	ePn	Pn	17 21 18.7	+0.6
SFIN				eSg	Sg	17 23 07.9	-6.4
V51A	Loudon	6.82	84	ePn	Pn	17 21 19.9	+0.4
L42A	Oliver, Polo	7.08	19	ePb	Pb	17 21 49.5	+7.4
L42A				eSg	Sg	17 23 19.3	-6.7
AMTX	Amarillo	7.37	269	ePn	Pn	17 21 27.7	+0.5
AMTX				eSn	Sn	17 22 48.5	-2.8
BGNE	Belgrade	7.43	326	ePn	Pn	17 21 26.2	-1.7
BGNE				eSg	Sg	17 23 35.8	-1.5
TZTN	Tazewell	7.53	78	ePn	Pn	17 21 29.9	+0.8
JCT	Junction City	7.68	233	ePn	Pn	17 21 31.2	-0.1
K43A	Burlington	8.12	23	ePn	Pn	17 21 38.6	+1.4
ECSD	EROS Data Cent	8.93	341	ePn	Pn	17 21 49.2	+0.8
SDCO	Great Sand Dun	10.58	287	ePn	Pn	17 22 11.6	+0.3
TX31	Lajitas Ar. Si	11.03	240	ePn	Pn	17 22 16.5	-0.8
COWI	Conover	11.10	13	eSn	Sn	17 24 18.3	-4.5
MNTX	Cornudas Mount	11.18	255	ePn	Pn	17 22 19.6	+0.2

*IDC **22** 17:21:47.6±1.3, 38°.33N×139°.44E, h0km, mb3.1/3, mb1 3.4/4, mb1mx3.2/44, mbtmp3.1/4, ML2.5/1, MS2.3/1, Ms1 2.3/1, ms1mx2.0/14, Error ellipse: s-maj=32.8km s-min=21.6km az=106.0*
*JMA **22** 17:21:52.1, 37°.76N×139°.98E, h8km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕ_s=178.00000°, δ46.00000°, λ97.00000°. NP2: ϕ_s=348.00000°, δ44.00000°, λ83.00000°. Principal axes: T Plg85.0000°, Azm162.0000°; N Plg5.0000°, Azm353.0000°; P Plg1.0000°, Azm263.0000°;*
JMA Felt I J1.

ISC 22 17:21:50.3±0.9, 37°.74N±0°.03×140°.00E±0°.03, h30km±7km, n16, σ1§67/26, mb3.3/3, 9D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAR	Yonezawaarcadi	0.20	34	P	Pb	17 21 56.2	-0.4
JYAR				S	Sb	17 21 59.4	-1.5
JFT	Otama	0.35	130	⇓P	Pn	17 21 59.3	0.0
JFT				S	Sn	17 22 04.7	-0.6
JFY	Yanaizu	0.41	215	⇓P	Pn	17 22 00.2	0.0
JFY				S	Sn	17 22 05.7	-1.1
JYS	Shirataka	0.48	6	⇓P	Pn	17 22 01.3	+0.2
JYS				S	Sb	17 22 07.9	+0.5
JNS	Sasagawa	0.55	278	⇓P	Pn	17 22 02.2	+0.2
JNS				S	Sn	17 22 09.3	-0.8
JMM	Marumori	0.64	79	⇓P	Pn	17 22 04.5	+1.2
JMM				S	Sb	17 22 13.1	+1.3
JFK	Kawauchi	0.79	118	P	Pb	17 22 07.2	+1.6
JOU	Okura	0.81	40	⇓P	Pb	17 22 07.7	+1.7
JOU				S	Sn	17 22 18.4	+1.6
JYA	Atsumi	0.88	345

URZ			Sn	Sn	17 41 27.2	-4.3
	1.9nm,0.3s,baz=345,slow=16,SNR=6.8					
RPZ	**Rata Peaks**	**16.05 212**	Pn	**Pn**	**17 41 24.9**	**-3.2**
	0.3nm,0.3s,baz=7.9,slow=19,SNR=2.7					
RPZ			Sn	Sn	17 44 08.9	-16
	0.2nm,0.3s,baz=30,slow=20,SNR=3.3					
DZM	**Mont Dzumac**	**16.86 296**	*e*P	**P**	**17 41 42.3**	**+2.1**
	46nm,1.6s					
DZM			*e*LR	LR	17 45 32.4	
	comp=Z,195nm,21.9s					
DZM	**Mont Dzumac**	**16.86 296**	P	**P**	**17 41 43.9**	**+3.7**
	0.2nm,0.3s,baz=138,slow=13,SNR=3.6					
DZM			LR	LR	17 46 50.8	
	comp=Z,200nm,21.6s,baz=156,slow=32					
TBI	**Tubuai**	**25.78 81**	*e*T	T	18 09 22.4	
	8.3nm,0.4s					
PAE	**Paea**	**28.27 69**	*e*T	T	18 11 57.6	
	3.2nm,0.3s					
PPT2	**Papeete2**	**28.32 69**	*e*LR	LR	17 50 39.9	
	comp=Z,74nm,23.5s					
PPT	**Papeete**	**28.33 69**	LR	LR	17 51 35.7	
	comp=Z,44nm,20.3s,baz=262,slow=30					
STKA	**Stephens Creek**	**35.04 257**	*e*P	**P**	**17 44 37.0**	**+2.4**
	3.3nm,1.0s					
STKA	**Stephens Creek**	**35.04 257**	P	**P**	**17 44 35.6**	**+1.1**
	9.5nm,0.7s,baz=105,slow=9.9,SNR=18					
PMG	**Port Moresby**	**39.24 295**	*e*pP	pP	17 45 19.2	0.0
AS31	**Alice Springs**	**43.72 267**	*e*P	**P**	**17 45 47.3**	**+0.2**
	3.7nm,1.5s					
ASAR	**Alice Springs**	**43.72 267**	P	**P**	**17 45 47.0**	**-0.1**
	2.0nm,0.6s,baz=105,slow=7.1,SNR=38					
ASAR			PcP	**PcP**	**17 47 34.3**	**+0.6**
	0.4nm,0.8s,baz=118,slow=5.2,SNR=2.7					
WB2	**Warramunga Arr**	**44.71 272**	*e*P	**P**	**17 45 54.6**	**-0.4**
WRAB	**Tennant Creek**	**44.72 272**	*e*P	**P**	**17 45 55.3**	**+0.2**
	9.8nm,0.6s					
NWAO	**Narrogin (SRO)**	**54.91 249**	LR	LR	18 08 34.7	
	comp=Z,80nm,20.8s,baz=110,slow=34					
QSPA	**South Pole Qui**	**59.54 180**	*e*P	**P**	**17 47 48.9**	**+4.1**
	9.5nm,0.9s					
MAW	**Mawson**	**72.36 200**	LR	LR	18 17 46.1	
	comp=Z,24nm,21.7s,baz=176,slow=33					
SNAA	**Sanae**	**77.96 178**	P	**P**	**17 49 41.1**	**+1.9**
VNA3	**Neumayer Olymp**	**78.09 176**	P	**P**	**17 49 42.0**	**+2.1**
VNA2	**Neumayer--Watz**	**78.53 177**	P	**P**	**17 49 44.7**	**+2.4**
	baz=179,slow=5.4					
VNA1	**Neumayer--Stat**	**78.76 176**	P	**P**	**17 49 45.4**	**+1.9**
ASAJ	**Asahikawa**	**82.88 332**	LR	LR	18 24 03.9	
	comp=Z,21nm,20.2s,baz=132,slow=33					
KSRS	**Korea Array**	**84.88 319**	LR	LR	18 26 01.3	
	comp=Z,6.2nm,19.5s,baz=145,slow=34					
PETK	**Petropavlovsk-**	**86.14 345**	P	**P**	**17 50 22.5**	**+0.5**
	3.5nm,0.9s,baz=130,slow=8.1,SNR=4.0					
PETK			LR	LR	18 26 05.2	
	comp=Z,24nm,19.3s,baz=121,slow=34					
PEA1	**Petropavlovsk-**	**86.14 345**	*e*P	**P**	**17 50 22.5**	**+0.5**
LTX	**Lajitas**	**91.96 57**	*e*P	**P**	**17 50 47.6**	**-2.7**
TXAR	**Lajitas Array**	**91.96 57**	P	**P**	**17 50 47.6**	**-2.7**
	0.1nm,0.7s,baz=235,slow=3.2,SNR=3.4					
FYU	**Fort Yukon**	**99.88 12**	*e*Pdif	**Pdif**	**17 51 25.1**	**-0.1**
	24nm,1.3s					
MK32	**Makanchi Array**	**118.36 310**	*e*PKPdf	**PKPdf**	**17 56 26.1**	**-2.5**
MKAR	**Makanchi Array**	**118.36 310**	PKP	**PKPdf**	**17 56 26.1**	**-2.5**
	0.3nm,0.7s,baz=103,slow=1.9,SNR=2.0					
FIA0	**FINESS Array S**	**145.52 340**	*e*PKPbc	**PKPab**	**17 57 19.3**	**+0.2**
FINES	**FINESS Array B**	**145.52 340**	PKPbc	**PKPab**	**17 57 19.3**	**+0.2**
	3.2nm,0.5s,baz=58,slow=4.0,SNR=27					
AKH	**Akhalkalaki**	**145.57 300**	*e*PKPbc	**PKPab**	**17 57 20.6**	**+0.3**
KBZ	**Khabaz**	**145.72 304**	PKPbc	**PKPdf**	**17 57 18.8**	**-0.9**
	2.6nm,0.9s,baz=90,slow=1.0,SNR=5.5					
AKASG	**Malin Array Be**	**151.81 323**	PKPbc	**PKPbc**	**17 57 35.1**	**-0.5**
	1.2nm,0.5s,baz=49,slow=3.5,SNR=11					
AKBB	**Malin Array Si**	**151.81 323**	*e*PKPbc	**PKiKP**	**17 57 35.8**	**-0.2**
BR101	**Keskin Array S**	**153.23 298**	*e*PKPbc	**PKiKP**	**17 57 39.2**	**-0.4**
BRTR	**Keskin Array B**	**153.23 298**	PKPbc	**PKiKP**	**17 57 39.2**	**-0.4**
	1.0nm,0.8s,baz=50,slow=4.5,SNR=6.8					

*SJA **22** 17:55:24.6±0.3, 28°.00S×71°.52W, h2km±5km, ML3.6, MW3.7*
*GUC **22** 17:55:29.4±0.5, 28°.18S×71°.28W, h60km, ML3.4*
ISC 22 17:55:25.2±2.7, 28°.08S±0°.05×71°.6W±0°.1, h6km±15km, n15, σ2s18/23, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.20**	**141**	*e*P	**Pn**	**17 55 49.2**	**+0.4**
LCO	**Las Campanas**	**1.20**	**141**	‖*e*P	**Pn**	**17 55 49.1**	**+0.3**
LCO				*e*S	**Sb**	**17 56 03.6**	**-0.9**
LCO				IAML		17 56 06.7	
	comp=N,2μm,0.5s						
GO03	**Copiap**	**1.28**	**68**	*e*P	**Pb**	**17 55 48.6**	**-1.0**
GO03				*e*S	**Sg**	**17 56 06.1**	**-0.1**
GO03	**Copiap**	**1.28**	**68**	‖*e*P	**Pg**	**17 55 50.0**	**+0.3**
GO03				*e*S	**Sg**	**17 56 05.5**	**-0.8**
GO03				IAML		17 56 06.7	
	comp=N,2μm,0.6s						
LSCH	**La Serena**	**1.84**	**171**	*e*P	**Pn**	**17 55 58.1**	**+0.8**
LSCH				*e*S	**Sn**	**17 56 19.6**	**-1.5**
LSCH				IAML		17 56 30.5	
	comp=E,328nm,0.3s						
GO04	**Tololo Observa**	**2.19**	**162**	‖*e*P	**Pn**	**17 56 03.5**	**+1.1**
GO04				*e*S	**Sn**	**17 56 28.8**	**-1.1**
AROD	**Rodeo**	**2.77**	**139**	*e*P	**Pb**	**17 56 14.2**	**-1.1**
ACDV	**Cuesta del Vie**	**2.99**	**135**	*e*P	**Pn**	**17 56 16.6**	**+3.4**
VCA	**Vinchina**	**3.04**	**103**	*e*P	**Pn**	**17 56 16.2**	**+2.3**
VCA				IAML		17 57 04.7	
	comp=Z,166nm,0.7s						
VCA	**Vinchina**	**3.04**	**103**	*e*P	**Pb**	**17 56 18.4**	**-1.3**
VCA				IAML		17 57 06.7	
	comp=N,230nm,0.4s						
AGUA	**GUANDACOL**	**3.04**	**118**	*e*P	**Pn**	**17 56 16.9**	**+2.9**
AGUA				*e*S	**Sb**	**17 56 55.5**	**-1.8**
ACCO	**Cerro Coronel**	**3.32**	**139**	*e*P	**Pn**	**17 56 21.8**	**+3.8**
ACCO				*e*S	**Sb**	**17 57 04.4**	**-1.1**
GO02	**Mina Guanaco**	**3.40**	**32**	*e*P	**Pn**	**17 56 19.8**	**+0.7**
GO02				*e*S	**Sn**	**17 56 59.6**	**-0.2**
ACLC	**CERRO LA CRUZ**	**4.27**	**109**	*e*P	**Pn**	**17 56 34.4**	**+3.5**
AUSP	**Uspallata**	**4.54**	**156**	*e*P	**Pn**	**17 56 39.5**	**+4.8**

*SKHL **22** 17:57:35.7±0.6, 44°.39N×148°.59E, h30km±1km, mb3.8/2*
*JMA **22** 17:57:36.7±0.2, 44°.06N×148°.32E, h6km, M3.8*
ISC 22 17:57:35.3±2.7, 44°.39N±0°.09×148°.3E±0°.2, h10km, n10, σ1s68/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.90**	**340**	*e*P	**Pg**	**17 57 52.6**	**-0.1**
KUR				AMB	AMB	17 57 53.3	
	10.0nm,0.3s						
KUR				AMB	AMB	17 57 53.3	
	20nm,0.3s						
KUR				AMB	AMB	17 57 53.3	
	30nm,0.3s						
KUR				*e*S	**Sg**	**17 58 04.0**	**-0.5**
KUR				A	A	17 58 04.0	
	310nm,0.2s						
KUR				A	A	17 58 04.0	
	130nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.80**	**260**	*e*P	**Pb**	**17 58 07.0**	**-1.3**
YUK				AMB	AMB	17 58 11.0	
	60nm,0.4s						
YUK				AMB	AMB	17 58 11.0	
	70nm,0.4s						
YUK				*e*S	**Sb**	**17 58 31.0**	**+0.1**
YUK				A	A	17 58 36.0	
	150nm,0.4s						
YUK				A	A	17 58 36.0	
	290nm,0.4s						
LAGR	**Lagunnoye**	**1.85**	**261**	*e*S	**Sb**	**17 58 32.0**	**-0.3**
GRPR	**Tuman**	**1.87**	**259**	*e*P	**Pb**	**17 58 08.0**	**-1.5**
GRPR				*e*S	**Sb**	**17 58 32.0**	**-1.0**
GRPR				A	A	17 58 37.0	
	150nm,0.4s						
GRPR				A	A	17 58 37.0	
	270nm,0.4s						
GLVR	**Golovnino**	**2.12**	**253**	*e*P	**Pb**	**17 58 12.0**	**-1.7**
GLVR				*e*S	**Sb**	**17 58 39.0**	**-1.0**
GLVR				A	A	17 58 42.0	
	220nm,0.4s						
GLVR				A	A	17 58 42.0	
	150nm,0.4s						
NEM2	**Nemuro 2**	**2.12**	**242**	P	**Pb**	**17 58 11.7**	**-2.1**
NEM2				*e*S	**Sn**	**17 58 37.1**	**-0.1**

JRA	**Rausu**	**2.34**	**260**	P	**Pb**	**17 58 16.2**	**-1.4**
JNK	**Nakash**	**2.71**	**254**	P	**Pb**	**17 58 21.1**	**-2.9**
JNK				*e*S	**Sn**	**17 58 53.5**	**+1.6**
JAK	**Akkeshi**	**2.97**	**243**	P	**Pn**	**17 58 23.7**	**+1.2**
JAK				*e*S	**Sn**	**17 58 58.4**	**+0.3**
JAR	**Ashorobuto**	**3.46**	**253**	P	**Pn**	**17 58 32.2**	**+2.9**
JAR				*e*S	**Sn**	**17 59 12.7**	**+2.4**

IDC 22 18:32:09.8±3.8, 52°.16N×160°.98E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.1/36, mbtmp3.3/3, ML2.4/1, Error ellipse: s-maj=81.0km s-min=43.5km az=2.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**2.21**	**297**	Pn	Pn	18 32 48.2	+0.5
	5.4nm,0.3s,baz=114,slow=19,SNR=56						
PETK				Sn	Sn	18 33 16.1	+0.3
	3.1nm,0.3s,baz=104,slow=17,SNR=4.3						
MKAR	**Makanchi Array**	**49.05**	**297**	P	P	18 40 58.0	-0.3
	0.1nm,0.4s,baz=58,slow=8.5,SNR=2.6						
FINES	**FINESS Array B**	**61.19**	**337**	P	P	18 42 25.6	0.0
	0.5nm,0.6s,baz=38,slow=7.0,SNR=4.1						

KRSC 22 18:37:19.9±10.0, 52°.36N×161°.05E, h59km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.96**	**320**	*e*P	Pn	18 37 37.9	+0.5
SPN				*e*S	Sn	18 37 49.7	-0.6
NLC	**Nalytchevo**	**1.31**	**309**	*e*P	Pn	18 37 43.3	+1.3
NLC				*e*S	Sn	18 37 58.9	+0.4
DALK	**Dalny**	**1.55**	**297**	*e*P	Pn	18 37 47.3	+2.2
DALK				*e*S	Sn	18 38 06.0	+1.8
RUS	**Russkaya**	**1.56**	**274**	*e*P	Pn	18 37 47.7	+2.5
RUS				*e*S	Sn	18 38 06.3	+2.0
UGLR	**Uglovaya**	**1.59**	**303**	*e*P	Pn	18 37 48.2	+2.3
UGLR				*e*S	Sn	18 38 08.5	+3.0
SDLR	**Sedlovina**	**1.60**	**306**	*e*P	Pn	18 37 48.1	+2.1
SDLR				*e*S	Sn	18 38 07.2	+1.5
SMAR	**Somma**	**1.64**	**304**	*e*P	Pn	18 37 48.8	+2.3
AVH	**Avacha**	**1.67**	**304**	*e*P	Pn	18 37 49.4	+2.6
KRER	**Koryakskii**	**1.68**	**305**	*e*P	Pn	18 37 50.1	+2.9
KRER				*e*S	Sn	18 38 10.9	+3.1
KOK	**Koryaka**	**1.73**	**303**	*e*P	Pn	18 37 50.3	+2.5
KOK				*e*S	Sn	18 38 11.3	+2.4
MTVR	**Mutnovka**	**1.76**	**275**	*e*P	Pn	18 37 50.9	+2.8
MTVR				*e*S	Sn	18 38 11.8	+2.3
KRX	**Arik**	**1.76**	**305**	*e*P	Pn	18 37 50.7	+2.5
KRMR	**Karymshinskiy**	**1.84**	**286**	*e*P	Pn	18 37 51.4	+2.3
KDTR	**Khodutka, Kamc**	**1.92**	**254**	*e*P	Pn	18 37 52.3	+2.2
KDTR				*e*S	Sn	18 38 13.9	+0.8
ASAK	**Asacha**	**1.93**	**272**	*e*P	Pn	18 37 53.6	+3.2
ASAK				*e*S	Sn	18 38 16.8	+3.2
MKZ	**Mys Kozlova**	**2.24**	**10**	*e*P	Pn	18 37 57.1	+2.7
MKZ				*e*S	Sn	18 38 22.4	+1.5
APC	**Apacha**	**2.44**	**285**	*e*P	Pn	18 38 01.0	+3.8
KZV	**Kizimen**	**2.79**	**351**	*e*P	Pn	18 38 05.8	+3.6
KZV				*e*S	Sn	18 38 38.7	+4.0
TUMD	**Tumrok D**	**2.87**	**353**	*e*P	Pn	18 38 04.7	+1.5
TUMD				*e*S	Sn	18 38 37.3	+0.8
TUMR	**Tumrok**	**2.98**	**350**	*e*P	Pn	18 38 08.9	+4.2
SKR	**Severo-Kuril's**	**3.51**	**243**	*e*P	Pn	18 38 14.4	+2.6
SKR				*e*S	Sn	18 38 52.7	+0.7
KBTR	**Krutoberegovo**	**3.99**	**14**	*e*P	Pn	18 38 22.8	+4.4
KBTR				*e*S	Sn	18 39 10.0	+6.1
BKI	**Bering**	**4.08**	**44**	*e*S	Sn	18 39 06.4	+0.4

MEX 22 19:16:09.0±0.7, 15°.88N×98°.86W, h17km±75km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.87**	**54**	*e*P	Pb	19 16 22.2	-3.5
PNIG				*e*S	Sb	19 16 33.3	-3.7
TLIG	**Tlapa**	**1.69**	**10**	*e*P	Pn	19 16 35.0	-3.0
TLIG				*e*S	Sn	19 16 54.1	-5.3
CAIG	**El Cayaco**	**1.78**	**311**	*e*P	Pn	19 16 36.0	-3.0
CAIG				*e*S	Sn	19 16 56.5	-4.6
HUIG	**Huatulco**	**2.65**	**92**	*i* P	Pn	19 16 51.5	+0.5
HUIG				*e*S	Sn	19 17 19.2	-3.6
CMIG	**Matias Romero**	**4.00**	**72**	*i* P	Pn	19 17 06.6	-2.9
CMIG				*e*S	Sn	19 17 52.6	-3.5

*ISCJB **22** 19:21:31.2±0.2, 17°.88S±0°.05×178°.59W±0°.04, h579km, mb4.6/188, Error ellipse: s-maj=7.7km s-min=3.1km az=153.3*
*IDC **22** 19:21:33.0±1.5, 18°.06S×178°.46W, h590km±16km, mb4.0/21, mb1 4.1/22, mb1mx4.1/30, mbtmp4.9/22, Error ellipse: s-maj=14.1km s-min=10.3km az=146.0*
*BJI **22** 19:21:32.7±0.0, 17°.80S×178°.60W, h594km, mb4.6/18, mB4.6/12*
*NEIC **22** 19:21:33.3±1.2, 17°.83S×178°.59W, h592km±6km, mb4.6/151, Error ellipse: s-maj=20.7km s-min=14.3km az=140.0*
ISC 22 19:21:31.8±0.3, 17°.93S±0°.08×178°.50W±0°.06, h579km, n369, σ0s87/380, mb4.6/188, 22C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.21**	**99**	P	**P**	**19 23 33.5**	**+1.0**
	baz=8.1,SNR=5.8						
MARNC	**Mare, Loyalty**	**13.17**	**252**	*e*P	**P**	**19 24 22.8**	**+0.3**
PINNC	**Pines Island,**	**13.99**	**248**	*e*P	**P**	**19 24 32.2**	**+1.4**
OUENC	**Ouen Island, N**	**14.47**	**250**	*e*P	**P**	**19 24 36.7**	**+1.1**
DZM	**Mont Dzumac**	**14.74**	**251**	*e*P	**P**	**19 24 39.1**	**+0.8**
DZM	**Mont Dzumac**	**14.74**	**251**	P	**P**	**19 24 39.3**	**+1.0**
	2.2nm,0.3s,baz=91,slow=7.2,SNR=25						
KNTN	**Kanton**	**16.46**	**25**	*e*P	**P**	**19 24 53.9**	**-0.6**
	153nm,1.0s						
URZ	**Urewera**	**20.61**	**190**	P	**P**	**19 25 29.6**	**-2.2**
	3.9nm,0.5s,baz=41,slow=16,SNR=3.3						
EIDS	**Eidsvold**	**29.18**	**250**	*e*P	**P**	**19 26 47.8**	**+0.1**
	27nm,0.8s						
EIDS	**Eidsvold**	**29.18**	**250**	P	**P**	**19 26 48.5**	**+0.8**
	baz=29,SNR=12						
ARMA	**Armidale**	**29.86**	**240**	*e*P	**P**	**19 26 54.7**	**+1.1**
	16nm,0.8s						
ARMA	**Armidale**	**29.86**	**240**	P	**P**	**19 26 55.3**	**+1.7**
	baz=30,SNR=13						
MGCD	**Mangrove Creek**	**31.21**	**235**	P	**P**	**19 27 07.1**	**+2.0**
	baz=31,SNR=5.7						
RMQ	**Roma**	**31.42**	**248**	P	**P**	**19 27 08.0**	**+1.0**
	baz=32,SNR=33						
RABL	**Rabaul**	**31.80**	**292**	*e*P	**P**	**19 27 10.0**	**-0.3**
	73nm,0.4s						
CNB	**Canberra Magne**	**33.35**	**232**	P	**P**	**19 27 24.5**	**+1.3**
	baz=33,SNR=8.1						
CTA	**Charters Tower**	**33.36**	**261**	P	**P**	**19 27 24.4**	**+1.0**
	21nm,0.5s,baz=94,slow=11,SNR=63						
CTAO	**Charters Tower**	**33.36**	**261**	*e*P	**P**	**19 27 23.6**	**+0.1**
	28nm,0.7s						
CAN	**Canberra**	**33.62**	**233**	P	**P**	**19 27 26.4**	**+1.0**
	baz=34						
PMG	**Port Moresby**	**34.38**	**280**	*e*P	**P**	**19 27 33.5**	**+1.5**
	165nm,0.9s						
PMG	**Port Moresby**	**34.38**	**280**	P	**P**	**19 27 34.2**	**+2.2**
	140nm,0.8s,baz=81,slow=6.1,SNR=35						
CMSA	**Cobar Meteorol**	**35.07**	**240**	P	**P**	**19 27 37.9**	**+0.4**
	baz=35,SNR=39						
COEN	**Coen**	**37.02**	**270**	*e*P	**P**	**19 27 54.3**	**+0.5**
	112nm,0.9s						
COEN	**Coen**	**37.02**	**270**	P	**P**	**19 27 54.9**	**+1.1**
	baz=37,SNR=151						
MANU	**Manus Island**	**37.03**	**291**	*e*P	**P**	**19 27 53.1**	**-0.8**
	140nm,1.4s						
TOO	**Toolangi**	**37.09**	**231**	*e*P	**P**	**19 27 54.8**	**+0.7**
	43nm,1.0s						
TOO	**Toolangi**	**37.09**	**231**	P	**P**	**19 27 55.3**	**+1.2**
	baz=37,SNR=12						
STKA	**Stephens Creek**	**38.55**	**241**	*e*P	**P**	**19 28 06.7**	**+0.7**
	12nm,1.0s						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**19 28 06.8**	**+0.9**
	baz=39,SNR=35						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**19 28 06.9**	**+0.9**
	41nm,0.9s,baz=84,slow=9.0,SNR=40						
STKA				PcP	**PcP**	**19 30 03.2**	**-0.3**
	3.3nm,0.6s,baz=22,slow=8.4,SNR=3.1						

QIS	**Mount Isa**	**39.57**	**259**	P	**P**	**19 28 14.5**	**+0.1**
	baz=40,SNR=8.0						
ARPS	**Mount Arapiles**	**39.57**	**234**	P	**P**	**19 28 14.8**	**+0.7**
	baz=40,SNR=5.1						
HTT	**Hallett**	**41.06**	**239**	P	**P**	**19 28 27.0**	**+0.9**
	baz=41,SNR=15						
GENI	**Genyem**	**43.29**	**286**	P	**P**	**19 28 45.3**	**+1.5**
	163nm,0.4s,2μm						
BBOO	**Buckleboo**	**43.32**	**241**	*e*P	**P**	**19 28 44.1**	**+0.4**
	40nm,0.8s						
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**19 28 44.5**	**+0.7**
	baz=43,SNR=31						
HMH	**Humu'ula Sheep**	**43.61**	**32**	*e*P	**P**	**19 28 46.9**	**+0.5**
	111nm,0.9s						
HLK	**Haleakala**	**44.21**	**31**	*e*P	**P**	**19 28 51.4**	**+0.4**
	148nm,1.1s						
KHLH	**Kahului Airpor**	**44.24**	**30**	*e*P	**P**	**19 28 51.3**	**+0.4**
	68nm,1.0s						
WRAB	**Tennant Creek**	**44.54**	**260**	*e*P	**P**	**19 28 53.0**	**-0.3**
	88nm,1.3s						
WRA	**Warramunga Arr**	**44.55**	**260**	P	**P**	**19 28 53.6**	**+0.1**
	baz=93,slow=7.5						
WRA				S	**S**	**19 34 43.7**	**-4.2**
	baz=91,slow=15						
AS31	**Alice Springs**	**44.70**	**254**	*e*P	**P**	**19 28 54.3**	**-0.4**
	38nm,0.8s						
ASAR	**Alice Springs**	**44.70**	**254**	*e*P	**P**	**19 28 53.9**	**-0.8**
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**19 28 54.8**	**+0.2**
	156nm,0.7s,baz=87,slow=8.6,SNR=1485						
ASAR				PcP	**PcP**	**19 30 24.2**	**-0.2**
	5.0nm,0.5s,baz=102,slow=3.8,SNR=5.2						
ASAR				ScP	**ScP**	**19 33 22.6**	**+0.6**
	1.7nm,0.7s,baz=108,slow=4.0,SNR=5.2						
ASAR				S	**S**	**19 34 47.7**	**-2.4**
	1.2nm,0.6s,baz=90,slow=18,SNR=6.9						
KDU	**Kakadu**	**47.48**	**269**	P	**P**	**19 29 15.5**	**-0.1**
	baz=48,SNR=77						
MTN	**Manton Dam**	**48.72**	**268**	*e*P	**P**	**19 29 24.3**	**-0.6**
	60nm,0.9s						
MTN	**Manton Dam**	**48.72**	**268**	P	**P**	**19 29 25.0**	**+0.2**
	baz=49,SNR=17						
WRKA	**Warakurna**	**49.76**	**252**	P	**P**	**19 29 32.3**	**-0.2**
	baz=50,SNR=147						
FORT	**Forrest**	**49.92**	**245**	*e*P	**P**	**19 29 32.8**	**-0.7**
	60nm,0.7s						
FORT	**Forrest**	**49.92**	**245**	P	**P**	**19 29 33.0**	**-0.5**
	baz=50,SNR=32						
FAKI	**Fak Fak**	**50.50**	**281**	P	**P**	**19 29 38.0**	**0.0**
	16nm,0.5s						
BNDI	**Bandanaira**	**52.16**	**278**	P	**P**	**19 29 50.5**	**+0.6**
	95nm,1.1s						
SWI	**Sorong**	**52.17**	**283**	P	**P**	**19 29 50.5**	**+0.5**
	121nm,0.7s,1μm						
PALU	**Palau**	**52.79**	**294**	P	**P**	**19 29 55.8**	**+1.5**
	baz=53						
FITZ	**Fitzroy Crossi**	**52.94**	**261**	*e*P	**P**	**19 29 55.4**	**0.0**
	7.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.94**	**261**	P	**P**	**19 29 55.8**	**+0.3**
	baz=53,SNR=43						
KMBL	**Kambalda**	**55.23**	**244**	P	**P**	**19 30 10.9**	**-0.4**
	baz=55,SNR=6.5						
SOEI	**Soe**	**55.99**	**270**	*e*P	**P**	**19 30 18.1**	**+1.1**
	84nm,0.8s						
SOEI	**Soe**	**55.99**	**270**	P	**P**	**19 30 18.4**	**+1.4**
	131nm,0.8s						
TNTI	**Ternate**	**56.39**	**283**	*e*P	**P**	**19 30 19.1**	**-0.4**
	37nm,0.8s						
TNTI	**Ternate**	**56.39**	**283**	P	**P**	**19 30 19.4**	**-0.1**
	51nm,0.9s,429nm						
BATI	**Baumata**	**56.45**	**270**	P	**P**	**19 30 21.4**	**+1.4**
BATI	**Baumata**	**56.45**	**270**	P	**P**	**19 30 21.3**	**+1.3**
	31nm,0.6s,baz=132,slow=1.6						
SANI	**Sanana**	**56.66**	**280**	P	**P**	**19 30 21.4**	**-0.1**
	68nm,0.8s,523nm						
PSA00	**Pilbara Seismi**	**57.82**	**255**	*e*P	**P**	**19 30 28.6**	**-0.6**
	37nm,0.8s						
MMRI	**Maumere**	**58.22**	**271**	*e*P	**P**	**19 30 31.8**	**-0.2**
	38nm,0.6s						
MMRI	**Maumere**	**58.22**	**271**	P	**P**	**19 30 32.2**	**+0.2**
	60nm,1.0s,822nm						
MEEK	**Meekatharra**	**58.35**	**249**	P	**P**	**19 30 32.4**	**-0.3**
	baz=58,SNR=21						
KLBR	**Kellerberrin**	**58.74**	**244**	P	**P**	**19 30 35.0**	**-0.3**
	baz=59,SNR=31						
NWAO	**Narrogin (SRO)**	**59.13**	**242**	P	**P**	**19 30 37.9**	**+0.1**
	baz=59,SNR=7.4						
SGSI	**Sangihe**	**59.20**	**286**	P	**P**	**19 30 38.0**	**-0.6**
	54nm,0.7s						
KDI	**Kendari**	**59.22**	**276**	P	**P**	**19 30 39.7**	**+1.0**
	24nm,0.7s						
BASI	**Baing, Sumba**	**59.38**	**269**	P	**P**	**19 30 40.0**	**+0.2**
BLDU	**Ballidu**	**59.70**	**245**	P	**P**	**19 30 41.4**	**-0.3**
	baz=60,SNR=16						
WSI	**Waingapu**	**59.79**	**269**	P	**P**	**19 30 43.1**	**+0.6**
	121nm,0.6s,12μm						
LUWI	**Luwuk**	**60.03**	**279**	*e*P	**P**	**19 30 43.4**	**-0.7**
	124nm,1.4s						
LUWI	**Luwuk**	**60.03**	**279**	P	**P**	**19 30 44.1**	**0.0**
	66nm,1.1s,747nm						
MUN	**Mundaring**	**60.04**	**243**	P	**P**	**19 30 44.2**	**+0.3**
	baz=60,SNR=5.5						
MORW	**Morawa**	**60.40**	**246**	*e*P	**P**	**19 30 45.8**	**-

	49nm,0.8s							
LEM	Lembang	72.63	268	P		P	19 32 01.8	-0.4
	813nm,0.8s							
LEM	Lembang	72.63	268	P		P	19 32 02.6	+0.4
	71nm,0.8s,baz=61,slow=4.8,SNR=19							
CBJI	Citeko	73.48	268	P		P	19 32 05.4	-1.4
	52nm,0.9s							
PETK	Petropavlovsk-	73.68	345	P		P	19 32 07.8	+0.7
	5.9nm,0.8s,baz=132,slow=8.3,SNR=9.4							
TPI	Tanjungpandan	73.79	272	P		P	19 32 09.2	+0.6
	18nm,1.0s							
KSRS	Korea Array	74.67	318	P		P	19 32 14.5	+1.6
	1.7nm,0.7s,baz=132,slow=6.4,SNR=13							
KS15	Wonju Array Si	74.68	318	eP		P	19 32 12.9	-0.1
	9.3nm,0.9s							
KSAR	Wonju Array Be	74.68	318	eP		P	19 32 13.2	+0.2
USRK	Ussuriysk Ar.	76.59	326	P		P	19 32 25.4	+1.9
	1.3nm,0.6s,baz=145,slow=2.3,SNR=4.6							
MWC	Mount Wilson	77.42	48	eP		P	19 32 29.1	+0.6
	23nm,1.0s							
NJ2	Nanjing	77.89	310	eP		P	19 32 32.0	+1.2
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CMB	Columbia Colle	77.91	43	eP		P	19 32 31.2	+0.4
	18nm,1.0s							
WDC	Whiskeytown Da	78.02	40	eP		P	19 32 31.2	-0.1
	14nm,1.2s							
AFDM	Forest Hills D	78.05	42	eP		P	19 32 32.0	+0.4
	12nm,0.9s							
ORV	Oroville	78.06	42	eP		P	19 32 32.2	+0.7
	10.0nm,1.0s							
MDJ	Mudanjiang	78.16	325	eP		P	19 32 32.0	0.0
	9.7nm,0.9s							
MDPB	Devils Postpil	78.55	44	eP		P	19 32 35.3	+0.8
	21nm,1.0s							
OMMB	Old Mammoth Mi	78.59	44	eP		P	19 32 35.0	+0.1
	14nm,1.1s							
YBH	Yreka Blue Hor	78.59	39	eP		P	19 32 35.4	+0.9
	19nm,1.1s							
WAKR	Walker	78.80	43	eP		P	19 32 36.8	+1.0
	22nm,1.0s							
BEKR	Beckworth	78.96	42	eP		P	19 32 37.3	+0.7
	9.9nm,0.6s							
PNTR	Pine Nut	79.01	43	eP		P	19 32 37.9	+1.0
	25nm,0.8s							
VCNR	Virginia City	79.10	43	eP		P	19 32 37.2	-0.2
	12nm,0.9s							
YERR	Yerington	79.19	43	eP		P	19 32 38.5	+0.7
	32nm,1.1s							
RYN	Ryan	79.46	44	eP		P	19 32 39.6	+0.4
	21nm,1.3s							
PAHR	Pah Rah Range	79.50	42	eP		P	19 32 40.0	+0.7
	13nm,1.0s							
NVAR	Mina Array Bea	79.50	44	P		P	19 32 40.2	+0.7
	11nm,0.8s,baz=226,slow=8.9,SNR=35							
NV11	Mina Array Sit	79.60	44	eP		P	19 32 40.4	+0.5
	1.4nm,1.1s							
KVN	Kaiserville	79.97	43	eP		P	19 32 42.3	+0.4
	16nm,1.0s							
CN2	Changchun	79.99	322	eP		P	19 32 41.8	+0.2
TPNV	Topopah Spring	80.10	46	eP		P	19 32 42.9	+0.3
	14nm,1.0s							
MOD	Modoc Plateau	80.16	40	eP		P	19 32 43.5	+0.7
	21nm,1.0s							
K05A	Summer Lake	80.27	39	eP		P	19 32 44.5	+1.1
	27nm,0.9s							
WHN	Wuhan	80.55	306	P		P	19 32 42.3	-2.6
SHPR	Sheep Range	80.62	47	eP		P	19 32 46.3	+1.0
	9.6nm,1.0s							
RSO	Redoubt South	80.84	13	eP		P	19 32 45.2	-0.7
PINE	Pine Mountain	80.86	38	eP		P	19 32 47.5	+1.1
	44nm,1.1s							
Y14A	Wickenburg	80.89	50	eP		P	19 32 47.4	+0.8
	14nm,1.2s							
R11A	Troy Canyon, C	81.27	45	eP		P	19 32 48.9	+0.2
	7.3nm,1.1s							
BMN	Battle Mountai	81.28	43	eP		P	19 32 49.3	+0.7
	21nm,1.0s							
TUC	Tucson	81.78	52	eP		P	19 32 52.5	+1.3
	34nm,0.4s							
I07A	Izee	81.88	39	eP		P	19 32 52.4	+0.9
	19nm,0.9s							
J08A	Circle Bar Ran	82.09	40	eP		P	19 32 53.3	+0.7
	28nm,1.1s							
SUA	Susitna One	82.18	13	eP		P	19 32 52.0	-0.6
	17nm,1.0s							
X16A	Lo Mia Camp, P	82.26	50	eP		P	19 32 54.4	+0.7
	16nm,1.0s							
GLI	Glacier Island	82.50	15	eP		P	19 32 53.8	-0.3
	22nm,0.9s							
KNB	Kanab	82.50	47	eP		P	19 32 55.7	+0.8
	13nm,1.0s							
319A	Douglas	82.51	54	eP		P	19 32 56.6	+1.6
	58nm,1.3s							
PSUT	Pine Spring	82.53	46	eP		P	19 32 55.6	+0.5
	8.9nm,0.8s							
U15A	North Rim	82.59	48	eP		P	19 32 56.5	+1.0
	26nm,0.9s							
ELK	Elko	82.73	43	eP		P	19 32 56.6	+0.5
	14nm,1.1s							
G08A	Pilot Rock	82.88	38	eP		P	19 32 57.1	+0.5
	25nm,1.3s							
KULM	Kulim	82.95	278	eP		P	19 32 58.6	+1.2
	39nm,1.3s							
LTY	Liberty	83.03	36	eP		P	19 32 57.3	+0.1
	9.6nm,1.0s							
DIV	Divide	83.04	15	eP		P	19 32 56.8	-0.1
	24nm,1.2s							
PKCU	Pink Cliffs	83.07	47	eP		P	19 32 59.6	+1.7
	29nm,1.1s							
HAWA	Hanford	83.17	37	eP		P	19 32 58.8	+1.0
	31nm,1.2s							
PANO	Nakornpanom	83.30	290	P		P	19 33 01.3	+2.3
X18A	Snowflake	83.41	51	eP		P	19 32 59.0	-0.5
	13nm,0.6s							
MTPU	Mount Pierson	83.44	47	eP		P	19 33 00.8	+1.0
	15nm,1.1s							
BMO	Blue Mountains	83.61	39	eP		P	19 33 00.4	+0.2
	6.8nm,1.0s							
CAST	Castle Rocks	83.67	12	eP		P	19 32 58.5	-1.4
	17nm,0.8s							
SKNT	Sakolnakorn	83.80	290	P		P	19 33 02.7	+1.1
PSI	Prapat	83.80	275	eP		P	19 33 01.4	-0.5
	16nm,0.7s							
PSI	Prapat	83.80	275	P		P	19 33 01.1	-0.7
	16nm,0.7s,baz=189,slow=6.2,SNR=7.6							
MAW	Mawson	83.81	200	eP		P	19 33 00.8	+0.2
	1.0nm,0.7s							
MAW	Mawson	83.81	200	P		P	19 33 01.0	+0.3
	baz=84,SNR=11							
MAW	Mawson	83.81	200	P		P	19 33 00.5	-0.1
	4.5nm,0.8s,baz=163,slow=3.0,SNR=19							
BALM	Baldy	83.87	17	eP		P	19 33 00.9	-0.1
	22nm,1.2s							
D08A	Wollman Farm,	83.90	36	eP		P	19 33 02.1	+0.7
	20nm,1.0s							
E09A	Wood Farm, Sta	84.03	37	eP		P	19 33 02.2	+0.1
	31nm,1.5s							
ENH	Enshi	84.22	304	eP		P	19 33 03.0	-0.3
	17nm,0.8s							
F10A	Beach Ranch, E	84.27	38	eP		P	19 33 03.5	+0.1
	30nm,1.0s							
HARP	HAARP	84.29	15	eP		P	19 33 03.0	0.0
	15nm,0.8s							
DHY	Denali Highway	84.34	14	eP		P	19 33 03.0	-0.4
	11nm,1.1s							
B08A	Colville Reser	84.41	35	eP		P	19 33 03.3	-0.6
	14nm,1.0s							
Q16A	Castle Valley	84.56	46	eP		P	19 33 06.2	+1.1
	5.0nm,0.9s							
MCK	McKinley	84.58	13	eP		P	19 33 04.0	-0.4
	18nm,1.0s							
C09A	Chrisman Ranch	84.68	36	eP		P	19 33 05.6	+0.4
	28nm,1.4s							
HLID	Hailey	84.70	41	eP		P	19 33 05.2	-0.4
	9.1nm,0.9s							
TMUT	Trail Mountain	84.71	46	eP		P	19 33 05.7	-0.3
	33nm,0.4s							
SRU	San Rafael Swe	85.09	46	eP		P	19 33 07.0	-0.6
	7.4nm,0.8s							
HYT	Haines Junctio	85.11	19	eP		P	19 33 07.7	+0.5
	9.3nm,1.1s							
MLY	Manley	85.38	11	eP		P	19 33 07.2	-1.0
	8.4nm,1.2s							
WRH	Wood River Hil	85.41	13	eP		P	19 33 07.5	-0.8
	27nm,1.2s							
RIDG	Independent Ri	85.50	14	eP		P	19 33 08.4	-0.4
	14nm,1.1s							
NEW	Newport	85.58	36	eP		P	19 33 09.6	0.0
	6.1nm,1.0s							
HDA	Harding Lake	85.60	13	eP		P	19 33 08.5	-0.8
	7.4nm,0.9s							
CCB	Clear Creek Bu	85.62	13	eP		P	19 33 08.6	-0.8
	9.6nm,0.5s							
MNTX	Cornudas Mount	85.66	55	eP		P	19 33 10.9	+0.6
	4.2nm,0.8s							
BCAR	Beaver Creek A	85.69	16	eP		P	19 33 09.4	-0.4
IMAR	Indian Mountai	85.72	10	eP		P	19 33 09.5	-0.3
MDM	Murphy Dome	85.81	12	eP		P	19 33 09.4	-0.9
	14nm,1.1s							
ILAR	Eielson Array	85.93	13	eP		P	19 33 09.8	-1.0
ILAR	Eielson Array	85.93	13	P		P	19 33 10.0	-0.8
	3.4nm,0.4s,baz=220,slow=5.1,SNR=82							
ILAR				PP		PP	19 36 42.1	+0.2
	1.3nm,1.0s,baz=222,slow=7.1,SNR=5.4							
ILB	Eielson Array	85.93	13	eP		P	19 33 10.1	-0.8
	13nm,1.2s							
TX31	Lajitas Ar. Si	86.08	58	eP		P	19 33 13.8	+1.3
	21nm,1.0s							
TXAR	Lajitas Array	86.08	58	eP		P	19 33 13.8	+1.3
TXAR	Lajitas Array	86.08	58	P		P	19 33 14.1	+1.6
	13nm,0.8s,baz=222,slow=6.0,SNR=115							
ANMO	Albuquerque	86.18	52	eP		P	19 33 13.4	+0.5
	7.6nm,1.0s							
XAN	Xi'an	86.21	307	P		P	19 33 14.1	+1.2
XAN				pmax	pmax			
	comp=Z,13nm,1.1s							
XAN				pmax	pmax			
	comp=Z,82nm,5.8s							
XAN	Xi'an	86.21	307	eP		P	19 33 11.8	-1.1
	9.9nm,0.7s							
MCMT	McKenzie Canyo	86.31	41	eP		P	19 33 14.4	+1.0
DLMT	Dillon	86.73	40	eP		P	19 33 15.0	-0.2
	7.1nm,0.8s							
TPAW	Teton Pass	86.86	42	eP		P	19 33 16.8	+0.8
	12nm,1.0s							
REDW	Red Top Meadow	86.86	42	eP		P	19 33 16.4	+0.3
	16nm,1.0s							
PRP	Porcupine Dome	86.87	13	eP		P	19 33 14.6	-0.8
	7.7nm,1.2s							
FXWY	Fox Creek	86.88	42	eP		P	19 33 16.7	+0.6
	5.5nm,0.9s							
SNOW	Snow King Moun	86.97	42	eP		P	19 33 16.9	+0.4
	17nm,1.0s							
LRM	Limekiln Ridge	87.05	40	eP		P	19 33 17.0	+0.2
IMW	Indian Meadow	87.06	42	eP		P	19 33 18.0	+1.0
	17nm,1.0s							
S22A	4UR Ranch, Cre	87.08	49	eP		P	19 33 17.9	+0.6
	9.3nm,1.2s							
MOOW	Moose Ponds	87.11	42	eP		P	19 33 17.7	+0.5
	7.0nm,1.1s							
O20A	White River Ci	87.13	46	eP		P	19 33 17.6	+0.3
	7.6nm,0.9s							
DAWY	Dawson	87.13	16	eP		P	19 33 17.1	+0.5
	12nm,1.3s							
LOHW	Long Hollow	87.14	42	eP		P	19 33 17.8	+0.5
	5.7nm,0.8s							
QLMT	Earthquake Lak	87.19	41	eP		P	19 33 18.9	+1.3
EGAK	Eagle	87.26	15	eP		P	19 33 17.0	0.0
	10nm,1.0s							
FLWY	Flagg Ranch	87.30	42	eP		P	19 33 19.1	+1.1
	24nm,1.1s							
YHB	Horse Butte	87.30	41	eP		P	19 33 19.4	+1.3
	17nm,1.0s							
BW06	Boulder Array	87.42	43	eP		P	19 33 18.8	+0.1
	15nm,1.3s							
PD31	Pinedale Array	87.43	43	eP		P	19 33 18.7	0.0
	14nm,1.3s							
PDAR	Pinedale Array	87.43	43	eP		P	19 33 18.6	-0.1
PDAR	Pinedale Array	87.43	43	P		P	19 33 18.9	+0.2
	7.4nm,0.8s,baz=222,slow=3.2,SNR=40							
PDAR				PP		PP	19 36 51.0	-3.6
	0.8nm,0.9s,baz=243,slow=6.3,SNR=5.9							
BOZ	Bozeman (W)	87.44	40	eP		P	19 33 18.8	+0.2
	9.5nm,1.3s							
COLD	Coldfoot	87.45	11	eP		P	19 33 18.3	+0.4
	4.7nm,1.1s							
YHH	Holmes Hill	87.54	41	eP		P	19 33 20.2	+1.0
	11nm,1.3s							
SMCO	Snowmass	87.59	48	eP		P	19 33 20.0	+0.2
	4.7nm,0.7s							
LNIG	Linares	87.91	63	eP		P	19 33 21.3	+0.2
	17nm,0.9s							
SDCO	Great Sand Dun	88.04	49	eP		P	19 33 21.1	-0.6
	4.1nm,1.1s							
RWWY	Rawlins	88.51	45	eP		P	19 33 23.8	0.0
	14nm,1.0s							
MSTX	Muleshoe	88.57	54	eP		P	19 33 24.3	+0.2
	20nm,1.1s							
RLMT	Red Lodge	88.69	41	eP		P	19 33 25.2	+0.7
	11nm,1.0s							
CM31	Chiang Mai Arr	88.82	290	eP		P	19 33 26.6	+1.2
	6.5nm,0.9s							
CMAR	Chiang Mai Arr	88.82	290	P		P	19 33 26.5	+1.1
	4.4nm,0.9s,baz=112,slow=2.7,SNR=30							
CMAR				PP		PP	19 37 02.5	-3.1
	0.3nm,0.8s,baz=119,slow=5.6,SNR=2.7							
TOLK	Toolik Lake Re	88.83	10	eP		P	19 33 22.8	-1.5
	9.9nm,1.4s							
CMMT	Chiang Mai	88.93	290	P		P	19 33 27.4	+1.5
CHTO	Chiang Mai	88.93	290	eP		P	19 33 26.5	+0.6
	4.7nm,0.7s							
CD2	Chengdu	89.01	303	P		P	19 33 25.3	-0.8
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
N23A	Red Feather La	89.03	46	eP		P	19 33 27.0	+0.8
	14nm,1.1s							
PHWY	Pilot Hill	89.54	46	eP		P	19 33 28.7	+0.1
	6.9nm,1.0s							
JCT	Junction City	89.62	58	eP		P	19 33 28.9	0.0
	6.0nm,0.6s							
EPYK	Eagle Plains	89.65	16	eP		P	19 33 27.8	-0.4
	20nm,1.4s							
ABTX	Abilene, Hawle	90.51	56	eP		P	19 33 33.2	+0.3
	21nm,1.1s							
SNAA	Sanae	90.58	179	P		P	19 33 31.4	-1.2
VNA3	Neumayer Olymp	90.72	176	P		P	19 33 32.5	-0.7
LZH	Lanzhou	90.84	308	⇓P		P	19 33 36.3	+1.7
LZH				pP		pP	19 35 45.3	+4.7
LZH				sP		sP	19 36 43.5	+5.1
LZH				PP		PP	19 37 24.8	+3.4
LZH				pmax	pmax			
	comp=Z,16nm,1.4s							
LZH				pmax	pmax			
	comp=Z,72nm,9.5s							
VNA2	Neumayer--Watz	91.16	177	P		P	19 33 35.4	+0.1
	baz=180,slow=3.1							
PLCA	Paso Flores	91.37	134	P		P	19 33 38.4	+1.4
	2.3nm,1.0s,baz=203,slow=7.7,SNR=3.0							
VNA1	Neumayer--Stat	91.39	177	P		P	19 33 34.8	-1.4
RSSD	Black Hills	91.64	44	eP		P	19 33 38.2	+0.1
	7.7nm,0.9s							
INK	Inuvik	91.93	15	eP		P	19 33 38.2	-0.4
	10.0nm,1.1s							
SONM	Songino Array	93.52	319	P		P	19 33 47.2	+0.6
	0.4nm,0.3s,baz=126,slow=7.3,SNR=2.8							
YKA	Yellowknife Ar	94.39	25	P		P	19 33 49.7	-0.3
	1.0nm,0.6s,baz=241,slow=4.4,SNR=19							
O52A	Adamsville	106.32	53	ePdif		Pdif	19 34 43.2	-0.6
ZALV	Zalesovo Beam	108.20	322	PKiKP		PKiKP	19 38 53.1	-1.4
	0.6nm,0.5s,baz=41,slow=0.2,SNR=3.6							
MKAR	Makanchi Array	109.09	314	PKiKP		PKiKP	19 38 55.2	-1.3
	0.7nm,0.5s,baz=201,slow=0.9,SNR=11							
KSH	Kashi	113.03	306	PKP		PKiKP	19 39 01.3	-3.0
KKAR	Karatay Array	117.27	310	ePKPdf		PKPdf	19 39 11.1	-1.1
CHGR	Chuyangaron	118.28	305	ePKPdf		PKPdf	19 39 13.1	-1.3
ARCES	ARCESS Array B	126.32	350	PKP		PKPdf	19 39 28.4	-0.4
	2.7nm,0.8s,baz=17,slow=0.9,SNR=8.4							
GEYT	Alibeck	126.98	304	PKP		PKPdf	19 39 30.6	-0.4
	2.3nm,0.8s,baz=20,slow=4.7,SNR=5.6							
FIA0	FINESS Array S	133.19	344	ePKPdf		PKPdf	19 39 41.3	-0.6
FINES	FINESS Array B	133.19	344	PKP		PKPdf	19 39 41.3	-0.6
	0.9nm,0.5s,baz=17,slow=2.0,SNR=5.9							
FINES				SKPbc		SKPbc	19 42 16.3	-0.1
	1.8nm,0.8s,baz=58,slow=4.7,SNR=6.1							
AKASG	Malin Array Be	140.54	332	PKhKP		PKPpre	19 39 48.9	
	1.0nm,0.5s,baz=41,slow=4.7,SNR=6.6							
AKASG				PKP		PKPdf	19 39 56.8	+1.0
	1.0nm,0.5s,baz=43,slow=3.4,SNR=4.7							
BEL	Belsk	142.90	340	ePKP		PKPdf	19 39 59.5	-0.5
KWP	Kalwaria Pacla	144.06	336	ePKP		PKPdf	19 40 02.3	+0.2
KWP	Kalwaria Pacla	144.06	336	ePKPbc		PKPdf	19 40 02.1	0.0
TLCR		144.55	326	⇑iP		PKPab	19 40 04.3	+0.4
BUR08	Bucovina Ar. S	144.58	332	ePKPdf		PKPdf	19 40 03.3	+0.1
BURAR	Bucovina Array	144.60	332	ePKPdf		PKPdf	19 40 03.3	+0.1
BURAR	Bucovina Array	144.60	332	⇑iP		PKPab	19 40 04.8	+0.6
OJC	Ojcow	144.61	340	ePKP		PKPab	19 40 04.1	+0.1
OJC	Ojcow	144.61	340	ePKPdf		PKPdf	19 40 02.9	-0.1
BIZ	Bicaz	144.69	330	⇑iP		PKPab	19 40 04.8	+0.4
TESR	Tescani	144.74	329	⇑iP		PKPdf	19 40 03.3	-0.1
BR131	Keskin Array S	144.74	315	ePKPdf		PKPbc	19 40 04.0	-0.2
BRTR	Keskin Array B	144.74	315	ePKPdf		PKPdf	19 40 04.0	+0.2
BRTR	Keskin Array B	144.74	315	PKP		PKPbc	19 40 04.0	-0.2
	3.1nm,0.5s,baz=124,slow=3.5,SNR=26							
KOLS	Kolonicke sedl	144.79	336	ePKP		PKPab	19 40 04.5	-0.3
CFR	Carcaliu	144.91	327	⇑iP		PKPdf	19 40 01.5	-2.1
KSP	Ksiaz	145.11	344	ePKP		PKPab	19 40 06.1	+0.2
VRI	Vrincioaia	145.16	329	⇓iP		PKPbc	19 40 05.7	+0.6
TRPA	Tarpa	145.34	335	⇑iP		PKPbc	19 40 06.1	+0.6
HARR	Harsova	145.34	326	⇑iP		PKPbc	19 40 06.0	+0.3
TLB	Topalu	145.35	326	⇑iP		PKPbc	19 40 05.9	+0.2
OZUR		145.45	330	⇑iP		PKPbc	19 40 06.3	+0.3
CLL	Collm	145.47	347	ePKPdf		PKPbc	19 40 06.0	+0.2
CLL	Collm	145.47	347	⇑iPKPbc		PKPbc	19 40 06.0	+0.2
	comp=Z,16nm,0.8s							
CLL				eSKPdf		SKPdf	19 42 44.0	-0.3
UPC	Upice	145.49	344	ePKP		PKPbc	19 40 06.3	+0.4
UPC				ex		x	19 40 08.8	
DPC	Dobruska-Polom	145.55	343	ePKP		PKPbc	19 40 06.9	+0.7
LANS	Liptovska Anna	145.63	339	ePKP		PKPab	19 40 07.7	-0.4
BRG	Berggiesshubel	145.67	346	ePKP		PKPbc	19 40 06.9	+0.5
	comp=Z,7.1nm,0.9s							
MORC	Moravsky Berou	145.71	341	⇑iP		PKPbc	19 40 06.6	0.0
MORC	Moravsky Berou	145.71	341	ePKP		PKPbc	19 40 07.0	+0.4
DOPR	Dopca	145.74	330	⇑iP		PKPab	19 40 07.8	-0.8
MLR	Muntele Rosu	145.81	329	ePKPbc		PKPbc	19 40 07.1	-0.1
MLR	Muntele Rosu	145.81	329	⇑iP		PKPbc	19 40 07.3	+0.1
PVCC	Panska Ves	145.84	345	ePKP		PKPab	19 40 07.9	-0.9
MBAR	Mbarara	145.85	240	ePKPdf		PKPbc	19 40 08.9	+0.6
MDUB	Mudurnu	145.97	318	ePKPbc		PKPbc	19 40 07.4	-0.4
SECR		146.07	328	⇓iP		PKPbc	19 40 08.5	+0.7
VOIR		146.29	330	⇑iP		PKPbc	19 40 07.8	-0.6
DRGR		146.32	333	⇑iP		PKPbc	19 40 08.9	+0.4
PRU	Pruhonice	146.35	345	ePKP		PKPbc	19 40 08.7	+0.4
PRU				ex		x	19 40 11.3	
GOPC	GO Pecny, Ondr	146.35	344	ePKP		PKPbc	19 40 08.3	-0.1
VRAC	Vranov	146.41	342	⇑iP		PKPbc	19 40 08.5	-0.1
VRAC	Vranov	146.41	342	ePKP		PKPbc	19 40 08.9	+0.3
VYHS	Vyhne	146.41	339	ePKP		PKPbc	19 40 09.3	+0.7
JAVC	Velka Javorina	146.48	341	ePKP		PKiKP	19 40 10.4	-0.6
PSZ	Piszkesteto	146.53	337	ePKPbc		PKPbc	19 40 08.7	-0.4
ARR	Arges	146.54	330	⇓iP		PKiKP	19 40 10.5	-0.7
KRUC	Moravsky	146.69	342	ePKP		PKPbc	19 40 09.4	+0.1
KLYT	Kilyos	146.88	320	⇑iP		PKiKP	19 40 11.8	-0.1
CSS	Mathiatis	147.03	307	ePKPbc		PKPbc	19 40 10.0	-0.7
MODS	Modra-Piesok	147.03	341	ePKP		PKPbc	19 40 10.4	+0.1
SIRR	Siria	147.18	334	⇑iP		PKPbc	19 40 11.1	+0.4
MEM	Membach	147.20	355	⇓PKPbc		PKPbc	19 40 11.0	+0.4
LEF	Lefka	147.30	308	⇑iP		PKPbc	19 40 10.4	-1.0
KHC	Kasperske Hory	147.38	345	ePKPbc		PKPbc	19 40 11.7	+0.6
KHC	Kasperske Hory	147.38	345	ePKP		PKPbc	19 40 11.6	+0.4
KHC				ex		x	19 40 16.0	
GZR	Gura Zlata	147.38	332	⇓iP		PKPbc	19 40 10.6	-0.7
GEC2	GERESS Array S	147.61	345	ePKPbc		PKPbc	19 40 11.9	0.0
GERES	GERESS Array B	147.61	345	ePKPbc		PKPbc	19 40 11.9	0.0
GERES	GERESS Array B	147.61	345	PKPbc		PKPbc	19 40 12.1	+0.2
	comp=Z,4.0nm,0.7s,baz=20,slow=2.8,SNR=30							
BZS	Buzias	147.72	333	⇓iP		PKPbc	19 40 12.0	-0.1
DOU	Dourbes	147.82	356	⇓PKPbc		PKPbc	19 40 12.6	+0.4
CONA	Conrad Observa	147.86	342	*i* PKiKP		PKiKP	19 40 13.5	-0.4
	comp=Z,5.3nm,0.7s							
HERR	Herculane	147.94	331	⇑iP		PKPbc	19 40 12.8	+0.1
WLF	Walferdange	148.12	354	⇑PKPbc		PKiKP	19 40 14.0	-0.3
MOA	Molln	148.39	344	*i* PKiKP		PKiKP	19 40 14.6	-0.3
MANT	Manisa	148.76	317	ePKPbc		PKPbc	19 40 14.8	-0.4
BFO	Black Forest	149.17	351	ePKPbc		PKPbc	19 40 15.7	+0.1
SOKA	Soboth	149.23	342	*i* PKiKP		PKPbc	19 40 16.0	+0.1
	comp=Z,4.5nm,1.0s							
VTS	Vitosha	149.23	328	ePKPbc		PKPbc	19 40 16.4	+0.3
VTS	Vitosha	149.23	328	⇑iP		PKPbc	19 40 16.4	+0.3
PERS	Pernice	149.25	342	*i* PKPbc		PKPbc	19 40 16.0	+0.1
KBA	Koelnbreinsper	149.34	344	*i* PKiKP		PKPbc	19 40 16.2	0.0
	comp=Z,5.6nm,0.8s							
WATA	Walderalm	149.53	346	*i* PKiKP		PKPbc	19 40 16.8	+0.1
	comp=Z,3.7nm,0

ASAR PcP **PcP** **19 40 27.3 +0.1**
0.1nm,0.6s,baz=316,slow=2.2,SNR=2.7
AS31 Alice Springs 36.54 126 *e*P **P** **19 38 04.1 +0.2**
0.9nm,0.8s
KDJ Kajisay 50.71 336 *e*P **P** **19 39 57.1 -0.6**
3.6nm,1.0s
SONA0 Songino Array 51.07 3 *e*P **P** **19 40 00.1 -0.2**
SONM Songino Array 51.07 3 P **P** **19 40 00.1 -0.2**
1.2nm,0.6s,baz=167,slow=7.3,SNR=4.5
BOOM Boomskoye usch 51.52 335 *e*P **P** **19 40 02.7 -1.1**
2.9nm,1.0s
MK32 Makanchi Array 52.97 343 *e*P **P** **19 40 11.5 -2.8**
MKAR Makanchi Array 52.97 343 P **P** **19 40 11.5 -2.8**
0.5nm,0.6s,baz=144,slow=8.7,SNR=4.9
ZALV Zalesovo Beam 58.93 348 P **P** **19 40 55.6 -1.2**
0.7nm,0.4s,baz=152,slow=6.7,SNR=4.8
ZAA1 Zalesovo Array 58.94 348 *e*P **P** **19 40 55.6 -1.2**
KBZ Khabaz 70.88 319 P **P** **19 42 13.8 -1.0**
0.9nm,0.6s,baz=130,slow=3.2,SNR=3.5
BR101 Keskin Array S 75.98 312 *e*P **P** **19 42 44.4 -0.7**
BRTR Keskin Array B 75.98 312 P **P** **19 42 44.4 -0.7**
0.8nm,0.6s,baz=126,slow=7.0,SNR=4.5

ISCJB ***22*** *19:34:49.9±0.9, 16°.54N±0°.07×98°.45W±0°.06, h28km, Error ellipse: s-maj=11.7km s-min=6.5km az=33.2*
NEIC ***22*** *19:34:51.2±1.2, 16°.54N×98°.38W, h44km±15km, mb4.2/1, MD4.0(MEX), Error ellipse: s-maj=26.2km s-min=14.7km az=197.0*
MEX ***22*** *19:34:52.9±0.5, 16°.51N×98°.49W, h10km±4km, MD4.0*
ISC 22 19:34:50.3±1.2, 16°.55N±0°.09×98°.42W±0°.06, h28km, n9, σ0°.79/14, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**119**	*e*Pn	**Pn**	**19 34 59.7**	**+0.5**
PNIG				*e*Sn	**Sn**	**19 35 05.0**	**-0.1**
PNIG	**Pinotepa**	**0.33**	**119**	*e*P	**Pn**	**19 34 59.7**	**+0.5**
PNIG				*e*S	**Sn**	**19 35 05.0**	**-0.1**
TLIG	**Tlapa**	**1.01**	**352**	*e*Pn	**Pb**	**19 35 09.6**	**+0.2**
TLIG	**Tlapa**	**1.01**	**352**	*e*P	**Pb**	**19 35 09.7**	**+0.4**
TLIG				*e*S	**Sb**	**19 35 22.9**	**+0.6**
CAIG	**El Cayaco**	**1.83**	**286**	*e*Pn	**Pn**	**19 35 20.7**	**+0.8**
CAIG				*e*Sn	**Sn**	**19 35 41.5**	**-0.8**
CAIG	**El Cayaco**	**1.83**	**286**	*e*P	**Pn**	**19 35 20.7**	**+0.8**
CAIG				*i* S	**Sn**	**19 35 41.5**	**-0.8**
FCAR	**Ozark Folk Cen**	**20.06**	**15**	*e*P	**P**	**19 39 20.5**	**-0.9**
CPCT	**Cooper Cave**	**22.54**	**31**	*e*P	**P**	**19 39 46.5**	**-1.7**
9.4nm,0.9s							
R49A	**Shelbyville**	**24.59**	**26**	*e*P	**P**	**19 40 07.9**	**-0.2**

ISCJB ***22*** *20:07:49.3±0.6, 7°.20N±0°.09×94°.34E±0°.09, h21km, mb4.5/21, Error ellipse: s-maj=16.4km s-min=7.9km az=43.1*
IDC ***22*** *20:07:49.4±0.9, 7°.30N×94°.10E, h0km, mb4.1/9, mb1 4.1/11, mb1mx3.8/45, mbtmp4.0/11, ML3.6/2, Error ellipse: s-maj=44.8km s-min=17.7km az=56.0*
NEIC ***22*** *20:07:51.7±1.8, 7°.04N×94°.26E, h35km±6km, mb4.7/13, Error ellipse: s-maj=22.3km s-min=4.8km az=187.0*
ISC 22 20:07:51.0±0.7, 7°.2N±0°.1×94°.2E±0°.1, h21km, n45, σ1°.48/41, mb4.4/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.42**	**133**	*e*Pn	**Pn**	**20 09 22.7**	**-1.8**
PSI	**Prapat**	**6.42**	**133**	Pn	Pn	20 09 29.9	+5.5
0.7nm,0.3s,baz=312,slow=10,SNR=5.0							
KULM	**Kulim**	**6.67**	**106**	*e*Pn	**Pn**	**20 09 27.3**	**-0.6**
IPM	**Ipoh**	**7.30**	**111**	*e*Pn	**Pn**	**20 09 34.8**	**-1.7**
CM31	**Chiang Mai Arr**	**12.09**	**22**	*e*Pn	**Pn**	**20 10 42.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**12.09**	**22**	Pn	**Pn**	**20 10 42.4**	**+0.2**
0.2nm,0.3s,baz=213,slow=14,SNR=7.6							
JIRN	**Jiri**	**21.71**	**340**	*e*P	**P**	**20 12 41.9**	**+0.6**
25nm,0.8s							
PKI	**Pulchoki**	**21.90**	**339**	*e*P	**P**	**20 12 43.4**	**+0.1**
14nm,0.9s							
PKIN	**Phulchoki**	**21.91**	**339**	*e*P	**P**	**20 12 43.4**	**+0.1**
8.0nm,0.6s							
KKN	**Kakani**	**22.15**	**339**	*e*P	**P**	**20 12 47.1**	**+1.3**
LSA	**Lhasa**	**22.56**	**353**	*e*P	**P**	**20 12 52.3**	**+1.9**
4.8nm,0.6s							
GKN	**Gorkha**	**22.58**	**337**	*e*P	**P**	**20 12 50.5**	**+0.2**
KOLN	**Koldanda**	**22.79**	**335**	*e*P	**P**	**20 12 53.3**	**+0.7**
9.4nm,0.7s							
DANN	**Dangsing**	**23.23**	**336**	*e*P	**P**	**20 12 57.5**	**+0.2**
14nm,0.6s							
PYUN	**Piuthan**	**23.34**	**334**	*e*P	**P**	**20 12 59.3**	**+1.1**
24nm,1.1s							
H08S3	**Diego Garcia H**	**26.21**	**236**	T	T	20 40 13.1	
baz=54,slow=75,SNR=14							
H08S2	**Diego Garcia H**	**26.21**	**236**	T	T	20 40 11.2	
baz=54,slow=75,SNR=22							
H08S1	**Diego Carcia H**	**26.23**	**236**	T	T	20 40 13.9	
baz=54,slow=75,SNR=14							
GAR	**Garm**	**38.28**	**329**	*e*P	**P**	**20 15 09.5**	**-0.7**
6.1nm,0.7s							
MK31	**Makanchi Array**	**40.75**	**347**	*e*P	**P**	**20 15 30.6**	**+0.1**
5.0nm,0.6s							
MK32	**Makanchi Array**	**40.75**	**347**	*e*P	**P**	**20 15 30.9**	**+0.4**
MKAR	**Makanchi Array**	**40.75**	**347**	P	**P**	**20 15 30.9**	**+0.4**
2.1nm,0.6s,baz=168,slow=4.7,SNR=36							
MAKZ	**Makanchi**	**40.83**	**347**	*e*P	**P**	**20 15 31.1**	**0.0**
10nm,1.0s							
GEYT	**Alibeck**	**44.74**	**319**	P	**P**	**20 16 05.0**	**+2.0**
3.2nm,0.6s,baz=148,slow=8.7,SNR=14							
GYA0B	**ALIBECK ARRAY**	**44.74**	**319**	*e*P	**P**	**20 16 04.8**	**+1.7**
4.2nm,0.7s							
KURK	**Kurchatov**	**45.27**	**346**	*e*P	**P**	**20 16 07.2**	**+0.3**
33nm,1.0s							
NWAO	**Narrogin (SRO)**	**45.53**	**153**	P	**P**	**20 16 12.6**	**+3.3**
4.9nm,0.9s,baz=355,slow=11,SNR=1.5							
ZALV	**Zalesovo Beam**	**47.22**	**352**	P	**P**	**20 16 23.8**	**+1.6**
1.3nm,0.5s,baz=160,slow=5.8,SNR=6.3							
ZAA1	**Zalesovo Array**	**47.22**	**352**	*e*P	**P**	**20 16 23.8**	**+1.6**
ASAR	**Alice Springs**	**49.44**	**130**	P	**P**	**20 16 41.8**	**+1.8**
0.5nm,0.6s,baz=300,slow=8.1,SNR=7.5							
ABKAR	**Akbulak array**	**50.84**	**332**	*e*P	**P**	**20 16 48.6**	**-1.5**
7.4nm,0.6s							
ARU	**Arti**	**56.52**	**337**	*e*P	**P**	**20 17 30.9**	**-0.7**
17nm,0.6s							
BR101	**Keskin Array S**	**62.92**	**311**	*e*P	**P**	**20 18 15.8**	**-0.4**
BRTR	**Keskin Array B**	**62.92**	**311**	P	**P**	**20 18 15.8**	**-0.4**
0.6nm,0.7s,baz=151,slow=5.6,SNR=5.1							
TIXI	**Tiksi**	**67.86**	**11**	*e*P	**P**	**20 18 46.8**	**-0.5**
2.6nm,0.8s							
SUW	**Suwalki**	**73.08**	**324**	*e*P	**P**	**20 19 18.0**	**-1.6**
25nm,1.0s							
FIA0	**FINESS Array S**	**73.33**	**332**	*e*P	**P**	**20 19 21.1**	**+0.2**
FINES	**FINESS Array B**	**73.33**	**332**	P	**P**	**20 19 21.1**	**+0.2**
2.9nm,0.7s,baz=92,slow=8.3,SNR=1.2							
ARCES	**ARCESS Array B**	**75.91**	**340**	P	**P**	**20 19 36.9**	**+1.1**
2.0nm,0.9s,baz=83,slow=7.4,SNR=1.7							
GEC2	**GERESS Array S**	**78.37**	**318**	*e*P	**P**	**20 19 49.8**	**-0.3**
5.9nm,1.1s							
GERES	**GERESS Array B**	**78.37**	**318**	P	**P**	**20 19 51.1**	**+1.0**
0.5nm,0.6s,baz=83,slow=4.2,SNR=6.2							
CAST	**Castle Rocks**	**93.90**	**24**	*e*P	**P**	**20 21 06.9**	**0.0**
8.0nm,1.0s							
PAX	**Paxson**	**96.77**	**23**	*e*P	**P**	**20 21 18.8**	**-1.3**
9.4nm,0.5s							
RSSD	**Black Hills**	**126.31**	**16**	*e*PKPdf	**PKPdf**	**20 26 48.7**	**-4.1**
SMRT	**St. Maarten**	**146.34**	**318**	*e*PKPdf	**PKPdf**	**20 27 26.2**	**-3.9**

IDC ***22*** *20:08:18.7±0.5, 52°.36N×160°.23E, h0km, mb4.4/32, mb1 4.6/35, mb1mx4.5/51, mbtmp4.5/35, ML4.5/3, MS4.1/21, Ms1 4.1/21, ms1mx3.9/37, Error ellipse: s-maj=14.3km s-min=10.0km az=151.0*
KRSC ***22*** *20:08:18.5±10.0, 52°.07N×160°.71E, h55km±10km, ML5.2*
NEIC ***22*** *20:08:23.5±1.8, 52°.30N×160°.25E, h35km±1km, mb4.8/94, Error ellipse: s-maj=16.0km s-min=10.2km az=169.0*
ISCJB ***22*** *20:08:23.8±0.5, 52°.25N±0°.03×160°.28E±0°.05, h53km±3km, mb4.9/158, MS4.3/35, Error ellipse: s-maj=6.7km s-min=3.3km az=136.1*
MOS ***22*** *20:08:23.7±1.1, 52°.26N×160°.22E, h54km, mb5.0/54, MS4.3/15, Error ellipse: s-maj=6.4km s-min=3.2km az=102.1*
BJI ***22*** *20:08:25.4±0.0, 52°.65N×159°.75E, h56km, mb4.7/38, mB4.8/25, Ms4.7/27, Ms7 4.4/23*
ISC 22 20:08:22.2±0.7, 52°.20N±0°.04×160°.46E±0°.04, h30km±4km, n464, σ1°.43/487, mb4.8/164, MS4.4/35, 48C-13D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.94**	**344**	*e*P	**Pn**	**20 08 38.8**	**-0.5**
SPN				*e*S	**Sb**	**20 08 52.1**	**+0.1**
SPN	**Mys Shipunski**	**0.94**	**344**	PN	**Pn**	**20 08 38.8**	**-0.5**
SPN				S	**Sb**	**20 08 52.1**	**+0.1**
NLC	**Nalytchevo**	**1.19**	**326**	*e*P	**Pn**	**20 08 43.1**	**+0.4**
NLC				*e*S	**Sb**	**20 09 01.3**	**+2.3**
NLC	**Nalytchevo**	**1.19**	**326**	PN	**Pn**	**20 08 43.1**	**+0.4**
NLC				S	**Sb**	**20 09 01.3**	**+2.3**
RUS	**Russkaya**	**1.22**	**282**	*e*P	**Pn**	**20 08 43.2**	**+0.1**
RUS				*e*S	**Sb**	**20 09 00.3**	**+0.4**
RUS	**Russkaya**	**1.22**	**282**	PN	**Pn**	**20 08 43.2**	**+0.1**
RUS				S	**Sb**	**20 09 00.3**	**+0.4**
DALK	**Dalny**	**1.33**	**309**	*e*P	**Pn**	**20 08 45.1**	**+0.4**
DALK				*e*S	**Sb**	**20 09 04.1**	**+0.9**
DALK	**Dalny**	**1.33**	**309**	PN	**Pn**	**20 08 45.1**	**+0.4**
DALK				S	**Sb**	**20 09 04.1**	**+0.9**
PET	**Petropavlovsk**	**1.38**	**308**	*e*Pn	**Pn**	**20 08 45.5**	**+0.3**
PET	**Petropavlovsk**	**1.38**	**308**	*α i*PN	**Pn**	**20 08 45.8**	**+0.5**
PET				pmax	pmax		
comp=Z,4μm,1.5s							
PET				pmax	pmax		
comp=Z,3μm,0.6s							
UGLR	**Uglovaya**	**1.42**	**316**	*i* P	**Pb**	**20 08 47.1**	**-0.9**
UGLR	**Uglovaya**	**1.42**	**316**	PN	**Pb**	**20 08 47.1**	**-0.9**
MTVR	**Mutnovka**	**1.42**	**282**	*e*P	**Pn**	**20 08 46.7**	**+0.6**
MTVR	**Mutnovka**	**1.42**	**282**	PN	**Pn**	**20 08 46.7**	**+0.6**
SDLR	**Sedlovina**	**1.45**	**319**	*e*P	**Pn**	**20 08 47.0**	**+0.7**
SDLR	**Sedlovina**	**1.45**	**319**	PN	**Pn**	**20 08 47.0**	**+0.7**
SMAR	**Somma**	**1.47**	**317**	*i* P	**Pn**	**20 08 47.2**	**+0.4**
SMAR	**Somma**	**1.47**	**317**	PN	**Pn**	**20 08 47.2**	**+0.4**
AVH	**Avacha**	**1.50**	**316**	*i* P	**Pb**	**20 08 48.1**	**-1.2**
AVH	**Avacha**	**1.50**	**316**	PN	**Pb**	**20 08 48.1**	**-1.2**
GRL	**Gorelyy**	**1.50**	**285**	*i* P	**Pb**	**20 08 48.6**	**-0.9**
GRL	**Gorelyy**	**1.50**	**285**	PN	**Pb**	**20 08 48.6**	**-0.9**
KRER	**Koryakskii**	**1.52**	**318**	*e*P	**Pb**	**20 08 48.7**	**-1.1**
KRER	**Koryakskii**	**1.52**	**318**	PN	**Pb**	**20 08 48.7**	**-1.1**
KDTR	**Khodutka, Kamc**	**1.52**	**256**	*e*P	**Pn**	**20 08 47.1**	**-0.2**
KDTR				*e*S	**Sn**	**20 09 06.0**	**0.0**
KDTR	**Khodutka, Kamc**	**1.52**	**256**	PN	**Pn**	**20 08 47.1**	**-0.2**
KDTR				S	**Sn**	**20 09 06.0**	**0.0**
KRMR	**Karymshinskiy**	**1.56**	**295**	*e*P	**Pn**	**20 08 48.5**	**+0.7**
KRMR				*e*S	**Sb**	**20 09 10.5**	**+0.9**
KRMR	**Karymshinskiy**	**1.56**	**295**	PN	**Pn**	**20 08 48.5**	**+0.7**
KOK	**Koryaka**	**1.56**	**315**	*e*P	**Pn**	**20 08 48.9**	**+1.0**
KOK	**Koryaka**	**1.56**	**315**	PN	**Pn**	**20 08 48.9**	**+1.0**
ASAK	**Asacha**	**1.58**	**278**	*e*P	**Pn**	**20 08 48.8**	**+0.6**
ASAK	**Asacha**	**1.58**	**278**	PN	**Pn**	**20 08 48.8**	**+0.6**
KRX	**Arik**	**1.60**	**317**	*i* P	**Pb**	**20 08 50.1**	**-1.0**
KRX	**Arik**	**1.60**	**317**	PN	**Pb**	**20 08 50.1**	**-1.0**
PEA0B	**Petropavlovsk-**	**1.91**	**300**	*e*Pn	**Pn**	**20 08 53.8**	**+1.2**
PETK	**Petropavlovsk-**	**1.91**	**300**	Pn	**Pn**	**20 08 53.9**	**+1.3**
comp=Z,126nm,0.3s,baz=104,slow=17,SNR=363							
PETK				Sn	**Sb**	**20 09 20.9**	**+1.1**
comp=Z,326nm,0.3s,baz=106,slow=19,SNR=3.6							
PETK				LR	LR	20 09 52.4	
comp=Z,5μm,18.6s,baz=54,slow=55							
PEA1	**Petropavlovsk-**	**1.92**	**300**	*e*Pn	**Pn**	**20 08 53.9**	**+1.2**
APC	**Apacha**	**2.14**	**291**	*e*P	**Pn**	**20 08 57.8**	**+2.0**
APC				*e*S	**Sb**	**20 09 25.5**	**-0.8**
APC	**Apacha**	**2.14**	**291**	PN	**Pn**	**20 08 57.8**	**+2.0**
MKZ	**Mys Kozlova**	**2.48**	**17**	*e*P	**Pn**	**20 08 59.6**	**-0.9**
MKZ	**Mys Kozlova**	**2.48**	**17**	PN	**Pn**	**20 08 59.6**	**-0.9**
KZV	**Kizimen**	**2.92**	**358**	*e*P	**Pn**	**20 09 07.7**	**+1.0**
KZV				*e*S	**Sn**	**20 09 43.1**	**+2.3**
KZV	**Kizimen**	**2.92**	**358**	PN	**Pn**	**20 09 07.7**	**+1.0**
KZV				S	**Sn**	**20 09 43.1**	**+2.3**
TUMD	**Tumrok D**	**3.01**	**359**	*e*P	**Pn**	**20 09 08.4**	**+0.6**
TUMD				*e*S	**Sn**	**20 09 43.4**	**+0.6**
TUMR	**Tumrok**	**3.10**	**357**	*e*P	**Pn**	**20 09 10.5**	**+1.5**
TUMR	**Tumrok**	**3.10**	**357**	PN	**Pn**	**20 09 08.4**	**-0.6**
TUMR				S	**Sn**	**20 09 43.4**	**-1.7**
SKR	**Severo-Kuril's**	**3.11**	**243**	*e*P	**Pn**	**20 09 09.0**	**0.0**
SKR				*e*S	**Sn**	**20 09 44.7**	**-0.5**
SKR	**Severo-Kuril's**	**3.11**	**243**	*e*PN	**Pn**	**20 09 09.1**	**0.0**
SKR				*e*S	**Sn**	**20 09 43.7**	**-1.5**
SKR				pmax	pmax		
comp=Z,151nm,0.6s							
SKR				smax	smax		
comp=E,3μm,0.8s							
SKR				smax	smax		
comp=N,2μm,0.5s							
SKR				MLR	MLR		
comp=Z,3μm,15.0s							
ALID	**Alaid**	**3.34**	**248**	*e*P	**Pn**	**20 09 13.0**	**+0.6**
ALID	**Alaid**	**3.34**	**248**	PN	**Pn**	**20 09 13.0**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**3.75**	**2**	P	**Pn**	**20 09 20.1**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**3.75**	**2**	PN	**Pn**	**20 09 20.1**	**+2.1**
BZWR	**Bezymyannyi-We**	**3.77**	**0**	*e*P	**Pn**	**20 09 21.9**	**+3.5**
BZWR	**Bezymyannyi-We**	**3.77**	**0**	PN	**Pn**	**20 09 21.9**	**+3.5**
KPT	**Kopyto**	**3.78**	**358**	P	**Pn**	**20 09 19.8**	**+1.4**
KPT	**Kopyto**	**3.78**	**358**	PN	**Pn**	**20 09 19.8**	**+1.4**
ESO	**Esso**	**3.88**	**345**	*e*P	**Pn**	**20 09 21.3**	**+1.6**
ESO	**Esso**	**3.88**	**345**	PN	**Pn**	**20 09 21.3**	**+1.6**
KOZ	**Kozyrevsk**	**3.88**	**355**	*e*P	**Pn**	**20 09 21.3**	**+1.5**
KOZ	**Kozyrevsk**	**3.88**	**355**	PN	**Pn**	**20 09 21.3**	**+1.5**
LGNR	**Loginova**	**3.90**	**2**	*e*P	**Pn**	**20 09 22.3**	**+2.1**
LGNR	**Loginova**	**3.90**	**2**	PN	**Pn**	**20 09 22.3**	**+2.1**
CIRR	**Tsirk**	**3.93**	**2**	*e*P	**Pn**	**20 09 23.5**	**+3.0**
CIRR	**Tsirk**	**3.93**	**2**	PN	**Pn**	**20 09 23.5**	**+3.0**
KRSR	**Krestovskiy**	**4.03**	**1**	*e*P	**Pn**	**20 09 23.5**	**+1.7**
KRSR	**Krestovskiy**	**4.03**	**1**	PN	**Pn**	**20 09 23.5**	**+1.7**
SRDR	**Sredinnyy**	**4.15**	**354**	*e*P	**Pn**	**20 09 24.7**	**+1.2**
SRDR	**Sredinnyy**	**4.15**	**354**	PN	**Pn**	**20 09 24.7**	**+1.2**
KBTR	**Krutoberegovo**	**4.25**	**18**	*i* P	**Pn**	**20 09 24.7**	**-0.1**
KBTR	**Krutoberegovo**	**4.25**	**18**	PN	**Pn**	**20 09 24.7**	**-0.1**
BDR	**Baidarnaya**	**4.40**	**5**	*e*P	**Pn**	**20 09 29.5**	**+2.6**
BDR	**Baidarnaya**	**4.40**	**5**	PN	**Pn**	**20 09 29.5**	**+2.6**
SMKR	**Semkarok**	**4.43**	**7**	*e*P	**Pn**	**20 09 28.7**	**+1.3**
SMKR	**Semkarok**	**4.43**	**7**	PN	**Pn**	**20 09 28.7**	**+1.3**
BKI	**Bering**	**4.45**	**45**	*e*P	**Pn**	**20 09 26.6**	**-0.9**
BKI				*e*S	**Sn**	**20 10 12.5**	**-5.7**
BKI	**Bering**	**4.45**	**45**	PN	**Pn**	**20 09 26.6**	**-0.9**
SRKR	**Sorokina**	**4.49**	**5**	*e*P	**Pn**	**20 09 30.5**	**+2.4**
SRKR	**Sorokina**	**4.49**	**5**	PN	**Pn**	**20 09 30.5**	**+2.4**
MA2	**Magadan**	**9.17**	**328**	*e*Pn	**Pn**	**20 10 32.6**	**+0.4**
MA2	**Magadan**	**9.17**	**328**	*ce*PN	**Pn**	**20 10 33.8**	**+1.5**
MA2				pmax	pmax		
comp=Z,13nm,1.7s							
MA2	**Magadan**	**9.17**	**328**	Pn	**Pn**	**20 10 33.7**	**+1.5**
comp=Z,0.8nm,0.3s,baz=111,slow=7.7,SNR=6.1							
MA2				LR	LR	20 14 41.7	
comp=Z,1μm,19.2s,baz=144,slow=43							
TYV	**Tymovskoe**	**11.17**	**270**	*e*PN	**Pn**	**20 11 01.0**	**+1.4**
TYV				*e*		20 13 07.2	
TYV				pmax	pmax		
comp=Z,100nm,2.6s							
TYV				MLR	MLR		
comp=Z,2μm,17.0s							
SEY	**Seymchan**	**11.59**	**341**	*ce*PN	**Pn**	**20 11 08.1**	**+2.8**
SEY	**Seymchan**	**11.59**	**341**	Pn	**Pn**	**20 11 07.3**	**+2.0**
comp=Z,0.2nm,0.3s,baz=148,slow=11,SNR=7.1							
YSS	**Yuzh-Sakhalins**	**12.62**	**252**	*e*Pn	**Pn**	**20 11 18.6**	**-0.8**
YSS	**Yuzh-Sakhalins**	**12.62**	**252**	*e*PN	**Pn**	**20 11 21.6**	**+2.2**
YSS				pmax	pmax		
comp=Z,20nm,1.4s							
YSS				MLR	MLR		
comp=Z,1μm,16.0s							
ASAJ	**Asahikawa**	**14.38**	**243**	Pn	**Pn**	**20 11 43.3**	**-0.1**
comp=Z,2.4nm,0.3s,baz=71,slow=13,SNR=34							
ASAJ				LR	LR	20 18 03.0	
comp=Z,677nm,18.6s,baz=44,slow=41							
GRNR	**Gornyy**	**15.03**	**274**	*e*P	**P**	**20 12 01.1**	**+3.8**
GRNR				pmax	pmax		
comp=Z,68nm,0.9s							
ERM	**Erimo**	**15.53**	**236**	*i* P	**Pn**	**20 11 55.9**	**-2.9**
BILL	**Bilibino**	**16.14**	**8**	*e*Pn	**Pn**	**20 12 07.0**	**+0.5**
comp=Z,30nm,0.8s							
BILL	**Bilibino**	**16.14**	**8**	*ce*P	**Pn**	**20 12 07.2**	**+0.7**
BILL				pmax	pmax		
comp=Z,35nm,0.8s							
BILL				MLR	MLR		
comp=Z,756nm,18.0s							
TEY	**Ternei**	**17.27**	**255**	*ie*P	**P**	**20 12 22.4**	**+0.3**
TEY				pmax	pmax		
comp=N,20nm,0.5s							
TEY				pmax	pmax		
comp=Z,30nm,0.5s							
KLR	**Kul'dur**	**18.37**	**272**	*i* P	**Pn**	**20 12 34.5**	**+0.2**
KLR				pmax	pmax		
comp=Z,9.0nm,0.9s							
KLR	**Kul'dur**	**18.37**	**272**	P	**Pn**	**20 12 34.6**	**+0.3**
comp=Z,0.9nm,0.3s,baz=65,slow=9.7,SNR=32							
KLR				LR	LR	20 20 33.7	
comp=Z,825nm,18.2s,baz=74,slow=40							
YAK	**Yakutsk**	**19.20**	**313**	*e*P	**P**	**20 12 40.3**	**-2.9**
YAK				pmax	pmax		
comp=Z,986nm,1.4s							
YAK				pmax	pmax		
comp=N,250nm,1.6s							
YAK				pmax	pmax		
comp=E,346nm,1.2s							
YAK				MLR	MLR		
comp=Z,2μm,21.0s							
YAK				MLR	MLR		
comp=N,3μm,21.0s							
YAK				MLR	MLR		
comp=E,3μm,21.0s							
ZEA	**Zeya**	**19.96**	**288**	*e*P	**P**	**20 12 50.2**	**-1.4**
ZEA				pmax	pmax		
comp=Z,17nm,1.0s							
ZEA				MLR	MLR		
comp=Z,2μm,15.0s							
ZEA				MLR	MLR		
comp=N,600nm,14.0s							
ZEA				MLR	MLR		
comp=E,1μm,14.0s							
USA0B	**Ussuriysk Arra**	**20.49**	**258**	*e*P	**P**	**20 12 55.5**	**-1.9**
comp=E,20nm,0.9s							
USRK	**Ussuriysk Ar.**	**20.49**	**258**	P	**P**	**20 12 55.8**	**-1.6**
comp=E,22nm,1.0s,baz=58,slow=10,SNR=19							
USRK				LR	LR	20 20 57.0	
comp=E,445nm,20.2s,baz=59,slow=37							
MDJ	**Mudanjiang**	**21.72**	**262**	P	**P**	**20 13 09.3**	**-1.3**
MDJ				pmax	pmax		
comp=E,17nm,0.9s							
MDJ				pmax	pmax		
comp=E,69nm,4.7s							
MJB9	**Matsu-Tunnel**	**22.18**	**234**	*e*P	**P**	**20 13 16.1**	**+0.5**
comp=E,31nm,0.9s							
MAJO	**Matsushiro**	**22.18**	**234**	*e*P	**P**	**20 13 16.2**	**+0.6**
comp=E,30nm,0.9s							
MAJO	**Matsushiro**	**22.18**	**234**	*e*P	**P**	**20 13 16.2**	**+0.6**
MAJO				pmax	pmax		
comp=Z,30nm,0.9s							
MAT	**Matsushiro**	**22.18**	**234**	P	**P**	**20 13 16.7**	**+1.1**
MAT				S	**S**	**20 17 18.4**	**+0.3**
MJAR	**Matsushiro Arr**	**22.18**	**234**	P	**P**	**20 13 16.9**	**+1.2**
comp=Z,11nm,0.8s,baz=16,slow=10,SNR=38							
MJAR				LR	LR	20 22 24.7	
comp=Z,662nm,21.2s,baz=45,slow=38							
INU	**Inuyama**	**23.71**	**234**	*e*P	**P**	**20 13 32.4**	**+1.1**
comp=Z,22nm,0.9s							
TIXI	**Tiksi**	**23.99**	**336**	*e*P	**P**	**20 13 31.6**	**-1.9**
comp=Z,25nm,0.8s							
TIXI	**Tiksi**	**23.99**	**336**	*ce*P	**P**	**20 13 31.5**	**-2.1**
TIXI				pmax	pmax		
comp=Z,34nm,1.0s							
TIXI	**Tiksi**	**23.99**	**336**	P	**P**	**20 13 32.0**	**-1.6**
comp=Z,29nm,0.8s,baz=127,slow=8.8,SNR=114							
CN2	**Changchun**	**24.68**	**264**	*e*P	**P**	**20 13 39.9**	**-0.3**
CN2				*ep*P	sP	20 13 54.3	+2.5
CN2				*e*S	**S**	**20 17 51.1**	**-8.7**
CN2				pmax	pmax		
comp=Z,10.0nm,0.5s							
CN2				pmax	pmax		
comp=Z,200nm,3.0s							
CN2				LR	LR		
comp=Z,470nm,16.0s							
CN2				LR	LR		
comp=Z,660nm,16.0s							
CN2				LR	LR		
comp=Z,930nm,15.0s							
HIA	**Hailar**	**25.70**	**280**	*e*P	**P**	**20 13 47.4**	**-2.0**
comp=Z,30nm,0.8s							
HIA	**Hailar**	**25.70**	**280**	*e*P	**P**	**20 13 47.4**	**-2.0**
HIA				pmax	pmax		
comp=Z,30nm,0.8s							
BOD	**Bodaibo**	**26.79**	**301**	*e*P	**P**	**20 13 57.3**	**-1.8**
BOD				pmax	pmax		
comp=Z,12nm,1.2s							
KSRS	**Korea Array**	**27.10**	**250**	P	**P**	**20 14 03.2**	**+1.2**
comp=Z,4.1nm,0.7s,baz=46,slow=9.3,SNR=23							
KSRS				LR	LR	20 25 50.2	
comp=Z,350nm,18.9s,baz=64,slow=39							
KS15	**Wonju Array Si**	**27.13**	**250**

XAN SS **SnSn** **20 25 16.8 -1.3**
XAN ScS **ScS** **20 26 09.9 +6.5**
ENH Enshi 43.06 260 *e*P **P** **20 16 15.7 -3.5**
comp=Z,24nm,0.8s
ZAA1 Zalesovo Array 43.45 304 *e*P **P** **20 16 19.7 -2.3**
ZAA0 Zalesovo Array 43.45 304 *e*P **P** **20 16 19.4 -2.6**
comp=Z,4.7nm,1.0s
ZALV Zalesovo Beam 43.45 304 P **P** **20 16 19.7 -2.3**
comp=Z,2.5nm,0.5s,baz=58,slow=6.0,SNR=15
ZALV LR LR 20 35 54.3
comp=Z,388nm,18.2s,baz=74,slow=38
YKA Yellowknife Ar 43.68 42 P **P** **20 16 24.5 +0.9**
comp=Z,0.5nm,0.5s,baz=298,slow=8.1,SNR=7.9
YKB5 Yellowknife Ar 43.68 42 *e*P **P** **20 16 24.6 +0.9**
NVS Novosibirsk 43.81 305 *e*P **P** **20 16 22.7 -2.1**
NVS *e* 20 16 33.4
NVS pmax pmax
comp=E,29nm,1.1s
NVS pmax pmax
comp=Z,39nm,1.1s
NVS pmax pmax
comp=N,12nm,1.3s
RES Resolute Bay 44.07 22 *e*P **P** **20 16 27.1 +0.4**
comp=N,6.1nm,1.0s
RES Resolute Bay 44.07 22 *e*P **P** **20 16 27.1 +0.4**
RES pmax pmax
comp=Z,6.0nm,1.0s
RES Resolute Bay 44.07 22 P **P** **20 16 27.4 +0.7**
comp=Z,3.7nm,0.9s,baz=272,slow=7.2,SNR=7.0
DGZ Jazzator, Alta 44.27 297*c i*P **P** **20 16 27.7 -1.1**
DGZ pmax pmax
comp=Z,9.0nm,0.8s
KBS Kingsbay 47.80 352 *e*P **P** **20 16 56.6 +0.6**
SPA0 Spitsbergen Ar 48.06 351 *e*P **P** **20 16 58.1 +0.1**
comp=Z,108nm,1.3s
SPA0 Spitsbergen Ar 48.06 351 *e*P **P** **20 16 58.4 +0.3**
KURK Kurchatov 48.40 303 *e*P **P** **20 16 59.2 -1.8**
comp=Z,33nm,1.0s
KURK Kurchatov 48.40 303*ce*P **P** **20 16 59.4 -1.6**
KURK pmax pmax
comp=Z,41nm,1.3s
MK31 Makanchi Array 48.75 297 *e*P **P** **20 17 01.8 -2.0**
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 48.75 297 *e*P **P** **20 17 01.8 -2.0**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK32 Makanchi Array 48.75 297 *e*P **P** **20 17 02.2 -1.6**
MKAR Makanchi Array 48.75 297 P **P** **20 17 02.2 -1.6**
comp=Z,4.8nm,0.5s,baz=54,slow=6.7,SNR=63
MKAR LR LR 20 38 55.2
comp=Z,294nm,19.4s,baz=46,slow=38
MAKZ Makanchi 48.91 297 *e*P **P** **20 17 03.1 -1.9**
comp=Z,10nm,1.0s
MAKZ Makanchi 48.91 297 *e*P **P** **20 17 03.1 -1.9**
MAKZ pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 51.15 309 *e*P **P** **20 17 20.6 -1.4**
comp=Z,23nm,0.9s
BRVK Borovoye 51.15 309*ce*P **P** **20 17 21.1 -0.8**
BRVK pmax pmax
comp=Z,26nm,1.0s
DAG Danmarks Havn 51.30 360 *i*P **P** **20 17 22.8 +0.1**
DAG pmax pmax
comp=Z,16nm,1.1s
DAG Danmarks Havn 51.30 360 *i*P **P** **20 17 22.8 +0.1**
comp=Z,13nm,1.1s
SLVN Son La 53.03 257 *e*P **P** **20 17 36.5 +0.2**
comp=Z,11nm,1.0s
SVE Sverdlovsk 53.09 317 *e*P P 20 17 29.3 -6.9
HAMF Hammerfest 53.60 344 *e*P **P** **20 17 39.8 0.0**
LVZ Lovozero 53.61 338 *e*P **P** **20 17 39.6 -0.4**
comp=Z,24nm,0.9s
LVZ Lovozero 53.61 338 *e*P **P** **20 17 39.6 -0.4**
LVZ pmax pmax
comp=Z,24nm,0.9s
ARCES ARCESS Array B 54.21 342 P **P** **20 17 43.9 -0.4**
comp=Z,9.7nm,0.8s,baz=41,slow=9.8,SNR=29
ARE0 ARCESS Array S 54.21 342 *e*P **P** **20 17 44.0 -0.3**
comp=Z,1.0nm,1.1s
ARE0 ARCESS Array S 54.21 342 *e*P **P** **20 17 44.3 0.0**
ARU Arti 54.21 318*c i*P **P** **20 17 43.7 -0.7**
ARU 20 18 44.2
ARU S **S** **20 25 19.9 +0.6**
ARU SS **SS** **20 28 57.7 -2.8**
ARU pmax pmax
comp=Z,12nm,0.5s
ARU MLR MLR
comp=Z,296nm,17.0s
KDJ Kajisay 54.53 295 *e*P **P** **20 17 46.1 -1.1**
comp=Z,9.6nm,1.0s
KDJ Kajisay 54.53 295 *e*P **P** **20 17 46.1 -1.1**
KDJ pmax pmax
comp=Z,10.0nm,1.0s
LSA Lhasa 54.71 274 *e*P **P** **20 17 48.0 -1.0**
comp=Z,9.3nm,0.6s
LSA Lhasa 54.71 274 *e*P **P** **20 17 49.4 +0.3**
comp=Z,9.3nm,0.6s
LSA Lhasa 54.71 274 P **P** **20 17 49.3 +0.3**
LSA Lhasa 54.71 274 *e*P **P** **20 17 48.0 -1.0**
LSA pmax pmax
comp=Z,9.0nm,0.6s
BOZ Bozeman (W) 54.76 59 *e*P **P** **20 17 49.1 +0.3**
comp=Z,3.2nm,0.8s
BOZ Bozeman (W) 54.76 59 *e*P **P** **20 17 49.1 +0.3**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
SUMG Summit 54.83 7 *e*P **P** **20 17 49.3 +0.1**
comp=Z,23nm,1.0s
SUMG Summit 54.83 7 *i*P **P** **20 17 50.1 +0.9**
SUMG pmax pmax
comp=Z,42nm,0.8s
SUMG Summit 54.83 7 *i*P **P** **20 17 50.1 +0.9**
comp=Z,42nm,0.8s
TKM2 Tokmak 2 54.88 297 P **P** **20 17 48.6 -1.2**
SNR=5.9
ULHL Ulahol 54.97 296 P **P** **20 17 49.6 -0.9**
SNR=7.0
BOOM Boomskoye usch 54.98 296 *e*P **P** **20 17 49.5 -1.0**
comp=Z,6.5nm,0.8s
BOOM Boomskoye usch 54.98 296 *e*P **P** **20 17 49.5 -1.0**
BOOM pmax pmax
comp=Z,7.0nm,0.8s
KTK1 Kautokeino 55.08 343 *e*P **P** **20 17 50.2 -0.4**
USP Ospenovka 55.25 298 P **P** **20 17 51.4 -0.9**
SNR=8.4
TRO Tromso 55.28 345 *e*P **P** **20 17 51.9 -0.1**
KBK Karagaybulak 55.41 297 P **P** **20 17 53.0 -0.6**
SNR=5.8
FRU1 Bishkek 55.49 297 *e*P **P** **20 17 51.3 -2.7**
comp=Z,15nm,1.0s
FRU1 Bishkek 55.49 297 *e*P **P** **20 17 51.3 -2.7**
FRU1 pmax pmax
comp=Z,15nm,1.0s
NRN Naryn 55.65 295 *e*P **P** **20 17 52.7 -2.8**
comp=Z,8.9nm,1.6s
NRN Naryn 55.65 295 *e*P **P** **20 17 52.7 -2.8**
NRN pmax pmax
comp=Z,9.0nm,1.6s
AAK Ala-Archa 55.68 297 P **P** **20 17 54.6 -0.8**
SNR=8.8
AAK Ala-Archa 55.68 297 *e*P **P** **20 17 54.2 -1.2**
comp=Z,9.7nm,1.0s
AAK Ala-Archa 55.68 297 *i*P **P** **20 17 54.5 -1.0**
SNR=10
AAK Ala-Archa 55.68 297 *i*P **P** **20 17 54.2 -1.2**
AAK pmax pmax
comp=Z,8.0nm,1.0s
TMCR Tamitsa 55.68 333 *e*P **P** **20 17 53.9 -1.0**
TMCR pmax pmax
comp=Z,66nm,1.0s
NV01 Mina Array Sit 55.84 70 *e*P **P** **20 17 58.9 +2.1**
NVAR Mina Array Bea 55.84 70 P **P** **20 17 58.9 +2.1**
comp=Z,1.2nm,0.6s,baz=308,slow=7.6,SNR=2.6
NVAR LR LR 20 39 48.5
comp=Z,58nm,18.9s,baz=260,slow=34
PANO Nakornpanom 55.85 253 P **P** **20 17 58.9 +2.1**
comp=Z,0.4nm,1.1s,comp=Z,140nm
EKS2 Erkin-Say 56.05 297 P **P** **20 17 57.1 -1.0**
SNR=14
SKNT Sakolnakorn 56.36 253 P **P** **20 18 02.1 +1.7**
comp=Z,26nm,0.9s
KSH Kashi 56.96 293 P **P** **20 18 07.8 +3.2**
KSH sP sP 20 18 30.3 +14
KSH S **S** **20 25 53.4 -3.3**
KSH SS **SS** **20 29 43.4 -1.3**
KSH pmax pmax
comp=Z,21nm,1.1s
KSH pmax pmax
comp=Z,160nm,4.4s
KSH LR LR
comp=Z,200nm,9.5s
KSH LR LR
comp=Z,260nm,13.2s
KSH LR LR
comp=Z,440nm,12.8s
PAYA Payao 56.97 259 P **P** **20 18 06.7 +1.9**
comp=Z,39μm,0.8s,comp=Z,360μm
SHL Shillong 57.22 270 *e*P **P** **20 18 06.1 -0.6**
comp=Z,11nm,0.5s
SHL Shillong 57.22 270 *e*P **P** **20 18 06.1 -0.6**
SHL pmax pmax
comp=Z,11nm,0.5s
STEI Steigen 57.41 345 *e*P **P** **20 18 07.3 +0.2**
PHRA Phrae 57.41 258 P **P** **20 18 09.5 +1.6**
comp=Z,3.6nm,1.1s
LOF Lofoten 57.48 346 *e*P **P** **20 18 08.4 +0.7**
KK31 Karatay Array 57.52 300 *e*P **P** **20 18 07.0 -1.4**
comp=Z,5.8nm,0.9s
KK31 Karatay Array 57.52 300 *e*P **P** **20 18 07.0 -1.4**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 57.52 300 *e*P **P** **20 18 07.0 -1.4**
comp=Z,5.8nm,0.9s
KKAR Karatay Array 57.52 300 *e*P **P** **20 18 07.0 -1.4**
KKAR pmax pmax
comp=Z,6.0nm,0.9s
LAMP Lampang 57.75 258 P **P** **20 18 12.2 +1.9**
comp=Z,32μm,0.9s,comp=Z,337μm
PD31 Pinedale Array 57.77 61 *e*P **P** **20 18 11.9 +1.5**
comp=Z,4.2nm,0.8s
PDAR Pinedale Array 57.77 61 P **P** **20 18 11.8 +1.3**
comp=Z,1.0nm,0.7s,baz=301,slow=2.8,SNR=10
PDAR LR LR 20 40 22.8
comp=Z,44nm,21.8s,baz=286,slow=33
UTTA Uttaradit 57.80 257 P **P** **20 18 12.4 +1.8**
comp=Z,27μm,0.9s,comp=Z,202μm
KLMR Klimovskoe 57.84 330 *e*P **P** **20 18 09.3 -1.0**
KLMR pmax pmax
comp=Z,35nm,1.1s
CMMT Chiang Mai 57.94 259 P **P** **20 18 12.7 +1.1**
comp=Z,14nm,1.2s,comp=Z,155nm
CHTO Chiang Mai 57.95 259 *e*P **P** **20 18 12.8 +1.1**
comp=Z,20nm,1.0s
CHTO Chiang Mai 57.95 259 *e*P **P** **20 18 12.8 +1.1**
CHTO pmax pmax
comp=Z,20nm,1.0s
CM31 Chiang Mai Arr 58.22 259 *e*P **P** **20 18 14.2 +0.6**
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 58.22 259 P **P** **20 18 15.0 +1.4**
CMAR Chiang Mai Arr 58.22 259 P **P** **20 18 14.9 +1.4**
comp=Z,9.2nm,0.8s,baz=27,slow=7.0,SNR=59
CMAR LR LR 20 45 48.0
comp=Z,176nm,19.2s,baz=51,slow=39
CHAI Chaiyaphum 58.38 254 P **P** **20 18 16.6 +1.9**
comp=Z,15μm,1.0s
PBKT Sadao Pong 58.46 256 P **P** **20 18 17.5 +2.3**
comp=Z,5.2nm,1.1s
ABKAR Akbulak array 58.55 311 *e*P **P** **20 18 14.4 -1.0**
comp=Z,7.4nm,0.6s
ULM Lac du Bonnet 59.28 47 P **P** **20 18 23.1 +2.7**
comp=Z,1.7nm,0.6s,baz=338,slow=5.4,SNR=2.4
BTK Batken 59.46 297 *e*P **P** **20 18 21.0 -1.0**
comp=Z,10nm,0.8s
BTK Batken 59.46 297 *e*P **P** **20 18 21.0 -1.0**
BTK pmax pmax
comp=Z,10.0nm,0.8s
RSSD Black Hills 59.72 56 *e*P **P** **20 18 25.0 +1.1**
comp=Z,10nm,0.9s
RSSD Black Hills 59.72 56 *e*P **P** **20 18 25.0 +1.1**
RSSD pmax pmax
comp=Z,10.0nm,0.9s
UMPA Umpang Tak 60.01 257 P **P** **20 18 30.4 +4.4**
comp=Z,31μm,0.7s
GAR Garm 60.48 296 *e*P **P** **20 18 26.1 -3.0**
comp=Z,43nm,0.7s
GAR Garm 60.48 296 *e*P **P** **20 18 26.1 -3.0**
GAR pmax pmax
comp=Z,43nm,0.7s
N23A Red Feather La 61.01 60 *e*P **P** **20 18 34.3 +1.4**
comp=Z,3.8nm,0.8s
FIA1 FINESS Array S 61.03 337 *e*P **P** **20 18 32.4 +0.1**
comp=Z,23nm,0.6s
FIA0 FINESS Array S 61.03 337 *e*P **P** **20 18 32.9 +0.6**
FIA0 FINESS Array S 61.03 337 *e*P **P** **20 18 32.9 +0.6**
FINES FINESS Array B 61.03 337 P **P** **20 18 32.9 +0.6**
comp=Z,20nm,0.5s,baz=32,slow=8.8,SNR=242
FINES LR LR 20 48 41.2
comp=Z,163nm,19.2s,baz=24,slow=40
NSS Namsos 61.07 345 *e*P **P** **20 18 32.8 +0.3**
CHGR Chuyangaron 61.36 297 *e*P **P** **20 18 35.3 +0.3**
comp=Z,108nm,0.9s
NIL Nilore 62.63 290 *e*P **P** **20 18 43.5 -0.1**
comp=Z,19nm,0.9s
NIL Nilore 62.63 290 *e*P **P** **20 18 43.5 -0.1**
NIL pmax pmax
comp=Z,19nm,0.9s
OBN Obninsk 63.39 328*c i*P **P** **20 18 47.5 -0.7**
OBN *e* 20 21 06.7
OBN *i*S **S** **20 27 19.8 +1.4**
OBN pmax pmax
comp=Z,24nm,1.5s
OBN MLR MLR
comp=Z,152nm,20.0s
VSU Vasula 63.46 335 *e*P **P** **20 18 48.8 +0.2**
VSU IAmb IAmb 20 18 49.6
comp=Z,67nm,0.8s
MOL Molde 63.59 346 *e*P **P** **20 18 50.1 +0.7**
ECSD EROS Data Cent 63.70 52 *e*P **P** **20 18 52.0 +1.5**
comp=Z,5.8nm,1.0s
DOMB Dombas 63.87 345 *e*P **P** **20 18 51.0 -0.3**
AKN Aaknes 64.05 347 *e*P **P** **20 18 52.9 +0.4**
NC303 NORSAR Array S 64.27 344 *e*P **P** **20 18 53.1 -0.8**
comp=Z,85nm,1.6s
NC405 NORSAR Array S 64.31 344 *e*P **P** **20 18 54.5 +0.3**
comp=Z,60nm,1.5s
NC204 NORSAR Array S 64.32 344 *e*P **P** **20 18 54.1 -0.2**
comp=Z,94nm,1.6s
NB201 NORSAR Array S 64.44 344 *e*P **P** **20 18 54.6 -0.5**
comp=Z,110nm,1.6s
NB2 NORSAR Subarra 64.47 344 P **P** **20 18 54.9 -0.4**
comp=Z,6.7nm,0.7s,baz=22,slow=6.5
NB2 NORSAR Subarra 64.47 344 P **P** **20 18 54.9 -0.4**
baz=22,slow=6.5
NB200 NORSAR Array S 64.47 344 *e*P **P** **20 18 55.2 0.0**
NOA NORSAR Array B 64.47 344 P **P** **20 18 55.2 0.0**
comp=Z,5.8nm,0.7s,baz=21,slow=6.6,SNR=23
NOA LR LR 20 50 39.5
comp=Z,63nm,18.9s,baz=55,slow=40
LPSR Galich'ya Gora 64.64 325 *e*P **P** **20 18 55.5 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.8s
NC602 NORSAR Array S 64.70 344 *e*P **P** **20 18 56.9 +0.2**
VRH Novokhopyorsk 64.76 322 *e*P **P** **20 18 55.8 -1.4**
VRH pmax pmax
comp=Z,20nm,0.6s
HYA Hoyanger 65.13 347 *e*P **P** **20 18 59.9 +0.4**
SKAR Skarsla 65.28 345 *e*P **P** **20 19 00.8 +0.2**
SLIT Slitere, Latvi 65.31 337 *e*P **P** **20 19 00.2 -0.5**
SLIT IAmb IAmb 20 19 02.3
comp=Z,210nm,0.6s
VSR Storozhevoye 65.69 324 *i*P **P** **20 19 01.9 -1.4**
VSR pmax pmax
comp=Z,19nm,0.9s
ISAL Salakas 66.15 334 *e*P **P** **20 19 06.1 -0.1**
ISAL IAmb IAmb 20 19 08.1
comp=Z,17nm,1.0s
IDID Didziasalis 66.20 333 *e*P **P** **20 19 06.6 +0.1**
IDID IAmb IAmb 20 19 08.3
comp=Z,8.2nm,0.9s
IIGN Ignalina 66.32 333 *e*P **P** **20 19 07.7 +0.4**
IIGN IAmb IAmb 20 19 09.0
comp=Z,13nm,0.6s
SCHQ Schefferville 66.34 28 *e*P **P** **20 19 07.9 +0.5**
comp=Z,7.7nm,0.6s
SCHQ Schefferville 66.34 28 P **P** **20 19 06.8 -0.6**
comp=Z,7.1nm,0.6s,baz=253,slow=12,SNR=3.6
SCHQ LR LR 20 52 47.1
comp=Z,64nm,18.1s,baz=342,slow=40
PABE Paberze 66.78 335 *e*P **P** **20 19 10.3 +0.1**
PABE IAmb IAmb 20 19 11.9
comp=Z,43nm,0.9s
SNART Snartemo 67.69 345 *e*P **P** **20 19 16.3 +0.4**
GEYT Alibeck 67.77 303 P **P** **20 19 16.4 -0.4**
comp=Z,7.7nm,0.8s,baz=12,slow=3.5,SNR=18
GYA0B ALIBECK ARRAY 67.77 303 *e*P **P** **20 19 16.7 -0.1**
comp=Z,7.1nm,0.8s
MNTX Cornudas Mount 68.03 66 *e*P **P** **20 19 19.2 +0.6**
comp=Z,3.8nm,1.0s
SUW Suwalki 68.32 334 *e*P **P** **20 19 20.2 +0.2**
SUW Suwalki 68.32 334 *e*P **P** **20 19 20.2 +0.2**
WMOK Wichita Mounta 69.37 60 *e*P **P** **20 19 27.4 +0.6**
comp=Z,8.6nm,1.0s
WMOK Wichita Mounta 69.37 60 *e*P **P** **20 19 27.4 +0.6**
WMOK pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 69.50 329 P **P** **20 19 26.9 -0.4**
comp=Z,4.7nm,0.5s,baz=31,slow=6.4,SNR=42
AKASG LR LR 20 55 20.3
comp=Z,211nm,18.4s,baz=30,slow=41
AKBB Malin Array Si 69.50 329 *e*P **P** **20 19 26.9 -0.4**
comp=Z,14nm,0.8s
AKBB Malin Array Si 69.50 329 *e*P **P** **20 19 26.9 -0.4**
AKBB pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 69.51 329 ⇓*i*P **P** **20 19 27.3 -0.1**
KIEV Kiev 69.51 329 *i*P **P** **20 19 27.6 +0.3**
SNR=8.0
KIEV Kiev 69.51 329 ⇓P **P** **20 19 27.3 -0.1**
KIV Kislovodsk 70.25 317 *e*P **P** **20 19 31.0 -1.2**
comp=Z,4.7nm,0.8s
KIV Kislovodsk 70.25 317 P **P** **20 19 31.5 -0.7**
KIV Kislovodsk 70.25 317 *e*P **P** **20 19 31.0 -1.2**
KIV pmax pmax
comp=Z,17nm,1.1s
KBZ Khabaz 70.34 317 P **P** **20 19 33.2 +0.6**
comp=Z,9.3nm,0.9s,baz=64,slow=4.3,SNR=26
CCM Cathedral Cave 70.66 53 *e*P **P** **20 19 35.8 +1.1**
comp=Z,8.7nm,1.0s
CCM Cathedral Cave 70.66 53 *e*P **P** **20 19 35.8 +1.1**
CCM pmax pmax
comp=Z,9.0nm,1.0s
ZEI Tsey 70.68 316 *e*P **P** **20 19 33.5 -1.5**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
TX31 Lajitas Ar. Si 70.78 67 *e*P **P** **20 19 36.3 +0.6**
comp=Z,4.0nm,0.8s
LTX Lajitas 70.78 67 *e*P **P** **20 19 37.0 +1.3**
LTX Lajitas 70.78 67 *e*P **P** **20 19 37.0 +1.3**
TXAR Lajitas Array 70.78 67 P **P** **20 19 37.0 +1.3**
TXAR Lajitas Array 70.78 67 P **P** **20 19 37.0 +1.3**
comp=Z,1.0nm,0.6s,baz=297,slow=4.4,SNR=15
TBLG Delisi 71.17 315 *e*P **P** **20 19 37.3 -0.5**
comp=Z,9.8nm,0.8s
TBLG Delisi 71.17 315 *e*P **P** **20 19 37.3 -0.5**
TBLG pmax pmax
comp=Z,10.0nm,0.8s
OLIL Olney 71.63 50 *e*P **P** **20 19 41.3 +0.8**
comp=Z,219nm,0.8s
ANN Anapa 71.66 321 *e*P **P** **20 19 37.8 -2.8**
ANN *e**PP **pP** **20 19 49.7 +0.4**
ANN pmax pmax
comp=Z,18nm,1.1s
ANN MLR MLR
comp=Z,211nm,20.0s
SOC Sochi 71.77 319 *e*P **P** **20 19 40.2 -1.1**
SOC *e* 20 22 24.4
SOC *e*S **S** **20 29 00.6 +1.3**
SOC pmax pmax
comp=Z,11nm,0.9s
SOC MLR MLR
comp=Z,304nm,16.0s
LVV L'vov 71.84 332 *e*P **P** **20 19 41.6 0.0**
LVV MLR MLR
comp=Z,200nm,17.0s
LVV MLR MLR
comp=N,200nm,16.0s
LVV MLR MLR
comp=E,100nm,16.0s
AKH Akhalkalaki 71.98 315 *e*P **P** **20 19 43.3 +0.5**
comp=E,11nm,0.9s
AKH Akhalkalaki 71.98 315 ⇓*i*P **P** **20 19 44.0 +1.2**
KWP Kalwaria Pacla 72.39 333 *e*P **P** **20 19 45.8 +0.9**
KWP Kalwaria Pacla 72.39 333 *e*P **P** **20 19 45.7 +0.7**
comp=E,321nm,1.0s
KWP Kalwaria Pacla 72.39 333 *e*P **P** **20 19 45.8 +0.9**
USIN University of 72.45 50 *e*P **P** **20 19 45.7 +0.2**
comp=E,104nm,0.9s
GNI Garni 72.45 314 *e*P **P** **20 19 43.1 -2.6**
comp=E,7.1nm,0.8s
GNI Garni 72.45 314 P **P** **20 19 47.0 +1.3**
GNI Garni 72.45 314 *e*P **P** **20 19 43.1 -2.6**
GNI pmax pmax
comp=Z,7.0nm,0.8s
OJC Ojcow 72.65 335 *e*P **P** **20 19 47.2 +0.7**
OJC Ojcow 72.65 335 *e*P **P** **20 19 47.0 +0.6**
comp=Z,10nm,1.0s
OJC Ojcow 72.65 335 *e*P **P** **20 19 47.0 +0.6**
OJC pmax pmax
comp=Z,10.0nm,1.0s
BCA Borcka 72.75 316 ⇓*i*P **P** **20 19 47.3 +0.1**
KIS Kishinev 72.86 328 *e*P **P** **20 19 47.0 -0.8**
KIS *e*L L 20 49 46.0
KIS LRM MLR 20 55 44.0
comp=Z,300nm,16.0s
KIS Kishinev 72.86 328 *e*P **P** **20 19 47.0 -0.8**
KIS MLR MLR
comp=Z,300nm,16.0s
KSP Ksiaz 72.95 337 *e*P **P** **20 19 49.0 +0.7**
KSP Ksiaz 72.95 337 *e*P **P** **20 19 49.0 +0.7**
KOLS Kolonicke sedl 73.14 333 *e*P **P** **20 19 50.1 +0.6**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 73.14 333 *e*P **P** **20 19 50.0 +0.6**
CLL Collm 73.27 339 *e*P **P** **20 19 50.4 +0.4**
comp=Z,12nm,0.9s
CLL Collm 73.27 339 *i*P **P** **20 19 50.5 +0.4**
CLL *e* 20 20 03.0
CLL pmax pmax
comp=Z,17nm,1.1s
CLL Collm 73.27 339 *i*P **P** **20 19 50.5 +0.4**
comp=Z,17nm,1.1s
CLL *e* 20 19 57.0
CLL *e*pP **sP** **20 20 03.0 +0.8**
UPC Upice 73.33 337 *e*P **P** **20 19 51.1 +0.6**
UPC *e* 20 20 03.8
UPC MLR MLR
comp=Z,300nm,15.8s
UPC Upice 73.33 337 *e*P **P** **20 19 51.1 +0.6**
UPC *e*x x 20 20 03.8
UPC AMS AMS 20 58 30.0
comp=Z,300nm,15.8s
DPC Dobruska-Polom 73.41 337 *e*P **P** **20 19 51.8 +0.8**
DPC *e* 20 20 04.4
DPC MLR MLR
comp=Z,300nm,17.3s
DPC Dobruska-Polom 73.41 337 *e*P **P** **20 19 51.8 +0.8**
DPC *e*x x 20 20 04.4
DPC AMS AMS 20 58 20.0
comp=Z,300nm,17.3s
UZH Uzhgorod 73.41 333 *e*P **P** **20 19 49.7 -1.3**
UZH *e* 20 20 10.8
BUR08 Bucovina Ar. S 73.44 330 *e*P **P** **20 19 51.4 +0.1**
comp=Z,9.8nm,0.8s
BURAR Bucovina Array 73.46 330 ⇓*i*P **P** **20 19 51.4 0.0**
BRG Berggiesshubel 73.47 339 *e*P **P** **20 19 51.9 +0.6**
comp=Z,8.3nm,1.2s
BRG Berggiesshubel 73.47 339 *e*P **P** **20 19 51.9 +0.6**
BRG pmax pmax
comp=Z,8.0nm,1.2s
MORC Moravsky Berou 73.64 336 *e*P **P** **20 19 53.2 +0.9**
comp=Z,12nm,1.0s
MORC Moravsky Berou 73.64 336 ⇑*i*P **P** **20 19 53.2 +0.9**
MORC Moravsky Berou 73.64 336 ⇑P **P** **20 19 53.2 +0.9**
MORC Moravsky Berou 73.64 336 *e*P **P** **20 19 53.2 +0.9**
PVCC Panska Ves 73.65 338 AMS AMS 20 58 40.0
comp=Z,200nm,12.8s
LANS Liptovska Anna 73.72 334 *e*P **P** **20 19 54.6 +1.8**
LANS Liptovska Anna 73.72 334 *e*P **P** **20 19 54.6 +1.8**
BIZ Bicaz 73.79 329 ⇑*i*P **P** **20 19 53.8 +0.6**
TRPA Tarpa 73.79 332 ⇑*i*P **P** **20 19 54.1 +0.9**
TRPA Tarpa 73.79 332 ⇑*i*P **P** **20 19 53.1 -0.1**
TESR Tescani 74.00 329 ⇑*i*P **P** **20 19 54.6 +0.1**
PRU Pruhonice 74.16 338 *e*P **P** **20 19 56.1 +0.8**
PRU *e* 20 20 08.7
PRU MLR MLR
comp=Z,200nm,15.3s
PRU Pruhonice 74.16 338 *e*P **P** **20 19 56.1 +0.8**

PRU ex x 20 20 08.7
PRU AMS AMS 20 59 00.0
comp=Z,200nm,15.3s
GOPC GO Pecny, Ondr 74.17 338 AMS AMS 20 57 40.0
comp=Z,200nm,16.0s
ARCR ARCALIA 74.20 330⇑ *i* P **P 20 19 56.9 +1.3**
VRAC Vranov 74.31 336⇑ *i* P **P 20 19 57.4 +1.2**
VRAC Vranov 74.31 336 ⇑ P **P 20 19 57.4 +1.2**
VRAC Vranov 74.31 336 *eP* **P 20 19 57.1 +0.9**
NKC Novy Kostel 74.40 339 AMS AMS 20 57 20.0
comp=Z,200nm,13.9s
JAVC Velka Javorina 74.45 336 *eP* **P 20 19 58.8 +1.7**
VYHS Vyhne 74.48 335 *eP* **P 20 19 58.2 +0.9**
VYHS pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 74.48 335 *eP* **P 20 19 58.2 +0.9**
VRI Vrincioaia 74.54 328⇑ *i* P **P 20 19 57.9 +0.2**
VRI Vrincioaia 74.54 328 ⇑ P **P 20 19 57.9 +0.2**
KRUC Moravsky 74.58 336 *eP* **P 20 19 58.6 +0.8**
TREC Trest 74.59 337 AMS AMS 20 59 20.0
comp=Z,300nm,12.9s
OZUR 74.64 329⇑ *i* P **P 20 19 59.4 +1.1**
CFR Carcaliu 74.69 327⇑ *i* P **P 20 19 58.8 +0.3**
CFR Carcaliu 74.69 327 ⇑ P **P 20 19 58.8 +0.3**
PSZ Piszkesteto 74.73 334 *eP* **P 20 19 59.2 +0.5**
comp=Z,9.6nm,0.9s
PSZ Piszkesteto 74.73 334⇑ *i* P **P 20 19 59.9 +1.1**
PSZ Piszkesteto 74.73 334 ⇑ P **P 20 19 59.9 +1.1**
PSZ Piszkesteto 74.73 334⇑ *i* P **P 20 19 59.0 +0.3**
CJR Cluj-Napoca 74.76 331⇓ *i* P **P 20 20 00.0 +1.0**
CJR Cluj-Napoca 74.76 331 ⇓ P **P 20 20 00.0 +1.0**
DRGR 74.95 331⇑ *i* P **P 20 20 00.5 +0.4**
DRGR 74.95 331 ⇑ P **P 20 20 00.5 +0.4**
MODS Modra-Piesok 75.00 336 *eP* **P 20 20 01.3 +1.0**
MODS pmax pmax
comp=Z,7.0nm,0.9s
MODS Modra-Piesok 75.00 336 *eP* **P 20 20 01.2 +1.0**
MLR Muntele Rosu 75.13 329 *eP* **P 20 20 01.4 +0.2**
comp=Z,14nm,0.6s
MLR Muntele Rosu 75.13 329⇑ *i* P **P 20 20 02.2 +1.0**
MLR Muntele Rosu 75.13 329 ⇑ P **P 20 20 02.2 +1.0**
GRA1 Grafenberg Arr 75.18 340 *eP* **P 20 20 02.3 +1.0**
comp=Z,19nm,1.1s
GRFO Grafenberg 75.18 340 *eP* **P 20 20 00.5 -0.7**
comp=Z,21nm,1.2s
GRFO Grafenberg 75.18 340 *eP* **P 20 20 00.5 -0.7**
GRFO pmax pmax
comp=Z,21nm,1.2s
KHC Kasperske Hory 75.19 338 *eP* **P 20 20 01.8 +0.4**
comp=Z,4.0nm,1.0s
KHC Kasperske Hory 75.19 338 *eP* **P 20 20 02.2 +0.8**
KHC *e* 20 20 15.3
KHC MLR MLR
comp=Z,300nm,13.0s
KHC Kasperske Hory 75.19 338 *eP* **P 20 20 02.2 +0.8**
KHC *ex* x 20 20 15.3
KHC AMS AMS 20 59 20.0
comp=Z,300nm,13.0s
ZST Bratislava 75.21 336 *eP* **P 20 20 02.2 +0.8**
ZST Bratislava 75.21 336 *eP* **P 20 20 02.2 +0.8**
TLB Topalu 75.24 327⇑ *i* P **P 20 20 02.0 +0.4**
TLB Topalu 75.24 327 ⇑ P **P 20 20 02.1 +0.4**
ISR Istrita 75.27 328⇓ *i* P **P 20 20 03.3 +1.4**
ISR Istrita 75.27 328 ⇓ P **P 20 20 03.3 +1.4**
GEC2 GERESS Array S 75.43 338 *eP* **P 20 20 03.5 +0.7**
comp=Z,5.9nm,1.1s
GEC2 GERESS Array S 75.43 338 *eP* **P 20 20 03.5 +0.7**
GEC2 pmax pmax
comp=Z,6.0nm,1.1s
GERES GERESS Array B 75.43 338 P **P 20 20 03.5 +0.7**
comp=Z,2.0nm,0.5s,baz=36,slow=5.3,SNR=16
GERES LR LR 20 57 29.3
comp=Z,77nm,19.1s,baz=36,slow=39
VOIR 75.46 329⇑ *i* P **P 20 20 04.1 +1.1**
VOIR 75.46 329 ⇑ P **P 20 20 04.1 +1.1**
ARR Arges 75.65 330⇑ *i* P **P 20 20 05.5 +1.4**
CSKK Cskako 75.68 335 *eP* **P 20 20 04.0 -0.1**
SIRR Siria 75.74 332⇑ *i* P **P 20 20 05.3 +0.8**
ICOR Ion Corvin 75.74 327⇓ *i* P **P 20 20 05.1 +0.6**
CONA Conrad Observa 75.77 336 *i* P **P 20 20 06.3 +1.5**
comp=Z,10.0nm,1.1s,SNR=5.3
GZR Gura Zlata 76.20 331⇑ *i* P **P 20 20 07.6 +0.4**
GZR Gura Zlata 76.20 331 ⇑ P **P 20 20 07.6 +0.4**
MOA Molln 76.23 337 *i* P **P 20 20 08.4 +1.1**
comp=Z,5.3nm,0.9s
FITZ Fitzroy Crossi 76.27 214 P **P 20 20 08.8 +1.1**
comp=Z,1.7nm,0.7s,baz=15,slow=6.6,SNR=7.4
ILGA Ilgaz 76.28 321 *eP* **P 20 20 08.9 +0.9**
comp=Z,20nm,0.8s
BZS Buzias 76.34 332⇑ *i* P **P 20 20 08.1 +0.2**
BZS Buzias 76.34 332 ⇑ P **P 20 20 08.1 +0.2**
ARSA Arzberg 76.48 336 *i* P **P 20 20 10.2 +1.4**
comp=Z,6.5nm,0.9s
HERR Herculane 76.77 331⇑ *i* P **P 20 20 10.6 +0.2**
BFO Black Forest 77.06 341 *eP* **P 20 20 12.9 +0.8**
comp=Z,32nm,1.9s
BFO Black Forest 77.06 341 *eP* **P 20 20 12.9 +0.8**
BFO pmax pmax
comp=Z,32nm,1.9s
MDVR Moldovita 77.07 331⇓ *i* P **P 20 20 12.4 +0.2**
SOKA Soboth 77.14 336 *i* P **P 20 20 13.9 +1.3**
comp=Z,4.1nm,0.5s,SNR=5.4
PERS Pernice 77.16 336 *i* P **P 20 20 13.6 +1.0**
PUNG Punghina 77.16 330⇓ *i* P **P 20 20 12.8 +0.2**
KBA Koelnbreinsper 77.17 338 *i* P **P 20 20 14.7 +1.8**
comp=Z,22nm,0.8s,SNR=14
WATA Walderalm 77.33 339 *i* P **P 20 20 15.6 +1.9**
comp=Z,12nm,1.2s
WTTA Wattenberg 77.38 339 *i* P **P 20 20 15.5 +1.4**
comp=Z,10nm,1.0s
ECH Echery 77.40 342 *eP* **P 20 20 14.6 +0.7**
comp=Z,11nm,1.1s
ECH Echery 77.40 342 *eP* **P 20 20 14.6 +0.7**
ECH pmax pmax
comp=Z,11nm,1.1s
OBKA Obir 77.42 337 *i* P **P 20 20 15.1 +1.0**
comp=Z,16nm,1.2s
MOTA Moosalm 77.42 339 *i* P **P 20 20 14.6 +0.4**
comp=Z,4.5nm,0.7s,SNR=5.3
BR101 Keskin Array S 77.45 321 *eP* **P 20 20 14.8 +0.2**
BR131 Keskin Array S 77.45 321 *eP* **P 20 20 14.7 +0.2**
comp=Z,10nm,1.2s
BRTR Keskin Array B 77.45 321 P **P 20 20 14.8 +0.2**
comp=Z,4.1nm,0.8s,baz=35,slow=4.5,SNR=20
BRTR LR LR 20 59 47.7
comp=Z,97nm,20.2s,baz=36,slow=40
SQTA Sankt Quirin 77.52 339 *i* P **P 20 20 16.0 +1.3**
comp=Z,8.6nm,0.8s
ABTA Abfaltersbach 77.67 338 *i* P **P 20 20 16.3 +0.8**
comp=Z,14nm,1.4s,SNR=6.2
MDUB Mudurnu 77.74 323 *eP* **P 20 20 16.7 +0.6**
comp=Z,57nm,0.8s
DAVA Damuels 77.74 340 *i* P **P 20 20 17.3 +1.2**
comp=Z,8.6nm,1.2s
FETA Feichten 77.81 339 *i* P **P 20 20 17.8 +1.4**
comp=Z,10.0nm,1.1s
VISS Visnje 78.00 336 *i* P **P 20 20 17.8 +0.5**
SHME Shamm 78.03 297 P **P 20 20 17.4 -0.4**
JAVS Javornik 78.11 337 *i* P **P 20 20 15.2 -2.7**
AUMIH MIHALICIK 78.16 322 *i* P **P 20 20 19.3 +0.9**
BOJS Bojanci 78.18 336 *i* P **P 20 20 19.1 +0.8**
FUORN Ofenpass-Fuorn 78.30 340 *eP* **P 20 20 19.7 +0.5**
comp=Z,32nm,1.7s
VTS Vitosha 78.57 329 *eP* **P 20 20 20.5 -0.2**
comp=Z,7.9nm,0.6s
VTS Vitosha 78.57 329⇑ *i* P **P 20 20 21.0 +0.3**
VTS Vitosha 78.57 329 ⇑ P **P 20 20 21.0 +0.3**
MSFE Esma-Masafi 78.57 297 P **P 20 20 20.8 0.0**
TUE Stuetta 78.63 340 *eP* **P 20 20 21.8 +0.8**
comp=Z,11nm,0.8s
WSAR Wadi Sarin 78.86 293 P **P 20 20 22.8 +0.4**
comp=Z,7.4nm,0.8s,baz=286,slow=8.9,SNR=7.5
HATD Hatta, Dubai 79.01 296 *i* P **P 20 20 23.0 -0.1**
SNR=7.1
AS31 Alice Springs 79.03 205 *eP* **P 20 20 24.2 +1.1**
comp=Z,4.9nm,1.8s
ASAR Alice Springs 79.03 205 P **P 20 20 24.1 +1.1**
comp=Z,1.8nm,0.7s,baz=16,slow=5.4,SNR=37
ASHO Ashiyiah 79.16 296 *i* P **P 20 20 24.0 -0.1**
SNR=7.2
ASUD Al Ashush, Dub 79.61 297 P **P 20 20 26.2 -0.2**
BALB Balikesir 79.67 325 *eP* **P 20 20 26.4 -0.2**
comp=Z,89nm,1.2s
STIP Stip 79.73 330 *i* P **P 20 20 26.2 -0.6**
PDG Podgorica 79.94 332⇑ *i* P **P 20 20 27.7 -0.2**

VAY Valandovo 79.95 329 *i* P **P 20 20 28.6 +0.6**
KRUS Krusevo 80.32 330 *i* P **P 20 20 30.3 +0.2**
MANT Manisa 80.45 324 *eP* **P 20 20 30.7 -0.4**
comp=Z,54nm,1.1s
OHR Ohrid 80.69 330 *i* P **P 20 20 27.6 -4.5**
CSS Mathiatis 81.69 319 *eP* **P 20 20 37.4 -0.1**
comp=Z,16nm,0.8s
PPT Papeete 81.88 132 LR LR 20 52 06.4
comp=Z,51nm,20.5s,baz=354,slow=32
ESDC Sonseca Array 87.50 348 P **P 20 21 07.5 +0.8**
comp=Z,1.9nm,0.7s,baz=4.7,slow=5.0,SNR=10

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*SJA **22** 20:10:11.7±0.6, 24°.19S×67°.18W, h190km±4km, ML2.7, MW3.0*
*ISCJB **22** 20:10:13.0±0.8, 24°.18S±0°.04×67°.27W±0°.03, h173km±10km, Error ellipse: s-maj=6.4km s-min=4.2km az=26.1*
*GUC **22** 20:10:14.2±0.5, 24°.16S×67°.61W, h220km±8km, ML3.8*
ISC 22 20:10:11.6±2.0, 24°.20S±0°.04×67°.23W±0°.04, h193km±18km, n42, σ1§30/63, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.65**	**109**	*eP*	**Pn**	**20 10 46.8**	**+0.6**
SLA				IAML		20 10 48.7	
comp=Z,90nm,0.7s							
SLA				*eS*	**Sn**	**20 11 12.2**	**-1.0**
HJA	**Humahuaca**	**1.94**	**60**	*eP*	**Pn**	**20 10 50.0**	**+0.7**
HJA				IAML		20 10 51.2	
comp=Z,50nm,0.5s							
HJA				*eS*	**Sn**	**20 11 18.0**	**-0.6**
AZAP	**Zapla**	**1.97**	**91**	*eP*	**Pn**	**20 10 50.2**	**+0.7**
AZAP				IAML		20 10 51.3	
comp=Z,73nm,0.5s							
AZAP				*eS*	**Sn**	**20 11 17.9**	**-1.0**
FSA	**Cafayete**	**2.21**	**150**	*eP*	**Pn**	**20 10 53.0**	**+1.0**
FSA				IAML		20 10 54.9	
comp=Z,5.2nm,0.3s							
FSA				*eS*	**Sn**	**20 11 22.6**	**-1.0**
LVC	**Limon Verde**	**2.21**	**315**	*eP*	**Pn**	**20 10 53.3**	**+1.1**
LVC				IAML		20 10 54.0	
comp=Z,82nm,0.3s							
LVC				*eS*	**Sn**	**20 11 23.5**	**-0.3**
LVC	**Limon Verde**	**2.21**	**315**	P	**Pn**	**20 10 53.2**	**+0.9**
LVC				P	**Pn**	**20 10 53.2**	**+0.9**
PB15	**IPOC Station P**	**2.28**	**295**	*eP*	**Pn**	**20 10 53.8**	**+0.9**
PB15				*eS*	**Sn**	**20 11 25.1**	**+0.3**
PB15	**IPOC Station P**	**2.28**	**295⇑**	*eP*	**Pn**	**20 10 54.1**	**+1.3**
PB15				*eS*	**Sn**	**20 11 24.1**	**-0.7**
PB15	**IPOC Station P**	**2.28**	**295**	P	**Pn**	**20 10 53.8**	**+0.9**
PB15				S	**Sn**	**20 11 23.6**	**-1.2**
GO02	**Mina Guanaco**	**2.35**	**245⇑**	*iP*	**Pn**	**20 10 55.0**	**+1.4**
GO02				*i* S	**Sn**	**20 11 26.4**	**0.0**
GO02				IAML		20 11 27.7	
comp=N,1μm,0.2s							
YJA	**Yavi**	**2.56**	**38**	*eP*	**Pn**	**20 10 57.0**	**+0.8**
YJA				IAML		20 10 58.4	
comp=Z,9.8nm,0.3s							
YJA				*eS*	**Sn**	**20 11 30.2**	**-0.6**
PB06	**IPOC Station P**	**2.62**	**304**	*eP*	**Pn**	**20 10 57.6**	**+1.1**
PB06	**IPOC Station P**	**2.62**	**304⇑**	*iP*	**Pn**	**20 10 57.7**	**+1.2**
PB06				*eS*	**Sn**	**20 11 30.7**	**-0.9**
PB06				IAML		20 11 35.9	
comp=E,180nm,0.1s							
PB06	**IPOC Station P**	**2.62**	**304**	P	**Pn**	**20 10 57.5**	**+0.9**
PB06				S	**Sn**	**20 11 32.9**	**+1.3**
PB14	**IPOC Station P**	**2.93**	**261**	*eP*	**Pn**	**20 11 01.4**	**+1.1**
PB14	**IPOC Station P**	**2.93**	**261**	*eP*	**Pn**	**20 11 01.0**	**+0.7**
PB14				*i* S	**Sn**	**20 11 36.3**	**-2.0**
PB14				IAML		20 11 37.6	
comp=E,295nm,0.5s							
PB09	**IPOC Station P**	**3.03**	**322**	*eP*	**Pn**	**20 11 02.5**	**+1.1**
PB09	**IPOC Station P**	**3.03**	**322⇑**	*iP*	**Pn**	**20 11 02.8**	**+1.4**
PB09				*i* S	**Sn**	**20 11 40.0**	**-0.3**
PB09				IAML		20 11 44.4	
comp=E,124nm,0.5s							
PB09	**IPOC Station P**	**3.03**	**322**	P	**Pn**	**20 11 02.7**	**+1.3**
PB05	**IPOC Station P**	**3.04**	**296**	*eP*	**Pn**	**20 11 02.5**	**+1.0**
PB05	**IPOC Station P**	**3.04**	**296**	*eP*	**Pn**	**20 11 02.1**	**+0.7**
PB05				*eS*	**Sn**	**20 11 38.1**	**-2.4**
PB05				IAML		20 11 42.3	
comp=E,101nm,0.2s							
PB05	**IPOC Station P**	**3.04**	**296**	P	**Pn**	**20 11 02.2**	**+0.7**
AHML	**Horco Molle**	**3.09**	**147**	*eP*	**Pn**	**20 11 02.6**	**+0.6**
AHML				IAML		20 11 03.7	
comp=Z,11nm,0.5s							
PB10	**IPOC Station P**	**3.12**	**282**	*eP*	**Pn**	**20 11 03.4**	**+1.0**
PB10	**IPOC Station P**	**3.12**	**282**	*eP*	**Pn**	**20 11 02.5**	**+0.2**
PB10				*eS*	**Sn**	**20 11 39.0**	**-2.9**
PB10				IAML		20 11 43.7	
comp=E,101nm,0.2s							
PB10	**IPOC Station P**	**3.12**	**282**	P	**Pn**	**20 11 06.0**	**+3.7**
PB03	**IPOC Station P**	**3.16**	**312**	*eP*	**Pn**	**20 11 03.9**	**+0.9**
PB03	**IPOC Station P**	**3.16**	**312⇑**	*eP*	**Pn**	**20 11 03.7**	**+0.7**
PB03				*eS*	**Sn**	**20 11 41.3**	**-1.8**
PB03				IAML		20 11 47.1	
comp=N,129nm,0.3s							
PB03	**IPOC Station P**	**3.16**	**312**	P	**Pn**	**20 11 03.7**	**+0.7**
PB04	**IPOC Station P**	**3.27**	**304**	*eP*	**Pn**	**20 11 05.3**	**+1.0**
PB04	**IPOC Station P**	**3.27**	**304**	P	**Pn**	**20 11 05.4**	**+1.1**
PB07	**IPOC Station P**	**3.47**	**315**	*eP*	**Pn**	**20 11 07.9**	**+1.1**
PB07	**IPOC Station P**	**3.47**	**315**	*eP*	**Pn**	**20 11 07.5**	**+0.7**
PB07				*eS*	**Sn**	**20 11 47.9**	**-2.0**
PB07	**IPOC Station P**	**3.47**	**315**	P	**Pn**	**20 11 07.3**	**+0.5**
PB01	**IPOC Station P**	**3.77**	**326**	*eP*	**Pn**	**20 11 10.8**	**+0.4**
PB01				*eS*	**Sn**	**20 11 54.5**	**-2.0**
PB01	**IPOC Station P**	**3.77**	**326**	P	**Pn**	**20 11 13.3**	**+2.9**
PB02	**IPOC Station P**	**3.78**	**319**	*eP*	**Pn**	**20 11 11.1**	**+0.6**
PB02	**IPOC Station P**	**3.78**	**319**	*eP*	**Pn**	**20 11 10.8**	**+0.3**
PB02				*i* S	**Sn**	**20 11 54.9**	**-1.7**
GO03	**Copiap**	**4.33**	**218**	*eP*	**Pn**	**20 11 18.1**	**+0.8**
PB08	**IPOC Station P**	**4.42**	**336**	*eP*	**Pn**	**20 11 19.7**	**+0.9**
PB08	**IPOC Station P**	**4.42**	**336**	P	**Pn**	**20 11 20.7**	**+1.9**
PB11	**IPOC Station P**	**4.96**	**333**	*eP*	**Pn**	**20 11 26.2**	**+0.7**

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*ANF **22** 20:10:40.8±0.5, 32°.34N×115°.21W, h15km±3km, ML2.9/11, Error ellipse: s-maj=4.2km s-min=2.3km az=161.0*
*ISCJB **22** 20:10:41.5±0.6, 32°.39N±0°.03×115°.17W±0°.03, h8km±4km, Error ellipse: s-maj=5.1km s-min=3.7km az=173.6*
*ECX **22** 20:10:43.4±0.7, 32°.43N×115°.18W, h8km, MD2.8, ML3.0*
*NEIC **22** 20:10:43.4±0.0, 32°.43N×115°.18W, h8km, MD3.0(ECX), ML2.9(PAS), After ECX.*
*PAS **22** 20:10:43.3±0.0, 32°.42N×115°.21W, h30km*
*SCEDC **22** 20:10:45.0, 32°.54N×115°.21W, h33km*
ISC 22 20:10:42.3±0.9, 32°.39N±0°.03×115°.21W±0°.03, h13km±6km, n35, σ1§05/45, 2C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.08**	**291**	*eP*	**Pg**	**20 10 44.9**	**-0.3**
CPBX				*eS*	**Sg**	**20 10 47.7**	**+0.6**
CPBX				IAML		20 10 49.0	
comp=N,24μm,0.4s							
CPBX				*e*		20 10 49.0	
SGL	**Mount Signal**	**0.51**	**301⇓**	*iP*	**Pg**	**20 10 52.7**	**+0.5**
WESC	**Westside Schoo**	**0.57**	**310**	*eP*	**Pg**	**20 10 53.6**	**+0.1**
YUH	**Yuha Desert**	**0.65**	**294**	*eP*	**Pg**	**20 10 55.2**	**+0.1**
GLA	**Glamis**	**0.74**	**26**	*ePg*	**Pg**	**20 10 56.3**	**-0.3**
GLA	**Glamis**	**0.74**	**26**	P	**Pg**	**20 10 56.5**	**-0.2**
baz=212,SNR=106							
GLA				S	**Sb**	**20 11 06.8**	**-0.3**
baz=212							
SWSC	**Sam W. Stewart**	**0.74**	**318**	P	**Pg**	**20 10 56.3**	**-0.5**
baz=129,SNR=18							
SWSC				S	**Sg**	**20 11 06.1**	**-0.4**
baz=129							
RMX	**La Rumorosa**	**0.76**	**287**	*eP*	**Pg**	**20 10 56.4**	**-0.7**
IKP	**In-Ko-Pah, Jac**	**0.80**	**289**	P	**Pg**	**20 10 57.8**	**-0.1**
baz=98,SNR=51							
IKP				Sb	**Sb**	**20 11 09.6**	**+0.7**
baz=98							
IKP	**In-Ko-Pah, Jac**	**0.80**	**289⇓**	*eP*	**Pg**	**20 10 58.0**	**+0.1**
ECBX	**El Chinero**	**0.92**	**171⇑**	*eP*	**Pb**	**20 10 59.7**	**-0.4**
ECBX				*eS*	**Sb**	**20 11 13.4**	**+1.1**
MONP2	**Monument Peak**	**1.14**	**297**	P	**Pb**	**20 11 02.9**	**-1.1**
baz=109,SNR=22							
MONP2				S	**Sb**	**20 11 18.0**	**-0.7**
baz=109							
MONP2	**Monument Peak**	**1.14**	**297**	*eP*	**Pb**	**20 11 03.2**	**-0.7**
CBX	**Cerro Bola**	**1.23**	**267**	*eP*	**Pn**	**20 11 05.4**	**+0.1**
CBX				*eS*	**Sb**	**20 11 22.2**	**+0.9**
CBX				IAML		20 11 26.6	
comp=E,271nm,0.5s							
CBX				⇑*e*		20 11 26.6	
113A	**Mohawk Valley,**	**1.28**	**72**	*ePn*	**Pn**	**20 11 04.6**	**-1.2**
BC3	**Big Chuckawall**	**1.28**	**351**	P	**Pn**	**20 11 04.7**	**-1.3**
baz=169,SNR=34							
Y12C	**Blythe**	**1.48**	**23**	*ePn*	**Pn**	**20 11 09.3**	**+0.7**
Y12C	**Blythe**	**1.48**	**23**	Pg	**Pb**	**20 11 10.0**	**+0.4**
baz=205,SNR=26							
Y12C				S	**Sn**	**20 11 27.7**	**-0.1**
baz=205							
PFO	**Pinyon Flats O**	**1.61**	**320**	*ePn*	**Pn**	**20 11 08.8**	**-1.7**
PFO	**Pinyon Flats O**	**1.61**	**320**	P	**Pn**	**20 11 08.7**	**-1.7**
baz=135							
109C	**Camp Elliot, M**	**1.67**	**288**	Pg	**Pb**	**20 11 13.1**	**+0.1**
baz=102							
109C				Sb	**Sb**	**20 11 34.0**	**+0.1**
baz=102							
CPE	**Camp Elliot**	**1.67**	**288**	*ePn*	**Pn**	**20 11 12.8**	**+1.5**
IRM	**Iron Mountain**	**1.77**	**2**	Pg	**Pb**	**20 11 15.6**	**+1.1**
baz=182							
IRM				Sb	**Sg**	**20 11 38.5**	**-0.7**
baz=182							
214A	**Organ Pipe Nat**	**2.08**	**101**	P	**Pn**	**20 11 15.2**	**-1.8**
baz=287							
PDMCI	**Parker Dam,Lak**	**2.11**	**25**	Sb	**Sg**	**20 11 48.4**	**-1.7**
baz=207							
Y14A	**Wickenburg**	**2.41**	**50**	*ePn*	**Pn**	**20 11 23.0**	**+1.6**
CIS	**Catalina Islan**	**2.88**	**291**	Sb	**Sb**	**20 12 11.1**	**+2.5**
baz=107							
W13A	**Hualapai Mount**	**2.92**	**22**	*ePn*	**Pn**	**20 11 29.3**	**+0.7**
GSC	**Goldstone, Bar**	**3.19**	**336**	*ePn*	**Pn**	**20 11 31.1**	**-1.2**
TUC	**Tucson**	**3.75**	**90**	*ePn*	**Pn**	**20 11 38.4**	**-1.4**
X16A	**Lo Mia Camp, P**	**3.75**	**56**	*ePn*	**Pn**	**20 11 40.7**	**+0.7**
TPNV	**Topopah Spring**	**4.63**	**350**	*ePn*	**Pn**	**20 11 51.9**	**-0.2**
U15A	**North Rim**	**4.70**	**30**	*ePn*	**Pn**	**20 11 54.5**	**+1.4**
X18A	**Snowflake**	**4.89**	**63**	*ePn*	**Pn**	**20 11 57.6**	**+1.9**
319A	**Douglas**	**5.14**	**100**	*ePn*	**Pn**	**20 11 59.7**	**+0.6**

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*IDC **22** 20:13:05.1±0.8, 7°.30N×94°.18E, h0km, mb4.0/12, mb1 4.1/14, mb1mx3.9/39, mbtmp4.0/14, ML4.0/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/41, Error ellipse: s-maj=35.5km s-min=16.7km az=55.0*
*ISCJB **22** 20:13:06.5±0.4, 7°.34N±0°.07×94°.34E±0°.06, h24km, mb4.2/25, MS3.5/2, Error ellipse: s-maj=11.6km s-min=5.3km az=40.5*
*NEIC **22** 20:13:08.2±2.4, 7°.34N×94°.31E, h25km±6km, mb4.4/17, Error ellipse: s-maj=22.4km s-min=11.7km az=74.0*
ISC 22 20:13:08.4±0.6, 7°.37N±0°.08×94°.34E±0°.09, h24km, n69, σ1§37/60, mb4.3/25, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.36**	**129**	*ePn*	**Pn**	**20 14 00.7**	**+1.4**
PKDT	**Phuket**	**4.00**	**82**	P	**Pn**	**20 14 08.9**	**+0.7**
KRAB	**Krabi**	**4.89**	**80**	P	**Pn**	**20 14 21.8**	**+1.4**
TRTT	**Trang**	**5.33**	**85**	P	**Pn**	**20 14 27.1**	**+0.6**
PSI	**Prapat**	**6.44**	**135**	*ePn*	**Pn**	**20 14 41.3**	**-0.5**
PSI	**Prapat**	**6.44**	**135**	Pn	**Pn**	**20 14 45.2**	**+3.4**
1.4nm,0.3s,baz=322,slow=11,SNR=8.3							
PSI				LR	LR	20 17 14.4	
comp=Z,133nm,20.6s,baz=300,slow=38							
KULM	**Kulim**	**6.61**	**108**	*ePn*	**Pn**	**20 14 43.8**	**-0.2**
IPM	**Ipoh**	**7.25**	**113**	*ePn*	**Pn**	**20 14 51.6**	**-1.2**
MYKOM	**Kota Tinggi**	**10.98**	**120**	*ePn*	**Pn**	**20 15 45.0**	**+0.9**
PBKT	**Sadao Pong**	**11.21**	**35**	P	Pn	20 15 55.9	+8.7
4.3nm,1.5s							
CM31	**Chiang Mai Arr**	**11.90**	**22**	*ePn*	**Pn**	**20 15 56.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**11.90**	**22**	Pn	**Pn**	**20 15 58.5**	**+1.8**
0.4nm,0.3s,baz=212,slow=14,SNR=10							
CMAR				LR	LR	20 20 32.5	
comp=Z,127nm,18.4s,baz=204,slow=37							
CMMT	**Chiang Mai**	**12.23**	**21**	P	P	20 16 21.7	+8.3
4.2nm,1.1s							
PAYA	**Payao**	**13.07**	**24**	P	P	20 16 32.4	+10
13μm,0.9s							
SLVN	**Son La**	**16.68**	**33**	*ePn*	**P**	**20 17 05.0**	**+2.1**
11nm,1.0s							
KSM	**Kuching**	**16.96**	**109**	*ePn*	**Pn**	**20 17 00.7**	**-3.6**
13nm,1.0s							
SHL	**Shillong**	**18.25**	**353**	*ePn*	**Pn**	**20 17 17.3**	**-3.0**
11nm,0.5s							
LEM	**Lembang**	**19.35**	**136**	LR	LR	20 26 49.4	
comp=Z,168nm,19.9s,baz=270,slow=42							
ODAN	**Odare**	**20.48**	**342**	*eP*	**P**	**20 17 45.5**	**+0.7**
RAMN	**Ramite**	**20.81**	**340**	*eP*	Pn	20 17 49.7	-1.3
PKI	**Pulchoki**	**21.80**	**338**	*eP*	**P**	**20 17 59.5**	**+0.3**
PKIN	**Phulchoki**	**21.81**	**338**	*eP*	**P**	**20 17 59.4**	**+0.2**
KKN	**Kakani**	**22.05**	**338**	*eP*	**P**	**20 18 01.9**	**+0.2**
GKN	**Gorkha**	**22.48**	**337**	*eP*	**P**	**20 18 06.0**	**-0.3**
KOLN	**Koldanda**	**22.70**	**335**	*eP*	**P**	**20 18 08.5**	**-0.1**
PYUN	**Piuthan**	**23.25**	**334**	*eP*	**P**	**20 18 14.8**	**+0.5**
H08S3	**Diego Garcia H**	**26.40**	**236**	T	T	20 45 26.3	
baz=55,slow=75,SNR=15							
H08S2	**Diego Garcia H**	**26.40**	**236**	T	T	20 45 21.7	
baz=55,slow=75,SNR=11							
H08S1	**Diego Carcia H**	**26.41**	**236**	T	T	20 45 26.6	
baz=55,slow=75,SNR=16							
BATI	**Baumata**	**34.03**	**120**	LR	LR	20 33 56.6	
comp=Z,121nm,20.6s,baz=310,slow=37							
ARSB	**Arslanbob**	**38.78**	**334**	*eP*	**P**	**20 20 30.3**	**-1.0**
AAK	**Ala-Archa**	**39.24**	**337**	*eP*	P	20 20 27.4	-7.7
3.7nm,0.9s							
MK31	**Makanchi Array**	**40.62**	**347**	*eP*	**P**	**20 20 46.2**	**-0.2**
3.6nm,0.7s							
MK32	**Makanchi Array**	**40.62**	**347**	*eP*	**P**	**20 20 46.3**	**-0.1**
MKAR	**Makanchi Array**	**40.62**	**347**	*eP*	**P**	**20 20 45.8**	**-0.6**
MKAR	**Makanchi Array**	**40.62**	**347**	P	**P**	**20 20 46.3**	**-0.1**
4.1nm,0.6s,baz=169,slow=8.1,SNR=26							
MAKZ	**Makanchi**	**40.70**	**347**	*eP*	**P**	**20 20 46.5**	**-0.5**
4.3nm,0.6s							
KKAR	**Karatay Array**	**41.30**	**333**	*eP*	**P**	**20 20 48.4**	**-3.6**
SONA0	**Songino Array**	**41.61**	**12**	*eP*	**P**	**20 20 57.3**	**+2.7**
SONM	**Songino Array**	**41.61**	**12**	P	**P**	**20 20 57.3**	**+2.7**
0.7nm,0.6s,baz=201,slow=7.7,SNR=4.6							
KSRS

NOA	NORSAR Array B	80.26	331	P	P	20 25 16.6	-0.4
	comp=Z,1.1nm,0.7s,baz=94,slow=5.2,SNR=4.3						
TORD	Torodi Ar. Bea	90.90	283	P	P	20 26 11.9	+1.0
	comp=Z,0.3nm,0.7s,baz=66,slow=4.9,SNR=2.8						
TOA1	Torodi Ar. Sit	90.90	283	eP	P	20 26 11.9	+1.0
ESDC	Sonseca Array	91.69	310	P	P	20 26 15.2	+1.1
	comp=Z,0.3nm,0.5s,baz=58,slow=3.7,SNR=3.4						
IMAR	Indian Mountai	92.02	22	eP	P	20 26 15.9	+0.8
CAST	Castle Rocks	93.71	24	eP	P	20 26 21.0	-2.0
	comp=Z,4.4nm,0.8s						

KRSC 22 20:19:44.0±10.0, 52°.16N×160°.65E, h42km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.01	338	eP	Pn	20 20 02.8	+1.1
SPN				eS	Sn	20 20 15.2	+0.4
NLC	Nalytchevo	1.28	322	eP	Pn	20 20 06.9	+1.4
NLC				eS	Sn	20 20 23.7	+2.2
RUS	Russkaya	1.34	282	eP	Pn	20 20 07.6	+1.4
RUS				eS	Sn	20 20 23.3	+0.5
DALK	Dalny	1.45	308	eP	Pn	20 20 09.3	+1.6
DALK				eS	Sn	20 20 27.1	+1.7
UGLR	Uglovaya	1.53	314	eP	Pn	20 20 11.5	+2.6
UGLR				eS	Sn	20 20 31.5	+3.9
MTVR	Mutnovka	1.55	283	eP	Pn	20 20 11.0	+1.8
MTVR				eS	Sn	20 20 29.8	+1.6
SDLR	Sedlovina	1.55	317	eP	Pn	20 20 11.3	+2.1
SMAR	Somma	1.57	315	eP	Pn	20 20 12.2	+2.5
AVH	Avacha	1.60	314	eP	Pn	20 20 12.4	+2.5
KRER	Koryakskii	1.63	315	eP	Pn	20 20 12.9	+2.6
KDTR	Khodutka, Kamc	1.63	258	eP	Pn	20 20 11.6	+1.4
KDTR				eS	Sn	20 20 30.1	+0.1
KOK	Koryaka	1.67	313	eP	Pn	20 20 13.4	+2.6
KRMR	Karymshinskiy	1.68	294	eP	Pn	20 20 12.7	+1.8
KRMR				eS	Sn	20 20 32.5	+1.3
ASAK	Asacha	1.71	278	eP	Pn	20 20 13.6	+2.3
KRX	Arik	1.71	315	eP	Pn	20 20 13.8	+2.4
APC	Apacha	2.27	291	P	Pn	20 20 22.1	+3.2
MKZ	Mys Kozlova	2.48	15	eP	Pn	20 20 24.0	+2.1
MKZ				eS	Sn	20 20 52.5	+1.6
KZV	Kizimen	2.96	356	eP	Pn	20 20 33.2	+4.6
KZV				eS	Sn	20 21 06.3	+3.3
TUMD	Tumrok D	3.05	357	eS	Sn	20 21 07.4	+2.5

IDC 22 20:22:12.2±3.6, 51°.60N×160°.47E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.2/39, mbtmp3.6/3, ML2.4/1, Error ellipse: s-maj=105.1km s-min=49.6km az=33.0
KRSC 22 20:22:15.4±10.0, 52°.02N×160°.80E, h61km±10km, ML3.7
ISC 22 20:22:14.4±3.4, 52°.01N±0°.07×160°.77E±0°.06, h10km±21km, n24, σ1§05/37, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.19	338	eP	Pn	20 22 36.6	-0.3
SPN				eS	Sb	20 22 50.5	-1.7
RUS	Russkaya	1.45	288	eP	Pn	20 22 40.9	+0.3
RUS				eS	Sb	20 22 59.7	-0.2
NLC	Nalytchevo	1.45	324	eP	Pn	20 22 41.1	+0.5
NLC				eS	Sb	20 23 00.1	+0.1
DALK	Dalny	1.60	311	eP	Pn	20 22 43.2	+0.6
DALK				eS	Sn	20 23 02.9	-0.4
MTVR	Mutnovka	1.66	288	eP	Pn	20 22 44.4	+0.8
MTVR				eS	Sn	20 23 04.1	-0.9
KDTR	Khodutka, Kamc	1.68	264	eP	Pb	20 22 44.7	-0.5
KDTR				eS	Sn	20 23 04.0	-1.2
UGLR	Uglovaya	1.69	316	eP	Pb	20 22 45.3	-0.2
UGLR				eS	Sb	20 23 07.1	+0.2
SDLR	Sedlovina	1.71	319	eP	Pn	20 22 45.5	+1.2
SMAR	Somma	1.74	317	eP	Pb	20 22 46.4	0.0
AVH	Avacha	1.77	316	eP	Pb	20 22 46.7	-0.1
KRER	Koryakskii	1.79	317	eP	Pb	20 22 47.0	-0.3
KRER				eS	Sb	20 23 09.5	-0.3
ASAK	Asacha	1.80	283	eP	Pb	20 22 46.8	-0.7
KRMR	Karymshinskiy	1.81	298	eP	Pn	20 22 46.3	+0.7
KRMR				eS	Sn	20 23 08.6	0.0
KOK	Koryaka	1.83	316	eP	Pb	20 22 47.4	-0.5
KRX	Arik	1.87	317	eP	Pb	20 22 48.0	-0.7
PETK	Petropavlovsk-	2.17	302	Pn	Pn	20 22 51.8	+1.2
	5.0nm,0.3s,baz=106,slow=19,SNR=12						
PETK				Sn	Sb	20 23 19.6	-1.1
	4.1nm,0.3s,baz=111,slow=21,SNR=3.6						
APC	Apacha	2.39	294	eP	Pb	20 22 56.2	-1.2
APC				eS	Sn	20 23 23.8	+1.0
MKZ	Mys Kozlova	2.62	12	eP	Pn	20 22 58.1	+1.5
MKZ				eS	Sn	20 23 27.2	-1.2
KZV	Kizimen	3.13	355	eP	Pn	20 23 06.4	+2.6
KZV				eS	Sn	20 23 41.1	-0.1
SKR	Severo-Kuril's	3.20	247	eS	Sn	20 23 42.4	-0.4
TUMD	Tumrok D	3.21	356	eS	Sn	20 23 42.1	-1.0
BKI	Bering	4.46	42	eS	Sn	20 24 11.2	-2.5
MKAR	Makanchi Array	49.01	297	P	P	20 31 00.3	-0.6
	0.1nm,0.7s,baz=50,slow=9.1,SNR=3.6						
FINES	FINESS Array B	61.28	337	P	P	20 32 30.7	+1.5
	2.1nm,0.9s,baz=37,slow=10,SNR=7.3						

IDC 22 20:28:50.1±1.4, 0°.72S×133°.72E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/28, mbtmp4.0/4, ML4.4/1, MS3.5/1, Ms1 3.4/1, ms1mx2.6/34, Error ellipse: s-maj=64.2km s-min=24.4km az=89.0
ISCJB 22 20:28:52.4±0.9, 0°.80S±0°.08×133°.7E±0°.2, h29km, mb4.1/7, MS3.4/1, Error ellipse: s-maj=33.6km s-min=11.1km az=1.1
NEIC 22 20:28:54.1±0.3, 0°.86S×133°.75E, h30km±12km, mb4.3/6, Error ellipse: s-maj=50.8km s-min=11.7km az=82.0
ISC 22 20:28:54.1±1.2, 0°.8S±0°.1×133°.8E±0°.3, h29km, n13, σ0§74/12, mb4.2/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.58	216	ePn	Pn	20 29 34.6	+0.6
MTN	Manton Dam	12.23	192	ePn	Pn	20 31 45.8	-0.6
FITZ	Fitzroy Crossi	18.94	204	eP	P	20 33 12.3	-0.6
	19nm,1.5s						
FITZ	Fitzroy Crossi	18.94	204	P	P	20 33 12.4	-0.6
	0.8nm,0.3s,baz=45,slow=7.0,SNR=25						
AS31	Alice Springs	22.71	180	eP	P	20 33 53.3	-0.5
	2.2nm,0.9s						
ASAR	Alice Springs	22.71	180	P	P	20 33 55.5	+1.8
	2.2nm,0.5s,baz=2.5,slow=11,SNR=29						
STKA	Stephens Creek	31.77	167	LR	LR	20 49 41.4	
	comp=Z,84nm,21.0s,baz=23,slow=39						
MK31	Makanchi Array	65.32	324	eP	P	20 39 33.7	+0.1
	1.4nm,0.6s						
MK32	Makanchi Array	65.32	324	eP	P	20 39 33.7	+0.1
MKAR	Makanchi Array	65.32	324	P	P	20 39 33.7	+0.1
	2.0nm,0.5s,baz=115,slow=8.2,SNR=30						
MAKZ	Makanchi	65.51	324	eP	P	20 39 34.7	-0.1
	3.0nm,0.7s						
GAR	Garm	70.16	312	eP	P	20 40 04.2	-0.2
	5.1nm,0.7s						
ILAR	Eielson Array	86.19	25	P	P	20 41 32.5	0.0
	0.5nm,0.7s,baz=243,slow=5.2,SNR=5.7						

IDC 22 20:35:01.9±8.0, 57°.69S×91°.66E, h0km, Error ellipse: s-maj=21.2km s-min=10.9km az=162.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	27.33	43	H	H	21 09 18.8	
	baz=207,slow=76,SNR=18						
H01W1	Cape Leeuwin H	27.34	43	H	H	21 09 19.2	
	baz=207,slow=76,SNR=16						
H01W3	Cape Leeuwin H	27.35	43	H	H	21 09 19.1	
	baz=207,slow=76,SNR=17						
H08S2	Diego Garcia H	52.10	336	H	H	21 40 07.9	
	baz=167,slow=76,SNR=62						
H08S1	Diego Carcia H	52.10	336	H	H	21 40 08.5	
	baz=167,slow=76,SNR=52						
H08S3	Diego Garcia H	52.12	336	H	H	21 40 09.3	
	baz=167,slow=76,SNR=53						
H10S2	ASCENSION HYDR	91.06	252	H	H	22 29 46.5	
	baz=148,slow=75,SNR=4.8						
H10S3	ASCENSION HYDR	91.07	251	H	H	22 29 47.1	
	baz=148,slow=75,SNR=5.0						
H10S1	ASCENSION HYDR	91.08	252	H	H	22 29 47.5	
	baz=148,slow=75,SNR=8.4						

MEX 22 20:37:10.5±0.9, 15°.97N×98°.66W, h5km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.67	51	i P	Pg	20 37 21.5	-1.8
PNIG				i S	Sg	20 37 31.9	-0.1
TLIG	Tlapa	1.59	3	eP	Pn	20 37 36.6	-2.8
TLIG				i S	Sn	20 37 55.0	-5.4

SJA 22 20:39:09.3±0.6, 32°.68S×70°.96W, h134km±8km, ML3.5, MW3.5
ISCJB 22 20:39:10.1±0.7, 32°.66S±0°.04×71°.07W±0°.07, h98km±9km, Error ellipse: s-maj=9.9km s-min=6.2km az=27.9
GUC 22 20:39:11.4±0.6, 32°.56S×70°.77W, h67km±6km, ML3.9
ISC 22 20:39:11.3±1.6, 32°.65S±0°.05×71°.03W±0°.06, h87km±15km, n28, σ0§90/41, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	Peldehue	0.57	150	eP	Pn	20 39 25.7	-0.8
PEL				eS	Sn	20 39 36.6	-1.1
PEL				IAML		20 39 37.5	
	comp=N,9μm,0.2s						
CLCH	Cerro Calan	0.85	151	eP	Pn	20 39 29.1	-0.2
CLCH				eS	Sn	20 39 42.0	-0.7
CLCH				IAML		20 39 43.4	
	comp=E,2μm,0.4s						
FCH	Farellones	0.92	138	eP	Pn	20 39 30.1	-0.2
FCH				eS	Sn	20 39 43.8	-0.6
FCH				IAML		20 39 44.5	
	comp=N,8μm,0.2s						
FSR	Penalolen	0.93	153	eP	Pn	20 39 30.9	+0.8
FSR				eS	Sn	20 39 44.7	+0.6
ANTU	Antumapu	0.98	160	eP	Pn	20 39 31.6	+1.0
ANTU				eS	Sn	20 39 45.5	+0.5
LMEL	Las Melosas	1.38	150	‖eP	Pn	20 39 36.1	+0.5
LMEL				i S	Sn	20 39 54.3	+0.3
LMEL				IAML		20 39 56.1	
	comp=N,6μm,0.2s						
AUSP	Uspallata	1.45	73	eP	Pn	20 39 37.1	+0.4
AUSP				eS	Sn	20 39 55.4	-0.4
ARCO	CERRO ARCO	1.78	97	eP	Pn	20 39 41.4	+0.7
ARCO				eS	Sn	20 40 04.3	+1.3
ARCO				IAML		20 40 06.0	
	comp=Z,222nm,0.6s						
ASAL	Salagasta	1.85	89	‖eP	Pn	20 39 42.3	+0.7
ASAL				eS	Sn	20 40 06.5	+1.9
RTCV	Cerro Valdivia	2.25	70	eP	Pn	20 39 47.0	+0.2
RTCV				eS	Sn	20 40 15.1	+1.1
ZON	Zonda	2.28	62	eP	Pn	20 39 47.5	+0.3
ZON				eS	Sn	20 40 15.5	+0.9
GO05	Huala	2.47	197	eP	Pn	20 39 50.0	+0.3
GO05	Huala	2.47	197	eP	Pn	20 39 49.7	0.0
GO04	Tololo Observa	2.48	5	eP	Pn	20 39 50.7	+0.6
GO04	Tololo Observa	2.48	5	eP	Pn	20 39 50.2	+0.1
GO04				eS	Sn	20 40 19.7	+0.1
RTLL	Cerro Villicun	2.54	59	eP	Pn	20 39 50.9	+0.2
RTLL				eS	Sn	20 40 20.8	0.0
RTLL				IAML		20 40 21.7	
	comp=E,304nm,0.3s						
CFA	Coronel Fontan	2.59	67	eP	Pn	20 39 51.5	+0.2
ACCO	Cerro Coronel	2.65	40	eP	Pn	20 39 53.2	+0.8
AMOG	MOGNA	2.75	52	eP	Pn	20 39 53.7	+0.1
AROD	Rodeo	2.81	29	eP	Pn	20 39 55.7	+1.1
ACDV	Cuesta del Vie	2.96	34	eP	Pn	20 39 57.0	+0.5
ACAN	Cantantal	3.27	84	eP	Pn	20 39 59.8	-0.6
APLL	PUNTA DE LOS L	4.45	61	eP	Pn	20 40 15.7	-0.8
APLL				IAML		20 41 06.1	
	comp=Z,35nm,0.6s						
MRA	San Martin	4.49	88	eP	Pn	20 40 15.8	-1.4
MRA				IAML		20 41 08.3	
	comp=Z,33nm,0.3s						
VCA	Vinchina	4.60	33	eP	Pn	20 40 18.3	-0.3
VCA				IAML		20 40 23.0	
	comp=Z,42nm,0.4s						
ACLC	CERRO LA CRUZ	4.75	49	eP	Pn	20 40 19.9	-0.9
GO03	Copiap	5.09	8	eP	Pn	20 40 24.8	-0.4
CYA	Choya	6.16	48	eP	Pn	20 40 36.7	-3.1

IDC 22 20:48:10.3±0.8, 52°.23N×160°.14E, h0km, mb4.0/21, mb1 4.1/24, mb1mx4.0/42, mbtmp4.0/24, ML3.5/3, MS3.7/2, Ms1 3.8/2, ms1mx3.0/32, Error ellipse: s-maj=19.3km s-min=13.6km az=145.0
KRSC 22 20:48:11.4±10.0, 52°.15N×160°.62E, h58km±10km, ML4.6
NEIC 22 20:48:13.5±2.0, 52°.02N×160°.38E, h35km±1km, mb4.5/27, Error ellipse: s-maj=17.7km s-min=4.5km az=192.0
MOS 22 20:48:14.9±1.1, 52°.21N×160°.30E, h54km, mb4.6/18, Error ellipse: s-maj=7.8km s-min=4.4km az=104.5
BJI 22 20:48:15.3±0.0, 52°.91N×160°.09E, h53km, mb4.4/17, mB4.6/15, Ms3.9/4, Ms7 3.7/4
ISC 22 20:48:14.1±1.3, 52°.16N±0°.04×160°.46E±0°.04, h32km±8km, n200, σ1§66/215, mb4.4/64, MS3.8/4, 18C-8D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.98	344	eP	Pn	20 48 30.8	-0.8
SPN				eS	Sn	20 48 43.7	-0.7
SPN	Mys Shipunski	0.98	344	PN	Pn	20 48 30.8	-0.8
SPN				S	Sn	20 48 43.7	-0.7
NLC	Nalytchevo	1.22	327	eP	Pb	20 48 35.4	-1.2
NLC	Nalytchevo	1.22	327	PN	Pb	20 48 35.4	-1.2
RUS	Russkaya	1.23	284	eP	Pn	20 48 34.9	-0.1
RUS				eS	Sb	20 48 51.6	-0.6
RUS	Russkaya	1.23	284	PN	Pn	20 48 34.9	-0.1
RUS				S	Sb	20 48 51.6	-0.6
DALK	Dalny	1.36	311	eP	Pn	20 48 37.1	+0.3
DALK	Dalny	1.36	311	PN	Pn	20 48 37.1	+0.3
PET	Petropavlovsk	1.40	309	ePn	Pn	20 48 37.6	+0.2
PET	Petropavlovsk	1.40	309	PN	Pn	20 48 37.7	+0.2
PET				S	Sb	20 48 55.6	-1.6
MTVR	Mutnovka	1.44	284	eP	Pn	20 48 38.3	+0.2
MTVR	Mutnovka	1.44	284	PN	Pn	20 48 38.3	+0.2
UGLR	Uglovaya	1.45	317	eP	Pn	20 48 38.9	+0.7
UGLR	Uglovaya	1.45	317	PN	Pn	20 48 38.9	+0.7
SDLR	Sedlovina	1.48	320	eP	Pn	20 48 39.3	+0.7
SDLR	Sedlovina	1.48	320	PN	Pn	20 48 39.3	+0.7
SMAR	Somma	1.50	318	i P	Pn	20 48 39.4	+0.4
SMAR	Somma	1.50	318	PN	Pn	20 48 39.4	+0.4
GRL	Gorelyy	1.52	286	eP	Pb	20 48 40.9	-0.8
GRL	Gorelyy	1.52	286	PN	Pb	20 48 40.9	-0.8
KDTR	Khodutka, Kamc	1.52	258	eP	Pn	20 48 38.5	-0.5
KDTR				eS	Sn	20 48 56.7	-0.9
KDTR	Khodutka, Kamc	1.52	258	PN	Pn	20 48 38.5	-0.5
KDTR				S	Sn	20 48 56.7	-0.9
AVH	Avacha	1.53	317	eP	Pn	20 48 40.1	+0.9
AVH	Avacha	1.53	317	PN	Pn	20 48 40.1	+0.9
KRER	Koryakskii	1.55	318	eP	Pb	20 48 40.8	-1.5
KRER	Koryakskii	1.55	318	PN	Pb	20 48 40.8	-1.5
KRMR	Karymshinskiy	1.58	296	eP	Pn	20 48 40.4	+0.6
KRMR				S	Sb	20 49 01.6	-0.5
KRMR	Karymshinskiy	1.58	296	PN	Pn	20 48 40.4	+0.6
KRMR				S	Sb	20 49 01.6	-0.5
KOK	Koryaka	1.59	316	eP	Pn	20 48 40.8	+0.7
KOK	Koryaka	1.59	316	PN	Pn	20 48 40.8	+0.7
ASAK	Asacha	1.59	279	eP	Pn	20 48 40.8	+0.7
ASAK	Asacha	1.59	279	PN	Pn	20 48 40.8	+0.7
PEA0B	Petropavlovsk-	1.93	300	ePn	Pn	20 48 44.9	+0.1
PETK	Petropavlovsk-	1.93	300	ePn	Pn	20 48 45.0	+0.2
PETK	Petropavlovsk-	1.93	300	ePN	Pn	20 48 45.0	+0.2
PETK	Petropavlovsk-	1.93	300	Pn	Pn	20 48 45.7	+0.9
	30nm,0.3s,baz=110,slow=18,SNR=169						
PETK				Sn	Sb	20 49 14.0	+1.6
	86nm,0.3s,baz=217,slow=22,SNR=14						
PEA1	Petropavlovsk-	1.94	301	ePn	Pn	20 48 45.7	+0.9
PEA1				eSn	Sb	20 49 14.0	+1.6
APC	Apacha	2.16	292	eP	Pn	20 48 49.3	+1.5
APC	Apacha	2.16	292	PN	Pn	20 48 49.3	+1.5
MKZ	Mys Kozlova	2.52	17	eP	Pn	20 48 52.1	-0.6
MKZ				eS	Sn	20 49 20.3	-2.0
MKZ	Mys Kozlova	2.52	17	PN	Pn	20 48 52.1	-0.6
MKZ				S	Sn	20 49 20.3	-2.0
KZV	Kizimen	2.96	358	i P	Pn	20 49 00.0	+1.0
KZV				eS	Sn	20 49 33.0	-0.5
KZV	Kizimen	2.96	358	PN	Pn	20 49 00.0	+1.0
KZV				S	Sn	20 49 33.0	-0.5
TUMD	Tumrok D	3.05	359	eP	Pn	20 49 00.6	+0.5
TUMD				eS	Sn	20 49 35.6	+0.1
SKR	Severo-Kuril's	3.10	243	ePN	Pn	20 49 00.8	+0.1
SKR				eS	Sn	20 49 34.2	-2.4
SKR				pmax	pmax		
	comp=Z,55nm,0.5s						
SKR				smax	smax		
	comp=N,679nm,0.8s						
SKR				smax	smax		
	comp=E,522nm,0.7s						
SKR				MLR	MLR		
	comp=Z,500nm,13.0s						
SKR				MLR	MLR		
	comp=Z,900nm,11.0s						
TUMR	Tumrok	3.13	357	eP	Pn	20 49 02.6	+1.2
TUMR	Tumrok	3.13	357	PN	Pn	20 49 00.6	-0.8
TUMR				S	Sn	20 49 35.6	-2.1
ALID	Alaid	3.33	249	eP	Pn	20 49 04.2	+0.1
ALID	Alaid	3.33	249	PN	Pn	20 49 04.2	+0.1
KBTR	Krutoberegovo	4.29	18	i P	Pn	20 49 17.8	+0.8
KBTR	Krutoberegovo	4.29	18	PN	Pn	20 49 17.8	+0.8
BDR	Baidarnaya	4.44	5	P	Pn	20 49 21.2	+2.0
BDR	Baidarnaya	4.44	5	PN	Pn	20 49 21.2	+2.0
SMKR	Semkarok	4.47	7	eP	Pn	20 49 21.0	+1.3
SMKR	Semkarok	4.47	7	PN	Pn	20 49 21.0	+1.3
BKI	Bering	4.47	45	eP	Pn	20 49 19.1	-0.5
BKI				eS	Sn	20 50 05.0	-5.5
BKI	Bering	4.47	45	PN	Pn	20 49 19.1	-0.5
SRKR	Sorokina	4.52	5	P	Pn	20 49 22.2	+1.8
SRKR	Sorokina	4.52	5	PN	Pn	20 49 22.2	+1.8
SEY	Seymchan	11.63	341	Pn	Pn	20 50 59.0	+1.4
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=2.3						
YSS	Yuzh-Sakhalins	12.61	253	ePN	Pn	20 51 14.9	+3.8
YSS				MLR	MLR		
	comp=Z,200nm,17.0s						
ASAJ	Asahikawa	14.36	243	Pn	Pn	20 51 34.3	-0.7
	comp=Z,0.7nm,0.3s,baz=67,slow=15,SNR=10						
GRNR	Gornyy	15.04	274	eP	P	20 51 53.8	+4.7
GRNR				pmax	pmax		
	comp=Z,31nm,0.9s						
BILL	Bilibino	16.18	8	ePn	P	20 52 01.1	-0.6
	comp=Z,7.1nm,0.7s						
BILL	Bilibino	16.18	8	ceP	P	20 52 02.6	+1.0
BILL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,185nm,21.0s						
KLR	Kul'dur	18.37	272	i P	P	20 52 24.5	-1.5
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KLR	Kul'dur	18.37	272	Pn	P	20 52 25.5	-0.5
	comp=Z,0.2nm,0.3s,baz=60,slow=11,SNR=14						
YAK	Yakutsk	19.23	313	eP	P	20 52 33.3	-2.0
YAK				pmax	pmax		
	comp=Z,147nm,0.8s						
YAK				pmax	pmax		
	comp=N,36nm,1.0s						
YAK				pmax	pmax		
	comp=E,75nm,1.3s						
YAK				pmax	pmax		
	comp=Z,81nm,0.9s						
YAK				pmax	pmax		
	comp=N,52nm,1.3s						
YAK				pmax	pmax		
	comp=E,55nm,1.7s						
ZEA	Zeya	19.98	288	eP	P	20 52 41.9	-1.6
ZEA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZEA				MLR	MLR		
	comp=Z,400nm,14.0s						
ZEA				MLR	MLR		
	comp=E,200nm,14.0s						
USA0B	Ussuriysk Arra	20.49	258	eP	P	20 52 47.1	-2.0
	comp=E,11nm,1.2s						
USRK	Ussuriysk Ar.	20.49	258	eP	P	20 52 46.7	-2.4
USRK	Ussuriysk Ar.	20.49	258	P	P	20 52 47.6	-1.5
	comp=E,8.6nm,1.0s,baz=56,slow=11,SNR=9.6						
MJAR	Matsshiro Arr	22.16	234	eP	P	20 53 04.7	-2.5
MJAR	Matsushiro Arr	22.16	234	eP	P	20 53 04.7	-2.5
MJAR	Matsushiro Arr	22.16	234	P	P	20 53 08.1	+0.9
	comp=E,5.4nm,0.9s,baz=23,slow=9.8,SNR=13						
MJB9	Matsu-Tunnel	22.16	234	eP	P	20 53 05.1	-2.1
	comp=E,12nm,0.8s						
MAJO	Matsushiro	22.16	234	eP	P	20 53 05.2	-2.0
	comp=E,14nm,0.9s						
MAJO	Matsushiro	22.16	234	i P	P	20 53 08.4	+1.2
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAT	Matsushiro	22.16	234	P	P	20 53 08.0	+0.8
TIXI	Tiksi	24.03	336	eP	P	20 53 24.7	-0.9
	comp=Z,8.7nm,0.8s						
TIXI	Tiksi	24.03	336	‖eP	P	20 53 24.8	-0.9
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TIXI	Tiksi	24.03	336	P	P	20 53 24.8	-0.9
	comp=Z,7.2nm,0.6s,baz=126,slow=9.1,SNR=61						
CN2	Changchun	24.68	264	eP	P	20 53 30.9	-1.0
CN2				epP	pwP	20 53 45.3	+1.4
CN2				eS	S	20 57 42.1	-9.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,80nm,17.0s						
CN2				LR	LR		
	comp=Z,160nm,17.0s						
CN2				LR	LR		
	comp=Z,140nm,17.0s						
HIA	Hailar	25.71	280	eP	P	20 53 39.5	-1.7
	comp=Z,20nm,1.2s						
BOD	Bodaibo	26.81	301	eP	P	20 53 47.5	-3.5
BOD				pmax	pmax		
	comp=Z,4.0nm,2.0s						
KSRS	Korea Array	27.09	250	P	P	20 53 56.0	+2.3
	comp=Z,1.5nm,0.6s,baz=44,slow=9.9,SNR=7.0						
JNU	Nakatsue	28.60	240	P	P	20 54 10.8	+3.4
	comp=Z,7.1nm,0.9s,baz=35,slow=11,SNR=4.4						
ILAR	Eielson Array	29.32	44	P	P	20 54 14.1	+0.7
	comp=Z,0.2nm,0.6s,baz=238,slow=2.7,SNR=2.9						
H11N2	WAKE ISLAND Hy	32.75	169	T	T	21 30 38.9	
	baz=352,slow=75,SNR=145						
H11N3	WAKE ISLAND Hy	32.77	169	T	T	21 30 39.5	
	baz=352,slow=75,SNR=101						
H11N1	WAKE

KURK pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 48.77 297 *e*P **P 20 56 54.0 -1.7**
comp=Z,1.7nm,0.6s
MK32 Makanchi Array 48.77 297 *e*P **P 20 56 54.1 -1.6**
MKAR Makanchi Array 48.77 297 P **P 20 56 54.1 -1.6**
comp=Z,1.6nm,0.5s,baz=57,slow=7.0,SNR=31
MAKZ Makanchi 48.93 297 *e*P **P 20 56 54.0 -2.9**
comp=Z,3.4nm,1.1s
BRVK Borovoye 51.18 309 *e*P **P 20 57 13.2 -0.7**
comp=Z,6.1nm,0.6s
BRVK Borovoye 51.18 309 *ce*P **P 20 57 13.0 -0.8**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
LVZ Lovozero 53.65 338 *ce*P **P 20 57 33.1 +1.1**
LVZ pmax pmax
comp=Z,12nm,1.3s
EGMT Eagleton 54.17 56 *e*P **P 20 57 37.9 +1.7**
comp=Z,113nm,0.9s
ARU Arti 54.24 318 *e*P **P 20 57 35.7 -0.7**
comp=Z,5.4nm,0.5s
ARU Arti 54.24 318 *c i*P **P 20 57 35.7 -0.7**
ARU S **S 21 05 08.3 -3.0**
ARU SS **SS 21 08 49.1 -3.5**
ARU pmax pmax
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 54.25 342 P **P 20 57 36.2 -0.1**
comp=Z,2.1nm,0.8s,baz=40,slow=9.6,SNR=6.8
KDJ Kajisay 54.55 295 *e*P **P 20 57 38.0 -1.0**
comp=Z,1.8nm,0.8s
AAK Ala-Archa 55.70 297 *e*P **P 20 57 46.4 -1.0**
comp=Z,3.6nm,1.1s
AAK Ala-Archa 55.70 297 *ce*P **P 20 57 46.6 -0.7**
AAK pmax pmax
comp=Z,3.0nm,1.1s
KSH Kashi 56.98 293 P **P 20 57 57.8 +1.3**
KSH PP **PP 21 00 09.3 +6.4**
KSH S **S 21 05 54.9 +6.4**
KSH sS sS 21 06 11.9 +8.7
KSH pmax pmax
comp=Z,150nm,5.9s
KSH LR LR
comp=Z,99nm,8.0s
KSH LR LR
comp=Z,73nm,8.6s
KSH LR LR
comp=Z,230nm,11.4s
PHRA Phrae 57.41 258 P **P 20 58 01.9 +2.3**
comp=Z,0.8nm,1.1s,comp=Z,210nm
BW06 Boulder Array 57.78 61 *e*P **P 20 58 04.0 +1.7**
comp=Z,6.3nm,0.8s
PDAR Pinedale Array 57.78 61 P **P 20 58 04.2 +1.9**
comp=Z,0.4nm,0.7s,baz=29,slow=3.4,SNR=3.5
KLMR Klimovskoe 57.87 330 *e*P **P 20 58 01.0 -1.3**
KLMR pmax pmax
comp=Z,8.0nm,0.9s
TCUT Toone Canyon 57.91 63 *e*P **P 20 58 00.8 -2.4**
comp=Z,106nm,0.6s
CMMT Chiang Mai 57.94 259 P **P 20 58 04.7 +1.4**
CHTO Chiang Mai 57.94 259 *e*P **P 20 58 04.4 +1.0**
comp=Z,3.8nm,0.8s
CMAR Chiang Mai Arr 58.22 259 *ce*P **P 20 58 07.0 +1.7**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 58.22 259 P **P 20 58 05.4 +0.1**
comp=Z,2.5nm,0.8s,baz=26,slow=6.8,SNR=18
ABKAR Akbulak array 58.57 311 *e*P **P 20 58 06.6 -0.8**
comp=Z,2.5nm,0.8s
JIRN Jiri 59.21 276 *e*P **P 20 58 12.3 -0.3**
RAMN Ramite 59.47 275 *e*P **P 20 58 13.7 -0.5**
comp=Z,19nm,0.5s
BTK Batken 59.48 297 *e*P **P 20 58 13.0 -0.9**
comp=Z,4.5nm,0.9s
KKN Kakani 59.68 277 *e*P **P 20 58 15.2 -0.4**
comp=Z,14nm,0.6s
LCMT Little Creek M 59.73 68 *e*P **P 20 58 14.6 -1.2**
comp=Z,18nm,0.9s
RSSD Black Hills 59.74 56 *e*P **P 20 58 16.2 +0.4**
comp=Z,47nm,1.6s
PKI Pulchoki 59.76 277 *e*P **P 20 58 15.8 -0.4**
comp=Z,14nm,0.9s
PKIN Phulchoki 59.76 277 *e*P **P 20 58 15.6 -0.6**
comp=Z,7.7nm,0.7s
DMN Daman 59.91 277 *e*P **P 20 58 16.9 -0.3**
comp=Z,17nm,0.7s
GKN Gorkha 59.91 278 *e*P **P 20 58 16.5 -0.6**
DANN Dangsing 60.20 279 *e*P **P 20 58 18.7 -0.5**
comp=Z,17nm,0.7s
GAR Garm 60.50 296 *e*P **P 20 58 19.9 -1.0**
comp=Z,37nm,1.9s
KOLN Koldanda 60.72 278 *e*P **P 20 58 22.2 -0.5**
comp=Z,8.9nm,0.6s
PYUN Piuthan 60.85 279 *e*P **P 20 58 23.0 -0.6**
comp=Z,9.9nm,0.7s
PV09 Paradox Valley 60.99 64 *e*P **P 20 58 22.7 -1.8**
FIA0 FINESS Array S 61.07 337 *e*P **P 20 58 24.8 +0.5**
FINES FINESS Array B 61.07 337 P **P 20 58 24.8 +0.5**
comp=Z,5.7nm,0.5s,baz=29,slow=8.4,SNR=48
NIL Nilore 62.65 290 *e*P **P 20 58 34.0 -1.5**
comp=Z,6.0nm,0.8s
OBN Obninsk 63.43 328 *e*P **P 20 58 39.8 -0.3**
OBN pmax pmax
comp=Z,3.0nm,0.8s
VSU Vasula 63.49 335 *ce*P **P 20 58 41.5 +1.0**
VSU pmax pmax
comp=Z,22nm,0.9s
NB2 NORSAR Subarra 64.50 344 P **P 20 58 47.5 +0.3**
comp=Z,2.0nm,0.7s,baz=22,slow=6.9
NB200 NORSAR Array S 64.50 344 *e*P **P 20 58 47.7 +0.4**
NOA NORSAR Array B 64.50 344 P **P 20 58 47.7 +0.4**
comp=Z,2.9nm,0.8s,baz=22,slow=6.6,SNR=9.0
NOA LR LR 21 28 52.0
comp=Z,28nm,20.2s,baz=130,slow=38
GEYT Alibeck 67.79 303 P **P 20 59 08.3 -0.4**
comp=Z,1.9nm,0.6s,baz=38,slow=2.6,SNR=7.4
AKASG Malin Array Be 69.53 329 P **P 20 59 18.8 -0.4**
comp=Z,1.5nm,0.5s,baz=31,slow=6.3,SNR=11
AKBB Malin Array Si 69.53 329 *e*P **P 20 59 17.5 -1.7**
comp=Z,4.9nm,0.8s
KIEV Kiev 69.54 329 *i*P **P 20 59 18.1 -1.2**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 70.28 317 *e*P **P 20 59 24.5 +0.4**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 70.37 317 P **P 20 59 24.2 -0.2**
comp=Z,2.6nm,0.8s,baz=79,slow=4.5,SNR=8.6
LTX Lajitas 70.80 67 *e*P **P 20 59 29.2 +1.7**
TXAR Lajitas Array 70.80 67 P **P 20 59 29.2 +1.7**
comp=Z,0.5nm,0.8s,baz=274,slow=4.4,SNR=3.0
GNI Garni 72.48 314 *ce*P **P 20 59 37.5 -0.1**
GNI pmax pmax
comp=Z,47nm,2.5s
KOLS Kolonicke sedl 73.18 333 *e*P **P 20 59 42.4 +1.1**
KOLS pmax pmax
comp=Z,6.0nm,1.7s
KOLS Kolonicke sedl 73.18 333 *e*P **P 20 59 42.4 +1.1**
CLL Collm 73.31 339 *e*P **P 20 59 42.0 0.0**
CLL pmax pmax
comp=Z,4.0nm,1.1s
CLL Collm 73.31 339 *e*P **P 20 59 42.0 0.0**
comp=Z,4.0nm,1.1s
CLL *e* 20 59 49.0
BUR08 Bucovina Ar. S 73.48 330 *e*P **P 20 59 43.2 0.0**
comp=Z,3.3nm,0.8s
BURAR Bucovina Array 73.50 330 ⇓*i*P **P 20 59 44.1 +0.7**
BURAR Bucovina Array 73.50 330 ⇓P **P 20 59 44.1 +0.7**
TRPA Tarpa 73.83 332 ⇑*i*P **P 20 59 45.8 +0.7**
TESR Tescani 74.03 329 ⇓*i*P **P 20 59 46.6 +0.2**
VYHS Vyhne 74.52 335 *e*P **P 20 59 50.1 +0.9**
VYHS pmax pmax
comp=Z,12nm,2.3s
VYHS Vyhne 74.52 335 *e*P **P 20 59 50.1 +0.9**
DOPR Dopca 74.91 329 ⇓*i*P P 21 00 00.1 +8.6
DRGR 74.99 331 ⇑*i*P **P 20 59 52.4 +0.4**
DRGR 74.99 331 ⇑P **P 20 59 52.4 +0.4**
MLR Muntele Rosu 75.16 329 ⇑*i*P **P 20 59 54.2 +1.1**
MLR Muntele Rosu 75.16 329 ⇑P **P 20 59 54.2 +1.1**
KHC Kasperske Hory 75.22 338 *e*P **P 20 59 53.0 -0.3**
KHC Kasperske Hory 75.22 338 *e*P **P 20 59 53.0 -0.3**
GERES GERESS Array B 75.46 338 P **P 20 59 53.8 -1.0**
comp=Z,0.5nm,0.5s,baz=38,slow=6.8,SNR=6.1
VOIR 75.49 329 ⇑*i*P **P 20 59 55.9 +0.9**
VOIR 75.49 329 ⇑P **P 20 59 55.9 +0.9**
ARR Arges 75.69 330 ⇓*i*P **P 20 59 57.7 +1.6**
BZS Buzias 76.38 332 ⇓*i*P **P 21 00 00.2 +0.3**
BZS Buzias 76.38 332 ⇑P **P 21 00 00.2 +0.3**
SOKA Soboth 77.17 336 *i*P **P 21 00 05.7 +1.2**
comp=Z,1.7nm,0.6s
KBA Koelnbreinsper 77.20 338 *i*P **P 21 00 06.8 +2.1**
comp=Z,6.6nm,0.7s
BR101 Keskin Array S 77.49 321 *e*P **P 21 00 04.4 -2.0**
BRTR Keskin Array B 77.49 321 P **P 21 00 04.4 -2.0**
comp=Z,1.1nm,0.8s,baz=36,slow=4.6,SNR=6.9
SQTA Sankt Quirin 77.56 339 *i*P **P 21 00 08.4 +1.7**
comp=Z,3.5nm,0.9s
FETA Feichten 77.85 339 *i*P **P 21 00 06.1 -2.3**
comp=Z,3.2nm,1.0s
VTS Vitosha 78.60 329 ⇓*i*P **P 21 00 12.7 +0.1**
VTS Vitosha 78.60 329 ⇓P **P 21 00 12.7 +0.1**
ASAR Alice Springs 79.00 205 P **P 21 00 15.3 +0.7**
comp=Z,0.4nm,0.6s,baz=10.0,slow=5.5,SNR=8.2

IDC ***22*** *20:55:09.4±0.7,52°.40N×160°.21E,h0km,mb4.2/23, mb1 4.4/26,mb1mx4.2/44,mbtmp4.2/26,ML4.5/3,MS3.5/6, Ms1 3.5/6,ms1mx3.2/29,Error ellipse: s-maj=17.3km s-min=12.8km az=137.0*
KRSC ***22*** *20:55:09.1±10.0,52°.09N×160°.69E,h60km±10km,ML4.8*
NEIC ***22*** *20:55:13.9±2.0,52°.26N×160°.34E,h35km±2km,mb4.6/40, Error ellipse: s-maj=17.7km s-min=10.0km az=182.0*
ISCJB ***22*** *20:55:14.3±0.7,52°.27N±0°.04×160°.28E±0°.07,h54km±3km, mb4.5/87,MS3.6/9,Error ellipse: s-maj=9.2km s-min=3.8km az=39.9*
MOS ***22*** *20:55:14.1±1.2,52°.27N×160°.23E,h54km,mb4.8/35,Error ellipse: s-maj=7.1km s-min=3.7km az=105.4*
BJI ***22*** *20:55:20.8±0.0,53°.06N×159°.11E,h66km,mb4.5/25, mB4.7/16,Ms4.2/7,Ms7 4.1/7*
ISC 22 20:55:14.3±0.8,52°.17N±0°.04×160°.52E±0°.04,h53km±6km, n267,σ1§73/289,mb4.5/88,MS3.7/10,27C-10D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.98**	**342**	*e*P		**Pn**	**Sn**	**20 55 29.1**	**-2.7**
SPN					*e*S		**Sn**	**20 55 41.9**	**-2.8**
SPN	**Mys Shipunski**	**0.98**	**342**	PN		**Pn**	**Sn**	**20 55 29.1**	**-2.7**
SPN				S			**Sn**	**20 55 41.9**	**-2.8**
NLC	**Nalytchevo**	**1.24**	**325**	*e*P		**Pn**	**Sn**	**20 55 33.7**	**-1.5**
NLC					*e*S		**Sn**	**20 55 51.2**	**+0.4**
NLC	**Nalytchevo**	**1.24**	**325**	PN		**Pn**	**Sn**	**20 55 33.7**	**-1.5**
NLC				S			**Sn**	**20 55 51.2**	**+0.4**
RUS	**Russkaya**	**1.26**	**283**	*e*P		**Pn**	**Sn**	**20 55 33.5**	**-2.1**
RUS					*e*S		**Sn**	**20 55 50.1**	**-1.4**
RUS	**Russkaya**	**1.26**	**283**	PN		**Pn**	**Sn**	**20 55 33.5**	**-2.1**
RUS				S			**Sn**	**20 55 50.1**	**-1.4**
DALK	**Dalny**	**1.38**	**309**	*e*P		**Pn**	**Pn**	**20 55 35.5**	**-1.7**
DALK					*e*S		**Sn**	**20 55 55.0**	**+0.6**
DALK	**Dalny**	**1.38**	**309**	PN		**Pn**	**Pn**	**20 55 35.5**	**-1.7**
DALK				S			**Sn**	**20 55 55.0**	**+0.6**
PET	**Petropavlovsk**	**1.43**	**308**	*e*Pn		**Pn**	**Pn**	**20 55 36.1**	**-1.7**
PET	**Petropavlovsk**	**1.43**	**308**	PN		**Pn**	**Pn**	**20 55 36.1**	**-1.7**
PET				S			**Sn**	**20 55 55.0**	**-0.5**
UGLR	**Uglovaya**	**1.47**	**316**	*i*P		**Pn**	**Pn**	**20 55 37.4**	**-1.1**
UGLR	**Uglovaya**	**1.47**	**316**	PN		**Pn**	**Pn**	**20 55 37.4**	**-1.1**
MTVR	**Mutnovka**	**1.47**	**283**	*e*P		**Pn**	**Pn**	**20 55 37.0**	**-1.5**
MTVR	**Mutnovka**	**1.47**	**283**	PN		**Pn**	**Pn**	**20 55 37.0**	**-1.5**
SDLR	**Sedlovina**	**1.50**	**319**	*i*P		**Pn**	**Pn**	**20 55 37.4**	**-1.5**
SDLR	**Sedlovina**	**1.50**	**319**	PN		**Pn**	**Pn**	**20 55 37.4**	**-1.5**
SMAR	**Somma**	**1.52**	**317**	*i*P		**Pn**	**Pn**	**20 55 37.8**	**-1.5**
SMAR	**Somma**	**1.52**	**317**	PN		**Pn**	**Pn**	**20 55 37.8**	**-1.5**
AVH	**Avacha**	**1.55**	**316**	*i*P		**Pn**	**Pn**	**20 55 38.5**	**-1.0**
AVH	**Avacha**	**1.55**	**316**	PN		**Pn**	**Pn**	**20 55 38.5**	**-1.0**
GRL	**Gorelyy**	**1.55**	**285**	*e*P		**Pn**	**Pn**	**20 55 39.8**	**+0.2**
GRL	**Gorelyy**	**1.55**	**285**	PN		**Pn**	**Pn**	**20 55 39.8**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.55**	**258**	*e*P		**Pn**	**Pn**	**20 55 37.4**	**-2.1**
KDTR					*e*S		**Sn**	**20 55 56.3**	**-2.2**
KDTR	**Khodutka, Kamc**	**1.55**	**258**	PN		**Pn**	**Pn**	**20 55 37.4**	**-2.1**
KDTR				S			**Sn**	**20 55 56.3**	**-2.2**
KRER	**Koryakskii**	**1.57**	**317**	*e*P		**Pn**	**Pn**	**20 55 39.3**	**-0.6**
KRER	**Koryakskii**	**1.57**	**317**	PN		**Pn**	**Pn**	**20 55 39.3**	**-0.6**
KRMR	**Karymshinskiy**	**1.61**	**295**	*e*P		**Pn**	**Pn**	**20 55 38.9**	**-1.3**
KRMR					*e*S		**Sn**	**20 56 00.9**	**+1.1**
KRMR	**Karymshinskiy**	**1.61**	**295**	PN		**Pn**	**Pn**	**20 55 38.9**	**-1.3**
KOK	**Koryaka**	**1.61**	**315**	*e*P		**Pn**	**Pn**	**20 55 39.3**	**-1.1**
KOK	**Koryaka**	**1.61**	**315**	PN		**Pn**	**Pn**	**20 55 39.3**	**-1.1**
ASAK	**Asacha**	**1.63**	**279**	*e*P		**Pn**	**Pn**	**20 55 39.5**	**-1.1**
ASAK	**Asacha**	**1.63**	**279**	PN		**Pn**	**Pn**	**20 55 39.5**	**-1.1**
KRX	**Arik**	**1.65**	**317**	*e*P		**Pn**	**Pn**	**20 55 40.6**	**-0.4**
KRX	**Arik**	**1.65**	**317**	PN		**Pn**	**Pn**	**20 55 40.6**	**-0.4**
PEA0B	**Petropavlovsk-**	**1.96**	**300**	*e*Pn		**Pn**	**Pn**	**20 55 44.1**	**-1.0**
PETK	**Petropavlovsk-**	**1.96**	**300**	*e*Pn		**Pn**	**Pn**	**20 55 43.3**	**-1.8**
PETK	**Petropavlovsk-**	**1.96**	**300**	*e*PN		**Pn**	**Pn**	**20 55 43.3**	**-1.8**
PETK	**Petropavlovsk-**	**1.96**	**300**	Pn		**Pn**	**Pn**	**20 55 44.2**	**-0.9**
	70nm,0.3s,baz=106,slow=17,SNR=222								
PETK					Sn		**Sn**	**20 56 11.6**	**+3.0**
	153nm,0.3s,baz=118,slow=19,SNR=11								
PEA1	**Petropavlovsk-**	**1.96**	**300**	*e*Pn		**Pn**	**Pn**	**20 55 44.2**	**-0.9**
PEA1					*e*Sn		**Sn**	**20 56 11.6**	**+3.0**
APC	**Apacha**	**2.19**	**292**	*e*P		**Pn**	**Pn**	**20 55 48.0**	**-0.2**
APC	**Apacha**	**2.19**	**292**	PN		**Pn**	**Pn**	**20 55 48.0**	**-0.2**
MKZ	**Mys Kozlova**	**2.50**	**16**	*i*P		**Pn**	**Pn**	**20 55 50.4**	**-2.0**
MKZ					*e*S		**Sn**	**20 56 19.4**	**-2.3**
MKZ	**Mys Kozlova**	**2.50**	**16**	PN		**Pn**	**Pn**	**20 55 50.4**	**-2.0**
MKZ				S			**Sn**	**20 56 19.4**	**-2.3**
KZV	**Kizimen**	**2.96**	**357**	*i*P		**Pn**	**Pn**	**20 55 58.0**	**-0.8**
KZV					*e*S		**Sn**	**20 56 33.3**	**+0.2**
KZV	**Kizimen**	**2.96**	**357**	PN		**Pn**	**Pn**	**20 55 58.0**	**-0.8**
KZV				S			**Sn**	**20 56 33.3**	**+0.2**
TUMD	**Tumrok D**	**3.04**	**359**	*e*P		**Pn**	**Pn**	**20 55 58.7**	**-1.2**
TUMD					*e*S		**Sn**	**20 56 33.6**	**-1.5**
TUMR	**Tumrok**	**3.13**	**356**	*e*P		**Pn**	**Pn**	**20 56 00.9**	**-0.3**
TUMR	**Tumrok**	**3.13**	**356**	PN		**Pn**	**Pn**	**20 55 58.7**	**-2.5**
TUMR				S			**Sn**	**20 56 33.6**	**-3.8**
SKR	**Severo-Kuril's**	**3.13**	**243**	*e*P		**Pn**	**Pn**	**20 55 59.3**	**-1.8**
SKR					*e*S		**Sn**	**20 56 34.1**	**-3.1**
SKR	**Severo-Kuril's**	**3.13**	**243**	*e*PN		**Pn**	**Pn**	**20 55 59.4**	**-1.7**
SKR					*e*S		**Sn**	**20 56 32.0**	**-5.2**
SKR				pmax	pmax				
	comp=Z,159nm,0.7s								
SKR				smax	smax				
	comp=E,710nm,0.5s								
SKR				smax	smax				
	comp=N,1μm,0.6s								
SKR				MLR	MLR				
	comp=Z,600nm,13.0s								
SKR				MLR	MLR				
	comp=Z,1μm,14.0s								
ALID	**Alaid**	**3.37**	**249**	*e*P		**Pn**	**Pn**	**20 56 03.2**	**-1.3**
ALID	**Alaid**	**3.37**	**249**	PN		**Pn**	**Pn**	**20 56 03.2**	**-1.3**
ESO	**Esso**	**3.92**	**345**	*e*P		**Pn**	**Pn**	**20 56 11.5**	**-0.4**
ESO	**Esso**	**3.92**	**345**	PN		**Pn**	**Pn**	**20 56 11.5**	**-0.4**
LGNR	**Loginova**	**3.93**	**1**	*e*P		**Pn**	**Pn**	**20 56 12.8**	**+0.6**
LGNR	**Loginova**	**3.93**	**1**	PN		**Pn**	**Pn**	**20 56 12.8**	**+0.6**
CIRR	**Tsirk**	**3.96**	**2**	*e*P		**Pn**	**Pn**	**20 56 14.0**	**+1.4**
CIRR	**Tsirk**	**3.96**	**2**	PN		**Pn**	**Pn**	**20 56 14.0**	**+1.4**
KRSR	**Krestovskiy**	**4.06**	**0**	*e*P		**Pn**	**Pn**	**20 56 14.4**	**+0.5**
KRSR	**Krestovskiy**	**4.06**	**0**	PN		**Pn**	**Pn**	**20 56 14.4**	**+0.5**
SRDR	**Sredinnyy**	**4.19**	**354**	*e*P		**Pn**	**Pn**	**20 56 15.2**	**-0.4**
SRDR	**Sredinnyy**	**4.19**	**354**	PN		**Pn**	**Pn**	**20 56 15.2**	**-0.4**
KBTR	**Krutoberegovo**	**4.27**	**17**	*e*P		**Pn**	**Pn**	**20 56 15.6**	**-1.1**
KBTR	**Krutoberegovo**	**4.27**	**17**	PN		**Pn**	**Pn**	**20 56 15.6**	**-1.1**
KBG	**Krutoberegovo**	**4.29**	**16**	*e*P		**Pn**	**Pn**	**20 56 13.4**	**-3.6**
KBG	**Krutoberegovo**	**4.29**	**16**	PN		**Pn**	**Pn**	**20 56 13.4**	**-3.6**
BDR	**Baidarnaya**	**4.43**	**5**	*e*P		**Pn**	**Pn**	**20 56 19.7**	**+0.8**
BDR	**Baidarnaya**	**4.43**	**5**	PN		**Pn**	**Pn**	**20 56 19.7**	**+0.8**
BKI	**Bering**	**4.44**	**45**	*e*P		**Pn**	**Pn**	**20 56 17.0**	**-2.0**
BKI					*e*S		**Sn**	**20 57 02.8**	**-6.6**
BKI	**Bering**	**4.44**	**45**	PN		**Pn**	**Pn**	**20 56 17.0**	**-2.0**
SMKR	**Semkarok**	**4.46**	**7**	*e*P		**Pn**	**Pn**	**20 56 18.6**	**-0.8**
SMKR	**Semkarok**	**4.46**	**7**	PN		**Pn**	**Pn**	**20 56 18.6**	**-0.8**
SRKR	**Sorokina**	**4.51**	**5**	*e*P		**Pn**	**Pn**	**20 56 20.7**	**+0.6**
SRKR	**Sorokina**	**4.51**	**5**	PN		**Pn**	**Pn**	**20 56 20.7**	**+0.6**
MA2	**Magadan**	**9.22**	**327**	Pn		**Pn**	**Pn**	**20 57 24.4**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=162,slow=20,SNR=3.0								
SEY	**Seymchan**	**11.63**	**341**	Pn		**Pn**	**Pn**	**20 57 58.6**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=163,slow=13,SNR=3.1								
ASAJ	**Asahikawa**	**14.40**	**243**	Pn		**Pn**	**Pn**	**20 58 33.5**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=74,slow=12,SNR=14								
ASAJ				LR		LR	LR	21 04 53.0	
	comp=Z,183nm,18.6s,baz=47,slow=41								
BILL	**Bilibino**	**16.17**	**8**	*e*Pn		**Pn**	**Pn**	**20 58 58.4**	**+0.7**
	comp=Z,13nm,0.7s								
BILL	**Bilibino**	**16.17**	**8**	*ce*P		**P**	**Pn**	**20 59 01.6**	**+1.6**
BILL				pmax	pmax				
	comp=Z,12nm,0.7s								
BILL				MLR	MLR				
	comp=Z,205nm,18.0s								
TEY	**Ternei**	**17.30**	**255**	⇓*e*P		**P**	**P**	**20 59 12.7**	**0.0**
TEY				pmax	pmax				
	comp=E,10.0nm,0.7s								
TEY				pmax	pmax				
	comp=Z,20nm,0.7s								
KLR	**Kul'dur**	**18.41**	**272**	P		**P**	**P**	**20 59 24.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=49,slow=13,SNR=20								
YAK	**Yakutsk**	**19.25**	**313**	*e*P		**P**	**P**	**20 59 31.8**	**-2.2**
YAK				*e*S		S	S	21 02 52.4	-17
YAK				pmax	pmax				
	comp=Z,378nm,1.3s								
YAK				pmax	pmax				
	comp=E,95nm,1.0s								
YAK				pmax	pmax				
	comp=N,52nm,1.2s								
YAK				smax	smax				
	comp=N,102nm,2.3s								
YAK				smax	smax				
	comp=E,105nm,3.1s								
YAK				MLR	MLR				
	comp=Z,533nm,18.0s								
YAK				MLR	MLR				
	comp=N,566nm,23.0s								
YAK				MLR	MLR				
	comp=E,705nm,18.0s								
ZEA	**Zeya**	**20.01**	**288**	*e*P		**P**	**P**	**20 59 40.2**	**-2.1**
ZEA				pmax	pmax				
	comp=Z,9.0nm,1.0s								
ZEA				MLR	MLR				
	comp=Z,400nm,15.0s								
ZEA				MLR	MLR				
	comp=E,300nm,13.0s								
ZEA				MLR	MLR				
	comp=N,200nm,14.0s								
USA0B	**Ussuriysk Arra**	**20.52**	**259**	*e*P		**P**	**P**	**20 59 44.1**	**-3.9**
	comp=N,1.5nm,1.1s								
USRK	**Ussuriysk Ar.**	**20.52**	**259**	P		**P**	**P**	**20 59 46.4**	**-1.6**
	comp=N,9.0nm,0.9s,baz=60,slow=9.6,SNR=9.6								
USRK				LR		LR	LR	21 07 48.2	
	comp=N,130nm,20.6s,baz=61,slow=37								
MJB9	**Matsu-Tunnel**	**22.19**	**234**	*e*P		**P**	**P**	**21 00 06.8**	**+0.9**
	comp=N,10nm,0.8s								
MAJO	**Matsushiro**	**22.19**	**234**	*e*P		**P**	**P**	**21 00 04.6**	**-1.4**
	comp=N,10nm,0.8s								
MAJO	**Matsushiro**	**22.19**	**234**	*e*P		**P**	**P**	**21 00 04.6**	**-1.4**
MAJO				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MAT	**Matsushiro**	**22.19**	**234**	P		**P**	**P**	**21 00 06.6**	**+0.6**
MJAR	**Matsushiro Arr**	**22.19**	**234**	P		**P**	**P**	**21 00 07.5**	**+1.5**
	comp=Z,6.6nm,0.8s,baz=18,slow=10,SNR=20								
MJAR				LR		LR	LR	21 09 14.8	
	comp=Z,181nm,20.6s,baz=20,slow=38								
INU	**Inuyama**	**23.73**	**234**	*e*P		**P**	**P**	**21 00 21.9**	**+0.5**
	comp=Z,12nm,0.9s								
TIXI	**Tiksi**	**24.04**	**336**	*e*P		**P**	**P**	**21 00 22.2**	**-1.7**
	comp=Z,13nm,0.7s								
TIXI	**Tiksi**	**24.04**	**336**	*ce*P		**P**	**P**	**21 00 23.1**	**-0.8**
TIXI				pmax	pmax				
	comp=Z,12nm,0.7s								
JHJ	**Hachijo jima 2**	**24.24**	**226**	LR		LR	LR	21 12 48.7	
	comp=Z,57nm,18.4s,baz=263,slow=44								
HIA	**Hailar**	**25.74**	**280**	*e*P		**P**	**P**	**21 00 38.3**	**-1.4**
	comp=Z,16nm,0.6s								
HIA	**Hailar**	**25.74**	**280**	*e*P		**P**	**P**	**21 00 38.3**	**-1.4**
HIA				pmax	pmax				
	comp=Z,16nm,0.6s								
BOD	**Bodaibo**	**26.84**	**301**	*e*P		**P**	**P**	**21 00 47.5**	**-1.9**
BOD				pmax	pmax				
	comp=Z,4.0nm,1.2s								
KSRS	**Korea Array**	**27.13**	**250**	P		**P**	**P**	**21 00 54.5**	**+2.4**
	comp=Z,2.3nm,0.7s,baz=44,slow=8.9,SNR=12								
KSRS				LR		LR	LR	21 12 20.6	
	comp=Z,73nm,18.9s,baz=46,slow=38								
JNU	**Nakatsue**	**28.64**	**240**	*e*P		**P**	**P**	**21 01 08.4**	**+2.7**
	comp=Z,8.6nm,0.8s								
JNU	**Nakatsue**	**28.64**	**240**	P		**P**	**P**	**21 01 08.2**	**+2.5**
	comp=Z,7.8nm,0.8s,baz=91,slow=5.5,SNR=8.8								
ILAR	**Eielson Array**	**29.29**	**44**	P		**P**	**P**	**21 01 12.9**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=269,slow=8.9,SNR=3.8								
ILB	**Eielson Array**	**29.29**	**44**	*e*P		**P**	**P**	**21 01 10.8**	**-0.4**
	comp=Z,1.8nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**32.75**	**169**	T		T	T	21 37 31.3	
	baz=352,slow=76,SNR=130								
H11N3	**WAKE ISLAND Hy**	**32.77**	**169**	T		T	T	21 37 31.6	
	baz=352,slow=76,SNR=42								
H11N1	**WAKE ISLAND Hy**	**32.77**	**169**	T		T	T	21 37 31.7	
	baz=352,slow=76,SNR=70								
H11S1	**WAKE ISLAND Hy**	**33.94**	**169**	T		T	T	21 38 59.8	
	baz=92,slow=74,SNR=5.0								
H11S3	**WAKE ISLAND Hy**	**33.95**	**169**	T		T	T	21 39 12.5	
	baz=354,slow=74,SNR=5.1								
H11S2	**WAKE ISLAND Hy**	**33.95**	**169**	T		T	T	21 38 56.4	
ULN	**Ulaanbaatar**	**33.97**	**284**	*ce*P		**P**	**P**	**21 01 50.6**	**-2.1**
ULN				pmax	pmax				
	comp=Z,2.0nm,0.8s								
SONA0	**Songino Array**	**34.38**	**285**	*e*P		**P**	**P**	**21 01 55.7**	**-0.5**
SONM	**Songino Array**	**34.38**	**285**	P		**P**	**P**	**21 01 55.7**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=69,slow=7.8,SNR=5.5								
INK	**Inuvik**	**34.45**	**37**	P		**P**	**P**	**21 01 57.3**	**+1.0**
	comp=Z

SUMG Summit 54.85 7 *eP* **P** **21 04 39.2 +0.2**
SUMG pmax pmax
comp=Z,10.0nm,1.1s
BOOM Boomskoye usch 55.03 296 *eP* **P** **21 04 39.7 -0.7**
comp=Z,6.5nm,1.3s
BOOM Boomskoye usch 55.03 296 *eP* **P** **21 04 39.7 -0.7**
BOOM pmax pmax
comp=Z,7.0nm,1.3s
TMCR Tamitsa 55.72 333 *eP* **P** **21 04 45.5 +0.7**
TMCR pmax pmax
comp=Z,24nm,1.0s
AAK Ala-Archa 55.73 297 *ceP* **P** **21 04 45.3 -0.1**
AAK pmax pmax
comp=Z,3.0nm,1.3s
PANO Nakornpanom 55.88 253 P P 21 04 52.1 +5.5
comp=Z,0.2nm,1.0s,comp=Z,74nm
SKNT Sakolnakorn 56.39 253 P **P** **21 04 52.7 +2.5**
comp=Z,9.5nm,0.7s
PAYA Payao 57.00 259 P **P** **21 04 57.0 +2.4**
comp=Z,23µm,0.8s
KSH Kashi 57.01 293 P **P** **21 04 58.3 +3.8**
KSH pP sP 21 05 14.1 +0.1
KSH PP **PP** **21 07 05.1 +3.8**
KSH S **S** **21 12 39.4 -5.6**
KSH sS sS 21 13 09.3 +1.4
KSH pmax pmax
comp=Z,120nm,5.2s
KSH LR LR
comp=Z,95nm,9.5s
KSH LR LR
comp=Z,110nm,7.5s
KSH LR LR
comp=Z,190nm,12.3s
SHL Shillong 57.27 270 *eP* **P** **21 04 55.6 -1.0**
comp=Z,4.1nm,0.6s
SHL Shillong 57.27 270 *eP* **P** **21 04 55.6 -1.0**
SHL pmax pmax
comp=Z,4.0nm,0.6s
PHRA Phrae 57.45 258 P **P** **21 05 00.0 +2.3**
comp=Z,1.5nm,0.9s
PHRA Phrae 57.45 258 P **P** **21 05 00.0 +2.3**
PD31 Pinedale Array 57.75 61 *eP* **P** **21 05 01.5 +1.7**
comp=Z,2.7nm,0.8s
PDAR Pinedale Array 57.75 61 P **P** **21 05 02.9 +3.0**
comp=Z,0.9nm,0.9s,baz=321,slow=3.8,SNR=4.8
UTTA Uttaradit 57.83 257 P **P** **21 05 03.3 +2.9**
comp=Z,10µm,0.8s
KLMR Klimovskoe 57.88 330 *eP* **P** **21 04 58.2 -2.0**
KLMR pmax pmax
comp=Z,12nm,0.9s
CMMT Chiang Mai 57.98 259 P **P** **21 05 03.2 +1.7**
comp=Z,4.8nm,0.8s
CMMT Chiang Mai 57.98 259 P **P** **21 05 03.2 +1.7**
CHTO Chiang Mai 57.98 259 *eP* **P** **21 05 02.7 +1.3**
comp=Z,6.1nm,0.8s
CHTO Chiang Mai 57.98 259 *eP* **P** **21 05 02.7 +1.3**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CM31 Chiang Mai Arr 58.25 259 *eP* **P** **21 05 04.7 +1.3**
comp=Z,6.1nm,0.6s
CMAR Chiang Mai Arr 58.25 259 P **P** **21 05 05.3 +2.0**
comp=Z,3.9nm,0.8s,baz=27,slow=6.7,SNR=28
CMAR LR LR 21 32 38.0
comp=Z,51nm,19.4s,baz=95,slow=39
ABKAR Akbulak array 58.60 311 *eP* **P** **21 05 04.8 -0.6**
comp=Z,4.4nm,0.9s
JIRN Jiri 59.25 276 *eP* **P** **21 05 10.6 0.0**
comp=Z,18nm,0.8s
RAMN Ramite 59.51 276 *eP* **P** **21 05 12.3 0.0**
comp=Z,38nm,0.5s
KKN Kakani 59.71 277 *eP* **P** **21 05 13.8 +0.2**
comp=Z,20nm,0.6s
PKI Pulchoki 59.79 277 *eP* **P** **21 05 14.3 0.0**
comp=Z,15nm,0.7s
PKIN Phulchoki 59.79 277 *eP* **P** **21 05 14.2 -0.1**
comp=Z,13nm,0.7s
DMN Daman 59.95 277 *eP* **P** **21 05 15.7 +0.4**
comp=Z,23nm,0.7s
GKN Gorkha 59.95 278 *eP* **P** **21 05 15.3 +0.1**
comp=Z,26nm,0.8s
DANN Dangsing 60.23 279 *eP* **P** **21 05 17.7 +0.4**
comp=Z,25nm,0.7s
GAR Garm 60.53 296 *eP* **P** **21 05 17.7 -1.3**
comp=Z,6.8nm,0.8s
GAR Garm 60.53 296 *eP* **P** **21 05 17.7 -1.3**
GAR pmax pmax
comp=Z,7.0nm,0.8s
KOLN Koldanda 60.75 278 *eP* **P** **21 05 20.7 0.0**
comp=Z,15nm,0.6s
PYUN Piuthan 60.88 279 *eP* **P** **21 05 21.7 +0.1**
comp=Z,11nm,0.4s
FIA1 FINESS Array S 61.08 337 *eP* **P** **21 05 23.1 +0.9**
comp=Z,15nm,0.6s
FIA0 FINESS Array S 61.08 337 *eP* **P** **21 05 23.2 +1.1**
FIA0 FINESS Array S 61.08 337 *eP* **P** **21 05 23.3 +1.1**
FINES FINESS Array B 61.08 337 *i P* **P** **21 05 23.2 +1.1**
FINES pmax pmax
comp=Z,10.0nm,0.5s
FINES FINESS Array B 61.08 337 P **P** **21 05 23.2 +1.1**
comp=Z,9.4nm,0.5s,baz=31,slow=8.7,SNR=91
NIL Nilore 62.68 290 *eP* **P** **21 05 33.7 +0.3**
comp=Z,7.7nm,0.8s
NIL Nilore 62.68 290 *eP* **P** **21 05 33.7 +0.3**
NIL pmax pmax
comp=Z,8.0nm,0.8s
OBN Obninsk 63.44 328 *ceP* **P** **21 05 38.4 +0.4**
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN MLR MLR
comp=Z,48nm,18.0s
NB2 NORSAR Subarra 64.51 344 P **P** **21 05 45.3 +0.2**
comp=Z,2.8nm,0.7s,baz=22,slow=6.9
NB200 NORSAR Array S 64.51 344 *eP* **P** **21 05 45.9 +0.8**
NOA NORSAR Array B 64.51 344 P **P** **21 05 45.9 +0.8**
comp=Z,3.8nm,0.7s,baz=22,slow=6.6,SNR=12
LPSR Galich'ya Gora 64.69 325 *eP* **P** **21 05 46.2 -0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 64.81 322 *eP* **P** **21 05 46.3 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 65.74 324 *eP* **P** **21 05 52.7 -0.4**
VSR pmax pmax
comp=Z,6.0nm,0.6s
GEYT Alibeck 67.82 303 P **P** **21 06 07.7 +1.0**
comp=Z,3.1nm,0.7s,baz=46,slow=4.3,SNR=10
MAK Makhachkala 69.01 314 *eP* **P** **21 06 15.7 +1.8**
MAK *eS* **S** **21 15 10.9 -3.7**
MAK pmax pmax
comp=Z,64nm,1.1s
MAK MLR MLR
comp=Z,38nm,15.0s
AKASG Malin Array Be 69.55 329 P **P** **21 06 17.3 +0.2**
comp=Z,1.3nm,0.4s,baz=30,slow=6.4,SNR=14
AKBB Malin Array Si 69.55 329 *eP* **P** **21 06 17.2 +0.1**
comp=Z,5.4nm,0.8s
AKBB Malin Array Si 69.55 329 *eP* **P** **21 06 17.2 +0.1**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 69.56 329 *i P* **P** **21 06 16.4 -0.8**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 70.30 317 *eP* **P** **21 06 23.6 +1.6**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,107nm,18.0s
KBZ Khabaz 70.39 317 P **P** **21 06 23.4 +1.0**
comp=Z,4.3nm,0.8s,baz=44,slow=3.4,SNR=14
TX31 Lajitas Ar. Si 70.76 67 *eP* **P** **21 06 27.4 +2.4**
comp=Z,11nm,2.0s
LTX Lajitas 70.76 67 *eP* **P** **21 06 28.2 +3.2**
LTX Lajitas 70.76 67 *eP* **P** **21 06 28.3 +3.2**
TXAR Lajitas Array 70.76 67 P **P** **21 06 28.2 +3.2**
comp=Z,0.2nm,0.4s,baz=289,slow=5.1,SNR=5.6
AKH Akhalkalaki 72.03 315 *eP* **P** **21 06 33.8 +1.2**
comp=Z,3.7nm,0.8s
AKH Akhalkalaki 72.03 315 ⇑ *iP* **P** **21 06 34.5 +1.9**
AKH Akhalkalaki 72.03 315 *eP* **P** **21 06 33.8 +1.2**
AKH pmax pmax
comp=Z,4.0nm,0.8s
KWP Kalwaria Pacla 72.44 333 *eP* **P** **21 06 36.0 +1.3**
comp=Z,100nm,0.9s
KWP Kalwaria Pacla 72.44 333 *eP* **P** **21 06 36.0 +1.3**
KWP pmax pmax
comp=Z,100nm,0.9s

GNI Garni 72.51 314 *ceP* **P** **21 06 37.5 +2.1**
GNI pmax pmax
comp=Z,42nm,1.7s
KOLS Kolonicke sedl 73.19 333 *eP* **P** **21 06 40.4 +1.2**
KOLS pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 73.19 333 *eP* **P** **21 06 40.3 +1.1**
CLL Collm 73.31 339 *eP* **P** **21 06 41.1 +1.3**
comp=Z,5.8nm,0.8s
CLL Collm 73.31 339 ⇑ *iP* **P** **21 06 40.8 +1.0**
CLL *e* 21 06 54.0
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 73.31 339 ⇑ *iP* **P** **21 06 40.8 +1.0**
comp=Z,6.0nm,0.8s
CLL *es*P **pP** **21 06 54.0 +0.3**
DPC Dobruska-Polom 73.45 337 *eP* **P** **21 06 42.8 +2.1**
DPC Dobruska-Polom 73.45 337 *eP* **P** **21 06 42.8 +2.1**
BUR08 Bucovina Ar. S 73.49 330 *eP* **P** **21 06 41.9 +0.9**
comp=Z,7.1nm,1.1s
BURAR Bucovina Array 73.51 330 ⇑ *iP* **P** **21 06 42.1 +0.9**
BURAR Bucovina Array 73.51 330 ⇑ *iP* **P** **21 06 42.1 +0.9**
MORC Moravsky Berou 73.68 336 *eP* **P** **21 06 43.5 +1.5**
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 73.68 336 ⇓ *iP* **P** **21 06 44.0 +1.9**
MORC Moravsky Berou 73.68 336 ⇓ *iP* **P** **21 06 44.0 +1.9**
MORC Moravsky Berou 73.68 336 *eP* **P** **21 06 43.7 +1.6**
LANS Liptovska Anna 73.76 335 *eP* **P** **21 06 44.9 +2.4**
LANS Liptovska Anna 73.76 335 *eP* **P** **21 06 44.9 +2.4**
BIZ Bicaz 73.84 329 ⇓ *iP* **P** **21 06 44.2 +1.2**
TRPA Tarpa 73.84 332 ⇓ *iP* **P** **21 06 44.3 +1.4**
TESR Tescani 74.04 329 ⇑ *iP* **P** **21 06 44.9 +0.7**
VRAC Vranov 74.35 336 ⇑ *iP* **P** **21 06 47.6 +1.7**
VRAC Vranov 74.35 336 ⇑ *iP* **P** **21 06 47.6 +1.7**
VRAC Vranov 74.35 336 *eP* **P** **21 06 47.4 +1.5**
VYHS Vyhne 74.53 335 *eP* **P** **21 06 48.6 +1.6**
VYHS *e* 21 07 01.5
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 74.53 335 *eP* **P** **21 06 48.6 +1.6**
VYHS *e*PCP **PcP** **21 07 01.5 +0.2**
KRUC Moravsky 74.63 336 *eP* **P** **21 06 48.5 +1.0**
DRGR 75.00 331 ⇑ *iP* **P** **21 06 50.8 +1.0**
DRGR 75.00 331 ⇑ *iP* **P** **21 06 50.8 +1.0**
MODS Modra-Piesok 75.05 336 *eP* **P** **21 06 51.7 +1.7**
MODS pmax pmax
comp=Z,8.0nm,1.0s
MODS Modra-Piesok 75.05 336 *eP* **P** **21 06 51.7 +1.7**
MLR Muntele Rosu 75.18 329 *eP* **P** **21 06 52.6 +1.7**
comp=Z,6.3nm,0.7s
MLR Muntele Rosu 75.18 329 ⇑ *iP* **P** **21 06 52.7 +1.7**
MLR Muntele Rosu 75.18 329 ⇑ *iP* **P** **21 06 52.7 +1.7**
KHC Kasperske Hory 75.23 338 *eP* **P** **21 06 52.4 +1.3**
KHC *e* 21 07 05.5
KHC Kasperske Hory 75.23 338 *eP* **P** **21 06 52.4 +1.3**
KHC *ep*P **pP** **21 07 05.5 +0.2**
GEC2 GERESS Array S 75.47 338 *eP* **P** **21 06 53.8 +1.3**
comp=Z,2.6nm,0.8s
GEC2 GERESS Array S 75.47 338 *eP* **P** **21 06 53.8 +1.3**
GEC2 pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 75.47 338 P **P** **21 06 53.9 +1.3**
comp=Z,1.0nm,0.7s,baz=42,slow=6.1,SNR=8.9
VOIR 75.51 329 ⇑ *iP* **P** **21 06 54.2 +1.4**
VOIR 75.51 329 ⇑ *iP* **P** **21 06 54.2 +1.4**
ARR Arges 75.70 330 ⇓ *iP* **P** **21 06 56.1 +2.2**
CONA Conrad Observa 75.81 336 *i P* **P** **21 06 56.9 +2.4**
comp=Z,3.5nm,0.8s
GZR Gura Zlata 76.25 331 ⇑ *iP* **P** **21 06 57.6 +0.6**
GZR Gura Zlata 76.25 331 ⇑ *iP* **P** **21 06 57.6 +0.6**
BZS Buzias 76.39 332 ⇓ *iP* **P** **21 06 58.8 +1.1**
BZS Buzias 76.39 332 ⇓ *iP* **P** **21 06 58.8 +1.1**
HERR Herculane 76.82 331 ⇑ *iP* **P** **21 07 00.3 +0.2**
SOKA Soboth 77.18 336 *i P* **P** **21 07 03.9 +1.6**
comp=Z,2.0nm,0.5s
KBA Koelnbreinsper 77.21 338 *i P* **P** **21 07 05.2 +2.7**
comp=Z,9.8nm,0.8s
RETA Reutte 77.41 340 *i P* **P** **21 07 03.9 +0.4**
comp=Z,4.0nm,0.9s
MOTA Moosalm 77.47 339 *i P* **P** **21 07 05.0 +1.1**
comp=Z,2.6nm,0.7s
BR101 Keskin Array S 77.50 321 *eP* **P** **21 07 05.0 +0.8**
BRTR Keskin Array B 77.50 321 P **P** **21 07 05.0 +0.8**
comp=Z,1.4nm,0.6s,baz=47,slow=3.0,SNR=9.8
SQTA Sankt Quirin 77.56 339 *i P* **P** **21 07 06.6 +2.2**
comp=Z,5.2nm,0.9s
ABTA Abfaltersbach 77.72 338 *i P* **P** **21 07 06.7 +1.5**
comp=Z,4.3nm,0.9s
DAVA Damuels 77.79 340 *i* PcP P 21 07 12.8 +7.1
comp=Z,8.2nm,1.2s
FUORN Ofenpass-Fuorn 78.34 340 *eP* **P** **21 07 10.8 +1.9**
comp=Z,4.1nm,0.8s
VTS Vitosha 78.61 329 *eP* **P** **21 07 11.1 +0.8**
comp=Z,4.1nm,0.8s
VTS Vitosha 78.61 329 ⇓ *iP* **P** **21 07 10.7 +0.4**
VTS Vitosha 78.61 329 ⇓ *iP* **P** **21 07 10.7 +0.4**
TUE Stuetta 78.67 340 *eP* **P** **21 07 12.7 +2.0**
comp=Z,5.4nm,0.7s
ASAR Alice Springs 79.02 205 P **P** **21 07 14.8 +2.4**
comp=Z,0.4nm,0.5s,baz=15,slow=5.2,SNR=14
CSS Mathiatis 81.75 319 *eP* **P** **21 07 27.9 +0.7**
comp=Z,6.9nm,0.7s
ESDC Sonseca Array 87.54 348 P **P** **21 07 57.6 +1.2**
comp=Z,0.8nm,0.6s,baz=0.7,slow=5.0,SNR=7.4

*ISCJB **22** 21:00:41.3±0.3, 28°.67S±0°.03×178°.60W±0°.09, h300km, mb4.0/16, Error ellipse: s-maj=10.7km s-min=4.1km az=12.8*
*NEIC **22** 21:00:41.9±1.0, 28°.58S×178°.61W, h294km±8km, mb4.4/10, Error ellipse: s-maj=30.8km s-min=11.3km az=103.0*
*IDC **22** 21:00:46.0±2.1, 28°.44S×178°.67W, h326km±17km, mb3.8/11, mb1 3.9/13, mb1mx3.7/23, mbtmp4.4/13, Error ellipse: s-maj=22.8km s-min=17.8km az=129.0*
ISC 22 21:00:42.2±0.5, 28°.81S±0°.06×178°.4W±0°.1, h300km, n141, σ1.9 **67**/153, **mb4.2**/16, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.60**	**137**	P		**Pn**	**21 01 22.4**	**+1.3**
RAO	**Raoul Island**	**0.61**	**137**	*e*Pn		**Pn**	**21 01 22.5**	**+1.4**
RAO				*e*S		**S**	**21 01 52.4**	**+0.4**
GLKZ	**Green Lake**	**0.62**	**138**	P		**Pn**	**21 01 22.4**	**+1.3**
GLKZ				S		**S**	**21 01 52.6**	**+0.6**
MXZ	**Matakaoa Point**	**9.16**	**197**	*e*Pn		**Pn**	**21 02 50.1**	**+0.2**
OUZ	**Omahuta**	**9.33**	**225**	P		P	**21 02 58.1**	**+1.7**
WMGZ	**Waiomatatini S**	**9.38**	**196**	P		**Pn**	**21 02 51.9**	**-0.7**
HAZ	**Te Kaha**	**9.48**	**199**	P		**Pn**	**21 02 53.3**	**-0.6**
PKGZ	**Pakihiroa**	**9.53**	**197**	P		**Pn**	**21 02 53.7**	**-0.8**
PUZ	**Puketiti**	**9.65**	**196**	P		**Pn**	**21 02 55.1**	**-0.9**
RUGZ	**Raukumara Rang**	**9.71**	**199**	P		**Pn**	**21 02 57.4**	**+0.6**
TWGZ	**Tauwhareparae**	**9.82**	**197**	P		**Pn**	**21 02 58.7**	**+0.6**
TKGZ	**Te Karaka**	**10.10**	**197**	P		**Pn**	**21 03 02.2**	**+0.6**
URZ	**Urewera**	**10.14**	**200**	*e*Pn		**Pn**	**21 03 01.3**	**-0.7**
URZ				*e*S		**S**	**21 04 59.5**	**+3.3**
URZ	**Urewera**	**10.14**	**200**	P		P	**21 03 04.6**	**-0.8**
	5.2nm,0.3s,baz=283,slow=4.1,SNR=34							
URZ				S		**S**	**21 04 56.5**	**+0.3**
	12nm,0.3s,baz=180,slow=8.0,SNR=13							
URZ	**Urewera**	**10.14**	**200**	P		**Pn**	**21 03 04.2**	**+2.2**
URZ	**Urewera**	**10.14**	**200**	P		**Pn**	**21 03 02.8**	**+0.8**
RAGZ	**Rawiri**	**10.27**	**199**	P		**Pn**	**21 03 05.4**	**+1.8**
RAGZ	**Rawiri**	**10.27**	**199**	P		**Pn**	**21 03 02.6**	**-1.1**
RIGZ	**Rimuhau**	**10.38**	**197**	P		P	**21 03 10.7**	**+2.6**
RIGZ	**Rimuhau**	**10.38**	**197**	P		**Pn**	**21 03 05.0**	**0.0**
PRGZ	**Paritu Road**	**10.55**	**196**	P		**Pn**	**21 03 07.1**	**0.0**
RAHZ	**Arahi**	**10.76**	**199**	P		P	**21 03 11.6**	**-0.7**
MHGZ	**Mahia Peninsul**	**10.77**	**196**	P		**Pn**	**21 03 10.7**	**+1.0**
ARHZ	**Aropaoanui**	**11.11**	**199**	P		P	**21 03 16.9**	**+0.8**
BKZ	**Black Stump Fm**	**11.17**	**201**	P		**Pn**	**21 03 15.8**	**+1.2**
HIZ	**Hauiti**	**11.19**	**208**	P		P	**21 03 21.9**	**+4.8**
MCHZ	**McNeill Hill**	**11.36**	**200**	P		P	**21 03 20.8**	**+1.8**
KWHZ	**Kaweka Forest**	**11.43**	**201**	P		P	**21 03 19.9**	**+0.1**
TWVZ	**Taurewa**	**11.44**	**205**	P		P	**21 03 22.7**	**+2.7**
NGZ	**Ngauruhoe**	**11.48**	**204**	P		P	**21 03 22.7**	**+2.3**
FWVZ	**Far West T-bar**	**11.56**	**204**	P		P	**21 03 21.9**	**+0.5**
BHHZ	**Black Hill Sta**	**11.60**	**202**	P		**Pn**	**21 03 20.8**	**+0.9**
MOVZ	**Moawhango**	**11.63**	**203**	P		P	**21 03 22.8**	**+0.8**
KAHZ	**Kahuranaki**	**11.63**	**198**	P		**Pn**	**21 03 21.8**	**+1.5**
KRHZ	**Kereru**	**11.64**	**200**	P		**Pn**	**21 03 21.8**	**+1.5**
PXZ	**Pawanui**	**11.86**	**198**	P		**Pn**	**21 03 24.3**	**+1.4**
PNHZ	**Pukenui**	**11.94**	**200**	P		**Pn**	**21 03 24.2**	**+0.2**
PRHZ	**Porangahau**	**12.14**	**198**	P		**Pn**	**21 03 27.1**	**+0.8**
TSZ	**Takapari Road**	**12.15**	**201**	P		P	**21 03 28.0**	**+0.2**
DVHZ	**Dannevirke**	**12.31**	**200**	P		P	**21 03 29.6**	**+0.2**
DVHZ	**Dannevirke**	**12.31**	**200**	P		**Pn**	**21 03 25.7**	**-2.7**
DVHZ				S		**S**	**21 05 39.0**	**-6.0**
ANWZ	**Angora Road**	**12.37**	**199**	P		P	**21 03 31.2**	**+1.1**
ANWZ	**Angora Road**	**12.37**	**199**	P		**Pn**	**21 03 29.0**	**-0.1**
ANWZ				S		S	21 05 38.0	-8.4
POWZ	**Post Office Ro**	**12.51**	**201**	P		P	**21 03 32.8**	**+1.0**
POWZ	**Post Office Ro**	**12.51**	**201**	P		**Pn**	**21 03 30.3**	**-0.6**
POWZ				S		S	**21 05 45.7**	**-3.9**
PRWZ	**Pori Road**	**12.60**	**200**	P		P	**21 03 33.2**	**+0.5**
PRWZ	**Pori Road**	**12.60**	**200**	P		**Pn**	**21 03 32.7**	**+0.7**
PRWZ				S		S	**21 05 45.3**	**-6.3**
BFZ	**Birch Farm**	**12.64**	**199**	*e*Pn		**Pn**	**21 03 33.2**	**+0.9**
BFZ				*e*S		**S**	**21 05 52.3**	**-0.1**
BFZ	**Birch Farm**	**12.64**	**199**	P		**Pn**	**21 03 32.4**	**0.0**
BFZ	**Birch Farm**	**12.64**	**199**	P		**Pn**	**21 03 30.3**	**-2.1**
BFZ				S		S	21 05 44.4	-8.0
MRZ	**Mangatainoka R**	**12.82**	**201**	P		**Pn**	**21 03 31.7**	**-2.8**
MRZ	**Mangatainoka R**	**12.82**	**201**	P		**Pn**	**21 03 30.5**	**-4.0**
TIWZ	**Tintock**	**12.83**	**200**	P		**Pn**	**21 03 34.9**	**+0.2**
TIWZ	**Tintock**	**12.83**	**200**	P		**Pn**	**21 03 33.3**	**-1.4**
CPWZ	**Castlepoint**	**12.86**	**199**	P		P	**21 03 36.6**	**+1.0**
HOWZ	**Holdsworth Sta**	**13.05**	**201**	P		**Pn**	**21 03 37.2**	**-0.2**
HOWZ	**Holdsworth Sta**	**13.05**	**201**	P		**Pn**	**21 03 35.0**	**-2.4**
TMWZ	**Te Maipa**	**13.13**	**199**	P		**Pn**	**21 03 38.7**	**+0.4**
TMWZ	**Te Maipa**	**13.13**	**199**	P		**Pn**	**21 03 34.8**	**-3.5**
MTW	**Mount Morrison**	**13.29**	**200**	P		P	**21 03 41.3**	**+0.9**
MTW	**Mount Morrison**	**13.29**	**200**	P		**Pn**	**21 03 37.9**	**-2.4**
CAW	**Cannon Point**	**13.39**	**202**	P		P	**21 03 41.8**	**+0.4**
CAW	**Cannon Point**	**13.39**	**202**	P		P	**21 03 37.6**	**-3.8**
TRWZ	**Traveller**	**13.46**	**199**	P		P	**21 03 40.7**	**-1.5**
DUWZ	**D'Urville Isla**	**13.52**	**206**	P		**Pn**	**21 03 43.5**	**+0.5**
DUWZ	**D'Urville Isla**	**13.52**	**206**	P		P	**21 03 42.2**	**-0.7**
PAWZ	**Paruwai Farm**	**13.52**	**200**	P		P	**21 03 41.1**	**-1.8**
MSWZ	**Moikau Station**	**13.61**	**201**	P		P	**21 03 42.4**	**-1.5**
PLWZ	**Palliser**	**13.74**	**200**	P		**Pn**	**21 03 47.1**	**+1.4**
PLWZ	**Palliser**	**13.74**	**200**	P		P	**21 03 45.6**	**+0.2**
TCW	**Tory Channel**	**13.75**	**204**	P		**Pn**	**21 03 46.1**	**+0.5**
TCW	**Tory Channel**	**13.75**	**204**	P		P	**21 03 43.7**	**-1.7**
TUWZ	**Tuamarina**	**14.06**	**204**	P		**Pn**	**21 03 49.8**	**+0.5**
TUWZ	**Tuamarina**	**14.06**	**204**	P		P	21 03 42.6	-6.2
NNZ	**Nelson**	**14.09**	**206**	P		**Pn**	**21 03 52.2**	**+2.5**
NNZ	**Nelson**	**14.09**	**206**	P		P	**21 03 49.3**	**+0.2**
QRZ	**Quartz Range**	**14.11**	**209**	P		**Pn**	**21 03 51.3**	**+1.4**
QRZ	**Quartz Range**	**14.11**	**209**	P		P	**21 03 49.8**	**+0.4**
BSWZ	**Blackbirch Sta**	**14.33**	**204**	P		**Pn**	**21 03 55.7**	**+3.1**
THZ	**Tophouse**	**14.74**	**206**	*e*P		**Pn**	**21 03 57.7**	**+0.2**
THZ				*e*S		**S**	**21 06 36.9**	**-0.6**
THZ	**Tophouse**	**14.74**	**206**	P		**Pn**	**21 03 58.2**	**+0.7**
KHZ	**Kahutara**	**15.07**	**204**	*e*P		P	**21 04 01.1**	**+1.2**
	15nm,1.0s							
KHZ				*e*S		**S**	**21 06 45.1**	**+1.1**
KHZ	**Kahutara**	**15.07**	**204**	P		**Pn**	**21 04 01.2**	**-0.1**
DZM	**Mont Dzumac**	**15.24**	**293**	P		P	**21 04 00.8**	**-1.3**
	1.8nm,0.3s,baz=107,slow=14,SNR=22							
LTZ	**Lake Taylor**	**15.85**	**206**	P		**Pn**	**21 04 14.0**	**+3.5**
INZ	**Inchbonnie**	**16.13**	**208**	P		**Pn**	**21 04 17.0**	**+3.2**
MQZ	**McQueen's Vall**	**16.51**	**203**	*e*P		**Pn**	**21 04 17.9**	**-0.2**
	32nm,1.1s							
RPZ	**Rata Peaks**	**17.12**	**207**	*e*P		**Pn**	**21 04 25.5**	**+0.2**
	32nm,1.1s							
RPZ	**Rata Peaks**	**17.12**	**207**	P		**Pn**	**21 04 26.1**	**+0.9**
	0.4nm,0.3s,baz=34,slow=11,SNR=3.1							
RPZ				S		**S**	**21 07 24.1**	**-0.8**
	2.2nm,0.3s,baz=317,slow=24,SNR=12							
LBZ	**Lake Benmore**	**18.02**	**207**	*e*P		P	**21 04 37.2**	**+5.3**
	14nm,1.0s							
STKA	**Stephens Creek**	**34.53**	**255**	P		P	**21 07 03.2**	**+0.3**
	2.3nm,1.0s,baz=95,slow=17,SNR=2.8							
AS31	**Alice Springs**	**42.87**	**265**	*e*P		P	**21 08 11.3**	**-0.6**
	1.2nm,1.0s							
AS31				*e*PcP		**PcP**	**21 09 56.5**	**-0.4**
ASAR	**Alice Springs**	**42.87**	**265**	P		P	**21 08 11.3**	**-0.6**
	1.9nm,0.6s,baz=96,slow=7.3,SNR=34							
ASAR				PcP		**PcP**	**21 09 56.5**	**-0.4**
	1.1nm,0.7s,baz=105,slow=4.6,SNR=4.9							
ASAR				ScP		**ScP**	**21 13 17.8**	**-1.0**
	0.6nm,0.7s,baz=113,slow=3.8,SNR=2.9							
MJAR	**Matsushiro Arr**	**76.74**	**325**	P		P	**21 11 58.5**	**-2.3**
	7.0nm,0.9s,baz=165,slow=6.1,SNR=19							
MAJO	**Matsushiro**	**76.74**	**325**	*e*P		P	**21 11 59.2**	**-1.6**
	9.1nm,0.9s							
MAT	**Matsushiro**	**76.74**	**325**	P		P	**21 11 58.9**	**-1.9**
MJB9	**Matsu-Tunnel**	**76.74**	**325**	*e*P		P	**21 11 59.5**	**-1.3**
	9.2nm,0.9s							
JNU	**Nakatsue**	**78.14**	**318**	P		P	**21 12 07.0**	**-1.7**
	7.2nm,0.6s,baz=210,slow=2.2,SNR=11							
KSRS	**Korea Array**	**82.91**	**320**	P		P	**21 12 33.2**	**-0.4**
	3.1nm,0.8s,baz=136,slow=5.9,SNR=16							
KS15	**Wonju Array Si**	**82.92**	**320**	*e*P		P	**21 12 33.2**	**-0.5**
	5.1nm,0.9s							
PETK	**Petropavlovsk-**	**84.19**	**346**	P		P	**21 12 38.4**	**-1.3**
	4.0nm,0.6s,baz=124,slow=7.1,SNR=7.0							
PEA1	**Petropavlovsk-**	**84.19**	**346**	*e*P		P	**21 12 38.4**	**-1.3**
USRK	**Ussuriysk Ar.**	**85.64**	**327**	P		P	**21 12 46.3**	**-0.8**
	4.1nm,0.8s,baz=127,slow=3.7,SNR=8.9							
WHN	**Wuhan**	**87.11**	**307**	P		P	**21 12 57.9**	**+3.3**
NV01	**Mina Array Sit**	**87.31**	**43**	*e*P		P	**21 12 56.8**	**+1.1**
NVAR	**Mina Array Bea**	**87.31**	**43**	P		P	**21 12 56.8**	**+1.1**
	2.7nm,0.7s,baz=222,slow=8.4,SNR=8.7							
LTX	**Lajitas**	**91.82**	**57**	*e*P		P	**21 13 17.1**	**+0.3**
TXAR	**Lajitas Array**	**91.82**	**57**	P		P	**21 13 17.1**	**+0.3**
	0.2nm,0.6s,baz=194,slow=4.8,SNR=4.0							
CM31	**Chiang Mai Arr**	**92.55**	**290**	*e*P		P	**21 13 21.1**	**+0.9**
	3.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**92.55**	**290**	P		P	**21 13 21.0**	**+0.9**
	0.6nm,0.3s,baz=151,slow=2.1,SNR=4.6							
PD31	**Pinedale Array**	**95.22**	**44**	*e*P		P	**21 13 31.4**	**-0.7**
	0.8nm,0.8s							
PDAR	**Pinedale Array**	**95.22**	**44**	P		P	**21 13 31.4**	**-0.7**
	0.3nm,0.6s,baz=142,slow=7.5,SNR=3.6							
MK32	**Makanchi Array**	**116.48**	**311**	*e*PKPdf		**PKPdf**	**21 18 49.8**	**-0.5**
MKAR	**Makanchi Array**	**116.48**	**311**	PKP		**PKPdf**	**21 18 49.8**	**-0.5**
	0.8nm,0.6s,baz=90,slow=2.0,SNR=13							
GEYT	**Alibeck**	**132.56**	**296**	PKP		**PKiKP**	**21 19 22.7**	**+0.2**
	1.9nm,0.7s,baz=345,slow=4.9,SNR=4.0							
G

MEX 22 21:08:37.1±0.4, 16°.73N×94°.95W, h99km±5km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.37**	**10**	*eP*	Pn	21 08 50.8	-1.3
CMIG				*eS*	Sn	21 09 01.2	-1.9
HUIG	**Huatulco**	**1.46**	**230**	*i P*	Pn	21 09 01.6	-1.3
HUIG				*i S*	Sn	21 09 20.9	-1.5
TGIG		**1.75**	**88**	*eS*	Sn	21 09 26.6	-2.4
PCIG		**1.95**	**121**	*i P*	Pn	21 09 08.5	-0.5
PCIG				*i S*	Sn	21 09 31.6	-1.8

IDC 22 21:26:28.3±7.7, 56°.67S×91°.82E, h0km, Error ellipse: s-maj=20.3km s-min=10.4km az=165.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**26.54**	**44**	H	H	21 59 41.5	
	baz=208,slow=76,SNR=34						
H01W1	**Cape Leeuwin H**	**26.55**	**44**	H	H	21 59 45.2	
	baz=208,slow=76,SNR=43						
H01W3	**Cape Leeuwin H**	**26.55**	**44**	H	H	21 59 45.0	
	baz=208,slow=76,SNR=11						
H08S2	**Diego Garcia H**	**51.21**	**335**	H	H	22 30 27.1	
	baz=166,slow=76,SNR=47						
H08S1	**Diego Carcia H**	**51.21**	**335**	H	H	22 30 27.4	
	baz=166,slow=76,SNR=42						
H08S3	**Diego Garcia H**	**51.23**	**335**	H	H	22 30 28.6	
	baz=166,slow=76,SNR=43						
H10S2	**ASCENSION HYDR**	**91.46**	**251**	H	H	23 21 41.1	
	baz=147,slow=75,SNR=15						
H10S3	**ASCENSION HYDR**	**91.48**	**251**	H	H	23 21 42.2	
	baz=147,slow=75,SNR=12						
H10S1	**ASCENSION HYDR**	**91.48**	**251**	H	H	23 21 42.5	
	baz=147,slow=75,SNR=15						

*ISCJB **22** 21:50:10.1±0.9, 40°.45N±0°.06×52°.21E±0°.06, h33km, Error ellipse: s-maj=8.4km s-min=6.7km az=153.0*
*AZER **22** 21:50:14.2±0.4, 40°.36N×51°.90E, h63km±36km, ml3.1/17, Error ellipse: s-maj=7.7km s-min=3.9km az=241.0*

ISC 22 21:50:09.6±1.3, 40°.46N±0°.07×52°.33E±0°.08, h35km, n19, σ1§98/37, 3C-1D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**1.79**	**275**	S	**Sn**	**21 50 59.0**	**-0.4**
GBS	**Qobustan**	**2.58**	**273**	Pn	**Pn**	**21 50 49.9**	**+0.9**
GBS				Sn	**Sn**	**21 51 18.4**	**-0.8**
ATGJ	**Altiaghaj**	**2.61**	**280**	Pn	**Pn**	**21 50 51.4**	**+2.0**
ATGJ				Sn	**Sn**	**21 51 21.0**	**+1.1**
PQL	**Pirkuli**	**2.86**	**278**	Pn	**Pn**	**21 50 55.6**	**+2.7**
PQL				Sn	**Sn**	**21 51 26.6**	**+0.4**
IML	**Ismayilli**	**3.17**	**277**	Pn	**Pn**	**21 50 58.2**	**+1.1**
IML				Sn	**Sn**	**21 51 33.2**	**-0.5**
LKRN	**Lenkeran, Azer**	**3.25**	**239**	Pn	**Pn**	**21 50 59.7**	**+1.7**
	SNR=4.3						
LKRN				Sn	**Sn**	**21 51 35.3**	**-0.3**
QSAR	**Qusar**	**3.25**	**290**	Pn	**Pn**	**21 51 01.0**	**+2.8**
QSAR				Sn	**Sn**	**21 51 36.2**	**+0.5**
XNQ	**Khinaliq**	**3.26**	**284**	Pn	**Pn**	**21 51 01.1**	**+2.7**
XNQ				Sn	**Sn**	**21 51 35.1**	**-1.0**
GLBA	**Clilabad**	**3.26**	**249**	Pn	**Pn**	**21 50 59.5**	**+1.3**
	SNR=3.7						
GLBA				Sn	**Sn**	**21 51 34.7**	**-1.2**
ASTR	**Astara**	**3.33**	**236**	Pn	**Pn**	**21 51 01.0**	**+1.8**
	SNR=6.4						
ASTR				Sn	**Sn**	**21 51 36.3**	**-1.1**
QBL	**Gabala**	**3.45**	**280**	Pn	**Pn**	**21 51 02.5**	**+1.6**
QBL				Sn	**Sn**	**21 51 39.9**	**-0.6**
ZRD	**Zardab**	**3.55**	**269**	Pn	**Pn**	**21 51 03.9**	**+1.7**
ZRD				Sn	**Sn**	**21 51 42.0**	**-1.0**
LRK	**Lerik**	**3.58**	**241**	Pn	**Pn**	**21 51 04.1**	**+1.4**
	SNR=13						
LRK				Sn	**Sn**	**21 51 41.8**	**-2.1**
SEKA	**Sheki**	**3.96**	**283**	Pn	**Pn**	**21 51 09.1**	**+1.1**
	SNR=6.7						
SEKA				Sn	**Sn**	**21 51 50.5**	**-2.7**
GANJ	**Ganja**	**4.58**	**274**	Pn	**Pn**	**21 51 17.8**	**+1.4**
	SNR=8.1						
GANJ				Sn	**Sn**	**21 52 04.4**	**-4.0**
ORD	**Ordubad**	**5.12**	**255**	Pn	**Pn**	**21 51 25.5**	**+1.6**
ORD				Sn	**Sn**	**21 52 18.0**	**-3.8**
QZX	**Qazax, Azerbai**	**5.32**	**279**	Pn	**Pn**	**21 51 27.2**	**+0.7**
QZX				Sn	**Sn**	**21 52 23.2**	**-3.3**
AB31	**Akbulak array**	**10.32**	**29**	⇑P	**Pn**	**21 52 35.6**	**+0.5**
	0.3nm,0.5s,baz=212,slow=13,SNR=8.6						
AB31				⇓S	**Sn**	**21 54 26.7**	**-2.7**
	0.5nm,0.3s,baz=208,slow=24,SNR=5.3						
AKTO	**Aktyubinsk**	**10.74**	**20**	⇑P	**Pn**	**21 52 43.0**	**+2.1**
	1.2nm,0.6s						
AKTO				⇑S	**Sn**	**21 54 36.6**	**-3.2**
	1.1nm,0.6s						

MEX 22 21:56:06.6±0.6, 13°.90N×91°.69W, h15km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.32**	**321**	*eP*	Pn	21 56 41.9	-2.4
PCIG				*eS*	Sn	21 57 07.4	-5.2
TGIG		**3.17**	**334**	*i P*	Pn	21 56 53.6	-2.5
TGIG				*i S*	Sn	21 57 30.4	-3.4
CMIG	**Matias Romero**	**4.42**	**316**	*i P*	Pn	21 57 11.3	-1.9
CMIG				*i S*	Sn	21 58 01.1	-3.3

*IDC **22** 22:07:14.7±0.9, 52°.61N×160°.51E, h0km, mb3.8/12, mb1 4.1/15, mb1mx3.8/60, mbtmp3.9/15, ML3.7/3, MS3.3/10, Ms1 3.3/10, ms1mx3.1/35, Error ellipse: s-maj=24.2km s-min=14.6km az=155.0*
*KRSC **22** 22:07:15.0±10.0, 52°.37N×160°.90E, h52km±10km, ML4.5*
*ISCJB **22** 22:07:17.9±0.6, 52°.42N±0°.04×160°.76E±0°.05, h43km±5km, mb4.1/32, MS3.4/9, Error ellipse: s-maj=6.8km s-min=3.9km az=141.4*
*NEIC **22** 22:07:17.8±2.2, 52°.41N×160°.67E, h23km±7km, mb4.3/18, Error ellipse: s-maj=23.0km s-min=10.7km az=179.0*
*MOS **22** 22:07:18.0±1.1, 52°.46N×160°.73E, h51km, mb4.4/10, MS3.5/4, Error ellipse: s-maj=7.1km s-min=5.2km az=104.5*

ISC 22 22:07:17.2±1.6, 52°.40N±0°.05×160°.79E±0°.04, h23km±11km, n131, σ1§55/151, mb4.2/32, MS3.4/9, 7C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.84**	**327**	*eP*	**Pb**	**22 07 32.2**	**-0.9**
SPN				*eS*	**Sb**	**22 07 43.5**	**-0.5**
SPN	**Mys Shipunski**	**0.84**	**327**	PN	**Pb**	**22 07 32.2**	**-0.9**
SPN				S	**Sb**	**22 07 43.5**	**-0.5**
NLC	**Nalytchevo**	**1.17**	**312**	*eP*	**Pn**	**22 07 37.6**	**-0.5**
NLC				*eS*	**Sn**	**22 07 53.3**	**0.0**
NLC	**Nalytchevo**	**1.17**	**312**	PN	**Pn**	**22 07 37.6**	**-0.5**
NLC				S	**Sn**	**22 07 53.3**	**0.0**
DALK	**Dalny**	**1.39**	**298**	*eP*	**Pn**	**22 07 40.9**	**-0.2**
DALK				*eS*	**Sn**	**22 07 58.7**	**-0.1**
DALK	**Dalny**	**1.39**	**298**	PN	**Pn**	**22 07 40.9**	**-0.2**
DALK				S	**Sn**	**22 07 58.7**	**-0.1**
RUS	**Russkaya**	**1.40**	**272**	*eP*	**Pn**	**22 07 40.8**	**-0.4**
RUS				*eS*	**Sn**	**22 07 58.3**	**-0.6**
RUS	**Russkaya**	**1.40**	**272**	PN	**Pn**	**22 07 40.8**	**-0.4**
RUS				S	**Sn**	**22 07 58.3**	**-0.6**
PET	**Petropavlovsk**	**1.44**	**296**	*e*Pn	**Pn**	**22 07 41.8**	**-0.1**
PET				*e*Sn	**Sn**	**22 07 53.6**	**-6.5**
PET	**Petropavlovsk**	**1.44**	**296**	*α i* PN	**Pn**	**22 07 41.7**	**-0.1**
PET				*e*S	**Sb**	**22 08 00.8**	**-0.4**
PET				pmax	pmax		
	comp=Z,566nm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.5s						
PET				smax	smax		
	comp=N,3μm,0.6s						
UGLR	**Uglovaya**	**1.44**	**305**	*eP*	**Pn**	**22 07 42.2**	**+0.2**
UGLR	**Uglovaya**	**1.44**	**305**	PN	**Pn**	**22 07 42.2**	**+0.2**
SDLR	**Sedlovina**	**1.45**	**308**	*eP*	**Pn**	**22 07 42.0**	**-0.1**
SDLR	**Sedlovina**	**1.45**	**308**	PN	**Pn**	**22 07 42.0**	**-0.1**
SMAR	**Somma**	**1.48**	**306**	*eP*	**Pn**	**22 07 42.8**	**+0.2**
SMAR	**Somma**	**1.48**	**306**	PN	**Pn**	**22 07 42.8**	**+0.2**
AVH	**Avacha**	**1.52**	**306**	*eP*	**Pn**	**22 07 43.3**	**+0.3**
AVH	**Avacha**	**1.52**	**306**	PN	**Pn**	**22 07 43.3**	**+0.3**
KRER	**Koryakskii**	**1.53**	**307**	*eP*	**Pn**	**22 07 43.6**	**+0.3**
KRER	**Koryakskii**	**1.53**	**307**	PN	**Pn**	**22 07 43.6**	**+0.3**
KOK	**Koryaka**	**1.58**	**305**	*eP*	**Pn**	**22 07 44.1**	**+0.2**
KOK	**Koryaka**	**1.58**	**305**	PN	**Pn**	**22 07 44.1**	**+0.2**
MTVR	**Mutnovka**	**1.60**	**274**	*eP*	**Pn**	**22 07 44.2**	**+0.1**
MTVR				*eS*	**Sn**	**22 08 04.3**	**+0.2**
MTVR	**Mutnovka**	**1.60**	**274**	PN	**Pn**	**22 07 44.2**	**+0.1**
MTVR				S	**Sn**	**22 08 04.3**	**+0.2**
KRX	**Arik**	**1.61**	**307**	*eP*	**Pn**	**22 07 44.5**	**+0.1**
KRX	**Arik**	**1.61**	**307**	PN	**Pn**	**22 07 44.5**	**+0.1**
GRL	**Gorelyy**	**1.67**	**276**	*eP*	**Pn**	**22 07 46.1**	**+1.0**
GRL	**Gorelyy**	**1.67**	**276**	PN	**Pn**	**22 07 46.1**	**+1.0**
KRMR	**Karymshinskiy**	**1.68**	**286**	*eP*	**Pn**	**22 07 45.0**	**-0.1**
KRMR				*eS*	**Sn**	**22 08 04.7**	**-1.2**
KRMR	**Karymshinskiy**	**1.68**	**286**	PN	**Pn**	**22 07 45.0**	**-0.1**
KRMR				S	**Sn**	**22 08 04.7**	**-1.2**
ASAK	**Asacha**	**1.77**	**271**	P	**Pn**	**22 07 46.9**	**+0.4**
ASAK	**Asacha**	**1.77**	**271**	PN	**Pn**	**22 07 46.9**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.78**	**252**	*eP*	**Pn**	**22 07 45.5**	**-0.9**
KDTR				*eS*	**Sn**	**22 08 06.3**	**-1.9**
KDTR	**Khodutka, Kamc**	**1.78**	**252**	PN	**Pn**	**22 07 45.5**	**-0.9**
KDTR				S	**Sn**	**22 08 06.3**	**-1.9**
PEA0B	**Petropavlovsk-**	**2.01**	**292**	*e*Pn	**Pn**	**22 07 50.0**	**+0.3**
PEA0B				*e*Sn	**Sn**	**22 08 10.1**	**-3.9**
PETK	**Petropavlovsk-**	**2.01**	**292**	*e*Pn	**Pn**	**22 07 49.8**	**+0.2**
PETK	**Petropavlovsk-**	**2.01**	**292**	*e*PN	**Pn**	**22 07 49.8**	**+0.2**
PETK	**Petropavlovsk-**	**2.01**	**292**	Pn	**Pn**	**22 07 50.1**	**+0.4**
	comp=N,36nm,0.3s,baz=102,slow=19,SNR=178						
PETK				Sn	**Sn**	**22 08 14.4**	**+0.3**
	comp=N,39nm,0.3s,baz=96,slow=19,SNR=4.3						
PETK				LR	LR	22 08 21.3	
	comp=N,213nm,19.0s,baz=163,slow=38						
PEA1	**Petropavlovsk-**	**2.01**	**292**	*e*Pn	**Pn**	**22 07 50.1**	**+0.4**
PEA1				*e*Sn	**Sn**	**22 08 14.4**	**+0.3**
PEA1				*e*Sg	**Sb**	**22 08 21.3**	**+3.7**
MKZ	**Mys Kozlova**	**2.23**	**14**	*e*S	**Sn**	**22 08 18.8**	**-0.7**
APC	**Apacha**	**2.27**	**285**	*e*P	**Pn**	**22 07 54.4**	**+1.1**
APC				*e*S	**Sn**	**22 08 20.6**	**+0.1**
APC	**Apacha**	**2.27**	**285**	PN	**Pn**	**22 07 54.4**	**+1.1**
APC				S	**Sn**	**22 08 20.6**	**+0.1**
KZV	**Kizimen**	**2.73**	**354**	*e*P	**Pn**	**22 08 00.6**	**+0.9**
KZV				*e*S	**Sn**	**22 08 33.1**	**+1.0**
KZV	**Kizimen**	**2.73**	**354**	PN	**Pn**	**22 08 00.6**	**+0.9**
KZV				S	**Sn**	**22 08 33.1**	**+1.0**
TUMD	**Tumrok D**	**2.82**	**355**	*e*P	**Pn**	**22 08 01.4**	**+0.6**
TUMD				*e*S	**Sn**	**22 08 34.4**	**+0.4**
TUMR	**Tumrok**	**2.91**	**353**	*e*P	**Pn**	**22 08 04.0**	**+1.8**
TUMR				*e*S	**Sn**	**22 08 38.2**	**+1.7**
TUMR	**Tumrok**	**2.91**	**353**	PN	**Pn**	**22 08 01.4**	**-0.8**
TUMR				S	**Sn**	**22 08 34.4**	**-2.1**
SKR	**Severo-Kuril's**	**3.39**	**241**	*e*PN	**Pn**	**22 08 07.9**	**-0.6**
SKR				pmax	pmax		
	comp=Z,60nm,0.3s						
SKR				MLR	MLR		
	comp=Z,1μm,13.0s						
SKR				MLR	MLR		
	comp=Z,500nm,15.0s						
ALID	**Alaid**	**3.61**	**247**	*e*P	**Pn**	**22 08 11.5**	**-0.2**
ALID	**Alaid**	**3.61**	**247**	PN	**Pn**	**22 08 11.5**	**-0.2**
SRDR	**Sredinnyy**	**3.98**	**351**	*e*P	**Pn**	**22 08 18.2**	**+1.5**
SRDR	**Sredinnyy**	**3.98**	**351**	PN	**Pn**	**22 08 18.2**	**+1.5**
KBTR	**Krutoberegovo**	**4.00**	**16**	*e*P	**Pn**	**22 08 17.3**	**+0.4**
KBTR	**Krutoberegovo**	**4.00**	**16**	PN	**Pn**	**22 08 17.3**	**+0.4**
KBG	**Krutoberegovo**	**4.02**	**15**	*e*P	**Pn**	**22 08 18.0**	**+0.8**
KBG	**Krutoberegovo**	**4.02**	**15**	PN	**Pn**	**22 08 18.0**	**+0.8**
BKI	**Bering**	**4.16**	**45**	*e*P	**Pn**	**22 08 18.8**	**-0.4**
BKI				*e*S	**Sn**	**22 09 02.9**	**-4.1**
BKI	**Bering**	**4.16**	**45**	PN	**Pn**	**22 08 18.8**	**-0.4**
BDR	**Baidarnaya**	**4.18**	**3**	*e*P	**Pn**	**22 08 21.9**	**+2.3**
BDR	**Baidarnaya**	**4.18**	**3**	PN	**Pn**	**22 08 21.9**	**+2.3**
SMY	**Shemya**	**8.12**	**82**	*e*Pn	**Pn**	**22 09 14.1**	**+0.7**
SMY				*e*Sn	**Sn**	**22 10 41.2**	**-3.2**
SMY	**Shemya**	**8.12**	**82**	*e*PN	**Pn**	**22 09 14.1**	**+0.7**
MA2	**Magadan**	**9.12**	**326**	LR	LR	22 13 13.6	
	comp=Z,68nm,18.3s,baz=216,slow=41						
SEY	**Seymchan**	**11.47**	**340**	Pn	**Pn**	**22 09 57.9**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=98,slow=0.8,SNR=16						
YSS	**Yuzh-Sakhalins**	**12.88**	**252**⇑	*e*PN	**Pn**	**22 10 20.4**	**+1.8**
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS				MLR	MLR		
	comp=E,300nm,12.0s						
YUK	**Yuzh-Kuril'sk**	**12.99**	**236**	*i* PN	**Pn**	**22 10 24.1**	**+4.0**
ASAJ	**Asahikawa**	**14.65**	**243**	Pn	**Pn**	**22 10 42.2**	**-0.6**
	comp=E,0.5nm,0.3s,baz=73,slow=17,SNR=4.2						
ASAJ				LR	LR	22 16 18.9	
	comp=E,102nm,19.9s,baz=50,slow=37						
GRNR	**Gornyy**	**15.22**	**274**	*e*P	**P**	**22 10 59.1**	**+3.9**
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
ERM	**Erimo**	**15.82**	**236**	*e*Pn	**Pn**	**22 10 53.5**	**-4.7**
	comp=Z,20nm,0.8s						
ERM	**Erimo**	**15.82**	**236**	*e*P	**Pn**	**22 10 53.5**	**-4.7**
ERM				pmax	pmax		
	comp=Z,20nm,0.8s						
BILL	**Bilibino**	**15.91**	**8**	*e*P	**Pn**	**22 10 58.9**	**-0.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,69nm,17.0s						
KLR	**Kul'dur**	**18.57**	**272**	*i* P	**P**	**22 11 30.6**	**-1.6**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KLR	**Kul'dur**	**18.57**	**272**	P	**P**	**22 11 31.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=71,slow=12,SNR=8.8						
KLR				LR	LR	22 19 35.9	
	comp=Z,160nm,18.9s,baz=74,slow=40						
USRK	**Ussuriysk Ar.**	**20.73**	**258**	*e*P	**P**	**22 11 53.3**	**-2.6**
USRK	**Ussuriysk Ar.**	**20.73**	**258**	P	**P**	**22 11 55.0**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=78,slow=8.8,SNR=4.5						
MJB9	**Matsu-Tunnel**	**22.46**	**234**	*e*P	**P**	**22 12 16.5**	**+1.9**
	comp=Z,11nm,0.8s						
MAJO	**Matsushiro**	**22.46**	**234**	*e*P	**P**	**22 12 16.7**	**+2.1**
	comp=Z,7.2nm,0.7s						
MAJO	**Matsushiro**	**22.46**	**234**	*c e*P	**P**	**22 12 16.9**	**+2.4**
MAJO				pmax	pmax		
	comp=Z,21nm,1.7s						
MAT	**Matsushiro**	**22.46**	**234**	P	**P**	**22 12 15.6**	**+1.1**
MJAR	**Matsushiro Arr**	**22.46**	**234**	P	**P**	**22 12 15.7**	**+1.2**
	comp=Z,2.1nm,0.5s,baz=32,slow=9.0,SNR=12						
TIXI	**Tiksi**	**23.89**	**336**	*i* P	**P**	**22 12 25.7**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
HIA	**Hailar**	**25.86**	**280**	*e*P	**P**	**22 12 45.5**	**-1.3**
	comp=Z,7.4nm,0.5s						
HIA	**Hailar**	**25.86**	**280**	*c e*P	**P**	**22 12 47.3**	**+0.5**
IMAR	**Indian Mountai**	**26.24**	**41**	*e*P	**P**	**22 12 51.0**	**+1.1**
KDAK	**Kodiak Island**	**26.78**	**60**	*e*P	**P**	**22 12 55.0**	**+0.1**
	comp=Z,5.4nm,0.8s						
BOD	**Bodaibo**	**26.86**	**300**	*e*P	**P**	**22 12 53.4**	**-2.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.6s						
MLY	**Manley**	**27.38**	**44**	*e*P	**P**	**22 13 00.3**	**0.0**
	comp=Z,0.5nm,0.8s						
TOLK	**Toolik Lake Re**	**28.27**	**36**	*e*P	**P**	**22 13 09.4**	**+1.1**
	comp=Z,0.8nm,0.9s						
JNU	**Nakatsue**	**28.90**	**240**	LR	LR	22 26 09.0	
	comp=Z,31nm,18.7s,baz=22,slow=39						
ILAR	**Eielson Array**	**29.01**	**44**	P	**P**	**22 13 16.0**	**+1.2**
ILAR	**Eielson Array**	**29.01**	**44**	P	**P**	**22 13 15.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=246,slow=7.1,SNR=4.1						
ILB	**Eielson Array**	**29.01**	**44**	*e*P	**P**	**22 13 15.9**	**+1.2**
	comp=Z,1.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**32.95**	**169**	T	T	22 49 23.0	
	baz=353,slow=76,SNR=41						
H11N3	**WAKE ISLAND Hy**	**32.97**	**169**	T	T	22 49 28.0	
	baz=353,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy**	**32.97**	**169**	T	T	22 49 25.9	
	baz=353,slow=76,SNR=50						
ULN	**Ulaanbaatar**	**34.07**	**284**	*i* P	**P**	**22 13 57.7**	**-2.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**34.16**	**37**	*e*P	**P**	**22 14 01.1**	**+1.1**
	comp=Z,2.5nm,1.1s						
INK	**Inuvik**	**34.16**	**37**	P	**P**	**22 14 01.1**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=284,slow=6.2,SNR=5.6						
SONM	**Songino Array**	**34.48**	**285**	LR	LR	22 29 43.7	
	comp=Z,148nm,18.3s,baz=76,slow=39						
NRIK	**Noril'sk**	**36.72**	**325**	LR	LR	22 30 45.8	
	comp=Z,78nm,18.1s,baz=62,slow=39						
YKA	**Yellowknife Ar**	**43.39**	**42**	P	**P**	**22 15 17.4**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=296,slow=7.8,SNR=5.3						
YKB5	**Yellowknife Ar**	**43.39**	**42**	*e*P	**P**	**22 15 17.4**	**+0.1**
ZALV	**Zalesovo Beam**	**43.51**	**304**	LR	LR	22 35 48.6	
	comp=Z,33nm,19.4s,baz=70,slow=40						
NVS	**Novosibirsk**	**43.86**	**305**	*e*P	**P**	**22 15 17.5**	**-3.7**
NVS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.1s						
KURK	**Kurchatov**	**48.46**	**303**	*c e*P	**P**	**22 15 56.3**	**-1.1**
KURK				pmax	pmax		
	comp=Z,21nm,1.0s						
MK32	**Makanchi Array**	**48.84**	**297**	*e*P	**P**	**22 15 58.1**	**-2.4**
MKAR	**Makanchi Array**	**48.84**	**297**	P	**P**	**22 15 58.1**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=57,slow=7.7,SNR=12						
ARCES	**ARCESS Array B**	**54.08**	**342**	P	**P**	**22 16 38.7**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=30,slow=9.3,SNR=3.2						
AAK	**Ala-Archa**	**55.77**	**297**	*c e*P	**P**	**22 16 52.6**	**+0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KSH	**Kashi**	**57.07**	**293**	P	**P**	**22 17 02.8**	**+1.4**
PD31	**Pinedale Array**	**57.49**	**61**	*e*P	**P**	**22 17 06.2**	**+1.8**
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**57.49**	**61**	P	**P**	**22 17 06.2**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=306,slow=3.2,SNR=5.9						
PDAR				LR	LR	22 43 39.5	
	comp=Z,26nm,18.2s,baz=224,slow=38						
CHTO	**Chiang Mai**	**58.19**	**259**	*e*P	**P**	**22 17 10.2**	**+0.9**
	comp=Z,2.5nm,0.7s						
CM31	**Chiang Mai Arr**	**58.46**	**259**	*e*P	**P**	**22 17 11.7**	**+0.5**
	comp=Z,4.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**58.46**	**259**	*i* P	**P**	**22 17 11.6**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**58.46**	**259**	P	**P**	**22 17 11.7**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=27,slow=7.1,SNR=7.9						
FIA0	**FINESS Array S**	**60.92**	**337**	*e*P	**P**	**22 17 27.3**	**-0.3**
FINES	**FINESS Array B**	**60.92**	**337**	*i* P	**P**	**22 17 27.2**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**60.92**	**337**	P	**P**	**22 17 27.3**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=28,slow=8.6,SNR=11						
FINES				LR	LR	22 48 46.1	
	comp=Z,26nm,19.5s,baz=216,slow=41						
OBN	**Obninsk**	**63.33**	**328**	*e*P	**P**	**22 17 43.4**	**-0.4**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,32nm,19.0s						
NOA	**NORSAR Array B**	**64.33**	**344**	LR	LR	22 47 26.6	
	comp=Z,10.0nm,21.0s,baz=330,slow=38						
WMOK	**Wichita Mounta**	**69.09**	**60**	*e*P	**P**	**22 18 22.5**	**+1.4**
	comp=Z,2.4nm,0.9s						
AKASG	**Malin Array Be**	**69.43**	**329**	P	**P**	**22 18 22.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=28,slow=6.2,SNR=3.2						
AKBB	**Malin Array Si**	**69.43**	**329**	*e*P	**P**	**22 18 22.6**	**-0.2**
	comp=Z,3.1nm,0.8s						
KIEV	**Kiev**	**69.44**	**329**	*i* P	**P**	**22 18 20.2**	**-2.7**
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KIV	**Kislovodsk**	**70.23**	**317**	*e*P	**P**	**22 18 26.5**	**-1.6**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,71nm,17.0s						
LTX	**Lajitas**	**70.52**	**67**	*e*P	**P**	**22 18 31.1**	**+1.1**
TX31	**Lajitas Ar. Si**	**70.52**	**67**	*e*P	**P**	**22 18 31.5**	**+1.5**
	comp=Z,1.9nm,0.9s						
TXAR	**Lajitas Array**	**70.52**	**67**	P	**P**	**22 18 31.1**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=300,slow=4.8,SNR=17						
CLL	**Collm**	**73.15**	**340**	*e*P	**P**	**22 18 47.0**	**+1.6**
U59A	**Littleton**	**77.96**	**45**	*e*P	**P**	**22 19 15.8**	**+2.6**
	comp=Z,39nm,0.2s						

*IDC **22** 22:13:55.2±1.0, 0°.37S×125°.58E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/32, mbtmp3.9/8, ML4.1/1, Error ellipse: s-maj=79.9km s-min=16.5km az=67.0*
*ISCJB **22** 22:13:56.2±0.8, 0°.42S±0°.08×125°.70E±0°.07, h10km, mb3.8/7, Error ellipse: s-maj=13.9km s-min=8.0km az=37.4*
*DJA **22** 22:13:59.2±0.3, 0°.S±3°×12°.6E±°, h10km, M4.2/7, mb4.4/5, mB4.6/4, MLv4.2/7, Mw(mB)3.8/4*

ISC 22 22:13:57.7±0.7, 0°.49S±0°.07×125°.63E±0°.06, h10km, n19, σ1§72/20, mb3.8/7, Southern Molucca Sea

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

KSR	**Koster**	**0.74**	**318**	*e*P	**Pb**	**22 43 36.2**	**+0.3**
KSR				*e*S	**Sg**	**22 43 45.7**	**+1.0**
KSR				AML	AML	22 43 52.6	
comp=Z,1μm,0.7s							
SWZ	**Schweizer**	**2.04**	**247**	*e*P	**Pn**	**22 43 57.2**	**+1.7**
SWZ				*e*S	**Sb**	**22 44 23.5**	**-0.2**
SWZ				AML	AML	22 44 27.3	
comp=Z,1μm,0.6s							
LBTB	**Lobatse**	**2.17**	**309**	*e*P	**Pn**	**22 43 59.1**	**+2.0**
LBTB				*e*S	**Sn**	**22 44 26.4**	**+2.2**
LBTB				AML	AML	22 44 30.7	
comp=Z,2μm,0.3s							
LBTB	**Lobatse**	**2.17**	**309**	Pn	**Pb**	**22 43 59.5**	**-0.8**
comp=Z,96nm,0.3s,baz=132,slow=14,SNR=791							
LBTB				Pg	**Pg**	**22 44 00.7**	**-1.6**
comp=Z,96nm,0.3s,baz=129,slow=17,SNR=321							
LBTB				Lg	Lg	22 44 28.6	
comp=Z,659nm,0.3s,baz=38,slow=23,SNR=120							
MSNA	**Messina**	**4.67**	**31**	*i* P	**Pn**	**22 44 33.5**	**+1.9**
MSNA				*i* S	**Sn**	**22 45 25.9**	**-0.2**
MSNA	**Messina**	**4.67**	**31**	*e*P	**Pn**	**22 44 31.6**	**0.0**
MSNA				*e*S	**Sn**	**22 45 22.6**	**-3.5**
MSNA				AML	AML	22 45 53.1	
comp=Z,237nm,0.5s							
MSNA	**Messina**	**4.67**	**31**	*i* P	**Pn**	**22 44 33.5**	**+1.9**
MSNA				*i* S	**Sn**	**22 45 25.9**	**-0.2**
PKA	**Prieska**	**5.27**	**231**	*e*P	**Pn**	**22 44 39.7**	**-0.1**
PKA				*e*S	**Sn**	**22 45 38.9**	**-1.8**
PKA				AML	AML	22 46 11.9	
comp=Z,136nm,0.4s							
MATP	**Matopo**	**6.03**	**9**	*i* P	**Pn**	**22 44 51.3**	**+1.0**
MATP				*i* S	**Sn**	**22 45 59.6**	**0.0**
MATP	**Matopo**	**6.03**	**9**	*i* P	**Pn**	**22 44 51.3**	**+1.0**
MATP				*i* S	**Sn**	**22 45 59.6**	**0.0**
MATP	**Matopo**	**6.03**	**9**	Pn	**Pn**	**22 44 50.9**	**+0.5**
comp=Z,12nm,0.3s,baz=187,slow=13,SNR=190							
MATP				Sn	**Sn**	**22 45 57.2**	**-2.4**
comp=Z,12nm,0.3s,baz=125,slow=14,SNR=7.9							
MATP				Lg	Lg	22 46 24.8	
comp=Z,26nm,0.3s,baz=112,slow=12,SNR=6.4							
MATP				Rg	Rg	22 46 45.6	
comp=Z,49nm,0.4s,baz=279,slow=21,SNR=1.7							
BLWY	**Bulawayo**	**6.33**	**10**	*i* P	**Pn**	**22 44 55.2**	**+0.7**
BLWY				*i* S	**Sn**	**22 46 06.1**	**-0.8**
BLWY	**Bulawayo**	**6.33**	**10**	*i* P	**Pn**	**22 44 55.2**	**+0.7**
BLWY				*i* S	**Sn**	**22 46 06.1**	**-0.8**
GRM	**Grahamstown**	**6.93**	**187**	*e*P	**Pn**	**22 45 03.1**	**+0.4**
GRM				*e*S	**Sn**	**22 46 18.2**	**-3.6**
GRM				AML	AML	22 47 07.6	
comp=Z,130nm,0.6s							
BUFB	**Buffelsbos**	**8.07**	**196**	*e*P	**Pn**	**22 45 18.8**	**+0.7**
BUFB				*e*S	**Sn**	**22 46 46.4**	**-3.1**
BUFB				AML	AML	22 47 06.8	
comp=Z,27nm,0.6s							
SUR	**Sutherland**	**8.30**	**223**	*e*Pn	**Pn**	**22 45 22.6**	**+1.1**
SUR				*e*Sn	**Sn**	**22 46 51.6**	**-4.0**
CVNA	**Calvinia**	**8.42**	**231**	*e*P	**Pn**	**22 45 23.3**	**+0.2**
CVNA				*e*S	**Sn**	**22 46 54.5**	**-3.8**
CVNA				AML	AML	22 47 53.9	
comp=Z,222nm,0.5s							
KOMG	**Komaggas**	**9.42**	**247**	*e*P	**Pn**	**22 45 38.0**	**+1.2**
KOMG				*e*S	**Sn**	**22 47 19.4**	**-3.5**
KOMG				AML	AML	22 48 29.5	
comp=Z,132nm,0.6s							
LSZ	**Lusaka**	**11.09**	**4**	*i* P	**Pn**	**22 45 59.2**	**-0.6**
LSZ				*i* S	Sn	22 47 54.8	-9.4
LSZ	**Lusaka**	**11.09**	**4**	*e*Pn	**Pn**	**22 45 58.5**	**-1.4**
LSZ				*e*Sn	**Sn**	**22 47 58.0**	**-6.2**
LSZ	**Lusaka**	**11.09**	**4**	*i* P	**Pn**	**22 45 59.2**	**-0.6**
LSZ				*i* S	Sn	22 47 54.8	-9.4
LSZ	**Lusaka**	**11.09**	**4**	Pn	**Pn**	**22 45 58.9**	**-0.9**
comp=Z,2.2nm,0.3s,baz=182,slow=13,SNR=30							
LSZ				Sn	**Sn**	**22 47 58.7**	**-5.5**
comp=Z,1.4nm,0.3s,baz=247,slow=9.5,SNR=4.5							
LSZ				Lg	Lg	22 49 04.2	
comp=Z,2.9nm,0.3s,baz=83,slow=18,SNR=4.4							
TSUM	**Tsumeb**	**11.57**	**306**	*i* P	**Pn**	**22 46 06.7**	**+0.3**
TSUM				*i* S	**Sn**	**22 48 08.6**	**-7.4**
TSUM	**Tsumeb**	**11.57**	**306**	*e*Pn	**Pn**	**22 46 06.4**	**0.0**
TSUM				*e*Sn	**Sn**	**22 48 11.8**	**-4.1**
TSUM	**Tsumeb**	**11.57**	**306**	*i* P	**Pn**	**22 46 06.7**	**+0.3**
TSUM				*i* S	**Sn**	**22 48 08.6**	**-7.4**
TSUM	**Tsumeb**	**11.57**	**306**	Pn	**Pn**	**22 46 07.0**	**+0.6**
comp=Z,2.4nm,0.3s,baz=116,slow=9.4,SNR=64							
TSUM				Sn	**Sn**	**22 48 20.8**	**+4.8**
comp=Z,1.2nm,0.3s,baz=236,slow=17,SNR=5.4							
TSUM				Lg	Lg	22 49 18.1	
comp=Z,1.6nm,0.3s,baz=46,slow=20,SNR=3.4							
MBAR	**Mbarara**	**25.85**	**8**	*e*P	**P**	**22 48 54.5**	**+1.5**
comp=Z,9.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**46.61**	**324**	P	**P**	**22 51 49.2**	**-0.3**
comp=Z,1.2nm,0.4s,baz=132,slow=6.2,SNR=19							
SNAA	**Sanae**	**48.35**	**192**	P	**P**	**22 52 04.7**	**+2.2**
SNAA	**Sanae**	**48.35**	**192**	*e*P	**P**	**22 52 03.8**	**+1.3**
comp=Z,5.1nm,0.8s							
SNAA	**Sanae**	**48.35**	**192**	P	**P**	**22 52 04.4**	**+2.0**
comp=Z,4.8nm,0.8s,baz=280,slow=4.4,SNR=24							
VNA1	**Neumayer--Stat**	**48.72**	**195**	P	**P**	**22 52 07.4**	**+2.1**
VNA2	**Neumayer--Watz**	**48.72**	**194**	P	**P**	**22 52 07.5**	**+2.3**
baz=22,slow=6.4							
VNA3	**Neumayer Olymp**	**49.47**	**195**	P	**P**	**22 52 12.6**	**+1.6**
ESDC	**Sonseca Array**	**71.97**	**335**	P	**P**	**22 54 46.3**	**+1.5**
comp=Z,0.6nm,0.4s,baz=154,slow=5.6,SNR=13							
VNDA	**Vanda**	**72.83**	**171**	P	**P**	**22 54 51.3**	**+1.9**
comp=Z,0.6nm,0.5s,baz=252,slow=6.6,SNR=8.3							
GEC2	**GERESS Array S**	**75.91**	**351**	*e*P	**P**	**22 55 08.4**	**+0.8**
comp=Z,2.2nm,1.1s							
GERES	**GERESS Array B**	**75.91**	**351**	P	**P**	**22 55 08.4**	**+0.8**
comp=Z,0.2nm,0.4s,baz=151,slow=4.5,SNR=4.1							
AKASG	**Malin Array Be**	**76.78**	**1**	P	**P**	**22 55 13.7**	**+1.3**
comp=Z,0.6nm,0.5s,baz=190,slow=4.2,SNR=5.0							
AKBB	**Malin Array Si**	**76.78**	**1**	*e*P	**P**	**22 55 13.7**	**+1.3**
comp=Z,3.2nm,1.0s							
KK31	**Karatay Array**	**79.70**	**31**	*e*P	**P**	**22 55 29.4**	**+0.6**
comp=Z,3.5nm,0.9s							
KKAR	**Karatay Array**	**79.70**	**31**	*e*P	**P**	**22 55 29.5**	**+0.7**
comp=Z,3.5nm,0.9s							
FIA0	**FINESS Array S**	**87.54**	**359**	*e*P	**P**	**22 56 09.8**	**+1.2**
FINES	**FINESS Array B**	**87.54**	**359**	P	**P**	**22 56 09.8**	**+1.2**
comp=Z,0.7nm,0.5s,baz=128,slow=3.1,SNR=7.0							
MK32	**Makanchi Array**	**88.08**	**34**	*e*P	**P**	**22 56 12.9**	**+1.4**
MKAR	**Makanchi Array**	**88.08**	**34**	P	**P**	**22 56 12.9**	**+1.4**
comp=Z,0.4nm,0.5s,baz=223,slow=4.2,SNR=9.7							

WBNET 22 22:45:45.3, 50°.24N×12°.45E, h8km, MI0.7, 6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**173**	⇓P	Pg	22 45 46.6	-0.1
NKC				S	Sg	22 45 47.5	-0.1
LBCW	**Luby**	**0.04**	**321**	⇓P	Pg	22 45 46.9	0.0
LBCW				S	Sg	22 45 48.0	0.0
VAC	**Vackov**	**0.04**	**267**	⇓P	Pg	22 45 46.9	-0.1
VAC				S	Sg	22 45 48.0	-0.2
STCW	**Studenec**	**0.05**	**66**	⇓P	Pg	22 45 46.9	-0.2
STCW				S	Sg	22 45 47.9	-0.4
KVC	**Kvetna**	**0.05**	**126**	⇓P	Pg	22 45 46.8	-0.2
KVC				S	Sg	22 45 47.9	-0.4
POCW	**Potky**	**0.08**	**351**	⇓P	Pg	22 45 47.5	0.0
POCW				S	Sg	22 45 48.9	-0.1
SKC	**Skalna**	**0.09**	**219**	⇑P	Pg	22 45 47.4	-0.1
SKC				S	Sg	22 45 48.8	-0.1
KACW	**Kaceov**	**0.10**	**154**	⇑P	Pg	22 45 47.6	-0.1
KACW				S	Sg	22 45 49.3	-0.1
KRCW	**Kraslice**	**0.11**	**30**	⇑P	Pg	22 45 47.7	-0.1
KRCW				S	Sg	22 45 49.4	-0.2
KOCW	**Kopaniny**	**0.14**	**281**	⇑P	Pg	22 45 48.3	0.0
KOCW				S	Sg	22 45 50.3	-0.1
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	22 45 49.1	-0.1
ZHC				S	Sg	22 45 51.7	-0.1
LACW	**Lazy**	**0.22**	**149**	⇑P	Pg	22 45 49.7	0.0
LACW				S	Sg	22 45 52.7	0.0

PRU ***22*** *22:46:40.6±0.0, 50°.21N×12°.58E, h0km, West Bohemia Swarm*

WBNET 22 22:46:41.7, 50°.24N×12°.45E, h8km, MI0.9, 6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**172**	*e*PG	Pg	22 46 42.9	-0.2
NKC				*e*SG	Sg	22 46 43.8	-0.3
comp=Z,16nm,0.2s							
NKC	**Novy Kostel**	**0.00**	**172**	⇓P	Pg	22 46 43.0	-0.1
NKC				S	Sg	22 46 43.9	-0.1
LBCW	**Luby**	**0.04**	**322**	⇓P	Pg	22 46 43.3	0.0
LBCW				S	Sg	22 46 44.4	0.0
VAC	**Vackov**	**0.04**	**268**	⇓P	Pg	22 46 43.3	-0.1
VAC				S	Sg	22 46 44.4	-0.2
STCW	**Studenec**	**0.05**	**65**	⇓P	Pg	22 46 43.3	-0.2
STCW				S	Sg	22 46 44.3	-0.4
KVC	**Kvetna**	**0.05**	**125**	⇓P	Pg	22 46 43.2	-0.2
KVC				S	Sg	22 46 44.3	-0.4
POCW	**Potky**	**0.08**	**351**	⇓P	Pg	22 46 43.9	0.0
POCW				S	Sg	22 46 45.4	-0.1
SKC	**Skalna**	**0.09**	**219**	⇑P	Pg	22 46 43.8	-0.1
SKC				S	Sg	22 46 45.2	-0.1
KACW	**Kaceov**	**0.10**	**154**	⇑P	Pg	22 46 44.0	-0.1
KACW				S	Sg	22 46 45.7	0.0
KRCW	**Kraslice**	**0.11**	**29**	⇑P	Pg	22 46 44.1	-0.1
KRCW				S	Sg	22 46 45.8	-0.2
KOCW	**Kopaniny**	**0.14**	**282**	⇑P	Pg	22 46 44.7	0.0
KOCW				S	Sg	22 46 46.7	-0.1
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	22 46 45.5	0.0
ZHC				S	Sg	22 46 48.1	0.0
LACW	**Lazy**	**0.22**	**148**	⇑P	Pg	22 46 46.1	0.0
LACW				S	Sg	22 46 49.1	0.0
BRG	**Berggiesshubel**	**1.15**	**56**	PG	Pn	22 47 03.9	-0.1
BRG				SG	Sb	22 47 18.9	+0.1
1.8nm,0.2s							
KHC	**Kasperske Hory**	**1.33**	**146**	*e*SG	Sb	22 47 20.3	-3.8

PRU ***22*** *22:47:34.0±0.0, 50°.26N×12°.47E, h2km, West Bohemia Swarm*

WBNET 22 22:47:33.5, 50°.24N×12°.45E, h8km, MI0.9, 6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**172**	*e*PG	Pg	22 47 34.7	-0.2
NKC				*e*SG	Sg	22 47 35.7	-0.1
comp=Z,18nm,0.1s							
NKC	**Novy Kostel**	**0.00**	**172**	⇓P	Pg	22 47 34.8	-0.1
NKC				S	Sg	22 47 35.7	-0.1
LBCW	**Luby**	**0.04**	**322**	⇓P	Pg	22 47 35.0	0.0
LBCW				S	Sg	22 47 36.2	0.0
VAC	**Vackov**	**0.04**	**268**	⇓P	Pg	22 47 35.1	-0.1
VAC				S	Sg	22 47 36.1	-0.2
STCW	**Studenec**	**0.05**	**65**	⇓P	Pg	22 47 35.1	-0.2
STCW				S	Sg	22 47 36.1	-0.4
KVC	**Kvetna**	**0.05**	**125**	⇓P	Pg	22 47 35.0	-0.2
KVC				S	Sg	22 47 36.1	-0.4
POCW	**Potky**	**0.08**	**351**	⇓P	Pg	22 47 35.6	0.0
POCW				S	Sg	22 47 37.1	-0.1
SKC	**Skalna**	**0.09**	**219**	⇑P	Pg	22 47 35.5	-0.1
SKC				S	Sg	22 47 37.0	-0.1
KACW	**Kaceov**	**0.10**	**154**	⇑P	Pg	22 47 35.8	-0.1
KACW				S	Sg	22 47 37.5	0.0
KRCW	**Kraslice**	**0.11**	**29**	⇑P	Pg	22 47 35.9	-0.1
KRCW				S	Sg	22 47 37.6	-0.2
KOCW	**Kopaniny**	**0.14**	**282**	⇑P	Pg	22 47 36.5	0.0
KOCW				S	Sg	22 47 38.5	-0.1
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	22 47 37.3	0.0
ZHC				S	Sg	22 47 39.9	0.0
LACW	**Lazy**	**0.22**	**148**	⇑P	Pg	22 47 37.8	0.0
LACW				S	Sg	22 47 40.9	0.0
BRG	**Berggiesshubel**	**1.15**	**56**	PG	Pg	22 47 54.5	-0.9
KHC	**Kasperske Hory**	**1.33**	**146**	*e*SG	Sn	22 48 16.7	+0.4

KRSC 22 22:59:12.6±10.0, 52°.38N×160°.79E, h18km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.86**	**327**	*e*P	Pb	22 59 28.6	-0.3
SPN				*e*S	Sb	22 59 40.1	0.0
NLC	**Nalytchevo**	**1.19**	**313**	*e*P	Pn	22 59 34.0	-0.2
NLC				*e*S	Sb	22 59 49.6	+0.2
RUS	**Russkaya**	**1.40**	**273**	*e*P	Pb	22 59 38.2	+0.1
RUS				*e*S	Sb	22 59 56.0	+0.5
DALK	**Dalny**	**1.40**	**299**	*e*P	Pb	22 59 37.7	-0.5
DALK				*e*S	Sn	22 59 55.2	0.0
UGLR	**Uglovaya**	**1.46**	**306**	*e*P	Pb	22 59 38.9	-0.3
AVH	**Avacha**	**1.53**	**306**	*e*P	Pb	22 59 40.0	-0.4
KRER	**Koryakskii**	**1.55**	**308**	*e*P	Pb	22 59 40.6	-0.2
KOK	**Koryaka**	**1.60**	**306**	P	Pb	22 59 41.1	-0.5
MTVR	**Mutnovka**	**1.60**	**275**	*e*P	Pb	22 59 41.5	-0.1
MTVR				*e*S	Sb	23 00 02.1	+0.6
KRX	**Arik**	**1.63**	**308**	P	Pn	22 59 41.3	+0.8
KRMR	**Karymshinskiy**	**1.69**	**287**	*e*P	Pb	22 59 42.2	-0.8
KDTR	**Khodutka, Kamc**	**1.77**	**252**	*e*P	Pb	22 59 43.4	-1.0
KDTR				*e*S	Sn	23 00 04.2	0.0
APC	**Apacha**	**2.28**	**285**	P	Pb	22 59 51.8	-1.3
APC				S	Sb	23 00 20.3	-0.6

SAR 22 23:10:44.7±0.4, 43°.08N×18°.74E, h2km, ML1.4/4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.17**	**46**	*e*Pg	Pg	23 10 47.7	-0.4
UPM				*e*Sg	Sg	23 10 50.7	+0.3
BRY	**Bratogost**	**0.23**	**219**	*e*Pg	Pg	23 10 48.9	-0.3
BRY				*e*Sg	Sg	23 10 52.4	+0.2
TREB	**Trebinje**	**0.46**	**218**	*e*Pg	Pg	23 10 53.0	-0.6
TREB				*e*Sg	Sg	23 10 59.7	+0.2
PDG	**Podgorica**	**0.76**	**149**	*e*Sg	Sg	23 11 08.9	-0.1
STON	**Ston**	**0.79**	**255**	*e*Pg	Pg	23 10 58.8	-1.1
STON				Sg	Sb	23 11 11.2	-1.0
DRME	**Dracevica, Mon**	**0.95**	**160**	*e*Sg	Sg	23 11 15.2	-0.2
HAPS	**Han Pijesak,Bl**	**1.01**	**9**	*e*Sg	Sg	23 11 17.1	-0.2

ROM 22 23:11:43.3±0.1, 41°.251N±0°.006×15°.253E±0°.010, h10km, Md1.7/3, Error ellipse: s-maj=1.0km s-min=0.6km az=232.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCO	**Biccari - m.te**	**0.14**	**329**	P	Pg	23 11 46.8	+0.3
SGTA	**Sant Agata di**	**0.14**	**144**	P	Pg	23 11 47.0	+0.5
SGTA				S	Sg	23 11 49.8	+1.0
SGTA				END			
SGTA				END			
MRB1	**Monte Rocchett**	**0.24**	**240**	P	Pg	23 11 49.3	+1.0
MRB1				END			
MRB1	**Monte Rocchett**	**0.24**	**240**	P	Pg	23 11 49.7	+1.4
SNAL	**S. Angelo Dei**	**0.33**	**186**	P	Pg	23 11 50.5	+0.7
SNAL	**S. Angelo Dei**	**0.33**	**186**	P	Pg	23 11 50.5	+0.7
SNAL				S	Sb	23 11 55.4	-1.2
SNAL				END			
SNAL				END			

ISCJB ***22*** *23:27:13.6±1.6, 32°.63S±0°.05×72°.18W±0°.07, h26km±10km, Error ellipse: s-maj=10.5km s-min=8.6km az=175.8*
SJA ***22*** *23:27:13.9±0.3, 32°.58S×72°.01W, h32km±1km, MD2.5, MW5.2*
GUC ***22*** *23:27:15.2±0.8, 32°.81S×72°.10W, h31km±7km, ML3.6*

ISC 22 23:27:14.2±2.0, 32°.67S±0°.07×72°.1W±0°.1, h21km±5km, n13, σ0s56/23, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.98**	**109**	*e*P	**Pb**	**23 27 32.5**	**-0.2**
ROC1				*e*S	**Sn**	**23 27 46.2**	**-0.2**
ROCH	**El Roble**	**0.98**	**108**	⇑*i*P	**Pb**	**23 27 32.3**	**-0.4**
ROCH				*i* S	**Sb**	**23 27 45.5**	**+0.1**
ROCH				IAML		23 27 46.3	
comp=E,4μm,0.4s							
PEL	**Peldehue**	**1.30**	**112**	*e*P	**Pn**	**23 27 37.4**	**+0.1**
PEL				*e*S	**Sb**	**23 27 54.6**	**+0.3**
PEL	**Peldehue**	**1.30**	**112**	⇓*i*P	**Pn**	**23 27 36.9**	**-0.3**
PEL				*i* S	**Sn**	**23 27 53.5**	**-0.5**
PEL				IAML		23 27 55.7	
comp=E,3μm,0.1s							
CLCH	**Cerro Calan**	**1.52**	**119**	⇑*i*P	**Pn**	**23 27 40.6**	**+0.4**
CLCH				*i* S	**Sn**	**23 27 59.3**	**-0.1**
CLCH				IAML		23 28 01.9	
comp=N,1μm,0.5s							
ANTU	**Antumapu**	**1.54**	**126**	*e*P	**Pb**	**23 27 42.6**	**+0.5**
ANTU				*i* S	**Sb**	**23 28 02.1**	**+0.9**
ANTU				IAML		23 28 02.9	
comp=N,883nm,0.5s							
FCH	**Farellones**	**1.68**	**114**	⇑*i*P	**Pn**	**23 27 42.6**	**0.0**
FCH				*i* S	**Sn**	**23 28 03.7**	**0.0**
FCH				IAML		23 28 04.9	
comp=E,1μm,0.3s							
LMEL	**Las Melosas**	**1.99**	**127**	⇑*i*P	**Pn**	**23 27 47.9**	**+1.0**
LMEL				*i* S	**Sb**	**23 28 12.9**	**-1.4**
LMEL				IAML		23 28 16.1	
comp=N,1μm,0.1s							
GO05	**Huala**	**2.34**	**176**	⇓*i*P	**Pn**	**23 27 51.7**	**+0.2**
GO05				*i* S	**Sn**	**23 28 18.9**	**-0.8**
AUSP	**Uspallata**	**2.35**	**80**	*e*P	**Pn**	**23 27 51.8**	**-0.2**
AUSP				*e*S	**Sn**	**23 28 20.2**	**-0.2**
ACCO	**Cerro Coronel**	**3.33**	**52**	*e*P	**Pn**	**23 28 05.8**	**+0.4**
AROD	**Rodeo**	**3.37**	**43**	*e*P	**Pn**	**23 28 06.2**	**+0.2**
AMOG	**MOGNA**	**3.54**	**62**	*e*P	**Pn**	**23 28 08.1**	**0.0**

ATH 22 23:33:02.1, 38°.22N×22°.13E, h11km±2km, ML1.3/8, Error ellipse: s-maj=2.4km s-min=0.7km az=74.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRAZ	**Trapeza**	**0.09**	**129**	P	Pg	23 33 04.9	+0.1
TRAZ				S	Sg	23 33 06.9	+0.2
TRAZ				AML	AML	23 33 07.1	
comp=E,1254μm,0.1s							
TRAZ				AML	AML	23 33 07.1	
comp=N,1569μm,0.1s							
TRAZ	**Trapeza**	**0.09**	**129**	P	Pg	23 33 04.9	+0.1
TRAZ				S	Sg	23 33 06.7	0.0
TRAZ				AML	AML	23 33 07.1	
comp=E,1254μm,0.1s							
TRAZ				AML	AML	23 33 07.1	
comp=N,1569μm,0.1s							
LAKA	**Lakka**	**0.12**	**278**	P	Pg	23 33 04.9	-0.3
LAKA				S	Sg	23 33 06.9	-0.4
LAKA	**Lakka**	**0.12**	**278**	P	Pg	23 33 05.0	-0.2
LAKA				S	Sg	23 33 06.9	-0.4
LAKA				AML	AML	23 33 07.0	
comp=E,159μm,0.2s							
LAKA				AML	AML	23 33 07.4	
comp=N,146μm,0.2s							
TRIZ	**Trizonia**	**0.15**	**343**	P	Pg	23 33 05.5	-0.1
TRIZ				S	Sg	23 33 08.0	0.0
TRIZ	**Trizonia**	**0.15**	**343**	P	Pg	23 33 05.5	-0.1
TRIZ				S	Sg	23 33 08.1	0.0
KALE	**Kalithea**	**0.17**	**3**	P	Pg	23 33 05.9	-0.1
KALE				S	Sg	23 33 09.0	+0.3
KALE				AML	AML	23 33 09.3	
comp=N,460μm,0.2s							
KALE				AML	AML	23 33 10.8	
comp=E,257μm,0.2s							
KALE	**Kalithea**	**0.17**	**3**	P	Pg	23 33 06.0	+0.1
KALE				S	Sg	23 33 09.0	+0.3
KALE				AML	AML	23 33 09.3	
comp=N,460μm,0.2s							
KALE				AML	AML	23 33 10.8	
comp=E,257μm,0.2s							
KLV	**Kalavryta, Ach**	**0.18**	**174**	P	Pg	23 33 05.9	-0.2
KLV				S	Sg	23 33 09.0	+0.1
KLV				AML	AML	23 33 09.5	
comp=N,130μm,0.2s							
KLV				AML	AML	23 33 10.0	
comp=E,117μm,0.2s							
KLV	**Kalavryta, Ach**	**0.18**	**174**	P	Pg	23 33 06.0	-0.2
KLV				S	Sg	23 33 09.0	+0.1
KLV				AML	AML	23 33 09.5	
comp=N,130μm,0.2s							
KLV				AML	AML	23 33 10.0	
comp=E,117μm,0.2s							
SERG	**Sergoula**	**0.20**	**344**	P	Pg	23 33 06.3	-0.2
SERG				S	Sg	23 33 09.7	+0.4
SERG				AML	AML	23 33 10.0	
comp=N,387μm,0.2s							
SERG				AML	AML	23 33 10.8	
comp=E,340μm,0.2s							
SERG	**Sergoula**	**0.20**	**344**	P	Pg	23 33 06.4	-0.1
SERG				S	Sg	23 33 09.8	+0.4
SERG				AML	AML	23 33 10.0	
comp=N,387μm,0.2s							
SERG				AML	AML	23 33 10.8	
comp=E,340μm,0.2s							
EFP	**Efpalio**	**0.27**	**319**	P	Pg	23 33 07.5	-0.2
EFP				S	Sg	23 33 11.7	+0.4
EFP	**Efpalio**	**0.27**	**319**	P	Pg	23 33 07.6	0.0
EFP				S	Sg	23 33 11.8	+0.4
GUR	**Goura**	**0.33**	**149**	P	Pg	23 33 08.8	-0.1
GUR	**Goura**	**0.33**	**149**	P	Pg	23 33 08.8	-0.1
GUR				S	Sg	23 33 13.8	+0.4
DSF	**Desfina**	**0.37**	**59**	P	Pg	23 33 09.4	-0.1
DSF				S	Sg	23 33 14.4	+0.1
DSF	**Desfina**	**0.37**	**59**	P	Pg	23 33 09.4	-0.1
DSF				S	Sg	23 33 14.5	+0.1
DSF				AML	AML	23 33 15.4	
comp=E,101μm,0.2s							
DSF				AML	AML	23 33 16.8	
comp=N,133μm,0.1s							
ANX	**Ano Chora**	**0.40**	**336**	P	Pg	23 33 09.9	-0.3
ANX				S	Sg	23 33 16.3	+0.8
ANX	**Ano Chora**	**0.40**	**336**	P	Pg	23 33 09.6	-0.5
ANX				S	Sg	23 33 16.1	+0.6
ANX				AML	AML	23 33 16.7	
comp=N,92μm,0.3s							
ANX				AML	AML	23 33 19.1	
comp=E,99μm,0.3s							
**DR

KMSI	Cibinong	5.73 233	P	Pn	23 52 04.7	+1.3
	658nm,0.9s,6μm2.0nm					
SANI	Sanana	6.58 203	P	Pn	23 52 14.8	-0.2
	135nm,0.9s,2μm0.4nm					
MRSI	Marisa	7.50 242	P	Pn	23 52 28.9	+1.2
	640nm,0.7s,5μm1.9nm					
LUWI	Luwuk	7.68 229	*e*Pn	Pn	23 52 32.5	+2.4
LUWI	Luwuk	7.68 229	P	Pn	23 52 32.6	+2.4
	236nm,0.6s,2μm0.8nm					
FAKI	Fak Fak	7.84 152	*e*Pn	Pn	23 52 33.1	+0.7
FAKI			*e*Sn	Sn	23 53 54.3	-5.5
FAKI	Fak Fak	7.84 152	P	Pn	23 52 33.1	+0.7
APSI	Ampana	8.48 235	P	Pn	23 52 42.0	+0.8
	320nm,1.2s,2μm					
BNDI	Bandanaira	8.62 171	P	Pn	23 52 43.8	+0.8
MPSI	Mapaga	9.41 247	P	Pn	23 52 53.3	-0.5
	33nm,0.8s,380nm					
KDI	Kendari	9.92 217	P	Pn	23 53 00.3	-0.6
	89nm,1.4s,948nm					
TTSI	Tana Toraja	11.22 231	P	Pn	23 53 17.7	-1.0
	71nm,0.8s,2μm					
SPSI	Sidrap Palu	11.85 228	P	Pn	23 53 27.0	-0.3
	47nm,0.7s,722nm					
BNSI	Bone	11.90 225	P	Pn	23 53 27.3	-0.7
	39nm,0.9s					
TGY	Tagaytay City	12.51 324	LR	LR	23 58 49.8	
	comp=Z,207nm,20.0s,baz=148,slow=40					
BKSI	Bulukumba	12.55 222	P	Pn	23 53 36.4	-0.5
	15nm,0.5s					
KAPI	Kappang	12.59 224	*e*Pn	Pn	23 53 34.6	-2.7
KAPI	Kappang	12.59 224	Pn	Pn	23 53 35.1	-2.3
	2.2nm,0.3s,baz=32,slow=8.8,SNR=13					
KAPI			LR	LR	23 59 14.9	
	comp=Z,102nm,19.4s,baz=57,slow=41					
BSSI	Bau Bau, Buton	12.94 219	P	Pn	23 53 43.1	+1.0
	59nm,0.6s,647nm					
MMRI	Maumere	14.09 207	*e*Pn	Pn	23 53 55.4	-2.4
MMRI	Maumere	14.09 207	P	P	23 54 08.3	+3.9
SOEI	Soe	14.36 197	*e*Pn	Pn	23 54 02.9	+1.3
SOEI	Soe	14.36 197	P	Pn	23 54 02.2	+0.6
BATI	Baumata	14.97 199	Pn	Pn	23 54 08.2	-1.4
	2.3nm,0.3s,baz=353,slow=7.0,SNR=3.5					
BATI			LR	LR	00 00 38.2	
	comp=Z,136nm,21.8s,baz=30,slow=40					
SBUM	Sibu	16.39 265	*e*Pn	Pn	23 54 24.5	-3.3
	8.6nm,0.7s					
PLAI	Plampang	16.71 220	P	P	23 54 35.1	+1.6
	128nm,0.8s					
MTN	Manton Dam	16.97 171	*e*Pn	Pn	23 54 34.0	-1.0
	29nm,0.6s					
KMMI	Kalianget	18.27 233	P	Pn	23 54 52.1	+1.1
KSM	Kuching	18.41 263	*e*P	P	23 54 50.9	-1.5
	10nm,0.6s					
GUMO	Guam	18.68 58	LR	LR	00 00 50.4	
	comp=Z,186nm,19.1s,baz=235,slow=33					
JAGI	Jajag, Banyuwa	19.00 229	*e*P	Pn	23 55 00.3	+0.3
	80nm,0.8s					
JAGI	Jajag, Banyuwa	19.00 229	P	Pn	23 55 00.1	+0.2
PWJI	Pagerwojo	20.57 234	P	Pn	23 55 20.2	+1.7
	51nm,1.1s					
UGM	Wanagama	21.56 237	*e*P	P	23 55 26.2	-0.4
	28nm,0.8s					
FITZ	Fitzroy Crossi	22.19 187	*e*P	P	23 55 31.3	-2.0
	7.6nm,0.8s					
FITZ	Fitzroy Crossi	22.19 187	P	P	23 55 30.9	-2.4
	6.5nm,0.7s,baz=18,slow=6.7,SNR=15					
PMG	Port Moresby	22.85 126	LR	LR	00 05 30.9	
	comp=Z,82nm,18.2s,baz=340,slow=39					
COEN	Coen	23.02 141	*e*P	P	23 55 43.9	+1.7
	9.8nm,0.9s					
LEM	Lembang	23.53 243	P	P	23 55 46.3	-1.0
	20nm,0.5s,baz=341,slow=13,SNR=3.8					
PSA00	Pilbara Seismi	26.85 198	*e*P	P	23 56 16.4	-0.8
	13nm,1.1s					
SKNT	Sakolnakorn	27.32 300	P	P	23 56 24.5	+3.0
AS31	Alice Springs	28.03 170	*e*P	P	23 56 27.4	-0.4
	3.0nm,0.6s					
ASAR	Alice Springs	28.03 170	P	P	23 56 27.4	-0.4
	5.2nm,0.5s,baz=358,slow=8.5,SNR=88					
ASAR			ScP	ScP	00 03 19.8	+0.4
	1.8nm,0.9s,baz=340,slow=2.7,SNR=8.9					
JNU	Nakatsue	29.01 4	*e*P	P	23 56 36.4	0.0
	28nm,1.0s					
JNU	Nakatsue	29.01 4	P	P	23 56 37.7	+1.2
	5.2nm,0.9s,baz=167,slow=5.1,SNR=3.2					
JNU			LR	LR	00 06 15.8	
	comp=Z,64nm,21.4s,baz=180,slow=32					
PSI	Prapat	29.61 269	LR	LR	00 09 41.4	
	comp=Z,67nm,20.8s,baz=56,slow=39					
PBKT	Sadao Pong	29.81 297	P	P	23 56 51.9	+8.2
	4.7nm,1.2s,491nm					
CM31	Chiang Mai Arr	32.31 299	*e*P	P	23 57 05.7	-0.1
	3.4nm,0.6s					
CMAR	Chiang Mai Arr	32.31 299	P	P	23 57 07.1	+1.3
	0.9nm,0.3s,baz=113,slow=7.0,SNR=4.4					
CMAR			LR	LR	00 10 58.3	
	comp=Z,37nm,18.6s,baz=134,slow=38					
KMI	Kunming	32.48 313	P	P	23 57 10.3	+2.9
KMI			pmax	pmax		
	comp=Z,4.0nm,0.6s					
KS15	Wonju Array Si	33.24 359	*e*P	P	23 57 12.3	-1.3
	7.6nm,0.9s					
KSRS	Korea Array	33.26 359	P	P	23 57 12.3	-1.4
	1.2nm,0.5s,baz=178,slow=10,SNR=7.8					
KSRS			LR	LR	00 12 08.3	
	comp=Z,26nm,18.9s,baz=174,slow=39					
MJAR	Matsushiro Arr	33.54 14	P	P	23 57 14.4	-1.9
	2.6nm,0.6s,baz=186,slow=9.7,SNR=9.5					
MJAR			LR	LR	00 09 59.4	
	comp=Z,104nm,19.4s,baz=185,slow=35					
MAJO	Matsushiro	33.54 14	*e*P	P	23 57 14.4	-1.9
MAT	Matsushiro	33.54 14	P	P	23 57 14.9	-1.4
MAT			S	S	00 02 41.0	+5.7
FORT	Forrest	34.63 181	*e*P	P	23 57 25.5	-0.2
	36nm,0.8s					
STKA	Stephens Creek	37.82 162	*e*P	P	23 57 53.0	+0.1
	1.9nm,0.8s					
STKA	Stephens Creek	37.82 162	P	P	23 57 52.8	-0.2
	6.1nm,0.5s,baz=336,slow=9.6,SNR=24					
STKA			LR	LR	00 15 05.2	
	comp=Z,56nm,19.1s,baz=16,slow=39					
NWAO	Narrogin (SRO)	38.31 195	P	P	23 57 56.7	-0.4
	3.4nm,0.3s,baz=32,slow=6.8,SNR=6.8					
LZH	Lanzhou	39.19 328	*e*P	P	23 58 06.8	+2.1
LZH			pP	pP	23 58 10.1	-5.0
LZH			sP	sP	23 58 11.5	-8.2
LZH			*e*PP	PnPn	23 59 40.8	+2.7
LZH			pmax	pmax		
	comp=Z,24nm,1.1s					
LZH			pmax	pmax		
	comp=Z,76nm,5.3s					
LZH			LR	LR		
	comp=N,340nm,12.9s					
LZH			LR	LR		
	comp=E,360nm,13.2s					
LZH			LR	LR		
	comp=Z,480nm,16.5s					
HHC	Hu-ho-hao-te	39.71 340	*e*P	P	23 58 09.6	+0.8
HHC			pmax	pmax		
	comp=Z,82nm,1.0s					
HHC			pmax	pmax		
	comp=Z,270nm,4.8s					
USRK	Ussuriysk Ar.	40.10 4	LR	LR	00 14 24.9	
	comp=Z,27nm,20.3s,baz=162,slow=36					
BRDH	Bariadhala	40.23 301	LR	LR	00 16 13.3	
	comp=Z,34nm,19.2s,baz=182,slow=38					
GTA	Gaotai	43.79 327 ⇑P		P	23 58 46.6	+4.3
GTA			pP	sP	23 58 54.8	-2.7
GTA			pmax	pmax		
	comp=Z,6.0nm,0.9s					
GTA			pmax	pmax		
	comp=Z,17nm,4.9s					
GTA			LR	LR		
	comp=N,130nm,16.5s					
GTA			LR	LR		
	comp=E,120nm,17.1s					
KLR	Kul'dur	45.10 3	P	P	23 58 51.2	-1.2
	1.1nm,0.7s,baz=221,slow=4.7,SNR=3.9					
ULN	Ulaanbaatar	47.41 340	*e*P	P	23 59 10.2	-0.6
	14nm,1.1s					
SONA0	Songino Array	47.61 340	*e*P	P	23 59 10.4	-1.9
SONM	Songino Array	47.61 340	P	P	23 59 10.4	-1.9
	0.9nm,0.6s,baz=155,slow=9.2,SNR=7.0					
WMQ	Urumqi	53.53 324	*e*P	P	23 59 59.5	+2.5
WMQ			sP	sP	00 00 09.0	-3.4
WMQ			pmax	pmax		
	comp=Z,33nm,0.7s					
WMQ			LR	LR		
	comp=N,240nm,28.3s					
WMQ			LR	LR		
	comp=E,1μm,39.1s					
WMQ			LR	LR		
	comp=Z,260nm,24.7s					
PETK	Petropavlovsk-	54.47 21	P	P	00 00 02.3	-1.3
	2.2nm,0.6s,baz=177,slow=5.2,SNR=22					
PETK			LR	LR	00 21 56.5	
	comp=Z,22nm,20.3s,baz=207,slow=34					
PEA1	Petropavlovsk-	54.47 21	*e*P	P	00 00 02.3	-1.3
MA2	Magadan	57.97 13	P	P	00 00 27.7	-0.7
	5.0nm,0.5s,baz=169,slow=9.0,SNR=4.3					
MKAR	Makanchi Array	58.35 324	P	P	00 00 30.5	-0.9
	2.7nm,0.5s,baz=130,slow=8.5,SNR=6.3					
MAKZ	Makanchi	58.54 324	*e*P	P	00 00 32.3	-0.5
	9.2nm,0.8s					
KSH	Kashi	59.12 314	P	P	00 00 42.5	+5.5
KSH			pP	pP	00 00 46.8	-1.1
KSH			PP	PP	00 02 53.9	+5.8
KSH			S	S	00 08 48.6	+7.3
KSH			pmax	pmax		
	comp=Z,200nm,2.4s					
KSH			LR	LR		
	comp=N,190nm,6.8s					
KSH			LR	LR		
	comp=E,140nm,6.8s					
KSH			LR	LR		
	comp=Z,140nm,9.5s					
ZALV	Zalesovo Beam	61.15 332	P	P	00 00 49.9	-0.6
	2.0nm,0.6s,baz=115,slow=7.3,SNR=4.1					
ZAA1	Zalesovo Array	61.15 332	*e*P	P	00 00 49.9	-0.6
SEY	Seymchan	61.33 12	P	P	00 00 50.7	-0.8
	1.1nm,0.2s,baz=184,slow=18,SNR=4.9					
KURK	Kurchatov	62.47 327	*e*P	P	00 00 59.8	+0.4
	10nm,0.6s					
KURBB	Kurchatov Arra	62.47 327	P	P	00 00 57.9	-1.5
	5.9nm,0.8s,baz=124,slow=6.0,SNR=16					
BVAR	Borovoye Array	68.06 326	P	P	00 01 34.5	-1.1
	2.6nm,0.8s,baz=68,slow=6.9,SNR=3.7					
CASY	Casey	71.36 188	*e*P	P	00 01 56.4	+0.9
	7.2nm,0.8s					
CAST	Castle Rocks	81.64 27	*e*P	P	00 02 54.4	+0.6
	5.7nm,0.8s					
COLD	Coldfoot	82.89 23	*e*P	P	00 03 00.9	+0.6
	1.9nm,1.0s					
VNDA	Vanda	83.51 173	P	P	00 03 03.6	+0.3
	1.7nm,0.7s,baz=318,slow=7.0,SNR=13					
ILAR	Eielson Array	84.04 25	P	P	00 03 05.6	-0.7
	0.8nm,0.7s,baz=234,slow=5.5,SNR=9.1					
ILB	Eielson Array	84.04 25	*e*P	P	00 03 05.6	-0.7
	3.0nm,1.0s					
MAW	Mawson	84.68 201	*e*P	P	00 03 09.4	+0.1
	0.8nm,0.8s					
MAW	Mawson	84.68 201	P	P	00 03 09.4	+0.1
	2.9nm,0.8s,baz=103,slow=14,SNR=6.9					
BRTR	Keskin Array B	91.23 310	LR	LR	00 47 30.8	
	comp=Z,14nm,21.8s,baz=124,slow=37					
YKA	Yellowknife Ar	98.45 25	P	Pdif	00 04 12.9	-1.0
	0.4nm,0.7s,baz=300,slow=4.6,SNR=4.4					
TORD	Torodi Ar. Bea	124.55 289	PKP	PKPdf	00 09 34.3	-1.9
	1.5nm,0.6s,baz=42,slow=2.4,SNR=9.3					
TOA1	Torodi Ar. Sit	124.55 289	*e*PKPdf	PKPdf	00 09 34.3	-1.9

IDC ***22*** *23:55:47.3±2.3,38°.29N×74°.02E,h98km±19km,mb3.8/20, mb1 3.9/28,mb1mx3.8/56,mbtmp4.2/28,Error ellipse: s-maj=16.9km s-min=10.6km az=167.0*
MOS ***22*** *23:55:49.6±1.0,38°.45N×74°.08E,h122km,mb4.2/10,Error ellipse: s-maj=8.6km s-min=5.1km az=92.7*
ISCJB ***22*** *23:55:49.2±0.2,38°.40N±0°.02×74°.12E±0°.04,h124km, mb4.1/41,Error ellipse: s-maj=4.0km s-min=2.9km az=1.8*
NEIC ***22*** *23:55:50.5±1.9,38°.46N×74°.03E,h122km±9km,mb4.1/15, Error ellipse: s-maj=17.5km s-min=11.9km az=153.0*
BJI ***22*** *23:55:50.4±0.0,38°.50N×74°.14E,h118km,mb4.4/12, mB4.2/3*
NNC ***22*** *23:55:51.5±6.0,38°.79N×74°.14E,h0km,mb4.7,mpv4.3, Error ellipse: s-maj=45.4km s-min=40.2km az=178.0*
ISC 22 23:55:49.8±0.4,38°.34N±0°.04×74°.00E±0°.04,h124km,n172, σ_{Δ}^{Δ}**11/178,mb4.1/41,22C-5D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.94	52	P	Pn	23 56 16.9	-5.9
KSH				S	Sn	23 56 36.1	-12
KSH				smax	smax		
	comp=N,5μm,0.4s						
KSH				smax	smax		
	comp=E,4μm,0.3s						
GAR	Garm	2.96	284	*e*Pn	Pn	23 56 36.4	+0.7
GAR				*e*Sn	Sn	23 57 04.3	-6.8
GAR	Garm	2.96	284	*e*PN	Pn	23 56 36.4	+0.7
BTK	Batken	3.01	306	*e*Pn	Pn	23 56 37.1	+0.7
BTK	Batken	3.01	306	*e*PN	Pn	23 56 37.1	+0.7
ARSB	Arslanbob	3.08	346	*e*Pn	Pn	23 56 36.4	-1.0
NRN	Naryn	3.46	26	*e*Pn	Pn	23 56 41.0	-1.5
NRN	Naryn	3.46	26	*e*PN	Pn	23 56 41.0	-1.5
AML	Almayashu	3.80	357	P	Pn	23 56 46.4	-0.7
	SNR=1058						
CHGR	Chuyangaron	3.81	276	*e*P	Pn	23 57 03.0	+16
KZA	Kyzart	3.86	14	P	Pn	23 56 47.0	-0.9
	SNR=213						
UCH	Uchtor	3.91	6	P	Pn	23 56 47.8	-0.8
	SNR=631						
ULHL	Ulahol	4.27	23	P	Pn	23 56 51.9	-1.2
	SNR=59						
AAK	Ala-Archa	4.31	5	P	Pn	23 56 53.4	-0.3
	SNR=43						
AAK	Ala-Archa	4.31	5	⇓Pn	Pn	23 56 53.2	-0.5
	49nm,0.6s						
AAK				⇓Sn	Sn	23 57 40.7	-2.6
	83nm,0.7s						
AAK				⇑Lg	Lg	23 57 54.7	
	59nm,0.5s						
AAK	Ala-Archa	4.31	5	*ce*PN	Pn	23 56 53.1	-0.6
AAK				pmax	pmax		
	comp=Z,49nm,0.7s						
AAK	Ala-Archa	4.31	5	P	Pn	23 56 53.4	-0.3
	comp=Z,21nm,0.3s,baz=161,slow=7.1,SNR=124						
AAK				S	Sn	23 57 40.2	-3.1
	comp=Z,17nm,0.3s,baz=146,slow=17,SNR=8.2						
EKS2	Erkin-Say	4.32	358	P	Pn	23 56 53.5	-0.3
	SNR=95						
KBK	Karagaybulak	4.38	9	P	Pn	23 56 54.4	-0.1
	SNR=66						
BOOM	Boomskoye usch	4.41	19	*e*Pn	Pn	23 56 54.4	-0.5
BOOM	Boomskoye usch	4.41	19	*e*PN	Pn	23 56 54.4	-0.5
TARG	Taragay, Kyrgy	4.48	40	*e*Pn	Pn	23 56 54.8	-1.2
TARG				*e*Sn	Sn	23 57 33.9	-14
FRU1	Bishkek	4.50	6	*e*Pn	Pn	23 56 56.2	+0.2
FRU1	Bishkek	4.50	6	*e*PN	Pn	23 56 56.2	+0.2
CHMS	Chumysh	4.69	7	P	Pn	23 56 58.2	-0.4
	SNR=28						
CHCP	Chirah Chowk	4.71	187	P	Pn	23 57 01.8	+2.9
NIL	Nilore	4.71	188	*e*Pn	Pn	23 57 02.1	+3.1
NIL	Nilore	4.71	188	*e*PN	Pn	23 57 02.1	+3.1
TKM2	Tokmak 2	4.74	14	P	Pn	23 56 58.9	-0.5
	SNR=77						
TKM2	Tokmak 2	4.74	14	⇑Pn	Pn	23 56 58.6	-0.8
	comp=Z,32nm,0.6s						
TKM2				⇑Sn	Sn	23 57 51.1	-2.4
	comp=Z,116nm,0.6s						
TKM2	Tokmak 2	4.74	14	*i* PN	Pn	23 56 58.4	-1.0
TKM2				pmax	pmax		
	comp=Z,24nm,0.4s						
CEP	Cherat	4.81	201	P	Pn	23 57 02.9	+2.5
CEP				S	Sn	23 57 59.0	+3.8
USP	Ospenovka	4.94	4	P	Pn	23 57 01.5	-0.5
	SNR=11						
AAA	Alma-Ata	5.35	24	*e*PN	Pn	23 57 19.5	+12
AAA				pmax	pmax		
	comp=Z,37nm,0.6s						
MDOK	Medeo	5.35	25	⇓Pg	Pn	23 57 18.2	+11
	comp=Z,16nm,0.5s						
KNDC	Almaty	5.37	24	⇑Pg	Pn	23 57 21.4	+14
	comp=Z,46nm,0.6s						
KK31	Karatay Array	5.45	332	*e*Pn	Pn	23 57 07.9	-0.9
KK31	Karatay Array	5.45	332	⇑Pn	Pn	23 57 07.8	-0.9
	comp=Z,35nm,0.3s,baz=134,slow=12,SNR=366						
KK31				⇑Sn	Sn	23 58 07.3	-3.0
	comp=Z,90nm,0.5s,baz=134,slow=25,SNR=4.6						
KK31	Karatay Array	5.45	332	*e*PN	Pn	23 57 07.9	-0.9
KKAR	Karatay Array	5.45	332	*e*Pn	Pn	23 57 07.9	-0.9
KKAR				*e*Sn	Sn	23 57 58.5	-12
KKAR	Karatay Array	5.45	332	*e*PN	Pn	23 57 07.9	-0.9
KBL	Kabul	5.50	228	*e*Pn	Pn	23 57 11.9	+2.2
KBL	Kabul	5.50	228	*e*PN	Pn	23 57 11.9	+2.2
THW	Thamme Wali	5.83	199	P	Pn	23 57 15.5	+1.6
DHRM	DHARAMSHALA	6.36	162	*e*P	Pn	23 57 21.3	+0.1
DHRM				*e*S	Sn	23 58 28.4	-4.2
DHRM				IAML		23 58 35.3	
	comp=N,1μm,0.6s						
DHRM				IAML		23 58 39.4	
	comp=E,1μm,0.6s						
SARP	Sargodha	6.49	190	P	Pn	23 57 23.3	+0.4
PDGK	Podgornoye	6.50	38	⇑P	Pn	23 57 21.5	-1.5
	comp=E,14nm,0.7s						
BHK	Bhakra	7.18	163	*e*P	Pn	23 57 33.6	+1.4
BHK				*e*S	Sn	23 58 49.4	-3.0
SMLA	Simla	7.65	159	*e*P	Pn	23 57 38.0	-0.5
SMLA				*e*S	Sn	23 58 56.3	-7.2
SMLA				IAML		23 59 03.4	
	comp=N,789nm,0.5s						
SMLA				IAML		23 59 03.9	
	comp=E,762nm,0.1s						
DDI	Dehra Dun	8.67	156	*e*P	Pn	23 57 52.7	+0.4
DDI				*e*S	Sn	23 59 22.4	-6.0
OTUK	Ortayu	9.98	354	⇑P	Pn	23 58 07.7	-2.1
	comp=E,8.1nm,0.6s						
NDI	New Delhi	9.99	163	*e*P	Pn	23 58 09.0	-1.1
NDI				*e*S	Sn	23 59 53.0	-7.5
MAKZ	Makanchi	10.31	32	*e*Pn	Pn	23 58 13.7	-0.5
MAKZ	Makanchi	10.31	32	*e*P	Pn	23 58 13.7	-0.5
MK31	Makanchi Array	10.43	33	⇑P	Pn	23 58 14.5	-1.3
	comp=E,4.7nm,0.8s,baz=203,slow=11,SNR=21						
MK32	Makanchi Array	10.43	33	*e*Pn	Pn	23 58 14.7	-1.1
MKAR	Makanchi Array	10.43	33	P	Pn	23 58 14.7	-1.1
	comp=E,0.2nm,0.3s,baz=209,slow=14,SNR=24						
WMQ	Urumqi	11.70	58	*e*P	Pn	23 58 32.6	-0.2
WMQ				sP	P	23 59 02.8	+22
WMQ				pmax	pmax		
	comp=E,29nm,0.7s						
WMQ				LR	LR		
	comp=E,220nm,19.7s						
WMQ				LR	LR		
	comp=E,570nm,23.3s						
WMQ				LR	LR		
	comp=E,120nm,20.9s						
GEYT	Alibeck	12.51	273	P	Pn	23 58 40.6	-2.9
	comp=E,3.0nm,0.3s,baz=108,slow=10.0,SNR=63						
GEYT				S	Sn	00 00 51.8	-10
	comp=E,2.6nm,0.3s,baz=119,slow=17,SNR=13						
GYA0B	ALIBECK ARRAY	12.51	273	*e*Pn	Pn	23 58 41.7	-1.8
GYA0B				*e*Sn	Sn	00 00 53.5	-7.8
PYUN	Piuthan	12.68	141	*e*P	Pn	23 58 41.9	-4.0
	comp=E,56nm,0.4s						
KURBB	Kurchatov Arra	12.70	13	⇑P	Pn	23 58 48.7	+2.9
	comp=E,10nm,0.6s						
KURBB	Kurchatov Arra	12.70	13	P	Pn	23 58 43.6	-2.1
	comp=E,0.1nm,0.3s,baz=202,slow=12,SNR=4.7						
KURK	Kurchatov	12.81	13	*e*Pn	P	23 58 52.9	-0.3
KURK	Kurchatov	12.81	13	⇑P	Pn	23 58 49.0	+1.8
	comp=E,9.3nm,0.6s						
KURK	Kurchatov	12.81	13	*e*P	P	23 58 52.9	-0.3
DANN	Dangsing	12.87	138	*e*P	Pn	23 58 43.9	-4.5
	comp=E,27nm,0.2s						
KOLN	Koldanda	13.25	140	*e*P	Pn	23 58 49.1	-4.2
	comp=E,22nm,0.3s						
PKIN	Phulchoki	14.36	135	*e*P	Pn	23 59 04.2	-3.4
	comp=E,20nm,0.5s						
PKI	Pulchoki	14.38	135	*e*P	Pn	23 59 04.2	-3.6
	comp=E,14nm,0.3s						
JIRN	Jiri	14.75	133	*e*P	Pn	23 59 09.0	-3.6
	comp=E,44nm,0.4s						
ABKAR	Akbulak array	14.88	322	*e*Pn	Pn	23 59 11.7	-2.0
ABKAR				*e*Sn	Sn	00 01 44.9	-13
DGZ	Jazzator, Alta	14.89	36	*i* P	Pn	23 59 12.4	-1.6
BVAR	Borovoye Array	14.90	352	P	Pn	23 59 13.4	-0.5
	comp=E,0.9nm,0.3s,baz=151,slow=10,SNR=37						
BRVK	Borovoye	14.95	351	*e*Pn	Pn	23 59 13.3	-1.2
BRVK	Borovoye	14.95	351	*i* P	Pn	23 59 15.4	+0.9
BHPL	Bhopal	15.33	168	*e*P	Pn	23 59 20.9	+1.3
RAMN	Ramite	15.53	133	*e*P	Pn	23 59 19.3	-2.9
ODAN	Odare	16.05	132	*e*P	Pn	23 59 26.7	-2.0
	comp=E,38nm,0.6s						
AKTO	Aktyubinsk	16.59	322	P	Pn	23 59 34.9	0.0
	comp=E,1.5nm,0.3s,baz=152,slow=12,SNR=16						
ZALV	Zalesovo Beam	17.29	22	*e*P	P	23 59 42.3	-0.5
ZALV	Zalesovo Beam	17.29	22	*e*P	P	23 59 42.3	-0.5
ZALV	Zalesovo Beam	17.29	22	P	P	23 59 41.7	-1.1
	comp=E,1.3nm,0.3s,baz=213,slow=12,SNR=20						
NVS	Novosibirsk	17.66	18	*e*P	P	23 59 46.4	-0.5
NVS				*e*		00 02 57.2	
NGP	Nagpur	17.68	164	*ex*	P	23 59 46.9	-0.5
BOK	Bokaro	17.69	142	*e*P	Pn	23 59 49.3	+0.9
SHL	Shillong	19.77	125	*e*P	P	00 00 10.7	+0.4
WSAR	Wadi Sarin	19.97	226	P	P	00 00 12.4	0.0
	comp=E,1.4nm,0.3s,baz=63,slow=4.7,SNR=14						
GTA	Gaotai	20.11	79	P	P	00 00 15.4	+1.5
GTA				pmax	pmax		
	comp=E,8.0nm,0.8s						
GTA				pmax	pmax		
	comp=E,26nm,5.2s						
GTA				LR	LR		
	comp=E,140nm,18.1s						
GTA				LR	LR		
	comp=E,120nm,17.8s						
GTA				LR	LR		
	comp=E,87nm,19.0s						
SVE	Sverdlovsk	20.51	339	*e*P	P	00 00 17.7	-0.1
SVE				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BWNR	Bhubaneshwar	20.68	147	*ex*	x	00 00 17.9	
ARU	Arti	20.81	335	*e*P	P	00 00 19.4	-1.7
	comp=Z,9.1nm,1.1s						
ARU	Arti	20.81	335	*c i*P	P	00 00 21.2	+0.1
ARU						00 01 01.7	
ARU				S	S	00 04 04.3	-1.9
ARU				pmax	pmax		
	comp=Z,15nm,1.5s						
ARU	Arti	20.81	335	P	P	00 00 21.3	+0.3
	comp=Z,1.4nm,0.4s,baz=142,slow=5.9,SNR=8.1						
HYB	Hyderabad	21.22	168	*i* P	P	00 00 27.5	+1.7
GROC	Groznyy	21.85	292	*e*P	P	00 00 34.1	+1.8
GROC				*e*SP	sP	00 01 10.5	-2.3
GROC				*e*S	S	00 04 28.8	+3.0
GROC				pmax	pmax		
	comp=Z,17nm,0.9s						
GNI	Garni	22.69	284	*e*P	P

OBN	Obninsk	30.19	316	*i* P	P	00 01 49.4 +1.4
OBN				*i* *PP	sP	00 02 29.9 -1.3
OBN				pmax	pmax	
comp=Z,6.0nm,0.9s						
BRTR	Keskin Array B	31.20	285	*e*P	P	00 01 56.1 -1.2
BRTR	Keskin Array B	31.20	285	*e*P	P	00 01 59.8 +2.5
BRTR				pmax	pmax	
comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	31.20	285	P	P	00 01 56.5 -0.9
comp=Z,1.1nm,0.9s,baz=79,slow=7.7,SNR=5.4						
NRIK	Noril'sk	31.92	9	P	P	00 02 01.9 -1.2
comp=Z,1.5nm,0.3s,baz=199,slow=4.2,SNR=5.5						
AKASG	Malin Array Be	33.72	306	P	P	00 02 19.5 +0.5
comp=Z,0.6nm,0.4s,baz=76,slow=7.8,SNR=3.4						
WHN	Wuhan	33.97	91	P	P	00 02 23.3 +2.0
MLR	Muntele Rosu	36.02	297	*e*P	P	00 02 40.7 +1.7
comp=Z,4.0nm,0.7s						
VSU	Vasula	36.29	319	*e*P	P	00 02 42.1 +1.2
VSU				pmax	pmax	
comp=Z,43nm,1.7s						
BURAR	Bucovina Array	36.34	301	⇑*i*P	P	00 02 43.9 +2.2
VOIR		36.65	297	⇓*i*P	P	00 02 46.8 +2.5
FIA0	FINESS Array S	37.35	324	*e*P	P	00 02 51.1 +1.3
FINES	FINESS Array B	37.35	324	P	P	00 02 51.1 +1.3
comp=Z,2.7nm,0.4s,baz=112,slow=9.4,SNR=31						
TRPA	Tarpa	38.10	302	⇑*i*P	P	00 02 59.4 +3.0
DRGR		38.12	300	⇑*i*P	P	00 02 59.4 +2.8
PUNG	Punghina	38.30	296	⇑*i*P	P	00 02 53.5 -4.6
VTS	Vitosha	38.38	293	⇑*i*P	P	00 03 01.5 +2.5
ARCES	ARCESS Array B	40.40	336	P	P	00 03 16.7 +1.6
comp=Z,5.2nm,0.5s,baz=108,slow=8.6,SNR=84						
DPC	Dobruska-Polom	41.95	306	*e*P	P	00 03 30.3 +2.1
DPC	Dobruska-Polom	41.95	306	*e*P	P	00 03 30.3 +2.1
KS15	Wonju Array Si	42.03	74	*e*P	P	00 03 29.2 +0.3
comp=Z,4.7nm,1.1s						
KSRS	Korea Array	42.05	74	P	P	00 03 29.2 +0.1
comp=Z,0.8nm,0.6s,baz=281,slow=7.5,SNR=4.1						
UPC	Upice	42.13	306	*e*P	P	00 03 32.0 +2.4
UPC	Upice	42.13	306	*e*P	P	00 03 32.0 +2.4
KLR	Kul'dur	42.14	56	P	P	00 03 30.2 +0.6
comp=Z,2.0nm,0.6s,baz=277,slow=6.6,SNR=12						
CONA	Conrad Observa	42.58	302	*i* P	P	00 03 35.5 +2.2
comp=Z,1.8nm,0.7s						
TIXI	Tiksi	43.18	22	*ce*P	P	00 03 38.3 +0.6
TIXI				pmax	pmax	
comp=Z,4.0nm,0.6s						
TIXI	Tiksi	43.18	22	P	P	00 03 38.2 +0.5
comp=Z,5.8nm,0.5s,baz=277,slow=4.0,SNR=8.8						
SOKA	Soboth	43.35	301	*i* P	P	00 03 41.9 +2.3
comp=Z,1.5nm,0.6s						
BRG	Berggiesshubel	43.40	307	*e*P	P	00 03 41.7 +1.9
comp=Z,7.4nm,1.0s						
BRG	Berggiesshubel	43.40	307	*e*P	P	00 03 41.7 +1.9
BRG				pmax	pmax	
comp=Z,7.0nm,1.0s						
GERES	GERESS Array B	43.85	304	*e*P	P	00 03 46.3 +2.8
GERES				pmax	pmax	
comp=Z,1.0nm,0.6s						
GERES	GERESS Array B	43.85	304	P	P	00 03 44.9 +1.4
comp=Z,0.9nm,0.6s,baz=60,slow=8.1,SNR=8.4						
KHC	Kasperske Hory	43.88	305	*e*P	P	00 03 44.0 +0.3
comp=Z,1.6nm,0.7s						
KHC	Kasperske Hory	43.88	305	*e*P	P	00 03 45.8 +2.1
KHC	Kasperske Hory	43.88	305	*e*P	P	00 03 45.8 +2.1
CLL	Collm	43.93	308	*e*P	P	00 03 46.0 +2.0
CLL	Collm	43.93	308	*e*P	P	00 03 46.0 +2.0
NB2	NORSAR Subarra	44.38	322	P	P	00 03 48.0 +0.4
comp=Z,1.4nm,0.5s,baz=92,slow=7.9						
NB200	NORSAR Array S	44.38	322	*e*P	P	00 03 48.3 +0.7
NOA	NORSAR Array B	44.38	322	P	P	00 03 48.3 +0.7
comp=Z,1.9nm,0.6s,baz=90,slow=7.7,SNR=9.4						
SQTA	Sankt Quirin	45.80	302	*i* P	P	00 04 01.0 +1.9
comp=Z,1.1nm,0.3s						
MOTA	Moosalm	45.85	302	*i* P	P	00 03 59.5 0.0
comp=Z,0.8nm,0.3s						
DAVA	Damuels	46.67	303	*i* P	P	00 04 07.4 +1.5
comp=Z,6.5nm,0.6s						
MAJO	Matsushiro	50.08	71	*e*P	P	00 04 32.6 +0.6
MJAR	Matsushiro Arr	50.08	71	P	P	00 04 32.6 +0.6
comp=Z,3.0nm,0.8s,baz=290,slow=11,SNR=8.0						
MJA0	Matsu Arr-Jizo	50.11	71	*e*P	P	00 04 33.2 +0.9
MJA0				pmax	pmax	
comp=Z,4.0nm,0.8s						
ESDC	Sonseca Array	58.71	298	P	P	00 05 35.9 +1.4
comp=Z,0.7nm,0.5s,baz=53,slow=7.2,SNR=12						
TOA1	Torodi Ar. Sit	68.13	270	*e*P	P	00 06 35.8 -0.9
TOA0	Torodi Ar. Sit	68.13	270	*e*P	P	00 06 37.7 +1.0
comp=Z,5.4nm,0.5s						
TORD	Torodi Ar. Bea	68.13	270	P	P	00 06 35.8 -0.9
comp=Z,4.0nm,0.4s,baz=53,slow=5.3,SNR=100						
INK	Inuvik	71.69	10	*e*P	P	00 06 58.8 +1.3
comp=Z,3.9nm,0.5s						
ILAR	Eielson Array	72.34	17	*e*P	P	00 07 01.7 +0.1
ILAR				pmax	pmax	
comp=Z,2.0nm,0.9s						
ILAR	Eielson Array	72.34	17	P	P	00 07 00.9 -0.7
comp=Z,1.6nm,0.9s,baz=314,slow=4.8,SNR=12						
ILB	Eielson Array	72.34	17	*e*P	P	00 07 00.9 -0.7
comp=Z,3.4nm,1.1s						
DHY	Denali Highway	73.66	18	*e*P	P	00 07 10.3 +0.7
comp=Z,1.0nm,0.6s						
DBIC	Dimbokro	77.16	268	*e*P	P	00 07 31.5 +1.4
comp=Z,5.6nm,1.1s						
DBIC	Dimbokro	77.16	268	P	P	00 07 29.8 -0.3
comp=Z,3.2nm,0.7s,baz=348,slow=5.1,SNR=5.5						
YKA	Yellowknife Ar	79.28	4	P	P	00 07 42.0 +1.0
YKA	Yellowknife Ar	79.28	4	P	P	00 07 42.0 +1.0
comp=Z,1.9nm,0.5s,baz=348,slow=5.4,SNR=22						
ASAR	Alice Springs	83.40	127	P	P	00 08 03.2 -0.1
comp=Z,0.3nm,0.6s,baz=332,slow=5.7,SNR=3.6						
FFC	Flin Flon	87.24	358	*ce*P	P	00 08 23.6 +1.6

*ISCJB **22** 23:56:21.3±1.0, 38°.3N±0°.1×73°.9E±0°.2, h150km, mb3.6/9, Error ellipse: s-maj=20.9km s-min=16.4km az=162.8*
*IDC **22** 23:56:22.3±4.2, 38°.34N×73°.95E, h142km±32km, mb3.4/9, mb1 3.6/11, mb1mx3.3/50, mbtmp3.9/11, Error ellipse: s-maj=37.8km s-min=21.0km az=5.0*
ISC 22 23:56:23.1±1.1, **38°.4N**±0°.2×**74°.0E**±0°.1, **h150**km, **n11**, σ1°**08/11**, **mb3.6/9**, **Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	4.28	5	P	Pn	23 57 27.8	+0.7
16nm,0.3s,baz=168,slow=11,SNR=6.6							
MKAR	Makanchi Array	10.41	33	P	Pn	23 58 48.4	0.0
0.3nm,0.3s,baz=221,slow=13,SNR=6.9							
SONM	Songino Array	25.34	58	P	P	00 01 34.9	-1.1
1.6nm,0.8s,baz=251,slow=9.5,SNR=2.3							
AKASG	Malin Array Be	33.67	306	P	P	00 02 48.8	-0.6
0.6nm,0.4s,baz=80,slow=7.7,SNR=1.5							
ARCES	ARCESS Array B	40.35	336	P	P	00 03 44.8	-0.7
1.7nm,0.5s,baz=105,slow=8.5,SNR=2.7							
KLR	Kul'dur	42.14	56	P	P	00 03 59.6	-0.8
1.2nm,0.7s,baz=256,slow=6.2,SNR=4.2							
NOA	NORSAR Array B	44.33	322	P	P	00 04 16.8	-1.1
0.7nm,0.6s,baz=92,slow=8.0,SNR=2.5							
TORD	Torodi Ar. Bea	68.10	270	P	P	00 07 07.2	+0.3
0.8nm,0.5s,baz=55,slow=5.2,SNR=2.3							
ILAR	Eielson Array	72.32	17	P	P	00 07 32.6	+0.8
0.5nm,0.7s,baz=327,slow=5.5,SNR=5.0							
YKA	Yellowknife Ar	79.24	4	P	P	00 08 13.1	+2.0
1.0nm,0.7s,baz=346,slow=5.9,SNR=5.6							
ASAR	Alice Springs	83.45	127	P	P	00 08 34.1	+0.3
0.8nm,1.0s,baz=319,slow=5.2,SNR=3.3							

*IDC **23** 00:05:14.8±1.3, 10°.41S×66°.35E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/31, mbtmp3.7/8, Error ellipse: s-maj=43.8km s-min=29.9km az=26.0*
*ISCJB **23** 00:05:15.0±1.2, 10°.4S±0°.2×66°.5E±0°.2, h14km, mb3.9/10, Error ellipse: s-maj=37.1km s-min=23.7km az=20.1*
ISC 23 00:05:16.9±1.3, **10°.5S**±0°.3×**66°.4E**±0°.2, **h14**km, **n22**, σ0°**77/13**, **mb3.9/10**, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	Diego Garcia H	6.14	49	T	T	00 13 02.5	
baz=227,slow=75,SNR=13							
H08N1	Diego Carcia H	6.16	49	T	T	00 13 16.8	
baz=227,slow=75,SNR=39							
H08N2	Diego Garcia H	6.16	49	T	T	00 13 03.9	
baz=227,slow=75,SNR=52							
H08S1	Diego Carcia H	6.65	66	T	T	00 13 41.8	
baz=245,slow=75,SNR=36							
H08S3	Diego Garcia H	6.67	66	T	T	00 13 42.2	
baz=245,slow=75,SNR=37							
H08S2	Diego Garcia H	6.67	66	T	T	00 13 42.9	
baz=245,slow=75,SNR=10							
H01W3	Cape Leeuwin H	49.76	127	T	T	01 07 26.8	
baz=288							
H01W2	Cape Leeuwin H	49.76	127	T	T	01 07 27.6	
baz=288							
H01W1	Cape Leeuwin H	49.77	127	T	T	01 07 32.3	
baz=288							
BRTR	Keskin Array B	58.43	331	P	P	00 15 12.5	0.0
0.8nm,1.0s,baz=146,slow=8.5,SNR=4.9							
MKAR	Makanchi Array	58.74	13	P	P	00 15 13.5	-0.8
0.5nm,0.7s,baz=202,slow=7.3,SNR=5.0							
ASAR	Alice Springs	65.39	111	P	P	00 15 59.2	-0.3
0.6nm,0.8s,baz=277,slow=6.0,SNR=4.5							
ZALV	Zalesovo Beam	66.04	12	P	P	00 16 01.9	-1.1
0.8nm,0.5s,baz=238,slow=8.5,SNR=4.3							
SONM	Songino Array	68.03	28	P	P	00 16 16.8	+0.9
0.4nm,0.5s,baz=223,slow=7.9,SNR=5.5							
TORD	Torodi Ar. Bea	68.33	289	P	P	00 16 17.8	-0.5
1.0nm,1.1s,baz=103,slow=6.5,SNR=3.5							
AKASG	Malin Array Be	68.93	336	P	P	00 16 21.0	-0.3
0.3nm,0.3s,baz=129,slow=4.8,SNR=4.8							
WTTA	Wattenberg	75.23	325	*i* P	P	00 16 60.0	+0.5
6.4nm,1.2s							
MOTA	Moosalm	75.58	325	*i* P	P	00 17 01.9	+0.5
FETA	Feichten	75.61	324	*i* P	P	00 17 02.2	+0.6
3.8nm,0.9s							
ESDC	Sonseca Array	81.89	313	P	P	00 17 36.3	+0.1
0.3nm,0.6s,baz=104,slow=5.4,SNR=3.5							
PDAR	Pinedale Array	147.61	354	PKPbc	PKPbc	00 25 01.2	-0.3
0.2nm,0.5s,baz=353,slow=6.4,SNR=3.7							
NVAR	Mina Array Bea	151.83	8	PKPbc	PKiKP	00 25 13.8	+1.4
1.0nm,0.7s,baz=260,slow=0.9,SNR=5.3							

IDC 23 00:13:14.1±1.4, **10°.72S**×**66°.51E**, **h0**km, **mb3.7/7**, **mb1 3.7/7**, **mb1mx3.6/28**, **mbtmp3.7/7**, **MS3.6/7**, **Ms1 3.6/7**, **ms1mx3.3/25**, **Error ellipse: s-maj=44.7km s-min=28.4km az=33.0**, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	Diego Garcia H	6.20	46	T	T	00 21 02.6	
baz=227,slow=75,SNR=1350							
H08N1	Diego Carcia H	6.22	46	T	T	00 21 03.9	
baz=227,slow=75,SNR=985							
H08N2	Diego Garcia H	6.22	46	T	T	00 21 04.0	
baz=227,slow=75,SNR=1287							
H08S1	Diego Carcia H	6.63	63	T	T	00 21 42.0	
baz=245,slow=75,SNR=366							
H08S2	Diego Garcia H	6.64	63	T	T	00 21 42.4	
baz=245,slow=75,SNR=267							
H08S3	Diego Garcia H	6.64	63	T	T	00 21 43.9	
baz=245,slow=75,SNR=338							
PALK	Pallekele	22.78	39	LR	LR	00 24 59.4	
comp=Z,170nm,18.8s,baz=298,slow=31							
CMAR	Chiang Mai Arr	43.18	48	LR	LR	00 38 11.7	
comp=Z,44nm,18.1s,baz=211,slow=35							
H01W3	Cape Leeuwin H	49.48	127	T	T	01 15 32.8	
baz=287,slow=75,SNR=5.7							
H01W2	Cape Leeuwin H	49.48	127	T	T	01 15 24.1	
baz=287,slow=75,SNR=6.0							
H01W1	Cape Leeuwin H	49.49	127	T	T	01 15 32.1	
baz=287,slow=75,SNR=5.8							
MAW	Mawson	56.88	182	LR	LR	00 41 44.5	
comp=Z,90nm,19.8s,baz=25,slow=30							
BRTR	Keskin Array B	58.74	331	P	P	00 23 13.5	-0.5
0.4nm,0.8s,baz=162,slow=6.1,SNR=5.2							
MKAR	Makanchi Array	58.96	13	P	P	00 23 14.6	-0.7
0.2nm,0.4s,baz=202,slow=7.2,SNR=4.8							
ASAR	Alice Springs	65.16	111	P	P	00 23 56.8	-0.7
0.3nm,0.5s,baz=273,slow=5.5,SNR=2.7							
ZALV	Zalesovo Beam	66.26	12	P	P	00 24 03.4	-0.4
0.4nm,0.4s,baz=223,slow=10.0,SNR=4.2							
ZALV				LR	LR	00 52 44.5	
comp=Z,36nm,18.7s,baz=27,slow=36							
SONM	Songino Array	68.18	28	P	P	00 24 17.9	+1.5
0.7nm,0.7s,baz=212,slow=5.3,SNR=5.5							
TORD	Torodi Ar. Bea	68.56	289	P	P	00 24 19.6	+0.3
1.4nm,1.2s,baz=124,slow=7.5,SNR=4.3							
AKASG	Malin Array Be	69.23	336	P	P	00 24 21.6	-1.1
0.2nm,0.3s,baz=136,slow=4.5,SNR=5.1							
KSRS	Korea Array	74.79	46	LR	LR	00 58 13.4	
comp=Z,31nm,19.2s,baz=250,slow=36							
NRIK	Noril'sk	81.21	7	LR	LR	01 02 15.8	
comp=Z,45nm,18.3s,baz=182,slow=36							
MJAR	Matsushiro Arr	82.00	51	LR	LR	01 00 28.2	
comp=Z,30nm,21.2s,baz=280,slow=35							
PDAR	Pinedale Array	147.89	355	PKPbc	PKiKP	00 33 03.0	-0.8
0.5nm,0.8s,baz=45,slow=2.9,SNR=5.6							

*ISCJB **23** 00:14:09.5±0.2, 18°.21S±0°.02×69°.28W±0°.03, h138km±2km, mb4.4/40, Error ellipse: s-maj=5.2km s-min=3.5km az=152.9*
*SJA **23** 00:14:10.5±0.8, 18°.25S×69°.49W, h138km±4km, MD3.6*
*GUC **23** 00:14:11.7±0.6, 18°.29S×69°.39W, h142km±3km, ML4.9*
*NEIC **23** 00:14:11.0±0.0, 18°.38S×69°.49W, h145km, mb4.8/70, ML4.9(GUC), After GUC.*
NEIC Felt [III] at Codpa and [II] at Arica, Camina and Poconchile.
*IDC **23** 00:14:12.9±0.5, 18°.20S×68°.99W, h136km±3km, mb4.2/13, mb1 4.4/18, mb1mx4.3/25, mbtmp4.7/18, MS3.2/3, Ms1 3.2/3, ms1mx2.9/17, Error ellipse: s-maj=13.8km s-min=12.0km az=75.0*
*VAO **23** 00:14:13.8±0.3, 18°.40S×68°.98W, h138km, mb4.9*
ISC 23 00:14:11.0±0.4, **18°.24S**±0°.03×**69°.29W**±0°.05, **h130**km±3km, **h130**km:**pP-P**, **n460**, σ1°**17/491**, **mb4.7/39**, **3C-4D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	IPOC Station P	0.23	246	*e*P	Pn	00 14 30.5	+0.9
PB16				*e*S	Sn	00 14 45.0	+1.4
MNMC	Minye Minye	0.93	198	*e*Pn	Pn	00 14 34.7	+1.1
MNMC				*e*Sn	Sn	00 14 45.9	-4.8
MNMC	Minye Minye	0.93	198	⇑*e*P	Pn	00 14 34.4	+0.9
MNMC				*i* S	Sn	00 14 51.6	+0.9
MNMC				IAML		00 14 53.0	
comp=N,42μm,0.5s							
MNMCX	Minye Minye	0.93	198	*e*P	Pn	00 14 34.6	+1.0
MNMCX				*e*S	Sn	00 14 51.4	+0.7
PB12	IPOC Station P	1.05	249	⇑*e*P	Pn	00 14 34.4	-0.1
PB12				*e*S	Sn	00 14 52.4	+0.2
PB12				IAML		00 14 57.2	
comp=E,9μm,0.3s							
GO01	Chusmiza	1.42	176	*e*Pn	Pn	00 14 40.3	+1.6
PB11	IPOC Station P	1.55	193	*e*Pn	Pn	00 14 40.7	+0.9
PB11	IPOC Station P	1.55	193	*e*P	Pn	00 14 40.5	+0.7
PB11	IPOC Station P	1.55	193	⇑*e*P	Pn	00 14 40.3	+0.5
PB11				*i* S	Sn	00 15 02.1	+0.3
PB11				IAML		00 15 03.1	
comp=N,15μm,0.4s							
PSGC	Pisagua	1.56	210	*e*P	Pn	00 14 39.8	-0.1
PSGC				*e*S	Sn	00 15 01.3	-0.6
PSGC				IAML		00 15 03.6	
comp=E,7μm,0.7s							
PSGCX	Pisagua	1.56	210	*e*P	Pn	00 14 39.9	+0.1
PSGCX				*e*S	Sn	00 15 00.9	-1.0
PB08	IPOC Station P	1.89	176	⇓*e*P	Pn	00 14 45.4	+1.3
PB08				*e*S	Sn	00 15 10.6	+1.2
PB08				IAML		00 15 15.1	
comp=N,3μm,0.5s							
LPAZ	La Paz	2.24	30	*e*Pn	Pn	00 14 50.6	+2.1
LPAZ	La Paz	2.24	30	*e*P	Pn	00 14 50.5	+2.1
LPAZ	La Paz	2.24	30	P	Pn	00 14 50.4	+1.9
comp=N,272nm,0.3s,baz=208,slow=2.9,SNR=8315							
LPAZ				S	Sn	00 15 14.5	-2.6
comp=N,22nm,0.3s,baz=178,slow=6.8,SNR=5.3							
LPAZ	La Paz	2.24	30	*e*P	Pn	00 14 50.6	+2.1
PB01	IPOC Station P	2.79	184	*e*Pn	Pn	00 14 56.2	+1.2
PB01	IPOC Station P	2.79	184	⇓*e*P	Pn	00 14 55.3	+0.3
PB01				*e*S	Sn	00 15 27.7	-1.2
PB01				IAML		00 15 29.8	
comp=E,2μm,0.2s							
PB02	IPOC Station P	3.11	190	*e*P	Pn	00 14 59.7	+0.5
PB02	IPOC Station P	3.11	190	*e*P	Pn	00 14 59.3	+0.1
PB02				*e*S	Sn	00 15 37.7	+1.3
PB02				IAML		00 15 47.7	
comp=E,4μm,0.7s							
PB07	IPOC Station P	3.51	189	*e*P	Pn	00 15 05.1	+0.7
PB07	IPOC Station P	3.51	189	*e*P	Pn	00 15 04.8	+0.4
PB07				*e*S	Sn	00 15 45.5	-0.3
PB07				IAML		00 15 57.5	
comp=E,3μm,0.8s							
PB09	IPOC Station P	3.54	179	*e*P	Pn	00 15 06.0	+1.2
PB09	IPOC Station P	3.54	179	*e*P	Pn	00 15 05.4	+0.7
PB09				*e*S	Sn	00 15 46.8	+0.4
PB09				IAML		00 16 16.9	
comp=E,1μm,0.3s							
PB03	IPOC Station P	3.81	186	*e*P	Pn	00 15 08.9	+0.6
PB03	IPOC Station P	3.81	186	*e*P	Pn	00 15 08.5	+0.1
PB03				IAML		00 16 05.2	
comp=E,782nm,0.5s							
PB04	IPOC Station P	4.15	191	*e*Pn	Pn	00 15 12.7	-0.2
PB04	IPOC Station P	4.15	191	*e*P	Pn	00 15 12.6	-0.2
PB04				*e*S	Sn	00 15 59.8	-1.1
PB04				IAML		00 16 15.4	
comp=E,1μm,0.3s							
LVC	Limon Verde	4.36	175	*e*Pn	Pn	00 15 17.4	+1.5
LVC				*e*Sn	Sn	00 15 54.1	-12
LVC	Limon Verde	4.36	175	P	Pn	00 15 17.4	+1.5
comp=E,101nm,0.3s,baz=5.1,slow=8.6,SNR=713							
LVC				S	Sn	00 16 04.7	-1.5
comp=E,98nm,0.3s,baz=195,slow=19,SNR=8.0							
LVC	Limon Verde	4.36	175	*e*P	Pn	00 15 16.8	+0.9
PB06	IPOC Station P	4.45	183	*e*P	Pn	00 15 17.0	+0.2
PB06	IPOC Station P	4.45	183	⇓*e*P	Pn	00 15 16.6	-0.3
PB06				*e*S	Sn	00 16 03.8	-4.2
PB06				IAML		00 16 30.9	
comp=E,660nm,0.6s							
PB05	IPOC Station P	4.67	190	*e*P	Pn	00 15 19.5	-0.2
PB05	IPOC Station P	4.67	190	*e*P	Pn	00 15 18.3	-1.5
PB05				IAML		00 16 13.4	
comp=N,617nm,0.4s							
PB15	IPOC Station P	4.94	182	*e*P	Pn	00 15 23.8	+0.2
PB10	IPOC Station P	5.38	192	*e*Pn	Pn	00 15 27.7	-1.4
GO02	Mina Guanaco	6.89	182	*e*Pn	Pn	00 15 48.5	-1.3
SIV	San Ignacio	8.17	75	P	Pn	00 16 04.7	-2.1
comp=N,32nm,0.3s,baz=275,slow=9.7,SNR=383							
SIV				S	Sn	00 17 32.0	-5.6
comp=N,4.6nm,0.3s,baz=189,slow=21,SNR=6.3							
SIV				LR	LR	00 19 40.7	
comp=N,168nm,19.9s,baz=280,slow=42							
GO03	Copiap	9.35	185	*e*Pn	Pn	00 16 19.0	-3.6
NNA	Nana	9.58	309	*e*Pn	Pn	00 16 24.6	-1.2
NNA				*e*Sn	Sn	00 18 05.0	-6.9
NNA	Nana	9.58	309	P	Pn	00 16 24.8	-1.0
comp=N,7.7nm,0.3s,baz=153,slow=14,SNR=10							
NNA				S	Sn	00 18 06.5	-5.3
comp=N,3.5nm,0.3s,baz=204,slow=18,SNR=2.7							
NNA				LR	LR	00 20 32.0	
comp=N,90nm,19.9s,baz=140,slow=39							
LCO	Las Campanas	10.80	187	*e*Pn	Pn	00 16 38.1	-4.1
AQDB	Aquidauana	13.02	102	*e*P	Pn	00 17 09.1	-2.0
CFA	Coronel Fontan	13.34	176	P	Pn	00 17 12.1	-3.2
comp=N,8.4nm,0.3s,baz=19,slow=15,SNR=60							
CFA				S	Sn	00 19 29.0	-13
comp=N,0.3nm,0.3s,baz=241,slow=19,SNR=2.2							
CPUP	Villa Florida	13.68	128	*e*Pn	Pn	00 17 18.7	-0.9
CPUP	Villa Florida	13.68	128	P	Pn	00 17 17.9	-1.7
comp=N,0.2nm,0.3s,baz=298,slow=11,SNR=4.9							
CPUP	Villa Florida	13.68	128	*e*P	Pn	00 17 18.1	-1.5
ROC1	El Roble	14.75	186	*e*Pn	Pn	00 17 30.5	-3.0
PEL	Peldehue	14.89	185	*e*Pn	Pn	00 17 32.3	-2.7
C2SB	Chapadao do Su	15.62	95	*e*P	Pn	00 17 43.8	-0.2
GO05	Huala	16.86	187	*e*P	P	00 17 53.9	-5.3
comp=N,22nm,1.1s							
PTGB	Pitanga	17.27	115	*e*P	P	00 18 03.2	-0.7
ITRB	Iturama	17.96	98	*e*P	P	00 18 11.0	-0.4
ITAB	Concordia	18.16	123	*e*P	P	00 18 12.2	-1.3
FRTB	Fartura	19.12	109	*e*P	P	00 18 22.8	-1.3
PTGA	Pitinga	19.67	29	*e*P	P	00 18 29.2	-0.8
comp=N,51nm,0.5s							
PTGA	Pitinga	19.67	29	P	P	00 18 28.8	-1.2
comp=N,20nm,0.3s,baz=199,slow=7.3,SNR=205							
PTGA				LR	LR	00 27 15.0	
comp=N,113nm,20.5s,baz=198,slow=40							
BB19B	Bebedouro	19.75	102	*e*P	P	00 18 29.9	-1.0
CNLB	Canela	20.12	127	*e*P	P	00 18 33.7	-1.2
OTAV	Otavalo	20.45	333	*e*P	Pn	00 18 43.0	+0.7
BDFB	Brasilia	20.52	86	*e*P	P	00 18 38.6	-0.6
comp=N,44nm,0.9s							
BDFB	Brasilia	20.52	86	P	P	00 18 38.6	-0.6
comp=N,41nm,0.7s,baz=261,slow=10,SNR=30							
TRQA	Tornquist	20.75	164	*e*P	P	00 18 42.2	+0.8
comp=N,46nm,0.8s							
SPB	Sao Paulo	21.09	108	*e*P	P	00 18 43.7	-1.5
comp=N,34nm,0.9s							
SPB	Sao Paulo	21.09	108	*e*P	P	00 18 43.9	-1.3
TER01	Tubaro-SC	21.12	123	*e*P	P	00 18 43.8	-1.7
GO06	Curarrehue	21

249A	Camden baz=159	52.78 341	P	P	00 23 13.1	+0.3
Z54A	Sparta baz=164	52.80 346	P	P	00 23 12.6	-0.3
Z53A	Monticello baz=163	53.02 345	P	P	00 23 14.3	-0.2
150A	Eclectic baz=160	53.04 342	P	P	00 23 14.5	-0.1
GOGA	Godfrey baz=163	53.12 345	P	P	00 23 15.0	-0.2
Y55A	Saluda baz=165	53.25 347	P	P	00 23 16.3	+0.1
149A	Jones baz=160	53.26 342	P	P	00 23 16.1	-0.2
Y54A	Tignall baz=164	53.37 346	P	P	00 23 16.9	-0.2
148A	Greensboro baz=159	53.54 341	P	P	00 23 18.2	-0.2
Y53A	Monroe baz=163	53.57 345	P	P	00 23 18.2	-0.4
Z50A	Ashland baz=161,SNR=8.2	53.62 343	P	P	00 23 18.8	-0.2
X56A	White Oak baz=166	53.62 348	P	P	00 23 18.7	-0.1
Y52A	Lilburn baz=163	53.70 345	P	P	00 23 19.0	-0.4
X55A	Gracelyn & Ava baz=166	53.72 347	P	P	00 23 19.6	0.0
LRAL	Lakeview Retre baz=159,SNR=5.0	53.73 342	P	P	00 23 19.4	-0.3
Z49A	Columbiana baz=160,SNR=5.0	53.73 342	P	P	00 23 19.6	-0.2
Y51A	Rockmart baz=162	53.99 344	P	P	00 23 21.2	-0.4
W57A	Gilead baz=168	54.06 349	P	P	00 23 21.9	-0.2
Y50A	Piedmont baz=161	54.16 343	P	P	00 23 22.6	-0.2
Y49A	Blount Mountai baz=160	54.32 342	P	P	00 23 23.7	-0.3
X52A	Dahlonega baz=163	54.36 345	P	P	00 23 24.0	-0.3
W54A	Cherokee Point baz=165	54.43 347	P	P	00 23 25.0	+0.2
X51A	Calhoun baz=162	54.56 344	P	P	00 23 25.5	-0.2
Y48A	Jasper baz=159	54.59 342	P	P	00 23 25.5	-0.5
X50B	Fort Payne baz=161	54.67 343	P	P	00 23 26.1	-0.5
W53A	Cullowhee baz=164	54.73 346	P	P	00 23 27.2	+0.1
V57A	Coltrane Farms baz=168	54.74 350	P	P	00 23 26.6	-0.4
V56A	Mocksville baz=167	54.80 349	P	P	00 23 27.6	+0.2
U59A	Littleton baz=170	54.89 352	P	P	00 23 28.2	+0.2
X49A	Woodville baz=160	54.91 343	P	P	00 23 27.8	-0.4
V55A	Taylorsville baz=166	54.97 348	P	P	00 23 28.9	+0.2
U58A	Oxford baz=170	55.04 351	P	P	00 23 28.7	-0.4
V54A	Nebo baz=166	55.05 347	P	P	00 23 29.4	+0.2
X48A	Hartselle baz=160,SNR=6.4	55.06 342	P	P	00 23 29.1	-0.2
W51A	Cleveland baz=162	55.10 345	P	P	00 23 29.6	0.0
V53A	Saluda baz=165	55.13 347	P	P	00 23 29.9	+0.1
W50A	Signal Mountai baz=162	55.28 344	P	P	00 23 30.9	-0.1
X47A	Russelville baz=159,SNR=9.4	55.36 341	P	P	00 23 31.0	-0.5
W49A	Belvidere baz=161	55.46 343	P	P	00 23 31.8	-0.4
T59A	Double "B" Far comp=N,7.2nm,0.9s	55.47 352	eP	P	00 23 30.8	-1.4
T59A	Double "B" Far baz=171	55.47 352	P	P	00 23 31.6	-0.6
V52A	Sevierville comp=N,9.8nm,0.9s	55.47 346	eP	P	00 23 30.1	-2.1
V52A	Sevierville baz=164	55.47 346	P	P	00 23 31.9	-0.3
U55A	TA2, Sparta baz=167	55.57 349	P	P	00 23 33.1	+0.1
T58A	Grand View Acr baz=170	55.58 351	P	P	00 23 32.7	-0.2
V51A	Loudon baz=163	55.61 345	P	P	00 23 32.7	-0.6
X46A	Booneville baz=158	55.62 341	P	P	00 23 32.8	-0.6
W48A	Pulaski baz=160,SNR=8.7	55.67 342	P	P	00 23 33.5	-0.2
V50A	Pikevile baz=162,SNR=7.3	55.67 344	P	P	00 23 33.6	-0.1
U54A	Nelsons Funny baz=166	55.74 348	P	P	00 23 33.8	-0.4
T57A	Hurt baz=169	55.74 350	P	P	00 23 34.0	-0.2
U53A	Fall Branch baz=165	55.74 347	P	P	00 23 33.8	-0.4
PLAL	Pickwick Lake comp=N,6.9nm,0.8s	55.86 341	eP	P	00 23 32.3	-2.7
T56A	Rocky Mt baz=168	55.90 350	P	P	00 23 35.5	+0.3
U52A	Thorn Hill baz=164	55.95 346	P	P	00 23 35.0	-0.6
W47A	Westpoint baz=159,SNR=5.7	55.97 342	P	P	00 23 35.3	-0.5
V49A	McMinnville baz=161,SNR=5.1	55.97 344	P	P	00 23 35.3	-0.6
U51A	La Follette baz=163	56.08 346	P	P	00 23 36.1	-0.5
T55A	Pulaski baz=167	56.12 349	P	P	00 23 37.2	+0.3
BLA	Blacksburg baz=168	56.15 349	P	P	00 23 37.3	+0.2
T54A	Tazewell baz=166	56.21 348	P	P	00 23 37.5	-0.1
U50A	Jamestown baz=162	56.32 345	P	P	00 23 38.0	-0.3
T53A	Wise baz=165	56.33 347	P	P	00 23 38.3	-0.2
CLTN	Cedars of Leba comp=N,4.9nm,0.7s	56.40 343	eP	P	00 23 36.4	-2.4
WLAR	White Oak Lake comp=N,13nm,0.8s	56.42 336	eP	P	00 23 36.8	-2.2
S57A	Dark Hollow, R baz=169	56.44 351	P	P	00 23 39.1	0.0
S56A	Natural Bridge baz=169	56.45 350	P	P	00 23 39.0	-0.3
V47A	Nunnelly baz=160	56.48 342	P	P	00 23 38.7	-0.7
R58B	Mineral baz=170	56.49 352	P	P	00 23 39.0	-0.4
T52A	Hallie baz=165	56.55 347	P	P	00 23 39.4	-0.5
T51A	Gray baz=164	56.63 346	P	P	00 23 39.9	-0.5
V46A	Holladay baz=159	56.63 342	P	P	00 23 39.2	-1.3
U49A	Red Boiling Sp baz=162	56.65 344	P	P	00 23 40.2	-0.4
S55A	Lewisburg baz=168,SNR=5.2	56.71 349	P	P	00 23 41.3	+0.2
R58A	Rapidan baz=170	56.83 352	P	P	00 23 41.4	-0.4
U48A	Cassie Pea, Po baz=161	56.85 343	P	P	00 23 41.6	-0.4
WVT	Waverly comp=N,9.0nm,0.6s	56.85 342	eP	P	00 23 40.3	-1.7
WVT	Waverly baz=159	56.85 342	P	P	00 23 41.4	-0.6
S54A	Dingess, Beckl baz=167	56.88 349	P	P	00 23 41.8	-0.4
T50A	Nancy baz=163	56.89 345	P	P	00 23 41.7	-0.6
R57A	Stanardsville baz=170	56.90 351	P	P	00 23 42.3	0.0
S53A	Williamson baz=166	56.92 348	P	P	00 23 42.3	-0.3
U47A	Clarksville baz=160,SNR=6.8	56.99 343	P	P	00 23 42.5	-0.5
T49A	Edmonton baz=162,SNR=8.1	57.14 345	P	P	00 23 43.5	-0.6
U46A	Springville baz=159	57.17 342	P	P	00 23 43.7	-0.6
R54A	Victor baz=167	57.19 349	P	P	00 23 44.5	+0.1
MIAR	Mount Ida baz=153	57.36 336	P	P	00 23 45.8	+0.2
T48A	Bowling Green baz=161	57.37 344	P	P	00 23 45.3	-0.4
S50A	Richmond baz=163	57.41 346	P	P	00 23 45.6	-0.4
W41B	Gary Mavity, V baz=154	57.42 338	P	P	00 23 46.1	0.0
T47A	Sharon Grove baz=160	57.45 343	P	P	00 23 45.8	-0.5
R53A	Hurricane baz=166	57.52 348	P	P	00 23 46.8	+0.1
Q57A	Strasburg baz=170	57.61 352	P	P	00 23 47.6	+0.3
T46A	Princeton baz=159,SNR=9.1	57.72 342	P	P	00 23 47.8	-0.4
S49A	Springfield baz=162	57.73 345	P	P	00 23 47.5	-0.6
TXAR	Lajitas Array comp=N,0.1nm,0.4s,baz=138,slow=11,SNR=3.0	57.77 324	P	P	00 23 49.6	+0.8
TXAR	 comp=N,0.4nm,0.5s,baz=144,slow=8.6,SNR=5.2		pP	pP	00 24 23.4	+2.3
S48A	Wiedeman Farm, baz=161,SNR=7.8	57.80 344	P	P	00 23 47.8	-0.9
Q55A	Buckhannon baz=168	57.83 350	P	P	00 23 49.4	+0.6
P59A	Jarrettsville baz=172	57.94 353	P	P	00 23 49.6	+0.1
Q54A	Coxs Mills baz=167	57.94 349	P	P	00 23 49.6	-0.1
Q53A	Leroy baz=167,SNR=5.4	57.95 349	P	P	00 23 49.8	+0.1
S47A	Hartford baz=160	57.95 344	P	P	00 23 49.1	-0.6
R50A	Paris baz=163	57.97 346	P	P	00 23 49.4	-0.5
P60A	Greenville baz=173	58.05 354	P	P	00 23 49.6	-0.7
R49A	Shelbyville baz=162	58.18 345	P	P	00 23 50.5	-0.8
Q52A	Bidwell baz=166	58.19 348	P	P	00 23 51.2	-0.1
S46A	Don Dixon Farm baz=160	58.27 343	P	P	00 23 51.3	-0.6
P55A	Reedsville baz=168	58.29 350	P	P	00 23 52.5	+0.4
U41A	Viola baz=155	58.36 339	P	P	00 23 52.4	-0.2
WCI	Wyandotte Cave baz=161	58.40 344	P	P	00 23 52.1	-0.7
Q50A	Georgetown baz=164	58.43 347	P	P	00 23 52.4	-0.7
MCWV	Mont Chateau baz=168	58.44 350	P	P	00 23 53.3	+0.2
R48A	Northridge Ran baz=162	58.45 345	P	P	00 23 52.5	-0.7
P54A	Burton baz=168	58.48 350	P	P	00 23 53.5	+0.1
R47A	Wooly Knot Far baz=161	58.52 344	P	P	00 23 53.0	-0.7
P53A	Whipple baz=167,SNR=7.0	58.53 349	P	P	00 23 53.9	+0.2
O60A	Telford baz=173	58.53 355	P	P	00 23 55.0	+1.3
S44A	Carbondale baz=158,SNR=8.8	58.73 342	P	P	00 23 55.1	0.0
Q49A	Aurora baz=163	58.79 346	P	P	00 23 55.0	-0.6
P52A	Corning baz=166	58.81 348	P	P	00 23 55.2	-0.4
O56A	Blue Knob Stat baz=170	58.85 352	P	P	00 23 56.2	+0.3
O55A	Ligonier baz=169	58.89 351	P	P	00 23 56.6	+0.4
Q48A	North Vernon baz=162	58.92 345	P	P	00 23 55.9	-0.6
R45A	Skylar, Fairfi baz=159,SNR=6.4	59.00 343	P	P	00 23 56.5	-0.4
PAL	Palisades baz=175	59.10 356	P	P	00 23 57.9	+0.4
Q47A	Bedord North L baz=161	59.10 344	P	P	00 23 57.2	-0.5
SSPA	Standing Stone baz=171	59.12 352	P	P	00 23 57.7	0.0
N57A	Milroy baz=171	59.20 353	P	P	00 23 58.1	-0.2
O52A	Adamsville baz=166	59.22 349	P	P	00 23 57.3	-1.2
O53A	New Philadelph baz=167	59.24 349	P	P	00 23 57.5	-1.1
P49A	Miami Univ. Ec baz=163	59.26 346	P	P	00 23 57.7	-1.0
N55A	Marion Center baz=170,SNR=7.2	59.41 351	P	P	00 24 00.1	+0.4
S41A	Jillco Farms, baz=155,SNR=6.2	59.42 339	P	P	00 23 59.7	-0.2
Q45A	Warren Harvey, baz=159	59.52 343	P	P	00 23 59.9	-0.6
ACSO	Alum Creek Sta baz=165	59.55 348	P	P	00 24 00.3	-0.5
P47A	Martinsville baz=162	59.58 345	P	P	00 24 00.3	-0.7
O50A	Cable baz=164	59.60 347	P	P	00 24 00.5	-0.6
CCM	Cathedral Cave comp=N,8.4nm,0.8s	59.68 340	eP	P	00 24 01.5	-0.1
CCM	Cathedral Cave baz=156	59.68 340	P	P	00 24 01.7	+0.1
N53A	Lisbon baz=168	59.72 350	P	P	00 24 02.1	+0.2
N54A	Moraine State baz=168	59.73 351	P	P	00 24 02.5	+0.5
O49A	Covington baz=164	59.80 347	P	P	00 24 01.9	-0.6
N52A	McGinn's Farm, baz=167	59.87 349	P	P	00 24 02.6	-0.3
R41A	Rosebud baz=156,SNR=18	59.94 340	P	P	00 24 03.6	+0.1
M56A	Emporium baz=170	59.99 352	P	P	00 24 03.6	-0.2
P45A	Graceland, Par baz=160	60.00 344	P	P	00 24 03.1	-0.7
O48A	Farmland baz=163	60.05 346	P	P	00 24 03.6	-0.5
M55A	Ridgway baz=170	60.05 352	P	P	00 24 04.3	+0.1
N51A	Ashland baz=166	60.10 349	P	P	00 24 04.1	-0.4
N50A	Nevada baz=165	60.11 348	P	P	00 24 04.0	-0.5
M54A	Oil Creek Stat baz=169	60.22 351	P	P	00 24 05.3	0.0
Q42A	Golden Eagle baz=157	60.24 341	P	P	00 24 05.4	0.0
O47A	Sheridan baz=162	60.27 345	P	P	00 24 05.4	-0.2
M53A	WI Miller and baz=168	60.31 350	P	P	00 24 05.8	-0.1
BINY	Binghamton baz=173	60.45 354	P	P	00 24 07.1	+0.2
M51A	Elyria baz=166	60.47 349	P	P	00 24 06.7	-0.3
N49A	Columbus Grove baz=164,SNR=6.8	60.47 347	P	P	00 24 06.6	-0.4
HRV	Adam Dziewonsk baz=178	60.48 358	P	P	00 24 07.1	+0.1
N48A	Decatur baz=163	60.59 346	P	P	00 24 07.0	-0.8
P43A	Skaggs, Pawnee baz=158	60.60 342	P	P	00 24 07.6	-0.3
SFIN	Lafayette baz=161	60.63 344	P	P	00 24 07.1	-1.0
O45A	Potomac baz=160	60.67 344	P	P	00 24 07.3	-1.0
L55A	Hinsdale baz=170	60.71 352	P	P	00 24 08.6	-0.1
L53A	Girard baz=168	60.74 351	P	P	00 24 08.8	-0.1
N47A	Urbana baz=162	60.76 346	P	P	00 24 08.1	-0.9
O44A	Mansfield baz=159	60.78 343	P	P	00 24 08.0	-1.1
ERPA	Erie baz=169	60.86 351	P	P	00 24 09.7	0.0
L54A	Sinclairville baz=169	60.88 351	P	P	00 24 09.9	+0.1
M49A	Liberty Center baz=164	60.95 347	P	P	00 24 09.8	-0.5
N46A	Monticello baz=161	61.03 345	P	P	00 24 09.8	-1.0
K54A	Basiliko Farm, baz=170	61.16 352	P	P	00 24 11.5	-0.2
N45A	Kentland baz=160	61.18 344	P	P	00 24 10.6	-1.2
N44A	Piper City baz=160	61.29 344	P	P	00 24 11.4	-1.1
HDIL	Hopedale comp=N,18nm,0.8s	61.39 343	eP	P	00 24 11.8	-1.4
HDIL	Hopedale baz=159	61.39 343	P	P	00 24 12.5	-0.7
M46A	Old House Fiel baz=162	61.42 345	P	P	00 24 12.4	-1.0
L48A	N Adams baz=164	61.50 347	P	P	00 24 13.3	-0.6
L49A	Milan baz=165	61.52 348	P	P	00 24 13.1	-0.9
L47A	Sherwood baz=163	61.70 347	P	P	00 24 14.5	-0.7
N43A	Stutzman Famil baz=159,SNR=9.9	61.71 343	P	P	00 24 14.8	-0.5
TYNO	Tyneside baz=169	61.80 351	P	P	00 24 15.8	-0.1
K50A	Casco baz=166	61.94 349	P	P	00 24 16.2	-0.6
J52A	Paris baz=168	62.04 351	P	P	00 24 17.2	-0.3
K49A	Clarkson baz=165	62.11 348	P	P	00 24 17.3	-0.7
M43A	Waltham Townsh baz=159,SNR=5.7	62.11 343	P	P	00 24 17.4	-0.6
LBNH	Lisbon baz=177	62.22 358	P	P	00 24 19.3	+0.5
K48A	Perry baz=164	62.26 348	P	P	00 24 18.3	-0.7
PECO	Prince Edward baz=172	62.27 354	P	P	00 24 18.8	-0.2
K47A	Vermontville baz=163	62.31 347	P	P	00 24 18.5	-0.8
N40A	Mertquake, Sal baz=156	62.37 341	P	P	00 24 19.3	-0.4
M41A	Milan baz=158	62.50 342	P	P	00 24 20.2	-0.5
PKRO	Pickering baz=170	62.55 352	P	P	00 24 20.9	+0.1
I55A	Frankford baz=171	62.62 353	P	P	00 24 21.3	-0.1
J48A	Bridge Port baz=165	62.67 348	P	P	00 24 20.9	-0.8
I51A	Listowel baz=168	62.67 350	P	P	00 24 21.6	-0.1
LONY	Lake Ozonia baz=175	62.74 356	P	P	00 24 22.2	0.0
L43A	Garden Prairie baz=160	62.75 344	P	P	00 24 21.8	-0.4
J47A	Sunmer baz=164	62.82 347	P	P	00 24 22.4	-0.3
L42A	Oliver, Polo baz=158	62.83 343	P	P	00 24 22.5	-0.3
H56A	Elgin baz=173	62.85 354	P	P	00 24 22.9	0.0
H55A	Tweed baz=172	62.90 354	P	P	00 24 23.0	-0.2
DELO	Deloro Mine baz=171	62.92 353	P	P	00 24 23.1	-0.2
BASO	Ashfield baz=167	62.98 350	P	P	00 24 23.7	-0.1
BWLO	Walkerton baz=168	62.99 350	P	P	00 24 23.6	-0.3
I49A	Point Hope baz=166	63.11 349	P	P	00 24 24.0	-0.6
BRCO	Bruce Peninsul baz=167	63.17 350	P	P	00 24 24.7	-0.3
PKME	Peaks-Kenny Pk baz=180	63.20 360	P	P	00 24 25.2	0.0
VNA3	Neumayer Olymp	63.26 162	P	P	00 24 27.2	+1.8
H52A	Wyevale baz=169	63.32 352	P	P	00 24 25.6	-0.4
L40A	Anamosa baz=157	63.33 342	P	P	00 24 25.8	-0.3
PLVO	Plevna baz=172	63.38 354	P	P	00 24 26.4	0.0
BANO	Bancroft baz=171	63.45 353	P	P	00 24 26.7	-0.1
VNA1	Neumayer--Stat	63.46 161	P	P	00 24 29.8	+3.2
K42A	Prairie Point, baz=159	63.47 344	P	P	00 24 26.8	-0.2
BMRO	Meriville Lake baz=168	63.47 351	P	P	00 24 26.8	-0.2
I48A	Sherman Twp baz=165	63.51 348	P	P	00 24 26.8	-0.4
G55A	Calabogie baz=172	63.55 354	P	P	00 24 27.4	-0.1
L39A	Vinton baz=156	63.62 341	P	P	00 24 27.6	-0.4
I46A	Reed City baz=163	63.62 347	P	P	00 24 27.0	-1.1
G53A	Haliburton baz=170	63.63 353	P	P	00 24 27.8	-0.2
ORIO	Orleans, Innes baz=174	63.64 355	P	P	00 24 28.0	-0.1
ALFO	Alfred baz=174	63.77 356	P	P	00 24 29.0	+0.2
J43A	Natural Harves baz=160	63.79 345	P	P	00 24 28.9	-0.2
VNA2	Neumayer--Watz baz=284,slow=5.7	63.83 161	P	P	00 24 30.9	+1.8
JFWS	Jewell Farm baz=158,SNR=5.4	63.84 343	P	P	00 24 29.4	0.0
K40A	Colesburg baz=157,SNR=5.3	63.89 342	P	P	00 24 29.6	-0.2
J42A	Columbus baz=159	63.91 344	P	P	00 24 29.8	-0.1
BUKO	Buck Lake baz=170,SNR=5.3	64.04 352	P	P	00 24 30.6	-0.1
KLBO	Killbear Provi baz=169	64.07 351	P	P	00 24 30.7	-0.2
K39A	Oelwein baz=156	64.12 342	P	P	00 24 31.2	-0.1
H46A	Fife Lake baz=164,SNR=6.9	64.15 347	P	P	00 24 30.7	-0.7
I43A	Langenfeld Bro baz=160	64.19 345	P	P	00 24 31.7	0.0
J41A	Loganville baz=158	64.19 343	P	P	00 24 31.7	-0.1
F52A	Sundridge baz=170	64.38 352	P	P	00 24 32.8	-0.1
ALGO	Algonquin Park baz=171	64.38 353	P	P	00 24 32.7	-0.2
I42A	Draeger Farm, baz=160	64.39 344	P	P	00 24 33.1	+0.1
H45A	Beulah baz=163	64.40 347	P	P	00 24 32.7	-0.4
J40A	Soldiers Grove baz=158	64.42 343	P	P	00 24 33.2	-0.1
G47A	Hillman baz=165	64.49 349	P	P	00 24 33.2	-0.4
F51A	Arnstein baz=169	64.59 352	P	P	00 24 33.9	-0.3
J39A	Decorah baz=157,SNR=5.8	64.64 342	P	P	00 24 34.5	-0.2
H43A	Windswept, Lux baz=161	64.65 345	P	P	00 24 34.6	-0.1
G45A	Suttons Bay baz=163	64.72 347	P	P	00 24 34.7	-0.5
F49A	Sandfield baz=167	64.74 350	P	P	00 24 34.8	-0.5
E53A	Dumoine, Ponti baz=171	64.76 354	P	P	00 24 35.3	-0.1
E54A	Lac Daplat, Po baz=172	64.77 354	P	P	00 24 35.4	+0.1
E52A	Mattawa baz=170	64.78 353	P	P	00 24 35.2	-0.3
I41A	Arkdale baz=159	64.80 344	P	P	00 24 35.5	-0.2
G46A	Petoskey baz=164	64.82 348	P	P	00 24 35.4	-0.4
I40A	Norwalk baz=158	64.84 343	P	P	00 24 35.9	-0.1
H42A	Shiiocton baz=160	64.87 345	P	P	00 24 36.3	+0.1
F48A	Evansville baz=166	64.90 350	P	P	00 24 35.9	-0.4

I39A	Houston	65.07	342	P		P	00 24 37.5 +0.1
	baz=157						
BGNE	Belgrade	65.10	336	P		P	00 24 38.4 +0.7
	baz=150						
E51A	G1948 Merrick	65.13	352	P		P	00 24 37.6 -0.1
	baz=170						
E50A	Wahnapitae	65.19	351	P		P	00 24 37.7 -0.4
	baz=168						
F46A	Macinaw City C	65.24	348	P		P	00 24 38.2 -0.2
	baz=164						
H41A	Junction City	65.26	344	P		P	00 24 38.7 0.0
	baz=159						
BATG	Bathurst New B	65.28	2	eP		P	00 24 39.3 +0.6
F45A	CMU Biological	65.31	348	P		P	00 24 38.6 -0.3
	baz=163						
G43A	Wallace	65.38	346	P		P	00 24 39.1 -0.3
	baz=161						
LATQ	La Tuque	65.40	357	P		P	00 24 39.7 +0.2
	baz=177						
D54A	Lac Fusel, La	65.43	354	P		P	00 24 39.3 -0.3
	baz=173						
D52A	ZEK Kipawa Sen	65.43	353	P		P	00 24 40.1 +0.4
	baz=171						
D53A	Lac Vacive, Po	65.46	354	P		P	00 24 39.9 +0.1
	baz=172,SNR=6.4						
H40A	Chili	65.46	344	P		P	00 24 40.0 +0.1
	baz=158,SNR=6.4						
E48A	Lockeyer	65.46	350	P		P	00 24 39.8 -0.1
	baz=167						
SNAA	Sanae	65.46	161	P		P	00 24 41.4 +1.6
SNAA	Sanae	65.46	161	eP		P	00 24 41.6 +1.8
	comp=N,3.2nm,0.9s						
G42A	Mountain	65.54	345	P		P	00 24 40.4 -0.1
	baz=160						
E47A	Iron Bridge	65.62	349	P		P	00 24 40.6 -0.3
	baz=166						
E46A	Sault Ste Mari	65.72	349	P		P	00 24 41.2 -0.4
	baz=165						
H39A	Augusta	65.76	343	P		P	00 24 41.7 -0.2
	baz=157						
F44A	Big Bay de Noc	65.77	347	P		P	00 24 41.7 -0.2
	baz=162						
F43A	Flat Rock, Esc	65.80	346	P		P	00 24 41.8 -0.2
	baz=162,SNR=5.8						
E45A	Wooded Hills,	65.88	348	P		P	00 24 42.6 0.0
	baz=164						
G40A	Rib Lake	66.01	344	P		P	00 24 43.5 +0.1
	baz=158						
H38A	Maiden Rock	66.04	342	P		P	00 24 43.8 +0.2
	baz=156						
D48A	Paudash Townsh	66.08	351	P		P	00 24 43.5 -0.3
	baz=167						
D49A	Beulah Townshi	66.11	351	P		P	00 24 44.0 0.0
	baz=168						
F41A	Three Lakes	66.17	345	P		P	00 24 44.6 +0.1
	baz=160,SNR=6.2						
D47A	Chapleau	66.17	350	P		P	00 24 44.1 -0.4
	baz=166						
D46A	Sault St. Mari	66.18	349	P		P	00 24 43.8 -0.7
	baz=165						
E43A	Lone Tree Farm	66.28	347	P		P	00 24 44.9 -0.2
	baz=162						
G39A	Holcombe	66.28	343	P		P	00 24 45.3 +0.1
	baz=158						
E42A	Champion	66.53	346	P		P	00 24 46.8 0.0
	baz=161						
ECSD	EROS Data Cent	66.57	339	eP		P	00 24 47.4 +0.3
	comp=N,3.0nm,0.8s						
ECSD	EROS Data Cent	66.57	339	P		P	00 24 47.5 +0.4
	baz=152						
F40A	Park Falls	66.59	344	P		P	00 24 47.6 +0.4
	baz=159,SNR=9.6						
SPMN	Marine on St.	66.69	342	P		P	00 24 47.9 +0.2
	baz=156						
F39A	Loretta	66.80	344	P		P	00 24 48.7 +0.2
	baz=158						
E40A	Wakefield	67.03	345	P		P	00 24 50.5 +0.6
	baz=159,SNR=5.9						
F37A	Hinrichs Farm,	67.09	342	P		P	00 24 50.8 +0.5
	baz=156						
F38A	Pierce - Schro	67.10	343	P		P	00 24 50.8 +0.5
	baz=157						
E39A	Mellen	67.13	344	P		P	00 24 51.1 +0.6
	baz=158						
D41A	Chassel	67.28	346	P		P	00 24 51.8 +0.4
	baz=160						
LSQQ	Lebel-sur-Quev	67.34	355	P		P	00 24 51.8 0.0
	baz=172						
CHGQ	Chibougamau	68.00	356	P		P	00 24 55.8 -0.1
	baz=175						
MATQ	Matagami	68.10	354	P		P	00 24 56.4 -0.2
	baz=172						
DBIC	Dimbokro	68.19	75	P		P	00 24 57.6 -0.3
	comp=N,58nm,0.7s,baz=225,slow=6.4,SNR=88						
AGMN	Agassiz Nation	70.37	342	P		P	00 25 10.9 +0.3
	baz=154						
TPNV	Topopah Spring	70.53	322	P		P	00 25 11.2 -0.8
	baz=133						
DUG	Dugway, Tooele	70.86	326	P		P	00 25 14.9 +0.9
	baz=136						
PDAR	Pinedale Array	71.13	330	P		P	00 25 17.4 +1.8
	comp=N,0.4nm,0.6s,baz=126,slow=9.1,SNR=3.7						
PDAR				pP		pP	00 25 50.5 +1.3
	comp=N,0.4nm,0.5s,baz=141,slow=9.6,SNR=2.3						
QSPA	South Pole Qui	71.93	180	eP		P	00 25 22.1 +2.1
	comp=N,8.6nm,1.0s						
ULM	Lac du Bonnet	72.12	342	P		P	00 25 21.3 +0.2
	comp=N,9.5nm,0.6s,baz=149,slow=6.2,SNR=16						
ULM				pP		pP	00 25 55.8 +1.3
	comp=N,5.4nm,0.6s,baz=150,slow=6.2,SNR=3.6						
NVAR	Mina Array Bea	72.72	322	P		P	00 25 27.3 +2.1
	comp=N,0.3nm,0.3s,baz=160,slow=6.4,SNR=3.0						
NVAR				pP		pP	00 26 01.4 +2.6
	comp=N,1.4nm,0.7s,baz=176,slow=5.9,SNR=3.5						
TOA0	Torodi Ar. Sit	76.63	71	eP		P	00 25 47.5 -0.4
	comp=N,50nm,0.8s						
TORD	Torodi Ar. Bea	76.63	71	P		P	00 25 45.6 -2.3
	comp=N,39nm,0.8s,baz=250,slow=4.4,SNR=155						
TORD				pP		pP	00 26 21.7 0.0
	comp=N,0.8nm,0.6s,baz=230,slow=42,SNR=0.8						
MORF	Marmelete	79.41	45	eP		P	00 26 04.9 +2.0
PMAFR	Mafra	79.89	43	eP		P	00 26 08.3 +2.9
	comp=N,122nm,2.2s						
PNCL	Nicolau / Gran	79.93	44	eP		P	00 26 07.0 +1.4
	comp=N,31nm,1.7s						
VNDA	Vanda	79.98	190	P		P	00 26 07.7 +2.3
	comp=N,1.5nm,0.9s,baz=110,slow=3.0,SNR=8.4						
PCVE	Castro Verde	80.00	45	eP		P	00 26 07.9 +1.9
	comp=N,27nm,1.6s						
PBEJ	Beja	80.32	45	eP		P	00 26 10.1 +2.4
	comp=N,23nm,1.8s						
PMTG	Montargil	80.64	44	eP		P	00 26 10.6 +1.2
	comp=N,31nm,1.9s						
TSUM	Tsumeb	81.33	107	eP		P	00 26 12.8 -0.9
	comp=N,5.2nm,0.8s						
PAB	San Pablo	83.46	45	eP		P	00 26 25.6 +1.4
	comp=N,19nm,1.0s						
TAM	Tamanrasset	83.69	64	eP		P	00 26 26.9 +1.1
	comp=N,4.3nm,0.8s						
ESDC	Sonseca Array	83.78	45	P		P	00 26 27.0 +1.1
	comp=N,8.4nm,0.8s,baz=254,slow=5.2,SNR=34						
MAW	Mawson	87.54	163	eP		P	00 26 44.3 +0.5
	comp=N,0.4nm,0.9s						
MAW	Mawson	87.54	163	P		P	00 26 44.3 +0.5
	comp=N,1.5nm,0.7s,baz=224,slow=3.3,SNR=4.4						
YKA	Yellowknife Ar	88.01	341	P		P	00 26 47.2 +1.2
	comp=N,4.4nm,0.7s,baz=133,slow=4.8,SNR=83						
YKA				pP		pP	00 27 21.7 +0.9
	comp=N,6.1nm,0.7s,baz=134,slow=4.8,SNR=15						
YKW3	Yellowknife Ar	88.06	341	eP		P	00 26 47.4 +1.2
	comp=N,5.8nm,0.8s						
SUMG	Summit	92.92	9	eP		P	00 27 09.7 +0.5
	comp=N,7.9nm,1.1s						
GERES	GERESS Array B	99.03	42	P		Pdif	00 27 36.9 -0.3
	comp=N,0.6nm,0.7s,baz=208,slow=2.6,SNR=5.6						
CLL	Collm	99.34	39	i Pdif		Pdif	00 27 38.7 +0.5
ABKAR	Akbulak array	128.97	41	ePKPdf		PKiKP	00 33 05.5 +1.5
ASAR	Alice Springs	132.59	209	PKP		PKiKP	00 33 12.2 0.0
	comp=N,0.5nm,0.7s,baz=134,slow=2.1,SNR=6.4						
ASAR				pPKP		pPKPdf	00 33 47.1 -0.4
	comp=N,0.4nm,0.7s,baz=126,slow=2.2,SNR=2.3						
ASAR				SKPbc		SKPab	00 36 27.8 0.0
	comp=N,1.0nm,0.9s,baz=148,slow=4.0,SNR=6.5						
ZAA1	Zalesovo Array	139.14	23	ePKPdf		PKiKP	00 33 23.6 -0.8
ZAA0	Zalesovo Array	139.14	23	ePKPdf		PKiKP	00 33 23.7 -0.8
ZALV	Zalesovo Beam	139.14	23	PKP		PKiKP	00 33 23.6 -0.8
	comp=N,3.2nm,0.6s,baz=302,slow=2.7,SNR=15						
ZALV				pPKP		pPKPdf	00 33 57.0 -1.7
	comp=N,0.7nm,0.3s,baz=307,slow=3.2,SNR=2.2						
ZALV				SKPbc		SKPbc	00 36 46.4 +1.0
	comp=N,0.6nm,0.5s,baz=305,slow=5.1,SNR=5.0						
MKAR	Makanchi Array	143.16	33	PKhKP		PKPpre	00 33 27.1
	comp=N,0.7nm,0.7s,baz=298,slow=2.6,SNR=9.4						
MKAR				SKPbc		SKPbc	00 36 55.8 -0.3
	comp=N,1.0nm,0.8s,baz=320,slow=3.3,SNR=5.8						
KSH	Kashi	143.26	47	PKP		PKPab	00 33 23.6 -2.7
KSH				pPKP		pPKPdf	00 34 05.9 -0.8
KSH				PP		PP	00 36 39.4 -2.8
USRK	Ussuriysk Ar.	148.55	330	PKPbc		PKiKP	00 33 44.6 +0.5
	comp=N,2.0nm,0.7s,baz=81,slow=3.5,SNR=6.0						
USRK				pPKPbc		pPKPbc	00 34 20.2 +1.4
	comp=N,6.0nm,0.8s,baz=38,slow=1.2,SNR=8.8						
HYB	Hyderabad	149.40	86	i PKP		PKiKP	00 33 46.5 -0.2
MJAR	Matsushiro Arr	149.69	313	pPKPbc		pPKPbc	00 34 21.1 -0.9
	comp=N,1.1nm,0.3s,baz=193,slow=0.6,SNR=2.1						
MAJO	Matsushiro	149.69	313	ePKPdf		pPKPdf	00 34 21.1 +3.6
SONA0	Songino Array	150.28	6	ePKPbc		PKiKP	00 33 48.6 +0.8
SONA0				epPKPab		pPKPbc	00 34 24.8 +1.6
SONM	Songino Array	150.28	6	PKPbc		PKiKP	00 33 48.6 +0.8
	comp=N,4.2nm,0.6s,baz=308,slow=1.6,SNR=33						
SONM				pPKPbc		pPKPbc	00 34 24.8 +1.6
	comp=N,1.5nm,1.0s,baz=227,slow=2.3,SNR=1.6						
LZH	Lanzhou	161.22	18	⇓PKP		PKPdf	00 33 54.8 -1.8
LZH				pPKP		pPKPdf	00 34 32.3 -0.9
LZH				PKP		PKPab	00 34 41.5 +0.8
LZH				sPKP			00 34 46.3
CD2	Chengdu	165.90	25	PKP		PKPdf	00 33 58.6 -2.4

*NNC **23** 00:39:07.2±8.8, 37.°15N×70.°43E, h217km±133km, mb2.6, mpv3.8, Error ellipse: s-maj=90.3km s-min=69.1km az=179.0*

ISC 23 00:39:06.0±3.2, 37.°1N±0.°2×70.°4E±0.°1, h200km, n11, σ1°39/14, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.66	26	P	Pn	00 40 29.4	+0.3
	SNR=55						
KK31	Karatay Array	6.02	1	⇑P	Pn	00 40 34.4	+0.9
	1.4nm,0.3s,baz=192,slow=16,SNR=8.8						
KK31				S	Sn	00 41 40.8	-2.0
	1.2nm,0.4s,baz=183,slow=19,SNR=3.5						
UCH	Uchtor	6.05	30	P	Pn	00 40 34.3	+0.1
	SNR=39						
EKS2	Erkin-Say	6.16	24	P	Pn	00 40 36.0	+0.7
	SNR=8.1						
KZA	Kyzart	6.25	35	P	Pn	00 40 36.2	-0.5
	SNR=8.1						
AAK	Ala-Archa	6.39	28	P	Pn	00 40 38.1	-0.2
	SNR=6.4						
AAK	Ala-Archa	6.39	28	⇓P	Pn	00 40 38.7	+0.4
	3.6nm,0.6s						
AAK				⇓S	Sn	00 41 54.6	+3.1
	4.1nm,0.5s						
TKM2	Tokmak 2	7.07	33	P	Pn	00 40 47.1	-0.1
	SNR=20						
TKM2	Tokmak 2	7.07	33	⇑P	Pn	00 40 46.9	-0.3
	7.9nm,0.5s						
TKM2				⇑S	Sn	00 42 05.9	-1.7
	1.2nm,0.6s						
AB31	Akbulak array	14.35	331	P	P	00 42 22.0	+0.6
	0.4nm,0.4s,baz=146,slow=13,SNR=21						
AKTO	Aktyubinsk	16.04	330	⇓P	P	00 42 38.7	-1.4
	1.2nm,0.8s						

*ISCJB **23** 00:54:47.0±0.4, 37.°38N±0.°02×26.°96E±0.°02, h6km±3km, Error ellipse: s-maj=2.8km s-min=2.6km az=12.2*
*ISK **23** 00:54:46.4, 37.°38N×26.°95E, h7km, ML3.7/28*
*THE **23** 00:54:47.4, 37.°37N×26.°97E, h1km±1km, ML3.4/11, Error ellipse: s-maj=1.1km s-min=0.6km az=31.0*
*ATH **23** 00:54:47.1, 37.°40N×26.°94E, h28km±1km, ML3.4/6, Error ellipse: s-maj=1.9km s-min=1.3km az=54.0*
*DDA **23** 00:54:47.0, 37.°40N×27.°01E, h23km±1km, ML3.5*

ISC 23 00:54:46.4±1.0, 37.°38N±0.°02×26.°90E±0.°02, h6km±9km, n88, σ0°99/119, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIDI	Didim-Aydin	0.27	91	PG	Pg	00 54 51.3	-0.5
DIDI				SG	Sg	00 54 55.4	0.0
SMG	Samos	0.33	352	P	Pb	00 54 54.1	-0.7
SMG				S	Sb	00 54 59.7	-0.7
SMG	Samos	0.33	352	P	Pb	00 54 54.1	-0.7
SMG				S	Sb	00 54 59.6	-0.7
SMG				AML	AML	00 55 01.2	
	comp=E,20716μm,0.3s						
SMG				AML	AML	00 55 01.6	
	comp=N,11271μm,0.3s						
GCAM	G?zelcaml?	0.41	40	PG	Pg	00 54 54.7	+0.2
GCAM				SG	Sg	00 55 00.5	+0.6
GCAM	G?zelcaml?	0.41	40	IAML_P			
	comp=Z,32μm,0.1s						
GCAM				i P	Pb	00 54 55.1	-1.1
BODT	Bodrum	0.46	134	PG	Pg	00 54 55.4	+0.1
BODT	Bodrum	0.46	134	P	Pg	00 54 55.3	0.0
BODT				S	Sg	00 55 01.7	+0.4
BDRM	Kayabasi	0.54	126	IAML_P			
	comp=Z,13μm,0.2s						
BDRM				i P	Pg	00 54 57.0	+0.2
BDRM				i S	Sg	00 55 05.2	+1.3
DGB	zmir	0.67	359	IAML_P			
	comp=Z,13μm,0.1s						
DGB				i P	Pb	00 55 00.3	-0.2
NISR	Nisiros	0.79	166	P	Pn	00 55 03.4	-0.8
NISR				S	Sb	00 55 13.8	+0.2
NISR	Nisiros	0.79	166	P	Pn	00 55 03.7	-0.5
AYDN	Tasoluk	0.83	70	IAML_P			
	comp=Z,17μm,0.3s						
AYDN				i P	Pg	00 55 01.4	-0.9
AYDN				i S	Sg	00 55 13.2	0.0
DAT	Datca	0.85	140	PG	Pg	00 55 02.5	-0.3
DAT	Datca	0.85	140	i P	Pg	00 55 03.1	+0.3
DATC	Datca-Mugla	0.87	135	PG	Pg	00 55 03.2	0.0
ZEY	zmir	0.91	340	IAML_P			
	comp=Z,33μm,0.3s						
ZEY				i P	Pn	00 55 05.9	+0.1
ZEY				i S	Sn	00 55 20.5	+1.2
AYDB	Zeytinkoy-Aydi	0.97	54	PG	Pg	00 55 04.3	-0.8
AMGA	Amorgos Island	0.97	236	P	Pn	00 55 06.7	0.0
AMGA				S	Sn	00 55 21.5	+0.7
AMGA	Amorgos Island	0.97	236	P	Pn	00 55 06.5	-0.2
AMGA				S	Sn	00 55 20.8	0.0
AMGA				AML	AML	00 55 23.5	
	comp=N,8621μm,0.6s						
AMGA				AML	AML	00 55 23.8	
	comp=E,6096μm,0.4s						
URLA	Izmir	1.00	346	PG	Pn	00 55 06.4	-0.8
URLA	Izmir	1.00	346	IAML_P			
	comp=Z,21μm,0.4s						
URLA				i P	Pn	00 55 07.9	+0.8
APE	Apeiranthos	1.13	254	PN	Pn	00 55 09.2	+0.3
APE				SN	Sn	00 55 26.3	+1.4
APE	Apeiranthos	1.13	254	P	Pn	00 55 09.3	+0.3
APE				S	Sn	00 55 26.7	+1.8
APE	Apeiranthos	1.13	254	P	Pn	00 55 09.2	+0.3
APE				S	Sn	00 55 26.3	+1.4
APE				AML	AML	00 55 30.6	
	comp=E,1216μm,0.5s						
APE				AML	AML	00 55 32.4	
	comp=N,1996μm,0.5s						
BBRN	Bozburun-Marma	1.17	127	PN	Pn	00 55 08.9	-0.4
CHOS	Chios island	1.20	327	PN	Pn	00 55 10.3	+0.4
CHOS	Chios island	1.20	327	P	Pn	00 55 10.4	+0.5
CHOS				S	Sn	00 55 29.4	+2.8
CHOS	Chios island	1.20	327	P	Pn	00 55 10.2	+0.2
CHOS				S	Sn	00 55 25.5	-1.1
CHOS				AML	AML	00 55 32.6	
	comp=E,1613μm,0.4s						
CHOS				AML	AML	00 55 33.6	
	comp=N,1500μm,0.7s						
MRSB	Marmaris-Mugla	1.23	122	PN	Pg	00 55 10.1	0.0
KRBN	Karaburun	1.24	347	PN	Pg	00 55 11.1	+0.9
FOCM	Foa	1.33	354	PN	Pg	00 55 12.3	+0.3
ANAF	Anafi Island	1.36	222	P	Pg	00 55 13.3	+0.7
ANAF				S	Sg	00 55 32.0	+1.7
ANAF	Anafi Island	1.36	222	P	Pg	00 55 13.4	+0.9
TURN	Turunc	1.46	110	PN	Pn	00 55 09.8	-3.5
TURN	Turunc	1.46	110	IAML_P			
	comp=Z,4μm,0.3s						
TURN				i P	Pn	00 55 10.3	-3.0
THR2	Thira island,	1.50	232	P	Pg	00 55 14.2	-0.9
CMBO	Columbo, Santo	1.50	233	P	Pg	00 55 14.4	-0.8
CMBO				S	Sg	00 55 36.8	+2.1
CMBO	Columbo, Santo	1.50	233	P	Pg	00 55 14.8	-0.5
CMBO				S	Sg	00 55 35.2	+0.5
THT2	Imerovigli	1.51	232	P	Pg	00 55 14.9	-0.6
DALY	Dalyan (Mula)	1.51	111	PN	Pb	00 55 14.5	-0.4
DALY	Dalyan (Mula)	1.51	111	i P	Pb	00 55 15.1	+0.1
DALY				i S	Sg	00 55 38.6	+3.5
ARG	Arkhangelos	1.53	139	PN	Pn	00 55 13.9	-0.4
ARG	Arkhangelos	1.53	139	P	Pn	00 55 13.7	-0.6
ARG				S	Sb	00 55 34.5	-0.3
ARG	Arkhangelos	1.53	139	P	Pn	00 55 14.0	-0.4
ARG				S	Sn	00 55 33.7	-0.8
ARG				AML	AML	00 55 39.7	
	comp=N,2569μm,0.9s						
ARG				AML	AML	00 55 41.4	
	comp=E,2193μm,0.7s						
SANT	Santorini	1.53	229	PN	Pg	00 55 14.9	-0.9
SANT	Santorini	1.53	229	P	Pg	00 55 15.1	-0.7
SANT				S	Sg	00 55 34.6	-1.0
THR3	Thira Island,	1.54	231	P	Pg	00 55 15.4	-0.6
GOMA	Golmarmara-Man	1.55	31	PN	Pb	00 55 14.9	-0.7
THR5	Thira Island,	1.57	233	P	Pg	00 55 16.2	-0.4
SAP1	Santorini-Akro	1.58	230	P	Pg	00 55 15.9	-0.8
SAP1				S	Sg	00 55 37.9	+0.7
THR6	Thira Island,	1.58	230	P	Pg	00 55 15.7	-1.0
ZEDA	zmir-Bergama	1.59	5	i P	Pb	00 55 16.0	-0.2
TAVA	DENIZLI_Tavas	1.61	86	IAML_P			
	comp=Z,2μm,0.3s						
TAVA				i P	Pb	00 55 16.1	-0.6
AKHS	Akhisar	1.66	26	i P	Pb	00 55 17.3	-0.1
AKHS				i S	Sb	00 55 38.6	0.0
AKS	Akhisar	1.66	26	PN	Pb	00 55 16.9	-0.6
MANT	Manisa	1.72	49	IAML_P			
	comp=Z,2μm,0.3s						
MANT				i P	Pn	00 55 17.4	+0.2
DENT	Denizli	1.74	77	PN	Pn	00 55 17.2	-0.1
KULA	Kula-Manisa	1.79	50	PN	Pn	00 55 17.4	-0.7
KULA	Kula-Manisa	1.79	50	P	Pn	00 55 18.3	+0.2
KULA				S	Sn	00 55 41.4	+0.1
KARP	Karpathos	1.84	173	PN	Pn	00 55 18.4	-0.2
KARP	Karpathos	1.84	173	P	Pn	00 55 18.5	-0.2
KARP				S	Sb	00 55 43.2	-0.8
KARP	Karpathos	1.84	173	P	Pn	00 55 18.3	-0.4
FETY	Fethiye	1.90	112	PN	Pn	00 55 19.8	+0.3
FETY	Fethiye	1.90	112	P	Pn	00 55 20.0	+0.5
FETY				S	Sn	00 55 44.4	+0.6
FETY	Fethiye	1.90	112	i P	Pn	00 55 20.1	+0.5
PRK	Paraskevi	1.92	345	P	Pb	00 55 21.4	-0.6
PRK				S	Sg	00 55 47.3	-1.0
PRK	Paraskevi	1.92	345	P	Pb	00 55 20.8	-1.2
PRK				S	Sn	00 55 42.1	-2.2
PRK				AML	AML	00 55 59.4	
	comp=E,1855μm,0.8s						
PRK				AML	AML	00 56 00.7	
	comp=N,1784μm,0.9s						
AYVA	Ayvalik	1.93	355	i P	Pg	00 55 23.7	+0.2
SIGR	SIGRI	2.00	336	PN	Pb	00 55 21.5	-1.8
SIGR	SIGRI	2.00	336	P	Pn	00 55 21.1	+0.3
STEP	BALIKESIR_Sava	2.09	18	IAML_P			
	comp=Z,2μm,0.5s						
STEP				i P	Pg	00 55 26.2	-0.4
USAK	Uak-Merkez	2.14	51	i P	Pn	00 55 23.5	+0.7
KHAL	Karahalli	2.28	64	i P	Pn	00 55 24.6	-0.1
ZKR	Zakros	2.33	194	PN	Pn	00 55 26.4	+1.1
NPS	Neapolis	2.36	206	P	Pn	00 55 25.9	+0.2
BALB	Balikesir	2.38	19	PN	Pn	00 55 27.1	+1.0
AKAS	Kas	2.46	117	PN	Pn	00 55 27.5	+0.3
EZN	Ezine	2.48	350	PN	Pn	00 55 28.5	+1.1
KSL	Kastellorizon	2.48	119	P	Pn	00 55 27.8	+0.4
KSL				S	Sn	00 55 58.1	0.0
KSL	Kastellorizon	2.48	119	P	Pn	00 55 28.5	+1.0
ELL	Elmali	2.49	104	PN	Pn	00 55 28.2	+0.5
PTL	Penteli	2.49	286	P	Pb	00 55 28.8	-2.9
BOZC	Bozcaada	2.54	345	PN	Pn	00 55 28.9	+0.6
GEDZ	Gediz	2.58	49	PN	Pn	00 55 29.8	+0.9
KORT	Korkueli	2.78	97	PN	Pn	00 55 32.3	+0.6
LIA	Limnos Island	2.85	332	P	Pn	00 55 33.4	+1.0
TVSB	Tavsanli	2.88	44	PN	Pn	00 55 34.2	+1.1
ANTB	Antalya	3.04	98	PN	Pn	00 55 35.5	+0.4

MEX 23 00:57:36.6±0.8, 14.°64N×93.°06W, h74km±24km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.81	71	i P	Pn	00 57 51.8	-1.2
THIG				eS	Sn	00 58 03.7	-1.5
PCIG		1.07	352	i P	Pn	00 57 54.1	-2.0
PCIG				eS	Sn	00 58 09.2	-1.5
CCIG	Comitan	1.86	28	i P	Pn	00 58 06.1	-0.5
CCIG				i S	Sn	00 58 27.8	-1.6

MEX 23 01:15:04.8±0.9, 17.°42N×101.°00W, h8km±16km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.49	293	eP	Pg	01 15 14.0	-0.2
ZIIG				i S	Sg	01 15 21.1	+0.5
CAIG	El Cayaco	0.79	118	eP	Pg	01 15 17.7	-2.3
CAIG				eS	Sg	01 15 28.8	-1.4
ARIG	Puente Sto Nin	1.06	36	eP	Pg	01 15 21.6	-3.5
ARIG				i S	Sg	01 15 35.0	-3.8
MEIG	Mezcala	1.41	69	eP	Pn	01 15 27.2	-3.7
MEIG				i S	Sb	01 15 45.2	-4.4
PLIG	Platanillo	1.72	55	eP	Pn	01 15 32.5	-2.7
PLIG				eS	Sn	01 15 53.3	-4.2
TLIG	Tlapa	2.32	86	i P	Pn	01 15 40.9	-2.6
TLIG				i S	Sn	01 16 08.8	-3.5

IDC 23 01:27:17.6±1.4, 9.°30N×122.°81E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/39, mbtmp3.9/5, Error ellipse: s-maj=141.6km s-min=20.9km az=70.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	27.36	174	P	P	01 33 04.

JMA 23 01:30:06.8±0.1, 25°.13N×124°.34E, h102km±3km, M4.2
NEIC 23 01:30:07.2±1.9, 25°.16N×124°.39E, h118km±3km, mb4.8/98, Error ellipse: s-maj=13.1km s-min=10.8km az=150.0
IDC 23 01:30:07.6±0.7, 25°.30N×124°.41E, h121km±6km, mb4.3/25, mb1 4.3/28, mb1mx4.3/44, mbtmp4.6/28, MS3.1/12, Ms1 3.1/12, ms1mx3.0/33, Error ellipse: s-maj=12.9km s-min=10.1km az=77.0
ISC 23 01:30:07.0±0.4, 25°.17N±0°.04×124°.40E±0°.03, h116km±3km, h117km: pP-P, n309, σ1.9±1.41/363, mb4.7/148, 32C-6D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.59**	**188**	P		**Pn**		**01 30 23.2**	**-1.9**
JISG				S		**Sn**		**01 30 35.5**	**-3.2**
JTJ	**Tarama**	**0.59**	**152**	P		**Pn**		**01 30 23.7**	**-1.4**
JTJ				S		**Sn**		**01 30 36.4**	**-2.4**
JIRB	**Irabujima**	**0.78**	**116**	P		**Pn**		**01 30 25.2**	**-1.4**
JIRB				S		**Sn**		**01 30 39.2**	**-2.2**
JIKM	**Ikemajima**	**0.81**	**108**	P		**Pn**		**01 30 25.8**	**-1.0**
JIKM				S		**Sn**		**01 30 40.0**	**-1.8**
JIJ	**Ishigaki jima**	**0.84**	**196**	P		**Pn**		**01 30 25.0**	**-2.1**
JIJ				S		**Sn**		**01 30 38.5**	**-3.8**
JMJ2	**Miyako jima3**	**0.94**	**117**	P		**Pn**		**01 30 27.3**	**-0.8**
JMJ2				S		**Sn**		**01 30 43.1**	**-1.0**
JKRS	**Kuro-shima**	**0.99**	**201**	P		**Pn**		**01 30 26.9**	**-1.7**
JKRS				S		**Sn**		**01 30 42.2**	**-2.7**
JOGS	**Gusukube**	**1.00**	**114**	P		**Pn**		**01 30 28.0**	**-0.6**
JOGS				S		**Sn**		**01 30 44.2**	**-0.8**
IRIF	**Iriomote-Funau**	**1.03**	**216**	P		**Pn**		**01 30 27.0**	**-2.0**
IRIF				S		**Sn**		**01 30 42.4**	**-3.2**
HATJ	**Hateruma jima**	**1.23**	**206**	P		**Pn**		**01 30 29.5**	**-1.6**
HATJ				S		**Sn**		**01 30 46.8**	**-2.6**
YOJ	**Yonaguni jima**	**1.45**	**241**	*e*Pn		**Pn**		**01 30 31.9**	**-1.6**
YOJ				*e*Sn		**Sn**		**01 30 52.3**	**-1.3**
YOJ	**Yonaguni jima**	**1.45**	**241**	*e*P		**Pn**		**01 30 31.9**	**-1.6**
YOJ				*e*				01 30 52.3	
YOJ	**Yonaguni jima**	**1.45**	**241**	P		**Pn**		**01 30 32.1**	**-1.4**
YOJ				*e*S		**Sn**		**01 30 50.9**	**-2.8**
JYNG	**Yonagunijimaku**	**1.50**	**242**	P		**Pn**		**01 30 32.8**	**-1.4**
JYNG				*e*S		**Sn**		**01 30 52.6**	**-2.2**
TATO	**Taipei**	**2.65**	**266**	*e*Pn		**Pn**		**01 30 48.6**	**+0.1**
TATO				*e*Sn		**Sn**		**01 31 18.5**	**-1.9**
YHNB	**Yeheng**	**2.79**	**260**	*e*Pn		**Pn**		**01 30 50.9**	**+0.4**
YHNB				*e*Sn		**Sn**		**01 31 23.8**	**-0.1**
YULB	**Yu-li**	**3.34**	**239**	*e*Pn		**Pn**		**01 30 55.1**	**-2.5**
YULB				*e*Sn		**Sn**		**01 31 29.8**	**-7.0**
SSLB	**Suanglung**	**3.43**	**247**	*e*Pn		**Pn**		**01 30 57.5**	**-1.4**
SSLB				*e*Sn		**Sn**		**01 31 36.8**	**-2.1**
TWG	**Pinlang**	**3.84**	**233**	*e*Pn		**Pn**		**01 31 01.8**	**-2.5**
TWG				*e*Sn		**Sn**		**01 31 42.5**	**-6.2**
JOW	**Kunigami**	**3.86**	**64**	*e*Pn		**Pn**		**01 31 03.0**	**-1.5**
JOW				*e*Sn		**Sn**		**01 31 44.6**	**-4.6**
TPUB	**Ta-pu**	**3.91**	**242**	*e*Pn		**Pn**		**01 31 04.9**	**-0.4**
TPUB				*e*Sn		**Sn**		**01 31 48.6**	**-1.9**
QZH	**Quanzhou**	**5.27**	**269**	P		**Pn**		**01 31 23.4**	**-0.1**
QZH				S		**Sn**		**01 32 20.8**	**-2.3**
QZH				smax		smax			
	comp=N,48nm,1.0s								
QZH				smax		smax			
	comp=E,33nm,0.9s								
KNMB	**Chin-men Tao**	**5.51**	**264**	*e*Pn		**Pn**		**01 31 25.3**	**-1.4**
NJ2	**Nanjing**	**8.41**	**326**	*e*P		**Pn**		**01 32 05.0**	**-0.9**
NJ2				pmax		pmax			
	comp=Z,33nm,0.6s								
JNU	**Nakatsue**	**9.74**	**34**	P		**Pn**		**01 32 24.8**	**+0.9**
	1.4nm,0.3s,baz=291,slow=4.1,SNR=6.2								
HKPS	**Hong Kong Po S**	**9.83**	**255**	*e*Pn		**Pn**		**01 32 23.0**	**-2.2**
WHN	**Wuhan**	**10.38**	**303**	⇓P		**Pn**		**01 32 34.0**	**+1.5**
WHN				S		**Sn**		**01 34 29.8**	**+2.9**
WHN				LR		LR			
	comp=N,460nm,6.6s								
WHN				LR		LR			
	comp=E,470nm,5.8s								
WHN				LR		LR			
	comp=Z,360nm,11.6s								
TJN	**Taejon**	**11.46**	**12**	*ce*P		**Pn**		**01 32 47.8**	**+0.8**
TGY	**Tagaytay City**	**11.48**	**197**	LR		LR		01 37 28.0	
	comp=Z,91nm,19.6s,baz=344,slow=38								
KS15	**Wonju Array Si**	**12.59**	**13**	*e*Pn		**Pn**		**01 33 04.4**	**+2.5**
KSRS	**Korea Array**	**12.61**	**13**	P		**Pn**		**01 33 03.6**	**+1.5**
	1.0nm,0.3s,baz=189,slow=13,SNR=52								
KSRS				LR		LR		01 38 26.4	
	comp=Z,36nm,18.6s,baz=187,slow=40								
DL2	**Dalian**	**13.89**	**351**	P		**Pn**		**01 33 20.0**	**+1.2**
DL2				*es*P		P		01 33 50.8	+28
DL2				S		**Sn**		**01 35 54.8**	**+2.9**
DL2				pmax		pmax			
	comp=Z,20nm,0.7s								
DL2				pmax		pmax			
	comp=Z,150nm,3.7s								
GYA	**Guiyang**	**16.02**	**278**	⇑*i*P		**P**		**01 33 48.5**	**+1.4**
GYA				S		**Sn**		**01 36 43.5**	**-0.2**
GYA				pmax		pmax			
	comp=Z,20nm,0.7s								
GYA				pmax		pmax			
	comp=Z,60nm,6.2s								
GYA				LR		LR			
	comp=N,130nm,7.8s								
GYA				LR		LR			
	comp=E,210nm,10.8s								
GYA				LR		LR			
	comp=Z,180nm,10.5s								
XAN	**Xi'an**	**16.09**	**307**	P		**P**		**01 33 47.3**	**-0.3**
XAN				pP		pP		01 33 59.0	-10
XAN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
XAN				pmax		pmax			
	comp=Z,100nm,6.2s								
XAN	**Xi'an**	**16.09**	**307**	*e*Pn		**P**		**01 33 48.8**	**+1.2**
	16nm,0.8s								
XAN	**Xi'an**	**16.09**	**307**	*e*P		**P**		**01 33 48.8**	**+1.2**
XAN				pmax		pmax			
	comp=Z,16nm,0.8s								
MAJO	**Matsushiro**	**16.38**	**43**	*e*Pn		**Pn**		**01 33 50.6**	**+0.5**
MAJO	**Matsushiro**	**16.38**	**43**	*i* P		**Pn**		**01 33 48.6**	**-1.5**
MAJO				pmax		pmax			
	comp=Z,3.0nm,0.8s								
MAT	**Matsushiro**	**16.38**	**43**	P		**Pn**		**01 33 50.5**	**+0.4**
MAT				S		**Sn**		**01 36 48.8**	**-3.2**
MJAR	**Matsushiro Arr**	**16.38**	**43**	*e*Pn		**Pn**		**01 33 49.8**	**-0.3**
MJAR	**Matsushiro Arr**	**16.38**	**43**	*e*P		**Pn**		**01 33 49.8**	**-0.3**
MJAR	**Matsushiro Arr**	**16.38**	**43**	P		**Pn**		**01 33 50.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=220,slow=9.2,SNR=18								
DAV	**Davao City (W)**	**18.03**	**176**	LR		LR		01 43 14.7	
	comp=Z,59nm,18.1s,baz=192,slow=43								
CN2	**Changchun**	**18.61**	**2**	*e*P		**P**		**01 34 16.0**	**+0.9**
CN2				*es*P		sP		01 34 49.9	-1.1
CN2				*e*S		**S**		**01 37 36.8**	**-4.3**
CN2				pmax		pmax			
	comp=Z,60nm,0.8s								
CN2				pmax		pmax			
	comp=Z,200nm,3.0s								
HHC	**Hu-ho-hao-te**	**18.95**	**329**	*e*P		**Pn**		**01 34 20.4**	**-0.6**
HHC				pP		pP		01 34 44.5	+4.3
HHC				S		**S**		**01 37 49.5**	**+1.3**
HHC				pmax		pmax			
	comp=Z,120nm,0.7s								
HHC				pmax		pmax			
	comp=Z,400nm,3.8s								
CD2	**Chengdu**	**19.09**	**292**	P		**P**		**01 34 21.3**	**+0.7**
CD2				pmax		pmax			
	comp=Z,60nm,1.0s								
CD2				pmax		pmax			
	comp=Z,170nm,7.8s								
SLVN	**Son La**	**19.21**	**263**	*e*P		**Pn**		**01 34 26.5**	**+2.3**
	comp=Z,16nm,1.3s								
BTO	**Baotou**	**19.52**	**326**	*e*P		**P**		**01 34 26.5**	**+1.2**
KMI	**Kunming**	**19.61**	**274**	P		**Pn**		**01 34 28.3**	**-0.7**
KMI				pP		pwP		01 34 48.4	-1.1
KMI				sP		sP		01 35 05.8	+4.0
KMI				pmax		pmax			
	comp=Z,13nm,0.8s								
KMI				pmax		pmax			
	comp=Z,69nm,4.2s								
KMI				LR		LR			
	comp=Z,110nm,7.6s								
KMI				LR		LR			
	comp=Z,120nm,10.5s								
KMI				LR		LR			
	comp=Z,81nm,8.1s								
MDJ	**Mudanjiang**	**19.86**	**11**	P		**Pn**		**01 34 33.5**	**+2.1**
MDJ				pmax		pmax			
	comp=Z,10.0nm,0.6s								
MDJ				pmax		pmax			
	comp=Z,100nm,4.3s								
USRK	**Ussuriysk Ar.**	**19.97**	**16**	*e*P		**P**		**01 34 28.5**	**-1.4**
USRK	**Ussuriysk Ar.**	**19.97**	**16**	P		**P**		**01 34 28.9**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=192,slow=8.7,SNR=11								
LZH	**Lanzhou**	**20.73**	**307**	⇑P		**P**		**01 34 38.0**	**-0.3**
LZH				PP		**PnPn**		**01 35 06.1**	**+2.9**
LZH				sP		sP		01 35 16.4	+1.9
LZH				*es*		**S**		**01 38 23.9**	**+0.4**
LZH				SS		Sn		01 39 00.8	+24
LZH				pmax		pmax			
	comp=Z,34nm,1.1s								
LZH				pmax		pmax			
	comp=Z,130nm,4.5s								
ERM	**Erimo**	**22.86**	**38**	*e*P		**P**		**01 34 58.9**	**-1.4**
	comp=Z,35nm,1.2s								
CHAI	**Chaiyaphum**	**22.90**	**251**	P		**P**		**01 35 04.0**	**+3.1**
	comp=Z,19μm,0.7s								
PHRA	**Phrae**	**23.38**	**258**	P		**P**		**01 35 06.8**	**+1.4**
	comp=Z,2.6nm,1.0s								
PAYA	**Payao**	**23.41**	**261**	P		**P**		**01 35 09.8**	**+4.1**
	comp=Z,18μm,0.7s								
PBKT	**Sadao Pong**	**23.48**	**253**	P		**P**		**01 35 07.9**	**+1.6**
	comp=Z,7.8nm,1.1s,comp=Z,302nm								
LAMP	**Lampang**	**23.90**	**259**	P		**P**		**01 35 12.6**	**+2.5**
	comp=Z,42μm,0.8s								
ASAJ	**Asahikawa**	**24.02**	**34**	P		**P**		**01 35 08.9**	**-2.0**
	comp=Z,5.8nm,0.3s,baz=236,slow=16,SNR=5.6								
ASAJ				LR		LR		01 44 20.3	
	comp=Z,22nm,19.2s,baz=258,slow=36								
HIA	**Hailar**	**24.33**	**353**	*i* P		**P**		**01 35 12.8**	**-0.9**
HIA				pmax		pmax			
	comp=Z,119nm,1.0s								
CMMT	**Chiang Mai**	**24.41**	**260**	P		**P**		**01 35 17.1**	**+2.3**
	comp=Z,6.0nm,0.9s								
CHTO	**Chiang Mai**	**24.41**	**260**	*e*P		**P**		**01 35 15.2**	**+0.4**
	comp=Z,9.3nm,0.9s								
CM31	**Chiang Mai Arr**	**24.54**	**259**	*e*P		**P**		**01 35 17.4**	**+1.5**
	comp=Z,12nm,0.4s								
CMAR	**Chiang Mai Arr**	**24.54**	**259**	*ce*P		**P**		**01 35 18.6**	**+2.7**
CMAR				pmax		pmax			
	comp=Z,5.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**24.54**	**259**	P		**P**		**01 35 17.4**	**+1.5**
	comp=Z,9.1nm,1.0s,baz=62,slow=8.0,SNR=20								
CMAR				LR		LR		01 45 53.1	
	comp=Z,39nm,18.7s,baz=96,slow=38								
MRSI	**Marisa**	**24.66**	**186**	P		**P**		**01 35 18.0**	**+1.0**
KLR	**Kul'dur**	**24.70**	**12**	*i* P		**P**		**01 35 16.0**	**-1.0**
KLR				pmax		pmax			
	comp=Z,11nm,1.3s								
KLR	**Kul'dur**	**24.70**	**12**	P		**P**		**01 35 15.8**	**-1.3**
	comp=Z,5.2nm,0.7s,baz=216,slow=6.0,SNR=19								
KLR				PcP		**PcP**		**01 38 50.5**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=252,slow=3.2,SNR=5.0								
GTA	**Gaotai**	**25.07**	**310**	P		**P**		**01 35 20.4**	**-0.3**
GTA				pP		pP		01 35 47.1	+1.5
GTA				sP		sP		01 36 02.3	+3.3
GTA				pmax		pmax			
	comp=Z,14nm,1.1s								
GTA				pmax		pmax			
	comp=Z,44nm,4.9s								
GTA				LR		LR			
	comp=Z,98nm,15.2s								
GTA				LR		LR			
	comp=Z,86nm,15.2s								
GTA				LR		LR			
	comp=Z,83nm,16.8s								
MPSI	**Mapaga**	**25.07**	**191**	P		**P**		**01 35 22.1**	**+1.4**
	comp=Z,13nm,1.5s								
SBUM	**Sibu**	**25.46**	**209**	P		**P**		**01 35 27.0**	**+2.8**
APSI	**Ampana**	**26.06**	**186**	P		**P**		**01 35 30.1**	**+0.4**
YSS	**Yuzh-Sakhalins**	**26.20**	**29**	*i* P		**P**		**01 35 29.7**	**-0.9**
YSS				pmax		pmax			
	comp=Z,11nm,0.9s								
ULN	**Ulaanbaatar**	**26.48**	**333**	*ce*P		**P**		**01 35 32.8**	**-0.5**
ULN				pmax		pmax			
	comp=Z,9.0nm,1.4s								
SONA0	**Songino Array**	**26.73**	**332**	*e*P		**P**		**01 35 34.2**	**-1.3**
SONA0				*e*pP		**pP**		**01 36 01.2**	**+0.5**
SONA0				*e*PcP		**PcP**		**01 38 55.9**	**-0.1**
SONM	**Songino Array**	**26.73**	**332**	*e*P		**P**		**01 35 34.8**	**-0.7**
SONM	**Songino Array**	**26.73**	**332**	P		**P**		**01 35 34.2**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=149,slow=9.0,SNR=10								
SONM				pP		**pP**		**01 36 01.2**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=142,slow=10,SNR=8.4								
SONM				PcP		**PcP**		**01 38 55.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=156,slow=5.7,SNR=3.5								
SONM				LR		LR		01 47 11.3	
	comp=Z,74nm,20.4s,baz=144,slow=38								
SANI	**Sanana**	**27.10**	**177**	P		**P**		**01 35 38.9**	**-0.1**
	comp=Z,45nm,0.7s								
KSM	**Kuching**	**27.20**	**212**	P		**P**		**01 35 42.0**	**+2.1**
FAKI	**Fak Fak**	**28.94**	**164**	*e*P		**P**		**01 35 56.0**	**+0.6**
	comp=Z,25nm,0.8s								
SHL	**Shillong**	**29.35**	**278**	*e*P		**P**		**01 35 59.7**	**+0.6**
	comp=Z,27nm,1.5s								
MOY	**Mondy**	**31.92**	**332**	*e*P		**P**		**01 36 21.0**	**-0.4**
MOY				pmax		pmax			
	comp=Z,21nm,1.6s								
BOD	**Bodaibo**	**33.46**	**350**	*e*P		**P**		**01 36 30.5**	**-4.1**
BOD				pmax		pmax			
	comp=Z,5.0nm,1.9s								
WMQ	**Urumqi**	**35.15**	**311**	*e*P		**P**		**01 36 49.8**	**+0.3**
WMQ				pmax		pmax			
	comp=Z,72nm,0.9s								
PETK	**Petropavlovsk-**	**37.43**	**33**	P		**P**		**01 37 07.8**	**-0.9**
	comp=Z,4.0nm,0.6s,baz=284,slow=3.8,SNR=6.1								
PETK				LR		LR		01 54 32.2	
	comp=Z,21nm,18.2s,baz=275,slow=39								
PEA1	**Petropavlovsk-**	**37.44**	**33**	*e*P		**P**		**01 37 07.8**	**-0.9**
DGZ	**Jazzator, Alta**	**37.65**	**320**	*i* P		**P**		**01 37 10.4**	**-0.4**
DGZ				pmax		pmax			
	comp=Z,3.0nm,0.8s								
MTN	**Manton Dam**	**38.35**	**169**	*e*P		**P**		**01 37 16.3**	**-0.4**
	comp=Z,57nm,1.4s								
MK31	**Makanchi Array**	**39.72**	**314**	*e*P		**P**		**01 37 27.1**	**-0.8**
	comp=Z,5.5nm,0.6s								
MK31	**Makanchi Array**	**39.72**	**314**	*e*P		**P**		**01 37 27.0**	**-0.9**
MK31				pmax		pmax			
	comp=Z,6.0nm,0.6s								
MK32	**Makanchi Array**	**39.72**	**314**	*e*P		**P**		**01 37 26.9**	**-1.0**
MK32				*e*PcP		**PcP**		**01 39 32.4**	**+0.2**
MKAR	**Makanchi Array**	**39.72**	**314**	*e*P		**P**		**01 37 27.1**	**-0.8**
MKAR	**Makanchi Array**	**39.72**	**314**	P		**P**		**01 37 26.9**	**-1.0**
	comp=Z,5.8nm,0.5s,baz=98,slow=11,SNR=44								
MKAR				PcP		**PcP**		**01 39 32.4**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=96,slow=4.7,SNR=5.6								
MKAR				LR		LR		01 53 38.9	
	comp=Z,26nm,19.1s,baz=132,slow=36								
MAKZ	**Makanchi**	**39.93**	**314**	*e*P		**P**		**01 37 28.6**	**-1.0**
	comp=Z,10nm,0.6s								
MAKZ				*e*PcP		**PcP**		**01 39 33.1**	**+0.2**
MAKZ	**Makanchi**	**39.93**	**314**	P		**P**		**01 37 28.0**	**-1.7**
MAKZ				pmax		pmax			
	comp=Z,9.0nm,0.7s								
ZAA0	**Zalesovo Array**	**41.06**	**325**	*e*P		**P**		**01 37 37.4**	**-1.4**
	comp=Z,26nm,0.6s								
ZALV	**Zalesovo Beam**	**41.06**	**325**	*e*P		**P**		**01 37 37.7**	**-1.2**
ZALV	**Zalesovo Beam**	**41.06**	**325**	P		**P**		**01 37 37.0**	**-1.8**
	comp=Z,28nm,0.5s,baz=114,slow=8.4,SNR=73								
ZALV				PcP		**PcP**		**01 39 35.8**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=72,slow=4.7,SNR=4.1								
ZALV				ScP		**ScP**		**01 43 15.1**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=101,slow=4.7,SNR=4.5								
ZAA1	**Zalesovo Array**	**41.06**	**325**	*e*P		**P**		**01 37 37.0**	**-1.8**
ZAA1				*e*PcP		**PcP**		**01 39 35.8**	**-0.6**
ZAA1				*e*ScP		**ScP**		**01 43 15.1**	**-0.4**
TARG	**Taragay, Kyrgy**	**41.71**	**305**	*e*P		**P**		**01 37 45.3**	**+0.5**
	comp=Z,13nm,0.9s								
KDJ	**Kajisay**	**42.23**	**306**	*e*P		**P**		**01 37 49.1**	**+0.4**
	comp=Z,23nm,0.7s								
NVS	**Novosibirsk**	**42.30**	**326**	⇑*i*P		**P**		**01 37 48.1**	**-0.8**
KSH	**Kashi**	**42.85**	**302**	P		**P**		**01 37 57.1**	**+3.4**
KSH				pP		pP		01 38 20.4	+0.5
KSH				PP		**PcP**		**01 39 41.5**	**-1.3**
KSH				S		**S**		**01 44 15.1**	**+5.5**
KSH				SS		**SS**		**01 47 23.1**	**-2.0**
KSH				pmax		pmax			
	comp=Z,15nm,1.1s								
KSH				pmax		pmax			
	comp=Z,93nm,3.0s								
KSH				LR		LR			
	comp=Z,130nm,7.5s								
KSH				LR		LR			
	comp=Z,100nm,7.3s								
KSH				LR		LR			
	comp=Z,140nm,9.3s								
ULHL	**Ulahol**	**42.93**	**306**	P		**P**		**01 37 55.4**	**+0.9**
	SNR=5.6								
COEN	**Coen**	**42.98**	**153**	*e*P		**P**		**01 37 56.0**	**+1.1**
	comp=Z,35nm,0.7s								
NRN	**Naryn**	**43.01**	**304**	*e*P		**P**		**01 37 55.6**	**+0.3**
	comp=Z,20nm,0.8s								
FITZ	**Fitzroy Crossi**	**43.02**	**178**	*e*P		**P**		**01 37 55.0**	**-0.1**
	comp=Z,16nm,0.8s								
FITZ	**Fitzroy Crossi**	**43.02**	**178**	P		**P**		**01 37 54.9**	**-0.1**
	comp=Z,12nm,0.7s,baz=12,slow=7.5,SNR=23								
BOOM	**Boomskoye usch**	**43.19**	**306**	*e*P		**P**		**01 37 56.9**	**+0.4**
	comp=Z,6.0nm,0.6s								
HYB	**Hyderabad**	**43.24**	**269**	*i* P		**P**		**01 37 57.5**	**+0.4**
KURK	**Kurchatov**	**43.26**	**318**	*e*P		**P**		**01 37 55.5**	**-1.2**
	comp=Z,17nm,0.8s								
KURK	**Kurchatov**	**43.26**	**318**	*ce*P		**P**		**01 37 55.8**	**-0.9**
KURK				pmax		pmax			
	comp=Z,26nm,1.1s								
TKM2	**Tokmak 2**	**43.50**	**307**	P		**P**		**01 37 59.2**	**+0.2**
	SNR=52								
KZA	**Kyzart**	**43.65**	**305**	P		**P**		**01 38 01.7**	**+1.2**
	SNR=18								
KBK	**Karagaybulak**	**43.94**	**306**	P		**P**		**01 38 02.7**	**+0.2**
	SNR=17								
CHMS	**Chumysh**	**44.12**	**307**	P		**P**		**01 38 04.0**	**+0.2**
	SNR=15								
UCH	**Uchtor**	**44.20**	**305**	P		**P**		**01 38 05.8**	**+0.8**
	SNR=44								
AAK	**Ala-Archa**	**44.27**	**306**	P		**P**		**01 38 05.5**	**+0.4**
	SNR=10								
AAK	**Ala-Archa**	**44.27**	**306**	*e*P		**P**		**01 38 05.5**	**+0.4**
	comp=Z,8.2nm,0.6s								
AAK	**Ala-Archa**	**44.27**	**306**	P		**P**		**01 38 05.6**	**+0.4**
AAK	**Ala-Archa**	**44.27**	**306**	*d i*P		**P**		**01 38 04.9**	**-0.2**
AAK				pmax		pmax			
	comp=Z,8.0nm,0.7s								
USP	**Ospenovka**	**44.34**	**307**	P		**P**		**01 38 05.8**	**+0.3**
	SNR=5.1								
EKS2	**Erkin-Say**	**44.79**	**306**	P		**P**		**01 38 09.5**	**+0.2**
	SNR=8.9								
AML	**Almayashu**	**44.80**	**305**	P		**P**		**01 38 10.4**	**+0.7**
	SNR=23								
NIL	**Nilore**	**44.97**	**293**	*e*P		**P**		**01 38 10.7**	**0.0**
	comp=Z,34nm,0.8s								
ARSB	**Arslanbob**	**45.26**	**304**	*e*P		**P**		**01 38 13.6**	**+0.6**
	comp=Z,11nm,0.6s								
WRAB	**Tennant Creek**	**45.87**	**167**	*ce*P		**P**		**01 38 18.5**	**+0.8**
WRAB				pmax		pmax			
	comp=Z,33nm,0.9s								
TIXI	**Tiksi**	**46.58**	**2**	*e*P		**P**		**01 38 20.6**	**-2.1**
	comp=Z,4.1nm,0.7s								
TIXI				*e*PcP		**PcP**		**01 39 54.1**	**-0.7**
TIXI	**Tiksi**	**46.58**	**2**	*e*P		**P**		**01 38 21.1**	**-1.6**
TIXI				pmax		pmax			
	comp=Z,4.0nm,0.8s								
PSA00	**Pilbara Seismi**	**46.67**	**186**	*e*P		**P**		**01 38 23.4**	**-0.6**
	comp=Z,16nm,0.8s								
BTK	**Batken**	**46.84**	**302**	*e*P		**P**		**01 38 25.5**	**+0.2**
	comp=Z,7.4nm,0.9s								
GAR	**Garm**	**47.21**	**301**	*e*P		**P**		**01 38 28.7**	**+0.4**
	comp=Z,36nm,0.9s								
KK31	**Karatay Array**	**47.23**	**306**	*e*P		**P**		**01 38 28.2**	**0.0**
	comp=Z,6.9nm,0.6s								
KK31	**Karatay Array**	**47.23**	**306**	*i* P		**P**		**01 38 27.6**	**-0.6**
KK31				pmax		pmax			
	comp=Z,3.0nm,0.5s								
KKAR	**Karatay Array**	**47.23**	**306**	*e*P		**P**		**01 38 28.2**	**0.0**
	comp=Z,6.9nm,0.6s								
KBL	**Kabul**	**48.40**	**295**	*e*P		**P**		**01 38 38.2**	**+0.6**
	comp=Z,33nm,0.8s								
BRVK	**Borovoye**	**48.87**	**320**	*e*P		**P**		**01 38 40.3**	**-0.4**
	comp=Z,18nm,1.1s								
BRVK	**Borovoye**	**48.87**	**320**	*ce*P		**P**		**01 38 40.4**	**-0.2**
BRVK				pmax		pmax			
	comp=Z,11nm,1.0s								
NRIK	**Noril'sk**	**49.25**	**344**	P		**P**		**01 38 42.1**	**-1.1**
	comp=Z,19nm,0.8s,baz=119,slow=9.4,SNR=28								
NRIK				PcP		**PcP**		**01 40 04.7**	**+0.2**
	comp=Z,8.9nm,0.6s,baz=96,slow=3.7,SNR=7.5								
NRIK				LR		LR		02 01 20.4	
	comp=Z,47nm,19.5s,baz=54,slow=38								
AS31	**Alice Springs**	**49.41**	**168**	*e*P		**P**		**01 38 46.0**	**+0.9**
	comp=Z,7.5nm,0.4s								
ASAR	**Alice Springs**	**49.41**	**169**	P		**P**		**01 38 46.0**	**+0.9**
	comp=Z,12nm,0.5s,baz=354,slow=13,SNR=115		

CCB	Clear Creek Bu	66.62	28	eP	P	01 40 45.0	+0.4
	comp=Z,3.3nm,0.5s						
SEW	Seward	66.64	33	eP	P	01 40 44.9	+0.2
	comp=Z,17nm,1.0s						
ZEI	Tsey	66.65	308	eP	P	01 40 43.7	-1.7
ZEI				pmax	pmax		
	comp=Z,16nm,0.9s						
GNI	Garni	66.65	305	eP	P	01 40 47.1	+1.7
	comp=Z,13nm,1.2s						
GNI	Garni	66.65	305	ceP	P	01 40 45.4	0.0
GNI				pmax	pmax		
	comp=Z,17nm,1.1s						
KNK	Knik Glacier	66.89	31	eP	P	01 40 46.5	+0.1
	comp=Z,21nm,0.8s						
ILAR	Eielson Array	66.99	28	P	P	01 40 46.1	-0.9
	comp=Z,1.7nm,0.6s,baz=249,slow=4.5,SNR=33						
ILB	Eielson Array	66.99	28	eP	P	01 40 46.6	-0.4
	comp=Z,2.5nm,0.6s						
HDA	Harding Lake	67.03	28	eP	P	01 40 46.4	-0.8
	comp=Z,9.8nm,0.9s						
DHY	Denali Highway	67.08	30	eP	P	01 40 47.5	-0.2
	comp=Z,6.2nm,0.6s						
KBZ	Khabaz	67.14	309	P	P	01 40 48.8	+0.5
	comp=Z,9.1nm,0.9s,baz=130,slow=2.6,SNR=18						
KIV	Kislovodsk	67.24	309	eP	P	01 40 49.4	+0.4
	comp=Z,47nm,1.4s						
KIV	Kislovodsk	67.24	309	i P	P	01 40 49.5	+0.5
	SNR=11						
KIV	Kislovodsk	67.24	309	eP	P	01 40 49.4	+0.4
KIV				pmax	pmax		
	comp=Z,74nm,1.1s						
KIV				MLR	MLR		
	comp=Z,27nm,17.0s						
AKH	Akhalkalaki	67.27	306	eP	P	01 40 50.8	+1.4
	comp=Z,18nm,1.1s						
SCM	Sheep Creek Mo	67.34	31	eP	P	01 40 49.8	+0.5
	comp=Z,23nm,0.6s						
PRP	Porcupine Dome	67.42	27	eP	P	01 40 50.5	+0.7
	comp=Z,6.9nm,1.2s						
GLI	Glacier Island	67.64	32	eP	P	01 40 51.6	+0.5
	comp=Z,17nm,0.8s						
LPSR	Galich'ya Gora	67.74	319	eP	P	01 40 49.8	-2.0
LPSR				pmax	pmax		
	comp=Z,30nm,1.5s						
MOS	Moscow	67.81	322	eP	P	01 40 50.2	-2.0
MOS				e		01 41 20.2	
VORD	Divnogorie	67.88	317	eP	P	01 40 51.4	-1.3
VORD				pmax	pmax		
	comp=Z,10.0nm,1.4s						
VSR	Storozhevoye	67.90	317	eP	P	01 40 51.9	-1.0
VSR				pmax	pmax		
	comp=Z,20nm,1.2s						
PAX	Paxson	67.96	30	eP	P	01 40 54.0	+0.8
	comp=Z,6.5nm,0.7s						
RIDG	Independent Ri	68.07	29	eP	P	01 40 54.0	+0.2
	comp=Z,7.1nm,0.7s						
DIV	Divide	68.21	32	eP	P	01 40 55.9	+1.1
	comp=Z,17nm,0.7s						
HARP	HAARP	68.22	30	eP	P	01 40 56.5	+1.7
	comp=Z,17nm,0.6s						
DOT	Dot Lake	68.43	29	eP	P	01 40 56.2	+0.2
	comp=Z,8.3nm,0.7s						
OBN	Obninsk	68.54	322	eP	P	01 40 54.6	-2.1
OBN				i		01 41 20.4	
OBN				i *PP	pwP	01 41 26.4	-1.0
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
EGAK	Eagle	69.38	27	eP	P	01 40 58.0	-3.9
	comp=Z,8.2nm,0.8s						
ARCES	ARCESS Array B	69.72	338	P	P	01 41 03.5	-0.4
	comp=Z,3.0nm,0.8s,baz=70,slow=7.0,SNR=9.2						
ARCES				PcP	PcP	01 41 25.9	0.0
	comp=Z,2.5nm,0.7s,baz=81,slow=5.6,SNR=10.0						
DAWY	Dawson	70.32	28	eP	P	01 41 08.3	+0.6
	comp=Z,12nm,0.8s						
EPYK	Eagle Plains	70.69	25	eP	P	01 41 10.0	+0.1
	comp=Z,19nm,0.7s						
INK	Inuvik	71.21	23	eP	P	01 41 12.5	-0.3
	comp=Z,7.7nm,0.7s						
FIA0	FINESS Array S	72.07	330	eP	P	01 41 17.4	-0.8
FINES	FINESS Array B	72.07	330	ceP	P	01 41 17.6	-0.5
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES	FINESS Array B	72.07	330	P	P	01 41 17.4	-0.8
	comp=Z,4.3nm,0.7s,baz=68,slow=6.5,SNR=31						
FINES				LR	LR	02 15 32.7	
	comp=Z,30nm,19.3s,baz=116,slow=38						
WHY	Whitehorse	73.43	30	eP	P	01 41 27.8	+1.4
	comp=Z,20nm,0.8s						
SKAG	Skagway	73.67	32	eP	P	01 41 29.7	+2.0
	comp=Z,29nm,0.8s						
AKASG	Malin Array Be	74.07	319	P	P	01 41 28.9	-1.3
	comp=Z,2.2nm,0.5s,baz=53,slow=6.7,SNR=9.0						
AKASG				pP	pP	01 41 58.4	-0.5
	comp=Z,1.2nm,0.5s,baz=54,slow=7.3,SNR=2.7						
AKBB	Malin Array Si	74.07	319	eP	P	01 41 28.9	-1.3
	comp=Z,4.3nm,0.9s						
BESE	Bessie Mountai	74.23	32	eP	P	01 41 32.9	+1.9
	comp=Z,13nm,0.9s						
JIS	Juneau Island	74.58	33	eP	P	01 41 35.1	+2.2
	comp=Z,34nm,0.8s						
BR101	Keskin Array S	74.93	307	eP	P	01 41 35.5	-0.1
BR131	Keskin Array S	74.93	307	eP	P	01 41 35.5	-0.1
	comp=Z,6.4nm,0.8s						
BRTR	Keskin Array B	74.93	307	P	P	01 41 35.5	-0.1
	comp=Z,4.3nm,0.6s,baz=93,slow=5.4,SNR=36						
BRTR				pP	pwP	01 42 05.9	-0.8
	comp=Z,1.5nm,0.8s,baz=119,slow=4.4,SNR=3.3						
BRTR				LR	LR	02 17 53.4	
	comp=Z,8.0nm,19.8s,baz=84,slow=38						
SUW	Suwalki	76.27	323	eP	P	01 41 42.0	-0.7
SUW	Suwalki	76.27	323	eP	P	01 41 42.2	-0.5
	comp=Z,36nm,1.1s						
SUW	Suwalki	76.27	323	eP	P	01 41 42.0	-0.7
TLCR		76.31	314	⇑iP	P	01 41 42.6	-0.5
WRAK	Wrangell Islan	76.34	34	eP	P	01 41 45.2	+2.2
	comp=Z,23nm,0.9s						
DLBC	Dease Lake	76.60	31	eP	P	01 41 46.8	+2.2
	comp=Z,17nm,0.8s						
CFR	Carcaliu	76.76	314	⇑iP	P	01 41 44.8	-0.8
CSS	Mathiatis	76.86	303	eP	P	01 41 46.0	-0.4
	comp=Z,8.7nm,0.7s						
TLB	Topalu	77.04	313	⇑iP	P	01 41 47.0	-0.2
TESR	Tescani	77.20	315	⇑iP	P	01 41 47.7	-0.4
BIZ	Bicaz	77.38	316	⇑iP	P	01 41 49.0	-0.1
ICOR	Ion Corvin	77.38	313	⇑iP	P	01 41 49.6	+0.5
VRI	Vrincioaia	77.41	315	⇑iP	P	01 41 50.1	+0.8
PLOR	Plostina	77.46	315	⇓iP	P	01 41 48.7	-0.9
BUR08	Bucovina Ar. S	77.66	317	eP	P	01 41 50.8	-0.1
	comp=Z,2.4nm,0.6s						
BURAR	Bucovina Array	77.67	317	⇓iP	P	01 41 50.4	-0.4
MLR	Muntele Rosu	78.06	315	eP	P	01 41 52.8	-0.2
	comp=Z,4.9nm,0.6s						
MLR	Muntele Rosu	78.06	315	⇑iP	P	01 41 52.7	-0.4
DOPR	Dopca	78.22	315	⇓iP	P	01 41 53.8	0.0
KWP	Kalwaria Pacla	78.35	319	eP	P	01 41 54.3	-0.1
KWP	Kalwaria Pacla	78.35	319	eP	P	01 41 53.9	-0.5
	comp=Z,114nm,0.6s						
KWP	Kalwaria Pacla	78.35	319	eP	P	01 41 54.3	-0.1
NB2	NORSAR Subarra	78.70	333	P	P	01 41 54.8	-1.4
	comp=Z,0.9nm,0.5s,baz=54,slow=5.6						
NB200	NORSAR Array S	78.70	333	eP	P	01 41 55.3	-0.9
NOA	NORSAR Array B	78.70	333	P	P	01 41 55.3	-0.9
	comp=Z,1.1nm,0.5s,baz=52,slow=5.9,SNR=6.5						
NOA				LR	LR	02 19 49.6	
	comp=Z,9.1nm,18.5s,baz=50,slow=38						
KOLS	Kolonicke sedl	78.91	319	eP	P	01 41 57.3	-0.2
KOLS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KOLS	Kolonicke sedl	78.91	319	eP	P	01 41 57.3	-0.2
HUMR	Humele	79.08	314	⇑iP	P	01 41 58.0	-0.5
TRPA	Tarpa	79.09	318	⇑iP	P	01 41 58.6	+0.1
LOT	Lotru	79.47	315	⇑iP	P	01 42 00.8	0.0
DRGR		79.56	317	⇑iP	P	01 42 01.3	+0.1
OJC	Ojcow	79.78	321	eP	P	01 42 02.3	+0.1
OJC	Ojcow	79.78	321	eP	P	01 42 01.9	-0.3
	comp=Z,7.1nm,0.7s						
OJC	Ojcow	79.78	321	eP	P	01 42 02.3	+0.1
KECS	Kecovo	80.17	319	eP	P	01 42 04.0	-0.3
KECS				pmax	pmax		
	comp=Z,13nm,0.7s						
KECS	Kecovo	80.17	319	eP	P	01 42 04.0	-0.3
HERR	Herculane	80.58	315	⇓iP	P	01 42 06.3	-0.3
BZS	Buzias	80.76	316	⇑iP	P	01 42 06.5	-1.0
YKW3	Yellowknife Ar	80.86	24	eP	P	01 42 06.4	-1.3
	comp=Z,15nm,0.7s						
YKA	Yellowknife Ar	80.91	24	P	P	01 42 08.1	+0.1
	comp=Z,9.2nm,0.6s,baz=304,slow=5.2,SNR=115						
YKA				pP	pwP	01 42 39.3	-0.3
	comp=Z,3.2nm,1.1s,baz=310,slow=5.2,SNR=1.8						
YKB5	Yellowknife Ar	80.91	24	eP	P	01 42 08.1	+0.1
VTS	Vitosha	81.03	313	eP	P	01 42 08.5	-0.7
	comp=Z,13nm,0.7s						
VTS	Vitosha	81.03	313	⇑iP	P	01 42 09.8	+0.5
MDVR	Moldovita	81.07	315	⇑iP	P	01 42 09.1	-0.2
VYHS	Vyhne	81.14	320	eP	P	01 42 09.8	+0.3
VYHS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VYHS	Vyhne	81.14	320	eP	P	01 42 09.8	+0.3
VYHS				ePCP	PcP	01 42 14.3	-1.2
MORC	Moravsky Berou	81.28	321	eP	P	01 42 10.4	+0.2
	comp=Z,2.8nm,0.7s						
MORC	Moravsky Berou	81.28	321	⇑iP	P	01 42 10.4	+0.2
MORC	Moravsky Berou	81.28	321	eP	P	01 42 10.0	-0.3
KSP	Ksiaz	81.46	322	eP	P	01 42 10.8	-0.3
KSP	Ksiaz	81.46	322	eP	P	01 42 10.9	-0.3
JAVC	Velka Javorina	81.64	320	eP	P	01 42 13.3	+1.1
DPC	Dobruska-Polom	81.68	322	eP	P	01 42 12.5	+0.1
DPC	Dobruska-Polom	81.68	322	eP	P	01 42 12.5	+0.1
VRAC	Vranov	82.04	321	⇑iP	P	01 42 14.6	+0.3
VRAC	Vranov	82.04	321	eP	P	01 42 14.4	+0.1
KRUC	Moravsky	82.28	321	eP	P	01 42 15.2	-0.3
TREC	Trest	82.68	321	eP	P	01 42 17.7	+0.1
TREC	Trest	82.68	321	eP	P	01 42 17.7	+0.1
CLL	Collm	83.01	324	i P	P	01 42 20.1	+0.9
CLL	Collm	83.01	324	i P	P	01 42 20.1	+0.9
CONA	Conrad Observa	83.15	320	i P	P	01 42 20.8	+0.7
	comp=Z,12nm,1.6s						
KHC	Kasperske Hory	83.84	322	eP	P	01 42 22.2	-1.4
KHC	Kasperske Hory	83.84	322	eP	P	01 42 22.2	-1.4
GEC2	GERESS Array S	83.92	322	eP	P	01 42 24.4	+0.4
	comp=Z,5.2nm,0.9s						
GERES	GERESS Array B	83.92	322	P	P	01 42 23.5	-0.6
	comp=Z,3.4nm,0.9s,baz=66,slow=4.5,SNR=25						
MOA	Molln	84.11	321	i P	P	01 42 25.5	+0.5
	comp=Z,4.0nm,0.6s						
SOKA	Soboth	84.27	319	i P	P	01 42 25.7	-0.1
	comp=Z,6.5nm,0.6s						
OBKA	Obir	84.64	319	i P	P	01 42 27.8	0.0
	comp=Z,4.2nm,0.6s						
KBA	Koelnbreinsper	85.05	320	i PcP	P	01 42 30.4	+0.6
	comp=Z,4.1nm,0.6s						
ABTA	Abfaltersbach	85.71	320	i P	P	01 42 31.6	-1.4
	comp=Z,0.5nm,0.3s						
WTTA	Wattenberg	85.93	321	i P	P	01 42 33.5	-0.7
	comp=Z,1.3nm,0.3s						
DAVA	Damuels	86.92	322	i PcP	P	01 42 39.6	+0.5
	comp=Z,3.8nm,0.6s						
FUORN	Ofenpass-Fuorn	87.07	321	eP	P	01 42 39.9	-0.1
	comp=Z,4.7nm,0.8s						
KMBO	Kilima Mbogo	87.89	268	eP	P	01 42 45.0	+0.7
	comp=Z,4.3nm,1.3s						
KMBO	Kilima Mbogo	87.89	268	ceP	P	01 42 45.7	+1.3
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KMBO	Kilima Mbogo	87.89	268	P	P	01 42 45.0	+0.7
	comp=Z,1.1nm,0.4s,baz=63,slow=8.6,SNR=4.5						
FCC	Fort Churchill	90.50	19	eP	P	01 42 55.2	-0.2
	comp=Z,11nm,0.9s						
FFC	Flin Flon	91.04	25	eP	P	01 42 58.3	+0.3
	comp=Z,9.5nm,0.8s						
FFC	Flin Flon	91.04	25	ceP	P	01 42 58.4	+0.3
PLID	Pearl Lake	91.06	38	eP	P	01 43 01.4	+2.7
	comp=Z,6.0nm,0.8s						
HLID	Hailey	92.90	39	eP	P	01 43 08.9	+1.8
	comp=Z,2.2nm,0.8s						
NV01	Mina Array Sit	93.70	44	eP	P	01 43 11.8	+0.8
NVAR	Mina Array Bea	93.70	44	P	P	01 43 11.8	+0.8
	comp=Z,1.0nm,0.6s,baz=294,slow=5.5,SNR=3.3						
KEST	Kesra	93.80	312	eP	P	01 43 10.4	-0.9
	comp=Z,27nm,1.3s						
KEST	Kesra	93.80	312	P	P	01 43 10.4	-0.9
	comp=Z,19nm,1.1s,baz=318,slow=0.9,SNR=3.9						

IDC 23 01:35:01.3±1.4, 11°.67N×142°.67E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/42, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=72.4km s-min=29.4km az=116.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.88	48	Pn	Pn	01 35 48.5	+0.1
	19nm,0.3s,baz=268,slow=2.9,SNR=6.5						
GUMO				Sn	Sn	01 36 19.8	-4.0
	11nm,0.3s,baz=180,slow=20,SNR=3.0						
ASAR	Alice Springs	36.15	194	P	P	01 42 05.4	-0.1
	0.3nm,0.5s,baz=20,slow=12,SNR=4.3						
YKA	Yellowknife Ar	85.54	27	P	P	01 47 41.0	-0.1
	0.2nm,0.5s,baz=291,slow=5.6,SNR=3.3						
ARCES	ARCESS Array B	88.24	342	P	P	01 47 54.3	+0.1
	1.1nm,0.8s,baz=76,slow=8.5,SNR=5.1						

*NORS **23** 01:36:33.2±0.0, 42°.64N×44°.45E, h6km, MPVA2.8*
*ISCJB **23** 01:36:35.7±0.6, 42°.65N±0°.03×44°.45E±0°.04, h14km±5km, Error ellipse: s-maj=5.3km s-min=4.4km az=139.2*

ISC 23 01:36:36.5±1.1, 42°.65N±0°.03×44°.46E±0°.03, h6km±10km, n15, σ1°.14/28, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUDG	Gudauri	0.19	175	P	Pg	01 36 40.1	-0.2
GUDG				S	Sg	01 36 44.4	+1.6
LACR	Lac	0.21	326	i Pg	Pg	01 36 38.4	-2.3
LACR				eSg	Sg	01 36 43.6	0.0
VLKR	Vladikavkaz	0.43	22	ePg	Pg	01 36 44.1	-0.7
VLKR				eSg	Sg	01 36 51.1	+0.7
ZEI	Tsey	0.43	289	ePg	Pg	01 36 43.9	-1.1
ZEI				eSg	Sg	01 36 51.0	+0.4
KMGR	Komgaron	0.51	36	ePg	Pg	01 36 45.0	-1.3
KMGR				eSg	Sg	01 36 54.1	+1.2
KORR	Kora	0.52	327	ePg	Pg	01 36 45.9	-0.6
KORR				eSg	Sg	01 36 55.1	+1.7
ARNR	Ardon	0.54	347	ePg	Pg	01 36 46.0	-1.0
ARNR				eSg	Sg	01 36 55.8	+1.7
DIGR	Digorskoe uzhe	0.69	291	ePg	Pg	01 36 48.7	-1.1
DIGR				eSg	Sg	01 36 59.6	+0.7
ONI	Oni	0.74	266	P	Pg	01 36 49.7	-1.0
ONI				S	Sb	01 37 02.5	+0.1
STDR	Stavd-Durt	0.77	338	ePg	Pb	01 36 53.1	+0.7
STDR				eSg	Sn	01 37 06.0	+0.1
LSNR	Lesken	0.78	324	ePg	Pg	01 36 51.1	-0.4
LSNR				eSg	Sg	01 37 03.0	+1.4
KBTC	Kuba-Taba	1.40	327	ePg	Pn	01 37 02.2	-0.3
KBTC				eSg	Sb	01 37 21.9	+0.9
LGD	Lagodekhi	1.56	121	P	Pn	01 37 04.2	-0.5
SHA1	Shidzhatmaz	1.71	310	ePg	Pn	01 37 06.6	-0.4
SHA1				eSg	Sb	01 37 30.7	+0.5
DDFL	Dedoflistskaro	1.73	134	P	Pn	01 37 05.3	-1.8

*IDC **23** 01:57:04.9±3.0, 54°.99N×164°.10E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/34, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=166.9km s-min=24.2km az=149.0*
*KRSC **23** 01:57:08.3±10.0, 55°.43N×163°.24E, h63km±10km, ML3.8*
*ISCJB **23** 01:57:10.0±0.4, 55°.42N±0°.02×163°.24E±0°.05, h56km±8km, mb3.3/3, Error ellipse: s-maj=4.8km s-min=3.4km az=22.4*

ISC 23 01:57:10.7±1.1, 55°.46N±0°.03×163°.26E±0°.04, h43km±17km, n44, σ1°.22/79, mb3.3/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.79	342	eP	Pn	01 57 24.7	-0.8
KBTR				eS	Sn	01 57 35.7	-0.5
KBG	Krutoberegovo	0.86	339	eP	Pn	01 57 25.6	-0.8
KBG				eS	Sn	01 57 37.9	+0.2
MKZ	Mys Kozlova	1.26	225	eP	Pn	01 57 31.1	-0.8
MKZ				eS	Sn	01 57 46.4	-1.2
SMKR	Semkarok	1.51	319	eP	Pn	01 57 35.2	-0.2
SMKR				eS	Sn	01 57 55.2	+1.3
BZGR	Bezymyannyi-Gr	1.53	289	eP	Pn	01 57 36.0	+0.3
BZGR				eS	Sn	01 57 55.5	+1.1
CIRR	Tsirk	1.57	296	eP	Pn	01 57 36.3	+0.1
CIRR				eS	Sn	01 57 55.7	+0.4
BKI	Bering	1.57	98	eP	Pn	01 57 37.2	+1.2
BKI				eS	Sn	01 57 56.5	+1.4
LGNR	Loginova	1.58	294	eP	Pn	01 57 36.8	+0.3
LGNR				eS	Sn	01 57 57.0	+1.1
BDR	Baidarnaya	1.60	315	eP	Pn	01 57 36.6	0.0
BDR				eS	Sn	01 57 55.5	-0.6
BZMR	Bezymyannaya	1.64	288	eP	Pn	01 57 36.6	-0.6
BZMR				eS	Sn	01 57 57.3	+0.1
BZWR	Bezymyannyi-We	1.65	289	eP	Pn	01 57 37.7	+0.4
BZWR				eS	Sn	01 57 58.4	+1.1
TUMD	Tumrok D	1.66	262	eP	Pn	01 57 37.6	+0.3
TUMD				eS	Sn	01 57 56.8	-0.6
SRKR	Sorokina	1.68	316	eP	Pn	01 57 37.7	+0.1
SRKR				eS	Sn	01 57 58.1	+0.1
KRSR	Krestovskiy	1.70	298	eP	Pn	01 57 37.4	-0.6
KRSR				eS	Sn	01 57 57.2	-1.4
KLY	Klyuchi	1.70	301	eP	Pn	01 57 36.4	-1.5
KLY				eS	Sn	01 57 56.4	-2.0
KIRR	Kirishev	1.73	288	eP	Pn	01 57 38.8	+0.4
KIRR				eS	Sn	01 58 00.8	+1.5
KZV	Kizimen	1.73	260	eP	Pn	01 57 38.5	0.0
KZV				eS	Sn	01 57 58.7	-0.7
TUMR	Tumrok	1.79	266	eP	Pn	01 57 40.2	+1.0
TUMR				eS	Sn	01 58 01.4	+0.7
KPT	Kopyto	1.79	288	eP	Pn	01 57 40.1	+0.8
KPT				eS	Sn	01 58 02.3	+1.4
KOZ	Kozyrevsk	2.01	289	eP	Pn	01 57 43.3	+1.2
KOZ				eS	Sn	01 58 08.6	+2.6
SRDR	Sredinnyy	2.17	295	eP	Pn	01 57 45.1	+0.7
SRDR				S	Sn	01 58 10.6	+0.4
ESO	Esso	2.63	282	eP	Pn	01 57 51.2	+0.6
SPN	Mys Shipunski	3.03	220	eP	Pn	01 57 55.4	-0.8
SPN				eS	Sn	01 58 28.7	-2.5
NLC	Nalytchevo	3.24	227	eP	Pn	01 57 59.0	0.0
NLC				eS	Sn	01 58 35.4	-0.9
SDLR	Sedlovina	3.37	231	eP	Pn	01 58 01.7	+0.8
SDLR				eS	Sn	01 58 39.0	-0.6
KRER	Koryakskii	3.41	233	eP	Pn	01 58 02.6	+1.1
KRER				eS	Sn	01 58 40.7	-0.1
SMAR	Somma	3.41	232	eP	Pn	01 58 02.5	+0.9
SMAR				eS	Sn	01 58 40.0	-0.9
KRX	Arik	3.42	234	eP	Pn	01 58 02.9	+1.3
KRX				eS	Sn	01 58 41.1	+0.2
UGLR	Uglovaya	3.44	231	eP	Pn	01 58 02.8	+0.9
UGLR				eS	Sn	01 58 41.0	-0.4
AVH	Avacha	3.44	232	eP	Pn	01 58 03.0	+1.2
AVH				eS	Sn	01 58 41.6	+0.2
KOK	Koryaka	3.47	233	eP	Pn	01 58 03.3	+1.1
DALK	Dalny	3.59	229	eP	Pn	01 58 04.3	+0.5
DALK				eS	Sn	01 58 43.3	-1.7
PET	Petropavlovsk	3.64	230	P	Pn	01 58 05.1	+0.6
PET				S	Sn	01 58 44.7	-1.5
OSSR	Ossora	3.80	358	eP	Pn	01 58 06.9	+0.2
OSSR				S	Sn	01 58 49.3	-0.8
KRMR	Karymshinskiy	4.01	231	eP	Pn	01 58 10.5	+1.0
KRMR				eS	Sn	01 58 53.3	-1.8
PETK	Petropavlovsk-	4.02	236	Pn	Pn	01 58 10.7	+1.0
	2.9nm,0.3s,baz=67,slow=18,SNR=27						
PETK				Sn	Sn	01 59 01.1	+5.5
	1.5nm,0.3s,baz=79,slow=15,SNR=4.0						
RUS	Russkaya	4.13	225	eP	Pn	01 58 11.9	+0.7
RUS				eS	Sn	01 58 56.2	-2.0
MTVR	Mutnovka	4.23	227	eP	Pn	01 58 14.2	+1.5
KDTR	Khodutka, Kamc	4.78	222	eP	Pn	01 58 20.3	+0.1
PAU	Pauzhetka	5.55	227	P	Pn	01 58 31.6	+0.9
ALID	Alaid	6.53	228	P	Pn	01 58 46.2	+1.9
ILAR	Eielson Array	25.84	49	P	P	02 02 38.1	+0.5
	0.5nm,0.6s,baz=276,slow=8.0,SNR=5.8						
INK	Inuvik	30.86	40	P	P	02 03 22.8	+0.6
	0.7nm,0.8s,baz=245,slow=3.8,SNR=3.6						
YKA	Yellowknife Ar	40.17	45	P	P	02 04 40.6	-1.4
	0.3nm,0.7s,baz=305,slow=7.6,SNR=3.3						

RSNC 23 02:20:49.2±1.3, 6°.83N×73°.12W, h150km±4km, ML3.5, Mw3.8, 4C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.24	194	eP	Pn	02 21 09.6	-0.4
BARC				eS	Sn	02 21 24.8	-1.0
BARC				i		02 21 27.5	
	comp=Z,331nm,0.3s						
GIRC	Giron, Santand	0.26	344	eP	Pn	02 21 09.6	-0.3
GIRC				eS	Sn	02 21 25.0	-0.6
GIRC				i		02 21 26.7	
	comp=Z,360nm,0.6s						
BRRC	Barranca, Sant	0.65	295	eP	Pn	02 21 11.3	-0.1
BRRC				eS	Sn	02 21 28.4	0.0
BRRC				i		02 21 30.1	
	comp=N,1μm,0.2s						
PAMC	Pamplona, Colo	0.66	40	⇑iP	Pn	02 21 12.3	+0.2
PAMC				eS	Sn	02 21 29.1	-0.4
PAMC				i		02 21 33.2	
	comp=N,206nm,0.3s						
RUSC	La Rusia	0.93	178	⇓iP	Pn	02 21 13.4	-0.6
RUSC				eS	Sn	02 21 32.0	-1.0
RUSC				i		02 21 34.0	
	comp=N,371nm,0.2s						
CCUC3	Cucuta, Santo	1.20	30	eP	Pn	02 21 16.5	+0.6
CCUC3				i		02 21 16.9	
	comp=Z,295nm,0.4s						
CCUC3				eS	Sn	02 21 36.6	+0.2
CAPV	Capacho	1.30	38	eP	Pn	02 21 17.4	+0.3
CAPV				eS	Sn	02 21 39.4	+1.0
PTBC	PUERTO BERRIO,	1.36	258	eP	Pn	02 21 16.0	-1.4
P

ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P	Pn	02 21 39.7	+0.4
ARGC				*e*S	Sn	02 22 15.2	-2.9
PRAC	**Prado**	**3.56**	**210**	*e*P	Pn	02 21 42.7	-1.2
PRAC				*e*S	Sn	02 22 25.2	-1.0
PRAC				*i*		02 22 30.4	
	comp=E,151nm,0.3s						
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P	Pn	02 21 43.1	-2.1
SJCC				*e*S	Sn	02 22 24.8	-3.9
PLMC	**San Jos del P**	**3.68**	**239**	*e*P	Pn	02 21 45.3	-0.1
VIRV	**Villa del Rosa**	**3.72**	**11**	⇑*i*P	Pn	02 21 44.1	-1.7
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P	Pn	02 21 55.0	-0.3
SMRC				*e*S	Sn	02 22 42.1	-4.7
PCON	**Cinco Dias**	**5.54**	**216**	*e*P	Pn	02 22 10.6	+0.3
POPC	**Popayan, Colom**	**5.54**	**220**	*e*P	Pn	02 22 09.3	-0.8

KRSC ***23*** *02:33:13.8±10.0, 52°.11N×160°.97E, h41km±10km, ML4.5*
ISCJB ***23*** *02:33:15.9±1.0, 52°.16N±0°.03×160°.83E±0°.05, h27km±7km, mb4.0/29, MS3.4/6, Error ellipse: s-maj=5.5km s-min=4.3km az=149.9*
IDC ***23*** *02:33:15.1±1.0, 52°.44N×160°.41E, h0km, mb3.9/20, mb1 4.0/22, mb1mx3.9/35, mbtmp3.9/22, ML3.9/2, MS3.3/7, Ms1 3.4/7, ms1mx3.0/38, Error ellipse: s-maj=25.1km s-min=15.8km az=138.0*
NEIC ***23*** *02:33:17.9±2.2, 52°.37N×160°.56E, h20km±6km, mb4.2/9, Error ellipse: s-maj=17.6km s-min=11.3km az=181.0*
MOS ***23*** *02:33:18.3±0.9, 52°.26N×160°.62E, h43km, mb4.6/7, Error ellipse: s-maj=8.0km s-min=4.7km az=105.8*
ISC 23 02:33:17.3±1.4, 52°.19N±0°.04×160°.68E±0°.04, h25km±9km, n139, σ1§49/159, mb4.1/29, MS3.5/6, 7C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.99**	**336**	*e*P	**Pb**	**02 33 34.2**	**-1.6**
SPN				*e*S	**Sb**	**02 33 48.0**	**-0.4**
SPN	**Mys Shipunski**	**0.99**	**336**	PN	**Pb**	**02 33 34.2**	**-1.6**
SPN				S	**Sb**	**02 33 48.0**	**-0.4**
NLC	**Nalytchevo**	**1.27**	**321**	*e*P	**Pn**	**02 33 38.7**	**-0.8**
NLC				*e*S	**Sb**	**02 33 56.7**	**+0.2**
NLC	**Nalytchevo**	**1.27**	**321**	PN	**Pn**	**02 33 38.7**	**-0.8**
NLC				S	**Sb**	**02 33 56.7**	**+0.2**
RUS	**Russkaya**	**1.35**	**281**	*e*P	**Pn**	**02 33 40.4**	**-0.2**
RUS				*e*S	**Sb**	**02 33 59.2**	**+0.5**
RUS	**Russkaya**	**1.35**	**281**	PN	**Pn**	**02 33 40.4**	**-0.2**
RUS				S	**Sb**	**02 33 59.2**	**+0.5**
DALK	**Dalny**	**1.44**	**306**	*e*P	**Pn**	**02 33 41.5**	**-0.3**
DALK				*e*S	**Sb**	**02 34 01.8**	**+0.4**
DALK	**Dalny**	**1.44**	**306**	PN	**Pn**	**02 33 41.5**	**-0.3**
DALK				S	**Sb**	**02 34 01.8**	**+0.4**
PET	**Petropavlovsk**	**1.49**	**305**	*e*Pn	**Pn**	**02 33 42.0**	**-0.4**
PET				*e*Sn	**Sn**	**02 33 57.8**	**-3.3**
PET	**Petropavlovsk**	**1.49**	**305**	*e*P	**Pn**	**02 33 42.4**	**-0.1**
PET	**Petropavlovsk**	**1.49**	**305**	⇓*i*PN	**Pn**	**02 33 42.0**	**-0.4**
PET				*e*S	**Sn**	**02 34 00.9**	**-0.2**
PET				pmax	pmax		
	comp=Z,483nm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.7s						
PET				smax	smax		
	comp=N,2μm,0.6s						
UGLR	**Uglovaya**	**1.52**	**313**	*e*P	**Pn**	**02 33 43.2**	**+0.2**
UGLR	**Uglovaya**	**1.52**	**313**	PN	**Pn**	**02 33 43.2**	**+0.2**
SDLR	**Sedlovina**	**1.54**	**316**	*e*P	**Pn**	**02 33 43.2**	**-0.1**
SDLR	**Sedlovina**	**1.54**	**316**	PN	**Pn**	**02 33 43.2**	**-0.1**
MTVR	**Mutnovka**	**1.56**	**282**	*e*P	**Pn**	**02 33 43.7**	**+0.1**
MTVR				*e*S	**Sb**	**02 34 05.4**	**+0.5**
MTVR	**Mutnovka**	**1.56**	**282**	PN	**Pn**	**02 33 43.7**	**+0.1**
MTVR				S	**Sb**	**02 34 05.4**	**+0.5**
SMAR	**Somma**	**1.57**	**314**	*e*P	**Pn**	**02 33 43.7**	**0.0**
SMAR	**Somma**	**1.57**	**314**	PN	**Pn**	**02 33 43.7**	**0.0**
AVH	**Avacha**	**1.60**	**313**	*e*P	**Pn**	**02 33 44.5**	**+0.5**
AVH	**Avacha**	**1.60**	**313**	PN	**Pn**	**02 33 44.5**	**+0.5**
KRER	**Koryakskii**	**1.62**	**314**	*e*P	**Pn**	**02 33 44.7**	**+0.3**
KRER				*e*S	**Sb**	**02 34 06.9**	**+0.3**
KRER	**Koryakskii**	**1.62**	**314**	PN	**Pn**	**02 33 44.7**	**+0.3**
KRER				S	**Sb**	**02 34 06.9**	**+0.3**
GRL	**Gorelyy**	**1.64**	**284**	*e*P	**Pb**	**02 33 46.3**	**-0.5**
GRL	**Gorelyy**	**1.64**	**284**	PN	**Pb**	**02 33 46.3**	**-0.5**
KDTR	**Khodutka, Kamc**	**1.65**	**258**	*e*P	**Pn**	**02 33 44.5**	**-0.2**
KDTR				*e*S	**Sb**	**02 34 07.0**	**-0.4**
KDTR	**Khodutka, Kamc**	**1.65**	**258**	PN	**Pn**	**02 33 44.5**	**-0.2**
KDTR				S	**Sb**	**02 34 07.0**	**-0.4**
KOK	**Koryaka**	**1.66**	**312**	*e*P	**Pn**	**02 33 45.3**	**+0.4**
KOK	**Koryaka**	**1.66**	**312**	PN	**Pn**	**02 33 45.3**	**+0.4**
KRMR	**Karymshinskiy**	**1.68**	**293**	*e*P	**Pn**	**02 33 45.3**	**+0.2**
KRMR				*e*S	**Sb**	**02 34 08.8**	**+0.5**
KRMR	**Karymshinskiy**	**1.68**	**293**	PN	**Pn**	**02 33 45.3**	**+0.2**
KRMR				S	**Sb**	**02 34 08.8**	**+0.5**
KRX	**Arik**	**1.70**	**314**	*e*P	**Pn**	**02 33 45.5**	**0.0**
KRX	**Arik**	**1.70**	**314**	PN	**Pn**	**02 33 45.5**	**0.0**
ASAK	**Asacha**	**1.72**	**277**	*e*P	**Pn**	**02 33 46.2**	**+0.5**
ASAK	**Asacha**	**1.72**	**277**	PN	**Pn**	**02 33 46.2**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.03**	**298**	*e*Pn	**Pn**	**02 33 50.6**	**+0.7**
PEA0B				*e*Sn	**Sn**	**02 34 11.7**	**-2.9**
PETK	**Petropavlovsk-**	**2.03**	**298**	*e*Pn	**Pn**	**02 33 50.3**	**+0.3**
PETK				*e*Sn	**Sn**	**02 34 10.7**	**-3.9**
PETK	**Petropavlovsk-**	**2.03**	**298**	*e*PN	**Pn**	**02 33 50.3**	**+0.3**
PETK				*e*		02 34 10.7	
PETK	**Petropavlovsk-**	**2.03**	**298**	Pn	**Pn**	**02 33 50.8**	**+0.8**
	comp=N,34nm,0.3s,baz=106,slow=18,SNR=58						
PETK				Sn	**Sb**	**02 34 18.7**	**+0.3**
	comp=N,27nm,0.3s,baz=96,slow=23,SNR=6.8						
PETK				LR	LR	02 34 47.9	
	comp=N,353nm,18.8s,baz=75,slow=52						
PEA1	**Petropavlovsk-**	**2.04**	**298**	*e*Pn	**Pn**	**02 33 50.8**	**+0.8**
PEA1				*e*Sn	**Sb**	**02 34 18.7**	**+0.2**
APC	**Apacha**	**2.27**	**290**	*e*P	**Pn**	**02 33 54.5**	**+1.3**
APC				*e*S	**Sb**	**02 34 25.0**	**-0.2**
APC	**Apacha**	**2.27**	**290**	PN	**Pn**	**02 33 54.5**	**+1.3**
APC				S	**Sb**	**02 34 25.0**	**-0.2**
MKZ	**Mys Kozlova**	**2.45**	**14**	*e*P	**Pn**	**02 33 55.1**	**-0.5**
MKZ				*e*S	**Sn**	**02 34 23.6**	**-1.1**
MKZ	**Mys Kozlova**	**2.45**	**14**	PN	**Pn**	**02 33 55.1**	**-0.5**
MKZ				S	**Sn**	**02 34 23.6**	**-1.1**
PAU	**Pauzhetka**	**2.51**	**255**	*e*P	**Pn**	**02 33 57.1**	**+0.7**
PAU	**Pauzhetka**	**2.51**	**255**	PN	**Pn**	**02 33 57.1**	**+0.7**
KZV	**Kizimen**	**2.94**	**356**	*e*P	**Pn**	**02 34 03.3**	**+0.8**
KZV	**Kizimen**	**2.94**	**356**	PN	**Pn**	**02 34 03.3**	**+0.8**
TUMD	**Tumrok D**	**3.02**	**357**	*e*P	**Pn**	**02 34 03.8**	**+0.3**
TUMD				*e*S	**Sn**	**02 34 40.7**	**+1.8**
TUMR	**Tumrok**	**3.11**	**354**	*e*P	**Pn**	**02 34 05.9**	**+1.0**
TUMR				*e*S	**Sn**	**02 34 43.9**	**+2.6**
TUMR	**Tumrok**	**3.11**	**354**	PN	**Pn**	**02 34 03.8**	**-1.1**
TUMR				S	**Sn**	**02 34 40.7**	**-0.6**
SKR	**Severo-Kuril's**	**3.23**	**244**	*e*P	**Pn**	**02 34 06.7**	**+0.3**
SKR	**Severo-Kuril's**	**3.23**	**244**	*e*PN	**Pn**	**02 34 03.6**	**-2.8**
SKR				pmax	pmax		
	comp=Z,36nm,0.6s						
ALID	**Alaid**	**3.47**	**250**	*e*P	**Pn**	**02 34 10.4**	**+0.6**
ALID	**Alaid**	**3.47**	**250**	PN	**Pn**	**02 34 10.4**	**+0.6**
LGNR	**Loginova**	**3.90**	**0**	*e*P	**Pn**	**02 34 17.1**	**+1.3**
LGNR	**Loginova**	**3.90**	**0**	PN	**Pn**	**02 34 17.1**	**+1.3**
ESO	**Esso**	**3.92**	**343**	*e*P	**Pn**	**02 34 17.1**	**+1.3**
ESO	**Esso**	**3.92**	**343**	PN	**Pn**	**02 34 17.1**	**+1.3**
KRSR	**Krestovskiy**	**4.03**	**359**	*e*P	**Pn**	**02 34 20.0**	**+2.5**
KRSR	**Krestovskiy**	**4.03**	**359**	PN	**Pn**	**02 34 20.0**	**+2.5**
KBTR	**Krutoberegovo**	**4.21**	**16**	*e*P	**Pn**	**02 34 19.8**	**-0.1**
KBTR	**Krutoberegovo**	**4.21**	**16**	PN	**Pn**	**02 34 19.8**	**-0.1**
BKI	**Bering**	**4.36**	**44**	*e*S	**Sn**	**02 35 06.8**	**-4.9**
BDR	**Baidarnaya**	**4.39**	**4**	*e*P	**Pn**	**02 34 24.0**	**+1.5**
BDR	**Baidarnaya**	**4.39**	**4**	PN	**Pn**	**02 34 24.0**	**+1.5**
SMKR	**Semkarok**	**4.42**	**6**	*e*P	**Pn**	**02 34 23.8**	**+1.0**
SMKR	**Semkarok**	**4.42**	**6**	PN	**Pn**	**02 34 23.8**	**+1.0**
SRKR	**Sorokina**	**4.48**	**3**	*e*P	**Pn**	**02 34 24.8**	**+1.2**
SRKR	**Sorokina**	**4.48**	**3**	PN	**Pn**	**02 34 24.8**	**+1.2**
SMY	**Shemya**	**8.22**	**81**	*e*Pn	**Pn**	**02 35 16.4**	**+1.6**
SMY				*e*Sn	**Sn**	**02 36 42.1**	**-4.6**
SMY	**Shemya**	**8.22**	**81**	*e*PN	**Pn**	**02 35 16.4**	**+1.6**
YSS	**Yuzh-Sakhalins**	**12.75**	**253**	*e*PN	Pn	02 36 08.4	-8.4
YSS				MLR	MLR		
	comp=Z,100nm,14.0s						
ASAJ	**Asahikawa**	**14.49**	**243**	Pn	**Pn**	**02 36 41.0**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=128,slow=19,SNR=3.5						
ERM	**Erimo**	**15.64**	**236**	*e*Pn	**Pn**	**02 36 51.4**	**-4.5**
	comp=Z,42nm,1.1s						
ERM	**Erimo**	**15.64**	**236**	*e*P	**Pn**	**02 36 51.4**	**-4.5**
ERM				pmax	pmax		
	comp=Z,42nm,1.1s						
BILL	**Bilibino**	**16.13**	**8**	*e*Pn	**Pn**	**02 37 03.1**	**+1.1**
	comp=Z,4.7nm,0.8s						
BILL	**Bilibino**	**16.13**	**8**	*c i*P	**P**	**02 37 06.6**	**+1.5**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KLR	**Kul'dur**	**18.50**	**272**	*i*P	**Pn**	**02 37 32.7**	**+1.0**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KLR	**Kul'dur**	**18.50**	**272**	P	**P**	**02 37 31.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=56,slow=11,SNR=7.0						
KLR				LR	LR	02 44 51.3	
	comp=Z,49nm,20.2s,baz=174,slow=38						
USRK	**Ussuriysk Ar.**	**20.62**	**259**	*e*P	**P**	**02 37 51.9**	**-2.7**
USRK	**Ussuriysk Ar.**	**20.62**	**259**	P	**P**	**02 37 53.5**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=58,slow=9.8,SNR=5.4						
MJA0	**Matsu Arr-Jizo**	**22.27**	**234**	*e*P	**P**	**02 38 18.0**	**+5.6**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**22.29**	**234**	P	**P**	**02 38 14.1**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=16,slow=11,SNR=7.0						
MJAR				LR	LR	02 46 51.2	
	comp=Z,55nm,21.5s,baz=50,slow=37						
MAJO	**Matsushiro**	**22.29**	**234**	*e*P	**P**	**02 38 14.1**	**+1.5**
MAJO	**Matsushiro**	**22.29**	**234**	*e*P	**P**	**02 38 14.1**	**+1.5**
TIXI	**Tiksi**	**24.05**	**336**	*e*P	**P**	**02 38 28.3**	**-1.7**
	comp=Z,6.3nm,1.2s						
TIXI	**Tiksi**	**24.05**	**336**	*ce*P	**P**	**02 38 28.3**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI	**Tiksi**	**24.05**	**336**	P	**P**	**02 38 27.7**	**-2.3**
	comp=Z,3.1nm,0.6s,baz=120,slow=9.6,SNR=7.7						
KSRS	**Korea Array**	**27.23**	**250**	P	**P**	**02 39 00.1**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=28,slow=11,SNR=3.6						
KS15	**Wonju Array Si**	**27.26**	**250**	*e*P	**P**	**02 39 00.1**	**+0.8**
	comp=Z,5.7nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**32.76**	**169**	T	T	03 16 18.2	
	baz=353						
H11N3	**WAKE ISLAND Hy**	**32.77**	**169**	T	T	03 15 35.8	
	baz=353,slow=74						
H11N1	**WAKE ISLAND Hy**	**32.78**	**169**	T	T	03 15 29.0	
	baz=353,slow=74						
H11S1	**WAKE ISLAND Hy**	**33.95**	**170**	T	T	03 17 57.4	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**33.96**	**170**	T	T	03 17 43.8	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**33.96**	**170**	T	T	03 17 43.4	
	baz=352						
SONA0	**Songino Array**	**34.47**	**285**	*e*P	**P**	**02 40 02.5**	**-0.4**
SONM	**Songino Array**	**34.47**	**285**	P	**P**	**02 40 02.5**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=67,slow=10,SNR=3.2						
NRIK	**Noril'sk**	**36.85**	**326**	LR	LR	02 56 54.3	
	comp=Z,76nm,18.4s,baz=34,slow=39						
ZAA1	**Zalesovo Array**	**43.57**	**304**	*e*P	**P**	**02 41 17.1**	**-1.7**
ZALV	**Zalesovo Beam**	**43.57**	**304**	P	**P**	**02 41 17.1**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=50,slow=7.7,SNR=2.5						
YKA	**Yellowknife Ar**	**43.59**	**42**	P	**P**	**02 41 19.5**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=292,slow=7.9,SNR=2.9						
YKB5	**Yellowknife Ar**	**43.59**	**42**	*e*P	**P**	**02 41 19.5**	**+0.7**
KURK	**Kurchatov**	**48.52**	**303**	*ce*P	**P**	**02 41 56.5**	**-1.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MK32	**Makanchi Array**	**48.87**	**297**	*e*P	**P**	**02 41 59.0**	**-1.6**
MKAR	**Makanchi Array**	**48.87**	**297**	P	**P**	**02 41 59.0**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=50,slow=5.9,SNR=14						
BRVK	**Borovoye**	**51.26**	**309**	*ce*P	**P**	**02 42 18.0**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**54.26**	**342**	P	**P**	**02 42 39.6**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=37,slow=9.1,SNR=6.6						
ARU	**Arti**	**54.30**	**318**	*c i*P	**P**	**02 42 40.3**	**-0.7**
ARU						02 44 40.4	
ARU				S	**S**	**02 50 11.6**	**-5.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARU	**Arti**	**54.30**	**318**	LR	LR	03 06 56.8	
	comp=Z,52nm,18.1s,baz=65,slow=37						
AAK	**Ala-Archa**	**55.80**	**297**	LR	LR	03 08 31.1	
	comp=Z,32nm,18.3s,baz=38,slow=38						
CM31	**Chiang Mai Arr**	**58.35**	**259**	*e*P	**P**	**02 43 12.2**	**+1.8**
	comp=Z,6.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**58.35**	**259**	P	**P**	**02 43 12.2**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=24,slow=6.4,SNR=5.7						
CMAR				LR	LR	03 10 48.7	
	comp=Z,36nm,18.2s,baz=139,slow=39						
ABKAR	**Akbulak array**	**58.65**	**311**	*e*P	**P**	**02 43 11.7**	**-0.4**
	comp=Z,1.5nm,0.6s						
AKTO	**Aktyubinsk**	**58.70**	**313**	LR	LR	03 11 11.9	
	comp=Z,22nm,19.6s,baz=68,slow=39						
FIA0	**FINESS Array S**	**61.09**	**337**	*e*P	**P**	**02 43 28.9**	**+0.3**
FIA0	**FINESS Array S**	**61.09**	**337**	*e*P	**P**	**02 43 28.9**	**+0.3**
FINES	**FINESS Array B**	**61.09**	**337**	P	**P**	**02 43 28.9**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=33,slow=8.1,SNR=22						
OBN	**Obninsk**	**63.47**	**328**	*i*P	**P**	**02 43 45.6**	**+1.0**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VSU	**Vasula**	**63.52**	**335**	*ce*P	**P**	**02 43 46.2**	**+1.3**
VSU				pmax	pmax		
	comp=Z,79nm,2.5s						
NB2	**NORSAR Subarra**	**64.51**	**344**	P	**P**	**02 43 51.1**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=20,slow=6.9						
NB200	**NORSAR Array S**	**64.51**	**344**	*e*P	**P**	**02 43 51.9**	**+0.4**
NOA	**NORSAR Array B**	**64.51**	**344**	P	**P**	**02 43 51.9**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=15,slow=5.3,SNR=4.3						
GEYT	**Alibeck**	**67.88**	**304**	P	**P**	**02 44 14.5**	**+1.1**
	comp=Z,2.9nm,0.7s,baz=5.7,slow=6.0,SNR=4.5						
AKASG	**Malin Array Be**	**69.57**	**329**	P	**P**	**02 44 23.6**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=29,slow=6.6,SNR=6.6						
AKBB	**Malin Array Si**	**69.57**	**329**	*e*P	**P**	**02 44 23.6**	**-0.1**
	comp=Z,3.7nm,0.6s						
AKBB	**Malin Array Si**	**69.57**	**329**	*e*P	**P**	**02 44 23.6**	**-0.1**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBZ	**Khabaz**	**70.44**	**317**	P	**P**	**02 44 28.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=91,slow=5.8,SNR=4.1						
LTX	**Lajitas**	**70.66**	**67**	*e*P	**P**	**02 44 32.9**	**+2.0**
LTX	**Lajitas**	**70.66**	**67**	*e*P	**P**	**02 44 32.9**	**+2.0**
TXAR	**Lajitas Array**	**70.66**	**67**	P	**P**	**02 44 32.9**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=291,slow=6.0,SNR=4.3						
GERES	**GERESS Array B**	**75.48**	**338**	P	**P**	**02 44 59.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=58,slow=5.0,SNR=4.1						
BR101	**Keskin Array S**	**77.54**	**321**	*e*P	**P**	**02 45 11.9**	**+1.0**
BRTR	**Keskin Array B**	**77.54**	**321**	*ce*P	**P**	**02 45 12.6**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**77.54**	**321**	P	**P**	**02 45 11.9**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=355,slow=12,SNR=3.6						
AS31	**Alice Springs**	**79.08**	**205**	*e*P	**P**	**02 45 21.3**	**+2.0**
	comp=Z,1.2nm,0.8s						
ASAR	**Alice Springs**	**79.09**	**205**	P	**P**	**02 45 21.3**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=34,slow=4.7,SNR=4.7						
ESDC	**Sonseca Array**	**87.54**	**348**	P	**P**	**02 46 03.4**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=4.4,slow=4.6,SNR=3.1						

SOME ***23*** *02:53:14.3, 39°.00N×74°.22E, h15km*
IDC ***23*** *02:53:18.3±6.7, 38°.54N×73°.85E, h98km±56km, mb3.5/3, mb1 3.4/6, mb1mx3.0/55, mbtmp3.7/6, Error ellipse: s-maj=73.3km s-min=49.3km az=106.0*
NNC ***23*** *02:53:21.8±1.9, 38°.79N×73°.60E, h138km±34km, mb2.6, mpv3.2, Error ellipse: s-maj=20.0km s-min=13.9km az=177.0*
ISC 23 02:53:19.9±1.6, 38°.7N±0°.1×73°.63E±0°.08, h107km, n22, σ1§01/31, mb4.0/3, 4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.47**	**1**	P	**Pn**	**02 54 12.9**	**+0.4**
	SNR=20						
UCH	**Uchtor**	**3.63**	**10**	P	**Pn**	**02 54 15.4**	**+0.8**
	SNR=17						
KZA	**Kyzart**	**3.64**	**19**	P	**Pn**	**02 54 15.1**	**+0.4**
	SNR=8.6						
EKS2	**Erkin-Say**	**4.00**	**2**	P	**Pn**	**02 54 21.7**	**+2.4**
	SNR=11						
AAK	**Ala-Archa**	**4.03**	**9**	⇓P	**Pn**	**02 54 20.4**	**+0.7**
	2.5nm,0.7s						
AAK				S	**Sn**	**02 55 07.1**	**+0.9**
	12nm,0.5s						
AAK	**Ala-Archa**	**4.03**	**9**	P	**Pn**	**02 54 20.2**	**+0.5**
	0.7nm,0.3s,baz=202,slow=5.9,SNR=4.8						
AAK				S	**Sn**	**02 55 06.9**	**+0.8**
	1.4nm,0.3s,baz=6.0,slow=13,SNR=13						
MRKS	**Merke**	**4.10**	**356**	*e*P	**Pn**	**02 54 21.4**	**+0.8**
	9.2nm,0.2s						
MRKS				*e*S	**Sn**	**02 55 07.7**	**+0.1**
	28nm,0.4s						
ULHL	**Ulahol**	**4.10**	**28**	P	**Pn**	**02 54 20.8**	**+0.1**
	SNR=6.4						
IUG	**Iuzhnay**	**4.44**	**323**	*e*P	**Pn**	**02 54 25.6**	**+0.4**
	14nm,0.3s						
IUG				*e*S	**Sn**	**02 55 14.8**	**-1.1**
	31nm,0.4s						
TKM2	**Tokmak 2**	**4.51**	**19**	P	**Pn**	**02 54 27.3**	**+1.0**
	SNR=5.4						
TKM2	**Tokmak 2**	**4.51**	**19**	⇓P	**Pn**	**02 54 27.0**	**+0.7**
	1.7nm,0.5s						
TKM2				⇓S	**Sn**	**02 55 17.9**	**+0.1**
	3.8nm,0.4s						
KST	**Kastek**	**4.73**	**21**	*e*P	**Pn**	**02 54 29.9**	**+0.9**
	8.5nm,0.3s						
KST				*e*S	**Sn**	**02 55 22.3**	**-0.6**
	18nm,0.9s						
DGS	**Degeres**	**4.86**	**19**	*e*P	**Pn**	**02 54 32.0**	**+1.1**
	4.3nm,0.6s						
DGS				*e*S	**Sn**	**02 55 25.5**	**-0.6**
	10nm,0.6s						
IZV	**Izvestkoviy**	**4.93**	**26**	*e*P	**Pn**	**02 54 32.2**	**+0.3**
	2.2nm,0.4s						
IZV				*e*S	**Sn**	**02 55 25.8**	**-1.9**
	7.8nm,0.7s						
KK31	**Karatay Array**	**5.03**	**333**	P	**Pn**	**02 54 33.6**	**+0.5**
	1.8nm,0.2s,baz=134,slow=12,SNR=122						
KK31				S	**Sn**	**02 55 29.5**	**-0.6**
	4.7nm,0.4s,baz=149,slow=23,SNR=9.6						
AB31	**Akbulak array**	**14.45**	**322**	P	**Pn**	**02 56 37.0**	**-2.2**
	0.3nm,0.3s,baz=128,slow=13,SNR=9.6						
AKTO	**Aktyubinsk**	**16.16**	**322**	⇓P	**Pn**	**02 57 00.6**	**-0.1**
	1.2nm,0.5s						
AKTO	**Aktyubinsk**	**16.16**	**322**	P	**Pn**	**02 57 01.3**	**+0.7**
	0.4nm,0.3s,baz=115,slow=14,SNR=6.5						
ZALV	**Zalesovo Beam**	**17.10**	**23**	P	**P**	**02 57 10.9**	**-1.3**
	0.2nm,0.3s,baz=210,slow=11,SNR=2.4						
FINES	**FINESS Array B**	**36.92**	**324**	P	**P**	**03 00 19.0**	**+1.0**
	1.0nm,0.5s,baz=120,slow=11,SNR=8.0						
HFS	**Hagfors**	**42.70**	**320**	P	**P**	**03 01 07.1**	**+1.2**
	1.8nm,0.6s,baz=102,slow=11,SNR=7.3						
TORD	**Torodi Ar. Bea**	**67.84**	**269**	P	**P**	**03 04 07.0**	**0.0**
	0.2nm,0.6s,baz=43,slow=6.2,SNR=4.3						

IDC ***23*** *02:55:47.5±1.5, 28°.43N×51°.62E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.5/47, mbtmp3.7/11, ML3.2/2, Error ellipse: s-maj=30.7km s-min=22.2km az=167.0*
ISCJB ***23*** *02:55:49.0±0.7, 28°.37N±0°.06×51°.53E±0°.05, h24km, mb3.7/9, Error ellipse: s-maj=9.0km s-min=6.3km az=20.6*
TEH ***23*** *02:55:50.3, 28°.54N×51°.62E, h18km, ML3.5*
ISC 23 02:55:51.2±0.8, 28°.44N±0°.06×51°.61E±0°.07, h24km, n39, σ1§13/41, mb3.6/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.22**	**97**	*e*Pg	**Pn**	**02 56 13.0**	**+0.1**
IKAZ	**Kazeroun**	**1.35**	**8**	*e*Pg	**Pn**	**02 56 15.1**	**+0.2**
IKAZ				IAMB	IAmb	02 56 42.4	
	comp=Z,0.0nm,0.6s						
SHI	**Shiraz**	**1.43**	**33**	*e*Pg	**Pn**	**02 56 16.3**	**+0.4**
SHI				*e*Sg	**Sn**	**02 56 35.1**	**+1.0**
SHI				IAMB	IAmb	02 56 42.4	
	comp=Z,0.0nm,0.5s						
JHRM	**Jahrom**	**1.73**	**87**	*e*

comp=Z,570nm,0.4s
ACCO Cerro Coronel 0.56 347 *i* P Pn 03 42 04.6 +0.7
ACCO *i* S Sn 03 42 20.6 +1.7
RTCV Cerro Valdivia 0.80 156 *i* P Pn 03 42 06.2 +0.9
RTCV *i* S Sn 03 42 22.1 +0.8
ACDV Cuesta del Vie 0.98 350 *i* P Pn 03 42 08.2 +1.2
ACDV IAML 03 42 24.8
comp=Z,358nm,0.3s
ACDV *i* S Sn 03 42 25.0 +0.7
AROD Rodeo 1.07 334 *i* P Pn 03 42 09.4 +1.3
AROD *i* S Sn 03 42 27.8 +1.5
AUSP Uspallata 1.16 200 *i* P Pn 03 42 09.7 +0.9
ARCO CERRO ARCO 1.70 180 *i* P Pn 03 42 15.3 +0.6
ARCO *i* S Sn 03 42 38.9 +0.8

BJI ***23*** *03:55:17.0±0.0, 52.°20N×160.°80E, h10km, mb4.4/13, mB4.6/7, Ms4.4/2, Ms7 4.2/2*
IDC ***23*** *03:55:20.8±0.9, 52.°35N×160.°14E, h0km, mb4.1/24, mb1 4.2/25, mb1mx4.1/53, mbtmp4.1/25, ML3.8/1, MS3.5/11, Ms1 3.5/11, ms1mx3.3/36, Error ellipse: s-maj=21.6km s-min=14.9km az=148.0*
KRSC ***23*** *03:55:20.5±10.0, 52.°10N×160.°78E, h61km±10km, ML4.8*
MOS ***23*** *03:55:24.9±1.0, 52.°27N×160.°43E, h54km, mb4.6/19, MS3.8/4, Error ellipse: s-maj=7.7km s-min=4.2km az=103.6*
NEIC ***23*** *03:55:25.6±2.5, 52.°29N×160.°36E, h38km±7km, mb4.3/24, Error ellipse: s-maj=17.6km s-min=7.5km az=161.0*
ISC 23 03:55:23.4±1.6, 52.°19N±0.°04×160.°60E±0.°04, h23km±11km, n189, σ1$60/201, mb4.3/53, MS3.5/11, 2C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97**	**339**	*eP*	**Pn**	**03 55 40.4**	**-1.3**
SPN				*eS*	**Sb**	**03 55 54.2**	**+0.2**
SPN	**Mys Shipunski**	**0.97**	**339**	PN	**Pn**	**03 55 40.4**	**-1.3**
SPN				S	**Sb**	**03 55 54.2**	**+0.2**
NLC	**Nalytchevo**	**1.24**	**323**	*eP*	**Pn**	**03 55 44.9**	**-0.5**
NLC				*eS*	**Sb**	**03 56 04.0**	**+2.3**
NLC	**Nalytchevo**	**1.24**	**323**	PN	**Pn**	**03 55 44.9**	**-0.5**
NLC				S	**Sb**	**03 56 04.0**	**+2.3**
RUS	**Russkaya**	**1.30**	**282**	*eP*	**Pn**	**03 55 45.6**	**-0.6**
RUS				*eS*	**Sn**	**03 56 02.5**	**-0.3**
RUS	**Russkaya**	**1.30**	**282**	PN	**Pn**	**03 55 45.6**	**-0.6**
RUS				S	**Sn**	**03 56 02.5**	**-0.3**
DALK	**Dalny**	**1.40**	**308**	*eP*	**Pn**	**03 55 47.3**	**-0.3**
DALK				*eS*	**Sn**	**03 56 06.8**	**+1.4**
DALK	**Dalny**	**1.40**	**308**	PN	**Pn**	**03 55 47.3**	**-0.3**
DALK				S	**Sn**	**03 56 06.8**	**+1.4**
PET	**Petropavlovsk**	**1.45**	**306**	*ePn*	**Pn**	**03 55 46.7**	**-1.5**
PET				*eSn*	**Sn**	**03 56 02.8**	**-3.7**
PET	**Petropavlovsk**	**1.45**	**306**	PN	**Pn**	**03 55 48.0**	**-0.2**
PET				S	**Sn**	**03 56 07.4**	**+0.9**
UGLR	**Uglovaya**	**1.48**	**314**	*i* P	**Pn**	**03 55 49.1**	**+0.3**
UGLR	**Uglovaya**	**1.48**	**314**	PN	**Pn**	**03 55 49.1**	**+0.3**
SDLR	**Sedlovina**	**1.51**	**317**	*i* P	**Pn**	**03 55 49.2**	**+0.1**
SDLR	**Sedlovina**	**1.51**	**317**	PN	**Pn**	**03 55 49.2**	**+0.1**
MTVR	**Mutnovka**	**1.51**	**282**	*eP*	**Pn**	**03 55 49.1**	**-0.1**
MTVR	**Mutnovka**	**1.51**	**282**	PN	**Pn**	**03 55 49.1**	**-0.1**
SMAR	**Somma**	**1.53**	**315**	*i* P	**Pn**	**03 55 49.5**	**-0.1**
SMAR	**Somma**	**1.53**	**315**	PN	**Pn**	**03 55 49.5**	**-0.1**
AVH	**Avacha**	**1.56**	**314**	*i* P	**Pn**	**03 55 50.2**	**+0.4**
AVH	**Avacha**	**1.56**	**314**	PN	**Pn**	**03 55 50.2**	**+0.4**
KRER	**Koryakskii**	**1.58**	**316**	*eP*	**Pn**	**03 55 50.9**	**+0.6**
KRER	**Koryakskii**	**1.58**	**316**	PN	**Pn**	**03 55 50.9**	**+0.6**
GRL	**Gorelyy**	**1.59**	**284**	*i* P	**Pn**	**03 55 51.2**	**+0.9**
GRL	**Gorelyy**	**1.59**	**284**	PN	**Pn**	**03 55 51.2**	**+0.9**
KDTR	**Khodutka, Kamc**	**1.60**	**257**	*eP*	**Pn**	**03 55 49.6**	**-0.7**
KDTR				*eS*	**Sn**	**03 56 09.1**	**-1.2**
KDTR	**Khodutka, Kamc**	**1.60**	**257**	PN	**Pn**	**03 55 49.6**	**-0.7**
KDTR				S	**Sn**	**03 56 09.1**	**-1.2**
KOK	**Koryaka**	**1.62**	**314**	*i* P	**Pn**	**03 55 51.2**	**+0.5**
KOK	**Koryaka**	**1.62**	**314**	PN	**Pn**	**03 55 51.2**	**+0.5**
KRMR	**Karymshinskiy**	**1.64**	**294**	*eP*	**Pn**	**03 55 50.9**	**+0.1**
KRMR				*eS*	**Sn**	**03 56 13.2**	**+2.1**
KRMR	**Karymshinskiy**	**1.64**	**294**	PN	**Pn**	**03 55 50.9**	**+0.1**
KRMR				S	**Sn**	**03 56 13.2**	**+2.1**
KRX	**Arik**	**1.66**	**315**	*i* P	**Pn**	**03 55 52.6**	**+1.3**
KRX	**Arik**	**1.66**	**315**	PN	**Pn**	**03 55 52.6**	**+1.3**
PEA0B	**Petropavlovsk-**	**1.99**	**299**	*ePn*	**Pn**	**03 55 56.1**	**+0.5**
PEA0B				*eSn*	**Sn**	**03 56 15.8**	**-4.1**
PETK	**Petropavlovsk-**	**1.99**	**299**	*ePn*	**Pn**	**03 55 55.0**	**-0.7**
PETK				*eSn*	**Sn**	**03 56 14.7**	**-5.2**
PETK	**Petropavlovsk-**	**1.99**	**299**	*ePN*	**Pn**	**03 55 55.0**	**-0.7**
PETK				*e*		03 56 14.7	
PETK	**Petropavlovsk-**	**1.99**	**299**	Pn	**Pn**	**03 55 56.2**	**+0.5**
	44nm,0.3s,baz=100,slow=17,SNR=240						
PETK				Sn	**Sb**	**03 56 24.1**	**+0.8**
	195nm,0.3s,baz=103,slow=33,SNR=21						
PETK				LR	LR	03 56 27.8	
	comp=Z,439nm,20.0s,baz=30,slow=40						
PEA1	**Petropavlovsk-**	**1.99**	**299**	*ePn*	**Pn**	**03 55 56.2**	**+0.5**
PEA1				*eSn*	**Sb**	**03 56 24.1**	**+0.7**
APC	**Apacha**	**2.22**	**291**	*eP*	**Pn**	**03 56 00.0**	**+1.1**
APC				*eS*	**Sb**	**03 56 29.6**	**-0.3**
APC	**Apacha**	**2.22**	**291**	PN	**Pn**	**03 56 00.0**	**+1.1**
PAU	**Pauzhetka**	**2.46**	**254**	*eP*	**Pn**	**03 56 02.1**	**0.0**
PAU	**Pauzhetka**	**2.46**	**254**	PN	**Pn**	**03 56 02.1**	**0.0**
MKZ	**Mys Kozlova**	**2.46**	**16**	*i* P	**Pn**	**03 56 01.6**	**-0.6**
MKZ	**Mys Kozlova**	**2.46**	**16**	PN	**Pn**	**03 56 01.6**	**-0.6**
KZV	**Kizimen**	**2.93**	**357**	*i* P	**Pn**	**03 56 09.7**	**+0.9**
KZV	**Kizimen**	**2.93**	**357**	PN	**Pn**	**03 56 09.7**	**+0.9**
TUMD	**Tumrok D**	**3.02**	**358**	*eP*	**Pn**	**03 56 09.9**	**+0.1**
TUMD				*eS*	**Sn**	**03 56 45.0**	**-0.3**
TUMR	**Tumrok**	**3.11**	**355**	*i* P	**Pn**	**03 56 12.4**	**+1.2**
TUMR	**Tumrok**	**3.11**	**355**	PN	**Pn**	**03 56 09.9**	**-1.3**
TUMR				S	**Sn**	**03 56 45.0**	**-2.6**
SKR	**Severo-Kuril's**	**3.18**	**243**	*eP*	**Pn**	**03 56 11.5**	**-0.5**
SKR				*eS*	**Sn**	**03 56 47.8**	**-1.5**
SKR	**Severo-Kuril's**	**3.18**	**243**	*cePN*	**Pn**	**03 56 11.8**	**-0.2**
ALID	**Alaid**	**3.42**	**249**	*i* P	**Pn**	**03 56 16.3**	**+0.9**
ALID	**Alaid**	**3.42**	**249**	PN	**Pn**	**03 56 16.3**	**+0.9**
KRSR	**Krestovskiy**	**4.03**	**360**	*eP*	**Pn**	**03 56 23.0**	**-0.8**
KRSR	**Krestovskiy**	**4.03**	**360**	PN	**Pn**	**03 56 23.0**	**-0.8**
SRDR	**Sredinnyy**	**4.17**	**353**	*eP*	**Pn**	**03 56 26.6**	**+1.0**
SRDR	**Sredinnyy**	**4.17**	**353**	PN	**Pn**	**03 56 26.6**	**+1.0**
KBTR	**Krutoberegovo**	**4.23**	**17**	*i* P	**Pn**	**03 56 26.6**	**+0.2**
KBTR	**Krutoberegovo**	**4.23**	**17**	PN	**Pn**	**03 56 26.6**	**+0.2**
BKI	**Bering**	**4.39**	**45**	*eP*	**Pn**	**03 56 28.1**	**-0.6**
BKI				*eS*	**Sn**	**03 57 13.2**	**-5.9**
BKI	**Bering**	**4.39**	**45**	PN	**Pn**	**03 56 28.1**	**-0.6**
BDR	**Baidarnaya**	**4.40**	**4**	*eP*	**Pn**	**03 56 30.7**	**+1.9**
BDR	**Baidarnaya**	**4.40**	**4**	PN	**Pn**	**03 56 30.7**	**+1.9**
SMKR	**Semkarok**	**4.43**	**6**	*eP*	**Pn**	**03 56 30.8**	**+1.6**
SMKR	**Semkarok**	**4.43**	**6**	PN	**Pn**	**03 56 30.8**	**+1.6**
SRKR	**Sorokina**	**4.48**	**4**	*eP*	**Pn**	**03 56 31.3**	**+1.3**
SRKR	**Sorokina**	**4.48**	**4**	PN	**Pn**	**03 56 31.3**	**+1.3**
MA2	**Magadan**	**9.22**	**327**	*i* PN	**Pn**	**03 57 34.5**	**-0.4**
MA2	**Magadan**	**9.22**	**327**	LR	LR	04 01 53.0	
	comp=Z,344nm,18.1s,baz=157,slow=44						
SEY	**Seymchan**	**11.62**	**341**	*i* PN	**Pn**	**03 58 08.5**	**+0.8**
YSS	**Yuzh-Sakhalins**	**12.70**	**253**	*ePN*	**P**	**03 58 29.7**	**-3.8**
YSS				MLR	MLR		
	comp=Z,300nm,13.0s						
ASAJ	**Asahikawa**	**14.45**	**243**	Pn	**Pn**	**03 58 45.5**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=70,slow=15,SNR=4.2						
GRNR	**Gornyy**	**15.11**	**274**	*eP*	**P**	**03 59 03.1**	**+2.8**
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
BILL	**Bilibino**	**16.14**	**8**	*ePn*	**Pn**	**03 59 09.7**	**+1.2**
	comp=Z,12nm,0.9s						
BILL	**Bilibino**	**16.14**	**8**	*i* P	**Pn**	**03 59 08.5**	**+0.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,228nm,18.0s						
KLR	**Kul'dur**	**18.45**	**272**	*i* P	**P**	**03 59 36.2**	**-1.1**
KLR				pmax	pmax		
	comp=Z,13nm,2.5s						
KLR	**Kul'dur**	**18.45**	**272**	P	**P**	**03 59 31.6**	**-5.6**
	comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=2.9						
GAMB	**Gambell**	**18.53**	**41**	*eP*	**P**	**03 59 36.7**	**-1.2**
	comp=Z,7.1nm,0.9s						
YAK	**Yakutsk**	**19.27**	**313**	*eP*	**P**	**03 59 44.0**	**-2.1**
YAK				pmax	pmax		
	comp=Z,267nm,0.9s						
YAK				pmax	pmax		
	comp=N,57nm,0.9s						
YAK				pmax	pmax		
	comp=E,99nm,1.0s						
YAK				MLR	MLR		
	comp=Z,747nm,15.0s						
YAK				MLR	MLR		
	comp=E,446nm,14.0s						
YAK				MLR	MLR		
	comp=N,443nm,16.0s						
USRK	**Ussuriysk Ar.**	**20.57**	**259**	*eP*	**P**	**03 59 57.6**	**-2.8**
USRK	**Ussuriysk Ar.**	**20.57**	**259**	P	**P**	**03 59 58.0**	**-2.4**
	comp=N,4.1nm,0.9s,baz=58,slow=9.8,SNR=7.8						
MJB9	**Matsu-Tunnel**	**22.24**	**234**	*eP*	**P**	**04 00 17.3**	**-1.2**
	comp=N,8.1nm,0.8s						
MAJO	**Matsushiro**	**22.25**	**234**	*eP*	**P**	**04 00 18.1**	**-0.4**
MAJO	**Matsushiro**	**22.25**	**234**	*eP*	**P**	**04 00 18.1**	**-0.4**
MJAR	**Matsushiro Arr**	**22.25**	**234**	P	**P**	**04 00 18.1**	**-0.4**
	comp=N,4.4nm,0.9s,baz=15,slow=9.6,SNR=10						
MJAR				LR	LR	04 09 37.8	
	comp=N,182nm,20.4s,baz=55,slow=39						
TIXI	**Tiksi**	**24.03**	**336**	*i* P	**P**	**04 00 34.4**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TIXI	**Tiksi**	**24.03**	**336**	P	**P**	**04 00 34.3**	**-1.9**
	comp=Z,4.4nm,0.4s,baz=124,slow=9.1,SNR=9.3						
IMAR	**Indian Mountai**	**26.47**	**41**	*eP*	**P**	**04 00 59.2**	**+0.8**
BOD	**Bodaibo**	**26.86**	**301**	*eP*	**P**	**04 00 58.0**	**-4.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KSRS	**Korea Array**	**27.18**	**250**	P	**P**	**04 01 07.5**	**+2.4**
	comp=Z,1.0nm,0.6s,baz=42,slow=10,SNR=6.7						
KSRS				LR	LR	04 12 53.6	
	comp=Z,106nm,18.4s,baz=48,slow=39						
KS15	**Wonju Array Si**	**27.21**	**250**	*eP*	**P**	**04 01 07.5**	**+2.1**
	comp=Z,6.5nm,1.4s						
BWN	**Browne**	**28.12**	**45**	*eP*	**P**	**04 01 14.5**	**+1.3**
	comp=Z,15nm,0.7s						
JNU	**Nakatsue**	**28.69**	**240**	*eP*	**P**	**04 01 23.2**	**+4.6**
	comp=Z,8.0nm,0.9s						
JNU	**Nakatsue**	**28.69**	**240**	P	**P**	**04 01 23.2**	**+4.6**
	comp=Z,2.2nm,0.6s,baz=20,slow=12,SNR=2.9						
SML	**Sawmill**	**28.69**	**50**	*eP*	**P**	**04 01 18.7**	**+0.3**
	comp=Z,2.3nm,0.7s						
SML	**Sawmill**	**28.69**	**50**	*eP*	**P**	**04 01 18.7**	**+0.3**
SML				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MENT	**Mentasta**	**30.74**	**48**	*eP*	**P**	**04 01 35.9**	**-0.6**
	comp=Z,3.2nm,1.0s						
BCAR	**Beaver Creek A**	**31.60**	**47**	*eP*	**P**	**04 01 43.6**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**32.77**	**169**	T	T	04 37 53.2	
	baz=352,slow=76,SNR=469						
H11N3	**WAKE ISLAND Hy**	**32.78**	**169**	T	T	04 37 54.5	
	baz=352,slow=76,SNR=293						
H11N1	**WAKE ISLAND Hy**	**32.78**	**169**	T	T	04 37 54.5	
	baz=352,slow=76,SNR=323						
H11S1	**WAKE ISLAND Hy**	**33.95**	**170**	T	T	04 39 32.6	
	baz=352,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**33.97**	**170**	T	T	04 39 29.5	
	baz=352,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**33.97**	**170**	T	T	04 39 23.2	
	baz=352,slow=76,SNR=10						
ULN	**Ulaanbaatar**	**34.01**	**284**	*i* P	**P**	**04 02 03.2**	**-2.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TLY	**Talaya**	**34.34**	**292**	*i* P	**P**	**04 02 08.3**	**+0.2**
INK	**Inuvik**	**34.40**	**37**	*eP*	**P**	**04 02 08.3**	**-0.1**
	comp=Z,3.0nm,1.4s						
INK	**Inuvik**	**34.40**	**37**	*eP*	**P**	**04 02 08.3**	**-0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
INK	**Inuvik**	**34.40**	**37**	P	**P**	**04 02 08.3**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=286,slow=7.4,SNR=2.7						
SONA0	**Songino Array**	**34.42**	**285**	*eP*	**P**	**04 02 09.1**	**+0.1**
SONM	**Songino Array**	**34.42**	**285**	P	**P**	**04 02 09.1**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=92,slow=7.2,SNR=3.2						
ZAK	**Zakamensk**	**35.09**	**290**	*eP*	**P**	**04 02 12.8**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NRIK	**Noril'sk**	**36.82**	**326**	LR	LR	04 19 02.6	
	comp=Z,290nm,18.2s,baz=38,slow=39						
WHN	**Wuhan**	**40.02**	**256**	P	**P**	**04 02 57.5**	**+1.0**
XAN	**Xi'an**	**40.88**	**264**	P	P	04 03 10.3	+6.7
XAN				pP	pwP	04 03 21.5	+7.9
XAN				S	**S**	**04 09 12.6**	**-1.0**
XAN				sS	sS	04 09 32.8	+8.9
BBB	**Bella Bella**	**42.05**	**61**	LR	LR	04 20 32.1	
	comp=Z,32nm,19.3s,baz=172,slow=36						
ZAA1	**Zalesovo Array**	**43.52**	**304**	*eP*	**P**	**04 03 21.9**	**-2.9**
ZALV	**Zalesovo Beam**	**43.53**	**304**	P	**P**	**04 03 21.9**	**-2.9**
	comp=Z,0.6nm,0.4s,baz=66,slow=3.6,SNR=3.6						
YKA	**Yellowknife Ar**	**43.62**	**42**	P	**P**	**04 03 29.3**	**+3.8**
	comp=Z,0.2nm,0.7s,baz=296,slow=9.8,SNR=2.9						
YKB5	**Yellowknife Ar**	**43.62**	**42**	*eP*	**P**	**04 03 29.3**	**+3.8**
NVS	**Novosibirsk**	**43.88**	**305**	*i* P	**P**	**04 03 26.0**	**-1.7**
RES	**Resolute Bay**	**44.05**	**22**	*eP*	**P**	**04 03 30.1**	**+1.4**
	comp=Z,4.7nm,1.3s						
RES	**Resolute Bay**	**44.05**	**22**	*eP*	**P**	**04 03 30.2**	**+1.4**
RES				pmax	pmax		
	comp=Z,5.0nm,1.3s						
RES	**Resolute Bay**	**44.05**	**22**	P	**P**	**04 03 30.1**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=359,slow=2.0,SNR=4.5						
DGZ	**Jazzator, Alta**	**44.35**	**297**	*i* P	**P**	**04 03 30.4**	**-1.3**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**48.08**	**351**	P	**P**	**04 04 00.4**	**0.0**
	comp=Z,2.5nm,0.4s,baz=65,slow=8.6,SNR=23						
KURK	**Kurchatov**	**48.48**	**303**	*eP*	**P**	**04 04 01.8**	**-2.1**
	comp=Z,20nm,1.2s						
KURK	**Kurchatov**	**48.48**	**303**	*eP*	**P**	**04 04 01.8**	**-2.1**
KURK				pmax	pmax		
	comp=Z,20nm,1.2s						
KURBB	**Kurchatov Arra**	**48.58**	**303**	P	**P**	**04 04 02.1**	**-2.5**
	comp=Z,7.9nm,1.0s,baz=61,slow=7.9,SNR=22						
MK31	**Makanchi Array**	**48.83**	**297**	*eP*	**P**	**04 04 04.5**	**-2.2**
	comp=Z,3.2nm,1.2s						
MK31	**Makanchi Array**	**48.83**	**297**	*eP*	**P**	**04 04 04.5**	**-2.2**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MK32	**Makanchi Array**	**48.83**	**297**	*eP*	**P**	**04 04 04.5**	**-2.1**
MKAR	**Makanchi Array**	**48.83**	**297**	P	**P**	**04 04 04.5**	**-2.1**
	comp=Z,0.7nm,0.4s,baz=48,slow=6.4,SNR=10						
NEW	**Newport**	**50.09**	**60**	LR	LR	04 24 44.4	
	comp=Z,31nm,18.2s,baz=281,slow=35						
YBH	**Yreka Blue Hor**	**51.05**	**69**	LR	LR	04 23 54.9	
	comp=Z,25nm,19.0s,baz=342,slow=33						
BVAR	**Borovoye Array**	**51.19**	**309**	P	**P**	**04 04 22.2**	**-2.3**
	comp=Z,3.8nm,0.6s,baz=56,slow=7.9,SNR=20						
BRVK	**Borovoye**	**51.22**	**309**	*eP*	**P**	**04 04 23.4**	**-1.3**
	comp=Z,7.2nm,0.8s						
BRVK	**Borovoye**	**51.22**	**309**	*i* P	**P**	**04 04 23.0**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARCES	**ARCESS Array B**	**54.24**	**342**	P	**P**	**04 04 45.8**	**-1.1**
	comp=Z,4.9nm,0.9s,baz=27,slow=8.2,SNR=7.2						
ARU	**Arti**	**54.27**	**318**	*eP*	**P**	**04 04 45.8**	**-1.3**
	comp=Z,6.9nm,0.5s						
ARU	**Arti**	**54.27**	**318**	*c i* P	**P**	**04 04 45.9**	**-1.3**
ARU				S	**S**	**04 12 22.6**	**-0.5**
ARU				SS	**SS**	**04 16 05.0**	**+0.7**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARU	**Arti**	**54.27**	**318**	P	**P**	**04 04 45.8**	**-1.3**
	comp=Z,2.0nm,0.3s,baz=12,slow=2.7,SNR=6.3						
BOOM	**Boomskoye usch**	**55.06**	**296**	*eP*	**P**	**04 04 52.9**	**-0.5**
	comp=Z,3.4nm,1.1s						
BOOM	**Boomskoye usch**	**55.06**	**296**	*eP*	**P**	**04 04 52.9**	**-0.5**
BOOM				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TMCR	**Tamitsa**	**55.72**	**333**	*eP*	**P**	**04 04 57.3**	**-0.2**
AAK	**Ala-Archa**	**55.76**	**297**	*eP*	**P**	**04 04 57.5**	**-0.8**
	comp=Z,3.3nm,1.0s						
AAK	**Ala-Archa**	**55.76**	**297**	P	**P**	**04 04 57.2**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=206,slow=21,SNR=4.4						
KSH	**Kashi**	**57.04**	**293**	P	**P**	**04 05 10.0**	**+2.5**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PD31	**Pinedale Array**	**57.70**	**61**	*eP*	**P**	**04 05 15.1**	**+2.9**
	comp=Z,1.5nm,0.9s						
PDAR	**Pinedale Array**	**57.70**	**61**	P	**P**	**04 05 15.1**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=282,slow=0.8,SNR=3.7						
KLMR	**Klimovskoe**	**57.88**	**330**	*eP*	**P**	**04 05 10.9**	**-2.0**
KLMR				pmax	pmax		
	comp=Z,13nm,1.2s						
CM31	**Chiang Mai Arr**	**58.30**	**259**	*eP*	**P**	**04 05 16.2**	**-0.2**
	comp=Z,7.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**58.30**	**259**	P	**P**	**04 05 16.2**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=20,slow=7.7,SNR=9.1						
ABKAR	**Akbulak array**	**58.62**	**311**	*eP*	**P**	**04 05 16.8**	**-1.5**
	comp=Z,2.2nm,0.8s						
AKTO	**Aktyubinsk**	**58.66**	**313**	P	**P**	**04 05 17.2**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=2.4,slow=7.4,SNR=4.5						
FIA0	**FINESS Array S**	**61.07**	**337**	*eP*	**P**	**04 05 35.0**	**+0.1**
FIA0	**FINESS Array S**	**61.07**	**337**	*eP*	**P**	**04 05 35.0**	**+0.1**
FINES	**FINESS Array B**	**61.07**	**337**	*i* P	**P**	**04 05 35.0**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**61.07**	**337**	P	**P**	**04 05 35.0**	**+0.1**
	comp=Z,2.2nm,0.4s,baz=44,slow=6.2,SNR=39						
OBN	**Obninsk**	**63.44**	**328**	*i* P	**P**	**04 05 51.2**	**+0.4**
OBN				pmax	pmax		
	comp=Z,11nm,1.0s						
NB2	**NORSAR Subarra**	**64.49**	**344**	P	**P**	**04 05 57.9**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=18,slow=6.9						
NB200	**NORSAR Array S**	**64.49**	**344**	*eP*	**P**	**04 05 57.3**	**-0.5**
NOA	**NORSAR Array B**	**64.49**	**344**	P	**P**	**04 05 57.3**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=21,slow=6.5,SNR=4.6						
NOA				LR	LR	04 36 40.0	
	comp=Z,23nm,19.6s,baz=175,slow=39						
HFS	**Hagfors**	**64.90**	**342**	P	**P**	**04 06 00.5**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=40,slow=5.4,SNR=10						
AKASG	**Malin Array Be**	**69.55**	**329**	P	**P**	**04 06 29.0**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=28,slow=6.5,SNR=5.1						
AKBB	**Malin Array Si**	**69.55**	**329**	*eP*	**P**	**04 06 29.0**	**-0.9**
	comp=Z,8.4nm,0.9s						
AKBB	**Malin Array Si**	**69.55**	**329**	*eP*	**P**	**04 06 29.0**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIEV	**Kiev**	**69.56**	**329**	*i* P	**P**	**04 06 28.3**	**-1.7**
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KVAR	**Kislovodsk Arr**	**70.30**	**317**	P	**P**	**04 06 33.6**	**-1.3**
	comp=Z,4.2nm,0.3s,baz=23,slow=7.7,SNR=3.1						
KIV	**Kislovodsk**	**70.31**	**317**	*eP*	**P**	**04 06 33.6**	**-1.3**
	comp=Z,8.2nm,0.5s						
KIV	**Kislovodsk**	**70.31**	**317**	*eP*	**P**	**04 06 35.0**	**+0.1**
KIV				pmax	pmax		
	comp=Z,19nm,1.0s						
KIV				MLR	MLR		
	comp=Z,122nm,18.0s						
LTX	**Lajitas**	**70.71**	**67**	*eP*	**P**	**04 06 38.7**	**+1.1**
LTX	**Lajitas**	**70.71**	**67**	*eP*	**P**	**04 06 38.7**	**+1.1**
TXAR	**Lajitas Array**	**70.71**	**67**	P	**P**	**04 06 38.7**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=289,slow=5.3,SNR=6.2						
KWP	**Kalwaria Pacla**	**72.44**	**333**	*eP*	**P**	**04 06 47.7**	**+0.2**
	comp=Z,126nm,1.0s						
KWP	**Kalwaria Pacla**	**72.44**	**333**	*eP*	**P**	**04 06 47.7**	**+0.2**
KWP				pmax	pmax		
	comp=Z,126nm,1.0s						
KOLS	**Kolonicke sedl**	**73.19**	**333**	*eP*	**P**	**04 06 51.8**	**-0.2**
KOLS	**Kolonicke sedl**	**73.19**	**333**	*eP*	**P**	**04 06 51.8**	**-0.2**
CLL	**Collm**	**73.31**	**339**	*eP*	**P**	**04 06 53.0**	**+0.4**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CLL	**Collm**	**73.31**	**339**	*eP*	**P**	**04 06 53.0**	**+0.4**
	comp=Z,6.0nm,0.9s						
LANS	**Liptovska Anna**	**73.76**	**335**	*eP*	**P**	**04 06 56.9**	**+1.5**
LANS	**Liptovska Anna**	**73.76**	**335**	*eP*	**P**	**04 06 56.9**	**+1.5**
GERES	**GERESS Array B**	**75.46**	**338**	LR	LR	04 44 56.6	
	comp=Z,28nm,18.3s,baz=45,slow=40						
VBMS	**Vicksburg**	**75.57**	**56**	*eP*	**P**	**04 07 06.2**	**+0.2**
	comp=Z,7.1nm,0.3s						
BR101	**Keskin

PRNS Prines Rethymn 1.28 339 P Pn 04 00 59.7 -1.0
STIA Sitia Lasithi 1.34 39 P Pn 04 01 02.1 +0.6
STIA S Sb 04 01 20.9 +1.8
ZKR Zakros 1.34 45 PN Pn 04 01 01.1 -0.6
ZKR SN Sb 04 01 21.4 +2.1
ZKR Zakros 1.34 45 *e*Pn Pn 04 01 00.6 -1.1
ZKR *e*Sn Sb 04 01 21.7 +2.4
ZKR Zakros 1.34 45 P Pn 04 01 00.6 -1.1
ZKR S Sb 04 01 21.7 +2.4
ZKR Zakros 1.34 45 P Pn 04 01 01.4 -0.3
ZKR S Sb 04 01 21.0 +1.7
ZKR AML AML 04 01 24.7
comp=N,6136µm,0.5s
ZKR AML AML 04 01 35.0
comp=E,11905µm,0.6s
VAM Vamos 1.42 331 P Pn 04 01 01.7 -1.0
VAM S Sn 04 01 20.9 +0.1
VAM Vamos 1.42 331 P Pn 04 01 02.0 -0.7
VAM S Sb 04 01 22.1 +0.7
IMMV Iera Moni Meta 1.56 326 P Pn 04 01 04.2 -0.4
IMMV S Sn 04 01 24.0 -0.3
IMMV Iera Moni Meta 1.56 326 P Pn 04 01 04.5 -0.1
IMMV S Sb 04 01 25.8 +0.3
IMMV AML AML 04 01 33.8
comp=E,15564µm,1.2s
IMMV AML AML 04 01 35.4
comp=N,15493µm,0.9s
CHAN Chania 1.58 329 P Pn 04 01 04.5 -0.4
CHAN S Sn 04 01 24.8 +0.1
SAP1 Santorini-Akro 2.20 7 P Pn 04 01 13.8 +0.4
KARP Karpathos 2.21 51 *e*Pn Pb 04 01 16.2 -1.1
KARP Karpathos 2.21 51 P Pn 04 01 14.8 +1.2
SANT Santorini 2.22 8 *e*Pn Pn 04 01 13.6 -0.1
SANT *e*Sn Sn 04 01 41.8 +1.2
SANT Santorini 2.22 8 P Pn 04 01 13.6 -0.1
SANT S Sn 04 01 41.8 +1.2
SANT Santorini 2.22 8 P Pn 04 01 13.4 -0.3
ANKY Antikythira Is 2.22 320 P Pn 04 01 14.2 +0.5
ANAF Anafi Island 2.26 15 P Pn 04 01 14.1 -0.1
ANAF S Sn 04 01 43.1 +1.6
ANAF Anafi Island 2.26 15 P Pn 04 01 15.4 +1.2
SAP3 Santorini-Thir 2.27 6 P Pn 04 01 14.5 +0.1
SAP3 S Sn 04 01 43.1 +1.3
SAP3 Santorini-Thir 2.27 6 P Pn 04 01 14.3 -0.1
CMBO Columbo, Santo 2.31 7 P Pn 04 01 16.0 +1.0
MHLO Agia Marina, M 2.57 348 P Pn 04 01 18.8 +0.3
MHLO S Sn 04 01 49.6 +0.5
MHLO Agia Marina, M 2.57 348 P Pn 04 01 19.1 +0.6
KYTH Kithira 2.66 322 *e*Pn Pn 04 01 18.6 -1.1
KYTH *e*Sn Sn 04 01 52.1 +0.7
KYTH Kithira 2.66 322 P Pn 04 01 18.6 -1.1
KYTH S Sn 04 01 52.1 +0.7
KYTH Kithira 2.66 322 P Pn 04 01 20.7 +0.9
SLUM Salum 2.67 177 P Pn 04 01 20.9 +1.0
baz=178
SLUM S Sn 04 01 53.4 +1.7
baz=178
SLUM AMP 04 02 00.0
baz=178
APE Apeiranthos 2.92 8 *i* P Pn 04 01 23.4 +0.1
APE Apeiranthos 2.92 8 P Pn 04 01 23.9 +0.6
VLI Veliai 3.07 326 *e*Pn Pn 04 01 25.8 +0.4
VLI Veliai 3.07 326 P Pn 04 01 25.8 +0.4
VLI S Sn 04 02 01.4 -0.2
VLI Veliai 3.07 326 P Pn 04 01 26.3 +0.9
ARG Arkhangelos 3.24 50 P Pn 04 01 29.6 +1.9
DAT Datca 3.28 38 PN Pn 04 01 28.9 +0.5
DAT Datca 3.28 38 *i* P Pn 04 01 30.1 +1.7
MATC Matruh 3.36 146 P Pn 04 01 29.2 -0.2
baz=149
BODT Bodrum 3.42 32 PN Pn 04 01 31.0 +0.8
BDRM Kayabasi 3.48 33 *i* P Pn 04 01 32.2 +1.2
ITM Ithomi 3.94 321 *e*Pn Pn 04 01 38.3 +1.0
GCAM G?zelcaml? 3.94 26 PN Pn 04 01 38.9 +1.6
DALY Dalyan (Mula) 3.95 47 PN Pn 04 01 38.1 +0.7
DALY Dalyan (Mula) 3.95 47 *i* P Pn 04 01 39.9 +2.5
TURN Turunc 3.96 46 PN Pn 04 01 34.5 -3.0
TURN Turunc 3.96 46 IAML_P
comp=Z,2µm,0.3s
TURN *i* P Pn 04 01 35.0 -2.5
DION Dionisos Attik 4.00 347 P Pn 04 01 38.4 +0.2
FETY Fethiye 4.11 52 PN Pn 04 01 40.1 +0.4
FETY Fethiye 4.11 52 *e*Pn Pn 04 01 39.9 +0.2
FETY *e*Sn Sn 04 02 29.4 +2.2
FETY Fethiye 4.11 52 P Pn 04 01 39.9 +0.2
FETY S Sn 04 02 29.4 +2.2
FETY Fethiye 4.11 52 *i* P Pn 04 01 40.6 +1.0
FETY *i* S Sn 04 02 24.9 -2.2
KSL Kastellorizon 4.20 61 P Pn 04 01 41.6 +0.7
KSL S Sn 04 02 32.3 +2.9
AKAS Kas 4.26 60 PN Pn 04 01 41.9 +0.1
AKAS Kas 4.26 60 *i* P Pn 04 01 43.7 +1.9
CHOS Chios island 4.29 11 PN Pn 04 01 43.5 +1.4
URLA Izmir 4.36 16 PN Pn 04 01 44.7 +1.5
AYDB Zeytinkoy-Aydi 4.41 31 PN Pn 04 01 45.2 +1.2
TAVA DENIZLI_Tavas 4.54 43 IAML_P
comp=Z,858nm,0.1s
TAVA *i* P Pn 04 01 48.0 +2.3
ELL Elmali 4.72 56 PN Pn 04 01 48.7 +0.5
AKUM Antalya-Kumluc 4.83 62 *i* P Pn 04 01 50.8 +1.2
SWA2 4.92 176 P Pn 04 01 51.8 +0.9
baz=177
SWA2 S Sn 04 02 47.4 +0.2
baz=177
SWA2 AMP 04 03 00.0
baz=177
MANT Manisa 5.16 32 *e*Pn Pn 04 01 56.2 +2.0
KORT Korkueli 5.16 55 PN Pn 04 01 55.2 +1.0
KULA Kula-Manisa 5.22 33 PN Pn 04 01 56.6 +1.6
AGG Agios Georgios 5.32 336 *e*Pn Pn 04 01 59.3 +3.0
AGG Agios Georgios 5.32 336 *e*P Pn 04 01 59.3 +3.0
ANTB Antalya 5.32 58 PN Pn 04 01 57.2 +1.0
BAYC CANAKKALE_Bayr 5.69 12 *i* P Pn 04 02 00.7 -0.7
ISP Isparta 5.74 49 *e*Pn Pn 04 02 03.7 +1.6
ISP Isparta 5.74 49 *e*P Pn 04 02 03.7 +1.6
KEPZ Antalya-Kepez 6.00 61 IAML_P
comp=Z,661nm,0.2s
KEPZ *i* P Pn 04 02 06.6 +1.0
KEPZ *i* S Sn 04 03 10.3 -3.4
GAZI Gazipasa 6.29 69 PN Pn 04 02 10.1 +0.4
LEF Lefka 6.53 79 PN Pn 04 02 12.2 -0.7
HNAT Natroun 6.54 132 P Pn 04 02 13.3 +0.2
baz=134
CSS Mathiatis 6.87 81 PN Pn 04 02 17.3 -0.4
CSS Mathiatis 6.87 81 *e*Pn Pn 04 02 16.6 -1.0
CSS Mathiatis 6.87 81 P Pn 04 02 16.4 -1.3
comp=Z,16nm,0.8s,comp=Z,0.1nm
CSS Mathiatis 6.87 81 Pn Pn 04 02 15.8 -1.9
CSS Sn Sn 04 03 30.8 -4.5
TEKE Tekeli-Mersin 6.89 71 PN Pn 04 02 18.1 +0.3
KONT Konya--Tatoy 7.01 55 PN Pn 04 02 20.9 +1.3
BERE Bereket-Mersin 7.03 70 PN Pn 04 02 19.8 -0.1
FNA Florina 7.22 337 *e*Pn Pn 04 02 25.8 +3.4
FNA Florina 7.22 337 *e*P Pn 04 02 25.8 +3.4
TEVE Tevekalti-Mers 7.22 69 PN Pn 04 02 22.5 0.0
AKKU Akkuyu-Mersin 7.24 72 PN Pn 04 02 22.7 +0.1
GLL Jalalah 7.28 127 P Pn 04 02 22.8 -0.4
baz=129
IKL Isikli 7.36 71 PN Pn 04 02 24.3 0.0
KEBE Keben-Mersin 7.43 70 PN Pn 04 02 25.7 +0.3
HFRF Wahat Farafira 7.54 157 P Pn 04 02 26.9 +0.1
baz=158
EREN Erenkoy 7.62 77 PN Pn 04 02 27.6 -0.2
PHSR Pinarhisar 7.70 14⇑ *i*P Pn 04 02 29.9 +1.0
KIZK Mersin 7.78 70 PN Pn 04 02 30.0 0.0
KKB Krupnik 7.84 349 *e*P Pn 04 02 34.9 +4.0
SUZ Suez 7.89 121 P Pn 04 02 30.9 -0.8
baz=123
MDUB Mudurnu 7.97 36 *e*Pn Pn 04 02 38.6 +5.9
ZAF Zafarana 8.03 125 P Pn 04 02 33.0 -0.5
baz=127
MERS Mersin 8.18 68 PN Pn 04 02 35.8 +0.2
TAMRE El Minia 8.20 141 P Pn 04 02 36.2 +0.4
baz=142
ZNM Zenema 8.20 124 P Pn 04 02 35.8 0.0
baz=125
TIP Timpagrande 8.33 309⇑ *i*P Pn 04 02 36.3 -1.4
ANTO Ankara 8.40 45 *e*Pn Pn 04 02 40.5 +1.8
ANTO Ankara 8.40 45 *e*P Pn 04 02 40.5 +1.8
KZIT Kziot 8.53 110 PN Pn 04 02 37.5 -2.9
KZIT Kziot 8.53 110 Pn Pn 04 02 38.8 -1.6
VTS Vitosha 8.55 351 *e*Pn Pn 04 02 42.3 +1.5
VTS Vitosha 8.55 351⇓ *i*P Pn 04 02 40.3 -0.5
VTS Vitosha 8.55 351⇓ P Pn 04 02 40.3 -0.5
VTS Vitosha 8.55 351 *i* P Pn 04 02 40.6 -0.2
KARA Karaisali 8.70 66 PN Pn 04 02 42.9 +0.2
MMA0B Mount Meron ar 8.71 95 Pn Pn 04 02 40.2 -2.7
MMAI Mount Meron Ar 8.71 95 Pn Pn 04 02 41.2 -1.7
comp=Z,5.2nm,0.3s,baz=259,slow=12,SNR=12
MMAI Sn Sn 04 04 16.8 -3.8
comp=Z,4.3nm,0.3s,baz=277,slow=23,SNR=3.0
KRTS Karatas 8.76 71 PN Pn 04 02 43.2 -0.4
ASUT 8.77 139 P Pn 04 02 43.2 -0.5
baz=140
BR101 Keskin Array S 8.83 49 *e*Pn Pn 04 02 44.8 +0.2
BR101 *e*Sn Sn 04 04 20.4 -3.1
BR131 Keskin Array S 8.83 49 *e*Pn Pn 04 02 45.6 +1.0
BRTR Keskin Array B 8.83 49 Pn Pn 04 02 44.8 +0.2
comp=Z,0.1nm,0.3s,baz=237,slow=11,SNR=13
BRTR Sn Sn 04 04 20.4 -3.1
comp=Z,0.2nm,0.3s,baz=225,slow=25,SNR=3.6
BRTR LR LR 04 07 19.3
comp=Z,155nm,20.6s,baz=230,slow=46
MMLI Mount Malkishu 8.85 98 PN Pn 04 02 42.9 -1.9
MMLI Mount Malkishu 8.85 98 Pn Pn 04 02 42.7 -2.1
GEM Giv'at Ha'Em 8.89 93 Pn Pn 04 02 42.3 -3.1
YTIR Yattir 8.92 106 Pn Pn 04 02 42.9 -3.0
YTIR Sn Sn 04 04 21.7 -4.1
NATI Neve Ativ 8.95 93 Pn Pn 04 02 43.5 -2.6
HMDT Nahal Hemdat 8.98 99 Pn Pn 04 02 44.5 -2.1
YURE YUREGIR 9.02 70 PN Pn 04 02 46.8 -0.4
DSI Dead Sea 9.06 104 Pn Pn 04 02 45.8 -1.9
SHMJ Saham 9.07 96 P Pn 04 02 49.1 +1.4
comp=Z,94nm,0.8s,comp=Z,0.3nm
BRBR Barbar 9.10 92 *e*P Pn 04 02 47.2 -1.2
BRBR *e*S Sn 04 04 25.0 -5.4
BRBR AML AML 04 04 29.1
comp=N,61nm,0.7s
BRBR AML AML 04 04 36.5
comp=E,21nm,0.6s
MZDA Masada 9.14 105 Pn Pn 04 02 46.1 -2.6
MZDA Sn Sn 04 04 26.9 -4.0
PRNI Paran 9.24 112 Pn Pn 04 02 48.5 -1.7
VAE Valguarnera 9.25 294 Pn Pn 04 02 50.8 +0.5
comp=E,2.8nm,0.3s,baz=87,slow=9.1,SNR=2.9
VAE Sn Sn 04 04 24.7 -9.1
comp=E,2.8nm,0.3s,baz=180,slow=18,SNR=1.8
VAE LR LR 04 06 36.6
comp=E,146nm,19.9s,baz=186,slow=39
LISJ El Lisan 9.26 106 P Pn 04 02 50.8 +0.5
comp=E,38nm,1.1s
GHAJ Ghor Haditha 9.30 105 P Pn 04 02 51.8 +0.8
comp=E,96nm,0.5s
GHAJ Ghor Haditha 9.30 105 Pn Pn 04 02 47.9 -3.1
KOZT Kozan 9.35 66 PN Pn 04 02 51.4 -0.2
QASN Qassioun 9.36 91 *e*P Pn 04 02 50.3 -1.5
QASN *e*S Sn 04 04 31.3 -5.2
QASN AML AML 04 04 40.5
comp=N,63nm,0.5s
QASN AML AML 04 04 46.5
comp=E,31nm,0.8s
TAHT Tahtakopru-Hat 9.37 73 PN Pn 04 02 51.1 -0.7
HDK1 Dakhla 9.39 155 P Pn 04 02 52.6 +0.3
baz=156
WALJ Wala 9.41 103 P Pn 04 02 52.2 -0.3
comp=E,108nm,0.5s
HRFI Mount Harif 9.42 113 PN Pn 04 02 48.9 -3.7
HRFI Mount Harif 9.42 113 Pn Pn 04 02 50.2 -2.4
MBRI Mt Berech 9.44 115 Pn Pn 04 02 51.3 -1.7
HKAT Jabal Katrina 9.49 124 P Pn 04 02 51.9 -1.8
baz=125
TOTH TOTAH 9.51 92 *e*P Pn 04 02 52.1 -1.7
TOTH *e*S Sn 04 04 34.6 -5.5
TOTH AML AML 04 04 47.6
comp=E,16nm,0.7s
TOTH AML AML 04 05 05.1
comp=N,24nm,0.7s
EIL Elat 9.53 115 Pn Pn 04 02 52.8 -1.3
EIL Elat 9.53 115 Pn Pn 04 02 53.6 -0.5
comp=N,7.2nm,0.3s,baz=330,slow=13,SNR=43
EIL Sn Sn 04 04 34.6 -6.1
comp=N,1.0nm,0.3s,baz=325,slow=16,SNR=3.1
AQBJ Aqaba 9.58 115 P Pn 04 02 54.7 0.0
comp=N,128nm,0.6s
JDRJ Daraweish 9.60 108 P Pn 04 02 56.3 +1.1
comp=N,50nm,1.0s
HSNJ Maan 9.82 111 P Pn 04 02 57.4 -0.7
comp=N,154nm,0.7s
ASF Jabal al Asfar 10.12 98 Pn Pn 04 03 01.0 -1.3
comp=N,0.6nm,0.3s,baz=280,slow=13,SNR=6.3
ASF Sn Sn 04 04 50.8 -4.5
comp=N,0.4nm,0.3s,baz=338,slow=19,SNR=1.9
HERR Herculane 10.89 350⇑ *i*P Pn 04 03 11.2 -1.4
MDVR Moldovita 10.91 347⇓ *i*P Pn 04 03 12.1 -0.8
VOIR 11.25 360⇑ *i*P Pn 04 03 18.1 +0.4
VOIR 11.25 360⇑ P Pn 04 03 18.1 +0.4
MLR Muntele Rosu 11.33 3 Pn Pn 04 03 17.5 -1.3
baz=207,slow=11,SNR=3.2
GZR Gura Zlata 11.35 352⇓ *i*P Pn 04 03 19.0 +0.1
GZR Gura Zlata 11.35 352⇓ P Pn 04 03 19.1 +0.1
PLOR Plostina 11.73 5⇓ *i*P Pn 04 03 24.1 -0.1
PLOR Plostina 11.73 5⇓ P Pn 04 03 24.1 -0.1
DOPR Dopca 11.79 1⇑ *i*P Pn 04 03 23.7 -1.2
TESR Tescani 12.39 5⇓ *i*P P 04 03 41.2 -3.8
DRGR 12.73 353⇑ *i*P Pn 04 03 37.3 -0.6
DRGR 12.73 353⇑ P Pn 04 03 37.3 -0.6
BIZ Bicaz 12.78 3⇓ *i*P P 04 03 49.1 -0.3
SIM Simferopol' 12.83 30 *e*P Pn 04 03 37.0 -2.1
SIM S Sn 04 06 07.0 +5.8
KIS Kishinev 13.13 11 *e*P Pn 04 03 48.0 +4.8
KIS *e*S Sn 04 05 43.0 -26
KIS *e*L L 04 08 10.0
KIS LRM MLR 04 09 23.0
comp=N,300nm,12.0s
BURAR Bucovina Array 13.43 0 *e*Pn Pn 04 03 49.2 +1.7
BURAR Bucovina Array 13.43 0⇑ *i*P P 04 03 54.4 -2.4
BURAR Bucovina Array 13.43 0⇑ P P 04 03 54.4 -2.4
BUR08 Bucovina Ar. S 13.46 0 *e*Pn P 04 03 57.1 +0.1
TRPA Tarpa 14.07 353⇑ *i*P P 04 04 02.6 -1.1
TRPA Tarpa 14.07 353 *e*Pn Pn 04 03 58.1 +1.9
PSZ Piszkesteto 14.27 346 *e*Pn Pn 04 03 58.9 0.0
PSZ Piszkesteto 14.27 346⇑ *i*P Pn 04 03 57.3 -1.6
PSZ Piszkesteto 14.27 346⇑ P Pn 04 03 57.3 -1.6
PSZ Piszkesteto 14.27 346 *e*Pn Pn 04 03 59.1 +0.2
UZH Uzhgorod 14.60 353 *e*P Pn 04 04 03.5 +0.3
SOKA Soboth 14.62 332 *i* Pn Pn 04 04 01.5 -2.2
comp=N,1.7nm,0.6s
SOKA *i* P P 04 04 10.4 +0.4
comp=N,15nm,0.9s
OBKA Obir 14.68 330 *i* P P 04 04 10.9 +0.3
comp=N,1.9nm,0.4s
SOC Sochi 14.77 46 *e*P Pn 04 04 04.8 -0.9
SOC *e* 04 06 50.2
SOC pmax pmax
comp=Z,6.0nm,0.4s
SOC MLR MLR
comp=Z,80nm,13.0s
KOLS Kolonicke sedl 14.90 353 *e*P Pn 04 04 07.9 +0.6
KOLS Kolonicke sedl 14.90 353 *e*PN Pn 04 04 07.9 +0.6
ARSA Arzberg 14.91 334 *i* P Pn 04 04 09.6 +2.0
comp=Z,7.2nm,0.7s
SOP Sopron 14.93 337 *e*P Pn 04 04 08.0 +0.2
BCA Borcka 14.96 56⇓ *i*P P 04 04 12.7 -1.0
VYHS Vyhne 15.04 344 *e*P P 04 04 13.4 -1.2
VYHS Vyhne 15.04 344 *e*PN P 04 04 13.4 -1.2
MYKA Terra Mystica 15.16 329 *i* P P 04 04 18.5 +2.6
comp=Z,2.6nm,0.5s
MODS Modra-Piesok 15.33 340 *e*P Pn 04 04 15.3 +2.1
MODS Modra-Piesok 15.33 340 *e*PN Pn 04 04 15.3 +2.1
KWP Kalwaria Pacla 15.55 354 *e*Pn Pn 04 04 14.8 -1.1
comp=Z,76nm,1.1s
KWP Kalwaria Pacla 15.55 354 *e*P Pn 04 04 14.8 -1.1
KWP pmax pmax
comp=Z,76nm,1.1s
KBA Koelnbreinsper 15.64 329 *i* P P 04 04 21.6 +0.3
comp=Z,16nm,0.7s,SNR=6.7
KBA *i* S Sn 04 07 16.2 +6.2
comp=Z,9.0nm,1.3s
LVV L'vov 15.66 358 *e*P P 04 04 23.6 +2.3
LVV MLR MLR
comp=E,200nm,13.0s
LVV MLR MLR
comp=Z,200nm,13.0s
ABTA Abfaltersbach 15.75 327 Pn Pn 04 04 17.1 -1.6
comp=Z,4.0nm,0.9s
ABTA *i* P P 04 04 23.2 +0.7
comp=Z,32nm,0.7s,SNR=11
ABTA *i* S S 04 07 26.9 -0.3
comp=Z,13nm,1.4s
MOA Molln 15.88 333 *i* P P 04 04 24.1 +0.2
comp=Z,16nm,0.8s,SNR=7.7
KRUC Moravsky 16.21 339 *e*P P 04 04 26.4 -1.1
AKH Akhalkalaki 16.25 58 *e*Pn P 04 04 27.3 -0.9
comp=Z,18nm,1.1s
AKH Akhalkalaki 16.25 58⇑ *i*P P 04 04 29.7 +1.5
VRAC Vranov 16.37 340⇓ *i*P Pn 04 04 26.5 -0.1
VRAC Vranov 16.37 340⇓ P Pn 04 04 26.5 -0.1
VRAC Vranov 16.37 340 *e*P Pn 04 04 27.6 +1.0
VRAC Vranov 16.37 340 Pn Pn 04 04 25.6 -1.0
comp=Z,0.9nm,0.3s,baz=159,slow=9.7,SNR=14
NEY Neytrino 16.48 51 *i* P P 04 04 30.0 -0.7
WTTA Wattenberg 16.54 326 *i* P P 04 04 30.9 -0.5
comp=Z,58nm,1.3s
MORC Moravsky Berou 16.55 343 *e*Pn Pn 04 04 27.1 -1.8
comp=Z,9.1nm,0.9s
MORC Moravsky Berou 16.55 343⇑ *i*P Pn 04 04 27.3 -1.5
MORC Moravsky Berou 16.55 343⇑ P Pn 04 04 27.3 -1.5
MORC Moravsky Berou 16.55 343 *e*P Pn 04 04 29.4 +0.6
WATA Walderalm 16.62 326 *e*Pn Pn 04 04 28.9 -0.8
comp=Z,13nm,0.6s,SNR=5.9
TREC Trest 16.69 338 *e*P Pn 04 04 31.7 +1.1
TREC MLR MLR
comp=Z,300nm,10.4s
TREC Trest 16.69 338 *e*P Pn 04 04 31.7 +1.1
TREC AMS AMS 04 11 40.0
comp=Z,300nm,10.4s
SQTA Sankt Quirin 16.70 325 *i* P P 04 04 33.2 +0.1
comp=Z,10.0nm,0.7s,SNR=5.5
FUORN Ofenpass-Fuorn 16.74 322 *e*Pn P 04 04 34.0 +0.3
comp=Z,31nm,0.8s
GNI Garni 16.78 63 *e*Pn P 04 04 33.7 -0.3
comp=Z,16nm,0.8s
GNI Garni 16.78 63 *i* P P 04 04 34.0 0.0
GNI pmax pmax
comp=Z,27nm,0.9s
GNI Garni 16.78 63 Pn P 04 04 34.7 +0.7
comp=Z,0.6nm,0.3s,baz=214,slow=2.3,SNR=9.4
GNI LR LR 04 12 17.0
comp=Z,172nm,18.7s,baz=270,slow=42
FETA Feichten 16.79 324 *i* P Pn 04 04 32.3 +0.3
comp=Z,18nm,0.9s,SNR=10
KIEV Kiev 16.79 9⇑ *i*P Pn 04 04 31.9 +0.1
KIEV Kiev 16.79 9⇑ P Pn 04 04 31.9 +0.1
KIV Kislovodsk 16.79 49 *e*Pn P 04 04 35.6 +1.5
comp=Z,34nm,1.0s
KIV Kislovodsk 16.79 49⇑ *i*P P 04 04 36.3 +2.2
KIV Kislovodsk 16.79 49 *e*P P 04 04 35.5 +1.5
KIV pmax pmax
comp=Z,104nm,1.1s
KIV MLR MLR
comp=Z,117nm,13.0s
AKASG Malin Array Be 16.80 9 *i* P Pn 04 04 28.7 -3.2
AKASG pmax pmax
comp=Z,42nm,0.9s
AKASG Malin Array Be 16.80 9 Pn Pn 04 04 28.8 -3.2
comp=Z,2.2nm,0.3s,baz=199,slow=10,SNR=48
AKBB Malin Array Si 16.80 9 *e*Pn Pn 04 04 30.1 -1.8
comp=Z,38nm,0.8s
AKBB Malin Array Si 16.80 9 *e*P Pn 04 04 30.1 -1.8
AKBB pmax pmax
comp=Z,38nm,0.8s
KBZ Khabaz 16.82 50 Pn P 04 04 34.2 0.0
comp=Z,0.8nm,0.3s,baz=249,slow=7.4,SNR=44
MOTA Moosalm 16.84 326 *i* P P 04 04 35.4 +0.8
comp=Z,7.8nm,0.8s
GEC2 GERESS Array S 16.92 333 *e*Pn Pn 04 04 33.3 -0.3
comp=Z,30nm,0.8s
GEC2 GERESS Array S 16.92 333 *e*P Pn 04 04 33.3 -0.3
GEC2 pmax pmax
comp=Z,30nm,0.8s
GERES GERESS Array B 16.92 333 Pn Pn 04 04 31.4 -2.2
comp=Z,1.5nm,0.3s,baz=146,slow=11,SNR=57
GERES PcP PcP 04 09 20.0 +0.3
comp=Z,0.2nm,0.3s,baz=132,slow=1.5,SNR=6.0
GERES LR LR 04 11 35.1
comp=Z,185nm,18.4s,baz=150,slow=39
KRLC Kraliky 17.02 342 *e*P Pn 04 04 35.7 +1.0
KRLC Kraliky 17.02 342 *e*P Pn 04 04 35.7 +1.0
DAVOX Davos/Dischmat 17.05 322 Pn Pn 04 04 34.7 -0.5
comp=Z,0.4nm,0.3s,baz=151,slow=12,SNR=18
ZEI Tsey 17.06 54 *e*P Pn 04 04 34.9 -0.5
ZEI pmax pmax
comp=Z,25nm,0.9s
RETA Reutte 17.11 325 *i* Pn P 04 04 37.0 -0.5
comp=Z,6.2nm,0.6s
TUE Stuetta 17.12 321 *e*Pn Pn 04 04 36.9 +0.7
comp=Z,16nm,1.0s
NCK Nalchik 17.16 52 *i* P P 04 04 39.4 +1.4
NCK pmax pmax
comp=Z,15nm,0.9s
KHC Kasperske Hory 17.20 334 *e*Pn Pn 04 04 34.9 -2.1
comp=Z,7.1nm,0.8s
KHC Kasperske Hory 17.20 334 *e*P Pn 04 04 34.5 -2.5
KHC MLR MLR
comp=Z,400nm,11.9s
KHC Kasperske Hory 17.20 334 *e*P Pn 04 04 34.5 -2.5
KHC *ex* x 04 04 38.5
KHC AMS AMS 04 11 40.0
comp=Z,400nm,11.9s
TBLG Delisi 17.24 58 *e*Pn P 04 04 39.2 +0.3
comp=Z,12nm,0.8s
TBLG Delisi 17.24 58 *e*P P 04 04 39.3 +0.3
TBLG pmax pmax
comp=Z,12nm,0.8s
DPC Dobruska-Polom 17.39 341 *e*P Pn 04 04 39.0 -0.4
DPC MLR MLR
comp=Z,200nm,13.2s
DPC Dobruska-Polom 17.39 341 *e*P Pn 04 04 39.0 -0.4
DPC *e*pP sP 04 04 49.4 +1.5
DPC AMS AMS 04 12 50.0
comp=Z,200nm,13.2s
DAVA Damuels 17.39 323 *i* Pn Pn 04 04 39.8 +0.3
comp=Z,17nm,0.8s,SNR=6.8
GOPC GO Pecny, Ondr 17.45 337 *e*P Pn 04 04 40.4 +0.2
GOPC MLR MLR
comp=Z,300nm,11.4s
GOPC GO Pecny, Ondr 17.45 337 *e*P Pn 04 04 40.4 +0.2
GOPC AMS AMS 04 12 10.0
comp=Z,300nm,11.4s
PRU Pruhonice 17.60 337 *e*P Pn 04 04 42.3 +0.4
PRU MLR MLR
comp=Z,300nm,10.9s
PRU Pruhonice 17.60 337 *e*P Pn 04 04 42.3 +0.4
PRU AMS AMS 04 12 20.0
comp=Z,300nm,10.9s
UPC Upice 17.62 341 *e*P P 04 04 43.5 +0.4
UPC MLR MLR
comp=Z,300nm,13.9s
UPC Upice 17.62 341 *e*P P 04 04 43.5 +0.4
UPC AMS AMS 04 13 10.0
comp=Z,300nm,13.9s
PVCC Panska Ves 18.06 338 *e*P Pn 04 04 46.2 -1.4
PVCC MLR MLR
comp=Z,200nm,12.8s
PVCC Panska Ves 18.06 338 *e*P Pn 04 04 46.2 -1.4
PVCC AMS AMS 04 13 20.0
comp=Z,200nm,12.8s
SENIN Lac Senin/Sane 18.17 317 *e*Pn P 04 04 49.6 +0.2
comp=Z,12nm,0.8s
GROC Groznyy 18.50 55 *e*P P 04 04 52.6 -0.2
GROC pmax pmax
comp=Z,11nm,0.4s
NKC Novy Kostel 18.53 334 *e*P P 04 04 53.1 0.0
NKC MLR MLR
comp=Z,400nm,13.1s
NKC Novy Kostel 18.53 334 *e*P P 04 04 53.1 0.0
NKC AMS AMS 04 12 20.0
comp=Z,400nm,13.1s
BRG Berggiesshubel 18.56 337 *e*P P 04 04 52.9 -0.5
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 18.56 337 *e*P P 04 04 52.9 -0.5
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG MLR MLR
comp=N,221nm,12.4s
BRG MLR MLR
comp=E,303nm,12.8s
BRG MLR MLR
comp=Z,224nm,13.5s
GRA1 Grafenberg Arr 18.56 331 *e*P P 04 04 53.4 -0.1
comp=Z,49nm,1.1s
GRF Grafenberg Arr 18.56 331 *e*P P 04 04 53.4 -0.1

GRF pmax pmax
comp=Z,49nm,1.1s
GRFO Grafenberg 18.56 331 *e*P **P 04 04 53.5 0.0**
comp=Z,28nm,0.9s
GRFO Grafenberg 18.56 331 *e*P **P 04 04 53.5 0.0**
GRFO pmax pmax
comp=Z,28nm,0.9s
BFO Black Forest 18.87 324 *e*P **P 04 04 55.7 -1.2**
comp=Z,12nm,0.9s
BFO Black Forest 18.87 324 *e*P **P 04 04 55.7 -1.2**
BFO pmax pmax
comp=Z,12nm,0.9s
CLL Collm 19.23 337 *e*P **P 04 05 00.5 -0.3**
comp=Z,12nm,0.9s
CLL Collm 19.23 337 *i* P **P 04 05 00.3 -0.5**
CLL *e*S **Sn 04 08 34.0 -2.8**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 19.23 337 *i* P **P 04 05 00.3 -0.5**
comp=Z,15nm,1.0s
CLL *i* pP **Pn 04 05 03.1 +1.3**
comp=Z,18nm,1.2s
CLL *i* sP **pP 04 05 06.3 +0.6**
CLL *e* 04 05 08.0
CLL *e*PPP PPP 04 05 23.0
CLL *e*S **Sn 04 08 34.0 -2.8**
CLL *e*SSS SSS 04 09 00.0
ECH Echery 19.38 322 *e*P **Pn 04 05 03.6 -0.1**
comp=Z,13nm,1.0s
ECH Echery 19.38 322 *e*P **Pn 04 05 03.6 -0.1**
ECH pmax pmax
comp=Z,13nm,1.0s
MAK Makhachkala 19.58 57 *e*P **P 04 05 05.3 +0.6**
MAK *e*S **S 04 08 44.8 0.0**
MAK pmax pmax
comp=Z,95nm,0.6s
MAK MLR MLR
comp=Z,67nm,14.0s
VORD Divnogorie 19.73 27 *e*P **P 04 05 06.5 +0.3**
VORD pmax pmax
comp=Z,10.0nm,1.0s
SUW Suwalki 19.88 357 *e*P **P 04 05 05.3 -2.5**
comp=Z,134nm,0.9s
SUW Suwalki 19.88 357 *e*P **P 04 05 05.3 -2.5**
SUW pmax pmax
comp=Z,134nm,0.9s
VSR Storozhevoye 19.89 27 *e*P **Pn 04 05 08.9 -0.7**
VSR pmax pmax
comp=Z,10.0nm,1.1s
TAM Tamanrasset 20.53 242 *e*P Pn 04 05 17.6 0.0
comp=Z,14nm,0.9s
TAM Tamanrasset 20.53 242 *e*P Pn 04 05 17.6 0.0
TAM pmax pmax
comp=Z,14nm,0.9s
WLF Walferdange 20.83 324 *e*P **P 04 05 18.2 +0.1**
comp=Z,153nm,0.9s
WLF Walferdange 20.83 324 *e*P **P 04 05 18.2 +0.1**
WLF pmax pmax
comp=Z,153nm,0.9s
WLF Walferdange 20.83 324 ⇑P Pn 04 05 21.8 +1.1
comp=Z,31nm,1.0s
VRH Novokhopyorsk 20.89 30 *e*P **P 04 05 17.7 -1.1**
VRH pmax pmax
comp=Z,40nm,0.8s
LPSR Galich'ya Gora 20.93 24 *e*P **P 04 05 17.3 -2.0**
LPSR pmax pmax
comp=Z,20nm,1.1s
IDID Didziasalis 21.18 3 *e*P **P 04 05 20.3 -1.6**
IDID IAmb IAmb 04 05 21.8
comp=Z,6.8nm,0.9s
IIGN Ignalina 21.20 2 *e*P **P 04 05 20.9 -1.2**
IIGN IAmb IAmb 04 05 23.9
comp=Z,7.3nm,0.6s
PABE Paberze 21.35 358 *e*P **P 04 05 25.3 +1.7**
PABE IAmb IAmb 04 05 26.2
comp=Z,17nm,0.6s
MEM Membach 21.53 325 ⇓P **P 04 05 25.8 +0.1**
comp=Z,27nm,0.9s
BCLA Clavier 21.74 324 ⇓P **P 04 05 28.8 +0.9**
DOU Dourbes 21.88 323 ⇓P **P 04 05 28.5 -0.9**
comp=Z,16nm,1.1s
PBUR Paburg 21.96 355 *e*P **P 04 05 27.9 -2.3**
PBUR IAmb IAmb 04 05 29.0
comp=Z,59nm,1.2s
OBN Obninsk 22.43 17 *e*P **P 04 05 34.6 -0.6**
comp=Z,38nm,1.0s
OBN Obninsk 22.43 17 *i* P **P 04 05 34.9 -0.4**
OBN *i* 04 05 59.9
OBN *i* S **S 04 09 37.3 -3.1**
OBN *i* SS **SnSn 04 10 17.8 +8.7**
OBN pmax pmax
comp=Z,39nm,0.9s
OBN MLR MLR
comp=Z,85nm,16.0s
OBN Obninsk 22.43 17 P **P 04 05 34.8 -0.5**
comp=Z,4.7nm,0.4s,baz=187,slow=8.1,SNR=9.5
UCC Uccle 22.44 324 ⇑P **P 04 05 35.5 +0.1**
MOS Moscow 23.26 18 *e*P **P 04 05 40.8 -3.1**
MOS *e* 04 06 11.1
MOS *e*S **S 04 09 48.8 -6.1**
MOS pmax pmax
comp=Z,44nm,0.8s
ESDC Sonseca Array 23.78 292 P **P 04 05 48.3 -1.0**
comp=Z,11nm,0.8s,baz=82,slow=9.3,SNR=45
ESLA Sonseca Array 23.78 292 *e*P **P 04 05 49.1 -0.2**
comp=Z,9.8nm,0.8s
VSU Vasula 24.32 2 *i* P **P 04 05 53.7 -0.4**
VSU pmax pmax
comp=Z,77nm,1.5s
MDT Midelt 24.74 275 P **P 04 05 58.1 -0.1**
comp=Z,5.2nm,0.7s,baz=94,slow=12,SNR=12
MDT LR LR 04 17 38.8
comp=Z,100nm,21.5s,baz=87,slow=42
PUL Pulkovo 25.84 6*ce*P **P 04 06 07.2 -0.6**
PUL pmax pmax
comp=Z,83nm,0.6s
PBRG Braganca 26.09 296 *e*P **P 04 06 10.4 +0.1**
comp=Z,20nm,1.1s
MVO Moncorvo 26.23 295 *e*P **P 04 06 11.9 +0.2**
comp=Z,43nm,0.8s
MVO *e*S S 04 10 58.6 +16
PMRV Marv??o 26.42 291 *e*P **P 04 06 13.2 -0.1**
comp=Z,34nm,1.3s
PMRV *e*S S 04 11 03.6 +18
PCBR Castelo Branco 26.50 292 *e*P **P 04 06 15.8 +1.8**
comp=Z,24nm,1.3s
MTE Manteigas 26.57 293 *e*P **P 04 06 14.4 -0.3**
comp=Z,30nm,1.3s
MTE *e*S S 04 11 06.0 +18
PBEJ Beja 26.80 288 *e*P **P 04 06 19.9 +3.2**
PVIS Viseu 26.86 294 *e*P **P 04 06 19.1 +1.8**
comp=Z,37nm,1.8s
PBDV Barranco-do-Ve 26.88 286 *e*P **P 04 06 17.8 +0.3**
comp=Z,47nm,1.3s
GEYT Alibeck 26.91 72 P **P 04 06 18.0 +0.2**
comp=Z,4.6nm,0.8s,baz=248,slow=6.2,SNR=5.7
GEYT LR LR 04 20 15.8
comp=Z,42nm,19.0s,baz=250,slow=44
PCVE Castro Verde 26.95 287 *e*P **P 04 06 20.8 +2.7**
HFS Hagfors 27.02 347 P **P 04 06 17.1 -1.3**
comp=Z,4.5nm,0.5s,baz=144,slow=5.4,SNR=6.9
HFS LR LR 04 18 04.2
comp=Z,62nm,21.4s,baz=171,slow=39
PMTG Montargil 27.06 290 *e*P **P 04 06 20.6 +1.5**
comp=Z,27nm,1.2s
MESJ Messejana 27.08 287 *e*P **P 04 06 19.0 -0.3**
comp=Z,33nm,1.4s
FIA0 FINESS Array S 27.30 1 *e*P **P 04 06 18.6 -2.3**
FIA0 *e*PcP **PcP 04 09 39.9 -0.1**
FIA0 FINESS Array S 27.30 1 *e*P **P 04 06 18.7 -2.3**
FIA0 *e* 04 09 39.9
FINES FINESS Array B 27.30 1 P **P 04 06 18.6 -2.3**
comp=Z,4.5nm,0.7s,baz=155,slow=12,SNR=8.2
FINES PcP **PcP 04 09 39.9 -0.1**
comp=Z,2.2nm,0.7s,baz=185,slow=3.6,SNR=4.8
NAO01 NORSAR Array S 28.22 345 *e*P **P 04 06 26.6 -2.7**
comp=Z,28nm,0.9s
KLMR Klimovskoe 28.30 15 *e*P **P 04 06 27.1 -2.7**
KLMR pmax pmax
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 28.33 346 P **P 04 06 28.8 -1.5**
comp=Z,3.1nm,0.7s,baz=156,slow=9.3
NB200 NORSAR Array S 28.33 346 *e*P **P 04 06 28.6 -1.7**
NOA NORSAR Array B 28.33 346 P **P 04 06 28.6 -1.7**
comp=Z,4.0nm,1.0s,baz=158,slow=9.9,SNR=8.8
NOA LR LR 04 20 44.9
comp=Z,46nm,19.3s,baz=170,slow=43
EKA Eskdalemuir Ar 28.80 326 P **P 04 06 33.4 -1.0**
comp=Z,9.3nm,0.8s,baz=133,slow=8.6,SNR=14
AKTO Aktyubinsk 28.99 46 P **P 04 06 36.0 -0.2**
AKTO Aktyubinsk 28.99 46 P **P 04 06 36.0 -0.2**
comp=Z,2.7nm,0.6s,baz=259,slow=8.5,SNR=8.1
KIRV Kirov 29.33 26 P **P 04 06 37.2 -1.7**
comp=Z,19nm,0.6s,baz=238,slow=4.6,SNR=7.8
ABKAR Akbulak array 29.78 49 *e*P **P 04 06 44.6 +1.4**
comp=Z,2.1nm,0.9s
TOA1 Torodi Ar. Sit 29.79 231 *e*P **P 04 06 43.9 +0.3**
TOA0 Torodi Ar. Sit 29.79 231 *e*P **P 04 06 44.5 +0.9**
comp=Z,28nm,0.7s
TORD Torodi Ar. Bea 29.79 231 P **P 04 06 43.9 +0.3**
comp=Z,21nm,0.7s,baz=34,slow=10,SNR=100
TORD LR LR 04 20 47.5
comp=Z,253nm,19.1s,baz=355,slow=41
PRGR Permogore 30.47 19 *e*P **P 04 06 46.2 -2.9**
PRGR pmax pmax
comp=Z,14nm,0.6s
TMCR Tamitsa 31.07 11 *e*P **P 04 06 51.7 -2.6**
ARU Arti 31.91 35 *e*P **P 04 07 00.9 -0.9**
comp=Z,11nm,0.7s
ARU Arti 31.91 35*c i*P **P 04 07 00.9 -0.9**
ARU S **S 04 12 11.3 -0.3**
ARU SS **SnSn 04 13 56.2 -4.1**
ARU pmax pmax
comp=Z,15nm,0.9s
ARU Arti 31.91 35 P **P 04 07 00.5 -1.4**
comp=Z,2.5nm,0.2s,baz=243,slow=8.7,SNR=14
SVE Sverdlovsk 33.10 36 *e*P **P 04 07 11.4 -0.9**
SVE pmax pmax
comp=Z,38nm,0.8s
ARCES ARCESS Array B 35.42 0 P **P 04 07 30.1 -2.1**
comp=Z,3.4nm,0.6s,baz=175,slow=9.1,SNR=23
ARCES PcP **PcP 04 10 01.6 0.0**
comp=Z,0.7nm,0.5s,baz=156,slow=2.5,SNR=4.6
KK31 Karatay Array 36.23 62 *e*P **P 04 07 40.2 +0.6**
comp=Z,13nm,0.9s
KK31 Karatay Array 36.23 62 *i* P **P 04 07 40.1 +0.5**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 36.23 62 *e*P **P 04 07 40.2 +0.6**
comp=Z,13nm,0.9s
KKAR Karatay Array 36.23 62 *e*P **P 04 07 40.2 +0.6**
KKAR pmax pmax
comp=Z,13nm,0.9s
GAR Garm 36.38 69 *e*P **P 04 07 42.6 +1.6**
comp=Z,9.6nm,0.5s
GAR Garm 36.38 69 *e*P **P 04 07 42.6 +1.6**
GAR pmax pmax
comp=Z,10.0nm,0.5s
BRVK Borovoye 37.04 45 *e*P **P 04 07 47.4 +1.1**
comp=Z,5.7nm,0.9s
BRVK Borovoye 37.04 45 *i* P **P 04 07 46.8 +0.5**
BRVK pmax pmax
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 37.10 45 P **P 04 07 47.1 +0.3**
comp=Z,5.2nm,0.8s,baz=265,slow=5.5,SNR=22
OTUK Ortayu 37.65 54 P **P 04 07 52.0 +0.4**
OTUK pmax pmax
comp=Z,10.0nm,0.8s
ARSB Arslanbob 38.17 65 *e*P **P 04 07 57.4 +1.2**
comp=Z,9.6nm,0.6s
EKS2 Erkin-Say 38.65 63 P **P 04 08 01.5 +1.3**
SNR=12
DBIC Dimbokro 38.88 232 *e*P **P 04 08 02.9 +0.7**
comp=Z,14nm,0.9s
DBIC Dimbokro 38.88 232 P **P 04 08 02.5 +0.3**
comp=Z,11nm,0.8s,baz=17,slow=12,SNR=11
DBIC LR LR 04 26 47.6
comp=Z,142nm,18.9s,baz=17,slow=40
AAK Ala-Archa 39.18 63 P **P 04 08 06.2 +1.5**
SNR=5.1
AAK Ala-Archa 39.18 63 *e*P **P 04 08 05.6 +0.8**
comp=Z,12nm,1.0s
AAK Ala-Archa 39.18 63 P **P 04 08 04.6 -0.1**
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 39.18 63 P **P 04 08 04.9 +0.2**
comp=Z,5.8nm,0.4s,baz=255,slow=9.8,SNR=14
UCH Uchtor 39.23 63 P **P 04 08 06.5 +1.0**
SNR=6.1
KZA Kyzart 39.79 63 P **P 04 08 11.8 +1.7**
SNR=10
TKM2 Tokmak 2 39.97 62 P **P 04 08 12.2 +0.9**
SNR=9.2
TKM2 Tokmak 2 39.97 62 P **P 04 08 11.7 +0.4**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
BOOM Boomskoye usch 40.26 63 *e*P **P 04 08 15.2 +1.5**
comp=Z,3.7nm,0.6s
BOOM Boomskoye usch 40.26 63 *e*P **P 04 08 15.2 +1.5**
BOOM pmax pmax
comp=Z,4.0nm,0.6s
ULHL Ulahol 40.51 63 P **P 04 08 17.6 +1.8**
SNR=5.3
KSH Kashi 40.66 67 P **P 04 08 17.1 +0.1**
KSH sP pwP 04 08 34.9 +8.8
KSH PP **PnPn 04 09 54.9 +0.2**
KSH S **S 04 14 23.0 -3.0**
KSH sS sS 04 14 43.6 +8.4
KSH pmax pmax
comp=Z,12nm,0.3s
KSH pmax pmax
comp=Z,130nm,4.2s
KSH LR LR
comp=Z,580nm,12.1s
KSH LR LR
comp=Z,400nm,11.4s
KURBB Kurchatov Arra 41.82 50 P **P 04 08 26.6 +0.4**
comp=Z,13nm,0.7s,baz=278,slow=8.7,SNR=88
KURK Kurchatov 41.88 50 *e*P **P 04 08 27.1 +0.4**
comp=Z,14nm,0.8s
KURK Kurchatov 41.88 50 P **P 04 08 26.6 0.0**
PDGK Podgornoye 42.77 61 P **P 04 08 34.5 +0.3**
PDGK pmax pmax
comp=Z,11nm,0.6s
MAKZ Makanchi 44.18 56 P **P 04 08 45.4 0.0**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
SCO Scoresbysund 44.23 339 *e*P **P 04 08 45.8 +0.4**
comp=Z,6.9nm,0.9s
SCO Scoresbysund 44.23 339 *e*P **P 04 08 45.8 +0.4**
SCO pmax pmax
comp=Z,7.0nm,0.9s
SPITS Spitsbergen Ar 44.27 357 P **P 04 08 44.8 -0.9**
comp=Z,17nm,1.0s,baz=178,slow=5.3,SNR=7.6
MK31 Makanchi Array 44.40 56 *e*P **P 04 08 47.8 +0.6**
comp=Z,17nm,0.7s
MK31 Makanchi Array 44.40 56 *i* P **P 04 08 47.5 +0.3**
MK31 pmax pmax
comp=Z,17nm,0.6s
MK32 Makanchi Array 44.40 56 *e*P **P 04 08 47.8 +0.6**
MK32 *e*PP **PP 04 10 31.6 +0.9**
MKAR Makanchi Array 44.40 56 P **P 04 08 47.8 +0.6**
comp=Z,21nm,0.6s,baz=278,slow=6.4,SNR=182
MKAR PcP **PP 04 10 31.6 +0.9**
comp=Z,1.7nm,0.7s,baz=275,slow=5.3,SNR=3.0
NVS Novosibirsk 44.85 44 ⇑*i*P **P 04 08 51.6 +1.0**
NVS pmax pmax
comp=Z,17nm,0.6s
NVS pmax pmax
comp=N,3.0nm,0.4s
NVS pmax pmax
comp=E,8.0nm,0.6s
ZAA0 Zalesovo Array 45.76 45 *e*P **P 04 08 57.3 -0.5**
comp=E,14nm,0.6s
ZAA1 Zalesovo Array 45.76 45 *e*P **P 04 08 57.5 -0.3**
ZALV Zalesovo Beam 45.76 45 P **P 04 08 57.5 -0.3**
comp=E,15nm,0.5s,baz=266,slow=9.3,SNR=53
DAG Danmarks Havn 46.99 347 *i* P **P 04 09 06.7 -0.5**
DAG pmax pmax
comp=Z,8.0nm,1.0s
DAG Danmarks Havn 46.99 347 *i* P **P 04 09 06.7 -0.5**
comp=Z,7.8nm,1.0s
DGZ Jazzator, Alta 47.56 51 *i* P **P 04 09 12.6 +0.4**
DGZ pmax pmax
comp=Z,7.0nm,0.7s
WMQ Urumqi 48.58 59 *e*P **P 04 09 23.1 +3.0**
WMQ LR LR
comp=Z,1μm,37.5s
WMQ LR LR
comp=Z,410nm,26.5s
NRIK Noril'sk 48.81 25 P **P 04 09 20.7 -0.6**
comp=Z,9.5nm,0.7s,baz=236,slow=5.8,SNR=11
PYUN Piuthan 49.40 80 *e*P **P 04 09 27.8 +1.1**
comp=Z,32nm,0.9s
SUMG Summit 49.87 339 *e*P **P 04 09 30.0 +0.1**
comp=Z,11nm,1.1s
SUMG Summit 49.87 339 *i* P **P 04 09 29.7 -0.2**
SUMG Summit 49.87 339 *i* P **P 04 09 29.7 -0.2**
DANN Dangsing 49.93 80 *e*P **P 04 09 32.0 +1.1**
comp=Z,68nm,0.7s
KOLN Koldanda 50.02 81 *e*P **P 04 09 32.0 +0.5**
comp=Z,9.6nm,0.7s
DMN Daman 51.32 80 *e*P **P 04 09 42.0 +0.7**
comp=Z,44nm,1.0s
KKN Kakani 51.39 80 *e*P **P 04 09 42.3 +0.5**
comp=Z,25nm,0.7s
PKIN Phulchoki 51.57 80 *e*P **P 04 09 43.5 +0.3**
comp=Z,22nm,0.8s
PKI Pulchoki 51.58 80 *e*P **P 04 09 43.7 +0.4**
comp=Z,33nm,1.0s
JIRN Jiri 52.18 80 *e*P **P 04 09 48.4 +0.5**
comp=Z,53nm,0.9s
MOY Mondy 55.75 47 *e*P **P 04 10 14.4 +1.1**
MOY pmax pmax
comp=Z,12nm,1.3s
ZAK Zakamensk 57.47 48 *e*P **P 04 10 25.6 +0.1**
ZAK pmax pmax
comp=Z,12nm,0.9s
GTA Gaotai 58.51 61 P **P 04 10 33.6 +0.5**
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,48nm,6.3s
GTA LR LR
comp=Z,160nm,16.2s
GTA LR LR
comp=Z,200nm,15.6s
GTA LR LR
comp=Z,200nm,16.8s
SONA0 Songino Array 60.18 50 *e*P **P 04 10 45.0 +0.5**
SONM Songino Array 60.18 50 P **P 04 10 45.0 +0.5**
comp=Z,9.7nm,0.7s,baz=283,slow=9.5,SNR=27
ULN Ulaanbaatar 60.59 50 *e*P **P 04 10 47.7 +0.4**
comp=Z,12nm,0.9s
ULN Ulaanbaatar 60.59 50*ce*P **P 04 10 47.5 +0.2**
ULN pmax pmax
comp=Z,14nm,1.0s
BOD Bodaibo 61.29 38 *e*P **P 04 10 50.5 -1.1**
BOD pmax pmax
comp=Z,14nm,0.8s
TIXI Tiksi 62.12 20 *e*P **P 04 10 56.3 -0.8**
comp=Z,2.8nm,0.8s
TIXI Tiksi 62.12 20*ce*P **P 04 10 55.8 -1.2**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
LZH Lanzhou 62.72 63 ⇑P **P 04 11 03.3 +1.5**
LZH pP pwP 04 11 14.5 +3.4
LZH sP sP 04 11 18.8 +9.4
LZH *e*PP **PP 04 13 22.6 +3.0**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,76nm,7.4s
LZH LR LR
comp=Z,450nm,17.8s
SCHQ Schefferville 63.88 320 *e*P **P 04 11 09.0 -0.1**
SCHQ Schefferville 63.88 320 P **P 04 11 08.8 -0.3**
comp=Z,9.8nm,0.7s,baz=63,slow=7.9,SNR=14
SCHQ LR LR 04 38 59.7
comp=Z,37nm,18.2s,baz=1.5,slow=36
CD2 Chengdu 64.83 69 P **P 04 11 15.1 -0.6**
CD2 pmax pmax
comp=Z,30nm,0.9s
HHC Hu-ho-hao-te 66.26 56 *e*P **P 04 11 26.5 +1.6**
HHC pmax pmax
comp=Z,67nm,1.0s
HHC pmax pmax
comp=Z,220nm,5.2s
LMN Caledonia Moun 66.34 310 *e*P **P 04 11 25.8 +0.6**
comp=Z,9.9nm,0.8s
BATG Bathurst New B 66.52 312 *e*P **P 04 11 27.1 +0.9**
comp=Z,8.9nm,0.8s
KMI Kunming 66.65 75 P **P 04 11 29.9 +2.2**
KMI pmax pmax
comp=Z,5.0nm,0.6s
KMI pmax pmax
comp=Z,74nm,4.1s
CM31 Chiang Mai Arr 66.78 83 *e*P **P 04 11 28.9 +0.5**
comp=Z,6.6nm,1.0s
CMAR Chiang Mai Arr 66.78 83 P **P 04 11 28.9 +0.5**
comp=Z,1.1nm,0.3s,baz=302,slow=7.3,SNR=2.4
CMAR LR LR 04 48 32.1
comp=Z,17nm,19.1s,baz=290,slow=43
XAN Xi'an 67.35 63 P **P 04 11 32.4 +0.5**
XAN pmax pmax
comp=Z,7.0nm,0.6s
XAN pmax pmax
comp=Z,43nm,3.8s
D53A Lac Vacive, Po 73.56 316 *e*P **P 04 12 10.6 +1.1**
comp=Z,7.6nm,0.8s
CN2 Changchun 73.90 48 *e*P **P 04 12 11.9 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BILL Bilibino 74.04 14*ce*P **P 04 12 10.9 -1.0**
BILL *i* 04 12 20.2
BILL pmax pmax
comp=Z,4.0nm,1.3s
BILL MLR MLR
comp=Z,147nm,23.0s
SEY Seymchan 74.51 22*ce*P **P 04 12 15.6 +0.9**
KLR Kul'dur 74.57 41 *i* P **P 04 12 15.7 +0.3**
KLR pmax pmax
comp=Z,7.0nm,0.9s
NJ2 Nanjing 75.61 61 *e*P **P 04 12 21.8 +0.2**
NJ2 pmax pmax
comp=Z,14nm,0.9s
MA2 Magadan 76.41 25 *e*P **P 04 12 25.7 0.0**
comp=Z,12nm,0.7s
MA2 Magadan 76.41 25*ce*P **P 04 12 26.2 +0.5**
MA2 pmax pmax
comp=Z,9.0nm,1.3s
INK Inuvik 76.58 352 *e*P **P 04 12 25.9 -0.6**
INK *e*PcP **PcP 04 12 39.4 +1.4**
INK Inuvik 76.58 352 *e*P **P 04 12 25.9 -0.6**
INK *e* 04 12 39.4
INK Inuvik 76.58 352 P **P 04 12 26.1 -0.4**
comp=Z,2.7nm,1.0s,baz=36,slow=4.4,SNR=3.3
TOLK Toolik Lake Re 77.42 358 *e*P **P 04 12 32.1 +0.8**
comp=Z,4.8nm,1.0s
USA0B Ussuriysk Arra 77.60 45 *e*P **P 04 12 32.8 +0.1**
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 77.60 45 P **P 04 12 32.7 0.0**
comp=Z,14nm,0.7s,baz=294,slow=4.8,SNR=31
YKA Yellowknife Ar 78.36 342 P **P 04 12 36.0 -0.5**
comp=Z,1.0nm,0.7s,baz=34,slow=5.7,SNR=18
YKB5 Yellowknife Ar 78.36 342 *e*P **P 04 12 36.0 -0.5**
EPYK Eagle Plains 78.80 353 *e*P **P 04 12 38.8 -0.2**
comp=Z,4.1nm,0.9s
COLD Coldfoot 78.86 358 *e*P **P 04 12 40.4 +1.1**
comp=Z,4.2nm,1.0s
KS15 Wonju Array Si 78.94 52 *e*P **P 04 12 41.0 +0.8**
comp=Z,7.7nm,0.8s
KSRS Korea Array 78.95 52 P **P 04 12 41.0 +0.7**
comp=Z,7.3nm,0.6s,baz=309,slow=4.8,SNR=25
KSRS LR LR 04 50 48.9
comp=Z,38nm,19.5s,baz=318,slow=38
MCWV Mont Chateau 79.00 311 *e*P **P 04 12 42.0 +1.4**
comp=Z,5.9nm,0.8s
PRP Porcupine Dome 80.37 356 *e*P **P 04 12 48.7 +1.0**
comp=Z,2.1nm,1.0s
FFC Flin Flon 80.46 332 *e*P **P 04 12 48.6 +0.4**
comp=Z,2.8nm,0.8s
FFC Flin Flon 80.46 332 *e*P **P 04 12 48.6 +0.4**
FFC pmax pmax
comp=Z,3.0nm,0.8s
MDM Murphy Dome 81.06 357 *e*P **P 04 12 51.8 +0.6**
comp=Z,6.6nm,0.8s
MLY Manley 81.07 358 *e*P **P 04 12 52.1 +0.8**
comp=Z,3.9nm,0.8s
ULM Lac du Bonnet 81.08 326 P **P 04 12 50.9 -0.7**
comp=Z,1.3nm,0.6s,baz=8.1,slow=7.1,SNR=3.3
ILAR Eielson Array 81.18 357 P **P 04 12 51.6 -0.2**
comp=Z,1.5nm,0.8s,baz=357,slow=3.9,SNR=16
ILB Eielson Array 81.18 357 *e*P **P 04 12 51.6 -0.2**
comp=Z,2.2nm,0.9s
DAWY Dawson 81.32 353 *e*P **P 04 12 53.2 +0.5**
comp=Z,3.9nm,0.8s
CCB Clear Creek Bu 81.35 357 *e*P **P 04 12 53.1 +0.4**
comp=Z,4.5nm,0.8s
WRH Wood River Hil 81.54 357 *e*P **P 04 12 53.8 0.0**

comp=Z,9.1nm,0.7s
HDA Harding Lake 81.55 356 *eP* **P 04 12 54.1 +0.3**
comp=Z,7.1nm,0.8s
YSS Yuzh-Sakhalins 81.76 38 *eP* **P 04 12 56.5 +1.3**
YSS *e* 04 13 04.2
YSS pmax pmax
comp=Z,10.0nm,0.9s
BPAW Bear Paw Mtn. 82.01 358 *eP* **P 04 12 56.1 -0.2**
comp=Z,6.0nm,0.8s
RIDG Independent Ri 82.09 355 *eP* **P 04 12 57.2 +0.5**
comp=Z,4.6nm,0.9s
DOT Dot Lake 82.13 355 *eP* **P 04 12 56.1 -0.8**
comp=Z,6.4nm,1.0s
MCK McKinley 82.31 357 *eP* **P 04 12 58.1 +0.3**
comp=Z,5.7nm,0.9s
MCK McKinley 82.31 357 *eP* **P 04 12 58.1 +0.3**
MCK pmax pmax
comp=Z,6.0nm,0.9s
CAST Castle Rocks 82.72 359 *eP* **P 04 13 00.4 +0.4**
comp=Z,5.4nm,0.9s
MENT Mentasta 82.81 355 *eP* **P 04 13 02.2 +1.7**
comp=Z,4.1nm,1.0s
DHY Denali Highway 82.90 357 *eP* **P 04 13 01.3 +0.2**
comp=Z,7.5nm,0.8s
PPLA Purkeypile 83.24 359 *eP* **P 04 13 03.4 +0.6**
comp=Z,7.1nm,0.6s
JNU Nakatsue 83.44 54 *eP* **P 04 13 05.0 +0.8**
comp=Z,7.7nm,1.1s
JNU Nakatsue 83.44 54 P **P 04 13 05.0 +0.8**
comp=Z,3.3nm,0.7s,baz=288,slow=3.5,SNR=2.8
ASAJ Asahikawa 83.59 40 P **P 04 13 05.5 +0.7**
comp=Z,4.0nm,0.6s,baz=310,slow=7.9
PEA1 Petropavlovsk- 83.83 26 *eP* **P 04 13 04.8 -1.1**
PETK Petropavlovsk- 83.83 26 P **P 04 13 04.8 -1.1**
comp=Z,2.2nm,0.8s,baz=344,slow=4.9,SNR=4.7
PETK LR LR 04 56 42.1
comp=Z,35nm,18.2s,baz=240,slow=40
WCI Wyandotte Cave 83.87 312 *eP* **P 04 13 07.3 +1.0**
comp=Z,6.9nm,0.8s
WCI Wyandotte Cave 83.87 312 *eP* **P 04 13 07.3 +1.0**
WCI pmax pmax
comp=Z,7.0nm,0.8s
L40A Anamosa 84.27 318 *eP* **P 04 13 08.5 +0.2**
comp=Z,15nm,1.0s
GHO Glory Hole Cre 84.27 357 *eP* **P 04 13 08.8 +0.8**
comp=Z,6.9nm,0.9s
PMR Palmer 84.46 357 *eP* **P 04 13 10.2 +1.3**
comp=Z,7.9nm,1.1s
PMR Palmer 84.46 357 *eP* **P 04 13 10.2 +1.3**
PMR pmax pmax
comp=Z,8.0nm,1.1s
KNK Knik Glacier 84.61 357 *eP* **P 04 13 10.3 +0.6**
comp=Z,8.1nm,1.0s
T47A Sharon Grove 85.15 312 *eP* **P 04 13 13.6 +0.7**
comp=Z,8.5nm,0.9s
BDFB Brasilia 85.25 248 P **P 04 13 14.9 +1.3**
comp=Z,3.6nm,0.8s,baz=85,slow=6.8,SNR=7.4
SIUC Southern Illin 85.97 314 *eP* **P 04 13 17.7 +0.8**
comp=Z,10.0nm,0.8s
ECSD EROS Data Cent 86.01 322 *eP* **P 04 13 17.4 +0.4**
comp=Z,5.7nm,0.9s
MAJO Matsushiro 86.05 48 *eP* **P 04 13 18.0 +0.6**
MJAR Matsushiro Arr 86.05 48 P **P 04 13 18.0 +0.6**
comp=Z,6.1nm,0.7s,baz=298,slow=5.4,SNR=13
WVT Waverly 86.15 312 *eP* **P 04 13 17.6 -0.2**
comp=Z,5.8nm,0.8s
WVT Waverly 86.15 312 *eP* **P 04 13 17.6 -0.2**
WVT pmax pmax
comp=Z,6.0nm,0.8s
FVM French Village 86.51 314 *eP* **P 04 13 20.6 +1.0**
comp=Z,8.6nm,0.8s
FVM French Village 86.51 314 *eP* **P 04 13 20.6 +1.0**
FVM pmax pmax
comp=Z,9.0nm,0.8s
X48A Hartselle 86.73 310 *eP* **P 04 13 21.0 +0.3**
comp=Z,7.7nm,0.8s
CCM Cathedral Cave 86.95 315 *eP* **P 04 13 22.1 +0.4**
comp=Z,9.2nm,0.9s
CCM Cathedral Cave 86.95 315 *eP* **P 04 13 22.1 +0.4**
CCM pmax pmax
comp=Z,9.0nm,0.9s
PLAL Pickwick Lake 87.04 311 *eP* **P 04 13 22.2 0.0**
comp=Z,5.2nm,0.9s
PBMO Poplar Bluff 87.31 313 *eP* **P 04 13 24.2 +0.7**
comp=Z,4.4nm,0.9s
LRAL Lakeview Retre 87.60 309 *eP* **P 04 13 25.6 +0.6**
comp=Z,9.0nm,0.7s
GCMT Greycliff 90.50 330 *eP* **P 04 13 38.3 -0.3**
NEW Newport 91.24 336 P **P 04 13 41.1 -0.7**
comp=Z,2.7nm,0.8s,baz=74,slow=9.9
PD31 Pinedale Array 92.90 328 *eP* **P 04 13 49.0 -0.9**
comp=Z,2.1nm,1.1s
PDAR Pinedale Array 92.90 328 P **P 04 13 49.0 -0.9**
comp=Z,1.0nm,0.8s,baz=64,slow=3.8,SNR=5.2
PDAR LR LR 04 58 11.1
comp=Z,28nm,18.4s,baz=6.0,slow=37
CPUP Villa Florida 98.51 244 LR LR 05 00 24.2
comp=Z,75nm,18.3s,baz=58,slow=36
NVAR Mina Array Bea 100.16 332 LR LR 05 01 31.8
comp=Z,45nm,19.6s,baz=86,slow=37

ROM 23 04:01:44.4±0.0, 43°.340N±0°.002×12°.854E±0°.004, h11km, ML1.1/3, Error ellipse: s-maj=0.3km s-min=0.2km az=119.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOSV	**Fossato di Vic**	**0.08**	**236**	P	Pg	04 01 47.3	+0.4
FOSV				S	Sg	04 01 49.2	+0.5
FOSV				AML	AML		
	comp=E,115μm,0.1s						
FOSV				AML	AML		
	comp=N,106μm,0.2s						
FOSV				AML	AML		
	comp=E,115μm,0.1s						
FOSV				AML	AML		
	comp=N,106μm,0.2s						
FOSV	**Fossato di Vic**	**0.08**	**236**	P	Pg	04 01 47.3	+0.4
FOSV	**Fossato di Vic**	**0.08**	**236**	S	Sg	04 01 49.2	+0.5
SNTG	**Esanatoglia**	**0.11**	**143**	P	Pg	04 01 47.6	+0.4
SNTG				S	Sg	04 01 49.9	+0.7
SNTG	**Esanatoglia**	**0.11**	**143**	P	Pg	04 01 47.7	+0.5
SNTG	**Esanatoglia**	**0.11**	**143**	S	Sg	04 01 49.9	+0.7
ARVD	**Arcevia**	**0.17**	**22**	P	Pg	04 01 48.8	+0.6
ARVD				S	Sg	04 01 51.9	+1.1
ARVD	**Arcevia**	**0.17**	**22**	P	Pg	04 01 48.8	+0.6
ARVD	**Arcevia**	**0.17**	**22**	P	Pg	04 01 48.8	+0.6
ATCC	**AVT- Casa Cast**	**0.22**	**225**	P	Pg	04 01 49.6	+0.6
ATCC				S	Sg	04 01 53.5	+1.4
ATCC	**AVT- Casa Cast**	**0.22**	**225**	P	Pg	04 01 49.6	+0.7
ATCC	**AVT- Casa Cast**	**0.22**	**225**	S	Sg	04 01 53.5	+1.4
PIEI	**Pieia**	**0.30**	**310**	P	Pg	04 01 50.9	+0.3
PIEI				S	Sg	04 01 55.8	+1.1
PIEI				AML	AML		
	comp=E,41μm,0.1s						
PIEI				AML	AML		
	comp=N,41μm,1.6s						
PIEI				AML	AML		
	comp=N,41μm,1.6s						
PIEI				AML	AML		
	comp=E,41μm,0.1s						
PIEI	**Pieia**	**0.30**	**310**	P	Pg	04 01 50.9	+0.3
PIEI	**Pieia**	**0.30**	**310**	P	Pg	04 01 50.9	+0.4
ASSB	**Assisi San Ben**	**0.33**	**206**	P	Pg	04 01 51.3	+0.3
ASSB				S	Sg	04 01 56.5	+1.1
ASSB				AML	AML		
	comp=E,85μm,1.6s						
ASSB				AML	AML		
	comp=N,66μm,1.6s						
ASSB				AML	AML		
	comp=E,85μm,1.6s						
ASSB				AML	AML		
	comp=N,66μm,1.6s						
ASSB	**Assisi San Ben**	**0.33**	**206**	P	Pg	04 01 51.3	+0.3

*JMA **23** 04:15:57.3±0.4, 32°.32N×137°.96E, h426km±4km, M3.6*
*ISCJB **23** 04:15:58.0±0.5, 32°.23N±0°.05×137°.99E±0°.07, h400km, mb3.5/10, Error ellipse: s-maj=8.7km s-min=5.8km az=43.1*
*IDC **23** 04:15:59.1±1.1, 32°.26N×137°.89E, h404km±13km, mb3.2/10, mb1 3.3/14, mb1mx3.1/42, mbtmp4.0/14, Error ellipse: s-maj=28.0km s-min=13.3km az=72.0*
ISC 23 04:15:58.6±0.7, 32°.34N±0°.07×137°.98E±0°.08, h400km, n43, σ1§32/57, mb3.5/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.51**	**85**	P	Pn	04 16 53.6	+1.7
TTO3	**TONANKAI O.B.S**	**1.60**	**342**	P	Pn	04 16 54.6	+2.6
TTO1	**TONANKAI O.B.S**	**1.63**	**322**	P	Pn	04 16 53.9	+1.9
TTO4	**TONANKAI O.B.S**	**1.71**	**348**	P	Pn	04 16 54.8	+2.4
JHJ	**Hachijo jima 2**	**1.71**	**62**	P	Pn	04 16 54.4	+1.5
	38nm,0.3s,baz=233,slow=20,SNR=12						
JHJ				S	**S**	04 17 35.6	-1.0
	24nm,0.3s,baz=252,slow=19,SNR=3.1						
JHJ2	**Mitsune**	**1.73**	**63**	P	Pn	04 16 54.4	+1.5
JIE	**Ise**	**2.31**	**333**	P	Pn	04 16 58.1	+1.6
JKN2	**Miekihoku**	**2.37**	**323**	P	Pn	04 16 58.1	+1.2
JHMK	**Hamakita**	**2.48**	**356**	P	Pn	04 16 59.5	+2.0
JTNC	**Tanabenakahech**	**2.48**	**307**	P	Pn	04 16 58.3	+0.6
HMMJ	**Hamamatsu 2**	**2.52**	**355**	P	Pn	04 16 58.6	+0.6
HMMJ				S	**S**	04 17 48.1	+2.0
JAO	**Obara**	**2.98**	**349**	P	Pn	04 17 03.5	+1.9
JNY	**Yasuok**	**3.01**	**358**	P	Pn	04 17 03.8	+1.9
JNY				S	**S**	04 17 55.1	+1.9
JOD2	**Odawara 2**	**3.06**	**17**	P	Pn	04 17 03.4	+1.2
JOD2				S	**S**	04 17 55.7	+1.9
JEG	**Eigenji**	**3.09**	**335**	P	Pn	04 17 04.4	+1.9
JYN	**Shimob**	**3.18**	**8**	P	Pn	04 17 05.6	+2.3
BSO3	**Boso 3**	**3.24**	**40**	P	Pn	04 17 03.8	+0.4
BSO3				S	**S**	04 17 56.1	+0.1
BSO4	**Boso 4**	**3.29**	**36**	P	Pn	04 17 05.2	+1.1
BSO4				S	**S**	04 17 57.0	-0.2
JAI	**Aioi**	**3.30**	**297**	P	Pn	04 17 04.6	+0.3
BSO1	**Boso 1**	**3.41**	**47**	P	Pn	04 17 05.2	+0.7
BSO1				S	**S**	04 17 58.0	-0.1
JYTA	**Yamagatataniai**	**3.41**	**343**	P	Pn	04 17 06.8	+1.7
JHU	**Hanno**	**3.67**	**17**	P	Pn	04 17 08.6	+1.1
JHU				S	**S**	04 18 03.3	-0.1
JMN	**Monobe**	**3.71**	**293**	P	Pn	04 17 08.5	+0.5
JRY	**Ryogami san**	**3.75**	**12**	P	Pn	04 17 09.6	+1.4
JRY				S	**S**	04 18 06.1	+1.3
MJAR	**Matsushiro Arr**	**4.20**	**3**	P	Pn	04 17 13.5	+1.0
	1.7nm,0.3s,baz=181,slow=11,SNR=45						
MJAR				S	**S**	04 18 12.0	-0.5
	0.1nm,0.3s,baz=172,slow=17,SNR=3.5						
MAT	**Matsushiro**	**4.20**	**2**	P	Pn	04 17 13.6	+1.1
MAT				S	**S**	04 18 12.2	-0.3
JAG	**Ashikaga**	**4.25**	**16**	P	Pn	04 17 12.9	-0.1
JAG				S	**S**	04 18 12.8	-0.7
JYT	**Yasato**	**4.29**	**25**	P	Pn	04 17 13.5	+0.2
JYT				*eS*	**S**	04 18 11.2	-2.9
JHO	**Hitachi**	**4.77**	**26**	P	Pn	04 17 18.4	+0.3
JHO				S	**S**	04 18 20.9	-1.9
JHS	**Saijyo**	**4.85**	**304**	P	Pn	04 17 19.2	+0.2
KSRS	**Korea Array**	**9.71**	**304**	P	Pn	04 18 15.1	+2.0
	0.5nm,0.3s,baz=124,slow=9.8,SNR=8.0						
USRK	**Ussuriysk Ar.**	**12.74**	**340**	P	Pn	04 18 47.1	-1.0
	0.3nm,0.3s,baz=172,slow=11,SNR=4.0						
KLR	**Kul'dur**	**17.51**	**346**	P	**P**	04 19 38.1	+0.4
	0.6nm,0.3s,baz=143,slow=14,SNR=6.3						
SONM	**Songino Array**	**28.45**	**312**	P	**P**	04 21 18.9	+0.2
	0.6nm,0.5s,baz=107,slow=7.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**37.66**	**258**	P	**P**	04 22 36.5	-1.1
	0.8nm,0.3s,baz=54,slow=7.9,SNR=6.2						
ZALV	**Zalesovo Beam**	**43.16**	**316**	P	**P**	04 23 21.2	-0.4
	0.8nm,0.3s,baz=94,slow=8.4,SNR=2.7						
MKAR	**Makanchi Array**	**44.38**	**306**	P	**P**	04 23 31.1	-0.3
	1.2nm,0.6s,baz=88,slow=9.3,SNR=10.0						
ASAR	**Alice Springs**	**55.83**	**185**	P	**P**	04 24 55.6	-0.6
	0.9nm,0.5s,baz=16,slow=11,SNR=12						
STKA	**Stephens Creek**	**63.96**	**177**	P	**P**	04 25 50.6	-0.1
	1.7nm,0.8s,baz=341,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**67.38**	**339**	P	**P**	04 26 12.8	+0.9
	2.0nm,0.9s,baz=68,slow=7.9,SNR=5.4						
FINES	**FINESS Array B**	**71.63**	**332**	P	**P**	04 26 37.8	+0.2
	1.3nm,0.4s,baz=58,slow=5.6,SNR=17						
KBZ	**Khabaz**	**71.80**	**311**	P	**P**	04 26 39.0	+0.1
	1.3nm,0.6s,baz=86,slow=4.9,SNR=4.5						
BRTR	**Keskin Array B**	**79.80**	**311**	P	**P**	04 27 24.1	+0.1
	0.8nm,0.9s,baz=98,slow=6.5,SNR=3.9						

KRSC 23 04:18:18.9±10.0, 52°.16N×160°.71E, h45km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.03**	**336**	*eP*	Pn	04 18 37.9	+1.0
SPN				*eS*	Sn	04 18 50.5	+0.4
NLC	**Nalytchevo**	**1.31**	**321**	*eP*	Pn	04 18 42.3	+1.6
NLC				*eS*	Sn	04 18 59.5	+2.5
RUS	**Russkaya**	**1.38**	**282**	*eP*	Pn	04 18 42.9	+1.3
RUS				*eS*	Sn	04 18 59.7	+1.1
DALK	**Dalny**	**1.48**	**307**	*eP*	Pn	04 18 44.6	+1.6
DALK				*eS*	Sn	04 19 02.8	+1.7
UGLR	**Uglovaya**	**1.56**	**313**	*eP*	Pn	04 18 46.6	+2.4
UGLR				*eS*	Sn	04 19 06.0	+2.8
SDLR	**Sedlovina**	**1.58**	**316**	*eP*	Pn	04 18 46.5	+2.0
MTVR	**Mutnovka**	**1.58**	**283**	*eP*	Pn	04 18 46.4	+1.8
MTVR				*eS*	Sn	04 19 06.0	+2.1
SMAR	**Somma**	**1.60**	**314**	*eP*	Pn	04 18 47.3	+2.4
AVH	**Avacha**	**1.63**	**313**	*i P*	Pn	04 18 47.5	+2.3
KRER	**Koryakskii**	**1.66**	**315**	*eP*	Pn	04 18 48.3	+2.7
KDTR	**Khodutka, Kamc**	**1.67**	**259**	*eP*	Pn	04 18 47.2	+1.7
KDTR				*eS*	Sn	04 19 06.3	+0.6
KOK	**Koryaka**	**1.70**	**313**	*i P*	Pn	04 18 48.6	+2.5
KRMR	**Karymshinskiy**	**1.71**	**294**	*eP*	Pn	04 18 48.1	+1.9
KRMR				*eS*	Sn	04 19 09.2	+2.3
KRX	**Arik**	**1.74**	**315**	*eP*	Pn	04 18 48.7	+2.0
ASAK	**Asacha**	**1.74**	**279**	*eP*	Pn	04 18 49.1	+2.4
ASAK				*eS*	Sn	04 19 11.6	+3.9
APC	**Apacha**	**2.30**	**291**	*eP*	Pn	04 18 57.3	+3.1
APC				*eS*	Sn	04 19 25.7	+4.4
MKZ	**Mys Kozlova**	**2.48**	**14**	*eP*	Pn	04 18 59.3	+2.6
MKZ				*eS*	Sn	04 19 27.8	+2.2
KZV	**Kizimen**	**2.97**	**355**	*eP*	Pn	04 19 07.7	+4.1
KZV				*eS*	Sn	04 19 41.7	+3.7
TUMD	**Tumrok D**	**3.06**	**357**	*eP*	Pn	04 19 07.3	+2.7
TUMD				*eS*	Sn	04 19 43.0	+3.1
TUMR	**Tumrok**	**3.15**	**354**	*eP*	Pn	04 19 09.9	+3.9
ALID	**Alaid**	**3.47**	**250**	*eP*	Pn	04 19 12.9	+2.4
KBTR	**Krutoberegovo**	**4.24**	**16**	*eP*	Pn	04 19 24.8	+3.9

*JMA **23** 04:48:40.7±0.1, 24°.67N×122°.32E, h97km±2km, M2.1*
*ISCJB **23** 04:48:41.2±0.5, 24°.71N±0°.03×122°.35E±0°.02, h90km±4km, Error ellipse: s-maj=4.3km s-min=2.8km az=167.6*
*TAP **23** 04:48:41.2, 24°.74N×122°.35E, h89km±1km, ML3.2, C*
ISC 23 04:48:41.4±1.4, 24°.71N±0°.04×122°.34E±0°.03, h91km±8km, n66, σ0§77/128, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.25**	**231**	*eP*	**Pn**	04 48 55.2	+0.5
	baz=226						
EOS1				*eS*	**Sn**	04 49 05.7	+1.3
	baz=226						
EGS		**0.40**	**290**	*eP*	**Pn**	04 48 56.0	+0.6
	baz=285						
TWB1	**Santiao Chiao**	**0.44**	**313**	*eP*	**Pn**	04 48 55.6	-0.2
	baz=310						
TWC	**Suao**	**0.46**	**258**	P	**Pn**	04 48 55.8	-0.1
	baz=253						
TWC				S	**Sn**	04 49 06.1	-0.6
	baz=253						
NTC	**Toucheng**	**0.49**	**287**	*eP*	**Pn**	04 48 55.9	-0.2
	baz=283						
NTC				*eS*	**Sn**	04 49 06.4	-0.7
	baz=283						
TIPB	**Shuangxi**	**0.54**	**299**	P	**Pn**	04 48 56.6	0.0
	baz=296						
TIPB				S	**Sn**	04 49 07.5	-0.4
	baz=296						
JYNG	**Yonagunijimaku**	**0.61**	**115**	P	**Pn**	04 48 57.2	+0.1
JYNG				*eS*	**Sn**	04 49 09.2	+0.4
NANB	**Nanao**	**0.61**	**243**	*eP*	**Pn**	04 48 57.5	+0.4
	baz=240						
NANB				*eS*	**Sn**	04 49 09.5	+0.6
	baz=240						
ENA	**Nanau**	**0.61**	**243**	*eP*	**Pn**	04 48 57.4	+0.2
	baz=240						
ENA				*eS*	**Sn**	04 49 09.6	+0.7
	baz=240						
TWE	**Neicheng**	**0.61**	**271**	*eP*	**Pn**	04 48 57.3	+0.2
	baz=268						
TWE				*eS*	**Sn**	04 49 08.8	-0.2
	baz=268						
NWF	**Wu-fen Shan**	**0.62**	**305**	P	**Pn**	04 48 57.5	+0.1
	baz=302						
NWF				S	**Sn**	04 49 08.7	-0.6
	baz=302						
WFSB	**Wu-fen Shan**	**0.62**	**305**	*eP*	**Pn**	04 48 57.5	+0.2
	baz=302						
WFSB				*eS*	**Sn**	04 49 08.6	-0.5
	baz=302						
YOJ	**Yonaguni jima**	**0.66**	**112**	*eP*	**Pn**	04 48 57.3	-0.2
	baz=114						
YOJ				*eS*	**Sn**	04 49 09.2	-0.4
	baz=114						
YOJ	**Yonaguni jima**	**0.66**	**112**	P	**Pn**	04 48 57.6	+0.1
YOJ				*eS*	**Sn**	04 49 10.0	+0.4
NDT	**Datong Townshi**	**0.76**	**262**	P	**Pn**	04 48 59.3	+0.7
	baz=259						
NDT				S	**Sn**	04 49 12.6	+1.2
	baz=259						
NWLT	**Wulai**	**0.77**	**275**	P	**Pn**	04 48 58.6	0.0
	baz=272						
NWLT				S	**Sn**	04 49 12.3	+0.7
	baz=272						
NHDH	**Xindian Distri**	**0.78**	**289**	*eP*	**Pn**	04 48 58.1	-0.7
	baz=286						
NHDH				*eS*	**Sn**	04 49 10.9	-0.9
	baz=286						
YM07	**YM07**	**0.80**	**305**	P	**Pn**	04 48 58.9	-0.1
	baz=303						
YM07				S	**Sn**	04 49 11.9	-0.4
	baz=303						
TATO	**Taipei**	**0.82**	**289**	*eP*	**Pn**	04 48 59.0	-0.2
	baz=286						
TATO				*eS*	**Sn**	04 49 11.5	-0.9
	baz=286						
YM01	**YM01**	**0.82**	**302**	P	**Pn**	04 48 58.9	-0.4
	baz=299						
YM01				S	**Sn**	04 49 12.3	-0.3
	baz=299						
YM11	**YM11**	**0.83**	**303**	*eP*	**Pn**	04 48 59.3	-0.1
	baz=301						
YM11				*eS*	**Sn**	04 49 11.7	-1.2
	baz=301						
YM10	**YM10**	**0.84**	**302**	P	**Pn**	04 48 59.4	-0.1
	baz=300						
YM10				S	**Sn**	04 49 12.4	-0.6
	baz=300						
TWY	**Chenhua**	**0.88**	**310**	*eP*	**Pn**	04 48 59.5	-0.3
	baz=308						
TWY				*eS*	**Sn**	04 49 13.6	+0.1
	baz=308						
YHNB	**Yeheng**	**0.88**	**268**	*eP*	**Pn**	04 49 00.3	+0.4
	baz=265						
YHNB				*eS*	**Sn**	04 49 14.2	+0.4
	baz=265						
NSK	**Sanguang**	**0.90**	**268**	P	**Pn**	04 49 00.3	+0.3
	baz=265						
NSK				S	**Sn**	04 49 14.0	0.0
	baz=265						
NNSB	**Datong**	**0.92**	**252**	*eP*	**Pn**	04 49 00.6	+0.3
	baz=250						
NNSB				*eS*	**Sn**	04 49 14.2	-0.3
	baz=250						
NNS	**Nan Shan**	**0.92**	**253**	P	**Pn**	04 49 00.6	+0.2
	baz=251						
NNS				S	**Sn**	04 49 15.1	+0.4
	baz=251						
TWD	**Chiawan**	**0.92**	**228**	P	**Pn**	04 48 59.9	-0.4
	baz=226						
TWD				S	**Sn**	04 49 14.2	-0.3
	baz=226						
TWS1	**Kuangyinshan**	**0.93**	**295**	*eP*	**Pn**	04 49 00.4	+0.1
	baz=293						
NTST	**Danshui**	**0.93**	**299**	*eP*	**Pn**	04 49 00.1	-0.2
	baz=297						
NTST				*eS*	**Sn**	04 49 14.1	-0.4
	baz=297						
ETLH	**Xiulin Townshi**	**0.93**	**238**	*eP*	**Pn**	04 49 00.1	-0.3
	baz=236						
ETLH				*eS*	**Sn**	04 49 14.2	-0.5
	baz=236						
WLTB	**Daxi**	**1.00**	**278**	*eP*	**Pn**	04 49 01.2	+0.1
	baz=276						
WLTB				*eS*	**Sn**	04 49 16.1	+0.2
	baz=276						
ENLB	**Shoufeng**	**1.05**	**220**	*eP*	**Pn**	04 49 01.1	-0.6
	baz=219						
ENLB				*eS*	**Sn**	04 49 16.7	-0.2
	baz=219						
WHF	**Hehuan Shan**	**1.13**	**240**	P	**Pn**	04 49 03.2	+0.1
	baz=238						
WHF				S	**Sn**	04 49 19.8	+0.4
	baz=238						
LIOB	**Emei**	**1.21**	**267**	P	**Pn**	04 49 03.9	+0.3
	baz=265						
LIOB				S	**Sn**	04 49 20.2	-0.1
	baz=265						
ESL	**Shilin**	**1.22**	**223**	*eP*	**Pn**	04 49 03.3	-0.4
	baz=221						
ESL				*eS*	**Sn**	04 49 19.1	-1.4
	baz=221						
NSTT	**Nanjuang**	**1.22**	**267**	P	**Pn**	04 49 04.1	+0.3
	baz=264						
NSTT				S	**Sn**	04 49 20.9	+0.2
	baz=264						
CHGB	**Renai**	**1.25**	**239**	*eP*	**Pn**	04 49 04.2	-0.1
	baz=237						
CHGB				*eS*	**Sn**	04 49 20.6	-0.8
	baz=237						
OWD	**Renai**	**1.30**	**235**	P	**Pn**	04 49 04.9	+0.1
	baz=233						
OWD				S	**Sn**	04 49 21.7	-0.8
	baz=233						
IRIF	**Iriomote-Funau**	**1.32**	**106**	P	**Pn**	04 49 04.9	0.0
IRIF				*eS*	**Sn**	04 49 23.0	+0.4
EGFH	**Guangfu**	**1.33**	**219**	*eP*	**Pn**	04 49 04.0	-1.0
	baz=218						
EGFH				*eS*	**Sn**	04 49 21.4	-1.5
	baz=218						
WHP	**Taichung City**	**1.34**	**252**	*eP*	**Pn**	04 49 06.0	+0.7
	baz=250						
WHP				*eS*	**Sn**	04 49 24.0	+0.7
	baz=250						
NMLH	**Miaoli**	**1.42**	**263**	*eP*	**Pn**	04 49 06.2	0.0
	baz=261						
NMLH				*eS*	**Sn**	04 49 24.6	-0.3
	baz=261						
VWDT	**VWDT**	**1.45**	**229**	*eP*	**Pn**	04 49 06.7	+0.1
	baz=228						
VWDT				*eS*	**Sn**	04 49 25.6	0.0
	baz=228						
DPDB	**Guoxing**	**1.46**	**243**	*eP*	**Pn**	04 49 07.3	+0.6
	baz=241						
DPDB				*eS*	**Sn**	04 49 26.6	+0.8
	baz=241						
HGSD	**Ruisui**	**1.47**	**215**	*eP*	**Pn**	04 49 06.5	-0.4
	baz=214						
HGSD				*eS*	**Sn**	04 49 25.6	-0.5
	baz=214						
SMLT	**Sun Moon Lake**	**1.55**	**238**	*eP*	**Pn**	04 49 09.1	+1.1
	baz=237						
SMLT				*eS*	**Sn**	04 49 29.6	+1.5
	baz=237						
SSLB	**Suanglung**	**1.56**	**234**	*eP*	**Pn**	04 49 08.4	+0.3
	baz=233						
SSLB				*eS*	**Sn**	04 49 29.5	+1.3
	baz=233						
JKRS	**Kuro-shima**	**1.59**	**107**	P	**Pn**	04 49 08.5	+0.2
JKRS				*eS*	**Sn**	04 49 29.1	+0.4
YULB	**Yu-li**	**1.62**	**216**	*eP*	**Pn**	04 49 07.1	-1.6
	baz=215						
YULB				*eS*	**Sn**	04 49 26.9	-2.6
	baz=215						
TWF1	**Yuli**	**1.65**	**215**	*eP*	**Pn**	04 49 08.0	-1.2
	baz=214						
TWF1				*eS*	**Sn**	04 49 27.7	-2.6
	baz=214						
JIJ	**Ishigaki jima**	**1.68**	**101**	P

JISG			*e*S		**Sn**	**04 49 33.6**	**+0.2**
CHN5	**Tsauling**	**1.88 234**	P		**Pn**	**04 49 13.2**	**+1.0**
	baz=233						
CHN5			S		**Sn**	**04 49 37.4**	**+1.8**
	baz=233						
WDLH	**Douliu**	**1.94 239**	*e*P		**Pn**	**04 49 13.4**	**+0.7**
	baz=237						
WDLH			*e*S		**Sn**	**04 49 36.8**	**+0.1**
	baz=237						
ELDTW	**Lidau**	**1.94 219**	P		**Pn**	**04 49 12.2**	**-0.7**
	baz=218						
ELDTW			S		**Sn**	**04 49 35.9**	**-1.1**
	baz=218						
CHN4	**Tsaushan**	**2.09 230**	P		**Pn**	**04 49 15.9**	**+1.0**
	baz=229						
CHN4			S		**Sn**	**04 49 41.4**	**+1.0**
	baz=229						
TPUB	**Ta-pu**	**2.10 229**	*e*P		**Pn**	**04 49 15.7**	**+0.7**
	baz=227						
TPUB			*e*S		**Sn**	**04 49 41.5**	**+0.8**
	baz=227						
JTJ	**Tarama**	**2.15 91**	*e*S		**Sn**	**04 49 42.0**	**+0.3**
WTP	**Ta-pu**	**2.15 228**	*e*P		**Pn**	**04 49 16.0**	**+0.4**
	baz=226						
WTP			*e*S		**Sn**	**04 49 43.0**	**+1.2**
	baz=226						
SNST	**Tainan City**	**2.25 229**	*e*P		**Pn**	**04 49 17.2**	**+0.3**
	baz=228						
SNST			*e*S		**Sn**	**04 49 44.1**	**+0.1**
	baz=228						
CHN1	**Nanshi**	**2.25 228**	*e*P		**Pn**	**04 49 17.5**	**+0.5**
	baz=227						
CHN1			*e*S		**Sn**	**04 49 44.4**	**+0.2**
	baz=227						
MASBT	**Mashibuluo**	**2.61 217**	*e*P		**Pn**	**04 49 22.8**	**+1.0**
	baz=216						
MASBT			*e*S		**Sn**	**04 49 52.8**	**+0.1**
	baz=216						
PHUB	**P'eng-hu**	**2.80 245**	*e*P		**Pn**	**04 49 24.0**	**-0.2**
	baz=244						
PHUB			*e*S		**Sn**	**04 49 54.2**	**-2.9**
	baz=244						

*ISCJB **23** 05:07:18.9±0.7, 39.°48N±0.°04×26.°39E±0.°06, h10km±5km,*
Error ellipse: s-maj=8.9km s-min=4.9km az=151.3
*ISK **23** 05:07:18.8, 39.°49N×26.°43E, h12km, ML2.4/11*
*DDA **23** 05:07:19.0, 39.°51N×26.°40E, h7km±3km, ML2.6*
ISC 23 05:07:19.0±1.1, 39.°49N±0.°03×26.°38E±0.°05, h12km±8km, n20, σ0§43/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYC	**CANAKKALE_Bayr**	**0.28**	**27**	IAML_P			
	comp=Z,3μm,0.1s						
BAYC				*i* P	**Pg**	**05 07 24.9**	**+0.1**
BAYC				*i* S	**Sg**	**05 07 29.3**	**+0.6**
AYVA	**Ayvalik**	**0.30**	**127**	IAML_P			
	comp=Z,1μm,0.1s						
AYVA				*i* P	**Pg**	**05 07 25.1**	**-0.1**
AYVA				*i* S	**Sg**	**05 07 28.6**	**-0.6**
EZN	**Ezine**	**0.34**	**353**	PG	**Pg**	**05 07 26.2**	**+0.4**
EZN				SG	**Sb**	**05 07 31.4**	**-0.9**
BOZC	**Bozcaada**	**0.43**	**324**	PG	**Pb**	**05 07 28.5**	**-0.1**
BOZC				SG	**Sb**	**05 07 34.9**	**-0.1**
BOZC	**Bozcaada**	**0.43**	**324**	IAML_P			
	comp=Z,2μm,0.1s						
BOZC				*i* P	**Pb**	**05 07 28.6**	**+0.1**
ZEDA	**zmir-Bergama**	**0.75**	**134**	*i* P	**Pb**	**05 07 33.8**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.91**	**5**	PG	**Pg**	**05 07 36.4**	**-0.2**
LPK	**Lapseki**	**0.93**	**18**	PG	**Pb**	**05 07 36.8**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.04**	**96**	IAML_P			
	comp=Z,709nm,0.2s						
STEP				*i* P	**Pn**	**05 07 39.3**	**-0.2**
STEP				*i* S	**Sn**	**05 07 54.2**	**+0.2**
URLA	**Izmir**	**1.14**	**171**	PN	**Pb**	**05 07 40.7**	**0.0**
URLA				SN	**Sn**	**05 07 56.7**	**+0.3**
BALB	**Balikesir**	**1.17**	**82**	PN	**Pb**	**05 07 40.9**	**-0.2**
ERIK	**Erikli-Kesan**	**1.18**	**5**	PN	**Pn**	**05 07 41.3**	**-0.1**
ENEZ	**Enez**	**1.25**	**352**	PN	**Pb**	**05 07 42.6**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.34**	**27**	PN	**Pn**	**05 07 43.5**	**-0.1**
KESN	**Edirne-Kesan**	**1.35**	**10**	*i* P	**Pg**	**05 07 44.9**	**-0.2**
EDC	**Edincik**	**1.43**	**53**	PN	**Pn**	**05 07 44.4**	**-0.3**
DURS	**Dursunbey**	**1.62**	**85**	IAML_P			
	comp=Z,118nm,0.1s						
DURS				*i* P	**Pg**	**05 07 51.3**	**+1.1**
KCTX	**Karacabey (Bur**	**1.71**	**62**	PN	**Pn**	**05 07 48.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.94**	**142**	PN	**Pn**	**05 07 52.1**	**+0.1**
EDRB	**Edirne**	**2.37**	**7**	PN	**Pn**	**05 07 58.3**	**+0.6**

IDC 23 05:23:44.7±2.9, 43.°35N×87.°39E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.3/30, mbtmp3.6/3, ML3.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/26, 4C-2D, Error ellipse: s-maj=63.7km s-min=31.7km az=63.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.99**	**315**	⇑Pn	Pn	05 25 02.9	+2.1
	0.8nm,0.2s,baz=129,slow=14,SNR=60						
MK31				⇓Sn	Sn	05 26 00.2	+1.0
	2.7nm,0.6s,baz=130,slow=25,SNR=4.0						
MK31				⇓Lg	Lg	05 26 20.3	
	1.8nm,0.5s,baz=134,slow=28,SNR=5.5						
MKAR	**Makanchi Array**	**4.99**	**315**	Pn	Pn	05 25 02.9	+2.1
	2.4nm,0.3s,baz=131,slow=14,SNR=49						
MKAR				Sn	Sn	05 25 53.6	-5.6
	0.6nm,0.3s,baz=138,slow=26,SNR=2.6						
MKAR				Lg	Lg	05 26 21.5	
	0.9nm,0.3s,baz=128,slow=29,SNR=6.3						
MAKZ	**Makanchi**	**5.16**	**314**	⇑Pn	Pn	05 25 05.3	+2.1
	2.7nm,0.3s						
MAKZ				⇑Sn	Sn	05 26 00.0	-3.4
	2.2nm,0.4s						
MAKZ				⇑Lg	Lg	05 26 26.1	
	3.3nm,0.6s						
ZALV	**Zalesovo Beam**	**10.74**	**352**	Pn	Pn	05 26 19.5	-0.1
	0.4nm,0.3s,baz=176,slow=13,SNR=3.5						
KSRS	**Korea Array**	**31.20**	**87**	LR	LR	05 43 46.9	
	comp=Z,20nm,18.7s,baz=178,slow=39						
TORD	**Torodi Ar. Bea**	**78.00**	**277**	P	P	05 35 44.9	-0.3
	0.6nm,1.0s,baz=57,slow=5.2,SNR=3.0						

GUC 23 05:44:54.0±0.3, 38.°41S×75.°13W, h30km±35km, ML3.7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**3.03**	**54**	*e*P	Pn	05 45 39.1	-0.7
CCHI				*e*S	Sn	05 46 14.6	-0.5
GO06	**Curarrehue**	**3.08**	**113**	*e*P	Pn	05 45 41.5	+0.8
GO06				*e*S	Sn	05 46 17.9	+1.3
GO06				IAML		05 46 21.1	
	comp=N,197nm,0.5s						
PLCA	**Paso Flores**	**4.23**	**125**	*e*P	Pn	05 45 57.3	+0.8
GO05	**Huala**	**4.26**	**38**	*e*P	Pn	05 45 54.2	-2.7
GO05				*e*S	Sn	05 46 41.4	-4.2

*NNC **23** 06:02:03.2±1.1, 44.°72N×82.°02E, h0km, mb2.9, mpv2.5,*
Error ellipse: s-maj=15.7km s-min=3.2km az=117.0
*SOME **23** 06:02:03.1, 44.°68N×82.°23E, h15km*
ISC 23 06:02:03.1±2.9, 44.°70N±0.°08×82.°2E±0.°1, h1km±19km, n9, σ0§89/15, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.76**	**259**	*e*P	**Pn**	**06 02 35.9**	**+1.0**
	2.7nm,0.2s						
DJR				*e*S	**Sg**	**06 02 59.9**	**+0.2**
	3.6nm,0.2s						
KTMS	**Ketmen**	**1.83**	**227**	*e*P	**Pn**	**06 02 37.0**	**+1.2**
	3.0nm,0.1s						
KTMS				*e*S	**Sg**	**06 03 01.9**	**0.0**
	13nm,0.3s						
MK31	**Makanchi Array**	**2.09**	**2**	⇓Pg	**Pb**	**06 02 41.3**	**-0.6**
	2.1nm,0.2s,baz=199,slow=15,SNR=93						
MK31				Lg	Lg	06 03 08.8	
	0.7nm,0.2s,baz=184,slow=26,SNR=9.9						
MAKZ	**Makanchi**	**2.11**	**356**	⇓Pg	**Pb**	**06 02 41.6**	**-0.6**
	0.9nm,0.2s						
MAKZ				⇑Lg	Lg	06 03 09.4	
	1.2nm,0.2s						
PDGK	**Podgornoye**	**2.39**	**236**	⇓Pg	**Pn**	**06 02 45.0**	**+1.4**
	0.3nm,0.2s						
PDGK				⇑Lg	Lg	06 03 16.5	
	1.4nm,0.3s						
SHLS	**Shalkode**	**2.51**	**233**	*e*P	**Pn**	**06 02 45.1**	**0.0**
	5.1nm,0.1s						
SHLS				*e*S	**Sn**	**06 03 15.3**	**-1.2**
	11nm,0.2s						
UZB	**Uzymbulak**	**2.77**	**237**	*e*P	**Pb**	**06 02 52.9**	**-0.6**
	0.9nm,0.2s						
UZB				*e*S	**Sb**	**06 03 28.7**	**+0.6**
	2.2nm,0.1s						
MNBS	**Baschi**	**2.79**	**258**	*e*P	**Pb**	**06 02 53.1**	**-0.7**
	2.3nm,0.2s						
MNBS				*e*S	**Sb**	**06 03 29.0**	**+0.3**
	6.3nm,0.3s						
SATY	**Saty**	**3.20**	**240**	*e*P	**Pb**	**06 02 59.9**	**-0.9**
	2.5nm,0.1s						
SATY				*e*S	**Sb**	**06 03 40.4**	**+0.1**
	9.5nm,0.2s						

*ISK **23** 06:21:49.2, 34.°72N×32.°66E, h18km, ML3.1/16*
*ISCJB **23** 06:21:51.9±0.7, 34.°76N±0.°04×32.°86E±0.°05, h21km±5km,*
Error ellipse: s-maj=8.3km s-min=5.1km az=136.1
*NIC **23** 06:21:52.6±0.2, 34.°84N×32.°85E, h18km, ML3.0*
*DDA **23** 06:21:53.0, 35.°00N×32.°63E, h24km±1km, ML3.1*
*NSSC **23** 06:21:57.9±0.4, 33.°49N×32.°90E, h14km±999km, ML2.4*
ISC 23 06:21:52.3±1.1, 34.°82N±0.°04×32.°83E±0.°03, h18km±3km, n33, σ1§43/50, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni**	**0.08**	**146**	P	**Pg**	**06 21 56.3**	**+0.4**
	baz=341						
LEF	**Lefka**	**0.30**	**10**	PG	**Pg**	**06 21 58.6**	**-0.2**
LEF				SG	**Sb**	**06 22 04.7**	**+1.0**
LEF	**Lefka**	**0.30**	**10**	*i* P	**Pb**	**06 21 60.0**	**+0.8**
LEF				*i* S	**Sb**	**06 22 05.4**	**+1.7**
ALFC	**Alefka**	**0.38**	**331**	P	**Pg**	**06 22 00.4**	**+0.2**
	baz=146						
ALFC				S	**Sb**	**06 22 06.8**	**+0.6**
PPCY	**Paphos**	**0.40**	**279**	P	**Pg**	**06 22 00.8**	**+0.3**
	baz=95						
PPCY				S	**Sb**	**06 22 08.2**	**+1.5**
MAMC	**Mammari**	**0.47**	**43**	P	**Pg**	**06 22 01.9**	**0.0**
	baz=222						
AKDN	**Akdeniz- Kıbrı**	**0.49**	**14**	PG	**Pg**	**06 22 02.3**	**+0.2**
AKIN	**Akıncılar- Kıb**	**0.56**	**70**	PG	**Pg**	**06 22 03.4**	**-0.1**
EREN	**Erenkoy**	**1.31**	**57**	PN	**Pn**	**06 22 16.1**	**+0.5**
EREN				SN	**Sg**	**06 22 35.4**	**+0.8**
EREN	**Erenkoy**	**1.31**	**57**	IAML_P			
	comp=Z,1μm,0.2s						
EREN				*i* P	**Pg**	**06 22 18.5**	**+1.0**
EREN				*i* S	**Sg**	**06 22 38.3**	**+3.7**
TEKE	**Tekeli-Mersin**	**1.34**	**10**	PN	**Pn**	**06 22 15.3**	**-0.7**
TEKE				SN	**Sg**	**06 22 34.8**	**-0.8**
AKKU	**Akkuyu-Mersin**	**1.46**	**24**	PN	**Pn**	**06 22 17.9**	**+0.2**
GAZI	**Gazipasa**	**1.47**	**344**	PN	**Pn**	**06 22 17.1**	**-0.8**
GAZI	**Gazipasa**	**1.47**	**344**	IAML_P			
	comp=Z,563nm,0.2s						
GAZI				*i* P	**Pn**	**06 22 17.9**	**0.0**
GAZI				*i* S	**Sb**	**06 22 38.3**	**+0.9**
GULN	**MERSIN_Gulnar**	**1.48**	**23**	IAML_P			
	comp=Z,472nm,0.1s						
GULN				*i* P	**Pb**	**06 22 19.7**	**+0.5**
GULN				*i* S	**Sg**	**06 22 39.4**	**-0.6**
YESI	**Yesilovacik-Me**	**1.52**	**26**	PN	**Pn**	**06 22 18.7**	**+0.1**
BERE	**Bereket-Mersin**	**1.55**	**12**	PN	**Pn**	**06 22 18.6**	**-0.6**
IKL	**Isikli**	**1.58**	**26**	PN	**Pn**	**06 22 18.8**	**-0.5**
TEVE	**Tevekalti-Mers**	**1.69**	**17**	PN	**Pn**	**06 22 20.1**	**-0.8**
KEBE	**Keben-Mersin**	**1.77**	**24**	PN	**Pn**	**06 22 22.1**	**0.0**
SILI	**Silifke-Mersin**	**1.78**	**30**	PN	**Pn**	**06 22 22.0**	**-0.1**
ERMK	**Ermenek**	**1.81**	**2**	IAML_P			
	comp=Z,676nm,0.1s						
ERMK				*i* P	**Pn**	**06 22 23.9**	**+1.1**
ERMK				*i* S	**Sn**	**06 22 46.0**	**+0.5**
KIZK	**Mersin**	**1.97**	**33**	PN	**Pn**	**06 22 25.3**	**+0.5**
KIZK	**Mersin**	**1.97**	**33**	IAML_P			
	comp=Z,914nm,0.1s						
KIZK				*i* P	**Pb**	**06 22 27.7**	**+0.1**
KIZK				*i* S	**Sb**	**06 22 53.6**	**+1.7**
KEPZ	**Antalya-Kepez**	**2.30**	**335**	IAML_P			
	comp=Z,383nm,0.2s						
KEPZ				*i* P	**Pn**	**06 22 30.8**	**+1.5**
KEPZ				*i* S	**Sb**	**06 23 00.9**	**-0.4**
MERS	**Mersin**	**2.46**	**34**	PN	**Pn**	**06 22 32.5**	**+0.9**
KERG	**Konya-Eregli**	**2.79**	**22**	IAML_P			
	comp=Z,217nm,0.3s						
KERG				*i* P	**Pb**	**06 22 39.5**	**-2.2**
KERG				*i* S	**Sb**	**06 23 15.5**	**-0.1**
GULE	**Gulek**	**2.92**	**32**	IAML_P			
	comp=Z,330nm,0.2s						
GULE				*i* P	**Pb**	**06 22 43.9**	**-0.1**
GULE				*i* S	**Sb**	**06 23 19.2**	**-0.1**
BRBR	**Barbar**	**2.95**	**118**	*e*P	**Pn**	**06 22 39.1**	**+0.7**
BRBR				*e*S	**Sn**	**06 23 09.3**	**-4.2**
BRBR				AML	AML	06 23 15.2	
	comp=E,11nm,0.2s						
BRBR				AML	AML	06 23 18.1	
	comp=N,19nm,0.4s						
KARA	**Karaisali**	**3.03**	**36**	PN	**Pn**	**06 22 39.9**	**+0.6**
QASN	**Qassioun**	**3.14**	**113**	*e*P	**Pn**	**06 22 43.4**	**+2.5**
QASN				*e*S	**Sn**	**06 23 15.3**	**-2.7**
QASN				AML	AML	06 23 15.4	
	comp=E,194nm,0.2s						
QASN				AML	AML	06 23 15.5	
	comp=N,370nm,0.2s						
TAHT	**Tahtakopru-Hat**	**3.15**	**60**	PN	**Pn**	**06 22 41.6**	**+0.7**
TOTH	**TOTAH**	**3.33**	**115**	*e*P	**Pn**	**06 22 45.2**	**+1.7**
TOTH				*e*S	**Sn**	**06 23 18.3**	**-4.2**
TOTH				AML	AML	06 23 26.2	
	comp=E,8.5nm,0.4s						
TOTH				AML	AML	06 23 26.4	
	comp=N,15nm,0.2s						

*JMA **23** 06:27:19.9±0.1, 24.°02N×121.°50E, h26km±2km, M3.1*
*ASIES **23** 06:27:19.9, 24.°09N×121.°52E, h23km, MW3.2*
*ISCJB **23** 06:27:20.5±0.2, 24.°07N±0.°01×121.°57E±0.°01, h22km±2km,*
Error ellipse: s-maj=2.3km s-min=1.6km az=29.9
*TAP **23** 06:27:20.4, 24.°09N×121.°52E, h20km, ML3.8, B*
ISC 23 06:27:20.5±0.8, 24.°08N±0.°01×121.°55E±0.°02, h19km±1km, n114, σ0§60/172, 7C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.04**	**89**	⇓*i*P	**Pg**	**06 27 24.2**	**+0.4**
	baz=98						
TWD				*i* S	**Sg**	**06 27 26.9**	**+0.7**
	baz=98						
NACB	**Ninganchiao**	**0.10**	**25**	⇑*e*P	**Pg**	**06 27 25.4**	**+1.0**
	baz=39						
NACB				*e*S	**Sg**	**06 27 28.0**	**+1.1**
	baz=39						
HWA	**Hwalien**	**0.12**	**153**	⇓*i*P	**Pg**	**06 27 25.1**	**+0.7**
	baz=152						
HWA				S	**Sg**	**06 27 28.8**	**+1.7**
	baz=152						
ETLH	**Xiulin Townshi**	**0.14**	**335**	⇑P	**Pg**	**06 27 24.9**	**+0.1**
	baz=341						
ETLH				S	**Sg**	**06 27 27.7**	**-0.1**
	baz=341						
ENLB	**Shoufeng**	**0.18**	**164**	⇓P	**Pb**	**06 27 25.1**	**+0.7**
	baz=165						
ENLB				*e*S	**Sg**	**06 27 29.1**	**+0.6**
	baz=165						
WHF	**Hehuan Shan**	**0.27**	**284**	⇑*i*P	**Pb**	**06 27 26.6**	**-0.2**
	baz=283						
WHF				*i* S	**Sb**	**06 27 30.9**	**-0.2**
	baz=283						
ESL	**Shilin**	**0.28**	**202**	P	**Pg**	**06 27 26.3**	**-0.5**
	baz=200						
ESL				*e*S	**Sb**	**06 27 30.7**	**-0.6**
	baz=200						
CHGB	**Renai**	**0.34**	**267**	⇑P	**Pg**	**06 27 27.8**	**-0.1**
	baz=260						
CHGB				S	**Sg**	**06 27 32.7**	**-0.3**
	baz=260						
OWD	**Renai**	**0.36**	**250**	⇑*i*P	**Pg**	**06 27 28.0**	**-0.2**
	baz=247						
OWD				S	**Sg**	**06 27 32.7**	**-0.7**
	baz=247						
NNSB	**Datong**	**0.38**	**337**	⇓P	**Pg**	**06 27 28.4**	**-0.2**
	baz=339						
NNSB				S	**Sg**	**06 27 33.6**	**-0.3**
	baz=339						
TWT	**Tachien**	**0.38**	**297**	⇓P	**Pg**	**06 27 28.8**	**+0.2**
	baz=299						
TWT				*i* S	**Sg**	**06 27 34.0**	**0.0**
	baz=299						
ENA	**Nanau**	**0.39**	**27**	P	**Pg**	**06 27 28.4**	**-0.3**
	baz=39						
ENA				S	**Sg**	**06 27 34.0**	**-0.1**
	baz=39						
NANB	**Nanao**	**0.39**	**28**	⇑P	**Pg**	**06 27 28.4**	**-0.3**
	baz=39						
NANB				S	**Sg**	**06 27 34.1**	**-0.1**
	baz=39						
NNS	**Nan Shan**	**0.39**	**336**	P	**Pg**	**06 27 28.6**	**-0.2**
	baz=339						
NNS				S	**Sg**	**06 27 34.1**	**-0.3**
	baz=339						
EGFH	**Guangfu**	**0.42**	**195**	*e*P	**Pg**	**06 27 28.4**	**-0.9**
	baz=192						
EGFH				S	**Sg**	**06 27 34.6**	**-0.5**
	baz=192						
VWDT	**VWDT**	**0.49**	**229**	⇑P	**Pg**	**06 27 30.2**	**-0.3**
	baz=223						
VWDT				S	**Sg**	**06 27 37.4**	**+0.2**
	baz=223						
NDT	**Datong Townshi**	**0.52**	**357**	*e*P	**Pb**	**06 27 30.5**	**-0.5**
	baz=356						
NDT				S	**Sb**	**06 27 38.4**	**+0.2**
	baz=356						
ENTT	**Nioudou**	**0.56**	**2**	P	**Pb**	**06 27 31.7**	**+0.1**
	baz=12						
DPDB	**Guoxing**	**0.57**	**266**	⇓*i*P	**Pb**	**06 27 31.5**	**-0.3**
	baz=258						
DPDB				S	**Sb**	**06 27 39.1**	**-0.5**
	baz=258						
WHP	**Taichung City**	**0.58**	**290**	⇓*i*P	**Pb**	**06 27 31.9**	**-0.2**
	baz=295						
WHP				S	**Sb**	**06 27 39.3**	**-0.7**
	baz=295						
HGSD	**Ruisui**	**0.59**	**191**	P	**Pb**	**06 27 32.1**	**-0.2**
	baz=196						
HGSD				S	**Sg**	**06 27 41.1**	**+0.8**
	baz=196						
TWC	**Suao**	**0.59**	**27**	⇓*i*P	**Pb**	**06 27 32.4**	**+0.1**
	baz=31						
TWC				*e*S	**Sb**	**06 27 40.2**	**0.0**
	baz=31						
EHY	**Hungye**	**0.61**	**200**	P	**Pb**	**06 27 31.8**	**-0.6**
	baz=190						
EHY				S	**Sb**	**06 27 40.0**	**-0.5**
	baz=190						
YHNB	**Yeheng**	**0.61**	**345**	⇓P	**Pb**	**06 27 32.2**	**-0.4**
	baz=347						
YHNB				S	**Sb**	**06 27 40.5**	**-0.2**
	baz=347						
SSLB	**Suanglung**	**0.62**	**242**	P	**Pb**	**06 27 32.1**	**-0.5**
	baz=245						
SSLB				S	**Sb**	**06 27 39.3**	**-1.5**
	baz=245						
NSK	**Sanguang**	**0.62**	**344**	P	**Pb**	**06 27 32.5**	**-0.2**
	baz=346						
NSK				S	**Sb**	**06 27 40.4**	**-0.6**
	baz=346						
SMLT	**Sun Moon Lake**	**0.62**	**252**	P	**Pb**	**06 27 32.5**	**-0.3**
	baz=244						
SMLT				S	**Sb**	**06 27 40.3**	**-0.9**
	baz=244						
TWE	**Neicheng**	**0.65**	**10**	P	**Pb**	**06 27 33.0**	**-0.2**
	baz=13						
TWE				S	**Sb**	**06 27 41.5**	**-0.3**
	baz=13						
TYC	**Yuchr**	**0.66**	**255**	P	**Pb**	**06 27 32.6**	**-0.6**
	baz=248						
TYC				S	**Sb**	**06 27 40.4**	**-1.6**
	baz=248						
NWLT	**Wulai**	**0.70**	**357**	⇓P	**Pb**	**06 27 33.5**	**-0.5**
	baz=358						
NWLT				S	**Sb**	**06 27 42.0**	**-1.3**
	baz=358						
EOS1	**EOS1**	**0.71**	**48**	*e*P	**Pg**	**06 27 35.0**	**+0.5**
	baz=42						
YULB	**Yu-li**	**0.72**	**199**	*e*P	**Pb**	**06 27 32.8**	**-1.7**
	baz=190						
YULB				*e*S	**Sb**	**06 27 43.8**	**-0.1**
	baz=190						
WHYT	**Xinyi Township**	**0.74**	**239**	P	**Pb**	**06 27 34.6**	**-0.2**
	baz=241						
WHYT				S	**Sb**	**06 27 45.2**	**+0.6**
	baz=241						
NSTT	**Nanjuang**	**0.74**	**318**	P	**Pb**	**06 27 35.0**	**+0.2**
	baz=318						
NSTT				S	**Sb**	**06 27 44.5**	**-0.1**
	baz=318						
LIOB	**Emei**	**0.74**	**319**	P	**Pb**	**06 27 34.9**	**+0.1**
	baz=320						
TWQ1	**Liyutan**	**0.76**	**291**	P	**Pb**	**06 27 35.2**	**+0.1**
	baz=298						
TWQ1				S	**Sb**	**06 27 45.5**	**+0.5**
	baz=298						
TWF1	**Yuli**	**0.76**	**198**	P	**Pb**	**06 27 34.4**	**-0.7**
	baz=195						
TWF1				S	**Sb**	**06 27 44.6**	**-0.5**
	baz=195						
NSY	**Sanyi**	**0.79**	**295**	⇓P	**Pg**	**06 27 36.4**	**+0.4**
	baz=302						
NSY				S	**Sg**	**06 27 47.1**	**+0.5**
	baz=302						
TCU	**Taichung**	**0.80**	**275**	*e*P	**Pb**	**06 27 35.8**	**0.0**
	baz=273						
YUS	**Yu-Shan**	**0.80**	**223**	P	**Pb**	**06 27 35.5**	**-0.7**
	baz=212						
YUS				*e*S	**Sb**	**06 27 45.6**	**-1.1**
	baz=212						
NTC	**Toucheng**	**0.81**	**18**	*e*P	**Pb**	**06 27 35.8**	**-0.3**
	baz=20						
WLTB	**Daxi**	**0.81**	**341**	*e*P	**Pn**	**06 27 37.4**	**+0.3**
	baz=347						
WLTB				*e*S	**Sb**	**06 27 46.0**	**-0.7**
	baz=347						
WNT	**Mingjian**	**0.81**	**256**	*e*P	**Pn**	**06 27 38.3**	**+1.3**
	baz=254						
WNT				*e*S	**Sg**	**06 27 48.2**	**+0.9**
	baz=254						
NMLH	**Miaoli**	**0.83**	**304**	P	**Pg**	**06 27 37.2**	**+0.5**
	baz=303						
NMLH				*e*S	**Sg**	**06 27 48.4**	**+0.8**
	baz=303						
EGS		**0.84**	**25**	*e*P	**Pb**	**06 27 36.6**	**+0.1**
	baz=27						
PTSB	**Yuanli**	**0.85**	**296**	P	**Pg**	**06 27 37.4**	**+0.3**
	baz=295						
PTSB				*e*S	**Sn**	**06 27 49.9**	**+0.4**
	baz=295						
WDJ	**Dajia District**	**0.87**	**288**	*e*P	**Pb**	**06 27 37.5**	**+0.5**
	baz=287						
SBCB	**Hsinchu**	**0.88**	**324**	*e*P	**Pg**	**06 27 37.9**	**+0.3**
	baz=332						
NHDH	**Xindian Distri**	**0.88**	**359**	*e*P	**Pb**	**06 27 37.2**	**0.0**
	baz=7.0						
HSN	**Hsinchu**	**0.89**	**324**	*e*P	**Pn**	**06 27 38.5**	**+0.5**
	baz=333						
HSN				*e*S	**Sn**	**06 27 50.6**	**+0.2**
	baz=333						
TATO	**Taipei**	**0.89**	**357**	P	**Pb**	**06 27 37.3**	**-0.1**
	baz=358						
TATO				S	**Sb**	**06 27 48.5**	**-0.4**
	baz=358						
WCHH	**Zhanghua**	**0.90**	**270**	*e*P	**Pn**	**06 27 38.3**	**+0.1**
	baz=268						
TIPB	**Shuangxi**	**0.92**	**16**	P	**Pb**	**06 27 37.3**	**-0.6**

TWB1	Santiao Chiao	1.01	23	eP		Pb	06 27 39.2	-0.2
	baz=16							
NWF	Wu-fen Shan	1.01	12	eP		Pn	06 27 40.0	+0.2
	baz=24							
WFSB	Wu-fen Shan	1.01	12	eP		Pb	06 27 39.3	-0.1
	baz=21							
WFSB				eS		Sb	06 27 52.6	+0.3
	baz=21							
ELDTW	Lidau	1.01	209	eP		Pb	06 27 38.6	-0.9
	baz=198							
TWS1	Kuangyinshan	1.02	353	eP		Pn	06 27 40.2	+0.3
	baz=7.0							
TWS1				eS		Sg	06 27 55.4	+1.5
	baz=7.0							
YM01	YM01	1.06	1	P		Pb	06 27 40.4	0.0
	baz=2.0							
YM01				S		Sb	06 27 54.6	+0.7
	baz=2.0							
YM10	YM10	1.07	1	eP		Pb	06 27 39.8	-0.7
	baz=2.0							
YM11	YM11	1.08	1	eP		Pb	06 27 40.1	-0.6
	baz=3.0							
YM11				eS		Sb	06 27 54.8	+0.3
	baz=3.0							
NTST	Danshui	1.08	355	eP		Pn	06 27 40.4	-0.3
	baz=10.0							
YM07	YM07	1.09	3	eP		Pn	06 27 40.6	-0.3
	baz=21							
RLNB	Erlin	1.10	260	eP		Pn	06 27 41.1	+0.1
	baz=257							
YM08	YM08	1.10	2	eP		Pn	06 27 40.3	-0.7
	baz=3.0							
CHN2	Minshiung	1.12	241	eP		Pb	06 27 41.9	+0.6
	baz=238							
CHN4	Tsaushan	1.14	231	eP		Pb	06 27 42.4	+0.9
	baz=240							
TPUB	Ta-pu	1.14	228	P		Pn	06 27 41.7	+0.1
	baz=215							
TPUB				eS		Sg	06 27 58.2	+0.5
	baz=215							
STYT	Tauyuan	1.17	219	eP		Pn	06 27 41.4	-0.5
	baz=204							
WTCT	Ta-ch'eng	1.18	260	eP		Pn	06 27 41.9	0.0
	baz=256							
CHY	Chiayi	1.18	241	eP		Pn	06 27 42.2	+0.2
	baz=237							
WTP	Ta-pu	1.19	226	P		Pn	06 27 42.6	+0.3
	baz=214							
WTP				eS		Sn	06 27 58.8	+0.9
	baz=214							
SNST	Tainan City	1.29	229	eP		Pb	06 27 44.5	+0.3
	baz=236							
WLGB	Puzi	1.29	243	eP		Pb	06 27 44.8	+0.6
	baz=239							
CHN1	Nanshi	1.29	227	eP		Pn	06 27 44.2	+0.6
	baz=210							
WSF	Szhu	1.29	250	eP		Pn	06 27 43.4	-0.1
	baz=246							
TWG	Pinlang	1.33	199	eP		Pn	06 27 44.4	+0.4
	baz=182							
TWGBT	Beinan	1.33	199	eP		Pn	06 27 43.4	-0.6
	baz=182							
JYNG	Yonagunijimaku	1.33	74	P		Pn	06 27 43.6	-0.4
JYNG				S		Sn	06 28 01.1	-0.1
SGST	Jiashian	1.33	222	eP		Pn	06 27 44.7	+0.6
	baz=206							
SLGT	Liugui	1.36	218	eP		Pn	06 27 44.9	+0.4
	baz=202							
YOJ	Yonaguni jima	1.39	74	eP		Pn	06 27 43.7	-1.1
	baz=76							
YOJ	Yonaguni jima	1.39	74	P		Pn	06 27 44.4	-0.5
YOJ				eS		Sn	06 28 03.0	+0.3
CHN8	Yiju	1.43	239	eP		Pb	06 27 47.2	+0.7
	baz=235							
SSD	Sandimen	1.57	213	eP		Pn	06 27 47.4	0.0
	baz=210							
PCYT	Pengchaiyu	1.61	17	eP		Pn	06 27 46.9	-1.1
	baz=19							
TWM1	Shoushan	1.62	220	eP		Pb	06 27 50.2	+0.3
	baz=216							
MASBT	Mashibuluo	1.69	210	eP		Pn	06 27 49.3	+0.3
	baz=208							
EAST	Anshuo	1.81	201	eP		Pn	06 27 51.5	+0.8
	baz=189							
SSPT	Xinbi	1.83	210	eP		Pn	06 27 52.4	+1.5
	baz=207							
PNG	Penghu	1.89	255	eP		Pn	06 27 51.6	-0.2
	baz=249							
PHUB	P'eng-hu	1.90	253	eP		Pn	06 27 51.8	-0.1
	baz=247							
SCZT	Fangliau	1.90	207	eP		Pb	06 27 54.4	-0.2
	baz=189							
WDGT	Dungji	1.91	245	eP		Pn	06 27 52.2	+0.1
	baz=238							
IRIF	Iriomote-Funau	2.01	82	P		Pn	06 27 53.0	-0.4
IRIF				S		Sn	06 28 18.4	+0.4
HATJ	Hateruma jima	2.06	90	P		Pn	06 27 53.9	-0.3
HATJ				S		Sn	06 28 19.3	-0.1
VWUC	VWUC	2.12	296	eP		Pn	06 27 53.9	-1.0
	baz=295							
VCHM	Qimei	2.13	246	eP		Pn	06 27 55.1	0.0
	baz=223							
PTTC	Pingtan	2.15	312	eP		Pn	06 27 54.3	-1.0
	baz=298							
JKRS	Kuro-shima	2.25	85	P		Pn	06 27 56.9	+0.1
JKRS				S		Sn	06 28 25.0	+0.9
JIJ	Ishigaki jima	2.39	83	P		Pn	06 27 58.0	-0.6
JIJ				S		Sn	06 28 26.6	-0.8
PTMZ	Houxiangcun	2.41	294	eP		Pn	06 27 57.9	-1.0
	baz=292							
MATB	Ma-tsu	2.52	325	eP		Pn	06 27 59.9	-0.6
	baz=328							
JISG	Ishigakijimahi	2.57	78	P		Pn	06 28 00.9	-0.2
JISG				eS		Sn	06 28 30.8	-1.1
JTJ	Tarama	2.93	78	P		Pn	06 28 07.0	+0.9
LYJJ	Jianjiangzhen	2.94	327	eP		Pn	06 28 06.1	-0.1
	baz=332							
MHZQ	Yeshan	3.04	312	eP		Pn	06 28 07.3	-0.3
	baz=313							
AXDP	Jialang	3.36	285	eP		Pn	06 28 11.6	-0.4
	baz=281							
ZPLA	Ao Xicun	3.48	268	eP		Pn	06 28 13.4	-0.2
	baz=263							

*ISCJB **23** 06:47:20.7±0.4, 6°.88N±0°.02×73°.15W±0°.03, h156km±3km, mb3.3/2, Error ellipse: s-maj=4.8km s-min=3.1km az=24.2*
*IDC **23** 06:47:21.8±1.6, 6°.87N×73°.02W, h160km±44km, mb3.0/2, mb1 3.5/4, mb1mx3.0/30, mbtmp3.6/4, Error ellipse: s-maj=111.7km s-min=14.6km az=133.0*
*RSNC **23** 06:47:22.2±1.2, 6°.85N×73°.15W, h150km±4km, ML3.5, Mw3.8*

ISC 23 06:47:21.4±0.9, 6°.88N±0°.03×73°.14W±0°.03, h155km±6km, n42, σ1§17/72, 4C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	Giron, Santand	0.21	344	i P		Pn	06 47 42.7	+0.2
GIRC				eS		Sn	06 47 57.9	-0.7
GIRC				i			06 47 59.6	
	comp=Z,391nm,0.5s							
BARC	Barichara	0.29	189	⇑ i P		Pn	06 47 42.6	-0.2
BARC				eS		Sn	06 47 57.3	-1.8
BARC				i			06 47 59.1	
	comp=Z,404nm,0.2s							
BRRC	Barranca, Sant	0.61	292	⇓ i P		Pn	06 47 44.4	+0.5
BRRC				eS		Sn	06 48 01.4	+0.3
BRRC				i			06 48 02.3	
	comp=N,1μm,0.2s							
PAMC	Pamplona, Colo	0.63	43	eP		Pn	06 47 45.4	+0.8
PAMC				eS		Sn	06 48 02.4	+0.1
PAMC				i			06 48 04.8	
	comp=N,483nm,0.6s							
RUSC	La Rusia	0.98	177	⇓ i P		Pn	06 47 46.5	-0.5
RUSC				eS		Sn	06 48 05.5	-1.1
RUSC				i			06 48 07.3	
	comp=E,329nm,0.3s							
CAPV	Capacho	1.28	40	⇑ i P		Pn	06 47 50.6	+1.2
CAPV				eS		Sn	06 48 10.9	+0.1
PTBC	PUERTO BERRIO,	1.35	256	⇑ i P		Pn	06 47 49.0	-0.9
PTBC				eS		Sn	06 48 10.2	-1.5
PTBC				i			06 48 16.1	
	comp=E,424nm,0.5s							
OCAC	Ocana	1.36	352	eP		Pn	06 47 50.6	+0.5
OCAC				eS		Sn	06 48 12.5	+0.2
OCAC				i			06 48 17.7	
	comp=N,886nm,0.3s							
TAMC	Tame, Arauca	1.41	108	⇓ i P		Pn	06 47 51.0	+0.6
TAMC				i			06 47 51.1	
	comp=Z,188nm,0.2s							
TAMC				eS		Sn	06 48 12.6	-0.1
YOPC	Yopal, Colombi	1.67	155	⇓ i P		Pn	06 47 53.4	+0.1
YOPC				i			06 47 56.0	
	comp=Z,162nm,0.2s							
YOPC				eS		Sn	06 48 17.5	-0.3
ZARC	Zaragoza, Cauc	1.81	290	eP		Pn	06 47 55.1	+0.4
ZARC				eS		Sn	06 48 20.0	-0.4
CTAU	Tausa, Cundina	1.89	209	eP		Pn	06 48 03.4	+7.3
CTAU				eS		Sn	06 48 27.8	+4.9
CTAU				i			06 48 34.6	
	comp=Z,246nm,0.3s							
SMLC	San Martn de	2.12	334	eP		Pn	06 47 58.7	+0.4
SMLC				eS		Sn	06 48 26.2	-0.5
SMLC				i			06 48 35.6	
	comp=E,415nm,0.1s							
CTAB	Cerro Tablazo,	2.14	210	eP		Pn	06 48 00.1	+1.2
CTAB				eS		Sn	06 48 26.0	-1.8
CTAB				i			06 48 31.1	
	comp=Z,216nm,0.7s							
NORC	Norcasia	2.16	233	eP		Pn	06 47 58.3	-0.4
NORC				eS		Sn	06 48 27.1	-0.5
NORC				i			06 48 33.8	
	comp=E,246nm,0.5s							
CHIC	Chingaza	2.31	195	eP		Pn	06 48 00.8	-0.1
CHIC				eS		Sn	06 48 30.1	-1.2
CHIC				i			06 48 32.2	
	comp=E,240nm,0.4s							
CROSA	EL ROSAL, CUND	2.33	210	eP		Pn	06 48 02.6	+1.4
CROSA				eS		Sn	06 48 32.0	+0.1
CROSA				i			06 48 35.1	
	comp=N,580nm,0.5s							
ROSC	El Rosal	2.34	210	P		Pn	06 48 02.4	+1.1
	comp=N,21nm,0.3s,baz=79,slow=18,SNR=143							
ROSC				S		Sn	06 48 30.2	-1.7
	comp=N,16nm,0.3s,baz=74,slow=19,SNR=9.0							
HELC	Santa Helena	2.47	254	eP		Pn	06 48 02.5	-0.3
HELC				eS		Sn	06 48 34.9	+0.2
HELC				i			06 48 41.2	
	comp=N,160nm,0.3s							
UREC	San Jos de Ur	2.53	290	eP		Pn	06 48 02.4	-0.8
UREC				eS		Sn	06 48 33.3	-2.1
SOCV	Socops	2.66	58	eP		Pn	06 48 04.8	+0.1
SOCV				eS		Sn	06 48 36.8	-1.5
GUY2C	Guyana, Caldas	2.76	234	eP		Pn	06 48 06.7	+0.3
GUY2C				eS		Sn	06 48 43.2	+2.1
GUY2C				i			06 48 49.7	
	comp=N,136nm,0.6s							
VILC	Villavicencio,	2.80	191	eP		Pn	06 48 06.3	-0.4
VILC				eS		Sn	06 48 40.6	-1.0
VILC				i			06 48 46.3	
	comp=N,564nm,0.6s							
RREF	El Recreo	2.95	228	eP		Pn	06 48 09.0	+0.1
RREF				eS		Sn	06 48 46.8	+1.2
RREF				i			06 48 54.6	
	comp=Z,148nm,0.4s							
CODC	Agustn Codazz	3.05	354	eP		Pn	06 48 10.0	+0.4
CODC				eS		Sn	06 48 46.6	-0.5
CODC				i			06 48 53.2	
	comp=N,66nm,0.4s							
ARGC	Ariguani, Magd	3.16	340	eP		Pn	06 48 12.6	+1.6
ARGC				eS		Sn	06 48 47.1	-2.4
SDV	Santo Domingo	3.18	51	⇑ i P		Pn	06 48 12.0	+0.5
SDV				eS		Sn	06 48 49.3	-0.9
SDV	Santo Domingo	3.18	51	P		Pn	06 48 11.9	+0.5
	comp=N,22nm,0.3s,baz=239,slow=12,SNR=249							
SDV				S		Sn	06 48 49.3	-0.9
	comp=N,16nm,0.3s,baz=280,slow=19,SNR=15							
PRAC	Prado	3.59	209	eP		Pn	06 48 15.8	-0.8
PRAC				eS		Sn	06 48 57.9	-1.6
PRAC				i			06 49 04.1	
	comp=E,285nm,0.3s							
ELOV	Elorza	3.63	88	eP		Pn	06 48 16.8	-0.2
PLMC	San Jos del P	3.69	238	eP		Pn	06 48 18.3	+0.4
YOTC	Yotoco, Valle	4.30	228	eP		Pn	06 48 25.4	-0.5
GUVC	San Jose del G	4.33	173	eP		Pn	06 48 25.0	-1.2
GUVC				i			06 49 18.2	
	comp=N,180nm,0.6s							
SMRC	Santa Marta, M	4.39	346	eP		Pn	06 48 27.2	+0.3
SMRC				eS		Sn	06 49 15.2	-2.8
DABV	Dabajuro	4.72	31	eP		Pn	06 48 31.4	+0.2
URIC	Uribia, Colomb	4.92	13	eP		Pn	06 48 33.0	-0.9
PCON	Cinco Dias	5.57	216	eP		Pn	06 48 43.7	+0.8
PCON				i			06 48 44.4	
	comp=Z,11nm,0.3s							
POPC	Popayan, Colom	5.57	219	eP		Pn	06 48 41.5	-1.1
FLOC	Florencia	5.83	206	eP		Pn	06 48 45.2	-0.8
FLOC				eS		Sn	06 49 51.1	-1.0
FLOC				i			06 49 56.3	
	comp=N,16nm,0.4s							
SOTA	Rioblanco	5.84	216	eP		Pn	06 48 47.2	+0.6
TXAR	Lajitas Array	36.41	312	P		P	06 54 12.1	+0.8
	comp=N,0.2nm,0.4s,baz=135,slow=9.0,SNR=4.2							
YKA	Yellowknife Ar	63.21	340	P		P	06 57 32.9	+0.1
	comp=N,0.4nm,0.5s,baz=133,slow=6.6,SNR=11							

*IDC **23** 06:58:21.9±2.2, 26°.13S×69°.44W, h0km, mb3.4/1, mb1 3.5/5, mb1mx3.4/26, mbtmp3.4/5, ML3.2/4, Error ellipse: s-maj=80.6km s-min=23.7km az=90.0*
*ISCJB **23** 06:58:25.0±1.7, 26°.05S±0°.06×69°.2W±0°.4, h33km, mb3.3/1, Error ellipse: s-maj=50.1km s-min=8.9km az=179.1*

ISC 23 06:58:26.5±1.4, 26°.10S±0°.07×69°.3W±0°.3, h35km, n7, σ1§86/8, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	3.49	6	Pn		Pn	06 59 17.7	-1.0
	1.8nm,0.3s,baz=189,slow=11,SNR=14							
LVC				Lg		Lg	07 00 10.9	
	6.0nm,0.3s,baz=257,slow=21,SNR=4.0							
CFA	Coronel Fontan	5.57	170	Pn		Pn	06 59 44.4	-2.5
	0.9nm,0.3s,baz=339,slow=14,SNR=5.5							
CFA				Sn		Sn	07 00 52.1	+2.4
	1.2nm,0.3s,baz=76,slow=20,SNR=3.9							
LPAZ	La Paz	9.82	7	Pn		Pn	07 00 45.8	-0.1
	0.0nm,0.3s,baz=187,slow=5.7,SNR=2.4							
SIV	San Ignacio	12.66	39	Pn		Pn	07 01 23.3	-0.9
	0.3nm,0.3s,baz=222,slow=12,SNR=15							
TORD	Torodi Ar. Bea	79.28	70	P		P	07 10 30.7	+1.9
	0.3nm,0.7s,baz=256,slow=5.0,SNR=3.0							
ZALV	Zalesovo Beam	146.22	28	PKPbc		PKPbc	07 18 02.9	0.0
	0.5nm,0.3s,baz=323,slow=2.2,SNR=4.2							
MKAR	Makanchi Array	149.48	40	PKPbc		PKiKP	07 18 13.3	+0.3
	0.7nm,0.7s,baz=302,slow=2.5,SNR=5.1							

IDC 23 07:00:59.1±1.7, 10°.46S×66°.39E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/35, mbtmp3.6/5, MS3.4/6, Ms1 3.5/6, ms1mx3.0/27, Error ellipse: s-maj=61.2km s-min=30.7km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	Diego Garcia H	6.12	48	T		T	07 08 47.5	
	baz=228,slow=75,SNR=83							
H08N1	Diego Garcia H	6.14	49	T		T	07 08 48.9	
	baz=228,slow=75,SNR=103							
H08N2	Diego Garcia H	6.14	48	T		T	07 08 49.0	
	baz=228,slow=75,SNR=78							
H08S1	Diego Garcia H	6.63	66	T		T	07 09 28.1	
	baz=245,slow=75,SNR=47							
H08S3	Diego Garcia H	6.64	65	T		T	07 09 37.2	
	baz=245,slow=75,SNR=49							
H08S2	Diego Garcia H	6.64	66	T		T	07 09 29.2	
	baz=245,slow=75,SNR=54							
KMBO	Kilima Mbogo	30.41	286	LR		LR	07 17 08.7	
	comp=Z,40nm,19.6s,baz=80,slow=32							
CMAR	Chiang Mai Arr	43.10	48	LR		LR	07 25 05.4	
	comp=Z,22nm,18.5s,baz=196,slow=34							
TSUM	Tsumeb	47.84	254	LR		LR	07 28 54.7	
	comp=Z,58nm,19.0s,baz=149,slow=35							
H01W3	Cape Leeuwin H	49.72	127	T		T	08 03 08.6	
	baz=286							
H01W2	Cape Leeuwin H	49.73	127	T		T	08 03 04.0	
	baz=286							
H01W1	Cape Leeuwin H	49.74	127	T		T	08 03 08.2	
	baz=286							
MAW	Mawson	57.12	182	LR		LR	07 29 56.8	
	comp=Z,48nm,18.7s,baz=16,slow=30							
MKAR	Makanchi Array	58.74	13	P		P	07 10 58.5	-0.3
	0.5nm,0.8s,baz=192,slow=6.5,SNR=2.7							
KURBB	Kurchatov Arra	61.74	9	P		P	07 11 19.0	-0.2
	0.6nm,0.7s,baz=208,slow=6.8,SNR=5.0							
BVAR	Borovoye Array	63.33	3	P		P	07 11 29.3	-0.5
	0.4nm,0.6s,baz=193,slow=5.9,SNR=3.7							
ASAR	Alice Springs	65.36	111	P		P	07 11 43.1	-0.8
	0.4nm,0.8s,baz=268,slow=6.5,SNR=3.7							
SONM	Songino Array	68.02	28	P		P	07 12 01.4	+1.0
	743nm,1.1s,baz=228,slow=5.6,SNR=3.7							
SONM				LR		LR	07 41 05.2	
	comp=Z,79nm,19.9s,baz=89,slow=35							
AKASG	Malin Array Be	68.95	336	P		P	07 12 05.3	-0.7
	0.5nm,0.3s,baz=136,slow=4.7,SNR=4.4							
KSRS	Korea Array	74.70	46	LR		LR	07 45 48.2	
	comp=Z,20nm,18.9s,baz=235,slow=36							
PDAR	Pinedale Array	147.62	354	PKPbc		PKPbc	07 20 47.2	+1.0
	0.2nm,0.4s,baz=340,slow=2.4,SNR=4.0							
NVAR	Mina Array Bea	151.84	8	PKPbc		PKiKP	07 20 58.1	+1.0
	0.6nm,0.8s,baz=315,slow=0.1,SNR=5.0							
NVAR				PKPab		PKPab	07 21 04.0	-1.5
	2.3nm,1.0s,baz=311,slow=0.9,SNR=6.2							
TXAR	Lajitas Array	159.05	335	PKPab		PKPab	07 21 34.9	-1.5
	0.2nm,0.7s,baz=59,slow=1.0,SNR=3.7							

IDC 23 07:06:11.2±10.0, 27°.23S×113°.69W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/24, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=540.3km s-min=252.8km az=86.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	37.71	74	LR		LR	07 24 36.4	
	comp=Z,36nm,18.3s,baz=206,slow=29							
NVAR	Mina Array Bea	65.46	356	P		P	07 16 56.2	0.0
	0.9nm,1.0s,baz=182,slow=6.9,SNR=3.9							
PDAR	Pinedale Array	69.76	3	P		P	07 17 23.3	0.0
	0.4nm,0.8s,baz=172,slow=5.4,SNR=2.6							
YKA	Yellowknife Ar	89.42	360	P		P	07 19 09.2	-0.1
	0.2nm,0.8s,baz=174,slow=4.9,SNR=5.9							
H11S2	WAKE ISLAND Hy	89.49	291	T		T	08 58 55.9	
	baz=118							
H11S1	WAKE ISLAND Hy	89.50	291	T		T	08 58 56.9	
	baz=118							
H11S3	WAKE ISLAND Hy	89.50	291	T		T	08 58 57.2	
	baz=118							

IDC 23 07:13:34.3±2.7, 6°.32S×153°.91E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.4/23, mbtmp3.5/2, Error ellipse: s-maj=163.1km s-min=35.2km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	25.84	226	P		P	07 19 08.2	+0.4
	0.6nm,0.7s,baz=58,slow=9.3,SNR=5.5							
ILAR	Eielson Array	83.15	22	P		P	07 26 02.5	+0.6
	0.3nm,0.8s,baz=243,slow=6.0,SNR=3.8							
TORD	Torodi Ar. Bea	151.81	286	PKPbc		PKPbc	07 33 30.4	-1.8
	2.1nm,1.1s,baz=63,slow=1.1,SNR=8.6							
TORD				PKPab		PKPab	07 33 41.6	+0.5
	1.7nm,0.7s,baz=62,slow=2.9,SNR=8.4							

*KRSC **23** 07:17:58.1±10.0, 49°.85N×157°.01E, h40km±10km, ML4.1*
*SKHL **23** 07:17:59.1±0.1, 49°.80N×156°.60E, h35km, mb4.4/3*

ISC 23 07:17:57.6±3.4, 49°.9N±0°.2×156°.8E±0°.2, h4km±21km, n22, σ1§28/34, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.92	330	eP		Pg	07 18 15.5	+0.2
SKR				eS		Sg	07 18 27.6	+0.3
SKR	Severo-Kuril's	0.92	330	i P		Pg	07 18 15.0	-0.3
SKR				AMB		AMB	07 18 16.0	
	1μm,0.5s							
SKR				eS		Sg	07 18 27.0	-0.3
SKR				A		A	07 18 28.0	
	2μm,0.3s							
SKR				A		A	07 18 28.0	
	2μm,0.3s							
ALID	Alaid	1.29	320	eP		Pg	07 18 21.3	-0.9
PAU	Pauzhetka	1.58	359	eP		Pn	07 18 26.1	-0.3
PAU				eS		Sn	07 18 46.3	-1.0
PAU	Pauzhetka	1.58	359	eP		Pn	07 18 26.1	-0.3
PAU				AMB		AMB	07 18 27.7	
	69nm,0.2s							
PAU				eS		Sn	07 18 46.3	-1.0
PAU				A		A	07 18 49.2	
	2μm,0.3s							
PAU				A		A	07 18 49.2	
	568nm,0.3s							
KDTR	Khodutka, Kamc	2.08	22	eP		Pn	07 18 32.6	-0.6
KDTR				eS		Sn	07 18 57.6	-1.9
ASAK	Asacha	2.59	14	eP		Pn	07 18 41.5	+1.2
MTVR	Mutnovka	2.73	17	eP		Pn	07 18 44.1	+1.7
MTVR				eS		Sn	07 19 15.6	-0.3
RUS	Russkaya	2.76	22	eP		Pn	07 18 42.4	-0.2
RUS				eS		Sn	07 19 15.1	-1.2
APC	Apacha	3.05	4	eP		Pn	07 18 48.2	+1.6
KRMR	Karymshinskiy	3.06	15	eP		Pn	07 18 48.3	+1.7
KRMR				eS		Sn	07 19 24.3	+0.6
PET	Petropavlovsk	3.34	19	eP		Pn	07 18 51.9	+1.4
PET				eS		Sn	07 19 30.8	+0.2
PET	Petropavlovsk	3.34	19	eP		Pn	07 18 52.0	+1.4
PET				AMB		AMB	07 18 53.3	
	14nm,0.3s							
PET				eS		Sn	07 19 30.3	-0.3
PET				A		A	07 19 36.0	
	76nm,0.3s							
PET				A		A	07 19 36.0	
	51nm,0.3s							
DALK	Dalny	3.37	20	eP		Pn	07 18 51.8	+0.9
UGLR	Uglovaya	3.55	20	eP		Pn	07 18 55.1	+1.6
AVH	Avacha	3.58	19	eP		Pn	07 18 55.8	+1.8
SMAR	Somma	3.59	19	eP		Pn	07 18 56.8	+2.5
KRER	Koryakskii	3.62	18	eP		Pn	07 18 56.6	+2.0
SDLR	Sedlovina	3.63	20	eP		Pn	07 18 55.3	+0.7
KRX	Arik	3.66	17	eP		Pn	07 18 57.0	+2.0
KRX				eS		Sn	07 19 40.1	+1.4
SPN	Mys Shipunski	3.78	30	eP		Pn	07 18 57.0	+0.4
SPN				eS		Sn	07 19 39.9	-1.6
MKZ	Mys Kozlova	5.56	31	eP		Pn	07 19 20.9	-0.1

*OTT **23** 07:26:15.9±0.4, 74°.89N×74°.45W, h18km, ML3.7/5, 235km southeast from Craig Harbour, Nu Baffin Bay Seismic Zone.*

ISC 23 07:26:12.9±0.8, 74°.92N±0°.06×74°.47W±0°.06, h10km, n17, σ2§13/22, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULLO	Kullorsuaq	4.56	86	i P		Pn	07 27 24.8	+3.0
KULLO				i			07 28 11.9	
KULLO	Kullorsuaq	4.56	86	PN		Pn	07 27 24.7	+3.0
KULLO				SN		S

DAG	**Danmarks Havn**	**13.33**	**56**	*i* P		**Pn**	**07 29 20.5**	**-1.2**
DAG				*i*			07 31 40.3	
KNGQ	**Kangiqsujuaq**	**13.43**	**175**	PN		**Pn**	**07 29 22.8**	**-0.4**
KNGQ				SN		Sn	07 31 40.3	-12
KUKN	**Kugluktuk,NWT**	**14.46**	**262**	PN		**Pn**	**07 29 37.2**	**-0.1**
KUKN				SN		Sn	07 32 07.5	-10
DHRN	**Dharma Camp**	**16.20**	**264**	PN		**Pn**	**07 30 01.1**	**+0.9**
DHRN				SN		Sn	07 32 47.5	-12
KAJQ	**Kangiqsualujju**	**16.61**	**164**	PN		**Pn**	**07 30 04.2**	**-1.2**
KAJQ				SN		Sn	07 32 54.1	-15
HFRN	**Hoarfrost Rive**	**17.02**	**243**	PN		**Pn**	**07 30 10.3**	**-0.2**
FCC	**Fort Churchill**	**17.79**	**215**	PN		**Pn**	**07 30 19.4**	**-0.6**
FCC				SN		Sn	07 33 28.6	-9.4

*NORS **23** 07:36:34.3±0.0, 42°.61N×41°.14E, h2km, MPVA3.5*
ISC 23 07:36:32.7±1.8, 42°.51N±0°.05×41°.11E±0°.05, h9km±15km, n10, σ1§08/15, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.87**	**26**	*e*Pg	**Pb**	**07 36 50.4**	**+0.3**
DOMR				*i* Sg	**Sn**	**07 37 02.5**	**-1.6**
BATM	**Batumi**	**1.01**	**154**	P	Pg	07 36 49.9	-2.2
BATM				S	**Sg**	**07 37 03.8**	**-1.3**
ARXR	**Arkhyz**	**1.06**	**7**	*e*Pg	**Pn**	**07 36 54.3**	**+0.5**
ARXR				*e*Sg	**Sn**	**07 37 07.7**	**-1.1**
DBOC	**Borcka**	**1.24**	**160**	*i* P	Pn	07 36 53.6	-2.6
NEY	**Neytrino**	**1.40**	**58**	*e*Pg	**Pn**	**07 36 59.2**	**+0.6**
NEY				*e*Sg	**Sg**	**07 37 17.8**	**+0.1**
SOC	**Sochi**	**1.48**	**317**	*e*Pg	**Pn**	**07 37 00.4**	**+0.9**
SOC				*e*Sg	**Sb**	**07 37 19.4**	**+0.2**
DBAD	**Bademkaya**	**1.56**	**163**	*i* P	Pn	07 36 58.0	-2.7
GUZR	**Guzeripl'**	**1.65**	**334**	*e*Pg	**Pb**	**07 37 03.2**	**-0.1**
GUZR				*e*Sg	**Sg**	**07 37 25.7**	**0.0**
SHA1	**Shidzhatmaz**	**1.67**	**42**	*e*Pg	**Pb**	**07 37 03.4**	**-0.4**
SHA1				*i* Sg	**Sg**	**07 37 26.1**	**-0.4**
ZEI	**Tsey**	**2.08**	**81**	*e*Pg	**Pn**	**07 37 10.3**	**+2.3**
ZEI				*e*Sg	**Sb**	**07 37 36.5**	**-0.3**

MEX 23 07:38:20.9±0.8, 14°.86N×91°.82W, h101km±8km, MD3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.43**	**277**	*i* P	Pn	07 38 35.1	-1.1
THIG				*i* S	Sn	07 38 46.5	-1.2
CCIG	**Comitan**	**1.45**	**348**	*i* P	Pn	07 38 45.9	-0.9
CCIG				*i* S	Sn	07 39 05.0	-1.3
PCIG		**1.59**	**302**	*i* P	Pn	07 38 47.2	-1.1
PCIG				*i* S	Sn	07 39 07.6	-1.5
CMIG	**Matias Romero**	**3.69**	**307**	*i* P	Pn	07 39 14.9	-1.0
CMIG				*i* S	Sn	07 39 56.9	-1.6

IDC 23 07:41:22.6±1.6, 2°.35N×128°.18E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.5/32, mbtmp3.7/4, Error ellipse: s-maj=198.1km s-min=21.6km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.45**	**168**	P	P	07 47 01.8	+0.3
	0.2nm,0.5s,baz=354,slow=8.3,SNR=4.8						
STKA	**Stephens Creek**	**36.34**	**161**	P	P	07 48 28.1	-0.3
	0.9nm,0.4s,baz=338,slow=11,SNR=5.7						
SONM	**Songino Array**	**49.07**	**341**	P	P	07 50 11.9	+0.1
	0.5nm,0.6s,baz=154,slow=7.9,SNR=3.5						
MKAR	**Makanchi Array**	**59.51**	**325**	P	P	07 51 27.6	-0.2
	0.7nm,0.4s,baz=119,slow=8.1,SNR=12						

*NEIC **23** 07:45:54.5±0.2, 9°.05N×126°.47E, h35km, mb4.5/73, Error ellipse: s-maj=7.0km s-min=3.6km az=88.0*
NEIC Felt [III PIVS] at Tandag.
*MAN **23** 07:45:54.5, 9°.17N×126°.84E, h30km, ML5.0, MS4.5*
MAN INTENSITY III - TANDAG SURIGAO DEL SUR.
*IDC **23** 07:45:54.9±0.7, 9°.03N×126°.55E, h34km±5km, mb4.1/21, mb1 4.1/22, mb1mx4.0/36, mbtmp4.3/22, ML5.1/1, MS3.2/8, Ms1 3.3/8, ms1mx2.9/42, Error ellipse: s-maj=16.9km s-min=9.1km az=89.0*
*ISCJB **23** 07:45:56.5±0.5, 9°.03N±0°.02×126°.61E±0°.04, h72km±4km, mb4.3/85, Error ellipse: s-maj=7.5km s-min=3.7km az=168.7*
ISC 23 07:45:54.1±0.6, 9°.11N±0°.03×126°.78E±0°.04, h33km±2km, n164, σ1§95/171, mb4.5/85, MS3.1/5, 4C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.01**	**204**	⇑*i* P	**Pn**	**07 46 13.8**	**+1.9**
BIPH				*i* S	**Sn**	**07 46 26.7**	**+1.7**
BUTP	**Butuan**	**1.15**	**263**	*e*P	**Pn**	**07 46 13.6**	**-0.3**
BUTP				*e*S	**Sn**	**07 46 31.2**	**+2.7**
SCPH	**Surigao**	**1.44**	**298**	⇓*e*P	Pb	07 46 27.3	+7.0
SCPH				*e*S	Sb	07 46 48.4	+10
BUKP	**Musuan**	**2.09**	**234**	*e*P	**Pn**	**07 46 28.9**	**+2.0**
BUKP				*e*S	**Sb**	**07 46 57.6**	**+0.5**
MSLP	**Maasin**	**2.15**	**298**	*e*P	**Pn**	**07 46 30.1**	**+2.5**
MSLP				*e*S	**Sb**	**07 47 01.1**	**+2.4**
CGP	**Cagayan de Oro**	**2.16**	**253**	⇓*i* P	**Pn**	**07 46 28.9**	**+1.1**
CGP				*i* S	**Sn**	**07 46 56.5**	**+3.0**
MATI	**Mati**	**2.21**	**194**	*e*P	**Pn**	**07 46 29.4**	**+0.9**
MATI				*e*S	**Sn**	**07 46 59.3**	**+4.6**
DAV	**Davao City (W)**	**2.35**	**210**	*e*Pn	Pn	07 46 26.0	-4.4
DAV				*e*Sn	**Sn**	**07 46 53.6**	**-4.6**
DAV	**Davao City (W)**	**2.35**	**210**	Pg	**Pn**	**07 46 34.0**	**+3.6**
	135nm,0.3s,baz=51,slow=3.6,SNR=6.7						
DAV				Lg	Lg	07 47 05.3	
	132nm,0.3s,baz=72,slow=19,SNR=4.1						
DAV				LR	LR	07 47 10.6	
	comp=Z,448nm,18.6s,baz=29,slow=35						
DMPH	**Davao City--Mi**	**2.38**	**212**	⇑*e*P	**Pn**	**07 46 33.0**	**+2.2**
DMPH				*e*S	**Sb**	**07 47 07.1**	**+2.0**
PLP	**Palo**	**2.70**	**319**	⇓*e*P	**Pn**	**07 46 36.8**	**+1.6**
PLP				*e*S	**Sb**	**07 47 13.4**	**-1.1**
BESP	**Borongan**	**2.80**	**332**	*e*P	**Pn**	**07 46 38.7**	**+2.1**
BESP				*e*S	**Sn**	**07 47 10.3**	**+1.0**
TBP	**Tagbilaran**	**2.94**	**282**	*e*P	**Pn**	**07 46 40.9**	**+2.5**
TBP				*e*S	Sn	07 46 50.8	-22
LLP	**Lapu-Lapu**	**3.02**	**294**	⇓*e*P	**Pn**	**07 46 42.6**	**+3.0**
LLP				*e*S	**Sb**	**07 47 24.9**	**+1.2**
CTBH	**Cotabato--PC H**	**3.13**	**233**	⇓*i* P	**Pn**	**07 46 44.2**	**+3.1**
DDMP	**Don Marcelino,**	**3.17**	**200**	*e*P	**Pn**	**07 46 44.4**	**+2.8**
DDMP				*e*S	**Sn**	**07 47 17.4**	**-1.0**
DCPH	**Dipolog City**	**3.43**	**261**	⇑*e*P	Pn	07 46 50.4	+5.2
DCPH				*e*S	**Sn**	**07 47 31.5**	**+6.8**
SNPH	**Sibulan**	**3.50**	**274**	⇑*e*P	**Pn**	**07 46 49.9**	**+3.6**
SNPH				*e*S	**Sb**	**07 47 39.3**	**+1.7**
PAGZ	**Pagadian**	**3.59**	**250**	*e*P	**Pn**	**07 46 50.4**	**+3.0**
CNP	**Cataman**	**3.97**	**329**	*e*P	**Pn**	**07 46 54.3**	**+1.7**
CNP				*e*S	**Sn**	**07 47 36.8**	**-1.2**
GUIM	**Jordan**	**4.39**	**290**	*e*P	**Pn**	**07 47 00.9**	**+2.4**
GUIM				*e*S	Sn	07 47 14.1	-34
PVCP	**Virac**	**5.15**	**330**	*e*P	**Pn**	**07 47 10.7**	**+1.8**
PVCP				*e*S	**Sb**	**07 48 26.9**	**+2.1**
TNTI	**Ternate**	**8.30**	**176**	*e*Pn	**Pn**	**07 47 53.5**	**+1.3**
TNTI				*e*Sn	**Sn**	**07 49 21.1**	**-3.9**
LUWI	**Luwuk**	**10.85**	**202**	*e*Pn	Pn	07 48 23.6	-3.6
FAKI	**Fak Fak**	**13.14**	**155**	*e*Pn	**Pn**	**07 48 58.9**	**+0.5**
FAKI				*e*Sn	**Sn**	**07 51 21.0**	**-2.5**
YULB	**Yu-li**	**15.14**	**340**	*e*Pn	**Pn**	**07 49 26.2**	**+0.6**
	7.5nm,0.9s						
KAPI	**Kappang**	**15.68**	**207**	*e*Pn	**Pn**	**07 49 31.2**	**-1.6**
	4.6nm,0.9s						
KAPI	**Kappang**	**15.68**	**207**	LR	LR	07 56 16.6	
	comp=Z,82nm,18.9s,baz=40,slow=40						
NACB	**Ninganchiao**	**15.78**	**342**	*e*Pn	**Pn**	**07 49 31.7**	**-2.2**
	27nm,1.1s						
SBUM	**Sibu**	**15.92**	**246**	*e*Pn	Pn	07 49 27.3	-8.5
	1.6nm,0.8s						
JOW	**Kunigami**	**17.68**	**4**	*e*Pn	**Pn**	**07 49 52.9**	**-5.0**
	12nm,0.8s						
GUMO	**Guam**	**18.28**	**74**	LR	LR	07 57 52.7	
	comp=Z,87nm,18.7s,baz=228,slow=39						
SOEI	**Soe**	**18.91**	**188**	*e*P	**P**	**07 50 12.1**	**-0.1**
	19nm,0.9s						
QIZ	**Qiongzhong**	**19.14**	**303**	*e*P	**P**	**07 50 11.8**	**-2.9**
	12nm,1.0s						
BATI	**Baumata**	**19.44**	**189**	P	**P**	**07 50 19.1**	**+1.2**
	5.2nm,0.3s,baz=68,slow=2.4,SNR=3.9						
SARN	**Sarigan**	**19.98**	**66**	*e*P	**P**	**07 50 23.6**	**-0.4**
	30nm,1.2s						
MTN	**Manton Dam**	**22.24**	**169**	*e*P	**P**	**07 50 47.7**	**-0.4**
	6.1nm,0.6s						
SSE	**Sheshan**	**22.49**	**347**	*e*P	**P**	**07 50 51.4**	**+0.7**
	42nm,0.9s						
MYKOM	**Kota Tinggi**	**23.94**	**254**	*e*P	**P**	**07 51 01.8**	**-3.7**
	7.8nm,1.0s						
NJ2	**Nanjing**	**23.98**	**343**	*e*P	**P**	**07 50 59.0**	**-6.6**
JNU	**Nakatsue**	**24.19**	**8**	*e*P	**P**	**07 51 09.9**	**+2.2**
	14nm,1.0s						
JNU	**Nakatsue**	**24.19**	**8**	P	**P**	**07 51 09.2**	**+1.6**
	8.1nm,0.8s,baz=185,slow=9.1,SNR=6.7						
IPM	**Ipoh**	**25.98**	**262**	*e*P	**P**	**07 51 21.3**	**-2.8**
	11nm,0.7s						
JHJ	**Hachijo jima 2**	**26.74**	**25**	LR	LR	08 01 18.3	
	comp=Z,54nm,18.9s,baz=274,slow=34						
FITZ	**Fitzroy Crossi**	**27.06**	**182**	*e*P	**P**	**07 51 34.0**	**+0.4**
	4.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.06**	**182**	P	**P**	**07 51 34.1**	**+0.4**
	2.6nm,0.6s,baz=3.9,slow=9.6,SNR=11						
PMG	**Port Moresby**	**27.39**	**132**	P	**P**	**07 51 38.2**	**+1.5**
	5.6nm,0.4s,baz=239,slow=12,SNR=3.2						
KMI	**Kunming**	**27.87**	**308**	P	P	07 51 34.6	-6.6
COEN	**Coen**	**28.11**	**144**	*e*P	**P**	**07 51 43.8**	**+0.7**
	6.9nm,1.1s						
KS15	**Wonju Array Si**	**28.22**	**2**	*e*P	**P**	**07 51 45.8**	**+1.9**
KSRS	**Korea Array**	**28.24**	**2**	P	**P**	**07 51 45.8**	**+1.8**
	1.5nm,0.5s,baz=179,slow=11,SNR=10						
PSI	**Prapat**	**28.39**	**259**	P	**P**	**07 51 45.1**	**-0.7**
	3.9nm,0.5s,baz=92,slow=8.6,SNR=4.8						
CMAR	**Chiang Mai Arr**	**28.55**	**292**	P	**P**	**07 51 47.0**	**-0.1**
	1.0nm,0.3s,baz=110,slow=7.6,SNR=7.3						
CMAR				LR	LR	08 03 20.7	
	comp=Z,38nm,18.6s,baz=105,slow=37						
MJAR	**Matsushiro Arr**	**29.21**	**19**	LR	LR	08 02 46.3	
	comp=Z,37nm,21.3s,baz=200,slow=34						
MAJO	**Matsushiro**	**29.22**	**19**	*e*P	**P**	**07 51 53.8**	**+1.0**
	7.4nm,1.1s						
MJB9	**Matsu-Tunnel**	**29.22**	**19**	*e*P	**P**	**07 51 53.9**	**+1.1**
	7.8nm,1.1s						
WC3	**Warramunga Arr**	**29.84**	**166**	*e*P	**P**	**07 51 56.2**	**-2.3**
	4.1nm,0.9s						
CD2	**Chengdu**	**30.50**	**319**	P	P	07 51 58.8	-5.5
PSAD1	**Pilbara Seismi**	**31.13**	**193**	*e*P	**P**	**07 52 10.0**	**+0.1**
	8.7nm,0.9s						
PSAC1	**Pilbara Seismi**	**31.21**	**193**	*e*P	**P**	**07 52 10.7**	**+0.2**
	9.8nm,0.8s						
PSAC2	**Pilbara Seismi**	**31.22**	**192**	*e*P	**P**	**07 52 10.8**	**+0.2**
	19nm,1.0s						
PSAB2	**Pilbara Seismi**	**31.22**	**192**	*e*P	**P**	**07 52 10.5**	**-0.1**
	14nm,0.9s						
PSAA2	**Pilbara Seismi**	**31.23**	**193**	*e*P	**P**	**07 52 08.6**	**-2.2**
	15nm,0.9s						
PSA00	**Pilbara Seismi**	**31.24**	**193**	*e*P	**P**	**07 52 08.9**	**-1.9**
	7.7nm,0.8s						
PSAB1	**Pilbara Seismi**	**31.25**	**193**	*e*P	**P**	**07 52 10.6**	**-0.2**
	29nm,1.1s						
PSAA3	**Pilbara Seismi**	**31.25**	**192**	*e*P	**P**	**07 52 10.8**	**0.0**
	16nm,1.0s						
PSAA1	**Pilbara Seismi**	**31.25**	**193**	*e*P	**P**	**07 52 10.6**	**-0.3**
	8.3nm,0.8s						
PSAB3	**Pilbara Seismi**	**31.26**	**192**	*e*P	**P**	**07 52 10.9**	**-0.1**
	6.8nm,0.8s						
PSAC3	**Pilbara Seismi**	**31.30**	**193**	*e*P	**P**	**07 52 09.3**	**-2.0**
	9.1nm,0.8s						
PATS	**Pohnpei**	**31.30**	**92**	*e*P	**P**	**07 52 12.1**	**+0.6**
	32nm,1.0s						
AS31	**Alice Springs**	**33.31**	**168**	*e*P	**P**	**07 52 29.0**	**0.0**
	1.6nm,0.8s						
ASAR	**Alice Springs**	**33.31**	**168**	P	**P**	**07 52 28.2**	**-0.8**
	1.3nm,0.4s,baz=354,slow=6.8,SNR=27						
ASAR				PcP	**PcP**	**07 55 10.9**	**+0.2**
	0.6nm,0.6s,baz=349,slow=2.7,SNR=4.5						
LZH	**Lanzhou**	**34.01**	**326**	*e*P	P	07 52 28.1	-7.1
LZH				pP	sP	07 52 44.5	-1.3
LZH				sP	pwP	07 52 52.3	+1.9
LZH				*e*PP	**PnPn**	**07 53 41.3**	**-7.7**
HHC	**Hu-ho-hao-te**	**34.37**	**339**	*e*P	P	07 52 33.6	-4.5
CTA	**Charters Tower**	**34.78**	**147**	P	**P**	**07 52 43.2**	**+1.5**
	1.5nm,0.5s,baz=322,slow=6.8,SNR=2.5						
USA0B	**Ussuriysk Arra**	**35.25**	**6**	*e*P	**P**	**07 52 48.3**	**+2.8**
	4.4nm,0.8s						
USRK	**Ussuriysk Ar.**	**35.25**	**6**	*e*P	**P**	**07 52 47.2**	**+1.7**
USRK	**Ussuriysk Ar.**	**35.25**	**6**	P	**P**	**07 52 47.5**	**+2.0**
	2.9nm,0.7s,baz=203,slow=8.4,SNR=6.5						
MDJ	**Mudanjiang**	**35.46**	**3**	*e*P	**P**	**07 52 49.8**	**+2.4**
	14nm,1.1s						
SHL	**Shillong**	**36.95**	**301**	*e*P	**P**	**07 52 59.0**	**-1.6**
	9.8nm,0.8s						
MORW	**Morawa**	**39.34**	**195**	*e*P	**P**	**07 53 20.5**	**+0.1**
	4.1nm,0.7s						
FORT	**Forrest**	**39.68**	**178**	*e*P	**P**	**07 53 23.3**	**+0.1**
	9.7nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**39.78**	**72**	T	T	08 36 23.2	
	baz=262,slow=75,SNR=61						
H11S1	**WAKE ISLAND Hy**	**39.80**	**72**	T	T	08 36 24.0	
	baz=262,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**39.80**	**72**	T	T	08 36 25.5	
	baz=262,slow=75,SNR=11						
ODAN	**Odare**	**41.19**	**301**	*e*P	**P**	**07 53 35.8**	**-0.3**
	30nm,0.7s						
RAMN	**Ramite**	**41.89**	**300**	*e*P	**P**	**07 53 41.7**	**-0.2**
	19nm,0.7s						
SONA0	**Songino Array**	**42.27**	**340**	*e*P	**P**	**07 53 44.6**	**+0.1**
SONA0				*e*PcP	**PcP**	**07 55 38.8**	**+0.8**
SONM	**Songino Array**	**42.27**	**340**	P	**P**	**07 53 44.6**	**+0.1**
	1.0nm,0.7s,baz=157,slow=7.4,SNR=5.2						
SONM				PcP	**PcP**	**07 55 38.8**	**+0.8**
	0.5nm,0.6s,baz=150,slow=3.2,SNR=2.9						
JIRN	**Jiri**	**42.45**	**301**	*e*P	**P**	**07 53 46.3**	**-0.3**
	22nm,0.6s						
BBOO	**Buckleboo**	**42.62**	**168**	*e*P	**P**	**07 53 47.5**	**+0.2**
	6.6nm,0.8s						
NWAO	**Narrogin (SRO)**	**42.78**	**192**	*e*P	**P**	**07 53 48.5**	**-0.1**
	12nm,0.9s						
STKA	**Stephens Creek**	**43.15**	**161**	*e*P	**P**	**07 53 52.0**	**+0.3**
	0.4nm,0.6s						
STKA	**Stephens Creek**	**43.15**	**161**	P	**P**	**07 53 51.6**	**-0.1**
	2.1nm,0.5s,baz=328,slow=9.8,SNR=7.1						
STKA				pP	**sP**	**07 54 02.4**	**-0.8**
	3.7nm,0.6s,baz=326,slow=8.6,SNR=5.3						
KOLN	**Koldanda**	**44.68**	**300**	*e*P	**P**	**07 54 03.9**	**-0.5**
	20nm,0.8s						
DANN	**Dangsing**	**44.71**	**301**	*e*P	**P**	**07 54 04.1**	**-0.6**
PYUN	**Piuthan**	**45.29**	**301**	*e*P	**P**	**07 54 09.0**	**-0.2**
	24nm,0.8s						
PALK	**Pallekele**	**45.62**	**271**	*e*P	**P**	**07 54 08.6**	**-3.2**
	26nm,1.1s						
ARMA	**Armidale**	**45.99**	**150**	*e*P	**P**	**07 54 16.2**	**+1.8**
TLY	**Talaya**	**46.49**	**340**	*e*P	**P**	**07 54 18.8**	**+0.7**
	1.8nm,0.7s						
WMQ	**Urumqi**	**48.44**	**322**	*e*P	P	07 54 27.8	-5.6
WMQ				sP	pwP	07 54 51.0	+1.9
PETK	**Petropavlovsk-**	**50.48**	**24**	*e*P	**P**	**07 54 51.0**	**+2.2**
PETK	**Petropavlovsk-**	**50.48**	**24**	P	**P**	**07 54 50.9**	**+2.1**
	2.3nm,0.8s,baz=199,slow=3.1,SNR=5.3						
PEA1	**Petropavlovsk-**	**50.49**	**24**	*e*P	**P**	**07 54 50.9**	**+2.1**
MK31	**Makanchi Array**	**53.25**	**323**	*e*P	**P**	**07 55 09.4**	**-0.1**
	6.1nm,0.8s						
MK32	**Makanchi Array**	**53.25**	**323**	*e*P	**P**	**07 55 09.2**	**-0.3**
MKAR	**Makanchi Array**	**53.25**	**323**	*e*P	**P**	**07 55 08.6**	**-0.9**
MKAR	**Makanchi Array**	**53.25**	**323**	P	**P**	**07 55 09.2**	**-0.3**
	5.8nm,0.7s,baz=123,slow=8.2,SNR=48						
TARG	**Taragay, Kyrgy**	**53.88**	**316**	*e*P	**P**	**07 55 12.5**	**-2.2**
	6.9nm,1.1s						
KDJ	**Kajisay**	**54.46**	**316**	*e*P	**P**	**07 55 18.8**	**+0.1**
	4.5nm,0.9s						
NIL	**Nilore**	**54.80**	**305**	*e*P	**P**	**07 55 20.1**	**-1.0**
	14nm,0.8s						
NRN	**Naryn**	**55.02**	**315**	*e*P	**P**	**07 55 22.4**	**-0.6**
	4.4nm,1.0s						
ZALV	**Zalesovo Beam**	**55.88**	**331**	P	**P**	**07 55 27.5**	**-0.9**
	0.8nm,0.4s,baz=129,slow=6.6,SNR=4.8						
ZAA1	**Zalesovo Array**	**55.88**	**331**	*e*P	**P**	**07 55 27.5**	**-0.9**
ARSB	**Arslanbob**	**57.12**	**314**	*e*P	**P**	**07 55 35.8**	**-2.0**
	5.4nm,1.1s						
KURK	**Kurchatov**	**57.30**	**326**	*e*P	**P**	**07 55 38.2**	**-0.4**
	12nm,0.9s						
KBL	**Kabul**	**58.40**	**305**	*e*P	**P**	**07 55 46.0**	**-0.9**
	4.1nm,0.6s						
GAR	**Garm**	**58.42**	**310**	*e*P	**P**	**07 55 46.1**	**-0.8**
	14nm,1.1s						
CHGR	**Chuyangaron**	**59.21**	**310**	*e*P	**P**	**07 55 49.1**	**-3.2**
	9.9nm,0.9s						
KK31	**Karatay Array**	**59.42**	**315**	*e*P	**P**	**07 55 52.0**	**-1.5**
	2.9nm,0.7s						
KKAR	**Karatay Array**	**59.42**	**315**	*e*P	**P**	**07 55 52.8**	**-0.8**
TIXI	**Tiksi**	**62.50**	**1**	*e*P	**P**	**07 56 15.2**	**+1.3**
	4.7nm,0.8s						
BRVK	**Borovoye**	**62.97**	**326**	*e*P	**P**	**07 56 16.6**	**-0.9**
	7.4nm,0.9s						
BILL	**Bilibino**	**64.38**	**15**	*e*P	**P**	**07 56 28.6**	**+2.1**
	3.1nm,0.9s						
NRIK	**Noril'sk**	**65.25**	**346**	P	**P**	**07 56 32.9**	**+0.8**
	4.7nm,0.7s,baz=131,slow=6.4,SNR=9.9						
NRIK				LR	LR	08 27 13.9	
	comp=Z,27nm,20.7s,baz=98,slow=38						
BKZ	**Black Stump Fm**	**66.58**	**140**	*e*P	**P**	**07 56 41.5**	**+0.3**
	15nm,1.0s						
GEYT	**Alibeck**	**67.64**	**307**	P	**P**	**07 56 48.0**	**-0.1**
	1.4nm,0.4s,baz=112,slow=4.0,SNR=4.1						
ABKAR	**Akbulak array**	**68.08**	**320**	*e*P	**P**	**07 56 49.8**	**-0.7**
ARU	**Arti**	**70.46**	**327**	*e*P	**P**	**07 57 05.0**	**-0.1**
	7.4nm,0.6s						
CHGN	**Chignik**	**74.05**	**34**	*e*P	**P**	**07 57 28.4**	**+1.9**
	12nm,1.0s						
CASY	**Casey**	**76.13**	**187**	*e*P	**P**	**07 57 38.7**	**+0.4**
	3.0nm,0.9s						
OHAK	**Old Harbor**	**76.94**	**33**	*e*P	**P**	**07 57 45.7**	**+2.5**
	5.8nm,0.9s						
KDAK	**Kodiak Island**	**77.36**	**33**	*e*P	**P**	**07 57 48.1**	**+2.7**
	3.3nm,0.8s						
IMAR	**Indian Mountai**	**77.44**	**24**	*e*P	**P**	**07 57 47.8**	**+2.0**
PPLA	**Purkeypile**	**77.86**	**28**	*e*P	**P**	**07 57 48.2**	**-0.2**
	2.6nm,1.1s						
CAST	**Castle Rocks**	**77.94**	**27**	*e*P	**P**	**07 57 47.3**	**-1.3**
	1.8nm,0.8s						
BRLK	**Bradley Lake**	**78.33**	**31**	*e*P	**P**	**07 57 50.2**	**-0.7**
	6.2nm,1.0s						
BPAW	**Bear Paw Mtn.**	**78.47**	**26**	*e*P	**P**	**07 57 52.5**	**+0.9**
	3.0nm,0.9s						
MLY	**Manley**	**78.62**	**25**	*e*P	**P**	**07 57 55.7**	**+3.2**
	1.9nm,0.8s						
AKH	**Akhalkalaki**	**79.02**	**310**	*e*P	**P**	**07 57 52.6**	**-2.6**
	3.0nm,0.9s						
TOLK	**Toolik Lake Re**	**79.26**	**22**	*e*P	**P**	**07 57 58.1**	**+2.3**
	3.9nm,0.7s						
MCK	**McKinley**	**79.36**	**27**	*e*P	**P**	**07 57 56.7**	**+0.3**
	5.2nm,0.9s						
CCB	**Clear Creek Bu**	**79.86**	**26**	*e*P	**P**	**07 57 59.6**	**+0.5**
	2.3nm,1.2s						
HDA	**Harding Lake**	**80.24**	**26**	*e*P	**P**	**07 58 00.8**	**-0.3**
	2.2nm,0.6s						
ILAR	**Eielson Array**	**80.26**	**26**	*e*P	**P**	**07 58 02.7**	**+1.4**
ILAR	**Eielson Array**	**80.26**	**26**	P	**P**	**07 58 02.3**	**+1.0**
	0.7nm,0.6s,baz=237,slow=5.2,SNR=8.8						
ILAR				pP	**sP**	**07 58 14.2**	**+1.1**
	0.9nm,0.6s,baz=255,slow=3.4,SNR=7.3						
RIDG	**Independent Ri**	**81.18**	**27**	*e*P	**P**	**07 58 08.1**	**+1.8**
	4.5nm,1.1s						
DOT	**Dot Lake**	**81.53**	**27**	*e*P	**P**	**07 58 08.1**	**-0.1**
	2.5nm,1.1s						
BCAR	**Beaver Creek A**	**82.60**	**27**	*e*P	**P**	**07 58 14.5**	**+0.7**
DAWY	**Dawson**	**83.55**	**26**	*e*P	**P**	**07 58 20.9**	**+2.2**
	3.3nm,1.1s						
EPYK	**Eagle Plains**	**84.33**	**24**	*e*P	**P**	**07 58 23.8**	**+1.2**
	4.8nm,0.9s						
ARCES	**ARCESS Array B**	**85.45**	**340**	P	**P**	**07 58 28.4**	**+0.3**
	2.1nm,0.6s,baz=79,slow=6.4,SNR=8.6						
ARCES				pP	**sP**	**07 58 39.7**	**-0.4**
	3.8nm,0.7s,baz=82,slow=6.6,SNR=6.0						
FIA0	**FINESS Array S**	**87.14**	**332**	*e*P	**P**	**07 58 36.1**	**-0.4**
FINES	**FINESS Array B**	**87.14**	**332**	P	**P**	**07 58 36.1**	**-0.4**
	0.6nm,0.5s,baz=85,slow=3.5,SNR=3.6						
VNDA	**Vanda**	**88.72**	**173**	*e*P	**P**	**07 58 44.3**	**+0.6**
VNDA	**Vanda**	**88.72**	**173**	P	**P**	**07 58 44.1**	**+0.4**
	0.8nm,0.7s,baz=323,slow=7.5,SNR=2.9						
NOA	**NOR

mb3.8/6, Error ellipse: s-maj=10.2km s-min=5.3km az=16.9
*IDC **23** 08:19:39.8±2.8, 38°.28N×142°.19E, h58km±22km, mb3.6/6, mb1 3.7/10, mb1mx3.4/48, mbtmp3.9/10, ML3.4/4, Error ellipse: s-maj=39.0km s-min=18.5km az=84.0*
*JMA **23** 08:19:41.5, 38°.31N×141°.89E, h63km±1km, M3.9*
JMA Felt I J1.

ISC 23 08:19:40.6±1.4, 38°.29N±0°.05×142°.00E±0°.10, h56km±9km, n32, σ1§32/45, mb3.9/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.42**	**274**	P	**Pn**	**08 19 52.2**	**+0.8**
JIKH				S	**Sn**	**08 19 59.7**	**+0.5**
JIO	**Ouri**	**0.54**	**288**	P	**Pn**	**08 19 53.2**	**+0.6**
JIO				S	**Sn**	**08 20 01.6**	**+0.2**
JKMT	**Kesennumamotoy**	**0.67**	**322**	P	**Pn**	**08 19 54.8**	**+0.6**
JKMT				S	**Sn**	**08 20 04.3**	**+0.2**
OFUJ	**Ofunato**	**0.83**	**342**	P	**Pn**	**08 19 57.0**	**+0.7**
OFUJ				S	**Sn**	**08 20 08.0**	**+0.2**
JMK	**Ichinoseki**	**0.90**	**318**	P	**Pn**	**08 19 57.7**	**+0.5**
JMK				S	**Sn**	**08 20 09.3**	**-0.1**
JOFO	**Osakifurukawao**	**0.91**	**291**	P	**Pn**	**08 19 57.6**	**+0.4**
JOFO				*e*S	**Sn**	**08 20 10.0**	**+0.5**
JMM	**Marumori**	**1.04**	**247**	P	**Pn**	**08 19 58.9**	**-0.1**
JMM				S	**Sn**	**08 20 11.6**	**-1.0**
JOU	**Okura**	**1.05**	**275**	P	**Pn**	**08 19 59.3**	**+0.1**
JOU				S	**Sn**	**08 20 12.3**	**-0.6**
JFK	**Kawauchi**	**1.28**	**224**	P	**Pn**	**08 20 02.4**	**+0.2**
JFK				S	**Sn**	**08 20 18.3**	**-0.1**
JOM	**Ohasama**	**1.31**	**335**	P	**Pn**	**08 20 03.1**	**+0.5**
JOM				S	**Sn**	**08 20 19.2**	**+0.2**
JYK	**Kaneyama**	**1.43**	**297**	P	**Pn**	**08 20 04.4**	**+0.2**
JYK				S	**Sn**	**08 20 21.4**	**-0.6**
JFT	**Otama**	**1.52**	**240**	P	**Pn**	**08 20 06.1**	**+0.6**
JFT				S	**Sn**	**08 20 23.7**	**-0.5**
JYS	**Shiratake**	**1.52**	**268**	P	**Pn**	**08 20 05.8**	**+0.3**
JYS				S	**Sn**	**08 20 24.2**	**0.0**
JRG	**Rokugo**	**1.54**	**317**	P	**Pn**	**08 20 06.1**	**+0.4**
JRG				S	**Sn**	**08 20 25.0**	**+0.4**
JYA	**Atsumi**	**1.82**	**280**	P	**Pn**	**08 20 09.7**	**+0.2**
JYA				*e*S	**Sn**	**08 20 31.6**	**+0.2**
MJAR	**Matsushiro Arr**	**3.48**	**241**	P	**Pn**	**08 20 33.6**	**+1.3**
	0.6nm,0.3s,baz=60,slow=9.2,SNR=25						
MJAR				S	**Sn**	**08 21 15.2**	**+2.9**
	0.3nm,0.3s,baz=66,slow=29,SNR=4.2						
MAT	**Matsushiro**	**3.48**	**241**	P	**Pn**	**08 20 34.0**	**+1.7**
MAT				S	**Sn**	**08 21 17.0**	**+4.7**
JHJ	**Hachijo jima 2**	**5.46**	**200**	P	**Pn**	**08 20 58.4**	**-1.0**
	14nm,0.3s,baz=320,slow=24,SNR=19						
JHJ				S	**Sn**	**08 21 56.6**	**-4.2**
	20nm,0.3s,baz=73,slow=19,SNR=4.3						
ASAJ	**Asahikawa**	**5.84**	**4**	P	**Pn**	**08 21 04.0**	**-0.5**
	2.4nm,0.3s,baz=222,slow=12,SNR=13						
ASAJ				S	**Sn**	**08 22 07.5**	**-2.6**
	1.2nm,0.3s,baz=108,slow=20,SNR=3.5						
USRK	**Ussuriysk Ar.**	**9.57**	**311**	P	**Pn**	**08 21 56.4**	**+0.8**
	0.6nm,0.3s,baz=127,slow=14,SNR=8.6						
SONM	**Songino Array**	**27.50**	**302**	P	**P**	**08 25 21.9**	**+0.3**
	0.8nm,0.5s,baz=98,slow=7.3,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**28.42**	**124**	T	T	08 55 48.5	
	baz=316,slow=75,SNR=98						
H11N1	**WAKE ISLAND Hy**	**28.43**	**124**	T	T	08 55 49.8	
	baz=316,slow=75,SNR=155						
H11N3	**WAKE ISLAND Hy**	**28.44**	**124**	T	T	08 55 50.0	
	baz=316,slow=75,SNR=116						
H11S1	**WAKE ISLAND Hy**	**29.18**	**126**	T	T	08 56 42.1	
	baz=318,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**29.18**	**126**	T	T	08 56 54.4	
	baz=318,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**29.20**	**126**	T	T	08 56 47.8	
	baz=318,slow=76,SNR=36						
ZALV	**Zalesovo Beam**	**41.43**	**311**	P	**P**	**08 27 22.0**	**+0.7**
	1.2nm,0.3s,baz=76,slow=7.8,SNR=2.2						
MKAR	**Makanchi Array**	**43.86**	**301**	P	**P**	**08 27 41.1**	**0.0**
	1.2nm,0.7s,baz=86,slow=9.8,SNR=6.8						
KURBB	**Kurchatov Arra**	**45.61**	**307**	P	**P**	**08 27 54.0**	**-1.0**
	0.9nm,0.3s,baz=79,slow=8.1,SNR=7.4						
ASAR	**Alice Springs**	**62.09**	**188**	P	**P**	**08 29 54.8**	**-0.7**
	0.3nm,0.7s,baz=16,slow=5.0,SNR=3.9						
ARCES	**ARCESS Array B**	**62.99**	**339**	P	**P**	**08 30 00.3**	**-0.7**
	1.8nm,0.9s,baz=60,slow=6.3,SNR=3.2						

IDC 23 08:22:44.3±3.1, 53°.58N×87°.77E, h0km, mb1 3.3/2, mb1mx3.1/39, mbtmp3.3/2, ML2.9/2, Error ellipse: s-maj=33.3km s-min=20.1km az=82.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**283**	*i*		08 34 28.8	
	baz=97,slow=337,SNR=20						
ZALV	**Zalesovo Beam**	**1.79**	**283**	Pn	Pn	08 23 16.1	-0.4
	4.2nm,0.3s,baz=101,slow=14,SNR=15						
ZALV				Sn	Sb	08 23 40.9	0.0
	4.7nm,0.3s,baz=104,slow=25,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.41**	**246**	Pn	Pn	08 24 20.6	+0.7
	0.2nm,0.3s,baz=59,slow=13,SNR=5.1						
KURBB				Lg	Lg	08 26 07.4	
	0.1nm,0.3s,baz=59,slow=35,SNR=5.5						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	08 24 38.2	+1.4
	0.3nm,0.3s,baz=28,slow=13,SNR=8.0						
MKAR				Lg	Lg	08 26 43.8	
	0.1nm,0.3s,baz=32,slow=33,SNR=2.1						

*NEIC **23** 09:12:06.9±1.4, 12°.77N×144°.64E, h74km±33km, ML4.2, Error ellipse: s-maj=63.8km s-min=16.0km az=90.0*
NEIC Felt [III] at Santa Rita. Also felt at Agat, Andersen AFB, Apra Harbor, Barrigada, Hagatna, Mangilao and Talafofo.
*IDC **23** 09:12:13.1±1.3, 13°.39N×145°.22E, h70km±12km, mb3.6/8, mb1 3.8/8, mb1mx3.4/47, mbtmp3.9/8, MS2.9/6, Ms1 2.9/6, ms1mx2.6/37, Error ellipse: s-maj=35.0km s-min=18.6km az=106.0*

ISC 23 09:12:08.1±0.7, 12°.84N±0°.08×144°.8E±0°.1, h57km, n30, σ2§72/19, mb3.9/9, MS2.8/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.76**	**9**	*e*Pn	Pn	09 12 26.6	+3.7
GUMO				*e*Sn	**Sn**	**09 12 35.5**	**+1.8**
GUMO	**Guam**	**0.76**	**9**	P	Pn	09 12 26.6	+3.7
	2μm,0.3s,baz=128,slow=19,SNR=1574						
GUMO				S	**Sn**	**09 12 36.1**	**+2.4**
	4μm,0.3s,baz=36,slow=19,SNR=30						
ANA2	**Anatahan**	**3.61**	**15**	*e*Pn	**Pn**	**09 13 01.4**	**-0.1**
ANA2				*e*Sn	**Sn**	**09 13 39.5**	**-3.4**
SARN	**Sarigan**	**3.97**	**14**	*e*Pn	**Pn**	**09 13 06.1**	**-0.4**
PATS	**Pohnpei**	**14.63**	**113**	*e*Pn	**Pn**	**09 15 31.5**	**-0.5**
MANU	**Manus Island**	**15.01**	**170**	*e*Pn	**Pn**	**09 15 34.7**	**-2.2**
JHJ	**Hachijo jima 2**	**20.69**	**348**	LR	LR	09 23 41.5	
	comp=Z,38nm,21.1s,baz=42,slow=34						
H11S3	**WAKE ISLAND Hy**	**21.85**	**72**	T	T	09 39 46.8	
	baz=259,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**21.86**	**72**	T	T	09 39 45.8	
	baz=259,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**21.87**	**72**	T	T	09 39 49.6	
	baz=259,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**22.31**	**69**	T	T	09 40 17.3	
	baz=256,slow=75,SNR=36						
H11N2	**WAKE ISLAND Hy**	**22.32**	**69**	T	T	09 40 02.6	
	baz=256,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**22.33**	**69**	T	T	09 40 18.9	
	baz=256,slow=75,SNR=60						
JNU	**Nakatsue**	**23.84**	**330**	P	**P**	**09 17 21.4**	**+5.2**
	2.9nm,0.7s,baz=106,slow=7.4,SNR=3.1						
JNU				LR	LR	09 25 35.3	
	comp=Z,21nm,19.3s,baz=180,slow=34						
MJAR	**Matsushiro Arr**	**24.33**	**347**	LR	LR	09 25 56.1	
	comp=Z,21nm,18.9s,baz=190,slow=34						
HNR	**Honiara**	**26.78**	**145**	LR	LR	09 27 13.6	
	comp=Z,34nm,21.9s,baz=40,slow=33						
ASAR	**Alice Springs**	**37.80**	**196**	P	P	09 19 27.9	+8.8
	1.2nm,0.6s,baz=23,slow=11,SNR=45						
ASAR				PcP	**PcP**	**09 21 41.2**	**+6.2**
	0.3nm,0.6s,baz=44,slow=3.3,SNR=4.2						
KLR	**Kul'dur**	**37.84**	**346**	LR	LR	09 33 48.4	
	comp=Z,31nm,18.5s,baz=53,slow=35						
HHC	**Hu-ho-hao-te**	**40.27**	**320**	*e*P	**P**	**09 19 37.4**	**-2.3**
LZH	**Lanzhou**	**43.40**	**309**	*e*P	**P**	**09 20 01.9**	**-3.6**
LZH				pP	pP	09 20 20.5	+0.9
LZH				sP	sP	09 20 29.3	+3.3
LZH				*e*PP	**PP**	**09 21 46.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**44.37**	**283**	P	P	09 20 20.4	+7.1
	1.0nm,0.6s,baz=98,slow=6.5,SNR=3.7						
STKA	**Stephens Creek**	**44.56**	**184**	P	P	09 20 21.7	+7.2
	1.1nm,0.5s,baz=1.3,slow=6.2,SNR=3.9						
WMQ	**Urumqi**	**57.57**	**314**	*e*P	**P**	**09 21 50.8**	**-1.4**
WMQ				pP	pP	09 22 10.1	+2.9
ILAR	**Eielson Array**	**69.29**	**25**	P	**P**	**09 23 07.5**	**-1.6**
	0.4nm,0.4s,baz=249,slow=5.6,SNR=11						
INK	**Inuvik**	**75.10**	**22**	P	**P**	**09 23 43.4**	**-0.3**
	0.6nm,0.8s,baz=286,slow=6.2,SNR=3.7						
AKTO	**Aktyubinsk**	**78.16**	**319**	LR	LR	09 59 48.8	
	comp=Z,8.0nm,18.6s,baz=102,slow=37						
YKA	**Yellowknife Ar**	**83.58**	**27**	P	**P**	**09 24 30.0**	**0.0**
	0.3nm,0.5s,baz=288,slow=4.8,SNR=4.6						
NVAR	**Mina Array Bea**	**87.48**	**51**	P	**P**	**09 24 51.5**	**+1.3**
	0.6nm,0.6s,baz=279,slow=4.7,SNR=5.6						
FINES	**FINESS Array B**	**91.79**	**335**	P	**P**	**09 25 10.3**	**+0.7**
	1.1nm,0.6s,baz=46,slow=14,SNR=3.0						
LPAZ	**La Paz**	**148.01**	**100**	PKPbc	**PKiKP**	**09 31 50.9**	**+0.2**
	1.7nm,0.8s,baz=321,slow=3.0,SNR=7.7						

WEL 23 09:14:56.0, 46°.S±4°, ×16°.7E±°, h10km±3km, ML3.7/15, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.17**	**68**	P	Pg	09 15 00.2	+0.6
DCZ				S	Sg	09 15 04.8	+2.5
WHZ	**Wether Hill Ro**	**0.80**	**117**	P	Pg	09 15 11.3	-0.1
WHZ				S	Sn	09 15 24.2	-1.1
MLZ	**Mavora Lakes**	**0.85**	**79**	P	Pg	09 15 11.1	-1.3
MLZ				S	Sb	09 15 24.3	-0.1
MSZ	**Milford Sound**	**1.11**	**40**	P	Pb	09 15 12.3	-4.9
APZ	**The Paps**	**1.50**	**151**	P	Pb	09 15 23.6	-0.3
WKZ	**Wanaka**	**1.64**	**65**	P	Pn	09 15 23.9	-0.9
EAZ	**Earnscleugh**	**1.70**	**81**	P	Pn	09 15 25.4	-0.3
SYZ	**Scrubby Hill**	**1.84**	**124**	P	Pn	09 15 28.4	+0.8
TUZ	**Tuapeka**	**1.94**	**104**	P	Pn	09 15 29.6	+0.7
JCZ	**Jackson Bay**	**1.97**	**43**	P	Pn	09 15 27.6	-1.9
LBZ	**Lake Benmore**	**2.58**	**65**	P	Pn	09 15 36.5	-1.3
HHSZ	**Highcliff Hill**	**2.59**	**99**	P	Pn	09 15 38.9	+0.9
ODZ	**Otahua Downs**	**2.67**	**81**	P	Pn	09 15 37.1	-1.9
FOZ	**Fox Glacier**	**2.87**	**47**	P	Pn	09 15 40.7	-1.1
RPZ	**Rata Peaks**	**3.46**	**60**	P	Pn	09 15 47.9	-2.0
OXZ	**Oxford**	**4.27**	**61**	P	Pn	09 15 58.6	-2.4
INZ	**Inchbonnie**	**4.29**	**51**	P	Pn	09 16 00.1	-1.2
LTZ	**Lake Taylor**	**4.72**	**56**	P	Pn	09 16 05.4	-1.9
DSZ	**Denniston Nort**	**5.18**	**45**	P	Pn	09 16 11.5	-2.1
THZ	**Tophouse**	**5.74**	**51**	P	Pn	09 16 21.3	0.0
QRZ	**Quartz Range**	**6.23**	**43**	P	Pn	09 16 25.9	-2.0

VIE 23 09:22:40.3±0.6, 48°.65N×15°.80E, h0km, ml1.7/4, Error ellipse: s-maj=5.2km s-min=3.1km az=68.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRUC	**Moravsky**	**0.57**	**43**	*e*PG	Pg	09 22 52.0	+0.8
KRUC				*e*SG	Sg	09 22 59.0	+0.4
CONA	**Conrad Observa**	**0.72**	**177**	*e*Pg	Pg	09 22 54.7	+0.6
	0.5nm,0.1s						
CONA				Sg	Sg	09 23 03.2	-0.2
	3.8nm,0.4s						
VRAC	**Vranov**	**0.84**	**38**	*e*PG	Pg	09 22 57.0	+0.6
VRAC				*e*SG	Sg	09 23 07.7	+0.3
MOA	**Molln**	**1.30**	**233**	*e*Pg	Pb	09 23 05.5	-0.1
	0.7nm,0.1s						
MOA				Sg	Sn	09 23 23.9	0.0
	3.9nm,0.3s						
ARSA	**Arzberg**	**1.41**	**188**	*i* Pg	Pb	09 23 07.8	+0.3
	1.1nm,0.3s						
ARSA				*i* Sg	Sn	09 23 26.6	+0.1
	5.3nm,0.5s						
MORC	**Moravsky Berou**	**1.61**	**45**	*e*PG	Pn	09 23 09.8	-0.2

*ISCJB **23** 09:24:29.6±1.2, 67°.78N±0°.03×34°.0E±0°.2, h0km, Error ellipse: s-maj=9.4km s-min=4.9km az=8.9*
*HEL **23** 09:24:29.4±0.5, 67°.66N×34°.24E, h0km, ML2.6, Explosion*
*KOLA **23** 09:24:30.4, 67°.72N×34°.14E, h0km*
*NAO **23** 09:24:31.4±1.2, 67°.74N×33°.94E, ML2.9*

ISC 23 09:24:27.6±1.7, 67°.64N±0°.04×34°.41E±0°.08, h0km, n29, σ1§36/58, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.39**	**260**	P	**Pg**	**09 24 36.1**	**+1.0**
APA				S	**Sg**	**09 24 40.3**	**+0.2**
APZ9	**Apatity**	**0.39**	**260**	Pg	**Pg**	**09 24 36.1**	**+1.1**
APZ9				Lg	Lg	09 24 40.5	
APZ9	**Apatity**	**0.39**	**260**	Pg	**Pg**	**09 24 36.1**	**+1.1**
APZ9				Sg	**Sg**	**09 24 40.5**	**+0.4**
APA0	**Apatity Array**	**0.54**	**267**	Pg	**Pg**	**09 24 38.5**	**+0.5**
APA0				Lg	Lg	09 24 44.4	
APA0				Rg	Rg	09 24 46.9	
APA0	**Apatity Array**	**0.54**	**267**	P	**Pg**	**09 24 38.5**	**+0.5**
APA0				S	**Sg**	**09 24 44.4**	**-0.6**
APA0	**Apatity Array**	**0.54**	**267**	Pg	**Pg**	**09 24 38.5**	**+0.5**
APA0				Sg	**Sg**	**09 24 44.4**	**-0.6**
APA0				Rg	Rg	09 24 46.9	
VRF	**Varrio**	**1.83**	**276**	PG	**Pn**	**09 25 00.8**	**+0.5**
VRF				MSG		09 25 22.0	
	comp=Z,72nm,0.2s						
VRF				SG	**Sn**	**09 25 23.4**	**-0.8**
KU6	**Riekki**	**2.41**	**230**	PG	**Pb**	**09 25 10.5**	**-1.3**
KU6				MSG		09 25 39.6	
	comp=Z,23nm,0.2s						
KU6				SG	**Sb**	**09 25 42.5**	**+0.4**
MSF	**Maaselka**	**2.75**	**233**	PG	**Pb**	**09 25 17.1**	**-0.4**
MSF				SB	**Sb**	**09 25 50.7**	**-1.0**
SGF	**Sodankyl**	**3.03**	**270**	PN	**Pn**	**09 25 17.6**	**+0.8**
SGF				SG	**Sb**	**09 25 59.0**	**-0.9**
KEV	**Kevo**	**3.44**	**312**	Pn	**Pn**	**09 25 23.8**	**+1.5**
KEV				Sn	**Sn**	**09 26 03.6**	**-0.1**
KEV				Lg	Lg	09 26 10.7	
KEV	**Kevo**	**3.44**	**312**	Pn	**Pn**	**09 25 23.8**	**+1.5**
KEV				Sn	**Sn**	**09 26 03.6**	**-0.1**
KEV				Sg	**Sb**	**09 26 10.7**	**-0.7**
KEV	**Kevo**	**3.44**	**312**	PN	**Pn**	**09 25 23.2**	**+0.9**
	baz=127						
KEV				SN	**Sn**	**09 26 03.5**	**-0.1**
RNF	**Rovaniemi**	**3.44**	**256**	PN	**Pn**	**09 25 23.3**	**+1.0**
	baz=70						
RNF				SN	**Sn**	**09 26 04.5**	**+0.8**
ARA0	**ARCESS Array S**	**3.78**	**304**	Pn	**Pn**	**09 25 27.9**	**+0.9**
	baz=120,slow=14						
ARA0				Pg	**Pb**	**09 25 36.0**	**+1.0**
	baz=111,slow=16						
ARA0				Sn	**Sn**	**09 26 10.5**	**-1.6**
	baz=120,slow=28						
ARA0				Lg	Lg	09 26 22.8	
	baz=118,slow=37						
ARA0	**ARCESS Array S**	**3.78**	**304**	Pn	**Pn**	**09 25 27.9**	**+0.9**
	baz=120,slow=14						
ARA0				Pg	**Pb**	**09 25 36.0**	**+1.0**
	baz=111,slow=16						
ARA0				Sn	**Sn**	**09 26 10.5**	**-1.6**
	baz=120,slow=28						
ARA0				Sg	**Sb**	**09 26 22.8**	**+1.4**
	baz=118,slow=37						
ARE0	**ARCESS Array S**	**3.78**	**304**	PN	**Pn**	**09 25 27.8**	**+0.8**
	baz=113						
ARE0				SN	**Sn**	**09 26 10.5**	**-1.6**
HEF	**Hetta**	**4.11**	**286**	Pn	**Pn**	**09 25 31.9**	**+0.3**
HEF				Pg	**Pb**	**09 25 41.1**	**+0.4**
HEF				Sn	**Sn**	**09 26 20.0**	**-0.4**
HEF				Lg	Lg	09 26 32.2	
HEF	**Hetta**	**4.11**	**286**	Pn	**Pn**	**09 25 31.9**	**+0.3**
HEF				Pg	**Pb**	**09 25 41.1**	**+0.4**
HEF				Sn	**Sn**	**09 26 20.0**	**-0.4**
HEF				Sg	**Sb**	**09 26 32.2**	**+1.2**
HEF	**Hetta**	**4.11**	**286**	PN	**Pn**	**09 25 32.1**	**+0.5**
HEF				SN	**Sn**	**09 26 19.7**	**-0.6**
OUL	**Oulu**	**4.28**	**237**	PG	**Pb**	**09 25 46.1**	**+2.6**
LANU	**Lannavaara**	**4.72**	**281**	PN	**Pn**	**09 25 38.0**	**-1.9**
LANU				SG	**Sb**	**09 26 50.9**	**+2.5**
KIF	**Kilpisjarvi**	**5.23**	**291**	Pn	**Pn**	**09 25 48.0**	**+1.2**
KIF				Sn	**Sn**	**09 26 44.1**	**-3.5**
KIF				Lg	Lg	09 27 04.0	
KIF	**Kilpisjarvi**	**5.23**	**291**	Pn	**Pn**	**09 25 48.0**	**+1.2**
KIF				Sn	**Sn**	**09 26 44.1**	**-3.5**
FIA0	**FINESS Array S**	**7.18**	**214**	Pn	**Pn**	**09 26 15.9**	**+2.3**
	baz=31,slow=14						
FIA0				Sn	**Sn**	**09 27 33.0**	**-2.6**
	baz=35,slow=22						
FIA0				Lg	Lg	09 28 09.5	
	baz=36,slow=28						
SPA0	**Spitsbergen Ar**	**11.74**	**342**	Pn	**Pn**	**09 27 14.5**	**-1.6**
	baz=150,slow=16						
SPA0	**Spitsbergen Ar**	**11.74**	**342**	Pn	**Pn**	**09 27 14.5**	**-1.6**
	baz=150,slow=16						
HFS	**Hagfors**	**11.77**	**240**	Pn	**Pn**	**09 27 14.9**	**-1.6**
	baz=63,slow=14						
HFS	**Hagfors**	**11.77**	**240**	Pn	**Pn**	**09 27 14.9**	**-1.6**
	baz=63,slow=14						

*KLM **23** 09:29:45.0, 2°.34N×124°.79E, h241km, mb5.0*
*ISCJB **23** 09:29:46.7±0.2, 2°.34N±0°.02×124°.80E±0°.03, h270km±2km, mb4.5/71, Error ellipse: s-maj=5.0km s-min=3.1km az=2.3*
*BJI **23** 09:29:46.5±0.0, 2°.30N×124°.70E, h261km, mb4.5/28, mB4.4/20*
*IDC **23** 09:29:47.4±0.6, 2°.33N×124°.72E, h261km±5km, mb4.2/38, mb1 4.2/41, mb1mx4.2/54, mbtmp4.8/41, Error ellipse: s-maj=9.0km s-min=5.7km az=85.0*
*DJA **23** 09:29:47.4±0.5, 2°.N±5°.×12°.5E±°, h257km±6km, M4.8/13, mB5.0/8, mb5.1/9, MLv5.1/13, Mw(mB)4.4/8*
*NEIC **23** 09:29:47.4±1.7, 2°.30N×124°.77E, h263km±6km, mb4.6/61, Error ellipse: s-maj=10.6km s-min=9.8km az=45.0*
*MAN **23** 09:30:29.0, 5°.87N×125°.07E, h158km, MS4.7*

ISC 23 09:29:47.6±0.4, 2°.31N±0°.03×124°.78E±0°.05, h265km±3km, h265km:pP-P, n182, σ1§29/222, mb4.6/71, 3C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.56**	**29**	P	**Pn**	**09 30 26.8**	**-1.0**
KMSI	**Cibinong**	**1.90**	**205**	P	**Pn**	**09 30 30.6**	**+0.1**
TNTI	**Ternate**	**3.00**	**121**	*e*Pn	**Pn**	**09 30 40.8**	**-0.3**
TNTI	**Ternate**	**3.00**	**121**	P	**Pn**	**09 30 39.9**	**-1.1**
MRSI	**Marisa**	**3.37**	**237**	P	**Pn**	**09 30 45.7**	**+0.7**
DDMP	**Don Marcelino,**	**3.88**	**14**	*e*P	**Pn**	**09 30 49.4**	**-1.3**
DDMP				*e*S	**S**	**09 31 38.2**	**-2.9**
LUWI	**Luwuk**	**3.89**	**211**	*e*Pn	**Pn**	**09 30 50.2**	**-0.6**
LUWI				*e*S	**S**	**09 31 37.6**	**-3.6**
LUWI	**Luwuk**	**3.89**	**211**	P	**Pn**	**09 30 49.8**	**-1.0**
SKMP	**Bagumbayan, Su**	**4.19**	**357**	*e*P	**Pn**	**09 30 54.0**	**-0.2**
APSI	**Ampana**	**4.48**	**224**	P	**Pn**	**09 30 57.9**	**+0.3**
SANI	**Sanana**	**4.49**	**164**	P	**Pn**	**09 30 55.2**	**-2.7**
DAV	**Davao City (W)**	**4.80**	**10**	*e*Pn	**Pn**	**09 31 01.0**	**-0.4**
DAV				*e*		09 31 01.3	
DAV				*e*S	**S**	**09 31 59.8**	**-0.7**
DAV	**Davao City (W)**	**4.80**	**10**	P	**Pn**	**09 31 01.3**	**-0.2**
	54nm,0.3s,baz=76,slow=1.5,SNR=12						
DAV				S	**S**	**09 31 59.8**	**-0.7**
	77nm,0.3s,baz=136,slow=18,SNR=1.9						
DMPH	**Davao City--Mi**	**4.80**	**9**	*e*P	**Pn**	**09 31 02.0**	**+0.5**
DMPH				*e*S	**S**	**09 31 58.5**	**-2.0**
MATI	**Mati**	**4.84**	**18**	*e*P	**Pn**	**09 31 00.8**	**-1.2**
MATI				*e*S	**S**	**09 31 59.4**	**-2.0**
CTBH	**Cotabato--PC H**	**4.91**	**354**	*i* P	**Pn**	**09 31 02.4**	**-0.4**
MPSI	**Mapaga**	**5.26**	**248**	P	**Pn**	**09 31 07.4**	**+0.4**
BUKP	**Musuan**	**5.54**	**3**	*e*P	**Pn**	**09 31 09.9**	**-0.6**
PAGZ	**Pagadian**	**5.68**	**346**	*e*P	**Pn**	**09 31 12.0**	**-0.1**
CGP	**Cagayan de Oro**	**6.11**	**359**	*e*P	**Pn**	**09 31 18.9**	**+1.5**
BUTP	**Butuan**	**6.67**	**7**	*e*P	**Pn**	**09 31 23.4**	**-0.9**
TTSI	**Tana Toraja**	**7.27**	**223**	P	**Pn**	**09 31 32.2**	**+0.3**
SPSI	**Sidrap Palu**	**8.00**	**219**	P	**Pn**	**09 31 40.5**	**-0.4**
BNSI	**Bone**	**8.14**	**215**	P	**Pn**	**09 31 43.1**	**+0.4**
KAPI	**Kappang**	**8.84**	**215**	P	**Pn**	**09 31 51.9**	**+0.4**
	7.6nm,0.3s,baz=29,slow=4.7,SNR=60						
KAPI				S	**S**	**09 33 31.3**	**-0.7**
	baz=47,slow=19,SNR=5.1						
BKSI	**Bulukumba**	**8.89**	**212**	P	**Pn**	**09 31 52.2**	**0.0**
	29nm,0.9s,582nm0.1nm						
FAKI	**Fak Fak**	**9.09**	**125**	*e*Pn	**Pn**	**09 31 54.2**	**-0.6**
MMRI	**Maumere**	**11.16**	**193**	*e*Pn	**Pn**	**09 32 21.2**	**+0.6**
MMRI	**Maumere**	**11.16**	**193**	P	**Pn**	**09 32 21.5**	**+0.9**
SOEI	**Soe**	**11.99**	**182**	*e*Pn	**P**	**09 32 33.5**	**-0.1**
SAUI	**Saumlaki**	**12.12**	**148**	*e*Pn	**Pn**	**09 32 31.7**	**-0.7**
SAUI				*e*S	**S**	**09 34 45.1**	**-2.4**
BATI	**Baumata**	**12.48**	**185**	P	**P**	**09 32 39.0**	**+0.1**
	63nm,0.3s,baz=327,slow=0.7,SNR=36						
SBUM	**Sibu**	**12.55**	**271**	*e*Pn	**P**	**09 32 40.1**	**+0.5**
PLAI	**Plampang**	**13.

CMAR ScP **ScP** **09 41 44.7 +0.4**
2.3nm,0.7s,baz=143,slow=2.1,SNR=13
NJ2 **Nanjing** **30.11 350** *e*P **P** **09 35 34.3 +1.4**
NJ2 pmax pmax
comp=Z,16nm,0.5s
CTA **Charters Tower** **30.65 138** P **P** **09 35 39.0 +1.1**
5.0nm,0.8s,baz=327,slow=11,SNR=5.7
KMI **Kunming** **31.08 319** P **P** **09 35 43.6 +1.8**
KMI pmax pmax
comp=Z,16nm,0.5s
KMI pmax pmax
comp=Z,80nm,5.5s
MORW **Morawa** **32.30 194** P **P** **09 35 52.4 +0.2**
baz=32,SNR=36
FORT **Forrest** **33.05 175** P **P** **09 35 59.1 +0.5**
baz=33,SNR=51
KMBL **Kambalda** **33.60 184** P **P** **09 36 03.6 +0.2**
baz=34,SNR=90
BLDU **Ballidu** **33.63 193** P **P** **09 36 03.6 -0.1**
baz=34,SNR=54
KLBR **Kellerberrin** **34.37 191** P **P** **09 36 10.0 +0.1**
baz=34,SNR=50
INU **Inuyama** **34.78 18** *e*P **P** **09 36 12.8 -0.6**
25nm,0.9s
XAN **Xi'an** **34.87 337** P **P** **09 36 14.3 0.0**
XAN pmax pmax
comp=Z,4.0nm,0.7s
XAN pmax pmax
comp=Z,87nm,4.3s
MUN **Mundaring** **35.06 193** P **P** **09 36 15.9 +0.1**
baz=35,SNR=22
KS15 **Wonju Array Si** **35.08 4** *e*pP **pP** **09 37 09.3 +2.0**
KS15 *e*ScP **ScP** **09 42 02.2 +0.7**
KSRS **Korea Array** **35.09 4** P **P** **09 36 16.9 +0.9**
3.1nm,0.6s,baz=180,slow=9.9,SNR=18
KSRS pP **pP** **09 37 09.3 +1.9**
1.2nm,0.7s,baz=186,slow=8.6,SNR=2.3
KSRS ScP **ScP** **09 42 02.2 +0.7**
3.2nm,0.7s,baz=184,slow=3.7,SNR=15
NWAO **Narrogin (SRO)** **35.77 191** *e*P **P** **09 36 22.2 +0.4**
40nm,0.6s
NWAO **Narrogin (SRO)** **35.77 191** P **P** **09 36 22.3 +0.4**
baz=36
NWAO **Narrogin (SRO)** **35.77 191** P **P** **09 36 22.1 +0.4**
28nm,0.5s,baz=25,slow=8.1,SNR=64
MAJO **Matsushiro** **36.25 18** *e*P **P** **09 36 24.9 -1.1**
21nm,0.8s
MAJO *e*ScP **ScP** **09 42 06.0 +0.1**
MAT **Matsushiro** **36.25 18** P **P** **09 36 25.0 -0.9**
MAT *e*S **S** **09 41 45.8 -0.5**
MJAR **Matsushiro Arr** **36.25 18** P **P** **09 36 25.3 -0.6**
20nm,0.8s,baz=197,slow=9.6,SNR=58
MJAR ScP **ScP** **09 42 06.0 +0.1**
4.7nm,0.9s,baz=220,slow=7.8,SNR=7.4
MJB9 **Matsu-Tunnel** **36.26 18** *e*P **P** **09 36 24.6 -1.3**
22nm,0.8s
BBOO **Buckleboo** **36.52 164** P **P** **09 36 28.4 +0.2**
baz=37,SNR=11
HNR **Honiara** **36.93 109** P **P** **09 36 31.4 -0.4**
30nm,0.3s,baz=213,slow=2.7,SNR=3.8
RKGY **Rocky Gully** **37.45 191** P **P** **09 36 37.4 +1.5**
baz=38,SNR=28
STKA **Stephens Creek** **37.56 156** *e*P **P** **09 36 38.1 +1.2**
1.4nm,0.9s
STKA **Stephens Creek** **37.56 156** P **P** **09 36 37.9 +1.0**
baz=38,SNR=15
STKA **Stephens Creek** **37.56 156** P **P** **09 36 38.1 +1.2**
4.5nm,0.6s,baz=336,slow=8.6,SNR=16
HTT **Hallett** **37.97 161** P **P** **09 36 42.0 +1.6**
baz=38,SNR=4.4
LZH **Lanzhou** **38.80 332** *e*P **P** **09 36 49.6 +2.3**
LZH pP **pwP** **09 37 43.3 -2.9**
LZH sP **sP** **09 38 12.8 +3.5**
LZH PP **PnPn** **09 38 28.8 +0.9**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,82nm,5.6s
CMSA **Cobar Meteorol** **39.09 151** P **P** **09 36 51.6 +2.0**
baz=39,SNR=8.5
HHC **Hu-ho-hao-te** **40.18 344** *e*P **P** **09 37 01.1 +2.5**
HHC pmax pmax
comp=Z,85nm,0.9s
HHC pmax pmax
comp=Z,300nm,5.2s
CN2 **Changchun** **41.32 1** *e*P **P** **09 37 11.5 +3.9**
ARMA **Armidale** **41.41 144** P **P** **09 37 10.5 +1.8**
baz=42,SNR=7.8
ARPS **Mount Arapiles** **42.00 159** P **P** **09 37 14.6 +1.4**
baz=42,SNR=17
USRK **Ussuriysk Ar.** **42.20 8** P **P** **09 37 15.3 +0.6**
10nm,0.8s,baz=197,slow=7.4,SNR=27
USRK pP **pP** **09 38 08.5 +0.4**
3.5nm,0.9s,baz=201,slow=7.6,SNR=2.8
USRK ScP **ScP** **09 42 27.3 -1.4**
0.8nm,0.6s,baz=145,slow=45,SNR=3.4
MDJ **Mudanjiang** **42.34 5** P **P** **09 37 17.0 +1.1**
MDJ pmax pmax
comp=Z,25nm,0.6s
MDJ pmax pmax
comp=Z,60nm,3.9s
ODAN **Odare** **43.35 308** *e*P **P** **09 37 24.8 +0.3**
22nm,0.6s
GTA **Gaotai** **43.36 332** P **P** **09 37 26.3 +2.0**
GTA pP **pP** **09 38 15.0 -2.7**
GTA ScP **ScP** **09 42 33.5 -0.2**
RAMN **Ramite** **44.02 307** *e*P **P** **09 37 29.7 -0.1**
34nm,0.5s
H11S3 **WAKE ISLAND Hy** **44.08 66** T T 10 25 51.1
baz=253,slow=75,SNR=3.0
H11S2 **WAKE ISLAND Hy** **44.10 66** T T 10 25 23.1
baz=253,slow=75,SNR=2.8
H11S1 **WAKE ISLAND Hy** **44.10 66** T T 10 25 19.5
baz=253,slow=75,SNR=2.6
JIRN **Jiri** **44.67 308** *e*P **P** **09 37 35.2 +0.1**
49nm,0.4s
PKI **Pulchoki** **45.24 308** *e*P **P** **09 37 39.2 -0.4**
16nm,0.3s
KKN **Kakani** **45.44 308** *e*P **P** **09 37 40.5 -0.5**
18nm,0.4s
DMN **Daman** **45.50 307** *e*P **P** **09 37 41.3 -0.2**
23nm,0.7s
KOLN **Koldanda** **46.77 307** *e*P **P** **09 37 51.2 -0.1**
76nm,0.5s
DANN **Dangsing** **46.89 308** *e*P **P** **09 37 52.0 -0.4**
80nm,0.6s
KLR **Kul'dur** **47.13 6** P **P** **09 37 53.4 0.0**
6.5nm,0.6s,baz=212,slow=4.6,SNR=25
KLR pP **pP** **09 38 48.0 +0.2**
2.4nm,0.7s,baz=216,slow=8.9,SNR=3.3
KLR ScP **ScP** **09 42 48.2 -0.7**
0.9nm,0.6s,baz=16,slow=1.5,SNR=4.0
DZM **Mont Dzumac** **47.35 123** P **P** **09 37 56.9 +1.1**
8.3nm,0.9s,baz=290,slow=6.9,SNR=4.3
PYUN **Piuthan** **47.40 307** *e*P **P** **09 37 56.2 0.0**
50nm,0.4s
SONA0 **Songino Array** **48.05 343** *e*P **P** **09 38 01.8 +1.1**
SONA0 *e*ScP **ScP** **09 42 52.1 -0.9**
SONM **Songino Array** **48.05 343** P **P** **09 38 01.8 +1.1**
0.8nm,0.6s,baz=154,slow=10,SNR=5.8
SONM ScP **ScP** **09 42 52.2 -0.9**
1.5nm,0.8s,baz=160,slow=4.5,SNR=8.1
WMQ **Urumqi** **52.80 327** P **P** **09 38 36.8 +0.7**
WMQ pP **pwP** **09 39 34.9 -3.3**
WMQ PcP **PcP** **09 39 44.4 +2.7**
WMQ pmax pmax
comp=Z,74nm,0.7s
WMQ pmax pmax
comp=Z,320nm,4.3s
WMQ LR LR
comp=N,2μm,30.1s
WMQ LR LR
comp=E,2μm,28.1s
WMQ LR LR
comp=Z,350nm,21.3s
PETK **Petropavlovsk-** **57.48 23** P **P** **09 39 10.4 +1.3**
10nm,0.6s,baz=185,slow=3.7,SNR=27
PEA1 **Petropavlovsk-** **57.48 23** *e*P **P** **09 39 10.4 +1.2**
MK31 **Makanchi Array** **57.63 327** *e*P **P** **09 39 10.2 -0.3**
4.7nm,0.6s
MK32 **Makanchi Array** **57.63 327** *e*P **P** **09 39 10.0 -0.4**
MK32 *e*PcP **PcP** **09 40 00.2 -0.2**
MK32 *e*ScP **ScP** **09 43 33.6 -1.1**
MKAR **Makanchi Array** **57.63 327** P **P** **09 39 10.0 -0.4**
3.6nm,0.4s,baz=120,slow=7.4,SNR=41
MKAR PcP **PcP** **09 40 00.2 -0.2**
4.6nm,0.6s,baz=121,slow=4.2,SNR=10.0
MKAR ScP **ScP** **09 43 33.6 -1.1**
1.3nm,0.6s,baz=115,slow=5.8,SNR=5.0
KSH **Kashi** **57.70 316** P **P** **09 39 12.1 +1.0**
KSH sP **sP** **09 40 37.3 +0.8**
KSH PP **PP** **09 41 24.3 +2.0**
KSH S **S** **09 46 44.4 -4.3**
KSH pmax pmax
comp=Z,13nm,0.7s
KSH pmax pmax
comp=Z,110nm,5.1s
KSH LR LR
comp=N,220nm,12.0s
KSH LR LR
comp=E,170nm,10.2s
KDJ **Kajisay** **58.13 320** *e*P **P** **09 39 14.5 +0.3**
6.9nm,0.6s
AAK **Ala-Archa** **60.12 319** P **P** **09 39 28.8 +1.1**
1.5nm,0.4s,baz=184,slow=5.0,SNR=4.7
AAK PcP **PcP** **09 40 10.7 +0.1**
3.3nm,0.5s,baz=85,slow=5.9,SNR=6.1
MA2 **Magadan** **60.56 15** *e*P **P** **09 39 29.6 -0.5**
20nm,0.7s
MA2 **Magadan** **60.56 15** P **P** **09 39 31.2 +1.1**
25nm,0.7s,baz=195,slow=6.4,SNR=16
ZALV **Zalesovo Beam** **60.99 334** P **P** **09 39 33.4 +0.3**
2.9nm,0.8s,baz=111,slow=8.1,SNR=7.5
KURBB **Kurchatov Arra** **61.90 329** P **P** **09 39 38.5 -0.8**
5.8nm,0.7s,baz=124,slow=6.5,SNR=25
KURBB pP **pP** **09 40 35.6 -1.3**
2.3nm,0.9s,baz=126,slow=5.7,SNR=1.8
KURBB PP **PP** **09 41 53.7 -5.3**
0.5nm,0.4s,baz=126,slow=6.3,SNR=4.0
KURK **Kurchatov** **61.91 329** *e*P **P** **09 39 38.6 -0.7**
14nm,0.8s
URZ **Urewera** **62.87 136** P **P** **09 39 45.9 0.0**
14nm,1.0s,baz=0.0,slow=6.1,SNR=4.3
KK31 **Karatay Array** **62.96 318** *e*P **P** **09 39 45.6 -0.8**
5.9nm,1.1s
KKAR **Karatay Array** **62.96 318** *e*P **P** **09 39 45.5 -0.9**
5.9nm,1.1s
SEY **Seymchan** **63.85 14** P **P** **09 39 52.9 +1.1**
2.7nm,0.2s,baz=211,slow=5.8,SNR=13
BVAR **Borovoye Array** **67.46 328** P **P** **09 40 13.9 -1.2**
2.7nm,0.7s,baz=120,slow=8.8,SNR=15
CASY **Casey** **69.19 186** *e*P **P** **09 40 26.3 +0.9**
11nm,0.7s
TIXI **Tiksi** **69.29 1** *e*P **P** **09 40 25.6 -0.3**
5.3nm,0.8s
TIXI **Tiksi** **69.29 1** P **P** **09 40 25.2 -0.7**
3.2nm,0.3s,baz=219,slow=4.2,SNR=7.6
GEYT **Alibeck** **70.28 310** P **P** **09 40 31.9 -0.8**
2.5nm,0.4s,baz=157,slow=8.0,SNR=5.1
ABKAR **Akbulak array** **72.03 321** *e*P **P** **09 40 42.0 -0.8**
4.7nm,0.8s
AKTO **Aktyubinsk** **73.57 322** P **P** **09 40 51.3 -0.5**
2.6nm,0.3s,baz=105,slow=5.0,SNR=13
ARU **Arti** **75.10 328** P **P** **09 40 59.3 -1.2**
2.7nm,0.2s,baz=115,slow=3.0,SNR=7.0
ABPO **Ambohimpanom** **79.00 250** *e*P **P** **09 41 22.0 -1.2**
15nm,0.7s
SDPT **Sand Point** **79.45 34** *e*P **P** **09 41 24.3 -0.3**
47nm,0.7s
MAW **Mawson** **81.76 200** *e*P **P** **09 41 37.6 +1.1**
0.9nm,0.6s
MAW **Mawson** **81.76 200** P **P** **09 41 37.4 +0.9**
baz=82,SNR=13
MAW **Mawson** **81.76 200** P **P** **09 41 37.3 +0.8**
4.3nm,0.5s,baz=66,slow=5.0,SNR=20
VNDA **Vanda** **82.28 172** *e*P **P** **09 41 39.7 +0.6**
2.9nm,0.8s
VNDA **Vanda** **82.28 172** P **P** **09 41 39.5 +0.5**
2.8nm,0.5s,baz=318,slow=6.8,SNR=18
KBZ **Khabaz** **82.54 314** P **P** **09 41 40.6 -0.5**
2.6nm,0.8s,baz=159,slow=4.4,SNR=5.6
KDAK **Kodiak Island** **84.12 32** *e*P **P** **09 41 50.2 +1.3**
16nm,0.7s
ILAR **Eielson Array** **87.21 25** P **P** **09 42 02.3 -1.6**
0.6nm,0.5s,baz=254,slow=4.4,SNR=10
KMBO **Kilima Mbogo** **87.58 269** P **P** **09 42 07.4 +0.4**
11nm,0.2s,baz=68,slow=3.2,SNR=6.2
BRTR **Keskin Array B** **89.42 310** P **P** **09 42 13.4 -1.6**
0.5nm,0.5s,baz=96,slow=5.0,SNR=3.9
SYO **Syowa Base** **90.41 201⇑** *e*P **P** **09 42 18.0 -0.7**
SPITS **Spitsbergen Ar** **91.48 349** P **P** **09 42 24.0 +0.4**
9.0nm,1.0s,baz=106,slow=8.8,SNR=7.6
FIA0 **FINESS Array S** **92.15 332** *e*P **P** **09 42 25.6 -1.3**
FINES **FINESS Array B** **92.15 332** P **P** **09 42 25.6 -1.3**
3.3nm,0.6s,baz=63,slow=6.6,SNR=9.9
INK **Inuvik** **92.19 21** *e*P **P** **09 42 25.9 -1.0**
2.3nm,0.9s
INK **Inuvik** **92.19 21** P **P** **09 42 25.9 -1.0**
1.2nm,0.8s,baz=260,slow=5.7,SNR=6.0
WHY **Whitehorse** **93.07 29** *e*P **P** **09 42 31.3 0.0**
6.6nm,0.9s
BUR08 **Bucovina Ar. S** **94.76 318** *e*P **P** **09 42 39.1 -0.3**
3.9nm,0.7s
HFS **Hagfors** **98.35 332** P **P** **09 42 53.2 -1.9**
1.0nm,0.5s,baz=90,slow=4.4,SNR=5.1
MODS **Modra-Piesok** **99.82 320** *e*PDIF **Pdif** **09 43 02.0 0.0**
YKA **Yellowknife Ar** **101.58 24** P **Pdif** **09 43 10.4 +0.9**
0.2nm,0.6s,baz=303,slow=4.7,SNR=4.0
YKA PKKPbc **PKKPbc** **09 59 15.0 -3.7**
0.4nm,0.6s,baz=118,slow=2.6,SNR=7.4
YKB5 **Yellowknife Ar** **101.58 24** *e*Pdif **Pdif** **09 43 10.4 +0.9**
NVAR **Mina Array Bea** **109.30 48** PKKP 09 59 06.2
0.6nm,0.7s,baz=134,slow=3.5,SNR=4.0
PDAR **Pinedale Array** **113.70 41** PKKPbc PKKPbc 09 58 37.6 -3.0
0.2nm,0.4s,baz=115,slow=7.5,SNR=2.9
PDAR PKKPab **PKKPab** **09 58 46.2 -1.5**
1.0nm,0.7s,baz=122,slow=7.5,SNR=7.8
TORD **Torodi Ar. Bea** **121.49 287** PKP **PKPdf** **09 48 10.2 -0.5**
0.9nm,0.6s,baz=66,slow=1.7,SNR=8.6
TORD PP **PP** **09 49 49.3 +3.1**
0.9nm,1.0s,baz=81,slow=3.3,SNR=3.7
TOA1 **Torodi Ar. Sit** **121.49 287** *e*PKPdf **PKPdf** **09 48 10.2 -0.5**
LTX **Lajitas** **124.00 52** *e*PKPdf **PKiKP** **09 48 15.8 +0.3**
TXAR **Lajitas Array** **124.00 52** PKP **PKiKP** **09 48 15.8 +0.3**
0.2nm,0.6s,baz=242,slow=1.9,SNR=3.1
TXAR PKKPbc **PKKPab** **09 58 01.9 -0.6**
0.2nm,0.5s,baz=128,slow=5.8,SNR=7.1
CFA **Coronel Fontan** **148.38 158** PKPbc **PKPbc** **09 49 04.3 +0.8**
4.2nm,0.6s,baz=228,slow=3.4,SNR=9.9

ATH 23 09:32:17.6, 38°.37N×21°.85E, h11km±3km, ML1.7/2, Error ellipse: s-maj=3.9km s-min=1.0km az=48.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.07**	**36**	P	Pg	09 32 19.9	-0.1
EFP				S	Sg	09 32 21.2	-0.5
EFP				AML	AML	09 32 21.4	
	comp=E,1572μm,0.2s						
EFP				AML	AML	09 32 21.4	
	comp=N,914μm,0.2s						
LAKA	**Lakka**	**0.16**	**142**	P	Pg	09 32 21.5	+0.3
LAKA				S	Sg	09 32 24.4	+0.6
SERG	**Sergoula**	**0.17**	**75**	P	Pg	09 32 21.4	+0.1
SERG				S	Sg	09 32 24.1	+0.2
ANX	**Ano Chora**	**0.23**	**14**	P	Pg	09 32 22.6	+0.2
ANX				S	Sg	09 32 25.5	-0.3
ANX				AML	AML	09 32 26.7	
	comp=N,739μm,0.2s						
ANX				AML	AML	09 32 26.7	
	comp=E,531μm,0.2s						
TRAZ	**Trapeza**	**0.35**	**125**	P	Pg	09 32 24.1	-0.4
TRAZ				S	Sg	09 32 29.2	+0.1
KLV	**Kalavryta, Ach**	**0.40**	**144**	P	Pg	09 32 25.6	+0.1
KLV				S	Sg	09 32 31.0	+0.1
DRO	**Drossia**	**0.43**	**195**	P	Pg	09 32 25.8	-0.3
DRO				S	Sg	09 32 32.4	+0.6

ROM 23 09:35:05.9±0.2, 43°.453N±0°.004×12°.317E±0°.005, h6km±1km, ML0.9/1, Error ellipse: s-maj=0.6km s-min=0.1km az=27.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCA	**Citt' di Caste**	**0.06**	**275**	P	Pg	09 35 07.7	+0.2
CDCA	**Citt' di Caste**	**0.06**	**275**	P	Pg	09 35 07.7	+0.3
ATPI	**Pietralunga -**	**0.06**	**92**	P	Pg	09 35 07.6	+0.1
ATPI				S	Sg	09 35 08.9	+0.2
ATPI	**Pietralunga -**	**0.06**	**92**	S	Sg	09 35 08.9	+0.2
BADI	**Badiali**	**0.08**	**317**	P	Pg	09 35 08.0	+0.2
BADI				S	Sg	09 35 09.6	+0.6
BADI	**Badiali**	**0.08**	**317**	P	Pg	09 35 08.0	+0.2
BADI	**Badiali**	**0.08**	**317**	S	Sg	09 35 09.6	+0.6
ATVO	**AVT- Monte Val**	**0.10**	**137**	P	Pg	09 35 08.4	+0.3
ATVO				S	Sg	09 35 10.4	+0.9
ATVO	**AVT- Monte Val**	**0.10**	**137**	P	Pg	09 35 08.4	+0.3
ATVO	**AVT- Monte Val**	**0.10**	**137**	S	Sg	09 35 10.4	+0.9
PIEI	**Pieia**	**0.18**	**62**	P	Pg	09 35 10.0	+0.4
PIEI				S	Sg	09 35 13.4	+1.4
PIEI				AML	AML		
	comp=E,53μm,1.6s						
PIEI				AML	AML		
	comp=N,63μm,1.6s						
PIEI				AML	AML		
	comp=N,63μm,1.6s						
PIEI				AML	AML		
	comp=E,53μm,1.6s						
PIEI	**Pieia**	**0.18**	**62**	P	Pg	09 35 10.0	+0.5
PIEI	**Pieia**	**0.18**	**62**	S	Sg	09 35 13.4	+1.4
PE3	**Peglio**	**0.28**	**28**	S	Sb	09 35 18.0	-0.3

*ISCJB **23** 09:38:51.8±0.3, 6°.86N±0°.02×73°.11W±0°.03, h160km±2km, mb3.5/10, Error ellipse: s-maj=5.0km s-min=3.4km az=28.7*
*IDC **23** 09:38:52.9±0.6, 6°.77N×72°.99W, h161km±5km, mb3.2/9, mb1 3.5/13, mb1mx3.3/42, mbtmp3.7/13, MS3.3/1, Ms1 3.3/1, ms1mx2.5/19, Error ellipse: s-maj=13.7km s-min=7.5km az=127.0*
*RSNC **23** 09:38:53.4±1.3, 6°.84N×73°.14W, h150km±4km, ML4.3, Mw4.4*

ISC 23 09:38:52.7±0.6, 6°.84N±0°.03×73°.11W±0°.03, h158km±4km, n51, σ1°.18/83, mb3.3/10, 9C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.25**	**340⇑**	*i*P	**Pn**	**09 39 13.7**	**-0.5**
GIRC				*i*		09 39 31.9	
	comp=Z,1μm,0.5s						
BARC	**Barichara**	**0.26**	**196⇓**	*i*P	**Pn**	**09 39 13.7**	**-0.6**
BARC				*e*S	**Sn**	**09 39 28.6**	**-2.3**
BARC				*i*		09 39 30.7	
	comp=Z,2μm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**40⇑**	*i*P	**Pn**	**09 39 16.6**	**+0.3**
PAMC				*e*S	**Sn**	**09 39 33.6**	**-0.6**
PAMC				*i*		09 39 35.0	
	comp=N,3μm,0.8s						
BRRC	**Barranca, Sant**	**0.65**	**294⇑**	*i*P	**Pn**	**09 39 15.5**	**-0.3**
BRRC				*e*S	**Sn**	**09 39 32.5**	**-0.8**
BRRC				*i*		09 39 33.0	
	comp=N,6μm,0.4s						
RUSC	**La Rusia**	**0.94**	**178⇑**	*i*P	**Pn**	**09 39 17.7**	**-0.7**
RUSC				*e*S	**Sn**	**09 39 36.6**	**-1.4**
RUSC				*i*		09 39 39.6	
	comp=E,3μm,0.5s						
CAPV	**Capacho**	**1.29**	**38⇑**	*i*P	**Pn**	**09 39 21.6**	**+0.6**
CAPV				*e*S	**Sn**	**09 39 42.7**	**0.0**
PTBC	**PUERTO BERRIO,**	**1.37**	**257⇑**	*i*P	**Pn**	**09 39 20.1**	**-1.5**
PTBC				*e*S	**Sn**	**09 39 41.6**	**-2.0**
PTBC				*i*		09 39 46.8	
	comp=N,4μm,0.6s						
TAMC	**Tame, Arauca**	**1.37**	**107⇓**	*i*P	**Pn**	**09 39 22.1**	**+0.5**
TAMC				*i*		09 39 22.6	
	comp=Z,986nm,0.2s						
TAMC				*e*S	**Sn**	**09 39 43.7**	**-0.1**
OCAC	**Ocana**	**1.40**	**351**	*e*P	**Pn**	**09 39 22.0**	**0.0**
OCAC				*e*S	**Sn**	**09 39 43.8**	**-0.8**
OCAC				*i*		09 39 53.3	
	comp=N,5μm,0.4s						
YOPC	**Yopal, Colombi**	**1.63**	**155⇓**	*i*P	**Pn**	**09 39 24.6**	**+0.2**
YOPC				*e*S	**Sn**	**09 39 47.5**	**-1.3**
YOPC				*i*		09 39 49.8	
	comp=E,2μm,0.7s						
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	*e*P	**Pn**	**09 39 26.0**	**-0.6**
ZARC				*e*S	**Sn**	**09 39 51.5**	**-1.2**
CTAU	**Tausa, Cundina**	**1.88**	**210⇓**	*i*P	**Pn**	**09 39 29.6**	**+2.2**
CTAU				*e*S	**Sn**	**09 39 54.3**	**+0.2**
CTAB	**Cerro Tablazo,**	**2.12**	**211⇑**	*i*P	**Pn**	**09 39 31.0**	**+0.8**
CTAB				*e*S	**Sn**	**09 39 59.5**	**+0.4**
NORC	**Norcasia**	**2.16**	**234⇑**	*i*P	**Pn**	**09 39 29.4**	**-0.9**
NORC				*i*		09 40 04.6	
	comp=E,2μm,0.5s						
SMLC	**San Martn de**	**2.17**	**334**	*i*P	**Pn**	**09 39 29.8**	**-0.5**
SMLC				*e*S	**Sn**	**09 39 58.1**	**-1.1**
CHIC	**Chingaza**	**2.29**	**196**	*e*P	**Pn**	**09 39 31.9**	**-0.1**
CHIC				*e*S	**Sn**	**09 40 01.2**	**-1.2**
CHIC				*i*		09 40 04.7	
	comp=E,3μm,0.3s						
CROSA	**EL ROSAL, CUND**	**2.32**	**211**	*e*P	**Pn**	**09 39 33.4**	**+1.0**
CROSA				*e*S	**Sn**	**09 40 04.1**	**+1.1**
CROSA				*i*		09 40 07.4	
	comp=N,3μm,0.4s						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**09 39 33.5**	**+0.9**
	comp=N,140nm,0.3s,baz=291,slow=5.8,SNR=581						
ROSC				S	**Sn**	**09 40 04.2**	**+1.0**
	comp=N,450nm,0.3s,baz=162,slow=19,SNR=16						
HELC	**Santa Helena**	**2.49**	**255**	*e*P	**Pn**	**09 39 33.6**	**-0.8**
HELC				*e*S	**Sn**	**09 40 05.1**	**-1.5**
HELC				*i*		09 40 13.4	
	comp=N,1μm,0.3s						
SOCV	**Socops**	**2.65**	**57**	*i*P	**Pn**	**09 39 36.2**	**+0.1**
SOCV				*e*S	**Sn**	**09 40 08.6**	**-1.1**
GUY2C	**Guyana, Caldas**	**2.76**	**234**	*e*P	**Pn**	**09 39 37.6**	**-0.3**
GUY2C				*e*S	**Sn**	**09 40 13.0**	**+0.3**
GUY2C				*i*		09 40 22.3	
	comp=N,1μm,0.4s						
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**	**09 39 37.5**	**-0.2**
VILC				*e*S	**Sn**	**09 40 10.6**	**-2.0**
VILC				*i*		09 40 17.7	
	comp=N,3μm,0.7s						
RREF	**El Recreo**	**2.95**	**229**	*e*P	**Pn**	**09 39 40.2**	**-0.1**
RREF				*e*S	**Sn**	**09 40 18.3**	**+1.2**
RREF				*i*		09 40 23.6	
	comp=Z,434nm,0.3s						
CODC	**Agustn Codazz**	**3.09**	**354**	*e*P	**Pn**	**09 39 41.3**	**-0.2**
CODC				*e*S	**Sn**	**09 40 18.3**	**-1.1**
CODC				*i*		09 40 24.4	
	comp=N,444nm,0.8s						
SDV	**Santo Domingo**	**3.18**	**50⇑**	*i*P	**Pn**	**09 39 43.2**	**+0.3**
SDV				*e*S	**Sn**	**09 40 20.8**	**-1.0**
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**09 39 43.2**	**+0.3**
	comp=N,26nm,0.3s,baz=219,slow=12,SNR=230						
SDV				S	**Sn**	**09 40 22.1**	**+0.3**
	comp=N,78nm,0.3s,baz=84,slow=21,SNR=36						
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**09 39 46.8**	**-1.0**
PRAC				*e*S	**Sn**	**09 40 28.6**	**-1.9**
PRAC				*i*		09 40 35.0	
	comp=E,931nm,0.6s						
ELOV	**Elorza**	**3.60**	**87**	*e*P	**Pn**	**09 39 48.0**	**0.0**
PLMC	**San Jos del P**	**3.70**	**239**	*e*P	**Pn**	**09 39 49.4**	**+0.1**
GUVC	**San Jose del G**	**4.30**	**174**	*e*P	**Pn**	**09 39 56.6**	**-0.4**
GUVC				*e*S	**Sn**	**09 40 43.7**	**-3.6**
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	**Pn**	**09 39 59.1**	**+0.3**
SMRC				*e*S	**Sn**	**09 40 45.7**	**-4.7**
DABV	**Dabajuro**	**4.73**	**31⇓**	*i*P	**Pn**	**09 40 03.0**	**+0.3**
POPC	**Popayan, Colom**	**5.56**	**220**	*e*P	**Pn**	**09 40 13.8**	**-0.1**
FLOC	**Florencia**	**5.81**	**206**	*e*P	**Pn**	**09 40 16.6**	**-0.4**
JTS	**Las Juntas de**	**12.20**	**287**	P	**Pn**	**09 41 43.1**	**+1.6**
	comp=E,0.2nm,0.3s,baz=218,slow=19,SNR=2.2						
PTGA	**Pitinga**	**15.12**	**119**	P	**Pn**	**09 42 17.0**	**-1.4**
	comp=E,0.2nm,0.3s,baz=246,slow=20,SNR=2.7						
LPAZ	**La Paz**	**23.50**	**168**	P	**P**	**09 43 48.0**	**-1.2**
	comp=E,0.3nm,0.4s,baz=144,slow=17,SNR=3.0						
SIV	**San Ignacio**	**25.63**	**152**	LR	LR	09 55 42.2	
	comp=E,75nm,20.6s,baz=101,slow=40						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**09 45 43.7**	**+1.0**
	comp=E,0.5nm,0.6s,baz=125,slow=9.7,SNR=8.8						
TXAR				PcP	**PcP**	**09 48 05.1**	**+1.7**
	comp=E,0.5nm,0.8s,baz=147,slow=5.4,SNR=5.2						
ULM	**Lac du Bonnet**	**47.27**	**340**	P	**P**	**09 47 09.3**	**-0.7**
	comp=E,1.2nm,0.4s,baz=151,slow=6.9,SNR=6.1						
PDAR	**Pinedale Array**	**48.07**	**324**	P	**P**	**09 47 17.6**	**+1.1**
	comp=E,0.2nm,0.3s,baz=133,slow=10.0,SNR=2.8						
PDAR				pP	**pP**	**09 47 53.6**	**+1.5**
	comp=E,0.2nm,0.4s,baz=144,slow=7.8,SNR=2.1						
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**09 47 15.9**	**-0.5**
	comp=E,7.0nm,0.5s,baz=192,slow=9.3,SNR=3.7						
NVAR	**Mina Array Bea**	**51.48**	**315**	P	**P**	**09 47 43.1**	**+0.8**
	comp=E,0.3nm,0.6s,baz=140,slow=5.9,SNR=2.5						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**09 49 04.4**	**+0.4**
	comp=E,1.4nm,0.5s,baz=132,slow=6.7,SNR=37						
YKA				pP	**pP**	**09 49 43.0**	**+1.6**
	comp=E,0.2nm,0.5s,baz=132,slow=7.0,SNR=2.0						
INK	**Inuvik**	**73.01**	**340**	P	**P**	**09 50 05.7**	**+0.9**
	comp=E,0.9nm,0.6s,baz=109,slow=5.8,SNR=5.9						

TORD	Torodi Ar. Bea	73.72	78	P	P	09 50 08.3	-1.7
	comp=E,0.2nm,0.4s,baz=280,slow=6.2,SNR=6.3						
ILAR	Eielson Array	76.95	335	P	P	09 50 28.0	+0.5
	comp=E,0.2nm,0.6s,baz=107,slow=4.8,SNR=4.1						
MKAR	Makanchi Array	122.30	20	PKP	PKPdf	09 57 28.7	-0.5
	comp=E,0.4nm,0.4s,baz=308,slow=3.2,SNR=4.3						
SONM	Songino Array	125.56	0	PKP	PKPdf	09 57 35.7	+0.1
	comp=E,0.2nm,0.4s,baz=358,slow=1.4,SNR=3.9						
ASAR	Alice Springs	149.13	234	PKP	PKPdf	09 58 18.9	-0.1
	comp=E,1.5nm,0.7s,baz=117,slow=3.1,SNR=4.6						
ASAR				PKPbc	PKPbc	09 58 22.7	-0.6
	comp=E,1.8nm,0.7s,baz=115,slow=3.4,SNR=34						
ASAR				PKPab	PKPab	09 58 27.9	-0.2
	comp=E,0.9nm,0.7s,baz=115,slow=3.8,SNR=8.3						
ASAR				pPKPbc	pPKPbc	09 59 03.6	-1.5
	comp=E,0.6nm,0.7s,baz=118,slow=3.5,SNR=2.8						
CMAR	Chiang Mai Arr	153.66	17	PKPbc	PKPbc	09 58 34.0	+0.2
	comp=E,1.1nm,0.4s,baz=294,slow=3.1,SNR=5.2						

*IDC **23** 09:41:28.4±0.8, 52°.51N×160°.59E, h0km, mb3.9/22, mb1 4.0/24, mb1mx3.9/57, mbtmp3.9/24, ML3.6/2, MS3.1/5, Ms1 3.1/5, ms1mx2.8/42, Error ellipse: s-maj=21.3km s-min=14.2km az=144.0*
*KRSC **23** 09:41:28.0±10.0, 52°.27N×160°.98E, h60km±10km, ML4.3*
*MOS **23** 09:41:31.0±0.9, 52°.33N×160°.85E, h40km, mb4.4/1, Error ellipse: s-maj=8.0km s-min=5.3km az=107.7*
*NEIC **23** 09:41:33.2±1.5, 52°.50N×160°.73E, h29km±8km, mb4.2/6, Error ellipse: s-maj=24.6km s-min=15.0km az=174.0*
ISC 23 09:41:29.8±3.1, 52°.30N±0°.04×160°.92E±0°.04, h17km±20km, n110, σ1$44/124, mb4.2/23, MS3.1/3, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.97	326	eP	Pb	09 41 47.0	-1.1
SPN				eS	Sb	09 41 59.7	-0.9
SPN	Mys Shipunski	0.97	326	PN	Pb	09 41 47.0	-1.1
SPN				S	Sb	09 41 59.7	-0.9
NLC	Nalytchevo	1.29	313	eP	Pn	09 41 52.0	-1.1
NLC				eS	Sn	09 42 08.2	-1.9
NLC	Nalytchevo	1.29	313	PN	Pn	09 41 52.0	-1.1
NLC				S	Sn	09 42 08.2	-1.9
RUS	Russkaya	1.48	276	eP	Pn	09 41 55.1	-0.6
RUS				eS	Sn	09 42 13.3	-1.4
RUS	Russkaya	1.48	276	PN	Pn	09 41 55.1	-0.6
RUS				S	Sn	09 42 13.3	-1.4
DALK	Dalny	1.51	300	eP	Pn	09 41 55.4	-0.7
DALK	Dalny	1.51	300	PN	Pn	09 41 55.4	-0.7
PET	Petropavlovsk	1.56	299	ePn	Pn	09 41 56.0	-0.7
PET	Petropavlovsk	1.56	299	ePN	Pn	09 41 55.9	-0.9
PET				eS	Sn	09 42 15.2	-1.4
PET				pmax	pmax		
	comp=Z,547nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.6s						
PET				smax	smax		
	comp=E,2μm,0.6s						
UGLR	Uglovaya	1.56	306	iP	Pn	09 41 56.8	-0.2
UGLR	Uglovaya	1.56	306	PN	Pn	09 41 56.8	-0.2
SDLR	Sedlovina	1.58	309	eP	Pn	09 41 56.5	-0.7
SDLR	Sedlovina	1.58	309	PN	Pn	09 41 56.5	-0.7
SMAR	Somma	1.61	308	iP	Pn	09 41 57.0	-0.7
SMAR	Somma	1.61	308	PN	Pn	09 41 57.0	-0.7
AVH	Avacha	1.64	307	iP	Pn	09 41 57.8	-0.2
AVH	Avacha	1.64	307	PN	Pn	09 41 57.8	-0.2
KRER	Koryakskii	1.66	308	eP	Pn	09 41 57.9	-0.4
KRER	Koryakskii	1.66	308	PN	Pn	09 41 57.9	-0.4
MTVR	Mutnovka	1.69	277	eP	Pn	09 41 58.4	-0.3
MTVR				eS	Sn	09 42 19.1	-0.9
MTVR	Mutnovka	1.69	277	PN	Pn	09 41 58.4	-0.3
MTVR				S	Sn	09 42 19.1	-0.9
KOK	Koryaka	1.71	306	iP	Pn	09 41 58.9	0.0
KOK	Koryaka	1.71	306	PN	Pn	09 41 58.9	0.0
KRX	Arik	1.74	308	eP	Pn	09 41 59.3	-0.1
KRX	Arik	1.74	308	PN	Pn	09 41 59.3	-0.1
KRMR	Karymshinskiy	1.78	288	eP	Pn	09 41 59.4	-0.5
KRMR	Karymshinskiy	1.78	288	PN	Pn	09 41 59.4	-0.5
KDTR	Khodutka, Kamc	1.82	255	eP	Pn	09 41 59.5	-0.9
KDTR				eS	Sn	09 42 20.8	-2.3
KDTR	Khodutka, Kamc	1.82	255	PN	Pn	09 41 59.5	-0.9
KDTR				S	Sn	09 42 20.8	-2.3
ASAK	Asacha	1.85	274	eP	Pn	09 42 01.1	+0.2
ASAK	Asacha	1.85	274	PN	Pn	09 42 01.1	+0.2
PEA0B	Petropavlovsk-	2.12	294	ePn	Pn	09 42 04.7	+0.2
PETK	Petropavlovsk-	2.12	294	ePn	Pn	09 42 05.0	+0.6
PETK	Petropavlovsk-	2.12	294	ePN	Pn	09 42 05.1	+0.6
PETK	Petropavlovsk-	2.12	294	Pn	Pn	09 42 04.5	0.0
	comp=E,31nm,0.3s,baz=108,slow=17,SNR=134						
PETK				LR	LR	09 42 36.4	
	comp=E,133nm,20.9s,baz=114,slow=37						
PETK				Sn	Sb	09 42 36.8	+3.0
	comp=E,33nm,0.3s,baz=96,slow=26,SNR=5.6						
PEA1	Petropavlovsk-	2.12	294	ePn	Pn	09 42 04.5	0.0
PEA1				eSn	Sb	09 42 36.8	+2.9
MKZ	Mys Kozlova	2.31	12	eP	Pn	09 42 06.1	-1.0
MKZ				eS	Sn	09 42 32.6	-2.5
MKZ	Mys Kozlova	2.31	12	PN	Pn	09 42 06.1	-1.0
MKZ				S	Sn	09 42 32.6	-2.5
APC	Apacha	2.38	287	eP	Pn	09 42 09.0	+1.0
APC	Apacha	2.38	287	PN	Pn	09 42 09.0	+1.0
PAU	Pauzhetka	2.68	253	eP	Pn	09 42 11.9	-0.3
PAU	Pauzhetka	2.68	253	PN	Pn	09 42 11.9	-0.3
KZV	Kizimen	2.84	353	eP	Pn	09 42 15.2	+0.6
KZV				eS	Sn	09 42 48.5	0.0
KZV	Kizimen	2.84	353	PN	Pn	09 42 15.2	+0.6
KZV				S	Sn	09 42 48.5	0.0
TUMD	Tumrok D	2.92	354	eP	Pn	09 42 14.9	-0.7
TUMD				eS	Sn	09 42 48.1	-2.2
TUMR	Tumrok	3.02	352	eP	Pn	09 42 17.8	+0.8
TUMR	Tumrok	3.02	352	PN	Pn	09 42 14.9	-2.1
SKR	Severo-Kuril's	3.41	244	eP	Pn	09 42 21.4	-0.8
SKR				eS	Sn	09 42 59.4	-2.9
SKR	Severo-Kuril's	3.41	244	ePN	Pn	09 42 21.3	-0.9
SKR				pmax	pmax		
	comp=Z,57nm,0.4s						
SKR				MLR	MLR		
	comp=Z,400nm,15.0s						
ALID	Alaid	3.64	249	eP	Pn	09 42 25.4	-0.2
ALID	Alaid	3.64	249	PN	Pn	09 42 25.4	-0.2
ESO	Esso	3.86	341	eP	Pn	09 42 28.9	+0.5
ESO	Esso	3.86	341	PN	Pn	09 42 28.9	+0.5
KLY	Klyuchi	4.02	358	P	Pn	09 42 32.6	+2.0
KLY	Klyuchi	4.02	358	PN	Pn	09 42 32.6	+2.0
KBTR	Krutoberegovo	4.07	15	eP	Pn	09 42 31.0	-0.3
KBTR	Krutoberegovo	4.07	15	PN	Pn	09 42 31.0	-0.3
BKI	Bering	4.18	44	eP	Pn	09 42 32.2	-0.5
BKI				eS	Sn	09 43 15.4	-5.7
BKI	Bering	4.18	44	PN	Pn	09 42 32.2	-0.5
BDR	Baidarnaya	4.28	2	eP	Pn	09 42 37.8	+3.6
BDR	Baidarnaya	4.28	2	PN	Pn	09 42 37.8	+3.6
MA2	Magadan	9.24	326	LR	LR	09 47 50.1	
	comp=Z,56nm,19.9s,baz=177,slow=43						
ASAJ	Asahikawa	14.68	243	Pn	Pn	09 44 55.8	-0.7
	comp=Z,0.6nm,0.3s,baz=70,slow=22,SNR=5.6						
BILL	Bilibino	16.00	7	c iP	P	09 45 19.1	+1.9
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KLR	Kul'dur	18.65	272	P	P	09 45 45.9	-0.7
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=3.0						
KLR				LR	LR	09 53 50.0	
	comp=Z,73nm,18.7s,baz=84,slow=40						
USRK	Ussuriysk Ar.	20.79	259	P	P	09 46 09.1	-0.9
	comp=Z,2.1nm,0.7s,baz=62,slow=12,SNR=5.2						
MJAR	Matsushiro Arr	22.47	234	P	P	09 46 28.8	+0.7
	comp=Z,3.3nm,0.9s,baz=20,slow=10,SNR=8.7						
MAJO	Matsushiro	22.47	234	eP	P	09 46 30.6	+2.5
	comp=Z,11nm,1.1s						
MAJO	Matsushiro	22.47	234	eP	P	09 46 30.6	+2.5
MAJO				pmax	pmax		
	comp=Z,11nm,1.1s						
TIXI	Tiksi	24.01	336	eP	P	09 46 41.2	-2.1
	comp=Z,6.6nm,0.9s						
TIXI	Tiksi	24.01	336	P	P	09 46 41.0	-2.2
	comp=Z,3.9nm,0.5s,baz=124,slow=8.5,SNR=13						
KSRS	Korea Array	27.40	250	P	P	09 47 15.7	+1.4
	comp=Z,0.3nm,0.3s,baz=46,slow=11,SNR=3.1						
KSRS				LR	LR	09 58 59.8	
	comp=Z,36nm,18.0s,baz=65,slow=38						
KS15	Wonju Array Si	27.43	250	eP	P	09 47 15.7	+1.1
JNU	Nakatsue	28.92	240	eP	P	09 47 29.5	+1.6
	comp=Z,9.9nm,1.1s						
JNU	Nakatsue	28.92	240	P	P	09 47 29.5	+1.6
	comp=Z,3.5nm,0.9s,baz=169,slow=5.2,SNR=2.5						
ILAR	Eielson Array	29.02	44	P	P	09 47 29.9	+1.4
	comp=Z,0.2nm,0.7s,baz=256,slow=7.3,SNR=3.2						
H11N2	WAKE ISLAND Hy	32.84	170	T	T	10 23 30.0	
	baz=353,slow=76,SNR=14						
H11N3	WAKE ISLAND Hy	32.85	170	T	T	10 23 33.8	
	baz=353,slow=76,SNR=7.9						
H11N1	WAKE ISLAND Hy	32.86	170	T	T	10 23 43.6	
	baz=353,slow=76,SNR=15						
SPA0	Spitsbergen Ar	48.00	351	eP	P	09 50 07.2	0.0
	comp=Z,30nm,1.1s						
SPITS	Spitsbergen Ar	48.00	351	P	P	09 50 07.2	0.0
	comp=Z,3.2nm,0.6s,baz=81,slow=8.9,SNR=20						
KURK	Kurchatov	48.58	303	P	P	09 50 10.2	-1.8
KURBB	Kurchatov Arra	48.68	303	P	P	09 50 10.2	-2.6
	comp=Z,1.6nm,0.5s,baz=60,slow=7.7,SNR=8.6						
MK32	Makanchi Array	48.96	297	eP	P	09 50 12.4	-2.5
MKAR	Makanchi Array	48.96	297	P	P	09 50 12.4	-2.5
	comp=Z,0.8nm,0.4s,baz=56,slow=6.3,SNR=15						
BVAR	Borovoye Array	51.28	309	P	P	09 50 30.7	-1.8
	comp=Z,1.9nm,0.5s,baz=48,slow=9.3,SNR=6.0						
ARCES	ARCESS Array B	54.20	342	P	P	09 50 52.4	-1.4
	comp=Z,3.2nm,0.9s,baz=39,slow=10.0,SNR=5.5						
NV01	Mina Array Sit	55.54	70	eP	P	09 51 06.7	+2.5
NVAR	Mina Array Bea	55.54	70	P	P	09 51 06.7	+2.5
	comp=Z,0.2nm,0.5s,baz=14,slow=16,SNR=2.9						
KIRV	Kirov	56.33	324	LR	LR	10 16 00.3	
	comp=Z,31nm,19.1s,baz=137,slow=37						
PDAR	Pinedale Array	57.47	61	P	P	09 51 19.3	+1.4
	comp=Z,0.1nm,0.3s,baz=287,slow=9.3,SNR=2.5						
CMAR	Chiang Mai Arr	58.52	259	P	P	09 51 26.1	+0.8
	comp=Z,1.5nm,0.6s,baz=19,slow=7.1,SNR=8.1						
AKTO	Aktyubinsk	58.73	313	LR	LR	10 19 11.7	
	comp=Z,14nm,19.8s,baz=202,slow=39						
W13A	Hualapai Mount	60.40	70	eP	P	09 51 40.5	+2.2
	comp=Z,5.6nm,0.8s						
FIA0	FINESS Array S	61.05	337	eP	P	09 51 42.3	+0.3
FIA0	FINESS Array S	61.05	337	eP	P	09 51 42.3	+0.3
FINES	FINESS Array B	61.05	337	P	P	09 51 42.3	+0.3
	comp=Z,2.2nm,0.5s,baz=31,slow=8.2,SNR=13						
NB2	NORSAR Subarra	64.44	344	P	P	09 52 04.9	+0.1
	comp=Z,0.8nm,0.6s,baz=20,slow=6.9						
NB200	NORSAR Array S	64.44	344	eP	P	09 52 05.0	+0.3
NOA	NORSAR Array B	64.44	344	P	P	09 52 05.0	+0.3
	comp=Z,1.4nm,0.7s,baz=20,slow=7.0,SNR=3.8						
HFS	Hagfors	64.86	343	P	P	09 52 07.4	0.0
	comp=Z,1.5nm,0.6s,baz=62,slow=6.7,SNR=5.4						
AKASG	Malin Array Be	69.55	330	P	P	09 52 36.9	-0.4
	comp=Z,0.8nm,0.4s,baz=32,slow=7.0,SNR=3.6						
KBZ	Khabaz	70.46	317	P	P	09 52 42.7	-0.3
	comp=Z,1.5nm,0.7s,baz=144,slow=8.7,SNR=3.6						
LTX	Lajitas	70.48	67	eP	P	09 52 44.6	+1.1
LTX	Lajitas	70.48	67	eP	P	09 52 44.6	+1.1
TXAR	Lajitas Array	70.48	67	P	P	09 52 44.6	+1.1
	comp=Z,0.2nm,0.6s,baz=290,slow=5.1,SNR=4.9						
BR101	Keskin Array S	77.55	321	eP	P	09 53 24.8	+0.1
BRTR	Keskin Array B	77.55	321	P	P	09 53 24.8	+0.1
	comp=Z,0.4nm,0.6s,baz=7,slow=5.9,SNR=3.0						
ASAR	Alice Springs	79.25	205	P	P	09 53 34.6	+0.7
	comp=Z,0.3nm,0.7s,baz=10,slow=5.7,SNR=4.0						

*SJA **23** 09:46:56.8±0.8, 21°.45S×68°.51W, h136km±6km, ML2.6, MW2.7*
*ISCJB **23** 09:46:57.4±0.4, 21°.47S±0°.03×68°.53W±0°.08, h135km±5km, mb3.6/5, Error ellipse: s-maj=11.5km s-min=5.2km az=0.3*
*IDC **23** 09:46:58.2±0.8, 21°.43S×68°.24W, h118km±9km, mb3.5/6, mb1 3.7/8, mb1mx3.5/30, mbtmp4.0/8, Error ellipse: s-maj=23.4km s-min=11.1km az=104.0*
*GUC **23** 09:46:58.4±0.4, 21°.44S×68°.52W, h131km±3km, ML3.7*
ISC 23 09:46:58.1±0.8, 21°.44S±0°.04×68°.47W±0°.06, h124km±7km, n31, σ0$95/48, mb3.8/5, 7C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.80	244	eP	Pn	09 47 19.2	+0.3
PB09				eS	Sn	09 47 35.3	+0.6
PB09	IPOC Station P	0.80	244	↑iP	Pn	09 47 19.2	+0.3
PB09				eS	Sn	09 47 35.2	+0.6
PB09				IAML		09 47 35.7	
	comp=N,2μm,0.2s						
PB01	IPOC Station P	1.03	292	↑iP	Pn	09 47 20.5	-0.4
PB01				eS	Sn	09 47 37.2	-1.0
PB01				IAML		09 47 39.0	
	comp=E,2μm,0.3s						
LVC	Limon Verde	1.23	199	eP	Pn	09 47 23.6	+0.2
LVC				eS	Sn	09 47 43.1	+0.6
LVC	Limon Verde	1.23	199	P	Pn	09 47 23.6	+0.2
	comp=E,163nm,0.3s,baz=20,slow=8.4,SNR=1377						
LVC				S	Sn	09 47 43.3	+0.8
	comp=E,81nm,0.3s,baz=248,slow=19,SNR=12						
PB02	IPOC Station P	1.33	275	eP	Pn	09 47 23.9	-0.2
PB02				eS	Sn	09 47 43.7	-0.1
PB02	IPOC Station P	1.33	275	↑iP	Pn	09 47 23.9	-0.2
PB02				eS	Sn	09 47 43.4	-0.5
PB03	IPOC Station P	1.34	243	eP	Pn	09 47 24.2	-0.1
PB03				eS	Sn	09 47 44.2	+0.1
PB03	IPOC Station P	1.34	243	↑iP	Pn	09 47 24.1	-0.1
PB03				eS	Sn	09 47 43.9	-0.1
PB03				IAML		09 47 45.0	
	comp=N,1μm,0.2s						
PB07	IPOC Station P	1.35	257	eP	Pn	09 47 24.3	0.0
PB07	IPOC Station P	1.35	257	↑iP	Pn	09 47 24.2	-0.2
PB07				eS	Sn	09 47 43.9	-0.3
PB07				IAML		09 47 44.3	
	comp=E,2μm,0.3s						
PB08	IPOC Station P	1.44	334	eP	Pn	09 47 26.2	+0.6
PB08				eS	Sn	09 47 47.1	+0.7
PB08	IPOC Station P	1.44	334	↑iP	Pn	09 47 26.1	+0.5
PB08				eS	Sn	09 47 47.4	+0.9
PB06	IPOC Station P	1.62	219	eP	Pn	09 47 27.6	+0.1
PB06	IPOC Station P	1.62	219	↑iP	Pn	09 47 27.6	+0.1
PB06				eS	Sn	09 47 50.3	+0.5
PB06				IAML		09 47 51.2	
	comp=E,760nm,0.4s						
PB04	IPOC Station P	1.80	240	eP	Pn	09 47 29.3	-0.2
GO01	Chusmiza	1.89	339	eP	Pn	09 47 31.1	+0.2
GO01				eS	Sn	09 47 57.9	+2.0
PB11	IPOC Station P	2.00	326	eP	Pn	09 47 31.9	-0.2
PB11				eS	Sn	09 47 58.6	+0.6
MNMCX	Minye Minye	2.53	335	eP	Pn	09 47 39.0	+0.2
MNMCX				eS	Sn	09 48 10.1	+0.2
YJA	Yavi	2.84	105	eP	Pn	09 47 44.0	+1.1
YJA				IAML		09 48 05.0	
	comp=Z,15nm,0.7s						
PB12	IPOC Station P	3.31	328	eP	Pn	09 47 47.8	-1.0
LPAZ	La Paz	5.13	4	P	Pn	09 48 14.3	+0.8
	comp=Z,5.1nm,0.3s,baz=184,slow=5.7,SNR=78						
LPAZ				S	Sn	09 49 13.0	+0.8
	baz=214,slow=18,SNR=1.4						
SIV	San Ignacio	8.86	54	P	Pn	09 48 59.4	-3.8
	comp=Z,4.2nm,0.3s,baz=252,slow=12,SNR=94						
CFA	Coronel Fontan	10.13	179	P	Pn	09 49 17.8	-2.5
	comp=Z,0.6nm,0.3s,baz=307,slow=8.9,SNR=13						
BDFB	Brasilia	20.23	77	P	P	09 51 22.0	-1.7
	comp=Z,1.8nm,0.4s,baz=274,slow=5.6,SNR=3.3						
TXAR	Lajitas Array	60.81	325	P	P	09 56 58.1	+0.7
	comp=Z,0.1nm,0.6s,baz=155,slow=6.7,SNR=2.9						
SNAA	Sanae	62.20	161	P	P	09 57 06.9	+0.8
	comp=Z,0.7nm,0.6s,baz=290,slow=8.6,SNR=5.9						
DBIC	Dimbokro	68.33	73	P	P	09 57 46.3	-0.1
	comp=Z,2.5nm,0.6s,baz=272,slow=6.1,SNR=3.9						
TORD	Torodi Ar. Bea	76.95	70	P	P	09 58 37.1	-0.3
	comp=Z,0.7nm,0.4s,baz=247,slow=5.5,SNR=19						
YKA	Yellowknife Ar	91.27	340	P	P	09 59 49.9	+1.0
	comp=Z,0.6nm,0.5s,baz=134,slow=4.4,SNR=13						
ASAR	Alice Springs	130.16	207	PKP	PKiKP	10 05 55.2	+0.2
	comp=Z,0.3nm,0.5s,baz=124,slow=1.9,SNR=6.8						

*SJA **23** 09:53:37.5±0.8, 23°.49S×68°.28W, h138km±7km, ML2.9*
*ISCJB **23** 09:53:38.3±1.0, 23°.46S±0°.05×68°.32W±0°.07, h141km±13km, Error ellipse: s-maj=10.4km s-min=7.8km az=173.9*
*GUC **23** 09:53:38.7±0.6, 23°.48S×68°.32W, h141km±4km, ML3.6*
ISC 23 09:53:38.6±1.8, 23°.47S±0°.05×68°.31W±0°.06, h138km±16km, n20, σ0$37/37, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.02	327	eP	Pn	09 54 02.8	-0.1
LVC				eS	Sn	09 54 21.1	-0.2
LVC	Limon Verde	1.02	327	eP	Pn	09 54 02.6	-0.3
LVC				eS	Sn	09 54 20.7	-0.6
PB15	IPOC Station P	1.10	284	eP	Pn	09 54 03.5	+0.1
PB15				eS	Sn	09 54 22.5	+0.1
PB15	IPOC Station P	1.10	284	↑iP	Pn	09 54 03.5	+0.1
PB15				eS	Sn	09 54 22.4	+0.1
PB06	IPOC Station P	1.39	303	eP	Pn	09 54 06.5	+0.2
PB06				eS	Sn	09 54 27.9	+0.4
PB06	IPOC Station P	1.39	303	↑iP	Pn	09 54 06.5	+0.2
PB06				eS	Sn	09 54 27.1	-0.3
PB06				IAML		09 54 29.3	
	comp=E,2μm,0.3s						
PB05	IPOC Station P	1.85	289	↑iP	Pn	09 54 11.2	-0.1
PB05				eS	Sn	09 54 36.6	+0.1
PB05				IAML		09 54 43.0	
	comp=N,189nm,0.1s						
PB09	IPOC Station P	1.88	332	eP	Pn	09 54 12.8	+1.0
PB09				eS	Sn	09 54 37.5	+0.3
PB09	IPOC Station P	1.88	332	eP	Pn	09 54 12.5	+0.7
PB09				eS	Sn	09 54 37.6	+0.4
PB09				IAML		09 54 42.0	
	comp=N,259nm,0.3s						
PB03	IPOC Station P	1.95	316	eP	Pn	09 54 12.7	+0.1
PB03				eS	Sn	09 54 38.5	0.0
PB03	IPOC Station P	1.95	316	↑iP	Pn	09 54 12.7	+0.1
PB03				eS	Sn	09 54 38.4	-0.2
PB03				IAML		09 54 40.3	
	comp=E,695nm,0.3s						
PB04	IPOC Station P	2.04	303	eP	Pn	09 54 13.7	0.0
PB04				eS	Sn	09 54 40.5	-0.1
PB04	IPOC Station P	2.04	303	↑iP	Pn	09 54 13.8	0.0
PB04				eS	Sn	09 54 40.0	-0.6
PB04				IAML		09 54 43.1	
	comp=N,505nm,0.3s						
GO02	Mina Guanaco	2.05	215	↑iP	Pn	09 54 14.2	+0.3
GO02				eS	Sn	09 54 41.3	+0.3
PB10	IPOC Station P	2.06	268	eP	Pn	09 54 13.6	-0.2
PB10				eS	Sn	09 54 40.5	-0.3
PB10				IAML		09 54 45.9	
	comp=E,249nm,0.2s						
PB07	IPOC Station P	2.27	320	eP	Pn	09 54 16.6	+0.1
PB07	IPOC Station P	2.27	320	↑iP	Pn	09 54 16.7	+0.1
PB07				eS	Sn	09 54 44.7	-0.9
PB07				IAML		09 54 46.4	
	comp=N,559nm,0.2s						
PB02	IPOC Station P	2.60	325	eP	Pn	09 54 20.4	-0.1
PB02				eS	Sn	09 54 52.5	-0.3
HJA	Humahuaca	2.67	85	eP	Pn	09 54 21.9	+0.2
HJA				IAML		09 54 22.9	
	comp=Z,39nm,0.3s						
AZAP	Zapla	3.06	105	eP	Pn	09 54 26.1	-0.3
AZAP				IAML		09 54 29.2	
	comp=Z,12nm,0.4s						

*ISCJB **23** 09:56:06.1±0.6, 42°.30N±0°.06×138°.50E±0°.07, h250km, mb3.1/1, Error ellipse: s-maj=8.2km s-min=6.3km az=147.6*
*IDC **23** 09:56:06.2±1.2, 42°.36N×138°.46E, h252km±23km, mb2.9/1, mb1 2.7/5, mb1mx2.5/46, mbtmp3.3/5, Error ellipse: s-maj=31.7km s-min=17.8km az=136.0*
*JMA **23** 09:56:07.1±0.2, 42°.27N×138°.52E, h252km, M2.6*
ISC 23 09:56:06.2±1.0, 42°.28N±0°.06×138°.52E±0°.07, h250km, n19, σ1$04/26, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	0.74	105	P	Pn	09 56 40.9	+1.0
JOSM				eS	S	09 57 07.3	+0.9
JHST	Hiyamasetana	1.02	81	P	Pn	09 56 42.6	+1.4
JYM2	Yakumo 2	1.39	96	P	Pn	09 56 45.2	+1.6
JSR	Shiriuchi	1.60	117	P	Pn	09 56 46.7	+1.4
JKB	Kayabe	1.91	101	P	Pn	09 56 48.6	+0.8
JOT	Ohata	2.09	114	P	Pn	09 56 50.4	+0.9
JANG	Nango	2.95	129	P	Pn	09 56 58.6	+0.4
JANG				eS	S	09 57 39.1	-0.1
JFR	Furan	3.13	72	P	Pn	09 57 00.9	+0.9
JNBK	Urakawa-nobuka	3.14	89	P	Pn	09 57 00.9	+0.8
JKK2	Kamakawa 2	3.49	61	P	Pn	09 57 05.3	+1.3
JKK2				eS	S	09 57 50.2	+0.4
ASAJ	Asahikawa	3.50	57	P	Pn	09 57 05.5	+1.3
	1.8nm,0.3s,baz=234,slow=6.5,SNR=18						
ASAJ				S	S	09 57 50.2	0.0
	baz=287,slow=19,SNR=5.1						
JCH	Churui	3.60	83	P	Pn	09 57 05.7	+0.4
JCH				eS	S	09 57 50.8	-1.4
JYK	Kaneyama	3.63	157	P	Pn	09 57 06.8	+1.0
JMK	Ichinoseki	3.91	147	P	Pn	09 57 08.9	0.0
JMK				e

MTVR				*e*S	**Sb**	09 58 32.7	-0.2
MTVR	**Mutnovka**	**1.65**	**273**	PN	**Pn**	09 58 10.9	+0.8
MTVR				S	**Sb**	09 58 32.7	-0.2
GRL	**Gorelyy**	**1.72**	**275**	*e*P	**Pb**	09 58 13.0	-0.6
GRL	**Gorelyy**	**1.72**	**275**	PN	**Pb**	09 58 13.0	-0.6
KRMR	**Karymshinskiy**	**1.73**	**285**	*e*P	**Pn**	09 58 11.7	+0.7
KRMR	**Karymshinskiy**	**1.73**	**285**	PN	**Pn**	09 58 11.7	+0.7
ASAK	**Asacha**	**1.83**	**270**	*e*P	**Pn**	09 58 13.5	+1.0
ASAK	**Asacha**	**1.83**	**270**	PN	**Pn**	09 58 13.5	+1.0
KDTR	**Khodutka, Kamc**	**1.84**	**252**	*e*P	**Pn**	09 58 12.2	-0.3
KDTR	**Khodutka, Kamc**	**1.84**	**252**	PN	**Pn**	09 58 12.2	-0.3
PEA0B	**Petropavlovsk-**	**2.05**	**291**	*e*Pn	**Pn**	09 58 16.5	+1.0
PETK	**Petropavlovsk-**	**2.05**	**291**	Pn	**Pn**	09 58 16.7	+1.2
	comp=N,133nm,0.3s,baz=92,slow=18,SNR=530						
PETK				Sn	**Sb**	09 58 42.4	-1.9
	comp=N,67nm,0.3s,baz=94,slow=20,SNR=7.5						
PEA1	**Petropavlovsk-**	**2.06**	**291**	*e*Pn	**Pn**	09 58 16.7	+1.2
PEA1				*e*Sn	**Sb**	09 58 42.4	-2.0
MKZ	**Mys Kozlova**	**2.20**	**13**	*e*P	**Pn**	09 58 16.6	-0.8
MKZ				*e*S	**Sn**	09 58 42.5	-1.3
MKZ	**Mys Kozlova**	**2.20**	**13**	PN	**Pn**	09 58 16.6	-0.8
MKZ				S	**Sn**	09 58 42.5	-1.3
APC	**Apacha**	**2.32**	**284**	*e*P	**Pn**	09 58 21.1	+1.9
APC	**Apacha**	**2.32**	**284**	PN	**Pn**	09 58 21.1	+1.9
PAU	**Pauzhetka**	**2.70**	**251**	*e*P	**Pn**	09 58 24.5	+0.2
PAU	**Pauzhetka**	**2.70**	**251**	PN	**Pn**	09 58 24.5	+0.2
KZV	**Kizimen**	**2.72**	**353**	*e*P	**Pn**	09 58 25.7	+0.9
KZV	**Kizimen**	**2.72**	**353**	PN	**Pn**	09 58 25.7	+0.9
TUMD	**Tumrok D**	**2.80**	**354**	*e*P	**Pn**	09 58 26.3	+0.5
TUMD				*e*S	**Sn**	09 58 59.6	+0.9
TUMR	**Tumrok**	**2.90**	**352**	*e*P	**Pn**	09 58 28.6	+1.4
TUMR	**Tumrok**	**2.90**	**352**	PN	**Pn**	09 58 26.3	-0.9
TUMR				S	**Sn**	09 58 59.6	-1.7
SKR	**Severo-Kuril's**	**3.45**	**242**	*e*P	**Pn**	09 58 34.2	-0.4
SKR				*e*S	**Sn**	09 59 13.5	-1.1
SKR	**Severo-Kuril's**	**3.45**	**242**	*e*PN	**Pn**	09 58 34.3	-0.4
SKR				pmax	pmax		
	comp=Z,58nm,0.3s						
SKR				MLR	MLR		
	comp=Z,500nm,18.0s						
KIRR	**Kirishev**	**3.55**	**355**	*e*P	**Pn**	09 58 36.2	0.0
KIRR	**Kirishev**	**3.55**	**355**	PN	**Pn**	09 58 36.2	0.0
ALID	**Alaid**	**3.67**	**247**	*e*P	**Pn**	09 58 38.1	+0.3
ALID	**Alaid**	**3.67**	**247**	PN	**Pn**	09 58 38.1	+0.3
LGNR	**Loginova**	**3.67**	**358**	*e*P	**Pn**	09 58 39.9	+1.9
LGNR	**Loginova**	**3.67**	**358**	PN	**Pn**	09 58 39.9	+1.9
CIRR	**Tsirk**	**3.70**	**359**	*e*P	**Pn**	09 58 38.7	+0.4
CIRR	**Tsirk**	**3.70**	**359**	PN	**Pn**	09 58 38.7	+0.4
ESO	**Esso**	**3.74**	**341**	*e*P	**Pn**	09 58 39.9	+1.3
ESO	**Esso**	**3.74**	**341**	PN	**Pn**	09 58 39.9	+1.3
KRSR	**Krestovskiy**	**3.81**	**357**	*e*P	**Pn**	09 58 40.9	+1.2
KRSR	**Krestovskiy**	**3.81**	**357**	PN	**Pn**	09 58 40.9	+1.2
KBTR	**Krutoberegovo**	**3.96**	**16**	*e*P	**Pn**	09 58 41.4	-0.3
KBTR	**Krutoberegovo**	**3.96**	**16**	PN	**Pn**	09 58 41.4	-0.3
KBG	**Krutoberegovo**	**3.99**	**15**	*e*P	**Pn**	09 58 41.8	-0.2
KBG	**Krutoberegovo**	**3.99**	**15**	PN	**Pn**	09 58 41.8	-0.2
BKI	**Bering**	**4.11**	**45**	*e*P	**Pn**	09 58 42.5	-1.1
BKI				*e*S	**Sn**	09 59 25.8	-5.0
BKI	**Bering**	**4.11**	**45**	PN	**Pn**	09 58 42.5	-1.1
BDR	**Baidarnaya**	**4.16**	**2**	*e*P	**Pn**	09 58 45.6	+1.1
BDR	**Baidarnaya**	**4.16**	**2**	PN	**Pn**	09 58 45.6	+1.1
SMKR	**Semkarok**	**4.18**	**4**	*e*P	**Pn**	09 58 45.7	+0.9
SMKR	**Semkarok**	**4.18**	**4**	PN	**Pn**	09 58 45.7	+0.9
SRKR	**Sorokina**	**4.25**	**2**	*e*P	**Pn**	09 58 46.6	+1.0
SRKR	**Sorokina**	**4.25**	**2**	PN	**Pn**	09 58 46.6	+1.0
SMY	**Shemya**	**8.06**	**83**	*e*Pn	**Pn**	09 59 37.3	-0.6
SMY	**Shemya**	**8.06**	**83**	*e*PN	**Pn**	09 59 37.3	-0.6
MA2	**Magadan**	**9.13**	**326**	LR	LR	10 03 52.9	
	comp=Z,104nm,19.5s,baz=176,slow=42						
TYV	**Tymovskoe**	**11.43**	**269**	*e*PN	Pn	10 00 41.8	+18
TYV				*e*		10 02 46.9	
TYV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TYV				MLR	MLR		
	comp=Z,500nm,14.0s						
SEY	**Seymchan**	**11.47**	**340**	Pn	**Pn**	10 00 22.1	-2.3
	comp=Z,0.1nm,0.3s,baz=241,slow=19,SNR=2.4						
YSS	**Yuzh-Sakhalins**	**12.94**	**252**	*e*PN	**Pn**	10 00 44.9	+0.2
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YUK	**Yuzh-Kuril'sk**	**13.04**	**236**	*e*PN	**P**	10 00 54.5	-1.7
YUK				MLR	MLR		
	comp=Z,278nm,13.0s						
ASAJ	**Asahikawa**	**14.71**	**243**	Pn	**Pn**	10 01 08.8	-0.1
	comp=Z,1.0nm,0.3s,baz=74,slow=13,SNR=8.0						
GRNR	**Gornyy**	**15.28**	**274**	*e*P	**P**	10 01 24.2	+3.2
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
BILL	**Bilibino**	**15.88**	**7**	*e*Pn	**Pn**	10 01 24.3	+0.2
	comp=Z,7.7nm,0.8s						
BILL	**Bilibino**	**15.88**	**7**	*i* P	**Pn**	10 01 25.2	+1.1
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KLR	**Kul'dur**	**18.62**	**272‖**	*e*P	**Pn**	10 01 58.4	0.0
KLR	**Kul'dur**	**18.62**	**272**	P	**P**	10 01 57.5	-0.5
	comp=Z,0.2nm,0.3s,baz=60,slow=11,SNR=8.5						
KLR				LR	LR	10 10 11.6	
	comp=Z,93nm,18.0s,baz=58,slow=41						
USRK	**Ussuriysk Ar.**	**20.79**	**258**	P	**P**	10 02 20.3	-1.4
	comp=Z,2.4nm,0.7s,baz=86,slow=9.8,SNR=4.9						
USRK				LR	LR	10 10 18.0	
	comp=Z,86nm,20.0s,baz=92,slow=37						
MJB9	**Matsu-Tunnel**	**22.52**	**234**	*e*P	**P**	10 02 42.2	+1.8
	comp=Z,19nm,1.1s						
MAJO	**Matsushiro**	**22.52**	**234**	*e*P	**P**	10 02 41.9	+1.5
	comp=Z,17nm,1.1s						
MAJO	**Matsushiro**	**22.52**	**234‖**	*e*P	**P**	10 02 42.0	+1.7
MAJO				pmax	pmax		
	comp=Z,12nm,1.0s						
MAT	**Matsushiro**	**22.52**	**234**	P	**P**	10 02 42.3	+2.0
MAT				S	**S**	10 06 42.6	-3.2
MJAR	**Matsushiro Arr**	**22.52**	**234**	P	**P**	10 02 42.5	+2.1
	comp=Z,3.1nm,0.5s,baz=18,slow=9.9,SNR=12						
MJAR				LR	LR	10 12 37.1	
	comp=Z,68nm,20.0s,baz=20,slow=40						
TIXI	**Tiksi**	**23.89**	**336**	*e*P	**P**	10 02 51.9	-1.9
	comp=Z,6.5nm,0.7s						
TIXI	**Tiksi**	**23.89**	**336‖**	*e*P	**P**	10 02 52.3	-1.4
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TIXI	**Tiksi**	**23.89**	**336**	P	**P**	10 02 52.5	-1.2
	comp=Z,5.1nm,0.5s,baz=116,slow=13,SNR=18						
CN2	**Changchun**	**24.97**	**264**	*e*P	**P**	10 03 01.8	-2.0
HIA	**Hailar**	**25.92**	**280‖**	*e*P	**P**	10 03 12.2	-0.3
HIA				pmax	pmax		
	comp=Z,29nm,0.5s						
BOD	**Bodaibo**	**26.90**	**300**	*e*P	**P**	10 03 16.1	-5.1
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KSRS	**Korea Array**	**27.42**	**250**	P	**P**	10 03 28.4	+2.3
	comp=Z,1.3nm,0.8s,baz=45,slow=9.4,SNR=8.6						
KSRS				LR	LR	10 15 29.9	
	comp=Z,70nm,18.1s,baz=24,slow=39						
KS15	**Wonju Array Si**	**27.45**	**250**	*e*P	**P**	10 03 28.4	+2.0
ILAR	**Eielson Array**	**28.95**	**44**	P	**P**	10 03 39.5	0.0
	comp=Z,0.2nm,0.7s,baz=258,slow=6.1,SNR=4.5						
JNU	**Nakatsue**	**28.96**	**240**	*e*P	**P**	10 03 43.4	+3.5
	comp=Z,11nm,0.9s						
JNU	**Nakatsue**	**28.96**	**240**	P	**P**	10 03 43.4	+3.5
	comp=Z,3.2nm,0.8s,baz=5.7,slow=10,SNR=2.9						
JNU				LR	LR	10 15 47.7	
	comp=Z,41nm,18.3s,baz=357,slow=38						
BCAR	**Beaver Creek A**	**31.31**	**48**	*e*P	**P**	10 04 00.2	-0.2
H11N2	**WAKE ISLAND Hy**	**32.96**	**170**	T	T	10 39 56.0	
	baz=353,slow=76,SNR=70						
H11N3	**WAKE ISLAND Hy**	**32.98**	**170**	T	T	10 39 57.1	
	baz=353,slow=76,SNR=76						
H11N1	**WAKE ISLAND Hy**	**32.98**	**170**	T	T	10 39 50.0	
	baz=353,slow=76,SNR=94						
INK	**Inuvik**	**34.11**	**37**	P	**P**	10 04 25.4	+0.7
	comp=Z,0.7nm,0.8s,baz=251,slow=5.2,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**34.15**	**170**	T	T	10 42 12.8	
	baz=352,slow=74						
H11S3	**WAKE ISLAND Hy**	**34.16**	**170**	T	T	10 42 17.3	
	baz=352,slow=74						
H11S2	**WAKE ISLAND Hy**	**34.17**	**170**	T	T	10 42 13.9	
	baz=352						
SONA0	**Songino Array**	**34.53**	**285**	*e*P	**P**	10 04 28.7	0.0
SONM	**Songino Array**	**34.53**	**285**	P	**P**	10 04 28.7	0.0
	comp=Z,0.7nm,0.7s,baz=63,slow=5.6,SNR=5.4						
SONM				PcP	**PcP**	10 07 03.9	+0.8
	comp=Z,0.8nm,0.7s,baz=45,slow=0.6,SNR=4.3						
SONM				LR	LR	10 20 11.3	
	comp=Z,98nm,19.2s,baz=92,slow=39						
HHC	**Hu-ho-hao-te**	**35.12**	**271**	*e*P	**P**	10 04 34.3	+0.4
HHC				S	**S**	10 09 59.4	-5.7
NJ2	**Nanjing**	**36.51**	**253**	*e*P	**P**	10 04 46.8	+1.1
NRIK	**Noril'sk**	**36.73**	**325**	LR	LR	10 21 37.7	
	comp=Z,145nm,18.8s,baz=50,slow=39						
DLBC	**Dease Lake**	**38.06**	**53**	P	**P**	10 05 01.1	+2.4
	comp=Z,1.9nm,0.9s,baz=330,slow=20,SNR=2.8						
LZH	**Lanzhou**	**42.82**	**271**	*e*P	**P**	10 05 37.3	-1.1
LZH				pP	pwP	10 05 54.5	+4.6
LZH				sP	sP	10 06 02.6	+15
LZH				*e*PP	**PP**	10 07 18.8	+1.0
YKA	**Yellowknife Ar**	**43.33**	**42**	P	**P**	10 05 42.8	+0.8
	comp=Z,0.3nm,0.5s,baz=296,slow=8.2,SNR=4.1						
YKB5	**Yellowknife Ar**	**43.33**	**42**	*e*P	**P**	10 05 42.8	+0.8
ZALV	**Zalesovo Beam**	**43.55**	**304**	P	**P**	10 05 42.1	-1.8
	comp=Z,0.6nm,0.3s,baz=61,slow=9.0,SNR=3.5						
NVS	**Novosibirsk**	**43.89**	**305**	*i* P	**P**	10 05 45.9	-0.7
DGZ	**Jazzator, Alta**	**44.40**	**297‖**	*e*P	**P**	10 05 49.8	-1.1
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WMQ	**Urumqi**	**47.65**	**290**	*e*P	**P**	10 06 17.4	+0.9
WMQ				sP	pwP	10 06 44.3	+16
SPA0	**Spitsbergen Ar**	**47.88**	**351**	*e*P	**P**	10 06 18.2	+0.5
	comp=Z,32nm,1.2s						
SPITS	**Spitsbergen Ar**	**47.88**	**351**	P	**P**	10 06 18.2	+0.5
	comp=Z,3.5nm,0.4s,baz=62,slow=7.6,SNR=33						
KURK	**Kurchatov**	**48.50**	**303**	*e*P	**P**	10 06 21.8	-1.1
	comp=Z,9.2nm,0.8s						
KURK	**Kurchatov**	**48.50**	**303**	*d i* P	**P**	10 06 21.7	-1.1
KURK				pmax	pmax		
	comp=Z,14nm,1.3s						
KURBB	**Kurchatov Arra**	**48.60**	**303**	P	**P**	10 06 23.1	-0.5
	comp=Z,5.5nm,0.8s,baz=58,slow=7.8,SNR=21						
MKAR	**Makanchi Array**	**48.88**	**297**	*i* P	**P**	10 06 24.1	-1.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.88**	**297**	P	**P**	10 06 24.3	-1.6
	comp=Z,1.0nm,0.5s,baz=54,slow=5.7,SNR=11						
BVAR	**Borovoye Array**	**51.19**	**309**	P	**P**	10 06 42.4	-0.8
	comp=Z,3.2nm,0.5s,baz=52,slow=9.6,SNR=11						
BRVK	**Borovoye**	**51.21**	**309‖**	*e*P	**P**	10 06 40.8	-2.7
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARCES	**ARCESS Array B**	**54.08**	**342**	P	**P**	10 07 04.2	-0.2
	comp=Z,5.8nm,0.8s,baz=27,slow=8.2,SNR=12						
ARU	**Arti**	**54.22**	**318**	*e*P	**P**	10 07 04.9	-0.7
	comp=Z,6.0nm,0.4s						
ARU	**Arti**	**54.22**	**318**	*e*P	**P**	10 07 04.9	-0.7
ARU				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ARU	**Arti**	**54.22**	**318**	P	**P**	10 07 04.9	-0.7
	comp=Z,2.4nm,0.2s,baz=96,slow=7.4,SNR=5.5						
SUMG	**Summit**	**54.57**	**7**	*e*P	**P**	10 07 09.7	+1.2
	comp=Z,8.8nm,0.7s						
KDJ	**Kajisay**	**54.67**	**295**	*e*P	**P**	10 07 08.7	-0.7
	comp=Z,4.6nm,1.1s						
KDJ	**Kajisay**	**54.67**	**295**	*e*P	**P**	10 07 08.7	-0.7
KDJ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
NV01	**Mina Array Sit**	**55.52**	**70**	*e*P	**P**	10 07 17.6	+2.0
NVAR	**Mina Array Bea**	**55.52**	**70**	P	**P**	10 07 17.6	+2.0
	comp=Z,0.5nm,0.7s,baz=272,slow=8.0,SNR=4.1						
AAK	**Ala-Archa**	**55.81**	**297**	*e*P	**P**	10 07 15.8	-1.7
	comp=Z,3.8nm,1.0s						
AAK	**Ala-Archa**	**55.81**	**297**	*e*P	**P**	10 07 15.8	-1.7
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AAK	**Ala-Archa**	**55.81**	**297**	P	**P**	10 07 17.1	-0.4
	comp=Z,1.4nm,0.4s,baz=165,slow=5.0,SNR=5.0						
KIRV	**Kirov**	**56.22**	**324**	P	**P**	10 07 19.5	-0.4
	comp=Z,11nm,0.5s,baz=7.6,slow=7.5,SNR=2.9						
KSH	**Kashi**	**57.11**	**293**	P	**P**	10 07 29.3	+2.5
PAYA	**Payao**	**57.27**	**259**	P	**P**	10 07 30.5	+2.5
PDAR	**Pinedale Array**	**57.43**	**61**	P	**P**	10 07 30.5	+1.4
	comp=Z,0.3nm,0.4s,baz=302,slow=3.1,SNR=5.3						
KK31	**Karatay Array**	**57.63**	**300**	*e*P	**P**	10 07 28.6	-1.7
	comp=Z,2.5nm,0.7s						
KK31	**Karatay Array**	**57.63**	**300**	*e*P	**P**	10 07 28.6	-1.7
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**57.63**	**300**	*e*P	**P**	10 07 28.9	-1.4
	comp=Z,2.5nm,0.7s						
KKAR	**Karatay Array**	**57.63**	**300**	*e*P	**P**	10 07 28.9	-1.4
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PHRA	**Phrae**	**57.72**	**258**	P	**P**	10 07 33.3	+2.2
KLMR	**Klimovskoe**	**57.77**	**330**	*e*P	**P**	10 07 29.3	-1.6
KLMR				pmax	pmax		
	comp=Z,18nm,1.4s						
UTTA	**Uttaradit**	**58.10**	**257**	P	**P**	10 07 35.9	+2.1
CMMT	**Chiang Mai**	**58.24**	**259**	P	**P**	10 07 36.6	+1.7
CM31	**Chiang Mai Arr**	**58.52**	**259**	*e*P	**P**	10 07 38.1	+1.3
	comp=Z,4.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**58.52**	**259**	P	**P**	10 07 38.1	+1.3
	comp=Z,2.8nm,0.3s,baz=26,slow=6.8,SNR=19						
JIRN	**Jiri**	**59.44**	**277**	*e*P	**P**	10 07 43.8	+0.3
	comp=Z,19nm,0.8s						
BTK	**Batken**	**59.59**	**297**	*e*P	**P**	10 07 43.4	-0.7
	comp=Z,6.8nm,0.8s						
BTK	**Batken**	**59.59**	**297**	*e*P	**P**	10 07 43.4	-0.7
BTK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RAMN	**Ramite**	**59.71**	**276**	*e*P	**P**	10 07 44.9	-0.3
	comp=Z,32nm,0.6s						
KKN	**Kakani**	**59.90**	**277**	*e*P	**P**	10 07 46.9	+0.4
	comp=Z,14nm,0.6s						
PKI	**Pulchoki**	**59.98**	**277**	*e*P	**P**	10 07 47.5	+0.3
	comp=Z,10nm,0.6s						
PKIN	**Phulchoki**	**59.98**	**277**	*e*P	**P**	10 07 47.4	+0.3
	comp=Z,13nm,0.7s						
GKN	**Gorkha**	**60.13**	**278**	*e*P	**P**	10 07 48.6	+0.6
	comp=Z,89nm,0.3s						
DMN	**Daman**	**60.14**	**277**	*e*P	**P**	10 07 48.2	0.0
	comp=Z,15nm,0.7s						
DANN	**Dangsing**	**60.41**	**279**	*e*P	**P**	10 07 50.5	+0.4
	comp=Z,18nm,0.7s						
GAR	**Garm**	**60.61**	**297**	*e*P	**P**	10 07 50.3	-0.8
	comp=Z,13nm,0.8s						
GAR	**Garm**	**60.61**	**297**	*e*P	**P**	10 07 50.3	-0.8
GAR				pmax	pmax		
	comp=Z,13nm,0.8s						
FINES	**FINESS Array B**	**60.93**	**337**	P	**P**	10 07 53.5	+0.8
	comp=Z,4.2nm,0.5s,baz=36,slow=7.8,SNR=19						
FINES				LR	LR	10 36 47.6	
	comp=Z,11nm,19.4s,baz=340,slow=39						
KOLN	**Koldanda**	**60.93**	**279**	*e*P	**P**	10 07 53.7	+0.2
	comp=Z,12nm,0.6s						
NB2	**NORSAR Subarra**	**64.32**	**344**	P	**P**	10 08 15.6	+0.2
	comp=Z,1.7nm,0.6s,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**64.32**	**344**	P	**P**	10 08 15.3	-0.1
	comp=Z,1.6nm,0.6s,baz=22,slow=6.8,SNR=5.7						
VSR	**Storozhevoye**	**65.66**	**324**	*e*P	**P**	10 08 23.6	-0.6
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GEYT	**Alibeck**	**67.86**	**304**	P	**P**	10 08 38.9	+0.4
	comp=Z,1.2nm,0.4s,baz=14,slow=6.5,SNR=2.6						
AKASG	**Malin Array Be**	**69.44**	**330**	*e*P	**P**	10 08 47.3	-0.8
AKASG	**Malin Array Be**	**69.44**	**330**	*e*P	**P**	10 08 47.3	-0.8
AKASG	**Malin Array Be**	**69.44**	**330**	P	**P**	10 08 47.7	-0.3
	comp=Z,1.8nm,0.6s,baz=30,slow=6.8,SNR=5.1						
KBZ	**Khabaz**	**70.36**	**317**	P	**P**	10 08 54.6	+0.8
	comp=Z,3.9nm,0.9s,baz=166,slow=4.5,SNR=7.3						
TX31	**Lajitas Ar. Si**	**70.45**	**67**	*e*P	**P**	10 08 55.9	+1.0
	comp=Z,1.5nm,0.8s						
LTX	**Lajitas**	**70.46**	**67**	*e*P	**P**	10 08 55.8	+0.9
TXAR	**Lajitas Array**	**70.46**	**67**	P	**P**	10 08 55.8	+0.9
	comp=Z,0.5nm,0.5s,baz=294,slow=5.2,SNR=15						
CLL	**Collm**	**73.15**	**340**	*e*P	**P**	10 09 12.0	+1.5
CLL	**Collm**	**73.15**	**340**	*e*P	**P**	10 09 12.0	+1.5
BURAR	**Bucovina Array**	**73.40**	**330**	*e*P	**P**	10 09 11.8	-0.4
GERES	**GERESS Array B**	**75.32**	**338**	P	**P**	10 09 23.9	+0.6
	comp=Z,0.7nm,0.5s,baz=46,slow=7.6,SNR=7.3						
BRTR	**Keskin Array B**	**77.45**	**321**	*e*P	**P**	10 09 36.0	+0.4
BRTR	**Keskin Array B**	**77.45**	**321**	*e*P	**P**	10 09 36.0	+0.4
BRTR	**Keskin Array B**	**77.45**	**321**	P	**P**	10 09 36.2	+0.6
	comp=Z,1.0nm,0.6s,baz=68,slow=5.4,SNR=5.7						
BRTR				LR	LR	10 49 47.0	
	comp=Z,14nm,18.2s,baz=59,slow=40						
ASAR	**Alice Springs**	**79.35**	**205**	P	**P**	10 09 46.5	+0.6
	comp=Z,0.4nm,0.8s,baz=15,slow=4.6,SNR=7.0						

MEX 23 10:17:58.8±0.6, 14°.21N×92°.13W, h49km±16km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.70**	**350**	*i* P	Pn	10 18 11.5	-1.0
THIG				*i* S	Sn	10 18 20.4	-2.0
PCIG		**1.82**	**325**	*e*P	Pn	10 18 25.4	-2.2
PCIG				*e*S	Sn	10 18 47.5	-2.0
CCIG	**Comitan**	**2.06**	**360**	*i* P	Pn	10 18 29.9	-1.2
CCIG				*i* S	Sn	10 18 54.1	-1.5
TGIG		**2.72**	**340**	*i* P	Pn	10 18 39.0	-1.1
TGIG				*i* S	Sn	10 19 10.7	-1.2
CMIG	**Matias Romero**	**3.90**	**318**	*e*P	Pn	10 18 55.5	-0.8
CMIG				*i* S	Sn	10 19 39.0	-1.8

KRSC ***23*** *10:46:57.0±10.0, 52°.22N×160°.92E, h54km±10km, ML4.6*
IDC ***23*** *10:46:58.1±0.8, 52°.53N×160°.62E, h0km, mb4.0/21, mb1 4.2/22, mb1mx4.1/35, mbtmp4.0/22, ML3.2/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/30, Error ellipse: s-maj=20.4km s-min=12.8km az=158.0*
MOS ***23*** *10:47:01.6±1.0, 52°.37N×160°.59E, h51km, mb4.7/21, Error ellipse: s-maj=7.8km s-min=4.4km az=105.8*
NEIC ***23*** *10:47:03.1±3.0, 52°.49N×160°.63E, h35km, mb4.4/20, Error ellipse: s-maj=23.0km s-min=3.6km az=158.0*

ISC 23 10:46:59.2±1.4, 52°.30N±0°.04×160°.79E±0°.04, h19km±9km, n164, σ1§73/185, mb4.4/46, MS3.7/4, 1C-4D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.93**	**330**	*e*P	**Pb**	10 47 16.3	-0.4
SPN				*e*S	**Sb**	10 47 28.7	+0.1
SPN	**Mys Shipunski**	**0.93**	**330**	PN	**Pb**	10 47 16.3	-0.4
SPN				S	**Sb**	10 47 28.7	+0.1
NLC	**Nalytchevo**	**1.24**	**316**	*e*P	**Pn**	10 47 21.2	-0.3
NLC				*e*S	**Sb**	10 47 37.2	-0.4
NLC	**Nalytchevo**	**1.24**	**316**	PN	**Pn**	10 47 21.2	-0.3
NLC				S	**Sb**	10 47 37.2	-0.4
RUS	**Russkaya**	**1.40**	**277**	*e*P	**Pn**	10 47 23.6	-0.1
RUS				*e*S	**Sn**	10 47 41.1	-0.5
RUS	**Russkaya**	**1.40**	**277**	PN	**Pn**	10 47 23.6	-0.1
RUS				S	**Sn**	10 47 41.1	-0.5
DALK	**Dalny**	**1.44**	**302**	*e*P	**Pn**	10 47 24.2	0.0
DALK				*e*S	**Sn**	10 47 42.4	-0.2
DALK	**Dalny**	**1.44**	**302**	PN	**Pn**	10 47 24.2	0.0
DALK				S	**Sn**	10 47 42.4	-0.2
PET	**Petropavlovsk**	**1.49**	**300**	*e*Pn	**Pn**	10 47 24.6	-0.2
PET	**Petropavlovsk**	**1.49**	**300**	*e*P	**Pn**	10 47 24.9	0.0
PET	**Petropavlovsk**	**1.49**	**300**	*e*PN	**Pn**	10 47 24.7	-0.2
UGLR	**Uglovaya**	**1.51**	**308**	*e*P	**Pn**	10 47 25.8	+0.6
UGLR	**Uglovaya**	**1.51**	**308**	PN	**Pn**	10 47 25.8	+0.6
SDLR	**Sedlovina**	**1.52**	**311**	*e*P	**Pn**	10 47 25.6	+0.2
SDLR	**Sedlovina**	**1.52**	**311**	PN	**Pn**	10 47 25.6	+0.2
SMAR	**Somma**	**1.55**	**310**	*e*P	**Pn**	10 47 26.1	+0.2
SMAR	**Somma**	**1.55**	**310**	PN	**Pn**	10 47 26.1	+0.2
AVH	**Avacha**	**1.58**	**309**	*e*P	**Pn**	10 47 26.8	+0.6
AVH	**Avacha**	**1.58**	**309**	PN	**Pn**	10 47 26.

comp=N,35nm,0.9s
YAK pmax pmax
comp=E,28nm,0.9s
YAK MLR MLR
comp=Z,1μm,16.0s
ZEA Zeya 20.13 287 *e*P **P 10 51 30.4 -1.3**
ZEA pmax pmax
comp=Z,35nm,1.0s
ZEA MLR MLR
comp=Z,500nm,15.0s
USRK Ussuriysk Ar. 20.71 258 P **P 10 51 35.6 -2.5**
comp=Z,8.5nm,0.9s,baz=67,slow=11,SNR=3.9
MAJO Matsushiro 22.40 234 *e*P **P 10 51 57.2 +0.8**
MAJO Matsushiro 22.40 234 *e*P **P 10 51 52.7 -3.7**
MAJO pmax pmax
comp=Z,27nm,1.7s
MJAR Matsushiro Arr 22.40 234 P **P 10 51 57.2 +0.8**
comp=Z,8.9nm,0.8s,baz=26,slow=8.3,SNR=3.3
MJAR LR LR 11 01 18.5
comp=Z,191nm,20.9s,baz=55,slow=38
TIXI Tiksi 23.98 336 *e*P **P 10 52 10.0 -2.0**
comp=Z,9.0nm,0.8s
TIXI Tiksi 23.98 336*d i*P **P 10 52 10.8 -1.2**
TIXI pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 23.98 336 P **P 10 52 09.8 -2.2**
comp=Z,10nm,0.8s,baz=124,slow=9.1,SNR=26
HIA Hailar 25.88 280 *e*P **P 10 52 29.0 -0.5**
comp=Z,14nm,0.6s
HIA Hailar 25.88 280 *e*P **P 10 52 28.5 -1.0**
PPLA Purkeypile 26.71 48 *e*P **P 10 52 43.5 +6.6**
comp=Z,2.9nm,0.6s
CAST Castle Rocks 26.77 47 *e*P **P 10 52 41.9 +4.5**
comp=Z,3.8nm,0.5s
BOD Bodaibo 26.91 300 *e*P **P 10 52 35.4 -3.3**
BOD pmax pmax
comp=Z,9.0nm,1.4s
BPAW Bear Paw Mtn. 27.29 46 *e*P **P 10 52 43.4 +1.4**
comp=Z,2.9nm,0.8s
KSRS Korea Array 27.33 250 P **P 10 52 45.2 +2.6**
comp=Z,1.8nm,0.8s,baz=42,slow=9.8,SNR=4.9
KSRS LR LR 11 04 34.4
comp=Z,120nm,18.6s,baz=58,slow=39
KS15 Wonju Array Si 27.36 250 *e*P **P 10 52 45.2 +2.3**
TOLK Toolik Lake Re 28.36 36 *e*P **P 10 52 53.4 +1.8**
comp=Z,2.6nm,0.9s
JNU Nakatsue 28.84 240 *e*P **P 10 52 58.1 +1.9**
comp=Z,11nm,0.8s
JNU Nakatsue 28.84 240 P **P 10 52 59.1 +2.9**
comp=Z,4.4nm,0.8s,baz=270,slow=18,SNR=2.5
ILAR Eielson Array 29.08 44 P **P 10 52 58.8 +0.8**
comp=Z,0.3nm,0.8s,baz=98,slow=2.0,SNR=4.1
H11N2 WAKE ISLAND Hy 32.85 169 T T 11 29 16.7
baz=353
H11N3 WAKE ISLAND Hy 32.86 169 T T 11 29 16.4
baz=353
H11N1 WAKE ISLAND Hy 32.86 169 T T 11 29 20.8
baz=353
H11S1 WAKE ISLAND Hy 34.03 170 T T 11 31 23.4
baz=352
H11S3 WAKE ISLAND Hy 34.05 170 T T 11 31 33.1
baz=352
H11S2 WAKE ISLAND Hy 34.05 170 T T 11 31 05.7
baz=352
ULN Ulaanbaatar 34.10 284 *e*P **P 10 53 39.5 -3.0**
ULN pmax pmax
comp=Z,7.0nm,1.5s
INK Inuvik 34.25 37 P **P 10 53 44.0 +0.8**
comp=Z,0.9nm,0.8s,baz=290,slow=5.1,SNR=5.2
HHC Hu-ho-hao-te 35.07 271 *e*P **P 10 53 52.4 +1.6**
HHC S **S 10 59 15.1 -7.1**
DLBC Dease Lake 38.19 53 P **P 10 54 19.3 +2.2**
comp=Z,1.1nm,0.9s,baz=149,slow=8.0,SNR=1.9
LZH Lanzhou 42.77 271 *e*P **P 10 54 55.8 +0.4**
LZH pP pwP 10 55 11.3 +6.2
LZH sP sP 10 55 18.0 +16
LZH *e*PP **PP 10 56 37.1 +2.6**
YKA Yellowknife Ar 43.47 42 P **P 10 55 01.4 +0.9**
comp=Z,0.2nm,0.7s,baz=304,slow=8.4,SNR=3.9
YKB5 Yellowknife Ar 43.47 42 *e*P **P 10 55 01.4 +0.9**
NVS Novosibirsk 43.92 305 *e*P **P 10 55 02.6 -1.6**
WMQ Urumqi 47.64 290 *e*P **P 10 55 33.9 0.0**
WMQ sP pwP 10 55 56.9 +13
KURK Kurchatov 48.52 303 *e*P **P 10 55 38.8 -1.7**
comp=Z,22nm,1.0s
KURK Kurchatov 48.52 303*d i*P **P 10 55 38.9 -1.6**
KURK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 51.25 309 *e*P **P 10 56 00.1 -1.0**
comp=Z,4.9nm,0.6s
BRVK Borovoye 51.25 309*d i*P **P 10 56 00.0 -1.2**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 54.18 342 P **P 10 56 22.3 -0.3**
comp=Z,4.5nm,0.8s,baz=40,slow=9.6,SNR=12
ARU Arti 54.27 318*c i*P **P 10 56 22.6 -0.9**
ARU 10 58 24.6
ARU S **S 11 04 03.0 +3.3**
ARU SS **SS 11 07 41.8 +0.9**
ARU pmax pmax
comp=Z,3.0nm,0.7s
TARG Taragay, Kyrgy 54.59 294 *e*P **P 10 56 24.6 -1.9**
comp=Z,5.7nm,0.8s
NV01 Mina Array Sit 55.62 70 *e*P **P 10 56 36.7 +3.0**
NVAR Mina Array Bea 55.62 70 P **P 10 56 36.7 +3.0**
comp=Z,0.6nm,0.7s,baz=291,slow=7.5,SNR=5.9
TMCR Tamitsa 55.68 334 *e*P **P 10 56 33.8 +0.3**
AAK Ala-Archa 55.81 297 *i*P **P 10 56 34.0 -1.0**
AAK pmax pmax
comp=Z,3.0nm,1.0s
PDAR Pinedale Array 57.54 61 P **P 10 56 49.3 +1.9**
comp=Z,0.3nm,0.6s,baz=64,slow=3.4,SNR=3.6
KLMR Klimovskoe 57.85 330 *e*P **P 10 56 47.3 -1.7**
KLMR pmax pmax
comp=Z,13nm,1.3s
CHTO Chiang Mai 58.17 259 *e*P **P 10 56 52.3 +0.5**
comp=Z,9.2nm,0.9s
CHTO Chiang Mai 58.17 259 *e*P **P 10 56 52.3 +0.5**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CMAR Chiang Mai Arr 58.44 259 P **P 10 56 55.1 +1.5**
comp=Z,4.7nm,0.8s,baz=24,slow=7.1,SNR=14
ABKAR Akbulak array 58.64 311 *e*P **P 10 56 53.5 -1.1**
comp=Z,2.7nm,0.9s
GAR Garm 60.62 297 *e*P **P 10 57 08.1 -0.5**
comp=Z,11nm,0.7s
GAR Garm 60.62 297 *e*P **P 10 57 08.1 -0.5**
GAR pmax pmax
comp=Z,11nm,0.7s
FINES FINESS Array B 61.02 337 P **P 10 57 11.6 +0.8**
comp=Z,2.2nm,0.4s,baz=42,slow=5.4,SNR=18
CHGR Chuyangaron 61.49 297 *e*P **P 10 57 11.8 -2.7**
comp=Z,24nm,1.0s
OBN Obninsk 63.42 328 *i*P **P 10 57 24.8 -2.1**
OBN *i* 10 57 36.7
OBN pmax pmax
comp=Z,8.0nm,1.1s
OBN MLR MLR
comp=Z,101nm,15.0s
VSU Vasula 63.45 335‖*i*P **P 10 57 28.0 +0.9**
NB2 NORSAR Subarra 64.43 344 P **P 10 57 33.1 -0.5**
comp=Z,3.3nm,0.8s,baz=21,slow=6.9
NOA NORSAR Array B 64.43 344 P **P 10 57 33.5 -0.1**
comp=Z,2.2nm,0.7s,baz=22,slow=6.6,SNR=7.9
LPSR Galich'ya Gora 64.68 325 *e*P **P 10 57 34.7 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 64.81 323 *e*P **P 10 57 34.3 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.4s
VSR Storozhevoye 65.73 324 *e*P **P 10 57 40.7 -1.4**
VSR pmax pmax
comp=Z,10.0nm,0.8s
GEYT Alibeck 67.88 304 P **P 10 57 57.0 +0.8**
comp=Z,2.7nm,0.7s,baz=9.6,slow=9.8,SNR=4.6
AKASG Malin Array Be 69.52 329 P **P 10 58 06.1 +0.1**
comp=Z,2.0nm,0.4s,baz=30,slow=6.6,SNR=16
AKBB Malin Array Si 69.52 329 *e*P **P 10 58 06.5 +0.5**
comp=Z,8.5nm,1.0s
AKBB Malin Array Si 69.52 329 *e*P **P 10 58 06.5 +0.5**
AKBB pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 70.41 317 P **P 10 58 12.3 +0.7**
comp=Z,3.5nm,0.8s,baz=44,slow=1.4,SNR=9.5
LTX Lajitas 70.56 67 *e*P **P 10 58 14.8 +1.9**
LTX Lajitas 70.56 67 *e*P **P 10 58 14.8 +1.9**
TXAR Lajitas Array 70.56 67 P **P 10 58 14.8 +1.8**
comp=Z,0.4nm,0.5s,baz=301,slow=5.6,SNR=8.9
KOLS Kolonicke sedl 73.15 333 *e*P **P 10 58 29.3 +1.2**
KOLS Kolonicke sedl 73.15 333 *e*P **P 10 58 29.3 +1.2**
CLL Collm 73.25 340 *e*P **P 10 58 30.0 +1.4**
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL Collm 73.25 340 *e*P **P 10 58 30.0 +1.4**
comp=Z,5.0nm,0.6s
BUR08 Bucovina Ar. S 73.46 330 *e*P **P 10 58 29.2 -0.8**
comp=Z,2.9nm,0.8s
LANS Liptovska Anna 73.72 335 *e*P **P 10 58 33.6 +2.1**
LANS Liptovska Anna 73.72 335 *e*P **P 10 58 33.5 +2.1**
VYHS Vyhne 74.48 335 *e*P **P 10 58 38.1 +2.2**
VYHS Vyhne 74.48 335 *e*P **P 10 58 38.1 +2.2**
GEC2 GERESS Array S 75.41 338 *e*P **P 10 58 41.2 -0.2**
comp=Z,3.0nm,1.0s
GEC2 GERESS Array S 75.41 338 *e*P **P 10 58 41.2 -0.2**
GEC2 pmax pmax
comp=Z,3.0nm,1.0s
GERES GERESS Array B 75.41 338 P **P 10 58 41.2 -0.2**
comp=Z,0.9nm,0.8s,baz=20,slow=3.2,SNR=4.9
BRTR Keskin Array B 77.51 321 P **P 10 58 53.5 +0.1**
comp=Z,1.7nm,0.9s,baz=29,slow=2.8,SNR=7.9
ESDC Sonseca Array 87.45 348 P **P 10 59 45.5 +0.3**
comp=Z,0.8nm,0.8s,baz=5.2,slow=4.3,SNR=4.1

NIED ***23*** *10:47:00,38˚.60N×142˚.20E,h44km,Mw4.6 Best double couple: M0:8.78000×10¹⁵ NP1:φ=212.00000°,δ22.00000°, λ95.00000°. NP2:φ=27.00000°,δ68.00000°,λ88.00000°.*
MOS ***23*** *10:47:32.7±1.1,38˚.65N×142˚.14E,h33km,mb4.6/11, Error ellipse: s-maj=10.8km s-min=6.5km az=96.2*
ISCJB ***23*** *10:47:34.3±0.6,38˚.64N±0˚.03×142˚.15E±0˚.06,h49km±3km, mb4.4/66, MS4.3/21, Error ellipse: s-maj=8.1km s-min=3.9km az=27.5*
JMA ***23*** *10:47:34.7±0.1,38˚.65N×142˚.16E,h41km±1km,M4.5*
JMA Felt II J1.
IDC ***23*** *10:47:36.8±1.7,38˚.63N×142˚.08E,h55km±15km,mb3.8/20, mb1 4.0/27,mb1mx3.9/42,mbtmp4.1/27,ML3.6/7,MS3.9/12, Ms1 3.9/12,ms1mx3.7/24, Error ellipse: s-maj=16.5km s-min=9.2km az=116.0*
NEIC ***23*** *10:47:42.8±3.1,39˚.18N×140˚.80E,h29km±6km,mb4.6/56, Error ellipse: s-maj=16.2km s-min=3.1km az=104.0*
NEIC Recorded [2 JMA] in Miyagi.
BJI ***23*** *10:47:53.3±0.0,40˚.30N×140˚.80E,h93km,mb4.6/25, mB4.6/14*
ISC 23 10:47:34.5±0.6,38˚.63N±0˚.04×142˚.23E±0˚.05,h37km±1km, n147,σ1§53/112,mb4.4/66,MS4.3/21,6C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.62**	**287**	P	**Pn**	**10 47 46.3**	**-0.6**
JKMT				S	**Sn**	**10 47 54.3**	**-1.3**
OFUJ	**Ofunato**	**0.63**	**316**	P	**Pn**	**10 47 46.6**	**-0.5**
OFUJ				S	**Sn**	**10 47 54.7**	**-1.1**
JIKH	**Ishinomakikobu**	**0.68**	**242**	P	**Pn**	**10 47 47.2**	**-0.5**
JIKH				S	**Sn**	**10 47 55.7**	**-1.4**
JIO	**Ouri**	**0.72**	**256**	P	**Pn**	**10 47 47.5**	**-0.6**
JIO				S	**Sn**	**10 47 56.1**	**-1.7**
JMK	**Ichinoseki**	**0.85**	**292**	P	**Pn**	**10 47 49.6**	**-0.4**
JMK				S	**Sn**	**10 48 00.2**	**-1.1**
JOM	**Ohasama**	**1.11**	**319**	P	**Pn**	**10 47 53.6**	**0.0**
JOM				S	**Sn**	**10 48 07.5**	**-0.2**
JOU	**Okura**	**1.26**	**258**	P	**Pn**	**10 47 55.5**	**-0.1**
JOU				S	**Sn**	**10 48 10.8**	**-0.5**
JMM	**Marumori**	**1.37**	**236**	P	**Pn**	**10 47 56.6**	**-0.4**
JMM				*e*S	**Sn**	**10 48 12.6**	**-1.3**
JRG	**Rokugo**	**1.46**	**302**	P	**Pn**	**10 47 58.4**	**+0.1**
JYK	**Kaneyama**	**1.49**	**282**	P	**Pn**	**10 47 58.8**	**0.0**
JFK	**Kawauchi**	**1.66**	**221**	P	**Pn**	**10 48 00.8**	**-0.3**
JFK				S	**Sn**	**10 48 19.9**	**-1.2**
ERM	**Erimo**	**3.45**	**11**	*e*Pn	**Pn**	**10 48 27.1**	**+1.4**
ERM				*e*Sn	**Sn**	**10 49 02.3**	**-3.0**
ERM	**Erimo**	**3.45**	**11**	*e*P	**Pn**	**10 48 27.1**	**+1.4**
ERM				*e*		10 49 02.3	
MJAR	**Matsushiro Arr**	**3.82**	**238**	P	**Pn**	**10 48 32.4**	**+1.7**
	3.9nm,0.3s,baz=39,slow=11,SNR=136						
MJAR				S	**Sn**	**10 49 14.3**	**-0.1**
	1.7nm,0.3s,baz=55,slow=13,SNR=6.3						
MJAR				LR	LR	10 50 20.4	
	comp=Z,1μm,18.6s,baz=50,slow=44						
MAJO	**Matsushiro**	**3.82**	**238**	*e*Pn	**Pn**	**10 48 32.6**	**+1.9**
MAJO				*e*Sn	**Sn**	**10 49 14.3**	**-0.1**
MAT	**Matsushiro**	**3.82**	**238**	P	**Pn**	**10 48 32.5**	**+1.7**
MAT				S	**Sn**	**10 49 15.2**	**+0.8**
MJB9	**Matsu-Tunnel**	**3.82**	**238**	*e*Pn	**Pn**	**10 48 32.9**	**+2.2**
INU	**Inuyama**	**5.31**	**233**	*e*Pn	**Pn**	**10 48 53.2**	**+2.0**
ASAJ	**Asahikawa**	**5.49**	**3**	P	**Pn**	**10 48 55.5**	**+1.8**
	3.2nm,0.3s,baz=192,slow=17,SNR=18						
ASAJ				S	**Sn**	**10 49 59.6**	**+4.2**
	4.2nm,0.3s,baz=217,slow=20,SNR=2.8						
JHJ	**Hachijo jima 2**	**5.85**	**201**	P	**Pn**	**10 48 59.5**	**+0.9**
	23nm,0.3s,baz=326,slow=22,SNR=13						
JHJ				S	**Sn**	**10 50 01.8**	**-2.7**
	42nm,0.3s,baz=228,slow=23,SNR=7.0						
JHJ				LR	LR	10 51 30.5	
	comp=Z,370nm,21.4s,baz=36,slow=40						
YUK	**Yuzh-Kuril'sk**	**6.05**	**26**	*e*P	**Pn**	**10 49 01.6**	**+0.3**
YUK				*i* S	**Sn**	**10 50 03.9**	**-5.3**
YUK				pmax	pmax		
	comp=Z,190nm,0.2s						
YUK				pmax	pmax		
	comp=N,26nm,0.1s						
YUK				pmax	pmax		
	comp=E,59nm,0.2s						
YUK				smax	smax		
	comp=N,366nm,0.5s						
YUK				smax	smax		
	comp=E,734nm,0.5s						
KUR	**Kuril'sk**	**7.82**	**31**	P	**Pn**	**10 49 28.8**	**+3.2**
KUR				*i* S	**Sn**	**10 50 48.7**	**-4.0**
KUR				pmax	pmax		
	comp=Z,47nm,0.6s						
KUR				pmax	pmax		
	comp=N,11nm,0.2s						
KUR				pmax	pmax		
	comp=E,11nm,0.4s						
KUR				smax	smax		
	comp=N,128nm,0.4s						
KUR				smax	smax		
	comp=E,157nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.33**	**2**	*e*Pn	**Pn**	**10 49 31.9**	**-0.6**
YSS	**Yuzh-Sakhalins**	**8.33**	**2**‖	*e*P	**Pn**	**10 49 34.6**	**+2.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,300nm,13.0s						
USRK	**Ussuriysk Ar.**	**9.49**	**309**	*e*Pn	Pn	10 49 42.1	-6.4
USRK	**Ussuriysk Ar.**	**9.49**	**309**	P	**Pn**	**10 49 48.4**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=139,slow=42,SNR=8.3						
USRK				LR	LR	10 53 18.0	
	comp=Z,693nm,19.2s,baz=99,slow=36						
USA0B	**Ussuriysk Arra**	**9.49**	**309**	*e*Pn	Pn	10 49 42.8	-5.7
JNU	**Nakatsue**	**10.72**	**243**	*e*Pn	**Pn**	**10 50 06.3**	**+0.8**
JNU	**Nakatsue**	**10.72**	**243**	P	**Pn**	**10 50 07.3**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=59,slow=5.3,SNR=13						
JNU				LR	LR	10 54 31.7	
	comp=Z,652nm,20.6s,baz=41,slow=39						
MDJ	**Mudanjiang**	**11.19**	**306**	P	Pn	10 50 17.8	+6.0
MDJ				S	Sn	10 52 25.3	+10
MDJ	**Mudanjiang**	**11.19**	**306**	*e*Pn	Pn	10 50 03.4	-8.4
KSRS	**Korea Array**	**11.35**	**268**	P	**Pn**	**10 50 16.4**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=81,slow=14,SNR=32						
KSRS				LR	LR	10 54 13.9	
	comp=Z,447nm,20.6s,baz=82,slow=35						
KLR	**Kul'dur**	**13.00**	**328**	P	**Pn**	**10 50 36.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=117,slow=14,SNR=5.3						
KLR				LR	LR	10 55 40.7	
	comp=Z,614nm,18.0s,baz=109,slow=37						
TIA	**Tai'an**	**20.07**	**271**	P	**P**	**10 52 03.1**	**-1.6**
MA2	**Magadan**	**21.66**	**12**	*c*e*P	**P**	**10 52 22.1**	**+0.6**
MA2				pmax	pmax		
	comp=Z,11nm,1.0s						
MA2	**Magadan**	**21.66**	**12**	P	**P**	**10 52 21.8**	**+0.3**
	comp=Z,7.5nm,0.8s,baz=213,slow=7.6,SNR=4.7						
HHC	**Hu-ho-hao-te**	**23.63**	**285**	*e*P	**P**	**10 52 42.1**	**-0.2**
HHC				pmax	pmax		
	comp=Z,52nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,3.9s						
HHC				LR	LR		
	comp=Z,250nm,11.2s						
HHC				LR	LR		
	comp=Z,320nm,10.8s						
HHC				LR	LR		
	comp=Z,410nm,10.4s						
SEY	**Seymchan**	**25.10**	**11**	*c*e*P*	**P**	**10 52 56.6**	**+1.2**
SEY	**Seymchan**	**25.10**	**11**	P	**P**	**10 52 56.9**	**+1.4**
	comp=Z,8.6nm,0.9s,baz=203,slow=7.0,SNR=16						
ULN	**Ulaanbaatar**	**27.04**	**301**	*c i*P	**P**	**10 53 13.5**	**+0.2**
ULN				pmax	pmax		
	comp=Z,11nm,2.5s						
XAN	**Xi'an**	**27.14**	**271**	P	**P**	**10 53 12.8**	**-1.4**
XAN				pP	sP	10 53 29.9	+0.9
XAN				S	S	10 57 36.9	-13
XAN				sS	sS	10 58 08.9	+5.2
SONA0	**Songino Array**	**27.47**	**301**	*e*P	**P**	**10 53 16.6**	**-0.6**
SONM	**Songino Array**	**27.47**	**301**	*e*P	**P**	**10 53 15.8**	**-1.4**
SONM	**Songino Array**	**27.47**	**301**	P	**P**	**10 53 16.6**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=110,slow=8.2,SNR=10						
ENH	**Enshi**	**28.15**	**263**	*e*P	**P**	**10 53 22.5**	**-0.8**
	comp=Z,27nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.46**	**124**	T	T	11 23 48.0	
	baz=317,slow=75,SNR=2188						
H11N1	**WAKE ISLAND Hy**	**28.47**	**124**	T	T	11 23 53.4	
	baz=317,slow=75,SNR=2132						
H11N3	**WAKE ISLAND Hy**	**28.48**	**124**	T	T	11 23 49.3	
	baz=317,slow=75,SNR=2756						
H11S1	**WAKE ISLAND Hy**	**29.23**	**126**	T	T	11 24 43.4	
	baz=318,slow=76,SNR=472						
H11S3	**WAKE ISLAND Hy**	**29.23**	**126**	T	T	11 24 43.6	
	baz=318,slow=76,SNR=826						
H11S2	**WAKE ISLAND Hy**	**29.25**	**126**	T	T	11 24 49.1	
	baz=318,slow=76,SNR=406						
TLY	**Talaya**	**29.81**	**309**‖	*e*P	**P**	**10 53 34.9**	**-2.9**
ZAK	**Zakamensk**	**29.82**	**306**	*e*P	**P**	**10 53 37.3**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
LZH	**Lanzhou**	**30.47**	**277**	*e*P	**P**	**10 53 46.3**	**+2.3**
LZH				pP	sP	10 54 06.0	+7.2
LZH				sP	pP	10 54 17.5	+23
LZH				*e*PP	**PnPn**	**10 54 44.5**	**+1.1**
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				pmax	pmax		
	comp=Z,56nm,4.8s						
LZH				LR	LR		
	comp=Z,160nm,12.7s						
LZH				LR	LR		
	comp=Z,170nm,12.9s						
LZH				LR	LR		
	comp=Z,220nm,16.4s						
BILL	**Bilibino**	**32.31**	**17**	*i* P	**P**	**10 53 58.3**	**-1.3**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CD2	**Chengdu**	**32.35**	**268**	P	**P**	**10 53 59.1**	**-1.3**
GTA	**Gaotai**	**32.75**	**285**	*e*P	**P**	**10 54 03.0**	**-0.9**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,30nm,4.6s						
GTA				LR	LR		
	comp=Z,130nm,18.7s						
GTA				LR	LR		
	comp=Z,320nm,18.1s						
GTA				LR	LR		
	comp=Z,430nm,18.4s						
TIXI	**Tiksi**	**33.79**	**352**‖	*e*P	**P**	**10 54 11.8**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ANM	**Nome**	**39.90**	**32**	*e*P	P	10 55 16.7	+12
	comp=Z,13nm,1.2s						
DGZ	**Jazzator, Alta**	**40.01**	**304**	*c i*P	**P**	**10 55 06.2**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WMQ	**Urumqi**	**40.72**	**295**	*e*P	**P**	**10 55 12.8**	**+1.2**
WMQ				LR	LR		
	comp=Z,750nm,27.1s						
WMQ				LR	LR		
	comp=Z,1μm,25.3s						
WMQ				LR	LR		
	comp=Z,600nm,25.3s						
PAYA	**Payao**	**41.30**	**255**	P	P	10 55 21.4	+4.8
	comp=Z,26μm,0.4s						
ZAA0	**Zalesovo Array**	**41.34**	**311**	*e*P	**P**	**10 55 16.2**	**-0.2**
	comp=Z,5.4nm,0.6s						
ZALV	**Zalesovo Beam**	**41.34**	**311**	P	**P**	**10 55 16.2**	**-0.3**
	comp=Z,4.0nm,0.5s,baz=91,slow=8.2,SNR=6.2						
PHRA	**Phrae**	**41.55**	**253**	P	**P**	**10 55 21.0**	**+2.4**
	comp=Z,0.5nm,0.4s						
NRIK	**Noril'sk**	**42.10**	**334**	P	**P**	**10 55 22.8**	**+0.3**
	comp=Z,3.1nm,0.4s,baz=75,slow=8.1,SNR=4.4						
NRIK				LR	LR	11 13 45.9	
	comp=Z,310nm,18.5s,baz=60,slow=37						
CMAR	**Chiang Mai Arr**	**42.54**	**254**	P	**P**	**10 55 26.6**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=45,slow=6.6,SNR=4.7						
MK31	**Makanchi Array**	**43.84**	**301**	*e*P	**P**	**10 55 36.8**	**-0.2**
	comp=Z,5.0nm,0.8s						
MK31	**Makanchi Array**	**43.84**	**301**	*e*P	**P**	**10 55 36.8**	**-0.2**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**43.84**	**301**	P	**P**	**10 55 36.5**	**-0.4**
	comp=Z,5.0nm,0.8s,baz=85,slow=8.2,SNR=27						
MKAR				LR	LR	11 14 34.1	
	comp=Z,90nm,18.2s,baz=50,slow=37						
SVW2	**Sparrevohn**	**43.86**	**38**	*e*P	P	10 55 47.1	+10
	comp=Z,8.3nm,1.0s						
IMAR	**Indian Mountai**	**44.95**	**31**	*e*P	P	10 55 53.3	+7.8
KURK	**Kurchatov**	**45.48**	**307**‖	*e*P	**P**	**10 55 49.2**	**-0.7**
KURK				pmax	pmax		
	comp=Z,16nm,0.8s						
CAST	**Castle Rocks**	**45.54**	**35**	*e*P	P	10 56 01.3	+11
	comp=Z,4.2nm,0.8s						
BPAW	**Bear Paw Mtn.**	**46.04**	**34**	*e*P	P	10 56 04.0	+10
	comp=Z,7.4nm,1.2s						
SUA	**Susitna One**	**46.20**	**38**	*e*P	P	10 56 07.4	+12
	comp=Z,7.4nm,0.9s						
BWN	**Browne**	**46.70**	**34**	*e*P	P	10 56 08.3	+8.9
	comp=Z,29nm,1.1s						
TOLK	**Toolik Lake Re**	**46.76**	**28**	*e*P	P	10 56 08.9	+9.1
	comp=Z,4.7nm,0.9s						
MCK	**McKinley**	**46.95**	**35**	*e*P	P	10 56 08.4	+7.1
	comp=Z,6.7nm,1.0s						
GHO	**Glory Hole Cre**	**47.05**	**37**	*e*P	P	10 56 12.4	+10
	comp=Z,10nm,0.8s						
MDM	**Murphy Dome**	**47.22**	**33**	*e*P	P	10 56 13.6	+10
	comp=Z,11nm,1.0s						
CCB	**Clear Creek Bu**	**47.41**	**33**	*e*P	P	10 56 15.2	+10
	comp=Z,2.8nm,0.7s						
JIRN	**Jiri**	**47.53**	**274**	*e*P	**P**	**10 56 06.7**	**-0.1**
	comp=Z,17nm,0.7s						
RAMN	**Ramite**	**47.55**	**273**	*e*P	**P**	**10 56 06.4**	**-0.4**
	comp=Z,34nm,1.0s						
DHY	**Denali Highway**	**47.68**	**35**	*e*P	P	10 56 18.3	+11
	comp=Z,3.4nm,0.9s						
HDA	**Harding Lake**	**47.79**	**34**	*e*P	P	10 56 18.6	+11
	comp=Z,7.4nm,1.0s						
ILAR	**Eielson Array**	**47.80**	**33**	P	**P**	**10 56 08.6**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=266,slow=6.0,SNR=7.3						
KKN	**Kakani**	**48.18**	**275**	*e*P	**P**	**10 56 11.3**	**-0.3**
PRP	**Porcupine Dome**	**48.34**	**32**	*e*P	P	10 56 21.9	+10
	comp=Z,5.2nm,0.9s						
DANN	**Dangsing**	**49.11**	**276**	*e*P	**P**	**10 56 18.8**	**0.0**
	comp=Z,39nm,0.6s						
DOT	**Dot Lake**	**49.12**	**35**	*e*P	P	10 56 31.0	+13
	comp=Z,3.9nm,0.9s						
MENT	**Mentasta**	**49.35**	**35**	*e*P	P	10 56 30.9	+11
	comp=Z,5.8nm,1.0s						
KOLN	**Koldanda**	**49.50**	**276**	*e*P	**P**	**10 56 21.5**	**-0.2**
	comp=Z,6.3nm,0.4s						
PYUN	**Piuthan**	**49.82**	**276**	*e*P	**P**	**10 56 23.5**	**-0.7**
	comp=Z,60nm,1.3s						
BRVK	**Borovoye**	**50.05**	**312**‖	*e*P	**P**	**10 56 25.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSH	**Kashi**	**50.36**	**293**	P	**P**	**10 56 32.4**	**+4.4**
KSH				pmax	pmax		
	comp=Z,16nm,0.3s						
EPYK	**Eagle Plains**	**51.82**	**30**	*e*P	P	10 56 50.0	+12
	comp=Z,9.9nm,1.0s						
ARSB	**Arslanbob**	**51.83**	**296**	*e*P	**P**	**10 56 37

comp=Z,14nm,1.1s
ARU MLR MLR
WRAB Tennant Creek 58.72 189 *e*P P 10 57 40.1 +11
comp=Z,9.2nm,0.8s
YKA Yellowknife Ar 62.10 31 *e*P P 10 58 01.9 +11
YKA Yellowknife Ar 62.10 31 P **P 10 57 51.6 +0.4**
comp=Z,0.7nm,1.0s,baz=296,slow=6.6,SNR=5.3
ASAR Alice Springs 62.46 189 P **P 10 57 53.9 -0.1**
comp=Z,1.3nm,0.9s,baz=9.0,slow=5.0,SNR=14
DZM Mont Dzumac 64.51 155 *e*LR LR 11 17 47.6
comp=Z,179nm,22.5s
FINES FINESS Array B 67.70 332 P **P 10 58 27.1 -0.5**
comp=Z,5.1nm,0.9s,baz=113,slow=5.0,SNR=6.0
FINES LR LR 11 29 50.3
comp=Z,122nm,18.1s,baz=70,slow=38
STKA Stephens Creek 70.15 181 P **P 10 58 43.3 +0.2**
comp=Z,1.3nm,0.9s,baz=308,slow=19,SNR=2.2
KIV Kislovodsk 70.35 311 *e*P **P 10 58 44.1 -0.4**
KIV pmax pmax
comp=Z,52nm,1.1s
KIV MLR MLR
comp=Z,145nm,17.0s
KBZ Khabaz 70.36 311 P **P 10 58 44.4 0.0**
comp=Z,6.3nm,1.0s,baz=79,slow=1.7,SNR=7.5
NB2 NORSAR Subarra 72.96 337 P **P 10 58 59.0 -0.9**
comp=Z,1.0nm,0.8s,baz=37,slow=6.2
NOA NORSAR Array B 72.96 337 P **P 10 58 59.2 -0.6**
comp=Z,2.6nm,0.9s,baz=38,slow=5.9,SNR=4.1
NOA LR LR 11 33 49.0
comp=Z,77nm,21.5s,baz=40,slow=38
BOZ Bozeman (W) 73.15 45 *e*P P 10 59 12.9 +12
comp=Z,2.5nm,0.9s
AKASG Malin Array Be 73.43 322 P **P 10 59 02.0 -0.7**
comp=Z,3.4nm,0.7s,baz=43,slow=6.8,SNR=6.7
AKBB Malin Array Si 73.43 322 *e*P **P 10 59 02.0 -0.7**
comp=Z,6.4nm,0.9s
AKBB Malin Array Si 73.43 322 *e*P **P 10 59 02.0 -0.7**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
NVAR Mina Array Bea 73.52 54 *e*P P 10 59 16.5 +13
NVAR Mina Array Bea 73.52 54 P **P 10 59 05.1 +1.4**
comp=Z,0.9nm,0.9s,baz=267,slow=7.1,SNR=4.2
BW06 Boulder Array 76.09 46 *e*P P 10 59 30.1 +12
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 76.09 46 P **P 10 59 19.2 +0.6**
comp=Z,0.7nm,0.7s,baz=280,slow=2.2,SNR=4.0
LCMT Little Creek M 77.56 53 *e*P P 10 59 39.6 +13
comp=Z,4.3nm,1.0s
SRU San Rafael Swe 77.88 49 *e*P P 10 59 41.3 +13
comp=Z,6.5nm,0.7s
U15A North Rim 78.52 52 *e*P P 10 59 44.5 +12
comp=Z,2.0nm,0.8s
PV21 Cone Mtn., Par 79.15 49 *e*P P 10 59 48.8 +13
comp=Z,5.6nm,0.7s
PV10 Paradox Valley 79.24 49 *e*P P 10 59 49.8 +14
comp=Z,16nm,0.8s
DPC Dobruska-Polom 79.45 328 AMS AMS 11 37 10.0
comp=Z,200nm,14.3s
UPC Upice 79.46 328 AMS AMS 11 37 10.0
comp=Z,200nm,14.9s
PVCC Panska Ves 80.03 329 AMS AMS 11 37 20.0
comp=Z,200nm,14.2s
GOPC GO Pecny, Ondr 80.42 329 AMS AMS 11 37 10.0
comp=Z,200nm,15.0s
PRU Pruhonice 80.46 329 AMS AMS 11 37 40.0
comp=Z,200nm,14.6s
TREC Trest 80.61 328 AMS AMS 11 38 00.0
comp=Z,200nm,14.6s
KHC Kasperske Hory 81.52 329 *e*P **P 10 59 48.1 +0.1**
KHC MLR MLR
comp=Z,200nm,14.0s
KHC Kasperske Hory 81.52 329 *e*P **P 10 59 48.1 +0.1**
KHC AMS AMS 11 38 20.0
comp=Z,200nm,14.0s
GERES GERESS Array B 81.69 329 P **P 10 59 48.9 -0.1**
comp=Z,0.3nm,0.3s,baz=46,slow=5.8,SNR=4.4
GERES LR LR 11 38 55.0
comp=Z,140nm,18.1s,baz=42,slow=38
ANMO Albuquerque 83.07 50 *e*P P 11 00 09.7 +13
comp=Z,3.6nm,1.1s
ANMO Albuquerque 83.07 50 *e*P P 11 00 09.7 +13
ANMO pmax pmax
comp=Z,4.0nm,1.1s
BFO Black Forest 84.22 331 *i*P **P 11 00 03.1 +1.0**
PPT2 Papeete2 84.79 117 *e*LR LR 11 26 37.7
comp=Z,131nm,24.5s
TXAR Lajitas Array 88.64 53 P **P 11 00 24.4 +0.3**
comp=Z,0.6nm,0.8s,baz=301,slow=2.3,SNR=3.7
TBI Tubuai 88.79 121 *e*T T 12 38 21.0
comp=Z,25nm,0.3s
ESDC Sonseca Array 96.14 334 LR LR 11 49 14.8
comp=Z,73nm,18.2s,baz=190,slow=38
CMLA Cha da Macela 103.15 350 *i*P **Pdif 11 01 35.2 +5.3**
TORD Torodi Ar. Bea 116.65 316 PKP **PKiKP 11 06 16.4 +1.2**
comp=Z,1.3nm,1.1s,baz=15,slow=7.4,SNR=4.5
SNAA Sanae 142.47 197 PKPdf **PKPdf 11 06 59.6 -2.7**
VNA2 Neumayer--Watz 144.03 196 PKPdf PKPbc 11 07 02.7 -0.3
VNA3 Neumayer Olymp 144.28 195 PKPdf **PKPab 11 07 02.7 -0.7**
VNA1 Neumayer--Stat 144.43 196 PKPdf PKPbc 11 07 04.2 0.0
LPAZ La Paz 145.31 59 PKPbc **PKPdf 11 07 10.1 +0.5**
comp=Z,0.6nm,0.5s,baz=136,slow=0.5,SNR=3.7

*SJA **23** 11:03:58.9±0.6,34°.01S×71°.69W,h61km±5km,ML5.0, MW3.2*
*GUC **23** 11:03:59.6±0.5,34°.02S×71°.59W,h76km±7km,ML3.9*
*ISCJB **23** 11:04:00.4±0.8,34°.04S±0°.05×71°.60W±0°.08,h60km±13km, Error ellipse: s-maj=13.0km s-min=6.1km az=29.4*
ISC 23 11:04:01.6±6.0,34°.04S±0°.05×71°.61W±0°.08,h37km±6km, n26,σ0°73/32,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTU	**Antumapu**	**0.94**	**60**	*e*P	**Pn**	**11 04 18.1**	**-0.1**
ANTU				*e*S	**Sn**	**11 04 30.5**	**+0.1**
ANTU				IAML		11 04 31.7	
	comp=E,7μm,0.4s						
GO05	**Huala**	**1.01**	**195**	*e*P	**Pn**	**11 04 18.5**	**-0.7**
GO05				*e*S	**Sn**	**11 04 32.8**	**+0.7**
GO05	**Huala**	**1.01**	**195**	*i*P	**Pn**	**11 04 18.3**	**-0.9**
GO05				*e*S	**Sn**	**11 04 33.0**	**+0.9**
GO05				IAML		11 04 36.8	
	comp=E,3μm,0.3s						
FSR	**Penalolen**	**1.06**	**59**	*e*P	**Pn**	**11 04 19.7**	**-0.2**
FSR				*e*S	**Sn**	**11 04 33.8**	**+0.4**
CLCH	**Cerro Calan**	**1.10**	**55**	||*i*P	**Pn**	**11 04 19.4**	**-1.0**
CLCH				*e*S	**Sn**	**11 04 34.0**	**-0.4**
CLCH				IAML		11 04 36.1	
	comp=E,4μm,0.3s						
ROC1	**El Roble**	**1.17**	**25**	*e*P	**Pn**	**11 04 20.7**	**-0.9**
ROC1				*e*S	**Sn**	**11 04 37.0**	**+0.6**
ROCH	**El Roble**	**1.17**	**25**	*e*P	**Pn**	**11 04 20.3**	**-1.3**
ROCH				*e*S	**Sn**	**11 04 36.4**	**0.0**
ROCH				IAML		11 04 39.2	
	comp=N,5μm,0.4s						
PEL	**Peldehue**	**1.18**	**41**	*e*P	**Pn**	**11 04 20.8**	**-0.7**
PEL	**Peldehue**	**1.18**	**41**	*e*P	**Pn**	**11 04 20.4**	**-1.1**
PEL				*e*S	**Sn**	**11 04 36.0**	**-0.3**
PEL				IAML		11 04 38.0	
	comp=E,3μm,0.3s						
LMEL	**Las Melosas**	**1.18**	**81**	||*i*P	**Pn**	**11 04 20.7**	**-1.0**
LMEL				*e*S	**Sn**	**11 04 36.3**	**-0.3**
LMEL				IAML		11 04 39.1	
	comp=N,7μm,0.2s						
FCH	**Farellones**	**1.30**	**58**	*e*P	**Pn**	**11 04 22.4**	**-1.2**
FCH				*e*S	**Sn**	**11 04 39.5**	**-0.3**
FCH				IAML		11 04 41.6	
	comp=E,4μm,0.3s						
AAGR	**Agrelo**	**2.51**	**69**	*e*P	**Pn**	**11 04 40.4**	**+0.6**
ARCO	**CERRO ARCO**	**2.53**	**63**	IAML		11 04 57.3	
	comp=Z,358nm,0.6s						
AUSP	**Upallata**	**2.59**	**46**	*e*P	**Pn**	**11 04 41.9**	**+0.7**
ASAL	**Salagasta**	**2.73**	**59**	*e*P	**Pn**	**11 04 43.4**	**+0.4**
RTCV	**Cerro Valdivia**	**3.37**	**51**	*e*P	**Pn**	**11 04 51.8**	**+0.2**
RTLL	**Cerro Villicun**	**3.78**	**45**	IAML		11 05 52.0	
	comp=Z,217nm,0.6s						
ACCO	**Cerro Coronel**	**4.05**	**33**	*e*P	**Pn**	**11 05 02.0**	**+0.6**
ACCO				*e*S	**Sn**	**11 05 48.5**	**+0.8**
AMOG	**MOGNA**	**4.06**	**41**	*e*P	**Pn**	**11 05 01.2**	**+0.1**
ACAN	**Cantantal**	**4.10**	**66**	*e*P	**Pn**	**11 05 02.5**	**+0.7**
AROD	**Rodeo**	**4.26**	**26**	*e*P	**Pn**	**11 05 04.7**	**+0.5**
ACDV	**Cuesta del Vie**	**4.39**	**29**	*e*P	**Pn**	**11 05 06.0**	**+0.2**
MRA	**San Martin**	**5.19**	**74**	IAML		11 06 26.9	
	comp=Z,33nm,0.6s						
APLL	**PUNTA DE LOS L**	**5.63**	**51**	*e*P	**Pn**	**11 05 21.8**	**-0.9**
APLL				IAML		11 06 37.0	
	comp=Z,53nm,0.7s						
TCA	**Tanti**	**6.49**	**67**	IAML		11 07 10.2	
	comp=Z,27nm,0.6s						
CYA	**Choya**	**7.47**	**43**	IAML		11 07 19.4	
	comp=Z,15nm,0.7s						

MEX 23 11:23:24.8±0.5,16°.96N×92°.11W,h59km±18km,MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.67**	**182**	*e*P	Pn	11 23 33.1	-5.7
CCIG				*e*S	Sn	11 23 42.8	-6.3
TGIG		**0.99**	**260**	*i*P	Pn	11 23 41.2	-1.5
TGIG				*i*S	Sn	11 23 54.0	-1.9
PCIG		**1.64**	**221**	*e*P	Pn	11 23 49.8	-1.6
PCIG				*i*S	Sn	11 24 09.4	-2.0
CMIG	**Matias Romero**	**2.66**	**273**	*i*P	Pn	11 24 04.2	-1.1
CMIG				*i*S	Sn	11 24 34.6	-1.8

ISC 23 12:00:30.2±1.8,49°.68N±0°.06×17°.78E±0°.08,h4km±17km, n8,σ0°43/10,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.18**	**303**	*e*PG	**Pg**	**12 00 33.5**	**-0.3**
MORC				*e*SG	**Sg**	**12 00 36.1**	**-0.1**
JAVC	**Velka Javorina**	**0.82**	**185**	*e*PG	**Pb**	**12 00 47.6**	**+0.5**
JAVC	**Velka Javorina**	**0.82**	**185**	*e*PG		12 02 57.2	
VRAC	**Vranov**	**0.86**	**245**	*e*PG	**Pg**	**12 00 46.7**	**+0.1**
KRUC	**Moravsky**	**1.09**	**236**	*e*PG	**Pg**	**12 00 51.2**	**+0.1**
KRUC				*e*SG	**Sb**	**12 01 05.8**	**-0.5**
KRUC	**Moravsky**	**1.09**	**236**	*e*PG		12 02 42.6	
KRUC				*e*SG		12 02 46.7	
VYHS	**Vyhne**	**1.38**	**149**	*e*PG	**Pn**	**12 00 55.6**	**-0.6**
VYHS				*e*SG	**Sb**	**12 01 14.7**	**+0.3**
KSP	**Ksiaz**	**1.50**	**321**	*e*Pg	**Pn**	**12 00 58.2**	**+0.2**
KSP				*e*Sg	**Sg**	**12 01 18.6**	**0.0**

*ISCJB **23** 12:28:32.1±1.1,2°.09N±0°.09×127°.3E±0°.1,h112km, mb4.0/3, Error ellipse: s-maj=20.7km s-min=8.5km az=150.9*
*DJA **23** 12:28:32.9±0.9,2°N±5°×12°7E±°,h112km±12km,M4.0/5, mb3.9/3,MLv4.1/5*
*IDC **23** 12:28:33.2±15.0,2°.04N×127°.40E,h102km±138km, mb3.6/4,mb1 3.7/4,mb1mx3.3/35,mbtmp3.9/4, Error ellipse: s-maj=159.7km s-min=25.2km az=63.0*
ISC 23 12:28:33.3±1.2,2°.1N±0°.1×127°.4E±0°.1,h112km,n10, σ1°93/12,mb4.1/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.35**	**182**	P	**Pn**	**12 28 58.9**	**+0.4**
SGSI	**Sangihe**	**2.43**	**310**	P	**Pn**	**12 29 10.2**	**-1.7**
SGSI				S	**Sn**	**12 29 39.2**	**-2.4**
SANI	**Sanana**	**4.38**	**199**	P	**Pn**	**12 29 36.1**	**-1.8**
LUWI	**Luwuk**	**5.60**	**236**	P	**Pn**	**12 29 58.3**	**+4.0**
TTSI	**Tana Toraja**	**9.16**	**236**	P	**Pn**	**12 30 41.1**	**-1.5**
BNSI	**Bone**	**9.76**	**228**	P	**Pn**	**12 30 49.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**20.17**	**185**	P	**P**	**12 32 59.0**	**-0.1**
	2.1nm,0.8s,baz=16,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**26.41**	**167**	P	**P**	**12 33 59.4**	**-0.3**
	0.9nm,0.5s,baz=350,slow=7.3,SNR=19						
ASAR				PcP	**PcP**	**12 37 23.1**	**+0.6**
	0.5nm,0.5s,baz=341,slow=2.1,SNR=6.4						
STKA	**Stephens Creek**	**36.40**	**159**	P	**P**	**12 35 27.4**	**+0.3**
	2.7nm,0.6s,baz=335,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**59.25**	**325**	P	**P**	**12 38 24.4**	**+1.4**
	0.7nm,0.4s,baz=113,slow=8.0,SNR=8.5						

*IDC **23** 12:52:13.1±0.8,28°.39N×51°.71E,h0km,mb4.0/19, mb1 4.1/23,mb1mx4.0/51,mbtmp4.0/23,ML3.7/4,MS2.9/7, Ms1 2.9/7,ms1mx2.6/41,Error ellipse: s-maj=19.0km s-min=15.1km az=6.0*
*NEIC **23** 12:52:14.8±2.1,28°.38N×51°.69E,h11km±3km,mb4.2/14, MN3.9(TEH),Error ellipse: s-maj=21.1km s-min=16.7km az=176.0*
*TEH **23** 12:52:15.3,28°.45N×51°.64E,h16km,ML4.1*
*ISCJB **23** 12:52:15.2±0.3,28°.38N±0°.03×51°.62E±0°.04,h24km, mb4.0/26,MS3.1/4,Error ellipse: s-maj=5.4km s-min=2.6km az=147.6*
*DSN **23** 12:52:19.6±1.3,28°.53N×52°.11E,h10km,ML4.3/7,Error ellipse: s-maj=26.6km s-min=6.2km az=19.0*
*OMAN **23** 12:52:20.7±0.2,28°.09N×51°.81E,h10km,ml4.2/8,Error ellipse: s-maj=6.1km s-min=3.5km az=27.0*
ISC 23 12:52:16.7±0.5,28°.41N±0°.06×51°.66E±0°.06,h24km,n110, σ1°39/120,mb4.1/26,MS3.1/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.17**	**96**	*e*Pg	**Pn**	**12 52 39.1**	**+1.4**
IKAZ	**Kazeroun**	**1.37**	**6**	*e*Pg	**Pn**	**12 52 40.7**	**+0.1**
IKAZ				IAMB	IAmb	12 53 05.3	
	comp=Z,0.0nm,0.6s						
SHI	**Shiraz**	**1.43**	**31**	*e*Pg	**Pn**	**12 52 42.2**	**+0.8**
SHI				IAMB	IAmb	12 53 03.7	
	comp=Z,0.0nm,0.5s						
JHRM	**Jahrom**	**1.69**	**86**	*e*Pg	**Pn**	**12 52 46.7**	**+1.9**
LMD1	**Lamerd**	**1.71**	**128**	*e*Pg	**Pb**	**12 52 47.6**	**+0.2**
LMD1				IAMB	IAmb	12 53 30.5	
	comp=Z,0.0nm,1.1s						
IPAR	**Pars**	**1.87**	**40**	*e*Pg	**Pn**	**12 52 49.4**	**+1.9**
IPAR				IAMB	IAmb	12 53 18.9	
	comp=Z,0.0nm,0.8s						
KLNJ	**Kolanjah**	**2.59**	**359**	*e*Pn	**Pn**	**12 52 58.0**	**+0.6**
KLNJ				IAMB	IAmb	12 53 55.5	
	comp=Z,0.0nm,0.6s						
IRAM	**Ramesheh**	**3.44**	**10**	*e*Pn	**Pn**	**12 53 09.6**	**+0.6**
ZNGN	**Zangian**	**3.76**	**349**	*e*Pn	**Pn**	**12 53 13.7**	**+0.3**
JHBN	**Jahan bin**	**3.90**	**347**	*e*Pn	**Pn**	**12 53 16.3**	**+0.9**
ISAD	**Sadrabad**	**3.90**	**26**	*e*Pn	**Pn**	**12 53 17.1**	**+1.7**
IMEH	**Mehriz**	**3.92**	**40**	*e*Pn	**Pn**	**12 53 17.0**	**+1.4**
ROKH	**ROKH**	**3.96**	**352**	*e*Pn	**Pn**	**12 53 16.0**	**-0.1**
IGAR	**Gharneh**	**3.99**	**5**	*e*Pn	**Pn**	**12 53 17.4**	**+0.8**
GENO	**Geno**	**4.12**	**103**	*e*Pn	**Pn**	**12 53 20.3**	**+2.0**
GENO				IAMB	IAmb	12 53 44.8	
	comp=Z,0.0nm,0.6s						
IPIR	**Pirpir**	**4.31**	**351**	*e*Pn	**Pn**	**12 53 21.5**	**+0.5**
IZEF	**Zefreh**	**4.50**	**7**	*e*Pn	**Pn**	**12 53 24.4**	**+0.7**
NGRK	**Negar Kerman**	**4.60**	**73**	*e*Pn	**Pn**	**12 53 26.6**	**+1.4**
NGRK				IAMB	IAmb	12 53 28.4	
	comp=Z,0.0nm,0.4s						
SHME	**Shamm**	**4.63**	**120**	*i*P	**Pn**	**12 53 26.0**	**+0.8**
	SNR=28						
SHME				S	**Sn**	**12 54 17.7**	**-0.6**
SHME	**Shamm**	**4.63**	**120**	*e*Pn	**Pn**	**12 53 26.3**	**+1.1**
KHGB	**Koh Gabri**	**4.63**	**64**	*e*Pn	**Pn**	**12 53 26.7**	**+1.3**
KHGB				IAMB	IAmb	12 54 57.2	
	comp=Z,0.0nm,1.0s						
IBAF	**Bafgh**	**4.63**	**46**	*e*Pn	**Pn**	**12 53 26.6**	**+1.2**
NIAN	**Nian**	**4.65**	**99**	*e*Pn	**Pn**	**12 53 26.8**	**+1.3**
NIAN				IAMB	IAmb	12 54 25.7	
	comp=Z,0.0nm,0.2s						
YZKH	**Yazd**	**4.70**	**32**	*e*Pn	**Pn**	**12 53 27.5**	**+1.3**
KRBR	**Kerman**	**4.72**	**69**	*e*Pn	**Pn**	**12 53 28.3**	**+1.6**
TVBK	**TV Kerman**	**4.72**	**69**	*e*Pn	**Pn**	**12 53 28.5**	**+1.7**
TVBK				IAMB	IAmb	12 53 55.1	
	comp=Z,0.0nm,0.4s						
AJN	**Ajban**	**4.86**	**141**	P	**Pn**	**12 53 30.8**	**+2.5**
IKLH	**Kolahrood**	**4.89**	**359**	*e*Pn	**Pn**	**12 53 30.4**	**+1.4**
NAZ	**Nazwa, Dubai**	**4.94**	**133**	*i*P	**Pn**	**12 53 31.7**	**+2.3**
	SNR=22						
NAZ	**Nazwa, Dubai**	**4.94**	**133**	P	**Pn**	**12 53 31.9**	**+2.4**
	SNR=22						
NAZ				S	**Sn**	**12 54 27.3**	**+1.4**
NAZ	**Nazwa, Dubai**	**4.94**	**133**	*e*Pn	**Pn**	**12 53 31.8**	**+2.3**
ASUD	**Al Ashush, Dub**	**5.00**	**138**	*i*P	**Pn**	**12 53 33.0**	**+2.7**
	SNR=24						
ASUD	**Al Ashush, Dub**	**5.00**	**138**	P	**Pn**	**12 53 32.7**	**+2.4**
	SNR=24						
ASUD				S	**Sn**	**12 54 29.1**	**+1.7**
MSFE	**Esma-Masafi**	**5.04**	**126**	*i*P	**Pn**	**12 53 32.1**	**+1.3**
	SNR=43						
MSFE	**Esma-Masafi**	**5.04**	**126**	*e*Pn	**Pn**	**12 53 32.4**	**+1.6**
FAQ	**Al Faqa, Dubai**	**5.07**	**135**	*i*P	**Pn**	**12 53 33.1**	**+1.8**
	SNR=19						
FAQ	**Al Faqa, Dubai**	**5.07**	**135**	P	**Pn**	**12 53 33.1**	**+1.8**
	SNR=19						
FAQ				S	**Sn**	**12 54 30.7**	**+1.5**
FAQ	**Al Faqa, Dubai**	**5.07**	**135**	*e*Pn	**Pn**	**12 53 33.7**	**+2.4**
KHNJ	**Kahnooj**	**5.35**	**94**	*e*Pn	**Pn**	**12 53 36.2**	**+1.0**
HATD	**Hatta, Dubai**	**5.36**	**131**	*i*P	**Pn**	**12 53 36.7**	**+1.4**
	SNR=26						
HATD	**Hatta, Dubai**	**5.36**	**131**	P	**Pn**	**12 53 36.8**	**+1.5**
	SNR=26						
HATD				S	**Sn**	**12 54 35.6**	**-0.7**
HATD	**Hatta, Dubai**	**5.36**	**131**	*e*Pn	**Pn**	**12 53 37.0**	**+1.7**
ASHO	**Ashiyiah**	**5.41**	**132**	*i*P	**Pn**	**12 53 37.3**	**+1.4**
	SNR=27						
ASHO	**Ashiyiah**	**5.41**	**132**	P	**Pn**	**12 53 37.3**	**+1.4**
	SNR=27						
ASHO				S	**Sn**	**12 54 37.7**	**+0.2**
ASHO	**Ashiyiah**	**5.41**	**132**	*e*Pn	**Pn**	**12 53 37.4**	**+1.4**
KRSH	**Karshahi**	**5.55**	**4**	*e*Pn	**Pn**	**12 53 38.2**	**+0.2**
ALNE	**Al Ain**	**5.68**	**139**	*e*Pn	**Pn**	**12 53 42.0**	**+2.3**
IKFM	**Kafar-mosalman**	**6.06**	**328**	*e*Pn	**Pn**	**12 53 47.3**	**+2.6**
SOHO	**SOHO**	**6.11**	**133**	P	**Pn**	**12 53 46.6**	**+1.2**
	SNR=41						
TPRV	**Parvadeh(Tabas**	**6.31**	**42**	*e*Pn	**Pn**	**12 53 49.4**	**+1.0**
HSAM	**Samen**	**6.34**	**336**	*e*Pn	**Pn**	**12 53 50.0**	**+1.0**
TNSJ	**Nastanj**	**6.97**	**36**	*e*Pn	**Pn**	**12 53 57.9**	**+0.5**
TKDS	**Koohdasht(Taba**	**6.99**	**41**	*e*Pn	**Pn**	**12 53 58.2**	**+0.6**
HOQ	**Hoqain**	**7.00**	**132**	P	**Pn**	**12 53 58.7**	**+1.0**
	SNR=12						
HOQ				S	**Sn**	**12 55 14.8**	**-1.8**
	SNR=7.3						
HOQ	**Hoqain**	**7.00**	**132**	*e*Pn	**Pn**	**12 53 59.0**	**+1.3**
IVIS	**Veis**	**7.35**	**327**	*e*Pn	**Pn**	**12 54 03.1**	**+0.5**
BSY	**Bisya**	**7.54**	**137**	P	**Pn**	**12 54 06.8**	**+1.7**
	SNR=17						
BSY				S	**Sn**	**12 55 26.8**	**-3.2**
ITEG	**Tejag**	**7.56**	**52**	*e*Pn	**Pn**	**12 54 06.2**	**+0.6**
BIDO	**Bidbid**	**7.59**	**128**	*e*Pn	**Pn**	**12 54 06.5**	**+0.7**
SMDO	**Samad**	**7.85**	**131**	P	**Pn**	**12 54 11.0**	**+1.5**
	SNR=26						
SMDO				S	**Sn**	**12 55 36.2**	**-1.5**
WSAR	**Wadi Sarin**	**8.12**	**128**	P	**Pn**	**12 54 13.6**	**+0.4**
	SNR=20						
WSAR	**Wadi Sarin**	**8.12**	**128**	Pn	**Pn**	**12 54 13.2**	**+0.1**
	comp=Z,6.9nm,0.3s,baz=312,slow=12,SNR=42						
WSAR				Sn	**Sn**	**12 55 39.3**	**-4.9**
	comp=Z,4.2nm,0.3s,baz=269,slow=22,SNR=5.4						
WSAR				LR	LR	12 57 48.4	
	comp=Z,63nm,18.2s,baz=287,slow=42						
WBK	**Wadi Bani Khal**	**8.77**	**130**	P	**Pn**	**12 54 22.6**	**+0.5**
	SNR=10						
WBK				S	**Sn**	**12 55 57.1**	**-3.2**
MHTO	**MHTO**	**9.35**	**141**	P	**Pn**	**12 54 30.9**	**+0.8**
	SNR=7.7						
GEYT	**Alibeck**	**10.92**	**28**	Pn	**Pn**	**12 54 51.9**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=215,slow=18,SNR=3.1						
GEYT				LR	LR	12 58 42.6	
	comp=Z,25nm,20.9s,baz=200,slow=36						
DMTO	**DMTO**	**11.07**	**163**	P	**Pn**	**12 54 54.3**	**+0.7**
	SNR=8.8						
DMTO				S	**Sn**	**12 56 54.5**	**-2.1**
	SNR=5.7						
GNI	**Garni**	**13.02**	**336**	LR	LR	13 01 41.9	
	comp=Z,8.1nm,21.7s,baz=155,slow=44						
KBZ	**Khabaz**	**16.83**	**338**	Pn	**P**	**12 56 12.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=150,slow=14,SNR=3.4						
CHGR	**Chuyangaron**	**17.78**	**50**	*e*Pn	Pn	12 56 16.5	-6.2
	comp=Z,19nm,1.0s						
BR101	**Keskin Array S**	**18.68**	**312**	*e*P	**Pn**	**12 56 33.8**	**+0.1**
BR131	**Keskin Array S**	**18.68**	**312**	*e*P	**Pn**	**12 56 34.0**	**+0.3**
	comp=Z,3.7nm,0.9s						
BRTR	**Keskin Array B**	**18.68**	**312**	P	**Pn**	**12 56 33.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=132,slow=11,SNR=7.8						
GAR	**Garm**	**18.74**	**51**	*e*P	**P**	**12 56 34.5**	**+0.7**
	comp=Z,7.7nm,0.6s						
BTK	**Batken**	**19.59**	**49**	*e*P	**P**	**12 56 40.4**	**-2.9**
	comp=Z,9.6nm,0.4s						
KK31	**Karatay Array**	**21.11**	**41**	*e*P	**P**	**12 56 59.6**	**0.0**
	comp=Z,8.9nm,0.8s						
KKAR	**Karatay Array**	**21.11**	**41**	*e*P	**P**	**12 56 59.6**	**0.0**
	comp=Z,8.9nm,0.8s						
ARSB	**Arslanbob**	**21.65**	**48**	*e*P	**P**	**12 57 05.8**	**+0.3**
	comp=Z,12nm,0.8s						
ABKAR	**Akbulak array**	**21.76**	**15**	*e*P	**P**	**12 57 06.7**	**+0.2**
	comp=Z,3.3nm,0.9s						
AKTO	**Aktyubinsk**	**22.52**	**11**	P	**P**	**12 57 16.1**	**+1.6**
	comp=Z,2.0nm,0.6s,baz=187,slow=14,SNR=4.7						
AAK	**Ala-Archa**	**23.29**	**46**	*e*P	**P**	**12 57 23.5**	**+0.7**
	comp=Z,4.3nm,1.0s						
AAK	**Ala-Archa**	**23.29**	**46**	P	**P**	**12 57 25.0**	**+2.2**
	comp=Z,2.3nm,0.6s,baz=213,slow=7.5,SNR=8.1						
AAK				LR	LR	13 08 16.6	
	comp=Z,58nm,18.1s,baz=256,slow=41						
IDI	**Anoyia**	**23.71**	**294**	P	**P**	**12 57 28.8**	**+1.9**
	comp=Z,8.1nm,0.9s,baz=47,slow=17,SNR=1.7						
BVAR	**Borovoye Array**	**28.22**	**24**	P	**P**	**12 58 07.9**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=224,slow=6.2,SNR=16						
BVAR				PcP	**PcP**	**13 01 20.9**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=235,slow=5.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**30.07**	**35**	P	**P**	**12 58 24.4**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=237,slow=8.9,SNR=10.0						
MKAR	**Makanchi Array**	**30.15**	**44**	P	**P**	**12 58 23.2**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=234,slow=8.8,SNR=5.9						
KMBO	**Kilima Mbogo**	**32.46**	**208**	LR	LR	13 12 54.5	
	comp=Z,54nm,19.4s,baz=86,slow=38						
ZAA0	**Zalesovo Array**	**35.14**	**34**	*e*P	**P**	**12 59 07.9**	**-0.4**
	comp=Z,3.3nm,0.6s						
ZALV	**Zalesovo Beam**	**35.14**	**34**	P	**P**	**12 59 08.0**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=246,slow=9.0,SNR

SMAR	Somma	1.60	310	eP	Pn	12 58 36.0	+2.3
AVH	Avacha	1.63	309	eP	Pn	12 58 36.6	+2.6
MTVR	Mutnovka	1.65	279	P	Pn	12 58 36.2	+1.9
MTVR				S	Sn	12 58 56.4	+2.1
KRER	Koryakskii	1.65	310	P	Pn	12 58 37.1	+2.7
KOK	Koryaka	1.70	309	P	Pn	12 58 37.5	+2.6
KRX	Arik	1.73	311	P	Pn	12 58 37.8	+2.4
KRMR	Karymshinskiy	1.75	290	eP	Pn	12 58 37.6	+2.0
KRMR				eS	Sn	12 58 59.5	+2.8
KDTR	Khodutka, Kamc	1.77	256	eP	Pn	12 58 36.7	+1.0
KDTR				eS	Sn	12 58 57.4	+0.4
ASAK	Asacha	1.81	275	eP	Pn	12 58 38.6	+2.2
APC	Apacha	2.34	288	P	Pn	12 58 46.7	+3.0
MKZ	Mys Kozlova	2.37	13	P	Pn	12 58 46.2	+2.2
MKZ				S	Sn	12 59 13.3	+1.6
KZV	Kizimen	2.88	354	P	Pn	12 58 54.5	+3.3
KZV				S	Sn	12 59 27.8	+3.1
TUMD	Tumrok D	2.97	355	S	Sn	12 59 29.1	+2.5
TUMR	Tumrok	3.06	353	eP	Pn	12 58 57.6	+4.0
KBTR	Krutoberegovo	4.13	16	P	Pn	12 59 11.8	+3.7

*ISCJB **23** 13:08:28.2±0.5, 12°.47N±0°.08×140°.1E±0°.1, h10km, mb4.1/17, MS2.6/2, Error ellipse: s-maj=15.1km s-min=10.8km az=163.7*
*IDC **23** 13:08:29.4±1.1, 12°.78N×140°.10E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.7/43, mbtmp4.0/9, MS2.7/2, Ms1 2.7/2, ms1mx2.3/41, Error ellipse: s-maj=33.3km s-min=29.0km az=116.0*
*NEIC **23** 13:08:33.4±0.5, 12°.52N×140°.12E, h35km, mb4.1/8, Error ellipse: s-maj=14.9km s-min=9.9km az=72.0*

ISC 23 13:08:29.8±0.6, 12°.55N±0°.10×140°.21E±0°.07, h10km, n32, σ1°.20/24, mb4.1/17, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.66	77	Pn	Pb	13 09 50.7	-0.9
	6.8nm,0.3s,baz=302,slow=21,SNR=5.2						
GUMO				Sn	Sb	13 10 47.7	0.0
	22nm,0.3s,baz=185,slow=22,SNR=3.2						
RABL	Rabaul	20.44	144	eP	P	13 13 07.9	+0.3
	102nm,0.4s						
YULB	Yu-li	20.95	304	eP	P	13 13 12.7	-0.2
	6.9nm,1.0s						
JNU	Nakatsue	22.18	339	LR	LR	13 19 35.7	
	comp=Z,25nm,21.2s,baz=172,slow=30						
H11S3	WAKE ISLAND Hy	26.17	74	T	T	13 40 52.8	
	baz=264,slow=74,SNR=9.3						
H11S1	WAKE ISLAND Hy	26.18	74	T	T	13 40 54.1	
	baz=264,slow=74,SNR=9.1						
H11S2	WAKE ISLAND Hy	26.19	74	T	T	13 40 50.8	
	baz=264						
H11N1	WAKE ISLAND Hy	26.58	71	T	T	13 41 28.1	
	baz=255,slow=75,SNR=12						
H11N2	WAKE ISLAND Hy	26.59	71	T	T	13 41 28.7	
	baz=255,slow=75,SNR=7.7						
H11N3	WAKE ISLAND Hy	26.60	71	T	T	13 41 29.3	
	baz=255,slow=75,SNR=14						
KSRS	Korea Array	27.13	338	LR	LR	13 23 44.5	
	comp=Z,16nm,21.3s,baz=350,slow=34						
KS15	Wonju Array Si	27.13	338	eP	P	13 14 13.9	+0.9
	2.1nm,0.7s						
WRAB	Tennant Creek	32.79	190	eP	P	13 15 02.8	-0.6
	3.6nm,1.0s						
CTAO	Charters Tower	32.98	170	eP	P	13 15 04.3	-0.7
	3.8nm,1.1s						
FITZ	Fitzroy Crossi	33.68	206	eP	P	13 15 10.8	-0.4
	4.6nm,1.1s						
AS31	Alice Springs	36.52	190	eP	P	13 15 36.7	+1.1
	1.0nm,1.1s						
ASAR	Alice Springs	36.52	190	P	P	13 15 39.1	+3.4
	0.4nm,0.9s,baz=17,slow=12,SNR=4.3						
KLR	Kul'dur	37.23	351	P	P	13 15 47.5	+6.1
	3.4nm,0.6s,baz=170,slow=6.2,SNR=11						
CM31	Chiang Mai Arr	40.13	284	eP	P	13 16 04.7	-1.5
	3.4nm,0.9s						
CMAR	Chiang Mai Arr	40.13	284	P	P	13 16 04.7	-1.5
	0.3nm,0.4s,baz=96,slow=7.3,SNR=4.6						
GSI	Gunungsitoli	43.69	259	eP	P	13 16 35.4	0.0
	18nm,0.4s						
KURBB	Kurchatov Arra	62.51	321	P	P	13 18 54.8	+1.2
	0.4nm,0.3s,baz=178,slow=28,SNR=1.9						
BVAR	Borovoye Array	67.94	322	P	P	13 19 29.5	+0.7
	0.6nm,0.4s,baz=120,slow=8.5,SNR=6.4						
ILAR	Eielson Array	71.45	26	P	P	13 19 50.8	+0.6
	0.6nm,0.7s,baz=244,slow=6.0,SNR=8.9						
ILB	Eielson Array	71.45	26	eP	P	13 19 50.8	+0.6
	0.7nm,0.5s						
YKA	Yellowknife Ar	85.84	27	P	P	13 21 10.4	+1.0
	1.1nm,0.9s,baz=292,slow=4.9,SNR=7.5						
YKB5	Yellowknife Ar	85.84	27	eP	P	13 21 10.4	+1.0
ARCES	ARCESS Array B	86.64	341	P	P	13 21 13.0	-0.3
	0.8nm,0.5s,baz=64,slow=8.2,SNR=7.6						
FIA0	FINESS Array S	90.14	334	eP	P	13 21 28.4	-1.7
FINES	FINESS Array B	90.14	334	P	P	13 21 28.4	-1.6
	1.2nm,0.7s,baz=151,slow=3.2,SNR=2.6						
NV01	Mina Array Sit	91.09	50	eP	P	13 21 35.3	0.0
NVAR	Mina Array Bea	91.09	50	P	P	13 21 35.3	0.0
	0.7nm,0.7s,baz=273,slow=5.8,SNR=5.2						

*UCR **23** 13:15:23.9±0.6, 13°.67N×92°.58W, h22km±150km, MD3.8, mb4.0(NEIC)*
*IDC **23** 13:15:26.1±2.2, 13°.93N×92°.31W, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.6/40, mbtmp3.6/5, ML3.1/3, Error ellipse: s-maj=51.0km s-min=23.1km az=30.0*
*MEX **23** 13:15:26.9±0.6, 13°.64N×92°.25W, h15km, MD4.1*
*NEIC **23** 13:15:26.9±0.0, 13°.64N×92°.25W, h15km, mb4.0/5, MD4.1(MEX), After MEX.*

ISC 23 13:15:27.3±1.2, 13°.87N±0°.08×92°.34W±0°.05, h10km, n30, σ1°.10/37, mb3.9/6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.03	4	ePn	Pn	13 15 46.6	-1.2
THIG				eSn	Sb	13 16 01.3	+0.5
THIG		1.03	4	eP	Pn	13 15 46.6	-1.2
THIG				i S	Sb	13 16 01.3	+0.5
FUG	Fuego 3	1.56	68	eP	Pn	13 15 54.4	-0.8
PCG	Pacaya	1.75	73	eP	Pn	13 15 57.5	-0.5
IXG	Ixpaco	1.86	81	eP	Pn	13 15 58.7	-0.7
PCIG		2.01	335	ePn	Pn	13 16 00.2	-1.1
PCIG				eSn	Sn	13 16 26.3	-0.3
PCIG		2.01	335	eP	Pn	13 16 00.2	-1.1
PCIG				eS	Sn	13 16 26.3	-0.3
APG	El Apazote	2.13	58	Pn	Pn	13 16 03.7	+0.5
	0.6nm,0.3s,baz=251,slow=11,SNR=57						
APG				Sn	Sb	13 16 34.6	+1.8
	1.4nm,0.3s,baz=320,slow=14,SNR=2.3						
CCIG	Comitan	2.40	5	ePn	Pn	13 16 05.8	-1.1
CCIG				eSn	Sn	13 16 36.3	-0.2
CCIG	Comitan	2.40	5	i P	Pn	13 16 05.8	-1.1
CCIG				i S	Sn	13 16 36.3	-0.2
TGIG		2.99	345	ePn	Pn	13 16 15.2	+0.4
TGIG				eSn	Sn	13 16 51.7	+1.0
TGIG		2.99	345	eP	Pn	13 16 15.2	+0.4
TGIG				eS	Sn	13 16 51.7	+1.0
CMIG	Matias Romero	4.04	323	ePn	Pn	13 16 29.1	0.0
CMIG				eSn	Sn	13 17 18.3	+1.8
CMIG	Matias Romero	4.04	323	eP	Pn	13 16 29.1	0.0
CMIG				i S	Sn	13 17 18.3	+1.8
CMIG	Matias Romero	4.04	323	Pn	Pn	13 16 29.1	0.0
	3.0nm,0.3s,baz=158,slow=13,SNR=19						
CMIG				Sn	Sn	13 17 16.5	0.0
	5.8nm,0.3s,baz=76,slow=17,SNR=3.1						
CMIG				Lg	Lg	13 17 33.4	
	13nm,0.3s,baz=125,slow=17,SNR=7.5						
LVIG	Laguna Verde	7.01	327	ePn	Pn	13 17 09.7	-0.3
MYIG	Mrida	7.47	19	ePn	Pn	13 17 09.8	-6.6
JTS	Las Juntas de	8.05	115	Lg	Lg	13 19 33.9	
	0.2nm,0.3s,baz=194,slow=18,SNR=4.1						
555A	McAlpin	18.34	27	eP	P	13 19 34.0	-7.9
	12nm,0.8s						
TXAR	Lajitas Array	18.63	328	eP	P	13 19 43.9	-1.3
TXAR	Lajitas Array	18.63	328	P	P	13 19 46.6	+1.4
	0.0nm,0.3s,baz=150,slow=13,SNR=6.2						
TX31	Lajitas Ar. Si	18.63	328	eP	P	13 19 42.3	-2.9
	1.4nm,1.0s						
OTAV	Otavalo	19.30	133	eP	P	13 19 37.8	-15
MNTX	Cornudas Mount	21.40	328	eP	P	13 20 16.4	+1.1
	1.9nm,0.8s						
AMTX	Amarillo	22.56	340	eP	P	13 20 27.7	-0.1
	5.6nm,0.6s						

TCRU	Three Creeks R	30.40	328	eP	P	13 21 33.1	-6.8
	7.6nm,0.4s						
NVAR	Mina Array Bea	33.57	322	P	P	13 22 09.5	+1.7
	0.6nm,0.6s,baz=134,slow=8.9,SNR=4.9						
YKA	Yellowknife Ar	51.08	347	P	P	13 24 28.0	-1.6
	1.5nm,0.7s,baz=151,slow=7.3,SNR=18						
ILAR	Eielson Array	62.83	337	P	P	13 25 52.3	-0.6
	0.4nm,0.7s,baz=124,slow=4.4,SNR=4.6						
CMAR	Chiang Mai Arr	146.01	341	PKPbc	PKPdf	13 35 07.8	+0.3
	1.6nm,0.7s,baz=23,slow=3.7,SNR=10						

KRSC 23 13:39:26.2±10.0, 52°.24N×160°.90E, h49km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.01	329	eP	Pn	13 39 44.6	+0.5
SPN				eS	Sn	13 39 57.1	-0.1
NLC	Nalytchevo	1.33	315	eP	Pn	13 39 50.2	+1.9
NLC				eS	Sn	13 40 06.2	+1.3
RUS	Russkaya	1.48	279	eP	Pn	13 39 51.5	+1.2
RUS				eS	Sn	13 40 09.7	+1.3
DALK	Dalny	1.53	302	eP	Pn	13 39 52.4	+1.3
DALK				eS	Sn	13 40 11.2	+1.4
PET	Petropavlovsk	1.58	301	eP	Pn	13 39 53.5	+1.8
PET				eS	Sn	13 40 13.3	+2.3
UGLR	Uglovaya	1.59	309	eP	Pn	13 39 54.6	+2.5
UGLR				eS	Sn	13 40 15.2	+3.7
SDLR	Sedlovina	1.61	311	eP	Pn	13 39 54.1	+1.8
SDLR				eS	Sn	13 40 15.2	+3.3
SMAR	Somma	1.64	310	eP	Pn	13 39 54.9	+2.1
AVH	Avacha	1.67	309	eP	Pn	13 39 55.4	+2.3
MTVR	Mutnovka	1.68	279	eP	Pn	13 39 55.1	+1.8
MTVR				eS	Sn	13 40 16.1	+2.4
KRER	Koryakskii	1.69	310	eP	Pn	13 39 55.9	+2.5
KOK	Koryaka	1.73	308	eP	Pn	13 39 56.5	+2.5
GRL	Gorelyy	1.76	281	eP	Pn	13 39 58.2	+3.9
KRX	Arik	1.77	310	eP	Pn	13 39 56.9	+2.4
KRMR	Karymshinskiy	1.79	290	eP	Pn	13 39 56.5	+1.9
KRMR				eS	Sn	13 40 18.7	+2.5
KDTR	Khodutka, Kamc	1.79	257	eP	Pn	13 39 55.8	+1.1
KDTR				eS	Sn	13 40 16.8	+0.6
ASAK	Asacha	1.84	276	eP	Pn	13 39 58.1	+2.6
MKZ	Mys Kozlova	2.38	12	eP	Pn	13 40 05.4	+2.8
MKZ				eS	Sn	13 40 33.3	+2.8
APC	Apacha	2.38	288	eP	Pn	13 40 06.2	+3.5
APC				eS	Sn	13 40 35.4	+4.7
TUMD	Tumrok D	2.99	355	eP	Pn	13 40 16.3	+5.2
TUMD				eS	Sn	13 40 49.8	+4.2
TUMR	Tumrok	3.08	352	eP	Pn	13 40 16.6	+4.1
KBTR	Krutoberegovo	4.14	15	eP	Pn	13 40 30.3	+3.5
BKI	Bering	4.23	43	eP	Pn	13 40 31.9	+3.8
BKI				eS	Sn	13 41 18.2	+2.0

*GII **23** 14:08:57.2±0.0, 38°.66N×20°.45E, h10km, mb4.8/1, MD4.7/1*
*BJI **23** 14:09:03.7±0.0, 38°.89N×20°.19E, h22km, mb4.8/47, mB4.9/35, Ms4.7/26, Ms7 4.4/26*
*MOS **23** 14:09:04.4±1.2, 38°.74N×20°.55E, h9km, mb5.0/35, MS4.2/18, Error ellipse: s-maj=5.4km s-min=3.0km az=83.2*
*PDG **23** 14:09:04.6±0.7, 38°.69N×20°.42E, h2km, ML4.8/14, Error ellipse: s-maj=0.9km s-min=1.1km az=0.0*
*IDC **23** 14:09:04.5±0.4, 38°.71N×20°.60E, h0km, mb4.7/34, mb1 4.7/49, mb1mx4.7/56, mbtmp4.6/49, ML4.3/14, MS4.1/36, Ms1 4.1/36, ms1mx4.0/47, Error ellipse: s-maj=9.1km s-min=8.6km az=62.0*
*THE **23** 14:09:05.9, 38°.66N×20°.56E, h7km, ML4.7/19, Error ellipse: s-maj=0.6km s-min=0.4km az=89.0*
*ISCJB **23** 14:09:05.2±0.2, 38°.707N±0°.010×20°.52E±0°.01, h8km±1km, mb4.8/104, MS4.2/41, Error ellipse: s-maj=1.8km s-min=1.4km az=41.0*
*ATH **23** 14:09:06.0, 38°.65N×20°.58E, h10km, ML4.7/39, Error ellipse: s-maj=0.9km s-min=0.5km az=85.0*
*MED_RC **23** 14:09:05.0±0.3, 38°.56N×20°.32E, h11km±1km, MW4.7/14, Moment Tensor Solution. Mantle waves: s14,c19; Duration: 1:1 Moment tensor: Scale 10^16 Nm; Mrr 0.90±.14; Mθθ 0.40±.06; Mφφ -1.30±.11; Mrθ 0.62±.20; Mrφ 0.59±.07; Mθφ -0.71±.22; Best double couple: M0 1.56000×10^16 NP1:φs 141.00000°, δ67.00000°, λ65.00000°. NP2:φs 12.00000°, δ34.00000°, λ135.00000°. Principal axes: T 1.3500, Plg60.0000°, Azm14.0000°; N 0.4100, Plg23.0000°, Azm151.0000°; P -1.7700, Plg18.0000°, Azm250.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **23** 14:09:05.9±0.0, 38°.66N×20°.56E, h7km, mb5.0/54, ML4.7(ATH), ML4.7(THE), After THE.*
NEIC Felt at Kerkyra, Nydri and Sami.
*GCMT **23** 14:09:06.9±0.4, 38°.51N±0°.03×20°.42E±0°.03, h27km±1km, MW4.9/59, Moment Tensor Solution. s15,c18; s59,c85; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.23±.20; Mθθ -0.32±.12; Mφφ -1.91±.12; Mrθ 0.75±.19; Mθφ 1.26±.07; Mφr 0.11±.17; Best double couple: M0 2.55300×10^16 NP1:φs 133.00000°, δ51.00000°, λ66.00000°. NP2: φs 349.00000°, δ45.00000°, λ117.00000°. Principal axes: T 2.4850, Plg71.0000°, Azm340.0000°; N 0.1320, Plg19.0000°, Azm149.0000°; P -2.6200, Plg3.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BEO **23** 14:09:06.8±0.6, 38°.63N×20°.27E, h13km±3km, ML4.7/15*

ISC 23 14:09:06.1±0.6, 38°.65N±0°.01×20°.61E±0°.02, h11km±3km, n1009, σ1°.79/1098, mb4.8/104, MS4.3/42, 41C-43D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVGI	Lefkada island	0.05	132	P	Pg	14 09 07.8	-0.5
EVGI				S	Sg	14 09 09.4	-0.5
	181μm,0.6s						
EVGI	Lefkada island	0.05	132	P	Pg	14 09 07.9	-0.3
EVGI				S	Sg	14 09 10.1	+0.2
LKD2	Lefkada island	0.14	15	P	Pg	14 09 08.9	-0.6
LKD2				S	Sg	14 09 11.3	-0.6
	489μm,0.5s						
LKD2	Lefkada island	0.14	15	P	Pg	14 09 09.2	-0.3
LKD2				S	Sg	14 09 11.6	-0.3
LKD2				AML	AML	14 09 15.5	
LKD2				AML	AML	14 09 16.9	
MGNA	Meganis	0.14	89	P	Pb	14 09 10.6	-0.1
MGNA				S	Sg	14 09 12.5	+0.7
MGNA				AML	AML	14 09 14.9	
MGNA				AML	AML	14 09 15.2	
TSLK	Tsoukalades, L	0.17	11	P	Pg	14 09 09.7	-0.3
TSLK				S	Sg	14 09 12.8	+0.1
	537μm,0.8s						
TSLK	Tsoukalades, L	0.17	11	P	Pg	14 09 10.0	0.0
TSLK				S	Sg	14 09 13.0	+0.3
TSLK				AML	AML	14 09 15.0	
TSLK				AML	AML	14 09 16.8	
FSK	Fiskardo	0.20	191	P	Pg	14 09 09.8	-0.5
FSK				S	Sg	14 09 13.6	+0.4
	340μm,0.7s						
FSK	Fiskardo	0.20	191	P	Pg	14 09 10.2	-0.1
FSK				S	Sg	14 09 13.1	-0.1
PDO	Prodromos	0.45	97	P	Pg	14 09 15.6	+0.7
PDO				S	Sb	14 09 22.5	-0.2
PDO				AML	AML	14 09 31.3	
PDO				AML	AML	14 09 31.4	
VLS	Valsamata	0.47	182	P	Pg	14 09 14.6	-0.8
VLS				S	Sg	14 09 22.2	+0.5
	169μm,0.5s						
VLS	Valsamata	0.47	182	P	Pg	14 09 14.9	-0.5
VLS				S	Sg	14 09 22.4	+0.7
VLS				AML	AML	14 09 23.5	
VLS				AML	AML	14 09 24.5	
KFL	Anninata	0.56	166	P	Pg	14 09 16.6	-0.4
KFL				S	Sb	14 09 25.7	-0.1
	208μm,0.6s						
KFL	Anninata	0.56	166	P	Pg	14 09 16.9	-0.1
KFL				AML	AML	14 09 32.4	
KFL				AML	AML	14 09 37.5	
DSL	Palaion Diasel	0.61	38	ePg	Pg	14 09 18.0	0.0
DSL				eSg	Sg	14 09 26.2	+0.1
DSL	Palaion Diasel	0.61	38	P	Pg	14 09 18.0	0.0
DSL				S	Sg	14 09 26.2	+0.1
DSL	Palaion Diasel	0.61	38	P	Pg	14 09 17.7	-0.3
PVO	Paravola	0.72	93	P	Pg	14 09 20.2	+0.3
PVO				S	Sb	14 09 31.4	+1.0
	245μm,0.5s						
PVO	Paravola	0.72	93	P	Pb	14 09 21.0	+0.4
VTN	Vitineika	0.86	148	P	Pg	14 09 22.5	-0.2
VTN	Vitineika	0.86	148	P	Pg	14 09 23.0	+0.3
RLS	Riolos of Patr	0.90	131	P	Pg	14 09 23.2	-0.1
RLS	Riolos of Patr	0.90	131	P	Pg	14 09 23.3	-0.1
RLS				AML	AML	14 09 45.0	
	comp=E,92286μm,0.9s						
RLS				AML	AML	14 09 45.6	
	comp=N,64351μm,0.6s						
IGT	Igoumenitsa	0.91	346	ePg	Pg	14 09 23.0	-0.5
IGT				eSg	Sn	14 09 37.0	-0.7
IGT	Igoumenitsa	0.91	346	ePg	Pg	14 09 22.5	-1.0
IGT				eSn	Sg	14 09 35.3	0.0
IGT	Igoumenitsa	0.91	346	P	Pg	14 09 22.5	-1.0
IGT				S	Sg	14 09 35.3	0.0
	comp=N,29μm,0.7s						
IGT	Igoumenitsa	0.91	346	eP	Pg	14 09 22.5	-1.0
IGT				e		14 09 35.3	
IGT	Igoumenitsa	0.91	346	P	Pg	14 09 22.5	-1.0
IGT				S	Sb	14 09 36.3	+0.6
IGT				AML	AML	14 09 41.1	
	comp=N,44320μm,0.4s						
IGT				AML	AML	14 09 41.4	
	comp=E,72310μm,0.7s						
EVR	Evrytania	0.97	74	P	Pb	14 09 24.7	-0.2
EVR				S	Sn	14 09 39.6	+0.1
	comp=E,28μm,1.0s						
EVR	Evrytania	0.97	74	P	Pb	14 09 25.0	+0.1
EVR				S	Sn	14 09 39.0	-0.5
EVR				AML	AML	14 09 57.2	
	comp=N,71542μm,1.1s						
EVR				AML	AML	14 09 58.1	
	comp=E,45970μm,0.7s						
UPR	University Cam	0.99	111	P	Pg	14 09 25.8	+0.6
JAN	Janina	1.02	10	ePg	Pb	14 09 25.4	-0.3
JAN				eSn	Sg	14 09 39.6	+0.6
JAN	Janina	1.02	10	P	Pb	14 09 25.4	-0.3
JAN				S	Sg	14 09 39.6	+0.6
	comp=E,30μm,0.6s						
JAN	Janina	1.02	10	eP	Pb	14 09 25.4	-0.3
JAN				e		14 09 39.6	
JAN	Janina	1.02	10	P	Pg	14 09 26.0	+0.3
JAN				S	Sg	14 09 39.7	+0.6
JAN				AML	AML	14 09 46.7	
	comp=N,56987μm,0.7s						
JAN				AML	AML	14 09 49.3	
	comp=E,66352μm,0.6s						
ANX	Ano Chora	1.03	93	P	Pb	14 09 25.7	-0.2
ANX				S	Sn	14 09 42.0	+1.1
	comp=E,121μm,0.7s						
ANX	Ano Chora	1.03	93	P	Pb	14 09 25.8	-0.1
ANX				AML	AML	14 09 49.9	
ANX				AML	AML	14 09 51.0	
EFP	Efpalio	1.04	102	P	Pb	14 09 25.5	-0.5
EFP				S	Sn	14 09 41.0	0.0
	comp=E,65μm,0.8s						
EFP	Efpalio	1.04	102	P	Pb	14 09 25.8	-0.3
EFP				AML	AML	14 09 49.7	
EFP				AML	AML	14 09 57.9	
	comp=N,94705μm,0.8s						
DRO	Drossia	1.11	129	P	Pb	14 09 26.8	-0.5
DRO	Drossia	1.11	129	P	Pb	14 09 26.8	-0.5
DRO				AML	AML	14 09 53.4	
DRO				AML	AML	14 09 58.2	
LAKA	Lakka	1.15	111	ePg	Pb	14 09 27.2	-0.7
LAKA				eSn	Sn	14 09 45.2	+1.4
LAKA	Lakka	1.15	111	P	Pb	14 09 27.2	-0.7
LAKA				S	Sn	14 09 45.2	+1.4
	comp=N,29μm,0.9s						
LAKA	Lakka	1.15	111	P	Pb	14 09 27.3	-0.7
LAKA				AML	AML	14 09 52.4	
	comp=E,60762μm,0.8s						
LAKA				AML	AML	14 09 55.5	
	comp=N,63091μm,1.1s						
SERG	Sergoula	1.16	101	P	Pb	14 09 27.8	-0.3
SERG	Sergoula	1.16	101	P	Pb	14 09 27.8	-0.3
SERG				AML	AML	14 09 58.2	
	comp=N,81336μm,0.8s						
SERG				AML	AML	14 09 59.0	
	comp=E,68086μm,0.6s						
TRIZ	Trizonia	1.18	104	P	Pn	14 09 28.0	-0.5
TRIZ	Trizonia	1.18	104	P	Pn	14 09 28.0	-0.5
KALE	Kalithea	1.23	102	ePn	Pn	14 09 28.5	-0.7
KALE				eSn	Sg	14 09 47.5	+1.9
KALE	Kalithea	1.23	102	P	Pn	14 09 28.5	-0.7
KALE				S	Sg	14 09 47.5	+1.9
	comp=E,31μm,0.9s						
KALE	Kalithea	1.23	102	P	Pn	14 09 28.4	-0.7
KALE				AML	AML	14 10 00.8	
	comp=N,61525μm,1.1s						
KALE				AML	AML	14 10 07.0	
	comp=E,56913μm,0.8s						
MEV	Metsovon	1.23	23	P	Pn	14 09 29.4	+0.1
KEK	Kerkira	1.23	329	ePg	Pn	14 09 28.4	-0.8
KEK				ePg	Pn	14 09 28.4	-0.8
KEK				eSn	Sb	14 09 45.2	0.0
KEK				eSn	Sb	14 09 45.2	0.0
KEK	Kerkira	1.23	329	P	Pn	14 09 28.4	-0.8
KEK				S	Sb	14 09 45.2	0.0
	comp=E,15μm,0.8s						
KEK	Kerkira	1.23	329	P	Pn	14 09 28.6	-0.5
KEK				S	Sg	14 09 46.4	+0.6
KEK				AML	AML	14 09 52.2	
	comp=E,29346μm,0.9s						
KEK				AML	AML	14 10 01.2	
	comp=N,31940μm,0.6s						
ALIK	Aliki, Aigiali	1.24	108	P	Pn	14 09 29.2	-0.1
SRN	Sarande	1.31	339	P	Pn	14 09 30.0	-0.3
SRN				S	Sg	14 09 48.2	-0.2
	comp=N,12μm,0.6s						
TRAZ	Trapeza	1.35	111	P	Pn	14 09 30.2	-0.6
TRAZ				S	Sg	14 09 50.1	+0.7
	comp=N,34μm,0.9s						
TRAZ	Trapeza	1.35	111	P	Pn	14 09 30.5	-0.3
TRAZ				AML	AML	14 09 59.7	
TRAZ				AML	AML	14 10 07.8	
	comp=N,92398μm,0.9s						
KLV	Kalavryta, Ach	1.35	116	P	Pn	14 09 30.3	-0.6
KLV	Kalavryta, Ach	1.35	116	P	Pn	14 09 31.2	+0.3
KLV				AML	AML	14 10 00.9	
	comp=N,47413μm,1.2s						
KLV				AML	AML	14 10 03.0	
	comp=E,39962μm,0.9s						
AGG	Agios Georgios	1.39	74	ePn	Pg	14 09 33.2	+0.5
AGG				eSn	Sg	14 09 51.0	+0.1
AGG	Agios Georgios	1.39	74	P	Pn	14 09 32.0	+0.6
AGG				S	Sg	14 09 52.0	+1.1
	comp=E,38μm,0.9s						
AGG	Agios Georgios	1.39

comp=E,36443µm,1.6s
DSF AML AML 14 10 07.2
comp=N,32833µm,1.1s
GUR Goura 1.54 117 *e*Pn **Pn 14 09 33.2 -0.3**
GUR Goura 1.54 117 P **Pn 14 09 33.2 -0.3**
GUR Goura 1.54 117 P **Pn 14 09 34.0 +0.5**
GUR AML AML 14 10 06.3
comp=N,73461µm,0.6s
GUR AML AML 14 10 07.8
comp=E,72669µm,0.7s
PENT Pentalofos 1.59 15 P **Pg 14 09 37.0 +0.3**
PENT AML AML 14 10 06.2
comp=E,23358µm,1.2s
PENT AML AML 14 10 13.9
comp=N,28160µm,0.9s
MES3 Kyparissia 1.63 149 P **Pb 14 09 36.0 -0.1**
TRIP Tripoli 1.73 130 P **Pb 14 09 37.7 -0.1**
TRIP AML AML 14 10 12.8
comp=E,35020µm,0.8s
TRIP AML AML 14 10 25.8
comp=N,16880µm,0.9s
NEST Nestorio 1.79 11 P **Pg 14 09 40.3 -0.1**
ITM Ithomi 1.80 144 *e*P **Pb 14 09 39.4 +0.4**
ITM Ithomi 1.80 144 *e*Pn **Pb 14 09 39.5 +0.4**
ITM *e*Sn **Sn 14 10 00.3 +0.4**
ITM Ithomi 1.80 144 P **Pb 14 09 38.7 -0.3**
ITM AML AML 14 10 25.8
comp=N,20326µm,1.2s
ITM AML AML 14 10 28.0
comp=E,28392µm,0.9s
PROD Prodromos 1.84 102 P **Pb 14 09 40.3 +0.6**
PROD AML AML 14 10 15.6
comp=E,39921µm,0.8s
PROD AML AML 14 10 15.6
comp=N,28535µm,1.0s
LKR Lokris 1.87 89 P **Pb 14 09 39.7 -0.5**
LKR Lokris 1.87 89 P **Pb 14 09 40.5 +0.4**
LKR AML AML 14 10 14.3
comp=E,8791µm,0.6s
LKR AML AML 14 10 20.1
comp=N,19453µm,0.9s
KZN Kozani 1.88 28 P **Pb 14 09 41.2 +0.8**
KZN AML AML 14 10 16.1
comp=E,16849µm,0.7s
KZN AML AML 14 10 17.3
comp=N,12581µm,0.7s
ATAL Atalanti 1.89 88 *e*Pn **Pn 14 09 38.5 +0.3**
ATAL Atalanti 1.89 88 P **Pn 14 09 38.5 +0.3**
ATAL Atalanti 1.89 88 P **Pb 14 09 41.3 +0.8**
ATAL AML AML 14 10 21.3
comp=E,20788µm,1.0s
ATAL AML AML 14 10 22.4
comp=N,28760µm,0.9s
VLX Vlachokerasia 1.90 132 P **Pb 14 09 40.6 -0.1**
VLX AML AML 14 10 22.2
comp=N,48610µm,1.3s
VLX AML AML 14 10 24.3
comp=E,34036µm,0.7s
FYTO Fytoko, Volos 1.96 67 P **Pb 14 09 42.1 +0.3**
FYTO AML AML 14 10 12.0
comp=E,8303µm,0.9s
FYTO AML AML 14 10 16.7
comp=N,14460µm,0.8s
PYL PYLOS 1.97 153 P **Pb 14 09 41.0 -0.8**
LOUT Loutraki 1.97 109 P **Pb 14 09 42.4 +0.4**
SMIA Simia 2.04 83 P **Pb 14 09 43.6 +0.4**
SMIA AML AML 14 10 20.5
comp=N,56100µm,0.9s
SMIA AML AML 14 10 20.9
comp=E,41014µm,0.6s
VIL2 Platees 2.13 101 P **Pb 14 09 44.8 +0.2**
XOR Xorichti 2.13 70 P **Pb 14 09 43.9 -0.8**
XOR Xorichti 2.13 70 P **Pb 14 09 44.0 -0.6**
NEO Neokhori 2.14 71 P **Pb 14 09 44.6 -0.2**
NEO AML AML 14 10 28.7
comp=E,11103µm,0.5s
NEO AML AML 14 10 29.2
comp=N,14899µm,0.6s
VILL Villia 2.18 102 P **Pb 14 09 44.5 -1.0**
FNA Florina 2.21 15 *e*P **Pb 14 09 44.9 -1.1**
FNA S **Sb 14 10 14.9 +1.5**
FNA Florina 2.21 15 *e*Pn **Pb 14 09 44.8 -1.2**
FNA Florina 2.21 15 P **Pb 14 09 45.0 -1.1**
FNA S **Sb 14 10 13.1 -0.3**
FNA AML AML 14 10 25.3
comp=N,15409µm,0.6s
FNA AML AML 14 10 29.9
comp=E,16045µm,0.6s
EPID Epidavros 2.23 117 P **Pb 14 09 45.7 -0.7**
DYR Agios Nikonas 2.33 144 P **Pb 14 09 48.1 0.0**
MRKA Markates 2.33 88 P **Pb 14 09 47.2 -0.8**
DID Didima 2.37 118 *e*Pn **Pn 14 09 46.5 +1.7**
DID Didima 2.37 118 P **Pn 14 09 46.5 +1.7**
DID Didima 2.37 118 P **Pb 14 09 47.2 -1.5**
DID AML AML 14 10 32.1
comp=N,22286µm,0.9s
DID AML AML 14 10 42.7
comp=E,16810µm,0.8s
KRND KRANIDI 2.37 122 P **Pn 14 09 46.7 +1.9**
KRND KRANIDI 2.37 122 P **Pb 14 09 47.4 -1.3**
BIA Bitola 2.43 13 *i* Pn **Pb 14 09 48.6 -1.1**
BIA *i* Sn **Sb 14 10 20.6 +0.9**
OHR Ohrid 2.46 3 *i* Pn **Pb 14 09 48.4 -1.9**
ATH Athens Observa 2.54 105 P **Pb 14 09 50.0 -1.5**
ATH AML AML 14 10 37.9
comp=E,22065µm,1.1s
ATH AML AML 14 10 38.4
comp=N,21727µm,1.1s
ATHU Athens Univers 2.59 104 P **Pb 14 09 50.5 -2.0**
EREA Eretria 2.61 94 P **Pb 14 09 50.9 -2.0**
EREA Eretria 2.61 94 P **Pb 14 09 51.3 -1.6**
PTL Penteli 2.63 102 P **Pb 14 09 51.2 -1.9**
VLY Voula,Athens 2.63 107 P **Pb 14 09 51.2 -2.0**
VLI Velial 2.67 136 P **Pb 14 09 52.2 -1.6**
DION Dionisos Attik 2.67 101 P **Pn 14 09 51.7 +2.7**
DION Dionisos Attik 2.67 101 P **Pn 14 09 51.8 +2.7**
GRG Griva 2.68 30 *e*P **Pb 14 09 54.5 +0.4**
GRG Griva 2.68 30 P **Pn 14 09 51.0 +1.8**
PAIG Paliouri 2.70 61 P **Pn 14 09 51.0 +1.6**
HORT Hortiatis 2.73 44 *e*P **Pn 14 09 51.3 +1.4**
HORT Hortiatis 2.73 44 P **Pn 14 09 50.3 +0.4**
HORT Hortiatis 2.73 44 P **Pn 14 09 51.7 +1.8**
TIR Tirane 2.75 348 *e*Pn **Pn 14 09 51.1 +1.0**
TIR Tirane 2.75 348 *e*Pn **Pn 14 09 51.5 +1.4**
TIR *e*Sn **Sn 14 10 23.4 +0.1**
TIR Tirane 2.75 348 *e*P **Pn 14 09 51.5 +1.4**
TIR *e* 14 10 23.4
KRUS Krusevo 2.76 10 *i* Pn **Pn 14 09 52.0 +1.8**
PLG Polygyros 2.79 51 P **Pn 14 09 52.4 +1.8**
SOH Sokhos 3.03 43 P **Pn 14 09 57.0 +3.2**
TIP Timpagrande 3.05 281 *e*Pn **Pn 14 09 53.6 -0.7**
TIP Timpagrande 3.05 281 *i*P **Pn 14 09 53.7 -0.5**
TIP Timpagrande 3.05 281 S **Sn 14 10 22.3 -8.5**
VAY Valandovo 3.06 29 *e*Pn **Pn 14 09 57.3 +3.0**
VAY *e*Sn **Sn 14 10 34.3 +3.4**
VAY Valandovo 3.06 29 *i* Pn **Pn 14 09 56.0 +1.7**
KNT Kendrikon 3.06 34 *e*P **Pb 14 09 58.3 -2.2**
KNT Kendrikon 3.06 34 P **Pn 14 09 56.3 +1.9**
KYTH Kithira 3.07 140 P **Pb 14 09 58.2 -2.5**
OUR Ouranopolis 3.10 56 *e*P **Pb 14 09 58.3 -2.9**
OUR Ouranopolis 3.10 56 P **Pn 14 09 57.8 +3.0**
CGL1 Ceglie Messapi 3.14 311 *e*Pn **Pn 14 09 55.8 +0.4**
TAR1 Taranto 3.18 307 *e*Pn **Pn 14 09 55.3 -0.6**
TAR1 Sn **Sg 14 10 52.6 +4.5**
STIP Stip 3.27 21 *i* Pn **Pn 14 10 00.5 +3.3**
FASA Fasano 3.31 312 *e*Pn **Pn 14 09 58.2 +0.4**
MASS Massafra 3.33 308 *e*Pn **Pn 14 09 57.4 -0.6**
MASS Sn **Sg 14 11 00.8 +7.9**
SRS Serrai 3.36 42 *e*Pn **Pn 14 09 59.9 +1.4**
SRS Serrai 3.36 42 P **Pn 14 10 00.1 +1.6**
ULC Ulcinj 3.47 343 ⇑*i*Pn **Pn 14 09 59.3 -0.6**
ULC *e*Sn **Sn 14 10 41.8 +0.8**
ANKY Antikythira Is 3.51 142 P **Pn 14 10 04.5 +3.9**
MHLO Agia Marina, M 3.59 122 P **Pn 14 10 05.1 +3.5**
MATE Matera 3.62 305 ⇑*i*P **Pn 14 10 01.8 -0.1**
NVR Nevrokopi 3.67 42 P **Pn 14 10 05.5 +2.7**
DRME Dracevica, Mon 3.69 343 ⇓*i*Pn **Pn 14 10 02.6 -0.4**
DRME *e*Sn **Sn 14 10 47.1 +0.6**
DRME Dracevica, Mon 3.69 343 *e*Pn **Pn 14 10 03.1 +0.1**
CEL Celeste 3.72 265 *e*Pn **Pn 14 10 03.0 -0.5**
CEL *e*Sn **Sn 14 10 45.5 -1.9**
KKB Krupnik 3.73 30 *i* P **Pn 14 10 06.2 +2.7**
LIA Limnos Island 3.76 69 P **Pn 14 10 06.0 +2.1**

BAI Bari 3.77 312 ⇑*i*Pn **Pn 14 10 03.6 -0.5**
BAI Sn **Sg 14 11 12.7 +5.4**
MMB Musomiste 3.78 38 *i* P **Pn 14 10 07.1 +2.8**
KAVA Kavala 3.81 51 P **Pn 14 10 07.5 +2.9**
BUM Brajici-Budva 3.87 341 ⇓*i*Pn **Pn 14 10 04.4 -1.1**
BUM *e*Sn **Sn 14 10 51.4 +0.4**
PDG Podgorica 3.91 345 *e*Pn **Pn 14 10 07.1 +1.1**
PDG *e*Sn **Sn 14 10 50.9 -0.9**
PDG Podgorica 3.91 345 ⇑*i*P **Pn 14 10 06.9 +0.9**
PDG Podgorica 3.91 345 *e*Pn **Pn 14 10 06.5 +0.5**
TTG Podgorica 3.91 345 ⇓*i*Pn **Pn 14 10 05.9 -0.1**
TTG *e*Sn **Sn 14 10 52.9 +1.1**
TTG Podgorica 3.91 345 *e*Pn **Pn 14 10 06.3 +0.3**
TTG *e*Sn **Sn 14 10 51.4 -0.4**
TTG Podgorica 3.91 345 *e*P **Pn 14 10 06.3 +0.3**
TTG *e* 14 10 51.4
PVY Plav 3.97 353 ⇑*i*Pn **Pn 14 10 07.7 +0.8**
PVY *e*Sn **Sn 14 10 54.4 +0.9**
BOSS Bosilegrad 4.09 20 *e*Pn **Pn 14 10 11.2 +2.7**
BOSS *e*Sn **Sn 14 10 57.6 +1.2**
CEME Cevo 4.10 342 ⇓*i*Pn **Pn 14 10 08.6 0.0**
CEME *e*Sn **Sn 14 10 57.6 +1.0**
HCY Herceg Novi 4.12 338 ⇓*i*Pn **Pn 14 10 08.0 -0.9**
HCY *e*Sn **Sn 14 10 57.8 +0.8**
HCY Herceg Novi 4.12 338 *e*Pn **Pn 14 10 07.5 -1.4**
SIGR SIGRI 4.13 81 *e*P **Pn 14 10 11.8 +2.8**
IMMV Iera Moni Meta 4.17 139 *e*P **Pn 14 10 12.3 +2.7**
IMMV Iera Moni Meta 4.17 139 P **Pn 14 10 12.7 +3.1**
APE Apeiranthos 4.20 111 *e*P **Pn 14 10 13.3 +3.3**
APE Apeiranthos 4.20 111 ⇓*i*P **Pn 14 10 13.0 +3.0**
APE Apeiranthos 4.20 111 ⇓*e*P **Pn 14 10 11.8 +1.8**
APE Apeiranthos 4.20 111 P **Pn 14 10 12.3 +2.2**
IVA Berane 4.25 353 ⇓*i*Pn **Pn 14 10 11.3 +0.6**
IVA *e*Sn **Sn 14 11 01.7 +1.4**
BARS Barje 4.26 12 *e*Pn **Pn 14 10 12.0 +1.2**
BARS Barje 4.26 12 *e*Pn **Pg 14 10 28.2 +0.6**
KOME Kolasin 4.28 349 ⇑*i*Pn **Pn 14 10 11.1 0.0**
KOME *e*Sn **Sn 14 11 02.3 +1.3**
CHOS Chios island 4.28 92 *e*P **Pn 14 10 14.9 +3.8**
NKME Niksic 4.30 343 ⇓*i*Pn **Pn 14 10 11.3 -0.1**
NKME *e*Sn **Sn 14 11 02.1 +0.6**
VAM Vamos 4.33 137 P **Pn 14 10 14.4 +2.6**
NKY Niksic 4.33 344 ⇑*i*Pn **Pn 14 10 11.2 -0.7**
NKY *e*Sn **Sn 14 11 03.2 +0.8**
RZN Rozhen 4.37 45 *i* P **Pn 14 10 16.1 +3.7**
BOZC Bozcaada 4.39 73 *e*P **Pn 14 10 14.3 +1.8**
TREB Trebinje 4.41 338 *e*Pn **Pn 14 10 11.5 -1.4**
TREB *e*Sn **Sn 14 11 00.3 -3.8**
TREB Trebinje 4.41 338 *e*Pn **Pn 14 10 11.4 -1.4**
VTS Vitosha 4.43 26 *e*Pn **Pn 14 10 15.2 +1.9**
VTS *e*Sn **Sn 14 11 06.7 +1.7**
VTS Vitosha 4.43 26 *e*Pn **Pn 14 10 15.0 +1.7**
VTS Vitosha 4.43 26 ⇑*i*P **Pn 14 10 15.2 +1.9**
VTS Vitosha 4.43 26 *e*P **Pn 14 10 15.0 +1.7**
VTS Vitosha 4.43 26 *i* P **Pn 14 10 14.8 +1.5**
PRK Paraskevi 4.45 81 P **Pn 14 10 17.8 +4.4**
SANT Santorini 4.48 119 *e*P Pn 14 10 19.1 +5.3
SANT Santorini 4.48 119 ⇓*i*P **Pn 14 10 17.7 +3.9**
BRY Bratogost 4.53 340 ⇓*i*Pn **Pn 14 10 13.9 -0.7**
BRY *e*Sn **Sn 14 11 06.8 -0.4**
BRY Bratogost 4.53 340 *e*Pn **Pn 14 10 13.9 -0.7**
RDO Rodhopi 4.53 55 *e*P Pn 14 10 19.4 +4.9
RDO Rodhopi 4.53 55 P **Pn 14 10 17.2 +2.6**
SELS Selova 4.58 5 *e*Pn **Pn 14 10 15.4 +0.2**
EZN Ezine 4.59 73 *e*P **Pn 14 10 19.6 +4.3**
EZN Ezine 4.59 73 ⇑*i*P **Pn 14 10 18.9 +3.6**
SJES Sjenica 4.63 354 *e*Pn **Pn 14 10 17.1 +1.1**
SJES *e*Sn **Sn 14 11 07.8 -1.9**
PLD Plovdiv 4.65 41 *e*P **Pn 14 10 20.9 +4.7**
PLD Plovdiv 4.65 41 *e*Pn **Pn 14 10 20.0 +3.8**
PLD Plovdiv 4.65 41 *i* P Pb 14 10 22.2 -5.4
URLA Izmir 4.70 92 *e*P **Pn 14 10 21.1 +4.2**
GVD Gavdhos 4.72 143 *e*P **Pn 14 10 19.6 +2.5**
UPM Unac-Piva 4.73 345 *e*Pn **Pn 14 10 16.8 -0.6**
UPM *e*Sn **Sn 14 11 12.2 0.0**
UPM Unac-Piva 4.73 345 *e*Pn **Pn 14 10 17.5 +0.1**
PGB Panagyurishte 4.74 34 *i* P **Pn 14 10 20.6 +3.1**
KDZ Kurdzhali 4.75 49 *e*P Pb 14 10 23.8 -5.4
KDZ Kurdzhali 4.75 49 *i* P Pb 14 10 23.7 -5.5
ALN Alexandroupoli 4.75 60 *e*P **Pn 14 10 19.6 +2.1**
ALN Alexandroupoli 4.75 60 *e*Pn **Pn 14 10 19.8 +2.3**
ALN Alexandroupoli 4.75 60 *e*P **Pn 14 10 19.8 +2.3**
ENEZ Enez 4.75 62 *e*P **Pn 14 10 15.4 -2.2**
STON Ston 4.76 333 *e*Pn **Pn 14 10 16.5 -1.1**
STON *e*Sn **Sn 14 11 08.8 -3.9**
STON Ston 4.76 333 *e*Pn **Pn 14 10 15.9 -1.7**
STON Sn **Sn 14 11 07.4 -5.3**
STON Ston 4.76 333 *e*Pn **Pn 14 10 16.3 -1.3**
PLE Pljevlja 4.76 349 ⇑*i*Pn **Pn 14 10 18.1 +0.3**
PLE *e*Sn **Sn 14 11 13.1 +0.1**
IDI Anoyia 4.80 133 Pn **Pn 14 10 19.4 +1.2**
comp=N,4.8nm,0.3s,baz=318,slow=4.3,SNR=22
IDI Sn **Sn 14 11 14.7 +0.9**
comp=N,4.8nm,0.3s,baz=142,slow=22,SNR=1.5
IDI LR LR 14 12 47.9
comp=N,1µm,21.5s,baz=322,slow=46
GELI Tayfur-Gelibol 4.86 67 *e*P **Pn 14 10 22.2 +3.2**
ZAPS Zavoj 4.86 18 *e*Pn **Pn 14 10 21.5 +2.4**
ZAPS *e*Sn **Sn 14 11 16.8 +1.4**
IVAS Ivanjica 4.93 356 *e*Pn **Pn 14 10 20.0 -0.1**
SIVA Sivas 4.95 136 P **Pn 14 10 23.1 +2.8**
ERIK Erikli-Kesan 4.98 64 *e*P **Pn 14 10 23.6 +2.9**
SMG Samos 5.00 99 P **Pn 14 10 24.0 +3.1**
VAE Valguarnera 5.03 258 Pn **Pn 14 10 20.6 -0.9**
comp=N,13nm,0.3s,baz=56,slow=15,SNR=9.4
VAE Sn **Sn 14 11 21.6 +2.0**
comp=N,14nm,0.3s,baz=8.1,slow=18,SNR=1.5
VAE LR LR 14 12 47.5
comp=N,1µm,21.5s,baz=9.0,slow=44
BOVS Bovan 5.05 9 *e*Pn **Pn 14 10 22.2 +0.6**
BOVS *e*Sn **Sn 14 11 19.9 +0.1**
LPK Lapseki 5.06 68 *e*P **Pn 14 10 22.8 +1.1**
GRUS Gruza 5.23 1 *e*Pn **Pn 14 10 24.5 +0.4**
MPEP Malo Peshtene 5.26 26 P **Pn 14 10 24.5 0.0**
BBLS Lazići 5.29 350 *e*Pn **Pn 14 10 25.1 +0.1**
BBLS *e*Sn **Sn 14 11 24.2 -1.7**
BBLS Lazići 5.29 350 *e*Pn **Pn 14 10 25.0 +0.1**
ZAGS Zajecar 5.30 13 *e*Pn **Pn 14 10 25.9 +0.9**
GCAM G?zelcaml? 5.30 98 *e*P **Pn 14 10 23.8 -1.3**
DIVS Divibare 5.46 355 *e*Pn **Pn 14 10 27.1 -0.3**
DIVS *e*Sn **Sn 14 11 28.0 -2.2**
DIVS Divibare 5.46 355 *e*Pn **Pn 14 10 27.0 -0.3**
TRUS Trudelj 5.57 358 *e*Pn **Pn 14 10 29.0 +0.2**
HAPS Han Pijesak,BI 5.57 348 *e*Pn **Pn 14 10 27.7 -1.2**
HAPS *e*Sn **Sn 14 11 30.2 -2.7**
HAPS Han Pijesak,BI 5.57 348 *e*Pn **Pn 14 10 27.6 -1.3**
WDD Wied Dalam 5.61 242 *e*Pn **Pn 14 10 28.1 -1.3**
WDD *e*Sn **Sn 14 11 32.8 -1.0**
GONE Gonen-Balikesi 5.66 74 *e*P **Pn 14 10 31.2 +1.2**
EDRB Edirne 5.67 54 *e*P **Pn 14 10 34.3 +4.1**
ZKR Zakros 5.71 126 *e*P **Pn 14 10 30.5 -0.3**
BALB Balikesir 5.74 78 *e*P **Pn 14 10 34.9 +3.8**
AYDB Zeytinkoy-Aydi 5.77 95 *e*P **Pn 14 10 34.6 +2.9**
KUBS Kucevo 5.81 8 *e*Pn **Pn 14 10 32.3 +0.2**
DAT Datca 5.85 107 *e*P **Pn 14 10 33.3 +0.6**
CLTB Caltabellotta 5.93 262 *e*Pn **Pn 14 10 34.8 +1.0**
TEKS Tekeris 5.95 353 *e*Pn **Pn 14 10 33.1 -0.9**
TEKS Tekeris 5.95 353 *e*Pn **Pn 14 10 33.1 -0.9**
VLAD Vladila 6.05 27 ⇑*i*P **Pn 14 10 38.6 +3.2**
PHSR Pinarhisar 6.07 59 ⇑*i*P **Pn 14 10 38.6 +2.9**
KARP Karpathos 6.08 119 *e*P **Pn 14 10 39.6 +3.7**
MDVR Moldovita 6.18 7 ⇓*i*P **Pn 14 10 37.7 +0.5**
KCTX Karacabey (Bur 6.21 73 *e*P **Pn 14 10 41.9 +4.3**
DOB Doboj 6.36 344 *e*Pn **Pn 14 10 38.3 -1.3**
ARG Arkhangelos 6.46 110 *e*P Pn 14 10 47.9 +7.0
FRGS Fruska Gora 6.53 355 *e*Pn **Pn 14 10 41.2 -0.7**
FRGS Fruska Gora 6.53 355 *e*Pn **Pn 14 10 41.0 -0.9**
CTYL Yalikoy Yolu 6.53 62 *e*P **Pn 14 10 43.8 +1.9**
CTYL Yalikoy Yolu 6.53 62 ⇓*i*P **Pn 14 10 44.8 +2.9**
TURN Turunc 6.58 103 *e*P **Pn 14 10 41.9 -0.7**
CTKS Kestanelik-??a 6.59 64 *e*P **Pn 14 10 47.1 +4.3**
BLY Banja Luka 6.61 338 ⇓*i*P **Pn 14 10 42.7 -0.3**
BLY Banja Luka 6.61 338 *e*Pn **Pn 14 10 43.0 0.0**
AQU L'Aquila 6.62 306 *e*Pn **Pn 14 10 44.1 +0.9**
AQU L'Aquila 6.62 306 *e*P **Pn 14 10 44.1 +0.9**
AQU L'Aquila 6.62 306 *e*Pn **Pn 14 10 44.2 +0.9**
DALY Dalyan (Mula) 6.63 104 *e*P **Pn 14 10 46.9 +3.5**
HUMR Humele 6.72 28 ⇑*i*P **Pn 14 10 47.3 +2.7**
BGKT Bogazkoy 6.76 66 *e*P Pn 14 10 50.1 +5.0
UDBI Udbina 6.90 330 *i* Pn **Pn 14 10 47.2 +0.1**

GZR Gura Zlata 6.93 13 ⇑*i*P **Pn 14 10 48.2 +0.7**
TVSB Tavsanli 6.93 81 *e*P **Pn 14 10 52.3 +4.7**
KLYT Kilyos 6.98 65 *e*P **Pn 14 10 50.2 +2.1**
BZS Buzias 7.00 6 ⇓*i*P **Pn 14 10 48.9 +0.5**
FETY Fethiye 7.02 104 *e*P Pn 14 10 54.3 +5.6
LOT Lotru 7.18 18 ⇑*i*P **Pn 14 10 52.1 +1.0**
NVLJ Novalja 7.30 326 *e*Pn **Pn 14 10 51.5 -1.1**
CAVI Cavuskoy 7.31 75 *e*P Pn 14 10 57.7 +5.0
ARR Arges 7.35 23 ⇓*i*P **Pn 14 10 54.8 +1.6**
MTUR Matau 7.36 25 ⇓*i*P **Pn 14 10 52.4 -1.0**
SILT Sile 7.38 67 *e*P **Pn 14 10 53.3 -0.3**
AUBOZ BOZOYUK 7.42 77 *e*P **Pn 14 10 58.7 +4.5**
AKAS Kas 7.55 106 *e*P **Pn 14 10 57.4 +1.3**
SECR 7.56 31 ⇑*i*P **Pn 14 11 00.3 +4.1**
ELL Elmali 7.61 102 *e*P **Pn 14 11 01.6 +4.6**
BORA Eskisehir 7.73 78 *e*P Pn 14 11 03.7 +5.1
ISR Istrita 7.83 32 ⇓*i*P **Pn 14 11 02.7 +2.9**
ISP Isparta 7.84 93 *e*Pn **Pn 14 11 04.3 +4.2**
ISP Isparta 7.84 93 *e*P **Pn 14 11 04.3 +4.2**
GULT Gulveren 7.86 74 *e*P **Pn 14 11 01.6 +1.3**
KORT Korkueli 7.88 99 *e*P Pn 14 11 07.2 +6.5
SRCK Saricakaya, Es 7.88 77 *e*P **Pn 14 11 04.1 +3.5**
MLR Muntele Rosu 7.90 28 ⇑*i*P **Pn 14 11 04.4 +3.5**
MLR Muntele Rosu 7.90 28 Pn **Pn 14 11 02.6 +1.8**
comp=N,1.2nm,0.3s,baz=195,slow=20,SNR=13
MLR LR LR 14 14 32.3
comp=N,2µm,19.4s,baz=216,slow=42
BOJS Bojanci 7.92 332 *i* Pn **Pn 14 11 00.3 -0.7**
OZLJ Ozalj 7.94 333 *i* Pn **Pn 14 11 00.6 -0.6**
RIY Rijeka 8.08 328 *e*Pn **Pn 14 11 02.7 -0.5**
DOPR Dopca 8.12 24 ⇓*i*P **Pn 14 11 06.2 +2.4**
CRES Cresnjev 8.12 334 *e*Pn **Pn 14 11 02.5 -1.3**
TLB Topalu 8.13 41 ⇑*i*P **Pn 14 11 07.6 +3.7**
GRER 8.22 33 ⇑*i*P Pn 14 11 10.5 +5.3
BISRR Bisoca 8.24 31 ⇓*i*P **Pn 14 11 09.8 +4.2**
DRGR 8.28 10 ⇑*i*P **Pn 14 11 06.5 +0.5**
BEHE Becsehely 8.31 341 *e*Pn **Pn 14 11 04.9 -1.4**
BEHE Becsehely 8.31 341 *e*Pn **Pn 14 11 05.0 -1.3**
BEHE *e*Sg **Pg 14 11 41.1 -3.9**
BEHE Sn **Sn 14 12 34.0 -6.1**
CEY Cerknica 8.44 329 *e*Pn **Pn 14 11 07.0 -1.1**
PLOR Plostina 8.47 30 ⇓*i*P **Pn 14 11 11.6 +3.0**
VRI Vrincioaia 8.51 30 *e*P **Pn 14 11 13.0 +3.8**
VRI Vrincioaia 8.51 30 ⇓*i*P **Pn 14 11 12.8 +3.6**
AUMIH MIHALICIK 8.52 78 *i* P **Pn 14 11 14.1 +4.7**
AUSIV SIVRIHISAR 8.54 81 *i* P Pn 14 11 15.1 +5.4
CFR Carcaliu 8.60 38 ⇑*i*P **Pn 14 11 13.8 +3.5**
PETR Petresti 8.60 33 ⇓*i*P **Pn 14 11 14.2 +3.8**
LJU Ljubljana 8.65 331 *i* Pn **Pn 14 11 11.2 +0.2**
LJU Ljubljana 8.65 331 *e*Pn **Pn 14 11 10.4 -0.6**
KIZT Kizilcal 8.81 85 *e*P Pn 14 11 18.2 +4.9
ARCR ARCALIA 8.86 17 ⇑*i*P **Pn 14 11 16.8 +2.8**
CSKK Cskako 8.87 350 *e*Pn **Pn 14 11 15.0 +0.9**
CSKK Sn **Sn 14 12 50.1 -3.9**
TLCR 8.94 40 ⇑*i*P **Pn 14 11 18.5 +3.5**
SOKA Soboth 9.01 335 *i* Pn **Pn 14 11 15.2 -0.9**
comp=N,87nm,0.9s,SNR=31
SOKA *i* Sn **Sn 14 12 52.7 -4.7**
comp=N,29nm,0.5s
TESR Tescani 9.03 28 ⇑*i*P **Pn 14 11 18.7 +2.5**
OBKA Obir 9.03 332 *e*Pn **Pn 14 11 16.5 +0.1**
comp=N,22nm,0.5s
OBKA Sn **Sn 14 12 54.7 -3.4**
BIZ Bicaz 9.21 24 ⇑*i*P **Pn 14 11 20.9 +2.2**
LADK Ladik-KONYA 9.24 89 *e*P **Pn 14 11 21.3 +2.1**
KONT Konya--Tatoy 9.27 91 *e*P Pn 14 11 24.7 +5.2
PSZ Piszkesteto 9.28 357 *e*Pn **Pn 14 11 19.3 -0.4**
PSZ Piszkesteto 9.28 357 ⇓*i*P **Pn 14 11 20.0 +0.3**
PSZ Piszkesteto 9.28 357 *e*P **Pn 14 11 19.3 -0.4**
PSZ Piszkesteto 9.28 357 *e*Pn **Pn 14 11 20.0 +0.3**
PSZ Sn **Sn 14 13 03.1 -0.9**
ARSA Arzberg 9.37 338 *i* Pn **Pn 14 11 20.3 -0.6**
comp=N,22nm,0.8s,SNR=9.2
KEST Kesra 9.45 255 Pn **Pn 14 11 21.0 -1.1**
comp=N,1.2nm,0.3s,baz=64,slow=8.2,SNR=8.6
KEST LR LR 14 15 57.7
comp=N,861nm,21.7s,baz=7.0,slow=44
MYKA Terra Mystica 9.48 329 *e*Pn **Pn 14 11 22.4 -0.1**
comp=N,8.7nm,0.5s
MYKA Sn **Sn 14 13 05.0 -4.0**
SOP Sopron 9.50 343 Sn Sn 14 13 00.1 -9.2
BURAR Bucovina Array 9.57 19 *e*Pn **Pn 14 11 25.0 +1.3**
BURAR Bucovina Array 9.57 19 ⇓*i*P **Pn 14 11 26.4 +2.7**
TRPA Tarpa 9.58 8 *e*Pn **Pn 14 11 21.0 -2.7**
PRAR RASCA 9.62 23 ⇑*i*P **Pn 14 11 25.9 +1.5**
AFSR Afar-Bala (An 9.73 81 *e*P **Pn 14 11 29.6 +3.7**
KECS Kecovo 9.83 360 *e*P **Pn 14 11 28.1 +0.9**
KECS *e* 14 13 12.1
KECS Kecovo 9.83 360 *e*PN **Pn 14 11 28.1 +0.9**
KECS *e*SN **Sn 14 13 12.1 -5.3**
ZST Bratislava 9.87 346 *e*P **Pn 14 11 27.3 -0.5**
ZST *e* 14 13 12.0
ZST Bratislava 9.87 346 *e*PN **Pn 14 11 27.3 -0.5**
ZST *e*SN **Sn 14 13 12.0 -6.5**
CONA Conrad Observa 9.89 341 *e*Pn **Pn 14 11 27.4 -0.7**
comp=N,22nm,1.0s,SNR=5.3
CONA Sn **Sn 14 13 13.7 -5.5**
comp=N,14nm,0.6s
VYHS Vyhne 9.92 353 *e*P **Pn 14 11 28.9 +0.4**
VYHS *e* 14 13 14.8
VYHS Vyhne 9.92 353 *e*PN **Pn 14 11 28.9 +0.4**
VYHS *e*SN **Sn 14 13 14.8 -4.9**
KBA Koelnbreinsper 9.96 330 *e*Pn **Pn 14 11 29.3 +0.1**
comp=N,8.9nm,0.5s,SNR=7.1
KBA Sn **Sn 14 13 16.0 -5.0**
comp=N,43nm,0.8s
MODS Modra-Piesok 10.01 347 *e*P **Pn 14 11 29.0 -0.7**
MODS Modra-Piesok 10.01 347 *e*PN **Pn 14 11 29.0 -0.7**
MODS *e*SN Sn 14 13 12.8 -9.2
ABTA Abfaltersbach 10.04 326 *i* Pn **Pn 14 11 29.5 -0.7**
comp=N,48nm,0.6s
ABTA Sn **Sn 14 13 18.4 -4.4**
comp=N,69nm,0.7s
UZH Uzhgorod 10.05 6 *d i*P **Pn 14 11 30.0 -0.2**
UZH *e*S **Sn 14 13 22.9 +0.1**
UZH MLR MLR
comp=N,210nm,12.0s
UZH MLR MLR
comp=E,250nm,12.0s
UZH MLR MLR
comp=Z,100nm,12.0s
PPCY Paphos 10.13 108 P **Pn 14 11 32.5 +1.1**
SULT Sultanhani-AKS 10.14 89 *e*P Pn 14 11 36.9 +5.4
BR131 Keskin Array S 10.17 80 P **Pn 14 11 36.7 +4.6**
SNR=8.0
BRTR Keskin Array B 10.17 80 Pn **Pn 14 11 36.5 +4.4**
comp=Z,1.3nm,0.3s,baz=266,slow=12,SNR=28
BRTR LR LR 14 16 16.1
comp=Z,1µm,21.8s,baz=256,slow=42
ALFC Alefka 10.21 106 P **Pn 14 11 31.0 -1.5**
TEKE Tekeli-Mersin 10.26 100 *e*P **Pn 14 11 35.8 +2.7**
BERE Bereket-Mersin 10.28 99 *e*P **Pn 14 11 37.9 +4.3**
KIS Kishinev 10.28 33 *e*P Pn 14 11 41.0 +7.6
KIS Kishinev 10.28 33 *e*PP Pn 14 11 47.0 +14
KIS *e*S Sn 14 13 42.0 +13
KIS *e*Li 14 14 30.0
KIS *e*LQ1 14 14 40.0
KIS *e*LQ2 14 15 14.0
KIS *e*LR LR 14 15 50.0
comp=Z,2µm,14.0s
KIS Kishinev 10.28 33 *e*P Pn 14 11 41.0 +7.6
KIS MLR MLR
comp=Z,2µm,14.0s
KIS MLR MLR
comp=N,3µm,13.0s
MOA Molln 10.29 335 *i* Pn **Pn 14 11 32.9 -0.6**
comp=N,31nm,0.8s,SNR=17
MOA Sn **Sn 14 13 24.9 -3.8**
comp=N,23nm,0.6s
KOLS Kolonicke sedl 10.35 6 *e*P **Pn 14 11 36.3 +2.0**
KOLS Kolonicke sedl 10.35 6 *e*PN **Pn 14 11 36.2 +2.0**
JAVC Velka Javorina 10.42 349 *e*PN **Pn 14 11 36.1 +0.7**
TEVE Tevekalti-Mers 10.43 98 *e*P **Pn 14 11 37.9 +2.4**
SZAC Souni 10.59 108 P **Pn 14 11 35.3 -2.4**
AKKU Akkuyu-Mersin 10.59 100 *e*P **Pn 14 11 41.7 +4.0**
KEBE Keben-Mersin 10.63 98 *e*P **Pn 14 11 41.5 +3.2**
**NIE Niedzica 10.

CSS Mathiatis 10.84 106 *eP* **Pn 14 11 42.3 +1.2**
CSS Mathiatis 10.84 106 *e*Pn **Pn 14 11 40.8 -0.3**
WATA Walderalm 10.90 326 *i* Pn **Pn 14 11 42.3 +0.2**
comp=N,27nm,0.6s,SNR=13
KIZK Mersin 10.96 97 *eP* Pn 14 11 47.5 +4.8
SQTA Sankt Quirin 10.98 324 *i* Pn **Pn 14 11 43.8 +0.7**
comp=N,12nm,0.5s,SNR=9.4
SQTA *e*Sn **Sn 14 13 42.6 -3.4**
VRAC Vranov 11.04 346 *e*PN **Pn 14 11 43.0 -0.7**
VRAC Vranov 11.04 346 Pn **Pn 14 11 43.4 -0.3**
comp=N,0.6nm,0.3s,baz=177,slow=12,SNR=13
VRAC LR LR 14 17 11.5
comp=N,726nm,18.2s,baz=158,slow=44
FETA Feichten 11.06 322 *i* Pn **Pn 14 11 45.7 +1.5**
comp=N,12nm,0.8s
FETA *i* Sn **Sn 14 13 44.3 -3.7**
comp=N,17nm,1.1s
KWP Kalwaria Pacla 11.08 7 *e*Pn **Pn 14 11 45.4 +1.1**
KWP Kalwaria Pacla 11.08 7 *eP* **Pn 14 11 45.4 +1.1**
MOTA Moosalm 11.12 324 *i* Pn **Pn 14 11 44.7 -0.4**
comp=N,60nm,0.8s,SNR=32
MOTA Sn **Sn 14 13 44.3 -5.1**
TREC Trest 11.26 343 *eP* **Pn 14 11 46.1 -0.7**
TREC MLR MLR
comp=Z,1μm,9.4s
TREC Trest 11.26 343 *e*PN **Pn 14 11 46.1 -0.7**
TREC AMS AMS 14 16 10.0
comp=Z,1μm,9.4s
EREN Erenkoy 11.27 102 *eP* **Pn 14 11 48.3 +1.4**
DAVOX Davos/Dischmat 11.32 319 Pn **Pn 14 11 48.8 +1.0**
comp=Z,1.6nm,0.3s,baz=128,slow=14,SNR=13
DAVOX Sn **Sn 14 13 51.6 -2.6**
comp=Z,1.9nm,0.3s,baz=175,slow=11,SNR=4.0
DAVOX LR LR 14 18 04.0
comp=Z,339nm,19.0s,baz=144,slow=48
MORC Moravsky Berou 11.34 350 *e*PN **Pn 14 11 47.5 -0.4**
GEC2 GERESS Array S 11.34 336 *e*Pn **Pn 14 11 46.6 -1.4**
GEC2 GERESS Array S 11.34 336 *eP* **Pn 14 11 46.6 -1.4**
GERES GERESS Array B 11.34 336 Pn **Pn 14 11 46.4 -1.6**
comp=Z,1.0nm,0.3s,baz=157,slow=14,SNR=53
GERES Sn **Sn 14 13 51.0 -3.7**
comp=Z,1.3nm,0.3s,baz=165,slow=23,SNR=4.6
RETA Reutte 11.38 324 *e*Pn **Pn 14 11 48.7 +0.1**
comp=Z,25nm,0.8s
RETA Sn **Sn 14 13 53.2 -2.5**
comp=Z,37nm,0.9s
TUE Stuetta 11.39 317 *e*Pn **Pn 14 11 48.7 -0.2**
TUE *e*Sn **Sn 14 13 52.5 -3.7**
LVV L'vov 11.43 11 *eP* **Pn 14 11 53.4 +4.3**
LVV MLR MLR
comp=E,900nm,11.0s
LVV MLR MLR
comp=Z,300nm,11.0s
OJC Ojcow 11.58 357 *e*Pn **Pn 14 11 52.1 +0.9**
OJC Ojcow 11.58 357 *eP* **Pn 14 11 52.1 +0.9**
KHC Kasperske Hory 11.63 336 *eP* **Pn 14 11 51.0 -0.9**
KHC *e* 14 13 55.3
KHC MLR MLR
comp=Z,1μm,14.6s
KHC Kasperske Hory 11.63 336 *e*PN **Pn 14 11 51.0 -0.9**
KHC *e*SN **Sn 14 13 55.3 -6.4**
KHC AMS AMS 14 16 50.0
comp=Z,1μm,14.6s
DAVA Damuels 11.66 321 Pn **Pn 14 11 53.6 +1.1**
DAVA Sn **Sn 14 13 58.3 -4.3**
comp=Z,43nm,0.6s
KRLC Kraliky 11.74 348 *eP* **Pn 14 11 53.2 -0.2**
KRLC Kraliky 11.74 348 *e*PN **Pn 14 11 53.2 -0.2**
SIM Simferopol' 11.87 54 *eP* **Pn 14 11 57.0 +1.8**
SIM MLR MLR
comp=N,500nm,13.0s
GOPC GO Pecny, Ondr 12.00 342 *eP* **Pn 14 11 56.9 0.0**
GOPC MLR MLR
comp=Z,1μm,9.9s
GOPC GO Pecny, Ondr 12.00 342 *e*PN **Pn 14 11 56.9 0.0**
GOPC AMS AMS 14 17 10.0
comp=Z,1μm,9.9s
YURE YUREGIR 12.03 94 *eP* **Pn 14 11 58.7 +1.3**
DPC Dobruska-Polom 12.09 347 *eP* **Pn 14 11 57.8 -0.3**
DPC *e* 14 14 06.8
DPC MLR MLR
comp=Z,2μm,11.1s
DPC Dobruska-Polom 12.09 347 *e*PN **Pn 14 11 57.8 -0.3**
DPC *e*SN **Sn 14 14 06.8 -6.0**
DPC AMS AMS 14 17 10.0
comp=Z,2μm,11.1s
PRU Pruhonice 12.13 341 *eP* **Pn 14 11 58.0 -0.7**
PRU MLR MLR
comp=Z,2μm,10.4s
PRU Pruhonice 12.13 341 *e*PN **Pn 14 11 58.0 -0.7**
PRU AMS AMS 14 17 20.0
comp=Z,2μm,10.4s
UPC Upice 12.29 346 *eP* **Pn 14 12 00.2 -0.7**
UPC MLR MLR
comp=Z,2μm,9.3s
UPC Upice 12.29 346 *e*PN **Pn 14 12 00.2 -0.7**
UPC AMS AMS 14 17 40.0
comp=Z,2μm,9.3s
SENIN Lac Senin/Sane 12.47 312 *e*Pn **Pn 14 12 03.5 -0.1**
TAHT Tahtakopru-Hat 12.57 96 *eP* **Pn 14 12 08.0 +3.2**
PVCC Panska Ves 12.62 342 *eP* **Pn 14 12 05.3 -0.1**
PVCC MLR MLR
comp=Z,1μm,10.0s
PVCC Panska Ves 12.62 342 *e*PN **Pn 14 12 05.3 -0.1**
PVCC AMS AMS 14 17 50.0
comp=Z,1μm,10.0s
NKC Novy Kostel 12.95 336 AMS AMS 14 17 30.0
comp=Z,1μm,9.6s
BRG Berggiesshubel 13.10 341 *eP* **Pn 14 12 10.6 -1.2**
comp=Z,7.0nm,1.1s
BRG *e* 14 12 24.1
comp=Z,15nm,1.0s
BRG Berggiesshubel 13.10 341 *eP* **Pn 14 12 10.6 -1.2**
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,15nm,1.0s
BRG MLR MLR
comp=N,1μm,11.4s
BRG MLR MLR
comp=E,2μm,15.5s
BRG MLR MLR
comp=Z,2μm,9.5s
BFO Black Forest 13.14 321 *e*Pn **Pn 14 12 13.6 +1.1**
BFO Black Forest 13.14 321 *eP* **Pn 14 12 13.6 +1.1**
DARE Darende-Malaty 13.20 85 *eP* **Pn 14 12 18.2 +4.8**
MMAI Mount Meron Ar 13.25 111 Pn **Pn 14 12 13.4 -0.7**
comp=Z,4.8nm,0.3s,baz=310,slow=12,SNR=9.9
GEM Giv'at Ha'Em 13.35 109 Pn Pn 14 12 08.0 -7.4
KSDI Kefar Szold 13.35 109 Pn Pn 14 12 09.3 -6.1
NATI Neve Ativ 13.38 109 Pn Pn 14 12 09.6 -6.1
BRBR Barbar 13.47 108 *eP* **Pn 14 12 16.7 -0.5**
BRBR *e*S Sn 14 14 16.6 -30
BRBR AML AML 14 14 22.6
comp=E,11nm,0.4s
BRBR AML AML 14 14 26.4
comp=N,17nm,0.3s
KIEV Kiev 13.49 24 Pn **Pn 14 12 17.1 -0.2**
KIEV Kiev 13.49 24 *i* P **Pn 14 12 19.4 +2.2**
AKASG Malin Array Be 13.50 24 *e*Pn **Pn 14 12 18.0 +0.7**
AKASG Malin Array Be 13.50 24 Pn **Pn 14 12 17.7 +0.3**
comp=N,1.2nm,0.3s,baz=209,slow=12,SNR=9.0
AKASG PcP **PcP 14 17 42.8 -1.3**
comp=N,1.4nm,0.3s,baz=243,slow=1.0,SNR=9.3
MMLI Mount Malkishu 13.55 113 *eP* **Pn 14 12 16.3 -1.9**
KSHT Keshet 13.56 110 Pn Pn 14 12 12.1 -6.3
QASN Qassioun 13.65 107 *eP* **Pn 14 12 19.6 0.0**
QASN *e*S Sn 14 14 21.1 -30
QASN AML AML 14 14 26.5
comp=E,26nm,0.4s
QASN AML AML 14 14 35.4
comp=N,50nm,0.6s
SHMJ Saham 13.65 111 P **Pn 14 12 20.3 +0.7**
comp=N,174nm,0.8s
AMAZ Amatzia 13.69 117 P **Pn 14 12 18.3 -1.8**
comp=N,198nm,1.0s
AMAZ Amatzia 13.69 117 Pn Pn 14 12 14.0 -6.1
KZIT Kziot 13.71 120 *eP* **Pn 14 12 18.4 -1.9**
KZIT Kziot 13.71 120 Pn Pn 14 12 12.1 -8.2
HMDT Nahal Hemdat 13.72 113 Pn Pn 14 12 12.8 -7.7
TOTH TOTAH 13.85 108 *eP* **Pn 14 12 22.8 +0.6**
TOTH *e*S Sn 14 14 24.6 -31
TOTH AML AML 14 14 41.4
comp=E,11nm,0.6s
TOTH AML AML 14 14 41.9
comp=N,12nm,0.5s
YTIR Yattir 13.93 117 Pn Pn 14 12 16.8 -6.6
ANN Anapa 13.97 59 *eP* **P 14 12 28.4 -3.5**
ANN *e*S **Sn 14 15 02.7 +3.9**
ANN pmax pmax
comp=Z,85nm,1.4s
ANN MLR MLR
comp=Z,552nm,17.0s
DSI Dead Sea 13.99 116 Pn Pn 14 12 17.2 -7.0
MZDA Masada 14.13 117 Pn Pn 14 12 18.6 -7.4
MZDA Sn **Sn 14 14 56.6 -6.1**
LISJ El Lisan 14.25 117 P **Pn 14 12 26.5 -1.2**
comp=Z,49nm,0.7s
GHAJ Ghor Haditha 14.28 116 P **Pn 14 12 26.7 -1.3**
comp=Z,68nm,0.9s
GHAJ Ghor Haditha 14.28 116 Pn Pn 14 12 20.9 -7.1
WALJ Wala 14.30 115 P **P 14 12 37.3 +1.7**
KRMI Paran Flat 14.42 122 Pn Pn 14 12 22.9 -7.2
ZFRI Zfri 14.45 120 Pn Pn 14 12 22.7 -7.7
PRNI Paran 14.46 121 Pn Pn 14 12 23.5 -7.1
RUE Ruedersdorf 14.62 343 *eP* **P 14 12 40.3 +1.3**
RUE IAmb IAmb 14 12 41.1
comp=Z,107nm,0.9s
SVRC Sivrice-ELAZID 14.64 85 *eP* **P 14 12 39.1 -0.5**
HRFI Mount Harif 14.68 122 *eP* Pn 14 12 27.7 -5.9
HRFI Mount Harif 14.68 122 Pn Pn 14 12 26.1 -7.5
HRFI Sn **Sn 14 15 10.1 -6.2**
JDRJ Daraweish 14.68 118 P **Pn 14 12 34.0 +0.2**
comp=Z,112nm,0.7s
ASF Jabal al Asfar 14.76 111 Pn **Pn 14 12 35.3 +0.5**
comp=Z,0.4nm,0.3s,baz=325,slow=2.8,SNR=9.0
GKP Gorka Klasztor 14.80 352 *e*Pn **P 14 12 42.9 +1.8**
EIL Elat 14.86 123 P **Pn 14 12 33.3 -2.7**
comp=Z,64nm,0.9s
EIL Elat 14.86 123 Pn Pn 14 12 29.0 -7.0
EIL Elat 14.86 123 Pn **Pn 14 12 32.5 -3.5**
comp=Z,2.1nm,0.3s,baz=320,slow=8.5,SNR=16
EIL Sn Sn 14 15 10.6 -10
comp=Z,1.0nm,0.3s,baz=314,slow=23,SNR=2.9
AQBJ Aqaba 14.89 122 P **Pn 14 12 37.6 +1.2**
comp=Z,203nm,0.8s
HSNJ Maan 14.98 119 P **P 14 12 42.9 -0.4**
WLF Walferdange 15.10 321 ⇓P **P 14 12 47.2 +2.8**
comp=Z,80nm,1.2s
SOC Sochi 15.21 65 *eP* **P 14 12 45.7 0.0**
SOC *e* 14 15 37.9
SOC pmax pmax
comp=Z,22nm,0.8s
SOC MLR MLR
comp=Z,277nm,11.0s
MEM Membach 15.81 324 ⇑P **P 14 12 54.9 +2.7**
comp=Z,40nm,1.2s
HGN Heimansgroeve 15.95 324 *eP* **P 14 12 56.0 +2.3**
comp=Z,113nm,1.2s
HGN *e*L L 14 19 51.4
comp=Z,372nm,18.6s
BCLA Clavier 16.01 322 ⇑P **P 14 12 56.8 +2.4**
DOU Dourbes 16.15 320 ⇑P **P 14 12 56.5 +0.5**
comp=Z,51nm,1.3s
WTSB Winterswijk 16.44 329 *eP* **P 14 13 01.5 +2.3**
comp=Z,168nm,1.5s
SNF Seneffe 16.56 321 ⇑P **P 14 13 02.8 +2.2**
MICGM Minsk 16.61 15 *e* **Pn 14 12 55.0 -3.6**
MICGM *e*LQ LQ 14 18 00.0
MICGM *e*LR LR 14 21 20.0
MNK Minsk 16.61 15 *eP* **Pn 14 12 55.0 -3.6**
NACGM Naroch 16.79 12 *e* **Pn 14 13 01.0 +0.2**
NACGM *e*LR LR 14 18 02.0
PABE Paberze 17.01 7 *eP* **P 14 13 05.5 0.0**
IIGN Ignalina 17.13 11 *eP* **Pn 14 13 05.2 +0.1**
IDID Didziasalis 17.17 12 *eP* **Pn 14 13 06.0 +0.3**
NEY Neytrino 17.31 68⇑*eP* **P 14 13 11.6 +2.5**
ISAL Salakas 17.33 11 *eP* **Pn 14 13 07.2 -0.4**
SHA1 Shidzhatmaz 17.34 66 *eP* **P 14 13 10.4 +0.9**
KIV Kislovodsk 17.39 65 *e*Pn **P 14 13 10.3 +0.3**
comp=Z,33nm,1.0s
KIV Kislovodsk 17.39 65 *eP* **P 14 13 10.3 +0.3**
KIV *e* 14 16 25.8
KIV pmax pmax
comp=Z,87nm,1.1s
KIV MLR MLR
comp=Z,381nm,13.0s
KIV Kislovodsk 17.39 65 P **P 14 13 10.4 +0.3**
SNR=12
KBZ Khabaz 17.51 66 P **Pn 14 13 10.4 +0.5**
comp=Z,0.6nm,0.3s,baz=287,slow=7.6,SNR=35
AKDM Akdamar-Van 17.51 84 *eP* **P 14 13 12.3 +0.9**
IZAR Zarasai 17.52 11 *eP* **Pn 14 13 08.2 -1.8**
PYA1 Pyatigorsk 17.70 65 *eP* **Pn 14 13 12.6 +0.1**
NCK Nalchik 17.97 67⇓*eP* **P 14 13 17.3 +1.0**
VSR Storozhevoye 18.11 40⇓*eP* **P 14 13 18.0 +0.3**
ZEI Tsey 18.11 69 *eP* **P 14 13 19.3 +1.2**
ZEI pmax pmax
comp=Z,23nm,0.8s
VORR Voronezh 18.41 39 *eP* **P 14 13 21.0 0.0**
VORR pmax pmax
comp=Z,250nm,1.0s
GNI Garni 18.70 78 *i* P **P 14 13 23.2 -1.3**
SNR=11
GNI Garni 18.70 78*d i*P **Pn 14 13 26.3 +1.5**
GNI Garni 18.70 78 P **Pn 14 13 26.1 +1.3**
SNR=16
GNI Garni 18.70 78 P **Pn 14 13 25.5 +0.7**
comp=Z,1.6nm,0.3s,baz=333,slow=14,SNR=14
GNI LR LR 14 20 55.0
comp=Z,522nm,18.9s,baz=266,slow=38
LPSR Galich'ya Gora 18.86 36 *eP* **P 14 13 25.6 -0.3**
LPSR pmax pmax
comp=Z,30nm,0.7s
LPSR MLR MLR
comp=Z,1μm,13.0s
SLIT Slitere, Latvi 19.02 3 *eP* **Pn 14 13 34.2 +5.9**
SLIT IAmb IAmb 14 13 35.9
comp=Z,137nm,0.7s
ESDC Sonseca Array 19.07 281 P **P 14 13 27.9 -0.5**
comp=Z,1.0nm,0.3s,baz=76,slow=11,SNR=40
ESDC LR LR 14 20 34.8
comp=Z,365nm,21.9s,baz=95,slow=36
ESLA Sonseca Array 19.07 281 *eP* **Pn 14 13 28.8 -0.4**
comp=Z,20nm,0.8s
VRH Novokhopyorsk 19.43 43 *eP* **Pn 14 13 33.4 +0.1**
VRH pmax pmax
comp=Z,30nm,0.9s
VRH MLR MLR
comp=Z,820nm,11.0s
GROC Groznyy 19.54 69 *eP* **Pn 14 13 35.8 +1.1**
GROC pmax pmax
comp=Z,157nm,2.0s
OBN Obninsk 19.67 28 *eP* **P 14 13 35.6 +0.8**
comp=Z,204nm,1.9s
OBN Obninsk 19.67 28*c i*P **P 14 13 35.0 +0.3**
OBN *i* S S 14 17 03.9 -12
OBN pmax pmax
comp=Z,77nm,1.7s
OBN MLR MLR
comp=Z,944nm,16.0s
OBN Obninsk 19.67 28 P **P 14 13 35.6 +0.8**
comp=Z,1.2nm,0.3s,baz=209,slow=4.1,SNR=7.6
OBN LR LR 14 22 33.0
comp=Z,134nm,19.6s,baz=197,slow=41
VSU Vasula 20.22 9*dei*P **P 14 13 40.0 -0.7**
VSU pmax pmax
comp=Z,194nm,0.6s
VSU Vasula 20.22 9 *eP* **P 14 13 39.2 -1.5**
MOS Moscow 20.54 28 *eP* **P 14 13 42.3 -1.9**
MOS *e* 14 13 50.8
MOS *e* 14 14 21.4
MOS *e*S **S 14 17 26.8 -6.8**
MOS pmax pmax
comp=Z,106nm,1.3s
MOS MLR MLR
comp=Z,2μm,15.0s
AKT Akhty 20.92 74⇓*iP* **P 14 13 49.8 +1.2**
AKT pmax pmax
comp=Z,19nm,0.9s
PBRG Braganca 21.09 287 *eP* **P 14 13 51.3 +1.0**
comp=Z,66nm,1.5s
MDT Midelt 21.25 262 P **P 14 13 53.0 +0.8**
comp=Z,16nm,1.0s,baz=90,slow=14,SNR=12
MDT LR LR 14 24 03.0
comp=Z,158nm,18.2s,baz=68,slow=42
MVO Moncorvo 21.32 286 *eP* **P 14 13 53.4 +0.5**
comp=Z,54nm,1.4s
PMRV Marv??o 21.73 281 *eP* **P 14 13 56.1 -1.2**
comp=Z,126nm,1.4s
MTE Manteigas 21.75 284 *eP* **P 14 13 57.0 -0.5**
comp=Z,88nm,1.1s
PCBR Castelo Branco 21.75 282 *eP* **P 14 13 57.0 -0.5**
comp=Z,84nm,1.2s
HFS Hagfors 21.94 351 P **P 14 13 58.4 -0.9**
comp=Z,27nm,0.7s,baz=161,slow=9.4,SNR=44
HFS LR LR 14 22 45.5
comp=Z,225nm,20.2s,baz=164,slow=38
PVIS Viseu 22.00 284 *eP* **P 14 13 59.3 -0.8**
comp=Z,56nm,1.3s
KONO Kongsberg 22.16 345⇓*eP* **P 14 14 01.6 0.0**
KONO pmax pmax
comp=Z,90nm,1.7s
KONO Kongsberg 22.16 345 *eP* **P 14 14 02.1 +0.5**
PBEJ Beja 22.31 277 *eP* **P 14 14 04.3 +0.8**
comp=Z,59nm,1.6s
PMTG Montargil 22.42 280 *eP* **P 14 14 03.0 -1.6**
comp=Z,130nm,1.2s
PBDV Barranco-do-Ve 22.52 275 *eP* **P 14 14 07.2 +1.5**
comp=Z,59nm,1.2s
MESJ Messejana 22.62 277 *eP* **P 14 14 06.1 -0.8**
MESJ AMb AMB 14 14 11.4
comp=Z,38nm,1.4s
MESJ Messejana 22.62 277 *eP* **P 14 14 07.9 +1.1**
comp=Z,42nm,1.2s
MESJ Messejana 22.62 277 *eP* **P 14 14 06.0 -0.8**
BLS5 Blasjo 22.67 341 *eP* **P 14 14 07.5 +0.4**
PNCL Nicolau / Gran 22.81 278 *eP* **P 14 14 07.9 -0.9**
comp=Z,114nm,1.3s
NC602 NORSAR Array S 22.83 348 *eP* **P 14 14 08.0 -0.7**
FIA0 FINESS Array S 23.07 7 *e*PcP **PcP 14 18 00.0 0.0**
FINES FINESS Array B 23.07 7 P **P 14 14 09.1 -2.1**
comp=Z,17nm,0.5s,baz=169,slow=10,SNR=48
FINES PcP **PcP 14 18 00.0 0.0**
comp=Z,2.8nm,0.6s,baz=143,slow=3.6,SNR=4.7
FINES ScP **ScP 14 21 37.6 0.0**
comp=Z,2.5nm,0.8s,baz=221,slow=7.3,SNR=4.7
FINES LR LR 14 24 14.7
comp=Z,415nm,20.4s,baz=202,slow=40
FIA1 FINESS Array S 23.07 7 *eP* **P 14 14 10.5 -0.7**
comp=Z,133nm,1.4s
EKA Eskdalemuir Ar 23.08 324 P **P 14 14 11.7 +0.3**
comp=Z,143nm,0.9s,baz=122,slow=10,SNR=90
ESK Eskdalemuir 23.09 324 *eP* **P 14 14 11.8 +0.3**
comp=Z,251nm,1.1s
ESK Eskdalemuir 23.09 324 *i* P **P 14 14 12.2 +0.6**
NC405 NORSAR Array S 23.16 349 *eP* **P 14 14 11.5 -0.7**
comp=Z,91nm,0.9s
NB2 NORSAR Subarra 23.17 348 P **P 14 14 11.4 -0.9**
comp=Z,448nm,3.3s,baz=159,slow=9.3
NB2 NORSAR Subarra 23.17 348 P **P 14 14 11.4 -0.9**
baz=159,slow=9.3
NOA NORSAR Array B 23.17 348 P **P 14 14 11.6 -0.7**
comp=Z,7.6nm,0.7s,baz=159,slow=9.4,SNR=46
NOA PcP **PcP 14 18 00.7 +0.4**
comp=Z,1.1nm,0.7s,baz=140,slow=2.3,SNR=3.5
NOA LR LR 14 24 26.5
comp=Z,187nm,18.5s,baz=165,slow=40
PFVI Vila Bisbo 23.24 275 *eP* **P 14 14 13.6 +0.4**
comp=Z,99nm,1.5s
NC303 NORSAR Array S 23.32 349 *eP* **P 14 14 13.0 -0.8**
comp=Z,168nm,1.4s
SKAR Skarslia 23.36 345 *eP* **P 14 14 14.8 +0.5**
HYA Hoyanger 24.26 343 *eP* **P 14 14 23.3 +0.5**
DOMB Dombas 24.47 347 *eP* **P 14 14 25.3 +0.5**
AKN Aaknes 24.99 345 *eP* **P 14 14 30.0 +0.5**
KLMR Klimovskoe 25.17 22 *eP* **P 14 14 29.2 -1.9**
KLMR pmax pmax
comp=Z,48nm,1.1s
MOL Molde 25.24 346 *eP* **P 14 14 33.4 +1.8**
TBLU Trondheim 25.41 349 *eP* **P 14 14 35.2 +2.0**
NSS Namsos 26.41 352 *eP* **P 14 14 41.0 -1.3**
KIRV Kirov 27.22 33 P **P 14 14 49.5 -0.1**
comp=Z,11nm,0.4s,baz=238,slow=2.4,SNR=6.8
KIRV LR LR 14 26 15.9
comp=Z,738nm,20.0s,baz=202,slow=38
TMCR Tamitsa 27.57 16 *eP* **P 14 14 51.2 -1.4**
TMCR pmax pmax
comp=Z,15nm,0.6s
PRGR Permogore 27.70 26 *eP* **P 14 14 52.5 -1.4**
PRGR pmax pmax
comp=Z,50nm,0.8s
AKTO Aktyubinsk 28.84 54 P **P 14 15 03.2 -1.0**
AKTO pmax pmax
comp=Z,15nm,1.3s
AKTO Aktyubinsk 28.84 54 P **P 14 15 03.3 -0.9**
comp=Z,2.4nm,0.4s,baz=267,slow=8.7,SNR=15
AKTO LR LR 14 28 44.4
comp=Z,418nm,18.2s,baz=283,slow=41
GEYT Alibeck 29.32 80 P **P 14 15 09.0 +0.4**
comp=Z,18nm,0.5s,baz=269,slow=8.7,SNR=26
GEYT LR LR 14 30 13.4
comp=Z,278nm,19.5s,baz=270,slow=43
STEI Steigen 29.48 356 *eP* **P 14 15 08.2 -1.5**
APA Apatity 29.84 10⇑*iP* **P 14 15 11.3 -1.5**
APA pmax pmax
comp=Z,5.0nm,0.6s
APA MLR MLR
comp=Z,500nm,12.0s
AB31 Akbulak array 29.92 56 *i* P **P 14 15 12.1 -1.6**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 29.92 56 *eP* **P 14 15 13.2 -0.5**
comp=Z,8.6nm,1.0s
TOA1 Torodi Ar. Sit 30.44 219 *eP* **P 14 15 17.9 -0.7**
TOA1 *e*PcP **PcP 14 18 18.8 +0.7**
TOA0 Torodi Ar. Sit 30.44 219 *eP* **P 14 15 18.7 +0.1**
comp=Z,7.7nm,0.8s
TORD Torodi Ar. Bea 30.44 219 P **P 14 15 17.9 -0.7**
comp=Z,5.7nm,0.6s,baz=36,slow=8.9,SNR=36
TORD PcP **PcP 14 18 18.8 +0.7**
comp=Z,1.1nm,0.9s,baz=359,slow=5.6,SNR=2.8
TORD LR LR 14 30 25.4
comp=Z,354nm,18.6s,baz=350,slow=42
KTK1 Kautokeino 30.45 2 *eP* **P 14 15 17.5 -0.8**
ARU Arti 30.66 42*d i*P **P 14 15 19.7 -0.5**
ARU 14 16 16.8
ARU S **S 14 20 24.5 +2.3**
ARU SS **ScP 14 22 01.4 +1.0**
ARU pmax pmax
comp=Z,25nm,1.6s
ARU MLR MLR
comp=Z,456nm,13.0s
ARU Arti 30.66 42 P **P 14 15 19.5 -0.7**
comp=Z,1.1nm,0.3s,baz=247,slow=7.4,SNR=11
ARCES ARCESS Array B 31.05 3 P **P 14 15 22.4 -1.2**
comp=Z,8.3nm,0.7s,baz=190,slow=10,SNR=31
ARE0 ARCESS Array S 31.05 3 *eP* **P 14 15 22.6 -0.9**
TRO Tromso 31.05 359 *eP* **P 14 15 21.9 -1.6**
KEV Kevo 31.35 4 *eP* **P 14 15 25.2 -0.9**
comp=Z,61nm,1.8s
SVE Sverdlovsk 31.87 42⇑*eP* **P 14 15 30.9 0.0**
SVE *e* 14 26 09.2
SVE pmax pmax
comp=Z,40nm,1.5s
SVE MLR MLR
comp=Z,616nm,12.0s
SHME Shamm 32.34 102 *i* P **P 14 15 35.1 -0.3**
SNR=9.4
NAZ Nazwa, Dubai 32.54 104 *i* P **P 14 15 37.5 +0.4**
SNR=8.5
NAZ Nazwa, Dubai 32.54 104 P **P 14 15 37.7 +0.6**
MSFE Esma-Masafi 32.72 103 *i* P **P 14 15 38.1 -0.6**
SNR=5.7
HATD Hatta, Dubai 32.99 104 *i* P **P 14 15 41.0 0.0**
SNR=9.4
HATD Hatta, Dubai 32.99 104 P **P 14 15 41.2 +0.2**
ASHO Ashiyiah 33.01 104 P **P 14 15 41.1 -0.2**
SOHO SOHO 33.67 105 P **P 14 15 46.0 -1.0**
SNR=11
SMDO Samad 35.43 105 P **P 14 16 04.6 +2.3**
WSAR Wadi Sarin 35.76 104 P **P 14 16 07.2 +2.1**
WSAR Wadi Sarin 35.76 104 P **P 14 16 05.9 +0.8**
comp=Z,3.8nm,0.6s,baz=297,slow=9.6,SNR=8.2
MHTO MHTO 36.58 108 P **P 14 16 13.7 +1.7**
BRVK Borovoye 36.70 50 *eP* **P 14 16 12.9 +0.2**
comp=Z,20nm,0.8s
BRVK Borovoye 36.70 50*cei*P **P 14 16 12.7 0.0**
BRVK pmax pmax
comp=Z,21nm,1.8s
BRVK Borovoye 36.70 50 P **P 14 16 12.9 +0.2**
SNR=20
KK31 Karatay Array 37.54 67 *eP* **P 14 16 19.9 -0.2**
comp=Z,19nm,0.6s
KK31 Karatay Array 37.54 67 *i* P **P 14 16 19.5 -0.6**
KK31 pmax pmax

comp=Z,11nm,0.5s
OTUK Ortayu 38.11 58 P P 14 16 24.0 -0.8
OTUK pmax pmax
comp=Z,27nm,1.4s
DBIC Dimbokro 39.29 222 *e*P **P 14 16 35.0 0.0**
comp=Z,12nm,0.8s
DBIC Dimbokro 39.29 222 P P 14 16 34.8 -0.2
comp=Z,12nm,0.8s,baz=11,slow=8.7,SNR=12
DBIC LR LR 14 33 48.5
comp=Z,581nm,19.4s,baz=18,slow=38
SPA0 Spitsbergen Ar 39.67 359 *e*P **P 14 16 38.2 +0.7**
SPITS Spitsbergen Ar 39.67 359 P P 14 16 37.9 +0.4
comp=Z,5.5nm,0.5s,baz=149,slow=9.8,SNR=22
EKS2 Erkin-Say 39.98 67 P P 14 16 40.8 +0.2
SNR=19
AML Almayashu 40.04 68 P P 14 16 41.8 +0.3
SNR=15
MBAR Mbarara 40.16 164 P P 14 16 44.0 +1.6
MBAR Mbarara 40.16 164 P P 14 16 44.0 +1.6
comp=Z,3.0nm,0.3s,baz=10.0,slow=7.5,SNR=5.1
AAK Ala-Archa 40.50 67 P P 14 16 45.2 +0.2
SNR=18
AAK Ala-Archa 40.50 67 *e*P **P 14 16 45.2 +0.2**
comp=Z,10nm,0.7s
AAK Ala-Archa 40.50 67 *i* P **P 14 16 45.2 +0.2**
SNR=17
AAK Ala-Archa 40.50 67 P P 14 16 44.7 -0.3
AAK pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 40.50 67 P P 14 16 44.5 -0.5
SNR=10
KBS Kingsbay 40.54 357 *e*P **P 14 16 45.5 +0.9**
CHMS Chumysh 40.61 66 P P 14 16 46.0 +0.3
SNR=12
UCH Uchtor 40.61 67 P P 14 16 46.9 +0.6
SNR=14
KZA Kyzart 41.18 67 P P 14 16 51.7 +0.8
SNR=6.5
TKM2 Tokmak 2 41.23 66 P P 14 16 52.1 +1.0
SNR=13
TKM2 Tokmak 2 41.23 66 P P 14 16 50.1 -1.0
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
KURBB Kurchatov Arra 41.89 54 P P 14 16 55.4 -0.7
comp=Z,4.4nm,0.6s,baz=282,slow=8.9,SNR=36
KURBB PcP **PcP 14 18 52.2 +0.6**
comp=Z,3.7nm,0.8s,baz=278,slow=3.9,SNR=8.2
KURK Kurchatov 41.94 54 P P 14 16 54.7 -1.8
KURK pmax pmax
comp=Z,17nm,1.5s
KURK Kurchatov 41.94 54 P P 14 16 55.1 -1.4
SNR=9.7
KSH Kashi 42.40 71 P P 14 17 01.9 +1.3
KSH pP sP 14 17 06.8 +1.2
KSH PP **PP 14 18 42.3 +3.6**
KSH S **S 14 23 21.3 -0.6**
KSH SS **SS 14 26 23.9 -6.8**
KSH pmax pmax
comp=Z,8.0nm,0.3s
KSH pmax pmax
comp=Z,130nm,4.1s
KSH LR LR
comp=Z,260nm,13.0s
KSH LR LR
comp=Z,320nm,14.1s
KSH LR LR
comp=Z,220nm,14.9s
KMBO Kilima Mbogo 42.45 155 P P 14 17 03.3 +2.0
comp=Z,3.2nm,0.8s,baz=328,slow=9.8,SNR=5.8
PDGK Podgornoye 43.89 64 P P 14 17 11.3 -1.3
PDGK pmax pmax
comp=Z,8.0nm,0.5s
NVS Novosibirsk 44.30 47⇓*i*P **P 14 17 16.2 +0.7**
NVS *i* 14 18 57.1
NVS *e*S **S 14 23 47.2 -1.9**
NVS *i* SS **ScS 14 27 16.7 +3.2**
NVS pmax pmax
comp=Z,30nm,0.9s
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,4.0nm,1.1s
NVS pmax pmax
comp=N,3.0nm,0.5s
NVS pmax pmax
comp=E,4.0nm,0.5s
NVS pmax pmax
comp=Z,6.0nm,0.5s
NVS smax smax
comp=N,4.0nm,0.8s
NVS smax smax
comp=E,2.0nm,0.5s
MAKZ Makanchi 44.78 59 P P 14 17 18.1 -1.5
MAKZ pmax pmax
comp=Z,13nm,1.4s
MK31 Makanchi Array 44.99 59 *e*P **P 14 17 20.4 -0.9**
comp=Z,6.9nm,0.8s
MK31 Makanchi Array 44.99 59 *e*P **P 14 17 19.7 -1.6**
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MK32 Makanchi Array 44.99 59 *e*PcP **PcP 14 19 03.5 +1.3**
MKAR Makanchi Array 44.99 59 P P 14 17 20.4 -0.9
comp=Z,8.4nm,0.5s,baz=279,slow=6.4,SNR=87
MKAR PcP **PcP 14 19 03.5 +1.3**
comp=Z,3.4nm,0.7s,baz=283,slow=3.8,SNR=4.1
MKAR ScP **ScP 14 22 54.4 -0.1**
comp=Z,1.2nm,0.8s,baz=287,slow=4.7,SNR=5.1
MKAR LR LR 14 39 38.8
comp=Z,181nm,19.2s,baz=274,slow=41
ZALV Zalesovo Beam 45.32 48 P P 14 17 23.0 -0.7
ZALV Zalesovo Beam 45.32 48 P P 14 17 23.0 -0.7
comp=Z,30nm,0.5s,baz=275,slow=8.4,SNR=93
ZALV LR LR 14 38 45.2
comp=Z,441nm,18.6s,baz=97,slow=39
NRIK Noril'sk 46.34 27 P P 14 17 32.3 +0.8
comp=Z,6.7nm,0.6s,baz=241,slow=4.9,SNR=13
NRIK LR LR 14 39 39.6
comp=Z,438nm,18.9s,baz=254,slow=40
DGZ Jazzator, Alta 47.69 54*c i*P **P 14 17 42.0 -0.5**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
WMQ Urumqi 49.47 61 *e*P **P 14 17 57.9 +1.7**
WMQ pP sP 14 18 05.8 +4.6
WMQ sP pP 14 18 09.5 +10
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ pmax pmax
comp=Z,280nm,3.7s
WMQ LR LR
comp=Z,510nm,31.9s
WMQ LR LR
comp=Z,790nm,39.0s
WMQ LR LR
comp=Z,650nm,18.3s
PYUN Piuthan 52.26 82 *e*P **P 14 18 16.5 -1.1**
comp=Z,34nm,0.5s
DANN Dangsing 52.73 81 *e*P **P 14 18 20.5 -0.7**
comp=Z,51nm,0.7s
KOLN Koldanda 52.89 82 *e*P **P 14 18 21.2 -1.1**
comp=Z,11nm,0.5s
GKN Gorkha 53.58 81 *e*P **P 14 18 26.1 -1.2**
comp=Z,22nm,0.6s
DMN Daman 54.13 81 *e*P **P 14 18 30.4 -1.1**
comp=Z,30nm,0.6s
KKN Kakani 54.18 81 *e*P **P 14 18 30.9 -0.9**
comp=Z,14nm,0.6s
PKIN Phulchoki 54.37 81 *e*P **P 14 18 31.9 -1.3**
comp=Z,16nm,0.9s
HYB Hyderabad 54.42 96 *i* P **P 14 18 32.5 -0.9**
JIRN Jiri 54.94 81 *e*P **P 14 18 37.0 -0.5**
comp=Z,29nm,0.8s
RAMN Ramite 55.61 81 *e*P **P 14 18 40.1 -2.1**
comp=Z,21nm,0.7s
ODAN Odare 56.27 81 *e*P **P 14 18 45.8 -1.1**
comp=Z,14nm,0.7s
TLY Talaya 56.91 48*de*P **P 14 18 51.6 +0.8**
TLY Talaya 56.91 48 P **P 14 18 51.7 +0.8**
SNR=9.7
IRK Irkutsk 57.06 47 *e*P **P 14 18 49.2 -2.7**
IRK pmax pmax
comp=Z,29nm,2.1s
ZAK Zakamensk 57.19 49 *e*P **P 14 18 52.3 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
SCHQ Schefferville 58.16 317 *e*P **P 14 19 00.0 +0.4**
comp=Z,36nm,0.9s
SCHQ Schefferville 58.16 317 P **P 14 19 00.0 +0.4**
comp=Z,32nm,0.9s,baz=68,slow=11,SNR=16
TIXI Tiksi 59.18 21*de*P **P 14 19 06.6 +0.2**
TIXI pmax pmax
comp=Z,13nm,1.7s
TIXI MLR MLR
comp=Z,730nm,18.0s
GTA Gaotai 59.54 62⇑P **P 14 19 08.6 -1.0**
GTA pP pP 14 19 14.0 +0.7
GTA sP sP 14 19 17.3 +2.7
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,30nm,4.6s
GTA LR LR
comp=Z,72nm,17.8s
GTA LR LR
comp=Z,130nm,19.0s
GTA LR LR
comp=Z,190nm,18.1s
BOD Bodaibo 59.96 38 *e*P **P 14 19 09.2 -2.7**
BOD pmax pmax
comp=Z,8.0nm,1.7s
SONA0 Songino Array 60.10 51 *e*P **P 14 19 12.8 -0.5**
SONM Songino Array 60.10 51 P **P 14 19 12.8 -0.5**
comp=Z,3.8nm,0.6s,baz=285,slow=8.9,SNR=18
SONM LR LR 14 47 50.6
comp=Z,266nm,19.5s,baz=266,slow=39
ULN Ulaanbaatar 60.49 51 *e*P **P 14 19 14.3 -1.7**
comp=Z,7.2nm,1.0s
ULN Ulaanbaatar 60.49 51*ce*P **P 14 19 15.3 -0.7**
ULN pmax pmax
comp=Z,14nm,1.7s
PKME Peaks-Kenny Pk 63.81 308 P **P 14 19 39.8 +1.8**
baz=61
LZH Lanzhou 63.93 64 *e*P **P 14 19 40.3 +1.1**
LZH pP sP 14 19 48.3 +4.0
LZH sP pP 14 19 51.6 +8.6
LZH *e*PP **PP 14 22 02.8 +3.3**
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,100nm,7.2s
LZH LR LR
comp=Z,180nm,15.7s
LZH LR LR
comp=Z,210nm,17.3s
LZH LR LR
comp=Z,280nm,18.5s
CHGQ Chibougamau 64.50 314 P **P 14 19 43.9 +1.4**
baz=60
YAK Yakutsk 64.66 30 *e*P **P 14 19 42.6 -0.8**
YAK pmax pmax
comp=Z,57nm,0.8s
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=E,29nm,1.0s
YAK MLR MLR
comp=Z,1μm,23.0s
YAK MLR MLR
comp=N,517nm,21.0s
YAK MLR MLR
comp=E,1μm,21.0s
LBNH Lisbon 65.95 308 P **P 14 19 53.8 +1.7**
baz=59
MATQ Matagami 66.38 316 P **P 14 19 56.1 +1.4**
baz=58,SNR=9.0
LSQQ Lebel-sur-Quev 66.39 315 P **P 14 19 56.3 +1.5**
baz=58
CD2 Chengdu 66.53 68 P **P 14 19 54.9 -1.2**
CD2 pmax pmax
comp=E,50nm,0.5s
CD2 pmax pmax
comp=E,110nm,8.5s
HRV Adam Dziewonsk 66.62 306 P **P 14 19 58.4 +2.0**
baz=58
HHC Hu-ho-hao-te 66.71 56 *e*P **P 14 19 57.8 +0.7**
HHC S **S 14 28 45.4 -3.4**
HHC pmax pmax
comp=E,71nm,1.1s
HHC pmax pmax
comp=E,240nm,6.1s
HHC LR LR
comp=E,680nm,16.1s
HHC LR LR
comp=E,690nm,15.8s
HHC LR LR
comp=E,770nm,16.8s
ALFO Alfred 67.01 311 P **P 14 20 00.2 +1.5**
baz=58,SNR=6.4
BOSA Boshof 67.06 176 P **P 14 19 59.9 +0.7**
comp=E,4.8nm,0.8s,baz=346,slow=8.4,SNR=5.6
BOSA LR LR 14 51 21.5
comp=E,236nm,19.3s,baz=360,slow=38
D54A Lac Fusel, La 67.23 313 P **P 14 20 01.4 +1.2**
baz=57,SNR=8.2
LONY Lake Ozonia 67.37 310 P **P 14 20 02.7 +1.5**
baz=58
ORIO Orleans, Innes 67.48 311 P **P 14 20 03.7 +1.9**
baz=57
F55A Otter Lake 67.77 311 P **P 14 20 05.3 +1.7**
baz=57
D53A Lac Vacive, Po 67.87 313 P **P 14 20 04.9 +0.7**
baz=57
E54A Lac Daplat, Po 67.93 312 P **P 14 20 05.1 +0.6**
baz=57
E53A Dumoine, Ponti 68.23 312 P **P 14 20 07.2 +0.7**
baz=56
G55A Calabogie 68.30 311 P **P 14 20 08.7 +1.8**
baz=57
D52A ZEK Kipawa Sen 68.33 313 P **P 14 20 08.5 +1.3**
baz=56
PEMO Pembroke 68.38 312 P **P 14 20 09.1 +1.7**
baz=56,SNR=5.6
H56A Elgin 68.39 310 P **P 14 20 09.5 +2.0**
baz=57
ZEA Zeya 68.46 38 *e*P **P 14 20 08.0 +0.2**
ZEA pmax pmax
comp=Z,31nm,2.0s
ZEA MLR MLR
comp=Z,400nm,15.0s
ZEA MLR MLR
comp=N,300nm,14.0s
XAN Xi'an 68.55 63 P **P 14 20 07.8 -0.9**
XAN pmax pmax
comp=N,12nm,1.2s
XAN pmax pmax
comp=N,51nm,3.8s
XAN LR LR
comp=N,100nm,19.8s
XAN LR LR
comp=N,110nm,18.7s
XAN LR LR
comp=N,130nm,20.1s
PLVO Plevna 68.63 311 P **P 14 20 11.1 +2.1**
baz=56,SNR=10
ALGO Algonquin Park 68.69 312 P **P 14 20 10.8 +1.4**
baz=56
D51A Lot 18 Range I 68.81 314 P **P 14 20 11.2 +1.1**
baz=56
E52A Mattawa 68.86 313 P **P 14 20 12.0 +1.6**
baz=56
FCC Fort Churchill 68.88 329 *e*P **P 14 20 11.2 +0.9**
comp=N,16nm,0.8s
FCC Fort Churchill 68.88 329 *e*P **P 14 20 11.2 +0.9**
FCC pmax pmax
comp=Z,16nm,0.8s
KMI Kunming 68.91 74 P **P 14 20 12.3 +0.9**
KMI pP sP 14 20 19.8 +3.3
KMI sP pP 14 20 23.0 +7.9
KMI pmax pmax
comp=Z,8.0nm,0.6s
KMI pmax pmax
comp=Z,58nm,3.9s
H55A Tweed 68.96 311 P **P 14 20 13.1 +2.0**
baz=56,SNR=5.6
BANO Bancroft 69.14 311 P **P 14 20 14.3 +2.0**
baz=56
PECO Prince Edward 69.19 310 P **P 14 20 14.4 +1.9**
baz=56
E51A G1948 Merrick 69.19 313 P **P 14 20 14.1 +1.6**
baz=56
DELO Deloro Mine 69.24 311 P **P 14 20 14.6 +1.8**
baz=56
I55A Frankford 69.45 311 P **P 14 20 15.9 +1.8**
baz=56
G53A Haliburton 69.49 312 P **P 14 20 16.2 +1.9**
baz=56
F52A Sundridge 69.52 313 P **P 14 20 16.4 +1.9**
baz=55
BINY Binghamton 69.55 308 P **P 14 20 16.8 +2.0**
baz=56
CMAR Chiang Mai Arr 69.75 82 P **P 14 20 15.0 -1.4**
comp=Z,2.7nm,0.6s,baz=302,slow=7.7,SNR=19
CMAR LR LR 14 55 38.9
comp=Z,91nm,20.9s,baz=296,slow=40
BUKO Buck Lake 69.76 312 P **P 14 20 17.7 +1.7**
baz=55
F51A Arnstein 69.78 313 P **P 14 20 17.8 +1.7**
baz=55
D49A Beulah Townshi 69.82 315 P **P 14 20 17.9 +1.6**
baz=55
E50A Wahnapitae 69.96 314 P **P 14 20 19.3 +2.1**
baz=55
WLVO Wesleyville 70.04 311 P **P 14 20 19.4 +1.7**
baz=55
J55A Hilton 70.06 310 P **P 14 20 19.7 +1.8**
baz=55
D48A Paudash Townsh 70.13 315 P **P 14 20 19.8 +1.5**
baz=54
N59A State Game Lan 70.13 307 P **P 14 20 20.5 +2.0**
baz=56,SNR=5.9
O60A Telford 70.23 306 P **P 14 20 20.7 +1.7**
baz=56
DRWO Darlington Wes 70.26 311 P **P 14 20 21.1 +2.0**
baz=55
KLBO Killbear Provi 70.28 313 P **P 14 20 20.7 +1.5**
baz=55
MEDO Medina 70.50 310 P **P 14 20 22.6 +2.0**
baz=55
K55A Perry 70.52 309 P **P 14 20 22.8 +2.0**
baz=55
BILL Bilibino 70.54 13*c i*P **P 14 20 19.9 -0.5**
BILL *i* 14 22 54.1
BILL pmax pmax
comp=Z,14nm,1.7s
J54A Appleton 70.55 310 P **P 14 20 22.6 +1.7**
baz=55
O59A Robesonia 70.73 306 P **P 14 20 24.1 +2.0**
baz=55
E48A Lockeyer 70.73 314 P **P 14 20 23.7 +1.8**
baz=54
D47A Chapleau 70.91 315 P **P 14 20 24.3 +1.2**
baz=54
K54A Basiliko Farm, 70.96 310 P **P 14 20 25.0 +1.6**
baz=55
L55A Hinsdale 71.06 309 P **P 14 20 25.5 +1.4**
baz=55
F49A Sandfield 71.09 314 P **P 14 20 26.2 +2.1**
baz=54
M56A Emporium 71.30 308 P **P 14 20 26.8 +1.2**
baz=55
N57A Milroy 71.33 307 P **P 14 20 26.7 +1.0**
baz=55
E47A Iron Bridge 71.37 315 P **P 14 20 27.3 +1.5**
baz=53
D46A Sault St. Mari 71.52 316 P **P 14 20 28.8 +2.0**
baz=53
BWLO Walkerton 71.54 312 P **P 14 20 28.7 +1.8**
baz=54
INK Inuvik 71.61 350 P **P 14 20 26.9 0.0**
comp=Z,1.9nm,0.6s,baz=13,slow=10,SNR=15
SSPA Standing Stone 71.61 308 P **P 14 20 29.4 +2.0**
baz=55
I51A Listowel 71.66 312 P **P 14 20 29.4 +1.8**
baz=54
SEY Seymchan 71.67 21⇓*i*P **P 14 20 28.2 +0.9**
M55A Ridgway 71.67 309 P **P 14 20 29.1 +1.3**
baz=54,SNR=5.3
O57A Amberson 71.70 307 P **P 14 20 29.0 +1.0**
baz=55
E46A Sault Ste Mari 71.99 315 P **P 14 20 30.8 +1.3**
baz=53
ERPA Erie 72.03 310 P **P 14 20 31.5 +1.6**
baz=54
M54A Oil Creek Stat 72.19 309 P **P 14 20 32.9 +2.0**
baz=54
N55A Marion Center 72.21 308 P **P 14 20 32.6 +1.6**
baz=54,SNR=6.0
O56A Blue Knob Stat 72.25 308 P **P 14 20 33.4 +2.1**
baz=54
L53A Girard 72.29 310 P **P 14 20 32.9 +1.5**
baz=54
G47A Hillman 72.46 314 P **P 14 20 34.6 +2.2**
baz=53
R59A King George, V 72.53 305 P **P 14 20 34.9 +2.0**
baz=54
N54A Moraine State 72.71 309 P **P 14 20 35.5 +1.5**
baz=54
O55A Ligonier 72.74 308 P **P 14 20 35.9 +1.8**
baz=54
TOLK Toolik Lake Re 72.77 356 P **P 14 20 34.9 +1.0**
baz=8.1
M53A WI Miller and 72.85 309 P **P 14 20 36.5 +1.7**
baz=53
S59A Mechanicsville 72.90 305 P **P 14 20 36.3 +1.1**
baz=54
G46A Petoskey 72.94 315 P **P 14 20 36.7 +1.5**
baz=52
YKA Yellowknife Ar 72.97 340 P **P 14 20 35.5 +0.4**
comp=Z,2.6nm,0.7s,baz=34,slow=5.2,SNR=33
YKA LR LR 14 54 08.4
comp=Z,7.9nm,18.6s,baz=46,slow=37
F45A CMU Biological 73.07 315 P **P 14 20 36.9 +0.9**
baz=52
J49A Marlette 73.15 312 P **P 14 20 38.0 +1.4**
baz=52
R58B Mineral 73.16 305 P **P 14 20 38.2 +1.6**
baz=54
M52A Chesterland 73.20 310 P **P 14 20 38.5 +1.6**
baz=53
N53A Lisbon 73.32 309 P **P 14 20 39.1 +1.5**
baz=53
R57A Stanardsville 73.38 306 P **P 14 20 40.6 +2.7**
baz=54
MCWV Mont Chateau 73.40 308 P **P 14 20 40.0 +2.0**
baz=53
O54A Avella 73.42 308 P **P 14 20 40.0 +1.8**
baz=53
E43A Lone Tree Farm 73.45 316 P **P 14 20 39.8 +1.5**
baz=51
KLR Kul'dur 73.46 40⇑*i*P **P 14 20 38.1 -0.2**
KLR pmax pmax
comp=Z,6.0nm,1.1s
P55A Reedsville 73.48 307 P **P 14 20 40.4 +1.8**
baz=53
S58A Poland Farm, P 73.48 305 P **P 14 20 40.7 +2.2**
baz=54
CN2 Changchun 73.51 47 *e*P **P 14 20 38.4 -0.2**
CN2 *ep*P sP 14 20 46.1 +2.3
CN2 *es*P PcP 14 20 49.4 -5.3
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,160nm,13.0s
CN2 LR LR
comp=Z,180nm,13.0s
CN2 LR LR
comp=Z,320nm,15.0s
T59A Double "B" Far 73.53 304 P **P 14 20 40.5 +1.7**
baz=54
I47A Gladwin 73.54 313 P **P 14 20 40.5 +1.7**
baz=52
P54A Burton 73.83 308 P **P 14 20 42.5 +1.9**
baz=53
MA2 Magadan 73.83 24*ce*P **P 14 20 40.8 +0.6**
MA2 pmax pmax
comp=Z,21nm,0.8s
PLIO Pelee Island, 73.83 311 P **P 14 20 42.0 +1.5**
baz=52
N52A McGinn's Farm, 73.83 309 P **P 14 20 42.4 +1.8**
baz=53
EPYK Eagle Plains 73.86 351 P **P 14 20 40.5 +0.2**
baz=18
O53A New Philadelph 73.89 309 P **P 14 20 43.0 +2.1**
baz=53
Q55A Buckhannon 73.94 307 P **P 14 20 43.6 +2.3**
baz=53
S57A Dark Hollow, R 73.97 306 P **P 14 20 43.3 +1.9**
baz=53
U59A Littleton 74.05 304 P **P 14 20 44.0 +2.0**
baz=54
K48A Perry 74.06 312 P **P 14 20 43.4 +1.5**

baz=52
I46A Reed City 74.12 314 P P 14 20 43.8 +1.6
baz=51
N51A Ashland 74.19 310 P P 14 20 43.9 +1.2
baz=52
J47A Sunmer 74.20 313 P P 14 20 44.2 +1.5
baz=52
M50A Fremont 74.29 311 P P 14 20 44.8 +1.5
baz=52
O52A Adamsville 74.35 309 P P 14 20 45.0 +1.4
baz=52
S56A Natural Bridge 74.41 306 P P 14 20 46.2 +2.1
baz=53
Q54A Coxs Mills 74.42 308 P P 14 20 45.5 +1.4
baz=53
P53A Whipple 74.46 308 P P 14 20 46.1 +1.8
baz=53
U58A Oxford 74.52 304 P P 14 20 46.4 +1.8
baz=53
T57A Hurt 74.61 305 P P 14 20 46.9 +1.6
baz=53
K47A Vermontville 74.65 313 P P 14 20 46.8 +1.4
baz=51
GRNR Gornyy 74.69 36 *e*P P 14 20 48.1 +2.7
V59A Middlesex 74.69 304 P P 14 20 47.5 +1.9
baz=53
FFC Flin Flon 74.81 330 *i* P P 14 20 47.8 +1.8
P52A Corning 74.82 309 P P 14 20 47.9 +1.5
baz=52
Q53A Leroy 74.92 308 P P 14 20 48.4 +1.5
baz=52
S55A Lewisburg 74.94 306 P P 14 20 48.8 +1.6
baz=53
ACSO Alum Creek Sta 74.97 310 P P 14 20 48.6 +1.4
baz=52
F41A Three Lakes 74.99 317 P P 14 20 48.4 +1.2
baz=50
R54A Victor 75.00 307 P P 14 20 48.9 +1.4
baz=52
U57A Blanch 75.01 305 P P 14 20 49.2 +1.7
baz=53
T56A Rocky Mt 75.09 306 P P 14 20 49.7 +1.7
baz=53
BLA Blacksburg 75.23 306 P P 14 20 49.0 +0.2
baz=52
N49A Columbus Grove 75.26 311 P P 14 20 49.9 +1.0
baz=51
Q52A Bidwell 75.31 308 P P 14 20 50.5 +1.3
baz=52
E39A Mellen 75.34 318 P P 14 20 50.5 +1.3
baz=49
ULM Lac du Bonnet 75.36 324 P P 14 20 49.9 +0.6
comp=Z,16nm,0.9s,baz=58,slow=4.3,SNR=18
ULM LR LR 14 53 53.5
comp=Z,72nm,20.5s,baz=152,slow=36
O50A Cable 75.41 310 P P 14 20 51.1 +1.4
baz=52
R53A Hurricane 75.51 308 P P 14 20 52.5 +2.1
baz=52
T55A Pulaski 75.52 306 P P 14 20 52.7 +2.3
baz=52
V57A Coltrane Farms 75.62 304 P P 14 20 52.7 +1.7
baz=53
U56A King 75.73 305 P P 14 20 53.6 +2.0
baz=52
W58A Raeford 75.79 303 P P 14 20 53.7 +1.7
baz=53
N48A Decatur 75.80 311 P P 14 20 52.8 +0.8
baz=51
O49A Covington 75.81 310 P P 14 20 53.2 +1.1
baz=51
F39A Loretta 75.83 318 P P 14 20 52.7 +0.6
baz=49
P50A Jamestown 75.85 310 P P 14 20 53.3 +1.0
baz=51
G40A Rib Lake 75.88 317 P P 14 20 53.4 +1.1
baz=49
Q51A Peebles 75.94 309 P P 14 20 54.0 +1.2
baz=52
H41A Junction City 76.01 316 P P 14 20 54.1 +1.0
baz=49
T54A Tazewell 76.05 306 P P 14 20 55.0 +1.4
baz=52
U55A TA2, Sparta 76.06 306 P P 14 20 55.4 +1.7
baz=52,SNR=7.4
J43A Natural Harves 76.14 315 P P 14 20 55.3 +1.4
baz=50
POKR Poker Plat Res 76.14 355 P P 14 20 53.8 +0.3
baz=9.6
N47A Urbana 76.18 311 P P 14 20 55.3 +1.1
baz=51
W57A Gilead 76.20 304 P P 14 20 56.5 +2.1
baz=52
O48A Farmland 76.26 311 P P 14 20 56.6 +2.0
baz=51
F38A Pierce - Schro 76.30 318 P P 14 20 56.6 +1.8
baz=48
G39A Holcombe 76.38 318 P P 14 20 56.1 +0.9
baz=48
H40A Chili 76.41 317 P P 14 20 56.4 +1.0
baz=49
COLA College 76.41 355 ⇓ *i*P P 14 20 56.9 +1.9
COLA pmax pmax
comp=Z,5.0nm,1.1s
ILAR Eielson Array 76.44 355 P P 14 20 56.0 +0.8
ILAR Eielson Array 76.44 355 P P 14 20 56.0 +0.8
comp=Z,1.6nm,0.9s,baz=0.2,slow=4.9,SNR=15
P49A Miami Univ. Ec 76.45 310 P P 14 20 57.3 +1.6
baz=51
NJ2 Nanjing 76.52 60 *e*P P 14 20 55.3 -0.9
NJ2 pmax pmax
comp=Z,14nm,0.5s
R51A Hillsboro 76.53 308 P P 14 20 57.1 +0.9
baz=51
U54A Nelsons Funny 76.54 306 P P 14 20 57.8 +1.4
baz=52
V55A Taylorsville 76.56 305 P P 14 20 58.3 +1.9
baz=52
W56A Indian Trail 76.60 304 P P 14 20 58.7 +2.1
baz=52
T53A Wise 76.70 307 P P 14 20 59.8 +2.5
baz=52
AGMN Agassiz Nation 76.70 322 P P 14 20 57.9 +0.9
baz=46
N46A Monticello 76.78 312 P P 14 20 58.7 +1.1
baz=50
HDA Harding Lake 76.81 354 P P 14 20 57.8 +0.5
baz=10.0
G38A Ridgeland 76.82 318 P P 14 20 58.6 +0.9
baz=48
WRH Wood River Hil 76.83 355 *e*P P 14 20 57.6 +0.3
comp=Z,13nm,1.1s
F37A Hinrichs Farm, 76.85 319 P P 14 20 58.8 +1.0
baz=48
O47A Sheridan 76.87 311 P P 14 20 58.8 +0.7
baz=50
USRK Ussuriysk Ar. 76.89 43 P P 14 20 57.5 -0.5
comp=Z,4.4nm,0.7s,baz=312,slow=3.6,SNR=11
USRK LR LR 14 57 06.3
comp=Z,140nm,19.8s,baz=310,slow=38
Q49A Aurora 76.89 310 P P 14 20 59.6 +1.4
baz=51
T52A Hallie 76.91 307 P P 14 21 00.3 +1.9
baz=51
P48A Milroy 76.92 310 P P 14 20 59.0 +0.6
baz=50
S51A Beattyville 76.95 308 P P 14 20 59.8 +1.2
baz=51
R50A Paris 77.00 309 P P 14 20 59.9 +1.0
baz=51
I40A Norwalk 77.01 316 P P 14 21 00.2 +1.4
baz=48
J41A Loganville 77.03 316 P P 14 20 59.9 +1.0
baz=49
K42A Prairie Point, 77.05 315 P P 14 20 59.8 +0.8
baz=49
KMSC Kings Mountain 77.08 305 P P 14 21 01.8 +2.5
baz=52
V54A Nebo 77.08 305 P P 14 21 01.9 +2.6
baz=52
U53A Fall Branch 77.11 306 P P 14 21 01.7 +2.2
baz=51
Z58A St. Stephen 77.19 302 P P 14 21 01.8 +1.8
baz=52
X56A White Oak 77.28 304 P P 14 21 02.2 +1.8
baz=52
RIDG Independent Ri 77.29 353 *e*P P 14 21 00.9 +0.8
comp=Z,14nm,1.2s

SFIN Lafayette 77.32 312 P P 14 21 01.5 +0.9
baz=50
Q48A North Vernon 77.44 310 P P 14 21 02.3 +1.0
baz=50
JFWS Jewell Farm 77.45 315 P P 14 21 02.5 +1.2
baz=48
R49A Shelbyville 77.51 309 P P 14 21 02.9 +1.2
baz=50
T51A Gray 77.59 307 P P 14 21 03.8 +1.6
baz=51
TZTN Tazewell 77.61 307 P P 14 21 04.1 +1.8
baz=51
W54A Cherokee Point 77.66 305 P P 14 21 04.2 +1.6
baz=51
X55A Gracelyn & Ava 77.69 304 P P 14 21 04.6 +1.8
baz=51
V53A Saluda 77.70 306 P P 14 21 04.3 +1.4
baz=51
L42A Oliver, Polo 77.73 314 P P 14 21 04.1 +1.3
baz=49
Z57A Bowman 77.81 303 P P 14 21 05.4 +1.9
baz=52
S49A Springfield 77.90 309 P P 14 21 05.9 +2.0
baz=50
J39A Decorah 77.97 316 P P 14 21 05.0 +0.9
baz=48
U51A La Follette 78.01 307 P P 14 21 06.2 +1.6
baz=51
V52A Sevierville 78.08 306 P P 14 21 07.1 +2.2
baz=51
K40A Colesburg 78.09 316 P P 14 21 05.8 +1.0
baz=48
T50A Nancy 78.11 308 P P 14 21 06.4 +1.3
baz=50
X54A Belton 78.12 305 P P 14 21 07.0 +1.9
baz=51
N43A Stutzman Famil 78.16 313 P P 14 21 06.6 +1.3
baz=49
DHY Denali Highway 78.16 354 *e*P P 14 21 04.9 -0.1
comp=Z,9.5nm,0.8s
Y55A Saluda 78.16 304 P P 14 21 07.1 +1.7
baz=51
WCI Wyandotte Cave 78.23 310 P P 14 21 07.2 +1.5
baz=50
W53A Cullowhee 78.23 306 P P 14 21 07.4 +1.5
baz=51
P45A Graceland, Par 78.25 311 P P 14 21 07.1 +1.4
baz=49
O44A Mansfield 78.27 312 P P 14 21 07.2 +1.3
baz=49
R47A Wooly Knot Far 78.33 310 P P 14 21 07.6 +1.3
baz=50
S48A Wiedeman Farm, 78.45 309 P P 14 21 08.3 +1.3
baz=50
HDIL Hopedale 78.48 313 P P 14 21 07.9 +0.9
baz=49
T49A Edmonton 78.49 308 P P 14 21 08.2 +1.1
baz=50
K39A Oelwein 78.49 316 P P 14 21 07.4 +0.3
baz=48
U50A Jamestown 78.50 307 P P 14 21 08.8 +1.5
baz=50
L40A Anamosa 78.56 315 P P 14 21 08.3 +0.9
baz=48
V51A Loudon 78.58 307 P P 14 21 09.5 +1.8
baz=50
X53A Estanollee 78.74 305 P P 14 21 10.0 +1.4
baz=51
Y54A Tignall 78.75 304 P P 14 21 10.5 +1.9
baz=51
W52A Murphy 78.77 306 P P 14 21 10.2 +1.5
baz=50
Q45A Warren Harvey, 78.91 311 P P 14 21 10.5 +1.1
baz=49
L39A Vinton 78.95 316 P P 14 21 10.2 +0.6
baz=47
KSRS Korea Array 78.97 51 P P 14 21 09.3 -0.5
comp=Z,7.2nm,0.8s,baz=311,slow=4.8,SNR=29
KSRS LR LR 14 59 56.7
comp=Z,135nm,18.3s,baz=321,slow=39
S47A Hartford 78.99 309 P P 14 21 10.7 +0.9
baz=49
T48A Bowling Green 79.01 309 P P 14 21 11.1 +1.1
baz=50,SNR=8.2
U49A Red Boiling Sp 79.02 308 P P 14 21 11.2 +1.2
baz=50,SNR=7.9
X52A Dahlonega 79.05 306 P P 14 21 12.1 +1.8
baz=50
V50A Pikevile 79.14 307 P P 14 21 12.1 +1.4
baz=50,SNR=8.5
P43A Skaggs, Pawnee 79.21 312 P P 14 21 12.2 +1.1
baz=48
Z54A Sparta 79.24 304 P P 14 21 12.8 +1.5
baz=51
W51A Cleveland 79.25 306 P P 14 21 13.0 +1.7
baz=50
N41A Harden Midland 79.26 314 P P 14 21 12.2 +0.9
baz=48
TJN Taejon 79.33 52 *de*P P 14 21 11.0 -0.7
Y53A Monroe 79.33 305 P P 14 21 12.5 +0.7
baz=50
R45A Skylar, Fairfi 79.38 311 P P 14 21 12.5 +0.6
baz=49
S46A Don Dixon Farm 79.44 310 P P 14 21 12.8 +0.5
baz=49
U48A Cassie Pea, Po 79.49 308 P P 14 21 13.7 +1.0
baz=49,SNR=6.7
T47A Sharon Grove 79.52 309 P P 14 21 13.7 +0.9
baz=49,SNR=7.7
GOGA Godfrey 79.54 304 P P 14 21 14.4 +1.5
baz=50
W50A Signal Mountai 79.57 307 P P 14 21 14.7 +1.5
baz=50,SNR=8.5
V49A McMinnville 79.57 308 P P 14 21 14.1 +0.9
baz=50
Y52A Lilburn 79.63 305 P P 14 21 15.1 +1.6
baz=50
Z53A Monticello 79.69 304 P P 14 21 15.2 +1.4
baz=50
X51A Calhoun 79.69 306 P P 14 21 15.0 +1.2
baz=50
T46A Princeton 79.96 310 P P 14 21 16.1 +0.9
baz=49
U47A Clarksville 79.99 309 P P 14 21 16.1 +0.7
baz=49,SNR=7.7
V48A Smith Brothers 80.16 308 P P 14 21 17.3 +1.0
baz=49
W49A Belvidere 80.22 307 P P 14 21 17.8 +1.2
baz=49
Y51A Rockmart 80.25 306 P P 14 21 18.5 +1.6
baz=50
X50B Fort Payne 80.26 306 P P 14 21 17.9 +1.0
baz=50
ECSD EROS Data Cent 80.28 319 P P 14 21 17.6 +0.8
baz=45,SNR=6.9
Q42A Golden Eagle 80.28 312 P P 14 21 18.4 +1.5
baz=48
Z52A Williamson 80.29 305 P P 14 21 18.5 +1.4
baz=50
RC01 Rabbit Creek A 80.30 355 *e*P P 14 21 16.3 -0.3
comp=Z,13nm,1.1s
YSS Yuzh-Sakhalins 80.34 36 ⇓ *e*P P 14 21 17.6 +0.6
YSS *e* 14 21 19.9
YSS pmax pmax
comp=Z,10.0nm,0.6s
YSS MLR MLR
comp=Z,300nm,14.0s
YSS MLR MLR
comp=N,300nm,17.0s
YSS MLR MLR
comp=E,300nm,15.0s
S44A Carbondale 80.35 311 P P 14 21 18.0 +0.7
baz=48
WVT Waverly 80.52 309 P P 14 21 18.8 +0.6
baz=49
V47A Nunnelly 80.53 308 P P 14 21 18.7 +0.4
baz=49
W48A Pulaski 80.62 308 P P 14 21 19.5 +0.7
baz=49,SNR=7.5
X49A Woodville 80.65 307 P P 14 21 20.3 +1.3
baz=49
Z51A Franklin 80.69 305 P P 14 21 20.3 +1.1
baz=50
152A Waverly Hall 80.82 305 P P 14 21 21.2 +1.3
baz=50
758A Lake Helen 80.84 300 P P 14 21 22.3 +2.3
baz=51
V46A Holladay 80.92 309 P P 14 21 20.6 +0.3

baz=49,SNR=11
W47A Westpoint 80.96 308 P P 14 21 21.4 +0.9
baz=49
556A Lake Butler 81.00 301 P P 14 21 22.5 +1.6
baz=50
Y49A Blount Mountai 81.13 306 P P 14 21 22.7 +1.1
baz=49
X48A Hartselle 81.14 307 P P 14 21 22.8 +1.2
baz=49
R41A Rosebud 81.19 312 P P 14 21 22.4 +0.6
baz=47,SNR=6.5
Z50A Ashland 81.21 306 P P 14 21 23.1 +1.1
baz=49
CCM Cathedral Cave 81.27 312 *e*P P 14 21 23.0 +0.8
comp=E,11nm,0.9s
CCM Cathedral Cave 81.27 312 *e*P P 14 21 23.0 +0.8
CCM pmax pmax
comp=Z,11nm,0.9s
CCM Cathedral Cave 81.27 312 P P 14 21 23.2 +0.9
baz=47
555A McAlpin 81.30 302 P P 14 21 22.8 +0.4
baz=50
PETK Petropavlovsk- 81.34 25 P P 14 21 19.6 -2.7
comp=Z,2.1nm,0.9s,baz=324,slow=7.3,SNR=2.9
PETK LR LR 15 02 16.8
comp=Z,106nm,18.5s,baz=317,slow=39
454A Quitman 81.36 302 P P 14 21 24.3 +1.6
baz=50
656A Willston 81.48 301 P P 14 21 25.6 +2.1
baz=50
W46A Michie 81.52 308 P P 14 21 24.3 +0.8
baz=48
Y48A Jasper 81.57 307 P P 14 21 24.5 +0.7
baz=49
X47A Russelville 81.60 308 P P 14 21 24.4 +0.4
baz=48
251A Midway 81.64 304 P P 14 21 25.2 +1.0
baz=49
Z49A Columbiana 81.64 306 P P 14 21 25.4 +1.2
baz=49
150A Eclectic 81.69 305 P P 14 21 26.1 +1.6
baz=49
554A Perry 81.80 302 P P 14 21 26.5 +1.4
baz=50
S41A Jillco Farms, 81.88 312 P P 14 21 26.7 +1.2
baz=47,SNR=11
X46A Booneville 82.03 308 P P 14 21 27.1 +0.9
baz=48
LRAL Lakeview Retre 82.04 306 P P 14 21 27.9 +1.6
baz=49
059A Moore Haven 82.06 298 P P 14 21 28.9 +2.4
baz=51
149A Jones 82.19 306 P P 14 21 28.4 +1.2
baz=49
250A Grady 82.26 305 P P 14 21 28.7 +1.2
baz=49
OXF Oxford 82.56 309 P P 14 21 30.6 +1.6
baz=48
BGNE Belgrade 82.73 318 P P 14 21 31.4 +1.5
baz=44
249A Camden 82.81 305 P P 14 21 32.0 +1.7
baz=49
U41A Viola 82.83 311 P P 14 21 31.8 +1.4
baz=47
349A Repton 83.27 305 P P 14 21 34.3 +1.6
baz=48
U40A Yellville 83.37 312 P P 14 21 34.3 +1.1
baz=46
KSU1 Kansas State U 83.57 316 P P 14 21 35.3 +1.1
baz=44
KDAK Kodiak Island 83.76 356 *i* P P 14 21 36.6 +1.8
BDFB Brasilia 83.78 244 LR LR 14 59 11.5
comp=Z,120nm,20.3s,baz=133,slow=36
W41B Gary Mavity, V 83.83 311 *e*P P 14 21 36.7 +1.2
comp=Z,22nm,1.2s
W41B Gary Mavity, V 83.83 311 P P 14 21 36.8 +1.2
baz=46
X40A Basin Creek Fa 84.65 310 P P 14 21 40.9 +1.1
baz=46
W39A Magazine 84.72 311 P P 14 21 41.2 +1.1
baz=46
MIAR Mount Ida 85.05 311 P P 14 21 43.0 +1.3
baz=46
OGNE Ogallala 85.06 320 P P 14 21 43.2 +1.3
baz=41
RLMT Red Lodge 85.19 327 P P 14 21 43.6 +1.0
baz=37
TUL1 Leonard 85.38 313 P P 14 21 44.9 +1.5
baz=45
MAT Matsushiro 85.60 46 P P 14 21 44.0 -0.6
MAT *e*S S 14 32 11.0 -5.5
MAJO Matsushiro 85.60 46 *de*P P 14 21 44.4 -0.2
MAJO pmax pmax
comp=Z,13nm,1.1s
MJAR Matsushiro Arr 85.60 46 P P 14 21 44.5 -0.1
comp=Z,6.8nm,0.7s,baz=328,slow=4.0,SNR=21
MJAR LR LR 15 03 45.3
comp=Z,128nm,18.2s,baz=340,slow=38
NEW Newport 85.66 333 P P 14 21 44.0 -0.6
baz=32
MSO Missoula 85.69 331 P P 14 21 44.6 -0.4
baz=34
BOZ Bozeman (W) 85.79 329 *e*P P 14 21 46.1 +0.6
comp=Z,4.8nm,1.0s
BOZ Bozeman (W) 85.79 329 *e*P P 14 21 46.1 +0.6
BOZ pmax pmax
comp=Z,5.0nm,1.0s
BOZ Bozeman (W) 85.79 329 P P 14 21 45.2 -0.3
baz=36
K22A Casper 85.92 324 P P 14 21 46.2 0.0
baz=39
N23A Red Feather La 87.01 322 P P 14 21 51.7 0.0
baz=39
BW06 Boulder Array 87.20 326 P P 14 21 53.2 +0.7
baz=37
PDAR Pinedale Array 87.20 326 P P 14 21 53.2 +0.7
comp=Z,1.0nm,0.7s,baz=77,slow=4.4,SNR=7.4
PDAR LR LR 15 01 46.8
comp=Z,113nm,18.0s,baz=30,slow=36
ISCO Idaho Springs 87.70 322 P P 14 21 55.5 +0.4
baz=39
WMOK Wichita Mounta 87.92 314 P P 14 21 57.6 +1.7
baz=43
HLID Hailey 88.59 329 P P 14 22 00.2 +1.1
baz=34
O20A White River Ci 88.69 323 P P 14 22 00.5 +0.8
baz=38
T25A Trinidad 89.15 319 P P 14 22 02.6 +0.7
baz=40
SDCO Great Sand Dun 89.23 320 P P 14 22 02.6 +0.2
baz=39
ABTX Abilene, Hawle 89.95 313 P P 14 22 07.4 +1.8
baz=42
CGJI Cibinong 90.26 98 P P 14 22 03.5 -3.6
DUG Dugway, Tooele 90.71 326 P P 14 22 09.5 +0.5
baz=35
ROSC El Rosal 90.86 277 LR LR 15 03 12.6
comp=Z,31nm,18.7s,baz=76,slow=36
R11A Troy Canyon, C 93.44 327 P P 14 22 21.4 -0.4
baz=33
MNTX Cornudas Mount 93.84 316 P P 14 22 24.1 +0.6
baz=39
NVAR Mina Array Bea 94.50 329 P P 14 22 27.9 +1.2
comp=Z,0.4nm,0.4s,baz=50,slow=3.8,SNR=5.2
TX31 Lajitas Ar. Si 94.70 314 *e*P P 14 22 28.7 +1.1
comp=Z,15nm,0.6s
TXAR Lajitas Array 94.70 314 P P 14 22 28.7 +1.1
comp=Z,1.8nm,0.8s,baz=72,slow=4.1,SNR=16
TXAR LR LR 15 05 22.0
comp=Z,46nm,18.3s,baz=0.0,slow=36
CWC Cottonwood Cre 96.11 328 P P 14 22 32.2 -1.8
baz=31
CPUP Villa Florida 97.33 242 LR LR 15 08 19.4
comp=Z,292nm,18.9s,baz=44,slow=36
LPAZ La Paz 99.03 256 LR LR 15 08 53.9
comp=Z,55nm,20.0s,baz=339,slow=36
ASAR Alice Springs 122.15 96 PKP **PKPdf** 14 28 00.5 -0.6
comp=Z,2.0nm,0.6s,baz=314,slow=1.7,SNR=37
ASAR PKKPbc **PKKPab** 14 37 57.2 0.0
comp=Z,0.5nm,0.8s,baz=103,slow=3.4,SNR=6.0
STKA Stephens Creek 132.05 101 PKP **PKPdf** 14 28 19.6 0.0
comp=Z,0.7nm,0.4s,baz=232,slow=12,SNR=2.7

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*ISCJB **23** 15:22:36.7±0.7,21°.24S±0°.03×68°.77W±0°.07,h126km±9km,*
Error ellipse: s-maj=10.8km s-min=5.0km az=172.5
*SJA **23** 15:22:36.3±0.5,21°.24S×68°.70W,h120km±5km,ML2.8,*

MW2.7

*GUC **23** 15:22:37.6±0.6,21°.25S×68°.77W,h121km±3km,ML3.5*

ISC 23 15:22:37.2±1.6,21°.24S±0°.04×68°.76W±0°.06, h122km±12km,n26,σ0°.36/41,6C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.70**	**286**	*eP*	**Pn**	**15 22 56.6**	**-0.4**
PB01				*eS*	**Sn**	**15 23 11.9**	**+0.1**
PB01	**IPOC Station P**	**0.70**	**286⇑**	*eP*	**Pn**	**15 22 56.6**	**-0.4**
PB01				*eS*	**Sn**	**15 23 11.3**	**-0.6**
PB01				IAML		15 23 13.0	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**0.71**	**219**	*eP*	**Pn**	**15 22 57.0**	**-0.1**
PB09	**IPOC Station P**	**0.71**	**219⇑**	*iP*	**Pn**	**15 22 57.1**	**-0.1**
PB09				*i* S	**Sn**	**15 23 11.8**	**-0.3**
PB09				IAML		15 23 13.4	
	comp=N,881nm,0.4s						
PB02	**IPOC Station P**	**1.06**	**266**	*eP*	**Pn**	**15 23 00.3**	**+0.2**
PB02				*eS*	**Sn**	**15 23 18.5**	**+1.0**
PB02	**IPOC Station P**	**1.06**	**266⇑**	*iP*	**Pn**	**15 23 00.3**	**+0.2**
PB02				*eS*	**Sn**	**15 23 17.6**	**+0.1**
PB02				IAML		15 23 19.7	
	comp=E,3μm,0.4s						
PB07	**IPOC Station P**	**1.15**	**245**	*eP*	**Pn**	**15 23 01.4**	**+0.2**
PB07	**IPOC Station P**	**1.15**	**245⇑**	*iP*	**Pn**	**15 23 01.2**	**0.0**
PB07				*i* S	**Sn**	**15 23 19.1**	**-0.2**
PB07				IAML		15 23 20.4	
	comp=N,1μm,0.3s						
PB08	**IPOC Station P**	**1.15**	**341**	*eP*	**Pn**	**15 23 01.5**	**+0.1**
PB08				*eS*	**Sn**	**15 23 19.8**	**+0.1**
PB08	**IPOC Station P**	**1.15**	**341**	*eP*	**Pn**	**15 23 02.0**	**+0.5**
PB08				*eS*	**Sn**	**15 23 20.3**	**+0.6**
PB08				IAML		15 23 21.9	
	comp=E,1μm,0.3s						
PB03	**IPOC Station P**	**1.22**	**229**	*eP*	**Pn**	**15 23 02.2**	**+0.3**
PB03	**IPOC Station P**	**1.22**	**229⇑**	*iP*	**Pn**	**15 23 01.9**	**0.0**
PB03				*i* S	**Sn**	**15 23 20.2**	**-0.4**
PB03				IAML		15 23 21.7	
	comp=E,798nm,0.3s						
LVC	**Limon Verde**	**1.37**	**186**	*eP*	**Pn**	**15 23 03.5**	**-0.2**
PB06	**IPOC Station P**	**1.64**	**207⇑**	*iP*	**Pn**	**15 23 06.7**	**0.0**
PB06				*i* S	**Sn**	**15 23 28.8**	**-0.2**
PB06				IAML		15 23 29.9	
	comp=E,783nm,0.3s						
PB04	**IPOC Station P**	**1.69**	**230**	*eP*	**Pn**	**15 23 07.4**	**+0.2**
PB04				*eS*	**Sn**	**15 23 29.8**	**-0.2**
PB04				IAML		15 23 32.1	
	comp=N,421nm,0.3s						
PB11	**IPOC Station P**	**1.69**	**330**	*eP*	**Pn**	**15 23 07.8**	**+0.5**
PB11	**IPOC Station P**	**1.69**	**330**	*eP*	**Pn**	**15 23 07.5**	**+0.3**
PB11				*i* S	**Sn**	**15 23 30.6**	**+0.5**
PB15	**IPOC Station P**	**2.07**	**198**	*eP*	**Pn**	**15 23 12.1**	**+0.3**
PB15	**IPOC Station P**	**2.07**	**198**	*eP*	**Pn**	**15 23 12.2**	**+0.3**
PB15				*eS*	**Sn**	**15 23 38.6**	**+0.3**
PSGC	**Pisagua**	**2.07**	**322**	*eP*	**Pn**	**15 23 11.6**	**-0.3**
PSGC				*eS*	**Sn**	**15 23 37.9**	**-0.4**
PSGC				IAML		15 23 41.5	
	comp=N,364nm,0.2s						
PSGCX	**Pisagua**	**2.07**	**322**	*eP*	**Pn**	**15 23 11.9**	**0.0**
PB05	**IPOC Station P**	**2.09**	**220**	*eP*	**Pn**	**15 23 12.3**	**+0.3**
PB05				IAML		15 23 47.1	
	comp=N,162nm,0.5s						
PB12	**IPOC Station P**	**3.00**	**330**	*eP*	**Pn**	**15 23 23.0**	**-0.8**
PB12				*eS*	**Sn**	**15 23 59.3**	**-0.2**
PB12				IAML		15 24 06.5	
	comp=N,218nm,0.4s						
YJA	**Yavi**	**3.16**	**108**	*eP*	**Pn**	**15 23 26.4**	**+0.2**
YJA				IAML		15 23 30.5	
	comp=Z,19nm,0.5s						
HJA	**Humahuaca**	**3.67**	**123**	*eP*	**Pn**	**15 23 32.9**	**0.0**
HJA				IAML		15 23 36.3	
	comp=Z,25nm,0.5s						
AZAP	**Zapla**	**4.52**	**132**	*eP*	**Pn**	**15 23 43.8**	**-0.3**
AZAP				IAML		15 24 05.9	
	comp=Z,4.6nm,0.6s						

*ISCJB **23** 15:24:55.8±0.6,24°.75N±0°.04×94°.00E±0°.04,h84km±5km, mb3.7/11, Error ellipse: s-maj=6.9km s-min=5.2km az=38.0*

*IDC **23** 15:24:55.5±1.8,24°.51N×94°.35E,h80km±17km,mb3.6/11, mb1 3.7/13,mb1mx3.4/51,mbtmp3.9/13,Error ellipse: s-maj=16.6km s-min=14.1km az=86.0*

*NDI **23** 15:24:55.1±1.6,24°.68N×94°.20E,h33km±11km,ML4.0*

ISC 23 15:24:55.7±1.0,24°.69N±0°.04×94°.13E±0°.06,h79km±8km, n36,σ2°.00/58,mb3.8/12,1C,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOHI	**KOHIMA**	**1.02**	**359**	*eP*	**Pn**	**15 25 14.9**	**-0.2**
KOHI				*eS*	**Sn**	**15 25 28.9**	**-0.8**
KOHI				IAML		15 25 32.9	
	comp=N,3μm,0.5s						
KOHI				IAML		15 25 33.0	
	comp=E,2μm,0.4s						
SILR	**SILCHAR**	**1.21**	**274**	*eP*	**Pn**	**15 25 19.2**	**+1.9**
SILR				*eS*	**Sn**	**15 25 37.3**	**+3.7**
SILR				IAML		15 25 41.9	
	comp=E,2μm,0.3s						
SILR				IAML		15 25 42.1	
	comp=N,3μm,0.2s						
MOKO	**MOKOCHONG**	**1.66**	**12**	*eP*	**Pn**	**15 25 22.7**	**-0.5**
JORH	**JORHAT**	**2.04**	**3**	*eP*	**Pn**	**15 25 27.4**	**-0.8**
JORH				*eS*	**Sn**	**15 25 51.8**	**-1.2**
SHL	**Shillong**	**2.22**	**294⇑**	*iPN*	**Pn**	**15 25 31.0**	**+0.3**
SHL				*eP*	**Pn**	**15 25 31.3**	**+0.7**
SHL				*i* SN	**Sn**	**15 25 57.0**	**-0.4**
TEZP	**TEZPUR**	**2.26**	**328**	*eP*	**Pn**	**15 25 31.0**	**-0.1**
TEZP				*eS*	**Sn**	**15 25 57.3**	**-0.8**
TEZP				IAML		15 25 59.7	
	comp=E,544nm,0.1s						
TEZP				IAML		15 25 59.9	
	comp=N,990nm,0.1s						
SAIH	**SAIHA**	**2.43**	**206**	*eP*	**Pn**	**15 25 32.8**	**-0.8**
SAIH				*eS*	**Sn**	**15 26 00.8**	**-1.7**
ZIRO	**ZIRO**	**2.83**	**355**	*eP*	**Pn**	**15 25 38.1**	**-0.9**
ZIRO				*eS*	**Sn**	**15 26 09.9**	**-2.3**
ZIRO				IAML		15 26 13.5	
	comp=N,715nm,0.1s						
ZIRO				IAML		15 26 13.9	
	comp=E,736nm,0.3s						
BRDH	**Bariadhala**	**3.04**	**229**	P	**Pn**	**15 25 41.5**	**-0.1**
	comp=E,31nm,0.3s,baz=103,slow=22,SNR=1.6						
BRDH				S	**Sn**	**15 26 18.4**	**+1.5**
	comp=E,85nm,0.3s,baz=84,slow=20,SNR=11						
TURI	**Tura**	**3.55**	**285**	*eP*	**Pn**	**15 25 50.4**	**+1.9**
TURI				*eS*	**Sn**	**15 26 29.2**	**-0.2**
TURI				IAML		15 26 35.5	
	comp=E,728nm,0.1s						
TURI				IAML		15 26 35.5	
	comp=N,5μm,0.0s						
GTK	**Tadong**	**5.62**	**299**	*eP*	**Pn**	**15 26 16.8**	**-0.1**
GTK				*eS*	**Sn**	**15 27 17.0**	**-3.2**
ODAN	**Odare**	**6.45**	**291**	*ePn*	**Pn**	**15 26 29.4**	**+1.1**
ODAN				*eSn*	**Sn**	**15 27 37.2**	**-3.4**
	comp=N,197nm,0.4s						
RAMN	**Ramite**	**7.15**	**290**	*ePn*	**Pn**	**15 26 38.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**7.65**	**143**	P	**Pn**	**15 26 42.4**	**-2.0**
	comp=N,0.2nm,0.3s,baz=313,slow=13,SNR=7.5						
JIRN	**Jiri**	**7.72**	**294**	*ePn*	**Pn**	**15 26 47.3**	**+1.5**
JIRN				*eSn*	**Sn**	**15 28 09.2**	**-2.7**
	comp=N,153nm,0.4s						
PKI	**Pulchoki**	**8.35**	**292**	*ePn*	**Pn**	**15 26 54.4**	**+0.1**
PKI				*eSn*	**Sn**	**15 28 24.1**	**-3.0**
	comp=N,35nm,0.4s						
PKIN	**Phulchoki**	**8.36**	**292**	*ePn*	**Pn**	**15 26 54.6**	**+0.2**
PKIN				*eSn*	**Sn**	**15 28 24.3**	**-3.0**
	comp=N,24nm,0.2s						
KKN	**Kakani**	**8.53**	**293**	*ePn*	**Pn**	**15 26 57.3**	**+0.7**
KKN				*eSn*	**Sn**	**15 28 29.2**	**-2.1**
	comp=N,44nm,0.4s						
DMN	**Daman**	**8.62**	**292**	*ePn*	**Pn**	**15 26 57.9**	**0.0**
KOLN	**Koldanda**	**9.94**	**290**	*ePn*	**Pn**	**15 27 16.0**	**+0.1**
KOLN				*eSn*	**Sn**	**15 29 00.9**	**-4.9**
	comp=N,41nm,0.4s						
DANN	**Dangsing**	**9.98**	**294**	*ePn*	**Pn**	**15 27 16.8**	**+0.3**
DANN				*eSn*	**Sn**	**15 29 03.4**	**-3.5**
	comp=N,37nm,0.5s						
PYUN	**Piuthan**	**10.55**	**291**	*ePn*	**Pn**	**15 27 22.7**	**-1.5**
PYUN				*eSn*	**Sn**	**15 29 14.6**	**-6.1**
	comp=N,54nm,0.7s						
MKAR	**Makanchi Array**	**24.00**	**340**	P	**P**	**15 30 05.4**	**+2.4**
	comp=N,1.2nm,0.5s,baz=154,slow=9.6,SNR=20						
SONM	**Songino Array**	**25.06**	**20**	P	**P**	**15 30 14.7**	**+2.1**
	comp=N,0.9nm,0.5s,baz=200,slow=9.2,SNR=8.0						
KURBB	**Kurchatov Arra**	**28.56**	**339**	P	**P**	**15 30 45.9**	**+2.0**
	comp=N,0.4nm,0.6s,baz=160,slow=8.0,SNR=4.6						
KURBB				PcP	**PcP**	**15 33 54.4**	**+1.0**
	comp=N,0.2nm,0.4s,baz=167,slow=1.9,SNR=4.8						
KURBB				ScP	**ScP**	**15 37 28.8**	**+1.2**
	comp=N,0.3nm,0.6s,baz=161,slow=3.4,SNR=6.3						
ZALV	**Zalesovo Beam**	**30.04**	**349**	P	**P**	**15 30 58.5**	**+1.5**
	comp=N,1.1nm,0.4s,baz=156,slow=7.5,SNR=5.4						
BVAR	**Borovoye Array**	**33.49**	**334**	P	**P**	**15 31 29.2**	**+2.0**
	comp=N,0.6nm,0.5s,baz=125,slow=13,SNR=5.3						
BVAR				ScP	**ScP**	**15 37 45.4**	**+1.4**
	comp=N,0.4nm,0.5s,baz=333,slow=0.3,SNR=3.8						
FINES	**FINESS Array B**	**58.15**	**328**	P	**P**	**15 34 42.0**	**+1.1**
	comp=N,1.1nm,0.7s,baz=114,slow=19,SNR=4.1						
ARCES	**ARCESS Array B**	**59.64**	**338**	P	**P**	**15 34 52.8**	**+1.7**
	comp=N,1.9nm,0.8s,baz=90,slow=7.3,SNR=6.7						
ASAR	**Alice Springs**	**61.63**	**138**	P	**P**	**15 35 03.0**	**-2.3**
	comp=N,0.5nm,0.6s,baz=321,slow=6.8,SNR=17						
ASAR				PcP	**PcP**	**15 35 44.0**	**-2.2**
	comp=N,0.4nm,0.4s,baz=324,slow=3.8,SNR=6.3						
HFS	**Hagfors**	**64.20**	**327**	P	**P**	**15 35 23.0**	**+1.2**
	comp=N,2.2nm,0.5s,baz=114,slow=7.2,SNR=11						
NB2	**NORSAR Subarra**	**65.32**	**328**	P	**P**	**15 35 29.8**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=84,slow=6.5						
NOA	**NORSAR Array B**	**65.32**	**328**	P	**P**	**15 35 29.8**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=85,slow=6.4,SNR=4.3						
ILAR	**Eielson Array**	**79.25**	**22**	P	**P**	**15 36 51.2**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=299,slow=6.0,SNR=8.8						
TORD	**Torodi Ar. Bea**	**86.78**	**283**	pP	pP	15 37 53.3	-0.1
	comp=Z,0.2nm,0.8s,baz=15,slow=6.0,SNR=4.1						
TXAR	**Lajitas Array**	**123.63**	**19**	PKP	**PKPdf**	**15 43 44.5**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=40,slow=2.6,SNR=4.4						

MEX 23 15:29:28.0±0.7,16°.82N×92°.09W,h17km±16km,MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.53**	**185**	*eP*	Pg	15 29 34.3	-4.4
CCIG				*i* S	Sg	15 29 41.2	-4.8
TGIG		**0.99**	**268**	*i* P	Pb	15 29 42.7	-4.0
TGIG				*eS*	Sb	15 29 55.4	-4.0
PCIG		**1.55**	**225**	*eP*	Pn	15 29 50.9	-3.9
PCIG				*i* S	Sn	15 30 10.1	-4.4
CMIG	**Matias Romero**	**2.69**	**276**	*i* P	Pn	15 30 07.6	-2.9
CMIG				*i* S	Sn	15 30 39.3	-3.3

SNET 23 15:36:21.8±0.5,13°.04N×89°.02W,h33km±2km,ML3.3,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAVA	**Las Pavas**	**0.68**	**7**	*eP*	Pb	15 36 35.6	+0.2
PAVA				IAML		15 36 48.9	
	comp=Z,250nm,0.3s						
TECA	**Tecapa**	**0.68**	**48**	*eP*	Pn	15 36 35.4	+0.1
TECA				*eS*	Sn	15 36 46.3	+1.4
TECA	**Tecapa**	**0.68**	**48**	*eP*	Pb	15 36 35.5	0.0
LFU	**La Fuente**	**0.71**	**353**	*eP*	Pb	15 36 35.9	0.0
LFU				*eS*	Sb	15 36 46.8	+1.2
PACA	**Pacayal**	**0.80**	**58**	*eP*	Pn	15 36 37.1	+0.2
PACA				IAML		15 36 50.8	
	comp=Z,3μm,0.3s						
PACA	**Pacayal**	**0.80**	**58**	*eP*	Pn	15 36 37.1	+0.1
LCY	**Lacayo**	**0.81**	**61**	*eP*	Pn	15 36 37.1	+0.1
LCY	**Lacayo**	**0.81**	**61**	*eP*	Pb	15 36 37.3	-0.2
CEVE	**Cerro Verde**	**0.98**	**323**	*eP*	Pn	15 36 40.0	+0.5
CEVE				IAML		15 37 03.4	
	comp=Z,208nm,0.3s						
SBLS	**San Blas**	**0.99**	**324**	*eP*	Pb	15 36 40.2	-0.5
SBLS	**San Blas**	**0.99**	**324**	*eP*	Pb	15 36 40.2	-0.5
SNJE	**San Jose**	**1.00**	**326**	*eP*	Pn	15 36 39.9	+0.1
SNJE	**San Jose**	**1.00**	**326**	*eP*	Pn	15 36 40.0	+0.2
SNJE				*eS*	Sb	15 36 54.6	+0.7
CAHU	**Cacacuatique**	**1.07**	**47**	*eP*	Pn	15 36 40.9	+0.1
LCND	**La Caada**	**1.13**	**76**	*eP*	Pn	15 36 40.6	-0.8
LCND				IAML		15 36 59.5	
	comp=Z,155nm,0.3s						
CNCH	**Conchagua**	**1.18**	**78**	*eP*	Pn	15 36 42.5	+0.4
CNCH				IAML		15 37 04.4	
	comp=Z,636nm,0.3s						
CNCH	**Conchagua**	**1.18**	**78**	*eP*	Pn	15 36 42.4	+0.3
CNCH				IAML		15 36 59.0	
	comp=Z,562nm,0.2s						
CSGN	**Cosiguina Volc**	**1.43**	**92**	*eP*	Pn	15 36 45.8	+0.3

EAF 23 15:52:39.5±1.3,19°.43S×25°.63E,h10km,MD3.6, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**2.87**	**111**	*i* P	Pn	15 53 24.7	-0.8
MATP	**Matopo**	**2.87**	**111**	*i* P	Pn	15 53 24.7	-0.8
MSNA	**Messina**	**5.03**	**126**	*i* P	Pn	15 53 55.8	+0.7
MSNA				*i* S	Sn	15 54 48.5	-4.7
MSNA	**Messina**	**5.03**	**126**	*i* P	Pn	15 53 55.8	+0.7
MSNA				*i* S	Sn	15 54 48.5	-4.7
TSUM	**Tsumeb**	**7.60**	**270**	*i* P	Pn	15 54 28.9	-1.7
TSUM	**Tsumeb**	**7.60**	**270**	*i* P	Pn	15 54 28.9	-1.7

*ISCJB **23** 16:01:37.6±0.6,7°.48S±0°.06×128°.21E±0°.07,h200km, mb3.6/7,Error ellipse: s-maj=9.8km s-min=8.8km az=169.8*

*IDC **23** 16:01:38.4±2.0,7°.46S×128°.21E,h190km±22km,mb3.3/7, mb1 3.6/11,mb1mx3.4/29,mbtmp4.1/11,Error ellipse: s-maj=21.9km s-min=13.9km az=43.0*

ISC 23 16:01:38.8±0.7,7°.65S±0°.07×128°.27E±0°.09,h200km,n11, σ1°.66/17,mb3.7/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.21**	**240**	P	**Pn**	**16 02 57.6**	**+1.6**
	14nm,0.3s,baz=316,slow=3.5,SNR=15						
BATI				S	**Sn**	**16 03 56.2**	**-0.7**
	5.2nm,0.3s,baz=297,slow=23,SNR=3.6						
FITZ	**Fitzroy Crossi**	**10.70**	**194**	P	**Pn**	**16 04 07.2**	**+0.1**
	3.1nm,0.3s,baz=18,slow=12,SNR=182						
FITZ				S	**Sn**	**16 06 02.9**	**-3.7**
	1.0nm,0.3s,baz=120,slow=21,SNR=3.2						
ASAR	**Alice Springs**	**16.82**	**162**	P	**Pn**	**16 05 25.2**	**+2.2**
	0.9nm,0.3s,baz=344,slow=11,SNR=161						
ASAR				pP	**pP**	**16 05 54.2**	**0.0**
	0.3nm,0.3s,baz=339,slow=11,SNR=4.7						
ASAR				S	**S**	**16 08 26.4**	**-0.9**
	0.6nm,0.3s,baz=327,slow=17,SNR=5.9						
ASAR				ScP	**ScP**	**16 13 16.6**	**+2.1**
	baz=349,slow=2.0,SNR=4.0						
PMG	**Port Moresby**	**18.76**	**97**	P	**Pn**	**16 05 45.5**	**-0.5**
	0.9nm,0.3s,baz=270,slow=5.1,SNR=5.8						
CTA	**Charters Tower**	**21.37**	**127**	P	**P**	**16 06 11.9**	**+1.1**
	2.2nm,0.5s,baz=298,slow=14,SNR=4.0						
STKA	**Stephens Creek**	**27.12**	**155**	P	**P**	**16 07 05.7**	**+2.4**
	1.8nm,0.9s,baz=337,slow=10,SNR=6.9						
STKA				pP	**pP**	**16 07 42.5**	**-0.6**
	0.7nm,0.4s,baz=329,slow=12,SNR=3.3						
CMAR	**Chiang Mai Arr**	**38.86**	**312**	P	**P**	**16 08 45.1**	**+0.1**
	0.4nm,0.6s,baz=134,slow=8.7,SNR=4.2						
SONM	**Songino Array**	**58.53**	**343**	P	**P**	**16 11 14.1**	**-0.2**
	1.0nm,0.6s,baz=129,slow=4.0,SNR=4.4						
PETK	**Petropavlovsk-**	**65.48**	**19**	P	**P**	**16 11 58.7**	**-1.6**
	1.0nm,0.6s,baz=173,slow=4.3,SNR=5.5						
MKAR	**Makanchi Array**	**67.84**	**328**	P	**P**	**16 12 14.8**	**-0.6**
	0.5nm,0.8s,baz=129,slow=6.6,SNR=6.3						
ZALV	**Zalesovo Beam**	**71.41**	**335**	P	**P**	**16 12 35.9**	**-1.2**
	0.7nm,0.4s,baz=138,slow=6.2,SNR=3.0						

*IDC **23** 16:09:48.8±5.3,3°.83N×77°.24W,h47km±47km,mb3.5/4, mb1 3.8/6,mb1mx3.5/28,mbtmp3.8/6,ML2.5/2,MS2.8/3, Ms1 2.8/3,ms1mx2.5/26,Error ellipse: s-maj=43.1km s-min=27.4km az=63.0*

*ISCJB **23** 16:09:50.0±0.6,4°.06N±0°.04×77°.06W±0°.05,h63km±6km, mb3.7/4,Error ellipse: s-maj=8.2km s-min=6.7km az=2.8*

*RSNC **23** 16:09:52.3±1.2,3°.85N×76°.90W,h5km±5km,ML3.4,Mw3.8*

ISC 23 16:09:50.2±0.8,4°.02N±0°.05×77°.03W±0°.05,h49km±7km, n23,σ1°.94/32,mb3.7/4,2C-1D,Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALC	**Bahia Malaga**	**0.30**	**269⇓**	*iP*	**Pn**	**16 10 00.1**	**+0.9**
MALC				*e*Sg	**Sn**	**16 10 07.5**	**+1.9**
MALC				*e*S		16 10 08.2	
MALC				*i*		16 10 13.8	
	comp=Z,5μm,0.8s						
YOTC	**Yotoco, Valle**	**0.69**	**93**	*e*Pg	**Pn**	**16 10 02.0**	**-1.9**
YOTC				*e*S	**Sn**	**16 10 11.2**	**-2.5**
YOTC				*i*		16 10 11.8	
	comp=Z,1μm,0.4s						
POPC	**Popayan, Colom**	**1.51**	**166**	*e*P	**Pn**	**16 10 14.8**	**-0.3**
POPC				*e*S	**Sn**	**16 10 33.1**	**-0.7**
MARP	**Paez Belalcaza**	**1.59**	**137**	*e*P	**Pn**	**16 10 16.1**	**-0.1**
PCON	**Cinco Dias**	**1.79**	**159**	*e*P	**Pn**	**16 10 20.3**	**+1.0**
PCON				*e*S	**Sn**	**16 10 43.0**	**+1.8**
PCON				*i*		16 10 45.7	
	comp=Z,820nm,0.5s						
SOTA	**Rioblanco**	**1.92**	**167⇑**	*iP*	**Pn**	**16 10 21.9**	**+0.9**
SOTA				*e*S	**Sn**	**16 10 45.7**	**+1.5**
SOTA				*i*		16 10 56.9	
	comp=Z,408nm,0.6s						
BBAC	**Balboa, Cauca**	**2.00**	**186**	*e*Pg	**Pn**	**16 10 23.6**	**+1.9**
BBAC				*e*S	**Sn**	**16 10 47.4**	**+1.8**
BBAC				*i*		16 10 50.3	
	comp=Z,226nm,0.3s						
BETC	**Betania**	**2.07**	**130**	*e*P	**Pn**	**16 10 24.2**	**+1.6**
PRAC	**Prado**	**2.16**	**98**	*e*P	**Pn**	**16 10 24.9**	**+1.0**
PRAC				*e*S	**Sn**	**16 10 51.2**	**+1.7**
PRAC				*i*		16 10 56.1	
	comp=Z,214nm,0.5s						
FLOC	**Florencia**	**2.79**	**150⇑**	*iP*	**Pn**	**16 10 34.0**	**+1.6**
FLOC				*e*S	**Sn**	**16 11 05.8**	**+1.0**
FLOC				*i*		16 11 11.2	
	comp=Z,91nm,0.5s						
GCUF	**Volcan Galeras**	**2.79**	**186**	*e*P	**Pn**	**16 10 34.3**	**+1.3**
GCUF				*i*		16 11 14.6	
	comp=Z,71nm,0.3s						
ROSC	**El Rosal**	**2.83**	**73**	P	**Pn**	**16 10 36.0**	**+2.8**
	comp=Z,9.8nm,0.3s,baz=222,slow=10,SNR=9.3						
ROSC				S	**Sn**	**16 11 11.6**	**+5.3**
	comp=Z,7.0nm,0.3s,baz=202,slow=22,SNR=3.2						
CHIC	**Chingaza**	**3.35**	**79**	*e*P	**Pn**	**16 10 42.6**	**+2.2**
OTAV	**Otavalo**	**4.01**	**201**	*e*P	**Pn**	**16 10 51.2**	**+1.5**
PTLC	**Puerto Leguiza**	**4.43**	**150**	*e*P	Pn	16 11 00.0	+5.1
SDV	**Santo Domingo**	**7.99**	**52**	P	**Pn**	**16 11 45.3**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=229,slow=15,SNR=6.2						
SDV				S	**Sn**	**16 13 11.0**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=263,slow=21,SNR=1.3						
SDV				LR	LR	16 14 40.3	
	comp=Z,32nm,21.0s,baz=64,slow=35						
JTS	**Las Juntas de**	**10.03**	**309**	LR	LR	16 15 28.9	
	comp=Z,71nm,20.0s,baz=185,slow=34						
PTGA	**Pitinga**	**17.69**	**105**	LR	LR	16 21 13.2	
	comp=Z,46nm,21.2s,baz=354,slow=38						
SIV	**San Ignacio**	**25.39**	**142**	P	**P**	**16 15 11.7**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=310,slow=7.9,SNR=4.8						
YKA	**Yellowknife Ar**	**64.61**	**342**	P	**P**	**16 20 21.6**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=133,slow=6.5,SNR=16						
YKA				pP	**pP**	**16 20 37.0**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=135,slow=6.5,SNR=2.6						
ESDC	**Sonseca Array**	**74.43**	**50**	P	**P**	**16 21 24.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=287,slow=7.9,SNR=4.5						
ILAR	**Eielson Array**	**77.87**	**336**	P	**P**	**16 21 42.2**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=107,slow=4.6,SNR=6.8						
ASAR	**Alice Springs**	**144.32**	**234**	PKP	**PKPab**	**16 29 18.8**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=117,slow=3.8,SNR=22						
ASAR				pPKP	**pPKPdf**	**16 29 33.5**	**-3.3**
	comp=Z,0.6nm,0.5s,baz=121,slow=3.7,SNR=4.4						

*ISCJB **23** 16:12:27.5±0.5,38°.64N±0°.02×20°.56E±0°.04,h5km±3km, mb3.6/3,Error ellipse: s-maj=5.3km s-min=3.1km az=170.3*

*ATH **23** 16:12:27.6,38°.63N×20°.60E,h11km±1km,ML3.2/20,Error ellipse: s-maj=1.3km s-min=0.8km az=266.0*

*THE **23** 16:12:27.9,38°.65N×20°.60E,h4km±1km,ML3.4/8,Error ellipse: s-maj=1.3km s-min=0.5km az=126.0*

*IDC **23** 16:12:52.9±79.0,40°.94N×23°.77E,h0km,mb3.5/3, mb1 3.6/3,mb1mx3.2/32,mbtmp3.6/3,Error ellipse: s-maj=1446.0km s-min=61.2km az=46.0*

ISC 23 16:12:27.6±0.8,38°.65N±0°.02×20°.57E±0°.03,h9km±5km, n73,σ1°.06/89,mb3.6/3,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVGI	**Lefkada island**	**0.08**	**112**	P	**Pg**	**16 12 29.4**	**-0.4**
EVGI				S	**Sg**	**16 12 30.4**	**-1.0**
EVGI	**Lefkada island**	**0.08**	**112**	P	**Pg**	**16 12 29.5**	**-0.3**
EVGI				S	**Sg**	**16 12 31.3**	**-0.1**
LKD2	**Lefkada island**	**0.16**	**28**	P	**Pg**	**16 12 30.6**	**-0.4**
LKD2				S	**Sg**	**16 12 32.8**	**-0.6**
LKD2	**Lefkada island**	**0.16**	**28**	P	**Pg**	**16 12 30.7**	**-0.4**
LKD2				S	**Sg**	**16 12 33.5**	**+0.1**
LKD2				AML	AML

comp=N,1417μm,0.5s
JAN AML AML 16 13 08.2
comp=E,1968μm,0.7s
ANX Ano Chora 1.06 93 P **Pg 16 12 47.2 -0.8**
ANX Ano Chora 1.06 93 P **Pg 16 12 47.2 -0.8**
ANX AML AML 16 13 06.2
comp=N,7288μm,0.4s
ANX AML AML 16 13 12.1
comp=E,4566μm,0.7s
EFP Efpalio 1.07 102 P **Pg 16 12 47.1 -1.1**
EFP Efpalio 1.07 102 P **Pg 16 12 47.1 -1.1**
EFP AML AML 16 13 11.2
comp=N,2660μm,0.3s
EFP AML AML 16 13 12.9
comp=E,3061μm,0.5s
DRO Drossia 1.14 127 P **Pg 16 12 48.5 -1.0**
DRO Drossia 1.14 127 P **Pg 16 12 48.5 -1.0**
DRO AML AML 16 13 16.9
comp=N,3279μm,0.4s
DRO AML AML 16 13 19.4
comp=E,3499μm,0.4s
LAKA Lakka 1.18 110 P **Pg 16 12 48.9 -1.4**
LAKA Lakka 1.18 110 P **Pg 16 12 48.7 -1.6**
LAKA AML AML 16 13 16.1
comp=N,1252μm,0.5s
LAKA AML AML 16 13 17.1
comp=E,1054μm,0.8s
SERG Sergoula 1.19 101 P **Pg 16 12 49.3 -1.3**
SERG Sergoula 1.19 101 P **Pg 16 12 49.2 -1.3**
SERG AML AML 16 13 16.2
comp=E,1848μm,0.4s
SERG AML AML 16 13 18.8
comp=N,1958μm,0.4s
KASA Kassiopi 1.20 336 P **Pg 16 12 50.3 -0.3**
TRIZ Trizonia 1.22 103 P **Pg 16 12 49.5 -1.4**
TRIZ S **Sn 16 13 07.8 +0.5**
TRIZ Trizonia 1.22 103 P **Pg 16 12 49.5 -1.4**
KEK Kerkira 1.22 331 P **Pg 16 12 50.7 -0.3**
KEK S **Sn 16 13 09.3 +1.9**
TRAZ Trapeza 1.38 110 P **Pn 16 12 52.6 -0.4**
TRAZ AML AML 16 13 21.8
comp=E,1686μm,0.8s
TRAZ AML AML 16 13 22.0
comp=N,2056μm,0.6s
KLV Kalavryta, Ach 1.39 115 P **Pn 16 12 52.3 -0.9**
KLV Kalavryta, Ach 1.39 115 P **Pn 16 12 52.3 -0.9**
AGG Agios Georgios 1.43 74 P **Pn 16 12 54.0 +0.3**
AGG Agios Georgios 1.43 74 P **Pn 16 12 54.1 +0.4**
AGG AML AML 16 13 22.9
comp=N,2027μm,0.6s
AGG AML AML 16 13 24.4
comp=E,2164μm,0.5s
AMT Artemida-Makis 1.44 141 P **Pn 16 12 53.9 +0.1**
AMT Artemida-Makis 1.44 141 P **Pn 16 12 53.5 -0.3**
AMT AML AML 16 13 35.0
comp=N,1338μm,0.8s
AMT AML AML 16 13 35.7
comp=E,1162μm,0.5s
KPRO Kipourio 1.44 25 P **Pg 16 12 55.8 +0.5**
THL Klokotos Trika 1.45 51 P **Pn 16 12 54.1 +0.2**
THL Klokotos Trika 1.45 51 P **Pn 16 12 54.2 +0.2**
DSF Desfina 1.56 98 P **Pn 16 12 55.6 +0.1**
DSF AML AML 16 13 28.0
comp=E,689μm,0.9s
DSF AML AML 16 13 29.2
comp=N,830μm,0.6s
GUR Goura 1.57 116 P **Pn 16 12 55.3 -0.5**
GUR Goura 1.57 116 P **Pn 16 12 55.2 -0.5**
GUR AML AML 16 13 31.7
comp=E,1200μm,0.6s
GUR AML AML 16 13 33.3
comp=N,1517μm,0.5s
MES3 Kyparissia 1.65 148 P **Pb 16 12 58.5 +0.4**
ITM Ithomi 1.82 143 P **Pn 16 13 00.3 +1.2**
LKR Lokris 1.91 89 P **Pb 16 13 02.9 +0.4**
ATAL Atalanti 1.92 88 P **Pb 16 13 03.1 +0.3**
PYL PYLOS 1.98 152 P **Pn 16 13 01.6 +0.3**
FYTO Fytoko, Volos 2.00 67 P **Pb 16 13 03.4 -0.7**
LIT Litokhoron 2.08 45 P **Pb 16 13 04.7 -0.8**
VIL2 Platees 2.17 101 P **Pb 16 13 06.2 -0.8**
XOR Xorichti 2.17 70 P **Pn 16 13 05.4 +1.5**
FNA Florina 2.22 16 P **Pn 16 13 06.6 +1.9**
MRKA Markates 2.37 88 P **Pn 16 13 08.6 +2.0**
DID Didima 2.40 118 P **Pn 16 13 08.7 +1.6**
KRND KRANIDI 2.40 121 P **Pn 16 13 09.4 +2.4**
EREA Eretria 2.65 94 P **Pn 16 13 12.7 +2.1**
VLY Voula,Athens 2.66 106 P **Pn 16 13 12.6 +2.0**
KRUS Krusevo 2.77 11 *e*Pn **Pn 16 13 14.0 +1.8**
STON Ston 4.75 334 *e*Pn **Pn 16 13 37.4 -1.8**
STON Sn **Sn 16 14 30.0 -4.3**
UDBI Udbina 6.89 330 *e*Pn **Pn 16 14 09.2 +0.5**
FINES FINESS Array B 23.07 7 P **P 16 17 33.2 +0.1**
comp=N,1.7nm,0.8s,baz=186,slow=12,SNR=6.8
MKAR Makanchi Array 45.03 59 P **P 16 20 43.7 +0.3**
comp=N,0.2nm,0.4s,baz=289,slow=6.5,SNR=4.5
ZALV Zalesovo Beam 45.35 48 P **P 16 20 45.3 -0.5**
comp=N,0.7nm,0.4s,baz=265,slow=8.5,SNR=3.0

UCR 23 16:28:35.4±1.1, 11°.13N×85°.85W, h68km±5km, MD3.8, ML3.7, 2C-4D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	**Finca Las Img**	**0.52**	**132**	*i* P	Pn	16 28 48.5	+0.3
GBS3				*i* S	Sn	16 28 58.6	+0.9
GB1A	**Borinquen Arri**	**0.54**	**125**	*i* P	Pn	16 28 48.9	+0.3
BUEV	**Buena Vista**	**0.54**	**127⇓**	*e*P	Pn	16 28 48.9	+0.3
BUEV				*e*S	Sn	16 28 58.4	+0.1
LAPC	**Finca la Perla**	**0.54**	**132**	*i* P	Pn	16 28 48.5	0.0
LAPC				*i* S	Sn	16 28 59.2	+1.0
BUAI	**Buenos Aires**	**0.56**	**116**	*i* P	Pn	16 28 49.1	+0.3
GPS1	**Guardaparques**	**0.60**	**126**	*i* P	Pn	16 28 49.5	+0.3
GPS3	**Bodega del ICE**	**0.60**	**128**	*i* P	Pn	16 28 49.4	+0.2
GPS3				*i* S	Sn	16 29 00.4	+1.1
GPS2	**Hotel Rincn d**	**0.61**	**128**	*i* P	Pn	16 28 49.6	+0.3
GPS2				*i* S	Sn	16 29 00.5	+0.9
LIM1	**Limonal**	**0.72**	**126**	*i* P	Pn	16 28 50.6	+0.1
LIM1				*i* S	Sn	16 29 02.8	+1.1
GUAB	**Guayabo de Bag**	**0.74**	**125**	*i* P	Pn	16 28 50.8	+0.1
MESS	**Mesas**	**0.75**	**121⇓**	*e*P	Pn	16 28 50.9	+0.1
MESS				*i* P		16 28 50.9	
MESS				*e*S	Sn	16 29 01.6	-0.6
HORNC	**Hornillas**	**0.78**	**122**	*i* P	Pn	16 28 51.0	-0.2
COLC	**Colonia**	**0.78**	**126**	*i* P	Pn	16 28 51.2	0.0
CUI	**Cuipilapa**	**0.82**	**125**	*i* P	Pn	16 28 51.8	+0.2
ACAL	**Aguas Claras**	**0.94**	**122**	*i* P	Pn	16 28 53.4	+0.3
PTEN	**Parque Tenorio**	**0.94**	**116**	*i* P	Pn	16 28 53.2	+0.1
AMAS	**Alto Masis**	**0.98**	**121**	*i* P	Pn	16 28 53.6	-0.1
ACON	**Acoyapa**	**1.06**	**38⇑**	*e*P	Pn	16 28 54.8	+0.2
ACON				*e*S	Sn	16 29 09.5	+0.6
JTS	**Las Juntas de**	**1.21**	**133⇓**	*e*P	Pn	16 28 56.0	-0.5
JTS				*e*S	Sn	16 29 12.4	+0.1
ARE1	**Arenal 1**	**1.29**	**121⇓**	*e*P	Pn	16 28 57.8	+0.2
CEDE	**Laguna Cedeo**	**1.29**	**120**	*i* P	Pn	16 28 57.8	+0.2
CEDE				*e*S	Sn	16 29 14.5	+0.3
FORC	**Fortuna**	**1.33**	**120**	*i* P	Pn	16 28 58.2	+0.1
CNGN	**Cerro Negro**	**1.60**	**329**	*e*P	Pn	16 29 01.4	-0.3
CNGN				*e*S	Sn	16 29 21.2	-0.3
CNGN				IAML		16 29 28.8
	comp=E,319nm,0.4s					
MATN	**Matagalpa**	**1.79**	**357⇑**	*e*P	Pn	16 29 04.5	+0.1
MATN				*e*S	Sn	16 29 26.5	+0.3
ESPN	**Las Esperanzas**	**1.85**	**55**	*e*P	Pn	16 29 05.2	+0.2
CRIN	**San Cristobal**	**1.96**	**323**	*e*P	Pn	16 29 06.9	+0.4
CRIN				*e*S	Sn	16 29 30.9	+0.7
SOMN	**Somoto**	**2.40**	**342**	*e*P	Pn	16 29 14.1	+1.6
CSGN	**Cosiguina Volc**	**2.49**	**318**	*e*P	Pn	16 29 14.8	+1.2
CSGN				IAML		16 29 48.3
	comp=N,2μm,0.7s					

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*ISCJB **23** 16:32:07.9±0.3, 4°.42N±0°.02×76°.32W±0°.03, h65km±4km, mb4.2/23, Error ellipse: s-maj=5.7km s-min=3.3km az=21.8*
*RSNC **23** 16:32:07.2±1.1, 4°.33N×76°.27W, h3km±2km, ML3.3, Mw4.1*
*NEIC **23** 16:32:09.1±0.7, 4°.21N×76°.21W, h77km±8km, mb4.4/16, Error ellipse: s-maj=9.7km s-min=8.6km az=59.0*
NEIC Felt at Roldanillo.
*IDC **23** 16:32:12.2±2.7, 4°.45N×76°.12W, h92km±25km, mb3.7/10, mb1 3.8/12, mb1mx3.7/29, mbtmp4.0/12, MS3.3/5,*

Ms1 3.3/5, ms1mx3.0/35, Error ellipse: s-maj=25.4km s-min=13.9km az=69.0

ISC 23 16:32:08.6±0.9, 4°.36N±0°.03×76°.33W±0°.04, h61km±10km, n64, σ1§72/76, mb4.2/23, 1C-3D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.38**	**183⇓**	*i*Pg	Pn	16 32 15.1	-4.5
YOTC				*e*Sg	Sn	16 32 21.7	-5.9
YOTC				*i*		16 32 22.9
	comp=Z,4μm,0.4s					
PLMC	**San Jos del P**	**0.54**	**5**	*e*P	Pn	16 32 17.9	-3.2
PLMC				*e*S	Sn	16 32 26.4	-3.9
MALC	**Bahia Malaga**	**1.07**	**251⇓**	*e*P	**Pn**	**16 32 26.3**	**-1.2**
MALC				*e*S	**Sn**	**16 32 41.6**	**+0.1**
MALC				*i*		16 32 52.8
	comp=Z,953nm,0.4s					
GUY2C	**Guyana, Caldas**	**1.28**	**48⇓**	*e*P	**Pn**	**16 32 28.8**	**-2.1**
GUY2C				*e*S	**Sn**	**16 32 45.4**	**-2.0**
GUY2C				*i*		16 32 50.3
	comp=Z,1μm,0.6s					
MARP	**Paez Belalcaza**	**1.56**	**166**	*e*P	**Pn**	**16 32 33.7**	**-0.6**
MARP				*e*S	**Sn**	**16 32 54.1**	**+0.4**
PRAC	**Prado**	**1.57**	**114**	*e*P	**Pn**	**16 32 33.5**	**-0.9**
PRAC				*e*S	**Sn**	**16 32 54.6**	**+0.8**
PRAC				*i*		16 32 57.3
	comp=Z,771nm,0.3s					
POPC	**Popayan, Colom**	**1.84**	**191**	*e*P	**Pn**	**16 32 37.5**	**-0.7**
POPC				*e*S	**Sn**	**16 33 01.7**	**+1.1**
NORC	**Norcasia**	**1.88**	**51⇑**	*e*P	**Pn**	**16 32 38.2**	**-0.2**
NORC				*e*S	**Sn**	**16 33 02.9**	**+1.8**
NORC				*i*		16 33 06.7
	comp=Z,175nm,0.6s					
BETC	**Betania**	**1.89**	**152**	*e*P	**Pn**	**16 32 38.2**	**-0.4**
BETC				*e*S	**Sn**	**16 33 01.6**	**+0.1**
HELC	**Santa Helena**	**1.98**	**24**	*e*P	**Pn**	**16 32 40.6**	**+0.5**
HELC				*e*S	**Sn**	**16 33 06.2**	**+2.1**
HELC				*i*		16 33 10.7
	comp=Z,171nm,0.3s					
PCON	**Cinco Dias**	**2.02**	**182**	*e*P	**Pn**	**16 32 42.0**	**+1.0**
PCON				*e*S	**Sn**	**16 33 08.3**	**+2.9**
PCON				*i*		16 33 19.7
	comp=Z,271nm,0.6s					
ROSC	**El Rosal**	**2.05**	**77**	*e*Pn	**Pn**	**16 32 42.1**	**+0.9**
ROSC	**El Rosal**	**2.05**	**77**	P	**Pn**	**16 32 41.9**	**+0.7**
	comp=Z,26nm,0.3s,baz=270,slow=7.1,SNR=27					
ROSC				LR	LR	16 32 60.0
	comp=Z,62nm,20.9s,baz=248,slow=26					
ROSC				S	**Sn**	**16 33 14.3**	**+8.4**
	comp=Z,15nm,0.3s,baz=224,slow=22,SNR=8.1					
SOTA	**Rioblanco**	**2.23**	**187**	*e*P	**Pn**	**16 32 44.7**	**+1.0**
SOTA				*e*S	**Sn**	**16 33 13.1**	**+2.6**
SOTA				*i*		16 33 24.6
	comp=Z,314nm,0.6s					
BBAC	**Balboa, Cauca**	**2.50**	**202**	*e*P	**Pn**	**16 32 47.4**	**+0.2**
BBAC				*e*S	**Sn**	**16 33 19.3**	**+2.7**
BBAC				*i*		16 33 26.8
	comp=Z,251nm,0.5s					
CHIC	**Chingaza**	**2.60**	**84**	*e*P	**Pn**	**16 32 49.0**	**+0.4**
VILC	**Villavicencio,**	**2.64**	**95**	*e*P	**Pn**	**16 32 49.6**	**+0.7**
VILC				*i*		16 33 36.8
	comp=Z,206nm,0.7s					
FLOC	**Florencia**	**2.84**	**166**	*e*P	**Pn**	**16 32 51.9**	**+0.2**
FLOC				*e*S	**Sn**	**16 33 26.0**	**+1.2**
FLOC				*i*		16 33 35.9
	comp=Z,91nm,0.3s					
CRUC	**La Cruz**	**2.85**	**193**	*e*P	**Pn**	**16 32 52.8**	**+0.8**
CRUC				*i*		16 33 38.8
	comp=Z,134nm,0.6s					
PTBC	**PUERTO BERRIO,**	**2.85**	**41**	*e*P	**Pn**	**16 32 52.4**	**+0.7**
PTBC				*e*S	**Sn**	**16 33 24.0**	**-0.9**
PTBC				*i*		16 33 37.6
	comp=Z,90nm,0.7s					
GCUF	**Volcan Galeras**	**3.28**	**198**	*e*P	**Pn**	**16 32 59.5**	**+1.5**
GCUF				*e*S	**Sn**	**16 33 38.8**	**+2.7**
GCUF				*i*		16 33 49.1
	comp=Z,73nm,0.6s					
ZARC	**Zaragoza, Cauc**	**3.43**	**25**	*e*P	**Pn**	**16 33 00.3**	**+0.6**
ZARC				*i*		16 33 45.1
	comp=Z,63nm,0.5s					
UREC	**San Jos de Ur**	**3.46**	**13**	*e*P	**Pn**	**16 33 00.8**	**+0.8**
UREC				*i*		16 33 49.9
	comp=Z,51nm,0.7s					
RUSC	**La Rusia**	**3.57**	**65**	*e*P	**Pn**	**16 33 02.6**	**+0.6**
RUSC				*i*		16 34 02.3
	comp=Z,37nm,0.8s					
OTAV	**Otavalo**	**4.62**	**207**	*e*Pn	**Pn**	**16 33 15.8**	**-0.4**
OTAV	**Otavalo**	**4.62**	**207**	*e*P	**Pn**	**16 33 16.7**	**+0.4**
OTAV				*i*		16 34 16.5
	comp=Z,16nm,0.5s					
SMLC	**San Martn de**	**4.94**	**27**	*e*P	**Pn**	**16 33 19.5**	**-0.9**
BCIP	**Isla Barro Col**	**5.91**	**324**	*e*Pn	**Pn**	**16 33 36.2**	**+2.6**
SDV	**Santo Domingo**	**7.22**	**51**	*e*Pn	**Pn**	**16 33 52.0**	**+0.3**
SDV	**Santo Domingo**	**7.22**	**51**	P	**Pn**	**16 33 52.6**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=245,slow=12,SNR=6.6					
SDV				S	**Sn**	**16 35 13.1**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=318,slow=10,SNR=3.3					
PTGA	**Pitinga**	**17.11**	**107**	*e*Pn	**Pn**	**16 36 00.3**	**-3.5**
	comp=Z,11nm,1.4s					
PTGA	**Pitinga**	**17.11**	**107**	P	**P**	**16 36 04.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=289,slow=12,SNR=5.3					
PTGA				LR	LR	16 43 16.6
	comp=Z,36nm,21.3s,baz=309,slow=39					
LPAZ	**La Paz**	**22.06**	**159**	*e*P	**P**	**16 36 56.8**	**-2.4**
	comp=Z,2.3nm,0.8s					
LPAZ	**La Paz**	**22.06**	**159**	P	**P**	**16 36 58.8**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=338,slow=13,SNR=9.9					
CMIG	**Matias Romero**	**22.16**	**306**	LR	LR	16 45 23.6
	comp=Z,51nm,18.5s,baz=160,slow=36					
SIV	**San Ignacio**	**25.24**	**144**	P	**P**	**16 37 30.4**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=324,slow=9.6,SNR=12					
SIV				LR	LR	16 47 33.9
	comp=Z,98nm,19.4s,baz=304,slow=37					
V48A	**Smith Brothers**	**32.69**	**344**	*e*P	**P**	**16 38 36.9**	**+1.6**
	comp=Z,12nm,1.0s					
BDFB	**Brasilia**	**34.36**	**126**	LR	LR	16 53 13.5
	comp=Z,95nm,18.0s,baz=259,slow=37					
CPUP	**Villa Florida**	**35.63**	**150**	LR	LR	16 54 06.8
	comp=Z,64nm,18.9s,baz=14,slow=37					
SDCO	**Great Sand Dun**	**42.59**	**325**	*e*P	**P**	**16 39 59.5**	**+0.4**
	comp=Z,2.9nm,1.0s					
MVCO	**Mesa Verde**	**44.00**	**322**	*e*P	**P**	**16 40 13.8**	**+3.4**
	comp=Z,23nm,0.9s					
PLCA	**Paso Flores**	**45.19**	**174**	P	**P**	**16 40 21.4**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=2.3,slow=6.8,SNR=3.2					
SRU	**San Rafael Swe**	**46.44**	**323**	*e*P	**P**	**16 40 26.2**	**-3.5**
	comp=Z,16nm,0.8s					
Q16A	**Castle Valley**	**46.71**	**322**	*e*P	**P**	**16 40 30.9**	**-1.0**
	comp=Z,18nm,1.0s					
P17A	**Butcher Ranch,**	**46.80**	**323**	*e*P	**P**	**16 40 34.1**	**+1.7**
	comp=Z,11nm,0.8s					
PD31	**Pinedale Array**	**48.29**	**327**	*e*P	**P**	**16 40 44.5**	**+0.4**
	comp=Z,1.8nm,1.0s					
PDAR	**Pinedale Array**	**48.29**	**327**	*e*P	**P**	**16 40 43.7**	**-0.4**
PDAR	**Pinedale Array**	**48.29**	**327**	P	**P**	**16 40 44.8**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=129,slow=12,SNR=4.9					
ULM	**Lac du Bonnet**	**48.61**	**343**	P	**P**	**16 40 45.1**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=158,slow=6.3,SNR=5.9					
REDW	**Red Top Meadow**	**49.39**	**327**	*e*P	**P**	**16 40 52.6**	**+0.1**
	comp=Z,8.9nm,1.4s					
NVAR	**Mina Array Bea**	**51.02**	**317**	P	**P**	**16 41 07.3**	**+2.3**
	comp=Z,1.0nm,0.6s,baz=119,slow=7.3,SNR=5.8					
NVAR				PcP	**PcP**	**16 42 21.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=120,slow=5.3,SNR=3.2					
BOZ	**Bozeman (W)**	**51.31**	**329**	*e*P	**P**	**16 41 07.8**	**+1.0**
	comp=Z,2.8nm,1.0s					
YKA	**Yellowknife Ar**	**64.51**	**341**	P	**P**	**16 42 38.5**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=134,slow=6.5,SNR=27					
DBIC	**Dimbokro**	**71.12**	**84**	P	**P**	**16 43 19.7**	**-1.7**
	comp=Z,2.2nm,0.5s,baz=256,slow=9.4,SNR=4.8					
BCAR	**Beaver Creek A**	**75.17**	**335**	*e*P	**P**	**16 43 44.6**	**+0.3**
DOT	**Dot Lake**	**76.33**	**335**	*e*P	**P**	**16 43 50.2**	**-0.8**
	comp=Z,3.2nm,0.8s					
RIDG	**Independent Ri**	**76.69**	**335**	*e*P	**P**	**16 43 53.8**	**+0.8**
	comp=Z,7.8nm,1.2s					
TORD	**Torodi Ar. Bea**	**77.37**	**78**	P	**P**	**16 43 56.4**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=295,slow=7.1,SNR=3.7					
HDA	**Harding Lake**	**77.77**	**335**	*e*P	**P**	**16 43 58.2**	**-0.8**
	comp=Z,7.9nm,1.3s					
ILAR	**Eielson Array**	**77.85**	**336**	*e*P	**P**	**16 43 58.5**	**-0.9**
ILAR	**Eielson Array**	**77.85**	**336**	P	**P**	**16 43 59.1**	**-0.2**
	comp=Z,1.2nm,1.0s,baz=104,slow=3.8,SNR=7.2					
BPAW	**Bear Paw Mtn.**	**79.41**	**334**	*e*P	**P**	**16 44 07.9**	**-0.2**
	comp=Z,2.9nm,0.9s					
PPLA	**Purkeypile**	**79.70**	**333**	*e*P	**P**	**16 44 09.6**	**-0.2**
	comp=Z,4.6nm,1.3s					
ASAR	**Alice Springs**	**145.10**	**234**	PKPbc	**PKPdf**	**16 51 38.6**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=123,slow=3.6,SNR=3.4					

MEX 23 16:32:51.4±0.6, 14°.87N×91°.64W, h172km±5km, MD3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.60**	**274**	*i* P	Pn	16 33 13.6	-2.1
THIG				*i* S	Sn	16 33 32.4	-1.9
CCIG	**Comitan**	**1.48**	**341**	*e*P	Pn	16 33 21.8	-0.9
CCIG				*i* S	Sn	16 33 44.5	-2.5
PCIG		**1.73**	**299**	*e*P	Pn	16 33 24.1	-0.9
PCIG				*e*S	Sn	16 33 48.5	-2.6
TGIG		**2.37**	**323**	*i* P	Pn	16 33 30.2	-2.0
TGIG				*i* S	Sn	16 34 02.0	-2.0
CMIG	**Matias Romero**	**3.82**	**306**	*e*P	Pn	16 33 49.2	-0.8
CMIG				*i* S	Sn	16 34 32.9	-2.9

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*IDC **23** 16:45:04.8±2.7, 6°.51S×148°.84E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.5/31, mbtmp3.9/4, ML1.5/1, MS3.2/4, Ms1 3.2/4, ms1mx3.0/39, Error ellipse: s-maj=75.3km s-min=35.0km az=107.0*
*ISCJB **23** 16:45:18.8±0.6, 6°.98S±0°.09×148°.4E±0°.1, h100km, mb4.1/6, Error ellipse: s-maj=22.2km s-min=8.7km az=30.1*
*NEIC **23** 16:45:19.8±2.2, 7°.00S×148°.29E, h93km±11km, mb4.5/7, Error ellipse: s-maj=26.8km s-min=14.1km az=124.0*

ISC 23 16:45:20.5±0.8, 6°.95S±0°.08×148°.3E±0°.1, h100km, n17, σ1§94/17, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.71**	**205**	*e*Pn	**Pn**	**16 45 59.8**	**-2.5**
PMG				*e*Sn	**Sn**	**16 46 38.2**	**+3.7**
PMG				*e*		16 46 55.8
PMG	**Port Moresby**	**2.71**	**205**	Pn	**Pn**	**16 45 59.3**	**-3.1**
	3.7nm,0.3s,baz=32,slow=7.9,SNR=16					
PMG				Sn	**Sn**	**16 46 38.2**	**+3.7**
	11nm,0.3s,baz=71,slow=23,SNR=10					
PMG				LR	LR	16 46 55.8
	comp=Z,188nm,21.8s,baz=194,slow=33					
RABL	**Rabaul**	**4.70**	**55**	*e*Pn	**Pn**	**16 46 29.3**	**+0.1**
MANU	**Manus Island**	**4.96**	**349**	*e*Pn	**Pn**	**16 46 32.5**	**-0.3**
PATS	**Pohnpei**	**16.93**	**36**	*e*Pn	**Pn**	**16 49 09.9**	**-1.4**
	146nm,1.4s						
GUMO	**Guam**	**20.69**	**350**	*e*P	Pn	16 49 56.3	+0.4
	99nm,1.0s						
AS31	**Alice Springs**	**21.64**	**218**	*e*P	**P**	**16 50 02.3**	**-0.6**
	1.4nm,0.5s						
ASAR	**Alice Springs**	**21.64**	**218**	*e*P	**P**	**16 50 02.5**	**-0.5**
ASAR	**Alice Springs**	**21.64**	**218**	P	**P**	**16 50 02.8**	**-0.2**
	2.6nm,0.8s,baz=56,slow=9.2,SNR=70						
ASAR				LR	LR	16 57 59.7
	comp=Z,106nm,19.8s,baz=52,slow=35						
DZM	**Mont Dzumac**	**23.06**	**133**	LR	LR	16 57 14.6
	comp=Z,74nm,21.9s,baz=359,slow=32						
FITZ	**Fitzroy Crossi**	**24.73**	**241**	P	**P**	**16 50 34.2**	**+1.5**
	2.3nm,0.4s,baz=64,slow=11,SNR=14						
FITZ				LR	LR	17 01 57.1
	comp=Z,74nm,21.7s,baz=68,slow=40						
STKA	**Stephens Creek**	**25.59**	**193**	*e*P	**P**	**16 50 41.4**	**+1.0**
	4.8nm,1.9s						
STKA	**Stephens Creek**	**25.59**	**193**	P	**P**	**16 50 41.7**	**+1.3**
	1.7nm,0.7s,baz=358,slow=14,SNR=2.3						
FORT	**Forrest**	**30.38**	**216**	*e*P	**P**	**16 51 23.2**	**0.0**
	15nm,1.1s						
EGAK	**Eagle**	**88.09**	**24**	*e*P	**P**	**16 57 58.0**	**-1.5**
	9.9nm,0.3s						
TORD	**Torodi Ar. Bea**	**146.60**	**283**	PKPbc	**PKPdf**	**17 04 49.7**	**-0.1**
	2.0nm,0.9s,baz=56,slow=2.4,SNR=9.4						
TOA1	**Torodi Ar. Sit**	**146.60**	**283**	*e*PKPdf	**PKPdf**	**17 04 49.7**	**-0.1**

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*ISCJB **23** 17:02:25.8±0.4, 67°.05N±0°.03×21°.01E±0°.09, h0km, Error ellipse: s-maj=5.3km s-min=3.9km az=3.7*
*UPP **23** 17:02:26.9±0.1, 67°.07N×20°.93E, h0km, ML2.0, Explosion*
*KOLA **23** 17:02:27.9, 67°.94N×20°.47E, h0km*
*IDC **23** 17:02:28.6±0.9, 67°.04N×21°.71E, h0km, mb1 3.0/4, mb1mx2.9/56, mbtmp3.0/4, ML2.0/4, Error ellipse: s-maj=16.7km s-min=8.3km az=104.0*
*NAO **23** 17:02:28.2±1.0, 67°.06N×21°.46E, ML2.7*
*BER **23** 17:02:30.6±4.2, 67°.02N×21°.01E, h0km, ML2.7(NAO), Suspected explosion*

ISC 23 17:02:26.7±0.8, 67°.06N±0°.03×20°.90E±0°.04, h0km, n26, σ1§22/40, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.72**	**134**	P	**Pg**	**17 02 40.4**	**-0.1**
PAJU	**Pajala**	**0.87**	**91**	P	**Pg**	**17 02 42.9**	**-0.4**
RATU	**Laukkuluspa**	**0.92**	**327**	P	**Pg**	**17 02 44.0**	**-0.3**
KUA	**Kurravaara**	**0.93**	**347**	P	**Pg**	**17 02 44.2**	**-0.2**
KUA				S	**Sb**	**17 02 57.8**	**-0.7**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**17 02 45.6**	**0.0**
LANU	**Lannavaara**	**1.08**	**22**	P	**Pg**	**17 02 47.0**	**-0.4**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**17 02 47.0**	**-0.5**
SJUU	**Sjulsmark**	**1.58**	**169**	P	**Pn**	**17 02 55.9**	**-0.1**
LILU	**Lilltraesk**	**1.83**	**194**	P	**Pn**	**17 03 00.6**	**+1.3**
KIF	**Kilpisjarvi**	**1.96**	**359**	Pn	**Pb**	**17 03 02.8**	**-0.4**
KIF				Sn	**Sg**	**17 03 31.5**	**+2.0**
KIF	**Kilpisjarvi**	**1.96**	**359**	Pn	**Pb**	**17 03 02.8**	**-0.4**
KIF				Sn	**Sg**	**17 03 31.5**	**+2.0**
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**17 03 15.9**	**+0.2**
	baz=216,slow=16						
ARA0				Sn	**Sn**	**17 03 52.0**	**-0.6**
	baz=208,slow=28						
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**17 03 15.9**	**+0.2**
	baz=216,slow=16						
ARA0				Sn	**Sn**	**17 03 52.0**	**-0.6**
	baz=208,slow=28						
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**17 03 15.

mb3.8/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.14**	**85**	Pn	**Pn**	**17 08 18.4**	**-0.9**
	1.0nm,0.3s,baz=270,slow=3.0,SNR=5.6						
PSI				Sn	**Sn**	**17 08 56.8**	**+0.7**
	2.3nm,0.3s,baz=180,slow=20,SNR=2.8						
CMAR	**Chiang Mai Arr**	**16.14**	**11**	Pn	**Pn**	**17 11 16.9**	**+0.3**
	0.1nm,0.3s,baz=201,slow=12,SNR=11						
CMAR				LR	LR	17 18 02.9	
	comp=Z,27nm,18.6s,baz=200,slow=39						
H08S2	**Diego Garcia H**	**25.35**	**246**	T	T	17 39 08.4	
	baz=67,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**25.35**	**246**	T	T	17 39 08.6	
	baz=67,slow=76,SNR=46						
H08S1	**Diego Garcia H**	**25.36**	**246**	T	T	17 39 09.8	
	baz=67,slow=76,SNR=50						
H01W3	**Cape Leeuwin H**	**40.99**	**157**	T	T	17 58 50.7	
	baz=332,slow=76,SNR=118						
H01W2	**Cape Leeuwin H**	**41.01**	**157**	T	T	17 58 46.9	
	baz=332,slow=76,SNR=111						
H01W1	**Cape Leeuwin H**	**41.01**	**157**	T	T	17 58 44.8	
	baz=332,slow=76,SNR=122						
ASAR	**Alice Springs**	**45.30**	**127**	P	**P**	**17 15 47.9**	**+0.4**
	0.2nm,0.5s,baz=301,slow=8.2,SNR=11						
MKAR	**Makanchi Array**	**45.64**	**347**	P	**P**	**17 15 49.9**	**0.0**
	0.9nm,0.6s,baz=162,slow=8.2,SNR=13						
SONM	**Songino Array**	**46.06**	**10**	P	**P**	**17 15 53.5**	**+0.2**
	0.6nm,0.6s,baz=196,slow=8.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**52.05**	**352**	P	**P**	**17 16 38.5**	**-0.4**
	1.1nm,0.6s,baz=182,slow=4.9,SNR=4.7						

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*ISCJB **23** 17:18:59.0±0.6,23°.01S±0°.02×177°.34W±0°.02, h133km±6km, mb6.6/518, Error ellipse: s-maj=3.9km s-min=2.7km az=157.8*

*BJI **23** 17:19:01.2±0.0,23°.03S×177°.15W, h160km, mb6.4/67, mB7.2/55*

*MOS **23** 17:19:03.5±0.9,22°.91S×177°.32W, h171km, mb6.7/62, MS7.0/8, Error ellipse: s-maj=7.4km s-min=6.1km az=75.9 Broadband fault plane solution: P waves. NP1: φs20.00000°, δ84.00000°, λ-79.00000°. NP2:φs140.00000°, δ12.00000°, λ-149.00000°. Principal axes: T Plg38.0000°, Azm100.0000°; N Plg11.0000°, Azm198.0000°; P Plg50.0000°, Azm301.0000°;*

*NEIC **23** 17:19:04.0±0.0,23°.03S×177°.11W, h160km, Moment Tensor Solution. s44 Moment tensor: Scale 10^20^Nm; Mrr-0.46; Mθθ0.05; Mφφ0.41; Mrθ-0.41; Mφr-0.06; Mθr-1.67; Best double couple: M0 1.80000×10^20^ NP1:φs13.00000°, δ83.00000°, λ-85.00000°. NP2:φs161.00000°, δ8.00000°, λ-122.00000°. Principal axes: T 1.7300, Plg38.0000°, Azm99.0000°; N 0.0900, Plg4.0000°, Azm192.0000°; P -1.8200, Plg51.0000°, Azm287.0000°;*

*NEIC **23** 17:19:04.8±1.7,23°.01S×177°.23W, h174km±3km, mb6.6/438, MW7.4, MW7.4 Error ellipse: s-maj=11.4km s-min=10.6km az=193.0, Moment Tensor Solution. s98 Moment tensor: Scale 10^20^Nm; Mrr-0.53; Mθθ-0.09; Mφφ0.63; Mrθ-0.43; Mφθ0.14; Mφr-1.34; Best double couple: M0 1.50000×10^20^ NP1:φs17.00000°, δ79.00000°, λ-87.00000°. NP2:φs181.00000°, δ12.00000°, λ-106.00000°. Principal axes: T 1.5800, Plg34.0000°, Azm105.0000°; N -0.1100, Plg3.0000°, Azm197.0000°; P -1.4800, Plg56.0000°, Azm292.0000°;*

*IDC **23** 17:19:06.5±1.2,22°.98S×177°.27W, h185km±10km, mb6.1/41, mb1 6.2/41, mb1mx6.2/42, mbtmp6.6/41, MS6.6/28, Ms1 6.6/28, ms1mx6.4/46 Error ellipse: s-maj=8.7km s-min=6.4km az=3.0*

*GCMT **23** 17:19:12.8±0.1,23°.19S×176°.88W, h188km, MW7.4/144, Moment Tensor Solution. s144,c412; s143,c757; Duration: 12s3 Moment tensor: Scale 10^20^Nm; Mrr-0.41±.01; Mθθ-0.06±.00; Mφφ0.47±.00; Mrθ-0.43±.00; Mφθ-0.01±.00; Mφr-1.50±.00; Best double couple: M0 1.62300×10^20^ NP1:φs15.00000°, δ82.00000°, λ-85.00000°. NP2:φs161.00000°, δ9.00000°, λ-124.00000°. Principal axes: T 1.6310, Plg37.0000°, Azm101.0000°; N -0.0160, Plg5.0000°, Azm195.0000°; P -1.6150, Plg52.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 23 17:19:04.8±0.2,23°.08S±0°.03×177°.21W±0°.03, h178km±1km, h178km:pP-P,n2695,σ2s07/3000, mb6.6/504, 74C-191D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**6.17**	**186**	P	**Pn**	**17 20 33.6**	**-0.5**
RIZ				S	**Sn**	**17 21 44.6**	**+0.2**
RAO	**Raoul Island**	**6.18**	**186**	*e*Pn	**Pn**	**17 20 32.2**	**-2.0**
RAO	**Raoul Island**	**6.18**	**186**	*e*P	**Pn**	**17 20 32.2**	**-2.0**
GLKZ	**Green Lake**	**6.19**	**186**	P	**Pn**	**17 20 35.0**	**+0.8**
GLKZ				S	**Sn**	**17 21 45.9**	**+1.1**
NIUE	**Niue**	**7.88**	**61**	*e*Pn	Pn	17 20 50.0	-6.6
MARNC	**Mare, Loyalty**	**13.75**	**274**	*e*Pn	**P**	**17 22 15.9**	**+0.5**
PINNC	**Pines Island,**	**14.15**	**269**	*e*Pn	**P**	**17 22 21.4**	**+1.5**
OUZ	**Omahuta**	**14.51**	**211**	*e*Pn	**P**	**17 22 22.8**	**-0.9**
OUZ	**Omahuta**	**14.51**	**211**	P	**P**	**17 22 26.3**	**+2.6**
GRZ	**Great Barrier**	**14.58**	**204**	P	**P**	**17 22 25.9**	**+1.4**
OUENC	**Ouen Island, N**	**14.73**	**269**	*e*Pn	**P**	**17 22 29.2**	**+3.0**
WCZ	**Waipu Caves**	**14.76**	**208**	P	**P**	**17 22 27.8**	**+1.3**
FUNA	**Funafuti**	**14.88**	**346**	*e*Pn	**Pn**	**17 22 26.2**	**-0.3**
KUZ	**Kuaotunu**	**14.93**	**203**	P	**P**	**17 22 29.9**	**+1.6**
MXZ	**Matakaoa Point**	**14.94**	**194**	*e*Pn	Pn	17 22 19.9	-7.3
	528nm,0.7s						
MXZ	**Matakaoa Point**	**14.94**	**194**	P	Pn	17 22 21.7	-5.5
MXZ				S	Sn	17 25 00.1	-14
ONTNC	**Ouen Toro**	**15.10**	**270**	*e*Pn	**P**	**17 22 33.9**	**+3.6**
DZM	**Mont Dzumac**	**15.13**	**271**	*e*P	**Pn**	**17 22 29.6**	**-0.2**
	31μm,1.8s						
DZM				*e*S	**Sn**	**17 25 13.6**	**-5.2**
	885μm,27.4s						
DZM				*e*LR	LR	17 26 03.7	
	comp=Z,901μm,23.7s						
DZM	**Mont Dzumac**	**15.13**	**271**	*e*Pn	**P**	**17 22 34.2**	**+3.4**
	9μm,1.0s						
DZM	**Mont Dzumac**	**15.13**	**271**	P	**P**	**17 22 33.9**	**+3.2**
	37nm,0.3s,baz=96,slow=16,SNR=136						
DZM				S	**S**	**17 25 26.7**	**+6.5**
	6.9nm,0.3s,baz=128,slow=19,SNR=1.3						
DZM				ScP	**ScP**	**17 30 45.5**	**+3.5**
	5.9nm,0.3s,baz=119,slow=7.8,SNR=12						
DZM				P3KPbc		17 57 42.7	
	0.1nm,0.3s,baz=27,slow=9.0,SNR=1.9						
WMGZ	**Waiomatatini S**	**15.16**	**193**	P	Pn	17 22 22.0	-8.0
WMGZ				S	Sn	17 25 04.6	-15
WIAZ	**Waiheke Island**	**15.18**	**204**	P	**P**	**17 22 33.2**	**+2.0**
WIZ	**White Island**	**15.18**	**197**	P	**Pn**	**17 22 29.9**	**-0.3**
WIZ				S	**Sn**	**17 25 09.4**	**-10**
HAZ	**Te Kaha**	**15.25**	**195**	P	Pn	17 22 23.3	-7.6
HAZ				S	Sn	17 25 08.4	-13
PKGZ	**Pakihiroa**	**15.30**	**194**	P	Pn	17 22 22.4	-9.3
PKGZ				S	Sn	17 25 05.2	-17
ETAZ	**East Tamaki Re**	**15.40**	**204**	P	**P**	**17 22 36.0**	**+2.4**
PUZ	**Puketiti**	**15.44**	**194**	P	Pn	17 22 25.1	-8.3
PUZ				S	Sn	17 25 10.6	-15
MKAZ	**Moumakai**	**15.45**	**203**	P	**P**	**17 22 35.4**	**+1.4**
RUGZ	**Raukumara Rang**	**15.47**	**195**	P	**Pn**	**17 22 26.9**	**-7.0**
RUGZ				S	Sn	17 25 10.0	-17
WTAZ	**Waiatarua**	**15.52**	**205**	P	**P**	**17 22 35.6**	**+0.7**
WHRZ	**Whale Island**	**15.55**	**197**	P	**Pn**	**17 22 33.6**	**-1.1**
WHRZ				S	S	17 25 17.0	-11
TGRZ	**Tauranga**	**15.64**	**200**	P	**P**	**17 22 37.4**	**+1.3**
OPRZ	**Ohinepanea**	**15.66**	**199**	P	**Pn**	**17 22 32.7**	**-3.3**
OPRZ				S	**S**	**17 25 21.1**	**-9.4**
CNGZ	**Carnagh Statio**	**15.85**	**193**	P	Pn	17 22 29.6	-8.7
KMRZ	**Kaimai**	**15.85**	**200**	P	**P**	**17 22 39.3**	**+0.8**
LIRZ	**Lichensteins R**	**15.86**	**199**	P	**P**	**17 22 39.3**	**+0.7**
MWZ	**Matawai**	**15.86**	**195**	P	Pn	17 22 29.7	-8.8
MWZ				S	S	17 25 17.6	-17
TOZ	**Tahuroa Road**	**15.89**	**202**	P	**Pn**	**17 22 38.8**	**0.0**
URZ	**Urewera**	**15.89**	**197**	*e*Pn	Pn	17 22 31.2	-7.7
	2μm,0.8s						
URZ	**Urewera**	**15.89**	**197**	P	**Pn**	**17 22 35.8**	**-3.1**
	47nm,0.3s,baz=5.1,slow=6.1,SNR=72						
URZ				S	S	17 25 21.4	-14
	578nm,0.3s,baz=105,slow=16,SNR=7.7						
URZ				ScP	**ScP**	**17 30 44.8**	**+1.9**
	5.3nm,0.3s,baz=161,slow=2.6,SNR=3.0						
URZ				ScS	**ScS**	**17 34 18.9**	**-2.8**
	3.9nm,0.3s,baz=122,slow=22,SNR=18						
URZ	**Urewera**	**15.89**	**197**	P	Pn	17 22 31.5	-7.3
KARZ	**Kaharoa**	**15.91**	**199**	P	**Pn**	**17 22 38.6**	**-0.5**
OMRZ	**Omania**	**15.96**	**199**	P	**P**	**17 22 40.8**	**+1.1**
NGRZ	**Ngongotaha**	**16.01**	**199**	P	**Pn**	**17 22 40.9**	**+0.6**
TARZ	**Mount Tarawera**	**16.04**	**198**	P	**P**	**17 22 40.3**	**-0.3**
RAGZ	**Rawiri**	**16.04**	**195**	P	**P**	**17 22 36.9**	**-3.8**
UTU	**Utuhina**	**16.07**	**199**	P	**Pn**	**17 22 42.0**	**+1.0**
HLRZ	**Highlands Stat**	**16.10**	**199**	P	**P**	**17 22 40.6**	**-0.7**
RRRZ	**Republican Roa**	**16.13**	**198**	P	**Pn**	**17 22 41.9**	**+0.2**
RIGZ	**Rimuhau**	**16.16**	**194**	P	**P**	**17 22 35.6**	**-6.3**
HSRZ	**Hossack Road**	**16.18**	**199**	P	**P**	**17 22 42.1**	**-0.1**
MUGZ	**Murupara**	**16.19**	**197**	P	**P**	**17 22 38.6**	**-3.6**
HRRZ	**Handcock Road**	**16.25**	**199**	P	**P**	**17 22 40.7**	**-2.2**
GRRZ	**Galatos Road**	**16.26**	**199**	P	**P**	**17 22 42.4**	**-0.6**
RAR	**Rarotonga**	**16.27**	**87**	*e*P	**P**	**17 22 39.1**	**-4.1**
RAR	**Rarotonga**	**16.27**	**87**	*e*P	**P**	**17 22 39.1**	**-4.1**
RAR	**Rarotonga**	**16.27**	**87**	P	**P**	**17 22 39.3**	**-3.9**
	27nm,0.3s,baz=240,slow=7.2,SNR=64						
RAR				S	S	17 25 29.9	-14
	61nm,0.3s,baz=0.0,slow=20,SNR=3.6						
RAR				LR	LR	17 30 29.8	
	comp=Z,164μm,18.0s,baz=308,slow=42						
PRRZ	**Plateau Road**	**16.32**	**198**	P	**P**	**17 22 41.1**	**-2.5**
SNGZ	**Shannon Statio**	**16.33**	**195**	P	**P**	**17 22 38.6**	**-5.2**
ALRZ	**Allen Road**	**16.39**	**198**	P	**P**	**17 22 41.4**	**-3.0**
WPRZ	**Whakapapatarin**	**16.40**	**199**	P	**P**	**17 22 43.6**	**-1.0**
TLZ	**Tolley Road**	**16.42**	**201**	P	**P**	**17 22 43.5**	**-1.3**
KUTZ	**Kaahu Road**	**16.48**	**200**	P	**P**	**17 22 44.0**	**-1.4**
KNZ	**Kokohu**	**16.48**	**194**	P	**P**	**17 22 41.7**	**-3.7**
RAHZ	**Arahi**	**16.52**	**196**	P	**P**	**17 22 39.3**	**-6.5**
MTHZ	**Maungataniwha**	**16.52**	**197**	P	**P**	**17 22 43.3**	**-2.6**
MHGZ	**Mahia Peninsul**	**16.55**	**193**	P	**P**	**17 22 41.2**	**-5.0**
WHTZ	**Whakaora**	**16.60**	**199**	P	**P**	**17 22 46.4**	**-0.4**
MRHZ	**Matea Rd**	**16.62**	**198**	P	**P**	**17 22 41.4**	**-5.7**
WHHZ	**Waihua**	**16.64**	**195**	P	**P**	**17 22 44.3**	**-2.8**
WATZ	**Wairara**	**16.70**	**200**	P	**P**	**17 22 47.4**	**-0.6**
NMHZ	**Naumai**	**16.76**	**196**	P	**P**	**17 22 42.5**	**-6.1**
HATZ	**Hinemaiaia**	**16.77**	**198**	P	**P**	**17 22 45.9**	**-2.7**
HIZ	**Hauiti**	**16.81**	**202**	*e*P	**P**	**17 22 49.2**	**+0.1**
	3μm,0.7s						
RATZ	**Rangitukua**	**16.84**	**199**	P	**P**	**17 22 47.7**	**-1.7**
ARHZ	**Aropaoanui**	**16.87**	**196**	P	**P**	**17 22 46.2**	**-3.5**
BKZ	**Black Stump Fm**	**16.91**	**197**	*e*P	**P**	**17 22 43.1**	**-7.1**
	854nm,0.6s						
BKZ	**Black Stump Fm**	**16.91**	**197**	P	**P**	**17 22 43.4**	**-6.8**
RITZ	**Rihia Road**	**16.91**	**199**	P	**P**	**17 22 49.6**	**-0.6**
KATZ	**Kakaramea**	**16.96**	**199**	P	**P**	**17 22 48.8**	**-2.1**
KRVZ	**Karewarewa**	**17.09**	**199**	P	**P**	**17 22 49.8**	**-2.4**
MCHZ	**McNeill Hill**	**17.12**	**196**	P	**P**	**17 22 47.5**	**-4.9**
WTVZ	**West Tongariro**	**17.12**	**199**	P	**P**	**17 22 49.7**	**-2.9**
TWVZ	**Taurewa**	**17.13**	**200**	P	**P**	**17 22 49.9**	**-2.8**
KWHZ	**Kaweka Forest**	**17.17**	**197**	P	**P**	**17 22 49.6**	**-3.5**
NGZ	**Ngauruhoe**	**17.17**	**199**	P	**P**	**17 22 50.6**	**-2.6**
TUVZ	**Tukino**	**17.24**	**199**	P	**P**	**17 22 50.7**	**-3.3**
MOVZ	**Moawhango**	**17.34**	**199**	P	**P**	**17 22 50.7**	**-4.3**
KRHZ	**Kereru**	**17.39**	**197**	P	**P**	**17 22 49.1**	**-6.3**
KAHZ	**Kahuranaki**	**17.40**	**195**	P	**P**	**17 22 50.0**	**-5.6**
BFZ	**Birch Farm**	**18.40**	**196**	*e*P	**P**	**17 23 01.1**	**-5.3**
	2μm,0.4s						
SNZO	**South Karori**	**19.41**	**199**	*e*P	**P**	**17 23 13.1**	**-4.2**
	2μm,1.1s						
THZ	**Tophouse**	**20.39**	**202**	*e*P	**P**	**17 23 24.0**	**-3.9**
	2μm,0.6s						
KHZ	**Kahutara**	**20.77**	**200**	*e*P	**P**	**17 23 27.8**	**-4.0**
	2μm,1.2s						
KNTN	**Kanton**	**20.87**	**16**	*e*P	**P**	**17 23 30.5**	**-2.7**
	12μm,1.1s						
LTZ	**Lake Taylor**	**21.51**	**202**	*e*P	**P**	**17 23 34.5**	**-5.2**
	2μm,0.6s						
OXZ	**Oxford**	**22.07**	**201**	*e*P	**P**	**17 23 39.7**	**-5.7**
	3μm,0.6s						
MQZ	**McQueen's Vall**	**22.21**	**200**	*e*P	**P**	**17 23 43.2**	**-3.5**
	876nm,0.9s						
LHI	**Lord Howe Isla**	**22.66**	**243**	*e*P	**P**	**17 23 53.3**	**+2.2**
	26μm,1.8s						
RPZ	**Rata Peaks**	**22.75**	**202**	*e*P	**P**	**17 23 48.2**	**-3.6**
	2μm,0.6s						
RPZ	**Rata Peaks**	**22.75**	**202**	P	**P**	**17 23 48.0**	**-3.7**
	151nm,0.4s,baz=33,slow=3.8,SNR=77						
RPZ				S	**S**	**17 27 42.0**	**-4.8**
	253nm,0.7s,baz=6.7,slow=17,SNR=2.8						
RPZ				ScP	**ScP**	**17 31 00.1**	**+1.6**
	507nm,1.1s,baz=109,slow=4.7,SNR=3.2						
RPZ				LR	LR	17 32 05.0	
	comp=Z,171μm,19.8s,baz=26,slow=34						
RPZ				ScS	**ScS**	**17 34 42.9**	**-1.3**
	378nm,1.3s,baz=194,slow=18,SNR=12						
FOZ	**Fox Glacier**	**23.05**	**205**	*e*P	**P**	**17 23 52.4**	**-2.0**
	3μm,0.6s						
LBZ	**Lake Benmore**	**23.64**	**203**	*e*P	**P**	**17 23 57.5**	**-2.3**
	768nm,0.9s						
ODZ	**Otahua Downs**	**24.05**	**201**	*e*P	**P**	**17 24 01.8**	**-1.8**
	888nm,1.0s						
WKZ	**Wanaka**	**24.45**	**204**	*e*P	**P**	**17 24 05.2**	**-2.0**
	2μm,0.7s						
MLZ	**Mavora Lakes**	**25.25**	**205**	*e*P	**P**	**17 24 13.2**	**-1.2**
	2μm,0.7s						
TBI	**Tubuai**	**25.49**	**96**	⇑*i*P	**P**	**17 24 16.0**	**-0.9**
	6μm,1.3s						
TBI				*e*S	**S**	**17 28 28.9**	**-2.1**
	352μm,29.8s						
TBI				*e*LR	LR	17 30 49.5	
	comp=Z,913μm,28.0s						
TBI	**Tubuai**	**25.49**	**96**	*e*T	T	17 49 25.0	
	576nm,0.3s						
DCZ	**Deep Cove**	**25.71**	**206**	*e*P	**P**	**17 24 17.3**	**-1.2**
	849nm,0.7s						
HNR	**Honiara**	**25.73**	**298**	*e*P	**P**	**17 24 19.0**	**-0.1**
HNR	**Honiara**	**25.73**	**298**	*e*P	**P**	**17 24 19.2**	**+0.2**
	11μm,0.8s						
HNR	**Honiara**	**25.73**	**298**	P	**P**	**17 24 19.3**	**+0.2**
	5μm,0.7s,baz=148,slow=4.4,SNR=182						
HNR				ScS	ScS	17 34 57.6	+0.5
	69nm,1.1s,baz=158,slow=19,SNR=1.9						
HNR				P3KPbc		17 57 04.4	
	13nm,0.7s,baz=222,slow=7.8,SNR=2.5						
WHZ	**Wether Hill Ro**	**25.75**	**204**	*e*P	**P**	**17 24 17.5**	**-1.5**
	2μm,0.6s						
TARA	**Tarawa**	**26.12**	**337**	*e*P	**P**	**17 24 20.9**	**-1.5**
	6μm,1.0s						
PAE	**Paea**	**26.44**	**83**	⇑*i*P	**P**	**17 24 24.0**	**-1.4**
	219nm,0.9s						
PAE	**Paea**	**26.44**	**83**	*e*T	T	17 49 59.1	
	506nm,0.3s						
PPT2	**Papeete2**	**26.46**	**83**	⇑*i*P	**P**	**17 24 24.8**	**-0.9**
	3μm,1.4s						
PPT2				*e*S	**S**	**17 28 43.7**	**-2.8**
	248μm,26.4s						
PPT2				*e*LQ	LQ	17 30 09.5	
	1067μm,27.2s						
PPT2				*e*ScP	**ScP**	**17 31 07.7**	**-1.7**
	812nm,1.1s						
PPT2				*e*LR	LR	17 31 14.1	
	comp=Z,627μm,26.0s						
PPT2	**Papeete2**	**26.46**	**83**	*e*T	T	17 50 02.4	
	531nm,0.3s						
PPT	**Papeete**	**26.47**	**83**	*e*P	**P**	**17 24 22.7**	**-3.0**
PPT				*e*P	**P**	**17 24 24.0**	**-1.6**
PPT				*e*ScP	**ScP**	**17 31 10.6**	**+1.2**
PPT	**Papeete**	**26.47**	**83**	*e*P	**P**	**17 24 22.7**	**-3.0**
PPT	**Papeete**	**26.47**	**83**	P	**P**	**17 24 24.0**	**-1.6**
	670nm,0.5s,baz=68,slow=1.0,SNR=59						
PPT				ScP	**ScP**	**17 31 10.6**	**+1.2**
	298nm,1.1s,baz=315,slow=3.1,SNR=2.9						
PPTF	**Pamatai, Papee**	**26.47**	**83**	*e*P	**P**	**17 24 22.5**	**-3.3**
	3μm,1.1s						
TIAR	**Tiarei**	**26.68**	**83**	⇑*i*P	**P**	**17 24 26.6**	**-1.0**
	1μm,1.0s						
TIAR	**Tiarei**	**26.68**	**83**	*e*T	T	17 50 05.8	
	73nm,0.3s						
TVO	**Taravao**	**26.70**	**84**	⇑*i*P	**P**	**17 24 26.5**	**-1.3**
	1μm,1.4s						
TVO	**Taravao**	**26.70**	**84**	*e*T	T	17 50 06.9	
	53nm,0.3s						
MEH	**Mehetia**	**27.77**	**85**	⇑*i*P	**P**	**17 24 35.5**	**-1.7**
	564nm,1.2s						
MEH	**Mehetia**	**27.77**	**85**	*e*T	T	17 51 43.4	
	784nm,0.3s						
ARMA	**Armidale**	**28.70**	**249**	*e*P	**P**	**17 24 47.4**	**+1.8**
	1μm,0.9s						
PMOR	**Pomariorio Ree**	**28.81**	**79**	⇑*i*P	**P**	**17 24 45.2**	**-1.3**
	2μm,1.3s						
PMOR				*e*ScP	**ScP**	**17 31 14.6**	**-1.9**
	868nm,1.1s						
PMOR	**Pomariorio Ree**	**28.81**	**79**	*e*T	T	17 52 48.1	
	41nm,0.3s						
EIDS	**Eidsvold**	**28.97**	**259**	*e*P	**P**	**17 24 48.7**	**+0.8**
	4μm,1.4s						
VAH	**Vaihoa**	**28.97**	**80**	⇑*i*P	**P**	**17 24 46.2**	**-1.7**
	2μm,1.3s						
VAH				*e*ScP	**ScP**	**17 31 15.5**	**-1.6**
	471nm,1.2s						
VAH	**Vaihoa**	**28.97**	**80**	*e*T	T	17 53 11.4	
	192nm,0.2s						
XMAS	**Kiritimati**	**31.54**	**40**	*e*P	**P**	**17 25 09.6**	**-1.0**
	1μm,0.8s						
CAN	**Canberra**	**31.76**	**240**	*e*P	**P**	**17 25 13.0**	**+0.6**
	2μm,1.2s						
CAN	**Canberra**	**31.76**	**240**	*e*P	**P**	**17 25 13.0**	**+0.6**
CAN				pmax	pmax		
	comp=Z,2μm,1.2s						
CTA	**Charters Tower**	**34.05**	**268**	P	**P**	**17 25 34.1**	**+1.8**
	comp=Z,6μm,0.6s,baz=99,slow=13,SNR=1743						
CTA				S	**S**	**17 30 44.7**	**-0.1**
	comp=Z,78nm,0.9s,baz=254,slow=18,SNR=14						
CTA				ScP	**ScP**	**17 31 36.4**	**+2.2**
	comp=Z,99nm,1.0s,baz=151,slow=3.3,SNR=1.4						
CTA				LR	LR	17 36 56.0	
	comp=Z,224μm,20.2s,baz=92,slow=31						
CTA				P3KPbc		17 56 34.7	
	comp=Z,14nm,1.1s,baz=304,slow=6.0,SNR=7.0						
CTA				P3KP		17 57 34.5	
	comp=Z,7.3nm,0.9s,baz=285,slow=4.4,SNR=3.8						
CTA				PKP2ab		18 00 31.2	
	comp=Z,13nm,1.1s,baz=302,slow=6.3,SNR=3.9						
CTA				P4KP		18 07 38.5	
	comp=Z,4.0nm,1.0s,baz=78,slow=1.3,SNR=3.0						
CTAO	**Charters Tower**	**34.05**	**268**	*e*P	**P**	**17 25 33.7**	**+1.4**
	comp=Z,6μm,0.6s						
CTAO	**Charters Tower**	**34.05**	**268**	*e*P	**P**	**17 25 33.7**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,6μm,0.6s						
KWAJ	**Kwajalein Atol**	**34.99**	**333**	*e*P	**P**	**17 25 40.0**	**-0.4**
	comp=Z,23μm,1.8s						
KWAJ	**Kwajalein Atol**	**34.99**	**333**	*e*P	**P**	**17 25 40.0**	**-0.4**
TOO	**Toolangi**	**35.04**	**237**	*e*P	**P**	**17 25 41.2**	**+0.6**
	comp=Z,5μm,1.6s						
TOO	**Toolangi**	**35.04**	**237**	*e*P	**P**	**17 25 41.3**	**+0.6**
TOO				pmax	pmax		
	comp=Z,5μm,1.6s						
RABL	**Rabaul**	**35.05**	**298**	*e*P	**P**	**17 25 39.7**	**-1.3**
	comp=Z,3μm,1.3s						
TAU	**Tasmania Unive**	**35.37**	**227**	*e*P	**P**	**17 25 43.5**	**+0.2**
	comp=Z,754nm,0.6s						
TAU	**Tasmania Unive**	**35.37**	**227**	*e*P	**P**	**17 25 43.5**	**+0.2**
TAU				pmax	pmax		
	comp=Z,754nm,0.6s						
MCQ	**Macquarie Isla**	**36.10**	**204**	*e*P	**P**	**17 25 50.3**	**+0.9**
	comp=Z,1μm,0.9s						
MCQ	**Macquarie Isla**	**36.10**	**204**	*e*P	**P**	**17 25 50.3**	**+0.9**
MCQ				pmax	pmax		
	comp=Z,1μm,0.9s						
PMG	**Port Moresby**	**36.69**	**286**	*e*P	**P**	**17 25 55.8**	**+0.9**
	comp=Z,22μm,1.0s						
PMG				*e*S	**S**	**17 31 22.7**	**-2.6**
PMG				*e*ScP	**ScP**	**17 31 44.6**	**+0.8**
PMG				*e*P'P'ab	**P'P'ab**	**18 00 21.0**	**+1.5**
PMG	**Port Moresby**	**36.69**	**286**	P	**P**	**17 25 56.2**	**+1.3**
	comp=Z,22μm,1.0s,baz=104,slow=5.3,SNR=660						
PMG				S	**S**	**17 31 22.7**	**-2.6**
	comp=Z,76nm,1.1s,baz=252,slow=18,SNR=2.6						
PMG				ScP	**ScP**	**17 31 44.6**	**+0.8**
	comp=Z,441nm,1.2s,baz=55,slow=9.2,SNR=3.0						
PMG				PKP2ab		18 00 21.0	
	comp=Z,10nm,1.0s,baz=31,slow=3.7,SNR=4.8						
STKA	**Stephens Creek**	**37.40**	**247**	*e*P	**P**	**17 26 01.3**	**+0.6**
	comp=Z,852nm,1.5s						
STKA	**Stephens Creek**	**37.40**	**247**	P	**P**	**17 26 01.6**	**+0.9**
	comp=Z,763nm,0.5s,baz=89,slow=9.4,SNR=383						
STKA				PcP	**PcP**	**17 28 17.9**	**+2.1**
	comp=Z,478nm,0.9s,baz=93,slow=9.8,SNR=3.9						
STKA				S	**S**	**17 31 35.6**	**0.0**
	comp=Z,61nm,1.0s,baz=108,slow=3.2,SNR=1.6						
STKA				ScP	**ScP**	**17 31 47.8**	**+1.5**
	comp=Z,196nm,1.0s,baz=89,slow=3.6,SNR=4.2						
STKA				P3KPbc		17 56 20.0	
	comp=Z,8.1nm,0.9s,baz=245,slow=3.7,SNR=8.0						
STKA				P3KP		17 57 27.5	
	comp=Z,9.8nm,0.9s,baz=105,slow=4.8,SNR=2.9						
STKA				PKP2ab		18 00 14.2	
	comp=Z,5.3nm,0.9s,baz=318,slow=4.2,SNR=2.9

KHU **Kahuku** 47.06 28 *e*P P 17 27 18.1 -0.9
KHU pmax pmax
comp=Z,7μm,1.9s
HLP **Hilina Pali** 47.23 29 *e*P P 17 27 20.6 +0.3
comp=Z,2μm,1.0s
AIN **Ainahou** 47.24 28 *e*P P 17 27 20.9 +0.5
comp=Z,2μm,1.0s
I59US **HAWAII INFRASO** 47.24 28 P P 17 27 20.0 -0.3
baz=252,slow=12,SNR=9.0
KHLU **Kahalu`u** 47.24 28 *e*P P 17 27 20.1 -0.2
comp=Z,4μm,0.9s
KKH **Kailua Kona** 47.24 28 *e*P P 17 27 20.8 +0.6
KKH **Kailua Kona** 47.24 28 *e*P P 17 27 20.8 +0.6
MWH **Moku'aweowe** 47.27 28 *e*P P 17 27 21.2 +0.1
comp=Z,3μm,1.2s
SDHHI **Sand Hill** 47.32 29 *e*P P 17 27 20.7 -0.3
comp=Z,2μm,0.9s
MLOA **Mauna Loa Obse** 47.33 28 *e*P P 17 27 21.0 -0.4
comp=Z,4μm,1.4s
WRMHI **West Rim** 47.34 29 *e*P P 17 27 21.6 +0.5
comp=Z,2μm,1.0s
RIM **Rim** 47.34 29 *e*P P 17 27 21.2 +0.1
comp=Z,2μm,0.9s
KKO **Keanakako`i** 47.34 29 *e*P P 17 27 21.5 +0.3
comp=Z,3μm,1.0s
PUH **Pauahi** 47.34 29 *e*P P 17 27 20.8 -0.3
comp=Z,6μm,1.6s
HUH **Hualalai** 47.35 28 *e*P P 17 27 19.7 -1.6
comp=Z,3μm,0.9s
NPH **North Pit** 47.35 29 *e*P P 17 27 21.5 +0.3
comp=Z,4μm,1.7s
UWE **Uwekahuna** 47.35 29 *e*P P 17 27 21.9 +0.7
comp=Z,2μm,0.8s
OBL **Observatory Le** 47.35 29 *e*P P 17 27 20.6 -0.6
comp=Z,2μm,1.0s
BYL **Byron's Ledge** 47.36 29 *e*P P 17 27 18.5 -2.7
comp=Z,2μm,0.8s
UWB **Uwekahuna B** 47.36 29 *e*P P 17 27 18.2 -3.0
comp=Z,2μm,1.0s
HATHI **Halema'uma'u T** 47.37 29 *e*P P 17 27 18.9 -2.4
comp=Z,2μm,0.8s
SBLHI **Steaming Bluff** 47.37 29 *e*P P 17 27 18.6 -2.7
comp=Z,3μm,1.4s
MLH **Mauna Loa** 47.38 28 *e*P P 17 27 21.4 -0.1
comp=Z,8μm,1.8s
MLH **Mauna Loa** 47.38 28 *e*P P 17 27 21.4 -0.1
MLH pmax pmax
comp=Z,8μm,1.8s
STCH **Steam Cracks** 47.40 29 *e*P P 17 27 20.9 -0.6
comp=Z,4μm,0.9s
JCUZ **Jacuzzi** 47.40 29 *e*P P 17 27 21.6 0.0
comp=Z,4μm,0.9s
NPOC **North of Pu'u** 47.41 29 *e*P P 17 27 22.1 +0.5
comp=Z,4μm,0.9s
HMH **Humu'ula Sheep** 47.43 28 *e*P P 17 27 22.0 0.0
comp=Z,5μm,0.9s
POHA **Pohakuloa** 47.54 28 *e*P P 17 27 22.5 -0.3
comp=Z,2μm,0.8s
HPAH **Hawaii Prepara** 47.71 28 *e*P P 17 27 23.8 -0.1
comp=Z,5μm,0.9s
MHA **Mahukona** 47.77 27 *e*P P 17 27 24.4 +0.2
MHA **Mahukona** 47.77 27 *e*P P 17 27 24.4 +0.2
LPH **Laupahoehoe** 47.81 28 *e*P P 17 27 25.1 +0.6
KEKH **Kekaha** 47.92 22 *e*P P 17 27 25.4 0.0
comp=Z,5μm,1.2s
HON **Honolulu** 47.94 24 *e*P P 17 27 25.2 -0.3
HON **Honolulu** 47.94 24 *e*P P 17 27 25.2 -0.3
KIP **Kipapa** 48.03 24 *e*P P 17 27 26.0 -0.2
comp=Z,5μm,0.9s
KIP **Kipapa** 48.03 24*d iP* P 17 27 26.1 -0.1
KIP pmax pmax
comp=Z,5μm,0.9s
HLK **Haleakala** 48.13 27 *e*P P 17 27 27.2 -0.1
comp=Z,2μm,0.7s
KHLH **Kahului Airpor** 48.18 26 *e*P P 17 27 27.5 +0.1
comp=Z,2μm,0.7s
OPA **Opana** 48.27 24 *e*P P 17 27 27.7 -0.3
comp=Z,1μm,0.8s
OPA **Opana** 48.27 24 *e*P P 17 27 27.7 -0.3
OPA pmax pmax
comp=Z,1μm,0.8s
FORT **Forrest** 48.99 249 *e*P P 17 27 32.9 -0.7
comp=Z,4μm,0.8s
MTN **Manton Dam** 49.96 272 *e*P P 17 27 40.8 -0.4
comp=Z,1μm,0.6s
SAUI **Saumlaki** 51.56 278 *e*P P 17 27 53.5 +0.5
comp=Z,15μm,1.2s
SAUI **Saumlaki** 51.56 278 P P 17 27 53.1 0.0
comp=Z,11μm,1.1s,comp=Z,141μmcomp=Z,857μm
GUMO **Guam** 52.02 311 *e*P P 17 27 57.0 +0.6
comp=Z,17μm,1.6s
GUMO **Guam** 52.02 311 P P 17 27 57.1 +0.7
comp=Z,2μm,1.0s,baz=146,slow=4.2,SNR=110
GUMO ScP **ScP** 17 32 48.8 +2.5
comp=Z,2μm,1.2s,baz=280,slow=1.9,SNR=7.2
FAKI **Fak Fak** 52.82 285 *e*P P 17 28 02.0 -0.4
comp=Z,4μm,1.3s
FAKI **Fak Fak** 52.82 285 P P 17 28 01.5 -0.9
comp=Z,2μm,1.3s,comp=Z,56μmcomp=Z,675μm
ANA2 **Anatahan** 53.38 314 *e*P P 17 28 05.7 -0.7
comp=Z,2μm,0.9s
FITZ **Fitzroy Crossi** 53.45 264 *e*P P 17 28 07.3 +0.4
comp=Z,7μm,1.5s
FITZ **Fitzroy Crossi** 53.45 264 P P 17 28 07.6 +0.7
comp=Z,662nm,0.4s,baz=84,slow=5.6,SNR=732
FITZ S **S** 17 35 25.6 -0.3
baz=279,slow=19
FITZ PKPPKP **P'P'df** 17 58 20.9 -7.4
comp=Z,7.4nm,1.0s,baz=209,slow=2.7,SNR=3.9
SARN **Sarigan** 53.60 314 *e*P P 17 28 07.5 -0.4
comp=Z,2μm,1.2s
BNDI **Bandanaira** 54.23 282 P P 17 28 12.6 0.0
comp=Z,11μm,1.4s,comp=Z,161μmcomp=Z,617μm
SWI **Sorong** 54.64 286 P P 17 28 15.8 +0.2
comp=Z,6μm,1.1s,comp=Z,69μm
SBA **Scott Base** 55.36 184 *e*P P 17 28 23.0 +3.2
comp=Z,8μm,1.8s
VNDA **Vanda** 55.42 185 *e*P P 17 28 22.8 +2.5
comp=Z,3μm,2.0s
VNDA **Vanda** 55.42 185 *e*P P 17 28 22.8 +2.5
VNDA pmax pmax
comp=Z,3μm,2.0s
VNDA **Vanda** 55.42 185 P P 17 28 22.8 +2.5
comp=Z,128nm,0.7s,baz=3.5,slow=7.8,SNR=185
VNDA LR LR 17 50 55.8
comp=Z,20μm,18.3s,baz=20,slow=34
VNDA PKP2bc 17 58 33.7
comp=Z,18nm,1.0s,baz=182,slow=13,SNR=5.6
SOEI **Soe** 57.34 273 *e*P P 17 28 36.2 +1.3
comp=Z,28μm,1.3s
SOEI **Soe** 57.34 273 P P 17 28 36.4 +1.5
comp=Z,16μm,1.1s,comp=Z,197μmcomp=Z,935μm
BATI **Baumata** 57.73 272 PKP2bc 17 58 33.0
comp=Z,49nm,0.9s,baz=140,slow=11,SNR=5.7
PSA00 **Pilbara Seismi** 57.83 258 *e*P P 17 28 37.7 -0.5
comp=Z,3μm,1.2s
NWAO **Narrogin (SRO)** 57.90 245 *e*P P 17 28 37.6 -0.8
comp=Z,598nm,0.9s
NWAO *e*P **P** 17 28 38.0 -0.5
NWAO *e*PcP **PcP** 17 29 31.2 +2.4
NWAO **Narrogin (SRO)** 57.90 245 P P 17 28 38.0 -0.5
comp=Z,223nm,0.5s,baz=117,slow=7.3,SNR=51
NWAO PcP **PcP** 17 29 31.2 +2.4
comp=Z,582nm,1.0s,baz=84,slow=6.2,SNR=6.6
NWAO PKPPKP **P'P'df** 17 58 16.4 -5.3
comp=Z,10nm,0.9s,baz=244,slow=2.8,SNR=3.2
NWAO PKP2bc 17 58 32.6
comp=Z,8.8nm,1.0s,baz=138,slow=9.0,SNR=1.6
SANI **Sanana** 58.81 282 P P 17 28 44.3 -0.7
comp=Z,4μm,1.0s,comp=Z,65μmcomp=Z,590μm
TNTI **Ternate** 58.84 286 *e*P P 17 28 44.8 -0.4
comp=Z,9μm,1.4s
TNTI **Ternate** 58.84 286 P P 17 28 45.0 -0.2
comp=Z,4μm,1.8s,comp=Z,72μmcomp=Z,287μm
MORW **Morawa** 59.56 249 *e*P P 17 28 49.5 -0.5
comp=Z,1μm,0.6s
MMRI **Maumere** 59.61 273 *e*P P 17 28 49.8 -0.7
comp=Z,3μm,0.9s
MMRI **Maumere** 59.61 273 P P 17 28 50.1 -0.4
comp=Z,5μm,0.9s,comp=Z,80μmcomp=Z,644μm
BBSI **Bau Bau** 60.50 277 P P 17 28 57.8 +1.2
comp=Z,606nm,1.0s,comp=Z,13μm
BASI **Baing, Sumba** 60.57 271 P P 17 28 58.4 +1.4
comp=Z,10μm,1.3s,comp=Z,154μm
RPN **Rapa Nui** 60.93 109 *e*P P 17 28 59.9 +0.6
comp=Z,5μm,1.2s
RPN **Rapa Nui** 60.93 109 P P 17 29 00.2 +0.9
comp=Z,2μm,1.0s,baz=294,slow=4.0,SNR=44
RPN LR LR 17 50 46.7
comp=Z,65μm,19.1s,baz=256,slow=31
WSI **Waingapu** 61.02 272 P P 17 29 00.5 +0.4
comp=Z,17μm,1.0s
KDI **Kendari** 61.07 279 P P 17 29 00.2 -0.2
comp=Z,1μm,1.5s,comp=Z,46μmcomp=Z,791μm
KMSI **Cibinong** 61.77 284 P P 17 29 05.0 0.0
comp=Z,2μm,0.8s,comp=Z,28μmcomp=Z,5μm
SGSI **Sangihe** 61.82 288 P P 17 29 05.3 -0.1
comp=Z,3μm,0.8s,comp=Z,27μmcomp=Z,5μm
CASY **Casey** 61.96 206 *e*P P 17 29 06.6 +1.1
comp=Z,8μm,1.6s
LUWI **Luwuk** 62.15 282 *e*P P 17 29 07.7 +0.1
comp=Z,11μm,1.4s
LUWI **Luwuk** 62.15 282 P P 17 29 07.9 +0.3
comp=Z,4μm,1.2s,comp=Z,96μmcomp=Z,668μm
BSSI **Bau Bau, Buton** 62.15 275 P P 17 29 06.7 -0.9
comp=Z,2μm,1.6s,comp=Z,50μmcomp=Z,559μm
GIRL **Giralia** 62.59 256 *e*P P 17 29 11.8 +1.3
comp=Z,7μm,1.0s
MATI **Mati** 62.78 291 *e*P P 17 29 09.7 -2.1
BKSI **Bulukumba** 62.81 276 P P 17 29 11.2 -0.8
comp=Z,1μm,1.0s,comp=Z,22μmcomp=Z,334μm
DDMP **Don Marcelino,** 62.83 290 *e*P P 17 29 10.6 -1.5
BNSI **Bone** 63.18 277 P P 17 29 14.3 -0.2
comp=Z,2μm,1.7s,comp=Z,52μmcomp=Z,571μm
APSI **Ampana** 63.22 281 P P 17 29 15.6 +0.9
comp=Z,2μm,1.4s,comp=Z,41μmcomp=Z,367μm
KAPI **Kappang** 63.27 276 *e*P P 17 29 14.6 -0.4
comp=Z,4μm,1.8s
KAPI *e*PP **PP** 17 31 36.4 0.0
KAPI **Kappang** 63.27 276 P P 17 29 15.2 +0.2
comp=Z,268nm,0.5s,baz=103,slow=6.3,SNR=128
KAPI PP **PP** 17 31 36.4 0.0
comp=Z,475nm,1.1s,baz=119,slow=6.6,SNR=3.1
KAPI PKPPKP **P'P'df** 17 58 11.2 -1.7
comp=Z,8.3nm,0.2s,baz=250,slow=3.1,SNR=9.1
KAPI LR LR 17 58 37.5
comp=Z,39μm,18.9s,baz=112,slow=38
DAV **Davao City (W)** 63.42 291 *e*P P 17 29 15.8 -0.3
comp=Z,3μm,0.8s
DAV **Davao City (W)** 63.42 291 P P 17 29 12.1 -3.9
DMPH **Davao City--Mi** 63.49 291‖*e*P P 17 29 15.7 -0.8
MRSI **Marisa** 63.55 283 P P 17 29 15.9 -1.0
comp=Z,763nm,1.0s,comp=Z,23μmcomp=Z,389μm
PLAI **Plampang** 63.65 271 P P 17 29 17.3 -0.2
comp=Z,6μm,1.2s,comp=Z,76μmcomp=Z,644μm
SPSI **Sidrap Palu** 63.66 277 P P 17 29 16.5 -1.1
comp=Z,830nm,1.0s,comp=Z,15μmcomp=Z,354μm
TTSI **Tana Toraja** 63.99 278 P P 17 29 19.5 -0.2
comp=Z,1μm,1.1s,comp=Z,29μmcomp=Z,631μm
SKMP **Bagumbayan, Su** 64.05 290 *e*P P 17 29 19.5 -0.6
BUKP **Musuan** 64.27 292 *e*P P 17 29 21.8 +0.2
BUKP *e*S P 17 29 32.6 +11
BUTP **Butuan** 64.35 293 *e*P P 17 29 21.7 -0.3
CTBH **Cotabato--PC H** 64.65 291‖*iP* P 17 29 24.2 +0.2
SCPH **Surigao** 64.87 294‖*e*P P 17 29 36.0 +11
CGP **Cagayan de Oro** 64.88 292‖*e*P P 17 29 26.7 +1.2
MPSI **Mapaga** 65.33 282 P P 17 29 27.6 -0.8
comp=Z,2μm,1.1s,comp=Z,24μmcomp=Z,409μm
PAGZ **Pagadian** 65.70 291 *e*P P 17 29 30.1 -0.6
BESP **Borongan** 65.86 295 *e*P P 17 29 32.1 +0.4
PLP **Palo** 66.02 295‖*e*P P 17 29 31.4 -1.3
IGBI **Denpasar** 66.07 270 P P 17 29 33.7 +0.5
comp=Z,14μm,1.1s,comp=Z,155μmcomp=Z,655μm
DCPH **Dipolog City** 66.09 291‖*e*P P 17 29 38.0 +4.8
TBP **Tagbilaran** 66.20 293 *e*P P 17 29 35.0 +1.1
OCLP **Ormoc** 66.27 294 *e*P P 17 29 34.3 -0.1
SRBI **Singaraja** 66.28 271 P P 17 29 34.2 -0.3
comp=Z,2μm,0.9s,comp=Z,38μmcomp=Z,305μm
IPIL **Ipil** 66.37 290 *e*P P 17 29 34.9 -0.2
IPIL *e*S **PcP** 17 29 57.4 -6.0
LLP **Lapu-Lapu** 66.43 293‖*e*P P 17 29 35.0 -0.4
LLP *e*S **S** 17 38 11.5 -0.2
SNPH **Sibulan** 66.56 292‖*e*P P 17 29 35.8 -0.5
CNP **Catarman** 66.98 296 *e*P P 17 29 38.6 -0.2
CNP *e*S **PcP** 17 30 03.8 -2.1
QSPA **South Pole Qui** 67.00 180 *e*P P 17 29 39.9 +1.5
comp=Z,2μm,1.0s
SGKI **Sangatta, Kali** 67.04 280 P P 17 29 42.9 +3.6
JAGI **Jajag, Banyuwa** 67.11 270 *e*P P 17 29 38.1 -1.7
comp=Z,4μm,1.1s
JAGI **Jajag, Banyuwa** 67.11 270 P P 17 29 39.1 -0.7
comp=Z,3μm,1.1s,comp=Z,52μmcomp=Z,570μm
BKB **Balikpapan** 67.38 279 P P 17 29 45.2 +3.7
comp=Z,864nm,1.1s,comp=Z,69μmcomp=Z,656μm
SMKI **Samarinda** 67.43 280 P P 17 29 44.5 +2.7
comp=Z,2μm,1.2s,comp=Z,43μmcomp=Z,435μm
GUIM **Jordan** 67.76 293 *e*P P 17 29 42.5 -1.3
KMMI **Kalianget** 67.81 272 P P 17 29 45.3 +1.2
comp=Z,3μm,1.0s,comp=Z,19μm
PVCP **Virac** 67.97 296 *e*P P 17 29 45.2 +0.1
JAP **San Jose, Anti** 68.36 293‖*e*P P 17 29 47.0 -0.5
AUQP **San Andres** 69.06 295 *e*P P 17 29 49.5 -2.3
AUQP *e*S **sP** 17 30 49.7 -2.2
OTRP **Odiongan** 69.11 294 *e*P P 17 29 51.2 -0.9
CUYO **Cuyo Island** 69.20 292 *e*P P 17 29 52.1 -0.6
GRJI **Gresik** 69.22 271 P P 17 29 53.3 +0.4
comp=Z,9μm,0.9s,comp=Z,56μmcomp=Z,5μm
JHJ2 **Mitsune** 69.29 322 *e*P P 17 29 52.0 -0.8
comp=Z,3μm,1.0s
MTKI **Muara Teweh, K** 69.33 278 P P 17 29 53.5 -0.1
comp=Z,1μm,0.9s,comp=Z,36μmcomp=Z,448μm
PWJI **Pagerwojo** 69.44 270 P P 17 29 54.0 -0.2
comp=Z,3μm,1.1s,comp=Z,60μmcomp=Z,438μm
BOAC **Boac** 69.82 295 *e*P P 17 29 56.2 -0.2
BOAC *e*S **PcP** 17 30 11.3 -6.6
SJMP **San Jose** 69.92 294 *e*P P 17 29 57.1 +0.1
PCJI **Pacitan** 69.95 269 P P 17 29 57.6 +0.2
comp=Z,8μm,0.8s,comp=Z,77μm
NGJI **Ngawi** 69.99 270 P P 17 29 59.8 +2.2
comp=Z,5μm,1.0s,comp=Z,68μm
WOJI **Wonogiri, Jawa** 70.32 270 P P 17 29 59.7 +0.1
comp=Z,3μm,1.1s,comp=Z,46μmcomp=Z,310μm
POLP **Polilio Island** 70.39 296 *e*P P 17 30 00.5 +0.6
BUSP **Coron** 70.47 293 *e*P P 17 30 00.2 -0.2
UGM **Wanagama** 70.66 269 *e*P P 17 30 01.7 0.0
comp=Z,3μm,1.0s
UGM **Wanagama** 70.66 269 P P 17 30 03.0 +1.3
comp=Z,4μm,1.1s,comp=Z,43μmcomp=Z,532μm
ENPP **El Nido** 70.74 292 *e*P P 17 30 01.5 -0.6
BATP **Bataraza** 70.99 289 *e*P P 17 30 04.0 +0.4
SMRI **Semarang** 71.05 270 *e*P P 17 30 03.4 -0.7
comp=Z,3μm,1.1s
SMRI **Semarang** 71.05 270 P P 17 30 05.5 +1.4
comp=Z,2μm,0.8s,comp=Z,78μmcomp=Z,480μm
BALP **Baler** 71.22 297 *e*P P 17 30 04.7 -0.2
BALP *e*S **PcP** 17 30 21.6 -2.1
LUBP **Lubang** 71.29 294 *e*P P 17 30 03.9 -1.5
PBKI **Pangkalan Bun** 71.58 275 P P 17 30 10.4 +3.2
comp=Z,6μm,1.1s,comp=Z,59μm
CAUP **Cauayan** 71.64 298 *e*P P 17 30 07.5 +0.1
CAUP *e*S PcP 17 30 35.4 +10
SGCP **Mt. Cagua** 72.15 299 *e*P P 17 30 11.0 +0.6
SMPP **San Manuel, Pa** 72.16 297 *e*P P 17 30 10.6 0.0
JOW **Kunigami** 72.38 310 *e*P P 17 30 11.8 +0.1
comp=Z,595nm,1.0s
INU **Inuyama** 72.50 322 *e*P P 17 30 11.5 -0.7
comp=Z,441nm,0.9s
APYP **Conner** 72.60 299 *e*P P 17 30 12.9 -0.2
APYP *e*S PcP 17 30 43.9 +14
SCZP **Santa Cruz** 72.61 296 *e*P P 17 30 11.8 -1.4
MJAR **Matsushiro Arr** 72.71 324 P P 17 30 12.7 -0.7
comp=Z,308nm,0.7s,baz=162,slow=6.1,SNR=211
MJAR PKKP **PKKPbc** 17 49 58.5 +2.7
comp=Z,6.1nm,1.1s,baz=334,slow=4.3,SNR=4.2
MJAR LR LR 17 56 14.8
comp=Z,16μm,20.9s,baz=120,slow=31
MJAR PKPPKP **P'P'df** 17 57 53.9 0.0
comp=Z,5.6nm,0.9s,baz=297,slow=2.4,SNR=5.4
MAJO **Matsushiro** 72.71 324 *e*P P 17 30 12.8 -0.7
comp=Z,574nm,1.0s
MAJO **Matsushiro** 72.71 324*d iP* P 17 30 12.6 -0.8
MAJO pmax pmax
comp=Z,122nm,0.8s
MAT **Matsushiro** 72.71 324 P P 17 30 12.8 -0.6
MAT S **S** 17 39 25.2 +0.9
MJB9 **Matsu-Tunnel** 72.72 324 *e*P P 17 30 12.8 -0.7
comp=Z,663nm,1.1s
BOLP **Bolinao** 72.91 297 *e*P P 17 30 14.7 -0.3
BOLP *e*S **pP** 17 30 54.2 -2.6
ABRA **Dolores** 72.92 298 *e*P P 17 30 13.8 -1.1
ABRA *e*S PcP 17 30 39.0 +8.0
SBUM **Sibu** 73.17 280 *e*P P 17 30 16.4 -0.2
comp=Z,1μm,1.9s
JCJI **Jatiwangi** 73.26 270 P P 17 30 16.6 -0.5
comp=Z,5μm,1.1s,comp=Z,78μmcomp=Z,392μm
CISI **Cisompet, Garu** 73.28 269 *e*P P 17 30 16.2 -1.2
comp=Z,7μm,1.4s
CISI **Cisompet, Garu** 73.28 269 P P 17 30 16.4 -1.0
comp=Z,3μm,1.2s,comp=Z,54μmcomp=Z,419μm
BBP **Basco** 73.40 301 *e*P P 17 30 15.8 -1.9
LEM **Lembang** 73.73 269 P P 17 30 20.0 -0.1
comp=Z,53μm,1.1s,comp=Z,592μm
LEM **Lembang** 73.73 269 P P 17 30 20.4 +0.3
comp=Z,4μm,1.0s,baz=77,slow=4.3,SNR=123
LEM S **S** 17 39 37.3 +0.3
comp=Z,355nm,1.2s,baz=301,slow=21,SNR=14
XMIS **Christmas Isla** 74.21 265 *e*P P 17 30 22.3 -0.4
comp=Z,2μm,1.0s
ERM **Erimo** 74.42 330 *e*P P 17 30 22.8 -0.4
comp=Z,450nm,0.8s
ERM **Erimo** 74.42 330*d iP* P 17 30 23.5 +0.3
KSM **Kuching** 74.50 278 *e*P P 17 30 24.3 -0.1
comp=Z,2μm,0.9s
CBJI **Citeko** 74.59 270 P P 17 30 23.7 -1.2
comp=Z,4μm,1.1s,comp=Z,68μmcomp=Z,304μm
KIWB **Kanaga Island** 74.61 0 *e*P P 17 30 23.4 -0.7
ADK **Adak** 74.64 0 *e*P P 17 30 23.0 -1.2
comp=Z,3μm,1.1s
ADK **Adak** 74.64 0 *e*P P 17 30 23.0 -1.2
ADK pmax pmax
comp=Z,3μm,1.1s
JNU **Nakatsue** 74.64 317 *e*P P 17 30 24.1 -0.7
comp=Z,813nm,0.9s
JNU **Nakatsue** 74.64 317 PKPPKP 17 57 53.2
comp=Z,17nm,1.0s,baz=59,slow=2.4,SNR=5.0
JNU LR LR 18 00 43.2
comp=Z,29μm,21.2s,baz=110,slow=34
SKJI **Sukabumi** 74.64 269 P P 17 30 24.6 -0.6
comp=Z,4μm,1.3s,comp=Z,62μmcomp=Z,322μm
YOJ **Yonaguni jima** 74.81 305 *e*P P 17 30 25.5 -0.4
comp=Z,6μm,1.8s
YOJ **Yonaguni jima** 74.81 305 *e*P P 17 30 25.5 -0.4
YOJ pmax pmax
comp=Z,6μm,1.8s
GSTR **Great Sitkin T** 74.85 1 *e*P P 17 30 24.4 -1.1
YUK **Yuzh-Kuril'sk** 74.87 333*c iP* P 17 30 25.4 -0.3
YUK *i* *PP **pwP** 17 31 11.3 -0.2
YUK *i* S **S** 17 39 48.6 +0.6
YUK *i* SS **SS** 17 44 39.4 -1.3
YUK pmax pmax
comp=Z,4μm,2.7s
ATKA **Atka Island** 75.00 2 *e*P P 17 30 25.1 -1.2
comp=Z,3μm,1.0s
KUR **Kuril'sk** 75.06 335*d iP* P 17 30 26.7 -0.1
KUR *i* 17 30 40.1
KUR *i* S **S** 17 39 51.0 +0.9
KUR pmax pmax
comp=N,1μm,1.2s
KUR pmax pmax
comp=Z,2μm,1.2s
KUR pmax pmax
comp=E,708nm,1.1s
KUR pmax pmax
comp=Z,34μm,17.9s
KUR pmax pmax
comp=N,25μm,17.2s
KUR pmax pmax
comp=E,10μm,13.0s
KUR smax smax
comp=N,26μm,18.0s
KUR smax smax
comp=E,8μm,18.0s
KUR smax smax
comp=Z,33μm,18.0s
TPI **Tanjungpandan** 75.25 273 P P 17 30 27.4 -1.3
comp=Z,1μm,1.1s,comp=Z,26μmcomp=Z,468μm
SBJI **Serang** 75.37 270 P P 17 30 28.9 -0.4
comp=Z,3μm,1.1s,comp=Z,48μmcomp=Z,352μm
TWG **Pinlang** 75.39 303 *e*P P 17 30 27.1 -2.1
comp=Z,2μm,0.7s
YULB **Yu-li** 75.52 304 *e*P P 17 30 28.0 -2.0
comp=Z,489nm,0.9s
CGJI **Cibinong** 75.59 269 P P 17 30 29.5 -1.1
comp=Z,2μm,1.1s,comp=Z,45μmcomp=Z,380μm
NACB **Ninganchiao** 75.72 304 *e*P P 17 30 30.3 -0.8
comp=Z,2μm,1.0s
SMY **Shemya** 75.86 355 *e*P P 17 30 30.1 -1.1
comp=Z,1μm,0.8s
SMY **Shemya** 75.86 355 *e*P P 17 30 30.1 -1.1
SMY pmax pmax
comp=Z,1μm,0.8s
TPUB **Ta-pu** 75.99 303 *e*P P 17 30 31.4 -1.3
comp=Z,2μm,0.8s
SSLB **Suanglung** 76.00 304 *e*P P 17 30 31.3 -1.5
comp=Z,780nm,0.7s
NIKH **Nikolski High** 76.08 5 *e*P P 17 30 31.7 -0.7
comp=Z,8μm,1.0s
YHNB **Yeheng** 76.16 305 *e*P P 17 30 32.7 -1.0
comp=Z,2μm,1.0s
TATO **Taipei** 76.25 305 *e*P P 17 30 33.5 -0.5
comp=Z,1μm,0.8s
ASAJ **Asahikawa** 76.33 331 LR LR 18 01 30.4
comp=Z,49μm,19.8s,baz=151,slow=33
SKR **Severo-Kuril's** 77.13 343 *e*P P 17 30 37.5 -0.8
SKR *e**SS sS 17 41 06.7 -19
SKR pmax pmax
comp=Z,12μm,9.4s
SKR pmax pmax
comp=Z,28μm,9.7s
SKR pmax pmax
comp=Z,1μm,1.0s
SKR MLR MLR
comp=Z,72μm,19.0s
UNV **Unalaska Valle** 77.16 6 *e*P P 17 30 37.5 -0.9
comp=Z,3μm,1.1s
AKUT **Akutan** 77.53 7 *e*P P 17 30 39.6 -0.9
comp=Z,6μm,1.5s
PMBI **Palembang** 77.83 272 P P 17 30 42.9 -0.3
comp=Z,2μm,1.1s,comp=Z,36μmcomp=Z,403μm
KNMB **Chin-men Tao** 78.34 303 *e*P P 17 30 45.5 -0.1
comp=Z,2μm,1.4s
QZH **Quanzhou** 78.44 303‖*iP* P 17 30 46.6 +0.4
QZH PP **PP** 17 33 50.5 +4.1
QZH S **S** 17 40 24.1 -3.4
QZH pmax pmax
comp=Z,520nm,1.2s
QZH pmax pmax
comp=Z,48μm,13.3s
QZH LR LR
comp=Z,30μm,20.4s
QZH LR LR
comp=Z,18μm,23.2s
QZH LR LR
comp=Z,50μm,23.7s
SNCC **San Nicolas Is** 78.47 46 *e*P P 17 30 47.3 +1.1
comp=Z,950nm,1.4s
SNCC **San Nicolas Is** 78.47 46 P P 17 30 47.5 +1.3
baz=232
SNCC S **S** 17 40 34.9 +7.2
baz=232
YSS **Yuzh-Sakhalins** 78.52 333 *e*P P 17 30 46.3 +0.2
comp=Z,1μm,0.8s
YSS **Yuzh-Sakhalins** 78.52 333*κ iP* P 17 30 46.5 +0.4
YSS *e* 17 30 56.1
YSS *e*S **S** 17 40 26.5 -0.9
YSS *e* 17 40 54.4
YSS *e*PS **PnS** 17 41 38.2 +3.6
YSS pmax pmax
comp=Z,32μm,5.7s
YSS pmax pmax
comp=Z,1μm,0.8s
YSS smax smax
comp=E,26μm,18.0s
YSS MLR MLR
comp=Z,50μm,20.0s
YSS MLR MLR
comp=N,18μm,18.2s
PET **Petropavlovsk** 78.64 345‖*e*P P 17 30 45.7 -0.9
PET *e**PP **pP** 17 31 29.5 +0.5
PET *e**SP **sP** 17 31 48.6 +1.1
PET *e* 17 33 47.4
PET *e*S **S** 17 40 26.7 -1.7
PET *e*SS **SS** 17 45 39.8 +2.7
PET pmax pmax
comp=Z,698nm,0.7s
PET pmax pmax
comp=Z,50μm,19.5s
PET pmax pmax
comp=Z,33μm,15.9s
PET MLR MLR

comp=Z,48µm,20.0s
PMSA Palmer Station 78.64 156 *e*P **P 17 30 47.9 +1.2**
comp=Z,2µm,1.4s
PMSA Palmer Station 78.64 156 P **P 17 30 47.3 +0.6**
comp=Z,293nm,1.0s,baz=231,slow=3.3,SNR=21
PMSA PKPPKP 17 57 45.9
comp=Z,44nm,1.0s,baz=145,slow=7.9,SNR=4.0
PMSA LR LR 17 59 25.9
comp=Z,45µm,19.4s,baz=240,slow=31
PMSA Palmer Station 78.64 156 *e*P **P 17 30 47.7 +1.0**
SCZ2 Santa Cruz Isl 78.86 46 P **P 17 30 49.7 +1.3**
baz=232
PEA0B Petropavlovsk- 78.94 345 *e*P **P 17 30 47.7 -0.6**
comp=Z,3µm,1.5s
PETK Petropavlovsk- 78.94 345 P **P 17 30 47.7 -0.6**
comp=Z,819nm,0.8s,baz=120,slow=7.9,SNR=189
PETK PKIKP **PKiKP 17 36 21.1 0.0**
comp=Z,41nm,0.8s,baz=102,slow=3.7,SNR=7.8
PETK SSS SSS 17 49 09.7
comp=Z,4.2nm,0.8s,baz=64,slow=0.5,SNR=4.5
PETK PKKPbc **PKKPbc 17 49 42.5 -0.6**
comp=Z,8.9nm,0.7s,baz=51,slow=2.8,SNR=6.2
PETK PKPPKP 17 57 43.5
comp=Z,10nm,0.9s,baz=207,slow=3.0,SNR=5.6
PEA1 Petropavlovsk- 78.94 345 *e*P **P 17 30 47.7 -0.6**
PEA1 *e*PKiKP **PKiKP 17 36 21.1 0.0**
TJN Taejon 78.95 317 *d i*P **P 17 30 48.6 -0.2**
MNAI Manna 78.96 270 *e*P **P 17 30 49.3 0.0**
comp=Z,10µm,1.9s
MNAI Manna 78.96 270 P **P 17 30 50.9 +1.5**
comp=Z,2µm,1.3s,comp=Z,57µm
DSRI Dabo 78.97 274 P **P 17 30 50.1 +0.7**
comp=Z,2µm,1.0s,comp=Z,47µm
SCI2 San Clemente I 78.97 47 P **P 17 30 49.9 +0.9**
baz=233
SBC Santa Barbara 79.08 45 P **P 17 30 51.0 +1.6**
baz=232
PKM Mcpherson Peak 79.28 45 P **P 17 30 52.4 +1.5**
baz=232
KSRS Korea Array 79.29 319 P **P 17 30 50.5 -0.1**
comp=Z,191nm,0.9s,baz=136,slow=5.5,SNR=161
KSRS PP **PP 17 33 53.7 +0.4**
comp=Z,34nm,0.9s,baz=138,slow=9.7,SNR=2.7
KSRS PKiKP **PKiKP 17 36 23.1 +0.9**
comp=Z,7.6nm,0.8s,baz=144,slow=1.6,SNR=5.5
KSRS SSS SSS 17 49 14.7
comp=Z,6.8nm,0.9s,baz=312,slow=5.0,SNR=5.8
KSRS PKKPbc PKKPbc 17 49 52.1 +11
comp=Z,9.8nm,1.0s,baz=320,slow=5.6,SNR=5.0
KSRS PKPPKP **P'P'df 17 57 37.6 -4.8**
comp=Z,4.4nm,1.2s,baz=286,slow=2.6,SNR=5.4
KSRS LR LR 18 03 06.3
comp=Z,61µm,21.2s,baz=132,slow=33
BLG Laguna Peak, P 79.30 46 P **P 17 30 51.3 +0.6**
baz=233
CIS Catalina Islan 79.31 47 P **P 17 30 51.3 +0.5**
baz=233
KS15 Wonju Array Si 79.31 318 *e*P **P 17 30 51.0 +0.3**
comp=Z,434nm,1.0s
JMBI JAMBI 79.37 273 P **P 17 30 51.9 +0.3**
comp=Z,5µm,1.1s,comp=Z,105µmcomp=Z,641µm
MAW Mawson 79.40 200 *e*P **P 17 30 52.3 +1.6**
comp=Z,969nm,1.4s
MAW Mawson 79.40 200 P **P 17 30 52.6 +1.9**
comp=Z,1µm,0.7s,baz=123,slow=6.6,SNR=220
MAW PKPPKP 17 57 47.2
comp=Z,16nm,1.0s,baz=338,slow=4.8,SNR=4.6
MAW LR LR 18 05 21.6
comp=Z,16µm,18.1s,baz=113,slow=35
SAO San Andreas Ge 79.41 42 *e*P **P 17 30 52.5 +1.2**
comp=Z,3µm,1.9s
SDPT Sand Point 79.41 10 *e*P **P 17 30 50.1 -0.6**
comp=Z,4µm,0.9s
MCCM Marconi Confer 79.42 41 *e*P **P 17 30 51.9 +0.7**
comp=Z,988nm,1.3s
SMMC Simmler 79.43 44 P **P 17 30 53.1 +1.7**
baz=232
PAGB Antelope Grade 79.52 44 *e*P **P 17 30 53.2 +1.3**
comp=Z,2µm,1.3s
TPRI Tanjung Pinang 79.56 275 P **P 17 30 53.1 +0.5**
comp=Z,1µm,1.0s,comp=Z,30µmcomp=Z,383µm
FMP Fort Macarthur 79.58 47 P **P 17 30 53.2 +1.0**
baz=233
TEY Ternei 79.79 329⇓ *e*P **P 17 30 53.5 +0.4**
TEY *e* 17 31 02.0
TEY *e* 17 31 56.6
TEY *e*S **S 17 40 38.4 -2.6**
TEY pmax pmax
comp=E,70nm,2.1s
TEY pmax pmax
comp=N,40nm,1.4s
TEY pmax pmax
comp=Z,150nm,1.0s
OSI Osito Audit: C 79.83 46 *e*P **P 17 30 54.1 +0.5**
comp=Z,1µm,1.2s
OSI Osito Audit: C 79.83 46 P **P 17 30 55.0 +1.3**
baz=233
HOPS Hopland Field 79.86 40 *e*P **P 17 30 54.6 +1.0**
comp=Z,921nm,1.0s
DECC Green Verdugo 79.87 46 P **P 17 30 54.5 +0.6**
baz=233
109C Camp Elliot, M 79.89 48 P **P 17 30 54.7 +0.7**
baz=234
CPE Camp Elliot 79.89 48 *e*P **P 17 30 54.6 +0.7**
comp=Z,2µm,2.0s
SSE Sheshan 79.90 310 P **P 17 30 54.0 0.0**
SSE S **S 17 40 45.1 +2.4**
SSE sS **sS 17 41 55.9 -1.9**
SSE pmax pmax
comp=Z,250nm,0.9s
SSE LR LR
comp=Z,8µm,25.3s
GDXM Geysers 79.90 40 *e*P **P 17 30 55.1 +1.2**
PASC Pasadena Art C 79.92 46 *e*P **P 17 30 54.5 +0.4**
PASC *e*PcP **P 17 30 54.7 +0.6**
KCPM Cahto Peak 80.01 39 *e*P **P 17 30 56.0 +1.5**
comp=Z,1µm,1.4s
MWC Mount Wilson 80.04 46 *e*P **P 17 30 55.4 +0.5**
comp=Z,762nm,0.8s
MWC Mount Wilson 80.04 46 *e*P **P 17 30 55.4 +0.5**
MWC pmax pmax
comp=Z,762nm,0.8s
BAR Barrett 80.07 48 *e*P **P 17 30 55.4 +0.5**
comp=Z,606nm,1.3s
ARVC Arvin 80.07 45 P **P 17 30 56.1 +1.3**
baz=233
LPIG La Paz 80.11 59 LR LR 17 56 59.4
comp=Z,30µm,20.2s,baz=244,slow=28
LPIG PKPPKP **P'P'df 17 57 47.7 +5.5**
SLBS Sierra La Lagu 80.18 59 *e*P **P 17 30 56.3 +0.5**
comp=Z,1µm,1.5s
MURC Murrieta 80.25 47 P **P 17 30 56.9 +1.1**
baz=234
SRIG Santa Rosalia 80.29 55 *e*P **P 17 30 56.5 +0.3**
comp=Z,3µm,1.7s
KMRM Mail Ridge 80.29 39 *e*P **P 17 30 57.7 +1.7**
comp=Z,2µm,0.8s
BFSC Mount Baldy Ra 80.31 46 P **P 17 30 57.0 +0.7**
baz=234
VES Vestal, Richgr 80.34 44 P **P 17 30 57.0 +0.7**
baz=232
MONP2 Monument Peak 80.36 48 P **P 17 30 57.8 +1.0**
baz=234
IKP In-Ko-Pah, Jac 80.44 49 P **P 17 30 58.0 +1.0**
baz=235
VOG Valley Oaks Go 80.44 44 P **P 17 30 57.5 +0.7**
baz=232
EDW2 Edwards Air Fo 80.47 46 P **P 17 30 58.1 +1.0**
baz=233
JCC Jacoby Creek, 80.50 38 *e*P **P 17 30 58.6 +1.7**
comp=Z,569nm,1.0s
MYKOM Kota Tinggi 80.53 276 *e*P **P 17 30 58.0 +0.2**
comp=Z,864nm,0.9s
HKC Hong Kong Obse 80.56 299 ⇑P **P 17 30 59.0 +1.3**
DLV T Lat 80.58 287 *e*P **P 17 30 59.0 +0.8**
comp=Z,3µm,1.8s
HKPS Hong Kong Po S 80.58 299 *e*P **P 17 30 59.0 +1.1**
comp=Z,1µm,0.9s
ISA Isabella, Lake 80.62 45 *e*P **P 17 30 58.9 +1.0**
comp=Z,786nm,0.9s
ISA Isabella, Lake 80.62 45 P **P 17 30 59.1 +1.2**
baz=233
CHGN Chignik 80.66 10 *e*P **P 17 30 57.0 -0.4**
comp=Z,3µm,1.0s
KHMM Horse Mountain 80.71 38 *e*P **P 17 30 59.9 +1.6**
comp=Z,2µm,1.5s
PFO Pinyon Flats O 80.75 48 *e*P **P 17 30 58.9 +0.2**
PFO *e*PcP **P 17 30 59.3 +0.6**
PFO Pinyon Flats O 80.75 48 *e*P **P 17 30 58.9 +0.2**
PFO Pinyon Flats O 80.75 48 P **P 17 30 59.6 +0.9**
baz=234
PFO Pinyon Flats O 80.75 48 PKKPbc PKKPbc 17 49 39.6 +1.8
comp=Z,20nm,0.9s,baz=55,slow=3.1,SNR=8.4
PFO PKPPKP **P'P'df 17 57 45.0 +4.6**
comp=Z,26nm,1.0s,baz=31,slow=1.9,SNR=6.2
O02D Mt. Diablo Mer 80.79 39 P **P 17 31 00.5 +1.8**
baz=229
VLA Vladivostok 80.81 325 *d i*P **P 17 30 58.9 +0.4**
VLA pmax pmax
comp=Z,789nm,1.0s
BBRC Big Bear Solar 80.82 47 P **P 17 31 00.0 +0.9**
baz=234
SWSC Sam W. Stewart 80.82 48 P **P 17 30 59.9 +1.1**
baz=235
MSHR Mys Shultsa 80.83 324 *d i*P **P 17 30 59.4 +0.7**
CMB Columbia Colle 80.87 42 *e*P **P 17 30 59.8 +0.7**
comp=Z,2µm,1.9s
CMB Columbia Colle 80.87 42 *e*P **P 17 30 59.8 +0.7**
CMB pmax pmax
comp=Z,2µm,1.9s
MCO Taipa Grande 80.97 299 P **P 17 31 01.0 +1.1**
GO10 Punta Arenas 80.98 144 *e*P **P 17 31 01.5 +2.0**
comp=Z,7µm,1.5s
LRMC Laurel Mtn Rad 81.03 45 P **P 17 31 01.1 +0.9**
baz=233
KRMB Red Mountain 81.04 38 *e*P **P 17 31 01.7 +1.7**
AFDM Forest Hills D 81.08 41 *e*P **P 17 31 00.9 +0.7**
comp=Z,464nm,1.0s
GO09 Cerro Castillo 81.10 142 *e*P **P 17 31 01.5 +1.3**
comp=Z,4µm,1.6s
RRX Edison Barstow 81.13 46 P **P 17 31 01.7 +1.2**
baz=234
ORV Oroville 81.15 40 *e*P **P 17 31 01.2 +0.7**
comp=Z,558nm,1.1s
ORV Oroville 81.15 40 *e*P **P 17 31 01.2 +0.7**
ORV pmax pmax
comp=Z,558nm,1.1s
WDC Whiskeytown Da 81.20 39 *e*P **P 17 31 01.9 +1.2**
comp=Z,815nm,1.1s
WDC Whiskeytown Da 81.20 39 *e*P **P 17 31 01.9 +1.2**
WDC pmax pmax
comp=Z,815nm,1.1s
BELC Belle Mtn. Jos 81.29 47 P **P 17 31 02.8 +1.3**
baz=235
CWC Cottonwood Cre 81.34 44 P **P 17 31 02.9 +1.1**
baz=233
CWC S **S 17 41 03.6 +5.6**
baz=233
N02D Trinity Center 81.36 39 P **P 17 31 03.5 +1.9**
baz=229
MDPB Devils Postpil 81.43 43 *e*P **P 17 31 03.2 +0.9**
comp=Z,422nm,1.1s
O03E Paynes Creek 81.44 40 P **P 17 31 03.1 +1.0**
baz=230
BC3 Big Chuckawall 81.46 48 P **P 17 31 03.7 +1.3**
baz=235
OMMB Old Mammoth Mi 81.47 43 *e*P **P 17 31 03.4 +0.7**
comp=Z,337nm,1.2s
USA0B Ussuriysk Arra 81.50 326 *e*P **P 17 31 02.8 +0.6**
comp=Z,985nm,0.8s
USRK Ussuriysk Ar. 81.50 326 P **P 17 31 02.8 +0.6**
comp=Z,878nm,0.8s,baz=127,slow=3.7,SNR=289
USRK PKKPbc **PKKPbc 17 49 36.8 +0.2**
comp=Z,9.3nm,0.5s,baz=326,slow=2.5,SNR=19
USRK PKPPKP 17 57 41.9
comp=Z,7.3nm,1.1s,baz=318,slow=2.6,SNR=5.1
MPMC Manual Prospec 81.50 45 P **P 17 31 03.8 +1.1**
baz=233
GSC Goldstone, Bar 81.50 46 *e*P **P 17 31 03.5 +0.9**
comp=Z,2µm,1.6s
GSC Goldstone, Bar 81.50 46 *e*P **P 17 31 03.5 +0.9**
GSC pmax pmax
comp=Z,2µm,1.6s
GSC Goldstone, Bar 81.50 46 P **P 17 31 03.7 +1.1**
baz=234
HEC Hector,Ludlow 81.54 47 P **P 17 31 03.8 +1.0**
baz=234
M02C Callahan 81.55 38 P **P 17 31 04.4 +1.8**
baz=229
GLA Glamis 81.55 49 *e*P **P 17 31 04.2 +1.4**
comp=Z,2µm,1.4s
GLA Glamis 81.55 49 *e*P **P 17 31 04.2 +1.4**
GLA pmax pmax
comp=Z,2µm,1.4s
GLA Glamis 81.55 49 P **P 17 31 04.3 +1.5**
baz=235
DAC Darwin (Calif) 81.56 45 *e*P **P 17 31 05.7 +2.7**
comp=Z,463nm,1.0s
MLAC Mammoth, Mammo 81.58 43 P **P 17 31 04.5 +1.4**
baz=232
USHA Ushuaia 81.58 146 P **P 17 31 03.5 +0.8**
comp=Z,234nm,0.9s,baz=262,slow=4.8,SNR=34
USHA PKPPKP **P'P'df 17 57 39.9 -0.3**
comp=Z,50nm,0.9s,baz=291,slow=0.9,SNR=7.4
USHA LR LR 17 58 35.8
comp=Z,16µm,21.1s,baz=235,slow=29
GZH Guangzhou 81.62 299⇓ *i*P **P 17 31 04.5 +1.2**
GZH sP **pwP 17 31 55.3 +5.9**
GZH S **S 17 41 04.6 +3.7**
GZH sS sS 17 42 06.4 -10
GZH pmax pmax
comp=Z,58µm,11.8s
GZH LR LR
comp=Z,25µm,22.6s
GZH LR LR
comp=Z,46µm,20.6s
TIN Tinemaha, Big 81.62 44 P **P 17 31 04.4 +1.3**
baz=233
L02E Cave Junction 81.63 37 P **P 17 31 04.6 +1.7**
baz=228
RUBR Rubicon Trail 81.64 41 *e*P **P 17 31 03.6 +0.2**
comp=Z,1µm,1.2s
COCO West Island 81.64 260 *e*P **P 17 31 04.3 +0.7**
comp=Z,1µm,1.0s
COCO West Island 81.64 260 *e*P **P 17 31 04.3 +0.7**
COCO pmax pmax
comp=Z,1µm,1.0s
TYV Tymovskoe 81.68 336 *e*P **P 17 31 03.6 +0.6**
TYV *e*S **S 17 40 58.0 -2.3**
TYV pmax pmax
comp=Z,1µm,1.6s
TYV pmax pmax
comp=Z,31µm,5.9s
TYV smax smax
comp=N,21µm,10.7s
TYV smax smax
comp=E,125nm,1.8s
TYV MLR MLR
comp=Z,36µm,19.0s
SII Sitkinak Islan 81.68 13 *e*P **P 17 31 03.1 +0.2**
comp=Z,3µm,0.9s
KEBM Edson Butte 81.70 36 *e*P **P 17 31 05.2 +1.8**
comp=Z,2µm,1.2s
WAKR Walker 81.74 42 *e*P **P 17 31 05.1 +1.2**
comp=Z,1µm,1.1s
YBH Yreka Blue Hor 81.85 38 *e*P **P 17 31 05.7 +1.5**
comp=Z,718nm,1.1s
YBH Yreka Blue Hor 81.85 38 *e*P **P 17 31 05.7 +1.5**
YBH pmax pmax
comp=Z,718nm,1.1s
K02D Willamette Mer 81.95 37 P **P 17 31 06.2 +1.5**
baz=228
IRM Iron Mountain 81.96 48 P **P 17 31 06.3 +1.4**
baz=235
GMRC Granite Mounta 81.97 47 P **P 17 31 06.2 +1.1**
baz=235
PNTR Pine Nut 82.00 42 *e*P **P 17 31 06.3 +1.1**
comp=Z,1µm,1.0s
BEKR Beckworth 82.03 41 *e*P **P 17 31 06.1 +0.8**
comp=Z,3µm,2.0s
NJ2 Nanjing 82.08 310⇓ *i*P **P 17 31 06.4 +0.9**
NJ2 PP **PP 17 34 17.6 +1.2**
NJ2 S **S 17 41 08.8 +3.5**
NJ2 sS sS 17 42 10.8 -10
NJ2 pmax pmax
comp=Z,580nm,0.7s
NJ2 pmax pmax
comp=Z,57µm,9.8s
NJ2 LR LR
comp=Z,22µm,21.7s
NJ2 LR LR
comp=Z,28µm,21.7s
NJ2 LR LR
comp=Z,45µm,18.4s
VCNR Virginia City 82.10 41 *e*P **P 17 31 06.7 +0.9**
comp=Z,489nm,0.9s
J01E Myrtle Point 82.11 36 P **P 17 31 07.1 +1.7**
baz=228
113A Mohawk Valley, 82.13 50 *e*P **P 17 31 06.8 +1.0**
comp=Z,3µm,1.8s
GRAC Grapevine Rang 82.14 44 P **P 17 31 07.3 +1.5**
baz=233
FURC Furnace Creek, 82.15 45 P **P 17 31 07.0 +1.2**
baz=234
HSIG 82.15 54 *e*P **P 17 31 06.3 +0.3**
comp=Z,668nm,1.2s
Y12C Blythe 82.15 48 *e*P **P 17 31 07.1 +1.2**
comp=Z,820nm,1.0s
Y12C Blythe 82.15 48 P **P 17 31 07.4 +1.5**
baz=236
YERR Yerington 82.16 42 *e*P **P 17 31 07.0 +1.0**
comp=Z,724nm,1.1s
TUQ Turquoise Moun 82.17 46 P **P 17 31 07.3 +1.2**
baz=234
SHOC Shoshone, Teco 82.20 46 P **P 17 31 07.2 +1.1**
baz=234
PPSI Pulau Pagai 82.28 270 P **P 17 31 07.1 +0.1**
comp=Z,2µm,0.8s,comp=Z,51µmcomp=Z,358µm
HUMO Hull Mountain 82.28 37 *e*P **P 17 31 07.8 +1.4**
comp=Z,999nm,1.3s
214A Organ Pipe Nat 82.36 51 P **P 17 31 08.3 +1.3**
baz=237
M04C Macdoel 82.38 38 P **P 17 31 08.3 +1.3**
baz=230
RYN Ryan 82.39 42 *e*P **P 17 31 08.1 +0.9**
comp=Z,2µm,1.6s
L04D Klamath Falls 82.40 38 P **P 17 31 08.4 +1.2**
baz=229
NV01 Mina Array Sit 82.40 43 *e*P **P 17 31 08.3 +0.9**
NV01 *e*PKKPbc **PKKPbc 17 49 36.2 +1.7**
NVAR Mina Array Bea 82.40 43 P **P 17 31 08.3 +0.9**
comp=Z,121nm,0.8s,baz=223,slow=8.0,SNR=194
NVAR PKKPbc **PKKPbc 17 49 36.2 +1.7**
comp=Z,17nm,0.7s,baz=84,slow=3.2,SNR=10
NVAR PKPPKP **P'P'df 17 57 39.6 +2.5**
comp=Z,11nm,0.8s,baz=83,slow=3.2,SNR=7.5
OHAK Old Harbor 82.48 13 *e*P **P 17 31 07.2 +0.3**
comp=Z,4µm,1.6s
LDFC Landfair 82.51 47 *e*P **P 17 31 09.3 +1.4**
LDFC *e*PcP **P 17 31 09.4 +1.5**
PAHR Pah Rah Range 82.52 41 *e*P **P 17 31 08.6 +0.8**
comp=Z,671nm,1.0s
QIZ Qiongzhong 82.58 294 P **P 17 31 09.0 +0.6**
QIZ pmax pmax
comp=Z,43µm,13.7s
QIZ LR LR
comp=Z,33µm,20.6s
QIZ LR LR
comp=Z,47µm,21.6s
QIZ LR LR
comp=Z,45µm,21.6s
QIZ Qiongzhong 82.58 294 *e*P **P 17 31 08.6 +0.2**
comp=Z,421nm,1.5s
PDSI Padang 82.58 272 P **P 17 31 07.6 -1.0**
comp=Z,775nm,1.2s,comp=Z,23µm
NEE2 Needles Airpor 82.66 47 P **P 17 31 09.9 +1.4**
baz=235
PDMCI Parker Dam,Lak 82.73 48 P **P 17 31 10.3 +1.5**
baz=236
I03D Drain, OR 82.79 36 P **P 17 31 10.3 +1.4**
baz=228
I02D Swisshome 82.79 36 P **P 17 31 10.2 +1.3**
baz=228
TPNV Topopah Spring 82.83 45 *e*P **P 17 31 10.4 +0.9**
comp=Z,1µm,1.3s
TPNV Topopah Spring 82.83 45 *e*P **P 17 31 10.5 +0.9**
TPNV pmax pmax
comp=Z,1µm,1.3s
TPNV Topopah Spring 82.83 45 P **P 17 31 10.8 +1.3**
baz=234
KVN Kaiserville 82.90 42 *e*P **P 17 31 10.5 +0.6**
comp=Z,514nm,1.0s
KVN Kaiserville 82.90 42 *e*P **P 17 31 10.5 +0.6**
KVN pmax pmax
comp=Z,515nm,1.0s
K04D Chiloquin, OR 82.97 38 P **P 17 31 11.5 +1.5**
baz=230
MDJ Mudanjiang 83.04 325 P **P 17 31 11.1 +0.9**
MDJ sP sP 17 32 12.3 +0.7
MDJ PP **PP 17 34 24.5 +0.5**
MDJ S **S 17 41 16.3 +1.8**
MDJ sS sS 17 42 26.8 -2.8
MDJ pmax pmax
comp=Z,410nm,1.1s
MDJ pmax pmax
comp=Z,45µm,11.5s
MDJ LR LR
comp=Z,47µm,20.0s
MDJ LR LR
comp=Z,38µm,19.9s
MDJ LR LR
comp=Z,82µm,24.5s
MDJ Mudanjiang 83.04 325 *e*P **P 17 31 10.7 +0.5**
comp=Z,819nm,0.8s
KDAK Kodiak Island 83.15 13 *e*P **P 17 31 10.6 +0.2**
comp=Z,5µm,1.8s
KDAK Kodiak Island 83.15 13 *i*P **P 17 31 10.6 +0.2**
J04D Umpqua Nationa 83.17 37 P **P 17 31 12.7 +1.5**
baz=229
SHPR Sheep Range 83.29 46 *e*P **P 17 31 13.0 +1.1**
comp=Z,1µm,1.5s
Y14A Wickenburg 83.31 49 *e*P **P 17 31 13.0 +1.1**
comp=Z,713nm,0.9s
MOD Modoc Plateau 83.34 39 *e*P **P 17 31 12.8 +0.8**
comp=Z,654nm,1.0s
W13A Hualapai Mount 83.35 48 *e*P **P 17 31 13.4 +1.1**
comp=Z,522nm,1.0s
I04A Tendick Farm, 83.36 37 P **P 17 31 13.0 +1.1**
baz=229
COR Corvallis 83.40 36 *e*P **P 17 31 13.8 +1.8**
comp=Z,4µm,1.7s
COR Corvallis 83.40 36 *e*P **P 17 31 13.8 +1.8**
COR pmax pmax
comp=Z,4µm,1.7s
K05A Summer Lake 83.52 38 *e*P **P 17 31 14.3 +1.4**
comp=Z,1µm,0.9s
H04D Lebanon 83.66 36 P **P 17 31 15.1 +1.7**
baz=229
SISI Saibi 83.68 271 P **P 17 31 14.7 +0.5**
comp=Z,527nm,1.1s,comp=Z,26µmcomp=Z,232µm
J05D Fort Rock, OR 83.69 38 P **P 17 31 15.3 +1.6**
baz=230
GO07 Milladeo Hill, 83.83 134 *e*P **P 17 31 16.2 +1.7**
comp=Z,7µm,1.7s
G03D McMinnville, O 83.83 35 P **P 17 31 16.1 +1.9**
baz=228
TUC Tucson 84.00 51 *e*P **P 17 31 17.1 +1.6**
comp=Z,1µm,1.0s
TUC Tucson 84.00 51 *e*P **P 17 31 17.1 +1.6**
TUC pmax pmax
comp=Z,1µm,1.0s
TUC Tucson 84.00 51 P **P 17 31 17.3 +1.8**
baz=238
H04A Detroit Lake 84.06 36 *e*P **P 17 31 16.2 +0.7**
comp=Z,970nm,0.9s
R11A Troy Canyon, C 84.07 44 *e*P **P 17 31 16.3 +0.4**
comp=Z,245nm,1.0s
R11A Troy Canyon, C 84.07 44 P **P 17 31 16.6 +0.7**
baz=234
DL2 Dalian 84.10 317⇓ *i*P **P 17 31 16.0 +0.3**
DL2 PP **PP 17 34 36.4 +3.7**
DL2 SKS **S 17 41 17.8 -7.5**
DL2 S **SKKSac 17 41 30.6 +2.8**
DL2 sS **sS 17 42 38.8 -1.9**
DL2 pmax pmax
comp=Z,620nm,0.9s
DL2 pmax pmax
comp=Z,28µm,7.0s
GRNR Gornyy 84.12 332⇓ *i*P **P 17 31 19.0 +3.4**
GRNR pmax pmax
comp=N,80nm,1.0s
GRNR pmax pmax
comp=Z,270nm,1.0s
F03A Seaside 84.16 34 *e*P **P 17 31 17.3 +1.4**
comp=Z,2µm,1.3s
PINE Pine Mountain 84.17 37 *e*P **P 17 31 17.5 +1.3**
comp=Z,1µm,1.2s
IPM Ipoh 84.18 277 *e*P **P 17 31 17.1 +0.3**
comp=Z,2µm,1.0s
IPM Ipoh 84.18 277 *e*P **P 17 31 17.2 +0.4**
comp=Z,2µm,1.0s

BMN	**Battle Mountai**	84.27	42	*e*P		**P**	17 31 17.6 +0.8
	comp=Z,677nm,1.0s						
BMN	**Battle Mountai**	84.27	42	*e*P		**P**	17 31 17.6 +0.8
BMN					pmax	pmax	
	comp=Z,677nm,1.0s						
I05D	**Terrebonne, OR**	84.30	37	P		**P**	17 31 18.3 +1.6
	baz=230						
SYO	**Syowa Base**	84.38	193⇑	*i*P		**P**	17 31 17.4 +0.7
SYO	**Syowa Base**	84.38	193⇓	*i*P		**PKKPbc**	17 49 30.0 +0.7
F04D	**Rainier, OR**	84.55	35	P		**P**	17 31 19.9 +2.1
	baz=228						
WHN	**Wuhan**	84.55	306	⇓P		**P**	17 31 18.5 +0.3
WHN				pP		**pP**	17 32 01.8 +0.7
WHN				PP		**PP**	17 34 36.4 -0.2
WHN				SKS		**SKSac**	17 41 20.5 -4.9
WHN				pmax	pmax		
	comp=Z,930nm,1.7s						
WHN				pmax	pmax		
	comp=Z,70μm,12.1s						
WHN				LR	LR		
	comp=Z,83μm,18.3s						
WHN				LR	LR		
	comp=Z,47μm,17.0s						
WHN				LR	LR		
	comp=Z,114μm,21.6s						
319A	**Douglas**	84.61	53	*e*P		**P**	17 31 20.0 +1.3
	comp=Z,2μm,0.9s						
WVOR	**Wild Horse Val**	84.64	39	*e*P		**P**	17 31 19.4 +0.9
	comp=Z,734nm,0.9s						
WVOR	**Wild Horse Val**	84.64	39	*e*P		**P**	17 31 19.4 +0.9
WVOR				pmax	pmax		
	comp=Z,734nm,0.9s						
SNY	**Shenyang**	84.64	320	⇓P		**P**	17 31 18.4 +0.1
SNY				PP		**PP**	17 34 34.6 -2.5
SNY				S		**S**	17 41 26.5 -4.1
SNY				sS		**sS**	17 42 41.1 -5.0
SNY				SS		**SS**	17 47 07.6 +0.8
SNY				pmax	pmax		
	comp=Z,460nm,1.6s						
SNY				pmax	pmax		
	comp=Z,47μm,12.0s						
SNY				LR	LR		
	comp=Z,54μm,32.0s						
SNY				LR	LR		
	comp=Z,40μm,34.2s						
SNY				LR	LR		
	comp=Z,86μm,38.7s						
X16A	**Lo Mia Camp, P**	84.66	49	*e*P		**P**	17 31 20.3 +1.4
	comp=Z,629nm,0.9s						
CN2	**Changchun**	84.78	322⇓	*i*P		**P**	17 31 19.3 +0.3
CN2				*es*P		pwP	17 32 12.8 +7.4
CN2				SKS		**SKSac**	17 41 23.8 -2.5
CN2				*e*S		**SKKSac**	17 41 32.6 -0.1
CN2				SS		**SS**	17 47 12.1 +3.3
CN2				pmax	pmax		
	comp=Z,570nm,1.5s						
CN2				pmax	pmax		
	comp=Z,39μm,13.0s						
LCMT	**Little Creek M**	84.84	46	*e*P		**P**	17 31 20.8 +1.1
	comp=Z,537nm,1.0s						
G05D	**Wamic, OR**	84.90	36	P		**P**	17 31 21.0 +1.4
	baz=230						
NLWA	**Neilton Lookou**	84.98	33	*e*P		**P**	17 31 21.9 +1.9
	comp=Z,2μm,1.6s						
CCUT	**Cedar City**	85.06	46	*e*P		**P**	17 31 22.3 +1.3
	comp=Z,600nm,1.1s						
HOM	**Homer**	85.07	13	*e*P		**P**	17 31 20.6 +0.6
	comp=Z,2μm,0.9s						
E04D	**Cinebar**	85.09	34	P		**P**	17 31 22.4 +1.9
	baz=229						
KLR	**Kul'dur**	85.11	329*d*	*i*P		**P**	17 31 21.0 +0.5
KLR				pmax	pmax		
	comp=Z,469nm,0.9s						
KLR	**Kul'dur**	85.11	329	PKPPKP		**P'P'df**	17 57 34.0 +3.0
	comp=Z,3.4nm,0.8s,baz=358,slow=4.6,SNR=3.6						
KLR				LR		LR	18 08 19.3
	comp=Z,13μm,18.2s,baz=146,slow=35						
KNB	**Kanab**	85.13	46	*e*P		**P**	17 31 22.2 +1.0
HPIG		85.15	58	*e*P		**P**	17 31 21.9 +0.3
	comp=Z,819nm,1.4s						
U15A	**North Rim**	85.16	47	*e*P		**P**	17 31 23.0 +1.5
	comp=Z,743nm,0.9s						
F05D	**White Salmon**	85.23	35	P		**P**	17 31 22.8 +1.6
	baz=230						
G06A	**Carlson Farm,**	85.26	36	*e*P		**P**	17 31 22.3 +0.8
	comp=Z,890nm,1.4s						
SZCU	**Shurtz Canyon**	85.27	46	*e*P		**P**	17 31 23.2 +1.3
	comp=Z,902nm,1.3s						
DIB	**Dawson Inlet,**	85.29	25	*e*P		**P**	17 31 22.3 +1.0
	comp=Z,1μm,1.4s						
WUAZ	**Wupatki**	85.29	48	*e*P		**P**	17 31 23.3 +1.3
	comp=Z,413nm,1.0s						
WUAZ	**Wupatki**	85.29	48	P		**P**	17 31 23.3 +1.3
	baz=237						
PSUT	**Pine Spring**	85.29	45	*e*P		**P**	17 31 22.6 +0.6
	comp=Z,455nm,1.2s						
J08A	**Circle Bar Ran**	85.30	39	*e*P		**P**	17 31 22.2 +0.4
	comp=Z,657nm,1.2s						
BRLK	**Bradley Lake**	85.32	13	*e*P		**P**	17 31 21.3 -0.1
	comp=Z,1μm,0.8s						
D04E	**Lakebay**	85.39	34	P		**P**	17 31 24.4 +2.4
	baz=229						
SNAA	**Sanae**	85.42	178	P		**P**	17 31 22.9 +0.9
SNAA				S		**S**	17 41 34.0 -3.7
SNAA	**Sanae**	85.42	178	P		**PKKPbc**	17 49 24.9 -2.2
	baz=22,slow=7.8						
SNAA	**Sanae**	85.42	178	*e*P		**P**	17 31 22.0 0.0
	comp=Z,2μm,1.5s						
SNAA				*e*PKKPbc		**PKKPbc**	17 49 24.4 -2.7
SNAA	**Sanae**	85.42	178*c*	*i*P		**P**	17 31 22.6 +0.6
SNAA	**Sanae**	85.42	178	P		**P**	17 31 22.1 +0.1
	comp=Z,266nm,0.7s,baz=203,slow=6.0,SNR=264						
SNAA				PKKPbc		**PKKPbc**	17 49 27.0 0.0
	comp=Z,43nm,0.9s,baz=265,slow=4.2,SNR=20						
MOBC	**Moresby Island**	85.44	25	*e*P		**P**	17 31 22.9 +0.8
	comp=Z,2μm,1.8s						
PSI	**Prapat**	85.44	275	*e*P		**P**	17 31 22.1 -1.1
	comp=Z,1μm,1.0s						
PSI	**Prapat**	85.44	275	P		**P**	17 31 22.3 -0.9
	comp=Z,382nm,1.0s,baz=158,slow=3.2,SNR=60						
PSI				PKKPbc		**PKKPbc**	17 49 26.2 +0.8
	comp=Z,14nm,0.7s,baz=301,slow=2.0,SNR=6.6						
PSI				LR		LR	18 10 51.7
	comp=Z,33μm,21.3s,baz=120,slow=36						
MOIG	**Morelia**	85.46	67	*e*P		**P**	17 31 23.4 +0.2
	comp=Z,747nm,1.0s						
D03D	**Eldon**	85.47	33	P		**P**	17 31 24.1 +1.8
	baz=228						
VNA3	**Neumayer Olymp**	85.53	176	P		**P**	17 31 23.4 +0.9
VNA3				S		**S**	17 41 40.6 +1.9
VNA3	**Neumayer Olymp**	85.53	176	P		**PKKPbc**	17 49 24.8 -1.9
	baz=22,slow=7.8						
TIA	**Tai'an**	85.55	312	P		**P**	17 31 23.6 +0.6
TIA				S		**SKSac**	17 41 30.3 -1.2
TIA				pmax	pmax		
	comp=Z,240nm,1.6s						
TIA				LR	LR		
	comp=Z,34μm,23.5s						
TIA				LR	LR		
	comp=Z,40μm,22.6s						
TIA				LR	LR		
	comp=Z,58μm,42.7s						
RSO	**Redoubt South**	85.59	12	*e*P		**P**	17 31 22.2 -0.7
LON	**Longmire**	85.61	35	*e*P		**P**	17 31 23.7 +0.6
	comp=Z,386nm,1.0s						
LON	**Longmire**	85.61	35	*e*P		**P**	17 31 23.7 +0.6
LON				pmax	pmax		
	comp=Z,386nm,1.0s						
SKLT	**Songkhla**	85.63	280	P		**P**	17 31 26.3 +2.4
	comp=Z,536nm,1.1s,comp=Z,18μmcomp=Z,178μm						
ELK	**Elko**	85.68	42	*e*P		**P**	17 31 24.4 +0.5
	comp=Z,520nm,1.4s						
ELK	**Elko**	85.68	42	*e*P		**P**	17 31 24.4 +0.5
ELK				pmax	pmax		
	comp=Z,520nm,1.4s						
SVW2	**Sparrevohn**	85.69	10	*e*P		**P**	17 31 22.9 -0.3
	comp=Z,2μm,1.9s						
ZAIG	**Zacatecas**	85.69	63	*e*P		**P**	17 31 25.3 +0.9
	comp=Z,1μm,1.6s						
PKCU	**Pink Cliffs**	85.70	46	*e*P		**P**	17 31 26.1 +1.9
	comp=Z,1μm,1.2s						
X18A	**Snowflake**	85.76	50	*e*P		**P**	17 31 25.7 +1.3
	comp=Z,1μm,1.5s						
D05A	**Enumclaw**	85.80	34	*e*P		**P**	17 31 25.9 +1.9
	comp=Z,3μm,1.4s						
SEW	**Seward**	85.94	14	*e*P		**P**	17 31 23.9 -0.4
	comp=Z,783nm,0.9s						
VNA2	**Neumayer--Watz**	85.98	177	P		**P**	17 31 25.9 +1.2
	baz=171,slow=3.4						
VNA2				S		**S**	17 41 48.4 +5.3
	baz=58,slow=2.4						
VNA2	**Neumayer--Watz**	85.98	177	P		**PKKPbc**	17 49 24.4 -1.3
	baz=7.3,slow=3.8						
PGC	**Sidney**	86.03	32	*e*P		**P**	17 31 26.2 +1.2
MID	**Middleton Isla**	86.04	15	*e*P		**P**	17 31 25.2 +0.4
	comp=Z,1μm,1.1s						
MID	**Middleton Isla**	86.04	15	*e*P		**P**	17 31 25.2 +0.4
MID				pmax	pmax		
	comp=Z,1μm,1.1s						
F07A	**Phinny Hill Vi**	86.06	36	*e*P		**P**	17 31 26.8 +1.4
	comp=Z,896nm,1.5s						
GSI	**Gunungsitoli**	86.10	273	*e*P		**P**	17 31 26.9 +0.6
	comp=Z,3μm,1.1s						
GSI	**Gunungsitoli**	86.10	273	P		**P**	17 31 27.1 +0.8
	comp=Z,3μm,0.9s,comp=Z,52μmcomp=Z,394μm						
MTPU	**Mount Pierson**	86.11	46	*e*P		**P**	17 31 28.0 +1.8
	comp=Z,469nm,0.9s						
PANO	**Nakornpanom**	86.20	290	P		**P**	17 31 27.4 +0.8
	comp=Z,50nm,1.1s,comp=Z,606nm						
VNA1	**Neumayer--Stat**	86.20	176	P		**P**	17 31 27.0 +1.3
VNA1				S		**S**	17 41 49.4 +4.2
VNA1	**Neumayer--Stat**	86.20	176	P		**PKKPbc**	17 49 23.9 -1.2
	baz=22,slow=7.8						
G08A	**Pilot Rock**	86.22	37	*e*P		**P**	17 31 27.2 +0.9
	comp=Z,851nm,1.1s						
W18A	**Petrified Fore**	86.22	49	*e*P		**P**	17 31 27.5 +0.9
	comp=Z,964nm,1.4s						
W18A	**Petrified Fore**	86.22	49	P		**P**	17 31 27.9 +1.3
	baz=238						
121A	**Cookes Peak, D**	86.29	52	P		**P**	17 31 28.9 +1.9
	baz=240						
BBB	**Bella Bella**	86.33	28	*e*P		**P**	17 31 27.5 +1.1
	comp=Z,1μm,1.3s						
BBB	**Bella Bella**	86.33	28	P		**P**	17 31 27.1 +0.8
	comp=Z,409nm,1.0s,baz=279,slow=4.6,SNR=61						
MSU	**Marsvale**	86.38	45	*e*P		**P**	17 31 28.7 +1.4
A04D	**Lummi Island**	86.44	33	P		**P**	17 31 28.9 +1.8
	baz=229						
B05A	**Bryant**	86.45	33	P		**P**	17 31 28.8 +1.6
	baz=229						
MA2	**Magadan**	86.45	344	*e*P		**P**	17 31 26.0 -0.8
	comp=Z,2μm,1.4s						
MA2	**Magadan**	86.45	344*d*	*i*P		**P**	17 31 26.1 -0.8
MA2				pmax	pmax		
	comp=Z,2μm,1.4s						
MA2	**Magadan**	86.45	344	P		**P**	17 31 26.2 -0.6
	comp=Z,454nm,0.8s,baz=149,slow=5.3,SNR=89						
MA2				LR	LR		18 04 34.4
	comp=Z,32μm,21.7s,baz=156,slow=32						
E07A	**Sunnyside**	86.52	36	*e*P		**P**	17 31 28.4 +0.8
	comp=Z,3μm,1.8s						
LTY	**Liberty**	86.53	35	*e*P		**P**	17 31 28.4 +0.7
	comp=Z,3μm,2.0s						
HAWA	**Hanford**	86.59	36	*e*P		**P**	17 31 28.9 +0.9
	comp=Z,2μm,1.6s						
SKNT	**Sakolnakorn**	86.67	290	P		**P**	17 31 29.7 +0.7
	comp=Z,5μm,0.9s,comp=Z,55μmcomp=Z,262μm						
TRTT	**Trang**	86.74	280	P		**P**	17 31 30.7 +1.3
	comp=Z,2μm,1.1s,comp=Z,39μmcomp=Z,316μm						
RC01	**Rabbit Creek A**	86.77	13	*e*P		**P**	17 31 28.2 -0.2
	comp=Z,1μm,1.1s						
CRAG	**Craig**	86.78	23	*e*P		**P**	17 31 29.1 +0.6
TLIG	**Tlapa**	86.79	70	*e*P		**P**	17 31 30.5 +0.9
	comp=Z,361nm,0.8s						
C06D	**Leavenworth**	86.84	34	P		**P**	17 31 30.2 +1.1
	baz=230						
GO06	**Curarrehue**	86.89	132	*e*P		**P**	17 31 30.8 +0.9
	comp=Z,7μm,1.9s						
DUG	**Dugway, Tooele**	86.89	44	*e*P		**P**	17 31 29.9 +0.2
	comp=Z,206nm,1.1s						
DUG	**Dugway, Tooele**	86.89	44	*e*P		**P**	17 31 29.9 +0.2
DUG				pmax	pmax		
	comp=Z,206nm,1.1s						
DUG	**Dugway, Tooele**	86.89	44	P		**P**	17 31 30.3 +0.6
	baz=236						
E08A	**Dider Farm, El**	86.91	36	*e*P		**P**	17 31 30.4 +0.9
	comp=Z,1μm,1.5s						
PAYG	**Puerto Ayora**	86.91	89	*e*P		**P**	17 31 31.8 +1.6
	comp=Z,2μm,1.2s						
B06A	**Marblemount**	86.92	33	*e*P		**P**	17 31 29.8 +0.4
	comp=Z,883nm,1.3s						
PLCA	**Paso Flores**	86.98	133	*e*P		**P**	17 31 31.2 +1.0
	comp=Z,3μm,1.5s						
PLCA	**Paso Flores**	86.98	133	P		**P**	17 31 31.4 +1.2
	comp=Z,499nm,1.1s,baz=258,slow=5.0,SNR=94						
PLCA				PKKP		**PKKPdf**	17 49 10.1 -4.9
	comp=Z,9.5nm,1.1s,baz=255,slow=3.6,SNR=2.9						
PLCA				PKKPbc		**PKKPbc**	17 49 23.3 +0.9
	comp=Z,69nm,1.0s,baz=79,slow=3.0,SNR=17						
PLCA				PKPPKP		P'P'df	17 57 20.1 -11
	comp=Z,13nm,0.9s,baz=78,slow=2.0,SNR=6.3						
PLCA				LR		LR	18 04 27.9
	comp=Z,42μm,19.3s,baz=277,slow=31						
PLCA	**Paso Flores**	86.98	133	*e*P		**P**	17 31 31.3 +1.1
GLI	**Glacier Island**	87.15	14	*e*P		**P**	17 31 30.2 -0.1
	comp=Z,1μm,0.8s						
BGU	**Big Grassy Mou**	87.16	43	*e*P		**P**	17 31 30.5 -0.5
	comp=Z,517nm,1.8s						
EYAK	**Cordova Ski Ar**	87.17	15	*e*P		**P**	17 31 30.5 +0.2
	comp=Z,971nm,1.2s						
TPTI		87.22	275	P		**P**	17 31 31.5 -0.2
	comp=Z,788nm,0.9s,comp=Z,23μmcomp=Z,202μm						
NLU	**North Lily Min**	87.23	44	*e*P		**P**	17 31 31.9 +0.5
	comp=Z,113nm,0.9s						
Q16A	**Castle Valley**	87.26	46	*e*P		**P**	17 31 32.4 +0.8
	comp=Z,1μm,1.6s						
KNK	**Knik Glacier**	87.33	13	*e*P		**P**	17 31 31.1 0.0
	comp=Z,904nm,0.8s						
D08A	**Wollman Farm,**	87.33	36	*e*P		**P**	17 31 32.6 +1.1
	comp=Z,1μm,1.2s						
KRAB	**Krabi**	87.34	280	P		**P**	17 31 33.8 +1.5
HMT	**Hamilton**	87.35	16	*e*P		**P**	17 31 31.5 +0.3
	comp=Z,643nm,1.0s						
PMR	**Palmer**	87.35	13	*e*P		**P**	17 31 31.0 -0.1
	comp=Z,1μm,1.2s						
PMR	**Palmer**	87.35	13	*e*P		**P**	17 31 31.0 -0.1
PMR				pmax	pmax		
	comp=Z,1μm,1.2s						
KHON	**Khomkaen**	87.41	289	P		**P**	17 31 34.1 +1.6
E09A	**Wood Farm, Sta**	87.42	36	*e*P		**P**	17 31 32.6 +0.8
	comp=Z,632nm,1.0s						
TMUT	**Trail Mountain**	87.44	45	*e*P		**P**	17 31 33.8 +1.3
	comp=Z,985nm,0.7s						
MPU	**Maple Canyon**	87.55	44	*e*P		**P**	17 31 33.7 +0.8
	comp=Z,226nm,0.9s						
GHO	**Glory Hole Cre**	87.56	13	*e*P		**P**	17 31 32.4 +0.1
	comp=Z,2μm,0.8s						
MNTX	**Cornudas Mount**	87.65	54	*e*P		**P**	17 31 34.4 +1.0
	comp=Z,2μm,1.5s						
MNTX	**Cornudas Mount**	87.65	54	P		**P**	17 31 34.7 +1.3
	baz=241						
DIV	**Divide**	87.68	15	*e*P		**P**	17 31 33.0 +0.1
	comp=Z,1μm,0.9s						
LAZ	**Ladron**	87.69	51	*e*P		**P**	17 31 34.9 +1.2
LENM	**Lemitar**	87.69	51	*e*P		**P**	17 31 34.7 +1.0
SPUT	**South Promonto**	87.74	43	*e*P		**P**	17 31 34.2 +0.5
	comp=Z,377nm,1.2s						
WRAK	**Wrangell Islan**	87.78	23	*e*P		**P**	17 31 34.6 +1.3
	comp=Z,697nm,1.0s						
SRU	**San Rafael Swe**	87.79	46	*e*P		**P**	17 31 34.7 +0.7
	comp=Z,678nm,0.8s						
HLID	**Hailey**	87.80	40	P		**P**	17 31 35.2 +1.2
	baz=235						
LTX	**Lajitas**	87.83	57	*e*P		**P**	17 31 35.3 +0.9
TX31	**Lajitas Ar. Si**	87.83	57	*e*P		**P**	17 31 35.2 +0.8
	comp=Z,2μm,1.4s						
TXAR	**Lajitas Array**	87.83	57	P		**P**	17 31 35.3 +0.9
	comp=Z,304nm,0.9s,baz=214,slow=6.2,SNR=829						
TXAR				PKKPbc		**PKKPbc**	17 49 21.7 +0.9
	comp=Z,9.4nm,0.8s,baz=106,slow=3.2,SNR=7.0						
TXAR				PKPPKP		P'P'df	17 57 18.4 -10
	comp=Z,3.8nm,0.8s,baz=90,slow=4.0,SNR=5.2						
TXAR				LR		LR	18 01 09.0
	comp=Z,21μm,21.1s,baz=0.0,slow=29						
P17A	**Butcher Ranch,**	87.84	45	*e*P		**P**	17 31 35.1 +0.9
	comp=Z,495nm,1.0s						
ANM	**Nome**	87.84	5	*e*P		**P**	17 31 33.6 +0.2
	comp=Z,420nm,1.1s						
ANM	**Nome**	87.84	5	*e*P		**P**	17 31 33.6 +0.2
ANM				pmax	pmax		
	comp=Z,421nm,1.1s						
CTU	**Camp Tracy**	87.84	44	*e*P		**P**	17 31 34.9 +0.6
	comp=Z,353nm,1.1s						
BNM	**Barren Site**	87.93	52	*e*P		**P**	17 31 35.9 +1.0
SCM	**Sheep Creek Mo**	87.95	14	*e*P		**P**	17 31 34.2 +0.1
	comp=Z,1μm,0.8s						
SCM	**Sheep Creek Mo**	87.95	14	*e*P		**P**	17 31 34.2 +0.1
SCM				pmax	pmax		
	comp=Z,1μm,0.8s						
PPLA	**Purkeypile**	87.95	11	*e*P		**P**	17 31 32.1 -2.1
	comp=Z,411nm,0.8s						
CHAI	**Chaiyaphum**	87.96	288	P		**P**	17 31 36.1 +1.0
	comp=Z,978μm,1.1s						
JLU	**Jordanelle**	87.98	44	*e*P		**P**	17 31 35.6 +0.5
	comp=Z,368nm,1.3s						
PKDT	**Phuket**	87.99	279	P		**P**	17 31 38.0 +2.7
	comp=Z,723nm,1.2s,comp=Z,32μmcomp=Z,294μm						
LPM	**Los Pinos Moun**	88.01	51	*e*P		**P**	17 31 36.2 +0.9
ENH	**Enshi**	88.08	304	*e*P		**P**	17 31 36.1 +0.6
LLLB	**Lillooet**	88.09	32	*e*P		**P**	17 31 36.1 +1.1
	comp=Z,1μm,1.3s						
C09A	**Chrisman Ranch**	88.14	35	*e*P		**P**	17 31 36.0 +0.8
	comp=Z,1μm,1.5s						
MVCO	**Mesa Verde**	88.16	48	*e*P		**P**	17 31 36.3 +0.4
	comp=Z,353nm,1.3s						
MVCO	**Mesa Verde**	88.16	48	P		**P**	17 31 36.1 +0.2
	baz=239						
PV05	**Paradox Valley**	88.19	47	*e*P		**P**	17 31 36.8 +0.7
	comp=Z,341nm,1.0s						
LHMI	**Lhok Sumawe**	88.21	276	*e*P		**P**	17 31 36.5 +0.1
	comp=Z,2μm,1.0s						
LHMI	**Lhok Sumawe**	88.21	276	P		**P**	17 31 36.2 -0.2
	comp=Z,2μm,1.1s,comp=Z,38μmcomp=Z,328μm						
BJT	**Baijiatuau**	88.22	315	*e*P		**P**	17 31 36.1 +0.3
	comp=Z,358nm,1.0s						
BJT	**Baijiatuau**	88.22	315	*e*P		**P**	17 31 36.1 +0.3
BJT				pmax	pmax		
	comp=Z,358nm,1.0s						
BJI	**Beijing**	88.23	315⇓	*i*P		**P**	17 31 39.4 +3.6
BJI				LR	LR		
	comp=Z,2μm,23.5s						
BJI				LR	LR		
	comp=Z,3μm,24.0s						
BJI				LR	LR		
	comp=Z,7μm,43.1s						
TMDB	**BangkokBB_BH_I**	88.27	286	P		P	17 31 41.5 +5.0
	comp=Z,402nm,1.1s,comp=Z,6μm						
TCUT	**Toone Canyon**	88.29	44	*e*P		**P**	17 31 36.4 -0.1
	comp=Z,1000nm,1.1s						
PV09	**Paradox Valley**	88.39	47	*e*P		**P**	17 31 37.7 +0.7
PV10	**Paradox Valley**	88.39	47	*e*P		**P**	17 31 36.4 -0.6
	comp=Z,349nm,1.1s						
PV19	**Morning Glory**	88.39	47	*e*P		**P**	17 31 36.9 0.0
	comp=Z,224nm,1.0s						
PV17	**East Wray Mesa**	88.39	47	*e*P		**P**	17 31 37.0 0.0
	comp=Z,279nm,1.1s						
PV14	**Lion Creek, Pa**	88.40	47	*e*P		**P**	17 31 37.0 0.0
	comp=Z,227nm,1.0s						
PV18	**Skein Mesa, Pa**	88.41	47	*e*P		**P**	17 31 37.3 +0.3
	comp=Z,1μm,1.9s						
PV20	**West Nyswonger**	88.42	47	*e*P		**P**	17 31 37.3 +0.2
	comp=Z,335nm,1.2s						
PV13	**Radium Mtn., P**	88.42	47	*e*P		**P**	17 31 37.3 +0.2
	comp=Z,346nm,1.1s						
BALM	**Baldy**	88.44	16	*e*P		**P**	17 31 36.9 +0.4
	comp=Z,808nm,0.9s						
BALM	**Baldy**	88.44	16	*e*P		**P**	17 31 36.9 +0.4
BALM				pmax	pmax		
	comp=Z,808nm,0.9s						
PV16	**Nyswonger Mesa**	88.44	47	*e*P		**P**	17 31 37.2 0.0
	comp=Z,225nm,1.2s						
TASM	**ASL Pad, Albuq**	88.44	51	P		**P**	17 31 38.3 +1.1
	baz=240						
TASM	**ASL Pad, Albuq**	88.44	51	P		**P**	17 31 38.3 +1.1
	baz=240						
PV23	**Carpenter Ridg**	88.45	47	*e*P		**P**	17 31 37.7 +0.4
	comp=Z,372nm,1.1s						
ANMO	**Albuquerque**	88.45	51	*e*P		**P**	17 31 38.0 +0.7
	comp=Z,806nm,1.4s						
ANMO	**Albuquerque**	88.45	51*c*	*i*P		**P**	17 31 38.0 +0.7
ANMO				pmax	pmax		
	comp=Z,727nm,1.6s						
ANMO	**Albuquerque**	88.45	51	P		**P**	17 31 38.1 +0.8
	baz=240						
CAST	**Castle Rocks**	88.45	11	*e*P		**P**	17 31 35.1 -1.3
	comp=Z,1μm,0.8s						
PV03	**Paradox Valley**	88.45	47	*e*P		**P**	17 31 37.5 +0.3
	comp=Z,311nm,1.2s						
HWUT	**Hardware Ranch**	88.46	43	*e*P		**P**	17 31 37.4 +0.2
	comp=Z,792nm,2.0s						
PV11	**David Mesa, Pa**	88.46	47	*e*P		**P**	17 31 37.4 +0.2
	comp=Z,1μm,1.8s						
PV04	**Paradox Valley**	88.49	47	*e*P		**P**	17 31 37.9 +0.5
	comp=Z,516nm,1.3s						
PV02	**Paradox Valley**	88.50	47	*e*P		**P**	17 31 37.7 +0.2
	comp=Z,318nm,1.2s						
JIS	**Juneau Island**	88.51	21	*e*P		**P**	17 31 37.6 +0.9
	comp=Z,751nm,1.4s						
PV12	**Saucer Basin,**	88.52	47	*e*P		**P**	17 31 38.1 +0.6
	comp=Z,334nm,1.1s						
PV21	**Cone Mtn., Par**	88.53	47	*e*P		**P**	17 31 38.3 +0.7
	comp=Z,662nm,1.4s						
EFI	**East Falkland**	88.53	147	*e*P		**P**	17 31 38.1 +1.0
	comp=Z,2μm,1.2s						
EFI	**East Falkland**	88.53	147*c*	*e*P		**P**	17 31 37.8 +0.6
EFI				pmax	pmax		
	comp=Z,2μm,1.1s						
GYA	**Guiyang**	88.55	299⇓	*i*P		**P**	17 31 38.9 +1.0
GYA				pP		pP	17 32 22.8 +1.6
GYA				SKS		**SKSac**	17 41 50.5 0.0
GYA				S		**S**	17 42 07.5 -1.7

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     comp=Z,14µm,15.5s
TIY                                  LR      LR
     comp=Z,41µm,24.3s
TIY                                  LR      LR
     comp=Z,43µm,24.5s
LVIG Laguna Verde      89.54  68 eP        P       17 31 42.7 +0.2
     comp=Z,877nm,1.1s
S22A 4UR Ranch, Cre    89.57  48 eP        P       17 31 43.5 +0.8
     comp=Z,1µm,1.6s
S22A 4UR Ranch, Cre    89.57  48 P         P       17 31 43.7 +1.1
     baz=240
HYT  Haines Junctio    89.58  18 eP        P       17 31 42.7 +0.9
     comp=Z,399nm,0.9s
BWN  Browne            89.62  12 eP        P       17 31 41.5 -0.2
     comp=Z,2µm,1.1s
MENT Mentasta          89.73  15 eP        P       17 31 42.9 +0.5
     comp=Z,990nm,0.9s
CMIG Matias Romero     89.79  71 P         P       17 31 43.8 +0.2
     comp=Z,155nm,0.8s,baz=252,slow=4.4,SNR=135
CMIG                                 PKKPbc  PKKPbc  17 49 16.3 +1.0
     comp=Z,45nm,0.9s,baz=41,slow=3.5,SNR=16
CMIG                                 PKPPKP          17 57 22.5
     comp=Z,9.9nm,1.0s,baz=261,slow=3.7,SNR=4.2
CMIG                                 LR      LR      18 03 10.4
     comp=Z,43µm,20.5s,baz=245,slow=29
O20A White River Ci    89.82  46 eP        P       17 31 44.0 +0.4
     comp=Z,320nm,1.0s
O20A White River Ci    89.82  46 P         P       17 31 44.2 +0.6
     baz=239
SRDT SRDT              89.86 286 P         P       17 31 46.1 +2.1
     comp=Z,859nm,1.1s,comp=Z,15µm
MSO  Missoula          89.94  38 P         P       17 31 44.3 +0.4
     baz=235
SNOW Snow King Moun    89.96  42 eP        P       17 31 45.0 +0.8
     comp=Z,955nm,1.4s
UTTA Uttaradit         89.97 289 P         P       17 31 46.0 +1.5
     comp=Z,954µm,1.2s
DLBC Dease Lake        90.13  23 eP        P       17 31 45.5 +1.1
     comp=Z,594nm,0.9s
DLBC Dease Lake        90.13  23 P         P       17 31 45.7 +1.3
     comp=Z,428nm,0.9s,baz=217,slow=4.8,SNR=150
LOHW Long Hollow       90.14  42 eP        P       17 31 45.6 +0.6
     comp=Z,1µm,1.8s
WRH  Wood River Hil    90.15  12 eP        P       17 31 44.0 -0.2
     comp=Z,1µm,1.0s
MLY  Manley            90.17  11 eP        P       17 31 43.6 -0.8
     comp=Z,472nm,1.0s
RIDG Independent Ri    90.18  14 eP        P       17 31 44.6 +0.1
     comp=Z,1µm,1.2s
SMCO Snowmass          90.19  47 eP        P       17 31 46.1 +0.5
     comp=Z,1µm,1.9s
WHY  Whitehorse        90.22  19 eP        P       17 31 45.2 +0.3
     comp=Z,433nm,0.8s
ZEA  Zeya              90.23 331 d iP       P       17 31 45.4 +0.6
ZEA                                  eS      SKSac   17 42 00.5 +1.7
ZEA                                  pmax    pmax
     comp=E,200nm,0.8s
ZEA                                  pmax    pmax
     comp=N,410nm,1.0s
ZEA                                  pmax    pmax
     comp=Z,830nm,1.0s
ZEA                                  pmax    pmax
     comp=Z,28µm,13.0s
ZEA                                  pmax    pmax
     comp=E,7µm,14.0s
ZEA                                  pmax    pmax
     comp=N,5µm,10.0s
ZEA                                  smax    smax
     comp=N,21µm,14.0s
ZEA                                  smax    smax
     comp=E,25µm,14.0s
XAN  Xi'an             90.27 307 P         P       17 31 46.5 +0.9
XAN                                  pP      pP      17 32 25.4 -3.7
XAN                                  sP      sP      17 32 43.4 -3.9
XAN                                  pmax    pmax
     comp=E,370nm,0.9s
XAN                                  pmax    pmax
     comp=E,30µm,12.5s
XAN                                  LR      LR
     comp=E,39µm,20.1s
XAN                                  LR      LR
     comp=E,20µm,21.1s
XAN                                  LR      LR
     comp=E,52µm,21.7s
XAN  Xi'an             90.27 307 eP        P       17 31 46.3 +0.7
     comp=E,952nm,1.0s
DOT  Dot Lake          90.27  14 eP        P       17 31 45.1 +0.2
     comp=E,1µm,1.1s
NANT Nan               90.27 290 P         P       17 31 47.2 +1.3
ROC1 El Roble          90.28 126 eP        P       17 31 46.6 +0.5
HDA  Harding Lake      90.32  13 eP        P       17 31 44.8 -0.3
     comp=E,1µm,0.8s
FLWY Flagg Ranch       90.33  41 eP        P       17 31 47.1 +1.2
     comp=E,2µm,1.8s
BW06 Boulder Array     90.34  43 eP        P       17 31 46.1 +0.1
     comp=E,491nm,1.1s
BW06 Boulder Array     90.34  43 P         P       17 31 46.3 +0.3
     baz=238
PD31 Pinedale Array    90.34  43 eP        P       17 31 46.1 +0.1
     comp=E,413nm,1.1s
PDAR Pinedale Array    90.34  43 P         P       17 31 45.8 -0.2
     comp=E,153nm,0.8s,baz=211,slow=3.2,SNR=393
PDAR                                 PP      PP      17 35 21.2 -1.8
     comp=E,22nm,0.9s,baz=235,slow=3.2,SNR=2.5
PDAR                                 PKKPbc  PKKPbc  17 49 15.7 +0.3
     comp=E,26nm,0.7s,baz=87,slow=3.4,SNR=14
PDAR                                 PKPPKP  P'P'df  17 57 21.9 -0.7
     comp=E,18nm,0.9s,baz=101,slow=3.0,SNR=15
PDAR                                 LR      LR      18 07 20.2
     comp=E,17µm,19.2s,baz=268,slow=32
CCB  Clear Creek Bu    90.37  12 eP        P       17 31 44.7 -0.5
     comp=E,943nm,0.9s
PEL  Peldehue          90.44 126 eP        P       17 31 46.8 +0.1
     comp=E,1µm,1.3s
PEL  Peldehue          90.44 126 eP        P       17 31 46.8 +0.1
PEL                                  pmax    pmax
     comp=Z,1µm,1.3s
YFT  Old Faithful      90.44  41 eP        P       17 31 46.9 +0.4
     comp=Z,778nm,1.4s
SDCO Great Sand Dun    90.49  49 eP        P       17 31 47.2 +0.3
     comp=Z,1µm,2.0s
SDCO Great Sand Dun    90.49  49 P         P       17 31 47.6 +0.7
     baz=241
PHRA Phrae             90.56 290 P         P       17 31 48.6 +1.4
     comp=Z,147nm,1.1s,comp=Z,3µmcomp=Z,41µm
TCOL CIGO, UAF Yank    90.56  12 P         P       17 31 46.0 -0.1
     baz=207
COLA College           90.56  12 eP        P       17 31 45.9 -0.2
     comp=Z,1µm,0.8s
COLA College           90.56  12 d iP       P       17 31 45.8 -0.3
COLA                                 i *PP   pwP     17 32 33.0 -0.1
COLA                                 pmax    pmax
     comp=Z,2µm,1.1s
MDM  Murphy Dome       90.56  12 eP        P       17 31 45.6 -0.6
     comp=Z,1µm,1.0s
H17A Grant Village     90.57  41 eP        P       17 31 49.1 +2.0
     comp=Z,1µm,1.8s
BOZ  Bozeman (W)       90.59  40 P         P       17 31 48.4 +1.4
     baz=237
ILAR Eielson Array     90.66  12 P         P       17 31 46.0 -0.6
     comp=Z,234nm,0.6s,baz=221,slow=5.3,SNR=481
ILAR                                 PP      PP      17 35 21.5 -3.2
     comp=Z,49nm,0.8s,baz=216,slow=8.2,SNR=4.8
ILAR                                 PKiKP   PKiKP   17 36 39.8 0.0
     comp=Z,20nm,0.8s,baz=287,slow=3.1,SNR=5.0
ILAR                                 ScS     S       17 42 26.8 0.0
     comp=Z,59nm,1.1s,baz=216,slow=9.0,SNR=14
ILAR                                 PKKPbc  PKKPdf  17 49 07.6 -4.2
     comp=Z,7.2nm,0.7s,baz=353,slow=1.5,SNR=6.0
ILAR                                 SKKS    SKKSdf  17 56 05.2 -2.1
     comp=Z,0.3nm,0.8s,baz=323,slow=32,SNR=3.3
ILAR                                 PKPPKP          17 57 19.4
     comp=Z,9.5nm,1.1s,baz=338,slow=2.2,SNR=6.3
ILB  Eielson Array     90.66  12 eP        P       17 31 46.1 -0.6
     comp=Z,714nm,1.1s
MSTX Muleshoe          90.66  53 eP        P       17 31 47.9 +0.3
     comp=Z,4µm,2.0s
MSTX Muleshoe          90.66  53 P         P       17 31 48.1 +0.6
     baz=242
YNR  Norris Junctio    90.68  41 eP        P       17 31 48.1 +0.6
     comp=Z,390nm,1.1s
833A Chaparral WMA,    90.72  60 eP        P       17 31 48.1 +0.3
     comp=Z,619nm,1.0s
833A Chaparral WMA,    90.72  60 P         P       17 31 48.3 +0.5
     baz=244
LKWY Lake              90.77  41 eP        P       17 31 50.0 +2.0
     comp=Z,309nm,0.9s
UMPA Umpang Tak        90.83 287 P         P       17 31 50.5 +1.9
POKR Poker Plat Res    90.86  12 P         P       17 31 47.2 -0.3
     baz=207
T25A Trinidad          90.96  50 eP        P       17 31 49.2 +0.2
     comp=Z,198nm,1.0s
T25A Trinidad          90.96  50 P         P       17 31 49.3 +0.3
     baz=242
HRY  Holter Researc    91.08  39 eP        P       17 31 50.0 +0.9
LAMP Lampang           91.08 290 P         P       17 31 51.5 +1.8
KMI  Kunming           91.16 297 P         P       17 31 51.8 +1.6
KMI                                  pP      pP      17 32 34.1 +0.5
KMI                                  sP      sP      17 32 47.4 -4.5
KMI                                  PP      PP      17 35 30.8 +0.9
KMI                                  SKS     SKSac   17 42 07.3 +1.3
KMI                                  S       S       17 42 32.6 -0.9
KMI                                  sS      pS      17 43 39.4 +10
KMI                                  pmax    pmax
     comp=Z,820nm,1.1s
KMI                                  pmax    pmax
     comp=Z,20µm,6.9s
KMI                                  LR      LR
     comp=Z,28µm,25.5s
KMI                                  LR      LR
     comp=Z,22µm,26.1s
KMI                                  LR      LR
     comp=Z,84µm,40.7s
KMI  Kunming           91.16 297 eP        P       17 31 51.0 +0.8
     comp=Z,800nm,1.0s
HIA  Hailar            91.21 324 eP        P       17 31 49.3 -0.3
     comp=Z,364nm,1.3s
HIA  Hailar            91.21 324 eP        P       17 31 49.3 -0.3
HIA                                  pmax    pmax
     comp=Z,364nm,1.3s
PAYA Payao             91.22 290 P         P       17 31 51.7 +1.4
WALA Waterton Lakes    91.23  36 eP        P       17 31 50.4 +0.6
     comp=Z,298nm,1.0s
RWWY Rawlins           91.28  45 eP        P       17 31 50.6 +0.2
     comp=Z,412nm,1.1s
Q24A Divide            91.32  48 eP        P       17 31 51.1 +0.3
     comp=Z,1µm,1.8s
JCT  Junction City     91.34  57 eP        P       17 31 50.5 -0.2
     comp=Z,805nm,1.3s
JCT  Junction City     91.34  57 eP        P       17 31 50.5 -0.2
JCT                                  pmax    pmax
     comp=Z,805nm,1.3s
JCT  Junction City     91.34  57 P         P       17 31 50.7  0.0
     baz=244
ISCO Idaho Springs     91.41  47 eP        P       17 31 51.5 +0.4
     comp=Z,1µm,1.9s
ISCO Idaho Springs     91.41  47 P         P       17 31 51.9 +0.8
     baz=241
PRP  Porcupine Dome    91.59  13 eP        P       17 31 50.7 -0.4
     comp=Z,500nm,0.9s
CM31 Chiang Mai Arr    91.66 289 eP        P       17 31 54.0 +1.6
     comp=Z,2µm,1.0s
CMAR Chiang Mai Arr    91.66 289 P         P       17 31 54.1 +1.8
     comp=Z,470nm,0.9s,baz=138,slow=3.3,SNR=336
CMAR                                 PP      PP      17 35 33.5 -0.1
     comp=Z,76nm,0.9s,baz=123,slow=5.1,SNR=4.2
CMAR                                 PKiKP   PKiKP   17 36 43.6 +0.9
     comp=Z,16nm,0.8s,baz=188,slow=1.5,SNR=3.4
CMAR                                 PKKPbc  PKKPbc  17 49 11.5 +0.9
     comp=Z,18nm,0.8s,baz=281,slow=3.9,SNR=28
CMAR                                 PKPPKP          17 57 20.0
     comp=Z,4.0nm,0.9s,baz=284,slow=2.8,SNR=7.8
BILL Bilibino          91.66 354 eP        P       17 31 51.0 -0.2
     comp=Z,1µm,1.0s
BILL Bilibino          91.66 354 d iP       P       17 31 51.1 -0.2
BILL                                 i S     SKSac   17 41 58.9 -7.5
BILL                                 pmax    pmax
     comp=Z,306nm,1.0s
BILL                                 pmax    pmax
     comp=Z,17µm,12.4s
HHC  Hu-ho-hao-te      91.67 314 eP        P       17 31 52.8 +0.8
HHC                                  sP      sP      17 32 55.3 +1.5
HHC                                  PP      PP      17 35 35.3 +1.9
HHC                                  SKS     SKSac   17 42 08.8 +0.9
HHC                                  S       ScS     17 42 38.9 -0.6
HHC                                  SS      SS      17 48 48.3 -0.9
HHC                                  pmax    pmax
     comp=Z,26µm,7.1s
N23A Red Feather La    91.72  46 eP        P       17 31 52.9 +0.4
     comp=Z,829nm,1.6s
N23A Red Feather La    91.72  46 P         P       17 31 53.2 +0.8
     baz=241
DAWY Dawson            91.73  16 eP        P       17 31 52.2 +0.6
GO04 Tololo Observa    91.74 124 eP        P       17 31 52.9 -0.1
     comp=Z,856nm,1.0s
RLMT Red Lodge         91.75  41 P         P       17 31 53.8 +1.3
     baz=238
CMMT Chiang Mai        91.79 290 P         P       17 31 54.1 +1.1
     comp=Z,694nm,1.1s,comp=Z,10µmcomp=Z,126µm
CHTO Chiang Mai        91.80 290 eP        P       17 31 54.3 +1.3
     comp=Z,1µm,0.9s
CHTO Chiang Mai        91.80 290 eP        P       17 31 54.3 +1.3
CHTO                                 pmax    pmax
     comp=Z,1µm,0.9s
GCMT Greycliff         91.86  40 eP        P       17 31 54.1 +1.3
CCIG Comitan           91.87  73 eP        P       17 31 54.4 +0.8
     comp=Z,394nm,1.1s
AMTX Amarillo          91.88  53 eP        P       17 31 53.1  0.0
     comp=Z,276nm,0.9s
AMTX Amarillo          91.88  53 P         P       17 31 53.3 +0.2
     baz=243
EGAK Eagle             91.90  15 eP        P       17 31 52.7 +0.3
     comp=Z,901nm,0.9s
K22A Casper            92.20  44 eP        P       17 31 54.9 +0.3
     comp=Z,368nm,1.1s
K22A Casper            92.20  44 P         P       17 31 54.9 +0.3
     baz=240
PHWY Pilot Hill        92.24  46 eP        P       17 31 55.0 +0.1
     comp=Z,336nm,1.4s
COLD Coldfoot          92.27  10 eP        P       17 31 54.5 +0.5
     comp=Z,483nm,1.2s
LCO  Las Campanas      92.36 123 eP        P       17 31 56.5 +0.6
ABTX Abilene, Hawle    92.40  56 eP        P       17 31 55.6 +0.1
     comp=Z,730nm,1.0s
ABTX Abilene, Hawle    92.40  56 P         P       17 31 55.8 +0.3
     baz=244
FYU  Fort Yukon        92.57  12 eP        P       17 31 55.7 +0.3
     comp=Z,197nm,1.0s
BTO  Baotou            92.58 313 eP        P       17 31 57.6 +1.4
CD2  Chengdu           92.78 302 ||iP       P       17 31 57.8 +0.4
CD2                                  PP      PP      17 35 43.3 +1.0
CD2                                  SKS     SKSac   17 42 14.4  0.0
CD2                                  S       ScS     17 42 50.8 +1.7
CD2                                  sS      sS      17 43 57.3 -7.1
CD2                                  pmax    pmax
     comp=Z,400nm,1.0s
APG  El Apazote        92.86  75 P         P       17 31 59.0 +0.8
     comp=Z,227nm,1.0s,baz=273,slow=6.1,SNR=46
APG                                  PP      PP      17 35 42.9 -0.4
     comp=Z,104nm,1.1s,baz=266,slow=13,SNR=4.7
APG                                  PKKPbc  PKKPbc  17 49 08.3 +0.6
     comp=Z,23nm,0.8s,baz=315,slow=4.3,SNR=4.1
APG                                  PKPPKP  P'P'df  17 57 19.9 -0.1
     comp=Z,10.0nm,1.1s,baz=141,slow=2.5,SNR=4.2
EGMT Eagleton          92.97  38 eP        P       17 31 58.6 +0.7
     comp=Z,184nm,1.0s
EGMT Eagleton          92.97  38 P         P       17 31 58.7 +0.9
     baz=238
CFA  Coronel Fontan    93.00 126 P         P       17 31 58.6 +0.1
     comp=Z,229nm,0.9s,baz=244,slow=4.2,SNR=58
CFA                                  LR      LR      18 06 30.9
     comp=Z,25µm,19.5s,baz=230,slow=31
KSCO Kaye Shedlock'    93.08  49 eP        P       17 31 59.1 +0.5
     comp=Z,3µm,1.9s
KSCO Kaye Shedlock'    93.08  49 P         P       17 31 59.3 +0.7
     baz=243
435B Jarrell           93.20  58 eP        P       17 31 59.5 +0.3
     comp=Z,428nm,0.9s
435B Jarrell           93.20  58 P         P       17 31 59.4 +0.3
     baz=245
GO03 Copiap            93.39 122 eP        P       17 32 01.1 +0.7
     comp=Z,837nm,1.6s
TOLK Toolik Lake Re    93.66  10 eP        P       17 32 00.4 -0.1
     comp=Z,746nm,1.5s
TOLK Toolik Lake Re    93.66  10 P         P       17 32 01.0 +0.6
     baz=205
WHTX Lake Whitney,     93.80  57 eP        P       17 32 01.9 -0.1
     comp=Z,596nm,1.1s
WHTX Lake Whitney,     93.80  57 P         P       17 32 01.9 -0.1
     baz=245
WMOK Wichita Mounta    93.96  54 eP        P       17 32 02.0 -0.6
     comp=Z,94nm,1.1s
WMOK Wichita Mounta    93.96  54 eP        P       17 32 02.0 -0.6
WMOK                                 pmax    pmax
     comp=Z,94nm,1.1s
WMOK Wichita Mounta    93.96  54 P         P       17 32 02.2 -0.5
     baz=245
TRQA Tornquist         94.05 134 eP        P       17 32 03.4 +0.3
     comp=Z,588nm,1.4s
TRQA Tornquist         94.05 134 eP        P       17 32 03.4 +0.3
TRQA                                 pmax    pmax
     comp=Z,588nm,1.4s
TRQA Tornquist         94.05 134 eP        P       17 32 05.8 +2.6
HKT  Hockley           94.23  59 eP        P       17 32 04.3 +0.4
     comp=Z,909nm,1.8s
HKT  Hockley           94.23  59 eP        P       17 32 04.3 +0.4
HKT                                  pmax    pmax
     comp=Z,909nm,1.8s
EPYK Eagle Plains      94.27  15 eP        P       17 32 03.4 +0.1
     comp=Z,1µm,1.6s
EPYK Eagle Plains      94.27  15 P         P       17 32 03.6 +0.3
     baz=217
OGNE Ogallala          94.36  47 eP        P       17 32 04.4  0.0
     comp=Z,274nm,0.9s
OGNE Ogallala          94.36  47 P         P       17 32 04.7 +0.3
     baz=243
LAO  LASA Array        94.37  41 eP        P       17 32 05.4 +1.2
     comp=Z,902nm,1.4s
LAO  LASA Array        94.37  41 P         P       17 32 05.5 +1.2
     baz=241
U32A Winter Ranch,     94.49  52 eP        P       17 32 05.3 +0.2
     comp=Z,545nm,1.0s
RSSD Black Hills       94.50  44 eP        P       17 32 05.4 +0.3
     comp=Z,483nm,0.9s
RSSD Black Hills       94.50  44 eP        P       17 32 05.4 +0.3
RSSD                                 pmax    pmax
     comp=Z,483nm,0.9s
RSSD Black Hills       94.50  44 P         P       17 32 05.6 +0.4
     baz=242
CSGN Cosiguina Volc    94.68  78 eP        P       17 32 08.1 +1.6
     comp=Z,369nm,1.2s
NNA  Nana              94.69 105 eP        P       17 32 07.6 +1.0
     comp=Z,252nm,1.1s
NNA  Nana              94.69 105 i P       P       17 32 08.1 +1.6
NNA  Nana              94.69 105 P         P       17 32 07.2 +0.7
     comp=Z,79nm,0.8s,baz=249,slow=8.4,SNR=19
NNA                                  PKKPbc  PKKPbc  17 49 02.9 +0.5
     comp=Z,8.2nm,0.4s,baz=343,slow=3.9,SNR=2.6
NNA                                  LR      LR      18 05 08.8
     comp=Z,164µm,21.5s,baz=228,slow=29
YAK  Yakutsk           94.77 338 d iP       P       17 32 04.9 -0.7
YAK                                  e               17 35 55.8
YAK                                  eS      SKSac   17 42 25.9 +2.4
YAK                                  e               17 43 05.4
YAK                                  eSP     SP      17 44 26.5 +5.9
YAK                                  pmax    pmax
     comp=N,614nm,0.9s
YAK                                  pmax    pmax
     comp=E,559nm,1.1s
YAK                                  pmax    pmax
     comp=N,4µm,2.5s
YAK                                  pmax    pmax
     comp=E,15nm,2.1s
YAK                                  smax    smax
     comp=N,47µm,2.7s
YAK                                  smax    smax
     comp=E,16µm,2.5s
LZH  Lanzhou           94.91 307 ||P        P       17 32 08.3 +1.2
LZH                                  pP      pP      17 32 51.6 +0.9
LZH                                  sP      sP      17 33 09.0 +0.1
LZH                                  PP      PP      17 36 03.1 +4.2
LZH                                  SKS     SKSac   17 42 25.3 -0.6
LZH                                  S       S       17 43 04.4 -1.6
LZH                                  sS      sS      17 44 20.3 -2.7
LZH                                  SS      SS      17 49 35.6 -0.1
LZH                                  pmax    pmax
     comp=E,1µm,1.2s
LZH                                  pmax    pmax
     comp=E,20µm,9.6s
LZH                                  LR      LR
     comp=E,31µm,18.0s
LZH                                  LR      LR
     comp=E,46µm,16.8s
LZH                                  LR      LR
     comp=E,68µm,19.5s
CBKS Cedar Bluff       95.01  50 eP        P       17 32 07.6 +0.3
     comp=E,696nm,1.8s
CBKS Cedar Bluff       95.01  50 eP        P       17 32 07.6 +0.3
CBKS                                 pmax    pmax
     comp=Z,696nm,1.8s
CBKS Cedar Bluff       95.01  50 P         P       17 32 07.3  0.0
     baz=244
PB10 IPOC Station P    95.03 118 eP        P       17 32 08.0 +0.1
     comp=Z,1µm,1.9s
GO02 Mina Guanaco      95.04 120 eP        P       17 32 09.2 +1.0
     comp=Z,324nm,1.0s
ATAH Atahualpa         95.28 100 P         P       17 32 12.4 +2.7
     comp=Z,437nm,1.2s,baz=257,slow=2.2,SNR=44
ATAH                                 PP      PP      17 36 03.1 +0.9
     comp=Z,83nm,1.2s,baz=238,slow=11,SNR=5.7
ATAH                                 PKKPbc  PKKPdf  17 49 03.0 +1.7
     comp=Z,93nm,0.9s,baz=53,slow=4.0,SNR=17
ATAH                                 PKPPKP  P'P'df  17 57 15.4 -1.1
     comp=Z,12nm,0.9s,baz=60,slow=2.4,SNR=6.0
ATAH                                 LR      LR      18 05 39.2
     comp=Z,125µm,20.7s,baz=235,slow=29
TGUH Tegucigalpa,Un    95.34  77 eP        P       17 32 09.6  0.0
     comp=Z,161nm,1.0s
HOPE Hope Point        95.87 158 eP        P       17 32 11.8 +0.8
     comp=Z,761nm,1.4s
NATX Nacogdoches       95.88  58 eP        P       17 32 11.3 -0.1
     comp=Z,371nm,1.3s
NATX Nacogdoches       95.88  58 P         P       17 32 11.9 +0.5
     baz=246
PB04 IPOC Station P    95.91 117 eP        P       17 32 13.4 +1.3
     comp=Z,772nm,1.5s
CIT  Chita             96.01 324 eP        P       17 32 11.4 -0.2
CIT                                  e               17 33 08.2
CIT                                  e               17 36 03.2
CIT                                  eS      SKSac   17 42 31.2 +0.4
CIT                                  pmax    pmax
     comp=Z,631nm,2.1s
JTS  Las Juntas de     96.02  81 eP        P       17 32 13.0 +0.5
     comp=Z,264nm,1.0s
JTS  Las Juntas de     96.02  81 c iP       P       17 32 13.0 +0.5
JTS                                  pmax    pmax
     comp=Z,333nm,1.1s
JTS  Las Juntas de     96.02  81 P         P       17 32 13.4 +0.9
     comp=Z,138nm,0.9s,baz=4.3,slow=3.7,SNR=54
JTS                                  PKKPbc  PKKPdf  17 49 01.3 +1.4
     comp=Z,7.7nm,0.5s,baz=245,slow=8.5,SNR=3.2
ETX06 Route 59 and C   96.09  58 eP        P       17 32 11.7 -0.7
     comp=Z,149nm,1.0s
DGMT Dagmar            96.42  40 eP        P       17 32 13.8 +0.3
     comp=Z,286nm,0.8s
DGMT Dagmar            96.42  40 P         P       17 32 14.3 +0.7
     baz=242
ACON Acoyapa           96.45  80 eP        P       17 32 14.1 -0.3
     comp=Z,272nm,1.7s
X37A Clayton           96.46  55 eP        P       17 32 14.6 +0.6
     comp=Z,172nm,1.1s
INK  Inuvik            96.56  15 eP        P       17 32 13.3 -0.3
     comp=Z,166nm,0.9s
INK  Inuvik            96.56  15 P         P       17 32 13.4 -0.2
     comp=Z,96nm,0.7s,baz=213,slow=2.4,SNR=102
INK                                  PP      PP      17 36 11.4 +0.8
     comp=Z,113nm,1.0s,baz=207,slow=9.8,SNR=5.8
INK                                  SKKS            17 55 56.5
     comp=Z,3.2nm,0.8s,baz=13,slow=6.4,SNR=2.9
INK                                  PKPPKP  P'P'df  17 57 09.5 +0.7
     comp=Z,6.9nm,0.9s,baz=300,slow=13,SNR=4.5
INK                                  LR      LR      18 09 29.7
     comp=Z,14µm,21.0s,baz=224,slow=31
TUL1 Leonard           96.67  54 eP        P       17 32 14.7 -0.1
     comp=Z,308nm,1.4s
TUL1 Leonard           96.67  54 P         P       17 32 14.8 -0.1
     baz=246
LVC  Limon Verde       96.79 118 eP        P       17 32 18.2 +1.9
     comp=Z,417nm,1.3s
LVC  Limon Verde       96.79 118 eP        P       17 32 18.2 +1.9
LVC                                  pmax    pmax
     comp=Z,417nm,1.3s
LVC  Limon Verde       96.79 118 P         P       17 32 18.0 +1.6
     comp=Z,129nm,1.0s,baz=253,slow=7.0,SNR=23
LVC                                  PP      PP      17 36 16.5 +3.1
     comp=Z,77nm,1.2s,baz=238,slow=9.9,SNR=5.6
LVC                                  PKKP    PKKPdf  17 48 58.4 +0.1
     comp=Z,69nm,0.6s,baz=357,slow=1.7,SNR=23
LVC                                  LR      LR      18 05 25.4
     comp=Z,44µm,21.3s,baz=248,slow=29
LVC  Limon Verde       96.79 118 eP        P       17 32 18.4 +2.1
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BGNE	Belgrade	97.20	48	eP		Pdif	17 32 17.8	+0.5
	comp=Z,389nm,0.9s							
BGNE	Belgrade	97.20	48	P		P	17 32 17.1	-0.1
	baz=246							
KSU1	Kansas State U	97.34	51	P		P	17 32 17.8	-0.1
	baz=246							
PB11	IPOC Station P	97.51	115	eP		Pdif	17 32 20.5	+1.1
	comp=Z,1µm,1.6s							
MIAR	Mount Ida	97.80	56	eP		P	17 32 19.8	-0.3
	comp=Z,369nm,1.9s							
MIAR	Mount Ida	97.80	56	eP		P	17 32 19.8	-0.3
MIAR				pmax		pmax		
	comp=Z,369nm,1.9s							
MIAR	Mount Ida	97.80	56	P		P	17 32 19.9	-0.1
	baz=247							
WLAR	White Oak Lake	97.83	57	eP		Pdif	17 32 20.3	+0.1
	comp=Z,282nm,1.3s							
MNMC	Minye Minye	97.85	115	eP		Pdif	17 32 22.4	+1.3
	comp=Z,1µm,1.4s							
W39A	Magazine	97.89	55	eP		Pdif	17 32 20.7	+0.3
	comp=Z,276nm,1.6s							
W39A	Magazine	97.89	55	P		Pdif	17 32 21.0	+0.5
	baz=247							
Z41A	Richland Creek	97.91	57	eP		Pdif	17 32 20.8	+0.2
	comp=Z,142nm,1.1s							
Z41A	Richland Creek	97.91	57	P		P	17 32 20.0	-0.5
	baz=248							
SUSD	Miller	97.92	45	P		P	17 32 20.2	-0.2
	baz=245							
GO01	Chusmiza	97.94	115	eP		Pdif	17 32 23.2	+1.5
	comp=Z,340nm,1.5s							
OTAV	Otavalo	98.16	93	eP		Pdif	17 32 23.8	+1.0
	comp=Z,122nm,1.3s							
OTAV	Otavalo	98.16	93	eP		P	17 32 22.6	-0.2
OTAV	Otavalo	98.16	93	eP		Pdif	17 32 23.8	+1.0
OTAV				pmax		pmax		
	comp=Z,122nm,1.3s							
OTAV	Otavalo	98.16	93	eP		P	17 32 22.6	-0.2
OTAV	Otavalo	98.16	93	eP		Pdif	17 32 23.4	+0.6
SONA0	Songino Array	98.17	319	eP		P	17 32 20.7	-0.9
SONA0				ePKiKP		PKiKP	17 36 54.2	+0.7
SONA0				ePKKPbc		PKKPbc	17 48 53.7	-1.0
SONM	Songino Array	98.17	319	P		P	17 32 20.7	-0.9
SONM				PKiKP		PKiKP	17 36 54.2	+0.7
	comp=Z,16nm,0.9s,baz=114,slow=3.6,SNR=39							
SONM				PKKPbc		PKKPbc	17 48 53.7	-1.0
	comp=Z,16nm,0.6s,baz=105,slow=1.0,SNR=4.1							
SONM				PKPPKP			17 57 07.5	
	comp=Z,25nm,0.9s,baz=283,slow=2.5,SNR=7.3							
SONM				LR		LR	18 12 45.8	
	comp=Z,2.9nm,0.8s,baz=329,slow=5.2,SNR=6.7							
HHAR	Hobbs	98.19	54	eP		P	17 32 21.2	-0.5
	comp=Z,11µm,22.0s,baz=135,slow=33							
X40A	Basin Creek Fa	98.35	56	eP		Pdif	17 32 23.6	+1.1
	comp=Z,135nm,1.5s							
X40A	Basin Creek Fa	98.35	56	P		P	17 32 22.1	-0.4
	comp=Z,97nm,1.6s							
YKA	Yellowknife Ar	98.54	25	P		P	17 32 22.6	0.0
	baz=248							
YKA				PP		PP	17 36 25.0	-0.9
	comp=Z,57nm,0.8s,baz=236,slow=4.3,SNR=184							
YKA				PKiKP		PKiKP	17 36 54.8	+1.4
	comp=Z,10nm,0.7s,baz=242,slow=7.7,SNR=5.7							
YKA				PKKPbc		PKKPbc	17 48 48.1	-6.0
	comp=Z,15nm,0.9s,baz=252,slow=1.5,SNR=7.0							
YKA				PKPPKP		P'P'df	17 57 09.4	+4.0
	comp=Z,13nm,0.6s,baz=40,slow=2.6,SNR=8.6							
YKB5	Yellowknife Ar	98.54	25	eP		P	17 32 22.6	0.0
YKB5				ePP		PP	17 36 25.1	-0.9
YKB5				ePKiKP		PKiKP	17 36 54.9	+1.4
BOD	Bodaibo	98.68	330	eP		P	17 32 21.9	-1.5
BOD				e			17 42 43.9	
BOD				pmax		pmax		
	comp=Z,211nm,1.9s							
UALR	University of	98.83	56	eP		Pdif	17 32 25.1	+0.4
	comp=Z,71nm,1.1s							
MDND	Maddock	98.92	42	eP		Pdif	17 32 24.9	+0.2
	comp=Z,202nm,0.7s							
MDND	Maddock	98.92	42	P		P	17 32 24.7	0.0
	baz=246							
CCAR	Cane Creek	98.95	57	eP		Pdif	17 32 27.0	+1.8
	comp=Z,217nm,1.4s							
U40A	Yellville	99.03	54	P		Pdif	17 32 25.0	-0.5
	baz=248							
W41B	Gary Mavity, V	99.05	56	eP		Pdif	17 32 25.5	-0.1
	comp=Z,148nm,1.5s							
W41B	Gary Mavity, V	99.05	56	P		Pdif	17 32 25.5	-0.1
	baz=248							
WHAR	Wooly Hollow	99.06	56	eP		Pdif	17 32 25.4	-0.3
	comp=Z,395nm,2.0s							
GTA	Gaotai	99.16	309	‖P		Pdif	17 32 26.4	+0.2
GTA				PP		PP	17 36 36.5	+5.1
GTA				SKS		SKSac	17 42 45.1	-2.5
GTA				S		S	17 43 42.5	+0.4
GTA				pmax		pmax		
	comp=Z,10µm,11.7s							
GTA				LR		LR		
	comp=Z,17µm,20.3s							
GTA				LR		LR		
	comp=Z,20µm,22.2s							
GTA				LR		LR		
	comp=Z,34µm,21.6s							
ECSD	EROS Data Cent	99.18	46	ePdif		Pdif	17 32 25.9	-0.1
	comp=Z,381nm,1.4s							
ECSD	EROS Data Cent	99.18	46	P		Pdif	17 32 26.2	+0.2
	baz=247							
VBMS	Vicksburg	99.31	59	P		Pdif	17 32 26.3	-0.5
	baz=249							
GCUF	Volcan Galeras	99.56	93	eP		Pdif	17 32 29.4	+0.3
GCUF	Volcan Galeras	99.56	93	eP		Pdif	17 32 29.4	+0.3
U41A	Viola	99.73	55	P		Pdif	17 32 28.3	-0.3
	baz=248							
X43A	Marvell	99.86	57	P		Pdif	17 32 29.2	0.0
	baz=249							
BBAC	Balboa, Cauca	99.96	92	eP		Pdif	17 32 28.2	-2.3
BBAC	Balboa, Cauca	99.96	92	eP		Pdif	17 32 28.2	-2.3
CRUC	La Cruz	100.06	93	eP		Pdif	17 32 33.6	+2.6
CRUC	La Cruz	100.06	93	eP		Pdif	17 32 33.6	+2.6
BCIP	Isla Barro Col	100.28	84	eP		Pdif	17 32 29.8	-1.8
BCIP				eP		Pdif	17 32 30.6	-1.0
BCIP	Isla Barro Col	100.28	84	eP		Pdif	17 32 29.8	-1.8
BCIP				eP		Pdif	17 32 30.6	-1.0
S41A	Jillco Farms,	100.31	54	P		Pdif	17 32 30.1	-1.1
	baz=249							
LPAZ	La Paz	100.40	113	ePdif		Pdif	17 32 33.5	+0.6
LPAZ				e			17 32 33.7	
LPAZ	La Paz	100.40	113	eP		Pdif	17 32 33.5	+0.6
LPAZ	La Paz	100.40	113	P		Pdif	17 32 33.8	+0.9
	comp=Z,90nm,0.9s,baz=243,slow=2.7,SNR=69							
LPAZ				PP		PP	17 36 43.5	+2.2
	comp=Z,160nm,1.2s,baz=290,slow=3.9,SNR=11							
LPAZ				PKKPbc		PKKPbc	17 48 47.4	-0.2
	comp=Z,42nm,0.8s,baz=54,slow=4.6,SNR=16							
LPAZ				PKPPKP		P'P'df	17 57 05.2	-1.7
	comp=Z,13nm,1.0s,baz=26,slow=2.8,SNR=9.3							
PRVC	Isla de Provid	100.42	80	eP		Pdif	17 32 31.5	-0.6
PRVC	Isla de Provid	100.42	80	eP		Pdif	17 32 31.5	-0.6
FFC	Flin Flon	100.45	35	ePdif		Pdif	17 32 31.0	-0.4
FFC	Flin Flon	100.45	35	i P		Pdif	17 32 31.6	+0.3
SOTA	Rioblanco	100.59	92	eP		Pdif	17 32 33.5	-0.1
SOTA	Rioblanco	100.59	92	eP		Pdif	17 32 33.5	-0.1
POPC	Popayan, Colom	100.69	92	eP		Pdif	17 32 32.9	-0.8
POPC	Popayan, Colom	100.69	92	eP		Pdif	17 32 32.9	-0.8
SCIA	State Center	100.81	49	P		Pdif	17 32 32.2	-1.1
	baz=249							
R41A	Rosebud	100.83	53	P		Pdif	17 32 31.8	-1.7
	baz=249							
CCM	Cathedral Cave	100.84	53	P		Pdif	17 32 30.5	-3.1
	baz=249							
PCON	Cinco Dias	100.86	92	eP		Pdif	17 32 34.1	-0.8
PCON	Cinco Dias	100.86	92	eP		Pdif	17 32 34.1	-0.8
OXF	Oxford	100.99	57	P		Pdif	17 32 34.3	0.0
	baz=250							
ZAK	Zakamensk	101.07	320	eP		Pdif	17 32 32.6	-1.8
ZAK				pmax		pmax		
	comp=Z,30nm,1.8s							
IRK	Irkutsk	101.22	322	eP		Pdif	17 32 33.7	-1.2
IRK				e			17 42 55.2	
IRK				pmax		pmax		
	comp=Z,155nm,2.2s							
FLOC	Florencia	101.25	93	eP		Pdif	17 32 36.4	+0.4
FLOC	Florencia	101.25	93	eP		Pdif	17 32 36.4	+0.4
TLY	Talaya	101.36	321	d iP		Pdif	17 32 34.0	-1.5
AGMN	Agassiz Nation	101.40	42	P		Pdif	17 32 35.8	+0.1
	baz=248							
TIXI	Tiksi	101.42	345	ePdif		Pdif	17 32 33.7	-1.6
TIXI	Tiksi	101.42	345	‖eP		Pdif	17 32 34.4	-0.8
TIXI	Tiksi	101.42	345	P		Pdif	17 32 34.0	-1.2
	comp=Z,31nm,0.9s,baz=124,slow=6.6,SNR=38							
TIXI				PP		PP	17 36 46.8	-0.6
	comp=Z,57nm,1.1s,baz=114,slow=9.2,SNR=5.3							
TIXI				PKiKP		PKiKP	17 36 59.7	+1.3
	comp=Z,48nm,0.6s,baz=114,slow=1.8,SNR=22							
449A	Pace	101.44	61	P		Pdif	17 32 37.6	+1.2
	baz=250							
MARP	Paez Belalcaza	101.47	92	eP		Pdif	17 32 37.6	+0.4
MARP	Paez Belalcaza	101.47	92	eP		Pdif	17 32 37.6	+0.4
PTLC	Puerto Leguiza	101.49	95	eP		Pdif	17 32 36.8	-0.2
PTLC	Puerto Leguiza	101.49	95	eP		Pdif	17 32 36.8	-0.2
YOTC	Yotoco, Valle	101.54	91	eP		Pdif	17 32 36.6	-0.8
YOTC	Yotoco, Valle	101.54	91	eP		Pdif	17 32 36.6	-0.8
N40A	Mertquake, Sal	101.59	51	P		Pdif	17 32 37.3	+0.5
	baz=250							
X46A	Booneville	101.65	57	P		Pdif	17 32 37.3	+0.2
	baz=250							
349A	Repton	101.66	61	P		Pdif	17 32 37.7	+0.4
	baz=250							
Q42A	Golden Eagle	101.67	53	P		Pdif	17 32 37.0	-0.2
	baz=250							
BRAL	Brewton	101.71	61	P		Pdif	17 32 38.4	+0.9
	baz=250							
L39A	Vinton	101.73	49	P		Pdif	17 32 38.0	+0.6
	baz=250							
148A	Greensboro	101.80	60	P		Pdif	17 32 38.1	+0.2
	baz=250							
249A	Camden	101.93	60	P		Pdif	17 32 38.6	+0.1
	baz=250							
PLMC	San Jos del P	101.95	90	eP		Pdif	17 32 37.8	-1.3
PLMC	San Jos del P	101.95	90	eP		Pdif	17 32 37.8	-1.3
450A	Crestview	101.96	62	P		Pdif	17 32 39.3	+0.6
	baz=250							
W46A	Michie	102.00	57	P		Pdif	17 32 39.1	+0.3
	baz=250							
K39A	Oelwein	102.01	49	P		Pdif	17 32 39.0	+0.4
	baz=250							
N41A	Harden Midland	102.05	51	P		Pdif	17 32 38.8	0.0
	baz=250							
ULM	Lac du Bonnet	102.11	40	P		Pdif	17 32 38.2	-0.7
	comp=Z,29nm,0.9s,baz=274,slow=4.8,SNR=28							
ULM				PKiKP		PKiKP	17 37 00.5	+0.3
	comp=Z,22nm,0.8s,baz=300,slow=2.6,SNR=4.8							
ULM				PKKPbc		PKKPbc	17 48 43.1	-0.2
	comp=Z,21nm,0.5s,baz=44,slow=3.4,SNR=11							
ULM				PKPPKP		P'P'df	17 56 59.2	-0.5
	comp=Z,5.1nm,0.8s,baz=177,slow=5.8,SNR=3.0							
PLAL	Pickwick Lake	102.19	57	ePdif		Pdif	17 32 40.5	+1.0
S44A	Carbondale	102.20	54	P		Pdif	17 32 39.3	-0.2
	baz=250							
X47A	Russelville	102.20	58	P		Pdif	17 32 39.0	-0.6
	baz=250							
L40A	Anamosa	102.25	49	P		Pdif	17 32 39.9	+0.3
	baz=250							
SPMN	Marine on St.	102.26	46	P		Pdif	17 32 39.4	-0.3
	baz=250							
J39A	Decorah	102.35	48	P		Pdif	17 32 39.6	-0.5
	baz=250							
350A	Dozier	102.37	61	P		Pdif	17 32 40.4	-0.1
	baz=250							
LRAL	Lakeview Retre	102.38	59	P		Pdif	17 32 39.3	-1.1
	baz=250							
149A	Jones	102.40	60	P		Pdif	17 32 40.1	-0.5
	baz=250							
H38A	Maiden Rock	102.42	47	P		Pdif	17 32 39.9	-0.5
	baz=250							
V46A	Holladay	102.43	56	P		Pdif	17 32 40.3	-0.3
	baz=250							
T45A	Paducah	102.43	55	P		Pdif	17 32 39.2	-1.4
	baz=250							
M41A	Milan	102.50	50	P		Pdif	17 32 40.0	-0.7
	baz=250							
K40A	Colesburg	102.53	49	P		Pdif	17 32 39.5	-1.4
	baz=250							
Y48A	Jasper	102.53	58	P		Pdif	17 32 40.2	-0.9
	baz=250							
F37A	Hinrichs Farm,	102.55	46	P		Pdif	17 32 42.3	+1.4
	baz=250							
U46A	Springville	102.57	56	P		Pdif	17 32 40.1	-1.1
	baz=250							
451A	Vernon	102.58	62	P		Pdif	17 32 41.5	+0.1
	baz=250							
250A	Grady	102.61	61	P		Pdif	17 32 41.5	-0.1
	baz=251							
W47A	Westpoint	102.65	57	P		Pdif	17 32 41.1	-0.5
	baz=251							
I39A	Houston	102.65	48	P		Pdif	17 32 40.7	-0.7
	baz=250							
P43A	Skaggs, Pawnee	102.65	52	P		Pdif	17 32 41.6	+0.1
	baz=250							
WVT	Waverly	102.75	56	ePdif		Pdif	17 32 43.0	+1.0
WVT	Waverly	102.75	56	eP		Pdif	17 32 43.1	+1.0
WVT	Waverly	102.75	56	P		Pdif	17 32 41.3	-0.8
	baz=251							
PRAC	Prado	102.78	91	eP		Pdif	17 32 37.5	-5.3
PRAC	Prado	102.78	91	eP		Pdif	17 32 37.5	-5.3
552A	Lynn Haven	102.79	63	P		Pdif	17 32 43.5	+1.2
	baz=251							
Z49A	Columbiana	102.80	59	P		Pdif	17 32 42.0	-0.4
	baz=251							
X48A	Hartselle	102.81	58	P		Pdif	17 32 41.5	-0.8
	baz=251							
G38A	Ridgeland	102.87	46	P		Pdif	17 32 41.9	-0.5
	baz=250							
MOY	Mondy	102.89	321	eP		Pdif	17 32 40.9	-1.5
MOY				e			17 37 00.3	
MOY				pmax		pmax		
	comp=Z,120nm,2.7s							
V47A	Nunnelly	102.89	56	P		Pdif	17 32 42.2	-0.4
	baz=251							
351A	Pinckard	102.92	61	P		Pdif	17 32 42.6	-0.2
	baz=251							
GUY2C	Guyana, Caldas	102.92	90	eP		Pdif	17 32 44.0	+0.1
GUY2C	Guyana, Caldas	102.92	90	eP		Pdif	17 32 44.0	+0.1
T46A	Princeton	103.00	55	P		Pdif	17 32 43.0	-0.1
	baz=251							
150A	Eclectic	103.01	60	P		Pdif	17 32 41.8	-1.5
	baz=251							
J40A	Soldiers Grove	103.03	48	P		Pdif	17 32 43.7	+0.6
	baz=251							
H39A	Augusta	103.09	47	P		Pdif	17 32 42.4	-0.9
	baz=250							
Y49A	Blount Mountai	103.11	59	ePdif		Pdif	17 32 43.3	-0.4
Y49A	Blount Mountai	103.11	59	P		Pdif	17 32 42.8	-0.9
	baz=251							
452A	Marianna	103.12	62	P		Pdif	17 32 44.1	+0.3
	baz=251							
HDIL	Hopedale	103.12	51	P		Pdif	17 32 42.0	-1.6
	baz=251							
W48A	Pulaski	103.12	57	P		Pdif	17 32 43.7	0.0
	baz=251							
F38A	Pierce - Schro	103.12	46	P		Pdif	17 32 45.0	+1.5
	baz=250							
R45A	Skylar, Fairfi	103.12	54	P		Pdif	17 32 42.8	-0.8
	baz=251							
HELC	Santa Helena	103.13	89	eP		Pdif	17 32 44.2	-0.5
HELC	Santa Helena	103.13	89	eP		Pdif	17 32 44.2	-0.5
JFWS	Jewell Farm	103.22	49	P		Pdif	17 32 42.3	-1.7
	baz=251							
U47A	Clarksville	103.27	56	P		Pdif	17 32 44.3	0.0
	baz=251							
I40A	Norwalk	103.28	48	P		Pdif	17 32 44.5	+0.3
	baz=251							
Z50A	Ashland	103.30	59	P		Pdif	17 32 43.0	-1.6
	baz=251							
L42A	Oliver, Polo	103.33	50	P		Pdif	17 32 44.4	-0.1
	baz=251							
N43A	Stutzman Famil	103.33	51	P		Pdif	17 32 44.2	-0.3
	baz=251							
251A	Midway	103.34	61	P		Pdif	17 32 44.7	-0.1
	baz=251							
S46A	Don Dixon Farm	103.35	55	P		Pdif	17 32 44.1	-0.5
	baz=251							
G39A	Holcombe	103.37	46	P		Pdif	17 32 42.3	-2.2
	baz=251							
X49A	Woodville	103.39	58	P		Pdif	17 32 43.2	-1.7
	baz=251							
V48A	Smith Brothers	103.40	57	P		Pdif	17 32 44.2	-0.8
	baz=251							
NORC	Norcasia	103.50	90	eP		Pdif	17 32 45.5	-0.5
NORC	Norcasia	103.50	90	eP		Pdif	17 32 45.5	-0.5
J41A	Loganville	103.53	49	P		Pdif	17 32 45.0	-0.3
	baz=251							
352A	Blakely	103.53	61	P		Pdif	17 32 45.9	+0.3
	baz=251							
151A	Opelika	103.54	60	P		Pdif	17 32 45.1	-0.6
	baz=251							
E38A	The Farm, Brul	103.55	45	P		Pdif	17 32 44.9	-0.5
	baz=251							
T47A	Sharon Grove	103.58	55	ePdif		Pdif	17 32 45.5	-0.3
T47A	Sharon Grove	103.58	55	P		Pdif	17 32 45.3	-0.4
	baz=251							
O44A	Mansfield	103.59	52	P		Pdif	17 32 44.9	-0.8
	baz=251							
W49A	Belvidere	103.63	58	P		Pdif	17 32 46.1	+0.1
	baz=251							
M43A	Waltham Townsh	103.64	51	P		Pdif	17 32 44.5	-1.4
	baz=251							
Y50A	Piedmont	103.66	59	P		Pdif	17 32 46.4	+0.3
	baz=251							
R46A	Gibon Southern	103.67	54	P		Pdif	17 32 46.0	-0.1
	baz=251							
H40A	Chili	103.67	47	P		Pdif	17 32 45.8	-0.2
	baz=251							
UREC	San Jos de Ur	103.71	87	eP		Pdif	17 32 46.3	-0.6
UREC	San Jos de Ur	103.71	87	eP		Pdif	17 32 46.3	-0.6
ROSC	El Rosal	103.73	91	ePdif		Pdif	17 32 47.5	+0.1
ROSC	El Rosal	103.73	91	Pdiff		Pdif	17 32 48.2	+0.8
	comp=Z,5.8nm,0.4s,baz=91,slow=7.0,SNR=9.8							
ROSC				PKiKP		PKiKP	17 37 04.5	-0.3
	comp=Z,4.7nm,0.4s,baz=107,slow=19,SNR=2.5							
ROSC				PKKPbc		PKKPbc	17 48 38.8	+1.2
	comp=Z,110nm,0.9s,baz=152,slow=10,SNR=13							
F39A	Loretta	103.74	46	P		Pdif	17 32 46.6	+0.4
	baz=251							
K42A	Prairie Point,	103.80	49	P		Pdif	17 32 47.2	+0.7
	baz=251							
453A	Whigham	103.82	62	P		Pdif	17 32 46.2	-0.8
	baz=251							
I41A	Arkdale	103.85	48	P		Pdif	17 32 44.8	-1.9
	baz=251							
252A	Lumpkin	103.85	61	P		Pdif	17 32 46.1	-0.9
	baz=251							
U48A	Cassie Pea, Po	103.86	56	P		Pdif	17 32 47.1	+0.1
	baz=251							
CPUP	Villa Florida	103.88	127	Pdiff		Pdif	17 32 48.2	+0.8
	comp=Z,9.9nm,1.0s,baz=253,slow=4.5,SNR=11							
CPUP				PKiKP		PKiKP	17 37 04.2	-0.1
	comp=Z,39nm,1.1s,baz=253,slow=7.9,SNR=6.9							
CPUP				PKKPbc		PKKPbc	17 48 37.9	+0.9
	comp=Z,39nm,1.0s,baz=65,slow=2.7,SNR=10.0							
CPUP				PKPPKP		P'P'df	17 56 51.2	-8.0
	comp=Z,5.6nm,0.9s,baz=36,slow=1.6,SNR=5.7							
PALK	Pallekele	103.90	272	ePdif		Pdif	17 32 46.7	-1.0
PALK	Pallekele	103.90	272	eP		Pdif	17 32 46.7	-1.0
PALK	Pallekele	103.90	272	Pdiff		Pdif	17 32 47.0	-0.7
	comp=Z,9.6nm,0.7s,baz=298,slow=4.1,SNR=2.3							
PALK				PKiKP		PKiKP	17 37 03.2	-1.4
	comp=Z,97nm,1.1s,baz=116,slow=4.7,SNR=4.9							
X50B	Fort Payne	103.90	58	P		Pdif	17 32 47.3	0.0
	baz=251							
P45A	Graceland, Par	103.92	53	P		Pdif	17 32 46.7	-0.4
	baz=252							
Z51A	Franklin	103.92	60	P		Pdif	17 32 46.4	-0.9
	baz=251							
S47A	Hartford	103.95	55	P		Pdif	17 32 46.8	-0.5
	baz=252							
G40A	Rib Lake	104.01	47	P		Pdif	17 32 46.7	-0.7
	baz=251							
EYMN	Ely	104.02	44	ePdif		Pdif	17 32 48.2	+0.8
EYMN	Ely	104.02	44	P		Pdif	17 32 46.1	-1.3
	baz=251							
N44A	Piper City	104.03	51	P		Pdif	17 32 45.8	-1.8
	baz=252							
L43A	Garden Prairie	104.03	50	P		Pdif	17 32 44.1	-3.5
	baz=252							
Q46A	CEJHS Indians,	104.04	53	P		Pdif	17 32 44.8	-2.9
	baz=252							
353A	Camilla	104.06	62	P		Pdif	17 32 48.0	0.0
	baz=251							
152A	Waverly Hall	104.08	60	P		Pdif	17 32 47.8	-0.3
	baz=251							
554A	Perry	104.09	63	P		Pdif	17 32 48.8	+0.6
	baz=251							
V49A	McMinnville	104.12	57	P		Pdif	17 32 47.7	-0.5
	baz=252							
J42A	Columbus	104.12	49	P		Pdif	17 32 47.4	-0.6
	baz=252							
E39A	Mellen	104.13	45	P		Pdif	17 32 47.5	-0.5
	baz=251							
O45A	Potomac	104.16	52	P		Pdif	17 32 47.6	-0.6
	baz=252							
T48A	Bowling Green	104.16	56	P		Pdif	17 32 45.9	-2.4
	baz=252							
H41A	Junction City	104.17	47	P		Pdif	17 32 46.8	-1.4
	baz=252							
Y51A	Rockmart	104.19	59	P		Pdif	17 32 48.7	+0.1
	baz=252							
CHIC	Chingaza	104.20	91	eP		Pdif	17 32 48.0	-1.6
CHIC	Chingaza	104.20	91	eP		Pdif	17 32 48.0	-1.6
ZARC	Zaragoza, Cauc	104.23	88	eP		Pdif	17 32 48.8	-0.4
ZARC	Zaragoza, Cauc	104.23	88	eP		Pdif	17 32 48.8	-0.4
PTBC	PUERTO BERRIO	104.25	89	eP		Pdif	17 32 48.2	-1.0
PTBC	PUERTO BERRIO	104.25	89	eP		Pdif	17 32 48.2	-1.0
655A	Horseshoe Beac	104.27	64	P		Pdif	17 32 48.4	-0.5
	baz=251							
F40A	Park Falls	104.27	46	P		Pdif	17 32 47.0	-1.5
	baz=252							
M44A	Midewin, Midew	104.28	51	P		Pdif	17 32 49.4	+0.7
	baz=252							
P46A	Rosedale	104.34	53	P		Pdif	17 32 48.6	-0.4
	baz=252							
454A	Quitman	104.34	63	P		Pdif	17 32 48.8	-0.4
	baz=252							
253A	Americus	104.36	61	P		Pdif	17 32 48.9	-0.4
	baz=252							
W50A	Signal Mountai	104.40	58	ePdif		Pdif	17 32 50.1	+0.6
W50A	Signal Mountai	104.40	58	P	

	baz=252								
455A	Stateville	104.84	63	P		Pdif	17	32 50.3	-1.2
	baz=252								
M45A	Boilermakers S	104.85	51	P		Pdif	17	32 51.0	-0.2
	baz=252								
F41A	Three Lakes	104.89	46	P		Pdif	17	32 50.8	-0.5
	baz=252								
H42A	Shiocton	104.90	48	P		Pdif	17	32 50.6	-0.8
	baz=252								
958A	Wauchula	104.91	66	P		Pdif	17	32 50.1	-1.7
	baz=252								
R48A	Northridge Ran	104.95	54	P		Pdif	17	32 50.4	-1.4
	baz=252								
Y52A	Lilburn	104.97	59	P		Pdif	17	32 50.6	-1.4
	baz=252								
I43A	Langenfeld Bro	104.97	48	P		Pdif	17	32 50.5	-1.3
	baz=252								
P47A	Martinsville	104.99	53	P		Pdif	17	32 50.7	-1.2
	baz=252								
254A	Abbeville	105.00	61	P		Pdif	17	32 51.7	-0.4
	baz=252								
N46A	Monticello	105.07	52	P		Pdif	17	32 50.9	-1.4
	baz=252								
757A	Oxford	105.07	65	P		Pdif	17	32 52.5	0.0
	baz=252								
061Z	Ochoppi	105.08	68	P		Pdif	17	32 52.2	-0.5
	baz=251								
556A	Lake Butler	105.12	64	P		Pdif	17	32 50.6	-2.1
	baz=252								
U50A	Jamestown	105.14	57	P		Pdif	17	32 53.2	+0.5
	baz=252								
BRRC	Barranca, Sant	105.15	89	eP		Pdif	17	32 50.0	-3.3
BRRC	Barranca, Sant	105.15	89	eP		Pdif	17	32 50.0	-3.3
355A	Pearson	105.17	62	P		Pdif	17	32 50.3	-2.6
	baz=252								
Z53A	Monticello	105.18	60	P		Pdif	17	32 52.1	-0.8
	baz=252								
G42A	Mountain	105.19	47	P		Pdif	17	32 50.2	-2.5
	baz=252								
E41A	Kenton	105.20	46	P		Pdif	17	32 50.9	-1.8
	baz=252								
S49A	Springfield	105.21	55	P		Pdif	17	32 52.4	-0.5
	baz=252								
Q48A	North Vernon	105.22	54	P		Pdif	17	32 53.0	+0.1
	baz=252								
059A	Moore Haven	105.23	67	P		Pdif	17	32 49.5	-3.7
	baz=252								
RUSC	La Rusia	105.27	90	eP		Pdif	17	32 53.5	-0.9
RUSC	La Rusia	105.27	90	eP		Pdif	17	32 53.5	-0.9
O47A	Sheridan	105.28	53	P		Pdif	17	32 50.7	-2.5
	baz=253								
GOGA	Godfrey	105.31	60	P		Pdif	17	32 53.7	+0.3
	baz=252								
T50A	Nancy	105.32	56	P		Pdif	17	32 51.2	-2.3
	baz=252								
RAMN	Ramite	105.33	293	eP		Pdif	17	32 54.0	0.0
	comp=Z,146nm,1.2s								
X52A	Dahlonega	105.33	59	P		Pdif	17	32 50.7	-2.9
	baz=252								
V51A	Loudon	105.33	57	P		Pdif	17	32 53.2	-0.3
	baz=252								
DWPF	Disney Wildern	105.34	66	P		Pdif	17	32 52.9	-0.8
	baz=252								
Y53A	Monroe	105.35	59	P		Pdif	17	32 53.0	-0.6
	baz=252								
154A	Montrose	105.35	61	P		Pdif	17	32 51.2	-2.4
	baz=252								
H43A	Windswept, Lux	105.41	48	P		Pdif	17	32 52.4	-1.2
	baz=253								
858A	St. Cloud	105.44	66	P		Pdif	17	32 51.6	-2.5
	baz=252								
657A	Interlachen	105.44	64	P		Pdif	17	32 51.5	-2.6
	baz=252								
R49A	Shelbyville	105.45	55	P		Pdif	17	32 51.0	-3.0
	baz=253								
W52A	Murphy	105.45	58	P		Pdif	17	32 52.6	-1.5
	baz=252								
M46A	Old House Fiel	105.50	51	P		Pdif	17	32 53.8	-0.3
	baz=253								
C40A	Isle Royale Na	105.51	44	P		Pdif	17	32 48.6	-5.5
	baz=253								
F42A	Maple Grove Fa	105.54	47	P		Pdif	17	32 54.7	+0.4
	baz=253								
060Z	West Palm Beac	105.56	68	P		Pdif	17	32 55.1	+0.4
	baz=252								
P48A	Milroy	105.60	53	P		Pdif	17	32 54.4	-0.3
	baz=253								
959A	Okeechobee	105.63	66	P		Pdif	17	32 48.2	-6.8
	baz=252								
D41A	Chassel	105.64	45	P		Pdif	17	32 54.7	+0.1
	baz=253								
255A	Hazlehurst	105.65	62	P		Pdif	17	32 53.3	-1.7
	baz=252								
456A	Hilliard	105.66	63	P		Pdif	17	32 50.5	-4.6
	baz=252								
ARGC	Ariguani, Magd	105.66	86	eP		Pdif	17	32 54.8	-0.7
ARGC	Ariguani, Magd	105.66	86	eP		Pdif	17	32 54.8	-0.7
557A	Orange Park	105.68	64	P		Pdif	17	32 53.5	-1.8
	baz=252								
G43A	Wallace	105.70	47	P		Pdif	17	32 55.9	+1.0
	baz=253								
L46A	Eue Claire	105.72	51	P		Pdif	17	32 53.8	-1.3
	baz=253								
Z54A	Sparta	105.75	60	P		Pdif	17	32 53.9	-1.6
	baz=252								
356A	Blackshear	105.75	62	P		Pdif	17	32 51.0	-4.5
	baz=252								
U51A	La Follette	105.76	57	P		Pdif	17	32 54.4	-1.1
	baz=253								
X53A	Estanollee	105.76	59	P		Pdif	17	32 53.0	-2.5
	baz=253								
859A	Kempfer Cattle	105.78	66	P		Pdif	17	32 55.1	-0.5
	baz=252								
758A	Lake Helen	105.80	65	P		Pdif	17	32 53.9	-1.9
	baz=252								
N47A	Urbana	105.82	52	P		Pdif	17	32 53.0	-2.6
	baz=253								
S50A	Richmond	105.85	55	P		Pdif	17	32 54.5	-1.3
	baz=253								
Q49A	Aurora	105.86	54	P		Pdif	17	32 56.0	+0.2
	baz=253								
155A	Kite	105.87	61	P		Pdif	17	32 55.0	-1.0
	baz=252								
E42A	Champion	105.89	46	P		Pdif	17	32 58.0	+2.2
	baz=253								
JIRN	Jiri	105.89	294	eP		Pdif	17	32 57.0	+0.3
	comp=Z,174nm,1.0s								
658A	Bunnell	105.89	64	P		Pdif	17	32 55.0	-1.1
	baz=252								
060A	Indiantown	105.92	67	P		Pdif	17	32 55.7	-0.6
	baz=252								
OCAC	Ocana	105.92	88	eP		Pdif	17	32 55.4	-1.5
OCAC	Ocana	105.92	88	eP		Pdif	17	32 55.4	-1.5
V52A	Sevierville	105.93	57	P		Pdif	17	32 56.2	0.0
	baz=253								
FCC	Fort Churchill	105.97	33	ePdif		Pdif	17	32 56.3	+0.5
FCC	Fort Churchill	105.97	33	eP		Pdif	17	32 56.3	+0.5
T51A	Gray	105.99	56	P		Pdif	17	32 55.1	-1.3
	baz=253								
457A	Yulee	106.01	63	P		Pdif	17	32 56.8	+0.1
	baz=252								
M47A	Cromwell	106.01	52	P		Pdif	17	32 55.4	-1.0
	baz=253								
O48A	Farmland	106.03	53	P		Pdif	17	32 56.7	+0.1
	baz=253								
Y54A	Tignall	106.06	60	P		Pdif	17	32 53.8	-3.0
	baz=253								
J45A	Montague	106.06	49	P		Pdif	17	32 54.6	-2.0
	baz=253								
W53A	Cullowhee	106.07	58	P		Pdif	17	32 55.7	-1.3
	baz=253								
R50A	Paris	106.08	55	P		Pdif	17	32 56.4	-0.4
	baz=253								
256A	Glennville	106.14	62	P		Pdif	17	32 51.3	-6.0
	baz=253								
P49A	Miami Univ. Ec	106.15	54	P		Pdif	17	32 54.9	-2.2
	baz=253								
TZTN	Tazewell	106.17	57	P		Pdif	17	32 56.3	-0.9
	baz=253								
F43A	Flat Rock, Esc	106.21	47	P		Pdif	17	32 53.2	-3.9
	baz=254								
U52A	Thorn Hill	106.27	57	P		Pdif	17	32 53.5	-4.2
	baz=253								
K46A	Dorr	106.27	50	P		Pdif	17	32 55.5	-2.1
	baz=254								
N48A	Decatur	106.30	52	P		Pdif	17	32 53.7	-4.0
	baz=253								
357A	Townsend	106.31	62	P		Pdif	17	32 57.6	-0.4
	baz=253								
Z55A	Blythe	106.31	60	P		Pdif	17	32 55.0	-2.9
	baz=253								
I45A	Fountain	106.34	49	P		Pdif	17	32 58.0	+0.2
	baz=254								
CODC	Agustn Codazz	106.42	86	eP		Pdif	17	32 58.4	-0.4
CODC	Agustn Codazz	106.42	86	eP		Pdif	17	32 58.4	-0.4
S51A	Beattyville	106.45	56	P		Pdif	17	32 55.9	-2.6
	baz=253								
SIV	San Ignacio	106.47	116	Pdiff		Pdif	17	33 00.5	+1.3
	comp=Z,11nm,0.9s,baz=250,slow=3.6,SNR=20								
SIV				PKiKP		PKiKP	17	37 10.5	+1.1
	comp=Z,9.8nm,0.9s,baz=247,slow=8.7,SNR=6.8								
E43A	Lone Tree Farm	106.48	46	P		Pdif	17	32 57.8	-0.6
	baz=254								
L47A	Sherwood	106.49	51	P		Pdif	17	32 57.5	-1.1
	baz=254								
V53A	Saluda	106.49	58	P		Pdif	17	32 57.4	-1.3
	baz=253								
X54A	Belton	106.51	59	P		Pdif	17	32 55.5	-3.3
	baz=253								
PKI	Pulchoki	106.52	293	eP		Pdif	17	33 00.3	+0.8
	comp=Z,120nm,0.8s								
PKIN	Phulchoki	106.54	293	eP		Pdif	17	33 00.4	+1.0
	comp=Z,48nm,0.5s								
J46A	Howard City	106.56	50	P		Pdif	17	32 58.3	-0.5
	baz=254								
O49A	Covington	106.62	53	P		Pdif	17	32 59.6	+0.5
	baz=254								
H45A	Beulah	106.64	48	P		Pdif	17	32 57.0	-2.1
	baz=254								
R51A	Hillsboro	106.64	55	P		Pdif	17	32 55.9	-3.5
	baz=254								
156A	Sylvania	106.66	61	P		Pdif	17	32 57.7	-1.8
	baz=253								
TAMC	Tame, Arauca	106.67	90	eP		Pdif	17	32 58.7	-1.3
TAMC	Tame, Arauca	106.67	90	eP		Pdif	17	32 58.7	-1.3
CNLB	Canela	106.68	133	eP		PKiKP	17	37 08.3	-1.2
CNLB				e			17	37 50.2	
CNLB				i			17	43 19.2	
CNLB				i			17	46 21.5	
CNLB				i			17	47 17.4	
CNLB				i			17	51 51.0	
M48A	Edgerton	106.70	52	P		Pdif	17	32 59.3	-0.1
	baz=254								
KKN	Kakani	106.70	294	eP		Pdif	17	33 01.4	+1.3
	comp=Z,97nm,0.7s								
Y55A	Saluda	106.74	60	P		Pdif	17	32 59.9	+0.1
	baz=253								
F44A	Big Bay de Noc	106.75	47	P		Pdif	17	32 59.3	-0.3
	baz=254								
T52A	Hallie	106.76	56	P		Pdif	17	32 57.8	-2.1
	baz=254								
DMN	Daman	106.79	293	eP		Pdif	17	33 01.6	+1.0
	comp=Z,279nm,1.2s								
W54A	Cherokee Point	106.81	59	P		Pdif	17	32 58.3	-1.8
	baz=253								
K47A	Vermontville	106.83	50	P		Pdif	17	32 57.1	-2.9
	baz=254								
257A	Skidaway Islan	106.84	62	P		Pdif	17	32 58.1	-2.3
	baz=253								
P50A	Jamestown	106.85	54	P		Pdif	17	32 57.8	-2.4
	baz=254								
S52A	Salyersville	106.85	56	P		Pdif	17	32 58.4	-1.9
	baz=254								
I46A	Reed City	106.86	49	P		Pdif	17	33 00.6	+0.5
	baz=254								
U53A	Fall Branch	106.87	57	P		Pdif	17	32 57.1	-3.3
	baz=254								
N49A	Columbus Grove	106.93	52	P		Pdif	17	32 59.1	-1.4
	baz=254								
Z56A	Williston	106.96	61	P		Pdif	17	33 00.3	-0.5
	baz=253								
G45A	Suttons Bay	107.01	48	P		Pdif	17	33 00.9	+0.1
	baz=254								
Q51A	Peebles	107.03	54	P		Pdif	17	32 59.5	-1.5
	baz=254								
L48A	N Adams	107.03	51	P		Pdif	17	32 59.1	-1.9
	baz=254								
157A	Early Branch	107.07	61	P		Pdif	17	32 59.1	-2.2
	baz=253								
X55A	Gracelyn & Ava	107.07	59	P		Pdif	17	32 59.5	-1.8
	baz=253								
T53A	Wise	107.07	57	P		Pdif	17	32 59.9	-1.4
	baz=254								
J47A	Sumner	107.11	50	P		Pdif	17	32 59.4	-1.9
	baz=254								
O50A	Cable	107.13	53	P		Pdif	17	33 02.2	+0.7
	baz=254								
Y56A	Pelion	107.14	60	P		Pdif	17	33 00.9	-0.8
	baz=253								
H46A	Fife Lake	107.19	48	P		Pdif	17	32 58.6	-3.0
	baz=254								
V54A	Nebo	107.19	58	P		Pdif	17	33 01.9	+0.1
	baz=254								
M49A	Liberty Center	107.23	52	P		Pdif	17	32 58.6	-3.2
	baz=254								
E44A	Grand Marais A	107.26	46	P		Pdif	17	33 00.4	-1.4
	baz=254								
F45A	CMU Biological	107.28	47	P		Pdif	17	32 59.2	-2.8
	baz=254								
GKN	Gorkha	107.31	294	eP		Pdif	17	33 05.0	+2.3
	comp=Z,231nm,1.1s								
P51A	Williamsport	107.36	54	P		Pdif	17	33 01.5	-1.0
	baz=254								
R52A	Catlettsburg	107.36	55	P		Pdif	17	33 02.7	+0.2
	baz=254								
Z57A	Bowman	107.48	61	P		Pdif	17	33 02.3	-0.8
	baz=254								
K48A	Perry	107.48	50	P		Pdif	17	33 02.5	-0.4
	baz=254								
KMSC	Kings Mountain	107.50	59	P		Pdif	17	33 01.6	-1.6
	baz=254								
U54A	Nelsons Funny	107.50	57	P		Pdif	17	33 02.3	-0.9
	baz=254								
I47A	Gladwin	107.53	49	P		Pdif	17	33 03.3	+0.2
	baz=255								
L49A	Milan	107.55	51	P		Pdif	17	33 01.0	-2.3
	baz=254								
X56A	White Oak	107.56	59	P		Pdif	17	33 02.4	-1.1
	baz=254								
S53A	Williamson	107.58	56	P		Pdif	17	33 01.4	-2.2
	baz=254								
ACSO	Alum Creek Sta	107.62	53	P		Pdif	17	32 56.1	-7.5
	baz=254								
G46A	Petoskey	107.63	48	P		Pdif	17	32 59.9	-3.6
	baz=255								
N50A	Nevada	107.65	53	P		Pdif	17	33 02.7	-1.0
	baz=254								
GLMI	Grayling	107.67	48	P		Pdif	17	32 58.6	-5.1
	baz=255								
AAM	Ann Arbor	107.68	51	P		Pdif	17	33 02.1	-1.7
	baz=255								
E45A	Wooded Hills,	107.69	47	P		Pdif	17	33 01.5	-2.3
	baz=255								
158A	Hollywood	107.74	61	P		Pdif	17	33 04.0	-0.2
	baz=254								
V55A	Taylorsville	107.79	58	P		Pdif	17	33 04.2	-0.3
	baz=254								
F46A	Macinaw City C	107.82	47	P		Pdif	17	33 00.1	-4.2
	baz=255								
Q52A	Bidwell	107.82	55	P		Pdif	17	33 04.0	-0.5
	baz=254								
T54A	Tazewell	107.83	57	P		Pdif	17	33 04.1	-0.6
	baz=254								
J48A	Bridge Port	107.85	50	P		Pdif	17	33 04.1	-0.4
	baz=255								
NHSC	New Hope	107.85	61	P		Pdif	17	33 03.7	-1.0
	baz=254								
R53A	Hurricane	107.89	55	P		Pdif	17	33 00.2	-4.6
	baz=254								
M50A	Fremont	107.89	52	P		Pdif	17	33 05.2	+0.4
	baz=255								
H47A	Mio	107.89	49	P		Pdif	17	33 02.0	-2.7
	baz=255								
Y57A	Sumter	107.93	60	P		Pdif	17	33 03.4	-1.7
	baz=254								
K49A	Clarkson	107.95	51	P		Pdif	17	33 00.9	-4.1
	baz=255								
W56A	Indian Trail	108.09	59	P		Pdif	17	33 01.1	-4.7
	baz=254								
U55A	TA2, Sparta	108.09	57	P		Pdif	17	33 04.1	-1.8
	baz=254								
P52A	Corning	108.10	54	P		Pdif	17	33 01.6	-4.2
	baz=255								
KOLN	Koldanda	108.11	293	eP		Pdif	17	33 08.6	+2.2
	comp=Z,61nm,0.6s								
I48A	Sherman Twp	108.14	49	P		Pdif	17	33 03.4	-2.4
	baz=255								
DANN	Dangsing	108.15	294	eP		Pdif	17	33 08.8	+2.2
	comp=Z,145nm,1.0s								
Z58A	St. Stephen	108.21	61	P		Pdif	17	33 02.5	-3.9
	baz=254								
L50A	Kingsville	108.22	51	P		Pdif	17	33 05.4	-0.9
	baz=255								
N51A	Ashland	108.25	53	P		Pdif	17	33 01.6	-4.8
	baz=255								
E46A	Sault Ste Mari	108.27	47	P		Pdif	17	32 54.8	-12
	baz=256								
PLIO	Pelee Island,	108.28	52	P		Pdif	17	33 02.4	-4.1
	baz=255								
G47A	Hillman	108.28	48	P		Pdif	17	33 05.9	-0.5
	baz=255								
X57A	Johnson Farm,	108.29	60	P		Pdif	17	33 03.7	-3.0
	baz=254								
J49A	Marlette	108.32	50	P		Pdif	17	33 10.3	+3.6
	baz=255								
V56A	Mocksville	108.34	58	P		Pdif	17	33 07.4	+0.5
	baz=254								
Q53A	Leroy	108.35	55	P		Pdif	17	33 03.8	-3.1
	baz=255								
O52A	Adamsville	108.44	54	P		Pdif	17	33 02.9	-4.3
	baz=255								
T55A	Pulaski	108.46	57	P		Pdif	17	33 04.3	-3.2
	baz=255								
Y58A	Scranton	108.48	60	P		Pdif	17	33 06.7	-0.8
	baz=254								
M51A	Elyria	108.50	52	P		Pdif	17	33 04.8	-2.7
	baz=255								
H48A	Harrisville	108.53	49	P		Pdif	17	33 05.0	-2.5
	baz=256								
K50A	Casco	108.54	51	P		Pdif	17	33 04.3	-3.3
	baz=255								
W57A	Gilead	108.56	59	P		Pdif	17	33 06.7	-1.2
	baz=254								
U56A	King	108.57	58	P		Pdif	17	33 05.9	-2.0
	baz=255								
R54A	Victor	108.58	56	P		Pdif	17	33 07.0	-1.0
	baz=255								
D46A	Sault St. Mari	108.58	46	P		Pdif	17	33 09.0	+1.2
	baz=256								
P53A	Whipple	108.61	54	P		Pdif	17	33 05.8	-2.2
	baz=255								
Z59A	Georgetown, SC	108.61	61	P		Pdif	17	33 08.4	+0.3
	baz=254								
SDV	Santo Domingo	108.63	88	ePdif		Pdif	17	33 08.6	-0.4
SDV	Santo Domingo	108.63	88	Pdiff		Pdif	17	33 09.4	+0.5
	comp=Z,5.1nm,0.8s,baz=229,slow=4.8,SNR=5.7								
SDV				PKiKP		PKiKP	17	37 13.6	0.0
	comp=Z,31nm,0.8s,baz=133,slow=1.2,SNR=11								
SDV				PP		PP	17	37 44.7	+2.5
	comp=Z,54nm,0.9s,baz=241,slow=7.3,SNR=7.5								
SDV				PKKPbc		PKKPbc	17	48 23.8	+1.5
	comp=Z,112nm,1.0s,baz=348,slow=2.6,SNR=14								
I49A	Point Hope	108.69	49	P		Pdif	17	33 03.9	-4.4
	baz=256								
PYUN	Piuthan	108.73	293	eP		Pdif	17	33 11.1	+2.0
	comp=Z,155nm,1.1s								
N52A	McGinn's Farm,	108.73	53	P		Pdif	17	33 00.0	-8.5
	baz=255								
S55A	Lewisburg	108.85	56	P		Pdif	17	33 08.6	-0.6
	baz=255								
Q54A	Coxs Mills	108.90	55	P		Pdif	17	33 04.1	-5.2
	baz=255								
X58A	Rowland	108.92	60	P		Pdif	17	33 08.9	-0.6
	baz=255								
V57A	Coltrane Farms	108.92	58	P		Pdif	17	33 09.1	-0.4
	baz=255								
O53A	New Philadelph	108.94	54	P		Pdif	17	33 08.6	-0.9
	baz=256								
E47A	Iron Bridge	108.98	47	P		Pdif	17	33 07.1	-2.4
	baz=256								
T56A	Rocky Mt	109.02	57	P		Pdif	17	33 10.4	+0.5
	baz=255								
W58A	Raeford	109.12	59	P		Pdif	17	33 08.4	-2.0
	baz=255								
M52A	Chesterland	109.15	52	P		Pdif	17	33 09.5	-0.9
	baz=256								
WMQ	Urumqi	109.15	310	Pdif		Pdif	17	33 10.8	+0.4
WMQ				PP		PP	17	37 51.8	+6.5
WMQ				SKS		SKSac	17	43 33.1	+0.1
WMQ				S		sSKSac	17	44 56.0	+2.7
WMQ				SS		SS	17	52 49.3	-2.5
WMQ				AMB		AMB			
	comp=Z,54μm,10.3s								
WMQ				LR		LR			
	comp=Z,63μm,32.9s								
WMQ				LR		LR			
	comp=Z,77μm,39.3s								
WMQ				LR		LR			
	comp=Z,74μm,34.5s								
F48A	Evansville	109.28	48	P		Pdif	17	33 07.1	-3.8
	baz=256								
P54A	Burton	109.32	54	P		Pdif	17	33 10.3	-1.0
	baz=256								
K51A	Iona Station	109.33	51	P		Pdif	17	33 10.3	-0.8
	baz=256								
N53A	Lisbon	109.35	53	P		Pdif	17	33 09.7	-1.6
	baz=256								
HYB	Hyderabad	109.40	281	i Pdiff		Pdif	17	33 12.0	-0.1
HYB				esP		sPdif	17	34 12.0	-1.8
HYB				e			17	37 17.0	
HYB				ePP		PP	17	37 48.0	+0.4
HYB				e			17	38 48.0	
HYB				e			17	40 14.0	
HYB				ePKS		PKSdf	17	40 50.0	-1.6
HYB				e			17	43 08.0	
HYB				eSKS		SKSac	17	43 34.0	-1.0
HYB				eSKKS		SKKSac	17	44 28.0	-4.9
HYB				ePS		PS	17	47 08.0	-10
HYB				e			17	48 20.0	
HYB				ePKKP		PKKPab	17	48 33.0	+0.8
U57A	Blanch	109.41	58	P		Pdif	17	33 09.9	-1.8
	baz=255								
V58A	Windy Hill, Pi	109.42	59	P		Pdif	17	33 11.5	-0.2
	baz=255								
Q55A	Buckhannon	109.47	55	P		Pdif	17	33 10.2	-1.7
	baz=256								
X59A	McDuffie Farm,	109.51	60	P		Pdif	17	33 10.0	-2.1
	baz=255								
BASO	Ashfield	109.52	50	P		Pdif	17	33 11.2	-0.8
	baz=256								
O54A	Avella	109.54	54	P		Pdif	17	33 11.5	-0.6
	baz=256								
S56A	Natural Bridge	109.54	57	P		Pdif	17	33 11.9	-0.3
	baz=256								
T57A	Hurt	109.61	57	P		Pdif	17	33 03.2	-9.4
	baz=255								
M53A	WI Miller and	109.62	52	P		Pdif	17	33 12.4	-0.1
	baz=256								
F49A	Sandfield	109.66	48	P		Pdif	17	33 10.0	-2.5
	baz=257								
Y60A	Bolivia	109.67	61	P		Pdif	17	33 13.4	+0.6
	baz=255	

RES Resolute Bay 110.06 16 *eP* **Pdif 17 33 14.1 +0.5**
RES Resolute Bay 110.06 16 Pdiff **Pdif 17 33 13.2 -0.4**
comp=Z,8.1nm,0.7s,baz=232,slow=11,SNR=10
RES PKiKP **PKiKP 17 37 14.0 -0.3**
comp=Z,77nm,0.9s,baz=301,slow=3.5,SNR=20
RES PKKPbc **PKKPbc 17 48 19.1 -0.3**
comp=Z,6.0nm,0.5s,baz=87,slow=4.5,SNR=9.5
RES PKKPab **PKKPab 17 48 29.8 +3.1**
comp=Z,62nm,1.1s,baz=40,slow=1.5,SNR=6.5
RES PKPPKP 17 56 50.5
comp=Z,11nm,1.1s,baz=277,slow=4.2,SNR=4.3
V59A Middlesex 110.10 59 P **Pdif 17 33 13.6 -1.1**
baz=256
T58A Grand View Acr 110.16 58 P **Pdif 17 33 13.1 -1.9**
baz=256
J52A Paris 110.18 51 P **Pdif 17 33 11.9 -3.1**
baz=257
CNNC Cliffs of the 110.24 59 P **Pdif 17 33 14.7 -0.7**
baz=256
ERPA Erie 110.28 52 P **Pdif 17 33 05.6 -10**
baz=257
W60A Pink Hill 110.34 60 P **Pdif 17 33 11.3 -4.4**
baz=256
O55A Ligonier 110.34 54 P **Pdif 17 33 13.1 -2.7**
baz=257
M54A Oil Creek Stat 110.38 53 P **Pdif 17 33 13.6 -2.2**
baz=257
D49A Beulah Townshi 110.45 46 P **Pdif 17 33 13.2 -2.8**
baz=258
R57A Stanardsville 110.49 56 P **Pdif 17 33 16.0 -0.4**
baz=256
ACTO Acton 110.56 50 P **Pdif 17 33 14.6 -2.0**
baz=257
I52A Shelburne 110.58 50 P **Pdif 17 33 12.2 -4.5**
baz=257
TYNO Tyneside 110.58 51 P **Pdif 17 33 14.9 -1.7**
baz=257
U59A Littleton 110.59 58 P **Pdif 17 33 13.9 -3.0**
baz=256
E50A Wahnapitae 110.69 47 P **Pdif 17 33 09.0 -8.1**
baz=258
S58A Poland Farm, P 110.69 57 P **Pdif 17 33 14.1 -3.2**
baz=256
Q57A Strasburg 110.75 55 P **Pdif 17 33 16.8 -0.8**
baz=257
L54A Sinclairville 110.79 52 P **Pdif 17 33 16.9 -0.8**
baz=257
KLBO Killbear Provi 110.83 48 P **Pdif 17 33 10.6 -7.1**
baz=258
V60A Jim Taylor Roa 110.87 59 P **Pdif 17 33 18.4 +0.3**
baz=256
R58A Rapidan 110.89 56 P **Pdif 17 33 16.2 -1.9**
baz=257
H52A Wyevale 110.90 49 P **Pdif 17 33 14.6 -3.4**
baz=258
R58B Mineral 110.91 57 P **Pdif 17 33 16.0 -2.3**
baz=256
O56A Blue Knob Stat 110.91 54 P **Pdif 17 33 16.8 -1.5**
baz=257
T59A Double "B" Far 110.93 58 P **Pdif 17 33 18.4 0.0**
baz=256
I53A Kortright Cn E 110.94 50 P **Pdif 17 33 15.7 -2.5**
baz=258
W61A Ground Anchor 110.94 60 P **Pdif 17 33 17.5 -1.0**
baz=256
M55A Ridgway 111.03 53 P **Pdif 17 33 17.9 -0.9**
baz=257
TORO Toronto--Lesli 111.07 50 P **Pdif 17 33 16.4 -2.4**
baz=258
STCO Saint Catharin 111.11 51 P **Pdif 17 33 19.0 0.0**
baz=258
U60A Pendleton 111.12 58 P **Pdif 17 33 17.0 -2.2**
baz=256
F51A Arnstein 111.15 48 P **Pdif 17 33 18.6 -0.5**
baz=258
S59A Mechanicsville 111.31 57 P **Pdif 17 33 19.4 -0.6**
baz=257
PKRO Pickering 111.33 50 P **Pdif 17 33 19.8 -0.2**
baz=258
CBN Corbin Frederi 111.35 56 P **Pdif 17 33 17.3 -2.9**
baz=257
BUKO Buck Lake 111.41 49 P **Pdif 17 33 18.3 -2.0**
baz=258
V61A Roper 111.42 59 P **Pdif 17 33 20.4 -0.2**
baz=256
L55A Hinsdale 111.42 52 P **Pdif 17 33 18.2 -2.3**
baz=258
SADO Sadowa 111.45 49 PKKPbc PKKPbc 17 48 14.5 +0.5
comp=Z,55nm,0.8s,baz=92,slow=1.8,SNR=12
SSPA Standing Stone 111.50 54 P **Pdif 17 33 20.5 -0.3**
baz=258
J54A Appleton 111.50 51 P **Pdif 17 33 20.9 +0.1**
baz=258
F52A Sundridge 111.53 48 P **Pdif 17 33 18.8 -2.1**
baz=259
R59A King George, V 111.55 57 P **Pdif 17 33 16.6 -4.5**
baz=257
E51A G1948 Merrick 111.56 47 P **Pdif 17 33 18.6 -2.3**
baz=259
DRWO Darlington Wes 111.56 50 P **Pdif 17 33 19.7 -1.3**
baz=258
DRCO St. Marys Ceme 111.58 50 P **Pdif 17 33 21.5 +0.4**
baz=258
T60A Surry 111.60 58 P **Pdif 17 33 19.8 -1.6**
baz=257
MEDO Medina 111.61 51 P **Pdif 17 33 16.4 -4.9**
baz=258
U61A Possum Corner 111.64 59 P **Pdif 17 33 24.5 +2.9**
baz=257
S60A Water View 111.79 57 P **Pdif 17 33 21.7 -0.5**
baz=257
K55A Perry 111.80 52 P **Pdif 17 33 19.7 -2.4**
baz=258
WLVO Wesleyville 111.80 50 P **Pdif 17 33 22.0 -0.1**
baz=258
V62A Hyde County Ai 111.85 59 P **Pdif 17 33 22.1 -0.4**
baz=257
ZSN Zaisan 111.86 314 *eP* **Pdif 17 33 20.4 -1.9**
ZSN Zaisan 111.86 314 *e*Pdif **Pdif 17 33 20.5 -1.9**
ZSN *e*PP **PP 17 37 58.6 -6.0**
G53A Haliburton 111.88 49 P **Pdif 17 33 21.8 -0.6**
baz=259
R60A Leonardtown, M 111.97 57 P **Pdif 17 33 23.0 +0.1**
baz=257
Q59A Harwood 112.04 56 P **Pdif 17 33 24.7 +1.4**
baz=258
E52A Mattawa 112.08 48 P **Pdif 17 33 20.6 -2.7**
baz=259
J55A Hilton 112.09 51 P **Pdif 17 33 24.7 +1.4**
baz=259
BANO Bancroft 112.34 49 P **Pdif 17 33 17.3 -7.2**
baz=259
I55A Frankford 112.37 50 P **Pdif 17 33 14.4 -10**
baz=259
P59A Jarrettsville 112.37 55 P **Pdif 17 33 26.3 +1.6**
baz=258
ALGO Algonquin Park 112.43 48 P **Pdif 17 33 11.7 -13**
baz=260
DELO Deloro Mine 112.47 50 P **Pdif 17 33 13.6 -11**
baz=259
O59A Robesonia 112.70 54 P **Pdif 17 33 23.5 -2.7**
baz=258
E53A Dumoine, Ponti 112.77 48 P **Pdif 17 33 25.5 -0.9**
baz=260
H55A Tweed 112.78 50 P **Pdif 17 33 25.7 -0.7**
baz=260
PECO Prince Edward 112.80 50 P **Pdif 17 33 27.2 +0.7**
baz=259,SNR=7.6
D53A Lac Vacive, Po 112.86 47 P **Pdif 17 33 26.2 -0.6**
baz=260
PEMO Pembroke 112.93 49 P **Pdif 17 33 26.5 -0.6**
baz=260
PLVO Plevna 112.94 49 P **Pdif 17 33 31.8 +4.7**
baz=260,SNR=5.3
ZAA0 Zalesovo Array 112.94 321 *e*Pdif **Pdif 17 33 26.0 -0.9**
ZAA1 Zalesovo Array 112.94 321 *e*Pdif **Pdif 17 33 26.7 -0.2**
ZAA1 *e*PKiKP **PKiKP 17 37 19.9 -0.4**
ZAA1 *e*PKKPbc **PKKPbc 17 48 08.4 -0.9**
ZALV Zalesovo Beam 112.94 321 *i* PKiKP **PKiKP 17 37 20.0 -0.3**
ZALV Zalesovo Beam 112.94 321 Pdiff **Pdif 17 33 26.7 -0.2**
comp=Z,2.8nm,0.7s,baz=90,slow=4.4,SNR=8.7
ZALV PKiKP **PKiKP 17 37 19.9 -0.3**
comp=Z,165nm,0.7s,baz=134,slow=1.6,SNR=32
ZALV PKKPbc **PKKPbc 17 48 08.4 -0.9**
comp=Z,12nm,0.7s,baz=250,slow=4.2,SNR=8.5
P60A Greenville 113.01 55 P **Pdif 17 33 26.4 -1.2**
baz=258
E54A Lac Daplat, Po 113.10 48 P **Pdif 17 33 25.3 -2.5**
baz=260
N59A State Game Lan 113.13 54 P **Pdif 17 33 26.3 -1.8**
baz=259
BINY Binghamton 113.21 52 P **Pdif 17 33 27.7 -0.8**
baz=259
NRIK Noril'sk 113.22 337 Pdiff **Pdif 17 33 28.1 +0.3**
comp=Z,7.7nm,0.8s,baz=93,slow=5.2,SNR=9.7
NRIK PKiKP **PKiKP 17 37 21.2 +0.8**
comp=Z,142nm,0.9s,baz=98,slow=2.4,SNR=30
NRIK PP **PP 17 38 12.6 -0.9**
comp=Z,64nm,0.9s,baz=104,slow=5.8,SNR=6.0
NRIK PKKPbc **PKKPbc 17 48 09.8 +0.9**
comp=Z,23nm,1.0s,baz=265,slow=4.9,SNR=4.9
G55A Calabogie 113.23 49 P **Pdif 17 33 26.9 -1.5**
baz=260
O60A Telford 113.28 55 P **Pdif 17 33 29.0 +0.3**
baz=259
MATQ Matagami 113.33 44 P **Pdif 17 33 27.0 -1.8**
baz=261
H56A Elgin 113.44 50 P **Pdif 17 33 29.3 -0.1**
baz=260
MK31 Makanchi Array 113.48 313 *e*Pdif **Pdif 17 33 29.3 -0.2**
MK31 Makanchi Array 113.48 313 PKiKP **PKiKP 17 37 20.7 -0.9**
MK31 pmax pmax
comp=Z,270nm,0.8s
MK32 Makanchi Array 113.48 313 *e*Pdif **Pdif 17 33 31.2 +1.7**
MK32 *e*PKiKP **PKiKP 17 37 21.4 -0.2**
MK32 *e*PP **PP 17 38 17.0 +0.9**
MK32 *e*PKKPbc **PKKPbc 17 48 07.2 -0.1**
MK32 *e*PKKPab **PKKPab 17 48 15.5 +2.9**
MKAR Makanchi Array 113.48 313 Pdiff **Pdif 17 33 31.2 +1.7**
comp=Z,6.8nm,0.7s,baz=90,slow=5.5,SNR=22
MKAR PKiKP **PKiKP 17 37 21.4 -0.2**
comp=Z,229nm,0.8s,baz=150,slow=0.4,SNR=61
MKAR PP **PP 17 38 17.0 +0.9**
comp=Z,129nm,1.1s,baz=93,slow=5.8,SNR=3.6
MKAR PKKPbc **PKKPbc 17 48 07.2 -0.1**
comp=Z,36nm,0.7s,baz=285,slow=2.5,SNR=22
MKAR PKKPab **PKKPab 17 48 15.5 +2.9**
comp=Z,41nm,0.7s,baz=290,slow=3.3,SNR=9.9
D54A Lac Fusel, La 113.58 47 P **Pdif 17 33 28.9 -1.0**
baz=261
F55A Otter Lake 113.58 49 P **Pdif 17 33 25.5 -4.5**
baz=261
LSQQ Lebel-sur-Quev 113.65 45 P **Pdif 17 33 23.6 -6.6**
baz=262
MAKZ Makanchi 113.70 313 *e*Pdif **Pdif 17 33 29.5 -1.0**
MAKZ Makanchi 113.70 313 PKiKP **PKiKP 17 37 21.2 -0.8**
MAKZ pmax pmax
comp=Z,298nm,0.8s
NVS Novosibirsk 113.97 321 *e*PKiKP **PKiKP 17 37 22.1 -0.1**
NVS *i* S **SKSac 17 43 51.8 +0.1**
NVS pmax pmax
comp=Z,219nm,0.7s
NVS pmax pmax
comp=N,49nm,0.8s
NVS pmax pmax
comp=E,90nm,0.8s
NVS smax smax
comp=N,308nm,1.6s
NVS smax smax
comp=E,2μm,1.8s
ORHO Orleans, Herit 114.08 49 P **Pdif 17 33 29.6 -2.5**
baz=261
ORIO Orleans, Innes 114.10 49 P **Pdif 17 33 30.8 -1.4**
baz=261
PAL Palisades 114.53 54 P **Pdif 17 33 29.9 -4.4**
baz=260
ALFO Alfred 114.56 49 P **Pdif 17 33 33.5 -0.8**
baz=262
LONY Lake Ozonia 114.62 50 P **Pdif 17 33 34.2 -0.5**
baz=261
PTGA Pitinga 114.62 102 *e*Pdif **Pdif 17 33 36.0 +0.6**
PTGA Pitinga 114.62 102 PKP PKPdf 17 37 24.2 -0.6
comp=E,32nm,0.7s,baz=250,slow=3.6,SNR=22
PTGA PKKPbc **PKKPbc 17 48 03.2 +0.8**
comp=E,38nm,0.8s,baz=25,slow=4.3,SNR=4.4
PDGK Podgornoye 114.90 308 PKiKP PKPdf 17 37 23.6 -1.0
PDGK pmax pmax
comp=Z,243nm,0.9s
BHK Bhakra 115.09 295 *eP* **PKPdf 17 37 22.2 -3.0**
UZB Uzynbulak 115.21 308 *eP* **Pdif 17 33 41.0 +3.5**
UZB *i* 17 37 24.7
UZB *e* 17 38 27.0
UZB *i* 17 43 57.0
UZB *e*PS **PS 17 48 08.8 -2.0**
UZB Uzynbulak 115.21 308 *e*Pdif **Pdif 17 33 41.0 +3.5**
UZB *e*pPdif **pPdif 17 34 26.6 +5.5**
UZB *i* PKP **PKPdf 17 37 24.7 -0.5**
UZB *e*PP **PP 17 38 27.1 -1.5**
UZB *i* SKS **SKSac 17 43 57.0 -0.4**
UZB *e*PS **PS 17 48 08.9 -1.9**
YLE Yale 115.30 54 *e*PKPdf **PKiKP 17 37 25.3 +0.1**
SEM Semipalatinsk 115.31 316 *eP* **Pdif 17 33 35.1 -2.7**
SEM *i* 17 37 22.1
SEM Semipalatinsk 115.31 316 *e*Pdif **Pdif 17 33 35.1 -2.7**
SEM *e*pPdif **pPdif 17 34 24.1 +2.6**
SEM *i* PKP **PKPdf 17 37 22.2 -3.1**
SEM *e*PP PP 17 38 18.1 -11
SEM *i* PS **PKKPbc 17 47 58.2 -3.3**
AOPR Arecibo Observ 115.32 80 *e*PKPdf **PKPdf 17 37 24.6 -1.3**
FRNY Flat Rock 115.36 50 *e*PKPdf **PKPdf 17 37 25.1 -0.1**
OBIP Obispado Ponce 115.36 80 *e*PKPdf **PKPdf 17 37 25.5 -0.5**
CHGQ Chibougamau 115.44 44 P **Pdif 17 33 35.5 -2.7**
baz=264,SNR=11
KPKS Kokpek 115.50 309 *eP* **Pdif 17 33 36.0 -2.7**
KPKS *e* 17 37 24.5
KPKS *e* 17 38 26.5
KPKS *i* 17 43 58.3
KPKS *e*PS **PS 17 48 14.5 +1.2**
KPKS Kokpek 115.50 309 *e*Pdif **Pdif 17 33 36.1 -2.7**
KPKS *e*pPdif **pPdif 17 34 24.4 +1.9**
KPKS *e*PKP **PKPdf 17 37 24.5 -1.2**
KPKS *e*PP **PP 17 38 26.6 -4.0**
KPKS *i* SKS **SKSac 17 43 58.4 -0.1**
KPKS *e*PS PKKPdf 17 48 14.6 -10
SATY Saty 115.64 308 *eP* **Pdif 17 33 32.6 -6.8**
SATY *i* 17 37 25.4
SATY *e* 17 38 30.9
SATY *i* 17 43 57.0
SATY *e*PS PKKPab 17 48 13.5 +10
SATY Saty 115.64 308 *e*Pdif **Pdif 17 33 32.6 -6.8**
SATY *e*pPdif **pPdif 17 34 27.8 +4.8**
SATY *i* PKP **PKPdf 17 37 25.5 -0.6**
SATY *e*PP **PP 17 38 30.1 -1.5**
SATY *i* SKS **SKSac 17 43 57.1 -2.0**
SATY *e*PS **PS 17 48 13.5 -1.2**
SJG San Juan 115.80 80 *e*PKPdf **PKPdf 17 37 26.2 -0.7**
SJG San Juan 115.80 80 PKP **PKPdf 17 37 26.3 -0.5**
comp=Z,226nm,0.9s,baz=304,slow=1.4,SNR=34
VT1 Waterbury 115.88 51 *e*PKPdf **PKiKP 17 37 26.6 +0.3**
QUA2 Belchertown 115.88 53 *e*PKPdf **PKiKP 17 37 26.5 +0.2**
TDK Taldyqorghan 115.91 310 *eP* **Pdif 17 33 39.0 -1.4**
TDK *e* 17 37 24.9
TDK *e* 17 38 31.6
TDK *i* PS **PS 17 48 16.4 -0.4**
TDK Taldyqorghan 115.91 310 *e*Pdif **Pdif 17 33 39.0 -1.4**
TDK *e*pPdif **pPdif 17 34 26.7 +2.6**
TDK *e*PKP **PKPdf 17 37 25.0 -1.4**
TDK *e*PP **PP 17 38 31.6 -1.6**
TDK *i* PS **PS 17 48 16.4 -0.4**
HUMP Col San Antoni 116.08 80 *e*PKPdf **PKPdf 17 37 27.2 -0.2**
CBYP Canovanas 116.11 80 *e*PKPdf **PKiKP 17 37 28.2 +0.7**
HNH Hanover 116.13 51 *e*PKPdf **PKPdf 17 37 26.7 0.0**
BSCB Bom Sucesso 116.22 130 *eP* **PKPdf 17 37 20.8 -7.0**
BSCB *e* 17 38 33.4
BSCB *e* 17 39 07.2
BSCB *i* 17 43 56.0
BSCB *i* 17 45 07.6
BSCB *i* 17 47 54.6
BSCB *i* 17 48 59.6
BSCB *i* 17 54 29.7
LATQ La Tuque 116.23 47 P **Pdif 17 33 43.8 +2.1**
baz=264
MTP Monte Pirata 116.34 81 *e*PKPdf **PKPdf 17 37 26.7 -1.2**
MOQ Mont Orford 116.35 50 *e*PKPdf **PKPdf 17 37 26.9 -0.4**
KURK Kurchatov 116.37 317 *d i*PKiKP **PKPdf 17 37 26.4 -0.6**
KURK pmax pmax
comp=Z,486nm,1.0s
KDJ Kajisay 116.41 307 *e*PKPdf **PKPdf 17 37 27.5 -0.1**
KDJ Kajisay 116.41 307 *e*PKiKP **PKPdf 17 37 27.5 -0.1**
KURBB Kurchatov Arra 116.42 316 SKKS 17 55 22.4
comp=Z,0.2nm,0.4s,baz=36,slow=36,SNR=3.1

BRYW Bryant College 116.43 53 *e*PKPdf **PKPdf 17 37 27.4 -0.1**
LBNH Lisbon 116.46 51 *e*PKPdf **PKiKP 17 37 27.9 +0.5**
LBNH Lisbon 116.46 51 P **Pdif 17 33 43.3 +0.5**
baz=263,SNR=27
HRV Adam Dziewonsk 116.50 53 *e*PKPdf **PKiKP 17 37 27.9 +0.4**
HRV Adam Dziewonsk 116.50 53 *e*PKIKP **PKiKP 17 37 27.9 +0.4**
HRV Adam Dziewonsk 116.50 53 P **Pdif 17 33 38.1 -4.9**
baz=262
CUPR Culebra, Puert 116.64 80 *e*PKPdf **PKiKP 17 37 28.5 +0.1**
MDOK Medeo 116.64 308 *eP* **Pdif 17 33 43.0 -0.8**
MDOK *e* 17 37 27.1
MDOK *e* 17 38 33.1
MDOK *i* PS **PKKPab 17 47 59.8 +0.7**
MDOK Medeo 116.64 308 *e*Pdif **Pdif 17 33 43.1 -0.8**
MDOK *e*pPdif **pPdif 17 34 31.2 +3.7**
MDOK *e*PKP **PKPdf 17 37 27.2 -0.8**
MDOK *e*PP sPKPdf 17 38 33.2 +1.9
MDOK *i* PS **PKKPab 17 47 59.8 +0.7**
WES Weston 116.65 53 *e*PKPdf **PKiKP 17 37 28.0 +0.2**
WES Weston 116.65 53 *e*PKIKP **PKiKP 17 37 28.0 +0.2**
AAA Alma-Ata 116.75 308 *e*PKIKP **PKPdf 17 37 25.8 -2.3**
AAA *e* 17 38 34.6
AAA *i* PS **PKKPdf 17 48 17.6 -4.9**
AAA Alma-Ata 116.75 308 *e*PKP **PKPdf 17 37 25.8 -2.3**
AAA *e*PP sPKPdf 17 38 34.6 +3.3
AAA *i* PS **PKKPdf 17 48 17.6 -4.9**
BCX Boston College 116.76 53 *e*PKPdf **PKiKP 17 37 28.1 +0.1**
KSH Kashi 116.94 304 PKP **PKiKP 17 37 29.8 +1.1**
KSH sPKP 17 38 25.3
KSH PP **PP 17 38 48.3 +7.6**
KSH SKKS 17 45 21.0
KSH SS **SS 17 54 40.1 +5.1**
KSH AMB AMB
comp=Z,7μm,9.1s
KSH LR LR
comp=Z,7μm,15.6s
KSH LR LR
comp=Z,12μm,17.8s
KSH LR LR
comp=Z,51μm,23.1s
STVI Saint Thomas 116.95 80 *e*PKPdf **PKPdf 17 37 28.4 -0.7**
M65A Busby, Falmout 117.04 54 P **Pdif 17 33 41.6 -3.8**
baz=262
ULHL Ulahol 117.12 307 P **PKiKP 17 37 29.7 +0.6**
SNR=11
BDFB Brasilia 117.15 123 *e*PKPdf **PKPdf 17 37 28.9 -0.9**
BDFB *e*PKPdf **PKiKP 17 37 29.4 -0.4**
BDFB Brasilia 117.15 123 PKP **PKPdf 17 37 28.9 -0.9**
comp=Z,42nm,0.8s,baz=191,slow=3.7,SNR=14
BDFB SKP 17 40 49.6
comp=Z,24nm,0.9s,baz=42,slow=3.2,SNR=3.3
BDFB PKKPab **PKKPab 17 47 58.7 -1.4**
comp=Z,40nm,0.9s,baz=63,slow=4.5,SNR=12
BDFB SKKP 17 51 33.5
comp=Z,32nm,1.0s,baz=110,slow=4.8,SNR=4.0
KUU Kurty 117.25 309 *eP* **Pdif 17 33 45.0 -1.4**
KUU *i* 17 37 26.7
KUU *e* 17 38 38.2
KUU *i* 17 44 04.2
KUU *i* PS **PKKPdf 17 48 25.3 +3.8**
KUU Kurty 117.25 309 *e*Pdif **Pdif 17 33 45.0 -1.4**
KUU *e*pPdif **pPdif 17 34 35.5 +5.5**
KUU *i* PKP **PKPdf 17 37 26.7 -2.3**
KUU *e*PP **PP 17 38 38.3 -4.3**
KUU *i* SKS **SKSac 17 44 04.2 -0.5**
KUU *i* PS **PS 17 48 25.4 -3.5**
BOOM Boomskoye usch 117.37 307 *e*PKPdf **PKiKP 17 37 29.7 +0.2**
BOOM Boomskoye usch 117.37 307 *e*PKIKP **PKiKP 17 37 29.7 +0.2**
TKM2 Tokmak 2 117.67 308 P **PKPdf 17 37 29.9 -0.2**
SNR=55
TKM2 Tokmak 2 117.67 308 P **Pdif 17 33 59.2 +11**
SNR=5.1
TKM2 Tokmak 2 117.67 308 PKIKP **PKPdf 17 37 29.5 -0.6**
TKM2 pmax pmax
comp=Z,310nm,0.8s
KZA Kyzart 117.83 307 P **PKiKP 17 37 31.1 +0.5**
SNR=33
GRGR Grenville 118.03 88 *e*PKPdf **PKPdf 17 37 30.9 -0.4**
WVL Waterville 118.11 51 *e*PKPdf **PKPdf 17 37 30.4 -0.2**
KBK Karagaybulak 118.12 307 P **PKiKP 17 37 31.0 +0.1**
SNR=56
KBK Karagaybulak 118.12 307 P **Pdif 17 34 00.8 +10**
SNR=5.3
NIL Nilore 118.15 297 *e*PKPdf **PKPdf 17 37 31.0 -0.1**
NIL Nilore 118.15 297 *e*PKIKP **PKPdf 17 37 31.0 -0.1**
CHMS Chumysh 118.30 308 P **PKPdf 17 37 31.0 0.0**
SNR=57
FRU1 Bishkek 118.36 307 *e*PKPdf **PKPdf 17 37 31.2 0.0**
FRU1 Bishkek 118.36 307 *e*PKIKP **PKPdf 17 37 31.2 0.0**
UCH Uchtor 118.39 307 P **PKiKP 17 37 32.4 +0.6**
SNR=74
UCH Uchtor 118.39 307 P **Pdif 17 33 59.2 +7.2**
SNR=7.3
PKME Peaks-Kenny Pk 118.43 50 *e*PKPdf **PKiKP 17 37 31.4 +0.3**
PKME Peaks-Kenny Pk 118.43 50 P **Pdif 17 33 44.4 -7.2**
baz=265
AAK Ala-Archa 118.45 307 P **PKiKP 17 37 31.8 +0.2**
SNR=49
AAK Ala-Archa 118.45 307 P **Pdif 17 34 02.0 +10**
SNR=7.3
AAK Ala-Archa 118.45 307 *e*PKPdf **PKiKP 17 37 31.9 +0.3**
AAK Ala-Archa 118.45 307 *i* PKPdf **PKPdf 17 37 30.5 -1.0**
SNR=73
AAK Ala-Archa 118.45 307 *d i*PKIKP **PKPdf 17 37 31.1 -0.4**
AAK pmax pmax
comp=Z,257nm,1.0s
AAK Ala-Archa 118.45 307 Pdiff **Pdif 17 33 59.3 +7.4**
comp=Z,15nm,0.9s,baz=167,slow=3.2,SNR=6.7
AAK PKP **PKiKP 17 37 31.5 0.0**
comp=Z,187nm,0.8s,baz=158,slow=3.9,SNR=15
AAK PKKPbc **PKKPbc 17 47 49.5 -0.5**
comp=Z,38nm,0.8s,baz=224,slow=2.8,SNR=18
SEUS St. Eustatius 118.50 82 *e*PKPdf **PKPdf 17 37 31.7 -0.3**
USP Ospenovka 118.51 308 P **PKPdf 17 37 31.3 -0.2**
SNR=52
SMRT St. Maarten 118.58 81 *e*PKPdf PKPpre 17 37 27.8
SMRT St. Maarten 118.58 81 *eP* **Pdif 17 33 54.3 +1.5**
SKI Saint Kitts 118.67 82 *e*PKPdf **PKPdf 17 37 31.7 -0.7**
SKI Saint Kitts 118.67 82 *eP* **Pdif 17 34 02.1 +8.8**
SKI Saint Kitts 118.67 82 *e*PKIKP **PKPdf 17 37 31.7 -0.7**
FRB Frobisher Bay 118.70 29 PKKPbc PKKPbc 17 47 49.2 -0.3
comp=Z,106nm,0.8s,baz=96,slow=5.5,SNR=13
NVDO Nevis, Disaste 118.72 83 *e* PP 17 38 40.3 -13
NVDO Nevis, Disaste 118.72 83 *e* **SP 17 48 24.3 +1.9**
SVB Belmont 118.78 87 *e*PKPdf **PKPdf 17 37 31.0 -1.7**
EKS2 Erkin-Say 118.97 307 P **PKiKP 17 37 32.8 +0.2**
SNR=64
EKS2 Erkin-Say 118.97 307 P **Pdif 17 34 01.0 +6.8**
SNR=6.9
AML Almayashu 118.98 307 P **PKiKP 17 37 33.5 +0.6**
SNR=17
AML Almayashu 118.98 307 P **Pdif 17 34 05.9 +11**
SNR=7.4
BTLS Baital 118.99 310 *eP* **Pdif 17 33 52.1 -1.9**
BTLS *i* 17 37 31.2
BTLS *i* 17 38 53.3
BTLS *i* 17 44 09.8
BTLS Baital 118.99 310 *e*Pdif **Pdif 17 33 52.2 -1.9**
BTLS *e*pPdif **pPdif 17 34 43.0 +5.3**
BTLS *i* PKP **PKPdf 17 37 31.2 -1.0**
BTLS *i* PP **PP 17 38 53.3 -1.2**
BTLS *i* SKS **SKSac 17 44 09.9 -1.0**
MLYT Lee's Yard 118.99 83 *e* **PKiKP 17 37 35.0 +1.8**
SLBI Saint Lucia, B 119.28 86 *eP* **Pdif 17 33 58.6 +2.7**
FDF Fort de France 119.34 86 *e*PKPdf **PKPdf 17 37 33.1 -0.6**
FDF Fort de France 119.34 86 *eP* **Pdif 17 34 00.1 +3.7**
FDF Fort de France 119.34 86 *e*PKIKP **PKPdf 17 37 33.2 -0.6**
PQI Presque Isle 119.42 48 *e*PKPdf **PKPdf 17 37 32.7 -0.3**
DWS Wesley 119.45 85 *eP* **Pdif 17 33 58.7 +2.0**
ANWB Willy Bob 119.64 82 *e*PKPdf **PKPdf 17 37 32.5 -1.7**
ANWB Willy Bob 119.64 82 *eP* **Pdif 17 34 05.2 +7.7**
EMMW East Machias 119.68 51 *e*PKPdf **PKPdf 17 37 33.2 -0.4**
ABPO Ambohimpanom 119.72 230 *e*PKPdf **PKPdf 17 37 34.0 -0.7**
ABPO Ambohimpanom 119.72 230 *e*PKIKP **PKPdf 17 37 34.0 -0.7**
KULLO Kullorsuaq 119.92 16 *i*PKIKP **PKPdf 17 37 32.6 -0.6**
KULLO Kullorsuaq 119.92 16 *i*P **PKPdf 17 37 32.6 -0.6**
KULLO *i* 17 47 48.4
OPO Ambohidratompo 120.05 230 Pdiff **Pdif 17 34 06.8 +7.2**
comp=Z,9.2nm,0.8s,baz=118,slow=5.7,SNR=7.8
OPO PKP **PKiKP 17 37 36.5 +1.1**
comp=Z,461nm,0.9s,baz=127,slow=1.8,SNR=40
OPO SKiKP **SKiKP 17 40 57.0 +2.5**
comp=Z,50nm,1.1s,baz=278,slow=1.5,SNR=3.2

OPO PKKPbc **PKKPbc** 17 47 41.7 -2.2
comp=Z,4.3nm,0.7s,baz=315,slow=2.9,SNR=3.3
BRZS Berezniki 120.14 315 *de*P **Pdif** 17 34 00.7 +1.7
BRZS *i* 17 37 32.6
BRZS *e* 17 38 57.8
BRZS *i* 17 44 18.4
BRZS Berezniki 120.14 315 *e*Pdif **Pdif** 17 34 00.8 +1.7
BRZS *ep*Pdif **pPdif** 17 34 49.0 +6.2
BRZS ⇓*i*PKP **PKPdf** 17 37 32.7 -1.7
BRZS *e*PP **PP** 17 38 57.8 -4.4
BRZS *i*SKS **SKSac** 17 44 18.4 +3.8
GGN Saint George 120.15 50 *e*PKPdf **PKiKP** 17 37 34.5 0.0
SCHQ Schefferville 120.23 39 *e*PKPdf **PKiKP** 17 37 34.5 0.0
SCHQ Schefferville 120.23 39 PKP **PKPdf** 17 37 34.2 -0.1
comp=Z,71nm,0.8s,baz=292,slow=2.9,SNR=23
SCHQ PKKPbc **PKKPbc** 17 47 43.2 -0.5
comp=Z,128nm,0.8s,baz=88,slow=4.5,SNR=28
OTUK Ortayu 120.33 313 PKIKP **PKPdf** 17 37 34.3 -0.5
OTUK pmax pmax
comp=Z,567nm,0.9s
BBSR BB Station 120.41 65 *e*PKPdf **PKiKP** 17 37 35.4 0.0
BSFB Barra de Sao F 120.41 131 *e*P **PKPdf** 17 37 35.5 -0.3
BATG Bathurst New B 120.78 48 *e*PKPdf **PKPdf** 17 37 35.5 -0.1
GAR Garm 121.23 303 *e*PKPdf **PKPdf** 17 37 37.0 0.0
JBG Jabagly 121.34 307 *i*PKIKP **PKPdf** 17 37 36.1 -1.0
JBG *e* 17 39 10.5
JBG *i* 17 44 20.9
KK31 Karatay Array 121.40 307 *e*PKPdf **PKPdf** 17 37 36.8 -0.2
KK31 Karatay Array 121.40 307 *i*PKIKP **PKPdf** 17 37 36.9 -0.1
KK31 pmax pmax
comp=Z,491nm,0.8s
KKAR Karatay Array 121.40 307 *e*PKPdf **PKPdf** 17 37 36.8 -0.2
BVAR Borovoye Array 121.51 319 SKiKP **SKiKP** 17 40 57.8 +1.8
comp=Z,69nm,0.9s,baz=126,slow=2.0,SNR=4.2
BVAR PKKPbc PKKPbc 17 47 38.9 0.0
comp=Z,12nm,0.9s,baz=259,slow=3.4,SNR=6.3
BRVK Borovoye 121.57 319 *e*PKPdf **PKPdf** 17 37 36.7 -0.2
BRVK Borovoye 121.57 319 *d*PKIKP **PKPdf** 17 37 36.7 -0.2
LMN Caledonia Moun 121.61 49 *e*PKPdf **PKPdf** 17 37 37.2 -0.1
MSEY Mahe Island 121.65 249 *i*PKiKP **PKiKP** 17 37 39.3 +0.7
SNR=50
IUG Iuzhnay 121.70 306 *de*P **Pdif** 17 34 09.4 +3.1
IUG *i* 17 37 37.6
IUG *e* 17 39 13.0
IUG *e* 17 44 26.8
IUG Iuzhnay 121.70 306 *e*Pdif **Pdif** 17 34 09.4 +3.1
IUG *ep*Pdif **pPdif** 17 34 58.0 +8.0
IUG ⇓*i*PKP **PKPdf** 17 37 37.7 0.0
IUG *e*PP **PP** 17 39 13.1 -0.2
IUG *e*SKS **SKSdf** 17 44 26.8 -6.2
KBL Kabul 121.74 297 *e*PKPdf **PKiKP** 17 37 38.4 +0.1
KBL Kabul 121.74 297 *e*PKIKP **PKiKP** 17 37 38.4 +0.1
SUR Sutherland 122.22 198 *e*PKPdf **PKiKP** 17 37 39.5 +0.1
HAL Halifax 122.44 51 *e*PKPdf **PKiKP** 17 37 39.7 +0.6
HAL Halifax 122.44 51 *e*PKIKP **PKiKP** 17 37 39.7 +0.6
MDP Montagnes des 123.71 100 PKP **PKPdf** 17 37 42.2 0.0
comp=Z,70nm,0.7s,baz=224,slow=4.1,SNR=34
ILULI Ilulissat 123.91 20 *i*PKIKP **PKPdf** 17 37 40.7 -0.2
ILULI *i* 17 39 26.3
ILULI Ilulissat 123.91 20 *i*P **PKPdf** 17 37 40.7 -0.2
ILULI *i* 17 39 26.3
GBN Guysborough 123.92 50 *e*PKPdf **PKiKP** 17 37 42.1 +0.2
KBS Kingsbay 123.93 358 *d*PKIKP **PKiKP** 17 37 41.4 +0.3
KBS pmax pmax
comp=Z,4μm,1.0s
KBS Kingsbay 123.93 358 *e*PKPdf **PKiKP** 17 37 41.4 +0.3
KBS *ep*PKPdf **pPKPdf** 17 38 27.2 +0.8
KBS *e*PP **PP** 17 39 27.0 +0.1
KBS *e*SKSac **SKSac** 17 44 28.2 +2.1
KBS *i* 17 47 16.3
KBS *e*SS **SS** 17 56 04.0 +2.4
KBS IVMs_BB IVMs_BB 18 18 18.2
comp=Z,7μm,38.3s
BOSA Boshof 124.23 204 *e*PKPdf **PKPdf** 17 37 42.9 -0.2
BOSA Boshof 124.23 204 PKP **PKiKP** 17 37 44.0 +0.6
comp=Z,409nm,0.9s,baz=149,slow=2.4,SNR=39
BOSA PKKPbc **PKKPbc** 17 47 28.0 -0.4
comp=Z,16nm,0.5s,baz=336,slow=4.5,SNR=17
BOSA SKKPbc SKKPbc 17 50 54.6 -4.7
comp=Z,18nm,0.8s,baz=0.4,slow=6.1,SNR=4.8
BOSA PKPPKP 17 56 21.0
comp=Z,6.2nm,0.9s,baz=271,slow=2.3,SNR=4.4
SPA0 Spitsbergen Ar 124.47 357 *e*PKPdf **PKiKP** 17 37 42.2 +0.1
SPA0 Spitsbergen Ar 124.47 357 *e*PKPdf **PKiKP** 17 37 42.3 +0.1
SPA0 *e*PP **PP** 17 39 31.0 +0.5
SPA0 *e*SKSac **SKSac** 17 44 28.8 +0.9
SPA0 *e*SKSdf **SKSdf** 17 44 38.0 +1.5
SPITS Spitsbergen Ar 124.47 357 PKP **PKPdf** 17 37 42.0 +0.1
comp=Z,1μm,0.8s,baz=66,slow=4.9
SPITS PKPbc **PKKPbc** 17 47 28.5 +0.6
comp=Z,16nm,0.5s,baz=156,slow=6.4,SNR=20
SPITS SKKPbc SKKPbc 17 51 01.0 -2.4
comp=Z,50nm,1.1s,baz=357,slow=3.3,SNR=4.1
SFJD Kangerlussuaq 125.04 23 *e*PKPdf **PKPdf** 17 37 42.8 -0.3
SFJD Kangerlussuaq 125.04 23 *i*PKIKP **PKPdf** 17 37 42.6 -0.6
SFJD *i* 17 39 33.7
SFJD Kangerlussuaq 125.04 23 PKKPbc PKKPbc 17 47 26.1 +0.7
comp=Z,21nm,0.5s,baz=100,slow=4.2,SNR=15
SFJD SKKPbc SKKPbc 17 51 01.4 +0.3
comp=Z,48nm,1.0s,baz=103,slow=6.1,SNR=6.7
SFJD Kangerlussuaq 125.04 23 *i*P **PKPdf** 17 37 42.6 -0.6
SFJD *i* 17 39 33.7
SFJD *i* 17 47 28.2
DAG Danmarks Havn 125.22 6 ⇓*i*PKIKP **PKPdf** 17 37 42.4 -0.9
DAG Danmarks Havn 125.22 6 ⇓*i*P **PKPdf** 17 37 42.4 -0.9
DAG *i* 17 47 27.6
HOPEN Hopen 125.38 354 *e*PKPdf **PKiKP** 17 37 44.0 0.0
HOPEN IVmB_BB 17 37 45.7
comp=Z,3μm,2.2s
HOPEN *e*PP **PP** 17 39 36.9 +0.4
HOPEN *e*SKPdf **SKiKP** 17 41 03.0 0.0
HOPEN *i* 17 48 42.5
HOPEN *e*SS **SS** 17 56 20.4 +0.6
HOPEN IVMs_BB IVMs_BB 18 19 06.0
comp=Z,12μm,29.9s
SUMG Summit 125.47 14 *e*PKPdf **PKPdf** 17 37 44.4 0.0
SUMG Summit 125.47 14 ⇓*i*PKIKP **PKiKP** 17 37 44.7 -0.1
SUMG *i* 17 39 36.4
SUMG Summit 125.47 14 ⇓*i*P **PKiKP** 17 37 44.7 -0.1
SUMG *i* 17 39 36.4
SUMG *i* 17 47 27.6
HSPB Hornsund (broa 125.66 356 *e*PKIKP **PKPdf** 17 37 42.6 -1.5
HSPB *e* 17 39 39.3
HSPB Hornsund (broa 125.66 356 *e*PKPdf **PKPdf** 17 37 44.3 +0.1
HSPB IVmB_BB 17 37 48.7
comp=Z,5μm,1.0s
HSPB *e*PP **PP** 17 39 38.9 +0.6
HSPB *e*SS SS 17 56 25.5 +2.3
HSPB IVMs_BB IVMs_BB 18 24 33.0
comp=Z,8μm,21.3s
SVE Sverdlovsk 126.51 325 *c*PKIKP **PKPdf** 17 37 46.2 -0.1
SVE pmax pmax
comp=Z,617nm,0.9s
LBTB Lobatse 127.32 206 *e*PKPdf **PKiKP** 17 37 49.4 -0.2
LBTB Lobatse 127.32 206 PKP **PKiKP** 17 37 49.5 -0.1
comp=Z,272nm,0.9s,baz=150,slow=3.4,SNR=26
MSNA Messina 127.64 212 *i*P **PKiKP** 17 37 55.0 +4.7
MSNA Messina 127.64 212 *i*P **PKiKP** 17 37 55.0 +4.7
ARU Arti 127.72 324 *e*PKPdf **PKPdf** 17 37 48.4 -0.3
ARU Arti 127.72 324 P **Pdif** 17 34 30.8 -1.8
ARU *i* 17 37 47.3
ARU 17 39 50.5
ARU 17 44 37.3
ARU SP SP 17 49 34.8 -4.8
ARU PS PS 17 49 54.8 -6.2
ARU Arti 127.72 324 PKP **PKPdf** 17 37 48.5 -0.1
comp=Z,167nm,0.6s,baz=10,slow=0.9,SNR=2.4
BJO Bjornoya 127.80 354 *e*PKPdf **PKiKP** 17 37 49.1 +0.2
BJO IVmBBB 17 37 53.2
comp=Z,4μm,1.0s
BJO *e*PP **PP** 17 39 53.2 +0.8
BJO *e*SS SS 17 56 49.5 -0.3
BJO IVMsBB 18 18 06.7
comp=Z,5μm,0.0s
BJO IVMs_BB IVMs_BB 18 20 21.7
comp=Z,10μm,20.5s
JLN Jalan Bani Buh 128.01 281 PKiKP **PKPdf** 17 37 50.1 -0.1
SNR=58
AB31 Akbulak array 128.44 315 *e*PKIKP **PKPdf** 17 37 47.8 -2.4
AB31 pmax pmax
comp=Z,352nm,1.1s
ABKAR Akbulak array 128.44 315 *e*PKPdf **PKPdf** 17 37 50.1 -0.1
IVI Ivigtut 128.45 29 *e*PKPdf **PKPdf** 17 37 48.9 -0.9

WBK Wadi Bani Khal 128.51 281 PKiKP **PKiKP** 17 37 52.4 +0.5
SNR=19
WSAR Wadi Sarin 128.94 282 PKiKP **PKPdf** 17 37 52.2 +0.3
SNR=52
WSAR Wadi Sarin 128.94 282 PKP **PKPdf** 17 37 51.8 -0.2
comp=Z,174nm,1.0s,baz=237,slow=6.5,SNR=32
WSAR SKP 17 41 01.5
comp=Z,185nm,1.1s,baz=101,slow=3.9,SNR=6.3
MHTO MHTO 129.06 279 PKiKP **PKPdf** 17 37 52.4 +0.1
SNR=94
DQM DQM 129.21 277 PKiKP **PKPdf** 17 37 52.9 +0.3
SNR=47
JMDO Jabal Madar 129.24 281 PKiKP **PKiKP** 17 37 54.0 +0.7
SNR=34
SMDO Samad 129.43 282 PKiKP **PKiKP** 17 37 54.7 +0.9
SNR=67
BIDO Bidbid 129.45 282 PKiKP **PKiKP** 17 37 53.4 -0.3
SNR=47
AKTO Aktyubinsk 129.46 317 PKP **PKPdf** 17 37 51.7 -0.5
comp=Z,55nm,0.6s,baz=65,slow=4.3
AKTO SKP 17 41 02.1
comp=Z,100nm,1.0s,baz=122,slow=5.2,SNR=4.4
AKTO SKKPbc SKKPbc 17 50 43.1 -1.8
comp=Z,21nm,1.1s,baz=238,slow=10.0,SNR=3.8
MATP Matopo 130.01 212 PKP **PKPdf** 17 37 54.0 -0.3
comp=Z,141nm,0.8s,baz=160,slow=1.4,SNR=18
MATP SKP 17 41 02.4
comp=Z,1μm,0.9s,baz=159,slow=4.9,SNR=26
BSY Bisya 130.13 281 PKiKP **PKiKP** 17 37 55.2 +0.1
SNR=49
HOQ Hoqain 130.20 282 PKiKP **PKiKP** 17 37 55.4 +0.2
SNR=31
SCO Scoresbysund 130.41 11 *e*PKPdf **PKPdf** 17 37 53.2 -0.1
SCO Scoresbysund 130.41 11 ⇓*i*PKIKP **PKiKP** 17 37 54.1 -0.1
SCO Scoresbysund 130.41 11 ⇓*i*P **PKiKP** 17 37 54.1 -0.1
GEYT Alibeck 130.75 301 PKhKP PKPpre 17 37 46.5
comp=Z,37nm,0.8s,baz=288,slow=1.4,SNR=16
GEYT PKP **PKPdf** 17 37 54.2 -0.9
comp=Z,80nm,0.9s,baz=229,slow=1.3,SNR=23
GEYT SKPbc **SKPab** 17 41 02.6 -0.2
comp=Z,336nm,1.1s,baz=270,slow=0.4,SNR=8.5
GYA0B ALIBECK ARRAY 130.75 301 *e*PKPpre PKPpre 17 37 47.7
ARQ Araqi 130.86 282 PKiKP **PKiKP** 17 37 59.1 +2.6
SNR=43
HAMF Hammerfest 130.87 351 *e* PKPpre 17 37 46.4
HAMF *e*PKPdf **PKiKP** 17 37 54.8 -0.4
HAMF *ep*PKPdf pPKPdf 17 38 40.3 +0.6
HAMF *e*PP **PP** 17 40 12.7 +0.3
HAMF *i* 17 49 29.5
HAMF *e*SS SS 17 57 27.6 0.0
HAMF IVMs_BB IVMs_BB 18 23 16.5
comp=Z,7μm,23.2s
SOHO SOHO 131.00 283 PKiKP **PKPdf** 17 37 56.0 +0.2
SNR=102
LVZ Lovozero 131.05 345 *e*PKPpre PKPpre 17 37 42.6
LVZ *e*PKPdf **PKPdf** 17 37 55.0 +0.3
LVZ Lovozero 131.05 345 *d*PKIKP **PKPdf** 17 37 54.0 -0.7
LVZ pmax pmax
comp=Z,231nm,0.8s
HATD Hatta, Dubai 131.48 283 *i*PKiKP **PKPdf** 17 37 57.2 +0.4
SNR=50
HATD Hatta, Dubai 131.48 283 PKPdf **PKPdf** 17 37 55.5 -1.3
SNR=61
ASHO Ashiyiah 131.52 283 *i*PKiKP **PKPdf** 17 37 57.1 +0.2
SNR=43
ASHO Ashiyiah 131.52 283 PKPdf **PKPdf** 17 37 56.6 -0.3
SNR=46
MSFE Esma-Masafi 131.54 284 *i*PKPdf **PKPdf** 17 37 56.5 -0.4
SNR=51
KIRV Kirov 131.55 329 PKhKP PKPpre 17 37 44.5
comp=Z,18nm,0.5s,baz=63,slow=2.3,SNR=7.5
KIRV PKP **PKiKP** 17 37 57.6 +0.8
comp=Z,999nm,0.8s,baz=79,slow=1.1,SNR=70
ARCES ARCESS Array B 131.58 350 PKhKP PKPpre 17 37 42.3
comp=Z,13nm,0.6s,baz=40,slow=1.9,SNR=11
ARCES PKP **PKiKP** 17 37 56.6 0.0
comp=Z,596nm,0.7s,baz=18,slow=1.1,SNR=41
ARCES SKP 17 41 08.2
comp=Z,610nm,1.1s,baz=22,slow=3.9,SNR=20
ARCES PKKP **PKKPdf** 17 47 54.1 -0.2
comp=Z,23nm,1.0s,baz=169,slow=1.8,SNR=6.2
ARE0 ARCESS Array S 131.58 350 *e*PKPpre PKPpre 17 37 44.7
ARE0 ARCESS Array S 131.58 350 *e*PKPdf **PKiKP** 17 37 56.2 -0.4
ARE0 *ep*PKPdf **pPKPdf** 17 38 42.1 +1.0
ARE0 *i* 17 41 07.0
ARE0 *e*SS SS 17 57 34.6 -1.7
APA Apatity 131.61 345 ⇑*i*PKIKP **PKPdf** 17 37 55.9 +0.2
APA *i* 17 50 13.0
APA pmax pmax
comp=Z,203nm,0.9s
JMIC Jan Mayen 131.62 5 PKP **PKiKP** 17 37 58.1 +1.5
comp=Z,662nm,0.8s,baz=319,slow=3.8,SNR=7.6
JMIC SKP 17 41 08.0
comp=Z,434nm,1.2s,baz=124,slow=10,SNR=5.5
JMIC Jan Mayen 131.62 5 *e*PKPdf **PKiKP** 17 37 56.5 -0.2
JMIC *i* 17 38 00.4
JMIC *e*PP **PP** 17 40 19.1 +1.9
JMIC *e*SS SS 17 57 44.4 +7.7
SHME Shamm 131.66 285 *i*PKiKP **PKiKP** 17 37 57.6 -0.5
SNR=33
PRGR Permogore 131.68 334 ⇑*i*PKIKP **PKiKP** 17 37 56.6 -0.4
PRGR *i* 17 38 44.2
PRGR pmax pmax
comp=Z,470nm,0.8s
ALNE Al Ain 131.69 282 *i*PKiKP **PKPdf** 17 37 57.7 +0.5
SNR=61
NAZ Nazwa, Dubai 131.92 283 *i*PKiKP **PKiKP** 17 37 58.4 -0.3
SNR=50
NAZ Nazwa, Dubai 131.92 283 PKiKP **PKiKP** 17 37 58.4 -0.3
SNR=42
FAQ Al Faqa, Dubai 131.95 283 *i*PKPdf **PKPdf** 17 37 57.3 -0.3
SNR=51
FAQ Al Faqa, Dubai 131.95 283 PKPdf **PKPdf** 17 37 57.3 -0.3
SNR=26
UMQ Umm Al-Quwin 132.01 284 *i*PKiKP **PKiKP** 17 37 59.0 +0.3
SNR=15
UMQ Umm Al-Quwin 132.01 284 PKiKP **PKiKP** 17 37 58.5 -0.3
SNR=10.0
ASUD Al Ashush, Dub 132.16 283 *i*PKiKP **PKiKP** 17 37 58.9 -0.2
SNR=25
KTK1 Kautokeino 132.41 350 *e* PKPpre 17 37 47.1
KTK1 *e*PKPdf **PKiKP** 17 37 58.0 -0.4
KTK1 IVmBBB 17 38 02.4
comp=Z,6μm,2.6s
KTK1 *i* 17 41 09.7
KTK1 *i* 17 56 57.1
TRO Tromso 132.44 352 *e* PKPpre 17 37 45.1
TRO *e*PKPdf **PKPdf** 17 37 57.1 0.0
TRO *e*PP **PP** 17 40 22.6 +0.1
TRO *e*SKPdf **SKPdf** 17 41 16.1 +0.5
TRO *e*SS **SS** 17 57 46.1 -0.4
TRO IVMs_BB IVMs_BB 18 18 12.2
comp=Z,6μm,20.5s
AJN Ajban 132.46 283 *i*PKiKP **PKPdf** 17 37 58.9 +0.3
SNR=24
RCBR Riachuelo 132.52 122 *e*PKPpre PKPpre 17 37 51.2
RCBR Riachuelo 132.52 122 PKP **PKiKP** 17 38 01.4 +1.1
comp=Z,118nm,1.0s,baz=194,slow=1.4,SNR=6.7
TMCR Tamitsa 132.84 340 *e*PKIKP **PKPdf** 17 37 55.1 -3.0
TMCR *e* 17 40 26.5
TMCR pmax pmax
comp=Z,362nm,0.9s
LOF Lofoten 134.45 354 *e* PKPpre 17 37 52.3
LOF *e*PKPdf **PKPdf** 17 38 01.6 +0.6
LOF *ep*PKPdf pPKPdf 17 38 49.0 +2.4
LOF *e*PP **PP** 17 40 35.8 +0.5
LOF *e*SKSdf **SKSdf** 17 44 55.9 +1.0
LOF *e*SP **SKKPbc** 17 50 37.4 +10
LOF *e*SS **SS** 17 58 13.3 +2.5
LOF IVMs_BB IVMs_BB 18 17 15.9
comp=Z,8μm,33.3s
STEI Steigen 134.48 353 *e* PKPpre 17 37 50.2
STEI *e*PKPdf **PKiKP** 17 38 02.0 -0.5
STEI *ep*PKPdf pPKPdf 17 38 47.9 +1.2
STEI *e*PP **PP** 17 40 35.9 +0.5
STEI *e*SS SS 17 58 10.0 -1.2
STEI IVMs_BB IVMs_BB 18 16 49.2
comp=Z,8μm,45.9s
LSZ Lusaka 134.49 215 *i*P **PKPdf** 17 38 01.0 -1.8
LSZ Lusaka 134.49 215 *e*PKPpre PKPpre 17 37 50.6
LSZ Lusaka 134.49 215 *e*PKHKP PKPpre 17 37 50.6
LSZ Lusaka 134.49 215 *i*P **PKPdf** 17 38 01.0 -1.8
LSZ Lusaka 134.49 215 PKhKP PKPpre 17 37 51.0
comp=Z,28nm,0.7s,baz=151,slow=3.7,SNR=13
LSZ PKP **PKiKP** 17 38 04.4 +0.1
comp=Z,477nm,1.0s,baz=111,slow=3.0,SNR=33
LSZ SKP 17 41 20.7
comp=Z,154nm,0.9s,baz=132,slow=5.5,SNR=6.2
KLMR Klimovskoe 134.52 336 *e*PKHKP PKPpre 17 37 48.9
KLMR pmax pmax
comp=Z,358nm,1.0s
BORG Borgarnes 135.45 14 *e*PKPpre PKPpre 17 37 53.2
BORG Borgarnes 135.45 14 PKP **PKiKP** 17 38 04.3 -0.2
comp=Z,249nm,0.9s,baz=24,slow=3.7,SNR=5.5
BORG SKP 17 41 20.0
comp=Z,199nm,1.1s,baz=353,slow=3.8,SNR=5.0
TSUM Tsumeb 135.56 200 *i*P PKPpre 17 37 58.1
TSUM Tsumeb 135.56 200 *e*PKPpre PKPpre 17 37 54.7
TSUM Tsumeb 135.56 200 *i*P PKPpre 17 37 58.1
TSUM Tsumeb 135.56 200 PKhKP PKPpre 17 37 57.2
comp=Z,44nm,0.8s,baz=140,slow=2.3,SNR=16
TSUM PKP **PKiKP** 17 38 07.3 +0.9
comp=Z,160nm,0.9s,baz=139,slow=1.5,SNR=26
TSUM SKP 17 41 22.8
comp=Z,240nm,0.9s,baz=125,slow=3.9,SNR=8.9
KONS Konsvik 136.09 354 *e* PKPpre 17 37 54.5
KONS *e*SKPdf **SKPdf** 17 41 22.0 -0.4
STOK Stokkvaagen 136.26 354 *e*PKPdf **PKPdf** 17 38 05.1 +0.7
STOK *i* 17 38 09.8
STOK *e*SKPdf **SKPdf** 17 41 23.1 +0.4
MOR8 Moi Rana 136.27 353 *e* PKPpre 17 37 54.2
NSS Namsos 138.12 354 *e* PKPpre 17 37 57.6
NSS *e*PKPdf **PKPdf** 17 38 08.6 +0.7
NSS *ep*PKPdf pPKPdf 17 38 53.9 +0.4
NSS *e*PP **PP** 17 40 58.5 +0.4
NSS *e*SKPdf **SKPbc** 17 41 26.6 +1.2
NSS *e*SP SP 17 51 08.2 +1.0
NSS *e*SS **SS** 17 58 53.3 -1.1
MAK Makhachkala 138.16 309 *cde*P **Pdif** 17 35 17.2 -2.1
MAK *i* 17 38 09.1
MAK *e* 17 40 58.6
MAK *e*PPP PPP 17 44 00.9
MAK *e*SS SS 17 58 51.6 -5.5
MAK *e*SSS SSS 18 04 03.8
MAK pmax pmax
comp=Z,14μm,3.8s
MAK pmax pmax
comp=Z,1μm,1.0s
MAK MLR MLR
comp=N,30μm,21.0s
MAK MLR MLR
comp=Z,22μm,21.0s
MAK MLR MLR
comp=E,24μm,22.0s
FIA1 FINESS Array S 138.44 343 *e*PKPpre PKPpre 17 37 58.2
FIA0 FINESS Array S 138.44 343 *e*PKPpre PKPpre 17 37 58.0
FIA0 *e*PKPdf **PKPdf** 17 38 08.8 +0.3
FIA0 FINESS Array S 138.44 343 *e*PKHKP PKPpre 17 37 58.0
FIA0 *e* 17 38 08.9
FINES FINESS Array B 138.44 343 PKhKP PKPpre 17 37 58.0
comp=E,17nm,0.5s,baz=26,slow=4.4,SNR=34
FINES PKP **PKPdf** 17 38 08.8 +0.3
comp=E,354nm,0.8s,baz=50,slow=2.2,SNR=29
FINES SKP 17 41 25.5
comp=E,83nm,0.9s,baz=82,slow=2.9,SNR=5.1
MOS Moscow 138.50 331 *e*P **Pdif** 17 35 17.9 -2.6
MOS *e* 17 40 58.4
MOS *e*SS SS 17 58 55.1 -4.6
MOS pmax pmax
comp=Z,669nm,0.9s
PUL Pulkovo 138.53 339 *e*P **PKPdf** 17 38 06.3 -2.5
KMBO Kilima Mbogo 138.72 239 *e*PKPpre PKPpre 17 38 01.2
KMBO Kilima Mbogo 138.72 239 *i*PKPdf PKPdf 17 38 02.2 -8.7
SNR=67
KMBO Kilima Mbogo 138.72 239 *e*PKHKP PKPpre 17 38 01.2
KMBO Kilima Mbogo 138.72 239 *e*P PKPdf 17 37 55.5 -15
KMBO *e*P **PP** 17 40 56.7 -6.8
KMBO Kilima Mbogo 138.72 239 PKhKP PKPpre 17 38 02.8
comp=Z,233nm,1.0s,baz=75,slow=3.4,SNR=25
KMBO SKPab **SKiKP** 17 41 32.9 +0.3
comp=Z,479nm,1.1s,baz=67,slow=2.0,SNR=16
VRH Novokhopyorsk 138.91 323 *e*PKIKP **PKPdf** 17 38 06.4 -3.3
VRH *e*SS SS 17 59 05.8 +0.8
VRH pmax pmax
comp=Z,380nm,0.7s
NAI Nairobi 138.98 238 *e*PKPpre PKPpre 17 38 02.1
NAI Nairobi 138.98 238 *e*PKHKP PKPpre 17 38 02.1
GROC Groznyy 139.31 310 *e*PKHKP PKPpre 17 38 01.5
GROC pmax pmax
comp=Z,716nm,0.9s
OBN Obninsk 139.36 331 *e*PKPpre PKPdf 17 38 01.8 -8.7
OBN Obninsk 139.36 331 ⇑*i*P PKPdf 17 38 01.6 -8.8
OBN Obninsk 139.36 331 *i*PKHKP PKPdf 17 38 02.5 -7.9
OBN *i* 17 38 10.5
OBN pmax pmax
comp=Z,134nm,0.8s
OBN Obninsk 139.36 331 PKhKP PKPpre 17 38 02.9
comp=Z,51nm,0.5s,baz=239,slow=2.6,SNR=16
OBN SKPab **SKiKP** 17 41 34.0 +1.9
comp=Z,84nm,0.7s,baz=161,slow=4.9,SNR=7.1
TBLU Trondheim 139.53 355 *e* PKPdf 17 37 59.9 -11
TBLU *e*PKPdf **PKiKP** 17 38 10.4 -2.5
TBLU *e*PP **PP** 17 41 06.2 -0.6
TBLU *e*SKPdf **SKPdf** 17 41 28.8 +0.2
TBLU *e*SS **SS** 17 59 08.9 -2.1
LPSR Galich'ya Gora 139.68 326 *e*PKIKP **PKPdf** 17 38 05.8 -5.3
LPSR pmax pmax
comp=Z,400nm,0.9s
DAMY Dhamar 139.84 265 *e*PKPpre PKPpre 17 38 03.9
VORR Voronezh 140.03 325 *e*PKIKP **PKPdf** 17 38 08.0 -3.8
VORR pmax pmax
comp=Z,350nm,0.8s
ATD Arta Tunnel 140.19 260 *e*P PKPdf 17 38 04.8 -8.5
ATD Arta Tunnel 140.19 260 PKhKP PKPpre 17 38 09.1
comp=Z,119nm,0.8s,baz=298,slow=2.4,SNR=22
ATD SKPab **SKiKP** 17 41 37.3 +2.1
comp=Z,206nm,1.1s,baz=93,slow=5.2,SNR=6.6
VSR Storozhevoye 140.29 324 *e*PKHKP PKPpre 17 38 05.0
VSR pmax pmax
comp=Z,500nm,1.1s
VORD Divnogorie 140.35 324 *e*PKHKP PKPpre 17 38 03.8
VORD *e*SS SS 17 59 19.1 -2.8
VORD pmax pmax
comp=Z,150nm,1.2s
MOL Molde 140.40 357 *e* **PKPdf** 17 38 06.1 -6.0
MOL *e*PKPdf **PKiKP** 17 38 12.6 -2.1
MOL *e*PP **PP** 17 41 13.0 +0.9
MOL *e*SS SS 17 59 20.6 -0.4
TBLG Delisi 140.45 308 *e*PKPpre PKPpre 17 38 05.8
TBLG Delisi 140.45 308 *e*PKHKP PKPpre 17 38 05.8
VSU Vasula 140.71 340 *e*P PKPdf 17 38 00.4 -12
ZEI Tsey 140.76 310 *i*PKHKP PKPpre 17 37 52.9
ZEI pmax pmax
comp=Z,60nm,0.6s
AKN Aaknes 140.81 357 *e* **PKPdf** 17 38 08.0 -4.9
AKN *e*PKPdf **PKiKP** 17 38 13.8 -1.8
AKN *e*PP **PP** 17 41 15.4 +0.7
AKN *e*SS SS 17 59 28.7 +2.7
DOMB Dombas 140.82 355 *e* **PKPdf** 17 38 08.5 -4.5
DOMB *e*PKPdf **PKiKP** 17 38 12.5 -3.1
DOMB *e*PP **PP** 17 41 15.6 +0.8
DOMB *e*SS SS 17 59 28.4 +2.2
DOMB IVMs_BB IVMs_BB 18 27 20.5
comp=Z,9μm,30.4s
GNI Garni 140.83 306 *e*PKPpre **PKPdf** 17 38 07.5 -6.4
GNI Garni 140.83 306 *i*PKPdf **PKPdf** 17 38 08.0 -5.8
SNR=45
GNI Garni 140.83 306 *e*PKHKP **PKPdf** 17 38 07.5 -6.4
GNI Garni 140.83 306 PKhKP **PKPdf** 17 38 10.4 -3.4
comp=Z,149nm,0.9s,baz=351,slow=9.9,SNR=3.6
GNI SKPab **SKiKP** 17 41 38.2 +2.3
comp=Z,468nm,1.3s,baz=183,slow=13,SNR=3.4
KBZ Khabaz 141.18 312 PKhKP PKPpre 17 38 08.9
comp=Z,131nm,1.0s,baz=165,slow=3.8,SNR=31
KVAR Kislovodsk Arr 141.24 312 PKhKP PKPpre 17 38 11.5
comp=Z,107nm,1.2s,baz=266,slow=23,SNR=23
TASB TASBURUN-IGDIR 141.24 306 *e*P PKPdf 17 38 05.1 -9.4
KIV Kislovodsk 141.25 312 *e*PKPpre **PKPdf** 17 38 08.0 -6.4
KIV Kislovodsk 141.25 312 ⇓*i*P **PKPdf** 17 38 06.7 -7.7
KIV Kislovodsk 141.25 312 *i*PKPdf **PKPdf** 17 38 08.8 -5.6
SNR=55
KIV Kislovodsk 141.25 312 *i*PKIKP **PKPdf** 17 38 13.8 -0.6
KIV *e* 17 41 16.4
KIV pmax pmax
comp=Z,2μm,1.1s
KIV MLR MLR
comp=Z,100μm,24.0s
NC303 NORSAR Array S 141.42 353 *e*PKPpre **PKPdf** 17 38 07.6 -6.4
NC204 NORSAR Array S 141.43 354 *e*PKPpre **PKPdf** 17 38 08.7 -5.4

AKH	**Akhalkalaki**	**141.44 308**	*e*	PKPpre	**PKPdf**	**17 38 09.8**	**-5.1**
AKH	**Akhalkalaki**	**141.44 308**	⇓*i*	P	**PKPdf**	**17 38 09.1**	**-5.8**
AKH	**Akhalkalaki**	**141.44 308**	*e*	PKHKP	**PKPdf**	**17 38 09.9**	**-5.1**
FOO	**Floro**	**141.47 358**	*e*	PKPdf	**PKPdf**	**17 38 13.4**	**-0.6**
NC405	**NORSAR Array S**	**141.49 353**	*e*	PKPpre	**PKPdf**	**17 38 08.3**	**-5.9**
NB201	**NORSAR Array S**	**141.60 353**	*e*	PKPpre	**PKPdf**	**17 38 08.6**	**-5.8**
NB2	**NORSAR Subarra**	**141.62 353**		PKPdf	**PKPdf**	**17 38 08.9**	**-5.5**
	comp=Z,728nm,1.1s,baz=6.6,slow=1.8						
NB2	**NORSAR Subarra**	**141.62 353**	*e*		**PKPdf**	**17 38 08.9**	**-5.5**
	baz=6.6,slow=1.8						
NB200	**NORSAR Array S**	**141.62 353**	*e*	PKPpre	**PKPdf**	**17 38 08.4**	**-6.0**
NB200			*e*	SKPbc	**SKPbc**	**17 41 33.4**	**-1.6**
NOA	**NORSAR Array B**	**141.62 353**		PKhKP	**PKPdf**	**17 38 08.4**	**-6.0**
	comp=Z,78nm,0.6s,baz=3.2,slow=2.3,SNR=131						
NOA				SKPbc	**SKPbc**	**17 41 33.4**	**-1.6**
	comp=Z,19nm,0.8s,baz=14,slow=4.3,SNR=2.4						
NBO00	**NORSAR Array S**	**141.67 354**	*e*	PKPpre	**PKPdf**	**17 38 09.6**	**-4.9**
CLDR	**Caldiran**	**141.67 304**	*e*	P	PKPdf	17 38 07.1	-8.4
NAO01	**NORSAR Array S**	**141.84 354**	*e*	PKPpre	**PKPdf**	**17 38 09.2**	**-5.6**
HYA	**Hoyanger**	**141.86 357**	*e*		**PKPdf**	**17 38 11.5**	**-3.2**
HYA			*e*	PP	**PP**	**17 41 21.8**	**+0.8**
NC602	**NORSAR Array S**	**141.88 353**	*e*	PKPpre	**PKPdf**	**17 38 09.2**	**-5.6**
NC602	**NORSAR Array S**	**141.88 353**	*e*		**PKPdf**	**17 38 09.9**	**-5.0**
NC602			*e*	PP	**PP**	**17 41 21.0**	**-0.2**
NC602			*e*	SS	SS	17 59 37.0	-1.3
SUE	**Sulen**	**142.02 358**	*e*		**PKPdf**	**17 38 10.9**	**-4.1**
SUE			*e*	PKPdf	**PKiKP**	**17 38 14.9**	**-3.1**
SUE			*e*	pPKPdf	**pPKPdf**	**17 39 01.1**	**+0.4**
SUE			*e*	PP	**PP**	**17 41 22.5**	**+0.5**
SUE			*e*	SS	SS	17 59 42.2	+2.4
SUE				IVMsBB		18 27 01.1	
	comp=Z,8μm,19.0s						
HFS	**Hagfors**	**142.19 351**		PKhKP	PKPpre	17 38 10.1	
	comp=Z,519nm,0.6s,baz=85,slow=3.1,SNR=171						
HFS				SKPbc	**SKPbc**	**17 41 35.7**	**-0.7**
	comp=Z,37nm,0.6s,baz=86,slow=4.6,SNR=2.1						
VANB	**Van**	**142.19 304**	*e*	P	PKPdf	17 38 07.5	-8.8
ANKE	**Ethiopia-Afar**	**142.22 255**	*e*	P	**Pdif**	**17 35 45.5**	**+6.9**
ANKE	**Ethiopia-Afar**	**142.22 255**	*e*	P	**Pdif**	**17 35 45.5**	**+6.9**
SKAR	**Skarslia**	**142.23 356**	*e*		PKPdf	17 38 07.2	-8.4
SKAR			*e*	PKPdf	**PKiKP**	**17 38 15.3**	**-3.4**
SKAR			*e*	pPKPdf	pPKPdf	17 39 01.3	+0.1
SKAR			*e*	PP	**PP**	**17 41 24.0**	**+0.7**
SKAR			*e*	SS	SS	17 59 44.1	+1.7
SKAR				IVMs_BB	IVMs_BB	18 29 56.0	
	comp=Z,8μm,20.2s						
AGRB	**Hanur-Agry**	**142.27 305**	*e*	P	**PKPdf**	**17 38 10.4**	**-6.1**
CUKT	**Cukurca**	**142.28 301**	*e*	P	PKPdf	17 38 08.6	-7.9
SENK	**Senkaya-Erzuru**	**142.50 307**	*e*	P	**PKPdf**	**17 38 09.4**	**-7.5**
AKDM	**Akdamar-Van**	**142.56 303**	*e*	P	**PKPdf**	**17 38 11.2**	**-5.8**
BER	**Bergen**	**142.68 358**	*e*		**PKPdf**	**17 38 14.2**	**-2.0**
BER			*e*	PKPdf	**PKiKP**	**17 38 16.6**	**-2.9**
BER			*e*	PP	**PP**	**17 41 25.6**	**-0.3**
BER			*e*	SS	SS	17 59 49.6	+2.2
BATM	**Batumi**	**142.68 309**	⇑*i*	P	**PKPdf**	**17 38 12.8**	**-4.1**
MLAZ	**Malazgirt-MUS**	**142.71 305**	*e*	P	**PKPdf**	**17 38 12.0**	**-5.3**
SLIT	**Slitere, Latvi**	**142.71 343**	*e*	P	PKPdf	17 38 06.9	-10
OSL	**Oslo**	**142.75 353**	*e*		**PKPdf**	**17 38 12.5**	**-3.9**
BCA	**Borcka**	**142.78 309**	*e*	P	**PKPdf**	**17 38 12.2**	**-4.9**
BCA	**Borcka**	**142.78 309**	⇓*i*	P	**PKPdf**	**17 38 12.8**	**-4.3**
AAE	**Adis Abeba**	**142.83 254**	*e*	P	**PKPdf**	**17 38 15.7**	**-2.7**
FURI	**Furi**	**142.85 254**	*e*	PKPdf	**PKPdf**	**17 38 17.1**	**-1.4**
FURI	**Furi**	**142.85 254**	*e*	P	**PKPdf**	**17 38 15.3**	**-3.1**
KOPR	**Koprukoy-ERZUR**	**143.02 306**	*e*	P	PKPab	17 38 11.8	-1.7
IZAR	**Zarasai**	**143.05 338**	*e*	P	PKPbc	17 38 13.9	-0.6
IZAR				IAmb	IAmb	17 38 22.5	
	comp=Z,597nm,1.0s						
ODD1	**Odda**	**143.09 357**	*e*		PKPbc	17 38 14.8	+0.3
ODD1			*e*	PKPdf	**PKPdf**	**17 38 17.3**	**+0.2**
ODD1			*e*	pPKPdf	pPKPdf	17 39 02.5	-0.2
ODD1			*e*	SKPdf	**SKPdf**	**17 41 35.1**	**+0.2**
KONO	**Kongsberg**	**143.14 354**	*e*	PKPpre	PKPbc	17 38 14.1	-0.5
KONO	**Kongsberg**	**143.14 354**	*e*	PKIKP	PKPbc	17 38 14.1	-0.5
KONO	**Kongsberg**	**143.14 354**	*e*	PKPdf	**PKPdf**	**17 38 16.0**	**-1.1**
KONO				IVmBBB		17 38 20.8	
	comp=Z,19μm,2.5s						
KONO			*e*	SS	SS	17 59 53.0	+0.1
SIRT	**Sirnak**	**143.15 302**	*e*	P	PKPab	17 38 12.0	-2.0
IDID	**Didziasalis**	**143.22 337**	*e*	P	PKPbc	17 38 14.4	-0.5
IDID				IAmb	IAmb	17 38 23.6	
	comp=Z,544nm,0.9s						
ISAL	**Salakas**	**143.23 338**	*e*	P	PKPbc	17 38 14.7	-0.3
ISAL				IAmb	IAmb	17 38 23.0	
	comp=Z,607nm,0.9s						
AKDA	**Akdag**	**143.35 307**	*i*	P	**PKPdf**	**17 38 17.6**	**-0.8**
IIGN	**Ignalina**	**143.37 338**	*e*	P	PKPbc	17 38 14.8	-0.6
IIGN				IAmb	IAmb	17 38 23.3	
	comp=Z,543nm,0.8s						
SOC	**Sochi**	**143.39 313**	*e*	P	**Pdif**	**17 35 38.8**	**-3.8**
SOC			*i*			17 38 18.0	
SOC			*e*			17 41 27.5	
SOC			*e*			17 53 58.9	
SOC			*e*	SSS	SSS	18 05 15.6	
SOC				pmax	pmax		
	comp=Z,10μm,4.0s						
SOC				pmax	pmax		
	comp=Z,352nm,0.7s						
MICGM	**Minsk**	**143.42 335**	⇑*e*	PKP	PKPbc	17 38 15.0	-0.5
MICGM				PKPM		17 38 19.0	
	comp=N,1.4nm,1.5s						
MICGM				PKPM		17 38 19.0	
	comp=Z,6.5nm,1.0s						
MICGM				PKPM		17 38 19.0	
	comp=E,1.7nm,1.2s						
MICGM				PKPM		17 38 20.0	
	comp=Z,75nm,20.0s						
MICGM			*e*	pPKP	pPKPdf	17 38 56.0	-7.3
MICGM			*e*	SKP		17 41 10.0	
MICGM			*e*	PP	PP	17 41 12.0	-19
MICGM				PPM		17 41 28.0	
	comp=Z,41nm,18.0s						
MICGM			*e*	PPP	PPP	17 44 30.0	
MICGM			*e*	SKS	SKSdf	17 44 40.0	-30
MICGM			*e*	SKKS	SKKSac	17 47 46.0	-20
MICGM			*e*	PS		17 50 59.0	
MICGM			*e*	SPP	SPP	17 52 30.0	
MICGM			*e*	PPS	PPS	17 53 42.0	
MICGM			*e*	SS	SS	17 59 30.0	-27
MICGM			*e*	SSS	SSS	18 05 12.0	
MICGM			*e*	LQ	LQ	18 18 22.0	
MICGM				LQM		18 23 16.0	
	comp=N,129nm,22.0s						
MICGM				LQM		18 24 20.0	
	comp=E,128nm,18.0s						
MICGM				LQM		18 24 44.0	
	comp=E,60nm,36.0s						
MICGM				LQM		18 24 46.0	
	comp=N,64nm,36.0s						
MICGM			*e*	LR	LR	18 35 54.0	
MICGM				LRM	MLR	18 41 16.0	
	comp=Z,95nm,32.0s						
MICGM				LRM	MLR	18 41 30.0	
	comp=Z,36nm,28.0s						
MNK	**Minsk**	**143.42 335**	⇑*e*	PKIKP	PKPbc	17 38 15.0	-0.5
MNK			*e*			17 38 56.0	
MNK			*e*			17 44 40.0	
MNK			*e*			17 53 42.0	
MNK				pmax	pmax		
	comp=Z,6μm,1.0s						
MNK				pmax	pmax		
	comp=N,1μm,1.5s						
MNK				pmax	pmax		
	comp=E,2μm,1.2s						
MNK				pmax	pmax		
	comp=Z,75μm,20.0s						
NACGM	**Naroch**	**143.52 337**	*e*	P	**Pdif**	**17 35 36.0**	**-6.9**
NACGM			*e*	PKP	PKPab	17 38 12.0	-2.7
NACGM			*e*	PKP	PKPbc	17 38 15.0	-0.8
NACGM			*e*	PP	PP	17 41 12.0	-19
NACGM			*e*	PPP	PPP	17 43 50.0	
NACGM			*e*	SKS	SKSac	17 45 30.0	+12
NACGM			*e*	SKKS	**SKKSac**	**17 47 56.0**	**-11**
NACGM			*e*	SKSP		17 50 52.0	
NACGM			*e*	SS	SS	17 59 16.0	-42
NACGM			*e*	SSS	SSS	18 05 04.0	
NACGM			*e*	LQ	LQ	18 22 52.0	
NACGM			*e*	LR	LR	18 39 42.0	
NACGM				LRM	MLR	18 47 47.0	
	comp=Z,40nm,21.0s						
VRTB	**Varto-Mus**	**143.53 305**	*e*	P	PKPbc	17 38 16.7	+0.2
VRTB	**Varto-Mus**	**143.53 305**	*i*	P	**PKPdf**	**17 38 19.9**	**+1.3**
BLS5	**Blasjo**	**143.59 357**	*e*	PKPdf	**PKPdf**	**17 38 17.9**	**-0.1**
BLS5			*e*	pPKPdf	**pPKPdf**	**17 39 04.1**	**+0.5**
BLS5			*e*	SS	SS	18 00 00.8	+2.7
BLS5				IVMs_BB	IVMs_BB	18 24 17.8	
	comp=Z,8μm,11.7s						
ECAT	**Cat-ERZURUM**	**143.77 306**	*i*	P	**PKPdf**	**17 38 19.0**	**-0.2**
KARO	**Karliova-Bingo**	**143.79 306**	*e*	P	PKPab	17 38 16.3	-0.3
BNGL	**BINGOL**	**143.81 305**	*i*	P	**PKPdf**	**17 38 18.9**	**-0.3**
KMY	**Karmoy**	**143.85 358**	*e*		PKPbc	17 38 16.3	-0.2
KMY			*e*	PKPdf	**PKPdf**	**17 38 18.5**	**+0.2**
KMY			*i*			17 41 43.0	
H10S3	**ASCENSION HYDR**	**143.87 150**		PKP	**PKPdf**	**17 38 19.1**	**-0.4**
	baz=250,slow=5.2,SNR=89						
H10S2	**ASCENSION HYDR**	**143.88 150**		PKP	**PKPdf**	**17 38 19.1**	**-0.4**
	baz=250,slow=5.2,SNR=123						
H10S1	**ASCENSION HYDR**	**143.89 150**		PKP	**PKPdf**	**17 38 18.6**	**-0.9**
	baz=250,slow=5.2,SNR=258						
SVAN	**Silvan-Diyarba**	**143.97 304**	*e*	P	PKPab	17 38 15.5	-1.6
PABE	**Paberze**	**144.00 340**	*e*	P	**PKPab**	**17 38 15.4**	**-1.1**
PABE				IAmb	IAmb	17 38 23.7	
	comp=Z,4μm,0.9s						
MBAR	**Mbarara**	**144.03 233**	*e*	PKPdf	**PKPdf**	**17 38 19.7**	**-0.7**
MBAR	**Mbarara**	**144.03 233**		PKP	**PKPdf**	**17 38 20.5**	**+0.2**
	comp=Z,2μm,0.8s,baz=124,slow=3.7,SNR=353						
YEDI	**Yedisu-Bingol**	**144.14 306**	*e*	P	**PKPab**	**17 38 16.9**	**-1.0**
BNGB	**Bingl**	**144.16 305**	*e*	P	**PKPab**	**17 38 17.5**	**-0.4**
BAYT	**Aydintepe-Bayb**	**144.16 308**	*e*	P	**PKPdf**	**17 38 19.2**	**-0.6**
PBUR	**Paburg**	**144.19 342**	*e*	P	**PKPab**	**17 38 17.0**	**-0.2**
PBUR				IAmb	IAmb	17 38 23.9	
	comp=Z,8μm,0.8s						
KTUT	**Trabzon**	**144.25 309**	*e*	P	**PKPab**	**17 38 16.7**	**-1.3**
KTUT	**Trabzon**	**144.25 309**	⇓*i*	P	PKPbc	17 38 18.3	-0.1
BIGH	**Upper Bighouse**	**144.29 6**	*e*	P	**PKPab**	**17 38 15.9**	**-1.6**
RSC	**Scourie**	**144.30 7**	⇓*e*	P	**PKPab**	**17 38 17.7**	**+0.1**
ANN	**Anapa**	**144.40 316**	*d*	PKIKP	**PKPab**	**17 38 17.3**	**-1.1**
ANN				pmax	pmax		
	comp=Z,5μm,1.6s						
ANN				pmax	pmax		
	comp=Z,70μm,13.4s						
RRH	**Rhenigidale**	**144.53 9**	⇓*e*	P	**PKPab**	**17 38 18.5**	**0.0**
MLA1	**Latheron**	**144.53 6**	⇓*e*	P	**PKPab**	**17 38 18.2**	**-0.3**
HOMB	**Homborsund**	**144.60 355**	*e*	PKPab	**PKPab**	**17 38 18.7**	**0.0**
HOMB			*e*	pPKPdf	**pPKPdf**	**17 39 05.4**	**0.0**
HOMB			*e*	SKPdf	**SKPdf**	**17 41 37.2**	**-0.1**
SNART	**Snartemo**	**144.63 356**	*e*	PKPab	**PKPab**	**17 38 18.8**	**0.0**
SNART			*e*	PKPdf	**PKPdf**	**17 38 19.9**	**+0.2**
SNART			*e*	SKPdf	**SKPdf**	**17 41 37.5**	**+0.2**
SNART			*e*			17 41 47.1	
RRR	**Rubha Reidh**	**144.70 8**	⇓*e*	P	**PKPab**	**17 38 19.0**	**-0.1**
ERZN	**Erzincan**	**144.71 307**	*e*	P	**PKPdf**	**17 38 20.5**	**-0.2**
ASCN	**Ascension**	**144.91 149**	*e*	PKPbc	**PKPdf**	**17 38 22.1**	**+0.4**
H10N3	**ASCENSION HYDR**	**144.92 149**		PKPbc	**PKPdf**	**17 38 23.1**	**+1.8**
	baz=190,slow=4.2,SNR=166						
H10N1	**ASCENSION HYDR**	**144.93 149**		PKPbc	**PKPdf**	**17 38 23.0**	**+1.7**
	baz=190,slow=4.2,SNR=139						
H10N2	**ASCENSION HYDR**	**144.94 149**		PKPbc	**PKiKP**	**17 38 24.7**	**-0.5**
	baz=190,slow=4.2,SNR=109						
KAC	**Achnashellach**	**145.12 8**	⇓*i*	P	**PKPbc**	**17 38 20.2**	**-0.4**
KPL	**Plockton**	**145.23 8**	⇓*e*	P	**PKPdf**	**17 38 20.6**	**-0.2**
MCD	**Coleburn Disti**	**145.25 6**	⇓*e*	P	**PKPdf**	**17 38 20.3**	**-0.6**
MDO	**Dochfour**	**145.28 7**	⇓*e*	P	**PKPdf**	**17 38 20.1**	**-0.8**
SVRC	**Sivrice-ELAZID**	**145.35 305**	*e*	P	**PKPab**	**17 38 22.4**	**-0.1**
SUW	**Suwalki**	**145.50 339**	*e*	PKP	**PKPdf**	**17 38 21.6**	**+0.2**
SUW			*e*	PP	**PP**	**17 41 41.2**	**-1.8**
SUW	**Suwalki**	**145.50 339**	*e*	PKPdf	**PKPdf**	**17 38 21.6**	**+0.2**
SUW	**Suwalki**	**145.50 339**	*e*	PKP2	**PKPdf**	**17 38 21.6**	**+0.2**
SUW			*e*			17 41 41.2	
MME1	**Meikle Cairn**	**145.54 6**	⇓*e*	P	**PKPdf**	**17 38 21.1**	**-0.3**
AKASG	**Malin Array Be**	**145.61 330**		PKPbc	**PKPbc**	**17 38 22.0**	**-0.2**
	comp=Z,822nm,0.6s,baz=40,slow=4.7,SNR=752						
AKASG				SKPbc	**SKPbc**	**17 41 43.2**	**-1.5**
	comp=Z,47nm,0.8s,baz=44,slow=3.1,SNR=2.3						
AKBB	**Malin Array Si**	**145.61 330**	*e*	PKPdf	**PKPdf**	**17 38 21.1**	**-0.5**
AKBB	**Malin Array Si**	**145.61 330**	*e*	PKIKP	**PKPdf**	**17 38 21.1**	**-0.5**
KIEV	**Kiev**	**145.62 330**	⇓*i*	P	**PKPdf**	**17 38 21.6**	**-0.1**
KIEV	**Kiev**	**145.62 330**	*i*	PKPbc	**PKPdf**	**17 38 21.7**	**-0.1**
	SNR=334						
KIEV	**Kiev**	**145.62 330**	⇓PKP2		**PKPdf**	**17 38 21.6**	**-0.1**
URFA	**Urfa**	**145.97 303**	*e*	P	**PKPdf**	**17 38 22.9**	**0.0**
DRUM	**Mains of Drumt**	**145.98 5**	*e*	P	**PKPdf**	**17 38 21.8**	**-0.4**
RSDY	**Resadiye-TOKAT**	**146.20 309**	*e*	P	**PKPbc**	**17 38 23.8**	**-0.6**
EDU	**Dundee**	**146.30 6**	⇓*e*	P	**PKPbc**	**17 38 24.2**	**+0.1**
ELO	**Logie Almond**	**146.31 7**	*e*	P	**PKPdf**	**17 38 21.9**	**-0.8**
INVG	**Invergeldie, C**	**146.31 7**	⇓*e*	P	**PKPdf**	**17 38 22.3**	**-0.4**
LAWE	**Loch Awe, Argy**	**146.31 8**	*e*	P	**PKPdf**	**17 38 22.5**	**-0.2**
MUD	**Monsted U'grnd**	**146.33 354**	⇓*i*	PKP2	**PKPab**	**17 38 24.9**	**-0.4**
MUD	**Monsted U'grnd**	**146.33 354**	⇓*i*	P	**PKPab**	**17 38 24.9**	**-0.4**
SIM	**Simferopol'**	**146.41 318**	*i*	PKP2	**PKPab**	**17 38 26.3**	**+0.2**
EAB	**Aberfoyle**	**146.51 7**	*e*	P	**PKPbc**	**17 38 24.5**	**-0.2**
EBH	**Black Hill**	**146.55 6**	*e*	P	**PKPdf**	**17 38 21.6**	**-1.5**
SVSK	**Karacayir**	**146.60 308**	*e*	P	**PKPdf**	**17 38 24.5**	**+0.8**
COP	**Copenhagen**	**146.66 350**	*i*	PKP2	**PKPbc**	**17 38 25.5**	**+0.3**
COP	**Copenhagen**	**146.66 350**	*i*	P	**PKPbc**	**17 38 25.5**	**+0.3**
DARE	**Darende-Malaty**	**146.67 306**	*e*	P	**PKPdf**	**17 38 24.4**	**+0.4**
BSD	**Bornholm Skovb**	**146.75 347**	*i*	PKP2	**PKPbc**	**17 38 25.7**	**+0.2**
BSD	**Bornholm Skovb**	**146.75 347**	*i*	P	**PKPbc**	**17 38 25.7**	**+0.2**
TOKT	**Tokat**	**146.78 309**	*e*	P	**PKPdf**	**17 38 23.6**	**-0.5**
KVT	**Kavak**	**146.85 311**	*e*	P	**PKPdf**	**17 38 23.8**	**-0.4**
PGBU	**Glenifferbraes**	**146.87 8**	⇓*e*	P	**PKPbc**	**17 38 25.5**	**-0.3**
H07N1	**FLORES T-PHASB**	**146.90 52**	*e*	PKP	**PKPdf**	**17 38 18.7**	**-5.6**
EDI	**Edinburgh**	**146.90 6**	*e*	P	**PKPdf**	**17 38 23.9**	**+0.2**
H07S1	**FLORES T-PHASB**	**146.94 53**	*e*	PKP	**PKPdf**	**17 38 19.4**	**-5.0**
EAU	**Auchinoon**	**146.95 6**	*e*	P	**PKPbc**	**17 38 25.6**	**-0.4**
ESY	**Stoneypath**	**146.96 6**	⇓*e*	P	**PKPdf**	**17 38 23.4**	**-0.4**
SNOP	**Sinop**	**147.06 313**	*e*	P	**PKPdf**	**17 38 24.2**	**-0.2**
EBL	**Broad Law**	**147.06 6**	*e*	P	**PKPdf**	**17 38 24.2**	**+0.2**
DIKM	**Dikmen**	**147.17 312**	*e*	P	**PKPdf**	**17 38 24.6**	**0.0**
DIKM	**Dikmen**	**147.17 312**	⇓*i*	P	**PKPdf**	**17 38 25.2**	**+0.6**
GAZ	**Gaziantep**	**147.28 303**	*e*	P	**PKPdf**	**17 38 24.6**	**-0.5**
KMRS	**Kahramanmaras**	**147.42 304**	*e*	P	**PKPbc**	**17 38 28.0**	**0.0**
EKA	**Eskdalemuir Ar**	**147.48 6**		PKPbc	**PKPbc**	**17 38 27.5**	**0.0**
	comp=Z,680nm,0.7s,baz=330,slow=3.7,SNR=130						
EKA				SKPbc	**SKiKP**	**17 41 48.9**	**0.0**
	comp=Z,80nm,1.1s,baz=27,slow=4.8,SNR=2.9						
ESK	**Eskdalemuir**	**147.50 6**	*e*	PKPdf	**PKPdf**	**17 38 25.2**	**+0.5**
ESK	**Eskdalemuir**	**147.50 6**	⇓*e*	P	**PKPbc**	**17 38 27.5**	**0.0**
ESK	**Eskdalemuir**	**147.50 6**	*e*	PKIKP	**PKPdf**	**17 38 25.2**	**+0.5**
RGN	**Rugen**	**147.59 349**	*e*	PKPdf	**PKPdf**	**17 38 25.8**	**+0.9**
BHH	**Howats Hill**	**147.72 6**	*e*	P	**PKPdf**	**17 38 24.9**	**-0.1**
GAL1	**Galloway**	**147.76 8**	*e*	P	**PKPdf**	**17 38 24.9**	**-0.3**
BNN	**Bunyan**	**147.80 307**	*e*	P	**PKPdf**	**17 38 25.8**	**-0.1**
YOZ	**Yozgat**	**147.91 309**	*e*	P	**PKPdf**	**17 38 25.2**	**-0.9**
GKP	**Gorka Klasztor**	**147.91 344**	*e*	PKP	**PKPdf**	**17 38 26.1**	**+0.7**
GKP			*e*	PP	**PP**	**17 41 54.0**	**-3.1**
GKP	**Gorka Klasztor**	**147.91 344**	*e*	PKIKP	**PKPdf**	**17 38 26.1**	**+0.7**
GKP			*e*			17 41 54.0	
BBO1	**Bothel**	**148.06 7**	*e*	P	**PKPdf**	**17 38 25.6**	**-0.1**
EDMD	**Edmundbyers**	**148.09 5**	*e*	P	**PKPbc**	**17 38 28.0**	**-1.1**
BEL	**Belsk**	**148.11 339**	*e*	PKP	**PKPdf**	**17 38 26.7**	**+0.9**
BEL			*e*	PP	**PP**	**17 41 57.7**	**-0.7**
BEL	**Belsk**	**148.11 339**	*e*	PKIKP	**PKPdf**	**17 38 26.7**	**+0.9**
BEL			*e*			17 41 57.7	
GMM	**Mts of Mourne**	**148.19 10**	*e*	P	**PKPdf**	**17 38 26.4**	**+0.6**
CORM	**Corum**	**148.20 310**	*e*	P	**PKPdf**	**17 38 27.0**	**+0.5**
KOZT	**Kozan**	**148.25 304**	*e*	P	**PKPdf**	**17 38 26.6**	**0.0**
KIS	**Kishinev**	**148.27 325**	*e*	PKiKP	**PKPdf**	**17 38 25.0**	**-1.2**
KIS	**Kishinev**	**148.27 325**	*e*	PKP	**PKPbc**	**17 38 30.0**	**+0.2**
	comp=Z,6μm,2.0s						
KIS			*e*	pPKP	**pPKPdf**	**17 39 13.0**	**+1.1**
KIS			*e*	sPKP		17 39 25.0	
KIS	**Kishinev**	**148.27 325**	*e*	PP	PP	17 41 58.0	-1.7
	comp=Z,34μm,20.0s						
KIS			*e*	SKS	SKSdf	17 45 03.0	-15
KIS	**Kishinev**	**148.27 325**	*e*	PPP	PPP	17 45 30.0	
KIS			*e*	SKKS		17 48 32.0	
KIS	**Kishinev**	**148.27 325**	*e*		**PKPbc**	**17 38 30.0**	**+0.2**
KIS			*e*			17 41 58.0	
KIS			*e*	PPP	PPP	17 45 30.0	
KIS			*e*	PPS	PPS	17 54 44.0	
KIS				pmax	pmax		
	comp=Z,6μm,2.0s						
KIS				pmax	pmax		
	comp=Z,68μm,20.0s						
KIS				pmax	pmax		
	comp=N,34μm,20.0s						
KIS				MLR	MLR		
	comp=Z,36μm,21.0s						
TAHT	**Tahtakopru-Hat**	**148.28 302**	*e*	P	**PKPdf**	**17 38 26.6**	**0.0**
IGLA	**Glengowla, Co**	**148.33 14**	*e*	P	**PKPdf**	**17 38 23.8**	**-2.3**
IOMK	**Kirk Michael**	**148.37 8**	*e*	P	**PKPdf**	**17 38 25.8**	**-0.4**
CEYT	**Ceyhan**	**148.44 304**	*e*	P	**PKPdf**	**17 38 26.8**	**-0.1**
WIM	**Isle of Man**	**148.47 8**	*e*	P	**PKPdf**	**17 38 26.0**	**-0.4**
ILGA	**Ilgaz**	**148.48 312**	*e*	PKPdf	**PKPdf**	**17 38 27.6**	**+0.5**
LVV	**L'vov**	**148.53 333**	*e*	PKIKP	**PKPdf**	**17 38 26.6**	**0.0**
LVV			*e*			17 39 16.2	
LVV			*e*			17 42 06.6	
LVV				MLR	MLR		
	comp=N,22μm,23.0s						
LVV				MLR	MLR		
	comp=Z,22μm,23.0s						
LVV				MLR	MLR		
	comp=E,4μm,22.0s						
ASF	**Jabal al Asfar**	**148.56 294**		PKPbc	**PKiKP**	**17 38 32.1**	**-0.5**
	comp=E,2μm,0.9s,baz=48,slow=1.5,SNR=153						
GDLE	**Glaisdale, N Y**	**148.58 4**	*e*	P	**PKPdf**	**17 38 26.6**	**+0.1**
CANT	**Cankiri**	**148.73 311**	*e*	P	**PKPdf**	**17 38 27.0**	**-0.3**
TOTH	**TOTAH**	**148.76 297**	*e*	P	**PKiKP**	**17 38 33.4**	**+0.5**
KURC	**Kurucasile-Bar**	**148.78 314**	*e*	P	**PKPdf**	**17 38 26.4**	**-0.8**
IAS	**Iasi**	**148.79 327**	⇑*i*	P	**PKPdf**	**17 38 27.2**	**+0.1**
IAS	**Iasi**	**148.79 327**	⇑PKIKP		**PKPdf**	**17 38 27.2**	**+0.1**
QASN	**Qassioun**	**148.85 297**	*e*	P	**PKiKP**	**17 38 33.5**	**+0.4**
KARA	**Karaisali**	**148.90 304**	*e*	P	**PKPdf**	**17 38 27.4**	**-0.2**
LEOM	**Leova**	**148.91 325**	⇓*i*	P	**PKPdf**	**17 38 27.5**	**+0.2**
LEOM	**Leova**	**148.91 325**	⇓PKIKP		**PKPdf**	**17 38 27.5**	**+0.2**
HPK	**Haverah Park**	**148.99 5**	*e*	P	**PKPdf**	**17 38 27.3**	**+0.1**
PCED	**Cedros**	**149.03 53**	*e*	PKP	**PKPdf**	**17 38 22.7**	**-5.1**
CALA	**Caldeira**	**149.04 53**	*e*	PKP	**PKPdf**	**17 38 22.3**	**-5.6**
BR101	**Keskin Array S**	**149.07 310**	*e*	PKPdf	**PKPdf**	**17 38 28.2**	**+0.2**
BR101			*e*	PKPbc	**PKPbc**	**17 38 32.1**	**-0.2**
BR131	**Keskin Array S**	**149.07 310**	*e*	PKPdf	**PKPdf**	**17 38 27.6**	**-0.4**
BRTR	**Keskin Array B**	**149.07 310**		PKP	**PKPdf**	**17 38 28.2**	**+0.2**
	comp=E,228nm,0.9s,baz=132,slow=1.3,SNR=84						
BRTR				PKPbc	**PKPbc**	**17 38 32.1**	**-0.2**
	comp=E,934nm,0.7s,baz=141,slow=5.0,SNR=235						
DSB	**Dublin**	**149.08 11**	*e*	PKPdf	**PKPdf**	**17 38 27.8**	**+0.4**
HOR	**Horta**	**149.12 53**	*e*	PKP	**PKPdf**	**17 38 22.6**	**-5.3**
BRBR	**Barbar**	**149.14 297**	*e*	P	**PKiKP**	**17 38 34.0**	**+0.1**
KWP	**Kalwaria Pacla**	**149.22 334**	*e*	PKP	**PKPdf**	**17 38 28.3**	**+0.6

CLL pmax pmax
comp=Z,5μm,0.9s
CLL Collm 150.73 347 *e*PKPdf **PKPdf 17 38 31.0 +1.0**
CLL *e*PKRPdfma 17 38 35.0
CLL *e*PKPbc **PKiKP 17 38 36.0 -0.3**
comp=Z,2μm,1.5s
CLL *e*PKPlp 17 38 37.0
comp=Z,34μm,24.7s
CLL *i* PKPbcmax 17 38 40.0
comp=Z,5μm,0.9s
CLL *i* PKPabmax 17 38 46.8
comp=Z,3μm,0.9s
CLL *ep*PKPab **pPKPab 17 39 25.0 -2.2**
CLL *es*PKPdf **sPKPdf 17 39 33.0 -0.4**
CLL *e*PKSdf **PKSdf 17 42 05.0 +0.5**
CLL *e*PP **PP 17 42 13.0 -0.3**
CLL *es*PKSdf 17 43 08.0
CLL *e*PPP PPP 17 45 37.0
CLL *es*PPP 17 46 45.0
CLL *e*SKKSac SKKSac 17 48 46.0 -1.0
CLL *e*SKKSacma 17 48 52.0
CLL *e* 17 49 10.0
CLL *e* 17 49 18.0
comp=Z,69nm,1.2s
CLL *e*SKSP 17 52 16.0
CLL *e*PSKS 17 52 30.0
CLL *es*PSKS 17 53 37.0
CLL *e*PPS PPS 17 55 13.0
CLL *ep*SKKSdf 17 55 21.0
CLL *es*PPS 17 56 12.0
CLL *e* 17 57 30.0
CLL *e* 17 58 55.0
CLL *e*SS **SS 18 01 23.0 +4.5**
CLL *e*SKSSKSac **8'S'ac 18 02 16.0 -0.2**
CLL *es*SS 18 02 34.0
CLL *es*PSPS 18 03 41.0
CLL *e* 18 04 57.0
CLL *e* 18 06 02.0
CLL *e*SSS SSS 18 06 58.0
CLL *es*SSS 18 08 12.0
CLL *e*SSSS 18 10 48.0
CLL *es*SSSS 18 12 00.0
CLL *i* 18 15 08.6
comp=Z,11nm,1.0s
UPC Upice 150.74 343 *e*PKIKP **PKPdf 17 38 31.0 +0.9**
UPC *e* 17 38 40.4
UPC *e*SS SS 18 01 22.5 +3.7
UPC Upice 150.74 343 *e*PKP **PKPdf 17 38 31.0 +0.9**
UPC *ex* x 17 38 40.4
UPC *e*SKKS 17 52 35.1
UPC *e*SS **SS 18 01 22.5 +3.7**
MLR Muntele Rosu 150.76 325 ⇓*i*P **PKPdf 17 38 30.3 -0.2**
MLR Muntele Rosu 150.76 325 ⇓PKIKP **PKPdf 17 38 30.3 -0.2**
MLR Muntele Rosu 150.76 325 PKP **PKPdf 17 38 29.9 -0.5**
comp=Z,53nm,1.0s,baz=352,slow=2.7,SNR=19
MLR PKPbc **PKiKP 17 38 36.6 -0.2**
comp=Z,2μm,1.0s,baz=64,slow=3.6,SNR=90
MCH1 Michaelchurch 150.79 7⇓*e*P **PKPdf 17 38 29.6 -0.5**
DPC Dobruska-Polom 150.79 342 *e*PKIKP **PKPdf 17 38 31.4 +1.2**
DPC *e* 17 38 40.7
DPC *e*SS SS 18 01 16.1 -3.4
DPC Dobruska-Polom 150.79 342 *e*PKPDF **PKPdf 17 38 31.4 +1.2**
DPC *e*PKPAB **PKPab 17 38 40.7 -3.0**
DPC *ex* x 17 52 13.4
DPC *e*SS SS 18 01 16.1 -3.4
LANS Liptovska Anna 150.83 337 *e*PKIKP **PKPdf 17 38 31.8 +1.5**
LANS Liptovska Anna 150.83 337 *e*PKP **PKPdf 17 38 31.8 +1.5**
CSS Mathiatis 150.90 301 *e*PKPdf **PKPdf 17 38 30.1 -0.7**
KRLC Kraliky 150.91 341 *e*PKIKP **PKPdf 17 38 33.3 +2.9**
KRLC *e* 17 38 40.7
KRLC *e*SS SS 18 01 22.8 +2.0
KRLC Kraliky 150.91 341 *e*PKPDF **PKPdf 17 38 33.3 +2.9**
KRLC *e*PKPAB **PKPab 17 38 40.7 -3.5**
KRLC *e*SS SS 18 01 22.8 +2.0
SAUV Serdivan-Sakar 150.91 314 *e*P **PKPdf 17 38 28.9 -1.7**
BRG Berggiesshubel 150.93 345⇓*i*PKP **PKPdf 17 38 30.9 +0.6**
comp=Z,503nm,2.1s
BRG *i* 17 38 33.6
comp=Z,600nm,1.2s
BRG *i* 17 38 40.6
comp=Z,4μm,0.9s
BRG *i* sPKP 17 39 25.8
comp=Z,3μm,1.5s
BRG PP **PP 17 42 12.0 -2.5**
BRG SS SS 18 01 19.0 -1.8
BRG Berggiesshubel 150.93 345⇓*i*PKIKP **PKPdf 17 38 30.9 +0.6**
BRG *i* 17 38 33.6
BRG *i* 17 38 40.6
BRG 17 42 12.0
BRG SS SS 18 01 19.0 -1.8
BRG pmax pmax
comp=Z,503nm,2.1s
BRG pmax pmax
comp=Z,4μm,0.9s
BRG pmax pmax
comp=N,3μm,1.5s
GULT Gulveren 150.93 313 *e*P **PKPdf 17 38 29.9 -0.9**
MAMC Mammari 150.93 301 P **PKPdf 17 38 30.9 0.0**
MORC Moravsky Berou 150.94 340 *e*PKPdf **PKPdf 17 38 30.4 -0.1**
MORC Moravsky Berou 150.94 340⇓*i*P **PKPdf 17 38 31.1 +0.6**
MORC Moravsky Berou 150.94 340⇓PKIKP **PKPdf 17 38 31.1 +0.6**
MORC Moravsky Berou 150.94 340⇓*i*PKP **PKPdf 17 38 30.4 -0.1**
MORC *e*PP **PP 17 42 16.2 +1.5**
MORC *e* 17 52 28.0
MORC *e*SS SS 18 01 22.8 +1.6
MORC *e* 18 15 08.2
SPNC Sapanca-Adapaz 150.95 314 *e*P **PKPdf 17 38 29.9 -0.8**
LEHL Lehliu 150.96 323⇑*i*P **PKPdf 17 38 31.1 +0.5**
MONM Monmouth 150.97 7⇓*e*P **PKPdf 17 38 29.2 -1.2**
WTSB Winterswijk 151.00 355 *e*PKPdf **PKPdf 17 38 30.4 0.0**
WTSB *e*PKPbc **PKiKP 17 38 39.4 +2.6**
WTSB *ep*PKPbc **pPKPab 17 39 25.4 -3.0**
SECR 151.00 325⇑*i*P **PKPdf 17 38 32.5 +1.8**
KECS Kecovo 151.01 335 *e*PKIKP **PKPdf 17 38 31.3 +0.7**
KECS *e* 17 38 40.3
KECS Kecovo 151.01 335 *e*PKP **PKPdf 17 38 31.3 +0.7**
KECS *e* 17 38 40.3
SRCK Saricakaya, Es 151.04 312 *e*P **PKPdf 17 38 29.9 -1.0**
CIFT Cifteler, Eski 151.04 311 *e*P **PKPdf 17 38 30.1 -0.9**
CJR Cluj-Napoca 151.06 330⇓*i*P **PKPdf 17 38 31.0 +0.3**
CJR Cluj-Napoca 151.06 330⇓PKIKP **PKPdf 17 38 31.1 +0.3**
PVCC Panska Ves 151.10 344 *e*PKIKP **PKPbc 17 38 34.2 -2.4**
PVCC *e* 17 38 41.0
PVCC *e*SS SS 18 01 22.8 +0.1
PVCC Panska Ves 151.10 344 *e*PKP **PKPbc 17 38 34.2 -2.4**
PVCC *ex* x 17 38 41.0
PVCC *e*SS SS 18 01 22.8 +0.1
STRD Stroud 151.10 6⇓*e*P **PKPdf 17 38 30.3 -0.3**
PLAR PLOIESTI 151.10 325⇓*i*P **PKPbc 17 38 34.3 -2.5**
SULR 151.14 324⇓*i*P **PKPdf 17 38 30.8 0.0**
SILT Sile 151.16 315 *e*P **PKPdf 17 38 29.9 -1.1**
SILT Sile 151.16 315⇓*i*P **PKPdf 17 38 30.7 -0.3**
OLDB Oldbury-Upon-S 151.17 7⇓*e*P **PKPdf 17 38 30.2 -0.5**
LEF Lefka 151.20 301 *e*P **PKPdf 17 38 30.0 -1.3**
LEF Lefka 151.20 301⇓*i*P **PKPdf 17 38 30.7 -0.6**
VOIR 151.26 326⇓*i*P **PKPdf 17 38 31.3 +0.1**
VOIR 151.26 326⇓PKIKP **PKPdf 17 38 31.3 +0.1**
HRT Hereke 151.31 314 *e*P **PKPdf 17 38 29.9 -1.4**
SZAC Souni 151.31 301 P **PKPdf 17 38 31.5 0.0**
LTVH Ltavrtes, Hu 151.31 332⇓*i*P **PKPdf 17 38 31.0 0.0**
SWN1 Swindon 151.39 6⇓*e*P **PKPdf 17 38 30.7 -0.3**
BATH Bath 151.41 7 *e*P **PKPdf 17 38 29.2 -1.9**
DRGR 151.41 331⇓*i*P **PKPdf 17 38 31.4 +0.1**
DRGR 151.41 331⇓PKIKP **PKPdf 17 38 31.4 +0.1**
PRD Provadia 151.41 320 *i* P **PKPdf 17 38 30.3 -1.0**
ALFC Alefka 151.42 302 P **PKPdf 17 38 30.9 -0.8**
ADVT Abdulvahap 151.45 314 *e*P **PKPdf 17 38 30.7 -0.8**
CAVI Cavuskoy 151.49 313 *e*P **PKPdf 17 38 30.9 -0.7**
KLYT Kilyos 151.49 316 *e*P **PKPdf 17 38 29.5 -2.0**
KLYT Kilyos 151.49 316⇓*i*P **PKPdf 17 38 30.8 -0.7**
PSET Sete Cidades 151.50 52 *e*PKP **PKPdf 17 38 25.8 -5.9**
PDA Ponta Delgada 151.58 53 *e*PKP **PKPdf 17 38 25.6 -6.1**
ISK Istanbul-Kandi 151.58 315 *e*P **PKPdf 17 38 30.3 -1.3**
ISK Istanbul-Kandi 151.58 315 P **PKPdf 17 38 30.5 -1.1**
KAVV Kandilli-Istan 151.58 315 *e*P **PKPdf 17 38 30.3 -1.3**
SGRR Singureni 151.59 323⇑*i*P **PKPdf 17 38 30.9 -0.6**
HEX Exmoor 151.59 9 *e*P **PKPdf 17 38 33.9 +2.6**
PRU Pruhonice 151.60 344 *e*PKIKP **PKPdf 17 38 31.6 +0.2**
PRU *e* 17 38 41.3
PRU *e*SS SS 18 01 31.2 +3.0
PRU Pruhonice 151.60 344 *e*PKP **PKPdf 17 38 31.6 +0.2**
PRU *ex* x 17 38 41.3
PRU *ex* x 17 38 51.2
PRU *e*SKKS 17 52 31.9
PRU *e*SS **SS 18 01 31.2 +3.0**
GOPC GO Pecny, Ondr 151.61 344 *e*PKIKP **PKPdf 17 38 31.4 -0.1**
GOPC *e* 17 38 46.6
GOPC *e*SS SS 18 01 25.9 -2.5
GOPC GO Pecny, Ondr 151.61 344 *e*PKPDF **PKPdf 17 38 31.4 -0.1**
GOPC ⇑*e*PKP **PKiKP 17 38 41.0 +2.8**
GOPC *e*PKPAB **PKPab 17 38 46.6 -0.5**
GOPC *ex* x 17 52 33.6
GOPC *e*SS SS 18 01 25.9 -2.5
VYHS Vyhne 151.61 337 *e*PKIKP **PKPdf 17 38 31.3 -0.2**
VYHS *e* 17 39 29.8
VYHS *e* 17 42 21.2
VYHS *e*SS SS 18 01 30.1 +1.4
VYHS Vyhne 151.61 337 *e*PKP **PKPdf 17 38 31.3 -0.2**
VYHS *e* 17 38 39.9
VYHS *e* 17 39 29.8
VYHS *e*PP **PP 17 42 21.2 +2.6**
VYHS *e*SS SS 18 01 30.1 +1.4
VRAC Vranov 151.64 341⇓*i*P **PKPdf 17 38 32.2 +0.7**
VRAC Vranov 151.64 341⇓PKIKP **PKPdf 17 38 32.2 +0.7**
VRAC Vranov 151.64 341⇓PKP **PKPdf 17 38 31.5 0.0**
VRAC *e*PP **PP 17 42 21.3 +2.6**
VRAC *e* 17 52 31.2
VRAC *e*SS SS 18 01 31.7 +2.8
VRAC *e* 18 15 11.6
VRAC Vranov 151.64 341 PKP **PKPdf 17 38 31.7 +0.2**
comp=N,124nm,0.9s,baz=118,slow=0.3,SNR=34
VRAC PKPbc **PKiKP 17 38 39.7 +1.4**
comp=N,296nm,0.9s,baz=292,slow=1.8,SNR=48
WOL Wolverton 151.64 5 *e*P **PKPdf 17 38 29.7 -1.7**
BUY Buyukada 151.65 315 *e*P **PKPdf 17 38 30.1 -1.7**
GRON Grota Negra 151.66 52 *e*PKP **PKPdf 17 38 26.9 -5.1**
CMLA Cha da Macela 151.67 52 *e*PKP **PKPdf 17 38 26.4 -5.5**
CMLA Cha da Macela 151.67 52 *e*PKPdf **PKPdf 17 38 31.5 -0.4**
PCALD Caldeiras da R 151.69 52 *e*PKP **PKPdf 17 38 26.2 -5.7**
JAVC Velka Javorina 151.70 339⇓*i*PKP **PKPdf 17 38 32.5 +0.8**
JAVC *e*PP **PP 17 42 22.2 +3.1**
JAVC *e* 17 52 35.7
JAVC *e*SS SS 18 01 33.7 +4.1
JAVC *e* 18 15 12.7
PPCY Paphos 151.70 301 P **PKPdf 17 38 31.1 -0.9**
PSZ Piszkesteto 151.70 335 *e*PKPdf **PKPdf 17 38 30.8 -0.9**
PSZ Piszkesteto 151.70 335⇓*i*P **PKPdf 17 38 31.7 0.0**
PSZ Piszkesteto 151.70 335⇓PKIKP **PKPdf 17 38 31.7 0.0**
PSZ Piszkesteto 151.70 335⇓*i*P **PKPdf 17 38 32.0 +0.3**
BGKT Bogazkoy 151.70 316 *e*P **PKPdf 17 38 30.5 -1.3**
GOLR 151.72 325⇓*i*P **PKPdf 17 38 31.3 -0.5**
SHUT Suhut-Afyon 151.75 310 *e*P **PKPdf 17 38 31.7 -0.5**
GEMT Gemlik 151.81 314 *e*P **PKPdf 17 38 30.5 -1.5**
CTKS Kestanelik-??a 151.84 316 *e*P **PKPdf 17 38 30.9 -1.1**
CTYL Yalikoy Yolu 151.85 317 *e*P **PKPdf 17 38 30.1 -1.9**
CTYL Yalikoy Yolu 151.85 317⇓*i*P **PKPdf 17 38 31.8 -0.2**
NKC Novy Kostel 151.86 347 *e*PKIKP **PKPdf 17 38 32.5 +0.7**
NKC *e* 17 38 43.0
NKC Novy Kostel 151.86 347 *e*PKP **PKPdf 17 38 32.5 +0.7**
NKC *ex* x 17 38 43.0
NKC *ex* x 17 38 52.1
NKC *e*SKKS 17 52 34.3
NKC *e*SS SS 18 01 18.9 -12
LOT Lotru 151.90 328⇓*i*P **PKPdf 17 38 32.1 -0.1**
HUMR Humele 151.92 325⇓*i*P **PKPdf 17 38 31.7 -0.4**
KRUZ Moravsky 151.92 341⇓*i*PKP **PKPdf 17 38 31.9 0.0**
KRUC *e*PP **PP 17 42 21.3 +1.1**
KRUC *e* 17 52 34.5
KRUC *e*SS SS 18 01 34.9 +3.0
KRUC *e* 18 15 12.5
BART Pico Bartolome 151.93 52 *e*PKP **PKPdf 17 38 27.2 -5.2**
ELSH Elham, Standar 151.95 2⇓*e*P **PKPdf 17 38 32.4 +0.5**
ARMT Armutlu 151.96 315 *e*P **PKPdf 17 38 31.8 -0.5**
TREC Trest 151.98 342 *e*PKIKP **PKPdf 17 38 32.6 +0.6**
TREC *e* 17 38 43.0
TREC *e*SS SS 18 01 33.3 +0.8
TREC Trest 151.98 342 *e*PKP **PKPdf 17 38 32.6 +0.6**
TREC *ex* x 17 38 43.0
TREC *e*SKKS 17 52 33.0
TREC *e*SS **SS 18 01 33.3 +0.8**
DEV Deva 152.00 329⇓*i*P **PKPdf 17 38 32.3 +0.2**
DEV Deva 152.00 329⇓PKIKP **PKPdf 17 38 32.3 +0.2**
MDNY Mudanya-Bursa 152.05 314 *e*P **PKPdf 17 38 30.1 -1.5**
ISP Isparta 152.07 308 *e*PKPdf **PKPdf 17 38 30.8 -1.8**
ISP *e*PKPdf **PKPbc 17 38 31.7 -7.7**
ISP Isparta 152.07 308 P **PKPdf 17 38 30.8 -1.8**
ISP Isparta 152.07 308⇓*i*P **PKPdf 17 38 31.8 -0.8**
ISP Isparta 152.07 308⇓PKIKP **PKPdf 17 38 31.8 -0.8**
TVSB Tavsanli 152.11 312 *e*P **PKPdf 17 38 31.3 -1.4**
BCK Bucak 152.16 307 *e*P **PKPdf 17 38 30.9 -1.9**
HMNX Herstmonceux 152.19 3 *e*P **PKPdf 17 38 32.6 +0.3**
SZH Strazhica 152.22 322 *i* P **PKPdf 17 38 32.1 -0.5**
BEBN Eben Emael 152.24 356⇓*p*PKPdf **PKPdf 17 38 32.5 +0.2**
BEBN ⇑PKPbc **PKiKP 17 38 40.3 +0.9**
PHSR Pinarhisar 152.25 318 *e*P **PKPdf 17 38 32.1 -0.5**
PHSR Pinarhisar 152.25 318⇓*i*P **PKPdf 17 38 32.3 -0.3**
MODS Modra-Piesok 152.25 339 *e*PKIKP **PKPdf 17 38 32.1 -0.4**
MODS *e* 17 39 31.0
MODS *e* 17 42 18.7
MODS *e*SS SS 18 01 33.3 -2.3
MODS Modra-Piesok 152.25 339 *e*PKP **PKPdf 17 38 32.0 -0.4**
MODS *e* 17 38 42.1
MODS *e* 17 39 31.0
MODS *e*PP **PP 17 42 18.7 -3.5**
MODS *e*SS SS 18 01 33.3 -2.3
HGN Heimansgroeve 152.26 356 *e*PKPdf **PKPdf 17 38 32.2 -0.1**
HGN *e*PKPbc **PKiKP 17 38 41.2 +1.7**
HGN *ep*PKPbc **pPKPab 17 39 29.2 -4.3**
PSMA Santa Maria 152.26 54 *e*PKP **PKPdf 17 38 27.0 -5.8**
SIRR Siria 152.28 331⇑*i*P **PKPdf 17 38 33.0 +0.4**
PSMN Pico do Norte, 152.30 54 *e*PKP **PKPdf 17 38 27.2 -5.7**
UCC Uccle 152.30 358 *e*PKPdf **PKPdf 17 38 32.2 -0.2**
UCC Uccle 152.30 358 *e*PKIKP **PKPdf 17 38 32.2 -0.2**
UCC Uccle 152.30 358⇓*p*PKPdf **PKPdf 17 38 32.9 +0.5**
UCC ⇓*p*PKPbc **PKiKP 17 38 40.4 +0.9**
ANTB Antalya 152.33 306 *e*P **PKPdf 17 38 31.3 -1.6**
JMB Yambol 152.33 326 *i* P **PKPdf 17 38 31.6 -1.1**
SRO Srobarova 152.37 337 *e*PKIKP **PKPdf 17 38 34.7 +2.1**
SRO Srobarova 152.37 337 *e*PKP **PKPdf 17 38 34.7 +2.1**
SRO *e* 17 38 42.5
MEM Membach 152.41 356⇓*p*PKPdf **PKPdf 17 38 32.7 +0.1**
MEM ⇓*p*PKPbc **PKiKP 17 38 41.5 +1.7**
GZR Gura Zlata 152.42 329⇓*i*P **PKPdf 17 38 32.9 0.0**
GZR Gura Zlata 152.42 329⇓PKIKP **PKPdf 17 38 32.9 0.0**
KCTX Karacabey (Bur 152.45 314 *e*P **PKPdf 17 38 31.7 -1.3**
ZST Bratislava 152.46 339 *e*PKIKP **PKPdf 17 38 32.2 -0.5**
ZST *e* 17 39 32.5
ZST Bratislava 152.46 339 *e*PKP **PKPdf 17 38 32.2 -0.5**
ZST *e* 17 38 42.6
ZST *e* 17 39 32.5
ZST *e*SS SS 18 01 47.4 +10
KORT Korkueli 152.52 307 *e*P **PKPdf 17 38 32.3 -1.1**
VLAD Vladila 152.58 325⇓*i*P **PKPdf 17 38 33.2 +0.2**
PVL Pavlikeni 152.59 322 *i* P **PKPdf 17 38 33.3 +0.2**
SNF Seneffe 152.59 358⇑*p*PKPdf **PKPdf 17 38 33.8 +1.0**
SNF ⇑*p*PKPbc **PKiKP 17 38 40.5 +0.3**
SNF ⇑*p*PKPab **PKPab 17 38 52.8 +1.7**
EDRB Edirne 152.60 319 *e*P **PKPdf 17 38 31.5 -1.7**
EDRB Edirne 152.60 319 P **PKPdf 17 38 31.1 -2.1**
GRA1 Grafenberg Arr 152.62 348 *e*PKPdf **PKPdf 17 38 32.6 -0.3**
GRF Grafenberg Arr 152.62 348 *e*PKIKP **PKPdf 17 38 32.7 -0.3**
GRFO Grafenberg 152.62 348 *e*PKPdf **PKPdf 17 38 32.8 -0.2**
GRFO Grafenberg 152.62 348 *e*PKIKP **PKPdf 17 38 32.8 -0.2**
KHC Kasperske Hory 152.63 344 *e*PKPdf **PKPdf 17 38 33.1 +0.1**
KHC Kasperske Hory 152.63 344 *e*PKIKP **PKPdf 17 38 33.6 +0.6**
KHC Kasperske Hory 152.63 344 *e*PKPDF **PKPdf 17 38 33.6 +0.6**
KHC ⇑*e*PKP **PKiKP 17 38 43.4 +3.0**
KHC *e*PKPAB **PKPab 17 38 55.7 +4.3**
KHC *ex* x 17 52 38.7
KHC *e*SS SS 18 01 24.5 -15
BCLA Clavier 152.64 356⇑*p*KPdf **PKPdf 17 38 33.4 +0.4**
BCLA ⇑*p*KPbc **PKiKP 17 38 42.1 +1.8**
CRAR CRAIOVA 152.68 326⇓*i*P **PKPdf 17 38 33.6 +0.4**
CRAR CRAIOVA 152.68 326⇓PKIKP **PKPdf 17 38 33.6 +0.4**
EDC Edincik 152.73 315 *e*P **PKPdf 17 38 31.9 -1.5**
SRE Strehaia 152.74 327⇓*i*P **PKPdf 17 38 33.7 +0.4**
SRE Strehaia 152.74 327⇓PKIKP **PKPdf 17 38 33.7 +0.4**
CSKK Cskako 152.77 337 *e*P **PKPdf 17 38 34.0 +0.8**
BZS Buzias 152.80 330⇓*i*P **PKPdf 17 38 33.5 +0.2**
BZS Buzias 152.80 330⇓PKIKP **PKPdf 17 38 33.5 +0.2**
GEC2 GERESS Array S 152.87 344 *e*PKPdf **PKPdf 17 38 33.3 -0.1**
GERES GERESS Array B 152.87 344 PKP **PKPdf 17 38 33.4 -0.1**
comp=N,174nm,0.9s,baz=70,slow=1.6,SNR=89
GERES PKPbc **PKiKP 17 38 41.5 +0.5**
comp=N,383nm,0.8s,baz=24,slow=2.5,SNR=41
TIM Timisoara 152.88 331⇑⇓*i*P **PKPbc 17 38 37.2 -3.6**
TIM Timisoara 152.88 331⇑⇑PKIKP **PKPbc 17 38 37.2 -3.6**
ELL Elmali 152.94 306 *e*P **PKPdf 17 38 33.3 -0.7**
HERR Herculane 152.97 328⇓*i*P **PKPdf 17 38 33.5 -0.1**
DOU Dourbes 153.00 357⇓⇓PKPdf **PKPdf 17 38 33.8 +0.4**
DOU ⇑PKPbc **PKPbc 17 38 40.9 0.0**
BALB Balikesir 153.08 314 *e*P **PKPdf 17 38 32.7 -1.2**
BALB Balikesir 153.08 314 *e*PKPdf **PKPdf 17 38 33.3 -0.6**
SOP Sopron 153.09 339⇓*i*P **PKPdf 17 38 32.0 -1.6**
KULA Kula-Manisa 153.09 311 *e*P **PKPdf 17 38 32.9 -1.2**
KULA Kula-Manisa 153.09 311 P **PKPdf 17 38 32.8 -1.3**
CONA Conrad Observa 153.09 340 *i* PKPdf **PKPdf 17 38 33.6 -0.2**
comp=N,404nm,1.4s,SNR=130
CONA *i* PKiKP **PKiKP 17 38 44.6 +3.2**
PUNG Punghina 153.15 327⇑⇓*i*P **PKPdf 17 38 33.8 -0.1**
BANR Banloc 153.19 331⇓*i*P **PKPdf 17 38 34.3 +0.4**
TIH Tihany 153.30 337⇓*i*P **PKPdf 17 38 34.0 0.0**
WLF Walferdange 153.33 355 *e*PKPdf **PKPdf 17 38 34.1 +0.2**
WLF Walferdange 153.33 355⇑PKPdf **PKPdf 17 38 34.5 +0.5**
WLF ⇑PKPbc **PKiKP 17 38 44.0 +2.3**
AKAS Kas 153.36 306 *e*P **PKPdf 17 38 34.0 -0.6**
MPEP Malo Peshtene 153.37 324 P **PKPdf 17 38 35.1 +0.9**
MDVR Moldovita 153.38 329⇓*i*P **PKPdf 17 38 34.1 -0.2**
KSL Kastellorizon 153.41 305 P **PKPdf 17 38 32.8 -1.7**
ERIK Erikli-Kesan 153.42 317 *e*P **PKPdf 17 38 32.9 -1.4**
LPK Lapseki 153.43 316 *e*P **PKPdf 17 38 33.3 -1.1**
ALN Alexandroupoli 153.58 318 *e*PKPdf **PKPdf 17 38 36.3 +1.7**
ALN Alexandroupoli 153.58 318 P **PKPdf 17 38 32.8 -1.8**
FETY Fethiye 153.59 307 *e*P **PKPdf 17 38 34.1 -0.7**
FETY Fethiye 153.59 307 *e*PKPdf **PKPdf 17 38 32.5 -2.3**
FETY Fethiye 153.59 307 P **PKPdf 17 38 32.5 -2.3**
GELI Tayfur-Gelibol 153.59 316 *e*P **PKPdf 17 38 31.1 -3.5**
JLP Les Platons 153.60 7 *e*P **PKPdf 17 38 34.0 -0.3**
ENEZ Enez 153.61 317 *e*P **PKPdf 17 38 32.7 -1.9**
JVM Valle D.L. Mar 153.62 7 *e*P **PKPdf 17 38 33.8 -0.6**
MOA Molln 153.63 342 *i* PKPdf **PKPdf 17 38 34.2 -0.3**
comp=N,185nm,0.9s,SNR=60
MOA *i* PKPab **PKPab 17 38 56.3 +0.6**
comp=N,2μm,1.2s
JSA Saint Aubin 153.65 7⇓*e*P **PKPdf 17 38 34.0 -0.4**
JRS Jersey 153.65 7 *e*P **PKPdf 17 38 36.2 +1.8**
PLD Plovdiv 153.66 321 *i* P **PKPdf 17 38 32.9 -1.8**
PGB Panagyurishte 153.67 323 *i* P **PKPdf 17 38 34.6 -0.2**
RDO Rodhopi 153.75 319 *e*PKPdf **PKPdf 17 38 32.3 -2.5**
RDO Rodhopi 153.75 319 P **PKPdf 17 38 32.3 -2.5**
ARSA Arzberg 153.80 340 *i* PKPdf **PKPdf 17 38 34.3 -0.5**
comp=N,212nm,1.2s,SNR=50
ARSA *i* PKPab **PKPab 17 38 59.2 +2.8**
comp=N,401nm,0.9s
DALY Dalyan (Mula) 153.84 307 *e*P **PKPdf 17 38 33.9 -1.2**
TURN Turunc 153.85 308 *e*P **PKPdf 17 38 34.3 -0.8**
STU Stuttgart 153.86 350 *e*PKPdf **PKPdf 17 38 34.6 -0.1**
AYDB Zeytinkoy-Aydi 153.89 310 *e*P **PKPdf 17 38 34.5 -0.8**
RZN Rozhen 153.91 321 *i* P **PKPdf 17 38 33.3 -2.0**
FRGS Fruska Gora 153.96 332⇓*i*P **PKPdf 17 38 34.5 -0.5**
EZN Ezine 154.00 315 *e*P **PKPdf 17 38 33.5 -1.7**
EZN Ezine 154.00 315 *e*PKPdf **PKPdf 17 38 32.8 -2.4**
EZN Ezine 154.00 315 P **PKPdf 17 38 32.8 -2.4**
EZN Ezine 154.00 315⇑⇑*i*P **PKPdf 17 38 34.9 -0.3**
EZN Ezine 154.00 315⇑PKIKP **PKPdf 17 38 34.9 -0.3**
BEHE Becsehely 154.07 338⇓*i*P **PKPdf 17 38 33.0 -2.1**
BEHE Becsehely 154.07 338⇓*i*P **PKPdf 17 38 33.1 -2.1**
VTS Vitosha 154.14 324 *e*PKPdf **PKPdf 17 38 34.3 -1.3**
VTS *e*PKPdf **PKPdf 17 38 34.6 -1.0**
VTS Vitosha 154.14 324 P **PKPdf 17 38 34.3 -1.3**
VTS Vitosha 154.14 324⇓*i*P **PKPdf 17 38 35.3 -0.3**
VTS Vitosha 154.14 324⇓PKIKP **PKPdf 17 38 35.3 -0.3**
VTS Vitosha 154.14 324 *i* P **PKPdf 17 38 35.5 -0.1**
SMTH Samothraki Isl 154.15 317 *e*PKPdf **PKPdf 17 38 33.4 -2.0**
SMTH Samothraki Isl 154.15 317 P **PKPdf 17 38 33.4 -2.0**
BOZC Bozcaada 154.17 316 *e*P **PKPdf 17 38 33.9 -1.6**
PRK Paraskevi 154.35 314 P **PKPdf 17 38 34.7 -1.0**
BFO Black Forest 154.42 351 *e*PKPdf **PKPdf 17 38 34.6 -1.0**
BFO Black Forest 154.42 351 *e*PKIKP **PKPdf 17 38 34.6 -1.0**
KAVA Kavala 154.46 319 *e*PKPdf **PKPdf 17 38 34.3 -1.5**
KAVA Kavala 154.46 319 P **PKPdf 17 38 34.3 -1.5**
SOKA Soboth 154.46 340 *i* PKPdf **PKPdf 17 38 35.2 -0.6**
comp=N,434nm,1.3s,SNR=90
SOKA *i* PKPab **PKPab 17 39 02.5 +3.2**
comp=N,964nm,1.3s
GCAM G?zelcaml? 154.47 310 *e*P **PKPdf 17 38 35.2 -0.7**
ARG Arkhangelos 154.47 307 *e*PKPdf **PKPdf 17 38 35.2 -0.8**
ARG Arkhangelos 154.47 307 P **PKPdf 17 38 35.2 -0.8**
PERS Pernice 154.47 340 *i* PKPdf **PKPdf 17 38 35.2 -0.6**
MMB Musomiste 154.54 321 *i* P **PKPdf 17 38 34.6 -1.4**
TEKS Tekeris 154.56 331 *e*P **PKPdf 17 38 36.0 +0.1**
THAS Thassos island 154.57 319 P **PKPdf 17 38 34.7 -1.3**
KBA Koelnbreinsper 154.59 343 *i* PKPdf **PKPdf 17 38 35.5 -0.6**
comp=N,540nm,1.2s,SNR=115
KBA *i* PKPab **PKPab 17 39 04.0 +4.0**
comp=N,1μm,1.0s
NVR Nevrokopi 154.62 321 P **PKPdf 17 38 33.4 -2.7**
SIGR SIGRI 154.64 315 P **PKPdf 17 38 34.0 -2.1**
DAT Datca 154.66 308 *e*P **PKPdf 17 38 34.3 -2.1**
ECH Echery 154.67 353 *e*PKPdf **PKPdf 17 38 35.4 -0.5**
LIA Limnos Island 154.69 317 P **PKPdf 17 38 34.6 -1.6**
BODT Bodrum 154.70 309 *e*P **PKPdf 17 38 34.5 -1.8**
BODT Bodrum 154.70 309 *e*PKPdf **PKPdf 17 38 35.1 -1.2**
BODT Bodrum 154.70 309 P **PKPdf 17 38 35.1 -1.2**
DIVS Divibare 154.70 330⇓*i*P **PKPdf 17 38 36.0 -0.2**
KKB Krupnik 154.73 323 *i* P **PKPdf 17 38 35.9 -0.3**
SMG Samos 154.74 311 P **PKPdf 17 38 34.7 -1.7**
OBKA Obir 154.76 341 *i* PKPdf **PKPdf 17 38 36.4 +0.1**
comp=N,177nm,1.0s,SNR=27
OBKA *i* PKPab **PKPab 17 39 04.2 +3.6**
comp=N,407nm,0.8s
WATA Walderalm 154.79 346 *i* PKPdf **PKPdf 17 38 35.7 -0.6**
comp=N,494nm,0.9s,SNR=89
WATA *i* PKPab **PKPab 17 39 04.5 +3.8**
comp=N,1μm,1.0s
RETA Reutte 154.82 347 *i* PKPdf **PKPdf 17 38 36.0 -0.2**
comp=N,229nm,1.2s,SNR=62
RETA *i* PKPab **PKPab 17 39 05.0 +4.2**
comp=N,1μm,1.1s
WTTA Wattenberg 154.84 346 *i* PKPdf **PKPdf 17 38 36.3 -0.1**
comp=N,657nm,1.0s,SNR=146
WTTA *i* PKPab **PKPab 17 39 04.8 +3.8**
comp=N,1μm,0.7s
MOTA Moosalm 154.88 347 *i* PKPdf **PKPdf 17 38 35.1 -1.3**
comp=N,510nm,1.0s,SNR=230
MOTA *i* PKPab **PKPab 17 39 04.0 +2.9**
comp=N,1μm,0.7s
ZAG Zagreb 154.90 338 *e*P **PKPdf 17 38 37.0 +0.7**
MYKA Terra Mystica 154.92 342 *i* PKPdf **PKPdf 17 38 35.7 -0.7**
comp=N,360nm,1.3s,SNR=67
MYKA *i* PKPab **PKPab 17 39 05.1 +3.9**
comp=N,1μm,1.4s
SRS Serrai 154.93 321 P **PKPdf 17 38 33.1 -3.4**
CHOS Chios island 154.94 313 P **PKPdf 17 38 36.2 -0.5**
SQTA Sankt Quirin 154.98 346 *i* PKPdf **PKPdf 17 38 36.3 -0.2**
comp=N,642nm,1.1s,SNR=173
CRES Cresnjev 155.08 339⇓*i*P **PKPdf 17 38 36.0 -0.6**
CLF Chambon-Foret 155.10 1 *e*PKPdf **PKPdf 17 38 37.0 +0.6**
ABTA Abfaltersbach 155.12 344 *i* PKPdf **PKPdf 17 38 36.0 -0.7**
comp=N,1μm,1.0s,SNR=322
BBLS Lazići 155.15 331⇓*i*P **PKPdf 17 38 36.8 0.0**
HAPS Han Pijesak,Bl 155.18 331 *e*P **PKPdf 17 38 36.3 -0.6**
OUR Ouranopolis 155.18 319 *e*PKPdf **PKPdf 17 38 34.7 -2.1**
**OUR Ouranopol

BLY	Banja Luka	155.38 335	‖ *i*P	PKPdf	17 38 36.7	-0.3
VAY	Valandovo	155.38 322	*e*PKPdf	PKPdf	17 38 35.1	-2.0
VAY	Valandovo	155.38 322	P	PKPdf	17 38 35.1	-2.0
VAY	Valandovo	155.38 322	*i* PKP	PKPdf	17 38 36.2	-0.8
VAY	Valandovo	155.38 322	*e*PKIKP	PKPdf	17 38 35.1	-2.0
KARP	Karpathos	155.46 306	*e*PKPdf	PKPdf	17 38 37.1	-0.3
KARP	Karpathos	155.46 306	P	PKPdf	17 38 35.7	-1.7
PLG	Polygyros	155.48 320	P	PKPdf	17 38 34.3	-3.0
CEY	Cerknica	155.49 340	*e*P	PKPdf	17 38 36.9	-0.2
HORT	Hortiatis	155.54 320	P	PKPdf	17 38 35.4	-2.0
PLE	Pljevlja	155.57 330 ⇑	*i*PKP	PKPdf	17 38 37.1	-0.3
THE	Thessaloniki	155.60 321	P	PKPdf	17 38 35.0	-2.4
PAIG	Paliouri	155.61 318	P	PKPdf	17 38 35.1	-2.3
DAVOX	Davos/Dischmat	155.67 348	PKP	PKPdf	17 38 37.5	0.0
	comp=N,493nm,1.0s,baz=30,slow=2.2,SNR=54					
DAVOX			PKPab	PKPab	17 39 05.1	+0.5
	comp=N,1μm,1.0s,baz=53,slow=2.9,SNR=11					
SKY	Skiros Island	155.68 315	*e*PKPdf	PKPdf	17 38 36.5	-1.1
SKY	Skiros Island	155.68 315	P	PKPdf	17 38 36.5	-1.1
IVA	Berane	155.68 328 ⇑	*i*PKP	PKPdf	17 38 37.6	0.0
GRG	Griva	155.72 322	P	PKPdf	17 38 36.0	-1.6
FUORN	Ofenpass-Fuorn	155.75 347	*e*PKPdf	PKPdf	17 38 37.7	0.0
AMGA	Amorgos Island	155.82 310	P	PKPdf	17 38 35.4	-2.4
RIY	Rijeka	155.84 340	*e*P	PKPdf	17 38 37.3	-0.3
PVY	Plav	155.86 328 ⇑	*i*PKP	PKPdf	17 38 37.5	-0.4
KOME	Kolasin	155.88 329 ⇑	*i*PKP	PKPdf	17 38 37.6	-0.2
UPM	Unac-Piva	155.90 330 ⇑	*i*PKP	PKPdf	17 38 37.9	-0.1
UPM	Unac-Piva	155.90 330	*e*P	PKPdf	17 38 35.9	-2.1
APE	Apeiranthos	155.96 311	*e*PKPdf	PKPdf	17 38 36.0	-2.1
APE	Apeiranthos	155.96 311	P	PKPdf	17 38 36.0	-2.1
APE	Apeiranthos	155.96 311	‖ *i*P	PKPdf	17 38 36.3	-1.8
APE	Apeiranthos	155.96 311	‖ PKIKP	PKPdf	17 38 36.3	-1.8
TUE	Stuetta	156.06 349	*e*PKPdf	PKPdf	17 38 37.8	-0.3
KRUS	Krusevo	156.08 324	*i* PKP	PKPdf	17 38 37.2	-0.9
UDBI	Udbina	156.10 337	P	PKPdf	17 38 37.5	-0.5
ANAF	Anafi Island	156.12 309	P	PKPdf	17 38 36.3	-2.0
NKY	Niksic	156.16 329 ⇑	*i*PKP	PKPdf	17 38 38.6	+0.4
NKME	Niksic	156.21 329 ⇑	*i*PKP	PKPdf	17 38 37.8	-0.4
LIT	Litokhoron	156.22 320	P	PKPdf	17 38 36.6	-1.7
XOR	Xorichti	156.25 318	P	PKPdf	17 38 35.7	-2.6
BIA	Bitola	156.28 323	*i* PKP	PKPdf	17 38 37.2	-1.1
PHP	Peshkopia	156.28 326	P	PKPdf	17 38 36.9	-1.5
BRY	Bratogost	156.30 330 ⇑	*i*PKP	PKPdf	17 38 37.9	-0.5
BRY	Bratogost	156.30 330	*e*P	PKPdf	17 38 33.2	-5.2
PDG	Podgorica	156.32 328 ‖	*i*P	PKPdf	17 38 38.1	-0.2
PDG	Podgorica	156.32 328 ‖	*i*P	PKPdf	17 38 37.6	-0.7
TTG	Podgorica	156.32 328 ⇑	*i*PKP	PKPdf	17 38 38.2	-0.1
TTG	Podgorica	156.32 328	*e*PKPdf	PKPdf	17 38 38.0	-0.2
EREA	Eretria	156.33 315	P	PKPdf	17 38 36.5	-2.0
ZKR	Zakros	156.34 306	*e*PKPdf	PKPdf	17 38 37.0	-1.6
ZKR			*e*PKPdf	PKPdf	17 38 37.0	-1.6
ZKR	Zakros	156.34 306	P	PKPdf	17 38 37.0	-1.6
SANT	Santorini	156.34 309	*e*PKPdf	PKPdf	17 38 37.5	-1.1
SANT	Santorini	156.34 309 ⇑	*i*P	PKPdf	17 38 37.7	-0.9
FYTO	Fytoko, Volos	156.38 318	*e*PKPdf	PKPdf	17 38 36.6	-1.9
FYTO	Fytoko, Volos	156.38 318	P	PKPdf	17 38 36.6	-1.9
NVLJ	Novalja	156.39 338	P	PKPdf	17 38 37.3	-1.0
MRKA	Markates	156.39 316	P	PKPdf	17 38 36.9	-1.6
CEME	Cevo	156.40 329 ⇑	*i*PKP	PKPdf	17 38 39.0	+0.5
FNA	Florina	156.41 323	*e*PKPdf	PKPdf	17 38 37.8	-0.8
FNA	Florina	156.41 323	P	PKPdf	17 38 36.3	-2.3
FNA	Florina	156.41 323	*e*PKIKP	PKPdf	17 38 37.8	-0.8
SENIN	Lac Senin/Sane	156.48 352	*e*PKPdf	PKPdf	17 38 38.8	+0.1
OHR	Ohrid	156.50 324	*i* PKP	PKPdf	17 38 38.2	-0.4
KZN	Kozani	156.51 321	P	PKPdf	17 38 35.1	-3.6
DION	Dionisos Attik	156.52 314	P	PKPdf	17 38 36.2	-2.5
TREB	Trebinje	156.53 330	*e*P	PKPdf	17 38 37.6	-1.0
SMIA	Simia	156.53 317	P	PKPdf	17 38 36.9	-1.8
DRME	Dracevica, Mon	156.54 328 ⇑	*i*PKP	PKPdf	17 38 39.0	+0.4
DRME	Dracevica, Mon	156.54 328 ‖	*i*P	PKPdf	17 38 38.3	-0.3
PTL	Penteli	156.58 314	P	PKPdf	17 38 35.5	-3.3
BUM	Brajici-Budva	156.60 329 ⇑	*i*PKP	PKPdf	17 38 39.6	+0.8
SERI	Serifos	156.64 312	P	PKPdf	17 38 37.2	-1.7
HCY	Herceg Novi	156.67 330 ⇑	*i*PKP	PKPdf	17 38 39.5	+0.7
HCY	Herceg Novi	156.67 330	*e*P	PKPdf	17 38 38.4	-0.4
ATHU	Athens Univers	156.68 314	*e*PKPdf	PKPdf	17 38 36.7	-2.2
ATHU	Athens Univers	156.68 314	P	PKPdf	17 38 36.7	-2.2
ULC	Ulcinj	156.68 328 ⇑	*i*PKP	PKPdf	17 38 39.4	+0.6
STON	Ston	156.70 331	P	PKPdf	17 38 36.7	-2.0
STON	Ston	156.70 331	*e*P	PKPdf	17 38 36.5	-2.2
ATH	Athens Observa	156.72 314	P	PKPdf	17 38 37.0	-1.9
NPS	Neapolis	156.72 307	P	PKPdf	17 38 36.9	-2.2
VLY	Voula,Athens	156.74 314	*e*PKPdf	PKPdf	17 38 37.5	-1.5
VLY	Voula,Athens	156.74 314	P	PKPdf	17 38 37.5	-1.5
ATAL	Atalanti	156.76 317	*e*PKPdf	PKPdf	17 38 36.6	-2.4
ATAL	Atalanti	156.76 317	P	PKPdf	17 38 36.6	-2.4
LKR	Lokris	156.80 317	P	PKPdf	17 38 37.7	-1.3
TIR	Tirane	156.82 326	*e*PKPdf	PKPdf	17 38 38.8	-0.2
TIR	Tirane	156.82 326	P	PKPdf	17 38 38.5	-0.5
NEST	Nestorio	156.84 323	P	PKPdf	17 38 38.6	-0.6
THL	Klokotos Trika	156.84 320	P	PKPdf	17 38 35.1	-3.9
LAST	Lasithi	156.87 306	P	PKPdf	17 38 34.9	-4.4
VILL	Villia	156.88 315	P	PKPdf	17 38 34.5	-4.7
PENT	Pentalofos	156.94 322	P	PKPdf	17 38 38.7	-0.6
AXAR	Agios Charalam	156.94 317	*e*PKPdf	PKPdf	17 38 40.0	+0.8
AXAR	Agios Charalam	156.94 317	P	PKPdf	17 38 40.0	+0.8
KPRO	Kipourio	156.97 321	P	PKPdf	17 38 38.6	-0.7
AGG	Agios Georgios	156.99 318	*e*PKPdf	PKPdf	17 38 39.1	-0.2
AGG	Agios Georgios	156.99 318	P	PKPdf	17 38 36.6	-2.7
LOUT	Loutraki	157.20 321	P	PKPdf	17 38 37.5	-2.1
DSF	Desfina	157.24 317	P	PKPdf	17 38 38.0	-1.7
IDI	Anoyia	157.25 307	*e*PKPdf	PKPdf	17 38 37.4	-2.4
IDI	Anoyia	157.25 307	P	PKPdf	17 38 37.4	-2.4
IDI	Anoyia	157.25 307	PKP	PKPdf	17 38 40.4	+0.6
	comp=N,433nm,0.9s,baz=120,slow=2.1,SNR=32					
DID	Didima	157.30 314	P	PKPdf	17 38 35.5	-4.3
EVR	Evrytania	157.38 319	P	PKPdf	17 38 39.0	-0.9
SIVA	Sivas	157.42 307	P	PKPdf	17 38 39.2	-0.7
TMBK	Timbaki Herakl	157.43 307	P	PKPdf	17 38 40.0	+0.1
JAN	Janina	157.46 321	*e*PKPdf	PKPdf	17 38 39.0	-0.9
JAN	Janina	157.46 321	P	PKPdf	17 38 39.0	-0.9
KALE	Kalithea	157.49 317	*e*PKPdf	PKPdf	17 38 39.0	-1.0
KALE	Kalithea	157.49 317	P	PKPdf	17 38 39.0	-1.0
TPE	Tepelena	157.50 324	P	PKPdf	17 38 38.0	-1.9
ANX	Ano Chora	157.51 318	P	PKPdf	17 38 38.0	-2.1
SERG	Sergoula	157.53 317	P	PKPdf	17 38 39.0	-1.0
TRIZ	Trizonia	157.55 317	P	PKPdf	17 38 37.5	-2.5
TRAZ	Trapeza	157.58 317	P	PKPdf	17 38 38.0	-2.1
EFP	Efpalio	157.62 318	P	PKPdf	17 38 39.7	-0.4
GUR	Goura	157.63 316	*e*PKPdf	PKPdf	17 38 38.9	-1.4
GUR	Goura	157.63 316	P	PKPdf	17 38 38.9	-1.4
LAKA	Lakka	157.69 317	*e*PKPdf	PKPdf	17 38 39.0	-1.2
LAKA	Lakka	157.69 317	P	PKPdf	17 38 39.0	-1.2
KLV	Kalavryta, Ach	157.69 316	P	PKPdf	17 38 37.0	-3.3
VAM	Vamos	157.69 308	P	PKPdf	17 38 38.0	-2.3
PVO	Paravola	157.73 318	P	PKPdf	17 38 39.7	-0.5
CHAN	Chania	157.75 309	P	PKPdf	17 38 39.7	-0.6
SSB	Saint Sauveur	157.81 357	*e*PKPdf	PKPdf	17 38 40.3	+0.1
IMMV	Iera Moni Meta	157.83 309	P	PKPdf	17 38 39.5	-0.9
IGT	Igoumenitsa	157.84 322	*e*PKPdf	PKPdf	17 38 38.2	-2.1
IGT	Igoumenitsa	157.84 322	P	PKPdf	17 38 38.2	-2.1
IGT	Igoumenitsa	157.84 322	*e*PKIKP	PKPdf	17 38 38.2	-2.1
BNI	Bardonecchia	157.85 353	*e*PKPdf	PKPdf	17 38 40.7	+0.4
BNI	Bardonecchia	157.85 353	*e*PKIKP	PKPdf	17 38 40.7	+0.4
VLX	Vlachokerasia	157.94 315	*e*PKPdf	PKPdf	17 38 39.7	-0.9
VLX	Vlachokerasia	157.94 315	P	PKPdf	17 38 39.7	-0.9
KEK	Kerkira	158.02 323	*e*PKPdf	PKPdf	17 38 39.0	-1.5
KEK			*e*PKPdf	PKPdf	17 38 39.0	-1.5
KEK	Kerkira	158.02 323	P	PKPdf	17 38 39.0	-1.5
DRO	Drossia	158.03 317	P	PKPdf	17 38 40.0	-0.6
GVD	Gavdhos	158.03 307	*e*PKPdf	PKPdf	17 38 39.0	-1.7
GVD	Gavdhos	158.03 307	P	PKPdf	17 38 39.0	-1.7
VLC	Villacollemand	158.06 345	*e*PKPdf	PKPdf	17 38 39.1	-1.4
ANKY	Antikythira Is	158.11 310	*e*PKPdf	PKPdf	17 38 39.7	-1.1
ANKY	Antikythira Is	158.11 310	P	PKPdf	17 38 39.7	-1.1
RLS	Riolos of Patr	158.12 317	P	PKPdf	17 38 39.0	-1.7
KTHR	Kythira	158.12 311	P	PKPdf	17 38 40.2	-0.6
LKD2	Lefkada island	158.15 320	P	PKPdf	17 38 40.2	-0.6
ITM	Ithomi	158.34 315	*e*PKPdf	PKPdf	17 38 40.9	-0.2
ITM	Ithomi	158.34 315	P	PKPdf	17 38 43.4	+2.4
FSK	Fiskardo	158.42 319	P	PKPdf	17 38 40.2	-0.8
BAI	Bari	158.47 330	*e*P	PKPdf	17 38 43.5	+2.5
FASA	Fasano	158.48 329	*e*P	PKPdf	17 38 42.7	+1.7
CGL1	Ceglie Messapi	158.54 328	*e*P	PKPdf	17 38 40.5	-0.6
PYL	PYLOS	158.63 314	*e*PKPdf	PKPdf	17 38 39.0	-2.3
PYL	PYLOS	158.63 314	P	PKPdf	17 38 39.0	-2.3
MASS	Massafra	158.72 329	*e*P	PKPdf	17 38 40.1	-1.2
TAR1	Taranto	158.73 328	*e*P	PKPdf	17 38 39.6	-1.7
AQU	L'Aquila	158.84 338	*e*PKPdf	PKPdf	17 38 41.5	0.0
AQU	L'Aquila	158.84 338	*e*PKIKP	PKPdf	17 38 41.5	0.0
AQU	L'Aquila	158.84 338	‖ *i*P	PKPdf	17 38 40.7	-0.8
MATE	Matera	158.91 329	‖ *i*P	PKPdf	17 38 41.5	0.0
PGAV	Gavieira, Arco	159.02 24	*e*PKPdf	PKPdf	17 38 42.8	+1.0
PGAV	Gavieira, Arco	159.02 24	*e*PKPab	PKPab	17 39 19.8	+0.7
PGAV	Gavieira, Arco	159.02 24	*e*PP	PP	17 42 56.5	-3.4
PCAB	Cabril	159.33 23	*e*PKPdf	PKPdf	17 38 42.9	+0.8
PCAB	Cabril	159.33 23	*e*PKPab	PKPab	17 39 26.2	+5.8
PCAB	Cabril	159.33 23	*e*PP	PP	17 43 04.1	+2.6
PTO	Porto	159.61 25	*e*PKPdf	PKPdf	17 38 45.0	+2.7
PTO	Porto	159.61 25	*e*PKPab	PKPab	17 39 23.2	+1.7
PBRG	Braganca	159.69 21	*e*PKPdf	PKPdf	17 38 42.9	+0.4
PBRG	Braganca	159.69 21	*e*PKPab	PKPab	17 39 23.2	+1.2
PBRG	Braganca	159.69 21	*e*PP	PP	17 43 03.8	+0.4
POLO	Lamas de Olo	159.71 23	*e*PKPdf	PKPdf	17 38 43.5	+0.9
POLO	Lamas de Olo	159.71 23	*e*PKPab	PKPab	17 39 27.0	+4.9
POLO	Lamas de Olo	159.71 23	*e*PP	PP	17 43 05.4	+1.8
PVRL	Vila Real	159.82 23	*e*PKPdf	PKPdf	17 38 43.7	+1.0
PVRL	Vila Real	159.82 23	*e*PKPab	PKPab	17 39 26.0	+3.4
PVRL	Vila Real	159.82 23	*e*PP	PP	17 43 06.9	+2.7
PMOZ	Porto Moniz, M	159.88 57	*e*PKPdf	PKPdf	17 38 44.7	+1.6
PMOZ	Porto Moniz, M	159.88 57	*e*PKPab	PKPab	17 39 27.7	+4.4
TIP	Timpagrande	160.03 327	*e*PKPdf	PKPdf	17 38 42.7	-0.3
TIP	Timpagrande	160.03 327	P	PKPdf	17 38 42.4	-0.6
PMAR	Madeira	160.14 57	*e*PKPdf	PKPdf	17 38 44.8	+1.3
PMAR	Madeira	160.14 57	*e*PP	PP	17 43 14.6	+7.4
MVO	Moncorvo	160.17 22	*e*PKPdf	PKPdf	17 38 44.3	+1.2
MVO	Moncorvo	160.17 22	*e*PKPab	PKPab	17 39 29.0	+4.9
MVO	Moncorvo	160.17 22	*e*PP	PP	17 43 08.9	+2.9
FUL	Funchal	160.19 57	*e*PKPdf	PKPdf	17 38 45.0	+1.7
FUL	Funchal	160.19 57	*e*PKPab	PKPab	17 39 28.5	+4.0
FUL	Funchal	160.19 57	*e*PP	PP	17 43 14.6	+7.4
PVIS	Viseu	160.24 25	*e*PKPdf	PKPdf	17 38 43.9	+0.7
PVIS	Viseu	160.24 25	*e*PKPab	PKPab	17 39 24.9	+0.5
PVIS	Viseu	160.24 25	*e*PP	PP	17 43 05.7	-0.8
PMPST	Porto Santo, M	160.44 55	*e*PKPdf	PKPdf	17 38 44.9	+1.4
PMPST	Porto Santo, M	160.44 55	*e*PKPab	PKPab	17 39 29.3	+3.7
PMPS	Porto Santo	160.44 55	*e*PKPdf	PKPdf	17 38 45.1	+1.6
PMPS	Porto Santo	160.44 55	*e*PKPab	PKPab	17 39 30.2	+4.6
COI	Coimbra	160.47 26	*e*PKPdf	PKPdf	17 38 44.2	+0.9
COI	Coimbra	160.47 26	*e*PKPab	PKPab	17 39 26.2	+0.9
COI	Coimbra	160.47 26	*e*PP	PP	17 43 11.3	+3.7
COI	Coimbra	160.47 26	*e*PKPdf	PKPdf	17 38 43.7	+0.4
COI	Coimbra	160.47 26	*e*PKIKP	PKPdf	17 38 43.7	+0.4
PCAS	Casmilo, Conde	160.57 27	*e*PKPdf	PKPdf	17 38 44.4	+0.9
PCAS	Casmilo, Conde	160.57 27	*e*PKPab	PKPab	17 39 26.6	+0.8
PCAS	Casmilo, Conde	160.57 27	*e*PP	PP	17 43 09.5	+1.3
MTE	Manteigas	160.65 24	*e*PKPdf	PKPdf	17 38 44.7	+1.1
MTE	Manteigas	160.65 24	*e*PKPab	PKPab	17 39 30.8	+4.6
MTE	Manteigas	160.65 24	*e*PP	PP	17 43 08.1	-0.5
MTE	Manteigas	160.65 24	*e*PKPdf	PKPdf	17 38 44.2	+0.6
PTOM	Tomar	160.97 27	*e*PKPdf	PKPdf	17 38 45.0	+1.1
PTOM	Tomar	160.97 27	*e*PKPab	PKPab	17 39 28.3	+0.8
PTOM	Tomar	160.97 27	*e*PP	PP	17 43 11.4	+1.1
PMAFR	Mafra	161.12 30	*e*PKPdf	PKPdf	17 38 45.3	+1.2
PMAFR	Mafra	161.12 30	*e*PKPab	PKPab	17 39 32.3	+4.0
PMAFR	Mafra	161.12 30	*e*PP	PP	17 43 10.9	-0.4
PCBR	Castelo Branco	161.16 25	*e*PKPdf	PKPdf	17 38 45.2	+1.1
PCBR	Castelo Branco	161.16 25	*e*PKPab	PKPab	17 39 31.9	+3.5
PCBR	Castelo Branco	161.16 25	*e*PP	PP	17 43 10.4	-0.9
CEL	Celeste	161.16 326	*e*PKPdf	PKPdf	17 38 44.3	+0.1
LIS	Lisbon	161.38 30	*e*PKPdf	PKPdf	17 38 45.2	+0.8
LIS			*e*PP	PP	17 43 14.3	+1.7
LIS			*e*SS	SS	18 03 16.8	+3.2
LIS	Lisbon	161.38 30	*e*PKPdf	PKPdf	17 38 45.7	+1.4
LIS	Lisbon	161.38 30	*e*PKPab	PKPab	17 39 33.5	+4.2
LIS	Lisbon	161.38 30	*e*PP	PP	17 43 16.3	+3.7
PMTG	Montargil	161.50 28	*e*PKPdf	PKPdf	17 38 45.3	+0.8
PMTG	Montargil	161.50 28	*e*PKPab	PKPab	17 39 33.6	+3.7
PMTG	Montargil	161.50 28	*e*PP	PP	17 43 13.4	+0.2
PMRV	Marv??o	161.55 26	*e*PKPdf	PKPdf	17 38 45.5	+0.9
PMRV	Marv??o	161.55 26	*e*PKPab	PKPab	17 39 33.8	+3.7
PMRV	Marv??o	161.55 26	*e*PP	PP	17 43 12.8	-0.6
LIC	Lamto	161.63 155	*e*PKIKP	PKPdf	17 38 45.5	+0.1
	comp=N,3μm,2.1s					
KIC	Kosan Boka	161.87 155	*e*PKIKP	PKPdf	17 38 45.2	-0.4
	comp=N,4μm,1.9s					
TIC	Toumodi	162.01 154	*e*PKIKP	PKPdf	17 38 45.9	+0.1
UCM	Universidad Co	162.08 15	PKP1	PKPdf	17 38 46.1	+1.0
DBIC	Dimbokro	162.10 155	PKP	PKPdf	17 38 45.8	0.0
	comp=N,138nm,0.9s,baz=168,slow=0.7,SNR=56					
DBIC			PKPab	PKPab	17 39 34.4	+1.4
	comp=N,386nm,1.0s,baz=186,slow=5.0,SNR=15					
DBIC			PP	PP	17 43 18.0	+1.8
	comp=N,26nm,0.8s,baz=189,slow=5.3,SNR=4.5					
PNCL	Nicolau / Gran	162.15 30	*e*PKPdf	PKPdf	17 38 46.5	+1.3
PNCL	Nicolau / Gran	162.15 30	*e*PKPab	PKPab	17 39 33.5	+0.7
PNCL	Nicolau / Gran	162.15 30	*e*PP	PP	17 43 16.8	+0.1
ESDC	Sonseca Array	162.49 18	PKP	PKPdf	17 38 46.3	+0.7
	comp=N,84nm,0.9s,baz=352,slow=2.3,SNR=54					
ESDC			PKPab	PKPab	17 39 34.5	+0.3
	comp=N,138nm,0.8s,baz=333,slow=4.5,SNR=6.4					
ESDC			pPKPab	pPKPab	17 40 22.9	+4.8
	comp=N,100nm,1.1s,baz=329,slow=4.2,SNR=1.7					
ESDC			PP	PP	17 43 19.0	+0.8
	comp=N,20nm,0.9s,baz=357,slow=5.5,SNR=4.9					
ESLA	Sonseca Array	162.49 18	*e*PKPdf	PKPdf	17 38 45.4	-0.1
PAB	San Pablo	162.50 19	*e*PKPdf	PKPdf	17 38 46.6	+1.0
PAB	San Pablo	162.50 19	*e*PKIKP	PKPdf	17 38 46.6	+1.0
VAE	Valguarnera	162.51 328	PKP	PKPdf	17 38 47.8	+2.1
	comp=N,116nm,1.0s,baz=39,slow=7.8,SNR=12					
PTEO	Sao Teotonio	162.51 32	*e*PKPdf	PKPdf	17 38 47.0	+1.5
PTEO	Sao Teotonio	162.51 32	*e*PKPab	PKPab	17 39 36.4	+2.0
PTEO	Sao Teotonio	162.51 32	*e*PP	PP	17 43 22.4	+3.7
MESJ	Messejana	162.51 30	*e*PKPdf	PKPdf	17 38 46.3	+0.8
MESJ			*e*PP	PP	17 43 20.4	+1.7
MESJ			*e*SS	SS	18 03 28.2	+2.8
MESJ	Messejana	162.51 30	*e*PKPdf	PKPdf	17 38 47.0	+1.5
MESJ	Messejana	162.51 30	*e*PKPab	PKPab	17 39 35.0	+0.6
MESJ	Messejana	162.51 30	*e*PP	PP	17 43 19.4	+0.8
PBEJ	Beja	162.52 29	*e*PKPdf	PKPdf	17 38 47.9	+2.3
PBEJ	Beja	162.52 29	*e*PKPab	PKPab	17 39 35.3	+0.9
PBEJ	Beja	162.52 29	*e*PP	PP	17 43 20.9	+2.2
MORF	Marmelete	162.74 32	*e*PKPdf	PKPdf	17 38 46.6	+0.7
MORF			*e*PP	PP	17 43 21.5	+1.5
MORF			*e*SS	SS	18 03 30.6	+2.7
MORF	Marmelete	162.74 32	*e*PKPdf	PKPdf	17 38 47.3	+1.4
MORF	Marmelete	162.74 32	*e*PKPab	PKPab	17 39 37.0	+1.6
PCVE	Castro Verde	162.77 30	*e*PKPdf	PKPdf	17 38 47.3	+1.5
PCVE	Castro Verde	162.77 30	*e*PKPab	PKPab	17 39 34.7	-0.8
PCVE	Castro Verde	162.77 30	*e*PP	PP	17 43 20.8	+0.8
PFVI	Vila Bisbo	162.78 33	*e*PKPdf	PKPdf	17 38 47.5	+1.7
PFVI	Vila Bisbo	162.78 33	*e*PKPab	PKPab	17 39 37.1	+1.5
PFVI	Vila Bisbo	162.78 33	*e*PP	PP	17 43 24.2	+4.0
PFVI	Vila Bisbo	162.78 33	*e*PKPdf	PKPdf	17 38 47.5	+1.7
CLTB	Caltabellotta	162.99 331	*e*PKPdf	PKPdf	17 38 46.4	+0.3
PBDV	Barranco-do-Ve	163.13 31	*e*PKPdf	PKPdf	17 38 48.0	+1.8
PBDV	Barranco-do-Ve	163.13 31	*e*PKPab	PKPab	17 39 35.6	-1.6
PBDV	Barranco-do-Ve	163.13 31	*e*PP	PP	17 43 23.1	+1.1
MAHO	Mahon	163.19 356	PKP1	PKPdf	17 38 46.0	-0.1
MAHO			*i* SS	SS	18 03 32.3	+1.0
GIBL	Gibalbin	164.35 27	PKP1	PKPdf	17 38 49.8	+2.4
LIJA	Lijar	164.51 25	PKP1	PKPdf	17 38 49.2	+1.7
SFS	San Fernando	164.56 28	PKP1	PKPdf	17 38 48.8	+1.3
SFS			*i* SS	SS	18 03 47.0	+0.9
CNIL	Conil	164.70 28	PKP1	PKPdf	17 38 50.8	+3.2
ALJ	Aljibe	164.74 27	PKP1	PKPdf	17 38 49.5	+1.8
EMAL	Malaga-Limoner	165.00 23	PKP1	PKPdf	17 38 47.1	-0.7
EMAL			*i* SS	SS	18 03 51.1	+0.6
CART	Cartagena	165.18 12	PKP1	PKPdf	17 38 47.1	-0.8
CART			*i* SS	SS	18 03 57.8	+6.0
CAEH	'Ain El Ouahch	165.90 346	P	PKPdf	17 38 48.9	+0.3
CMAH	Djebel Manchou	165.92 345	P	PKPdf	17 38 49.3	+0.6
KEST	Kesra	166.16 337	*e*PKPdf	PKPdf	17 38 49.6	+0.7
KEST	Kesra	166.16 337	PKP	PKPdf	17 38 50.1	+1.2
	comp=N,183nm,0.9s,baz=219,slow=2.3,SNR=26					
KEST			PKPab	sPKPdf	17 39 52.2	-0.2
	comp=N,487nm,1.0s,baz=300,slow=2.6,SNR=18					
ABSA	Djebel Ababsia	166.24 344	P	PKPdf	17 38 49.9	+0.9
CKFL	Kef-Lekhel	166.29 346	P	PKPdf	17 38 50.0	+0.9
DFRA	Djebel Bou Aff	166.31 349	P	PKPdf	17 38 50.7	+1.6
AVE	Averroes	166.43 39	PKP1	PKPdf	17 38 50.0	+0.8
AVE			*i* SS	SS	18 04 08.1	+2.1
PVLZ	Peæn de	166.46 26	PKP1	PKPdf	17 38 48.1	-1.0
PVLZ			*i* SS	SS	18 04 03.7	-1.7
CASM	Ain Smara	166.48 347	P	PKPdf	17 38 49.9	+0.7
CTEI	Djebel Teioual	166.68 347	P	PKPdf	17 38 50.6	+1.2
SET	Setif	166.73 351	P	PKPdf	17 38 50.0	+0.6
EBNR	Beni Rached	166.79 4	P	PKPdf	17 38 52.0	+2.6
MELI	Melilla	166.85 21	PKP1	PKPdf	17 38 48.7	-0.6
MELI			*i* SS	SS	18 04 09.8	+0.8
CKHR	Kef el Ahmar	166.89 350	P	PKPdf	17 38 54.4	+4.8
ECHA	Ech Chlef	166.91 5	P	PKPdf	17 38 51.0	+1.6
EANR	'Ain N'Sour	167.09 6	P	PKPdf	17 38 50.0	+0.4
ODZI	Dziouia	167.34 15	P	PKPdf	17 38 56.0	+6.2
OJBR	Djebel Berber	167.36 9	P	PKPdf	17 38 54.0	+4.1
IFR	Ifrane	167.49 32	PKP1	PKPdf	17 38 51.0	+0.9
IFR			*i* SS	SS	18 04 17.5	+0.9
ODJA	Bouhanifia	167.53 11	P	PKPdf	17 38 55.0	+5.0
ETRT	Tiaret	167.66 6	P	PKPdf	17 38 50.0	-0.2
MDT	Midelt	168.31 32	PKP	PKPdf	17 38 52.1	+1.4
	comp=N,195nm,0.9s,baz=58,slow=1.2,SNR=5.9					
MDT			PKPab	PKPab	17 40 01.6	+1.5
	comp=N,134nm,0.9s,baz=351,slow=8.6,SNR=4.3					
TOA0	Torodi Ar. Sit	170.07 174	*e*PKPdf	PKPdf	17 38 51.6	-0.5
TORD	Torodi Ar. Bea	170.07 174	PKP	PKPdf	17 38 51.3	-0.8
	comp=N,189nm,0.8s,baz=171,slow=2.8,SNR=219					
TORD			PKPab	PKP

ESDC	Sonseca Array	81.61 313	P	P	17 36 26.3	0.0
	comp=2,2.2nm,0.8s,baz=102,slow=4.1,SNR=9.0					
PV14	Lion Creek, Pa	151.50 352	*e*PKPdf	PKPdf	17 43 57.4	+0.6

*IDC **23** 17:36:17.8±4.0,23°.5S×177°.01W,h148km±31km, mb3.9/3, mb1 4.0/4, mb1mx3.7/34, mbtmp4.4/4, Error ellipse: s-maj=42.9km s-min=18.8km az=108.0*

ISC 23 17:36:19.2±1.5,23°.5S±0°.2×177°.0W±0°.3,h167km,n7, σ0s89/9,mb4.2/3,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	15.54 198		P	Pn	17 39 48.8	-0.6
	3.2nm,0.3s,baz=41,slow=19,SNR=2.7						
URZ				S	Sn	17 42 30.5	-12
	1.8nm,0.3s,baz=139,slow=19,SNR=4.1						
RPZ	Rata Peaks	22.43 203		P	P	17 41 03.3	-0.9
	13nm,0.9s,baz=329,slow=5.9,SNR=2.9						
RPZ				S	S	17 44 59.6	+1.7
	22nm,1.1s,baz=13,slow=17,SNR=2.5						
STKA	Stephens Creek	37.45 248		P	P	17 43 16.8	+0.3
	5.6nm,1.1s,baz=72,slow=20,SNR=3.8						
ASAR	Alice Springs	44.84 260		P	P	17 44 16.7	-0.4
	1.2nm,0.4s,baz=95,slow=7.0,SNR=16						
ASAR				PcP	PcP	17 45 56.3	+0.3
	0.9nm,0.8s,baz=112,slow=4.7,SNR=3.4						
ARCES	ARCESS Array B	132.05 350		PKP	PKiKP	17 55 13.4	+0.1
	1.2nm,0.8s,baz=54,slow=1.6,SNR=3.7						
AKASG	Malin Array Be	146.10 331		PKPbc	PKPbc	17 55 39.1	-0.3
	0.8nm,0.5s,baz=47,slow=4.2,SNR=3.2						
EKA	Eskdalemuir Ar	147.90 7		PKPbc	PKPbc	17 55 44.8	+0.6
	1.2nm,0.7s,baz=350,slow=2.9,SNR=3.6						

ATH 23 17:43:40.1,40°.94N×23°.02E,h14km±6km,ML1.8/1,Error ellipse: s-maj=6.0km s-min=1.0km az=13.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	Kendrikon	0.24 338		P	Pg	17 43 45.2	-0.1
KNT				S	Sg	17 43 48.5	-0.3
KNT				AML	AML	17 43 48.5	
	comp=E,676μm,0.1s						
KNT				AML	AML	17 43 48.7	
	comp=N,664μm,0.1s						
SOH	Sokhos	0.28 114		P	Pg	17 43 45.9	-0.1
SOH				S	Sg	17 43 50.1	+0.1
THE	Thessaloniki	0.31 187		P	Pg	17 43 46.2	-0.3
THE				S	Sg	17 43 51.1	+0.3
HORT	Hortiatis	0.35 169		P	Pg	17 43 47.0	-0.1
HORT				S	Sg	17 43 52.1	+0.2
GRG	Griva	0.47 272		P	Pg	17 43 49.3	0.0
GRG				S	Sg	17 43 55.8	+0.3
SRS	Serrai	0.47 68		P	Pg	17 43 49.2	-0.2
SRS				S	Sg	17 43 55.9	+0.1
PLG	Polygyros	0.65 150		P	Pg	17 43 52.6	-0.2

*ISCJB **23** 17:54:53.8±0.5,36°.61N±0°.05×69°.35E±0°.08,h250km, mb3.5/13,Error ellipse: s-maj=9.8km s-min=5.3km az=153.6*

*IDC **23** 17:54:54.0±3.2,36°.42N×69°.60E,h260km±30km,mb3.3/14, mb1 3.4/19,mb1mx3.2/69,mbtmp4.1/19,Error ellipse: s-maj=20.8km s-min=14.3km az=26.0*

*NNC **23** 17:55:01.3±2.9,37°.05N×69°.52E,h262km±31km,mb3.0, mpv4.1,Error ellipse: s-maj=31.7km s-min=23.5km az=164.0*

ISC 23 17:54:55.2±0.6,36°.73N±0°.06×69°.55E±0°.08,h250km,n42, σ1s91/46,mb3.6/13,3C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.48 146		P	Pn	17 55 57.0	+3.8
CEP				S	S	17 56 42.0	+2.8
CHCP	Chirah Chowk	4.32 134		P	Pn	17 56 06.2	+3.4
THW	Thamme Wali	4.32 155		P	Pn	17 56 05.7	+2.8
SARP	Sargodha	5.44 151		P	Pn	17 56 18.3	+1.8
AML	Almayashu	6.28 29		P	Pn	17 56 29.3	+2.2
	SNR=16						
KK31	Karatay Array	6.41 6		P	Pn	17 56 31.1	+2.7
	6.8nm,0.4s,baz=200,slow=15,SNR=121						
KK31				⇑S	S	17 57 43.1	+0.1
	4.5nm,0.7s,baz=195,slow=26,SNR=4.2						
UCH	Uchtor	6.70 33		P	Pn	17 56 34.9	+2.4
	SNR=8.9						
EKS2	Erkin-Say	6.76 27		P	Pn	17 56 35.8	+2.9
	SNR=22						
KZA	Kyzart	6.93 38		P	Pn	17 56 38.0	+2.7
	SNR=10						
AAK	Ala-Archa	7.03 31		P	Pn	17 56 39.2	+2.9
	SNR=5.4						
AAK	Ala-Archa	7.03 31		P	Pn	17 56 39.0	+2.7
	9.5nm,0.6s						
AAK				S	S	17 57 58.1	+0.7
	13nm,1.1s						
AAK	Ala-Archa	7.03 31		P	Pn	17 56 38.7	+2.4
	3.4nm,0.3s,baz=177,slow=4.7,SNR=34						
AAK				S	S	17 57 53.5	-3.8
	0.5nm,0.3s,baz=172,slow=19,SNR=1.9						
MKAR	Makanchi Array	13.82 39		P	P	17 58 02.0	+0.1
	0.5nm,0.3s,baz=229,slow=19,SNR=18						
PYUN	Piuthan	14.23 123	*e*P		Pn	17 58 06.2	-0.2
	25nm,0.5s						
AB31	Akbulak array	14.34 334		P	P	17 58 08.2	+0.7
	1.6nm,0.5s,baz=148,slow=12,SNR=38						
DANN	Dangsing	14.60 121	*e*P		P	17 58 11.3	+0.4
	13nm,0.3s						
KOLN	Koldanda	14.86 123	*e*P		Pn	17 58 13.5	-0.4
	10nm,0.3s						
KURBB	Kurchatov Arra	15.32 22		P	Pn	17 58 19.5	+0.5
	0.6nm,0.3s,baz=216,slow=9.1,SNR=64						
KKN	Kakani	16.00 119	*e*P		Pn	17 58 27.8	+0.3
AKTO	Aktyubinsk	16.02 332		⇑P	Pn	17 58 28.1	+0.8
	7.7nm,0.7s						
AKTO	Aktyubinsk	16.02 332		P	Pn	17 58 27.8	+0.5
	1.0nm,0.3s,baz=146,slow=7.5,SNR=19						
PKIN	Phulchoki	16.21 120	*e*P		Pn	17 58 30.2	+0.1
	11nm,0.4s						
PKI	Pulchoki	16.22 120	*e*P		Pn	17 58 29.6	-0.7
BVAR	Borovoye Array	16.31 2		P	Pn	17 58 31.3	+0.6
	3.0nm,0.3s,baz=165,slow=12,SNR=44						
BRVK	Borovoye	16.34 2		⇑P	Pn	17 58 32.1	+1.1
	4.0nm,0.6s						
JIRN	Jiri	16.72 118	*e*P		Pn	17 58 37.2	+1.0
RAMN	Ramite	17.44 119	*e*P		P	17 58 42.7	+0.7
	15nm,0.4s						
ODAN	Odare	18.05 118	*e*P		Pn	17 58 50.3	-1.4
ZALV	Zalesovo Beam	20.22 27		P	P	17 59 11.3	+0.1
	3.5nm,0.3s,baz=219,slow=10,SNR=12						
ARU	Arti	21.06 343		P	P	17 59 21.5	+1.5
	0.8nm,0.4s,baz=196,slow=4.6,SNR=4.3						
CMAR	Chiang Mai Arr	31.59 117		P	P	18 00 51.5	-3.4
	0.9nm,0.5s,baz=301,slow=8.1,SNR=4.0						
FINES	FINESS Array B	36.65 326		P	P	18 01 38.2	+0.6
	0.6nm,0.4s,baz=114,slow=12,SNR=5.8						
ARCES	ARCESS Array B	40.49 338		P	P	18 02 10.0	+0.5
	0.8nm,0.4s,baz=110,slow=7.8,SNR=9.2						
HFS	Hagfors	42.17 322		P	P	18 02 23.1	0.0
	1.5nm,0.6s,baz=108,slow=9.3,SNR=7.4						
NOA	NORSAR Array B	43.50 323		P	P	18 02 33.5	-0.3
	2.2nm,1.0s,baz=98,slow=7.8,SNR=2.6						
KSRS	Korea Array	45.91 71		P	P	18 02 51.0	-2.0
	0.3nm,0.3s,baz=285,slow=5.7,SNR=3.1						
TIXI	Tiksi	46.00 22		P	P	18 02 52.4	-0.9
	1.0nm,0.3s,baz=256,slow=3.0,SNR=7.7						
SPITS	Spitsbergen Ar	47.01 347		P	P	18 03 01.9	+0.8
	16nm,1.1s,baz=119,slow=8.9,SNR=4.0						
TORD	Torodi Ar. Bea	64.56 268		P	P	18 05 03.4	-2.7
	1.5nm,0.6s,baz=59,slow=5.6,SNR=16						
INK	Inuvik	73.86 9		P	P	18 06 01.4	-0.8
	0.5nm,0.4s,baz=358,slow=7.2,SNR=5.7						
YKA	Yellowknife Ar	81.07 2		P	P	18 06 42.2	+0.2
	0.4nm,0.7s,baz=354,slow=5.5,SNR=3.9						
ASAR	Alice Springs	85.34 124		P	P	18 07 01.9	-2.5
	0.8nm,0.6s,baz=315,slow=4.7,SNR=13						

*ISCJB **23** 18:09:33.7±0.5,19°.7S±0°.1×177°.95W±0°.10,h600km, mb4.0/20,Error ellipse: s-maj=14.4km s-min=10.7km az=142.3*

*IDC **23** 18:09:35.1±2.0,19°.71S×177°.92W,h604km±22km, mb3.5/20,mb1 3.7/22,mb1mx3.5/48,mbtmp4.5/22,Error ellipse: s-maj=19.2km s-min=11.6km az=146.0*

ISC 23 18:09:34.4±0.6,19°.7S±0°.1×177°.9W±0°.1,h600km,n72, σ0s83/73,mb4.1/20,13C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.84 258		P	P	18 12 41.6	+0.4
	0.6nm,0.3s,baz=283,slow=19,SNR=7.8						
URZ	Urewera	18.99 192		P	P	18 13 17.4	-1.3
	3.2nm,0.3s,baz=48,slow=4.7,SNR=9.4						
CTA	Charters Tower	33.69 263		P	P	18 15 27.9	+0.4
	6.7nm,0.4s,baz=86,slow=11,SNR=16						
PMG	Port Moresby	35.29 282		P	P	18 15 41.1	+0.3
	17nm,0.8s,baz=90,slow=6.8,SNR=9.6						
STKA	Stephens Creek	38.24 243		P	P	18 16 05.5	+0.7
	1.4nm,0.5s,baz=108,slow=11,SNR=6.4						
STKA				PcP	PcP	18 18 03.5	+0.5
	1.6nm,0.6s,baz=322,slow=5.0,SNR=3.9						
ASAR	Alice Springs	44.82 256		P	P	18 16 57.0	+0.3
	11nm,0.7s,baz=87,slow=8.3,SNR=162						
ASAR				PcP	PcP	18 18 25.4	+0.1
	2.8nm,0.6s,baz=104,slow=4.0,SNR=9.5						
ASAR				S	S	18 22 50.4	-1.3
	2.4nm,0.6s,baz=90,slow=15,SNR=24						
WRA	Warramunga Arr	44.83 261		P	P	18 16 55.7	-1.0
	6.0nm,0.7s						
FITZ	Fitzroy Crossi	53.25 262		P	P	18 17 58.9	+0.2
	5.5nm,0.4s,baz=110,slow=3.7,SNR=18						
BATI	Baumata	57.03 270		P	P	18 18 25.3	+0.3
	12nm,0.5s,baz=136,slow=3.9,SNR=7.5						
MJAR	Matsushiro Arr	69.65 323		P	P	18 19 43.9	-1.0
	3.9nm,0.5s,baz=162,slow=5.9,SNR=18						
MAT	Matsushiro	69.65 323		P	P	18 19 44.5	-0.4
ASAJ	Asahikawa	73.10 331		P	P	18 20 05.1	+0.4
	5.5nm,0.7s,baz=136,slow=8.3,SNR=5.4						
LEM	Lembang	73.17 269		P	P	18 20 06.2	+0.2
	19nm,0.5s,baz=186,slow=23,SNR=6.2						
PETK	Petropavlovsk-	75.55 345		P	P	18 20 17.9	-0.4
	3.3nm,0.6s,baz=118,slow=8.5,SNR=7.7						
KSRS	Korea Array	76.38 318		P	P	18 20 23.1	-0.1
	0.8nm,0.5s,baz=146,slow=5.7,SNR=4.6						
USRK	Ussuriysk Ar.	78.38 326		P	P	18 20 35.1	+1.3
	4.1nm,0.7s,baz=169,slow=3.7,SNR=10						
NVAR	Mina Array Bea	80.38 43		P	P	18 20 45.6	+0.8
	0.6nm,0.7s,baz=224,slow=6.3,SNR=3.2						
KLR	Kul'dur	81.92 329		P	P	18 20 51.9	-0.2
	1.2nm,0.7s,baz=228,slow=2.2,SNR=5.1						
TXAR	Lajitas Array	86.54 57		P	P	18 21 16.4	+1.1
	0.4nm,0.6s,baz=212,slow=8.2,SNR=5.8						
ILAR	Eielson Array	87.53 13		P	P	18 21 18.1	-0.8
	1.2nm,0.6s,baz=216,slow=5.5,SNR=11						
PDAR	Pinedale Array	88.31 43		P	P	18 21 23.8	+0.3
	0.4nm,0.5s,baz=193,slow=2.2,SNR=4.1						
SNAA	Sanae	88.79 178		P	P	18 21 25.2	+0.2
VNA3	Neumayer Olymp	88.91 176		P	P	18 21 26.3	+0.7
VNA2	Neumayer--Watz	89.36 177		P	P	18 21 28.5	+0.9
	baz=204,slow=3.9						
VNA1	Neumayer--Stat	89.58 177		P	P	18 21 23.0	-5.5
CMAR	Chiang Mai Arr	89.96 290		P	P	18 21 32.8	+1.5
	2.9nm,0.8s,baz=115,slow=2.8,SNR=16						
INK	Inuvik	93.49 15		P	P	18 21 47.4	+1.1
	0.7nm,0.9s,baz=258,slow=2.9,SNR=3.0						
MKAR	Makanchi Array	110.74 314		PKiKP	PKiKP	18 26 58.9	-1.1
	0.8nm,0.6s,baz=222,slow=0.9,SNR=11						
KURBB	Kurchatov Arra	113.55 318		PKiKP	PKiKP	18 27 04.1	-1.1
	1.0nm,0.7s,baz=96,slow=1.8,SNR=15						
BVAR	Borovoye Array	118.55 320		PKP	PKPdf	18 27 13.5	-1.2
	2.0nm,0.4s,baz=145,slow=1.8,SNR=19						
ARCES	ARCESS Array B	128.17 350		PKP	PKPdf	18 27 32.1	-0.5
	1.6nm,0.4s,baz=27,slow=1.2,SNR=27						
MATP	Matopo	132.47 214		PKP	PKPdf	18 27 42.1	-0.4
	1.2nm,0.7s,baz=226,slow=1.1,SNR=3.9						
FINES	FINESS Array B	135.06 344		PKP	PKPdf	18 27 45.4	-0.5
	3.0nm,0.9s,baz=76,slow=2.4,SNR=13						
LSZ	Lusaka	136.80 218		PKP	PKPdf	18 27 51.6	+0.9
	1.3nm,0.6s,baz=160,slow=3.7,SNR=3.7						
HFS	Hagfors	138.78 351		PKhKP	PKPpre	18 27 43.5	
	1.2nm,0.4s,baz=45,slow=2.5,SNR=8.8						
HFS				PKP	PKPdf	18 27 52.1	-0.7
	1.8nm,0.8s,baz=64,slow=5.0,SNR=3.6						
AKASG	Malin Array Be	142.38 332		PKhKP	PKPpre	18 27 55.2	
	2.2nm,0.3s,baz=44,slow=4.0,SNR=12						
KIEV	Kiev	142.40 332		⇑*i*PKP	PKPdf	18 27 55.1	-4.4
EKA	Eskdalemuir Ar	144.22 5		PKP	PKPbc	18 28 01.5	-0.9
	0.9nm,0.4s,baz=328,slow=2.8,SNR=10						
MBAR	Mbarara	145.44 238		PKPbc	PKPbc	18 28 07.7	+0.2
	2.6nm,0.3s,baz=206,slow=22,SNR=5.6						
BRTR	Keskin Array B	146.39 313		PKPbc	PKPbc	18 28 09.1	-0.4
	3.1nm,0.5s,baz=136,slow=4.5,SNR=21						
BURAR	Bucovina Array	146.44 331		⇑*i*PP	PKPbc	18 28 09.9	+0.6
ASF	Jabal al Asfar	146.51 299		PKPbc	PKPbc	18 28 09.9	0.0
	2.5nm,0.6s,baz=50,slow=3.7,SNR=7.5						
BIZ	Bicaz	146.52 330		⇑*i*P	PKPbc	18 28 10.3	+0.9
TESR	Tescani	146.56 329		⇑*i*P	PKPbc	18 28 09.5	0.0
VRI	Vrincioaia	146.97 328		⇓*i*P	PKPbc	18 28 10.8	+0.2
KDZE	Karadeniz Ereo	147.07 317		⇑*i*P	PKiKP	18 28 13.4	+0.6
TRPA	Tarpa	147.19 334		⇑*i*P	PKPbc	18 28 11.4	+0.3
CLL	Collm	147.33 347		⇓*i*PKPbc	PKPbc	18 28 11.4	+0.1
	comp=Z,11nm,0.8s						
CLL				⇑*i*PKPab	PKPab	18 28 14.9	-0.4
	comp=Z,5.0nm,0.8s						
DPC	Dobruska-Polom	147.41 343		*e*PKP	PKPbc	18 28 12.2	+0.5
DPC				*ex*	x	18 28 16.3	
MMAI	Mount Meron Ar	147.52 301		PKPbc	PKPbc	18 28 13.2	+0.6
	comp=Z,5.0nm,0.4s,baz=72,slow=6.6,SNR=33						
BRG	Berggiesshubel	147.53 346		*i* PKP	PKPbc	18 28 12.0	+0.1
	comp=Z,8.6nm,1.1s						
DOPR	Dopca	147.56 329		⇑*i*P	PKPbc	18 28 12.9	+0.7
MLR	Muntele Rosu	147.63 328		⇑*i*P	PKPbc	18 28 12.3	-0.2
MLR	Muntele Rosu	147.63 328		PKPbc	PKPbc	18 28 12.3	-0.2
	comp=Z,2.9nm,0.4s,baz=328,slow=6.6,SNR=19						
PVCC	Panska Ves	147.71 345		*e*PKP	PKPbc	18 28 13.0	+0.6
VOIR		148.11 329		⇑*i*P	PKPbc	18 28 14.2	+0.5
PRU	Pruhonice	148.21 345		*e*PKP	PKPbc	18 28 14.0	+0.4
ARR	Arges	148.36 329		⇑*i*P	PKiKP	18 28 15.3	-0.1
TREC	Trest	148.60 343		*e*PKP	PKPbc	18 28 14.8	+0.1
EIL	Elat	148.66 295		PKPbc	PKPbc	18 28 15.5	+0.1
	comp=Z,3.3nm,0.6s,baz=15,slow=9.1,SNR=3.6						
LEF	Lefka	148.83 306		⇑*i*P	PKPbc	18 28 15.6	0.0
KHC	Kasperske Hory	149.24 345		*e*PKP	PKPbc	18 28 16.3	+0.1
KHC				*ex*	x	18 28 23.4	
GERES	GERESS Array B	149.48 345		PKPbc	PKPbc	18 28 16.9	0.0
	comp=Z,4.5nm,0.7s,baz=28,slow=2.6,SNR=31						
BZS	Buzias	149.56 332		⇑*i*P	PKPbc	18 28 17.2	+0.1
CONA	Conrad Observa	149.73 342		*i* PKPbc	PKPbc	18 28 18.1	+0.6
	comp=Z,6.7nm,0.6s,SNR=9.5						
MOA	Molln	150.25 343		*i* PKPbc	PKPbc	18 28 18.7	0.0
	comp=Z,3.0nm,0.6s						
KBA	Koelnbreinsper	151.21 344		*i* PKPbc	PKPbc	18 28 20.6	-0.5
	comp=Z,6.0nm,0.9s						
WTTA	Wattenberg	151.44 346		*i* PKPbc	PKPbc	18 28 21.6	0.0
	comp=Z,7.4nm,0.7s,SNR=5.7						
MOTA	Moosalm	151.48 347		*i* PKPbc	PKPbc	18 28 20.8	-0.8
	comp=Z,2.2nm,0.6s						
MYKA	Terra Mystica	151.54 343		*i* PKPbc	PKPbc	18 28 20.9	-0.7
	comp=Z,2.1nm,0.5s						
ABTA	Abfaltersbach	151.72 345		*i* PKPbc	PKPbc	18 28 21.4	-0.7
	comp=Z,6.1nm,0.6s,SNR=5.1						
DAVOX	Davos/Dischmat	152.27 349		PKPbc	PKPbc	18 28 23.6	+0.2
	comp=Z,4.3nm,0.4s,baz=256,slow=5.4,SNR=8.4						

DJA 23 18:10:33.6±1.4,9°S±13°×11°8E±°,h35km±12km,M4.0/7, MLv4.0/7,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.63 26		P	Pn	18 10 46.2	+0.1
PLAI				S	Sn	18 10 56.8	+1.9
IGBI	Denpasar	2.40 284		P	Pn	18 11 10.9	+0.5
IGBI				S	Sn	18 11 38.2	-0.3
SRBI	Singaraja	2.61 300		P	Pn	18 11 14.8	+1.5
JAGI	Jajag, Banyuwa	3.43 285		P	Pn	18 11 24.5	-0.2
BSSI	Bau Bau, Buton	4.39 43		P	Pn	18 11 38.6	+0.8
BKSI	Bulukumba	4.81 33		P	Pn	18 11 44.8	+1.2

*IDC **23** 18:13:55.0±1.1,24°.11S×112°.20W,h0km,mb3.4/4, mb1 3.9/5,mb1mx3.7/36,mbtmp3.5/5,ML3.7/1,Error ellipse: s-maj=60.0km s-min=30.3km az=74.0*

ISC 23 18:13:55.4±1.2,24°.3S±0°.2×111°.7W±0°.4,h10km,n17, σ0s74/11,mb3.5/4,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.52 143		Pn	Pb	18 14 57.8	+0.1
	5.5nm,0.3s,baz=332,slow=17,SNR=2.8						
TXAR	Lajitas Array	53.93 9		P	P	18 23 19.7	+0.4
	0.1nm,0.5s,baz=169,slow=11,SNR=2.3						
NVAR	Mina Array Bea	62.74 354		P	P	18 24 22.2	+1.3
	0.8nm,0.8s,baz=174,slow=12,SNR=4.0						
PDAR	Pinedale Array	66.80 2		P	P	18 24 46.7	-0.6
	0.1nm,0.4s,baz=185,slow=9.1,SNR=2.2						
YKA	Yellowknife Ar	86.56 359		P	P	18 26 37.2	-1.0
	0.5nm,0.9s,baz=172,slow=5.4,SNR=6.3						
H11S2	WAKE ISLAND Hy 90.12 290			T	T	20 06 34.8	
	baz=115,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy 90.14 290			T	T	20 06 29.9	
	baz=115,slow=75,SNR=22						
H11S3	WAKE ISLAND Hy 90.48 291			T	T	20 06 29.8	
	baz=115,slow=75,SNR=14						
H11N3	WAKE ISLAND Hy 90.48 291			T	T	20 06 52.8	
	baz=116,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy 90.49 291			T	T	20 06 58.5	
	baz=116,slow=75,SNR=4.7						
H11N2	WAKE ISLAND Hy 90.49 291			T	T	20 06 56.1	
	baz=116,slow=75,SNR=24						
BRTR	Keskin Array B	147.12 54		PKPbc	PKPab	18 33 40.6	0.0
	1.2nm,1.0s,baz=336,slow=2.7,SNR=4.6						
ZALV	Zalesovo Beam	147.93 342		PKPbc	PKPbc	18 33 40.1	-0.5
	0.6nm,0.5s,baz=46,slow=4.2,SNR=3.0						
CMAR	Chiang Mai Arr	150.88 264		PKPbc	PKiKP	18 33 49.9	+0.3
	0.5nm,0.5s,baz=98,slow=4.6,SNR=7.3						
KBZ	Khabaz	151.62 41		PKPbc	PKiKP	18 33 51.0	+0.6
	0.5nm,0.3s,baz=17,slow=1.9,SNR=3.7						
KURBB	Kurchatov Arra	152.58 346		PKPbc	PKiKP	18 33 51.4	-0.7
	0.7nm,0.7s,baz=12,slow=1.5,SNR=9.7						
MKAR	Makanchi Array	154.94 337		PKPbc	PKiKP	18 33 57.5	+0.3
	0.4nm,0.8s,baz=43,slow=2.8,SNR=3.9						

*ISCJB **23** 18:20:15.4±1.1,14°.7S±0°.1×73°.9W±0°.1,h91km,mb3.7/3, Error ellipse: s-maj=19.8km s-min=10.9km az=138.7*

*IDC **23** 18:20:18.5±3.8,14°.71S×73°.79W,h102km±35km,mb3.6/3, mb1 3.7/6,mb1mx3.4/34,mbtmp3.9/6,Error ellipse: s-maj=37.9km s-min=27.6km az=29.0*

ISC 23 18:20:17.2±1.3,14°.7S±0°.1×73°.9W±0°.1,h91km,n6,σ0s64/8, mb3.8/3,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.75 107		P	Pn	18 21 40.9	+0.4
	2.4nm,0.3s,baz=291,slow=9.0,SNR=32						
LPAZ				S	Sn	18 22 46.0	+0.5
	0.2nm,0.3s,baz=341,slow=18,SNR=1.8						
LVC	Limon Verde	9.15 150		P	Pn	18 22 27.4	+0.7
	1.7nm,0.3s,baz=334,slow=10,SNR=18						
LVC				S	Sn	18 24 07.7	-0.5
	0.4nm,0.3s,baz=221,slow=19,SNR=4.5						
CPUP	Villa Florida	19.30 129		P	Pn	18 24 36.5	-0.4
	0.2nm,0.3s,baz=299,slow=13,SNR=3.4						
TXAR	Lajitas Array	52.40 327		P	P	18 29 20.9	+0.5
	0.3nm,0.5s,baz=141,slow=9.2,SNR=3.7						
DBIC	Dimbokro	71.63 78		P	P	18 31 28.9	-0.6
	1.0nm,0.5s,baz=240,slow=4.7,SNR=3.8						
TORD	Torodi Ar. Bea	79.75 73		P	P	18 32 15.4	-0.3
	0.8nm,0.6s,baz=259,slow=6.3,SNR=5.4						

IDC 23 18:34:23.5±2.6,18°.38S×175°.22W,h0km,mb3.6/4, mb1 4.0/4,mb1mx3.7/23,mbtmp3.6/4,Error ellipse: s-maj=141.2km s-min=36.7km az=149.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	47.58 254		P	P	18 43 01.3	-0.1
	0.1nm,0.4s,baz=96,slow=7.5,SNR=4.4						
TXAR	Lajitas Array	83.71 56		P	P	18 46 55.2	+0.5
	0.3nm,0.7s,baz=232,slow=4.4,SNR=2.2						
ILAR	Eielson Array	85.69 12		P	P	18 47 04.2	+0.5
	0.8nm,0.6s,baz=221,slow=5.8,SNR=10						
YKA	Yellowknife Ar	93.51 24		P	P	18 47 39.4	-1.4
	0.5nm,0.8s,baz=236,slow=4.0,SNR=4.5						

IDC 23 18:39:39.5±25.0,24°.09N×142°.07E,h0km,mb3.5/3, mb1 3.6/3,mb1mx3.3/51,mbtmp3.5/3,Error ellipse: s-maj=638.1km s-min=47.5km az=175.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	51.72 321		P	P	18 48 48.4	0.0
	0.7nm,0.6s,baz=90,slow=6.3,SNR=4.1						
MKAR	Makanchi Array	52.35 311		P	P	18 48 53.1	-0.2
	0.7nm,0.9s,baz=104,slow=6.1,SNR=4.8						
ILAR	Eielson Array	60.40 28		P	P	18 49 50.3	-0.1
	0.1nm,0.5s,baz=256,slow=7.3,SNR=2.7						

*IDC **23** 18:43:51.0±1.1,42°.91N×18°.80E,h0km,mb3.7/5, mb1 3.9/14,mb1mx3.6/50,mbtmp3.7/14,ML3.4/8,Error ellipse: s-maj=17.7km s-min=12.0km

SELS	Selova	1.75	81	*e*Pg	Pb	18 44 24.0	-0.6
PHP	Peshkopia	1.80	135	P	Pg	18 44 27.0	-0.3
PHP				S	Sg	18 44 54.5	+3.9
TIR	Tirane	1.82	153	*e*Pg	Pb	18 44 26.9	+1.0
TIR	Tirane	1.82	153	P	Pb	18 44 26.7	+0.8
TIR				S	Sg	18 44 54.4	+2.9
TIR	Tirane	1.82	153	⇓*i*P	Pb	18 44 26.0	+0.1
TIR	Tirane	1.82	153	S	Sg	18 44 50.6	-0.9
BLY	Banja Luka	2.11	328	*e*Pn	Pb	18 44 29.4	-1.3
BLY	Banja Luka	2.11	328	⇓*i*P	Pb	18 44 29.3	-1.4
BOVS	Bovan	2.25	72	*e*Pn	Pn	18 44 30.8	+1.3
BARS	Barje	2.25	93	*e*Pn	Pb	18 44 31.6	-1.6
BARS	Barje	2.25	93	*e*Pn	Pg	18 44 34.7	-1.3
FRGS	Fruska Gora	2.31	19	*e*Pn	Pn	18 44 30.6	+0.2
BAI	Bari	2.33	217	*e*Pn	Pn	18 44 32.4	+1.8
FASA	Fasano	2.40	206	*e*Pn	Pn	18 44 33.0	+1.4
OHR	Ohrid	2.41	140	*i* Pn	Pb	18 44 36.1	+0.2
OHR				*i* Sn	Sg	18 45 09.3	-0.8
KRUS	Krusevo	2.45	130	*i* Pn	Pb	18 44 36.0	-0.6
KRUS				*i* Sn	Sg	18 45 10.4	-1.2
KUBS	Kucevo	2.56	55	*e*Pn	Pn	18 44 33.8	0.0
SG1	Sgolgore (BA)	2.64	217	*e*Pn	Pn	18 44 32.5	-2.4
UDBI	Udbina	2.67	307	*i* Pn	Pb	18 44 39.6	-0.7
UDBI				Sn	Sb	18 45 15.7	+2.8
ZAGS	Zajecar	2.67	71	*e*Pn	Pn	18 44 36.7	+1.4
BIA	Bitola	2.74	135	P	Pb	18 44 40.5	-1.0
BIA	Bitola	2.74	135	*i* Pn	Pb	18 44 40.4	-1.0
BIA				*i* Sn	Sb	18 45 16.9	+2.0
BOSS	Bosilegrad	2.78	99	*e*Pn	Pn	18 44 38.2	+1.3
MATE	Matera	2.79	214	⇑*i*P	Pn	18 44 37.6	+0.7
MDVR	Moldovita	2.80	49	⇑*i*P	Pn	18 44 37.9	+0.8
TPE	Tepelena	2.84	160	P	Pn	18 44 40.2	+2.6
STIP	Stip	2.85	116	*i* Pn	Pb	18 44 41.1	-2.2
STIP				*i* Sn	Sb	18 45 21.2	+3.2
ZAPS	Zavoj	2.85	83	*e*Pn	Pn	18 44 39.3	+1.4
FNA	Florina	2.94	137	P	Pb	18 44 42.8	-2.1
BANR	Banloc	2.95	35	⇓*i*P	Pn	18 44 40.1	+1.0
NEST	Nestorio	3.08	145	P	Pb	18 44 45.0	-2.4
NVLJ	Novalja	3.23	301	*i* Pn	Pn	18 44 45.4	+2.5
SRN	Sarande	3.23	163	P	Pn	18 44 45.2	+2.2
HERR	Herculane	3.26	53	⇑*i*P	Pn	18 44 40.0	+0.6
VAY	Valandovo	3.28	119	*e*Pn	Pn	18 44 45.4	+1.7
VAY	Valandovo	3.28	119	P	Pb	18 44 47.7	-3.1
VAY	Valandovo	3.28	119	*i* Pn	Pn	18 44 44.7	+1.0
VAY				*i* Sn	Sb	18 45 28.4	-2.1
PUNG	Punghina	3.30	65	⇑*i*P	Pn	18 44 44.3	+0.4
VTS	Vitosha	3.31	95	*e*Pn	Pn	18 44 46.0	+1.7
VTS	Vitosha	3.31	95	P	Pn	18 44 46.1	+1.7
VTS	Vitosha	3.31	95	⇓*i*P	Pn	18 44 45.6	+1.3
BZS	Buzias	3.34	37	*e*Pn	Pn	18 44 44.9	+0.3
BZS	Buzias	3.34	37	⇓*i*P	Pn	18 44 44.9	+0.3
KEK	Kerkira	3.35	166	P	Pn	18 44 46.6	+1.9
OZLJ	Ozalj	3.54	319	*e*Pn	Pn	18 44 50.0	+2.8
SRE	Strehaia	3.63	61	⇑*i*P	Pn	18 44 48.9	+0.4
GZR	Gura Zlata	3.77	49	⇑*i*P	Pn	18 44 51.1	+0.7
BEHE	Becsehely	3.77	339	*e*Pn	Pn	18 44 51.0	+0.6
BEHE				Sn	Sn	18 45 36.0	+1.6
SIRR	Siria	3.89	31	⇓*i*P	Pn	18 44 52.2	+0.1
TIH	Tihany	3.97	351	*e*Pn	Pn	18 44 54.1	+0.9
TIH				Sn	Sn	18 45 42.1	+2.7
TIP	Timpagrande	4.08	202	P	Pn	18 44 55.1	+0.3
LOT	Lotru	4.37	54	⇑*i*P	Pn	18 44 58.8	0.0
CSKK	Cskako	4.40	356	*e*Pn	Pn	18 45 00.0	+1.0
CSKK				Sn	Sn	18 45 51.0	+1.0
SOKA	Soboth 10.0nm,0.4s	4.55	326	*i* Pn	Pn	18 45 02.9	+1.7
OBKA	Obir 12nm,0.7s	4.63	321	*e*Pn	Pn	18 45 05.5	+3.2
DRGR		4.74	35	⇑*i*P	Pn	18 45 03.8	0.0
SRO	Srobarova	4.85	356	*e*SN	Sn	18 46 03.6	+2.6
ARSA	Arzberg 9.5nm,0.3s	4.85	333	*e*Pn	Pn	18 45 07.2	+1.9
ARSA				*i* Sn	Sn	18 46 01.0	-0.1
LTVH	Ltavrtes, Hu 11nm,0.4s	4.94	26	*e*Pn	Pn	18 45 06.0	-0.4
LTVH				Sn	Sn	18 46 05.0	+1.8
SOP	Sopron	4.96	343	*e*Pn	Pn	18 45 06.1	-0.6
SOP				Sn	Sn	18 46 04.1	+0.4
PSZ	Piszkesteto	5.01	9	⇑*i*P	Pn	18 45 08.0	+0.5
PSZ	Piszkesteto	5.01	9	*e*Pn	Pn	18 45 07.0	-0.4
PSZ				Sn	Sn	18 46 03.1	-2.0
VOIR		5.15	59	⇓*i*P	Pn	18 45 10.7	+1.3
MYKA	Terra Mystica 4.7nm,0.4s	5.16	317	*i* Pn	Pn	18 45 12.9	+3.3
MYKA				*e*Sn	Sn	18 46 12.5	+3.7
ZST	Bratislava 11nm,0.5s	5.35	348	*e*SN	Sn	18 46 10.5	-2.9
CONA	Conrad Observa 1.6nm,0.4s	5.35	339	*e*Pn	Pn	18 45 14.2	+2.0
CONA				*i* Sn	Sn	18 46 14.2	+0.6
MODS	Modra-Piesok 22nm,0.6s	5.50	350	*e*PN	Pn	18 45 16.0	+1.9
MODS				*e*SN	Sn	18 46 13.6	-3.5
VYHS	Vyhne	5.52	1	*e*PN	Pn	18 45 15.1	+0.7
VYHS				*e*SN	Sn	18 46 18.7	+1.1
KBA	Koelnbreinsper 3.0nm,0.3s	5.62	319	*e*Pn	Pn	18 45 19.4	+3.5
KBA				*i* Sn	Sn	18 46 21.6	+1.4
KECS	Kecovo 8.0nm,0.4s	5.64	12	*e*PN	Pn	18 45 17.3	+1.2
KECS				*e*SN	Sn	18 46 19.5	-1.0
MLR	Muntele Rosu	5.74	62	⇑*i*P	Pn	18 45 18.2	+0.6
MLR	Muntele Rosu 0.1nm,0.3s,baz=183,slow=18,SNR=2.1	5.74	62	Pn	Pn	18 45 18.6	+1.0
MLR				Sn	Sn	18 46 24.9	+1.6
MLR	0.3nm,0.3s,baz=171,slow=19,SNR=1.9 baz=308,slow=22,SNR=2.4			Lg	Lg	18 46 56.0	
TRPA	Tarpa baz=308,slow=22,SNR=2.4	5.80	26	*e*Pn	Pn	18 45 19.0	+0.8
TRPA				Sn	Sn	18 46 22.0	-2.4
MOA	Molln 2.3nm,0.3s	5.81	329	*i* Pn	Pn	18 45 21.6	+3.1
MOA				*i* Sn	Sn	18 46 26.3	+1.6
ABTA	Abfaltersbach 23nm,0.6s	5.82	312	*i* Pn	Pn	18 45 21.2	+2.6
ABTA				*i* Sn	Sn	18 46 32.0	+6.8
JAVC	Velka Javorina 12nm,0.5s,SNR=14	5.93	353	*e*SN	Sn	18 46 27.7	-0.2
LANS	Liptovska Anna 13nm,0.6s	6.20	4	*e*	Pb	18 45 32.7	-7.7
KRUC	Moravsky	6.30	346	*e*SN	Sn	18 46 34.9	-2.0
KOLS	Kolonicke sedl 8.0nm,0.6s	6.44	21	*e*PN	Pn	18 45 29.3	+2.2
KOLS				*e*SN	Sn	18 46 39.0	-1.3
BURAR	Bucovina Array 6.0nm,0.3s,baz=185,slow=12,SNR=1.9	6.50	42	⇑*i*P	Pn	18 45 29.6	+1.6
VRAC	Vranov 0.7nm,0.3s,baz=224,slow=4.3,SNR=3.6	6.51	347	Pn	Pn	18 45 31.2	+3.2
VRAC				Sn	Sn	18 46 42.8	+0.8
WTTA	Wattenberg 22nm,0.6s,SNR=17	6.61	313	*i* Pn	Pn	18 45 32.6	+3.0
WTTA				Sn	Sn	18 46 48.7	+3.8
WATA	Walderalm 14nm,0.5s,SNR=12	6.69	313	*i* Pn	Pn	18 45 34.1	+3.4
WATA				*i* Sn	Sn	18 46 53.2	+6.5
SQTA	Sankt Quirin 9.2nm,0.5s,SNR=7.5	6.82	311	*i* Pn	Pn	18 45 36.3	+3.9
SQTA				*i* Sn	Sn	18 46 55.5	+5.7
GERES	GERESS Array B 0.9nm,0.3s,baz=152,slow=15,SNR=6.5	6.85	331	Pn	Pn	18 45 34.5	+1.8
GERES				Sn	Sn	18 46 49.2	-1.2
MORC	Moravsky Berou 1.1nm,0.3s,baz=148,slow=23,SNR=4.1	6.85	353	*e*SN	Sn	18 46 49.4	-1.1
MOTA	Moosalm 6.3nm,0.3s,SNR=8.4	6.95	312	*i* Pn	Pn	18 45 37.1	+2.8
MOTA				*i* Sn	Sn	18 46 55.9	+2.8
FETA	Feichten 10nm,0.6s	6.98	308	*e*Pn	Pn	18 45 37.7	+3.0
FETA				*i* Sn	Sn	18 46 57.8	+4.0
KHC	Kasperske Hory 3.0nm,0.4s	7.13	331	*e*PN	Pn	18 45 38.9	+2.3
KHC				*e*SN	Sn	18 46 56.6	-0.7
PGF	Pioggiola	7.20	270	*e*Pn	Pn	18 45 39.5	+1.9
KRLC	Kraliky	7.23	350	*e*SN	Sn	18 46 58.9	-0.9
DAVOX	Davos/Dischmat 9.7nm,0.9s	7.36	304	Pn	Pn	18 45 41.0	+1.1
DAVOX				Sn	Sn	18 47 06.1	+2.8
GOPC	GO Pecny, Ondr 2.3nm,0.3s,baz=130,slow=9.5,SNR=19	7.46	340	*e*SN	Sn	18 47 04.0	-1.4
DPC	Dobruska-Polom 0.5nm,0.3s,baz=300,slow=20,SNR=2.4	7.56	348	*e*PN	Pn	18 45 43.9	+1.4
DPC				*e*SN	Sn	18 47 05.8	-2.2
DAVA	Damuels 3.9nm,0.3s,SNR=4.1	7.61	308	*e*Pn	Pn	18 45 45.4	+2.1
DAVA				Sn	Sn	18 47 14.6	+5.3
SBF	Sospel 14nm,0.5s	8.29	280	*e*Pn	Pn	18 45 53.7	+1.2
SBF				*e*Sn	Sn	18 47 23.7	-2.2
BRG	Berggiesshubel 3.9nm,0.9s	8.56	339	SG	Sg	18 48 28.1	+0.9
MBDF	Montbardon 17nm,0.9s	8.84	286	*e*Pn	Pn	18 45 59.2	-0.9
MBDF				*e*Sn	Sn	18 47 35.5	-4.0
FRF	La Foret Royal 2.0nm,0.3s	8.86	278	*e*Pn	Pn	18 46 01.5	+1.2
FRF				*e*Sn	Sn	18 47 36.0	-3.8
LMR	La Mourre	8.96	276	*e*Pn	Pn	18 46 03.0	+1.3
LPG	La Plagne 21nm,0.7s	8.98	290	*e*Pn	Pn	18 46 01.1	-1.1
LPG				*e*Sn	Sn	18 47 38.4	-4.8
LPL	La Plagne 8.6nm,0.5s	9.00	291	*e*Pn	Pn	18 46 03.1	+0.7
LPL				*e*Sn	Sn	18 47 39.1	-4.4
IDI	Anoyia 0.3nm,0.3s,baz=0.0,slow=7.1,SNR=2.5	9.03	146	Pn	Pn	18 46 00.8	-1.9
IDI				Sn	Sn	18 47 39.5	-4.7
CLL	Collm 1.2nm,0.3s,baz=307,slow=20,SNR=5.1	9.21	337	*e*Sb	Sn	18 48 08.0	+20
CLL				*e*Sg		18 48 42.0	
ORIF	Oris-en-Rattie 7.9nm,0.6s	9.49	286	*e*Pn	Pn	18 46 09.9	+0.9
ORIF				*e*Sn	Sn	18 47 50.7	-4.7
HINF	Hinteralfeld 4.5nm,0.4s	9.67	304	*e*Pn	Pn	18 46 12.0	+0.6
HINF				*e*Sn	Sn	18 47 54.0	-5.7
CDF	Champ du Feu	9.70	308	*e*Pn	Pn	18 46 11.6	-0.2
CABF	La Chapelle 8.7nm,0.6s	9.71	296	*e*Pn	Pn	18 46 12.5	+0.5
CABF				*e*Sn	Sn	18 47 55.1	-5.7
HAU	Haudompre 3.9nm,0.3s	10.06	304	*e*Pn	Pn	18 46 17.1	+0.4
HAU				*e*Sn	Sn	18 48 02.7	-6.5
VIVF	Saint-Julien-l	10.34	285	*e*Pn	Pn	18 46 20.2	-0.3
SFTF	Sexfontaines baz=122	10.94	303	*e*Pn	Pn	18 46 28.7	0.0
SMF	Signal de Mont 5.5nm,0.5s	11.21	294	*e*Pn	Pn	18 46 31.1	-1.4
SMF				*e*Sn	Sn	18 48 31.3	-6.2
LOR	Lormes baz=102	11.36	297	*e*Pn	Pn	18 46 34.8	+0.2
LOR				*e*Sn	Sn	18 48 34.9	-6.3
SSF	Saint Saulge 4.7nm,0.6s	11.54	296	*e*Pn	Pn	18 46 37.2	+0.2
SSF				*e*Sn	Sn	18 48 39.1	-6.4
AVF	Avril sur Loir 0.8nm,0.2s	11.57	295	*e*Pn	Pn	18 46 37.9	+0.5
AVF				*e*Sn	Sn	18 48 39.7	-6.6
BGF	Bois d'Agland 5.0nm,0.4s	11.86	293	*e*Pn	Pn	18 46 41.8	+0.4
BGF				*e*Sn	Sn	18 48 46.9	-6.5
HYF	Humbligny	12.16	296	*e*Pn	Pn	18 46 47.4	+1.9
MMAI	Mount Meron Ar baz=316,slow=10,SNR=2.4	16.44	122	Pn	Pn	18 47 43.5	+0.5
HFS	Hagfors 0.1nm,0.3s,baz=170,slow=10,SNR=3.9	17.46	352	P	P	18 47 58.1	+1.4
EKA	Eskdalemuir Ar baz=118,slow=8.7,SNR=3.5	18.83	319	P	Pn	18 48 13.3	+0.9
FINES	FINESS Array B 0.2nm,0.3s,baz=181,slow=8.3,SNR=8.3	19.01	11	P	Pn	18 48 15.0	+0.5
ARU	Arti 0.8nm,0.4s,baz=260,slow=9.6,SNR=5.2	28.60	48	P	P	18 49 48.0	-0.2
YKA	Yellowknife Ar 0.5nm,0.7s,baz=38,slow=6.3,SNR=8.1	68.43	339	P	P	18 54 54.4	+0.8
CMAR	Chiang Mai Arr 0.9nm,0.9s,baz=303,slow=6.9,SNR=7.1	70.58	83	P	P	18 55 07.5	-0.1
ILAR	Eielson Array 0.4nm,0.7s,baz=13,slow=2.8,SNR=4.9	72.00	354	P	P	18 55 16.1	+0.7
TXAR	Lajitas Array 0.3nm,0.4s,baz=35,slow=3.3,SNR=9.2	90.72	313	P	P	18 56 57.1	+1.8

*ISCJB **23** 18:51:38.7±0.6,24°.45N±0°.04×122°.84E±0°.02,h69km±6km,*
Error ellipse: s-maj=7.5km s-min=3.3km az=3.3
*JMA **23** 18:51:38.8±0.1,24°.53N×122°.88E,h69km±1km,M1.9*
*TAP **23** 18:51:38.3,24°.53N×122°.88E,h71km,ML2.5,D*

ISC 23 18:51:39.2±1.3,24°.46N±0°.06×122°.84E±0°.03,h66km±8km, n31,σ0s60/55,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.10	94	P	Pn	18 51 48.9	-0.1
JYNG				S	Sn	18 51 56.3	+0.1
YOJ	Yonaguni jima baz=119	0.16	88	P	Pn	18 51 48.9	-0.3
YOJ				*e*S	Sn	18 51 56.6	+0.1
YOJ	Yonaguni jima	0.16	88	P	Pn	18 51 49.1	-0.1
YOJ				*e*S	Sn	18 51 56.5	0.0
EOS1	EOS1 baz=272	0.65	278	P	Pn	18 51 53.2	-0.1
EOS1				S	Sn	18 52 04.5	+0.8
IRIF	Iriomote-Funau baz=282	0.82	98	P	Pn	18 51 55.0	-0.3
IRIF				*e*S	Sn	18 52 07.7	+0.5
TWC	Suao baz=282	0.91	280	*e*P	Pn	18 51 56.2	-0.2
TWC				*e*S	Sn	18 52 08.4	-0.7
HATJ	Hateruma jima	0.97	114	P	Pn	18 51 57.8	+0.7
TIPB	Shuangxi baz=287	1.05	299	*e*P	Pn	18 51 58.0	-0.3
TIPB				*e*S	Sn	18 52 12.7	+0.3
JKRS	Kuro-shima	1.09	101	P	Pn	18 51 59.0	+0.3
JKRS				S	Sn	18 52 14.3	+1.1
TWE	Neicheng baz=284	1.10	284	*e*P	Pn	18 51 58.3	-0.5
TWE				S	Sn	18 52 12.7	-0.7
ENTT	Nioudou baz=275	1.17	279	*e*P	Pn	18 52 00.7	+0.9
ENTT				*e*S	Sn	18 52 14.9	-0.2
JIJ	Ishigaki jima	1.19	94	P	Pn	18 51 59.6	-0.4
JIJ				*e*S	Sn	18 52 15.4	-0.2
NDT	Datong Townshi baz=279	1.22	277	*e*P	Pn	18 52 01.1	+0.8
NDT				*e*S	Sn	18 52 17.7	+1.6
NWLT	Wulai baz=281	1.26	285	*e*P	Pn	18 52 01.1	+0.2
NWLT				*e*S	Sn	18 52 16.6	-0.5
ETLH	Xiulin Townshi baz=248	1.26	259	*e*P	Pn	18 52 00.9	-0.1
ETLH				*e*S	Sn	18 52 17.6	+0.3
YM07	YM07 baz=292	1.32	303	*e*P	Pn	18 52 01.5	-0.2
YM07				*e*S	Sn	18 52 18.2	-0.3
NNSB	Datong baz=256	1.33	269	*e*P	Pn	18 52 02.2	+0.3
NNSB				*e*S	Sn	18 52 18.9	0.0
NNS	Nan Shan baz=256	1.33	270	*e*S	Sn	18 52 19.4	+0.3
YM01	YM01 baz=290	1.34	301	*e*P	Pn	18 52 01.5	-0.5
YM01				*e*S	Sn	18 52 19.2	+0.1
JISG	Ishigakijimahi baz=276	1.35	84	P	Pn	18 52 01.5	-0.5
JISG				S	Sn	18 52 18.8	-0.4
YHNB	Yeheng baz=246	1.35	279	*e*P	Pn	18 52 02.6	+0.5
CHGB	Renai baz=225	1.57	256	*e*P	Pn	18 52 05.3	+0.1
HGSD	Ruisui baz=234	1.61	234	*e*P	Pn	18 52 05.5	0.0
HGSD				*e*S	Sn	18 52 25.5	0.0
EHY	Hungye baz=234	1.68	236	*e*P	Pn	18 52 06.1	-0.4
EHY				*e*S	Sn	18 52 26.4	-0.7
VWDT	VWDT baz=244	1.70	246	*e*P	Pn	18 52 06.0	-0.7
VWDT				*e*S	Sn	18 52 27.2	-0.4
JTJ	Tarama	1.71	83	P	Pn	18 52 06.8	0.0
YULB	Yu-li baz=242	1.76	233	*e*P	Pn	18 52 07.1	-0.6
YULB				*e*S	Sn	18 52 27.7	-1.5
TWF1	Yuli baz=241	1.79	232	*e*P	Pn	18 52 08.0	0.0
TWF1				*e*S	Sn	18 52 29.1	-0.7
DPDB	Guoxing baz=250	1.79	257	*e*P	Pn	18 52 09.1	+1.0
SMLT	Sun Moon Lake baz=243	1.86	252	*e*P	Pn	18 52 09.5	+0.5
SMLT				*e*S	Sn	18 52 32.4	+0.7
WHYT	Xinyi Township baz=241	1.97	248	*e*P	Pn	18 52 11.6	+1.3

*ISCJB **23** 18:54:03.9±0.6,32°.27N±0°.03×115°.32W±0°.03,h9km±5km,*
Error ellipse: s-maj=4.9km s-min=4.3km az=135.8
*SCEDC **23** 18:54:04.7,32°.28N×115°.32W,h1km*
*ANF **23** 18:54:04.9±0.9,32°.34N×115°.33W,h13km±4km,ML2.7/7,*
Error ellipse: s-maj=7.9km s-min=3.1km az=171.0
*PAS **23** 18:54:04.7±0.0,32°.28N×115°.32W,h1km*
*ECX **23** 18:54:05.4±0.6,32°.28N×115°.31W,h5km,MD2.8,ML3.0*
*NEIC **23** 18:54:05.4±0.0,32°.29N×115°.32W,h5km,MD3.0(ECX),*
ML3.0(PAS),After ECX.

ISC 23 18:54:04.1±1.1,32°.25N±0°.03×115°.34W±0°.03,h9km±9km, n30,σ0s88/40,3C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.17	9	⇑*e*P	Pg	18 54 07.4	-0.3
CPBX				*e*S	Sg	18 54 10.5	+0.4
CPBX				*e*		18 54 12.6	
CPBX	comp=N,12μm,0.3s			IAML		18 54 12.6	
CPBX	comp=E,14μm,0.2s			IAML		18 54 12.9	
SGL	Mount Signal	0.51	320	⇓*i*P	Pg	18 54 14.6	+0.5
YUH	Yuha Desert	0.63	308	⇑*i*P	Pg	18 54 16.5	+0.1
RMX	La Rumorosa	0.72	299	*e*P	Pg	18 54 17.3	-0.7
RMX				*e*S	Sg	18 54 26.3	-1.2
RMX	comp=N,549nm,0.3s			IAML		18 54 26.7	
IKP	In-Ko-Pah, Jac baz=119	0.77	301	P	Pg	18 54 19.0	+0.2
IKP				S	Sg	18 54 29.4	+0.5
IKP	In-Ko-Pah, Jac	0.77	301	⇑*e*P	Pg	18 54 19.1	+0.2
IKP				*e*S	Sg	18 54 29.4	+0.5
SWSC	Sam W. Stewart baz=149	0.79	330	S	Sg	18 54 29.8	+0.1
ECBX	El Chinero	0.82	163	⇓*e*P	Pg	18 54 19.9	+0.1
ECBX				*e*S	Sg	18 54 31.6	+1.1
GLA	Glamis	0.90	28	*e*Pg	Pg	18 54 20.9	-0.6
GLA	Glamis baz=209	0.90	28	P	Pg	18 54 21.1	-0.4
GLA				S	Sg	18 54 32.5	-0.8
ZAX	El Zacaton	1.09	227	*e*P	Pg	18 54 24.8	-0.2
MONP2	Monument Peak baz=123	1.12	305	P	Pg	18 54 25.4	-0.3
MONP2				S	Sg	18 54 39.9	-0.3
MONP2	Monument Peak baz=123	1.12	305	*e*P	Pg	18 54 25.3	-0.3
CBX	Cerro Bola	1.13	273	⇓*e*P	Pg	18 54 25.7	-0.1
CBX				*e*S	Sg	18 54 40.4	0.0
CBX	comp=N,351nm,0.4s			IAML		18 54 45.9	
BAR	Barrett	1.21	291	*e*Pg	Pg	18 54 26.6	-0.7
BAR	Barrett	1.21	291	*e*P	Pg	18 54 26.6	-0.7
SPIG	San Pedro Mart	1.21	185	*e*P	Pg	18 54 26.7	-0.7
SPX	San Pedro Mart	1.21	185	*e*P	Pg	18 54 26.7	-0.7
SPX				IAML		18 54 47.5	
SPX	comp=E,184nm,0.5s			⇓*e*		18 54 47.5	
ECNX	Esteban Cantu	1.23	241	*e*P	Pg	18 54 27.1	-0.6
113A	Mohawk Valley,	1.42	68	*e*Pn	Pn	18 54 28.0	-2.1
SDRC	San Diego Road	1.44	290	*e*P	Pn	18 54 30.0	-0.4
109C	Camp Elliot, M baz=112	1.62	293	P	Pn	18 54 33.6	+0.8
109C				S	Sn	18 54 54.8	+0.9
CPE	Camp Elliot baz=112	1.62	293	*e*Pn	Pn	18 54 33.4	+0.5
CPE				*e*Sn	Sn	18 54 53.1	-0.8
Y12C	Blythe	1.64	24	*e*Pn	Pn	18 54 33.1	-0.1
PFO	Pinyon Flats O	1.65	325	*e*Pn	Pn	18 54 31.7	-1.7
PFO	Pinyon Flats O baz=144	1.65	325	P	Pn	18 54 31.7	-1.7
MURC	Murrieta baz=130	2.06	311	Sb	Sb	18 55 08.8	+1.3
Y14A	Wickenburg	2.58	49	*e*Pn	Pn	18 54 48.3	+2.2
W13A	Hualapai Mount	3.08	23	*e*Pn	Pn	18 54 53.9	+0.7
X16A	Lo Mia Camp, P	3.91	55	*e*Pn	Pn	18 55 04.4	-0.1

MEX 23 19:03:12.9±0.7,16°.66N×98°.43W,h15km±7km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.39	133	*i* P	Pg	19 03 19.6	-1.3
PNIG				*e*S	Sg	19 03 25.2	-1.1
TLIG	Tlapa	0.91	351	*i* P	Pb	19 03 27.4	-3.0
TLIG				*e*S	Sb	19 03 37.6	-4.7
ACP2	Acapulco	1.42	279	*e*P	Pn	19 03 34.2	-4.0
ACP2				*e*S	Sn	19 03 51.4	-5.1
CAIG	El Cayaco	1.81	283	*e*P	Pn	19 03 40.3	-3.2
CAIG				*i* S	Sn	19 04 02.0	-4.1

*ISCJB **23** 19:07:15.0±0.3,9°.92S±0°.05×124°.62E±0°.05,h19km,*
mb4.1/14,Error ellipse: s-maj=8.2km s-min=5.4km
az=41.2
*IDC **23** 19:07:15.1±0.7,9°.80S×124°.65E,h0km,mb4.1/11,*
mb1 4.3/15,mb1mx4.0/37,mbtmp4.2/15,ML4.1/4,Error
ellipse: s-maj=14.1km s-min=11.1km az=145.0
*NEIC **23** 19:07:19.0±2.6,9°.90S×124°.59E,h30km±7km,mb4.5/7,*
Error ellipse: s-maj=18.8km s-min=8.3km az=223.0
*DJA **23** 19:07:20.6±0.8,10°S±4°×12°4E±°,h17km±7km,M4.8/11,*
mb5.0/11,MLv4.8/10

ISC 23 19:07:17.4±0.5,10°.03S±0°.06×124°.53E±0°.06,h19km,n64, σ2s12/62,mb4.1/13,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.38	317	*e*Pg	Pn	19 07 30.0	+2.1
SOEI	Soe	0.38	317	P	Pn	19 07 31.2	+3.2
BATI	Baumata	0.87	259	*e*Pn	Pn	19 07 37.3	+2.7
BATI				*e*Pn	Pn	19 07 37.3	+2.7
BATI				*e*Sn	Sn	19 07 49.1	+2.3
BATI	Baumata 686nm,0.3s,baz=86,slow=4.2,SNR=1864	0.87	259	Pg	Pn	19 07

WRA	**Warrarunga Arr**	**13.66**	**137**	Pn	**Pn**	**19 10 29.4**	**-0.9**
	0.8nm,0.3s,baz=310,slow=14,SNR=28						
WRA				Sn	Sn	19 12 50.5	-11
	3.8nm,0.3s,baz=306,slow=20,SNR=7.4						
WRAB	**Tennant Creek**	**13.66**	**137**	*e*Pn	**Pn**	**19 10 30.6**	**+0.2**
AS31	**Alice Springs**	**16.25**	**148**	*e*Pn	**Pn**	**19 11 04.1**	**-0.7**
	4.4nm,0.4s						
ASAR	**Alice Springs**	**16.25**	**148**	*e*Pn	**Pn**	**19 11 04.9**	**+0.2**
ASAR	**Alice Springs**	**16.25**	**148**	Pn	**Pn**	**19 11 04.7**	**-0.1**
	0.9nm,0.3s,baz=320,slow=11,SNR=69						
ASAR				Sn	**Sn**	**19 13 55.9**	**-8.8**
	3.0nm,0.3s,baz=316,slow=22,SNR=15						
CISI	**Cisompet, Garu**	**16.70**	**277**	*e*Pn	**Pn**	**19 11 07.4**	**-3.2**
	97nm,1.4s						
LEM	**Lembang**	**17.02**	**279**	P	**Pn**	**19 11 14.1**	**-0.7**
	2.2nm,0.3s,baz=329,slow=22,SNR=3.8						
CBJI	**Citeko**	**17.86**	**280**	P	**Pn**	**19 11 22.9**	**-2.1**
CGJI	**Cibinong**	**18.94**	**279**	P	**P**	**19 11 36.2**	**-1.3**
FORT	**Forrest**	**20.90**	**171**	*e*P	**P**	**19 12 00.9**	**+2.1**
	38nm,0.6s						
STKA	**Stephens Creek**	**26.88**	**146**	P	**P**	**19 13 00.3**	**+3.2**
	1.5nm,0.6s,baz=314,slow=10,SNR=8.4						
CM31	**Chiang Mai Arr**	**37.93**	**318**	*e*P	**P**	**19 14 34.3**	**+0.3**
	17nm,1.8s						
CMAR	**Chiang Mai Arr**	**37.93**	**318**	*e*P	**P**	**19 14 33.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**37.93**	**318**	P	**P**	**19 14 33.9**	**-0.1**
	1.9nm,0.8s,baz=139,slow=6.8,SNR=12						
MJAR	**Matsushiro Arr**	**48.08**	**15**	P	**P**	**19 15 56.0**	**+0.1**
	1.3nm,0.5s,baz=197,slow=9.0,SNR=6.0						
MAJO	**Matsushiro**	**48.09**	**15**	*e*P	**P**	**19 15 56.0**	**+0.1**
H08S2	**Diego Garcia H**	**51.43**	**268**	T	T	20 12 05.9	
	baz=98,slow=75,SNR=3.8						
H08S3	**Diego Garcia H**	**51.44**	**268**	T	T	20 12 01.2	
	baz=98,slow=75,SNR=4.2						
H08S1	**Diego Carcia H**	**51.45**	**268**	T	T	20 12 12.5	
	baz=98,slow=75,SNR=4.2						
RAMN	**Ramite**	**52.02**	**316**	*e*P	**P**	**19 16 24.7**	**-1.5**
PKI	**Pulchoki**	**53.23**	**316**	*e*P	**P**	**19 16 33.9**	**-1.4**
	8.2nm,0.4s						
PKIN	**Phulchoki**	**53.24**	**316**	*e*P	**P**	**19 16 33.9**	**-1.4**
	8.0nm,0.4s						
KOLN	**Koldanda**	**54.61**	**315**	*e*P	**P**	**19 16 44.2**	**-1.0**
	8.5nm,0.6s						
DANN	**Dangsing**	**54.85**	**315**	*e*P	**P**	**19 16 46.0**	**-1.1**
	16nm,0.5s						
PYUN	**Piuthan**	**55.24**	**315**	*e*P	**P**	**19 16 48.9**	**-0.9**
	12nm,0.5s						
SONA0	**Songino Array**	**59.82**	**346**	*e*P	**P**	**19 17 21.3**	**-0.3**
SONM	**Songino Array**	**59.82**	**346**	P	**P**	**19 17 21.3**	**-0.3**
	0.8nm,0.5s,baz=161,slow=9.9,SNR=5.0						
KSH	**Kashi**	**66.76**	**321**	P	**P**	**19 18 10.6**	**+2.8**
MK31	**Makanchi Array**	**67.96**	**330**	*e*P	**P**	**19 18 13.5**	**-1.6**
	1.8nm,1.1s						
MK32	**Makanchi Array**	**67.96**	**330**	*e*P	**P**	**19 18 14.6**	**-0.5**
MKAR	**Makanchi Array**	**67.96**	**330**	*e*P	**P**	**19 18 14.4**	**-0.8**
MKAR	**Makanchi Array**	**67.96**	**330**	P	**P**	**19 18 14.6**	**-0.5**
	1.1nm,0.4s,baz=134,slow=6.5,SNR=30						
VNDA	**Vanda**	**70.16**	**172**	*e*P	**P**	**19 18 29.5**	**+1.1**
VNDA	**Vanda**	**70.16**	**172**	P	**P**	**19 18 30.2**	**+1.9**
	0.4nm,0.5s,baz=316,slow=9.4,SNR=6.9						
MAW	**Mawson**	**70.18**	**201**	*e*P	**P**	**19 18 29.8**	**+1.3**
	1.5nm,1.0s						
MAW	**Mawson**	**70.18**	**201**	P	**P**	**19 18 30.2**	**+1.7**
	10nm,1.2s,baz=104,slow=4.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**72.05**	**337**	*e*P	**P**	**19 18 38.5**	**-1.5**
ZALV	**Zalesovo Beam**	**72.05**	**337**	P	**P**	**19 18 38.9**	**-1.2**
	0.8nm,0.3s,baz=151,slow=5.4,SNR=5.1						
ZAA1	**Zalesovo Array**	**72.05**	**337**	*e*P	**P**	**19 18 38.9**	**-1.2**
KURBB	**Kurchatov Arra**	**72.40**	**331**	P	**P**	**19 18 40.9**	**-1.3**
	0.6nm,0.4s,baz=142,slow=5.5,SNR=19						
SEY	**Seymchan**	**75.85**	**13**	P	**P**	**19 19 03.0**	**+0.9**
	0.3nm,0.3s,baz=180,slow=20,SNR=3.8						
TIXI	**Tiksi**	**81.55**	**1**	P	**P**	**19 19 32.4**	**-0.9**
	0.5nm,0.4s,baz=14,slow=2.8,SNR=4.1						
DOT	**Dot Lake**	**99.54**	**27**	*e*P	**Pdif**	**19 20 56.9**	**-2.1**
	8.7nm,1.0s						
LPAZ	**La Paz**	**151.00**	**154**	*e*PKPbc	**PKiKP**	**19 27 12.8**	**+1.4**
LPAZ	**La Paz**	**151.00**	**154**	PKPbc	**PKiKP**	**19 27 12.5**	**+1.0**
	0.6nm,0.4s,baz=156,slow=4.5,SNR=4.2						

*IDC **23** 19:08:49.5±1.4, 52°.49N×168°.63W, h0km, mb3.8/13, mb1 3.9/14, mb1mx3.7/63, mbtmp3.8/14, ML3.0/1, Error ellipse: s-maj=36.7km s-min=17.8km az=167.0*
*ISCJB **23** 19:08:50.2±0.5, 52°.11N±0°.06×168°.43W±0°.07, h29km, mb3.8/12, Error ellipse: s-maj=9.5km s-min=4.0km az=150.9*
*NEIC **23** 19:08:51.6±0.0, 52°.30N×168°.42W, h5km, ML3.0(AEIC), After AEIC.*
ISC 23 19:08:52.8±0.8, 52°.28N±0°.09×168°.47W±0°.06, h29km, n52, σ1°24/56, mb3.9/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.73**	**341**	*e*Pg	**Pb**	**19 09 06.0**	**-1.0**
OKTU	**Okmok Mt. Tuli**	**1.13**	**13**	*e*Pg	**Pn**	**19 09 12.6**	**-0.1**
OKWE	**Okmok W'ng Wal**	**1.20**	**7**	*e*Pg	**Pn**	**19 09 13.7**	**0.0**
OKWE				*e*Sn	**Sb**	**19 09 32.6**	**+2.5**
OKER	**Okmok East Rim**	**1.20**	**12**	*e*Pg	**Pb**	**19 09 14.1**	**-0.9**
OKAK	**Okmok**	**1.30**	**3**	*e*Pn	**Pn**	**19 09 12.6**	**-2.4**
MREP	**Makushin Rep't**	**1.85**	**34**	*e*Pn	**Pn**	**19 09 22.8**	**+0.1**
MCIR	**Makushin Cirqu**	**1.92**	**29**	*e*Pn	**Pn**	**19 09 24.6**	**+1.0**
MSW	**Makushin Switc**	**1.93**	**31**	*e*Pn	**Pn**	**19 09 23.9**	**+0.2**
MSW				*e*Sn	**Sb**	**19 09 50.5**	**-0.4**
UNV	**Unalaska Valle**	**1.97**	**36**	*e*Pn	**Pn**	**19 09 23.9**	**-0.3**
AKMO	**Akutan Morgan**	**2.34**	**38**	*e*Pn	**Pn**	**19 09 30.0**	**+0.7**
AKMO				*e*Sn	**Sb**	**19 09 59.8**	**-3.0**
AKUT	**Akutan**	**2.47**	**40**	*e*Pn	**Pn**	**19 09 31.3**	**+0.3**
ATKA	**Atka Island**	**3.52**	**271**	*e*Pn	**Pn**	**19 09 46.0**	**+0.5**
FALS	**False Pass**	**3.96**	**47**	*e*Pn	**Pn**	**19 09 51.8**	**+0.2**
FALS				*e*Sn	**Sn**	**19 10 39.3**	**+2.2**
GSTR	**Great Sitkin T**	**4.67**	**271**	*e*Pn	**Pn**	**19 10 01.9**	**+0.5**
GSMY	**Great Sitkin M**	**4.68**	**270**	*e*Pn	**Pn**	**19 10 01.9**	**+0.5**
GSTD	**Great Sitkin T**	**4.73**	**270**	*e*Pn	**Pn**	**19 10 02.6**	**+0.4**
SPIA	**Saint Paul Isl**	**5.01**	**349**	*e*Pn	**Pn**	**19 10 08.2**	**+2.2**
ADK	**Adak**	**5.08**	**269**	*e*Pn	**Pn**	**19 10 06.8**	**-0.2**
KIWB	**Kanaga Island**	**5.37**	**269**	*e*Pn	**Pn**	**19 10 11.4**	**+0.5**
SDPT	**Sand Point**	**5.64**	**54**	*e*Pn	**Pn**	**19 10 16.0**	**+1.3**
CHGN	**Chignik**	**7.13**	**52**	*e*Pn	**Pn**	**19 10 36.2**	**+1.2**
SII	**Sitkinak Islan**	**9.36**	**57**	*e*Pn	**Pn**	**19 11 06.4**	**+0.8**
OHAK	**Old Harbor**	**10.07**	**55**	*e*Pn	**Pn**	**19 11 14.7**	**-0.6**
RSO	**Redoubt South**	**11.93**	**40**	*e*Pn	**Pn**	**19 11 39.2**	**-1.8**
SUA	**Susitna One**	**13.32**	**39**	*e*Pn	**Pn**	**19 11 59.8**	**+0.1**
SCM	**Sheep Creek Mo**	**14.89**	**42**	*e*Pn	**Pn**	**19 12 19.5**	**-1.5**
BPAW	**Bear Paw Mtn.**	**14.94**	**31**	*e*Pn	**Pn**	**19 12 23.2**	**+1.6**
KLU	**Klutina**	**15.31**	**44**	*e*Pn	**Pn**	**19 12 24.5**	**-2.2**
MLY	**Manley**	**15.68**	**29**	*e*Pn	**P**	**19 12 35.0**	**-0.2**
ILAR	**Eielson Array**	**16.72**	**33**	Pn	**Pn**	**19 12 42.5**	**-2.1**
	0.1nm,0.3s,baz=237,slow=12,SNR=5.7						
HYT	**Haines Junctio**	**18.93**	**51**	*e*P	**Pn**	**19 13 13.3**	**+1.4**
PEA1	**Petropavlovsk-**	**20.41**	**286**	*e*P	**P**	**19 13 26.8**	**-0.6**
PETK	**Petropavlovsk-**	**20.41**	**286**	*e*P	**P**	**19 13 26.0**	**-1.3**
PETK	**Petropavlovsk-**	**20.41**	**286**	P	**P**	**19 13 26.8**	**-0.6**
	2.9nm,0.6s,baz=85,slow=14,SNR=9.7						
EPYK	**Eagle Plains**	**21.14**	**36**	*e*P	**P**	**19 13 33.6**	**-1.5**
INK	**Inuvik**	**23.12**	**33**	*e*P	**P**	**19 13 55.0**	**-1.0**
INK	**Inuvik**	**23.12**	**33**	P	**P**	**19 13 55.1**	**-0.9**
	1.0nm,0.7s,baz=264,slow=9.1,SNR=5.3						
YKA	**Yellowknife Ar**	**29.88**	**49**	P	**P**	**19 14 58.7**	**+1.3**
	0.2nm,0.5s,baz=272,slow=11,SNR=3.8						
YKB5	**Yellowknife Ar**	**29.88**	**49**	*e*P	**P**	**19 14 58.7**	**+1.2**
TIXI	**Tiksi**	**33.09**	**329**	P	**P**	**19 15 24.0**	**-1.6**
	0.7nm,0.7s,baz=110,slow=4.8,SNR=4.0						
KSRS	**Korea Array**	**45.96**	**277**	P	**P**	**19 17 13.6**	**+0.6**
	1.7nm,0.8s,baz=52,slow=8.1,SNR=11						
LTX	**Lajitas**	**52.20**	**90**	*e*P	**P**	**19 18 02.2**	**+1.3**
TXAR	**Lajitas Array**	**52.20**	**90**	P	**P**	**19 18 02.2**	**+1.3**
	0.2nm,0.7s,baz=307,slow=8.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**62.91**	**319**	P	**P**	**19 19 15.8**	**-0.2**
	0.4nm,0.4s,baz=46,slow=7.6,SNR=5.8						
MK32	**Makanchi Array**	**64.26**	**314**	*e*P	**P**	**19 19 24.4**	**-0.6**
MKAR	**Makanchi Array**	**64.26**	**314**	P	**P**	**19 19 24.4**	**-0.6**
	1.0nm,0.8s,baz=46,slow=7.0,SNR=4.9						
FIA0	**FINESS Array S**	**66.03**	**352**	*e*P	**P**	**19 19 35.6**	**-0.5**
FINES	**FINESS Array B**	**66.03**	**352**	P	**P**	**19 19 35.6**	**-0.5**
	3.3nm,0.9s,baz=15,slow=8.3,SNR=9.7						
AKASG	**Malin Array Be**	**76.30**	**349**	P	**P**	**19 20 37.1**	**-1.4**
	0.7nm,0.5s,baz=16,slow=5.6,SNR=3.7						
CMAR	**Chiang Mai Arr**	**77.17**	**283**	P	**P**	**19 20 44.4**	**+0.5**
	1.3nm,0.9s,baz=26,slow=7.3,SNR=7.0						
KBZ	**Khabaz**	**80.61**	**338**	P	**P**	**19 21 03.9**	**+1.6**
	1.0nm,0.9s,baz=72,slow=6.4,SNR=3.7						
GEYT	**Alibeck**	**81.42**	**324**	P	**P**	**19 21 07.4**	**+0.5**
	2.0nm,0.8s,baz=343,slow=4.6,SNR=6.2						

IDC 23 19:13:41.2±1.6, 52°.14N×151°.55E, h628km±26km, mb2.6/5, mb1 2.7/7, mb1mx2.4/57, mbtmp3.5/7, Error ellipse: s-maj=38.3km s-min=24.1km az=76.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.87**	**73**	P	P	19 15 07.4	-0.4
	1.5nm,0.3s,baz=270,slow=1.9,SNR=46						
SEY	**Seymchan**	**10.84**	**2**	P	P	19 16 08.9	+0.5
	0.1nm,0.3s,baz=180,slow=20,SNR=3.8						
MKAR	**Makanchi Array**	**43.77**	**292**	P	P	19 20 53.2	+0.1
	0.4nm,0.3s,baz=61,slow=6.7,SNR=8.6						
KURBB	**Kurchatov Arra**	**43.80**	**298**	P	P	19 20 53.1	-0.1
	0.6nm,0.6s,baz=64,slow=8.0,SNR=4.9						
FINES	**FINESS Array B**	**58.75**	**333**	P	P	19 22 40.1	-0.1
	0.9nm,0.5s,baz=42,slow=8.2,SNR=7.7						
NOA	**NORSAR Array B**	**62.81**	**340**	P	P	19 23 06.8	+0.1
	0.2nm,0.5s,baz=31,slow=6.3,SNR=2.5						
ASAR	**Alice Springs**	**77.05**	**197**	P	P	19 24 31.4	+0.3
	0.2nm,0.4s,baz=12,slow=4.6,SNR=4.6						

*PAS **23** 19:19:53.9±0.0, 32°.30N×115°.33W, h0km*
*NEIC **23** 19:19:54.6±0.0, 32°.29N×115°.33W, h5km, MD2.7(ECX), ML2.7(PAS), After ECX.*
ECX 23 19:19:54.6±0.5, 32°.28N×115°.32W, h5km, MD2.5, ML2.7, 1C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**7**	*e*P	Pg	19 19 56.2	-1.3
CPBX				*e*S	Sg	19 19 59.6	+0.2
CPBX				IAML		19 20 02.7	
	comp=N,7μm,0.1s						
CPBX			⇓*e*			19 20 02.7	
RMX	**La Rumorosa**	**0.71**	**297**	*e*P	Pg	19 20 06.2	-2.1
RMX				*e*S	Sg	19 20 15.1	-2.6
RMX				IAML		19 20 15.3	
	comp=E,304nm,0.2s						
IKP	**In-Ko-Pah, Jac**	**0.76**	**299**	*e*P	Pg	19 20 08.1	-1.2
ECBX	**El Chinero**	**0.84**	**164**	*e*P	Pg	19 20 09.0	-1.6
ECBX				*e*S	Sg	19 20 20.5	-1.0
GLA	**Glamis**	**0.88**	**28**	*e*Pg	Pg	19 20 09.3	-2.1
ZAX	**El Zacaton**	**1.11**	**227**	*e*P	Pg	19 20 13.6	-2.3
ZAX			⇑*e*			19 20 31.1	
ZAX				IAML		19 20 31.1	
	comp=N,298nm,0.3s						
MONP2	**Monument Peak**	**1.11**	**304**	*e*P	Pg	19 20 14.4	-1.5
CBX	**Cerro Bola**	**1.14**	**272**	*e*P	Pg	19 20 14.7	-1.7
CBX				IAML		19 20 34.9	
	comp=N,157nm,0.4s						
TJIG	**Tijuana**	**1.15**	**278**	*i* S	Sg	19 20 29.8	-1.9
BAR	**Barrett**	**1.21**	**290**	*e*Pg	Pg	19 20 15.8	-2.0
BAR	**Barrett**	**1.21**	**290**	*e*P	Pg	19 20 15.7	-2.1
ECNX	**Esteban Cantu**	**1.25**	**241**	*e*P	Pg	19 20 16.1	-2.4
113A	**Mohawk Valley,**	**1.40**	**69**	*e*Pn	Pn	19 20 18.8	-2.0
SDRC	**San Diego Road**	**1.44**	**289**	*e*P	Pn	19 20 19.2	-2.2
Y12C	**Blythe**	**1.61**	**24**	*e*Pn	Pn	19 20 21.8	-2.0
CPE	**Camp Elliot**	**1.62**	**293**	*e*Pn	Pn	19 20 22.2	-1.6
PFO	**Pinyon Flats O**	**1.64**	**325**	*e*Pn	Pn	19 20 21.7	-2.5
Y14A	**Wickenburg**	**2.56**	**49**	*e*Pn	Pn	19 20 36.4	-0.4

*ISCJB **23** 19:27:36.5±0.7, 74°.05N±0°.03×9°.7E±0°.2, h10km, mb3.2/4, Error ellipse: s-maj=8.9km s-min=4.4km az=176.1*
*IDC **23** 19:27:37.6±1.1, 73°.97N×9°.90E, h0km, mb3.4/4, mb1 3.6/8, mb1mx3.4/43, mbtmp3.5/8, ML3.0/3, Error ellipse: s-maj=22.0km s-min=9.8km az=77.0*
*BER **23** 19:27:39.8±3.5, 74°.02N×9°.62E, h5km±29km, ML2.1, ML3.3(NAO), Confirmed Earthquake*
*NAO **23** 19:27:42.1±7.5, 74°.11N×10°.31E, h21km±71km, ML3.3*
*IEPN **23** 19:27:45.0, 74°.13N×10°.41E, h10km*
ISC 23 19:27:38.4±0.9, 74°.00N±0°.05×10°.06E±0°.08, h10km, n35, σ2°00/47, mb3.1/4, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.49**	**74**	Pn	**Pn**	**19 28 20.1**	**+1.2**
BJO1				Sn	**Sn**	**19 28 50.0**	**+0.8**
BJO	**Bjornoya**	**2.54**	**74**	*e*P	**Pn**	**19 28 21.6**	**+2.1**
BJO				*e*S	**Sn**	**19 28 50.3**	**-0.1**
BJO				IAML		19 28 51.9	
	comp=Z,20nm,0.3s						
HSPB	**Hornsund (broa**	**3.31**	**22**	Pn	**Pn**	**19 28 29.9**	**-0.2**
HSPB				Sn	**Sn**	**19 29 09.8**	**+0.3**
HSP	**Hornsund**	**3.32**	**22**	Pn	**Pn**	**19 28 29.9**	**-0.3**
HSP				Sn	**Sn**	**19 29 09.8**	**+0.1**
BRBA	**Barentsburg A**	**4.20**	**12**	Pn	**Pn**	**19 28 41.3**	**-1.1**
BRBA				Sn	**Sn**	**19 29 30.9**	**-0.5**
BRBA	**Barentsburg A**	**4.20**	**12**	Pn	**Pn**	**19 28 41.3**	**-1.1**
BRBA				Sn	**Sn**	**19 29 30.9**	**-0.5**
SPA0	**Spitsbergen Ar**	**4.46**	**17**	Pn	**Pn**	**19 28 46.0**	**0.0**
	baz=200,slow=14						
SPA0	**Spitsbergen Ar**	**4.46**	**17**	Pn	**Pn**	**19 28 46.0**	**0.0**
	baz=200,slow=14						
SPITS	**Spitsbergen Ar**	**4.46**	**17**	Pn	**Pn**	**19 28 45.9**	**0.0**
	baz=186,slow=15,SNR=498						
SPITS				Sn	**Sn**	**19 29 36.7**	**-1.2**
	baz=225,slow=14,SNR=1.7						
HOPEN	**Hopen**	**4.56**	**50**	Pn	**Pn**	**19 28 49.5**	**+2.1**
HOPEN	**Hopen**	**4.56**	**50**	Pn	**Pn**	**19 28 49.5**	**+2.1**
KBS	**Kingsbay**	**4.97**	**4**	Pn	**Pn**	**19 28 51.1**	**-1.8**
KBS				Sn	**Sn**	**19 29 47.9**	**-2.4**
KBS	**Kingsbay**	**4.97**	**4**	*e*P	**Pn**	**19 28 50.9**	**-2.0**
KBS				*e*S	**Sn**	**19 29 46.5**	**-3.8**
KBS				IAML		19 29 51.4	
	comp=Z,4.9nm,0.6s						
HAMF	**Hammerfest**	**5.34**	**122**	*e*S	**Sn**	**19 29 56.2**	**-3.2**
KIF	**Kilpisjarvi**	**6.06**	**141**	*e*P	**Pn**	**19 29 10.0**	**+2.1**
ARA0	**ARCESS Array S**	**6.58**	**125**	Pn	**Pn**	**19 29 16.4**	**+1.3**
	baz=316,slow=14						
ARA0	**ARCESS Array S**	**6.58**	**125**	Pn	**Pn**	**19 29 16.4**	**+1.3**
	baz=316,slow=14						
ARCES	**ARCESS Array B**	**6.58**	**125**	Pn	**Pn**	**19 29 16.5**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=317,slow=12,SNR=36						
ARCES				Sn	**Sn**	**19 30 26.8**	**-3.2**
	comp=Z,1.4nm,0.3s,baz=321,slow=20,SNR=8.7						
ARE0	**ARCESS Array S**	**6.58**	**125**	*e*P	**Pn**	**19 29 18.4**	**+3.4**
ARE0				*e*S	**Sn**	**19 30 26.9**	**-3.1**
KEV	**Kevo**	**6.77**	**121**	*e*P	**Pn**	**19 29 20.4**	**+2.9**
DAG	**Danmarks Havn**	**7.71**	**304**	*i* P	Pn	19 29 21.2	-9.2
DAG				*e*S	Sn	19 30 23.9	-34
APA0	**Apatity Array**	**9.83**	**119**	Pn	**Pn**	**19 29 59.9**	**+0.4**
	baz=315,slow=10						
APA0	**Apatity Array**	**9.83**	**119**	Pn	**Pn**	**19 29 59.9**	**+0.4**
	baz=315,slow=10						
ZFI2	**Zemlya Franca-**	**10.39**	**33**	*e*P	**Pn**	**19 30 08.0**	**+0.9**
ZFI2				*e*S	**Sn**	**19 31 57.1**	**-6.2**
FIA0	**FINESS Array S**	**13.91**	**147**	Pn	**Pn**	**19 30 57.5**	**+2.3**
	baz=351,slow=16						
FIA0	**FINESS Array S**	**13.91**	**147**	Pn	**Pn**	**19 30 57.5**	**+2.3**
	baz=351,slow=16						
FINES	**FINESS Array B**	**13.91**	**147**	Pn	**Pn**	**19 30 55.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=358,slow=14,SNR=6.3						
HFS	**Hagfors**	**14.00**	**172**	Pn	**Pn**	**19 30 56.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=8,slow=10,SNR=2.5						
LSH	**Leshukonskoye**	**15.20**	**108**	*e*P	**P**	**19 31 18.7**	**+1.0**
LSH				*e*S	**Sn**	**19 33 58.5**	**-2.3**
AMDE	**Amderma**	**16.13**	**79**	*e*P	**Pn**	**19 31 27.4**	**+2.7**
AMDE				*e*S	Sn	19 34 12.7	-10
GERES	**GERESS Array B**	**25.30**	**174**	P	**P**	**19 33 04.3**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=6.1,slow=13,SNR=5.0						
ILAR	**Eielson Array**	**40.65**	**345**	P	**P**	**19 35 19.4**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=354,slow=7.7,SNR=4.6						
MKAR	**Makanchi Array**	**40.87**	**90**	P	**P**	**19 35 20.0**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=298,slow=3.1,SNR=2.6						
GEYT	**Alibeck**	**42.72**	**120**	P	**P**	**19 35 35.9**	**+0.7**
	comp=Z,3.9nm,1.1s,baz=2.2,slow=15,SNR=2.8						
ASAR	**Alice Springs**	**121.67**	**63**	PKP	**PKPdf**	**19 46 30.2**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=4.7,slow=1.8,SNR=3.0						

*IDC **23** 19:37:34.0±3.3, 6°.69N×125°.42E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/35, mbtmp4.1/3, MS5.0/1, Ms1 5.0/1, ms1mx4.0/41, Error ellipse: s-maj=337.9km s-min=24.1km az=65.0*
*ISCJB **23** 19:37:43.0±0.6, 6°.9N±0°.1×126°.0E±0°.2, h100km, mb4.1/9, Error ellipse: s-maj=28.2km s-min=11.2km az=158.5*
*NEIC **23** 19:37:46.3±0.7, 6°.85N×125°.96E, h112km±6km, mb4.2/6, Error ellipse: s-maj=31.3km s-min=16.8km az=79.0*
ISC 23 19:37:45.0±0.9, 6°.9N±0°.1×126°.0E±0°.2, h100km, n15, σ0°51/14, mb4.1/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WR1	**Warrarunga Arr**	**27.88**	**163**	*e*P	**P**	**19 43 25.7**	**+0.2**
WRA	**Warrarunga Arr**	**27.88**	**163**	P	**P**	**19 43 25.7**	**+0.2**
	0.4nm,0.3s,baz=345,slow=14,SNR=20						
INU	**Inuyama**	**30.13**	**18**	*e*P	**P**	**19 43 45.6**	**+0.3**
	18nm,1.5s						
AS31	**Alice Springs**	**31.31**	**166**	*e*P	**P**	**19 43 56.1**	**+0.3**
	6.0nm,2.0s						
ASAR	**Alice Springs**	**31.31**	**166**	*e*P	**P**	**19 43 56.1**	**+0.2**
ASAR	**Alice Springs**	**31.31**	**166**	P	**P**	**19 43 56.0**	**+0.1**
	0.7nm,0.3s,baz=342,slow=7.1,SNR=26						
LSA	**Lhasa**	**39.84**	**309**	*e*P	**P**	**19 45 09.2**	**-0.2**
	1.8nm,0.8s						
PALK	**Pallekele**	**44.90**	**273**	LR	LR	20 06 52.0	
	comp=Z,2μm,18.2s,baz=222,slow=40						
MK31	**Makanchi Array**	**54.58**	**324**	*e*P	**P**	**19 47 02.8**	**-0.2**
	1.2nm,0.6s						
MK32	**Makanchi Array**	**54.58**	**324**	*e*P	**P**	**19 47 02.9**	**-0.1**
MKAR	**Makanchi Array**	**54.58**	**324**	P	**P**	**19 47 02.9**	**-0.1**
	1.7nm,0.5s,baz=119,slow=8.4,SNR=31						
KK31	**Karatay Array**	**60.45**	**316**	*e*P	**P**	**19 47 44.7**	**+0.5**
	1.9nm,0.4s						
KKAR	**Karatay Array**	**60.45**	**316**	*e*P	**P**	**19 47 44.9**	**+0.6**
	1.9nm,0.4s						
GSTR	**Great Sitkin T**	**65.29**	**35**	*e*P	**P**	**19 48 16.2**	**0.0**
T52A	**Hallie**	**128.57**	**30**	*e*PKPdf	**PKPdf**	**19 56 39.5**	**-1.4**

DJA 23 19:38:56.1±1.4, 8°.S±10°.×10°.7E±°., h10km, M3.5/5, MLv3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.71**	**45**	P	Pg	19 39 10.0	+0.2
CISI				S	Sb	19 39 20.0	-0.4
LEM	**Lembang**	**1.26**	**14**	P	Pg	19 39 20.3	-0.1
SKJI	**Sukabumi**	**1.29**	**324**	P	Pn	19 39 19.5	-0.7
SKJI				S	Sb	19 39 36.8	-0.2
CGJI	**Cibinong**	**2.15**	**312**	P	Pn	19 39 31.1	-1.0

MEX 23 19:39:50.9±0.8, 16°.34N×98°.11W, h14km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.06**	**346**	*e*P	Pg	19 39 52.5	-1.1
PNIG				*e*S	Sg	19 39 55.1	-0.4
TLIG	**Tlapa**	**1.30**	**340**	*e*P	Pn	19 40 11.1	-3.7
TLIG				*e*S	Sb	19 40 27.0	-4.8
HUIG	**Huatulco**	**2.01**	**106**	*i* P	Pn	19 40 21.2	-3.2
HUIG				*i* S	Sn	19 40 44.9	-4.5
CAIG	**El Cayaco**	**2.18**	**289**	*e*P	Pn	19 40 22.9	-3.9
CAIG	

ABMS	Boumerdes	0.30 358	P	Pg	20 03 13.8	0.0	
EMHD	Djebel Mahouad	0.50 240	P	Pg	20 03 14.1	-3.4	
EMHD	Djebel Mahouad	0.50 240	P	Pg	20 03 14.1	-3.4	
ABA	Alger-Bouzarea	0.51 314	P	Pg	20 03 16.7	-0.8	
ABA	Alger-Bouzarea	0.51 314	P	Pg	20 03 16.7	-0.8	
SET	Setif	1.56 99	P	Pn	20 03 34.0	-0.3	
SET	Setif	1.56 99	P	Pn	20 03 34.0	-0.3	
EBNR	Beni Rached	1.59 265	P	Pn	20 03 35.0	+0.4	
CKHR	Kef el Ahmar	1.69 104	P	Pn	20 03 36.3	+0.2	
CKHR	Kef el Ahmar	1.69 104	P	Pn	20 03 36.3	+0.2	
ECHA	Ech Chlef	1.74 261	P	Pb	20 03 38.5	-0.3	
ECHF	Ech Chlef	1.76 261	P	Pb	20 03 38.5	-0.6	
DFRA	Djebel Bou Aff	1.92 87	P	Pn	20 03 39.1	-0.2	
DFRA	Djebel Bou Aff	1.92 87	P	Pn	20 03 39.1	-0.2	
EANR	'Ain N'Sour	2.00 256	P	Pn	20 03 41.0	+0.7	
EANR	'Ain N'Sour	2.00 256	P	Pn	20 03 41.0	+0.7	
ETRT	Tiaret	2.07 240	P	Pn	20 03 40.0	-1.3	
ETRT	Tiaret	2.07 240	P	Pn	20 03 40.0	-1.3	
OKGL	Djebel Kef Gue	2.34 261	P	Pn	20 03 47.0	+2.1	
OKGL	Djebel Kef Gue	2.34 261	P	Pn	20 03 47.0	+2.1	
CTEI	Djebel Teioual	2.39 99	P	Pb	20 03 47.9	-1.9	
CTEI	Djebel Teioual	2.39 99	P	Pb	20 03 47.9	-1.9	
OJGS	Djebel Guires	2.42 248	P	Pn	20 03 43.0	-3.0	
OJGS	Djebel Guires	2.42 248	P	Pn	20 03 43.0	-3.0	
CASM	Ain Smara	2.43 94	P	Pn	20 03 45.6	-0.5	
CASM	Ain Smara	2.43 94	P	Pn	20 03 45.6	-0.5	
CKFL	Kef-Lekhel	2.60 90	P	Pn	20 03 48.3	-0.3	
CKFL	Kef-Lekhel	2.60 90	P	Pn	20 03 48.3	-0.3	
OJBR	Djebel Berber	2.69 252	P	Pn	20 03 46.0	-3.8	
OJBR	Djebel Berber	2.69 252	P	Pn	20 03 46.0	-3.8	
CAEH	'Ain El Ouahch	2.72 82	P	Pn	20 03 46.8	-3.3	
CAEH	'Ain El Ouahch	2.72 82	P	Pn	20 03 46.8	-3.3	
EIBI	Ibiza	3.08 327	⇓P	Pn	20 03 55.5	+0.4	
	397nm,0.5s,SNR=18						
EIBI			S	Sn	20 04 30.3	-1.2	
	540nm,0.4s,SNR=7.9						
ODJA	Bouhanifia	3.16 250	P	Pn	20 03 57.1	+0.9	
ODJA	Bouhanifia	3.16 250	P	Pn	20 03 57.1	+0.9	
CMAH	Djebel Manchou	3.17 86	P	Pn	20 03 56.4	+0.1	
CMAH	Djebel Manchou	3.17 86	P	Pn	20 03 56.4	+0.1	
ETOS	Mallorca	3.35 351	⇓P	Pn	20 03 59.2	+0.4	
	240nm,0.6s,SNR=18						
ETOS			S	Sn	20 04 35.5	-2.7	
	187nm,0.6s,SNR=7.9						
MAHO	Mahon	3.49 10	⇓P	Pn	20 04 00.2	-0.5	
MAHO			S	Sn	20 04 37.4	-4.1	
MAHO	Mahon	3.49 10	⇓*i*P	Pn	20 04 00.2	-0.5	
MAHO			*e*S	Sn	20 04 37.4	-4.1	
MAHO			*e*Cod		20 06 54.9		
EBEN2	Beniarda presa	3.67 308	P	Pn	20 04 03.5	+0.2	
	116nm,0.3s,SNR=7.9						
EBEN2			S	Sn	20 04 45.0	-1.1	
	50nm,0.3s,SNR=7.9						
ETRV	Los Montesinos	3.74 296	P	Pn	20 04 04.5	+0.4	
	17nm,0.1s,SNR=7.9						
ETRV			S	Sn	20 04 47.6	0.0	
	97nm,0.3s,SNR=7.9						
CART	Cartagena	3.77 289	*e*Pn	Pn	20 04 02.9	-1.6	
CART	Cartagena	3.77 289	⇓P	Pn	20 04 02.9	-1.6	
CART			S	Sn	20 04 45.1	-3.3	
CART	Cartagena	3.77 289	⇓*i*P	Pn	20 04 02.9	-1.6	
CART			*e*S	Sn	20 04 45.1	-3.3	
AFON	Font Roja	3.89 306	P	Pn	20 04 06.1	-0.2	
	49nm,0.6s,SNR=7.9						
AFON			S	Sn	20 04 50.0	-1.7	
	86nm,0.5s,SNR=7.9						
ODZI	Dziouia	4.01 255	P	Pn	20 04 08.0	+0.2	
ODZI	Dziouia	4.01 255	P	Pn	20 04 08.0	+0.2	
EMUR	La Murta	4.03 292	P	Pn	20 04 07.8	-0.3	
	19nm,0.3s,SNR=7.9						
EMUR			S	Sn	20 04 53.2	-1.7	
	46nm,0.5s,SNR=7.9						
ETOB	Tobarra	4.56 300	P	Pn	20 04 15.5	0.0	
	54nm,0.3s,SNR=7.9						
ETOB			S	Sn	20 05 06.8	-1.4	
	46nm,0.5s,SNR=7.9						
ENIJ	Nijar	4.61 278	P	Pn	20 04 14.2	-1.9	
	37nm,0.5s,SNR=7.9						
ENIJ			S	Sn	20 05 05.9	-3.2	
	99nm,0.6s,SNR=7.9						
ECHE	Chera	4.71 313	P	Pn	20 04 18.3	+0.8	
	108nm,0.6s,SNR=7.9						
ECHE			S	Sn	20 05 11.2	-0.6	
	30nm,0.5s,SNR=7.9						
KEST	Kesra	4.79 97	*e*Pn	Pn	20 04 19.5	+0.8	
KEST	Kesra	4.79 97	Pn	Pn	20 04 18.1	-0.6	
	4.5nm,0.3s,baz=180,slow=4.9,SNR=49						
KEST			Sn	Sn	20 05 18.2	+4.3	
	4.5nm,0.3s,baz=342,slow=20,SNR=2.7						
EBR	Ebro Roquetas	4.95 333	P	Pn	20 04 22.1	+1.3	
	81nm,0.1s,SNR=7.9						
EBR			S	Sn	20 05 15.6	-2.0	
	336nm,0.5s,SNR=7.9						
EMOS	Mosqueruela	4.99 323	P	Pn	20 04 22.3	+0.7	
	125nm,0.7s,SNR=7.9						
EMOS			S	Sn	20 05 16.3	-2.5	
	88nm,0.5s,SNR=7.9						
SESP	Santiago Espad	5.09 291	⇑P	Pn	20 04 23.2	+0.3	
	95nm,0.5s,SNR=18						
SESP			S	Sn	20 05 20.3	-1.0	
	69nm,0.4s,SNR=7.9						
ERTA	Horta de San J	5.13 332	P	Pn	20 04 23.1	-0.1	
	17nm,0.8s,SNR=7.9						
ERTA			S	Sn	20 05 19.2	-2.8	
	70nm,0.4s,SNR=7.9						
EBER	Berja	5.15 277	⇓P	Pn	20 04 22.0	-1.7	
	10nm,0.3s,SNR=18						
EBER			S	Sn	20 05 21.4	-1.4	
	54nm,0.4s,SNR=7.9						
EPOB	Poblet	5.24 340	P	Pn	20 04 24.6	-0.2	
	6.4nm,0.3s,SNR=7.9						
EPOB			S	Sn	20 05 22.3	-2.6	
	13nm,0.4s,SNR=7.9						
EALB	Alboran	5.30 266	S	Sn	20 05 23.8	-2.5	
	201nm,0.9s,SNR=7.9						
GORA	Gorafe	5.33 283	P	Pn	20 04 27.9	+1.8	
	8.3nm,0.2s,SNR=7.9						
GORA			S	Sn	20 05 26.4	-0.7	
	34nm,0.4s,SNR=7.9						
MELI	Melilla	5.34 259	⇓*i*P	Pb	20 04 43.8	+3.7	
CFON	Fontmartina	5.37 352	P	Pn	20 04 26.8	+0.3	
	15nm,0.2s,SNR=7.9						
CFON			S	Sn	20 05 24.5	-3.4	
	41nm,0.6s,SNR=7.9						
EQES	Quesada	5.41 286	P	Pn	20 04 27.9	+0.6	
	44nm,0.5s,SNR=7.9						
EQES			S	Sn	20 05 28.3	-0.9	
	58nm,0.4s,SNR=7.9						
EQUE	Quentar	5.61 280	P	Pn	20 04 30.2	+0.2	
	4.7nm,0.3s,SNR=7.9						
EQUE			S	Sn	20 05 32.5	-1.5	
	7.9nm,0.3s,SNR=7.9						
EMIR	Miracle	5.66 345	P	Pn	20 04 32.2	+1.6	
	211nm,0.3s,SNR=7.9						
EMIR			S	Sn	20 05 33.5	-1.7	
	599nm,0.8s,SNR=7.9						
ELGU	Los Guajares,	5.74 276	P	Pn	20 04 31.3	-0.4	
	31nm,0.5s,SNR=7.9						
ELGU			S	Sn	20 05 34.0	-3.1	
	41nm,0.5s,SNR=7.9						
EJON	La Jonquera	6.01 356	P	Pn	20 04 36.6	+1.3	
	56nm,0.3s,SNR=7.9						
EJON			S	Sn	20 05 39.9	-3.7	
	22nm,0.5s,SNR=7.9						
SJAF	Saint Jean de	6.04 356	P	Pn	20 04 37.0	+1.2	
	42nm,0.3s,SNR=7.9						
SJAF			S	Sn	20 05 40.5	-3.9	
	32nm,0.7s,SNR=7.9						
ESAC	San Caprasio	6.10 331	P	Pn	20 04 37.1	+0.6	
	25nm,0.3s,SNR=7.9						
ESAC			S	Sn	20 05 43.0	-2.9	
	348nm,0.7s,SNR=7.9						
CLLI	Llivia	6.13 349	P	Pn	20 04 38.3	+1.2	
	23nm,0.5s,SNR=7.9						
CLLI			S	Sn	20 05 43.8	-3.1	
	68nm,0.9s,SNR=7.9						
EGOR	Sierra Gorda,	6.14 278	P	Pn	20 04 37.9	+0.7	
	14nm,0.8s,SNR=7.9						
EGOR			S	Sn	20 05 45.3	-1.7	
	16nm,0.6s,SNR=7.9						
ETOR	Torete	6.15 317	P	Pn	20 04 39.2	+1.8	
	66nm,0.7s,SNR=7.9						
ETOR			S	Sn	20 05 46.4	-0.9	
	26nm,0.7s,SNR=7.9						
CSOR	Sort	6.19 344	P	Pn	20 04 39.5	+1.6	
	25nm,0.3s,SNR=7.9						
CSOR			S	Sn	20 05 45.8	-2.4	
	22nm,0.5s,SNR=7.9						
EMAL	Malaga-Limoner	6.38 275	*e*P	Pn	20 04 40.3	-0.1	
EMAL			*e*S	Sn	20 05 45.8	-7.0	
EADA	Adamuz	6.66 287	P	Pn	20 04 43.4	-0.9	
	8.6nm,0.7s,SNR=7.9						
EADA			S	Sn	20 05 54.8	-4.8	
	7.7nm,0.6s,SNR=7.9						
EMIJ	Mijas	6.66 273	P	Pn	20 04 43.1	-1.1	
	2.3nm,0.2s,SNR=7.9						
EMIJ			S	Sn	20 05 52.1	-7.5	
	15nm,0.5s,SNR=7.9						
ESDC	Sonseca Array	6.70 301	*e*Pn	Pn	20 04 44.0	-0.9	
ESDC			*e*Pn	Pn	20 04 44.7	-0.2	
ESDC	Sonseca Array	6.70 301	P	Pn	20 04 44.6	-0.2	
	21nm,0.3s,baz=109,slow=13,SNR=74						
ESDC			S	Sn	20 05 57.5	-3.3	
	3.1nm,0.3s,baz=117,slow=25,SNR=3.6						
ESDC	Sonseca Array	6.70 301	Pn	Pn	20 04 44.7	-0.2	
	13nm,0.3s,baz=109,slow=13,SNR=107						
ESDC			Sn	Sn	20 06 11.1	+10	
	4.2nm,0.3s,baz=121,slow=28,SNR=4.6						
ESLA	Sonseca Array	6.70 301	*e*Pn	Pn	20 04 44.7	-0.2	
ECHI	Chisagues Biel	6.71 339	P	Pn	20 04 45.7	+0.7	
	3.0nm,0.2s,SNR=7.9						
ECHI			S	Sn	20 05 56.9	-4.1	
	2.7nm,0.2s,SNR=7.9						
PAB	San Pablo	6.92 299	*e*Pn	Pn	20 04 47.6	-0.3	
PAB	San Pablo	6.92 299	*e*P	Pn	20 04 47.6	-0.3	
PAB	San Pablo	6.92 299	P	Pn	20 04 47.3	-0.6	
	15nm,0.4s,SNR=7.9						
PAB			S	Sn	20 06 01.7	-4.5	
	8.0nm,0.6s,SNR=7.9						
MTLF	Montolieu	6.95 352	*e*Pn	Pn	20 04 49.9	+1.7	
	SNR=1.0						
MTLF			*e*Sn	Sn	20 06 02.8	-4.0	
	28nm,0.6s						
MTLF	Montolieu	6.95 352	*e*Pn	Pn	20 04 49.9	+1.7	
MTLF			*e*Sn	Sn	20 06 02.8	-4.0	
MTLF	Montolieu	6.95 352	*e*P	Pn	20 04 49.9	+1.7	
MTLF			*e*		20 06 02.8		
MTLF	Montolieu	6.95 352	Pn	Pn	20 04 49.9	+1.7	
MTLF			S	Sn	20 06 02.8	-4.0	
	14nm,0.6s						
EPF	Esparros	7.00 341	*e*Pn	Pn	20 04 50.4	+1.4	
	SNR=1.0						
EPF			*e*Sn	Sn	20 06 03.7	-4.5	
	74nm,0.7s,SNR=1.0						
EPF	Esparros	7.00 341	*e*Pn	Pn	20 04 50.4	+1.4	
EPF			*e*Sn	Sn	20 06 03.7	-4.5	
EPF	Esparros	7.00 341	*e*P	Pn	20 04 50.4	+1.4	
EPF			*e*		20 06 03.7		
EPF	Esparros	7.00 341	P	Pn	20 04 50.4	+1.4	
EPF			S	Sn	20 06 03.7	-4.5	
	37nm,0.7s						
ETSF	Etsaut	7.15 335	*e*Pn	Pn	20 04 52.9	+1.8	
ETSF			*e*Sn	Sn	20 06 07.4	-4.5	
	59nm,0.7s						
ETSF	Etsaut	7.15 335	*e*Pn	Pn	20 04 52.9	+1.8	
ETSF			*e*Sn	Sn	20 06 07.4	-4.5	
ETSF	Etsaut	7.15 335	P	Pn	20 04 52.9	+1.8	
ETSF			S	Sn	20 06 07.4	-4.5	
	30nm,0.7s						
LIJA	Lijar	7.16 276	P	Pn	20 04 53.0	+1.8	
LIJA			S	Sn	20 06 09.5	-2.7	
LIJA	Lijar	7.16 276	*e*P	Pn	20 04 53.0	+1.8	
LIJA			*e*S	Sn	20 06 09.5	-2.7	
EJIF	Jimena Fronter	7.22 273	P	Pn	20 04 53.4	+1.4	
	4.6nm,0.5s,SNR=7.9						
EJIF			S	Sn	20 06 09.8	-3.8	
	2.6nm,0.4s,SNR=7.9						
LMR	La Mourre	7.25 18	*e*Pn	Pn	20 04 52.8	+0.4	
	SNR=1.0						
LMR			*e*Sn	Sn	20 06 10.0	-4.2	
	9.0nm,0.2s,SNR=1.0						
LMR	La Mourre	7.25 18	*e*Pn	Pn	20 04 52.8	+0.4	
LMR			*e*Sn	Sn	20 06 10.0	-4.2	
LMR	La Mourre	7.25 18	*e*P	Pn	20 04 52.8	+0.4	
LMR			*e*		20 06 10.0		
LMR	La Mourre	7.25 18	P	Pn	20 04 52.8	+0.4	
LMR			S	Sn	20 06 10.0	-4.2	
	4.5nm,0.2s						
ECAB	El Cabril	7.29 285	P	Pn	20 04 51.9	-1.0	
	10.0nm,0.5s,SNR=7.9						
ECAB			S	Sn	20 06 10.2	-5.0	
	4.3nm,0.4s,SNR=7.9						
GUD	Guadarrama	7.31 307	P	Pn	20 04 54.0	+0.8	
	21nm,0.4s,SNR=7.9						
GUD			S	Sn	20 06 12.3	-3.5	
	8.0nm,0.4s,SNR=7.9						
ATE	Arette	7.37 335	P	Pn	20 04 56.0	+2.0	
	5.6nm,0.4s,SNR=7.9						
ATE			S	Sn	20 06 12.2	-4.9	
	11nm,0.5s,SNR=7.9						
IUNC	Unciti	7.38 330	P	Pn	20 04 55.2	+1.1	
	2.3nm,0.1s,SNR=7.9						
IUNC			S	Sn	20 06 11.2	-6.3	
	4.4nm,0.2s,SNR=7.9						
EARA	Aranguren	7.42 330	P	Pn	20 04 56.3	+1.6	
	15nm,0.5s,SNR=7.9						
EARA			S	Sn	20 06 14.4	-4.2	
	40nm,0.5s,SNR=7.9						
PGF	Pioggiola	7.43 33	*e*Pn	Pn	20 04 55.8	+0.9	
	SNR=1.0						
PGF			*e*Sn	Sn	20 06 14.4	-4.3	
	28nm,0.4s						
PGF	Pioggiola	7.43 33	*e*Pn	Pn	20 04 55.8	+0.9	
PGF			*e*Sn	Sn	20 06 14.4	-4.3	
PGF	Pioggiola	7.43 33	*e*P	Pn	20 04 55.8	+0.9	
PGF			*e*		20 06 14.4		
PGF	Pioggiola	7.43 33	P	Pn	20 04 55.8	+0.9	
PGF			S	Sn	20 06 14.4	-4.3	
	14nm,0.4s						
FRF	La Foret Royal	7.50 18	*e*Pn	Pn	20 04 56.2	+0.4	
	SNR=1.0						
FRF			*e*Sn	Sn	20 06 16.2	-4.1	
	73nm,0.6s						
FRF	La Foret Royal	7.50 18	*e*Pn	Pn	20 04 56.2	+0.4	
FRF			*e*Sn	Sn	20 06 16.2	-4.1	
FRF	La Foret Royal	7.50 18	*e*P	Pn	20 04 56.2	+0.4	
FRF			*e*		20 06 16.2		
FRF	La Foret Royal	7.50 18	P	Pn	20 04 56.2	+0.4	
FRF			S	Sn	20 06 16.2	-4.1	
	37nm,0.6s						
ESPR	Espera	7.53 276	P	Pn	20 04 56.5	+0.3	
	1.7nm,0.2s,SNR=7.9						
ESPR			S	Sn	20 06 16.8	-4.2	
	5.3nm,0.5s,SNR=7.9						
SJPF	Ste Jean	7.58 333	*e*Pn	Pn	20 04 58.5	+1.7	
	SNR=1.0						
SJPF			*e*Sn	Sn	20 06 17.1	-5.1	
	95nm,0.6s,SNR=1.0						
SJPF	Ste Jean	7.58 333	*e*Pn	Pn	20 04 58.5	+1.7	
SJPF			*e*Sn	Sn	20 06 17.1	-5.1	
SJPF	Ste Jean	7.58 333	*e*P	Pn	20 04 58.5	+1.7	
SJPF			*e*		20 06 17.1		
SJPF	Ste Jean	7.58 333	P	Pn	20 04 58.5	+1.7	
SJPF			S	Sn	20 06 17.1	-5.1	
	48nm,0.6s						
MDT	Midelt	7.60 244	Pn	Pn	20 04 56.5	-0.7	
	1.9nm,0.3s,baz=52,slow=6.3,SNR=50						
MDT			Lg	Lg	20 07 08.5		
	5.8nm,0.3s,baz=270,slow=16,SNR=3.9						
LASF	Ste Croix	7.62 2	*e*Pn	Pn	20 04 57.5	+0.1	
	SNR=1.0						
LASF			*e*Sn	Sn	20 06 18.9	-4.4	
	94nm,0.6s,SNR=1.0						
LASF	Ste Croix	7.62 2	*e*Pn	Pn	20 04 57.5	+0.1	
LASF			*e*Sn	Sn	20 06 18.9	-4.4	
LASF	Ste Croix	7.62 2	P	Pn	20 04 57.5	+0.1	
LASF			S	Sn	20 06 18.9	-4.4	
	47nm,0.6s						
IFR	Ifrane	7.66 250	*e*P	Pn	20 04 59.2	+1.1	
IFR			*e*S	Sn	20 06 21.0	-3.5	
SMRF	Simiane la Rot	7.68 11	*e*Pn	Pn	20 04 59.7	+1.4	
	SNR=1.0						
SMRF			*e*Sn	Sn	20 06 20.3	-4.5	
	28nm,0.6s						
SMRF	Simiane la Rot	7.68 11	*e*Pn	Pn	20 04 59.7	+1.4	
SMRF			*e*Sn	Sn	20 06 20.3	-4.5	
SMRF	Simiane la Rot	7.68 11	P	Pn	20 04 59.7	+1.4	
SMRF			S	Sn	20 06 20.3	-4.5	
	28nm,0.6s						
EALK	Alkurruntz	7.77 332	P	Pn	20 05 00.9	+1.3	
	17nm,0.4s,SNR=7.9						
EALK			S	Sn	20 06 23.5	-3.6	
	60nm,0.6s,SNR=7.9						
SBF	Sospel	7.99 21	*e*Pn	Pn	20 05 02.9	+0.3	
SBF			*e*Sn	Sn	20 06 26.7	-5.8	
	26nm,0.4s,SNR=1.0						
SBF	Sospel	7.99 21	*e*Pn	Pn	20 05 02.9	+0.3	
SBF			*e*Sn	Sn	20 06 26.7	-5.8	
SBF	Sospel	7.99 21	*e*P	Pn	20 05 02.9	+0.3	
SBF			*e*		20 06 26.7		
SBF	Sospel	7.99 21	P	Pn	20 05 02.9	+0.3	
SBF			S	Sn	20 06 26.7	-5.8	
	13nm,0.4s						
EMIN	Mina Concepcio	8.23 282	P	Pn	20 05 05.3	-0.4	
	9.5nm,0.5s,SNR=7.9						
EMIN			S	Sn	20 06 33.2	-5.0	
	6.0nm,0.6s,SNR=7.9						
EPLA	Plasencia	8.35 298	P	Pn	20 05 06.9	-0.6	
	1.0nm,0.2s,SNR=7.9						
EPLA			S	Sn	20 06 35.8	-5.5	
	5.1nm,0.4s,SNR=7.9						
VIVF	Saint-Julien-l	8.44 6	*e*Pn	Pn	20 05 09.6	+0.9	
	SNR=1.0						
VIVF			*e*Sn	Sn	20 06 37.0	-6.5	
	20nm,0.5s						
VIVF	Saint-Julien-l	8.44 6	*e*Pn	Pn	20 05 09.6	+0.9	
VIVF			*e*Sn	Sn	20 06 37.0	-6.5	
VIVF	Saint-Julien-l	8.44 6	*e*P	Pn	20 05 09.6	+0.9	
VIVF			*e*		20 06 37.0		
VIVF	Saint-Julien-l	8.44 6	P	Pn	20 05 09.6	+0.9	
VIVF			S	Sn	20 06 37.0	-6.5	
	10.0nm,0.5s						
CAF	Calviac	8.53 353	*e*Pn	Pn	20 05 11.8	+1.8	
	SNR=1.0						
CAF			*e*Sn	Sn	20 06 40.7	-5.1	
	24nm,0.8s						
CAF	Calviac	8.53 353	*e*Pn	Pn	20 05 11.8	+1.8	
CAF			*e*Sn	Sn	20 06 40.7	-5.1	
CAF	Calviac	8.53 353	*e*P	Pn	20 05 11.8	+1.8	
CAF			*e*		20 06 40.7		
CAF	Calviac	8.53 353	P	Pn	20 05 11.8	+1.8	
CAF			S	Sn	20 06 40.7	-5.1	
	12nm,0.8s						
ELAN	Lanestosa	8.61 324	P	Pn	20 05 11.9	+0.8	
	49nm,0.7s,SNR=7.9						
MBDF	Montbardon	8.63 16	*e*Pn	Pn	20 05 13.1	+1.7	
	SNR=1.0						
MBDF			*e*Sn	Sn	20 06 44.2	-4.2	
	42nm,0.7s						
MBDF	Montbardon	8.63 16	*e*Pn	Pn	20 05 13.1	+1.7	
MBDF			*e*Sn	Sn	20 06 44.2	-4.2	
MBDF	Montbardon	8.63 16	*e*P	Pn	20 05 13.1	+1.7	
MBDF			*e*		20 06 44.2		
MBDF	Montbardon	8.63 16	P	Pn	20 05 13.1	+1.7	
MBDF			S	Sn	20 06 44.2	-4.2	
	21nm,0.7s						
ORIF	Oris-en-Rattie	8.65 11	*e*Pn	Pn	20 05 13.3	+1.7	
	SNR=1.0						
ORIF			*e*Sn	Sn	20 06 43.3	-5.4	
	16nm,0.8s						
ORIF	Oris-en-Rattie	8.65 11	*e*Pn	Pn	20 05 13.3	+1.7	
ORIF			*e*Sn	Sn	20 06 43.3	-5.4	
ORIF	Oris-en-Rattie	8.65 11	*e*P	Pn	20 05 13.3	+1.7	
ORIF			*e*		20 06 43.3		
ORIF	Oris-en-Rattie	8.65 11	P	Pn	20 05 13.3	+1.7	
ORIF			S	Sn	20 06 43.3	-5.4	
	8.0nm,0.8s						
EBAD	Badajoz	8.65 289	P	Pn	20 05 11.3	-0.3	
	11nm,0.5s,SNR=7.9						
EBAD			S	Sn	20 06 46.6	-2.0	
	4.4nm,0.4s,SNR=7.9						
LFF	La Frestale	8.73 347	*e*Pn	Pn	20 05 14.3	+1.7	
	SNR=1.0						
LFF			*e*Sn	Sn	20 06 44.4	-6.1	
	40nm,0.7s,SNR=1.0						
LFF	La Frestale	8.73 347	*e*Pn	Pn	20 05 14.3	+1.7	
LFF			*e*Sn	Sn	20 06 44.4	-6.1	
LFF	La Frestale	8.73 347	*e*P	Pn	20 05 14.3	+1.7	
LFF			*e*		20 06 44.4		
LFF	La Frestale	8.73 347	P	Pn	20 05 14.3	+1.7	
LFF			S	Sn	20 06 44.4	-6.1	
	20nm,0.7s						
EGRO	El Granado	8.85 280	P	Pn	20 05 13.2	-1.0	
	11nm,0.6s,SNR=7.9						
EGRO			S	Sn	20 06 48.5	-4.9	
	3.6nm,0.5s,SNR=7.9						
SSB	Saint Sauveur	8.85 5	*e*Pn	Pn	20 05 15.8	+1.4	
SSB	Saint Sauveur	8.85 5	*e*P	Pn	20 05 15.8	+1.4	
BNI	Bardonecchia	8.92 15	*e*Pn	Pn	20 05 17.5	+2.1	
RJF	Les Rejaudoux	8.97 351	*e*Pn	Pn	20 05 16.8	+0.9	
	SNR=1.0						
RJF			*e*Sn	Sn	20 06 50.4	-6.0	
	30nm,0.8s						
RJF	Les Rejaudoux	8.97 351	*e*Pn	Pn	20 05 16.8	+0.9	
RJF			*e*Sn	Sn	20 06 50.4	-6.0	
RJF	Les Rejaudoux	8.97 351	*e*P	Pn	20 05 16.8	+0.9	
RJF			*e*		20 06 50.4		
RJF	Les Rejaudoux	8.97 351	P	Pn	20 05 16.8	+0.9	
RJF			S	Sn	20 06 50.4	-6.0	
	15nm,0.8s						
PVAQ	Vaqueiros	9.03 279	*e*Pn	Pn	20 05 16.0	-0.7	
PVAQ			A	A	20 05 24.7		
	29nm,1.0s						
PVAQ			*e*Sn	Sn	20 06 54.3	-3.6	
PVAQ	Vaqueiros	9.03 279	*e*Pn	Pn	20 05 15.7	-1.1	
PVAQ	Vaqueiros	9.03 279	P	Pn	20 05 16.0	-0.7	
PVAQ			S	Sn	20 06 54.3	-3.6	
PMRV	Marv??o	9.10 292	*e*Pn	Pn	20 05 18.4	+0.7	
PMRV			A	A	20 05 21.6		
	99nm,1.3s						
PMRV	Marv??o	9.10 292	P	Pn	20 05 18.4	+0.7	
PBDV	Barranco-do-Ve	9.19 278	*e*Pn	Pn	20 05 19.0	0.0	
PBDV			A	A	20 05 26.9		
	38nm,1.7

MTE	Manteigas	9.51	298	ePn	Pn	20 05 24.5 +1.1
MTE				A	A	20 05 35.8
55nm,1.4s						
MTE	Manteigas	9.51	298	ePn	Pn	20 05 24.1 +0.6
MTE	Manteigas	9.51	298	P	Pn	20 05 24.5 +1.1
EARI	Arriondas	9.56	318	P	Pn	20 05 25.5 +1.4
79nm,0.6s,SNR=7.9						
EARI				S	Sn	20 07 04.5 -6.5
9.1nm,0.7s,SNR=7.9						
PBRG	Braganca	9.58	307	ePn	Pn	20 05 24.9 +0.6
PBRG				A	A	20 05 25.5
47nm,1.0s						
PBRG	Braganca	9.58	307	P	Pn	20 05 24.9 +0.6
PMTG	Montargil	9.64	289	ePn	Pn	20 05 25.8 +0.7
PMTG				A	A	20 05 48.2
32nm,1.7s						
PMTG	Montargil	9.64	289	P	Pn	20 05 25.8 +0.7
ECAL	Calabor	9.64	308	P	Pn	20 05 25.6 +0.3
72nm,0.5s,SNR=7.9						
ECAL				S	Sn	20 07 07.8 -5.3
7.6nm,0.5s,SNR=7.9						
PNCL	Nicolau / Gran	9.72	283	ePn	Pn	20 05 26.2 0.0
PNCL				A	A	20 05 27.6
50nm,1.4s						
PNCL	Nicolau / Gran	9.72	283	P	Pn	20 05 26.2 0.0
MORF	Marmelete	9.77	279	eP	Pn	20 05 24.8 -2.1
MORF	Marmelete	9.77	279	ePn	Pn	20 05 28.0 +1.1
MORF				A	A	20 05 40.5
60nm,1.7s						
MORF	Marmelete	9.77	279	P	Pn	20 05 24.8 -2.1
PTEO	Sao Teotonio	9.83	280	ePn	Pn	20 05 26.9 -0.9
PTEO				A	A	20 05 27.5
62nm,2.0s						
PTEO	Sao Teotonio	9.83	280	P	Pn	20 05 26.9 -0.9
TCF	Toulx Ste Croi	9.87	355	ePn	Pn	20 05 27.6 -0.7
SNR=1.0						
TCF	Toulx Ste Croi	9.87	355	ePn	Pn	20 05 27.6 -0.7
TCF	Toulx Ste Croi	9.87	355	eP	Pn	20 05 27.6 -0.7
TCF	Toulx Ste Croi	9.87	355	P	Pn	20 05 27.6 -0.7
PVIS	Viseu	9.88	299	ePn	Pn	20 05 28.8 +0.4
PVIS				A	A	20 05 29.5
53nm,0.8s						
PVIS	Viseu	9.88	299	P	Pn	20 05 28.8 +0.4
PVRL	Vila Real	9.98	302	ePn	Pn	20 05 30.2 +0.4
PVRL				A	A	20 05 30.6
56nm,0.7s						
PVRL	Vila Real	9.98	302	P	Pn	20 05 30.2 +0.4
POLO	Lamas de Olo	10.07	303	ePn	Pn	20 05 31.6 +0.5
POLO				A	A	20 05 32.1
25nm,0.6s						
POLO	Lamas de Olo	10.07	303	P	Pn	20 05 31.6 +0.5
COI	Coimbra	10.07	295	ePn	Pn	20 05 32.1 +1.0
COI				A	A	20 05 44.9
109nm,2.0s						
COI	Coimbra	10.07	295	ePn	Pn	20 05 31.3 +0.3
COI	Coimbra	10.07	295	P	Pn	20 05 32.1 +1.0
PCAS	Casmilo, Conde	10.09	294	ePn	Pn	20 05 32.0 +0.7
PCAS				A	A	20 05 38.8
69nm,1.4s						
PCAS	Casmilo, Conde	10.09	294	P	Pn	20 05 32.0 +0.7
BGF	Bois d'Agland	10.11	357	ePn	Pn	20 05 30.9 -0.6
SNR=1.0						
BGF	Bois d'Agland	10.11	357	ePn	Pn	20 05 30.9 -0.6
BGF	Bois d'Agland	10.11	357	eP	Pn	20 05 30.9 -0.6
BGF	Bois d'Agland	10.11	357	P	Pn	20 05 30.9 -0.6
SMF	Signal de Mont	10.19	1	ePn	Pn	20 05 32.6 0.0
SNR=1.0						
SMF	Signal de Mont	10.19	1	ePn	Pn	20 05 32.6 0.0
SMF	Signal de Mont	10.19	1	eP	Pn	20 05 32.6 0.0
SMF	Signal de Mont	10.19	1	P	Pn	20 05 32.6 0.0
SENIN	Lac Senin/Sane	10.30	15	ePn	Pn	20 05 36.5 +2.1
AVF	Avril sur Loir	10.33	359	ePn	Pn	20 05 34.4 -0.1
SNR=1.0						
AVF	Avril sur Loir	10.33	359	ePn	Pn	20 05 34.4 -0.1
AVF	Avril sur Loir	10.33	359	eP	Pn	20 05 34.4 -0.1
AVF	Avril sur Loir	10.33	359	P	Pn	20 05 34.4 -0.1
CABF	La Chapelle	10.33	10	ePn	Pn	20 05 36.0 +1.3
SNR=1.0						
CABF	La Chapelle	10.33	10	ePn	Pn	20 05 36.0 +1.3
CABF	La Chapelle	10.33	10	eP	Pn	20 05 36.0 +1.3
CABF	La Chapelle	10.33	10	P	Pn	20 05 36.0 +1.3
ELOB	Lobios	10.47	305	P	Pn	20 05 36.6 0.0
13nm,0.6s,SNR=7.9						
MFF	Saint Martin d	10.50	346	ePn	Pn	20 05 37.3 +0.5
SNR=1.0						
MFF				eSn	Sn	20 07 26.8 -7.1
31nm,0.7s						
MFF	Saint Martin d	10.50	346	ePn	Pn	20 05 37.3 +0.5
MFF				eSn	Sn	20 07 26.8 -7.1
MFF	Saint Martin d	10.50	346	eP	Pn	20 05 37.3 +0.5
MFF				e		20 07 26.8
MFF	Saint Martin d	10.50	346	P	Pn	20 05 37.3 +0.5
MFF				S	Sn	20 07 26.8 -7.1
16nm,0.7s						
SSF	Saint Saulge	10.60	0	ePn	Pn	20 05 37.6 -0.6
SNR=1.0						
SSF	Saint Saulge	10.60	0	ePn	Pn	20 05 37.6 -0.6
SSF	Saint Saulge	10.60	0	eP	Pn	20 05 37.6 -0.6
SSF	Saint Saulge	10.60	0	P	Pn	20 05 37.6 -0.6
PGAV	Gavieira, Arco	10.65	305	ePn	Pn	20 05 40.2 +1.1
PGAV				A	A	20 05 41.6
55nm,2.1s						
PGAV	Gavieira, Arco	10.65	305	P	Pn	20 05 40.2 +1.1
EPON	Pontenova	10.67	313	P	Pn	20 05 39.8 +0.6
7.6nm,0.4s,SNR=7.9						
LOR	Lormes	10.81	1	ePn	Pn	20 05 41.4 +0.3
SNR=1.0						
LOR	Lormes	10.81	1	ePn	Pn	20 05 41.4 +0.3
LOR	Lormes	10.81	1	eP	Pn	20 05 41.4 +0.3
LOR	Lormes	10.81	1	P	Pn	20 05 41.4 +0.3
HYF	Humbligny	10.83	357	ePn	Pn	20 05 40.7 -0.6
HYF	Humbligny	10.83	357	ePn	Pn	20 05 40.7 -0.6
HYF	Humbligny	10.83	357	P	Pn	20 05 40.7 -0.6
TUE	Stuetta	10.93	22	ePn	Pn	20 05 44.8 +1.8
EAGO	Agolada(Pontev	10.95	309	P	Pn	20 05 42.9 -0.1
6.5nm,0.4s,SNR=7.9						
EMAZ	Mazaricos	11.58	308	P	Pn	20 05 51.5 -0.2
12nm,0.4s,SNR=7.9						
CLF	Chambon-Foret	11.60	356	ePn	Pn	20 05 53.2 +1.3
HINF	Hinteralfeld	11.62	11	ePn	Pn	20 05 53.5 +1.2
SNR=1.0						
HINF	Hinteralfeld	11.62	11	ePn	Pn	20 05 53.5 +1.2
HINF	Hinteralfeld	11.62	11	eP	Pn	20 05 53.5 +1.2
HINF	Hinteralfeld	11.62	11	P	Pn	20 05 53.5 +1.2
HAU	Haudompre	11.74	9	ePn	Pn	20 05 54.7 +0.9
HAU	Haudompre	11.74	9	ePn	Pn	20 05 54.7 +0.9
HAU	Haudompre	11.74	9	eP	Pn	20 05 54.7 +0.9
HAU	Haudompre	11.74	9	P	Pn	20 05 54.7 +0.9
SFTF	Sexfontaines	11.80	5	ePn	Pn	20 05 55.5 +0.9
baz=189						
SFTF	Sexfontaines	11.80	5	ePn	Pn	20 05 55.5 +0.9
SFTF	Sexfontaines	11.80	5	P	Pn	20 05 55.5 +0.9
DAVA	Damuels	11.82	22	iP	Pn	20 06 02.9 +7.8
7.3nm,0.7s						
FETA	Feichten	11.86	25	iP	Pn	20 06 03.3 +7.7
8.5nm,1.2s						
ECH	Echery	12.06	12	ePn	Pn	20 05 58.9 +0.6
ECH	Echery	12.06	12	eP	Pn	20 05 58.9 +0.6
MEZF	Maizieres J'vi	12.10	5	ePn	Pn	20 05 59.4 +0.7
baz=186,SNR=1.0						
MEZF	Maizieres J'vi	12.10	5	ePn	Pn	20 05 59.4 +0.7
MEZF	Maizieres J'vi	12.10	5	P	Pn	20 05 59.4 +0.7
SQTA	Sankt Quirin	12.19	26	iP	Pn	20 06 04.8 +4.7
8.2nm,0.9s						
PAGF	Fort de Pagny	12.21	7	ePn	Pn	20 06 01.0 +0.8
baz=191						
PAGF	Fort de Pagny	12.21	7	ePn	Pn	20 06 01.0 +0.8
MOTA	Moosalm	12.26	25	iP	Pn	20 06 05.0 +3.8
6.0nm,0.7s						
CDF	Champ du Feu	12.27	12	ePn	Pn	20 06 02.6 +1.4
SNR=1.0						
CDF	Champ du Feu	12.27	12	ePn	Pn	20 06 02.6 +1.4
CDF	Champ du Feu	12.27	12	P	Pn	20 06 02.6 +1.4
ABTA	Abfaltersbach	12.29	30	iP	Pn	20 06 05.6 +4.1
9.1nm,1.3s						
GRR	Gorron	12.35	346	ePn	Pn	20 06 02.0 -0.1
GRR	Gorron	12.35	346	ePn	Pn	20 06 02.0 -0.1
GRR	Gorron	12.35	346	eP	Pn	20 06 02.0 -0.1
GRR	Gorron	12.35	346	P	Pn	20 06 02.0 -0.1
BFO	Black Forest	12.39	15	ePn	Pn	20 06 03.0 +0.2
BFO	Black Forest	12.39	15	eP	Pn	20 06 03.0 +0.2
LDF	La Druitiere	12.42	349	ePn	Pn	20 06 04.0 +0.9
SNR=1.0						
LDF	La Druitiere	12.42	349	ePn	Pn	20 06 04.0 +0.9
WATA	Walderalm	12.42	26	iP	Pn	20 06 07.7 +4.4
8.6nm,1.0s						
QUIF	Quistinic	12.47	339	ePn	Pn	20 06 03.9 +0.2
SNR=1.0						
QUIF	Quistinic	12.47	339	ePn	Pn	20 06 03.9 +0.2
QUIF	Quistinic	12.47	339	eP	Pn	20 06 03.9 +0.2
QUIF	Quistinic	12.47	339	P	Pn	20 06 03.9 +0.2
SGMF	Saint Gilles	12.61	341	ePn	Pn	20 06 06.2 +0.5
SNR=1.0						
SGMF	Saint Gilles	12.61	341	ePn	Pn	20 06 06.2 +0.5
SGMF	Saint Gilles	12.61	341	eP	Pn	20 06 06.2 +0.5
SGMF	Saint Gilles	12.61	341	P	Pn	20 06 06.2 +0.5
FLN	La Foiniere	12.64	348	ePn	Pn	20 06 06.8 +0.7
baz=170,SNR=1.0						
FLN	La Foiniere	12.64	348	ePn	Pn	20 06 06.8 +0.7
FLN	La Foiniere	12.64	348	eP	Pn	20 06 06.8 +0.7
FLN	La Foiniere	12.64	348	P	Pn	20 06 06.8 +0.7
MYKA	Terra Mystica	12.68	34	iP	P	20 06 14.9 -3.1
13nm,1.7s						
ROSF	Rostrenen	12.88	339	ePn	Pn	20 06 09.1 -0.3
SNR=1.0						
ROSF	Rostrenen	12.88	339	ePn	Pn	20 06 09.1 -0.3
ROSF	Rostrenen	12.88	339	eP	Pn	20 06 09.1 -0.3
ROSF	Rostrenen	12.88	339	P	Pn	20 06 09.1 -0.3
KBA	Koelnbreinsper	12.90	32	iP	P	20 06 19.7 -0.8
10.0nm,1.0s						
OBKA	Obir	13.01	36	iP	P	20 06 19.4 -2.3
10nm,1.2s						
SOKA	Soboth	13.36	37	iPn	Pn	20 06 18.5 +2.4
6.8nm,1.1s						
BAIF	Baives	13.61	2	ePn	Pn	20 06 20.1 +0.8
SNR=1.0						
BAIF	Baives	13.61	2	ePn	Pn	20 06 20.1 +0.8
BAIF	Baives	13.61	2	eP	Pn	20 06 20.1 +0.8
BAIF	Baives	13.61	2	P	Pn	20 06 20.1 +0.8
DOU	Dourbes	13.66	3	⇑P	Pn	20 06 22.4 +2.3
comp=Z,16nm,0.6s						
GIVF	Givet	13.68	4	ePn	Pn	20 06 20.4 +0.1
GIVF	Givet	13.68	4	ePn	Pn	20 06 20.4 +0.1
GIVF	Givet	13.68	4	eP	Pn	20 06 20.4 +0.1
GIVF	Givet	13.68	4	P	Pn	20 06 20.4 +0.1
TAM	Tamanrasset	13.73	172	ePn	Pn	20 06 21.3 +0.1
MOA	Molln	13.89	32	iP	Pn	20 06 27.3 +4.0
comp=Z,7.3nm,1.3s						
ARSA	Arzberg	14.01	36	iPn	Pn	20 06 27.2 +2.3
comp=Z,12nm,1.0s						
BCLA	Clavier	14.02	5	⇓P	Pn	20 06 28.4 +3.4
SNF	Seneffe	14.06	2	⇑P	Pn	20 06 28.7 +3.2
comp=Z,47nm,0.7s						
MEM	Membach	14.27	7	⇑P	Pn	20 06 32.1 +3.8
GEC2	GERESS Array S	14.47	28	ePn	Pn	20 06 33.3 +2.1
GEC2	GERESS Array S	14.47	28	eP	Pn	20 06 33.3 +2.1
GERES	GERESS Array B	14.47	28	ePn	Pn	20 06 32.9 +1.7
GERES	GERESS Array B	14.47	28	Pn	Pn	20 06 31.9 +0.8
comp=Z,0.1nm,0.3s,baz=211,slow=12,SNR=24						
KHC	Kasperske Hory	14.66	27	eP	Pn	20 06 35.6 +1.9
KHC	Kasperske Hory	14.66	27	eP	Pn	20 06 35.6 +1.9
KHC				ex	x	20 06 39.5
CONA	Conrad Observa	14.66	35	iPn	Pn	20 06 35.5 +1.8
comp=Z,9.7nm,1.2s						
TREC	Trest	15.53	31	eP	Pn	20 06 47.1 +1.8
TREC	Trest	15.53	31	eP	Pn	20 06 47.1 +1.8
TREC				epP	P	20 06 51.0 +1.4
MODS	Modra-Piesok	15.64	36	eP	P	20 06 49.0 -1.8
MODS	Modra-Piesok	15.64	36	ePN	P	20 06 49.0 -1.8
KRUC	Moravsky	15.74	33	ePN	Pn	20 06 49.4 +1.4
VRAC	Vranov	16.01	33	⇑iP	Pn	20 06 52.9 +1.4
VRAC	Vranov	16.01	33	ePN	Pn	20 06 52.6 +1.2
VRAC	Vranov	16.01	33	Pn	Pn	20 06 52.6 +1.2
comp=Z,1.1nm,0.3s,baz=272,slow=23,SNR=6.3						
MDVR	Moldovita	16.12	53	⇑iP	P	20 06 54.8 -1.4
JAVC	Velka Javorina	16.17	36	ePN	P	20 06 56.7 0.0
CLL	Collm	16.33	22	⇓iP	P	20 07 00.9 +2.5
CLL				pmax	pmax	
comp=Z,8.0nm,1.1s						
CLL	Collm	16.33	22	⇓ipP	P	20 07 00.9 +2.5
comp=Z,8.0nm,1.1s						
CLL				iSP	pP	20 07 03.5 -0.1
CLL				iPP	PnPn	20 07 04.6 0.0
comp=Z,15nm,1.4s						
BZS	Buzias	16.43	51	⇑iP	P	20 06 58.8 -0.7
VYHS	Vyhne	16.48	38	eP	Pn	20 06 56.3 -1.2
VYHS	Vyhne	16.48	38	ePN	Pn	20 06 56.3 -1.2
PSZ	Piszkesteto	16.66	41	ePn	P	20 07 01.9 -0.3
comp=Z,20nm,1.3s						
PSZ	Piszkesteto	16.66	41	⇑iP	P	20 07 01.7 -0.5
PSZ	Piszkesteto	16.66	41	eP	P	20 07 01.9 -0.3
PSZ				pmax	pmax	
comp=Z,20nm,1.3s						
PSZ	Piszkesteto	16.66	41	ePn	P	20 07 02.1 -0.1
DPC	Dobruska-Polom	16.69	30	eP	P	20 07 02.0 -0.5
DPC	Dobruska-Polom	16.69	30	eP	P	20 07 02.0 -0.5
UPC	Upice	16.70	29	eP	P	20 07 02.2 -0.3
UPC	Upice	16.70	29	eP	P	20 07 02.2 -0.3
MORC	Moravsky Berou	16.77	33	⇑iP	P	20 07 02.8 -0.5
MORC	Moravsky Berou	16.77	33	ePN	P	20 07 02.5 -0.8
LANS	Liptovska Anna	17.23	38	eP	P	20 07 12.0 +3.6
LANS	Liptovska Anna	17.23	38	eP	P	20 07 12.0 +3.6
DRGR		17.65	48	⇑iP	P	20 07 14.1 +1.0
ARR	Arges	18.25	54	⇑iP	Pn	20 07 19.8 +0.2
UZH	Uzhgorod	18.38	43	eP	P	20 07 20.1 -0.9
KOLS	Kolonicke sedl	18.54	42	eP	Pn	20 07 26.9 +3.8
KOLS	Kolonicke sedl	18.54	42	eP	Pn	20 07 26.9 +3.8
VOIR		18.55	54	⇑iP	P	20 07 23.3 +0.3
DOPR	Dopca	18.97	53	⇑iP	P	20 07 26.8 -0.8
MLR	Muntele Rosu	19.16	55	eP	Pn	20 07 32.3 +1.6
comp=Z,27nm,1.3s						
MLR	Muntele Rosu	19.16	55	⇑iP	P	20 07 30.3 +0.5
MLR	Muntele Rosu	19.16	55	P	Pn	20 07 31.5 +0.8
comp=Z,0.2nm,0.3s,baz=306,slow=10,SNR=6.1						
KWP	Kalwaria Pacla	19.18	41	eP	Pn	20 07 31.9 +1.1
comp=Z,213nm,1.2s						
KWP	Kalwaria Pacla	19.18	41	eP	Pn	20 07 31.9 +1.1
KWP				pmax	pmax	
comp=Z,213nm,1.2s						
EKA	Eskdalemuir Ar	19.43	349	P	Pn	20 07 34.2 +0.5
baz=162,slow=15,SNR=4.0						
BURAR	Bucovina Array	19.55	48	eP	Pn	20 07 35.8 +0.5
BURAR	Bucovina Array	19.55	48	⇑iP	P	20 07 34.4 +0.4
BUR08	Bucovina Ar. S	19.55	48	eP	Pn	20 07 36.5 +1.1
comp=Z,13nm,1.2s						
LVV	L'vov	19.99	42	eP	Pn	20 07 40.9 +0.4
CFR	Carcaliu	20.53	57	⇓iP	P	20 07 44.1 -0.4
TOA1	Torodi Ar. Sit	23.26	184	eP	P	20 08 12.6 -1.3
TOA0	Torodi Ar. Sit	23.26	184	eP	P	20 08 12.6 -1.3
comp=Z,10nm,1.0s						
TORD	Torodi Ar. Bea	23.26	184	P	P	20 08 12.6 -1.3
comp=Z,3.7nm,0.6s,baz=4.3,slow=9.1,SNR=17						
KIEV	Kiev	23.29	44	⇑iP	P	20 08 12.7 -1.2
AKASG	Malin Array Be	23.30	44	P	P	20 08 12.8 -1.2
comp=Z,2.5nm,0.6s,baz=241,slow=10,SNR=4.7						
AKBB	Malin Array Si	23.30	44	eP	P	20 08 12.3 -1.7
comp=Z,11nm,1.1s						
AKBB	Malin Array Si	23.30	44	eP	P	20 08 12.3 -1.7
AKBB				pmax	pmax	
comp=Z,11nm,1.1s						
BR131	Keskin Array S	23.90	73	eP	P	20 08 19.6 -0.5
comp=Z,3.9nm,1.0s						
BRTR	Keskin Array B	23.90	73	P	P	20 08 20.0 -0.1
BRTR	Keskin Array B	23.90	73	P	P	20 08 20.0 -0.1
comp=Z,1.7nm,0.9s,baz=234,slow=6.8,SNR=6.1						
BR101	Keskin Array S	23.90	73	eP	P	20 08 20.0 -0.2
CSS	Mathiatis	24.23	85	eP	P	20 08 25.2 +2.0
comp=Z,7.6nm,0.8s						
HFS	Hagfors	24.59	12	P	P	20 08 25.6 -0.5
comp=Z,1.4nm,0.6s,baz=177,slow=10.0,SNR=5.6						
NB200	NORSAR Array S	25.09	9	eP	P	20 08 31.1 +0.4
NOA	NORSAR Array B	25.09	9	P	P	20 08 31.1 +0.4
comp=Z,0.9nm,1.0s,baz=160,slow=8.9,SNR=2.8						
MMAI	Mount Meron Ar	26.38	88	P	P	20 08 44.0 +1.3
comp=Z,1.1nm,0.5s,baz=294,slow=8.1,SNR=5.0						
VSU	Vasula	26.79	27	⇑eP	P	20 08 47.9 +1.9
VSU				pmax	pmax	
comp=Z,21nm,0.8s						
FIA0	FINESS Array S	28.78	23	eP	P	20 09 03.9 +0.2
FIA0	FINESS Array S	28.78	23	eP	P	20 09 03.9 +0.2
FINES	FINESS Array B	28.78	23	P	P	20 09 03.9 +0.2
comp=Z,1.1nm,0.8s,baz=311,slow=3.2,SNR=3.3						
OBN	Obninsk	29.27	40	iP	P	20 09 10.4 +2.3
OBN				pmax	pmax	
comp=Z,4.0nm,0.9s						
KLMR	Klimovskoe	33.38	32	eP	P	20 09 47.8 +3.5
KLMR				pmax	pmax	
comp=Z,12nm,1.1s						
JMIC	Jan Mayen	35.18	353	LR	LR	20 23 36.7
comp=Z,1μm,22.0s,baz=108,slow=35						
ARCES	ARCESS Array B	35.25	13	P	P	20 10 00.2 -0.2
comp=Z,1.7nm,0.6s,baz=206,slow=8.0,SNR=10.0						
PRGR	Permogore	36.36	33	eP	P	20 10 08.7 -1.3
PRGR				e		20 11 30.3
PRGR				pmax	pmax	
comp=Z,3.0nm,0.6s						
ARU	Arti	41.55	43	eP	P	20 10 53.0 -0.5
comp=Z,15nm,1.5s						
ARU	Arti	41.55	43	diP	P	20 10 50.8 -2.7
ARU				S	S	20 17 07.7 -0.7
ARU				pmax	pmax	
comp=Z,4.0nm,0.9s						
ABKAR	Akbulak array	42.37	54	eP	P	20 10 59.7 -0.6
ABKAR				eP	P	20 10 59.8 -0.6
SVE	Sverdlovsk	42.72	43	eP	P	20 11 03.6 +0.5
GEYT	Alibeck	43.01	71	P	P	20 11 04.9 -0.9
comp=Z,1.2nm,0.6s,baz=56,slow=5.7,SNR=4.3						
BRVK	Borovoye	48.44	48	⇓eP	P	20 11 48.3 0.0
BRVK				pmax	pmax	
comp=Z,1.0nm,0.9s						
AAK	Ala-Archa	53.63	60	⇑eP	P	20 12 28.5 +0.7
AAK				pmax	pmax	
comp=Z,1.0nm,1.0s						
KURK	Kurchatov	53.97	49	eP	P	20 12 30.1 +0.2
comp=Z,2.9nm,0.9s						
KURK	Kurchatov	53.97	49	⇓eP	P	20 12 29.9 0.0
KURK				pmax	pmax	
comp=Z,6.0nm,1.7s						
KSH	Kashi	55.76	63	P	P	20 12 43.0 -0.2
ZAA1	Zalesovo Array	56.70	44	eP	P	20 12 49.7 +0.2
ZALV	Zalesovo Beam	56.70	44	P	P	20 12 49.7 +0.2
comp=Z,0.7nm,0.5s,baz=261,slow=7.4,SNR=4.0						
MK31	Makanchi Array	57.49	53	eP	P	20 12 55.1 -0.2
comp=Z,0.9nm,0.8s						
MK31	Makanchi Array	57.49	53	eP	P	20 12 55.1 -0.2
MK31				pmax	pmax	
comp=Z,1.0nm,0.8s						
MK32	Makanchi Array	57.49	53	eP	P	20 12 55.2 -0.1
MKAR	Makanchi Array	57.49	53	eP	P	20 12 55.0 -0.2
MKAR	Makanchi Array	57.49	53	P	P	20 12 55.2 -0.1
comp=Z,0.7nm,0.5s,baz=287,slow=6.0,SNR=9.7						
TIXI	Tiksi	65.59	16	⇓eP	P	20 13 51.1 +1.6
TIXI				pmax	pmax	
comp=Z,6.0nm,2.5s						
PYUN	Piuthan	65.98	72	eP	P	20 13 53.8 +0.8
comp=Z,14nm,0.6s						
KOLN	Koldanda	66.61	72	eP	P	20 13 57.3 +0.2
DMN	Daman	67.85	71	eP	P	20 14 05.7 +0.7
comp=Z,24nm,1.1s						
KKN	Kakani	67.89	71	eP	P	20 14 05.5 +0.3
comp=Z,12nm,0.9s						
PKIN	Phulchoki	68.09	71	eP	P	20 14 06.7 +0.2
PKI	Pulchoki	68.10	71	eP	P	20 14 06.9 +0.3
comp=Z,16nm,1.2s						
ULM	Lac du Bonnet	68.33	317	eP	P	20 14 06.9 -0.3
comp=Z,6.3nm,1.0s						
ULM	Lac du Bonnet	68.33	317	eP	P	20 14 06.9 -0.3
ULM				pmax	pmax	
comp=Z,6.0nm,1.0s						
ULM	Lac du Bonnet	68.33	317	P	P	20 14 07.0 -0.3
comp=Z,4.5nm,0.8s,baz=58,slow=6.7,SNR=7.6						
BOD	Bodaibo	69.60	32	eP	P	20 14 10.7 -4.3
BOD				pmax	pmax	
comp=Z,3.0nm,1.9s						
YKA	Yellowknife Ar	69.66	334	P	P	20 14 15.7 +0.5
comp=Z,1.0nm,0.5s,baz=53,slow=6.3,SNR=13						
YKB5	Yellowknife Ar	69.66	334	eP	P	20 14 15.7 +0.4
SONA0	Songino Array	71.59	44	eP	P	20 14 28.4 +0.8
SONM	Songino Array	71.59	44	P	P	20 14 28.4 +0.8
comp=Z,0.5nm,0.7s,baz=310,slow=12,SNR=3.6						
BILL	Bilibino	75.02	7	iP	P	20 14 51.3 +4.1
BILL				pmax	pmax	
comp=Z,2.0nm,1.1s						
IMAR	Indian Mountai	76.38	351	eP	P	20 14 56.8 +1.7
ILAR	Eielson Array	76.46	347	P	P	20 14 57.6 +2.1
comp=Z,0.3nm,0.6s,baz=9.6,slow=5.1,SNR=5.4						
BOZ	Bozeman (W)	79.58	320	eP	P	20 15 14.3 +0.9
comp=Z,2.2nm,0.8s						
BOZ	Bozeman (W)	79.58	320	eP	P	20 15 14.3 +0.9
BOZ				pmax	pmax	
comp=Z,2.0nm,0.8s						
SUA	Susitna One	80.20	348	eP	P	20 15 18.0 +1.6
comp=Z,3.5nm,0.9s						
PD31	Pinedale Array	80.34	317	eP	P	20 15 18.1 +0.4
comp=Z,5.8nm,1.5s						
PDAR	Pinedale Array	80.34	317	eP	P	20 15 17.7 0.0
PDAR	Pinedale Array	80.34	317	P	P	20 15 18.2 +0.5
comp=Z,0.8nm,0.7s,baz=59,slow=6.1,SNR=7.2						
BMO	Blue Mountains	82.98	322	eP	P	20 15 32.8 +1.4
comp=Z,3.2nm,0.8s						
BMO	Blue Mountains	82.98	322	eP	P	20 15 32.8 +1.4
BMO				pmax	pmax	
comp=Z,3.0nm,0.8s						
CMAR	Chiang Mai Arr	83.48	72	P	P	20 15

VLS	**Valsamata**	**0.47**	**181**	P	**Pg**	**20 12 39.1**	**+0.2**
VLS				S	**Sg**	**20 12 47.0**	**+1.8**
VLS				AML	AML	20 12 47.4	
	comp=E,42130μm,0.3s						
VLS				AML	AML	20 12 47.6	
	comp=N,45561μm,0.3s						
KFL	**Anninata**	**0.55**	**164**	P	**Pg**	**20 12 41.0**	**+0.4**
KFL				S	**Sg**	**20 12 49.1**	**+1.1**
KFL	**Anninata**	**0.55**	**164**	P	**Pg**	**20 12 41.0**	**+0.4**
KFL				S	**Sb**	**20 12 49.7**	**+0.1**
KFL				AML	AML	20 12 56.3	
	comp=N,17655μm,0.5s						
KFL				AML	AML	20 12 56.8	
	comp=E,14528μm,0.4s						
PVO	**Paravola**	**0.73**	**92**	P	**Pb**	**20 12 44.6**	**0.0**
PVO	**Paravola**	**0.73**	**92**	P	**Pb**	**20 12 44.6**	**0.0**
PVO				AML	AML	20 12 58.7	
	comp=N,30944μm,0.4s						
PVO				AML	AML	20 13 00.0	
	comp=E,10186μm,0.4s						
AXS	**Araxos**	**0.76**	**126**	P	**Pg**	**20 12 44.8**	**+0.3**
AXS	**Araxos**	**0.76**	**126**	P	**Pg**	**20 12 44.8**	**+0.3**
AXS				AML	AML	20 13 03.6	
	comp=E,2812μm,0.5s						
AXS				AML	AML	20 13 04.0	
	comp=N,5241μm,0.5s						
VTN	**Vitineika**	**0.86**	**147**	P	**Pg**	**20 12 47.1**	**+0.7**
RLS	**Riolos of Patr**	**0.90**	**130**	P	**Pg**	**20 12 47.3**	**+0.1**
RLS	**Riolos of Patr**	**0.90**	**130**	P	**Pg**	**20 12 47.3**	**+0.1**
RLS				AML	AML	20 13 09.4	
	comp=E,3004μm,0.5s						
RLS				AML	AML	20 13 09.5	
	comp=N,4035μm,0.5s						
IGT	**Igoumenitsa**	**0.91**	**347**	P	**Pg**	**20 12 47.6**	**+0.1**
IGT				S	**Sb**	**20 13 01.8**	**+1.9**
IGT	**Igoumenitsa**	**0.91**	**347**	P	**Pg**	**20 12 47.5**	**+0.1**
EVR	**Evrytania**	**0.99**	**74**	P	**Pg**	**20 12 48.9**	**0.0**
EVR	**Evrytania**	**0.99**	**74**	P	**Pg**	**20 12 48.9**	**0.0**
EVR				AML	AML	20 13 12.2	
	comp=N,2034μm,1.0s						
EVR				AML	AML	20 13 12.9	
	comp=E,2238μm,0.6s						
JAN	**Janina**	**1.03**	**11**	P	**Pg**	**20 12 50.3**	**+0.6**
JAN				S	**Sb**	**20 13 04.7**	**+1.3**
JAN	**Janina**	**1.03**	**11**	P	**Pg**	**20 12 50.5**	**+0.8**
JAN				AML	AML	20 13 10.9	
	comp=E,1823μm,0.7s						
JAN				AML	AML	20 13 11.8	
	comp=N,1564μm,0.7s						
ANX	**Ano Chora**	**1.04**	**92**	P	**Pg**	**20 12 49.6**	**-0.2**
ANX				S	**Sb**	**20 13 04.6**	**+1.0**
ANX	**Ano Chora**	**1.04**	**92**	P	**Pg**	**20 12 49.7**	**-0.2**
ANX				AML	AML	20 13 08.8	
	comp=N,11572μm,0.4s						
ANX				AML	AML	20 13 14.7	
	comp=E,8102μm,0.6s						
EFP	**Efpalio**	**1.05**	**101**	P	**Pg**	**20 12 49.6**	**-0.5**
EFP	**Efpalio**	**1.05**	**101**	P	**Pg**	**20 12 49.7**	**-0.3**
DRO	**Drossia**	**1.12**	**128**	P	**Pg**	**20 12 50.9**	**-0.4**
DRO	**Drossia**	**1.12**	**128**	P	**Pg**	**20 12 51.0**	**-0.4**
DRO				AML	AML	20 13 17.4	
	comp=E,4518μm,0.6s						
DRO				AML	AML	20 13 19.4	
	comp=N,4809μm,0.4s						
LAKA	**Lakka**	**1.16**	**110**	P	**Pg**	**20 12 51.2**	**-0.9**
LAKA	**Lakka**	**1.16**	**110**	P	**Pg**	**20 12 51.4**	**-0.8**
LAKA				AML	AML	20 13 18.9	
	comp=N,2336μm,0.7s						
LAKA				AML	AML	20 13 22.2	
	comp=E,1958μm,0.7s						
SERG	**Sergoula**	**1.17**	**101**	P	**Pg**	**20 12 51.6**	**-0.7**
SERG	**Sergoula**	**1.17**	**101**	P	**Pg**	**20 12 51.9**	**-0.5**
TRIZ	**Trizonia**	**1.19**	**103**	P	**Pb**	**20 12 52.0**	**-0.5**
TRIZ	**Trizonia**	**1.19**	**103**	P	**Pb**	**20 12 52.2**	**-0.3**
KASA	**Kassiopi**	**1.22**	**335**	P	**Pg**	**20 12 54.3**	**+1.0**
KEK	**Kerkira**	**1.23**	**330**	P	**Pn**	**20 12 54.3**	**+1.2**
KEK	**Kerkira**	**1.23**	**330**	P	**Pb**	**20 12 54.5**	**+1.3**
KALE	**Kalithea**	**1.24**	**101**	P	**Pb**	**20 12 53.0**	**-0.3**
KALE	**Kalithea**	**1.24**	**101**	P	**Pb**	**20 12 53.1**	**-0.2**
KALE				AML	AML	20 13 18.8	
	comp=N,1926μm,0.7s						
KALE				AML	AML	20 13 24.3	
	comp=E,2112μm,0.7s						
MEV	**Metsovon**	**1.24**	**23**	P	**Pn**	**20 12 54.7**	**+1.3**
ALIK	**Aliki, Aigiali**	**1.25**	**107**	P	**Pb**	**20 12 53.4**	**-0.1**
SRN	**Sarande**	**1.32**	**340**	P	**Pg**	**20 12 56.0**	**+0.8**
TRAZ	**Trapeza**	**1.35**	**110**	P	**Pn**	**20 12 54.7**	**-0.1**
TRAZ	**Trapeza**	**1.35**	**110**	P	**Pn**	**20 12 54.9**	**+0.1**
KLV	**Kalavryta, Ach**	**1.36**	**116**	P	**Pn**	**20 12 54.7**	**-0.2**
KLV	**Kalavryta, Ach**	**1.36**	**116**	P	**Pn**	**20 12 54.8**	**-0.2**
AGG	**Agios Georgios**	**1.41**	**74**	P	**Pg**	**20 12 56.9**	**0.0**
AGG	**Agios Georgios**	**1.41**	**74**	P	**Pg**	**20 12 56.9**	**0.0**
AGG				AML	AML	20 13 24.2	
	comp=E,2458μm,1.1s						
AGG				AML	AML	20 13 25.5	
	comp=N,1578μm,0.5s						
AMT	**Artemida-Makis**	**1.42**	**141**	P	**Pn**	**20 12 56.4**	**+0.8**
AMT	**Artemida-Makis**	**1.42**	**141**	P	**Pn**	**20 12 56.2**	**+0.6**
THL	**Klokotos Trika**	**1.44**	**50**	P	**Pn**	**20 12 56.7**	**+0.8**
THL	**Klokotos Trika**	**1.44**	**50**	P	**Pb**	**20 12 57.0**	**+0.3**
KPRO	**Kipourio**	**1.44**	**24**	P	**Pg**	**20 12 57.9**	**+0.4**
DSF	**Desfina**	**1.53**	**98**	P	**Pb**	**20 12 58.6**	**+0.3**
DSF	**Desfina**	**1.53**	**98**	P	**Pb**	**20 12 58.4**	**+0.1**
GUR	**Goura**	**1.54**	**117**	P	**Pn**	**20 12 57.8**	**+0.3**
GUR	**Goura**	**1.54**	**117**	P	**Pn**	**20 12 58.0**	**+0.5**
GUR				AML	AML	20 13 27.0	
	comp=N,2480μm,0.4s						
GUR				AML	AML	20 13 31.6	
	comp=E,1829μm,0.4s						
ITM	**Ithomi**	**1.80**	**144**	P	**Pb**	**20 13 02.7**	**-0.2**
ITM	**Ithomi**	**1.80**	**144**	P	**Pb**	**20 13 03.1**	**+0.2**
LKR	**Lokris**	**1.88**	**89**	P	**Pb**	**20 13 05.2**	**+0.9**
VLX	**Vlachokerasia**	**1.90**	**132**	P	**Pb**	**20 13 05.1**	**+0.5**
ATAL	**Atalanti**	**1.90**	**88**	P	**Pb**	**20 13 05.5**	**+1.0**
ATAL				AML	AML	20 13 38.9	
	comp=N,830μm,1.1s						
ATAL				AML	AML	20 13 42.9	
	comp=E,520μm,1.2s						
LTK	**Loutraki**	**1.96**	**108**	P	**Pb**	**20 13 06.4**	**+0.8**
PYL	**PYLOS**	**1.97**	**152**	P	**Pb**	**20 13 05.8**	**+0.1**
LOUT	**Loutraki**	**1.98**	**109**	P	**Pb**	**20 13 06.4**	**+0.5**
VIL2	**Platees**	**2.14**	**101**	P	**Pb**	**20 13 08.9**	**+0.2**
FNA	**Florina**	**2.22**	**15**	P	**Pn**	**20 13 09.2**	**+2.5**
MRKA	**Markates**	**2.34**	**88**	P	**Pb**	**20 13 12.0**	**-0.1**
DID	**Didima**	**2.37**	**118**	P	**Pn**	**20 13 11.2**	**+2.4**
BIA	**Bitola**	**2.44**	**13**	*i* Pn	**Pb**	**20 13 14.1**	**+0.3**
OHR	**Ohrid**	**2.47**	**4**	*i* Pn	**Pg**	**20 13 18.7**	**+1.5**
ATHU	**Athens Univers**	**2.60**	**104**	P	**Pn**	**20 13 14.7**	**+2.9**
EREA	**Eretria**	**2.62**	**94**	P	**Pb**	**20 13 15.9**	**-1.1**
VLY	**Voula,Athens**	**2.64**	**106**	P	**Pn**	**20 13 14.9**	**+2.5**
DION	**Dionisos Attik**	**2.68**	**101**	P	**Pn**	**20 13 16.0**	**+2.9**
TIR	**Tirane**	**2.76**	**348**	*e*Pn	**Pn**	**20 13 12.6**	**-1.5**
TIR				*e*Sn	**Sn**	**20 13 49.6**	**+2.2**
KRUS	**Krusevo**	**2.77**	**10**	*i* Pn	**Pn**	**20 13 15.4**	**+1.1**
VAY	**Valandovo**	**3.07**	**29**	*e*Pn	**Pb**	**20 13 22.8**	**-1.8**
VAY				*e*Sn	**Sb**	**20 14 03.1**	**+1.0**
VAY	**Valandovo**	**3.07**	**29**	*i* Pn	**Pb**	**20 13 26.6**	**+2.0**
VAY				*i* Sn	**Sb**	**20 13 59.6**	**-2.5**
STIP	**Stip**	**3.28**	**21**	*i* Pn	**Pn**	**20 13 25.4**	**+4.2**
BARS	**Barje**	**4.27**	**12**	*e*Pn	**Pn**	**20 13 36.5**	**+1.7**
TREB	**Trebinje**	**4.41**	**338**	*e*Pn	**Pn**	**20 13 35.2**	**-1.6**
TREB				*e*Sn	**Sn**	**20 14 24.2**	**-4.0**
VTS	**Vitosha**	**4.45**	**26**	*e*Pn	**Pn**	**20 13 40.1**	**+2.7**
VTS				*e*Sn	**Sn**	**20 14 34.5**	**+5.2**
SELS	**Selova**	**4.59**	**5**	*e*Pn	**Pn**	**20 13 39.5**	**+0.3**
SJES	**Sjenica**	**4.64**	**354**	*e*Pn	**Pn**	**20 13 39.5**	**-0.5**
STON	**Ston**	**4.76**	**333**	*e*Pn	**Pn**	**20 13 40.7**	**-0.9**
STON				Sn	**Sn**	**20 14 32.1**	**-4.7**
ZAPS	**Zavoj**	**4.88**	**18**	*e*Pn	**Pn**	**20 13 44.9**	**+1.7**
IVAS	**Ivanjica**	**4.94**	**356**	*e*Pn	**Pn**	**20 13 43.4**	**-0.7**
HAPS	**Han Pijesak,BI**	**5.58**	**348**	*e*Pn	**Pn**	**20 13 51.9**	**-1.0**
HAPS				*e*Sn	**Sn**	**20 14 55.3**	**-1.7**
TRUS	**Trudelj**	**5.58**	**359**	*e*Pn	**Pn**	**20 13 53.0**	**+0.2**
UDBI	**Udbina**	**6.90**	**330**	*e*Pn	**Pn**	**20 14 12.3**	**+1.2**
NVLJ	**Novalja**	**7.30**	**326**	*e*Pn	**Pn**	**20 14 17.1**	**+0.7**
MLR	**Muntele Rosu**	**7.91**	**28**	Pn	Pn	20 14 31.5	+6.6
	comp=E,0.3nm,0.3s,baz=240,slow=14,SNR=4.5						
BRTR	**Keskin Array B**	**10.19**	**80**	Pn	**Pn**	**20 15 00.3**	**+4.2**
	comp=E,0.1nm,0.3s,baz=269,slow=11,SNR=2.4						
GERES	**GERESS Array B**	**11.35**	**336**	Pn	Pn	20 15 07.6	-4.3
	comp=E,0.1nm,0.3s,baz=155,slow=14,SNR=3.5						
HFS	**Hagfors**	**21.95**	**351**	P	**P**	**20 17 21.4**	**-1.9**
	comp=E,1.0nm,0.6s,baz=174,slow=14,SNR=2.0						
FINES	**FINESS Array B**	**23.08**	**7**	P	**P**	**20 17 35.0**	**-0.2**
	comp=E,1.2nm,0.6s,baz=175,slow=8.9,SNR=7.8						
ARCES	**ARCESS Array B**	**31.07**	**3**	P	**P**	**20 18 45.7**	**-1.9**
	comp=E,1.4nm,1.0s,baz=196,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**45.01**	**59**	P	**P**	**20 20 43.3**	**-2.0**
	comp=E,0.3nm,0.5s,baz=283,slow=6.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**45.34**	**48**	P	**P**	**20 20 46.9**	**-0.9**
	comp=E,0.7nm,0.4s,baz=274,slow=8.5,SNR=4.4						

TAP 23 20:18:47.2, 21°.07N×122°.13E, h184km±1km, ML3.8, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.10**	**331**	P	Pn	20 19 15.6	-0.5
	baz=330						
TSEB	**Hengchuen, Pin**	**1.41**	**306**	*e*S	Sn	20 19 42.3	-0.8
	baz=304						
TWKBT	**Hengchun**	**1.50**	**305**	P	Pn	20 19 19.6	+0.1
	baz=305						
TWKBT				S	Sn	20 19 42.8	-1.8
	baz=305						
TWK1	**Hengchun**	**1.51**	**305**	*e*P	Pn	20 19 19.6	+0.1
	baz=305						
TWK1				*e*S	Sn	20 19 42.6	-2.2
	baz=305						
HEN	**Hengchun**	**1.60**	**306**	*e*P	Pn	20 19 20.6	+0.2
	baz=305						
HEN				S	Sn	20 19 44.2	-1.9
	baz=305						
TAW	**Tawu**	**1.72**	**318**	*e*P	Pn	20 19 20.8	-0.8
	baz=318						
TAW				*e*S	Sn	20 19 45.7	-2.7
	baz=318						
EAST	**Anshuo**	**1.77**	**318**	*e*P	Pn	20 19 21.6	-0.6
	baz=317						
EAST				*e*S	Sn	20 19 47.2	-2.2
	baz=317						
ECL	**Taimali**	**1.87**	**324**	*e*P	Pn	20 19 22.0	-1.1
	baz=324						
ECL				*e*S	Sn	20 19 48.6	-2.6
	baz=324						
SCZT	**Fangliau**	**1.91**	**313**	P	Pn	20 19 23.5	0.0
	baz=312						
SCZT				*e*S	Sn	20 19 49.5	-2.4
	baz=312						
TWGBT	**Beinan**	**2.00**	**331**	*e*P	Pn	20 19 23.7	-0.8
	baz=330						
TWGBT				*e*S	Sn	20 19 50.9	-2.7
	baz=330						
TWG	**Pinlang**	**2.00**	**331**	P	Pn	20 19 24.2	-0.3
	baz=330						
TWG				*e*S	Sn	20 19 50.9	-2.7
	baz=330						
SSPT	**Xinbi**	**2.02**	**314**	P	Pn	20 19 24.8	0.0
	baz=314						
SSPT				*e*S	Sn	20 19 52.5	-1.5
	baz=314						
WLCH	**Liuqiu**	**2.07**	**308**	*e*S	Sn	20 19 55.9	+1.0
	baz=308						
MASBT	**Mashibuluo**	**2.07**	**318**	*e*P	Pn	20 19 24.9	-0.3
	baz=317						
MASBT				*e*S	Sn	20 19 52.5	-2.5
	baz=317						
TWP	**Hsiaoliuchiu**	**2.08**	**308**	*e*S	Sn	20 19 55.5	+0.5
	baz=307						
CHKT	**Chengkung**	**2.14**	**341**	*e*P	Pn	20 19 25.7	-0.4
	baz=340						
CHKT				*e*S	Sn	20 19 55.0	-1.4
	baz=340						
SSD	**Sandimen**	**2.17**	**320**	P	Pn	20 19 26.2	-0.2
	baz=320						
SSD				*e*S	Sn	20 19 54.2	-2.8
	baz=320						
SLGT	**Liugui**	**2.36**	**325**	P	Pn	20 19 28.5	0.0
	baz=324						
SLGT				*e*S	Sn	20 19 58.6	-2.1
	baz=324						
YULB	**Yu-li**	**2.44**	**342**	*e*P	Pn	20 19 29.4	0.0
	baz=341						
YULB				*e*S	Sn	20 19 59.7	-2.7
	baz=341						
HGSD	**Ruisui**	**2.50**	**345**	*e*P	Pn	20 19 31.7	+1.7
	baz=344						
HGSD				*e*S	Sn	20 20 04.8	+1.2
	baz=344						
CHN1	**Nanshi**	**2.58**	**325**	*e*P	Pn	20 19 31.1	+0.1
	baz=324						
CHN1				*e*S	Sn	20 20 02.5	-2.8
	baz=324						
WTP	**Ta-pu**	**2.58**	**327**	*e*P	Pn	20 19 31.2	+0.1
	baz=327						
WTP				*e*S	Sn	20 20 03.3	-2.1
	baz=327						
TPUB	**Ta-pu**	**2.62**	**328**	*e*P	Pn	20 19 31.3	-0.2
	baz=327						
TPUB				*e*S	Sn	20 20 03.2	-2.9
	baz=327						
SNST	**Tainan City**	**2.62**	**325**	*e*P	Pn	20 19 31.3	-0.2
	baz=324						
SNST				*e*S	Sn	20 20 03.7	-2.4
	baz=324						
CHN4	**Tsaushan**	**2.68**	**328**	*e*P	Pn	20 19 32.1	-0.1
	baz=327						
CHN4				*e*S	Sn	20 20 05.4	-2.0
	baz=327						
SCLT	**Jiali**	**2.76**	**320**	*e*S	Sn	20 20 07.5	-1.5
	baz=319						
VWDT	**VWDT**	**2.82**	**341**	*e*P	Pn	20 19 35.1	+1.2
	baz=341						
VWDT				*e*S	Sn	20 20 10.0	-0.5
	baz=341						
CHN5	**Tsauling**	**2.85**	**332**	*e*S	Sn	20 20 10.4	-0.8
	baz=331						
WHYT	**Xinyi Township**	**2.87**	**336**	*e*S	Sn	20 20 09.9	-1.6
	baz=335						
SSLB	**Suanglung**	**2.92**	**338**	*e*S	Sn	20 20 10.7	-1.8
	baz=338						
WLGB	**Puzi**	**2.94**	**325**	*e*P	Pn	20 19 35.2	-0.1
	baz=324						
WLGB				*e*S	Sn	20 20 10.8	-2.0
	baz=324						
SMLT	**Sun Moon Lake**	**3.02**	**338**	*e*S	Sn	20 20 13.6	-1.3
	baz=337						
TYC	**Yuchr**	**3.06**	**338**	*e*S	Sn	20 20 13.3	-2.1
	baz=337						
WNT	**Mingjian**	**3.10**	**335**	*e*S	Sn	20 20 14.6	-1.7
	baz=334						
WSF	**Szhu**	**3.11**	**326**	*e*S	Sn	20 20 14.4	-2.2
	baz=325						
DPDB	**Guoxing**	**3.15**	**340**	*e*P	Pn	20 19 39.3	+1.4
	baz=339						
DPDB				*e*S	Sn	20 20 16.8	-0.9
	baz=339						
WDGT	**Dungji**	**3.16**	**314**	*e*P	Pn	20 19 37.8	-0.2
	baz=313						
WDGT				*e*S	Sn	20 20 14.7	-3.0
	baz=313						
RLNB	**Erlin**	**3.25**	**330**	*e*S	Sn	20 20 17.9	-1.7
	baz=329						
VCHM	**Qimei**	**3.29**	**311**	S	Sn	20 20 17.8	-2.6
	baz=310						
PHUB	**P'eng-hu**	**3.40**	**316**	*e*P	Pn	20 19 40.1	-0.7
	baz=315						
PHUB				*e*S	Sn	20 20 19.2	-3.6
	baz=315						
PNG	**Penghu**	**3.44**	**317**	*e*P	Pn	20 19 40.9	-0.5
	baz=316						
PNG				*e*S	Sn	20 20 20.3	-3.6
	baz=316						

ISCJB ***23*** *20:31:29.1±0.2, 59°.64N±0°.02×153°.19W±0°.05, h116km±2km, mb3.8/5, Error ellipse: s-maj=4.7km s-min=3.1km az=138.8*

NEIC ***23*** *20:31:31.4±0.0, 59°.61N×153°.20W, h103km, ML3.5(AEIC), After AEIC.*

IDC ***23*** *20:31:32.4±4.1, 59°.91N×153°.13W, h121km±41km, mb3.5/5, mb1 3.7/9, mb1mx3.3/50, mbtmp4.0/9, MS4.3/1, Ms1 4.3/1, ms1mx3.5/33, Error ellipse: s-maj=34.0km s-min=25.1km az=13.0*

ISC 23 20:31:30.4±0.7, 59°.62N±0°.05×153°.16W±0°.04, h110km±6km, n111, σ0.985/124, mb3.9/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.28**	**210**	*e*Pn	**Pn**	**20 31 46.0**	**-0.1**
AUL				*e*Sn	**Sn**	**20 31 57.4**	**-0.5**
AUH	**Augustine H**	**0.30**	**209**	*e*Pn	**Pn**	**20 31 46.1**	**-0.2**
AUW	**Augustine West**	**0.30**	**212**	*e*Pn	**Pn**	**20 31 46.1**	**-0.1**
AUI	**Augustine Isla**	**0.32**	**205**	*e*Pn	**Pn**	**20 31 46.1**	**-0.2**
AUI				*e*Sn	**Sn**	**20 31 57.2**	**-0.9**
ILS	**Iliamna Low So**	**0.34**	**8**	*e*Pn	**Pn**	**20 31 46.1**	**-0.4**
IVE	**Iliamna Volcan**	**0.40**	**10**	*e*Pn	**Pn**	**20 31 46.6**	**-0.2**
HOM	**Homer**	**0.77**	**87**	*e*Pn	**Pn**	**20 31 49.8**	**+0.4**
RDSO	**Redoubt South**	**0.86**	**14**	*e*Pn	**Pn**	**20 31 50.2**	**-0.2**
RDSO				*e*Sn	**Sn**	**20 32 04.5**	**-1.0**
RSO	**Redoubt South**	**0.87**	**13**	*e*Pn	**Pn**	**20 31 50.4**	**-0.1**
FONW	**Fourpeaked Sta**	**0.88**	**207**	*e*Pn	**Pn**	**20 31 50.3**	**-0.2**
RDWB	**Redoubt West**	**0.88**	**10**	*e*Pn	**Pn**	**20 31 50.4**	**-0.2**
RDWB				*e*Sn	**Sn**	**20 32 05.0**	**-0.8**
RDJH	**Redoubt Jeurge**	**0.99**	**10**	*e*Pn	**Pn**	**20 31 51.5**	**-0.1**
RDJH				*e*Sn	**Sn**	**20 32 07.0**	**-0.6**
SPWE	**Spurr West**	**1.68**	**10**	*e*Pn	**Pn**	**20 32 00.1**	**+0.7**
SLKM	**Skilak Lake**	**1.72**	**58**	*e*Pn	**Pn**	**20 32 00.4**	**+0.5**
KELA	**Mount Kelaz**	**1.79**	**229**	*e*Pn	**Pn**	**20 32 00.8**	**0.0**
KELA				*e*Sn	**Sn**	**20 32 22.1**	**-1.8**
ACHA	**Angle Creek He**	**1.81**	**219**	*e*Pn	**Pn**	**20 32 01.0**	**0.0**
KDAK	**Kodiak Island**	**1.87**	**171**	*e*Pn	**Pn**	**20 32 00.3**	**-1.4**
KDAK				*e*		20 32 00.7	
SVW2	**Sparrevohn**	**1.91**	**322**	*e*Pn	**Pn**	**20 32 01.6**	**-0.5**
SVW2				*e*Pn	Pn	20 32 01.9	-0.2
SVW2				*e*Sn	**Sn**	**20 32 25.3**	**-1.1**
SEW	**Seward**	**1.93**	**74**	*e*Pn	**Pn**	**20 32 02.2**	**-0.3**
FIB	**Fire Island**	**2.14**	**42**	*e*Pn	**Pn**	**20 32 06.5**	**+1.4**
FIB				*e*Sn	**Sn**	**20 32 32.8**	**+1.1**
SUA	**Susitna One**	**2.20**	**32**	*e*Pn	**Pn**	**20 32 06.3**	**+0.3**
SUA				*e*Sn	**Sn**	**20 32 33.7**	**+0.5**
RC01	**Rabbit Creek A**	**2.25**	**48**	*e*Pn	**Pn**	**20 32 06.6**	**+0.1**
RC01				*e*Sn	**Sn**	**20 32 32.9**	**-1.3**
OHAK	**Old Harbor**	**2.41**	**182**	*e*Pn	Pn	20 32 07.1	-1.5
PTE	**Portage**	**2.41**	**57**	*e*Pn	**Pn**	**20 32 08.7**	**+0.2**
PMR	**Palmer**	**2.80**	**43**	*e*Pn	**Pn**	**20 32 12.9**	**-0.7**
KNK	**Knik Glacier**	**2.94**	**50**	*e*Pn	**Pn**	**20 32 14.9**	**-0.6**
KNK				*e*Pn	Pn	20 32 15.0	-0.5
KNK				*e*Sn	**Sn**	**20 32 47.9**	**-2.3**
GHO	**Glory Hole Cre**	**3.00**	**42**	*e*Pn	**Pn**	**20 32 15.7**	**-0.6**
GHO				*e*Pn	Pn	20 32 15.8	-0.5
SII	**Sitkinak Islan**	**3.12**	**190**	*e*Pn	**Pn**	**20 32 16.6**	**-1.4**
SML	**Sawmill**	**3.23**	**45**	*e*Pn	**Pn**	**20 32 18.7**	**-0.7**
GLI	**Glacier Island**	**3.27**	**65**	*e*Pn	**Pn**	**20 32 19.0**	**-0.9**
PPLA	**Purkeypile**	**3.32**	**8**	*e*Pn	**Pn**	**20 32 21.4**	**+0.8**
MID	**Middleton Isla**	**3.48**	**90**	*e*Pn	**Pn**	**20 32 22.4**	**-0.3**
JPK	**Jack Peak**	**3.56**	**63**	*e*Pn	**Pn**	**20 32 23.8**	**0.0**
TT01	**Tatalina**	**3.57**	**338**	*e*Pn	**Pn**	**20 32 23.9**	**-0.1**
TT01				*e*Pn	**Pn**	**20 32 23.9**	**-0.1**
SCM	**Sheep Creek Mo**	**3.62**	**50**	*e*Pn	**Pn**	**20 32 24.2**	**-0.5**
HUR	**Hurricane**	**3.77**	**25**	*e*Pn	**Pn**	**20 32 27.3**	**+0.7**
EYAK	**Cordova Ski Ar**	**3.83**	**73**	*e*Pn	**Pn**	**20 32 26.6**	**-0.7**
CAST	**Castle Rocks**	**3.84**	**7**	*e*Pn	**Pn**	**20 32 27.7**	**+0.1**
DIV	**Divide**	**3.97**	**64**	*e*Pn	**Pn**	**20 32 29.6**	**+0.4**
KLU	**Klutina**	**4.03**	**59**	*e*Pn	**Pn**	**20 32 29.6**	**-0.6**
CHUM	**Lake Minchumin**	**4.29**	**5**	*e*Pn	**Pn**	**20 32 33.9**	**+0.4**
CHGN	**Chignik**	**4.35**	**222**	*e*Pn	**Pn**	**20 32 34.4**	**0.0**
PS12	**TAPS Pump St12**	**4.37**	**61**	*e*Pn	**Pn**	**20 32 34.5**	**-0.1**
DHY	**Denali Highway**	**4.45**	**36**	*e*Pn	**Pn**	**20 32 35.1**	**-0.6**
HMT	**Hamilton**	**4.53**	**77**	*e*Pn	**Pn**	**20 32 36.1**	**-0.6**
HMT				*e*Pn	Pn	20 32 36.5	-0.2
MCK	**McKinley**	**4.59**	**24**	*e*Pn	**Pn**	**20 32 37.6**	**+0.1**
BPAW	**Bear Paw Mtn.**	**4.61**	**12**	*e*Pn	**Pn**	**20 32 37.2**	**-0.6**
NICHA	**Nichawak Mount**	**4.67**	**78**	*e*Pn	**Pn**	**20 32 39.0**	**+0.5**
NICHA				*e*Pn	**Pn**	**20 32 39.0**	**+0.5**
VNHG	**Veniaminof 1**	**4.68**	**226**	*e*Pn	**Pn**	**20 32 39.9**	**+1.0**
HARP	**HAARP**	**4.79**	**51**	*e*Pn	**Pn**	**20 32 40.1**	**-0.2**
BWN	**Browne**	**4.89**	**19**	*e*Pn	**Pn**	**20 32 41.9**	**+0.4**
BWN				*e*Pn	Pn	20 32 42.0	+0.5
PAX	**Paxson**	**5.00**	**45**	*e*Pn	**Pn**	**20 32 42.8**	**-0.4**
TGL	**Tana Glacier**	**5.28**	**73**	*e*Pn	**Pn**	**20 32 46.6**	**-0.3**
MCARA	**McCarthy VSAT**	**5.31**	**66**	*e*Pn	**Pn**	**20 32 47.9**	**+0.6**
WRH	**Wood River Hil**	**5.42**	**24**	*e*Pn	**Pn**	**20 32 47.7**	**-1.0**
GCSA	**Galena City Sc**	**5.43**	**343**	*e*Pn	**Pn**	**20 32 47.6**	**-1.2**
MLY	**Manley**	**5.54**	**11**	*e*Pn	**Pn**	**20 32 49.9**	**-0.5**
BALM	**Baldy**	**5.56**	**71**	*e*Pn	**Pn**	**20 32 50.7**	**0.0**
BALM				*e*Pn	Pn	20 32 51.0	+0.3
HDA	**Harding Lake**	**5.62**	**29**	*e*Pn	**Pn**	**20 32 51.0**

mb1 3.8/9, mb1mx3.5/34, mbtmp3.6/9, ML3.4/1, Error ellipse: s-maj=30.4km s-min=22.1km az=130.0
KRSC ***23*** *20:50:05.1±10.0, 52°.41N×159°.74E, h36km±10km, ML4.2*
ISC 23 20:50:05.9±1.3, 52°.40N±0°.04×159°.63E±0°.05, h32km±9km, n34, σ1°38/45, mb3.5/8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.68**	**273**	*eP*	**Pn**	**20 50 19.8**	**+0.5**
RUS				*eS*	**Sn**	**20 50 30.1**	**+1.3**
SPN	**Mys Shipunski**	**0.74**	**19**	*eP*	**Pb**	**20 50 19.4**	**-0.9**
SPN				*eS*	**Sb**	**20 50 29.8**	**-0.3**
NLC	**Nalytchevo**	**0.79**	**348**	*eP*	**Pb**	**20 50 20.4**	**-0.8**
NLC				*eS*	**Sn**	**20 50 31.4**	**0.0**
DALK	**Dalny**	**0.82**	**320**	*eP*	**Pn**	**20 50 21.4**	**+0.1**
DALK				*eS*	**Sn**	**20 50 33.5**	**+1.2**
PET	**Petropavlovsk**	**0.86**	**317**	*eP*	**Pn**	**20 50 21.9**	**+0.2**
MTVR	**Mutnovka**	**0.89**	**276**	*eP*	**Pn**	**20 50 23.1**	**+0.8**
MTVR				*eS*	**Sn**	**20 50 36.0**	**+1.9**
UGLR	**Uglovaya**	**0.94**	**329**	*eP*	**Pn**	**20 50 23.5**	**+0.5**
UGLR				*eS*	**Sn**	**20 50 37.5**	**+2.0**
GRL	**Gorelyy**	**0.96**	**280**	P	**Pn**	**20 50 24.5**	**+1.2**
SDLR	**Sedlovina**	**0.99**	**333**	*eP*	**Pn**	**20 50 23.7**	**+0.1**
SDLR				*eS*	**Sn**	**20 50 37.4**	**+0.9**
SMAR	**Somma**	**1.00**	**330**	*eP*	**Pn**	**20 50 24.0**	**+0.1**
KRMR	**Karymshinskiy**	**1.01**	**296**	*eP*	**Pn**	**20 50 24.4**	**+0.6**
KRMR				S	**Sn**	**20 50 38.4**	**+1.5**
AVH	**Avacha**	**1.02**	**328**	*eP*	**Pn**	**20 50 24.6**	**+0.6**
AVH				*eS*	**Sn**	**20 50 38.5**	**+1.2**
KOK	**Koryaka**	**1.07**	**326**	*eP*	**Pn**	**20 50 25.3**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.13**	**239**	*eP*	**Pb**	**20 50 26.1**	**-0.7**
KDTR				*eS*	**Sn**	**20 50 41.3**	**+1.6**
KRX	**Arik**	**1.13**	**329**	*eP*	**Pb**	**20 50 26.0**	**-0.9**
PETK	**Petropavlovsk-** 37nm,0.3s,baz=104,slow=18,SNR=350	**1.37**	**302**	Pn	**Pb**	**20 50 29.8**	**-1.1**
PETK				Sn	**Sb**	**20 50 49.2**	**+1.1**
APC	**Apacha**	**1.59**	**290**	*eP*	**Pb**	**20 50 33.9**	**-0.8**
APC				*eS*	**Sb**	**20 50 54.9**	**+0.5**
PAU	**Pauzhetka**	**1.98**	**243**	*eP*	**Pb**	**20 50 39.2**	**-2.0**
PAU				*eS*	**Sb**	**20 51 05.5**	**0.0**
TUMD	**Tumrok D**	**2.84**	**9**	P	**Pn**	**20 50 51.1**	**+2.1**
TUMD				*eS*	**Sn**	**20 51 23.1**	**+0.9**
TUMR	**Tumrok**	**2.90**	**6**	*eP*	**Pn**	**20 50 52.4**	**+2.5**
LGNR	**Loginova**	**3.74**	**9**	*eP*	**Pn**	**20 51 04.7**	**+3.1**
KBTR	**Krutoberegovo**	**4.25**	**25**	*eP*	**Pn**	**20 51 09.7**	**+1.4**
ASAJ	**Asahikawa** 0.2nm,0.3s,baz=94,slow=14,SNR=2.3	**14.02**	**241**	Pn	**Pn**	**20 53 23.6**	**+1.4**
MJAR	**Matsushiro Arr** 1.5nm,0.8s,baz=24,slow=11,SNR=4.7	**21.90**	**232**	P	**P**	**20 54 58.9**	**+2.7**
TIXI	**Tiksi** 1.7nm,0.8s,baz=134,slow=9.4,SNR=6.1	**23.59**	**336**	P	**P**	**20 55 11.5**	**-1.8**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=251,slow=8.2,SNR=4.7	**29.50**	**44**	P	**P**	**20 56 06.2**	**-0.6**
H11N2	**WAKE ISLAND Hy 33.10** baz=352,slow=76,SNR=13	**167**		T	T	21 32 31.8	
H11N3	**WAKE ISLAND Hy 33.11** baz=352,slow=76,SNR=18	**167**		T	T	21 32 29.9	
H11N1	**WAKE ISLAND Hy 33.11** baz=352,slow=76,SNR=8.6	**167**		T	T	21 32 34.6	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=63,slow=7.4,SNR=5.8	**48.20**	**296**	P	**P**	**20 58 41.1**	**-2.0**
FINES	**FINESS Array B** 2.3nm,1.0s,baz=29,slow=6.5,SNR=7.3	**60.64**	**336**	P	**P**	**21 00 11.5**	**-1.6**
NOA	**NORSAR Array B** 0.9nm,0.6s,baz=24,slow=6.6,SNR=3.6	**64.12**	**344**	P	**P**	**21 00 34.7**	**-1.8**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=329,slow=4.4,SNR=3.6	**71.17**	**66**	P	**P**	**21 01 21.6**	**+0.1**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=19,slow=6.1,SNR=4.1	**79.01**	**204**	P	**P**	**21 02 06.6**	**+0.2**

VIE ***23*** *21:03:28.6±0.3, 46°.98N×15°.35E, h6km±10km, mb1.9/8, ml2.5/10, Error ellipse: s-maj=1.9km s-min=1.0km az=119.0, felt 4 ems98 at Lieboch / Styria*
LJU ***23*** *21:03:28.7, 46°.97N×15°.40E, h0km, ML2.1*
PRU ***23*** *21:03:29.4±0.0, 46°.96N×15°.40E, h0km*
ISC 23 21:03:28.9±1.0, 46°.98N±0°.02×15°.39E±0°.02, h6km±10km, n45, σ0°83/75, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg** SNR=196	**0.28**	**18**	*i* Pg	**Pg**	**21 03 34.9**	**+0.4**
ARSA				*i* Sg	**Sg**	**21 03 38.5**	**+0.3**
BISS	**Bistriski jare**	**0.38**	**209**	*i* Pg	**Pg**	**21 03 36.4**	**+0.2**
BISS				*i* Sg	**Sg**	**21 03 41.0**	**-0.2**
SOKA	**Soboth** 30nm,0.0s,SNR=242	**0.39**	**219**	*i* Pg	**Pg**	**21 03 36.7**	**+0.2**
SOKA				*i* Sg	**Sg**	**21 03 41.4**	**-0.3**
PERS	**Pernice** 61nm,0.1s	**0.39**	**209**	*i* Pg	**Pg**	**21 03 36.7**	**+0.1**
PERS				*e*Sg	**Sg**	**21 03 41.0**	**-0.7**
GROS	**Grobnik**	**0.53**	**172**	*i* Pg	**Pg**	**21 03 39.1**	**0.0**
GROS				*i* Sg	**Sg**	**21 03 45.4**	**-0.4**
OBKA	**Obir** 9.4nm,0.2s,SNR=15	**0.75**	**231**	*e*Pg	**Pg**	**21 03 43.2**	**-0.1**
OBKA				Sg	**Sg**	**21 03 52.9**	**-0.1**
KOGS	**Kog** 39nm,0.2s	**0.79**	**132**	*i* Pg	**Pg**	**21 03 44.2**	**+0.1**
KOGS				*i* Sg	**Sg**	**21 03 54.9**	**+0.5**
DOBS	**Dobrina**	**0.83**	**176**	*i* Pg	**Pg**	**21 03 45.0**	**+0.1**
DOBS				*e*Sg	**Sg**	**21 03 55.5**	**-0.2**
MOZS	**Mozjanca**	**0.95**	**224**	*i* Pg	**Pg**	**21 03 46.7**	**-0.4**
PDKS	**Podkum**	**0.96**	**197**	*i* Pg	**Pb**	**21 03 47.5**	**-0.5**
PDKS				*e*Sg	**Sg**	**21 03 59.8**	**+0.1**
GOLS	**Golise**	**0.98**	**171**	*i* Pg	**Pb**	**21 03 48.0**	**-0.4**
GOLS				*e*Sg	**Sg**	**21 04 00.5**	**0.0**
CONA	**Conrad Observa** 4.0nm,0.1s,SNR=34	**1.00**	**18**	*e*Pg	**Pg**	**21 03 48.1**	**0.0**
CONA				*e*Sg	**Sb**	**21 04 02.6**	**+0.4**
VNDS	**Vrh nad Dolski**	**1.00**	**209**	*i* Pg	**Pg**	**21 03 48.1**	**0.0**
CESS	**Cesta pri Krsk**	**1.01**	**177**	*i* Pg	**Pb**	**21 03 48.7**	**-0.2**
CESS				*e*Sg	**Sg**	**21 04 01.4**	**+0.1**
LEGS	**Legarje**	**1.03**	**183**	*i* Pg	**Pb**	**21 03 48.9**	**-0.3**
LEGS				*e*Sg	**Sg**	**21 04 01.7**	**-0.4**
SOP	**Sopron**	**1.06**	**48**	*e*Pg	**Pg**	**21 03 48.1**	**-1.2**
SOP				*e*Sg	**Sb**	**21 04 04.0**	**+0.2**
BEHE	**Becsehely**	**1.08**	**118**	*e*Pn	**Pb**	**21 03 50.1**	**0.0**
BEHE				Sn	**Sn**	**21 04 07.0**	**+1.1**
LJU	**Ljubljana**	**1.11**	**213**	*e*Pg	**Pn**	**21 03 51.8**	**+0.7**
MOA	**Molln** SNR=31	**1.16**	**319**	*e*Pg	**Pb**	**21 03 51.5**	**+0.1**
MOA				Sg	**Sg**	**21 04 06.8**	**+0.6**
GORS	**Gorjuse** 8.8nm,0.2s	**1.17**	**236**	*i* Pg	**Pg**	**21 03 50.9**	**-0.5**
CRNS	**Crni Vrh**	**1.19**	**221**	*i* Pg	**Pg**	**21 03 51.5**	**-0.3**
CRNS				*i* Sg	**Sb**	**21 04 07.3**	**-0.4**
VISS	**Visnje**	**1.24**	**198**	*i* Pg	**Pg**	**21 03 52.4**	**-0.3**
MYKA	**Terra Mystica** 1.3nm,0.1s,SNR=7.0	**1.25**	**254**	*e*Pg	**Pg**	**21 03 52.2**	**-0.7**
MYKA				*e*Sg	**Sg**	**21 04 07.7**	**-1.5**
CADS	**Cadrg** 12nm,0.2s	**1.37**	**237**	*i* Pg	**Pn**	**21 03 55.0**	**+0.4**
KBA	**Koelnbreinsper** 2.7nm,0.2s,SNR=13	**1.41**	**275**	*e*Pg	**Pg**	**21 03 54.5**	**-1.4**
KBA				*i* Sg	**Sg**	**21 04 13.4**	**-0.7**
CEY	**Cerknica** 3.9nm,0.2s	**1.41**	**209**	*e*Pg	**Pb**	**21 03 56.7**	**+1.0**
GBRS	**Gornja Briga**	**1.50**	**196**	*i* Pg	**Pb**	**21 03 57.4**	**+0.1**
MODS	**Modra-Piesok**	**1.89**	**42**	*e*PG	**Pn**	**21 04 02.5**	**+0.7**
MODS				*e*SG	**Sn**	**21 04 27.7**	**+1.8**
ABTA	**Abfaltersbach** 1.6nm,0.2s	**1.99**	**264**	*e*Pg	**Pb**	**21 04 05.7**	**+0.1**
ABTA				Sg	**Sg**	**21 04 32.1**	**-0.7**
KRUC	**Moravsky** 1.1nm,0.1s	**2.19**	**18**	*e*PN	**Pn**	**21 04 05.7**	**-0.2**
KRUC				*e*SG	**Sb**	**21 04 36.3**	**0.0**
TREC	**Trest**	**2.32**	**2**	*e*PG	**Pb**	**21 04 11.0**	**-0.1**
TREC				*e*SG	**Sg**	**21 04 43.1**	**-0.2**
VRAC	**Vranov** comp=Z,7.0nm,0.6s	**2.46**	**19**	*e*PN	**Pn**	**21 04 09.5**	**-0.2**
VRAC				*e*SG	**Sb**	**21 04 44.7**	**+0.4**
KHC	**Kasperske Hory**	**2.47**	**331**	*e*PG	**Pb**	**21 04 13.5**	**-0.3**
KHC				*e*SG	**Sg**	**21 04 48.1**	**-0.2**
WTTA	**Wattenberg** comp=Z,7.2nm,0.7s 3.6nm,0.2s	**2.58**	**278**	*i* Pg	**Pg**	**21 04 17.2**	**-1.2**
WTTA				*i* Sg	**Sg**	**21 04 53.7**	**+1.9**
VYHS	**Vyhne** 4.2nm,0.5s	**2.77**	**56**	*e*PN	**Pn**	**21 04 13.0**	**-0.9**
VYHS				*e*SN	**Sn**	**21 04 44.7**	**-3.0**
SQTA	**Sankt Quirin** 3.2nm,0.3s	**2.87**	**276**	Pg	**Pb**	**21 04 21.7**	**+1.1**
SQTA				Sg	**Sg**	**21 05 03.6**	**+2.6**
GOPC	**GO Pecny, Ondr** comp=Z,9.5nm,0.6s	**2.96**	**352**	*e*PG	**Pb**	**21 04 23.3**	**+1.1**
GOPC				*e*SG	**Sg**	**21 05 05.0**	**+0.9**
PRU	**Pruhonice** comp=Z,29nm,1.1s	**3.06**	**350**	*e*PG	**Pb**	**21 04 24.9**	**+1.1**
PRU				*e*SG	**Sg**	**21 05 07.1**	**-0.2**
KRLC	**Kraliky** comp=Z,3.0nm,0.4s	**3.23**	**16**	*e*SG	**Sg**	**21 05 13.4**	**+0.7**
DPC	**Dobruska-Polom** comp=Z,6.5nm,0.8s	**3.43**	**10**	*e*SG	**Sg**	**21 05 18.2**	**-0.8**
UPC	**Upice** comp=Z,6.5nm,0.8s	**3.55**	**6**	*e*SG	**Sg**	**21 05 22.9**	**-0.1**
PVCC	**Panska Ves** comp=Z,12nm,0.6s	**3.59**	**352**	*e*SG	**Sg**	**21 05 24.5**	**+0.3**
NKC	**Novy Kostel** comp=Z,8.4nm,0.5s	**3.80**	**330**	*e*SG	**Sg**	**21 05 30.4**	**-0.4**
BRG	**Berggiesshubel** 4.9nm,0.5s	**4.01**	**347**	SG	**Sg**	**21 05 37.4**	**-0.3**
CLL	**Collm** comp=Z,10.0nm,0.9s	**4.61**	**341**	*e*Sg	**Sg**	**21 05 55.0**	**-1.8**

WEL 23 21:03:50.7±2.0, 35°.S±20°×18°.0E±2°.6, h203km±27km, ML4.0/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.12**	**201**	P	Pn	21 04 40.5	-1.3
MXZ				S	S	21 05 22.5	+1.1
WMGZ	**Waiomatatini S**	**3.33**	**198**	P	Pn	21 04 43.8	-0.6
WMGZ				S	S	21 05 27.3	+1.4
HAZ	**Te Kaha**	**3.47**	**206**	P	Pn	21 04 46.5	+0.5
PKGZ	**Pakihiroa**	**3.49**	**202**	P	Pn	21 04 46.5	+0.2
PUZ	**Puketiti**	**3.61**	**199**	P	Pn	21 04 47.6	-0.2
PUZ				S	S	21 05 32.3	+0.3
RUGZ	**Raukumara Rang**	**3.70**	**206**	P	Pn	21 04 49.3	+0.5
TWGZ	**Tauwhareparae**	**3.79**	**201**	P	Pn	21 04 49.5	-0.4
KUZ	**Kuaotunu**	**3.87**	**236**	P	Pn	21 04 50.8	-0.1
CNGZ	**Carnagh Statio**	**4.01**	**197**	P	Pn	21 04 53.0	+0.4
MWZ	**Matawai**	**4.08**	**205**	P	Pn	21 04 53.3	-0.2
URZ	**Urewera**	**4.17**	**210**	P	Pn	21 04 54.2	-0.4
RAGZ	**Rawiri**	**4.26**	**205**	P	Pn	21 04 56.2	+0.4
RIGZ	**Rimuhau**	**4.34**	**201**	P	Pn	21 04 57.1	+0.3
MUGZ	**Murupara**	**4.50**	**211**	P	Pn	21 04 59.3	+0.6
PRGZ	**Paritu Road**	**4.51**	**199**	P	Pn	21 04 59.3	+0.4
SNGZ	**Shannon Statio**	**4.54**	**204**	P	Pn	21 05 00.3	+0.9
KNZ	**Kokohu**	**4.66**	**200**	P	Pn	21 05 00.5	-0.2
MTHZ	**Maungataniwha**	**4.79**	**208**	P	Pn	21 05 02.6	+0.1
ARHZ	**Aropaoanui**	**5.09**	**205**	P	Pn	21 05 06.3	0.0
BKZ	**Black Stump Fm**	**5.20**	**209**	P	Pn	21 05 07.7	+0.1
KWHZ	**Kaweka Forest**	**5.45**	**208**	P	Pn	21 05 10.6	-0.2
KAHZ	**Kahuranaki**	**5.61**	**203**	P	Pn	21 05 12.8	-0.2
TSZ	**Takapari Road**	**6.17**	**208**	P	Pn	21 05 18.9	-1.3

ISCJB ***23*** *21:07:40.6±0.8, 20°.55S±0°.02×175°.83W±0°.02, h110km±7km, mb5.8/256, Error ellipse: s-maj=4.1km s-min=2.9km az=149.6*
NEIC ***23*** *21:07:40.0±0.0, 20°.96S×174°.56W, h160km, Moment Tensor Solution. s26 Moment tensor: Scale 10^{18}Nm; M_{rr}-3.38; $M_{\theta\theta}$0.85; $M_{\phi\phi}$2.52; $M_{r\theta}$-0.50; $M_{\theta\phi}$1.13; $M_{\phi r}$-1.63; Best double couple: $M_0$3.70000×10^{18} NP1:ϕ_s22.00000°, δ59.00000°, λ-94.00000°. NP2:ϕ_s210.00000°, δ31.00000°, λ-83.00000°. Principal axes: T 3.5000, Plg13.0000°, Azm115.0000°; N 0.3000, Plg3.0000°, Azm24.0000°; P -3.8000, Plg75.0000°, Azm280.0000°;*
MOS ***23*** *21:07:42.2±0.9, 20°.49S×175°.83W, h121km, mb5.7/42, MS5.2/5 Error ellipse: s-maj=7.2km s-min=6.7km az=93.2*
IDC ***23*** *21:07:43.9±1.0, 20°.53S×175°.79W, h127km±8km, mb5.5/42, mb1 5.5/44, mb1mx5.5/45, mbtmp5.8/44, MS5.1/30, Ms1 5.1/30, ms1mx4.9/43, Error ellipse: s-maj=9.2km s-min=8.4km az=16.0*
BJI ***23*** *21:07:44.0±0.0, 20°.51S×175°.73W, h145km, mb5.8/68, mB6.2/72*
NEIC ***23*** *21:07:46.5±0.1, 20°.58S×175°.76W, h150km, mb5.7/172, MW6.3, MW6.3, Error ellipse: s-maj=5.7km s-min=4.0km az=145.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.40; $M_{\theta\theta}$-0.50; $M_{\phi\phi}$0.90; $M_{r\theta}$-0.64; $M_{\theta\phi}$0.88; $M_{\phi r}$-2.81; Best double couple: $M_0$3.10000×10^{18} NP1:ϕ_s10.00000°, δ83.00000°, λ-101.00000°. NP2: ϕ_s246.00000°, δ13.00000°, λ-35.00000°. Principal axes: T 3.4300, Plg37.0000°, Azm109.0000°; N -0.8000, Plg11.0000°, Azm11.0000°; P -2.6300, Plg51.0000°, Azm268.0000°;*
NEIC Felt at Vaini. Broadband depth 150 km.
GCMT ***23*** *21:07:50.5±0.2, 20°.67S±0°.02×175°.29W±0°.01, h160km±2km, MW6.3/134, Moment Tensor Solution. s59,c75; s134,c270; Duration: 3s4 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.41±.08; $M_{\theta\theta}$0.69±.07; $M_{\phi\phi}$-0.27±.08; $M_{r\theta}$-0.81±.06; $M_{\theta\phi}$0.86±.07; $M_{\phi r}$-2.99±.05; Best double couple: $M_0$3.26700×10^{18} NP1:ϕ_s17.00000°, δ87.00000°, λ-108.00000°. NP2:ϕ_s277.00000°, δ18.00000°, λ-11.00000°. Principal axes: T 3.2010, Plg39.0000°, Azm123.0000°; N 0.1330, Plg18.0000°, Azm18.0000°; P -3.3330, Plg46.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 23 21:07:46.1±0.3, 20°.62S±0°.03×175°.76W±0°.04, h152km±1km, h152km:pP-P, n1394, σ1°52/1552, mb5.7/261, 87C-112D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.70**	**75**	*e*Pn	Pn	21 09 02.7	-6.1
NIUE	**Niue** baz=5.4	**5.70**	**75**	P	Pn	21 09 02.4	-6.4
RIZ	**Raoul Island**	**8.81**	**193**	P	**Pn**	**21 09 49.1**	**-1.1**
RIZ				S	**Sn**	**21 11 25.6**	**-2.4**
RAO	**Raoul Island**	**8.81**	**192**	*e*Pn	**Pn**	**21 09 48.2**	**-1.9**
RAO	**Raoul Island**	**8.81**	**192**	*e*P	**Pn**	**21 09 48.3**	**-1.9**
GLKZ	**Green Lake**	**8.82**	**192**	P	**Pn**	**21 09 49.3**	**-1.0**
GLKZ				S	**Sn**	**21 11 24.1**	**-4.3**
FUNA	**Funafuti**	**12.98**	**337**	*e*Pn	**Pn**	**21 10 45.8**	**+0.8**
RAR	**Rarotonga** 18nm,0.3s,baz=252,slow=7.5,SNR=34	**14.95**	**95**	P	**Pn**	**21 11 07.8**	**-2.0**
RAR				S	Sn	21 13 43.7	-12
MARNC	**Mare, Loyalty**	**15.16**	**264**	*e*P	**P**	**21 11 15.9**	**+1.9**
PINNC	**Pines Island,**	**15.75**	**260**	*e*Pn	**P**	**21 11 24.0**	**+3.6**
OUENC	**Ouen Island, N**	**16.29**	**261**	*e*Pn	**P**	**21 11 30.2**	**+3.7**
ONTNC	**Ouen Toro**	**16.65**	**261**	*e*P	**Pn**	**21 11 34.4**	**+3.7**
DZM	**Mont Dzumac** 5μm,1.0s	**16.65**	**262**	*e*P	**Pn**	**21 11 34.7**	**+4.0**
DZM				*e*LQ	LQ	21 14 51.0	
DZM	16μm,20.1s			*e*LR	LR	21 15 23.7	
DZM	**Mont Dzumac** 3μm,1.1s	**16.65**	**262**	*e*P	**Pn**	**21 11 35.0**	**+4.2**
DZM				*e*PcP	**PcP**	**21 16 06.4**	**-4.9**
DZM	**Mont Dzumac** 43nm,0.3s,baz=99,slow=12,SNR=431	**16.65**	**262**	P	**Pn**	**21 11 34.7**	**+4.0**
DZM				LR	LR	21 16 06.4	
OUZ	**Omahuta** 292nm,0.8s	**17.30**	**211**	*e*P	**Pn**	**21 11 39.3**	**+1.0**
OUZ	**Omahuta**	**17.30**	**211**	P	**Pn**	**21 11 39.1**	**+0.7**
GRZ	**Great Barrier**	**17.36**	**204**	P	**Pn**	**21 11 39.2**	**+0.1**
WCZ	**Waipu Caves**	**17.55**	**208**	P	**Pn**	**21 11 41.8**	**+0.4**
MXZ	**Matakaoa Point** 326nm,0.5s	**17.65**	**196**	*e*P	**Pn**	**21 11 42.9**	**+0.4**
MXZ	**Matakaoa Point**	**17.65**	**196**	P	**P**	**21 11 40.1**	**-1.2**
KUZ	**Kuaotunu**	**17.70**	**203**	P	**Pn**	**21 11 42.7**	**-0.5**
WMGZ	**Waiomatatini S**	**17.87**	**195**	P	**P**	**21 11 43.6**	**0.0**
WIZ	**White Island**	**17.92**	**198**	P	**Pn**	**21 11 46.0**	**+0.2**
WIAZ	**Waiheke Island**	**17.97**	**204**	P	**Pn**	**21 11 46.6**	**+0.3**
HAZ	**Te Kaha**	**17.97**	**197**	P	**Pn**	**21 11 45.5**	**-0.8**
PKGZ	**Pakihiroa**	**18.02**	**196**	P	**Pn**	**21 11 46.2**	**-0.7**
PUZ	**Puketiti**	**18.14**	**195**	P	**P**	**21 11 45.5**	**-1.2**
KNTN	**Kanton** 691nm,1.3s	**18.17**	**13**	*e*P	**P**	**21 11 46.1**	**-1.1**
MKAZ	**Moumakai**	**18.23**	**204**	P	**Pn**	**21 11 49.4**	**0.0**
WHRZ	**Whale Island**	**18.29**	**199**	P	**Pn**	**21 11 49.9**	**-0.2**
WHRZ				S	**S**	**21 15 00.2**	**-9.4**
WTAZ	**Waiatarua**	**18.31**	**205**	P	**Pn**	**21 11 49.9**	**-0.5**
TGRZ	**Tauranga**	**18.40**	**200**	P	**Pn**	**21 11 51.7**	**+0.3**
OPRZ	**Ohinepanea**	**18.41**	**200**	P	**Pn**	**21 11 51.3**	**-0.3**
MARZ	**Manawahe**	**18.50**	**199**	P	**P**	**21 11 51.0**	**+0.3**
CNGZ	**Carnagh Statio**	**18.55**	**195**	P	**Pn**	**21 11 52.3**	**-0.8**
MWZ	**Matawai**	**18.58**	**197**	P	**P**	**21 11 51.3**	**-0.2**
EDRZ	**Edgecumbe**	**18.59**	**199**	P	**P**	**21 11 52.4**	**+0.7**
TKGZ	**Te Karaka**	**18.59**	**196**	P	**P**	**21 11 52.0**	**+0.4**
TKGZ				S	S	21 14 59.4	-16
LIRZ	**Lichensteins R**	**18.61**	**200**	P	**Pn**	**21 11 53.0**	**-0.9**
KMRZ	**Kaimai**	**18.61**	**201**	P	**Pn**	**21 11 53.7**	**-0.3**
URZ	**Urewera** 1μm,0.9s	**18.63**	**198**	*e*P	**P**	**21 11 50.5**	**-1.5**
URZ	**Urewera** 135nm,0.3s,baz=6.4,slow=4.5,SNR=227	**18.63**	**198**	P	**P**	**21 11 51.4**	**-0.5**
URZ				S	S	21 15 04.9	-11
URZ	19nm,0.3s,baz=146,slow=20,SNR=8.2			LR	LR	21 17 34.8	
URZ	**Urewera** comp=Z,4μm,18.9s,baz=18,slow=32	**18.63**	**198**	P	**P**	**21 11 50.5**	**-1.5**
URZ				S	S	21 15 03.5	-13
TOZ	**Tahuroa Road**	**18.66**	**202**	P	**Pn**	**21 11 54.0**	**-0.5**
KARZ	**Kaharoa**	**18.67**	**200**	P	**Pn**	**21 11 55.0**	**+0.4**
MKRZ	**Makatiti**	**18.71**	**199**	P	**Pn**	**21 11 55.1**	**0.0**
OMRZ	**Omania**	**18.71**	**200**	P	**Pn**	**21 11 54.5**	**-0.6**
NGRZ	**Ngongotaha**	**18.76**	**200**	P	**Pn**	**21 11 55.2**	**-0.6**
RAGZ	**Rawiri**	**18.76**	**197**	P	**P**	**21 11 54.5**	**+0.9**
RAGZ				S	S	21 15 05.5	-14
TARZ	**Mount Tarawera**	**18.79**	**199**	P	**Pn**	**21 11 55.0**	**-1.0**
TARZ				S	**S**	**21 15 14.5**	**-5.1**
UTU	**Utuhina**	**18.83**	**200**	P	**Pn**	**21 11 57.5**	**+1.0**
HLRZ	**Highlands Stat**	**18.85**	**200**	P	**Pn**	**21 11 56.4**	**-0.3**
RIGZ	**Rimuhau**	**18.87**	**196**	P	**P**	**21 11 54.8**	**+0.2**
RRRZ	**Republican Roa**	**18.88**	**199**	P	**Pn**	**21 11 56.5**	**-0.5**
MUGZ	**Murupara**	**18.93**	**198**	P	**P**	**21 11 53.8**	**-1.5**
HSRZ	**Hossack Road**	**18.94**	**200**	P	**Pn**	**21 11 56.6**	**-1.1**
HRRZ	**Handcock Road**	**19.00**	**200**	P	**Pn**	**21 11 57.6**	**-0.9**
RTZ	**Ruatahuna**	**19.00**	**198**	P	**P**	**21 11 55.7**	**-0.3**
GRRZ	**Galatos Road**	**19.01**	**200**	P	**Pn**	**21 11 58.4**	**-0.2**
PRGZ	**Paritu Road**	**19.04**	**195**	P	**Pn**	**21 11 58.7**	**-0.2**
SNGZ	**Shannon Statio**	**19.05**	**197**	P	**P**	**21 11 57.5**	**+0.8**
ALRZ	**Allen Road**	**19.14**	**199**	P	**P**	**21 11 58.4**	**+0.9**
WPRZ	**Whakapapatarin**	**19.15**	**200**	P	**Pn**	**21 11 59.4**	**-0.8**
TLZ	**Tolley Road**	**19.18**	**201**	P	**P**	**21 11 58.9**	**+0.9**
KNZ	**Kokohu**	**19.19**	**196**	P	**Pn**	**21 11 59.6**	**-1.0**
KUTZ	**Kaahu Road**	**19.23**	**200**	P	**Pn**	**21 12 01.4**	**+0.2**
RAHZ	**Arahi**	**19.25**	**197**	P	**P**	**21 11 58.9**	**+0.2**
MHGZ	**Mahia Peninsul**	**19.25**	**195**	P	**P**	**21 11 59.6**	**+0.9**
MTHZ	**Maungataniwha**	**19.26**	**198**	P	**P**	**21 11 57.9**	**-0.9**
WHTZ	**Whakaora**	**19.35**	**200**	P	**Pn**	**21 12 04.0**	**+1.4**
WHHZ	**Waihua**	**19.36**	**197**	P	**P**	**21 12 00.6**	**+0.7**
MRHZ	**Matea Rd**	**19.36**	**199**	P	**P**	**21 11 58.5**	**-1.5**
WATZ	**Wairara**	**19.46**	**200**	P	**P**	**21 12 01.8**	**+0.7**
NMHZ	**Naumai**	**19.49**	**198**	P	**Pn**	**21 12 02.9**	**-1.4**
HIZ	**Hauiti** 2μm,0.6s	**19.59**	**202**	*e*P	**P**	**21 12 03.5**	**+1.1**
HIZ	**Hauiti**	**19.59**	**202**	P	**Pn**	**21 12 03.8**	**-1.5**
RATZ	**Rangitukua**	**19.59**	**200**	P	**P**	**21 12 02.5**	**0.0**
ARHZ	**Aropaoanui**	**19.59**	**197**	P	**P**	**21 12 02.4**	**-0.1**
BKZ	**Black Stump Fm** 275nm,0.6s	**19.65**	**198**	*e*P	**P**	**21 12 01.3**	**-1.8**
BKZ	**Black Stump Fm**	**19.65**	**198**	P	**P**	**21 12 00.5**	**-2.6**
KATZ	**Kakaramea**	**19.72**	**200**	P	**P**	**21 12 04.6**	**+0.7**
KRVZ	**Karewarewa**	**19.84**	**200**	P	**P**	**21 12 04.8**	**-0.5**
MCHZ	**McNeill Hill**	**19.85**	**197**	P	**P**	**21 12 04.2**	**-1.0**
WTVZ	**West Tongariro**	**19.88**	**200**	P	**P**	**21 12 04.9**	**-0.7**
TWVZ	**Taurewa**	**19.89**	**201**	P	**P**	**21 12 04.9**	**-0.8**
KWHZ	**Kaweka Forest**	**19.91**	**198**	P	**P**	**21 12 03.9**	**-2.0**
NGZ	**Ngauruhoe**	**19.93**	**200**	P	**P**	**21 12 05.4**	**-0.8**
CKHZ	**Cape Kidnapper**	**19.94**	**196**	P	**P**	**

comp=Z,2μm,1.0s
CNB Canberra Magne 33.91 237 P P 21 14 15.3 +0.5
baz=34,SNR=54
CAN Canberra 34.20 237 eP P 21 14 16.6 -0.6
comp=Z,116nm,0.7s
CAN Canberra 34.20 237 eP P 21 14 16.6 -0.6
CAN pmax pmax
comp=Z,116nm,0.7s
YNG Young 34.41 239 P P 21 14 19.2 +0.1
baz=35,SNR=23
MILA Mila 34.59 234 P P 21 14 20.7 +0.1
baz=35,SNR=43
RABL Rabaul 35.22 293 eP P 21 14 25.9 -0.2
comp=Z,595nm,1.4s
RABL ePcP PcP 21 16 56.7 +2.9
CTA Charters Tower 35.57 264 P P 21 14 29.8 +0.7
comp=Z,251nm,0.5s,baz=92,slow=11,SNR=143
CTA ScP ScP 21 20 29.9 +3.2
comp=Z,44nm,1.2s,baz=99,slow=5.2,SNR=4.7
CTA LR LR 21 26 50.2
comp=Z,8μm,20.5s,baz=96,slow=32
CTAO Charters Tower 35.57 264 eP P 21 14 29.5 +0.4
comp=Z,1μm,1.4s
CTAO Charters Tower 35.57 264 eP P 21 14 29.5 +0.4
CTAO pmax pmax
comp=Z,1μm,1.4s
CMSA Cobar Meteorol 36.12 245 P P 21 14 33.7 +0.1
baz=36,SNR=963
TAOE Nuku Hiva Isla 36.28 77⇑ iP P 21 14 34.4 -0.9
comp=Z,281nm,0.8s
TAOE eLQ LQ 21 22 54.1
comp=Z,17μm,25.7s
TAOE eLR LR 21 24 23.3
comp=Z,7μm,22.7s
TAOE Nuku Hiva Isla 36.28 77 eT T 21 51 06.4
comp=Z,131nm,0.2s
TAOE Nuku Hiva Isla 36.28 77 eP P 21 14 34.8 -0.5
comp=Z,218nm,0.9s
PATS Pohnpei 37.34 314 P P 21 14 44.9 +0.9
baz=38,SNR=16
PMG Port Moresby 37.42 282 eP P 21 14 45.0 +0.2
PMG e 21 14 45.4
PMG ePcP PcP 21 17 01.2 +0.8
PMG eScP ScP 21 20 36.9 +3.3
PMG Port Moresby 37.42 282 d iP P 21 14 45.3 +0.5
PMG pmax pmax
comp=Z,6μm,1.5s
PMG Port Moresby 37.42 282 P P 21 14 45.5 +0.6
comp=Z,778nm,1.1s,baz=92,slow=5.4,SNR=118
PMG PcP PcP 21 17 01.2 +0.8
comp=Z,47nm,0.9s,baz=33,slow=13,SNR=2.4
PMG ScP ScP 21 20 36.9 +3.3
comp=Z,39nm,1.0s,baz=135,slow=2.9,SNR=5.1
PMG LR LR 21 27 37.0
comp=Z,10μm,20.0s,baz=118,slow=32
TOO Toolangi 37.53 235 P P 21 14 45.5 0.0
baz=38,SNR=163
JOHN Johnston Islan 37.62 10 eP P 21 14 46.6 +0.2
comp=Z,304nm,1.1s
RKT Rikitea 37.84 101⇑ iP P 21 14 47.9 -0.4
comp=Z,446nm,1.0s
RKT Rikitea 37.84 101 eT T 21 54 05.3
comp=Z,51nm,0.3s
MOO Moorlands 37.93 227 P P 21 14 48.9 +0.2
baz=38,SNR=10
TAU Tasmania Unive 38.03 226 eP P 21 14 49.8 +0.3
comp=Z,86nm,0.7s
TAU Tasmania Unive 38.03 226 eP P 21 14 49.8 +0.3
TAU pmax pmax
comp=Z,87nm,0.7s
STKA Stephens Creek 39.63 245 P P 21 15 03.2 +0.1
baz=40,SNR=370
STKA Stephens Creek 39.63 245 P P 21 15 03.1 +0.1
comp=Z,178nm,0.6s,baz=92,slow=9.8,SNR=452
STKA PcP PcP 21 17 08.9 +1.7
comp=Z,24nm,0.5s,baz=78,slow=5.8,SNR=3.6
STKA LR LR 21 28 25.1
comp=Z,5μm,20.7s,baz=84,slow=31
COEN Coen 39.69 273 P P 21 15 04.6 +0.8
baz=40,SNR=140
ARPS Mount Arapiles 40.18 237 P P 21 15 07.1 -0.4
baz=40,SNR=68
MANU Manus Island 40.43 292 eP P 21 15 10.6 +0.8
comp=Z,2μm,1.7s
QIS Mount Isa 41.69 262 P P 21 15 19.4 -0.7
baz=42,SNR=20
HTT Hallett 42.03 243 P P 21 15 22.2 -0.6
baz=42,SNR=158
H11S2 WAKE ISLAND Hy 42.51 335 P P 21 15 26.0 -0.4
baz=185,slow=5.8,SNR=8.1
H11S3 WAKE ISLAND Hy 42.52 335 P P 21 15 25.1 -1.4
baz=185,slow=5.8,SNR=5.1
H11S1 WAKE ISLAND Hy 42.52 335 P P 21 15 28.2 +1.7
baz=185,slow=5.8,SNR=5.7
WAKE Wake Island 43.24 335 eP P 21 15 31.7 -0.8
comp=Z,2μm,1.3s
H11N3 WAKE ISLAND Hy 43.54 336 P P 21 15 34.0 -0.6
baz=178,slow=9.5,SNR=16
H11N1 WAKE ISLAND Hy 43.54 336 P P 21 15 34.0 -0.7
baz=178,slow=9.5,SNR=20
H11N2 WAKE ISLAND Hy 43.56 336 P P 21 15 34.8 +0.1
baz=178,slow=9.5,SNR=18
BBOO Buckleboo 44.38 244 P P 21 15 40.6 -1.0
baz=45,SNR=322
HLP Hilina Pali 44.44 28 eP P 21 15 41.2 -1.0
comp=Z,233nm,1.1s
AIN Ainahou 44.44 28 eP P 21 15 40.8 -1.6
comp=Z,136nm,1.0s
KHLU Kahalu`u 44.45 27 eP P 21 15 41.5 -0.8
comp=Z,155nm,0.7s
PUH Pauahi 44.55 28 eP P 21 15 42.7 -0.4
comp=Z,228nm,1.1s
HUH Hualalai 44.56 27 eP P 21 15 42.5 -0.8
comp=Z,147nm,1.0s
MLH Mauna Loa 44.58 28 eP P 21 15 41.0 -2.5
comp=Z,104nm,0.8s
MLH Mauna Loa 44.58 28 eP P 21 15 41.0 -2.5
MLH pmax pmax
comp=Z,104nm,0.8s
HMH Humu'ula Sheep 44.64 28 eP P 21 15 43.2 -0.7
comp=Z,574nm,1.3s
POHA Pohakuloa 44.75 28 eP P 21 15 44.6 -0.2
comp=Z,151nm,0.8s
KEKH Kekaha 45.15 21 eP P 21 15 47.8 +0.1
comp=Z,138nm,0.9s
HON Honolulu 45.16 24 eP P 21 15 47.5 -0.2
comp=Z,129nm,0.9s
HON Honolulu 45.16 24 eP P 21 15 47.5 -0.2
HON pmax pmax
comp=Z,129nm,0.9s
KIP Kipapa 45.24 24 eP P 21 15 48.1 -0.3
comp=Z,96nm,0.8s
KIP Kipapa 45.24 24 eP P 21 15 48.1 -0.3
KIP pmax pmax
comp=Z,96nm,0.8s
HLK Haleakala 45.34 26 eP P 21 15 48.2 -1.3
comp=Z,580nm,1.7s
KHLH Kahului Airpor 45.39 26 eP P 21 15 49.4 -0.1
comp=Z,470nm,1.7s
OPA Opana 45.49 23 eP P 21 15 49.8 -0.5
comp=Z,247nm,1.7s
OPA Opana 45.49 23 eP P 21 15 49.8 -0.5
OPA pmax pmax
comp=Z,247nm,1.7s
GENI Genyem 46.53 287 P P 21 15 59.5 +0.8
comp=Z,2μm,1.5s,comp=Z,35μm
AS31 Alice Springs 46.53 257 eP P 21 15 57.9 -0.8
comp=Z,54nm,0.8s
AS31 eScP ScP 21 21 13.8 +3.9
ASAR Alice Springs 46.54 257 P P 21 15 58.1 -0.6
comp=Z,204nm,0.9s,baz=104,slow=8.7,SNR=354
ASAR PcP PcP 21 17 31.1 +0.5
comp=Z,91nm,0.7s,baz=102,slow=4.3,SNR=12
ASAR ScP ScP 21 21 13.8 +3.9
comp=Z,32nm,0.8s,baz=99,slow=4.3,SNR=14
ASAR S S 21 22 33.2 -2.8
comp=Z,12nm,0.9s,baz=95,slow=15,SNR=6.9
ASAR LR LR 21 34 24.6
comp=Z,4μm,18.3s,baz=109,slow=34
WRAB Tennant Creek 46.66 262 eP P 21 15 58.7 -1.0
comp=Z,496nm,1.3s
WRAB Tennant Creek 46.66 262 d iP P 21 15 58.6 -1.0
WRAB i *PP pP 21 16 31.1 -1.9
WRAB pmax pmax
comp=Z,171nm,0.9s
KDU Kakadu 50.05 271 P P 21 16 25.1 -0.6
baz=50,SNR=147
FORT Forrest 51.18 247 P P 21 16 32.9 -1.1
baz=51,SNR=146
MTN Manton Dam 51.27 270 P P 21 16 34.3 -0.5
baz=52,SNR=105
WRKA Warakurna 51.45 254 P P 21 16 35.4 -0.8
baz=52,SNR=215
GUMO Guam 51.52 308 eP P 21 16 36.8 +0.3
comp=Z,2μm,1.3s
GUMO Guam 51.52 308 eP P 21 16 36.8 +0.3
GUMO pmax pmax
comp=Z,2μm,1.3s
GUMO Guam 51.52 308 P P 21 16 36.0 -0.5
comp=Z,3μm,1.4s,baz=169,slow=4.2,SNR=49
SAUI Saumlaki 52.60 276 P P 21 16 46.3 +1.6
comp=Z,1μm,1.7s,comp=Z,23μm
KNRA Kununurra 52.75 266 P P 21 16 45.3 -0.4
baz=53,SNR=78
FAKI Fak Fak 53.58 282 eP P 21 16 51.5 -0.3
comp=Z,2μm,1.7s
FAKI Fak Fak 53.58 282 P P 21 16 52.1 +0.2
comp=Z,435nm,1.4s,comp=Z,12μm
FITZ Fitzroy Crossi 55.09 262 eP P 21 17 02.4 -0.3
comp=Z,769nm,1.9s
FITZ Fitzroy Crossi 55.09 262 P P 21 17 02.4 -0.3
baz=55,SNR=94
FITZ Fitzroy Crossi 55.09 262 P P 21 17 02.5 -0.3
comp=Z,27nm,0.6s,baz=131,slow=5.7,SNR=47
FITZ LR LR 21 40 28.6
comp=Z,3μm,18.1s,baz=96,slow=36
BNDI Bandanaira 55.12 279 P P 21 17 03.1 +0.1
comp=Z,1μm,2.0s,comp=Z,22μm
PALU Palau 56.25 294 P P 21 17 11.9 +0.9
baz=56,SNR=69
KMBL Kambalda 56.42 245 P P 21 17 11.1 -1.0
baz=57,SNR=18
SBA Scott Base 57.90 184 eP P 21 17 21.8 +0.2
comp=Z,172nm,1.3s
SBA Scott Base 57.90 184 eP P 21 17 21.8 +0.2
SBA pmax pmax
comp=Z,172nm,1.3s
VNDA Vanda 57.98 186 eP P 21 17 24.3 +2.0
comp=Z,43nm,1.0s
VNDA Vanda 57.98 186 P P 21 17 24.7 +2.5
comp=Z,30nm,0.9s,baz=7.2,slow=7.4,SNR=97
SOEI Soe 58.61 271 eP P 21 17 29.0 +1.3
comp=Z,732nm,0.9s
SOEI Soe 58.61 271 P P 21 17 28.7 +1.0
comp=Z,888nm,1.1s,comp=Z,13μm
BATI Baumata 59.03 270 P P 21 17 31.7 +1.1
comp=Z,360nm,0.6s,baz=187,slow=1.4,SNR=52
TNTI Ternate 59.53 284 eP P 21 17 33.8 -0.1
comp=Z,652nm,1.2s
TNTI Ternate 59.53 284 P P 21 17 34.4 +0.5
comp=Z,508nm,1.2s,comp=Z,11μm
SANI Sanana 59.67 280 P P 21 17 34.3 -0.6
comp=Z,234nm,1.1s,comp=Z,7μm
PSA00 Pilbara Seismi 59.69 256 eP P 21 17 34.1 -0.9
comp=Z,108nm,0.9s
MEEK Meekatharra 59.86 251 P P 21 17 34.8 -1.3
baz=60,SNR=20
KLBR Kellerberrin 59.91 245 P P 21 17 35.5 -0.8
baz=60,SNR=74
NWAO Narrogin (SRO) 60.19 243 eP P 21 17 37.0 -1.2
comp=Z,55nm,0.9s
NWAO Narrogin (SRO) 60.19 243 P P 21 17 37.7 -0.5
baz=60,SNR=19
NWAO Narrogin (SRO) 60.19 243 P P 21 17 37.4 -0.8
comp=Z,32nm,0.7s,baz=115,slow=7.9,SNR=18
RKGY Rocky Gully 60.23 241 P P 21 17 38.4 -0.1
baz=60,SNR=10
RPN Rapa Nui 60.48 110 LR LR 21 37 54.7
comp=Z,3μm,20.4s,baz=237,slow=30
MMRI Maumere 60.86 271 P P 21 17 42.3 -0.7
comp=Z,303nm,0.6s,comp=Z,8μm
BLDU Baliidu 60.92 246 P P 21 17 42.3 -0.9
baz=61,SNR=49
MUN Mundaring 61.17 244 P P 21 17 44.4 -0.4
baz=61,SNR=17
MORW Morawa 61.72 247 P P 21 17 47.8 -0.8
baz=62,SNR=31
KDI Kendari 62.09 277 P P 21 17 52.5 +1.3
comp=Z,97nm,1.9s,comp=Z,4μm
WSI Waingapu 62.35 270 P P 21 17 53.1 +0.1
comp=Z,735nm,0.6s,comp=Z,16μm
SGSI Sangihe 62.42 286 P P 21 17 54.2 +0.8
comp=Z,548nm,0.9s,comp=Z,5μm
H01W1 Cape Leeuwin H 62.51 241 P P 21 17 41.9 -12
baz=105,slow=7.9,SNR=9.1
H01W2 Cape Leeuwin H 62.52 241 P P 21 17 55.1 +1.6
baz=105,slow=7.9,SNR=6.7
H01W3 Cape Leeuwin H 62.52 241 P P 21 17 55.0 +1.5
baz=105,slow=7.9,SNR=8.7
KMSI Cibinong 62.54 282 P P 21 17 54.9 +0.7
comp=Z,191nm,0.8s,comp=Z,3μm
LUWI Luwuk 63.03 280 eP P 21 17 57.4 -0.1
comp=Z,876nm,1.5s
LUWI Luwuk 63.03 280 P P 21 17 58.4 +1.0
comp=Z,325nm,1.2s,comp=Z,10μm
BSSI Bau Bau, Buton 63.31 273 P P 21 17 58.5 -0.9
comp=Z,207nm,1.6s,comp=Z,5μm
DAV Davao City (W) 63.86 289 eP P 21 18 02.1 -0.8
comp=Z,2μm,1.7s
DAV Davao City (W) 63.86 289 ‖ iP P 21 18 02.2 -0.7
DAV Davao City (W) 63.86 289 P P 21 18 02.7 -0.2
SNR=13
DAV Davao City (W) 63.86 289 P P 21 18 02.1 -0.7
comp=Z,193nm,0.4s,baz=24,slow=0.9,SNR=14
BKSI Bulukumba 63.94 274 P P 21 18 02.6 -0.8
comp=Z,44nm,0.8s,comp=Z,2μm
APSI Ampana 64.11 279 P P 21 18 05.4 +0.8
comp=Z,233nm,1.2s,comp=Z,5μm
BNSI Bone 64.27 275 P P 21 18 05.4 -0.2
comp=Z,185nm,1.8s,comp=Z,5μm
MRSI Marisa 64.38 281 P P 21 18 05.6 -0.7
comp=Z,85nm,0.8s,comp=Z,3μm
KAPI Kappang 64.39 274 eP P 21 18 06.0 -0.3
comp=Z,372nm,2.0s
KAPI Kappang 64.39 274 eP P 21 18 06.1 -0.3
KAPI pmax pmax
comp=Z,372nm,2.0s
KAPI Kappang 64.39 274 P P 21 18 06.3 -0.1
SNR=36
KAPI Kappang 64.39 274 P P 21 18 06.1 -0.3
comp=Z,30nm,0.6s,baz=122,slow=4.6,SNR=38
GIRL Giralia 64.54 254 P P 21 18 07.5 +0.3
baz=65,SNR=23
SPSI Sidrap Palu 64.74 275 P P 21 18 07.4 -1.3
comp=Z,31nm,0.7s,comp=Z,2μm
CASY Casey 64.75 205 eP P 21 18 09.0 +1.1
comp=Z,182nm,0.9s
PLAI Plampang 64.98 270 P P 21 18 09.6 -0.6
comp=Z,383nm,1.0s,comp=Z,7μm
TTSI Tana Toraja 65.02 276 P P 21 18 11.8 +1.3
comp=Z,56nm,0.8s,comp=Z,3μm
CTBH Cotabato--PC H 65.10 289 ‖ iP P 21 18 11.1 +0.1
CGP Cagayan de Oro 65.26 290 ‖ eP P 21 18 14.1 +2.1
MPSI Mapaga 66.21 280 P P 21 18 17.6 -0.5
comp=Z,78nm,1.0s,comp=Z,3μm
LLP Lapu-Lapu 66.75 292 ‖ eP P 21 18 19.7 -1.8
SRBI Singaraja 67.61 270 P P 21 18 26.7 -0.3
comp=Z,142nm,1.1s,comp=Z,4μm
SGKI Sangatta, Kali 68.00 278 P P 21 18 30.7 +1.3
JHJ Hachijo jima 2 68.25 321 P P 21 18 29.8 -0.7
comp=Z,283nm,0.3s,baz=145,slow=4.2,SNR=45
SMKI Samarinda 68.40 278 P P 21 18 33.9 +2.0
JAGI Jajag, Banyuwa 68.48 269 P P 21 18 31.4 -1.1
comp=Z,208nm,1.0s,comp=Z,4μm
KMMI Kalianget 69.12 270 P P 21 18 37.7 +1.3
comp=Z,76nm,0.6s,comp=Z,860nm
QSPA South Pole Qui 69.45 180 eP P 21 18 39.3 +1.7
comp=Z,172nm,0.9s
MTKI Muara Teweh, K 70.36 277 P P 21 18 44.3 +0.3
comp=Z,110nm,0.9s
GRJI Gresik 70.56 270 P P 21 18 45.7 +0.5
comp=Z,149nm,0.7s,comp=Z,2μm
PWJI Pagerwojo 70.83 268 P P 21 18 46.2 -0.6
comp=Z,115nm,0.8s,comp=Z,4μm
TGY Tagaytay City 71.13 294 P P 21 18 49.9 +1.3
comp=Z,201nm,0.4s,baz=117,slow=7.4,SNR=9.5
NGJI Ngawi 71.36 269 P P 21 18 53.7 +3.7
comp=Z,165nm,1.1s
MJAR Matsushiro Arr 71.57 322 P P 21 18 50.1 -0.7
comp=Z,60nm,0.5s,baz=158,slow=5.9,SNR=155
MJAR LR LR 21 44 14.1
comp=Z,629nm,21.6s,baz=125,slow=31
MAJO Matsushiro 71.58 322 eP P 21 18 50.4 -0.4
comp=Z,68nm,0.6s
MAJO Matsushiro 71.58 322 d iP P 21 18 50.2 -0.6
MAJO pmax pmax
comp=Z,90nm,1.0s
MAT Matsushiro 71.58 322 P P 21 18 50.3 -0.5
MAT S S 21 27 57.2 -0.5
MJB9 Matsu-Tunnel 71.58 322 eP P 21 18 50.2 -0.6
comp=Z,68nm,0.6s
WOJI Wonogiri, Jawa 71.71 268 P P 21 18 52.3 +0.2
comp=Z,121nm,1.4s,comp=Z,4μm
JOW Kunigami 71.87 309 eP P 21 18 53.4 +0.6
comp=Z,471nm,1.9s
UGM Wanagama 72.06 268 eP P 21 18 55.0 +0.7
comp=Z,810nm,1.9s
KIWB Kanaga Island 72.17 359 eP P 21 18 53.8 -0.2
ADK Adak 72.20 359 eP P 21 18 53.1 -1.0
comp=Z,221nm,0.8s
ADK Adak 72.20 359 eP P 21 18 53.1 -1.0
ADK pmax pmax
comp=Z,221nm,0.8s
SMRI Semarang 72.42 269 eP P 21 18 56.3 -0.1
comp=Z,967nm,2.0s
SMRI Semarang 72.42 269 P P 21 18 58.8 +2.4
comp=Z,114nm,1.0s,comp=Z,6μm
ERM Erimo 72.99 329 d iP P 21 18 59.1 +0.1
ERM pmax pmax
comp=Z,99nm,1.1s
KUR Kuril'sk 73.44 334 d iP P 21 19 01.9 +0.4
KUR i S S 21 28 21.7 +3.3
KUR pmax pmax
comp=E,285nm,1.8s
KUR pmax pmax
comp=Z,883nm,1.8s
KUR pmax pmax
comp=N,244nm,1.5s
KUR pmax pmax
comp=Z,4μm,3.0s
KUR pmax pmax
comp=E,2μm,2.7s
KUR pmax pmax
comp=N,1μm,2.5s
KUR smax smax
comp=Z,935nm,16.0s
KUR smax smax
comp=N,564nm,14.0s
KUR smax smax
comp=E,235nm,11.0s
JNU Nakatsue 73.82 315 eP P 21 19 03.7 -0.5
comp=E,522nm,1.8s
JNU Nakatsue 73.82 315 P P 21 19 03.8 -0.4
comp=E,65nm,0.9s,baz=111,slow=5.0,SNR=43
YOJ Yonaguni jima 74.54 304 eP P 21 19 08.1 -0.4
YOJ ePcP P 21 19 08.3 -0.1
YOJ Yonaguni jima 74.54 304 eP P 21 19 08.1 -0.4
JCJI Jatiwangi 74.64 269 P P 21 19 11.1 +1.8
comp=E,356nm,1.3s,comp=E,8μm
CISI Cisompet, Garu 74.71 268 P P 21 19 09.9 +0.1
comp=E,155nm,0.6s,comp=E,5μm
ASAJ Asahikawa 74.86 330 P P 21 19 10.5 +0.6
comp=E,72nm,0.9s,baz=195,slow=5.9,SNR=32
AKUT Akutan 74.95 6 eP P 21 19 10.3 +0.3
comp=E,215nm,1.5s
LEM Lembang 75.14 268 P P 21 19 12.5 +0.1
comp=E,200nm,0.8s,baz=118,slow=5.6,SNR=33
SKR Severo-Kuril's 75.21 342 eP P 21 19 10.7 -0.9
SKR e*PP pwP 21 19 52.0 +0.7
SKR eS S 21 28 35.1 -2.8
SKR e*SS pS 21 29 24.4 +2.6
SKR pmax pmax
comp=Z,3μm,5.4s
SKR pmax pmax
comp=Z,1μm,6.2s
SKR pmax pmax
comp=Z,370nm,1.0s
SKR MLR MLR
comp=Z,600nm,16.0s
SKR MLR MLR
comp=Z,700nm,16.0s
TWG Pinlang 75.23 302 eP P 21 19 10.3 -2.1
comp=Z,573nm,0.6s
NACB Ninganchiao 75.50 303 eP P 21 19 13.0 -0.9
comp=Z,289nm,0.5s
SNCC San Nicolas Is 75.81 46 P P 21 19 16.0 +0.5
baz=233
SSLB Suanglung 75.81 302 eP P 21 19 14.2 -1.6
comp=Z,128nm,0.5s
FALS False Pass 75.91 7 eP P 21 19 13.8 -1.7
comp=Z,52nm,0.8s
TATO Taipei 75.99 304 eP P 21 19 16.2 -0.5
comp=Z,386nm,1.1s
SKJI Sukabumi 76.07 268 P P 21 19 18.3 +0.8
comp=Z,262nm,0.7s,comp=Z,4μm
SCZ2 Santa Cruz Isl 76.18 45 P P 21 19 18.2 +0.5
baz=233
SCI2 San Clemente I 76.31 47 P P 21 19 19.1 +0.8
baz=234
SBC Santa Barbara 76.39 45 P P 21 19 19.9 +1.1
baz=233
TPI Tanjungpandan 76.49 272 P P 21 19 19.8 0.0
comp=Z,111nm,1.2s,comp=Z,4μm
PKM Mcpherson Peak 76.59 44 P P 21 19 21.4 +1.2
baz=233
BLG Laguna Peak, P 76.62 45 P P 21 19 21.1 +0.9
baz=234
PET Petropavlovsk 76.63 344 eP P 21 19 20.1 +0.5
comp=Z,234nm,1.5s
PET Petropavlovsk 76.63 344 ‖ iP P 21 19 19.4 -0.3
PET i S S 21 28 52.2 -1.2
PET i *SS sS 21 29 54.6 -1.9
PET pmax pmax
comp=Z,3μm,3.8s
PET pmax pmax
comp=Z,165nm,1.8s
PET pmax pmax
comp=Z,2μm,14.8s
CIS Catalina Islan 76.64 46 P P 21 19 21.3 +1.0
baz=234
SAO San Andreas Ge 76.69 42 eP P 21 19 21.2 +0.7
comp=Z,131nm,1.1s
SMMC Simmler 76.73 44 P P 21 19 22.3 +1.5
baz=233
SBJI Serang 76.77 268 P P 21 19 22.1 +0.7
comp=Z,426nm,1.6s,comp=Z,8μm
FMP Fort Macarthur 76.91 46 P P 21 19 22.6 +0.9
baz=234
PEA0B Petropavlovsk- 76.95 344 eP P 21 19 21.6 +0.1
comp=Z,562nm,1.4s
PETK Petropavlovsk- 76.95 344 eP P 21 19 20.9 -0.6
PETK Petropavlovsk- 76.95 344 P P 21 19 21.5 0.0
comp=Z,187nm,0.8s,baz=114,slow=7.5,SNR=154
PETK LR LR 21 50 00.7
comp=Z,760nm,19.5s,baz=171,slow=33
YSS Yuzh-Sakhalins 76.97 332 eP P 21 19 22.6 +0.9
comp=Z,906nm,1.5s
YSS Yuzh-Sakhalins 76.97 332 k iP P 21 19 22.5 +0.8
YSS e*SP pwP 21 20 02.6 +1.1
YSS i S S 21 28 57.8 +0.5
YSS ePS SKSac 21 29 13.0 -6.6
YSS ePPP PPP 21 29 40.6
YSS pmax pmax
comp=Z,280nm,1.5s
YSS pmax pmax
comp=N,1μm,4.0s
YSS pmax pmax
comp=Z,4μm,4.0s
YSS pmax pmax
comp=E,800nm,2.4s
YSS smax smax
comp=N,3μm,10.0s
YSS smax smax
comp=E,2μm,5.0s
YSS MLR MLR
comp=Z,700nm,16.0s
CGJI Cibinong 77.01 268 P P 21 19 21.4 -1.4
comp=Z,256nm,1.0s,comp=Z,4μm
HOPS Hopland Field 77.11 39 eP P 21 19 23.8 +1.1
comp=Z,98nm,1.1s
OSI Osito Audit: C 77.15 45 P P 21 19 24.2 +1.1
baz=234
GDXM Geysers 77.16 40 eP P 21 19 25.2 +2.1
comp=Z,55nm,1.2s
DECC Green Verdugo 77.20 46 P P 21 19 24.0 +0.6
baz=234
109C Camp Elliot, M 77.25 47 P P 21 19 24.4 +0.8
baz=235
PASC Pasadena Art C 77.25 46 eP P 21 19 23.4 -0.3
comp=Z,92nm,1.3s
KCPM Cahto Peak 77.26 39 eP P 21 19 23.7 0.0
comp=Z,315nm,1.9s
MWC Mount Wilson 77.37 46 eP P 21 19 24.3 -0.2

comp=Z,82nm,1.0s
MWC Mount Wilson 77.37 46 *e*P **P 21 19 24.3 -0.2**
MWC pmax pmax
comp=Z,82nm,1.0s
ARVC Arvin 77.38 45 P **P 21 19 25.4 +1.0**
baz=234
BAR Barrett 77.43 48 *e*P **P 21 19 24.7 0.0**
comp=Z,34nm,1.0s
KMRM Mail Ridge 77.53 38 *e*P **P 21 19 26.3 +1.1**
comp=Z,197nm,1.0s
MURC Murrieta 77.59 47 P **P 21 19 26.3 +0.7**
baz=235,SNR=14
SPIA Saint Paul Isl 77.64 3 *e*P **P 21 19 24.3 -0.9**
comp=Z,576nm,1.2s
VES Vestal, Richgr 77.64 44 P **P 21 19 26.4 +0.6**
baz=233,SNR=17
BFSC Mount Baldy Ra 77.64 46 P **P 21 19 26.6 +0.6**
baz=234,SNR=12
LPIG La Paz 77.67 58 LR LR 21 46 29.9
comp=Z,716nm,19.8s,baz=237,slow=30
MONP2 Monument Peak 77.72 48 P **P 21 19 27.5 +0.9**
baz=236,SNR=35
VOG Valley Oaks Go 77.74 43 P **P 21 19 27.1 +0.9**
baz=233
SLBS Sierra La Lagu 77.76 59 *e*P **P 21 19 27.1 +0.3**
comp=Z,183nm,1.7s
SRIG Santa Rosalia 77.77 55 *e*P **P 21 19 26.5 -0.2**
comp=Z,80nm,0.9s
EDW2 Edwards Air Fo 77.79 45 P **P 21 19 27.6 +0.9**
baz=234,SNR=46
IKP In-Ko-Pah, Jac 77.80 48 P **P 21 19 28.1 +1.3**
baz=236,SNR=18
ISA Isabella, Lake 77.93 44 *e*P **P 21 19 28.6 +1.1**
ISA *e*PcP **P 21 19 28.8 +1.3**
ISA Isabella, Lake 77.93 44 *e*P **P 21 19 28.6 +1.1**
ISA Isabella, Lake 77.93 44 P **P 21 19 28.7 +1.1**
baz=234,SNR=32
KHMM Horse Mountain 77.95 38 *e*P **P 21 19 28.2 +0.7**
comp=Z,72nm,1.0s
O02D Mt. Diablo Mer 78.04 39 P **P 21 19 29.1 +1.2**
baz=230,SNR=21
TJN Taejon 78.10 316 *d i*P **P 21 19 27.8 -0.4**
PFO Pinyon Flats O 78.10 47 *e*P **P 21 19 29.2 +0.7**
comp=Z,64nm,1.0s
PFO Pinyon Flats O 78.10 47 *e*P **P 21 19 29.3 +0.7**
PFO pmax pmax
comp=Z,64nm,1.0s
PFO Pinyon Flats O 78.10 47 P **P 21 19 29.4 +0.9**
baz=235,SNR=11
BBRC Big Bear Solar 78.16 46 P **P 21 19 29.8 +0.8**
baz=235
KNMB Chin-men Tao 78.17 302 *e*P **P 21 19 28.9 0.0**
comp=Z,146nm,0.9s
SWSC Sam W. Stewart 78.18 48 P **P 21 19 29.4 +0.6**
baz=236,SNR=10
QZH Quanzhou 78.25 302 ⇓*i*P **P 21 19 29.5 +0.2**
QZH pP **pwP 21 20 07.5 -1.6**
QZH PP **PP 21 22 25.4 -3.1**
QZH S **S 21 29 10.8 -1.2**
QZH pmax pmax
comp=Z,140nm,0.6s
QZH pmax pmax
comp=Z,3μm,4.7s
QZH LR LR
comp=Z,930nm,23.2s
QZH LR LR
comp=Z,930nm,29.8s
QZH LR LR
comp=Z,1μm,18.0s
KRMB Red Mountain 78.27 37 *e*P **P 21 19 31.6 +2.3**
LRMC Laurel Mtn Rad 78.35 45 P **P 21 19 30.8 +0.9**
baz=234,SNR=7.4
KSRS Korea Array 78.39 317 P **P 21 19 30.6 +0.9**
comp=Z,12nm,0.5s,baz=130,slow=5.7,SNR=56
KSRS LR LR 21 52 27.9
comp=Z,370nm,18.8s,baz=142,slow=34
TEY Ternei 78.43 328 ⇓*e*P **P 21 19 30.3 +0.4**
TEY *e*S **S 21 29 17.1 +4.0**
TEY *e* 21 29 33.6
TEY pmax pmax
comp=E,30nm,1.5s
TEY pmax pmax
comp=N,20nm,1.3s
TEY pmax pmax
comp=Z,80nm,1.6s
TEY pmax pmax
comp=N,800nm,5.0s
TEY pmax pmax
comp=Z,3μm,4.7s
TEY pmax pmax
comp=E,600nm,5.0s
WDC Whiskeytown Da 78.44 39 *e*P **P 21 19 31.0 +0.9**
comp=E,114nm,1.4s
WDC Whiskeytown Da 78.44 39 *e*P **P 21 19 31.0 +0.9**
WDC pmax pmax
comp=Z,115nm,1.4s
RRX Edison Barstow 78.46 46 P **P 21 19 30.9 +0.6**
baz=235
N02D Trinity Center 78.60 38 P **P 21 19 32.4 +1.3**
baz=230,SNR=27
BELC Belle Mtn. Jos 78.64 47 P **P 21 19 32.6 +1.2**
baz=236,SNR=47
CWC Cottonwood Cre 78.65 44 P **P 21 19 32.5 +1.0**
baz=234
O03E Paynes Creek 78.70 39 P **P 21 19 32.0 +0.4**
baz=230,SNR=27
OMMB Old Mammoth Mi 78.76 43 *e*P **P 21 19 32.7 +0.4**
comp=Z,76nm,1.2s
M02C Callahan 78.79 38 P **P 21 19 33.2 +1.2**
baz=230,SNR=24
MPMC Manual Prospec 78.81 45 P **P 21 19 33.5 +1.0**
baz=234,SNR=87
BC3 Big Chuckawall 78.82 48 P **P 21 19 33.7 +1.3**
baz=236,SNR=18
GSC Goldstone, Bar 78.83 46 P **P 21 19 33.2 +0.7**
baz=235,SNR=35
L02E Cave Junction 78.86 37 P **P 21 19 33.7 +1.3**
baz=229
MLAC Mammoth, Mammo 78.87 43 P **P 21 19 33.9 +1.1**
baz=233
DAC Darwin (Calif) 78.87 44 *e*P **P 21 19 35.2 +2.4**
comp=Z,43nm,1.0s
DAC Darwin (Calif) 78.87 44 *e*P **P 21 19 35.2 +2.4**
DAC pmax pmax
comp=Z,43nm,1.0s
HEC Hector,Ludlow 78.88 46 P **P 21 19 33.7 +1.0**
baz=235,SNR=69
TIN Tinemaha, Big 78.92 43 P **P 21 19 34.2 +1.3**
baz=234,SNR=26
GLA Glamis 78.92 48 P **P 21 19 34.3 +1.4**
baz=236,SNR=23
WAKR Walker 79.02 42 *e*P **P 21 19 34.4 +0.9**
comp=Z,104nm,1.0s
K02D Willamette Mer 79.18 36 P **P 21 19 36.2 +2.0**
baz=229,SNR=5.5
PNTR Pine Nut 79.28 41 *e*P **P 21 19 36.1 +1.2**
comp=Z,154nm,0.9s
GMRC Granite Mounta 79.31 47 P **P 21 19 36.1 +1.0**
baz=236,SNR=37
IRM Iron Mountain 79.31 47 P **P 21 19 36.5 +1.4**
baz=236,SNR=31
J01E Myrtle Point 79.34 36 P **P 21 19 35.7 +0.8**
baz=228
SSE Sheshan 79.39 309 P **P 21 19 35.3 -0.1**
SSE sP **sP 21 20 27.8 -0.1**
SSE S **S 21 29 25.3 +1.4**
SSE pmax pmax
comp=Z,950nm,7.5s
SSE LR LR
comp=Z,310nm,19.9s
GRAC Grapevine Rang 79.44 44 P **P 21 19 36.8 +1.1**
baz=234,SNR=8.1
FURC Furnace Creek, 79.46 45 P **P 21 19 37.0 +1.3**
baz=235,SNR=16
TUQ Turquoise Moun 79.50 46 P **P 21 19 37.3 +1.2**
baz=235,SNR=7.0
Y12C Blythe 79.52 48 P **P 21 19 37.0 +0.9**
baz=237,SNR=23
SHOC Shoshone, Teco 79.53 45 P **P 21 19 37.2 +1.1**
baz=235
VLA Vladivostok 79.61 324 *i*P **P 21 19 37.0 +0.7**
VLA pmax pmax
comp=Z,59nm,1.0s
M04C Macdoel 79.62 38 P **P 21 19 37.8 +1.1**
baz=230,SNR=23
L04D Klamath Falls 79.63 37 P **P 21 19 37.7 +1.0**
baz=230,SNR=22

MSHR Mys Shultsa 79.66 323 *d i*P **P 21 19 37.4 +0.8**
NVAR Mina Array Bea 79.69 42 P **P 21 19 38.2 +1.1**
comp=Z,92nm,0.9s,baz=224,slow=8.3,SNR=148
NVAR LR LR 21 46 58.2
comp=Z,1μm,21.4s,baz=258,slow=30
214A Organ Pipe Nat 79.76 50 P **P 21 19 38.6 +1.1**
baz=238,SNR=34
LDFC Landfair 79.85 47 *e*P **P 21 19 40.1 +2.1**
comp=Z,189nm,0.9s
NEE2 Needles Airpor 80.01 47 P **P 21 19 40.1 +1.4**
baz=236,SNR=8.5
I02D Swisshome 80.01 35 P **P 21 19 40.8 +2.3**
baz=228
I03D Drain, OR 80.01 36 P **P 21 19 40.2 +1.7**
baz=229
TYV Tymovskoe 80.03 335 *e*P **P 21 19 39.1 +0.7**
TYV *e*S **S 21 29 29.3 -0.5**
TYV pmax pmax
comp=Z,258nm,0.9s
TYV pmax pmax
comp=Z,4μm,3.4s
TYV smax smax
comp=N,3μm,5.9s
PDMCI Parker Dam,Lak 80.08 48 P **P 21 19 40.4 +1.2**
baz=237,SNR=28
TPNV Topopah Spring 80.14 44 P **P 21 19 40.8 +1.2**
baz=235,SNR=21
DSRI Dabo 80.16 273 P **P 21 19 40.5 +0.5**
comp=N,530nm,1.8s,comp=N,14μm
K04D Chiloquin, OR 80.21 37 P **P 21 19 41.0 +1.3**
baz=230
USRK Ussuriysk Ar. 80.26 325 P **P 21 19 40.6 +0.8**
comp=N,36nm,0.8s,baz=129,slow=2.7,SNR=66
PMSA Palmer Station 80.33 156 *e*P **P 21 19 41.9 +2.0**
comp=N,146nm,1.3s
PMSA Palmer Station 80.33 156 P **P 21 19 41.1 +1.2**
comp=N,68nm,1.1s,baz=272,slow=4.2,SNR=4.9
PMSA LR LR 21 48 32.4
comp=N,1μm,21.6s,baz=230,slow=30
PMSA Palmer Station 80.33 156 *e*P **P 21 19 41.7 +1.7**
MNAI Manna 80.33 269 P **P 21 19 42.8 +1.8**
comp=N,657nm,1.9s,comp=N,10μm
J04D Umpqua Nationa 80.40 37 P **P 21 19 41.9 +1.0**
baz=230,SNR=15
KDAK Kodiak Island 80.47 12 *e*P **P 21 19 40.9 +0.3**
comp=N,154nm,1.1s
KDAK Kodiak Island 80.47 12 *e*P **P 21 19 40.9 +0.3**
KDAK pmax pmax
comp=Z,154nm,1.1s
HKC Hong Kong Obse 80.59 298 ⇑P **P 21 19 43.0 +0.9**
I04A Tendick Farm, 80.59 36 P **P 21 19 42.8 +1.1**
baz=230,SNR=5.8
JMBI JAMBI 80.63 272 P **P 21 19 44.3 +1.8**
comp=Z,792nm,1.5s,comp=Z,12μm
TPRI Tanjung Pinang 80.70 274 P **P 21 19 43.6 +0.7**
comp=Z,136nm,1.7s,comp=Z,4μm
H04D Lebanon 80.89 35 P **P 21 19 44.6 +1.4**
baz=229
J05D Fort Rock, OR 80.92 37 P **P 21 19 44.9 +1.3**
baz=230,SNR=52
G03D McMinnville, O 81.06 35 P **P 21 19 45.9 +1.9**
baz=229
R11A Troy Canyon, C 81.37 44 P **P 21 19 46.8 +0.7**
baz=235,SNR=59
TUC Tucson 81.41 51 *e*P **P 21 19 47.8 +1.4**
comp=Z,71nm,1.0s
TUC Tucson 81.41 51 *e*P **P 21 19 47.8 +1.4**
TUC pmax pmax
comp=Z,71nm,1.0s
TUC Tucson 81.41 51 P **P 21 19 47.9 +1.6**
baz=239
I05D Terrebonne, OR 81.53 36 P **P 21 19 48.0 +1.3**
baz=230,SNR=12
BMN Battle Mountai 81.55 41 *e*P **P 21 19 48.1 +1.1**
comp=Z,88nm,1.3s
BMN Battle Mountai 81.55 41 *e*P **P 21 19 48.1 +1.1**
BMN pmax pmax
comp=Z,88nm,1.3s
NJ2 Nanjing 81.59 309 ⇓*i*P **P 21 19 47.8 +0.7**
NJ2 pP **pP 21 20 23.9 -0.2**
NJ2 sP **sP 21 20 39.3 -0.5**
NJ2 PP **PP 21 22 54.6 -1.5**
NJ2 S **S 21 29 49.4 +2.6**
NJ2 SKS **SKSac 21 29 53.3 +0.5**
NJ2 sS **sS 21 30 53.3 +2.6**
NJ2 SS **SS 21 35 07.6 -0.2**
NJ2 pmax pmax
comp=Z,120nm,0.7s
NJ2 pmax pmax
comp=Z,2μm,10.8s
NJ2 LR LR
comp=Z,510nm,15.7s
NJ2 LR LR
comp=Z,1μm,16.3s
NJ2 LR LR
comp=Z,1μm,19.5s
GZH Guangzhou 81.62 298 ⇓*i*P **P 21 19 48.3 +0.8**
GZH PP **PP 21 22 55.8 -0.7**
GZH S **S 21 29 54.5 +7.0**
GZH pmax pmax
comp=Z,3μm,4.9s
F04D Rainier, OR 81.76 34 P **P 21 19 49.3 +1.5**
baz=229
MDJ Mudanjiang 81.84 324 P **P 21 19 49.3 +1.1**
MDJ PP **PP 21 22 56.4 -1.5**
MDJ S **S 21 29 52.3 +3.4**
MDJ pmax pmax
comp=Z,240nm,1.5s
MDJ pmax pmax
comp=Z,5μm,2.7s
MDJ LR LR
comp=Z,1μm,19.7s
MDJ LR LR
comp=Z,1μm,22.6s
MDJ LR LR
comp=Z,1μm,19.2s
X16A Lo Mia Camp, P 82.03 49 *e*P **P 21 19 50.4 +0.7**
comp=Z,95nm,0.8s
G05D Wamic, OR 82.12 35 P **P 21 19 50.9 +1.2**
baz=230,SNR=6.1
MAW Mawson 82.15 199 P **P 21 19 50.9 +1.4**
baz=82,SNR=29
MAW Mawson 82.15 199 P **P 21 19 50.7 +1.2**
comp=Z,43nm,0.9s,baz=117,slow=6.1,SNR=42
MAW LR LR 21 55 18.4
comp=Z,526nm,18.7s,baz=119,slow=35
GO10 Punta Arenas 82.16 144 *e*P **P 21 19 51.6 +1.6**
comp=Z,160nm,1.0s
GO09 Cerro Castillo 82.19 142 *e*P **P 21 19 50.2 +0.2**
comp=Z,62nm,0.9s
NLWA Neilton Lookou 82.19 33 *e*P **P 21 19 51.5 +1.5**
comp=Z,39nm,0.9s
E04D Cinebar 82.31 34 P **P 21 19 52.3 +1.8**
baz=229,SNR=13
F05D White Salmon 82.46 35 P **P 21 19 52.7 +1.3**
baz=230,SNR=8.5
DIB Dawson Inlet, 82.50 25 *e*P **P 21 19 52.2 +0.8**
comp=Z,105nm,1.4s
U15A North Rim 82.50 47 *e*P **P 21 19 53.6 +1.5**
U15A *e*PcP **P 21 19 53.8 +1.5**
SZCU Shurtz Canyon 82.59 45 *e*P **P 21 19 53.9 +1.3**
comp=Z,97nm,1.0s
GRNR Gornyy 82.60 332 ⇓*i*P **P 21 19 56.5 +4.5**
GRNR pmax pmax
comp=Z,180nm,1.0s
D04E Lakebay 82.61 33 P **P 21 19 53.8 +1.7**
baz=229
WUAZ Wupatki 82.65 48 P **P 21 19 54.4 +1.6**
baz=238
D03D Eldon 82.68 33 P **P 21 19 54.0 +1.5**
baz=229,SNR=8.2
QIZ Qiongzhong 82.83 293 P **P 21 19 53.8 -0.1**
QIZ pmax pmax
comp=Z,2μm,13.5s
QIZ LR LR
comp=Z,1μm,13.2s
QIZ LR LR
comp=Z,2μm,16.7s
QIZ LR LR
comp=Z,2μm,15.2s
USHA Ushuaia 82.86 146 P **P 21 19 55.2 +1.7**
comp=Z,60nm,0.9s,baz=257,slow=5.9,SNR=17
ELK Elko 82.96 42 LR LR 21 52 43.1
comp=Z,655nm,18.1s,baz=228,slow=33
X18A Snowflake 83.14 49 *e*P **P 21 19 56.9 +1.4**
comp=Z,88nm,1.0s
PGC Sidney 83.24 32 *e*P **P 21 19 56.7 +1.4**

SEW Seward 83.25 13 *e*P **P 21 19 54.8 -0.3**
comp=Z,65nm,0.9s
DL2 Dalian 83.28 316 ⇓*i*P **P 21 19 56.3 +0.6**
DL2 PP **PP 21 23 07.1 -2.7**
DL2 SKS **S 21 30 02.5 -1.1**
DL2 S **SKKSac 21 30 11.6 +3.2**
DL2 pmax pmax
comp=Z,68nm,1.2s
DL2 pmax pmax
comp=Z,3μm,5.2s
MID Middleton Isla 83.33 15 *e*P **P 21 19 56.0 +0.6**
comp=Z,257nm,1.4s
MID Middleton Isla 83.33 15 *e*P **P 21 19 56.1 +0.6**
MID pmax pmax
comp=Z,257nm,1.4s
ZAIG Zacatecas 83.38 63 *e*P **P 21 19 57.7 +0.6**
comp=Z,30nm,1.0s
MTPU Mount Pierson 83.44 45 *e*P **P 21 19 58.5 +1.4**
comp=Z,109nm,0.9s
W18A Petrified Fore 83.59 49 *e*P **P 21 19 59.0 +1.2**
comp=Z,197nm,1.4s
W18A Petrified Fore 83.59 49 P **P 21 19 59.1 +1.4**
baz=239
A04D Lummi Island 83.66 32 P **P 21 19 58.9 +1.5**
baz=229,SNR=12
B05A Bryant 83.66 33 P **P 21 19 58.8 +1.3**
baz=229,SNR=20
SNY Shenyang 83.67 319 ⇓P **P 21 19 58.0 +0.3**
SNY S **S 21 30 05.8 -1.6**
SNY sS **sS 21 31 10.9 -1.0**
SNY pmax pmax
comp=Z,180nm,2.2s
SNY pmax pmax
comp=Z,3μm,9.1s
SNY LR LR
comp=Z,2μm,22.8s
SNY LR LR
comp=Z,870nm,19.9s
CN2 Changchun 83.69 321 ⇓*i*P **P 21 19 58.3 +0.5**
CN2 SKS **S 21 30 02.8 -4.9**
CN2 *e*S **SKKSac 21 30 11.5 +0.2**
CN2 SS **SS 21 35 41.4 +2.8**
CN2 pmax pmax
comp=Z,260nm,1.5s
CN2 pmax pmax
comp=Z,3μm,3.0s
KLR Kul'dur 83.72 328 *d i*P **P 21 19 58.7 +0.9**
KLR pmax pmax
comp=Z,62nm,1.4s
KLR Kul'dur 83.72 328 P **P 21 19 58.5 +0.8**
comp=Z,21nm,0.8s,baz=123,slow=4.4,SNR=90
121A Cookes Peak, D 83.72 52 P **P 21 20 00.1 +1.7**
baz=241,SNR=39
BKNI Bangkinang 83.75 273 *e*P **P 21 19 58.5 -0.3**
comp=Z,234nm,1.3s
BKNI Bangkinang 83.75 273 P **P 21 19 58.3 -0.5**
C06D Leavenworth 84.06 34 P **P 21 20 00.2 +0.7**
baz=230
DUG Dugway, Tooele 84.19 43 *e*P **P 21 20 00.9 +0.3**
comp=Z,44nm,1.0s
DUG Dugway, Tooele 84.19 43 *e*P **P 21 20 00.9 +0.3**
DUG pmax pmax
comp=Z,44nm,1.0s
DUG Dugway, Tooele 84.19 43 P **P 21 20 01.2 +0.7**
baz=237
WHN Wuhan 84.22 305 ⇓P **P 21 20 00.9 +0.2**
WHN pP **pwP 21 20 39.4 -1.7**
WHN PP **PP 21 23 14.5 -3.1**
WHN SKS S 21 30 04.1 -9.4
WHN S **SKSac 21 30 07.9 -2.3**
WHN pmax pmax
comp=Z,1μm,2.1s
WHN pmax pmax
comp=Z,5μm,3.8s
WHN LR LR
comp=Z,1μm,14.0s
WHN LR LR
comp=Z,1μm,15.6s
WHN LR LR
comp=Z,12μm,43.2s
BGU Big Grassy Mou 84.45 43 *e*P **P 21 20 02.7 +0.8**
comp=Z,126nm,2.0s
GLI Glacier Island 84.45 14 *e*P **P 21 20 00.9 -0.3**
comp=Z,160nm,1.0s
SIT Sitka 84.47 21 *e*P **P 21 20 02.1 +0.8**
comp=Z,78nm,1.4s
SIT Sitka 84.47 21 *e*P **P 21 20 02.1 +0.8**
SIT pmax pmax
comp=Z,79nm,1.4s
MA2 Magadan 84.48 344 *e*P **P 21 20 01.0 -0.4**
comp=Z,298nm,1.6s
MA2 Magadan 84.48 344 *d i*P **P 21 20 00.9 -0.4**
MA2 pmax pmax
comp=Z,353nm,2.5s
MA2 Magadan 84.48 344 P **P 21 20 00.9 -0.4**
comp=Z,49nm,0.8s,baz=136,slow=7.0,SNR=32
HMT Hamilton 84.63 15 *e*P **P 21 20 02.8 +0.7**
comp=Z,187nm,1.7s
TIA Tai'an 84.92 312 P **P 21 20 04.6 +0.4**
TIA S **S 21 30 14.8 -5.4**
TIA sS **sS 21 31 27.0 +2.4**
TIA pmax pmax
comp=Z,76nm,1.7s
TIA pmax pmax
comp=Z,2μm,7.5s
TIA LR LR
comp=Z,1μm,18.1s
TIA LR LR
comp=Z,960nm,20.6s
TIA LR LR
comp=Z,960nm,42.2s
WRAK Wrangell Islan 85.01 23 *e*P **P 21 20 05.3 +1.2**
comp=Z,82nm,1.3s
HLID Hailey 85.06 40 P **P 21 20 06.1 +1.2**
baz=236
LAZ Ladron 85.10 51 *e*pP pP 21 20 45.6 +2.7
Y22D IRIS PASSCAL I 85.10 51 *e*P **P 21 20 07.2 +2.0**
comp=Z,199nm,1.0s
Y22D IRIS PASSCAL I 85.10 51 P **P 21 20 06.6 +1.3**
baz=241
BMRM Bremner River 85.11 15 *e*P **P 21 20 04.4 -0.2**
comp=Z,6.9nm,0.7s
SRU San Rafael Swe 85.11 45 *e*P **P 21 20 06.0 +0.7**
SRU *e*pP **pP 21 20 45.4 +2.3**
SRU San Rafael Swe 85.11 45 *e*P **P 21 20 06.0 +0.7**
SRU *e**PP **pP 21 20 45.4 +2.3**
MNTX Cornudas Mount 85.12 54 P **P 21 20 06.5 +1.3**
baz=242,SNR=116
BNM Barren Site 85.35 51 *e*pP pP 21 20 46.7 +2.5
TGL Tana Glacier 85.35 16 *e*pP pP 21 20 46.6 +3.4
TX31 Lajitas Ar. Si 85.36 56 *e*P **P 21 20 07.5 +0.9**
comp=Z,117nm,1.3s
TX31 *e*pP **pP 21 20 45.4 +1.2**
TXAR Lajitas Array 85.36 56 P **P 21 20 07.7 +1.1**
comp=Z,50nm,0.9s,baz=217,slow=7.7,SNR=204
TXAR PKKPbc **PKKPbc 21 38 12.0 +0.8**
comp=Z,0.4nm,0.4s,baz=148,slow=2.5,SNR=4.0
TXAR LR LR 21 52 53.7
comp=Z,491nm,19.1s,baz=0.0,slow=32
C09A Chrisman Ranch 85.36 35 *e*pP pP 21 20 44.5 +0.9
MVCO Mesa Verde 85.51 48 *e*pP pP 21 20 47.2 +2.0
comp=Z,36nm,1.0s
MVCO Mesa Verde 85.51 48 P **P 21 20 07.8 +0.4**
baz=240
PV05 Paradox Valley 85.53 47 *e*pP pP 21 20 48.3 +3.0
comp=Z,91nm,1.1s
PV09 Paradox Valley 85.72 46 *e*P **P 21 20 09.7 +1.2**
PV10 Paradox Valley 85.73 46 *e*P **P 21 20 06.4 -2.0**
PV19 Morning Glory 85.73 46 *e*P **P 21 20 10.2 +1.8**
comp=Z,84nm,1.0s
PV17 East Wray Mesa 85.73 46 *e*P **P 21 20 09.4 +1.0**
comp=Z,75nm,0.7s
PV18 Skein Mesa, Pa 85.75 47 *e*P **P 21 20 09.0 +0.5**
comp=Z,65nm,1.1s
JIS Juneau Island 85.75 20 *e*P **P 21 20 08.3 +0.7**
comp=Z,115nm,1.7s
PV16 Nyswonger Mesa 85.78 46 *e*P **P 21 20 10.9 +2.3**
comp=Z,69nm,0.9s
PV23 Carpenter Ridg 85.78 46 *e*P **P 21 20 09.9 +1.2**
comp=Z,88nm,0.9s
PV11 David Mesa, Pa 85.80 47 *e*P **P 21 20 09.1 +0.4**
PV11 *e*pP **pP 21 20 48.3 +1.8**
CAST Castle Rocks 85.80 10 *e*pP pP 21 20 45.1 -0.1
comp=Z,117nm,1.1s
BESE Bessie Mountai 85.84 20 *e*pP pP 21 20 46.6 +1.0
TASM ASL Pad, Albuq 85.85 50 P **P 21 20 10.2 +1.1**

baz=241,SNR=47
TASM ASL Pad, Albuq 85.85 50 P **P 21 20 10.1 +1.0**
baz=241,SNR=42
ANMO Albuquerque 85.85 50 *e*P **P 21 20 10.1 +1.0**
ANMO *ep*P **pP 21 20 47.6 +0.6**
ANMO Albuquerque 85.85 50 *e*P **P 21 20 10.1 +1.0**
ANMO Albuquerque 85.85 50 P **P 21 20 10.1 +1.0**
baz=241
ANMO Albuquerque 85.85 50 LR LR 21 49 52.1
comp=Z,671nm,21.5s,baz=232,slow=30
PV01 Paradox Valley 85.92 47 *e*P **P 21 20 10.0 +0.6**
comp=Z,51nm,1.0s
PV07 Paradox Valley 86.02 46 *e*P **P 21 20 10.4 +0.5**
PV07 *ep*P **pP 21 20 50.2 +2.5**
HARP HAARP 86.24 14 *e*P **P 21 20 10.6 +0.5**
HARP *e*PcP **P 21 20 10.9 +0.8**
NEW Newport 86.26 35 P **P 21 20 11.4 +0.9**
baz=233,SNR=12
NEW Newport 86.26 35 LR LR 21 54 37.1
comp=Z,642nm,18.3s,baz=218,slow=33
SKAG Skagway 86.38 19 *e*P **P 21 20 11.8 +1.0**
comp=Z,172nm,1.5s
SKAG *ep*P **pP 21 20 48.9 +0.7**
SKLT Songkhla 86.57 279 P **P 21 20 14.2 +1.4**
PSI Prapat 86.60 274 P **P 21 20 12.2 -0.9**
comp=Z,32nm,1.0s,baz=103,slow=2.8,SNR=21
PANO Nakornpanom 86.64 290 P **P 21 20 13.7 +0.7**
S22A 4UR Ranch, Cre 86.93 48 *e*P **P 21 20 14.6 +0.2**
comp=Z,91nm,1.4s
S22A 4UR Ranch, Cre 86.93 48 P **P 21 20 15.6 +1.2**
baz=241,SNR=38
SEY Seymchan 86.99 346 P **P 21 20 13.8 +0.1**
comp=Z,161nm,0.7s,baz=145,slow=5.6,SNR=219
SYO Syowa Base 87.06 192 ⇑*i*P **P 21 20 12.5 -1.6**
SYO Syowa Base 87.06 192 ⇓*i*PcP **PcP 21 20 15.2 -0.9**
SYO Syowa Base 87.06 192 ⇓*i*pP pP 21 20 51.0 -0.6
TPAW Teton Pass 87.13 41 *e*P **P 21 20 16.2 +1.0**
comp=Z,36nm,1.3s
SKNT Sakolnakorn 87.13 289 P **P 21 20 15.9 +0.5**
O20A White River Cl 87.14 45 P **P 21 20 15.3 +0.1**
baz=240,SNR=15
MSO Missoula 87.18 37 P **P 21 20 15.4 +0.3**
baz=236,SNR=12
GSI Gunungsitoli 87.33 272 *e*P **P 21 20 17.0 +0.5**
comp=Z,911nm,1.9s
GSI Gunungsitoli 87.33 272 P **P 21 20 17.5 +1.0**
comp=Z,232nm,2.3s,comp=Z,7μm
DLBC Dease Lake 87.36 22 LR LR 21 53 00.3
comp=Z,433nm,20.5s,baz=236,slow=31
LVIG Laguna Verde 87.38 68 *e*P **P 21 20 16.3 -0.2**
comp=Z,99nm,1.0s
LOHW Long Hollow 87.41 41 *e*P **P 21 20 17.1 +0.6**
comp=Z,31nm,1.2s
BJI Beijing 87.47 315 P **P 21 20 16.9 +0.4**
BJI pmax pmax
comp=Z,54nm,2.0s
BJI LR LR
comp=Z,390nm,16.2s
BJI LR LR
comp=Z,320nm,19.6s
BJI LR LR
comp=Z,860nm,41.2s
LRM Limekiln Ridge 87.48 39 *e*P **P 21 20 17.7 +0.9**
GO06 Curarrehue 87.50 131 *e*P **P 21 20 18.2 +1.2**
comp=Z,62nm,0.8s
BCAR Beaver Creek A 87.59 15 *e*P **P 21 20 16.6 0.0**
BW06 Boulder Array 87.62 42 P **P 21 20 17.5 0.0**
baz=239,SNR=9.6
PDAR Pinedale Array 87.62 42 P **P 21 20 17.6 +0.1**
comp=Z,12nm,0.8s,baz=199,slow=4.1,SNR=62
PDAR LR LR 21 55 59.1
comp=Z,519nm,18.1s,baz=252,slow=33
YPP Pitchstone Pla 87.63 41 *e*P **P 21 20 18.9 +1.3**
comp=Z,21nm,1.2s
HDA Harding Lake 87.65 12 P **P 21 20 16.6 -0.2**
baz=207
YHB Horse Butte 87.65 40 *e*P **P 21 20 18.2 +0.6**
comp=Z,49nm,1.2s
PLCA Paso Flores 87.65 133 P **P 21 20 19.1 +1.4**
comp=Z,30nm,0.8s,baz=259,slow=5.1,SNR=44
PLCA PKKPbc **PKKPbc 21 38 05.3 0.0**
comp=Z,6.2nm,0.8s,baz=246,slow=7.6,SNR=5.7
PLCA LR LR 21 51 13.7
comp=Z,2μm,21.4s,baz=302,slow=30
PLCA Paso Flores 87.65 133 *e*P **P 21 20 19.1 +1.4**
TRTT Trang 87.67 279 P **P 21 20 19.5 +1.4**
CMIG Matias Romero 87.72 71 LR LR 21 50 18.2
comp=Z,2μm,20.8s,baz=244,slow=29
YMR Madison River 87.75 40 *e*P **P 21 20 19.9 +1.9**
comp=Z,25nm,0.8s
SNAA Sanae 87.82 178 P **P 21 20 18.1 +0.3**
SNAA Sanae 87.82 178 *e*P **P 21 20 18.3 +0.4**
comp=Z,37nm,1.1s
SNAA Sanae 87.82 178 *de*P **P 21 20 17.5 -0.3**
SNAA Sanae 87.82 178 PKKPbc PKKPbc 21 38 03.0 -2.9
comp=Z,1.4nm,0.8s,baz=322,slow=2.8,SNR=4.2
BOZ Bozeman (W) 87.84 39 P **P 21 20 18.2 -0.2**
baz=238,SNR=50
SDCO Great Sand Dun 87.86 48 P **P 21 20 19.0 +0.2**
baz=242,SNR=27
VNA3 Neumayer Olymp 87.87 176 P **P 21 20 18.6 +0.5**
TCOL CIGO, UAF Yank 87.89 12 P **P 21 20 17.7 -0.2**
baz=206
COLA College 87.89 12 *e*P **P 21 20 17.7 -0.2**
comp=Z,121nm,0.9s
COLA College 87.89 12 *d i*P **P 21 20 17.5 -0.4**
COLA pmax pmax
comp=Z,97nm,0.9s
KHON Khomkaen 87.92 288 P **P 21 20 20.3 +1.1**
ILAR Eielson Array 87.98 12 *e*P **P 21 20 18.0 -0.4**
ILAR Eielson Array 87.98 12 *e*P **P 21 20 18.0 -0.4**
ILAR Eielson Array 87.98 12 P **P 21 20 17.9 -0.5**
comp=Z,28nm,0.7s,baz=215,slow=5.0,SNR=148
ILAR PKKP **PKKPdf 21 38 01.8 +0.8**
comp=Z,0.7nm,0.6s,baz=339,slow=2.2,SNR=4.7
ILAR LR LR 21 53 25.6
comp=Z,477nm,21.3s,baz=223,slow=31
MSTX Muleshoe 88.11 53 *e*P **P 21 20 19.9 +0.1**
MSTX *ep*P **pP 21 20 58.2 +0.3**
MSTX Muleshoe 88.11 53 P **P 21 20 20.3 +0.5**
baz=244
POKR Poker Flat Res 88.19 12 P **P 21 20 18.9 -0.5**
baz=206
833A Chaparral WMA, 88.31 59 *e*P **P 21 20 20.8 0.0**
comp=Z,65nm,1.1s
833A *ep*P **pP 21 21 00.7 +2.0**
833A Chaparral WMA, 88.31 59 P **P 21 20 21.1 +0.3**
baz=246
HRY Holter Researc 88.33 38 *ep*P pP 21 21 00.1 +1.9
VNA2 Neumayer--Watz 88.33 176 P **P 21 20 21.0 +0.8**
baz=190,slow=3.2
T25A Trinidad 88.34 49 *e*P **P 21 20 21.2 +0.2**
comp=Z,14nm,0.8s
T25A Trinidad 88.34 49 P **P 21 20 21.2 +0.2**
baz=243,SNR=7.2
WALA Waterton Lakes 88.45 35 *ep*P pP 21 20 59.0 +0.1
comp=Z,100nm,1.4s
CHAI Chaiyaphum 88.51 287 P **P 21 20 22.4 +0.5**
GYA Guiyang 88.54 299 ⇓*i*P **P 21 20 22.8 +0.7**
GYA pP pwP 21 21 03.3 +0.5
GYA PP **PP 21 23 52.0 -0.8**
GYA SKS **SKSac 21 30 37.3 -0.1**
GYA S **S 21 30 54.8 -1.0**
GYA pmax pmax
comp=Z,70nm,1.0s
GYA pmax pmax
comp=Z,1μm,8.1s
GYA LR LR
comp=Z,670nm,21.8s
GYA LR LR
comp=Z,600nm,22.4s
GYA LR LR
comp=Z,880nm,21.4s
VNA1 Neumayer--Stat 88.55 176 P **P 21 20 22.0 +0.9**
Q24A Divide 88.67 47 P **P 21 20 22.6 0.0**
baz=242,SNR=14
ISCO Idaho Springs 88.75 46 P **P 21 20 22.3 -0.7**
baz=242,SNR=8.7
ZEA Zeya 88.77 330 *de*P **P 21 20 23.2 +0.9**
ZEA *e* 21 21 04.0
ZEA *e* 21 23 49.0
ZEA *e*S **SKSac 21 30 39.0 +1.8**
ZEA *e* 21 30 59.0
ZEA pmax pmax
comp=E,210nm,2.0s
ZEA pmax pmax
comp=N,390nm,1.8s
ZEA pmax pmax
comp=Z,850nm,1.8s
ZEA pmax pmax
comp=Z,2μm,7.0s
ZEA pmax pmax
comp=N,1μm,5.0s
ZEA pmax pmax
comp=Z,500nm,8.0s
ZEA smax smax
comp=E,3μm,6.0s
ZEA smax smax
comp=N,2μm,5.0s
JCT Junction City 88.88 57 P **P 21 20 23.3 -0.1**
baz=245
TIY Taiyuan 88.94 311 *e*P **P 21 20 24.6 +1.0**
TIY pP **pwP 21 21 02.3 -2.1**
TIY sP **sP 21 21 15.8 -0.9**
TIY SKS **SKSac 21 30 38.5 -0.6**
TIY S **ScS 21 31 05.0 +1.4**
TIY pmax pmax
comp=N,75nm,0.6s
TIY pmax pmax
comp=N,2μm,3.5s
TIY LR LR
comp=N,280nm,10.6s
TIY LR LR
comp=N,370nm,11.6s
TIY LR LR
comp=N,1μm,25.6s
RLMT Red Lodge 89.01 40 P **P 21 20 24.3 +0.3**
baz=239,SNR=20
N23A Red Feather La 89.04 45 *ep*P pP 21 21 03.6 +1.3
comp=N,38nm,0.7s
N23A Red Feather La 89.04 45 P **P 21 20 24.9 +0.7**
baz=242,SNR=18
LHMI Lhok Sumawe 89.30 276 *e*P **P 21 20 27.0 +1.3**
comp=N,227nm,0.9s
LHMI Lhok Sumawe 89.30 276 P **P 21 20 23.2 -2.5**
AMTX Amarillo 89.32 52 *e*P **P 21 20 25.5 0.0**
comp=N,61nm,1.1s
AMTX Amarillo 89.32 52 P **P 21 20 25.7 +0.2**
baz=244
BILL Bilibino 89.39 353 *e*P **P 21 20 24.6 -0.3**
comp=N,44nm,0.6s
BILL Bilibino 89.39 353 *d i*P **P 21 20 24.8 -0.1**
BILL *i* 21 23 55.0
BILL *i* S **SKSac 21 30 38.4 -1.8**
BILL pmax pmax
comp=Z,40nm,0.7s
K22A Casper 89.50 44 P **P 21 20 26.4 +0.2**
baz=241
PHET Kaeng Krachan 89.54 284 P **P 21 20 28.8 +2.0**
PBKT Sadao Pong 89.66 288 P **P 21 20 28.6 +1.3**
EFI East Falkland 89.83 147 *e*P **P 21 20 29.0 +1.5**
comp=Z,183nm,1.1s
EFI East Falkland 89.83 147 *e*P **P 21 20 29.0 +1.5**
EFI pmax pmax
comp=Z,183nm,1.1s
XAN Xi'an 89.89 307 P **P 21 20 28.8 +0.7**
XAN SKS **SKSac 21 30 39.3 -5.5**
XAN pmax pmax
comp=Z,110nm,0.8s
XAN pmax pmax
comp=Z,2μm,3.9s
XAN LR LR
comp=Z,680nm,18.4s
XAN LR LR
comp=Z,720nm,17.1s
XAN LR LR
comp=Z,1μm,21.1s
ABTX Abilene, Hawle 89.89 55 P **P 21 20 28.2 0.0**
baz=245
HIA Hailar 90.03 324 *d i*P **P 21 20 28.5 +0.1**
HIA pmax pmax
comp=Z,273nm,1.4s
EGMT Eagleton 90.22 38 *ep*P pP 21 21 08.7 +1.6
comp=Z,39nm,1.0s
EGMT Eagleton 90.22 38 P **P 21 20 29.6 +0.3**
baz=239
KSCO Kaye Shedlock' 90.44 48 *e*P **P 21 20 31.5 +0.8**
comp=Z,52nm,0.9s
KSCO Kaye Shedlock' 90.44 48 P **P 21 20 30.9 +0.2**
baz=244
UTTA Uttaradit 90.46 289 P **P 21 20 32.2 +1.2**
SRDT SRDT 90.52 285 P **P 21 20 33.0 +1.6**
NANT Nan 90.71 290 P **P 21 20 32.9 +0.7**
435B Jarrell 90.75 57 *e*P **P 21 20 32.2 +0.1**
comp=Z,60nm,1.1s
435B Jarrell 90.75 57 P **P 21 20 32.2 +0.1**
baz=246
PEL Peldehue 90.79 126 *e*P **P 21 20 32.7 +0.2**
comp=Z,70nm,0.9s
PEL Peldehue 90.79 126 *e*P **P 21 20 32.7 +0.2**
PEL pmax pmax
comp=Z,70nm,0.9s
APG El Apazote 90.90 74 LR LR 21 53 35.1
comp=Z,1μm,18.0s,baz=265,slow=30
HHC Hu-ho-hao-te 90.95 314 *e*P **P 21 20 33.9 +0.9**
HHC SKS **SKSac 21 30 51.4 +0.6**
HHC S **ScS 21 31 19.9 -0.4**
HHC pmax pmax
comp=Z,11μm,7.4s
PHRA Phrae 91.02 289 P **P 21 20 34.7 +1.1**
TOLK Toolik Lake Re 91.03 9 P **P 21 20 32.6 0.0**
baz=204
KMI Kunming 91.28 296 P **P 21 20 35.3 +0.3**
KMI sP sP 21 21 27.5 -0.7
KMI PP **PP 21 24 18.4 +3.7**
KMI SKS **SKSac 21 30 52.6 -1.0**
KMI S **S 21 31 16.3 -5.0**
KMI sS sS 21 32 23.6 -3.2
KMI SS **SS 21 37 28.4 -2.0**
KMI pmax pmax
comp=Z,66nm,0.8s
KMI pmax pmax
comp=Z,2μm,5.0s
KMI LR LR
comp=Z,710nm,20.7s
KMI LR LR
comp=Z,1μm,21.4s
KMI LR LR
comp=Z,2μm,21.7s
KMI Kunming 91.28 296 *e*P **P 21 20 36.3 +1.2**
comp=Z,89nm,0.8s
WHTX Lake Whitney, 91.33 56 P **P 21 20 33.7 -1.1**
baz=246
UMPA Umpang Tak 91.42 287 P **P 21 20 37.0 +1.5**
WMOK Wichita Mounta 91.42 53 *e*P **P 21 20 34.7 -0.5**
comp=Z,30nm,1.3s
WMOK Wichita Mounta 91.42 53 *e*P **P 21 20 34.7 -0.5**
WMOK pmax pmax
comp=Z,30nm,1.3s
WMOK Wichita Mounta 91.42 53 P **P 21 20 33.6 -1.6**
baz=246
LAMP Lampang 91.55 289 P **P 21 20 37.4 +1.3**
EPYK Eagle Plains 91.56 15 P **P 21 20 35.4 +0.4**
baz=216
LAO LASA Array 91.63 40 *e*P **P 21 20 38.3 +2.4**
comp=Z,143nm,1.0s
LAO LASA Array 91.63 40 P **P 21 20 36.4 +0.5**
baz=241
PAYA Payao 91.65 290 P **P 21 20 37.4 +0.8**
OGNE Ogallala 91.70 47 P **P 21 20 36.5 +0.1**
baz=244
RSSD Black Hills 91.80 43 *e*P **P 21 20 37.3 +0.4**
comp=Z,115nm,1.0s
RSSD Black Hills 91.80 43 *e*P **P 21 20 37.3 +0.4**
RSSD pmax pmax
comp=Z,115nm,1.0s
RSSD Black Hills 91.80 43 P **P 21 20 37.5 +0.5**
baz=243
HKT Hockley 91.81 59 *e*P **P 21 20 38.2 +1.2**
comp=Z,84nm,1.5s
HKT Hockley 91.81 59 *e*P **P 21 20 38.2 +1.2**
HKT pmax pmax
comp=Z,84nm,1.5s
BTO Baotou 91.90 313 *e*P **P 21 20 37.8 +0.4**
U32A Winter Ranch, 91.92 52 *e*P **P 21 20 38.0 +0.5**
comp=Z,94nm,0.9s
CMAR Chiang Mai Arr 92.14 289 P **P 21 20 40.0 +1.2**
comp=Z,39nm,0.8s,baz=110,slow=2.7,SNR=200
CMAR PP **PP 21 24 21.7 +0.4**
comp=Z,7.4nm,1.0s,baz=115,slow=5.6,SNR=6.0
CMAR PKKPbc **PKKPbc 21 37 54.4 +0.5**
comp=Z,1.2nm,0.6s,baz=278,slow=4.3,SNR=8.5
CMAR LR LR 22 03 48.8
comp=Z,444nm,19.1s,baz=143,slow=36
CMMT Chiang Mai 92.26 289 P **P 21 20 40.1 +0.7**
CHTO Chiang Mai 92.27 289 *e*P **P 21 20 40.3 +0.9**
comp=Z,83nm,0.8s
CHTO Chiang Mai 92.27 289 *e*P **P 21 20 40.3 +0.9**
CHTO pmax pmax
comp=Z,83nm,0.8s
CBKS Cedar Bluff 92.39 49 *ep*P pP 21 21 18.2 +0.5
comp=Z,56nm,1.0s
CBKS Cedar Bluff 92.39 49 P **P 21 20 39.9 +0.2**
baz=245
LCO Las Campanas 92.53 122 *e*P **P 21 20 41.9 +1.0**
LCO *ep*P **pwP 21 21 19.5 +0.5**
LCO Las Campanas 92.53 122 *e*P **P 21 20 41.9 +1.0**
LCO Las Campanas 92.53 122 *e*P **P 21 20 42.6 +1.7**
CD2 Chengdu 92.63 302 P **P 21 20 41.5 +0.6**
CD2 PP **PP 21 24 21.0 -4.0**
CD2 SKS **SKSac 21 30 59.5 -1.0**
CD2 S **ScS 21 31 37.8 +3.2**
CD2 SS **SS 21 37 50.0 +0.8**
CD2 pmax pmax
comp=Z,40nm,1.9s
CD2 pmax pmax
comp=Z,3μm,10.6s
CD2 LR LR
comp=Z,1μm,19.0s
CD2 LR LR
comp=Z,960nm,24.3s
CD2 LR LR
comp=Z,2μm,23.2s
CMBY CAMPBELL BAY 92.73 276 *e*P **P 21 20 40.9 -0.8**
CMBY IAmb IAmb 21 20 46.0
comp=Z,60nm,0.9s
CMBY IAMs_20 IAMs_20 21 49 12.2
comp=Z,842nm,4.2s
YAK Yakutsk 93.03 337 *d i*P **P 21 20 41.3 -0.5**
YAK *e* 21 24 22.7
YAK *e*S **SKSac 21 30 58.3 -2.8**
YAK *e* 21 31 28.0
YAK pmax pmax
comp=Z,598nm,0.8s
YAK pmax pmax
comp=N,105nm,0.9s
YAK pmax pmax
comp=E,88nm,0.8s
YAK pmax pmax
comp=Z,2μm,2.1s
YAK pmax pmax
comp=E,1μm,2.2s
YAK pmax pmax
comp=N,912nm,2.2s
YAK smax smax
comp=N,6μm,2.8s
YAK smax smax
comp=E,2μm,2.8s
CFA Coronel Fontan 93.32 125 P **P 21 20 44.9 +0.7**
comp=E,50nm,0.9s,baz=247,slow=4.2,SNR=78
CFA PKKPbc **PKKPbc 21 37 50.5 -0.4**
comp=E,3.4nm,0.6s,baz=5.4,slow=3.7,SNR=6.1
NATX Nacogdoches 93.43 57 P **P 21 20 44.9 +0.4**
baz=246
DGMT Dagmar 93.68 39 P **P 21 20 46.0 +0.7**
baz=243
NNA Nana 94.00 104 P **P 21 20 50.0 +2.4**
NNA Nana 94.00 104 P **P 21 20 50.0 +2.4**
comp=E,6.5nm,0.4s,baz=221,slow=11,SNR=3.0
TUL1 Leonard 94.13 53 P **P 21 20 47.7 +0.1**
baz=248
JTS Las Juntas de 94.31 81 *e*P **P 21 20 49.9 +1.0**
JTS *e*PcP **P 21 20 50.6 +1.6**
JTS *ep*P **pP 21 21 28.0 +1.0**
JTS Las Juntas de 94.31 81 *ce*P **P 21 20 49.8 +0.9**
JTS Las Juntas de 94.31 81 LR LR 21 53 40.2
comp=E,2μm,21.0s,baz=307,slow=29
LZH Lanzhou 94.52 307 ⇓P **P 21 20 50.5 +0.9**
LZH sP sP 21 21 46.8 +4.0
LZH PP **PP 21 24 39.9 +0.2**
LZH SKS **SKSac 21 31 11.3 +0.4**
LZH S **S 21 31 47.5 -1.8**
LZH sS sS 21 32 57.8 +2.5
LZH SS **SS 21 38 18.3 +2.1**
LZH pmax pmax
comp=E,120nm,1.3s
LZH pmax pmax
comp=E,1μm,7.4s
LZH LR LR
comp=E,650nm,17.5s
LZH LR LR
comp=E,830nm,16.7s
LZH LR LR
comp=E,2μm,18.6s
BGNE Belgrade 94.56 47 *ep*P pP 21 21 30.3 +2.7
comp=E,183nm,1.0s
BGNE Belgrade 94.56 47 P **P 21 20 50.1 +0.6**
baz=247
KSU1 Kansas State U 94.74 50 P **P 21 20 49.8 -0.5**
baz=247
TRQA Tornquist 94.77 134 *e*P **P 21 20 54.0 +3.3**
GO02 Mina Guanaco 95.06 119 *e*P **P 21 20 54.6 +1.9**
comp=E,20nm,1.0s
SUSD Miller 95.23 44 P **P 21 20 52.6 +0.1**
baz=246
MIAR Mount Ida 95.30 55 P **P 21 20 52.8 -0.2**
baz=249
W39A Magazine 95.38 55 P **P 21 20 52.9 -0.5**
baz=249
PBA Port Blair 95.41 280 *e*P P 21 20 52.0 -2.0
Z41A Richland Creek 95.44 57 P **P 21 20 52.9 -0.7**
baz=249
DGPR DIGLIPUR 95.75 282 *e*P **P 21 20 54.7 -0.8**
DGPR IAmb IAmb 21 21 01.7
comp=Z,30nm,1.0s
YKA Yellowknife Ar 95.76 24 P **P 21 20 54.2 -0.2**
comp=Z,6.8nm,0.7s,baz=241,slow=4.5,SNR=65
YKA PKKPbc **PKKPbc 21 37 45.6 -0.6**
comp=Z,0.9nm,0.4s,baz=43,slow=2.3,SNR=10
YKA LR LR 21 57 44.6
comp=Z,55nm,20.3s,baz=239,slow=31
YKW3 Yellowknife Ar 95.79 24 *ep*P pP 21 21 34.8 +2.5
comp=Z,12nm,0.9s
MDND Maddock 96.19 41 *ep*P pP 21 21 35.6 +0.8
comp=Z,179nm,1.1s
MDND Maddock 96.19 41 P **P 21 20 56.5 -0.2**
baz=246
U40A Yellville 96.50 54 P **P 21 20 58.0 -0.4**
baz=249
ECSD EROS Data Cent 96.51 46 *ep*P pP 21 21 38.4 +2.0
comp=Z,95nm,1.0s
ECSD EROS Data Cent 96.51 46 P **P 21 20 58.2 -0.1**
baz=248
W41B Gary Mavity, V 96.55 55 *e*P **P 21 20 59.8 +1.2**
comp=Z,37nm,1.6s
W41B Gary Mavity, V 96.55 55 P **P 21 20 58.6 -0.1**
baz=250
WHAR Wooly Hollow 96.56 55 *e*P **P 21 20 59.9 +1.2**
comp=Z,63nm,1.7s
LVC Limon Verde 96.72 117 *e*P **P 21 21 02.5 +2.3**
comp=Z,36nm,1.3s
LVC Limon Verde 96.72 117 *e*P **P 21 21 02.5 +2.3**
LVC pmax pmax
comp=Z,36nm,1.3s
LVC Limon Verde 96.72 117 P **P 21 21 01.3 +1.0**
comp=Z,12nm,0.8s,baz=273,slow=3.9,SNR=7.8
LVC PKKPbc **PKKPdf 21 37 43.1 0.0**
comp=Z,4.8nm,0.7s,baz=51,slow=4.8,SNR=4.7
LVC Limon Verde 96.72 117 *e*P **P 21 21 02.8 +2.5**
OTAV Otavalo 96.92 92 *e*P **P 21 21 01.6 +0.1**
U41A Viola 97.20 54 P **P 21 21 01.1 -0.5**
baz=250
SONM Songino Array 97.23 318 P Pdif 21 21 01.9 +0.2
comp=Z,5.0nm,0.7s,baz=128,slow=3.9,SNR=21
SONM PP **PP 21 24 58.7 -1.7**
comp=Z,2.7nm,0.9s,baz=96,slow=3.0,SNR=4.0
BOD Bodaibo 97.26 329 ⇑*i*P **P 21 21 00.2 -1.1**
BOD *e* 21 31 20.7
BOD pmax pmax
comp=Z,46nm,2.0s
PB11 IPOC Station P 97.29 114 *e*P Pdif 21 21 03.4 +0.7
comp=Z,37nm,0.9s
MNMC Minye Minye 97.61 114 *e*P Pdif 21 21 05.6 +1.3
comp=Z,22nm,0.8s
GO01 Chusmiza 97.73 114 *e*P Pdif 21 21 06.8 +1.7
comp=Z,91nm,2.0s
SCIA State Center 98.18 48 P **P 21 21 05.7 -0.1**
baz=250

R41A	**Rosebud**	98.27	52	P		**P**	21 21 04.8	-1.6
	baz=250							
CCM	**Cathedral Cave**	98.29	53	*e*P		Pdif	21 21 07.0	+0.6
	comp=Z,11nm,1.0s							
CCM	**Cathedral Cave**	98.29	53	*e*P		Pdif	21 21 07.0	+0.5
CCM				pmax		pmax		
	comp=Z,11nm,1.0s							
CCM	**Cathedral Cave**	98.29	53	P		**P**	21 21 05.6	-0.8
	baz=250							
OXF	**Oxford**	98.52	56	P		Pdif	21 21 07.6	+0.1
	baz=251							
AGMN	**Agassiz Nation**	98.68	42	P		Pdif	21 21 08.0	0.0
	baz=249							
GTA	**Gaotai**	98.69	309	⇓P		Pdif	21 21 08.5	+0.1
GTA				pP		pwP	21 21 49.1	-0.2
GTA				sP		sP	21 22 06.0	+4.4
GTA				SKS		**SKSac**	21 31 31.8	-0.4
GTA				S		**S**	21 32 24.9	+0.1
GTA				pmax		pmax		
	comp=Z,18nm,2.0s							
GTA				pmax		pmax		
	comp=Z,430nm,6.7s							
GTA				LR		LR		
	comp=Z,460nm,20.0s							
GTA				LR		LR		
	comp=Z,580nm,20.6s							
GTA				LR		LR		
	comp=Z,820nm,23.5s							
FVM	**French Village**	98.88	53	*e*P		Pdif	21 21 09.2	+0.1
	comp=Z,20nm,1.2s							
FVM	**French Village**	98.88	53	*e*P		Pdif	21 21 09.2	+0.1
FVM				pmax		pmax		
	comp=Z,20nm,1.2s							
N40A	**Mertquake, Sal**	98.99	50	P		Pdif	21 21 09.6	+0.1
	baz=251							
L39A	**Vinton**	99.10	48	P		**Pdif**	21 21 10.4	+0.4
	baz=251							
349A	**Repton**	99.28	60	P		**Pdif**	21 21 10.7	-0.3
	baz=252							
ULM	**Lac du Bonnet**	99.37	40	*e*Pdif		**Pdif**	21 21 11.6	+0.7
ULM				*e*pP		**pP**	21 21 49.8	+0.6
ULM	**Lac du Bonnet**	99.37	40	*e*P		**Pdif**	21 21 11.6	+0.7
ULM	**Lac du Bonnet**	99.37	40	P		**Pdif**	21 21 11.4	+0.5
	comp=Z,3.9nm,0.7s,baz=231,slow=7.2,SNR=6.2							
ULM				PP		**PP**	21 25 12.9	-3.5
	comp=Z,2.1nm,0.6s,baz=255,slow=8.3,SNR=4.5							
ULM				LR		LR	22 00 31.6	
	comp=Z,835nm,19.1s,baz=262,slow=32							
K39A	**Oelwein**	99.37	48	P		**Pdif**	21 21 11.1	0.0
	baz=251							
TIXI	**Tiksi**	99.41	345	*c*eP		**Pdif**	21 21 10.2	-0.4
TIXI				pmax		pmax		
	comp=Z,50nm,2.5s							
TIXI	**Tiksi**	99.41	345	P		**Pdif**	21 21 11.1	+0.5
	comp=Z,8.0nm,0.7s,baz=131,slow=4.8,SNR=19							
TIXI				PP		**PP**	21 25 12.3	-3.9
	comp=Z,38nm,1.3s,baz=125,slow=9.6,SNR=16							
N41A	**Harden Midland**	99.45	50	*e*Pdif		**Pdif**	21 21 09.8	-1.8
	comp=Z,30nm,1.0s							
N41A	**Harden Midland**	99.45	50	P		**Pdif**	21 21 10.9	-0.7
	baz=251							
249A	**Camden**	99.53	59	P		**Pdif**	21 21 11.5	-0.6
	baz=252							
SPMN	**Marine on St.**	99.59	45	P		**Pdif**	21 21 12.0	0.0
	baz=250							
L40A	**Anamosa**	99.63	49	*e*Pdif		**Pdif**	21 21 13.1	+0.8
	comp=Z,44nm,1.0s							
L40A	**Anamosa**	99.63	49	P		**Pdif**	21 21 12.0	-0.3
	baz=251							
S44A	**Carbondale**	99.66	53	P		**Pdif**	21 21 11.6	-1.0
	baz=252							
J39A	**Decorah**	99.71	47	P		**Pdif**	21 21 12.4	-0.2
	baz=251							
H38A	**Maiden Rock**	99.75	46	P		**Pdif**	21 21 13.1	+0.4
	baz=251							
F37A	**Hinrichs Farm,**	99.87	45	P		**Pdif**	21 21 13.3	0.0
	baz=251							
M41A	**Milan**	99.89	50	P		**Pdif**	21 21 13.5	0.0
	baz=251							
K40A	**Colesburg**	99.89	48	P		**Pdif**	21 21 13.5	+0.1
	baz=251							
V46A	**Holladay**	99.94	56	P		**Pdif**	21 21 13.9	+0.1
	baz=252							
LRAL	**Lakeview Retre**	99.96	59	P		**Pdif**	21 21 13.1	-0.9
	baz=252							
149A	**Jones**	99.99	59	P		**Pdif**	21 21 13.5	-0.7
	baz=252							
I39A	**Houston**	100.00	47	*e*Pdif		**Pdif**	21 21 14.9	+1.0
	comp=Z,41nm,0.9s							
I39A	**Houston**	100.00	47	P		**Pdif**	21 21 13.5	-0.5
	baz=251							
LPAZ	**La Paz**	100.06	112	*e*Pdif		**Pdif**	21 21 17.9	+2.3
LPAZ	**La Paz**	100.06	112	*e*P		**Pdif**	21 21 17.9	+2.3
LPAZ	**La Paz**	100.06	112	P		**Pdif**	21 21 17.5	+1.9
	comp=Z,9.4nm,0.8s,baz=252,slow=2.7,SNR=28							
LPAZ				PP		**PP**	21 25 20.8	-2.0
	comp=Z,4.7nm,1.0s,baz=299,slow=6.4,SNR=4.6							
LPAZ				PKKPbc		**PKKPbc**	21 37 33.6	+0.6
	comp=Z,5.2nm,0.6s,baz=26,slow=3.2,SNR=12							
LPAZ	**La Paz**	100.06	112	*e*P		**Pdif**	21 21 16.3	+0.6
ZAK	**Zakamensk**	100.07	320	*e*P		**Pdif**	21 21 11.0	-3.2
ZAK				pmax		pmax		
	comp=Z,10.0nm,1.8s							
ZAK				pmax		pmax		
	comp=Z,10.0nm,1.7s							
IRK	**Irkutsk**	100.13	322	*e*P		**Pdif**	21 21 13.4	-0.9
IRK				*e*			21 31 34.9	
IRK				pmax		pmax		
	comp=Z,48nm,3.7s							
W47A	**Westpoint**	100.17	56	P		**Pdif**	21 21 14.5	-0.4
	baz=252							
G38A	**Ridgeland**	100.20	46	P		**Pdif**	21 21 14.5	-0.2
	baz=251							
250A	**Grady**	100.22	60	P		**Pdif**	21 21 14.4	-0.7
	baz=252							
WVT	**Waverly**	100.26	55	P		**Pdif**	21 21 15.3	+0.1
	baz=252							
X48A	**Hartselle**	100.36	57	P		**Pdif**	21 21 15.4	-0.3
	baz=252							
J40A	**Soldiers Grove**	100.39	48	P		**Pdif**	21 21 15.8	+0.1
	baz=252							
V47A	**Nunnelly**	100.41	56	P		**Pdif**	21 21 15.5	-0.4
	baz=252							
H39A	**Augusta**	100.43	46	P		**Pdif**	21 21 16.0	+0.2
	baz=251							
F38A	**Pierce - Schro**	100.44	45	P		**Pdif**	21 21 15.9	+0.1
	baz=251							
552A	**Lynn Haven**	100.45	62	P		**Pdif**	21 21 16.0	-0.2
	baz=252							
HDIL	**Hopedale**	100.53	51	P		**Pdif**	21 21 16.0	-0.4
	baz=252							
351A	**Pinckard**	100.55	61	P		**Pdif**	21 21 16.9	+0.3
	baz=252							
JFWS	**Jewell Farm**	100.58	48	P		**Pdif**	21 21 16.9	+0.4
	baz=252							
150A	**Eclectic**	100.61	59	P		**Pdif**	21 21 16.0	-0.8
	baz=252							
I40A	**Norwalk**	100.63	47	P		**Pdif**	21 21 16.4	-0.4
	baz=252							
W48A	**Pulaski**	100.65	56	P		**Pdif**	21 21 16.4	-0.6
	baz=252							
Y49A	**Blount Mountai**	100.68	58	P		**Pdif**	21 21 16.5	-0.7
	baz=252							
G39A	**Holcombe**	100.70	46	P		**Pdif**	21 21 17.3	+0.3
	baz=252							
L42A	**Oliver, Polo**	100.71	49	P		**Pdif**	21 21 17.6	+0.5
	baz=252							
U47A	**Clarksville**	100.77	55	P		**Pdif**	21 21 17.1	-0.4
	baz=252							
S46A	**Don Dixon Farm**	100.82	54	P		**Pdif**	21 21 17.3	-0.4
	baz=252							
Z50A	**Ashland**	100.88	59	P		**Pdif**	21 21 18.3	+0.2
	baz=252							
J41A	**Loganville**	100.89	48	P		**Pdif**	21 21 18.1	+0.3
	baz=252							
V48A	**Smith Brothers**	100.92	56	P		**Pdif**	21 21 17.8	-0.4
	baz=252							
X49A	**Woodville**	100.94	57	P		**Pdif**	21 21 18.1	-0.2
	baz=252							
H40A	**Chili**	101.02	46	P		**Pdif**	21 21 18.0	-0.5
	baz=252							
F39A	**Loretta**	101.06	45	P		**Pdif**	21 21 19.1	+0.5
	baz=252							
T47A	**Sharon Grove**	101.08	55	P		**Pdif**	21 21 18.9	+0.1
	baz=253							
K42A	**Prairie Point,**	101.17	49	P		**Pdif**	21 21 19.4	+0.3
	baz=252							
EYMN	**Ely**	101.32	43	P		**Pdif**	21 21 19.5	-0.2
	baz=252							
G40A	**Rib Lake**	101.34	46	P		**Pdif**	21 21 20.4	+0.5
	baz=252							
P45A	**Graceland, Par**	101.35	52	P		**Pdif**	21 21 20.2	+0.2
	baz=253							
U48A	**Cassie Pea, Po**	101.37	55	P		**Pdif**	21 21 20.3	+0.2
	baz=253							
L43A	**Garden Prairie**	101.42	49	P		**Pdif**	21 21 21.1	+0.8
	baz=253							
S47A	**Hartford**	101.43	54	P		**Pdif**	21 21 21.0	+0.6
	baz=253							
N44A	**Piper City**	101.44	51	P		**Pdif**	21 21 20.7	+0.3
	baz=253							
E39A	**Mellen**	101.44	45	P		**Pdif**	21 21 20.9	+0.6
	baz=252							
X50B	**Fort Payne**	101.46	57	P		**Pdif**	21 21 21.1	+0.4
	baz=253							
J42A	**Columbus**	101.49	48	P		**Pdif**	21 21 20.0	-0.5
	baz=253							
H41A	**Junction City**	101.52	47	P		**Pdif**	21 21 20.6	0.0
	baz=252							
MOY	**Mondy**	101.85	321	*e*P		**Pdif**	21 21 32.8	+11
E40A	**Wakefield**	101.90	45	P		**Pdif**	21 21 22.6	+0.3
	baz=253							
R47A	**Wooly Knot Far**	101.90	54	P		**Pdif**	21 21 23.1	+0.6
	baz=253							
U49A	**Red Boiling Sp**	101.95	55	P		**Pdif**	21 21 22.4	-0.4
	baz=253							
X51A	**Calhoun**	102.11	58	P		**Pdif**	21 21 23.4	-0.1
	baz=253							
FCC	**Fort Churchill**	103.19	32	*e*Pdif		**Pdif**	21 21 28.5	+0.9
FCC	**Fort Churchill**	103.19	32	*e*P		**Pdif**	21 21 28.5	+0.9
CPUP	**Villa Florida**	104.22	125	*e*Pdif		**Pdif**	21 21 34.7	+1.5
CPUP	**Villa Florida**	104.22	125	*e*P		**Pdif**	21 21 34.7	+1.5
CPUP	**Villa Florida**	104.22	125	Pdiff		**Pdif**	21 21 35.3	+2.1
	comp=Z,2.0nm,0.8s,baz=233,slow=5.0,SNR=5.9							
CPUP				PKKPbc		**PKKPbc**	21 37 19.9	-0.6
	comp=Z,2.1nm,0.8s,baz=354,slow=4.2,SNR=5.2							
BWNR	**Bhubaneshwar**	104.46	286	*e*P		**Pdif**	21 21 33.4	-0.8
ODAN	**Odare**	104.91	293	*e*P		**PKiKP**	21 25 51.2	+0.3
BOK	**Bokaro**	105.38	290	*e*P		**Pdif**	21 21 37.0	-1.3
BOK				IAmb		IAmb	21 21 39.9	
	comp=Z,8.8nm,0.8s							
RAMN	**Ramite**	105.61	293	*e*P		**PKiKP**	21 25 52.3	+0.1
G47A	**Hillman**	105.63	47	P		**PKiKP**	21 25 52.3	+1.0
	baz=256							
JIRN	**Jiri**	106.15	294	*e*P		**PKiKP**	21 25 53.0	-0.3
SIV	**San Ignacio**	106.28	114	Pdiff		**Pdif**	21 21 44.7	+2.1
	comp=Z,1.8nm,0.8s,baz=280,slow=4.6,SNR=11							
SIV				PKiKP		**PKiKP**	21 25 54.4	+0.9
	comp=Z,1.5nm,0.8s,baz=258,slow=12,SNR=3.2							
SIV				PP		**PP**	21 26 06.3	-2.0
	comp=Z,3.3nm,0.9s,baz=256,slow=8.8,SNR=8.5							
SIV				PKKPbc		**PKKPbc**	21 37 13.9	-0.2
	baz=346,slow=4.2							
D47A	**Chapleau**	106.57	45	P		**PKiKP**	21 25 51.3	-1.7
	baz=258							
N53A	**Lisbon**	106.79	52	P		**PKiKP**	21 25 51.3	-2.3
	baz=257							
PKI	**Pulchoki**	106.80	294	*e*P		**PKiKP**	21 25 53.9	-0.6
PKIN	**Phulchoki**	106.81	294	*e*P		**PKiKP**	21 25 53.9	-0.5
	comp=Z,17nm,0.6s							
KKN	**Kakani**	106.96	294	*e*P		**PKiKP**	21 25 54.2	-0.4
	comp=Z,25nm,0.8s							
DMN	**Daman**	107.06	294	*e*P		**PKiKP**	21 25 54.5	-0.4
RES	**Resolute Bay**	107.34	16	PKiKP		**PKiKP**	21 25 54.1	+0.5
	comp=Z,2.1nm,0.7s,baz=158,slow=11,SNR=4.1							
MDRS	**Chennai**	107.42	278	*e*P		**Pdif**	21 21 45.7	-1.9
MDRS				IAMs_20		IAMs_20	22 12 05.5	
	comp=Z,2μm,26.3s							
GKN	**Gorkha**	107.56	294	*e*P		**PKiKP**	21 25 55.1	-0.6
D49A	**Beulah Townshi**	107.78	45	P		**PKiKP**	21 25 53.2	-2.1
	baz=259							
KOLN	**Koldanda**	108.40	293	*e*P		**PKiKP**	21 25 56.5	-0.8
	comp=Z,21nm,0.6s							
DANN	**Dangsing**	108.40	294	*e*P		**PKiKP**	21 25 56.9	-0.5
	comp=Z,60nm,0.7s							
WMQ	**Urumqi**	108.60	311	Pdif		**Pdif**	21 21 52.8	+0.5
WMQ				PP		**PP**	21 26 26.0	+0.8
WMQ				SKS		**SKSac**	21 32 17.3	-0.4
WMQ				AMB		AMB		
	comp=Z,1μm,4.5s							
WMQ				LR		LR		
	comp=Z,7μm,39.0s							
WMQ				LR		LR		
	comp=Z,5μm,37.3s							
WMQ				LR		LR		
	comp=Z,7μm,37.3s							
PYUN	**Piuthan**	109.00	294	*e*P		**PKiKP**	21 25 57.9	-0.5
HYB	**Hyderabad**	110.25	282	*e*P		**PKiKP**	21 25 59.2	-1.5
HYB				IAmb		IAmb	21 26 02.7	
	comp=Z,5.3nm,0.5s							
NGP	**Nagpur**	110.78	286	*e*P		**PKiKP**	21 26 00.4	-1.3
NGP				IAMs_20		IAMs_20	22 26 52.3	
	comp=Z,3μm,19.8s							
NRIK	**Noril'sk**	111.48	338	Pdiff		**Pdif**	21 22 05.2	+0.9
	comp=Z,3.3nm,0.8s,baz=76,slow=6.0,SNR=5.1							
NRIK				PKiKP		**PKiKP**	21 26 00.9	-0.6
	comp=Z,1.9nm,0.4s,baz=85,slow=2.5,SNR=2.3							
ZALV	**Zalesovo Beam**	111.91	321	Pdiff		**Pdif**	21 22 04.4	-2.2
	comp=Z,0.4nm,0.4s,baz=67,slow=3.7,SNR=5.0							
ZALV				PKiKP		**PKiKP**	21 26 02.1	-0.7
	comp=Z,13nm,0.6s,baz=135,slow=0.7,SNR=34							
ZALV				PP		**PP**	21 26 44.6	-3.9
	comp=Z,6.8nm,0.8s,baz=107,slow=1.5,SNR=4.3							
ZALV				PKKPbc		**PKKPbc**	21 36 56.9	-0.5
	comp=Z,1.7nm,0.6s,baz=248,slow=4.6,SNR=4.8							
MNCY	**Minicoy**	112.67	271	*e*P		**PKiKP**	21 26 04.9	-0.5
BHPL	**Bhopal**	112.75	287	*e*P		**PKiKP**	21 26 06.0	+0.5
MKAR	**Makanchi Array**	112.81	313	Pdiff		**Pdif**	21 22 12.3	+1.5
	comp=Z,3.0nm,0.7s,baz=86,slow=6.1,SNR=24							
MKAR				PKiKP		**PKiKP**	21 26 04.0	-0.8
	comp=Z,14nm,0.5s,baz=160,slow=0.7,SNR=170							
MKAR				PKKPbc		**PKKPbc**	21 36 53.7	-0.4
	comp=Z,2.5nm,0.6s,baz=276,slow=3.7,SNR=9.8							
NVS	**Novosibirsk**	112.90	322	*e*PKiKP		**PKiKP**	21 26 04.1	-0.5
NVS				*i* *PP		PP	21 26 45.3	-10
NVS				*i* S		**SKSac**	21 32 35.5	+0.9
NVS				pmax		pmax		
	comp=Z,13nm,0.5s							
NVS				pmax		pmax		
	comp=N,3.0nm,0.6s							
NVS				pmax		pmax		
	comp=E,10.0nm,0.5s							
NVS				smax		smax		
	comp=N,15nm,1.7s							
NVS				smax		smax		
	comp=E,131nm,2.7s							
DDI	**Dehra Dun**	113.69	295	*e*P		**PKiKP**	21 26 06.0	-1.0
DDI				IAmb		IAmb	21 26 10.3	
	comp=Z,73nm,0.2s							
BB19B	**Bebedouro**	113.84	126	*e*P		**PKiKP**	21 26 13.1	+5.5
BB19B				*i*			21 36 20.0	
BB19B				*i*			21 37 44.9	
BB19B				*i*			21 42 50.1	
BB19B				*i*			21 45 53.7	
SMLA	**Simla**	114.58	296	*e*P		PKPdf	21 26 05.3	-3.3
POO	**Poona**	114.86	281	*e*P		PKPdf	21 26 08.7	-0.9
POO				IAmb		IAmb	21 26 12.1	
	comp=Z,34nm,1.2s							
DHRM	**DHARAMSHALA**	115.50	297	*e*P		**PKPdf**	21 26 09.5	-1.2
DHRM				IAmb		IAmb	21 26 11.3	
	comp=Z,70nm,0.1s							
KURK	**Kurchatov**	115.51	317	*e*PKPdf		**PKPdf**	21 26 09.0	-0.8
KURK	**Kurchatov**	115.51	317	*e*PKiKP		**PKPdf**	21 26 09.0	-0.8
KURK	**Kurchatov**	115.51	317	PKPdf		**PKPdf**	21 26 08.9	-0.9
	SNR=9.1							
KURBB	**Kurchatov Arra**	115.56	317	PKP		**PKPdf**	21 26 09.0	-0.9
	comp=Z,18nm,0.6s,baz=92,slow=1.8,SNR=96							
KURBB				PKKPbc		**PKKPbc**	21 36 44.6	-0.1
	comp=Z,1.0nm,0.6s,baz=258,slow=4.8,SNR=3.7							
FRB	**Frobisher Bay**	115.91	28	PKKPbc		PKKPbc	21 36 43.7	-0.3
	comp=Z,5.0nm,0.9s,baz=37,slow=3.2,SNR=2.3							
KSH	**Kashi**	116.69	305	PKP		**PKPdf**	21 26 11.4	-1.2
KSH				sPKP			21 27 09.3	
KSH				PP		**PP**	21 27 28.0	+5.1
KSH				SKS		**SKSdf**	21 33 09.3	-1.4
KSH				SKKS		**SKKSac**	21 34 05.3	-3.2
KSH				AMB		AMB		
	comp=Z,2μm,5.9s							
KSH				LR		LR		
	comp=Z,570nm,13.7s							
KSH				LR		LR		
	comp=Z,430nm,10.7s							
KSH				LR		LR		
	comp=Z,2μm,19.8s							
ULHL	**Ulahol**	116.71	308	P		**PKPdf**	21 26 12.5	-0.2
	SNR=11							
TKM2	**Tokmak 2**	117.23	308	P		**PKPdf**	21 26 13.2	-0.5
	SNR=26							
BDFB	**Brasilia**	117.29	121	PKP		**PKPdf**	21 26 14.3	-0.2
	comp=Z,2.1nm,0.4s,baz=288,slow=3.2,SNR=2.9							
BDFB				PKKPbc		**PKKPbc**	21 36 37.9	-0.2
	comp=Z,6.5nm,0.6s,baz=76,slow=5.6,SNR=12							
KZA	**Kyzart**	117.44	308	P		**PKiKP**	21 26 14.5	+0.1
	SNR=21							
KBK	**Karagaybulak**	117.69	308	P		**PKPdf**	21 26 14.0	-0.5
	SNR=36							
CHMS	**Chumysh**	117.86	309	P		**PKPdf**	21 26 14.3	-0.3
	SNR=27							
FRU1	**Bishkek**	117.94	308	*e*PKPdf		**PKPdf**	21 26 14.5	-0.3
FRU1	**Bishkek**	117.94	308	*e*PKiKP		**PKPdf**	21 26 14.5	-0.3
UCH	**Uchtor**	117.99	308	P		**PKiKP**	21 26 15.6	+0.1
	SNR=27							
AAK	**Ala-Archa**	118.03	308	P		**PKPdf**	21 26 15.0	-0.2
	SNR=12							
AAK	**Ala-Archa**	118.03	308	*e*PKPdf		**PKPdf**	21 26 14.9	-0.2
AAK	**Ala-Archa**	118.03	308	*i* PKiKP		**PKPdf**	21 26 14.9	-0.2
	SNR=14							
AAK	**Ala-Archa**	118.03	308	*d* *i*PKIKP		**PKPdf**	21 26 14.7	-0.5
AAK				pmax		pmax		
	comp=Z,24nm,1.3s							
AAK	**Ala-Archa**	118.03	308	PKiKP		**PKPdf**	21 26 15.1	-0.2
	SNR=11							
AAK	**Ala-Archa**	118.03	308	PKP		**PKPdf**	21 26 14.7	-0.5
	comp=Z,14nm,0.8s,baz=143,slow=4.4,SNR=22							
AAK				PKKPbc		**PKKPbc**	21 36 36.2	+0.1
	comp=Z,4.4nm,0.7s,baz=207,slow=4.6,SNR=8.8							
USP	**Ospenovka**	118.05	309	P		**PKPdf**	21 26 14.4	-0.7
	SNR=26							
AML	**Almayashu**	118.59	308	P		**PKiKP**	21 26 16.6	0.0
	SNR=35							
BHJ	**Bhuj**	119.73	286	*e*P		**PKPdf**	21 26 18.3	-0.4
BVAR	**Borovoye Array**	120.52	320	PKiKP		**PKPdf**	21 26 19.0	-0.4
BVAR	**Borovoye Array**	120.52	320	PKP		**PKPdf**	21 26 19.0	-0.4
	comp=Z,28nm,0.5s,baz=124,slow=1.9,SNR=126							
BRVK	**Borovoye**	120.58	320	*e*PKPdf		**PKPdf**	21 26 19.1	-0.4
BRVK	**Borovoye**	120.58	320	*d* *i*PKIKP		**PKPdf**	21 26 19.1	-0.4
BRVK	**Borovoye**	120.58	320	PKiKP		**PKPdf**	21 26 19.3	-0.2
	SNR=15							
ILULI	**Ilulissat**	121.15	20	*i* PKIKP		**PKPdf**	21 26 19.6	-0.5
ILULI	**Ilulissat**	121.15	20	*i* P		**PKPdf**	21 26 19.6	-0.5
SMTB	**Santa Maria do**	121.23	115	*e*P		**PKiKP**	21 26 24.1	+2.0
KBS	**Kingsbay**	121.53	358	*e*PKPdf		**PKPdf**	21 26 21.2	+0.4
KBS	**Kingsbay**	121.53	358	*d* *i*PKIKP		**PKPdf**	21 26 20.7	0.0
KBS				pmax		pmax		
	comp=Z,53nm,0.8s							
KBS	**Kingsbay**	121.53	358	*e*PKPdf		**PKPdf**	21 26 20.6	0.0
KBL	**Kabul**	121.80	299	*e*PKPdf		**PKPdf**	21 26 22.8	+0.1
KBL	**Kabul**	121.80	299	*e*PKiKP		**PKPdf**	21 26 22.8	+0.1
SPA0	**Spitsbergen Ar**	122.11	357	*e*PKPdf		**PKiKP**	21 26 22.1	+0.1
SPITS	**Spitsbergen Ar**	122.11	357	PKP		**PKPdf**	21 26 21.4	-0.4
	comp=Z,32nm,0.8s,baz=20,slow=5.8,SNR=39							
SFJD	**Kangerlussuaq**	122.27	22	*e*PKiKP		**PKPdf**	21 26 22.2	-0.1
SFJD	**Kangerlussuaq**	122.27	22	*i* P		**PKPdf**	21 26 22.2	-0.1
ABPO	**Ambohimpanom**	122.34	230	*e*PKPdf		**PKiKP**	21 26 24.3	0.0
DAG	**Danmarks Havn**	122.65	6	⇓*i*PKIKP		**PKPdf**	21 26 21.6	-1.2
DAG	**Danmarks Havn**	122.65	6	⇓*i*P		**PKPdf**	21 26 21.6	-1.2
SUMG	**Summit**	122.77	14	*e*PKPdf		**PKPdf**	21 26 23.6	-0.1
SUMG	**Summit**	122.77	14	*i* PKIKP		**PKiKP**	21 26 23.9	0.0
SUMG				pmax		pmax		
	comp=Z,73nm,1.1s							
SUMG	**Summit**	122.77	14	*i* P		**PKiKP**	21 26 23.9	0.0
	comp=Z,73nm,1.1s							
HSPB	**Hornsund (broa**	123.30	357	*e*PKPdf		**PKiKP**	21 26 24.6	+0.2
SVE	**Sverdlovsk**	125.28	326	*c* *i*PKIKP		**PKPdf**	21 26 28.1	-0.3
SVE				pmax		pmax		
	comp=Z,61nm,1.2s							
ARU	**Arti**	126.49	326	*e*PKPdf		**PKPdf**	21 26 30.4	-0.3
ARU	**Arti**	126.49	326	*i* PKIKP		**PKPdf**	21 26 30.4	-0.3
ARU							21 28 26.1	
ARU							21 33 28.2	
ARU				SP		SP	21 38 18.5	+3.1
ARU				SS		**SS**	21 45 25.7	+4.8
ARU	**Arti**	126.49	326	PKP		**PKPdf**	21 26 30.9	+0.2
	comp=Z,15nm,0.6s,baz=49,slow=0.4,SNR=46							
BOSA	**Boshof**	127.01	203	PKP		**PKiKP**	21 26 33.8	+0.4
	comp=Z,5.3nm,0.5s,baz=175,slow=1.8,SNR=23							
BOSA				PKPPKP			21 44 57.9	
	comp=Z,1.3nm,0.7s,baz=45,slow=2.9,SNR=3.8							
ABKAR	**

ALNE Al Ain 132.45 284 *i* PKiKP **PKiKP 21 26 43.7 -0.5**
SNR=11
RCBR Riachuelo 132.61 119 *eP* **PKiKP 21 26 46.6 +1.7**
NAZ Nazwa, Dubai 132.63 285 *i* PKiKP **PKiKP 21 26 44.1 -0.4**
SNR=8.2
NAZ Nazwa, Dubai 132.63 285 P **SKPbc 21 29 58.1 +1.5**
SNR=5.2
FAQ Al Faqa, Dubai 132.66 285 PKPdf **PKPdf 21 26 39.9 -3.5**
FAQ Al Faqa, Dubai 132.66 285 PKPdf **PKPdf 21 26 42.7 -0.8**
FAQ Al Faqa, Dubai 132.66 285 P **SKPbc 21 29 58.2 +1.4**
UMQ Umm Al-Quwin 132.68 286 P **SKPbc 21 29 59.5 +2.7**
MATP Matopo 132.80 212 PKhKP PKPpre 21 26 31.3
comp=Z,2.2nm,0.6s,baz=162,slow=3.8,SNR=10
MATP PKP **PKPdf 21 26 44.2 +0.2**
comp=Z,12nm,0.8s,baz=238,slow=1.8,SNR=6.0
MATP SKPbc **SKPab 21 30 00.3 +1.1**
comp=Z,95nm,1.2s,baz=121,slow=4.8,SNR=16
KLMR Klimovskoe 132.82 337 *e*PKHKP PKPpre 21 26 33.7
KLMR pmax pmax
comp=Z,20nm,0.8s
ASUD Al Ashush, Dub 132.89 285 *i* PKiKP **PKPdf 21 26 44.1 +0.2**
SNR=7.3
ASUD Al Ashush, Dub 132.89 285 P **SKPbc 21 29 59.2 +1.7**
AJN Ajban 133.19 285 P **SKPbc 21 29 59.7 +1.2**
STOK Stokkvaagen 133.95 355 *e*PKPdf **PKPdf 21 26 45.2 +0.7**
NSS Namsos 135.81 355 *e* PKPdf 21 26 40.3 -7.8
NSS *e*PKPdf **PKiKP 21 26 48.9 -0.8**
FIA1 FINESS Array S 136.46 345 *e*PKPdf **PKPdf 21 26 50.2 +0.8**
FINES FINESS Array B 136.46 345 PKhKP PKPpre 21 26 37.5
comp=Z,3.8nm,0.5s,baz=35,slow=2.1,SNR=23
FINES PKP **PKPdf 21 26 49.6 +0.2**
comp=Z,8.1nm,0.4s,baz=101,slow=3.0,SNR=18
FINES SKPbc **SKPbc 21 30 09.5 +1.8**
comp=Z,10nm,0.9s,baz=42,slow=5.9,SNR=6.1
MOS Moscow 136.98 333 *i* PKiKP **PKPdf 21 26 49.6 -0.9**
TBLU Trondheim 137.20 356 *e*PKPdf **PKPdf 21 26 51.0 +0.3**
LSZ Lusaka 137.27 215 *e*PKPpre **PKPdf 21 26 52.0 -0.5**
LSZ *e*PKPdf **PKPdf 21 26 52.1 -0.4**
LSZ Lusaka 137.27 215 PKP **PKPdf 21 26 52.1 -0.4**
comp=Z,15nm,0.7s,baz=98,slow=1.4,SNR=6.7
LSZ SKPbc **SKiKP 21 30 14.6 -1.8**
comp=Z,17nm,1.2s,baz=118,slow=3.2,SNR=3.0
MAK Makhachkala 137.61 312 *eP* **Pdif 21 23 59.7 -1.4**
MAK *i* 21 26 52.5
MAK *e* 21 29 39.0
MAK *e*SS SS 21 47 36.8 +0.1
MAK pmax pmax
comp=Z,124nm,1.1s
VRH Novokhopyorsk 137.72 325 *e*PKiKP **PKPdf 21 26 51.4 -0.6**
VRH pmax pmax
comp=Z,50nm,1.0s
OBN Obninsk 137.85 333 *i* PKiKP **PKPdf 21 26 51.8 -0.3**
OBN pmax pmax
comp=Z,53nm,1.2s
OBN Obninsk 137.85 333 SKPbc **SKPbc 21 30 13.9 +1.9**
comp=Z,11nm,0.7s,baz=58,slow=2.5,SNR=18
TSUM Tsumeb 138.32 199 *e*PKPdf **PKPdf 21 26 53.1 -1.3**
TSUM Tsumeb 138.32 199 PKhKP PKPpre 21 26 50.0
comp=Z,2.7nm,0.7s,baz=162,slow=5.6,SNR=5.5
TSUM PKP **PKiKP 21 26 57.1 +0.6**
comp=Z,4.1nm,0.8s,baz=166,slow=4.8,SNR=5.7
TSUM SKPbc **SKPbc 21 30 15.9 +1.1**
comp=Z,14nm,1.0s,baz=185,slow=6.8,SNR=5.5
LPSR Galich'ya Gora 138.36 329 *e*PKiKP **PKPdf 21 26 53.1 0.0**
LPSR pmax pmax
comp=Z,30nm,1.2s
GROC Groznyy 138.72 313 *e*PKHKP PKPpre 21 26 42.7
GROC *e* 21 26 51.9
GROC pmax pmax
comp=Z,20nm,1.2s
VSU Vasula 138.83 342 ⇑*i*PKiKP **PKiKP 21 26 56.6 +0.6**
VSU pmax pmax
comp=Z,98nm,1.0s
VSU Vasula 138.83 342 *eP* PKPdf 21 26 45.3 -8.5
VSU IAmb IAmb 21 26 50.3
comp=Z,81nm,0.8s
VSR Storozhevoye 139.05 327 *e*PKiKP **PKPdf 21 26 52.7 -1.8**
VSR pmax pmax
comp=Z,20nm,0.8s
NC303 NORSAR Array S 139.13 355 *e*PKPpre **PKPdf 21 26 46.9 -7.4**
NC303 *e*PKPdf **PKiKP 21 26 52.3 -4.3**
VORD Divnogorie 139.13 326 *e*PKiKP **PKPdf 21 26 53.9 -0.7**
VORD pmax pmax
comp=Z,30nm,1.2s
NC405 NORSAR Array S 139.21 354 *e*PKPpre **PKPdf 21 26 48.7 -5.8**
NB201 NORSAR Array S 139.31 355 *e*PKPpre **PKPdf 21 26 47.8 -6.9**
NB201 *e*PKPdf **PKPdf 21 26 52.1 -2.6**
NB2 NORSAR Subarra 139.32 355 PKPdf PKPdf 21 26 46.2 -8.6
comp=Z,50nm,1.4s,baz=6.6,slow=1.8
NB2 NORSAR Subarra 139.32 355 *e* PKPdf 21 26 46.2 -8.6
baz=6.6,slow=1.8
NOA NORSAR Array B 139.32 355 PKhKP **PKPdf 21 26 47.2 -7.6**
comp=Z,14nm,0.8s,baz=16,slow=5.1,SNR=16
NOA SKPbc **SKiKP 21 30 18.2 -0.9**
comp=Z,10nm,1.0s,baz=14,slow=4.4,SNR=4.5
HYA Hoyanger 139.47 359 *e*PKPdf **PKPdf 21 26 55.0 +0.1**
NAO01 NORSAR Array S 139.54 355 *e*PKPpre **PKPdf 21 26 49.0 -6.2**
NAO01 *e*PKPdf **PKiKP 21 26 53.3 -4.2**
NC602 NORSAR Array S 139.60 354 *e*PKPpre **PKPdf 21 26 48.8 -6.4**
NC602 *e*PKPdf **PKiKP 21 26 54.4 -3.2**
SKAR Skarslia 139.88 357 *e*PKPdf **PKPdf 21 26 56.0 +0.2**
TBLG Delisi 139.94 311 *e*PKPpre **PKPdf 21 26 49.7 -6.8**
TBLG *e*PKPdf **PKiKP 21 26 59.7 +0.7**
TBLG Delisi 139.94 311 *e*PKHKP **PKPdf 21 26 49.7 -6.8**
HFS Hagfors 139.96 353 SKPbc **SKiKP 21 30 19.5 -0.8**
comp=Z,13nm,0.9s,baz=163,slow=1.5,SNR=4.0
ZEI Tsey 140.16 313 *i* PKHKP PKPpre 21 26 49.9
ZEI pmax pmax
comp=Z,22nm,0.9s
GNI Garni 140.43 309 *e*PKPpre **PKPdf 21 26 51.6 -6.1**
GNI *e*PKPdf **PKiKP 21 26 59.0 -1.2**
GNI Garni 140.43 309 *i* PKPdf **PKPdf 21 26 51.5 -6.1**
SNR=6.6
GNI Garni 140.43 309 ⇑*i*PKiKP **PKiKP 21 26 59.0 -1.2**
KBZ Khabaz 140.49 315 PKhKP PKPpre 21 26 51.0
comp=Z,6.3nm,0.7s,baz=95,slow=3.9,SNR=13
KBZ PP **PP 21 29 53.6 -4.2**
comp=Z,4.6nm,0.9s,baz=87,slow=9.6,SNR=3.6
KBZ SKPbc **SKiKP 21 30 22.7 +0.8**
comp=Z,6.5nm,0.8s,baz=100,slow=9.1,SNR=4.7
KIV Kislovodsk 140.54 315 *e*PKPpre **PKPdf 21 26 51.6 -6.0**
KIV *e*PKPdf **PKPdf 21 27 00.7 +3.2**
KIV Kislovodsk 140.54 315 ⇑*i*P PKPdf 21 26 49.1 -8.5
KIV Kislovodsk 140.54 315 *i* PKPdf **PKPdf 21 26 50.8 -6.8**
SNR=7.0
KIV Kislovodsk 140.54 315 *i* PKiKP **PKiKP 21 26 59.4 -0.8**
KIV *e* 21 29 57.4
KIV pmax pmax
comp=Z,59nm,1.0s
AKH Akhalkalaki 140.93 311 *e*PKPpre **PKPdf 21 26 53.5 -5.0**
AKH *e*PKPdf **PKiKP 21 27 00.8 -0.4**
AKH Akhalkalaki 140.93 311 ⇑*i*P **PKPdf 21 26 53.4 -5.1**
AKH Akhalkalaki 140.93 311 *e*PKHKP **PKPdf 21 26 53.5 -5.0**
KMBO Kilima Mbogo 141.12 240 *e*PKPpre PKPpre 21 26 54.9
KMBO *e*PKPdf **PKPdf 21 26 59.2 -0.6**
KMBO Kilima Mbogo 141.12 240 *i* PKPdf **PKPdf 21 26 54.6 -5.1**
SNR=15
KMBO Kilima Mbogo 141.12 240 *c i*PKiKP **PKiKP 21 27 04.0 +1.5**
KMBO pmax pmax
comp=Z,11nm,0.8s
KMBO Kilima Mbogo 141.12 240 PKhKP **PKPdf 21 26 54.1 -5.6**
comp=Z,10nm,0.7s,baz=85,slow=2.5,SNR=24
KMBO SKPbc **SKiKP 21 30 26.7 +2.1**
comp=Z,32nm,1.1s,baz=9.4,slow=2.4,SNR=8.4
IZAR Zarasai 141.25 340 *eP* **PKPdf 21 26 53.6 -4.7**
IZAR IAmb IAmb 21 26 56.9
comp=Z,18nm,0.5s
ISAL Salakas 141.43 340 *eP* **PKPdf 21 26 54.2 -4.5**
ISAL IAmb IAmb 21 26 58.8
comp=Z,11nm,0.6s
IDID Didziasalis 141.45 339 *eP* **PKPdf 21 26 53.6 -5.1**
IDID IAmb IAmb 21 27 02.1
comp=Z,14nm,0.8s
KARS Kars 141.49 310 *e*PKPpre **PKPdf 21 26 55.6 -3.9**
KARS Kars 141.49 310 *e*PKiKP **PKPdf 21 26 55.6 -3.9**
IIGN Ignalina 141.59 340 *eP* **PKPdf 21 26 54.4 -4.6**
IIGN IAmb IAmb 21 27 01.0
comp=Z,23nm,0.6s
MICGM Minsk 141.71 338 *e* **PKPdf 21 26 56.0 -3.2**
MNK Minsk 141.71 338 *e*PKiKP **PKPdf 21 26 56.0 -3.2**
NACGM Naroch 141.77 339 *e*PKP **PKPdf 21 26 55.0 -4.3**
NACGM *e*PKS PP 21 30 36.0 +31
NACGM *e*SKKS 21 36 40.0
NACGM *e*SS SS 21 47 36.0 -48
NACGM *e*LR LR 21 59 52.0
PABE Paberze 142.15 342 *eP* **PKPdf 21 26 55.1 -4.8**
PABE IAmb IAmb 21 26 59.9
comp=Z,50nm,0.7s
BCA Borcka 142.23 312 ⇓*iP* **PKPdf 21 26 55.1 -5.5**
PBUR Paburg 142.26 344 *eP* **PKPdf 21 26 56.4 -3.7**
PBUR IAmb IAmb 21 27 01.4
comp=Z,94nm,0.6s
SNART Snartemo 142.27 357 *e* **PKPdf 21 26 56.3 -3.8**
SNART *e*PKPdf **PKiKP 21 27 00.3 -2.8**
HOMB Homborsund 142.27 356 *e*PKPdf **PKPdf 21 26 59.2 -0.9**
SHEL Horse Pasture 142.34 164 *e*PKPdf **PKPdf 21 26 59.9 -1.6**
SHEL Horse Pasture 142.34 164 *e*PKiKP **PKPdf 21 26 59.9 -1.6**
SOC Sochi 142.65 316 *d i*PKHKP PKPpre 21 26 55.6
SOC *e*PPP PPP 21 33 18.1
SOC pmax pmax
comp=Z,25nm,0.6s
ANN Anapa 143.51 319 *i* PKHKP PKPpre 21 26 58.8
ANN pmax pmax
comp=Z,373nm,2.5s
SUW Suwalki 143.67 341 *e*PKP PKPab 21 26 59.3 -0.3
SUW *e*PP **PP 21 30 10.8 -5.4**
SUW Suwalki 143.67 341 *e*PKHKP PKPab 21 26 59.3 -0.4
EAB Aberfoyle 143.91 8 *eP* PKPab 21 27 00.3 -0.3
EBH Black Hill 143.96 7 *eP* PKPab 21 27 00.6 -0.2
MUD Monsted U'grnd 144.03 355 ⇓*i*PKiKP PKPbc 21 27 01.3 -0.2
MUD Monsted U'grnd 144.03 355 ⇓*iP* PKPbc 21 27 01.3 -0.2
AKASG Malin Array Be 144.11 333 PKP PKPbc 21 27 01.9 -0.1
comp=Z,100nm,0.7s,baz=39,slow=5.4,SNR=167
AKASG SKPbc **SKiKP 21 30 29.7 +0.5**
comp=Z,26nm,1.1s,baz=32,slow=3.1,SNR=11
KIEV Kiev 144.12 333 ⇓*iP* **PKPab 21 27 00.4 -1.1**
KIEV Kiev 144.12 333 *i* PKPdf **PKPab 21 27 01.3 -0.3**
SNR=154
KIEV Kiev 144.12 333 ⇓PKHKP **PKPab 21 27 00.5 -1.1**
H07N1 FLORES T-PHASB 44.31 50 *e*PKP PKPbc 21 27 03.2 +0.2
H07S1 FLORES T-PHASB 44.36 50 *e*PKP **PKPab 21 27 02.5 -0.4**
EAU Auchinoon 144.36 7 *eP* **PKPab 21 27 02.4 +0.1**
ESY Stoneypath 144.39 7 *eP* **PKPab 21 27 01.8 -0.6**
COP Copenhagen 144.46 352 ⇓*i*PKiKP **PKPab 21 27 02.6 0.0**
COP Copenhagen 144.46 352 ⇓*iP* **PKPab 21 27 02.6 0.0**
EBL Broad Law 144.48 7 *eP* **PKPab 21 27 02.6 -0.1**
BSD Bornholm Skovb 144.63 349 ⇓*i*PKiKP **PKPab 21 27 02.8 -0.5**
BSD Bornholm Skovb 144.63 349 ⇓*iP* **PKPab 21 27 02.8 -0.5**
DESE Dese 144.74 260 *i* P **PKPab 21 27 05.2 -0.2**
DESE Dese 144.74 260 *i* P **PKPab 21 27 05.2 -0.2**
EKA Eskdalemuir Ar 144.90 7 PKP PKPbc 21 27 03.8 -0.5
comp=Z,44nm,0.5s,baz=334,slow=2.9,SNR=108
ESK Eskdalemuir 144.91 7 *e*PKPbc **PKPab 21 27 04.5 +0.1**
ESK Eskdalemuir 144.91 7 *e*PKiKP **PKPab 21 27 04.5 +0.1**
BHH Howats Hill 145.13 8 *eP* **PKPbc 21 27 03.8 -1.2**
GAL1 Galloway 145.15 9 *eP* **PKPbc 21 27 03.7 -1.3**
SIM Simferopol' 145.42 321 *d i*PKiKP **PKPab 21 27 07.0 +0.4**
SIM pmax pmax
comp=Z,751nm,0.8s
EDMD Edmundbyers 145.53 6 *eP* **PKPdf 21 27 05.9 +0.1**
GMM Mts of Mourne 145.55 11 *eP* **PKPbc 21 27 06.2 -0.1**
IGLA Glengowla, Co 145.63 14 *eP* **PKPdf 21 27 05.6 -0.5**
IOMK Kirk Michael 145.75 9 *eP* **PKPdf 21 27 06.6 +0.3**
WIM Isle of Man 145.85 9 *eP* **PKPdf 21 27 06.3 -0.1**
GKP Gorka Klasztor 145.91 346 *e*PKP **PKPbc 21 27 07.3 -0.2**
GKP Gorka Klasztor 145.91 346 *e*PKP2 **PKPbc 21 27 07.3 -0.2**
GDLE Glaisdale, N Y 146.04 5 *eP* **PKPbc 21 27 07.5 -0.4**
BEL Belsk 146.28 341 *e*PKP **PKPbc 21 27 08.1 -0.5**
BEL Belsk 146.28 341 *e*PKP2 **PKPbc 21 27 08.1 -0.5**
HPK Haverah Park 146.42 6 *eP* **PKPbc 21 27 09.2 +0.2**
PCED Cedros 146.45 50 *e*PKP **PKPab 21 27 10.6 -0.2**
DIKM Dikmen 146.46 316 ⇑*iP* **PKPab 21 27 10.3 -0.4**
CALA Caldeira 146.47 50 *e*PKP **PKPab 21 27 11.5 +0.5**
HOR Horta 146.54 51 *e*PKP **PKPab 21 27 10.9 -0.2**
MBAR Mbarara 146.58 234 *e*PKPdf **PKPbc 21 27 10.4 -0.5**
WPS Cemaes, Angles 146.60 10 *eP* **PKPbc 21 27 09.1 -0.3**
WME Myndd Eilian 146.63 9 *eP* **PKPdf 21 27 07.9 +0.1**
PCAN Candelaria 146.67 51 *e*PKP **PKiKP 21 27 12.8 0.0**
PICO Pico 146.70 50 *e*PKP **PKiKP 21 27 12.8 -0.2**
WLF1 Llynfaes 146.72 9 *eP* **PKPbc 21 27 09.5 -0.3**
YRC Rhoscolyn 146.73 10 *eP* **PKPbc 21 27 09.4 -0.5**
ROSA Rosais 146.74 50 *e*PKP **PKiKP 21 27 14.6 +1.6**
PGRA Graciosa 146.80 49 *e*PKP **PKiKP 21 27 13.8 +0.7**
PPNO Prainha do Nor 146.82 50 *e*PKP **PKiKP 21 27 14.1 +0.9**
PMAN Manadas 146.89 50 *e*PKP **PKiKP 21 27 15.8 +2.6**
LVV L'vov 146.90 336 *e*PKiKP **PKPdf 21 27 08.0 -0.4**
LVV *e* 21 27 54.5
LVV *e* 21 30 37.9
LVV *e* 21 34 01.9
LVV *e* 21 50 08.9
LVV MLR MLR
comp=N,400nm,23.0s
LVV MLR MLR
comp=E,900nm,23.0s
LVV MLR MLR
comp=Z,300nm,23.0s
LBWR Ladybower, Pea 146.96 7 *eP* **PKPbc 21 27 10.6 +0.1**
KIS Kishinev 146.97 329 ⇑*e*PKP **PKPdf 21 27 09.0 +0.5**
comp=Z,1μm,2.1s
KIS *e*pPKP pPKPab 21 27 53.0 +2.2
KIS *e*sPKP 21 28 05.0
KIS Kishinev 146.97 329 *e*PP PP 21 30 42.0 +5.9
KIS LRM MLR 22 33 55.0
comp=Z,900nm,22.0s
KIS Kishinev 146.97 329 ⇑*e*PKiKP **PKPdf 21 27 09.0 +0.5**
KIS *e* 21 27 53.0
KIS *e* 21 30 42.0
KIS pmax pmax
comp=Z,1μm,2.1s
KIS pmax pmax
comp=Z,4μm,15.0s
KIS MLR MLR
comp=Z,900nm,22.0s
BZK Bozkurt 147.11 317 ⇑*iP* **PKPbc 21 27 11.1 -0.2**
HCB Kahramanmara 147.14 308 *i* P **PKPab 21 27 12.9 -0.7**
STNC Stoke 147.21 7 *eP* **PKPbc 21 27 11.6 +0.4**
LLW Llanuwychllyn 147.26 9 *eP* **PKPdf 21 27 09.7 +0.9**
FOEL Foel Wylfa 147.28 8 *eP* **PKPbc 21 27 11.5 0.0**
RUE Ruedersdorf 147.35 349 *eP* **PKPbc 21 27 11.1 -0.5**
RUE IAmb IAmb 21 27 16.8
comp=Z,176nm,0.9s
KAMA Osmaniye 147.37 307 *i* P **PKPdf 21 27 10.8 +1.2**
IAS Iasi 147.43 330 ⇓*iP* **PKPbc 21 27 12.2 +0.2**
IAS Iasi 147.43 330 ⇓PKP2 **PKPbc 21 27 12.2 +0.2**
ADH Angra Heroismo 147.49 50 *e*PKP **PKPbc 21 27 11.8 -0.6**
KWP Kalwaria Pacla 147.54 337 *e*PKP **PKPbc 21 27 11.6 -0.7**
KWP Kalwaria Pacla 147.54 337 *e*PKPdf **PKPbc 21 27 12.6 +0.3**
KWP Kalwaria Pacla 147.54 337 *e*PKP2 **PKPbc 21 27 11.6 -0.7**
PSCM Serra do Cume 147.55 49 *e*PKP **PKPab 21 27 15.3 +0.1**
LEOM Leova 147.62 328 ⇑*iP* **PKPbc 21 27 13.3 +0.8**
LEOM Leova 147.62 328 ⇑PKP2 **PKPbc 21 27 13.3 +0.8**
CWF Charnwood Fore 147.66 6 *eP* **PKPbc 21 27 11.2 -1.2**
WACR West Acre 147.84 4 *eP* **PKPbc 21 27 12.4 -0.5**
PRAR RASCA 147.92 331 ⇑*iP* **PKPbc 21 27 12.4 -1.0**
OJC Ojcow 148.00 341 *e*PKP **PKPbc 21 27 12.6 -0.9**
OJC Ojcow 148.00 341 *e*PKPdf **PKPdf 21 27 10.3 +0.1**
OJC *e*PKPbc **PKPbc 21 27 14.3 +0.8**
OJC Ojcow 148.00 341 *e*PKiKP **PKPdf 21 27 10.3 +0.1**
OJC *e* 21 27 14.3
BIR Birlad 148.06 329 ⇓*iP* **PKPbc 21 27 14.4 +0.7**
BIR Birlad 148.06 329 ⇓PKP2 **PKPbc 21 27 14.5 +0.7**
BUR08 Bucovina Ar. S 148.16 333 *e*PKPbc **PKPab 21 27 16.9 -0.5**
BURAR Bucovina Array 148.17 333 ⇓*iP* **PKPbc 21 27 14.9 +0.8**
BURAR Bucovina Array 148.17 333 ⇓PKP2 **PKPbc 21 27 14.9 +0.8**
MCH1 Michaelchurch 148.18 9 *eP* **PKPdf 21 27 11.4 +1.0**
TLCR 148.21 326 ⇑*iP* **PKPbc 21 27 14.8 +0.7**
TLCR 148.21 326 ⇑PKP2 **PKPbc 21 27 14.8 +0.7**
YURE YUREGIR 148.28 307 *i* P **PKPdf 21 27 12.2 +1.1**
KOLS Kolonicke sedl 148.28 337 *e*PKiKP **PKPdf 21 27 11.3 +0.6**
KOLS *e* 21 27 16.1
KOLS Kolonicke sedl 148.28 337 *e*PKP **PKPdf 21 27 11.3 +0.6**
KOLS *e* 21 27 16.1
KOLS *e* 21 27 19.6
BIZ Bicaz 148.29 331 ⇓*iP* **PKiKP 21 27 15.3 -0.6**
GIUM Giurgiulesti 148.32 327 ⇑*iP* **PKPbc 21 27 14.4 0.0**
TESR Tescani 148.36 330 ⇑*iP* **PKPbc 21 27 13.8 -0.7**
MONM Monmouth 148.36 8 *eP* **PKPbc 21 27 13.2 -1.1**
KSP Ksiaz 148.38 345 *e*PKP **PKiKP 21 27 15.4 -0.6**
KSP Ksiaz 148.38 345 *e*PKP2 **PKiKP 21 27 15.4 -0.6**
BR131 Keskin Array S 148.46 314 *e*PKPbc **PKPbc 21 27 15.4 +0.2**
BRTR Keskin Array B 148.46 314 PKPbc **PKPbc 21 27 15.2 0.0**
comp=Z,48nm,0.8s,baz=154,slow=2.6,SNR=86
STRD Stroud 148.51 8 *eP* **PKPbc 21 27 14.3 -0.4**
UZH Uzhgorod 148.52 337 *e*PKiKP **PKPdf 21 27 12.0 +0.9**
UZH *i* 21 27 16.0
UZH *e* 21 27 40.6
UZH *i* 21 27 57.0
NIE Niedzica 148.54 340 *e*PKP **PKPbc 21 27 15.6 +0.7**
NIE Niedzica 148.54 340 *e*PKP2 **PKPbc 21 27 15.6 +0.7**
CFR Carcaliu 148.57 327 ⇓*iP* **PKPbc 21 27 15.2 +0.1**
CFR Carcaliu 148.57 327 ⇓PKP2 **PKPbc 21 27 15.2 +0.1**
OLDB Oldbury-Upon-S 148.57 8 *eP* **PKPdf 21 27 09.8 -1.2**
RAC Raciborz 148.59 343 *e*PKiKP **PKPdf 21 27 11.1 0.0**
CLL Collm 148.62 349 *e*PKPbc **PKPbc 21 27 15.4 +0.4**
CLL Collm 148.62 349 ⇓*e*PKiKP **PKPdf 21 27 11.0 -0.1**
CLL *i* 21 27 19.3
CLL *e* 21 30 41.0
CLL pmax pmax
comp=Z,151nm,0.6s
CLL pmax pmax
comp=Z,169nm,1.2s
CLL Collm 148.62 349 *e*PKPdf **PKPdf 21 27 11.0 -0.1**
CLL ⇓*i*PKPbc **PKPbc 21 27 15.4 +0.4**
comp=Z,151nm,0.6s
CLL ⇑*i*PKPab **PKPab 21 27 19.3 +0.4**
comp=Z,169nm,1.2s
CLL *ep*PKPbc **pPKPbc 21 27 55.0 +0.9**
comp=Z,110nm,1.1s
CLL *e*SKPbc **SKiKP 21 30 41.0 +2.5**
CLL *e*SS **SS 21 49 39.0 -2.3**
CLL *es*SS 21 50 45.0
CLL *e*SSS SSS 21 55 22.0
PETR Petresti 148.65 328 ⇑*iP* **PKiKP 21 27 16.2 -0.4**
WTSB Winterswijk 148.66 357 *e*PKPbc **PKPbc 21 27 15.1 0.0**
WTSB *ep*PKPbc **pPKPbc 21 27 54.8 +0.7**
ODBI Odobesti 148.70 329 ⇑*iP* **PKiKP 21 27 16.8 0.0**
UPC Upice 148.76 345 *e*PKiKP **PKPdf 21 27 12.2 +0.8**
UPC *e* 21 27 16.2
UPC Upice 148.76 345 *e*PKPDF **PKPdf 21 27 12.2 +0.8**
UPC ⇑*e*PKP **PKiKP 21 27 16.2 -0.6**
UPC *e*PKPAB **PKPab 21 27 21.9 +2.3**
UPC *e*SS SS 21 49 37.7 -5.4
TOTH TOTAH 148.77 301 *eP* **PKiKP 21 27 17.2 -0.2**
VRI Vrincioaia 148.79 329 ⇓*iP* **PKPbc 21 27 15.8 +0.1**
VRI Vrincioaia 148.79 329 ⇓PKP2 **PKPbc 21 27 15.8 +0.1**
DPC Dobruska-Polom 148.83 345 *e*PKiKP **PKPdf 21 27 12.5 +0.9**
DPC *e* 21 27 16.5
DPC *e* 21 27 57.3
DPC *e*SS SS 21 49 38.9 -5.1
DPC Dobruska-Polom 148.83 345 *e*PKPDF **PKPdf 21 27 12.5 +0.9**
DPC ⇑*e*PKP **PKiKP 21 27 16.5 -0.5**
DPC *e*PKPAB **PKPab 21 27 22.0 +2.1**
DPC *ep*PKP **pPKPab 21 27 57.3 -0.8**
DPC *e*SS SS 21 49 38.9 -5.1
PLOR Plostina 148.84 329 ⇑*iP* **PKPbc 21 27 15.7 -0.1**
PLOR Plostina 148.84 329 ⇑PKP2 **PKPbc 21 27 15.7 -0.1**
BMR Baia Mare 148.84 334 ⇓*iP* **PKiKP 21 27 16.4 -0.6**
BMR Baia Mare 148.84 334 ⇓PKP2 **PKiKP 21 27 16.4 -0.6**
DED Mersin 148.84 308 *i* P **PKiKP 21 27 16.9 -0.4**
TRPA Tarpa 148.84 336 ⇓*iP* **PKPdf 21 27 13.3 +1.7**
TRPA Tarpa 148.84 336 ⇓*eP* **PKPdf 21 27 11.1 -0.5**
QASN Qassioun 148.85 301 *eP* **PKiKP 21 27 17.6 0.0**
BRG Berggiesshubel 148.86 348 *i* PKP **PKPdf 21 27 12.1 +0.5**
comp=Z,43nm,1.4s
BRG *i* sPKP 21 27 53.1
comp=Z,76nm,1.1s
BRG *e*SKP 21 30 33.6
comp=Z,56nm,1.9s
BRG Berggiesshubel 148.86 348 *i* PKIKP **PKPdf 21 27 12.1 +0.5**
BRG *i* 21 27 53.1
BRG pmax pmax
comp=Z,43nm,1.4s
BRG pmax pmax
comp=N,77nm,1.1s
BRG pmax pmax
comp=N,56nm,1.9s
PSET Sete Cidades 148.92 50 *e*PKP **PKiKP 21 27 17.8 +0.3**
ARCR ARCALIA 148.95 333 ⇓*iP* **PKiKP 21 27 16.9 -0.4**
ANTO Ankara 148.96 314 *e*PKPdf **PKPdf 21 27 12.6 +0.4**
ANTO *e*PKPbc **PKiKP 21 27 17.3 -0.3**
ANTO Ankara 148.96 314 ⇓*iP* **PKPbc 21 27 17.0 +0.6**
ANTO Ankara 148.96 314 ⇓PKP2 **PKPbc 21 27 17.0 +0.6**
KRLC Kraliky 148.97 344 *e*PKiKP **PKPdf 21 27 12.5 +0.7**
KRLC *e* 21 27 57.6
KRLC Kraliky 148.97 344 *e*PKPDF **PKPdf 21 27 12.5 +0.7**
KRLC ⇑*e*PKP **PKPbc 21 27 16.3 +0.3**
KRLC *e*PKPAB **PKPab 21 27 22.4 +1.9**
KRLC *ep*PKP **pPKPab 21 27 57.6 -1.1**
PDA Ponta Delgada 148.99 50 *e*PKP **PKPdf 21 27 14.1 +1.9**
HARR Harsova 149.01 326 ⇑*iP* **PKPbc 21 27 16.2 0.0**
HARR Harsova 149.01 326 ⇑PKP2 **PKPbc 21 27 16.2 0.0**
TLB Topalu 149.02 326 ⇓*iP* **PKiKP 21 27 17.1 -0.3**
TLB Topalu 149.02 326 ⇓PKP2 **PKiKP 21 27 17.1 -0.3**
BISRR Bisoca 149.03 329 ⇑*iP* **PKiKP 21 27 17.0 -0.5**
LANS Liptovska Anna 149.04 340 *e*PKiKP **PKPdf 21 27 13.2 +1.2**
LANS *e* 21 27 17.9
LANS Liptovska Anna 149.04 340 *e*PKP **PKPdf 21 27 13.2 +1.2**
LANS *e* 21 27 17.9
MORC Moravsky Berou 149.05 343 *e*PKPbc **PKPbc 21 27 16.3 +0.1**
MORC Moravsky Berou 149.05 343 ⇑*iP* **PKPdf 21 27 12.5 +0.5**
MORC Moravsky Berou 149.05 343 ⇑PKIKP **PKPdf 21 27 12.5 +0.5**
MORC Moravsky Berou 149.05 343 *e*PKP **PKPdf 21 27 11.8 -0.2**
MORC *e* 21 27 16.7
EFOR EFORIE 149.05 325 ⇓*iP* **PKiKP 21 27 17.1 -0.4**
PVCC Panska Ves 149.06 347 *e*PKIKP **PKPdf 21 27 12.5 +0.6**
PVCC *e* 21 27 17.2
PVCC *e*SS SS 21 49 42.8 -3.6
PVCC Panska Ves 149.06 347 *e*PKPDF **PKPdf 21 27 12.5 +0.6**
PVCC ⇑*e*PKP **PKiKP 21 27 17.2 -0.2**
PVCC *e*SS SS 21 49 42.8 -3.6
OZUR 149.07 330 ⇑*iP* **PKPbc 21 27 15.2 -1.2**
GRON Grota Negra 149.08 50 *e*PKP **PKPbc 21 27 15.8 -0.9**
CMLA Cha da Macela 149.09 50 *e*PKP **PKiKP 21 27 18.0 +0.2**
CMLA Cha da Macela 149.09 50 *i* PKP2 **PKPab 21 27 20.2 -1.2**
MFTR Murfatlar 149.10 325 ⇑*iP* **PKPdf 21 27 13.5 +1.4**
PCALD Caldeiras da R 149.10 50 *e*PKP **PKPdf 21 27 13.1 +0.7**
BRBR Barbar 149.15 301 *eP* **PKiKP 21 27 18.1 -0.3**
CVDA Cernavoda 149.20 326 ⇑*iP* **PKiKP 21 27 17.7 -0.1**
BHL Bhannes 149.24 302 *eP* **PKPdf 21 27 12.8 0.0**
HSUJ Al Zarqa 149.29 298 P **PKiKP 21 27 18.3 -0.2**
KECS Kecovo 149.29 339 *e*PKP2 **PKiKP 21 27 17.5 -0.4**
KECS Kecovo 149.29 339 *e*PKP **PKiKP 21 27 17.5 -0.4**
KECS *e* 21 27 24.6
SHBL Chebaa 149.33 301 *eP* **PKPdf 21 27 13.3 +0.3**
BART Pico Bartolome 149.33 50 *e*PKP **PKiKP 21 27 19.3 +0.9**
DOPR Dopca 149.35 330 ⇓*iP* **PKiKP 21 27 17.7 -0.4**
DQRL Deir Qamar 149.37 302 *eP* **PKPdf 21 27 13.9 +0.8**
AMRR Amara 149.37 327 ⇓*iP* **PKiKP 21 27 18.0 -0.2**
AMRR Amara 149.37 327 ⇓PKP2 **PKiKP 21 27 18.0 -0.2**
ISR Istrita 149.42 328 ⇑*iP* **PKiKP 21 27 18.2 -0.1**
ISR Istrita 149.42 328 ⇑PKP2 **PKiKP 21 27 18.2 -0.1**
MLR Muntele Rosu 149.44 329 *e*PKPdf **PKPdf 21 27 12.4 -0.4**
MLR *e*PKPbc **PKiKP 21 27 18.4 -0.1**
MLR Muntele Rosu 149.44 329 ⇓*iP* **PKPdf 21 27 13.3 +0.5**
MLR Muntele Rosu 149.44 329 PKPbc **PKPbc 21 27 17.4 0.0**
comp=N,14nm,0.3s,baz=239,slow=6.6,SNR=11
ICOR Ion Corvin 149.47 325 ⇑*iP* **PKiKP 21 27 18.6 +0.2**
PSN Preselentsi 149.55 324 P **PKPab 21 27 22.2 -0.8**
CJR Cluj-Napoca 149.56 333 ⇓*iP* **PKiKP 21 27 18.2 -0.4**
CJR Cluj-Napoca 149.56 333 ⇓PKP2 **PKiKP 21 27 18.2 -0.4**
PRU Pruhonice 149.58 347 *e*PKPDF **PKPdf 21 27 13.0 +0.3**
PRU ⇑*e*PKP **PKPbc 21 27 17.7 +0.3**
PRU *e*PKPAB **PKPab 21 27 24.7 +1.8**
PRU *ex* x 21 27 28.6
PRU *ex* x 21 27 57.7
PRU *e*SS SS 21 49 44.5 -7.6
**GOPC GO Pecny

NKC ⇑ePKP **PKiKP** 21 27 18.4 -0.4
NKC ePKPAB **PKPab** 21 27 24.7 +1.1
NKC eSS SS 21 49 43.7 -10
PLAR PLOIESTI 149.82 328 ⇑iP **PKiKP** 21 27 18.9 -0.2
VYHS Vyhne 149.82 341 ePKP **PKPdf** 21 27 13.4 +0.2
VYHS e 21 27 18.8
VYHS e 21 27 27.2
JAVC Velka Javorina 149.84 342 ePKP **PKPdf** 21 27 14.1 +0.8
JAVC e 21 27 19.8
BEBN Eben Emael 149.87 358 ⇓PKPbc **PKPbc** 21 27 18.5 +0.4
DRGR 149.87 334 ⇑iP **PKPdf** 21 27 13.6 +0.2
UCC Uccle 149.89 360 ePKPbc **PKPbc** 21 27 18.5 +0.4
UCC Uccle 149.89 360 ⇓PKPbc **PKPbc** 21 27 18.5 +0.4
HGN Heimansgroeve 149.89 358 ePKPbc **PKPbc** 21 27 18.2 0.0
HGN epPKPbc **pPKPab** 21 27 59.8 -2.4
VOIR 149.90 330 ⇓iP **PKPdf** 21 27 14.5 +1.0
PSZ Piszkesteto 149.98 339 ePKPbc **PKiKP** 21 27 20.0 +0.6
PSZ Piszkesteto 149.98 339 ⇓iP **PKPdf** 21 27 14.8 +1.3
PSZ Piszkesteto 149.98 339 ⇓eP **PKPdf** 21 27 16.1 +2.5
GHAJ Ghor Haditha 149.99 297 P **PKPdf** 21 27 14.2 +0.3
KRUC Moravsky 150.00 344 ePKP **PKPdf** 21 27 13.4 0.0
KRUC e 21 27 18.9
TREC Trest 150.02 345 ePKPDF **PKPdf** 21 27 14.0 +0.5
TREC ⇑ePKP **PKPbc** 21 27 19.0 +0.4
TREC ePKPAB **PKPab** 21 27 26.4 +1.6
TREC eSS SS 21 49 50.9 -6.2
MEM Membach 150.04 358 ⇓PKPbc **PKPbc** 21 27 18.8 +0.2
MEM ⇓pPKPbc **pPKPab** 21 28 00.1 -2.8
MTUR Matau 150.05 330 ⇑iP **PKiKP** 21 27 21.0 +1.3
MTUR Matau 150.05 330 ⇑PKP2 **PKiKP** 21 27 21.0 +1.3
ARR Arges 150.15 330 ⇓iP **PKiKP** 21 27 20.3 +0.4
PHNC Paralimni 150.15 305 P **PKPbc** 21 27 19.5 +0.2
SNF Seneffe 150.18 360 ⇓PKPbc **PKPbc** 21 27 19.0 +0.2
BCLA Clavier 150.26 359 ⇓PKPbc **PKPbc** 21 27 19.0 0.0
SILT Sile 150.29 319 ⇑iP **PKPbc** 21 27 18.2 -1.2
SGRR Singureni 150.34 327 ⇑iP **PKPbc** 21 27 19.5 +0.1
GOLR 150.39 329 ⇓iP **PKPbc** 21 27 19.6 0.0
MODS Modra-Piesok 150.39 342 ePKIKP **PKPdf** 21 27 14.0 -0.1
MODS Modra-Piesok 150.39 342 ePKP **PKPdf** 21 27 14.0 -0.1
MODS e 21 27 19.6
GRA1 Grafenberg Arr 150.47 351 ePKPbc **PKiKP** 21 27 21.4 +1.1
GRFO Grafenberg 150.47 351 ePKPdf **PKPdf** 21 27 14.5 +0.3
GRFO ePKPbc **PKiKP** 21 27 20.8 +0.5
GRFO Grafenberg 150.47 351 ePKIKP **PKPdf** 21 27 14.5 +0.3
LOT Lotru 150.48 331 ⇓iP **PKPdf** 21 27 14.4 -0.1
DEV Deva 150.52 333 ⇓iP **PKiKP** 21 27 20.5 0.0
DEV Deva 150.52 333 ⇓PKIKP **PKiKP** 21 27 20.5 0.0
DOU Dourbes 150.59 360 ⇓PKPbc **PKiKP** 21 27 20.3 -0.2
DOU ⇑pPKPbc **pPKPbc** 21 28 00.1 +1.1
KHC Kasperske Hory 150.59 347 ePKPbc **PKiKP** 21 27 20.6 0.0
KHC Kasperske Hory 150.59 347 ePKIKP **PKPdf** 21 27 14.7 +0.3
KHC e 21 27 45.1
KHC e 21 28 01.0
KHC eSS SS 21 49 59.2 -4.3
KHC Kasperske Hory 150.59 347 ePKPDF **PKPdf** 21 27 14.7 +0.3
KHC ⇑ePKP **PKPbc** 21 27 20.2 +0.2
KHC ePKPAB **PKPab** 21 27 29.1 +1.9
KHC ex x 21 27 45.1
KHC epPKP **pPKPbc** 21 28 01.0 +1.8
KHC eSS SS 21 49 59.2 -4.3
ZST Bratislava 150.60 342 ePKIKP **PKPdf** 21 27 15.2 +0.8
ZST e 21 27 27.5
ZST Bratislava 150.60 342 ePKP **PKPdf** 21 27 15.2 +0.8
ZST e 21 27 19.9
ZST e 21 27 27.5
HUMR Humele 150.61 329 ⇓iP **PKPbc** 21 27 17.4 -2.7
CSS Mathiatis 150.70 305 ePKPbc **PKPbc** 21 27 20.9 +0.2
MAMC Mammari 150.71 306 P **PKPbc** 21 27 20.6 0.0
SIRR Siria 150.72 335 ⇑iP **PKPdf** 21 27 15.1 +0.4
GEC2 GERESS Array S 150.84 347 ePKPbc **PKiKP** 21 27 21.4 +0.1
GERES GERESS Array B 150.84 347 PKP **PKPdf** 21 27 15.0 +0.1
comp=N,3.5nm,0.8s,baz=48,slow=2.0,SNR=25
GERES PKPbc **PKPbc** 21 27 20.7 +0.1
comp=N,63nm,0.8s,baz=16,slow=2.2,SNR=103
EIL Elat 150.85 294 P **PKPdf** 21 27 15.3 -0.1
WLF Walferdange 150.98 357 ⇑PKPbc **PKiKP** 21 27 21.8 +0.4
WLF ⇑pPKPbc **pPKPbc** 21 28 01.9 +2.0
CSKK Cskako 151.00 340 eP **PKPdf** 21 27 15.0 0.0
SZAC Souni 151.12 305 P **PKPbc** 21 27 21.6 -0.1
ALFC Alefka 151.18 306 P **PKPbc** 21 27 21.6 -0.2
CONA Conrad Observa 151.19 344 iPKPdf **PKPdf** 21 27 15.8 +0.4
comp=N,21nm,1.3s,SNR=21
CONA iPKiKP **PKiKP** 21 27 22.5 +0.5
comp=N,116nm,1.0s
CONA iPKPab **PKPab** 21 27 32.5 +2.7
comp=N,201nm,1.8s
CONA iPpKiKP **pPKPbc** 21 28 03.8 +3.1
comp=N,65nm,1.0s
SOP Sopron 151.22 343 ⇓eP **PKPdf** 21 27 14.0 -1.3
PHSR Pinarhisar 151.26 322 ⇓iP **PKiKP** 21 27 22.1 -0.1
BZS Buzias 151.27 334 ⇓iP **PKPbc** 21 27 21.7 +0.1
BZS Buzias 151.27 334 ⇓PKIKP **PKPbc** 21 27 21.7 +0.1
VLAD Vladila 151.28 329 ⇓iP **PKPdf** 21 27 16.9 +1.4
CRAR CRAIOVA 151.32 330 ⇑iP **PKiKP** 21 27 22.3 +0.1
CRAR CRAIOVA 151.32 330 ⇑PKIKP **PKiKP** 21 27 22.3 +0.1
TIM Timisoara 151.33 335 ⇑iP **PKiKP** 21 27 22.2 0.0
TIM Timisoara 151.33 335 ⇑PKIKP **PKiKP** 21 27 22.2 0.0
SRE Strehaia 151.34 331 ⇑iP **PKPdf** 21 27 18.5 +2.8
SRE Strehaia 151.34 331 ⇑PKIKP **PKPdf** 21 27 18.5 +2.8
PPCY Paphos 151.48 306 P **PKPbc** 21 27 21.9 -0.5
ISP Isparta 151.51 313 ePKPbc **PKPbc** 21 27 22.4 -0.2
ISP Isparta 151.51 313 ⇑iP **PKPbc** 21 27 21.5 -1.1
ISP Isparta 151.51 313 ⇑PKIKP **PKPbc** 21 27 21.5 -1.1
TIH Tihany 151.53 340 ⇓eP **PKPdf** 21 27 14.1 -1.7
STU Stuttgart 151.64 353 ePKPbc **PKPbc** 21 27 21.8 -0.6
BANR Banloc 151.65 334 ⇓iP **PKiKP** 21 27 23.5 +0.7
MOA Molln 151.66 346 iPKPdf **PKPdf** 21 27 17.4 +1.3
comp=N,8.2nm,1.0s
MOA iPKiKP **PKiKP** 21 27 23.0 +0.1
comp=N,32nm,0.7s,SNR=10.0
MOA iPKPab **PKPab** 21 27 34.8 +3.2
comp=N,39nm,0.7s
PUNG Punghina 151.76 331 ⇑iP **PKPdf** 21 27 17.6 +1.3
ARSA Arzberg 151.90 344 iPKPdf **PKPdf** 21 27 16.3 -0.2
comp=N,15nm,1.6s
ARSA iPKiKP **PKiKP** 21 27 23.4 0.0
comp=N,38nm,1.1s
ARSA iPKPab **PKPab** 21 27 33.2 +0.5
comp=N,60nm,0.8s
MDVR Moldovita 151.90 333 ⇑iP **PKiKP** 21 27 23.4 -0.1
MPEP Malo Peshtene 152.08 329 P **PKPbc** 21 27 23.5 0.0
DIM Dimitrovgrad 152.09 325 P **PKPbc** 21 27 23.6 0.0
BFO Black Forest 152.16 354 iPKIKP **PKPbc** 21 27 21.8 -1.8
BEHE Becsehely 152.26 341 eP **PKPbc** 21 27 23.3 -0.5
BEHE Becsehely 152.26 341 ⇓eP **PKPdf** 21 27 20.0 +3.0
BALB Balikesir 152.26 318 ePKPbc **PKiKP** 21 27 24.7 +0.4
FRGS Fruska Gora 152.36 336 eP **PKPdf** 21 27 15.4 -1.8
ECH Echery 152.37 356 ePKPbc **PKPbc** 21 27 24.1 +0.1
ECH ePKPab **PKPab** 21 27 34.7 +0.1
SOKA Soboth 152.56 344 iPKPdf **PKPdf** 21 27 17.3 -0.3
comp=N,23nm,1.4s,SNR=5.8
SOKA iPKiKP **PKiKP** 21 27 24.9 +0.1
comp=N,92nm,1.3s
SOKA iPKPab **PKPab** 21 27 36.7 +1.1
comp=N,97nm,1.0s
KBA Koelnbreinsper 152.59 346 iPKPdf **PKPdf** 21 27 17.0 -0.7
comp=N,22nm,1.4s,SNR=7.1
KBA iPKPbc **PKPbc** 21 27 24.6 -0.2
comp=N,47nm,0.8s
KBA iPKPab **PKPab** 21 27 38.6 +2.8
comp=N,90nm,0.7s
KBA iPpKiKP **pPKiKP** 21 28 06.5 +2.2
comp=N,43nm,0.8s
CLF Chambon-Foret 152.62 3 ePKPbc **PKiKP** 21 27 25.3 +0.6
RETA Reutte 152.69 350 iPKPdf **PKPdf** 21 27 18.5 +0.9
comp=N,16nm,1.4s
RETA iPKiKP **PKiKP** 21 27 25.5 +0.4
comp=N,64nm,1.2s,SNR=10.0
RETA iPKPab **PKPab** 21 27 37.0 +1.0
comp=N,85nm,1.2s
WATA Walderalm 152.70 349 iPKPdf **PKPdf** 21 27 18.0 +0.3
comp=N,23nm,1.3s,SNR=9.3
WATA iPKiKP **PKiKP** 21 27 25.2 +0.1
comp=N,38nm,0.5s
WATA iPpKiKP **pPKiKP** 21 28 05.6 +1.1
comp=N,32nm,0.6s
WTTA Wattenberg 152.75 349 iPKPdf **PKPdf** 21 27 18.3 +0.4
comp=N,35nm,1.5s,SNR=7.8
WTTA iPKiKP **PKiKP** 21 27 25.8 +0.5
comp=N,110nm,0.7s
WTTA iPpKiKP **pPKiKP** 21 28 05.9 +1.3
comp=N,71nm,0.8s

MOTA Moosalm 152.77 350 iPKPdf **PKPdf** 21 27 17.5 -0.5
comp=N,23nm,1.1s,SNR=12
MOTA iPKPbc **PKPbc** 21 27 25.0 -0.1
comp=N,90nm,1.0s
MOTA iPpKiKP **pPKiKP** 21 28 05.6 +1.0
comp=N,42nm,0.9s
RZN Rozhen 152.78 325 P **PKiKP** 21 27 28.0 +2.4
OBKA Obir 152.84 344 iPKPdf **PKPdf** 21 27 17.7 -0.3
comp=N,9.9nm,0.9s
OBKA iPKiKP **PKiKP** 21 27 26.2 +0.7
comp=N,39nm,1.3s
OBKA iPKPab **PKPab** 21 27 38.4 +1.6
comp=N,69nm,0.7s
SQTA Sankt Quirin 152.87 350 iPKPdf **PKPdf** 21 27 18.4 +0.4
comp=N,30nm,1.6s,SNR=14
SQTA iPKiKP **PKiKP** 21 27 25.8 +0.3
comp=N,73nm,0.9s
VTS Vitosha 152.88 328 ePKPbc **PKiKP** 21 27 26.5 +0.8
VTS ePKPab **PKPab** 21 27 38.7 +1.6
VTS Vitosha 152.88 328 ⇓iP **PKiKP** 21 27 25.8 +0.1
VTS Vitosha 152.88 328 ⇓PKIKP **PKiKP** 21 27 25.8 +0.1
VTS Vitosha 152.88 328 P **PKiKP** 21 27 25.8 +0.1
MYKA Terra Mystica 152.95 346 iPKPdf **PKPdf** 21 27 17.7 -0.4
comp=N,19nm,1.6s
MYKA iPKPbc **PKPbc** 21 27 25.2 -0.2
comp=N,64nm,1.1s,SNR=8.6
MYKA iPKPab **PKPab** 21 27 38.5 +1.4
comp=N,44nm,0.7s
TEKS Tekeris 152.98 335 eP **PKiKP** 21 27 26.4 +0.7
DAVA Damuels 153.01 352 iPKPdf **PKPdf** 21 27 18.7 +0.4
comp=N,20nm,1.4s
DAVA iPKiKP **PKiKP** 21 27 26.6 +0.7
comp=N,136nm,1.1s,SNR=13
ZAG Zagreb 153.07 342 eP **PKPbc** 21 27 22.4 -3.2
ABTA Abfaltersbach 153.08 347 iPKPdf **PKPdf** 21 27 17.9 -0.4
comp=N,47nm,1.7s,SNR=10
ABTA iPKPbc **PKPbc** 21 27 25.6 -0.1
comp=N,113nm,1.0s
ABTA iPpKiKP **pPKiKP** 21 28 06.1 +0.9
comp=N,88nm,1.2s
EZN Ezine 153.10 320 ⇑iP **PKPbc** 21 27 25.5 -0.4
EZN Ezine 153.10 320 ⇑PKIKP **PKPbc** 21 27 25.5 -0.4
FETA Feichten 153.14 350 iPKPdf **PKPdf** 21 27 19.0 +0.6
comp=N,35nm,1.2s
FETA iPKiKP **PKiKP** 21 27 26.8 +0.6
comp=N,67nm,1.0s
FETA iPKPab **PKPab** 21 27 40.2 +2.1
comp=N,43nm,1.0s
FETA iPpKiKP **pPKiKP** 21 28 08.2 +2.8
comp=N,54nm,1.0s
DIVS Divibare 153.17 334 eP **PKPdf** 21 27 19.0 +0.5
CRES Cresnjev 153.23 342 eP **PKPdf** 21 27 18.3 -0.1
LJU Ljubljana 153.28 344 iPKPdf **PKPdf** 21 27 18.4 -0.1
LJU iPKPbc **PKPbc** 21 27 26.1 0.0
LJU ePKPab **PKPab** 21 27 38.9 +0.4
LJU Ljubljana 153.28 344 eP **PKPdf** 21 27 17.8 -0.7
DOB Doboj 153.36 338 eP **PKiKP** 21 27 32.3 +5.9
MMB Musomiste 153.38 326 iP **PKiKP** 21 27 27.7 +1.1
DAVOX Davos/Dischmat 153.51 351 PKP **PKPdf** 21 27 19.9 +0.9
comp=N,13nm,0.9s,baz=20,slow=6.4,SNR=12
DAVOX PKPbc **PKiKP** 21 27 27.2 +0.3
comp=N,34nm,0.6s,baz=244,slow=1.5,SNR=55
KKB Krupnik 153.51 327 iP **PKiKP** 21 27 28.2 +1.4
BOJS Bojanci 153.58 342 ePKPdf **PKPdf** 21 27 18.0 -0.9
BOJS iPKPbc **PKiKP** 21 27 26.9 0.0
BOJS iPKPab **PKPab** 21 27 39.4 -0.3
CEY Cerknica 153.59 344 eP **PKPdf** 21 27 18.1 -0.9
HAPS Han Pijesak,Bl 153.59 336 eP **PKPdf** 21 27 22.9 +3.8
BBLS Lazići 153.60 335 eP **PKPdf** 21 27 18.7 -0.4
FUORN Ofenpass-Fuorn 153.61 351 ePKPbc **PKiKP** 21 27 28.2 +1.0
FUORN ePKPab **PKPab** 21 27 41.4 +1.2
BLY Banja Luka 153.66 339 ePKPbc **PKiKP** 21 27 27.3 +0.3
BLY ePKPab **PKPab** 21 27 40.1 0.0
BLY Banja Luka 153.66 339 ⇑iP **PKPbc** 21 27 26.7 -0.3
BLY Banja Luka 153.66 339 eP **PKPbc** 21 27 26.7 -0.3
TUE Stuetta 153.88 352 ePKPbc **PKiKP** 21 27 28.4 +0.7
TUE ePKPab **PKPab** 21 27 41.7 +0.5
RIY Rijeka 153.96 343 eP **PKPbc** 21 27 26.0 -1.6
STIP Stip 154.08 328 iPKP **PKPbc** 21 27 28.8 -0.2
VAY Valandovo 154.17 327 iPKP **PKiKP** 21 27 29.1 +1.0
BRY Bratogost 154.75 335 eP **PKiKP** 21 27 29.7 +0.2
KRUS Krusevo 154.79 329 iPKP **PKPbc** 21 27 29.4 -0.2
PDG Podgorica 154.85 333 eP **PKiKP** 21 27 30.3 +0.8
TTG Podgorica 154.85 333 ePKPdf **PKPdf** 21 27 21.0 +0.2
TTG Podgorica 154.85 333 ePKIKP **PKPdf** 21 27 21.0 +0.2
TREB Trebinje 154.98 335 eP **PKPbc** 21 27 29.1 -0.7
KARP Karpathos 154.99 311 ePKPab **PKPab** 21 27 46.7 +0.5
BIA Bitola 155.02 328 iPKP PKPdf 21 27 30.3 +9.1
DRME Dracevica, Mon 155.08 333 eP PKPdf 21 27 30.1 +9.0
STON Ston 155.11 336 eP PKPdf 21 27 30.8 +10
FNA Florina 155.17 328 ePKPbc PKPdf 21 27 31.4 +10
FNA ePKPab **PKPab** 21 27 47.0 +0.2
OHR Ohrid 155.20 329 iPKP PKPdf 21 27 31.8 +10
SSB Saint Sauveur 155.41 359 ePKPab **PKPab** 21 27 47.5 -0.1
TIR Tirane 155.46 331 ⇑iP **PKPab** 21 27 48.3 +0.4
TIR Tirane 155.46 331 ⇑PKP2 **PKPab** 21 27 48.3 +0.4
BNI Bardonecchia 155.56 356 ePKPab **PKPab** 21 27 49.3 +1.0
AGG Agios Georgios 155.95 324 ePKPab **PKPab** 21 27 49.1 -1.1
IDI Anoyia 156.70 313 PKP **PKPdf** 21 27 25.0 +1.4
comp=N,9.1nm,0.8s,baz=329,slow=5.9,SNR=3.0
PBRG Braganca 156.93 21 ePKPab **PKPab** 21 27 55.7 +1.4
AQU L'Aquila 157.00 342 eP **PKPab** 21 27 54.1 -0.5
PVRL Vila Real 157.04 24 ePKPab **PKPab** 21 27 55.2 +0.4
MATE Matera 157.39 335 ⇑iP **PKPab** 21 27 53.9 -2.3
MVO Moncorvo 157.40 23 ePKPdf **PKPdf** 21 27 27.1 +2.8
PVIS Viseu 157.46 25 ePKPab **PKPab** 21 27 57.8 +1.2
PMAR Madeira 157.63 53 ePKPab **PKPab** 21 27 58.2 +0.3
PCAS Casmilo, Conde 157.78 27 ePKPab **PKPab** 21 27 59.3 +1.3
MTE Manteigas 157.87 24 ePKPab **PKPab** 21 28 00.1 +1.7
PTOM Tomar 158.18 27 ePKPab **PKPab** 21 28 01.0 +1.3
PCBR Castelo Branco 158.37 25 ePKPdf **PKPdf** 21 27 27.2 +1.8
PCBR Castelo Branco 158.37 25 ePKPab **PKPab** 21 28 01.6 +1.1
LIS Lisbon 158.59 30 ePKPdf **PKPdf** 21 27 24.1 -1.5
LIS eSS SS 21 51 31.0 +0.3
TIP Timpagrande 158.60 333 ⇑iP **PKPab** 21 28 00.3 -1.3
PMTG Montargil 158.71 28 ePKPab **PKPab** 21 28 03.0 +1.0
PMRV Marv??o 158.76 26 ePKPdf **PKPdf** 21 27 26.6 +0.7
PMRV Marv??o 158.76 26 ePKPab **PKPab** 21 28 03.4 +1.2
PNCL Nicolau / Gran 159.36 30 ePKPdf **PKPdf** 21 27 29.2 +2.6
PNCL Nicolau / Gran 159.36 30 ePKPab **PKPab** 21 28 06.3 +1.4
MESJ Messejana 159.72 30 ePKPdf **PKPdf** 21 27 25.6 -1.5
MESJ eSS SS 21 51 42.8 +0.1
MESJ Messejana 159.72 30 ePKPdf **PKPdf** 21 27 28.8 +1.8
MESJ Messejana 159.72 30 ePKPab **PKPab** 21 28 10.5 +4.1
PBEJ Beja 159.73 29 ePKPdf **PKPdf** 21 27 29.0 +1.9
ESDC Sonseca Array 159.75 19 PKP **PKPdf** 21 27 27.6 +0.5
comp=N,2.6nm,0.8s,baz=351,slow=2.1,SNR=14
ESDC PKPab **PKPab** 21 28 07.2 +0.6
comp=N,6.7nm,0.5s,baz=334,slow=4.0,SNR=24
PAB San Pablo 159.75 19 ePKPdf **PKPdf** 21 27 28.2 +1.0
PAB ePKPab **PKPab** 21 28 08.3 +1.7
PAB San Pablo 159.75 19 ePKIKP **PKPdf** 21 27 28.2 +1.0
PAB e 21 28 08.3
MORF Marmelete 159.95 31 ePKPdf **PKPdf** 21 27 25.7 -1.7
MORF eSS SS 21 51 45.3 +0.1
MORF Marmelete 159.95 31 ePKPdf **PKPdf** 21 27 30.1 +2.7
MORF Marmelete 159.95 31 ePKPab **PKPab** 21 28 09.0 +1.5
PCVE Castro Verde 159.97 30 ePKPab **PKPab** 21 28 08.3 +0.7
PFVI Vila Bisbo 160.00 32 ePKPdf **PKPdf** 21 27 30.2 +2.8
PFVI Vila Bisbo 160.00 32 ePKPab **PKPab** 21 28 12.5 +4.8
PVAQ Vaqueiros 160.31 29 ePKPab **PKPab** 21 28 11.0 +2.0
PVAQ Vaqueiros 160.31 29 ePKPdf **PKPdf** 21 27 27.8 0.0
PBDV Barranco-do-Ve 160.34 30 ePKPdf **PKPdf** 21 27 30.0 +2.2
PBDV Barranco-do-Ve 160.34 30 ePKPab **PKPab** 21 28 11.3 +2.1
VAE Valguarnera 161.02 334 PKP **PKPdf** 21 27 28.7 +0.1
comp=N,9.9nm,0.8s,baz=18,slow=3.2,SNR=2.7
VAE PKPab **PKPab** 21 28 13.6 +1.4
comp=N,18nm,0.8s,baz=231,slow=14,SNR=4.3
LIC Lamto 163.09 147 ePKIKP **PKPdf** 21 27 32.5 +1.2
comp=N,45nm,0.8s
KIC Kosan Boka 163.36 147 ePKIKP **PKPdf** 21 27 32.6 +1.1
comp=N,32nm,0.8s
TIC Toumodi 163.45 146 ePKIKP **PKPdf** 21 27 32.9 +1.2
DBIC Dimbokro 163.56 146 PKP **PKPdf** 21 27 30.8 -1.0
comp=N,9.1nm,0.7s,baz=139,slow=0.6,SNR=13
DBIC PKPab **PKPab** 21 28 24.5 +0.7
comp=N,7.0nm,0.6s,baz=167,slow=4.7,SNR=5.4
KEST Kesra 164.30 344 PKP **PKPdf** 21 27 31.3 -0.6
comp=N,7.0nm,1.0s,baz=284,slow=14,SNR=2.5
KEST PKPab **PKPab** 21 28 27.1 +0.6
comp=N,22nm,0.7s,baz=295,slow=0.7,SNR=21
MDT Midelt 165.52 31 PKP **PKPdf** 21 27 34.1 +1.1
comp=N,6.8nm,0.9s,baz=283,slow=1.4,SNR=9.4

TOA0 Torodi Ar. Sit 172.18 161 ePKPab **PKPab** 21 29 02.8 +1.1
TORD Torodi Ar. Bea 172.18 161 PKP **PKPdf** 21 27 36.7 -0.9
comp=N,4.9nm,0.9s,baz=348,slow=1.7,SNR=22
TORD PKPab **PKPab** 21 29 03.3 +1.6
comp=N,11nm,0.9s,baz=284,slow=3.7,SNR=11

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*IDC **23** 21:08:39.3±2.0, 3°24N×129°46E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/44, mbtmp3.7/5, MS4.4/2, Ms1 4.4/2, ms1mx3.5/43, Error ellipse: s-maj=86.6km s-min=21.2km az=71.0*
*ISCJB **23** 21:09:01.4±1.0, 2°79N±0°09×128°79E±0°10, h200km, mb3.4/4, Error ellipse: s-maj=14.3km s-min=11.7km az=37.1*
*DJA **23** 21:09:08.6±0.8, 3°N±6°×12°8E±°, h200km±6km, M4.5/7, mb4.2/6, mB5.1/2, MLv4.7/7, Mw(mB)4.4/2*
ISC 23 21:09:04.9±1.6, 2°64N±0°10×128°6E±0°1, h200km, n15, σ2s22/15, mb3.5/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.24**	**214**	P		**Pn**		**21 09 48.6**	**+2.6**
TNTI				S		**Sn**		**21 10 22.4**	**+4.4**
SGSI	**Sangihe**	**3.26**	**289**	P		**Pn**		**21 09 58.1**	**+0.4**
KMSI	**Cibinong**	**5.07**	**246**	P		**Pn**		**21 10 22.8**	**+2.5**
KMSI				S		**Sn**		**21 11 20.0**	**+0.3**
SANI	**Sanana**	**5.35**	**210**	P		**Pn**		**21 10 24.0**	**+0.2**
	141nm,0.6s,5μm0.9nm								
SANI				S		**Sn**		**21 11 22.1**	**-4.1**
	141nm,0.6s,5μm0.9nm								
LUWI	**Luwuk**	**6.90**	**238**	P		**Pn**		**21 10 44.3**	**+0.4**
LUWI				S		**Sn**		**21 12 00.4**	**-2.0**
APSI	**Ampana**	**7.81**	**243**	P		**Pn**		**21 10 55.8**	**0.0**
BKSI	**Bulukumba**	**11.60**	**227**	P		**P**		**21 11 51.6**	**+1.4**
BSSI	**Bau Bau, Buton**	**11.92**	**223**	P		**P**		**21 11 54.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.81**	**188**	P		**P**		**21 13 29.9**	**-1.1**
	1.5nm,0.7s,baz=5.6,slow=10,SNR=7.8								
ASAR	**Alice Springs**	**26.65**	**169**	P		**P**		**21 14 24.1**	**-1.2**
	1.0nm,0.5s,baz=351,slow=7.5,SNR=22								
CMAR	**Chiang Mai Arr**	**33.05**	**300**	P		**P**		**21 15 20.9**	**-0.9**
	0.8nm,0.7s,baz=111,slow=7.0,SNR=5.7								
ASAJ	**Asahikawa**	**43.12**	**15**	LR		LR		21 34 07.4	
	comp=Z,713nm,18.6s,baz=137,slow=36								
SONM	**Songino Array**	**48.94**	**340**	LR		LR		21 39 43.6	
	comp=Z,291nm,21.8s,baz=50,slow=38								
MKAR	**Makanchi Array**	**59.53**	**325**	P		P		21 18 44.6	-2.7
	0.3nm,0.5s,baz=124,slow=8.4,SNR=4.8								
KURBB	**Kurchatov Arra**	**63.68**	**327**	P		P		21 19 11.7	-3.1
	0.5nm,0.5s,baz=129,slow=5.9,SNR=9.0								

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*ISCJB **23** 21:15:50.2±1.3, 20°57S±0°04×175°82W±0°03, h85km±12km, mb5.3/128, Error ellipse: s-maj=7.0km s-min=4.0km az=155.6*
*BJI **23** 21:15:55.9±0.0, 20°64S×175°28W, h158km, mb5.2/40, mB5.6/21*
*NEIC **23** 21:15:56.5±1.4, 20°53S×175°80W, h131km±4km, mb5.0/188, Error ellipse: s-maj=14.8km s-min=13.2km az=122.0*
*IDC **23** 21:15:56.1±1.4, 20°52S×175°75W, h128km±11km, mb4.8/34, mb1 4.8/36, mb1mx4.8/46, mbtmp5.2/36, Error ellipse: s-maj=10.6km s-min=9.5km az=144.0*
*MOS **23** 21:15:56.2±0.9, 20°51S×175°84W, h138km, mb5.0/19, Error ellipse: s-maj=10.1km s-min=8.7km az=5.9*
ISC 23 21:15:56.5±0.5, 20°59S±0°06×175°70W±0°05, h135km±3km, h134km; pP-P, n529, σ1s09/579, mb5.2/128, 69C-28D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.64**	**76**	ePn		**Pn**		**21 17 14.9**	**-3.3**
FUNA	**Funafuti**	**12.96**	**337**	ePn		**Pn**		**21 18 56.6**	**+0.8**
RAR	**Rarotonga**	**14.90**	**95**	ePn		**Pn**		**21 19 20.6**	**+0.2**
	368nm,0.9s								
RAR	**Rarotonga**	**14.90**	**95**	eP		**Pn**		**21 19 20.6**	**+0.2**
RAR				pmax		pmax			
	comp=Z,368nm,0.9s								
RAR	**Rarotonga**	**14.90**	**95**	P		**Pn**		**21 19 19.7**	**-0.7**
	comp=Z,7.6nm,0.3s,baz=242,slow=5.2,SNR=9.7								
RAR				S		Sn		21 21 48.7	-17
	comp=Z,22nm,0.3s,baz=164,slow=12,SNR=5.5								
OUENC	**Ouen Island, N**	**16.35**	**260**	ePn		**P**		**21 19 42.0**	**+3.3**
	comp=Z,886nm,1.1s								
DZM	**Mont Dzumac**	**16.70**	**262**	eP		**P**		**21 19 46.5**	**+3.7**
	comp=Z,2μm,1.1s								
DZM	**Mont Dzumac**	**16.70**	**262**	ePn		**P**		**21 19 46.9**	**+4.1**
	comp=Z,694nm,1.0s								
DZM	**Mont Dzumac**	**16.70**	**262**	P		**P**		**21 19 46.8**	**+4.1**
	comp=Z,8.6nm,0.3s,baz=82,slow=17,SNR=91								
OUZ	**Omahuta**	**17.36**	**211**	eP		**Pn**		**21 19 51.7**	**+1.3**
	comp=Z,129nm,1.1s								
URZ	**Urewera**	**18.68**	**198**	eP		**P**		**21 20 03.8**	**-0.3**
	comp=Z,260nm,0.8s								
URZ	**Urewera**	**18.68**	**198**	P		**P**		**21 20 03.1**	**-1.0**
	comp=Z,64nm,0.3s,baz=289,slow=3.3,SNR=64								
URZ				S		S		21 23 16.4	-13
	comp=Z,5.8nm,0.3s,baz=300,slow=20,SNR=7.4								
HIZ	**Hauiti**	**19.64**	**203**	eP		**Pn**		**21 20 16.1**	**-1.2**
	comp=Z,285nm,0.6s								
BKZ	**Black Stump Fm**	**19.70**	**198**	eP		**P**		**21 20 14.3**	**-1.0**
	comp=Z,56nm,0.9s								
BFZ	**Birch Farm**	**21.18**	**197**	eP		**P**		**21 20 29.8**	**-1.3**
	comp=Z,83nm,0.8s								
SNZO	**South Karori**	**22.21**	**199**	eP		**P**		**21 20 38.8**	**-3.1**
	comp=Z,185nm,0.8s								
THZ	**Tophouse**	**23.21**	**202**	eP		**P**		**21 20 51.6**	**+0.1**
	comp=Z,154nm,0.9s								
KHZ	**Kahutara**	**23.58**	**200**	eP		**P**		**21 20 55.1**	**+0.3**
	comp=Z,171nm,0.9s								
LTZ	**Lake Taylor**	**24.33**	**202**	eP		**P**		**21 21 01.0**	**-0.7**
	comp=Z,163nm,0.7s								
TBI	**Tubuai**	**24.48**	**101**	eP		**P**		**21 21 03.4**	**+0.2**
	comp=Z,241nm,0.9s								
TBI	**Tubuai**	**24.48**	**101**	eT		T		21 45 38.7	
	comp=Z,15nm,0.3s								
PAE	**Paea**	**24.84**	**88**	eP		**P**		**21 21 06.5**	**0.0**
	comp=Z,47nm,1.0s								
PAE	**Paea**	**24.84**	**88**	eT		T		21 46 32.3	
	comp=Z,14nm,0.3s								
PPT2	**Papeete2**	**24.86**	**88**	eP		**P**		**21 21 07.2**	**+0.4**
	comp=Z,483nm,1.3s								
**PPT2

comp=Z,153nm,1.5s
ARMA Armidale 30.97 245 P P 21 22 01.8 +0.6
baz=31,SNR=39
MGCD Mangrove Creek 32.02 240 P P 21 22 10.5 +0.3
baz=32,SNR=30
RMQ Roma 33.04 253 P P 21 22 20.1 +0.9
baz=33,SNR=27
KWAJ Kwajalein Atol 33.50 329 *e*P **P 21 22 23.3 +0.1**
comp=Z,262nm,0.8s
KWAJ Kwajalein Atol 33.50 329 *e*P **P 21 22 23.3 +0.1**
KWAJ pmax pmax
comp=Z,262nm,0.8s
CNB Canberra Magne 33.97 237 P P 21 22 27.2 -0.1
baz=34,SNR=16
CAN Canberra 34.26 237 *e*P **P 21 22 29.5 -0.2**
comp=Z,34nm,0.8s
CAN Canberra 34.26 237 *e*P **P 21 22 29.5 -0.2**
CAN pmax pmax
comp=Z,34nm,0.8s
YNG Young 34.48 239 P P 21 22 31.8 +0.2
baz=34,SNR=7.0
MILA Mila 34.65 234 P P 21 22 32.9 -0.2
baz=35,SNR=21
CTA Charters Tower 35.62 264 P P 21 22 42.4 +0.8
comp=Z,50nm,0.5s,baz=92,slow=9.8,SNR=37
CTA PcP **PcP 21 25 06.5 -0.9**
comp=Z,10nm,0.8s,baz=251,slow=1.6,SNR=3.6
CTAO Charters Tower 35.62 264 *e*P **P 21 22 42.2 +0.6**
comp=Z,212nm,1.3s
CTAO Charters Tower 35.62 264 *e*P **P 21 22 42.2 +0.6**
CTAO pmax pmax
comp=Z,212nm,1.3s
CMSA Cobar Meteorol 36.19 244 P P 21 22 45.8 -0.4
baz=36,SNR=142
PATS Pohnpei 37.35 314 *e*P **P 21 22 56.1 -0.1**
comp=Z,141nm,1.0s
PMG Port Moresby 37.47 282 *e*P **P 21 22 57.4 +0.2**
comp=Z,365nm,1.2s
PMG Port Moresby 37.47 282 *e*P **P 21 22 57.4 +0.2**
PMG pmax pmax
comp=Z,365nm,1.2s
PMG Port Moresby 37.47 282 P P 21 22 57.6 +0.4
comp=Z,203nm,1.0s,baz=106,slow=5.0,SNR=32
TOO Toolangi 37.59 235 *e*P **P 21 22 57.6 -0.5**
comp=Z,58nm,0.6s
TOO Toolangi 37.59 235 P P 21 22 57.6 -0.5
baz=38,SNR=59
TOO Toolangi 37.59 235 *e*P **P 21 22 57.6 -0.5**
TOO pmax pmax
comp=Z,58nm,0.6s
RKT Rikitea 37.80 101 *e*P **P 21 23 00.2 +0.2**
comp=Z,96nm,1.0s
RKT Rikitea 37.80 101 *e*T T 22 02 18.7
comp=Z,12nm,0.2s
MOO Moorlands 37.99 227 P P 21 23 01.4 0.0
baz=38,SNR=3.5
STKA Stephens Creek 39.69 245 *e*P **P 21 23 15.2 -0.5**
comp=Z,12nm,0.6s
STKA *e*PcP **PcP 21 25 20.4 +0.6**
STKA *e*ScP **ScP 21 28 57.8 +1.5**
STKA Stephens Creek 39.69 245 P P 21 23 15.2 -0.5
baz=40,SNR=57
STKA Stephens Creek 39.69 245 *e*P **P 21 23 15.2 -0.5**
STKA *e*PCP **PcP 21 25 20.4 +0.6**
STKA pmax pmax
comp=Z,12nm,0.6s
STKA Stephens Creek 39.69 245 P P 21 23 15.3 -0.4
comp=Z,63nm,0.7s,baz=91,slow=9.7,SNR=64
STKA PcP **PcP 21 25 20.4 +0.6**
comp=Z,17nm,0.9s,baz=61,slow=3.7,SNR=3.7
STKA ScP **ScP 21 28 57.8 +1.5**
comp=Z,3.7nm,0.8s,baz=1.9,slow=2.0,SNR=3.8
COEN Coen 39.74 273 P P 21 23 16.6 +0.4
baz=40,SNR=102
ARPS Mount Arapiles 40.24 237 P P 21 23 19.2 -0.8
baz=40,SNR=21
QIS Mount Isa 41.74 262 P P 21 23 32.5 -0.1
baz=42,SNR=4.6
HTT Hallett 42.09 243 P P 21 23 34.3 -1.0
baz=42,SNR=22
WAKE Wake Island 43.23 335 *e*P **P 21 23 44.2 -0.3**
comp=Z,173nm,1.0s
BBOO Buckleboo 44.44 244 P P 21 23 53.0 -1.2
baz=44,SNR=65
AS31 Alice Springs 46.59 256 *e*ScP **ScP 21 29 25.8 +1.4**
ASAR Alice Springs 46.59 256 P P 21 24 10.2 -1.1
comp=Z,65nm,1.0s,baz=88,slow=8.1,SNR=34
ASAR PcP **PcP 21 25 43.1 -0.2**
comp=Z,37nm,0.7s,baz=105,slow=3.9,SNR=22
ASAR ScP **ScP 21 29 25.8 +1.4**
comp=Z,7.8nm,0.8s,baz=105,slow=4.0,SNR=14
ASAR S **S 21 30 45.6 -4.7**
comp=Z,2.9nm,0.9s,baz=96,slow=16,SNR=7.3
WRAB Tennant Creek 46.71 262 *e*P **P 21 24 11.9 -0.3**
comp=Z,59nm,0.8s
WRAB Tennant Creek 46.71 262 *e*P **P 21 24 11.9 -0.3**
WRAB pmax pmax
comp=Z,59nm,0.8s
KDU Kakadu 50.10 270 P P 21 24 37.6 -0.6
baz=50,SNR=26
FORT Forrest 51.24 247 *e*P **P 21 24 45.3 -1.3**
comp=Z,92nm,0.7s
FORT Forrest 51.24 247 P P 21 24 44.9 -1.6
baz=51,SNR=18
MTN Manton Dam 51.32 270 P P 21 24 46.7 -0.6
baz=51,SNR=22
WRKA Warakurna 51.51 254 P P 21 24 47.8 -1.0
baz=52,SNR=12
GUMO Guam 51.53 308 *e*P **P 21 24 49.1 +0.2**
comp=Z,383nm,1.1s
GUMO Guam 51.53 308 *e*P **P 21 24 49.1 +0.2**
GUMO pmax pmax
comp=Z,383nm,1.1s
GUMO Guam 51.53 308 P P 21 24 48.7 -0.1
comp=Z,130nm,0.7s,baz=155,slow=7.4,SNR=9.9
KNRA Kununurra 52.80 266 P P 21 24 58.0 -0.3
baz=53,SNR=13
FAKI Fak Fak 53.62 282 *e*P **P 21 25 03.8 -0.6**
comp=Z,192nm,1.3s
FITZ Fitzroy Crossi 55.15 262 *e*P **P 21 25 14.1 -1.2**
FITZ Fitzroy Crossi 55.15 262 P P 21 25 15.9 +0.6
comp=Z,8.5nm,0.6s,baz=131,slow=4.8,SNR=18
PALU Palau 56.28 294 P P 21 25 25.2 +1.8
baz=56,SNR=6.4
SBA Scott Base 57.94 184 *e*P **P 21 25 36.0 +1.9**
comp=Z,29nm,0.9s
SBA Scott Base 57.94 184 *e*P **P 21 25 36.0 +1.9**
SBA pmax pmax
comp=Z,29nm,0.9s
VNDA Vanda 58.02 186 *e*P **P 21 25 36.5 +1.8**
comp=Z,14nm,0.9s
VNDA Vanda 58.02 186 *e*P **P 21 25 36.6 +1.8**
VNDA pmax pmax
comp=Z,14nm,0.9s
VNDA Vanda 58.02 186 P P 21 25 36.8 +2.1
comp=Z,14nm,0.9s,baz=3.8,slow=6.8,SNR=19
BATI Baumata 59.08 270 P P 21 25 44.1 +1.0
comp=Z,174nm,0.9s,baz=188,slow=3.1,SNR=29
TNTI Ternate 59.57 284 *e*P **P 21 25 46.2 -0.2**
comp=Z,100nm,1.0s
MEEK Meekatharra 59.92 250 P P 21 25 47.0 -1.7
baz=60,SNR=7.0
KLBR Kellerberrin 59.97 245 P P 21 25 47.5 -1.4
baz=60,SNR=9.5
NWAO Narrogin (SRO) 60.25 243 P P 21 25 50.8 0.0
comp=Z,8.1nm,0.6s,baz=109,slow=8.3,SNR=7.2
BLDU Ballidu 60.98 246 P P 21 25 54.5 -1.3
baz=61,SNR=14
MUN Mundaring 61.23 244 P P 21 25 56.6 -0.8
baz=61,SNR=6.2
MORW Morawa 61.78 247 P P 21 26 00.1 -1.2
baz=62,SNR=8.1
LUWI Luwuk 63.07 280 *e*P **P 21 26 09.5 -0.5**
comp=Z,54nm,0.8s
DAV Davao City (W) 63.89 289 P P 21 26 16.2 +0.8
comp=Z,164nm,0.4s,baz=137,slow=1.9,SNR=4.4
KAPI Kappang 64.44 274 *e*P **P 21 26 18.0 -0.9**
comp=Z,30nm,1.2s
KAPI Kappang 64.44 274 *e*P **P 21 26 18.0 -0.9**
KAPI pmax pmax
comp=Z,30nm,1.2s
KAPI Kappang 64.44 274 P P 21 26 18.1 -0.9
comp=Z,18nm,1.0s,baz=132,slow=3.0,SNR=7.5
GIRL Giralia 64.60 254 P P 21 26 20.0 +0.1
baz=64,SNR=4.1
CASY Casey 64.81 205 *e*P **P 21 26 21.0 +0.5**
comp=Z,84nm,0.9s
CTBH Cotabato--PC H 65.14 289 ⇑*i*P **P 21 26 23.5 +0.1**

LLP Lapu-Lapu 66.79 292 *e*S **P 21 26 34.2 +0.2**
JHJ Hachijo jima 2 68.25 321 P P 21 26 42.1 -0.7
comp=Z,106nm,0.4s,baz=134,slow=4.7,SNR=7.3
QSPA South Pole Qui 69.48 180 *e*P **P 21 26 51.1 +0.9**
comp=Z,58nm,1.1s
MJAR Matsushiro Arr 71.58 322 P P 21 27 02.2 -0.9
comp=Z,10nm,0.5s,baz=161,slow=5.9,SNR=39
MAJO Matsushiro 71.58 322 *e*P **P 21 27 02.5 -0.6**
comp=Z,15nm,0.6s
MAJO Matsushiro 71.58 322 *e*P **P 21 27 02.5 -0.6**
MAJO pmax pmax
comp=Z,15nm,0.6s
MAT Matsushiro 71.58 322 P P 21 27 02.3 -0.8
MJB9 Matsu-Tunnel 71.58 322 *e*P **P 21 27 02.0 -1.1**
comp=Z,16nm,0.6s
ADK Adak 72.16 359 *e*P **P 21 27 05.5 -0.7**
comp=Z,34nm,0.8s
ADK Adak 72.16 359 *e*P **P 21 27 05.5 -0.7**
ADK pmax pmax
comp=Z,34nm,0.8s
ATKA Atka Island 72.49 1 *e*P **P 21 27 07.5 -0.6**
comp=Z,48nm,0.9s
JNU Nakatsue 73.83 315 P P 21 27 15.9 -0.6
comp=Z,8.2nm,0.9s,baz=55,slow=2.9,SNR=7.8
YOJ Yonaguni jima 74.56 304 *e*P **P 21 27 19.6 -1.2**
comp=Z,78nm,0.7s
YOJ Yonaguni jima 74.56 304 *e*P **P 21 27 19.7 -1.2**
YOJ pmax pmax
comp=Z,77nm,0.7s
ASAJ Asahikawa 74.85 330 P P 21 27 22.6 +0.5
comp=Z,6.8nm,0.6s,baz=230,slow=3.5,SNR=7.2
LEM Lembang 75.19 268 P P 21 27 24.6 -0.3
comp=Z,41nm,0.6s,baz=118,slow=3.8,SNR=12
KSM Kuching 75.56 277 *e*P **P 21 27 27.1 +0.2**
comp=Z,42nm,0.7s
TATO Taipei 76.01 304 *e*P **P 21 27 28.9 -0.3**
comp=Z,162nm,1.5s
PAGB Antelope Grade 76.76 44 *e*P **P 21 27 33.9 +0.7**
comp=Z,21nm,1.0s
PETK Petropavlovsk- 76.93 344 P P 21 27 33.6 -0.1
comp=Z,22nm,0.8s,baz=120,slow=8.2,SNR=39
YSS Yuzh-Sakhalins 76.96 332⇓*e*P **P 21 27 34.7 +0.7**
YSS pmax pmax
comp=Z,50nm,0.9s
VES Vestal, Richgr 77.58 44 P P 21 27 39.0 +1.3
baz=233
MONP2 Monument Peak 77.66 48 P P 21 27 39.9 +1.4
baz=236
EDW2 Edwards Air Fo 77.73 45 P P 21 27 40.0 +1.3
baz=234
IKP In-Ko-Pah, Jac 77.74 48 P P 21 27 40.2 +1.3
baz=236
ISA Isabella, Lake 77.87 44 P P 21 27 41.4 +1.9
baz=234
O02D Mt. Diablo Mer 77.98 39 P P 21 27 41.9 +1.9
baz=230
KSRS Korea Array 78.39 317 *e*P **P 21 27 42.2 0.0**
comp=Z,3.1nm,0.7s,baz=139,slow=6.5,SNR=14
KSRS SKKPbc SKKPbc 21 50 04.5 -2.5
comp=Z,2.1nm,1.1s,baz=242,slow=13,SNR=6.1
N02D Trinity Center 78.54 38 P P 21 27 45.8 +2.8
baz=230
BELC Belle Mtn. Jos 78.58 47 P P 21 27 44.9 +1.4
baz=236
CWC Cottonwood Cre 78.59 44 P P 21 27 44.9 +1.4
baz=234
O03E Paynes Creek 78.64 39 P P 21 27 45.8 +2.2
baz=231
MPMC Manual Prospec 78.75 45 P P 21 27 45.8 +1.3
baz=234
BC3 Big Chuckawall 78.76 48 P P 21 27 46.2 +1.7
baz=236
GSC Goldstone, Bar 78.77 46 P P 21 27 45.8 +1.4
baz=235
HEC Hector,Ludlow 78.81 46 P P 21 27 45.7 +1.0
baz=235
GLA Glamis 78.86 48 P P 21 27 46.6 +1.7
baz=236
WAKR Walker 78.96 42 *e*P **P 21 27 47.2 +1.7**
comp=Z,14nm,1.0s
GMRC Granite Mounta 79.25 47 P P 21 27 48.3 +1.2
baz=236
IRM Iron Mountain 79.25 47 P P 21 27 48.4 +1.4
baz=236
FURC Furnace Creek, 79.40 45 P P 21 27 49.0 +1.3
baz=235
TUQ Turquoise Moun 79.44 46 P P 21 27 49.4 +1.3
baz=235
Y12C Blythe 79.45 48 P P 21 27 49.6 +1.6
baz=237
L04D Klamath Falls 79.57 37 P P 21 27 50.4 +1.6
baz=230
RYN Ryan 79.61 42 *e*P **P 21 27 50.0 +1.0**
comp=Z,10.0nm,1.0s
NVAR Mina Array Bea 79.62 42 P P 21 27 50.6 +1.4
comp=Z,5.7nm,0.7s,baz=221,slow=8.5,SNR=16
NVAR PKKP **PKKPdf 21 46 23.2 -3.8**
comp=Z,0.9nm,0.7s,baz=234,slow=5.0,SNR=3.8
NVAR SKKP 21 49 49.2
comp=Z,1.6nm,0.8s,baz=68,slow=3.4,SNR=4.7
NV11 Mina Array Sit 79.72 42 *e*P **P 21 27 50.5 +0.9**
comp=Z,1.4nm,1.4s
PDMCI Parker Dam,Lak 80.02 48 P P 21 27 51.7 +0.6
baz=237
TPNV Topopah Spring 80.08 44 *e*P **P 21 27 52.3 +0.7**
comp=Z,12nm,0.8s
TPNV Topopah Spring 80.08 44 *e*P **P 21 27 52.3 +0.7**
TPNV pmax pmax
comp=Z,12nm,0.8s
TPNV Topopah Spring 80.08 44 P P 21 27 53.0 +1.4
baz=235
USRK Ussuriysk Ar. 80.26 325 P P 21 27 53.3 +1.1
comp=Z,5.9nm,0.6s,baz=158,slow=3.1,SNR=16
USA0B Ussuriysk Arra 80.26 325 *e*P **P 21 27 52.9 +0.8**
comp=Z,13nm,1.1s
J04D Umpqua Nationa 80.34 37 P P 21 27 54.6 +1.7
baz=230
KDAK Kodiak Island 80.42 12 *e*P **P 21 27 53.4 +0.7**
comp=Z,13nm,0.8s
KDAK Kodiak Island 80.42 12 *e*P **P 21 27 53.4 +0.7**
KDAK pmax pmax
comp=Z,13nm,0.8s
MOD Modoc Plateau 80.53 39 *e*P **P 21 27 54.5 +0.6**
comp=Z,14nm,0.8s
I04A Tendick Farm, 80.53 36 P P 21 27 54.8 +1.1
baz=230
SHPR Sheep Range 80.55 45 *e*P **P 21 27 55.1 +1.0**
comp=Z,16nm,1.2s
Y14A Wickenburg 80.62 48 *e*P **P 21 27 55.0 +0.6**
comp=Z,12nm,1.0s
HKPS Hong Kong Po S 80.63 298 *e*P **P 21 27 54.6 -0.1**
comp=Z,22nm,0.7s
J05D Fort Rock, OR 80.86 37 P P 21 27 56.9 +1.3
baz=231
TUC Tucson 81.35 51 *e*P **P 21 28 00.0 +1.6**
comp=Z,13nm,1.0s
TUC Tucson 81.35 51 *e*P **P 21 28 00.0 +1.6**
TUC pmax pmax
comp=Z,13nm,1.0s
TUC Tucson 81.35 51 P P 21 28 00.0 +1.6
baz=239
NJ2 Nanjing 81.60 309 *e*P **P 21 28 00.8 +1.2**
NJ2 pmax pmax
comp=Z,33nm,0.7s
WVOR Wild Horse Val 81.83 39 *e*P **P 21 28 01.6 +0.9**
comp=Z,18nm,1.2s
WVOR Wild Horse Val 81.83 39 *e*P **P 21 28 01.6 +0.9**
WVOR pmax pmax
comp=Z,18nm,1.2s
MDJ Mudanjiang 81.84 324 P P 21 28 01.0 +0.5
MDJ pmax pmax
comp=Z,19nm,0.9s
MDJ pmax pmax
comp=Z,260nm,6.7s
319A Douglas 81.98 52 *e*P **P 21 28 02.5 +0.7**
comp=Z,13nm,0.9s
MAW Mawson 82.20 199 *e*P **P 21 28 02.9 +0.8**
comp=Z,6.0nm,1.1s
MAW Mawson 82.20 199 P P 21 28 02.9 +0.8
baz=82,SNR=14
MAW Mawson 82.20 199 P P 21 28 03.2 +1.1
comp=Z,15nm,0.8s,baz=129,slow=7.3,SNR=17
GRNR Gornyy 82.59 332 *e*P **P 21 28 08.6 +4.3**
GRNR pmax pmax
comp=Z,25nm,1.0s
PKCU Pink Cliffs 82.97 46 *e*P **P 21 28 08.8 +1.8**
comp=Z,48nm,1.1s
W18A Petrified Fore 83.53 49 P P 21 28 11.2 +1.4

baz=239
A04D Lummi Island 83.60 32 P P 21 28 12.0 +2.6
baz=229
B05A Bryant 83.61 33 P P 21 28 11.1 +1.6
baz=229
121A Cookes Peak, D 83.66 52 P P 21 28 12.5 +2.0
baz=241
CN2 Changchun 83.70 321 *e*P **P 21 28 10.5 +0.4**
CN2 pmax pmax
comp=Z,20nm,0.6s
KLR Kul'dur 83.71 328 P P 21 28 10.5 +0.4
comp=Z,3.4nm,0.7s,baz=150,slow=3.8,SNR=9.6
DUG Dugway, Tooele 84.13 43 P P 21 28 13.6 +1.0
baz=237
WHN Wuhan 84.24 305 ⇓*e*P **P 21 28 13.4 +0.2**
MA2 Magadan 84.46 344 *e*P **P 21 28 13.0 -0.6**
MA2 Magadan 84.46 344 P P 21 28 13.0 -0.6
comp=Z,7.3nm,0.5s,baz=111,slow=4.7,SNR=5.1
Q16A Castle Valley 84.51 45 *e*P **P 21 28 16.0 +1.4**
comp=Z,12nm,1.2s
E09A Wood Farm, Sta 84.59 36 *e*P **P 21 28 15.9 +1.3**
comp=Z,12nm,0.9s
HLID Hailey 85.00 40 P P 21 28 18.6 +1.6
baz=236
MNTX Cornudas Mount 85.06 54 P P 21 28 18.6 +1.3
baz=242
TXAR Lajitas Array 85.30 56 P P 21 28 20.2 +1.5
comp=Z,9.6nm,0.9s,baz=216,slow=7.7,SNR=23
PV04 Paradox Valley 85.76 46 *e*P **P 21 28 22.1 +1.2**
comp=Z,83nm,0.9s
TASM ASL Pad, Albuq 85.79 50 P P 21 28 22.1 +1.0
baz=241
TASM ASL Pad, Albuq 85.79 50 P P 21 28 22.1 +1.0
baz=241
ANMO Albuquerque 85.79 50 *e*P **P 21 28 22.1 +1.0**
comp=Z,10nm,1.1s
ANMO Albuquerque 85.79 50 *e*P **P 21 28 22.1 +1.0**
ANMO pmax pmax
comp=Z,10.0nm,1.1s
ANMO Albuquerque 85.79 50 P P 21 28 22.0 +0.8
baz=241
PV22 Blue Mesa, Par 85.92 46 *e*P **P 21 28 22.3 +0.7**
comp=Z,8.5nm,1.1s
NEW Newport 86.20 35 P P 21 28 23.8 +1.2
baz=233
SKLT Songkhla 86.62 279 P P 21 28 27.0 +1.6
comp=Z,26nm,0.8s
MCMT McKenzie Canyo 86.64 39 *e*P **P 21 28 25.5 +0.4**
PSI Prapat 86.65 274 P P 21 28 24.6 -1.2
comp=Z,7.0nm,0.7s,baz=209,slow=7.0,SNR=5.4
PANO Nakornpanom 86.68 290 P P 21 28 27.4 +1.8
SEY Seymchan 86.96 346 P P 21 28 25.8 -0.1
comp=Z,20nm,0.7s,baz=144,slow=5.8,SNR=40
SYO Syowa Base 87.10 192⇑*i*P **P 21 28 24.5 -2.2**
SYO Syowa Base 87.10 192⇓*i*PcP **P 21 28 27.3 +0.6**
SYO Syowa Base 87.10 192⇑*e*pP pP 21 29 04.6 +4.1
SYO Syowa Base 87.10 192⇓*e*sP sP 21 29 21.0 +6.4
SKNT Sakolnakorn 87.17 289 P P 21 28 28.3 +0.3
GSI Gunungsitoli 87.38 272 *e*P **P 21 28 29.4 +0.3**
comp=Z,44nm,0.9s
PDAR Pinedale Array 87.56 42 P P 21 28 29.8 +0.2
comp=Z,1.2nm,0.6s,baz=202,slow=2.6,SNR=7.8
PDAR PKKP **PKKPdf 21 46 13.6 -0.1**
comp=Z,0.4nm,0.6s,baz=145,slow=3.6,SNR=5.1
HDA Harding Lake 87.60 12 P P 21 28 28.6 -0.3
baz=207
PLCA Paso Flores 87.64 133 *e*P **P 21 28 31.2 +1.2**
comp=Z,9.9nm,0.9s
PLCA Paso Flores 87.64 133 P P 21 28 31.2 +1.2
comp=Z,6.3nm,0.9s,baz=233,slow=6.2,SNR=7.2
TRTT Trang 87.71 279 P P 21 28 32.0 +1.3
TRTT Trang 87.71 279 P P 21 28 32.0 +1.3
comp=Z,49nm,1.4s
BOZ Bozeman (W) 87.78 39 P P 21 28 31.6 +1.1
baz=238
SNAA Sanae 87.85 178 P P 21 28 30.1 -0.2
SNAA Sanae 87.85 178 *e*P **P 21 28 30.5 +0.1**
comp=Z,5.7nm,1.0s
SNAA Sanae 87.85 178 *e*P **P 21 28 30.5 +0.1**
SNAA pmax pmax
comp=Z,6.0nm,1.0s
SNAA Sanae 87.85 178 P P 21 28 30.5 +0.1
comp=Z,2.6nm,0.7s,baz=194,slow=4.9,SNR=4.0
VNA3 Neumayer Olymp 87.90 176 P P 21 28 30.8 +0.3
ILAR Eielson Array 87.94 12 *e*P **P 21 28 29.9 -0.6**
ILAR *e*pP **pwP 21 29 08.2 +1.1**
ILAR Eielson Array 87.94 12 *e*P **P 21 28 29.9 -0.6**
ILAR *e*PP **pwP 21 29 08.2 +1.1**
ILAR Eielson Array 87.94 12 P P 21 28 30.1 -0.5
comp=Z,3.7nm,0.8s,baz=215,slow=5.3,SNR=22
ILAR PKKP **PKKPdf 21 46 13.2 -0.3**
comp=Z,0.4nm,0.9s,baz=188,slow=4.3,SNR=4.4
KHON Khomkaen 87.96 288 P P 21 28 33.8 +2.1
MSTX Muleshoe 88.04 53 P P 21 28 32.5 +0.5
baz=244
KRAB Krabi 88.31 279 P P 21 28 34.8 +1.3
KRAB Krabi 88.31 279 P P 21 28 34.8 +1.3
comp=Z,261µm,0.8s
VNA2 Neumayer--Watz 88.37 176 P P 21 28 33.1 +0.3
WALA Waterton Lakes 88.39 35 *e*P **P 21 28 34.2 +1.0**
comp=Z,12nm,1.0s
CHAI Chaiyaphum 88.54 287 P P 21 28 35.1 +0.6
GYA Guiyang 88.57 299 *e*P **P 21 28 34.9 +0.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
VNA1 Neumayer--Stat 88.58 176 P P 21 28 34.8 +1.1
ZEA Zeya 88.77 330 *e*P **P 21 28 35.2 +0.5**
ZEA pmax pmax
comp=N,29nm,1.2s
ZEA pmax pmax
comp=Z,43nm,1.2s
SLVN Son La 88.89 293 *e*P **P 21 28 36.2 +0.1**
BILL Bilibino 89.36 353 *e*P **P 21 28 37.3 +0.2**
comp=Z,6.7nm,0.7s
BILL Bilibino 89.36 353 *i*P **P 21 28 37.0 -0.1**
BILL pmax pmax
comp=Z,4.0nm,0.7s
PHET Kaeng Krachan 89.58 284 P P 21 28 41.2 +1.8
PHET Kaeng Krachan 89.58 284 P P 21 28 41.2 +1.8
comp=Z,64µm,0.7s,comp=Z,562µm
COLD Coldfoot 89.59 10 *e*P **P 21 28 38.7 +0.5**
comp=Z,3.9nm,0.9s
PBKT Sadao Pong 89.70 288 P P 21 28 41.2 +1.3
PBKT Sadao Pong 89.70 288 P P 21 28 41.2 +1.3
ABTX Abilene, Hawle 89.83 55 *e*P **P 21 28 40.9 +0.7**
comp=Z,39nm,1.4s
XAN Xi'an 89.91 307 P P 21 28 40.8 +0.2
XAN pmax pmax
comp=Z,41nm,0.7s
XAN pmax pmax
comp=Z,260nm,8.1s
XAN Xi'an 89.91 307 *e*P **P 21 28 40.7 +0.1**
comp=Z,31nm,0.7s
XAN Xi'an 89.91 307 *e*P **P 21 28 40.7 +0.1**
XAN pmax pmax
comp=Z,31nm,0.7s
SRDT SRDT 90.56 285 P P 21 28 45.7 +1.8
SRDT SRDT 90.56 285 P P 21 28 45.7 +1.8
comp=Z,13nm,0.8s,comp=Z,966nm
NANT Nan 90.75 290 P P 21 28 45.5 +0.7
NANT Nan 90.75 290 P P 21 28 45.5 +0.7
HHC Hu-ho-hao-te 90.96 314 *e*P **P 21 28 45.6 +0.2**
HHC PP **PP 21 32 22.3 -1.5**
HHC pmax pmax
comp=Z,74nm,1.3s
HHC pmax pmax
comp=Z,210nm,7.3s
TOLK Toolik Lake Re 90.98 9 P P 21 28 45.4 +0.7
baz=204
PHRA Phrae 91.05 289 P P 21 28 47.2 +1.0
PHRA Phrae 91.05 289 P P 21 28 47.2 +1.0
comp=Z,2.5nm,1.7s
WHTX Lake Whitney, 91.27 56 P P 21 28 47.2 +0.3
baz=247
KMI Kunming 91.31 296 P P 21 28 48.8 +1.2
KMI pP pwP 21 29 27.6 +3.1
KMI sP sP 21 29 43.9 +8.9
KMI PP **PP 21 32 33.8 +6.8**
KMI S **S 21 39 30.3 -5.2**
KMI sS sS 21 40 38.4 +4.4
KMI pmax pmax
comp=Z,23nm,0.8s
KMI pmax pmax
comp=Z,470nm,6.7s
KMI LR LR
comp=Z,380nm,18.8s

KMI LR LR
comp=Z,530nm,19.4s
KMI LR LR
comp=Z,1µm,23.9s
WMOK Wichita Mounta 91.36 53 P P 21 28 47.5 +0.2
baz=246
EPYK Eagle Plains 91.51 15 P P 21 28 47.9 +0.7
baz=216
LAMP Lampang 91.59 289 P P 21 28 49.7 +1.0
LAMP Lampang 91.59 289 P P 21 28 49.7 +1.0
comp=Z,89µm,0.7s,comp=Z,674µm
PAYA Payao 91.68 290 P P 21 28 49.7 +0.6
PAYA Payao 91.68 290 P P 21 28 49.7 +0.6
comp=Z,67µm,0.7s,comp=Z,562µm
RSSD Black Hills 91.73 43 *e*P **P 21 28 49.6 +0.6**
comp=Z,13nm,1.1s
RSSD Black Hills 91.73 43 *e*P **P 21 28 49.6 +0.6**
RSSD pmax pmax
comp=Z,13nm,1.1s
RSSD Black Hills 91.73 43 P P 21 28 49.8 +0.7
baz=243
HKT Hockley 91.75 59 *e*P **P 21 28 50.8 +1.7**
comp=Z,9.1nm,1.2s
HKT Hockley 91.75 59 *e*P **P 21 28 50.8 +1.7**
HKT pmax pmax
comp=Z,9.0nm,1.2s
GO04 Tololo Observa 91.94 123 *e*P **P 21 28 52.0 +1.5**
comp=Z,29nm,1.0s
CMAR Chiang Mai Arr 92.18 289 *e*P **P 21 28 51.3 -0.1**
CMAR Chiang Mai Arr 92.18 289 *e*P **P 21 28 51.3 -0.1**
CMAR Chiang Mai Arr 92.18 289 P P 21 28 52.1 +0.7
comp=Z,10nm,0.7s,baz=121,slow=2.7,SNR=38
CMAR PP **PP 21 32 33.8 +0.1**
comp=Z,2.8nm,1.0s,baz=113,slow=6.0,SNR=7.5
CMMT Chiang Mai 92.30 289 P P 21 28 52.6 +0.6
CMMT Chiang Mai 92.30 289 P P 21 28 52.6 +0.6
CHTO Chiang Mai 92.30 289 *e*P **P 21 28 52.3 +0.3**
comp=Z,20nm,0.7s
CHTO Chiang Mai 92.30 289 *e*P **P 21 28 52.3 +0.3**
CHTO pmax pmax
comp=Z,20nm,0.7s
CD2 Chengdu 92.66 302 *e*P **P 21 28 52.8 -0.6**
CD2 pmax pmax
comp=Z,30nm,0.6s
CFA Coronel Fontan 93.30 125 PKKPbc PKKPbc 21 46 03.4 0.0
comp=Z,2.1nm,0.5s,baz=309,slow=8.7,SNR=3.9
INK Inuvik 93.81 14 P P 21 28 57.6 -0.1
comp=Z,8.2nm,1.1s,baz=194,slow=5.7,SNR=7.5
LZH Lanzhou 94.54 307 ⇓*P* **P 21 29 03.3 +1.2**
LZH pP pwP 21 29 42.5 +3.6
LZH sP sP 21 29 58.8 +9.2
LZH pmax pmax
comp=Z,21nm,1.4s
LZH pmax pmax
comp=Z,100nm,9.6s
YKA Yellowknife Ar 95.70 24 P P 21 29 06.7 +0.2
comp=Z,0.8nm,0.7s,baz=242,slow=4.7,SNR=5.5
ECSD EROS Data Cent 96.44 46 P P 21 29 10.9 +0.5
baz=248
GTA Gaotai 98.70 309 *e*P Pdif 21 29 22.8 +2.0
GTA pmax pmax
comp=Z,4.0nm,1.1s
LPAZ La Paz 100.03 112 PKKPbc PKKPbc 21 45 45.2 -0.4
comp=Z,1.5nm,0.6s,baz=140,slow=1.6,SNR=7.0
SIV San Ignacio 106.25 114 PKiKP **PKiKP 21 34 04.2 -1.7**
comp=Z,5.2nm,0.4s,baz=281,slow=9.6,SNR=25
SIV PKKPbc **PKKPbc 21 45 26.4 -0.3**
comp=Z,2.1nm,0.7s,baz=95,slow=4.2,SNR=11
ZALV Zalesovo Beam 111.91 321 PKiKP **PKiKP 21 34 14.1 -1.2**
comp=Z,3.7nm,0.6s,baz=142,slow=1.2,SNR=9.3
MKAR Makanchi Array 112.83 313 PKiKP **PKiKP 21 34 16.3 -1.1**
comp=Z,4.0nm,0.5s,baz=158,slow=0.8,SNR=42
MKAR PKKPbc **PKKPbc 21 45 06.4 -0.1**
comp=Z,0.5nm,0.7s,baz=278,slow=3.6,SNR=4.8
KURK Kurchatov 115.52 317 PKIKP **PKPdf 21 34 21.4 -0.9**
KURBB Kurchatov Arra 115.57 317 PKP **PKPdf 21 34 21.4 -1.1**
comp=Z,7.1nm,0.7s,baz=96,slow=1.8,SNR=30
KSH Kashi 116.71 305 PKP **PKPdf 21 34 22.8 -2.3**
KSH PP **PP 21 35 37.3 +2.0**
KSH SS SS 21 51 38.6 +7.0
KSH AMB AMB
comp=Z,370nm,6.1s
KSH LR LR
comp=Z,300nm,10.5s
KSH LR LR
comp=Z,510nm,11.8s
KSH LR LR
comp=Z,680nm,14.7s
BDFB Brasilia 117.27 121 PKKPbc PKKPbc 21 44 50.5 0.0
comp=Z,2.0nm,0.5s,baz=79,slow=5.2,SNR=2.5
AAK Ala-Archa 118.05 308 PKP **PKPdf 21 34 26.7 -0.9**
comp=Z,2.0nm,0.6s,baz=148,slow=6.4,SNR=6.5
AAK PKKPbc **PKKPbc 21 44 48.6 +0.2**
comp=Z,0.5nm,0.3s,baz=206,slow=8.6,SNR=4.4
BVAR Borovoye Array 120.53 320 PKP **PKPdf 21 34 31.3 -0.6**
comp=Z,8.5nm,0.5s,baz=142,slow=1.5,SNR=39
BRVK Borovoye 120.59 320 *e*PKPdf **PKPdf 21 34 31.5 -0.5**
BRVK Borovoye 120.59 320 *e*PKIKP **PKPdf 21 34 31.5 -0.5**
BTK Batken 120.70 305 *e*PKPdf **PKiKP 21 34 33.7 +0.8**
KKAR Karatay Array 120.98 309 *e*PKPdf **PKPdf 21 34 32.3 -0.8**
KKAR Karatay Array 120.98 309 *e*PKIKP **PKPdf 21 34 32.3 -0.8**
KBL Kabul 121.82 299 *e*PKPdf **PKiKP 21 34 35.5 +0.1**
KBL Kabul 121.82 299 *e*PKIKP **PKiKP 21 34 35.5 +0.1**
CHGR Chuyangaron 121.94 303 *e*PKPdf **PKiKP 21 34 37.1 +1.7**
SPITS Spitsbergen Ar 122.07 357 PKP **PKPdf 21 34 33.8 -0.5**
comp=Z,4.3nm,0.6s,baz=74,slow=3.0,SNR=11
OPO Ambohidratompo122.72 230 PKP **PKPdf 21 34 37.4 0.0**
comp=Z,6.9nm,0.8s,baz=175,slow=2.8,SNR=10.0
SUMG Summit 122.72 14 *e*PKPdf **PKPdf 21 34 36.1 0.0**
SUMG Summit 122.72 14 *e*PKIKP **PKPdf 21 34 36.1 0.0**
ARU Arti 126.49 326 *e*PKPdf **PKPdf 21 34 42.6 -0.5**
ARU Arti 126.49 326 *e*PKIKP **PKPdf 21 34 42.7 -0.5**
ARU Arti 126.49 326 PKP **PKPdf 21 34 42.8 -0.4**
comp=Z,5.5nm,0.8s,baz=86,slow=1.7,SNR=13
BOSA Boshof 127.06 203 PKP **PKPdf 21 34 45.5 +0.1**
comp=Z,5.8nm,1.0s,baz=157,slow=2.1,SNR=5.4
ABKAR Akbulak array 127.63 317 *e*PKPdf **PKPdf 21 34 45.7 +0.1**
SCO Scoresbysund 127.71 11 *e*PKPdf **PKPdf 21 34 44.4 -0.7**
SCO Scoresbysund 127.71 11 *e*PKIKP **PKPdf 21 34 44.4 -0.7**
AKTO Aktyubinsk 128.56 319 PKP **PKPdf 21 34 46.9 -0.5**
comp=Z,4.3nm,0.7s,baz=45,slow=2.5,SNR=9.2
ARCES ARCESS Array B 129.38 351 *e*PKPdf **PKPdf 21 34 48.0 -0.4**
ARCES ARCESS Array B 129.38 351 *e*PKIKP **PKPdf 21 34 48.0 -0.4**
ARCES ARCESS Array B 129.38 351 PKP **PKPdf 21 34 47.9 -0.4**
comp=Z,2.1nm,0.5s,baz=8.1,slow=1.7,SNR=21
ARCES SKPbc SKPbc 21 37 58.0 +0.2
comp=Z,4.0nm,0.9s,baz=358,slow=2.9,SNR=4.8
KIRV Kirov 130.10 331 SKPbc **SKPab 21 37 59.4 -0.9**
comp=Z,7.6nm,0.7s,baz=81,slow=3.2,SNR=3.9
GEYT Alibeck 130.64 303 PKP **PKPdf 21 34 51.8 0.0**
comp=Z,4.8nm,0.7s,baz=225,slow=1.9,SNR=8.2
GEYT SKPbc **SKPbc 21 38 02.9 -0.5**
comp=Z,6.5nm,0.8s,baz=243,slow=1.0,SNR=9.9
MATP Matopo 132.86 212 PKP **PKPdf 21 34 57.3 +0.6**
comp=Z,7.1nm,0.9s,baz=118,slow=1.8,SNR=8.0
MATP SKPbc **SKPbc 21 38 11.2 -0.7**
comp=Z,10nm,1.1s,baz=141,slow=3.9,SNR=7.1
FINES FINESS Array B 136.44 345 PKIKP **PKPdf 21 35 01.0 -0.9**
FINES FINESS Array B 136.44 345 PKhKP PKPpre 21 34 49.6
comp=Z,2.6nm,0.8s,baz=73,slow=2.6,SNR=3.8
FINES PKP **PKPdf 21 35 00.9 -0.9**
comp=Z,4.0nm,0.8s,baz=65,slow=3.0,SNR=5.4
LSZ Lusaka 137.33 215 *e*PKPdf **PKPdf 21 35 05.4 +0.3**
LSZ Lusaka 137.33 215 PKP **PKPdf 21 35 02.8 -2.2**
comp=Z,4.0nm,0.6s,baz=304,slow=0.7,SNR=5.4
OBN Obninsk 137.84 333 SKPbc **SKPbc 21 38 25.1 -1.0**
comp=Z,0.9nm,0.3s,baz=40,slow=21,SNR=4.1
NB2 NORSAR Subarra139.29 355 PKPdf PKPdf 21 34 56.1 -11
comp=Z,0.4nm,0.6s,baz=6.6,slow=1.8
NOA NORSAR Array B 139.29 355 PKhKP **PKPdf 21 35 03.9 -3.3**
comp=Z,3.6nm,0.8s,baz=16,slow=5.1,SNR=7.5
NOA SKPbc **SKPbc 21 38 29.9 -0.3**
comp=Z,0.7nm,0.7s,baz=13,slow=4.5,SNR=3.3
HFS Hagfors 139.93 353 PKhKP PKPpre 21 35 01.7
comp=Z,4.1nm,0.5s,baz=85,slow=3.4,SNR=22
HFS SKPbc **SKPbc 21 38 31.6 -0.2**
comp=Z,1.7nm,0.7s,baz=29,slow=3.3,SNR=2.7
GNI Garni 140.45 309 PKhKP PKPpre 21 35 03.1
comp=Z,1.8nm,0.6s,baz=63,slow=6.8,SNR=4.4
GNI PKP **PKPdf 21 35 10.4 +0.3**
comp=Z,5.7nm,0.8s,baz=63,slow=6.8,SNR=5.3
KBZ Khabaz 140.50 315 PKhKP PKPpre 21 35 02.0
comp=Z,3.3nm,0.8s,baz=153,slow=2.3,SNR=3.1
AKH Akhalkalaki 140.94 311 ⇓*P* **PKPdf 21 35 05.9 -5.1**
KMBO Kilima Mbogo 141.19 240 PKhKP PKPpre 21 35 06.3
comp=Z,4.2nm,0.7s,baz=55,slow=6.4,SNR=9.7
KMBO SKPbc **SKiKP 21 38 38.4 -0.6**
comp=Z,1.5nm,0.5s,baz=6.3,slow=5.6,SNR=3.7
ATD Arta Tunnel 141.96 262 SKPbc **SKPbc 21 38 38.8 +0.2**
comp=Z,9.2nm,0.9s,baz=257,slow=10,SNR=3.5
AKASG Malin Array Be 144.10 333 PKP **PKPab 21 35 13.3 -0.6**
comp=Z,22nm,0.7s,baz=42,slow=4.7,SNR=73
AKASG SKPbc **SKPbc 21 38 42.5 0.0**
comp=Z,1.2nm,0.5s,baz=32,slow=2.7,SNR=6.1
KIEV Kiev 144.12 333 *e*PKPdf **PKPab 21 35 13.3 -0.6**
EKA Eskdalemuir Ar 144.85 7 PKP **PKPab 21 35 16.3 -0.3**
comp=Z,21nm,0.8s,baz=345,slow=3.2,SNR=20
SNOP Sinop 146.32 316 *e*PKPdf **PKPdf 21 35 20.7 +0.6**
CUGUR Gurin_SVAS 146.37 310 *i* P **PKPab 21 35 23.1 0.0**
DSB Dublin 146.38 12 *e*PKPdf **PKPbc 21 35 21.2 -0.1**
DIKM Dikmen 146.47 316 ⇓*i*P **PKPdf 21 35 18.9 -1.5**
MBAR Mbarara 146.64 234 *e*PKPdf **PKPbc 21 35 24.0 +0.4**
MBAR Mbarara 146.64 234 PKPbc **PKPbc 21 35 24.1 +0.6**
comp=Z,66nm,0.9s,baz=128,slow=6.4,SNR=46
BZK Bozkurt 147.12 317 ⇓*i*P **PKPbc 21 35 24.1 +0.3**
IAS Iasi 147.42 330 ⇑*i*P **PKiKP 21 35 26.1 -0.5**
IAS Iasi 147.42 330 ⇑PKP2 **PKiKP 21 35 26.1 -0.5**
LEOM Leova 147.61 328 ⇑*i*P **PKPbc 21 35 25.4 +0.4**
LEOM Leova 147.61 328 ⇑PKP2 **PKPbc 21 35 25.4 +0.4**
PRAR RASCA 147.91 331 ⇑*i*P **PKPbc 21 35 25.9 +0.1**
BURAR Bucovina Array 148.16 333 ⇑*i*P **PKPbc 21 35 27.3 +0.7**
BURAR Bucovina Array 148.16 333 ⇑PKP2 **PKPbc 21 35 27.3 +0.7**
TLCR 148.21 326 ⇓*i*P **PKPbc 21 35 26.9 +0.3**
TLCR 148.21 326 ⇓PKP2 **PKPbc 21 35 26.9 +0.3**
KOLS Kolonicke sedl 148.26 337 *e*PKIKP **PKPdf 21 35 23.7 +0.5**
KOLS *e* 21 35 27.3
KOLS Kolonicke sedl 148.26 337 *e*PKP **PKPdf 21 35 23.7 +0.5**
KOLS *e* 21 35 27.3
KOLS *e* 21 35 30.8
BIZ Bicaz 148.28 331 ⇓*i*P **PKPbc 21 35 27.4 +0.6**
YURE YUREGIR 148.29 307 *i* P **PKiKP 21 35 28.1 -0.7**
TESR Tescani 148.35 330 ⇑*i*P **PKPbc 21 35 26.9 -0.1**
BRTR Keskin Array B 148.47 314 PKPbc **PKPbc 21 35 27.2 -0.5**
comp=Z,38nm,0.8s,baz=140,slow=3.4,SNR=77
UZH Uzhgorod 148.51 337 *e*PKP2 **PKPbc 21 35 27.5 +0.2**
CFR Carcaliu 148.57 327 ⇑*i*P **PKPbc 21 35 27.6 +0.1**
CFR Carcaliu 148.57 327 ⇑PKP2 **PKPbc 21 35 27.6 +0.1**
CLL Collm 148.59 349 ⇓*i*PKP2 **PKPbc 21 35 27.5 +0.1**
CLL pmax pmax
comp=Z,36nm,0.9s
CLL pmax pmax
comp=Z,35nm,0.7s
CLL Collm 148.59 349 ⇓*i*PKPbc **PKPbc 21 35 27.5 +0.1**
comp=Z,36nm,0.9s
CLL *i* PKPab **PKPab 21 35 31.5 +0.3**
comp=Z,35nm,0.7s
CLL *i* pPKPab **pPKPab 21 36 07.1 +1.7**
comp=Z,26nm,1.2s
WTSB Winterswijk 148.62 357 *e*P **PKPbc 21 35 27.5 +0.1**
comp=Z,63nm,1.0s
PETR Petresti 148.64 328 ⇑*i*P **PKPab 21 35 33.8 +2.2**
ODBI Odobesti 148.70 329 ⇑*i*P **PKiKP 21 35 29.5 +0.3**
ASF Jabal al Asfar 148.72 298 PKPbc **PKPbc 21 35 29.0 +0.5**
comp=Z,40nm,0.9s,baz=43,slow=1.2,SNR=61
UPC Upice 148.74 346 *e*PKP2 **PKPbc 21 35 28.2 +0.4**
UPC Upice 148.74 346 ⇑*e*PKP **PKPbc 21 35 28.2 +0.4**
VRI Vrincioaia 148.78 329 ⇑*i*P **PKPbc 21 35 28.3 +0.2**
VRI Vrincioaia 148.78 329 ⇑PKP2 **PKPbc 21 35 28.3 +0.2**
TOTH TOTAH 148.80 301 *e*P **PKPbc 21 35 29.2 +0.6**
DPC Dobruska-Polom 148.81 345 *e*PKIKP **PKPdf 21 35 24.4 +0.3**
DPC *e* 21 35 28.2
DPC *e* 21 36 10.5
DPC Dobruska-Polom 148.81 345 *e*PKPDF **PKPdf 21 35 24.4 +0.3**
DPC ⇑*e*PKP **PKPbc 21 35 28.2 +0.1**
DPC *e*PKPAB **PKPab 21 35 32.7 +0.4**
DPC *ex* x 21 35 46.2
DPC *ex* x 21 36 10.5
BMR Baia Mare 148.83 335 ⇑*i*P **PKPbc 21 35 28.5 +0.4**
BMR Baia Mare 148.83 335 ⇑PKP2 **PKPbc 21 35 28.6 +0.4**
PLOR Plostina 148.83 329 ⇑*i*P **PKPbc 21 35 28.2 -0.1**
PLOR Plostina 148.83 329 ⇑PKP2 **PKPbc 21 35 28.2 -0.1**
TRPA Tarpa 148.83 336 ⇑*i*P **PKPbc 21 35 28.6 +0.5**
TRPA Tarpa 148.83 336 *e*P **PKPbc 21 35 27.1 -1.0**
BRG Berggiesshubel 148.84 348 *e*PKP **PKPdf 21 35 22.8 -1.2**
comp=Z,4.1nm,1.0s
BRG *es*PKP 21 36 08.4
comp=Z,16nm,1.4s
BRG Berggiesshubel 148.84 348 *e*PKHKP **PKPdf 21 35 22.8 -1.2**
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=N,16nm,1.4s
QASN Qassioun 148.87 301 *e*P **PKPbc 21 35 29.5 +0.6**
ARCR ARCALIA 148.94 333 ⇑*i*P **PKPbc 21 35 29.1 +0.6**
KRLC Kraliky 148.95 344 *e*PKP2 **PKPbc 21 35 29.0 +0.6**
KRLC Kraliky 148.95 344 ⇑*e*PKP **PKPbc 21 35 29.0 +0.6**
KRLC *ep*PKP **sPKPdf 21 36 10.2 -3.0**
ANTO Ankara 148.97 315 *e*PKPbc **PKPbc 21 35 29.2 +0.3**
ANTO Ankara 148.97 315 ⇓*i*P **PKPbc 21 35 29.0 +0.1**
ANTO Ankara 148.97 315 ⇓PKP2 **PKPbc 21 35 29.0 +0.1**
HARR Harsova 149.01 326 ⇑*i*P **PKPab 21 35 33.7 +0.5**
HARR Harsova 149.01 326 ⇑PKP2 **PKPab 21 35 33.7 +0.5**
TLB Topalu 149.02 326 ⇑*i*P **PKPbc 21 35 29.3 +0.6**
TLB Topalu 149.02 326 ⇑PKP2 **PKPbc 21 35 29.3 +0.6**
LANS Liptovska Anna 149.03 340 *e*PKP2 **PKiKP 21 35 30.0 +0.1**
LANS Liptovska Anna 149.03 340 *e*PKP **PKiKP 21 35 30.0 +0.1**
LANS *e* 21 35 34.7
MORC Moravsky Berou 149.03 343 ⇑*i*P **PKPbc 21 35 29.3 +0.7**
MORC Moravsky Berou 149.03 343 ⇑PKP2 **PKPbc 21 35 29.3 +0.7**
MORC Moravsky Berou 149.03 343 *e*PKP **PKPbc 21 35 28.7 +0.1**
PVCC Panska Ves 149.04 347 *e*PKP2 **PKPbc 21 35 28.5 -0.1**
PVCC Panska Ves 149.04 347 ⇑*e*PKP **PKPbc 21 35 28.5 -0.1**
PVCC *ex* x 21 36 09.6
OZUR 149.06 330 ⇑*i*P **PKiKP 21 35 29.5 -0.6**
MFTR Murfatlar 149.09 325 ⇓*i*P **PKPbc 21 35 29.3 +0.4**
BRBR Barbar 149.17 301 *e*P **PKiKP 21 35 30.4 -0.5**
KECS Kecovo 149.27 339 *e*PKP2 **PKiKP 21 35 29.9 -0.5**
KECS Kecovo 149.27 339 *e*PKP **PKiKP 21 35 29.9 -0.5**
KECS *e* 21 35 35.1
HSUJ Al Zarqa 149.31 299 P **PKiKP 21 35 30.8 -0.2**
DOPR Dopca 149.34 331 ⇑*i*P **PKPdf 21 35 25.2 +0.2**
AMRR Amara 149.37 327 ⇑*i*P **PKPab 21 35 35.7 +1.0**
AMRR Amara 149.37 327 ⇑PKP2 **PKPab 21 35 35.7 +1.0**
MLR Muntele Rosu 149.43 329 ⇑*i*P **PKiKP 21 35 30.7 -0.3**
MLR Muntele Rosu 149.43 329 ⇑PKP2 **PKiKP 21 35 30.7 -0.3**
MLR Muntele Rosu 149.43 329 PKPbc **PKPbc 21 35 30.0 +0.1**
comp=N,13nm,0.7s,baz=346,slow=11,SNR=14
SHMJ Saham 149.51 300 P **PKiKP 21 35 31.2 -0.2**
comp=N,171nm,0.9s,comp=N,0.5nm
CJR Cluj-Napoca 149.55 333 ⇑*i*P **PKiKP 21 35 30.7 -0.4**
CJR Cluj-Napoca 149.55 333 ⇑PKP2 **PKiKP 21 35 30.7 -0.4**
PRU Pruhonice 149.55 347 *e*PKP2 **PKPbc 21 35 30.0 +0.1**
PRU Pruhonice 149.55 347 ⇑*e*PKP **PKPbc 21 35 30.0 +0.1**
PRU *ex* x 21 36 09.2
GOPC GO Pecny, Ondr 149.57 347 *e*PKP2 **PKPbc 21 35 29.8 -0.2**
GOPC GO Pecny, Ondr 149.57 347 ⇑*e*PKP **PKPbc 21 35 29.8 -0.2**
GOPC *e*PKPAB **PKPab 21 35 35.5 +0.2**
GOPC *ex* x 21 36 10.3
SWQJ Swaqa 149.62 297 P **PKiKP 21 35 31.5 -0.2**
LTVH Ltavrtes, Hu 149.69 336 *e*P **PKPbc 21 35 30.0 -0.2**
SECR 149.71 329 ⇑*i*P **PKPbc 21 35 30.7 +0.3**
VRAC Vranov 149.71 344 ⇑*i*P **PKPbc 21 35 30.6 +0.3**
VRAC Vranov 149.71 344 *e*PKP **PKPbc 21 35 30.6 +0.3**
VRAC Vranov 149.71 344 PKPbc **PKPbc 21 35 30.6 +0.3**
comp=N,12nm,0.8s,baz=50,slow=1.5,SNR=7.3
NKC Novy Kostel 149.72 350 *e*PKP2 **PKPbc 21 35 30.1 -0.2**
NKC Novy Kostel 149.72 350 ⇑*e*PKP **PKPbc 21 35 30.1 -0.2**
NKC *e*PKPAB **PKPab 21 35 36.7 +0.8**
MMAI Mount Meron Ar 149.72 301 PKPbc **PKPbc 21 35 31.4 +0.4**
comp=N,41nm,0.6s,baz=72,slow=6.5,SNR=85
WALJ Wala 149.76 298 P **PKiKP 21 35 31.7 -0.2**
comp=N,148nm,0.9s,comp=N,0.4nm
VYHS Vyhne 149.80 341 *e*PKP2 **PKPbc 21 35 30.8 +0.2**
VYHS Vyhne 149.80 341 *e*PKP **PKPbc 21 35 30.8 +0.2**
VYHS *e* 21 35 38.1
JAVC Velka Javorina 149.82 342 *e*PKP **PKiKP 21 35 31.9 +0.3**
DRGR 149.86 334 ⇑*i*P **PKPdf 21 35 26.5 +0.6**
HGN Heimansgroeve 149.86 358 *e*P **PKPbc 21 35 30.8 +0.3**
comp=N,29nm,1.0s
VOIR 149.90 330 ⇓*i*P **PKPbc 21 35 30.9 -0.1**
VOIR 149.90 330 ⇓PKP2 **PKPbc 21 35 30.9 -0.1**
PSZ Piszkesteto 149.96 339 ⇑*i*P **PKPbc 21 35 31.2 +0.2**
PSZ Piszkesteto 149.96 339 ⇑PKP2 **PKPbc 21 35 31.2 +0.2**
PSZ Piszkesteto 149.96 339 *e*P **PKPbc 21 35 30.0 -1.0**
KRUC Moravsky 149.98 344 *e*PKP **PKPbc 21 35 31.1 +0.2**
TREC Trest 149.99 345 *e*PKPDF **PKPdf 21 35 25.9 -0.1**
TREC ⇑*e*PKP **PKPbc 21 35 30.5 -0.5**
TREC *e*PKPAB **PKPab 21 35 37.9 +0.8**
TREC *ep*PKP **pPKPab 21 36 11.6 +0.4**
MEM Membach 150.01 358 ⇑PKPbc **PKPbc 21 35 30.7 -0.3**
LISJ El Lisan 150.11 297 P **PKiKP 21 35 32.4 -0.1**
comp=N,78nm,0.9s,comp=N,0.3nm
ARR Arges 150.14 331 ⇑*i*P **PKPdf 21 35 26.6 +0.2**
SNF Seneffe 150.14 0 ⇓PKPbc **PKPbc 21 35 31.3 0.0**
PHNC Paralimni 150.17 305 P **PKPbc 21 35 31.9 +0.1**
BCLA Clavier 150.22 359 ⇓PKPbc **PKiKP 21 35 32.0 -0.2**
SGRR Singureni 150.34 328 ⇓*i*P **PKPab 21 35 38.6 0.0**
MODS Modra-Piesok 150.37 342 *e*PKIKP **PKPbc 21 35 31.9 0.0**
MODS Modra-Piesok 150.37 342 *e*PKP **PKPbc 21 35 31.9 0.0**
GRA1 Grafenberg Arr 150.44 351 *e*PKPbc **PKPbc 21 35 32.1 0.0**
GRFO Grafenberg 150.44 351 *e*PKPbc **PKPbc 21 35 32.4 +0.4**
AMAZ Amatzia 150.51 298 P **PKPdf 21 35 23.1 -4.2**
comp=N,84nm,0.9s,comp=N,0.5nm
DOU Dourbes 150.55 360 ⇓PKPbc **PKPbc 21 35 32.3 0.0**
DOU ⇑pPKPbc **pPKPab 21 36 11.4 -2.0**
KHC Kasperske Hory 150.57 348 *e*PKPbc **PKPbc 21 35 31.9 -0.4**
KHC Kasperske Hory 150.57 348 *e*PKIKP **PKPdf 21 35 27.0 +0.1**
KHC *e* 21 35 38.6
KHC Kasperske Hory 150.57 348 *e*PKPDF **PKPdf 21 35 27.0 +0.1**
KHC ⇑*e*PKP **PKPbc 21 35 32.4 0.0**
KHC *e*PKPAB **PKPab 21 35 38.6 -0.9**
KHC *ep*PKP **pPKPab 21 36 11.6 -2.0**
HUMR Humele 150.60 329 ⇑*i*P **PKPbc 21 35 31.9 -0.7**
SIRR Siria 150.71 335 ⇓*i*P **PKPbc 21 35 32.8 0.0**
CSS Mathiatis 150.72 305 *e*PKPbc **PKPbc 21 35 32.8 -0.4**
MAMC Mammari 150.73 306 P **PKPbc 21 35 33.1 -0.1**
AQBJ Aqaba 150.79 294 P **PKiKP 21 35 34.0 -0.1**
comp=N,139nm,0.9s,comp=N,0.4nm
GEC2 GERESS Array S 150.81 347 *e*PKPbc **PKPbc 21 35 33.1 +0.1**
GERES GERESS Array B 150.81 347 PKP **PKPdf 21 35 27.1 -0.3**
comp=N,1.8nm,0.9s,baz=286,slow=2.5,SNR=5.0
GERES PKPbc **PKPbc 21 35 33.1 +0.1**
comp=N,15nm,0.8s,baz=38,slow=2.4,SNR=52
EIL Elat 150.88 294 P **PKPdf 21 35 26.8 -1.1**
comp=N,68nm,1.0s,comp=N,0.2nm
EIL Elat 150.88 294 PKPbc **PKPbc 21 35 33.8 +0.1**
comp=N,62nm,1.0s,baz=4.7,slow=2.5,SNR=27
WLF Walferdange 150.95 358 *e*PKPbc **PKiKP 21 35 34.0 +0.2**
WLF Walferdange 150.95 358 ⇑PKPbc **PKiKP 21 35 33.7 0.0**
WLF ⇑pPKPbc **sPKPdf 21 36 15.3 -0.9**
CSKK Cskako 150.98 340 *e*P **PKPbc 21 35 32.1 -1.3**
LEF Lefka 151.00 306 ⇑*i*P **PKPbc 21 35 33.9 +0.1**
SZAC Souni 151.14 305 P **PKPbc 21 35 33.9 -0.3**
CONA Conrad Observa 151.17 344 *i* PKiKP **PKiKP 21 35 34.5 +0.1**
comp=N,19nm,0.8s
CONA *i* PKPab **PKPab 21 35 43.9 +1.8**
comp=N,20nm,0.7s
CONA *i* pPKPab **pPKPab 21 36 15.6 -0.6**
comp=N,16nm,0.9s
ALFC Alefka 151.20 306 P **PKPbc 21 35 33.3 -1.0**
BZS Buzias 151.25 334 ⇓*i*P **PKPdf 21 35 28.0 0.0**
BZS Buzias 151.25 334 ⇓PKIKP **PKPdf 21 35 28.0 0.0**
PHSR Pinarhisar 151.26 322 ⇑*i*P **PKPbc 21 35 34.3 +0.1**
VLAD Vladila 151.27 329 ⇑*i*P **PKiKP 21 35 34.6 0.0**
SRE Strehaia 151.33 331 ⇑*i*P **PKPbc 21 35 33.8 -0.5**
SRE Strehaia 151.33 331 ⇑PKIKP **PKPbc 21 35 33.8 -0.5**
PPCY Paphos 151.50 306 P **PKPbc 21 35 33.7 -1.2**
HERR Herculane 151.51 332 ⇓*i*P **PKPbc 21 35 34.5 -0.2**
ISP Isparta 151.53 313 ⇓*i*P **PKPbc 21 35 34.3 -0.8**
ISP Isparta 151.53 313 ⇓PKIKP **PKPbc 21 35 34.3 -0.8**
MOA Molln 151.63 346 *i* PKPbc **PKPbc 21 35 35.0 +0.1**
comp=N,7.8nm,0.9s,SNR=4.9
MOA *i* P **sPKPdf 21 36 16.9 -0.6**
comp=N,16nm,1.4s
BANR Banloc 151.64 335 ⇑*i*P **PKiKP 21 35 35.7 +0.4**
ARSA Arzberg 151.88 344 *i* PKPbc **PKPbc 21 35 35.7 +0.2**
comp=N,10nm,1.2s
ARSA *i* PKPab **PKPab 21 35 44.6 -0.4**
comp=N,4.8nm,0.7s
MDVR Moldovita 151.89 333 ⇑*i*P **PKPbc 21 35 35.7 +0.1**
BFO Black Forest 152.13 354 *e*PKPbc **PKPbc 21 35 35.5 -0.5**
BALB Balikesir 152.27 318 *e*PKPbc **PKPbc 21 35 35.9 -0.6**
SOKA Soboth 152.54 344 *i* PKPbc **PKPbc 21 35 36.7 -0.4**
comp=N,8.7nm,0.8s,SNR=5.5
KBA Koelnbreinsper 152.57 347 *i* PKPbc **PKPbc 21 35 36.7 -0.5**
comp=N,13nm,1.0s
KBA *i* PKPab **PKPab 21 35 49.3 +1.2**
comp=N,16nm,0.8s
KBA *i* P **sPKPdf 21 36 18.3 -0.8**
comp=N,8.5nm,0.7s
CLF Chambon-Foret 152.58 3 *e*PKPbc **PKiKP 21 35 37.8 +0.6**
RETA Reutte 152.66 350 *i* PKPbc **PKPbc 21 35 37.3 0.0**
comp=N,12nm,1.2s
RETA *i* P **sPKPdf 21 36 19.2 +0.2**
comp=N,10nm,1.0s
WATA Walderalm 152.67 349 *i* PKPdf **PKPdf 21 35 31.9 +1.7**
comp=N,7.4nm,1.2s
WATA *i* PKPbc **PKPbc 21 35 37.2 -0.2**
comp=N,6.0nm,0.6s,SNR=5.2
WATA *i* P **sPKPdf 21 36 18.7 -0.4**
comp=N,8.6nm,0.7s
WTTA Wattenberg 152.73 349 *i* PKPbc **PKPbc 21 35 37.5 -0.1**
comp=N,22nm,0.8s,SNR=10
MOTA Moosalm 152.74 350 *i* PKPbc **PKPbc 21 35 36.7 -0.9**
comp=N,12nm,0.9s,SNR=6.3
MOTA *i* PKPab **PKPab 21 35 49.4 +0.6**
comp=N,9.7nm,0.7s
MOTA *i* P **sPKPdf 21 36 17.4 -1.8**
comp=N,13nm,1.1s
OBKA Obir 152.82 344 *i* PKPbc **PKPbc 21 35 37.7 0.0**
comp=N,18nm,1.9s
OBKA *i* PKPab **PKPab 21 35 49.5 +0.4**
comp=N,12nm,0.7s
SQTA Sankt Quirin 152.84 350 *i* PKPbc **PKPbc 21 35 37.8 0.0**
SNR=4.3
VTS Vitosha 152.87 328 ⇑*i*P **PKPbc 21 35 36.8 -1.2**
VTS Vitosha 152.87 328 ⇑PKIKP **PKPbc 21 35 36.8 -1.2**
MYKA Terra Mystica 152.92 346 *i* PKPdf **PKPdf 21 35 29.0 -1.5**
comp=N,4.7nm,1.0s
MYKA *i* PKPbc **PKPbc 21 35 37.3 -0.6**
comp=N,10nm,1.1s
MYKA *i* PKPab **PKPab 21 35 49.5 0.0**
comp=N,13nm,0.7s
DAVA Damuels 152.98 352 *i* PKiKP **PKiKP 21 35 38.7 +0.5**
comp=N,28nm,1.1s,SNR=7.0
DAVA *i* P **sPKPdf 21 36 19.4 -0.2**
comp=N,17nm,1.0s
ABTA Abfaltersbach 153.06 347 *i* PKPdf **PKPdf 21 35 30.5 -0.2**
comp=N,9.6nm,1.0s
ABTA *i* PKPbc **PKPbc 21 35 37.6 -0.6**
comp=N,13nm,0.6s,SNR=4.8
ABTA *i* P **sPKPdf 21 36 19.4 -0.2**
comp=N,14nm,0.8s
EZN Ezine 153.11 320 ⇑*i*P **PKPbc 21 35 38.4 0.0**
EZN Ezine 153.11 320 ⇑PKIKP **PKPbc 21 35 38.4 0.0**
FETA Feichten 153.12 350 *i* PKPdf **PKPdf 21 35 31.5 +0.6**
comp=N,9.1nm,0.9s
FETA *i* PKiKP **PKiKP 21 35 38.6 +0.1**
comp=N,16nm,0.9s
**DAVOX Davos/Dischmat 153.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.16**	**2**	*e*P	**Pg**	**21 23 17.4**	**-0.4**
CPBX				*e*S	**Sg**	**21 23 20.9**	**+0.5**
CPBX				IAML		21 23 22.8	
	comp=N,22μm,0.3s						
CPBX				⇓*e*		21 23 22.8	
CPBX				⇓*e*		21 23 23.2	
CPBX				IAML		21 23 23.2	
	comp=E,28μm,0.2s						
SGL	**Mount Signal**	**0.52**	**318**	⇓*i*P	**Pg**	**21 23 24.9**	**+0.5**
WESC	**Westside Schoo**	**0.61**	**325**	*e*P	**Pg**	**21 23 26.8**	**+0.7**
YUH	**Yuha Desert**	**0.65**	**307**	⇑*i*P	**Pg**	**21 23 26.8**	**+0.1**
RMX	**La Rumorosa**	**0.73**	**298**	*e*P	**Pg**	**21 23 27.4**	**-1.0**
RMX				*e*S	**Sg**	**21 23 36.4**	**-1.6**
RMX				IAML		21 23 38.2	
	comp=N,982nm,0.3s						
RMX				⇓*e*		21 23 38.2	
IKP	**In-Ko-Pah, Jac**	**0.78**	**300**	P	**Pg**	**21 23 29.3**	**0.0**
	baz=121						
IKP				S	**Sg**	**21 23 39.4**	**0.0**
	baz=121						
IKP	**In-Ko-Pah, Jac**	**0.78**	**300**	*e*P	**Pg**	**21 23 29.1**	**-0.1**
SWSC	**Sam W. Stewart**	**0.80**	**329**	P	**Pb**	**21 23 29.3**	**-0.7**
	baz=149						
SWSC				S	**Sb**	**21 23 40.1**	**-0.7**
	baz=149						
ECBX	**El Chinero**	**0.82**	**164**	*e*P	**Pb**	**21 23 30.2**	**-0.1**
ECBX				*e*S	**Sg**	**21 23 41.8**	**+1.2**
GLA	**Glamis**	**0.89**	**27**	*e*Pg	**Pb**	**21 23 30.8**	**-0.7**
GLA	**Glamis**	**0.89**	**27**	P	**Pb**	**21 23 30.6**	**-1.0**
	baz=205						
GLA				S	**Sb**	**21 23 43.0**	**-0.4**
	baz=205						
GLA	**Glamis**	**0.89**	**27**	*e*P	**Pb**	**21 23 30.6**	**-1.0**
ZAX	**El Zacaton**	**1.11**	**228**	*e*P	**Pb**	**21 23 35.0**	**-0.3**
ZAX				*e*S	**Sb**	**21 23 49.8**	**+0.1**
MONP2	**Monument Peak**	**1.13**	**304**	P	**Pb**	**21 23 35.8**	**0.0**
	baz=124						
MONP2				S	**Sb**	**21 23 50.0**	**-0.6**
	baz=124						
MONP2	**Monument Peak**	**1.13**	**304**	*e*P	**Pb**	**21 23 35.5**	**-0.3**
CBX	**Cerro Bola**	**1.15**	**273**	*e*P	**Pb**	**21 23 35.8**	**-0.2**
CBX				*e*S	**Sg**	**21 23 51.6**	**+0.4**
CBX				IAML		21 23 56.1	
	comp=N,516nm,0.4s						
CBX				⇑*e*		21 23 56.1	
TJIG	**Tijuana**	**1.17**	**279**	*e*P	**Pn**	**21 23 35.9**	**-0.5**
SPIG	**San Pedro Mart**	**1.22**	**186**	*e*P	**Pn**	**21 23 36.6**	**-0.7**
SPX	**San Pedro Mart**	**1.22**	**186**	*e*P	**Pn**	**21 23 36.9**	**-0.4**
SPX				*e*S	**Sn**	**21 23 53.6**	**-0.4**
SPX				⇓*e*		21 23 57.7	
SPX				IAML		21 23 57.7	
	comp=E,210nm,0.5s						
BAR	**Barrett**	**1.23**	**290**	*e*Pg	**Pn**	**21 23 36.5**	**-0.7**
BAR	**Barrett**	**1.23**	**290**	*e*P	**Pn**	**21 23 36.8**	**-0.4**
ECNX	**Esteban Cantu**	**1.25**	**242**	*e*P	**Pn**	**21 23 37.1**	**-0.5**
ECNX				*e*P	**Pn**	**21 23 37.0**	**-0.5**
PBX	**Punta Banda**	**1.31**	**247**	*e*P	**Pn**	**21 23 37.9**	**-0.4**
113A	**Mohawk Valley,**	**1.40**	**68**	*e*Pn	**Pn**	**21 23 38.6**	**-0.9**
EML	**El Monte Cty P**	**1.44**	**296**	*e*P	**Pn**	**21 23 40.5**	**+0.3**
SDRC	**San Diego Road**	**1.46**	**289**	*e*P	**Pn**	**21 23 40.3**	**-0.1**
Y12C	**Blythe**	**1.63**	**24**	*e*Pn	**Pb**	**21 23 43.9**	**-0.2**
109C	**Camp Elliot, M**	**1.64**	**293**	P	**Pb**	**21 23 43.9**	**-0.4**
	baz=113						
109C				S	**Sb**	**21 24 05.1**	**+0.1**
	baz=113						
CPE	**Camp Elliot**	**1.64**	**293**	*e*Pn	**Pn**	**21 23 42.8**	**0.0**
TPFO	**Pinon Flats**	**1.65**	**325**	S	**Sb**	**21 24 06.2**	**+0.7**
	baz=144						
PFO	**Pinyon Flats O**	**1.66**	**325**	*e*Pn	**Pn**	**21 23 41.9**	**-1.4**
PFO	**Pinyon Flats O**	**1.66**	**325**	P	**Pn**	**21 23 41.8**	**-1.4**
	baz=144						
MURC	**Murrieta**	**2.07**	**311**	P	**Pb**	**21 23 52.8**	**+1.1**
	baz=130						
MURC				Sb	**Sb**	**21 24 19.2**	**+1.7**
	baz=130						
Y14A	**Wickenburg**	**2.56**	**49**	*e*Pn	**Pb**	**21 23 59.9**	**-0.1**
MWC	**Mount Wilson**	**3.02**	**311**	*e*Pn	**Pb**	**21 24 08.6**	**+0.5**
MWC				*e*Sn	**Sb**	**21 24 48.0**	**+3.0**
W13A	**Hualapai Mount**	**3.07**	**22**	*e*Pn	**Pb**	**21 24 10.9**	**+2.0**
X16A	**Lo Mia Camp, P**	**3.89**	**55**	*e*Pn	**Pn**	**21 24 14.7**	**+0.7**

MEX 23 21:43:38.4±0.7, 15°.86N×98°.82W, h5km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.85**	**52**	*e*P	Pg	21 43 52.5	-2.3
PNIG				*i* S	Sg	21 44 04.2	-1.6
TLIG	**Tlapa**	**1.71**	**8**	*e*P	Pn	21 44 04.9	-4.1
TLIG				*e*S	Sn	21 44 27.4	-3.9
CAIG	**El Cayaco**	**1.82**	**311**	*i* P	Pn	21 44 06.4	-4.0
CAIG				*i* S	Sn	21 44 29.1	-4.7
MEIG	**Mezcala**	**2.19**	**340**	*e*P	Pn	21 44 12.8	-2.7
MEIG				*i* S	Sn	21 44 39.4	-3.7
HUIG	**Huatulco**	**2.61**	**92**	*i* P	Pn	21 44 18.3	-3.0
HUIG				*i* S	Sn	21 44 48.6	-4.9
YAIG	**Yautepec**	**2.99**	**356**	*i* P	Pn	21 44 24.6	-2.1
YAIG				*i* S	Sn	21 44 59.1	-4.0
CMIG	**Matias Romero**	**3.97**	**72**	*i* P	Pn	21 44 36.6	-3.4
CMIG				*i* S	Sn	21 45 23.6	-3.4

*ISN **23** 21:46:05.3±0.3, 37°.22N×42°.53E, h0km, ML2.3*
*ISCJB **23** 21:46:09.0±0.7, 37°.20N±0°.03×42°.54E±0°.05, h2km±6km, Error ellipse: s-maj=7.4km s-min=4.7km az=149.1*
*DDA **23** 21:46:09.8, 37°.25N×42°.46E, h7km±4km, ML2.5*
*ISK **23** 21:46:09.1, 37°.25N×42°.46E, h6km, ML2.2/5*

ISC 23 21:46:09.1±1.2, 37°.23N±0°.04×42°.51E±0°.04, h5km±10km, n13, σ0°.90/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.28**	**349**	PG	**Pg**	**21 46 14.6**	**+0.1**
SIRT				SG	**Sg**	**21 46 18.5**	**+0.3**
SIRN	**Sirnak**	**0.28**	**344**	IAML_P			
	comp=Z,2μm,0.1s						
SIRN				*i* P	**Pg**	**21 46 14.7**	**+0.1**
SIRN				*i* S	**Sb**	**21 46 19.4**	**-2.3**
CUKT	**Cukurca**	**0.88**	**88**	PG	**Pb**	**21 46 27.1**	**+0.2**
CUKT				SG	**Sb**	**21 46 40.5**	**+1.5**
CUKT	**Cukurca**	**0.88**	**88**	IAML_P			
	comp=Z,431nm,0.1s						
CUKT				*i* P	**Pn**	**21 46 28.2**	**0.0**
CUKT				*i* S	**Sn**	**21 46 41.5**	**0.0**
SRTM	**Siirt_Merkez**	**0.89**	**329**	IAML_P			
	comp=Z,624nm,0.1s						
SRTM				*i* P	**Pb**	**21 46 27.0**	**-0.1**
SRTM				*i* S	**Sn**	**21 46 40.4**	**-1.4**
MSL	**Mosul**	**0.96**	**149**	*e*Pg	**Pg**	**21 46 26.0**	**-1.4**
	baz=330						
MSL				AML	AML	21 46 28.9	
	comp=Z,120nm,0.4s						
MSL				*e*Sg	**Sg**	**21 46 40.5**	**+0.7**
AKDM	**Akdamar-Van**	**1.16**	**19**	PN	**Pb**	**21 46 31.8**	**0.0**
AKDM				SN	**Sn**	**21 46 47.9**	**-0.6**
BTMN	**Batman**	**1.19**	**304**	*i* P	**Pn**	**21 46 32.7**	**+0.3**
BTMN				*i* S	**Sn**	**21 46 49.8**	**+0.9**
BLIS	**Bitlis-Merkez**	**1.23**	**345**	IAML_P			
	comp=Z,261nm,0.1s						
BLIS				*i* P	**Pn**	**21 46 33.6**	**+0.6**
BLIS				*i* S	**Sn**	**21 46 51.0**	**+0.9**
MARD	**Mardin**	**1.38**	**274**	*i* P	**Pg**	**21 46 35.5**	**0.0**
MARD				*i* S	**Sn**	**21 46 54.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.39**	**312**	PN	**Pg**	**21 46 35.3**	**-0.4**
MUSM	**Mu-Merkez**	**1.69**	**333**	IAML_P			
	comp=Z,103nm,0.1s						
MUSM				*i* P	**Pg**	**21 46 40.7**	**-0.7**
MUSM				*i* S	**Sg**	**21 47 03.7**	**+0.3**
SVRC	**Sivrice-ELAZID**	**2.78**	**295**	PN	**Pn**	**21 46 54.8**	**+0.3**

MEX 23 21:53:11.4±0.4, 15°.91N×98°.58W, h5km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.64**	**42**	*i* P	Pg	21 53 23.2	-0.6
PNIG				*e*S	Sg	21 53 31.9	-0.3
TLIG	**Tlapa**	**1.64**	**0**	*e*P	Pn	21 53 37.1	-4.0
TLIG				*e*S	Sn	21 53 57.9	-4.7
CAIG	**El Cayaco**	**1.98**	**305**	*i* P	Pn	21 53 41.5	-4.1
CAIG				*i* S	Sn	21 54 06.5	-4.2
CMIG	**Matias Romero**	**3.73**	**71**	*i* P	Pn	21 54 07.3	-2.5
CMIG				*i* S	Sn	21 54 50.4	-3.7

MEX 23 22:07:43.9±0.7, 17°.07N×99°.27W, h16km±8km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**0.83**	**54**	*e*P	Pb	22 07 56.9	-3.1
TLIG				*i* S	Sb	22 08 06.8	-4.3
CAIG	**El Cayaco**	**0.96**	**269**	*e*P	Pb	22 07 58.4	-3.7
CAIG				*e*S	Sb	22 08 09.9	-4.6
PNIG	**Pinotepa**	**1.28**	**121**	*i* P	Pn	22 08 03.0	-4.2
PNIG				*e*S	Sb	22 08 18.9	-5.0
ARIG	**Puente Sto Nin**	**1.59**	**320**	*e*P	Pn	22 08 08.3	-3.1
ARIG				*e*S	Sn	22 08 26.1	-5.5

*ISCJB **23** 22:12:03.9±0.3, 28°.79N±0°.04×139°.41E±0°.04, h448km, mb4.1/68, Error ellipse: s-maj=5.6km s-min=4.4km az=34.6*
*JMA **23** 22:12:03.6±0.1, 28°.83N×139°.91E, h449km, M3.8*
*IDC **23** 22:12:04.6±1.4, 28°.66N×139°.40E, h450km±13km, mb3.6/25, mb1 3.6/30, mb1mx3.5/49, mbtmp4.3/30, Error ellipse: s-maj=13.8km s-min=12.1km az=157.0*
*NEIC **23** 22:12:05.5±1.1, 28°.65N×139°.33E, h459km±9km, mb4.2/53, Error ellipse: s-maj=21.4km s-min=15.0km az=156.0*

ISC 23 22:12:04.4±0.5, 28°.72N±0°.06×139°.54E±0°.06, h448km, n118, σ1°.55/134, mb4.1/68, 1C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.85**	**124**	P	**P**	**22 13 08.4**	**-1.8**
CBIJ				*e*S	**S**	**22 13 59.8**	**-3.8**
JHH2	**Haha-jima-NKT2**	**3.13**	**131**	P	**P**	**22 13 11.0**	**-1.3**
JHH2				S	**S**	**22 14 04.6**	**-2.8**
JHJ2	**Mitsune**	**4.38**	**3**	*e*P	**P**	**22 13 25.6**	**+2.9**
JHJ	**Hachijo jima 2**	**4.39**	**3**	P	**P**	**22 13 22.8**	**+0.1**
	12nm,0.3s,baz=33,slow=22,SNR=14						
JHJ				S	**S**	**22 14 22.7**	**-4.0**
	48nm,0.3s,baz=282,slow=22,SNR=10						
BSO3	**Boso 3**	**6.12**	**8**	P	**P**	**22 13 39.2**	**-0.2**
BSO3				S	**S**	**22 14 54.3**	**-2.9**
BSO4	**Boso 4**	**6.29**	**6**	S	**S**	**22 14 57.4**	**-3.2**
INU	**Inuyama**	**6.94**	**343**	*e*P	**P**	**22 13 49.3**	**+1.0**
JHU	**Hanno**	**7.11**	**358**	P	**P**	**22 13 49.6**	**-0.5**
JHU				S	**S**	**22 15 13.5**	**-3.3**
JYT	**Yasato**	**7.50**	**4**	S	**S**	**22 15 20.6**	**-3.8**
JAG	**Ashikaga**	**7.68**	**360**	P	**P**	**22 13 54.8**	**-1.4**
JAG				S	**S**	**22 15 21.2**	**-6.7**
MJAR	**Matsushiro Arr**	**7.88**	**352**	P	**P**	**22 13 57.7**	**-0.6**
	0.2nm,0.3s,baz=175,slow=11,SNR=9.3						
MJAR				S	**S**	**22 15 28.1**	**-3.7**
	0.1nm,0.3s,baz=178,slow=18,SNR=7.1						
MAT	**Matsushiro**	**7.88**	**352**	P	**P**	**22 13 57.8**	**-0.5**
MAT				S	**S**	**22 15 30.3**	**-1.6**
JHO	**Hitachi**	**7.91**	**6**	S	**S**	**22 15 28.3**	**-4.2**
JNU	**Nakatsue**	**8.63**	**303**	*e*P	**P**	**22 14 07.7**	**+1.1**
JNU	**Nakatsue**	**8.63**	**303**	P	**P**	**22 14 07.4**	**+0.9**
	2.0nm,0.3s,baz=310,slow=2.9,SNR=15						
JNU				S	**S**	**22 15 47.9**	**+0.9**
	0.1nm,0.3s,baz=193,slow=14,SNR=3.7						
JFK	**Kawauchi**	**8.69**	**7**	P	**P**	**22 14 07.9**	**+0.7**
JFK				S	**S**	**22 15 44.6**	**-3.5**
JOW	**Kunigami**	**10.15**	**262**	*e*P	**P**	**22 14 21.8**	**-1.4**
KSRS	**Korea Array**	**13.05**	**315**	P	**P**	**22 14 54.0**	**-0.5**
	0.2nm,0.3s,baz=132,slow=9.8,SNR=14						
KSAR	**Wonju Array Be**	**13.07**	**315**	*e*P	**P**	**22 14 55.0**	**+0.3**
USA0B	**Ussuriysk Arra**	**16.58**	**341**	*e*P	**P**	**22 15 33.1**	**+1.0**
	11nm,0.6s						
USRK	**Ussuriysk Ar.**	**16.58**	**341**	P	**P**	**22 15 32.9**	**+0.8**
	1.8nm,0.3s,baz=173,slow=7.8,SNR=16						
YHNB	**Yeheng**	**16.72**	**260**	*e*P	**P**	**22 15 32.2**	**-1.8**
	20nm,1.2s						
YULB	**Yu-li**	**17.22**	**256**	*e*P	**P**	**22 15 37.9**	**-1.3**
SSLB	**Suanglung**	**17.37**	**258**	*e*P	**P**	**22 15 39.5**	**-1.3**
	49nm,1.4s						
CN2	**Changchun**	**18.81**	**327**	*e*P	**P**	**22 15 55.1**	**+0.3**
KLR	**Kul'dur**	**21.33**	**346**	P	**P**	**22 16 18.8**	**+1.1**
	6.9nm,0.5s,baz=166,slow=8.0,SNR=42						
HHC	**Hu-ho-hao-te**	**25.85**	**305**	*e*P	**P**	**22 16 59.4**	**+0.9**
XAN	**Xi'an**	**26.61**	**289**	P	**P**	**22 17 04.8**	**-0.4**
PETK	**Petropavlovsk-**	**27.80**	**24**	P	**P**	**22 17 17.4**	**+2.0**
	0.4nm,0.4s,baz=183,slow=5.5,SNR=6.2						
LZH	**Lanzhou**	**30.89**	**293**	⇑P	**P**	**22 17 42.6**	**-0.2**
LZH				pP	PP	22 19 04.3	-0.9
LZH				PP	**pwP**	**22 19 08.8**	**+2.0**
LZH				sP	sP	22 19 56.8	+4.5
SONM	**Songino Array**	**31.92**	**316**	*e*P	**P**	**22 17 51.5**	**0.0**
SONM	**Songino Array**	**31.92**	**316**	P	**P**	**22 17 51.6**	**+0.2**
	5.6nm,0.6s,baz=127,slow=8.4,SNR=20						
GTA	**Gaotai**	**34.34**	**299**	*e*P	**P**	**22 18 11.8**	**-0.4**
TLY	**Talaya**	**35.20**	**321**	*e*P	**P**	**22 18 19.0**	**-0.1**
	8.2nm,0.8s						
CHAI	**Chaiyaphum**	**36.85**	**258**	P	**P**	**22 18 32.8**	**-0.5**
	39μm,0.6s,540μm						
PBKT	**Sadao Pong**	**37.43**	**260**	P	**P**	**22 18 39.5**	**+1.4**
	3.4nm,0.7s						
CMMT	**Chiang Mai**	**38.27**	**264**	P	**P**	**22 18 45.0**	**0.0**
	3.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.42**	**264**	P	**P**	**22 18 46.0**	**-0.2**
	0.9nm,0.3s,baz=49,slow=9.8,SNR=9.2						
BILL	**Bilibino**	**42.44**	**15**	*e*P	**P**	**22 19 19.4**	**+1.6**
	8.2nm,1.1s						
WMQ	**Urumqi**	**43.72**	**305**	*e*P	**P**	**22 19 29.3**	**+0.9**
IPM	**Ipoh**	**43.76**	**244**	*e*P	**P**	**22 19 27.8**	**-1.1**
	7.1nm,0.6s						
NIKH	**Nikolski High**	**44.72**	**42**	*e*P	**P**	**22 19 37.2**	**+1.3**
	180nm,1.8s						
ZAA0	**Zalesovo Array**	**46.72**	**318**	*e*P	**P**	**22 19 50.8**	**-0.5**
	4.4nm,1.1s						
ZALV	**Zalesovo Beam**	**46.72**	**318**	*e*P	**P**	**22 19 50.4**	**-0.9**
ZALV	**Zalesovo Beam**	**46.72**	**318**	P	**P**	**22 19 50.8**	**-0.5**
	1.8nm,0.3s,baz=103,slow=6.2,SNR=10						
ZALV				PcP	**PcP**	**22 21 15.8**	**-0.3**
	1.9nm,0.5s,baz=113,slow=5.0,SNR=4.6						
MK31	**Makanchi Array**	**47.63**	**309**	*e*P	**P**	**22 19 58.0**	**-0.4**
	3.6nm,0.9s						
MKAR	**Makanchi Array**	**47.63**	**309**	P	**P**	**22 19 58.0**	**-0.4**
	3.2nm,0.5s,baz=92,slow=8.9,SNR=47						
MKAR				PcP	**PcP**	**22 21 19.2**	**-0.3**
	0.8nm,0.5s,baz=79,slow=7.3,SNR=5.6						
MKAR				ScP	**ScP**	**22 24 29.6**	**-0.8**
	1.2nm,0.6s,baz=80,slow=5.1,SNR=13						
MAKZ	**Makanchi**	**47.85**	**309**	*e*P	**P**	**22 19 59.8**	**-0.2**
	4.4nm,0.5s						
KURK	**Kurchatov**	**50.17**	**314**	*e*P	**P**	**22 20 16.7**	**-0.4**
	9.5nm,0.8s						
KURBB	**Kurchatov Arra**	**50.23**	**314**	P	**P**	**22 20 17.0**	**-0.6**
	11nm,0.4s,baz=92,slow=8.0,SNR=122						
NRIK	**Noril'sk**	**50.28**	**339**	P	**P**	**22 20 17.6**	**-0.1**
	3.7nm,0.4s,baz=116,slow=8.9,SNR=10.0						
ASAR	**Alice Springs**	**52.37**	**187**	P	**P**	**22 20 32.7**	**-0.8**
	0.8nm,0.6s,baz=15,slow=14,SNR=12						
ASAR				ScP	**ScP**	**22 24 50.6**	**-0.3**
	0.3nm,0.6s,baz=1.0,slow=4.6,SNR=4.2						
MBWA	**Marble Bar**	**53.15**	**203**	*e*pP	pP	22 22 09.2	+2.2
AAK	**Ala-Archa**	**53.41**	**304**	P	**P**	**22 20 40.3**	**-0.7**
	1.8nm,0.5s,baz=95,slow=2.6,SNR=8.0						
KDAK	**Kodiak Island**	**54.49**	**38**	*e*P	**P**	**22 20 49.4**	**+1.2**
	8.5nm,0.8s						
CAST	**Castle Rocks**	**55.07**	**31**	*e*P	**P**	**22 20 54.4**	**+2.1**
	2.8nm,0.6s						
BVAR	**Borovoye Array**	**55.26**	**317**	P	**P**	**22 20 53.2**	**-0.5**
	6.4nm,0.4s,baz=85,slow=7.3,SNR=60						
BVAR				PcP	**PcP**	**22 21 47.7**	**-0.4**
	1.2nm,0.6s,baz=81,slow=4.8,SNR=3.8						
BRVK	**Borovoye**	**55.32**	**317**	*e*P	**P**	**22 20 54.2**	**0.0**
	9.2nm,1.0s						
BPAW	**Bear Paw Mtn.**	**55.62**	**30**	*e*P	**P**	**22 20 58.2**	**+2.1**
	2.1nm,0.5s						
MLY	**Manley**	**55.80**	**29**	*e*P	**P**	**22 20 59.3**	**+1.9**
	1.7nm,0.9s						
NIL	**Nilore**	**56.06**	**293**	*e*P	**P**	**22 21 00.3**	**+0.6**
	6.6nm,0.5s						
KK31	**Karatay Array**	**56.23**	**305**	*e*P	**P**	**22 21 00.8**	**+0.1**
	8.6nm,0.8s						
KKAR	**Karatay Array**	**56.23**	**305**	*e*P	**P**	**22 21 00.6**	**-0.1**
KKAR				*e*P	**P**	**22 21 00.7**	**-0.1**
BWN	**Browne**	**56.29**	**30**	*e*P	**P**	**22 21 03.7**	**+3.0**
	8.6nm,0.9s						
HON	**Honolulu**	**56.53**	**82**	*e*P	**P**	**22 21 05.9**	**+2.8**
	118nm,0.9s						
KNK	**Knik Glacier**	**56.66**	**33**	*e*P	**P**	**22 21 04.4**	**+1.0**
	6.4nm,0.6s						
SML	**Sawmill**	**56.72**	**33**	*e*P	**P**	**22 21 04.2**	**+0.4**
	4.2nm,0.6s						
MDM	**Murphy Dome**	**56.86**	**29**	*e*P	**P**	**22 21 06.8**	**+2.1**
	4.7nm,1.2s						
GAR	**Garm**	**57.15**	**300**	*e*P	**P**	**22 21 07.1**	**-0.2**
	10nm,0.6s						
DHY	**Denali Highway**	**57.18**	**31**	*e*P	**P**	**22 21 08.4**	**+1.3**
	9.5nm,1.9s						
GLI	**Glacier Island**	**57.32**	**34**	*e*P	**P**	**22 21 09.2**	**+1.3**
	5.5nm,0.7s						
ILAR	**Eielson Array**	**57.43**	**29**	*e*P	**P**	**22 21 08.6**	**0.0**
ILAR	**Eielson Array**	**57.43**	**29**	P	**P**	**22 21 08.8**	**+0.2**
	0.7nm,0.5s,baz=248,slow=6.0,SNR=10						
PAX	**Paxson**	**58.05**	**31**	*e*P	**P**	**22 21 14.7**	**+1.7**
	1.8nm,0.6s						
HARP	**HAARP**	**58.21**	**32**	*e*P	**P**	**22 21 15.9**	**+1.9**
	8.2nm,0.8s						
RIDG	**Independent Ri**	**58.32**	**30**	*e*P	**P**	**22 21 15.8**	**+1.0**
	3.0nm,0.6s						
DOT	**Dot Lake**	**58.67**	**31**	*e*P	**P**	**22 21 18.4**	**+1.3**
	4.1nm,0.8s						
BALM	**Baldy**	**59.63**	**34**	*e*P	**P**	**22 21 24.6**	**+0.9**
	3.3nm,0.7s						
HLP	**Hilina Pali**	**59.63**	**83**	*e*P	**P**	**22 21 25.0**	**+0.7**
	201nm,0.9s						
BCAR	**Beaver Creek A**	**59.73**	**31**	*e*P	**P**	**22 21 25.7**	**+1.5**
ARU	**Arti**	**61.70**	**321**	*e*P	**P**	**22 21 37.0**	**-0.3**
	13nm,0.6s						
ARU	**Arti**	**61.70**	**321**	P	**P**	**22 21 36.9**	**-0.5**
	5.1nm,0.4s,baz=92,slow=4.3,SNR=23						
ABKAR	**Akbulak array**	**62.28**	**313**	*e*P	**P**	**22 21 40.8**	**-0.5**
ABKAR				*e*P	**P**	**22 21 41.0**	**-0.3**
INK	**Inuvik**	**62.53**	**25**	P	**P**	**22 21 43.3**	**+0.7**
	0.3nm,0.3s,baz=348,slow=2.5,SNR=3.7						
GEYT	**Alibeck**	**66.65**	**302**	P	**P**	**22 22 09.5**	**0.0**
	2.4nm,0.7s,baz=62,slow=11,SNR=6.6						
ARCES	**ARCESS Array B**	**71.23**	**340**	*e*P	**P**	**22 22 37.4**	**+0.8**
ARCES	**ARCESS Array B**	**71.23**	**340**	P	**P**	**22 22 37.2**	**+0.6**
	2.5nm,0.6s,baz=69,slow=8.3,SNR=24						
YKA	**Yellowknife Ar**	**71.82**	**28**	*e*P	**P**	**22 22 41.2**	**+1.1**
YKA	**Yellowknife Ar**	**71.82**	**28**	P	**P**	**22 22 40.8**	**+0.7**
	0.7nm,0.4s,baz=293,slow=5.8,SNR=9.4						
KBZ	**Khabaz**	**75.18**	**312**	P	**P**	**22 23 00.1**	**+0.4**
	6.8nm,0.7s,baz=90,slow=3.8,SNR=23						
KIV	**Kislovodsk**	**75.22**	**312**	*e*P	**P**	**22 23 00.3**	**+0.1**
	6.1nm,0.9s						
FIA1	**FINESS Array S**	**75.44**	**333**	*e*P	**P**	**22 23 01.3**	**+0.4**
	70nm,1.9s						
FINES	**FINESS Array B**	**75.45**	**333**	P	**P**	**22 23 00.8**	**0.0**
	5.0nm,0.3s,baz=72,slow=4.7,SNR=129						
B08A	**Colville Reser**	**75.93**	**42**	*e*P	**P**	**22 23 05.6**	**+1.7**
	4.1nm,0.6s						
BEKR	**Beckworth**	**79.24**	**50**	*e*P	**P**	**22 23 23.3**	**+1.0**
	5.8nm,0.7s						
AKASG	**Malin Array Be**	**79.92**	**323**	P	**P**	**22 23 24.9**	**-0.5**
	0.6nm,0.3s,baz=44,slow=6.2,SNR=5.2						
NC405	**NORSAR Array S**	**81.00**	**337**	*e*P	**P**	**22 23 30.7**	**-0.2**
	212nm,1.8s						
HRY	**Holter Researc**	**81.15**	**41**	*e*P	**P**	**22 23 34.0**	**+1.9**
KVN	**Kaiserville**	**81.17**	**50**	*e*P	**P**	**22 23 32.9**	**+0.4**
	2.7nm,0.7s						
NB2	**NORSAR Subarra**	**81.22**	**337**	P	**P**	**22 23 31.6**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=46,slow=5.1						
NOA	**NORSAR Array B**	**81.22**	**337**	P	**P**	**22 23 31.8**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=58,slow=6.9,SNR=9.2						
LRM	**Limekiln Ridge**	**81.27**	**42**	*e*P	**P**	**22 23 32.9**	**0.0**
NVAR	**Mina Array Bea**	**81.34**	**51**	P	**P**	**22 23 35.1**	**+1.7**
	comp=Z,2.1nm,0.6s,baz=292,slow=5.6,SNR=8.4						
BR131	**Keskin Array S**	**83.18**	**312**	*e*P	**P**	**22 23 42.9**	**+0.2**
	comp=Z,14nm,1.8s						
BRTR	**Keskin Array B**	**83.18**	**312**	*e*P	**P**	**22 23 42.2**	**-0.4**
BRTR	**Keskin Array B**	**83.18**	**312**	P	**P**	**22 23 42.6**	**0.0**
	comp=Z,1.5nm,0.6s,baz=88,slow=3.0,SNR=7.4						
HVU	**Hansel Valley**	**83.24**	**46**	*e*P	**P**	**22 23 44.7**	**+1.7**
	comp=Z,3.5nm,0.6s						
RLMT	**Red Lodge**	**83.52**	**42**	*e*P	**P**	**22 23 44.6**	**+0.2**
	comp=Z,2.9nm,0.5s				

GENO IAMB IAmb 22 46 25.0
comp=Z,0.0nm,0.5s
UMQ Umm Al-Quwin 2.49 130 *e*P **Pn 22 45 39.1 +2.5**
SNR=7.7
UMQ Umm Al-Quwin 2.49 130 P **Pb 22 45 39.7 -1.6**
UMQ Umm Al-Quwin 2.49 130 *e*Pn **Pb 22 45 39.8 -1.4**
SHME Shamm 2.56 115 *e*P **Pn 22 45 38.6 +1.1**
SNR=32
SHME Shamm 2.56 115 *e*Pn **Pn 22 45 38.8 +1.3**
SHI Shiraz 2.64 340 Pn **Pn 22 45 38.4 -0.3**
SHI Shiraz 2.64 340 P **Pn 22 45 38.4 -0.3**
SHI Shiraz 2.64 340 *e*Pn **Pn 22 45 39.3 +0.6**
NAZ Nazwa, Dubai 2.87 138 *e*P **Pn 22 45 44.9 +3.1**
SNR=99
NAZ Nazwa, Dubai 2.87 138 P **Pn 22 45 45.0 +3.2**
SNR=98
NAZ S **Sn 22 46 19.4 +3.7**
NAZ Nazwa, Dubai 2.87 138 *e*Pn **Pn 22 45 44.6 +2.8**
AJN Ajban 2.89 153 *e*P **Pn 22 45 45.0 +3.0**
SNR=46
AJN Ajban 2.89 153 P **Pn 22 45 45.1 +3.0**
SNR=46
AJN S **Sb 22 46 21.1 -1.8**
AJN Ajban 2.89 153 *e*Pn **Pn 22 45 44.9 +2.9**
NIAN Nian 2.94 82 *e*Pn **Pn 22 45 43.1 +0.4**
NIAN IAMB IAmb 22 46 43.1
comp=Z,0.0nm,0.9s
MSFE Esma-Masafi 2.94 127 *i* P **Pn 22 45 44.8 +2.1**
SNR=43
MSFE Esma-Masafi 2.94 127 *e*Pn **Pn 22 45 44.9 +2.1**
ASUD Al Ashush, Dub 2.98 147 *i* P **Pn 22 45 46.4 +3.1**
SNR=179
ASUD Al Ashush, Dub 2.98 147 P **Pn 22 45 46.5 +3.1**
SNR=179
ASUD S **Sb 22 46 23.5 -2.2**
ASUD Al Ashush, Dub 2.98 147 *e*Pn **Pn 22 45 46.5 +3.1**
IKAZ Kazeroun 3.02 330 *e*Pn **Pn 22 45 43.9 -0.2**
FAQ Al Faqa, Dubai 3.02 142 *i* P **Pn 22 45 46.7 +2.8**
SNR=40
FAQ Al Faqa, Dubai 3.02 142 P **Pn 22 45 46.7 +2.8**
SNR=40
FAQ S **Sn 22 46 23.0 +3.6**
FAQ Al Faqa, Dubai 3.02 142 *e*Pn **Pn 22 45 46.5 +2.6**
HATD Hatta, Dubai 3.28 135 *i* P **Pn 22 45 49.6 +2.1**
SNR=66
HATD Hatta, Dubai 3.28 135 P **Pn 22 45 49.8 +2.4**
SNR=66
HATD S **Sn 22 46 29.6 +3.8**
HATD Hatta, Dubai 3.28 135 *e*Pn **Pn 22 45 49.8 +2.4**
ASHO Ashiyiah 3.34 137 *i* P **Pn 22 45 50.7 +2.4**
SNR=280
ASHO Ashiyiah 3.34 137 P **Pn 22 45 50.4 +2.1**
ASHO S **Sn 22 46 29.5 +2.1**
ASHO Ashiyiah 3.34 137 *e*Pn **Pn 22 45 50.3 +2.1**
ALNE Al Ain 3.67 147 *i* P **Pn 22 45 55.4 +2.5**
SNR=30
ALNE Al Ain 3.67 147 *e*Pn **Pn 22 45 55.3 +2.5**
NGRK Negar Kerman 3.73 48 *e*Pn **Pn 22 45 54.3 +0.4**
KHNJ Kahnooj 3.76 77 *e*Pn **Pn 22 45 54.9 +0.9**
KHNJ IAMB IAmb 22 47 34.3
comp=Z,0.0nm,2.0s
KRBR Kerman 3.97 44 *e*Pn **Pn 22 45 58.9 +1.7**
KRBR Kerman 3.97 44 *e*Pn **Pn 22 45 58.9 +1.7**
TVBK TV Kerman 3.98 44 *e*Pn **Pn 22 45 59.4 +2.1**
SOHO SOHO 4.03 138 P **Pn 22 45 59.5 +1.7**
SNR=83
SOHO S **Sn 22 46 46.1 +1.6**
KHGB Koh Gabri 4.10 38 *e*Pn **Pn 22 46 00.2 +1.3**
KLNJ Kolanjah 4.20 336 *e*Pn **Pn 22 45 59.6 -0.8**
IMEH Mehriz 4.31 12 *e*Pn **Pn 22 46 04.1 +2.3**
CHMN Cheshme madani 4.41 52 *e*Pn **Pn 22 46 06.2 +2.9**
ARQ Araqi 4.66 144 P **Pn 22 46 08.7 +2.3**
SNR=20
ISAD Sadrabad 4.74 1 *e*Pn **Pn 22 46 09.3 +1.6**
IRAM Ramesheh 4.74 348 *e*Pn **Pn 22 46 08.0 +0.3**
IBAF Bafgh 4.75 21 *e*Pn **Pn 22 46 09.3 +1.6**
HOQ Hoqain 4.92 136 P **Pn 22 46 12.0 +2.0**
SNR=54
HOQ S **Sn 22 47 06.5 +0.2**
HOQ Hoqain 4.92 136 *e*Pn **Pn 22 46 10.3 +0.3**
YZKH Yazd 5.29 9 *e*Pn **Pn 22 46 16.3 +1.2**
IGAR Gharneh 5.39 346 *e*Pn **Pn 22 46 17.5 +0.9**
ZNGN Zangjan 5.47 335 *e*Pn **Pn 22 46 16.6 -1.2**
BIDO Bidbid 5.49 130 P **Pn 22 46 18.9 +1.0**
SNR=16
BIDO S **Sn 22 47 20.0 -0.5**
BIDO Bidbid 5.49 130 *e*Pn **Pn 22 46 18.2 +0.3**
BSY Bisya 5.50 142 P **Pn 22 46 20.4 +2.4**
SNR=40
ROKH ROKH 5.61 338 *e*Pn **Pn 22 46 20.4 +0.7**
JHBN Jahan bin 5.64 334 *e*Pn **Pn 22 46 21.4 +1.2**
SMDO Samad 5.76 134 P **Pn 22 46 24.1 +2.5**
SNR=42
SMDO S **Sn 22 47 28.8 +1.5**
IZEF Zefreh 5.81 350 *e*Pn **Pn 22 46 22.5 0.0**
IPIR Pirpir 5.97 338 *e*Pn **Pn 22 46 24.4 -0.3**
WSAR Wadi Sarin 6.03 129 P **Pn 22 46 26.6 +1.4**
SNR=81
WSAR Wadi Sarin 6.03 129 P **Pn 22 46 26.8 +1.6**
comp=Z,13nm,0.3s,baz=318,slow=9.5,SNR=134
WSAR S **Sn 22 47 31.5 -2.1**
comp=Z,59nm,0.3s,baz=98,slow=22,SNR=9.5
JMDO Jabal Madar 6.31 138 P **Pn 22 46 31.9 +2.8**
IKLH Kolahrood 6.37 345 *e*Pn **Pn 22 46 30.6 +0.5**
TPRV Parvadeh(Tabas 6.44 24 *e*Pn **Pn 22 46 31.4 +0.5**
WBK Wadi Bani Khal 6.68 132 P **Pn 22 46 35.9 +1.7**
SNR=7.9
WBK S **Sn 22 47 49.9 +0.2**
ZHSF Zahedan 6.80 67 *e*Pn **Pn 22 46 37.7 +1.7**
ZHSF Zahedan 6.80 67 *e*Pn **Pn 22 46 37.7 +1.7**
SZD1 Zahaedan-tmp 6.84 69 *e*Pn **Pn 22 46 38.2 +1.7**
KRSH Karshahi 6.89 350 *e*Pn **Pn 22 46 37.2 0.0**
IKOO Kooshah 7.06 41 *e*Pn **Pn 22 46 40.9 +1.3**
TKDS Koohdasht(Taba 7.13 25 *e*Pn **Pn 22 46 40.8 +0.4**
TNSJ Nastanj 7.27 20 *e*Pn **Pn 22 46 42.4 +0.1**
MHTO MHTO 7.35 146 P **Pn 22 46 44.7 +1.3**
SNR=31
IKMR Kamar-syah 7.76 326 *e*Pn **Pn 22 46 47.2 -1.7**
IDAH Dahanechah 7.79 43 *e*Pn **Pn 22 46 52.4 +2.7**
IVRN Varamin 7.96 349 *e*Pn **Pn 22 46 52.2 +0.4**
IDOB Doab 8.07 326 *e*Pn **Pn 22 46 54.8 +1.3**
HSAM Samen 8.22 330 *e*Pn **Pn 22 46 54.8 -0.7**
IDMV Damavand 8.49 352 *e*Pn **Pn 22 46 59.3 +0.1**
IKOM Komasi 8.72 325 *e*Pn **Pn 22 47 01.0 -1.2**
IBZA Bozab 8.78 327 *e*Pn **Pn 22 47 01.3 -1.9**
KCHF Cheshme Sefid, 9.04 323 *e*Pn **Pn 22 47 05.2 -1.5**
IPRN Peran 9.11 354 *e*Pn **Pn 22 47 08.8 +1.2**
QABG Abgarm-Qazvin 9.17 339 *e*Pn **Pn 22 47 07.2 -1.3**
WHFO Wadi Hawf 9.20 179 P **Pn 22 47 09.2 +0.3**
SNR=20
IVIS Veis 9.33 323 *e*Pn **Pn 22 47 10.4 -0.2**
IGHG Ghaleghazi 9.34 322 *e*Pn **Pn 22 47 09.9 -0.9**
DMTO DMTO 9.49 172 P **Pn 22 47 12.1 -0.6**
SNR=71
QALM Alamut, Qazvin 9.57 346 *e*Pn **Pn 22 47 13.4 -0.6**
ILIN Lien 9.58 325 *e*Pn **Pn 22 47 12.3 -1.8**
RBK Rabkut 9.63 176 P **Pn 22 47 15.8 +1.1**
SNR=14
IDHR Dehrash 9.71 322 *e*Pn **Pn 22 47 14.4 -1.5**
ABTO Aybut 9.77 182 P **Pn 22 47 17.5 +0.9**
SNR=21
SBZV Sabzevar 9.82 20 *e*Pn **Pn 22 47 17.0 -0.4**
IPAY Payeh 10.35 25 *e*Pn **Pn 22 47 26.3 +1.7**
IAKL Akhelmad 10.39 24 *e*Pn **Pn 22 47 26.6 +1.3**
ISFR Sfrayin 10.55 20 *e*Pn **Pn 22 47 29.4 +1.9**
GEYT Alibeck 11.40 19 P **Pn 22 47 41.1 +2.3**
comp=Z,0.2nm,0.3s,baz=205,slow=14,SNR=20
CUKT Cukurca 13.11 323 *e*P **Pn 22 47 58.2 -4.1**
SIRT Sirnak 13.94 320 *e*P **Pn 22 48 08.9 -4.7**
SIRT Sirnak 13.94 320 *e*Pn **Pn 22 48 09.0 -4.7**
AKDM Akdamar-Van 14.24 324 *e*P **Pn 22 48 14.8 -3.1**
CLDR Caldiran 14.41 328 *e*P **Pn 22 48 19.5 -0.7**
GNI Garni 14.88 333 *e*Pn **Pn 22 48 28.5 +2.0**
GNI Garni 14.88 333 *i* P **Pn 22 48 28.0 +1.5**
SNR=96
GNI Garni 14.88 333⇑ *e*P **Pn 22 48 27.5 +1.0**
GNI Garni 14.88 333 P **Pn 22 48 28.9 +2.4**
SNR=91
GNI Garni 14.88 333 P **Pn 22 48 28.7 +2.2**
comp=Z,0.2nm,0.3s,baz=196,slow=3.0,SNR=15
AKT Akhty 15.07 343 *i* P **Pn 22 48 28.5 -0.4**
SVAN Silvan-Diyarba 15.10 320 *e*P **P 22 48 35.5 +1.1**
KBL Kabul 15.18 57 *e*Pn **P 22 48 33.5 -2.1**
comp=Z,125nm,1.1s
ASF Jabal al Asfar 15.32 293 P **Pn 22 48 33.3 +1.0**
comp=Z,0.6nm,0.3s,baz=71,slow=16,SNR=12
ASF S **Sn 22 51 17.7 -3.8**
comp=Z,0.5nm,0.3s,baz=85,slow=23,SNR=4.6
BNGL BINGOL 15.68 322 *i* P **Pn 22 48 34.8 -2.3**
HANI Diyarbakir_Han 15.74 319 *i* P **Pn 22 48 33.4 -4.3**
SWQJ Swaqa 15.81 289 P **Pn 22 48 39.9 +1.1**
comp=Z,153nm,0.9s
HSUJ Al Zarqa 15.88 292 P **P 22 48 45.4 +2.2**
BNGB Bingl 15.97 321 *e*P **P 22 48 45.7 +1.5**
KARO Karliova-Bingo 15.99 322 *e*P **P 22 48 46.1 +1.6**
TOTH TOTAH 16.04 297 *e*P **Pn 22 48 41.3 -0.2**
TOTH *e*S Sn 22 50 57.7 -41
TOTH AML AML 22 54 54.1
comp=N,17nm,0.8s
TOTH AML AML 22 55 12.1
comp=E,14nm,0.8s
JDRJ Daraweish 16.06 287 P **P 22 48 45.3 0.0**
comp=E,293nm,1.0s
WALJ Wala 16.08 290 P **Pn 22 48 42.4 +0.3**
comp=E,76nm,0.8s
URFA Urfa 16.12 313 *e*P **P 22 48 46.8 +1.0**
KARJ 16.14 288 P **P 22 48 46.4 +0.5**
comp=E,91nm,0.7s
QASN Qassioun 16.21 297 *e*P **Pn 22 48 44.6 +0.8**
QASN *e*S Sn 22 51 01.3 -42
QASN AML AML 22 52 22.4
comp=N,39nm,0.6s
QASN AML AML 22 54 33.9
comp=E,16nm,0.6s
TBLG Delisi 16.24 336 *e*Pn **Pn 22 48 44.1 0.0**
comp=E,111nm,1.5s
TBLG Delisi 16.24 336 *e*P **Pn 22 48 44.1 0.0**
TBLG pmax pmax
comp=Z,111nm,1.5s
GHAJ Ghor Haditha 16.24 289 P Pn **22** 48 35.2 -8.9
ECAT Cat-ERZURUM 16.24 323 *i* P **P 22 48 48.7 +1.4**
SENK Senkaya-Erzuru 16.27 328 *e*P **Pn 22 48 44.5 -0.1**
LISJ El Lisan 16.30 289 P **Pn 22 48 45.6 +0.8**
comp=Z,30nm,1.0s
YEDI Yedisu-Bingol 16.36 322 *e*P **Pn 22 48 44.7 -1.0**
SVRC Sivrice-ELAZID 16.38 317 *e*P **Pn 22 48 42.6 -3.4**
SHMJ Saham 16.39 294 P **Pn 22 48 45.6 -0.4**
comp=Z,98nm,0.8s
AKDA Akdag 16.40 325 *i* P **Pn 22 48 46.8 +0.5**
MZDA Masada 16.41 289 Pn **Pn 22 48 46.8 +0.5**
KSHT Keshet 16.42 295 Pn **Pn 22 48 45.7 -0.8**
BRBR Barbar 16.43 297 *e*P **Pn 22 48 47.8 +1.0**
BRBR *e*S Sn 22 51 08.4 -40
BRBR AML AML 22 55 03.9
comp=E,9.4nm,0.8s
BRBR AML AML 22 55 13.2
comp=N,15nm,0.8s
DSI Dead Sea 16.45 290 Pn **Pn 22 48 46.8 0.0**
AKH Akhalkalaki 16.45 332 *e*Pn **Pn 22 48 47.5 +0.6**
comp=N,27nm,0.8s
AKH Akhalkalaki 16.45 332 *e*P **Pn 22 48 47.5 +0.6**
AKH pmax pmax
comp=Z,27nm,0.8s
ZFRI Zfri 16.46 286 Pn **Pn 22 48 46.7 -0.2**
HMDT Nahal Hemdat 16.47 292 Pn **Pn 22 48 47.3 +0.3**
AQBJ Aqaba 16.48 283 P **P 22 48 49.6 -0.2**
comp=Z,101nm,0.7s
MAK Makhachkala 16.52 344 *e*P **Pn 22 48 48.5 +1.0**
HRFI Mount Harif 16.52 284 Pn **Pn 22 48 47.9 +0.1**
NATI Neve Ativ 16.56 296 Pn **Pn 22 48 48.2 +0.1**
EIL Elat 16.57 283 P **Pn 22 48 43.0 -5.3**
comp=Z,61nm,1.4s
EIL Elat 16.57 283 Pn **Pn 22 48 48.3 0.0**
EIL Elat 16.57 283 P **P 22 48 49.6 -1.1**
comp=Z,1.4nm,0.3s,baz=103,slow=5.1,SNR=18
PRNI Paran 16.58 285 Pn **Pn 22 48 48.7 +0.2**
MMLI Mount Malkishu 16.60 293 Pn **Pn 22 48 49.0 +0.3**
KSDI Kefar Szold 16.60 296 Pn **Pn 22 48 48.3 -0.4**
MBRI Mt Berech 16.61 283 Pn **Pn 22 48 49.0 +0.1**
YTIR Yattir 16.63 289 Pn **Pn 22 48 48.9 -0.3**
MMA0B Mount Meron ar 16.76 295 Pn **Pn 22 48 51.1 +0.3**
MMAI Mount Meron Ar 16.76 295 P **Pn 22 48 50.1 -0.7**
comp=Z,1.3nm,0.3s,baz=102,slow=19,SNR=23
KRMI Paran Flat 16.80 285 Pn **Pn 22 48 51.4 +0.1**
AMAZ Amatzia 16.83 289 P **Pn 22 48 45.7 -5.9**
comp=Z,156nm,1.3s
AMAZ Amatzia 16.83 289 Pn **Pn 22 48 51.9 +0.3**
SLTI Sal'it 16.87 292 Pn **Pn 22 48 52.3 +0.2**
OFRI `Ofer 17.00 293 Pn **Pn 22 48 53.9 +0.1**
GAZ Gaziantep 17.04 310 *e*P **Pn 22 48 54.1 -0.2**
GROC Groznyy 17.20 340 *e*P **Pn 22 48 54.1 -2.1**
GROC *e*S **S 22 52 11.6 -4.2**
GROC pmax pmax
comp=Z,142nm,0.7s
TAHT Tahtakopru-Hat 17.38 306 *e*P **Pn 22 48 57.4 -1.0**
KMRS Kahramanmaras 17.43 310 *e*P **Pn 22 48 58.0 -1.1**
ZEI Tsey 17.46 336 *e*P **Pn 22 48 58.2 -1.5**
ZEI pmax pmax
comp=Z,115nm,1.5s
YURE YUREGIR 17.98 307 *e*P **P 22 49 06.8 +0.5**
KOZT Kozan 18.15 309 *e*P **Pn 22 49 07.4 -0.6**
NIL Nilore 18.16 64 *e*Pn **P 22 49 08.7 +0.4**
comp=Z,158nm,1.0s
NCK Nalchik 18.19 336⇓ *e*P **P 22 49 09.0 +0.4**
NEY Neytrino 18.30 334 *c e*P **P 22 49 11.9 +1.9**
GAR Garm 18.31 46 *e*Pn **Pn 22 49 08.5 -1.5**
comp=Z,549nm,1.5s
GAR Garm 18.31 46 *e*P **Pn 22 49 08.5 -1.5**
GAR pmax pmax
comp=Z,549nm,1.5s
ATD Arta Tunnel 18.53 215 *e*P **Pn 22 49 13.8 +1.0**
comp=Z,153nm,1.7s
ATD Arta Tunnel 18.53 215 P **Pn 22 49 14.1 +1.3**
baz=38,slow=6.6,SNR=8.4
KBZ Khabaz 18.65 335 P **Pn 22 49 15.0 +1.1**
comp=Z,0.7nm,0.3s,baz=137,slow=7.5,SNR=38
SVSK Karacayir 18.73 317 *e*P **Pn 22 49 15.3 +0.3**
SHA1 Shidzhatmaz 18.75 335 *i* P **Pn 22 49 15.8 +0.4**
DOMR Dombai 18.78 332⇑ *e*P **Pn 22 49 16.7 +0.9**
RSDY Resadiye-TOKAT 18.84 319 *e*P **Pn 22 49 16.7 +0.3**
PYA1 Pyatigorsk 18.86 336 *e*P **Pn 22 49 16.7 +0.1**
KVAR Kislovodsk Arr 18.92 335 P **Pn 22 49 18.5 +1.2**
baz=82,slow=23,SNR=35
KIV Kislovodsk 18.92 335 *i* P **Pn 22 49 17.6 +0.2**
SNR=73
KIV Kislovodsk 18.92 335 *e*P **Pn 22 49 17.3 -0.1**
KIV pmax pmax
comp=Z,332nm,1.0s
KIV MLR MLR
comp=Z,427nm,14.0s
KIV Kislovodsk 18.92 335 P **Pn 22 49 18.1 +0.8**
SNR=73
CSS Mathiatis 18.98 299 *e*P **P 22 49 16.9 -0.4**
MAMC Mammari 19.13 300 P **Pn 22 49 19.3 -0.6**
BTK Batken 19.24 44 *e*P **P 22 49 20.4 +0.1**
comp=Z,144nm,1.1s
BTK Batken 19.24 44 *e*P **P 22 49 20.4 +0.1**
BTK pmax pmax
comp=Z,144nm,1.1s
TOKT Tokat 19.26 317 *e*P **Pn 22 49 21.2 -0.2**
SZAC Souni 19.26 298 P **P 22 49 19.0 -1.5**
ALFC Alefka 19.61 299 P **P 22 49 24.3 +0.1**
PPCY Paphos 19.72 298 P **P 22 49 25.6 +0.2**
SOC Sochi 19.85 329 *d i*P **P 22 49 26.7 -0.1**
SOC *e* 22 53 12.5
SOC pmax pmax
comp=Z,28nm,0.7s
SOC MLR MLR
comp=Z,310nm,10.0s
KVT Kavak 20.02 318 *e*P **Pn 22 49 29.5 -1.0**
BR101 Keskin Array S 20.76 312 *e*P **P 22 49 37.4 +0.5**
BR101 *e*PcP **PcP 22 53 44.4 -1.5**
BR131 Keskin Array S 20.76 312 *e*P **P 22 49 37.4 +0.5**
comp=Z,54nm,0.8s
BR131 Keskin Array S 20.76 312 P **P 22 49 37.6 +0.8**
SNR=55
BRTR Keskin Array B 20.76 312 P **P 22 49 37.4 +0.5**
comp=Z,31nm,0.8s,baz=132,slow=12,SNR=161
BRTR PcP **PcP 22 53 44.3 -1.5**
comp=Z,1.5nm,0.7s,baz=148,slow=5.3,SNR=3.9
KK31 Karatay Array 21.03 37 *e*P **P 22 49 39.5 -0.1**
comp=Z,40nm,0.8s
KK31 Karatay Array 21.03 37 *e*P **P 22 49 39.6 -0.1**
KK31 pmax pmax
comp=Z,41nm,0.8s
KKAR Karatay Array 21.03 37 *e*P **P 22 49 39.1 -0.5**
comp=Z,40nm,0.8s
KKAR Karatay Array 21.03 37 *e*P **P 22 49 39.1 -0.5**
KKAR pmax pmax
comp=Z,41nm,0.8s
SNOP Sinop 21.10 319 *e*P **P 22 49 41.2 +0.9**
comp=Z,80nm,0.9s
ARSB Arslanbob 21.32 44 *e*Pn **P 22 49 43.2 +0.3**
comp=Z,845nm,1.6s
BR231 Keskin MP Arra 21.39 311 *e*P **P 22 49 44.0 +0.4**
comp=Z,79nm,0.9s
ANTO Ankara 21.40 312 *e*P **P 22 49 44.2 +0.6**
comp=Z,87nm,0.9s
ANTO Ankara 21.40 312⇓ *i*P **P 22 49 44.4 +0.8**
ANTO Ankara 21.40 312 *e*P **P 22 49 44.2 +0.6**
ANTO pmax pmax
comp=Z,87nm,0.9s
ANTO Ankara 21.40 312 P **P 22 49 45.2 +1.5**
SNR=15
ILGA Ilgaz 21.43 315 *e*P **P 22 49 44.2 +0.1**
comp=Z,62nm,1.0s
ANN Anapa 21.84 328 *e*P **P 22 49 48.2 0.0**
ANN pmax pmax
comp=Z,56nm,0.8s
ISP Isparta 22.10 305 *e*P **P 22 49 51.6 +0.4**
comp=Z,45nm,0.9s
ISP Isparta 22.10 305 *e*P **P 22 49 51.6 +0.4**
ISP pmax pmax
comp=Z,45nm,0.9s
AML Almayashu 22.22 43 P **P 22 49 53.0 +0.2**
SNR=64
KSH Kashi 22.34 51 P **P 22 49 48.0 -5.9**
KSH pP pP 22 49 52.9 -6.9
KSH sP sP 22 49 55.0 -7.9
KSH S S 22 53 41.4 -17
KSH SS **SnSn 22 54 21.8 -5.0**
KSH pmax pmax
comp=Z,66nm,0.7s
KSH LR LR
comp=Z,550nm,12.4s
KSH LR LR
comp=Z,530nm,9.6s
KSH LR LR
comp=Z,940nm,12.5s
EKS2 Erkin-Say 22.58 42 P **P 22 49 57.9 +1.4**
SNR=23
ABKAR Akbulak array 22.60 11 *e*P **P 22 49 56.2 -0.2**
UCH Uchtor 22.77 43 P **P 22 49 59.0 +0.2**
SNR=37
FURI Furi 22.99 221 *e*P **P 22 50 02.9 +1.9**
comp=Z,50nm,1.0s
AAK Ala-Archa 23.00 42 P **P 22 50 02.7 +1.9**
SNR=19
AAK Ala-Archa 23.00 42 *e*P **P 22 50 01.9 +1.1**
comp=Z,82nm,1.1s
AAK Ala-Archa 23.00 42 *i* P **P 22 50 02.7 +1.9**
SNR=28
AAK Ala-Archa 23.00 42 *c i*P **P 22 50 02.0 +1.2**
AAK pmax pmax
comp=Z,90nm,1.1s
AAK Ala-Archa 23.00 42 P **P 22 50 01.4 +0.6**
SNR=57
AAK Ala-Archa 23.00 42 P **P 22 50 02.1 +1.3**
comp=Z,9.3nm,0.7s,baz=198,slow=7.9,SNR=28
KZA Kyzart 23.14 44 P **P 22 50 04.2 +1.6**
SNR=91
KBK Karagaybulak 23.28 43 P **P 22 50 05.1 +1.5**
SNR=27
CHMS Chumysh 23.36 42 P **P 22 50 05.0 +0.7**
SNR=12
USP Ospenovka 23.37 41 P **P 22 50 06.0 +1.6**
SNR=11
AKTO Aktyubinsk 23.49 7 P **P 22 50 06.5 +1.0**
comp=Z,8.6nm,0.5s,baz=210,slow=12,SNR=42
SIM Simferopol' 23.61 324 *c e*P **P 22 50 06.8 +0.1**
SIM *e*S **S 22 54 21.0 +1.0**
SIM pmax pmax
comp=Z,83nm,1.0s
BOOM Boomskoye usch 23.80 44 *e*P **P 22 50 09.4 +0.7**
BOOM Boomskoye usch 23.80 44 *e*P **P 22 50 09.5 +0.7**
TKM2 Tokmak 2 23.82 43 P **P 22 50 09.6 +0.5**
SNR=20
TKM2 Tokmak 2 23.82 43 *i* P **P 22 50 08.7 -0.3**
TKM2 pmax pmax
comp=Z,38nm,1.4s
ULHL Ulahol 23.86 45 P **P 22 50 10.7 +1.3**
SNR=11
KARP Karpathos 23.99 297 *e*P **P 22 50 11.4 +0.9**
comp=Z,86nm,0.7s
BALB Balikesir 24.70 307 *e*P **P 22 50 17.2 +0.4**
comp=Z,97nm,0.9s
HYB Hyderabad 25.03 108 *i* P **P 22 50 22.0 +1.9**
CTYL Yalikoy Yolu 25.17 311⇓ *i*P **P 22 50 22.1 +1.0**
SANT Santorini 25.52 298⇑ *i*P **P 22 50 25.1 +0.7**
OTUK Ortayu 25.63 30 *i* P **P 22 50 25.7 +0.5**
OTUK pmax pmax
comp=Z,33nm,0.8s
APE Apeiranthos 25.64 300⇑ *i*P **P 22 50 26.3 +0.9**
APE Apeiranthos 25.64 300⇑ *e*P **P 22 50 26.3 +0.9**
APE pmax pmax
comp=Z,55nm,0.9s
VRH Novokhopyorsk 25.64 343 *e*P **P 22 50 24.7 -0.5**
VRH *e*S **S 22 54 51.9 -0.4**
VRH pmax pmax
comp=Z,150nm,0.6s
VRH smax smax
comp=E,570nm,4.5s
IDI Anoyia 25.76 295 P **P 22 50 28.0 +1.4**
comp=E,82nm,0.7s,baz=94,slow=8.9,SNR=40
PHSR Pinarhisar 25.76 311⇑ *i*P **P 22 50 27.3 +0.9**
EZN Ezine 25.88 306⇑ *i*P **P 22 50 28.8 +1.3**
PYUN Piuthan 26.06 81 *e*P **P 22 50 30.9 +1.3**
comp=E,354nm,1.1s
VORD Divnogorie 26.13 339 *e*P **P 22 50 29.2 -0.5**
VORD pmax pmax
comp=Z,110nm,0.7s
VSR Storozhevoye 26.39 339 *e*P **P 22 50 31.0 -1.0**
VSR *e*S **S 22 55 08.6 +4.4**
VSR pmax pmax
comp=Z,40nm,0.7s
VSR smax smax
comp=N,700nm,8.2s
MFTR Murfatlar 26.40 317⇑ *i*P **P 22 50 33.5 +1.3**
ALN Alexandroupoli 26.47 308 *e*P **P 22 50 32.9 0.0**
comp=N,48nm,1.0s
ALN Alexandroupoli 26.47 308 *e*P **P 22 50 32.9 0.0**
ALN pmax pmax
comp=Z,48nm,1.0s
KOLN Koldanda 26.63 82 *e*P **P 22 50 35.7 +1.0**
comp=Z,59nm,0.9s
TLCR 26.71 319⇑ *i*P **P 22 50 35.7 +0.7**
DANN Dangsing 26.72 80 *e*P **P 22 50 36.9 +1.3**
comp=Z,317nm,1.0s
ICOR Ion Corvin 26.75 316⇑ *i*P **P 22 50 35.7 +0.3**
VORR Voronezh 26.77 340 *e*P **P 22 50 36.0 +0.5**
VORR pmax pmax
comp=Z,250nm,1.2s
TLB Topalu 26.85 317⇑ *i*P **P 22 50 36.7 +0.4**
CFR Carcaliu 27.11 318⇑ *i*P **P 22 50 38.8 +0.2**
GKN Gorkha 27.52 81 *e*P **P 22 50 43.2 +0.5**
comp=Z,60nm,0.7s
LPSR Galich'ya Gora 27.67 341 *e*P **P 22 50 42.7 -0.8**
LPSR *e*S **S 22 55 28.1 +3.8**
LPSR pmax pmax
comp=Z,70nm,1.4s
LPSR smax smax
comp=E,190nm,2.2s
KIS Kishinev 27.76 322 *e*P **P 22 50 43.0 -1.4**
KIS Kishinev 27.76 322 *e*P **P 22 50 43.0 -1.4**
KIS pmax pmax
comp=Z,110nm,1.5s
KIS MLR MLR
comp=Z,800nm,17.0s
PETR Petresti 27.94 318⇑ *i*P **P 22 50 47.2 +1.2**
DMN Daman 27.97 82 *e*P **P 22 50 47.4 +0.5**
comp=Z,109nm,1.0s
BIR Birlad 28.01 320⇓ *i*P **P 22 50 47.5 +0.9**
KKN Kakani 28.11 81 *e*P **P 22 50 48.7 +0.7**
comp=Z,190nm,1.1s
BISRR Bisoca 28.16 318⇓ *i*P **P 22 50 48.1 0.0**
PKIN Phulchoki 28.23 82 *e*P **P 22 50 49.7 +0.5**
comp=Z,110nm,0.9s
PKI Pulchoki 28.25 82 *e*P **P 22 50 50.0 +0.6**
SECR 28.29 316⇑ *i*P **P 22 50 51.0 +1.8**
VRI Vrincioaia 28.32 318⇑ *i*P **P 22 50 50.6 +1.2**
PLOR Plostina 28.35 318⇑ *i*P **P 22 50 50.6 +0.8**
IAS Iasi 28.57 321⇓ *i*P **P 22 50 52.0 +0.4**
MLR Muntele Rosu 28.59 317 *e*P **P 22 50 53.2 +1.2**

comp=Z,22nm,0.8s
MLR Muntele Rosu 28.59 317⇑ *i*P P 22 50 52.7 +0.7
MLR Muntele Rosu 28.59 317 P P 22 50 53.6 +1.6
comp=Z,20nm,0.8s,baz=162,slow=10.0,SNR=23
BRVK Borovoye 28.71 21 *e*P P 22 50 53.1 +0.3
comp=Z,20nm,1.1s
BRVK Borovoye 28.71 21 *d i*P P 22 50 52.8 0.0
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 28.71 21 P P 22 50 53.3 +0.5
SNR=18
TESR Tescani 28.71 319⇑ *i*P P 22 50 53.0 +0.1
BVAR Borovoye Array 28.71 21 P P 22 50 53.1 +0.2
comp=Z,12nm,0.9s,baz=209,slow=8.0,SNR=77
BVAR PcP **PcP 22 54 03.1 +0.3**
comp=Z,3.4nm,0.6s,baz=209,slow=1.3,SNR=4.7
JIRN Jiri 28.92 81 *e*P P 22 50 56.0 +0.6
comp=Z,204nm,0.9s
OZUR 29.00 318⇓ *i*P P 22 50 56.1 +0.6
VTS Vitosha 29.07 310 *e*P P 22 50 55.8 -0.5
comp=Z,17nm,1.1s
VTS Vitosha 29.07 310⇑ *i*P P 22 50 57.2 +0.8
VTS Vitosha 29.07 310 *e*P P 22 50 55.8 -0.5
VTS pmax pmax
comp=Z,17nm,1.1s
VOIR 29.11 316⇑ *i*P P 22 50 57.6 +1.0
DOPR Dopca 29.17 317⇑ *i*P P 22 50 57.6 +0.6
BIZ Bicaz 29.25 320⇓ *i*P P 22 50 58.4 +0.7
ARR Arges 29.34 316⇑ *i*P P 22 50 59.3 +0.7
RAMN Ramite 29.38 83 *e*P P 22 50 59.5 +0.2
comp=Z,142nm,0.8s
PRAR RASCA 29.42 321⇑ *i*P P 22 50 59.4 +0.2
ARU Arti 29.46 6 *e*P P 22 50 59.8 +0.3
comp=Z,21nm,1.1s
ARU Arti 29.46 6 *d i*P P 22 50 59.6 +0.1
ARU 22 51 53.5
ARU 22 54 04.2
ARU S **S 22 55 55.9 +3.4**
ARU SS **SnSn 22 57 23.9 +3.7**
ARU pmax pmax
comp=Z,17nm,1.1s
ARU Arti 29.46 6 P P 22 50 59.5 +0.1
comp=Z,3.2nm,0.8s,baz=193,slow=4.9,SNR=15
MAKZ Makanchi 29.74 41 *e*P P 22 51 02.6 +0.5
comp=Z,47nm,1.1s
MAKZ Makanchi 29.74 41 *e*P P 22 51 02.6 +0.5
MAKZ pmax pmax
comp=Z,47nm,1.1s
FNA Florina 29.77 305 *e*P P 22 51 02.6 +0.2
comp=Z,58nm,1.8s
FNA Florina 29.77 305 *e*P P 22 51 02.7 +0.2
FNA pmax pmax
comp=Z,58nm,1.8s
MK32 Makanchi Array 29.92 41 *e*PcP PcP 22 54 05.6 -0.5
MKAR Makanchi Array 29.92 41 *ce*P P 22 51 04.0 +0.3
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 29.92 41 P P 22 51 04.0 +0.3
comp=Z,7.8nm,0.7s,baz=227,slow=8.7,SNR=86
MKAR PcP **PcP 22 54 05.6 -0.5**
comp=Z,1.5nm,0.6s,baz=253,slow=2.4,SNR=4.4
SRE Strehaia 29.92 314⇑ *i*P P 22 51 04.1 +0.4
AKASG Malin Array Be 29.93 328 P P 22 51 03.0 -0.6
comp=Z,17nm,0.6s,baz=132,slow=7.7,SNR=29
AKASG PcP **PcP 22 54 05.8 -0.1**
comp=Z,3.6nm,0.6s,baz=68,slow=3.0,SNR=5.3
AKBB Malin Array Si 29.93 328 *e*PcP PcP 22 54 05.8 -0.1
KIEV Kiev 29.93 328 *i* P P 22 51 03.0 -0.6
SNR=11
KIEV Kiev 29.93 328 *d i*P P 22 51 02.4 -1.2
KIEV pmax pmax
comp=Z,25nm,1.0s
SVE Sverdlovsk 30.07 8⇓ *i*P P 22 51 05.5 +0.7
SVE pmax pmax
comp=Z,29nm,1.2s
SVE MLR MLR
comp=Z,479nm,15.0s
ODAN Odare 30.09 83 *e*P P 22 51 05.8 +0.2
comp=Z,112nm,0.8s
BURAR Bucovina Array 30.13 320⇑ *i*P P 22 51 06.3 +0.7
KURK Kurchatov 30.27 32 *e*P P 22 51 07.1 +0.4
comp=Z,15nm,1.1s
KURK Kurchatov 30.27 32 *ce*P P 22 51 07.4 +0.7
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 30.27 32 P P 22 51 07.6 +0.9
SNR=6.8
ARCR ARCALIA 30.35 319⇓ *i*P P 22 51 08.2 +0.8
GZR Gura Zlata 30.51 315⇑ *i*P P 22 51 09.2 +0.2
HERR Herculane 30.52 314⇑ *i*P P 22 51 09.4 +0.4
OBN Obninsk 30.55 341 *e*P P 22 51 09.3 +0.3
comp=Z,105nm,1.4s
OBN Obninsk 30.55 341 *i* P P 22 51 08.5 -0.5
OBN *i* 22 51 13.8
OBN pmax pmax
comp=Z,36nm,1.1s
CJR Cluj-Napoca 30.61 318⇓ *i*P P 22 51 10.9 +1.1
MOS Moscow 30.80 342 *e*P P 22 51 10.2 -1.0
MOS pmax pmax
comp=Z,51nm,0.9s
MDVR Moldovita 30.94 313⇓ *i*P P 22 51 12.9 +0.2
BMR Baia Mare 31.15 319⇑ *i*P P 22 51 15.5 +1.0
DRGR 31.19 317⇓ *i*P P 22 51 15.5 +0.6
BZS Buzias 31.34 314⇓ *i*P P 22 51 17.2 +1.0
BANR Banloc 31.55 314⇑ *i*P P 22 51 19.5 +1.5
SIRR Siria 31.60 316⇑ *i*P P 22 51 19.7 +1.2
TRPA Tarpa 31.94 319⇑ *i*P P 22 51 22.0 +0.6
TRPA Tarpa 31.94 319⇓ *e*P P 22 51 21.1 -0.3
WMQ Urumqi 32.10 50 P P 22 51 24.0 +1.0
WMQ pP pP 22 51 28.8 -0.6
WMQ sP sP 22 51 31.9 -0.1
WMQ pmax pmax
comp=Z,36nm,1.3s
WMQ pmax pmax
comp=Z,110nm,4.9s
WMQ LR LR
comp=Z,2μm,29.3s
WMQ LR LR
comp=Z,2μm,29.3s
WMQ LR LR
comp=Z,2μm,30.9s
KMBO Kilima Mbogo 32.21 212 *i* P P 22 51 26.2 +1.8
SNR=6.6
KMBO Kilima Mbogo 32.21 212 P P 22 51 26.4 +2.1
SNR=6.6
KMBO Kilima Mbogo 32.21 212 P P 22 51 26.1 +1.7
comp=Z,3.6nm,0.7s,baz=29,slow=12,SNR=12
UZH Uzhgorod 32.33 320 *e*P P 22 51 23.2 -1.6
UZH *i* 22 51 28.4
KOLS Kolonicke sedl 32.49 320 *e*P P 22 51 27.6 +1.3
KOLS pmax pmax
comp=Z,78nm,1.1s
KOLS Kolonicke sedl 32.49 320 *e*P P 22 51 27.6 +1.3
KWP Kalwaria Pacla 32.61 322 *e*P P 22 51 27.9 +0.6
KWP Kalwaria Pacla 32.61 322 *e*P P 22 51 27.9 +0.6
TIP Timpagrande 32.84 301 *e*P P 22 51 30.1 +0.6
comp=Z,55nm,1.4s
TIP Timpagrande 32.84 301⇑ *i*P P 22 51 30.4 +0.9
LSA Lhasa 33.06 77 *e*P P 22 51 32.7 +0.7
comp=Z,5.9nm,0.7s
LSA Lhasa 33.06 77 *e*P P 22 51 32.7 +0.7
LSA pmax pmax
comp=Z,6.0nm,0.7s
PSZ Piszkesteto 33.41 317⇑ *i*P P 22 51 34.7 +0.3
PSZ Piszkesteto 33.41 317 *e*P P 22 51 33.1 -1.3
NIE Niedzica 33.86 320 *e*P P 22 51 38.3 +0.1
NIE Niedzica 33.86 320 *e*P P 22 51 38.3 +0.1
BLY Banja Luka 33.93 311⇑ *i*P P 22 51 38.9 0.0
CSKK Cskako 34.17 316 *e*P P 22 51 41.0 0.0
IDID Didziasalis 34.20 333 *e*P P 22 51 41.1 +0.1
IDID IAmb IAmb 22 51 42.5
comp=Z,13nm,0.8s
WDD Wied Dalam 34.21 294 *e*P P 22 51 42.3 +0.9
comp=Z,444nm,1.4s
LANS Liptovska Anna 34.22 319 *e*P P 22 51 42.6 +1.3
LANS Liptovska Anna 34.22 319 *e*P P 22 51 42.6 +1.3
VYHS Vyhne 34.30 318 *e*P P 22 51 42.3 +0.3
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS Vyhne 34.30 318 *e*P P 22 51 42.3 +0.3
DGZ Jazzator, Alta 34.34 40 *d i*P P 22 51 43.1 +0.5
DGZ pmax pmax
comp=Z,9.0nm,1.0s
IIGN Ignalina 34.44 332 *e*P P 22 51 43.4 +0.3
IIGN IAmb IAmb 22 51 43.9
comp=Z,26nm,0.7s
OJC Ojcow 34.53 321 *e*P P 22 51 44.4 +0.4
OJC Ojcow 34.53 321 *e*P P 22 51 44.4 +0.4
ISAL Salakas 34.63 333 *e*P P 22 51 45.9 +1.1
ISAL IAmb IAmb 22 51 46.5
comp=Z,17nm,0.8s
IZAR Zarasai 34.70 333 *e*P P 22 51 45.7 +0.3
IZAR IAmb IAmb 22 51 46.2
comp=Z,16nm,0.6s
PRGR Permogore 34.88 353 *e*P P 22 51 44.0 -2.8
PRGR pmax pmax
comp=Z,12nm,1.3s
SUW Suwalki 34.90 329 *e*P P 22 51 46.6 -0.5
SUW Suwalki 34.90 329 *e*P P 22 51 46.6 -0.5
KLMR Klimovskoe 35.01 348 *e*P P 22 51 46.1 -1.8
KLMR pmax pmax
comp=Z,40nm,1.1s
NVS Novosibirsk 35.09 30 *e*P P 22 51 49.1 +0.3
NVS pmax pmax
comp=Z,16nm,1.2s
NVS pmax pmax
comp=N,9.0nm,0.7s
NVS pmax pmax
comp=E,9.0nm,0.7s
JAVC Velka Javorina 35.15 318 *e*P P 22 51 50.1 +0.7
MODS Modra-Piesok 35.19 317 *e*P P 22 51 48.8 -0.9
MODS pmax pmax
comp=Z,26nm,1.5s
MODS Modra-Piesok 35.19 317 *e*P P 22 51 48.8 -0.9
ZST Bratislava 35.22 316 *e*P P 22 51 48.8 -1.2
ZST Bratislava 35.22 316 *e*P P 22 51 48.8 -1.2
ZALV Zalesovo Beam 35.27 32 P P 22 51 50.4 +0.1
comp=Z,16nm,0.7s,baz=239,slow=9.3,SNR=57
MBAR Mbarara 35.27 222 *e*P P 22 51 52.1 +1.2
comp=Z,11nm,0.7s
MBAR Mbarara 35.27 222 *d i*P P 22 51 51.4 +0.5
MBAR pmax pmax
comp=Z,9.0nm,0.9s
SOP Sopron 35.36 315⇓ *e*P P 22 51 50.1 -1.1
BOJS Bojanci 35.47 311 *i* P P 22 51 51.9 -0.2
PABE Paberze 35.49 331 *e*P P 22 51 52.0 -0.2
PABE IAmb IAmb 22 51 52.4
comp=Z,50nm,0.8s
MORC Moravsky Berou 35.62 319⇑ *i*P P 22 51 53.5 0.0
MORC Moravsky Berou 35.62 319 *e*P P 22 51 53.0 -0.5
ARSA Arzberg 35.86 314 *i* P P 22 51 56.1 +0.5
comp=Z,16nm,1.4s
CONA Conrad Observa 35.89 315 *i* P P 22 51 56.1 +0.2
comp=Z,19nm,1.4s,SNR=6.4
VRAC Vranov 35.98 318⇑ *i*P P 22 51 57.1 +0.6
VRAC Vranov 35.98 318 *e*P P 22 51 56.4 -0.1
SOKA Soboth 35.98 313 *i* P P 22 51 57.1 +0.5
comp=Z,13nm,1.5s
SOKA *i* PcP **PcP 22 54 23.7 +0.7**
comp=Z,4.8nm,0.7s
KRUC Moravsky 36.00 317 *e*P P 22 51 56.5 -0.2
LJU Ljubljana 36.11 312 *i* P P 22 51 58.3 +0.6
KRLC Kraliky 36.19 319 *e*P P 22 51 58.1 -0.3
KRLC Kraliky 36.19 319 *e*P P 22 51 58.1 -0.3
OBKA Obir 36.24 313 *i* P P 22 52 00.2 +1.3
comp=Z,27nm,1.6s
CRNS Crni Vrh 36.30 312 *i* P P 22 51 59.6 +0.2
VSU Vasula 36.47 336 *c i*P P 22 52 00.0 -0.5
VSU pmax pmax
comp=Z,79nm,1.0s
VSU Vasula 36.47 336 *e*P P 22 51 59.7 -0.8
VSU IAmb IAmb 22 52 00.7
comp=Z,72nm,0.6s
DPC Dobruska-Polom 36.58 319 *e*P P 22 52 01.4 -0.2
DPC *e* 22 52 06.8
DPC Dobruska-Polom 36.58 319 *e*P P 22 52 01.4 -0.2
DPC *e*pP **pP 22 52 06.8 -1.3**
TREC Trest 36.64 317 *e*P P 22 52 02.0 -0.2
TREC *e* 22 52 07.8
TREC Trest 36.64 317 *e*P P 22 52 02.0 -0.2
TREC *e*pP **pP 22 52 07.8 -0.8**
KSP Ksiaz 36.80 320 *e*P P 22 52 03.8 +0.3
KSP Ksiaz 36.80 320 *e*P P 22 52 03.8 +0.3
UPC Upice 36.82 320 *e*P P 22 52 03.4 -0.3
UPC Upice 36.82 320 *e*P P 22 52 03.4 -0.3
MOA Molln 36.87 315 *i* P P 22 52 04.4 +0.3
comp=Z,15nm,0.9s,SNR=9.8
MYKA Terra Mystica 36.88 313 *i* P P 22 52 04.8 +0.5
comp=Z,12nm,1.1s
KBA Koelnbreinsper 37.21 313 *i* P P 22 52 07.6 +0.4
comp=Z,29nm,1.0s,SNR=10
GOPC GO Pecny, Ondr 37.30 318 *e*P P 22 52 07.3 -0.5
GOPC *e* 22 52 12.6
GOPC GO Pecny, Ondr 37.30 318 *e*P P 22 52 07.3 -0.5
GOPC *e*pP **pP 22 52 12.6 -1.7**
GKP Gorka Klasztor 37.42 324 *e*P P 22 52 08.7 0.0
GKP Gorka Klasztor 37.42 324 *e*P P 22 52 08.7 0.0
PRU Pruhonice 37.48 318 *e*P P 22 52 08.9 -0.3
PRU Pruhonice 37.48 318 *e*P P 22 52 08.9 -0.3
GEC2 GERESS Array S 37.56 316 *e*PcP PcP 22 54 27.8 0.0
GERES GERESS Array B 37.56 316 P P 22 52 09.6 -0.5
comp=Z,2.4nm,0.8s,baz=107,slow=8.5,SNR=16
GERES PcP **PcP 22 54 27.8 0.0**
comp=Z,3.2nm,0.7s,baz=134,slow=3.5,SNR=9.7
ABTA Abfaltersbach 37.65 312 *i* P P 22 52 11.3 +0.4
comp=Z,26nm,1.0s,SNR=8.0
PVCC Panska Ves 37.67 319 *e*P P 22 52 10.6 -0.3
PVCC Panska Ves 37.67 319 *e*P P 22 52 10.6 -0.3
KHC Kasperske Hory 37.74 316 *e*P P 22 52 11.2 -0.3
KHC *e* 22 52 16.4
KHC Kasperske Hory 37.74 316 *e*P P 22 52 11.2 -0.3
KHC *e*pP **pP 22 52 16.4 -1.6**
KHC *ex* x 22 52 26.2
BRG Berggiesshubel 38.17 319 *i* PKP P 22 52 14.7 -0.4
comp=Z,15nm,0.8s
BRG Berggiesshubel 38.17 319 *i* P P 22 52 14.7 -0.4
BRG pmax pmax
comp=Z,15nm,0.8s
TMCR Tamitsa 38.34 349 *e*P P 22 52 15.7 -0.6
TMCR pmax pmax
comp=Z,11nm,0.5s
WTTA Wattenberg 38.38 313 *i* P P 22 52 16.5 -0.6
comp=Z,39nm,0.6s,SNR=19
WTTA *i* PcP **PcP 22 54 30.8 +0.4**
comp=Z,6.1nm,0.6s
KEST Kesra 38.41 294 P P 22 52 18.6 +1.2
comp=Z,11nm,0.9s,baz=86,slow=2.7,SNR=6.5
KEST PcP **PcP 22 54 31.6 +0.9**
comp=Z,7.6nm,0.8s,baz=57,slow=1.4,SNR=8.0
WATA Walderalm 38.44 313 *i* P P 22 52 16.9 -0.6
comp=Z,22nm,0.5s,SNR=20
VLC Villacollemand 38.48 308 *e*P P 22 52 18.0 +0.3
comp=Z,208nm,2.0s
SQTA Sankt Quirin 38.64 313 *i* P P 22 52 18.6 -0.7
comp=Z,50nm,0.6s,SNR=19
SQTA *i* PcP **PcP 22 54 31.5 +0.3**
comp=Z,8.7nm,0.6s
MOTA Moosalm 38.75 313 *i* P P 22 52 18.2 -2.0
comp=Z,30nm,0.8s,SNR=22
MOTA *i* PcP **PcP 22 54 31.1 -0.5**
comp=Z,9.4nm,0.9s
NKC Novy Kostel 38.82 318 *e*P P 22 52 20.5 -0.1
NKC *e* 22 52 25.8
NKC Novy Kostel 38.82 318 *e*P P 22 52 20.5 -0.1
NKC *e*pP **pP 22 52 25.8 -1.3**
CLL Collm 38.89 319⇓ *i*P P 22 52 20.7 -0.4
CLL *i* 22 52 25.8
CLL *e* 22 54 32.0
CLL pmax pmax
comp=Z,29nm,1.1s
CLL Collm 38.89 319⇓ *i*P P 22 52 20.7 -0.4
comp=Z,29nm,1.1s
CLL *i* P **pP 22 52 25.8 -1.8**
CLL *es*PP 22 53 58.0
CLL *e*PPP PPP 22 54 08.0
CLL *e*PcP **PcP 22 54 32.0 +0.3**
FETA Feichten 38.91 312 *i* P P 22 52 21.1 -0.4
comp=Z,33nm,0.6s,SNR=22
FETA *i* PcP **PcP 22 54 32.7 +0.7**
comp=Z,8.1nm,0.8s
FIA0 FINESS Array S 38.92 339 *e*PcP PcP 22 54 30.6 -0.9
FINES FINESS Array B 38.92 339 *i* P P 22 52 20.3 -0.9
FINES pmax pmax
comp=Z,17nm,0.5s
FINES FINESS Array B 38.92 339 P P 22 52 20.4 -0.8
comp=Z,17nm,0.5s,baz=144,slow=9.5,SNR=145
FINES PcP **PcP 22 54 30.6 -0.9**
comp=Z,5.6nm,0.8s,baz=177,slow=2.8,SNR=3.5
RUE Ruedersdorf 38.92 321 *e*P P 22 52 21.4 +0.1
RUE IAmb IAmb 22 52 21.9
comp=Z,51nm,0.9s
RETA Reutte 39.01 313 *i* P P 22 52 21.6 -0.7
comp=Z,16nm,0.6s,SNR=9.2
RETA *i* PcP **PcP 22 54 32.9 +0.6**
comp=Z,3.5nm,0.7s
FUORN Ofenpass-Fuorn 39.11 311 *e*P P 22 52 23.2 -0.2
comp=Z,16nm,0.8s
GRFO Grafenberg 39.38 316 *e*P P 22 52 24.4 -0.8
comp=Z,26nm,0.8s
GRFO Grafenberg 39.38 316 *e*P P 22 52 24.5 -0.8
GRFO pmax pmax
comp=Z,26nm,0.8s
BSD Bornholm Skovb 39.52 326⇑ *i*P P 22 52 25.2 -1.1
BSD pmax pmax
comp=Z,84nm,0.7s
BSD Bornholm Skovb 39.52 326⇑ *i*P P 22 52 25.2 -1.1
comp=Z,84nm,0.7s
DAVA Damuels 39.53 312 *i* P P 22 52 25.9 -0.8
comp=Z,111nm,0.5s,SNR=36
RGN Rugen 40.07 324 *e*P P 22 52 30.7 -0.1
comp=Z,155nm,0.9s
GTA Gaotai 40.14 60 ⇓P P 22 52 32.6 +0.7
GTA pP pP 22 52 38.3 -0.1
GTA sP sP 22 52 40.4 -1.0
GTA pmax pmax
comp=Z,31nm,1.0s
GTA pmax pmax
comp=Z,84nm,5.6s
GTA LR LR
comp=Z,200nm,15.6s
GTA LR LR
comp=Z,170nm,17.8s
GTA LR LR
comp=Z,320nm,17.5s
BFO Black Forest 40.81 314 *e*P P 22 52 36.7 -0.5
comp=Z,8.6nm,0.7s
BFO Black Forest 40.81 314 *i* P P 22 52 37.5 +0.3
COP Copenhagen 41.04 325⇑ *i*P P 22 52 39.8 +1.0
COP pmax pmax
comp=Z,82nm,0.9s
COP Copenhagen 41.04 325⇑ *i*P P 22 52 39.8 +1.0
comp=Z,82nm,0.9s
ECH Echery 41.54 313 *e*P P 22 52 42.0 -1.2
comp=Z,24nm,0.8s
ECH Echery 41.54 313 *e*P P 22 52 42.0 -1.2
ECH pmax pmax
comp=Z,24nm,0.8s
APA Apatity 42.24 349⇓ *i*P P 22 52 47.5 -1.1
APA pmax pmax
comp=Z,18nm,0.8s
APA MLR MLR
comp=Z,600nm,18.0s
LVZ Lovozero 42.33 350 *e*P P 22 52 49.3 0.0
comp=Z,20nm,1.0s
LVZ Lovozero 42.33 350⇑ *e*P P 22 52 49.0 -0.3
LVZ pmax pmax
comp=Z,31nm,2.5s
CHTO Chiang Mai 42.41 91 *e*P P 22 52 51.2 +0.6
comp=Z,32nm,0.9s
CHTO Chiang Mai 42.41 91 *e*P P 22 52 51.2 +0.6
CHTO pmax pmax
comp=Z,32nm,0.9s
CHTO Chiang Mai 42.41 91 P P 22 52 51.6 +1.0
SNR=12
CMMT Chiang Mai 42.41 91 P P 22 52 51.6 +0.9
comp=Z,20nm,0.8s
WLF Walferdange 42.53 315 ⇓P P 22 52 50.1 -1.1
comp=Z,32nm,1.2s
CM31 Chiang Mai Arr 42.53 92 *e*P P 22 52 51.7 +0.1
comp=Z,20nm,0.9s
CM31 Chiang Mai Arr 42.53 92 P P 22 52 52.6 +1.0
SNR=6.8
CMAR Chiang Mai Arr 42.53 92 *e*P P 22 52 52.0 +0.4
CMAR Chiang Mai Arr 42.53 92 P P 22 52 52.6 +1.1
comp=Z,10nm,0.7s,baz=283,slow=9.6,SNR=48
CMAR PcP **PcP 22 54 44.8 +0.7**
comp=Z,5.9nm,0.8s,baz=289,slow=5.8,SNR=7.0
MEM Membach 42.85 316 ⇑P P 22 52 52.1 -1.7
MUD Monsted U'grnd 43.02 325 *i* P P 22 52 55.9 +0.9
MUD pmax pmax
comp=Z,62nm,0.8s
MUD Monsted U'grnd 43.02 325 *i* P P 22 52 55.9 +0.9
comp=Z,62nm,0.8s
PAYA Payao 43.05 90 P P 22 52 57.0 +1.2
comp=Z,95μm,0.9s,comp=Z,809μm
MOY Mondy 43.06 42 *e*P P 22 52 56.5 +0.9
MOY pmax pmax
comp=Z,47nm,1.5s
LAMP Lampang 43.12 91 P P 22 52 58.4 +2.0
comp=Z,26μm,0.8s
BCLA Clavier 43.24 316 ⇓P P 22 52 57.1 +0.2
UMPA Umpang Tak 43.27 95 P P 22 52 59.7 +2.0
comp=Z,126μm,0.8s
LZH Lanzhou 43.33 65 *e*P P 22 52 58.1 +0.1
LZH pP pP 22 53 01.3 -3.3
LZH sP sP 22 53 03.0 -4.1
LZH *e*PP **PP 22 54 41.8 +3.0**
LZH pmax pmax
comp=Z,49nm,1.3s
LZH pmax pmax
comp=Z,130nm,4.6s
LZH LR LR
comp=Z,380nm,15.2s
LZH LR LR
comp=Z,290nm,15.7s
LZH LR LR
comp=Z,720nm,22.8s
DOU Dourbes 43.61 315 ⇓P P 22 52 59.9 -0.1
comp=Z,22nm,1.0s
PHRA Phrae 43.66 91 P P 22 53 01.8 +1.1
comp=Z,4.6nm,1.1s
CD2 Chengdu 43.75 73 P P 22 53 02.1 +0.7
CD2 pmax pmax
comp=Z,20nm,0.5s
NC602 NORSAR Array S 43.89 332 *e*P P 22 53 01.4 -0.5
SNF Seneffe 43.90 316 ⇓P P 22 53 02.5 +0.3
comp=Z,36nm,1.0s
UCC Uccle 43.92 316 ⇑P P 22 53 02.4 0.0
KMI Kunming 43.97 81 P P 22 53 04.3 +0.9
KMI pP pP 22 53 09.1 -0.9
KMI sP sP 22 53 12.3 -0.2
KMI pmax pmax
comp=Z,27nm,1.0s
KMI pmax pmax
comp=Z,190nm,3.9s
KMI Kunming 43.97 81 *e*P P 22 53 03.7 +0.3
comp=Z,38nm,0.9s
KMI Kunming 43.97 81 *e*P P 22 53 03.7 +0.3
KMI pmax pmax
comp=Z,38nm,0.9s
NANT Nan 43.98 91 P P 22 53 04.9 +1.6
comp=Z,49μm,0.8s,comp=Z,450μm
ZAK Zakamensk 44.14 45 *e*P P 22 53 03.9 -0.4
ZAK *e* 22 54 42.6
ZAK pmax pmax
comp=Z,9.0nm,1.0s
ZAK pmax pmax
comp=Z,7.0nm,1.3s
NB201 NORSAR Array S 44.15 332 *e*P P 22 53 03.6 -0.6
comp=Z,101nm,1.5s
NB2 NORSAR Subarra 44.18 332 P P 22 53 03.1 -1.3
comp=Z,5.4nm,0.6s,baz=120,slow=7.9
NB2 NORSAR Subarra 44.18 332 P P 22 53 03.1 -1.3
baz=120,slow=7.9
NB200 NORSAR Array S 44.18 332 *e*PP PP 22 54 48.1 +0.8
NOA NORSAR Array B 44.18 332 P P 22 53 03.4 -1.0
comp=Z,7.1nm,0.7s,baz=120,slow=8.0,SNR=32
NOA PcP **PcP 22 54 48.1 -0.8**
comp=Z,3.9nm,0.9s,baz=105,slow=4.0,SNR=4.8
UTTA Uttaradit 44.21 92 P P 22 53 06.3 +1.1
comp=Z,54μm,0.9s,comp=Z,405μm
NAO01 NORSAR Array S 44.22 332 *e*P P 22 53 04.1 -0.5
comp=Z,217nm,1.8s
NBO00 NORSAR Array S 44.36 332 *e*P P 22 53 05.9 +0.1
comp=Z,44nm,1.2s
PBKT Sadao Pong 45.01 93 P P 22 53 12.4 +0.9
comp=Z,28nm,0.9s,comp=Z,283nm
SKAR Skarslia 45.26 331 *e*P P 22 53 12.8 -0.2
KEV Kevo 45.32 347 *e*P P 22 53 13.3 0.0
comp=Z,28nm,0.9s
ARCES ARCESS Array B 45.44 347 *e*P P 22 53 13.8 -0.5
ARCES ARCESS Array B 45.44 347 P P 22 53 14.2 -0.1
comp=Z,8.0nm,0.8s,baz=145,slow=8.7,SNR=38
ARCES PcP **PcP 22 54 53.0 -0.1**
comp=Z,8.9nm,0.8s,baz=159,slow=3.6,SNR=12
ARE0 ARCESS Array S 45.44 347 *e*PcP PcP 22 54 53.2 +0.1

comp=Z,0.7nm,0.8s
ARE0 **ARCESS Array S** 45.44 347 *e*P P 22 53 14.2 -0.1
KTK1 **Kautokeino** 45.52 345 *e*P P 22 53 14.8 -0.1
BLS5 **Blasjo** 45.55 328 *e*P P 22 53 15.0 -0.3
DOMB **Dombas** 45.57 332 *e*P P 22 53 15.1 -0.4
ODD1 **Odda** 45.67 329 *e*P P 22 53 16.1 -0.2
SONM **Songino Array** 45.72 49 P P 22 53 17.9 +0.9
comp=Z,6.7nm,0.9s,baz=257,slow=8.6,SNR=34
NSS **Namsos** 45.77 336 *e*P P 22 53 16.2 -0.7
KMY **Karmoy** 46.04 328 *e*P P 22 53 18.9 -0.1
CHAI **Chaiyaphum** 46.17 94 P P 22 53 22.2 +1.5
comp=Z,21μm,0.9s,comp=Z,427μm
ABPO **Ambohimpanom** 46.31 188 *e*P P 22 53 23.1 +1.2
comp=Z,24nm,0.8s
ABPO **Ambohimpanom** 46.31 188 *e*P P 22 53 23.1 +1.2
ABPO pmax pmax
comp=Z,24nm,0.8s
BER **Bergen** 46.46 329 *e*P P 22 53 22.2 -0.1
AKN **Aaknes** 46.50 332 *e*P P 22 53 22.1 -0.6
KONS **Konsvik** 46.54 339 *e*P P 22 53 22.8 -0.1
NRIK **Noril'sk** 46.63 16 P P 22 53 24.0 +0.4
comp=Z,6.9nm,1.0s,baz=213,slow=5.1,SNR=14
NRIK LR LR 23 17 06.6
comp=Z,340nm,18.6s,baz=302,slow=41
HAMF **Hammerfest** 46.71 347 *e*P P 22 53 24.3 +0.1
KHON **Khomkaen** 46.75 93 P P 22 53 31.3 +6.0
STEI **Steigen** 46.80 341 *e*P P 22 53 24.3 -0.6
TRO **Tromso** 47.00 344 *e*P P 22 53 26.3 -0.2
GYA **Guiyang** 47.09 78⇑ *i*P P 22 53 27.5 -0.6
GYA pmax pmax
comp=Z,20nm,0.8s
LOF **Lofoten** 47.42 341 *e*P P 22 53 28.4 -1.4
SKNT **Sakolnakorn** 47.54 91 P P 22 53 32.1 +0.6
comp=Z,39nm,0.9s
XAN **Xi'an** 47.66 68 P P 22 53 31.8 -0.4
XAN pP pP 22 53 39.3 +0.5
XAN sP sP 22 53 42.8 +1.4
XAN S **S** **23 00 25.3 -1.8**
XAN sS sS 23 00 38.1 0.0
XAN pmax pmax
comp=Z,14nm,1.0s
XAN LR LR
comp=Z,180nm,17.1s
XAN LR LR
comp=Z,200nm,17.1s
XAN LR LR
comp=Z,270nm,23.3s
PANO **Nakornpanom** 48.04 91 P P 22 53 36.6 +1.3
comp=Z,1.1nm,0.9s,comp=Z,88nm
ENH **Enshi** 48.73 72 *e*P P 22 53 39.9 -0.6
comp=Z,24nm,1.1s
LSZ **Lusaka** 48.85 213 *e*P P 22 53 42.4 +0.8
comp=Z,9.0nm,1.1s
LSZ **Lusaka** 48.85 213 *e*P P 22 53 42.4 +0.8
LSZ pmax pmax
comp=Z,9.0nm,1.1s
ESDC **Sonseca Array** 48.86 300 P P 22 53 41.2 -0.2
comp=Z,11nm,0.9s,baz=71,slow=7.6,SNR=40
ESDC PcP **PcP** 22 55 06.2 +0.4
comp=Z,2.5nm,0.7s,baz=70,slow=3.9,SNR=5.5
HHC **Hu-ho-hao-te** 49.15 58 *e*P P 22 53 43.1 -0.7
HHC sP sP 22 53 54.9 +1.9
HHC pmax pmax
comp=Z,93nm,1.0s
HHC pmax pmax
comp=Z,330nm,5.6s
PAB **San Pablo** 49.16 300 *e*P P 22 53 44.0 +0.2
comp=Z,22nm,0.9s
PAB **San Pablo** 49.16 300 *e*P P 22 53 44.0 +0.2
PAB pmax pmax
comp=Z,22nm,0.9s
GSI **Gunungsitoli** 49.39 114 *e*P P 22 53 46.7 +1.0
comp=Z,25nm,0.9s
PSI **Prapat** 49.66 111 *e*P P 22 53 47.5 -0.4
comp=Z,11nm,0.8s
PSI **Prapat** 49.66 111 *e*P P 22 53 47.5 -0.4
PSI pmax pmax
comp=Z,11nm,0.8s
TOA0 **Torodi Ar. Sit** 50.32 265 *e*P P 22 53 52.2 -0.6
comp=Z,63nm,1.3s
TOA0 **Torodi Ar. Sit** 50.32 265 P P 22 53 52.7 -0.1
SNR=44
TORD **Torodi Ar. Bea** 50.32 265 P P 22 53 51.1 -1.7
comp=Z,16nm,0.6s,baz=45,slow=5.4,SNR=108
PBRG **Braganca** 50.84 303 *e*P P 22 53 56.7 +0.3
comp=Z,24nm,1.5s
DSB **Dublin** 50.87 318 *e*P P 22 53 56.1 -0.3
comp=Z,238nm,2.0s
MVO **Moncorvo** 51.09 302 *e*P P 22 53 59.0 +0.6
comp=Z,35nm,1.0s
PMRV **Marv??o** 51.52 300 *e*P P 22 54 01.4 -0.2
comp=Z,30nm,1.4s
MTE **Manteigas** 51.55 301 *e*P P 22 54 02.6 +0.8
comp=Z,44nm,1.6s
MTE **Manteigas** 51.55 301 *e*P P 22 54 02.3 +0.4
comp=Z,56nm,1.5s
PCBR **Castelo Branco** 51.55 301 *e*P P 22 54 02.0 +0.3
comp=Z,36nm,1.4s
PVRL **Vila Real** 51.60 302 *e*P P 22 54 03.1 +0.9
comp=Z,51nm,1.6s
POLO **Lamas de Olo** 51.65 303 *e*P P 22 54 03.3 +0.7
comp=Z,28nm,1.3s
BOD **Bodaibo** 51.77 36 *e*P P 22 54 02.4 -0.7
BOD pmax pmax
comp=Z,58nm,1.4s
PVIS **Viseu** 51.78 302 *e*P P 22 54 04.6 +1.0
comp=Z,50nm,1.4s
PGAV **Gavieira, Arco** 51.96 303 *e*P P 22 54 06.0 +1.0
comp=Z,46nm,1.7s
PBEJ **Beja** 52.04 298 *e*P P 22 54 06.4 +0.9
comp=Z,16nm,1.3s
PBDV **Barranco-do-Ve** 52.20 297 *e*P P 22 54 06.3 -0.4
COI **Coimbra** 52.22 301 *e*P P 22 54 07.3 +0.5
comp=Z,58nm,1.9s
PCVE **Castro Verde** 52.23 298 *e*P P 22 54 06.6 -0.3
comp=Z,25nm,1.9s
PTOM **Tomar** 52.28 300 *e*P P 22 54 07.8 +0.6
comp=Z,51nm,0.8s
MESJ **Messejana** 52.34 298 *e*P P 22 54 07.0 -0.7
MESJ AMb AMB 22 54 09.2
comp=Z,23nm,1.8s
MESJ **Messejana** 52.34 298 *e*P P 22 54 07.8 +0.1
comp=Z,27nm,1.5s
MESJ **Messejana** 52.34 298 *e*P P 22 54 07.0 -0.7
PNCL **Nicolau / Gran** 52.55 299 *e*P P 22 54 08.9 -0.3
comp=Z,21nm,1.0s
MORF **Marmelete** 52.76 298 *e*P P 22 54 10.2 -0.6
MORF AMb AMB 22 54 12.8
comp=Z,42nm,1.4s
MORF **Marmelete** 52.76 298 *e*P P 22 54 10.8 0.0
MORF **Marmelete** 52.76 298 *e*P P 22 54 10.2 -0.6
WHN **Wuhan** 52.79 71 ⇑P P 22 54 11.3 +0.2
PFVI **Vila Bisbo** 52.92 297 *e*P P 22 54 12.0 0.0
PDSI **Padang** 53.02 114 P P 22 54 13.1 +0.1
comp=Z,20nm,0.9s
MATP **Matopo** 53.17 210 *i*P P 22 54 15.4 +1.3
MATP **Matopo** 53.17 210 *i*P P 22 54 15.4 +1.3
SPA0 **Spitsbergen Ar** 53.80 351 *e*P P 22 54 17.8 0.0
TIA **Tai'an** 53.99 64 P P 22 54 19.9 0.0
TIA pmax pmax
comp=Z,19nm,1.2s
HIA **Hailar** 54.63 47⇑ *e*P P 22 54 25.1 +0.7
HIA pmax pmax
comp=Z,45nm,0.9s
KBS **Kingsbay** 54.95 351 *e*P P 22 54 26.1 -0.1
comp=Z,20nm,0.8s
KBS **Kingsbay** 54.95 351 ⇓ *i*P P 22 54 26.7 +0.5
KBS pmax pmax
comp=Z,55nm,0.9s
KBS **Kingsbay** 54.95 351 *e*P P 22 54 26.1 -0.1
NJ2 **Nanjing** 56.22 68 *e*P P 22 54 37.4 +1.4
NJ2 pmax pmax
comp=Z,26nm,0.6s
TSUM **Tsumeb** 57.80 221 *e*P P 22 54 48.0 +0.6
comp=Z,12nm,0.9s
KNMB **Chin-men Tao** 57.83 77 *e*P P 22 54 45.5 -2.1
comp=Z,50nm,0.9s
DBIC **Dimbokro** 58.95 261 P P 22 54 55.2 -0.3
comp=Z,63nm,0.8s,baz=40,slow=7.2,SNR=88
KIC **Kosan Boka** 58.99 261 *e*P P 22 54 54.8 -0.9
comp=Z,138nm,1.0s
ZEA **Zeya** 59.07 42 *e*P P 22 54 56.2 +0.5
ZEA pmax pmax
comp=Z,23nm,1.0s
CN2 **Changchun** 59.08 53 *e*P P 22 54 56.1 +0.1
TIC **Toumodi** 59.10 261 *e*P P 22 54 55.7 -0.9

LIC **Lamto** 59.30 261 *e*P P 22 54 56.9 -1.0
comp=Z,216nm,0.7s
DAG **Danmarks Havn** 59.70 345 ⇓ *i*P P 22 54 59.0 -0.7
DAG pmax pmax
comp=Z,7.0nm,0.7s
DAG **Danmarks Havn** 59.70 345 ⇓ *i*P P 22 54 59.0 -0.7
comp=Z,10nm,0.7s
SCO **Scoresbysund** 59.83 338 *e*P P 22 55 01.2 +0.6
comp=Z,23nm,1.6s
SCO **Scoresbysund** 59.83 338 *i*P P 22 55 01.7 +1.0
SCO **Scoresbysund** 59.83 338 *i*P P 22 55 01.7 +1.0
TIXI **Tiksi** 59.85 21 *e*P P 22 55 00.8 0.0
comp=Z,11nm,0.9s
TIXI **Tiksi** 59.85 21⇑ *e*P P 22 55 00.6 -0.2
TIXI pmax pmax
comp=Z,12nm,1.3s
TIXI MLR MLR
comp=Z,140nm,18.0s
YAK **Yakutsk** 59.92 32 *e*P P 22 54 57.9 -3.5
YAK *e**PP **pP** **22 55 08.8 +0.6**
YAK *e* 22 55 45.7
YAK *e* 22 57 09.5
YAK *e*S **S** **23 03 07.5 -4.6**
YAK *e**SS **sS** **23 03 26.6 +3.2**
YAK *e* 23 04 49.5
YAK pmax pmax
comp=Z,124nm,0.9s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,53nm,1.2s
YAK pmax pmax
comp=Z,174nm,1.5s
YAK pmax pmax
comp=N,70nm,1.8s
YAK pmax pmax
comp=E,119nm,2.1s
YAK smax smax
comp=E,323nm,3.9s
YAK smax smax
comp=N,249nm,3.7s
YAK MLR MLR
comp=Z,2μm,22.0s
YAK MLR MLR
comp=E,1μm,21.0s
YAK MLR MLR
comp=N,601nm,17.0s
TPI **Tanjungpandan** 59.98 111 P P 22 55 02.8 +0.2
comp=N,16nm,1.1s
YHNB **Yeheng** 60.36 76 *e*P P 22 55 06.4 +1.2
comp=N,71nm,1.1s
CGJI **Cibinong** 60.57 116 P P 22 55 06.3 -0.3
comp=N,43nm,0.7s
YULB **Yu-li** 60.70 77 *e*P P 22 55 07.5 +0.1
comp=N,14nm,1.0s
SKJI **Sukabumi** 61.49 116 P P 22 55 11.0 -1.8
BOSA **Boshof** 61.75 208 P P 22 55 14.8 +0.3
comp=N,12nm,0.7s,baz=24,slow=6.8,SNR=36
MDJ **Mudanjiang** 61.87 52 P P 22 55 10.8 -4.2
TJN **Taejon** 62.05 61 ⇑ *i*P P 22 55 15.1 -1.2
KSRS **Korea Array** 62.22 60 P P 22 55 16.9 -0.5
comp=N,4.5nm,0.8s,baz=279,slow=6.9,SNR=21
KLR **Kul'dur** 62.45 46 *de*P P 22 55 17.9 -0.9
KLR pmax pmax
comp=Z,11nm,1.0s
CISI **Cisompet, Garu** 62.82 115 P P 22 55 21.1 -0.7
comp=Z,69nm,0.8s,comp=Z,3μm
USRK **Ussuriysk Ar.** 63.64 52 P P 22 55 25.8 -0.9
comp=Z,2.8nm,0.8s,baz=270,slow=4.5,SNR=4.8
SUMG **Summit** 64.94 341 *i*P P 22 55 35.8 +0.4
SUMG pmax pmax
comp=Z,77nm,0.9s
SUMG **Summit** 64.94 341 *i*P P 22 55 35.8 +0.4
comp=Z,77nm,0.9s
GRNR **Gornyy** 65.09 44 *e*P P 22 55 40.1 +3.8
GRNR pmax pmax
comp=Z,25nm,1.1s
JOW **Kunigami** 65.56 71 *e*P P 22 55 36.6 -3.1
comp=Z,192nm,1.5s
SUR **Sutherland** 66.92 210 *e*P P 22 55 48.9 +0.6
comp=Z,27nm,0.9s
ROSA **Rosais** 67.53 303 *e*P P 22 55 51.7 -0.3
comp=Z,39nm,0.8s
MPSI **Mapaga** 68.88 101 P P 22 56 00.6 -0.3
INU **Inuyama** 69.84 60 *e*P P 22 56 05.6 -1.0
comp=Z,23nm,1.0s
SEY **Seymchan** 70.04 29⇑ *i*P P 22 56 07.9 +0.6
YSS **Yuzh-Sakhalins** 70.16 47 *e*P P 22 56 08.0 -0.2
comp=Z,35nm,0.8s
YSS **Yuzh-Sakhalins** 70.16 47⇑ *i*P P 22 56 07.9 -0.3
YSS *e* 22 56 11.9
YSS *e* 22 56 21.5
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS MLR MLR
comp=N,200nm,11.0s
YSS MLR MLR
comp=E,300nm,15.0s
MAJO **Matsushiro** 70.36 58 *e*P P 22 56 08.9 -0.8
comp=E,14nm,1.2s
MAJO **Matsushiro** 70.36 58 *c i*P P 22 56 08.8 -0.9
MAJO pmax pmax
comp=Z,8.0nm,1.1s
MAT **Matsushiro** 70.36 58 P P 22 56 08.8 -0.9
MJAR **Matsushiro Arr** 70.36 58 *e*P P 22 56 09.3 -0.4
MJAR **Matsushiro Arr** 70.36 58 *e*P P 22 56 09.3 -0.4
MJAR **Matsushiro Arr** 70.36 58 P P 22 56 08.9 -0.8
comp=Z,3.8nm,1.0s,baz=279,slow=9.4,SNR=14
TTSI **Tana Toraja** 70.47 104 P P 22 56 10.0 -0.7
comp=Z,33nm,1.6s
MA2 **Magadan** 70.49 32 *e*P P 22 56 10.2 +0.2
comp=Z,24nm,1.1s
MA2 **Magadan** 70.49 32 *c i*P P 22 56 10.2 +0.2
MA2 pmax pmax
comp=Z,18nm,0.8s
MRSI **Marisa** 70.61 100 P P 22 56 12.3 +0.8
comp=Z,32nm,1.0s
SFJD **Kangerlussuaq** 70.62 336 *i*P P 22 56 10.3 -0.4
SFJD **Kangerlussuaq** 70.62 336 *i*P P 22 56 10.3 -0.4
SPSI **Sidrap Palu** 70.89 105 P P 22 56 11.7 -1.5
APSI **Ampana** 71.02 101 P P 22 56 13.0 -1.0
BKSI **Bulukumba** 71.88 106 P P 22 56 18.1 -1.1
IVI **Ivigtut** 71.97 330 *e*P P 22 56 18.9 0.0
comp=Z,139nm,1.9s
BSSI **Bau Bau, Buton** 72.61 107 P P 22 56 21.9 -1.6
BILL **Bilibino** 73.06 21 *e*P P 22 56 25.5 +0.2
comp=Z,20nm,1.1s
BILL **Bilibino** 73.06 21 *d i*P P 22 56 25.8 +0.4
BILL *i* 22 56 29.9
BILL *i* 22 56 43.2
BILL pmax pmax
comp=Z,20nm,1.0s
BILL MLR MLR
comp=Z,224nm,16.0s
TNTI **Ternate** 75.25 97 P P 22 56 39.6 +0.5
SANI **Sanana** 75.36 100 P P 22 56 39.0 -0.7
PETK **Petropavlovsk-** 76.64 37 *e*P P 22 56 44.4 -2.0
PETK **Petropavlovsk-** 76.64 37 P P 22 56 44.9 -1.4
comp=Z,7.0nm,0.9s,baz=345,slow=1.9,SNR=8.9
SOEI **Soe** 77.66 108 *e*P P 22 56 52.6 -0.2
comp=Z,29nm,0.9s
SOEI **Soe** 77.66 108 P P 22 57 04.3 +12
FITZ **Fitzroy Crossi** 83.07 114 *e*P P 22 57 21.3 -0.4
ANM **Nome** 83.67 16 *e*P P 22 57 24.9 +0.8
ANM *e*PcP P 22 57 25.0 +1.0
ANM **Nome** 83.67 16 *e*P P 22 57 24.9 +0.8
SCHQ **Schefferville** 83.71 330 *e*P P 22 57 24.2 -0.2
comp=Z,38nm,0.8s
SCHQ **Schefferville** 83.71 330 P P 22 57 24.1 -0.4
comp=Z,36nm,0.8s,baz=42,slow=5.8,SNR=26
COLD **Coldfoot** 84.21 9 *e*P P 22 57 27.2 +0.4
comp=Z,12nm,1.2s
SARN **Sarigan** 84.45 74 *e*P P 22 57 28.2 -0.7
comp=Z,56nm,1.4s
INK **Inuvik** 84.67 3 *e*P P 22 57 28.7 -0.3
comp=Z,28nm,1.5s
INK **Inuvik** 84.67 3 *e*P P 22 57 28.7 -0.3
INK pmax pmax
comp=Z,28nm,1.5s
IMAR **Indian Mountai** 84.82 11 *e*P P 22 57 30.2 +0.4
FYU **Fort Yukon** 85.48 7 *e*P P 22 57 33.5 +0.4
comp=Z,41nm,1.0s
EPYK **Eagle Plains** 86.43 4 *e*P P 22 57 37.3 -0.7
EPYK *e*PcP P 22 57 38.0 +0.1

PRP **Porcupine Dome** 86.45 8 *e*P P 22 57 38.5 +0.3
comp=Z,26nm,1.1s
MDM **Murphy Dome** 86.63 9 *e*P P 22 57 38.7 -0.2
comp=Z,29nm,1.0s
COLA **College** 86.76 9 *d i*P P 22 57 39.1 -0.4
COLA pmax pmax
comp=Z,14nm,1.2s
GBN **Guysborough** 86.77 320 *e*P P 22 57 40.1 +0.2
comp=Z,52nm,1.2s
CCB **Clear Creek Bu** 86.98 9 *e*P P 22 57 40.0 -0.6
comp=Z,6.4nm,0.8s
ILAR **Eielson Array** 86.99 9 *e*P P 22 57 39.8 -0.8
ILAR **Eielson Array** 86.99 9 P P 22 57 40.0 -0.6
comp=Z,5.9nm,0.7s,baz=325,slow=4.1,SNR=66
ILAR PKKPbc **PKKPbc** 23 15 32.9 -1.5
comp=Z,1.3nm,0.7s,baz=183,slow=2.2,SNR=14
ILB **Eielson Array** 86.99 9 *e*P P 22 57 40.0 -0.6
ILB *e*PcP P 22 57 40.2 -0.4
BPAW **Bear Paw Mtn.** 87.02 11 *e*PcP P 22 57 40.8 0.0
comp=Z,37nm,0.9s
WRH **Wood River Hil** 87.11 9 *e*P P 22 57 40.1 -1.1
WRH *e*PcP P 22 57 40.7 -0.5
BWN **Browne** 87.19 10 *e*P P 22 57 42.4 +0.7
comp=Z,33nm,0.6s
CAST **Castle Rocks** 87.47 11 *e*P P 22 57 43.0 0.0
CAST *e*PcP P 22 57 43.3 +0.3
PPLA **Purkeypile** 87.93 11 *e*P P 22 57 45.0 -0.4
comp=Z,8.7nm,0.8s
DOT **Dot Lake** 88.43 8 *e*P P 22 57 47.6 0.0
comp=Z,15nm,1.2s
SVW2 **Sparrevohn** 88.92 14 *e*P P 22 57 50.1 +0.2
comp=Z,12nm,1.2s
MENT **Mentasta** 89.16 8 *e*P P 22 57 51.6 +0.6
comp=Z,13nm,1.2s
HARP **HAARP** 89.49 9 *e*P P 22 57 53.1 +0.5
comp=Z,12nm,0.9s
SML **Sawmill** 89.60 10 *e*P P 22 57 52.6 -0.5
comp=Z,13nm,0.7s
SML **Sawmill** 89.60 10 *e*P P 22 57 52.6 -0.5
SML pmax pmax
comp=Z,13nm,0.7s
SCM **Sheep Creek Mo** 89.73 10 *e*P P 22 57 53.4 -0.4
comp=Z,18nm,0.7s
SCM **Sheep Creek Mo** 89.73 10 *e*P P 22 57 53.4 -0.4
SCM pmax pmax
comp=Z,18nm,0.7s
KNK **Knik Glacier** 89.95 10 *e*P P 22 57 54.9 +0.1
comp=Z,23nm,0.7s
RC01 **Rabbit Creek A** 90.04 11 *e*P P 22 57 54.9 -0.3
comp=Z,11nm,0.8s
YKA **Yellowknife Ar** 90.16 355 P P 22 57 56.0 +0.4
YKA **Yellowknife Ar** 90.16 355 P P 22 57 56.0 +0.4
comp=Z,6.8nm,0.7s,baz=5.7,slow=4.7,SNR=101
YKA PKKP **PKKPbc** 23 15 24.8 -1.9
comp=Z,0.7nm,0.8s,baz=188,slow=2.8,SNR=7.8
KLU **Klutina** 90.26 9 *e*P P 22 57 56.7 +0.4
comp=Z,13nm,0.6s
FCC **Fort Churchill** 90.27 344 *e*P P 22 57 56.6 +0.4
comp=Z,10nm,1.0s
FCC **Fort Churchill** 90.27 344 *e*P P 22 57 56.6 +0.4
FCC pmax pmax
comp=Z,10.0nm,1.0s
SEW **Seward** 91.02 11 *e*P P 22 57 59.7 +0.1
comp=Z,29nm,1.0s
FORT **Forrest** 91.50 124 *e*P P 22 58 02.2 -0.2
comp=Z,20nm,0.9s
RCBR **Riachuelo** 92.15 265 *e*P P 22 58 06.2 +0.4
ASAR **Alice Springs** 92.53 115 P P 22 58 06.8 -0.6
comp=Z,1.8nm,0.7s,baz=304,slow=4.7,SNR=17
ASAR PKKPbc **PKKPbc** 23 15 20.1 -0.2
comp=Z,0.5nm,0.8s,baz=67,slow=3.3,SNR=4.5
KDAK **Kodiak Island** 92.58 14 *e*P P 22 58 07.3 +0.4
comp=Z,16nm,1.0s
KDAK **Kodiak Island** 92.58 14 *i*P P 22 58 07.3 +0.4
MOQ **Mont Orford** 92.64 325 *e*P P 22 58 06.8 -0.9
MAW **Mawson** 94.73 176 *e*P P 22 58 16.0 -0.3
comp=Z,1.4nm,0.3s
MAW **Mawson** 94.73 176 *e*P P 22 58 16.0 -0.3
MAW pmax pmax
comp=Z,1.0nm,0.3s
MAW **Mawson** 94.73 176 P P 22 58 16.0 -0.3
comp=Z,2.6nm,0.8s,baz=320,slow=7.4,SNR=6.0
FFC **Flin Flon** 95.77 346 *e*P P 22 58 20.6 -1.1
comp=Z,5.5nm,1.1s
FFC **Flin Flon** 95.77 346 *i*P P 22 58 21.9 +0.2
SYO **Syowa Base** 96.43 185⇑ *e*P P 22 58 22.8 -1.3
SYO **Syowa Base** 96.43 185⇑ *i*PcP P 22 58 24.0 -0.1
ULM **Lac du Bonnet** 98.30 341 P P 22 58 31.9 -1.3
comp=Z,1.7nm,0.7s,baz=52,slow=1.9,SNR=4.5
VNA2 **Neumayer--Watz** 106.66 197 PKPdf **PKiKP** 23 03 20.4 +0.4
baz=6.5,slow=3.3
VNA3 **Neumayer Olymp** 107.45 198 PKPdf **PKiKP** 23 03 20.6 -0.9
NVAR **Mina Array Bea** 114.31 353 PKiKP PKPdf 23 03 36.7 +0.8
comp=Z,0.3nm,0.4s,baz=13,slow=1.2,SNR=4.6
X18A **Snowflake** 116.69 345 *e*Pdif **Pdif** 22 59 56.4 +0.7
QSPA **South Pole Qui** 117.01 180 *e*PKPdf **PKPdf** 23 03 39.5 -0.3
CPUP **Villa Florida** 119.04 254 PKIKP **PKPdf** 23 03 44.0 -0.9
CPUP **Villa Florida** 119.04 254 PKP **PKPdf** 23 03 44.0 -0.9
comp=Z,1.4nm,0.8s,baz=117,slow=2.3,SNR=3.6
TXAR **Lajitas Array** 119.74 337 PKP **PKPdf** 23 03 45.8 -0.7
comp=Z,0.7nm,0.7s,baz=145,slow=1.9,SNR=9.4
VNDA **Vanda** 120.27 166 PKP **PKPdf** 23 03 45.1 -0.6
comp=Z,0.6nm,0.7s,baz=292,slow=8.0,SNR=4.8
LPAZ **La Paz** 125.18 269 PKP **PKPdf** 23 03 56.9 -0.8
comp=Z,1.2nm,0.7s,baz=75,slow=2.8,SNR=7.2
LPAZ **La Paz** 125.18 269 *e*P **PKPdf** 23 03 57.6 -0.1
TRQA **Tornquist** 125.59 241 *e*P **PKiKP** 23 03 59.6 +2.1
OTAV **Otavalo** 126.47 292 *e*PKPdf **PKiKP** 23 04 01.4 +0.8
OTAV **Otavalo** 126.47 292 *e*PKIKP **PKiKP** 23 04 01.4 +0.8
OTAV **Otavalo** 126.47 292 *e*P **PKiKP** 23 04 01.1 +0.5
PB11 **IPOC Station P** 127.76 265 *e*PKPdf **PKPdf** 23 04 01.2 -0.7
LVC **Limon Verde** 128.00 262 *e*P **PKPdf** 23 04 02.8 +0.2
PLCA **Paso Flores** 132.45 238 *e*P **PKiKP** 23 04 11.2 -0.1

JMA 23 23:08:12.2, 33°.63N×134°.80E, h16km±1km, M3.6, 3D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**0.33**	**299**	⇓P	Pg	23 08 19.1	-0.1
JAI				S	Sg	23 08 23.8	-0.1
JWM	**Minabe**	**0.51**	**65**	⇓P	Pg	23 08 22.0	-0.4
JWM				*e*S	Sg	23 08 28.6	-0.7
JTNC	**Tanabenakahech**	**0.70**	**74**	P	Pg	23 08 25.1	-0.8
JTNC				S	Sg	23 08 34.3	-0.9
JAJ2	**Tsuna**	**0.79**	**5**	P	Pb	23 08 27.2	-0.4
JAJ2				S	Sb	23 08 37.5	-0.6
JWY	**Kouya**	**0.88**	**48**	⇓P	Pb	23 08 28.2	-1.0
MAT	**Matsushiro**	**4.03**	**43**	P	Pn	23 09 12.7	-0.6
MAT				*e*S	Sn	23 10 00.9	+0.7

IDC ***23*** *23:12:18.6±1.2, 34°.12N×61°.02E, h0km, mb3.6/10, mb1 3.8/13, mb1mx3.5/55, mbtmp3.6/13, ML3.4/3, Error ellipse: s-maj=21.7km s-min=17.1km az=20.0*
ISCJB ***23*** *23:12:19.3±0.5, 34°.21N×0°.04×61°.17E±0°.07, h10km, mb3.7/7, Error ellipse: s-maj=8.1km s-min=4.9km az=20.4*
TEH ***23*** *23:12:20.5, 34°.21N×61°.04E, h14km, ML4.0*
ISC 23 23:12:20.4±0.7, 34°.21N±0°.04×61°.04E±0°.07, h10km, n37, σ1°85/39, mb3.7/7, Northwestern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHRT	**Shahrakht**	**0.84**	**228**	*e*Pg	**Pg**	**23 12 36.6**	**+0.1**
IMON	**Monand**	**1.53**	**229**	*e*Pn	**Pb**	**23 12 49.0**	**0.0**
IMON				IAMB	IAmb	23 13 15.0	
	comp=Z,39μm,0.2s						
IDAH	**Dahanechah**	**1.76**	**214**	*e*Pn	**Pb**	**23 12 52.4**	**-0.5**
IDAH				IAMB	IAmb	23 13 22.1	
	comp=Z,15μm,0.3s						
JRKH	**Jarkhoshk**	**1.79**	**342**	*e*Pn	**Pn**	**23 12 52.3**	**+0.8**
IMYA	**Miami**	**2.27**	**340**	*e*Pn	**Pn**	**23 12 59.5**	**+1.5**
IMYA				IAMB	IAmb	23 13 33.7	
	comp=Z,10μm,0.5s						
ITEG	**Tejag**	**2.32**	**236**	*e*Pn	**Pn**	**23 12 59.4**	**+0.6**
ITEG				IAMB	IAmb	23 13 05.6	
	comp=Z,7μm,0.3s						
IMOG	**Moghan**	**2.36**	**324**	*e*Pn	**Pn**	**23 13 01.1**	**+1.7**
IMOG				IAMB	IAmb	23 13 40.2	
	comp=Z,11μm,0.6s						
IKOO	**Kooshah**	**2.46**	**224**	IAMB	IAmb	23 13 08.8	
IKOO	comp=Z,4μm,0.2s			*e*Pn	**Pn**	**23 13 01.5**	**+0.7**
BSRN	**Basiran**	**2.75**	**216**	*e*Pn	**Pn**	**23 13 05.9**	**+1.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAY	**Payeh**	**2.80**	**324**	*e*Pn	**Pn**	**23 13 07.4**	**+2.0**
IPAY				IAMB	IAmb	23 14 05.5	
	comp=Z,3μm,0.4s						
IAKL	**Akhelmad**	**3.03**	**323**	*e*Pn	**Pn**	**23 13 09.9**	**+1.2**
IAKL				IAMB	IAmb	23 14 12.9	
	comp=Z,2μm,0.4s						
IKRD	**Kardeh**	**3.29**	**322**	IAMB	IAmb	23 13 54.4	
	comp=Z,3μm,0.3s						
IKRD				*e*Pn	**Pn**	**23 13 07.8**	**-4.4**
TABS	**Tabas**	**3.31**	**261**	*e*Pn	**Pn**	**23 13 13.5**	**+1.2**
TKDS	**Koohdasht(Taba**	**3.31**	**261**	*e*Pn	**Pn**	**23 13 13.5**	**+1.1**
SBZV	**Sabzevar**	**3.55**	**309**	*e*Pn	**Pn**	**23 13 17.0**	**+1.2**
TNSJ	**Nastanj**	**3.69**	**267**	*e*Pn	**Pn**	**23 13 19.1**	**+1.6**
IEMG	**Emamgholi**	**3.75**	**329**	*e*Pn	**Pn**	**23 13 20.3**	**+1.8**
ISFR	**Sfrayin**	**3.77**	**320**	*e*Pn	**Pn**	**23 13 20.5**	**+1.7**
ISFR				IAMB	IAmb	23 14 33.1	
	comp=Z,1μm,0.4s						
GEYT	**Alibeck**	**4.41**	**328**	Pn	**Pn**	**23 13 28.1**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=29,slow=11,SNR=6.9						
GEYT				Pg	**Pb**	**23 13 40.9**	**+3.0**
	comp=Z,2.6nm,0.3s,baz=154,slow=17,SNR=16						
GEYT				Lg	Lg	23 14 42.0	
	comp=Z,1.9nm,0.3s,baz=138,slow=24,SNR=3.9						
SHRO	**Shahrood**	**4.49**	**295**	*e*Pn	**Pn**	**23 13 29.6**	**+1.0**
ZHSF	**Zahedan**	**4.59**	**183**	*e*Pn	**Pn**	**23 13 31.6**	**+1.6**
CHMN	**Cheshme madani**	**5.26**	**215**	*e*Pn	**Pn**	**23 13 40.6**	**+1.3**
IBAF	**Bafgh**	**5.29**	**242**	*e*Pn	**Pn**	**23 13 41.0**	**+1.3**
KRBR	**Kerman**	**5.56**	**222**	*e*Pn	**Pn**	**23 13 44.9**	**+1.4**
YZKH	**Yazd**	**5.70**	**253**	*e*Pn	**Pn**	**23 13 46.8**	**+1.6**
AKTO	**Aktyubinsk**	**16.37**	**353**	Pn	**Pn**	**23 16 09.0**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=164,slow=12,SNR=6.6						
AKTO				Sn	**Sn**	**23 19 04.7**	**-7.0**
	comp=Z,0.1nm,0.3s,baz=189,slow=19,SNR=4.8						
KVAR	**Kislovodsk Arr**	**17.22**	**310**	P	**Pn**	**23 16 19.9**	**-1.1**
	baz=104,slow=12,SNR=2.3						
BVAR	**Borovoye Array**	**19.96**	**17**	P	**P**	**23 16 53.2**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=192,slow=12,SNR=14						
MKAR	**Makanchi Array**	**20.39**	**46**	P	**P**	**23 16 57.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=233,slow=12,SNR=3.8						
KURBB	**Kurchatov Arra**	**20.79**	**33**	P	**P**	**23 17 02.4**	**+0.9**
	comp=Z,0.5nm,0.2s,baz=232,slow=9.7,SNR=6.1						
BRTR	**Keskin Array B**	**22.53**	**292**	P	**P**	**23 17 21.6**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=97,slow=8.8,SNR=6.7						
ZALV	**Zalesovo Beam**	**25.88**	**33**	P	**P**	**23 17 52.6**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=244,slow=9.7,SNR=5.9						
FINES	**FINESS Array B**	**35.20**	**331**	P	**P**	**23 19 14.1**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=134,slow=9.9,SNR=3.3						
CMAR	**Chiang Mai Arr**	**37.17**	**105**	P	**P**	**23 19 32.0**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=294,slow=8.4,SNR=5.8						
ARCES	**ARCESS Array B**	**40.45**	**342**	P	**P**	**23 19 59.0**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=121,slow=8.8,SNR=3.8						
ESDC	**Sonseca Array**	**51.24**	**296**	P	**P**	**23 21 24.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=72,slow=8.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**57.45**	**264**	P	**P**	**23 22 08.9**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=49,slow=7.9,SNR=9.3						

DJA ***23*** *23:21:50.1±0.5, 9°S±4°×11°1E±°, h50km, M4.2/10, mb4.3/1, MLv4.1/10*
IDC ***23*** *23:21:53.4±6.0, 8°84S×111°43E, h91km±76km, mb3.4/4, mb1 3.5/5, mb1mx3.2/40, mbtmp3.7/5, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/23, Error ellipse: s-maj=118.4km s-min=17.6km az=50.0*
ISC 23 23:21:49.2±1.8, 9°1S±0°1×111°30E±0°06, h50km±18km, n19, σ2°80/23, mb3.7/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.95**	**353**	P	**Pn**	**23 22 04.9**	**-1.4**
PCJI				S	**Sn**	**23 22 16.3**	**-2.6**
PWJI	**Pagerwojo**	**1.22**	**24**	P	**Pn**	**23 22 08.9**	**-1.1**
PWJI				S	**Sn**	**23 22 22.3**	**-3.1**
WOJI	**Wonogiri, Jawa**	**1.35**	**344**	P	**Pn**	**23 22 11.1**	**-0.6**
UGM	**Wanagama**	**1.45**	**328**	P	**Pn**	**23 22 12.4**	**-0.7**
UGM				S	**Sn**	**23 22 29.5**	**-1.4**
YOGI	**Yogyakarta**	**1.65**	**323**	P	**Pn**	**23 22 15.8**	**-0.1**
YOGI				S	**Sn**	**23 22 35.6**	**-0.3**
NGJI	**Ngawi**	**1.77**	**5**	P	**Pn**	**23 22 20.3**	**+2.8**
NGJI				S	**Sn**	**23 22 46.7**	**+7.8**
SMRI	**Semarang**	**2.25**	**338**	P	**Pn**	**23 22 26.2**	**+2.2**
GMJI	**Gumukmas**	**2.29**	**68**	P	**Pn**	**23 22 24.7**	**+0.2**
GRJI	**Gresik**	**2.50**	**28**	P	**Pn**	**23 22 28.7**	**+1.2**
JAGI	**Jajag, Banyuwa**	**2.90**	**77**	P	**Pn**	**23 22 32.9**	**0.0**
CISI	**Cisompet, Garu**	**3.79**	**294**	P	**Pn**	**23 22 44.5**	**-0.8**
LEM	**Lembang**	**4.31**	**302**	P	**Pn**	**23 22 56.1**	**+3.6**
	3.3nm,0.3s,baz=162,slow=20,SNR=2.9						
LEM				S	**Sn**	**23 23 46.0**	**+4.3**
	3.9nm,0.3s,baz=191,slow=21,SNR=3.8						
PLAI	**Plampang**	**6.41**	**88**	P	**Pn**	**23 23 23.7**	**+2.6**
GTOI	**Gorontalo**	**15.18**	**51**	P	Pn	23 25 12.4	-8.1
NWAO	**Narrogin (SRO)**	**24.29**	**168**	LR	LR	23 37 06.0	
	comp=Z,124nm,20.0s,baz=156,slow=37						
ASAR	**Alice Springs**	**25.99**	**126**	P	**P**	**23 27 19.0**	**+1.4**
	0.7nm,0.7s,baz=303,slow=8.1,SNR=6.7						
STKA	**Stephens Creek**	**36.06**	**133**	P	**P**	**23 28 47.0**	**+0.8**
	1.6nm,0.8s,baz=286,slow=7.4,SNR=2.9						
SONM	**Songino Array**	**56.90**	**356**	P	**P**	**23 31 26.7**	**-2.5**
	0.4nm,0.5s,baz=176,slow=8.5,SNR=4.5						
MKAR	**Makanchi Array**	**61.41**	**338**	P	**P**	**23 31 58.5**	**-1.8**
	0.3nm,0.4s,baz=154,slow=7.3,SNR=6.9						

IDC 23 23:30:39.5±9.8, 4°45N×93°88E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/49, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=203.4km s-min=73.4km az=141.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.78**	**19**	Pn	Pn	23 34 10.7	+0.7
	0.2nm,0.3s,baz=216,slow=15,SNR=2.4						
MKAR	**Makanchi Array**	**43.36**	**348**	P	P	23 38 42.8	-0.8
	0.4nm,0.7s,baz=168,slow=9.4,SNR=4.7						
H01W3	**Cape Leeuwin H**	**43.52**	**156**	T	T	00 26 39.0	
	baz=331,slow=76,SNR=5.2						
H01W2	**Cape Leeuwin H**	**43.53**	**156**	T	T	00 26 37.6	
	baz=331,slow=76,SNR=5.7						
H01W1	**Cape Leeuwin H**	**43.53**	**156**	T	T	00 26 38.5	
	baz=331,slow=76,SNR=5.2						
GEYT	**Alibeck**	**46.62**	**321**	P	P	23 39 09.9	+0.2
	0.9nm,0.5s,baz=122,slow=7.0,SNR=4.0						
KURBB	**Kurchatov Arra**	**47.79**	**347**	P	P	23 39 18.6	+0.1
	0.3nm,0.6s,baz=170,slow=7.0,SNR=6.0						
FINES	**FINESS Array B**	**75.61**	**333**	P	P	23 42 26.0	0.0
	0.6nm,0.6s,baz=116,slow=6.3,SNR=3.6						

BJI ***23*** *23:33:52.0±0.0, 5°20S×151°90E, h61km, mb4.8/44, mB5.1/31, Ms4.8/24, Ms7 4.6/23*
MOS ***23*** *23:33:52.8±0.9, 5°15S×151°82E, h63km, mb5.0/26, Error ellipse: s-maj=11.7km s-min=7.4km az=93.5*
NEIC ***23*** *23:33:53.9±0.5, 5°23S×151°91E, h61km±4km, mb5.1/66, Error ellipse: s-maj=4.3km s-min=3.4km az=130.0*
ISCJB ***23*** *23:33:53.7±0.2, 5°22S±0°03×151°84E±0°03, h70km, mb5.0/115, Error ellipse: s-maj=5.0km s-min=3.4km az=41.9*
IDC ***23*** *23:33:54.3±1.9, 5°15S×151°91E, h65km±16km, mb4.4/27, mb1 4.6/31, mb1mx4.5/45, mbtmp4.8/31, MS4.3/20, Ms1 4.4/20, ms1mx4.2/32, Error ellipse: s-maj=14.2km s-min=9.9km az=93.0*
DJA ***23*** *23:33:55.3±0.7, 5°S±4°×15°2E±°, h67km±8km, M5.2/16, mB5.3/5, mb5.1/16, MLv5.4/1, Mw(mB)4.7/5*
ISC 23 23:33:54.7±0.3, 5°23S±0°04×151°96E±0°05, h70km, n362, σ1°04/370, mb5.0/112, 12C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.05**	**11**	*e*Pn	**Pn**	**23 34 12.3**	**-1.7**
PMG	**Port Moresby**	**6.31**	**229**	⇑*e*P	**Pn**	**23 35 25.7**	**+0.5**
PMG				pmax	pmax		
	comp=Z,581nm,1.0s						
PMG	**Port Moresby**	**6.31**	**229**	P	**Pn**	**23 35 25.4**	**+0.2**
	comp=Z,17nm,0.3s,baz=36,slow=8.6,SNR=32						
PMG				S	**Sn**	**23 36 37.7**	**+1.7**
	comp=Z,20nm,0.3s,baz=74,slow=18,SNR=6.0						
HNR	**Honiara**	**8.96**	**118**	*e*P	**Pn**	**23 36 01.0**	**-0.4**
HNR	**Honiara**	**8.96**	**118**	*e*Pn	**Pn**	**23 35 59.9**	**-1.5**
HNR	**Honiara**	**8.96**	**118**	*e*P	**Pn**	**23 35 59.9**	**-1.5**
HNR	**Honiara**	**8.96**	**118**	P	**Pn**	**23 36 02.3**	**+0.9**
	comp=Z,8.8nm,0.3s,baz=185,slow=4.3,SNR=9.0						
GENI	**Genyem**	**12.05**	**282**	P	**Pn**	**23 36 46.7**	**+3.0**
COEN	**Coen**	**12.25**	**224**	*e*Pn	**Pn**	**23 36 45.2**	**-1.2**
PATS	**Pohnpei**	**13.56**	**28**	*e*Pn	**Pn**	**23 37 04.0**	**-0.1**
PATS				*e*Sn	**Sn**	**23 39 34.4**	**+1.2**
CTA	**Charters Tower**	**15.78**	**200**	P	**P**	**23 37 35.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=17,slow=14,SNR=7.4						
CTA				LR	LR	23 43 08.6	
	comp=Z,2μm,21.1s,baz=33,slow=35						
CTAO	**Charters Tower**	**15.78**	**200**	*e*Pn	**Pn**	**23 37 31.9**	**-0.9**
	comp=Z,126nm,2.0s						
CTAO	**Charters Tower**	**15.78**	**200**	*e*P	**Pn**	**23 37 31.9**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,126nm,2.0s						
QIS	**Mount Isa**	**19.39**	**217**	P	**Pn**	**23 38 16.5**	**-0.5**
	baz=20,SNR=16						
FAKI	**Fak Fak**	**19.79**	**276**	*e*P	**P**	**23 38 20.5**	**+0.8**
	comp=Z,94nm,1.4s						
GUMO	**Guam**	**19.98**	**339**	*e*P	**P**	**23 38 21.8**	**+0.2**
	comp=Z,375nm,1.2s						
GUMO	**Guam**	**19.98**	**339**	*e*P	**P**	**23 38 21.8**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,375nm,1.2s						
GUMO	**Guam**	**19.98**	**339**	P	**P**	**23 38 22.3**	**+0.8**
	comp=Z,5.2nm,0.3s,baz=173,slow=5.3,SNR=9.6						
GUMO				LR	LR	23 47 12.7	
	comp=Z,337nm,18.1s,baz=174,slow=40						
EIDS	**Eidsvold**	**20.04**	**182**	*e*P	**P**	**23 38 21.8**	**-0.4**
	comp=Z,29nm,0.9s						
EIDS	**Eidsvold**	**20.04**	**182**	P	**P**	**23 38 23.3**	**+1.1**
	baz=20,SNR=11						
KDU	**Kakadu**	**20.61**	**248**	P	**P**	**23 38 27.7**	**-0.7**
	baz=21,SNR=26						
RMQ	**Roma**	**21.36**	**188**	P	**P**	**23 38 37.4**	**+1.1**
	baz=22,SNR=14						
PALU	**Palau**	**21.45**	**305**	P	**P**	**23 38 38.5**	**+1.0**
	baz=22,SNR=3.6						
DZM	**Mont Dzumac**	**21.84**	**141**	*e*P	**P**	**23 38 41.5**	**-0.1**
	comp=Z,26nm,0.9s						
DZM	**Mont Dzumac**	**21.84**	**141**	P	**P**	**23 38 42.8**	**+1.1**
	comp=Z,17nm,0.6s,baz=336,slow=12,SNR=33						
DZM				LR	LR	23 46 03.7	
	comp=Z,2μm,21.5s,baz=288,slow=33						
MTN	**Manton Dam**	**21.90**	**248**	*e*P	**P**	**23 38 41.3**	**-1.0**
	comp=Z,63nm,0.6s						
MTN	**Manton Dam**	**21.90**	**248**	P	**P**	**23 38 41.3**	**-1.0**
	baz=22,SNR=18						
TARA	**Tarawa**	**21.94**	**73**	*e*P	**P**	**23 38 43.2**	**+0.5**
	comp=Z,202nm,1.1s						
OUENC	**Ouen Island, N**	**22.34**	**141**	*e*P	**P**	**23 38 46.4**	**-0.6**
	comp=Z,39nm,1.1s						
WRAB	**Tennant Creek**	**22.52**	**228**	*e*P	**P**	**23 38 48.4**	**-0.5**
	comp=Z,69nm,0.9s						
WRAB	**Tennant Creek**	**22.52**	**228**	*ce*P	**P**	**23 38 47.8**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,50nm,0.7s						
SARN	**Sarigan**	**22.63**	**344**	*e*P	**P**	**23 38 50.0**	**-0.1**
	comp=Z,57nm,1.0s						
KNRA	**Kununurra**	**25.03**	**244**	P	**P**	**23 39 12.2**	**-0.4**
	baz=25,SNR=16						
AS31	**Alice Springs**	**25.27**	**222**	*e*P	**P**	**23 39 14.4**	**-0.2**
	comp=Z,16nm,0.6s						
ASAR	**Alice Springs**	**25.27**	**222**	*e*P	**P**	**23 39 14.1**	**-0.6**
ASAR	**Alice Springs**	**25.27**	**222**	*e*P	**P**	**23 39 14.1**	**-0.6**
ASAR	**Alice Springs**	**25.27**	**222**	P	**P**	**23 39 14.4**	**-0.2**
	comp=Z,33nm,0.7s,baz=56,slow=8.7,SNR=71						
ASAR				PcP	**PcP**	**23 42 47.2**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=49,slow=2.8,SNR=3.8						
ASAR				S	**S**	**23 43 42.6**	**+7.0**
	comp=Z,3.2nm,0.9s,baz=39,slow=21,SNR=4.8						
ASAR				ScP	**ScP**	**23 46 22.9**	**+3.1**
	comp=Z,2.6nm,0.9s,baz=71,slow=3.1,SNR=9.2						
ASAR				LR	LR	23 49 23.5	
	comp=Z,572nm,19.4s,baz=53,slow=37						
SANI	**Sanana**	**26.11**	**276**	P	**P**	**23 39 25.2**	**+2.9**
	comp=Z,16nm,0.6s,comp=Z,650nm						
CMSA	**Cobar Meteorol**	**26.82**	**192**	P	**P**	**23 39 28.8**	**+0.2**
	baz=27,SNR=15						
SOEI	**Soe**	**27.81**	**259**	*e*P	**P**	**23 39 38.0**	**+0.2**
	comp=Z,51nm,0.9s						
SOEI	**Soe**	**27.81**	**259**	P	**P**	**23 39 37.8**	**0.0**
STKA	**Stephens Creek**	**28.23**	**199**	*e*P	**P**	**23 39 41.0**	**-0.2**
	comp=Z,1.9nm,0.8s						
STKA	**Stephens Creek**	**28.23**	**199**	P	**P**	**23 39 41.0**	**-0.2**
	baz=28,SNR=9.7						
STKA	**Stephens Creek**	**28.23**	**199**	*e*P	**P**	**23 39 41.0**	**-0.2**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**28.23**	**199**	P	**P**	**23 39 41.3**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=21,slow=13,SNR=10						
STKA				LR	LR	23 51 10.9	
	comp=Z,795nm,20.3s,baz=16,slow=37						
BATI	**Baumata**	**28.46**	**258**	P	**P**	**23 39 43.6**	**+0.2**
	comp=Z,85nm,0.5s,baz=136,slow=2.4,SNR=18						
BATI				LR	LR	23 53 15.5	
	comp=Z,1μm,21.8s,baz=111,slow=41						
FITZ	**Fitzroy Crossi**	**28.71**	**241**	P	**P**	**23 39 44.8**	**-0.8**
	comp=Z,43nm,0.8s,baz=59,slow=6.8,SNR=78						
FITZ				LR	LR	23 52 48.7	
	comp=Z,850nm,18.3s,baz=54,slow=40						
MMRI	**Maumere**	**29.69**	**262**	*e*P	**P**	**23 39 54.1**	**-0.2**
	comp=Z,39nm,0.6s						
MMRI	**Maumere**	**29.69**	**262**	P	**P**	**23 39 53.1**	**-1.2**
	comp=Z,62nm,0.6s						
WRKA	**Warakurna**	**30.05**	**227**	P	**P**	**23 39 56.7**	**-0.8**
	baz=30,SNR=64						
BBOO	**Buckleboo**	**31.19**	**206**	P	**P**	**23 40 06.7**	**-0.7**
	baz=31,SNR=8.8						
KAPI	**Kappang**	**32.08**	**269**	LR	LR	23 55 01.6	
	comp=Z,218nm,20.6s,baz=72,slow=40						
MPSI	**Mapaga**	**32.49**	**279**	P	**P**	**23 40 20.2**	**+1.2**
	comp=Z,8.2nm,0.7s,comp=Z,228nm						
ARPS	**Mount Arapiles**	**32.73**	**195**	P	**P**	**23 40 21.7**	**+0.8**
	baz=33,SNR=10						
FORT	**Forrest**	**33.93**	**219**	*e*P	**P**	**23 40 30.9**	**-0.4**
	comp=Z,32nm,0.9s						
FORT	**Forrest**	**33.93**	**219**	P	**P**	**23 40 30.7**	**-0.7**
	baz=34,SNR=42						
PSA00	**Pilbara Seismi**	**35.09**	**239**	*e*P	**P**	**23 40 40.9**	**-0.6**
	comp=Z,114nm,1.8s						
MEEK	**Meekatharra**	**38.28**	**233**	P	**P**	**23 41 08.0**	**-0.6**
	baz=38,SNR=42						
KMBL	**Kambalda**	**38.36**	**224**	P	**P**	**23 41 08.8**	**-0.4**
	baz=38,SNR=5.0						
JOW	**Kunigami**	**39.26**	**325**	*e*P	**P**	**23 41 16.6**	**-0.2**
	comp=Z,30nm,0.6s						
GIRL	**Giralia**	**40.32**	**241**	P	**P**	**23 41 25.3**	**-0.4**
	baz=40,SNR=9.5						
YULB	**Yu-li**	**41.29**	**315**	*e*P	**P**	**23 41 34.3**	**+0.7**
	comp=Z,56nm,1.6s						
KLBR	**Kellerberrin**	**41.40**	**226**	P	**P**	**23 41 33.6**	**-0.8**
	baz=42,SNR=11						
MORW	**Morawa**	**41.42**	**231**	*e*P	**P**	**23 41 34.1**	**-0.5**
	comp=Z,144nm,2.0s						
MORW	**Morawa**	**41.42**	**231**	P	**P**	**23 41 33.7**	**-0.9**
	baz=42,SNR=7.0						
BLDU	**Ballidu**	**41.66**	**228**	P	**P**	**23 41 35.7**	**-0.9**
	baz=42,SNR=5.6						
YHNB	**Yeheng**	**42.06**	**316**	*e*P	**P**	**23 41 39.8**	**-0.2**
	comp=Z,27nm,0.9s						
MUN	**Mundaring**	**42.73**	**227**	P	**P**	**23 41 44.8**	**-0.4**
	baz=43,SNR=3.3						
JNU	**Nakatsue**	**43.07**	**334**	*e*P	**P**	**23 41 48.0**	**+0.1**
	comp=Z,47nm,1.3s						
JNU	**Nakatsue**	**43.07**	**334**	P	**P**	**23 41 47.2**	**-0.7**
	comp=Z,18nm,0.7s,baz=159,slow=4.8,SNR=15						
MJAR	**Matsushiro Arr**	**43.50**	**344**	*e*P	**P**	**23 41 51.1**	**-0.2**
MJAR	**Matsushiro Arr**	**43.50**	**344**	*e*P	**P**	**23 41 51.1**	**-0.2**
MJAR	**Matsushiro Arr**	**43.50**	**344**	P	**P**	**23 41 49.1**	**-2.2**
	comp=Z,3.7nm,0.6s,baz=176,slow=8.7,SNR=11						
MJAR				LR	LR	23 58 45.1	
	comp=Z,369nm,21.0s,baz=170,slow=34						
MAJO	**Matsushiro**	**43.50**	**344**	⇓*e*P	**P**	**23 41 49.0**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAT	**Matsushiro**	**43.50**	**344**	P	**P**	**23 41 51.5**	**+0.2**
JOHN	**Johnston Islan**	**43.88**	**59**	*e*P	**P**	**23 41 54.7**	**0.0**
	comp=Z,108nm,1.1s						
CISI	**Cisompet, Garu**	**43.91**	**265**	*e*P	**P**	**23 41 53.1**	**-2.0**
	comp=Z,54nm,0.7s						
CISI	**Cisompet, Garu**	**43.91**	**265**	P	**P**	**23 41 52.5**	**-2.6**
TPI	**Tanjungpandan**	**44.26**	**271**	P	**P**	**23 41 58.2**	**+0.4**
	comp=Z,13nm,1.2s						
DLV	**T Lat**	**46.47**	**292**	*e*P	**P**	**23 42 14.9**	**-0.6**
	comp=Z,46nm,1.1s						
TJN	**Taejon**	**47.37**	**333**	*ce*P	**P**	**23 42 21.6**	**-0.2**
KSRS	**Korea Array**	**48.01**	**334**	P	**P**	**23 42 26.3**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=152,slow=8.7,SNR=13						
KSRS				LR	LR	00 01 09.2	
	comp=Z,173nm,21.4s,baz=182,slow=34						
KSAR	**Wonju Array Be**	**48.02**	**334**	*e*P	**P**	**23 42 26.5**	**-0.4**
KSAR	**Wonju Array Be**	**48.02**	**334**	*e*P	**P**	**23 42 26.5**	**-0.4**
NJ2	**Nanjing**	**48.66**	**322**	*e*P	**P**	**23 42 31.8**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
ASAJ	**Asahikawa**	**49.84**	**351**	P	**P**	**23 42 41.5**	**+0.8**
	comp=Z,5.4nm,0.6s,baz=220,slow=7.9,SNR=3.7						
WHN	**Wuhan**	**50.59**	**317**	P	**P**	**23 42 49.8**	**+3.2**
SKNT	**Sakolnakorn**	**52.28**	**296**	P	**P**	**23 43 01.6**	**+2.0**
	comp=Z,20nm,1.3s						
KULM	**Kulim**	**52.29**	**281**	*e*P	**P**	**23 42 58.3**	**-1.4**
	comp=Z,11nm,1.0s						
USRK	**Ussuriysk Ar.**	**52.39**	**342**	*e*P	**P**	**23 43 00.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**52.39**	**342**	P	**P**	**23 42 59.4**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=167,slow=7.2,SNR=7.8						
USRK				LR	LR	00 01 57.5	
	comp=Z,254nm,20.8s,baz=180,slow=32						
CHAI	**Chaiyaphum**	**53.72**	**294**	P	**P**	**23 43 11.1**	**+0.9**
	comp=Z,22μm,0.8s						
GSI	**Gunungsitoli**	**54.70**	**275**	*e*P	**P**	**23 43 15.3**	**-2.1**
	comp=Z,24nm,0.7s						
PBKT	**Sadao Pong**	**54.86**	**294**	P	**P**	**23 43 20.0**	**+1.6**
	comp=Z,2.4nm,0.8s						
UTTA	**Uttaradit**	**55.62**	**296**	P	**P**	**23 43 25.2**	**+1.3**
	comp=Z,20μm,1.1s,comp=Z,180μm						
OPA	**Opana**	**55.83**	**59**	*e*P	**P**	**23 43 26.1**	**+0.8**
	comp=Z,269nm,1.9s						
OPA	**Opana**	**55.83**	**59**	*e*P	**P**	**23 43 26.1**	**+0.8**
OPA				pmax	pmax		
	comp=Z,269nm,1.9s						
NANT	**Nan**	**55.85**	**297**	P	**P**	**23 43 26.2**	**+0.7**
	comp=Z,42μm,0.6s,comp=Z,495μm						
SRDT	**SRDT**	**55.89**	**291**	P	**P**	**23 43 27.3**	**+1.5**
	comp=Z,18nm,1.2s						
PHRA	**Phrae**	**56.16**	**296**	P	**P**	**23 43 29.3**	**+1.6**
	comp=Z,1.6nm,1.0s						
XAN	**Xi'an**	**56.36**	**317**	P	**P**	**23 43 28.5**	**-0.4**
XAN				pP	pP	23 43 48.3	+1.3
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,160nm,7.4s						
KMI	**Kunming**	**56.53**	**305**	P	**P**	**23 43 31.9**	**+1.3**
KMI				pP	pP	23 43 47.0	-1.8
KMI				sP	sP	23 43 55.3	-1.4
KMI				pmax	pmax		
	comp=Z,20nm,0.7s						
KMI				pmax	pmax		
	comp=Z,85nm,3.9s						
KMI				LR	LR		
	comp=Z,120nm,25.4s						
KMI				LR	LR		
	comp=Z,210nm,26.0s						
KMI				LR	LR		
	comp=Z,420nm,29.1s						
LAMP	**Lampang**	**56.71**	**296**	P	**P**	**23 43 33.2**	**+1.6**
	comp=Z,20μm,0.8s,comp=Z,225μm						
PAYA	**Payao**	**56.78**	**297**	P	**P**	**23 43 33.6**	**+1.5**
	comp=Z,27μm,0.7s,comp=Z,337μm						
KLR	**Kul'dur**	**57.02**	**344**	*ce*P	**P**	**23 43 32.2**	**-1.1**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KLR	**Kul'dur**	**57.02**	**344**	P	**P**	**23 43 32.0**	**-1.2**
	comp=Z,3.9nm,0.8s,baz=152,slow=3.4,SNR=10						
CMAR	**Chiang Mai Arr**	**57.30**	**296**	*e*P	**P**	**23 43 35.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**57.30**	**296**	*e*P	**P**	**23 43 35.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**57.30**	**296**	P	**P**	**23 43 36.1**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=116,slow=5.2,SNR=28						
CMMT	**Chiang Mai**	**57.41**	**296**	P	**P**	**23 43 37.8**	**+1.2**
	comp=Z,6.4nm,1.6s						
CHTO	**Chiang Mai**	**57.42**	**296**	*e*P	**P**	**23 43 37.3**	**+0.6**
	comp=Z,26nm,1.4s						
CHTO				*e*pP	**pP**	**23 43 50.7**	**-4.4**
CHTO	**Chiang Mai**	**57.42**	**296**	*e*P	**P**	**23

VNDA	Vanda	72.43	178	*e*P	P	23 45 13.8	+0.6
	comp=Z,36nm,1.9s						
VNDA	Vanda	72.43	178	*e*P	P	23 45 13.8	+0.6
VNDA				pmax	pmax		
	comp=Z,36nm,1.9s						
VNDA	Vanda	72.43	178	P	P	23 45 13.9	+0.8
	comp=Z,3.4nm,0.7s,baz=332,slow=6.5,SNR=23						
GKN	Gorkha	72.71	301	*e*P	P	23 45 15.2	-0.7
	comp=Z,30nm,0.6s						
SBA	Scott Base	73.00	177	*e*P	P	23 45 17.9	+1.5
	comp=Z,40nm,1.7s						
SBA	Scott Base	73.00	177	*e*P	P	23 45 17.9	+1.5
SBA				pmax	pmax		
	comp=Z,40nm,1.7s						
KOLN	Koldanda	73.53	301	*e*P	P	23 45 20.1	-0.7
	comp=Z,35nm,0.6s						
DANN	Dangsing	73.55	301	*e*P	P	23 45 20.0	-1.0
	comp=Z,33nm,0.6s						
BILL	Bilibino	73.80	6	*e*P	P	23 45 22.2	+1.0
	comp=Z,13nm,1.4s						
BILL	Bilibino	73.80	6	*i* P	P	23 45 21.4	+0.2
BILL				*i*		23 45 37.4	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
PYUN	Piuthan	74.14	301	*e*P	P	23 45 23.3	-1.1
	comp=Z,56nm,0.9s						
WMQ	Urumqi	75.49	318	P	P	23 45 31.3	-0.4
WMQ				PcP	PcP	23 45 44.8	+0.4
WMQ				pmax	pmax		
	comp=Z,64nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,460nm,3.7s						
WMQ				LR	LR		
	comp=Z,1μm,39.3s						
WMQ				LR	LR		
	comp=Z,2μm,39.0s						
WMQ				LR	LR		
	comp=Z,2μm,35.3s						
SII	Sitkinak Islan	75.54	28	*e*P	P	23 45 32.4	+0.8
	comp=Z,48nm,1.2s						
KDAK	Kodiak Island	76.94	27	*e*P	P	23 45 40.1	+0.7
	comp=Z,17nm,1.1s						
KDAK	Kodiak Island	76.94	27	*i* P	P	23 45 41.9	+2.5
SVW2	Sparrevohn	77.55	23	*e*P	P	23 45 44.2	+1.4
	comp=Z,11nm,1.2s						
DGZ	Jazzator, Alta	77.92	323*c*	*i*P	P	23 45 44.8	-0.5
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI	Tiksi	78.21	353⇑	*e*P	P	23 45 47.1	+0.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SEW	Seward	79.54	26	*e*P	P	23 45 54.3	+0.6
	comp=Z,38nm,1.3s						
MKAR	Makanchi Array	80.10	319	*e*P	P	23 45 56.6	-0.6
MKAR	Makanchi Array	80.10	319	P	P	23 45 56.7	-0.5
	comp=Z,2.4nm,0.5s,baz=100,slow=6.8,SNR=26						
MKAR				LR	LR	00 19 42.9	
	comp=Z,218nm,22.0s,baz=72,slow=34						
MAKZ	Makanchi	80.31	319	*e*P	P	23 45 57.7	-0.6
	comp=Z,7.0nm,0.9s						
MAKZ	Makanchi	80.31	319	*e*P	P	23 45 57.7	-0.6
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PMR	Palmer	80.42	25	*e*P	P	23 45 58.6	+0.1
	comp=Z,22nm,1.3s						
PMR	Palmer	80.42	25	*e*P	P	23 45 58.6	+0.1
PMR				pmax	pmax		
	comp=Z,22nm,1.3s						
SML	Sawmill	80.86	25	*e*P	P	23 46 01.3	+0.4
	comp=Z,31nm,1.2s						
ZALV	Zalesovo Beam	81.05	327	P	P	23 46 00.5	-1.5
	comp=Z,8.3nm,0.5s,baz=112,slow=4.7,SNR=34						
IMAR	Indian Mountai	81.07	20	*e*P	P	23 46 01.6	-0.2
EYAK	Cordova Ski Ar	81.37	26	*e*P	P	23 46 04.0	+0.5
	comp=Z,26nm,1.3s						
BWN	Browne	81.60	22	*e*P	P	23 46 05.2	+0.5
	comp=Z,22nm,0.5s						
KLU	Klutina	81.72	25	*e*P	P	23 46 06.5	+1.0
	comp=Z,26nm,1.2s						
HMT	Hamilton	81.94	27	*e*P	P	23 46 07.0	+0.4
	comp=Z,42nm,1.4s						
NVS	Novosibirsk	82.23	327	*i* P	P	23 46 07.6	-0.6
KDJ	Kajisay	82.30	314	*e*P	P	23 46 09.0	-0.1
	comp=Z,18nm,1.1s						
KDJ	Kajisay	82.30	314	*e*P	P	23 46 09.0	-0.1
KDJ				pmax	pmax		
	comp=Z,18nm,1.1s						
COLA	College	82.56	22	*de*P	P	23 46 09.0	-0.7
COLA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KSH	Kashi	82.58	311	P	P	23 46 12.3	+1.7
KSH				sP	sP	23 46 34.8	-2.7
KSH				PP	PP	23 49 22.0	+1.0
KSH				S	S	23 56 22.3	-0.2
KSH				SS	SS	00 01 47.5	+1.9
KSH				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,270nm,6.4s						
KSH				LR	LR		
	comp=Z,160nm,8.3s						
KSH				LR	LR		
	comp=Z,190nm,7.8s						
KSH				LR	LR		
	comp=Z,410nm,17.9s						
HDA	Harding Lake	82.67	23	P	P	23 46 10.0	-0.3
	baz=242						
ILAR	Eielson Array	82.87	22	*e*P	P	23 46 09.2	-2.2
ILAR	Eielson Array	82.87	22	*e*P	P	23 46 09.2	-2.2
ILAR	Eielson Array	82.87	22	P	P	23 46 10.3	-1.0
	comp=Z,5.2nm,0.6s,baz=249,slow=4.9,SNR=29						
ILAR				LR	LR	00 20 41.3	
	comp=Z,159nm,19.1s,baz=251,slow=34						
NRN	Naryn	82.99	313	*e*P	P	23 46 12.3	-0.6
	comp=Z,7.1nm,1.3s						
NRN	Naryn	82.99	313	*e*P	P	23 46 12.3	-0.6
NRN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
NIL	Nilore	83.53	305	*e*P	P	23 46 14.9	-0.6
	comp=Z,20nm,1.0s						
KURK	Kurchatov	83.59	322	*e*P	P	23 46 14.4	-1.0
	comp=Z,7.7nm,0.8s						
KURK	Kurchatov	83.59	322*c*	*i*P	P	23 46 14.2	-1.1
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KURBB	Kurchatov Arra	83.62	322	P	P	23 46 14.6	-0.9
	comp=Z,3.9nm,0.7s,baz=112,slow=4.1,SNR=30						
TKM2	Tokmak 2	83.62	314	P	P	23 46 15.9	-0.1
	SNR=12						
KZA	Kyzart	83.68	313	P	P	23 46 17.5	+0.9
	SNR=16						
TOLK	Toolik Lake Re	83.89	18	P	P	23 46 17.0	+0.4
	baz=239						
BCAR	Beaver Creek A	84.15	25	*e*P	P	23 46 18.2	+0.2
CHMS	Chumysh	84.25	314	P	P	23 46 18.8	-0.2
	SNR=5.4						
UCH	Uchtor	84.25	313	P	P	23 46 20.1	+0.6
	SNR=12						
FYU	Fort Yukon	84.32	21	*e*P	P	23 46 19.9	+1.2
	comp=Z,28nm,0.8s						
AAK	Ala-Archa	84.35	314	P	P	23 46 19.8	+0.1
	SNR=5.7						
AAK	Ala-Archa	84.35	314	*e*P	P	23 46 19.7	+0.1
	comp=Z,6.6nm,0.8s						
AAK	Ala-Archa	84.35	314*c*	*i*P	P	23 46 19.7	+0.1
AAK				pmax	pmax		
	comp=Z,13nm,1.7s						
AAK	Ala-Archa	84.35	314	P	P	23 46 19.9	+0.1
	comp=Z,4.1nm,0.6s,baz=109,slow=4.9,SNR=17						
AAK				LR	LR	00 23 55.2	
	comp=Z,279nm,21.7s,baz=94,slow=36						
USP	Ospenovka	84.48	314	P	P	23 46 20.3	+0.1
	SNR=7.4						
AML	Almayashu	84.83	313	P	P	23 46 22.8	+0.4
	SNR=21						
MAW	Mawson	84.85	203	*e*P	P	23 46 22.0	+0.6
	comp=Z,2.7nm,0.7s						
MAW	Mawson	84.85	203	P	P	23 46 20.7	-0.7
	baz=85,SNR=16						
MAW	Mawson	84.85	203	*e*P	P	23 46 22.0	+0.6
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAW	Mawson	84.85	203	P	P	23 46 22.0	+0.6
	comp=Z,11nm,0.6s,baz=94,slow=5.5,SNR=48						
MAW				LR	LR	00 20 55.5	
	comp=Z,246nm,21.5s,baz=84,slow=33						
EKS2	Erkin-Say	84.87	314	P	P	23 46 22.7	+0.4
	SNR=13						
NRIK	Noril'sk	86.10	341	P	P	23 46 26.5	-1.0
	comp=Z,4.4nm,0.5s,baz=138,slow=4.6,SNR=13						
KKAR	Karatay Array	87.31	314	*e*P	P	23 46 33.4	-0.7
KKAR	Karatay Array	87.31	314	*e*P	P	23 46 33.4	-0.7
EPYK	Eagle Plains	87.38	22	P	P	23 46 34.1	+0.2
	baz=251						
BRVK	Borovoye	89.15	323	*e*P	P	23 46 41.3	-1.3
	comp=Z,4.8nm,0.8s						
BRVK	Borovoye	89.15	323⇓	*e*P	P	23 46 41.1	-1.4
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
INK	Inuvik	89.16	21	P	P	23 46 41.8	-0.4
	comp=Z,2.4nm,0.7s,baz=305,slow=6.0,SNR=5.7						
K02D	Willamette Mer	89.38	47	P	P	23 46 45.0	+1.0
	baz=262						
O02D	Mt. Diablo Mer	89.72	50	P	P	23 46 47.2	+1.6
	baz=263						
M02C	Callahan	89.82	49	P	P	23 46 47.7	+1.6
	baz=263						
HUMO	Hull Mountain	89.89	47	*e*P	P	23 46 47.0	+0.7
	comp=Z,23nm,1.1s						
L04D	Klamath Falls	90.32	48	P	P	23 46 49.6	+1.2
	baz=263						
J04D	Umpqua Nationa	90.58	47	P	P	23 46 51.0	+1.2
	baz=263						
M04C	Macdoel	90.62	48	P	P	23 46 51.2	+1.4
	baz=264						
K04D	Chiloquin, OR	90.78	47	P	P	23 46 51.6	+1.1
	baz=264						
A04D	Lummi Island	90.82	41	P	P	23 46 52.4	+2.1
	baz=263						
J05D	Fort Rock, OR	91.22	47	P	P	23 46 53.9	+1.2
	baz=264						
I05D	Terrebonne, OR	91.26	46	P	P	23 46 53.6	+0.9
	baz=264						
CMB	Columbia Colle	91.34	52	*e*P	P	23 46 53.7	+0.5
	comp=Z,19nm,1.6s						
CMB	Columbia Colle	91.34	52	*e*P	P	23 46 53.7	+0.5
CMB				pmax	pmax		
	comp=Z,19nm,1.6s						
K05A	Summer Lake	91.42	47	*e*P	P	23 46 53.6	-0.1
	comp=Z,26nm,1.0s						
BEKR	Beckworth	91.54	50	*e*P	P	23 46 55.4	+1.2
	comp=Z,14nm,0.9s						
LLLB	Lillooet	91.56	39	*e*P	P	23 46 54.6	+0.7
	comp=Z,5.5nm,0.6s						
MDPB	Devils Postpil	92.34	53	*e*P	P	23 46 59.0	+0.9
	comp=Z,33nm,1.5s						
E07A	Sunnyside	92.51	44	*e*P	P	23 46 59.3	+0.9
	comp=Z,38nm,1.4s						
HAWA	Hanford	92.72	44	*e*P	P	23 46 59.6	+0.3
	comp=Z,10nm,1.0s						
RYN	Ryan	92.85	52	*e*P	P	23 47 00.7	+0.4
	comp=Z,12nm,1.1s						
NVAR	Mina Array Bea	93.01	52	*e*P	P	23 47 01.6	+0.5
NVAR	Mina Array Bea	93.01	52	P	P	23 47 02.4	+1.3
	comp=Z,9.4nm,0.9s,baz=258,slow=6.0,SNR=27						
NVAR				LR	LR	00 20 40.2	
	comp=Z,296nm,21.9s,baz=267,slow=30						
CWC	Cottonwood Cre	93.04	54	P	P	23 47 02.4	+1.2
	baz=266						
E08A	Dider Farm, El	93.05	44	*e*P	P	23 47 01.3	+0.5
	comp=Z,31nm,1.4s						
DAC	Darwin (Calif)	93.42	54	*e*P	P	23 47 03.2	+0.2
	comp=Z,23nm,1.3s						
DAC	Darwin (Calif)	93.42	54	*e*P	P	23 47 03.2	+0.2
DAC				pmax	pmax		
	comp=Z,23nm,1.3s						
MPMC	Manual Prospec	93.49	54	P	P	23 47 04.7	+1.3
	baz=266						
BMN	Battle Mountai	93.98	50	*e*P	P	23 47 05.9	+0.5
	comp=Z,10nm,1.1s						
BMN	Battle Mountai	93.98	50	*e*P	P	23 47 05.9	+0.5
BMN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
FURC	Furnace Creek,	94.02	54	P	P	23 47 07.3	+1.8
	baz=266						
HEC	Hector,Ludlow	94.35	56	P	P	23 47 08.6	+1.4
	baz=267						
NEW	Newport	94.48	42	P	P	23 47 08.1	+0.7
	baz=267						
TPNV	Topopah Spring	94.54	53	P	P	23 47 09.4	+1.3
	baz=267						
TUQ	Turquoise Moun	94.72	55	P	P	23 47 10.7	+1.7
	baz=267						
GMRC	Granite Mounta	94.91	56	P	P	23 47 11.3	+1.5
	baz=267						
R11A	Troy Canyon, C	95.14	52	P	P	23 47 12.1	+1.2
	baz=267						
IRM	Iron Mountain	95.30	56	P	P	23 47 13.4	+1.9
	baz=267						
SHPR	Sheep Range	95.39	54	*e*P	P	23 47 11.9	-0.1
	comp=Z,24nm,1.6s						
YKA	Yellowknife Ar	96.20	28	P	P	23 47 15.2	+0.4
	comp=Z,0.6nm,0.7s,baz=270,slow=4.8,SNR=9.0						
YKA				PKiKP	PKiKP	23 51 53.1	+0.4
	comp=Z,0.4nm,0.6s,baz=275,slow=1.4,SNR=4.8						
YKA				LR	LR	00 24 05.9	
	comp=Z,13nm,21.9s,baz=302,slow=31						
HLID	Hailey	96.20	47	P	P	23 47 16.2	+0.6
	baz=269						
ARU	Arti	96.20	326	P	P	23 47 07.4	-7.6
ARU				MLR	MLR		
	comp=Z,390nm,19.0s						
GEYT	Alibeck	96.21	307	P	P	23 47 14.9	-0.7
	comp=Z,2.5nm,0.9s,baz=90,slow=2.9,SNR=3.8						
GEYT				LR	LR	00 31 44.7	
	comp=Z,148nm,21.5s,baz=125,slow=36						
CCUT	Cedar City	96.87	53	*e*P	P	23 47 19.8	+1.0
	comp=Z,6.3nm,1.0s						
BOZ	Bozeman (W)	98.20	45	P	Pdif	23 47 25.2	+0.7
	baz=271						
FXWY	Fox Creek	98.66	47	*e*P	Pdif	23 47 27.3	+0.6
	comp=Z,2.5nm,0.9s						
BW06	Boulder Array	99.76	48	*e*Pdif	Pdif	23 47 32.1	+0.5
	comp=Z,5.5nm,1.3s						
PDAR	Pinedale Array	99.76	48	P	Pdif	23 47 31.6	-0.1
	comp=Z,2.0nm,0.8s,baz=254,slow=2.6,SNR=14						
PDAR				LR	LR	00 26 02.7	
	comp=Z,221nm,21.2s,baz=264,slow=31						
TXAR	Lajitas Array	105.07	61	PKiKP	PKiKP	23 52 08.6	-1.3
	comp=Z,0.2nm,0.6s,baz=262,slow=2.6,SNR=3.5						
ARCES	ARCESS Array B	107.03	343	PKiKP	PKiKP	23 52 11.5	-0.7
	comp=Z,0.7nm,0.5s,baz=119,slow=1.5,SNR=7.3						
FINES	FINESS Array B	111.09	335	Pdiff	Pdif	23 48 20.9	-0.4
	comp=Z,0.6nm,0.7s,baz=221,slow=28,SNR=3.1						
FINES				PKiKP	PKiKP	23 52 19.8	-0.2
	comp=Z,0.6nm,0.4s,baz=97,slow=2.5,SNR=9.1						
U40A	Yellville	113.30	53	P	PKiKP	23 52 25.1	+0.1
	baz=281						
R41A	Rosebud	114.05	50	P	PKiKP	23 52 26.7	+0.3
	baz=283						
AKASG	Malin Array Be	114.35	324	PKiKP	PKPdf	23 52 25.0	-1.5
	comp=Z,0.8nm,0.4s,baz=63,slow=2.0,SNR=4.0						
BRTR	Keskin Array B	114.96	312	PKP	PKiKP	23 52 27.4	-0.9
	comp=Z,1.4nm,0.6s,baz=143,slow=2.7,SNR=9.9						
CSS	Mathiatis	116.33	306	*e*PKPdf	PKPdf	23 52 30.5	-0.4
NB2	NORSAR Subarra	117.03	340	PKPdf	PKPdf	23 52 30.4	-1.1
	comp=Z,0.7nm,0.7s,baz=42,slow=1.9						
NOA	NORSAR Array B	117.03	340	PKP	PKPdf	23 52 30.2	-1.2
	comp=Z,1.0nm,0.7s,baz=47,slow=2.1,SNR=4.3						
L47A	Sherwood	117.58	45	P	PKiKP	23 52 33.2	+0.1
	baz=289						
P47A	Martinsville	117.59	48	P	PKiKP	23 52 33.2	+0.1
	baz=287						
W47A	Westpoint	117.72	53	P	PKPdf	23 52 33.3	-0.2
	baz=284						
R47A	Wooly Knot Far	117.74	49	P	PKiKP	23 52 33.4	0.0
	baz=286						
L48A	N Adams	118.14	45	P	PKiKP	23 52 34.2	+0.1
	baz=290						
S48A	Wiedeman Farm,	118.28	50	P	PKiKP	23 52 34.7	+0.1
	baz=286						
BOSA	Boshof	118.69	233	PKP	PKiKP	23 52 35.8	0.0
	comp=Z,2.9nm,0.9s,baz=30,slow=2.8,SNR=5.2						
O49A	Covington	118.79	47	P	PKiKP	23 52 35.5	+0.1
	baz=289						
W49A	Belvidere	118.80	53	P	PKPdf	23 52 35.5	-0.1
	baz=285						
149A	Jones	118.99	56	P	PKiKP	23 52 36.4	+0.3
	baz=283						
Y49A	Blount Mountai	119.00	54	P	PKPdf	23 52 36.0	-0.1
	baz=284						
KOLS	Kolonicke sedl	119.17	324	*e*PKiKP	PKiKP	23 52 36.7	+0.7
KOLS	Kolonicke sedl	119.17	324	*e*PKP	PKiKP	23 52 36.7	+0.7
S50A	Richmond	119.53	49	P	PKiKP	23 52 37.2	+0.2
	baz=288						
Z50A	Ashland	119.55	55	P	PKiKP	23 52 37.1	0.0
	baz=284						
U50A	Jamestown	119.56	51	P	PKiKP	23 52 37.1	0.0
	baz=287						
V50A	Pikevile	119.57	52	P	PKPdf	23 52 36.9	-0.2
	baz=286						
150A	Eclectic	119.62	55	P	PKPdf	23 52 37.2	0.0
	baz=284						
S51A	Beattyville	120.15	49	P	PKiKP	23 52 38.4	+0.2
	baz=288						
152A	Waverly Hall	120.67	55	P	PKiKP	23 52 39.8	+0.4
	baz=285						
V52A	Sevierville	120.70	51	P	PKiKP	23 52 39.8	+0.4
	baz=287						
LSZ	Lusaka	120.70	249	*e*PKPdf	PKiKP	23 52 40.2	+0.2
LSZ	Lusaka	120.70	249	*e*PKIKP	PKiKP	23 52 40.2	+0.2
ALGO	Algonquin Park	120.76	38	P	PKiKP	23 52 39.1	0.0
	baz=298						
G53A	Haliburton	120.78	40	P	PKiKP	23 52 39.4	+0.2
	baz=297						
Z52A	Williamson	120.78	54	P	PKiKP	23 52 40.0	+0.4
	baz=285						
X52A	Dahlonega	120.82	53	P	PKiKP	23 52 40.3	+0.7
	baz=286						
Y52A	Lilburn	120.89	54	P	PKiKP	23 52 40.4	+0.6
	baz=286						
CHGQ	Chibougamau	120.91	33	P	PKPdf	23 52 38.8	-0.4
	baz=303						
N53A	Lisbon	121.07	45	P	PKiKP	23 52 40.3	+0.4
	baz=292						
P53A	Whipple	121.16	47	P	PKiKP	23 52 40.4	+0.3
	baz=291						
W53A	Cullowhee	121.23	52	P	PKiKP	23 52 41.0	+0.5
	baz=287						
Y53A	Monroe	121.28	53	P	PKiKP	23 52 41.2	+0.7
	baz=286						
Q53A	Leroy	121.28	47	P	PKiKP	23 52 40.7	+0.3
	baz=291						
U53A	Fall Branch	121.32	50	P	PKiKP	23 52 41.1	+0.5
	baz=288						
V53A	Saluda	121.36	51	P	PKiKP	23 52 41.2	+0.5
	baz=288						
VYHS	Vyhne	121.36	325	*e*PKIKP	PKiKP	23 52 40.3	0.0
VYHS	Vyhne	121.36	325	*e*PKP	PKiKP	23 52 40.3	0.0
GOGA	Godfrey	121.49	54	*e*PKPdf	PKPdf	23 52 40.5	-0.3
GOGA	Godfrey	121.49	54	*e*PKIKP	PKPdf	23 52 40.5	-0.3
O54A	Avella	121.63	45	P	PKiKP	23 52 41.8	+0.7
	baz=292						
DELO	Deloro Mine	121.69	40	P	PKPdf	23 52 40.9	0.0
	baz=297						
DPC	Dobruska-Polom	121.71	328	*e*PKIKP	PKPdf	23 52 40.6	-0.2
DPC	Dobruska-Polom	121.71	328	*e*PKPDF	PKPdf	23 52 40.6	-0.2
Q54A	Coxs Mills	121.74	47	*e*PKPdf	PKiKP	23 52 41.5	+0.1
Q54A	Coxs Mills	121.74	47	P	PKiKP	23 52 41.4	+0.1
	baz=291						
P54A	Burton	121.77	46	P	PKiKP	23 52 41.7	+0.4
	baz=292						
S54A	Dingess, Beckl	121.81	48	P	PKiKP	23 52 41.8	+0.3
	baz=290						
TIGA	Tifton	121.91	56	P	PKiKP	23 52 42.7	+0.9
	baz=285						
Y54A	Tignall	121.99	53	P	PKiKP	23 52 42.5	+0.6
	baz=287						
V54A	Nebo	121.99	51	P	PKiKP	23 52 42.6	+0.7
	baz=288						
254A	Abbeville	122.03	55	P	PKiKP	23 52 42.5	+0.5
	baz=285						
L55A	Hinsdale	122.17	43	P	PKiKP	23 52 42.0	-0.1
	baz=295						
Q55A	Buckhannon	122.28	47	P	PKiKP	23 52 42.4	0.0
	baz=292						
X55A	Gracelyn & Ava	122.64	52	P	PKiKP	23 52 44.0	+0.8
	baz=288						
KMSC	Kings Mountain	122.67	51	P	PKiKP	23 52 43.6	+0.4
	baz=289						
BLA	Blacksburg	122.68	49	P	PKiKP	23 52 43.5	+0.2
	baz=291						
TREC	Trest	122.76	328	*e*PKIKP	PKPdf	23 52 41.9	-0.9
TREC	Trest	122.76	328	*e*PKPDF	PKPdf	23 52 41.9	-0.9
CLL	Collm	122.82	331	*e*PKPdf	PKPdf	23 52 42.8	0.0
CLL	Collm	122.82	331	*e*PKIKP	PKPdf	23 52 42.8	0.0
CLL	Collm	122.82	331	*e*PKPdf	PKPdf	23 52 41.0	-1.8
CONA	Conrad Observa	123.34	326	*i* PKiKP	PKPdf	23 52 44.0	-0.1
	comp=Z,1.8nm,0.5s						
N57A	Milroy	123.38	44	P	PKiKP	23 52 44.7	+0.2
	baz=295						
FNA	Florina	123.43	316	*e*PKPdf	PKPdf	23 52 43.8	-0.6
FNA	Florina	123.43	316	*e*PKIKP	PKPdf	23 52 43.8	-0.6
Q57A	Strasburg	123.47	46	P	PKiKP	23 52 45.0	+0.3
	baz=293						
KHC	Kasperske Hory	123.87	328	*e*PKIKP	PKPdf	23 52 44.9	-0.1
KHC	Kasperske Hory	123.87	328	*e*PKPDF	PKPdf	23 52 44.9	-0.1
GERES	GERESS Array B	123.98	328	*e*PKPdf	PKPdf	23 52 44.8	-0.5
GERES	GERESS Array B	123.98	328	*e*PKIKP	PKPdf	23 52 44.8	-0.5
GERES	GERESS Array B	123.98	328	PKP	PKPdf	23 52 45.3	0.0
	comp=Z,2.3nm,0.5s,baz=78,slow=1.9,SNR=34						
ABTA	Abfaltersbach	125.88	327	*i* PKiKP	PKPdf	23 52 48.8	-0.2
	comp=Z,9.0nm,1.3s						
WATA	Walderalm	126.03	328	*i* PKiKP	PKPdf	23 52 48.9	-0.4
	comp=Z,1.8nm,0.4s						
WTTA	Wattenberg	126.04	327	*e*PKiKP	PKPdf	23 52 49.5	+0.1
	comp=Z,4.1nm,0.4s						
MOTA	Moosalm	126.27	328	*i* PKPdf	PKPdf	23 52 49.0	-0.8
	comp=Z,2.8nm,0.4s						
SQTA	Sankt Quirin	126.29	328	*i* PKPdf	PKPdf	23 52 49.1	-0.6
	comp=Z,3.6nm,0.5s						
FETA	Feichten	126.67	328	*i* PKiKP	PKiKP	23 52 50.9	-0.2
	comp=Z,13nm,1.4s						
FUORN	Ofenpass-Fuorn	127.17	328	*e*PKPdf	PKiKP	23 52 52.4	+0.2
ROSC	El Rosal	133.91	88	PKP	PKPdf	23 53 05.5	0.0
	comp=Z,5.8nm,0.5s,baz=300,slow=8.1,SNR=3.8						
KEST	Kesra	134.14	316	PKP	PKPdf	23 53 05.4	+0.4
	comp=Z,4.5nm,0.9s,baz=17,slow=5.8,SNR=5.3						
LPAZ	La Paz	134.95	119	*e*PKPdf	PKPdf	23 53 07.7	+0.1
LPAZ	La Paz	134.95	119	*e*PKIKP	PKPdf	23 53 07.7	+0.1
LPAZ	La Paz	134.95	119	PKP	PKPdf	23 53 07.3	-0.4
	comp=Z,2.7nm,0.5s,baz=21,slow=3.8,SNR=13						
SDV	Santo Domingo	137.59	83	*e*PKPdf	PKiKP	23 53 13.2	-0.9
CPUP	Villa Florida	137.69	139	PKP	PKiKP	23 53 12.9	-0.8
	comp=Z,2.0nm,0.9s,baz=238,slow=5.

ISC 23 23:43:11.1±1.2, 38°41N±0°.04×39°.03E±0°.03, h6km±10km, n13, σ0s73/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.22	98	PG	Pg	23 43 15.1	-0.5
SVRC				SG	Sg	23 43 18.7	+0.1
AKCD	Akcadag	0.88	263	*i* P	Pg	23 43 27.1	-0.9
AKCD				*i* S	Sb	23 43 40.8	-0.1
AKCD				IAML_P			
	comp=Z,2μm,0.2s						
KEMA	Kemaliye	0.95	334	*i* P	Pg	23 43 29.4	0.0
KEMA				*i* S	Sn	23 43 43.9	-1.2
HEKM	Malatya_Hekimh	0.96	300	*i* P	Pg	23 43 29.6	0.0
HEKM				*i* S	Sn	23 43 44.6	-0.8
HEKM				IAML_P			
	comp=Z,684nm,0.2s						
URFA	Urfa	0.98	190	PG	Pg	23 43 29.7	-0.3
URFA				SG	Sb	23 43 43.7	-0.1
DIYA	Diyarbakir	0.99	119	*i* P	Pg	23 43 30.1	0.0
DIYA				*i* S	Sn	23 43 44.8	-1.2
HANI	Diyarbakir_Han	1.08	89	*i* P	Pg	23 43 31.3	-0.5
HANI				*i* S	Sn	23 43 47.5	-0.6
HANI				IAML_P			
	comp=Z,477nm,0.2s						
DARE	Darende-Malaty	1.22	278	PN	Pn	23 43 34.7	-0.1
DARE				SN	Sn	23 43 52.4	+0.7
SURC	SANLIURFA_SURC	1.56	192	*i* P	Pb	23 43 40.4	-0.1
SURC				*i* S	Sg	23 44 01.9	+0.6
SURC				IAML_P			
	comp=Z,93nm,0.1s						
SVAN	Silvan-Diyarba	1.73	98	PN	Pn	23 43 42.1	+0.4
KMRS	Kahramanmaras	1.91	242	PN	Pn	23 43 44.8	+0.6
SVSK	Karacayir	2.18	314	PN	Pn	23 43 48.9	+1.0
SIRT	Sirnak	2.85	108	PN	Pn	23 43 58.6	+1.5

*ISCJB **23** 23:50:47.4±0.6, 38°.41N×0°.02×39°.04E±0°.03, h2km±6km, Error ellipse: s-maj=4.1km s-min=3.6km az=171.4*
*ISK **23** 23:50:47.3, 38°.38N×39°.07E, h11km, ML2.7/17*
*DDA **23** 23:50:47.2, 38°.39N×39°.03E, h7km±4km, ML3.6*

ISC 23 23:50:47.8±1.1, 38°38N±0°.03×39°.04E±0°.03, h8km±9km, n32, σ0s97/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.21	90	PG	Pg	23 50 51.7	-0.4
SVRC				SG	Sg	23 50 54.9	-0.1
TNCL	Tunceli-Merkez	0.83	28	*i* P	Pb	23 51 04.2	-0.4
AKCD	Akcadag	0.88	265	*i* P	Pg	23 51 04.2	-0.6
AKCD				*i* S	Sb	23 51 17.0	-0.5
URFA	Urfa	0.95	191	PG	Pg	23 51 05.9	-0.2
URFA				SG	Sn	23 51 20.1	-1.3
DIYA	Diyarbakir	0.97	118	*i* P	Pb	23 51 06.1	-0.8
HEKM	Malatya_Hekimh	0.98	301	*i* P	Pg	23 51 05.4	-1.3
HEKM				*i* S	Sb	23 51 20.7	+0.3
HEKM				IAML_P			
	comp=Z,4μm,0.1s						
KEMA	Kemaliye	0.98	334	*i* P	Pg	23 51 05.4	-1.3
KEMA				*i* S	Sb	23 51 20.1	-0.3
HANI	Diyarbakir_Han	1.07	88	*i* P	Pn	23 51 08.3	-0.8
HANI				*i* S	Sn	23 51 24.9	+0.7
HANI				IAML_P			
	comp=Z,4μm,0.2s						
ATAB	Bozova	1.08	213	*i* P	Pn	23 51 09.6	+0.3
ATAB				*i* S	Sn	23 51 25.6	+1.1
ATAB				IAML_P			
	comp=Z,13μm,0.1s						
ERZN	Erzincan	1.32	24	PN	Pb	23 51 12.1	-0.8
BGOL	Bingol	1.41	64	*i* P	Pg	23 51 15.0	+0.1
BGOL				*i* S	Sg	23 51 37.3	+4.0
BNGB	Bingl	1.42	64	PN	Pn	23 51 13.4	-0.6
EUZM	Uzumlu	1.42	21	*i* P	Pg	23 51 14.4	-0.7
SURC	SANLIURFA_SURC	1.54	193	*i* P	Pg	23 51 17.3	0.0
SURC				*i* S	Sg	23 51 38.7	+1.5
SURC				IAML_P			
	comp=Z,632nm,0.1s						
GZT	Gaziantep	1.55	229	*i* P	Pn	23 51 15.0	-0.9
YEDI	Yedisu-Bingol	1.58	48	PN	Pn	23 51 15.8	-0.4
SVAN	Silvan-Diyarba	1.71	97	PN	Pn	23 51 17.6	-0.4
SVAN	Silvan-Diyarba	1.71	97	*i* P	Pb	23 51 18.5	-1.0
MARD	Mardin	1.74	127	*i* P	Pb	23 51 19.1	-0.9
MARD				IAML_P			
	comp=Z,2μm,0.3s						
BNGL	BINGOL	1.75	70	*i* P	Pg	23 51 21.4	0.0
BTMN	Batman	1.82	105	*i* P	Pn	23 51 19.1	-0.4
BTMN				IAML_P			
	comp=Z,2μm,0.3s						
GAZ	Gaziantep	1.89	231	PN	Pn	23 51 20.6	+0.2
KMRS	Kahramanmaras	1.90	243	PN	Pn	23 51 20.8	+0.2
VRTB	Varto-Mus	2.04	67	PN	Pn	23 51 22.3	-0.3
BAYT	Aydıntepe-Bayb	2.19	23	PN	Pn	23 51 24.7	+0.1
SVSK	Karacayir	2.21	315	PN	Pn	23 51 25.3	+0.6
RSDY	Resadiye-TOKAT	2.41	327	PN	Pn	23 51 28.3	+0.7
BNN	Bunyan	2.55	282	PN	Pn	23 51 30.1	+0.6
KOZT	Kozan	2.69	252	PN	Pn	23 51 32.2	+0.8
TOKT	Tokat	2.74	316	PN	Pn	23 51 32.7	+0.6
SIRT	Sirnak	2.83	107	PN	Pn	23 51 32.9	-0.4
MLAZ	Malazgirt-MUS	2.85	73	PN	Pn	23 51 33.8	+0.1

*ISK **23** 23:52:53.8, 38°.41N×39°.03E, h6km, ML2.0/9*
*DDA **23** 23:52:54.0, 38°.39N×39°.01E, h7km±2km, ML3.0*

ISC 23 23:52:54.3±1.3, 38°40N±0°.03×39°.02E±0°.03, h5km±12km, n16, σ0s67/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.23	95	PG	Pg	23 52 58.6	-0.2
SVRC				SG	Sg	23 53 02.3	+0.5
TNCL	Tunceli-Merkez	0.82	30	*i* P	Pb	23 53 10.6	-0.5
AKCD	Akcadag	0.87	264	*i* P	Pb	23 53 11.2	-0.7
AKCD				*i* S	Sb	23 53 23.4	-0.4
HEKM	Malatya_Hekimh	0.96	300	*i* P	Pb	23 53 12.9	-0.6
HEKM				IAML_P			
	comp=Z,878nm,0.2s						
KEMA	Kemaliye	0.96	335	*i* P	Pb	23 53 13.2	-0.3
KEMA				*i* S	Sb	23 53 26.7	+0.1
URFA	Urfa	0.97	189	PG	Pb	23 53 13.0	-0.6
URFA				SG	Sb	23 53 27.2	+0.5
DIYA	Diyarbakir	0.99	118	*i* P	Pn	23 53 14.5	-0.4
HANI	Diyarbakir_Han	1.08	89	*i* P	Pn	23 53 15.8	-0.4
HANI				*i* S	Sn	23 53 32.5	+0.8
HANI				IAML_P			
	comp=Z,1μm,0.2s						
DARE	Darende-Malaty	1.22	279	PN	Pn	23 53 17.7	-0.4
BNGB	Bingl	1.43	65	PN	Pb	23 53 20.8	-0.7
SURC	SANLIURFA_SURC	1.55	192	*i* P	Pg	23 53 24.1	+0.2
SURC				*i* S	Sg	23 53 45.0	+1.0
SURC				IAML_P			
	comp=Z,233nm,0.1s						
YEDI	Yedisu-Bingol	1.58	48	PN	Pn	23 53 22.9	-0.2
SVAN	Silvan-Diyarba	1.73	97	PN	Pn	23 53 25.1	0.0
GAZ	Gaziantep	1.88	230	PN	Pn	23 53 27.6	+0.4
KMRS	Kahramanmaras	1.90	243	PN	Pb	23 53 27.9	-1.5
SVSK	Karacayir	2.18	315	PN	Pn	23 53 32.1	+0.9

SJA 23 23:58:52.7±0.5, 29°.78S×67°.26W, h84km±13km, ML2.5, MW4.0, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	CERRO LA CRUZ	0.45	37	*i* P	Pn	23 59 07.5	+0.9
APLL	PUNTA DE LOS L	0.88	134	*i* P	Pn	23 59 11.4	+0.7
APLL				*i* S	Sn	23 59 25.6	+1.5
APLL				IAML		23 59 26.5	
	comp=Z,95nm,0.1s						
AGUA	GUANDACOL	1.11	285	*i* P	Pn	23 59 14.3	+0.9
AMOG	MOGNA	1.57	222	*i* P	Pn	23 59 20.8	+1.6
AMOG				*i* S	Sn	23 59 40.9	+1.7
ACDV	Cuesta del Vie	1.66	256	*i* P	Pn	23 59 21.8	+1.4

*IDC **24** 00:04:48.6±4.6, 36°.22N×69°.94E, h119km±33km, mb3.3/5, mb1 3.2/11, mb1mx3.0/50, mbtmp3.7/11, MS3.8/1, Ms1 3.8/1, ms1mx2.7/30, Error ellipse: s-maj=50.3km s-min=16.9km az=153.0*
*NEIC **24** 00:04:48.4±2.2, 36°.17N×69°.64E, h114km±8km, mb4.1/1, Error ellipse: s-maj=27.3km s-min=19.1km az=102.0*
*NNC **24** 00:04:48.9±3.5, 36°.71N×69°.68E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=29.5km s-min=21.5km az=161.0*
*ISCJB **24** 00:04:49.4±0.6, 36°.44N±0°.05×69°.81E±0°.05, h100km, mb3.4/3, Error ellipse: s-maj=7.2km s-min=5.6km az=147.7*

ISC 24 00:04:48.8±1.0, 36°31N±0°.08×69°.83E±0°.07, h100km, n41, σ1s96/48, mb3.4/3, 3C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.88	200	*e*Pn	Pn	00 05 24.2	+4.2
CHGR	Chuyangaron	2.40	347	*e*Sn	Sn	00 05 43.5	-12
GAR	Garm	2.71	8	*e*Pn	Pn	00 05 34.4	+3.5
BTK	Batken	3.82	11	*e*Pn	Pn	00 05 49.5	+3.8
BTK				*e*Sn	Sn	00 06 34.5	+4.8
NIL	Nilore	3.86	132	*e*Pn	Pn	00 05 48.4	+2.2
ARSB	Arslanbob	5.58	25	*e*Pn	Pn	00 06 11.2	+1.7
AML	Almayashu	6.54	26	P	Pn	00 06 24.6	+1.9
	SNR=12						
KK31	Karatay Array	6.81	4	*e*Pn	Pn	00 06 27.8	+1.8
KK31				*e*Sn	Sn	00 07 41.1	-0.8
KK31	Karatay Array	6.81	4	⇓P	Pn	00 06 25.7	-0.3
	6.3nm,0.3s,baz=202,slow=17,SNR=104						
KK31				⇓S	Sn	00 07 40.8	-1.2
	6.0nm,0.3s,baz=186,slow=22,SNR=3.8						
KKAR	Karatay Array	6.81	4	*e*Pn	Pn	00 06 27.5	+1.5
KKAR				*e*Pn	Pn	00 06 27.8	+1.8
KKAR				*e*Sn	Sn	00 07 38.8	-3.1
KKAR				*e*Sn	Sn	00 07 40.7	-1.2
UCH	Uchtor	6.94	30	P	Pn	00 06 30.1	+1.9
	SNR=7.4						
NRN	Naryn	7.02	41	*e*Pn	Pn	00 06 29.1	-0.2
AAK	Ala-Archa	7.28	28	P	Pn	00 06 35.0	+2.5
	SNR=7.5						
AAK	Ala-Archa	7.28	28	*e*Pn	Pn	00 06 34.0	+1.4
AAK	Ala-Archa	7.28	28	⇓P	Pn	00 06 33.5	+1.0
	5.4nm,0.8s						
AAK				⇓S	Sn	00 07 54.0	+0.3
	12nm,0.7s						
AAK	Ala-Archa	7.28	28	P	Pn	00 06 33.2	+0.7
	1.5nm,0.3s,baz=126,slow=21,SNR=23						
AAK				S	Sn	00 07 53.9	+0.3
	0.8nm,0.3s,baz=165,slow=20,SNR=8.3						
KBK	Karagaybulak	7.47	30	P	Pn	00 06 37.5	+2.3
	SNR=5.4						
CHMS	Chumysh	7.68	28	P	Pn	00 06 40.3	+2.4
	SNR=7.0						
BOOM	Boomskoye usch	7.78	36	*e*Pn	Pn	00 06 41.6	+2.2
TKM2	Tokmak 2	7.96	32	⇓P	Pn	00 06 42.1	+0.2
	3.8nm,0.9s						
TKM2				⇑S	Sn	00 08 10.2	-0.2
	4.5nm,0.7s						
GEYT	Alibeck	9.49	283	P	Pn	00 07 03.4	+0.8
	0.2nm,0.3s,baz=82,slow=13,SNR=4.3						
GEYT				S	Sn	00 08 50.0	+2.5
	0.4nm,0.3s,baz=58,slow=17,SNR=3.5						
MAKZ	Makanchi	13.87	37	*e*Pn	P	00 08 04.7	-1.2
MK31	Makanchi Array	14.01	38	*e*Pn	P	00 08 06.5	-0.9
MK32	Makanchi Array	14.01	38	*e*Pn	Pn	00 08 01.7	-1.1
MKAR	Makanchi Array	14.01	38	P	Pn	00 08 01.7	-1.1
	0.1nm,0.3s,baz=216,slow=14,SNR=3.2						
AB31	Akbulak array	14.82	334	⇑P	Pn	00 08 13.0	0.0
	0.8nm,0.3s,baz=154,slow=12,SNR=40						
AB31				⇑S	Sn	00 10 53.9	-2.4
	0.6nm,0.5s,baz=156,slow=23,SNR=7.6						
ABKAR	Akbulak array	14.82	334	*e*Pn	Pn	00 08 13.6	+0.5
KURBB	Kurchatov Arra	15.62	21	P	Pn	00 08 22.2	-1.0
	0.1nm,0.3s,baz=209,slow=11,SNR=11						
KURBB	Kurchatov Arra	15.62	21	⇓Sn	Pn	00 08 21.7	-1.5
	2.1nm,0.5s						
AKTO	Aktyubinsk	16.50	333	⇓P	P	00 08 35.0	0.0
	1.8nm,0.6s						
AKTO	Aktyubinsk	16.50	333	P	Pn	00 08 34.0	0.0
	0.4nm,0.3s,baz=143,slow=14,SNR=9.9						
BVAR	Borovoye Array	16.72	1	P	Pn	00 08 36.7	-0.1
	0.4nm,0.3s,baz=178,slow=9.1,SNR=12						
GNI	Garni	20.06	289	P	P	00 09 14.8	+0.6
	3.1nm,0.6s,baz=43,slow=4.2,SNR=4.7						
ZAA0	Zalesovo Array	20.49	26	*e*P	P	00 09 19.7	+1.2
	4.7nm,0.6s						
ZALV	Zalesovo Beam	20.49	26	P	P	00 09 17.8	-0.7
	5.5nm,0.5s,baz=220,slow=11,SNR=16						
ZAA1	Zalesovo Array	20.49	26	*e*P	P	00 09 17.8	-0.7
ARU	Arti	21.52	343	P	P	00 09 29.6	+0.1
	0.9nm,0.5s,baz=111,slow=5.5,SNR=3.3						
ARCES	ARCESS Array B	40.96	338	P	P	00 12 21.1	-0.1
	0.4nm,0.5s,baz=114,slow=9.0,SNR=3.4						
LEM	Lembang	55.65	133	LR	LR	00 40 36.7	
	comp=Z,74nm,18.5s,baz=154,slow=39						
TOA1	Torodi Ar. Sit	64.77	268	*e*P	P	00 15 13.5	-3.5
TORD	Torodi Ar. Bea	64.77	268	P	P	00 15 13.5	-3.5
	0.3nm,0.8s,baz=59,slow=4.9,SNR=3.4						

NNC 24 00:05:33.6±2.6, 54°51N×86°61E, h0km, mb2.9, mpv2.7, 6C-1D, Error ellipse: s-maj=61.9km s-min=14.5km az=154.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	1.20	242	⇑P	Pg	00 05 55.6	-0.9
	0.7nm,0.7s						
ZAA0				⇑S	Sb	00 06 12.7	-0.4
	1.4nm,0.7s						
KURK	Kurchatov	6.18	235	⇑Pn	Pn	00 07 08.4	+2.5
	2.5nm,1.4s						
KURK				⇑Lg	Lg	00 08 50.6	
	2.4nm,0.9s						
KURBB	Kurchatov Arra	6.28	235	⇑Pn	Pn	00 07 09.4	+2.0
	1.7nm,0.6s,baz=51,slow=14						
KURBB				⇓Lg	Lg	00 08 52.6	
	3.3nm,0.6s,baz=52,slow=31						
MK31	Makanchi Array	8.20	201	⇑Lg	Lg	00 09 56.9	
	1.7nm,0.9s,baz=20,slow=29						

IDC 24 00:11:39.4±5.6, 4°34S×132°60E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/37, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=416.2km s-min=26.4km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.60	174	Pn	Pn	00 15 19.9	-1.1
WRA				Sn	Sn	00 18 00.6	-14
ASAR	Alice Springs	19.26	176	P	Pn	00 16 06.2	-0.4
	0.5nm,0.3s,baz=356,slow=11,SNR=12						
ASAR				S	Sn	00 19 28.0	-15
	0.1nm,0.3s,baz=360,slow=26,SNR=3.5						
MKAR	Makanchi Array	67.48	325	P	P	00 22 37.4	+0.1
	0.5nm,0.4s,baz=118,slow=7.2,SNR=8.3						
ZALV	Zalesovo Beam	70.40	332	P	P	00 22 55.4	+0.1
	0.4nm,0.5s,baz=114,slow=7.0,SNR=2.9						
KURBB	Kurchatov Arra	71.65	327	P	P	00 23 02.9	-0.1
	0.9nm,0.9s,baz=131,slow=5.8,SNR=8.3						
BVAR	Borovoye Array	77.23	327	P	P	00 23 35.3	-0.1
	0.1nm,0.3s,baz=129,slow=11,SNR=3.7						

*ISCJB **24** 00:14:13.5±0.5, 36°.29N±0°.04×139°.88E±0°.06, h80km±4km, mb3.4/4, Error ellipse: s-maj=7.9km s-min=5.9km az=9.6*
*IDC **24** 00:14:15.6±1.7, 36°.18N×139°.75E, h86km±15km, mb3.1/4, mb1 3.3/5, mb1mx3.0/45, mbtmp3.5/5, Error ellipse: s-maj=25.8km s-min=8.8km az=65.0*
*JMA **24** 00:14:15.1, 36°.32N×139°.85E, h68km±1km, M3.6*
Broadband fault plane solution: P waves. NP1: ϕ_s=328.00000°, δ61.00000°, λ83.00000°. NP2: ϕ_s=162.00000°, δ29.00000°, λ102.00000°. Principal axes: T Plg73.0000°, Azm222.0000°; N Plg6.0000°, Azm331.0000°; P Plg16.0000°, Azm63.0000°;
JMA Felt I J1.

ISC 24 00:14:14.5±0.9, 36°30N±0°.04×139°87E±0°.05, h74km±7km, n21, σ0s53/25, mb3.5/4, 5C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.27	105	⇑P	Pn	00 14 26.1	+0.2
JYT				S	Sn	00 14 34.1	-0.1
JAG	Ashikaga	0.36	291	⇑P	Pn	00 14 26.4	-0.1
JAG				S	Sn	00 14 34.7	-0.6
JKT	Katashina	0.68	313	⇑P	Pn	00 14 29.6	0.0
JKT				S	Sn	00 14 40.6	-0.1
JRY	Ryogami san	0.83	250	⇓P	Pn	00 14 31.8	+0.6
JRY				*e*S	Sn	00 14 43.9	+0.3
JFY	Yanaizu	1.11	353	⇑P	Pn	00 14 34.7	+0.1
JFY				*e*S	Sn	00 14 49.5	-0.1
JHK	Hiroka	1.17	324	⇑P	Pn	00 14 35.5	+0.2
JOD2	Odawara 2	1.21	212	⇓P	Pn	00 14 36.7	+0.8
JOD2				S	Sn	00 14 52.5	+0.6
JFT	Otama	1.27	17	⇓P	Pn	00 14 37.2	+0.6
JFT				S	Sn	00 14 53.9	+0.7
MJAR	Matsushiro Arr	1.36	281	P	Pn	00 14 37.5	-0.2
	14nm,0.3s,baz=95,slow=14,SNR=212						
MJAR				S	Sn	00 14 55.3	+0.1
	5.6nm,0.3s,baz=111,slow=24,SNR=11						
MAT	Matsushiro	1.36	281	P	Pn	00 14 38.4	+0.6
MAT				S	Sn	00 14 55.5	+0.2
JHJ	Hachijo jima 2	3.17	181	P	Pn	00 15 02.5	+0.4
	18nm,0.3s,baz=147,slow=23,SNR=7.5						
JHJ				S	Sn	00 15 38.0	-0.8
	38nm,0.3s,baz=324,slow=19,SNR=7.0						
H11N2	WAKE ISLAND Hy 28.88 118			T	T	00 50 18.0	
	baz=312,slow=75,SNR=9.5						
H11N1	WAKE ISLAND Hy 28.88 118			T	T	00 50 18.6	
	baz=312,slow=75,SNR=20						
H11N3	WAKE ISLAND Hy 28.89 118			T	T	00 50 19.3	
	baz=312,slow=75,SNR=11						
H11S1	WAKE ISLAND Hy 29.54 120			T	T	00 51 08.3	
	baz=314,slow=75,SNR=45						
H11S3	WAKE ISLAND Hy 29.54 120			T	T	00 51 12.4	
	baz=314,slow=75,SNR=21						
H11S2	WAKE ISLAND Hy 29.56 120			T	T	00 51 12.3	
	baz=314,slow=75,SNR=20						
MKAR	Makanchi Array	43.46	303	P	P	00 22 10.2	+0.1
	0.3nm,0.8s,baz=94,slow=7.8,SNR=3.4						
KURBB	Kurchatov Arra	45.48	308	P	P	00 22 25.8	-0.4
	0.6nm,0.6s,baz=83,slow=7.5,SNR=11						
ILAR	Eielson Array	50.78	32	P	P	00 23 07.5	+0.7
	0.3nm,0.7s,baz=274,slow=6.9,SNR=5.8						
ASAR	Alice Springs	59.91	186	P	P	00 24 11.7	-1.1
	0.4nm,0.8s,baz=12,slow=9.5,SNR=3.8						

IDC 24 00:20:59.2±13.0, 2°11S×135°67E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/31, mbtmp3.6/3, Error ellipse: s-maj=735.1km s-min=25.7km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.77	184	P	Pn	00 25 06.9	-1.3
ASAR	Alice Springs	21.50	184	P	P	00 25 50.4	+0.7
	0.5nm,0.4s,baz=18,slow=9.4,SNR=11						
MKAR	Makanchi Array	67.48	323	P	P	00 31 56.0	-1.1
	0.3nm,0.4s,baz=121,slow=7.0,SNR=4.9						
KURBB	Kurchatov Arra	71.51	326	P	P	00 32 22.7	+0.9
	0.8nm,0.8s,baz=126,slow=6.3,SNR=8.4						

*IDC **24** 00:24:48.2±1.1, 3°.40S×135°.89E, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.0/32, mbtmp4.2/10, ML4.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/22, Error ellipse: s-maj=40.3km s-min=20.4km az=87.0*
*NEIC **24** 00:24:52.1±2.5, 3°.64S×135°.98E, h38km±11km, mb4.0/1, Error ellipse: s-maj=31.2km s-min=18.8km az=69.0*
*DJA **24** 00:24:57.8±0.4, 4°.5±4°×13°6E±°, h54km±5km, M4.5/4, mb4.6/3, mB5.2/2, MLv4.4/4, Mw(mB)4.5/2*

ISC 24 00:24:52.4±0.8, 3°83S±0°.06×135°86E±0°.09, h35km, n29, σ2s86/33, mb4.1/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	3.72	284	*e*Pn	Pn	00 25 48.3	+0.9
FAKI	Fak Fak	3.72	284	P	Pn	00 25 48.3	+0.9
FAKI				S	Sn	00 26 26.7	-3.3
GENI	Genyem	4.47	74	P	Pn	00 26 05.6	+7.9
SWI	Sorong	5.46	302	P	Pn	00 26 10.6	-0.7
SANI	Sanana	10.02	280	P	Pn	00 27 13.7	-0.2
	45nm,0.7s,505nm						
SOEI	Soe	12.93	242	*e*Pn	Pn	00 27 55.9	+1.9
SOEI				*e*Sn	Sn	00 30 28.5	+12
LUWI	Luwuk	13.37	282	P	P	00 28 12.6	+3.8
BATI	Baumata	13.66	242	*e*Pn	Pn	00 28 05.9	+2.1
BATI				*e*Pn	Pn	00 28 05.9	+2.1
BATI	Baumata	13.66	242	Pn	Pn	00 28 05.9	+2.1
	2.6nm,0.3s,baz=201,slow=11,SNR=4.1						
WR1	Warramunga Arr	16.09	185	*e*Pn	P	00 28 39.5	+0.4
WR1				*e*Sn	Sn	00 31 28.1	-5.5
WRA	Warramunga Arr	16.09	185	Pn	P	00 28 39.5	+0.4
WRA				Sn	Sn	00 31 28.1	-5.5
FITZ	Fitzroy Crossi	17.36	214	*e*Sn	Sn	00 32 00.3	-4.1
FITZ	Fitzroy Crossi	17.36	214	P	P	00 28 56.6	+3.5
	1.4nm,0.3s,baz=38,slow=10,SNR=23						
FITZ				S	Sn	00 31 58.5	-5.9
	0.8nm,0.3s,baz=0.0,slow=8.1,SNR=6.6						
AS31	Alice Springs	19.82	185	*e*P	Pn	00 29 28.3	+6.4
	5.2nm,0.7s						
AS31				*e*S	S	00 33 00.4	-1.2
ASAR	Alice Springs	19.82	185	P	Pn	00 29 26.6	+4.6
	6.6nm,0.6s,baz=8.1,slow=12,SNR=44						
ASAR				S	S	00 33 00.4	-1.2
	1.8nm,0.5s,baz=3.0,slow=27,SNR=5.6						
TGY	Tagaytay City	23.16	321	LR	LR	00 41 13.3	
	comp=Z,79nm,18.1s,baz=111,slow=43						
CM31	Chiang Mai Arr	42.58	303	*e*pP	pP	00 32 55.8	-0.1
CMAR	Chiang Mai Arr	42.58	303	P	P	00 32 43.5	-1.9
	1.4nm,0.3s,baz=128,slow=6.4,SNR=6.7						
SONA0	Songino Array	57.56	337	*e*P	P	00 34 38.2	-0.6
SONM	Songino Array	57.56	337	P	P	00 34 38.2	-0.6
	0.8nm,0.5s,baz=137,slow=11,SNR=5.2						
MK32	Makanchi Array	68.96	324	*e*P	P	00 35 53.9	-0.3
MKAR	Makanchi Array	68.96	324	P	P	00 35 53.9	-0.3
	1.2nm,0.7s,baz=115,slow=7.7,SNR=11						
ZALV	Zalesovo Beam	71.50	331	P	P	00 36 08.3	-1.1
	2.4nm,0.8s,baz=116,slow=6.8,SNR=8.7						
ZAA1	Zalesovo Array	71.50	331	*e*P	P	00 36 08.3	-1.1
KURBB	Kurchatov Arra	73.02	326	P	P	00 36 18.2	-0.5
	1.1nm,0.8s,baz=122,slow=5

baz=313,slow=75,SNR=271
H11S3 WAKE ISLAND Hy 28.63 121 T T 01 01 15.3
baz=313,slow=75,SNR=314
H11S2 WAKE ISLAND Hy 28.65 121 T T 01 01 19.2
baz=313,slow=75,SNR=158
ZALV Zalesovo Beam 42.34 313 P **P** **00 33 24.7 -1.2**
0.4nm,0.4s,baz=107,slow=8.5,SNR=3.7
MKAR Makanchi Array 44.36 303 P **P** **00 33 43.2 +0.8**
0.2nm,0.6s,baz=92,slow=6.9,SNR=2.7
KURBB Kurchatov Arra 46.35 309 P **P** **00 33 59.1 +1.1**
0.4nm,0.4s,baz=84,slow=7.9,SNR=6.0

*IDC **24** 00:33:19.0±1.9, 23°.84S×67°.12W, h180km±21km, mb3.2/1, mb1 3.3/6, mb1mx3.1/26, mbtmp3.7/6, Error ellipse: s-maj=32.9km s-min=24.4km az=150.0*
*GUC **24** 00:33:18.7±0.3, 24°.13S×67°.63W, h211km±7km, ML3.8*
ISC 24 00:33:17.5±1.1, 24°.13S±0°.07×67°.4W±0°.1, h183km±15km, n21, σ1s53/32, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.08**	**316**	P	**Pn**	**00 33 57.0**	**+1.0**
	2.7nm,0.3s,baz=147,slow=5.8,SNR=45						
LVC				S	**Sn**	**00 34 26.6**	**+0.8**
	19nm,0.3s,baz=155,slow=23,SNR=71						
PB15	**IPOC Station P**	**2.14**	**295**	↑i P	**Pn**	**00 33 57.2**	**+0.7**
PB15				eS	**Sn**	**00 34 26.9**	**+0.1**
GO02	**Mina Guanaco**	**2.27**	**243**	↑eP	**Pn**	**00 33 57.4**	**-0.7**
GO02				eS	**Sn**	**00 34 28.2**	**-1.5**
GO02				IAML		00 34 30.5	
	comp=N,235nm,0.2s						
PB06	**IPOC Station P**	**2.48**	**304**	eP	**Pn**	**00 34 01.0**	**+0.7**
PB06				eS	**Sn**	**00 34 33.3**	**-0.2**
PB06				IAML		00 34 36.5	
	comp=N,321nm,0.3s						
PB14	**IPOC Station P**	**2.82**	**259**	eP	**Pn**	**00 34 03.2**	**-1.2**
PB09	**IPOC Station P**	**2.90**	**323**	eP	**Pn**	**00 34 06.8**	**+1.6**
PB09				eS	**Sn**	**00 34 43.4**	**+0.9**
PB09				IAML		00 34 45.7	
	comp=N,110nm,0.5s						
PB05	**IPOC Station P**	**2.90**	**295**	eP	**Pn**	**00 34 05.5**	**+0.2**
PB05				eS	**Sn**	**00 34 40.9**	**-1.5**
PB05				IAML		00 34 44.1	
	comp=E,112nm,0.5s						
PB10	**IPOC Station P**	**2.99**	**281**	eP	**Pn**	**00 34 06.2**	**+0.1**
PB10				eS	**Sn**	**00 34 42.3**	**-1.7**
PB10				IAML		00 34 50.5	
	comp=N,77nm,0.4s						
PB03	**IPOC Station P**	**3.02**	**313**	eP	**Pn**	**00 34 07.5**	**+0.7**
PB03				i S	**Sn**	**00 34 44.5**	**-0.6**
PB03				IAML		00 34 45.8	
	comp=E,258nm,0.3s						
PB04	**IPOC Station P**	**3.12**	**304**	eP	**Pn**	**00 34 08.5**	**+0.5**
PB04				eS	**Sn**	**00 34 46.1**	**-1.2**
PB04				IAML		00 34 48.3	
	comp=E,188nm,0.4s						
PB07	**IPOC Station P**	**3.34**	**315**	eP	**Pn**	**00 34 11.2**	**+0.6**
PB07				eS	**Sn**	**00 34 51.0**	**-1.1**
PB07				IAML		00 34 53.1	
	comp=E,236nm,0.4s						
PB01	**IPOC Station P**	**3.65**	**327**	eP	**Pn**	**00 34 15.4**	**+1.1**
PB02	**IPOC Station P**	**3.65**	**320**	eP	**Pn**	**00 34 15.2**	**+0.8**
PB02				eS	**Sn**	**00 34 57.1**	**-1.7**
PB08	**IPOC Station P**	**4.30**	**337**	eP	**Pn**	**00 34 24.1**	**+1.1**
LPAZ	**La Paz**	**7.83**	**355**	P	**Pn**	**00 35 08.8**	**-0.5**
	comp=E,0.6nm,0.3s,baz=186,slow=12,SNR=5.4						
SIV	**San Ignacio**	**10.02**	**37**	P	**Pn**	**00 35 34.0**	**-3.4**
	comp=E,0.4nm,0.3s,baz=224,slow=13,SNR=7.6						
PLCA	**Paso Flores**	**16.77**	**188**	P	**Pn**	**00 37 07.0**	**+5.0**
	comp=E,0.2nm,0.3s,baz=36,slow=11,SNR=5.0						
BDFB	**Brasilia**	**20.04**	**69**	P	**P**	**00 37 35.6**	**-1.2**
	comp=E,0.8nm,0.3s,baz=231,slow=12,SNR=9.1						
TORD	**Torodi Ar. Bea**	**76.92**	**69**	P	**P**	**00 44 49.3**	**-0.9**
	comp=E,0.3nm,0.4s,baz=255,slow=6.2,SNR=8.4						
MKAR	**Makanchi Array**	**146.83**	**39**	PKPbc	**PKPbc**	**00 52 39.0**	**+0.9**
	comp=E,0.3nm,0.7s,baz=274,slow=3.5,SNR=4.1						
SONM	**Songino Array**	**155.82**	**10**	PKPab	**PKPab**	**00 53 17.1**	**-0.1**
	comp=E,0.2nm,0.4s,baz=355,slow=3.5,SNR=2.2						

MEX 24 00:37:42.0±0.7, 18°.78N×101°.22W, h30km±19km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.97**	**121**	eP	Pn	00 37 56.9	-2.6
ARIG				i S	Sn	00 38 09.0	-3.3
ZIIG	**Zihuatanejo**	**1.19**	**191**	eP	Pn	00 38 00.5	-2.0
ZIIG				i S	Sn	00 38 15.1	-2.6
PLIG	**Platanillo**	**1.68**	**103**	eP	Pn	00 38 07.4	-1.9
PLIG				eS	Sn	00 38 28.0	-1.9
MEIG	**Mezcala**	**1.74**	**119**	eP	Pn	00 38 07.9	-2.4
MEIG				i S	Sn	00 38 28.8	-2.7
CAIG	**El Cayaco**	**1.95**	**152**	i S	Sn	00 38 33.1	-3.3
TLIG	**Tlapa**	**2.80**	**115**	eP	Pn	00 38 23.2	-1.6
TLIG				i S	Sn	00 38 54.5	-3.2

*NEIC **24** 00:50:40.1±0.0, 17°.87N×67°.17W, h5km, ML2.9, MD2.5(RSPR), After RSPR.*
RSPR 24 00:50:40.1, 17°.87N×67°.17W, h5km, MD2.5/9, 4C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.15**	**25**	‖eP	Pg	00 50 43.6	+0.5
CRPR	**Cabo Rojo, PR**	**0.15**	**25**	eS	Sg	00 50 46.0	+0.9
CRPR	**Cabo Rojo, PR**	**0.15**	**25**	eP	Pg	00 50 43.6	+0.6
CRPR				e		00 50 46.2	
MPR	**Mayaguez**	**0.34**	**5**	ePg	Pg	00 50 47.2	+0.5
MPR				eSg	Sg	00 50 52.6	+1.4
AGP	**Aguadilla**	**0.53**	**3**	ePg	Pb	00 50 51.5	-0.5
AGP				eSg	Sb	00 50 00.6	+0.6
OBIP	**Obispado Ponce**	**0.57**	**72**	‖eP	Pg	00 50 51.1	0.0
OBIP	**Obispado Ponce**	**0.57**	**72**	eS	Sg	00 50 59.5	+1.0
OBIP	**Obispado Ponce**	**0.57**	**72**	ePg	Pg	00 50 51.1	0.0
OBIP				eSg	Sg	00 50 59.5	+1.0
AGPR	**Aguadilla, PR**	**0.59**	**6**	↑eP	Pg	00 50 51.5	-0.1
AGPR	**Aguadilla, PR**	**0.59**	**6**	eS	Sb	00 51 00.6	-1.2
ICMP	**Isla Caja de M**	**0.62**	**89**	↑eP	Pg	00 50 51.8	-0.2
ICMP	**Isla Caja de M**	**0.62**	**89**	eS	Sb	00 51 01.4	-1.0
ICMP	**Isla Caja de M**	**0.62**	**89**	ePg	Pg	00 50 51.8	-0.2
ICMP				eSg	Sb	00 51 01.4	-1.0
AOPR	**Arecibo Observ**	**0.62**	**40**	‖eP	Pg	00 50 52.0	-0.1
AOPR	**Arecibo Observ**	**0.62**	**40**	eS	Sg	00 51 00.8	+0.7
AOPR	**Arecibo Observ**	**0.62**	**40**	ePg	Pg	00 50 52.0	-0.1
AOPR				eSg	Sg	00 51 00.8	+0.7
EMPR	**Esperanza - Ma**	**0.86**	**45**	↑eP	Pg	00 50 56.0	-0.6
EMPR	**Esperanza - Ma**	**0.86**	**45**	eS	Sg	00 51 07.5	-0.3
EMPR	**Esperanza - Ma**	**0.86**	**45**	ePg	Pg	00 50 56.0	-0.6
EMPR				eP	Pb	00 50 56.8	-0.8
EMPR				eSn	Sg	00 51 07.5	-0.3
EMPR				eSn	Sb	00 51 09.7	+0.4
SJG	**San Juan**	**1.00**	**76**	ePg	Pg	00 50 58.6	-0.8
SJG				eSn	Sn	00 51 15.0	-0.4
HUMP	**Col San Antoni**	**1.29**	**78**	eS	Sg	00 51 18.7	-2.8
HUMP	**Col San Antoni**	**1.29**	**78**	↑eP	Pn	00 51 02.9	-2.0
HUMP	**Col San Antoni**	**1.29**	**78**	ePn	Pn	00 51 04.0	-0.8
HUMP				eSn	Sn	00 51 22.6	+0.1
CBYP	**Canovanas**	**1.31**	**72**	ePn	Pn	00 51 04.2	-1.0
MTP	**Monte Pirata**	**1.56**	**81**	ePn	Pn	00 51 08.5	0.0
CUPR	**Culebra, Puert**	**1.85**	**76**	ePn	Pn	00 51 12.8	+0.3
CUPR				eSn	Sb	00 51 38.2	+0.2
STVI	**Saint Thomas**	**2.16**	**77**	ePn	Pn	00 51 17.5	+0.6
CDVI	**St. Croix**	**2.30**	**93**	ePn	Pn	00 51 17.9	-0.8
SDDR	**Presa de Saban**	**4.06**	**286**	ePg	Pb	00 51 52.0	-0.2

IDC 24 01:05:57.0±4.7, 4°.89S×153°.85E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.5/29, mbtmp3.8/3, Error ellipse: s-maj=170.5km s-min=32.8km az=110.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.18**	**230**	P	P	01 11 15.3	0.0
ASAR	**Alice Springs**	**26.80**	**224**	P	P	01 11 39.0	0.0
	0.2nm,0.4s,baz=56,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**81.08**	**319**	P	P	01 18 14.2	+0.1
	0.9nm,0.8s,baz=104,slow=6.1,SNR=7.4						
ZALV	**Zalesovo Beam**	**81.81**	**326**	P	P	01 18 17.9	+0.1
	0.7nm,0.4s,baz=128,slow=6.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**151.33**	**288**	PKPbc	PKPbc	01 25 53.4	-0.4
	0.2nm,0.4s,baz=82,slow=2.2,SNR=7.9						

*BJI **24** 01:10:00.0±0.0, 54°.64S×158°.39E, h5km, mb5.7/19, mB5.8/18, Ms5.3/20, Ms7 5.0/19*
*IDC **24** 01:10:00.0±0.5, 54°.46S×159°.11E, h0km, mb5.1/17, mb1 5.1/18, mb1mx5.0/26, mbtmp5.1/18, ML4.8/1, MS4.9/16, Ms1 4.9/16, ms1mx4.8/21, Error ellipse: s-maj=21.2km s-min=13.1km az=75.0*
*NEIC **24** 01:10:01.4±0.2, 54°.48S×158°.94E, h10km, mb5.6/84, MS5.2/195, Error ellipse: s-maj=5.1km s-min=4.1km az=145.0*
*MOS **24** 01:10:01.7±1.5, 54°.34S×158°.94E, h14km, mb5.6/25, MS5.0/14, Error ellipse: s-maj=24.2km s-min=8.6km az=104.8*
*ISCJB **24** 01:10:02.5±0.8, 54°.34S±0°.03×158°.97E±0°.05, h22km±6km, mb5.5/100, MS5.2/218, Error ellipse: s-maj=6.1km s-min=4.4km az=143.0*
ISC 24 01:10:02.9±0.6, 54°.34S±0°.04×159°.04E±0°.04, h18km±2km, h20km:pP-P, n702, σ1s50/633, mb5.6/100, MS5.2/218, 64C-29D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.16**	**197**	P	Pg	01 10 08.6	+1.3
	baz=0.3						
APZ	**The Paps**	**9.43**	**41**	P	**Pn**	**01 12 18.0**	**+0.3**
APZ				S	**Sn**	**01 13 58.4**	**-4.7**
SYZ	**Scrubby Hill**	**10.12**	**44**	P	**Pn**	**01 12 29.1**	**+2.0**
SYZ				S	**Sn**	**01 14 14.9**	**-5.1**
WHZ	**Wether Hill Ro**	**10.20**	**38**	ePn	**Pn**	**01 12 28.9**	**+0.6**
WHZ				eSn	**Sn**	**01 14 17.2**	**-4.9**
WHZ	**Wether Hill Ro**	**10.20**	**38**	P	**Pn**	**01 12 29.1**	**+0.8**
DCZ	**Deep Cove**	**10.31**	**34**	ePn	**Pn**	**01 12 31.2**	**+1.5**
DCZ	**Deep Cove**	**10.31**	**34**	P	**Pn**	**01 12 33.0**	**+3.3**
MLZ	**Mavora Lakes**	**10.72**	**37**	ePn	**Pn**	**01 12 37.4**	**+2.0**
MLZ	**Mavora Lakes**	**10.72**	**37**	P	**Pn**	**01 12 37.4**	**+2.0**
TUZ	**Tuapeka**	**10.79**	**43**	P	**Pn**	**01 12 38.3**	**+1.9**
HHSZ	**Highcliff Hill**	**11.24**	**46**	P	**Pn**	**01 12 44.5**	**+1.9**
MSZ	**Milford Sound**	**11.26**	**34**	P	Pn	01 12 48.1	+5.4
EAZ	**Earnscleugh**	**11.27**	**40**	P	**Pn**	**01 12 44.6**	**+1.7**
WKZ	**Wanaka**	**11.51**	**38**	ePn	**Pn**	**01 12 44.0**	**-2.2**
WKZ				eSn	**Sn**	**01 14 55.1**	**+1.0**
WKZ	**Wanaka**	**11.51**	**38**	P	**Pn**	**01 12 49.0**	**+2.8**
ODZ	**Otahua Downs**	**11.95**	**44**	ePn	**Pn**	**01 12 54.0**	**+1.8**
ODZ	**Otahua Downs**	**11.95**	**44**	P	**Pn**	**01 12 52.9**	**+0.7**
ODZ				S	**Sn**	**01 15 01.5**	**-3.4**
JCZ	**Jackson Bay**	**12.08**	**36**	P	Pn	01 12 58.8	+4.7
LBZ	**Lake Benmore**	**12.32**	**41**	ePn	**Pn**	**01 12 58.6**	**+1.4**
LBZ				eSn	**Sn**	**01 15 11.6**	**-2.3**
LBZ	**Lake Benmore**	**12.32**	**41**	P	**Pn**	**01 12 58.4**	**+1.2**
FOZ	**Fox Glacier**	**12.91**	**37**	ePn	**Pn**	**01 13 08.2**	**+2.8**
RPZ	**Rata Peaks**	**13.22**	**41**	Pn	**Pn**	**01 13 10.2**	**+0.7**
	5.0nm,0.3s,baz=153,slow=2.3,SNR=20						
RPZ				Sn	Sn	01 15 30.1	-5.8
	0.5nm,0.3s,baz=143,slow=20,SNR=2.6						
RPZ				LR	LR	01 17 38.1	
	comp=Z,4μm,18.4s,baz=190,slow=34						
RPZ	**Rata Peaks**	**13.22**	**41**	P	**Pn**	**01 13 10.1**	**+0.6**
WVZ	**Waitaha Valley**	**13.64**	**39**	P	**Pn**	**01 13 19.1**	**+3.8**
TAU	**Tasmania Unive**	**13.79**	**321**	ePn	**Pn**	**01 13 17.6**	**+0.2**
TAU				eSn	**Sn**	**01 15 44.3**	**-5.6**
TAU	**Tasmania Unive**	**13.79**	**321**	eP	**Pn**	**01 13 17.6**	**+0.2**
TAU				e		01 15 44.3	
AKCZ	**Akaroa Harbour**	**13.84**	**46**	P	**Pn**	**01 13 20.4**	**+2.4**
MQZ	**McQueen's Vall**	**13.87**	**45**	ePn	**Pn**	**01 13 20.6**	**+2.3**
MQZ	**McQueen's Vall**	**13.87**	**45**	P	**Pn**	**01 13 20.7**	**+2.3**
OXZ	**Oxford**	**13.93**	**43**	ePn	**Pn**	**01 13 20.9**	**+1.7**
OXZ	**Oxford**	**13.93**	**43**	P	**Pn**	**01 13 20.9**	**+1.7**
CRLZ	**Canterbury Las**	**13.96**	**45**	ePn	**Pn**	**01 13 22.2**	**+2.6**
CRLZ	**Canterbury Las**	**13.96**	**45**	P	**Pn**	**01 13 22.1**	**+2.5**
OKCZ	**Okains Bay**	**14.02**	**46**	P	**Pn**	**01 13 23.2**	**+2.7**
OKCZ				S	Sn	01 15 49.6	-6.0
INZ	**Inchbonnie**	**14.21**	**40**	P	**Pn**	**01 13 26.3**	**+3.3**
MOO	**Moorlands**	**14.25**	**322**	P	**Pn**	**01 13 23.8**	**+0.2**
	baz=14,SNR=50						
LTZ	**Lake Taylor**	**14.48**	**42**	ePn	**Pn**	**01 13 28.5**	**+1.7**
LTZ	**Lake Taylor**	**14.48**	**42**	P	**Pn**	**01 13 27.5**	**+0.7**
KHZ	**Kahutara**	**15.30**	**45**	ePn	**Pn**	**01 13 40.2**	**+2.5**
	143nm,1.4s						
KHZ	**Kahutara**	**15.30**	**45**	P	**Pn**	**01 13 40.2**	**+2.5**
THZ	**Tophouse**	**15.59**	**42**	ePn	**Pn**	**01 13 44.6**	**+2.9**
	141nm,1.2s						
SNZO	**South Karori**	**16.70**	**45**	ePn	**Pn**	**01 13 57.3**	**+1.5**
	133nm,1.1s						
BFZ	**Birch Farm**	**17.87**	**47**	ePn	**Pn**	**01 14 10.0**	**-0.4**
	142nm,1.2s						
TOO	**Toolangi**	**19.18**	**325**	eP	**P**	**01 14 26.2**	**+0.9**
	245nm,1.4s						
TOO	**Toolangi**	**19.18**	**325**	P	**Pn**	**01 14 27.4**	**+1.1**
	baz=19,SNR=14						
TOO	**Toolangi**	**19.18**	**325**	eP	**P**	**01 14 26.3**	**+0.9**
TOO				pmax	pmax		
	comp=Z,245nm,1.4s						
BKZ	**Black Stump Fm**	**19.24**	**45**	eP	**P**	**01 14 25.1**	**-1.0**
	comp=Z,115nm,1.2s						
CNB	**Canberra Magne**	**20.19**	**337**	P	Pn	01 14 39.2	+0.8
	baz=20,SNR=6.3						
URZ	**Urewera**	**20.27**	**45**	eP	**P**	**01 14 38.6**	**+1.5**
	comp=Z,89nm,1.1s						
URZ				LR	LR		
	comp=Z,4μm,19.0s						
URZ	**Urewera**	**20.27**	**45**	P	Pn	01 14 40.4	+1.3
	comp=Z,18nm,1.0s,baz=293,slow=2.8,SNR=4.5						
URZ				LR	LR	01 22 49.7	
	comp=Z,3μm,18.8s,baz=200,slow=38						
CAN	**Canberra**	**20.27**	**336**	eP	**P**	**01 14 35.2**	**-2.1**
	comp=Z,188nm,1.4s						
CAN				LR	LR		
	comp=Z,6μm,19.0s						
CAN	**Canberra**	**20.27**	**336**	eP	**P**	**01 14 35.2**	**-2.1**
CAN				pmax	pmax		
	comp=Z,188nm,1.4s						
CAN				MLR	MLR		
	comp=Z,6μm,19.0s						
ARPS	**Mount Arapiles**	**21.20**	**319**	P	**P**	**01 14 49.9**	**+2.5**
	baz=21,SNR=49						
MXZ	**Matakaoa Point**	**21.36**	**46**	eP	**P**	**01 14 51.1**	**+2.1**
	comp=Z,435nm,1.5s						
OUZ	**Omahuta**	**21.65**	**34**	eP	**P**	**01 14 53.5**	**+1.4**
	comp=Z,144nm,1.5s						
VNDA	**Vanda**	**23.30**	**178**	eP	**P**	**01 15 10.3**	**+1.1**
	comp=Z,61nm,1.4s						
VNDA	**Vanda**	**23.30**	**178**	P	**P**	**01 15 09.5**	**+0.3**
	comp=Z,12nm,0.9s,baz=345,slow=9.5,SNR=35						
VNDA				LR	LR	01 22 35.2	
	comp=Z,4μm,19.8s,baz=348,slow=33						
SBA	**Scott Base**	**23.77**	**176**	eP	**P**	**01 15 16.1**	**+2.4**
	comp=Z,258nm,1.8s						
SBA				LR	LR		
	comp=Z,4μm,20.0s						
SBA	**Scott Base**	**23.77**	**176**	eP	**P**	**01 15 16.2**	**+2.4**
SBA				pmax	pmax		
	comp=Z,258nm,1.8s						
SBA				MLR	MLR		
	comp=Z,4μm,20.0s						
ARMA	**Armidale**	**24.50**	**344**	eP	**P**	**01 15 22.2**	**+1.1**
	comp=Z,74nm,1.4s						
ARMA				LR	LR		
	comp=Z,4μm,21.0s						
STKA	**Stephens Creek**	**25.67**	**324**	eP	**P**	**01 15 33.5**	**+2.0**
	comp=Z,13nm,1.1s						
STKA				ePcP	**PcP**	**01 18 59.8**	**-1.8**
STKA				LR	LR		
	comp=Z,800nm,20.0s						
STKA	**Stephens Creek**	**25.67**	**324**	eP	**P**	**01 15 33.6**	**+2.0**
STKA				e		01 18 59.8	
STKA				pmax	pmax		
	comp=Z,13nm,1.1s						
STKA				MLR	MLR		
	comp=Z,800nm,20.0s						
STKA	**Stephens Creek**	**25.67**	**324**	P	**P**	**01 15 33.6**	**+2.0**
	comp=Z,26nm,1.0s,baz=149,slow=10,SNR=34						
STKA				LR	LR	01 24 54.3	
	comp=Z,4μm,18.2s,baz=149,slow=35						
CASY	**Casey**	**26.06**	**224**	eP	**P**	**01 15 35.4**	**+0.6**
	comp=Z,80nm,0.9s						
CASY				LR	LR		
	comp=Z,1μm,20.0s						
BBOO	**Buckleboo**	**26.98**	**314**	eP	**P**	**01 15 44.7**	**+1.3**
	comp=Z,227nm,1.5s						
BBOO				LR	LR		
	comp=Z,5μm,19.0s						
EIDS	**Eidsvold**	**29.54**	**345**	eP	**P**	**01 16 08.1**	**+1.9**
	comp=Z,35nm,1.3s						
EIDS				LR	LR		
	comp=Z,3μm,19.0s						
PINNC	**Pines Island,**	**32.31**	**15**	eP	**P**	**01 16 32.8**	**+2.1**
	comp=Z,134nm,1.5s						
FORT	**Forrest**	**32.35**	**304**	eP	**P**	**01 16 32.1**	**+1.2**
	comp=Z,95nm,0.9s						
FORT				ePP	**PP**	**01 17 43.6**	**-0.4**
FORT				LR	LR		
	comp=Z,3μm,19.0s						
OUENC	**Ouen Island, N**	**32.42**	**14**	PFAKE		01 16 40.0	+8.4
OUENC				LR	LR		
	comp=Z,2μm,21.0s						
DZM	**Mont Dzumac**	**32.71**	**13**	eLR	LR	01 25 02.8	
	comp=Z,3μm,22.2s						
DZM	**Mont Dzumac**	**32.71**	**13**	eP	**P**	**01 16 37.1**	**+2.9**
	comp=Z,125nm,1.4s						
DZM				LR	LR		
	comp=Z,2μm,22.0s						
DZM	**Mont Dzumac**	**32.71**	**13**	P	**P**	**01 16 36.0**	**+1.8**
	comp=Z,36nm,1.1s,baz=206,slow=6.1,SNR=15						
MARNC	**Mare, Loyalty**	**33.51**	**15**	eP	**P**	**01 16 41.1**	**0.0**
	comp=Z,102nm,1.1s						
MARNC				LR	LR		
	comp=Z,1μm,18.0s						
CTA	**Charters Tower**	**35.56**	**339**	P	**P**	**01 17 00.8**	**+1.8**
	comp=Z,43nm,1.0s,baz=175,slow=9.0,SNR=17						
CTAO	**Charters Tower**	**35.56**	**339**	eP	**P**	**01 17 00.6**	**+1.7**
	comp=Z,142nm,1.3s						
CTAO				LR	LR		
	comp=Z,2μm,21.0s						
CTAO	**Charters Tower**	**35.56**	**339**	eP	**P**	**01 17 00.6**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,142nm,1.3s						
CTAO				MLR	MLR		
	comp=Z,2μm,21.0s						
QSPA	**South Pole Qui**	**35.77**	**180**	eP	**P**	**01 17 01.5**	**+1.0**
	comp=Z,64nm,1.0s						
QSPA				ePcP	**PcP**	**01 19 28.8**	**+1.0**
QSPA				LR	LR		
	comp=Z,2μm,20.0s						
ASAR	**Alice Springs**	**35.94**	**318**	eP	**P**	**01 17 03.1**	**+0.9**
ASAR				ePcP	**PcP**	**01 19 27.9**	**-1.0**
ASAR	**Alice Springs**	**35.94**	**318**	eP	**P**	**01 17 03.1**	**+0.9**
ASAR				e		01 19 27.9	
ASAR	**Alice Springs**	**35.94**	**318**	P	**P**	**01 17 03.7**	**+1.4**
	comp=Z,60nm,0.9s,baz=156,slow=8.4,SNR=208						
ASAR				PcP	**PcP**	**01 19 28.4**	**-0.4**
	comp=Z,14nm,1.2s,baz=139,slow=3.4,SNR=5.0						
ASAR				LR	LR	01 31 29.8	
	comp=Z,2μm,18.5s,baz=156,slow=36						
AS31	**Alice Springs**	**35.94**	**318**	eP	**P**	**01 17 03.3**	**+1.0**
	comp=Z,35nm,1.1s						
AS31				ePcP	**PcP**	**01 19 28.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**36.33**	**289**	eP	**P**	**01 17 05.7**	**+0.3**
	comp=Z,31nm,0.9s						
NWAO				LR	LR		
	comp=Z,4μm,18.0s						
NWAO	**Narrogin (SRO)**	**36.33**	**289**	eP	**P**	**01 17 05.7**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,31nm,0.9s						
NWAO				MLR	MLR		
	comp=Z,4μm,18.0s						
NWAO	**Narrogin (SRO)**	**36.33**	**289**	P	**P**	**01 17 05.2**	**-0.2**
	comp=Z,24nm,0.8s,baz=124,slow=6.2,SNR=12						
H01W1	**Cape Leeuwin H**	**36.62**	**283**	T	T	01 55 46.2	
	baz=136,slow=76						
H01W2	**Cape Leeuwin H**	**36.62**	**283**	T	T	01 55 46.7	
	baz=136,slow=76						
H01W3	**Cape Leeuwin H**	**36.63**	**283**	T	T	01 55 47.5	
	baz=136,slow=76						
WB2	**Warramunga Arr**	**39.16**	**322**	eP	**P**	**01 17 29.7**	**+0.2**
	comp=Z,67nm,1.0s						
WR1	**Warramunga Arr**	**39.17**	**322**	eP	**P**	**01 17 29.4**	**-0.1**
WRA	**Warramunga Arr**	**39.17**	**322**	P	**P**	**01 17 29.4**	**-0.1**
WRAB	**Tennant Creek**	**39.17**	**322**	eP	**P**	**01 17 29.5**	**-0.1**
	comp=Z,80nm,1.1s						
WRAB				ePcP	**PcP**	**01 19 38.6**	**-0.1**
WRAB				LR	LR		
	comp=Z,8μm,20.0s						
WRAB	**Tennant Creek**	**39.17**	**322**	c i P	**P**	**01 17 29.5**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,205nm,2.5s						
MORW	**Morawa**	**39.94**	**292**	eP	**P**	**01 17 36.8**	**+0.9**
	comp=Z,71nm,1.0s						
MORW				LR	LR		
	comp=Z,3μm,20.0s						
COEN	**Coen**	**42.17**	**337**	eP	**P**	**01 17 55.8**	**+1.4**
	comp=Z,136nm,1.4s						
COEN				LR	LR		
	comp=Z,4μm,19.0s						
MAW	**Mawson**	**43.56**	**214**	eP	**P**	**01 18 05.8**	**+0.8**
	comp=Z,13nm,1.1s						
MAW				LR	LR		
	comp=Z,200nm,20.0s						
MAW	**Mawson**	**43.56**	**214**	P	**P**	**01 18 05.0**	**0.0**
	comp=Z,26nm,1.0s,baz=119,slow=9.5,SNR=26						
MAW				PcP	**PcP**	**01 19 52.8**	**+0.6**
	comp=Z,25nm,1.1s,baz=121,slow=3.3,SNR=7.3						
MAW				LR	LR	01 35 05.7	
	comp=Z,1μm,20.3s,baz=111,slow=35						
PSAD2	**Pilbara Seismi**	**43.95**	**302**	eP	**P**	**01 18 07.8**	**-1.0**
	comp=Z,300nm,2.0s						
PSAD2				LR	LR		
	comp=Z,3μm,20.0s						
PSAC3	**Pilbara Seismi**	**44.02**	**302**	eP	**P**	**01 18 08.4**	**-0.8**
	comp=Z,106nm,1.3s						
PSAD3	**Pilbara Seismi**	**44.02**	**302**	e

PMG	**Port Moresby**	**45.81 344**	*e*P	**P**	**01 18 24.7 +1.2**	
	comp=Z,91nm,1.3s					
PMG			LR	LR		
	comp=Z,2μm,20.0s					
PMG	**Port Moresby**	**45.81 344**	*c i*P	**P**	**01 18 25.2 +1.7**	
PMG			pmax	pmax		
	comp=Z,187nm,1.1s					
PMG	**Port Moresby**	**45.81 344**	P	**P**	**01 18 25.5 +2.0**	
	comp=Z,12nm,0.4s,baz=106,slow=3.6,SNR=14					
GIRL	**Giralia**	**46.04 295**	PFAKE		01 18 40.0 +15	
GIRL			LR	LR		
	comp=Z,4μm,19.0s					
MTN	**Manton Dam**	**46.87 321**	*e*P	**P**	**01 18 32.1 +0.3**	
	comp=Z,86nm,1.1s					
MTN			*e*PcP	**PcP**	**01 20 04.5 0.0**	
MTN			LR	LR		
	comp=Z,3μm,20.0s					
TBI	**Tubuai**	**49.12 72**	*e*S	**S**	**01 25 56.1 +2.7**	
	comp=Z,1μm,29.8s					
TBI			*e*LR	LR	01 32 47.7	
	comp=Z,3μm,30.5s,baz=211					
SYO	**Syowa Base**	**49.27 204⇑**	*i*P	**P**	**01 18 48.9 -0.9**	
SYO	**Syowa Base**	**49.27 204⇑**	*es*P	sP	01 18 54.7 -2.9	
RABL	**Rabaul**	**50.31 351**	*e*P	**P**	**01 18 59.2 +0.9**	
	comp=Z,51nm,0.6s					
SAUI	**Saumlaki**	**51.31 324**	PFAKE		01 19 20.0 +14	
SAUI			LR	LR		
	comp=Z,4μm,18.0s					
BATI	**Baumata**	**52.22 314**	P	**P**	**01 19 14.9 +2.3**	
	comp=Z,19nm,0.3s,baz=157,slow=7.6,SNR=7.9					
SOEI	**Soe**	**52.37 315**	*e*P	**P**	**01 19 15.2 +1.3**	
	comp=Z,123nm,1.2s					
SOEI			LR	LR		
	comp=Z,3μm,20.0s					
SOEI	**Soe**	**52.37 315**	P	**P**	**01 19 17.7 +3.8**	
	comp=Z,101nm,1.2s,comp=Z,2μm					
MANU	**Manus Island**	**53.00 345**	*e*P	**P**	**01 19 18.7 +0.2**	
	comp=Z,226nm,0.1s					
MANU			LR	LR		
	comp=Z,500nm,18.0s					
SNAA	**Sanae**	**53.63 187**	P	**P**	**01 19 22.2 -0.3**	
SNAA	**Sanae**	**53.63 187**	*e*P	**P**	**01 19 22.4 -0.1**	
	comp=Z,67nm,1.1s					
SNAA			*e*PcP	**PcP**	**01 20 25.8 -2.9**	
SNAA			LR	LR		
	comp=Z,3μm,19.0s					
SNAA	**Sanae**	**53.63 187**	*ce*P	**P**	**01 19 22.4 -0.1**	
PPT2	**Papeete2**	**53.70 68**	*e*S	**S**	**01 26 55.9 -0.9**	
	comp=Z,1μm,27.2s					
PPT2			*e*LR	LR	01 34 52.9	
	comp=Z,3μm,23.0s,baz=213					
PPT	**Papeete**	**53.72 68**	LR	LR	01 39 12.7	
	comp=Z,1μm,18.2s,baz=220,slow=33					
GENI	**Genyem**	**53.85 336**	P	**P**	**01 19 26.2 +1.6**	
MMRI	**Maumere**	**54.23 313**	*e*P	**P**	**01 19 27.9 +0.4**	
	comp=Z,102nm,1.1s					
MMRI			LR	LR		
	comp=Z,900nm,20.0s					
MMRI	**Maumere**	**54.23 313**	P	**P**	**01 19 28.1 +0.6**	
	comp=Z,94nm,1.1s,comp=Z,3μm					
VNA3	**Neumayer Olymp**	**54.46 184**	P	**P**	**01 19 28.4 -0.1**	
VNA2	**Neumayer--Watz**	**54.66 185**	P	**P**	**01 19 29.8 -0.2**	
	baz=161,slow=5.7					
VNA1	**Neumayer--Stat**	**54.98 185**	P	**P**	**01 19 32.3 +0.1**	
FAKI	**Fak Fak**	**55.73 327**	*e*P	**P**	**01 19 39.3 +0.9**	
	comp=Z,218nm,1.7s					
FAKI			LR	LR		
	comp=Z,2μm,18.0s					
TARA	**Tarawa**	**56.69 17**	*e*P	**P**	**01 19 46.4 +1.3**	
	comp=Z,232nm,1.6s					
BSSI	**Bau Bau, Buton**	**57.21 313**	P	**P**	**01 19 49.8 +0.9**	
	comp=Z,201nm,1.0s,comp=Z,2μm					
RKT	**Rikitea**	**57.60 85**	*e*LR	LR	01 36 38.8	
	comp=Z,2μm,26.5s					
JAGI	**Jajag, Banyuwa**	**58.06 305**	*e*P	**P**	**01 19 55.4 +0.5**	
	comp=Z,67nm,1.2s					
JAGI			LR	LR		
	comp=Z,1μm,20.0s					
BKSI	**Bulukumba**	**58.11 313**	P	**P**	**01 19 55.3 +0.2**	
	comp=Z,14nm,1.5s,comp=Z,508nm					
KDI	**Kendari**	**58.29 316**	P	**P**	**01 19 57.9 +1.5**	
	comp=Z,69nm,1.1s,comp=Z,2μm					
KAPI	**Kappang**	**58.54 312**	*e*P	**P**	**01 19 59.6 +1.5**	
	comp=Z,102nm,1.5s					
KAPI			*e*PcP	**PcP**	**01 20 47.5 -0.9**	
KAPI			LR	LR		
	comp=Z,1μm,20.0s					
KAPI	**Kappang**	**58.54 312**	*e*P	**P**	**01 19 59.7 +1.5**	
KAPI			*e*		01 20 47.5	
KAPI			pmax	pmax		
	comp=Z,102nm,1.5s					
KAPI			MLR	MLR		
	comp=Z,1μm,20.0s					
SANI	**Sanana**	**58.72 320**	P	**P**	**01 19 59.3 -0.1**	
	comp=Z,101nm,1.0s,comp=Z,2μm					
BNSI	**Bone**	**58.94 313**	P	**P**	**01 20 03.0 +2.1**	
	comp=Z,93nm,1.7s,comp=Z,2μm					
PTCN	**Pitcairn Islan**	**58.96 90**	*e*P	**P**	**01 20 02.3 +1.2**	
	comp=Z,156nm,0.7s					
SPSI	**Sidrap Palu**	**59.48 313**	P	**P**	**01 20 06.4 +1.7**	
	comp=Z,48nm,1.7s,comp=Z,1μm					
PWJI	**Pagerwojo**	**59.59 303**	P	P	01 20 15.9 +10	
GRJI	**Gresik**	**60.22 304**	P	**P**	**01 20 13.8 +4.0**	
	comp=Z,90nm,0.8s,comp=Z,906nm					
TTSI	**Tana Toraja**	**60.28 313**	P	**P**	**01 20 11.8 +1.6**	
	comp=Z,56nm,1.2s,comp=Z,1μm					
TNTI	**Ternate**	**60.83 323**	*e*P	**P**	**01 20 14.3 +0.4**	
	comp=Z,21nm,0.5s					
TNTI			LR	LR		
	comp=Z,600nm,19.0s					
LUWI	**Luwuk**	**60.88 317**	*e*P	**P**	**01 20 15.4 +1.2**	
	comp=Z,110nm,1.0s					
LUWI			LR	LR		
	comp=Z,800nm,20.0s					
LUWI	**Luwuk**	**60.88 317**	P	**P**	**01 20 17.4 +3.1**	
	comp=Z,114nm,1.1s					
SMRI	**Semarang**	**61.11 302**	*e*P	**P**	**01 20 16.5 +0.6**	
	comp=Z,353nm,1.8s					
APSI	**Ampana**	**61.45 316**	P	**P**	**01 20 20.5 +2.4**	
	comp=Z,38nm,1.2s,comp=Z,966nm					
CISI	**Cisompet, Garu**	**62.00 299**	*e*P	**P**	**01 20 21.7 -0.2**	
	comp=Z,192nm,1.3s					
CISI			LR	LR		
	comp=Z,2μm,22.0s					
CISI	**Cisompet, Garu**	**62.00 299**	P	**P**	**01 20 24.2 +2.2**	
	comp=Z,119nm,2.2s,comp=Z,4μm					
MPSI	**Mapaga**	**63.30 315**	P	**P**	**01 20 31.6 +1.1**	
	comp=Z,89nm,1.1s,comp=Z,1μm					
SGKI	**Sangatta, Kali**	**63.49 312**	P	P	01 20 41.9 +10	
CGJI	**Cibinong**	**63.90 297**	P	**P**	**01 20 36.5 +2.0**	
	comp=Z,93nm,1.5s,comp=Z,2μm					
MTKI	**Muara Teweh, K**	**64.32 309**	P	**P**	**01 20 38.7 +1.5**	
TAOE	**Nuku Hiva Isla**	**66.04 71**	*e*P	**P**	**01 20 49.3 +0.8**	
	comp=Z,182nm,1.3s					
GO09	**Cerro Castillo**	**66.35 148**	*e*P	**P**	**01 20 49.9 -0.1**	
	comp=Z,58nm,1.1s					
DAV	**Davao City (W)**	**67.31 324**	PFAKE		01 21 10.0 +14	
DAV			LR	LR		
	comp=Z,700nm,22.0s					
SBUM	**Sibu**	**68.54 308**	*e*P	**P**	**01 21 05.0 +0.8**	
	comp=Z,40nm,1.5s					
SBUM			LR	LR		
	comp=Z,500nm,20.0s					
SBUM	**Sibu**	**68.54 308**	P	**P**	**01 21 05.0 +0.8**	
KSM	**Kuching**	**68.57 306**	*e*P	**P**	**01 21 03.9 -0.6**	
	comp=Z,150nm,1.8s					
KSM			LR	LR		
	comp=Z,1μm,21.0s					
KSM	**Kuching**	**68.57 306**	P	**P**	**01 21 06.0 +1.6**	
ANA2	**Anatahan**	**71.32 346**	PFAKE		01 21 30.0 +8.8	
ANA2			LR	LR		
	comp=Z,1μm,22.0s					
PDSI	**Padang**	**71.45 296**	P	**P**	**01 21 22.7 +0.5**	
	comp=Z,56nm,0.8s,comp=Z,5μm					
SARN	**Sarigan**	**71.66 347**	PFAKE		01 21 40.0 +17	
SARN			LR	LR		
	comp=Z,400nm,20.0s					
MYKOM	**Kota Tinggi**	**72.00 300**	PFAKE		01 21 40.0 +15	
MYKOM			LR	LR		
	comp=Z,900nm,19.0s					
BKNI	**Bangkinang**	**72.20 297**	*e*P	**P**	**01 21 25.6 -1.0**	
	comp=Z,81nm,1.0s					
GSI	**Gunungsitoli**	**74.85 295**	*e*P	**P**	**01 21 44.6 +2.3**	
	comp=Z,263nm,1.6s					
GSI			*e*PP	**PP**	**01 24 31.2 +1.4**	
GSI	**Gunungsitoli**	**74.85 295**	P	**P**	**01 21 44.8 +2.6**	
	comp=Z,79nm,1.8s					
PSI	**Prapat**	**75.40 297**	*e*P	**P**	**01 21 44.5 -1.1**	
	comp=Z,57nm,1.4s					
PSI	**Prapat**	**75.40 297**	*e*P	**P**	**01 21 44.5 -1.1**	
PSI			pmax	pmax		
	comp=Z,57nm,1.4s					
IPM	**Ipoh**	**75.74 299**	*e*P	**P**	**01 21 47.8 +0.4**	
	comp=Z,72nm,1.5s					
IPM			LR	LR		
	comp=Z,900nm,19.0s					
IPM	**Ipoh**	**75.74 299**	P	**P**	**01 21 48.0 +0.7**	
PLCA	**Paso Flores**	**76.20 143**	*e*P	**P**	**01 21 50.8 +1.0**	
	comp=Z,62nm,1.8s					
PLCA	**Paso Flores**	**76.20 143**	*e*P	**P**	**01 21 50.8 +1.0**	
PLCA			pmax	pmax		
	comp=Z,62nm,1.8s					
PLCA	**Paso Flores**	**76.20 143**	P	**P**	**01 21 50.8 +1.0**	
	comp=Z,4.0nm,1.0s,baz=212,slow=9.3,SNR=2.9					
PLCA			LR	LR	01 49 04.0	
	comp=Z,534nm,18.2s,baz=224,slow=31					
KULM	**Kulim**	**76.62 299**	*e*P	**P**	**01 21 51.7 -0.7**	
	comp=Z,155nm,1.5s					
KULM			LR	LR		
	comp=Z,700nm,19.0s					
DLV	**T Lat**	**78.61 310**	*e*P	**P**	**01 22 04.0 +0.4**	
	comp=Z,86nm,1.5s					
DLV			LR	LR		
	comp=Z,500nm,20.0s					
TRTT	**Trang**	**79.28 300**	P	**P**	**01 22 08.7 +1.6**	
KRAB	**Krabi**	**79.86 300**	P	**P**	**01 22 11.8 +1.5**	
PKDT	**Phuket**	**80.02 299**	P	**P**	**01 22 12.8 +1.7**	
TRQA	**Tornquist**	**81.44 148**	*e*P	**P**	**01 22 18.3 -0.3**	
	comp=Z,39nm,1.2s					
TRQA	**Tornquist**	**81.44 148**	*e*P	**P**	**01 22 18.3 -0.3**	
TRQA			pmax	pmax		
	comp=Z,39nm,1.2s					
H08S2	**Diego Garcia H**	**81.83 268**	T	T	02 52 19.8	
	baz=144,slow=76					
H08S1	**Diego Garcia H**	**81.84 268**	T	T	02 52 19.8	
	baz=144,slow=76,SNR=6753					
H08S3	**Diego Garcia H**	**81.85 268**	T	T	02 52 19.8	
	baz=144,slow=76					
SDHHI	**Sand Hill**	**83.18 43**	PFAKE		01 22 40.0 +12	
SDHHI			LR	LR		
	comp=Z,2μm,20.0s					
UWB	**Uwekahuna B**	**83.22 43**	PFAKE		01 22 40.0 +12	
UWB			LR	LR		
	comp=Z,4μm,21.0s					
SRAK	**Srakaew**	**83.42 305**	P	**P**	**01 22 28.8 -0.2**	
TWG	**Pinlang**	**83.50 325**	PFAKE		01 22 40.0 +11	
TWG			LR	LR		
	comp=Z,1μm,19.0s					
PHET	**Kaeng Krachan**	**83.65 302**	P	P	01 22 39.4 +9.2	
H08N1	**Diego Carcia H**	**83.74 268**	T	T	02 54 42.4	
	baz=139,slow=76,SNR=3096					
H08N3	**Diego Garcia H**	**83.75 268**	T	T	02 54 44.8	
	baz=139,slow=76,SNR=2424					
H08N2	**Diego Garcia H**	**83.76 268**	T	T	02 54 45.5	
	baz=139,slow=76,SNR=9081					
YULB	**Yu-li**	**83.95 326**	PFAKE		01 22 40.0 +8.5	
YULB			LR	LR		
	comp=Z,400nm,20.0s					
TPUB	**Ta-pu**	**84.09 325**	PFAKE		01 22 40.0 +7.8	
TPUB			LR	LR		
	comp=Z,400nm,21.0s					
QIZ	**Qiongzhong**	**84.30 314**	*e*P	**P**	**01 22 34.7 +1.2**	
	comp=Z,55nm,1.4s					
QIZ			LR	LR		
	comp=Z,400nm,21.0s					
YOJ	**Yonaguni jima**	**84.39 327**	PFAKE		01 22 50.0 +16	
YOJ			LR	LR		
	comp=Z,600nm,19.0s					
SSLB	**Suanglung**	**84.43 325**	PFAKE		01 22 50.0 +16	
SSLB			LR	LR		
	comp=Z,500nm,21.0s					
YHNB	**Yeheng**	**85.11 326**	PFAKE		01 22 50.0 +13	
YHNB			LR	LR		
	comp=Z,600nm,22.0s					
QZH	**Quanzhou**	**86.30 324⇑**	*i*P	**P**	**01 22 42.5 -0.7**	
QZH			S	**S**	**01 33 23.1 +5.6**	
QZH			pmax	pmax		
	comp=Z,380nm,4.3s					
QZH			LR	LR		
	comp=Z,230nm,21.3s					
QZH			LR	LR		
	comp=Z,330nm,20.4s					
SUR	**Sutherland**	**86.41 214**	*e*P	**P**	**01 22 43.5 -0.7**	
	comp=Z,102nm,1.1s					
ABPO	**Ambohimpanom**	**86.75 242**	*e*P	**P**	**01 22 47.8 +1.7**	
	comp=Z,119nm,1.2s					
ABPO			LR	LR		
	comp=Z,800nm,19.0s					
ABPO	**Ambohimpanom**	**86.75 242**	*e*P	**P**	**01 22 47.8 +1.7**	
ABPO			pmax	pmax		
	comp=Z,119nm,1.2s					
ABPO			MLR	MLR		
	comp=Z,800nm,19.0s					
BOSA	**Boshof**	**88.28 219**	*e*P	**P**	**01 22 53.3 0.0**	
	comp=Z,30nm,0.9s					
BOSA	**Boshof**	**88.28 219**	P	**P**	**01 22 53.0 -0.2**	
	comp=Z,14nm,1.0s,baz=160,slow=6.3,SNR=13					
BOSA			LR	LR	01 57 32.0	
	comp=Z,655nm,18.3s,baz=154,slow=32					
CMAR	**Chiang Mai Arr**	**88.74 305**	P	**P**	**01 22 56.4 +1.2**	
	comp=Z,16nm,1.1s,baz=170,slow=3.7,SNR=44					
CMAR			LR	LR	02 00 10.0	
	comp=Z,783nm,21.1s,baz=175,slow=34					
SLVN	**Son La**	**88.92 310**	*e*P	**P**	**01 22 55.9 -0.2**	
	comp=Z,25nm,1.1s					
SLVN			*e*PP	**PP**	**01 26 21.7 -4.3**	
SLVN			LR	LR		
	comp=Z,700nm,21.0s					
CHTO	**Chiang Mai**	**89.05 305**	*e*P	**P**	**01 22 57.8 +1.2**	
	comp=Z,41nm,1.0s					
CHTO			LR	LR		
	comp=Z,800nm,21.0s					
CHTO	**Chiang Mai**	**89.05 305**	*e*P	**P**	**01 22 57.8 +1.2**	
CHTO			pmax	pmax		
	comp=Z,41nm,1.0s					
CHTO			MLR	MLR		
	comp=Z,800nm,21.0s					
JNU	**Nakatsue**	**90.44 337**	*e*P	**P**	**01 23 04.4 +1.6**	
	comp=Z,88nm,1.5s					
JNU	**Nakatsue**	**90.44 337**	P	**P**	**01 23 03.5 +0.7**	
	comp=Z,29nm,1.2s,baz=132,slow=3.7,SNR=14					
JNU			LR	LR	02 01 13.3	
	comp=Z,523nm,21.1s,baz=167,slow=34					
INU	**Inuyama**	**91.33 342**	*e*P	**P**	**01 23 08.5 +1.7**	
	comp=Z,68nm,1.5s					
INU			LR	LR		
	comp=Z,500nm,21.0s					
LBTB	**Lobatse**	**91.40 221**	*e*P	**P**	**01 23 07.9 +0.1**	
	comp=Z,52nm,1.6s					
LBTB	**Lobatse**	**91.40 221**	*e*P	**P**	**01 23 07.9 +0.1**	
LBTB			pmax	pmax		
	comp=Z,52nm,1.6s					
GYA	**Guiyang**	**92.22 315⇑**	*i*P	**P**	**01 23 12.4 +1.0**	
GYA			SKS	**SKSac**	**01 33 44.5 +1.0**	
GYA			S	**S**	**01 34 11.3 -1.9**	
GYA			pmax	pmax		
	comp=Z,20nm,1.2s					
GYA			pmax	pmax		
	comp=Z,130nm,5.7s					
MJAR	**Matsushiro Arr**	**92.28 343**	P	**P**	**01 23 11.8 +0.5**	
	comp=Z,14nm,1.1s,baz=184,slow=5.7,SNR=22					
MJAR			LR	LR	02 03 34.3	
	comp=Z,170nm,19.3s,baz=190,slow=35					
MAJO	**Matsushiro**	**92.28 343**	*e*P	**P**	**01 23 12.7 +1.5**	
	comp=Z,65nm,1.4s					
MAJO			LR	LR		
	comp=Z,400nm,22.0s					
MAJO	**Matsushiro**	**92.28 343**	*c i*P	**P**	**01 23 12.5 +1.2**	
MAJO			pmax	pmax		
	comp=Z,28nm,1.3s					
MAT	**Matsushiro**	**92.28 343**	P	**P**	**01 23 12.3 +1.0**	
MAT			S	S	01 34 22.6 +10	
MJB9	**Matsu-Tunnel**	**92.29 343**	*e*P	**P**	**01 23 13.2 +1.9**	
	comp=Z,70nm,1.5s					
MJB9			LR	LR		
	comp=Z,400nm,22.0s					
KMI	**Kunming**	**92.74 311**	P	**P**	**01 23 15.8 +1.9**	
KMI			pP	sP	01 23 20.8 -0.9	
KMI			sP	pP	01 23 21.8 +1.9	
KMI			PP	**PP**	**01 27 01.9 +5.5**	
KMI			S	**S**	**01 34 20.9 +2.9**	
KMI			sS	sS	01 34 26.5 -0.2	
KMI			pmax	pmax		
	comp=Z,19nm,0.5s					
KMI			pmax	pmax		
	comp=Z,250nm,3.9s					
KMI			LR	LR		
	comp=Z,330nm,19.6s					
KMI			LR	LR		
	comp=Z,430nm,19.6s					
KMI			LR	LR		
	comp=Z,500nm,20.6s					
KMI	**Kunming**	**92.74 311**	PFAKE		01 23 30.0 +16	
KMI			LR	LR		
	comp=Z,600nm,20.0s					
NJ2	**Nanjing**	**92.77 327**	⇓P	**P**	**01 23 15.3 +1.8**	
NJ2			sP	**sP**	**01 23 22.3 +1.0**	
NJ2			pmax	pmax		
	comp=Z,27nm,1.2s					
WHN	**Wuhan**	**92.91 323**	P	**P**	**01 23 15.1 +0.9**	
CPUP	**Villa Florida**	**93.75 148**	*e*P	**P**	**01 23 18.4 -0.1**	
	comp=Z,19nm,1.1s					
CPUP	**Villa Florida**	**93.75 148**	*e*P	**P**	**01 23 18.4 -0.1**	
CPUP			pmax	pmax		
	comp=Z,19nm,1.1s					
CPUP	**Villa Florida**	**93.75 148**	P	**P**	**01 23 19.1 +0.5**	
	comp=Z,7.0nm,1.1s,baz=218,slow=4.8,SNR=7.7					
CPUP			LR	LR	02 00 29.4	
	comp=Z,619nm,20.0s,baz=196,slow=32					
MSEY	**Mahe Island**	**94.08 256**	PFAKE		01 23 30.0 +10	
MSEY			LR	LR		
	comp=Z,1μm,18.0s					
TJN	**Taejon**	**94.39 335⇑**	*e*P	**P**	**01 23 23.0 +2.1**	
KS15	**Wonju Array Si**	**95.28 336**	*e*P	**P**	**01 23 26.7 +1.8**	
	comp=Z,6.1nm,0.9s					
KSAR	**Wonju Array Be**	**95.28 336**	*e*PP	**PP**	**01 27 12.5 -3.3**	
KSRS	**Korea Array**	**95.28 336**	P	**P**	**01 23 26.7 +1.8**	
	comp=Z,0.6nm,0.4s,baz=145,slow=4.6,SNR=5.9					
KSRS			LR	LR	02 05 11.5	
	comp=Z,275nm,19.7s,baz=162,slow=35					
CD2	**Chengdu**	**97.34 315**	P	Pdif	01 23 36.1 +1.4	
CD2			pmax	pmax		
	comp=Z,40nm,1.0s					
XAN	**Xi'an**	**98.04 320**	P	Pdif	01 23 38.0 +0.3	
XAN			pmax	pmax		
	comp=Z,12nm,1.3s					
XAN			pmax	pmax		
	comp=Z,100nm,7.6s					
XAN			LR	LR		
	comp=Z,340nm,18.4s					
XAN			LR	LR		
	comp=Z,260nm,19.3s					
XAN			LR	LR		
	comp=Z,510nm,19.2s					
XAN	**Xi'an**	**98.04 320**	*e*P	**P**	**01 23 36.7 -1.0**	
	comp=Z,22nm,1.4s					
XAN			LR	LR		
	comp=Z,600nm,21.0s					
XAN	**Xi'an**	**98.04 320**	*e*P	**P**	**01 23 36.7 -1.0**	
XAN			pmax	pmax		
	comp=Z,22nm,1.4s					
XAN			MLR	MLR		
	comp=Z,600nm,21.0s					
LPAZ	**La Paz**	**98.99 135**	LR	LR	01 57 54.1	
	comp=Z,389nm,21.6s,baz=169,slow=29					
LSZ	**Lusaka**	**99.05 228**	PFAKE		01 23 50.0 +7.1	
LSZ			LR	LR		
	comp=Z,1μm,20.0s					
TSUM	**Tsumeb**	**99.66 217**	PFAKE		01 24 00.0 +14	
TSUM			LR	LR		
	comp=Z,700nm,20.0s					
MDJ	**Mudanjiang**	**101.73 339**	PFAKE		01 24 10.0 +16	
MDJ			LR	LR		
	comp=Z,400nm,21.0s					
LZH	**Lanzhou**	**101.81 317**	*e*P	**Pdif**	**01 23 55.9 +1.3**	
LZH			pP	sPdif	01 23 59.3 -3.1	
LZH			sP	pP	01 24 00.8 0.0	
LZH			PP	**PP**	**01 28 09.3 +3.2**	
LZH			pmax	pmax		
	comp=Z,19nm,1.2s					
LZH			pmax	pmax		
	comp=Z,140nm,8.6s					
LZH			LR	LR		
	comp=Z,330nm,16.6s					
LZH			LR	LR		
	comp=Z,290nm,17.0s					
LZH			LR	LR		
	comp=Z,620nm,19.3s					
KMBO	**Kilima Mbogo**	**107.01 243**	PFAKE		01 28 40.0 +12	
KMBO			LR	LR		
	comp=Z,400nm,20.0s					
PEA0B	**Petropavlovsk-**	**107.09 359**	PFAKE		01 28 40.0 +14	
PEA0B			LR	LR		
	comp=Z,400nm,22.0s					
NAI	**Nairobi**	**107.12 242**	PFAKE		01 28 40.0 +12	
NAI			LR	LR		
	comp=Z,600nm,18.0s					
MBAR	**Mbarara**	**110.76 237**	PFAKE		01 28 50.0 +15	
MBAR			LR	LR		
	comp=Z,700nm,18.0s					
SONA0	**Songino Array**	**111.08 325**	*e*PKiKP	**PKiKP**	**01 28 33.8 -0.5**	
SONM	**Songino Array**	**111.08 325**	PKiKP	**PKiKP**	**01 28 33.8 -0.5**	
	comp=Z,0.6nm,0.9s,baz=151,slow=3.3,SNR=3.9					
MA2	**Magadan**	**113.76 355**	PFAKE		01 28 50.0 +11	
MA2			LR	LR		
	comp=Z,300nm,21.0s					
NIL	**Nilore**	**114.28 294**	PFAKE		01 28 50.0 +9.2	
NIL			LR	LR		
	comp=Z,299nm,21.0s					
FURI	**Furi**	**114.64 250**	PFAKE		01 28 50.0 +7.6	
FURI			LR	LR		
	comp=Z,700nm,20.0s					
WMQ	**Urumqi**	**115.07 311**	*e*PKP	**PKiKP**	**01 28 44.6 +2.6**	
WMQ			LR	LR		
	comp=Z,660nm,39.2s					
WMQ			LR	LR		
	comp=Z,1μm,34.5s					
WMQ			LR	LR		
	comp=Z,1μm,32.1s					
ESPN	**Las Esperanzas**	**115.28 105**	PFAKE		01 28 50.0 +6.8	
ESPN			LR	LR		
	comp=Z,500nm,19.0s					
TLY	**Talaya**	**115.30 325**	PFAKE		01 28 50.0 +7.9	
TLY			LR	LR		
	comp=Z,300nm,22.0s					
TUC	**Tucson**	**115.64 70**	PFAKE		01 29 00.0 +17	
TUC			LR	LR		
	comp=Z,1μm,20.0s					
Y14A	**Wickenburg**	**115.67 67**	PFAKE		01 29 00.0 +17	
Y14A			LR	LR		
	comp=Z,1μm,19.0s					
NV01	**Mina Array Sit**	**116.30 60**	*e*PKPdf	**PKPdf**	**01 28 43.0 -1.7**	
NV01			*e*PKKPbc	**PKKPab**	**01 39 15.4 -0.8**	
NVAR	**Mina Array Bea**	**116.30 60**	PKP	**PKPdf**	**01 28 43.0 -1.7**	
	comp=Z,0.3nm,0.5s,baz=225,slow=7.0,SNR=2.5					
NVAR			PKKPbc	**PKKPab**	**01 39 15.4 -0.8**	
	comp=Z,2.0nm,0.9s,baz=47,slow=3.8,SNR=6.4					
LNIG	**Linares**	**116.45 84**	PFAKE		01 29 00.0 +15	
LNIG			LR	LR		
	comp=Z,1μm,20.0s					
KSH	**Kashi**	**117.33 300**	PKP	**PKiKP**	**01 28 47.9 +1.3**	
KSH			PP	**PP**	**01 30 03.3 +4.8**	
KSH			SKS	**SKSdf**	**01 35 59.8 +2.3**	
KSH			AMB	AMB		
	comp=Z,280nm,5.1s					
KSH			LR	LR		
	comp=Z,140nm,6.8s					
KSH			LR	LR		
	comp=Z,200nm,5.4s					
KSH			LR	LR		
	comp=Z,220nm,10.0s					
LTX	**Lajitas**	**117.39 77**	*e*PKPdf	**PKPdf**	**01 28 46.3 -0.7**	
LTX			*e*PKKPbc	**PKKPab**	**01 39 10.7 -1.6**	
TXAR	**Lajitas Array**	**117.39 77**	PKP	**PKPdf**	**01 28 46.3 -0.7**	
	comp=Z,0.1nm,0.5s,baz=9.0,slow=33,SNR=3.5					
TXAR			PKKPbc	**PKKPab**	**01 39 10.7 -1.6**	
	comp=Z,1.4nm,0.8s,baz=72,slow=4.5,SNR=8.6					
EPT	**El Paso**	**117.61 73**	PFAKE		01 29 00.0 +13	
EPT			LR	LR		
	comp=Z,600nm,20.0s					
R11A	**Troy Canyon, C**	**117.63 62**	PFAKE		01 29 00.0 +13	
R11A			LR	LR		
	comp=Z,700nm,20.0s					
X18A	**Snowflake**	**117.77 69**	PFAKE		01 29 00.0 +12	
X18A			LR	LR		
	comp=Z,900nm,18.0s					
MNTX	**Cornudas Mount**	**118.19 74**	*e*PKPdf	**PKPdf**	**01 28 48.1 -0.2**	
MNTX			LR	LR		
	comp=Z,700nm,21.0s					

W18A	**Petrified Fore**	**118.33**	**69**	PFAKE		01 29 00.0	+11
W18A				LR	LR			
comp=Z,700nm,19.0s								
KDJ	**Kajisay**	**118.69**	**303**	PFAKE		01 29 00.0	+11
KDJ				LR	LR			
comp=Z,300nm,20.0s								
NRN	**Naryn**	**118.75**	**302**	*e*PKPdf	**PKPdf**	**01 28 49.0**	**-0.5**
NRN				LR	LR			
comp=Z,400nm,21.0s								
KVTX	**Kingsville**	**119.37**	**83**	PFAKE		01 29 00.0	+9.3
KVTX				LR	LR			
comp=Z,1μm,19.0s								
BOOM	**Boomskoye usch**	**119.57**	**302**	*e*PKPdf	**PKPdf**	**01 28 50.1**	**-0.7**
ELK	**Elko**	**119.60**	**61**	PKKPbc	PKKPbc	01 39 02.3	+1.5
comp=Z,0.5nm,0.4s,baz=221,slow=7.4,SNR=5.1								
KZA	**Kyzart**	**119.61**	**302**	P	**PKiKP**	**01 28 51.7**	**+0.4**
SNR=9.8								
DGZ	**Jazzator, Alta**	**119.77**	**315**	||*i*PKIKP	**PKPdf**	**01 28 50.8**	**-0.2**
MK31	**Makanchi Array**	**119.79**	**310**	*e*PKPdf	**PKPdf**	**01 28 50.0**	**-0.9**
MK32	**Makanchi Array**	**119.79**	**310**	*e*PKPdf	**PKPdf**	**01 28 49.5**	**-1.4**
MK32				*e*PKKPbc	**PKKPab**	**01 39 02.8**	**+2.5**
MKAR	**Makanchi Array**	**119.79**	**310**	*c i*PKIKP	**PKPdf**	**01 28 50.4**	**-0.5**
MKAR				pmax	pmax			
comp=Z,4.0nm,1.0s								
MKAR	**Makanchi Array**	**119.79**	**310**	PKP	**PKPdf**	**01 28 49.5**	**-1.4**
comp=Z,4.3nm,1.0s,baz=116,slow=2.8,SNR=23								
MKAR				PKKPbc	**PKKPab**	**01 39 02.8**	**+2.5**
comp=Z,0.6nm,1.0s,baz=333,slow=0.6,SNR=3.1								
GAR	**Garm**	**119.86**	**296**	*e*PKPdf	**PKiKP**	**01 28 51.5**	**-0.1**
SDV	**Santo Domingo**	**119.92**	**120**	PFAKE		01 29 00.0	+7.5
SDV				LR	LR			
comp=Z,800nm,22.0s								
MAKZ	**Makanchi**	**119.94**	**309**	*e*PKPdf	**PKPdf**	**01 28 50.3**	**-0.9**
MAKZ				*e*PP	**PP**	**01 30 14.0**	**-2.3**
MAKZ				LR	LR			
comp=Z,200nm,21.0s								
ANMO	**Albuquerque**	**120.00**	**71**	*e*PKKPbc	PKKPbc	01 39 02.7	+3.5
ANMO				LR	LR			
comp=Z,1μm,19.0s								
ANMO	**Albuquerque**	**120.00**	**71**	PKKPbc	PKKPbc	01 39 02.7	+3.5
comp=Z,0.6nm,0.7s,baz=90,slow=5.1,SNR=2.5								
UCH	**Uchtor**	**120.09**	**301**	P	**PKiKP**	**01 28 52.7**	**+0.4**
SNR=10								
BTK	**Batken**	**120.38**	**297**	*e*PKPdf	**PKPdf**	**01 28 52.1**	**-0.2**
BTK				*e*PP	PP	01 30 11.0	-8.5
AAK	**Ala-Archa**	**120.40**	**302**	P	**PKiKP**	**01 28 53.2**	**+0.7**
SNR=5.4								
AAK	**Ala-Archa**	**120.40**	**302**	*e*PKPdf	**PKiKP**	**01 28 53.0**	**+0.5**
AAK				*e*PP	**PP**	**01 30 12.7**	**-7.0**
AAK	**Ala-Archa**	**120.40**	**302**	*d i*PKIKP	**PKiKP**	**01 28 53.0**	**+0.5**
AAK				pmax	pmax			
comp=Z,12nm,1.7s								
AML	**Almayashu**	**120.43**	**301**	P	**PKiKP**	**01 28 53.4**	**+0.5**
SNR=6.9								
JCT	**Junction City**	**120.46**	**79**	PFAKE		01 29 00.0	+7.1
JCT				LR	LR			
comp=Z,600nm,19.0s								
EKS2	**Erkin-Say**	**120.78**	**301**	P	**PKiKP**	**01 28 53.9**	**+0.6**
SNR=8.1								
PV13	**Radium Mtn., P**	**121.07**	**67**	PFAKE		01 29 10.0	+16
PV13				LR	LR			
comp=Z,900nm,20.0s								
PV18	**Skein Mesa, Pa**	**121.08**	**67**	PFAKE		01 29 10.0	+16
PV18				LR	LR			
comp=Z,1μm,18.0s								
PV03	**Paradox Valley**	**121.12**	**67**	PFAKE		01 29 10.0	+16
PV03				LR	LR			
comp=Z,1μm,20.0s								
PV16	**Nyswonger Mesa**	**121.13**	**67**	PFAKE		01 29 10.0	+16
PV16				LR	LR			
comp=Z,1μm,19.0s								
PV21	**Cone Mtn., Par**	**121.28**	**66**	PFAKE		01 29 10.0	+16
PV21				LR	LR			
comp=Z,1μm,20.0s								
BMO	**Blue Mountains**	**121.59**	**56**	PFAKE		01 29 10.0	+15
BMO				LR	LR			
comp=Z,500nm,18.0s								
S22A	**4UR Ranch, Cre**	**121.84**	**69**	PFAKE		01 29 10.0	+14
S22A				LR	LR			
comp=Z,800nm,19.0s								
RC01	**Rabbit Creek A**	**122.03**	**27**	*e*PKPdf	**PKPdf**	**01 28 54.3**	**-0.4**
HLID	**Hailey**	**122.08**	**59**	PFAKE		01 29 10.0	+14
HLID				LR	LR			
comp=Z,400nm,19.0s								
HWUT	**Hardware Ranch**	**122.12**	**62**	PFAKE		01 29 10.0	+14
HWUT				LR	LR			
comp=Z,400nm,20.0s								
ABTX	**Abilene, Hawle**	**122.14**	**78**	PFAKE		01 29 10.0	+14
ABTX				LR	LR			
comp=Z,900nm,19.0s								
BILL	**Bilibino**	**122.18**	**3**	*i* PKIKP	**PKPdf**	**01 28 54.8**	**0.0**
BILL				pmax	pmax			
comp=Z,4.0nm,1.2s								
BILL				MLR	MLR			
comp=Z,197nm,19.0s								
AMTX	**Amarillo**	**122.63**	**74**	PFAKE		01 29 10.0	+13
AMTX				LR	LR			
comp=Z,700nm,21.0s								
KNK	**Knik Glacier**	**122.64**	**27**	*e*PKPdf	**PKPdf**	**01 28 56.1**	**+0.2**
KNK				LR	LR			
comp=Z,200nm,18.0s								
T25A	**Trinidad**	**122.73**	**71**	PFAKE		01 29 10.0	+13
T25A				LR	LR			
comp=Z,1μm,19.0s								
KK31	**Karatay Array**	**122.75**	**299**	*e*PKPdf	**PKPdf**	**01 28 56.7**	**0.0**
KKAR	**Karatay Array**	**122.75**	**299**	*e*PKPdf	**PKiKP**	**01 28 57.0**	**+0.1**
KKAR				*e*PP	PP	01 30 26.4	-9.1
O20A	**White River Ci**	**122.81**	**66**	PFAKE		01 29 10.0	+13
O20A				LR	LR			
comp=Z,600nm,18.0s								
AHID	**Auburn Hatcher**	**123.19**	**62**	PFAKE		01 29 10.0	+12
AHID				LR	LR			
comp=Z,500nm,22.0s								
BMRM	**Bremner River**	**123.33**	**29**	PFAKE		01 29 10.0	+12
BMRM				LR	LR			
comp=Z,100nm,22.0s								
Q24A	**Divide**	**123.64**	**69**	PFAKE		01 29 10.0	+11
Q24A				LR	LR			
comp=Z,700nm,18.0s								
FXWY	**Fox Creek**	**123.85**	**61**	*e*PKPdf	**PKPdf**	**01 28 58.5**	**-0.6**
MTDJ	**Mount Denham**	**123.96**	**107**	PFAKE		01 29 10.0	+10
MTDJ				LR	LR			
comp=Z,500nm,20.0s								
ISCO	**Idaho Springs**	**123.98**	**68**	PFAKE		01 29 10.0	+10
ISCO				LR	LR			
comp=Z,700nm,20.0s								
PD31	**Pinedale Array**	**123.99**	**63**	*e*PKPdf	**PKPdf**	**01 28 59.0**	**-0.4**
PDAR	**Pinedale Array**	**123.99**	**63**	*e*PKPdf	**PKPdf**	**01 28 58.1**	**-1.3**
PDAR	**Pinedale Array**	**123.99**	**63**	PKP	**PKPdf**	**01 28 59.0**	**-0.4**
comp=Z,0.2nm,0.3s,baz=202,slow=1.9,SNR=4.0								
ZAA0	**Zalesovo Array**	**124.04**	**317**	*e*PKPdf	**PKPdf**	**01 28 57.7**	**-1.1**
ZALV	**Zalesovo Beam**	**124.04**	**317**	PKP	**PKPdf**	**01 28 57.1**	**-1.6**
comp=Z,0.6nm,0.4s,baz=180,slow=0.9,SNR=7.6								
ZAA1	**Zalesovo Array**	**124.04**	**317**	*e*PKPdf	**PKPdf**	**01 28 57.1**	**-1.6**
BPAW	**Bear Paw Mtn.**	**124.26**	**24**	*e*PKPdf	**PKPdf**	**01 28 58.7**	**-0.2**
BPAW				*e*PP	PP	01 30 38.3	-7.1
DLMT	**Dillon**	**124.27**	**59**	PFAKE		01 29 10.0	+10
DLMT				LR	LR			
comp=Z,500nm,21.0s								
KURK	**Kurchatov**	**124.32**	**311**	*e*PKPpre	PKPpre	01 28 46.1	
KURK				*e*PKPdf	**PKPdf**	**01 28 59.1**	**-0.4**
KURK				*e*PP	**PP**	**01 30 45.8**	**-0.2**
KURK	**Kurchatov**	**124.32**	**311**	*c i*PKIKP	**PKPdf**	**01 28 58.5**	**-0.9**
KURK				pmax	pmax			
comp=Z,25nm,1.7s								
MCK	**McKinley**	**124.45**	**25**	*e*PKPpre	PKPpre	01 28 46.0	
MCK				*e*PKPdf	**PKPdf**	**01 28 58.8**	**-0.5**
MCK	**McKinley**	**124.45**	**25**	*e*PKIKP	PKPpre	01 28 46.0	
ETX06	**Route 59 and C**	**124.58**	**82**	PFAKE		01 29 10.0	+9.1
ETX06				LR	LR			
comp=Z,400nm,19.0s								
N23A	**Red Feather La**	**124.58**	**67**	PFAKE		01 29 10.0	+9.0
N23A				LR	LR			
comp=Z,500nm,19.0s								
H17A	**Grant Village**	**124.61**	**61**	PFAKE		01 29 10.0	+9.1
H17A				LR	LR			
comp=Z,700nm,18.0s								
MSO	**Missoula**	**124.64**	**56**	*e*PKPpre	PKPpre	01 28 46.7	
MSO				*e*PKPdf	**PKPdf**	**01 29 00.5**	**+0.1**
MSO	**Missoula**	**124.64**	**56**	P	**PKiKP**	**01 29 00.8**	**+0.1**
baz=225								
LRM	**Limekiln Ridge**	**124.67**	**58**	*e*PKPpre	PKPpre	01 28 51.4	
LRM				*e*PKPdf	**PKPdf**	**01 29 00.6**	**0.0**
YHH	**Holmes Hill**	**124.75**	**60**	*e*PKPdf	**PKiKP**	**01 29 01.4**	**+0.2**
LKWY	**Lake**	**124.82**	**61**	PFAKE		01 29 10.0	+8.7
LKWY				LR	LR			
comp=Z,600nm,19.0s								
BOZ	**Bozeman (W)**	**124.92**	**59**	*e*PKPdf	**PKiKP**	**01 29 01.9**	**+0.6**
BOZ				LR	LR			
comp=Z,300nm,21.0s								
BOZ	**Bozeman (W)**	**124.92**	**59**	P	**PKiKP**	**01 29 01.9**	**+0.6**
baz=226								
KSCO	**Kaye Shedlock'**	**125.05**	**70**	PFAKE		01 29 10.0	+8.2
KSCO				LR	LR			
comp=Z,1μm,20.0s								
MLY	**Manley**	**125.10**	**23**	PFAKE		01 29 10.0	+9.1
MLY				LR	LR			
comp=Z,300nm,18.0s								
MENT	**Mentasta**	**125.17**	**28**	PFAKE		01 29 10.0	+8.9
MENT				LR	LR			
comp=Z,400nm,18.0s								
U32A	**Winter Ranch,**	**125.22**	**75**	PFAKE		01 29 10.0	+7.9
U32A				LR	LR			
comp=Z,600nm,20.0s								
IMAR	**Indian Mountai**	**125.23**	**22**	*e*PKPdf	**PKPdf**	**01 29 00.1**	**-0.6**
WRH	**Wood River Hil**	**125.27**	**25**	*e*PKPdf	**PKPdf**	**01 29 00.7**	**-0.1**
WRH				*e*PP	**PP**	**01 30 46.7**	**-5.3**
CCB	**Clear Creek Bu**	**125.49**	**25**	*e*PKPdf	**PKPdf**	**01 29 00.5**	**-0.7**
HDA	**Harding Lake**	**125.51**	**26**	*e*PKPdf	**PKPdf**	**01 28 59.9**	**-1.4**
HDA				*e*PP	PP	01 30 46.6	-7.1
HDA	**Harding Lake**	**125.51**	**26**	P	**PKPdf**	**01 29 01.6**	**+0.3**
baz=216								
RIDG	**Independent Ri**	**125.51**	**27**	*e*PKPdf	**PKPdf**	**01 29 00.8**	**-0.6**
MDM	**Murphy Dome**	**125.64**	**25**	*e*PKPdf	**PKPdf**	**01 29 00.3**	**-1.3**
DOT	**Dot Lake**	**125.64**	**27**	*e*PKPpre	PKPpre	01 28 48.9	
DOT				*e*PKPdf	**PKPdf**	**01 29 01.3**	**-0.4**
DOT				LR	LR			
comp=Z,300nm,19.0s								
GEYT	**Alibeck**	**125.73**	**287**	PKP	**PKiKP**	**01 29 02.9**	**-0.2**
comp=Z,8.9nm,1.1s,baz=224,slow=4.1,SNR=20								
GYA0B	**ALIBECK ARRAY**	**125.73**	**287**	*e*PKPdf	**PKiKP**	**01 29 03.0**	**0.0**
GYA0B				*e*PP	**PP**	**01 30 50.0**	**-5.7**
RLMT	**Red Lodge**	**125.79**	**61**	*e*PKPdf	**PKiKP**	**01 29 04.3**	**+1.1**
BCAR	**Beaver Creek A**	**125.81**	**29**	*e*PP	PP	01 30 51.5	-4.3
ILAR	**Eielson Array**	**125.82**	**25**	PKP	**PKPdf**	**01 29 01.8**	**-0.1**
comp=Z,6.9nm,1.2s,baz=259,slow=2.7,SNR=25								
ILAR				PKKPbc	**PKKPab**	**01 38 32.9**	**-0.6**
comp=Z,0.5nm,0.8s,baz=57,slow=2.6,SNR=4.9								
ILB	**Eielson Array**	**125.82**	**25**	*e*PKPdf	**PKPdf**	**01 29 01.9**	**0.0**
ILB				*e*Sdif	**PKKPab**	**01 38 32.9**	**-0.6**
X37A	**Clayton**	**126.01**	**79**	PFAKE		01 29 10.0	+6.4
X37A				LR	LR			
comp=Z,500nm,20.0s								
WHY	**Whitehorse**	**126.06**	**34**	*e*PKPdf	**PKPdf**	**01 29 02.5**	**-0.2**
CBKS	**Cedar Bluff**	**126.52**	**72**	PFAKE		01 29 20.0	+15
CBKS				LR	LR			
comp=Z,500nm,18.0s								
TUL1	**Leonard**	**126.71**	**78**	PFAKE		01 29 20.0	+15
TUL1				LR	LR			
comp=Z,700nm,20.0s								
MIAR	**Mount Ida**	**127.01**	**81**	PFAKE		01 29 20.0	+14
MIAR				LR	LR			
comp=Z,500nm,18.0s								
COLD	**Coldfoot**	**127.05**	**22**	*e*PKPdf	**PKPdf**	**01 29 03.8**	**-0.4**
DAWY	**Dawson**	**127.27**	**29**	*e*PKPdf	**PKiKP**	**01 29 05.3**	**0.0**
EGAK	**Eagle**	**127.32**	**28**	*e*PKPdf	**PKPdf**	**01 29 04.6**	**-0.1**
TIXI	**Tiksi**	**127.49**	**348**	||*i*PKIKP	**PKPdf**	**01 29 04.1**	**-0.7**
TIXI				pmax	pmax			
comp=Z,17nm,1.7s								
RSSD	**Black Hills**	**127.83**	**65**	PFAKE		01 29 20.0	+13
RSSD				LR	LR			
comp=Z,500nm,19.0s								
UALR	**University of**	**127.89**	**81**	PFAKE		01 29 20.0	+13
UALR				LR	LR			
comp=Z,300nm,19.0s								
HHAR	**Hobbs**	**128.03**	**79**	*e*PKPdf	**PKPdf**	**01 29 06.7**	**-0.4**
W41B	**Gary Mavity, V**	**128.23**	**81**	*e*PKPdf	**PKPdf**	**01 29 05.4**	**-2.0**
SDD	**Santo Domingo**	**128.32**	**114**	PFAKE		01 29 20.0	+11
SDD				LR	LR			
comp=Z,500nm,20.0s								
TOLK	**Toolik Lake Re**	**128.35**	**21**	*e*PKPdf	**PKPdf**	**01 29 07.1**	**+0.4**
TOLK	**Toolik Lake Re**	**128.35**	**21**	P	**PKiKP**	**01 29 07.3**	**0.0**
baz=216								
KSU1	**Kansas State U**	**128.47**	**74**	PFAKE		01 29 20.0	+12
KSU1				LR	LR			
comp=Z,700nm,19.0s								
147A	**Livingston**	**128.76**	**86**	PFAKE		01 29 20.0	+11
147A				LR	LR			
comp=Z,226μm,20.0s								
BGNE	**Belgrade**	**129.19**	**71**	PFAKE		01 29 20.0	+10
BGNE				LR	LR			
comp=Z,1μm,19.0s								
MET	**Memphis--Engin**	**129.53**	**83**	PFAKE		01 29 20.0	+9.3
MET				LR	LR			
comp=Z,400nm,20.0s								
MPR	**Mayaguez**	**129.58**	**117**	PFAKE		01 29 20.0	+8.8
MPR				LR	LR			
comp=Z,600nm,20.0s								
BRVK	**Borovoye**	**129.69**	**308**	*e*PKPpre	PKPpre	01 28 59.6	
BRVK				*e*PKPdf	**PKPdf**	**01 29 09.8**	**+0.2**
BRVK	**Borovoye**	**129.69**	**308**	*c i*PKIKP	**PKPdf**	**01 29 09.1**	**-0.5**
EPYK	**Eagle Plains**	**129.74**	**28**	*e*PKPpre	PKPpre	01 28 58.2	
EPYK				*e*PKPdf	**PKiKP**	**01 29 10.4**	**+0.2**
EPYK	**Eagle Plains**	**129.74**	**28**	P	**PKPdf**	**01 29 09.5**	**+0.1**
baz=223								
AOPR	**Arecibo Observ**	**129.90**	**117**	PFAKE		01 29 20.0	+8.1
AOPR				LR	LR			
comp=Z,1μm,19.0s								
CBYP	**Canovanas**	**130.30**	**118**	PFAKE		01 29 20.0	+7.2
CBYP				LR	LR			
comp=Z,200nm,19.0s								
MTP	**Monte Pirata**	**130.31**	**119**	PFAKE		01 29 20.0	+7.3
MTP				LR	LR			
comp=Z,400nm,22.0s								
LIC	**Lamto**	**130.32**	**201**	*e*P	**PKPdf**	**01 29 11.4**	**-0.7**
comp=Z,61nm,1.3s								
KIC	**Kosan Boka**	**130.39**	**201**	*e*P	**PKPdf**	**01 29 11.7**	**-0.6**
comp=Z,60nm,1.3s								
PLAL	**Pickwick Lake**	**130.52**	**84**	*e*PKPpre	PKPpre	01 29 02.1	
PLAL				*e*PKPdf	**PKPdf**	**01 29 10.1**	**-1.7**
PLAL				LR	LR			
comp=Z,300nm,20.0s								
DBIC	**Dimbokro**	**130.72**	**201**	*e*PKPdf	**PKPdf**	**01 29 12.4**	**-0.5**
DBIC	**Dimbokro**	**130.72**	**201**	PKP	**PKPdf**	**01 29 11.5**	**-1.3**
comp=Z,8.5nm,1.1s,baz=195,slow=5.7,SNR=4.5								
TIC	**Toumodi**	**130.73**	**201**	*e*P	**PKPdf**	**01 29 09.3**	**-3.6**
SMRT	**St. Maarten**	**131.52**	**122**	PFAKE		01 29 30.0	+15
SMRT				LR	LR			
comp=Z,500nm,20.0s								
ECSD	**EROS Data Cent**	**131.58**	**70**	*e*PKPdf	**PKPdf**	**01 29 12.4**	**-1.1**
ECSD				LR	LR			
comp=Z,800nm,20.0s								
SLM	**Saint Louis**	**131.79**	**79**	PFAKE		01 29 30.0	+15
SLM				LR	LR			
comp=Z,800nm,20.0s								
INK	**Inuvik**	**131.99**	**28**	*e*PKPdf	**PKPdf**	**01 29 11.1**	**-2.4**
INK	**Inuvik**	**131.99**	**28**	*e*PKIKP	**PKPdf**	**01 29 11.1**	**-2.4**
INK	**Inuvik**	**131.99**	**28**	PKP	**PKPdf**	**01 29 13.8**	**+0.4**
comp=Z,3.1nm,1.1s,baz=183,slow=5.5,SNR=6.8								
X51A	**Calhoun**	**132.10**	**87**	PFAKE		01 29 30.0	+14
X51A				LR	LR			
comp=Z,300nm,18.0s								
SCIA	**State Center**	**132.27**	**74**	PFAKE		01 29 30.0	+14
SCIA				LR	LR			
comp=Z,600nm,19.0s								
ABKAR	**Akbulak array**	**132.30**	**299**	*e*PKPdf	**PKPdf**	**01 29 11.3**	**-3.3**
N41A	**Harden Midland**	**132.82**	**77**	PFAKE		01 29 30.0	+13
N41A				LR	LR			
comp=Z,800nm,19.0s								
U49A	**Red Boiling Sp**	**132.92**	**85**	P	**PKPdf**	**01 29 15.6**	**-0.7**
baz=226								
NRIK	**Noril'sk**	**133.78**	**332**	PKP	**PKPdf**	**01 29 16.6**	**-0.3**
comp=Z,2.5nm,0.8s,baz=162,slow=2.4,SNR=6.6								
L42A	**Oliver, Polo**	**134.34**	**76**	PFAKE		01 29 30.0	+10
L42A				LR	LR			
comp=Z,700nm,21.0s								
I39A	**Houston**	**134.48**	**73**	PFAKE		01 29 30.0	+10
I39A				LR	LR			
comp=Z,800nm,20.0s								
YKA	**Yellowknife Ar**	**134.48**	**41**	PKP	**PKPdf**	**01 29 17.3**	**-1.0**
comp=Z,0.3nm,0.7s,baz=221,slow=2.7,SNR=8.3								
YKB5	**Yellowknife Ar**	**134.48**	**41**	*e*PKPdf	**PKPdf**	**01 29 17.3**	**-1.0**
JFWS	**Jewell Farm**	**134.60**	**75**	PFAKE		01 29 30.0	+9.3
JFWS				LR	LR			
comp=Z,600nm,18.0s								
SPMN	**Marine on St.**	**134.63**	**71**	PFAKE		01 29 30.0	+9.4
SPMN				LR	LR			
comp=Z,900nm,21.0s								
GNI	**Garni**	**134.85**	**280** ||	*e*PKIKP	**PKiKP**	**01 29 21.0**	**-0.5**
GNI				pmax	pmax			
comp=Z,74nm,1.7s								
MAK	**Makhachkala**	**135.09**	**285**	*i* P	**Pdif**	**01 26 18.0**	**-4.1**
MAK				*i*		01 29 18.1	
MAK				*e*		01 31 53.0	
MAK				*e*		01 36 29.2	
MAK				pmax	pmax		
comp=Z,234nm,1.4s								
MAK				MLR	MLR			
comp=Z,131nm,17.0s								
TOC4	**Torodi Ar. Sit**	**135.17**	**212**	PFAKE		01 29 30.0	+7.3
TOC4				LR	LR			
comp=Z,300nm,20.0s								
TOC3	**Torodi Ar. Sit**	**135.18**	**212**	PFAKE		01 29 30.0	+7.3
TOC3				LR	LR			
comp=Z,300nm,20.0s								
TOB3	**Torodi Ar. Sit**	**135.19**	**212**	PFAKE		01 29 30.0	+7.3
TOB3				LR	LR			
comp=Z,300nm,19.0s								
TOC5	**Torodi Ar. Sit**	**135.19**	**212**	PFAKE		01 29 30.0	+7.3
TOC5				LR	LR			
comp=Z,400nm,20.0s								
TOA3	**Torodi Ar. Sit**	**135.19**	**212**	PFAKE		01 29 30.0	+7.3
TOA3				LR	LR			
comp=Z,300nm,19.0s								
TOB4	**Torodi Ar. Sit**	**135.19**	**212**	PFAKE		01 29 30.0	+7.3
TOB4				LR	LR			
comp=Z,400nm,19.0s								
TOA2	**Torodi Ar. Sit**	**135.20**	**212**	PFAKE		01 29 30.0	+7.3
TOA2				LR	LR			
comp=Z,600nm,20.0s								
TOA0	**Torodi Ar. Sit**	**135.20**	**212**	*e*PKPdf	**PKPdf**	**01 29 20.0**	**-1.2**
TOA0				LR	LR			
comp=Z,300nm,20.0s								
TORD	**Torodi Ar. Bea**	**135.20**	**212**	PKhKP	PKPpre	01 29 10.2	
comp=Z,2.5nm,1.2s,baz=156,slow=3.4,SNR=5.5								
TORD				PKP	**PKPdf**	**01 29 19.4**	**-1.8**
comp=Z,5.9nm,0.9s,baz=188,slow=1.1,SNR=17								
TOC2	**Torodi Ar. Sit**	**135.20**	**212**	PFAKE		01 29 30.0	+7.3
TOC2				LR	LR			
comp=Z,300nm,19.0s								
TOA1	**Torodi Ar. Sit**	**135.21**	**212**	*e*PKPpre	PKPpre	01 29 10.2	
TOA1				*e*PKPdf	**PKPdf**	**01 29 19.4**	**-1.8**
TOA1				LR	LR			
comp=Z,300nm,21.0s								
TOB5	**Torodi Ar. Sit**	**135.21**	**212**	PFAKE		01 29 30.0	+7.3
TOB5				LR	LR			
comp=Z,400nm,20.0s								
TOC7	**Torodi Ar. Sit**	**135.22**	**212**	PFAKE		01 29 30.0	+7.2
TOC7				LR	LR			
comp=Z,400nm,19.0s								
TOC1	**Torodi Ar. Sit**	**135.22**	**212**	PFAKE		01 29 30.0	+7.2
TOC1				LR	LR			
comp=Z,400nm,19.0s								
K43A	**Burlington**	**135.55**	**76**	PFAKE		01 29 30.0	+7.4
K43A				LR	LR			
comp=Z,700nm,21.0s								
I42A	**Draeger Farm,**	**135.97**	**75**	PFAKE		01 29 30.0	+6.6
I42A				LR	LR			
comp=Z,600nm,21.0s								
G40A	**Rib Lake**	**136.10**	**72**	PFAKE		01 29 30.0	+6.4
G40A				LR	LR			
comp=Z,1μm,19.0s								
E38A	**The Farm, Brul**	**136.16**	**70**	PFAKE		01 29 30.0	+6.3
E38A				LR	LR			
comp=Z,900nm,20.0s								
L46A	**Eue Claire**	**136.28**	**78**	PFAKE		01 29 30.0	+5.9
L46A				LR	LR			
comp=Z,700nm,19.0s								
AKH	**Akhalkalaki**	**136.39**	**280**	*e*PKPdf	**PKPdf**	**01 29 21.1**	**-1.8**
AKH				*e*PP	PP	01 31 56.6	-8.1
AKH	**Akhalkalaki**	**136.39**	**280**		*i*P	**PKiKP**	**01 29 24.5**	**-0.1**
AKH	**Akhalkalaki**	**136.39**	**280**	*e*PKIKP	**PKPdf**	**01 29 21.1**	**-1.8**
SVE	**Sverdlovsk**	**136.40**	**308**	*e*PKIKP	**PKiKP**	**01 29 23.3**	**-0.5**
SVE				pmax	pmax			
comp=Z,21nm,1.2s								
H42A	**Shiocton**	**136.57**	**74**	PFAKE		01 29 30.0	+5.4
H42A				LR	LR			
comp=Z,700nm,20.0s								
M48A	**Edgerton**	**136.84**	**80**	PFAKE		01 29 40.0	+15
M48A				LR	LR			
comp=Z,600nm,18.0s								
H43A	**Windswept, Lux**	**136.97**	**75**	PFAKE		01 29 40.0	+15
H43A				LR	LR			
comp=Z,800nm,18.0s								
F41A	**Three Lakes**	**137.00**	**72**	PFAKE		01 29 40.0	+15
F41A				LR	LR			
comp=Z,900nm,20.0s								
ACSO	**Alum Creek Sta**	**137.04**	**83**	PFAKE		01 29 40.0	+14
ACSO				LR	LR			
comp=Z,400nm,19.0s								
G42A	**Mountain**	**137.08**	**73**	PFAKE		01 29 40.0	+14
G42A				LR	LR			
comp=Z,700nm,20.0s								
ARU	**Arti**	**137.16**	**307**	*e*PKPdf	**PKPdf**	**01 29 22.7**	**-0.8**
ARU	**Arti**	**137.16**	**307**	*i* PKIKP	**PKPdf**	**01 29 24.0**	**+0.5**
ARU

LONY	**Lake Ozonia**	**144.63**	**83**	*e*PKPdf	**PKPdf**	**01 29 37.6**	**+0.1**
LONY	**Lake Ozonia**	**144.63**	**83**	P	PKPbc	01 29 36.6	+0.3
	baz=234						
VLDQ	**Val d'Or**	**144.92**	**76**	*e*PKPdf	**PKPbc**	**01 29 36.1**	**-0.9**
ALFO	**Alfred**	**145.04**	**82**	P	**PKPab**	**01 29 37.8**	**+0.3**
	baz=236						
LPSR	**Galich'ya Gora**	**145.24**	**292**	*e*PKP2	**PKPbc**	**01 29 37.3**	**-0.6**
LPSR				pmax	pmax		
	comp=Z,180nm,1.3s						
CTYL	**Yalikoy Yolu**	**145.29**	**269**	⇑*i*P	**PKPbc**	**01 29 37.9**	**-0.5**
FRNY	**Flat Rock**	**145.34**	**84**	*e*PKPbc	**PKPbc**	**01 29 38.1**	**-0.4**
EZN	**Ezine**	**145.38**	**265**	⇑*i*P	**PKPab**	**01 29 38.8**	**-0.2**
EZN	**Ezine**	**145.38**	**265**	⇑PKIKP	**PKPab**	**01 29 38.8**	**-0.2**
PRGR	**Permogore**	**145.42**	**309**	⇑*i*PKIKP	**PKPbc**	**01 29 38.2**	**0.0**
PRGR				*e*		01 29 45.4	
PRGR				pmax	pmax		
	comp=Z,100nm,0.9s						
HNH	**Hanover**	**145.44**	**86**	*e*PKPdf	**PKPdf**	**01 29 38.8**	**0.0**
VT1	**Waterbury**	**145.53**	**85**	*e*PKPdf	**PKPdf**	**01 29 38.0**	**-1.0**
VT1				*e*PKPbc	**PKPbc**	**01 29 40.2**	**+1.1**
VT1				LR	LR		
	comp=Z,400nm,19.0s						
RES	**Resolute Bay**	**145.54**	**27**	*e*PKPdf	**PKPab**	**01 29 39.1**	**+0.5**
RES	**Resolute Bay**	**145.54**	**27**	*e*PKIKP	**PKPab**	**01 29 39.1**	**+0.5**
MATQ	**Matagami**	**145.66**	**74**	P	**PKPbc**	**01 29 39.7**	**+0.3**
	baz=240						
PHSR	**Pinarhisar**	**145.84**	**268**	⇑*i*P	**PKPbc**	**01 29 39.9**	**-0.3**
LBNH	**Lisbon**	**145.96**	**86**	P	**PKPab**	**01 29 41.2**	**+0.1**
	baz=234						
AGG	**Agios Georgios**	**147.17**	**260**	*e*PKPbc	**PKPbc**	**01 29 43.8**	**-0.4**
AGG	**Agios Georgios**	**147.17**	**260**	*e*PKP2	**PKPbc**	**01 29 43.8**	**-0.4**
ICOR	**Ion Corvin**	**147.18**	**272**	⇓*i*P	**PKPbc**	**01 29 43.3**	**-0.7**
TLCR		**147.20**	**275**	⇑*i*P	**PKPbc**	**01 29 44.2**	**+0.2**
TLCR		**147.20**	**275**	⇑PKP2	**PKPbc**	**01 29 44.2**	**+0.2**
MOS	**Moscow**	**147.26**	**297**	*e*PKP2	**PKPbc**	**01 29 43.0**	**-0.8**
MOS				pmax	pmax		
	comp=Z,144nm,1.5s						
TLB	**Topalu**	**147.31**	**273**	⇓*i*P	**PKPbc**	**01 29 44.7**	**+0.4**
TLB	**Topalu**	**147.31**	**273**	⇓PKP2	**PKPbc**	**01 29 44.7**	**+0.4**
HARR	**Harsova**	**147.43**	**273**	⇑*i*P	**PKPdf**	**01 29 43.1**	**+1.0**
HARR	**Harsova**	**147.43**	**273**	⇑PKIKP	**PKPdf**	**01 29 43.1**	**+1.0**
CHGQ	**Chibougamau**	**147.57**	**75**	P	**PKPbc**	**01 29 44.4**	**-0.6**
	baz=241						
OBN	**Obninsk**	**147.58**	**295**	*e*PKPdf	**PKPdf**	**01 29 42.6**	**+0.6**
OBN				*e*PKPbc	**PKPbc**	**01 29 45.2**	**+0.5**
OBN	**Obninsk**	**147.58**	**295**	⇑*i*P	**PKPbc**	**01 29 45.1**	**+0.4**
OBN	**Obninsk**	**147.58**	**295**	*de*PKIKP	**PKPdf**	**01 29 41.7**	**-0.3**
OBN				*i*		01 33 16.2	
OBN				pmax	pmax		
	comp=Z,186nm,1.4s						
CFR	**Carcaliu**	**147.59**	**274**	⇓*i*P	**PKPbc**	**01 29 45.4**	**+0.3**
CFR	**Carcaliu**	**147.59**	**274**	⇓PKP2	**PKPbc**	**01 29 45.4**	**+0.3**
AMRR	**Amara**	**147.74**	**273**	⇓*i*P	**PKiKP**	**01 29 46.4**	**-1.1**
AMRR	**Amara**	**147.74**	**273**	⇓PKP2	**PKiKP**	**01 29 46.4**	**-1.1**
KLMR	**Klimovskoe**	**148.01**	**306**	⇑*i*PKP2	**PKPbc**	**01 29 45.7**	**0.0**
KLMR				pmax	pmax		
	comp=Z,180nm,1.3s						
KIS	**Kishinev**	**148.19**	**277**	*e*PKP	**PKPdf**	**01 29 40.0**	**-3.3**
KIS				LRM	MLR	02 31 41.0	
	comp=Z,600nm,22.0s						
LEOM	**Leova**	**148.24**	**276**	⇑*i*P	**PKPbc**	**01 29 46.6**	**-0.2**
LEOM	**Leova**	**148.24**	**276**	⇑PKP2	**PKPbc**	**01 29 46.6**	**-0.2**
SGRR	**Singureni**	**148.31**	**271**	⇑*i*P	**PKPab**	**01 29 54.8**	**+4.6**
VAY	**Valandovo**	**148.53**	**264**	*i* Pg	**PKPbc**	**01 29 47.0**	**-0.8**
ODBI	**Odobesti**	**148.55**	**274**	⇓*i*P	**PKiKP**	**01 29 49.4**	**+0.3**
BISRR	**Bisoca**	**148.63**	**274**	⇓*i*P	**PKiKP**	**01 29 48.6**	**-0.8**
SECR		**148.72**	**272**	⇑*i*P	**PKPbc**	**01 29 47.3**	**-0.8**
VRI	**Vrincioaia**	**148.80**	**274**	⇑*i*P	**PKPbc**	**01 29 47.8**	**-0.5**
VRI	**Vrincioaia**	**148.80**	**274**	⇑PKP2	**PKPbc**	**01 29 47.8**	**-0.5**
PLOR	**Plostina**	**148.83**	**274**	⇑*i*P	**PKPbc**	**01 29 48.0**	**-0.4**
PLOR	**Plostina**	**148.83**	**274**	⇑PKP2	**PKPbc**	**01 29 48.1**	**-0.4**
FNA	**Florina**	**148.88**	**262**	*e*PKPbc	**PKPbc**	**01 29 47.7**	**-1.0**
VTS	**Vitosha**	**148.96**	**266**	*e*PKPdf	**PKPdf**	**01 29 45.4**	**+0.5**
VTS				*e*PKPbc	**PKPbc**	**01 29 48.8**	**-0.2**
VTS	**Vitosha**	**148.96**	**266**	⇑*i*P	**PKPbc**	**01 29 48.6**	**-0.4**
VTS	**Vitosha**	**148.96**	**266**	⇑PKP2	**PKPbc**	**01 29 48.6**	**-0.4**
STIP	**Stip**	**149.00**	**264**	*i* PKP	**PKPbc**	**01 29 47.3**	**-1.6**
MLR	**Muntele Rosu**	**149.04**	**273**	*e*PKPdf	**PKPdf**	**01 29 44.9**	**0.0**
MLR				*e*PKPbc	**PKPbc**	**01 29 48.8**	**-0.2**
MLR				LR	LR		
	comp=Z,400nm,19.0s						
MLR	**Muntele Rosu**	**149.04**	**273**	⇑*i*P	**PKPbc**	**01 29 48.9**	**-0.2**
MLR	**Muntele Rosu**	**149.04**	**273**	*e*PKIKP	**PKPdf**	**01 29 44.9**	**0.0**
MLR				*e*		01 29 48.8	
MLR				MLR	MLR		
	comp=Z,400nm,19.0s						
HUMR	**Humele**	**149.07**	**271**	⇓*i*P	**PKPbc**	**01 29 48.4**	**-0.6**
BIA	**Bitola**	**149.07**	**262**	*i* PKP	**PKPbc**	**01 29 49.0**	**-0.1**
VLAD	**Vladila**	**149.10**	**269**	⇑*i*P	**PKPbc**	**01 29 49.2**	**+0.1**
TESR	**Tescani**	**149.19**	**275**	⇑*i*P	**PKPbc**	**01 29 49.0**	**-0.2**
KRUS	**Krusevo**	**149.33**	**263**	*i* PKP	**PKPbc**	**01 29 49.6**	**-0.2**
TMCR	**Tamitsa**	**149.41**	**312**	*e*PKIKP	**PKPdf**	**01 29 46.8**	**+2.1**
TMCR				pmax	pmax		
	comp=Z,92nm,1.3s						
OHR	**Ohrid**	**149.43**	**262**	*i* PKP	**PKPbc**	**01 29 49.0**	**-1.0**
OZUR		**149.47**	**274**	⇑*i*P	**PKiKP**	**01 29 50.5**	**-0.6**
VOIR		**149.54**	**272**	⇑*i*P	**PKPbc**	**01 29 49.4**	**-0.8**
VOIR		**149.54**	**272**	⇑PKP2	**PKPbc**	**01 29 49.4**	**-0.8**
DOPR	**Dopca**	**149.63**	**273**	⇓*i*P	**PKPbc**	**01 29 50.2**	**-0.2**
BIZ	**Bicaz**	**149.74**	**275**	⇓*i*P	**PKiKP**	**01 29 51.4**	**-0.2**
ARR	**Arges**	**149.74**	**272**	⇓*i*P	**PKPbc**	**01 29 50.5**	**-0.2**
AKASG	**Malin Array Be**	**149.77**	**284**	PKPbc	**PKPbc**	**01 29 50.2**	**-0.3**
	comp=Z,34nm,1.0s,baz=99,slow=2.7,SNR=56						
AKBB	**Malin Array Si**	**149.77**	**284**	*e*PKPbc	**PKPbc**	**01 29 50.0**	**-0.5**
AKBB	**Malin Array Si**	**149.77**	**284**	*e*PKP2	**PKPbc**	**01 29 50.0**	**-0.5**
KIEV	**Kiev**	**149.78**	**284**	*e*PKPbc	**PKPbc**	**01 29 50.2**	**-0.3**
KIEV				*e*PKPab	**PKPab**	**01 29 58.0**	**+2.0**
KIEV	**Kiev**	**149.78**	**284**	⇑*i*P	**PKPbc**	**01 29 50.3**	**-0.2**
KIEV	**Kiev**	**149.78**	**284**	*ce*PKP2	**PKPbc**	**01 29 49.9**	**-0.6**
PRAR	**RASCA**	**149.88**	**276**	⇓*i*P	**PKiKP**	**01 29 51.5**	**-0.4**
PUNG	**Punghina**	**150.12**	**269**	⇑*i*P	**PKPbc**	**01 29 51.5**	**-0.1**
TIR	**Tirane**	**150.12**	**261**	*e*PKPbc	**PKPbc**	**01 29 52.0**	**+0.3**
TIR				*e*PKPab	**PKPab**	**01 29 58.3**	**+0.6**
TIR	**Tirane**	**150.12**	**261**	⇑*i*P	**PKiKP**	**01 29 53.0**	**+0.5**
TIR	**Tirane**	**150.12**	**261**	⇑PKIKP	**PKiKP**	**01 29 53.0**	**+0.5**
LOT	**Lotru**	**150.29**	**271**	⇓*i*P	**PKPbc**	**01 29 51.9**	**-0.2**
CEL	**Celeste**	**150.31**	**252**	*e*PKPbc	**PKPbc**	**01 29 53.0**	**+0.7**
TIP	**Timpagrande**	**150.46**	**255**	*e*PKPdf	**PKPdf**	**01 29 45.7**	**-1.7**
TIP				*e*PKPbc	**PKPbc**	**01 29 53.4**	**+0.7**
TIP				*e*PKPab	**PKPab**	**01 30 00.8**	**+1.5**
TIP	**Timpagrande**	**150.46**	**255**	⇑*i*P	**PKiKP**	**01 29 53.8**	**+0.4**
BURAR	**Bucovina Array**	**150.60**	**276**	*e*PKPbc	**PKPbc**	**01 29 53.4**	**+0.7**
BURAR				*e*PKPab	**PKPab**	**01 30 01.9**	**+2.2**
BURAR	**Bucovina Array**	**150.60**	**276**	⇑*i*P	**PKiKP**	**01 29 53.0**	**-0.5**
BURAR	**Bucovina Array**	**150.60**	**276**	⇑PKIKP	**PKiKP**	**01 29 53.0**	**-0.5**
BUR08	**Bucovina Ar. S**	**150.63**	**276**	*e*PKPdf	**PKPdf**	**01 29 48.3**	**+0.9**
BUR08				*e*PKPbc	**PKPbc**	**01 29 53.6**	**+0.8**
HERR	**Herculane**	**150.77**	**269**	⇑*i*P	**PKPbc**	**01 29 52.9**	**-0.2**
ARCR	**ARCALIA**	**150.83**	**274**	⇑*i*P	**PKiKP**	**01 29 53.7**	**-0.1**
GZR	**Gura Zlata**	**150.84**	**270**	⇑*i*P	**PKPbc**	**01 29 53.2**	**-0.2**
GZR	**Gura Zlata**	**150.84**	**270**	⇑PKIKP	**PKPbc**	**01 29 53.2**	**-0.2**
DEV	**Deva**	**151.04**	**271**	⇑*i*P	**PKPbc**	**01 29 53.3**	**-0.4**
DEV	**Deva**	**151.04**	**271**	⇑PKIKP	**PKPbc**	**01 29 53.3**	**-0.4**
CJR	**Cluj-Napoca**	**151.08**	**273**	⇓*i*P	**PKPab**	**01 30 02.8**	**+1.1**
CJR	**Cluj-Napoca**	**151.08**	**273**	⇓PKIKP	**PKPab**	**01 30 02.8**	**+1.1**
LVZ	**Lovozero**	**151.10**	**320**	*e*PKPbc	**PKPbc**	**01 29 52.0**	**-1.3**
LVZ				*e*PKPab	**PKPab**	**01 30 00.6**	**-0.6**
LVZ	**Lovozero**	**151.10**	**320**	*ce*PKIKP	**PKPbc**	**01 29 53.1**	**-0.1**
LVZ				pmax	pmax		
	comp=Z,63nm,1.3s						
MDVR	**Moldovita**	**151.12**	**268**	⇓*i*P	**PKiKP**	**01 29 54.2**	**-0.4**
PDG	**Podgorica**	**151.16**	**262**	⇑*i*P	**PKPbc**	**01 29 53.8**	**-0.3**
MATE	**Matera**	**151.49**	**257**	⇑*i*P	**PKPbc**	**01 29 54.5**	**-0.4**
DRGR		**151.64**	**273**	⇓*i*P	**PKPbc**	**01 29 55.0**	**-0.2**
DRGR		**151.64**	**273**	⇓PKIKP	**PKPbc**	**01 29 55.0**	**-0.2**
BANR	**Banloc**	**151.80**	**269**	⇑*i*P	**PKPab**	**01 30 04.3**	**-0.3**
KEST	**Kesra**	**151.96**	**241**	*e*PKPdf	**PKPdf**	**01 29 50.9**	**+1.1**
KEST				*e*PKPbc	**PKPbc**	**01 29 57.6**	**+1.3**
KEST	**Kesra**	**151.96**	**241**	PKPbc	**PKPbc**	**01 29 57.1**	**+0.8**
	comp=Z,32nm,1.1s,baz=224,slow=4.3,SNR=10						
SIRR	**Siria**	**151.98**	**271**	⇑*i*P	**PKPbc**	**01 29 55.4**	**-0.5**
MICGM	**Minsk**	**152.03**	**291**	*e*	**PKiKP**	**01 29 56.0**	**0.0**
MNK	**Minsk**	**152.03**	**291**	*e*PKIKP	**PKiKP**	**01 29 56.0**	**0.0**
LVV	**L'vov**	**152.35**	**279**	*e*PKIKP	**PKiKP**	**01 29 56.6**	**-0.3**
LTVH	**Ltavrtes, Hu**	**152.42**	**273**	*e*P	**PKiKP**	**01 29 57.1**	**0.0**
TRPA	**Tarpa**	**152.42**	**275**	⇑*i*P	**PKPbc**	**01 29 55.9**	**-0.9**
TRPA	**Tarpa**	**152.42**	**275**	*e*P	**PKPbc**	**01 29 56.0**	**-0.8**
NACGM	**Naroch**	**152.77**	**291**	*e*	**PKPbc**	**01 29 57.0**	**-0.3**
UZH	**Uzhgorod**	**152.81**	**276**	*e*PKIKP	**PKPdf**	**01 29 52.1**	**+1.7**
UZH				*i*		01 29 56.5	
UZH				*e*		01 30 00.1	
UZH				*e*		01 30 08.0	
IDID	**Didziasalis**	**152.92**	**292**	*e*P	**PKPbc**	**01 29 57.3**	**-0.3**
IDID				IAmb	IAmb	01 29 59.8	
	comp=Z,14nm,1.1s						
KOLS	**Kolonicke sedl**	**152.96**	**276**	*e*PKIKP	**PKiKP**	**01 29 59.1**	**+0.9**
KOLS				*e*		01 30 07.6	
KOLS	**Kolonicke sedl**	**152.96**	**276**	*e*PKP	**PKiKP**	**01 29 59.1**	**+0.9**
KOLS				*e*		01 30 07.6	
KWP	**Kalwaria Pacla**	**153.03**	**278**	*e*PKP	**PKiKP**	**01 29 58.6**	**+0.3**
KWP	**Kalwaria Pacla**	**153.03**	**278**	*e*PKPdf	**PKPdf**	**01 29 50.4**	**-0.4**
KWP				*e*PKPbc	**PKPbc**	**01 29 58.9**	**+0.8**
KWP				*e*PKPab	**PKPab**	**01 30 06.9**	**-2.8**
KWP	**Kalwaria Pacla**	**153.03**	**278**	*e*PKIKP	**PKPdf**	**01 29 50.4**	**-0.4**
KWP				*e*		01 29 58.9	
KWP				*e*		01 30 06.9	
IIGN	**Ignalina**	**153.22**	**292**	*e*P	**PKiKP**	**01 29 58.5**	**+0.1**
IIGN				IAmb	IAmb	01 30 00.6	
	comp=Z,25nm,1.4s						
IZAR	**Zarasai**	**153.32**	**292**	*e*P	**PKPbc**	**01 29 57.9**	**-0.7**
IZAR				IAmb	IAmb	01 29 59.7	
	comp=Z,4.8nm,0.7s						
ISAL	**Salakas**	**153.33**	**292**	*e*P	**PKPbc**	**01 29 58.5**	**-0.1**
ISAL				IAmb	IAmb	01 30 00.6	
	comp=Z,9.9nm,1.0s						
KEV	**Kevo**	**153.69**	**324**	*e*PKPdf	**PKPdf**	**01 29 52.0**	**+1.0**
KEV				*e*PKPbc	**PKPbc**	**01 29 59.0**	**+0.1**
KEV				*e*PKPab	**PKPab**	**01 30 09.9**	**-1.9**
VSU	**Vasula**	**153.74**	**299**	*e*P	**PKPbc**	**01 29 59.1**	**-0.2**
VSU				IAmb	IAmb	01 30 01.7	
	comp=Z,119nm,1.2s						
BLY	**Banja Luka**	**153.75**	**264**	*e*PKPdf	**PKPdf**	**01 29 51.8**	**-0.2**
BLY				*e*PKPbc	**PKPbc**	**01 29 59.5**	**-0.4**
BLY				*e*PKPab	**PKPab**	**01 30 08.2**	**-4.7**
BLY	**Banja Luka**	**153.75**	**264**	⇓*i*P	**PKPbc**	**01 29 59.6**	**-0.2**
PSZ	**Piszkesteto**	**153.86**	**273**	*e*PKPdf	**PKPdf**	**01 29 51.9**	**-0.2**
PSZ				*e*PKPbc	**PKPbc**	**01 30 00.0**	**0.0**
PSZ	**Piszkesteto**	**153.86**	**273**	⇑*i*P	**PKPbc**	**01 29 59.1**	**-1.0**
PSZ	**Piszkesteto**	**153.86**	**273**	⇑PKIKP	**PKPbc**	**01 29 59.1**	**-1.0**
PSZ	**Piszkesteto**	**153.86**	**273**	*e*P	**PKPbc**	**01 29 58.0**	**-2.1**
ARCES	**ARCESS Array B**	**154.25**	**324**	*e*PKPbc	**PKPbc**	**01 30 00.1**	**-0.1**
ARCES				*e*PKPab	**PKPab**	**01 30 14.6**	**+0.3**
ARCES	**ARCESS Array B**	**154.25**	**324**	PKPbc	**PKPbc**	**01 29 59.9**	**-0.2**
	comp=Z,9.8nm,1.1s,baz=62,slow=2.1,SNR=13						
ARE0	**ARCESS Array S**	**154.25**	**324**	*e*PKPdf	**PKPdf**	**01 29 53.5**	**+1.6**
ARE0				*e*PKPbc	**PKPbc**	**01 30 00.6**	**+0.4**
ARE0				*e*PKPab	**PKPab**	**01 30 13.9**	**-0.3**
NIE	**Niedzica**	**154.34**	**276**	*e*PKP	**PKiKP**	**01 30 01.8**	**+0.7**
NIE	**Niedzica**	**154.34**	**276**	*e*PKIKP	**PKiKP**	**01 30 01.8**	**+0.8**
FRB	**Frobisher Bay**	**154.38**	**49**	PKPbc	**PKPbc**	**01 30 00.3**	**-0.2**
	comp=Z,6.2nm,0.9s,baz=156,slow=0.8,SNR=5.3						
SUW	**Suwalki**	**154.47**	**287**	*e*PKP	**PKiKP**	**01 30 01.3**	**+0.2**
SUW	**Suwalki**	**154.47**	**287**	*e*PKPdf	**PKPdf**	**01 29 51.9**	**-0.7**
SUW				*e*PKPbc	**PKPbc**	**01 30 01.1**	**+0.1**
SUW	**Suwalki**	**154.47**	**287**	*e*PKIKP	**PKPdf**	**01 29 51.9**	**-0.7**
SUW				*e*		01 30 01.1	
FIA0	**FINESS Array S**	**154.51**	**305**	*e*PKPbc	**PKPbc**	**01 30 00.7**	**-0.2**
FINES	**FINESS Array B**	**154.51**	**305**	*e*PKPab	**PKPab**	**01 30 15.9**	**+0.3**
FINES	**FINESS Array B**	**154.51**	**305**	PKPbc	**PKPbc**	**01 30 00.7**	**-0.2**
	comp=Z,4.6nm,0.9s,baz=87,slow=2.8,SNR=17						
LANS	**Liptovska Anna**	**154.70**	**275**	*e*PKP2	PKPab	01 30 25.4	+8.6
LANS	**Liptovska Anna**	**154.70**	**275**	*e*PKP	PKPab	01 30 25.4	+8.6
VYHS	**Vyhne**	**154.76**	**273**	*e*PKIKP	**PKPbc**	**01 30 01.6**	**-0.3**
VYHS				*e*		01 30 09.7	
VYHS				*e*		01 30 16.7	
VYHS	**Vyhne**	**154.76**	**273**	*e*PKP	**PKPbc**	**01 30 01.6**	**-0.3**
VYHS				*e*		01 30 09.7	
VYHS				*e*		01 30 16.7	
VYHS				*e*		01 30 23.7	
BEHE	**Becsehely**	**154.94**	**267**	*e*P	**PKPbc**	**01 29 58.1**	**-4.2**
OJC	**Ojcow**	**154.98**	**277**	*e*PKP	**PKPdf**	**01 29 52.7**	**-0.8**
OJC	**Ojcow**	**154.98**	**277**	*e*PKPdf	**PKPdf**	**01 29 53.0**	**-0.5**
OJC				*e*PKPbc	**PKPbc**	**01 30 00.5**	**-1.8**
OJC				*e*PKPab	**PKPab**	**01 30 18.1**	**+0.1**
OJC	**Ojcow**	**154.98**	**277**	*e*PKIKP	**PKPdf**	**01 29 53.0**	**-0.5**
OJC				*e*		01 30 00.5	
OJC				*e*		01 30 18.1	
JAVC	**Velka Javorina**	**155.61**	**273**	*e*PKP	**PKPdf**	**01 29 54.4**	**-0.1**
JAVC				*e*		01 30 03.4	
JAVC				*e*		01 30 21.1	
JAVC				*e*		01 30 29.0	
MODS	**Modra-Piesok**	**155.62**	**272**	*e*PKP2	**PKPab**	**01 30 19.7**	**-1.1**
MODS	**Modra-Piesok**	**155.62**	**272**	*e*PKP	**PKPab**	**01 30 19.7**	**-1.1**
MODS				*e*		01 30 27.0	
ARSA	**Arzberg**	**156.09**	**268**	*i* PKPab	**PKPab**	**01 30 23.0**	**+0.2**
	comp=Z,34nm,1.1s,SNR=7.1						
ARSA				*i* P	**sPKPab**	**01 30 30.9**	**+0.2**
	comp=Z,46nm,1.0s						
MORC	**Moravsky Berou**	**156.10**	**275**	*e*PKPdf	**PKPdf**	**01 29 55.0**	**-0.1**
MORC				*e*PKPab	**PKPab**	**01 30 22.7**	**-0.2**
MORC	**Moravsky Berou**	**156.10**	**275**	*e*PKIKP	**PKPdf**	**01 29 55.0**	**-0.1**
MORC				*e*		01 30 22.7	
MORC	**Moravsky Berou**	**156.10**	**275**	*e*PKP	**PKPdf**	**01 29 54.7**	**-0.4**
MORC				*e*		01 30 05.1	
MORC				*e*		01 30 22.2	
MORC				*e*		01 30 30.1	
CONA	**Conrad Observa**	**156.23**	**270**	*i* P	**PKPdf**	**01 29 59.8**	**+4.5**
	comp=Z,9.4nm,1.5s						
CONA				*i* PKPab	**PKPab**	**01 30 23.3**	**-0.2**
	comp=Z,14nm,1.2s						
CONA				*i* P	**sPKPab**	**01 30 30.5**	**-0.9**
	comp=Z,20nm,1.1s						
VRAC	**Vranov**	**156.45**	**273**	*e*PKP	**PKPdf**	**01 29 55.3**	**-0.2**
VRAC				*e*		01 30 23.5	
VRAC				*e*		01 30 31.5	
KRUC	**Moravsky**	**156.45**	**272**	*e*PKP	**PKPdf**	**01 29 55.1**	**-0.4**
KRUC				*e*		01 30 05.9	
KRUC				*e*		01 30 23.5	
KRUC				*e*		01 30 31.5	
KRLC	**Kraliky**	**156.68**	**275**	*e*PKP2	**PKPab**	**01 30 25.0**	**-0.3**
KRLC	**Kraliky**	**156.68**	**275**	*e*PKPAB	**PKPab**	**01 30 25.0**	**-0.3**
KRLC				*ex*	x	01 30 32.6	
MYKA	**Terra Mystica**	**156.86**	**265**	*i* PKPab	**PKPab**	**01 30 26.2**	**0.0**
	comp=Z,20nm,1.3s						
DPC	**Dobruska-Polom**	**157.06**	**275**	*e*PKP2	**PKPab**	**01 30 27.3**	**+0.4**
DPC	**Dobruska-Polom**	**157.06**	**275**	*e*PKPAB	**PKPab**	**01 30 27.3**	**+0.4**
DPC				*ex*	x	01 30 34.4	
TREC	**Trest**	**157.09**	**272**	*e*PKP2	**PKPab**	**01 30 26.6**	**-0.5**
TREC	**Trest**	**157.09**	**272**	*e*PKPAB	**PKPab**	**01 30 26.6**	**-0.5**
TREC				*ex*	x	01 30 34.5	
MOA	**Molln**	**157.12**	**268**	*i* PKPab	**PKPab**	**01 30 27.2**	**-0.1**
	comp=Z,18nm,1.1s						
KSP	**Ksiaz**	**157.28**	**276**	*e*PKP	**PKPdf**	**01 29 55.4**	**-1.1**
KSP	**Ksiaz**	**157.28**	**276**	*e*PKIKP	**PKPdf**	**01 29 55.4**	**-1.1**
UPC	**Upice**	**157.31**	**276**	*e*PKP2	**PKPab**	**01 30 28.3**	**+0.4**
UPC	**Upice**	**157.31**	**276**	*e*PKPAB	**PKPab**	**01 30 28.3**	**+0.4**
UPC				*ex*	x	01 30 35.9	
RTC	**Rabat Centre**	**157.36**	**212**	PFAKE		01 30 10.0	+13
RTC				LR	LR		
	comp=Z,2μm,21.0s						
ABTA	**Abfaltersbach**	**157.58**	**264**	*i* PKPab	**PKPab**	**01 30 29.5**	**+0.2**
	comp=Z,21nm,1.3s						
GOPC	**GO Pecny, Ondr**	**157.77**	**273**	*e*PKP2	**PKPab**	**01 30 29.6**	**-0.4**
GOPC	**GO Pecny, Ondr**	**157.77**	**273**	*e*PKPAB	**PKPab**	**01 30 29.6**	**-0.4**
GEC2	**GERESS Array S**	**157.93**	**270**	*e*PKPdf	**PKPdf**	**01 29 57.8**	**+0.3**
GEC2				*e*PKPab	**PKPab**	**01 30 30.4**	**-0.5**
GERES	**GERESS Array B**	**157.93**	**270**	*e*PKPdf	**PKPdf**	**01 29 58.8**	**+1.3**
GERES	**GERESS Array B**	**157.93**	**270**	PKP	**PKPdf**	**01 29 56.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=63,slow=3.6,SNR=5.0						
GERES				PKPab	**PKPab**	**01 30 29.0**	**-1.8**
	comp=Z,4.2nm,1.0s,baz=134,slow=5.8,SNR=15						
PRU	**Pruhonice**	**157.95**	**273**	*e*PKP2	**PKPab**	**01 30 30.5**	**-0.2**
PRU	**Pruhonice**	**157.95**	**273**	*e*PKPAB	**PKPab**	**01 30 30.5**	**-0.2**
PRU				*ep*PKP	**sPKPab**	**01 30 37.5**	**-1.1**
KHC	**Kasperske Hory**	**158.13**	**270**	*e*PKPdf	**PKPdf**	**01 29 58.7**	**+1.0**
KHC				*e*PKPab	**PKPab**	**01 30 30.9**	**-0.8**
KHC	**Kasperske Hory**	**158.13**	**270**	*e*PKIKP	**PKPdf**	**01 29 58.5**	**+0.8**
KHC				*e*		01 30 30.8	
KHC	**Kasperske Hory**	**158.13**	**270**	*e*PKPDF	**PKPdf**	**01 29 58.5**	**+0.8**
KHC				*e*PKPAB	**PKPab**	**01 30 30.8**	**-0.8**
KHC				*ep*PKP	**sPKPab**	**01 30 37.9**	**-1.6**
PVCC	**Panska Ves**	**158.16**	**275**	*e*PKP2	**PKPab**	**01 30 31.6**	**0.0**
PVCC	**Panska Ves**	**158.16**	**275**	*e*PKPAB	**PKPab**	**01 30 31.6**	**0.0**
PVCC				*ex*	x	01 30 40.0	
WTTA	**Wattenberg**	**158.36**	**264**	*i* PKPab	**PKPab**	**01 30 32.3**	**-0.6**
	comp=Z,35nm,1.4s,SNR=6.2						
WATA	**Walderalm**	**158.43**	**264**	*i* PKPab	**PKPab**	**01 30 33.2**	**+0.1**
	comp=Z,14nm,1.0s						
SQTA	**Sankt Quirin**	**158.59**	**264**	*i* PKPab	**PKPab**	**01 30 33.8**	**0.0**
	comp=Z,26nm,1.2s						
BRG	**Berggiesshubel**	**158.66**	**275**	*i* PKP	**PKPab**	**01 30 33.6**	**-0.1**
	comp=Z,26nm,1.3s						
BRG	**Berggiesshubel**	**158.66**	**275**	*i* PKP	PKPab	01 30 41.7	+7.9
	comp=Z,26nm,1.1s						
BRG				*e*PKS	**PP**	**01 34 08.4**	**-6.6**
	comp=Z,45nm,2.2s						
BRG	**Berggiesshubel**	**158.66**	**275**	*i* PKP2	**PKPab**	**01 30 33.6**	**-0.2**
BRG				pmax	pmax		
	comp=Z,26nm,1.3s						
BRG				pmax	pmax		
	comp=Z,26nm,1.1s						
BRG				pmax	pmax		
	comp=Z,45nm,2.2s						
FETA	**Feichten**	**158.76**	**263**	*i* PKPab	**PKPab**	**01 30 34.6**	**0.0**
	comp=Z,30nm,1.2s,SNR=5.9						
FETA				*i* P	**sPKPab**	**01 30 41.9**	**-0.5**
	comp=Z,46nm,1.0s						
FUORN

PETK Petropavlovsk- 79.76 344 P P 01 44 12.3 0.0
3.2nm,0.8s,baz=116,slow=7.5,SNR=7.6
NVAR Mina Array Bea 80.99 41 P P 01 44 18.5 -1.0
0.3nm,0.4s,baz=257,slow=10,SNR=2.9
ILAR Eielson Array 90.37 12 P P 01 45 03.5 -1.8
0.4nm,0.9s,baz=212,slow=5.0,SNR=2.9
CMAR Chiang Mai Arr 93.92 288 P P 01 45 24.4 +1.6
1.4nm,0.3s,baz=124,slow=3.3,SNR=10.0
AKASG Malin Array Be 146.91 332 PKPbc PKPbc 01 51 47.9 +1.0
0.9nm,0.5s,baz=42,slow=4.2,SNR=5.7
BRTR Keskin Array B 150.98 311 PKPbc PKPbc 01 51 58.5 +0.6
1.0nm,0.7s,baz=166,slow=2.7,SNR=7.5

KRSC 24 01:47:16.7±10.0, 54°92N×161°92E, h62km±10km, ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.38**	**197**	*eP*	Pn	01 47 29.1	+1.4
MKZ				*eS*	Sn	01 47 37.1	+1.5
TUMD	**Tumrok D**	**0.92**	**289**	*eP*	Pn	01 47 34.6	+0.8
TUMD				*eS*	Sn	01 47 47.7	+1.2
KZV	**Kizimen**	**0.96**	**282**	*eP*	Pn	01 47 35.4	+1.0
KZV				*eS*	Sn	01 47 47.8	+0.3
TUMR	**Tumrok**	**1.08**	**290**	*eP*	Pn	01 47 37.4	+1.4
TUMR				*eS*	Sn	01 47 51.3	+0.9
BZGR	**Bezymyannyi-Gr**	**1.24**	**326**	*eP*	Pn	01 47 39.4	+1.3
BZGR				*eS*	Sn	01 47 55.2	+1.2
KMNR	**Kamenistaya**	**1.28**	**312**	*eP*	Pn	01 47 42.0	+1.7
BZMR	**Bezymyannaya**	**1.30**	**322**	*eP*	Pn	01 47 40.9	+1.9
BZWR	**Bezymyannyi-We**	**1.32**	**323**	*eP*	Pn	01 47 40.4	+1.1
LGNR	**Loginova**	**1.36**	**329**	*eP*	Pn	01 47 41.9	+2.1
LGNR				*eS*	Sn	01 47 59.7	+2.6
CIRR	**Tsirk**	**1.37**	**331**	*eP*	Pn	01 47 41.7	+1.8
CIRR				*eS*	Sn	01 48 00.1	+2.9
KIRR	**Kirishev**	**1.37**	**320**	*eP*	Pn	01 47 41.9	+2.0
KIRR				*eS*	Sn	01 48 00.6	+3.4
KBTR	**Krutoberegovo**	**1.39**	**21**	*eP*	Pn	01 47 41.7	+1.8
KBTR				*eS*	Sn	01 48 00.8	+3.5
KBG	**Krutoberegovo**	**1.41**	**18**	*eP*	Pn	01 47 42.0	+1.8
KBG				*eS*	Sn	01 47 59.8	+2.0
KPT	**Kopyto**	**1.43**	**318**	*eP*	Pn	01 47 42.5	+2.0
KRSR	**Krestovskiy**	**1.51**	**330**	*eP*	Pn	01 47 43.3	+1.6
KRSR				*eS*	Sn	01 48 01.6	+1.1
KLY	**Klyuchi**	**1.57**	**333**	*eP*	Pn	01 47 44.1	+1.7
KLY				*eS*	Sn	01 48 02.1	+0.4
KOZ	**Kozyrevsk**	**1.63**	**315**	*eP*	Pn	01 47 45.3	+2.1
KOZ				*eS*	Sn	01 48 06.2	+3.0
SMKR	**Semkarok**	**1.69**	**351**	*eP*	Pn	01 47 46.5	+2.5
BDR	**Baidarnaya**	**1.70**	**347**	*eP*	Pn	01 47 46.6	+2.4
BDR				*eS*	Sn	01 48 08.3	+3.3
SRKR	**Sorokina**	**1.79**	**347**	*eP*	Pn	01 47 46.5	+1.1
SRDR	**Sredinnyy**	**1.88**	**319**	*eP*	Pn	01 47 48.2	+1.6
SRDR				*eS*	Sn	01 48 10.3	+1.1
ESO	**Esso**	**2.10**	**300**	*eP*	Pn	01 47 51.1	+1.6
ESO				*eS*	Sn	01 48 15.3	+0.8
SPN	**Mys Shipunski**	**2.14**	**212**	*eP*	Pn	01 47 51.8	+1.7
SPN				*eS*	Sn	01 48 16.4	+0.8
NLC	**Nalytchevo**	**2.32**	**222**	*eP*	Pn	01 47 55.1	+2.6
NLC				*eS*	Sn	01 48 22.3	+2.4
BKI	**Bering**	**2.35**	**81**	*eP*	Pn	01 47 55.1	+2.2
BKI				*eS*	Sn	01 48 21.1	+0.6
SDLR	**Sedlovina**	**2.43**	**229**	*eP*	Pn	01 47 56.7	+2.5
SDLR				*eS*	Sn	01 48 25.7	+2.9
KRER	**Koryakskii**	**2.47**	**230**	*eP*	Pn	01 47 57.8	+3.0
SMAR	**Somma**	**2.48**	**229**	*eP*	Pn	01 47 57.6	+2.7
SMAR				*eS*	Sn	01 48 26.9	+2.8
KRX	**Arik**	**2.48**	**232**	*eP*	Pn	01 47 57.5	+2.6
AVH	**Avacha**	**2.50**	**230**	*eP*	Pn	01 47 58.1	+3.0
AVH				*eS*	Sn	01 48 28.2	+3.7
UGLR	**Uglovaya**	**2.50**	**228**	*eP*	Pn	01 47 58.0	+2.8
UGLR				*eS*	Sn	01 48 27.9	+3.3
KOK	**Koryaka**	**2.53**	**231**	*eP*	Pn	01 47 58.3	+2.8
KOK				*eS*	Sn	01 48 27.6	+2.4
DALK	**Dalny**	**2.66**	**226**	*eP*	Pn	01 47 59.8	+2.6
DALK				*eS*	Sn	01 48 30.2	+2.0
PET	**Petropavlovsk**	**2.71**	**227**	*eP*	Pn	01 48 00.6	+2.8
PET				*eS*	Sn	01 48 31.6	+2.2
KRMR	**Karymshinskiy**	**3.07**	**229**	*eP*	Pn	01 48 05.9	+3.2
KRMR				*eS*	Sn	01 48 41.5	+3.3
RUS	**Russkaya**	**3.21**	**221**	*eP*	Pn	01 48 07.2	+2.5
RUS				*eS*	Sn	01 48 44.0	+2.3
MTVR	**Mutnovka**	**3.30**	**224**	*eP*	Pn	01 48 08.7	+3.6
MTVR				*eS*	Sn	01 48 48.6	+4.5
KDTR	**Khodutka, Kamc**	**3.88**	**218**	*eP*	Pn	01 48 16.4	+2.7
KDTR				*eS*	Sn	01 49 00.9	+3.0

*ISCJB **24** 01:50:56.2±0.4, 25°48S±0°03×179°68E±0°03, h495km±5km, mb4.7/166, Error ellipse: s-maj=4.9km s-min=3.8km az=40.4*
*BJI **24** 01:50:56.2±0.0, 25°50S×179°80E, h504km, mb4.9/25, mB4.9/13*
*NEIC **24** 01:50:56.4±0.1, 25°48S×179°72E, mb4.7/138, Error ellipse: s-maj=5.8km s-min=3.9km az=137.0*
*IDC **24** 01:50:56.8±0.6, 25°49S×179°75E, h497km±5km, mb4.2/32, mb1 4.2/36, mb1mx4.2/47, mbtmp5.0/36, Error ellipse: s-maj=8.9km s-min=7.9km az=164.0*
ISC 24 01:50:57.2±0.4, 25°52S±0°05×179°79E±0°04, h503km±4km, h504km:pP-P, n411, σ1°38/471, mb4.7/166, 20C-7D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.23**	**152**	P	**P**	**01 52 19.2**	**+1.6**
RIZ				S	**S**	**01 53 20.0**	**-3.3**
RAO	**Raoul Island**	**4.24**	**152**	*eP*	**P**	**01 52 18.8**	**+1.1**
RAO				*eS*	**S**	**01 53 17.8**	**-5.6**
GLKZ	**Green Lake**	**4.25**	**152**	P	**P**	**01 52 18.4**	**+0.6**
GLKZ				S	**S**	**01 53 25.1**	**+1.6**
OUZ	**Omahuta**	**11.04**	**207**	*eP*	**P**	**01 53 27.1**	**+1.7**
OUZ	**Omahuta**	**11.04**	**207**	P	**P**	**01 53 27.7**	**+2.3**
WCZ	**Waipu Caves**	**11.39**	**203**	P	**P**	**01 53 31.6**	**+2.5**
NIUE	**Niue**	**11.48**	**58**	*eP*	**P**	**01 53 29.2**	**-1.0**
MARNC	**Mare, Loyalty**	**11.51**	**288**	*eP*	**P**	**01 53 31.3**	**+0.7**
MARNC				*eS*	**S**	**01 55 38.3**	**+1.4**
PINNC	**Pines Island,**	**11.64**	**282**	*eP*	**P**	**01 53 32.6**	**+0.7**
KUZ	**Kuaotunu**	**11.72**	**196**	P	**P**	**01 53 33.9**	**+1.4**
WIAZ	**Waiheke Island**	**11.92**	**198**	P	**P**	**01 53 36.5**	**+1.8**
MXZ	**Matakaoa Point**	**12.07**	**186**	*eP*	**P**	**01 53 37.0**	**+0.7**
MXZ				*eS*	**S**	**01 55 47.6**	**+0.2**
ETAZ	**East Tamaki Re**	**12.13**	**199**	P	**P**	**01 53 39.3**	**+2.4**
MKAZ	**Moumakai**	**12.21**	**198**	P	**P**	**01 53 39.3**	**+1.6**
WTAZ	**Waiatarua**	**12.22**	**200**	P	**P**	**01 53 40.0**	**+2.1**
HAZ	**Te Kaha**	**12.32**	**187**	P	**P**	**01 53 39.6**	**+0.7**
HAZ				S	**S**	**01 55 50.5**	**-1.7**
WHRZ	**Whale Island**	**12.53**	**190**	P	P	01 53 46.0	+4.9
WHRZ				S	**S**	**01 56 04.2**	**+7.9**
RUGZ	**Raukumara Rang**	**12.54**	**188**	P	**P**	**01 53 41.5**	**+0.1**
RUGZ				S	**S**	**01 55 56.0**	**-0.7**
PUZ	**Puketiti**	**12.58**	**186**	P	**P**	**01 53 41.2**	**-0.5**
OPRZ	**Ohinepanea**	**12.59**	**192**	P	**P**	**01 53 44.4**	**+2.6**
ONTNC	**Ouen Toro**	**12.61**	**282**	*eP*	**P**	**01 53 42.2**	**0.0**
DZM	**Mont Dzumac**	**12.69**	**283**	*eP*	**P**	**01 53 43.6**	**+0.5**
372nm,1.5s							
DZM	**Mont Dzumac**	**12.69**	**283**	*eP*	**P**	**01 53 44.2**	**+1.1**
DZM				*eS*	**S**	**01 56 00.9**	**+1.0**
DZM	**Mont Dzumac**	**12.69**	**283**	P	**P**	**01 53 43.9**	**+0.7**
6.0nm,0.3s,baz=97,slow=16,SNR=58							
DZM				S	**S**	**01 56 02.2**	**+2.3**
0.2nm,0.3s,baz=41,slow=20,SNR=4.4							
MARZ	**Manawahe**	**12.71**	**191**	P	**P**	**01 53 44.8**	**+1.8**
TWGZ	**Tauwhareparae**	**12.71**	**186**	P	**P**	**01 53 43.3**	**+0.2**
KMRZ	**Kaimai**	**12.72**	**194**	P	**P**	**01 53 44.7**	**+1.6**
KARZ	**Kaharoa**	**12.82**	**193**	P	**P**	**01 53 45.5**	**+1.3**
URZ	**Urewera**	**12.90**	**189**	*eP*	**P**	**01 53 43.9**	**-1.2**
URZ				*eS*	**S**	**01 56 05.1**	**+1.6**
URZ	**Urewera**	**12.90**	**189**	P	**P**	**01 53 43.5**	**-1.6**
12nm,0.3s,baz=64,slow=2.7,SNR=37							
URZ				S	**S**	**01 56 03.7**	**+0.2**
6.3nm,0.3s,baz=49,slow=20,SNR=7.1							
URZ	**Urewera**	**12.90**	**189**	P	**P**	**01 53 43.6**	**-1.5**
URZ				S	**S**	**01 55 59.6**	**-3.9**
MWZ	**Matawai**	**12.92**	**188**	P	**P**	**01 53 44.9**	**-0.4**
MWZ				S	**S**	**01 56 00.9**	**-3.0**
TARZ	**Mount Tarawera**	**12.98**	**192**	P	**P**	**01 53 47.7**	**+1.7**
TARZ				S	S	01 56 16.6	+11
TKGZ	**Te Karaka**	**12.99**	**187**	P	**P**	**01 53 46.0**	**+0.1**
CNGZ	**Carnagh Statio**	**13.00**	**186**	P	**P**	**01 53 46.7**	**+0.7**
RAGZ	**Rawiri**	**13.09**	**188**	P	**P**	**01 53 47.0**	**-0.2**
MUGZ	**Murupara**	**13.17**	**190**	P	**P**	**01 53 47.5**	**-0.4**
MUGZ				S	**S**	**01 56 07.3**	**-1.4**
HRRZ	**Handcock Road**	**13.17**	**192**	P	**P**	**01 53 49.4**	**+1.4**
RIGZ	**Rimuhau**	**13.26**	**187**	P	**P**	**01 53 49.2**	**+0.3**
TLZ	**Tolley Road**	**13.27**	**195**	P	**P**	**01 53 50.8**	**+1.9**
ALRZ	**Allen Road**	**13.33**	**192**	P	**P**	**01 53 51.5**	**+1.9**
SNGZ	**Shannon Statio**	**13.38**	**188**	P	**P**	**01 53 49.6**	**-0.6**
PRGZ	**Paritu Road**	**13.46**	**186**	P	**P**	**01 53 53.6**	**+2.6**
RAHZ	**Arahi**	**13.55**	**189**	P	**P**	**01 53 51.1**	**-0.9**
KNZ	**Kokohu**	**13.58**	**187**	P	**P**	**01 53 52.1**	**-0.1**
WATZ	**Wairara**	**13.59**	**194**	P	**P**	**01 53 53.5**	**+1.2**
HIZ	**Hauiti**	**13.61**	**197**	*eP*	**P**	**01 53 54.0**	**+1.5**
HIZ	**Hauiti**	**13.61**	**197**	P	P	01 53 57.4	+4.9
RATZ	**Rangitukua**	**13.73**	**193**	P	**P**	**01 53 55.2**	**+1.4**
KATZ	**Kakaramea**	**13.85**	**193**	P	**P**	**01 53 55.9**	**+0.6**
BKZ	**Black Stump Fm**	**13.89**	**191**	*eP*	**P**	**01 53 53.8**	**-1.7**
BKZ	**Black Stump Fm**	**13.89**	**191**	P	**P**	**01 53 53.2**	**-2.4**
ARHZ	**Aropaoanui**	**13.90**	**189**	P	**P**	**01 53 55.7**	**+0.1**
KRVZ	**Karewarewa**	**13.98**	**193**	P	**P**	**01 53 56.4**	**-0.2**
TWVZ	**Taurewa**	**14.00**	**194**	P	**P**	**01 53 56.4**	**-0.4**
WTVZ	**West Tongariro**	**14.01**	**194**	P	**P**	**01 53 57.1**	**+0.2**
NGZ	**Ngauruhoe**	**14.07**	**193**	P	**P**	**01 53 57.5**	**0.0**
MCHZ	**McNeill Hill**	**14.13**	**190**	P	**P**	**01 53 56.7**	**-1.3**
TUVZ	**Tukino**	**14.14**	**193**	P	**P**	**01 53 57.4**	**-1.0**
FWVZ	**Far West T-bar**	**14.15**	**194**	P	**P**	**01 53 58.3**	**-0.2**
WHVZ	**Whangaehu Hut**	**14.17**	**193**	P	**P**	**01 53 57.6**	**-1.1**
TRVZ	**Turoa**	**14.20**	**194**	P	**P**	**01 53 57.8**	**-1.1**
VRZ	**Vera Road**	**14.21**	**196**	P	**P**	**01 54 00.7**	**+1.9**
MOVZ	**Moawhango**	**14.26**	**193**	P	**P**	**01 53 56.9**	**-2.6**
BHHZ	**Black Hill Sta**	**14.28**	**192**	P	**P**	**01 53 57.4**	**-2.2**
KRHZ	**Kereru**	**14.37**	**191**	P	**P**	**01 53 58.6**	**-2.0**
KAHZ	**Kahuranaki**	**14.44**	**189**	P	**P**	**01 53 59.6**	**-1.7**
PNHZ	**Pukenui**	**14.67**	**191**	P	**P**	**01 54 00.9**	**-2.8**
ANWZ	**Angora Road**	**15.15**	**190**	P	**P**	**01 54 07.3**	**-1.4**
POWZ	**Post Office Ro**	**15.21**	**192**	P	**P**	**01 54 06.9**	**-2.4**
PRWZ	**Pori Road**	**15.33**	**191**	P	**P**	**01 54 08.9**	**-1.7**
TIWZ	**Tintock**	**15.56**	**191**	P	**P**	**01 54 11.3**	**-1.6**
OGWZ	**Otaki Gorge**	**15.73**	**193**	P	**P**	**01 54 12.2**	**-2.6**
HOWZ	**Holdsworth Sta**	**15.74**	**192**	P	**P**	**01 54 13.2**	**-1.7**
KIW	**Kapiti Island**	**15.83**	**194**	P	**P**	**01 54 13.9**	**-1.8**
TMWZ	**Te Maipa**	**15.88**	**191**	P	**P**	**01 54 14.0**	**-2.3**
CAW	**Cannon Point**	**16.04**	**193**	P	**P**	**01 54 16.1**	**-1.8**
TRWZ	**Traveller**	**16.20**	**191**	P	**P**	**01 54 18.3**	**-1.3**
PAWZ	**Paruwai Farm**	**16.23**	**192**	P	**P**	**01 54 17.0**	**-3.0**
MSWZ	**Moikau Station**	**16.30**	**192**	P	**P**	**01 54 17.9**	**-2.7**
SNZO	**South Karori**	**16.30**	**194**	*eP*	**P**	**01 54 18.5**	**-2.2**
63nm,0.8s							
FUNA	**Funafuti**	**16.91**	**358**	*eP*	**P**	**01 54 25.1**	**-2.2**
42nm,0.5s							
THZ	**Tophouse**	**17.17**	**198**	*eP*	**P**	**01 54 29.2**	**-0.3**
47nm,0.5s							
KHZ	**Kahutara**	**17.62**	**195**	*eP*	**P**	**01 54 32.4**	**-1.2**
38nm,0.5s							
LTZ	**Lake Taylor**	**18.29**	**198**	*eP*	**P**	**01 54 39.2**	**-0.7**
34nm,0.5s							
OXZ	**Oxford**	**18.86**	**198**	*eP*	**P**	**01 54 45.0**	**-0.1**
64nm,0.7s							
MQZ	**McQueen's Vall**	**19.05**	**196**	*eP*	**P**	**01 54 45.4**	**-1.3**
120nm,1.5s							
LHI	**Lord Howe Isla**	**19.15**	**247**	*eP*	**P**	**01 54 49.9**	**+2.0**
206nm,0.6s							
RAR	**Rarotonga**	**19.25**	**81**	*eP*	**P**	**01 54 48.5**	**-0.4**
36nm,0.7s							
RAR	**Rarotonga**	**19.25**	**81**	P	**P**	**01 54 48.4**	**-0.4**
3.7nm,0.3s,baz=251,slow=7.5,SNR=8.1							
RPZ	**Rata Peaks**	**19.50**	**199**	*eP*	**P**	**01 54 51.5**	**+0.6**
36nm,0.5s							
RPZ	**Rata Peaks**	**19.50**	**199**	P	**P**	**01 54 50.8**	**-0.1**
9.0nm,0.3s,baz=113,slow=0.1,SNR=40							
RPZ				S	**S**	**01 58 01.9**	**+0.9**
0.5nm,0.3s,baz=56,slow=17,SNR=2.5							
FOZ	**Fox Glacier**	**19.73**	**202**	*eP*	**P**	**01 54 51.5**	**-1.4**
118nm,1.4s							
LBZ	**Lake Benmore**	**20.37**	**200**	*eP*	**P**	**01 54 58.6**	**-0.2**
30nm,1.3s							
ODZ	**Otahua Downs**	**20.84**	**198**	*eP*	**P**	**01 55 03.8**	**+0.8**
9.7nm,0.7s							
WKZ	**Wanaka**	**21.14**	**202**	*eP*	**P**	**01 55 05.0**	**-0.7**
17nm,0.7s							
MLZ	**Mavora Lakes**	**21.92**	**202**	*eP*	**P**	**01 55 12.4**	**-0.4**
12nm,0.9s							
DCZ	**Deep Cove**	**22.35**	**204**	*eP*	**P**	**01 55 17.2**	**+0.6**
16nm,1.1s							
KNTN	**Kanton**	**24.05**	**21**	*eP*	**P**	**01 55 31.2**	**-0.9**
104nm,1.2s							
HNR	**Honiara**	**24.72**	**307**	*eP*	**P**	**01 55 36.9**	**-1.3**
197nm,0.8s							
HNR	**Honiara**	**24.72**	**307**	P	**P**	**01 55 36.8**	**-1.3**
117nm,0.5s,baz=118,slow=5.9,SNR=6.3							
ARMA	**Armidale**	**25.31**	**252**	*eP*	**P**	**01 55 45.2**	**+1.9**
25nm,0.7s							
EIDS	**Eidsvold**	**25.90**	**264**	*eP*	**P**	**01 55 49.0**	**+0.5**
57nm,0.6s							
TARA	**Tarawa**	**27.53**	**345**	*eP*	**P**	**01 56 02.0**	**-0.9**
162nm,0.6s							
TBI	**Tubuai**	**28.05**	**92**	*eP*	**P**	**01 56 08.5**	**+1.1**
120nm,0.8s							
TBI	**Tubuai**	**28.05**	**92**	*eT*	T	02 22 38.0	
5.7nm,0.3s							
CAN	**Canberra**	**28.19**	**242**	*eP*	**P**	**01 56 08.6**	**0.0**
46nm,1.4s							
PAE	**Paea**	**29.49**	**81**	*eT*	T	02 23 58.6	
3.7nm,0.3s							
PPT2	**Papeete2**	**29.52**	**81**	*eP*	**P**	**01 56 21.0**	**+0.6**
107nm,1.4s							
PPT	**Papeete**	**29.52**	**81**	P	**P**	**01 56 19.6**	**-0.8**
61nm,0.7s,baz=231,slow=13,SNR=6.2							
TIAR	**Tiarei**	**29.73**	**81**	*eP*	**P**	**01 56 22.7**	**+0.5**
21nm,0.8s							
TVO	**Taravao**	**29.74**	**81**	*eP*	**P**	**01 56 22.4**	**+0.1**
25nm,0.7s							
CTA	**Charters Tower**	**31.33**	**273**	P	**P**	**01 56 36.4**	**+0.5**
32nm,0.4s,baz=98,slow=10,SNR=76							
CTAO	**Charters Tower**	**31.33**	**273**	*eP*	**P**	**01 56 36.3**	**+0.5**
142nm,1.4s							
TOO	**Toolangi**	**31.43**	**239**	*eP*	**P**	**01 56 37.6**	**+1.0**
9.1nm,0.7s							
STKA	**Stephens Creek**	**33.97**	**250**	*eP*	**P**	**01 56 58.6**	**+0.4**
1.7nm,0.6s							
STKA				*ePcP*	**PcP**	**01 59 22.5**	**+0.4**
STKA				*eScP*	**ScP**	**02 02 21.7**	**+2.7**
STKA	**Stephens Creek**	**33.97**	**250**	P	**P**	**01 56 58.5**	**+0.3**
6.8nm,0.5s,baz=98,slow=11,SNR=33							
STKA				PcP	**PcP**	**01 59 22.5**	**+0.4**
4.9nm,0.6s,baz=59,slow=5.6,SNR=5.2							
STKA				ScP	**ScP**	**02 02 19.4**	**+0.4**
4.9nm,0.7s,baz=128,slow=4.4,SNR=7.0							
PMG	**Port Moresby**	**34.87**	**291**	*eP*	**P**	**01 57 06.1**	**+0.1**
53nm,0.7s							
PMG	**Port Moresby**	**34.87**	**291**	P	**P**	**01 57 05.8**	**-0.2**
46nm,0.6s,baz=105,slow=6.6,SNR=20							
XMAS	**Kiritimati**	**35.17**	**42**	*eP*	**P**	**01 57 09.2**	**+0.7**
92nm,0.6s							
COEN	**Coen**	**36.21**	**281**	*eP*	**P**	**01 57 18.0**	**+0.9**
43nm,1.0s							
BBOO	**Buckleboo**	**38.65**	**249**	*eP*	**P**	**01 57 36.3**	**-0.7**
16nm,0.7s							
TAOE	**Nuku Hiva Isla**	**41.51**	**74**	*eP*	**P**	**01 58 01.4**	**+1.2**
123nm,0.6s							
AS31	**Alice Springs**	**41.60**	**262**	*eP*	**P**	**01 58 00.7**	**-0.2**
14nm,0.3s							
AS31				*epP*	**pP**	**01 59 31.3**	**+0.3**
AS31				*eScP*	**ScP**	**02 02 48.8**	**+0.5**
AS31				*eS*	**S**	**02 03 38.1**	**-2.4**
ASAR	**Alice Springs**	**41.60**	**262**	*eP*	**P**	**01 58 00.1**	**-0.8**
ASAR				*epP*	**pP**	**01 59 30.8**	**-0.2**
ASAR	**Alice Springs**	**41.60**	**262**	P	**P**	**01 58 00.7**	**-0.2**
12nm,0.5s,baz=107,slow=8.6,SNR=81							
ASAR				pP	**pP**	**01 59 31.3**	**+0.3**
5.1nm,0.7s,baz=99,slow=8.2,SNR=4.3							
ASAR				ScP	**ScP**	**02 02 48.8**	**+0.5**
1.5nm,0.7s,baz=120,slow=4.1,SNR=3.2							
ASAR				S	**S**	**02 03 38.1**	**-2.4**
3.2nm,0.9s,baz=101,slow=15,SNR=7.4							
WR1	**Warramunga Arr**	**42.13**	**268**	*eP*	**P**	**01 58 04.4**	**-0.6**
WR1				*eS*	**S**	**02 03 44.3**	**-3.8**
WRA	**Warramunga Arr**	**42.13**	**268**	P	**P**	**01 58 04.4**	**-0.6**
WRA				S	**S**	**02 03 44.3**	**-3.8**
FORT	**Forrest**	**45.58**	**251**	*eP*	**P**	**01 58 30.6**	**-1.1**
47nm,0.6s							
FITZ	**Fitzroy Crossi**	**50.53**	**267**	*eP*	**P**	**01 59 09.0**	**+0.1**
28nm,0.6s							
FITZ	**Fitzroy Crossi**	**50.53**	**267**	P	**P**	**01 59 08.7**	**-0.2**
26nm,0.5s,baz=80,slow=5.4,SNR=14							
FAKI	**Fak Fak**	**50.88**	**288**	*eP*	**P**	**01 59 10.7**	**-0.9**
68nm,1.4s							
HMH	**Humu'ula Sheep**	**50.89**	**31**	*eP*	**P**	**01 59 10.9**	**-0.9**
97nm,1.0s							
GUMO	**Guam**	**51.65**	**315**	P	**P**	**01 59 16.0**	**-1.0**
35nm,0.3s,baz=159,slow=3.2,SNR=4.4							
VNDA	**Vanda**	**52.76**	**185**	P	**P**	**01 59 24.8**	**+0.8**
2.0nm,0.7s,baz=17,slow=7.2,SNR=8.5							
VNDA				ScP	**ScP**	**02 03 34.5**	**+0.2**
1.8nm,0.7s,baz=343,slow=3.1,SNR=7.0							
NWAO	**Narrogin (SRO)**	**54.40**	**247**	P	**P**	**01 59 35.8**	**-0.7**
4.6nm,0.5s,baz=119,slow=10,SNR=2.6							
SOEI	**Soe**	**54.80**	**276**	*eP*	**P**	**01 59 40.7**	**+1.0**
141nm,1.5s							
BATI	**Baumata**	**55.16**	**275**	P	**P**	**01 59 42.6**	**+0.5**
52nm,0.5s,baz=145,slow=2.6,SNR=9.0							
KAPI	**Kappang**	**60.87**	**279**	P	**P**	**02 00 20.2**	**-0.6**
9.5nm,0.5s,baz=160,slow=6.0,SNR=5.0							
JAGI	**Jajag, Banyuwa**	**64.44**	**273**	*eP*	**P**	**02 00 42.9**	**-1.1**
93nm,1.3s							
QSPA	**South Pole Qui**	**64.57**	**180**	*eP*	**P**	**02 00 45.4**	**+1.3**
14nm,0.6s							
UGM	**Wanagama**	**67.94**	**272**	*eP*	**P**	**02 01 05.1**	**-0.8**
147nm,1.4s							
JHJ2	**Mitsune**	**69.62**	**325**	*eP*	**P**	**02 01 15.4**	**-0.1**
499nm,1.5s							
SBUM	**Sibu**	**70.95**	**282**	*eP*	**P**	**02 01 22.9**	**-1.0**
4.9nm,0.7s							
SBUM	**Sibu**	**70.95**	**282**	P	**P**	**02 01 24.0**	**+0.1**
LEM	**Lembang**	**71.01**	**271**	P	**P**	**02 01 24.2**	**-0.2**
42nm,0.6s,baz=81,slow=6.4,SNR=9.0							
XMIS	**Christmas Isla**	**71.31**	**267**	*eP*	**P**	**02 01 25.8**	**-0.2**
55nm,0.8s							
KSM	**Kuching**	**72.20**	**280**	*eP*	**P**	**02 01 29.5**	**-1.7**
26nm,0.7s							
KSM	**Kuching**	**72.20**	**280**	P	**P**	**02 01 31.0**	**-0.1**
INU	**Inuyama**	**72.81**	**324**	*eP*	**P**	**02 01 33.2**	**-1.0**
14nm,0.7s							
MJAR	**Matsushiro Arr**	**73.12**	**326**	P	**P**	**02 01 35.2**	**-0.7**
16nm,0.7s,baz=164,slow=6.0,SNR=36							
MAJO	**Matsushiro**	**73.12**	**326**	*eP*	**P**	**02 01 35.7**	**-0.2**
21nm,0.8s							
MJB9	**Matsu-Tunnel**	**73.13**	**326**	*eP*	**P**	**02 01 36.0**	**0.0**
22nm,0.9s							
YOJ	**Yonaguni jima**	**74.05**	**308**	*eP*	**P**	**02 01 40.6**	**-0.9**
58nm,0.9s							
JNU	**Nakatsue**	**74.61**	**319**	*eP*	**P**	**02 01 44.2**	**-0.3**
18nm,0.7s							
JNU	**Nakatsue**	**74.61**	**319**	P	**P**	**02 01 44.1**	**-0.4**
15nm,0.6s,baz=298,slow=0.3,SNR=11							
TPUB	**Ta-pu**	**75.08**	**305**	*eP*	**P**	**02 01 45.3**	**-2.1**
24nm,0.8s							
SSLB	**Suanglung**	**75.14**	**306**	*eP*	**P**	**02 01 46.0**	**-1.7**
17nm,0.8s							
MAW	**Mawson**	**76.17**	**201**	*eP*	**P**	**02 01 54.3**	**+1.6**
3.6nm,1.5s							
MAW	**Mawson**	**76.17**	**201**	P	**P**	**02 01 54.0**	**+1.3**
3.2nm,0.7s,baz=153,slow=4.3,SNR=12							
ASAJ	**Asahikawa**	**77.22**	**333**	P	**P**	**02 01 59.0**	**+0.3**
10nm,0.6s,baz=184,slow=4.0,SNR=9.1							
MYKOM	**Kota Tinggi**	**78.10**	**278**	P	**P**	**02 02 04.0**	**-0.2**
DLV	**T Lat**	**78.73**	**289**	*eP*	**P**	**02 02 08.6**

	12nm,0.8s						
R11A	Troy Canyon, C	87.73	45	eP	P	02 02 53.4	+1.1
	1.4nm,1.1s						
PINE	Pine Mountain	87.77	39	eP	P	02 02 54.2	+1.8
	26nm,0.8s						
BMN	Battle Mountai	87.91	43	eP	P	02 02 54.1	+1.1
	8.1nm,0.8s						
BJI	Beijing	88.06	317	P	P	02 02 54.4	+0.9
BJI				S	S	02 12 59.4	+4.8
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
319A	Douglas	88.25	54	eP	P	02 02 55.6	+0.8
	20nm,0.8s						
X16A	Lo Mia Camp, P	88.32	50	eP	P	02 02 56.9	+1.8
	8.7nm,0.8s						
SVW2	Sparrevohn	88.59	12	eP	P	02 02 55.6	+0.1
	4.4nm,1.1s						
CCUT	Cedar City	88.72	47	eP	P	02 02 58.8	+1.8
	6.8nm,0.9s						
HPIG		88.75	59	eP	P	02 02 58.5	+1.2
	11nm,0.7s						
I07A	Izee	88.77	39	eP	P	02 02 58.4	+1.5
	16nm,0.8s						
U15A	North Rim	88.82	48	eP	P	02 02 59.0	+1.5
	26nm,1.4s						
PHRA	Phrae	88.84	291	P	P	02 02 59.8	+2.2
	1.3nm,1.6s,639nm						
J08A	Circle Bar Ran	88.92	40	eP	P	02 02 58.9	+1.4
	12nm,0.7s						
SZCU	Shurtz Canyon	88.93	47	eP	P	02 02 59.4	+1.5
	7.2nm,0.9s						
PSUT	Pine Spring	88.95	46	eP	P	02 02 58.9	+0.9
	5.1nm,0.7s						
PSUT				eS	S	02 13 07.6	+4.3
LON	Longmire	89.17	36	eP	P	02 02 59.5	+0.9
	6.8nm,0.8s						
ZAIG	Zacatecas	89.22	64	eP	P	02 03 00.0	+0.3
	9.1nm,1.1s						
ELK	Elko	89.32	44	eP	P	02 02 59.3	-0.4
	4.1nm,0.7s						
LAMP	Lampang	89.35	291	P	P	02 03 02.4	+2.4
	29µm,0.9s						
D05A	Enumclaw	89.36	35	eP	P	02 03 00.5	+1.1
	34nm,1.0s						
PKCU	Pink Cliffs	89.36	48	eP	P	02 03 00.6	+0.5
	16nm,0.8s						
X18A	Snowflake	89.42	51	eP	P	02 03 01.9	+1.7
	8.4nm,0.7s						
XAN	Xi'an	89.58	308	P	P	02 03 01.6	+0.8
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN				pmax	pmax		
	comp=Z,89nm,6.2s						
MTPU	Mount Pierson	89.77	47	eP	P	02 03 03.0	+1.0
	13nm,0.8s						
RC01	Rabbit Creek A	89.77	14	eP	P	02 02 59.8	-1.1
	11nm,1.1s						
G08A	Pilot Rock	89.81	38	eP	P	02 02 59.9	-1.8
	5.1nm,0.7s						
KMI	Kunming	89.84	298	P	P	02 03 02.8	+0.4
KMI				pmax	pmax		
	comp=Z,18nm,0.6s						
KMI				pmax	pmax		
	comp=Z,210nm,9.7s						
SUA	Susitna One	89.89	14	eP	P	02 03 01.2	-0.4
	5.5nm,0.7s						
CM31	Chiang Mai Arr	89.90	290	eP	P	02 03 02.9	+0.3
	12nm,1.0s						
CM31				epP	pP	02 04 53.5	+0.3
CMAR	Chiang Mai Arr	89.90	290	P	P	02 03 02.9	+0.3
	3.3nm,0.7s,baz=138,slow=3.6,SNR=20						
CMAR				pP	pP	02 04 53.5	+0.3
	0.6nm,0.3s,baz=108,slow=3.7,SNR=1.8						
MSU	Marysvale	90.03	47	eP	P	02 03 04.9	+1.9
CMMT	Chiang Mai	90.06	291	P	P	02 03 04.9	+1.6
CHTO	Chiang Mai	90.06	291	eP	P	02 03 04.9	+1.6
	9.4nm,0.8s						
TLIG	Tlapa	90.19	71	eP	P	02 03 05.8	+1.8
	7.1nm,0.7s						
BMO	Blue Mountains	90.48	39	eP	P	02 03 05.7	+0.9
	3.7nm,0.6s						
GHO	Glory Hole Cre	90.56	14	eP	P	02 03 05.1	+0.4
	8.8nm,0.7s						
Q16A	Castle Valley	90.91	47	eP	P	02 03 07.7	+0.7
	9.6nm,0.7s						
SCM	Sheep Creek Mo	90.98	15	eP	P	02 03 07.1	+0.5
	4.4nm,0.6s						
TMUT	Trail Mountain	91.09	46	eP	P	02 03 08.6	+0.5
	23nm,0.7s						
F10A	Beach Ranch, E	91.19	38	eP	P	02 03 06.0	-2.0
	6.3nm,0.7s						
MNTX	Cornudas Mount	91.29	55	eP	P	02 03 09.1	+0.4
	4.8nm,0.7s						
LAZ	Ladron	91.34	52	eP	P	02 03 10.5	+1.4
LENM	Lemitar	91.34	53	eP	P	02 03 10.5	+1.4
PLID	Pearl Lake	91.37	40	eP	P	02 03 09.9	+0.8
	2.9nm,0.8s						
CAST	Castle Rocks	91.39	12	eP	P	02 03 07.3	-1.1
	10nm,1.4s						
HHC	Hu-ho-hao-te	91.42	315	eP	P	02 03 10.0	+0.8
HHC				pmax	pmax		
	comp=Z,56nm,1.2s						
HHC				pmax	pmax		
	comp=Z,170nm,7.5s						
HLID	Hailey	91.43	42	eP	P	02 03 10.5	+1.2
SRU	San Rafael Swe	91.44	47	eP	P	02 03 10.9	+1.4
	11nm,0.6s						
TX31	Lajitas Ar. Si	91.45	58	eP	P	02 03 11.1	+1.5
	7.1nm,0.9s						
LTX	Lajitas	91.45	58	eP	P	02 03 11.0	+1.4
TXAR	Lajitas Array	91.45	58	P	P	02 03 11.0	+1.4
	4.0nm,0.6s,baz=213,slow=6.5,SNR=37						
B08A	Colville Reser	91.49	36	eP	P	02 03 09.7	+0.5
	3.6nm,0.6s						
CTU	Camp Tracy	91.49	45	eP	P	02 03 11.0	+1.3
	8.8nm,0.7s						
P17A	Butcher Ranch,	91.49	46	eP	P	02 03 11.0	+1.3
	10.0nm,1.3s						
CD2	Chengdu	91.80	303	P	P	02 03 12.8	+1.7
CD2				pmax	pmax		
	comp=Z,40nm,0.6s						
TCUT	Toone Canyon	91.94	45	eP	P	02 03 13.0	+1.2
	32nm,1.1s						
ANMO	Albuquerque	92.10	52	eP	P	02 03 12.8	+0.1
	2.9nm,0.9s						
HWUT	Hardware Ranch	92.11	44	eP	P	02 03 13.4	+0.9
	4.0nm,0.6s						
LNIG	Linares	92.72	64	eP	P	02 03 15.8	+0.3
	6.9nm,0.6s						
WRH	Wood River Hil	93.13	13	eP	P	02 03 16.0	-0.3
	2.7nm,0.7s						
CMIG	Matias Romero	93.14	73	P	P	02 03 18.4	+0.9
	3.1nm,0.6s,baz=216,slow=1.9,SNR=7.2						
S22A	4UR Ranch, Cre	93.23	50	eP	P	02 03 19.1	+1.2
	9.9nm,1.4s						
HDA	Harding Lake	93.31	14	eP	P	02 03 16.9	-0.3
	3.0nm,0.5s						
DOT	Dot Lake	93.31	15	eP	P	02 03 17.2	0.0
	2.2nm,0.9s						
CCB	Clear Creek Bu	93.34	13	eP	P	02 03 16.1	-1.2
	5.3nm,1.4s						
BCAR	Beaver Creek A	93.39	16	eP	P	02 03 17.1	-0.5
O20A	White River Ci	93.48	47	eP	P	02 03 19.8	+0.9
	3.5nm,0.6s						
REDW	Red Top Meadow	93.49	43	eP	P	02 03 17.2	-1.6
	3.8nm,0.6s						
ILAR	Eielson Array	93.64	14	eP	P	02 03 17.5	-1.2
ILAR	Eielson Array	93.64	14	P	P	02 03 17.9	-0.8
	0.7nm,0.6s,baz=226,slow=5.8,SNR=11						
ILB	Eielson Array	93.64	14	eP	P	02 03 17.9	-0.8
	1.6nm,0.9s						
CFA	Coronel Fontan	93.73	128	P	P	02 03 20.8	+0.6
	4.3nm,0.8s,baz=260,slow=4.5,SNR=8.9						
SMCO	Snowmass	93.84	48	eP	P	02 03 18.8	-1.9
	4.3nm,0.6s						
PD31	Pinedale Array	93.98	44	eP	P	02 03 21.4	+0.3
	1.1nm,0.7s						
PDAR	Pinedale Array	93.98	44	P	P	02 03 21.4	+0.3
	0.9nm,0.6s,baz=206,slow=3.9,SNR=8.0						
SDCO	Great Sand Dun	94.15	50	eP	P	02 03 20.5	-1.6
	1.4nm,0.8s						
BOZ	Bozeman (W)	94.21	41	eP	P	02 03 23.0	+1.0
	2.3nm,0.7s						
LZH	Lanzhou	94.21	308	⇓P	P	02 03 23.0	+0.8
LZH				pP	pP	02 05 15.8	+2.5
LZH				sP	sP	02 06 05.4	+1.7
LZH				PP	PP	02 07 21.3	+3.4
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
LZH				pmax	pmax		
	comp=Z,95nm,9.3s						
EGAK	Eagle	94.96	16	eP	P	02 03 23.2	-1.4
	2.1nm,0.8s						
GCMT	Greycliff	95.48	42	eP	P	02 03 29.4	+1.7
SONA0	Songino Array	98.20	319	ePdif	P	02 03 40.9	+1.0
SONA0				epP	pP	02 05 32.8	+1.6
SONA0				ePP	PP	02 07 45.5	-2.3
SONM	Songino Array	98.20	319	P	P	02 03 40.9	+1.0
	0.7nm,0.5s,baz=135,slow=3.9,SNR=5.1						
SONM				pP	pP	02 05 32.8	+1.6
	0.8nm,0.8s,baz=126,slow=7.5,SNR=3.5						
SONM				PP	PP	02 07 45.5	-2.3
	0.3nm,0.4s,baz=104,slow=6.3,SNR=3.9						
YKA	Yellowknife Ar	101.90	26	P	Pdif	02 03 56.2	+0.5
	0.1nm,0.5s,baz=245,slow=4.4,SNR=2.8						
YKA				PKiKP	PP	02 08 14.1	-0.8
	0.1nm,0.5s,baz=262,slow=1.4,SNR=5.1						
YKB5	Yellowknife Ar	101.90	26	ePdif	Pdif	02 03 56.2	+0.5
YKB5				ePP	PP	02 08 14.2	-0.8
LPAZ	La Paz	101.94	115	P	Pdif	02 03 58.9	+1.1
	0.8nm,0.8s,baz=172,slow=3.4,SNR=3.3						
MK32	Makanchi Array	113.10	312	ePdif	Pdif	02 04 48.0	+2.1
MK32				ePKiKP	PKiKP	02 08 35.9	-0.9
MK32				ePP	PP	02 09 35.5	-0.6
MK32				eSKPdf	SKPdf	02 11 23.4	-0.8
MK32				ePKKPbc	PKKPbc	02 19 23.8	-1.4
MKAR	Makanchi Array	113.10	312	Pdiff	Pdif	02 04 48.0	+2.1
	0.5nm,0.5s,baz=98,slow=6.2,SNR=5.3						
MKAR				PKiKP	PKiKP	02 08 35.9	-0.9
	0.5nm,0.5s,baz=339,slow=1.7,SNR=6.0						
MKAR				PP	PP	02 09 35.5	-0.6
	0.7nm,0.8s,baz=96,slow=7.4,SNR=3.7						
MKAR				SKP		02 11 23.4	
	1.3nm,0.7s,baz=64,slow=2.8,SNR=8.9						
MKAR				PKKPbc	PKKPbc	02 19 23.8	-1.4
	1.4nm,0.7s,baz=285,slow=3.6,SNR=13						
NRIK	Noril'sk	114.40	337	PKP	PKPdf	02 08 38.1	-0.5
	1.3nm,0.4s,baz=67,slow=7.7,SNR=2.1						
KSH	Kashi	116.00	303	PKP	PKPdf	02 08 37.0	-5.7
KSH				PP	PP	02 09 58.8	+2.1
KSH				AMB	AMB		
	comp=Z,120nm,4.3s						
KURBB	Kurchatov Arra	116.27	316	PKP	PKPdf	02 08 42.1	-0.6
	1.6nm,0.8s,baz=108,slow=2.0,SNR=12						
KURBB				PP	PP	02 09 54.9	-3.1
	0.5nm,0.7s,baz=96,slow=7.2,SNR=5.6						
KURBB				SKP		02 11 30.6	
	1.5nm,0.8s,baz=100,slow=2.2,SNR=10.0						
PTGA	Pitinga	116.72	105	PKP	PKPdf	02 08 43.8	-0.9
	1.0nm,0.4s,baz=266,slow=5.1,SNR=4.6						
AAK	Ala-Archa	117.71	306	PKKPbc	PKKPbc	02 19 08.7	-0.7
	3.2nm,0.6s,baz=224,slow=3.5,SNR=9.5						
KK31	Karatay Array	120.67	307	ePKPdf	PKPdf	02 08 51.2	-0.3
KKAR	Karatay Array	120.67	307	ePKPdf	PKPdf	02 08 51.1	-0.4
BOSA	Boshof	120.87	206	PKP	PKPdf	02 08 52.6	0.0
	1.7nm,0.7s,baz=84,slow=2.6,SNR=4.9						
BOSA				PKKPbc	PKKPbc	02 18 56.7	-2.0
	1.4nm,0.7s,baz=349,slow=3.6,SNR=4.7						
BVAR	Borovoye Array	121.51	318	PKP	PKPdf	02 08 52.8	+0.1
	2.1nm,0.5s,baz=52,slow=2.4,SNR=12						
BVAR				SKP		02 11 39.6	
	1.3nm,0.6s,baz=104,slow=6.3,SNR=4.2						
MDP	Montagnes des	125.92	103	PKP	PKPdf	02 09 02.6	+0.2
	9.5nm,1.0s,baz=230,slow=5.3,SNR=7.8						
SPITS	Spitsbergen Ar	126.71	356	PKP	PKPdf	02 09 02.0	-0.1
	2.1nm,0.5s,baz=77,slow=3.7,SNR=12						
ARU	Arti	128.06	323	PKP	PKPdf	02 09 04.1	-1.1
	2.0nm,0.5s,baz=121,slow=5.1,SNR=5.9						
AKTO	Aktyubinsk	129.32	315	PKP	PKPdf	02 09 07.8	+0.1
	1.5nm,0.6s,baz=98,slow=6.9,SNR=7.5						
AKTO				SKPbc	SKPbc	02 11 42.8	+0.7
	3.1nm,0.7s,baz=111,slow=5.8,SNR=12						
GEYT	Alibeck	129.60	299	PKP	PKPdf	02 09 08.0	-0.8
	2.6nm,0.8s,baz=112,slow=1.6,SNR=5.6						
GEYT				SKPbc	SKPbc	02 11 45.0	+1.4
	8.9nm,0.7s,baz=180,slow=3.0,SNR=21						
KIRV	Kirov	132.18	327	SKPbc	SKPab	02 11 53.0	-0.8
	23nm,0.7s,baz=65,slow=3.6,SNR=7.5						
TSUM	Tsumeb	132.30	203	SKPbc	SKPbc	02 11 54.7	+0.7
	2.7nm,0.7s,baz=140,slow=8.5,SNR=5.9						
ARCES	ARCESS Array B	133.42	348	PKhKP	PKPpre	02 09 05.1	
	1.3nm,0.7s,baz=48,slow=1.8,SNR=6.8						
ARCES				PKP	PKPdf	02 09 14.6	-0.3
	2.6nm,0.6s,baz=17,slow=0.9,SNR=15						
ARCES				SKPbc	SKPbc	02 11 56.9	+0.9
	7.1nm,0.6s,baz=45,slow=3.6,SNR=20						
KMBO	Kilima Mbogo	135.13	240	SKPbc	SKPbc	02 12 04.3	+0.8
	1.3nm,0.6s,baz=53,slow=10,SNR=4.7						
FIA0	FINESS Array S	139.91	341	ePKPpre	PKPpre	02 09 19.3	
FIA0				eSKPbc	SKiKP	02 12 16.7	-1.1
FINES	FINESS Array B	139.91	341	PKhKP	PKPpre	02 09 19.3	
	1.7nm,0.6s,baz=74,slow=2.4,SNR=15						
FINES				SKPbc	SKiKP	02 12 16.7	-1.1
	12nm,0.6s,baz=64,slow=4.4,SNR=33						
KBZ	Khabaz	140.65	309	PKP	PKPdf	02 09 28.7	-0.3
	0.6nm,0.5s,baz=63,slow=6.8,SNR=2.8						
AKH	Akhalkalaki	140.68	305	⇑P	PKPdf	02 09 23.2	-6.2
NC303	NORSAR Array S	143.44	351	ePKPdf	PKPab	02 09 31.7	+0.1
NC405	NORSAR Array S	143.50	350	ePKPdf	PKPab	02 09 31.2	-0.7
NB201	NORSAR Array S	143.62	351	ePKPdf	PKPab	02 09 32.0	-0.4
NB2	NORSAR Subarra	143.64	351	PKP	PKPab	02 09 32.3	-0.2
	comp=Z,7.2nm,0.6s,baz=16,slow=3.3						
NB200	NORSAR Array S	143.64	351	ePKPdf	PKPab	02 09 32.2	-0.2
NOA	NORSAR Array B	143.64	351	PKP	PKPab	02 09 32.2	-0.2
	comp=Z,3.8nm,0.6s,baz=22,slow=3.8,SNR=51						
NBO00	NORSAR Array S	143.71	351	ePKPbc	PKPab	02 09 32.5	-0.2
NAO01	NORSAR Array S	143.88	351	ePKPbc	PKPbc	02 09 33.0	-0.2
NC602	NORSAR Array S	143.88	350	ePKPbc	PKPbc	02 09 32.6	-0.6
HFS	Hagfors	144.09	348	PKP	PKPbc	02 09 33.6	-0.3
	comp=Z,14nm,0.3s,baz=51,slow=3.7,SNR=177						
SLIT	Slitere, Latvi	144.12	339	eP	PKPbc	02 09 33.1	-1.0
SLIT				IAmb	IAmb	02 09 34.5	
	comp=Z,120nm,0.6s						
IZAR	Zarasai	144.17	335	eP	PKPbc	02 09 34.1	-0.2
IZAR				IAmb	IAmb	02 09 35.2	
	comp=Z,28nm,0.7s						
IDID	Didziasalis	144.29	334	eP	PKPbc	02 09 34.5	-0.2
IDID				IAmb	IAmb	02 09 35.5	
	comp=Z,13nm,0.8s						
ISAL	Salakas	144.34	334	eP	PKPbc	02 09 34.4	-0.5
ISAL				IAmb	IAmb	02 09 35.8	
	comp=Z,14nm,0.8s						
IIGN	Ignalina	144.47	334	eP	PKPbc	02 09 35.3	0.0
IIGN				IAmb	IAmb	02 09 36.2	
	comp=Z,22nm,0.7s						
PABE	Paberze	145.22	336	eP	PKPbc	02 09 37.3	-0.2
PABE				IAmb	IAmb	02 09 38.9	
	comp=Z,38nm,0.7s						
AKASG	Malin Array Be	146.21	326	ePKPdf	PKPbc	02 09 39.9	-0.6
AKASG	Malin Array Be	146.21	326	PKPbc	PKPbc	02 09 39.8	-0.8
	comp=Z,4.8nm,0.4s,baz=38,slow=5.5,SNR=19						
AKASG				pPKPbc	pPKPab	02 11 35.4	-1.0
	comp=Z,2.4nm,0.8s,baz=47,slow=4.6,SNR=1.8						
AKASG				SKPbc	SKiKP	02 12 31.7	+0.6
	comp=Z,3.3nm,0.7s,baz=42,slow=3.7,SNR=4.1						
AKBB	Malin Array Si	146.21	326	ePKPdf	PKPbc	02 09 39.9	-0.6
AKBB				ePKPbc	PKPbc	02 09 42.1	+1.6
AKBB				epPKPdf	pPKPab	02 11 35.4	-1.0
AKBB				eSKPbc	SKiKP	02 12 31.7	+0.6
KIEV	Kiev	146.22	326	ePKPdf	PKPbc	02 09 40.0	-0.6
KIEV				ePKPbc	PKPbc	02 09 42.1	+1.5
SUW	Suwalki	146.65	335	ePKP	PKPbc	02 09 42.0	+0.4
BR101	Keskin Array S	148.37	305	ePKPbc	PKPbc	02 09 46.5	-0.3
BR101				ePKPab	PKPab	02 09 51.8	-0.2
BR101				epPKPdf	pPKPdf	02 11 41.4	+0.3
BR131	Keskin Array S	148.37	305	ePKPbc	PKPbc	02 09 46.5	-0.3
BRTR	Keskin Array B	148.37	305	ePKPbc	PKPbc	02 09 46.2	-0.6
BRTR				ePKPab	PKPab	02 09 51.5	-0.5
BRTR	Keskin Array B	148.37	305	PKPbc	PKPbc	02 09 46.5	-0.3
	comp=Z,2.3nm,0.6s,baz=148,slow=3.5,SNR=22						
BRTR				PKPab	PKPab	02 09 51.8	-0.2
	comp=Z,12nm,0.7s,baz=116,slow=3.7,SNR=42						
BRTR				pPKPbc	pPKPdf	02 11 41.4	+0.3
	comp=Z,0.7nm,0.6s,baz=117,slow=3.3,SNR=2.4						
ANTO	Ankara	148.95	306	ePKPdf	PKPdf	02 09 43.8	+0.4
ANTO				ePKPbc	PKPbc	02 09 48.5	+0.4
ANTO				ePKPab	PKPab	02 09 54.5	+0.3
ANTO	Ankara	148.95	306	⇑P	PKPbc	02 09 48.1	0.0
LEOM	Leova	149.17	320	⇑P	PKPbc	02 09 47.7	-0.6
GKP	Gorka Klasztor	149.35	339	ePKP	PKiKP	02 09 49.4	+0.1
TLCR		149.50	317	⇑P	PKiKP	02 09 49.7	-0.2
CSS	Mathiatis	149.65	296	ePKPdf	PKPdf	02 09 44.4	-0.2
CSS				ePKPbc	PKPbc	02 09 50.0	+0.1
CSS				ePKPab	PKPab	02 09 56.7	-0.5
CFR	Carcaliu	149.92	318	⇓P	PKPbc	02 09 50.4	+0.3
LEF	Lefka	149.98	297	⇑P	PKPbc	02 09 50.6	0.0
KWP	Kalwaria Pacla	150.07	329	ePKP	PKiKP	02 09 51.1	+0.1
KWP	Kalwaria Pacla	150.07	329	ePKPdf	PKPdf	02 09 42.8	-2.0
KWP				ePKPbc	PKPbc	02 09 50.7	+0.3
BIZ	Bicaz	150.11	322	⇑P	PKiKP	02 09 51.6	+0.4
BUR08	Bucovina Ar. S	150.17	324	ePKPdf	PKPdf	02 09 45.2	0.0
BUR08				ePKPbc	PKPbc	02 09 51.9	+1.1
BURAR	Bucovina Array	150.18	324	ePKPab	PKPab	02 09 58.4	-0.7
BURAR	Bucovina Array	150.18	324	⇓P	PKiKP	02 09 52.2	+0.8
TLB	Topalu	150.28	317	⇑P	PKiKP	02 09 51.8	+0.3
VRI	Vrincioaia	150.38	320	⇓P	PKPbc	02 09 49.2	-2.1
PLOR	Plostina	150.44	320	⇑P	PKPbc	02 09 50.8	-0.6
KOLS	Kolonicke sedl	150.77	329	ePKP	PKiKP	02 09 53.1	+0.6
OJC	Ojcow	150.90	333	ePKP	PKiKP	02 09 52.8	+0.1
OJC	Ojcow	150.90	333	ePKPdf	PKPdf	02 09 46.5	+0.4
OJC				ePKPbc	PKiKP	02 09 52.6	-0.1
MLR	Muntele Rosu	151.05	320	PKPbc	PKPbc	02 09 53.1	+0.2
	comp=Z,3.0nm,0.6s,baz=329,slow=5.6,SNR=10						
DOPR	Dopca	151.09	321	⇑P	PKiKP	02 09 53.6	+0.3
TRPA	Tarpa	151.20	327	⇑P	PKPbc	02 09 53.0	0.0
NIE	Niedzica	151.30	332	ePKP	PKiKP	02 09 54.1	+0.5
KSP	Ksiaz	151.71	338	ePKP	PKiKP	02 09 55.1	+0.8
LANS	Liptovska Anna	151.86	332	ePKP	PKiKP	02 09 56.4	+1.6
LANS				e		02 10 06.6	
ARR	Arges	151.87	321	⇓P	PKiKP	02 09 56.3	+1.4
DRGR		152.02	325	⇑P	PKiKP	02 09 55.2	0.0
UPC	Upice	152.09	338	⇑ePKP	PKiKP	02 09 55.8	+0.6
UPC				ePKPab	PKPab	02 10 07.3	+0.4
DPC	Dobruska-Polom	152.12	337	⇑ePKP	PKiKP	02 09 56.2	+0.9
DPC				ePKPab	PKPab	02 10 07.9	+0.8
MORC	Moravsky Berou	152.14	335	⇑P	PKiKP	02 09 56.1	+0.8
CLL	Collm	152.33	342	ePKPdf	PKPdf	02 09 46.3	-1.8
CLL				ePKPbc	PKPbc	02 09 54.6	-0.8
CLL				ePKPab	PKPab	02 10 07.2	-0.7
BRG	Berggiesshubel	152.45	340	i PKP	PKPab	02 10 08.8	+0.4
	comp=Z,7.4nm,0.7s						
PVCC	Panska Ves	152.55	339	⇑ePKP	PKiKP	02 09 56.9	+0.8
VYHS	Vyhne	152.63	332	ePKP	PKPab	02 10 09.7	+0.4
SIRR	Siria	152.91	325	⇑P	PKiKP	02 09 57.3	+0.3
HERR	Herculane	153.41	322	⇑P	PKiKP	02 09 58.5	+0.5
KHC	Kasperske Hory	154.09	339	⇑ePKP	PKiKP	02 09 59.9	+0.5
KHC				ePKPab	PKPab	02 10 15.8	+0.3
VTS	Vitosha	154.28	317	⇑P	PKPbc	02 10 02.6	+2.5
CONA	Conrad Observa	154.29	335	i PKPab	PKPab	02 10 17.2	+0.7
	comp=Z,2.2nm,0.6s						
GERES	GERESS Array B	154.29	339	PKPbc	PKPbc	02 10 00.2	+0.3
	comp=Z,0.5nm,0.7s,baz=50,slow=2.1,SNR=4.5						
GERES				PKPab	PKPab	02 10 16.2	-0.3
	comp=Z,0.5nm,0.4s,baz=35,slow=4.9,SNR=7.7						
SOKA	Soboth	155.64	334	i PKPab	PKPab	02 10 22.7	+0.4
	comp=Z,0.7nm,0.4s						
MYKA	Terra Mystica	156.21	336	i PKPab	PKPab	02 10 24.4	-0.3
	comp=Z,3.5nm,0.6s						
WATA	Walderalm	156.30	340	i PKPab	PKPab	02 10 25.8	+0.6
	comp=Z,2.7nm,0.5s						
WTTA	Wattenberg	156.35	340	i PKPab	PKPab	02 10 26.1	+0.6
	comp=Z,5.4nm,0.6s						
RETA	Reutte	156.41	341	i PKPab	PKPab	02 10 25.9	+0.3
	comp=Z,3.5nm,0.6s						
MOTA	Moosalm	156.44	340	i PKPab	PKPab	02 10 25.6	-0.3
	comp=Z,3.4nm,0.7s						
ABTA	Abfaltersbach	156.51	338	i PKPdf	PKPdf	02 09 54.0	-0.2
	comp=Z,8.1nm,1.5s						
ABTA				i PKPab	PKPab	02 10 25.7	-0.4
	comp=Z,2.7nm,0.7s						
SQTA	Sankt Quirin	156.52	340	i PKPab	PKPab	02 10 26.6	+0.5
	comp=Z,2.4nm,0.5s						
FETA	Feichten	156.84	341	i PKPab	PKPab	02 10 28.4	+0.9
	comp=Z,8.1nm,1.1s						
DAVA	Damuels	156.84	342	i PKPab	PKPab	02 10 28.1	+0.5
	comp=Z,4.2nm,0.6s						
FUORN	Ofenpass-Fuorn	157.34	341	ePKPab	PKPab	02 10 30.7	+0.8
DBIC	Dimbokro	160.74	166	PKP	PKPdf	02 09 58.8	-1.2
	comp=Z,1.9nm,0.8s,baz=215,slow=12,SNR=3.3						
DBIC				PKPab	PKPab	02 10 44.8	-0.3
	comp=

0.6nm,0.3s,baz=353,slow=10,SNR=17
MKAR Makanchi Array 67.81 327 P **P 02 03 33.5 +0.4**
0.5nm,0.3s,baz=115,slow=8.1,SNR=11
KURBB Kurchatov Arra 72.09 329 P **P 02 03 58.5 -0.6**
0.2nm,0.5s,baz=135,slow=5.1,SNR=2.5

IDC 24 02:03:22.1±2.5,5°83S×130°19E,h0km,mb3.4/1, mb1 3.8/3,mb1mx3.5/36,mbtmp3.7/3,ML3.9/2,Error ellipse: s-maj=119.5km s-min=27.6km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.98**	**200**	Pn	Pn	02 06 27.9	-0.1
	0.4nm,0.3s,baz=25,slow=13,SNR=24						
WRA	**Warramunga Arr**	**14.60**	**164**	Pn	Pn	02 06 48.6	-1.5
WRA				Sn	Sn	02 09 20.4	-12
ASAR	**Alice Springs**	**18.09**	**169**	P	P	02 07 35.8	+0.2
	0.6nm,0.3s,baz=344,slow=10,SNR=17						
ASAR				S	Sn	02 10 45.5	-12
	0.2nm,0.3s,baz=356,slow=26,SNR=4.9						
MKAR	**Makanchi Array**	**67.35**	**326**	P	P	02 14 19.2	0.0
	0.3nm,0.6s,baz=126,slow=7.3,SNR=2.6						

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*SJA **24** 02:04:36.4±0.6,24°37S×67°17W,h209km±6km,ML2.5, MW2.9*
*ISCJB **24** 02:04:37.4±0.5,24°37S±0°04×67°22W±0°05,h197km±5km, mb3.3/2,Error ellipse: s-maj=8.2km s-min=6.1km az=145.0*
*IDC **24** 02:04:38.0±1.1,24°30S×67°18W,h184km±14km,mb3.2/2, mb1 3.2/8,mb1mx3.1/33,mbtmp3.7/8,Error ellipse: s-maj=20.5km s-min=17.7km az=76.0*
ISC 24 02:04:37.8±0.8,24°37S±0°06×67°24W±0°06,h192km±8km, n18,σ1°32/27,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.61**	**103**	*i* P	**Pn**	**02 05 12.4**	**+0.4**
SLA				*i* S	**Sn**	**02 05 38.5**	**0.0**
SLA				IAML		02 05 40.2	
	comp=Z,59nm,0.7s						
AZAP	**Zapla**	**1.98**	**86**	*i* P	**Pn**	**02 05 15.4**	**-0.4**
AZAP				*i* S	**Sn**	**02 05 44.5**	**-0.8**
AZAP				IAML		02 05 46.2	
	comp=Z,64nm,0.6s						
HJA	**Humahuaca**	**2.04**	**56**	*i* P	**Pn**	**02 05 16.6**	**+0.1**
HJA				IAML		02 05 17.3	
	comp=Z,17nm,0.5s						
HJA				*i* S	**Sn**	**02 05 47.1**	**+0.6**
FSA	**Cafayete**	**2.07**	**147**	*i* P	**Pn**	**02 05 17.0**	**+0.3**
FSA				IAML		02 05 18.6	
	comp=Z,13nm,0.3s						
FSA				*i* S	**Sn**	**02 05 47.0**	**0.0**
LVC	**Limon Verde**	**2.33**	**318**	*i* P	**Pn**	**02 05 20.4**	**+0.6**
LVC	**Limon Verde**	**2.33**	**318**	P	**Pn**	**02 05 20.3**	**+0.6**
	comp=Z,17nm,0.3s,baz=141,slow=6.8,SNR=382						
LVC				S	**Sn**	**02 05 50.9**	**-1.4**
	comp=Z,36nm,0.3s,baz=253,slow=19,SNR=65						
PB15	**IPOC Station P**	**2.35**	**299**	*i* P	**Pn**	**02 05 20.6**	**+0.8**
PB15				*i* S	**Sn**	**02 05 53.1**	**+0.8**
YJA	**Yavi**	**2.70**	**36**	*i* P	**Pn**	**02 05 24.3**	**+0.3**
YJA				*i* S	**Sn**	**02 05 59.8**	**-0.1**
YJA				IAML		02 06 00.6	
	comp=Z,4.4nm,0.6s						
AHML	**Horco Molle**	**2.95**	**145**	*i* P	**Pn**	**02 05 26.3**	**-0.2**
AHML				IAML		02 05 28.0	
	comp=Z,6.1nm,0.4s						
CFA	**Coronel Fontan**	**7.26**	**187**	P	**Pn**	**02 06 22.7**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=43,slow=19,SNR=7.7						
CFA				S	**Sn**	**02 07 40.2**	**-3.4**
	comp=Z,1.0nm,0.3s,baz=280,slow=22,SNR=4.4						
LPAZ	**La Paz**	**8.09**	**354**	P	**Pn**	**02 06 33.0**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=176,slow=8.2,SNR=20						
LPAZ				S	**Sn**	**02 08 01.7**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=267,slow=16,SNR=4.4						
CPUP	**Villa Florida**	**9.17**	**104**	P	**Pn**	**02 06 46.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=277,slow=9.3,SNR=4.6						
SIV	**San Ignacio**	**10.15**	**36**	P	**Pn**	**02 06 56.7**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=222,slow=13,SNR=16						
BDFB	**Brasília**	**20.02**	**68**	P	**P**	**02 08 55.5**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=262,slow=5.4,SNR=4.0						
SNAA	**Sanae**	**59.07**	**161**	P	**P**	**02 14 19.2**	**+1.7**
	comp=Z,1.6nm,1.2s,baz=281,slow=10,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.90**	**69**	P	**P**	**02 16 11.0**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=237,slow=5.2,SNR=4.0						
MKAR	**Makanchi Array**	**146.95**	**40**	PKPbc	**PKPbc**	**02 23 58.6**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=312,slow=2.9,SNR=6.6						
KAPI	**Kappang**	**150.01**	**194**	PKPbc	**PKPbc**	**02 24 05.1**	**-1.3**
	comp=Z,6.2nm,0.4s,baz=162,slow=6.4,SNR=3.7						

DJA 24 02:16:21.5±0.9,0°S±4°×12°6E±°,h146km±11km,M4.3/2, mb4.1/2,MLv4.3/2,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.86**	**176**	P	Pn	02 16 54.7	-0.1
SANI				S	Sn	02 17 20.9	+0.5
KMSI	**Cibinong**	**2.01**	**292**	P	Pn	02 16 56.9	+0.4
LUWI	**Luwuk**	**3.19**	**254**	P	Pn	02 17 12.7	+1.5
LUWI				S	Sn	02 17 49.6	-0.1
APSI	**Ampana**	**4.26**	**260**	P	Pn	02 17 25.9	+0.8
MPSI	**Mapaga**	**5.97**	**275**	P	Pn	02 17 48.0	+0.1
TTSI	**Tana Toraja**	**6.67**	**245**	P	Pn	02 17 56.4	-0.7
SPSI	**Sidrap Palu**	**7.14**	**238**	P	Pn	02 18 02.7	-0.8

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*MAN **24** 02:17:20.5,2°13N×127°88E,h24km,MS5.2*
*ISCJB **24** 02:17:26.5±0.3,3°30N±0°03×128°45E±0°04,h33km, mb4.4/35,MS3.3/3,Error ellipse: s-maj=5.5km s-min=3.8km az=177.2*
*DJA **24** 02:17:29.0±0.9,3°N±6°×12°8E±°,h41km±21km,M4.8/8, mb5.0/8,mB5.1/5,MLv5.0/3,Mw(mB)4.5/5*
*NEIC **24** 02:17:31.4±0.8,3°23N×128°42E,h64km±7km,mb4.5/18, Error ellipse: s-maj=7.1km s-min=4.4km az=75.0*
*IDC **24** 02:17:31.4±2.5,3°24N×128°37E,h65km±23km,mb3.9/21, mb1 4.0/22,mb1mx3.9/46,mbtmp4.2/22,MS3.4/5, Ms1 3.5/5,ms1mx3.1/30,Error ellipse: s-maj=24.2km s-min=10.3km az=83.0*
ISC 24 02:17:28.5±0.4,3°18N±0°04×128°42E±0°06,h35km,n97, σ1°86/102,mb4.4/35,MS3.4/3,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.61**	**204**	*e*Pn	**Pn**	**02 18 10.9**	**+2.6**
TNTI	**Ternate**	**2.61**	**204**	P	**Pn**	**02 18 10.5**	**+2.2**
TNTI				S	**Sn**	**02 18 41.6**	**+2.8**
TNTI	**Ternate**	**2.61**	**204**	P	**Pn**	**02 18 12.1**	**+3.8**
SGSI	**Sangihe**	**2.93**	**280**	P	**Pn**	**02 18 11.8**	**-0.9**
SGSI				S	**Sn**	**02 18 45.9**	**-0.8**
SGSI	**Sangihe**	**2.93**	**280**	P	**Pn**	**02 18 12.1**	**-0.6**
DDMP	**Don Marcelino,**	**3.97**	**317**	*e*P	**Pn**	**02 18 26.6**	**-0.3**
DDMP				*e*S	**Sn**	**02 19 19.9**	**+7.7**
MATI	**Mati**	**4.32**	**330**	*e*P	Pn	02 18 36.3	+4.6
MATI				*e*S	Sn	02 19 39.1	+18
SWI	**Sorong**	**4.92**	**145**	P	**Pn**	**02 18 42.2**	**+2.2**
SWI	**Sorong**	**4.92**	**145**	P	**Pn**	**02 18 41.1**	**+1.1**
SKMP	**Bagumbayan, Su**	**5.09**	**311**	*e*P	**Pn**	**02 18 43.1**	**+0.7**
SKMP				*e*S	**Sn**	**02 19 41.8**	**+1.8**
KMSI	**Cibinong**	**5.14**	**240**	P	**Pn**	**02 18 44.2**	**+1.2**
SANI	**Sanana**	**5.74**	**205**	P	**Pn**	**02 18 53.4**	**+2.2**
BUKP	**Musuan**	**5.74**	**325**	*e*P	**Pn**	**02 18 55.5**	**+4.1**
BUKP				*e*S	Sn	02 20 07.9	+12
BUTP	**Butuan**	**6.39**	**334**	*e*P	**Pn**	**02 19 04.3**	**+4.1**
BUTP				*e*S	Sn	02 20 28.9	+17
CGP	**Cagayan de Oro**	**6.42**	**325**	*e*P	Pn	02 19 07.1	+6.5
PAGZ	**Pagadian**	**6.83**	**313**	*e*P	**Pn**	**02 19 06.7**	**+0.5**
MRSI	**Marisa**	**7.01**	**248**	P	**Pn**	**02 19 10.0**	**+1.2**
FAKI	**Fak Fak**	**7.17**	**148**	*e*Pn	**Pn**	**02 19 14.0**	**+3.1**
IPIL	**Ipil**	**7.41**	**308**	*e*P	**Pn**	**02 19 13.8**	**-0.4**
MPSI	**Mapaga**	**8.97**	**252**	P	**Pn**	**02 19 34.1**	**-1.6**
	31nm,0.8s						
KDI	**Kendari**	**9.16**	**219**	P	**Pn**	**02 19 40.5**	**+2.2**
	59nm,0.7s,686nm						
TTSI	**Tana Toraja**	**10.59**	**234**	P	**Pn**	**02 19 56.5**	**-1.4**
	36nm,0.7s,1μm						
SPSI	**Sidrap Palu**	**11.19**	**231**	P	**Pn**	**02 20 07.0**	**+1.0**
	30nm,0.7s						
BNSI	**Bone**	**11.21**	**228**	P	**Pn**	**02 20 07.5**	**+1.1**
	38nm,0.7s						
BKSI	**Bulukumba**	**11.83**	**224**	P	**Pn**	**02 20 15.5**	**+0.6**
	22nm,0.6s,252nm						
KAPI	**Kappang**	**11.88**	**227**	*e*Pn	**Pn**	**02 20 18.7**	**+3.0**
KAPI				*e*Sn	**Sn**	**02 22 25.3**	**-1.8**
KAPI	**Kappang**	**11.88**	**227**	P	**Pn**	**02 20 19.3**	**+3.7**
	2.9nm,0.3s,baz=75,slow=11,SNR=6.9						
KAPI				S	**Sn**	**02 22 25.3**	**-1.8**
	0.7nm,0.3s,baz=112,slow=19,SNR=3.0						
BSSI	**Bau Bau, Buton**	**12.19**	**221**	P	**Pn**	**02 20 22.2**	**+2.5**
	33nm,0.6s						
GENI	**Genyem**	**13.07**	**116**	P	P	02 20 56.9	+15
SOEI	**Soe**	**13.50**	**198**	*e*Pn	**Pn**	**02 20 41.8**	**+4.0**
SOEI	**Soe**	**13.50**	**198**	P	P	02 20 55.0	+8.5
BATI	**Baumata**	**14.12**	**200**	P	**P**	**02 20 50.5**	**-2.9**
	7.3nm,0.3s,baz=307,slow=5.1,SNR=5.3						
BATI				LR	LR	02 26 50.5	
	comp=Z,229nm,18.9s,baz=20,slow=40						
PLAI	**Plampang**	**15.96**	**222**	P	**Pn**	**02 21 12.2**	**+1.6**
SBUM	**Sibu**	**16.20**	**268**	*e*Pn	**P**	**02 21 15.6**	**-0.8**
	9.5nm,0.7s						
JAGI	**Jajag, Banyuwa**	**18.34**	**231**	*e*P	**Pn**	**02 21 40.7**	**+0.4**
	30nm,0.7s						
GUMO	**Guam**	**19.26**	**57**	LR	LR	02 28 21.4	
	comp=Z,109nm,18.6s,baz=188,slow=34						
FITZ	**Fitzroy Crossi**	**21.32**	**187**	*e*P	**P**	**02 22 13.2**	**+0.6**
	10nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.32**	**187**	P	**P**	**02 22 12.8**	**+0.2**
	3.5nm,0.6s,baz=18,slow=9.6,SNR=4.3						
FITZ				LR	LR	02 31 08.8	
	comp=Z,139nm,18.3s,baz=32,slow=38						
WR1	**Warramunga Arr**	**23.70**	**166**	*e*P	**P**	**02 22 38.1**	**+0.7**
WRA	**Warramunga Arr**	**23.70**	**166**	P	**P**	**02 22 38.1**	**+0.7**
AS31	**Alice Springs**	**27.21**	**169**	*e*P	**P**	**02 23 10.0**	**+0.7**
	2.3nm,0.7s						
AS31				*e*PcP	**PcP**	**02 26 27.1**	**-1.9**
AS31				*e*S	**S**	**02 27 46.9**	**+0.8**
AS31				*e*ScP	**ScP**	**02 30 04.0**	**-3.0**
ASAR	**Alice Springs**	**27.21**	**169**	*e*P	**P**	**02 23 08.8**	**-0.5**
ASAR				PcP	**PcP**	**02 26 27.1**	**-1.9**
ASAR				S	**S**	**02 27 46.9**	**+0.8**
ASAR				ScP	**ScP**	**02 30 04.0**	**-3.0**
ASAR	**Alice Springs**	**27.21**	**169**	P	**P**	**02 23 09.7**	**+0.4**
	3.1nm,0.5s,baz=354,slow=8.1,SNR=35						
ASAR				PcP	**PcP**	**02 26 27.1**	**-1.9**
	0.6nm,0.5s,baz=338,slow=1.8,SNR=3.9						
ASAR				S	**S**	**02 27 46.9**	**+0.8**
	1.3nm,0.8s,baz=355,slow=16,SNR=4.7						
ASAR				ScP	**ScP**	**02 30 04.0**	**-3.0**
	0.9nm,0.8s,baz=5.4,slow=3.1,SNR=4.8						
NJ2	**Nanjing**	**30.10**	**344**	*e*P	**P**	**02 23 34.0**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.60**	**300**	P	**P**	**02 23 57.5**	**+0.4**
	0.9nm,0.3s,baz=130,slow=7.5,SNR=4.3						
CMAR				LR	LR	02 37 40.2	
	comp=Z,37nm,19.1s,baz=185,slow=37						
FORT	**Forrest**	**33.77**	**181**	*e*P	**P**	**02 24 06.7**	**-0.4**
	14nm,0.8s						
KSAR	**Wonju Array Be**	**34.10**	**359**	P	**P**	**02 24 09.6**	**-0.3**
KSRS	**Korea Array**	**34.11**	**359**	P	**P**	**02 24 09.6**	**-0.4**
	0.5nm,0.3s,baz=174,slow=9.0,SNR=3.6						
MAJO	**Matsushiro**	**34.41**	**14**	*e*P	**P**	**02 24 12.2**	**-0.4**
MJAR	**Matsushiro Arr**	**34.41**	**14**	P	**P**	**02 24 12.2**	**-0.4**
	3.2nm,0.7s,baz=183,slow=10,SNR=7.1						
MJAR				LR	LR	02 37 54.4	
	comp=Z,67nm,18.5s,baz=190,slow=36						
XAN	**Xi'an**	**35.68**	**332**	P	**P**	**02 24 21.1**	**-2.6**
XAN				pP	pP	02 24 32.4	-0.7
XAN				sP	sP	02 24 38.5	+1.5
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,63nm,6.2s						
XAN	**Xi'an**	**35.68**	**332**	*e*P	**P**	**02 24 23.4**	**-0.2**
	48nm,1.8s						
BBOO	**Buckleboo**	**36.52**	**169**	*e*P	**P**	**02 24 31.2**	**+0.5**
	13nm,0.6s						
STKA	**Stephens Creek**	**37.05**	**161**	*e*P	**P**	**02 24 35.6**	**+0.4**
	4.2nm,0.8s						
STKA	**Stephens Creek**	**37.05**	**161**	P	**P**	**02 24 35.9**	**+0.7**
	6.0nm,0.4s,baz=344,slow=8.6,SNR=30						
H11S3	**WAKE ISLAND Hy**	**40.42**	**65**	T	T	03 08 19.0	
	baz=253,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**40.43**	**65**	T	T	03 08 17.7	
	baz=253,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**40.43**	**65**	T	T	03 08 18.3	
	baz=253,slow=75,SNR=32						
USRK	**Ussuriysk Ar.**	**40.97**	**4**	P	**P**	**02 25 07.7**	**-0.2**
	2.9nm,0.7s,baz=195,slow=8.1,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**40.98**	**63**	T	T	03 09 10.2	
	baz=250,slow=75,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**40.99**	**63**	T	T	03 09 10.2	
	baz=250,slow=75,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**41.00**	**63**	T	T	03 09 09.9	
	baz=250,slow=75,SNR=7.6						
GTA	**Gaotai**	**44.44**	**328**	*e*P	P	02 25 41.4	+5.0
GTA				pP	pP	02 25 45.4	-0.6
GTA				sP	pwP	02 25 48.8	-0.3
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KLR	**Kul'dur**	**45.97**	**3**	P	**P**	**02 25 47.2**	**-1.0**
	2.5nm,0.7s,baz=216,slow=6.7,SNR=9.2						
SONA0	**Songino Array**	**48.37**	**340**	*e*P	**P**	**02 26 05.9**	**-1.1**
SONM	**Songino Array**	**48.37**	**340**	*e*P	**P**	**02 26 06.8**	**-0.2**
SONM	**Songino Array**	**48.37**	**340**	P	**P**	**02 26 05.9**	**-1.1**
	0.7nm,0.4s,baz=151,slow=8.4,SNR=4.8						
PETK	**Petropavlovsk-**	**55.32**	**21**	P	**P**	**02 26 58.7**	**+0.1**
	2.4nm,0.8s,baz=178,slow=4.3,SNR=6.1						
PEA1	**Petropavlovsk-**	**55.32**	**21**	*e*P	**P**	**02 26 58.7**	**+0.1**
MK31	**Makanchi Array**	**58.97**	**325**	*e*P	**P**	**02 27 23.6**	**-1.1**
	2.6nm,0.8s						
MK32	**Makanchi Array**	**58.97**	**325**	*e*P	**P**	**02 27 23.7**	**-1.0**
MKAR	**Makanchi Array**	**58.97**	**325**	P	**P**	**02 27 23.7**	**-1.0**
	2.2nm,0.5s,baz=116,slow=8.3,SNR=14						
MAKZ	**Makanchi**	**59.16**	**325**	*e*P	**P**	**02 27 25.2**	**-0.7**
	12nm,1.6s						
KSH	**Kashi**	**59.62**	**315**	P	**P**	**02 27 32.8**	**+3.4**
KSH				pP	pP	02 27 38.3	-0.7
KSH				S	**S**	**02 35 41.3**	**+3.7**
KSH				SS	**SS**	**02 39 37.4**	**+3.8**
KSH				pmax	pmax		
	comp=Z,11nm,0.3s						
KSH				pmax	pmax		
	comp=Z,73nm,3.1s						
KSH				LR	LR		
	comp=N,140nm,8.1s						
KSH				LR	LR		
	comp=E,120nm,7.5s						
ZALV	**Zalesovo Beam**	**61.85**	**332**	P	**P**	**02 27 43.0**	**-1.0**
	1.1nm,0.3s,baz=147,slow=10,SNR=5.2						
ZAA1	**Zalesovo Array**	**61.85**	**332**	*e*P	**P**	**02 27 43.0**	**-1.1**
SEY	**Seymchan**	**62.20**	**12**	P	**P**	**02 27 46.3**	**+0.1**
	1.2nm,0.6s,baz=151,slow=1.4,SNR=3.9						
KURK	**Kurchatov**	**63.11**	**327**	*e*P	**P**	**02 27 52.7**	**+0.1**
	4.5nm,0.7s						
KURBB	**Kurchatov Arra**	**63.11**	**327**	P	**P**	**02 27 50.6**	**-2.0**
	1.6nm,0.6s,baz=128,slow=6.3,SNR=17						
GAR	**Garm**	**63.54**	**312**	*e*P	**P**	**02 27 55.4**	**-0.5**
	9.4nm,0.7s						
KK31	**Karatay Array**	**64.78**	**317**	*e*P	**P**	**02 28 03.7**	**-0.1**
	4.1nm,0.9s						
KKAR	**Karatay Array**	**64.78**	**317**	*e*P	**P**	**02 28 02.4**	**-1.4**
TIXI	**Tiksi**	**68.38**	**0**	P	**P**	**02 28 24.9**	**-1.2**
	2.1nm,0.5s,baz=256,slow=1.3,SNR=3.6						
BVAR	**Borovoye Array**	**68.70**	**327**	P	**P**	**02 28 27.5**	**-1.0**
	2.5nm,0.8s,baz=133,slow=8.9,SNR=9.7						
BRVK	**Borovoye**	**68.77**	**327**	*e*P	**P**	**02 28 30.0**	**+1.0**
	4.5nm,0.6s						
ABKAR	**Akbulak array**	**73.64**	**321**	*e*P	**P**	**02 28 58.9**	**+0.4**
AKTO	**Aktyubinsk**	**75.14**	**321**	P	**P**	**02 29 06.5**	**-0.7**
	0.8nm,0.6s,baz=102,slow=14,SNR=5.4						
VNDA	**Vanda**	**82.68**	**173**	*e*P	**P**	**02 29 48.3**	**+0.4**
	14nm,2.0s						
VNDA	**Vanda**	**82.68**	**173**	P	**P**	**02 29 47.7**	**-0.2**
	1.1nm,0.5s,baz=316,slow=6.2,SNR=9.3						
MAW	**Mawson**	**83.83**	**201**	*e*P	**P**	**02 29 53.9**	**-0.2**
	1.2nm,1.1s						
MAW	**Mawson**	**83.83**	**201**	P	**P**	**02 29 53.9**	**-0.2**
	2.8nm,0.7s,baz=73,slow=6.7,SNR=9.1						
ILAR	**Eielson Array**	**84.87**	**25**	P	**P**	**02 29 58.5**	**-1.0**
	0.3nm,0.7s,baz=256,slow=3.6,SNR=3.6						
ILB	**Eielson Array**	**84.87**	**25**	*e*P	**P**	**02 29 58.5**	**-1.0**
	5.0nm,1.6s						
PAX	**Paxson**	**85.41**	**27**	*e*P	**P**	**02 30 02.6**	**+0.3**
	3.7nm,1.0s						
ARCES	**ARCESS Array B**	**91.54**	**340**	P	**P**	**02 30 30.6**	**-0.7**
	0.5nm,0.6s,baz=98,slow=6.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**124.69**	**288**	PKP	**PKPdf**	**02 36 25.1**	**-0.5**
	0.3nm,0.6s,baz=70,slow=1.6,SNR=2.4						
TOA1	**Torodi Ar. Sit**	**124.69**	**288**	*e*PKPdf	**PKPdf**	**02 36 25.1**	**-0.5**

SVSA 24 02:52:58.4±0.7,37°48N×24°81W,h5km,MD3.6,ML1.6,1D, Error ellipse: s-maj=6.2km s-min=1.4km az=78.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.41**	**316**	‖ *i* P	Pg	02 53 05.7	-0.7
BART				*e*S	Sg	02 53 11.3	-0.6
BART				A	A	02 53 12.7	
	21nm,0.2s						
PSMN	**Pico do Norte,**	**0.52**	**203**	*e*P	Pg	02 53 07.6	-0.7
PSMN				*e*S	Sg	02 53 14.0	-1.0
PSMN				A	A	02 53 15.4	
	8.3nm,0.2s						
PSMA	**Santa Maria**	**0.55**	**208**	*e*P	Pg	02 53 07.3	-1.6
PSMA				*e*S	Sg	02 53 14.8	-1.1
PSMA				A	A	02 53 15.7	
	10nm,0.1s						
CMLA	**Cha da Macela**	**0.64**	**297**	*e*S	Sg	02 53 17.1	-1.8
CMLA				A	A	02 53 20.3	
	15nm,0.3s						
GRON	**Grota Negra**	**0.64**	**297**	*e*P	Pg	02 53 07.8	-3.0
GRON				*e*S	Sg	02 53 14.8	-4.4
GRON				A	A	02 53 16.4	
	19nm,0.1s						
PDA	**Ponta Delgada**	**0.73**	**292**	*e*P	Pg	02 53 10.5	-1.9
PDA				*e*S	Sg	02 53 19.5	-2.4
PDA				A	A	02 53 20.6	
	7.4nm,0.2s						
PSET	**Sete Cidades**	**0.80**	**296**	*e*P	Pg	02 53 11.8	-2.0
PSET				*e*S	Sg	02 53 21.3	-2.9
PSET				A	A	02 53 24.8	
	11nm,0.1s						

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*IDC **24** 03:16:53.7±0.9,52°37N×160°54E,h0km,mb3.9/15, mb1 4.0/17,mb1mx3.8/50,mbtmp3.9/17,ML3.7/2,MS3.2/1, Ms1 3.2/1,ms1mx2.6/46,Error ellipse: s-maj=23.6km s-min=17.6km az=161.0*
*KRSC **24** 03:16:53.6±10.0,52°09N×160°87E,h56km±10km,ML4.5*
*MOS **24** 03:16:57.2±0.8,52°21N×160°69E,h43km,mb4.7/3,Error ellipse: s-maj=8.5km s-min=4.7km az=104.8*
*NEIC **24** 03:16:59.2±1.2,52°29N×160°54E,h39km±10km,mb4.6/7, Error ellipse: s-maj=11.3km s-min=9.0km az=141.0*
ISC 24 03:16:54.4±2.9,52°13N±0°04×160°77E±0°04,h12km±18km, n113,σ1°16/132,mb4.0/20,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.07**	**335**	*e*P	**Pb**	**03 17 14.0**	**-0.9**
SPN				*e*S	**Sb**	**03 17 27.2**	**-1.7**
SPN	**Mys Shipunski**	**1.07**	**335**	PN	**Pb**	**03 17 14.0**	**-0.9**
SPN				S	**Sb**	**03 17 27.2**	**-1.7**
NLC	**Nalytchevo**	**1.36**	**321**	*e*P	**Pn**	**03 17 18.8**	**-0.4**
NLC				*e*S	**Sb**	**03 17 37.7**	**+0.6**
NLC	**Nalytchevo**	**1.36**	**321**	PN	**Pn**	**03 17 18.8**	**-0.4**
NLC				S	**Sb**	**03 17 37.7**	**+0.6**
RUS	**Russkaya**	**1.42**	**283**	*e*P	**Pn**	**03 17 19.7**	**-0.3**
RUS				*e*S	**Sn**	**03 17 37.0**	**-1.6**
RUS	**Russkaya**	**1.42**	**283**	PN	**Pn**	**03 17 19.7**	**-0.3**
RUS				S	**Sn**	**03 17 37.0**	**-1.6**
DALK	**Dalny**	**1.52**	**307**	*e*P	**Pn**	**03 17 21.5**	**0.0**
DALK				*e*S	**Sn**	**03 17 40.7**	**-0.6**
DALK	**Dalny**	**1.52**	**307**	PN	**Pn**	**03 17 21.5**	**0.0**
DALK				S	**Sn**	**03 17 40.7**	**-0.6**
PET	**Petropavlovsk**	**1.57**	**306**	*e*Pn	**Pn**	**03 17 21.6**	**-0.5**
PET	**Petropavlovsk**	**1.57**	**306**	*e*P	**Pn**	**03 17 22.5**	**+0.4**
PET				*e*S	**Sn**	**03 17 42.4**	**0.0**
PET	**Petropavlovsk**	**1.57**	**306**	*e*PN	**Pn**	**03 17 22.1**	**0.0**
PET				*e*S	**Sn**	**03 17 40.4**	**-2.0**
PET				pmax	pmax		
	comp=Z,200nm,0.6s						
PET				pmax	pmax		
	comp=Z,296nm,0.5s						
PET				smax	smax		
	comp=N,900nm,0.7s						
PET				smax	smax		
	comp=E,1μm,0.9s						
PET				smax	smax		
	comp=N,1μm,0.6s						
PET				smax	smax		
	comp=E,1μm,0.5s						
UGLR	**Uglovaya**	**1.60**	**313**	*e*P	**Pn**	**03 17 23.1**	**+0.4**
UGLR				*e*S	**Sb**	**03 17 45.6**	**+1.3**
UGLR	**Uglovaya**	**1.60**	**313**	PN	**Pn**	**03 17 23.1**	**+0.4**
UGLR				S	**Sb**	**03 17 45.6**	**+1.3**
SDLR	**Sedlovina**	**1.62**	**316**	*e*P	**Pn**	**03 17 23.0**	**0.0**
SDLR	**Sedlovina**	**1.62**	**316**	PN	**Pn**	**03 17 23.0**	**0.0**
MTVR	**Mutnovka**	**1.62**	**284**	*e*P	**Pn**	**03 17 23.2**	**+0.2**
MTVR				*e*S

BDR	Baidarnaya	4.46	3	PN	Pn	03 18 03.0	+1.1
SMKR	Semkarok	4.48	5	*e*P	Pn	03 18 03.8	+1.6
SMKR	Semkarok	4.48	5	PN	Pn	03 18 03.8	+1.6
SRKR	Sorokina	4.54	3	*e*P	Pn	03 18 04.2	+1.2
SRKR	Sorokina	4.54	3	PN	Pn	03 18 04.2	+1.2
ASAJ	Asahikawa	14.51	244	Pn	Pn	03 20 19.2	-0.4
	comp=Z,0.8nm,0.3s,baz=71,slow=19,SNR=4.4						
BILL	Bilibino	16.18	7	*i* P	Pn	03 20 41.7	+0.3
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KLR	Kul'dur	18.56	273	P	Pn	03 21 11.3	+0.2
	comp=Z,0.1nm,0.3s,baz=72,slow=9.6,SNR=3.7						
USRK	Ussuriysk Ar.	20.66	259	LR	LR	03 29 37.0	
	comp=Z,73nm,21.5s,baz=330,slow=37						
MAJO	Matsushiro	22.29	235	*e*P	P	03 21 52.8	+1.2
MAJO	Matsushiro	22.29	235	*e*P	P	03 21 52.8	+1.2
MJAR	Matsushiro Arr	22.29	235	P	P	03 21 52.8	+1.2
	comp=Z,2.2nm,0.6s,baz=19,slow=12,SNR=2.3						
TIXI	Tiksi	24.13	336	*e*P	P	03 22 08.0	-1.7
	comp=Z,2.5nm,0.8s						
TIXI	Tiksi	24.13	336	*e*P	P	03 22 08.0	-1.7
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BCAR	Beaver Creek A	31.57	47	*e*P	P	03 23 17.6	+1.2
H11N2	WAKE ISLAND Hy	32.69	169	T	T	03 59 43.4	
	baz=351,slow=76,SNR=42						
H11N3	WAKE ISLAND Hy	32.70	169	T	T	03 59 39.5	
	baz=351,slow=76,SNR=29						
H11N1	WAKE ISLAND Hy	32.70	169	T	T	03 59 36.0	
	baz=351,slow=76,SNR=44						
KURK	Kurchatov	48.60	303	*e*P	P	03 25 36.3	-1.2
	comp=Z,3.8nm,0.7s						
KURK	Kurchatov	48.60	303	P	P	03 25 35.9	-1.6
KURBB	Kurchatov Arra	48.70	303	P	P	03 25 35.9	-2.4
	comp=Z,0.6nm,0.5s,baz=58,slow=8.5,SNR=9.2						
BVAR	Borovoye Array	51.31	309	P	P	03 25 56.7	-1.4
	comp=Z,0.8nm,0.4s,baz=52,slow=9.7,SNR=5.9						
ARCES	ARCESS Array B	54.33	342	P	P	03 26 17.4	-2.8
	comp=Z,1.2nm,0.8s,baz=29,slow=7.6,SNR=3.4						
ARU	Arti	54.39	318	*e*P	P	03 26 20.1	-0.6
	comp=Z,10nm,0.9s						
ARU	Arti	54.39	318	*e*P	P	03 26 20.1	-0.6
ARU				pmax	pmax		
	comp=Z,11nm,0.9s						
ARU	Arti	54.39	318	P	P	03 26 20.1	-0.6
	comp=Z,2.1nm,0.2s,baz=357,slow=21,SNR=4.2						
NV01	Mina Array Sit	55.69	70	*e*P	P	03 26 31.2	+0.5
NVAR	Mina Array Bea	55.69	70	P	P	03 26 31.2	+0.5
	comp=Z,0.6nm,0.6s,baz=304,slow=8.6,SNR=3.8						
PD31	Pinedale Array	57.64	61	*e*P	P	03 26 46.3	+1.8
	comp=Z,4.7nm,1.5s						
PDAR	Pinedale Array	57.64	61	P	P	03 26 46.3	+1.8
	comp=Z,0.5nm,0.5s,baz=300,slow=2.6,SNR=5.1						
CM31	Chiang Mai Arr	58.39	259	*e*P	P	03 26 51.2	+1.4
	comp=Z,16nm,1.4s						
CMAR	Chiang Mai Arr	58.39	259	P	P	03 26 51.2	+1.4
	comp=Z,1.5nm,0.7s,baz=30,slow=6.9,SNR=4.7						
FIA0	FINESS Array S	61.17	337	*e*P	P	03 27 09.0	+0.7
FIA0	FINESS Array S	61.17	337	*e*P	P	03 27 09.0	+0.7
FINES	FINESS Array B	61.17	337	P	P	03 27 09.0	+0.7
FINES	FINESS Array B	61.17	337	P	P	03 27 09.0	+0.7
	comp=Z,1.7nm,0.6s,baz=46,slow=7.4,SNR=12						
NB200	NORSAR Array S	64.58	344	*e*P	P	03 27 31.3	+0.2
NOA	NORSAR Array B	64.58	344	P	P	03 27 31.3	+0.2
	comp=Z,0.7nm,0.7s,baz=23,slow=6.6,SNR=3.5						
AKASG	Malin Array Be	69.65	329	P	P	03 28 01.9	-1.5
	comp=Z,0.7nm,0.4s,baz=28,slow=6.6,SNR=3.0						
AKBB	Malin Array Si	69.65	329	*e*P	P	03 28 01.9	-1.5
	comp=Z,24nm,1.8s						
AKBB	Malin Array Si	69.65	329	*e*P	P	03 28 01.9	-1.5
AKBB				pmax	pmax		
	comp=Z,24nm,1.8s						
LTX	Lajitas	70.64	67	*e*P	P	03 28 11.9	+2.0
LTX	Lajitas	70.64	67	*e*P	P	03 28 11.9	+2.0
TXAR	Lajitas Array	70.64	67	P	P	03 28 11.9	+2.0
	comp=Z,0.5nm,0.5s,baz=303,slow=5.7,SNR=3.7						
GERES	GERESS Array B	75.56	338	P	P	03 28 38.5	-0.3
	comp=Z,0.2nm,0.4s,baz=35,slow=3.6,SNR=2.6						
BR101	Keskin Array S	77.63	321	*e*P	P	03 28 51.3	+0.7
BRTR	Keskin Array B	77.63	321	P	P	03 28 51.3	+0.7
	comp=Z,0.6nm,0.8s,baz=46,slow=6.2,SNR=3.0						
AS31	Alice Springs	79.05	205	*e*P	P	03 28 59.8	+1.4
	comp=Z,2.2nm,1.4s						
ASAR	Alice Springs	79.05	205	P	P	03 28 59.8	+1.4
	comp=Z,0.4nm,0.5s,baz=22,slow=5.1,SNR=4.5						

*IDC **24** 03:22:25.3±2.8, 36°.17N×70°.79E, h147km±24km, mb3.9/17, mb1 4.0/22, mb1mx3.7/49, mbtmp4.4/22, Error ellipse: s-maj=17.4km s-min=13.3km az=171.0*
*BJI **24** 03:22:25.8±0.0, 36°.54N×70°.63E, h164km, mb4.4/10, mB4.6/5*
*NNC **24** 03:22:27.1±2.7, 36°.94N×70°.41E, h0km, mb4.9, mpv4.9, Error ellipse: s-maj=22.1km s-min=17.2km az=2.0*
*NEIC **24** 03:22:28.9±0.5, 36°.51N×70°.82E, h170km±4km, mb4.2/19, Error ellipse: s-maj=6.8km s-min=6.1km az=145.0*
*ISCJB **24** 03:22:29.2±0.2, 36°.53N±0°.02×70°.93E±0°.04, h188km, mB4.1/35, Error ellipse: s-maj=4.8km s-min=3.0km az=165.0*
*MOS **24** 03:22:29.1±0.9, 36°.58N×70°.97E, h175km, mb4.2/13, Error ellipse: s-maj=10.2km s-min=4.7km az=83.4*

ISC 24 03:22:30.1±0.4, 36°.51N±0°.04×70.77E±0°.04, h188km, n151, σ2.9°06/170, mb4.1/35, 15C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.41	216	*e*Pn	Pn	03 23 12.2	-0.3
KBL				*e*Sn	Sn	03 23 43.9	-1.6
KBL	Kabul	2.41	216	*e*PN	Pn	03 23 12.2	-0.3
GAR	Garm	2.52	352	*e*Pn	Pn	03 23 12.3	-1.1
GAR				*e*Sn	Sn	03 23 43.3	-4.3
GAR	Garm	2.52	352	*e*PN	Pn	03 23 12.4	-1.1
GAR				*e*		03 23 43.3	
CEP	Cherat	2.83	160	P	Pn	03 23 16.8	-0.5
CEP				S	Sn	03 23 52.0	-2.1
CHCP	Chirah Chowk	3.50	144	P	Pn	03 23 24.8	-0.5
NIL	Nilore	3.50	144	*e*Pn	Pn	03 23 24.5	-0.8
NIL	Nilore	3.50	144	*e*PN	Pn	03 23 24.5	-0.8
BTK	Batken	3.55	1	*e*Pn	Pn	03 23 25.1	-0.7
BTK	Batken	3.55	1	*e*PN	Pn	03 23 25.1	-0.7
THW	Thamme Wali	3.79	167	P	Pn	03 23 28.2	-0.7
SARP	Sargodha	4.84	160	P	Pn	03 23 40.7	-1.4
KSH	Kashi	5.09	52	P	Pn	03 23 39.6	-5.9
KSH				S	Sn	03 24 27.6	-17
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,510nm,0.5s						
ARSB	Arslanbob	5.11	19	*e*Pn	Pn	03 23 43.7	-2.0
AML	Almayashu	6.06	21	P	Pn	03 23 56.7	-1.6
	SNR=359						
DHRM	DHARAMSHALA	6.24	131	*e*P	Pn	03 23 58.8	-1.8
DHRM				*e*S	Sn	03 25 05.8	-6.1
NRN	Naryn	6.39	38	*e*Pn	Pn	03 23 59.1	-3.4
NRN	Naryn	6.39	38	*e*PN	Pn	03 23 59.1	-3.4
UCH	Uchtor	6.41	26	P	Pn	03 24 01.1	-1.8
	SNR=103						
KZA	Kyzart	6.56	31	P	Pn	03 24 02.6	-2.2
	SNR=22						
EKS2	Erkin-Say	6.57	20	P	Pn	03 24 03.5	-1.2
	SNR=41						
KK31	Karatay Array	6.59	358	*e*Pn	Pn	03 24 03.5	-1.4
KK31	Karatay Array	6.59	358	⇑P	Pn	03 24 01.1	-3.8
	131nm,0.7s,baz=189,slow=18,SNR=1055						
KK31				⇓S	Sn	03 25 13.7	-6.2
	23nm,0.3s,baz=189,slow=22,SNR=8.7						
KK31	Karatay Array	6.59	358	*e*PN	Pn	03 24 03.2	-1.6
KK31				pmax	pmax		
	comp=Z,59nm,0.4s						
KKAR	Karatay Array	6.59	358	*e*Pn	Pn	03 24 03.5	-1.4
KKAR	Karatay Array	6.59	358	*e*PN	Pn	03 24 03.5	-1.4
AAK	Ala-Archa	6.77	24	P	Pn	03 24 06.0	-1.2
	SNR=71						
AAK	Ala-Archa	6.77	24	⇓P	Pn	03 24 05.9	-1.4
	comp=Z,32nm,0.5s						
AAK				⇑S	Sn	03 25 20.0	-4.1
	comp=Z,47nm,0.7s						
AAK	Ala-Archa	6.77	24	PN	Pn	03 24 05.8	-1.4
AAK				pmax	pmax		
	comp=Z,32nm,0.5s						
AAK	Ala-Archa	6.77	24	P	Pn	03 24 06.0	-1.2
	comp=Z,14nm,0.3s,baz=192,slow=8.2,SNR=176						
AAK				S	Sn	03 25 19.7	-4.5
	comp=Z,7.1nm,0.3s,baz=306,slow=24,SNR=16						
BHK	Bhakra	6.91	136	*ex*	Pn	03 24 06.2	-2.9
BHK				*ex*	x	03 25 06.0	
KBK	Karagaybulak	6.94	26	P	Pn	03 24 08.4	-1.1
	SNR=40						
FRU1	Bishkek	6.96	24	*e*Pn	Pn	03 24 08.5	-1.2
FRU1	Bishkek	6.96	24	*e*PN	Pn	03 24 08.5	-1.2
ULHL	Ulahol	7.13	35	P	Pn	03 24 10.2	-1.9
	SNR=15						
CHMS	Chumysh	7.17	24	P	Pn	03 24 10.8	-1.7
	SNR=32						
BOOM	Boomskoye usch	7.19	32	*e*Pn	Pn	03 24 10.9	-1.9
BOOM	Boomskoye usch	7.19	32	*e*PN	Pn	03 24 10.9	-1.9
USP	Ospenovka	7.34	22	P	Pn	03 24 12.5	-2.1
	SNR=15						
TKM2	Tokmak 2	7.41	29	P	Pn	03 24 14.2	-1.5
	SNR=71						
TKM2	Tokmak 2	7.41	29	⇑P	Pn	03 24 14.0	-1.7
	comp=Z,98nm,0.9s						
TKM2				⇓S	Sn	03 25 35.4	-4.0
	comp=Z,18nm,0.7s						
TKM2	Tokmak 2	7.41	29	PN	Pn	03 24 14.0	-1.7
TKM2				S	Sn	03 25 35.3	-4.0
TKM2				pmax	pmax		
	comp=Z,54nm,0.7s						
TKM2				smax	smax		
	comp=N,18nm,0.7s						
KDJ	Kajisay	7.50	40	*e*Pn	Pn	03 24 14.2	-2.7
KDJ	Kajisay	7.50	40	*e*PN	Pn	03 24 14.2	-2.7
SMLA	Simla	7.55	133	*ex*	Pn	03 24 15.5	-2.1
SMLA				*ex*	x	03 25 35.4	
TARG	Taragay, Kyrgy	7.56	44	*e*Pn	Pn	03 24 15.6	-2.2
MDOK	Medeo	8.22	34	⇑P	Pn	03 24 24.9	-1.4
	comp=N,26nm,0.8s						
PDGK	Podgornoye	9.55	42	⇓P	Pn	03 24 44.1	+0.4
	comp=N,3.5nm,0.5s						
PDGK				⇑S	Sn	03 26 31.8	+1.5
	comp=N,10nm,0.9s						
GEYT	Alibeck	10.19	282	P	Pn	03 24 50.3	-1.7
	comp=N,1.5nm,0.3s,baz=111,slow=11,SNR=15						
GEYT				S	Sn	03 26 38.7	-6.8
	comp=N,1.0nm,0.3s,baz=114,slow=13,SNR=4.4						
GYA0B	ALIBECK ARRAY	10.19	282	*e*Pn	Pn	03 24 50.6	-1.3
OTUK	Ortayu	11.79	5	⇑P	Pn	03 25 09.9	-2.6
	comp=N,8.1nm,0.8s						
OTUK				⇓S	Sn	03 27 17.3	-6.2
	comp=N,9.2nm,0.6s						
OTUK	Ortayu	11.79	5	P	Pn	03 25 09.8	-2.6
OTUK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAKZ	Makanchi	13.26	36	*e*Pn	Pn	03 25 29.4	-1.7
MAKZ	Makanchi	13.26	36	*e*P	Pn	03 25 29.4	-1.7
PYUN	Piuthan	13.30	126	*e*P	Pn	03 25 28.8	-3.1
	comp=Z,43nm,0.4s						
MK31	Makanchi Array	13.40	36	*e*Pn	Pn	03 25 31.6	-1.2
MK31	Makanchi Array	13.40	36	P	P	03 25 35.5	-0.4
	comp=Z,1.6nm,0.4s,baz=217,slow=12,SNR=38						
MK31	Makanchi Array	13.40	36	*e*P	Pn	03 25 31.6	-1.2
MK32	Makanchi Array	13.40	36	*e*Pn	Pn	03 25 31.7	-1.1
MKAR	Makanchi Array	13.40	36	*i* P	Pn	03 25 31.7	-1.1
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	Makanchi Array	13.40	36	P	Pn	03 25 31.7	-1.1
	comp=Z,0.3nm,0.3s,baz=221,slow=14,SNR=24						
DANN	Dangsing	13.65	123	*e*P	Pn	03 25 33.4	-3.0
	comp=Z,50nm,0.4s						
KOLN	Koldanda	13.92	125	*e*P	Pn	03 25 36.9	-2.8
	comp=Z,24nm,0.2s						
AB31	Akbulak array	14.99	332	⇑P	Pn	03 25 51.4	-1.1
	comp=Z,8.8nm,0.5s,baz=145,slow=12,SNR=202						
AB31				⇑S	Sn	03 28 34.9	-5.0
	comp=Z,5.9nm,0.5s,baz=149,slow=24,SNR=12						
AB31	Akbulak array	14.99	332	*i* P	Pn	03 25 51.4	-1.1
AB31				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ABKAR	Akbulak array	14.99	332	*e*Pn	Pn	03 25 51.4	-1.1
	comp=Z,19nm,0.6s						
DMN	Daman	15.03	122	*e*P	Pn	03 25 51.3	-2.2
	comp=Z,48nm,0.6s						
KKN	Kakani	15.04	121	*e*P	Pn	03 25 51.5	-2.0
	comp=Z,74nm,0.5s						
KURBB	Kurchatov Arra	15.18	19	P	Pn	03 25 52.1	-2.7
	comp=Z,0.3nm,0.3s,baz=210,slow=11,SNR=20						
KURBB				S	Sn	03 28 46.1	+1.8
	comp=Z,0.1nm,0.3s,baz=204,slow=20,SNR=4.2						
PKIN	Phulchoki	15.25	122	*e*P	Pn	03 25 54.3	-1.9
	comp=Z,60nm,0.5s						
PKI	Pulchoki	15.27	122	*e*P	Pn	03 25 54.7	-1.7
	comp=Z,110nm,0.6s						
KURK	Kurchatov	15.29	19	*e*P	Pn	03 25 53.0	-3.1
JIRN	Jiri	15.75	120	*e*P	Pn	03 26 01.5	-0.9
	comp=Z,108nm,0.4s						
RAMN	Ramite	16.48	121	*e*P	P	03 26 09.9	-0.4
	comp=Z,68nm,0.5s						
BVAR	Borovoye Array	16.52	359	P	P	03 26 10.1	-0.1
	comp=Z,4.2nm,0.3s,baz=186,slow=7.0,SNR=26						
BRVK	Borovoye	16.55	359	*e*P	P	03 26 10.6	0.0
	comp=Z,21nm,1.1s						
BRVK	Borovoye	16.55	359	⇑P	Pn	03 26 13.0	+1.6
	comp=Z,10nm,0.7s						
BRVK	Borovoye	16.55	359	*c i* P	P	03 26 10.8	+0.2
AKTO	Aktyubinsk	16.68	331	⇓P	P	03 26 13.0	+0.9
	comp=Z,42nm,0.9s						
AKTO				⇑S	S	03 29 13.8	-2.6
	comp=Z,15nm,1.2s						
AKTO	Aktyubinsk	16.68	331	P	Pn	03 26 13.5	+0.5
	comp=Z,4.0nm,0.3s,baz=147,slow=12,SNR=105						
AKTO				S	S	03 29 12.5	-3.9
	comp=Z,0.4nm,0.3s,baz=174,slow=18,SNR=4.7						
ODAN	Odare	17.08	120	*e*P	Pn	03 26 18.4	+0.2
	comp=Z,60nm,0.6s						
DGZ	Jazzator, Alta	17.89	37	*d i* P	P	03 26 26.6	+1.1
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZAA0	Zalesovo Array	19.99	25	*e*P	P	03 26 48.1	+0.2
	comp=Z,10nm,0.6s						
ZALV	Zalesovo Beam	19.99	25	*e*P	P	03 26 47.8	-0.1
ZALV				S	S	03 30 21.0	-1.1
ZALV	Zalesovo Beam	19.99	25	P	P	03 26 48.1	+0.3
	comp=Z,8.3nm,0.3s,baz=216,slow=11,SNR=13						
ZALV				S	S	03 30 21.0	-1.1
	comp=Z,2.0nm,0.6s,baz=208,slow=18,SNR=4.4						
ZAA1	Zalesovo Array	19.99	25	*e*P	P	03 26 48.1	+0.2
ZAA1				*e*S	S	03 30 21.0	-1.1
NVS	Novosibirsk	20.24	21	*e*P	P	03 26 51.3	+0.7
NVS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NVS				pmax	pmax		
	comp=N,9.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.8s						
GNI	Garni	20.71	288	*c e*P	Pn	03 27 00.7	-0.7
GNI				pmax	pmax		
	comp=Z,42nm,2.0s						
SVE	Sverdlovsk	21.44	345	*e*P	P	03 27 04.8	+1.5
SVE				pmax	pmax		
	comp=Z,13nm,0.7s						
ARU	Arti	21.57	341	*e*P	P	03 27 05.5	+0.9
	comp=Z,10nm,0.9s						
ARU	Arti	21.57	341	*c i* P	P	03 27 06.0	+1.4
ARU						03 27 37.8	
ARU				S	S	03 30 56.2	+5.3
ARU				pmax	pmax		
	comp=Z,12nm,0.9s						
ARU	Arti	21.57	341	P	P	03 27 06.0	+1.4
	comp=Z,2.1nm,0.3s,baz=146,slow=7.3,SNR=8.2						
ZEI	Tsey	21.57	295	*e*P	P	03 27 07.4	+2.4
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KIRV	Kirov	26.15	334	P	P	03 27 48.9	+2.3
	comp=Z,7.5nm,0.5s,baz=74,slow=3.2,SNR=4.1						
SONA0	Songino Array	28.48	55	*e*P	P	03 28 08.2	+0.5
SONM	Songino Array	28.48	55	P	P	03 28 08.2	+0.5
	comp=Z,1.5nm,0.8s,baz=264,slow=8.9,SNR=4.3						
OBN	Obninsk	29.81	319	*i* P	P	03 28 21.4	+2.3
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CM31	Chiang Mai Arr	30.62	118	*e*P	P	03 28 27.9	+1.2
	comp=Z,16nm,1.4s						
CMAR	Chiang Mai Arr	30.62	118	*c e*P	P	03 28 28.3	+1.6
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR	Chiang Mai Arr	30.62	118	P	P	03 28 27.9	+1.2
	comp=Z,1.7nm,0.4s,baz=300,slow=8.4,SNR=10						
XAN	Xi'an	31.11	83	P	P	03 28 31.8	+0.9
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,52nm,3.8s						
KIEV	Kiev	32.81	309	*e*P	P	03 28 48.7	+3.3
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WHN	Wuhan	36.58	86	P	P	03 29 19.3	+1.3
FIA0	FINESS Array S	37.38	326	*e*P	P	03 29 25.9	+1.7
FIA0	FINESS Array S	37.38	326	*e*P	P	03 29 26.0	+1.7
FINES	FINESS Array B	37.38	326	*i* P	P	03 29 26.3	+2.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	FINESS Array B	37.38	326	P	P	03 29 25.9	+1.7
	comp=Z,1.9nm,0.4s,baz=117,slow=9.1,SNR=20						
ARCES	ARCESS Array B	41.07	338	P	P	03 29 57.0	+2.2
	comp=Z,3.4nm,0.4s,baz=113,slow=8.2,SNR=49						
NB2	NORSAR Subarra	44.26	323	P	P	03 30 22.2	+1.6
	comp=Z,3.7nm,0.6s,baz=96,slow=7.9						
NB200	NORSAR Array S	44.26	323	*e*P	P	03 30 22.6	+2.0
NOA	NORSAR Array B	44.26	323	P	P	03 30 22.6	+2.0
	comp=Z,1.2nm,0.4s,baz=97,slow=7.7,SNR=11						
KS15	Wonju Array Si	45.03	71	*e*P	P	03 30 27.6	+0.7
	comp=Z,15nm,1.4s						
KSAR	Wonju Array Be	45.03	71	P	P	03 30 27.6	+0.7
KSAR	Wonju Array Be	45.03	71	P	P	03 30 27.6	+0.7
KSRS	Korea Array	45.05	71	P	P	03 30 27.6	+0.5
	comp=Z,0.6nm,0.3s,baz=282,slow=6.0,SNR=4.9						
KLR	Kul'dur	45.29	54	P	P	03 30 29.5	+0.6
	comp=Z,1.5nm,0.6s,baz=296,slow=8.3,SNR=5.6						
TIXI	Tiksi	45.84	22	*e*P	P	03 30 33.4	+0.6
	comp=Z,4.2nm,0.8s						
TIXI	Tiksi	45.84	22	*c e*P	P	03 30 33.8	+1.0
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TIXI	Tiksi	45.84	22	P	P	03 30 33.7	+1.0
	comp=Z,2.1nm,0.3s,baz=264,slow=4.0,SNR=10						
SPITS	Spitsbergen Ar	47.45	347	P	P	03 30 48.1	+2.8
	comp=Z,1.6nm,0.5s,baz=129,slow=11,SNR=17						
BILL	Bilibino	58.68	26	*i* P	P	03 32 09.0	+1.7
BILL				*i* *PP	pP	03 32 50.6	-1.0
BILL				*i*		03 32 57.5	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TOA1	Torodi Ar. Sit	65.53	268	*e*P	P	03 32 51.7	-2.0
TORD	Torodi Ar. Bea	65.53	268	P	P	03 32 51.7	-2.0
	comp=Z,1.7nm,0.5s,baz=48,slow=6.2,SNR=47						
TOLK	Toolik Lake Re	70.96	15	*e*P	P	03 33 28.1	+1.4
	comp=Z,7.2nm,0.6s						
COLD	Coldfoot	72.02	16	*e*P	P	03 33 34.2	+1.3
	comp=Z,3.0nm,1.1s						
IMAR	Indian Mountai	72.22	18	*e*P	P	03 33 35.0	+0.8
INK	Inuvik	73.93	9	*e*P	P	03 33 44.5	+0.5
	comp=Z,4.0nm,0.6s						
INK	Inuvik	73.93	9	*e*P	P	03 33 44.5	+0.5
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	Inuvik	73.93	9	P	P	03 33 45.7	+1.7
	comp=Z,3.7nm,0.6s,baz=345,slow=6.8,SNR=32						
MDM	Murphy Dome	74.37	16	*e*P	P	03 33 48.3	+1.6
	comp=Z,2.8nm,0.9s						
CAST	Castle Rocks	74.74	18	*e*P	P	03 33 49.6	+0.8
	comp=Z,6.7nm,1.0s						
ILAR	Eielson Array	74.82	16	*e*P	P	03 33 49.4	+0.1
ILAR	Eielson Array	74.82	16	*e*P	P	03 33 49.4	+0.1
ILAR	Eielson Array	74.82	16	P	P	03 33 49.8	+0.5
	comp=Z,1.4nm,0.9s,baz=317,slow=5.3,SNR=16						
ILB	Eielson Array	74.82	16	*e*P	P	03 33 49.8	+0.5
	comp=Z,2.7nm,1.1s						
PPLA	Purkeypile	75.14	19	*e*P	P	03 33 52.3	+0.9
	comp=Z,17nm,1.6s						
SCRK	Sand Creek	76.14	15	*e*P	P	03 33 58.0	+1.0
	comp=Z,2.2nm,0.6s						
DHY	Denali Highway	76.18	17	*e*P	P	03 33 57.9	+0.6
	comp=Z,2.7nm,0.7s						
PAX	Paxson	76.70	16	*e*P	P	03 34 00.8	+0.7
	comp=Z,2.6nm,0.6s						
PAX	Paxson	76.70	16	*e*P	P	03 34 00.8	+0.7
PAX				pmax	pmax		
	comp=Z,3.0nm,0.6s						
DAWY	Dawson	76.96	13	*e*P	P	03 34 02.6	+1.1
	comp=Z,3.5nm,1.1s						
SML	Sawmill	77.04	18	*e*P	P	03 34 02.7	+0.8
	comp=Z,4.9nm,0.8s						
SML	Sawmill	77.04	18	*e*P	P	03 34 02.7	+0.8
SML				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BCAR	Beaver Creek A	77.40	15	*e*P	P	03 34 04.6	+0.6
BOSA	Boshof	77.63	220	P	P	03 34 04.5	-1.2
	comp=Z,3.6nm,0.8s,baz=82,slow=3.3,SNR=6.1						
YKA	Yellowknife Ar	81.25	3	*e*P	P	03 34 25.7	+1.1
YKA	Yellowknife Ar	81.25	3	P	P	03 34 26.1	+1.5
	comp=Z,1.4nm,0.4s,baz=351,slow=5.4,SNR=34						
YKB5	Yellowknife Ar	81.25	3	*e*P	P	03 34 26.1	+1.5

ANDN	**Andirin**	**0.30**	**327**	IAML_P			
	comp=Z,3μm,0.1s						
ANDN				*i* P	**Pb**	**03 43 01.6**	**0.0**
ANDN				*i* S	**Sb**	**03 43 06.0**	**-0.6**
KMRS	**Kahramanmaras**	**0.33**	**57**	PG	**Pg**	**03 43 00.9**	**-0.1**
KMRS				SG	**Sg**	**03 43 05.2**	**-0.3**
GAZ	**Gaziantep**	**0.55**	**106**	PG	**Pg**	**03 43 04.8**	**-0.2**
GAZ				SG	**Sb**	**03 43 13.1**	**-0.4**
KOZT	**Kozan**	**0.60**	**285**	PG	**Pg**	**03 43 05.8**	**-0.1**
KUZU	**Kuzuini**	**0.69**	**143**	IAML_P			
	comp=Z,1μm,0.1s						
KUZU				*i* P	**Pb**	**03 43 08.8**	**+0.6**
CEYT	**Ceyhan**	**0.72**	**244**	PG	**Pg**	**03 43 07.9**	**-0.2**
GZT	**Gaziantep**	**0.81**	**88**	IAML_P			
	comp=Z,1μm,0.1s						
GZT				*i* P	**Pn**	**03 43 11.4**	**-0.1**
GZT				*i* S	**Sn**	**03 43 23.2**	**-0.2**
AKO	**Adana**	**0.89**	**279**	*i* P	**Pn**	**03 43 13.4**	**+0.9**
TAHT	**Tahtakopru-Hat**	**0.99**	**197**	PG	**Pg**	**03 43 12.9**	**-0.5**
URFA	**Urfa**	**1.81**	**86**	PN	**Pn**	**03 43 26.2**	**+1.0**

BJI ***24*** *03:47:06.2±0.0, 40°.20N×121°.10W, h5km, mb5.4/55, mB6.0/49, Ms5.7/66, Ms7 5.4/62*

NEIC ***24*** *03:47:07.0±0.0, 40°.19N×121°.19W, h11km, Moment Tensor Solution. s187 Moment tensor: Scale 10^{17}Nm; M_{rr}=1.51; $M_{\theta\theta}$=1.22; $M_{\phi\phi}$=2.73; $M_{r\theta}$=1.11; $M_{\theta\phi}$=-3.47; $M_{\phi r}$=1.40; Best double couple: M_0=4.60000×10^{17} NP1:ϕ_s=190.00000°, δ=73.00000°, λ=-27.00000°. NP2:ϕ_s=289.00000°, δ=63.00000°, λ=-160.00000°. Principal axes: T 4.8200, Plg6.0000°, Azm241.0000°; N -0.5500, Plg57.0000°, Azm340.0000°; P -4.2600, Plg31.0000°, Azm147.0000°;*

IDC ***24*** *03:47:07.4±0.4, 40°.29N×121°.05W, h0km, mb5.1/35, mb1 5.1/43, mb1mx5.1/45, mbtmp5.1/43, ML4.3/7, MS5.2/36, Ms1 5.2/36, ms1mx5.2/40 Error ellipse: s-maj=8.7km s-min=5.5km az=42.0*

MOS ***24*** *03:47:07.3±0.9, 40°.20N×121°.05W, h10km, mb5.8/69, MS5.6/33, Error ellipse: s-maj=7.8km s-min=4.6km az=94.5*

NCEDC ***24*** *03:47:08.2, 40°.19N×121°.06W, h10km, MB5.7(NEIC), MS5.3(NEIC), MW5.7(NEIC), MW5.7(BRK)*

NEIC ***24*** *03:47:08.2±0.0, 40°.19N×121°.06W, h10km, mb5.7/70, MS5.3/297, MW5.7, MW5.7(BRK), After NCEDC.*

NEIC Buildings damaged and power outages occurred in the Greenville area. Felt [VIII] at Canyon Dam; [VI] at Chester, Greenville, Twain and Westwood; [V] at Adin, Bella Vista, Clarksburg, Clio and Palermo. Felt in much of central and northern California as far as Eureka, Tulelake and San Jose. Felt [III] at Klamath Falls, Oregon and at Carson City, Glenbrook, Reno and Sparks, Nevada.

ISCJB ***24*** *03:47:08.4±0.5, 40°.18N±0°.01×121°.02W±0°.02, h15km±3km, mb5.4/166, MS5.4/517, Error ellipse: s-maj=2.6km s-min=1.9km az=136.9*

ANF ***24*** *03:47:09.2±1.0, 40°.18N×121°.01W, h8km±8km, ML6.1/34, Error ellipse: s-maj=5.7km s-min=2.5km az=47.0*

GCMT ***24*** *03:47:12.2±0.1, 40°.23N±0°.01×121°.05W±0°.01, h20km, MW5.7/122, Moment Tensor Solution. s72,c104; s122,c253; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}=1.65±.09; $M_{\theta\theta}$=1.43±.07; $M_{\phi\phi}$=3.08±.07; $M_{r\theta}$=1.69±.16; $M_{\theta\phi}$=-3.57±.06; $M_{\phi r}$=0.19±.14; Best double couple: M_0=4.72300×10^{17} NP1:ϕ_s=291.00000°, δ=73.00000°, λ=-153.00000°. NP2:ϕ_s=192.00000°, δ=64.00000°, λ=-19.00000°. Principal axes: T 5.1120, Plg6.0000°, Azm60.0000°; N -0.7780, Plg59.0000°, Azm321.0000°; P -4.3350, Plg31.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 03:47:08.3±0.4, 40°.13N±0°.03×121°.15W±0°.02, h7km±2km, h8km:pP-P,n1181,σ1s89/876, mb5.5/183, MS5.3/521, 61C-28D, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	**Paynes Creek**	**0.53**	**289**	P	**Pb**	**03 47 19.0**	**-0.9**
	baz=101,SNR=1000						
O03E				S	**Sb**	**03 47 26.5**	**-1.2**
	baz=101						
ORV	**Oroville**	**0.63**	**205**	*e*Pg	**Pb**	**03 47 21.0**	**-0.6**
ORV	**Oroville**	**0.63**	**205**	*e*P	**Pb**	**03 47 21.0**	**-0.6**
BEKR	**Beckworth**	**0.66**	**113**	*e*Pg	**Pg**	**03 47 20.0**	**-1.1**
BEKR				*e*Sg	**Sg**	**03 47 28.0**	**-1.8**
WDC	**Whiskeytown Da**	**1.15**	**294**	*e*Pg	**Pg**	**03 47 28.7**	**-1.8**
WDC				*e*Sg	**Sb**	**03 47 44.2**	**-1.5**
WDC	**Whiskeytown Da**	**1.15**	**294**	*e*P	**Pg**	**03 47 28.7**	**-1.8**
WDC				*e*		03 47 44.2	
AFDM	**Forest Hills D**	**1.18**	**173**	*e*Pn	**Pb**	**03 47 30.6**	**-0.5**
AFDM				*e*Sg	**Sn**	**03 47 47.0**	**-0.6**
O02D	**Mt. Diablo Mer**	**1.25**	**273**	P	**Pn**	**03 47 31.6**	**-0.7**
	baz=89,SNR=472						
O02D				S	**Sn**	**03 47 49.3**	**-0.2**
	baz=89						
RUBR	**Rubicon Trail**	**1.32**	**144**	*e*Pn	**Pn**	**03 47 32.8**	**-0.6**
RUBR				*e*Sg	**Sg**	**03 47 50.1**	**-0.7**
PAHR	**Pah Rah Range**	**1.42**	**107**	*e*Pn	**Pn**	**03 47 33.1**	**-1.5**
PAHR				*e*Sn	**Sb**	**03 47 51.8**	**-1.8**
VCNR	**Virginia City**	**1.43**	**125**	*e*Pn	**Pn**	**03 47 34.0**	**-0.7**
VCNR				*e*Sn	**Sb**	**03 47 51.9**	**-1.9**
N02D	**Trinity Center**	**1.46**	**306**	P	**Pn**	**03 47 33.7**	**-1.4**
	baz=121,SNR=1000						
PNTR	**Pine Nut**	**1.58**	**130**	*e*Pn	**Pn**	**03 47 36.9**	**-0.1**
M04C	**Macdoel**	**1.73**	**343**	P	**Pn**	**03 47 38.7**	**-0.2**
	baz=158,SNR=1000						
M04C				S	**Sg**	**03 48 03.9**	**-0.2**
	baz=158						
M02C	**Callahan**	**1.81**	**315**	P	**Pn**	**03 47 39.8**	**-0.1**
	baz=130,SNR=1000						
M02C				S	**Sg**	**03 48 04.7**	**-1.7**
	baz=130						
GDXM	**Geysers**	**1.83**	**225**	*e*Pn	**Pb**	**03 47 40.9**	**-1.2**
HOPS	**Hopland Field**	**1.86**	**233**	*e*Pn	**Pb**	**03 47 41.8**	**-0.8**
YERR	**Yerington**	**1.87**	**127**	*e*Pn	**Pn**	**03 47 40.5**	**-0.3**
MOD	**Modoc Plateau**	**1.89**	**20**	*e*Pn	**Pn**	**03 47 39.1**	**-2.0**
KCPM	**Cahto Peak**	**1.92**	**258**	*e*Pn	**Pg**	**03 47 43.1**	**-2.0**
KMRM	**Mail Ridge**	**1.96**	**274**	*e*Pn	**Pb**	**03 47 43.5**	**-0.8**
YBH	**Yreka Blue Hor**	**1.99**	**324**	*e*Pn	**Pn**	**03 47 42.0**	**-0.4**
YBH	**Yreka Blue Hor**	**1.99**	**324**	Pn	**Pn**	**03 47 42.1**	**-0.4**
	669nm,0.3s,baz=145,slow=8.3,SNR=1573						
YBH				Sn	**Sb**	**03 48 07.8**	**-2.1**
	1μm,0.3s,baz=96,slow=15,SNR=12						
YBH				LR	LR	03 48 42.1	
	comp=Z,108μm,20.3s,baz=192,slow=50						
WAKR	**Walker**	**2.10**	**140**	*e*Pn	**Pn**	**03 47 44.8**	**+0.8**
KHMM	**Horse Mountain**	**2.10**	**292**	*e*Pn	**Pb**	**03 47 45.0**	**-1.8**
CMB	**Columbia Colle**	**2.17**	**164**	*e*Pn	**Pn**	**03 47 45.5**	**+0.6**
CMB	**Columbia Colle**	**2.17**	**164**	*e*P	**Pn**	**03 47 45.5**	**+0.6**
L04D	**Klamath Falls**	**2.26**	**338**	P	**Pn**	**03 47 46.3**	**0.0**
	baz=154,SNR=1000						
L04D				S	**Sb**	**03 48 18.0**	**+0.2**
	baz=154						
JCC	**Jacoby Creek,**	**2.30**	**288**	*e*Pn	**Pb**	**03 47 47.3**	**-2.8**
MCCM	**Marconi Confer**	**2.39**	**215**	*e*Pn	**Pn**	**03 47 48.8**	**+1.0**
K04D	**Chiloquin, OR**	**2.54**	**350**	P	**Pn**	**03 47 50.3**	**+0.4**
	baz=167,SNR=1000						
J061	**Lakeshore Driv**	**2.61**	**204**	*e*Pn	**Pb**	**03 47 53.1**	**-2.3**
L02E	**Cave Junction**	**2.75**	**318**	P	**Pb**	**03 47 54.4**	**-3.4**
	baz=135,SNR=1000						
NVAR	**Mina Array Bea**	**2.79**	**127**	Pn	**Pn**	**03 47 53.5**	**+0.1**
	753nm,0.3s,baz=304,slow=14,SNR=4003						
NVAR				Sn	**Sn**	**03 48 29.9**	**+2.5**
	422nm,0.3s,baz=311,slow=14,SNR=3.8						
HUMO	**Hull Mountain**	**2.83**	**332**	*e*Pn	**Pn**	**03 47 54.4**	**+0.5**
NV11	**Mina Array Sit**	**2.88**	**125**	*e*Pn	**Pn**	**03 47 54.7**	**+0.1**
MLAC	**Mammoth, Mammo**	**3.08**	**143**	P	**Pn**	**03 47 59.5**	**+2.0**
	baz=327						
J05D	**Fort Rock, OR**	**3.16**	**359**	P	**Pn**	**03 47 59.1**	**+0.6**
	baz=177,SNR=1000						
K02D	**Willamette Mer**	**3.19**	**324**	P	**Pn**	**03 48 00.6**	**+1.8**
	baz=141,SNR=419						
J04D	**Umpqua Nationa**	**3.19**	**347**	P	**Pn**	**03 48 00.5**	**+1.4**
	baz=165,SNR=1000						
SAO	**San Andreas Ge**	**3.36**	**184**	*e*Pn	**Pn**	**03 48 02.6**	**+1.4**
SAO	**San Andreas Ge**	**3.36**	**184**	*e*P	**Pn**	**03 48 02.6**	**+1.4**
KEBM	**Edson Butte**	**3.64**	**320**	*e*Pn	**Pn**	**03 48 05.3**	**+0.2**
J01E	**Myrtle Point**	**3.68**	**326**	P	**Pn**	**03 48 07.4**	**+1.9**
	baz=143,SNR=84						
I04A	**Tendick Farm,**	**3.78**	**346**	P	**Pn**	**03 48 08.6**	**+1.6**
	baz=164,SNR=554						
TIN	**Tinemaha, Big**	**3.83**	**142**	P	**Pn**	**03 48 09.3**	**+1.6**
	baz=326						
I03D	**Drain, OR**	**3.93**	**336**	P	**Pn**	**03 48 11.3**	**+2.3**
	baz=153,SNR=311						
VOG	**Valley Oaks Go**	**4.05**	**159**	P	**Pn**	**03 48 12.2**	**+1.6**
	baz=342						
I05D	**Terrebonne, OR**	**4.21**	**358**	P	**Pn**	**03 48 14.2**	**+1.3**
	baz=177,SNR=169						
GRAC	**Grapevine Rang**	**4.31**	**135**	P	**Pn**	**03 48 15.7**	**+1.5**
	baz=319						
CWC	**Cottonwood Cre**	**4.40**	**146**	P	**Pn**	**03 48 18.1**	**+2.4**
	baz=329						
I02D	**Swisshome**	**4.45**	**334**	P	**Pn**	**03 48 18.3**	**+2.1**
	baz=151,SNR=31						
H04D	**Lebanon**	**4.55**	**346**	P	**Pn**	**03 48 19.4**	**+1.9**
	baz=163,SNR=147						
ELK	**Elko**	**4.55**	**80**	Pn	**Pn**	**03 48 15.7**	**-2.1**
	7.8nm,0.3s,baz=272,slow=16,SNR=87						
ELK				Sn	**Sn**	**03 49 11.4**	**+0.3**
	105nm,0.3s,baz=185,slow=11,SNR=3.1						
ELK				Lg	Lg	03 49 28.5	
	205nm,0.3s,baz=32,slow=22,SNR=7.1						
ELK				LR	LR	03 49 35.3	
	comp=Z,7μm,18.5s,baz=332,slow=33						
VES	**Vestal, Richgr**	**4.58**	**158**	P	**Pn**	**03 48 19.2**	**+1.3**
	baz=341						
H04A	**Detroit Lake**	**4.62**	**351**	*e*Pn	**Pn**	**03 48 19.2**	**+0.7**
R11A	**Troy Canyon, C**	**4.67**	**111**	P	**Pn**	**03 48 19.5**	**+0.2**
	baz=295						
COR	**Corvallis**	**4.73**	**341**	*e*Pn	**Pn**	**03 48 19.6**	**-0.4**
COR	**Corvallis**	**4.73**	**341**	*e*P	**Pn**	**03 48 19.6**	**-0.4**
SMMC	**Simmler**	**4.89**	**169**	P	**Pn**	**03 48 23.2**	**+1.0**
	baz=351						
ISA	**Isabella, Lake**	**4.93**	**154**	P	**Pn**	**03 48 25.3**	**+2.5**
	baz=337						
FURC	**Furnace Creek,**	**4.97**	**136**	P	**Pn**	**03 48 24.8**	**+1.5**
	baz=320						
TPNV	**Topopah Spring**	**4.98**	**128**	P	**Pn**	**03 48 24.3**	**+0.6**
	baz=312						
MPMC	**Manual Prospec**	**4.98**	**143**	P	**Pn**	**03 48 25.5**	**+1.9**
	baz=327						
G05D	**Wamic, OR**	**5.12**	**359**	P	**Pn**	**03 48 27.5**	**+2.2**
	baz=177,SNR=17						
G03D	**McMinnville, O**	**5.32**	**344**	P	**Pn**	**03 48 31.3**	**+3.3**
	baz=161,SNR=185						
ARVC	**Arvin**	**5.32**	**159**	P	**Pn**	**03 48 29.8**	**+1.7**
	baz=342						
PKM	**Mcpherson Peak**	**5.33**	**168**	P	**Pn**	**03 48 30.2**	**+1.8**
	baz=350						
LRMC	**Laurel Mtn Rad**	**5.39**	**148**	P	**Pn**	**03 48 31.4**	**+2.2**
	baz=332						
G08A	**Pilot Rock**	**5.41**	**17**	*e*Pn	**Pn**	**03 48 29.8**	**+0.4**
SHOC	**Shoshone, Teco**	**5.71**	**136**	P	**Pn**	**03 48 34.1**	**+0.6**
	baz=320						
F05D	**White Salmon**	**5.76**	**358**	P	**Pn**	**03 48 36.7**	**+2.6**
	baz=177,SNR=112						
SBC	**Santa Barbara**	**5.79**	**168**	P	**Pn**	**03 48 36.6**	**+2.1**
	baz=350						
EDW2	**Edwards Air Fo**	**5.81**	**153**	P	**Pn**	**03 48 36.6**	**+1.7**
	baz=337						
OSI	**Osito Audit: C**	**5.83**	**160**	*e*Pn	**Pn**	**03 48 37.1**	**+2.0**
OSI	**Osito Audit: C**	**5.83**	**160**	P	**Pn**	**03 48 36.6**	**+1.4**
	baz=343						
GSC	**Goldstone, Bar**	**5.92**	**143**	P	**Pn**	**03 48 39.2**	**+2.8**
	baz=327						
HLID	**Hailey**	**6.09**	**53**	P	**Pn**	**03 48 37.5**	**-1.4**
	baz=238						
F04D	**Rainier, OR**	**6.11**	**348**	P	**Pn**	**03 48 42.2**	**+3.3**
	baz=165,SNR=86						
RRX	**Edison Barstow**	**6.19**	**146**	P	**Pn**	**03 48 43.7**	**+3.5**
	baz=330						
BLG	**Laguna Peak, P**	**6.23**	**164**	P	**Pn**	**03 48 41.7**	**+1.1**
	baz=346						
SCZ2	**Santa Cruz Isl**	**6.24**	**168**	P	**Pn**	**03 48 41.6**	**+0.8**
	baz=350						
TUQ	**Turquoise Moun**	**6.25**	**137**	P	**Pn**	**03 48 42.1**	**+1.1**
	baz=321						
DECC	**Green Verdugo**	**6.28**	**158**	P	**Pn**	**03 48 42.7**	**+1.4**
	baz=341						
DUG	**Dugway, Tooele**	**6.39**	**87**	P	**Pn**	**03 48 42.9**	**0.0**
	baz=272						
BFSC	**Mount Baldy Ra**	**6.50**	**154**	P	**Pn**	**03 48 46.3**	**+1.8**
	baz=337						
E04D	**Cinebar**	**6.51**	**351**	P	**Pn**	**03 48 48.1**	**+3.6**
	baz=169,SNR=254						
HEC	**Hector,Ludlow**	**6.53**	**143**	P	**Pn**	**03 48 47.1**	**+2.4**
	baz=327						
BBRC	**Big Bear Solar**	**6.76**	**149**	P	**Pn**	**03 48 50.7**	**+2.6**
	baz=332						
FMP	**Fort Macarthur**	**6.80**	**159**	P	**Pn**	**03 48 52.7**	**+4.3**
	baz=342						
GMRC	**Granite Mounta**	**6.89**	**139**	P	**Pn**	**03 48 51.4**	**+1.6**
	baz=323						
SNCC	**San Nicolas Is**	**6.99**	**169**	P	**Pn**	**03 48 51.8**	**+0.7**
	baz=351						
CIS	**Catalina Islan**	**7.06**	**161**	P	**Pn**	**03 48 53.7**	**+1.7**
	baz=344						
D08A	**Wollman Farm,**	**7.12**	**12**	*e*Pn	**Pn**	**03 48 53.3**	**+0.5**
MSU	**Marysvale**	**7.14**	**100**	*e*Pn	**Pn**	**03 48 53.7**	**+0.3**
MSU	**Marysvale**	**7.14**	**100**	*e*P	**Pn**	**03 48 53.7**	**+0.3**
D04E	**Lakebay**	**7.15**	**351**	P	**Pn**	**03 48 56.3**	**+3.2**
	baz=169,SNR=62						
CTU	**Camp Tracy**	**7.20**	**82**	*e*Pn	**Pn**	**03 48 53.4**	**-0.7**
MURC	**Murrieta**	**7.24**	**153**	P	**Pn**	**03 48 55.6**	**+1.0**
	baz=336						
BELC	**Belle Mtn. Jos**	**7.37**	**144**	P	**Pn**	**03 48 59.5**	**+3.1**
	baz=329						
SCI2	**San Clemente I**	**7.43**	**163**	P	**Pn**	**03 48 57.5**	**+0.4**
	baz=345						
NEE2	**Needles Airpor**	**7.46**	**134**	P	**Pn**	**03 48 59.0**	**+1.5**
	baz=319						
PFO	**Pinyon Flats O**	**7.51**	**148**	*e*Pn	**Pn**	**03 48 59.7**	**+1.4**
PFO	**Pinyon Flats O**	**7.51**	**148**	*e*P	**Pn**	**03 48 59.7**	**+1.4**
PFO	**Pinyon Flats O**	**7.51**	**148**	P	**Pn**	**03 48 59.2**	**+0.9**
	baz=332						
PFO	**Pinyon Flats O**	**7.51**	**148**	Pn	**Pn**	**03 49 00.3**	**+2.0**
	2.8nm,0.3s,baz=324,slow=8.7,SNR=50						
PFO				Lg	Lg	03 51 03.8	
	9.0nm,0.3s,baz=279,slow=16,SNR=5.2						
PFO				LR	LR	03 52 24.7	
	comp=Z,17μm,18.6s,baz=328,slow=42						
D03D	**Eldon**	**7.54**	**350**	P	**Pn**	**03 49 01.4**	**+2.9**
	baz=168,SNR=67						
IRM	**Iron Mountain**	**7.65**	**139**	P	**Pn**	**03 49 01.4**	**+1.3**
	baz=324						
C06D	**Leavenworth**	**7.80**	**1**	P	**Pn**	**03 49 05.6**	**+3.5**
	baz=181						
BC3	**Big Chuckawall**	**7.91**	**143**	P	**Pn**	**03 49 06.7**	**+3.0**
	baz=327						
109C	**Camp Elliot, M**	**7.92**	**154**	P	**Pn**	**03 49 03.6**	**-0.2**
	baz=338						
PDMCI	**Parker Dam,Lak**	**8.06**	**134**	P	**Pn**	**03 49 08.2**	**+2.4**
	baz=319						
MONP2	**Monument Peak**	**8.16**	**151**	P	**Pn**	**03 49 09.5**	**+2.2**
	baz=334						
B05A	**Bryant**	**8.16**	**356**	P	**Pn**	**03 49 10.4**	**+3.3**
	baz=174,SNR=161						
Y12C	**Blythe**	**8.28**	**138**	P	**Pn**	**03 49 10.5**	**+1.7**
	baz=323						
TPAW	**Teton Pass**	**8.33**	**63**	*e*Pn	**Pn**	**03 49 10.3**	**+0.7**
SWSC	**Sam W. Stewart**	**8.36**	**147**	P	**Pn**	**03 49 10.9**	**+1.1**
	baz=331						
IKP	**Ik-Ko-Pah, Jac**	**8.49**	**150**	P	Pn	03 49 18.7	+6.9
	baz=334						
MSO	**Missoula**	**8.51**	**36**	*e*Pn	**Pn**	**03 49 12.3**	**+0.4**
MSO	**Missoula**	**8.51**	**36**	P	**Pn**	**03 49 12.9**	**+1.0**
	baz=220						
QLMT	**Earthquake Lak**	**8.58**	**54**	*e*Pn	**Pn**	**03 49 14.3**	**+1.2**
LOHW	**Long Hollow**	**8.61**	**63**	*e*Pn	**Pn**	**03 49 14.8**	**+1.4**
NEW	**Newport**	**8.63**	**18**	P	**Pn**	**03 49 15.0**	**+1.3**
	baz=200						
NEW	**Newport**	**8.63**	**18**	Pn	**Pn**	**03 49 14.9**	**+1.3**
	1.2nm,0.3s,baz=193,slow=12,SNR=56						
NEW				Lg	Lg	03 51 44.9	
	1.4nm,0.3s,baz=80,slow=15,SNR=5.5						
NEW				LR	LR	03 53 01.8	
	comp=Z,33μm,21.6s,baz=200,slow=42						
A04D	**Lummi Island**	**8.66**	**353**	P	**Pn**	**03 49 16.8**	**+2.9**
	baz=171,SNR=26						
GLA	**Glamis**	**8.70**	**142**	P	**Pn**	**03 49 17.5**	**+2.9**
	baz=327						
BOZ	**Bozeman (W)**	**8.87**	**49**	P	**Pn**	**03 49 17.4**	**+0.4**
	baz=235						
H17A	**Grant Village**	**8.93**	**58**	P	**Pn**	**03 49 20.1**	**+2.3**
	baz=245						
WUAZ	**Wupatki**	**9.00**	**118**	P	**Pn**	**03 49 21.8**	**+3.0**
	baz=304						
BW06	**Boulder Array**	**9.10**	**69**	P	**Pn**	**03 49 21.2**	**+1.1**
	baz=257						
PDAR	**Pinedale Array**	**9.10**	**69**	Pn	**Pn**	**03 49 21.1**	**+1.0**
	0.8nm,0.3s,baz=256,slow=12,SNR=142						
PDAR				Lg	Lg	03 51 52.9	
	baz=264,slow=19,SNR=2.8						
PV18	**Skein Mesa, Pa**	**9.69**	**97**	*e*Pn	**Pn**	**03 49 30.4**	**+2.1**
O20A	**White River Ci**	**9.89**	**86**	P	**Pn**	**03 49 33.1**	**+2.1**
	baz=274						
RLMT	**Red Lodge**	**10.08**	**56**	P	**Pn**	**03 49 36.6**	**+3.0**
	baz=244						
WALA	**Waterton Lakes**	**10.31**	**28**	*e*Pn	**Pn**	**03 49 38.0**	**+1.4**
MVCO	**Mesa Verde**	**10.31**	**102**	*e*Pn	**Pn**	**03 49 38.8**	**+1.9**
MVCO	**Mesa Verde**	**10.31**	**102**	P	**Pn**	**03 49 38.8**	**+1.9**
	baz=291						
W18A	**Petrified Fore**	**10.34**	**115**	P	**Pn**	**03 49 40.1**	**+3.0**
	baz=303						
214A	**Organ Pipe Nat**	**10.58**	**138**	P	**Pn**	**03 49 43.3**	**+3.0**
	baz=324						
RWWY	**Rawlins**	**10.67**	**77**	*e*Pn	**Pn**	**03 49 41.2**	**-0.5**
K22A	**Casper**	**11.28**	**72**	P	**Pn**	**03 49 50.5**	**+0.5**
	baz=262						
EGMT	**Eagleton**	**11.37**	**42**	P	**Pn**	**03 49 51.1**	**-0.1**
	baz=230						
S22A	**4UR Ranch, Cre**	**11.41**	**97**	P	**Pn**	**03 49 55.8**	**+3.9**
	baz=287						
TUC	**Tucson**	**11.44**	**130**	*e*Pn	**Pn**	**03 49 54.4**	**+2.3**
TUC	**Tucson**	**11.44**	**130**	*e*P	**Pn**	**03 49 54.4**	**+2.3**
TUC	**Tucson**	**11.44**	**130**	P	**Pn**	**03 49 55.1**	**+3.0**
	baz=317						
N23A	**Red Feather La**	**11.61**	**81**	P	**Pn**	**03 49 54.4**	**-0.2**
	baz=271						
ISCO	**Idaho Springs**	**11.93**	**87**	P	**Pn**	**03 50 00.2**	**+1.2**
	baz=277						
Q24A	**Divide**	**12.41**	**90**	P	**Pn**	**03 50 07.7**	**+2.1**
	baz=281						
SDCO	**Great Sand Dun**	**12.42**	**96**	P	**Pn**	**03 50 08.2**	**+2.5**
	baz=286						
LAO	**LASA Array**	**12.67**	**54**	P	**Pn**	**03 50 08.7**	**-0.2**
	baz=244						
TASM	**ASL Pad, Albuq**	**12.75**	**109**	P	**Pn**	**03 50 12.0**	**+1.8**
	baz=299						
TASM	**ASL Pad, Albuq**	**12.75**	**109**	P	**Pn**	**03 50 11.7**	**+1.5**
	baz=299						
ANMO	**Albuquerque**	**12.75**	**109**	*de*P	**Pn**	**03 50 11.8**	**+1.6**
ANMO				pmax	pmax		
	comp=Z,23nm,1.3s						
ANMO	**Albuquerque**	**12.75**	**109**	P	**Pn**	**03 50 11.8**	**+1.6**
	baz=299						
ANMO	**Albuquerque**	**12.75**	**109**	Pn	**Pn**	**03 50 10.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=303,slow=12,SNR=26						
ANMO				Sn	**Sn**	**03 52 35.9**	**+3.4**
	baz=257,slow=19,SNR=1.5						
ANMO				Lg	Lg	03 53 51.5	
	comp=Z,0.3nm,0.3s,baz=143,slow=10,SNR=5.4						
ANMO				LR	LR	03 54 42.0	
	comp=Z,14μm,19.9s,baz=294,slow=36						
Y22D	**IRIS PASSCAL I**	**12.86**	**114**	P	**Pn**	**03 50 14.6**	**+3.0**
	baz=303						
BBB	**Bella Bella**	**12.98**	**341**	Pn	**Pn**	**03 50 14.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=161,slow=17,SNR=4.1						
121A	**Cookes Peak, D**	**13.16**	**121**	P	**Pn**	**03 50 19.9**	**+4.1**
	baz=310						
RSSD	**Black Hills**	**13.32**	**67**	*e*Pn	**Pn**	**03 50 15.7**	**-2.1**
RSSD	**Black Hills**	**13.32**	**67**	*e*P	**Pn**	**03 50 15.7**	**-2.1**
RSSD	**Black Hills**	**13.32**	**67**	P	**Pn**	**03 50 15.9**	**-1.9**
	baz=258						
T25A	**Trinidad**	**13.43**	**97**	P	**Pn**	**03 50 22.5**	**+3.1**
	baz=288						
KSCO	**Kaye Shedlock'**	**14.34**	**88**	P	**Pn**	**03 50 33.1**	**+1.4**
	baz=281						
OGNE	**Ogallala**	**14.57**	**81**	P	**Pn**	**03 50 33.8**	**-1.0**
	baz=273						
DGMT	**Dagmar**	**14.71**	**50**	P	**Pn**	**03 50 35.2**	**-1.4**
	baz=242						
MNTX	**Cornudas Mount**	**15.28**	**118**	*e*Pn	**P**	**03 50 46.9**	**-2.5**
	comp=Z,284nm,1.3s						
MNTX	**Cornudas Mount**	**15.28**	**118**	P	**P**	**03 50 48.0**	**-1.3**
	baz=308						
MSTX	**Muleshoe**	**15.90**	**107**	P	**Pn**	**03 50 53.7**	**+1.2**
	baz=298						
AMTX	**Amarillo**	**16.30**	**103**	P	**P**	**03 51 00.3**	**-0.5**
	baz=295						
CBKS	**Cedar Bluff**	**16.59**	**88**	P	**Pn**	**03 51 01.0**	**-0.3**
	baz=282						
SUSD	**Miller**	**16.97**	**68**	P	**Pn**	**03 51 04.1**	**-2.0**
	baz=263						
MDND	**Maddock**	**17.29**	**56**	P	**Pn**	**03 51 08.5**	**-1.5**
	baz=251						
BGNE	**Belgrade**	**17.47**	**78**	P	**Pn**	**03 51 10.4**	**-1.9**
	baz=274						
WRAK	**Wrangell Islan**	**17.89**	**339**	*e*Pn	**P**	**03 51 19.4**	**+1.4**
	comp=Z,535nm,1.6s						
TXAR	**Lajitas Array

baz=266
833A Chaparral WMA, 21.44 117 PFAKE 03 52 10.0 +13
833A LR LR
comp=Z,14μm,21.0s
833A Chaparral WMA, 21.44 117 P **P** **03 51 57.5 +0.6**
baz=309
F37A Hinrichs Farm, 21.56 66 P **P** **03 51 56.2 -2.0**
baz=265
HHAR Hobbs 21.69 91 PFAKE 03 52 10.0 +10
HHAR LR LR
comp=Z,21μm,22.0s
H38A Maiden Rock 21.74 68 P **P** **03 51 58.4 -1.7**
baz=268
L39A Vinton 22.01 75 P **P** **03 52 01.2 -1.7**
baz=275
K39A Oelwein 22.05 74 P **P** **03 52 01.3 -2.2**
baz=273
G38A Ridgeland 22.07 67 P **P** **03 52 01.7 -2.0**
baz=267
F38A Pierce - Schro 22.10 65 P **P** **03 52 02.4 -1.6**
baz=265
J39A Decorah 22.16 72 P **P** **03 52 02.3 -2.3**
baz=272
W39A Magazine 22.18 94 PFAKE 03 52 20.0 +15
W39A LR LR
comp=Z,7μm,19.0s
W39A Magazine 22.18 94 P **P** **03 52 05.0 +0.2**
baz=291
I39A Houston 22.28 71 PFAKE 03 52 20.0 +14
I39A LR LR
comp=Z,5μm,18.0s
I39A Houston 22.28 71 P **P** **03 52 03.6 -2.3**
baz=271
E38A The Farm, Brul 22.39 63 PFAKE 03 52 20.0 +13
E38A LR LR
comp=Z,6μm,20.0s
E38A The Farm, Brul 22.39 63 P **P** **03 52 04.2 -2.9**
baz=264
N40A Mertquake, Sal 22.45 78 P **P** **03 52 06.2 -1.5**
baz=278
H39A Augusta 22.45 68 P **P** **03 52 05.8 -2.0**
baz=269
U40A Yellville 22.50 91 P **P** **03 52 08.0 -0.4**
baz=288
G39A Holcombe 22.55 67 P **P** **03 52 06.5 -2.4**
baz=267
MIAR Mount Ida 22.57 96 PFAKE 03 52 20.0 +11
MIAR LR LR
comp=Z,6μm,18.0s
MIAR Mount Ida 22.57 96 P **P** **03 52 09.4 +0.2**
baz=293
L40A Anamosa 22.59 75 P **P** **03 52 07.2 -2.1**
baz=275
K40A Colesburg 22.60 74 P **P** **03 52 07.1 -2.3**
baz=274
EYMN Ely 22.61 60 PFAKE 03 52 20.0 +11
EYMN LR LR
comp=Z,14μm,18.0s
EYMN Ely 22.61 60 P **P** **03 52 06.2 -3.2**
baz=261
YKU2 Yakutat 22.64 335 PFAKE 03 52 20.0 +10
YKU2 LR LR
comp=Z,10μm,19.0s
YKA Yellowknife Ar 22.75 8 P **P** **03 52 09.4 -1.3**
comp=Z,11nm,0.7s,baz=193,slow=9.9,SNR=170
YKA S **S** **03 56 16.3 -3.1**
comp=Z,1.4nm,0.9s,baz=166,slow=24,SNR=2.8
YKA LR LR 04 02 03.9
comp=Z,1μm,20.9s,baz=189,slow=40
F39A Loretta 22.77 65 P **P** **03 52 08.7 -2.4**
baz=266
YKW3 Yellowknife Ar 22.81 8 PFAKE 03 52 20.0 +8.6
YKW3 LR LR
comp=Z,7μm,20.0s
J40A Soldiers Grove 22.86 72 P **P** **03 52 09.8 -2.3**
baz=272
I40A Norwalk 22.93 71 P **P** **03 52 10.8 -2.1**
baz=271
NATX Nacogdoches 22.95 103 PFAKE 03 52 20.0 +6.9
NATX LR LR
comp=Z,11μm,20.0s
NATX Nacogdoches 22.95 103 P **P** **03 52 13.4 +0.2**
baz=299
KVTX Kingsville 22.96 116 PFAKE 03 52 20.0 +6.8
KVTX LR LR
comp=Z,4μm,18.0s
BCPM Bancas Point 22.97 336 PFAKE 03 52 20.0 +6.9
BCPM LR LR
comp=Z,8μm,19.0s
HKT Hockley 23.01 108 *e*P **P** **03 52 13.2 -0.5**
comp=Z,152nm,1.5s
HKT LR LR
comp=Z,9μm,18.0s
HKT Hockley 23.01 108 *e*P **P** **03 52 13.2 -0.5**
pmax pmax
comp=Z,152nm,1.5s
HKT MLR MLR
comp=Z,9μm,18.0s
N41A Harden Midland 23.02 79 PFAKE 03 52 20.0 +6.2
N41A LR LR
comp=Z,4μm,19.0s
N41A Harden Midland 23.02 79 P **P** **03 52 12.0 -1.8**
baz=279
E39A Mellen 23.05 64 P **P** **03 52 11.5 -2.6**
baz=265
ETX06 Route 59 and C 23.06 103 PFAKE 03 52 20.0 +5.8
ETX06 LR LR
comp=Z,5μm,20.0s
H40A Chili 23.09 69 P **P** **03 52 12.3 -2.2**
baz=270
R41A Rosebud 23.09 85 P **P** **03 52 13.2 -1.3**
baz=284
X40A Basin Creek Fa 23.16 95 PFAKE 03 52 30.0 +15
X40A LR LR
comp=Z,4μm,20.0s
X40A Basin Creek Fa 23.16 95 P **P** **03 52 15.2 -0.1**
baz=293
M41A Milan 23.17 77 P **P** **03 52 12.9 -2.4**
baz=277
U41A Viola 23.22 90 P **P** **03 52 15.4 -0.4**
baz=288
G40A Rib Lake 23.24 67 P **P** **03 52 13.5 -2.5**
baz=268
JFWS Jewell Farm 23.24 73 P **P** **03 52 13.7 -2.3**
baz=274
CCM Cathedral Cave 23.26 85 *e*P **P** **03 52 14.8 -1.4**
comp=Z,1μm,1.6s
CCM LR LR
comp=Z,9μm,19.0s
CCM Cathedral Cave 23.26 85 *e*P **P** **03 52 14.8 -1.4**
pmax pmax
comp=Z,1μm,1.6s
CCM MLR MLR
comp=Z,9μm,19.0s
CCM Cathedral Cave 23.26 85 P **P** **03 52 15.1 -1.1**
baz=285
WLAR White Oak Lake 23.27 97 PFAKE 03 52 30.0 +14
WLAR LR LR
comp=Z,15μm,18.0s
PCA Pinnacle 23.28 335 PFAKE 03 52 30.0 +14
PCA LR LR
comp=Z,8μm,19.0s
WHAR Wooly Hollow 23.29 93 PFAKE 03 52 30.0 +13
WHAR LR LR
comp=Z,13μm,20.0s
F40A Park Falls 23.32 65 P **P** **03 52 14.0 -2.8**
baz=267
W41B Gary Mavity, V 23.36 93 PFAKE 03 52 30.0 +13
W41B LR LR
comp=Z,12μm,20.0s
W41B Gary Mavity, V 23.36 93 P **P** **03 52 17.0 -0.2**
baz=291
J41A Loganville 23.39 72 P **P** **03 52 15.4 -2.1**
baz=273
ZAIG Zacatecas 23.39 132 PFAKE 03 52 30.0 +12
ZAIG LR LR
comp=Z,19μm,20.0s
UALR University of 23.43 94 PFAKE 03 52 30.0 +12
UALR LR LR
comp=Z,8μm,19.0s
I41A Arkdale 23.47 70 PFAKE 03 52 30.0 +12
I41A LR LR
comp=Z,7μm,19.0s
I41A Arkdale 23.47 70 P **P** **03 52 16.1 -2.2**
baz=271
E40A Wakefield 23.51 64 P **P** **03 52 16.2 -2.5**
baz=266

Q42A Golden Eagle 23.60 83 P **P** **03 52 18.3 -1.3**
baz=283
H41A Junction City 23.62 69 PFAKE 03 52 30.0 +10
H41A LR LR
comp=Z,7μm,19.0s
H41A Junction City 23.62 69 P **P** **03 52 17.3 -2.5**
baz=270
LNIG Linares 23.68 123 *e*P **P** **03 52 20.1 -0.4**
comp=Z,150nm,1.2s
LNIG LR LR
comp=Z,5μm,22.0s
Z41A Richland Creek 23.68 98 PFAKE 03 52 30.0 +10
Z41A LR LR
comp=Z,15μm,18.0s
Z41A Richland Creek 23.68 98 P **P** **03 52 19.9 -0.5**
baz=295
L42A Oliver, Polo 23.75 75 P **P** **03 52 18.3 -2.7**
baz=276
K42A Prairie Point, 23.91 73 P **P** **03 52 20.6 -2.0**
baz=274
COWI Conover 24.02 65 PFAKE 03 52 30.0 +6.4
COWI LR LR
comp=Z,5μm,22.0s
F41A Three Lakes 24.02 66 PFAKE 03 52 30.0 +6.3
F41A LR LR
comp=Z,8μm,20.0s
F41A Three Lakes 24.02 66 P **P** **03 52 21.5 -2.1**
baz=268
J42A Columbus 24.04 72 P **P** **03 52 21.5 -2.3**
baz=273
E41A Kenton 24.16 64 P **P** **03 52 22.5 -2.4**
baz=266
C40A Isle Royale Na 24.16 61 PFAKE 03 52 30.0 +5.1
C40A LR LR
comp=Z,4μm,19.0s
C40A Isle Royale Na 24.16 61 P **P** **03 52 22.5 -2.4**
baz=263
I42A Draeger Farm, 24.16 70 PFAKE 03 52 30.0 +5.0
I42A LR LR
comp=Z,1μm,20.0s
CCAR Cane Creek 24.20 95 PFAKE 03 52 30.0 +4.7
CCAR LR LR
comp=Z,14μm,19.0s
HDIL Hopedale 24.22 79 PFAKE 03 52 40.0 +14
HDIL LR LR
comp=Z,2μm,18.0s
PBMO Poplar Bluff 24.23 88 PFAKE 03 52 40.0 +14
PBMO LR LR
comp=Z,12μm,20.0s
CTGM Chitina Glacie 24.29 336 PFAKE 03 52 40.0 +14
CTGM LR LR
comp=Z,8μm,19.0s
HBAR Harrisburg 24.45 91 PFAKE 03 52 40.0 +12
HBAR LR LR
comp=Z,16μm,19.0s
D41A Chassel 24.47 63 PFAKE 03 52 40.0 +12
D41A LR LR
comp=Z,7μm,18.0s
TGL Tana Glacier 24.62 334 PFAKE 03 52 40.0 +11
TGL LR LR
comp=Z,9μm,19.0s
K43A Burlington 24.66 73 *e*P **P** **03 52 27.5 -2.0**
comp=Z,293nm,1.1s
BALM Baldy 24.67 335 PFAKE 03 52 40.0 +10
BALM LR LR
comp=Z,8μm,19.0s
PARMO Parma 24.79 88 PFAKE 03 52 40.0 +9.3
PARMO LR LR
comp=Z,16μm,20.0s
HMT Hamilton 24.81 332 PFAKE 03 52 40.0 +9.3
HMT LR LR
comp=Z,6μm,20.0s
SIUC Southern Illin 24.89 85 PFAKE 03 52 40.0 +8.4
SIUC LR LR
comp=Z,12μm,19.0s
PVMO Portageville 24.90 88 PFAKE 03 52 40.0 +8.3
PVMO LR LR
comp=Z,14μm,18.0s
MET Memphis--Engin 25.15 91 PFAKE 03 52 40.0 +6.0
MET LR LR
comp=Z,14μm,19.0s
GLAT Glass 25.26 89 PFAKE 03 52 50.0 +15
GLAT LR LR
comp=Z,12μm,19.0s
HALT Halls 25.34 89 PFAKE 03 52 50.0 +14
HALT LR LR
comp=Z,10μm,22.0s
FCC Fort Churchill 25.35 34 PFAKE 03 52 50.0 +14
FCC LR LR
comp=Z,15μm,22.0s
BMRM Bremner River 25.38 333 PFAKE 03 52 50.0 +14
BMRM LR LR
comp=Z,100nm,19.0s
EYAK Cordova Ski Ar 25.50 331 PFAKE 03 52 50.0 +13
EYAK LR LR
comp=Z,8μm,19.0s
T45A Paducah 25.53 86 PFAKE 03 52 50.0 +13
T45A LR LR
comp=Z,11μm,22.0s
OXF Oxford 25.78 92 PFAKE 03 52 50.0 +10
OXF LR LR
comp=Z,9μm,20.0s
VBMS Vicksburg 25.87 98 PFAKE 03 52 50.0 +10
VBMS LR LR
comp=Z,9μm,18.0s
DIV Divide 25.90 332 PFAKE 03 52 50.0 +9.4
DIV LR LR
comp=Z,7μm,19.0s
USIN University of 26.01 84 PFAKE 03 52 50.0 +8.2
USIN LR LR
comp=Z,7μm,18.0s
KLU Klutina 26.20 333 PFAKE 03 52 50.0 +6.6
KLU LR LR
comp=Z,5μm,20.0s
GLI Glacier Island 26.21 331 PFAKE 03 52 50.0 +6.6
GLI LR LR
comp=Z,6μm,21.0s
DAWY Dawson 26.26 342 PFAKE 03 52 50.0 +6.1
DAWY LR LR
comp=Z,13μm,19.0s
WVT Waverly 26.43 88 *e*P **P** **03 52 44.4 -1.1**
comp=Z,356nm,1.8s
WVT LR LR
comp=Z,3μm,20.0s
WVT Waverly 26.43 88 *e*P **P** **03 52 44.4 -1.1**
WVT pmax pmax
comp=Z,356nm,1.8s
WVT MLR MLR
comp=Z,3μm,20.0s
MENT Mentasta 26.53 337 PFAKE 03 53 00.0 +14
MENT LR LR
comp=Z,8μm,20.0s
BLO Bloomington 26.59 81 PFAKE 03 53 00.0 +13
BLO LR LR
comp=Z,6μm,18.0s
HARP HAARP 26.59 335 PFAKE 03 53 00.0 +13
HARP LR LR
comp=Z,6μm,21.0s
MOIG Morelia 26.62 134 PFAKE 03 53 00.0 +12
MOIG LR LR
comp=Z,9μm,18.0s
PLAL Pickwick Lake 26.63 91 PFAKE 03 53 00.0 +13
PLAL LR LR
comp=Z,13μm,20.0s
SEW Seward 26.65 328 PFAKE 03 53 00.0 +13
SEW LR LR
comp=Z,6μm,19.0s
T47A Sharon Grove 26.71 86 PFAKE 03 53 00.0 +12
T47A LR LR
comp=Z,9μm,20.0s
KDAK Kodiak Island 26.81 322 *e*P **P** **03 52 49.1 +0.4**
comp=Z,326nm,1.6s
KDAK LR LR
comp=Z,6μm,18.0s
KDAK Kodiak Island 26.81 322 *e*P **P** **03 52 49.1 +0.4**
KDAK pmax pmax
comp=Z,326nm,1.6s
KDAK MLR MLR
comp=Z,6μm,18.0s
OHAK Old Harbor 26.89 320 PFAKE 03 53 00.0 +10
OHAK LR LR
comp=Z,9μm,18.0s
SCM Sheep Creek Mo 26.93 332 PFAKE 03 53 00.0 +10
SCM LR LR
comp=Z,5μm,18.0s
WCI Wyandotte Cave 26.99 83 *e*P **P** **03 52 49.7 -0.9**

comp=Z,81nm,1.1s
WCI LR LR
comp=Z,2μm,22.0s
WCI Wyandotte Cave 26.99 83 *e*P **P** **03 52 49.7 -0.9**
WCI pmax pmax
comp=Z,81nm,1.1s
WCI MLR MLR
comp=Z,2μm,22.0s
BRLK Bradley Lake 27.05 326 PFAKE 03 53 00.0 +9.0
BRLK LR LR
comp=Z,7μm,19.0s
KNK Knik Glacier 27.06 331 PFAKE 03 53 00.0 +8.9
KNK LR LR
comp=Z,6μm,19.0s
SII Sitkinak Islan 27.07 318 PFAKE 03 53 00.0 +8.8
SII LR LR
comp=Z,8μm,18.0s
PAX Paxson 27.09 336 PFAKE 03 53 00.0 +8.6
PAX LR LR
comp=Z,4μm,20.0s
DOT Dot Lake 27.17 338 PFAKE 03 53 00.0 +8.0
DOT LR LR
comp=Z,12μm,20.0s
SML Sawmill 27.27 332 PFAKE 03 53 00.0 +7.0
SML LR LR
comp=Z,5μm,21.0s
EGAK Eagle 27.29 341 PFAKE 03 53 00.0 +7.0
EGAK LR LR
comp=Z,12μm,19.0s
HOM Homer 27.32 326 PFAKE 03 53 00.0 +6.7
HOM LR LR
comp=Z,7μm,19.0s
V48A Smith Brothers 27.32 88 PFAKE 03 53 00.0 +6.3
V48A LR LR
comp=Z,13μm,19.0s
RC01 Rabbit Creek A 27.35 330 *e*P **P** **03 52 54.1 +0.5**
comp=Z,217nm,1.5s
RC01 LR LR
comp=Z,6μm,21.0s
E46A Sault Ste Mari 27.38 65 PFAKE 03 53 00.0 +6.0
E46A LR LR
comp=Z,7μm,22.0s
SCRK Sand Creek 27.40 338 PFAKE 03 53 10.0 +16
SCRK LR LR
comp=Z,10μm,18.0s
PMR Palmer 27.43 331 PFAKE 03 53 10.0 +16
PMR LR LR
comp=Z,5μm,20.0s
GHO Glory Hole Cre 27.46 331 PFAKE 03 53 10.0 +15
GHO LR LR
comp=Z,6μm,21.0s
RIDG Independent Ri 27.47 337 PFAKE 03 53 10.0 +15
RIDG LR LR
comp=Z,12μm,20.0s
CLTN Cedars of Leba 27.59 87 PFAKE 03 53 10.0 +14
CLTN LR LR
comp=Z,8μm,20.0s
X48A Hartselle 27.61 91 PFAKE 03 53 10.0 +14
X48A LR LR
comp=Z,11μm,18.0s
EPYK Eagle Plains 27.72 347 PFAKE 03 53 10.0 +13
EPYK LR LR
comp=Z,37μm,18.0s
T49A Edmonton 27.88 85 PFAKE 03 53 10.0 +11
T49A LR LR
comp=Z,11μm,20.0s
N49A Columbus Grove 27.98 76 PFAKE 03 53 10.0 +11
N49A LR LR
comp=Z,8μm,19.0s
O49A Covington 28.01 78 PFAKE 03 53 10.0 +10
O49A LR LR
comp=Z,8μm,19.0s
AAM Ann Arbor 28.14 73 PFAKE 03 53 10.0 +9.1
AAM LR LR
comp=Z,4μm,18.0s
SWET Sewanee 28.19 89 *e*P **P** **03 52 59.8 -1.6**
comp=Z,126nm,1.6s
SWET LR LR
comp=Z,2μm,22.0s
LRAL Lakeview Retre 28.20 94 PFAKE 03 53 10.0 +8.5
LRAL LR LR
comp=Z,7μm,19.0s
Y49A Blount Mountai 28.32 92 PFAKE 03 53 10.0 +7.4
Y49A LR LR
comp=Z,10μm,19.0s
I49A Point Hope 28.55 70 PFAKE 03 53 20.0 +15
I49A LR LR
comp=Z,6μm,18.0s
HDA Harding Lake 28.59 337 PFAKE 03 53 20.0 +15
HDA LR LR
comp=Z,8μm,18.0s
W50A Signal Mountai 28.67 88 PFAKE 03 53 20.0 +14
W50A LR LR
comp=Z,14μm,19.0s
M50A Fremont 28.74 75 PFAKE 03 53 20.0 +14
M50A LR LR
comp=Z,3μm,22.0s
MCK McKinley 28.75 334 PFAKE 03 53 20.0 +14
MCK LR LR
comp=Z,6μm,20.0s
K50A Casco 28.83 72 PFAKE 03 53 20.0 +13
K50A LR LR
comp=Z,4μm,20.0s
ILAR Eielson Array 28.84 337 P **P** **03 53 07.5 +0.6**
comp=Z,14nm,0.8s,baz=154,slow=8.1,SNR=131
ILAR PcP **PcP** **03 56 14.2 -2.0**
comp=Z,4.1nm,1.1s,baz=167,slow=4.5,SNR=3.0
ILAR Lg Lg 04 02 29.5
comp=Z,0.1nm,0.5s,baz=119,slow=19,SNR=2.9
ILAR LR LR 04 05 40.1
comp=Z,8μm,18.2s,baz=140,slow=39
ILB Eielson Array 28.84 337 *e*P **P** **03 53 07.9 +1.0**
comp=Z,210nm,1.2s
ILB *e*PcP **PcP** **03 56 14.2 -2.0**
Z50A Ashland 28.93 92 PFAKE 03 53 20.0 +12
Z50A LR LR
comp=Z,10μm,19.0s
BRAL Brewton 28.97 97 PFAKE 03 53 20.0 +12
BRAL LR LR
comp=Z,8μm,19.0s
WRH Wood River Hil 28.99 336 PFAKE 03 53 20.0 +12
WRH LR LR
comp=Z,6μm,20.0s
PRP Porcupine Dome 29.00 339 PFAKE 03 53 20.0 +12
PRP LR LR
comp=Z,9μm,19.0s
ACSO Alum Creek Sta 29.02 77 PFAKE 03 53 20.0 +11
ACSO LR LR
comp=Z,3μm,18.0s
Q51A Peebles 29.02 80 PFAKE 03 53 20.0 +11
Q51A LR LR
comp=Z,5μm,18.0s
CCB Clear Creek Bu 29.02 337 PFAKE 03 53 20.0 +12
CCB LR LR
comp=Z,7μm,22.0s
INK Inuvik 29.03 351 PFAKE 03 53 20.0 +12
INK LR LR
comp=Z,29μm,18.0s
INK Inuvik 29.03 351 P **P** **03 53 08.7 +0.3**
comp=Z,150nm,1.2s,baz=153,slow=10,SNR=127
INK S **S** **03 57 54.6 -5.0**
comp=Z,3.4nm,1.0s,baz=191,slow=25,SNR=5.5
INK Lg Lg 04 02 36.5
comp=Z,3.0nm,1.2s,baz=204,slow=20,SNR=2.6
INK LR LR 04 05 35.5
comp=Z,24μm,18.3s,baz=148,slow=38
P51A Williamsport 29.13 79 PFAKE 03 53 20.0 +10
P51A LR LR
comp=Z,6μm,20.0s
CHGN Chignik 29.18 316 PFAKE 03 53 20.0 +10
CHGN LR LR
comp=Z,4μm,19.0s
CPCT Cooper Cave 29.19 87 PFAKE 03 53 20.0 +10
CPCT LR LR
comp=Z,12μm,21.0s
COLA College 29.20 337 *e*P **P** **03 53 10.2 +0.2**
comp=Z,375nm,1.8s
COLA LR LR
comp=Z,6μm,20.0s
COLA College 29.20 337 *c i*P **P** **03 53 10.3 +0.3**
COLA pmax pmax
comp=Z,15nm,0.9s
V51A Loudon 29.20 87 PFAKE 03 53 20.0 +10
V51A LR LR
comp=Z,12μm,21.0s
S51A Beattyville 29.20 83 PFAKE 03 53 20.0 +10

S51A LR LR
comp=Z,6μm,21.0s
250A Grady 29.21 95 PFAKE 03 53 20.0 +10
250A LR LR
comp=Z,5μm,20.0s
BWN Browne 29.22 335 PFAKE 03 53 20.0 +10
BWN LR LR
comp=Z,8μm,21.0s
X51A Calhoun 29.25 89 PFAKE 03 53 20.0 +9.2
X51A LR LR
comp=Z,10μm,19.0s
N51A Ashland 29.33 76 PFAKE 03 53 20.0 +8.5
N51A LR LR
comp=Z,3μm,21.0s
PPLA Purkeypile 29.36 331 PFAKE 03 53 20.0 +8.3
PPLA LR LR
comp=Z,6μm,22.0s
MDM Murphy Dome 29.37 337 PFAKE 03 53 20.0 +8.4
MDM LR LR
comp=Z,6μm,19.0s
LVIG Laguna Verde 29.38 127 PFAKE 03 53 20.0 +8.0
LVIG LR LR
comp=Z,19μm,19.0s
TZTN Tazewell 29.57 85 PFAKE 03 53 20.0 +6.3
TZTN LR LR
comp=Z,5μm,20.0s
CAST Castle Rocks 29.64 332 PFAKE 03 53 30.0 +16
CAST LR LR
comp=Z,5μm,20.0s
BPAW Bear Paw Mtn. 29.68 334 PFAKE 03 53 30.0 +16
BPAW LR LR
comp=Z,5μm,19.0s
SVW2 Sparrevohn 29.73 326 PFAKE 03 53 30.0 +15
SVW2 LR LR
comp=Z,5μm,18.0s
FYU Fort Yukon 29.73 341 PFAKE 03 53 30.0 +15
FYU LR LR
comp=Z,9μm,18.0s
V52A Sevierville 29.76 86 PFAKE 03 53 30.0 +15
V52A LR LR
comp=Z,10μm,20.0s
W52A Murphy 29.77 88 PFAKE 03 53 30.0 +15
W52A LR LR
comp=Z,15μm,18.0s
TLIG Tlapa 29.79 132 PFAKE 03 53 30.0 +14
TLIG LR LR
comp=Z,19μm,20.0s
T52A Hallie 29.82 83 PFAKE 03 53 30.0 +14
T52A LR LR
comp=Z,8μm,19.0s
O52A Adamsville 29.90 77 PFAKE 03 53 30.0 +13
O52A LR LR
comp=Z,6μm,20.0s
M52A Chesterland 29.96 74 PFAKE 03 53 30.0 +13
M52A LR LR
comp=Z,4μm,18.0s
SDPT Sand Point 30.04 314 PFAKE 03 53 30.0 +12
SDPT LR LR
comp=Z,5μm,19.0s
152A Waverly Hall 30.10 93 PFAKE 03 53 30.0 +12
152A LR LR
comp=Z,6μm,20.0s
Y52A Lilburn 30.12 90 PFAKE 03 53 30.0 +11
Y52A LR LR
comp=Z,7μm,19.0s
MLY Manley 30.20 335 PFAKE 03 53 30.0 +11
MLY LR LR
comp=Z,7μm,18.0s
451A Vernon 30.22 97 PFAKE 03 53 30.0 +11
451A LR LR
comp=Z,10μm,19.0s
R53A Hurricane 30.26 81 PFAKE 03 53 30.0 +10
R53A LR LR
comp=Z,11μm,22.0s
P53A Whipple 30.38 78 PFAKE 03 53 30.0 +9.2
P53A LR LR
comp=Z,8μm,18.0s
V53A Saluda 30.42 86 PFAKE 03 53 30.0 +8.8
V53A LR LR
comp=Z,10μm,20.0s
352A Blakely 30.45 95 PFAKE 03 53 30.0 +8.5
352A LR LR
comp=Z,11μm,18.0s
N53A Lisbon 30.49 75 PFAKE 03 53 30.0 +8.2
N53A LR LR
comp=Z,4μm,19.0s
BG3 Lake Jocassee 30.57 87 PFAKE 03 53 30.0 +7.5
BG3 LR LR
comp=Z,10μm,20.0s
GOGA Godfrey 30.75 91 PFAKE 03 53 40.0 +16
GOGA LR LR
comp=Z,7μm,20.0s
253A Americus 30.81 93 PFAKE 03 53 40.0 +15
253A LR LR
comp=Z,1μm,21.0s
ALLY Alegheny Colle 30.84 74 PFAKE 03 53 40.0 +15
ALLY LR LR
comp=Z,6μm,18.0s
ERPA Erie 30.86 73 PFAKE 03 53 40.0 +15
ERPA LR LR
comp=Z,2μm,20.0s
U54A Nelsons Funny 30.89 84 PFAKE 03 53 40.0 +15
U54A LR LR
comp=Z,6μm,22.0s
Q54A Coxs Mills 30.93 79 PFAKE 03 53 40.0 +14
Q54A LR LR
comp=Z,8μm,20.0s
N54A Moraine State 31.09 75 PFAKE 03 53 40.0 +13
N54A LR LR
comp=Z,3μm,20.0s
SADO Sadowa 31.09 67 PFAKE 03 53 40.0 +13
SADO LR LR
comp=Z,8μm,21.0s
453A Whigham 31.20 96 PFAKE 03 53 40.0 +12
453A LR LR
comp=Z,12μm,20.0s
M54A Oil Creek Stat 31.22 74 PFAKE 03 53 40.0 +12
M54A LR LR
comp=Z,3μm,18.0s
154A Montrose 31.36 92 PFAKE 03 53 40.0 +11
154A LR LR
comp=Z,8μm,18.0s
HODGE Hodges 31.36 88 PFAKE 03 53 40.0 +11
HODGE LR LR
comp=Z,11μm,20.0s
PAULI Pauline 31.48 87 PFAKE 03 53 40.0 +9.4
PAULI LR LR
comp=Z,10μm,20.0s
TIGA Tifton 31.49 94 PFAKE 03 53 40.0 +9.3
TIGA LR LR
comp=Z,8μm,20.0s
MCWV Mont Chateau 31.50 77 PFAKE 03 53 40.0 +9.4
MCWV LR LR
comp=Z,3μm,18.0s
COLD Coldfoot 31.54 339 PFAKE 03 53 40.0 +9.2
COLD LR LR
comp=Z,6μm,22.0s
FALS False Pass 31.59 312 PFAKE 03 53 40.0 +8.8
FALS LR LR
comp=Z,5μm,18.0s
J54A Appleton 31.65 70 PFAKE 03 53 40.0 +8.1
J54A LR LR
comp=Z,6μm,20.0s
R55A Marlinton 31.65 80 PFAKE 03 53 40.0 +7.9
R55A LR LR
comp=Z,5μm,18.0s
KMSC Kings Mountain 31.73 86 *eP* **P 03 53 31.1 -1.7**
comp=Z,70nm,1.1s
KMSC LR LR
comp=Z,11μm,20.0s
BLA Blacksburg 31.74 82 PFAKE 03 53 40.0 +7.1
BLA LR LR
comp=Z,6μm,21.0s
N55A Marion Center 31.87 75 PFAKE 03 53 40.0 +6.0
N55A LR LR
comp=Z,5μm,18.0s
D53A Lac Vacive, Po 31.89 63 PFAKE 03 53 40.0 +5.9
D53A LR LR
comp=Z,6μm,19.0s
VLDQ Val d'Or 32.01 61 PFAKE 03 53 50.0 +15
VLDQ LR LR
comp=Z,8μm,22.0s
JSC Jenkinsville 32.11 88 PFAKE 03 53 50.0 +14
JSC LR LR
comp=Z,12μm,20.0s

255A Hazlehurst 32.13 92 PFAKE 03 53 50.0 +14
255A LR LR
comp=Z,7μm,18.0s
V56A Mocksville 32.14 85 PFAKE 03 53 50.0 +14
V56A LR LR
comp=Z,7μm,22.0s
J55A Hilton 32.24 70 PFAKE 03 53 50.0 +13
J55A LR LR
comp=Z,7μm,18.0s
MMNY Mt. Morris Dam 32.27 71 PFAKE 03 53 50.0 +13
MMNY LR LR
comp=Z,5μm,20.0s
O56A Blue Knob Stat 32.30 76 PFAKE 03 53 50.0 +12
O56A LR LR
comp=Z,4μm,18.0s
TOLK Toolik Lake Re 32.40 341 PFAKE 03 53 50.0 +12
TOLK LR LR
comp=Z,9μm,18.0s
Z56A Williston 32.40 89 PFAKE 03 53 50.0 +11
Z56A LR LR
comp=Z,11μm,18.0s
PLVO Plevna 32.52 67 PFAKE 03 53 50.0 +10
PLVO LR LR
comp=Z,6μm,19.0s
555A McAlpin 32.57 96 PFAKE 03 53 50.0 +10
555A LR LR
comp=Z,8μm,19.0s
BIRD Birdtown, Kers 32.58 87 PFAKE 03 53 50.0 +10
BIRD LR LR
comp=Z,10μm,22.0s
S57A Dark Hollow, R 32.69 80 PFAKE 03 53 50.0 +8.9
S57A LR LR
comp=Z,7μm,19.0s
T57A Hurt 32.69 82 PFAKE 03 53 50.0 +8.8
T57A LR LR
comp=Z,7μm,19.0s
SSPA Standing Stone 32.72 75 *eP* **P 03 53 39.6 -1.8**
comp=Z,32nm,1.3s
SSPA LR LR
comp=Z,4μm,18.0s
W57A Gilead 32.76 85 PFAKE 03 53 50.0 +8.3
W57A LR LR
comp=Z,7μm,20.0s
AKUT Akutan 32.84 310 PFAKE 03 53 50.0 +7.8
AKUT LR LR
comp=Z,3μm,20.0s
MYIG Mrida 32.87 116 PFAKE 03 53 50.0 +7.2
MYIG LR LR
comp=Z,4μm,19.0s
Y57A Sumter 32.88 88 PFAKE 03 53 50.0 +7.2
Y57A LR LR
comp=Z,15μm,18.0s
456A Hilliard 33.01 94 PFAKE 03 53 50.0 +6.0
456A LR LR
comp=Z,7μm,20.0s
257A Skidaway Islan 33.22 91 PFAKE 03 54 00.0 +14
257A LR LR
comp=Z,8μm,20.0s
UNV Unalaska Valle 33.24 310 PFAKE 03 54 00.0 +14
UNV LR LR
comp=Z,3μm,18.0s
656A Willston 33.26 97 PFAKE 03 54 00.0 +14
656A LR LR
comp=Z,13μm,22.0s
NHSC New Hope 33.40 89 PFAKE 03 54 00.0 +13
NHSC LR LR
comp=Z,9μm,18.0s
S58A Poland Farm, P 33.41 80 PFAKE 03 54 00.0 +13
S58A LR LR
comp=Z,8μm,20.0s
R58B Mineral 33.44 80 PFAKE 03 54 00.0 +12
R58B LR LR
comp=Z,6μm,18.0s
Y58A Scranton 33.47 87 PFAKE 03 54 00.0 +12
Y58A LR LR
comp=Z,15μm,21.0s
X58A Rowland 33.48 86 PFAKE 03 54 00.0 +12
X58A LR LR
comp=Z,7μm,19.0s
PAGS Pennsylvania G 33.68 75 PFAKE 03 54 00.0 +10
PAGS LR LR
comp=Z,7μm,18.0s
CBN Corbin Frederi 33.75 79 PFAKE 03 54 00.0 +10
CBN LR LR
comp=Z,7μm,21.0s
BINY Binghamton 33.77 71 *eP* **P 03 53 48.7 -1.8**
comp=Z,32nm,1.1s
BINY LR LR
comp=Z,3μm,18.0s
SDMD Soldier's Deli 33.80 77 PFAKE 03 54 00.0 +9.2
SDMD LR LR
comp=Z,2μm,21.0s
T59A Double "B" Far 33.99 81 PFAKE 03 54 00.0 +7.5
T59A LR LR
comp=Z,4μm,19.0s
MVL Millersville 34.01 75 PFAKE 03 54 00.0 +7.4
MVL LR LR
comp=Z,7μm,18.0s
U59A Littleton 34.02 82 PFAKE 03 54 00.0 +7.3
U59A LR LR
comp=Z,5μm,20.0s
658A Bunnell 34.21 96 PFAKE 03 54 10.0 +16
658A LR LR
comp=Z,7μm,22.0s
N59A State Game Lan 34.21 74 PFAKE 03 54 10.0 +16
N59A LR LR
comp=Z,5μm,21.0s
CNNC Cliffs of the 34.33 84 PFAKE 03 54 10.0 +15
CNNC LR LR
comp=Z,5μm,19.0s
LONY Lake Ozonia 34.33 67 PFAKE 03 54 10.0 +15
LONY LR LR
comp=Z,6μm,18.0s
957A Wimauma 34.35 99 PFAKE 03 54 10.0 +14
957A LR LR
comp=Z,7μm,19.0s
Y60A Bolivia 34.55 86 PFAKE 03 54 10.0 +13
Y60A LR LR
comp=Z,10μm,21.0s
T60A Surry 34.56 80 PFAKE 03 54 10.0 +13
T60A LR LR
comp=Z,6μm,18.0s
NIKH Nikolski High 34.58 308 PFAKE 03 54 10.0 +13
NIKH LR LR
comp=Z,3μm,20.0s
LUPA Lehigh Univers 34.58 74 PFAKE 03 54 10.0 +12
LUPA LR LR
comp=Z,100nm,22.0s
V60A Jim Taylor Roa 34.62 83 PFAKE 03 54 10.0 +12
V60A LR LR
comp=Z,4μm,19.0s
CCIG Comitan 34.63 125 PFAKE 03 54 10.0 +12
CCIG LR LR
comp=Z,9μm,21.0s
NCB Newcomb 34.69 68 PFAKE 03 54 10.0 +11
NCB LR LR
comp=Z,5μm,20.0s
PSUB Penn St. - Bra 34.70 75 PFAKE 03 54 10.0 +11
PSUB LR LR
comp=Z,3μm,20.0s
DWPF Disney Wildern 34.73 98 PFAKE 03 54 10.0 +11
DWPF LR LR
comp=Z,8μm,22.0s
FRNY Flat Rock 35.00 66 PFAKE 03 54 10.0 +8.9
FRNY LR LR
comp=Z,6μm,18.0s
ODNJ Ogdensburg 35.03 73 PFAKE 03 54 10.0 +8.6
ODNJ LR LR
comp=Z,6μm,19.0s
U61A Possum Corner 35.04 82 PFAKE 03 54 10.0 +8.4
U61A LR LR
comp=Z,4μm,20.0s
V61A Roper 35.13 83 PFAKE 03 54 10.0 +7.6
V61A LR LR
comp=Z,5μm,20.0s
BRNJ Basking Ridge 35.16 74 PFAKE 03 54 10.0 +7.5
BRNJ LR LR
comp=Z,4μm,21.0s
ANM Nome 35.28 329 PFAKE 03 54 10.0 +6.6
ANM LR LR
comp=Z,5μm,19.0s
TRY Troy 35.33 70 PFAKE 03 54 10.0 +6.0
TRY LR LR
comp=Z,4μm,20.0s
059A Moore Haven 35.54 99 PFAKE 03 54 20.0 +14

059A LR LR
comp=Z,7μm,18.0s
PAL Palisades 35.56 73 PFAKE 03 54 20.0 +14
PAL LR LR
comp=Z,4μm,22.0s
CPNY Central Park 35.57 73 PFAKE 03 54 20.0 +14
CPNY LR LR
comp=Z,5μm,18.0s
HLK Haleakala 35.58 248 PFAKE 03 54 20.0 +13
HLK LR LR
comp=Z,7μm,20.0s
KHLH Kahului Airpor 35.62 248 PFAKE 03 54 20.0 +13
KHLH LR LR
comp=Z,5μm,19.0s
HPAH Hawaii Prepara 35.67 246 PFAKE 03 54 20.0 +13
HPAH LR LR
comp=Z,4μm,18.0s
VT1 Waterbury 35.67 67 PFAKE 03 54 20.0 +13
VT1 LR LR
comp=Z,6μm,20.0s
V62A Hyde County Ai 35.69 83 PFAKE 03 54 20.0 +13
V62A LR LR
comp=Z,7μm,18.0s
KSCT Kent School, K 35.69 72 PFAKE 03 54 20.0 +13
KSCT LR LR
comp=Z,4μm,21.0s
STCH Steam Cracks 35.70 245 PFAKE 03 54 20.0 +13
STCH LR LR
comp=Z,6μm,18.0s
SPIA Saint Paul Isl 35.73 315 PFAKE 03 54 20.0 +13
SPIA LR LR
comp=Z,6μm,20.0s
POHA Pohakuloa 35.73 246 PFAKE 03 54 20.0 +12
POHA LR LR
comp=Z,4μm,19.0s
PUH Pauahi 35.77 245 PFAKE 03 54 20.0 +12
PUH LR LR
comp=Z,5μm,20.0s
UWB Uwekahuna B 35.78 245 PFAKE 03 54 20.0 +12
UWB LR LR
comp=Z,6μm,20.0s
OBL Observatory Le 35.79 245 PFAKE 03 54 20.0 +12
OBL LR LR
comp=Z,5μm,21.0s
NPH North Pit 35.79 245 PFAKE 03 54 20.0 +12
NPH LR LR
comp=Z,6μm,18.0s
UWE Uwekahuna 35.79 245 PFAKE 03 54 20.0 +12
UWE LR LR
comp=Z,4μm,22.0s
RIM Rim 35.80 245 PFAKE 03 54 20.0 +12
RIM LR LR
comp=Z,4μm,20.0s
WRMHI West Rim 35.81 245 PFAKE 03 54 20.0 +12
WRMHI LR LR
comp=Z,5μm,18.0s
MLH Mauna Loa 35.81 245 PFAKE 03 54 20.0 +11
MLH LR LR
comp=Z,4μm,20.0s
SDHHI Sand Hill 35.81 245 PFAKE 03 54 20.0 +11
SDHHI LR LR
comp=Z,4μm,19.0s
HLP Hilina Pali 35.89 245 PFAKE 03 54 20.0 +11
HLP LR LR
comp=Z,2μm,18.0s
MLOA Mauna Loa Obse 35.91 245 PFAKE 03 54 20.0 +10
MLOA LR LR
comp=Z,5μm,20.0s
RDOG Red Dog Mine 35.92 335 PFAKE 03 54 20.0 +11
RDOG LR LR
comp=Z,4μm,20.0s
AIN Ainahou 35.94 245 PFAKE 03 54 20.0 +10
AIN LR LR
comp=Z,5μm,18.0s
MWH Moku'aweowe 35.96 245 PFAKE 03 54 20.0 +10
MWH LR LR
comp=Z,4μm,18.0s
HUH Hualalai 35.99 246 PFAKE 03 54 20.0 +10
HUH LR LR
comp=Z,4μm,18.0s
060A Indiantown 36.10 98 PFAKE 03 54 20.0 +9.3
060A LR LR
comp=Z,8μm,21.0s
KHLU Kahalu`u 36.10 246 PFAKE 03 54 20.0 +9.1
KHLU LR LR
comp=Z,5μm,18.0s
HNH Hanover 36.12 68 PFAKE 03 54 20.0 +9.2
HNH LR LR
comp=Z,6μm,20.0s
KHU Kahuku 36.13 245 PFAKE 03 54 20.0 +8.6
KHU LR LR
comp=Z,4μm,18.0s
YLE Yale 36.19 72 PFAKE 03 54 20.0 +8.6
YLE LR LR
comp=Z,4μm,19.0s
LBNH Lisbon 36.27 67 PFAKE 03 54 20.0 +7.9
LBNH LR LR
comp=Z,7μm,18.0s
061Z Ochoppi 36.31 101 PFAKE 03 54 20.0 +7.4
061Z LR LR
comp=Z,5μm,22.0s
QUA2 Belchertown 36.38 70 PFAKE 03 54 20.0 +7.0
QUA2 LR LR
comp=Z,6μm,19.0s
KIP Kipapa 36.42 250 *eP* **P 03 54 15.7 +2.2**
comp=Z,88nm,1.0s
KIP LR LR
comp=Z,8μm,19.0s
KIP Kipapa 36.42 250⇑ *eP* **P 03 54 15.2 +1.7**
KIP pmax pmax
comp=Z,102nm,1.0s
FFD Franklin Falls 36.62 68 PFAKE 03 54 30.0 +15
FFD LR LR
comp=Z,6μm,21.0s
RES Resolute Bay 36.72 11 *eP* **P 03 54 14.4 -1.1**
comp=Z,65nm,0.9s
RES LR LR
comp=Z,14μm,21.0s
RES Resolute Bay 36.72 11 *eP* **P 03 54 14.4 -1.1**
RES pmax pmax
comp=Z,65nm,0.9s
RES MLR MLR
comp=Z,14μm,21.0s
RES Resolute Bay 36.72 11 P **P 03 54 15.0 -0.5**
comp=Z,50nm,0.8s,baz=207,slow=11,SNR=56
HRV Adam Dziewonsk 36.90 70 PFAKE 03 54 30.0 +13
HRV LR LR
comp=Z,4μm,20.0s
BRYW Bryant College 37.06 71 PFAKE 03 54 30.0 +11
BRYW LR LR
comp=Z,5μm,20.0s
WES Weston 37.10 70 PFAKE 03 54 30.0 +11
WES LR LR
comp=Z,5μm,22.0s
BCX Boston College 37.22 70 PFAKE 03 54 30.0 +10
BCX LR LR
comp=Z,3μm,19.0s
KEKH Kekaha 37.30 253 PFAKE 03 54 30.0 +8.9
KEKH LR LR
comp=Z,4μm,20.0s
GAMB Gambell 37.67 326 PFAKE 03 54 30.0 +6.3
GAMB LR LR
comp=Z,4μm,22.0s
WVL Waterville 37.80 66 PFAKE 03 54 40.0 +15
WVL LR LR
comp=Z,7μm,20.0s
ATKA Atka Island 37.84 307 PFAKE 03 54 40.0 +15
ATKA LR LR
comp=Z,1μm,22.0s
PKME Peaks-Kenny Pk 37.92 65 PFAKE 03 54 40.0 +14
PKME LR LR
comp=Z,5μm,20.0s
SCHQ Schefferville 38.52 49 PFAKE 03 54 40.0 +8.9
SCHQ LR LR
comp=Z,7μm,20.0s
SCHQ Schefferville 38.52 49 P **P 03 54 29.6 -1.5**
comp=Z,78nm,0.9s,baz=280,slow=7.9,SNR=37
SCHQ LR LR 04 09 54.3
comp=Z,5μm,19.4s,baz=276,slow=36
PQI Presque Isle 38.53 62 PFAKE 03 54 40.0 +8.8
PQI LR LR
comp=Z,4μm,18.0s
EMMW East Machias 39.30 65 PFAKE 03 54 50.0 +12
EMMW LR LR
comp=Z,4μm,19.0s
ADK Adak 39.40 306 *eP* **P 03 54 38.3 -0.1**

comp=Z,174nm,1.0s
ADK LR LR
comp=Z,2μm,18.0s
ADK Adak 39.40 306 *e*P **P 03 54 38.3 -0.1**
ADK pmax pmax
comp=Z,174nm,1.0s
ADK MLR MLR
comp=Z,2μm,18.0s
TGUH Tegucigalpa,Un 39.40 122 PFAKE 03 54 50.0 +11
TGUH LR LR
comp=Z,8μm,19.0s
GGN Saint George 39.64 64 PFAKE 03 54 50.0 +10
GGN LR LR
comp=Z,6μm,19.0s
BATG Bathurst New B 39.74 61 PFAKE 03 54 50.0 +8.7
BATG LR LR
comp=Z,6μm,21.0s
ESTN Estel 40.70 122 PFAKE 03 55 00.0 +10
ESTN LR LR
comp=Z,7μm,18.0s
LMN Caledonia Moun 40.88 63 *e*P **P 03 54 49.5 -1.3**
comp=Z,68nm,1.2s
LMN LR LR
comp=Z,4μm,21.0s
HAL Halifax 42.00 64 PFAKE 03 55 10.0 +10
HAL LR LR
comp=Z,2μm,18.0s
ESPN Las Esperanzas 42.73 120 *e*P **P 03 55 05.4 -0.7**
comp=Z,189nm,1.3s
ESPN LR LR
comp=Z,8μm,20.0s
MTDJ Mount Denham 43.35 107 PFAKE 03 55 20.0 +8.7
MTDJ LR LR
comp=Z,2μm,22.0s
JTS Las Juntas de 43.71 123 *e*P **P 03 55 13.5 -0.6**
comp=Z,25nm,1.3s
JTS LR LR
comp=Z,4μm,19.0s
JTS Las Juntas de 43.71 123⇑ *e*P **P 03 55 13.8 -0.3**
JTS pmax pmax
comp=Z,11nm,0.9s
PRVC Isla de Provid 43.87 116 *e*P **P 03 55 16.4 +1.0**
PRVC Isla de Provid 43.87 116 *e*P **P 03 55 16.4 +1.0**
GTBY Guantanamo Bay 44.09 103 PFAKE 03 55 30.0 +13
GTBY LR LR
comp=Z,4μm,18.0s
HDC Heredia 44.47 122 PFAKE 03 55 30.0 +10
HDC LR LR
comp=Z,6μm,18.0s
SMY Shemya 44.89 309 PFAKE 03 55 30.0 +6.9
SMY LR LR
comp=Z,1μm,19.0s
ILULI Ilulissat 46.13 28 PFAKE 03 55 40.0 +7.3
ILULI LR LR
comp=Z,9μm,18.0s
ILULI Ilulissat 46.13 28 *i* P **P 03 55 31.0 -1.7**
ILULI pmax pmax
comp=Z,72nm,1.3s
ILULI Ilulissat 46.13 28 *i* P **P 03 55 31.0 -1.7**
comp=Z,72nm,1.3s
SFJD Kangerlussuaq 46.31 31 *e*P **P 03 55 33.1 -1.1**
comp=Z,83nm,1.1s
SFJD LR LR
comp=Z,10μm,20.0s
SFJD Kangerlussuaq 46.31 31 *i* P **P 03 55 33.4 -0.8**
SFJD pmax pmax
comp=Z,65nm,1.1s
SFJD Kangerlussuaq 46.31 31 P **P 03 55 33.4 -0.8**
comp=Z,42nm,0.9s,baz=279,slow=13,SNR=15
SFJD Kangerlussuaq 46.31 31 *i* P **P 03 55 33.4 -0.8**
comp=Z,65nm,1.1s
BILL Bilibino 47.07 331 *e*P **P 03 55 39.2 -0.9**
comp=Z,376nm,1.9s
BILL LR LR
comp=Z,3μm,20.0s
BILL Bilibino 47.07 331 *c i*P **P 03 55 40.6 +0.5**
BILL *i* 03 57 12.4
BILL *i* 03 57 33.1
BILL *i* S **S 04 02 33.1 +1.1**
BILL pmax pmax
comp=Z,172nm,1.7s
BILL MLR MLR
comp=Z,2μm,17.0s
SDDR Presa de Saban 47.53 101 *e*P **P 03 55 43.8 -0.5**
comp=Z,84nm,1.5s
SDDR LR LR
comp=Z,5μm,19.0s
IVI Ivigtut 47.91 39 PFAKE 03 56 00.0 +13
IVI LR LR
comp=Z,9μm,18.0s
BCIP Isla Barro Col 47.91 119 PFAKE 03 56 00.0 +13
BCIP LR LR
comp=Z,5μm,20.0s
BCIP Isla Barro Col 47.91 119 *e*P **P 03 55 43.6 -3.7**
BCIP Isla Barro Col 47.91 119 *e*P **P 03 55 43.6 -3.7**
UPA Univ. de Panam 48.25 118 *e*P **P 03 55 46.4 -3.6**
UPA Univ. de Panam 48.25 118 *e*P **P 03 55 46.4 -3.6**
AZU Azuero 48.63 120 *e*P **P 03 55 52.7 -0.1**
AZU Azuero 48.63 120 *e*P **P 03 55 52.7 -0.1**
SDD Santo Domingo 48.88 101 PFAKE 03 56 10.0 +15
SDD LR LR
comp=Z,2μm,18.0s
UPD2 Meteti 49.60 117 *e*P **P 03 55 59.2 -1.1**
UPD2 Meteti 49.60 117 *e*P **P 03 55 59.2 -1.1**
SUMG Summit 50.10 23 *e*P **P 03 56 02.2 -1.7**
comp=Z,216nm,1.6s
SUMG LR LR
comp=Z,6μm,22.0s
SUMG Summit 50.10 23⇑ *i*P **P 03 56 02.9 -1.0**
SUMG pmax pmax
comp=Z,160nm,1.1s
SUMG Summit 50.10 23⇑ *i*P **P 03 56 02.9 -1.0**
comp=Z,156nm,1.1s
SMRC Santa Marta, M 50.41 112 *e*P **P 03 56 04.8 -1.6**
SMRC Santa Marta, M 50.41 112 *e*P **P 03 56 04.8 -1.6**
MPR Mayaguez 51.12 99 PFAKE 03 56 20.0 +8.2
MPR LR LR
comp=Z,2μm,19.0s
CRPR Cabo Rojo, PR 51.27 99 PFAKE 03 56 20.0 +7.1
CRPR LR LR
comp=Z,3μm,22.0s
EMPR Esperanza - Ma 51.42 98 PFAKE 03 56 30.0 +16
EMPR LR LR
comp=Z,3μm,18.0s
URIC Uribia, Colomb 51.65 109 *e*P **P 03 56 16.4 +0.7**
URIC Uribia, Colomb 51.65 109 *e*P **P 03 56 16.4 +0.7**
SOLC Bahia Solano 51.69 119 *e*P **P 03 56 15.8 -0.3**
SOLC Bahia Solano 51.69 119 *e*P **P 03 56 15.8 -0.3**
ICMP Isla Caja de M 51.78 99 PFAKE 03 56 30.0 +13
ICMP LR LR
comp=Z,2μm,21.0s
CODC Agustn Codazz 51.80 112 *e*P **P 03 56 17.3 +0.4**
CODC Agustn Codazz 51.80 112 *e*P **P 03 56 17.3 +0.4**
TAOE Nuku Hiva Isla 51.81 204 *e*S **S 04 03 39.2 -0.3**
comp=Z,2μm,30.0s
TAOE *e*LQ LQ 04 08 53.0
comp=Z,4μm,23.7s
TAOE *e*LR LR 04 11 06.4
comp=Z,4μm,24.3s,baz=23
TAOE Nuku Hiva Isla 51.81 204 PFAKE 03 56 30.0 +13
TAOE LR LR
comp=Z,3μm,19.0s
UREC San Jos de Ur 51.87 116 *e*P **P 03 56 15.7 -1.7**
UREC San Jos de Ur 51.87 116 *e*P **P 03 56 15.7 -1.7**
SJG San Juan 51.93 98 *e*P **P 03 56 17.8 0.0**
comp=Z,72nm,1.3s
SJG LR LR
comp=Z,3μm,22.0s
SJG San Juan 51.93 98 *e*P **P 03 56 17.8 0.0**
SJG pmax pmax
comp=Z,72nm,1.3s
SJG MLR MLR
comp=Z,3μm,22.0s
CBYP Canovanas 52.06 98 PFAKE 03 56 30.0 +11
CBYP LR LR
comp=Z,3μm,20.0s
HUMP Col San Antoni 52.14 98 *e*P **P 03 56 19.1 -0.3**
comp=Z,56nm,1.1s
HUMP LR LR
comp=Z,3μm,20.0s
SMLC San Martn de 52.15 114 *e*P **P 03 56 19.4 -0.1**
SMLC San Martn de 52.15 114 *e*P **P 03 56 19.4 -0.1**
MTP Monte Pirata 52.39 98 PFAKE 03 56 30.0 +8.7
MTP LR LR
comp=Z,3μm,21.0s

CUPR Culebra, Puert 52.47 97 PFAKE 03 56 30.0 +8.1
CUPR LR LR
comp=Z,3μm,19.0s
ZARC Zaragoza, Cauc 52.52 115 *e*P **P 03 56 21.5 -0.8**
ZARC Zaragoza, Cauc 52.52 115 *e*P **P 03 56 21.5 -0.8**
STVI Saint Thomas 52.70 97 PFAKE 03 56 30.0 +6.5
STVI LR LR
comp=Z,3μm,20.0s
HELC Santa Helena 52.99 117 *e*P **P 03 56 26.2 0.0**
HELC Santa Helena 52.99 117 *e*P **P 03 56 26.2 0.0**
OCAC Ocana 53.07 113 *e*P **P 03 56 26.6 +0.1**
OCAC Ocana 53.07 113 *e*P **P 03 56 26.6 +0.1**
PLMC San Jos del P 53.42 119 *e*P **P 03 56 27.7 -1.2**
PLMC San Jos del P 53.42 119 *e*P **P 03 56 27.7 -1.2**
PTBC PUERTO BERRIO, 53.48 116 *e*P **P 03 56 28.4 -1.0**
PTBC PUERTO BERRIO, 53.48 116 *e*P **P 03 56 28.4 -1.0**
BRRC Barranca, Sant 53.59 115 *e*P **P 03 56 30.8 +0.6**
BRRC Barranca, Sant 53.59 115 *e*P **P 03 56 30.8 +0.6**
SEY Seymchan 53.67 325‖ *e*P **P 03 56 30.9 +0.8**
GUY2C Guyana, Caldas 53.80 118 *e*P **P 03 56 32.4 +0.1**
GUY2C Guyana, Caldas 53.80 118 *e*P **P 03 56 32.4 +0.1**
PET Petropavlovsk 53.81 312 PFAKE 03 56 40.0 +8.7
PET LR LR
comp=Z,2μm,20.0s
PET Petropavlovsk 53.81 312 *c e*P P 03 56 35.7 +4.4
PET *e*S **S 04 04 08.0 +2.0**
PET pmax pmax
comp=Z,147nm,1.2s
PET pmax pmax
comp=Z,500nm,3.3s
PET pmax pmax
comp=Z,1μm,3.1s
NORC Norcasia 53.90 117 *e*P **P 03 56 32.4 -0.1**
NORC Norcasia 53.90 117 *e*P **P 03 56 32.4 -0.1**
GIRC Giron, Santand 53.97 114 *e*P **P 03 56 32.6 -0.5**
GIRC Giron, Santand 53.97 114 *e*P **P 03 56 32.6 -0.5**
CAPV Capacho 54.04 113 *e*P **P 03 56 33.4 -0.3**
CAPV Capacho 54.04 113 *e*P **P 03 56 33.4 -0.3**
RREF El Recreo 54.05 118 *e*P **P 03 56 33.3 -1.0**
RREF El Recreo 54.05 118 *e*P **P 03 56 33.3 -1.0**
YOTC Yotoco, Valle 54.06 120 *e*P **P 03 56 34.0 +0.3**
YOTC Yotoco, Valle 54.06 120 *e*P **P 03 56 34.0 +0.3**
DAG Danmarks Havn 54.09 16⇑ *i*P **P 03 56 31.8 -1.2**
DAG pmax pmax
comp=Z,210nm,1.4s
DAG Danmarks Havn 54.09 16⇑ *i*P **P 03 56 31.8 -1.2**
comp=Z,89nm,1.4s
PAMC Pamplona, Colo 54.13 114 *e*P **P 03 56 33.9 -0.9**
PAMC Pamplona, Colo 54.13 114 *e*P **P 03 56 33.9 -0.9**
SMRT St. Maarten 54.31 96 PFAKE 03 56 50.0 +15
SMRT LR LR
comp=Z,3μm,22.0s
PEA0B Petropavlovsk- 54.32 313 *e*P **P 03 56 35.5 +0.4**
comp=Z,356nm,1.4s
PEA0B LR LR
comp=Z,2μm,20.0s
PETK Petropavlovsk- 54.32 313 P **P 03 56 36.4 +1.4**
comp=Z,38nm,0.8s,baz=76,slow=13,SNR=30
PETK S **S 04 04 12.4 -0.5**
comp=Z,1.7nm,1.1s,baz=318,slow=27,SNR=2.0
PETK LR LR 04 16 33.3
comp=Z,2μm,21.0s,baz=65,slow=32
BARC Barichara 54.32 115 *e*P **P 03 56 35.2 -0.6**
BARC Barichara 54.32 115 *e*P **P 03 56 35.2 -0.6**
SDV Santo Domingo 54.53 111 *e*P **P 03 56 36.5 -0.8**
comp=Z,141nm,1.3s
SDV LR LR
comp=Z,3μm,20.0s
SDV Santo Domingo 54.53 111 *e*P **P 03 56 37.0 -0.2**
SDV Santo Domingo 54.53 111 *e*P **P 03 56 37.0 -0.2**
SDV Santo Domingo 54.53 111 *e*P **P 03 56 37.3 +0.1**
SEUS St. Eustatius 54.71 97 PFAKE 03 56 50.0 +12
SEUS LR LR
comp=Z,3μm,22.0s
CTAU Tausa, Cundina 54.72 117 *e*P P 03 56 46.8 +7.8
CTAU Tausa, Cundina 54.72 117 *e*P P 03 56 46.8 +7.8
CTAB Cerro Tablazo, 54.75 117 *e*P **P 03 56 40.5 +1.3**
CTAB Cerro Tablazo, 54.75 117 *e*P **P 03 56 40.5 +1.3**
SOCV Socops 54.78 111 *e*P **P 03 56 38.4 -0.5**
SOCV Socops 54.78 111 *e*P **P 03 56 38.4 -0.5**
ROSC El Rosal 54.79 117 PFAKE 03 56 50.0 +11
ROSC LR LR
comp=Z,1μm,20.0s
ROSC El Rosal 54.79 117 P **P 03 56 40.9 +1.5**
comp=Z,58nm,1.2s,baz=125,slow=1.7,SNR=38
ROSC LR LR 04 24 13.4
comp=Z,548nm,18.3s,baz=336,slow=41
RUSC La Rusia 54.89 115 *e*P **P 03 56 39.5 -0.7**
RUSC La Rusia 54.89 115 *e*P **P 03 56 39.5 -0.7**
POPC Popayan, Colom 54.91 121 *e*P **P 03 56 40.7 +0.6**
POPC Popayan, Colom 54.91 121 *e*P **P 03 56 40.7 +0.6**
BBAC Balboa, Cauca 54.93 122 *e*P **P 03 56 41.4 +1.2**
BBAC Balboa, Cauca 54.93 122 *e*P **P 03 56 41.4 +1.2**
SKI Saint Kitts 54.99 97 PFAKE 03 56 50.0 +10
SKI LR LR
comp=Z,4μm,21.0s
MARP Paez Belalcaza 55.16 120 *e*P **P 03 56 43.9 +2.0**
MARP Paez Belalcaza 55.16 120 *e*P **P 03 56 43.9 +2.0**
PRAC Prado 55.23 119 *e*P **P 03 56 42.5 +0.3**
PRAC Prado 55.23 119 *e*P **P 03 56 42.5 +0.3**
PCON Cinco Dias 55.25 121 *e*P **P 03 56 43.4 +0.4**
PCON Cinco Dias 55.25 121 *e*P **P 03 56 43.4 +0.4**
SOTA Rioblanco 55.26 121 *e*P **P 03 56 42.5 -0.4**
SOTA Rioblanco 55.26 121 *e*P **P 03 56 42.5 -0.4**
CHIC Chingaza 55.35 117 *e*P **P 03 56 44.2 +0.8**
CHIC Chingaza 55.35 117 *e*P **P 03 56 44.2 +0.8**
TAMC Tame, Arauca 55.41 114 *e*P **P 03 56 43.2 -0.2**
TAMC Tame, Arauca 55.41 114 *e*P **P 03 56 43.2 -0.2**
CRUC La Cruz 55.46 122 *e*P **P 03 56 44.3 +0.1**
CRUC La Cruz 55.46 122 *e*P **P 03 56 44.3 +0.1**
GCUF Volcan Galeras 55.47 123 *e*P **P 03 56 46.1 +1.7**
GCUF Volcan Galeras 55.47 123 *e*P **P 03 56 46.1 +1.7**
ANWB Willy Bob 55.52 96 PFAKE 03 57 00.0 +16
ANWB LR LR
comp=Z,2μm,22.0s
OTAV Otavalo 55.52 125 *e*P **P 03 56 44.6 -0.1**
comp=Z,201nm,1.6s
OTAV LR LR
comp=Z,3μm,20.0s
OTAV Otavalo 55.52 125 *e*P **P 03 56 45.4 +0.7**
OTAV Otavalo 55.52 125 *e*P **P 03 56 45.4 +0.7**
OTAV Otavalo 55.52 125 *e*P **P 03 56 43.6 -1.1**
MA2 Magadan 55.55 322 *e*P **P 03 56 43.8 -0.1**
comp=Z,216nm,1.3s
MA2 LR LR
comp=Z,3μm,19.0s
MA2 Magadan 55.55 322 *d e*P **P 03 56 45.4 +1.5**
MA2 pmax pmax
comp=Z,261nm,1.7s
SCO Scoresbysund 55.71 24 PFAKE 03 57 00.0 +15
SCO LR LR
comp=Z,4μm,21.0s
SCO Scoresbysund 55.71 24 *i* P **P 03 56 44.0 -0.8**
SCO pmax pmax
comp=Z,75nm,1.4s
SCO Scoresbysund 55.71 24 *i* P **P 03 56 44.0 -0.8**
comp=Z,75nm,1.4s
YOPC Yopal, Colombi 55.73 115 *e*P **P 03 56 44.7 -1.1**
YOPC Yopal, Colombi 55.73 115 *e*P **P 03 56 44.7 -1.1**
VILC Villavicencio, 55.75 117 *e*P **P 03 56 44.7 -1.3**
VILC Villavicencio, 55.75 117 *e*P **P 03 56 44.7 -1.3**
FLOC Florencia 56.30 121 *e*P **P 03 56 49.9 +0.1**
FLOC Florencia 56.30 121 *e*P **P 03 56 49.9 +0.1**
ELOV Elorza 56.65 111 *e*P **P 03 56 52.3 0.0**
ELOV Elorza 56.65 111 *e*P **P 03 56 52.3 0.0**
GUVC San Jose del G 57.61 118 *e*P **P 03 56 57.0 -2.1**
GUVC San Jose del G 57.61 118 *e*P **P 03 56 57.0 -2.1**
FDF Fort de France 57.78 98 PFAKE 03 57 10.0 +10
FDF LR LR
comp=Z,3μm,22.0s
PTLC Puerto Leguiza 57.92 121 *e*P **P 03 57 03.2 +2.0**
PTLC Puerto Leguiza 57.92 121 *e*P **P 03 57 03.2 +2.0**
KBS Kingsbay 58.09 10 *e*P **P 03 57 00.8 -0.8**
comp=Z,158nm,1.4s
KBS LR LR
comp=Z,4μm,19.0s
KBS Kingsbay 58.09 10 *c e*P **P 03 57 01.9 +0.3**
KBS pmax pmax
comp=Z,503nm,1.3s
TIXI Tiksi 58.27 340‖ *e*P **P 03 57 02.5 -0.4**
TIXI pmax pmax
comp=Z,149nm,1.7s
TIXI MLR MLR

comp=Z,2μm,17.0s
TIXI Tiksi 58.27 340 P **P 03 57 02.6 -0.3**
comp=Z,9.1nm,0.4s,baz=56,slow=6.6,SNR=18
BORG Borgarnes 58.42 30 *e*P **P 03 57 02.5 -1.5**
comp=Z,222nm,1.8s
BORG LR LR
comp=Z,11μm,18.0s
BORG Borgarnes 58.42 30 *e*P **P 03 57 02.5 -1.5**
BORG pmax pmax
comp=Z,222nm,1.8s
BORG MLR MLR
comp=Z,11μm,18.0s
BORG Borgarnes 58.42 30 P **P 03 57 02.5 -1.5**
comp=Z,22nm,1.1s,baz=261,slow=7.0,SNR=3.1
GRGR Grenville 59.03 101 PFAKE 03 57 20.0 +11
GRGR LR LR
comp=Z,3μm,22.0s
BBGH Gun Hill 59.98 98 PFAKE 03 57 30.0 +14
BBGH LR LR
comp=Z,7μm,22.0s
HSPB Hornsund (broa 60.07 10 *e*P **P 03 57 11.1 -4.2**
PPT Papeete 63.21 211 LR LR 04 19 10.8
comp=Z,1μm,18.8s,baz=24,slow=30
PPT2 Papeete2 63.23 211 *e*S **S 04 06 08.7 -0.8**
comp=Z,4μm,27.0s
PPT2 *e*LQ LQ 04 13 44.0
comp=Z,6μm,30.5s
PPT2 *e*LR LR 04 16 19.7
comp=Z,4μm,29.0s,baz=19
YAK Yakutsk 63.42 330 *e*P **P 03 57 38.3 +0.2**
YAK *e* 03 58 10.9
YAK *e* 04 00 01.1
YAK *e*S **S 04 06 12.9 +2.1**
YAK *e**SS sS 04 06 32.0 +17
YAK *e* 04 07 26.7
YAK *e*SS **SS 04 10 20.1 +3.4**
YAK pmax pmax
comp=Z,265nm,1.0s
YAK pmax pmax
comp=E,163nm,1.2s
YAK pmax pmax
comp=N,96nm,1.3s
YAK pmax pmax
comp=N,336nm,2.2s
YAK pmax pmax
comp=Z,531nm,2.3s
YAK pmax pmax
comp=E,268nm,2.0s
YAK smax smax
comp=N,3μm,7.3s
YAK smax smax
comp=E,1μm,5.6s
YAK MLR MLR
comp=Z,16μm,18.0s
YAK MLR MLR
comp=N,10μm,19.0s
YAK MLR MLR
comp=E,8μm,18.0s
KUR Kuril'sk 63.58 308 *e*P **P 03 57 41.1 +1.7**
KUR *e* 03 58 13.5
KUR S **S 04 06 21.1 +7.8**
KUR pmax pmax
comp=Z,202nm,2.1s
KUR pmax pmax
comp=E,131nm,1.2s
KUR MLR MLR
comp=Z,724nm,16.0s
TYV Tymovskoe 63.63 315 *e*P **P 03 57 43.2 +3.5**
TYV *e*S **S 04 06 20.9 +7.1**
TYV pmax pmax
comp=Z,95nm,1.3s
TYV pmax pmax
comp=Z,900nm,3.3s
TYV smax smax
comp=N,700nm,6.1s
RKT Rikitea 64.22 194 *e*S **S 04 06 21.2 -0.3**
comp=N,2μm,29.5s
RKT *e*LQ LQ 04 13 58.0
comp=N,4μm,37.0s
RKT *e*LR LR 04 16 47.7
comp=N,3μm,24.8s
WAKE Wake Island 64.39 274 PFAKE 03 58 00.0 +15
WAKE LR LR
comp=Z,2μm,19.0s
YUK Yuzh-Kuril'sk 65.43 308 *e*P P 03 57 44.4 -7.1
YUK *e*S S 04 06 25.5 -11
YUK pmax pmax
comp=Z,558nm,1.1s
YSS Yuzh-Sakhalins 65.67 312 *e*P **P 03 57 53.3 +0.2**
comp=Z,125nm,1.2s
YSS LR LR
comp=Z,600nm,19.0s
YSS Yuzh-Sakhalins 65.67 312⇑ *e*P **P 03 57 53.6 +0.5**
YSS *e**SP **sP 03 57 57.6 +0.6**
YSS *e* 04 00 23.5
YSS *e*S **S 04 06 41.4 +2.3**
YSS *e*SS **SS 04 10 47.0 -5.4**
YSS *e*SSS SSS 04 13 43.3
YSS pmax pmax
comp=Z,30nm,1.1s
YSS pmax pmax
comp=Z,100nm,2.9s
YSS MLR MLR
comp=N,800nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s
YSS MLR MLR
comp=E,500nm,19.0s
NNA Nana 66.15 132 *e*P **P 03 57 55.9 -0.6**
comp=E,102nm,1.1s
NNA Nana 66.15 132 *i* P **P 03 57 57.3 +0.8**
ARCES ARCESS Array B 67.94 12 *e*P **P 03 58 05.8 -1.4**
ARCES ARCESS Array B 67.94 12 P **P 03 58 06.2 -1.0**
comp=E,49nm,1.2s,baz=330,slow=7.1,SNR=21
ARCES LR LR 04 26 35.0
comp=E,3μm,21.2s,baz=330,slow=35
KEV Kevo 67.97 11 *e*P **P 03 58 05.7 -1.7**
comp=E,98nm,1.3s
KEV LR LR
comp=Z,3μm,18.0s
KEV Kevo 67.97 11 *e*P **P 03 58 05.7 -1.7**
KEV pmax pmax
comp=Z,97nm,1.3s
KEV MLR MLR
comp=Z,3μm,18.0s
ERM Erimo 68.20 307 *e*P **P 03 58 09.9 +0.7**
comp=Z,78nm,1.0s
ERM Erimo 68.20 307 *d e*P **P 03 58 09.7 +0.5**
ERM pmax pmax
comp=Z,32nm,1.4s
ROSA Rosais 68.32 57 PFAKE 03 58 20.0 +10
ROSA LR LR
comp=Z,3μm,20.0s
TBI Tubuai 68.44 208 *e*S **S 04 07 09.7 -3.0**
comp=Z,2μm,29.8s
TBI *e*LQ LQ 04 16 00.9
comp=Z,3μm,32.2s
TBI *e*LR LR 04 18 48.4
comp=Z,2μm,29.2s,baz=18
NRIK Noril'sk 68.81 349 P **P 03 58 11.9 -0.7**
comp=Z,11nm,0.5s,baz=23,slow=4.2,SNR=16
NRIK LR LR 04 32 45.9
comp=Z,2μm,18.2s,baz=24,slow=40
PTGA Pitinga 68.81 110 *e*P **P 03 58 12.3 -1.2**
comp=Z,116nm,1.2s
PTGA LR LR
comp=Z,2μm,20.0s
PTGA Pitinga 68.81 110 *e*P **P 03 58 13.2 -0.2**
ZEA Zeya 69.59 324 *e*P **P 03 58 17.4 -0.3**
ZEA *e*S **S 04 07 32.0 +6.1**
ZEA pmax pmax
comp=Z,600nm,3.0s
ZEA pmax pmax
comp=E,96nm,1.8s
ZEA pmax pmax
comp=Z,220nm,1.8s
ZEA smax smax
comp=N,1μm,12.0s
ZEA MLR MLR
comp=Z,2μm,16.0s
ZEA MLR MLR
comp=E,1μm,14.0s
ZEA MLR MLR
comp=N,1μm,16.0s
TEY Ternei 70.28 313‖ *e*P **P 03 58 22.3 +0.2**
TEY *e* 03 58 25.1

TEY					pmax	pmax		
	comp=E,10.0nm,1.9s							
TEY					pmax	pmax		
	comp=Z,10.0nm,1.5s							
TEY					pmax	pmax		
	comp=Z,200nm,3.0s							
KLR	**Kul'dur**	**70.31**	**318**	*de*P		**P**	**03 58 22.4**	**+0.2**
KLR					pmax	pmax		
	comp=Z,19nm,1.4s							
CMLA	**Cha da Macela**	**70.62**	**57**	PFAKE			03 58 40.0	+16
CMLA					LR	LR		
	comp=Z,3μm,21.0s							
LVZ	**Lovozero**	**70.76**	**9**	*e*P		**P**	**03 58 23.7**	**-1.0**
	comp=Z,95nm,1.0s							
LVZ					LR	LR		
	comp=Z,4μm,20.0s							
LVZ	**Lovozero**	**70.76**	**9**	*ce*P		**P**	**03 58 23.7**	**-1.0**
LVZ					pmax	pmax		
	comp=Z,116nm,1.3s							
APA	**Apatity**	**70.91**	**10⇓**	*i*P		**P**	**03 58 24.3**	**-1.2**
APA					pmax	pmax		
	comp=Z,18nm,0.9s							
APA					MLR	MLR		
	comp=Z,4μm,18.0s							
ESK	**Eskdalemuir**	**71.26**	**32**	PFAKE			03 58 40.0	+12
ESK					LR	LR		
	comp=Z,4μm,21.0s							
DSB	**Dublin**	**71.34**	**35**	PFAKE			03 58 40.0	+12
DSB					LR	LR		
	comp=Z,4μm,20.0s							
NB2	**NORSAR Subarra**	**71.98**	**22**	P		**P**	**03 58 31.3**	**-0.9**
	comp=Z,334nm,2.0s,baz=322,slow=6.5							
NB2	**NORSAR Subarra**	**71.98**	**22**	P		**P**	**03 58 31.3**	**-0.9**
	baz=322,slow=6.5							
NOA	**NORSAR Array B**	**71.98**	**22**	P		**P**	**03 58 31.4**	**-0.9**
	comp=Z,9.0nm,0.9s,baz=324,slow=6.0,SNR=14							
NOA					LR	LR	04 29 50.5	
	comp=Z,2μm,18.5s,baz=325,slow=36							
KONO	**Kongsberg**	**72.61**	**24**	*e*P		**P**	**03 58 35.1**	**-0.8**
	comp=Z,236nm,1.7s							
KONO	**Kongsberg**	**72.61**	**24⇑**	*e*P		**P**	**03 58 36.2**	**+0.3**
KONO					pmax	pmax		
	comp=Z,197nm,2.5s							
USRK	**Ussuriysk Ar.**	**73.38**	**314**	P		**P**	**03 58 40.8**	**0.0**
	comp=Z,15nm,0.9s,baz=38,slow=4.9,SNR=23							
USRK					LR	LR	04 28 37.3	
	comp=Z,733nm,21.0s,baz=34,slow=34							
HFS	**Hagfors**	**73.44**	**22**	P		**P**	**03 58 40.6**	**-0.2**
	comp=Z,22nm,0.8s,baz=327,slow=2.5,SNR=17							
VLA	**Vladivostok**	**74.13**	**313⇑**	*e*P		**P**	**03 58 46.2**	**+1.0**
VLA					pmax	pmax		
	comp=Z,76nm,1.0s							
MDJ	**Mudanjiang**	**74.41**	**316**	P		**P**	**03 58 45.5**	**-1.3**
MDJ				pP		sP	03 58 49.1	-1.7
MDJ				sP		pP	03 58 50.5	+0.8
MDJ				PP		**PP**	**04 01 30.6**	**-1.8**
MDJ				S		**S**	**04 08 21.5**	**-0.1**
MDJ				sS		sS	04 08 28.8	+2.5
MDJ				SS		**SS**	**04 13 08.3**	**+1.5**
MDJ				pmax		pmax		
	comp=Z,8.0nm,0.4s							
MDJ				pmax		pmax		
	comp=Z,470nm,4.8s							
MDJ				LR		LR		
	comp=Z,1μm,19.1s							
MDJ				LR		LR		
	comp=Z,1μm,20.7s							
MDJ				LR		LR		
	comp=Z,2μm,18.3s							
MDJ	**Mudanjiang**	**74.41**	**316**	PFAKE			03 59 00.0	+13
MDJ				LR		LR		
	comp=Z,1μm,19.0s							
MJAR	**Matsushiro Arr**	**74.54**	**305**	P		**P**	**03 58 49.2**	**+1.4**
	comp=Z,19nm,0.9s,baz=34,slow=4.4,SNR=16							
MJAR				LR		LR	04 26 51.5	
	comp=Z,412nm,21.1s,baz=55,slow=32							
MAJO	**Matsushiro**	**74.54**	**305**	*e*P		**P**	**03 58 47.9**	**+0.2**
	comp=Z,65nm,0.9s							
MAJO	**Matsushiro**	**74.54**	**305**	*d i*P		**P**	**03 58 48.5**	**+0.8**
MAJO					pmax	pmax		
	comp=Z,40nm,0.8s							
LPAZ	**La Paz**	**74.69**	**127**	*e*P		**P**	**03 58 48.4**	**-1.0**
	comp=Z,29nm,0.9s							
LPAZ	**La Paz**	**74.69**	**127**	*e*P		**P**	**03 58 48.4**	**-1.0**
LPAZ					pmax	pmax		
	comp=Z,29nm,0.9s							
LPAZ	**La Paz**	**74.69**	**127**	P		**P**	**03 58 48.9**	**-0.5**
	comp=Z,20nm,0.8s,baz=344,slow=5.4,SNR=55							
LPAZ	**La Paz**	**74.69**	**127**	*e*P		**P**	**03 58 48.9**	**-0.5**
TMCR	**Tamitsa**	**74.75**	**9**	*e*P		**P**	**03 58 47.2**	**-1.2**
TMCR				*e*S		**S**	**04 08 24.4**	**-0.3**
TMCR					pmax	pmax		
	comp=Z,55nm,0.9s							
MUD	**Monsted U'grnd**	**75.02**	**26**	*i*P		**P**	**03 58 49.8**	**-0.3**
MUD	**Monsted U'grnd**	**75.02**	**26**	*i*P		**P**	**03 58 49.8**	**-0.3**
FINES	**FINESS Array B**	**75.33**	**16**	P		**P**	**03 58 51.1**	**-0.7**
	comp=Z,13nm,0.7s,baz=347,slow=5.9,SNR=23							
FINES					LR	LR	04 32 02.4	
	comp=Z,5μm,19.9s,baz=344,slow=36							
HIA	**Hailar**	**76.07**	**324**	PFAKE			03 59 10.0	+14
HIA					LR	LR		
	comp=Z,3μm,21.0s							
CIT	**Chita**	**76.65**	**329**	*e*P		**P**	**03 59 00.0**	**+0.4**
CIT				*e*			03 59 17.2	
GO01	**Chusmiza**	**76.67**	**130**	*e*P		**P**	**03 59 00.2**	**-0.3**
	comp=Z,80nm,1.5s							
CN2	**Changchun**	**77.16**	**317**	*e*P		**P**	**03 59 03.0**	**+0.5**
CN2				*e*S		**S**	**04 08 43.5**	**-8.4**
CN2				SS		**SS**	**04 13 48.8**	**+0.4**
CN2				LR		LR		
	comp=Z,1μm,25.0s							
CN2				LR		LR		
	comp=Z,1μm,25.0s							
CN2				LR		LR		
	comp=Z,600nm,18.0s							
UCC	**Uccle**	**77.67**	**32**	PFAKE			03 59 20.0	+15
UCC					LR	LR		
	comp=Z,4μm,19.0s							
RGN	**Rugen**	**77.95**	**25**	PFAKE			03 59 20.0	+13
RGN					LR	LR		
	comp=Z,4μm,18.0s							
PRGR	**Permogore**	**78.02**	**6**	*e*P		P	03 59 00.6	-6.4
PRGR					pmax	pmax		
	comp=Z,69nm,0.9s							
KLMR	**Klimovskoe**	**78.14**	**10⇓**	*i*P		**P**	**03 59 06.9**	**-0.7**
KLMR					pmax	pmax		
	comp=Z,111nm,1.1s							
PGAV	**Gavieira, Arco**	**78.15**	**45**	*e*S		**S**	**04 09 07.3**	**+4.3**
PGAV				*e*SS		**SS**	**04 14 08.5**	**+4.8**
PGAV	**Gavieira, Arco**	**78.15**	**45**	*e*LR		LR	04 24 35.6	
	comp=Z,2μm,20.0s							
VSU	**Vasula**	**78.19**	**17⇑**	*e*P		**P**	**03 59 07.0**	**-0.9**
VSU					pmax	pmax		
	comp=Z,128nm,1.3s							
VSU	**Vasula**	**78.19**	**17**	*e*P		**P**	**03 59 07.2**	**-0.7**
VSU					IAmb	IAmb	03 59 13.9	
	comp=Z,87nm,0.9s							
DOU	**Dourbes**	**78.31**	**32**	⇑P		**P**	**03 59 08.2**	**-0.6**
	comp=Z,29nm,2.1s							
BCLA	**Clavier**	**78.35**	**32**	⇑P		**P**	**03 59 08.3**	**-0.7**
	comp=Z,30nm,1.5s							
PATS	**Pohnpei**	**78.40**	**269**	PFAKE			03 59 20.0	+10
PATS					LR	LR		
	comp=Z,2μm,20.0s							
PCAB	**Cabril**	**78.46**	**45**	*e*P		**P**	**03 59 08.7**	**-1.2**
	comp=Z,58nm,1.3s							
MEM	**Membach**	**78.48**	**31**	⇓P		**P**	**03 59 09.7**	**-0.1**
	comp=Z,19nm,1.7s							
POLO	**Lamas de Olo**	**78.82**	**45**	*e*P		**P**	**03 59 11.9**	**0.0**
	comp=Z,45nm,1.4s							
POLO				*e*S		**S**	**04 09 10.5**	**+0.3**
POLO				*e*SS		**SS**	**04 14 19.8**	**+6.1**
CLDB	**Colider**	**78.83**	**114**	*e*P		**P**	**03 59 11.6**	**-0.5**
CLF	**Chambon-Foret**	**78.91**	**35**	PFAKE			03 59 20.0	+7.9
CLF					LR	LR		
	comp=Z,4μm,18.0s							
PVRL	**Vila Real**	**78.93**	**45**	*e*P		**P**	**03 59 13.6**	**+1.1**
	comp=Z,82nm,1.3s							
PMOZ	**Porto Moniz, M**	**79.01**	**56**	*e*S		**S**	**04 09 20.3**	**+7.8**
PMOZ				*e*SS		**SS**	**04 14 17.9**	**+0.8**
PMOZ	**Porto Moniz, M**	**79.01**	**56**	*e*LR		LR	04 24 52.6	
	comp=Z,2μm,22.0s							
PBRG	**Braganca**	**79.08**	**44**	*e*P		**P**	**03 59 14.1**	**+0.8**
	comp=Z,50nm,1.6s							
LVC	**Limon Verde**	**79.14**	**132**	*e*P		**P**	**03 59 13.8**	**-0.3**
	comp=Z,58nm,1.2s							
LVC	**Limon Verde**	**79.14**	**132**	*e*P		**P**	**03 59 15.3**	**+1.2**
WLF	**Walferdange**	**79.28**	**32**	*e*P		**P**	**03 59 12.8**	**-1.4**
	comp=Z,295nm,1.5s							
WLF					LR	LR		
	comp=Z,17μm,20.0s							
WLF	**Walferdange**	**79.28**	**32**	*e*P		**P**	**03 59 12.8**	**-1.4**
WLF					pmax	pmax		
	comp=Z,295nm,1.5s							
WLF					MLR	MLR		
	comp=Z,17μm,20.0s							
WLF	**Walferdange**	**79.28**	**32**	⇑P		**P**	**03 59 13.2**	**-1.0**
	comp=Z,29nm,1.6s							
COI	**Coimbra**	**79.29**	**46**	*e*P		**P**	**03 59 15.7**	**+1.3**
	comp=Z,99nm,1.5s							
COI				*e*S		**S**	**04 09 15.0**	**0.0**
COI				*e*SS		**SS**	**04 14 26.4**	**+5.7**
COI	**Coimbra**	**79.29**	**46**	PFAKE			03 59 20.0	+5.6
COI					LR	LR		
	comp=Z,3μm,21.0s							
PCAS	**Casmilo, Conde**	**79.35**	**46**	*e*P		**P**	**03 59 14.3**	**-0.5**
PCAS	**Casmilo, Conde**	**79.35**	**46**	*e*S		**S**	**04 09 16.7**	**+1.0**
PCAS				*e*SS		**SS**	**04 14 27.8**	**+6.2**
MVO	**Moncorvo**	**79.38**	**45**	*e*P		**P**	**03 59 15.9**	**+0.9**
	comp=Z,55nm,1.6s							
MVO	**Moncorvo**	**79.38**	**45**	*e*S		**S**	**04 09 18.0**	**+1.9**
MVO				*e*SS		**SS**	**04 14 26.7**	**+4.6**
MVO	**Moncorvo**	**79.38**	**45**	*e*LR		LR	04 25 19.2	
	comp=Z,3μm,18.0s							
SNY	**Shenyang**	**79.52**	**317**	⇑P		**P**	**03 59 11.8**	**-3.8**
SNY				S		**S**	**04 09 18.9**	**+1.6**
SNY					pmax	pmax		
	comp=Z,71nm,1.0s							
SNY					pmax	pmax		
	comp=Z,1μm,3.5s							
SNY					LR	LR		
	comp=Z,1μm,21.2s							
SNY					LR	LR		
	comp=Z,2μm,16.7s							
SNY					LR	LR		
	comp=Z,2μm,18.4s							
MTE	**Manteigas**	**79.64**	**45**	*e*P		**P**	**03 59 16.1**	**-0.3**
	comp=Z,64nm,1.6s							
MTE	**Manteigas**	**79.64**	**45**	*e*S		**S**	**04 09 20.5**	**+1.7**
MTE				*e*SS		**SS**	**04 14 33.2**	**+7.3**
MTE	**Manteigas**	**79.64**	**45**	*e*LR		LR	04 25 17.4	
	comp=Z,2μm,18.0s							
MTE	**Manteigas**	**79.64**	**45**	PFAKE			03 59 30.0	+14
MTE					LR	LR		
	comp=Z,2μm,22.0s							
PMAFR	**Mafra**	**79.67**	**47**	*e*P		**P**	**03 59 15.5**	**-1.0**
	comp=Z,199nm,1.9s							
PMAFR	**Mafra**	**79.67**	**47**	*e*S		**S**	**04 09 20.8**	**+1.7**
PMAFR				*e*SS		**SS**	**04 14 32.0**	**+5.5**
PTOM	**Tomar**	**79.70**	**46**	*e*P		**P**	**03 59 16.3**	**-0.3**
	comp=Z,79nm,1.5s							
IRK	**Irkutsk**	**79.90**	**334**	*e*P		**P**	**03 59 17.4**	**-0.1**
IRK					pmax	pmax		
	comp=Z,378nm,3.9s							
PCBR	**Castelo Branco**	**80.06**	**46**	*e*P		**P**	**03 59 17.9**	**-0.7**
	comp=Z,64nm,1.5s							
KSRS	**Korea Array**	**80.17**	**311**	P		**P**	**03 59 19.9**	**+0.7**
	comp=Z,14nm,0.9s,baz=55,slow=5.3,SNR=30							
PMTG	**Montargil**	**80.19**	**47**	*e*P		**P**	**03 59 18.6**	**-0.7**
	comp=Z,47nm,1.6s							
PMTG	**Montargil**	**80.19**	**47**	*e*S		**S**	**04 09 25.2**	**+0.7**
PMTG				*e*SS		**SS**	**04 14 39.3**	**+5.2**
PABE	**Paberze**	**80.21**	**19**	*e*P		**P**	**03 59 17.8**	**-1.2**
PABE				IAmb		IAmb	03 59 25.1	
	comp=Z,90nm,1.1s							
PMRV	**Marv??o**	**80.40**	**46**	*e*P		**P**	**03 59 19.8**	**-0.7**
	comp=Z,79nm,1.3s							
PMRV	**Marv??o**	**80.40**	**46**	*e*S		**S**	**04 09 31.7**	**+4.9**
PMRV	**Marv??o**	**80.40**	**46**	*e*LR		LR	04 25 53.9	
	comp=Z,2μm,20.0s							
CLL	**Collm**	**80.53**	**27**	PFAKE			03 59 30.0	+9.1
CLL					LR	LR		
	comp=Z,4μm,18.0s							
CLL	**Collm**	**80.53**	**27⇑**	*i*P		**P**	**03 59 19.8**	**-1.1**
CLL				*e*S		**S**	**04 09 29.0**	**+1.3**
CLL					pmax	pmax		
	comp=Z,41nm,1.6s							
CLL					MLR	MLR		
	comp=Z,4μm,20.3s							
CLL	**Collm**	**80.53**	**27⇑**	*i*P		**P**	**03 59 19.8**	**-1.1**
	comp=Z,41nm,1.6s							
CLL				*i*			03 59 34.8	
CLL				*e*			03 59 46.0	
CLL				*e*S		**S**	**04 09 29.0**	**+1.3**
CLL				*e*PS			04 10 17.0	
CLL				*e*SS		**SS**	**04 14 42.0**	**+3.5**
CLL				*e*SSS		SSS	04 18 06.0	
CLL				*e*			04 19 00.0	
CLL				LmV			04 34 00.0	
	comp=Z,4μm,20.3s							
IZAR	**Zarasai**	**80.55**	**18**	*e*P		**P**	**03 59 20.1**	**-0.8**
IZAR				IAmb		IAmb	03 59 27.2	
	comp=Z,10nm,0.7s							
TLY	**Talaya**	**80.59**	**334**	*e*P		**P**	**03 59 21.2**	**0.0**
	comp=Z,311nm,2.0s							
TLY					LR	LR		
	comp=Z,2μm,19.0s							
TLY	**Talaya**	**80.59**	**334**	*de*P		**P**	**03 59 22.0**	**+0.8**
ISAL	**Salakas**	**80.68**	**18**	*e*P		**P**	**03 59 20.9**	**-0.7**
ISAL				IAmb		IAmb	03 59 28.0	
	comp=Z,16nm,0.8s							
PNCL	**Nicolau / Gran**	**80.68**	**48**	*e*P		**P**	**03 59 20.9**	**-1.1**
	comp=Z,82nm,1.7s							
PNCL	**Nicolau / Gran**	**80.68**	**48**	*e*S		**S**	**04 09 33.6**	**+3.9**
PNCL				*e*SS		**SS**	**04 14 47.6**	**+6.0**
GO02	**Mina Guanaco**	**80.76**	**134**	*e*P		**P**	**03 59 22.5**	**-0.3**
	comp=Z,93nm,1.0s							
ECH	**Echery**	**80.83**	**32**	PFAKE			03 59 30.0	+7.4
ECH					LR	LR		
	comp=Z,3μm,18.0s							
IIGN	**Ignalina**	**80.90**	**18**	*e*P		**P**	**03 59 22.1**	**-0.7**
IIGN				IAmb		IAmb	03 59 29.1	
	comp=Z,13nm,0.8s							
PTEO	**Sao Teotonio**	**80.97**	**48**	*e*P		**P**	**03 59 24.6**	**+1.1**
	comp=Z,135nm,1.7s							
MESJ	**Messejana**	**81.05**	**48**	*e*P		**P**	**03 59 22.5**	**-1.4**
MESJ				*e*S		**S**	**04 09 31.9**	**-1.7**
MESJ				AMS		AMS	04 35 56.4	
	comp=Z,2μm,15.5s							
MESJ	**Messejana**	**81.05**	**48**	*e*P		**P**	**03 59 23.4**	**-0.5**
	comp=Z,57nm,1.7s							
MESJ	**Messejana**	**81.05**	**48**	*e*P		**P**	**03 59 22.5**	**-1.4**
MESJ				*e*S		**S**	**04 09 31.8**	**-1.7**
IDID	**Didziasalis**	**81.06**	**18**	*e*P		**P**	**03 59 22.8**	**-0.8**
IDID				IAmb		IAmb	03 59 29.7	
	comp=Z,20nm,1.2s							
MORF	**Marmelete**	**81.17**	**48**	*e*P		**P**	**03 59 23.2**	**-1.5**
MORF				*e*S		**S**	**04 09 33.2**	**-1.8**
MORF				AMS		AMS	04 39 15.9	
	comp=Z,1μm,15.8s							
MORF	**Marmelete**	**81.17**	**48**	*e*P		**P**	**03 59 24.8**	**+0.1**
	comp=Z,114nm,1.4s							
MORF	**Marmelete**	**81.17**	**48**	*e*S		**S**	**04 09 34.4**	**-0.6**
MORF				*e*SS		**SS**	**04 14 54.7**	**+5.6**
MORF	**Marmelete**	**81.17**	**48**	*e*P		**P**	**03 59 23.2**	**-1.5**
MORF				*e*S		**S**	**04 09 33.2**	**-1.8**
PFVI	**Vila Bisbo**	**81.19**	**48**	*e*S		**S**	**04 09 35.8**	**+0.7**
PFVI				*e*SS		**SS**	**04 14 55.0**	**+5.7**
PFVI	**Vila Bisbo**	**81.19**	**48**	PFAKE			03 59 30.0	+5.3
PFVI					LR	LR		
	comp=Z,2μm,22.0s							
STU	**Stuttgart**	**81.20**	**31**	PFAKE			03 59 30.0	+5.5
STU					LR	LR		
	comp=Z,3μm,21.0s							
BFO	**Black Forest**	**81.21**	**31**	*e*P		**P**	**03 59 23.6**	**-1.0**
	comp=Z,41nm,1.5s							
BFO					LR	LR		
	comp=Z,4μm,18.0s							
BFO	**Black Forest**	**81.21**	**31**	*i*P		**P**	**03 59 25.2**	**+0.5**
BRG	**Berggiesshubel**	**81.22**	**27**	*i*P		**P**	**03 59 23.8**	**-0.8**
	comp=Z,46nm,1.7s							
BRG				*i* PCP		**PcP**	**03 59 29.4**	**-1.5**
	comp=Z,12nm,0.8s							
BRG	**Berggiesshubel**	**81.22**	**27**	S		**S**	**04 09 38.0**	**+3.0**
BRG				SS		**SS**	**04 14 52.0**	**+3.2**
BRG	**Berggiesshubel**	**81.22**	**27**	*i*P		**P**	**03 59 23.8**	**-0.8**
BRG				*i*			03 59 29.4	
BRG				S		**S**	**04 09 38.0**	**+3.0**
BRG				SS		**SS**	**04 14 52.0**	**+3.2**
BRG				pmax		pmax		
	comp=Z,46nm,1.7s							
BRG				pmax		pmax		
	comp=Z,13nm,0.8s							
BRG				MLR		MLR		
	comp=N,3μm,17.4s							
BRG				MLR		MLR		
	comp=E,2μm,19.6s							
BRG				MLR		MLR		
	comp=Z,4μm,18.0s							
GRA1	**Grafenberg Arr**	**81.23**	**29**	PFAKE			03 59 30.0	+5.3
GRA1					LR	LR		
	comp=Z,4μm,18.0s							
GRFO	**Grafenberg**	**81.23**	**29**	*e*P		**P**	**03 59 24.3**	**-0.3**
	comp=Z,47nm,1.4s							
GRFO					LR	LR		
	comp=Z,4μm,18.0s							
GRFO	**Grafenberg**	**81.23**	**29**	*e*P		**P**	**03 59 24.3**	**-0.3**
GRFO					pmax	pmax		
	comp=Z,47nm,1.4s							
GRFO					MLR	MLR		
	comp=Z,4μm,18.0s							
NKC	**Novy Kostel**	**81.23**	**28**	*e*P		**P**	**03 59 24.4**	**-0.3**
NKC				*e*			03 59 30.1	
NKC				*e*			04 09 36.1	
NKC					MLR	MLR		
	comp=Z,2μm,18.8s							
NKC	**Novy Kostel**	**81.23**	**28**	*e*P		**P**	**03 59 24.4**	**-0.3**
NKC				*ex*		x	03 59 30.1	
NKC				*e*SKS		**S**	**04 09 36.1**	**+1.0**
NKC				AMS		AMS	04 34 50.0	
	comp=Z,2μm,18.8s							
TJN	**Taejon**	**81.23**	**311⇓**	*e*P		**P**	**03 59 23.4**	**-1.5**
PCVE	**Castro Verde**	**81.30**	**48**	*e*P		**P**	**03 59 24.5**	**-0.7**
	comp=Z,54nm,1.7s							
PCVE	**Castro Verde**	**81.30**	**48**	*e*S		**S**	**04 09 36.8**	**+0.6**
KIRV	**Kirov**	**81.34**	**5**	P		**P**	**03 59 25.5**	**+0.5**
	comp=Z,36nm,0.8s,baz=348,slow=1.8,SNR=7.5							
JNU	**Nakatsue**	**81.34**	**306**	*e*P		**P**	**03 59 25.5**	**-0.1**
	comp=Z,81nm,1.7s							
SUW	**Suwalki**	**81.34**	**20**	*e*P		**P**	**03 59 24.9**	**-0.2**
SUW	**Suwalki**	**81.34**	**20**	PFAKE			03 59 40.0	+15
SUW					LR	LR		
	comp=Z,3μm,19.0s							
SUW	**Suwalki**	**81.34**	**20**	*e*P		**P**	**03 59 25.0**	**-0.2**
NACGM	**Naroch**	**81.44**	**18**	*e*P		**P**	**03 59 24.0**	**-1.7**
NACGM				*e*S		**S**	**04 09 40.0**	**+2.9**
NACGM				*e*SS		SS	04 15 06.0	+14
NACGM				*e*SSS		SSS	04 19 16.0	
NACGM				*e*LQ		LQ	04 26 36.0	
NACGM				*e*LR		LR	04 30 32.0	
NACGM				LRM		MLR	04 36 00.0	
	comp=Z,8.4nm,17.0s							
MOY	**Mondy**	**81.48**	**335**	*e*P		**P**	**03 59 26.4**	**+0.3**
MOY					pmax	pmax		
	comp=Z,308nm,2.7s							
PBDV	**Barranco-do-Ve**	**81.63**	**48**	*e*P		**P**	**03 59 27.4**	**+0.3**
	comp=Z,47nm,1.4s							
PBDV	**Barranco-do-Ve**	**81.63**	**48**	*e*S		**S**	**04 09 41.3**	**+1.6**
PBDV				*e*SS		**SS**	**04 15 01.6**	**+5.8**
PVAQ	**Vaqueiros**	**81.64**	**48**	*e*P		**P**	**03 59 28.0**	**+0.9**
	comp=Z,56nm,1.3s							
PVAQ	**Vaqueiros**	**81.64**	**48**	*i* S		**S**	**04 09 40.9**	**+1.2**
PVAQ				*e*S		**S**	**04 09 40.9**	**+1.2**
PVAQ				*e*SS		**SS**	**04 15 01.4**	**+5.6**
PVAQ	**Vaqueiros**	**81.64**	**48**	*e*LR		LR	04 26 20.5	
	comp=Z,1μm,18.0s							
PVAQ	**Vaqueiros**	**81.64**	**48**	PFAKE			03 59 40.0	+13
PVAQ					LR	LR		
	comp=Z,4μm,18.0s							
PVCC	**Panska Ves**	**81.73**	**27**	*e*P		**P**	**03 59 27.1**	**-0.2**
PVCC				*e*			03 59 31.7	
PVCC				*e*			04 09 42.0	
PVCC					MLR	MLR		
	comp=Z,3μm,18.9s							
PVCC	**Panska Ves**	**81.73**	**27**	*e*P		**P**	**03 59 27.1**	**-0.2**
PVCC				*ep*P		**PcP**	**03 59 31.7**	**-1.4**
PVCC				*e*SKS		**S**	**04 09 42.0**	**+1.8**
PVCC				AMS		AMS	04 35 10.0	
	comp=Z,3μm,18.9s							
ZAK	**Zakamensk**	**81.80**	**333**	*e*P		**P**	**03 59 27.6**	**-0.2**
ZAK					pmax	pmax		
	comp=Z,38nm,1.6s							
PAB	**San Pablo**	**81.97**	**44**	*e*P		**P**	**03 59 27.8**	**-1.1**
	comp=Z,39nm,1.4s							
PAB					LR	LR		
	comp=Z,3μm,18.0s							
PAB	**San Pablo**	**81.97**	**44**	*e*P		**P**	**03 59 27.8**	**-1.1**
PAB					pmax	pmax		
	comp=Z,39nm,1.4s							
PAB					MLR	MLR		
	comp=Z,3μm,18.0s							
ANA2	**Anatahan**	**82.00**	**285**	PFAKE			03 59 40.0	+11
ANA2					LR	LR		
	comp=Z,1μm,22.0s							
SSB	**Saint Sauveur**	**82.03**	**35**	PFAKE			03 59 40.0	+11
SSB					LR	LR		
	comp=Z,3μm,22.0s							
KSP	**Ksiaz**	**82.05**	**26**	*e*P		**P**	**03 59 29.1**	**+0.1**
KSP	**Ksiaz**	**82.05**	**26**	*e*P		**P**	**03 59 29.1**	**+0.1**
MICGM	**Minsk**	**82.07**	**18**	*e*		**P**	**03 59 29.0**	**0.0**
MNK	**Minsk**	**82.07**	**18**	*e*P		**P**	**03 59 29.0**	**0.0**
ESDC	**Sonseca Array**	**82.08**	**44**	P		**P**	**03 59 28.9**	**-0.5**
	comp=Z,7.0nm,0.9s,baz=309,slow=4.8,SNR=23							
ESDC					LR	LR	04 33 30.5	
	comp=Z,1μm,19.4s,baz=315,slow=34							
PRU	**Pruhonice**	**82.18**	**27**	*e*P		**P**	**03 59 29.6**	**-0.1**
PRU				*e*			03 59 33.5	
PRU				*e*			04 09 47.3	
PRU					MLR	MLR		
	comp=Z,4μm,16.1s							
PRU	**Pruhonice**	**82.18**	**27**	*e*P		**P**	**03 59 29.6**	**-0.1**
PRU				*ep*P		**sP**	**03 59 33.5**	**-0.1**
PRU				*e*SKS		**S**	**04 09 47.3**	**+2.5**
PRU				AMS		AMS	04 37 20.0	
	comp=Z,4μm,16.1s							
UPC	**Upice**	**82.24**	**26**	*e*P		**P**	**03 59 30.2**	**+0.2**
UPC				*e*			04 09 47.9	
UPC					MLR	MLR		
	comp=Z,5μm,18.0s							
UPC	**Upice**	**82.24**	**26**	*e*P		**P**	**03 59 30.2**	**+0.2**
UPC		

comp=Z,560nm,3.7s
DL2 LR LR
comp=Z,630nm,12.6s
DL2 LR LR
comp=Z,1μm,18.6s
DL2 LR LR
comp=Z,1μm,21.2s
SONM Songino Array 82.78 330 P **P 03 59 33.8 +0.8**
comp=Z,9.6nm,0.9s,baz=11,slow=5.2,SNR=22
SONM PP **PP 04 02 41.1 -1.2**
comp=Z,1.5nm,0.8s,baz=28,slow=6.5,SNR=3.0
SONM LR LR 04 36 32.4
comp=Z,3μm,20.2s,baz=28,slow=36
MOS Moscow 82.81 12 *e*P **P 03 59 31.3 -1.5**
MOS *e* 04 02 40.3
MOS *e*S **S 04 09 53.5 +2.5**
MOS pmax pmax
comp=Z,127nm,1.5s
MOS MLR MLR
comp=Z,4μm,19.0s
GERES GERESS Array B 82.84 28 P **P 03 59 32.3 -1.0**
comp=Z,2.0nm,0.8s,baz=320,slow=3.5,SNR=11
GERES PKKPbc **PKKPbc 04 17 53.8 -1.9**
comp=Z,0.8nm,0.7s,baz=151,slow=4.3,SNR=6.1
GERES LR LR 04 37 33.6
comp=Z,2μm,19.3s,baz=329,slow=37
RETA Reutte 82.86 31 *i* pP **P 03 59 33.8 +0.4**
comp=Z,22nm,1.1s
KRLC Kraliky 82.87 26 *e*P **P 03 59 34.2 +0.9**
KRLC *e* 03 59 37.6
KRLC Kraliky 82.87 26 *e*P **P 03 59 34.2 +0.9**
KRLC *e*pP **PcP 03 59 37.6 -0.6**
TREC Trest 83.09 27 *e*SKS **S 04 09 58.4 +4.1**
TREC AMS AMS 04 37 50.0
comp=Z,4μm,16.3s
TUE Stuetta 83.12 32 PFAKE 03 59 50.0 +15
TUE LR LR
comp=Z,4μm,18.0s
NVS Novosibirsk 83.13 346⇑*i*P **P 03 59 34.3 -0.2**
NVS *i* S **S 04 09 57.3 +3.0**
NVS pmax pmax
comp=Z,188nm,1.5s
NVS pmax pmax
comp=N,40nm,1.7s
NVS pmax pmax
comp=E,37nm,1.2s
NVS smax smax
comp=N,36nm,2.2s
NVS smax smax
comp=E,21nm,2.2s
BNI Bardonecchia 83.14 34 PFAKE 03 59 50.0 +15
BNI LR LR
comp=Z,4μm,20.0s
SFS San Fernando 83.16 47 PFAKE 03 59 50.0 +15
SFS LR LR
comp=Z,1μm,20.0s
FETA Feichten 83.23 31 *i* pP **P 03 59 36.2 +0.8**
comp=Z,29nm,1.1s,SNR=7.7
LCO Las Campanas 83.23 137 *e*P **P 03 59 35.5 -0.1**
comp=Z,63nm,1.2s
LCO Las Campanas 83.23 137 *e*P **P 03 59 36.7 +1.1**
OBN Obninsk 83.24 13 *e*P **P 03 59 34.5 -0.6**
comp=Z,186nm,1.4s
OBN LR LR
comp=Z,6μm,18.0s
OBN Obninsk 83.24 13*c i*P **P 03 59 34.2 -0.8**
OBN *i* 03 59 38.6
OBN *i* 04 02 46.1
OBN *i* S **S 04 09 51.9 -3.5**
OBN pmax pmax
comp=Z,77nm,1.0s
OBN MLR MLR
comp=Z,5μm,18.0s
OBN Obninsk 83.24 13 P **P 03 59 34.3 -0.8**
comp=Z,5.1nm,0.4s,baz=75,slow=1.7,SNR=13
SQTA Sankt Quirin 83.25 30 *i* pP **P 03 59 36.0 +0.5**
comp=Z,38nm,1.6s,SNR=8.4
WATA Walderalm 83.30 30 *i* P **P 03 59 37.1 +1.4**
comp=Z,20nm,1.0s
SMTB Santa Maria do 83.33 107 *e*P **P 03 59 36.1 0.0**
FUORN Ofenpass-Fuorn 83.37 31 PFAKE 03 59 50.0 +14
FUORN LR LR
comp=Z,3μm,18.0s
MORC Moravsky Berou 83.38 26 *e*P **P 03 59 34.5 -1.5**
comp=Z,11nm,1.1s
MORC LR LR
comp=Z,5μm,19.0s
MORC Moravsky Berou 83.38 26⇓*i*P **P 03 59 38.6 +2.6**
MORC Moravsky Berou 83.38 26 ⇓P **P 03 59 38.6 +2.6**
MORC Moravsky Berou 83.38 26 *e*P **P 03 59 34.5 -1.5**
WTTA Wattenberg 83.38 30 *i* pP **P 03 59 36.7 +0.5**
comp=Z,40nm,1.5s,SNR=10
SVE Sverdlovsk 83.40 359 *e*P **P 03 59 34.9 -1.0**
SVE *e*S **S 04 09 51.7 -5.4**
SVE pmax pmax
comp=Z,70nm,1.8s
SVE MLR MLR
comp=Z,2μm,16.0s
VRAC Vranov 83.46 26⇓*i*P **P 03 59 38.8 +2.4**
VRAC Vranov 83.46 26 ⇓P **P 03 59 38.8 +2.4**
VRAC Vranov 83.46 26 *e*P **P 03 59 35.2 -1.2**
KRUC Moravsky 83.60 27 *e*P **P 03 59 35.3 -1.8**
ZALV Zalesovo Beam 83.67 345 P **P 03 59 36.7 -0.6**
comp=Z,8.2nm,0.7s,baz=5.8,slow=4.3,SNR=18
ZALV LR LR 04 41 45.1
comp=Z,1μm,18.7s,baz=20,slow=39
OJC Ojcow 83.72 24 *e*P **P 03 59 38.2 +0.5**
OJC Ojcow 83.72 24 *e*P **P 03 59 38.2 +0.5**
ARU Arti 83.81 0 *e*P **P 03 59 36.9 -1.1**
comp=Z,48nm,0.9s
ARU LR LR
comp=Z,2μm,18.0s
ARU Arti 83.81 0*c i*P **P 03 59 36.9 -1.1**
ARU S **S 04 09 57.6 -3.6**
ARU pmax pmax
comp=Z,47nm,1.0s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 83.81 0 P **P 03 59 36.6 -1.4**
comp=Z,7.2nm,0.6s,baz=26,slow=3.8,SNR=8.8
MOA Molln 83.88 28 *i* pP **P 03 59 38.8 +0.2**
comp=Z,18nm,1.5s
ABTA Abfaltersbach 84.14 30 *i* pP **P 03 59 40.4 +0.3**
comp=Z,58nm,1.3s,SNR=13
KBA Koelnbreinsper 84.19 29 *i* pP **P 03 59 40.6 +0.2**
comp=Z,45nm,1.2s,SNR=7.5
JAVC Velka Javorina 84.21 26 *e*P **P 03 59 40.5 +0.2**
GUMO Guam 84.37 283 LR LR 04 31 30.8
comp=Z,419nm,18.9s,baz=54,slow=32
CONA Conrad Observa 84.39 27 *i* pP **P 03 59 41.4 +0.2**
comp=Z,22nm,1.3s
MODS Modra-Piesok 84.50 26 *e*P **P 03 59 41.5 -0.2**
MODS pmax pmax
comp=Z,85nm,1.4s
MODS Modra-Piesok 84.50 26 *e*P **P 03 59 41.5 -0.2**
RTC Rabat Centre 84.55 50 PFAKE 03 59 50.0 +7.9
RTC LR LR
comp=Z,6μm,22.0s
LANS Liptovska Anna 84.55 25 *e*P **P 03 59 43.3 +1.3**
LANS Liptovska Anna 84.55 25 *e*P **P 03 59 43.3 +1.3**
NIE Niedzica 84.58 24 *e*P **P 03 59 42.7 +0.6**
NIE Niedzica 84.58 24 *e*P **P 03 59 42.7 +0.6**
ZST Bratislava 84.59 27 *e*P **P 03 59 41.5 -0.6**
ZST Bratislava 84.59 27 *e*P **P 03 59 41.5 -0.6**
BJT Baijiatuau 84.65 320 PFAKE 03 59 50.0 +7.4
BJT LR LR
comp=Z,1μm,20.0s
MYKA Terra Mystica 84.67 29 *i* pP **P 03 59 42.2 -0.5**
comp=Z,26nm,1.5s
SOP Sopron 84.84 27 *e*P **P 03 59 42.1 -1.3**
ARSA Arzberg 84.84 28 *i* pP **P 03 59 43.6 +0.2**
comp=Z,17nm,1.2s,SNR=6.1
VYHS Vyhne 84.91 25 *e*P **P 03 59 43.4 -0.4**
VYHS pmax pmax
comp=Z,26nm,1.5s
VYHS Vyhne 84.91 25 *e*P **P 03 59 43.4 -0.4**
OBKA Obir 85.11 29 *i* pP **P 03 59 44.6 -0.3**
comp=Z,68nm,0.9s,SNR=11
KWP Kalwaria Pacla 85.12 23 *e*P **P 03 59 44.7 -0.1**
KWP Kalwaria Pacla 85.12 23 PFAKE 03 59 50.0 +5.2
KWP LR LR
comp=Z,35μm,18.0s
KWP Kalwaria Pacla 85.12 23 *e*P **P 03 59 44.7 -0.1**
SOKA Soboth 85.15 29 *i* PcP **P 03 59 44.8 -0.3**
comp=Z,58nm,1.1s,SNR=17
CART Cartagena 85.19 44 PFAKE 04 00 00.0 +15
CART LR LR
comp=Z,2μm,18.0s
PERS Pernice 85.22 29 *i* P **P 03 59 44.5 -0.9**
SRO Srobarova 85.33 26 *e*P **P 03 59 46.5 +0.7**
SRO Srobarova 85.33 26 *e*P **P 03 59 46.5 +0.7**
LVV L'vov 85.34 22 *e*P **P 03 59 45.0 -0.8**
LVV *e* 04 03 06.3
LVV *e*S **S 04 10 12.0 -4.7**
LVV *e* 04 11 08.5
LVV pmax pmax
comp=Z,530nm,3.3s
LVV MLR MLR
comp=N,3μm,17.0s
LVV MLR MLR
comp=Z,4μm,17.0s
LVV MLR MLR
comp=E,700nm,18.0s
SRO2 Moca 85.40 26 *e*P **P 03 59 46.4 +0.2**
SRO2 Moca 85.40 26 *e*P **P 03 59 46.4 +0.2**
VLC Villacollemand 85.43 33 PFAKE 04 00 00.0 +14
VLC LR LR
comp=Z,6μm,22.0s
JAVS Javornik 85.45 30 *i* P **P 03 59 49.8 +3.1**
KOLS Kolonicke sedl 85.61 23 *e*P **P 03 59 47.9 +0.6**
KOLS pmax pmax
comp=Z,42nm,1.5s
KOLS Kolonicke sedl 85.61 23 *e*P **P 03 59 47.9 +0.6**
AQDB Aquidauana 85.67 121 *e*P **P 03 59 47.3 -0.5**
CSKK Cskako 85.70 26 *e*P **P 03 59 47.0 -0.7**
PSZ Piszkesteto 85.76 25 *e*P **P 03 59 47.8 -0.3**
comp=Z,63nm,1.2s
PSZ LR LR
comp=Z,3μm,18.0s
PSZ Piszkesteto 85.76 25⇓*i*P **P 03 59 49.0 +0.9**
PSZ Piszkesteto 85.76 25 ⇓P **P 03 59 49.0 +0.9**
PSZ Piszkesteto 85.76 25 *e*P **P 03 59 48.1 0.0**
VISS Visnje 85.82 29 *i* P **P 03 59 47.4 -0.9**
UZH Uzhgorod 85.89 23 *e*P **P 03 59 47.3 -1.3**
UZH *e* 03 59 53.0
UZH *i* S **S 04 10 15.4 -6.7**
UZH *i* PS 04 11 19.1
UZH MLR MLR
comp=N,450nm,16.0s
UZH MLR MLR
comp=E,850nm,16.0s
UZH MLR MLR
comp=Z,300nm,16.0s
AKASG Malin Array Be 85.90 18 P **P 03 59 47.1 -1.5**
comp=Z,12nm,0.7s,baz=342,slow=4.0,SNR=19
AKASG LR LR 04 37 54.8
comp=Z,2μm,19.9s,baz=325,slow=36
KIEV Kiev 85.90 18 *e*P **P 03 59 47.3 -1.3**
comp=Z,181nm,2.0s
KIEV LR LR
comp=Z,2μm,18.0s
KIEV Kiev 85.90 18⇑*i*P **P 03 59 51.0 +2.4**
KIEV Kiev 85.90 18*ce*P **P 03 59 47.0 -1.6**
KIEV pmax pmax
comp=Z,16nm,1.1s
BEHE Becsehely 85.95 28 *e*P **P 03 59 48.0 -1.0**
TIH Tihany 85.98 27 *e*P **P 03 59 48.1 -1.0**
LPSR Galich'ya Gora 86.04 12 *e*P **P 03 59 48.7 -0.6**
LPSR pmax pmax
comp=Z,110nm,1.0s
LPSR MLR MLR
comp=Z,4μm,17.0s
HHC Hu-ho-hao-te 86.22 323 *e*P **P 03 59 54.3 +3.7**
HHC PP **PP 04 03 13.6 +3.2**
HHC S **S 04 10 30.1 +4.2**
HHC SS **SS 04 16 07.8 +4.4**
HHC pmax pmax
comp=Z,2μm,7.5s
HHC LR LR
comp=Z,1μm,17.8s
HHC LR LR
comp=Z,1μm,16.7s
HHC LR LR
comp=Z,2μm,17.0s
BOJS Bojanci 86.22 29 *e*P **P 03 59 49.8 -0.6**
C2SB Chapadao do Su 86.38 118 *e*P **P 03 59 50.3 -1.0**
TRPA Tarpa 86.41 23⇑*i*P **P 03 59 51.8 +0.6**
TRPA Tarpa 86.41 23 *e*P **P 03 59 49.1 -2.1**
BRVK Borovoye 86.66 353 *e*P **P 03 59 51.8 -0.5**
comp=Z,99nm,1.4s
BRVK LR LR
comp=Z,2μm,21.0s
BRVK Borovoye 86.66 353*d i*P **P 03 59 51.9 -0.5**
BRVK pmax pmax
comp=Z,13nm,0.7s
BVAR Borovoye Array 86.69 353 P **P 03 59 52.1 -0.4**
comp=Z,12nm,0.9s,baz=13,slow=3.2,SNR=24
BVAR PP **PP 04 03 11.8 -1.8**
comp=Z,1.0nm,0.7s,baz=345,slow=15,SNR=2.2
LTVH Ltavrtes, Hu 86.87 24 *e*P **P 03 59 55.1 +1.6**
VORR Voronezh 86.99 12 P **P 03 59 50.0 -3.9**
VORR pmax pmax
comp=Z,250nm,2.0s
TIA Tai'an 87.05 316 P **P 03 59 54.8 +0.2**
TIA pmax pmax
comp=Z,33nm,2.1s
DGZ Jazzator, Alta 87.08 342*d i*P **P 03 59 55.0 +0.4**
DGZ pmax pmax
comp=Z,7.0nm,0.8s
BTO Baotou 87.12 324 *e*P **P 03 59 52.3 -2.7**
JOW Kunigami 87.28 303 PFAKE 04 00 10.0 +14
JOW LR LR
comp=Z,1μm,18.0s
VSR Storozhevoye 87.42 12*d i*P **P 03 59 55.3 -0.7**
VSR pmax pmax
comp=Z,43nm,0.9s
BDFB Brasilia 87.58 113 *e*P **P 03 59 56.8 -0.6**
comp=Z,70nm,1.3s
BDFB Brasilia 87.58 113 *e*P **P 03 59 56.8 -0.6**
BDFB pmax pmax
comp=Z,70nm,1.3s
BDFB Brasilia 87.58 113 P **P 03 59 57.3 -0.1**
comp=Z,29nm,1.1s,baz=333,slow=4.8,SNR=24
BDFB LR LR 04 41 11.2
comp=Z,2μm,21.9s,baz=315,slow=37
BLY Banja Luka 87.58 28 PFAKE 04 00 10.0 +13
BLY LR LR
comp=Z,2μm,22.0s
BLY Banja Luka 87.58 28⇑*i*P **P 03 59 58.5 +1.5**
HNR Honiara 87.64 256 LR LR 04 30 08.7
comp=Z,1μm,21.9s,baz=36,slow=29
DRGR 87.66 24⇑*i*P **P 03 59 56.3 -1.1**
DRGR 87.66 24⇑P **P 03 59 56.3 -1.1**
BURAR Bucovina Array 87.67 22⇑*i*P **P 04 00 00.6 +3.1**
BURAR Bucovina Array 87.67 22⇑P **P 04 00 00.6 +3.1**
SIRR Siria 87.79 25⇑*i*P **P 03 59 59.3 +1.3**
VRH Novokhopyorsk 87.82 11 *e*P **P 03 59 56.9 -1.1**
VRH pmax pmax
comp=Z,70nm,1.3s
VRH MLR MLR
comp=Z,3μm,17.0s
KURK Kurchatov 87.89 348 *e*P **P 03 59 57.3 -1.0**
comp=Z,48nm,1.0s
KURK LR LR
comp=Z,2μm,20.0s
KURK Kurchatov 87.89 348*d i*P **P 03 59 57.8 -0.5**
KURK pmax pmax
comp=Z,92nm,1.7s
ARCR ARCALIA 87.89 23⇑*i*P **P 04 00 00.1 +1.7**
AQU L'Aquila 88.16 32 PFAKE 04 00 10.0 +10
AQU LR LR
comp=Z,4μm,22.0s
TIY Taiyuan 88.28 320 *e*P **P 04 00 02.4 +1.9**
TIY PP **PP 04 03 32.6 +5.6**
TIY LR LR
comp=Z,650nm,11.9s
TIY LR LR
comp=Z,600nm,17.3s
TIY LR LR
comp=Z,2μm,23.7s
BZS Buzias 88.35 25⇑*i*P **P 04 00 03.6 +3.0**
BZS Buzias 88.35 25⇑P **P 04 00 03.6 +3.0**
BIZ Bicaz 88.53 22⇑*i*P **P 04 00 05.0 +3.5**
SSE Sheshan 88.59 311 PFAKE 04 00 10.0 +8.0
SSE LR LR
comp=Z,700nm,20.0s
ITRB Iturama 88.71 117 *e*P **P 04 00 02.8 +0.2**
CPUP Villa Florida 88.83 126 P **P 04 00 02.6 -0.3**
comp=Z,17nm,1.1s,baz=332,slow=5.5,SNR=20
CPUP LR LR 04 41 56.2
comp=Z,734nm,20.4s,baz=334,slow=37
CPUP Villa Florida 88.83 126 *e*P **P 04 00 03.1 +0.1**
GZR Gura Zlata 88.92 25⇑*i*P **P 04 00 04.6 +1.2**
GZR Gura Zlata 88.92 25⇑P **P 04 00 04.6 +1.2**
MDVR Moldovita 89.12 25⇑*i*P **P 04 00 05.6 +1.3**
LOT Lotru 89.19 24⇑*i*P **P 04 00 03.8 -0.9**
DOPR Dopca 89.21 23⇑*i*P **P 04 00 04.5 -0.2**
KIS Kishinev 89.22 20 *e* 04 03 08.0
KIS LRM MLR 04 39 16.0
comp=Z,2μm,20.0s
NJ2 Nanjing 89.22 313⇑*i*P **P 04 00 06.6 +1.6**
NJ2 pP **sP 04 00 10.9 +1.9**
NJ2 sP **pP 04 00 14.3 +6.4**
NJ2 pmax pmax
comp=Z,23nm,0.9s
NJ2 pmax pmax
comp=Z,630nm,3.5s
NJ2 LR LR
comp=Z,880nm,17.9s
NJ2 LR LR
comp=Z,1μm,16.8s
NJ2 LR LR
comp=Z,1μm,19.0s
HERR Herculane 89.26 25⇑*i*P **P 04 00 08.1 +3.2**
ARR Arges 89.52 23⇑*i*P **P 04 00 10.1 +3.9**
VOIR 89.59 23⇑*i*P **P 04 00 09.3 +2.8**
VOIR 89.59 23⇑P **P 04 00 09.3 +2.8**
PLOR Plostina 89.68 22⇑*i*P **P 04 00 08.4 +1.5**
PLOR Plostina 89.68 22⇑P **P 04 00 08.4 +1.5**
VRI Vrincioaia 89.69 22⇑*i*P **P 04 00 10.6 +3.7**
VRI Vrincioaia 89.69 22⇑P **P 04 00 10.6 +3.7**
MLR Muntele Rosu 89.80 22 PFAKE 04 00 20.0 +12
MLR LR LR
comp=Z,6μm,18.0s
MLR Muntele Rosu 89.80 22⇑*i*P **P 04 00 09.7 +2.1**
MLR Muntele Rosu 89.80 22⇑P **P 04 00 09.7 +2.1**
AKTO Aktyubinsk 89.82 1 P **P 04 00 06.5 -0.9**
AKTO pmax pmax
comp=Z,65nm,1.3s
JANB Januaria 89.83 110 *e*P **P 04 00 07.9 -0.1**
RCBR Riachuelo 90.09 97 *e*P **P 04 00 08.8 -0.5**
PDG Podgorica 90.34 28⇑*i*P **P 04 00 09.9 -0.1**
TTG Podgorica 90.34 28 PFAKE 04 00 20.0 +10
TTG LR LR
comp=Z,5μm,21.0s
PMNB Patos De Minas 90.64 114 *e*P **P 04 00 12.0 +0.3**
CFR Carcaliu 90.71 21⇑*i*P **P 04 00 13.9 +2.2**
CFR Carcaliu 90.71 21⇑P **P 04 00 13.9 +2.2**
BB19B Bebedouro 90.89 117 *e*P **P 04 00 13.5 +0.7**
MATE Matera 90.92 31⇑*i*P **P 04 00 15.4 +2.7**
MK31 Makanchi Array 90.97 344 *i* P **P 04 00 11.7 -1.2**
MK31 pmax pmax
comp=Z,31nm,1.2s
MKAR Makanchi Array 90.97 344 P **P 04 00 12.8 -0.1**
comp=Z,19nm,1.2s,baz=338,slow=5.4,SNR=17
MKAR PKKPbc **PKKPbc 04 17 36.6 +0.4**
comp=Z,0.5nm,0.8s,baz=112,slow=1.3,SNR=4.6
MKAR PKPPKP 04 25 45.7
comp=Z,0.1nm,0.3s,baz=212,slow=4.3,SNR=3.7
MKAR LR LR 04 44 51.2
comp=Z,1μm,20.1s,baz=11,slow=38
AB31 Akbulak array 90.99 359 *i* P **P 04 00 12.2 -0.7**
AB31 pmax pmax
comp=Z,38nm,1.1s
ABKAR Akbulak array 90.99 359 *e*P **P 04 00 12.2 -0.7**
comp=Z,43nm,1.1s
MAKZ Makanchi 91.02 344 *e*P **P 04 00 12.1 -1.1**
comp=Z,44nm,1.0s
MAKZ LR LR
comp=Z,2μm,18.0s
MAKZ Makanchi 91.02 344 P **P 04 00 11.9 -1.2**
MAKZ pmax pmax
comp=Z,54nm,1.1s
MCI8 Montes Claros 91.17 111 *e*P **P 04 00 14.4 +0.2**
OTUK Ortayu 91.20 351 P **P 04 00 13.3 -0.6**
OTUK pmax pmax
comp=Z,48nm,1.2s
TLB Topalu 91.23 21⇑*i*P **P 04 00 17.5 +3.4**
TLB Topalu 91.23 21⇑P **P 04 00 17.5 +3.4**
DZM Mont Dzumac 91.42 242 *e*PS PS 04 12 26.4 +1.7
comp=Z,557nm,27.9s
DZM Mont Dzumac 91.42 242 *e*LR LR 04 29 27.0
comp=Z,4μm,31.1s
DZM Mont Dzumac 91.42 242 PFAKE 04 00 30.0 +15
DZM LR LR
comp=Z,1μm,22.0s
DZM Mont Dzumac 91.42 242 LR LR 04 35 24.4
comp=Z,569nm,19.5s,baz=26,slow=32
TIR Tirane 91.51 28 PFAKE 04 00 30.0 +15
TIR LR LR
comp=Z,3μm,21.0s
VTS Vitosha 91.55 25 PFAKE 04 00 30.0 +14
VTS LR LR
comp=Z,4μm,19.0s
VTS Vitosha 91.55 25⇑*i*P **P 04 00 16.9 +1.1**
VTS Vitosha 91.55 25⇑P **P 04 00 16.9 +1.1**
ONTNC Ouen Toro 91.58 242 *e*P **P 04 00 16.2 +0.3**
comp=Z,56nm,1.2s
ONTNC LR LR
comp=Z,1μm,21.0s
KEST Kesra 91.83 38 P **P 04 00 15.4 -1.7**
comp=Z,9.7nm,1.2s,baz=259,slow=10,SNR=4.1
KEST LR LR 04 41 31.3
comp=Z,1μm,18.3s,baz=280,slow=36
CLTB Caltabellotta 92.07 35 PFAKE 04 00 30.0 +12
CLTB LR LR
comp=Z,3μm,21.0s
TIP Timpagrande 92.20 31 PFAKE 04 00 30.0 +11
TIP LR LR
comp=Z,3μm,22.0s
MANU Manus Island 92.44 269 PFAKE 04 00 30.0 +10
MANU LR LR
comp=Z,800nm,20.0s
GTA Gaotai 92.44 329 *e*P **P 04 00 22.1 +2.1**
GTA pP sP 04 00 26.8 +2.8
GTA sP pP 04 00 29.8 +6.8
GTA S **S 04 11 21.8 -2.4**
GTA sS sS 04 11 28.6 -0.5
GTA pmax pmax
comp=Z,360nm,5.7s
GTA LR LR
comp=Z,1μm,16.8s
GTA LR LR
comp=Z,1μm,20.3s
GTA LR LR
comp=Z,2μm,18.1s
WMQ Urumqi 92.48 340 *e*P **P 04 00 20.0 0.0**
WMQ pmax pmax
comp=Z,470nm,5.1s
WMQ LR LR
comp=Z,6μm,25.3s
WMQ LR LR
comp=Z,5μm,20.3s
WMQ LR LR
comp=Z,12μm,25.3s
WMQ Urumqi 92.48 340 PFAKE 04 00 30.0 +10
WMQ LR LR
comp=Z,2μm,20.0s
FNA Florina 92.55 28 PFAKE 04 00 30.0 +10
FNA LR LR
comp=Z,3μm,21.0s
CEL Celeste 92.63 32 PFAKE 04 00 30.0 +9.2
CEL LR LR
comp=Z,2μm,21.0s
PLCA Paso Flores 92.72 144 *e*P **P 04 00 19.9 -0.9**
comp=Z,54nm,2.0s
PLCA Paso Flores 92.72 144 *e*P **P 04 00 19.9 -0.9**
PLCA pmax pmax
comp=Z,54nm,2.0s
PLCA Paso Flores 92.72 144 P **P 04 00 20.9 0.0**
comp=Z,3.0nm,0.9s,baz=360,slow=5.4,SNR=3.6
PLCA LR LR 04 34 41.2
comp=Z,1μm,20.7s,baz=13,slow=31
WHN Wuhan 92.87 315 P **P 04 00 24.0 +2.1**
WHN SKS **SKSac 04 10 56.1 -0.2**
WHN S **ScS 04 11 29.3 -0.6**
WHN pmax pmax
comp=Z,55nm,0.8s
WHN pmax pmax
comp=Z,730nm,3.1s
WHN LR LR
comp=Z,3μm,21.8s
WHN LR LR
comp=Z,2μm,14.8s
WHN LR LR
comp=Z,2μm,15.5s

XAN	**Xi'an**	**92.92 320**	P	**P**	**04 00 23.4 +1.2**
XAN			pP	sP	04 00 31.5 +5.3
XAN			sP	pP	04 00 34.5 +9.3
XAN			pmax	pmax	
	comp=Z,10.0nm,1.2s				
XAN			pmax	pmax	
	comp=Z,320nm,3.9s				
XAN			LR	LR	
	comp=Z,1μm,14.1s				
XAN			LR	LR	
	comp=Z,790nm,15.2s				
XAN			LR	LR	
	comp=Z,1μm,17.9s				
XAN	**Xi'an**	**92.92 320**	PFAKE		04 00 30.0 +7.8
XAN			LR	LR	
	comp=Z,1μm,19.0s				
YHNB	**Yeheng**	**93.17 306**	PFAKE		04 00 30.0 +6.5
YHNB			LR	LR	
	comp=Z,500nm,20.0s				
ANN	**Anapa**	**93.29 15**	*e*P	P	04 00 34.0 +10
ANN			pmax	pmax	
	comp=Z,49nm,0.8s				
ANN			MLR	MLR	
	comp=Z,3μm,17.0s				
SPB	**Sao Paulo**	**93.34 118**	PFAKE		04 00 30.0 +6.0
SPB			LR	LR	
	comp=Z,1μm,20.0s				
LZH	**Lanzhou**	**93.60 325**	*e*P	**P**	**04 00 23.5 -1.9**
LZH			pP	pP	04 00 27.1 -1.3
LZH			sP	sP	04 00 28.5 -0.9
LZH			PP	**PP**	**04 04 10.9 +1.7**
LZH			SKS	**SKSac**	**04 10 58.3 -2.3**
LZH			*e*S	**S**	**04 11 28.0 -6.6**
LZH			sS	pS	04 11 37.3 -1.1
LZH			SS	**SS**	**04 17 48.3 -2.1**
LZH			pmax	pmax	
	comp=Z,32nm,1.5s				
LZH			pmax	pmax	
	comp=Z,390nm,9.6s				
LZH			LR	LR	
	comp=Z,3μm,18.5s				
LZH			LR	LR	
	comp=Z,2μm,18.0s				
LZH			LR	LR	
	comp=Z,3μm,19.6s				
ALN	**Alexandroupoli**	**94.01 24**	PFAKE		04 00 40.0 +13
ALN			LR	LR	
	comp=Z,1μm,18.0s				
SSLB	**Suanglung**	**94.08 306**	PFAKE		04 00 40.0 +12
SSLB			LR	LR	
	comp=Z,600nm,19.0s				
WDD	**Wied Dalam**	**94.10 35**	PFAKE		04 00 40.0 +13
WDD			LR	LR	
	comp=Z,1μm,22.0s				
AGG	**Agios Georgios**	**94.44 28**	PFAKE		04 00 40.0 +11
AGG			LR	LR	
	comp=Z,3μm,20.0s				
QZH	**Quanzhou**	**94.67 308**	P	**P**	**04 00 31.3 +1.0**
QZH			SKS	**SKSac**	**04 11 07.1 +0.7**
QZH			S	**S**	**04 11 44.0 0.0**
QZH			LR	LR	
	comp=Z,510nm,21.8s				
QZH			LR	LR	
	comp=Z,860nm,18.5s				
QZH			LR	LR	
	comp=Z,920nm,17.1s				
SOC	**Sochi**	**94.90 14**	*e*P	**P**	**04 00 31.9 +0.9**
SOC			*e*		04 04 14.8
SOC			*e*S	**SKSac**	**04 11 07.5 +0.5**
SOC			*e*SS	**SS**	**04 18 08.9 +1.0**
SOC			*e*SSS	SSS	04 21 58.4
SOC			pmax	pmax	
	comp=Z,25nm,1.0s				
SOC			MLR	MLR	
	comp=Z,3μm,20.0s				
KIV	**Kislovodsk**	**95.04 12**	PFAKE		04 00 40.0 +8.2
KIV			LR	LR	
	comp=Z,2μm,19.0s				
KIV	**Kislovodsk**	**95.04 12**	*e*P	**P**	**04 00 31.6 -0.2**
KIV			*e*		04 11 07.1
KIV			pmax	pmax	
	comp=Z,39nm,1.0s				
KIV			MLR	MLR	
	comp=Z,7μm,20.0s				
KNMB	**Chin-men Tao**	**95.15 308**	PFAKE		04 00 40.0 +7.5
KNMB			LR	LR	
	comp=Z,900nm,20.0s				
KBZ	**Khabaz**	**95.30 12**	P	**P**	**04 00 35.7 +2.9**
	comp=Z,10nm,0.9s,baz=325,slow=5.8,SNR=12				
KBZ			LR	LR	04 44 58.2
	comp=Z,3μm,19.7s,baz=346,slow=36				
SNOP	**Sinop**	**95.47 17**	PFAKE		04 00 40.0 +6.4
SNOP			LR	LR	
	comp=Z,900nm,20.0s				
ENH	**Enshi**	**95.67 318**	PFAKE		04 00 50.0 +15
ENH			LR	LR	
	comp=Z,2μm,20.0s				
BALB	**Balikesir**	**95.73 24**	PFAKE		04 00 50.0 +15
BALB			LR	LR	
	comp=Z,8μm,18.0s				
NEY	**Neytrino**	**95.74 12**	‖*e*P	**P**	**04 00 31.1 -4.0**
NEY			pmax	pmax	
	comp=Z,4.0nm,1.2s				
MDUB	**Mudurnu**	**95.92 21**	PFAKE		04 00 50.0 +14
MDUB			LR	LR	
	comp=Z,8μm,21.0s				
ILGA	**Ilgaz**	**96.03 19**	PFAKE		04 00 50.0 +13
ILGA			LR	LR	
	comp=Z,2μm,21.0s				
GROC	**Groznyy**	**96.22 10**	P	**P**	**04 00 33.8 -3.2**
GROC			*e*		04 04 27.8
GROC			*e*PS	PS	04 13 15.6 -0.3
GROC			pmax	pmax	
	comp=Z,16nm,0.5s				
BOOM	**Boomskoye usch**	**96.32 347**	PFAKE		04 00 50.0 +12
BOOM			LR	LR	
	comp=Z,2μm,18.0s				
ZEI	**Tsey**	**96.37 11**	*e*P	**P**	**04 00 40.2 +2.2**
ZEI			pmax	pmax	
	comp=Z,8.0nm,1.1s				
AAK	**Ala-Archa**	**96.41 348**	PFAKE		04 00 50.0 +12
AAK			LR	LR	
	comp=Z,2μm,19.0s				
AAK	**Ala-Archa**	**96.41 348**	‖*e*P	**P**	**04 00 37.2 -0.9**
AAK			pmax	pmax	
	comp=Z,8.0nm,1.2s				
AAK	**Ala-Archa**	**96.41 348**	LR	LR	04 49 19.7
	comp=Z,1μm,20.1s,baz=350,slow=39				
KDJ	**Kajisay**	**96.45 346**	PFAKE		04 00 50.0 +12
KDJ			LR	LR	
	comp=Z,2μm,20.0s				
KKAR	**Karatay Array**	**96.48 351**	*e*P	**P**	**04 00 37.3 -1.0**
	comp=Z,5.6nm,0.9s				
KKAR	**Karatay Array**	**96.48 351**	*e*P	**P**	**04 00 37.3 -1.0**
KKAR			pmax	pmax	
	comp=Z,6.0nm,0.9s				
MAK	**Makhachkala**	**96.66 8**	*e*P	P	04 00 32.9 -6.1
MAK			*e*		04 11 12.1
MAK			*e*SS	SS	04 18 28.9 -3.8
MAK			*e*SSS	SSS	04 22 11.7
MAK			pmax	pmax	
	comp=Z,334nm,2.0s				
MAK			MLR	MLR	
	comp=Z,3μm,19.0s				
ANTO	**Ankara**	**96.91 20**	PFAKE		04 00 50.0 +10
ANTO			LR	LR	
	comp=Z,2μm,21.0s				
BRTR	**Keskin Array B**	**97.26 19**	P	**P**	**04 00 41.5 -0.5**
	comp=Z,1.5nm,0.9s,baz=327,slow=2.1,SNR=8.5				
BRTR			PP	PP	04 04 45.0 +7.6
	comp=Z,2.2nm,1.1s,baz=353,slow=6.2,SNR=4.3				
BRTR			PKKPbc	**PKKPdf**	**04 17 20.1 0.0**
	comp=Z,1.3nm,0.8s,baz=169,slow=2.5,SNR=7.3				
BRTR			LR	LR	04 47 51.1
	comp=Z,1μm,18.0s,baz=326,slow=38				
PMG	**Port Moresby**	**97.27 264**	PFAKE		04 00 50.0 +7.7
PMG			LR	LR	
	comp=Z,2μm,22.0s				
AKH	**Akhalkalaki**	**97.65 12**	PFAKE		04 00 50.0 +6.1
AKH			LR	LR	
	comp=Z,2μm,20.0s				
HIZ	**Hauiti**	**97.72 225**	PFAKE		04 00 50.0 +6.3
HIZ			LR	LR	
	comp=Z,800nm,19.0s				
SANT	**Santorini**	**97.92 27**	PFAKE		04 01 00.0 +15
SANT			LR	LR	
	comp=Z,3μm,19.0s				
CD2	**Chengdu**	**97.97 322**	P	**P**	**04 00 43.3 -2.0**
CD2			PP	**PP**	**04 04 44.3 +1.3**
CD2			SKS	**SKSac**	**04 11 24.8 +1.2**
CD2			S	**S**	**04 12 10.3 -2.1**
CD2			SS	**SS**	**04 18 52.3 0.0**
CD2			pmax	pmax	
	comp=Z,150nm,4.5s				
CD2			LR	LR	
	comp=Z,1μm,19.0s				
CD2			LR	LR	
	comp=Z,2μm,18.0s				
CD2			LR	LR	
	comp=Z,2μm,23.2s				
ISP	**Isparta**	**98.19 22**	PFAKE		04 01 00.0 +14
ISP			LR	LR	
	comp=Z,2μm,20.0s				
GNI	**Garni**	**99.08 11**	PFAKE		04 01 00.0 +10
GNI			LR	LR	
	comp=Z,2μm,22.0s				
KSH	**Kashi**	**99.21 347**	P	**Pdif**	**04 00 52.4 +1.6**
KSH			PP	**PP**	**04 04 58.3 +6.2**
KSH			SKS	**SKSac**	**04 11 32.5 +2.8**
KSH			S	**S**	**04 12 22.5 -0.2**
KSH			pmax	pmax	
	comp=Z,180nm,4.5s				
KSH			LR	LR	
	comp=Z,1μm,17.1s				
KSH			LR	LR	
	comp=Z,840nm,16.9s				
KSH			LR	LR	
	comp=Z,1μm,17.7s				
KARP	**Karpathos**	**99.24 26**	PFAKE		04 01 00.0 +9.2
KARP			LR	LR	
	comp=Z,3μm,19.0s				
TAM	**Tamanrasset**	**100.10 49**	PFAKE		04 01 10.0 +15
TAM			LR	LR	
	comp=Z,2μm,19.0s				
GYA	**Guiyang**	**100.20 318**	P	**Pdif**	**04 00 59.1 +3.7**
GYA			SKS	**SKSac**	**04 11 33.8 -1.2**
GYA			S	**Sdif**	**04 12 31.4 -0.1**
GYA			pmax	pmax	
	comp=Z,30nm,1.0s				
GYA			pmax	pmax	
	comp=Z,160nm,5.4s				
GYA			LR	LR	
	comp=Z,1μm,24.5s				
GYA			LR	LR	
	comp=Z,770nm,19.9s				
GYA			LR	LR	
	comp=Z,1μm,24.5s				
GAR	**Garm**	**100.56 351**	PFAKE		04 01 10.0 +13
GAR			LR	LR	
	comp=Z,4μm,20.0s				
CHGR	**Chuyangaron**	**101.03 352**	PFAKE		04 01 10.0 +11
CHGR			LR	LR	
	comp=Z,6μm,21.0s				
SIRT	**Sirnak**	**101.29 13**	PFAKE		04 01 10.0 +10
SIRT			LR	LR	
	comp=Z,4μm,21.0s				
CSS	**Mathiatis**	**101.66 21**	PFAKE		04 01 10.0 +8.4
CSS			LR	LR	
	comp=Z,1μm,21.0s				
MQZ	**McQueen's Vall**	**102.56 223**	PFAKE		04 01 20.0 +15
MQZ			LR	LR	
	comp=Z,700nm,22.0s				
OXZ	**Oxford**	**102.62 223**	PFAKE		04 01 20.0 +15
OXZ			LR	LR	
	comp=Z,800nm,19.0s				
DAV	**Davao City (W)**	**102.83 291**	PFAKE		04 01 20.0 +13
DAV			LR	LR	
	comp=Z,800nm,20.0s				
COEN	**Coen**	**103.15 263**	PFAKE		04 01 20.0 +12
COEN			LR	LR	
	comp=Z,1μm,21.0s				
KMI	**Kunming**	**103.29 320**	PFAKE		04 01 20.0 +11
KMI			LR	LR	
	comp=Z,1μm,18.0s				
RPZ	**Rata Peaks**	**103.41 224**	PFAKE		04 01 20.0 +11
RPZ			LR	LR	
	comp=Z,800nm,20.0s				
LBZ	**Lake Benmore**	**104.33 224**	PFAKE		04 01 20.0 +7.1
LBZ			LR	LR	
	comp=Z,900nm,19.0s				
LSA	**Lhasa**	**104.33 331**	PFAKE		04 01 20.0 +5.9
LSA			LR	LR	
	comp=Z,2μm,22.0s				
QIZ	**Qiongzhong**	**104.39 311**	PFAKE		04 01 20.0 +6.0
QIZ			LR	LR	
	comp=Z,1μm,20.0s				
FAKI	**Fak Fak**	**104.55 279**	PFAKE		04 01 30.0 +15
FAKI			LR	LR	
	comp=Z,900nm,18.0s				
CTAO	**Charters Tower**	**104.58 256**	PFAKE		04 01 30.0 +15
CTAO			LR	LR	
	comp=Z,800nm,19.0s				
TORD	**Torodi Ar. Bea**	**105.07 58**	Pdiff	**Pdif**	**04 01 19.4 +2.4**
	comp=Z,0.8nm,1.1s,baz=325,slow=1.7,SNR=4.4				
TORD			PKiKP	**PKiKP**	**04 05 33.0 +1.2**
	comp=Z,2.8nm,1.1s,baz=316,slow=5.2,SNR=5.5				
WKZ	**Wanaka**	**105.24 224**	PFAKE		04 05 40.0 +8.9
WKZ			LR	LR	
	comp=Z,900nm,19.0s				
NIL	**Nilore**	**105.39 348**	PFAKE		04 05 40.0 +8.0
NIL			LR	LR	
	comp=Z,700nm,18.0s				
SLVN	**Son La**	**105.83 317**	PFAKE		04 05 40.0 +6.9
SLVN			LR	LR	
	comp=Z,1μm,22.0s				
WHZ	**Wether Hill Ro**	**106.51 224**	PFAKE		04 05 40.0 +6.6
WHZ			LR	LR	
	comp=Z,700nm,19.0s				
ASCN	**Ascension**	**107.91 85**	PFAKE		04 05 50.0 +13
ASCN			LR	LR	
	comp=Z,14μm,21.0s				
CHTO	**Chiang Mai**	**110.48 319**	PFAKE		04 05 50.0 +8.2
CHTO			LR	LR	
	comp=Z,700nm,20.0s				
DLV	**T Lat**	**110.73 307**	PFAKE		04 05 50.0 +7.5
DLV			LR	LR	
	comp=Z,1μm,19.0s				
CMAR	**Chiang Mai Arr**	**110.78 319**	PKiKP	**PKiKP**	**04 05 41.5 -0.9**
	comp=Z,1.2nm,0.3s,baz=356,slow=3.6,SNR=6.7				
STKA	**Stephens Creek**	**114.82 248**	PKP	PKPdf	04 05 48.6 -0.9
	comp=Z,5.1nm,0.9s,baz=56,slow=3.5,SNR=6.9				
SBUM	**Sibu**	**115.45 297**	PFAKE		04 06 00.0 +8.7
SBUM			LR	LR	
	comp=Z,300nm,20.0s				
ASAR	**Alice Springs**	**115.94 260**	PKP	**PKiKP**	**04 05 51.9 -0.2**
	comp=Z,2.5nm,0.9s,baz=77,slow=2.1,SNR=11				
ASAR			PKKPab	**PKKPab**	**04 16 25.4 -1.4**
	comp=Z,2.7nm,0.9s,baz=210,slow=4.2,SNR=8.4				
KULM	**Kulim**	**120.69 309**	PFAKE		04 06 10.0 +8.5
KULM			LR	LR	
	comp=Z,700nm,19.0s				
IPM	**Ipoh**	**121.11 309**	PFAKE		04 06 10.0 +7.6
IPM			LR	LR	
	comp=Z,800nm,19.0s				
DAMY	**Dhamar**	**123.95 17**	PFAKE		04 06 20.0 +12
DAMY			LR	LR	
	comp=Z,900nm,19.0s				
SBA	**Scott Base**	**125.27 194**	PFAKE		04 06 20.0 +11
SBA			LR	LR	
	comp=Z,1μm,20.0s				
CISI	**Cisompet, Garu**	**125.66 293**	*e*PKPdf	**PKPdf**	**04 06 10.2 -0.8**
VNDA	**Vanda**	**126.09 195**	*e*PKPdf	**PKiKP**	**04 06 09.7 -0.6**
VNDA	**Vanda**	**126.09 195**	*e*PKiKP	**PKiKP**	**04 06 09.7 -0.6**
VNDA	**Vanda**	**126.09 195**	PKP	**PKiKP**	**04 06 10.6 +0.3**
	comp=Z,6.7nm,1.1s,baz=352,slow=3.9,SNR=8.5				
ATD	**Arta Tunnel**	**126.50 20**	PFAKE		04 06 20.0 +6.9
ATD			LR	LR	
	comp=Z,400nm,20.0s				
FURI	**Furi**	**127.78 26**	PFAKE		04 06 30.0 +14
FURI			LR	LR	
	comp=Z,800nm,21.0s				
PALK	**Pallekele**	**128.70 332**	PFAKE		04 06 30.0 +12
PALK			LR	LR	
	comp=Z,900nm,20.0s				
QSPA	**South Pole Qui**	**129.94 180**	*e*PKPdf	**PKPdf**	**04 06 17.3 -0.3**
QSPA			LR	LR	
	comp=Z,2μm,18.0s				
MBAR	**Mbarara**	**133.08 40**	PFAKE		04 06 40.0 +14
MBAR			LR	LR	
	comp=Z,1μm,20.0s				
VNA3	**Neumayer Olymp**	**134.29 155**	PKPdf	**PKiKP**	**04 06 27.1 +0.2**
VNA1	**Neumayer--Stat**	**134.80 154**	PKPdf	**PKiKP**	**04 06 28.7 +0.8**
VNA2	**Neumayer--Watz**	**135.06 155**	PKPdf	**PKiKP**	**04 06 28.8 +0.3**
	baz=316,slow=3.2				
SNAA	**Sanae**	**136.39 156**	PKPdf	**PKiKP**	**04 06 30.3 -1.0**
SNAA	**Sanae**	**136.39 156**	PFAKE		04 06 40.0 +8.7
SNAA			LR	LR	
	comp=Z,800nm,19.0s				
KMBO	**Kilima Mbogo**	**136.50 32**	PFAKE		04 06 40.0 +6.5
KMBO			LR	LR	
	comp=Z,700nm,20.0s				
KMBO	**Kilima Mbogo**	**136.50 32**	PKP	**PKPdf**	**04 06 32.1 +0.3**
	comp=Z,3.3nm,1.0s,baz=40,slow=4.8,SNR=6.1				
TSUM	**Tsumeb**	**138.99 72**	*e*PKPdf	**PKPdf**	**04 06 35.5 -0.5**
TSUM			LR	LR	
	comp=Z,700nm,20.0s				
LSZ	**Lusaka**	**143.58 56**	PFAKE		04 07 00.0 +12
LSZ			LR	LR	
	comp=Z,1μm,21.0s				
SUR	**Sutherland**	**148.55 88**	*e*PKPbc	**PKPbc**	**04 06 56.4 +0.3**
SYO	**Syowa Base**	**149.28 167**	‖*e*P	**PKPdf**	**04 06 47.3 -4.8**
SYO	**Syowa Base**	**149.28 167**	‖*i*P	**PKPbc**	**04 06 54.8 -1.6**
SYO	**Syowa Base**	**149.28 167**	‖*e*P	**PKiKP**	**04 06 58.6 +1.0**
BOSA	**Boshof**	**150.16 78**	*e*PKPbc	**PKPbc**	**04 06 59.6 -0.5**
BOSA	**Boshof**	**150.16 78**	*e*PKIKP	**PKPbc**	**04 06 59.6 -0.5**
BOSA	**Boshof**	**150.16 78**	PKPbc	**PKPbc**	**04 07 00.6 +0.5**
	comp=Z,27nm,0.9s,baz=301,slow=3.2,SNR=22				
MAW	**Mawson**	**152.38 183**	*e*PKPbc	**PKPbc**	**04 07 02.6 -1.2**
MAW			*e*PKPab	**PKPab**	**04 07 14.5 +0.5**
MAW	**Mawson**	**152.38 183**	*e*PKIKP	**PKPbc**	**04 07 02.6 -1.2**
MAW	**Mawson**	**152.38 183**	PKP	**PKPdf**	**04 06 57.5 +0.5**
	comp=Z,7.1nm,1.1s,baz=331,slow=1.1,SNR=8.2				
MAW			PKPbc	**PKPbc**	**04 07 03.5 -0.3**
	comp=Z,15nm,1.0s,baz=230,slow=4.4,SNR=13				
MAW			PKPab	**PKPab**	**04 07 14.9 +0.9**
	comp=Z,46nm,1.1s,baz=175,slow=5.6,SNR=15				

NEIC 24 03:48:57.1±0.0, 40°.19N×121°.07W, h4km, MD4.6(NCEDC), **After NCEDC., Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCMM	**Colby Mountain**	**0.35**	**263**	*e*Pg	Pg	03 49 04.3	+0.3
LDBM	**Digger Butte**	**0.60**	**294**	*e*Pg	Pg	03 49 08.8	+0.1
BEKR	**Beckworth**	**0.63**	**120**	*e*Pg	Pg	03 49 08.7	-0.5
BEKR				*i* S	Sg	03 49 17.6	+0.2
HATC	**Hat Creek Radi**	**0.70**	**334**	*e*Pg	Pg	03 49 10.7	+0.2
ORV	**Oroville**	**0.72**	**208**	*e*Pg	Pb	03 49 11.7	-0.4
LSHM	**Sage Hen Hill**	**0.96**	**309**	*e*Pg	Pg	03 49 15.6	+0.1
AFDM	**Forest Hills D**	**1.24**	**177**	*e*Pg	Pg	03 49 20.5	-0.4

*ISCJB **24** 03:50:27.9±0.5, 40°.13N±0°.05×121°.10W±0°.05, h7km, Error ellipse: s-maj=8.1km s-min=4.0km az=38.0*
*NEIC **24** 03:50:27.9±0.0, 40°.19N×121°.06W, h3km, MD4.2(NCEDC), After NCEDC.*
*NCEDC **24** 03:50:27.9, 40°.19N×121°.06W, h3km, MD4.2*
*ANF **24** 03:50:28.4±1.6, 40°.12N×121°.15W, h10km±6km, ML3.9/1, Error ellipse: s-maj=13.6km s-min=9.3km az=117.0*

ISC 24 03:50:27.8±0.9, 40°.16N±0°.05×121°.09W±0°.04, h7km, n15, σ0.56/18, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	**Paynes Creek**	**0.56**	**284**	P	**Pg**	**03 50 38.7**	**+0.1**
	baz=101						
BEKR	**Beckworth**	**0.63**	**117**	*e*Pg	**Pg**	**03 50 39.7**	**-0.3**
BEKR				*e*Sg	**Sg**	**03 50 48.2**	**-0.1**
ORV	**Oroville**	**0.68**	**208**	*e*Pg	**Pg**	**03 50 41.5**	**+0.7**
WDC	**Whiskeytown Da**	**1.19**	**291**	*e*Pg	**Pg**	**03 50 49.7**	**-0.8**
AFDM	**Forest Hills D**	**1.21**	**176**	*e*Pg	**Pb**	**03 50 50.3**	**-0.7**
O02D	**Mt. Diablo Mer**	**1.30**	**271**	P	**Pn**	**03 50 52.1**	**-0.4**
	baz=89						
RUBR	**Rubicon Trail**	**1.32**	**147**	*e*Pn	**Pn**	**03 50 53.3**	**+0.5**
PAHR	**Pah Rah Range**	**1.39**	**108**	*e*Pn	**Pn**	**03 50 53.4**	**-0.3**
VCNR	**Virginia City**	**1.41**	**127**	*e*Pn	**Pn**	**03 50 53.9**	**-0.1**
N02D	**Trinity Center**	**1.48**	**304**	P	**Pn**	**03 50 54.2**	**-0.7**
	baz=122						
N02D				S	**Sg**	**03 51 15.6**	**+0.4**
	baz=122						
PNTR	**Pine Nut**	**1.57**	**132**	*e*Pn	**Pb**	**03 50 57.7**	**+0.4**
M04C	**Macdoel**	**1.72**	**341**	P	**Pn**	**03 50 59.1**	**+0.8**
	baz=160						
M04C				S	**Sb**	**03 51 21.8**	**+0.1**
	baz=160						
M02C	**Callahan**	**1.82**	**313**	P	**Pn**	**03 51 00.6**	**+1.0**
	baz=131						
MOD	**Modoc Plateau**	**1.84**	**19**	*e*Pn	**Pn**	**03 50 59.9**	**-0.1**
YERR	**Yerington**	**1.85**	**129**	*e*Pn	**Pb**	**03 51 02.0**	**0.0**

NEIC 24 03:51:20.5±0.0, 40°.20N×121°.06W, h11km, MD3.3(NCEDC), **3C-1D, After NCEDC., Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCMM	**Colby Mountain**	**0.35**	**262**	‖*e*P	Pg	03 51 27.6	-0.1
LMEM	**Manzanita Entr**	**0.52**	**312**	*e*P	Pg	03 51 30.6	-0.1
BEKR	**Beckworth**	**0.63**	**121**	‖*i*P	Pg	03 51 32.9	0.0
BEKR				*i* S	Sg	03 51 41.5	+0.3
HATC	**Hat Creek Radi**	**0.69**	**334**	*e*P	Pg	03 51 33.9	0.0
ORV	**Oroville**	**0.72**	**208**	‖*e*P	Pg	03 51 33.6	-0.9
LSHM	**Sage Hen Hill**	**0.95**	**309**	*e*P	Pg	03 51 38.2	-0.7
AFDM	**Forest Hills D**	**1.25**	**177**	‖*e*P	Pn	03 51 43.6	-0.3
MOD	**Modoc Plateau**	**1.80**	**18**	*e*Sg	Sg	03 52 18.1	-0.3

*ANF **24** 03:55:29.6±0.8, 40°.17N×121°.00W, h11km±3km, ML3.0/1, Error ellipse: s-maj=7.3km s-min=4.0km az=138.0*
*ISCJB **24** 03:55:31.0±0.3, 40°.18N±0°.03×121°.09W±0°.04, h7km, Error ellipse: s-maj=5.5km s-min=3.0km az=42.3*
*NCEDC **24** 03:55:31.4, 40°.18N×121°.06W, h6km, ML3.4*
*NEIC **24** 03:55:31.4±0.0, 40°.18N×121°.06W, h6km, ML3.4(NCEDC), After NCEDC.*

ISC 24 03:55:31.0±0.9, 40°.19N±0°.03×121°.08W±0°.03, h7km, n33, σ0.95/38, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	**Paynes Creek**	**0.56**	**281**	P	**Pg**	**03 55 42.0**	**+0.1**
	baz=102,SNR=27						
O03E				S	**Sg**	**03 55 50.1**	**+0.9**
	baz=102						
BEKR	**Beckworth**	**0.64**	**120**	*e*Pg	**Pg**	**03 55 43.0**	**-0.4**
ORV	**Oroville**	**0.71**	**207**	*e*Pg	**Pg**	**03 55 44.3**	**-0.4**
WDC	**Whiskeytown Da**	**1.18**	**290**	*e*Pg	**Pg**	**03 55 52.5**	**-1.1**
AFDM	**Forest Hills D**	**1.25**	**176**	*e*Pg	**Pb**	**03 55 53.4**	**-1.4**
O02D	**Mt. Diablo Mer**	**1.31**	**270**	P	**Pn**	**03 55 54.7**	**-1.0**
	baz=89,SNR=13						
RUBR	**Rubicon Trail**	**1.34**	**148**	*e*Pn	**Pn**	**03 55 56.1**	**-0.3**
PAHR	**Pah Rah Range**	**1.39**	**110**	*e*Pn	**Pn**	**03 55 56.0**	**-1.0**
VCNR	**Virginia City**	**1.42**	**129**	*e*Pn	**Pn**	**03 55 57.0**	**-0.4**
N02D	**Trinity Center**	**1.46**	**303**	P	**Pn**	**03 55 57.3**	**-0.6**
	baz=122,SNR=32						
N02D				S	**Sn**	**03 56 17.6**	**+0.3**
	baz=122						
PNTR	**Pine Nut**	**1.59**	**133**	*e*Pn	**Pb**	**03 56 00.4**	**-0.4**
M04C	**Macdoel**	**1.69**	**340**	Pb	**Pn**	**03 56 01.9**	**+0.9**
	baz=160,SNR=11						
M04C				Sb	**Sg**	**03 56 25.7**	**+0.4**
	baz=160						
M02C	**Callahan**	**1.80**	**312**	Pb	**Pn**	**03 56 03.6**	**+1.0**
	baz=131,SNR=28						
M02C				Sb	**Sg**	**03 56 29.4**	**+0.5**
	baz=131						
MOD	**Modoc Plateau**	**1.81**	**19**	*e*Pn	**Pb**	**03 56 03.9**	**-0.6**
YERR	**Yerington**	**1.86**	**130**	*e*Pn	**Pb**	**03 56 05.0**	**-0.5**
YBH	**Yreka Blue Hor**	**1.97**	**322**	*e*Pn	**Pn**	**03 56 05.7**	**+0.8**
KCPM	**Cahto Peak**	**1.99**	**256**	*e*Pn	**Pn**	**03 56 06.2**	**+1.0**
MRRM	**Mail Ridge**	**2.01**	**272**	*e*Pn	**Pn**	**03 56 06.2**	**+0.8**
WAKR	**Walker**	**2.11**	**142**	*e*Pn	**Pn**	**03 56 07.9**	**+1.0**
KHMM	**Horse Mountain**	**2.13**	**289**	*e*Pn	**Pb**	**03 56 08.9**	**-1.2**
CMB	**Columbia Colle**	**2.22**	**166**	*e*Pn	**Pn**	**03 56 09.1**	**+0.9**
L04D	**Klamath Falls**	**2.22**	**336**	Pb	**Pb**	**03 56 10.9**	**-0.6**
	baz=155,SNR=29						
JCC	**Jacoby Creek,**	**2.33**	**286**	*e*Pn	**Pn**	**03 56 10.7**	**+0.9**
MCCM	**Marconi Confer**	**2.48**	**215**	*e*Pn	**Pn**	**03 56 12.5**	**+0.8**
K04D	**Chiloquin, OR**	**2.48**	**348**	Pb	**Pb**	**03 56 14.9**	**-1.0**
	baz=168						
RYN	**Ryan**	**2.52**	**127**	*e*Pn	**Pn**	**03 56 14.3**	**+1.8**
KVN	**Kaiserville**	**2.57**	**115**	*e*Pn	**Pn**	**03 56 14.5**	**+1.3**

L02E	Cave Junction	2.73	317	Pb	Pb	03 56 18.9	-1.3
baz=135							
NVAR	Mina Array Bea	2.78	128	*e*Pn	Pn	03 56 17.4	+1.3
HUMO	Hull Mountain	2.79	330	*e*Pb	Pb	03 56 21.0	-0.2
HUMO				*e*Pg	Pg	03 56 24.9	+0.3
BMN	Battle Mountai	2.96	84	*e*Pn	Pn	03 56 18.0	-0.5
MDPB	Devils Postpil	3.00	148	*e*Pn	Pn	03 56 20.9	+1.7
J05D	Fort Rock, OR	3.09	358	Pb	Pb	03 56 25.3	-1.1
baz=178,SNR=42							

*NEIC **24** 03:55:56.6±0.0, 40°.16N×121°.06W, h10km, ML3.4(NCEDC), After NCEDC.*

NCEDC 24 03:55:56.6, 40°.16N×121°.06W, h10km, ML3.4, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEKR	Beckworth	0.61	119	*e*Pg	Pg	03 56 08.2	-0.3
BEKR				*e*Sg	Sg	03 56 16.0	-0.5
ORV	Oroville	0.70	210	*e*Pn	Pn	03 56 12.3	-0.2
PAHR	Pah Rah Range	1.36	109	*e*Pn	Pn	03 56 21.9	+0.1
MOD	Modoc Plateau	1.83	18	*e*Pn	Pn	03 56 27.8	-0.4
YERR	Yerington	1.83	129	*e*Pn	Pn	03 56 28.8	+0.5
HOPS	Hopland Field	1.95	234	*e*Pn	Pn	03 56 30.7	+1.0
CMB	Columbia Colle	2.19	166	*e*Pn	Pn	03 56 33.9	+0.8
MCCM	Marconi Confer	2.46	216	*e*Pn	Pn	03 56 37.5	+0.7
NVAR	Mina Array Bea	2.75	128	*e*Pn	Pn	03 56 42.4	+1.4

SAR 24 03:58:11.4±0.5, 44°.58N×19°.18E, h5km±3km, ML1.4/5, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLJ	Bijeljina	0.21	17	*e*Pg	Pg	03 58 14.8	-0.7
BLJ				*e*Sg	Sg	03 58 18.2	-0.1
TEKS	Tekeris	0.25	97	*e*Pg	Pg	03 58 16.0	-0.3
TEKS				*e*Sg	Sg	03 58 20.1	+0.5
HAPS	Han Pijesak,BI	0.52	199	*e*Pg	Pg	03 58 20.7	-0.7
HAPS				*e*Sg	Sg	03 58 28.5	+0.3
FRGS	Fruska Gora	0.73	38	*e*Pg	Pg	03 58 24.4	-1.0
FRGS				*e*Sg	Sg	03 58 34.8	-0.1
BBLS	Lazići	0.73	167	*e*Pg	Pg	03 58 24.7	-0.8
BBLS				*e*Sg	Sg	03 58 35.2	+0.2
DIVS	Divibare	0.76	129	*e*Pg	Pg	03 58 25.0	-0.9
DIVS				*e*Sg	Sg	03 58 36.1	+0.4

*ISK **24** 03:58:23.9, 36°.99N×28°.40E, h2km, ML2.3/11*
*ISCJB **24** 03:58:24.6±0.6, 37°.03N±0°.04×28°.40E±0°.04, h6km±8km, Error ellipse: s-maj=8.0km s-min=3.9km az=27.3*
*DDA **24** 03:58:24.3, 37°.05N×28°.44E, h7km±6km, ML2.5*

ISC 24 03:58:24.6±1.0, 37°.02N±0°.03×28°.40E±0°.03, h14km±8km, n20, σ0°46/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	Turunc	0.21	132	PG	Pg	03 58 29.9	+0.6
TURN				SG	Sb	03 58 34.0	-0.1
TURN	Turunc	0.21	132	*i* P	Pb	03 58 30.6	+0.3
DALY	Dalyan (Mula)	0.28	135	PG	Pg	03 58 29.8	-0.7
DALY				SG	Sg	03 58 34.6	+0.2
DALY	Dalyan (Mula)	0.28	135	IAML_P			
comp=Z,3μm,0.3s							
DALY				*i* P	Pg	03 58 30.4	0.0
DALY				*i* S	Sg	03 58 34.3	-0.2
MRSB	Marmaris-Mugla	0.34	209	PG	Pg	03 58 31.1	-0.5
BBRN	Bozburun-Marma	0.43	219	PG	Pg	03 58 33.0	-0.2
TAVA	DENIZLI_Tavas	0.60	42	IAML_P			
comp=Z,710nm,0.1s							
TAVA				*i* P	Pg	03 58 35.4	-1.0
DATC	Datca-Mugla	0.65	247	PG	Pg	03 58 37.3	+0.1
DATC				SG	Sb	03 58 47.1	+0.5
FETY	Fethiye	0.67	125	PG	Pg	03 58 37.9	+0.3
FETY	Fethiye	0.67	125	*i* P	Pn	03 58 39.2	-0.5
FETY				*i* S	Sb	03 58 47.4	+0.2
AYDN	Tasoluk	0.77	327	IAML_P			
comp=Z,2μm,0.2s							
AYDN				*i* P	Pg	03 58 39.5	0.0
AYDN				*i* S	Sg	03 58 49.5	-0.1
BDRM	Kayabasi	0.77	274	IAML_P			
comp=Z,515nm,0.2s							
BDRM				*i* P	Pn	03 58 41.6	+0.6
BDRM				*i* S	Sn	03 58 52.0	-0.5
ARG	Arkhangelos	0.83	196	PG	Pb	03 58 40.1	-0.7
BODT	Bodrum	0.88	273	PG	Pb	03 58 41.5	-0.1
AYDB	Zeytinkoy-Aydi	1.01	336	PG	Pb	03 58 44.0	0.0
GCAM	G?zelcaml?	1.16	307	PN	Pb	03 58 47.1	+0.8
ELL	Elmali	1.24	102	PN	Pg	03 58 48.6	+0.2
AKAS	Kas	1.24	129	PN	Pg	03 58 48.7	+0.2
AKAS	Kas	1.24	129	IAML_P			
comp=Z,820nm,0.2s							
AKAS				*i* P	Pg	03 58 49.0	+0.5
KORT	Korkueli	1.56	90	PN	Pb	03 58 53.6	+0.3

TEH 24 03:03:58.1, 30°.46N×57°.39E, h19km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.61	168	IAMB	IAmb	04 04 24.6	
comp=Z,0.0nm,0.3s							
CHMN				*e*Pg	Pb	04 04 09.2	-1.0
TVBK	TV Kerman	0.72	229	*e*Pg	Pg	04 04 12.9	+0.5
TVBK				IAMB	IAmb	04 04 31.1	
comp=Z,0.0nm,0.2s							
KHGB	Koh Gabri	0.79	264	*e*Pg	Pb	04 04 12.3	-1.1
KHGB				IAMB	IAmb	04 04 22.7	
comp=Z,0.0nm,0.4s							
NGRK	Negar Kerman	0.99	215	*e*Pg	Pg	04 04 18.2	+0.7
NGRK				IAMB	IAmb	04 04 35.3	
comp=Z,0.0nm,0.2s							
IBAF	Bafgh	1.93	306	*e*Pg	Pb	04 04 32.3	-0.5
IBAF				IAMB	IAmb	04 04 60.0	
comp=Z,0.0nm,0.3s							
IKOO	Kooshah	2.40	35	*e*Pn	Pn	04 04 38.4	+1.8
IKOO				IAMB	IAmb	04 05 19.2	
comp=Z,0.0nm,0.3s							
IMEH	Mehriz	2.56	292	*e*Pn	Pn	04 04 40.8	+2.0
TPRV	Parvadeh(Tabas	2.63	347	*e*Pn	Pn	04 04 40.9	+1.2
TPRV				IAMB	IAmb	04 05 25.0	
comp=Z,0.0nm,0.7s							
ITEG	Tejag	2.69	25	*e*Pn	Pn	04 04 42.3	+1.7
ITEG				IAMB	IAmb	04 05 29.4	
comp=Z,0.0nm,0.3s							
ZHSF	Zahedan	3.05	105	*e*Pn	Pb	04 04 51.0	-0.9
YZKH	Yazd	3.07	310	*e*Pn	Pn	04 04 48.1	+2.4
TKDS	Koohdasht(Taba	3.16	356	*e*Pn	Pn	04 04 48.3	+1.4
TABS	Tabas	3.19	356	*e*Pn	Pn	04 04 49.0	+1.6
IMON	Monand	3.35	35	*e*Pn	Pn	04 04 52.4	+2.8
ISAD	Sadrabad	3.49	296	*e*Pn	Pb	04 04 56.0	-3.5
ISAD				IAMB	IAmb	04 05 59.7	
comp=Z,0.0nm,0.4s							
TNSJ	Nastanj	3.56	349	*e*Pn	Pn	04 04 53.8	+1.4
NASN	Na'in	4.55	302	*e*Pn	Pn	04 05 08.7	+2.4
IZEF	Zefreh	4.95	301	*e*Pn	Pn	04 05 15.4	+3.7
IPAY	Payeh	6.13	12	*e*Pn	Pn	04 05 30.3	+2.5
IAKL	Akhelmad	6.24	10	*e*Pn	Pn	04 05 32.0	+2.6

IDC 24 04:12:46.9±31.0, 15°.35S×71°.60W, h198km±87km, mb3.5/2, mb1 3.5/3, mb1mx3.1/24, mbtmp3.8/3, Error ellipse: s-maj=650.6km s-min=146.9km az=52.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.46	106	P	Pn	04 13 42.6	0.0
1.5nm,0.3s,baz=279,slow=11,SNR=34							
TORD	Torodi Ar. Bea	77.83	73	P	P	04 24 23.0	+0.1
1.4nm,0.7s,baz=245,slow=4.8,SNR=14							
ESDC	Sonseca Array	83.34	46	P	P	04 24 51.8	0.0
0.5nm,0.5s,baz=257,slow=5.8,SNR=4.1							

IDC 24 04:19:03.7±6.3, 5°.80S×151°.02E, h59km±53km, mb3.8/3, mb1 4.0/4, mb1mx3.5/31, mbtmp4.1/4, ML1.9/1, Error ellipse: s-maj=92.1km s-min=33.6km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.24	227	P	Pn	04 20 20.0	+0.4
2.6nm,0.3s,baz=93,slow=9.3,SNR=4.1							
PMG				S	Sn	04 21 13.3	-5.4
1.1nm,0.3s,baz=31,slow=18,SNR=3.1							
ASAR	Alice Springs	24.23	221	P	P	04 24 14.9	-0.4
6.1nm,0.7s,baz=53,slow=9.2,SNR=51							
STKA	Stephens Creek	27.40	198	P	P	04 24 43.8	0.0
1.0nm,0.4s,baz=5.8,slow=14,SNR=4.7							
ILAR	Eielson Array	83.75	22	P	P	04 31 26.0	-0.2
0.7nm,0.8s,baz=254,slow=5.1,SNR=8.4							
TORD	Torodi Ar. Bea	148.90	286	PKPbc	PKPbc	04 38 45.9	-0.1
1.0nm,0.8s,baz=82,slow=3.3,SNR=7.0							

*ISCJB **24** 04:33:57.5±0.6, 38°.94N±0°.04×106°.06E±0°.07, h10km, MS4.0/1, Error ellipse: s-maj=7.6km s-min=6.0km az=156.4*
*IDC **24** 04:33:58.2±1.2, 38°.95N×105°.86E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.3/46, mbtmp3.5/7, ML3.4/3, MS4.1/1, Ms1 4.1/1, ms1mx3.2/46, Error ellipse: s-maj=35.7km s-min=19.3km az=54.0*

ISC 24 04:34:01.2±0.7, 39°.13N±0°.05×106°.15E±0°.04, h10km, n14, σ2°93/22, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	Baotou	3.32	63	*e*Pg	Pn	04 34 51.6	-1.7
BTO				Sg	Sn	04 35 34.6	+1.7
LZH	Lanzhou	3.55	212	Pn	Pn	04 34 55.8	-0.7
LZH				Pg	Pb	04 35 03.3	-0.9
LZH				Sg	Sb	04 35 48.4	+1.0
GTA	Gaotai	4.92	275	Pn	Pn	04 35 14.0	-1.3
GTA				Pg	Pb	04 35 27.9	+0.3
GTA				Sn	Sn	04 36 12.0	-0.4
GTA				Sg	Sb	04 36 34.0	+7.1
XAN	Xi'an	5.55	155	Pn	Pn	04 35 22.3	-1.6
XAN				Pg	Pb	04 35 40.8	+2.6
XAN				Sn	Sn	04 36 22.8	-5.0
XAN				Sg	Sb	04 36 51.3	+6.4
SONM	Songino Array	8.70	1	Pn	Pn	04 36 08.7	+1.5
0.2nm,0.3s,baz=184,slow=15,SNR=3.2							
SONM				Lg	Lg	04 38 40.1	
0.2nm,0.3s,baz=188,slow=29,SNR=4.3							
WHN	Wuhan	10.90	139	P	Pn	04 36 35.6	-1.6
WMQ	Urumqi	14.60	295	*e*P	Pn	04 37 26.8	-1.0
KSRS	Korea Array	17.18	89	P	Pn	04 38 01.9	+0.8
0.2nm,0.3s,baz=290,slow=10,SNR=5.9							
MKAR	Makanchi Array	19.02	301	P	P	04 38 21.1	-2.0
0.1nm,0.3s,baz=97,slow=13,SNR=4.1							
ZALV	Zalesovo Beam	20.73	323	P	P	04 38 39.7	-1.9
0.8nm,0.4s,baz=112,slow=14,SNR=4.2							
KURBB	Kurchatov Arra	22.55	310	P	P	04 38 58.4	-2.8
0.6nm,0.5s,baz=113,slow=10,SNR=3.7							
JHJ	Hachijo jima 2	27.72	92	LR	LR	04 51 01.4	
comp=Z,354nm,18.4s,baz=282,slow=37							
BVAR	Borovoye Array	28.09	311	P	P	04 39 51.7	-1.1
0.6nm,0.4s,baz=100,slow=7.9,SNR=3.5							
ASAR	Alice Springs	67.66	153	P	P	04 44 56.6	-1.8
0.9nm,0.6s,baz=340,slow=6.4,SNR=9.7							

ISC 24 04:41:54.0±2.7, 49°.8N±0°.3×18°.52E±0°.08, h8km±21km, n5, σ0°44/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	Moravsky Berou	0.64	266	*e*PG	Pg	04 42 06.6	+0.3
MORC				*e*SG	Sg	04 42 14.2	-0.4
LANS	Liptovska Anna	0.92	137	*e*PG	Pb	04 42 12.2	0.0
LANS				*e*SG	Sb	04 42 24.6	+0.1
VYHS	Vyhne	1.35	171	*e*PG	Pn	04 42 18.9	-0.2
VYHS				*e*SG	Sn	04 42 37.2	0.0
VRAC	Vranov	1.36	248	*e*PG	Pb	04 42 19.6	-0.1
VRAC				*e*SG	Sn	04 42 37.5	+0.1
KRUC	Moravsky	1.58	242	*e*PG	Pb	04 42 23.0	-0.5
KRUC				*e*SG	Sb	04 42 44.4	+0.7

*IDC **24** 04:42:25.0±1.0, 1°.58S×135°.66E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/27, mbtmp4.2/8, ML4.5/1, Error ellipse: s-maj=39.9km s-min=17.5km az=74.0*
*ISCJB **24** 04:42:26.4±0.6, 1°.68S±0°.06×135°.55E±0°.07, h21km, mb4.2/10, Error ellipse: s-maj=10.1km s-min=8.8km az=4.9*
*DJA **24** 04:42:27.2±1.7, 2°.S±7°.×13°.6E±2°.3, h10km±23km, M4.6/2, MLv4.6/2*
*NEIC **24** 04:42:27.5±10.0, 1°.64S×135°.56E, h16km±66km, mb4.4/4, Error ellipse: s-maj=26.0km s-min=9.7km az=52.0*

ISC 24 04:42:27.8±0.8, 1°.59S±0°.08×135°.51E±0°.09, h21km, n24, σ1°28/26, mb4.2/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	1.34	273	P	Pb	04 42 52.1	-0.1
FAKI	Fak Fak	3.52	248	*e*Pn	Pn	04 43 21.7	+0.4
FAKI	Fak Fak	3.52	248	P	Pn	04 43 22.0	+0.7
FAKI				S	Sn	04 44 02.1	-0.2
MTN	Manton Dam	12.00	201	*e*Pn	Pn	04 45 16.8	-0.9
FITZ	Fitzroy Crossi	19.06	210	P	Pn	04 46 49.4	-0.4
1.0nm,0.3s,baz=36,slow=12,SNR=23							
CTA	Charters Tower	21.18	151	P	P	04 47 13.1	+1.1
4.5nm,0.6s,baz=325,slow=11,SNR=8.2							
AS31	Alice Springs	22.00	184	*e*P	P	04 47 21.5	+0.6
8.9nm,1.1s							
ASAR	Alice Springs	22.00	184	*e*P	P	04 47 20.6	-0.3
ASAR	Alice Springs	22.00	184	P	P	04 47 21.6	+0.7
9.9nm,0.5s,baz=11,slow=12,SNR=96							
FORT	Forrest	29.88	193	*e*P	P	04 48 33.7	-0.4
19nm,0.7s							
STKA	Stephens Creek	30.67	170	*e*P	P	04 48 40.3	-0.7
8.0nm,2.0s							
STKA	Stephens Creek	30.67	170	P	P	04 48 40.3	-0.7
2.1nm,0.5s,baz=338,slow=9.1,SNR=8.0							
NJ2	Nanjing	36.99	336	*e*P	P	04 49 35.0	-0.9
WHN	Wuhan	37.78	329	P	P	04 49 40.5	-2.1
CM31	Chiang Mai Arr	41.12	301	*e*P	P	04 50 11.8	+1.1
CMAR	Chiang Mai Arr	41.12	301	P	P	04 50 11.8	+1.1
1.5nm,0.7s,baz=113,slow=6.2,SNR=5.9							
MK32	Makanchi Array	66.97	323	*e*P	P	04 53 20.4	+1.4
MKAR	Makanchi Array	66.97	323	P	P	04 53 20.4	+1.4
1.1nm,0.5s,baz=114,slow=8.1,SNR=14							
MAKZ	Makanchi	67.16	323	*e*P	P	04 53 21.2	+0.9
4.5nm,0.9s							
KSH	Kashi	68.00	314	P	P	04 53 28.8	+2.9
KSH				pP	PcP	04 53 44.5	-7.5
KSH				S	S	05 02 22.1	-2.1
ZALV	Zalesovo Beam	69.38	331	P	P	04 53 35.7	+1.8
0.8nm,0.3s,baz=131,slow=5.9,SNR=3.2							
ZAA1	Zalesovo Array	69.39	331	*e*P	P	04 53 35.8	+1.8
ILAR	Eielson Array	86.15	25	P	P	04 55 06.6	-0.5
0.7nm,0.8s,baz=265,slow=4.5,SNR=4.3							
ILB	Eielson Array	86.15	25	*e*P	P	04 55 06.6	-0.5

*NEIC **24** 04:58:09.1±0.0, 40°.17N×121°.07W, h8km, ML3.2(NCEDC), After NCEDC.*
*NCEDC **24** 04:58:09.1, 40°.17N×121°.07W, h8km, ML3.2*
*ANF **24** 04:58:14.6±0.4, 40°.44N×121°.54W, ML3.1/14, Error ellipse: s-maj=4.6km s-min=3.4km az=74.0*

ISC 24 04:58:08.6±1.1, 40°.16N±0°.03×121°.13W±0°.03, h10km±10km, n45, σ1°97/51, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	Paynes Creek	0.53	285	P	Pg	04 58 19.7	+0.8
baz=102,SNR=378							
O03E				S	Sg	04 58 25.7	-0.3
baz=102							
BEKR	Beckworth	0.66	116	*e*Pg	Pg	04 58 20.5	-0.9
ORV	Oroville	0.67	205	*e*Pg	Pg	04 58 21.7	+0.2
WDC	Whiskeytown Da	1.16	292	*e*Pg	Pb	04 58 29.9	-0.8
AFDM	Forest Hills D	1.22	174	*e*Pg	Pb	04 58 31.2	-0.4
O02D	Mt. Diablo Mer	1.27	271	P	Pn	04 58 32.5	0.0
baz=90,SNR=29							
O02D				S	Sb	04 58 46.5	-2.6
baz=90							
RUBR	Rubicon Trail	1.34	145	*e*Pn	Pn	04 58 33.4	-0.1
PAHR	Pah Rah Range	1.42	108	*e*Pn	Pn	04 58 34.0	-0.5
VCNR	Virginia City	1.43	127	*e*Pn	Pn	04 58 34.9	+0.1
N02D	Trinity Center	1.45	305	P	Pn	04 58 34.9	-0.1
baz=122,SNR=40							
N02D				S	Sn	04 58 48.6	-5.5
baz=122							
PNTR	Pine Nut	1.59	132	*e*Pn	Pn	04 58 37.5	+0.5
M04C	Macdoel	1.71	342	P	Pn	04 58 40.1	+1.6
baz=160,SNR=18							
M04C				S	Sn	04 59 00.4	-0.2
baz=160							
M02C	Callahan	1.80	314	P	Pn	04 58 41.4	+1.7
baz=132,SNR=20							
M02C				S	Sn	04 59 01.1	-1.6
baz=132							
MOD	Modoc Plateau	1.85	19	*e*Pn	Pn	04 58 41.0	+0.5
GDXM	Geysers	1.87	224	*e*Pn	Pn	04 58 42.0	+1.4
YERR	Yerington	1.87	128	*e*Pn	Pn	04 58 42.0	+1.2
HOPS	Hopland Field	1.90	233	*e*Pn	Pn	04 58 42.2	+1.2
KCPM	Cahto Peak	1.94	257	*e*Pn	Pn	04 58 43.6	+1.9
YBH	Yreka Blue Hor	1.98	323	*e*Pn	Pn	04 58 43.8	+1.6
KMRM	Mail Ridge	1.98	273	*e*Pn	Pn	04 58 44.7	+2.5
KHMM	Horse Mountain	2.11	291	*e*Pn	Pn	04 58 45.3	+1.3
WAKR	Walker	2.11	141	*e*Pn	Pn	04 58 45.6	+1.5
CMB	Columbia Colle	2.20	165	*e*Pn	Pn	04 58 46.2	+1.0
L04D	Klamath Falls	2.24	337	P	Pn	04 58 48.0	+2.2
baz=155,SNR=15							
JCC	Jacoby Creek,	2.31	287	*e*Pn	Pn	04 58 47.6	+1.0
MCCM	Marconi Confer	2.43	215	*e*Pn	Pn	04 58 49.8	+1.5
K04D	Chiloquin, OR	2.51	349	P	Pb	04 58 52.7	-1.1
baz=168,SNR=6.0							
K05A	Summer Lake	2.57	4	*e*Pn	Pn	04 58 50.6	+0.2
KVN	Kaiserville	2.59	114	*e*Pn	Pn	04 58 51.0	+0.3
L02E	Cave Junction	2.73	318	Pb	Pb	04 58 56.8	-0.8
baz=135							
HUMO	Hull Mountain	2.81	331	*e*Pn	Pn	04 58 54.7	+1.1
WVOR	Wild Horse Val	2.95	39	*e*Pn	Pn	04 58 56.2	+0.6
MLAC	Mammoth, Mammo	3.09	144	S	Sg	04 59 50.1	+2.2
baz=326							
J05D	Fort Rock, OR	3.12	359	P	Pn	04 59 01.5	+3.5
baz=178,SNR=52							
J05D				Sb	Sb	04 59 44.0	+1.5
baz=178							
TIN	Tinemaha, Big	3.84	143	S	Sg	05 00 11.6	-0.4
baz=325							
I07A	Izee	4.10	17	*e*Pg	Pb	04 59 23.5	+2.6
CWC	Cottonwood Cre	4.42	146	S	Sg	05 00 27.3	-3.2
baz=329							
ELK	Elko	4.53	81	*e*Pn	Pn	04 59 17.9	+0.5
R11A	Troy Canyon, C	4.67	111	*e*Pn	Pn	04 59 19.9	+0.6
R11A	Troy Canyon, C	4.67	111	S	Sg	05 00 33.9	-4.5
baz=295							
ISA	Isabella, Lake	4.96	154	*e*Pn	Pn	04 59 24.9	+1.8
ISA	Isabella, Lake	4.96	154	S	Sb	05 00 41.3	+6.2
baz=336							
SHPR	Sheep Range	5.94	126	*e*Pn	Pn	04 59 37.1	+0.3
HLID	Hailey	6.06	54	*e*Pn	Pn	04 59 39.5	+1.2
DUG	Dugway, Tooele	6.37	87	*e*Pn	Pn	04 59 43.8	+1.2

*NNC **24** 04:58:17.3±5.7, 53°.90N×90°.42E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=41.0km s-min=30.0km az=59.0, Suspected Mining explosion.*

ASRS 24 04:58:09.3, 53°.77N×91°.03E, M3.3, 11C-2D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	3.68	275	⇑Pg	Pg	04 59 17.6	-2.3
2.1nm,0.5s							
ZAA0				⇑Lg	Lg	05 00 06.1	
8.3nm,1.1s							
KURK	Kurchatov	8.21	253	⇑Pn	Pn	05 00 13.6	+4.1
3.2nm,0.7s							
KURK				⇑Sn	Sn	05 01 44.9	+2.0
14nm,0.9s							
KURK				⇑Lg	Lg	05 02 28.4	
40nm,1.1s							
KURBB	Kurchatov Arra	8.30	253	⇑Pn	Pn	05 00 14.8	+4.0
3.9nm,0.5s							
KURBB				⇑Sn	Sn	05 01 45.8	+0.6
45nm,1.1s							
KURBB				⇑Lg	Lg	05 02 28.4	
40nm,0.8s							
MK31	Makanchi Array	8.94	222	⇑Pn	Pn	05 00 24.2	+4.6
0.4nm,0.4s,baz=26,slow=14,SNR=5.6							
MK31				⇓Sn	Sn	05 02 04.3	+3.3
7.2nm,1.0s							
MK31				⇑Lg	Lg	05 02 52.5	
17nm,0.9s,baz=29,slow=27,SNR=6.6							
MAKZ	Makanchi	9.05	223	⇓Sn	Sn	05 02 13.8	+10
4.2nm,0.9s							
MAKZ				⇑Lg	Lg	05 02 57.4	
18nm,1.5s							

NEIC 24 04:58:58.0±0.0, 40°.19N×121°.04W, h5km, ML3.4(NCEDC), After NCEDC., Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEKR	Beckworth	0.61	121	*e*Pg	Pg	04 59 09.4	-0.4
ORV	Oroville	0.73	209	*e*Pg	Pg	04 59 12.5	+0.6
WDC	Whiskeytown Da	1.21	289	*e*Pg	Pg	04 59 19.8	-1.4
AFDM	Forest Hills D	1.24	178	*e*Pg	Pg	04 59 21.0	-0.7
RUBR	Rubicon Trail	1.32	149	*e*Pn	Pg	04 59 23.4	0.0
PAHR	Pah Rah Range	1.36	110	*e*Pn	Pn	04 59 23.1	-0.7
VCNR	Virginia City	1.39	129	*e*Pn	Pn	04 59 24.4	+0.1
PNTR	Pine Nut	1.56	134	*e*Pn	Pb	04 59 27.1	-0.4
MOD	Modoc Plateau	1.80	18	*e*Pn	Pb	04 59 31.5	-0.1

*ISCJB **24** 05:02:46.9±0.5, 7°.52S±0°.06×39°.55E±0°.06, h10km, mb3.9/7, MS3.8/1, Error ellipse: s-maj=10.6km s-min=6.4km az=137.9*
*IDC **24** 05:02:47.9±1.1, 7°.51S×39°.65E, h0km, mb3.8/5, mb1 4.1/9, mb1mx3.7/45, mbtmp4.1/9, ML4.6/5, MS3.9/1, Ms1 3.9/1, ms1mx3.0/62, Error ellipse: s-maj=30.3km s-min=18.8km az=109.0*
*EAF **24** 05:02:49.1±0.6, 7°.69S×39°.71E, h38km±999km*
*NEIC **24** 05:02:50.0±2.0, 7°.50S×39°.61E, h15km±5km, mb4.1/3, Error ellipse: s-maj=24.8km s-min=12.1km az=120.0*

ISC 24 05:02:48.9±0.8, 7°.58S±0°.06×39°.40E±0°.07, h10km, n26, σ3°05/33, mb4.1/7, 2D, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIBA	Kibaya	3.60	309	*i* P	Pn	05 03 46.8	+1.8
KIBA				*i* S	Sn	05 04 28.1	+0.3
KOND	Kondoa	4.46	306	*i* P	Pn	05 03 58.1	+1.

3.7nm,1.0s,baz=42,slow=9.5,SNR=4.9
ASF Jabal al Asfar 39.60 357 LR LR 05 28 09.2
comp=Z,139nm,18.7s,baz=336,slow=38
TORD Torodi Ar. Bea 42.74 299 P **P 05 10 49.2 +2.4**
0.5nm,0.8s,baz=113,slow=7.1,SNR=3.7
TOA1 Torodi Ar. Sit 42.74 299 *e*P **P 05 10 49.2 +2.4**
ABKAR Abkulak array 59.39 15 *e*P **P 05 12 50.9 -0.4**
AKTO Aktyubinsk 59.99 14 P **P 05 12 55.3 -0.2**
1.1nm,0.4s,baz=206,slow=5.6,SNR=5.7
MAKZ Makanchi 66.03 31 ||P **P 05 13 37.4 +1.6**
1.8nm,0.7s
MK31 Makanchi Array 66.18 31 *e*P **P 05 13 36.7 -0.1**
1.6nm,0.9s
MK31 Makanchi Array 66.18 31 ||P **P 05 13 34.8 -2.0**
1.9nm,0.8s,baz=27,slow=12,SNR=4.5
MK32 Makanchi Array 66.18 31 *e*P **P 05 13 36.3 -0.5**
MKAR Makanchi Array 66.18 31 P **P 05 13 36.3 -0.5**
0.9nm,0.7s,baz=221,slow=4.8,SNR=6.5

MEX 24 05:04:45.7±1.0,**16°37N**×**98°46W,h4**km±7km,**MD3.6,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**86**	*e*P	Pg	05 04 51.5	-0.5
PNIG				*e*S	Sg	05 04 56.3	+0.1
TLIG	**Tlapa**	**1.19**	**355**	*e*P	Pg	05 05 04.8	-3.8
TLIG				*e*S	Sg	05 05 20.1	-3.9

*ISCJB **24** 05:09:48.4±0.4,45°18N±0°04×149°85E±0°04,h99km±3km, mb4.6/130,Error ellipse: s-maj=6.6km s-min=3.7km az=149.8*
*SKHL **24** 05:09:49.2±0.2,45°12N×149°88E,h117km±17km,mb5.1/1, msh6.0/5*
*IDC **24** 05:09:49.8±0.5,45°39N×149°91E,h95km±4km,mb4.3/25, mb1 4.3/33,mb1mx4.2/55,mbtmp4.5/33,Error ellipse: s-maj=13.8km s-min=11.0km az=157.0*
*MOS **24** 05:09:49.1±1.2,45°31N×149°86E,h105km,mb4.8/23, Error ellipse: s-maj=7.3km s-min=5.5km az=106.7*
*JMA **24** 05:09:50.5±0.4,44°58N×149°92E,h118km,M4.2*
*NEIC **24** 05:09:51.4±1.9,45°29N×149°79E,h108km±3km,mb4.6/86, Error ellipse: s-maj=15.8km s-min=13.1km az=125.0*
*BJI **24** 05:09:53.2±0.0,45°70N×149°62E,h125km,mb4.9/30, mB4.9/12*
ISC 24 05:09:49.0±0.5,**45°16N**±0°04×**149°84E**±0°05,**h94**km±3km, **h94**km:**pP-P,n332**,σ**1$64**/364,**mb4.6**/130,**12C-13D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.40**	**274**	*d i*PN	**Pn**	**05 10 15.2**	**+1.6**
KUR				*i* S	**Sn**	**05 10 34.7**	**+2.5**
KUR				pmax	pmax		
	comp=Z,3μm,0.4s						
KUR				pmax	pmax		
	comp=N,868nm,0.3s						
KUR				pmax	pmax		
	comp=E,134nm,0.3s						
KUR				smax	smax		
	comp=N,10μm,0.4s						
KUR				smax	smax		
	comp=E,1μm,0.3s						
KUR	**Kuril'sk**	**1.40**	**274**	*i* P	**Pn**	**05 10 15.2**	**+1.6**
KUR				AMB	AMB	05 10 15.6	
	comp=E,110nm,0.3s						
KUR				AMB	AMB	05 10 15.6	
	comp=E,130nm,0.3s						
KUR				AMB	AMB	05 10 15.6	
	comp=E,370nm,0.3s						
KUR				*i* S	**Sn**	**05 10 34.7**	**+2.5**
KUR				A	A	05 10 35.7	
	comp=E,940nm,0.5s						
KUR				A	A	05 10 35.7	
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.06**	**250**	*d i*PN	**Pn**	**05 10 37.1**	**+1.8**
YUK				*i* S	**Sn**	**05 11 11.9**	**+1.0**
YUK				pmax	pmax		
	comp=N,204nm,0.2s						
YUK				pmax	pmax		
	comp=Z,527nm,0.2s						
YUK				pmax	pmax		
	comp=E,83nm,0.1s						
YUK				smax	smax		
	comp=E,884nm,0.4s						
YUK				smax	smax		
	comp=N,518nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.06**	**250**	*i* P	**Pn**	**05 10 37.1**	**+1.8**
YUK				AMB	AMB	05 10 38.0	
	comp=N,200nm,0.4s						
YUK				AMB	AMB	05 10 38.0	
	comp=N,80nm,0.4s						
YUK				AMB	AMB	05 10 38.0	
	comp=N,530nm,0.4s						
YUK				*i* S	**Sn**	**05 11 12.0**	**+1.0**
YUK				A	A	05 11 19.0	
	comp=N,520nm,0.3s						
YUK				A	A	05 11 19.0	
	comp=N,880nm,0.3s						
LAGR	**Lagunnoye**	**3.10**	**251**	*e*PN	**Pn**	**05 10 36.6**	**+0.8**
LAGR				*e*S	**Sn**	**05 11 13.5**	**+1.5**
LAGR				pmax	pmax		
	comp=Z,288nm,0.4s						
LAGR				pmax	pmax		
	comp=N,180nm,0.1s						
LAGR				pmax	pmax		
	comp=E,98nm,0.1s						
LAGR				smax	smax		
	comp=E,2μm,0.4s						
LAGR				smax	smax		
	comp=N,745nm,0.5s						
LAGR	**Lagunnoye**	**3.10**	**251**	*e*P	**Pn**	**05 10 37.2**	**+1.4**
LAGR				AMB	AMB	05 10 39.0	
	comp=N,180nm,0.4s						
LAGR				AMB	AMB	05 10 39.0	
	comp=N,100nm,0.4s						
LAGR				AMB	AMB	05 10 39.0	
	comp=N,290nm,0.4s						
LAGR				*e*S	**Sn**	**05 11 13.0**	**+1.0**
LAGR				A	A	05 11 25.0	
	comp=N,750nm,0.4s						
LAGR				A	A	05 11 25.0	
	comp=N,210nm,0.4s						
GRPR	**Tuman**	**3.13**	**250**	*e*PN	**Pn**	**05 10 37.9**	**+1.6**
GRPR				*e*S	**Sn**	**05 11 14.2**	**+1.4**
GRPR				pmax	pmax		
	comp=Z,180nm,0.2s						
GRPR				smax	smax		
	comp=E,267nm,0.2s						
GRPR				smax	smax		
	comp=N,752nm,0.4s						
GRPR	**Tuman**	**3.13**	**250**	*e*P	**Pn**	**05 10 38.3**	**+2.0**
GRPR				AMB	AMB	05 10 41.0	
	comp=N,180nm,0.2s						
GRPR				*e*S	**Sn**	**05 11 14.0**	**+1.2**
GRPR				A	A	05 11 27.0	
	comp=N,700nm,0.4s						
GRPR				A	A	05 11 27.0	
	comp=N,270nm,0.4s						
GLVR	**Golovnino**	**3.41**	**247**	*d i*PN	**Pn**	**05 10 41.5**	**+1.5**
GLVR				*i* S	**Sn**	**05 11 20.2**	**+0.8**
GLVR				pmax	pmax		
	comp=Z,197nm,0.2s						
GLVR				smax	smax		
	comp=N,913nm,0.5s						
GLVR				smax	smax		
	comp=E,1μm,0.4s						
GLVR	**Golovnino**	**3.41**	**247**	*i* P	**Pn**	**05 10 41.0**	**+1.0**
GLVR				AMB	AMB	05 10 42.0	
	comp=E,197nm,0.2s						
GLVR				*i* S	**Sn**	**05 11 20.0**	**+0.6**
GLVR				A	A	05 11 38.0	
	comp=E,913nm,0.5s						
GLVR				A	A	05 11 38.0	
	comp=E,1μm,0.5s						
NEM2	**Nemuro 2**	**3.45**	**240**	P	**Pn**	**05 10 40.5**	**0.0**
NEM2				*e*S	**Sn**	**05 11 18.6**	**-1.8**
JRA	**Rausu**	**3.59**	**252**	P	**Pn**	**05 10 44.7**	**+2.3**
JRA				*e*S	**Sn**	**05 11 26.6**	**+2.8**
JNK	**Nakash**	**4.00**	**249**	P	**Pn**	**05 10 49.3**	**+1.3**
JAK	**Akkeshi**	**4.29**	**242**	P	**Pn**	**05 10 52.0**	**+0.1**
JAK				*e*S	**Sn**	**05 11 39.2**	**-1.6**
JTKR	**Abashiri--Toko**	**4.40**	**256**	P	**Pn**	**05 10 55.6**	**+2.1**
JAR	**Ashorobuto**	**4.74**	**249**	P	**Pn**	**05 10 59.9**	**+1.8**
JMP	**Maruseppu**	**4.77**	**258**	P	**Pn**	**05 11 00.3**	**+1.8**
JOB	**Onbets**	**4.88**	**245**	P	**Pn**	**05 11 00.7**	**+0.7**
JOB				*e*S	**Sn**	**05 11 55.2**	**0.0**
JKK2	**Kamakawa 2**	**5.23**	**258**	P	**Pn**	**05 11 07.1**	**+2.3**
YSS	**Yuzh-Sakhalins**	**5.25**	**293**	*e*Pn	**Pn**	**05 11 06.6**	**+1.7**
YSS				*e*Sn	**Sn**	**05 12 04.9**	**+0.8**
YSS	**Yuzh-Sakhalins**	**5.25**	**293**	*ce*PN	**Pn**	**05 11 07.8**	**+2.9**
YSS				*e*S	**Sn**	**05 12 06.8**	**+2.7**
YSS				pmax	pmax		
	comp=Z,70nm,0.5s						
YSS				smax	smax		
	comp=E,150nm,1.5s						
YSS				smax	smax		
	comp=Z,500nm,2.6s						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.25**	**293**	*e*P	**Pn**	**05 11 07.0**	**+2.1**
YSS				AMB	AMB	05 11 09.0	
	comp=Z,70nm,0.5s						
YSS				*e*S	**Sn**	**05 12 06.0**	**+1.9**
YSS				A	A	05 12 10.0	
	comp=Z,150nm,2.0s						
YSS				A	A	05 12 11.0	
	comp=Z,500nm,3.0s						
YSS				AMS	AMS	05 14 31.0	
	comp=Z,300nm,16.0s						
JKA	**Kamikawa-asahi**	**5.27**	**261**	*e*P	**Pn**	**05 11 08.0**	**+2.7**
ASAJ	**Asahikawa**	**5.28**	**261**	PN	**Pn**	**05 11 08.0**	**+2.7**
ASAJ	**Asahikawa**	**5.28**	**261**	P	**Pn**	**05 11 08.0**	**+2.7**
	comp=Z,3.4nm,0.3s,baz=55,slow=16,SNR=5.6						
JCH	**Churui**	**5.33**	**244**	P	**Pn**	**05 11 06.2**	**+0.2**
JCH				*e*S	**Sn**	**05 12 04.6**	**-1.5**
ERM	**Erimo**	**5.78**	**239**	*e*Pn	**Pn**	**05 11 14.6**	**+2.4**
ERM				*e*Sn	**Sn**	**05 12 16.9**	**-0.2**
ERM	**Erimo**	**5.78**	**239**	*ce*PN	**Pn**	**05 11 13.9**	**+1.7**
ERM				pmax	pmax		
	comp=Z,95nm,0.7s						
JNBK	**Urakawa-nobuka**	**5.89**	**243**	P	**Pn**	**05 11 13.5**	**-0.1**
UGL	**Uglegorsk**	**6.60**	**309**	*e*P	**Pn**	**05 11 26.1**	**+2.9**
JNB	**Noboribetsu**	**6.91**	**250**	P	**Pn**	**05 11 28.9**	**+1.3**
JNB				*e*S	**Sn**	**05 12 43.9**	**-0.7**
JKB	**Kayabe**	**7.19**	**246**	P	**Pn**	**05 11 31.3**	**0.0**
JKB				*e*S	**Sn**	**05 12 47.0**	**-4.4**
TYV	**Tymovskoe**	**7.47**	**322**	*e*PN	**Pn**	**05 11 37.4**	**+2.3**
TYV				*e*S	**Sn**	**05 13 00.6**	**+2.5**
TYV				pmax	pmax		
	comp=Z,200nm,2.5s						
TYV				pmax	pmax		
	comp=Z,32nm,1.2s						
TYV				smax	smax		
	comp=E,300nm,4.9s						
TYV				smax	smax		
	comp=N,33nm,1.2s						
TYV	**Tymovskoe**	**7.47**	**322**	*e*P	**Pn**	**05 11 37.4**	**+2.3**
TYV				AMB	AMB	05 11 38.2	
	comp=N,200nm,3.0s						
TYV				AMB	AMB	05 11 38.3	
	comp=N,40nm,0.7s						
TYV				*e*S	**Sn**	**05 12 58.6**	**+0.5**
TYV				A	A	05 13 00.9	
	comp=N,50nm,0.7s						
TYV				A	A	05 13 00.9	
	comp=N,40nm,0.7s						
TYV				A	A	05 13 03.6	
	comp=N,300nm,5.0s						
JANG	**Nango**	**7.77**	**235**	P	**Pn**	**05 11 37.1**	**-2.2**
JANG				*e*S	**Sn**	**05 12 58.7**	**-6.9**
JTM	**Tenmabayashi**	**7.78**	**239**	*e*S	**Sn**	**05 13 00.1**	**-5.6**
JTH	**Tanohata**	**7.87**	**231**	*e*S	**Sn**	**05 13 00.6**	**-7.3**
OFUJ	**Ofunato**	**8.59**	**228**	P	**Pn**	**05 11 48.5**	**-1.9**
OFUJ				*e*S	**Sn**	**05 13 19.6**	**-5.9**
JRG	**Rokugo**	**8.93**	**233**	*e*S	**Sn**	**05 13 29.7**	**-4.0**
JIO	**Ouri**	**9.22**	**226**	*e*S	**Sn**	**05 13 33.7**	**-7.2**
TEY	**Ternei**	**9.37**	**274**	||*e*PN	**Pn**	**05 12 04.2**	**+3.2**
TEY				pmax	pmax		
	comp=Z,20nm,0.7s						
TEY				pmax	pmax		
	comp=E,30nm,0.8s						
TEY	**Ternei**	**9.37**	**274**	*e*P	**Pn**	**05 12 02.0**	**+1.0**
TEY				AMB	AMB	05 12 04.9	
	comp=E,30nm,0.8s						
TEY				AMB	AMB	05 12 04.9	
	comp=E,20nm,0.8s						
PEA0B	**Petropavlovsk-**	**9.47**	**30**	*e*Pn	**Pn**	**05 12 01.7**	**-0.6**
PETK	**Petropavlovsk-**	**9.47**	**30**	P	**Pn**	**05 12 01.1**	**-1.3**
	comp=E,1.3nm,0.3s,baz=206,slow=12,SNR=11						
PEA1	**Petropavlovsk-**	**9.48**	**30**	*e*Pn	**Pn**	**05 12 01.1**	**-1.3**
OKH	**Okha**	**9.53**	**334**	*e*P	Pn	05 12 08.1	+5.0
GRNR	**Gornyy**	**10.60**	**307**	*e*PN	Pn	05 12 23.7	+6.0
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
GRNR	**Gornyy**	**10.60**	**307**	*e*P	**Pn**	**05 12 21.0**	**+3.2**
GRNR				AMB	AMB	05 12 24.5	
	comp=Z,20nm,0.7s						
MJAR	**Matsushiro Arr**	**12.30**	**230**	P	**Pn**	**05 12 39.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=25,slow=13,SNR=7.2						
MAJO	**Matsushiro**	**12.30**	**230**	*e*Pn	**Pn**	**05 12 39.8**	**-1.0**
MAJO	**Matsushiro**	**12.30**	**230**	||*e*PN	**Pn**	**05 12 39.6**	**-1.2**
USA0B	**Ussuriysk Arra**	**12.75**	**272**	*e*Pn	**Pn**	**05 12 43.6**	**-3.0**
USRK	**Ussuriysk Ar.**	**12.75**	**272**	*e*Pn	**Pn**	**05 12 47.2**	**+0.6**
USRK	**Ussuriysk Ar.**	**12.75**	**272**	P	**Pn**	**05 12 47.4**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=84,slow=13,SNR=7.7						
KLR	**Kul'dur**	**12.96**	**295**	||*e*PN	**Pn**	**05 12 52.0**	**+2.7**
KLR	**Kul'dur**	**12.96**	**295**	P	**Pn**	**05 12 50.8**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=93,slow=12,SNR=6.4						
KLR	**Kul'dur**	**12.96**	**295**	*e*P	**Pn**	**05 12 52.0**	**+2.7**
EKMR	**Ekimchan**	**13.58**	**312**	*e*P	**Pn**	**05 12 58.6**	**+1.1**
EKMR				AMB	AMB	05 13 13.9	
	comp=Z,6.0nm,0.6s						
MA2	**Magadan**	**14.45**	**2**	*e*Pn	**Pn**	**05 13 07.3**	**-1.4**
MA2	**Magadan**	**14.45**	**2**	*de*P	**Pn**	**05 13 06.8**	**-1.9**
MA2				pmax	pmax		
	comp=Z,53nm,2.5s						
MA2	**Magadan**	**14.45**	**2**	P	**Pn**	**05 13 07.1**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=180,slow=14,SNR=3.4						
MA2	**Magadan**	**14.45**	**2**	*e*P	**Pn**	**05 13 06.8**	**-1.9**
BMKR	**Bomnak**	**16.50**	**313**	*e*P	**Pn**	**05 13 34.0**	**-0.5**
BMKR				AMB	AMB	05 13 38.0	
	comp=Z,20nm,0.9s						
ZEA	**Zeya**	**16.96**	**309**	*e*P	**Pn**	**05 13 40.0**	**-0.1**
ZEA				pmax	pmax		
	comp=Z,28nm,1.2s						
ZEA	**Zeya**	**16.96**	**309**	*e*P	**Pn**	**05 13 40.0**	**-0.1**
ZEA				AMB	AMB	05 13 41.4	
	comp=Z,30nm,1.0s						
CN2	**Changchun**	**17.45**	**274**	*e*P	**Pn**	**05 13 46.6**	**+0.4**
CN2				pmax	pmax		
	comp=Z,100nm,0.4s						
SEY	**Seymchan**	**17.87**	**4**	||*e*P	**P**	**05 13 48.6**	**-1.9**
SEY	**Seymchan**	**17.87**	**4**	P	**P**	**05 13 48.9**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=182,slow=9.5,SNR=36						
SEY	**Seymchan**	**17.87**	**4**	*e*P	**P**	**05 13 48.6**	**-1.9**
KSRS	**Korea Array**	**18.14**	**253**	P	**Pn**	**05 13 55.9**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=48,slow=12,SNR=6.8						
KS15	**Wonju Array Si**	**18.17**	**253**	*e*P	**Pn**	**05 13 55.9**	**+0.9**
	comp=Z,12nm,1.4s						
JNU	**Nakatsue**	**18.94**	**237**	*e*P	**Pn**	**05 14 05.4**	**+1.2**
	comp=Z,6.5nm,0.9s						
JNU	**Nakatsue**	**18.94**	**237**	P	**Pn**	**05 14 05.4**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=12,slow=9.3,SNR=1.4						
YAK	**Yakutsk**	**20.55**	**332**	*e*P	**P**	**05 14 18.2**	**-1.5**
YAK				*e*S	**S**	**05 17 58.2**	**-5.9**
YAK				*e**SS	**sS**	**05 18 27.8**	**-6.0**
YAK				*e*		05 18 28.7	
YAK				*e*		05 25 33.8	
YAK				pmax	pmax		
	comp=Z,310nm,0.8s						
YAK				pmax	pmax		
	comp=E,63nm,0.9s						
YAK				pmax	pmax		
	comp=N,46nm,1.0s						
YAK				smax	smax		
	comp=E,67nm,1.6s						
YAK	**Yakutsk**	**20.55**	**332**	*e*P	**P**	**05 14 18.2**	**-1.5**
BILL	**Bilibino**	**24.49**	**15**	*e*P	**P**	**05 14 57.5**	**-1.4**
	comp=E,4.2nm,0.7s						
BILL	**Bilibino**	**24.49**	**15**	*i* P	**P**	**05 14 56.7**	**-2.2**
BILL				*i* *PP	**pP**	**05 15 17.8**	**-1.8**
BILL				*i*		05 15 38.7	
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NJ2	**Nanjing**	**27.34**	**252**	*e*P	**P**	**05 15 28.9**	**+3.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
TIXI	**Tiksi**	**28.41**	**346**	*de*P	**P**	**05 15 31.2**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,12nm,0.5s						
TIXI	**Tiksi**	**28.41**	**346**	P	**P**	**05 15 31.4**	**-2.7**
	comp=Z,20nm,0.6s,baz=140,slow=7.5,SNR=32						
H11N2	**WAKE ISLAND Hy**	**29.03**	**145**	T	T	05 46 40.2	
	baz=335,slow=76,SNR=2481						
H11N1	**WAKE ISLAND Hy**	**29.04**	**145**	T	T	05 46 37.0	
	baz=335,slow=76,SNR=2210						
H11N3	**WAKE ISLAND Hy**	**29.05**	**145**	T	T	05 46 37.2	
	baz=335,slow=76,SNR=3452						
SONA0	**Songino Array**	**29.74**	**291**	*e*P	**P**	**05 15 47.2**	**+0.8**
SONM	**Songino Array**	**29.74**	**291**	P	**P**	**05 15 47.2**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=78,slow=8.8,SNR=17						
H11S1	**WAKE ISLAND Hy**	**30.06**	**147**	T	T	05 47 53.8	
	baz=336,slow=76,SNR=2058						
H11S3	**WAKE ISLAND Hy**	**30.07**	**147**	T	T	05 47 55.3	
	baz=336,slow=76,SNR=1683						
H11S2	**WAKE ISLAND Hy**	**30.08**	**147**	T	T	05 47 57.1	
	baz=336,slow=76,SNR=1079						
WHN	**Wuhan**	**31.31**	**255**	P	P	05 16 05.3	+5.1
XAN	**Xi'an**	**33.10**	**265**	P	**P**	**05 16 11.9**	**-4.0**
XAN				pP	pP	05 16 24.8	-12
SVW2	**Sparrevohn**	**35.22**	**43**	*e*P	**P**	**05 16 35.3**	**+1.4**
	comp=Z,4.7nm,1.3s						
LZH	**Lanzhou**	**35.66**	**272**	*e*P	**P**	**05 16 40.5**	**+2.4**
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
IMAR	**Indian Mountai**	**36.39**	**35**	*e*P	**P**	**05 16 44.5**	**+0.7**
PPLA	**Purkeypile**	**36.86**	**40**	*e*P	**P**	**05 16 49.4**	**+1.4**
	comp=Z,7.1nm,1.2s						
KDAK	**Kodiak Island**	**36.87**	**49**	*e*P	**P**	**05 16 47.5**	**-0.4**
	comp=Z,8.0nm,1.0s						
KDAK	**Kodiak Island**	**36.87**	**49**	*i* P	**P**	**05 16 47.9**	**0.0**
CAST	**Castle Rocks**	**36.92**	**39**	*e*P	**P**	**05 16 49.3**	**+1.0**
	comp=Z,3.3nm,0.8s						
GTA	**Gaotai**	**36.97**	**279**	*e*P	**P**	**05 16 50.5**	**+1.3**
GTA				pmax	pmax		
	comp=Z,19nm,1.0s						
BPAW	**Bear Paw Mtn.**	**37.43**	**38**	*e*P	**P**	**05 16 53.3**	**+0.7**
	comp=Z,1.6nm,0.8s						
MLY	**Manley**	**37.57**	**37**	*e*P	**P**	**05 16 54.5**	**+0.7**
	comp=Z,3.3nm,0.7s						
BRLK	**Bradley Lake**	**37.58**	**46**	*e*P	**P**	**05 16 54.0**	**+0.1**
	comp=Z,8.8nm,1.4s						
COLD	**Coldfoot**	**37.92**	**33**	*e*P	**P**	**05 16 57.9**	**+1.2**
	comp=Z,4.4nm,1.2s						
RC01	**Rabbit Creek A**	**38.06**	**43**	*e*P	**P**	**05 16 58.5**	**+0.6**
	comp=Z,3.7nm,0.7s						
MCK	**McKinley**	**38.33**	**39**	*e*P	**P**	**05 17 00.5**	**+0.3**
	comp=Z,8.0nm,1.4s						
MCK	**McKinley**	**38.33**	**39**	*e*P	**P**	**05 17 00.5**	**+0.3**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GHO	**Glory Hole Cre**	**38.41**	**42**	*e*P	**P**	**05 17 01.8**	**+0.8**
	comp=Z,2.7nm,0.6s						
MDM	**Murphy Dome**	**38.63**	**37**	*e*P	**P**	**05 17 03.5**	**+0.8**
	comp=Z,4.8nm,0.8s						
KNK	**Knik Glacier**	**38.66**	**43**	*e*P	**P**	**05 17 03.1**	**+0.2**
	comp=Z,7.0nm,1.2s						
SML	**Sawmill**	**38.69**	**42**	*e*P	**P**	**05 17 03.6**	**+0.4**
	comp=Z,10nm,0.8s						
SML	**Sawmill**	**38.69**	**42**	*e*P	**P**	**05 17 03.6**	**+0.4**
SML				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRH	**Wood River Hil**	**38.69**	**38**	*e*P	**P**	**05 17 03.8**	**+0.6**
	comp=Z,4.8nm,0.8s						
COLA	**College**	**38.79**	**37**	*ce*P	**P**	**05 17 04.2**	**+0.2**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CCB	**Clear Creek Bu**	**38.81**	**37**	*e*P	**P**	**05 17 04.9**	**+0.7**
NRIK	**Noril'sk**	**38.97**	**330**	P	**P**	**05 17 03.8**	**-1.6**
	comp=Z,4.6nm,0.7s,baz=101,slow=8.9,SNR=9.1						
DHY	**Denali Highway**	**39.06**	**40**	*e*P	**P**	**05 17 06.5**	**+0.1**
	comp=Z,2.5nm,0.7s						
SCM	**Sheep Creek Mo**	**39.16**	**42**	*e*P	**P**	**05 17 07.4**	**+0.2**
	comp=Z,5.4nm,1.0s						
HDA	**Harding Lake**	**39.19**	**38**	*e*P	**P**	**05 17 07.4**	**0.0**
	comp=Z,4.7nm,0.5s						
ILAR	**Eielson Array**	**39.21**	**37**	*e*P	**P**	**05 17 07.2**	**-0.3**
ILAR	**Eielson Array**	**39.21**	**37**	P	**P**	**05 17 06.7**	**-0.8**
	comp=Z,4.2nm,1.0s,baz=262,slow=8.2,SNR=30						
ILAR				pP	**pP**	**05 17 29.5**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=279,slow=8.7,SNR=4.5						
ILB	**Eielson Array**	**39.21**	**37**	*e*P	**P**	**05 17 07.0**	**-0.5**
	comp=Z,3.9nm,0.9s						
GLI	**Glacier Island**	**39.36**	**43**	*e*P	**P**	**05 17 08.8**	**-0.1**
	comp=Z,4.1nm,0.7s						
PRP	**Porcupine Dome**	**39.76**	**36**	*e*P	**P**	**05 17 12.7**	**+0.4**
	comp=Z,5.5nm,0.7s						
KLU	**Klutina**	**39.86**	**42**	*e*P	**P**	**05 17 13.6**	**+0.6**
	comp=Z,7.0nm,1.2s						
RIDG	**Independent Ri**	**40.15**	**39**	*e*P	**P**	**05 17 15.0**	**-0.4**
	comp=Z,4.9nm,1.0s						
DOT	**Dot Lake**	**40.51**	**39**	*e*P	**P**	**05 17 17.4**	**-0.9**
	comp=Z,2.4nm,0.7s						
SCRK	**Sand Creek**	**40.51**	**38**	*e*P	**P**	**05 17 18.1**	**-0.4**
	comp=Z,2.6nm,0.9s						
MENT	**Mentasta**	**40.73**	**40**	*e*P	**P**	**05 17 20.8**	**+0.6**
	comp=Z,2.6nm,0.6s						
DGZ	**Jazzator, Alta**	**41.39**	**300**	||*e*P	**P**	**05 17 25.8**	**-0.1**
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.6s						
BCAR	**Beaver Creek A**	**41.59**	**40**	*e*P	**P**	**05 17 28.4**	**+1.2**
BALM	**Baldy**	**41.64**	**43**	*e*P	**P**	**05 17 28.5**	**+0.8**
	comp=Z,5.3nm,1.1s						
BALM	**Baldy**	**41.64**	**43**	*e*P	**P**	**05 17 28.5**	**+0.8**
BALM				pmax	pmax		
	comp=Z,5.0nm,1.1s						
EGAK	**Eagle**	**41.66**	**37**	*e*P	**P**	**05 17 27.8**	**+0.1**
	comp=Z,4.4nm,0.6s						
ZAA1	**Zalesovo Array**	**41.70**	**306**	*e*P	**P**	**05 17 26.8**	**-1.4**
ZAA1				*e*PcP	**PcP**	**05 19 22.9**	**0.0**
ZALV	**Zalesovo Beam**	**41.70**	**306**	P	**P**	**05 17 26.8**	**-1.4**
	comp=Z,2.0nm,0.5s,baz=57,slow=8.7,SNR=5.9						
ZALV				PcP	**PcP**	**05 19 22.9**	**0.0**
	comp=Z,0.6nm,0.4s,baz=64,slow=3.4,SNR=3.0						
DAWY	**Dawson**	**42.51**	**38**	*e*P	**P**	**05 17 35.1**	**+0.4**
	comp=Z,1.6nm,0.6s						
EPYK	**Eagle Plains**	**43.28**	**34**	*e*P	**P**	**05 17 42.0**	**+1.1**
	comp=Z,7.2nm,0.8s						
INK	**Inuvik**	**44.21**	**31**	*e*P	**P**	**05 17 49.0**	**+0.9**
	comp=Z,7.1nm,0.4s						
INK	**Inuvik**	**44.21**	**31**	*e*P	**P**	**05 17 49.0**	**+0.9**

TKM2	Tokmak 2	51.64	296	P	P	05 18 47.5 +1.4
	SNR=8.3					
USP	Ospenovka	52.16	297	P	P	05 18 51.1 +1.3
	SNR=13					
KBK	Karagaybulak	52.19	296	P	P	05 18 51.5 +1.4
	SNR=12					
KZA	Kyzart	52.28	295	P	P	05 18 53.1 +2.0
	SNR=20					
AAK	Ala-Archa	52.48	296	P	P	05 18 53.6 +1.3
	SNR=12					
AAK	Ala-Archa	52.48	296	eP	P	05 18 54.4 +2.1
	comp=Z,13nm,0.8s					
AAK	Ala-Archa	52.48	296	c iP	P	05 18 53.0 +0.7
AAK				pmax	pmax	
	comp=Z,17nm,0.9s					
AAK	Ala-Archa	52.48	296	eP	P	05 18 53.0 +0.7
JIRN	Jiri	52.78	273	eP	P	05 18 56.2 +1.3
	comp=Z,38nm,0.5s					
RAMN	Ramite	52.92	273	eP	P	05 18 56.9 +1.1
	comp=Z,29nm,0.6s					
EKS2	Erkin-Say	52.93	296	P	P	05 18 56.7 +1.2
	SNR=11					
RES	Resolute Bay	53.06	18	eP	P	05 18 55.9 +0.1
	comp=Z,31nm,0.8s					
RES	Resolute Bay	53.06	18	eP	P	05 18 55.9 +0.1
RES				pmax	pmax	
	comp=Z,31nm,0.8s					
KSH	Kashi	53.14	292	P	P	05 19 02.4 +5.3
KSH				pP	sP	05 19 31.5 +1.4
KSH				sP	PcP	05 19 45.5 -19
KSH				S	S	05 26 20.8 +0.3
KSH				pmax	pmax	
	comp=Z,26nm,0.9s					
KSH				pmax	pmax	
	comp=Z,350nm,6.2s					
KSH				LR	LR	
	comp=Z,150nm,9.8s					
KSH				LR	LR	
	comp=Z,200nm,8.8s					
KSH				LR	LR	
	comp=Z,350nm,12.0s					
AML	Almayashu	53.25	296	P	P	05 18 59.9 +1.7
	SNR=9.7					
KKN	Kakani	53.34	274	eP	P	05 18 59.9 +1.0
	comp=Z,17nm,0.7s					
PKI	Pulchoki	53.39	274	eP	P	05 19 00.2 +0.9
	comp=Z,7.4nm,0.5s					
SVE	Sverdlovsk	53.44	317	eP	P	05 18 57.7 -1.1
SVE				pmax	pmax	
	comp=Z,32nm,0.8s					
YKA	Yellowknife Ar	53.55	35	P	P	05 18 59.1 -0.4
	comp=Z,1.5nm,0.6s,baz=299,slow=7.0,SNR=16					
YKA				pP	pP	05 19 21.9 -0.4
	comp=Z,1.9nm,0.6s,baz=297,slow=7.0,SNR=7.0					
YKB5	Yellowknife Ar	53.55	35	eP	P	05 18 59.1 -0.4
DMN	Daman	53.58	274	eP	P	05 19 01.9 +1.3
	comp=Z,15nm,0.7s					
KBS	Kingsbay	53.71	351	eP	P	05 18 59.8 -0.7
	comp=Z,7.6nm,0.7s					
KBS	Kingsbay	53.71	351	eP	P	05 18 59.8 -0.7
KBS				pmax	pmax	
	comp=Z,8.0nm,0.7s					
SPA0	Spitsbergen Ar	53.77	349	eP	P	05 18 59.8 -1.2
	comp=Z,15nm,1.1s					
DANN	Dangsing	54.08	276	eP	P	05 19 05.8 +1.5
	comp=Z,24nm,0.4s					
ARSB	Arslanbob	54.13	295	eP	P	05 19 01.9 -2.4
	comp=Z,37nm,0.9s					
KOLN	Koldanda	54.54	275	eP	P	05 19 08.7 +1.1
	comp=Z,28nm,0.8s					
ARU	Arti	54.63	317	eP	P	05 19 06.6 -0.9
	comp=Z,26nm,0.7s					
ARU	Arti	54.63	317	d iP	P	05 19 06.1 -1.5
ARU				S	S	05 26 40.3 +0.4
ARU				SS	SS	05 30 24.3 +1.1
ARU				pmax	pmax	
	comp=Z,26nm,0.7s					
ARU	Arti	54.63	317	P	P	05 19 06.5 -1.1
	comp=Z,9.5nm,0.5s,baz=75,slow=5.0					
ARU	Arti	54.63	317	eP	P	05 19 06.0 -1.5
KK31	Karatay Array	54.75	298	eP	P	05 19 09.6 +0.9
	comp=Z,12nm,0.8s					
KK31	Karatay Array	54.75	298	eP	P	05 19 09.6 +0.9
KK31				pmax	pmax	
	comp=Z,12nm,0.8s					
KKAR	Karatay Array	54.75	298	eP	P	05 19 09.2 +0.5
KKAR				eP	P	05 19 09.6 +0.9
KKAR	Karatay Array	54.75	298	eP	P	05 19 09.2 +0.5
PYUN	Piuthan	54.77	276	eP	P	05 19 10.4 +1.2
	comp=Z,37nm,0.8s					
GAR	Garm	57.10	294	eP	P	05 19 27.0 +1.4
	comp=Z,57nm,1.0s					
GAR	Garm	57.10	294	eP	P	05 19 27.0 +1.4
GAR				pmax	pmax	
	comp=Z,57nm,1.0s					
LVZ	Lovozero	57.31	336⇑	eP	P	05 19 25.1 -1.4
LVZ				pmax	pmax	
	comp=Z,28nm,2.2s					
PRGR	Permogore	57.46	327	eP	P	05 19 24.5 -3.0
PRGR				pmax	pmax	
	comp=Z,30nm,0.8s					
ABKAR	Akbulak array	57.68	309	eP	P	05 19 29.3 0.0
	comp=Z,10nm,0.6s					
CHGR	Chuyangaron	58.04	294	eP	P	05 19 37.2 +5.0
	comp=Z,50nm,0.8s					
KEV	Kevo	58.07	340	eP	P	05 19 30.3 -1.4
	comp=Z,11nm,1.3s					
KEV	Kevo	58.07	340	eP	P	05 19 30.3 -1.4
KEV				pmax	pmax	
	comp=Z,11nm,1.3s					
AKTO	Aktyubinsk	58.07	311	P	P	05 19 31.4 -0.6
	comp=Z,3.5nm,0.6s,baz=64,slow=7.7,SNR=12					
COR	Corvallis	58.53	57	eP	P	05 19 38.7 +3.4
	comp=Z,66nm,1.4s					
ARCES	ARCESS Array B	58.59	340	eP	P	05 19 34.0 -1.4
ARCES	ARCESS Array B	58.59	340	eP	P	05 19 34.0 -1.4
ARCES	ARCESS Array B	58.59	340	P	P	05 19 33.9 -1.5
	comp=Z,1.4nm,0.4s,baz=38,slow=9.1,SNR=34					
ARE0	ARCESS Array S	58.59	340	eP	P	05 19 34.3 -1.1
	comp=Z,0.5nm,1.3s					
TMCR	Tamitsa	58.66	332	eP	P	05 19 34.0 -1.9
TMCR				pmax	pmax	
	comp=Z,21nm,0.9s					
KLMR	Klimovskoe	60.27	328	eP	P	05 19 44.5 -2.5
KLMR				pmax	pmax	
	comp=Z,13nm,0.9s					
KBL	Kabul	60.51	291	eP	P	05 19 49.7 +0.3
	comp=Z,16nm,0.6s					
SUMG	Summit	62.42	3	eP	P	05 20 02.0 +0.1
	comp=Z,20nm,0.8s					
FFC	Flin Flon	63.41	38	i P	P	05 20 09.5 +1.3
FCC	Fort Churchill	63.83	31	eP	P	05 20 10.6 -0.2
	comp=Z,5.9nm,0.6s					
FIA1	FINESS Array S	64.48	334	eP	P	05 20 13.8 -1.3
	comp=Z,4.4nm,1.0s					
FIA0	FINESS Array S	64.48	334	eP	P	05 20 13.8 -1.3
FINES	FINESS Array B	64.48	334	P	P	05 20 13.8 -1.3
	comp=Z,7.5nm,0.5s,baz=29,slow=8.5,SNR=75					
SCO	Scoresbysund	64.52	357	eP	P	05 20 15.1 0.0
	comp=Z,6.9nm,0.9s					
ILULI	Ilulissat	64.90	8	eP	P	05 20 17.7 0.0
	comp=Z,19nm,0.9s					
OBN	Obninsk	65.31	324	i P	P	05 20 18.7 -1.8
OBN				i		05 20 44.0
OBN				i *PP	PcP	05 20 52.0 0.0
OBN				pmax	pmax	
	comp=Z,7.0nm,0.7s					
OBN	Obninsk	65.31	324	eP	P	05 20 19.0 -1.5
GEYT	Alibeck	65.44	300	P	P	05 20 22.0 +0.3
	comp=Z,7.7nm,0.7s,baz=29,slow=3.4,SNR=15					
VSR	Storozhevoye	66.90	320⇑	eP	P	05 20 29.7 -1.1
VSR				pmax	pmax	
	comp=Z,8.0nm,0.4s					
BW06	Boulder Array	67.53	52	eP	P	05 20 37.3 +2.1
	comp=Z,1.4nm,1.0s					
PD31	Pinedale Array	67.53	52	eP	P	05 20 34.1 -1.1
	comp=Z,1.2nm,1.0s					
PDAR	Pinedale Array	67.53	52	eP	P	05 20 36.8 +1.6
PDAR	Pinedale Array	67.53	52	P	P	05 20 34.1 -1.1
	comp=Z,0.3nm,0.5s,baz=333,slow=0.3,SNR=3.6					
PDAR				pP	pP	05 20 59.2 +0.4
	comp=Z,1.4nm,0.6s,baz=288,slow=2.5,SNR=7.5					
NC303	NORSAR Array S	68.77	340	eP	P	05 20 41.7 -0.7
	comp=Z,12nm,1.4s					
NC405	NORSAR Array S	68.78	340	eP	P	05 20 41.6 -0.8
	comp=Z,8.2nm,1.0s					
NB201	NORSAR Array S	68.94	340	eP	P	05 20 42.9 -0.6
	comp=Z,0.8nm,0.3s					
NB2	NORSAR Subarra	68.97	340	P	P	05 20 42.5 -1.1
	comp=Z,3.3nm,0.5s,baz=28,slow=6.5					
NB200	NORSAR Array S	68.97	340	eP	P	05 20 42.7 -0.9
NOA	NORSAR Array B	68.97	340	P	P	05 20 42.7 -0.9
	comp=Z,6.4nm,0.5s,baz=29,slow=6.5,SNR=30					
HFS	Hagfors	69.12	338	P	P	05 20 43.3 -1.2
	comp=Z,7.4nm,0.6s,baz=53,slow=5.6,SNR=9.8					
ASAR	Alice Springs	70.02	196	eP	P	05 20 51.5 +1.1
ASAR	Alice Springs	70.02	196	P	P	05 20 51.9 +1.4
	comp=Z,2.6nm,0.8s,baz=13,slow=6.0,SNR=19					
ASAR				pP	pP	05 21 17.7 +4.2
	comp=Z,0.7nm,0.7s,baz=8.2,slow=5.6,SNR=2.2					
BORG	Borgarnes	70.22	356	eP	P	05 20 53.1 +1.9
	comp=Z,28nm,1.3s					
KVAR	Kislovodsk Arr	70.24	313	P	P	05 20 54.3 +2.5
	comp=Z,10nm,0.7s,baz=117,slow=4.5,SNR=10					
KIV	Kislovodsk	70.24	313	i iP	P	05 20 50.6 -1.2
KIV	Kislovodsk	70.24	313	eP	P	05 20 53.7 +1.9
KIV				pmax	pmax	
	comp=Z,119nm,1.1s					
KBZ	Khabaz	70.29	313	P	P	05 20 52.6 +0.6
	comp=Z,26nm,0.9s,baz=58,slow=7.5,SNR=36					
ZEI	Tsey	70.41	311	eP	P	05 20 52.4 -0.7
ZEI				pmax	pmax	
	comp=Z,13nm,0.6s					
AKASG	Malin Array Be	71.56	325	eP	P	05 20 59.7 +0.1
AKASG	Malin Array Be	71.56	325	eP	P	05 20 59.7 +0.1
AKASG	Malin Array Be	71.56	325	P	P	05 20 59.0 -0.6
	comp=Z,8.0nm,0.4s,baz=38,slow=6.5,SNR=33					
AKBB	Malin Array Si	71.56	325	eP	P	05 20 59.0 -0.6
	comp=Z,11nm,0.6s					
KIEV	Kiev	71.58	325	eP	P	05 20 59.1 -0.6
	comp=Z,10nm,0.6s					
KIEV	Kiev	71.58	325⇑	i P	P	05 20 59.0 -0.6
GNI	Garni	71.79	309	P	P	05 21 02.5 +1.2
	comp=Z,5.9nm,0.5s,baz=90,slow=9.1,SNR=9.2					
BCA	Borcka	72.56	312	i iP	P	05 21 05.1 -0.7
LVV	L'vov	74.32	327	eP	P	05 21 16.0 +0.1
OJC	Ojcow	75.57	329	eP	P	05 21 22.6 -0.5
OJC	Ojcow	75.57	329	eP	P	05 21 23.8 +0.8
	comp=Z,11nm,0.9s					
OJC	Ojcow	75.57	329	eP	P	05 21 22.6 -0.5
BUR08	Bucovina Ar. S	75.60	325	eP	P	05 21 23.9 +0.5
	comp=Z,9.4nm,0.6s					
BURAR	Bucovina Array	75.62	325	eP	P	05 21 23.8 +0.3
BURAR	Bucovina Array	75.62	325⇑	iP	P	05 21 23.3 -0.2
KOLS	Kolonicke sedl	75.72	327	eP	P	05 21 24.5 +0.6
KOLS				pmax	pmax	
	comp=Z,10.0nm,1.2s					
KOLS	Kolonicke sedl	75.72	327	eP	P	05 21 24.5 +0.6
UZH	Uzhgorod	75.95	327	eP	P	05 21 22.3 -3.0
NIE	Niedzica	76.06	329	eP	P	05 21 26.2 +0.3
NIE	Niedzica	76.06	329	eP	P	05 21 26.2 +0.3
KSP	Ksiaz	76.27	332	eP	P	05 21 26.9 -0.1
KSP	Ksiaz	76.27	332	eP	P	05 21 26.9 -0.1
LANS	Liptovska Anna	76.58	329	eP	P	05 21 30.0 +1.1
LANS	Liptovska Anna	76.58	329	eP	P	05 21 30.0 +1.1
UPC	Upice	76.64	332	eP	P	05 21 29.3 +0.1
UPC	Upice	76.64	332	eP	P	05 21 29.3 +0.1
DPC	Dobruska-Polom	76.67	331	eP	P	05 21 29.9 +0.5
DPC	Dobruska-Polom	76.67	331	eP	P	05 21 29.9 +0.5
MORC	Moravsky Berou	76.74	330	eP	P	05 21 30.4 +0.6
	comp=Z,12nm,0.7s					
MORC	Moravsky Berou	76.74	330⇑	iP	P	05 21 29.8 0.0
MORC	Moravsky Berou	76.74	330	eP	P	05 21 30.1 +0.3
KRLC	Kraliky	76.75	331	eP	P	05 21 30.2 +0.4
KRLC	Kraliky	76.75	331	eP	P	05 21 30.2 +0.4
CLL	Collm	76.93	334	eP	P	05 21 30.8 +0.1
	comp=Z,22nm,0.6s					
CLL	Collm	76.93	334	i P	P	05 21 30.5 -0.2
CLL				pmax	pmax	
	comp=Z,24nm,0.9s					
CLL	Collm	76.93	334	i P	P	05 21 30.5 -0.2
	comp=Z,24nm,0.9s					
BRG	Berggiesshubel	77.01	333	eP	P	05 21 30.8 -0.4
	comp=Z,4.9nm,0.8s					
BRG	Berggiesshubel	77.01	333	eP	P	05 21 30.8 -0.4
BRG				pmax	pmax	
	comp=Z,5.0nm,0.8s					
PVCC	Panska Ves	77.10	333	eP	P	05 21 32.1 +0.4
PVCC	Panska Ves	77.10	333	eP	P	05 21 32.1 +0.4
VYHS	Vyhne	77.36	329	eP	P	05 21 33.8 +0.6
VYHS				pmax	pmax	
	comp=Z,11nm,1.6s					
VYHS	Vyhne	77.36	329	eP	P	05 21 33.8 +0.6
VRAC	Vranov	77.47	331	eP	P	05 21 34.4 +0.6
VRAC	Vranov	77.47	331	P	P	05 21 34.6 +0.8
	comp=Z,7.6nm,0.6s,baz=57,slow=5.6,SNR=6.1					
JAVC	Velka Javorina	77.47	330	eP	P	05 21 35.2 +1.3
GOPC	GO Pecny, Ondr	77.56	332	eP	P	05 21 34.4 +0.1
GOPC	GO Pecny, Ondr	77.56	332	eP	P	05 21 34.4 +0.1
PRU	Pruhonice	77.58	332	eP	P	05 21 34.9 +0.5
PRU	Pruhonice	77.58	332	eP	P	05 21 34.9 +0.5
KRUC	Moravsky	77.75	331	eP	P	05 21 35.7 +0.4
MODS	Modra-Piesok	78.02	330	eP	P	05 21 36.0 -1.0
MODS				pmax	pmax	
	comp=Z,11nm,1.2s					
MODS	Modra-Piesok	78.02	330	eP	P	05 21 35.9 -1.0
FORT	Forrest	78.13	199	eP	P	05 21 39.3 +1.8
	comp=Z,12nm,0.8s					
KHC	Kasperske Hory	78.64	332	eP	P	05 21 41.5 +1.2
	comp=Z,5.6nm,0.7s					
KHC	Kasperske Hory	78.64	332	eP	P	05 21 40.6 +0.3
KHC	Kasperske Hory	78.64	332	eP	P	05 21 40.6 +0.3
GEC2	GERESS Array S	78.84	332	eP	P	05 21 41.9 +0.4
	comp=Z,6.3nm,0.6s					
GERES	GERESS Array B	78.84	332	eP	P	05 21 41.7 +0.2
GERES	GERESS Array B	78.84	332	P	P	05 21 41.5 0.0
	comp=Z,5.3nm,0.6s,baz=35,slow=5.6,SNR=30					
CONA	Conrad Observa	78.90	330	i P	P	05 21 43.3 +1.5
	comp=Z,8.0nm,0.7s					
MOA	Molln	79.52	331	i P	P	05 21 46.1 +1.0
	comp=Z,4.8nm,0.8s					
ARSA	Arzberg	79.60	330	i P	P	05 21 46.7 +1.2
	comp=Z,2.4nm,0.5s					
SOKA	Soboth	80.26	330	i P	P	05 21 49.7 +0.4
	comp=Z,8.6nm,1.1s					
TX31	Lajitas Ar. Si	80.27	58	eP	P	05 21 50.1 +0.5
	comp=Z,2.7nm,1.3s					
LTX	Lajitas	80.27	58	eP	P	05 21 49.9 +0.3
TXAR	Lajitas Array	80.27	58	P	P	05 21 49.9 +0.3
	comp=Z,0.5nm,0.4s,baz=293,slow=4.4,SNR=7.3					
TXAR				pP	pP	05 22 13.4 -0.4
	comp=Z,2.1nm,0.5s,baz=297,slow=4.1,SNR=12					
KBA	Koelnbreinsper	80.50	332	i P	P	05 21 52.0 +1.4
	comp=Z,7.7nm,0.5s					
WATA	Walderalm	80.86	333	i P	P	05 21 52.7 +0.3
	comp=Z,9.3nm,0.4s					
WTTA	Wattenberg	80.90	333	i P	P	05 21 53.6 +0.8
	comp=Z,12nm,0.5s					
ECH	Echery	81.43	336	eP	P	05 21 56.1 +0.7
	comp=Z,17nm,1.4s					
DAVOX	Davos/Dischmat	81.89	333	P	P	05 21 58.0 0.0
DAVOX	Davos/Dischmat	81.89	333	P	P	05 21 58.0 0.0
	comp=Z,4.0nm,0.6s,baz=13,slow=13,SNR=6.7					
ASF	Jabal al Asfar	81.92	308	P	P	05 21 59.6 +1.3
	comp=Z,3.2nm,0.7s,baz=23,slow=7.7,SNR=4.9					
MMAI	Mount Meron Ar	82.11	309	P	P	05 22 00.4 +1.2
	comp=Z,6.7nm,0.6s,baz=59,slow=6.9,SNR=5.8					
TTG	Podgorica	82.29	325	eP	P	05 22 00.7 +0.8
	comp=Z,15nm,1.1s					
SENIN	Lac Senin/Sane	83.06	335	eP	P	05 22 05.4 +1.2
	comp=Z,11nm,1.4s					
KARP	Karpathos	84.41	316	eP	P	05 22 11.1 +0.2
	comp=Z,143nm,1.4s					
BNI	Bardonecchia	84.43	335	eP	P	05 22 12.6 +1.5
	comp=Z,29nm,1.5s					
EIL	Elat	84.90	308	P	P	05 22 14.4 +0.9
	comp=Z,10nm,0.7s,baz=22,slow=5.4,SNR=9.9					
ESDC	Sonseca Array	92.33	340	P	P	05 22 48.9 +0.2
	comp=Z,0.5nm,0.6s,baz=54,slow=3.6,SNR=4.0					
MSEY	Mahe Island	96.36	270	i P	P	05 23 05.1 -2.4
CMLA	Cha da Macela	97.35	356	i P	P	05 23 09.5 -2.1
VNDA	Vanda	122.63	177	ePKPdf	PKPdf	05 28 32.0 0.0
VNDA	Vanda	122.63	177	PKP	PKPdf	05 28 32.4 +0.3
	comp=Z,0.7nm,0.7s,baz=328,slow=2.6,SNR=4.8					
QSPA	South Pole Qui	134.89	180	ePKPdf	PKiKP	05 28 57.3 +0.1
GO04	Tololo Observa	144.92	79	ePKPbc	PKPbc	05 29 15.2 +0.5
PLCA	Paso Flores	150.32	96	ePKPbc	PKPbc	05 29 29.6 +0.7
PLCA	Paso Flores	150.32	96	PKPbc	PKPbc	05 29 28.9 -0.1
	comp=Z,4.1nm,0.8s,baz=256,slow=3.0,SNR=10					
PLCA				pPKPbc	pPKPbc	05 29 54.3 0.0
	comp=Z,1.2nm,0.6s,baz=286,slow=7.7,SNR=1.7					
SNAA	Sanae	150.37	197	ePKPbc	PKPbc	05 29 28.4 +0.4
SNAA				ePKPab	PKPab	05 29 39.8 +5.0
SNAA	Sanae	150.37	197	ePKIKP	PKPbc	05 29 28.5 +0.4
CPUP	Villa Florida	151.24	58	ePKPbc	PKPbc	05 29 31.7 +0.3
CPUP	Villa Florida	151.24	58	PKPbc	PKPbc	05 29 30.9 -0.5
	comp=Z,0.8nm,0.6s,baz=20,slow=2.5,SNR=3.6					
CPUP				pPKPbc	pPKPbc	05 29 56.6 -0.4
	comp=Z,1.4nm,0.8s,baz=279,slow=3.0,SNR=2.7					

*ISCJB **24** 05:18:58.0±0.3, 38°.91N±0°.02×27°.71E±0°.02, h12km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=17.7*
*ISK **24** 05:18:57.6, 38°.89N×27°.68E, h14km, ML3.9/34*
*DDA **24** 05:18:57.7, 38°.90N×27°.68E, h14km±1km, ML3.9*
*ATH **24** 05:18:59.1, 38°.97N×27°.72E, h38km±16km, ML4.0/4, Error ellipse: s-maj=16.3km s-min=2.5km az=83.0*
*THE **24** 05:19:00.2, 38°.90N×27°.82E, h30km±8km, ML4.1/2, Error ellipse: s-maj=8.9km s-min=0.9km az=188.0*

ISC 24 05:18:58.3±0.8, 38°.90N±0°.02×27°.71E±0°.02, h12km±5km, n95, σ0°81/115, 12C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AKS	Akhisar	0.08	106		PG		Pg	05 19 00.2	-0.8
AKS					SG		Sg	05 19 03.1	+0.2
AKHS	Akhisar	0.08	106		IAML_P				
	comp=Z,246μm,0.1s								
AKHS				i P			Pg	05 19 00.8	-0.2
AKHS				i S			Sg	05 19 04.2	+1.3
GOMA	Golmarmara-Man	0.25	140		PG		Pg	05 19 03.8	+0.3
GOMA					SG		Sb	05 19 08.1	-1.0
STEP	BALIKESIR_Sava	0.47	0		IAML_P				
	comp=Z,20μm,0.1s								
STEP				i P			Pb	05 19 07.6	-1.1
STEP				i S			Sb	05 19 15.2	-0.5
ZEDA	zmir-Bergama	0.50	278		IAML_P				
	comp=Z,107μm,0.3s								
ZEDA				i P			Pb	05 19 08.8	-0.3
ZEDA				i S			Sg	05 19 15.1	+0.3
CAND	Candarli	0.71	275		PG		Pg	05 19 11.9	-0.2
CAND					SG		Sg	05 19 21.3	-0.2
BALB	Balikesir	0.75	10		PG		Pb	05 19 13.2	-0.1
FOCM	Foa	0.79	257		PG		Pg	05 19 13.2	-0.4
FOCM					SG		Sg	05 19 23.8	-0.1
KULA	Kula-Manisa	0.84	117		PG		Pb	05 19 14.5	-0.4
KULA	Kula-Manisa	0.84	117		P		Pb	05 19 14.4	-0.4
KULA					S		Sg	05 19 24.5	-0.9
AYVA	Ayvalik	0.89	297		IAML_P				
	comp=Z,3μm,0.2s								
AYVA				i P			Pb	05 19 15.4	-0.3
AYVA				i S			Sb	05 19 28.4	+0.8
DURS	Dursunbey	0.92	40		IAML_P				
	comp=Z,14μm,0.1s								
DURS				i P			Pg	05 19 15.2	-0.8
DURS				i S			Sn	05 19 30.5	+0.3
KRBN	Karaburun	0.96	252		PG		Pg	05 19 16.5	-0.3
AYDB	Zeytinkoy-Aydi	0.96	172		PG		Pb	05 19 17.1	+0.1
AYDB					SG		Sg	05 19 29.8	+0.3
URLA	Izmir	1.03	239		PG		Pg	05 19 17.2	-0.9
URLA	Izmir	1.03	239		IAML_P				
	comp=Z,58μm,0.4s								
URLA				i P			Pg	05 19 17.5	-0.6
URLA				i S			Sg	05 19 31.9	+0.3
USAK	Uak-Merkez	1.04	100	i P			Pb	05 19 18.0	-0.2
GONE	Gonen-Balikesi	1.14	359	PN			Pn	05 19 19.8	-0.4
ZEY	zmir	1.16	235		IAML_P				
	comp=Z,43μm,0.3s								
ZEY				i P			Pb	05 19 19.5	-0.7
ZEY				i S			Sg	05 19 35.6	0.0
PRK	Paraskevi	1.17	288	P			Pn	05 19 21.2	+0.7
PRK				S			Sn	05 19 37.3	+0.8
PRK	Paraskevi	1.17	288	P			Pn	05 19 21.2	+0.7
PRK				S			Sn	05 19 36.9	+0.4
PRK				AML			AML	05 19 39.5	
	comp=E,17538μm,0.5s								
PRK				AML			AML	05 19 45.0	
	comp=N,15158μm,0.9s								
SHAP	Saphane-Kutahy	1.18	84	PN			Pn	05 19 21.3	+0.5
BAYC	CANAKKALE_Bayr	1.23	313	i P			Pg	05 19 21.8	-0.3
BAYC				i S			Sn	05 19 38.4	+0.4
AYDN	Tasoluk	1.25	174		IAML_P				
	comp=Z,18μm,0.3s								
AYDN				i P			Pn	05 19 21.9	+0.3
AYDN				i S			Sb	05 19 37.1	-0.7
CESE	eme	1.25	243	PN			Pn	05 19 21.0	-0.5
GCAM	G?zelcaml?	1.26	198	PN			Pn	05 19 20.4	-1.3
GCAM	G?zelcaml?	1.26	198	IAML_P					
	comp=Z,20μm,0.4s								
GCAM				i P			Pn	05 19 20.9	-0.8
GCAM				i S			Sn	05 19 40.3	+1.8
GEDZ	Gediz	1.33	83	PN			Pg	05 19 23.3	-0.6
GPNR	Gulpinar-Canak	1.35	295	PN			Pn	05 19 22.5	-0.4
SMG	Samos	1.38	210	P			Pn	05 19 23.1	-0.2
SMG	Samos	1.38	210	P			Pn	05 19 24.0	+0.7
SMG				AML			AML	05 19 50.1	
	comp=N,10829μm,0.4s								
SMG				AML			AML	05 19 50.4	
	comp=E,7247μm,0.3s								
GDZ	Gediz	1.39	82	IAML_P					
	comp=Z,4μm,0.1s								
GDZ				i P			Pg	05 19 24.6	-0.5
GDZ				i S			Sg	05 19 45.3	+2.2
CHOS	Chios island	1.40	249	PN			Pn	05 19 22.9	-0.8
CHOS	Chios island	1.40	249	P			Pb	05 19 24.4	+0.1
CHOS	Chios island	1.40	249	P			Pb	05 19 24.5	+0.1
EZN	Ezine	1.42	311	PN			Pn	05 19 23.7	-0.2
EZN	Ezine	1.42	311	P			Pn	05 19 23.7	-0.2
EDC	Edincik	1.45	5	PN			Pn	05 19 23.9	-0.5
KCTX	Karacabey (Bur	1.45	20	PN			Pn	05 19 24.0	-0.4
ORLT	Orhaneli	1.47	38	PN			Pn	05 19 24.5	-0.1
TVSB

SILT	Sile	2.69	33⇑	*i*P	Pn	05 19 40.3	-1.1
EREA	Eretria	3.00	262	P	Pn	05 19 46.6	+0.9
DION	Dionisos Attik	3.08	256	P	Pn	05 19 47.8	+1.0
KSL	Kastellorizon	3.12	151	P	Pn	05 19 48.7	+1.3
OUR	Ouranopolis	3.22	298	P	Pn	05 19 49.4	+0.8
KAVA	Kavala	3.23	311	P	Pn	05 19 48.4	-0.4
SRS	Serrai	3.86	306	P	Pn	05 19 58.4	+0.8
KNT	Kendrikon	4.33	303	P	Pn	05 20 04.7	+0.7
STIP	Stip	5.06	305	*i* Pn	Pn	05 20 13.1	-0.9
MLR	Muntele Rosu	6.71	349	⇑*i*P	Pn	05 20 38.7	+1.9
VOIR		6.82	344	⇑*i*P	Pn	05 20 38.8	+0.5
VRI	Vrincioaia	7.00	354	⇑*i*P	Pn	05 20 42.1	+1.5
HERR	Herculane	7.16	328	⇑*i*P	Pn	05 20 44.3	+1.5
OZUR		7.33	349	⇓*i*P	Pn	05 20 37.2	-8.0
GZR	Gura Zlata	7.45	332	⇑*i*P	Pn	05 20 47.7	+0.8
BZS	Buzias	8.09	328	⇑*i*P	Pn	05 20 57.0	+1.5
BIZ	Bicaz	8.12	352	⇑*i*P	Pn	05 20 57.6	+1.6
DRGR		8.70	337	⇓*i*P	Pn	05 21 05.1	+1.1

*ISCJB **24** 05:27:23.5±0.5, 10°.70S±0°.07×164°.75E±0°.07, h10km, mb4.3/8, Error ellipse: s-maj=11.6km s-min=8.1km az=135.9*
*IDC **24** 05:27:23.8±1.2, 10°.60S×164°.69E, h0km, mb4.2/3, mb1 4.4/5, mb1mx4.0/29, mbtmp4.3/5, ML4.6/2, MS3.7/1, Ms1 3.7/1, ms1mx3.4/35, Error ellipse: s-maj=36.4km s-min=27.0km az=65.0*
*NEIC **24** 05:27:25.6±1.6, 10°.57S×164°.78E, h10km±4km, mb4.5/7, Error ellipse: s-maj=18.5km s-min=11.0km az=133.0*

ISC 24 05:27:25.0±0.8, 10°.6S±0°.1×164°.79E±0°.09, h10km, n22, σ1§10/24, mb4.3/8, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.91**	**283**	*e*P	**Pn**	**05 28 40.0**	**+1.1**
HNR				*e*S	**Sn**	**05 29 38.0**	**+2.3**
HNR	**Honiara**	**4.91**	**283**	*e*Pn	**Pn**	**05 28 39.2**	**+0.3**
HNR	**Honiara**	**4.91**	**283**	Pn	**Pn**	**05 28 37.3**	**-1.5**
	61nm,0.3s,baz=143,slow=6.2,SNR=14						
HNR				Sn	**Sn**	**05 29 35.9**	**+0.1**
	36nm,0.3s,baz=180,slow=7.1,SNR=2.6						
HNR				LR	LR	05 30 46.2	
	comp=Z,782nm,18.3s,baz=118,slow=42						
DZM	**Mont Dzumac**	**11.55**	**172**	*e*Pn	**Pn**	**05 30 09.5**	**-0.7**
DZM	**Mont Dzumac**	**11.55**	**172**	Pn	**Pn**	**05 30 09.1**	**-1.1**
	1.4nm,0.3s,baz=343,slow=20,SNR=22						
OUENC	**Ouen Island, N**	**11.95**	**171**	*e*Pn	**Pn**	**05 30 15.2**	**-0.4**
PINNC	**Pines Island,**	**12.25**	**168**	*e*Pn	**Pn**	**05 30 19.2**	**-0.4**
RABL	**Rabaul**	**14.03**	**296**	*e*Pn	**Pn**	**05 30 41.4**	**-2.6**
MANU	**Manus Island**	**19.27**	**295**	*e*P	**Pn**	**05 31 51.3**	**+0.3**
	67nm,1.0s						
CTAO	**Charters Tower**	**20.21**	**240**	*e*P	**P**	**05 32 00.1**	**-0.2**
	28nm,0.9s						
KSAR	**Wonju Array Be**	**58.97**	**326**	*e*P	**P**	**05 37 25.8**	**+1.0**
ADK	**Adak**	**64.22**	**13**	*e*P	**P**	**05 37 58.4**	**-1.5**
	25nm,1.4s						
VNDA	**Vanda**	**66.96**	**181**	*e*P	**P**	**05 38 18.3**	**+0.9**
VNDA	**Vanda**	**66.96**	**181**	P	**P**	**05 38 17.8**	**+0.4**
	1.2nm,0.8s,baz=9.4,slow=6.3,SNR=3.0						
QSPA	**South Pole Qui**	**79.44**	**180**	*e*P	**P**	**05 39 32.0**	**+0.5**
	2.4nm,1.0s						
GHO	**Glory Hole Cre**	**80.63**	**20**	*e*P	**P**	**05 39 38.5**	**+0.7**
	6.3nm,1.5s						
CAST	**Castle Rocks**	**80.78**	**18**	*e*P	**P**	**05 39 39.1**	**+0.6**
	1.1nm,0.8s						
IMAR	**Indian Mountai**	**82.22**	**16**	*e*P	**P**	**05 39 46.8**	**+0.8**
BALM	**Baldy**	**82.54**	**23**	*e*P	**P**	**05 39 49.0**	**+1.1**
	4.1nm,1.1s						
ILAR	**Eielson Array**	**83.36**	**19**	P	**P**	**05 39 52.8**	**+0.8**
	1.4nm,0.8s,baz=234,slow=5.9,SNR=16						
MK32	**Makanchi Array**	**92.53**	**317**	*e*P	**P**	**05 40 36.7**	**0.0**
MKAR	**Makanchi Array**	**92.53**	**317**	P	**P**	**05 40 36.7**	**0.0**
	1.4nm,0.8s,baz=100,slow=6.2,SNR=4.7						

*IDC **24** 05:27:29.6±0.7, 4°.65S×133°.79E, h0km, mb4.1/11, mb1 4.4/16, mb1mx4.3/27, mbtmp4.3/16, ML4.5/4, MS4.1/1, Ms1 4.1/1, ms1mx3.7/36, Error ellipse: s-maj=24.5km s-min=14.3km az=77.0*
*ISCJB **24** 05:27:30.9±0.3, 4°.68S±0°.03×133°.75E±0°.04, h21km, mb4.4/31, Error ellipse: s-maj=5.3km s-min=4.3km az=10.6*
*NEIC **24** 05:27:31.8±1.6, 4°.62S×133°.78E, h17km±5km, mb4.6/26, Error ellipse: s-maj=17.4km s-min=11.6km az=61.0*
*DJA **24** 05:27:31.6±0.9, 5°.S±3°×13°.4E±°, h11km±7km, M4.8/12, mb4.8/12, mB5.2/5, MLv4.9/7, Mw(mB)4.6/5*

ISC 24 05:27:32.4±0.4, 4°.73S±0°.04×133°.74E±0°.06, h21km, n85, σ1§93/90, mb4.5/31, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.06**	**358**	P	**Pb**	**05 27 48.5**	**-3.6**
KMPI				S	**Sb**	**05 28 03.3**	**-2.3**
FAKI	**Fak Fak**	**2.33**	**320**	*e*Pn	**Pn**	**05 28 08.1**	**-1.5**
FAKI	**Fak Fak**	**2.33**	**320**	P	**Pn**	**05 28 07.1**	**-2.5**
RKPI	**Ransiki, Papua**	**3.23**	**8**	P	**Pn**	**05 28 21.3**	**-0.6**
BNDI	**Bandanaira**	**3.83**	**273**	P	**Pn**	**05 28 31.0**	**+0.9**
BNDI				S	**Sn**	**05 29 16.3**	**+1.8**
SAUI	**Saumlaki**	**4.04**	**217**	*e*Pn	**Pn**	**05 28 33.7**	**+0.7**
SWI	**Sorong**	**4.57**	**327**	P	**Pn**	**05 28 40.1**	**-0.3**
GENI	**Genyem**	**6.76**	**72**	P	Pn	05 28 57.5	-13
SANI	**Sanana**	**8.18**	**289**	P	**Pn**	**05 29 27.9**	**-2.1**
	44nm,0.7s,641nm						
TNTI	**Ternate**	**8.39**	**311**	*e*Pn	**Pn**	**05 29 32.6**	**-0.3**
MTN	**Manton Dam**	**8.46**	**198**	*e*Pn	**Pn**	**05 29 35.9**	**+2.1**
SOEI	**Soe**	**10.63**	**241**	*e*Pn	**Pn**	**05 30 04.9**	**+1.1**
SOEI	**Soe**	**10.63**	**241**	P	**Pn**	**05 30 06.3**	**+2.5**
	44nm,0.8s						
BATI	**Baumata**	**11.37**	**241**	Pn	**Pn**	**05 30 14.8**	**+1.0**
	4.5nm,0.3s,baz=79,slow=5.2,SNR=2.8						
BATI				Sn	**Sn**	**05 32 24.6**	**+4.3**
	5.3nm,0.3s,baz=103,slow=14,SNR=2.5						
LUWI	**Luwuk**	**11.55**	**288**	*e*Pn	**Pn**	**05 30 15.8**	**-0.3**
MMRI	**Maumere**	**12.06**	**251**	*e*Pn	**Pn**	**05 30 23.6**	**+0.5**
APSI	**Ampana**	**12.65**	**287**	P	**Pn**	**05 30 32.9**	**+1.6**
	57nm,1.2s,780nm						
COEN	**Coen**	**13.06**	**135**	*e*Pn	**Pn**	**05 30 33.4**	**-3.4**
BKSI	**Bulukumba**	**13.58**	**267**	P	**Pn**	**05 30 46.3**	**+2.4**
	9.8nm,1.2s						
SPSI	**Sidrap Palu**	**13.95**	**273**	P	**Pn**	**05 30 47.0**	**-2.0**
	6.1nm,1.0s						
TTSI	**Tana Toraja**	**13.99**	**276**	P	P	05 31 12.5	+15
PMG	**Port Moresby**	**14.10**	**110**	*e*Pn	**Pn**	**05 30 53.0**	**+2.0**
PMG	**Port Moresby**	**14.10**	**110**	Pn	**Pn**	**05 30 52.5**	**+1.4**
	1.4nm,0.3s,baz=324,slow=14,SNR=5.7						
WRAB	**Tennant Creek**	**15.12**	**178**	*e*Pn	**Pn**	**05 31 05.6**	**+0.7**
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.46**	**210**	*e*Pn	**Pn**	**05 31 08.9**	**-0.5**
	10.0nm,0.8s						
FITZ				*e*Sn	**Sn**	**05 33 55.4**	**-4.8**
FITZ	**Fitzroy Crossi**	**15.46**	**210**	Pn	**Pn**	**05 31 09.9**	**+0.5**
	1.4nm,0.3s,baz=33,slow=10,SNR=16						
FITZ				Sn	**Sn**	**05 33 53.7**	**-6.5**
	0.9nm,0.3s,baz=182,slow=12,SNR=6.2						
SGKI	**Sangatta, Kali**	**16.64**	**284**	P	**Pn**	**05 31 24.5**	**-0.1**
	679nm,0.9s,6μm						
AS31	**Alice Springs**	**18.82**	**180**	*e*P	**Pn**	**05 31 52.5**	**+1.0**
	14nm,1.3s						
ASAR	**Alice Springs**	**18.82**	**180**	*e*P	**Pn**	**05 31 52.0**	**+0.5**
ASAR	**Alice Springs**	**18.82**	**180**	P	**Pn**	**05 31 52.0**	**+0.5**
	1.4nm,0.3s,baz=2.9,slow=10.0,SNR=60						
ASAR				S	**Sn**	**05 35 12.9**	**-8.8**
	0.1nm,0.3s,baz=354,slow=24,SNR=4.9						
ASAR				LR	LR	05 39 43.4	
	comp=Z,533nm,19.4s,baz=344,slow=39						
MTKI	**Muara Teweh, K**	**19.19**	**281**	P	**P**	**05 31 51.3**	**-3.7**
CTA	**Charters Tower**	**19.53**	**142**	P	**P**	**05 31 59.3**	**+0.6**
	0.6nm,0.3s,baz=326,slow=13,SNR=13						
PSA00	**Pilbara Seismi**	**21.49**	**218**	*e*P	**P**	**05 32 21.8**	**+1.9**
	32nm,1.0s						
KSM	**Kuching**	**24.21**	**284**	*e*P	**P**	**05 32 49.4**	**+1.5**
	25nm,1.2s						
TPI	**Tanjungpandan**	**26.10**	**273**	P	P	05 33 16.2	+11
FORT	**Forrest**	**26.45**	**191**	*e*P	**P**	**05 33 11.8**	**+3.8**
	19nm,0.8s						
STKA	**Stephens Creek**	**27.99**	**166**	P	**P**	**05 33 22.3**	**+0.4**
	0.7nm,0.4s,baz=329,slow=11,SNR=4.3						
NJ2	**Nanjing**	**39.23**	**340**	*e*P	**P**	**05 35 00.1**	**+0.8**
CM31	**Chiang Mai Arr**	**41.32**	**305**	*e*P	**P**	**05 35 17.3**	**+0.4**
	10.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**41.32**	**305**	P	**P**	**05 35 17.3**	**+0.4**
	0.8nm,0.3s,baz=115,slow=6.1,SNR=2.6						

XAN	**Xi'an**	**45.13**	**331**	P	**P**	**05 35 45.9**	**-1.7**
FUNA	**Funafuti**	**45.29**	**97**	*e*P	**P**	**05 35 50.5**	**+1.4**
	113nm,1.3s						
LZH	**Lanzhou**	**49.32**	**328**	*e*P	**P**	**05 36 21.0**	**+0.6**
LZH				pP	pwP	05 36 31.3	+2.3
LZH				sP	sP	05 36 35.1	+6.4
LZH				*e*PP	**PP**	**05 38 15.6**	**+1.1**
HHC	**Hu-ho-hao-te**	**49.70**	**338**	*e*P	**P**	**05 36 25.6**	**+2.5**
SONA0	**Songino Array**	**57.60**	**338**	*e*P	**P**	**05 37 20.6**	**-0.3**
SONM	**Songino Array**	**57.60**	**338**	P	**P**	**05 37 20.6**	**-0.3**
	0.4nm,0.4s,baz=131,slow=10,SNR=2.8						
PETK	**Petropavlovsk-**	**61.07**	**16**	*e*P	**P**	**05 37 44.0**	**-0.6**
PETK	**Petropavlovsk-**	**61.07**	**16**	P	**P**	**05 37 43.9**	**-0.8**
	0.8nm,0.5s,baz=181,slow=5.8,SNR=3.1						
PEA1	**Petropavlovsk-**	**61.08**	**16**	*e*P	**P**	**05 37 43.9**	**-0.8**
WMQ	**Urumqi**	**63.63**	**324**	*e*P	**P**	**05 38 03.1**	**+1.0**
MK31	**Makanchi Array**	**68.46**	**325**	*e*P	**P**	**05 38 33.1**	**+0.2**
	5.1nm,1.0s						
MK32	**Makanchi Array**	**68.46**	**325**	*e*P	**P**	**05 38 33.2**	**+0.2**
MKAR	**Makanchi Array**	**68.46**	**325**	*e*P	**P**	**05 38 33.3**	**+0.3**
MKAR	**Makanchi Array**	**68.46**	**325**	P	**P**	**05 38 33.2**	**+0.2**
	1.9nm,0.5s,baz=117,slow=7.4,SNR=19						
KSH	**Kashi**	**68.94**	**315**	P	**P**	**05 38 37.5**	**+1.2**
ZAA0	**Zalesovo Array**	**71.28**	**332**	*e*P	**P**	**05 38 49.3**	**-0.8**
	6.3nm,1.5s						
ZALV	**Zalesovo Beam**	**71.28**	**332**	*e*P	**P**	**05 38 49.2**	**-0.9**
ZALV	**Zalesovo Beam**	**71.28**	**332**	P	**P**	**05 38 50.5**	**+0.4**
	0.6nm,0.5s,baz=103,slow=3.1,SNR=3.2						
ZAA1	**Zalesovo Array**	**71.28**	**332**	*e*P	**P**	**05 38 50.5**	**+0.4**
AAK	**Ala-Archa**	**71.29**	**318**	*e*P	**P**	**05 38 50.4**	**-0.3**
	4.7nm,1.0s						
ARSB	**Arslanbob**	**71.77**	**316**	*e*P	**P**	**05 38 55.4**	**+1.8**
	5.3nm,0.8s						
KURK	**Kurchatov**	**72.60**	**327**	*e*P	**P**	**05 38 58.1**	**0.0**
	4.2nm,0.9s						
KURBB	**Kurchatov Arra**	**72.60**	**327**	P	**P**	**05 38 58.3**	**+0.1**
	baz=114,slow=4.7						
GAR	**Garm**	**72.78**	**313**	*e*P	**P**	**05 39 00.4**	**+0.7**
	10nm,1.0s						
BTK	**Batken**	**72.80**	**314**	*e*P	**P**	**05 39 00.8**	**+1.1**
	12nm,1.4s						
KK31	**Karatay Array**	**74.16**	**317**	*e*P	**P**	**05 39 07.4**	**-0.1**
	6.1nm,1.1s						
KKAR	**Karatay Array**	**74.16**	**317**	*e*P	**P**	**05 39 06.8**	**-0.7**
VNDA	**Vanda**	**74.26**	**174**	*e*P	**P**	**05 39 07.9**	**+0.4**
VNDA	**Vanda**	**74.26**	**174**	P	**P**	**05 39 08.3**	**+0.8**
	0.8nm,0.5s,baz=330,slow=6.6,SNR=1.9						
BRVK	**Borovoye**	**78.26**	**327**	*e*P	**P**	**05 39 29.9**	**-0.7**
	6.3nm,1.1s						
MAW	**Mawson**	**78.41**	**202**	*e*P	**P**	**05 39 32.8**	**+1.6**
	1.0nm,1.0s						
MAW	**Mawson**	**78.41**	**202**	P	**P**	**05 39 33.2**	**+2.0**
	1.8nm,0.9s,baz=54,slow=8.7,SNR=3.1						
NRIK	**Noril'sk**	**80.31**	**345**	P	**P**	**05 39 42.8**	**+1.3**
	0.9nm,0.4s,baz=141,slow=6.5,SNR=2.3						
GEYT	**Alibeck**	**81.63**	**309**	P	**P**	**05 39 50.7**	**+1.4**
	2.5nm,0.6s,baz=103,slow=6.2,SNR=4.0						
ABKAR	**Akbulak array**	**83.09**	**321**	*e*P	**P**	**05 39 54.9**	**-1.7**
ABKAR				*e*P	**P**	**05 39 55.4**	**-1.2**
CAST	**Castle Rocks**	**87.19**	**26**	*e*P	**P**	**05 40 16.7**	**-0.1**
	5.8nm,1.3s						
RC01	**Rabbit Creek A**	**87.64**	**28**	*e*P	**P**	**05 40 18.3**	**-0.7**
	9.9nm,1.1s						
MLY	**Manley**	**88.19**	**24**	*e*P	**P**	**05 40 21.2**	**-0.4**
	2.9nm,0.8s						
KNK	**Knik Glacier**	**88.31**	**28**	*e*P	**P**	**05 40 22.6**	**+0.3**
	5.4nm,0.7s						
WRH	**Wood River Hil**	**89.16**	**25**	*e*P	**P**	**05 40 25.8**	**-0.4**
	2.6nm,0.9s						
CCB	**Clear Creek Bu**	**89.32**	**25**	*e*P	**P**	**05 40 26.2**	**-0.6**
	3.3nm,1.0s						
ILAR	**Eielson Array**	**89.73**	**25**	P	**P**	**05 40 29.5**	**+0.7**
	1.0nm,0.8s,baz=254,slow=5.1,SNR=5.7						
F10A	**Beach Ranch, E**	**106.58**	**43**	*e*Pdif	**Pdif**	**05 41 45.2**	**-0.4**
LANS	**Liptovska Anna**	**109.32**	**321**	*e*PDIF	**Pdif**	**05 41 56.6**	**-1.0**
PV11	**David Mesa, Pa**	**114.29**	**50**	*e*Pdif	**Pdif**	**05 42 19.3**	**-0.9**

MEX 24 05:35:45.2±0.3, 17°.94N×101°.69W, h17km±27km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.40**	**147**	*e*P	Pg	05 35 52.1	-1.3
ZIIG				*e*S	Sg	05 35 57.4	-1.5
ARIG	**Puente Sto Nin**	**1.32**	**75**	*e*P	Pn	05 36 05.4	-3.5
ARIG				*e*S	Sn	05 36 20.9	-5.3
MEIG	**Mezcala**	**1.97**	**90**	*e*P	Pn	05 36 14.9	-3.1
MEIG				*e*S	Sn	05 36 38.3	-4.0
PLIG	**Platanillo**	**2.13**	**78**	*i* P	Pn	05 36 17.0	-3.1
PLIG				*i* S	Sn	05 36 42.8	-3.4
TLIG	**Tlapa**	**3.00**	**97**	*e*P	Pn	05 36 29.8	-2.4
TLIG				*i* S	Sn	05 37 04.3	-3.5

*ISCJB **24** 05:42:03.7±0.4, 1°.74S±0°.02×78°.31W±0°.02, h9km±2km, mb4.7/57, Error ellipse: s-maj=4.0km s-min=2.8km az=17.7*
*IGQ **24** 05:42:04.1±0.3, 2°.S±2°×7°.8W±°, h4km, MLv5.0*
*IDC **24** 05:42:11.4±1.8, 1°.67S×78°.06W, h70km±20km, mb4.0/15, mb1 4.1/21, mb1mx4.1/45, mbtmp4.3/21, MS3.6/4, Ms1 3.6/4, ms1mx3.6/39, Error ellipse: s-maj=15.8km s-min=9.9km az=66.0*
*NEIC **24** 05:42:12.5±1.7, 1°.65S×78°.11W, h72km±5km, mb4.8/100, MD4.8(IGQ), Error ellipse: s-maj=19.9km s-min=10.3km az=75.0*
NEIC Felt at Ambato, Banos, Puyo and Riobamba.

ISC 24 05:42:04.1±0.8, 1°.70S±0°.02×78°.28W±0°.03, h7km±5km, n218, σ1§65/227, mb4.7/57, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPAT	**Tungurahua Vol**	**0.25**	**322**	P	**Pg**	**05 42 09.1**	**-0.1**
PAT1	**Patacocha**	**0.25**	**321**	P	**Pg**	**05 42 09.2**	**0.0**
ARRY	**Arrayan**	**0.26**	**318**	P	**Pg**	**05 42 09.0**	**-0.4**
BMAS	**Trigal station**	**0.28**	**315**	P	**Pg**	**05 42 09.4**	**-0.3**
BMAS				S	**Sg**	**05 42 13.4**	**-0.2**
BULB	**Ulba Tungurahu**	**0.29**	**334**	P	**Pg**	**05 42 09.8**	**-0.2**
BULB				S	**Sg**	**05 42 14.1**	**+0.2**
RETU	**Refugio**	**0.30**	**326**	P	**Pg**	**05 42 10.0**	**-0.2**
BRUN	**Tungurahua Vol**	**0.31**	**335**	P	**Pg**	**05 42 10.1**	**-0.2**
BRUN				S	**Sg**	**05 42 14.9**	**+0.5**
RUN5	**Runtun**	**0.32**	**333**	P	**Pg**	**05 42 10.1**	**-0.4**
BBIL	**Ulba Tungurahu**	**0.33**	**320**	P	**Pg**	**05 42 10.2**	**-0.3**
BBIL				S	**Sg**	**05 42 14.3**	**-0.6**
POND	**Pondoa**	**0.33**	**328**	P	**Pg**	**05 42 10.2**	**-0.4**
POND				S	**Sg**	**05 42 14.3**	**-0.7**
PUYO	**Puyo, Santa Ro**	**0.33**	**51**	P	**Pb**	**05 42 12.1**	**-0.3**
BIL2	**Estacion Bilba**	**0.33**	**318**	P	**Pg**	**05 42 10.4**	**-0.2**
JUI6	**Juive**	**0.33**	**325**	P	**Pg**	**05 42 10.8**	**0.0**
APUY	**Puyo**	**0.37**	**50**	P	**Pb**	**05 42 12.8**	**-0.3**
ARIO	**Riobamba**	**0.42**	**276**	P	**Pg**	**05 42 11.8**	**-0.6**
AAM2	**Ambato 2 (Merc**	**0.54**	**322**	P	**Pg**	**05 42 14.5**	**-0.1**
AAM2				S	**Sb**	**05 42 22.5**	**-1.8**
PIS1	**Pisayambo**	**0.65**	**350**	P	**Pg**	**05 42 16.3**	**-0.3**
PISA	**Pisayambo**	**0.65**	**351**	P	**Pg**	**05 42 16.3**	**-0.4**
ATEN	**Tena**	**0.83**	**34**	P	**Pg**	**05 42 19.8**	**-0.3**
ATEN				S	**Sg**	**05 42 31.7**	**+0.7**
ALAT	**Latacunga**	**0.84**	**336**	P	**Pg**	**05 42 19.9**	**-0.4**
ARDO	**Archidona, Ten**	**0.85**	**34**	P	**Pg**	**05 42 20.1**	**-0.3**
ARDO				S	**Sg**	**05 42 32.4**	**+0.9**
BMOR	**Cotopaxi Volca**	**0.98**	**349**	P	**Pg**	**05 42 22.3**	**-0.7**
BMOR				S	**Sb**	**05 42 36.3**	**-0.8**
BTAM	**Cotopaxi Volca**	**1.03**	**353**	P	**Pg**	**05 42 22.9**	**-0.9**
BTAM				S	**Sg**	**05 42 37.3**	**+0.1**
COV1	**Cotopaxi Volc**	**1.03**	**356**	P	**Pg**	**05 42 23.5**	**-0.5**
BREF	**Cotopaxi Volca**	**1.04**	**351**	P	**Pg**	**05 42 23.5**	**-0.6**
CAMI	**Rancho Maria**	**1.04**	**347**	P	**Pg**	**05 42 23.3**	**-0.9**
BVC2	**Cotopaxi Volca**	**1.04**	**353**	P	**Pg**	**05 42 23.4**	**-0.8**
BVC2				S	**Sb**	**05 42 38.2**	**-0.8**
VC1	**Cotopaxi 1**	**1.06**	**353**	P	**Pg**	**05 42 23.7**	**-0.8**
ILLI	**Illinizas Sur**	**1.08**	**335**	P	**Pg**	**05 42 23.7**	**-1.1**
PITA	**Cotopaxi Volc**	**1.15**	**352**	P	**Pg**	**05 42 25.2**	**-0.9**
ANTM	**Antisana-La Mi**	**1.16**	**3**	P	**Pg**	**05 42 25.0**	**-1.4**
ANTM				S	**Sg**	**05 42 40.9**	**-0.5**
ANTG	**Antisana-Guama**	**1.19**	**1**	P	**Pg**	**05 42 25.7**	**-1.3**
ANTG				S	**Sg**	**05 42 42.4**	**-0.1**
ANTS	**Antisana-Sarah**	**1.20**	**5**	P	**Pg**	**05 42 26.0**	**-1.2**
COHC	**Cochancay**	**1.24**	**232**	P	**Pg**	**05 42 26.8**	**-1.0**
COHC				S	**Sg**	**05 42 43.1**	**-0.8**
ANTI	**Antisana**	**1.25**	**5**	P	**Pg**	**05 42 26.7**	**-1.4**
NINA	**Atacazo Ninahu**	**1.35**	**345**	P	**Pg**	**05 42 28.9**	**-1.1**

MILO	**Milagro-Astudi**	**1.40**	**246**	P	**Pn**	**05 42 28.8**	**-1.2**
MILO				S	**Sg**	**05 42 47.7**	**-1.4**
EPNL	**EPN Laboratori**	**1.50**	**352**	P	**Pg**	**05 42 33.1**	**+0.3**
GGP	**Refugio Guagua**	**1.55**	**348**	P	**Pg**	**05 42 33.3**	**-0.6**
TERV	**Terraza Guagua**	**1.55**	**348**	P	**Pn**	**05 42 32.4**	**-0.3**
YANA	**Yana**	**1.60**	**349**	P	**Pn**	**05 42 32.9**	**-0.4**
REVS	**Reventador Sur**	**1.72**	**23**	P	**Pn**	**05 42 34.8**	**+0.1**
REVS				S	**Sn**	**05 42 57.8**	**+0.8**
LAV4	**Lava4-Reventad**	**1.73**	**22**	P	**Pn**	**05 42 34.8**	**0.0**
PULU	**Pululahua**	**1.73**	**353**	P	**Pn**	**05 42 35.5**	**+0.6**
CAYA	**Cayambe**	**1.79**	**9**	P	**Pb**	**05 42 37.0**	**-0.5**
OTAV	**Otavalo**	**1.93**	**355**	*e*Pn	**Pn**	**05 42 38.8**	**+1.0**
OTAV				*e*Sn	**Sg**	**05 43 07.7**	**+1.4**
OTAV	**Otavalo**	**1.93**	**355**	*e*P	**Pn**	**05 42 38.4**	**+0.6**
OTAV	**Otavalo**	**1.93**	**355**	*e*P	**Pn**	**05 42 38.4**	**+0.6**
IMBA	**Imbabura, San**	**1.97**	**2**	P	**Pg**	**05 42 41.2**	**-0.6**
CUSW	**Cuicocha Oeste**	**1.98**	**358**	P	**Pb**	**05 42 40.5**	**-0.1**
ACOT	**Cotacachi (Cas**	**1.98**	**0**	P	**Pg**	**05 42 41.8**	**-0.3**
CUIC	**Cuicocha-Domo**	**1.99**	**358**	P	**Pb**	**05 42 40.0**	**-0.9**
CUSE	**Cuicocha Este**	**2.00**	**357**	P	**Pb**	**05 42 40.2**	**-0.8**
PAC1	**Pacto, Paraso**	**2.02**	**345**	P	**Pn**	**05 42 39.9**	**+1.1**
AIB2	**Ibarra (Univer**	**2.04**	**5**	P	**Pg**	**05 42 42.6**	**-0.6**
CASC	**Dorado de Casc**	**2.05**	**27**	P	**Pn**	**05 42 40.3**	**+1.1**
YAHU	**Yahuarcocha**	**2.07**	**6**	P	**Pb**	**05 42 42.2**	**0.0**
URCU	**Urcuqui**	**2.13**	**1**	P	**Pb**	**05 42 42.9**	**-0.3**
MORR	**Playas El Morr**	**2.26**	**246**	P	**Pn**	**05 42 42.4**	**+0.5**
TULM	**Tulcn-Chalpat**	**2.45**	**12**	P	**Pb**	**05 42 47.3**	**-1.5**
LITE1	**Lita**	**2.48**	**358**	P	**Pb**	**05 42 47.4**	**-1.7**
ATUL	**Tulcn**	**2.52**	**13**	P	**Pb**	**05 42 49.5**	**-0.3**
SALI	**Salinas**	**2.75**	**260**	P	**Pn**	**05 42 49.1**	**+0.4**
GONZ	**Gonzanam**	**2.75**	**204**	P	**Pb**	**05 42 53.4**	**-0.5**
CPAS1	**Pasto**	**3.03**	**18**	*e*P	**Pb**	**05 42 57.6**	**-1.0**
CPAS1	**Pasto**	**3.03**	**18**	*e*P	**Pb**	**05 42 57.6**	**-1.0**
GCUF	**Volcan Galeras**	**3.05**	**18**	*e*P	**Pb**	**05 42 56.4**	**-2.7**
GCUF	**Volcan Galeras**	**3.05**	**18**	*e*P	**Pb**	**05 42 56.4**	**-2.7**
CCUFI	**Cufio, Nario**	**3.06**	**18**	*e*P	**Pb**	**05 42 58.3**	**-0.8**
CCUFI	**Cufio, Nario**	**3.06**	**18**	*e*P	**Pb**	**05 42 58.3**	**-0.8**
CPAS2	**Pasto**	**3.08**	**20**	*e*P	**Pb**	**05 42 59.1**	**-0.4**
CPAS2	**Pasto**	**3.08**	**20**	*e*P	**Pb**	**05 42 59.1**	**-0.4**
MCRA	**Macar, Loja**	**3.13**	**212**	P	**Pn**	**05 42 53.8**	**-0.2**
CRUC	**La Cruz**	**3.51**	**22**	*e*P	**Pn**	**05 43 01.0**	**+1.6**
CRUC	**La Cruz**	**3.51**	**22**	*e*P	**Pn**	**05 43 01.0**	**+1.6**
BBAC	**Balboa, Cauca**	**3.84**	**16**	*e*P	**Pn**	**05 43 06.5**	**+2.6**
BBAC	**Balboa, Cauca**	**3.84**	**16**	*e*P	**Pn**	**05 43 06.5**	**+2.6**
PTLC	**Puerto

12nm,0.8s,baz=105,slow=4.6,SNR=17
MDP Montagnes des 26.49 75 P P 05 47 40.2 -2.2
5.4nm,0.9s,baz=268,slow=5.9,SNR=2.7
CPUP Villa Florida 31.71 142 *eP* **P 05 48 29.3 +0.7**
5.0nm,1.4s
CPUP Villa Florida 31.71 142 P P 05 48 27.7 -0.9
1.4nm,0.8s,baz=315,slow=10.0,SNR=2.5
BDFB Brasilia 32.90 117 *eP* **P 05 48 38.8 -0.6**
13nm,1.3s
BDFB Brasilia 32.90 117 P P 05 48 38.0 -1.4
5.4nm,0.9s,baz=287,slow=11,SNR=3.0
LNIG Linares 33.48 323 *eP* **P 05 48 45.4 +1.1**
9.9nm,0.9s
352A Blakely 33.60 350 *eP* **P 05 48 47.8 +2.6**
34nm,0.6s
ZAIG Zacatecas 33.94 317 *eP* **P 05 48 51.3 +2.6**
11nm,1.3s
833A Chaparral WMA, 36.09 327 *eP* **P 05 49 08.0 +1.3**
15nm,0.8s
KMSC Kings Mountain 36.76 356 *eP* **P 05 49 13.5 +1.1**
36nm,0.7s
JCT Junction City 38.01 329 *eP* **P 05 49 24.3 +1.2**
17nm,0.8s
V48A Smith Brothers 38.09 349 *eP* **P 05 49 23.0 -0.7**
24nm,1.3s
T59A Double "B" Far 38.48 1 *eP* **P 05 49 27.9 +1.0**
21nm,1.3s
HPIG 38.83 319 *eP* **P 05 49 30.9 +0.7**
4.3nm,0.9s
GLAT Glass 39.15 346 *eP* **P 05 49 34.4 +1.9**
141nm,1.0s
TXAR Lajitas Array 39.27 324 *eP* **P 05 49 34.6 +0.8**
TXAR Lajitas Array 39.27 324 P P 05 49 34.5 +0.7
1.3nm,0.6s,baz=148,slow=10,SNR=6.4
LTX Lajitas 39.27 324 *eP* **P 05 49 34.5 +0.7**
PLCA Paso Flores 39.48 171 *eP* **P 05 49 36.8 +1.4**
7.4nm,1.3s
PLCA Paso Flores 39.48 171 P P 05 49 36.0 +0.7
2.9nm,1.0s,baz=4.0,slow=9.4,SNR=3.6
ABTX Abilene, Hawle 39.67 331 *eP* **P 05 49 38.1 +1.2**
25nm,1.1s
HHAR Hobbs 40.51 340 *eP* **P 05 49 43.2 -0.7**
14nm,0.9s
Q54A Coxs Mills 40.55 357 *eP* **P 05 49 42.4 -1.8**
31nm,0.7s
O52A Adamsville 41.74 356 *eP* **P 05 49 54.0 0.0**
28nm,0.6s
MNTX Cornudas Mount 42.01 325 *eP* **P 05 49 57.0 +0.7**
11nm,1.0s
MSTX Muleshoe 42.31 329 *eP* **P 05 49 59.8 +1.0**
30nm,1.0s
319A Douglas 44.15 321 *eP* **P 05 50 15.0 +1.3**
15nm,0.9s
BNM Barren Site 44.52 326 *eP* **P 05 50 17.9 +1.1**
ANMO Albuquerque 45.01 327 *eP* **P 05 50 21.4 +0.8**
17nm,0.9s
ANMO Albuquerque 45.01 327 P P 05 50 21.2 +0.5
baz=138,slow=14
TUC Tucson 45.72 321 *eP* **P 05 50 27.3 +1.0**
7.2nm,0.8s
Y14A Wickenburg 48.19 321 *eP* **P 05 50 46.2 +0.7**
5.2nm,0.9s
PV01 Paradox Valley 48.51 328 *eP* **P 05 50 49.1 +0.9**
14nm,1.4s
K22A Casper 50.97 333 *eP* **P 05 51 07.8 +1.1**
20nm,1.0s
JLU Jordanelle 51.84 328 *eP* **P 05 51 13.8 +0.5**
14nm,1.2s
PDAR Pinedale Array 52.47 331 *eP* **P 05 51 17.6 -0.4**
PDAR Pinedale Array 52.47 331 P P 05 51 18.3 +0.2
0.6nm,0.5s,baz=134,slow=10,SNR=6.6
R11A Troy Canyon, C 52.63 323 *eP* **P 05 51 20.3 +1.1**
4.3nm,1.1s
SNOW Snow King Moun 53.58 331 *eP* **P 05 51 26.9 +0.7**
10nm,1.2s
ULM Lac du Bonnet 53.91 346 P P 05 51 27.3 -0.9
4.0nm,0.7s,baz=174,slow=9.2,SNR=6.2
RLMT Red Lodge 54.14 333 *eP* **P 05 51 30.1 -0.1**
5.2nm,0.8s
NV01 Mina Array Sit 54.34 322 *eP* **P 05 51 32.6 +0.7**
NVAR Mina Array Bea 54.34 322 *eP* **P 05 51 32.7 +0.9**
NVAR Mina Array Bea 54.34 322 P P 05 51 32.6 +0.7
2.9nm,0.8s,baz=141,slow=7.4,SNR=8.8
PAHR Pah Rah Range 55.79 322 *eP* **P 05 51 43.7 +1.5**
7.7nm,1.4s
J08A Circle Bar Ran 57.54 326 *eP* **P 05 51 55.1 +0.6**
12nm,1.4s
I07A Izee 58.58 326 *eP* **P 05 52 02.9 +1.1**
6.2nm,1.0s
G08A Pilot Rock 59.06 328 *eP* **P 05 52 05.2 +0.1**
14nm,1.0s
FFC Flin Flon 59.54 344 *eP* **P 05 52 07.2 -0.9**
6.5nm,1.0s
NEW Newport 60.12 331 *eP* **P 05 52 12.4 +0.1**
8.8nm,1.0s
C09A Chrisman Ranch 60.36 330 *eP* **P 05 52 14.9 +1.0**
4.4nm,0.6s
FCC Fort Churchill 61.57 351 *eP* **P 05 52 19.8 -2.1**
5.2nm,1.0s
D05A Enumclaw 61.89 328 *eP* **P 05 52 24.7 +0.5**
38nm,1.5s
DBIC Dimbokro 73.75 83 *eP* **P 05 53 37.2 -2.5**
8.3nm,1.0s
DBIC Dimbokro 73.75 83 P P 05 53 37.4 -2.3
5.0nm,0.9s,baz=223,slow=4.8,SNR=3.6
TOA1 Torodi Ar. Sit 80.62 76 *eP* **P 05 54 15.7 -2.6**
TORD Torodi Ar. Bea 80.63 76 P P 05 54 15.7 -2.6
0.5nm,0.9s,baz=294,slow=7.2,SNR=5.2
VNA3 Neumayer Olymp 81.61 162 P P 05 54 22.5 0.0
VNA2 Neumayer--Watz 82.22 162 P P 05 54 25.4 -0.2
baz=286,slow=6.4
SNAA Sanae 83.83 162 P P 05 54 33.7 -0.4
QSPA South Pole Qui 88.36 180 *eP* **P 05 54 57.0 +0.3**
14nm,1.2s
KBL Kabul 135.33 39 *e*PKPdf **PKPdf 06 01 23.1 -2.5**
LZH Lanzhou 145.73 357 *e*PKPbc **PKPdf 06 01 43.3 -1.0**
LZH PKPbc **pPKPdf 06 01 46.3 -1.3**
LZH pPKP PKiKP 06 01 57.9 +10
LZH sPKP 06 02 03.5
FAKI Fak Fak 149.14 261 *e*PKPdf **PKPdf 06 01 50.3 0.0**

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*ISCJB **24** 05:44:23.5±0.2,35°.29N±0°.01×92°.72W±0°.02, h10km, Error ellipse: s-maj=2.1km s-min=1.8km az=179.8*
*ANF **24** 05:44:24.1±0.2,35°.29N×92°.70W, ML4.4/47, Error ellipse: s-maj=1.0km s-min=0.9km az=118.0*
*CERI **24** 05:44:24.9,35°.30N×92°.72W, h6km, MW3.4(SLM)*
*NEIC **24** 05:44:24.9±0.0,35°.30N×92°.72W, h6km, MW3.4(SLM), After CERI.*
NEIC Felt [II] at Greenbrier. Also felt at Alexander, Morrilton and Solgohachia.

ISC 24 05:44:25.0±0.6, 35°.31N±0°.02×92°.72W±0°.02, h10km, n180, σ1§25/213, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	**Wooly Hollow**	**0.35**	**94**	*e*Pg	**Pg**	**05 44 30.9**	**-1.1**
WHAR				*e*Sg	**Sg**	**05 44 35.8**	**-1.0**
W41B	**Gary Mavity, V**	**0.41**	**110**	*e*Pg	**Pg**	**05 44 31.7**	**-1.4**
W41B				*e*Sg	**Sg**	**05 44 37.0**	**-1.6**
W41B	**Gary Mavity, V** baz=288,SNR=160	**0.41**	**110**	P	**Pg**	**05 44 31.8**	**-1.4**
W41B	baz=288			S	**Sg**	**05 44 35.9**	**-2.7**
UALR	**University of**	**0.62**	**150**	*e*Pg	**Pg**	**05 44 35.6**	**-1.4**
UALR				*e*Sg	**Sg**	**05 44 44.4**	**-0.8**
X40A	**Basin Creek Fa**	**0.83**	**186**	*e*Pg	**Pg**	**05 44 40.0**	**-0.9**
X40A				*e*Sb	**Sg**	**05 44 51.5**	**-0.3**
X40A	**Basin Creek Fa** baz=6.8	**0.83**	**186**	P	**Pg**	**05 44 40.0**	**-0.9**
X40A	baz=6.8			S	**Sg**	**05 44 51.2**	**-0.5**
W39A	**Magazine**	**0.88**	**263**	*e*Pg	**Pg**	**05 44 41.1**	**-0.7**
W39A				*e*Sg	**Sg**	**05 44 53.2**	**-0.1**
W39A	**Magazine** baz=83,SNR=19	**0.88**	**263**	P	**Pg**	**05 44 41.3**	**-0.6**
W39A	baz=83			S	**Sb**	**05 44 53.8**	**-0.2**
MIAR	**Mount Ida**	**1.04**	**223**	*e*Pg	**Pg**	**05 44 43.8**	**-1.2**
MIAR	**Mount Ida** baz=43	**1.04**	**223**	P	**Pg**	**05 44 43.7**	**-1.2**
U40A	**Yellville** baz=174,SNR=108	**1.05**	**354**	P	**Pg**	**05 44 44.7**	**-0.4**
U40A	baz=174			S	**Sg**	**05 44 59.0**	**+0.3**
U41A	**Viola**	**1.22**	**32**	P	**Pn**	**05 44 47.4**	**-0.7**
	baz=212,SNR=128						
HHAR	**Hobbs**	**1.38**	**315**	*e*Pn	**Pn**	**05 44 50.6**	**+0.2**
HHAR				*e*Sn	**Sg**	**05 45 09.7**	**+0.1**
CCAR	**Cane Creek**	**1.60**	**150**	*e*Pn	**Pn**	**05 44 53.0**	**-0.3**
WLAR	**White Oak Lake**	**1.65**	**191**	*e*Pn	**Pn**	**05 44 54.5**	**+0.4**
HBAR	**Harrisburg**	**1.70**	**81**	*e*Pn	**Pn**	**05 44 55.4**	**+0.7**
X43A	**Marvell**	**1.71**	**117**	*e*Pn	**Pn**	**05 44 54.8**	**0.0**
X43A				*e*Sn	**Sb**	**05 45 18.5**	**+0.5**
X43A	**Marvell** baz=298,SNR=43	**1.71**	**117**	P	**Pn**	**05 44 54.9**	**0.0**
X43A	baz=298			S	**Sb**	**05 45 18.3**	**+0.3**
Z41A	**Richland Creek**	**2.05**	**182**	*e*Pn	**Pn**	**05 44 59.6**	**+0.1**
Z41A	**Richland Creek** baz=2.0,SNR=23	**2.05**	**182**	P	**Pn**	**05 44 59.7**	**+0.2**
Z41A	baz=2.0			S	**Sn**	**05 45 25.9**	**+0.7**
MET	**Memphis--Engin**	**2.29**	**94**	*e*Pn	**Pb**	**05 45 04.7**	**-1.7**
X37A	**Clayton**	**2.29**	**252**	*e*Pn	**Pb**	**05 45 05.2**	**-1.2**
X37A				*e*Sn	**Sb**	**05 45 36.6**	**+1.8**
GNAR	**Gosnell**	**2.30**	**73**	*e*Pn	**Pn**	**05 45 04.0**	**+1.1**
PBMO	**Poplar Bluff**	**2.36**	**51**	*e*Pn	**Pn**	**05 45 04.8**	**+1.0**
TUL1	**Leonard**	**2.57**	**284**	*e*Pn	**Pn**	**05 45 08.3**	**+1.6**
TUL1	**Leonard** baz=103,SNR=26	**2.57**	**284**	P	**Pn**	**05 45 08.0**	**+1.4**
PVMO	**Portageville**	**2.69**	**65**	*e*Pn	**Pn**	**05 45 09.2**	**+0.9**
PARMO	**Parma**	**2.76**	**60**	*e*Pn	**Pn**	**05 45 10.1**	**+0.8**
HALT	**Halls**	**2.82**	**77**	*e*Pn	**Pn**	**05 45 11.3**	**+1.2**
OXF	**Oxford**	**2.84**	**105**	*e*Pn	**Pn**	**05 45 10.2**	**-0.1**
OXF	**Oxford** baz=287,SNR=9.4	**2.84**	**105**	P	**Pn**	**05 45 10.3**	**0.0**
OXF	baz=287			S	**Sn**	**05 45 45.1**	**+0.5**
GLAT	**Glass**	**2.95**	**70**	*e*Pn	**Pn**	**05 45 12.1**	**+0.2**
CCM	**Cathedral Cave**	**2.98**	**23**	*e*Pn	**Pn**	**05 45 13.6**	**+1.2**
CCM	**Cathedral Cave** baz=204	**2.98**	**23**	P	**Pn**	**05 45 13.1**	**+0.7**
CCM	baz=204			S	**Sn**	**05 45 51.2**	**+3.0**
R41A	**Rosebud** baz=200	**3.17**	**19**	P	**Pn**	**05 45 15.8**	**+0.9**
R41A	baz=200			S	**Sn**	**05 45 55.0**	**+2.2**
FVM	**French Village**	**3.24**	**34**	*e*Pn	**Pn**	**05 45 17.1**	**+1.2**
UTMT	**University of**	**3.30**	**71**	*e*Pn	**Pn**	**05 45 18.2**	**+1.5**
X46A	**Booneville** baz=284	**3.48**	**101**	P	**Pn**	**05 45 19.1**	**-0.1**
X46A	baz=284			S	**Sn**	**05 46 02.1**	**+1.6**
W46A	**Michie** baz=274,SNR=16	**3.56**	**92**	P	**Pn**	**05 45 20.5**	**+0.2**
W46A	baz=274			S	**Sn**	**05 46 03.9**	**+1.4**
VBMS	**Vicksburg** baz=330	**3.59**	**149**	S	**Sn**	**05 46 04.9**	**+1.8**
S44A	**Carbondale** baz=230	**3.67**	**49**	P	**Pn**	**05 45 22.6**	**+0.8**
S44A	baz=230			S	**Sn**	**05 46 07.0**	**+1.9**
SIUC	**Southern Illin**	**3.70**	**49**	*e*Pn	**Pn**	**05 45 23.1**	**+0.8**
T45A	**Paducah**	**3.71**	**62**	*e*Pn	**Pn**	**05 45 23.1**	**+0.7**
T45A				*e*Sg	**Sg**	**05 46 20.3**	**-3.9**
T45A	**Paducah** baz=244	**3.71**	**62**	P	**Pn**	**05 45 22.6**	**+0.3**
V46A	**Holladay** baz=264,SNR=9.1	**3.79**	**81**	P	**Pn**	**05 45 23.5**	**+0.2**
PLAL	**Pickwick Lake**	**3.82**	**94**	*e*Pn	**Pn**	**05 45 23.7**	**-0.2**
U46A	**Springville** baz=255	**3.84**	**73**	P	**Pn**	**05 45 24.3**	**+0.3**
SLM	**Saint Louis**	**3.87**	**30**	*e*Pn	**Pn**	**05 45 25.3**	**+0.8**
NATX	**Nacogdoches**	**3.90**	**205**	*e*Pn	**Pn**	**05 45 24.9**	**0.0**
NATX				*e*Sn	**Sn**	**05 46 09.4**	**-1.3**
NATX	**Nacogdoches** baz=24	**3.90**	**205**	P	**Pn**	**05 45 25.1**	**+0.2**
NATX	baz=24			S	**Sn**	**05 46 09.8**	**-0.9**
Q42A	**Golden Eagle** baz=206	**4.00**	**25**	P	**Pn**	**05 45 27.1**	**+0.9**
Q42A	baz=206			S	**Sn**	**05 46 15.3**	**+2.1**
WVT	**Waverly**	**4.06**	**77**	*e*Pn	**Pn**	**05 45 28.1**	**+0.9**
WVT	**Waverly** baz=260	**4.06**	**77**	P	**Pn**	**05 45 27.6**	**+0.4**
WVT	baz=260			S	**Sn**	**05 46 15.9**	**+1.1**
X47A	**Russelville** baz=282	**4.08**	**100**	P	**Pn**	**05 45 27.5**	**+0.2**
X47A	baz=282			Sb	**Sb**	**05 46 29.5**	**+3.3**
W47A	**Westpoint** baz=272,SNR=21	**4.20**	**89**	P	**Pn**	**05 45 29.2**	**+0.2**
W47A	baz=272			Sb	**Sb**	**05 46 33.2**	**+3.6**
T46A	**Princeton** baz=247	**4.27**	**65**	P	**Pn**	**05 45 30.6**	**+0.6**
V47A	**Nunnelly** baz=264	**4.27**	**82**	P	**Pn**	**05 45 30.2**	**+0.2**
V47A	baz=264			Sb	**Sb**	**05 46 36.0**	**+4.2**
147A	**Livingston** baz=307	**4.54**	**124**	Sb	**Sb**	**05 46 43.9**	**+4.5**
U47A	**Clarksville** baz=257	**4.55**	**74**	P	**Pn**	**05 45 34.3**	**+0.4**
R45A	**Skylar, Fairfi** baz=231	**4.64**	**49**	P	**Pn**	**05 45 35.5**	**+0.4**
S46A	**Don Dixon Farm** baz=241	**4.68**	**58**	P	**Pn**	**05 45 36.1**	**+0.5**
W48A	**Pulaski** baz=274	**4.74**	**90**	P	**Pn**	**05 45 36.9**	**+0.4**
X48A	**Hartsele**	**4.75**	**99**	*e*Pn	**Pn**	**05 45 37.7**	**+1.1**
X48A	**Hartsele** baz=282	**4.75**	**99**	P	**Pn**	**05 45 36.7**	**+0.1**
Y48A	**Jasper** baz=288	**4.79**	**105**	P	**Pn**	**05 45 37.5**	**+0.3**
V48A	**Smith Brothers** baz=266	**4.83**	**83**	P	**Pn**	**05 45 38.2**	**+0.5**
T47A	**Sharon Grove**	**4.84**	**68**	*e*Pn	**Pn**	**05 45 34.9**	**-3.0**
USIN	**University of**	**4.85**	**55**	*e*Pn	**Pn**	**05 45 39.0**	**+1.0**
KSU1	**Kansas State U** baz=140,SNR=7.4	**4.89**	**322**	P	**Pn**	**05 45 38.9**	**+0.4**
WMOK	**Wichita Mounta**	**5.00**	**265**	*e*Pn	**Pn**	**05 45 41.4**	**+1.2**
WMOK	**Wichita Mounta** baz=82,SNR=10	**5.00**	**265**	P	**Pn**	**05 45 40.7**	**+0.5**
P43A	**Skaggs, Pawnee** baz=211	**5.01**	**30**	P	**Pn**	**05 45 40.8**	**+0.6**
OLIL	**Olney**	**5.03**	**46**	*e*Pn	**Pn**	**05 45 43.3**	**+2.8**
148A	**Greensboro** baz=303	**5.04**	**120**	P	**Pn**	**05 45 40.5**	**-0.1**
R46A	**Gibon Southern** baz=237	**5.09**	**54**	P	**Pn**	**05 45 41.7**	**+0.4**
Q45A	**Warren Harvey,** baz=227	**5.11**	**44**	P	**Pn**	**05 45 42.1**	**+0.5**
WHTX	**Lake Whitney,**	**5.15**	**231**	*e*Pn	**Pn**	**05 45 42.8**	**+0.7**
WHTX	**Lake Whitney,** baz=49	**5.15**	**231**	P	**Pn**	**05 45 42.5**	**+0.3**
U48A	**Cassie Pea, Po** baz=258	**5.16**	**75**	P	**Pn**	**05 45 42.6**	**+0.3**
U32A	**Winter Ranch,**	**5.21**	**284**	*e*Pn	**Pn**	**05 45 45.9**	**+2.9**
S47A	**Hartford** baz=246	**5.23**	**62**	P	**Pn**	**05 45 43.3**	**0.0**
CLTN	**Cedars of Leba**	**5.26**	**80**	*e*Pn	**Pn**	**05 45 44.0**	**+0.4**
LRAL	**Lakeview Retre**	**5.26**	**114**	*e*Pn	**Pn**	**05 45 43.4**	**-0.3**
LRAL	**Lakeview Retre** baz=297,SNR=20	**5.26**	**114**	P	**Pn**	**05 45 43.5**	**-0.1**
W49A	**Belvidere** baz=274	**5.29**	**90**	P	**Pn**	**05 45 44.4**	**+0.3**
X49A	**Woodville** baz=280	**5.32**	**97**	P	**Pn**	**05 45 44.1**	**-0.3**
Y49A	**Blount Mountai**	**5.40**	**104**	*e*Pn	**Pn**	**05 45 45.9**	**+0.3**
Y49A	**Blount Mountai** baz=287	**5.40**	**104**	P	**Pn**	**05 45 45.6**	**-0.1**
T48A	**Bowling Green** baz=252	**5.42**	**69**	P	**Pn**	**05 45 46.1**	**+0.2**
Z49A	**Columbiana** baz=294	**5.54**	**111**	P	**Pn**	**05 45 47.6**	**0.0**
SWET	**Sewanee**	**5.56**	**89**	*e*Pn	**Pn**	**05 45 48.4**	**+0.6**
SWET				*e*Sn	**Sn**	**05 46 51.8**	**+0.1**
V49A	**McMinnville** baz=267	**5.58**	**83**	P	**Pn**	**05 45 48.6**	**+0.6**
N41A	**Harden Midland**	**5.58**	**15**	*e*Pn	**Pn**	**05 45 49.1**	**+1.0**
N41A	**Harden Midland** baz=196	**5.58**	**15**	P	**Pn**	**05 45 48.5**	**+0.4**
149A	**Jones** baz=300,SNR=5.7	**5.62**	**117**	P	**Pn**	**05 45 48.2**	**-0.4**
N40A	**Mertquake, Sal** baz=189	**5.63**	**9**	P	**Pn**	**05 45 49.2**	**+0.4**
249A	**Camden** baz=307,SNR=6.7	**5.74**	**124**	P	**Pn**	**05 45 49.6**	**-0.6**
P45A	**Graceland, Par**	**5.78**	**42**	*e*Pn	**Pn**	**05 45 51.7**	**+1.0**
HDIL	**Hopedale**	**5.89**	**26**	*e*Pn	**Pn**	**05 45 52.8**	**+0.5**
WCI	**Wyandotte Cave**	**5.92**	**59**	*e*Pn	**Pn**	**05 45 53.4**	**+0.6**
WCI	**Wyandotte Cave** baz=242	**5.92**	**59**	P	**Pn**	**05 45 52.8**	**0.0**
Z50A	**Ashland**	**5.99**	**108**	*e*Pn	**Pn**	**05 45 53.5**	**-0.2**
Z50A	**Ashland** baz=292,SNR=8.3	**5.99**	**108**	P	**Pn**	**05 45 53.5**	**-0.2**
W50A	**Signal Mountai**	**6.06**	**89**	*e*Pn	**Pn**	**05 45 56.6**	**+1.9**
T49A	**Edmonton**	**6.08**	**71**	*e*Pn	**Pn**	**05 45 56.3**	**+1.4**
349A	**Repton** baz=312	**6.08**	**129**	P	**Pn**	**05 45 54.7**	**-0.3**
435B	**Jarrell**	**6.09**	**223**	*e*Pn	**Pn**	**05 45 55.6**	**+0.6**
435B	**Jarrell** baz=41	**6.09**	**223**	P	**Pn**	**05 45 55.3**	**+0.3**
150A	**Eclectic** baz=298,SNR=9.1	**6.19**	**114**	P	**Pn**	**05 45 56.2**	**-0.2**
N43A	**Stutzman Famil** baz=207	**6.27**	**25**	P	**Pn**	**05 45 57.8**	**+0.3**
BRAL	**Brewton**	**6.30**	**129**	*e*Pn	**Pn**	**05 45 57.5**	**-0.4**
BRAL				*e*Sn	**Sn**	**05 47 10.7**	**+0.8**
BRAL	**Brewton** baz=313,SNR=7.0	**6.30**	**129**	P	**Pn**	**05 45 57.3**	**-0.6**
250A	**Grady**	**6.33**	**120**	*e*Pn	**Pn**	**05 45 57.7**	**-0.6**
250A	**Grady** baz=304	**6.33**	**120**	P	**Pn**	**05 45 58.3**	**-0.1**
ABTX	**Abilene, Hawle**	**6.34**	**247**	*e*Pn	**Pn**	**05 45 58.6**	**0.0**
ABTX	**Abilene, Hawle** baz=63	**6.34**	**247**	P	**Pn**	**05 45 58.7**	**+0.1**
449A	**Pace** baz=316	**6.48**	**133**	P	**Pn**	**05 45 60.0**	**-0.4**
X51A	**Calhoun**	**6.50**	**94**	*e*Pn	**Pn**	**05 46 03.9**	**+3.2**
SCIA	**State Center**	**6.59**	**357**	*e*Pn	**Pn**	**05 46 01.7**	**-0.3**
350A	**Dozier** baz=308	**6.60**	**124**	P	**Pn**	**05 46 01.4**	**-0.7**
CBKS	**Cedar Bluff**	**6.61**	**304**	*e*Pn	**Pn**	**05 46 03.3**	**+1.1**
CBKS	**Cedar Bluff** baz=120,SNR=7.3	**6.61**	**304**	P	**Pn**	**05 46 02.8**	**+0.6**
P47A	**Martinsville** baz=233	**6.61**	**49**	P	**Pn**	**05 46 02.3**	**+0.1**
CPCT	**Cooper Cave**	**6.70**	**86**	*e*Pn	**Pn**	**05 46 04.2**	**+0.7**
151A	**Opelika** baz=296	**6.75**	**112**	P	**Pn**	**05 46 04.1**	**0.0**
R49A	**Shelbyville** baz=246	**6.75**	**62**	P	**Pn**	**05 46 04.4**	**+0.3**
V51A	**Loudon**	**6.84**	**83**	*e*Pn	**Pn**	**05 46 05.7**	**+0.3**
V51A	**Loudon** baz=268,SNR=7.3	**6.84**	**83**	P	**Pn**	**05 46 04.6**	**-0.8**
251A	**Midway** baz=300	**6.89**	**116**	P	**Pn**	**05 46 06.2**	**+0.2**
L42A	**Oliver, Polo**	**7.09**	**19**	*e*Pn	**Pn**	**05 46 10.2**	**+1.4**
L42A	**Oliver, Polo** baz=200	**7.09**	**19**	P	**Pn**	**05 46 08.8**	**0.0**
O47A	**Sheridan** baz=228	**7.14**	**45**	P	**Pn**	**05 46 09.6**	**+0.1**
152A	**Waverly Hall**	**7.15**	**109**	*e*Pn	**Pn**	**05 46 10.2**	**+0.6**
152A				*e*Sn	**Sn**	**05 47 30.9**	**0.0**
W52A	**Murphy**	**7.20**	**89**	*e*Pn	**Pn**	**05 46 11.8**	**+1.4**
AMTX	**Amarillo**	**7.36**	**269**	*e*Pn	**Pn**	**05 46 12.9**	**+0.4**
AMTX	**Amarillo** baz=84	**7.36**	**269**	P	**Pn**	**05 46 12.4**	**-0.1**
BGNE	**Belgrade**	**7.43**	**327**	*e*Pn	**Pn**	**05 46 14.8**	**+1.3**
BGNE	**Belgrade** baz=143	**7.43**	**327**	P	**Pn**	**05 46 13.9**	**+0.4**
V52A	**Sevierville**	**7.46**	**83**	*e*Pn	**Pn**	**05 46 13.6**	**-0.2**
V52A	**Sevierville** baz=268	**7.46**	**83**	P	**Pn**	**05 46 13.4**	**-0.4**
451A	**Vernon**	**7.50**	**127**	*e*Pn	**Pn**	**05 46 13.2**	**-1.2**
451A	**Vernon** baz=310	**7.50**	**127**	P	**Pn**	**05 46 13.7**	**-0.7**
352A	**Blakely**	**7.56**	**118**	*e*Pn	**Pn**	**05 46 14.5**	**-0.7**
352A	**Blakely** baz=302,SNR=6.3	**7.56**	**118**	P	**Pn**	**05 46 14.4**	**-0.7**
JCT	**Junction City**	**7.66**	**233**	*e*Pn	**Pn**	**05 46 16.4**	**-0.3**
JCT	**Junction City** baz=49,SNR=7.6	**7.66**	**233**	P	**Pn**	**05 46 16.2**	**-0.5**
S51A	**Beattyville**	**7.71**	**70**	*e*Pn	**Pn**	**05 46 17.9**	**+0.6**
JFWS	**Jewell Farm**	**7.83**	**13**	*e*Pn	**Pn**	**05 46 19.6**	**+0.6**
GOGA	**Godfrey**	**7.88**	**101**	*e*Pn	**Pn**	**05 46 20.6**	**+0.9**
T52A	**Hallie**	**8.07**	**74**	*e*Pn	**Pn**	**05 46 23.5**	**+1.2**
V53A	**Saluda**	**8.09**	**85**	*e*Pn	**Pn**	**05 46 23.4**	**+0.8**
K43A	**Burlington**	**8.13**	**24**	*e*Pn	**Pn**	**05 46 24.3**	**+1.2**
K43A				*e*Sg	**Sg**	**05 48 39.0**	**-6.9**
Q51A	**Peebles**	**8.35**	**61**	*e*Pn	**Pn**	**05 46 27.5**	**+1.4**
MSTX	**Muleshoe**	**8.39**	**264**	*e*Pn	**Pn**	**05 46 27.7**	**+1.0**
TIGA	**Tifton**	**8.56**	**114**	*e*Pn	**Pn**	**05 46 30.9**	**+1.9**
I39A	**Houston**	**8.58**	**6**	*e*Pn	**Pn**	**05 46 29.5**	**+0.3**
KSCO	**Kaye Shedlock'**	**8.72**	**298**	*e*Pn	**Pn**	**05 46 32.0**	**+0.7**
N49A	**Columbus Grove**	**8.75**	**48**	*e*Pn	**Pn**	**05 46 33.4**	**+1.9**
ECSD	**EROS Data Cent**	**8.93**	**342**	*e*Pn	**Pn**	**05 46 34.3**	**+0.3**
ECSD	**EROS Data Cent** baz=159,SNR=24	**8.93**	**342**	P	**Pn**	**05 46 34.0**	**0.0**
833A	**Chaparral WMA,**	**8.98**	**221**	*e*Pn	**Pn**	**05 46 35.7**	**+0.9**
I42A	**Draeger Farm,**	**9.05**	**18**	*e*Pn	**Pn**	**05 46 37.2**	**+1.5**
Q52A	**Bidwell** baz=250	**9.11**	**63**	P	**Pn**	**05 46 36.1**	**-0.3**
255A	**Hazlehurst**	**9.19**	**109**	*e*Pn	**Pn**	**05 46 39.3**	**+1.7**
CPRX	**Cap Rock**	**9.51**	**259**	*e*Pn	**Pn**	**05 46 39.9**	**-2.3**
SPMN	**Marine on St.**	**9.90**	**360**	*e*Pn	**Pn**	**05 46 48.2**	**+0.9**
SPMN				*e*Sn	**Sn**	**05 48 37.0**	**-1.4**
P53A	**Whipple**	**9.93**	**62**	*e*Pn	**Pn**	**05 46 50.0**	**+2.3**
SDCO	**Great Sand Dun**	**10.57**	**287**	*e*Pn	**Pn**	**05 46 57.6**	**+0.9**
Q24A	**Divide**	**10.57**	**294**	*e*Pn	**Pn**	**05 46 56.6**	**-0.2**
NHSC	**New Hope**	**10.62**	**98**	*e*Pn	**Pn**	**05 46 57.6**	**+0.4**
TX31	**Lajitas Ar. Si**	**11.01**	**240**	*e*Pn	**Pn**	**05 47 01.4**	**-1.2**
COWI	**Conover**	**11.11**	**13**	*e*Pn	**Pn**	**05 47 04.0**	**+0.1**
MNTX	**Cornudas Mount**	**11.16**	**255**	*e*Pn	**Pn**	**05 47 04.2**	**-0.5**
ISCO	**Idaho Springs**	**11.17**	**297**	*e*Pn	**Pn**	**05 47 06.0**	**+1.0**
S57A	**Dark Hollow, R**	**11.34**	**74**	*e*Pn	**Pn**	**05 47 07.3**	**+0.2**
957A	**Wimauma**	**11.75**	**128**	*e*Pn	**Pn**	**05 47 14.9**	**+2.2**
N23A	**Red Feather La**	**11.81**	**302**	*e*Pn	**Pn**	**05 47 14.7**	**+1.0**
LNIG	**Linares**	**11.90**	**211**	*e*Pn	**Pn**	**05 47 15.3**	**+0.5**
EYMN	**Ely**	**12.66**	**4**	*e*Pn	**Pn**	**05 47 24.2**	**-0.8**
HLID	**Hailey**	**18.63**	**303**	*e*P	**P**	**05 48 42.6**	**-0.3**

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*KRSC **24** 05:44:47.0±10.0, 54°.76N×153°.79E, h630km±10km, ML7.8*
*NEIC **24** 05:44:49.0±2.1, 54°.89N×153°.22E, h598km±4km, mb7.5/727, ME8.4, MW8.4, MW8.3, Error ellipse: s-maj=10.2km s-min=4.0km az=103.0, Complex earthquake, with at least two events occurring 10 and 18 seconds after the onset observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*NEIC Felt [V] at Severo-Kuril'sk; [IV] at Tymovskoye and Uglegorsk; [III] at Krasnoyarsk, Novosibirsk and Yuzhno-Sakhalinsk, Russia. Also felt at Berdsk, Moscow, Petropavlovsk-Kamchatskiy and Samara. Felt [II] at Delhi and Gurgaon, India. Also felt at Chandigarh and Noida. Felt [II] at Tokyo, Japan. Also felt at Aomori and Furukawa and in Sapporo, Sendai and Yokohama. Felt at Vancouver, Canada; Chongqing, Chengdu and Xichang, China; Astana and Atyrau, Kazakhstan. Felt [II] at Anchor Point and Juneau, Alaska. Also felt at Homer, Kodiak, Palmer and Petersburg. Felt at Goleta and Irvine, California.

Krasnoyarsk, Novosibirsk, Tomsk, Kemerovo, Kazan', (II) at Yuzhno-Kuril'sk, Zeya, Nyvrovo, Nogliki, Susuman, Talaya, Moskva, Sankt-Peterburg, Nizhniy Novgorod, Samara, Kaluga.

BJI ***24*** *05:44:48.1±0.0, 54°.86N×153°.28E, h600km, mb7.4/54, mB8.0/79*

ISCJB ***24*** *05:44:48.1±0.1, 54°.89N±0°.01×153°.31E±0°.02, h603km±1km, mb7.3/470, Error ellipse: s-maj=2.0km s-min=1.4km az=155.7*

IDC ***24*** *05:44:49.7±0.4, 54°.89N×153°.31E, h604km±4km, mb6.3/59, mb1 6.3/66, mb1mx6.3/66, mbtmp7.2/66, Error ellipse: s-maj=4.5km s-min=4.0km az=110.0*

NEIC ***24*** *05:44:49.0±0.0, 54°.77N×153°.33E, h610km, Moment Tensor Solution. s73 Moment tensor: Scale 10^{21}Nm; M_{rr}=1.40; $M_{\theta\theta}$0.31; $M_{\phi\phi}$1.08; $M_{r\theta}$-0.79; $M_{\theta\phi}$0.08; $M_{\phi r}$-3.54; Best double couple: $M_0$3.80000×10^{21} NP1:ϕ_s12.00000°, δ81.00000°, λ-88.00000°. NP2:ϕ_s184.00000°, δ9.00000°, λ-98.00000°. Principal axes: T 3.6800, Plg35.0000°, Azm101.0000°; N 0.3100, Plg1.0000°, Azm191.0000°; P -3.9900, Plg54.0000°, Azm283.0000°;*

GCMT ***24*** *05:45:08.0±0.1, 54°.61N±0°.01×153°.77E±0°.01, h611km±1km, MW8.3/141, Moment Tensor Solution. s141, c405; s140, c394; Duration: 35s7 Moment tensor: Scale 10^{21}Nm; M_{rr}=1.67±.01; $M_{\theta\theta}$0.38±.01; $M_{\phi\phi}$1.28±.01; $M_{r\theta}$-0.78±.01; $M_{\theta\phi}$0.15±.01; $M_{\phi r}$-3.57±.01; Best double couple: $M_0$3.94600×10^{21} NP1:ϕ_s12.00000°, δ79.00000°, λ-89.00000°. NP2:ϕ_s189.00000°, δ11.00000°, λ-93.00000°. Principal axes: T 3.7630, Plg34.0000°, Azm102.0000°; N 0.3580, Plg1.0000°, Azm192.0000°; P -4.1290, Plg56.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=200s. Triangular moment-rate function*

NEIC ***24*** *05:45:20.2±0.0, 54°.63N×153°.22E, h640km, Moment Tensor Solution. s122 Moment tensor: Scale 10^{21}Nm; M_{rr}=1.60; $M_{\theta\theta}$0.34; $M_{\phi\phi}$1.26; $M_{r\theta}$-1.12; $M_{\theta\phi}$0.01; $M_{\phi r}$-3.99; Best double couple: $M_0$4.40000×10^{21} NP1:ϕ_s177.00000°, δ10.00000°, λ-107.00000°. NP2:ϕ_s15.00000°, δ81.00000°, λ-87.00000°. Principal axes: T 4.1900, Plg36.0000°, Azm102.0000°; N 0.4000, Plg3.0000°, Azm194.0000°; P -4.5800, Plg54.0000°, Azm288.0000°;*

ISC 24 05:44:49.9±0.2, 54°.82N±0°.02×153°.39E±0°.02, h607km±1km, h605km:pP-P, n2775, σ2=06/3370, mb7.3/525, 65C-338D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.93**	**129**	*e*P		**P**		**05 46 08.1**	**-1.0**
APC	**Apacha**	**2.93**	**129**	P		**P**		**05 46 08.1**	**-1.0**
PEA1	**Petropavlovsk-**	**3.06**	**122**	*e*P		**P**		**05 46 09.3**	**-0.6**
PEA1				*e*				06 22 56.2	
PEA0B	**Petropavlovsk-**	**3.07**	**122**	*e*P		**P**		**05 46 08.7**	**-1.3**
PETK	**Petropavlovsk-**	**3.07**	**122**	*e*P		**P**		**05 46 08.3**	**-1.7**
PETK	**Petropavlovsk-**	**3.07**	**122**	*e*P		**P**		**05 46 08.3**	**-1.7**
PETK	**Petropavlovsk-**	**3.07**	**122**	P		**P**		**05 46 09.3**	**-0.6**
	5μm,0.3s,baz=2.3,slow=4.0								
PETK					P3KPbc			06 22 56.2	
	0.7nm,0.3s,baz=141,slow=2.6,SNR=7.2								
I44RU	**PETROPAVLOVSK-**	**3.08**	**122**	P		**P**		**05 46 08.9**	**-1.1**
	baz=296,slow=6.3,SNR=297								
I44RU				*i*				05 59 00.0	
	baz=188,slow=320,SNR=4.0								
ESO	**Esso**	**3.23**	**68**	*i* P		**P**		**05 46 10.2**	**-0.6**
ESO	**Esso**	**3.23**	**68**	P		**P**		**05 46 10.2**	**-0.6**
KRX	**Arik**	**3.42**	**113**	*e*P		**P**		**05 46 11.3**	**-0.9**
KRX	**Arik**	**3.42**	**113**	P		**P**		**05 46 11.3**	**-0.9**
KRMR	**Karymshinskiy**	**3.44**	**123**	*e*P		**P**		**05 46 11.1**	**-1.0**
KRMR	**Karymshinskiy**	**3.44**	**123**	P		**P**		**05 46 11.1**	**-1.0**
KOK	**Koryaka**	**3.45**	**114**	*e*P		**P**		**05 46 11.3**	**-1.0**
KOK	**Koryaka**	**3.45**	**114**	P		**P**		**05 46 11.3**	**-1.0**
KRER	**Koryakskii**	**3.50**	**113**	*e*P		**P**		**05 46 11.4**	**-1.4**
KRER	**Koryakskii**	**3.50**	**113**	P		**P**		**05 46 11.4**	**-1.4**
AVH	**Avacha**	**3.51**	**114**	*e*P		**P**		**05 46 11.6**	**-1.1**
AVH	**Avacha**	**3.51**	**114**	P		**P**		**05 46 11.6**	**-1.1**
SMAR	**Somma**	**3.55**	**114**	*e*P		**P**		**05 46 11.8**	**-1.3**
SMAR	**Somma**	**3.55**	**114**	P		**P**		**05 46 11.8**	**-1.3**
SDLR	**Sedlovina**	**3.58**	**113**	*e*P		**P**		**05 46 11.6**	**-1.6**
SDLR	**Sedlovina**	**3.58**	**113**	P		**P**		**05 46 11.6**	**-1.6**
UGLR	**Uglovaya**	**3.59**	**114**	*e*P		**P**		**05 46 12.0**	**-1.2**
UGLR	**Uglovaya**	**3.59**	**114**	P		**P**		**05 46 12.0**	**-1.2**
GRL	**Gorelyy**	**3.59**	**127**	*e*P		**P**		**05 46 12.0**	**-1.3**
GRL	**Gorelyy**	**3.59**	**127**	P		**P**		**05 46 12.0**	**-1.3**
PET	**Petropavlovsk**	**3.59**	**118**	*e*P		**P**		**05 46 11.3**	**-1.7**
PET				*e*S		**S**		**05 47 28.4**	**+7.4**
PET	**Petropavlovsk**	**3.59**	**118**	*e*P		**P**		**05 46 11.4**	**-1.7**
PET	**Petropavlovsk**	**3.59**	**118**	κ *i*P		**P**		**05 46 11.6**	**-1.5**
PET				*e*S		**S**		**05 47 18.0**	**-3.0**
PET				pmax		pmax			
	comp=Z,259μm,0.6s								
PET				smax		smax			
	comp=E,4478μm,6.4s								
PET				smax		smax			
	comp=N,3047μm,5.5s								
PET				smax		smax			
	comp=N,297μm,1.2s								
PET				smax		smax			
	comp=E,375μm,1.2s								
PET				MLR		MLR			
	comp=Z,1883μm,15.0s								
PET				MLR		MLR			
	comp=Z,2667μm,19.0s								
KII	**Karymskiy**	**3.62**	**100**	*i* P		**P**		**05 46 11.8**	**-1.5**
KII	**Karymskiy**	**3.62**	**100**	P		**P**		**05 46 11.8**	**-1.5**
ASAK	**Asacha**	**3.63**	**130**	*i* P		**P**		**05 46 12.0**	**-1.4**
ASAK	**Asacha**	**3.63**	**130**	P		**P**		**05 46 12.0**	**-1.4**
DALK	**Dalny**	**3.64**	**117**	*i* P		**P**		**05 46 10.9**	**-2.5**
DALK	**Dalny**	**3.64**	**117**	P		**P**		**05 46 10.9**	**-2.5**
MTVR	**Mutnovka**	**3.69**	**127**	*e*P		**P**		**05 46 11.8**	**-2.1**
MTVR	**Mutnovka**	**3.69**	**127**	P		**P**		**05 46 11.8**	**-2.1**
RUS	**Russkaya**	**3.87**	**126**	*e*P		**P**		**05 46 12.7**	**-2.2**
RUS	**Russkaya**	**3.87**	**126**	P		**P**		**05 46 12.7**	**-2.2**
NLC	**Nalytchevo**	**3.88**	**113**	*i* P		**P**		**05 46 12.8**	**-2.1**
NLC	**Nalytchevo**	**3.88**	**113**	P		**P**		**05 46 12.8**	**-2.1**
SRDR	**Sredinnyy**	**3.89**	**65**	*i* P		**P**		**05 46 14.1**	**-0.9**
SRDR	**Sredinnyy**	**3.89**	**65**	P		**P**		**05 46 14.1**	**-0.9**
KOZ	**Kozyrevsk**	**3.90**	**69**	*i* P		**P**		**05 46 14.0**	**-1.0**
KOZ	**Kozyrevsk**	**3.90**	**69**	P		**P**		**05 46 14.0**	**-1.0**
TUMR	**Tumrok**	**3.91**	**80**	*e*P		**P**		**05 46 14.0**	**-1.2**
TUMR	**Tumrok**	**3.91**	**80**	P		**P**		**05 46 13.8**	**-1.4**
PAU	**Pauzhetka**	**3.94**	**147**	*e*P		**P**		**05 46 13.9**	**-1.5**
PAU	**Pauzhetka**	**3.94**	**147**	P		**P**		**05 46 13.9**	**-1.5**
KZV	**Kizimen**	**3.99**	**83**	*e*P		**P**		**05 46 14.1**	**-1.7**
KZV	**Kizimen**	**3.99**	**83**	P		**P**		**05 46 14.1**	**-1.7**
KMNR	**Kamenistaya**	**4.03**	**74**	*e*P		**P**		**05 46 14.7**	**-1.3**
KMNR	**Kamenistaya**	**4.03**	**74**	P		**P**		**05 46 14.7**	**-1.3**
TUMD	**Tumrok D**	**4.05**	**82**	*e*P		**P**		**05 46 13.8**	**-2.3**
KPT	**Kopyto**	**4.06**	**71**	*i* P		**P**		**05 46 14.7**	**-1.5**
KPT	**Kopyto**	**4.06**	**71**	P		**P**		**05 46 14.7**	**-1.5**
KDTR	**Khodutka, Kamc**	**4.12**	**135**	*e*P		**P**		**05 46 13.4**	**-3.2**
KDTR	**Khodutka, Kamc**	**4.12**	**135**	P		**P**		**05 46 13.4**	**-3.2**
KIRR	**Kirishev**	**4.12**	**71**	*e*P		**P**		**05 46 15.0**	**-1.7**
KIRR	**Kirishev**	**4.12**	**71**	P		**P**		**05 46 15.0**	**-1.7**
ALID	**Alaid**	**4.16**	**161**	*e*P		**P**		**05 46 16.2**	**-1.0**
ALID	**Alaid**	**4.16**	**161**	P		**P**		**05 46 16.2**	**-1.0**
BZMR	**Bezymyannaya**	**4.20**	**72**	*i* P		**P**		**05 46 15.8**	**-1.4**
BZMR	**Bezymyannaya**	**4.20**	**72**	P		**P**		**05 46 15.8**	**-1.4**
BZWR	**Bezymyannyi-We**	**4.21**	**71**	*i* P		**P**		**05 46 15.7**	**-1.6**
BZWR	**Bezymyannyi-We**	**4.21**	**71**	P		**P**		**05 46 15.7**	**-1.6**
SPN	**Mys Shipunski**	**4.28**	**111**	*e*P		**P**		**05 46 14.6**	**-3.1**
SPN	**Mys Shipunski**	**4.28**	**111**	P		**P**		**05 46 14.6**	**-3.1**
KRSR	**Krestovskiy**	**4.31**	**68**	*e*P		**P**		**05 46 15.9**	**-2.1**
KRSR	**Krestovskiy**	**4.31**	**68**	P		**P**		**05 46 15.9**	**-2.1**
BZGR	**Bezymyannyi-Gr**	**4.32**	**72**	*i* P		**P**		**05 46 16.4**	**-1.6**
BZGR	**Bezymyannyi-Gr**	**4.32**	**72**	P		**P**		**05 46 16.4**	**-1.6**
LGNR	**Loginova**	**4.35**	**70**	*e*P		**P**		**05 46 17.0**	**-1.4**
LGNR	**Loginova**	**4.35**	**70**	P		**P**		**05 46 17.0**	**-1.4**
CIRR	**Tsirk**	**4.38**	**70**	*i* P		**P**		**05 46 16.8**	**-1.7**
CIRR	**Tsirk**	**4.38**	**70**	P		**P**		**05 46 16.8**	**-1.7**
KLY	**Klyuchi**	**4.39**	**67**	*e*P		**P**		**05 46 17.3**	**-1.0**
KLY	**Klyuchi**	**4.39**	**67**	P		**P**		**05 46 17.3**	**-1.0**
SKR	**Severo-Kuril's**	**4.46**	**157**	*e*P		**P**		**05 46 17.1**	**-2.0**
SKR				*e*S		**S**		**05 47 34.5**	**+2.6**
SKR	**Severo-Kuril's**	**4.46**	**157**	⇓ *i*P		**P**		**05 46 17.3**	**-1.8**
SKR				*e*S		**S**		**05 47 33.4**	**+1.5**
SKR				pmax		pmax			
	comp=Z,97μm,0.4s								
SKR				smax		smax			
	comp=E,338μm,0.7s								
SKR				smax		smax			
	comp=N,744μm,0.8s								
SKR				MLR		MLR			
	comp=Z,1661μm,12.0s								
SKR				MLR		MLR			
	comp=E,2534μm,13.0s								
BDR	**Baidarnaya**	**4.76**	**65**	*i* P		**P**		**05 46 19.8**	**-1.4**
BDR	**Baidarnaya**	**4.76**	**65**	P		**P**		**05 46 19.8**	**-1.4**
SRKR	**Sorokina**	**4.77**	**64**	*i* P		**P**		**05 46 20.0**	**-1.3**
SRKR	**Sorokina**	**4.77**	**64**	P		**P**		**05 46 20.0**	**-1.3**
MKZ	**Mys Kozlova**	**4.85**	**90**	*e*P		**P**		**05 46 17.4**	**-4.4**
MKZ	**Mys Kozlova**	**4.85**	**90**	P		**P**		**05 46 17.4**	**-4.4**
SMKR	**Semkarok**	**4.90**	**66**	*i* P		**P**		**05 46 20.6**	**-1.7**
SMKR	**Semkarok**	**4.90**	**66**	P		**P**		**05 46 20.6**	**-1.7**
MA2	**Magadan**	**4.98**	**344**	*e*P		**P**		**05 46 22.1**	**-0.7**
MA2				*e*S		**S**		**05 47 38.2**	**-0.8**
MA2				*e*				06 22 58.2	
MA2	**Magadan**	**4.98**	**344**	⇑ *i*P		**P**		**05 46 22.1**	**-0.7**
MA2				*e*S		**S**		**05 47 38.5**	**-0.5**
MA2				pmax		pmax			
	comp=Z,102μm,0.9s								
MA2	**Magadan**	**4.98**	**344**	P		**P**		**05 46 22.2**	**-0.6**
	comp=Z,4μm,0.3s,baz=150,slow=7.9,SNR=1723								
MA2					P3KPbc			06 22 58.2	
	comp=Z,1.4nm,0.3s,baz=135,slow=5.4,SNR=4.3								
KBG	**Krutoberegovo**	**5.48**	**71**	*e*P		**P**		**05 46 23.5**	**-3.3**
KBG	**Krutoberegovo**	**5.48**	**71**	P		**P**		**05 46 23.5**	**-3.3**
KBTR	**Krutoberegovo**	**5.54**	**72**	*e*P		**P**		**05 46 23.4**	**-3.9**
KBTR	**Krutoberegovo**	**5.54**	**72**	P		**P**		**05 46 23.4**	**-3.9**
PALN	**Palana**	**5.59**	**37**	*i* P		**P**		**05 46 27.3**	**-0.3**
PALN				*e*S		**S**		**05 47 47.5**	**-0.4**
PALN	**Palana**	**5.59**	**37**	P		**P**		**05 46 27.3**	**-0.3**
PALN				S		**S**		**05 47 47.5**	**-0.4**
OKH	**Okha**	**6.27**	**263**	*c* *i*P		**P**		**05 46 34.5**	**+1.0**
OKH				*i* S		**S**		**05 48 06.2**	**+7.7**
OKH				pmax		pmax			
	comp=Z,3479μm,13.9s								
OKH				smax		smax			
	comp=N,6886μm,10.6s								
OKH				smax		smax			
	comp=E,4129μm,10.1s								
TLAR	**Talaya**	**6.36**	**356**	⇑ *i*P		**P**		**05 46 34.1**	**-0.1**
TLAR				*e*S		**S**		**05 48 05.0**	**+5.1**
TLAR				pmax		pmax			
	comp=Z,21μm,0.8s								
OSSR	**Ossora**	**6.90**	**46**	*i* P		**P**		**05 46 38.3**	**-0.6**
OSSR				*e*S		**S**		**05 48 07.7**	**-0.8**
OSSR	**Ossora**	**6.90**	**46**	P		**P**		**05 46 38.3**	**-0.6**
OSSR				S		**S**		**05 48 07.7**	**-0.8**
BKI	**Bering**	**7.25**	**82**	*i* P		**P**		**05 46 41.9**	**-0.3**
BKI				*e*S		**S**		**05 48 14.8**	**+0.4**
BKI	**Bering**	**7.25**	**82**	P		**P**		**05 46 41.9**	**-0.3**
BKI				S		**S**		**05 48 14.8**	**+0.4**
TYV	**Tymovskoe**	**7.61**	**243**	*e*P		**P**		**05 46 46.6**	**+0.9**
TYV				pmax		pmax			
	comp=Z,38μm,0.9s								
TYV				pmax		pmax			
	comp=Z,775μm,3.4s								
SEY	**Seymchan**	**8.16**	**357**	⇑ *i*P		**P**		**05 46 50.4**	**-0.2**
SEY				*e*S		**S**		**05 48 31.0**	**+1.2**
SEY				pmax		pmax			
	comp=Z,65μm,0.9s								
SEY	**Seymchan**	**8.16**	**357**	P		**P**		**05 46 50.4**	**-0.2**
	comp=Z,2μm,0.3s,baz=168,slow=7.8,SNR=6637								
SEY				S		**S**		**05 48 28.0**	**-1.7**
	baz=191,slow=16,SNR=1.5								
SEY					P3KPbc			06 22 47.9	
	comp=Z,0.6nm,0.3s,baz=8.1,slow=3.5,SNR=3.8								
SUUS	**Susuman**	**8.43**	**343**	⇑ *i*P		P		05 46 42.4	-11
SUUS				*e*S		**S**		**05 48 37.7**	**+3.1**
SUUS				pmax		pmax			
	comp=Z,24μm,0.6s								
TILK	**Tilichiki**	**8.86**	**45**	*e*P		**P**		**05 46 56.1**	**-1.2**
TILK	**Tilichiki**	**8.86**	**45**	P		**P**		**05 46 56.1**	**-1.2**
KMSK	**Kamenskaya**	**10.15**	**36**	*e*P		**P**		**05 47 09.2**	**-0.7**
KMSK				*e*S		**S**		**05 49 01.4**	**-3.6**
KMSK	**Kamenskaya**	**10.15**	**36**	P		**P**		**05 47 09.2**	**-0.7**
KMSK				S		**S**		**05 49 01.4**	**-3.6**
KUR	**Kuril'sk**	**10.22**	**203**	*c* *i*P		**P**		**05 47 08.7**	**-2.3**
KUR				*i* S		**S**		**05 49 01.9**	**-4.9**
KUR				pmax		pmax			
	comp=Z,286μm,2.6s								
KUR				pmax		pmax			
	comp=Z,36μm,1.0s								
KUR				pmax		pmax			
	comp=E,15μm,1.3s								
KUR				smax		smax			
	comp=N,40μm,0.6s								
KUR				smax		smax			
	comp=E,22μm,1.1s								
KUR				smax		smax			
	comp=N,2530μm,20.8s								
KUR				smax		smax			
	comp=E,1079μm,15.5s								
KUR				MLR		MLR			
	comp=Z,612μm,17.0s								
YSS	**Yuzh-Sakhalins**	**10.34**	**225**	*e*P		**P**		**05 47 12.8**	**+0.7**
YSS				*e*S		**S**		**05 49 10.8**	**+2.0**
YSS				*e*ScP		**ScP**		**05 54 53.1**	**+1.8**
YSS	**Yuzh-Sakhalins**	**10.34**	**225**	α *i*P		**P**		**05 47 12.7**	**+0.7**
YSS				*e*S		**S**		**05 49 07.7**	**-1.1**
YSS				pmax		pmax			
	comp=Z,6μm,1.5s								
YSS				pmax		pmax			
	comp=Z,957μm,8.5s								
YSS				pmax		pmax			
	comp=N,581μm,4.8s								
YSS				pmax		pmax			
	comp=E,546μm,9.6s								
YSS				smax		smax			
	comp=E,6μm,2.6s								
YSS				smax		smax			
	comp=N,6893μm,13.9s								
YSS				smax		smax			
	comp=E,3057μm,12.0s								
YSS				MLR		MLR			
	comp=Z,735μm,11.0s								
GRNR	**Gornyy**	**11.04**	**255**	⇓ *i*P		**P**		**05 47 23.0**	**+4.0**
GRNR				pmax		pmax			
	comp=N,2μm,0.9s								
YUK	**Yuzh-Kuril'sk**	**11.84**	**207**	*d* *i*P		P		05 47 22.2	-4.8
YUK				*i* S		**S**		**05 49 28.2**	**-7.8**
YUK				pmax		pmax			
	comp=Z,77μm,2.3s								
YUK				pmax		pmax			
	comp=Z,32μm,0.7s								
YUK				pmax		pmax			
	comp=N,24μm,0.4s								
YUK				pmax		pmax			
	comp=E,34μm,0.5s								
YUK				smax		smax			
	comp=N,435μm,2.6s								
YUK				smax		smax			
	comp=E,457μm,1.8s								
LAGR	**Lagunnoye**	**11.84**	**208**	*d* *i*P		**P**		**05 47 22.5**	**-4.5**
LAGR				*i* S		**S**		**05 49 28.7**	**-7.4**
LAGR				pmax		pmax			
	comp=Z,97μm,2.2s								
LAGR				pmax		pmax			
	comp=Z,33μm,0.8s								
LAGR				pmax		pmax			
	comp=N,18μm,0.4s								
LAGR				pmax		pmax			
	comp=E,16μm,0.6s								
LAGR				smax		smax			
	comp=N,416μm,2.6s								
LAGR				smax		smax			
	comp=E,575μm,1.5s								
GRPR	**Tuman**	**11.90**	**208**	*d* *i*P		P		05 47 22.8	-4.9
GRPR				*i* S		**S**		**05 49 29.4**	**-7.8**
GRPR				pmax		pmax			
	comp=Z,99μm,2.2s								
GRPR				pmax		pmax			
	comp=N,24μm,0.4s								
GRPR				pmax		pmax			
	comp=Z,32μm,0.4s								
GRPR				pmax		pmax			
	comp=E,25μm,0.5s								
GRPR				smax		smax			
	comp=N,198μm,2.3s								
GRPR				smax		smax			
	comp=E,212μm,1.9s								
GLVR	**Golovnino**	**12.21**	**208**	*c* *i*P		**P**		**05 47 28.1**	**-2.5**
GLVR				*i* S		**S**		**05 49 39.0**	**-3.7**
GLVR				pmax		pmax			
	comp=Z,90μm,1.9s								
GLVR				pmax		pmax			
	comp=Z,45μm,0.5s								
GLVR				pmax		pmax			
	comp=N,12μm,0.4s								
GLVR				pmax		pmax			
	comp=E,10μm,0.6s								
GLVR				smax		smax			
	comp=N,420μm,2.3s								
GLVR				smax		smax			
	comp=E,376μm,2.9s								
SMY	**Shemya**	**12.42**	**91**	*e*P		**P**		**05 47 31.9**	**-0.7**
SMY				*e*S		**S**		**05 49 55.1**	**+8.8**
SMY				*e*ScP		**ScP**		**05 54 58.9**	**+4.7**
SMY	**Shemya**	**12.42**	**91**	*e*P		**P**		**05 47 31.9**	**-0.7**
ASAJ	**Asahikawa**	**12.79**	**218**	P		**P**		**05 47 34.6**	**-1.8**
	comp=E,307nm,0.3s,baz=26,slow=6.8,SNR=433								
ASAJ				S		**S**		**05 49 49.8**	**-3.4**
	comp=E,179nm,0.3s,baz=0.0,slow=20,SNR=2.0								
ASAJ				ScP		**ScP**		**05 54 55.8**	**+0.8**
	comp=E,30nm,0.3s,baz=70,slow=2.1,SNR=4.3								
ASAJ				P3KPbc				06 22 46.1	
	comp=E,1.7nm,0.3s,baz=245,slow=8.1,SNR=3.7								
YAK	**Yakutsk**	**14.30**	**310**	*d* *i*P		**P**		**05 47 48.9**	**-2.1**
YAK				*e*S		**S**		**05 50 18.7**	**-0.2**
YAK				pmax		pmax			
	comp=N,4μm,0.8s								
YAK				smax		smax			
	comp=N,487μm,16.3s								
YAK				smax		smax			
	comp=E,1008μm,15.2s								
KLR	**Kul'dur**	**14.42**	**256**	*c* *i*P		**P**		**05 47 51.7**	**-0.7**
KLR	**Kul'dur**	**14.42**	**256**	P		**P**		**05 47 51.9**	**-0.5**
	comp=E,614nm,0.3s,baz=62,slow=8.9,SNR=4320								
KLR				S		**S**		**05 50 21.2**	**-0.1**
	baz=270,slow=24,SNR=6.3								
KLR				ScP		**ScP**		**05 54 58.5**	**+0.8**
	comp=E,42nm,0.3s,baz=56,slow=2.9,SNR=6.3								
KLR				P3KPbc				06 22 40.7	
	comp=E,0.2nm,0.3s,baz=220,slow=2.3,SNR=2.8								
ERM	**Erimo**	**14.48**	**212**	*e*P		**P**		**05 47 48.4**	**-4.6**
ERM				*e*S		**S**		**05 50 24.6**	**+2.2**
ERM				*e*ScP		**ScP**		**05 55 00.3**	**+2.5**
ERM	**Erimo**	**14.48**	**212**	*c* *i*P		**P**		**05 47 50.0**	**-3.0**
TEY	**Ternei**	**14.55**	**235**	⇑ *i*P		**P**		**05 47 54.9**	**+1.4**
TEY				pmax		pmax			
	comp=N,16μm,1.0s								
TEY				pmax		pmax			
	comp=E,20μm,1.0s								
TEY				pmax		pmax			
	comp=Z,38μm,1.0s								
TEY				pmax		pmax			
	comp=N,288μm,6.0s								
TEY				pmax		pmax			
	comp=Z,656μm,8.2s								
TEY				pmax		pmax			
	comp=E,303μm,5.5s								
TEY				MLR		MLR			
	comp=E,2μm,2.0s								
TEY				MLR		MLR			
	comp=N,2μm,1.0s								
TEY				MLR		MLR			
	comp=Z,5μm,1.0s								
BILL	**Bilibino**	**14.58**	**19**	*e*P		**P**		**05 47 52.7**	**-0.8**
BILL				*e*S		**S**		**05 50 28.3**	**+5.0**
BILL	**Bilibino**	**14.58**	**19**	*c* *i*P		**P**		**05 47 52.2**	**-1.3**
BILL				*e*S		**S**		**05 50 26.5**	**+3.2**
BILL				pmax		pmax			
	comp=Z,76μm,1.8s								
ZEA	**Zeya**	**15.28**	**277**	*d* *i*P		**P**		**05 47 59.0**	**-1.1**
ZEA				pmax		pmax			
	comp=E,65μm,4.0s								
ZEA				pmax		pmax			
	comp=Z,100μm,4.0s								
USA0B	**Ussuriysk Arra**	**17.42**	**241**	*e*P		**P**		**05 48 18.7**	**-1.1**
USA0B				*e*ScP		**ScP**		**05 55 05.5**	**+1.9**
USRK	**Ussuriysk Ar.**	**17.42**	**241**	*e*P		**P**		**05 48 19.1**	**-0.7**
USRK				*e*ScP		**ScP**		**05 55 05.4**	**+1.8**
USRK	**Ussuriysk Ar.**	**17.42**	**241**	P		**P**		**05 48 19.3**	**-0.4**
	comp=Z,298nm,0.3s,baz=64,slow=6.6,SNR=593								
USRK				S		S		05 50 55.1	-15
	comp=Z,6.5nm,0.3s,baz=47,slow=11,SNR=2.1								
USRK				ScP		**ScP**		**05 55 04.2**	**+0.6**
	comp=Z,35nm,0.3s,baz=316,slow=1.1,SNR=9.4								
USRK				P3KPbc				06 22 31.4	
	comp=Z,0.2nm,0.3s,baz=263,slow=2.5,SNR=3.4								
I45RU	**USSURIYSK INFR**	**17.42**	**241**	P		**P**		**05 48 20.0**	**+0.1**
	baz=35,slow=12,SNR=6.1								
KIWB	**Kanaga Island**	**17.78**	**87**	*e*P		**P**		**05 48 21.0**	**-1.9**
KIWB				*e*ScP		**ScP**		**05 55 08.2**	**+4.0**
KIWB				*e*ScS		**ScS**		**05 58 46.6**	**+1.7**
ADK	**Adak**	**18.04**	**87**	*e*P		**P**		**05 48 23.0**	**-2.2**
	comp=Z,19μm,0.8s								
ADK				*e*ScP		**ScP**		**05 55 07.3**	**+2.5**
ADK				*e*ScS		**ScS**		**05 58 45.4**	**-0.4**
ADK	**Adak**	**18.04**	**87**	*e*P		**P**		**05 48 23.0**	**-2.2**
VLA	**Vladivostok**	**18.25**	**239**	*d* *i*P		**P**		**05 48 26.2**	**-1.1**
**GSTR

NIKH				*e*ScS	**ScS**	**05 58 59.8**	**-0.4**
INU	**Inuyama**	**22.54**	**217**	*e*P	**P**	**05 49 05.7**	**-0.2**
	comp=Z,19μm,0.9s						
INU				*e*S	**S**	**05 52 33.4**	**+1.7**
INU				*e*ScP	**ScP**	**05 55 16.7**	**+0.7**
INU				*e*ScS	**ScS**	**05 59 04.8**	**+2.5**
UNV	**Unalaska Valle**	**23.19**	**76**	*e*P	**P**	**05 49 09.7**	**-1.7**
	comp=Z,84μm,1.3s						
UNV				*e*ScP	**ScP**	**05 55 19.3**	**+1.9**
UNV				*e*ScS	**ScS**	**05 59 05.1**	**+0.9**
SNY	**Shenyang**	**23.49**	**249**	⇓P	**P**	**05 49 13.6**	**-0.6**
SNY				sP	**sP**	**05 51 54.3**	**+1.1**
SNY				S	**S**	**05 52 47.9**	**+1.4**
SNY				pmax	pmax		
	comp=Z,132μm,7.0s						
AKUT	**Akutan**	**23.51**	**75**	*e*P	**P**	**05 49 12.9**	**-1.2**
	comp=Z,40μm,0.8s						
AKUT				*e*ScP	**ScP**	**05 55 20.6**	**+2.3**
AKUT				*e*ScS	**ScS**	**05 59 06.4**	**+0.9**
CIT	**Chita**	**23.68**	**280**	*e*P	**P**	**05 49 15.7**	**-0.2**
JHJ2	**Mitsune**	**23.71**	**209**	*e*P	**P**	**05 49 16.9**	**+0.6**
	comp=Z,32μm,1.0s						
JHJ	**Hachijo jima 2**	**23.71**	**209**	P	**P**	**05 49 16.9**	**+0.5**
	comp=Z,7μm,0.9s,baz=276,slow=23,SNR=47						
JHJ				S	**S**	**05 52 51.0**	**+0.8**
	comp=Z,3μm,0.7s,baz=311,slow=19,SNR=2.0						
JHJ				ScP	**ScP**	**05 55 20.0**	**+0.7**
	comp=Z,2μm,0.6s,baz=225,slow=8.6,SNR=1.7						
RDOG	**Red Dog Mine**	**24.08**	**40**	*e*P	**P**	**05 49 19.2**	**+0.1**
	comp=Z,31μm,1.2s						
KSRS	**Korea Array**	**24.54**	**235**	P	**P**	**05 49 24.1**	**+0.6**
	comp=Z,5μm,1.1s,baz=34,slow=8.6,SNR=3223						
KSRS				PcP	**PcP**	**05 52 40.4**	**+0.8**
	comp=Z,2μm,1.1s,baz=29,slow=2.5,SNR=3.9						
KSRS				S	**S**	**05 53 03.8**	**+0.8**
	comp=Z,1μm,0.9s,baz=18,slow=2.0,SNR=4.1						
KSRS				ScP	**ScP**	**05 55 21.9**	**+0.5**
	comp=Z,792nm,1.1s,baz=14,slow=1.0,SNR=4.8						
KSRS				P3KPbc		06 22 12.1	
	comp=Z,33nm,0.9s,baz=221,slow=3.6,SNR=17						
KS15	**Wonju Array Si**	**24.57**	**236**	*e*P	**P**	**05 49 24.2**	**+0.3**
	comp=Z,28μm,1.0s						
KS15				*e*PcP	**PcP**	**05 52 38.4**	**-1.3**
KS15				*e*ScP	**ScP**	**05 55 23.7**	**+2.1**
KSAR	**Wonju Array Be**	**24.57**	**236**	*e*P	**P**	**05 49 23.6**	**-0.2**
KSAR				*e*ScP	**ScP**	**05 55 24.1**	**+2.6**
FALS	**False Pass**	**24.59**	**72**	*e*P	**P**	**05 49 22.0**	**-1.7**
	comp=Z,38μm,1.0s						
FALS				*e*ScP	**ScP**	**05 55 21.8**	**+0.5**
TJN	**Taejon**	**25.67**	**235**	*d i*P	**P**	**05 49 33.3**	**-0.2**
SDPT	**Sand Point**	**26.04**	**70**	*e*P	**P**	**05 49 33.8**	**-2.7**
	comp=Z,44μm,0.9s						
SDPT				*e*PcP	**PcP**	**05 52 41.0**	**-1.8**
SDPT				*e*ScS	ScS	05 59 16.4	+0.2
DL2	**Dalian**	**26.62**	**246**	P	**P**	**05 49 40.9**	**-0.9**
DL2				PcP	**PcP**	**05 52 41.5**	**-2.9**
DL2				S	**S**	**05 53 36.8**	**+1.4**
DL2				ScP	**ScP**	**05 55 28.3**	**+0.8**
DL2				PcS	**PcS**	**05 56 24.5**	**-1.9**
DL2				pmax	pmax		
	comp=Z,10μm,0.7s						
DL2				pmax	pmax		
	comp=Z,239μm,5.6s						
JNU	**Nakatsue**	**26.85**	**225**	*e*P	**P**	**05 49 43.9**	**-0.1**
	comp=Z,15μm,0.9s						
JNU				*e*ScP	**ScP**	**05 55 28.9**	**+0.5**
JNU	**Nakatsue**	**26.85**	**225**	P	**P**	**05 49 44.0**	**+0.1**
	comp=Z,1μm,0.7s,baz=36,slow=5.4,SNR=392						
JNU				S	**S**	**05 53 42.2**	**+2.9**
	comp=Z,2μm,0.9s,baz=99,slow=19,SNR=2.8						
JNU				ScP	**ScP**	**05 55 28.4**	**0.0**
	comp=Z,1μm,1.0s,baz=85,slow=1.1,SNR=3.4						
JNU				P3KPbc		06 21 59.5	
	comp=Z,11nm,0.8s,baz=180,slow=2.0,SNR=1.9						
CHGN	**Chignik**	**26.86**	**67**	*e*P	**P**	**05 49 41.4**	**-2.2**
	comp=Z,11μm,0.8s						
CHGN				*e*ScS	ScS	05 59 20.4	+0.5
SVW2	**Sparrevohn**	**27.17**	**56**	*e*P	**P**	**05 49 46.8**	**+0.4**
	comp=Z,48μm,0.9s						
IMAR	**Indian Mountai**	**27.49**	**45**	*e*P	**P**	**05 49 47.5**	**-1.5**
IMAR				*e*ScP	**ScP**	**05 55 31.2**	**+1.4**
BJI	**Beijing**	**28.79**	**255**	P	**P**	**05 50 00.3**	**-0.3**
BJI				S	**S**	**05 54 12.6**	**+3.6**
BJT	**Baijiatuau**	**28.81**	**255**	*e*P	**P**	**05 50 00.0**	**-0.8**
	comp=Z,9μm,0.9s						
BJT				*e*ScP	**ScP**	**05 55 36.8**	**+2.4**
MLY	**Manley**	**28.81**	**47**	*e*P	**P**	**05 50 00.7**	**+0.2**
	comp=Z,42μm,1.2s						
MLY				*e*ScP	**ScP**	**05 55 37.4**	**+3.3**
IRK	**Irkutsk**	**28.83**	**285**	*e*P	**P**	**05 50 01.1**	**+0.2**
IRK				*e*		05 54 18.8	
IRK				pmax	pmax		
	comp=Z,58μm,2.1s						
COLD	**Coldfoot**	**28.86**	**42**	*e*P	**P**	**05 50 00.8**	**-0.1**
	comp=Z,23μm,1.2s						
TOLK	**Toolik Lake Re**	**29.06**	**39**	*e*P	**P**	**05 50 02.6**	**0.0**
	comp=Z,33μm,0.9s						
TOLK	**Toolik Lake Re**	**29.06**	**39**	P	**P**	**05 50 02.9**	**+0.3**
	baz=271						
OHAK	**Old Harbor**	**29.27**	**63**	*e*P	**P**	**05 50 03.5**	**-1.0**
	comp=Z,57μm,0.8s						
TLY	**Talaya**	**29.43**	**285**	*e*P	**P**	**05 50 06.8**	**+0.9**
	comp=Z,25μm,1.0s						
TLY	**Talaya**	**29.43**	**285**	*i* P	**P**	**05 50 06.9**	**+0.9**
TLY				pmax	pmax		
	comp=Z,34μm,1.2s						
TLY	**Talaya**	**29.43**	**285**	P	**P**	**05 50 06.7**	**+0.7**
	SNR=4907						
TLY				P	**P**	**05 50 06.7**	**+0.7**
	SNR=4907						
KDAK	**Kodiak Island**	**29.46**	**62**	*e*P	**P**	**05 50 05.1**	**-1.0**
	comp=Z,44μm,0.9s						
KDAK	**Kodiak Island**	**29.46**	**62**	*i* P	**P**	**05 50 04.6**	**-1.5**
SONM	**Songino Array**	**29.71**	**276**	*e*P	**P**	**05 50 08.3**	**-0.3**
SONM				*e*ScP	**ScP**	**05 55 37.9**	**+0.5**
SONM	**Songino Array**	**29.71**	**276**	P	**P**	**05 50 08.8**	**+0.2**
	comp=Z,995nm,0.4s,baz=61,slow=8.3,SNR=2667						
SONM				PcP	**PcP**	**05 52 51.9**	**-0.4**
	comp=Z,2μm,0.9s,baz=52,slow=4.9,SNR=2.3						
SONM				S	**S**	**05 54 23.0**	**-0.3**
	comp=Z,455nm,1.1s,baz=45,slow=14,SNR=1.8						
SONM				ScP	**ScP**	**05 55 36.9**	**-0.4**
	comp=Z,1μm,1.0s,baz=89,slow=2.1,SNR=3.3						
SONM				P3KPbc		06 21 48.8	
	comp=Z,41nm,0.7s,baz=234,slow=5.6,SNR=11						
SONM				PKPPKP	P'P'df	06 23 26.1	-26
	comp=Z,70nm,1.0s,baz=234,slow=3.6,SNR=3.8						
BRLK	**Bradley Lake**	**29.74**	**57**	*e*P	**P**	**05 50 07.8**	**-0.8**
	comp=Z,82μm,1.1s						
MCK	**McKinley**	**29.77**	**49**	*e*P	**P**	**05 50 08.8**	**0.0**
	comp=Z,41μm,0.8s						
MCK				*e*ScP	**ScP**	**05 55 40.4**	**+3.3**
MDM	**Murphy Dome**	**29.88**	**47**	*e*P	**P**	**05 50 09.9**	**+0.2**
	comp=Z,77μm,1.3s						
MDM				*e*ScP	**ScP**	**05 55 43.2**	**+5.7**
RC01	**Rabbit Creek A**	**29.95**	**55**	*e*P	**P**	**05 50 09.6**	**-0.7**
	comp=Z,29μm,0.8s						
RC01				*e*ScP	**ScP**	**05 55 41.2**	**+3.4**
RC01				*e*ScS	**ScS**	**05 59 36.0**	**+1.6**
WRH	**Wood River Hil**	**30.01**	**48**	*e*ScP	**ScP**	**05 55 37.9**	**0.0**
I53US	**FAIRBANKS INFR**	**30.05**	**47**	P	**P**	**05 50 11.3**	**+0.2**
	baz=260,slow=7.9,SNR=19						
TCOL	**CIGO, UAF Yank**	**30.05**	**47**	P	**P**	**05 50 11.6**	**+0.5**
	baz=279,SNR=1000						
COLA	**College**	**30.05**	**47**	*e*P	**P**	**05 50 11.7**	**+0.6**
COLA	**College**	**30.05**	**47**	*i* P	**P**	**05 50 11.6**	**+0.6**
COLA				pmax	pmax		
	comp=Z,110μm,1.7s						
CCB	**Clear Creek Bu**	**30.11**	**47**	*e*P	**P**	**05 50 11.8**	**+0.2**
	comp=Z,67μm,1.2s						
PMR	**Palmer**	**30.12**	**53**	*e*P	**P**	**05 50 10.7**	**-1.0**
	comp=Z,33μm,1.0s						
POKR	**Poker Flat Res**	**30.19**	**46**	P	**P**	**05 50 12.8**	**+0.5**
	baz=279,SNR=1000						
ZAK	**Zakamensk**	**30.22**	**283**	*e*P	**P**	**05 50 13.4**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,14μm,1.4s						
ILAR	**Eielson Array**	**30.48**	**47**	*e*P	**P**	**05 50 14.2**	**-0.6**
ILAR				*e*ScP	**ScP**	**05 55 40.9**	**+1.5**
ILAR	**Eielson Array**	**30.48**	**47**	P	**P**	**05 50 14.7**	**-0.1**
	comp=Z,3μm,0.6s,baz=277,slow=8.9						
ILAR				S	**S**	**05 54 34.8**	**+0.5**
	comp=Z,935nm,1.0s,baz=292,slow=7.3,SNR=3.5						
ILAR				ScP	**ScP**	**05 55 38.9**	**-0.5**
	comp=Z,1μm,0.8s,baz=284,slow=2.6,SNR=4.4						
ILAR				P3KPbc		06 21 46.3	
	comp=Z,16nm,1.0s,baz=146,slow=3.2,SNR=3.7						
HDA	**Harding Lake**	**30.51**	**48**	*e*P	**P**	**05 50 14.7**	**-0.4**
	comp=Z,40μm,0.9s						
DHY	**Denali Highway**	**30.59**	**50**	*e*P	**P**	**05 50 15.6**	**-0.4**
	comp=Z,59μm,1.1s						
DHY				*e*ScP	**ScP**	**05 55 44.5**	**+4.5**
HHC	**Hu-ho-hao-te**	**30.85**	**261**	⇓*i* P	**P**	**05 50 18.8**	**+0.4**
HHC				sP	sP	05 53 05.3	+0.1
HHC				S	**S**	**05 54 41.8**	**+0.9**
HHC				ScP	**ScP**	**05 55 45.8**	**+4.5**
HHC				PcS	**PcS**	**05 56 39.6**	**-0.9**
HHC				ScS	**ScS**	**05 59 41.5**	**+1.7**
HHC				pmax	pmax		
	comp=Z,81μm,0.8s						
HHC				pmax	pmax		
	comp=Z,484μm,4.0s						
SCM	**Sheep Creek Mo**	**30.89**	**53**	*e*P	**P**	**05 50 18.7**	**+0.2**
	comp=Z,57μm,0.8s						
MOY	**Mondy**	**30.91**	**286**	*e*P	**P**	**05 50 19.5**	**+0.7**
MOY				pmax	pmax		
	comp=Z,54μm,1.5s						
TIA	**Tai'an**	**31.01**	**248**	P	**P**	**05 50 19.3**	**-0.5**
TIA				S	**S**	**05 54 50.3**	**+7.0**
TIA				pmax	pmax		
	comp=Z,72μm,5.7s						
GLI	**Glacier Island**	**31.25**	**54**	*e*P	**P**	**05 50 21.2**	**-0.2**
	comp=Z,38μm,1.0s						
GLI				*e*ScS	ScS	05 59 45.2	+4.2
PAX	**Paxson**	**31.46**	**50**	*e*P	**P**	**05 50 22.5**	**-0.7**
	comp=Z,43μm,1.5s						
RIDG	**Independent Ri**	**31.55**	**48**	*e*P	**P**	**05 50 23.3**	**-0.8**
	comp=Z,45μm,0.8s						
HARP	**HAARP**	**31.74**	**51**	*e*P	**P**	**05 50 25.7**	**+0.1**
	comp=Z,49μm,0.9s						
DIV	**Divide**	**31.80**	**54**	*e*P	**P**	**05 50 26.1**	**-0.1**
	comp=Z,31μm,0.8s						
BTO	**Baotou**	**31.89**	**262**	*e*P	**P**	**05 50 27.8**	**+0.5**
NRIK	**Noril'sk**	**32.17**	**323**	P	**P**	**05 50 28.3**	**-0.7**
	comp=Z,3μm,0.8s,baz=92,slow=9.0,SNR=1258						
NRIK				S	**S**	**05 54 59.2**	**-0.8**
	comp=Z,2μm,0.9s,baz=88,slow=18,SNR=2.0						
NRIK				P3KPbc		06 21 41.0	
	comp=Z,52nm,0.9s,baz=285,slow=0.8,SNR=6.0						
MENT	**Mentasta**	**32.24**	**50**	*e*P	**P**	**05 50 29.9**	**+0.1**
	comp=Z,24μm,0.8s						
TIY	**Taiyuan**	**32.50**	**255**	*e*P	**P**	**05 50 32.8**	**+0.4**
TIY				sP	**sP**	**05 53 19.1**	**-0.7**
TIY				S	**S**	**05 55 12.1**	**+6.1**
TIY				pmax	pmax		
	comp=Z,4μm,1.1s						
TIY				pmax	pmax		
	comp=Z,359μm,8.6s						
EGAK	**Eagle**	**32.88**	**46**	*e*P	**P**	**05 50 34.4**	**-0.6**
	comp=Z,54μm,0.8s						
SSE	**Sheshan**	**32.94**	**237**	P	**P**	**05 50 35.5**	**-0.6**
SSE				sP	**sP**	**05 53 24.9**	**+1.5**
SSE				S	**S**	**05 55 10.5**	**-2.1**
SSE	**Sheshan**	**32.94**	**237**	*e*P	**P**	**05 50 35.1**	**-1.0**
	comp=Z,11μm,1.0s						
BCAR	**Beaver Creek A**	**33.06**	**49**	*e*P	**P**	**05 50 36.3**	**-0.4**
BCAR				*e*ScP	**ScP**	**05 55 54.2**	**+5.8**
NJ2	**Nanjing**	**33.33**	**241**	⇓*i* P	**P**	**05 50 38.6**	**-0.7**
NJ2				S	**S**	**05 55 20.8**	**+2.4**
NJ2				SS	**SS**	**05 58 31.9**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,385μm,7.7s						
BALM	**Baldy**	**33.42**	**53**	*e*P	**P**	**05 50 40.4**	**+0.6**
	comp=Z,53μm,1.0s						
DAWY	**Dawson**	**33.80**	**47**	*e*P	**P**	**05 50 42.6**	**-0.3**
	comp=Z,79μm,1.8s						
CTGM	**Chitina Glacie**	**33.91**	**53**	*e*P	**P**	**05 50 44.8**	**+0.9**
	comp=Z,65μm,0.8s						
EPYK	**Eagle Plains**	**34.26**	**42**	*e*P	**P**	**05 50 47.0**	**+0.4**
	comp=Z,30μm,0.8s						
EPYK				*e*ScS	ScS	06 00 01.8	+5.0
EPYK	**Eagle Plains**	**34.26**	**42**	P	**P**	**05 50 47.1**	**+0.4**
	baz=285						
PCA	**Pinnacle**	**34.71**	**54**	*e*P	**P**	**05 50 51.1**	**+0.6**
	comp=Z,35μm,0.8s						
PCA				*e*PcP	**PcP**	**05 53 01.6**	**-4.5**
INK	**Inuvik**	**34.95**	**38**	*e*P	**P**	**05 50 52.2**	**0.0**
	comp=Z,13μm,0.8s						
INK				*e*ScP	**ScP**	**05 56 00.0**	**+5.0**
INK				*e*SKKSdf	SKKSdf	06 21 37.0	+19
INK	**Inuvik**	**34.95**	**38**	P	**P**	**05 50 52.3**	**0.0**
	comp=Z,4μm,0.4s,baz=296,slow=7.2						
INK				S	**S**	**05 55 42.1**	**+0.3**
	comp=Z,1μm,0.9s,baz=248,slow=17,SNR=8.8						
INK				P3KPbc		06 21 28.4	
	comp=Z,23nm,1.1s,baz=88,slow=2.9,SNR=1.8						
INK				PKPPKP	P'P'df	06 23 17.4	-30
	comp=Z,120nm,1.1s,baz=78,slow=5.2,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**36.50**	**158**	P	**P**	**05 51 07.4**	**+2.0**
	baz=296,slow=7.3						
H11N1	**WAKE ISLAND Hy**	**36.52**	**158**	P	**P**	**05 51 06.0**	**+0.4**
	baz=296,slow=7.3						
H11N3	**WAKE ISLAND Hy**	**36.52**	**158**	P	**P**	**05 51 06.1**	**+0.5**
	baz=296,slow=7.3						
WHN	**Wuhan**	**36.85**	**245**	⇓P	**P**	**05 51 07.8**	**-0.6**
WHN				pP	**pP**	**05 52 51.3**	**+2.4**
WHN				sP	**sP**	**05 53 53.5**	**-4.2**
WHN				S	**S**	**05 56 06.9**	**-4.1**
WHN				SS	**SS**	**05 59 20.8**	**-9.0**
WHN				pmax	pmax		
	comp=Z,4μm,0.7s						
WHN				pmax	pmax		
	comp=Z,158μm,6.3s						
WAKE	**Wake Island**	**36.88**	**159**	*e*P	**P**	**05 51 08.6**	**-0.2**
	comp=Z,20μm,0.9s						
XAN	**Xi'an**	**37.12**	**255**	P	**P**	**05 51 10.0**	**-0.7**
XAN				pP	PP	05 52 56.4	-0.3
XAN				sP	sP	05 54 00.6	+0.4
XAN				ScP	**ScP**	**05 56 02.3**	**-1.6**
XAN				S	**S**	**05 56 19.3**	**+4.2**
XAN				PcS	**PcS**	**05 56 59.4**	**-4.1**
XAN				sS	sS	05 59 21.8	+1.2
XAN				ScS	**ScS**	**06 00 12.5**	**-1.4**
XAN				pmax	pmax		
	comp=Z,429μm,9.3s						
H11S1	**WAKE ISLAND Hy**	**37.65**	**159**	P	**P**	**05 51 15.1**	**+0.3**
	baz=296,slow=5.6						
H11S3	**WAKE ISLAND Hy**	**37.66**	**159**	P	**P**	**05 51 15.2**	**+0.3**
	baz=296,slow=5.6,SNR=6839						
H11S2	**WAKE ISLAND Hy**	**37.66**	**159**	P	**P**	**05 51 15.1**	**+0.2**
	baz=296,slow=5.6						
YOJ	**Yonaguni jima**	**37.74**	**229**	*e*P	**P**	**05 51 12.3**	**-3.3**
	comp=Z,8μm,1.3s						
YOJ				*e*ScP	**ScP**	**05 56 05.9**	**-0.4**
BESE	**Bessie Mountai**	**37.86**	**54**	*e*P	**P**	**05 51 17.2**	**+0.9**
	comp=Z,29μm,1.0s						
TATO	**Taipei**	**37.97**	**231**	*e*P	**P**	**05 51 17.3**	**-0.2**
TATO	**Taipei**	**37.97**	**231**	P	**P**	**05 51 18.7**	**+1.1**
	SNR=212						
TATO				P	**P**	**05 51 18.7**	**+1.1**
	SNR=212						
JIS	**Juneau Island**	**38.22**	**54**	*e*P	**P**	**05 51 19.9**	**+0.9**
	comp=Z,20μm,0.8s						
YHNB	**Yeheng**	**38.28**	**231**	*e*P	**P**	**05 51 18.8**	**-1.4**
	comp=Z,3μm,0.8s						
SIT	**Sitka**	**38.33**	**57**	*e*P	**P**	**05 51 21.0**	**+1.0**
	comp=Z,59μm,1.3s						
SIT				*e*S	**S**	**05 56 30.9**	**-1.0**
ZAA1	**Zalesovo Array**	**38.48**	**298**	*e*P	**P**	**05 51 20.1**	**-1.3**
ZAA1				*e*PcP	**PcP**	**05 53 17.6**	**-0.3**
ZAA1				*e*S	**S**	**05 56 29.2**	**-5.2**
ZAA1				*e*ScS	**ScS**	**06 00 29.3**	**+8.1**
ZAA1				*e*SKKSdf	**SKKSdf**	**06 21 13.9**	**-3.1**
ZAA0	**Zalesovo Array**	**38.49**	**298**	*e*P	**P**	**05 51 19.6**	**-1.7**
	comp=Z,11μm,0.8s						
ZALV	**Zalesovo Beam**	**38.49**	**298**	*e*P	**P**	**05 51 20.0**	**-1.3**
ZALV	**Zalesovo Beam**	**38.49**	**298**	P	**P**	**05 51 20.1**	**-1.3**
	comp=Z,8μm,0.9s,baz=58,slow=6.4,SNR=2424						
ZALV				PcP	**PcP**	**05 53 17.6**	**-0.3**
	comp=Z,4μm,0.9s,baz=103,slow=4.6,SNR=3.1						
ZALV				S	**S**	**05 56 29.2**	**-5.2**
	comp=Z,2μm,1.0s,baz=47,slow=6.3,SNR=3.6						
ZALV				PKiKP	**PKiKP**	**06 00 29.3**	**-0.2**
	comp=Z,287nm,0.8s,baz=70,slow=1.7,SNR=2.8						
ZALV				P3KPbc		06 21 13.9	
	comp=Z,16nm,0.5s,baz=226,slow=5.0,SNR=11						
ZALV				PKPPKP	P'P'df	06 23 11.4	-33
	comp=Z,81nm,1.1s,baz=304,slow=3.5,SNR=3.6						
ZALV				P4KPbc		06 29 23.1	
	comp=Z,19nm,0.7s,baz=65,slow=3.0,SNR=4.9						
SARN	**Sarigan**	**38.49**	**192**	*e*P	**P**	**05 51 21.0**	**-0.9**
	comp=Z,6μm,1.1s						
LZH	**Lanzhou**	**38.52**	**262**	⇓P	**P**	**05 51 23.1**	**+1.0**
LZH				pP	PP	05 53 07.8	-1.8
LZH				PP	**pP**	**05 53 10.5**	**+6.7**
LZH				sP	sP	05 54 13.4	+1.0
LZH				ScP	**ScP**	**05 56 12.0**	**+2.7**
LZH				S	**S**	**05 56 38.5**	**+2.8**
LZH				sS	sS	05 59 41.9	-0.7
LZH				SS	**SS**	**05 59 53.3**	**-3.9**
LZH				ScS	**ScS**	**06 00 22.5**	**+0.2**
LZH				pmax	pmax		
	comp=Z,37μm,1.3s						
LZH				pmax	pmax		
	comp=Z,712μm,8.7s						
GTA	**Gaotai**	**38.57**	**269**	⇓P	**P**	**05 51 23.3**	**+0.9**
GTA				sP	sP	05 54 13.8	+1.0
GTA				S	**S**	**05 56 37.6**	**+1.3**
GTA				ScS	**ScS**	**06 00 23.3**	**+0.8**
GTA				pmax	pmax		
	comp=Z,6μm,0.8s						
NACB	**Ninganchiao**	**38.61**	**230**	*e*P	**P**	**05 51 19.8**	**-2.9**
	comp=Z,4μm,0.9s						
NVS	**Novosibirsk**	**38.84**	**300**	⇑*i* P	**P**	**05 51 24.3**	**+0.1**
NVS				*i*		05 53 13.7	
NVS				*i* S	**S**	**05 56 40.3**	**+0.7**
NVS				*e**SS	**ScS**	**06 00 22.6**	**-0.6**
NVS				smax	smax		
	comp=N,26nm,1.9s						
NVS				smax	smax		
	comp=E,32nm,1.6s						
ANA2	**Anatahan**	**38.85**	**192**	*e*P	**P**	**05 51 24.0**	**-0.7**
	comp=E,5μm,0.6s						
SSLB	**Suanglung**	**39.23**	**231**	*e*P	**P**	**05 51 26.7**	**-1.1**
	comp=E,17μm,1.3s						
QZH	**Quanzhou**	**39.33**	**235**	⇓*i* P	**P**	**05 51 27.8**	**-0.7**
QZH				pP	**pP**	**05 53 11.8**	**+1.2**
QZH				sP	**sP**	**05 54 19.0**	**+0.2**
QZH				S	**S**	**05 56 44.9**	**-2.6**
QZH				pmax	pmax		
	comp=E,292μm,8.5s						
DGZ	**Jazzator, Alta**	**39.35**	**291**	*d i* P	**P**	**05 51 28.9**	**+0.4**
YULB	**Yu-li**	**39.42**	**230**	*e*P	**P**	**05 51 27.8**	**-1.5**
	comp=E,7μm,0.9s						
ENH	**Enshi**	**39.66**	**250**	*e*P	**P**	**05 51 30.4**	**-0.7**
	comp=E,34μm,1.0s						
TPUB	**Ta-pu**	**39.80**	**231**	*e*P	**P**	**05 51 31.1**	**-1.2**
	comp=E,14μm,1.1s						
KNMB	**Chin-men Tao**	**39.84**	**235**	*e*P	**P**	**05 51 31.5**	**-1.0**
	comp=E,7μm,1.2s						
TWG	**Pinlang**	**40.02**	**230**	*e*P	**P**	**05 51 32.7**	**-1.3**
	comp=E,32μm,0.7s						
WRAK	**Wrangell Islan**	**40.07**	**56**	*e*P	**P**	**05 51 35.8**	**+1.9**
DLBC	**Dease Lake**	**40.16**	**52**	*e*P	**P**	**05 51 36.2**	**+1.5**
	comp=E,21μm,0.8s						
GUMO	**Guam**	**41.67**	**193**	*e*P	**P**	**05 51 45.0**	**-2.0**
	comp=E,5μm,0.9s						
DIB	**Dawson Inlet,**	**41.70**	**60**	*e*P	**P**	**05 51 47.5**	**+0.7**
	comp=E,30μm,1.0s						
BBP	**Basco**	**41.73**	**227**	*e*P	**P**	**05 51 46.4**	**-1.1**
BBP				*e*S	**S**	**05 57 22.2**	**+0.1**
CD2	**Chengdu**	**42.35**	**256**	⇓*i* P	**P**	**05 51 52.6**	**+0.3**
CD2				sP	sP	05 54 46.5	+2.0
CD2				ScP	**ScP**	**05 56 25.3**	**+0.8**
CD2				S	**S**	**05 57 31.3**	**+0.4**
CD2				SS	**SS**	**06 00 53.8**	**-5.6**
CD2				pmax	pmax		
	comp=E,92μm,1.0s						
CD2				pmax	pmax		
	comp=E,864μm,9.9s						
WMQ	**Urumqi**	**42.69**	**283**	P	**P**	**05 51 55.8**	**+1.0**
WMQ				PP	**PP**	**05 53 46.4**	**-0.9**
WMQ				sP	sP	05 54 50.5	+3.3
WMQ				ScP	**ScP**	**05 56 31.8**	**+6.1**
WMQ				S	**S**	**05 57 36.5**	**+1.1**
WMQ				ScS	**ScS**	**06 00 50.1**	**+2.6**
WMQ				pmax	pmax		
	comp=E,21μm,1.1s						
WMQ				pmax	pmax		
	comp=E,196μm,6.1s						
WMQ	**Urumqi**	**42.69**	**283**	*e*P	**P**	**05 51 55.6**	**+0.9**
	comp=E,47μm,1.0s						
SEM	**Semipalatinsk**	**42.77**	**296**	*i* P	**P**	**05 51 54.0**	**-1.5**
SEM				*e**PP	**pP**	**05 53 40.5**	**+0.3**
SEM				*e*S	**S**	**05 57 36.3**	**-0.4**
SEM				*e**SS	**SS**	**06 01 00.8**	**-4.8**
SEM	**Semipalatinsk**	**42.77**	**296**	*i* P	**P**	**05 51 54.1**	**-1.5**
	comp=E,17μm,1.8s						
SEM				*e*pP	**pP**	**05 53 40.6**	**+0.3**
SEM				*e*S	**S**	**05 57 36.3**	**-0.4**
SEM				*e*sS	**SS**	**06 01 00.9**	**-4.8**
RES	**Resolute Bay**	**43.18**	**21**	*e*P	**P**	**05 51 58.0**	**0.0**
	comp=E,26μm,1.2s						
RES				*e*ScP	**ScP**	**05 56 29.1**	**+2.1**
RES				*e*S	**S**	**05 57 44.9**	**+3.6**
RES	**Resolute Bay**	**43.18**	**21**	P	**P**	**05 51 57.6**	**-0.4**
	comp=E,2μm,0.8s,baz=318,slow=3.9,SNR=1331						
RES				ScP	**ScP**	**05

YKA ScP **ScP** **05 56 32.6 -0.2**
comp=Z,672nm,0.7s,baz=306,slow=4.0,SNR=4.5
YKA S **S** **05 58 00.3 -0.4**
comp=Z,484nm,1.1s,baz=310,slow=13,SNR=2.0
YKA P3KPbc 06 20 49.3
comp=Z,5.1nm,0.8s,baz=159,slow=2.5,SNR=3.0
YKA P3KP 06 22 22.3
comp=Z,16nm,0.9s,baz=157,slow=2.0,SNR=4.2
YKA PKPPKP P'P'df 06 23 13.4 -24
comp=Z,34nm,0.9s,baz=147,slow=2.2,SNR=6.1
YKA P4KPbc 06 29 48.5
comp=Z,13nm,0.9s,baz=303,slow=4.4,SNR=9.7
YKB5 Yellowknife Ar 44.53 41 *e*P **P** **05 52 08.5 -0.1**
YKB5 *e*ScP **ScP** **05 56 32.6 -0.2**
YKB5 *e*S **S** **05 58 00.3 -0.4**
YKB5 *e*SKKSdf P'P'P'bc 06 20 49.3
KBS Kingsbay 44.56 350 *e*P **P** **05 52 07.7 -0.9**
comp=Z,17μm,0.9s
KBS Kingsbay 44.56 350 *i* P **P** **05 52 08.3 -0.2**
KBS pmax pmax
comp=Z,19μm,0.9s
KBS Kingsbay 44.56 350⇓*i*P **P** **05 52 08.4 -0.2**
KBS IVmB_BB 05 52 42.4
comp=Z,176μm,1.1s
KBS *e*PP **PP** **05 54 03.6 +0.1**
KBS *e*S **S** **05 58 01.5 +0.9**
KBS IVMs_BB IVMs_BB 06 02 11.2
comp=Z,220μm,12.8s
PALP Palanan 44.56 225 *e*P **P** **05 52 08.9 -0.5**
SPA0 Spitsbergen Ar 44.71 348 *e*P **P** **05 52 08.7 -1.2**
comp=Z,25μm,1.0s
SPA0 Spitsbergen Ar 44.71 348⇓*i*P **P** **05 52 08.7 -1.2**
SPA0 IVmB_BB 05 52 32.7
comp=Z,196μm,0.9s
SPA0 *e*S **S** **05 58 03.2 +0.3**
SPITS Spitsbergen Ar 44.71 348 P **P** **05 52 08.7 -1.2**
comp=Z,1μm,0.5s,baz=59,slow=6.9,SNR=2325
SPITS ScP **ScP** **05 56 32.8 -0.6**
comp=Z,2μm,0.9s,baz=69,slow=7.9,SNR=2.8
SPITS S **S** **05 58 02.5 -0.5**
comp=Z,478nm,1.0s,baz=83,slow=16,SNR=1.2
SPITS P3KPbc 06 20 49.6
comp=Z,9.2nm,0.9s,baz=185,slow=7.2,SNR=4.1
SPITS P3KP 06 22 28.8
comp=Z,6.7nm,0.7s,baz=152,slow=6.5,SNR=1.9
SPITS PKPPKP 06 23 09.6
comp=Z,43nm,0.9s,baz=180,slow=8.1,SNR=3.3
SPITS P4KPbc 06 29 49.1
comp=Z,9.7nm,0.7s,baz=83,slow=6.0,SNR=4.1
ABRA Dolores 44.74 227 *e*P **P** **05 52 09.8 -1.1**
ABRA *e*S **S** **05 58 01.5 -3.3**
HOPEN Hopen 44.90 345⇓*i*P **P** **05 52 09.9 -1.3**
HOPEN IVmB_BB 05 52 34.5
comp=Z,161μm,3.5s
HOPEN *e*PP **PP** **05 54 06.2 -0.5**
HOPEN *e*S **S** **05 58 05.9 +0.4**
HOPEN *e*ScS **ScS** **06 01 01.4 +0.9**
HOPEN IVMs_BB IVMs_BB 06 02 49.9
comp=Z,217μm,17.5s
CAUP Cauayan 44.91 225 *e*P **P** **05 52 12.8 +0.7**
I18DK QAANAAQ INFRASO 45.34 12 P **P** **05 52 10.0 -4.5**
baz=318,slow=9.6,SNR=5.9
HSPB Hornsund (broa 45.80 348 *e*P **P** **05 52 17.3 -0.7**
HSPB *e* 05 54 11.6
HSPB *e*S **S** **05 58 17.4 -0.6**
HSPB Hornsund (broa 45.80 348⇓*i*P **P** **05 52 17.1 -0.9**
HSPB IVmB_BB 05 52 51.2
comp=Z,180μm,2.1s
HSPB *e*PP **PP** **05 54 14.7 -0.1**
HSPB *e*S **S** **05 58 18.6 +0.6**
HSPB *e*SS **SS** **06 01 55.1 +2.6**
HSPB IVMs_BB IVMs_BB 06 03 05.4
comp=Z,193μm,14.9s
BALP Baler 46.09 225 *e*P **P** **05 52 20.8 -0.2**
BALP *e*S **S** **05 58 25.8 +2.2**
SMPP San Manuel, Pa 46.10 226 *e*P **P** **05 52 20.4 -0.8**
BVA0 Borovoye Array 46.17 304 *i* P **P** **05 52 20.3 -0.9**
BVAR Borovoye Array 46.17 304 P **P** **05 52 20.5 -0.7**
comp=Z,12μm,0.6s,baz=55,slow=7.8,SNR=8139
BVAR PP **PP** **05 54 18.0 -0.6**
comp=Z,3μm,0.6s,baz=56,slow=8.9,SNR=2.1
BVAR P3KP 06 22 47.0
comp=Z,16nm,0.8s,baz=279,slow=2.8,SNR=3.2
BVAR P4KPbc 06 29 55.1
comp=Z,86nm,0.8s,baz=53,slow=2.5,SNR=17
BRVK Borovoye 46.20 304 *e*P **P** **05 52 20.9 -0.6**
comp=Z,40μm,1.1s
BRVK Borovoye 46.20 304 *i* P **P** **05 52 20.8 -0.6**
BRVK pmax pmax
comp=Z,38μm,1.1s
BRVK Borovoye 46.20 304 P **P** **05 52 20.9 -0.6**
BRVK P **P** **05 52 20.9 -0.6**
BOLP Bolinao 46.21 227 *e*P **P** **05 52 21.4 -0.6**
BOLP *e*S **S** **05 58 23.5 -1.7**
SCZP Santa Cruz 46.75 227 *e*P **P** **05 52 25.2 -0.8**
POLP Polilio Island 46.86 224 *e*P **P** **05 52 27.3 +0.5**
BRZS Berezniki 46.91 299 *d* P **P** **05 52 25.6 -1.2**
BRZS *e*PP **PP** **05 54 32.1 +6.8**
BRZS *i* S **S** **05 58 34.6 +0.4**
BRZS Berezniki 46.91 299⇓*i*P **P** **05 52 25.6 -1.2**
comp=Z,32μm,1.8s
BRZS *e*pP **PP** **05 54 32.2 +6.8**
BRZS *i* S **S** **05 58 34.6 +0.4**
BRZS *e*sS ScS 06 01 29.8 +15
PVCP Virac 47.03 220 *e*P **P** **05 52 28.5 +0.4**
TDK Taldyqorghan 47.07 291 *i* P **P** **05 52 28.0 -0.1**
TDK *e*S **S** **05 58 39.4 +2.9**
TDK Taldyqorghan 47.07 291 *i* P **P** **05 52 28.0 -0.1**
comp=Z,16μm,0.8s
TDK *e*S **S** **05 58 39.5 +2.9**
KWAJ Kwajalein Atol 47.27 161 *e*P **P** **05 52 31.0 +1.1**
comp=Z,23μm,0.8s
KWAJ Kwajalein Atol 47.27 161 *i* P **P** **05 52 31.6 +1.7**
KMI Kunming 47.39 252 P **P** **05 52 31.0 0.0**
KMI pP pP 05 54 18.5 -0.5
KMI PP **PP** **05 54 27.8 -2.6**
KMI sP sP 05 55 24.8 -0.4
KMI S **S** **05 58 41.8 -0.1**
KMI SS **SS** **06 02 21.9 +1.9**
KMI pmax pmax
comp=Z,412μm,4.5s
KMI Kunming 47.39 252 *e*P **P** **05 52 30.9 -0.1**
BJO Bjornoya 47.39 345⇓*i*P **P** **05 52 28.9 -1.1**
BJO IVmB_BB 05 52 52.6
comp=Z,140μm,0.8s
BJO *e*S **S** **05 58 41.1 +1.1**
BJO IVMsBB 06 07 36.1
comp=Z,121μm,16.0s
JOHN Johnston Islan 47.48 128 *e*P **P** **05 52 32.0 +0.5**
comp=Z,40μm,1.0s
SHLS Shalkode 47.70 288 *d* *i*P **P** **05 52 30.9 -2.0**
SHLS *e*S **S** **05 58 41.3 -4.1**
SHLS smax smax
comp=E,66μm,4.2s
SHLS Shalkode 47.70 288⇓*i*P **P** **05 52 30.9 -2.0**
comp=E,7μm,0.6s
SHLS *e*S **S** **05 58 41.3 -4.1**
comp=E,66μm,4.2s
TGY Tagaytay City 47.83 225 PKPPKP P'P'df 06 23 14.7 -16
comp=E,266nm,0.3s,baz=180,slow=20,SNR=2.2
TGY Tagaytay City 47.83 225 *e*P **P** **05 52 34.3 +0.2**
CNP Cataraman 47.84 219 *e*P **P** **05 52 35.2 +1.1**
AUQP San Andres 47.85 222 *e*P **P** **05 52 35.8 +1.6**
AUQP *e*S S 05 59 01.3 +13
KPKS Kokpek 47.92 289 *d* *i*P **P** **05 52 34.4 -0.2**
KPKS *e*S **S** **05 58 54.6 +6.2**
KPKS smax smax
comp=E,9μm,2.6s
KPKS Kokpek 47.92 289⇓*i*P **P** **05 52 34.4 -0.2**
comp=E,9μm,1.0s
KPKS *e*S **S** **05 58 54.7 +6.2**
comp=E,9μm,2.6s
UZB Uzynbulak 47.95 288 *d* *i*P **P** **05 52 34.5 -0.3**
UZB *e*S **S** **05 58 49.0 +0.1**
UZB Uzynbulak 47.95 288⇓*i*P **P** **05 52 34.5 -0.3**
comp=E,3μm,0.8s
UZB *e*S **S** **05 58 49.0 +0.1**
PATS Pohnpei 48.01 173 *e*P **P** **05 52 35.9 +0.5**
comp=E,14μm,1.2s
BOAC Boac 48.05 223 *e*P **P** **05 52 36.0 +0.3**
SVE Sverdlovsk 48.25 313 *c* *i*P **P** **05 52 36.4 -0.2**
SVE *e* 05 54 33.5
SVE *i* S **S** **05 58 55.3 +3.0**
SVE *e* 06 01 17.4
SVE pmax pmax
comp=Z,54μm,1.6s
SATY Saty 48.34 289 *d* *i*P **P** **05 52 37.8 +0.1**
SATY *e*S **S** **05 58 54.7 +0.5**
SATY smax smax
comp=E,14μm,5.1s
SATY Saty 48.34 289⇓*i*P **P** **05 52 37.8 +0.1**
comp=E,5μm,0.7s
SATY *e*S **S** **05 58 54.8 +0.5**
comp=E,14μm,5.1s
BESP Borongan 48.40 218 *e*P **P** **05 52 39.2 +0.9**
LUBP Lubang 48.45 225 *e*P **P** **05 52 37.2 -1.4**
DAG Danmarks Havn 48.58 358 *i* P **P** **05 52 37.6 -1.2**
DAG MLR MLR
comp=Z,280μm,17.0s
DAG Danmarks Havn 48.58 358 *i* P **P** **05 52 37.6 -1.2**
comp=Z,5μm,0.8s
QIZ Qiongzhong 48.61 240 P **P** **05 52 41.3 +1.5**
QIZ pP **pP** **05 54 29.8 +1.2**
QIZ PP **PP** **05 54 41.5 +0.3**
QIZ S **S** **05 58 58.4 +0.2**
QIZ sS **sS** **06 02 16.6 +1.2**
QIZ SS **SS** **06 02 41.1 +2.1**
QIZ pmax pmax
comp=Z,419μm,7.9s
QIZ Qiongzhong 48.61 240 *e*P **P** **05 52 40.7 +0.9**
comp=Z,14μm,1.0s
KUU Kurty 48.92 291 *d* *i*P **P** **05 52 40.6 -1.2**
KUU *e**PP **pP** **05 54 34.7 +3.7**
KUU *i* S **S** **05 59 01.3 -0.5**
KUU Kurty 48.92 291⇓*i*P **P** **05 52 40.6 -1.2**
comp=Z,9μm,0.6s
KUU *e*pP **pP** **05 54 34.7 +3.7**
KUU *i* S **S** **05 59 01.4 -0.5**
PLP Palo 48.97 218⇓*e*P **P** **05 52 42.4 -0.1**
OTRP Odiongan 48.98 222 *e*P **P** **05 52 43.4 +0.8**
PGC Sidney 49.00 61 *e*P **P** **05 52 42.5 +0.3**
comp=Z,100μm,1.8s
MDOK Medeo 49.02 290 *i* P **P** **05 52 42.2 -0.5**
MDOK *e**PP **PP** **05 54 46.2 +1.7**
MDOK *e*S **S** **05 59 01.5 -2.0**
MDOK Medeo 49.02 290 *i* P **P** **05 52 42.3 -0.5**
comp=Z,68μm,1.3s
MDOK *e*pP **PP** **05 54 46.2 +1.7**
MDOK *e*S **S** **05 59 01.5 -2.0**
AAA Alma-Ata 49.06 290 *e*P **P** **05 52 43.0 +0.1**
AAA *e*S **S** **05 59 08.7 +4.8**
AAA pmax pmax
comp=Z,139μm,5.9s
AAA smax smax
comp=N,403μm,11.7s
AAA MLR MLR
comp=Z,156μm,16.0s
AAA Alma-Ata 49.06 290⇓*i*P **P** **05 52 42.9 0.0**
comp=Z,13μm,1.5s
AAA *e*pP **PP** **05 54 48.1 +3.3**
AAA *e*S **S** **05 59 06.4 +2.5**
OCLP Ormoc 49.21 219 *e*P **P** **05 52 44.7 +0.4**
KIP Kipapa 49.25 113 *e*P **P** **05 52 45.0 +0.6**
comp=Z,71μm,1.3s
KIP Kipapa 49.25 113 *i* P **P** **05 52 45.4 +0.9**
KIP pmax pmax
comp=Z,90μm,1.6s
KULLO Kullorsuaq 49.27 10⇓*i*P **P** **05 52 42.8 -1.1**
KULLO Kullorsuaq 49.27 10⇓*i*P **P** **05 52 42.8 -1.1**
A04D Lummi Island 49.33 60 P **P** **05 52 45.6 +0.9**
baz=311,SNR=1000
HON Honolulu 49.34 113 *e*P **P** **05 52 45.6 +0.5**
ARU Arti 49.38 313 *e*P **P** **05 52 43.8 -1.2**
comp=Z,212nm,0.9s
ARU Arti 49.38 313 *i* P **P** **05 52 44.3 -0.7**
ARU pmax pmax
comp=Z,41μm,0.7s
ARU Arti 49.38 313 P **P** **05 52 44.2 -0.7**
comp=Z,4μm,0.6s,baz=56,slow=4.1,SNR=3697
ARU PKPPKP 06 22 57.2
comp=Z,17nm,0.8s,baz=213,slow=1.0,SNR=4.3
ARU P4KPbc 06 30 07.9
comp=Z,26nm,0.9s,baz=187,slow=22,SNR=7.7
BTLS Baital 49.38 293 *d* *i*P **P** **05 52 44.4 -0.8**
BTLS *e*S **S** **05 59 08.6 +0.6**
BTLS Baital 49.38 293⇓*i*P **P** **05 52 44.4 -0.8**
comp=Z,5μm,1.4s
BTLS *e*S **S** **05 59 08.7 +0.6**
LVZ Lovozero 49.50 334 *e*P **P** **05 52 44.4 -1.3**
comp=Z,18μm,1.0s
LVZ Lovozero 49.50 334 *i* P **P** **05 52 44.5 -1.2**
LVZ pmax pmax
comp=Z,17μm,0.9s
I39PW PALAU INFRASON 49.51 205 P P 05 52 53.5 +7.1
baz=44,slow=6.2,SNR=3.8
TARG Taragay, Kyrgy 49.56 288 *e*P **P** **05 52 47.7 +0.7**
comp=Z,12μm,0.9s
KDJ Kajisay 49.64 289 *e*P **P** **05 52 47.1 -0.2**
comp=Z,26μm,0.8s
HAMF Hammerfest 49.80 340⇓*i*P **P** **05 52 46.0 -1.7**
HAMF IVmB_BB 05 53 20.7
comp=Z,143μm,1.8s
HAMF *e*S **S** **05 59 13.1 +0.2**
HAMF IVMs_BB IVMs_BB 06 09 55.8
comp=Z,141μm,13.7s
SLVN Son La 49.80 248 *e*P **P** **05 52 48.5 -0.1**
comp=Z,21μm,1.0s
KEV Kevo 49.84 338 *e*P **P** **05 52 46.4 -1.6**
comp=Z,8μm,0.8s
D03D Eldon 49.91 62 P **P** **05 52 50.1 +1.1**
baz=312,SNR=1000
B05A Bryant 49.93 60 P **P** **05 52 50.0 +0.9**
baz=311,SNR=1000
MSLP Maasin 49.97 218 *e*P **P** **05 52 49.8 0.0**
TKM2 Tokmak 2 49.97 290 P **P** **05 52 49.6 -0.1**
SNR=127
BUSP Coron 50.03 224 *e*P **P** **05 52 50.1 -0.1**
APA Apatity 50.06 334⇓*i*P **P** **05 52 47.9 -1.8**
APA *i* 05 54 02.0
APA *i* S **S** **05 59 15.0 -1.4**
APA *i* SS SS 06 02 39.0 -21
APA MLR MLR
comp=Z,367μm,20.0s
B06A Marblemount 50.07 60 *e*P **P** **05 52 50.3 +0.2**
comp=Z,34μm,1.2s
BOOM Boomskoye usch 50.07 290 *e*P **P** **05 52 51.3 +0.9**
comp=Z,27μm,0.9s
SCPH Surigao 50.07 217⇓*e*P P 05 52 58.4 +7.9
ULHL Ulahol 50.07 289 P **P** **05 52 50.6 +0.1**
SNR=875
LLP Lapu-Lapu 50.12 219⇓*e*P **P** **05 52 50.8 -0.1**
LLP *e*S **S** **05 59 18.3 -0.3**
D04E Lakebay 50.31 62 P **P** **05 52 53.3 +1.5**
baz=312,SNR=1000
USP Ospenovka 50.33 291 P **P** **05 52 52.3 +0.1**
SNR=1083
ARCES ARCESS Array B 50.33 339 *e*P **P** **05 52 49.9 -1.8**
ARCES ARCESS Array B 50.33 339 P **P** **05 52 50.6 -1.1**
comp=Z,1μm,0.4s,baz=44,slow=8.6,SNR=4204
ARCES S **S** **05 59 18.5 -1.7**
comp=Z,465nm,0.9s,baz=135,slow=9.0,SNR=2.4
ARCES P3KPbc 06 20 24.0
comp=Z,7.1nm,0.8s,baz=222,slow=1.2,SNR=2.9
ARCES P3KP 06 22 19.9
comp=Z,8.1nm,0.8s,baz=240,slow=3.0,SNR=2.1
ARCES PKPPKP P'P'df 06 23 12.7 -17
comp=Z,65nm,1.0s,baz=222,slow=3.1,SNR=7.5
ARCES P4KPbc 06 29 52.6
comp=Z,65nm,1.0s,baz=96,slow=0.9,SNR=4.7
ARE0 ARCESS Array S 50.33 339⇓*i*P **P** **05 52 50.6 -1.1**
ARE0 IVmBBB 05 53 16.5
comp=Z,145μm,2.5s
ARE0 *e*PP **PP** **05 54 55.2 -0.2**
ARE0 *e*S **S** **05 59 20.4 +0.3**
GUIM Jordan 50.35 221 *e*P **P** **05 52 52.9 +0.4**
CHMS Chumysh 50.37 291 P **P** **05 52 52.5 0.0**
SNR=1770
LSA Lhasa 50.47 267 P **P** **05 52 55.0 +1.2**
LSA pmax pmax
comp=Z,26μm,0.8s
LSA Lhasa 50.47 267 *e*P **P** **05 52 55.2 +1.4**
comp=Z,18μm,0.8s
LSA Lhasa 50.47 267 *i* P **P** **05 52 54.8 +1.0**
SNR=2527
JAP San Jose, Anti 50.48 222⇓*e*P **P** **05 52 55.3 +1.8**
KBK Karagaybulak 50.50 291 P **P** **05 52 53.5 0.0**
SNR=3875
KZA Kyzart 50.73 290 P **P** **05 52 55.8 +0.3**
SNR=120
CUYO Cuyo Island 50.75 223 *e*P **P** **05 52 56.0 +0.6**
AAK Ala-Archa 50.76 291 P **P** **05 52 55.5 +0.1**
SNR=838
AAK Ala-Archa 50.76 291 *e*P **P** **05 52 55.1 -0.3**
comp=Z,60μm,1.3s
AAK Ala-Archa 50.76 291 *i* P **P** **05 52 55.5 +0.1**
SNR=9440
AAK Ala-Archa 50.76 291 *i* P **P** **05 52 55.5 +0.1**
AAK pmax pmax
comp=Z,53μm,1.2s
AAK Ala-Archa 50.76 291 P **P** **05 52 55.3 -0.1**
AAK P **P** **05 52 55.3 -0.1**
AAK Ala-Archa 50.76 291 P **P** **05 52 55.3 -0.1**
comp=Z,4μm,0.6s,baz=84,slow=4.5,SNR=3870
AAK S **S** **05 59 27.8 +0.8**
comp=Z,499nm,0.9s,baz=311,slow=9.3,SNR=1.9
AAK P3KP 06 22 34.8
comp=Z,19nm,0.8s,baz=198,slow=3.4,SNR=2.6
AAK P4KPbc 06 30 12.7
comp=Z,33nm,1.1s,baz=124,slow=7.3,SNR=3.7
NRN Naryn 50.76 289 *e*P **P** **05 52 56.0 +0.4**
comp=Z,9μm,0.9s
C06D Leavenworth 50.76 60 P **P** **05 52 55.8 +0.6**
baz=312,SNR=318
C06D S **S** **05 59 24.9 -1.7**
baz=312
BUTP Butuan 50.78 216 *e*P **P** **05 52 55.2 -0.5**
PRGR Permogore 50.79 324⇓*i*P **P** **05 52 54.7 -0.4**
PRGR *i* S **S** **05 59 24.9 -1.5**
E04D Cinebar 50.83 62 P **P** **05 52 56.8 +1.2**
baz=312,SNR=1000
F04D Rainier, OR 50.92 63 P **P** **05 52 57.2 +0.9**
baz=312,SNR=424
UCH Uchtor 51.03 290 P **P** **05 52 57.5 -0.2**
SNR=180
ENPP El Nido 51.06 225 *e*P **P** **05 52 58.1 +0.4**
EKS2 Erkin-Say 51.13 291 P **P** **05 52 58.2 +0.2**
SNR=343
KTK1 Kautokeino 51.23 339⇓*i*P **P** **05 52 57.1 -1.0**
KTK1 IVmB_BB 05 53 30.7
comp=Z,260μm,1.9s
KTK1 *e*S **S** **05 59 32.4 +0.3**
KTK1 *e* 05 59 48.8
BIPH Bislig 51.27 215⇑*e*P **P** **05 53 02.0 +2.8**
BIPH Bislig 51.27 215⇑*e*P P 05 53 07.7 +8.5
SNPH Sibulan 51.28 219 *e*P **P** **05 53 00.8 +1.4**
LTY Liberty 51.32 60 *e*P **P** **05 52 58.8 -0.5**
comp=Z,25μm,1.1s
TMCR Tamitsa 51.36 330 *e*P **P** **05 52 58.5 -0.6**
TMCR *e*S **S** **05 59 38.2 +4.3**
G03D McMinnville, O 51.37 64 P **P** **05 53 00.6 +1.0**
baz=313,SNR=316
AML Almayashu 51.54 291 P **P** **05 53 01.5 +0.2**
SNR=527
TRO Tromso 51.54 341⇓*i*P **P** **05 52 59.3 -1.1**
TRO IVmB_BB 05 53 23.7
comp=Z,168μm,1.8s
TRO *e*S **S** **05 59 36.8 +0.6**
TRO IVMs_BB IVMs_BB 06 07 18.1
comp=Z,120μm,36.6s
KIRV Kirov 51.58 320 P **P** **05 53 00.3 -0.5**
comp=Z,7μm,0.6s,baz=53,slow=2.1,SNR=1074
KIRV P4KPbc 06 30 16.3
comp=Z,153nm,1.1s,baz=225,slow=1.4,SNR=3.9
CGP Cagayan de Oro 51.58 217⇓*e*P **P** **05 53 02.5 +1.0**
I02D Swisshome 51.82 65 P **P** **05 53 04.1 +1.3**
baz=313,SNR=354
F05D White Salmon 51.85 62 P **P** **05 53 03.9 +0.9**
baz=313,SNR=1000
I59US HAWAII INFRASO 51.88 112 P **P** **05 53 03.5 -0.2**
baz=307,slow=16,SNR=3.2
POHA Pohakuloa 51.94 111 *e*P **P** **05 53 04.3 0.0**
BUKP Musuan 51.99 217 *e*P **P** **05 53 05.0 +0.6**
KSH Kashi 52.10 287 P **P** **05 53 08.8 +3.8**
KSH pP pP 05 54 57.6 +1.1
KSH PP **PP** **05 55 17.4 +5.5**
KSH S **S** **05 59 49.1 +4.3**
KSH Kashi 52.10 287 SS **SS** **06 03 42.5 +9.3**
KSH Kashi 52.10 287 P **P** **05 53 08.6 +3.6**
KSH pP pP 05 55 00.3 +3.8
KSH PP **PP** **05 55 19.3 +7.4**
KSH S **S** **05 59 49.1 +4.3**
KSH sS sS 06 03 06.8 +1.4
KSH SS **SS** **06 03 41.9 +8.7**
KSH pmax pmax
comp=Z,7μm,0.9s
KSH pmax pmax
comp=Z,485μm,5.7s
H04D Lebanon 52.12 64 P **P** **05 53 06.1 +1.2**
baz=313,SNR=703
MLH Mauna Loa 52.23 112 *e*P **P** **05 53 06.8 +0.5**
comp=Z,30μm,0.8s
DZA Taraz 52.28 293 *d* *i*P **P** **05 53 05.5 -0.6**
DZA Taraz 52.28 293⇓*i*P **P** **05 53 05.6 -0.6**
comp=Z,3μm,1.3s
AIN Ainahou 52.29 112 *e*P **P** **05 53 07.1 +0.4**
comp=Z,60μm,1.0s
UWE Uwekahuna 52.34 111 *e*P **P** **05 53 07.2 +0.2**
comp=Z,57μm,1.2s
G05D Wamic, OR 52.36 63 P **P** **05 53 07.6 +0.9**
baz=314,SNR=702
I03D Drain, OR 52.36 65 P **P** **05 53 08.2 +1.6**
baz=314,SNR=620
I56US NEWPORT INFRAS 52.40 57 P **P** **05 53 05.0 -1.9**
baz=293,slow=14,SNR=6.4
NEW Newport 52.40 57 *e*P **P** **05 53 06.7 -0.3**
NEW Newport 52.40 57 P **P** **05 53 07.1 +0.2**
baz=313,SNR=1000
NEW Newport 52.40 57 P3KP 06 22 25.9
comp=Z,17nm,1.1s,baz=135,slow=7.1,SNR=2.9
J01E Myrtle Point 52.42 66 P **P** **05 53 08.8 +1.7**
baz=314,SNR=995
MATI Mati 52.46 215 *e*P **P** **05 53 05.9 -1.8**
ARSB Arslanbob 52.48 291 *e*P **P** **05 53 08.2 +0.4**
comp=Z,49μm,1.4s
HAWA Hanford 52.48 61 *e*ScP **ScP** **05 57 11.6 +4.5**
DAV Davao City (W) 52.57 216 *e*P **P** **05 53 09.1 +0.6**
comp=Z,65μm,1.6s
DAV *e*ScP **ScP** **05 57 10.8 +3.0**
DAV Davao City (W) 52.57 216 P **P** **05 53 06.3 -2.2**
DAV Davao City (W) 52.57 216 P **P** **05 53 09.3 +0.8**
SNR=235
DAV P **P** **05 53 09.3 +0.8**
SNR=235
KK31 Karatay Array 52.57 294 *e*P **P** **05 53 07.5 -0.7**
comp=Z,21μm,0.9s
KK31 Karatay Array 52.57 294 *i* P **P** **05 53 07.3 -0.9**
KKAR Karatay Array 52.57 294 *e*P **P** **05 53 07.1 -1.2**
DMPH Davao City–Mi 52.58 216⇑*e*P **P** **05 53 09.2 +0.6**
PAGZ Pagadian 52.61 219 *e*P **P** **05 53 08.2 -0.6**
SUMG Summit 52.63 4 *e*P **P** **05 53 08.0 -0.6**
comp=Z,22μm,1.2s
SUMG Summit 52.63 4 *i* P **P** **05 53 08.5 -0.1**
SUMG Summit 52.63 4 *i* P **P** **05 53 08.5 -0.1**
I04A Tendick Farm, 52.79 65 P **P** **05 53 10.7 +1.0**
baz=314,SNR=1000
PANO Nakornpanom 52.87 244 P **P** **05 53 11.1 +0.5**
comp=Z,750nm,1.0s,comp=Z,10μmcomp=Z,78μm
K02D Willamette Mer 52.89 67 P **P** **05 53 12.0 +1.4**
baz=314,SNR=1000
IPIL Ipil 52.96 219 *e*P **P** **05 53 10.6 -0.7**
I05D Terrebonne, OR 52.97 64 P **P** **05 53 12.0 +1.0**
baz=314,SNR=1000
JBG Jabagly 53.02 293 *d* *i*P **P** **05 53 11.8 +0.2**
JBG *e*S **S** **06 00 02.8 +5.8**
SHL Shillong 53.17 263 *i* P **P** **05 53 10.5 -2.4**
SHL IAmb IAmb 05 53 18.3
comp=Z,8μm,0.7s
L02E Cave Junction 53.30 67 P **P** **05 53 15.0 +1.7**
baz=314,SNR=1000
J04D Umpqua Nationa 53.33 65 P **P** **05 53 15.4 +1.6**
baz=314,SNR=1000
SKNT Sakolnakorn 53.34 245 P **P** **05 53 14.0 0.0**
comp=Z,17μm,1.2s,comp=Z,517μm
KLMR Klimovskoe 53.39 326⇓*i*P **P** **05 53 13.0 -0.6**
KLMR *e*S **S** **06 00 03.8 +3.0**
DDMP Don Marcelino, 53.43 215 *e*P **P** **05 53 14.0 -0.6**
DDMP *e*S **S** **06 00 01.0 -1.6**
SKMP Bagumbayan, Su 53.44 217 *e*P **P** **05 53 15.4 +0.8**
IUG Iuzhnay 53.49 293 *d* *i*P **P** **05 53 14.9 +0.1**
IUG *e*S **S** **06 00 06.4 +3.3**
IUG Iuzhnay 53.49 293⇓*i*P **P** **05 53 14.9 +0.1**
comp=Z,14μm,1.0s
IUG *e*S **S** **06 00 06.4 +3.3**
PINE Pine Mountain 53.56 64 *e*P **P** **05 53 17.1 +1.7**

comp=Z,56μm,1.2s
PAYA Payao 53.59 251 P **P** **05 53 16.2 +0.5**
PAYA Payao 53.59 251 P **P'P'df** **06 23 18.6 -5.3**
NANT Nan 53.59 249 P P'P'df 06 23 14.3 -10
CHM Chimkent 53.60 294 *d iP* **P** **05 53 16.7 +1.2**
CHM *eS* S 06 00 15.2 +11
CHM Chimkent 53.60 294 ⇓*iP* **P** **05 53 16.7 +1.2**
comp=Z,10μm,1.3s
CHM *eS* S 06 00 15.2 +11
AB31 Akbulak array 53.61 306 *i P* **P** **05 53 14.3 -1.1**
ABKAR Akbulak array 53.61 306 *eP* **P** **05 53 14.3 -1.1**
ABKAR *eP*cP **PcP** **05 54 06.1 -5.7**
AKTO Aktyubinsk 53.68 308 P **P** **05 53 14.5 -1.4**
AKTO Aktyubinsk 53.68 308 P **P** **05 53 15.0 -0.9**
comp=Z,3μm,0.5s,baz=59,slow=8.3,SNR=2668
AKTO P4KPbc 06 30 25.8
comp=Z,45nm,0.9s,baz=16,slow=4.4,SNR=2.3
STEI Steigen 53.70 342 ⇓*iP* **P** **05 53 14.2 -1.4**
STEI IVmB_BB 05 53 38.2
comp=Z,154μm,1.9s
STEI *eS* **S** **06 00 05.4 +0.8**
STEI *eSS* **SS** **06 03 59.1 +2.3**
STEI IVMsBB 06 07 59.4
comp=Z,134μm,27.5s
J05D Fort Rock, OR 53.76 64 P **P** **05 53 18.5 +1.8**
baz=315,SNR=1000
LOF Lofoten 53.82 343 ⇓*iP* **P** **05 53 15.2 -1.3**
LOF IVmBBB 05 53 40.0
comp=Z,198μm,1.2s
LOF *e*PP **PP** **05 55 26.2 -0.1**
LOF *eS* **S** **06 00 07.1 +0.8**
LOF IVMs_BB IVMs_BB 06 08 03.5
comp=Z,120μm,32.7s
JMIC Jan Mayen 53.84 353 P **P** **05 53 16.6 0.0**
comp=Z,3μm,0.8s,baz=56,slow=3.6,SNR=99
JMIC S **S** **06 00 11.5 +5.1**
comp=Z,117nm,0.7s,baz=163,slow=11,SNR=2.0
JMIC PKPPKP 06 23 08.4
comp=Z,108nm,0.9s,baz=180,slow=3.4,SNR=2.7
JMIC Jan Mayen 53.84 353 ⇓*iP* **P** **05 53 16.9 +0.3**
JMIC *eS* **S** **06 00 07.4 +0.9**
JMIC *eSS* **SS** **06 04 00.6 +1.7**
JMIC IVMsBB 06 08 23.8
comp=Z,104μm,15.1s
BATP Bataraza 53.91 225 *eP* **P** **05 53 19.3 +1.4**
BATP *eS* **S** **06 00 08.2 -0.6**
JMI Jan Mayen 53.91 353 ⇓*iP* **P** **05 53 17.6 +0.5**
ZCP Zamboanga City 53.94 220 ⇓*eP* **P** **05 53 18.8 +0.7**
L04D Klamath Falls 53.94 66 P **P** **05 53 19.5 +1.5**
baz=315,SNR=1000
K04D Chiloquin, OR 53.95 65 P **P** **05 53 19.6 +1.6**
baz=315,SNR=1000
YBH Yreka Blue Hor 54.07 67 P4KPbc 06 30 29.9
comp=Z,10nm,1.0s,baz=270,slow=4.0,SNR=2.3
PHRA Phrae 54.09 250 P **P** **05 53 19.8 +0.6**
comp=Z,5μm,1.4s,comp=Z,93μmcomp=Z,647μm
KHMM Horse Mountain 54.12 68 *eP* **P** **05 53 21.1 +1.7**
comp=Z,46μm,1.2s
KHMM *e*PcP **PcP** **05 54 12.9 -1.3**
TAPN Taplejung 54.22 268 *eP* **P** **05 53 20.5 +0.1**
comp=Z,82μm,0.8s
M02C Callahan 54.23 67 P **P** **05 53 22.0 +2.0**
baz=315,SNR=1000
LAMP Lampang 54.40 250 P **P** **05 53 21.7 +0.4**
LAMP Lampang 54.40 250 P P'P'df 06 23 11.4 -11
M04C Macdoel 54.49 66 P **P** **05 53 23.5 +1.6**
baz=315,SNR=1000
UTTA Uttaradit 54.53 249 P **P** **05 53 22.4 +0.1**
CMMT Chiang Mai 54.53 251 P **P** **05 53 22.3 0.0**
comp=Z,12μm,0.8s,comp=Z,242μm
CMMT Chiang Mai 54.53 251 P P'P'df 06 23 05.6 -17
CHTO Chiang Mai 54.54 251 *eP* **P** **05 53 22.5 +0.2**
CHTO Chiang Mai 54.54 251 P **P** **05 53 23.0 +0.6**
SNR=4267
CHTO P **P** **05 53 23.0 +0.6**
SNR=4267
FFC Flin Flon 54.59 44 *eP* **P** **05 53 21.9 -0.3**
comp=Z,40μm,1.3s
FFC Flin Flon 54.59 44 *i* P **P** **05 53 22.0 -0.2**
KMRM Mail Ridge 54.60 69 *eP* **P** **05 53 24.7 +2.1**
comp=Z,16μm,0.8s
N02D Trinity Center 54.60 67 P **P** **05 53 24.5 +1.9**
baz=315,SNR=1000
ODAN Odare 54.78 267 *eP* **P** **05 53 24.0 -0.1**
ODAN Odare 54.78 267 *eP* **P** **05 53 24.1 -0.1**
comp=Z,77μm,1.0s
CM31 Chiang Mai Arr 54.83 251 *eP* **P** **05 53 25.0 +0.7**
comp=Z,14μm,0.8s
CM31 *eS* **S** **06 00 24.9 +4.0**
CM31 ⇑*e* 06 23 30.3
CMAR Chiang Mai Arr 54.83 251 *eP* **P** **05 53 24.7 +0.4**
CMAR Chiang Mai Arr 54.83 251 P **P** **05 53 24.9 +0.6**
comp=Z,5μm,1.0s,baz=20,slow=6.6,SNR=2413
CMAR S **S** **06 00 21.2 +0.4**
comp=Z,117nm,0.9s,baz=341,slow=5.0,SNR=2.8
CMAR P3KP 06 22 09.6
comp=Z,5.5nm,0.8s,baz=215,slow=3.2,SNR=2.5
CMAR PKPPKP P'P'df 06 23 07.1 -15
comp=Z,112nm,1.1s,baz=241,slow=3.4,SNR=8.0
CMAR P4KPbc 06 30 34.9
comp=Z,13nm,0.7s,baz=12,slow=3.7,SNR=11
JIRN Jiri 54.87 269 *eP* **P** **05 53 24.8 -0.2**
MSO Missoula 54.95 57 P **P** **05 53 25.5 +0.5**
baz=315,SNR=1000
SCO Scoresbysund 54.96 358 *eP* **P** **05 53 23.5 -0.9**
comp=Z,6μm,1.1s
SCO Scoresbysund 54.96 358 *i P* **P** **05 53 24.0 -0.4**
SCO Scoresbysund 54.96 358 *i P* **P** **05 53 24.0 -0.4**
ILULI Ilulissat 54.99 10 *eP* **P** **05 53 23.2 -1.4**
comp=Z,20μm,1.2s
ILULI Ilulissat 54.99 10 *i P* **P** **05 53 23.3 -1.4**
ILULI Ilulissat 54.99 10 *i P* **P** **05 53 23.3 -1.4**
O02D Mt. Diablo Mer 55.13 68 P **P** **05 53 28.0 +1.8**
baz=316,SNR=1000
RAMN Ramite 55.16 268 *eP* **P** **05 53 26.7 -0.2**
RAMN Ramite 55.16 268 *eP* **P** **05 53 26.7 -0.2**
comp=Z,48μm,0.7s
PBKT Sadao Pong 55.27 248 P **P** **05 53 27.6 +0.2**
comp=Z,7μm,1.2s,comp=Z,177μm
PBKT Sadao Pong 55.27 248 P P'P'df 06 22 45.8 -35
CHAI Chaiyaphum 55.29 246 P **P** **05 53 27.3 -0.2**
CHAI Chaiyaphum 55.29 246 P P'P'df 06 22 51.3 -30
KKN Kakani 55.29 270 *eP* **P** **05 53 27.7 0.0**
KKN Kakani 55.29 270 *eP* **P** **05 53 27.8 0.0**
comp=Z,39μm,0.6s
DLV T Lat 55.33 237 *eP* **P** **05 53 28.4 +0.3**
comp=Z,17μm,1.1s
KONS Konsvik 55.35 342 ⇓*iP* **P** **05 53 25.9 -1.4**
KONS IVmBBB 05 53 50.4
comp=Z,139μm,2.5s
KONS *eS* **S** **06 00 26.7 +0.5**
PKI Pulchoki 55.38 270 *eP* **P** **05 53 28.2 -0.3**
PKI Pulchoki 55.38 270 *eP* **P** **05 53 28.3 -0.3**
comp=Z,56μm,0.7s
MOR8 Moi Rana 55.40 341 ⇓*iP* **P** **05 53 25.2 -2.5**
MOR8 IVmBBB 05 53 49.2
comp=Z,193μm,2.2s
MOR8 *eS* **S** **06 00 25.6 -1.3**
MOR8 IVMs_BB IVMs_BB 06 08 27.4
comp=Z,156μm,26.1s
GKN Gorkha 55.51 271 *eP* **P** **05 53 29.0 -0.1**
GKN Gorkha 55.51 271 *eP* **P** **05 53 29.0 -0.1**
comp=Z,61μm,0.8s
STOK Stokkvaagen 55.52 342 *eP* **P** **05 53 27.6 -0.7**
STOK *eS* **S** **06 00 28.9 +0.6**
DMN Daman 55.53 270 *eP* **P** **05 53 29.5 +0.1**
DMN Daman 55.53 270 *eP* **P** **05 53 29.5 +0.1**
comp=Z,93μm,1.0s
O03E Paynes Creek 55.57 67 P **P** **05 53 30.0 +0.7**
baz=316,SNR=1000
DANN Dangsing 55.75 272 *eP* **P** **05 53 30.9 0.0**
DANN Dangsing 55.75 272 *eP* **P** **05 53 31.0 0.0**
comp=Z,106μm,1.1s
SGSI Sangihe 55.76 214 P **P** **05 53 29.9 -0.9**
comp=Z,20μm,0.8s,comp=Z,153μmcomp=Z,20μm
HOPS Hopland Field 55.82 69 *eP* **P** **05 53 31.9 +1.0**
comp=Z,34μm,1.3s
EGMT Eagleton 56.08 53 P **P** **05 53 33.0 +0.4**
baz=316,SNR=1000
KOLN Koldanda 56.28 271 *eP* **P** **05 53 34.2 -0.3**
KOLN Koldanda 56.28 271 *eP* **P** **05 53 34.3 -0.3**
comp=Z,45μm,0.7s
PYUN Piuthan 56.38 272 *eP* **P** **05 53 35.1 -0.1**
PYUN Piuthan 56.38 272 *eP* **P** **05 53 35.1 -0.1**
VLK Valmikinagar 56.47 271 *ex* pP 05 55 33.0 +3.5

SRNI Srinagar 56.60 283 *ex* **P** **05 53 33.0 -3.3**
SRNI *ex* x 05 54 06.0
UMPA Umpang Tak 56.71 249 P **P** **05 53 38.9 +1.6**
UMPA Umpang Tak 56.71 249 P P'P'df 06 23 09.3 -10
FIA1 FINESS Array S 56.87 333 *eP* **P** **05 53 35.7 -2.0**
comp=Z,12μm,0.7s
FIA0 FINESS Array S 56.87 333 *eP* **P** **05 53 36.6 -1.0**
FIA0 *eS* **S** **06 00 45.3 -0.5**
FIA0 *e*P'P'ab P'P'df 06 23 00.7 -20
FINES FINESS Array B 56.87 333 *eP* **P** **05 53 36.4 -1.3**
FINES FINESS Array B 56.87 333 P **P** **05 53 36.6 -1.0**
comp=Z,3μm,0.5s,baz=36,slow=7.0,SNR=3232
FINES S **S** **06 00 45.3 -0.5**
comp=Z,165nm,0.7s,baz=72,slow=13,SNR=2.0
FINES P3KP 06 22 26.1
comp=Z,22nm,0.9s,baz=151,slow=3.2,SNR=3.5
FINES PKPPKP P'P'df 06 23 00.7 -20
comp=Z,72nm,0.8s,baz=158,slow=4.1,SNR=9.3
FINES P4KPbc 06 30 42.5
comp=Z,36nm,0.7s,baz=40,slow=3.8,SNR=5.3
MANU Manus Island 56.88 187 *eP* **P** **05 53 38.9 +0.5**
comp=Z,12μm,1.3s
PTH Pithoragarh 56.90 275 *eP* **P** **05 53 35.9 -2.8**
PTH *ex* x 06 00 35.8
PTH Pithoragarh 56.90 275 *eP* P'P'df 06 23 04.3 -16
MCMT McKenzie Canyo 56.91 58 *eP* **P** **05 53 39.3 +0.7**
BOZ Bozeman (W) 56.95 57 P **P** **05 53 39.6 +0.8**
baz=317,SNR=1000
LGTI Lohaghat 56.96 275 *eP* **P** **05 53 37.1 -1.7**
HLID Hailey 57.05 60 P **P** **05 53 40.5 +0.9**
baz=317,SNR=1000
PUL Pulkovo 57.08 330 *cP* **P** **05 53 38.2 -0.9**
PUL Pulkovo 57.08 330 *eP* **P** **05 53 38.0 -1.1**
PUL IAmb IAmb 05 53 57.6
comp=Z,16μm,0.6s
DHRM DHARAMSHALA 57.14 280 *eP* **P** **05 53 39.7 -0.6**
DHRM IAML 05 53 45.5
comp=Z,32μm,0.7s
SFJD Kangerlussuaq 57.18 11 *eP* **P** **05 53 37.9 -1.8**
comp=Z,15μm,1.3s
SFJD Kangerlussuaq 57.18 11 P **P** **05 53 38.3 -1.4**
comp=Z,1μm,0.6s,baz=346,slow=6.4,SNR=289
SFJD S **S** **06 00 49.1 -0.5**
comp=Z,169nm,0.9s,baz=270,slow=24,SNR=1238
SFJD PKPPKP P'P'df 06 22 56.3 -24
comp=Z,37nm,0.7s,baz=151,slow=5.8,SNR=13
SFJD Kangerlussuaq 57.18 11 *i P* **P** **05 53 38.5 -1.2**
NSS Namsos 57.34 341 ⇓*iP* **P** **05 53 39.5 -1.3**
NSS IVmB_BB 05 54 01.8
comp=Z,159μm,4.4s
NSS *e*PP **PP** **05 55 55.8 -1.6**
NSS *eS* **S** **06 00 52.4 +0.7**
NSS IVMsBB 06 09 08.8
comp=Z,156μm,15.9s
RUBR Rubicon Trail 57.35 67 *eP* **P** **05 53 42.9 +1.2**
comp=Z,33μm,1.0s
SMLA Simla 57.47 279 *eP* **P** **05 53 41.7 -0.6**
SMLA IAmb IAmb 05 53 51.5
DDI Dehra Dun 57.56 278 *eP* **P** **05 53 42.4 -0.7**
DDI IAmb IAmb 05 53 51.8
comp=Z,23μm,0.7s
DDI Dehra Dun 57.56 278 *ex* P'P'df 06 22 49.0 -30
BHK Bhakra 57.69 280 *ex* **P** **05 53 43.0 -0.8**
BHK *ex* x 05 55 03.2
NIL Nilore 57.83 284 *eP* **P** **05 53 44.4 -0.3**
comp=Z,80μm,1.1s
TMDB BangkokBB_BH_I 57.88 246 P **P** **05 53 46.5 +1.3**
comp=Z,5μm,1.2s,comp=Z,86μmcomp=Z,631μm
TNTI Ternate 57.93 211 *eP* **P** **05 53 45.5 -0.1**
comp=Z,12μm,1.1s
TNTI Ternate 57.93 211 P **P** **05 53 45.3 -0.2**
comp=Z,11μm,1.1s,comp=Z,203μm
YMR Madison River 57.95 57 *eP* **P** **05 53 47.0 +1.4**
comp=Z,28μm,0.9s
MOS Moscow 57.98 323 *k iP* **P** **05 53 44.5 -0.8**
MOS *e*PP **pP** **05 55 39.7 -0.8**
MOS *e* 05 55 59.2
MOS *i* S **S** **06 01 02.2 +2.1**
MOS *i* 06 02 33.1
MOS *i* SS **SS** **06 05 07.6 +3.4**
MOS pmax pmax
comp=Z,24μm,1.3s
MOS pmax pmax
comp=Z,88μm,2.4s
MOS smax smax
comp=E,361μm,4.5s
MOS smax smax
comp=N,513μm,5.0s
BOK Bokaro 57.99 266 *eP* **P** **05 53 45.9 0.0**
SRDT SRDT 58.10 248 P **P** **05 53 46.8 +0.1**
comp=N,8μm,1.4s,comp=N,211μm
SRDT SRDT 58.10 248 PKP P'P'df 06 23 43.7 +27
GENI Genyem 58.25 196 P **P** **05 53 48.7 +1.0**
comp=N,9μm,1.3s,comp=N,329μm
DGMT Dagmar 58.27 50 P **P** **05 53 47.8 +0.3**
baz=319,SNR=819
H17A Grant Village 58.34 57 P **P** **05 53 50.6 +2.4**
baz=318,SNR=1000
RLMT Red Lodge 58.43 56 P **P** **05 53 50.2 +1.3**
baz=318,SNR=1000
LAO LASA Array 58.69 52 P **P** **05 53 51.0 +0.6**
baz=318,SNR=257
MOOW Moose Ponds 58.73 58 *eP* **P** **05 53 52.4 +1.5**
comp=N,20μm,1.3s
NV01 Mina Array Sit 58.79 67 *eP* **P** **05 53 52.3 +0.9**
NV01 *eS* **S** **06 01 12.2 +0.9**
NVAR Mina Array Bea 58.79 67 *eP* **P** **05 53 51.7 +0.3**
NVAR Mina Array Bea 58.79 67 P **P** **05 53 52.3 +0.9**
comp=N,7μm,0.8s,baz=299,slow=6.2,SNR=8417
NVAR S **S** **06 01 12.2 +0.9**
comp=N,126nm,1.0s,baz=270,slow=8.1,SNR=2.6
NVAR PKPPKP 06 22 53.9
comp=N,62nm,0.9s,baz=123,slow=4.4,SNR=8.0
NVAR P4KPbc 06 30 52.8
comp=N,20nm,0.8s,baz=282,slow=4.9,SNR=10
RABL Rabaul 58.81 181 *eP* **P** **05 53 51.8 +0.3**
comp=N,37μm,1.0s
TBLU Trondheim 58.82 341 ⇓*eP* **P** **05 53 48.7 -2.2**
TBLU IVmB_BB 05 54 10.7
comp=Z,150μm,3.8s
TBLU *eS* **S** **06 01 08.7 -1.8**
OBN Obninsk 58.84 323 *eP* **P** **05 53 50.0 -1.1**
comp=Z,92μm,1.7s
OBN Obninsk 58.84 323 ⇓*iP* **P** **05 53 49.8 -1.3**
OBN Obninsk 58.84 323 *i P* **P** **05 53 49.9 -1.1**
OBN pmax pmax
comp=Z,46μm,1.4s
OBN Obninsk 58.84 323 P **P** **05 53 49.9 -1.1**
comp=Z,1μm,0.6s,baz=52,slow=1.4,SNR=531
REDW Red Top Meadow 58.96 58 *eP* **P** **05 53 53.5 +1.1**
comp=Z,39μm,1.4s
PHET Kaeng Krachan 59.03 247 P **P** **05 53 53.4 +0.5**
MLAC Mammoth, Mammo 59.09 68 P **P** **05 53 55.0 +1.6**
baz=318,SNR=1000
KMSI Cibinong 59.18 215 P **P** **05 53 53.2 -0.7**
comp=Z,19μm,0.8s,comp=Z,203μmcomp=Z,21μm
VSU Vasula 59.20 331 *d iP* **P** **05 53 52.5 -0.9**
VSU Vasula 59.20 331 *eP* **P** **05 53 52.7 -0.7**
VSU IAmb IAmb 05 54 10.2
comp=Z,28μm,0.7s
NDI New Delhi 59.28 277 *eP* **P** **05 53 54.0 -0.5**
KBL Kabul 59.52 288 *eP* **P** **05 53 54.2 -2.0**
comp=Z,37μm,0.9s
VOG Valley Oaks Go 59.77 69 P **P** **05 53 58.2 +0.6**
baz=318,SNR=231
TIN Tinemaha, Big 59.84 68 P **P** **05 53 59.7 +1.5**
baz=318,SNR=699
MOL Molde 59.94 343 ⇓*iP* **P** **05 53 57.2 -1.0**
MOL IVmB_BB 05 54 21.2
comp=Z,137μm,1.3s
MOL *eS* **S** **06 01 25.1 +0.7**
MOL IVMsBB 06 09 46.9
comp=Z,134μm,13.4s
MRSI Marisa 59.97 217 P **P** **05 53 58.5 -0.6**
comp=Z,24μm,1.2s,comp=Z,290μm
LPSR Galich'ya Gora 60.00 320 *eP* **P** **05 53 57.7 -1.1**
LPSR *eS* **S** **06 01 25.9 +0.5**
LPSR *e* 06 02 51.6
LPSR pmax pmax
comp=Z,20μm,0.7s
LPSR smax smax
comp=N,335μm,10.0s
VRH Novokhopyorsk 60.04 318 *eP* **P** **05 53 57.5 -1.6**
VRH *eS* **S** **06 01 23.1 -2.9**
VRH *e* 06 02 47.8

VRH pmax pmax
comp=Z,19μm,0.6s
VRH smax smax
comp=N,549μm,11.9s
BW06 Boulder Array 60.04 58 *eP* **P** **05 53 59.8 +0.2**
comp=N,17μm,1.0s
BW06 Boulder Array 60.04 58 P **P** **05 54 00.1 +0.5**
baz=319,SNR=1000
PD31 Pinedale Array 60.04 58 *eP* **P** **05 54 00.1 +0.5**
comp=N,15μm,1.0s
PD31 *eS* **S** **06 01 27.6 +0.7**
PDAR Pinedale Array 60.04 58 *eP* **P** **05 53 59.5 -0.1**
PDAR Pinedale Array 60.04 58 P **P** **05 54 00.0 +0.4**
comp=N,4μm,0.7s,baz=331,slow=2.6,SNR=3339
PDAR S **S** **06 01 27.6 +0.7**
comp=N,130nm,0.9s,baz=302,slow=14,SNR=3.1
PDAR PKPPKP P'P'df 06 22 45.1 -31
comp=N,20nm,0.7s,baz=137,slow=5.7,SNR=8.2
PDAR P4KPbc 06 30 56.0
comp=N,14nm,1.0s,baz=0.0,slow=1.5,SNR=3.9
FAKI Fak Fak 60.14 205 *eP* **P** **05 53 59.8 -0.5**
comp=N,18μm,1.0s
FAKI Fak Fak 60.14 205 P **P** **05 53 59.9 -0.4**
comp=N,18μm,0.9s,comp=N,276μm
DOMB Dombas 60.16 342 ⇓*iP* **P** **05 53 58.7 -1.1**
DOMB IVmB_BB 05 54 21.5
comp=Z,143μm,1.4s
DOMB *eS* **S** **06 01 27.3 +0.1**
DOMB IVMs_BB IVMs_BB 06 09 41.9
comp=Z,215μm,15.2s
SMMC Simmler 60.18 70 P **P** **05 54 01.7 +1.3**
baz=318,SNR=730
R11A Troy Canyon, C 60.28 65 *eP* **P** **05 54 01.4 +0.2**
comp=Z,32μm,1.6s
R11A Troy Canyon, C 60.28 65 P **P** **05 54 01.8 +0.6**
baz=318,SNR=1000
VES Vestal, Richgr 60.28 69 P **P** **05 54 01.3 +0.3**
baz=318,SNR=1000
DUG Dugway, Tooele 60.34 62 *eP* **P** **05 54 02.1 +0.6**
comp=Z,30μm,1.1s
DUG Dugway, Tooele 60.34 62 P **P** **05 54 02.6 +1.1**
baz=319,SNR=1000
GRAC Grapevine Rang 60.35 67 P **P** **05 54 02.9 +1.4**
baz=318,SNR=1000
TCUT Toone Canyon 60.36 60 *eP* **P** **05 54 02.9 +1.1**
comp=Z,28μm,1.0s
CWC Cottonwood Cre 60.38 68 P **P** **05 54 02.8 +0.9**
baz=318
I10CA LAC DU BONNET 60.39 44 P **P** **05 53 59.0 -2.4**
baz=330,slow=5.7,SNR=10
AKN Aaknes 60.40 343 ⇓*iP* **P** **05 54 00.7 -0.6**
AKN IVmB_BB 05 54 24.2
comp=Z,169μm,1.1s
AKN *e*PP **PP** **05 56 23.6 -0.5**
ULM Lac du Bonnet 60.42 44 P **P** **05 54 00.9 -0.8**
comp=Z,2μm,0.7s,baz=320,slow=7.0,SNR=434
ULM S **S** **06 01 30.3 -0.5**
comp=Z,210nm,0.8s,baz=72,slow=20,SNR=2.6
ULM PKPPKP P'P'df 06 22 42.0 -33
comp=Z,50nm,0.8s,baz=120,slow=4.5,SNR=6.0
ULM P4KPbc 06 30 58.9
comp=Z,32nm,1.0s,baz=325,slow=5.9,SNR=2.7
NC303 NORSAR Array S 60.47 340 *eP* **P** **05 54 00.6 -1.2**
comp=Z,33μm,1.1s
KMPI Kaimana, Papua 60.52 203 P **P** **05 54 02.9 +0.2**
comp=Z,34μm,1.0s,comp=Z,320μm
PKM Mcpherson Peak 60.60 70 P **P** **05 54 04.6 +1.3**
baz=319,SNR=1000
VORR Voronezh 60.63 319 *eP* **P** **05 54 01.0 -2.0**
VORR *eS* **S** **06 01 27.0 -6.3**
NB201 NORSAR Array S 60.64 340 *eP* **P** **05 54 02.2 -0.8**
comp=Z,46μm,1.1s
NB2 NORSAR Subarra 60.67 340 P **P** **05 54 02.1 -1.0**
comp=Z,26μm,1.1s,baz=24,slow=6.9
NB2 NORSAR Subarra 60.67 340 P **P** **05 54 02.1 -1.0**
baz=24,slow=6.9
NOA NORSAR Array B 60.67 340 P **P** **05 54 02.1 -1.0**
comp=Z,3μm,0.7s,baz=24,slow=6.6,SNR=4775
NOA S **S** **06 01 33.3 -0.3**
comp=Z,82nm,0.8s,baz=27,slow=11,SNR=2.1
NOA PKPPKP 06 22 41.9
comp=Z,22nm,0.8s,baz=203,slow=4.6,SNR=6.9
NOA P4KPbc 06 30 57.7
comp=Z,30nm,1.0s,baz=26,slow=3.4,SNR=13
BORG Borgarnes 60.70 357 *eP'P'ab* **P'P'bc** **06 23 23.0 -1.5**
BORG Borgarnes 60.70 357 *i P* **P** **05 54 04.1 +0.9**
BORG Borgarnes 60.70 357 P **P** **05 54 03.9 +0.7**
comp=Z,3μm,1.1s,baz=5.1,slow=4.1,SNR=207
BORG PKPPKP 06 22 45.7
baz=164,slow=6.7
BORG PKP2bc 06 23 19.2
comp=Z,585nm,1.2s,baz=186,slow=3.7,SNR=1.8
MDND Maddock 60.74 48 P **P** **05 54 04.2 +0.4**
baz=321,SNR=1000
ISA Isabella, Lake 60.75 69 *eP* **P** **05 54 04.1 0.0**
comp=Z,19μm,1.3s
ISA Isabella, Lake 60.75 69 P **P** **05 54 04.2 0.0**
baz=319,SNR=1000
DAC Darwin (Calif) 60.76 68 *eP* **P** **05 54 07.3 +2.9**
comp=Z,16μm,1.1s
BWNR Bhubaneshwar 60.77 264 *ex* **P** **05 53 59.7 -4.6**
MPSI Mapaga 60.83 219 P **P** **05 54 04.4 -0.4**
comp=Z,9μm,1.2s,comp=Z,193μm
NC602 NORSAR Array S 60.88 340 ⇓*iP* **P** **05 54 03.4 -1.1**
NC602 IVmB_BB 05 54 27.4
comp=Z,155μm,2.4s
NC602 *e*PP **PP** **05 56 26.5 -1.9**
NC602 *eS* **S** **06 01 36.8 +0.7**
NC602 IVMs_BB IVMs_BB 06 09 56.1
comp=Z,153μm,17.4s
ARVC Arvin 60.95 70 P **P** **05 54 05.5 +0.1**
baz=319,SNR=720
JHNI Jhansi 60.96 274 *eP* **P** **05 54 09.0 +3.4**
TPNV Topopah Spring 60.98 66 P **P** **05 54 06.7 +1.0**
baz=319,SNR=1000
MPMC Manual Prospec 60.98 68 P **P** **05 54 06.7 +0.8**
baz=319,SNR=1000
HFS Hagfors 60.98 338 P **P** **05 54 04.1 -1.1**
comp=Z,1μm,0.3s,baz=44,slow=4.9,SNR=1780
HFS S **S** **06 01 37.2 -0.3**
comp=Z,684nm,1.0s,baz=36,slow=12,SNR=3.4
SBC Santa Barbara 60.99 71 P **P** **05 54 06.9 +1.2**
baz=319,SNR=167
FURC Furnace Creek, 61.01 67 P **P** **05 54 06.9 +1.2**
baz=319,SNR=1000
VSR Storozhevoye 61.01 319 *eP* **P** **05 54 04.5 -1.0**
SANI Sanana 61.02 212 P **P** **05 54 04.8 -1.2**
comp=Z,13μm,1.3s,comp=Z,316μm
LUWI Luwuk 61.10 216 *eP* **P** **05 54 04.4 -2.2**
comp=Z,16μm,0.9s
LUWI Luwuk 61.10 216 P **P** **05 54 04.6 -2.0**
comp=Z,20μm,1.5s,comp=Z,311μm
SLIT Slitere, Latvi 61.14 332 *eP* **P** **05 54 04.9 -1.2**
SLIT IAmb IAmb 05 54 09.9
comp=Z,52μm,0.8s
VORD Divnogorie 61.16 319 *eP* **P** **05 54 05.4 -1.1**
VORD *eS* **S** **06 01 36.4 -3.5**
VORD *e*SSS SSS 06 08 59.7
VORD smax smax
comp=N,266μm,9.5s
FOO Floro 61.27 343 *eP* **P** **05 54 06.4 -0.6**
LRMC Laurel Mtn Rad 61.31 68 P **P** **05 54 08.6 +0.7**
baz=319,SNR=1000
APSI Ampana 61.36 217 P **P** **05 54 07.3 -1.0**
comp=N,28μm,0.9s,comp=N,293μm
SCZ2 Santa Cruz Isl 61.37 71 P **P** **05 54 08.8 +0.6**
baz=319,SNR=162
OSI Osito Audit: C 61.40 70 P **P** **05 54 09.4 +1.0**
baz=319,SNR=292
HYA Hoyanger 61.48 343 ⇓*iP* **P** **05 54 07.6 -0.8**
HYA IVmB_BB 05 54 30.4
comp=Z,143μm,1.0s
HYA *eS* **S** **06 01 44.1 +0.7**
HYA *e* 06 02 04.5
SKAR Skarslia 61.56 341 ⇓*iP* **P** **05 54 08.3 -0.7**
SKAR IVmB_BB 05 54 32.4
comp=Z,125μm,1.8s
SKAR *e*PP **PP** **05 56 34.1 -0.2**
SKAR *eS* **S** **06 01 45.2 +0.6**
SKAR *e*SS **SS** **06 06 01.4 +1.8**
SKAR IVMs_BB IVMs_BB 06 10 09.1
comp=Z,290μm,15.5s
BLG Laguna Peak, P 61.59 70 P **P** **05 54 10.1 +0.5**
baz=319,SNR=614
EDW2 Edwards Air Fo 61.59 69 P **P** **05 54 10.5 +0.9**
baz=319,SNR=1000
K22A Casper 61.59 56 P **P** **05 54 09.9 +0.2**

baz=320,SNR=1000
IZAR Zarasai 61.64 329 eP P 05 54 09.0 -0.5
IZAR IAmb IAmb 05 54 31.3
comp=Z,4μm,0.7s
RSSD Black Hills 61.64 53 eP P 05 54 10.0 0.0
RSSD Black Hills 61.64 53 P P 05 54 10.3 +0.3
baz=320
SHOC Shoshone, Teco 61.75 67 P P 05 54 11.5 +0.9
baz=319,SNR=878
OSL Oslo 61.78 340⇓iP P 05 54 09.7 -0.6
ISAL Salakas 61.83 329 eP P 05 54 10.2 -0.5
ISAL IAmb IAmb 05 54 26.8
comp=Z,4μm,0.6s
SUE Sulen 61.83 343⇓iP P 05 54 09.9 -0.6
SUE IVmB_BB 05 54 33.3
comp=Z,158μm,1.0s
SUE eS S 06 01 48.9 +1.2
SUE IVMs_BB IVMs_BB 06 10 14.7
comp=Z,136μm,13.6s
IDID Didziasalis 61.86 329 eP P 05 54 10.4 -0.5
IDID IAmb IAmb 05 54 23.1
comp=Z,7μm,0.9s
DECC Green Verdugo 61.88 70 P P 05 54 12.2 +0.7
baz=319,SNR=806
JBP Jabalpur 61.89 271 eP P 05 54 11.1 -0.6
JBP AMB AMB 05 54 39.6
comp=Z,20μm,1.1s
JBP ex x 06 02 11.4
GSC Goldstone, Bar 61.92 68 eP P 05 54 12.3 +0.5
comp=Z,15μm,1.0s
GSC ePP PP 05 56 35.0 -3.2
GSC Goldstone, Bar 61.92 68 P P 05 54 12.6 +0.9
baz=319,SNR=1000
AGMN Agassiz Nation 61.96 45 eP P 05 54 10.8 -0.9
comp=Z,17μm,1.3s
AGMN Agassiz Nation 61.96 45 P P 05 54 10.8 -0.9
baz=322,SNR=1000
SBUM Sibu 61.97 228 eP P 05 54 13.4 +1.2
comp=Z,59μm,1.9s
SBUM Sibu 61.97 228 P P 05 54 14.0 +1.8
IIGN Ignalina 61.99 329 eP P 05 54 11.4 -0.3
IIGN IAmb IAmb 05 54 28.5
comp=Z,9μm,0.5s
SNCC San Nicolas Is 61.99 71 P P 05 54 13.0 +0.9
baz=319,SNR=111
PASC Pasadena Art C 62.02 70 eP P 05 54 12.8 +0.4
comp=Z,24μm,1.1s
RRX Edison Barstow 62.13 68 P P 05 54 14.2 +1.1
baz=319,SNR=80
NACGM Naroch 62.20 328 eP P 05 54 12.0 -1.1
MICGM Minsk 62.20 328⇓iP P 05 54 12.0 -1.2
MICGM epP pP 05 56 12.0 +1.2
MICGM ePP PP 05 56 48.0 +8.0
MICGM esP sP 05 57 12.0 -2.8
MICGM ePPP PPP 05 58 20.0
MICGM eS S 06 01 50.0 -2.5
MICGM SM 06 02 01.0
comp=N,390nm,5.0s
MICGM SM 06 02 04.0
comp=E,411nm,5.0s
MICGM esS sS 06 05 33.0 +10
MICGM eSS SS 06 06 54.0 +44
MICGM eSSS SSS 06 09 41.0
MICGM eLR LR 06 18 00.0
MICGM LRM MLR 06 23 00.0
comp=E,102nm,12.0s
MICGM LRM MLR 06 23 08.0
comp=N,140nm,12.0s
MICGM LRM MLR 06 23 10.0
comp=Z,298nm,14.0s
MNK Minsk 62.20 328⇓iP P 05 54 12.0 -1.2
MNK e*PP pP 05 56 12.0 +1.2
MNK e 05 56 48.0
MNK eSP 05 57 12.0
MNK ePPP PPP 05 58 20.0
MNK eS S 06 01 50.0 -2.5
MNK smax smax
comp=N,390μm,5.0s
MNK smax smax
comp=E,411μm,5.0s
MNK MLR MLR
comp=E,102μm,12.0s
MNK MLR MLR
comp=N,140μm,12.0s
MNK MLR MLR
comp=Z,298μm,14.0s
BFSC Mount Baldy Ra 62.26 69 P P 05 54 14.6 +0.6
baz=319,SNR=1000
BNDI Bandanaira 62.27 207 P P 05 54 14.1 0.0
comp=Z,43μm,2.1s,comp=Z,767μm
KONO Kongsberg 62.27 340 eP P 05 54 12.8 -0.7
comp=Z,20μm,1.1s
KONO Kongsberg 62.27 340d iP P 05 54 12.8 -0.7
KONO Kongsberg 62.27 340⇓iP P 05 54 13.0 -0.5
KONO IVmB_BB 05 54 35.8
comp=Z,198μm,1.4s
KONO eS S 06 01 54.2 +1.1
KONO eSS SS 06 06 12.8 +2.3
KONO IVMs_BB IVMs_BB 06 10 30.9
comp=Z,318μm,19.0s
TUQ Turquoise Moun 62.29 67 P P 05 54 15.2 +1.0
baz=319,SNR=1000
FMP Fort Macarthur 62.31 70 P P 05 54 14.8 +0.6
baz=319,SNR=172
BER Bergen 62.37 343⇓iP P 05 54 13.6 -0.5
BER IVmB_BB 05 54 36.8
comp=Z,222μm,0.9s
BER eS S 06 01 55.8 +1.5
BER IVMsBB 06 10 24.9
comp=Z,126μm,17.5s
SOFL Sornfelli, Far 62.44 350⇓eP P 05 54 14.2 -0.5
SOFL IAmb IAmb 05 54 37.4
comp=Z,15μm,1.1s
DGPR DIGLIPUR 62.44 253 eP P 05 54 14.4 -0.9
DGPR IAmb IAmb 05 54 19.6
comp=Z,9μm,0.7s
DGPR IAMs_20 IAMs_20 06 23 50.8
comp=Z,135μm,11.1s
CIS Catalina Islan 62.48 71 P P 05 54 15.8 +0.5
baz=320,SNR=310
SGKI Sangatta, Kali 62.48 221 P P 05 54 10.8 -4.7
comp=Z,24μm,1.1s,comp=Z,338μm
PABE Paberze 62.52 330 eP P 05 54 14.4 -0.7
PABE IAmb IAmb 05 54 26.9
comp=Z,30μm,1.1s
HEC Hector,Ludlow 62.52 68 P P 05 54 16.7 +1.0
baz=320,SNR=1000
SMKI Samarinda 62.56 222 P P 05 54 17.5 +1.5
comp=Z,11μm,1.2s,comp=Z,236μm
ODD1 Odda 62.58 342⇓iP P 05 54 14.8 -0.8
ODD1 IVmB_BB 05 54 38.6
comp=Z,188μm,1.6s
ODD1 ePP PP 05 56 42.9 -0.2
ODD1 eS S 06 01 59.2 +2.1
ODD1 e 06 02 16.9
PBUR Paburg 62.63 332 eP P 05 54 15.1 -0.8
PBUR IAmb IAmb 05 54 27.5
comp=Z,19μm,1.1s
BBRC Big Bear Solar 62.64 69 P P 05 54 17.4 +0.8
baz=320,SNR=1000
O20A White River Ci 62.68 59 P P 05 54 17.2 +0.5
baz=320,SNR=1000
SCI2 San Clemente I 62.73 71 P P 05 54 17.6 +0.7
baz=320,SNR=99
GEYT Alibeck 62.80 298 P P 05 54 17.1 -0.2
comp=Z,3μm,0.6s,baz=2.7,slow=3.1,SNR=2125
GEYT S S 06 02 00.2 -0.2
comp=Z,101nm,0.7s,baz=289,slow=5.3,SNR=2.0
GEYT PKPPKP P'P'df 06 22 33.4 -38
comp=Z,88nm,1.0s,baz=256,slow=4.4,SNR=9.7
GMRC Granite Mounta 62.92 68 P P 05 54 19.2 +0.9
baz=320,SNR=1000
MURC Murrieta 62.99 70 P P 05 54 19.1 +0.5
baz=320,SNR=1000
IVI Ivigtut 63.07 12 eP P 05 54 17.1 -1.4
comp=Z,18μm,0.8s
BLS5 Blasjo 63.07 342⇓iP P 05 54 18.2 -0.5
BLS5 IVmB_BB 05 54 41.5
comp=Z,101μm,1.2s
BLS5 eS S 06 02 03.8 +0.8
BLS5 IVMs_BB IVMs_BB 06 10 38.1
comp=Z,246μm,15.4s
PHWY Pilot Hill 63.14 56 eP P 05 54 19.5 -0.3
comp=Z,5μm,0.9s
KRAB Krabi 63.19 244 P P 05 54 20.4 +0.3
N23A Red Feather La 63.22 57 P P 05 54 20.8 +0.5
baz=321,SNR=1000
TRTT Trang 63.26 243 P P 05 54 20.3 -0.2
comp=Z,7μm,1.3s,comp=Z,290μm
BHPL Bhopal 63.32 273 eP P 05 54 19.6 -1.3
BHPL IAmb IAmb 05 54 26.5
comp=Z,14μm,0.8s
BELC Belle Mtn. Jos 63.33 68 P P 05 54 21.3 +0.3
baz=320,SNR=1000
SKLT Songkhla 63.35 242 P P 05 54 21.3 +0.2
comp=Z,8μm,0.8s,comp=Z,168μm
SKLT Songkhla 63.35 242 P P'P'df 06 23 14.0 +5.5
PFO Pinyon Flats O 63.38 69 eP P 05 54 21.1 -0.2
comp=Z,289nm,1.6s
PFO Pinyon Flats O 63.38 69 P P 05 54 21.6 +0.4
baz=320,SNR=1000
PFO Pinyon Flats O 63.38 69 P P 05 54 21.7 +0.5
comp=Z,3μm,0.8s,baz=326,slow=6.8
PFO P4KPbc 06 31 13.2
comp=Z,30nm,1.2s,baz=337,slow=6.4,SNR=3.6
BKB Balikpapan 63.42 222 P P 05 54 21.8 +0.3
comp=Z,42μm,1.1s,comp=Z,617μm
PV09 Paradox Valley 63.48 60 eP P 05 54 22.1 +0.1
KMY Karmoy 63.49 342⇓iP P 05 54 20.9 -0.3
KMY IVmB_BB 05 54 44.7
comp=Z,142μm,1.8s
KMY eS S 06 02 08.7 +0.8
KMY eSKSac SKSac 06 03 14.3 -0.2
NEE2 Needles Airpor 63.49 67 P P 05 54 22.3 +0.5
baz=320,SNR=217
109C Cap Elliot, M 63.58 70 P P 05 54 22.9 +0.5
baz=320,SNR=351
LRW Lerwick 63.62 346⇓eP P 05 54 21.0 -1.0
LRW IAmb IAmb 05 54 45.7
comp=Z,6μm,0.9s
IRM Iron Mountain 63.67 68 P P 05 54 24.0 +1.1
baz=320,SNR=1000
KSM Kuching 63.68 230 P P 05 54 24.0 +0.8
SUSD Miller 63.69 50 P P 05 54 22.4 -0.4
baz=322,SNR=614
HOMB Homborsund 63.76 340 eP P 05 54 22.4 -0.6
HOMB IVmB_BB 05 54 46.0
comp=Z,129μm,1.0s
HOMB eS S 06 02 12.0 +0.8
HOMB IVMs_BB IVMs_BB 06 10 56.6
comp=Z,256μm,20.7s
PBA Port Blair 63.79 252 eP P 05 54 23.5 -0.4
PBA IAmb IAmb 05 54 35.7
comp=Z,10μm,0.6s
KDI Kendari 63.88 215 P P 05 54 24.5 +0.1
comp=Z,11μm,1.0s,comp=Z,221μm
BC3 Big Chuckawall 63.89 68 P P 05 54 24.9 +0.5
baz=320,SNR=1000
PKDT Phuket 63.92 245 P P 05 54 24.5 -0.2
comp=Z,13μm,1.2s,comp=Z,314μm
PKDT Phuket 63.92 245 PKP P'P'df 06 23 19.0 +11
MTKI Muara Teweh, K 63.92 224 P P 05 54 24.5 -0.2
comp=Z,18μm,0.9s,comp=Z,455μm
MONP2 Monument Peak 63.95 69 P P 05 54 25.5 +0.5
baz=320,SNR=585
SNART Snartemo 63.95 341⇓iP P 05 54 24.0 -0.2
SNART eS S 06 02 14.0 +0.6
BAR Barrett 63.98 70 eP P 05 54 25.6 +0.7
comp=Z,12μm,0.9s
TTSI Tana Toraja 63.99 218 P P 05 54 23.9 -1.2
comp=Z,5μm,0.8s,comp=Z,171μm
EYMN Ely 63.99 43 P P 05 54 23.8 -1.0
baz=324,SNR=1000
NGP Nagpur 64.00 270 eP P 05 54 23.8 -1.4
NGP IAmb IAmb 05 54 30.6
comp=Z,11μm,1.2s
NGP ex x 06 02 17.9
SUW Suwalki 64.04 330 eP P 05 54 23.7 -1.2
SUW ePP PP 05 56 43.0 -13
SUW eS S 06 02 15.7 +1.0
SUW e 06 10 46.7
SUW Suwalki 64.04 330 eP P 05 54 23.2 -1.6
comp=Z,41μm,1.1s
SUW Suwalki 64.04 330 eP P 05 54 23.7 -1.2
SUW eS S 06 02 15.7 +1.0
MAK Makhachkala 64.06 308c iP P 05 54 24.5 -0.7
MAK e 05 56 59.1
MAK eS S 06 02 19.8 +4.5
MAK e 06 03 21.4
MAK eSS SS 06 06 46.9 +8.0
MAK pmax pmax
comp=Z,292μm,6.0s
MAK MLR MLR
comp=E,402μm,16.0s
MAK MLR MLR
comp=Z,221μm,16.0s
MAK MLR MLR
comp=N,270μm,16.0s
PDMCI Parker Dam,Lak 64.10 67 P P 05 54 26.4 +0.8
baz=320,SNR=1000
PMG Port Moresby 64.19 187 eP P 05 54 26.4 +0.1
comp=N,47μm,1.8s
PMG Port Moresby 64.19 187ceP P 05 54 26.7 +0.4
PMG Port Moresby 64.19 187 P P 05 54 26.9 +0.5
comp=N,2μm,0.8s,baz=18,slow=5.6,SNR=1.7
PMG S S 06 02 18.6 +1.2
comp=N,372nm,1.0s,baz=327,slow=6.6,SNR=3.0
KNTN Kanton 64.21 141 eP P 05 54 27.1 +0.6
comp=N,27μm,1.1s
ISCO Idaho Springs 64.22 57 P P 05 54 27.5 +0.8
baz=321,SNR=1000
HNR Honiara 64.24 173 eP P 05 54 26.0 -0.6
HNR eS S 06 02 20.0 +2.0
HNR Honiara 64.24 173 eP P 05 54 26.2 -0.4
comp=N,21μm,1.1s
HNR Honiara 64.24 173 P P 05 54 26.4 -0.2
comp=N,3μm,0.8s,baz=3.3,slow=7.7
HNR S S 06 02 19.6 +1.6
comp=N,913nm,1.1s,baz=49,slow=19,SNR=2.9
SWSC Sam W. Stewart 64.25 69 P P 05 54 27.0 +0.5
baz=320,SNR=500
IKP In-Ko-Pah, Jac 64.30 69 P P 05 54 27.8 +0.7
baz=320,SNR=1000
Y12C Blythe 64.32 68 P P 05 54 28.0 +1.0
baz=320,SNR=1000
WUAZ Wupatki 64.62 64 P P 05 54 30.3 +1.2
baz=321,SNR=1000
GROC Groznyy 64.64 310⇓iP P 05 54 27.9 -0.9
GROC e 05 54 54.7
GROC e*PP pP 05 56 24.7 -3.2
GROC e*SP sP 05 57 30.9 -0.5
GROC eS S 06 02 20.6 -1.6
GLA Glamis 64.69 68 P P 05 54 30.4 +1.0
baz=320,SNR=1000
MVCO Mesa Verde 64.80 61 eP P 05 54 30.4 +0.1
comp=N,17μm,1.0s
MVCO Mesa Verde 64.80 61 P P 05 54 30.7 +0.4
baz=321,SNR=1000
SPSI Sidrap Palu 64.86 218 P P 05 54 29.6 -1.0
comp=N,10μm,1.4s,comp=N,188μm
C40A Isle Royale Na 64.92 41 P P 05 54 28.9 -1.6
baz=326,SNR=255
KULM Kulim 64.94 241 eP P 05 54 30.8 -0.3
comp=N,19μm,1.1s
KULM Kulim 64.94 241 P P 05 54 32.0 +0.9
AKASG Malin Array Be 65.00 325 eP P 05 54 29.1 -1.8
AKASG Malin Array Be 65.00 325 P P 05 54 29.6 -1.3
comp=N,2μm,0.5s,baz=32,slow=7.1,SNR=741
AKASG S S 06 02 25.4 -0.9
comp=N,442nm,0.9s,baz=30,slow=11,SNR=5.3
AKASG PKPPKP P'P'df 06 22 22.1 -46
comp=N,115nm,1.0s,baz=216,slow=3.9,SNR=12
AKASG P4KPbc 06 31 18.2
comp=N,2.5nm,0.4s,baz=32,slow=3.9,SNR=2.3
AKBB Malin Array Si 65.00 325 eP P 05 54 29.2 -1.7
comp=N,18μm,1.0s
AKBB eS S 06 02 26.8 +0.6
AKBB eP'P'ab P'P'bc 06 23 14.9 +1.1
KIEV Kiev 65.01 325 eP P 05 54 29.0 -2.0
comp=N,17μm,1.0s
KIEV Kiev 65.01 325⇓iP P 05 54 29.6 -1.4
KIEV Kiev 65.01 325 iP P 05 54 29.7 -1.4
SNR=811
KIEV Kiev 65.01 325 iP P 05 54 29.6 -1.4
KIEV pmax pmax
comp=Z,22μm,1.1s
OGNE Ogallala 65.04 54 P P 05 54 32.0 +0.4
baz=322,SNR=1000
E38A The Farm, Brul 65.06 44 P P 05 54 30.5 -1.0
baz=325,SNR=1000
Q24A Divide 65.10 57 P P 05 54 32.5 +0.3
baz=322,SNR=1000
BNSI Bone 65.15 217 P P 05 54 31.7 -0.7
comp=Z,13μm,1.2s,comp=Z,287μm
S22A 4UR Ranch, Cre 65.22 59 P P 05 54 33.8 +0.8
baz=321,SNR=1000
SAUI Saumlaki 65.25 204 P P 05 54 36.1 +3.1
BSD Bornholm Skovb 65.26 335 iP P 05 54 31.3 -1.2
BSD Bornholm Skovb 65.26 335 iP P 05 54 31.3 -1.2
ECSD EROS Data Cent 65.27 49 eP P 05 54 32.4 -0.4
comp=Z,34μm,1.2s
ECSD EROS Data Cent 65.27 49 P P 05 54 32.3 -0.6
baz=323,SNR=1000
MUD Monsted U'grnd 65.32 339⇓iP P 05 54 32.6 -0.2
MUD Monsted U'grnd 65.32 339⇓iP P 05 54 32.6 -0.2
COP Copenhagen 65.32 337⇓iP P 05 54 32.3 -0.6
COP Copenhagen 65.32 337⇓iP P 05 54 32.3 -0.6
comp=Z,5μm,0.9s
F37A Hinrichs Farm, 65.34 45 P P 05 54 32.3 -0.9
baz=325,SNR=756
NCK Nalchik 65.38 311d iP P 05 54 33.1 -0.4
NCK pmax pmax
comp=Z,9μm,0.6s
KVAR Kislovodsk Arr 65.40 312 P P 05 54 33.2 -0.5
comp=Z,541nm,0.6s,baz=90,slow=20
KVAR S S 06 02 30.9 -0.5
comp=Z,480nm,1.0s,baz=33,slow=17,SNR=1.7
KVAR PKPPKP P'P'df 06 22 23.2 -44
comp=Z,37nm,0.8s,baz=263,slow=19,SNR=8.2
KIV Kislovodsk 65.40 312 eP P 05 54 33.5 -0.3
KIV Kislovodsk 65.40 312 eP P 05 54 33.4 -0.3
comp=Z,12μm,0.8s
KIV eS S 06 02 35.0 +3.5
KIV eP'P'ab P'P'df 06 23 18.6 +12
KIV Kislovodsk 65.40 312⇑iP P 05 54 34.0 +0.3
KIV Kislovodsk 65.40 312 iP P 05 54 33.5 -0.3
SNR=442
KIV Kislovodsk 65.40 312 iP P 05 54 33.4 -0.3
KIV pmax pmax
comp=Z,13μm,0.8s
KIV Kislovodsk 65.40 312 P P 05 54 33.5 -0.3
SNR=3754
KIV P P 05 54 33.5 -0.3
SNR=3754
IPM Ipoh 65.44 240 eP P 05 54 33.9 -0.3
comp=Z,9μm,0.8s
IPM Ipoh 65.44 240 P P 05 54 34.0 -0.3
F38A Pierce - Schro 65.46 44 P P 05 54 33.6 -0.3
baz=325,SNR=1000
113A Mohawk Valley, 65.47 68 eP P 05 54 35.0 +0.8
comp=Z,30μm,1.6s
KBZ Khabaz 65.49 312 P P 05 54 33.9 -0.2
comp=Z,5μm,1.0s,baz=57,slow=4.0,SNR=2096
KBZ S S 06 02 34.7 +2.4
comp=Z,339nm,1.2s,baz=164,slow=5.3,SNR=1.5
KBZ PKPPKP P'P'df 06 22 21.7 -45
comp=Z,299nm,1.1s,baz=209,slow=2.1,SNR=8.9
BIGH Upper Bighouse 65.57 347 eP P 05 54 33.4 -0.9
BIGH IAmb IAmb 05 54 56.2
comp=Z,7μm,0.9s
SEKA Sheki 65.58 307 P P 05 54 33.8 -1.1
E39A Mellen 65.64 43 P P 05 54 34.1 -1.0
baz=325,SNR=1000
SPMN Marine on St. 65.68 45 P P 05 54 34.4 -0.9
baz=325,SNR=1000
MLA1 Latheron 65.68 347⇓iP P 05 54 34.1 -1.0
W18A Petrified Fore 65.78 63 P P 05 54 37.3 +1.0
baz=321,SNR=900
ZEI Tsey 65.81 310 eP P 05 54 28.4 -8.0
ZEI pmax pmax
comp=Z,9μm,1.0s
SCHQ Schefferville 65.83 24 eP P 05 54 34.6 -1.5
comp=Z,8μm,0.9s
SCHQ eS S 06 02 38.5 +2.5
SCHQ eP'P'ab P'P'bc 06 23 10.5 -1.1
SCHQ Schefferville 65.83 24 P P 05 54 35.1 -1.0
comp=Z,1μm,0.8s,baz=354,slow=6.5,SNR=403
SCHQ S S 06 02 34.0 -2.0
comp=Z,405nm,0.8s,baz=73,slow=20,SNR=3.3
SCHQ PKPPKP P'P'df 06 22 22.3 -44
comp=Z,33nm,0.9s,baz=141,slow=6.5,SNR=3.6
SCHQ PKP2bc 06 23 03.9
comp=Z,174nm,0.9s,baz=197,slow=5.2,SNR=8.5
KAPI Kappang 65.84 217 eP P 05 54 36.4 -0.3
comp=Z,24μm,1.6s
KAPI Kappang 65.84 217 P P 05 54 36.8 +0.1
SNR=865
KAPI P P 05 54 36.8 +0.1
SNR=865
KAPI Kappang 65.84 217 S S 06 02 38.0 +0.9
comp=Z,224nm,1.1s,baz=282,slow=23,SNR=7.9
E40A Wakefield 65.85 43 P P 05 54 35.8 -0.6
baz=326,SNR=1000
D41A Chassel 65.85 41 P P 05 54 35.3 -1.1
baz=326,SNR=1000
RSC Scourie 65.87 348⇓eP P 05 54 34.9 -1.3
SDCO Great Sand Dun 65.88 58 P P 05 54 37.5 +0.4
baz=322,SNR=1000
F39A Loretta 65.88 44 P P 05 54 35.9 -0.7
baz=325,SNR=1000
NEY Neytrino 65.95 312d iP P 05 54 36.6 -0.7
XMAS Kiritimati 65.97 124 eP P 05 54 37.7 +0.1
comp=Z,30μm,1.1s
MNGR Mingechevir, A 65.98 307 P P 05 54 37.4 +0.2
BKSI Bulukumba 66.00 217 P P 05 54 36.7 -0.9
comp=Z,7μm,1.1s,comp=Z,133μm
G38A Ridgeland 66.11 45 P P 05 54 36.7 -1.3
baz=325,SNR=930
RGN Rugen 66.16 336 eP P 05 54 37.4 -0.7
comp=Z,24μm,1.1s
ONI Oni 66.17 311 eP P 05 54 38.4 -0.1
F40A Park Falls 66.19 43 P P 05 54 37.6 -0.9
baz=326,SNR=1000
E41A Kenton 66.19 42 P P 05 54 37.4 -1.1
baz=326,SNR=1000
KSCO Kaye Shedlock' 66.28 56 P P 05 54 39.2 -0.2
baz=322,SNR=638
TBLG Delisi 66.28 309 eP P 05 54 39.0 -0.2
TBLG Delisi 66.28 309 eP P 05 54 38.7 -0.4
comp=Z,85μm,1.6s
G39A Holcombe 66.29 44 P P 05 54 37.8 -1.3
baz=325,SNR=662
BTNK Botanikuri 66.30 309 iP P 05 54 39.1 -0.1
H38A Maiden Rock 66.34 45 P P 05 54 38.5 -0.9
baz=325,SNR=450
GKP Gorka Klasztor 66.34 333 eP P 05 54 38.5 -0.7
GKP ePP PP 05 56 59.5 -16
GKP eS S 06 02 43.0 +1.0
GKP Gorka Klasztor 66.34 333 eP P 05 54 38.5 -0.7
GKP eS S 06 02 43.0 +1.0
MCD Coleburn Disti 66.37 347⇓iP P 05 54 38.4 -1.0
MYKOM Kota Tinggi 66.38 236 eP P 05 54 40.5 +0.4
comp=Z,10μm,1.1s
MYKOM Kota Tinggi 66.38 236 P P 05 54 41.0 +1.0
RRR Rubha Reidh 66.43 348 eP P 05 54 38.3 -1.4
RRR ⇓eP P 05 54 38.5 -1.1
RRR eP P 05 54 38.7 -1.0
GANJ Ganja 66.43 307 P P 05 54 39.7 -0.4
BGNE Belgrade 66.45 51 eP S 06 02 58.9 +15
BGNE Belgrade 66.45 51 P P 05 54 39.8 -0.4
baz=323,SNR=1000
RRH Rhenigidale 66.47 349⇓eP P 05 54 38.7 -1.2
MME1 Meikle Cairn 66.59 346⇓iP P 05 54 39.2 -1.5
214A Organ Pipe Nat 66.61 68 P P 05 54 42.1 +0.7
baz=321,SNR=1000
E42A Champion 66.63 41 P P 05 54 40.1 -1.1
baz=327,SNR=899
BEL Belsk 66.65 330 eP P 05 54 41.1 -0.1
BEL epP pP 05 56 58.3 +17
BEL eS S 06 02 47.5 +1.9
BEL e 06 11 30.8
BEL Belsk 66.65 330 eP P 05 54 41.1 -0.1
BEL eS S 06 02 47.5 +1.9
MDO Dochfour 66.65 347⇓iP P 05 54 39.5 -1.6
G40A Rib Lake 66.70 44 P P 05 54 40.7 -0.9
baz=326,SNR=1000
KAC Achnashellach 66.72 348⇓iP P 05 54 40.2 -1.3
FUNA Funafuti 66.72 152 eP P 05 54 42.1 0.0
comp=Z,10μm,1.1s
F41A Three Lakes 66.74 43 P P 05 54 41.1 -0.8
baz=326,SNR=1000
H39A Augusta 66.75 45 P P 05 54 40.7 -1.2
baz=326,SNR=242
TPRI Tanjung Pinang 66.82 235 P P 05 54 43.3 +0.6
comp=Z,7μm,1.0s,comp=Z,250μm
LKRN Lenkeran, Azer 66.82 305 P P 05 54 42.0 -0.4
PBKI Pangkalan Bun 66.84 226 P P 05 54 43.7 +0.8
comp=Z,50μm,0.9s,comp=Z,475μm

T25A	Trinidad	66.89	58	P		P	05 54 43.1	-0.1
	baz=322,SNR=924							
LHMI	Lhok Sumawe	66.89	244	*e*P		P	05 54 44.2	+1.0
	comp=Z,35μm,1.1s							
LHMI	Lhok Sumawe	66.89	244	P		P	05 54 44.0	+0.8
	comp=Z,30μm,1.9s,comp=Z,724μm							
ANN	Anapa	66.90	316	*d i*P		P	05 54 41.4	-1.4
ANN				*e**PP		pP	05 56 42.9	-0.1
ANN				*e*S		S	06 02 48.8	0.0
ANN				*e*SS		SS	06 07 25.6	+3.3
ANN				pmax		pmax		
	comp=E,9μm,2.2s							
ANN				pmax		pmax		
	comp=E,37μm,8.9s							
ANN				pmax		pmax		
	comp=Z,228μm,8.9s							
ANN				pmax		pmax		
	comp=N,70μm,8.9s							
DRUM	Mains of Drumt	66.91	346⇓	*e*P		P	05 54 41.3	-1.4
DRUM				IAmb		IAmb	05 55 04.8	
	comp=Z,14μm,1.1s							
KPL	Plockton	66.92	348⇓	*i*P		P	05 54 41.4	-1.3
KPL				IAmb		IAmb	05 55 04.5	
	comp=Z,8μm,1.0s							
SOC	Sochi	66.96	314	*d i*P		P	05 54 42.5	-0.7
SOC				*e**PP		pP	05 56 41.0	-2.5
SOC				*e*PPP		PPP	05 59 07.2	
SOC				*e*S		S	06 02 48.0	-1.6
SOC				*e*SSS		SSS	06 10 43.8	
CMBY	CAMPBELL BAY	67.00	248	*e*P		P	05 54 43.4	-0.5
CMBY				IAmb		IAmb	05 54 47.4	
	comp=Z,15μm,1.0s							
E43A	Lone Tree Farm	67.02	41	P		P	05 54 42.3	-1.3
	baz=327,SNR=652							
AKH	Akhalkalaki	67.10	310	*e*P		P	05 54 44.8	+0.4
AKH	Akhalkalaki	67.10	310	*e*P		P	05 54 44.3	0.0
	comp=Z,19μm,1.1s							
AKH	Akhalkalaki	67.10	310⇓	*i*P		P	05 54 44.6	+0.2
F42A	Maple Grove Fa	67.10	42	P		P	05 54 43.1	-1.0
	baz=327,SNR=102							
H40A	Chili	67.16	44	P		P	05 54 43.6	-0.8
	baz=326,SNR=1000							
E44A	Grand Marais A	67.22	40	P		P	05 54 43.8	-1.0
	baz=328,SNR=281							
HYB	Hyderabad	67.22	268⇓	*i*P		P	05 54 44.0	-1.3
HYB				*e*pP		pP	05 56 44.0	-1.4
HYB				*e*PP		PP	05 57 23.0	-1.2
HYB				*e*sP		sP	05 57 42.0	-6.2
HYB				*e*S		S	06 02 50.0	-3.4
HYB				*e*sS		sS	06 06 28.0	-0.4
HYB	Hyderabad	67.22	268	*e*P		P	05 54 44.8	-0.5
I39A	Houston	67.33	45	P		P	05 54 44.2	-1.3
	baz=326,SNR=1000							
EDU	Dundee	67.34	346⇓	*i*P		P	05 54 44.1	-1.2
EPOS	Posof	67.36	310	*i* P		P	05 54 46.1	+0.2
MATQ	Matagami	67.38	33	P		P	05 54 44.3	-1.4
	baz=331,SNR=430							
F43A	Flat Rock, Esc	67.41	41	P		P	05 54 44.7	-1.2
	baz=327,SNR=826							
TUC	Tucson	67.42	66	*e*P		P	05 54 46.3	0.0
	comp=Z,6μm,1.0s							
TUC	Tucson	67.42	66	P		P	05 54 47.0	+0.7
	baz=322							
G42A	Mountain	67.42	42	P		P	05 54 45.0	-1.0
	baz=327,SNR=1000							
LVV	L'vov	67.45	327	*e*P		P	05 54 45.6	-0.5
LVV				*PP		pP	05 56 53.0	+6.4
LVV				*e*S		S	06 02 55.0	-0.1
LVV				pmax		pmax		
	comp=Z,52μm,1.5s							
H41A	Junction City	67.45	44	P		P	05 54 45.2	-1.0
	baz=326,SNR=1000							
BSI	Banda Aceh	67.54	246	P		P	05 54 44.5	-2.7
	comp=Z,19μm,0.8s							
GNI	Garni	67.55	308	*e*P		P	05 54 47.9	+0.7
GNI	Garni	67.55	308	*e*P		P	05 54 47.2	+0.1
	comp=Z,27μm,0.9s							
GNI	Garni	67.55	308	*i* P		P	05 54 47.4	+0.3
	SNR=42							
GNI	Garni	67.55	308	*i* P		P	05 54 47.7	+0.6
GNI				pmax		pmax		
	comp=Z,44μm,1.1s							
GNI	Garni	67.55	308	P		P	05 54 47.8	+0.7
	SNR=8323							
GNI				P		P	05 54 47.8	+0.7
	SNR=8323							
GNI	Garni	67.55	308	P		P	05 54 47.4	+0.3
	comp=Z,2μm,0.8s,baz=9.1,slow=1.4,SNR=767							
GNI				S		S	06 02 58.2	+1.3
	comp=Z,347nm,1.0s,baz=299,slow=19,SNR=2.1							
F44A	Big Bay de Noc	67.58	41	P		P	05 54 45.7	-1.2
	baz=327,SNR=1000							
TASM	ASL Pad, Albuq	67.59	61	P		P	05 54 48.0	+0.5
	baz=322,SNR=1000							
TASM	ASL Pad, Albuq	67.59	61	P		P	05 54 48.0	+0.5
	baz=322,SNR=1000							
ANMO	Albuquerque	67.59	61	*e*P		P	05 54 47.6	+0.1
	comp=Z,11μm,1.0s							
ANMO	Albuquerque	67.59	61	*i* P		P	05 54 48.1	+0.6
ANMO				pmax		pmax		
	comp=Z,13μm,1.1s							
ANMO	Albuquerque	67.59	61	P		P	05 54 48.1	+0.6
	baz=322							
ANMO	Albuquerque	67.59	61	P		P	05 54 47.9	+0.4
	comp=Z,1μm,0.7s,baz=316,slow=7.0,SNR=1127							
INVG	Invergeldie, C	67.60	347⇓	*i*P		P	05 54 45.7	-1.2
INVG				IAmb		IAmb	05 55 08.3	
	comp=Z,6μm,0.8s							
I40A	Norwalk	67.67	45	P		P	05 54 46.5	-1.0
	baz=326,SNR=1000							
J39A	Decorah	67.68	46	P		P	05 54 46.0	-1.6
	baz=326,SNR=1000							
D46A	Sault St. Mari	67.68	39	P		P	05 54 45.8	-1.7
	baz=328,SNR=1000							
G43A	Wallace	67.69	42	P		P	05 54 46.7	-1.0
	baz=327,SNR=619							
EBH	Black Hill	67.70	346⇓	*i*P		P	05 54 46.5	-1.0
E45A	Wooded Hills,	67.72	40	P		P	05 54 46.3	-1.5
	baz=328,SNR=548							
BATM	Batumi	67.73	311	*e*P		P	05 54 47.1	-0.9
BATM	Batumi	67.73	311⇑	*i*P		P	05 54 47.2	-0.8
BHJ	Bhuj	67.78	279	*e*P		P	05 54 48.1	-0.4
BHJ				IAmb		IAmb	05 54 58.3	
	comp=Z,11μm,0.7s							
CBKS	Cedar Bluff	67.80	54	P		P	05 54 47.7	-0.8
	baz=324,SNR=1000							
I41A	Arkdale	67.83	44	P		P	05 54 47.6	-1.0
	baz=326,SNR=492							
EAB	Aberfoyle	67.87	347⇓	*i*P		P	05 54 47.6	-0.9
BCA	Borcka	67.89	311	*e*P		P	05 54 48.1	-0.9
BCA	Borcka	67.89	311⇓	*i*P		P	05 54 48.2	-0.8
ESY	Stoneypath	67.90	346⇓	*i*P		P	05 54 47.4	-1.3
TASB	TASBURUN-IGDIR	67.91	308	*e*P		P	05 54 49.5	+0.3
LAWE	Loch Awe, Argy	67.94	347⇓	*i*P		P	05 54 48.0	-0.9
LAWE				IAmb		IAmb	05 55 11.0	
	comp=Z,12μm,0.8s							
PSI	Prapat	67.94	241	*e*P		P	05 54 49.1	-0.7
	comp=Z,8μm,0.7s							
RUE	Ruedersdorf	67.94	335	*e*P		P	05 54 48.5	-0.5
RUE				IAmb		IAmb	05 54 53.2	
	comp=Z,9μm,0.9s							
DIGO	Kars	67.95	309	*i* P		P	05 54 50.7	+1.0
EDI	Edinburgh	67.97	346⇓	*i*P		P	05 54 47.7	-1.4
EDI				IAmb		IAmb	05 55 13.0	
	comp=Z,7μm,0.8s							
H42A	Shiocton	67.99	43	P		P	05 54 48.6	-0.9
	baz=327,SNR=917							
NAX	Nakhchivan	67.99	307	P		P	05 54 49.2	-0.5
LPM	Los Pinos Moun	68.00	62	*e*P		P	05 54 51.2	+1.2
DSRI	Dabo	68.02	234	P		P	05 54 50.3	+0.3
	comp=Z,24μm,0.9s,comp=Z,516μm							
J40A	Soldiers Grove	68.03	45	P		P	05 54 48.2	-1.5
	baz=326,SNR=384							
KWP	Kalwaria Pacla	68.03	328	*e*P		P	05 54 49.4	-0.2
KWP				*e*PP		pP	05 57 04.7	+14
KWP				*e*S		S	06 03 00.8	-1.0
KWP				*e*			06 11 55.8	
KWP	Kalwaria Pacla	68.03	328	*e*P		P	05 54 49.4	-0.2
KWP				*e*S		S	06 03 00.8	-1.0
E46A	Sault Ste Mari	68.03	39	P		P	05 54 47.9	-1.7
	baz=328,SNR=296							
DAGI	Agillar	68.06	311	*i* P		P	05 54 50.3	+0.2
EAU	Auchinoon	68.08	346⇓	*i*P		P	05 54 48.9	-0.9
SIM	Simferopol'	68.09	318	*d i*P		P	05 54 49.5	-0.6
SIM				*e*S		S	06 03 09.0	+6.4
EBL	Broad Law	68.10	346⇓	*i*P		P	05 54 48.9	-1.0
K39A	Oelwein	68.12	46	P		P	05 54 48.5	-1.8
	baz=326,SNR=1000							
F45A	CMU Biological	68.16	40	P		P	05 54 49.2	-1.3
	baz=328,SNR=294							
LSQQ	Lebel-sur-Quev	68.20	33	P		P	05 54 49.4	-1.2
	baz=332							
DBAD	Bademkaya	68.21	311	*i* P		P	05 54 51.5	+0.5
SCIA	State Center	68.22	48	P		P	05 54 50.2	-0.7
	baz=325,SNR=911							
D48A	Paudash Townsh	68.23	37	P		P	05 54 49.1	-1.8
	baz=329,SNR=399							
CHGQ	Chibougamau	68.25	31	P		P	05 54 49.4	-1.6
	baz=333,SNR=565							
PGBU	Glenifferbraes	68.26	347⇓	*i*P		P	05 54 50.3	-0.6
PGBU				IAmb		IAmb	05 55 12.8	
	comp=Z,21μm,0.9s							
DDEM	Demirkent	68.29	311	*i* P		P	05 54 51.6	+0.1
SENK	Senkaya-Erzuru	68.29	310	*e*P		P	05 54 51.9	+0.3
KIS	Kishinev	68.30	323⇑	*i*P		P	05 54 49.0	-2.3
	comp=Z,11μm,1.0s							
KIS				*i* pP		PP	05 57 34.0	+1.6
KIS	Kishinev	68.30	323	*i* PP		PP	05 58 15.0	+43
	comp=Z,297μm,16.0s							
KIS	Kishinev	68.30	323⇓	*i*P		P	05 54 49.0	-2.3
KIS				*i* *PP		PP	05 57 34.0	+1.6
KIS				*i* S		S	06 03 01.0	-4.0
KIS				pmax		pmax		
	comp=N,67μm,4.0s							
KIS				pmax		pmax		
	comp=N,297μm,16.0s							
KIS				smax		smax		
	comp=E,298μm,12.0s							
D49A	Beulah Townshi	68.30	37	P		P	05 54 49.8	-1.5
	baz=330,SNR=296							
H43A	Windswept, Lux	68.32	42	P		P	05 54 50.6	-0.8
	baz=327,SNR=551							
E47A	Iron Bridge	68.33	38	P		P	05 54 49.8	-1.7
	baz=329,SNR=372							
J41A	Loganville	68.35	45	P		P	05 54 50.5	-1.2
	baz=326,SNR=706							
I42A	Draeger Farm,	68.35	44	P		P	05 54 50.8	-0.9
	baz=327,SNR=759							
F46A	Macinaw City C	68.37	40	P		P	05 54 50.5	-1.2
	baz=328,SNR=568							
OJC	Ojcow	68.37	330	*e*P		P	05 54 51.2	-0.5
OJC				*e*PP		pP	05 57 06.6	+14
OJC				*e*S		S	06 03 08.1	+2.4
OJC				*e*sS		sS	06 06 46.7	+5.3
OJC				*e*SS		SS	06 06 53.8	-51
OJC				*e*SS		SS	06 07 39.2	-5.2
OJC				*e*			06 11 54.0	
OJC	Ojcow	68.37	330	*e*P		P	05 54 51.6	-0.1
	comp=E,19μm,1.1s							
OJC	Ojcow	68.37	330	*e*P		P	05 54 51.2	-0.5
OJC				*e*S		S	06 03 08.1	+2.4
MMRI	Maumere	68.40	213	*e*P		P	05 54 50.9	-1.4
	comp=E,28μm,1.0s							
MMRI	Maumere	68.40	213	P		P	05 54 51.3	-1.0
	comp=E,35μm,1.5s,comp=E,443μm							
K40A	Colesburg	68.44	46	P		P	05 54 50.8	-1.4
	baz=326,SNR=881							
TPTI		68.44	243	P		P	05 54 49.8	-2.8
	comp=E,3μm,1.4s,comp=E,119μm							
L39A	Vinton	68.55	47	P		P	05 54 51.7	-1.2
	baz=326,SNR=1000							
ESK	Eskdalemuir	68.56	346	*e*P		P	05 54 51.5	-1.2
	comp=E,6μm,0.6s							
ESK	Eskdalemuir	68.56	346⇓	*i*P		P	05 54 51.8	-1.0
ESK				IAmb		IAmb	05 55 14.6	
	comp=Z,5μm,0.6s							
ESK	Eskdalemuir	68.56	346	*i* P		P	05 54 51.8	-1.0
IAS	Iasi	68.57	324⇓	*i*P		P	05 54 51.7	-1.2
SEVA	Sevastopol	68.61	318⇓	*i*P		P	05 54 51.9	-1.3
JFWS	Jewell Farm	68.63	45	P		P	05 54 51.8	-1.6
	baz=326,SNR=592							
G45A	Suttons Bay	68.65	41	P		P	05 54 52.1	-1.3
	baz=328,SNR=121							
I43A	Langenfeld Bro	68.66	43	P		P	05 54 52.5	-1.0
	baz=327,SNR=430							
E48A	Lockeyer	68.70	38	P		P	05 54 52.0	-1.7
	baz=329,SNR=347							
G46A	Petoskey	68.72	40	P		P	05 54 52.6	-1.2
	baz=328,SNR=992							
CLDR	Caldiran	68.74	308	*e*P		P	05 54 54.8	+0.4
J42A	Columbus	68.75	44	P		P	05 54 52.9	-1.1
	baz=327,SNR=809							
KOLS	Kolonicke sedl	68.78	328	*e*P		P	05 54 53.6	-0.5
KOLS				*e*S		S	06 03 12.0	+1.6
KOLS				pmax		pmax		
	comp=Z,4μm,0.8s							
KOLS	Kolonicke sedl	68.78	328	*e*P		P	05 54 53.6	-0.5
KOLS				*e*pP		pP	05 57 08.4	+13
KOLS				*e*S		S	06 03 12.0	+1.6
BHH	Howats Hill	68.78	346	*e*P		P	05 54 53.2	-0.9
BHH			⇓	*e*P		P	05 54 53.4	-0.6
BHH				*e*P		P	05 54 54.0	0.0
KSP	Ksiaz	68.79	332	*e*P		P	05 54 53.6	-0.6
KSP				*e*PP		pP	05 57 11.6	+16
KSP				*e*S		S	06 03 10.9	+0.4
KSP				*e*SS		SS	06 06 59.7	-51
KSP				*e*			06 11 53.9	
KSP	Ksiaz	68.79	332	*e*P		P	05 54 53.6	-0.6
KSP				*e*S		S	06 03 10.9	+0.4
AGRB	Hanur-Agry	68.81	309	*e*P		P	05 54 55.2	+0.5
121A	Cookes Peak, D	68.81	64	P		P	05 54 55.9	+1.0
	baz=322,SNR=1000							
SOEI	Soe	68.83	211	*e*P		P	05 54 53.3	-1.7
	comp=Z,17μm,0.8s							
EDMD	Edmundbyers	68.85	345⇓	*i*P		P	05 54 53.4	-1.1
EDMD				IAmb		IAmb	05 55 14.4	
	comp=Z,6μm,0.8s							
H45A	Beulah	68.86	41	P		P	05 54 53.5	-1.2
	baz=328,SNR=179							
PRAR	RASCA	68.88	324⇑	*i*P		P	05 54 53.4	-1.4
L40A	Anamosa	68.93	46	P		P	05 54 53.7	-1.5
	baz=326,SNR=1000							
NIE	Niedzica	68.94	329	*e*P		P	05 54 55.1	-0.1
NIE				*e*PP		pP	05 57 03.6	+7.2
NIE				*e*S		S	06 03 09.5	-2.9
NIE				*e*SS		SS	06 07 03.8	-49
NIE				*e*			06 12 11.0	
NIE	Niedzica	68.94	329	*e*P		P	05 54 55.1	-0.1
NIE				*e*			05 57 03.6	
NIE				*e*S		S	06 03 09.5	-2.9
RAC	Raciborz	68.95	331	*e*P		P	05 54 55.1	0.0
RAC				*e**PP		pP	05 57 01.9	+5.5
RAC				*e*S		S	06 03 10.8	-1.5
LEOM	Leova	68.95	323	*e*P		P	05 54 54.1	-1.1
LEOM	Leova	68.95	323⇓	*i*P		P	05 54 54.3	-0.9
BUR08	Bucovina Ar. S	68.97	325	*e*P		P	05 54 54.5	-1.0
	comp=Z,10μm,0.9s							
KOPR	Koprukoy-ERZUR	68.97	310	*e*P		P	05 54 55.9	+0.2
J43A	Natural Harves	68.98	44	P		P	05 54 54.2	-1.2
	baz=327,SNR=601							
BURAR	Bucovina Array	69.00	325	*e*P		P	05 54 53.7	-1.9
BURAR	Bucovina Array	69.00	325⇓	*i*P		P	05 54 54.7	-0.9
KSU1	Kansas State U	69.01	52	P		P	05 54 54.6	-1.1
	baz=325,SNR=1000							
BKNI	Bangkinang	69.01	238	*e*P		P	05 54 56.0	0.0
	comp=Z,37μm,1.0s							
UZH	Uzhgorod	69.04	328	*e*P		P	05 54 55.0	-0.7
UZH				*e*			05 55 21.8	
UZH				*i*			05 58 00.3	
UZH				*i* PPP		PPP	05 59 26.6	
UZH				*i* S		S	06 03 10.9	-2.4
COEN	Coen	69.05	191	*e*P		P	05 54 56.1	-0.1
	comp=Z,28μm,1.4s							
POO	Poona	69.07	273	*e*P		P	05 54 56.1	-0.3
POO				IAmb		IAmb	05 55 02.4	
	comp=Z,8μm,0.9s							
KTUT	Trabzon	69.07	312	*e*P		P	05 54 54.9	-1.1
KTUT	Trabzon	69.07	312⇓	*i*P		P	05 54 54.9	-1.1
GDLE	Glaisdale, N Y	69.07	344⇓	*e*P		P	05 54 54.4	-1.4
GDLE				IAmb		IAmb	05 55 15.8	
	comp=Z,7μm,0.9s							
AKDA	Akdag	69.10	310	*i* P		P	05 54 57.3	+0.8
F48A	Evansville	69.10	38	P		P	05 54 54.5	-1.6
	baz=329,SNR=309							
K42A	Prairie Point,	69.11	44	P		P	05 54 54.9	-1.3
	baz=327,SNR=1000							
D51A	Lot 18 Range I	69.14	36	P		P	05 54 54.8	-1.5
	baz=331,SNR=778							
UPC	Upice	69.17	332⇓	*i*P		P	05 54 55.8	-0.7
UPC				*e**PP		pP	05 57 03.0	+5.2
UPC				*e*S		S	06 03 14.8	0.0
UPC	Upice	69.17	332⇓	*i*P		P	05 54 55.8	-0.7
UPC				*e*pP		pP	05 57 03.0	+5.2
UPC				*e*S		S	06 03 14.8	0.0
UPC				*e*x		x	06 07 05.0	
UPC				*e*x		x	06 22 02.8	
CLGH	Cloghs, Cushen	69.18	348⇓	*i*P		P	05 54 55.5	-0.9
CLGH				IAmb		IAmb	05 55 18.2	
	comp=Z,10μm,0.8s							
GAL1	Galloway	69.21	347⇓	*i*P		P	05 54 55.5	-1.1
GAL1				IAmb		IAmb	05 55 27.6	
	comp=Z,5μm,1.0s							
G47A	Hillman	69.21	40	P		P	05 54 55.4	-1.4
	baz=329,SNR=246							
CLL	Collm	69.21	335	*e*P		P	05 54 55.4	-1.3
	comp=Z,19μm,1.1s							
CLL	Collm	69.21	335⇓	*i*P		P	05 54 55.7	-1.0
CLL				*i*			05 55 19.2	
CLL				*e**PP		pP	05 57 04.0	+5.9
CLL				*e*S		S	06 03 20.0	+4.7
CLL				pmax		pmax		
	comp=Z,23μm,1.2s							
CLL	Collm	69.21	335⇓	*i*P		P	05 54 55.7	-1.0
	comp=Z,9μm,0.9s							
CLL				*e*Pmax			05 54 57.0	
CLL				*e*Plp			05 55 00.0	
	comp=Z,237μm,42.0s							
CLL				*i*			05 55 05.5	
	comp=Z,13μm,1.0s							
CLL				*i* PcP		PcP	05 55 14.5	-0.9
	comp=Z,10μm,1.1s							
CLL				*i* Pmax			05 55 19.2	
	comp=Z,23μm,1.2s							
CLL				*e*pP		pP	05 56 58.0	-0.1
CLL				*e*			05 57 04.0	
CLL				*e*pPmax			05 57 19.0	
CLL				*e*PP		PP	05 57 33.0	-7.0
CLL				*e*PPmax			05 58 15.0	
	comp=Z,264μm,23.3s							
CLL				*e*PPPmax			05 59 40.0	
CLL				*e*PPPP			06 01 01.0	
CLL				*e*			06 02 34.0	
CLL				*e*S		S	06 03 20.0	+4.7
CLL				*e*Smax			06 03 34.0	
	comp=N,344μm,28.9s							
CLL				*e*Smax			06 03 34.0	
	comp=E,675μm,34.0s							
CLL				*e*Smax			06 03 34.0	
	comp=Z,361μm,24.3s							
CLL				*e*ScS		ScS	06 04 04.0	+4.2
CLL				*e*sS		sS	06 06 50.0	-1.7
CLL				*e*SS		SS	06 07 56.0	-1.0
CLL				*e*SSmax			06 08 54.0	
CLL				*e*SSS		SSS	06 11 22.0	
CLL				*e*SSSmax			06 12 24.0	
CLL				*e*(SSSS)			06 13 54.0	
CLL				*e*			06 22 03.0	
CLL				*e*			06 22 15.0	
CLL				*e*PKPPKPbc			06 23 01.0	
CLL				*e*pPKPPKPb			06 25 04.0	
CLL				*i* SKPPKPdf			06 25 36.3	
	comp=Z,3μm,2.8s							
CLL				*e*			06 31 54.0	
CLL				*e*3PKPmax			06 42 32.0	
CLL				*e*p3PKPmax			06 44 50.0	
CLL				*e*			06 57 18.0	
CLL				*e*			06 58 36.0	
CLL				*e*			07 02 32.0	
GLMI	Grayling	69.23	40	P		P	05 54 55.8	-1.1
	baz=328,SNR=254							
DPC	Dobruska-Polom	69.23	332⇓	*i*P		P	05 54 56.6	-0.3
DPC	Dobruska-Polom	69.23	332⇓	*i*P		P	05 54 56.6	-0.3
DPC				*e*pP		pP	05 57 06.4	+8.3
H46A	Fife Lake	69.25	41	P		P	05 54 55.8	-1.2
	baz=328,SNR=907							
E50A	Wahnapitae	69.25	37	P		P	05 54 55.5	-1.5
	baz=330,SNR=685							
I45A	Fountain	69.28	42	P		P	05 54 56.4	-0.8
	baz=328,SNR=185							
BIZ	Bicaz	69.29	324⇑	*i*P		P	05 54 56.5	-0.7
BIR	Birlad	69.35	323⇑	*i*P		P	05 54 57.5	-0.1
KRLC	Kraliky	69.35	332⇓	*i*P		P	05 54 57.2	-0.4
KRLC	Kraliky	69.35	332⇓	*i*P		P	05 54 57.2	-0.4
KRLC				*ex*		x	06 07 01.8	
IDGL	Inch Island, C	69.36	348⇓	*i*P		P	05 54 56.6	-0.8
IDGL				IAmb		IAmb	05 55 08.4	
	comp=Z,9μm,1.0s							
MLAZ	Malazgirt-MUS	69.36	309	*e*P		P	05 54 58.6	+0.6
F49A	Sandfield	69.36	38	P		P	05 54 56.1	-1.6
	baz=330,SNR=448							
BRG	Berggiesshubel	69.37	334⇓	*i*P		P	05 54 56.8	-0.9
	comp=Z,1μm,1.2s							
BRG				*i*			05 55 15.6	
	comp=Z,6μm,1.1s							
BRG				pP		pP	05 56 59.0	-0.1
BRG				*i* sP		sP	05 57 58.1	-3.9
	comp=Z,6μm,1.2s							
BRG				S		S	06 03 19.0	+1.8
BRG				sP		sS	06 06 57.0	+3.3
BRG				SS		SS	06 07 58.0	-1.6
BRG				*i* PKPPKP		P'P'df	06 22 57.1	-3.2
	comp=Z,58nm,1.6s							
BRG				*i* SKPPKP			06 25 13.2	
	comp=Z,1μm,2.0s							
BRG	Berggiesshubel	69.37	334⇓	*i*P		P	05 54 56.8	-0.9
BRG				*i*			05 55 15.6	
BRG				*PP		pP	05 56 59.0	-0.1
BRG				S		S	06 03 19.0	+1.8
BRG				SS		SS	06 07 58.0	-1.6
BRG				MLR		MLR		
	comp=N,190μm,16.5s							
BRG				MLR		MLR		
	comp=E,195μm,19.1s							
BRG				MLR		MLR		
	comp=Z,249μm,17.8s							
BAYT	Aydintepe-Bayb	69.40	311	*e*P		P	05 54 58.1	-0.1
TRPA	Tarpa	69.40	327⇓	*i*P		P	05 54 57.7	-0.2
TRPA	Tarpa	69.40	327⇓	*e*PP		P	05 54 56.1	-1.8
TRPA	Tarpa	69.40	327	*e*P		pP	05 57 05.0	+5.7
TRPA				*e*S		S	06 03 21.1	+3.6
TRPA				*e*SS		SS	06 07 13.0	-47
MORC	Moravsky Berou	69.41	331	*e*P		P	05 54 57.1	-0.9
	comp=Z,14μm,0.9s							
MORC	Moravsky Berou	69.41

baz=326,SNR=996
IOMK Kirk Michael 69.78 346 ⇓iP P 05 54 58.8 -1.2
IOMK IAmb IAmb 05 55 30.9
comp=Z,27μm,1.2s
M41A Milan 69.78 46 P P 05 54 58.9 -1.3
baz=327,SNR=1000
H48A Harrisville 69.81 39 P P 05 54 59.2 -1.2
baz=329,SNR=151
CEI Carei 69.82 327 ⇑iP P 05 55 00.8 +0.4
GIUM Giurgiulesti 69.82 322 ⇑iP P 05 55 00.0 -0.4
AKDM Akdamar-Van 69.83 308 eP P 05 55 00.9 +0.1
VRTB Varto-Mus 69.83 310 eP P 05 55 01.9 +1.1
L43A Garden Prairie 69.85 44 P P 05 54 59.2 -1.4
baz=327,SNR=348
KMMI Kalianget 69.86 222 P P 05 55 01.0 0.0
comp=Z,15μm,0.7s,comp=Z,131μm
TLCR 69.86 322 ⇑iP P 05 54 59.8 -0.8
KARO Karliova-Bingo 69.89 310 eP P 05 55 01.0 -0.2
WIM Isle of Man 69.91 346 ⇓iP P 05 54 59.8 -0.9
GSI Gunungsitoli 69.91 242 eP P 05 55 00.9 -0.5
comp=Z,26μm,1.0s
LMK Market Rasen 69.93 344 ⇓eP P 05 54 59.9 -0.9
LMK IAmb IAmb 05 55 23.1
comp=Z,23μm,1.2s
I47A Gladwin 69.95 41 P P 05 55 00.2 -1.0
baz=329,SNR=98
PETR Petresti 69.96 323 ⇓iP P 05 55 01.9 +0.7
F51A Arnstein 69.97 37 P P 05 54 59.5 -1.8
baz=331,SNR=201
D54A Lac Fusel, La 69.98 34 P P 05 55 00.1 -1.2
baz=332,SNR=741
MTN Manton Dam 69.98 203 eP P 05 55 01.5 -0.1
comp=Z,21μm,0.9s
GMM Mts of Mourne 69.98 347 ⇓iP P 05 54 59.9 -1.3
ODBI Odobesti 69.98 323 ⇓iP P 05 55 01.8 +0.4
YEDI Yedisu-Bingol 70.01 311 eP P 05 55 01.8 0.0
VRI Vrincioaia 70.01 323 eP P 05 55 00.8 -0.7
VRI Vrincioaia 70.01 323 ⇓iP P 05 55 01.0 -0.5
TOBO Tobermory, Bru 70.01 38 P P 05 55 00.1 -1.4
baz=330,SNR=149
WTSB Winterswijk 70.02 339 eP P 05 55 00.6 -0.8
comp=Z,9μm,1.0s
WTSB epP pP 05 57 21.8 +19
AMTX Amarillo 70.02 58 P P 05 55 01.8 -0.1
baz=324
PRU Pruhonice 70.03 333 ⇓iP P 05 55 01.1 -0.5
PRU eS S **06 03 24.7 +0.1**
PRU Pruhonice 70.03 333 ⇓iP P 05 55 01.1 -0.5
PRU epP pP 05 57 13.7 +10
PRU eS S **06 03 24.7 +0.1**
PRU ex x 06 07 09.6
GOPC GO Pecny, Ondr 70.03 333 ⇓iP P 05 55 01.0 -0.6
GOPC GO Pecny, Ondr 70.03 333 ⇓iP P 05 55 01.0 -0.6
PLOR Plostina 70.05 323 ⇓iP P 05 55 01.0 -0.8
PLAI Plampang 70.08 218 P P 05 54 59.5 -2.8
comp=Z,11μm,0.8s,comp=Z,194μm
E52A Mattawa 70.08 36 P P 05 55 00.4 -1.6
baz=331,SNR=421
J46A Howard City 70.09 42 P P 05 55 01.2 -0.9
baz=328,SNR=338
VRAC Vranov 70.10 332 ⇓iP P 05 55 02.1 +0.1
VRAC Vranov 70.10 332 ⇓iP P 05 55 01.8 -0.2
VRAC epP **pP 05 57 08.8 +5.0**
VRAC eS S **06 03 28.7 +3.2**
VRAC esS **sS 06 07 05.8 +3.1**
VRAC e 06 22 59.2
VRAC Vranov 70.10 332 P P 05 55 01.6 -0.4
comp=Z,4μm,0.7s,baz=23,slow=7.9,SNR=806
VRAC S S **06 03 24.4 -1.1**
comp=Z,136nm,1.0s,baz=22,slow=5.4,SNR=2.2
I48A Sherman Twp 70.11 40 P P 05 55 01.2 -0.9
baz=329,SNR=130
CFR Carcaliu 70.11 322 ⇓iP P 05 55 01.2 -0.9
SNOP Sinop 70.11 316 eP P 05 55 01.3 -0.9
SNOP Sinop 70.11 316 eP P 05 55 00.7 -1.5
comp=Z,9μm,1.0s
OZUR 70.13 324 ⇓iP P 05 55 02.0 -0.3
BNGL BINGOL 70.14 310 iP P 05 55 03.9 +1.2
L44A Lake County Fo 70.19 44 P P 05 55 01.6 -1.0
baz=328,SNR=143
VYHS Vyhne 70.20 330 eP P 05 55 02.5 -0.1
VYHS eS S **06 03 28.4 +1.8**
VYHS Vyhne 70.20 330 eP P 05 55 02.5 -0.1
VYHS e 05 57 17.4
VYHS eS S **06 03 28.4 +1.8**
VYHS e 06 22 01.1
LBWR Ladybower, Pea 70.20 344 ⇓iP P 05 55 01.7 -0.8
LBWR IAmb IAmb 05 55 24.9
comp=Z,20μm,1.0s
JAVC Velka Javorina 70.20 331 ⇓iP P 05 55 03.3 +0.6
JAVC epP **pP 05 57 07.6 +3.0**
JAVC eS S **06 03 32.1 +5.3**
JAVC esS sS 06 07 12.5 +8.5
JAVC e 06 23 04.3
N41A Harden Midland 70.21 47 P P 05 55 01.6 -1.2
baz=327,SNR=312
MSTX Muleshoe 70.21 59 P P 05 55 02.8 -0.3
baz=324,SNR=1000
ERZN Erzincan 70.24 311 eP P 05 55 03.4 +0.2
LTVH Ltavrtes, Hu 70.26 327 ePP P 05 55 01.1 -1.9
LTVH Ltavrtes, Hu 70.26 327 eP pP 05 57 18.0 +13
LTVH eS S 06 03 16.0 -11
F52A Sundridge 70.28 36 P P 05 55 01.9 -1.3
baz=331,SNR=710
BISRR Bisoca 70.29 323 ⇓iP P 05 55 03.2 -0.1
BNGB Bingl 70.31 310 eP P 05 55 03.9 +0.3
E53A Dumoine, Ponti 70.33 35 P P 05 55 02.1 -1.3
baz=332,SNR=422
NKC Novy Kostel 70.34 335 ⇓iP P 05 55 02.9 -0.5
NKC e*PP **pP 05 57 12.1 +6.7**
NKC eS S **06 03 28.0 -0.2**
NKC Novy Kostel 70.34 335 ⇓iP P 05 55 02.9 -0.5
NKC epP **pP 05 57 12.1 +6.7**
NKC eS S **06 03 28.0 -0.2**
GRER 70.35 323 ⇑iP P 05 55 03.9 +0.4
KLBO Killbear Provi 70.36 37 P P 05 55 02.2 -1.4
baz=331,SNR=278
KRUC Moravsky 70.38 332 ⇓iP P 05 55 03.3 -0.3
KRUC epP **pP 05 57 07.2 +1.6**
KRUC eS S **06 03 30.6 +2.0**
KRUC esS **sS 06 07 11.2 +5.2**
KRUC e 06 23 01.4
DOPR Dopca 70.38 324 ⇓iP P 05 55 03.7 0.0
M43A Waltham Townsh 70.39 45 P P 05 55 02.6 -1.2
baz=327,SNR=347
PSZ Piszkesteto 70.40 329 eP P 05 55 03.4 -0.5
comp=Z,14μm,1.1s
PSZ Piszkesteto 70.40 329 ⇓iP P 05 55 03.8 -0.1
PSZ Piszkesteto 70.40 329 ePP P 05 55 04.0 +0.1
PSZ Piszkesteto 70.40 329 eP pP 05 57 17.1 +11
PSZ eS S **06 03 21.0 -8.1**
PSZ eSS SS 06 07 23.1 -52
DIKM Dikmen 70.41 315 eP P 05 55 04.0 0.0
DIKM Dikmen 70.41 315 ⇓iP P 05 55 03.9 0.0
TREC Trest 70.41 332 ⇓iP P 05 55 03.5 -0.4
TREC eS S **06 03 32.1 +3.1**
TREC Trest 70.41 332 ⇓iP P 05 55 03.5 -0.4
TREC epP pP 05 57 14.5 +8.6
TREC eS S **06 03 32.1 +3.1**
TREC ex x 06 07 13.6
CUKT Cukurca 70.42 307 eP P 05 55 03.9 -0.4
E54A Lac Daplat, Po 70.44 35 P P 05 55 02.6 -1.4
baz=332,SNR=538
WACR West Acre 70.47 343 ⇓iP P 05 55 03.4 -0.7
WACR IAmb IAmb 05 55 35.5
comp=Z,18μm,0.9s
J47A Sunmer 70.50 41 P P 05 55 03.8 -0.7
baz=329,SNR=1000
DRGR 70.53 326 ⇓iP P 05 55 04.0 -0.7
KVT Kavak 70.56 315 eP P 05 55 05.1 +0.2
MDB Medias 70.56 325 ⇑iP P 05 55 04.9 +0.1
BUKO Buck Lake 70.57 36 P P 05 55 03.4 -1.4
baz=331,SNR=341
ALGO Algonquin Park 70.58 35 P P 05 55 03.3 -1.5
baz=332,SNR=468
STNC Stoke 70.58 345 ⇓iP P 05 55 03.7 -1.0
STNC IAmb IAmb 05 55 32.3
comp=Z,6μm,0.7s
WME Myndd Eilian 70.59 346 ⇓iP P 05 55 03.5 -1.2
RSDY Resadiye-TOKAT 70.60 313 eP P 05 55 05.1 0.0
K46A Dorr 70.60 42 P P 05 55 04.1 -0.9
baz=328,SNR=1000
MLR Muntele Rosu 70.61 324 eP P 05 55 04.9 -0.3
comp=Z,11μm,0.7s
MLR Muntele Rosu 70.61 324 ⇓iP P 05 55 04.6 -0.6
MLR Muntele Rosu 70.61 324 P P 05 55 04.4 -0.8
comp=Z,2μm,0.6s,baz=355,slow=2.7,SNR=476
MLR S S **06 03 31.4 -0.2**
comp=Z,421nm,1.1s,baz=90,slow=20,SNR=1.8
HARR Harsova 70.61 322 ⇓iP P 05 55 04.3 -0.7
WPS Cemaes, Angles 70.61 346 ⇓iP P 05 55 03.4 -1.4
WPS IAmb IAmb 05 55 26.1
comp=Z,5μm,0.8s
BZK Bozkurt 70.65 316 eP P 05 55 04.7 -0.6
BZK Bozkurt 70.65 316 ⇓iP P 05 55 04.7 -0.6
I49A Point Hope 70.65 40 P P 05 55 04.3 -1.0
baz=330,SNR=276
TLB Topalu 70.66 322 ⇓iP P 05 55 04.5 -0.8
BMRO Meriville Lake 70.67 38 P P 05 55 04.4 -1.0
baz=330,SNR=314
WLF1 Llynfaes 70.70 346 ⇓iP P 05 55 04.3 -1.1
WLF1 IAmb IAmb 05 55 27.2
comp=Z,40μm,1.8s
MNTX Cornudas Mount 70.71 62 P P 05 55 06.6 +0.7
baz=323,SNR=1000
PBSI Pulau Batu 70.71 240 P P 05 55 05.8 -0.3
comp=Z,14μm,0.8s,comp=Z,259μm
N43A Stutzman Famil 70.72 45 P P 05 55 04.6 -1.1
baz=327,SNR=425
ISR Istrita 70.72 323 ⇑iP P 05 55 06.0 +0.2
SIRT Sirnak 70.75 308 eP P 05 55 05.8 -0.3
SIRT Sirnak 70.75 308 eP P 05 55 05.5 -0.6
comp=Z,30μm,0.9s
MODS Modra-Piesok 70.75 331 eP P 05 55 05.0 -0.9
MODS eS S **06 03 30.9 -2.0**
MODS Modra-Piesok 70.75 331 eP P 05 55 05.0 -0.9
MODS e 05 57 20.7
MODS eS S **06 03 30.9 -2.0**
YRC Rhoscolyn 70.77 346 ⇓iP P 05 55 04.2 -1.6
SVAN Silvan-Diyarba 70.78 309 eP P 05 55 06.5 +0.3
CWF Charnwood Fore 70.78 344 ⇓iP P 05 55 04.7 -1.2
CWF IAmb IAmb 05 55 33.8
comp=Z,20μm,1.2s
M44A Midewin, Midew 70.80 44 P P 05 55 05.2 -1.1
baz=328,SNR=387
YLL Llanberis 70.82 346 ⇓eP P 05 55 05.0 -1.1
CUZAR Zara_SIVAS 70.83 313 iP P 05 55 06.7 +0.1
J48A Bridge Port 70.84 41 P P 05 55 05.5 -1.0
baz=329,SNR=514
MFTR Murfatlar 70.87 321 ⇓iP P 05 55 05.9 -0.7
CVDA Cernavoda 70.88 322 ⇓iP P 05 55 06.3 -0.3
EFOR EFORIE 70.88 321 ⇓iP P 05 55 06.2 -0.5
AMRR Amara 70.89 322 ⇓iP P 05 55 06.3 -0.4
BRCO Bruce Peninsul 70.89 38 P P 05 55 05.7 -1.0
baz=330,SNR=190
K47A Vermontville 70.92 42 P P 05 55 06.1 -0.8
baz=329,SNR=798
FOEL Foel Wylfa 70.92 345 ⇓iP P 05 55 06.0 -0.8
FOEL IAmb IAmb 05 55 29.1
comp=Z,15μm,1.1s
VOIR 70.96 324 ⇓iP P 05 55 06.7 -0.5
SECR 70.96 323 ⇓iP P 05 55 06.3 -0.8
SRO Srobarova 70.96 330 eP P 05 55 07.3 +0.2
SRO Srobarova 70.96 330 eP P 05 55 07.3 +0.2
ZST Bratislava 70.97 331 eP P 05 55 06.2 -0.9
ZST eS S **06 03 34.7 -0.5**
ZST Bratislava 70.97 331 eP P 05 55 06.2 -0.9
ZST e 05 57 24.0
ZST eS S **06 03 34.7 -0.5**
ZST e 06 21 54.2
L46A Eue Claire 70.97 43 eS SKiKP 06 03 50.2 +6.5
L46A Eue Claire 70.97 43 P P 05 55 06.4 -0.8
baz=328,SNR=439
LATQ La Tuque 70.98 31 P P 05 55 06.2 -1.0
baz=334,SNR=323
SRO2 Moca 70.99 330 eP P 05 55 06.1 -1.1
SRO2 Moca 70.99 330 eP P 05 55 06.1 -1.1
HDIL Hopedale 70.99 46 P P 05 55 06.3 -1.0
baz=327,SNR=1000
TOKT Tokat 70.99 314 eP P 05 55 07.6 +0.1
BASO Ashfield 71.01 39 P P 05 55 06.7 -0.7
baz=330,SNR=511
LLW Llanuwychllyn 71.03 346 ⇓iP P 05 55 06.5 -0.9
J49A Marlette 71.03 40 P P 05 55 06.5 -1.1
baz=330,SNR=129
KHC Kasperske Hory 71.07 333 eP P 05 55 07.1 -0.6
comp=Z,7μm,1.1s
KHC Kasperske Hory 71.07 333 ⇓iP P 05 55 07.5 -0.2
KHC e*PP **pP 05 57 16.1 +6.0**
KHC eS S **06 03 34.4 -2.0**
KHC Kasperske Hory 71.07 333 ⇓iP P 05 55 07.5 -0.2
KHC epP **pP 05 57 16.1 +6.0**
KHC eS S **06 03 34.4 -2.0**
KHC ex x 06 07 32.0
KHC eSKKS **SKKSdf 06 20 46.8 +4.6**
KHC ex x 06 21 53.8
PLAR PLOIESTI 71.08 323 ⇑iP P 05 55 07.9 +0.1
JAGI Jajag, Banyuwa 71.09 221 eP P 05 55 04.9 -3.3
comp=Z,4μm,0.7s
JAGI eP'P'df **P'P'df 06 22 57.9 +3.3**
JAGI Jajag, Banyuwa 71.09 221 P P 05 55 04.8 -3.4
comp=Z,5μm,0.9s,comp=Z,140μm
PEMO Pembroke 71.09 35 P P 05 55 06.3 -1.6
baz=332,SNR=348
H52A Wyevale 71.09 37 P P 05 55 06.5 -1.4
baz=331,SNR=603
BWLO Walkerton 71.11 38 P P 05 55 07.0 -1.0
baz=330,SNR=247
G53A Haliburton 71.11 36 P P 05 55 06.8 -1.2
baz=331,SNR=1000
M45A Boilermakers S 71.12 44 P P 05 55 07.1 -1.1
baz=328,SNR=135
SVSK Karacayir 71.14 313 eP P 05 55 08.4 +0.2
MTUR Matau 71.14 324 ⇓iP P 05 55 07.8 -0.5
K48A Perry 71.14 41 P P 05 55 07.6 -0.6
baz=329,SNR=542
GRA1 Grafenberg Ar 71.14 335 eP P 05 55 07.4 -0.7
comp=Z,27μm,1.1s
GRFO Grafenberg 71.14 335 eP P 05 55 07.4 -0.7
comp=Z,25μm,1.1s
ICOR Ion Corvin 71.15 322 ⇓iP P 05 55 08.0 -0.2
ARR Arges 71.16 324 ⇓iP P 05 55 08.4 0.0
LEHL Lehliu 71.19 323 ⇓iP P 05 55 07.8 -0.6
IGLA Glengowla, Co 71.19 349 ⇓eP P 05 55 06.7 -1.5
SULR 71.21 323 ⇓iP P 05 55 07.8 -0.7
HLM1 Long Mynd 71.23 345 ⇓iP P 05 55 06.8 -1.8
HLM1 IAmb IAmb 05 55 30.1
comp=Z,9μm,1.1s
F55A Otter Lake 71.24 34 P P 05 55 07.5 -1.3
baz=332,SNR=286
KURC Kurucasile-Bar 71.24 317 eP P 05 55 07.8 -1.0
N44A Piper City 71.26 45 P P 05 55 07.9 -1.1
baz=328,SNR=534
SMRI Semarang 71.27 226 eP P 05 55 08.6 -0.7
comp=Z,18μm,0.9s
DEV Deva 71.28 326 ⇓iP P 05 55 08.4 -0.5
I26DE FREYUNG INFRAS 71.29 333 P P 05 55 09.2 +0.1
baz=34,slow=11,SNR=4.9
GEC2 GERESS Array S 71.30 333 eP P 05 55 07.7 -1.4
comp=Z,10μm,1.2s
GERES GERESS Array B 71.30 333 eP P 05 55 07.9 -1.3
GERES GERESS Array B 71.30 333 P P 05 55 08.4 -0.8
comp=Z,2μm,0.7s,baz=35,slow=4.9,SNR=1427
GERES S S **06 03 39.3 +0.1**
comp=Z,65nm,1.0s,baz=34,slow=6.1,SNR=2.0
GERES PKPPKP P'P'bc 06 22 05.8 -50
comp=Z,16nm,1.0s,baz=212,slow=4.7,SNR=4.3
SIRR Siria 71.33 327 ⇓iP P 05 55 08.7 -0.6
HGN Heimansgroeve 71.33 339 eP P 05 55 08.5 -0.7
comp=Z,10μm,1.2s
HGN epP pP 05 57 30.0 +18
BEBN Eben Emael 71.36 339 ⇓iP P 05 55 08.7 -0.6
BEBN ⇑pP pP 05 57 19.7 +7.9
LOT Lotru 71.38 325 eP P 05 55 08.4 -1.3
LOT Lotru 71.38 325 ⇓iP P 05 55 08.1 -1.6
CSKK Cskako 71.39 330 ePP P 05 55 09.1 -0.5
CSKK eS **SKiKP 06 03 50.0 +5.9**
PSN Preselentsi 71.39 321 iP P 05 55 09.4 -0.2
SISI Saibi 71.40 239 P P 05 55 09.3 -0.8
comp=Z,29μm,1.0s,comp=Z,259μm
K49A Clarkson 71.41 41 P P 05 55 09.3 -0.5
baz=330,SNR=778
I51A Listowel 71.42 38 P P 05 55 09.1 -0.7
baz=330,SNR=416
TOS Tosya 71.42 316 eP P 05 55 08.9 -1.1
SVRC Sivrice-ELAZID 71.42 311 eP P 05 55 10.6 +0.4
L47A Sherwood 71.43 42 P P 05 55 09.0 -1.0
baz=329,SNR=1000
BANO Bancroft 71.44 36 P P 05 55 08.7 -1.2
baz=332,SNR=593
CUKAN kangal_SIVAS 71.44 313 iP P 05 55 10.2 -0.1
INCR INCERC-Sediu C 71.45 323 ⇑iP P 05 55 09.5 -0.4
M46A Old House Fiel 71.46 43 P P 05 55 09.3 -0.8
baz=328,SNR=529
MEM Membach 71.47 339 ⇓P P 05 55 09.3 -0.6
comp=Z,9μm,1.1s
N45A Kentland 71.47 44 P P 05 55 09.2 -1.0
baz=328,SNR=213
GOA Goa 71.49 271 eP P 05 55 09.9 -0.7
GOA IAmb IAmb 05 55 17.7
comp=Z,22μm,1.3s
I52A Shelburne 71.49 38 P P 05 55 09.1 -1.2
baz=331,SNR=67
GOLR 71.51 324 ⇑iP P 05 55 09.8 -0.5
ILGA Ilgaz 71.53 316 eP P 05 55 11.0 +0.2
comp=Z,35μm,1.0s
WMOK Wichita Mounta 71.54 56 P P 05 55 10.6 -0.2
baz=325,SNR=1000
CONA Conrad Observa 71.56 331 iP P 05 55 10.7 +0.1
comp=Z,16μm,1.3s,SNR=1669
CONA iSKSac **SKSac 06 04 12.8 -3.4**
comp=Z,1μm,1.8s
BUC1 Bucharest 71.58 323 ⇓iP P 05 55 09.3 -1.4
SOP Sopron 71.58 331 ePP P 05 55 11.0 +0.3
SOP eP pP 05 57 22.1 +8.8
SOP eS S **06 03 42.0 -0.1**
SOP eSS SS 06 07 28.1 -65
PWJI Pagerwojo 71.60 224 P P 05 55 08.9 -2.3
comp=Z,37μm,1.2s,comp=Z,353μm
UCC Uccle 71.62 340 eP P 05 55 09.5 -1.3
comp=Z,4μm,0.7s
UCC Uccle 71.62 340 ⇓P P 05 55 10.0 -0.8
UCC ⇑pP **pP 05 57 21.0 +7.6**
G55A Calabogie 71.64 35 P P 05 55 09.7 -1.4
baz=332,SNR=391
P43A Skaggs, Pawnee 71.66 46 P P 05 55 10.1 -1.1
baz=327,SNR=871
O44A Mansfield 71.67 45 P P 05 55 10.1 -1.2
baz=328,SNR=1000
SGRR Singureni 71.70 323 ⇓iP P 05 55 09.9 -1.5
PLVO Plevna 71.71 35 eP P 05 55 10.5 -1.0
comp=Z,7μm,1.1s
PLVO ePKKPdf PKKPdf 06 14 42.6 +10
PLVO Plevna 71.71 35 P P 05 55 10.2 -1.3
baz=332,SNR=351
K50A Casco 71.73 40 P P 05 55 10.6 -1.0
baz=330,SNR=178
N46A Monticello 71.74 44 P P 05 55 10.5 -1.2
baz=328,SNR=213
AAM Ann Arbor 71.75 41 P P 05 55 11.0 -0.7
baz=329,SNR=288
GZR Gura Zlata 71.75 326 ⇓iP P 05 55 10.9 -0.9
L48A N Adams 71.75 42 P P 05 55 11.1 -0.7
baz=329,SNR=723
MCH1 Michaelchurch 71.76 345 ⇓iP P 05 55 10.4 -1.2
MCH1 IAmb IAmb 05 55 43.3
comp=Z,39μm,2.0s
CUALT Altinyayla-SIV 71.78 313 iP P 05 55 13.0 +0.8
HUMR Humele 71.78 324 ⇓iP P 05 55 10.1 -1.8
SAFT Safranbolu 71.78 317 eP P 05 55 11.7 -0.3
WOJI Wonogiri, Jawa 71.79 225 P P 05 55 09.9 -2.4
comp=Z,14μm,1.1s,comp=Z,218μm
BCLA Clavier 71.79 339 ⇓P P 05 55 11.1 -0.7
comp=Z,8μm,1.5s
M47A Cromwell 71.79 43 P P 05 55 11.2 -0.8
baz=329,SNR=1000
Q42A Golden Eagle 71.84 48 P P 05 55 11.7 -0.7
baz=327,SNR=1000
ORHO Orleans, Herit 71.84 34 P P 05 55 10.8 -1.4
baz=333,SNR=27
STRD Stroud 71.84 344 ⇓iP P 05 55 11.4 -0.7
STRD IAmb IAmb 05 55 34.7
comp=Z,27μm,1.1s
ORIO Orleans, Innes 71.86 34 P P 05 55 10.9 -1.4
baz=333,SNR=546
L49A Milan 71.87 41 P P 05 55 12.0 -0.4
baz=329,SNR=426
CUSAR Sarkisla-SIVAS 71.87 314 iP P 05 55 12.6 -0.1
MONM Monmouth 71.88 345 ⇓iP P 05 55 11.5 -0.8
MONM IAmb IAmb 05 55 30.9
comp=Z,9μm,0.8s
O45A Potomac 71.89 45 P P 05 55 11.8 -0.8
baz=328,SNR=1000
ELSH Elham, Standar 71.90 342 ⇓iP P 05 55 11.9 -0.5
ELSH IAmb IAmb 05 55 44.0
comp=Z,26μm,1.0s
ALFO Alfred 71.90 33 P P 05 55 11.4 -1.1
baz=333,SNR=812
CORM Corum 71.90 315 eP P 05 55 13.3 +0.5
TIH Tihany 71.91 330 ePP P 05 55 12.1 -0.5
TIH Tihany 71.91 330 eP pP 05 57 23.1 +7.8
TIH eS **SKiKP 06 03 37.0 -7.9**
TIH eSS SS 06 07 23.0 -75
I53A Kortright Cn E 71.91 37 P P 05 55 11.7 -1.0
baz=331,SNR=390
SNF Seneffe 71.91 340 ⇓P P 05 55 11.8 -0.7
BZS Buzias 71.93 327 ⇓iP P 05 55 11.7 -1.0
ACTO Acton 71.93 38 P P 05 55 11.9 -0.9
baz=331,SNR=420
TIM Timisoara 71.94 327 ⇓iP P 05 55 12.3 -0.5
CANT Cankiri 71.95 316 eP P 05 55 13.3 +0.3
PKRO Pickering 71.97 37 P P 05 55 12.0 -1.0
baz=331,SNR=386
DELO Deloro Mine 71.98 36 P P 05 55 11.8 -1.2
baz=332,SNR=229
TUL1 Leonard 71.99 53 P P 05 55 13.2 -0.1
baz=326,SNR=1000
R41A Rosebud 71.99 48 P P 05 55 12.3 -0.9
baz=327,SNR=1000
OLDB Oldbury-Upon-S 72.02 345 ⇓eP P 05 55 12.1 -1.0
OLDB IAmb IAmb 05 55 26.8
comp=Z,6μm,0.9s
CUGUR Gurin_SVAS 72.02 312 iP P 05 55 14.6 +1.0
UGM Wanagama 72.02 225 eP P 05 55 11.3 -2.3
comp=Z,42μm,1.4s
SFIN Lafayette 72.04 44 P P 05 55 12.3 -1.1
baz=328,SNR=479
M48A Edgerton 72.04 42 eP'P'df P'P'df 06 22 51.0 -4.7
M48A Edgerton 72.04 42 P P 05 55 12.6 -0.9
baz=329,SNR=1000
SWN1 Swindon 72.04 344 ⇓iP P 05 55 12.8 -0.5
SWN1 IAmb IAmb 05 55 41.5
comp=Z,34μm,0.8s
DARE Darende-Malaty 72.06 312 eP P 05 55 14.1 +0.4
RSBS Rosebush, Pemb 72.06 346 ⇓iP P 05 55 12.0 -1.3
RSBS IAmb IAmb 05 55 35.0
comp=Z,17μm,2.1s
MOA Molin 72.06 332 iP P 05 55 13.1 -0.4
comp=Z,6μm,1.4s,SNR=1490
MOA iSKSac **SKSac 06 04 14.1 -5.7**
comp=Z,1μm,1.6s
YOZ Yozgat 72.07 314 eP P 05 55 13.3 -0.5
PRD Provadia 72.09 322 iP P 05 55 13.4 -0.3
H55A Tweed 72.10 35 P P 05 55 12.5 -1.2
baz=332,SNR=347
J52A Paris 72.11 38 P P 05 55 12.9 -0.9
baz=331,SNR=290
WOL Wolverton 72.14 344 ⇓iP P 05 55 12.8 -1.0
WOL IAmb IAmb 05 55 27.8
comp=Z,14μm,0.9s
N47A Urbana 72.17 43 P P 05 55 13.0 -1.2
baz=329,SNR=953
DRWO Darlington Wes 72.17 37 P P 05 55 13.2 -1.0
baz=332,SNR=171
DRCO St. Marys Ceme 72.18 37 P P 05 55 13.2 -1.0
baz=332,SNR=83
MNAI Manna 72.18 234 eP P 05 55 11.8 -2.8
comp=Z,10μm,0.8s
MNAI Manna 72.18 234 P P 05 55 12.1 -2.5
comp=Z,14μm,0.8s,comp=Z,268μm
K51A Iona Station 72.18 39 P P 05 55 13.6 -0.6
baz=330,SNR=513
TORO Toronto--Lesli 72.18 37 P P 05 55 13.3 -0.9
baz=331,SNR=30
ROIA ROIAK 72.19 322 iP P 05 55 13.8 -0.5
PPSI Pulau Pagai 72.19 237 P P 05 55 14.2 -0.5
comp=Z,28μm,0.9s,comp=Z,426μm
KDZE Karadeniz Ereo 72.21 318 eP P 05 55 13.1 -1.3
KDZE Karadeniz Ereo 72.21 318 ⇑iP P 05 55 13.3 -1.1
I55A Frankford 72.23 36 P P 05 55 13.1 -1.3
baz=332,SNR=243
WLVO Wesleyville 72.24 37 P P 05 55 13.5 -1.0
baz=332,SNR=302

DOU	Dourbes	72.24	339	⇓P	P	05 55 13.6	-0.8
	comp=Z,5µm,1.4s						
CCM	Cathedral Cave	72.25	49	eP	P	05 55 13.4	-1.3
	comp=Z,16µm,1.1s						
CCM	Cathedral Cave	72.25	49	P	P	05 55 13.7	-1.0
	baz=327						
SRE	Strehaia	72.26	325	⇓iP	P	05 55 13.8	-0.9
ARSA	Arzberg	72.27	331	iP	P	05 55 14.7	0.0
	comp=Z,8µm,1.1s,SNR=1349						
ARSA				iSKSac	SKSac	06 04 16.1	-5.2
	comp=Z,444nm,1.4s						
L50A	Kingsville	72.29	41	P	P	05 55 14.0	-0.8
	baz=330,SNR=534						
BANR	Banloc	72.29	327	⇑iP	P	05 55 14.3	-0.5
SBJI	Serang	72.29	230	P	P	05 55 12.8	-2.4
	comp=Z,8µm,1.0s,comp=Z,126µm						
HMNX	Herstmonceux	72.31	342	⇓iP	P	05 55 14.6	-0.2
HMNX				IAmb	IAmb	05 55 43.2	
	comp=Z,16µm,0.8s						
HERR	Herculane	72.32	326	⇓iP	P	05 55 13.8	-1.2
WLF	Walferdange	72.33	338	eP	P	05 55 13.8	-1.1
	comp=Z,29µm,1.1s						
WLF	Walferdange	72.33	338	⇑P	P	05 55 14.2	-0.7
	comp=Z,5µm,1.3s						
M49A	Liberty Center	72.33	42	P	P	05 55 14.3	-0.9
	baz=329,SNR=615						
CRAR	CRAIOVA	72.36	325	⇑iP	P	05 55 15.0	-0.2
H56A	Elgin	72.37	35	P	P	05 55 14.0	-1.3
	baz=333,SNR=435						
URFA	Urfa	72.42	311	eP	P	05 55 16.3	+0.5
K52A	Tillsonburg	72.42	39	P	P	05 55 14.7	-0.9
	baz=331,SNR=434						
VLAD	Vladila	72.44	324	⇓iP	P	05 55 14.4	-1.3
TYNO	Tyneside	72.45	38	P	P	05 55 14.8	-0.9
	baz=331,SNR=310						
N48A	Decatur	72.45	43	P	P	05 55 14.8	-1.0
	baz=329,SNR=1000						
STU	Stuttgart	72.48	336	eP	P	05 55 14.4	-1.4
	comp=Z,10µm,1.0s						
P45A	Graceland, Par	72.49	45	P	P	05 55 15.0	-1.1
	baz=328,SNR=927						
BNN	Bunyan	72.51	313	eP	P	05 55 16.1	-0.3
O47A	Sheridan	72.53	44	P	P	05 55 14.7	-1.6
	baz=329,SNR=475						
SZH	Strazhica	72.56	323	iP	P	05 55 15.3	-1.1
STCO	Saint Catharin	72.60	37	P	P	05 55 15.6	-1.0
	baz=331,SNR=124						
PLIO	Pelee Island,	72.61	41	P	P	05 55 15.8	-0.9
	baz=330,SNR=167						
BEHE	Becsehely	72.63	330	⇓iP	P	05 55 16.5	-0.2
BEHE	Becsehely	72.63	330	ePP	P	05 55 15.1	-1.7
BEHE	Becsehely	72.63	330	eP	pP	05 57 26.0	+6.2
BEHE				eS	S	06 03 55.0	+1.3
BEHE				eSS	SS	06 07 25.1	-84
P46A	Rosedale	72.64	45	P	P	05 55 16.0	-0.9
	baz=328,SNR=1000						
MDVR	Moldovita	72.64	326	⇓iP	P	05 55 15.6	-1.3
BR101	Keskin Array S	72.69	315	eP	P	05 55 16.6	-0.7
BR101				ePP	PP	05 58 08.7	-1.0
BR101				eS	S	06 03 54.8	-0.2
BR131	Keskin Array S	72.69	315	P	P	05 55 16.9	-0.5
	SNR=3148						
BRTR	Keskin Array B	72.69	315	P	P	05 55 16.6	-0.7
	comp=Z,2µm,1.0s,baz=46,slow=3.6,SNR=1871						
BRTR				PP	PP	05 58 08.7	-1.0
	comp=Z,718nm,0.7s,baz=60,slow=7.3,SNR=4.2						
BRTR				S	S	06 03 54.8	-0.2
	comp=Z,45nm,0.9s,baz=35,slow=5.3,SNR=1.8						
BRTR				PKPPKP	P'P'df	06 21 57.6	-57
	comp=Z,75nm,1.0s,baz=191,slow=5.0,SNR=6.6						
BRTR				P4KPbc		06 31 43.4	
	comp=Z,4.3nm,1.1s,baz=198,slow=2.4,SNR=2.2						
PUNG	Punghina	72.69	325	⇓iP	P	05 55 15.8	-1.3
PECO	Prince Edward	72.71	36	P	P	05 55 15.9	-1.3
	baz=332,SNR=201						
N49A	Columbus Grove	72.73	42	eP'P'df	P'P'df	06 22 48.5	-6.0
N49A	Columbus Grove	72.73	42	P	P	05 55 16.6	-0.8
	baz=329,SNR=796						
J54A	Appleton	72.73	37	P	P	05 55 16.4	-1.0
	baz=332,SNR=296						
M50A	Fremont	72.75	41	eP'P'df	P'P'df	06 22 48.2	-6.3
M50A	Fremont	72.75	41	P	P	05 55 16.5	-1.0
	baz=330,SNR=172						
HEX	Exmoor	72.78	345	⇓eP	P	05 55 16.6	-0.9
PVL	Pavlikeni	72.81	323	iP	P	05 55 17.5	-0.3
CISI	Cisompet, Garu	72.83	228	eP	P	05 55 15.8	-2.5
	comp=Z,5µm,0.8s						
CISI	Cisompet, Garu	72.83	228	P	P	05 55 14.3	-4.1
	comp=Z,6µm,0.7s,comp=Z,156µm						
ABTX	Abilene, Hawle	72.84	58	P	P	05 55 18.0	-0.2
	baz=325,SNR=1000						
Q45A	Warren Harvey,	72.86	46	P	P	05 55 17.3	-0.9
	baz=328,SNR=1000						
MEDO	Medina	72.89	37	P	P	05 55 17.2	-1.1
	baz=332,SNR=234						
SKJI	Sukabumi	72.89	229	P	P	05 55 15.3	-3.3
	comp=Z,13µm,1.1s,comp=Z,200µm						
LONY	Lake Ozonia	72.90	34	eP	P	05 55 17.2	-1.2
	comp=Z,24µm,1.8s						
LONY	Lake Ozonia	72.90	34	P	P	05 55 17.1	-1.2
	baz=333,SNR=440						
LOD	Lodumlu	72.90	316	eP	P	05 55 18.3	-0.2
FRGS	Fruska Gora	72.91	328	⇓iP	P	05 55 17.4	-1.0
ANTO	Ankara	72.91	316	eP	P	05 55 18.4	-0.1
ANTO	Ankara	72.91	316	eP	P	05 55 17.7	-0.8
	comp=Z,11µm,0.9s						
ANTO	Ankara	72.91	316	⇓iP	P	05 55 18.3	-0.2
ANTO	Ankara	72.91	316	P	P	05 55 18.5	0.0
	SNR=1436						
O48A	Farmland	72.92	43	P	P	05 55 17.3	-1.2
	baz=329,SNR=1000						
CGJI	Cibinong	72.92	230	P	P	05 55 14.8	-4.0
	comp=Z,13µm,1.1s,comp=Z,169µm						
SOKA	Soboth	72.93	331	iP	P	05 55 18.2	-0.3
	comp=Z,12µm,1.1s,SNR=1708						
SOKA				iSKSac	SKSac	06 04 22.7	-3.8
	comp=Z,698nm,1.3s						
BR231	Keskin MP Arra	72.94	316	ePP	PP	05 58 02.8	-8.9
PERS	Pernice	72.94	331	iP	P	05 55 18.3	-0.3
PERS				eS	S	06 03 60.0	+2.6
PERS				eSKSac	SKSac	06 04 19.4	-7.2
HTL	Hartland	72.95	346	⇓iP	P	05 55 17.6	-0.9
HTL				IAmb	IAmb	05 55 37.4	
	comp=Z,8µm,0.9s						
U40A	Yellville	72.96	51	P	P	05 55 18.1	-0.8
	baz=327,SNR=1000						
BATG	Bathurst New B	72.97	27	eP	P	05 55 17.8	-0.9
	comp=Z,6µm,0.8s						
BATG				eP'P'df	P'P'df	06 22 47.2	-6.8
PQI	Presque Isle	73.00	28	eP'P'df	P'P'df	06 22 50.1	-3.9
MOQ	Mont Orford	73.00	32	eP	P	05 55 18.6	-0.4
MOQ				eP'P'df	P'P'df	06 22 50.5	-3.7
OLIL	Olney	73.02	46	eP	P	05 55 17.6	-1.5
	comp=Z,11µm,0.9s						
KBA	Koelnbreinsper	73.02	333	iP	P	05 55 19.4	+0.2
	comp=Z,28µm,1.4s,SNR=2690						
KBA				iSKSac	SKSac	06 04 24.7	-2.6
	comp=Z,6µm,2.2s						
J55A	Hilton	73.02	37	P	P	05 55 17.7	-1.3
	baz=332,SNR=182						
JMB	Yambol	73.02	322	iP	P	05 55 18.4	-0.7
MDUB	Mudurnu	73.02	318	eP	P	05 55 18.8	-0.4
SILT	Sile	73.04	319	eP	P	05 55 18.5	-0.6
SILT	Sile	73.04	319	⇓iP	P	05 55 18.5	-0.6
Q46A	CEJHS Indians,	73.08	45	P	P	05 55 18.5	-1.0
	baz=328,SNR=105						
BFO	Black Forest	73.10	336	eP	P	05 55 18.2	-1.2
	comp=Z,12µm,1.1s						
BFO	Black Forest	73.10	336	iP	P	05 55 18.3	-1.2
SHME	Shamm	73.11	291	iP	P	05 55 18.8	-1.1
	SNR=113						
P47A	Martinsville	73.13	44	P	P	05 55 18.6	-1.1
	baz=329,SNR=1000						
SAUV	Serdivan-Sakar	73.13	318	eP	P	05 55 19.1	-0.6
M51A	Elyria	73.14	40	P	P	05 55 18.8	-1.0
	baz=330,SNR=220						
AFSR	Afar-Bala (An	73.16	316	eP	P	05 55 19.6	-0.4
KLYT	Kilyos	73.18	319	eP	P	05 55 18.9	-1.0
KLYT	Kilyos	73.18	319	⇑iP	P	05 55 19.0	-1.0
SPNC	Sapanca-Adapaz	73.18	318	eP	P	05 55 19.7	-0.3
KMRS	Kahramanmaras	73.20	312	eP	P	05 55 20.2	0.0
OBKA	Obir	73.22	332	iP	P	05 55 19.9	-0.3
	comp=Z,9µm,1.2s,SNR=666						
OBKA				iSKSac	SKSac	06 04 25.5	-3.2
	comp=Z,1µm,1.7s						
MPEP	Malo Peshtene	73.23	324	P	P	05 55 17.8	-2.5
WATA	Walderalm	73.24	334	iP	P	05 55 20.0	-0.4
	comp=Z,9µm,1.2s,SNR=808						
WATA				iSKSac	SKSac	06 04 27.5	-1.5
	comp=Z,2µm,1.7s						
N50A	Nevada	73.25	41	P	P	05 55 19.7	-0.7
	baz=330,SNR=565						
ERPA	Erie	73.26	39	eP	P	05 55 19.4	-1.0
	comp=Z,21µm,0.9s						
ERPA	Erie	73.26	39	P	P	05 55 19.7	-0.8
	baz=331,SNR=380						
M52A	Chesterland	73.26	40	eSKSac	SKSac	06 04 26.3	-2.7
M52A	Chesterland	73.26	40	P	P	05 55 19.8	-0.6
	baz=331,SNR=385						
CTYL	Yalikoy Yolu	73.27	320	eP	P	05 55 19.5	-0.9
CTYL	Yalikoy Yolu	73.27	320	⇓iP	P	05 55 19.6	-0.9
X37A	Clayton	73.27	53	eP	P	05 55 21.8	+1.2
	comp=Z,10µm,0.9s						
YAYX	Yaylak	73.29	315	eP	P	05 55 20.3	-0.5
WTTA	Wattenberg	73.29	334	iP	P	05 55 20.7	0.0
	comp=Z,11µm,1.1s,SNR=1911						
WTTA				iSKSac	SKSac	06 04 27.1	-2.3
	comp=Z,1µm,1.6s						
K54A	Basiliko Farm,	73.29	37	P	P	05 55 19.5	-1.2
	baz=332,SNR=440						
O49A	Covington	73.30	43	P	P	05 55 19.6	-1.0
	baz=330,SNR=367						
RETA	Reutte	73.31	335	iP	P	05 55 20.1	-0.6
	comp=Z,5µm,1.2s,SNR=571						
RETA				iSKSac	SKSac	06 04 26.0	-3.2
	comp=Z,2µm,1.7s						
L53A	Girard	73.31	39	P	P	05 55 20.0	-0.7
	baz=331						
HRT	Hereke	73.31	319	eP	P	05 55 20.2	-0.6
R45A	Skylar, Fairfi	73.31	46	P	P	05 55 19.8	-0.9
	baz=328,SNR=537						
GULT	Gulveren	73.32	318	eP	P	05 55 20.3	-0.6
ISK	Istanbul-Kandi	73.33	319	eP	P	05 55 19.7	-1.1
ISK	Istanbul-Kandi	73.33	319	P	P	05 55 19.8	-1.1
KAVV	Kandilli-Istan	73.33	319	eP	P	05 55 19.7	-1.1
BGKT	Bogazkoy	73.34	320	eP	P	05 55 20.1	-0.8
GAZ	Gaziantep	73.34	312	eP	P	05 55 21.1	0.0
MYKA	Terra Mystica	73.35	332	iP	P	05 55 20.3	-0.7
	comp=Z,9µm,1.3s,SNR=817						
SERE	Sereflikochisa	73.38	315	eP	P	05 55 20.9	-0.4
U41A	Viola	73.38	50	P	P	05 55 20.3	-0.9
	baz=327,SNR=1000						
CTKS	Kestanelik-??a	73.39	320	eP	P	05 55 20.3	-0.8
L54A	Sinclairville	73.40	38	P	P	05 55 20.3	-1.0
	baz=332						
K55A	Perry	73.41	37	P	P	05 55 20.1	-1.2
	baz=332						
S44A	Carbondale	73.41	47	P	P	05 55 20.5	-0.8
	baz=328,SNR=1000						
BLJ	Bijeljina	73.41	328	⇓iP	P	05 55 20.8	-0.4
PHSR	Pinarhisar	73.41	321	eP	P	05 55 20.8	-0.5
PHSR	Pinarhisar	73.41	321	⇓iP	P	05 55 20.8	-0.5
N51A	Ashland	73.42	41	P	P	05 55 20.4	-1.0
	baz=330						
AUMIH	MIHALICIK	73.43	317	eP	P	05 55 21.0	-0.6
AUMIH	MIHALICIK	73.43	317	iP	P	05 55 21.0	-0.6
ZAG	Zagreb	73.44	330	⇓iP	P	05 55 21.0	-0.3
SQTA	Sankt Quirin	73.44	334	iP	P	05 55 21.4	-0.1
	comp=Z,11µm,1.1s,SNR=2245						
SQTA				iSKSac	SKSac	06 04 26.1	-4.2
	comp=Z,881nm,1.3s						
ECH	Echery	73.47	337	eP	P	05 55 20.7	-0.8
	comp=Z,10µm,1.0s						
LTX	Lajitas	73.48	63	eP	P	05 55 22.4	+0.4
LTX				eS	S	06 04 04.7	+0.8
LTX				ePKKPbc	PKKPbc	06 14 47.8	+0.4
LTX				eP'P'df	P'P'df	06 22 30.2	-23
TXAR	Lajitas Array	73.48	63	eP	P	05 55 22.6	+0.5
TXAR				ePKKPdf	PKKPdf	06 14 36.4	+5.2
TXAR	Lajitas Array	73.48	63	P	P	05 55 22.4	+0.4
	comp=Z,4µm,0.8s,baz=300,slow=4.2,SNR=4056						
TXAR				S	S	06 04 04.7	+0.8
	comp=Z,52nm,0.8s,baz=317,slow=6.1,SNR=2.0						
TXAR				PKKPbc	PKKPbc	06 14 47.8	+0.4
	comp=Z,16nm,0.8s,baz=142,slow=4.6,SNR=3.3						
TXAR				PKPPKP	P'P'df	06 22 30.2	-23
	comp=Z,30nm,1.1s,baz=169,slow=2.8,SNR=3.7						
P48A	Milroy	73.49	44	P	P	05 55 20.5	-1.3
	baz=329,SNR=1000						
BUY	Buyukada	73.50	319	eP	P	05 55 20.6	-1.1
W39A	Magazine	73.50	52	ePP	PP	05 58 18.8	+2.3
W39A				eP'P'df	P'P'df	06 22 53.0	-0.1
W39A	Magazine	73.50	52	P	P	05 55 21.3	-0.6
	baz=326,SNR=1000						
EDRB	Edirne	73.51	321	eP	P	05 55 21.1	-0.7
EDRB	Edirne	73.51	321	P	P	05 55 21.1	-0.7
SLVT	Silivri	73.51	320	eP	P	05 55 21.4	-0.4
KULU	Kulu	73.53	316	eP	P	05 55 21.9	-0.2
Q47A	Bedord North L	73.53	45	P	P	05 55 21.2	-0.9
	baz=329,SNR=1000						
TEKS	Tekeris	73.54	327	⇓iP	P	05 55 21.2	-0.8
ABTA	Abfaltersbach	73.54	333	iP	P	05 55 21.3	-0.7
	comp=Z,9µm,1.2s,SNR=1175						
ABTA				iSKSac	SKSac	06 04 25.0	-6.1
	comp=Z,4µm,2.1s						
CRES	Cresnjev	73.59	331	⇓iP	P	05 55 21.5	-0.7
M53A	WI Miller and	73.60	39	P	P	05 55 21.8	-0.6
	baz=331,SNR=497						
O50A	Cable	73.61	42	P	P	05 55 21.6	-0.8
	baz=330,SNR=1000						
ALLY	Alegheny Colle	73.61	39	eP	P	05 55 21.9	-0.5
	comp=Z,45µm,1.4s						
SRCK	Saricakaya, Es	73.62	318	eP	P	05 55 21.5	-1.0
ADVT	Abdulvahap	73.62	319	eP	P	05 55 21.8	-0.7
LJU	Ljubljana	73.65	331	iP	P	05 55 21.5	-1.0
LJU				i		05 55 25.4	
LJU				iPcP	PcP	05 55 32.9	-1.6
LJU				ePP	pP	05 57 40.0	+14
LJU				iPP	PP	05 58 22.4	+5.0
LJU				eS	S	06 04 05.9	+0.9
LJU				iSKSac	SKSac	06 04 24.4	-7.4
LJU				eSS	sS	06 07 45.1	0.0
LJU				e		06 08 02.8	
LJU				eSS	SS	06 08 51.0	-13
LJU				e		06 12 18.5	
LJU	Ljubljana	73.65	331	⇓iP	P	05 55 21.6	-1.0
MSFE	Esma-Masafi	73.65	291	iP	P	05 55 21.7	-1.3
	SNR=486						
NIG	Nigde	73.66	314	eP	P	05 55 22.7	-0.4
KOZT	Kozan	73.68	313	eP	P	05 55 22.7	-0.2
R46A	Gibon Southern	73.70	46	P	P	05 55 22.1	-0.9
	baz=328,SNR=201						
DAVA	Damuels	73.71	335	iP	P	05 55 22.5	-0.6
	comp=Z,6µm,1.1s,SNR=1046						
DAVA				iSKSac	SKSac	06 04 28.9	-3.6
	comp=Z,865nm,1.4s						
P49A	Miami Univ. Ec	73.71	43	P	P	05 55 21.9	-1.1
	baz=329,SNR=759						
FETA	Feichten	73.75	334	iP	P	05 55 23.2	-0.1
	comp=Z,7µm,0.9s,SNR=1428						
FETA				iSKSac	SKSac	06 04 30.9	-1.8
	comp=Z,3µm,1.8s						
L55A	Hinsdale	73.76	37	P	P	05 55 22.2	-1.1
	baz=332						
DIM	Dimitrovgrad	73.76	322	iP	P	05 55 22.8	-0.5
AUSIV	SIVRIHISAR	73.77	317	eP	P	05 55 22.4	-1.1
AUSIV	SIVRIHISAR	73.77	317	iP	P	05 55 22.6	-0.9
N52A	McGinn's Farm,	73.77	40	P	P	05 55 22.3	-1.0
	baz=331						
SVRH	Sivrihisar-ESK	73.77	317	eP	P	05 55 22.4	-1.1
OZLJ	Ozalj	73.78	331	P	P	05 55 22.6	-0.7
CAVI	Cavuskoy	73.78	318	eP	P	05 55 22.9	-0.5
ACSO	Alum Creek Sta	73.78	42	P	P	05 55 22.6	-0.9
	baz=330						
UMQ	Umm Al-Quwin	73.79	291	iP	P	05 55 23.8	+0.2
	SNR=282						
UMQ	Umm Al-Quwin	73.79	291	P	P	05 55 23.8	+0.2
	SNR=253						
DIVS	Divibare	73.80	327	⇓iP	P	05 55 22.4	-1.2
PGB	Panagyurishte	73.80	323	iP	P	05 55 23.0	-0.6
IZI	Iznik	73.81	319	eP	P	05 55 21.9	-1.7
DOB	Doboj	73.81	329	⇑iP	P	05 55 21.6	-1.9
Q48A	North Vernon	73.82	44	P	P	05 55 22.7	-1.0
	baz=329,SNR=949						
BORA	Eskisehir	73.82	318	eP	P	05 55 22.8	-1.0
GEMT	Gemlik	73.83	319	eP	P	05 55 22.9	-0.8
ARMT	Armutlu	73.84	319	eP	P	05 55 22.6	-1.2
CCA1	Carnmenellis	73.85	346	⇓iP	P	05 55 22.3	-1.3
CCA1				IAmb	IAmb	05 55 41.7	
	comp=Z,6µm,0.8s						
M54A	Oil Creek Stat	73.91	39	P	P	05 55 23.2	-0.9
	baz=331,SNR=525						
JAVS	Javornik	73.92	332	iP	P	05 55 22.7	-1.5
JAVS				eS	S	06 04 02.2	-5.9
JAVS				eSKSac	SKSac	06 04 27.0	-6.9
PKME	Peaks-Kenny Pk	73.93	30	P	P	05 55 23.3	-0.8
	baz=336,SNR=148						
BOJS	Bojanci	73.94	331	iP	P	05 55 23.5	-0.7
BOJS				ePcP	PcP	05 55 31.4	-4.4
BOJS				iPP	pP	05 57 35.4	+7.5
BOJS				ePP	sP	05 58 29.1	-1.0
BOJS				eS	S	06 04 09.9	+1.7
BOJS				iSKSac	SKSac	06 04 28.8	-5.1
BOJS				iSS	sS	06 07 37.5	-11
BOJS				eSS	SS	06 08 53.5	-15
CEY	Cerknica	73.96	331	⇓iP	P	05 55 23.1	-1.2
AUBOZ	BOZOYUK	73.96	318	eP	P	05 55 23.9	-0.6
AUBOZ	BOZOYUK	73.96	318	iP	P	05 55 24.6	+0.1
CHBY	Cihanbeyli	73.97	315	eP	P	05 55 23.8	-0.8
TKR	Tekirdag	73.97	320	eP	P	05 55 23.9	-0.5
ESKT	Eskisehir	73.98	317	eP	P	05 55 23.5	-1.2
WSAR	Wadi Sarin	73.99	288	P	P	05 55 25.0	+0.1
	SNR=1464						
MDNY	Mudanya-Bursa	74.00	319	eP	P	05 55 23.9	-0.7
P50A	Jamestown	74.01	42	P	P	05 55 23.7	-1.0
	baz=330,SNR=976						
PLD	Plovdiv	74.01	323	eP	P	05 55 23.7	-0.9
PLD	Plovdiv	74.01	323	iP	P	05 55 28.3	+3.7
CIFT	Cifteler, Eski	74.03	317	eP	P	05 55 23.8	-1.1
SULT	Sultanhani-AKS	74.04	315	eP	P	05 55 24.4	-0.6
R47A	Wooly Knot Far	74.04	45	P	P	05 55 23.9	-1.0
	baz=329,SNR=1000						
BIDO	Bidbid	74.05	288	P	P	05 55 25.0	-0.2
	SNR=798						
BIDO				S	SKSac	06 04 32.6	-2.7
VTS	Vitosha	74.06	324	eP	P	05 55 23.5	-1.6
	comp=Z,14µm,0.9s						
VTS	Vitosha	74.06	324	P	P	05 55 24.5	-0.7
VTS	Vitosha	74.06	324	⇓iP	P	05 55 24.5	-0.7
VTS	Vitosha	74.06	324	iP	P	05 55 24.4	-0.7
PARMO	Parma	74.06	48	eSKSac	SKSac	06 04 32.1	-2.9
S46A	Don Dixon Farm	74.07	46	P	P	05 55 24.1	-0.9
	baz=328,SNR=1000						
BLY	Banja Luka	74.07	329	eP	P	05 55 23.1	-1.8
	comp=Z,3µm,0.7s						
BLY	Banja Luka	74.07	329	⇓iP	P	05 55 23.7	-1.2
BLY	Banja Luka	74.07	329	⇓iP	P	05 55 23.7	-1.2
LBNH	Lisbon	74.07	32	eP'P'df	P'P'df	06 22 49.0	-3.2
LBNH	Lisbon	74.07	32	P	P	05 55 24.6	-0.4
	baz=335						
Q49A	Aurora	74.09	44	P	P	05 55 24.2	-1.0
	baz=329,SNR=647						
HATD	Hatta, Dubai	74.10	290	iP	P	05 55 24.8	-0.7
	SNR=2055						
HATD	Hatta, Dubai	74.10	290	P	P	05 55 24.7	-0.7
	SNR=910						
N53A	Lisbon	74.10	40	P	P	05 55 24.4	-0.8
	baz=331,SNR=1000						
CEYT	Ceyhan	74.11	312	eP	P	05 55 25.7	+0.4
KIZT	Kizilcal	74.12	316	eP	P	05 55 24.6	-0.9
PALK	Pallekele	74.13	260	eP	P	05 55 25.0	-0.8
	comp=Z,10µm,0.9s						
PALK	Pallekele	74.13	260	iP	P	05 55 24.8	-1.0
	SNR=95						
MIAR	Mount Ida	74.13	52	P	P	05 55 25.2	-0.3
	baz=327,SNR=1000						
HAPS	Han Pijesak,Bl	74.14	328	⇑iP	P	05 55 23.7	-1.8
LPIG	La Paz	74.15	71	P	P	05 55 26.6	+0.9
	comp=Z,4µm,0.9s,baz=343,slow=0.6,SNR=308						
KDZ	Kurdzhali	74.16	322	eP	P	05 55 29.3	+3.7
KDZ	Kurdzhali	74.16	322	iP	P	05 55 29.2	+3.7
DAVOX	Davos/Dischmat	74.18	335	S	S	06 04 13.3	+2.1
	comp=Z,257nm,1.1s,baz=76,slow=4.2,SNR=1.7						
DAVOX				PKPPKP		06 22 37.2	
	comp=Z,63nm,0.7s,baz=278,slow=9.7,SNR=5.6						
KARA	Karaisali	74.19	313	eP	P	05 55 25.6	-0.2
WCI	Wyandotte Cave	74.19	45	eP	P	05 55 25.0	-0.7
	comp=Z,21µm,0.8s						
WCI	Wyandotte Cave	74.19	45	P	P	05 55 25.0	-0.7
	baz=329						
BBLS	Lazići	74.19	327	⇓iP	P	05 55 25.2	-0.6
W41B	Gary Mavity, V	74.21	51	P	P	05 55 25.3	-0.6
	baz=327,SNR=1000						
R48A	Northridge Ran	74.22	45	P	P	05 55 25.2	-0.7
	baz=329,SNR=1000						
NAZ	Nazwa, Dubai	74.22	291	iP	P	05 55 25.1	-1.0
	SNR=1145						
NAZ	Nazwa, Dubai	74.22	291	P	P	05 55 25.1	-1.0
	SNR=563						
NAZ				S	SKSac	06 04 30.1	-6.5
FUORN	Ofenpass-Fuorn	74.24	335	eP	P	05 55 25.7	-0.5
	comp=Z,13µm,0.9s						
T45A	Paducah	74.24	47	P	P	05 55 25.5	-0.5
	baz=328,SNR=485						
ASHO	Ashiyiah	74.25	290	iP	P	05 55 25.3	-1.0
	SNR=1119						
ASHO	Ashiyiah	74.25	290	P	P	05 55 25.7	-0.7
	SNR=905						
ASHO				S	SKSac	06 04 33.4	-3.5
SKDS	Skadanscina	74.25	332	iP	P	05 55 24.6	-1.4
M55A	Ridgway	74.27	38	P	P	05 55 25.2	-0.9
	baz=332						
N54A	Moraine State	74.27	39	P	P	05 55

baz=329,SNR=516
Q50A Georgetown 74.59 43 P P 05 55 27.2 -0.8
baz=330
KRTD Karatas-Adana 74.60 313 eP P 05 55 27.9 -0.1
LMN Caledonia Moun 74.61 27 eP'P'df P'P'df 06 22 45.3 -5.9
ERIK Erikli-Kesan 74.62 321 eP P 05 55 27.5 -0.6
P52A Corning 74.63 41 P P 05 55 26.8 -1.3
baz=331,SNR=343
KRTS Karatas 74.64 313 eP P 05 55 28.5 +0.3
PLE Pljevlja 74.68 327⇑ iP P 05 55 27.9 -0.7
SLBS Sierra La Lagu 74.68 71 eP P 05 55 29.8 +1.0
Q51A Peebles 74.69 42 P P 05 55 27.6 -0.9
baz=330,SNR=674
ASUD Al Ashush, Dub 74.69 291 iP P 05 55 27.8 -0.9
SNR=165
ASUD Al Ashush, Dub 74.69 291 P P 05 55 28.3 -0.4
SNR=570
UDBI Udbina 74.69 330 P P 05 55 27.3 -1.2
ENEZ Enez 74.69 321 eP P 05 55 27.9 -0.6
KONT Konya--Tatoy 74.72 315 eP P 05 55 28.1 -0.7
GONE Gonen-Balikesi 74.73 320 eP P 05 55 27.9 -0.8
MERS Mersin 74.75 313 eP P 05 55 28.0 -1.0
GGN Saint George 74.75 28 eP'P'df P'P'df 06 22 44.1 -6.8
S48A Wiedeman Farm, 74.78 45 P P 05 55 28.2 -0.8
baz=329,SNR=1000
KKB Krupnik 74.78 324 iP P 05 55 28.4 -0.6
LPK Lapseki 74.79 321 eP P 05 55 28.7 -0.4
N55A Marion Center 74.80 39 P P 05 55 28.2 -0.9
baz=332,SNR=1000
MMB Musomiste 74.80 323 iP P 05 55 28.6 -0.6
O54A Avella 74.81 40 P P 05 55 28.4 -0.8
baz=331,SNR=659
CTA Charters Tower 74.85 187 P P 05 55 29.4 -0.1
comp=Z,805nm,0.7s,baz=0.2,slow=7.3,SNR=93
CTA S S 06 04 19.8 +1.3
comp=Z,96nm,1.0s,baz=241,slow=19,SNR=4.7
CTAO Charters Tower 74.85 187 eP P 05 55 29.0 -0.5
comp=Z,12μm,1.2s
GELI Tayfur-Gelibol 74.88 321 eP P 05 55 28.8 -0.7
NVLJ Novalja 74.91 331 P P 05 55 28.0 -1.6
T47A Sharon Grove 74.91 46 P P 05 55 29.2 -0.6
baz=329
ALNE Al Ain 74.92 290 iP P 05 55 29.5 -0.6
SNR=762
N56A West Decatur 74.92 38 P P 05 55 28.9 -0.9
baz=332,SNR=883
AJN Ajban 74.93 291 iP P 05 55 28.7 -1.4
SNR=764
AJN Ajban 74.93 291 P P 05 55 28.7 -1.4
SNR=485
SHUT Suhut-Afyon 74.93 317 eP P 05 55 29.6 -0.4
IVA Berane 74.94 326⇑ iP P 05 55 29.2 -0.7
R50A Paris 74.94 44 P P 05 55 29.2 -0.7
baz=330,SNR=550
UPM Unac-Piva 74.95 327⇑ iP P 05 55 28.7 -1.4
UPM Unac-Piva 74.95 327⇓ iP P 05 55 28.6 -1.5
GEDZ Gediz 74.95 318 eP P 05 55 29.5 -0.6
EMMW East Machias 74.96 29 eP P 05 55 29.5 -0.4
comp=Z,5μm,0.8s
NVR Nevrokopi 74.97 323 P P 05 55 29.6 -0.5
JMDO Jabal Madar 74.98 287 P P 05 55 30.2 -0.2
SNR=983
S49A Springfield 74.98 44 P P 05 55 29.5 -0.6
baz=329,SNR=1000
U46A Springville 75.00 47 P P 05 55 29.8 -0.5
baz=329,SNR=668
BALB Balikesir 75.02 319 eP P 05 55 29.6 -0.7
BALB Balikesir 75.02 319 eP P 05 55 29.3 -1.0
comp=Z,67μm,1.0s
BALB eP P P 05 58 29.9 +1.1
P53A Whipple 75.04 41 P P 05 55 29.5 -1.0
baz=331,SNR=448
SHAP Saphane-Kutahy 75.04 318 eP P 05 55 29.5 -1.1
KAVA Kavala 75.05 322 P P 05 55 29.7 -0.8
ARQ Araqi 75.07 289 P P 05 55 31.0 0.0
SNR=1146
KOME Kolasin 75.07 327⇑ iP P 05 55 29.4 -1.3
T48A Bowling Green 75.11 46 P P 05 55 30.0 -0.9
baz=329,SNR=912
SMTH Samothraki Isl 75.15 321 P P 05 55 29.7 -1.4
Q52A Bidwell 75.16 42 P P 05 55 30.0 -1.2
baz=331,SNR=343
PVY Plav 75.16 326⇑ iP P 05 55 30.0 -1.3
BSY Bisya 75.18 288 P P 05 55 31.3 -0.2
SNR=2051
O55A Ligonier 75.18 39 P P 05 55 30.2 -1.1
baz=332,SNR=875
SENIN Lac Senin/Sane 75.19 336 eP P 05 55 30.3 -1.1
comp=Z,5μm,1.0s
R51A Hillsboro 75.22 43 P P 05 55 30.9 -0.6
baz=330,SNR=791
STIP Stip 75.24 324 iP P 05 55 29.7 -1.8
KIZK Mersin 75.24 313 eP P 05 55 30.4 -1.2
SRS Serrai 75.27 323 P P 05 55 30.7 -1.0
NKY Niksic 75.27 327⇑ iP P 05 55 30.2 -1.6
TRD Trivandrum 75.28 264 eP P 05 55 31.4 -0.7
P54A Burton 75.28 40 P P 05 55 31.1 -0.7
baz=331,SNR=573
U47A Clarksville 75.30 47 P P 05 55 31.3 -0.6
baz=329,SNR=908
SSPA Standing Stone 75.32 38 eP P 05 55 30.9 -1.1
comp=Z,41μm,2.0s
SSPA Standing Stone 75.32 38 P P 05 55 30.9 -1.1
baz=332
THAS Thassos island 75.33 322 P P 05 55 31.0 -1.0
NKME Niksic 75.33 327⇑ iP P 05 55 30.4 -1.7
N57A Milroy 75.33 38 P P 05 55 31.0 -1.0
baz=332,SNR=1000
BCI Bajram Curri 75.33 326 iP P 05 55 34.9 +2.8
BRY Bratogost 75.33 327⇑ iP P 05 55 30.4 -1.8
BRY Bratogost 75.33 327⇓ iP P 05 55 30.4 -1.8
WVT Waverly 75.34 47 eP P 05 55 31.6 -0.6
comp=Z,11μm,0.7s
WVT Waverly 75.34 47 P P 05 55 31.7 -0.5
baz=329
435B Jarrell 75.35 57 P P 05 55 32.1 -0.3
baz=326,SNR=466
X43A Marvell 75.37 50 ePKKPbc PKKPbc 06 14 52.5 +9.0
X43A Marvell 75.37 50 P P 05 55 32.2 -0.1
baz=328,SNR=751
O56A Blue Knob Stat 75.40 39 eS S 06 04 31.2 +7.0
O56A Blue Knob Stat 75.40 39 P P 05 55 31.5 -1.0
baz=332,SNR=688
SILI Silifke-Mersin 75.43 313 eP P 05 55 31.2 -1.4
S50A Richmond 75.43 44 P P 05 55 31.9 -0.8
baz=330,SNR=851
EZN Ezine 75.43 321 eP P 05 55 31.6 -1.1
EZN Ezine 75.43 321 P P 05 55 31.5 -1.1
EZN Ezine 75.43 321 ⇓ iP P 05 55 31.5 -1.1
VAY Valandovo 75.44 324 P P 05 55 32.0 -0.6
VAY Valandovo 75.44 324 iP P 05 55 32.0 -0.6
KEBE Keben-Mersin 75.45 314 eP P 05 55 31.6 -1.3
T49A Edmonton 75.46 45 P P 05 55 32.2 -0.6
baz=329
MCWV Mont Chateau 75.47 40 P P 05 55 32.3 -0.5
baz=332,SNR=344
KNT Kendrikon 75.47 324 eP P 05 55 32.1 -0.8
KNT Kendrikon 75.47 324 P P 05 55 32.0 -0.8
V46A Holladay 75.50 48 P P 05 55 32.3 -0.7
baz=328,SNR=1000
BOZC Bozcaada 75.52 321 eP P 05 55 31.8 -1.3
BOZC Bozcaada 75.52 321 iP P 05 55 36.2 +3.1
KHL Karahalli 75.53 318 eP P 05 55 32.9 -0.4
Q53A Leroy 75.53 41 P P 05 55 32.5 -0.7
baz=331,SNR=897
PDG Podgorica 75.54 327⇓ iP P 05 55 31.9 -1.2
PDG Podgorica 75.54 327⇓ iP P 05 55 31.8 -1.3
TTG Podgorica 75.54 327⇑ iP P 05 55 31.6 -1.5
CEME Cevo 75.54 327⇑ iP P 05 55 31.5 -1.7
R52A Catlettsburg 75.56 42 P P 05 55 32.4 -1.0
baz=330,SNR=508
U48A Cassie Pea, Po 75.56 46 P P 05 55 32.6 -0.8
baz=329,SNR=1000
TREB Trebinje 75.56 327⇓ iP P 05 55 31.0 -2.3
Z41A Richland Creek 75.56 52 P P 05 55 33.4 0.0
baz=327,SNR=234
ISP Isparta 75.57 317 eP P 05 55 32.2 -1.4
ISP Isparta 75.57 317 P P 05 55 31.8 -1.8
ISP Isparta 75.57 317⇑ iP P 05 55 32.5 -1.1
ISP Isparta 75.57 317 P P 05 55 30.8 -2.8
TEVE Tevekalti-Mers 75.57 314 eP P 05 55 32.5 -1.0
P55A Reedsville 75.61 40 P P 05 55 33.2 -0.5
baz=332,SNR=1000
SOH Sokhos 75.61 323 P P 05 55 32.5 -1.2
STON Ston 75.62 328 P P 05 55 31.5 -2.1

STON Ston 75.62 328 ⇓ iP P 05 55 31.5 -2.1
IKL Isikli 75.64 314 eP P 05 55 32.3 -1.5
KARG Kargicak-Mersi 75.66 314 eP P 05 55 32.2 -1.7
PUK Puka 75.68 326 iP P 05 55 34.7 +0.6
Q54A Coxs Mills 75.69 41 P P 05 55 33.4 -0.7
baz=331
KULA Kula-Manisa 75.70 318 eP P 05 55 33.3 -1.0
KULA Kula-Manisa 75.70 318 P P 05 55 33.2 -1.0
TEPE Tepekoy-Mersin 75.70 314 eP P 05 55 32.7 -1.6
TISA Tisan-Mersin 75.70 314 eP P 05 55 32.5 -1.7
QUA2 Belchertown 75.71 33 eP'P'df P'P'df 06 22 44.5 -4.7
V47A Nunnelly 75.73 47 P P 05 55 33.6 -0.7
baz=329
BERE Bereket-Mersin 75.74 314 eP P 05 55 32.9 -1.7
HRV Adam Dziewonsk 75.75 33 eP P 05 55 34.1 -0.3
comp=Z,7μm,1.1s
HRV Adam Dziewonsk 75.75 33 P P 05 55 33.9 -0.5
baz=335
OREN Orenkoy-Mersin 75.76 314 eP P 05 55 32.3 -2.2
AKKU Akkuyu-Mersin 75.76 314 eP P 05 55 32.9 -1.6
HCY Herceg Novi 75.76 327⇑ iP P 05 55 32.5 -1.9
HCY Herceg Novi 75.76 327⇓ iP P 05 55 32.4 -1.9
BUM Brajici-Budva 75.77 327⇑ iP P 05 55 32.9 -1.6
AKK1 Akkuyu-Mersin 75.78 314 eP P 05 55 33.4 -1.2
DRME Dracevica, Mon 75.78 327⇑ iP P 05 55 33.4 -1.1
DRME Dracevica, Mon 75.78 327⇓ iP P 05 55 33.4 -1.1
AKK2 Akkuyu-Mersin 75.78 314 eP P 05 55 33.0 -1.6
LIA Limnos Island 75.78 321 P P 05 55 33.3 -1.2
S51A Beattyville 75.79 43 P P 05 55 33.7 -0.9
baz=330,SNR=1000
N59A State Game Lan 75.81 36 eP'P'df P'P'df 06 22 43.4 -5.7
N59A State Game Lan 75.81 36 P P 05 55 33.7 -1.0
baz=333
T50A Nancy 75.82 45 P P 05 55 34.1 -0.8
baz=330,SNR=1000
GRG Griva 75.82 324 eP P 05 55 33.9 -0.9
GRG Griva 75.82 324 P P 05 55 33.9 -0.9
PHP Peshkopia 75.83 326 P P 05 55 34.4 -1.4
PHP Peshkopia 75.83 326 iP P 05 55 34.4 -0.4
OUR Ouranopolis 75.83 322 eP P 05 55 33.6 -1.2
OUR Ouranopolis 75.83 322 P P 05 55 33.5 -1.2
R53A Hurricane 75.83 42 P P 05 55 34.2 -0.7
baz=331,SNR=767
KRUS Krusevo 75.84 325 iP P 05 55 34.1 -0.9
KSCT Kent School, K 75.84 34 ePKKPbc PKKPbc 06 14 57.2 +15
GBN Guysborough 75.85 25 eP'P'df P'P'df 06 22 47.7 -1.2
BCK Bucak 75.86 316 eP P 05 55 33.4 -1.7
U49A Red Boiling Sp 75.87 46 P P 05 55 34.3 -0.8
baz=329,SNR=1000
HORT Hortiatis 75.90 323 eP P 05 55 33.8 -1.6
HORT Hortiatis 75.90 323 P P 05 55 33.7 -1.6
THE Thessaloniki 75.92 323 P P 05 55 33.6 -1.7
NATX Nacogdoches 75.94 55 ePKKPbc PKKPbc 06 14 55.2 +13
NATX Nacogdoches 75.94 55 P P 05 55 36.0 +0.4
baz=327,SNR=1000
W46A Michie 75.95 48 P P 05 55 34.6 -1.0
baz=328,SNR=935
S52A Salyersville 75.96 43 P P 05 55 34.8 -0.8
baz=330
TEKE Tekeli-Mersin 75.96 314 eP P 05 55 33.9 -1.7
PRK Paraskevi 75.96 320 P P 05 55 35.2 -0.3
Q55A Buckhannon 75.96 40 P P 05 55 35.0 -0.6
baz=332,SNR=580
ULC Ulcinj 75.96 327⇑ iP P 05 55 33.8 -1.7
PLG Polygyros 75.98 323 P P 05 55 34.1 -1.6
OXF Oxford 76.03 49 P P 05 55 35.3 -0.7
baz=328,SNR=758
EREN Erenkoy 76.04 313 eP P 05 55 35.3 -0.7
ODNJ Ogdensburg 76.05 35 eP'P'df P'P'df 06 22 39.6 -9.1
V48A Smith Brothers 76.10 47 P P 05 55 35.6 -0.8
baz=329,SNR=1000
BIA Bitola 76.13 325 P P 05 55 35.6 -1.0
BIA Bitola 76.13 325 iP P 05 55 35.5 -1.0
SIGR SIGRI 76.14 321 eP P 05 55 35.4 -1.1
SIGR SIGRI 76.14 321 P P 05 55 35.2 -1.3
MHTO MHTO 76.16 287 P P 05 55 36.2 -0.7
SNR=3967
W47A Westpoint 76.19 47 P P 05 55 36.1 -0.7
baz=329,SNR=1000
O59A Robesonia 76.20 37 P P 05 55 35.7 -1.2
baz=333,SNR=458
WRAB Tennant Creek 76.21 198 eP P 05 55 36.5 -0.5
comp=Z,14μm,0.9s
WRAB Tennant Creek 76.21 198 iP P 05 55 36.8 -0.2
WRAB pmax pmax
comp=Z,16μm,0.9s
DENT Denizli 76.22 318 eP P 05 55 36.8 -0.2
WR1 Warramunga Arr 76.22 198 ePKKPbc PKKPbc 06 14 43.6 +1.0
WR1 eP'P'df **P'P'df** **06 22 39.7 -5.2**
WRA Warramunga Arr 76.22 198 PKKPbc PKKPbc 06 14 43.6 +1.0
comp=Z,48nm,0.8s,baz=209,slow=2.0,SNR=3.6
WRA PKPPKP **P'P'df** **06 22 39.7 -5.2**
comp=Z,74nm,0.8s,baz=189,slow=2.1,SNR=4.1
OHR Ohrid 76.22 325 iP P 05 55 35.7 -1.3
T51A Gray 76.23 44 P P 05 55 36.2 -0.8
baz=330,SNR=814
PAIG Paliouri 76.29 322 P P 05 55 35.8 -1.5
ANTB Antalya 76.31 316 eP P 05 55 35.4 -2.1
TIR Tirane 76.32 326 P P 05 55 36.5 -1.0
TIR Tirane 76.32 326⇑ iP P 05 55 36.1 -1.4
TIR Tirane 76.32 326 iP P 05 55 40.1 +2.6
FNA Florina 76.32 325 eP P 05 55 36.2 -1.3
FNA Florina 76.32 325 eP P 05 55 36.6 -1.0
comp=Z,8μm,1.0s
FNA Florina 76.32 325 P P 05 55 36.3 -1.3
S53A Williamson 76.33 42 P P 05 55 36.8 -0.9
baz=331,SNR=190
R54A Victor 76.33 41 P P 05 55 36.9 -0.7
baz=331,SNR=844
HWQ Hawqa 76.33 311 eP P 05 55 36.8 -1.1
U50A Jamestown 76.34 45 P P 05 55 37.0 -0.7
baz=330,SNR=1000
KORT Korkueli 76.35 316 eP P 05 55 36.1 -1.8
X46A Booneville 76.35 49 P P 05 55 36.9 -0.9
baz=328,SNR=672
PAL Palisades 76.35 35 P P 05 55 36.6 -1.0
baz=334
XMIS Christmas Isla 76.38 229 eP P 05 55 36.4 -1.7
comp=Z,20μm,1.3s
FITZ Fitzroy Crossi 76.38 207 eP P 05 55 37.3 -0.7
FITZ eS S 06 04 38.2 +3.4
FITZ Fitzroy Crossi 76.38 207 P P 05 55 37.9 -0.1
comp=Z,385nm,0.5s,baz=348,slow=5.2,SNR=208
FITZ S S 06 04 34.3 -0.6
comp=Z,169nm,0.9s,baz=287,slow=20,SNR=6.5
KRBN Karaburun 76.43 320 eP P 05 55 36.7 -1.4
V49A McMinnville 76.46 46 P P 05 55 37.4 -1.0
baz=329,SNR=926
O60A Telford 76.47 36 P P 05 55 37.0 -1.3
baz=334
833A Chaparral WMA, 76.47 60 P P 05 55 38.8 +0.2
baz=326,SNR=1000
T52A Hallie 76.49 43 P P 05 55 38.0 -0.5
baz=330,SNR=868
AYDB Zeytinkoy-Aydi 76.49 319 eP P 05 55 37.6 -1.0
VLC Villacollemand 76.50 334 eP P 05 55 38.4 -0.1
comp=Z,37μm,1.4s
S54A Dingess, Beckl 76.54 42 P P 05 55 38.0 -0.8
baz=331,SNR=398
Q57A Strasburg 76.54 39 P P 05 55 37.8 -0.9
baz=332
PHNC Paralimni 76.54 313 P P 05 55 37.8 -1.0
LIT Litokhoron 76.56 323 P P 05 55 37.0 -1.8
W48A Pulaski 76.56 47 P P 05 55 38.1 -0.8
baz=329,SNR=1000
KZN Kozani 76.62 324 P P 05 55 37.5 -1.7
URLA Izmir 76.62 320 eP P 05 55 37.9 -1.3
X47A Russelville 76.70 48 P P 05 55 38.6 -1.1
baz=329,SNR=1000
U51A La Follette 76.71 44 P P 05 55 38.7 -1.0
baz=330,SNR=750
P59A Jarrettsville 76.74 37 P P 05 55 38.6 -1.1
baz=333,SNR=286
AKDN Akdeniz- Kıbrı 76.74 314 eP P 05 55 38.5 -1.4
ELL Elmali 76.74 317 eP P 05 55 25.3 -15
MAMC Mammari 76.75 313 P P 05 55 38.6 -1.3
TZTN Tazewell 76.75 44 P P 05 55 39.3 -0.6
baz=330,SNR=1000
NEST Nestorio 76.76 325 P P 05 55 38.8 -1.2
AKIN Akıncılar- Kıb 76.77 313 eP P 05 55 37.0 -3.1
SDMD Soldier's Deli 76.77 38 eP'P'df P'P'df 06 22 45.0 -2.3
T53A Wise 76.77 43 P P 05 55 39.5 -0.6
baz=331,SNR=996
BHL Bhannes 76.78 311 eP P 05 55 39.4 -0.8

CHOS Chios island 76.80 320 eP P 05 55 38.9 -1.3
CHOS Chios island 76.80 320 P P 05 55 38.8 -1.4
PSUB Penn St. - Bra 76.80 36 eP P 05 55 40.0 -0.1
comp=Z,6μm,1.2s
PSUB ePKKPbc PKKPbc 06 14 49.4 +8.7
QASN Qassioun 76.82 310 eP P 05 55 40.8 +0.4
P60A Greenville 76.84 37 P P 05 55 39.0 -1.3
baz=334,SNR=215
W49A Belvidere 76.86 47 P P 05 55 39.6 -1.0
baz=329,SNR=1000
S55A Lewisburg 76.87 41 P P 05 55 39.7 -0.9
baz=332
BEYL Beirut 76.88 311 eP P 05 55 39.8 -0.9
CSS Mathiatis 76.88 313 eP P 05 55 39.3 -1.3
comp=Z,15μm,0.9s
CSS e 06 05 15.1
CSS Mathiatis 76.88 313 P P 05 55 39.7 -1.0
HKT Hockley 76.89 56 eP P 05 55 40.3 -0.3
comp=Z,29μm,1.8s
HKT ePKKPbc **PKKPbc** **06 14 46.8 +6.7**
HKT Hockley 76.89 56 iP P 05 55 40.6 -0.1
HKT pmax pmax
comp=Z,11μm,1.7s
M65A Busby, Falmout 76.90 32 P P 05 55 39.7 -0.9
baz=336
TOTH TOTAH 76.90 310 eP P 05 55 40.5 -0.4
SKY Skiros Island 76.91 321 P P 05 55 39.5 -1.3
SWET Sewanee 76.92 46 eP P 05 55 39.9 -1.0
comp=Z,19μm,0.8s
SWET ePKKPbc **PKKPbc** **06 14 44.7 +4.4**
LEF Lefka 76.93 314 eP P 05 55 39.3 -1.6
LEF Lefka 76.93 314 ⇓ iP P 05 55 39.4 -1.5
PENT Pentalofos 76.93 324 P P 05 55 39.6 -1.4
U52A Thorn Hill 76.95 44 P P 05 55 40.5 -0.6
baz=330,SNR=1000
GCAM G?zelcaml? 76.96 319 eP P 05 55 39.8 -1.2
XOR Xorichti 76.97 323 P P 05 55 39.2 -1.9
DQRL Deir Qamar 76.98 311 eP P 05 55 40.8 -0.5
MZR Muzera 76.99 291 iP P 05 55 40.5 -1.0
SNR=551
MZR Muzera 76.99 291 P P 05 55 40.5 -1.0
SNR=995
FYTO Fytoko, Volos 77.02 323 P P 05 55 39.5 -1.8
ALFC Alefka 77.02 314 P P 05 55 39.6 -1.8
RCY Rachaya 77.04 311 eP P 05 55 41.0 -0.7
BRBR Barbar 77.07 310 eP P 05 55 42.3 +0.4
V51A Loudon 77.07 45 eP P 05 55 41.0 -0.7
comp=Z,11μm,0.9s
V51A ePKKPbc **PKKPbc** **06 14 44.2 +4.2**
V51A Loudon 77.07 45 P P 05 55 40.8 -0.8
baz=330
QRWL Qaraoun 77.07 311 eP P 05 55 41.2 -0.5
KPRO Kipourio 77.07 324 P P 05 55 39.9 -1.8
T54A Tazewell 77.08 42 P P 05 55 41.2 -0.6
baz=331,SNR=986
SMG Samos 77.10 319 P P 05 55 40.0 -1.8
X48A Hartselle 77.10 48 eS S 06 04 47.6 +5.3
X48A ePKKPbc PKKPbc 06 14 44.1 +4.3
X48A Hartselle 77.10 48 P P 05 55 40.6 -1.3
baz=329,SNR=952
TURN Turunc 77.15 318 eP P 05 55 42.6 +0.6
R57A Stanardsville 77.15 39 P P 05 55 41.5 -0.6
baz=332,SNR=446
FETY Fethiye 77.17 317 eP P 05 55 40.8 -1.4
FETY Fethiye 77.17 317 P P 05 55 40.8 -1.4
DALY Dalyan (Mula) 77.18 317 eP P 05 55 41.4 -0.8
W50A Signal Mountai 77.19 46 eS S 06 04 48.2 +4.9
W50A ePKKPbc PKKPbc 06 14 45.8 +6.0
W50A Signal Mountai 77.19 46 P P 05 55 41.4 -1.0
baz=330,SNR=1000
THL Klokotos Trika 77.20 323 P P 05 55 39.4 -2.9
SHBL Chebaa 77.21 311 eP P 05 55 41.9 -0.7
TPE Tepelena 77.22 325 P P 05 55 41.2 -1.2
TPE Tepelena 77.22 325 iP P 05 55 47.1 +4.7
VLO Vlora 77.23 326 P P 05 55 41.8 -0.6
VLO Vlora 77.23 326 iP P 05 55 50.6 +8.2
SZAC Souni 77.24 313 P P 05 55 41.8 -0.9
DQM DQM 77.25 286 P P 05 55 42.0 -0.9
SNR=652
U53A Fall Branch 77.30 43 P P 05 55 42.2 -0.8
baz=331,SNR=1000
CPCT Cooper Cave 77.30 45 eP P 05 55 42.2 -0.7
comp=Z,10μm,1.0s
CPCT ePKKPbc **PKKPbc** **06 14 42.0 +2.5**
S56A Natural Bridge 77.31 40 P P 05 55 42.1 -0.8
baz=332
AKAS Kas 77.31 316 eP P 05 55 41.2 -1.9
Q59A Harwood 77.32 38 P P 05 55 42.3 -0.7
baz=333
T55A Pulaski 77.34 42 P P 05 55 42.6 -0.6
baz=332
V52A Sevierville 77.34 44 P P 05 55 42.5 -0.6
baz=330,SNR=1000
R58A Rapidan 77.34 39 P P 05 55 42.2 -0.9
baz=333,SNR=327
X49A Woodville 77.36 47 P P 05 55 42.4 -0.8
baz=329,SNR=1000
PPCY Paphos 77.36 314 P P 05 55 41.8 -1.4
AQU L'Aquila 77.36 331 ⇓ iP P 05 55 42.9 -0.3
DZM Mont Dzumac 77.39 168 eP P 05 55 44.8 +1.3
comp=Z,30μm,1.5s
DZM Mont Dzumac 77.39 168 eP P 05 55 44.1 +0.6
comp=Z,24μm,1.5s
DZM Mont Dzumac 77.39 168 P P 05 55 44.6 +1.2
comp=Z,2μm,0.8s,baz=32,slow=6.1,SNR=375
DZM S S 06 04 47.2 +1.7
comp=Z,43nm,0.8s,baz=351,slow=19,SNR=1.8
KSL Kastellorizon 77.39 316 P P 05 55 41.8 -1.6
SMIA Simia 77.39 322 P P 05 55 41.6 -1.8
BLA Blacksburg 77.40 41 P P 05 55 42.6 -0.8
baz=332,SNR=453
MRKA Markates 77.41 322 P P 05 55 41.8 -1.7
MRSB Marmaris-Mugla 77.44 318 eP P 05 55 42.8 -0.9
W51A Cleveland 77.45 45 P P 05 55 42.8 -1.0
baz=330
U54A Nelsons Funny 77.46 43 eP P 05 55 43.2 -0.6
comp=Z,9μm,0.8s
U54A ePKKPbc **PKKPbc** **06 14 45.1 +5.8**
U54A Nelsons Funny 77.46 43 P P 05 55 43.2 -0.6
baz=331,SNR=687
S57A Dark Hollow, R 77.47 40 P P 05 55 43.2 -0.5
baz=332,SNR=434
VBMS Vicksburg 77.47 51 P P 05 55 44.1 +0.2
baz=328
BAI Bari 77.48 328 ⇓ iP P 05 55 42.2 -1.5
BODT Bodrum 77.48 319 eP P 05 55 42.3 -1.6
BODT Bodrum 77.48 319 P P 05 55 42.2 -1.6
Y48A Jasper 77.51 48 P P 05 55 42.6 -1.4
baz=329,SNR=466
JAN Janina 77.51 324 P P 05 55 43.3 -0.7
EREA Eretria 77.54 322 P P 05 55 42.6 -1.6
AGG Agios Georgios 77.57 323 eP P 05 55 41.8 -2.6
AGG Agios Georgios 77.57 323 P P 05 55 41.6 -2.8
SRN Sarande 77.59 325 P P 05 55 43.0 -1.4
SRN Sarande 77.59 325 iP PcP 05 55 54.7 +3.0
FASA Fasano 77.60 327 ⇓ iP P 05 55 43.0 -1.4
ATAL Atalanti 77.62 322 P P 05 55 42.3 -2.3
MMAI Mount Meron Ar 77.64 311 S S 06 04 48.0 -0.2
comp=Z,106nm,1.1s,baz=36,slow=7.5,SNR=1.6
CBN Corbin Frederi 77.65 39 eP P 05 55 43.9 -0.8
comp=Z,24μm,1.4s
CBN ePKKPbc **PKKPbc** **06 14 44.8 +6.0**
CBN Corbin Frederi 77.65 39 P P 05 55 44.0 -0.7
baz=333,SNR=217
LKR Lokris 77.67 322 P P 05 55 42.8 -2.0
R58B Mineral 77.68 39 eP P 05 55 43.8 -1.1
comp=Z,8μm,1.1s
R58B eP'P'df **P'P'df** **06 22 41.8 -3.9**
R58B Mineral 77.68 39 P P 05 55 44.2 -0.7
baz=333,SNR=644
X50B Fort Payne 77.68 46 P P 05 55 44.0 -1.1
baz=330,SNR=661
AXAR Agios Charalam 77.69 323 P P 05 55 45.1 +0.1
ASF Jabal al Asfar 77.69 309 S S 06 04 48.9 +0.1
comp=Z,225nm,1.2s,baz=184,slow=19,SNR=2.7
T56A Rocky Mt 77.70 41 P P 05 55 44.1 -1.0
baz=332,SNR=420
CGL1 Ceglie Messapi 77.71 327 ⇓ iP P 05 55 43.6 -1.4
MNCY Minicoy 77.73 267 eP P 05 55 44.5 -1.0
R59A King George, V 77.75 38 P P 05 55 44.6 -0.6
baz=333
U55A TA2, Sparta 77.78 42 P P 05 55 44.8 -0.7
baz=331,SNR=881
OUENC Ouen Island, N 77.78 167 eP P 05 55 46.0 +0.6

IGT Igoumenitsa 77.80 325 P P 05 55 44.0 -1.5
V53A Saluda 77.81 44 eP P 05 55 44.8 -0.9
comp=Z,7μm,1.1s
V53A ePKKPbc PKKPbc 06 14 50.0 +11
V53A eP'P'df P'P'df 06 22 47.3 +1.6
V53A Saluda 77.81 44 P P 05 55 44.9 -0.8
baz=331,SNR=697
KEK Kerkira 77.81 325 P P 05 55 44.2 -1.4
MASS Massafra 77.83 327⇓iP P 05 55 44.3 -1.4
DION Dionisos Attik 77.85 321 P P 05 55 43.5 -2.3
EVR Evrytania 77.85 323 P P 05 55 44.0 -1.9
W52A Murphy 77.85 45 eP P 05 55 45.1 -0.8
comp=Z,13μm,1.1s
W52A ePKKPbc PKKPbc 06 14 44.7 +6.4
W52A Murphy 77.85 45 P P 05 55 45.1 -0.8
baz=330,SNR=1000
Y49A Blount Mountai 77.88 47 P P 05 55 45.1 -1.0
baz=329,SNR=1000
R60A Leonardtown, M 77.88 38 P P 05 55 45.5 -0.5
baz=333,SNR=61
TAR1 Taranto 77.89 327⇓iP P 05 55 44.6 -1.3
PTL Penteli 77.90 321 P P 05 55 43.9 -2.2
ARG Arkhangelos 77.91 318 eP P 05 55 45.0 -1.2
ARG Arkhangelos 77.91 318 P P 05 55 44.7 -1.5
X51A Calhoun 77.92 46 P P 05 55 45.4 -0.9
baz=330,SNR=623
S58A Poland Farm, P 77.93 39 P P 05 55 45.3 -1.0
baz=333
MATE Matera 77.95 328⇑iP P 05 55 44.9 -1.4
H06N1 SOCORRO T-PHAS 77.97 74 P P 05 55 48.9 +2.1
SNR=1477
VILL Villia 77.99 322 P P 05 55 44.2 -2.4
ATHU Athens Univers 78.00 321 P P 05 55 44.1 -2.5
ATH Athens Observa 78.02 322 P P 05 55 44.5 -2.2
T57A Hurt 78.03 41 eP P 05 55 45.8 -0.9
comp=Z,4μm,0.8s
T57A ePKKPbc PKKPbc 06 14 43.6 +5.6
T57A Hurt 78.03 41 P P 05 55 45.8 -0.9
baz=332
DSF Desfina 78.05 323 P P 05 55 44.2 -2.8
PINNC Pines Island, 78.05 167 eP P 05 55 47.2 +0.3
V54A Nebo 78.06 43 P P 05 55 46.2 -0.8
baz=331,SNR=583
H06E1 SOCORRO T-PHAS 78.07 74 P P 05 55 52.6 +5.3
SNR=5695
S59A Mechanicsville 78.07 39 P P 05 55 46.4 -0.6
baz=333,SNR=369
H06S1 SOCORRO T 78.09 75 P P 05 55 48.9 +1.5
SNR=2591
VLY Voula,Athens 78.10 321 P P 05 55 44.5 -2.6
W53A Cullowhee 78.10 44 P P 05 55 46.6 -0.8
baz=331,SNR=609
MMLI Mount Malkishu 78.13 310 eP P 05 55 47.5 +0.1
Y50A Piedmont 78.14 47 P P 05 55 46.5 -1.0
baz=330
APE Apeiranthos 78.15 320 eP P 05 55 44.1 -3.4
APE Apeiranthos 78.15 320 P P 05 55 44.5 -3.0
APE Apeiranthos 78.15 320⇓iP P 05 55 44.3 -3.2
U56A King 78.17 42 P P 05 55 46.8 -0.7
baz=332,SNR=342
KALE Kalithea 78.20 323 P P 05 55 45.2 -2.6
SERG Sergoula 78.21 323 P P 05 55 45.3 -2.5
PVO Paravola 78.22 323 P P 05 55 46.1 -1.6
AMGA Amorgos Island 78.23 319 P P 05 55 44.9 -3.0
TRIZ Trizonia 78.25 323 P P 05 55 45.5 -2.4
EFP Efpalio 78.25 323 P P 05 55 46.0 -1.9
LOUT Loutraki 78.27 322 P P 05 55 44.9 -3.2
V55A Taylorsville 78.28 43 P P 05 55 47.3 -0.9
baz=331,SNR=313
X52A Dahlonega 78.29 45 P P 05 55 47.5 -0.8
baz=330,SNR=756
TSLK Tsoukalades, L 78.33 324 P P 05 55 46.6 -1.7
ALIK Aliki, Aigiali 78.33 323 P P 05 55 46.7 -1.6
LRAL Lakeview Retre 78.33 48 P P 05 55 47.2 -1.2
baz=329,SNR=1000
T58A Grand View Acr 78.34 40 P P 05 55 47.5 -0.9
baz=332,SNR=326
BG3 Lake Jocassee 78.34 44 eP P 05 55 47.9 -0.7
comp=Z,18μm,1.4s
BG3 ePKKPbc PKKPbc 06 14 42.5 +5.2
S60A Water View 78.36 38 P P 05 55 48.0 -0.5
baz=333
LKD2 Lefkada island 78.36 324 P P 05 55 46.8 -1.7
LAKA Lakka 78.39 323 P P 05 55 46.9 -1.9
Z49A Columbiana 78.40 48 P P 05 55 47.8 -1.0
baz=330,SNR=1000
Y51A Rockmart 78.41 46 P P 05 55 47.8 -1.1
baz=330,SNR=1000
U57A Blanch 78.49 41 P P 05 55 48.5 -0.8
baz=332,SNR=310
EVGI Lefkada island 78.51 324 P P 05 55 47.7 -1.6
KLV Kalavryta, Ach 78.51 323 P P 05 55 47.2 -2.2
GUR Goura 78.54 323 P P 05 55 47.1 -2.5
W54A Cherokee Point 78.56 44 P P 05 55 48.8 -0.9
baz=331
V56A Mocksville 78.59 42 eP P 05 55 49.0 -0.9
comp=Z,11μm,1.1s
V56A eP'P'df P'P'df 06 22 41.3 -2.9
V56A Mocksville 78.59 42 P P 05 55 49.1 -0.7
baz=332,SNR=644
DID Didima 78.61 322 P P 05 55 46.2 -3.7
Z50A Ashland 78.61 47 P P 05 55 49.1 -0.9
baz=330
X53A Estanollee 78.62 45 P P 05 55 49.6 -0.4
baz=331
AXS Araxos 78.64 323 P P 05 55 48.3 -1.7
T59A Double "B" Far 78.68 39 eP P 05 55 48.4 -1.8
comp=Z,8μm,1.2s
T59A ePKKPbc PKKPbc 06 14 41.7 +5.2
T59A Double "B" Far 78.68 39 P P 05 55 49.3 -0.9
baz=333,SNR=200
FSK Fiskardo 78.69 324 P P 05 55 48.2 -2.0
CMBO Columbo, Santo 78.73 320 P P 05 55 46.7 -3.8
RLS Riolos of Patr 78.74 323 P P 05 55 49.3 -1.2
DRO Drossia 78.75 323 P P 05 55 49.3 -1.3
KRND KRANIDI 78.75 322 P P 05 55 46.8 -3.8
SAP3 Santorini-Thir 78.78 320 P P 05 55 47.0 -3.8
THR3 Thira Island, 78.78 320 P P 05 55 47.2 -3.6
149A Jones 78.80 48 P P 05 55 50.2 -0.7
baz=329,SNR=1000
SANT Santorini 78.80 320⇓iP P 05 55 47.2 -3.7
V57A Coltrane Farms 78.81 41 P P 05 55 50.0 -0.9
baz=332
U58A Oxford 78.82 40 P P 05 55 50.3 -0.7
baz=332,SNR=474
T60A Surry 78.83 39 P P 05 55 50.4 -0.7
baz=333
SAP1 Santorini-Akro 78.83 320 P P 05 55 47.5 -3.6
KMSC Kings Mountain 78.85 43 P P 05 55 50.2 -1.0
baz=331,SNR=669
Y52A Lilburn 78.86 46 eP P 05 55 50.4 -0.9
comp=Z,15μm,1.6s
Y52A ePKKPbc PKKPbc 06 14 40.0 +3.9
Y52A Lilburn 78.86 46 P P 05 55 50.6 -0.6
baz=330,SNR=626
Z51A Franklin 78.87 47 P P 05 55 50.3 -1.1
baz=330
KARP Karpathos 78.87 318 eP P 05 55 49.1 -2.2
KARP Karpathos 78.87 318 eP P 05 55 48.5 -2.8
comp=Z,18μm,0.9s
KARP eS S 06 04 60.0 -0.9
KARP eSKSac SKSac 06 05 07.6 -2.0
KARP Karpathos 78.87 318 P P 05 55 48.7 -2.6
KFL Anninata 78.92 324 P P 05 55 49.9 -1.6
VLS Valsamata 78.93 324 P P 05 55 49.3 -2.3
PAULI Pauline 78.94 44 eP P 05 55 50.6 -1.1
comp=Z,4μm,1.0s
PAULI ePKKPbc PKKPbc 06 14 41.7 +5.7
X54A Belton 78.96 44 P P 05 55 51.0 -0.8
baz=331,SNR=909
VTN Vitineika 78.96 323 P P 05 55 51.0 -0.7
VLX Vlachokerasia 79.03 322 P P 05 55 49.9 -2.3
Y53A Monroe 79.07 45 P P 05 55 51.7 -0.6
baz=331
150A Eclectic 79.12 48 P P 05 55 51.7 -0.9
baz=330,SNR=1000
AMT Artemida-Makis 79.12 323 P P 05 55 50.9 -1.7
V58A Windy Hill, Pi 79.14 41 P P 05 55 52.0 -0.7
baz=332,SNR=611
U59A Littleton 79.14 40 P P 05 55 52.1 -0.6
baz=333
W56A Indian Trail 79.15 42 P P 05 55 51.7 -1.1
baz=332,SNR=265
249A Camden 79.19 49 P P 05 55 52.8 -0.2
baz=329,SNR=1000

LNIG Linares 79.25 62 ePKKPbc PKKPbc 06 14 38.1 +3.0
U60A Pendleton 79.27 39 P P 05 55 52.6 -0.7
baz=333
TIP Timpagrande 79.28 327 eP P 05 55 52.6 -0.8
comp=Z,14μm,1.1s
TIP eSKSac SKSac 06 05 10.2 -2.1
TIP ePKKPbc PKKPbc 06 14 41.3 +5.8
TIP Timpagrande 79.28 327 P P 05 55 52.6 -0.8
TIP Timpagrande 79.28 327⇑iP P 05 55 52.5 -1.0
Z52A Williamson 79.30 46 P P 05 55 52.9 -0.7
baz=330,SNR=648
X55A Gracelyn & Ava 79.32 44 P P 05 55 52.7 -0.9
baz=331,SNR=584
ITM Ithomi 79.36 322 eP P 05 55 50.2 -3.7
ITM Ithomi 79.36 322 eP P 05 55 51.8 -2.1
comp=Z,19μm,1.0s
ITM eSKSac SKSac 06 05 11.0 -1.9
ITM Ithomi 79.36 322 P P 05 55 51.8 -2.1
W57A Gilead 79.37 42 ePKKPbc PKKPbc 06 14 41.4 +6.3
W57A Gilead 79.37 42 P P 05 55 53.1 -0.8
baz=332,SNR=457
ZAIG Zacatecas 79.39 66 ePKKPbc PKKPbc 06 14 39.5 +4.4
VLI Veliai 79.42 322 P P 05 55 50.5 -3.6
Y54A Tignall 79.43 45 P P 05 55 53.7 -0.5
baz=331,SNR=1000
151A Opelika 79.48 47 P P 05 55 53.4 -1.1
baz=330
V59A Middlesex 79.50 40 P P 05 55 53.9 -0.7
baz=333,SNR=736
GOGA Godfrey 79.50 45 ePKKPbc PKKPbc 06 14 38.8 +4.1
GOGA Godfrey 79.50 45 P P 05 55 53.9 -0.8
baz=331,SNR=290
X56A White Oak 79.54 43 P P 05 55 54.0 -0.8
baz=332,SNR=591
250A Grady 79.56 48 ePKKPbc PKKPbc 06 14 37.2 +2.6
250A Grady 79.56 48 P P 05 55 54.4 -0.6
baz=330,SNR=1000
Z53A Monticello 79.57 46 P P 05 55 54.2 -0.8
baz=331,SNR=683
STIA Sitia Lasithi 79.59 319 P P 05 55 53.6 -1.4
ZKR Zakros 79.62 318 eP P 05 55 53.6 -1.6
ZKR Zakros 79.62 318 P P 05 55 53.4 -1.8
152A Waverly Hall 79.62 47 P P 05 55 54.2 -1.1
baz=330,SNR=637
BIRD Birdtown, Kers 79.63 43 eP P 05 55 54.7 -0.6
comp=Z,10μm,1.2s
BIRD eSKSac SKSac 06 05 18.2 +3.5
BIRD ePKKPbc PKKPbc 06 14 37.4 +2.9
JSC Jenkinsville 79.63 43 ePKKPbc PKKPbc 06 14 38.7 +4.2
U61A Possum Corner 79.65 39 eP'P'df P'P'df 06 22 37.6 -4.6
U61A Possum Corner 79.65 39 P P 05 55 54.7 -0.7
baz=334,SNR=238
PYL PYLOS 79.68 322 P P 05 55 52.9 -2.6
349A Repton 79.69 49 P P 05 55 56.0 +0.4
baz=329,SNR=1000
Y55A Saluda 79.70 44 P P 05 55 55.0 -0.7
baz=331
NPS Neapolis 79.72 319 P P 05 55 52.8 -3.0
W58A Raeford 79.78 42 P P 05 55 55.4 -0.6
baz=332,SNR=880
KYTH Kithira 79.78 321 P P 05 55 53.3 -2.8
KTHR Kythira 79.80 321 P P 05 55 54.0 -2.2
251A Midway 79.82 48 P P 05 55 55.5 -0.8
baz=330
LAST Lasithi 79.86 319 P P 05 55 54.1 -2.5
V60A Jim Taylor Roa 79.86 40 P P 05 55 55.7 -0.7
baz=333,SNR=165
EIDS Eidsvold 79.88 182 eP P 05 55 56.5 0.0
comp=Z,15μm,1.6s
EIDS ePKKPbc PKKPbc 06 14 39.2 +4.5
IACM Heraklion 79.88 319 P P 05 55 54.0 -2.6
KZIT Kziot 79.88 310 eP P 05 55 56.2 -0.5
BRAL Brewton 79.91 49 ePKKPbc PKKPbc 06 14 40.5 +6.7
BRAL Brewton 79.91 49 P P 05 55 57.2 +0.5
baz=330,SNR=744
Z54A Sparta 79.91 45 P P 05 55 56.3 -0.5
baz=331,SNR=781
AS31 Alice Springs 79.93 198 eP P 05 55 56.4 -0.5
comp=Z,2μm,0.8s
AS31 ePKKPbc PKKPbc 06 14 39.4 +4.8
ASAR Alice Springs 79.93 198 eP P 05 55 56.2 -0.6
ASAR eScS ScS 06 05 34.7 +7.8
ASAR ePKKPbc PKKPbc 06 14 38.2 +3.6
ASAR Alice Springs 79.93 198 P P 05 55 56.9 0.0
comp=Z,710nm,0.5s,baz=10,slow=4.9,SNR=1238
ASAR S S 06 05 12.0 +0.3
comp=Z,62nm,0.8s,baz=354,slow=7.7,SNR=3.1
ASAR PKKPbc PKKPbc 06 14 34.2 -0.4
comp=Z,37nm,0.7s,baz=201,slow=3.6,SNR=4.1
ASAR PKPPKP P'P'df 06 22 30.1 -8.1
comp=Z,45nm,1.1s,baz=154,slow=2.8,SNR=4.6
X57A Johnson Farm, 79.93 42 P P 05 55 56.3 -0.6
baz=332
W59A Clinton 79.95 41 P P 05 55 56.5 -0.4
baz=333
IDI Anoyia 79.97 319 eS S 06 05 03.6 -8.5
IDI Anoyia 79.97 319 S S 06 05 05.9 -6.2
comp=Z,350nm,1.1s,baz=64,slow=22,SNR=5.7
NIUE Niue 79.97 145 eP P 05 55 57.4 +0.3
comp=Z,26μm,1.4s
350A Dozier 80.00 49 P P 05 55 57.2 0.0
baz=330,SNR=396
153A Fort Valley 80.01 46 P P 05 55 56.7 -0.6
baz=331,SNR=145
ANKY Antikythira Is 80.04 321 P P 05 55 55.0 -2.4
Y56A Pelion 80.05 44 P P 05 55 56.7 -0.7
baz=332,SNR=194
CHAN Chania 80.08 320 P P 05 55 58.0 +0.4
V61A Roper 80.09 39 P P 05 55 57.0 -0.6
baz=334,SNR=90
CNNC Cliffs of the 80.09 40 P P 05 55 57.2 -0.4
baz=333,SNR=298
VAM Vamos 80.12 320 P P 05 55 55.4 -2.4
X58A Rowland 80.15 42 ePKKPbc PKKPbc 06 14 36.4 +3.1
X58A Rowland 80.15 42 P P 05 55 57.4 -0.6
baz=332
IMMV Iera Moni Meta 80.15 320 P P 05 55 55.7 -2.3
449A Pace 80.19 50 P P 05 55 59.1 +0.8
baz=329,SNR=697
252A Lumpkin 80.19 47 P P 05 55 57.3 -0.9
baz=330,SNR=508
TMBK Timbaki Herakl 80.21 319 P P 05 55 56.7 -1.6
Z55A Blythe 80.21 45 P P 05 55 57.8 -0.5
baz=331,SNR=432
Y57A Sumter 80.21 43 ePKKPbc PKKPbc 06 14 33.8 +0.6
Y57A Sumter 80.21 43 P P 05 55 57.4 -0.9
baz=332
SIVA Sivas 80.24 319 P P 05 55 56.6 -1.8
W60A Pink Hill 80.32 40 P P 05 55 58.4 -0.5
baz=333,SNR=208
154A Montrose 80.34 46 P P 05 55 58.6 -0.4
baz=331,SNR=1000
HRFI Mount Harif 80.34 309 eP P 05 55 58.5 -0.6
253A Americus 80.39 47 eS S 06 05 23.9 +7.5
253A ePKKPbc PKKPbc 06 14 36.9 +4.1
253A Americus 80.39 47 P P 05 55 58.6 -0.7
baz=330
X59A McDuffie Farm, 80.41 41 P P 05 55 58.7 -0.6
baz=333,SNR=176
450A Crestview 80.42 49 P P 05 56 00.1 +0.6
baz=330
Z56A Williston 80.43 44 P P 05 55 59.0 -0.5
baz=332,SNR=559
351A Pinckard 80.44 48 P P 05 55 59.3 -0.2
baz=330,SNR=810
DMTO DMTO 80.47 287 P P 05 55 59.0 -0.9
SNR=154
W61A Ground Anchor 80.48 40 P P 05 55 59.0 -0.7
baz=333
V62A Hyde County Ai 80.52 39 P P 05 55 59.5 -0.4
baz=334
352A Blakely 80.56 47 ePKKPbc PKKPbc 06 14 36.2 +3.9
352A Blakely 80.56 47 P P 05 55 59.7 -0.5
baz=330,SNR=851
Y58A Scranton 80.59 42 ePKKPbc PKKPbc 06 14 35.7 +3.3
Y58A Scranton 80.59 42 P P 05 55 59.7 -0.5
baz=332,SNR=341
155A Kite 80.60 45 P P 05 55 59.9 -0.4
baz=331,SNR=937
X60A Albert Glenn T 80.65 41 P P 05 55 59.9 -0.6
baz=333,SNR=171
GVD Gavdhos 80.67 320 eP P 05 55 58.8 -1.9
GVD Gavdhos 80.67 320 P P 05 55 58.9 -1.8
EIL Elat 80.69 309 eP P 05 56 00.5 -0.4
EIL Elat 80.69 309 S S 06 05 19.2 -0.3
comp=Z,172nm,1.0s,baz=330,slow=14,SNR=2.4

Z57A Bowman 80.72 43 P P 05 56 00.4 -0.5
baz=332,SNR=481
254A Abbeville 80.84 46 P P 05 56 01.3 -0.3
baz=331,SNR=960
451A Vernon 80.95 49 ePKKPbc PKKPbc 06 14 36.0 +4.6
451A Vernon 80.95 49 P P 05 56 02.6 +0.4
baz=330,SNR=364
WHFO Wadi Hawf 80.95 288 P P 05 56 01.0 -1.4
SNR=491
156A Sylvania 80.96 44 P P 05 56 02.2 0.0
baz=332,SNR=430
MBWA Marble Bar 80.97 212 P P 05 56 00.8 -1.4
SNR=316
353A Camilla 80.97 47 P P 05 56 02.1 -0.2
baz=331,SNR=1000
452A Marianna 80.99 48 P P 05 56 02.2 -0.1
baz=330,SNR=129
Z58A St. Stephen 81.04 43 P P 05 56 02.0 -0.6
baz=332,SNR=306
RBK Rabkut 81.05 288 P P 05 56 02.0 -1.0
SNR=63
Y60A Bolivia 81.06 41 P P 05 56 02.0 -0.7
baz=333
NHSC New Hope 81.09 43 eP'P'df P'P'df 06 22 35.0 -4.5
NHSC New Hope 81.09 43 P P 05 56 02.5 -0.4
baz=332
157A Early Branch 81.14 44 P P 05 56 03.0 -0.1
baz=332,SNR=209
TIGA Tifton 81.16 46 P P 05 56 03.2 0.0
baz=331,SNR=737
255A Hazlehurst 81.20 45 P P 05 56 03.3 -0.2
baz=331,SNR=636
RGRS Roger Stewart 81.26 43 ePKKPbc PKKPbc 06 14 34.3 +3.5
PSA00 Pilbara Seismi 81.32 211 eP P 05 56 01.9 -2.1
comp=Z,22μm,1.8s
PSA00 ePKKPbc PKKPbc 06 14 35.3 +4.0
Z59A Georgetown, SC 81.33 42 P P 05 56 03.7 -0.3
baz=332
453A Whigham 81.36 47 P P 05 56 04.4 +0.2
baz=331,SNR=230
256A Glennville 81.39 45 P P 05 56 04.2 -0.2
baz=332,SNR=292
158A Hollywood 81.41 43 P P 05 56 04.1 -0.4
baz=332
355A Pearson 81.55 46 P P 05 56 05.1 -0.2
baz=331
552A Lynn Haven 81.56 48 P P 05 56 05.7 +0.4
baz=330
VAE Valguarnera 81.57 328 P P 05 56 04.9 -0.4
comp=Z,180nm,1.0s,baz=48,slow=7.4,SNR=16
VAE S S 06 05 34.3 +6.2
comp=Z,99nm,0.8s,baz=17,slow=17,SNR=1.8
VAE PKKPbc PKKPbc 06 14 27.7 -2.8
comp=Z,45nm,0.9s,baz=267,slow=3.9,SNR=2.6
ABTO Aybut 81.67 288 P P 05 56 05.0 -1.2
SNR=260
257A Skidaway Islan 81.75 44 P P 05 56 06.0 -0.3
baz=332
454A Quitman 81.77 47 P P 05 56 06.3 -0.1
baz=331,SNR=206
356A Blackshear 81.87 45 P P 05 56 06.6 -0.2
baz=331
COCO West Island 81.91 235 iP P 05 56 07.1 0.0
COCO West Island 81.91 235 P P 05 56 07.2 0.0
SNR=110
455A Stateville 82.00 46 P P 05 56 07.5 -0.1
baz=331,SNR=330
MAHO Mahon 82.02 337⇓iP P 05 56 05.6 -1.8
MAHO eS S 06 05 29.5 -2.9
357A Townsend 82.05 45 P P 05 56 07.5 -0.2
baz=332
PBRG Braganca 82.27 345⇓eP P 05 56 07.8 -1.0
comp=Z,9μm,1.9s
PBRG epP pP 05 58 28.5 +12
PBRG Braganca 82.27 345 ePP PP 05 59 37.6 +10
554A Perry 82.30 47 P P 05 56 09.0 0.0
baz=331,SNR=118
PGAV Gavieira, Arco 82.33 346⇓eP P 05 56 08.3 -0.8
comp=Z,11μm,2.0s
PGAV epP pP 05 58 26.1 +10
456A Hilliard 82.44 46 ePKKPbc PKKPbc 06 14 34.5 +6.3
456A Hilliard 82.44 46 P P 05 56 09.9 +0.2
baz=332
PCAB Cabril 82.54 346 eP P 05 56 09.4 -0.7
comp=Z,9μm,2.1s
555A McAlpin 82.57 47 P P 05 56 10.4 0.0
baz=331,SNR=486
MOIG Morelia 82.65 66 eP P 05 56 12.4 +1.1
comp=Z,12μm,1.0s
457A Yulee 82.72 45 P P 05 56 11.4 +0.3
baz=332
POLO Lamas de Olo 82.84 346⇓eP P 05 56 10.7 -1.0
comp=Z,6μm,1.0s
POLO epP pP 05 58 32.1 +13
556A Lake Butler 82.91 46 P P 05 56 12.4 +0.3
baz=331,SNR=498
PVRL Vila Real 82.93 346⇓eP P 05 56 11.2 -0.9
comp=Z,13μm,1.0s
MVO Moncorvo 82.94 345⇓eP P 05 56 11.0 -1.2
comp=Z,9μm,1.1s
MVO epP pP 05 58 24.7 +4.9
655A Horseshoe Beac 82.98 47 P P 05 56 12.3 -0.2
baz=331,SNR=92
WDD Wied Dalam 83.04 327 ePKKPbc PKKPbc 06 14 31.0 +4.0
UCM Universidad Co 83.16 342⇓iP P 05 56 11.8 -1.4
UCM eS S 06 05 41.8 -2.0
557A Orange Park 83.18 46 P P 05 56 13.8 +0.3
baz=332,SNR=512
PTO Porto 83.18 346 eP P 05 56 12.2 -1.1
comp=Z,7μm,1.5s
656A Willston 83.41 47 ePKKPbc PKKPbc 06 14 32.6 +6.6
656A Willston 83.41 47 P P 05 56 15.0 +0.4
baz=331,SNR=465
657A Interlachen 83.50 46 P P 05 56 15.2 +0.2
baz=332
PVIS Viseu 83.50 346⇓eP P 05 56 13.7 -1.2
comp=Z,10μm,1.1s
MTE Manteigas 83.76 345⇓eP P 05 56 15.1 -1.1
comp=Z,8μm,1.1s
MTE epP pP 05 58 31.8 +7.6
MTE Manteigas 83.76 345 eP P 05 56 13.9 -2.4
comp=Z,6μm,1.0s
MTE ePKKPbc PKKPbc 06 14 30.2 +4.5
658A Bunnell 83.89 46 P P 05 56 17.2 +0.3
baz=332
ESDC Sonseca Array 83.90 343 eP P 05 56 14.8 -2.1
ESDC ePKKPbc PKKPbc 06 14 23.6 -1.8
ESDC eP'P'df P'P'df 06 22 26.4 -8.1
ESDC eP'P'df P'P'df 06 22 34.0 -0.5
ESDC Sonseca Array 83.90 343 P P 05 56 15.9 -1.0
comp=Z,2μm,0.9s,baz=8.1,slow=4.1,SNR=852
ESDC S SKSac 06 05 42.0 -0.7
comp=Z,86nm,1.1s,baz=23,slow=7.0,SNR=2.2
ESDC PKKPbc PKKPbc 06 14 23.6 -1.8
comp=Z,31nm,0.9s,baz=164,slow=2.0,SNR=4.5
ESDC PKPPKP P'P'df 06 22 26.4 -8.1
comp=Z,28nm,0.8s,baz=219,slow=0.8,SNR=5.2
ESLA Sonseca Array 83.90 343 eP'P'df P'P'df 06 22 34.0 -0.5
757A Oxford 83.98 47 P P 05 56 17.6 +0.3
baz=332,SNR=424
TAOE Nuku Hiva Isla 84.05 114 eP P 05 56 17.3 -0.7
comp=Z,20μm,1.8s
COI Coimbra 84.07 346⇓eP P 05 56 16.4 -1.3
comp=Z,12μm,1.1s
COI epP pP 05 58 33.0 +7.2
COI Coimbra 84.07 346 eP P 05 56 16.8 -0.9
comp=Z,7μm,0.9s
PAB San Pablo 84.09 343 eP P 05 56 16.2 -1.7
comp=Z,3μm,0.8s
PAB eP'P'df P'P'df 06 22 29.4 -4.9
GIRL Giralia 84.12 216 eP'P'df P'P'df 06 22 29.4 -1.6
PCAS Casmilo, Conde 84.24 346⇓eP P 05 56 17.0 -1.5
comp=Z,8μm,1.9s
PCAS epP pP 05 58 33.6 +6.9
PCBR Castelo Branco 84.30 345⇓eP P 05 56 17.2 -1.6
comp=Z,5μm,1.8s
PCBR epP pP 05 58 31.9 +4.9
758A Lake Helen 84.32 46 P P 05 56 19.3 +0.3
baz=332,SNR=75
CMAH Djebel Manchou 84.35 333 P P 05 56 17.7 -1.5
CAEH 'Ain El Ouahch 84.35 334 P P 05 56 17.5 -1.6
857A Zephyrhills 84.50 47 P P 05 56 20.2 +0.2
baz=332
I48TN KESRA INFRASON 84.61 331 P P 05 56 18.0 -2.5
baz=304,slow=16,SNR=1.1
PTOM Tomar 84.65 346⇓eP P 05 56 18.7 -1.8
comp=Z,6μm,1.3s

ABSA	**Djebel Ababsia**	**84.67**	**333**	P		**P**	**05 56 19.2**	**-1.6**
KEST	**Kesra**	**84.67**	**331**	*eP*		**P**	**05 56 20.9**	**+0.1**
	comp=Z,11μm,0.9s							
KEST				*e*PKKPbc		**PKKPbc**	**06 14 26.6**	**+3.1**
KEST	**Kesra**	**84.67**	**331**	P		**P**	**05 56 20.2**	**-0.6**
	comp=Z,5μm,0.7s,baz=264,slow=2.4							
KEST				S		**SKSac**	**06 05 46.4**	**-1.3**
	comp=Z,153nm,1.0s,baz=36,slow=12,SNR=2.7							
KEST				PKKPbc		**PKKPbc**	**06 14 22.8**	**-0.7**
	comp=Z,63nm,1.0s,baz=195,slow=5.7,SNR=2.1							
PMRV	**Marv??o**	**84.69**	**345**	⇓*eP*		**P**	**05 56 18.9**	**-1.9**
	comp=Z,5μm,1.4s							
PMRV				*e*pP		pP	05 58 39.5	+10
PMRV	**Marv??o**	**84.69**	**345**	*e*PP		PP	05 59 47.8	+0.6
CKFL	**Kef-Lekhel**	**84.74**	**334**	P		**P**	**05 56 19.4**	**-1.8**
DFRA	**Djebel Bou Atf**	**84.82**	**334**	P		**P**	**05 56 20.4**	**-1.2**
858A	**St. Cloud**	**84.91**	**46**	P		**P**	**05 56 22.2**	**+0.3**
	baz=332,SNR=51							
CASM	**Ain Smara**	**84.93**	**334**	P		**P**	**05 56 20.6**	**-1.4**
DWPF	**Disney Wildern**	**84.97**	**46**	*eP*		**P**	**05 56 22.1**	**-0.2**
	comp=Z,22μm,1.7s							
DWPF				*e*PKKPdf		**PKKPdf**	**06 14 11.8**	**-0.9**
DWPF	**Disney Wildern**	**84.97**	**46**	P		**P**	**05 56 22.4**	**+0.2**
	baz=332							
957A	**Wimauma**	**85.02**	**47**	P		**P**	**05 56 22.9**	**+0.4**
	baz=332							
LVIG	**Laguna Verde**	**85.10**	**63**	*e*PKKPbc		PKKPbc	06 14 29.2	+7.2
CTEI	**Djebel Teioual**	**85.14**	**334**	P		**P**	**05 56 21.7**	**-1.4**
PMTG	**Montargil**	**85.17**	**346**	⇓*eP*		**P**	**05 56 21.0**	**-2.0**
	comp=Z,5μm,1.5s							
PMTG				*e*pP		pP	05 58 40.5	+8.9
PMTG	**Montargil**	**85.17**	**346**	*e*PP		PP	05 59 52.8	+1.8
859A	**Kempfer Cattle**	**85.24**	**46**	P		**P**	**05 56 23.9**	**+0.4**
	baz=332,SNR=406							
SET	**Setif**	**85.27**	**335**	P		**P**	**05 56 23.0**	**-0.7**
958A	**Wauchula**	**85.30**	**47**	P		**P**	**05 56 24.1**	**+0.3**
	baz=332							
PMOR	**Pomariorio Ree**	**85.37**	**124**	*eP*		**P**	**05 56 25.7**	**+1.5**
	comp=Z,21μm,1.3s							
CART	**Cartagena**	**85.37**	**340**	*eP*		**P**	**05 56 22.0**	**-2.0**
	comp=Z,11μm,1.9s							
CART	**Cartagena**	**85.37**	**340**	⇓*iP*		**P**	**05 56 20.7**	**-3.3**
CART				*e*S		**SKSac**	**06 05 54.7**	**+3.0**
CKHR	**Kef el Ahmar**	**85.41**	**334**	P		**P**	**05 56 23.5**	**-0.9**
PMAFR	**Mafra**	**85.42**	**347**	⇓*eP*		**P**	**05 56 22.4**	**-1.9**
	comp=Z,10μm,1.2s							
PMAFR				*e*pP		**pP**	**05 58 37.5**	**+4.6**
PMAFR	**Mafra**	**85.42**	**347**	*e*PP		PP	05 59 56.9	+3.9
RAR	**Rarotonga**	**85.64**	**137**	*eP*		**P**	**05 56 25.4**	**+0.1**
	comp=Z,3μm,1.1s							
RAR	**Rarotonga**	**85.64**	**137**	P		**P**	**05 56 25.9**	**+0.6**
	comp=Z,1μm,0.8s,baz=256,slow=4.9,SNR=94							
RAR				PKKPbc		**PKKPbc**	**06 14 22.3**	**+1.1**
	comp=Z,32nm,0.8s,baz=196,slow=3.8,SNR=2.3							
LIS	**Lisbon**	**85.64**	**346**	*eP*		**P**	**05 56 23.6**	**-1.7**
LIS				AMb		AMB	05 56 50.1	
	comp=Z,5μm,1.2s							
LIS				*e*pP		**pP**	**05 58 34.1**	**+0.1**
LIS				*e*SKSac		**SKSac**	**06 05 51.2**	**-2.1**
LIS	**Lisbon**	**85.64**	**346**	*eP*		**P**	**05 56 23.3**	**-2.0**
	comp=Z,5μm,1.2s							
LIS				*e*pP		**pP**	**05 58 39.0**	**+5.0**
LIS	**Lisbon**	**85.64**	**346**	*eP*		**P**	**05 56 23.5**	**-1.7**
LIS				*e*			06 05 51.2	
VAH	**Vaihoa**	**85.70**	**124**	*eP*		**P**	**05 56 27.0**	**+1.3**
	comp=Z,16μm,1.3s							
959A	**Okeechobee**	**85.72**	**46**	P		**P**	**05 56 26.3**	**+0.5**
	baz=332							
058A	**Arcadia**	**85.74**	**47**	P		**P**	**05 56 26.3**	**+0.4**
	baz=332							
TLIG	**Tlapa**	**85.78**	**65**	*e*PKKPbc		PKKPbc	06 14 28.6	+8.1
H07N1	**FLORES T-PHASE**	**85.78**	**3**	*eP*		**P**	**05 56 25.3**	**-0.7**
H07N1				*e*pP		**pP**	**05 58 30.3**	**-4.5**
H07N1				*e*S		**S**	**06 06 02.1**	**-6.9**
H07N1	**FLORES T-PHASE**	**85.78**	**3**	P		**P**	**05 56 28.4**	**+2.4**
	SNR=1773							
EBNR	**Beni Rached**	**86.09**	**338**	P		**P**	**05 56 26.0**	**-1.5**
H07S1	**FLORES T-PHASE**	**86.09**	**4**	*eP*		**P**	**05 56 26.9**	**-0.6**
H07S1				*e*pP		**pP**	**05 58 42.4**	**+6.0**
H07S1				*e*S		**SKSac**	**06 05 57.7**	**+1.5**
H07S1	**FLORES T-PHASE**	**86.09**	**4**	P		**P**	**05 56 29.3**	**+1.8**
	SNR=4886							
059A	**Moore Haven**	**86.09**	**47**	P		**P**	**05 56 27.9**	**+0.3**
	baz=332							
LHI	**Lord Howe Isla**	**86.12**	**175**	*eP*		**P**	**05 56 28.4**	**+1.1**
	comp=Z,9μm,1.1s							
PBEJ	**Beja**	**86.14**	**345**	⇓*eP*		**P**	**05 56 27.0**	**-0.6**
	comp=Z,5μm,1.6s							
PBEJ				*e*pP		pP	05 58 44.7	+8.1
PNCL	**Nicolau / Gran**	**86.15**	**346**	⇓*eP*		**P**	**05 56 25.8**	**-1.9**
	comp=Z,2μm,1.2s							
PNCL				*e*pP		**pP**	**05 58 41.6**	**+4.9**
PNCL	**Nicolau / Gran**	**86.15**	**346**	*e*PP		PP	06 00 00.6	+1.9
ECHA	**Ech Chlef**	**86.26**	**338**	P		**P**	**05 56 26.6**	**-1.6**
060A	**Indiantown**	**86.36**	**46**	P		**P**	**05 56 29.3**	**+0.4**
	baz=332,SNR=51							
MESJ	**Messejana**	**86.37**	**346**	*eP*		**P**	**05 56 27.1**	**-1.6**
MESJ				AMb		AMB	05 56 55.8	
	comp=Z,4μm,1.0s							
MESJ				*e*pP		**pP**	**05 58 37.8**	**0.0**
MESJ				*e*SKSac		**SKSac**	**06 05 55.9**	**-1.9**
MESJ	**Messejana**	**86.37**	**346**	⇓*eP*		**P**	**05 56 27.1**	**-1.6**
	comp=Z,2μm,1.2s							
MESJ				*e*pP		**pP**	**05 58 42.9**	**+5.1**
MESJ	**Messejana**	**86.37**	**346**	*e*PP		PP	06 00 00.2	-0.3
MESJ	**Messejana**	**86.37**	**346**	*eP*		**P**	**05 56 27.1**	**-1.6**
MESJ				*e*			06 05 55.9	
I42PT	**GRACIOSA ISLAN**	**86.50**	**1**	P		**P**	**05 56 31.8**	**+2.4**
	baz=41,slow=10,SNR=11							
EANR	**'Ain N'Sour**	**86.51**	**338**	P		**P**	**05 56 29.0**	**-0.5**
PGRA	**Graciosa**	**86.52**	**1**	*eP*		**P**	**05 56 29.2**	**-0.2**
	comp=Z,11μm,1.6s							
PGRA				*e*pP		**pP**	**05 58 44.6**	**+6.1**
PGRA				*e*S		**SKKSac**	**06 06 07.4**	**-1.8**
059Z	**Ave Maria**	**86.52**	**47**	P		**P**	**05 56 30.1**	**+0.5**
	baz=332,SNR=312							
OKGL	**Djebel Kef Gue**	**86.53**	**338**	P		**P**	**05 56 29.0**	**-0.6**
PCVE	**Castro Verde**	**86.55**	**345**	⇓*eP*		**P**	**05 56 28.2**	**-1.4**
	comp=Z,9μm,1.4s							
PCVE				*e*pP		**pP**	**05 58 43.9**	**+5.2**
PCVE	**Castro Verde**	**86.55**	**345**	*e*PP		PP	06 00 01.9	0.0
PVAQ	**Vaqueiros**	**86.72**	**345**	⇓*eP*		**P**	**05 56 28.9**	**-1.5**
	comp=Z,5μm,1.3s							
PVAQ				*e*pP		**pP**	**05 58 45.3**	**+5.7**
PVAQ	**Vaqueiros**	**86.72**	**345**	*e*PP		PP	06 00 03.2	-0.1
PVAQ	**Vaqueiros**	**86.72**	**345**	*e*P'P'df		P'P'df	06 22 28.7	-0.6
PTEO	**Sao Teotonio**	**86.73**	**346**	⇓*eP*		**P**	**05 56 28.8**	**-1.6**
	comp=Z,6μm,1.5s							
PTEO				*e*pP		**pP**	**05 58 45.7**	**+6.0**
PPT	**Papeete**	**86.80**	**127**	P		**P**	**05 56 32.3**	**+1.4**
	comp=Z,4μm,1.1s,baz=0.3,slow=3.8,SNR=65							
PPT				S		**SKKSac**	**06 06 07.5**	**-4.1**
	comp=Z,101nm,1.1s,baz=253,slow=20,SNR=1.8							
PPT				PKPPKP		**P'P'df**	**06 22 26.3**	**-0.6**
	comp=Z,32nm,1.0s,baz=133,slow=18,SNR=1.9							
EMAL	**Malaga-Limoner**	**86.82**	**342**	⇓*iP*		**P**	**05 56 28.2**	**-2.6**
EMAL				*e*S		**SKSac**	**06 06 03.6**	**+3.1**
PPT2	**Papeete2**	**86.82**	**127**	*eP*		**P**	**05 56 32.8**	**+1.7**
	comp=Z,13μm,1.5s							
PPT2				*e*pP		**pP**	**05 58 41.5**	**+0.8**
	comp=Z,6μm,1.6s							
PPTF	**Pamatai, Papee**	**86.82**	**127**	*eP*		**P**	**05 56 31.9**	**+0.8**
	comp=Z,11μm,1.2s							
ROSA	**Rosais**	**86.82**	**1**	*eP*		**P**	**05 56 30.9**	**0.0**
	comp=Z,7μm,1.4s							
ROSA				*e*pP		**pP**	**05 58 40.7**	**+0.6**
ROSA				*e*S		**S**	**06 06 16.2**	**-2.6**
ROSA	**Rosais**	**86.82**	**1**	*eP*		**P**	**05 56 30.1**	**-0.7**
	comp=Z,18μm,1.2s							
ROSA				*e*P'P'df		**P'P'df**	**06 22 25.0**	**-4.1**
060Z	**West Palm Beac**	**86.83**	**47**	P		**P**	**05 56 31.6**	**+0.5**
	baz=332,SNR=96							
LIJA	**Lijar**	**86.84**	**343**	⇓*iP*		**P**	**05 56 30.9**	**-0.2**
PSCM	**Serra do Cume**	**86.85**	**0**	*eP*		**P**	**05 56 30.4**	**-0.6**
	comp=Z,3μm,1.2s							
PSCM				*e*pP		**pP**	**05 58 39.7**	**-0.5**
PSCM				*e*S		**S**	**06 06 22.4**	**+3.4**
PAE	**Paea**	**86.88**	**127**	*eP*		**P**	**05 56 32.9**	**+1.7**
	comp=Z,4μm,1.3s							
PAE				*e*pP		**pP**	**05 58 41.5**	**+0.6**
	comp=Z,902nm,1.3s							
ADH	**Angra Heroismo**	**86.90**	**0**	*eP*		**P**	**05 56 30.6**	**-0.6**
	comp=Z,3μm,1.2s							
ADH				*e*pP		**pP**	**05 58 38.6**	**-1.8**
ADH				*e*S		**S**	**06 06 16.0**	**-3.4**
TIAR	**Tiarei**	**86.90**	**127**	*eP*		**P**	**05 56 33.0**	**+1.6**
	comp=Z,1μm,0.9s							
TIAR				*e*pP		**pP**	**05 58 41.6**	**+0.5**
	comp=Z,1μm,1.5s							
PCED	**Cedros**	**86.91**	**2**	*eP*		**P**	**05 56 30.8**	**-0.5**
	comp=Z,5μm,1.4s							
PCED				*e*pP		**pP**	**05 58 37.6**	**-2.9**
PCED				*e*S		**SKKSac**	**06 06 11.3**	**-0.9**
PMAN	**Manadas**	**86.91**	**1**	*eP*		**P**	**05 56 31.5**	**+0.2**
	comp=Z,11μm,1.1s							
PMAN				*e*pP		**pP**	**05 58 45.0**	**+4.5**
PMAN				*e*S		**SKKSac**	**06 06 07.8**	**-4.4**
PBDV	**Barranco-do-Ve**	**86.91**	**345**	⇓*eP*		**P**	**05 56 30.1**	**-1.2**
	comp=Z,5μm,1.2s							
PBDV				*e*pP		**pP**	**05 58 45.7**	**+5.0**
STKA	**Stephens Creek**	**86.94**	**190**	*eP*		**P**	**05 56 30.6**	**-0.6**
	comp=Z,725nm,0.9s							
STKA				*e*PKKPbc		**PKKPbc**	**06 14 23.0**	**+4.4**
STKA				*e*P'P'df		**P'P'df**	**06 22 25.0**	**-0.1**
STKA	**Stephens Creek**	**86.94**	**190**	P		**P**	**05 56 31.3**	**+0.1**
	comp=Z,455nm,0.9s,baz=346,slow=6.3,SNR=173							
STKA				S		**SKSac**	**06 06 00.1**	**-0.6**
	comp=Z,117nm,1.0s,baz=233,slow=20,SNR=2.1							
STKA				PKKPbc		**PKKPbc**	**06 14 19.2**	**+0.6**
	comp=Z,94nm,1.1s,baz=143,slow=1.8,SNR=2.5							
STKA				PKPPKP		**P'P'df**	**06 22 24.6**	**-0.5**
	comp=Z,44nm,0.9s,baz=200,slow=1.0,SNR=5.6							
CALA	**Caldeira**	**86.95**	**2**	*eP*		**P**	**05 56 31.0**	**-0.6**
CALA				*e*pP		pP	05 58 57.6	+17
CALA				*e*S		**SKSac**	**06 06 04.8**	**+3.3**
MORF	**Marmelete**	**86.96**	**346**	*eP*		**P**	**05 56 30.1**	**-1.6**
MORF				AMb		AMB	05 56 59.0	
	comp=Z,10μm,2.0s							
MORF				*e*pP		**pP**	**05 58 40.8**	**-0.1**
MORF				*e*SKSac		**SKSac**	**06 05 59.4**	**-2.1**
MORF	**Marmelete**	**86.96**	**346**	⇓*eP*		**P**	**05 56 30.0**	**-1.6**
	comp=Z,5μm,1.5s							
MORF				*e*pP		**pP**	**05 58 46.5**	**+5.6**
MORF	**Marmelete**	**86.96**	**346**	*e*PP		PP	06 00 11.9	+6.7
MORF	**Marmelete**	**86.96**	**346**	*eP*		**P**	**05 56 30.0**	**-1.6**
MORF				*e*			06 05 59.3	
ETRT	**Tiaret**	**87.00**	**337**	P		**P**	**05 56 28.7**	**-3.2**
HOR	**Horta**	**87.01**	**2**	*eP*		**P**	**05 56 31.3**	**-0.4**
	comp=Z,4μm,1.4s							
HOR				*e*pP		pP	05 58 49.1	+8.1
HOR				*e*S		**SKKSac**	**06 06 11.9**	**-1.0**
OJGS	**Djebel Guires**	**87.02**	**338**	P		**P**	**05 56 31.0**	**-0.9**
OJBR	**Djebel Berber**	**87.03**	**338**	P		**P**	**05 56 31.0**	**-1.0**
PICO	**Pico**	**87.04**	**1**	*eP*		**P**	**05 56 31.7**	**-0.3**
	comp=Z,5μm,1.1s							
PICO				*e*pP		**pP**	**05 58 43.8**	**+2.5**
PICO				*e*S		**SKKSac**	**06 06 11.7**	**-1.6**
PPNO	**Prainha do Nor**	**87.07**	**1**	*eP*		**P**	**05 56 32.0**	**-0.1**
	comp=Z,3μm,1.1s							
PPNO				*e*pP		pP	05 58 49.5	+8.1
PPNO				*e*S		**S**	**06 06 20.3**	**-0.9**
PCAN	**Candelaria**	**87.08**	**1**	*eP*		**P**	**05 56 31.4**	**-0.7**
	comp=Z,4μm,1.4s							
PCAN				*e*pP		**pP**	**05 58 45.5**	**+4.1**
PCAN				*e*S		**SKKSac**	**06 06 14.6**	**+1.1**
TVO	**Taravao**	**87.14**	**127**	*eP*		**P**	**05 56 34.3**	**+1.8**
	comp=Z,3μm,1.4s							
PFVI	**Vila Bisbo**	**87.15**	**346**	⇓*eP*		**P**	**05 56 30.9**	**-1.5**
	comp=Z,7μm,1.5s							
PFVI				*e*pP		**pP**	**05 58 46.7**	**+4.9**
PFVI	**Vila Bisbo**	**87.15**	**346**	*eP*		**P**	**05 56 30.9**	**-1.5**
	comp=Z,23μm,1.9s							
PFVI				*e*PKKPbc		**PKKPbc**	**06 14 20.8**	**+3.1**
PFVI				*e*P'P'df		**P'P'df**	**06 22 28.7**	**+0.3**
061Z	**Ochoppi**	**87.16**	**47**	P		**P**	**05 56 33.0**	**+0.3**
	baz=332							
BBSR	**BB Station**	**87.19**	**32**	*eP*		**P**	**05 56 32.5**	**-0.2**
	comp=Z,15μm,1.4s							
I51GB	**BERMUDA INFRAS**	**87.20**	**32**	P		P	05 56 40.0	+7.3
	baz=334,slow=12,SNR=2.2							
REAL	**Reales**	**87.22**	**343**	⇓*iP*		**P**	**05 56 32.2**	**-0.8**
ALJ	**Aljibe**	**87.25**	**343**	⇓*iP*		**P**	**05 56 32.8**	**-0.1**
RAO	**Raoul Island**	**87.29**	**155**	*eP*		**P**	**05 56 32.8**	**-0.1**
	comp=Z,16μm,1.4s							
ODJA	**Bouhanifia**	**87.38**	**339**	P		**P**	**05 56 33.0**	**-0.6**
SFS	**San Fernando**	**87.41**	**344**	⇓*iP*		**P**	**05 56 31.4**	**-2.2**
SFS				*e*S		**S**	**06 06 20.8**	**-3.4**
MOMI	**Momias**	**87.46**	**343**	⇓*iP*		**P**	**05 56 33.9**	**0.0**
CNIL	**Conil**	**87.47**	**344**	⇓*iP*		**P**	**05 56 34.1**	**+0.1**
ODZI	**Dziouia**	**87.64**	**339**	P		**P**	**05 56 35.0**	**+0.3**
PSET	**Sete Cidades**	**87.73**	**359**	*eP*		**P**	**05 56 34.6**	**-0.5**
	comp=Z,3μm,1.4s							
PSET				*e*pP		**pP**	**05 58 52.0**	**+7.3**
PSET				*e*S		**SKKSac**	**06 06 16.9**	**-1.5**
PCALD	**Caldeiras da R**	**87.75**	**359**	*eP*		**P**	**05 56 34.2**	**-1.0**
	comp=Z,3μm,1.2s							
PCALD				*e*pP		pP	05 58 52.6	+7.8
PCALD				*e*S		**SKKSac**	**06 06 20.8**	**+2.3**
BART	**Pico Bartolome**	**87.77**	**359**	*eP*		**P**	**05 56 34.3**	**-1.1**
	comp=Z,3μm,1.1s							
BART				*e*pP		**pP**	**05 58 47.5**	**+2.5**
BART				*e*S		**SKKSac**	**06 06 19.6**	**+0.8**
MEH	**Mehetia**	**87.77**	**126**	*eP*		**P**	**05 56 37.1**	**+1.6**
CMLA	**Cha da Macela**	**87.78**	**359**	*eP*		**P**	**05 56 35.0**	**-0.4**
	comp=Z,4μm,1.0s							
CMLA				*e*pP		**pP**	**05 58 51.5**	**+6.5**
CMLA				*e*S		**SKKSac**	**06 06 12.2**	**-6.6**
CMLA	**Cha da Macela**	**87.78**	**359**	*eP*		**P**	**05 56 34.9**	**-0.5**
	comp=Z,5μm,0.9s							
CMLA	**Cha da Macela**	**87.78**	**359**	*i P*		**P**	**05 56 34.8**	**-0.5**
PDA	**Ponta Delgada**	**87.80**	**359**	*eP*		**P**	**05 56 35.0**	**-0.4**
	comp=Z,4μm,1.1s							
PDA				*e*pP		**pP**	**05 58 52.6**	**+7.6**
PDA				*e*S		**S**	**06 06 34.6**	**+6.8**
MELI	**Melilla**	**87.97**	**341**	⇓*iP*		**P**	**05 56 32.5**	**-3.7**
MELI				*e*S		**SKSac**	**06 06 05.4**	**-1.9**
FORT	**Forrest**	**87.99**	**202**	*eP*		**P**	**05 56 34.8**	**-1.4**
	comp=Z,9μm,0.8s							
FORT				*e*P'P'df		**P'P'df**	**06 22 22.0**	**-1.4**
CMIG	**Matias Romero**	**88.09**	**63**	S		**SKSac**	**06 06 07.9**	**-0.7**
	comp=Z,41nm,0.9s,baz=274,slow=2.8,SNR=1.8							
CMIG				PKKPbc		PKKPbc	06 14 14.5	-0.5
	comp=Z,12nm,0.6s,baz=86,slow=1.9,SNR=2.6							
062Z	**Marathon**	**88.10**	**48**	P		**P**	**05 56 37.3**	**+0.3**
	baz=332,SNR=55							
PVLZ	**Peæn de**	**88.34**	**342**	⇓*iP*		P	05 56 33.2	-4.8
PVLZ				*e*s		**SKSac**	**06 06 12.3**	**+2.8**
BBOO	**Buckleboo**	**88.54**	**195**	*eP*		**P**	**05 56 37.2**	**-1.5**
	comp=Z,8μm,1.6s							
BBOO				*e*P'P'df		**P'P'df**	**06 22 29.8**	**+7.6**
PSMN	**Pico do Norte,**	**88.54**	**359**	*eP*		**P**	**05 56 37.5**	**-1.4**
	comp=Z,2μm,1.3s							
PSMN				*e*pP		**pP**	**05 58 56.5**	**+7.8**
PSMN				*e*S		**S**	**06 06 37.0**	**+2.4**
PSMA	**Santa Maria**	**88.55**	**359**	*eP*		**P**	**05 56 37.5**	**-1.4**
	comp=Z,2μm,1.2s							
PSMA				*e*pP		**pP**	**05 58 53.4**	**+4.7**
PSMA				*e*S		**SKKSac**	**06 06 19.7**	**-4.7**
MORW	**Morawa**	**89.50**	**212**	*e*P'P'df		P'P'df	06 22 26.2	+5.3
CAN	**Canberra**	**89.85**	**184**	*eP*		**P**	**05 56 44.9**	**+0.2**
	comp=Z,2μm,0.8s							
CAN				*e*PKKPbc		**PKKPbc**	**06 14 16.0**	**+4.3**
IFR	**Ifrane**	**90.10**	**342**	⇓*iP*		**P**	**05 56 43.5**	**-3.0**
IFR				*e*S		**SKSac**	**06 06 26.3**	**+6.2**
MDT	**Midelt**	**90.69**	**342**	S		**SKSac**	**06 06 22.5**	**-0.8**
	comp=Z,119nm,1.1s,baz=135,slow=1.4,SNR=1.6							
MDT				PKKPbc		PKKPbc	06 14 10.0	+0.7
	comp=Z,47nm,0.9s,baz=225,slow=3.1,SNR=3.0							
AVE	**Averroes**	**90.70**	**344**	⇓*iP*		**P**	**05 56 46.8**	**-2.2**
AVE				*e*S		**SKKSac**	**06 06 32.2**	**-8.4**
H08N2	**Diego Garcia H**	**90.75**	**260**	P		**P**	**05 56 47.0**	**-2.0**
	baz=312,slow=3.0,SNR=2933							
H08N1	**Diego Garcia H**	**90.75**	**260**	P		**P**	**05 56 47.0**	**-2.1**
	baz=312,slow=3.0,SNR=2211							
H08N3	**Diego Garcia H**	**90.77**	**260**	P		**P**	**05 56 47.1**	**-1.9**
	baz=312,slow=3.0,SNR=1118							
DGAR	**Diego Garcia**	**90.81**	**258**	*eP*		**P**	**05 56 48.0**	**-1.6**
	comp=Z,16μm,1.7s							
DGAR	**Diego Garcia**	**90.81**	**258**	P		**P**	**05 56 50.8**	**+1.2**
	SNR=62							
H08S3	**Diego Garcia H**	**90.97**	**258**	P		**P**	**05 56 48.7**	**-1.4**
	baz=2.2,slow=10.0,SNR=1759							
H08S2	**Diego Garcia H**	**90.97**	**258**	P		**P**	**05 56 48.9**	**-1.2**
	baz=2.2,slow=10.0,SNR=1750							
H08S1	**Diego Garcia H**	**90.99**	**258**	P		**P**	**05 56 48.8**	**-1.3**
	baz=2.2,slow=10.0,SNR=1394							
OUZ	**Omahuta**	**91.34**	**164**	*eP*		**P**	**05 56 52.2**	**+0.6**
	comp=Z,4μm,1.5s							
OUZ	**Omahuta**	**91.34**	**164**	P		**P**	**05 56 52.8**	**+1.2**
TBI	**Tubuai**	**91.88**	**129**	*eP*		**P**	**05 56 55.5**	**+1.2**
	comp=Z,10μm,1.4s							
I19DJ	**I19DJ**	**92.00**	**293**	P		**P**	**05 56 55.4**	**+0.2**
	baz=36,slow=12,SNR=4.5							
PMPST	**Porto Santo, M**	**92.02**	**351**	⇓*eP*		**P**	**05 56 53.1**	**-1.9**
	comp=Z,5μm,1.0s							
PMPST				*e*pP		**pP**	**05 59 10.6**	**+5.1**
PMPS	**Porto Santo**	**92.04**	**351**	⇓*eP*		**P**	**05 56 53.5**	**-1.6**
	comp=Z,6μm,1.1s							
PMPS				*e*pP		**pP**	**05 59 08.8**	**+3.3**
APG	**El Apazote**	**92.10**	**60**	S		**SKSac**	**06 06 31.6**	**-0.2**
	comp=Z,172nm,0.9s,baz=340,slow=13,SNR=2.8							
APG				PKKPbc		PKKPbc	06 14 04.8	-0.7
	comp=Z,64nm,0.9s,baz=225,slow=1.4,SNR=2.8							
ATD	**Arta Tunnel**	**92.13**	**293**	*eP*		**P**	**05 56 55.1**	**-0.7**
	comp=Z,9μm,1.3s							
ATD	**Arta Tunnel**	**92.13**	**293**	*eP*		**P**	**05 56 55.4**	**-0.5**
ATD	**Arta Tunnel**	**92.13**	**293**	*e*S		**SKSac**	**06 06 31.4**	**-0.2**
WCZ	**Waipu Caves**	**92.17**	**163**	P		**P**	**05 56 56.0**	**+0.7**
PMOZ	**Porto Moniz, M**	**92.34**	**352**	⇓*eP*		**P**	**05 56 55.4**	**-1.2**
	comp=Z,3μm,1.1s							
PMOZ				*e*pP		**pP**	**05 59 13.7**	**+6.6**
PMOZ	**Porto Moniz, M**	**92.34**	**352**	*eP*		**P**	**05 56 54.7**	**-1.9**
PMAR	**Madeira**	**92.42**	**352**	⇓*eP*		**P**	**05 56 55.6**	**-1.5**
	comp=Z,7μm,1.6s							
PMAR				*e*pP		pP	05 59 15.9	+8.3
FUL	**Funchal**	**92.49**	**352**	⇓*eP*		**P**	**05 56 55.9**	**-1.3**
	comp=Z,6μm,1.8s							
FUL				*e*pP		pP	05 59 15.5	+7.8
NWAO	**Narrogin (SRO)**	**92.76**	**210**	*eP*		**P**	**05 56 56.9**	**-1.3**
	comp=Z,2μm,0.9s							
NWAO				*e*PKKPdf		**PKKPbc**	**06 14 08.3**	**+4.1**
NWAO	**Narrogin (SRO)**	**92.76**	**210**	P		**P**	**05 56 58.0**	**-0.2**
	SNR=52							
NWAO	**Narrogin (SRO)**	**92.76**	**210**	P		**P**	**05 56 56.4**	**-1.7**
	comp=Z,439nm,0.9s,baz=30,slow=4.5,SNR=21							
NWAO				S		**SKSac**	**06 06 32.7**	**-1.1**
	comp=Z,137nm,1.0s,baz=56,slow=3.6,SNR=1.8							
NWAO				PKKPbc		**PKKPbc**	**06 14 04.1**	**0.0**
	comp=Z,84nm,0.7s,baz=121,slow=3.3,SNR=6.8							
FSCY	**Frank Sound, G**	**92.80**	**50**	*eP*		**P**	**05 56 58.2**	**-0.6**
	comp=Z,28μm,1.3s							
FSCY	**Frank Sound, G**	**92.80**	**50**	*i P*		**P**	**05 56 58.1**	**-0.6**
FSCY				*i P*		**PcP**	**05 56 59.9**	**+0.8**
FSCY				*i P*		P	05 57 03.1	+4.3
WIAZ	**Waiheke Island**	**93.14**	**163**	P		**P**	**05 57 00.4**	**+0.6**
WTAZ	**Waiatarua**	**93.18**	**163**	P		**P**	**05 57 00.7**	**+0.8**
KUZ	**Kuaotunu**	**93.19**	**162**	P		**P**	**05 56 59.9**	**-0.1**
TOZ	**Tahuroa Road**	**94.11**	**163**	P	

SMRT St. Maarten 101.05 35 *e* pP 05 59 55.3 +8.0
SEUS St. Eustatius 101.60 35 *eP* **Pdif 05 57 35.8 -2.4**
SEUS St. Eustatius 101.60 35 *e* pP 05 59 56.3 +6.6
SKDB Saint Kitts 2 101.75 35 *eP* **Pdif 05 57 44.3 +5.4**
BSK Brimstone Hill 101.79 35 *eP* **Pdif 05 57 44.2 +5.1**
ANWB Willy Bob 101.83 34 *eP* **Pdif 05 57 42.0 +2.7**
SKI Saint Kitts 101.83 35 *eP* **Pdif 05 57 40.6 +1.3**
SKI Saint Kitts 101.83 35 *e* pP 05 59 59.5 +8.7
SKI Saint Kitts 101.83 35 *e* **PKiKP 06 02 00.5 +2.2**
NVRH Round Hill, Ne 102.02 35 *eP* **Pdif 05 57 43.1 +3.0**
NEV Hard Times 102.07 35 *eP* **Pdif 05 57 40.9 +0.5**
NEV Hard Times 102.07 35 *e* **PKiKP 06 01 55.2 -3.5**
NVDO Nevis, Disaste 102.07 35 *eP* **Pdif 05 57 43.7 +3.4**
NVDO Nevis, Disaste 102.07 35 *e* **PKiKP 06 01 55.9 -2.8**
NVBH Bath Hotel, Ne 102.08 35 *eP* **Pdif 05 57 40.4 +0.1**
BCIP Isla Barro Col 102.30 54 *eP* **Pdif 05 57 40.1 -1.3**
BCIP Isla Barro Col 102.30 54 *eP* **Pdif 05 57 40.1 -1.3**
BPA Boggy Peak 102.39 34 *eP* **Pdif 05 57 43.1 +1.3**
MLYT Lee's Yard 102.58 35 *eP* **Pdif 05 57 43.7 +1.0**
MLYT Lee's Yard 102.58 35 *eP* **Pdif 05 57 48.4 +5.8**
UPA Univ. de Panam 102.61 54 *eP* **Pdif 05 57 40.3 -2.5**
UPA Univ. de Panam 102.61 54 *eP* **Pdif 05 57 40.3 -2.5**
PNME Penonome 102.67 55 *eP* **Pdif 05 57 43.9 +0.8**
PNME Penonome 102.67 55 *eP* **Pdif 05 57 43.9 +0.8**
SMRC Santa Marta, M 103.06 48 *eP* **Pdif 05 57 43.4 -1.4**
SMRC Santa Marta, M 103.06 48 *eP* **Pdif 05 57 43.4 -1.4**
AZU Azuero 103.30 55 *eP* **Pdif 05 57 44.5 -1.4**
AZU Azuero 103.30 55 *eP* **Pdif 05 57 44.5 -1.4**
H05N1 Guadeloupe/Mar 103.33 34 Pdiff **Pdif 05 57 51.5 +5.5**
H05N1 PKiKP **PKiKP 06 02 03.8 +2.7**
SNR=10
URIC Uribia, Colomb 103.52 46 *eP* **Pdif 05 57 51.6 +4.8**
URIC Uribia, Colomb 103.52 46 *eP* **Pdif 05 57 46.5 -0.4**
URIC Uribia, Colomb 103.52 46 *eP* **Pdif 05 57 51.6 +4.8**
URIC Uribia, Colomb 103.52 46 *eP* **Pdif 05 57 46.5 -0.4**
UPD2 Meteti 103.69 53 *eP* **Pdif 05 57 49.8 +2.2**
UPD2 Meteti 103.69 53 *eP* **Pdif 05 57 49.8 +2.2**
BBL Barber's Block 103.94 35 *eP* **Pdif 05 57 51.3 +2.6**
DWS Wesley 103.95 34 *eP* **Pdif 05 57 50.8 +2.1**
DWS Wesley 103.95 34 *e* PP 06 02 27.5 +13
MDN Morne-Daniel 104.16 35 *e* **PKiKP 06 02 04.9 +2.4**
DLPL La Plaine 104.19 34 *eP* **Pdif 05 57 54.8 +5.0**
DPMT Pointe Michel 104.22 35 *e* **PKiKP 06 02 09.3 +6.6**
DBCT Belle View Cho 104.22 35 *e* **PKiKP 06 02 07.9 +5.1**
CODC Agustn Codazz 104.50 48 *eP* **Pdif 05 57 50.5 -0.7**
CODC Agustn Codazz 104.50 48 *eP* **Pdif 05 57 50.5 -0.7**
CCODA Codazzi, Cesar 104.50 48 *eP* **Pdif 05 57 55.0 +3.8**
CCODA Codazzi, Cesar 104.50 48 *eP* **Pdif 05 57 55.0 +3.8**
DABV Dabajuro 104.79 45 *eP* **Pdif 05 57 52.0 -0.4**
DABV Dabajuro 104.79 45 *eP* **Pdif 05 57 52.0 -0.4**
FDF Fort de France 104.79 35 *eP* **Pdif 05 57 49.4 -3.1**
FDF Fort de France 104.79 35 *e* **PKiKP 06 02 10.5 +6.7**
H05S1 Guadeloupe/Mar 105.18 34 Pdiff **Pdif 05 57 59.2 +5.0**
SNR=28
H05S1 PKiKP **PKiKP 06 02 07.2 +2.8**
SNR=8.1
SMLC San Martn de 105.24 49 *eP* **Pdif 05 57 53.5 -0.9**
SMLC San Martn de 105.24 49 *eP* **Pdif 05 57 53.5 -0.9**
SLBI Saint Lucia, B 105.51 35 *eP* **Pdif 05 57 56.2 +0.5**
SLBI Saint Lucia, B 105.51 35 *e* **PKiKP 06 02 12.5 +7.4**
UREC San Jos de Ur 105.52 51 *eP* **Pdif 05 57 54.0 -1.8**
UREC San Jos de Ur 105.52 51 *eP* **Pdif 05 57 54.0 -1.8**
SLB Belfond 105.67 35 *eP* **Pdif 05 57 55.2 -1.3**
SLB Belfond 105.67 35 *e* **PKiKP 06 02 11.7 +6.2**
KMBO Kilima Mbogo 105.72 291 *e*Pdif **Pdif 05 57 55.2 -1.7**
KMBO *e*PKKPdf **PKKPdf 06 13 36.8 -0.5**
KMBO Kilima Mbogo 105.72 291 *eP* **Pdif 05 57 55.6 -1.3**
KMBO *e*S **SKSac 06 07 39.5 +0.8**
KMBO Kilima Mbogo 105.72 291 *e*S **SKSac 06 07 39.5 +0.8**
KMBO Kilima Mbogo 105.72 291 Pdiff **Pdif 05 57 56.2 -0.7**
comp=Z,47nm,1.0s,baz=27,slow=7.6,SNR=19
KMBO PP **PKiKP 06 02 03.8 -2.0**
comp=Z,192nm,1.1s,baz=22,slow=8.5,SNR=5.1
KMBO PKKPbc **PKKPbc 06 13 31.7 +3.5**
comp=Z,44nm,0.7s,baz=183,slow=0.9,SNR=9.4
MCLT Moule a Chique 105.81 35 *eP* **Pdif 05 57 48.8 -8.2**
MCLT Moule a Chique 105.81 35 *e* **PP 06 02 31.4 +3.2**
SOLC Bahia Solano 106.01 53 *eP* **Pdif 05 57 59.8 +1.9**
SOLC Bahia Solano 106.01 53 *eP* **Pdif 05 57 59.8 +1.9**
SFAN Fancy Village 106.04 35 *e* **PKiKP 06 02 13.4 +7.4**
ZARC Zaragoza, Cauc 106.05 50 *eP* **Pdif 05 57 56.6 -1.6**
ZARC Zaragoza, Cauc 106.05 50 *eP* **Pdif 05 57 56.6 -1.6**
OCAC Ocana 106.07 49 *eP* **Pdif 05 57 57.5 -0.9**
OCAC Ocana 106.07 49 *eP* **Pdif 05 57 57.5 -0.9**
SSV Crater Summit 106.09 35 *eP* **Pdif 05 57 54.6 -3.7**
SSV Crater Summit 106.09 35 *e* PKiKP 06 02 15.0 +8.7
SVV Soufriere Volc 106.09 35 *eP* **Pdif 05 57 55.1 -3.2**
SVV Soufriere Volc 106.09 35 *e* **PKiKP 06 02 13.2 +7.0**
SVB Belmont 106.12 35 *eP* **Pdif 05 57 55.3 -3.1**
SVCV St. Vincent, C 106.15 35 *eP* **Pdif 05 57 59.3 +0.7**
SVCV St. Vincent, C 106.15 35 *e* **PKiKP 06 02 13.5 +7.2**
FCV Fort Charlotte 106.23 35 *eP* **Pdif 05 58 00.4 +1.5**
FCV Fort Charlotte 106.23 35 *e* PP 06 02 21.9 -9.3
SDV Santo Domingo 106.62 46 *e*Pdif **Pdif 05 58 00.7 -0.2**
SDV *e*PKiKP **PKiKP 06 02 08.9 +1.5**
SDV *e*SKSac **SKSac 06 07 46.9 +4.3**
SDV Santo Domingo 106.62 46 *eP* **Pdif 05 57 59.8 -1.1**
SDV Santo Domingo 106.62 46 *eP* **Pdif 05 57 59.8 -1.1**
SDV Santo Domingo 106.62 46 PP **PKiKP 06 02 09.6 +2.2**
comp=Z,147nm,0.7s,baz=346,slow=7.1,SNR=5.8
SDV S **SKSac 06 07 46.9 +4.3**
comp=Z,142nm,0.8s,baz=90,slow=7.1,SNR=2.9
SDV Santo Domingo 106.62 46 *eP* **Pdif 05 57 55.5 -5.4**
CCUC3 Cucuta, Santo 106.74 48 *eP* **Pdif 05 58 03.1 +1.9**
CCUC3 Cucuta, Santo 106.74 48 *eP* **Pdif 05 58 03.1 +1.9**
CAPV Capacho 106.83 48 *eP* **Pdif 05 58 01.4 -0.4**
CAPV Capacho 106.83 48 *eP* **Pdif 05 58 01.4 -0.4**
BRRC Barranca, Sant 106.90 49 *eP* **Pdif 05 58 01.2 -0.7**
BRRC Barranca, Sant 106.90 49 *eP* **Pdif 05 58 01.2 -0.7**
GRSS Sisters 106.91 36 *e* PP 06 02 21.8 -14
HELC Santa Helena 106.91 52 *eP* **Pdif 05 58 01.2 -1.2**
HELC Santa Helena 106.91 52 *eP* **Pdif 05 58 01.2 -1.2**
GRHS Sauteurs 106.96 36 *e* PP 06 02 22.5 -14
SOCV Socops 107.08 46 *eP* **Pdif 05 58 01.6 -1.1**
SOCV Socops 107.08 46 *eP* **Pdif 05 58 01.6 -1.1**
PTBC PUERTO BERRIO 107.08 50 *eP* **Pdif 05 58 01.1 -1.6**
PTBC PUERTO BERRIO 107.08 50 *eP* **Pdif 05 58 01.1 -1.6**
PAMC Pamplona, Colo 107.14 48 *eP* **Pdif 05 58 02.6 -0.9**
PAMC Pamplona, Colo 107.14 48 *eP* **Pdif 05 58 02.6 -0.9**
GIRC Giron, Santand 107.16 49 *eP* **Pdif 05 58 02.0 -1.2**
GIRC Giron, Santand 107.16 49 *eP* **Pdif 05 58 02.0 -1.2**
BARC Barichara 107.59 49 *eP* **Pdif 05 58 04.9 -0.4**
BARC Barichara 107.59 49 *eP* **Pdif 05 58 04.9 -0.4**
PLMC San Jos del P 107.69 53 *eP* **Pdif 05 58 03.4 -2.1**
PLMC San Jos del P 107.69 53 *eP* **Pdif 05 58 03.4 -2.1**
NORC Norcasia 107.76 51 *eP* **Pdif 05 58 04.5 -1.2**
NORC Norcasia 107.76 51 *eP* **Pdif 05 58 04.5 -1.2**
GUY2C Guyana, Caldas 107.83 52 *eP* **Pdif 05 58 05.6 -1.1**
GUY2C Guyana, Caldas 107.83 52 *eP* **Pdif 05 58 05.6 -1.1**
MALC Bahia Malaga 107.99 54 *eP* **Pdif 05 58 08.1 +1.3**
MALC Bahia Malaga 107.99 54 *eP* **Pdif 05 58 08.1 +1.3**
RREF El Recreo 108.13 52 *eP* **Pdif 05 58 08.5 +0.4**
RREF El Recreo 108.13 52 *eP* **Pdif 05 58 08.5 +0.4**
TOA0 Torodi Ar. Sit 108.19 331 *e*Pdif **Pdif 05 58 07.3 -0.3**
TOA0 *e*PKKPbc **PKKPbc 06 13 20.1 -0.8**
TOA0 *e*PKKPdf **PKKPdf 06 13 34.2 +2.3**
TORD Torodi Ar. Bea 108.19 331 Pdiff **Pdif 05 58 06.1 -1.5**
comp=Z,34nm,1.0s,baz=39,slow=2.5,SNR=40
TORD PKiKP **PKiKP 06 02 10.0 -0.1**
comp=Z,100nm,0.5s,baz=13,slow=2.5,SNR=13
TORD PP **PP 06 02 43.5 -1.6**
comp=Z,433nm,0.9s,baz=35,slow=5.6,SNR=6.1
TORD PKKPbc **PKKPbc 06 13 19.7 -1.2**
comp=Z,66nm,0.5s,baz=251,slow=1.0,SNR=11
TORD SKKPbc SKKPbc 06 16 02.2 -0.1
comp=Z,62nm,1.0s,baz=234,slow=1.9,SNR=3.2
TOSP Speyside 108.20 35 *eP* **Pdif 05 57 59.3 -8.3**
TOSP Speyside 108.20 35 *e* PP 06 02 32.8 -12
RUSC La Rusia 108.26 49 *eP* **Pdif 05 58 08.6 +0.1**
RUSC La Rusia 108.26 49 *eP* **Pdif 05 58 08.6 +0.1**
TAMC Tame, Arauca 108.34 48 *eP* **Pdif 05 58 08.1 -0.3**
TAMC Tame, Arauca 108.34 48 *eP* **Pdif 05 58 08.1 -0.3**
CTAU Tausa, Cundina 108.45 51 *eP* **Pdif 05 58 13.6 +4.2**
CTAU Tausa, Cundina 108.45 51 *eP* **Pdif 05 58 13.6 +4.2**
YOTC Yotoco, Valle 108.48 53 *eP* **Pdif 05 58 08.1 -1.0**
YOTC Yotoco, Valle 108.48 53 *eP* **Pdif 05 58 08.1 -1.0**
TRN Trinidad (W) 108.51 36 *eP* **Pdif 05 58 03.9 -5.1**
TRN Trinidad (W) 108.51 36 *e* **PKiKP 06 02 14.7 +4.0**
ROSC El Rosal 108.65 51 *e*Pdif **Pdif 05 58 12.7 +2.5**
ROSC *e*PKiKP **PKiKP 06 02 15.1 +3.6**
ROSC *e*PP **PP 06 02 45.3 -3.9**
ROSC *e*PKKPbc **PKKPbc 06 13 19.1 -0.6**
ROSC El Rosal 108.65 51 Pdiff **Pdif 05 58 11.2 +1.0**
comp=Z,19nm,0.9s,baz=53,slow=5.7,SNR=9.7
ROSC PKiKP **PKiKP 06 02 11.8 +0.3**
comp=Z,66nm,0.9s,baz=326,slow=13,SNR=2.7
ROSC PP **PP 06 02 45.7 -3.6**
comp=Z,730nm,0.9s,baz=73,slow=20,SNR=5.5
ROSC S **SKSac 06 07 51.4 -0.2**
comp=Z,170nm,0.9s,baz=70,slow=12,SNR=2.1
ROSC PKKPbc **PKKPbc 06 13 18.5 -1.1**
comp=Z,82nm,0.7s,baz=132,slow=16,SNR=2.2
TBH Brigand Hill 108.78 36 *eP* **Pdif 05 58 19.2 +8.9**
TBH Brigand Hill 108.78 36 *e* PKiKP 06 02 21.3 +10
ELOV Elorza 108.80 46 *eP* **Pdif 05 58 10.0 -0.3**
ELOV Elorza 108.80 46 *eP* **Pdif 05 58 10.0 -0.3**
TPP Pointe-a-Pierr 108.81 36 *eP* **Pdif 05 58 02.4 -8.0**
TPP Pointe-a-Pierr 108.81 36 *e* PKiKP 06 01 59.8 -12
YOPC Yopal, Colombi 109.03 49 *eP* **Pdif 05 58 11.6 +0.1**
YOPC Yopal, Colombi 109.03 49 *eP* **Pdif 05 58 11.6 +0.1**
CHIC Chingaza 109.10 51 *eP* **Pdif 05 58 10.9 -1.3**
CHIC Chingaza 109.10 51 *eP* **Pdif 05 58 10.9 -1.3**
PRAC Prado 109.39 52 *eP* **Pdif 05 58 10.8 -2.2**
PRAC Prado 109.39 52 *eP* **Pdif 05 58 10.8 -2.2**
VILC Villavicencio, 109.57 51 *eP* **Pdif 05 58 13.9 0.0**
VILC Villavicencio, 109.57 51 *eP* **Pdif 05 58 13.9 0.0**
POPC Popayan, Colom 109.59 54 *eP* **Pdif 05 58 12.8 -1.4**
POPC Popayan, Colom 109.59 54 *eP* **Pdif 05 58 12.8 -1.4**
MARP Paez Belalcaza 109.66 54 *eP* **Pdif 05 58 14.2 -0.3**
MARP Paez Belalcaza 109.66 54 *eP* **Pdif 05 58 14.2 -0.3**
BBAC Balboa, Cauca 109.77 55 *eP* **Pdif 05 58 13.9 -1.0**
BBAC Balboa, Cauca 109.77 55 *eP* **Pdif 05 58 13.9 -1.0**
PCON Cinco Dias 109.91 54 *eP* **Pdif 05 58 15.9 0.0**
PCON Cinco Dias 109.91 54 *eP* **Pdif 05 58 15.9 0.0**
SOTA Rioblanco 109.98 55 *eP* **Pdif 05 58 16.1 -0.1**
SOTA Rioblanco 109.98 55 *eP* **Pdif 05 58 16.1 -0.1**
CRUC La Cruz 110.31 55 *eP* **Pdif 05 58 13.3 -4.2**
CRUC La Cruz 110.31 55 *eP* **Pdif 05 58 13.3 -4.2**
CCUFI Cufio, Nario 110.42 56 *eP* **Pdif 05 58 25.7 +7.6**
CCUFI Cufio, Nario 110.42 56 *eP* **Pdif 05 58 25.7 +7.6**
GCUF Volcan Galeras 110.42 56 *eP* **Pdif 05 58 18.0 -0.2**
GCUF Volcan Galeras 110.42 56 *eP* **Pdif 05 58 18.0 -0.2**
OTAV Otavalo 110.75 57 *eP* **Pdif 05 58 19.0 -0.5**
OTAV Otavalo 110.75 57 *eP* **Pdif 05 58 19.0 -0.5**
FLOC Florencia 110.91 54 *eP* **Pdif 05 58 19.8 +0.1**
FLOC Florencia 110.91 54 *eP* **Pdif 05 58 19.8 +0.1**
GUVC San Jose del G 111.44 51 *eP* **Pdif 05 58 19.6 -2.5**
GUVC San Jose del G 111.44 51 *eP* **Pdif 05 58 19.6 -2.5**
PTLC Puerto Leguiza 112.55 54 *eP* **Pdif 05 58 26.9 -0.1**
PTLC Puerto Leguiza 112.55 54 *eP* **Pdif 05 58 26.9 -0.1**
OPO Ambohidratompo 114.29 272 PKP PKPdf 06 02 21.8 +0.1
comp=Z,196nm,0.8s,baz=30,slow=3.5,SNR=5.4
OPO PP **PP 06 03 28.4 -0.9**
comp=Z,353nm,1.0s,baz=65,slow=5.8,SNR=4.3
OPO S **SKSac 06 08 12.3 -0.9**
comp=Z,36nm,0.8s,baz=120,slow=8.1,SNR=1.5
OPO PKKPbc **PKKPbc 06 13 00.1 -0.9**
comp=Z,101nm,1.1s,baz=189,slow=5.9,SNR=2.4
ABPO Ambohimpanom 114.62 272 *e*Pdif **Pdif 05 58 36.0 -0.1**
ABPO *e*PKPdf **PKiKP 06 02 21.1 -1.2**
ABPO *e*SKPdf **SKiKP 06 05 01.0 +0.2**
ABPO *e*PKKPbc **PKKPbc 06 13 04.0 +4.1**
RPN Rapa Nui 115.80 101 *e*Pdif **Pdif 05 58 41.4 +0.4**
RPN *e*PKPdf **PKiKP 06 02 29.1 +4.9**
RPN Rapa Nui 115.80 101 Pdiff **Pdif 05 58 41.4 +0.4**
comp=Z,92nm,1.1s,baz=123,slow=14,SNR=1.8
RPN PKP **PKiKP 06 02 24.7 +0.5**
comp=Z,115nm,0.8s,baz=113,slow=2.8,SNR=1.9
RPN PKKPbc **PKKPbc 06 12 54.6 -1.1**
comp=Z,76nm,0.9s,baz=120,slow=7.4,SNR=1.9
DBIC Dimbokro 116.10 336 *e*Pdif **Pdif 05 58 43.2 +0.4**
DBIC *e*PKPdf **PKPdf 06 02 24.1 -1.1**
DBIC *e*PKKPbc **PKKPbc 06 12 55.3 0.0**
DBIC Dimbokro 116.10 336 PKIKP **PKPdf 06 02 24.0 -1.2**
DBIC Dimbokro 116.10 336 Pdiff **Pdif 05 58 42.1 -0.7**
comp=Z,14nm,0.7s,baz=345,slow=5.2,SNR=10
DBIC PKP **PKPdf 06 02 24.0 -1.2**
comp=Z,180nm,0.7s,baz=32,slow=2.4,SNR=20
DBIC PP **PP 06 03 36.8 -3.8**
comp=Z,1μm,0.9s,baz=15,slow=9.2,SNR=4.0
DBIC S **SKSac 06 08 19.2 -0.8**
comp=Z,76nm,0.6s,baz=12,slow=19,SNR=3.2
DBIC PKKPbc **PKKPbc 06 12 54.8 -0.5**
comp=Z,89nm,0.9s,baz=210,slow=4.8,SNR=3.2
I17CI DIMBOKRO INFRA 116.10 336 PKP **PKiKP 06 02 25.8 +0.5**
baz=24,slow=4.4,SNR=5.4
TIC Toumodi 116.16 336 *e*PKP2 **Pdif 05 58 43.7 +0.6**
TIC Toumodi 116.16 336 *e*PKIKP **PKPdf 06 02 24.0 -1.4**
TIC Toumodi 116.16 336 *e*PKP1 **PKKPab 06 12 59.0 -6.0**
KIC Kosan Boka 116.37 336 *e*PKP2 **Pdif 05 58 43.8 -0.2**
comp=Z,148nm,0.8s
KIC Kosan Boka 116.37 336 *e*PKIKP **PKPdf 06 02 24.4 -1.3**
comp=Z,7μm,1.8s
KIC Kosan Boka 116.37 336 *e*PKP1 **PKKPab 06 12 58.5 -5.5**
comp=Z,1μm,1.0s
MDP Montagnes des 116.49 29 Pdiff **Pdif 05 58 44.0 -0.5**
comp=Z,9.0nm,0.9s,baz=356,slow=6.3,SNR=2.3
MDP PKP **PKPdf 06 02 25.8 -0.2**
comp=Z,93nm,0.5s,baz=312,slow=3.7,SNR=33
MDP PP **PP 06 03 40.1 -3.2**
comp=Z,281nm,0.9s,baz=316,slow=4.7,SNR=4.5
MDP PKKPbc **PKKPbc 06 12 52.6 -1.3**
comp=Z,46nm,0.9s,baz=91,slow=5.0,SNR=3.7
LIC Lamto 116.57 336 *e*PKP2 **Pdif 05 58 42.6 -2.3**
comp=Z,240nm,0.9s
LIC Lamto 116.57 336 *e*PKIKP **PKPdf 06 02 23.9 -2.2**
comp=Z,12μm,1.8s
LIC Lamto 116.57 336 *e*PKP1 **PKKPab 06 12 57.7 -5.4**
comp=Z,2μm,1.1s
ATAH Atahualpa 117.12 61 Pdiff **Pdif 05 58 50.7 +2.9**
comp=Z,5.0nm,0.8s,baz=4.3,slow=4.1,SNR=5.4
ATAH PKP **PKiKP 06 02 27.9 +0.2**
comp=Z,133nm,0.8s,baz=120,slow=2.3,SNR=7.3
ATAH PP **PP 06 03 48.4 -0.3**
comp=Z,266nm,0.8s,baz=35,slow=5.3,SNR=3.5
ATAH PKKPbc **PKKPbc 06 12 50.9 -1.1**
comp=Z,109nm,0.9s,baz=90,slow=2.0,SNR=2.4
PTGA Pitinga 119.59 39 Pdiff **Pdif 05 58 57.5 -0.8**
comp=Z,2.6nm,0.7s,baz=264,slow=4.6,SNR=2.0
PTGA PKP **PKPdf 06 02 31.6 -0.3**
comp=Z,102nm,0.5s,baz=336,slow=3.2,SNR=9.7
PTGA PP **PP 06 03 59.7 -4.9**
comp=Z,517nm,0.8s,baz=353,slow=7.4,SNR=4.1
PTGA PKKPbc **PKKPbc 06 12 42.1 -0.9**
comp=Z,132nm,1.0s,baz=214,slow=3.6,SNR=3.1
NNA Nana 122.04 63 *e*PKPdf **PKPdf 06 02 35.5 -1.0**
NNA *e*PKKPbc **PKKPab 06 12 37.9 +0.2**
NNA Nana 122.04 63 Pdiff **Pdif 05 59 09.1 -0.1**
comp=Z,3.7nm,0.5s,baz=11,slow=3.0,SNR=1.9
NNA PKP **PKPdf 06 02 35.8 -0.8**
comp=Z,325nm,0.7s,baz=332,slow=2.2,SNR=23
NNA PP **PP 06 04 17.0 -4.5**
comp=Z,540nm,1.1s,baz=302,slow=5.3,SNR=3.1
NNA PKKPbc **PKKPbc 06 12 34.1 +0.2**
comp=Z,79nm,0.7s,baz=182,slow=4.7,SNR=2.3
LSZ Lusaka 122.38 291 P **PKPdf 06 02 37.0 -0.3**
SNR=22
BLWY Bulawayo 126.11 287 *i* P PKPpre 06 02 37.4
BLWY Bulawayo 126.11 287 *i* P PKPpre 06 02 37.4
MATP Matopo 126.40 287 *i* P PKPpre 06 02 34.3
MATP Matopo 126.40 287 *i* P PKPpre 06 02 34.3
MATP Matopo 126.40 287 PKKPbc PKKPbc 06 12 17.9 +0.7
comp=Z,53nm,0.8s,baz=204,slow=5.1,SNR=2.3
MSNA Messina 127.08 284 *i* P **PKiKP 06 02 47.3 +0.7**
MSNA Messina 127.08 284 *i* P **PKiKP 06 02 47.3 +0.7**
I08BO LAS PENAS INFR 129.83 57 PKP **PKiKP 06 02 57.4 +4.5**
baz=327,slow=4.5,SNR=3.8
I08BO SKPbc **SKiKP 06 05 25.6 -6.2**
baz=7.8,slow=7.8,SNR=2.0
LPAZ La Paz 130.05 56 Pdiff **Pdif 05 59 45.4 0.0**
comp=Z,1.9nm,1.2s,baz=272,slow=3.1,SNR=1.8
LPAZ PKP **PKPdf 06 02 52.2 -0.3**
comp=Z,372nm,0.9s,baz=2.4,slow=6.3,SNR=11
LPAZ SKPbc **SKPbc 06 05 19.2 -0.3**
comp=Z,317nm,0.7s,baz=340,slow=5.0,SNR=3.5
LPAZ La Paz 130.05 56 *eP* **PKPdf 06 02 47.7 -4.8**
CLDB Colider 130.48 39 *eP* **PKPdf 06 02 48.5 -4.1**
RCBR Riachuelo 130.58 12 *e*PKPpre PKPpre 06 02 44.3
RCBR *e*PKPdf **PKPdf 06 02 52.7 -0.2**
RCBR *e*SKPbc **SKPbc 06 05 19.2 -1.6**
RCBR *e*SKPdf **SKiKP 06 05 32.2 -0.7**
RCBR Riachuelo 130.58 12 PKP **PKPdf 06 02 52.5 -0.4**
comp=Z,747nm,1.2s,baz=1.0,slow=2.3,SNR=11
RCBR SKPbc **SKPbc 06 05 20.0 -0.9**
comp=Z,2μm,1.1s,baz=345,slow=5.2,SNR=9.7
RCBR SKKPbc **SKKPbc 06 14 51.9 -0.6**
comp=Z,254nm,1.3s,baz=179,slow=7.2,SNR=2.8
RCBR Riachuelo 130.58 12 *eP* PKPpre 06 02 49.1
TSUM Tsumeb 131.21 299 *i* P PKPpre 06 02 43.0
TSUM Tsumeb 131.21 299 *i* P PKPpre 06 02 43.0
TSUM Tsumeb 131.21 299 Pdiff **Pdif 05 59 50.1 +0.2**
comp=Z,2.4nm,0.9s,baz=18,slow=6.4,SNR=3.1
TSUM PKhKP PKPpre 06 02 42.8
comp=Z,86nm,0.9s,baz=46,slow=3.6,SNR=8.9
TSUM SKPbc **SKPbc 06 05 21.9 -1.1**
comp=Z,404nm,1.0s,baz=14,slow=4.8,SNR=4.2
SMTB Santa Maria do 131.21 28 *eP* **PKPdf 06 02 50.2 -3.9**
LBTB Lobatse 131.66 286 *eP* PP 06 05 19.4 -4.7
LBTB *e*SKPdf **SKiKP 06 05 34.5 -0.3**
LBTB Lobatse 131.66 286 SKPbc **SKPbc 06 05 23.6 -0.8**
comp=Z,463nm,0.6s,baz=29,slow=5.0,SNR=1.7
CRZF Crozet Islands 131.99 246 *e*PKPdf **PKPdf 06 02 53.4 -1.1**
CRZF *eP* **PP 06 05 24.0 -2.1**
H10N2 ASCENSION HYDR 132.15 344 PKP **PKiKP 06 02 57.0 +0.4**
SNR=574
H10N3 ASCENSION HYDR 132.16 344 PKP **PKiKP 06 02 56.4 -0.2**
SNR=606
H10N1 ASCENSION HYDR 132.16 344 PKP **PKPdf 06 02 55.9 +0.4**
SNR=1202
VNDA Vanda 132.18 178 *e*PKPpre PKPpre 06 02 45.7
VNDA *e*PKPdf **PKiKP 06 02 55.4 +0.2**
VNDA *e*SKPbc **SKPab 06 05 26.5 +0.1**
VNDA *e*SKPdf **SKPdf 06 05 32.6 +0.6**
VNDA Vanda 132.18 178 Pdiff **Pdif 05 59 55.1 +2.4**
comp=Z,0.3nm,0.7s,baz=39,slow=6.5,SNR=1.7
VNDA PKhKP PKPpre 06 02 43.2
comp=Z,27nm,0.7s,baz=293,slow=4.3,SNR=4.5
VNDA PKP **PKPdf 06 02 54.1 +0.2**
comp=Z,165nm,0.8s,baz=317,slow=5.7,SNR=17
VNDA SKPbc **SKPbc 06 05 24.2 -0.2**
comp=Z,2μm,1.1s,baz=344,slow=2.3,SNR=9.4
ASCN Ascension 132.23 344 *e*PKPdf **PKPdf 06 02 55.8 -0.2**
ASCN *eP* **PP 06 05 29.4 +2.7**
I50GB ASCENSION ISLA 132.24 344 SKPbc **SKPab 06 05 30.6 +2.1**
baz=96,slow=9.3,SNR=14
PB11 IPOC Station P 132.26 60 *e*PKPpre PKPpre 06 02 40.7
PB11 *e*SKPbc **SKPab 06 05 28.4 -0.2**
GO01 Chusmiza 132.41 60 *e*SKPbc **SKPab 06 05 29.9 +0.1**
I55US WINDLESS BIGHT 132.58 176 SKPbc **SKPab 06 05 31.1 +3.0**
baz=337,slow=10,SNR=4.7
SBA Scott Base 132.66 176 *e*PKPpre PKPpre 06 02 43.3
SBA *e*PKPdf **PKiKP 06 02 57.6 +1.5**
SBA *e*SKPbc **SKPab 06 05 27.9 -0.6**
SBA *eP* **PP 06 05 33.1 +3.2**
SBA Scott Base 132.66 176 *e*PKHKP PKPpre 06 02 43.3
SBA *e* 06 05 33.1
SIV San Ignacio 133.02 48 Pdiff **Pdif 05 59 58.0 +0.1**
comp=Z,1.7nm,0.9s,baz=292,slow=10,SNR=1.8
SIV PKhKP PKPpre 06 02 42.3
comp=Z,26nm,0.6s,baz=274,slow=5.3,SNR=3.8
SIV PKP **PKPdf 06 02 57.5 +0.1**
comp=Z,225nm,0.5s,baz=338,slow=2.2,SNR=28
SIV SKPbc **SKPbc 06 05 28.7 -0.5**
comp=Z,3μm,0.8s,baz=356,slow=2.7,SNR=13
SIV SKKPbc **SKKPbc 06 14 43.3 -1.2**
comp=Z,95nm,1.1s,baz=166,slow=8.5,SNR=2.3
H10S1 ASCENSION HYDR 133.26 344 PKP **PKiKP 06 02 58.5 -0.5**
baz=312,slow=3.2,SNR=572
H10S3 ASCENSION HYDR 133.28 344 PKP **PKPdf 06 02 57.3 -0.3**
baz=312,slow=3.2,SNR=443
H10S2 ASCENSION HYDR 133.28 344 PKP **PKPdf 06 02 57.9 +0.3**
baz=312,slow=3.2,SNR=425
PB01 IPOC Station P 133.42 61 *e*SKPbc **SKPbc 06 05 30.7 +0.3**
PB04 IPOC Station P 134.15 63 *e*SKPbc **SKPbc 06 05 33.5 +0.7**
PB04 *eP* PP 06 05 37.6 -2.1
BOSA Boshof 134.65 284 *i* P PKPpre 06 02 49.6
BOSA Boshof 134.65 284 *i* P PKPpre 06 02 49.6
BOSA Boshof 134.65 284 Pdiff **Pdif 06 00 05.6 +0.6**
comp=Z,1.4nm,0.9s,baz=162,slow=3.2,SNR=1.8
BOSA PKhKP PKPpre 06 02 47.7
comp=Z,47nm,0.5s,baz=30,slow=4.8,SNR=4.7
BOSA SKPbc **SKPbc 06 05 33.3 -0.8**
comp=Z,544nm,0.8s,baz=49,slow=5.0,SNR=3.1
BOSA SKKPbc **SKKPbc 06 14 40.1 +0.5**
comp=Z,128nm,1.1s,baz=221,slow=4.3,SNR=2.1
PB10 IPOC Station P 134.91 64 *e*SKPbc **SKPab 06 05 37.8 -2.2**
LVC Limon Verde 135.02 62 *e*PKPpre PKPpre 06 02 50.0
LVC *e*PKPdf **PKPdf 06 03 01.4 0.0**
LVC *e*SKPbc **SKPab 06 05 39.7 -1.2**
LVC Limon Verde 135.02 62 *e*PKHKP PKPpre 06 02 50.0
LVC *e* 06 05 39.7
LVC Limon Verde 135.02 62 Pdiff **Pdif 06 00 08.4 +1.3**
comp=Z,1.5nm,0.7s,baz=153,slow=4.5,SNR=2.0
LVC PKhKP PKPpre 06 02 51.4
comp=Z,56nm,0.5s,baz=324,slow=3.3,SNR=9.5
LVC SKPbc **SKPbc 06 05 35.6 -0.2**
comp=Z,2μm,1.1s,baz=248,slow=4.9,SNR=7.2
LVC Limon Verde 135.02 62 *eP* **PKPdf 06 02 58.0 -3.4**
GO02 Mina Guanaco 136.76 64 *e*SKPbc **SKPk 06 05 44.0 -1.4**
GO02 *eP* PP 06 05 52.1 -3.9
I09BR BRASILIA INFRA 137.53 31 PKP **PKPdf 06 03 05.9 -0.1**
baz=23,slow=8.2,SNR=1.9
I09BR SKPbc **SKPbc 06 05 39.0 -4.0**
baz=31,slow=8.0,SNR=2.3
BDFB Brasilia 137.53 31 *e*PKPpre PKPpre 06 02 54.3
BDFB *e*PKPdf **PKiKP 06 03 07.4 -0.6**
BDFB Brasilia 137.53 31 PKhKP PKPpre 06 02 54.0
comp=Z,34nm,0.5s,baz=111,slow=0.2,SNR=3.3
BDFB PKP **PKPdf 06 03 05.6 -0.3**
comp=Z,304nm,0.6s,baz=0.4,slow=4.5,SNR=22
BDFB SKPbc **SKPbc 06 05 43.5 +0.4**
comp=Z,667nm,0.8s,baz=354,slow=4.4,SNR=2.7
SHEL Horse Pasture 138.00 329 *e*PKPpre PKPpre 06 02 55.0
SHEL *e*PKPdf **PKPdf 06 03 05.0 -1.7**
**SHEL Horse Pasture

BB19B				*i*		06 03 36.2	
BB19B				*e*		06 05 51.3	
BB19B				*i*		06 06 06.8	
BB19B				*i*		06 06 37.0	
BB19B				*i*		06 06 51.3	
BB19B	**Bebedouro**	**142.46**	**35**	*e*P	**PKPdf**	**06 03 12.5**	**-2.0**
BSFB	**Barra de Sao F**	**142.47**	**22**	*e*P	**PKPdf**	**06 03 10.6**	**-4.0**
CFA	**Coronel Fontan**	**142.60**	**69**	Pdiff	**Pdif**	**06 00 46.2**	**+6.0**
comp=Z,1.2nm,1.0s,baz=284,slow=4.2,SNR=2.1							
CFA				PKP	**PKPdf**	**06 03 12.3**	**-2.2**
comp=Z,3μm,0.6s,baz=305,slow=3.0,SNR=434							
CFA				SKPbc	**SKPbc**	**06 05 55.5**	**-0.3**
comp=Z,807nm,0.8s,baz=284,slow=3.4,SNR=2.2							
RIB01	**Linhares ES**	**143.03**	**22**	*e*P	PKPab	06 03 12.3	-1.1
BSCB	**Bom Sucesso**	**143.55**	**29**	*e*P	PKPab	06 03 14.7	-0.8
BSCB				*e*		06 03 17.5	
BSCB				*i*		06 03 21.2	
BSCB				*i*		06 03 27.7	
BSCB				*i*		06 03 30.7	
BSCB				*e*		06 03 34.9	
BSCB				*i*		06 03 43.4	
BSCB				*i*		06 04 32.4	
BSCB				*i*		06 05 58.7	
BSCB	**Bom Sucesso**	**143.55**	**29**	*e*P	PKPab	06 03 11.7	-3.8
CPUP	**Villa Florida**	**143.74**	**51**	*e*PKPbc	PKPbc	06 03 15.8	0.0
CPUP	**Villa Florida**	**143.74**	**51**	Pdiff	**Pdif**	**06 00 49.7**	**+4.4**
comp=Z,2.8nm,1.2s,baz=56,slow=7.3,SNR=2.2							
CPUP				PKP	PKPbc	06 03 15.7	-0.1
comp=Z,2μm,0.6s,baz=338,slow=2.0,SNR=654							
CPUP				SKPbc	**SKPbc**	**06 05 58.7**	**+0.1**
comp=Z,876nm,1.0s,baz=327,slow=2.1,SNR=1.9							
CPUP	**Villa Florida**	**143.74**	**51**	*e*P	PKPbc	06 03 12.6	-3.2
I41PY	**VILLA FLORIDA**	**143.75**	**51**	PKP	PKPbc	06 03 15.0	-0.9
baz=308,slow=9.2,SNR=26							
RCLB	**Rio Claro- Sao**	**144.05**	**34**	*e*P	PKPbc	06 03 13.5	-3.5
FRTB	**Fartura**	**144.21**	**38**	*e*P	PKPbc	06 03 13.7	-3.7
ALF01	**Guarapari-ES**	**144.22**	**23**	*e*P	PKPbc	06 03 13.6	-3.8
PTCB	**Pitanga**	**144.53**	**42**	*e*P	**PKPdf**	**06 03 15.6**	**-2.6**
QSPA	**South Pole Qui**	**144.56**	**180**	*e*PKPdf	**PKPdf**	**06 03 16.1**	**-0.7**
QSPA				*e*SKPbc	**SKiKP**	**06 06 00.5**	**+0.7**
VAS01	**Vassouras-RJ**	**145.14**	**28**	*e*P	**PKPdf**	**06 03 13.9**	**-5.3**
CAM01	**Campos-RJ**	**145.16**	**25**	*e*P	**PKPdf**	**06 03 16.2**	**-2.9**
SPB	**Sao Paulo**	**145.17**	**35**	*e*PKPdf	**PKPbc**	**06 03 20.0**	**-0.2**
SPB	**Sao Paulo**	**145.17**	**35**	*e*P	**PKPdf**	**06 03 15.6**	**-3.6**
DUB01	**Friburgo-RJ**	**145.23**	**26**	*e*P	**PKPdf**	**06 03 16.4**	**-3.0**
ESAR	**Angra dos Reis**	**145.56**	**30**	*e*P	**PKPdf**	**06 03 15.0**	**-4.8**
GO06	**Curarrehue**	**146.57**	**82**	*e*PKPdf	**PKPdf**	**06 03 22.2**	**+1.1**
GO06				*e*PKPbc	**PKPbc**	**06 03 23.7**	**-0.2**
SYO	**Syowa Base**	**147.66**	**218**	||*i*P	**PKPdf**	**06 03 19.6**	**-2.2**
PLCA	**Paso Flores**	**147.86**	**82**	*e*PKPbc	**PKPbc**	**06 03 27.8**	**+0.6**
PLCA				*e*PKPab	**PKPab**	**06 03 30.8**	**-1.3**
PLCA				*e*SKPbc	**SKPbc**	**06 06 06.3**	**-1.2**
PLCA	**Paso Flores**	**147.86**	**82**	Pdiff		06 01 07.8	
comp=Z,2.0nm,1.0s,baz=190,slow=6.1,SNR=3.0							
PLCA				PKP	**PKPdf**	**06 03 22.7**	**-0.5**
comp=Z,232nm,0.9s,baz=316,slow=1.9,SNR=38							
PLCA				PKPbc	**PKPbc**	**06 03 27.5**	**+0.3**
comp=Z,2μm,0.9s,baz=326,slow=3.8,SNR=227							
PLCA				SKP		06 05 59.4	
comp=Z,5μm,1.2s,baz=297,slow=3.4,SNR=3.4							
PLCA				PKKP	**PKKPdf**	**06 12 22.4**	**+4.1**
comp=Z,119nm,0.9s,baz=40,slow=6.9,SNR=2.9							
PLCA	**Paso Flores**	**147.86**	**82**	*e*P	**PKPdf**	**06 03 19.3**	**-3.9**
TER01	**Tubaro-SC**	**149.09**	**41**	*e*P	**PKPdf**	**06 03 22.9**	**-2.5**
CNLB	**Canela**	**149.11**	**44**	*e*P	**PKPdf**	**06 03 22.8**	**-2.7**
TRQA	**Tornquist**	**150.83**	**70**	*e*PKPdf	**PKPdf**	**06 03 27.1**	**-0.8**
TRQA				*e*PKPbc	**PKPbc**	**06 03 35.1**	**+0.8**
TRQA				*e*PKPab	**PKPab**	**06 03 44.3**	**-0.2**
TRQA	**Tornquist**	**150.83**	**70**	*e*PKIKP	**PKPdf**	**06 03 27.1**	**-0.8**
TRQA	**Tornquist**	**150.83**	**70**	*e*P	**PKPdf**	**06 03 24.5**	**-3.4**
GO09	**Cerro Castillo**	**152.66**	**102**	*e*PKPbc	**PKPbc**	**06 03 38.7**	**+0.9**
USHA	**Ushuaia**	**156.16**	**107**	PKP	**PKPdf**	**06 03 34.4**	**-0.3**
comp=Z,16nm,0.8s,baz=296,slow=2.1,SNR=16							
PMSA	**Palmer Station**	**159.03**	**133**	*e*PKPdf	**PKPdf**	**06 03 38.7**	**+0.8**
PMSA	**Palmer Station**	**159.03**	**133**	PKP	**PKPdf**	**06 03 37.5**	**-0.4**
comp=Z,75nm,1.0s,baz=121,slow=0.7,SNR=10							
PMSA	**Palmer Station**	**159.03**	**133**	*e*P	**PKPdf**	**06 03 34.6**	**-3.3**
SNAA	**Sanae**	**160.25**	**202**	PKPdf	**PKPdf**	**06 03 38.0**	**-1.2**
SNAA	**Sanae**	**160.25**	**202**	*e*PKPdf	**PKPdf**	**06 03 37.3**	**-1.9**
SNAA				*e*PKPab	**PKPab**	**06 04 22.9**	**-1.4**
SNAA	**Sanae**	**160.25**	**202**	*e*PKIKP	**PKPdf**	**06 03 37.3**	**-1.9**
SNAA				*e*		06 04 22.9	
SNAA	**Sanae**	**160.25**	**202**	PKP	**PKPdf**	**06 03 39.0**	**-0.2**
comp=Z,420nm,1.1s,baz=110,slow=1.4,SNR=82							
SNAA				PKPab	**PKPab**	**06 04 23.9**	**-0.4**
comp=Z,1μm,1.0s,baz=82,slow=0.9,SNR=7.3							
EFI	**East Falkland**	**161.00**	**93**	*e*PKPdf	**PKPdf**	**06 03 39.0**	**-1.4**
EFI				*e*PKPab	**PKPab**	**06 04 27.6**	**-0.4**
EFI	**East Falkland**	**161.00**	**93**	*e*PKIKP	**PKPdf**	**06 03 39.1**	**-1.4**
VNA2	**Neumayer--Watz**	**161.77**	**200**	PKPdf	**PKPdf**	**06 03 40.2**	**-0.6**
baz=340,slow=1.1							
VNA3	**Neumayer Olymp**	**161.94**	**198**	PKPdf	**PKPdf**	**06 03 40.1**	**-0.8**
VNA1	**Neumayer--Stat**	**162.17**	**200**	PKPdf	**PKPdf**	**06 03 40.6**	**-0.5**
HOPE	**Hope Point**	**174.22**	**89**	*e*PKPdf	**PKPdf**	**06 03 47.0**	**-2.6**
HOPE				*e*PKPab	**PKPab**	**06 05 26.5**	**0.0**

KRSC 24 05:58:40.4±10.0, 51°.45N×155°.39E, h575km±10km, ML5.3, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**0.59**	**170**	P	P	05 59 49.5	+0.8
ASAK	**Asacha**	**1.81**	**58**	P	P	05 59 54.0	+2.4
MTVR	**Mutnovka**	**2.02**	**58**	P	P	05 59 54.5	+2.0
RUS	**Russkaya**	**2.17**	**62**	P	P	05 59 53.9	+1.0
RUS				S	S	06 00 53.0	+0.6
KRMR	**Karymshinskiy**	**2.18**	**50**	P	P	05 59 54.0	+1.0
PET	**Petropavlovsk**	**2.55**	**51**	P	P	05 59 55.2	+0.4
DALK	**Dalny**	**2.61**	**51**	P	P	05 59 56.7	+1.7
KOK	**Koryaka**	**2.72**	**46**	P	P	05 59 57.5	+1.7
SMAR	**Somma**	**2.77**	**48**	P	P	05 59 57.5	+1.3
NLC	**Nalytchevo**	**2.98**	**53**	P	P	05 59 59.2	+2.1
NLC				S	S	06 01 00.1	+0.1
SPN	**Mys Shipunski**	**3.29**	**58**	P	P	06 00 00.2	+1.2
SPN				S	S	06 01 01.7	-1.8
KZV	**Kizimen**	**4.71**	**37**	P	P	06 00 10.1	+0.8
MKZ	**Mys Kozlova**	**4.94**	**48**	P	P	06 00 12.8	+1.9
MKZ				S	S	06 01 22.0	-3.2

*ISCJB **24** 06:02:43.9±1.1, 55°.3N±0°.2×153°.9E±0°.3, h600km, mb4.4/7, Error ellipse: s-maj=26.2km s-min=21.8km az=144.2*
*IDC **24** 06:02:45.2±1.3, 55°.28N×154°.02E, h607km±13km, mb3.9/7, mb1 4.0/10, mb1mx3.8/50, mbtmp4.9/10, Error ellipse: s-maj=26.7km s-min=21.1km az=22.0*
ISC 24 06:02:44.6±1.3, 55°.2N±0°.2×154°.0E±0°.2, h600km, n12, σ0°.78/11, mb4.5/7, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.02**	**133**	P	P	06 04 04.2	+0.3
7.0nm,0.3s,baz=359,slow=3.1,SNR=9.4							
MA2	**Magadan**	**4.71**	**340**	P	P	06 04 15.9	+0.9
5.3nm,0.3s,baz=153,slow=18,SNR=3.7							
SEY	**Seymchan**	**7.79**	**355**	P	P	06 04 42.7	+1.1
4.0nm,0.3s,baz=172,slow=7.1,SNR=5.5							
SONM	**Songino Array**	**30.02**	**276**	P	P	06 08 07.2	+0.8
24nm,1.1s,baz=64,slow=8.1,SNR=6.7							
MKAR	**Makanchi Array**	**44.03**	**290**	P	P	06 10 00.0	-0.2
20nm,0.9s,baz=52,slow=7.3,SNR=7.6							
ARCES	**ARCESS Array B**	**50.09**	**339**	P	P	06 10 44.7	-0.5
36nm,1.1s,baz=45,slow=7.8,SNR=5.1							
FINES	**FINESS Array B**	**56.68**	**333**	P	P	06 11 31.4	-0.2
28nm,0.9s,baz=35,slow=7.2,SNR=5.6							
NOA	**NORSAR Array B**	**60.42**	**340**	P	P	06 11 56.5	-0.2
5.9nm,0.9s,baz=38,slow=7.3,SNR=2.4							
GEYT	**Alibeck**	**62.93**	**298**	P	P	06 12 13.3	-0.2
7.3nm,0.7s,baz=48,slow=4.3,SNR=2.8							
AKASG	**Malin Array Be**	**64.88**	**325**	P	P	06 12 24.3	-1.2
3.8nm,0.5s,baz=33,slow=6.6,SNR=3.8							
CPUP	**Villa Florida**	**143.21**	**51**	PKP	PKPab	06 21 09.3	0.0
19nm,1.1s,baz=338,slow=5.4,SNR=2.7							
PLCA	**Paso Flores**	**147.46**	**82**	PKPbc	**PKPbc**	**06 21 21.7**	**+0.2**
13nm,1.1s,baz=236,slow=3.6,SNR=3.3							

*MOS **24** 06:03:04.2±0.7, 52°.53N×154°.16E, h587km, mb4.8/1, Error ellipse: s-maj=15.4km s-min=9.3km az=61.1*
*ISCJB **24** 06:03:06.3±0.2, 52°.99N±0°.04×153°.04E±0°.06, h513km±3km, mb5.3/88, Error ellipse: s-maj=8.1km s-min=3.7km az=144.3*

*KRSC **24** 06:03:06.3±10.0, 52°.65N×154°.05E, h545km±10km, ML5.2*
*IDC **24** 06:03:07.2±0.6, 52°.99N×153°.05E, h514km±8km, mb4.2/19, mb1 4.3/24, mb1mx4.2/49, mbtmp5.1/24, Error ellipse: s-maj=14.1km s-min=8.0km az=149.0*
*NEIC **24** 06:03:07.8±1.6, 53°.03N×153°.00E, h514km±7km, mb5.5/79, Error ellipse: s-maj=17.9km s-min=12.9km az=146.0*
ISC 24 06:03:07.0±0.5, 52°.94N±0°.06×153°.28E±0°.06, h515km±6km, n192, σ1°.60/226, mb5.4/89, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.35**	**89**	*e*P	P	06 04 15.9	+0.8
APC				*e*S	S	06 05 12.2	+1.3
APC	**Apacha**	**2.35**	**89**	P	P	06 04 15.9	+0.8
APC				S	S	06 05 12.0	+1.3
ALID	**Alaid**	**2.50**	**145**	*e*P	P	06 04 16.8	+0.5
ALID				*e*S	S	06 05 13.0	+0.3
ALID	**Alaid**	**2.50**	**145**	P	P	06 04 16.8	+0.5
ALID				S	S	06 05 13.0	+0.3
PAU	**Pauzhetka**	**2.62**	**123**	*e*P	P	06 04 17.4	+0.6
PAU				S	S	06 05 14.5	+0.9
PAU	**Pauzhetka**	**2.62**	**123**	P	P	06 04 17.4	+0.6
PAU				S	S	06 05 14.5	+0.9
PEA0B	**Petropavlovsk-**	**2.67**	**85**	*e*P	P	06 04 17.8	+0.8
PEA1	**Petropavlovsk-**	**2.67**	**84**	*e*P	P	06 04 17.7	+0.7
PEA1				*e*S	S	06 05 16.0	+1.8
PETK	**Petropavlovsk-**	**2.67**	**85**	*e*P	P	06 04 18.0	+0.9
PETK	**Petropavlovsk-**	**2.67**	**85**	P	P	06 04 17.7	+0.7
56nm,0.3s,baz=213,slow=4.6,SNR=48							
PETK				S	S	06 05 16.0	+1.8
baz=210,slow=16,SNR=2.2							
SKR	**Severo-Kuril's**	**2.86**	**141**	*e*P	P	06 04 18.2	-0.1
SKR				*e*S	S	06 05 16.1	-0.2
SKR	**Severo-Kuril's**	**2.86**	**141**	P	P	06 04 18.2	-0.1
SKR				S	S	06 05 16.1	-0.2
ASAK	**Asacha**	**2.87**	**99**	*e*P	P	06 04 18.6	+0.3
ASAK	**Asacha**	**2.87**	**99**	P	P	06 04 18.6	+0.3
GRL	**Gorelyy**	**2.94**	**96**	*e*P	P	06 04 20.0	+1.2
GRL	**Gorelyy**	**2.94**	**96**	P	P	06 04 20.0	+1.2
KRMR	**Karymshinskiy**	**2.94**	**90**	*e*P	P	06 04 19.6	+1.0
KRMR	**Karymshinskiy**	**2.94**	**90**	P	P	06 04 19.6	+1.0
MTVR	**Mutnovka**	**3.02**	**97**	*e*P	P	06 04 20.6	+1.2
MTVR				S	S	06 05 18.0	-0.4
MTVR	**Mutnovka**	**3.02**	**97**	P	P	06 04 20.6	+1.2
MTVR				S	S	06 05 18.0	-0.4
KDTR	**Khodutka, Kamc**	**3.15**	**109**	*e*P	P	06 04 18.8	-1.3
KDTR				*e*S	S	06 05 15.4	-4.3
KDTR	**Khodutka, Kamc**	**3.15**	**109**	P	P	06 04 18.8	-1.3
KDTR				S	S	06 05 15.4	-4.3
RUS	**Russkaya**	**3.22**	**97**	*e*P	P	06 04 19.7	-0.9
RUS				*e*S	S	06 05 17.6	-3.0
RUS	**Russkaya**	**3.22**	**97**	P	P	06 04 19.7	-0.9
RUS				S	S	06 05 17.6	-3.0
KOK	**Koryaka**	**3.25**	**82**	*e*P	P	06 04 21.9	+1.1
KOK	**Koryaka**	**3.25**	**82**	P	P	06 04 21.9	+1.1
PET	**Petropavlovsk**	**3.25**	**86**	*e*P	P	06 04 21.1	+0.4
PET				*e*S	S	06 05 21.4	+0.5
PET	**Petropavlovsk**	**3.25**	**86**	P	P	06 04 21.1	+0.4
PET				S	S	06 05 21.0	+0.1
KRX	**Arik**	**3.26**	**80**	*e*P	P	06 04 21.7	+0.7
KRX	**Arik**	**3.26**	**80**	P	P	06 04 21.7	+0.7
AVH	**Avacha**	**3.31**	**82**	*e*P	P	06 04 22.2	+1.0
AVH	**Avacha**	**3.31**	**82**	P	P	06 04 22.2	+1.0
DALK	**Dalny**	**3.31**	**86**	*e*P	P	06 04 21.6	+0.5
DALK				*e*S	S	06 05 19.8	-1.9
DALK	**Dalny**	**3.31**	**86**	P	P	06 04 21.6	+0.5
DALK				S	S	06 05 19.8	-1.9
KRER	**Koryakskii**	**3.31**	**81**	*e*P	P	06 04 22.5	+1.1
KRER	**Koryakskii**	**3.31**	**81**	P	P	06 04 22.5	+1.1
SMAR	**Somma**	**3.34**	**82**	*e*P	P	06 04 22.5	+0.9
SMAR	**Somma**	**3.34**	**82**	P	P	06 04 22.5	+0.9
UGLR	**Uglovaya**	**3.35**	**83**	*e*P	P	06 04 22.5	+0.9
UGLR	**Uglovaya**	**3.35**	**83**	P	P	06 04 22.5	+0.9
SDLR	**Sedlovina**	**3.39**	**82**	*e*P	P	06 04 22.2	+0.3
SDLR	**Sedlovina**	**3.39**	**82**	P	P	06 04 22.2	+0.3
NLC	**Nalytchevo**	**3.67**	**84**	*e*P	P	06 04 23.2	-0.5
NLC				*e*S	S	06 05 23.5	-2.9
NLC	**Nalytchevo**	**3.67**	**84**	P	P	06 04 23.2	-0.5
NLC				S	S	06 05 23.5	-2.9
KII	**Karymskiy**	**3.84**	**71**	*e*P	P	06 04 27.0	+1.9
KII	**Karymskiy**	**3.84**	**71**	P	P	06 04 27.0	+1.9
SPN	**Mys Shipunski**	**4.07**	**85**	*e*P	P	06 04 25.4	-1.5
SPN				*e*S	S	06 05 27.3	-4.9
SPN	**Mys Shipunski**	**4.07**	**85**	P	P	06 04 25.4	-1.5
SPN				S	S	06 05 27.3	-4.9
ESO	**Esso**	**4.36**	**44**	*e*P	P	06 04 30.5	+1.4
ESO	**Esso**	**4.36**	**44**	P	P	06 04 30.5	+1.4
TUMR	**Tumrok**	**4.67**	**57**	*e*P	P	06 04 33.9	+2.0
TUMR	**Tumrok**	**4.67**	**57**	P	P	06 04 33.9	+2.0
KZV	**Kizimen**	**4.67**	**59**	*e*P	P	06 04 34.1	+2.1
KZV	**Kizimen**	**4.67**	**59**	P	P	06 04 34.1	+2.1
TUMD	**Tumrok D**	**4.77**	**59**	*e*P	P	06 04 34.0	+1.4
SRDR	**Sredinnyy**	**5.04**	**45**	*e*P	P	06 04 36.8	+1.8
SRDR	**Sredinnyy**	**5.04**	**45**	P	P	06 04 36.8	+1.8
MKZ	**Mys Kozlova**	**5.27**	**69**	*e*P	P	06 04 37.0	0.0
MKZ				*e*S	S	06 05 45.7	-5.0
MKZ	**Mys Kozlova**	**5.27**	**69**	P	P	06 04 37.0	0.0
MKZ				S	S	06 05 45.7	-5.0
KBG	**Krutoberegovo**	**6.40**	**55**	*e*P	P	06 04 48.8	+1.2
KBG				*e*S	S	06 06 07.2	-2.9
KBG	**Krutoberegovo**	**6.40**	**55**	P	P	06 04 48.8	+1.2
KBG				S	S	06 06 07.2	-2.9
KBTR	**Krutoberegovo**	**6.44**	**56**	*e*P	P	06 04 47.7	-0.2
KBTR				*e*S	S	06 06 06.4	-4.4
KBTR	**Krutoberegovo**	**6.44**	**56**	P	P	06 04 47.7	-0.2
KBTR				S	S	06 06 06.4	-4.4
MA2	**Magadan**	**6.80**	**349**	*e*P	P	06 04 52.4	+1.0
MA2	**Magadan**	**6.80**	**349**	P	P	06 04 52.4	+1.0
BKI	**Bering**	**7.80**	**68**	S	S	06 06 34.3	-1.3
KUR	**Kuril'sk**	**8.49**	**207**	*e*P	P	06 05 07.5	-1.2
KUR				pmax	pmax		
comp=Z,166nm,0.4s							
YSS	**Yuzh-Sakhalins**	**9.05**	**233**	*e*P	P	06 05 15.3	+0.8
YSS	**Yuzh-Sakhalins**	**9.05**	**233**	*e*P	P	06 05 15.3	+0.8
SEY	**Seymchan**	**10.04**	**358**	P	P	06 05 25.5	+1.0
comp=Z,22nm,0.3s,baz=188,slow=14,SNR=15							
GRPR	**Tuman**	**10.24**	**212**	*e*P	P	06 05 25.4	-1.6
GRPR				*e*S	S	06 07 19.7	-2.4
GRPR				pmax	pmax		
comp=Z,231nm,0.4s							
GRPR				pmax	pmax		
comp=E,47nm,0.2s							
GRPR				pmax	pmax		
comp=N,49nm,0.4s							
GLVR	**Golovnino**	**10.55**	**212**	*e*P	P	06 05 27.8	-2.4
GLVR				*e*S	S	06 07 26.4	-1.7
GLVR				pmax	pmax		
comp=Z,116nm,0.1s							
ERM	**Erimo**	**12.88**	**216**	*e*P	P	06 05 51.8	-3.0
ERM	**Erimo**	**12.88**	**216**	*e*P	P	06 05 51.8	-3.0
KLR	**Kul'dur**	**14.02**	**263**	P	P	06 06 06.0	-0.6
comp=Z,6.5nm,0.3s,baz=55,slow=8.7,SNR=9.5							
USRK	**Ussuriysk Ar.**	**16.53**	**247**	P	P	06 06 30.9	-1.8
comp=Z,1.8nm,0.3s,baz=42,slow=10,SNR=8.8							
MJB9	**Matsu-Tunnel**	**19.51**	**219**	*e*P	P	06 07 01.0	+0.6
comp=Z,181nm,0.6s							
MAJO	**Matsushiro**	**19.51**	**219**	*e*P	P	06 07 00.5	+0.1
comp=Z,180nm,0.6s							
MAJO	**Matsushiro**	**19.51**	**219**	*e*P	P	06 07 00.5	+0.1
MAJO				pmax	pmax		
comp=Z,180nm,0.6s							
MJAR	**Matsushiro Arr**	**19.51**	**219**	*e*P	P	06 07 00.7	+0.3
MJAR	**Matsushiro Arr**	**19.51**	**219**	P	P	06 07 00.3	-0.1
comp=Z,1.5nm,0.3s,baz=11,slow=8.7,SNR=28							
INU	**Inuyama**	**21.02**	**220**	*e*P	P	06 07 12.5	-1.5
comp=Z,581nm,1.9s							
TIXI	**Tiksi**	**21.62**	**339**	P	P	06 07 18.5	-0.5
comp=Z,191nm,1.2s,baz=152,slow=8.7,SNR=2.7							
KSRS	**Korea Array**	**23.47**	**239**	P	P	06 07 34.6	-1.3
comp=Z,19nm,0.9s,baz=38,slow=8.1,SNR=4.7							
JNU	**Nakatsue**	**25.51**	**228**	*e*P	P	06 07 53.5	-0.7
comp=Z,134nm,1.2s							
JNU	**Nakatsue**	**25.51**	**228**	P	P	06 07 53.5	-0.7
comp=Z,57nm,0.8s,baz=27,slow=2.7,SNR=7.1							
SONA0	**Songino Array**	**29.89**	**279**	*e*P	P	06 08 31.8	-0.6
SONA0				*e*PcP	**PcP**	06 11 18.6	-0.4
SONM	**Songino Array**	**29.89**	**279**	P	P	06 08 31.8	-0.6
comp=Z,49nm,1.1s,baz=67,slow=8.3,SNR=6.0							
SONM				PcP	**PcP**	06 11 18.6	-0.4
comp=Z,9.3nm,1.1s,baz=71,slow=3.3,SNR=4.9							
SPU	**Mount Spurr**	**30.01**	**52**	*e*P	P	06 08 35.5	+2.3
BPAW	**Bear Paw Mtn.**	**30.14**	**46**	*e*P	P	06 08 39.0	+4.8
comp=Z,463nm,1.7s							
OHAK	**Old Harbor**	**30.22**	**60**	*e*P	P	06 08 34.0	-0.9
comp=Z,622nm,1.9s							
COLD	**Coldfoot**	**30.32**	**40**	*e*P	P	06 08 36.8	+1.1
comp=Z,72nm,1.1s							
KDAK	**Kodiak Island**	**30.44**	**59**	*e*P	P	06 08 37.6	+0.8
comp=Z,286nm,1.4s							
TOLK	**Toolik Lake Re**	**30.57**	**37**	*e*P	P	06 08 38.6	+0.7
comp=Z,114nm,1.1s							
BWN	**Browne**	**30.79**	**46**	*e*P	P	06 08 42.0	+2.2
comp=Z,704nm,1.4s							
BRLK	**Bradley Lake**	**30.84**	**55**	*e*P	P	06 08 40.2	-0.1
comp=Z,330nm,1.5s							
MDM	**Murphy Dome**	**31.24**	**44**	*e*P	P	06 08 45.2	+1.5
comp=Z,331nm,1.6s							
WRH	**Wood River Hil**	**31.36**	**45**	*e*P	P	06 08 46.1	+1.4
comp=Z,32nm,0.8s							
COLA	**College**	**31.41**	**45**	*e*P	P	06 08 46.8	+1.7
comp=Z,217nm,1.4s							
CCB	**Clear Creek Bu**	**31.46**	**45**	*e*P	P	06 08 45.8	+0.4
comp=Z,27nm,0.8s							
SEW	**Seward**	**31.47**	**54**	*e*P	P	06 08 46.7	+1.1
comp=Z,570nm,1.7s							
SML	**Sawmill**	**31.66**	**50**	*e*P	P	06 08 48.8	+1.5
comp=Z,226nm,1.1s							
KNK	**Knik Glacier**	**31.67**	**51**	*e*P	P	06 08 48.1	+0.7
comp=Z,438nm,1.6s							
ILAR	**Eielson Array**	**31.83**	**45**	*e*P	P	06 08 50.2	+1.4
ILAR	**Eielson Array**	**31.83**	**45**	P	P	06 08 49.7	+1.0
comp=Z,21nm,0.8s,baz=261,slow=6.4,SNR=16							
HDA	**Harding Lake**	**31.86**	**45**	*e*P	P	06 08 49.8	+0.8
comp=Z,242nm,1.5s							
DHY	**Denali Highway**	**31.87**	**48**	*e*P	P	06 08 49.9	+0.6
comp=Z,269nm,1.7s							
SCM	**Sheep Creek Mo**	**32.12**	**50**	*e*P	P	06 08 53.4	+2.1
comp=Z,1μm,2.0s							
PRP	**Porcupine Dome**	**32.31**	**43**	*e*P	P	06 08 54.5	+1.6
comp=Z,19nm,1.0s							
KLU	**Klutina**	**32.85**	**51**	*e*P	P	06 08 59.1	+1.6
comp=Z,89nm,1.4s							
RIDG	**Independent Ri**	**32.88**	**46**	*e*P	P	06 08 58.5	+0.9
comp=Z,626nm,1.8s							
HARP	**HAARP**	**33.00**	**49**	*e*P	P	06 09 00.3	+1.6
comp=Z,1μm,1.9s							
DIV	**Divide**	**33.00**	**51**	*e*P	P	06 09 00.9	+2.1
comp=Z,299nm,2.0s							
SCRK	**Sand Creek**	**33.20**	**46**	*e*P	P	06 09 00.6	+0.1
comp=Z,116nm,1.2s							
MENT	**Mentasta**	**33.53**	**48**	*e*P	P	06 09 04.7	+1.5
comp=Z,148nm,1.6s							
EGAK	**Eagle**	**34.25**	**44**	*e*P	P	06 09 09.5	+0.3
BCAR	**Beaver Creek A**	**34.36**	**47**	*e*P	P	06 09 11.8	+1.6
TGL	**Tana Glacier**	**34.49**	**51**	*e*P	P	06 09 13.1	+1.8
comp=Z,68nm,1.0s							
BALM	**Baldy**	**34.63**	**51**	*e*P	P	06 09 13.9	+1.3
comp=Z,313nm,1.6s							
CTGM	**Chitina Glacie**	**35.13**	**50**	*e*P	P	06 09 18.7	+2.0
comp=Z,299nm,1.6s							
EPYK	**Eagle Plains**	**35.71**	**40**	*e*P	P	06 09 22.9	+1.5
comp=Z,783nm,1.5s							
INK

GEYT	Alibeck	63.63	298	P		P	06 12 46.6	-0.5
	comp=Z,18nm,0.8s,baz=20,slow=4.6,SNR=2.9							
O20A	White River Ci	63.72	58	*eP*		P	06 12 49.7	+1.8
	comp=Z,1μm,2.0s							
IVI	Ivigtut	64.93	11	*eP*		P	06 12 54.3	-0.5
	comp=Z,193nm,1.6s							
ECSD	EROS Data Cent	66.57	48	*eP*		P	06 13 05.6	0.0
	comp=Z,832nm,1.8s							
MTN	Manton Dam	68.23	203	*eP*		P	06 13 16.3	+0.4
	comp=Z,276nm,1.5s							
MMNY	Mt. Morris Dam	75.01	36	*eP*		P	06 13 54.4	-0.8
	comp=Z,955nm,1.7s							
GLAT	Glass	75.91	48	*eP*		P	06 13 59.4	-0.9
	comp=Z,2μm,1.5s							
O56A	Blue Knob Stat	76.91	38	*eP*		P	06 14 05.7	-0.2
	comp=Z,836nm,1.6s							
U54A	Nelsons Funny	78.89	42	*eP*		P	06 14 16.8	+0.1
	comp=Z,752nm,1.6s							
CRZF	Crozet Islands	131.13	244	*e*PKPdf		PKiKP	06 21 24.5	+4.3
GO05	Huala	143.58	79	*e*PKPbc		PKPab	06 21 41.3	+0.2
CPUP	Villa Florida	144.95	53	PKIKP		PKPdf	06 21 45.0	-0.1
CPUP	Villa Florida	144.95	53	PKPbc		PKPdf	06 21 45.0	-0.1
	comp=Z,16nm,1.0s,baz=38,slow=1.7,SNR=5.1							
PLCA	Paso Flores	148.13	85	*e*PKPbc		PKPbc	06 21 55.0	+0.9
PLCA	Paso Flores	148.13	85	PKPbc		PKPbc	06 21 54.3	+0.3
	comp=Z,20nm,1.1s,baz=86,slow=0.8,SNR=3.1							
TRQA	Tornquist	151.50	73	*e*PKPbc		PKPbc	06 22 02.2	+0.1

*ISCJB **24** 06:13:54.0±0.6, 54°.3N±0°.2×153°.9E±0°.1, h650km, mb4.2/3, Error ellipse: s-maj=19.9km s-min=9.1km az=175.5*
*KRSC **24** 06:13:53.4±10.0, 53°.95N×154°.86E, h694km±10km, ML5.0*
*IDC **24** 06:13:56.5±1.4, 54°.46N×153°.20E, h614km±19km, mb3.7/3, mb1 3.7/7, mb1mx3.4/53, mbtmp4.6/7, Error ellipse: s-maj=37.5km s-min=19.5km az=169.0*
ISC 24 06:13:54.5±0.9, 54°.3N±0°.2×154°.10E±0°.10, h650km, n12, σ1º21/14, mb4.3/3, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	2.46	118	P	P	06 15 16.3	+1.1
	2.4nm,0.3s,baz=92,slow=4.0,SNR=1.3						
TUMR	Tumrok	3.63	72	P	P	06 15 23.4	+2.1
SPN	Mys Shipunski	3.73	107	P	P	06 15 22.5	+0.7
SPN				S	S	06 16 30.8	-2.4
MKZ	Mys Kozlova	4.46	84	P	P	06 15 27.1	+0.6
MKZ				S	S	06 16 41.2	-0.6
KBTR	Krutoberegovo	5.33	66	P	P	06 15 33.4	+0.6
KBTR				S	S	06 16 52.5	-0.9
SEY	Seymchan	8.68	355	P	P	06 16 01.0	-0.4
	0.7nm,0.3s,baz=180,slow=6.1,SNR=1.4						
KLR	Kul'dur	14.72	259	P	P	06 16 57.5	-0.5
	1.5nm,0.3s,baz=76,slow=4.2,SNR=1.1						
USRK	Ussuriysk Ar.	17.56	244	P	P	06 17 23.6	-0.3
	0.4nm,0.3s,baz=40,slow=9.1,SNR=2.3						
SONM	Songino Array	30.18	277	P	P	06 19 15.1	+0.1
	2.2nm,0.5s,baz=77,slow=9.5,SNR=1.5						
BVAR	Borovoye Array	46.79	305	P	P	06 21 27.2	-0.5
	10nm,0.7s,baz=58,slow=7.0,SNR=1.5						
TXAR	Lajitas Array	73.34	63	P	P	06 24 30.0	+7.7
	21nm,1.1s,baz=307,slow=6.7,SNR=2.2						
CPUP	Villa Florida	143.72	52	PKP	PKiKP	06 32 21.8	+1.1
	1.2nm,0.7s,baz=301,slow=5.9,SNR=3.3						

IDC 24 06:14:11.1±1.4, 55°.21N×154°.16E, h599km±21km, mb3.5/4, mb1 3.5/6, mb1mx3.3/51, mbtmp4.5/6, Error ellipse: s-maj=36.5km s-min=32.3km az=19.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	2.96	134	P	P	06 15 29.6	-0.2
	4.3nm,0.3s,baz=333,slow=5.8,SNR=12						
SEY	Seymchan	7.81	354	P	P	06 16 08.6	+0.4
	1.4nm,0.3s,baz=187,slow=7.2,SNR=5.2						
SONM	Songino Array	30.11	276	P	P	06 19 34.1	+0.5
	6.5nm,1.0s,baz=72,slow=8.5,SNR=1.7						
KURBB	Kurchatov Arra	43.76	297	P	P	06 21 24.1	-0.4
	4.3nm,0.4s,baz=60,slow=7.4,SNR=7.2						
SPITS	Spitsbergen Ar	44.42	349	P	P	06 21 29.2	-0.1
	8.4nm,0.8s,baz=38,slow=12,SNR=1.4						
BVAR	Borovoye Array	46.33	304	P	P	06 21 43.6	-0.5
	6.3nm,0.7s,baz=52,slow=9.0,SNR=0.9						
CPUP	Villa Florida	143.14	51	PKP	PKPdf	06 32 37.1	-0.4
	4.0nm,1.1s,baz=249,slow=8.6,SNR=1.8						

*ISCJB **24** 06:25:18.1±0.3, 54°.29N±0°.07×153°.51E±0°.08, h650km, mb4.1/21, Error ellipse: s-maj=9.4km s-min=5.7km az=23.5*
*MOS **24** 06:25:18.2±1.0, 54°.37N×153°.16E, h633km, mb4.4/1, Error ellipse: s-maj=14.0km s-min=9.9km az=109.0*
*IDC **24** 06:25:19.6±1.2, 54°.38N×153°.04E, h629km±14km, mb3.7/21, mb1 3.8/25, mb1mx3.6/51, mbtmp4.6/25, Error ellipse: s-maj=20.9km s-min=11.4km az=171.0*
*KRSC **24** 06:25:19.4±10.0, 54°.38N×153°.16E, h606km±10km, ML4.7*
ISC 24 06:25:19.4±0.6, 54°.17N±0°.08×153°.44E±0°.07, h650km, n83, σ2º37/97, mb4.2/21, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.54	118	*eP*	P	06 26 39.5	-0.9
APC	Apacha	2.54	118	P	P	06 26 39.5	-0.9
PETK	Petropavlovsk-	2.75	111	P	P	06 26 40.3	-1.1
	10nm,0.3s,baz=336,slow=2.9,SNR=37						
KRMR	Karymshinskiy	3.10	114	*eP*	P	06 26 42.0	-1.2
KRMR	Karymshinskiy	3.10	114	P	P	06 26 42.0	-1.2
KRX	Arik	3.20	103	*eP*	P	06 26 43.1	-0.7
KRX	Arik	3.20	103	P	P	06 26 43.1	-0.7
KOK	Koryaka	3.21	104	*eP*	P	06 26 43.2	-0.7
KOK	Koryaka	3.21	104	P	P	06 26 43.2	-0.7
ASAK	Asacha	3.22	122	*eP*	P	06 26 43.1	-0.8
ASAK	Asacha	3.22	122	P	P	06 26 43.1	-0.8
KRER	Koryakskii	3.27	103	*eP*	P	06 26 43.7	-0.6
KRER	Koryakskii	3.27	103	P	P	06 26 43.7	-0.6
AVH	Avacha	3.27	104	*eP*	P	06 26 44.7	+0.5
AVH	Avacha	3.27	104	P	P	06 26 44.7	+0.5
MTVR	Mutnovka	3.31	119	P	P	06 26 43.5	-1.0
MTVR	Mutnovka	3.31	119	P	P	06 26 43.5	-1.0
PET	Petropavlovsk	3.31	108	*eP*	P	06 26 43.3	-1.0
PET	Petropavlovsk	3.31	108	P	P	06 26 43.3	-1.0
SMAR	Somma	3.31	104	*eP*	P	06 26 43.8	-0.8
SMAR	Somma	3.31	104	P	P	06 26 43.8	-0.8
UGLR	Uglovaya	3.34	104	*eP*	P	06 26 43.8	-0.8
UGLR	Uglovaya	3.34	104	P	P	06 26 43.8	-0.8
SDLR	Sedlovina	3.35	103	*eP*	P	06 26 43.3	-1.4
SDLR	Sedlovina	3.35	103	P	P	06 26 43.3	-1.4
DALK	Dalny	3.36	108	*eP*	P	06 26 42.9	-1.7
DALK	Dalny	3.36	108	P	P	06 26 42.9	-1.7
PAU	Pauzhetka	3.39	142	*eP*	P	06 26 44.0	-0.8
PAU	Pauzhetka	3.39	142	P	P	06 26 44.0	-0.8
ESO	Esso	3.50	58	*eP*	P	06 26 44.3	-1.0
ESO	Esso	3.50	58	P	P	06 26 44.3	-1.0
RUS	Russkaya	3.50	118	*eP*	P	06 26 43.5	-1.9
RUS				*e*S	S	06 27 51.1	-4.6
RUS	Russkaya	3.50	118	P	P	06 26 43.5	-1.9
RUS				S	S	06 27 51.1	-4.6
KII	Karymskiy	3.54	90	*eP*	P	06 26 45.0	-0.7
KII	Karymskiy	3.54	90	P	P	06 26 45.0	-0.7
ALID	Alaid	3.54	158	*eP*	P	06 26 45.5	-0.4
ALID	Alaid	3.54	158	P	P	06 26 45.5	-0.4
NLC	Nalytchevo	3.65	103	*eP*	P	06 26 46.0	-0.2
NLC				*e*S	S	06 27 56.6	-0.7
NLC	Nalytchevo	3.65	103	P	P	06 26 46.0	-0.2
NLC				S	S	06 27 56.6	-0.7
KDTR	Khodutka, Kamc	3.66	128	*eP*	P	06 26 44.1	-2.3
KDTR				*e*S	S	06 27 51.9	-5.5
KDTR	Khodutka, Kamc	3.66	128	P	P	06 26 44.1	-2.3
KDTR				S	S	06 27 51.9	-5.5
TUMR	Tumrok	4.05	71	*eP*	P	06 26 48.0	-0.8
TUMR	Tumrok	4.05	71	P	P	06 26 48.0	-0.8
SPN	Mys Shipunski	4.06	103	*eP*	P	06 26 46.6	-2.2
SPN				*e*S	S	06 27 55.9	-6.1
SPN	Mys Shipunski	4.06	103	P	P	06 26 46.6	-2.2
SPN				S	S	06 27 55.9	-6.1
TUMD	Tumrok D	4.17	73	*eP*	P	06 26 48.5	-1.0
KRSR	Krestovskiy	4.57	60	*eP*	P	06 26 50.6	-1.7
KRSR	Krestovskiy	4.57	60	P	P	06 26 50.6	-1.7
LGNR	Loginova	4.58	62	*eP*	P	06 26 51.9	-0.7
LGNR	Loginova	4.58	62	P	P	06 26 51.9	-0.7
MKZ	Mys Kozlova	4.87	82	*eP*	P	06 26 50.9	-3.3
MKZ				*e*S	S	06 28 06.1	-5.9
MKZ	Mys Kozlova	4.87	82	P	P	06 26 50.9	-3.3
MKZ				S	S	06 28 06.1	-5.9
MA2	Magadan	5.62	346	P	P	06 26 57.3	-2.6
	0.8nm,0.3s,baz=172,slow=19,SNR=1.9						
KBG	Krutoberegovo	5.70	65	*e*S	S	06 28 17.6	-6.0
KBTR	Krutoberegovo	5.75	65	*eP*	P	06 26 58.0	-3.0
KBTR				*e*S	S	06 28 17.9	-6.4
KBTR	Krutoberegovo	5.75	65	P	P	06 26 58.0	-3.0
KBTR				S	S	06 28 17.9	-6.4
BKI	Bering	7.34	77	*eP*	P	06 27 15.8	+1.4
BKI				*e*S	S	06 28 49.8	+1.1
BKI	Bering	7.34	77	P	P	06 27 15.8	+1.4
BKI				S	S	06 28 49.8	+1.1
SEY	Seymchan	8.81	357	P	P	06 27 24.9	-2.7
	5.5nm,0.3s,baz=180,slow=9.9,SNR=19						
KLR	Kul'dur	14.31	259	P	P	06 28 19.6	+0.4
	0.8nm,0.3s,baz=71,slow=7.5,SNR=5.3						
ILAR	Eielson Array	30.90	46	P	P	06 30 47.2	+1.5
	4.5nm,0.7s,baz=264,slow=6.0,SNR=16						
INK	Inuvik	35.45	38	P	P	06 31 24.9	+1.4
	70nm,1.1s,baz=299,slow=9.1,SNR=26						
KURK	Kurchatov	43.76	297	P	P	06 32 30.1	+0.4
RES	Resolute Bay	43.77	21	P	P	06 32 30.1	+0.6
	30nm,1.1s,baz=340,slow=6.7,SNR=6.3						
KURBB	Kurchatov Arra	43.86	297	P	P	06 32 30.1	-0.4
	8.3nm,0.5s,baz=56,slow=7.4,SNR=7.9						
MKAR	Makanchi Array	44.09	291	P	P	06 32 32.0	-0.3
	6.7nm,0.5s,baz=46,slow=4.8,SNR=12						
YKA	Yellowknife Ar	45.01	41	P	P	06 32 40.3	+1.4
	2.0nm,0.4s,baz=306,slow=7.2,SNR=6.9						
SPITS	Spitsbergen Ar	45.36	349	P	P	06 32 40.9	-0.6
	18nm,1.0s,baz=34,slow=6.2,SNR=1.5						
BVAR	Borovoye Array	46.56	304	P	P	06 32 49.7	-1.1
	23nm,1.0s,baz=65,slow=7.3,SNR=5.1						
ARU	Arti	49.85	314	P	P	06 33 14.3	-0.7
	3.6nm,0.3s,baz=251,slow=15,SNR=1.5						
ARCES	ARCESS Array B	50.95	339	P	P	06 33 21.8	-1.0
	11nm,1.0s,baz=34,slow=6.6,SNR=2.6						
AAK	Ala-Archa	51.02	291	P	P	06 33 23.9	0.0
	7.9nm,0.6s,baz=16,slow=7.4,SNR=3.5						
FINES	FINESS Array B	57.46	333	P	P	06 34 07.6	-0.6
	11nm,0.8s,baz=29,slow=4.4,SNR=1.9						
NVAR	Mina Array Bea	59.02	66	P	P	06 34 22.5	+3.2
	20nm,0.9s,baz=303,slow=5.0,SNR=2.4						
NOA	NORSAR Array B	61.29	340	P	P	06 34 33.2	-0.4
	2.3nm,0.8s,baz=21,slow=3.8,SNR=2.4						
GEYT	Alibeck	63.13	298	P	P	06 34 45.5	-0.3
	3.5nm,0.6s,baz=44,slow=6.4,SNR=2.5						
AKASG	Malin Array Be	65.55	325	P	P	06 34 59.6	-0.9
	3.3nm,0.5s,baz=32,slow=6.8,SNR=5.4						
KBZ	Khabaz	65.95	312	P	P	06 35 03.6	+0.5
	14nm,1.1s,baz=89,slow=21,SNR=1.5						
GERES	GERESS Array B	71.89	333	P	P	06 35 38.7	0.0
	1.6nm,0.6s,baz=48,slow=5.8,SNR=3.2						
BRTR	Keskin Array B	73.17	316	P	P	06 35 46.2	0.0
	3.5nm,0.9s,baz=20,slow=4.6,SNR=3.1						
TXAR	Lajitas Array	73.76	62	P	P	06 35 52.5	+2.9
	4.3nm,1.0s,baz=332,slow=7.4,SNR=3.1						
ASAR	Alice Springs	79.32	198	P	P	06 36 22.0	+2.4
	3.6nm,0.9s,baz=10,slow=5.4,SNR=3.0						
CPUP	Villa Florida	144.12	52	PKP	PKPab	06 43 44.2	+1.1
	14nm,1.1s,baz=5.2,slow=4.5,SNR=2.9						

*ISCJB **24** 06:25:25.4±0.8, 51°.38N±0°.03×16°.11E±0°.05, h0km, Error ellipse: s-maj=5.7km s-min=3.1km az=40.0*
*PRU **24** 06:25:26.7±0.0, 51°.41N×16°.15E, h0km*
*BGR **24** 06:25:27.1±0.7, 51°.40N×16°.16E, h1km, ML3.5/4, Error ellipse: s-maj=6.7km s-min=2.2km az=46.0*
ISC 24 06:25:25.2±1.4, 51°.40N±0°.06×16°.26E±0°.05, h0km, n25, σ0º58/42, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.56	178	*e*Pg	Pb	06 25 37.4	-0.5
KSP				*e*Sg	Sb	06 25 44.9	-1.5
KSP	Ksiaz	0.56	178	*e*Pg	Pb	06 25 37.5	-0.3
	SNR=5.5						
KSP				*e*Sg	Sb	06 25 45.0	-1.4
	SNR=1.4						
UPC	Upice	0.91	190	*e*PG	Pb	06 25 43.6	-0.2
UPC				*e*SG	Sb	06 25 56.4	-0.1
DPC	Dobruska-Polom	1.05	178	*e*Pg	Pb	06 25 46.6	+0.3
	SNR=2.9						
DPC				*e*Sg	Sb	06 26 00.9	+0.2
	SNR=2.2						
DPC	Dobruska-Polom	1.05	178	*e*Pg	Pb	06 25 46.2	-0.1
DPC				*e*SG	Sb	06 26 01.1	+0.4
KRLC	Kraliky	1.37	166	*e*PG	Pb	06 25 52.3	+0.6
KRLC				*e*SG	Sn	06 26 10.5	+0.1
PVCC	Panska Ves	1.38	231	*e*Pg	Pb	06 25 52.2	+0.4
	SNR=4.0						
PVCC	Panska Ves	1.38	231	*e*PG	Pg	06 25 51.6	0.0
PVCC				*e*SG	Sn	06 26 10.6	-0.1
	comp=Z,217nm,0.3s						
BRG	Berggiesshubel	1.55	251	PG	Pg	06 25 55.3	+0.3
BRG				SG	Sg	06 26 15.1	+0.1
	38nm,0.3s						
BRG	Berggiesshubel	1.55	251	*e*Pn	Pn	06 25 54.2	+0.1
	SNR=0.8						
BRG				*e*Pg	Pb	06 25 54.8	0.0
	SNR=3.3						
BRG				*e*Sg	Sn	06 26 14.7	-0.2
	SNR=3.9						
GOPC	GO Pecny, Ondr	1.76	213	*e*PG	Pb	06 25 58.5	+0.2
GOPC				*e*SG	Sg	06 26 22.1	+0.4
PRU	Pruhonice	1.79	218	*e*PG	Pb	06 25 59.0	+0.2
PRU				*e*SG	Sg	06 26 22.3	-0.3
MORC	Moravsky Berou	1.82	153	*e*PN	Pn	06 26 58.1	+0.3
MORC				*e*SG	Sg	06 26 23.8	+0.2
RUE	Ruedersdorf	1.88	306	*e*Sg	Sg	06 26 25.1	-0.4
	SNR=3.2						
FBE	Freiberg	1.89	256	*e*Sg	Sb	06 26 25.1	+0.3
	SNR=3.1						
CLL	Collm	2.04	269	*e*Pg	Pb	06 26 03.0	-0.2
CLL				*e*Sg	Sb	06 26 29.0	-0.1
CLL	Collm	2.04	269	*e*Sg	Sg	06 26 30.3	-0.6
	SNR=2.6						
VRAC	Vranov	2.11	174	*e*PN	Pn	06 26 02.8	+1.1
VRAC				*e*SG	Sg	06 26 33.0	+0.2
TREC	Trest	2.17	194	*e*Sg	Sg	06 26 34.9	+0.1
	SNR=3.2						
TREC	Trest	2.17	194	*e*SG	Sg	06 26 34.9	+0.1
KRUC	Moravsky	2.34	178	*e*PN	Pb	06 26 07.2	-1.1
KRUC				*e*SG	Sg	06 26 39.7	-0.7
TANN	Tannenbergstha	2.60	249	*e*Pn	Pn	06 26 08.5	-0.1
	SNR=0.4						
NKC	Novy Kostel	2.69	246	*e*Pn	Pn	06 26 09.8	+0.1
	SNR=0.9						
NKC	Novy Kostel	2.69	246	*e*SG	Sg	06 26 51.0	-0.4
KHC	Kasperske Hory	2.85	218	*e*PG	Pb	06 26 18.3	+1.3
KHC				*e*SG	Sg	06 26 55.6	-1.1

*ISCJB **24** 06:31:19.5±0.7, 55°.2N±0°.1×153°.7E±0°.2, h600km, mb4.0/22, Error ellipse: s-maj=18.9km s-min=11.6km az=32.8*
*IDC **24** 06:31:19.9±0.8, 55°.13N×153°.77E, h603km±12km, mb3.2/15, mb1 3.4/18, mb1mx3.2/55, mbtmp4.2/18, Error ellipse: s-maj=24.2km s-min=14.5km az=178.0*
ISC 24 06:31:19.9±0.9, 55°.1N±0°.2×153°.8E±0°.1, h600km, n25, σ1º13/26, mb3.9/22, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	3.08	129	P	P	06 32 38.9	-0.6
	6.3nm,0.3s,baz=338,slow=1.7,SNR=24						
PETK				S	S	06 33 45.5	+1.0
	baz=156,slow=1.6,SNR=3.6						
MA2	Magadan	4.74	341	P	P	06 32 51.0	+0.5
	1.2nm,0.3s,baz=150,slow=8.1,SNR=3.4						
SEY	Seymchan	7.86	355	P	P	06 33 18.2	+0.7
	0.7nm,0.3s,baz=176,slow=16,SNR=3.2						
ILAR	Eielson Array	30.11	47	P	P	06 36 41.0	-1.1
	1.6nm,0.7s,baz=267,slow=5.9,SNR=3.6						
RES	Resolute Bay	42.81	21	P	P	06 38 25.2	-0.4
	7.5nm,1.0s,baz=306,slow=8.7,SNR=3.2						
KURBB	Kurchatov Arra	43.58	297	P	P	06 38 32.1	+0.1
	2.6nm,0.4s,baz=60,slow=7.5,SNR=6.5						
MKAR	Makanchi Array	43.92	290	P	P	06 38 34.3	-0.4
	1.7nm,0.6s,baz=42,slow=7.2,SNR=5.1						
SPITS	Spitsbergen Ar	44.45	348	P	P	06 38 38.2	0.0
	1.8nm,0.4s,baz=56,slow=5.9,SNR=9.8						
BVAR	Borovoye Array	46.17	304	P	P	06 38 51.4	-0.3
	3.9nm,0.6s,baz=58,slow=6.8,SNR=4.5						
ARCES	ARCESS Array B	50.11	339	P	P	06 39 20.3	-0.3
	1.1nm,0.4s,baz=42,slow=7.2,SNR=6.5						
AKTO	Aktyubinsk	53.65	308	P	P	06 39 46.1	-0.1
	1.5nm,0.5s,baz=74,slow=7.4,SNR=3.0						
FINES	FINESS Array B	56.68	333	P	P	06 40 06.8	-0.2
	7.2nm,1.0s,baz=50,slow=7.8,SNR=4.2						
NOA	NORSAR Array B	60.44	340	P	P	06 40 32.1	-0.1
	1.0nm,0.7s,baz=24,slow=6.7,SNR=3.2						
GEYT	Alibeck	62.84	298	P	P	06 40 48.0	-0.2
	3.1nm,0.5s,baz=20,slow=4.6,SNR=2.8						
AKASG	Malin Array Be	64.86	325	P	P	06 41 00.0	-0.6
	1.4nm,0.4s,baz=28,slow=7.2,SNR=3.0						
GERES	GERESS Array B	71.11	333	P	P	06 41 38.2	-0.5
	0.5nm,0.2s,baz=19,slow=6.2,SNR=2.6						
MOA	Molln	71.88	333	*eP*	P	06 41 43.9	+0.8
	21nm,1.9s						
ARSA	Arzberg	72.09	332	*eP*	P	06 41 45.1	+0.9
	22nm,1.6s						
BRTR	Keskin Array B	72.61	316	P	P	06 41 47.1	-0.4
	0.9nm,0.7s,baz=33,slow=2.3,SNR=2.7						
SOKA	Soboth	72.75	332	*eP*	P	06 41 49.8	+1.6
	20nm,1.7s						
WATA	Walderalm	73.05	334	*i* P	P	06 41 51.8	+1.8
	33nm,1.4s						
WTTA	Wattenberg	73.10	334	*i* P	P	06 41 54.0	+3.7
	81nm,1.5s						
RETA	Reutte	73.11	335	*i* P	P	06 41 51.6	+1.4
	24nm,1.3s						
TXAR	Lajitas Array	73.16	63	P	P	06 41 51.3	+0.5
	2.8nm,1.0s,baz=317,slow=6.4,SNR=3.7						
ABTA	Abfaltersbach	73.36	333	*eP*	P	06 41 52.5	+0.9
	17nm,1.0s						

*ISCJB **24** 06:33:24.8±0.9, 54°.4N±0°.2×153°.1E±0°.2, h650km, mb3.7/8, Error ellipse: s-maj=27.4km s-min=14.0km az=154.9*
*IDC **24** 06:33:24.9±3.7, 54°.26N×153°.13E, h638km±49km, mb3.1/8, mb1 3.3/9, mb1mx3.0/54, mbtmp4.2/9, Error ellipse: s-maj=32.2km s-min=15.1km az=159.0*
ISC 24 06:33:25.7±0.9, 54°.3N±0°.2×153°.1E±0°.1, h650km, n11, σ0º67/11, mb3.8/8, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	Kul'dur	14.16	258	P	P	06 36 24.4	+0.3
	0.5nm,0.3s,baz=63,slow=14,SNR=4.5						
ILAR	Eielson Array	30.94	46	P	P	06 38 52.3	-0.1
	2.5nm,1.0s,baz=262,slow=6.8,SNR=3.2						
INK	Inuvik	35.46	38	P	P	06 39 29.8	-0.2
	18nm,1.1s,baz=282,slow=8.1,SNR=6.0						
KURBB	Kurchatov Arra	43.65	297	P	P	06 40 35.4	+0.2
	4.1nm,1.0s,baz=61,slow=7.6,SNR=2.3						
MKAR	Makanchi Array	43.89	291	P	P	06 40 36.8	-0.3
	6.0nm,1.1s,baz=52,slow=6.7,SNR=4.1						
YKA	Yellowknife Ar	45.03	41	P	P	06 40 45.6	+0.1
	0.6nm,0.6s,baz=305,slow=7.1,SNR=3.8						
SPITS	Spitsbergen Ar	45.20	349	P	P	06 40 46.6	-0.1
	6.8nm,1.1s,baz=92,slow=10,SNR=0.7						
TXAR	Lajitas Array	73.86	62	P	P	06 43 57.4	+0.9
	2.2nm,1.0s,baz=309,slow=4.3,SNR=2.8						
ASAR	Alice Springs	79.38	198	P	P	06 44 26.3	+0.1
	1.0nm,0.8s,baz=10,slow=5.7,SNR=1.9						
CFA	Coronel Fontan	142.92	69	PKP	PKPdf	06 51 45.2	-1.6
	3.7nm,1.0s,baz=336,slow=16,SNR=2.5						
CPUP	Villa Florida	144.18	51	PKP	PKPab	06 51 49.4	-0.2
	1.8nm,0.7s,baz=338,slow=5.4,SNR=2.7						

*ISCJB **24** 06:34:39.1±1.0, 54°.2N±0°.2×153°.5E±0°.2, h650km, mb3.8/8, Error ellipse: s-maj=25.1km s-min=12.5km az=142.3*
*IDC **24** 06:34:39.6±1.7, 54°.18N×153°.51E, h642km±22km, mb3.2/8, mb1 3.4/12, mb1mx3.0/56, mbtmp4.3/12, Error ellipse: s-maj=28.6km s-min=13.8km az=151.0*
ISC 24 06:34:40.5±1.2, 54°.3N±0°.2×153°.4E±0°.2, h650km, n14, σ0º51/12, mb3.9/8, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MA2	Magadan	5.50	346	P	P	06 36 19.2	-0.9
	2.5nm,0.3s,baz=143,slow=10,SNR=7.1						
SEY	Seymchan	8.69	357	P	P	06 36 47.4	-0.2
	1.2nm,0.3s,baz=185,slow=16,SNR=10						
KLR	Kul'dur	14.33	258	P	P	06 37 40.3	-0.1
	1.1nm,0.3s,baz=70,slow=7.9,SNR=11						
USRK	Ussuriysk Ar.	17.19	243	P	P	06 38 06.2	-0.4
	0.3nm,0.3s,baz=49,slow=11,SNR=3.0						
KSRS	Korea Array	24.27	237	P	P	06 39 09.9	0.0
	2.2nm,0.5s,baz=35,slow=8.8,SNR=6.6						
SONM	Songino Array	29.80	277	P	P	06 39 58.4	+0.5
	2.7nm,0.9s,baz=64,slow=6.6

KZV	Kizimen	3.94	72	eP	P	06 36 50.1	-2.1
KZV	Kizimen	3.94	72	P	P	06 36 50.1	-2.1
SRDR	Sredinnyy	4.08	55	eP	P	06 36 51.7	-1.2
SRDR	Sredinnyy	4.08	55	P	P	06 36 51.7	-1.2
MKZ	Mys Kozlova	4.70	81	eP	P	06 36 55.6	-1.5
MKZ				S	S	06 38 07.9	-5.9
MKZ	Mys Kozlova	4.70	81	P	P	06 36 55.6	-1.5
MKZ				S	S	06 38 07.9	-5.9
KBTR	Krutoberegovo	5.61	64	eP	P	06 37 00.8	-3.1
KBTR	Krutoberegovo	5.61	64	P	P	06 37 00.8	-3.1
MA2	Magadan	5.72	345	P	P	06 37 02.0	-2.7
MA2	Magadan	5.72	345	P	P	06 37 01.2	-3.5
	4.6nm,0.3s,baz=148,slow=10,SNR=12						
BKI	Bering	7.18	76	eS	S	06 38 52.0	+1.8
SEY	Seymchan	8.88	356	P	P	06 37 30.1	-2.2
	2.6nm,0.3s,baz=191,slow=10,SNR=15						
KLR	Kul'dur	14.47	259	P	P	06 38 24.8	+0.1
	0.5nm,0.3s,baz=73,slow=9.3,SNR=4.6						
ILAR	Eielson Array	30.82	46	P	P	06 40 50.5	+1.4
	0.9nm,0.6s,baz=282,slow=12,SNR=8.1						
ZALV	Zalesovo Beam	39.01	299	P	P	06 41 55.3	-1.3
	0.8nm,0.3s,baz=78,slow=7.5,SNR=2.3						
RES	Resolute Bay	43.77	21	P	P	06 42 34.1	+0.7
	4.7nm,1.0s,baz=354,slow=6.1,SNR=8.6						
KURK	Kurchatov	43.95	298	P	P	06 42 35.5	+0.3
KURBB	Kurchatov Arra	44.05	298	P	P	06 42 35.5	-0.5
	4.9nm,0.5s,baz=55,slow=7.9,SNR=9.9						
MKAR	Makanchi Array	44.28	291	P	P	06 42 37.5	-0.4
	3.9nm,0.5s,baz=56,slow=6.6,SNR=24						
YKA	Yellowknife Ar	44.93	41	P	P	06 42 44.0	+1.5
YKA	Yellowknife Ar	44.93	41	P	P	06 42 44.0	+1.5
	0.8nm,1.0s,baz=306,slow=7.2,SNR=2.7						
SPITS	Spitsbergen Ar	45.45	349	P	P	06 42 45.6	-0.6
	2.3nm,0.5s,baz=53,slow=7.4,SNR=35						
BVAR	Borovoye Array	46.74	305	P	P	06 42 55.6	-0.7
	4.9nm,0.6s,baz=60,slow=7.2,SNR=10						
ARU	Arti	50.02	314	P	P	06 43 19.4	-1.0
	4.2nm,0.4s,baz=53,slow=3.0,SNR=7.2						
ARCES	ARCESS Array B	51.07	339	P	P	06 43 26.9	-0.8
	1.3nm,0.3s,baz=36,slow=7.6,SNR=18						
YBH	Yreka Blue Hor	54.16	67	P	P	06 43 52.8	+2.7
	1.4nm,0.6s,baz=227,slow=4.4,SNR=3.3						
AKTO	Aktyubinsk	54.28	308	P	P	06 43 49.9	-0.8
	3.0nm,0.5s,baz=65,slow=8.9,SNR=6.1						
CMAR	Chiang Mai Arr	54.79	252	P	P	06 43 55.4	+0.8
	1.6nm,0.3s,baz=30,slow=7.3,SNR=3.9						
FINES	FINESS Array B	57.60	333	P	P	06 44 12.6	-0.5
	2.9nm,0.4s,baz=35,slow=8.0,SNR=13						
FRB	Frobisher Bay	57.99	21	P	P	06 44 14.8	-0.9
	1.8nm,0.8s,baz=330,slow=8.1,SNR=4.8						
NVAR	Mina Array Bea	58.88	66	P	P	06 44 24.7	+2.3
	2.4nm,0.8s,baz=310,slow=7.0,SNR=4.0						
PDAR	Pinedale Array	60.25	57	P	P	06 44 33.9	+2.5
	1.5nm,0.9s,baz=350,slow=4.6,SNR=3.4						
NB2	NORSAR Subarra	61.41	340	P	P	06 44 37.9	-0.5
	comp=Z,1.1nm,0.5s,baz=24,slow=6.5						
NOA	NORSAR Array B	61.41	340	P	P	06 44 38.1	-0.3
	comp=Z,2.0nm,0.6s,baz=25,slow=6.4,SNR=7.1						
AKASG	Malin Array Be	65.70	325	P	P	06 45 04.8	-0.8
	comp=Z,2.0nm,0.3s,baz=32,slow=6.8,SNR=6.9						
KBZ	Khabaz	66.12	312	P	P	06 45 08.3	0.0
	comp=Z,2.1nm,0.5s,baz=38,slow=1.7,SNR=4.5						
GERES	GERESS Array B	72.03	334	P	P	06 45 43.3	-0.2
	comp=Z,0.7nm,0.4s,baz=38,slow=5.0,SNR=3.9						
BRTR	Keskin Array B	73.34	316	P	P	06 45 51.3	+0.1
	comp=Z,5.9nm,1.1s,baz=45,slow=2.9,SNR=2.9						
TXAR	Lajitas Array	73.63	63	P	P	06 45 56.0	+3.0
TXAR	Lajitas Array	73.63	63	P	P	06 45 56.0	+3.0
	comp=Z,4.0nm,1.1s,baz=292,slow=3.7,SNR=5.2						
ASAR	Alice Springs	79.32	198	P	P	06 46 26.2	+2.5
	comp=Z,2.5nm,1.0s,baz=12,slow=4.7,SNR=2.5						

*ISCJB **24** 06:41:00.7±0.3,54°.18N±0°.07×153°.34E±0°.09,h650km, mb3.6/18,Error ellipse: s-maj=9.2km s-min=7.1km az=2.9*
*IDC **24** 06:41:01.8±0.9,54°.27N×153°.03E,h625km±13km, mb3.0/18,mb1 3.2/22,mb1mx3.0/49,mbtmp4.0/22,Error ellipse: s-maj=13.7km s-min=8.3km az=144.0*
*MOS **24** 06:41:03.1±2.5,54°.15N×154°.20E,h643km,mb4.0/1,Error ellipse: s-maj=16.5km s-min=12.0km az=78.4*
*KRSC **24** 06:41:03.1±10.0,54°.15N×154°.20E,h643km±10km,ML4.4*
ISC 24 06:41:02.2±0.5,54°.18N±0°.08×153°.50E±0°.07,h650km,n62, σ2°.74/72,mb3.6/18,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.52	119	eP	P	06 42 22.0	-1.0
APC				eS	S	06 43 26.7	-2.4
APC	Apacha	2.52	119	P	P	06 42 22.0	-1.0
APC				S	S	06 43 26.7	-2.4
PETK	Petropavlovsk-	2.72	112	P	P	06 42 22.7	-1.3
	3.5nm,0.3s,baz=333,slow=3.1,SNR=55						
KRMR	Karymshinskiy	3.08	114	eP	P	06 42 24.5	-1.3
KRMR	Karymshinskiy	3.08	114	P	P	06 42 24.5	-1.3
KRX	Arik	3.16	103	eP	P	06 42 26.2	-0.2
KRX	Arik	3.16	103	P	P	06 42 26.2	-0.2
KOK	Koryaka	3.18	104	eP	P	06 42 25.6	-0.8
KOK	Koryaka	3.18	104	P	P	06 42 25.6	-0.8
ASAK	Asacha	3.19	123	eP	P	06 42 25.6	-1.0
ASAK	Asacha	3.19	123	P	P	06 42 25.6	-1.0
KRER	Koryakskii	3.24	104	eP	P	06 42 26.7	-0.2
KRER	Koryakskii	3.24	104	P	P	06 42 26.7	-0.2
SMAR	Somma	3.28	104	eP	P	06 42 26.2	-0.9
SMAR	Somma	3.28	104	P	P	06 42 26.2	-0.9
UGLR	Uglovaya	3.31	105	eP	P	06 42 26.6	-0.6
UGLR	Uglovaya	3.31	105	P	P	06 42 26.6	-0.6
SDLR	Sedlovina	3.32	104	eP	P	06 42 26.3	-0.9
SDLR	Sedlovina	3.32	104	P	P	06 42 26.3	-0.9
DALK	Dalny	3.33	108	eP	P	06 42 26.1	-1.0
DALK	Dalny	3.33	108	P	P	06 42 26.1	-1.0
ESO	Esso	3.46	58	P	P	06 42 27.1	-0.7
ESO	Esso	3.46	58	P	P	06 42 27.1	-0.7
RUS	Russkaya	3.48	118	eP	P	06 42 26.1	-1.9
RUS				eS	S	06 43 34.0	-4.1
RUS	Russkaya	3.48	118	P	P	06 42 26.1	-1.9
RUS				S	S	06 43 34.0	-4.1
KDTR	Khodutka, Kamc	3.64	129	eS	S	06 43 33.3	-6.6
SPN	Mys Shipunski	4.03	103	eP	P	06 42 29.2	-2.1
SPN				eS	S	06 43 37.7	-6.6
SPN	Mys Shipunski	4.03	103	P	P	06 42 29.2	-2.1
SPN				S	S	06 43 37.7	-6.6
KZV	Kizimen	4.05	74	eP	P	06 42 30.1	-1.5
KZV	Kizimen	4.05	74	P	P	06 42 30.1	-1.5
SRDR	Sredinnyy	4.15	56	eP	P	06 42 31.6	-0.5
SRDR	Sredinnyy	4.15	56	P	P	06 42 31.6	-0.5
MKZ	Mys Kozlova	4.83	82	P	P	06 42 34.3	-2.4
MKZ				eS	S	06 43 47.8	-6.4
MKZ	Mys Kozlova	4.83	82	P	P	06 42 34.3	-2.4
MKZ				S	S	06 43 47.8	-6.4
MA2	Magadan	5.61	346	P	P	06 42 39.3	-3.3
	0.6nm,0.3s,baz=139,slow=20,SNR=2.4						
KBTR	Krutoberegovo	5.71	65	eP	P	06 42 40.8	-2.6
KBTR				eS	S	06 43 58.9	-7.5
KBTR	Krutoberegovo	5.71	65	P	P	06 42 40.8	-2.6
KBTR				S	S	06 43 58.9	-7.5
BKI	Bering	7.30	77	P	P	06 42 58.4	+1.7
BKI	Bering	7.30	77	P	P	06 42 58.4	+1.7
SEY	Seymchan	8.80	357	P	P	06 43 08.3	-1.8
	2.2nm,0.3s,baz=181,slow=9.6,SNR=29						
KLR	Kul'dur	14.35	259	P	P	06 44 01.1	-1.2
	1.0nm,0.3s,baz=65,slow=8.7,SNR=15						
TIXI	Tiksi	20.52	338	P	P	06 44 57.0	-0.8
TIXI	Tiksi	20.52	338	P	P	06 44 57.0	-0.8
	1.2nm,0.3s,baz=300,slow=11,SNR=1.8						
JHJ	Hachijo jima 2	23.20	210	P	P	06 45 21.9	-0.3
	83nm,0.7s,baz=34,slow=15,SNR=2.4						
KSRS	Korea Array	24.24	237	P	P	06 45 31.3	+0.1
	1.2nm,0.8s,baz=29,slow=8.5,SNR=3.8						
SONM	Songino Array	29.85	277	P	P	06 46 18.4	-1.5
	0.5nm,0.3s,baz=59,slow=8.2,SNR=2.8						
ILAR	Eielson Array	30.86	46	P	P	06 46 30.2	+2.1
	1.6nm,0.6s,baz=279,slow=11,SNR=30						
INK	Inuvik	35.41	38	P	P	06 47 07.8	+1.9
	2.0nm,0.3s,baz=299,slow=8.9,SNR=27						
ZALV	Zalesovo Beam	38.85	299	P	P	06 47 32.3	-1.7
	0.8nm,0.4s,baz=89,slow=7.4,SNR=2.8						
RES	Resolute Bay	43.75	21	P	P	06 48 13.1	+1.1
	2.9nm,0.9s,baz=333,slow=4.7,SNR=10.0						
MKAR	Makanchi Array	44.12	291	P	P	06 48 14.4	-0.9
	2.4nm,0.5s,baz=54,slow=6.6,SNR=34						
YKA	Yellowknife Ar	44.97	41	P	P	06 48 23.4	+2.0
	1.1nm,0.3s,baz=306,slow=7.2,SNR=15						
SPITS	Spitsbergen Ar	45.35	349	P	P	06 48 23.6	-0.5
	5.6nm,0.9s,baz=64,slow=7.5,SNR=9.9						
NEW	Newport	52.69	57	P	P	06 49 20.7	+2.4
	1.8nm,0.8s,baz=31,slow=7.1,SNR=1.6						
CMAR	Chiang Mai Arr	54.68	251	P	P	06 49 32.5	-0.1
	1.1nm,0.5s,baz=26,slow=6.1,SNR=4.2						
NVAR	Mina Array Bea	58.98	66	P	P	06 50 05.2	+3.5
	0.6nm,0.6s,baz=309,slow=6.4,SNR=3.1						
PDAR	Pinedale Array	60.33	57	P	P	06 50 13.6	+3.0
	0.5nm,0.5s,baz=358,slow=1.1,SNR=3.6						
GEYT	Alibeck	63.16	298	P	P	06 50 28.8	+0.2
	2.2nm,0.6s,baz=46,slow=6.2,SNR=4.0						
TXAR	Lajitas Array	73.72	62	P	P	06 51 35.1	+3.0
	0.4nm,0.5s,baz=306,slow=5.6,SNR=6.4						
WRA	Warramunga Arr	75.64	199	P	P	06 51 44.2	+1.5
	1.2nm,0.9s,baz=4.1,slow=6.9,SNR=3.1						
ASAR	Alice Springs	79.35	198	P	P	06 52 04.2	+1.7
	0.5nm,0.8s,baz=13,slow=5.0,SNR=3.4						
CPUP	Villa Florida	144.08	52	PKP	PKPab	06 59 26.3	+0.7
	0.4nm,0.4s,baz=0.0,slow=1.0,SNR=2.8						

*ISCJB **24** 06:42:21.5±0.6,53°.24N±0°.09×153°.2E±0°.2,h500km, mb3.4/17,Error ellipse: s-maj=15.0km s-min=9.6km az=37.3*
*IDC **24** 06:42:22.9±1.1,53°.16N×153°.17E,h512km±14km, mb3.0/17,mb1 3.2/21,mb1mx3.0/48,mbtmp3.9/21,Error ellipse: s-maj=14.8km s-min=10.8km az=129.0*
ISC 24 06:42:22.2±0.7,53°.2N±0°.1×153°.2E±0°.1,h500km,n23, σ0°.80/23,mb3.4/17,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	2.71	90	P	P	06 43 32.2	+1.0
	3.0nm,0.3s,baz=311,slow=0.9,SNR=26						
SEY	Seymchan	9.79	358	P	P	06 44 38.1	+1.2
	0.6nm,0.3s,baz=173,slow=12,SNR=5.3						
KLR	Kul'dur	14.01	262	P	P	06 45 23.2	+1.4
	0.6nm,0.3s,baz=67,slow=9.9,SNR=10						
MAT	Matsushiro	19.68	218	P	P	06 46 18.2	+0.4
MJAR	Matsushiro Arr	19.68	218	P	P	06 46 17.5	-0.4
	0.2nm,0.3s,baz=12,slow=8.3,SNR=20						
TIXI	Tiksi	21.38	339	P	P	06 46 33.8	+1.1
	1.4nm,0.3s,baz=121,slow=11,SNR=4.0						
KSRS	Korea Array	23.56	239	P	P	06 46 52.7	0.0
	1.2nm,0.6s,baz=48,slow=8.6,SNR=4.7						
ILAR	Eielson Array	31.69	45	P	P	06 48 03.7	+0.2
	0.3nm,0.7s,baz=268,slow=7.9,SNR=3.8						
INK	Inuvik	36.31	37	P	P	06 48 42.6	+0.3
	0.5nm,0.3s,baz=283,slow=8.4,SNR=5.6						
MKAR	Makanchi Array	44.32	292	P	P	06 49 47.1	+0.3
	1.1nm,0.4s,baz=58,slow=7.1,SNR=13						
RES	Resolute Bay	44.74	21	P	P	06 49 49.9	+0.3
	2.1nm,0.9s,baz=325,slow=13,SNR=3.6						
YKA	Yellowknife Ar	45.84	40	P	P	06 49 57.9	-0.3
	0.5nm,0.6s,baz=304,slow=6.6,SNR=4.2						
SPITS	Spitsbergen Ar	46.29	349	P	P	06 50 00.6	-0.9
	3.6nm,0.8s,baz=46,slow=7.1,SNR=5.7						
ARCES	ARCESS Array B	51.82	339	P	P	06 50 42.1	-0.4
	0.4nm,0.4s,baz=39,slow=7.8,SNR=6.1						
FINES	FINESS Array B	58.27	333	P	P	06 51 27.3	-0.4
	1.2nm,0.4s,baz=27,slow=8.1,SNR=11						
NOA	NORSAR Array B	62.17	340	P	P	06 51 53.5	-0.2
	0.8nm,0.6s,baz=24,slow=6.7,SNR=3.6						
AKASG	Malin Array Be	66.27	325	P	P	06 52 19.0	-0.9
	1.6nm,0.5s,baz=32,slow=6.7,SNR=2.3						
GERES	GERESS Array B	72.71	333	P	P	06 52 57.5	-1.1
	0.3nm,0.2s,baz=19,slow=6.2,SNR=2.1						
BRTR	Keskin Array B	73.78	316	P	P	06 53 05.2	+0.2
	0.6nm,0.6s,baz=90,slow=2.9,SNR=2.9						
TXAR	Lajitas Array	74.34	62	P	P	06 53 08.9	+0.6
	0.4nm,0.7s,baz=327,slow=4.3,SNR=3.2						
ASAR	Alice Springs	78.35	198	P	P	06 53 29.6	-0.5
	0.3nm,0.5s,baz=4.8,slow=5.6,SNR=3.8						
ESDC	Sonseca Array	85.43	343	P	P	06 54 05.3	-1.0
	0.4nm,0.5s,baz=8.3,slow=4.4,SNR=3.2						
PLCA	Paso Flores	148.15	85	PKPbc	PKPbc	07 01 09.5	-1.3
	1.0nm,0.9s,baz=270,slow=6.1,SNR=2.9						

*ISCJB **24** 06:43:10.9±0.5,52°.50N±0°.09×152°.7E±0°.1,h476km, mb3.5/19,Error ellipse: s-maj=12.2km s-min=7.7km az=154.7*
*IDC **24** 06:43:11.7±0.8,52°.43N×152°.77E,h480km±8km,mb3.2/19, mb1 3.4/23,mb1mx3.2/49,mbtmp4.1/23,Error ellipse: s-maj=14.4km s-min=10.2km az=172.0*
ISC 24 06:43:11.5±0.7,52°.4N±0°.1×152°.77E±0°.09,h476km,n34, σ0°.62/35,mb3.6/19,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	3.08	75	P	P	06 44 20.7	-0.3
	10nm,0.3s,baz=256,slow=2.2,SNR=40						
PETK				S	S	06 45 18.4	+0.7
	0.3nm,0.3s,baz=273,slow=30,SNR=3.6						
MA2	Magadan	7.28	352	P	P	06 45 00.2	+0.7
	3.3nm,0.3s,baz=157,slow=16,SNR=11						
SEY	Seymchan	10.56	359	P	P	06 45 36.1	+1.8
	1.8nm,0.3s,baz=176,slow=9.2,SNR=16						
MAT	Matsushiro	18.90	219	P	P	06 47 01.6	+0.3
MJAR	Matsushiro Arr	18.90	219	P	P	06 47 01.1	-0.2
	0.2nm,0.3s,baz=9.4,slow=8.0,SNR=12						
SONM	Songino Array	29.68	280	P	P	06 48 37.6	+0.3
	0.7nm,0.3s,baz=75,slow=7.9,SNR=2.7						
ILAR	Eielson Array	32.44	44	P	P	06 49 00.8	+0.1
	1.6nm,0.7s,baz=277,slow=9.8,SNR=17						
INK	Inuvik	37.10	36	P	P	06 49 39.7	0.0
	1.0nm,0.3s,baz=292,slow=8.2,SNR=8.8						
ZALV	Zalesovo Beam	39.34	300	P	P	06 49 57.4	-0.8
	1.1nm,0.5s,baz=40,slow=7.2,SNR=3.6						
MKAR	Makanchi Array	44.37	292	P	P	06 50 38.6	+0.4
	1.2nm,0.5s,baz=59,slow=6.7,SNR=7.0						
YKA	Yellowknife Ar	46.61	40	P	P	06 50 55.2	+0.1
	0.8nm,0.6s,baz=304,slow=7.1,SNR=7.0						
SPITS	Spitsbergen Ar	47.01	349	P	P	06 50 57.5	-0.5
	8.0nm,1.1s,baz=134,slow=4.8,SNR=2.1						
ARCES	ARCESS Array B	52.46	339	P	P	06 51 37.2	-1.1
	0.5nm,0.4s,baz=34,slow=8.8,SNR=7.2						
RAMN	Ramite	54.74	269	eP	P	06 51 55.8	+0.3
	44nm,0.4s						
AKTO	Aktyubinsk	54.89	309	P	P	06 51 55.9	0.0
	1.8nm,0.5s,baz=32,slow=9.5						
KKN	Kakani	54.95	271	eP	P	06 51 57.4	+0.6
	34nm,0.5s						
PKI	Pulchoki	55.02	271	eP	P	06 51 57.6	+0.1
	15nm,0.5s						
PKIN	Phulchoki	55.03	271	eP	P	06 51 57.8	+0.3
	13nm,0.5s						
DMN	Daman	55.18	271	eP	P	06 51 59.3	+0.7
	29nm,0.5s						
DANN	Dangsing	55.48	273	eP	P	06 52 01.1	+0.5
	25nm,0.5s						
KOLN	Koldanda	55.99	272	eP	P	06 52 04.6	+0.5
	12nm,0.3s						
PYUN	Piuthan	56.13	273	eP	P	06 52 05.5	+0.4
	15nm,0.4s						
FINES	FINESS Array B	58.86	333	P	P	06 52 22.6	-0.3
	1.3nm,0.4s,baz=39,slow=8.0,SNR=9.7						
NVAR	Mina Array Bea	60.12	65	P	P	06 52 32.1	0.0
	0.4nm,0.6s,baz=298,slow=6.8,SNR=2.7						
PDAR	Pinedale Array	61.68	56	P	P	06 52 42.2	-0.1
	0.3nm,0.3s,baz=329,slow=1.6,SNR=2.3						
NB2	NORSAR Subarra	62.82	340	P	P	06 52 48.7	-0.5
	comp=Z,0.7nm,0.6s,baz=23,slow=6.5						
NOA	NORSAR Array B	62.82	340	P	P	06 52 48.9	-0.3
	comp=Z,0.1nm,0.4s,baz=25,slow=6.6,SNR=4.1						
GEYT	Alibeck	63.61	298	P	P	06 52 54.5	-0.2
	comp=Z,3.0nm,0.2s,baz=44,slow=11,SNR=3.9						
AKASG	Malin Array Be	66.76	325	P	P	06 53 13.1	-1.2
	comp=Z,0.8nm,0.4s,baz=33,slow=6.8,SNR=3.8						
KBZ	Khabaz	66.83	312	P	P	06 53 15.3	+0.5
	comp=Z,1.4nm,0.5s,baz=45,slow=1.4,SNR=3.6						
GERES	GERESS Array B	73.29	333	P	P	06 53 53.2	-0.2
	comp=Z,0.5nm,0.4s,baz=34,slow=7.1,SNR=2.8						
TXAR	Lajitas Array	74.34	62	P	P	06 54 03.4	+0.2
	comp=Z,0.3nm,0.6s,baz=294,slow=4.5,SNR=3.3						
ASAR	Alice Springs	77.52	198	P	P	06 54 17.8	+0.6
	comp=Z,0.8nm,0.5s,baz=12,slow=5.3,SNR=10						
CPUP	Villa Florida	145.52	53	PKPbc	PKPdf	07 01 53.3	-1.2
	comp=Z,0.5nm,0.5s,baz=27,slow=2.3,SNR=2.5						

*ISCJB **24** 06:43:41.1±0.8,54°.8N±0°.2×153°.2E±0°.2,h600km, mb3.4/11,Error ellipse: s-maj=23.0km s-min=12.4km az=169.9*
*IDC **24** 06:43:41.9±0.7,54°.53N×153°.24E,h610km±15km, mb2.8/11,mb1 3.0/13,mb1mx2.8/48,mbtmp3.8/13,Error ellipse: s-maj=28.1km s-min=9.6km az=171.0*
ISC 24 06:43:41.7±0.9,54°.6N±0°.2×153°.2E±0°.1,h600km,n13, σ0°.55/13,mb3.3/11,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	3.09	118	P	P	06 45 01.8	+0.5
	2.7nm,0.3s,baz=52,slow=3.7,SNR=3.5						
KLR	Kul'dur	14.26	256	P	P	06 46 43.2	+0.4
	0.3nm,0.3s,baz=80,slow=11,SNR=2.9						
SONM	Songino Array	29.60	276	P	P	06 48 58.7	-1.1
	0.4nm,0.4s,baz=79,slow=7.5,SNR=1.6						
ILAR	Eielson Array	30.68	47	P	P	06 49 08.7	0.0
	0.6nm,0.6s,baz=264,slow=6.0,SNR=3.2						
INK	Inuvik	35.16	38	P	P	06 49 46.7	+0.5
	0.8nm,0.3s,baz=295,slow=8.3,SNR=2.0						
MKAR	Makanchi Array	43.78	290	P	P	06 50 55.9	+0.5
	1.4nm,0.5s,baz=58,slow=7.4,SNR=6.7						
YKA	Yellowknife Ar	44.74	41	P	P	06 51 02.4	0.0
	0.5nm,0.5s,baz=305,slow=7.5,SNR=4.9						
SPITS	Spitsbergen Ar	44.86	348	P	P	06 51 03.4	+0.3
	5.3nm,1.0s,baz=67,slow=6.5,SNR=1.4						
ARCES	ARCESS Array B	50.45	339	P	P	06 51 44.9	+0.1
	0.5nm,0.5s,baz=44,slow=7.2,SNR=1.6						
FINES	FINESS Array B	56.96	333	P	P	06 52 30.8	+0.2
	0.6nm,0.4s,baz=45,slow=6.1,SNR=1.9						
NVAR	Mina Array Bea	58.97	66	P	P	06 52 44.7	-0.1
	0.5nm,0.6s,baz=309,slow=5.7,SNR=2.7						
PDAR	Pinedale Array	60.24	57	P	P	06 52 52.4	-0.8
	0.4nm,0.4s,baz=312,slow=8.3,SNR=2.4						
TXAR	Lajitas Array	73.67	62	P	P	06 54 15.1	-0.4
	0.6nm,0.7s,baz=306,slow=5.1,SNR=4.5						

*ISCJB **24** 06:44:06.4±1.1,52°.7N±0°.2×152°.5E±0°.2,h501km,mb3.3/9, Error ellipse: s-maj=25.8km s-min=14.9km az=140.0*
*IDC **24** 06:44:09.1±3.0,52°.62N×152°.53E,h531km±40km,mb2.8/9, mb1 3.0/11,mb1mx2.7/50,mbtmp3.8/11,Error ellipse: s-maj=33.7km s-min=18.6km az=152.0*
ISC 24 06:44:06.8±1.4,52°.6N±0°.2×152°.6E±0°.2,h501km,n11, σ0°.89/11,mb3.4/9,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEY	Seymchan	10.40	360	P	P	06 46 29.9	+1.8
	1.0nm,0.3s,baz=190,slow=12,SNR=5.0						
MJAR	Matsushiro Arr	18.94	218	P	P	06 47 56.7	+0.9
	0.1nm,0.3s,baz=19,slow=9.0,SNR=1.5						
ILAR	Eielson Array	32.41	44	P	P	06 49 54.2	-0.1
	0.2nm,0.4s,baz=285,slow=13,SNR=2.8						
INK	Inuvik	37.05	36	P	P	06 50 33.4	+0.4
	0.8nm,0.4s,baz=283,slow=5.5,SNR=2.4						
MKAR	Makanchi Array	44.18	292	P	P	06 51 30.6	+0.2
	0.5nm,0.6s,baz=60,slow=8.0,SNR=1.9						
RES	Resolute Bay	45.46	20	P	P	06 51 39.0	-0.8
	2.3nm,0.9s,baz=329,slow=5.9,SNR=2.0						
YKA	Yellowknife Ar	46.57	40	P	P	06 51 48.1	-0.3
	0.4nm,0.5s,baz=303,slow=7.1,SNR=5.5						
BVAR	Borovoye Array	47.04	305	P	P	06 51 51.4	-0.6
	0.7nm,0.5s,baz=37,slow=6.0,SNR=3.0						
ARCES	ARCESS Array B	52.26	339	P	P	06 52 30.0	-0.3
	2.5nm,1.0s,baz=54,slow=8.1,SNR=2.4						
FINES	FINESS Array B	58.65	333	P	P	06 53 14.3	-0.6
	0.4nm,0.4s,baz=45,slow=6.1,SNR=1.6						
AKASG	Malin Array Be	66.55	325	P	P	06 54 05.4	-0.7
	0.3nm,0.3s,baz=33,slow=3.5,SNR=1.3						

*KRSC **24** 07:07:11.7±10.0,54°.59N×153°.64E,h629km±10km,ML4.7*
*ISCJB **24** 07:07:12.1±0.2,54°.82N±0°.05×153°.17E±0°.06,h600km, mb3.8/36,Error ellipse: s-maj=6.8km s-min=3.9km az=13.9*
*MOS **24** 07:07:12.1±0.9,54°.62N×153°.49E,h626km,mb4.6/1,Error ellipse: s-maj=11.6km s-min=8.2km az=101.3*
*IDC **24** 07:07

KBTR				*e*S	**S**	07 10 05.9	-3.4
KBTR	**Krutoberegovo**	**5.56**	**70**	P	**P**	07 08 49.3	-0.3
KBTR				S	**S**	07 10 05.9	-3.4
BKI	**Bering**	**7.24**	**81**	*e*P	**P**	07 09 07.1	+2.6
BKI				*e*S	**S**	07 10 38.2	+1.8
BKI	**Bering**	**7.24**	**81**	P	**P**	07 09 07.1	+2.6
BKI				S	**S**	07 10 38.2	+1.8
SEY	**Seymchan**	**8.30**	**357**	P	**P**	07 09 16.8	+2.5
	comp=Z,4.5nm,0.3s,baz=175,slow=10,SNR=38						
SEY				S	**S**	07 10 57.2	+2.8
	baz=28,slow=20,SNR=2.4						
ASAJ	**Asahikawa**	**12.69**	**218**	P	**P**	07 09 59.5	+1.5
	comp=Z,0.8nm,0.3s,baz=336,slow=26,SNR=2.7						
KLR	**Kul'dur**	**14.41**	**257**	P	**P**	07 10 14.8	-0.2
	comp=Z,1.3nm,0.3s,baz=43,slow=7.0,SNR=18						
USRK	**Ussuriysk Ar.**	**17.37**	**242**	P	**P**	07 10 42.5	+0.2
	comp=Z,0.6nm,0.3s,baz=69,slow=9.2,SNR=6.1						
TIXI	**Tiksi**	**20.05**	**337**	P	**P**	07 11 06.9	+0.8
	comp=Z,3.5nm,0.5s,baz=153,slow=11,SNR=7.6						
KSRS	**Korea Array**	**24.48**	**236**	P	**P**	07 11 46.4	+0.4
	comp=Z,1.6nm,0.6s,baz=31,slow=7.9,SNR=6.7						
SONM	**Songino Array**	**29.75**	**276**	P	**P**	07 12 31.9	-0.1
	comp=Z,1.4nm,0.5s,baz=58,slow=6.9,SNR=4.4						
ILAR	**Eielson Array**	**30.55**	**47**	P	**P**	07 12 39.3	+0.9
	comp=Z,0.9nm,0.5s,baz=275,slow=10,SNR=14						
NRIK	**Noril'sk**	**32.30**	**323**	P	**P**	07 12 52.5	-0.6
	comp=Z,1.4nm,0.4s,baz=142,slow=10,SNR=3.3						
INK	**Inuvik**	**35.05**	**38**	P	**P**	07 13 17.1	+1.1
	comp=Z,1.4nm,0.4s,baz=284,slow=8.1,SNR=16						
ZALV	**Zalesovo Beam**	**38.58**	**299**	P	**P**	07 13 44.3	-0.8
	comp=Z,1.9nm,0.4s,baz=58,slow=7.1,SNR=4.2						
NVS	**Novosibirsk**	**38.94**	**300**	*i* P	**P**	07 13 48.0	0.0
NVS				pmax	pmax		
	comp=Z,16nm,0.9s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,11nm,0.9s						
DLBC	**Dease Lake**	**40.23**	**52**	P	**P**	07 13 59.2	+0.9
	comp=E,1.9nm,0.8s,baz=276,slow=5.8,SNR=3.7						
RES	**Resolute Bay**	**43.30**	**21**	P	**P**	07 14 22.8	+0.8
	comp=E,1.4nm,0.9s,baz=346,slow=4.8,SNR=3.5						
KURK	**Kurchatov**	**43.53**	**297**	P	**P**	07 14 24.4	+0.3
KURBB	**Kurchatov Arra**	**43.63**	**297**	P	**P**	07 14 24.4	-0.5
	comp=E,3.8nm,0.3s,baz=50,slow=8.5,SNR=16						
MKAR	**Makanchi Array**	**43.91**	**290**	P	**P**	07 14 26.6	-0.6
	comp=E,4.5nm,0.5s,baz=55,slow=6.5,SNR=29						
YKA	**Yellowknife Ar**	**44.62**	**41**	P	**P**	07 14 32.9	+0.6
	comp=E,1.3nm,0.6s,baz=304,slow=7.2,SNR=12						
SPITS	**Spitsbergen Ar**	**44.86**	**349**	P	**P**	07 14 33.6	-0.4
	comp=E,2.3nm,0.5s,baz=56,slow=6.2,SNR=17						
BVAR	**Borovoye Array**	**46.28**	**304**	P	**P**	07 14 44.4	-0.7
	comp=E,6.7nm,0.4s,baz=58,slow=7.0,SNR=24						
BVAR				PP	**pP**	07 16 36.5	+5.0
	comp=E,1.1nm,0.5s,baz=56,slow=11,SNR=3.8						
BVAR				P3KP		07 45 17.0	
	comp=E,0.5nm,0.4s,baz=35,slow=5.4,SNR=4.5						
ARU	**Arti**	**49.50**	**313**	P	**P**	07 15 08.1	-0.8
	comp=E,4.2nm,0.3s,baz=58,slow=5.6,SNR=11						
ARCES	**ARCESS Array B**	**50.48**	**339**	P	**P**	07 15 15.1	-0.7
	comp=E,1.3nm,0.3s,baz=41,slow=7.7,SNR=16						
AAK	**Ala-Archa**	**50.83**	**291**	P	**P**	07 15 18.9	-0.1
	comp=E,2.8nm,0.4s,baz=108,slow=4.5,SNR=5.8						
AKTO	**Aktyubinsk**	**53.79**	**308**	P	**P**	07 15 39.0	-0.8
	comp=E,2.7nm,0.4s,baz=62,slow=9.9,SNR=6.6						
AKTO				PKPPKP	**P'P'df**	07 45 46.2	-2.1
	comp=E,0.7nm,0.3s,baz=90,slow=4.0,SNR=3.5						
YBH	**Yreka Blue Hor**	**54.10**	**67**	P	**P**	07 15 43.4	+1.2
	comp=E,3.6nm,0.8s,baz=12,slow=7.0,SNR=5.0						
CMAR	**Chiang Mai Arr**	**54.80**	**251**	P	**P**	07 15 47.1	-0.2
	comp=E,2.0nm,0.6s,baz=24,slow=7.0,SNR=2.4						
CMAR				PKP2bc		07 45 58.0	
	comp=E,0.8nm,0.3s,baz=19,slow=4.2,SNR=5.5						
JIRN	**Jiri**	**54.89**	**269**	*e*P	**P**	07 15 47.8	-0.4
RAMN	**Ramite**	**55.19**	**268**	*e*P	**P**	07 15 49.4	-0.8
	comp=E,17nm,0.5s						
PKI	**Pulchoki**	**55.41**	**270**	*e*P	**P**	07 15 51.0	-0.8
	comp=E,10nm,0.5s						
DANN	**Dangsing**	**55.78**	**272**	*e*P	**P**	07 15 53.9	-0.4
	comp=E,21nm,0.6s						
KOLN	**Koldanda**	**56.31**	**271**	*e*P	**P**	07 15 57.0	-0.8
	comp=E,8.4nm,0.5s						
PYUN	**Piuthan**	**56.42**	**272**	*e*P	**P**	07 15 57.9	-0.7
	comp=E,18nm,0.8s						
FINES	**FINESS Array B**	**57.01**	**333**	P	**P**	07 16 01.1	-0.7
	comp=E,2.4nm,0.4s,baz=34,slow=7.0,SNR=21						
NVAR	**Mina Array Bea**	**58.82**	**67**	P	**P**	07 16 15.8	+1.1
	comp=E,2.5nm,0.7s,baz=304,slow=6.1,SNR=7.5						
PDAR	**Pinedale Array**	**60.09**	**57**	P	**P**	07 16 23.6	+0.5
	comp=E,1.9nm,0.6s,baz=341,slow=1.4,SNR=8.1						
ULM	**Lac du Bonnet**	**60.50**	**44**	P	**P**	07 16 24.8	-0.5
	comp=E,1.0nm,0.4s,baz=339,slow=14,SNR=2.3						
NB2	**NORSAR Subarra**	**60.81**	**340**	P	**P**	07 16 26.4	-0.8
	comp=Z,1.4nm,0.6s,baz=24,slow=6.5						
NOA	**NORSAR Array B**	**60.81**	**340**	P	**P**	07 16 26.6	-0.6
	comp=Z,2.4nm,0.7s,baz=24,slow=6.5,SNR=7.9						
HFS	**Hagfors**	**61.13**	**338**	P	**P**	07 16 28.4	-0.9
	comp=Z,1.2nm,0.3s,baz=64,slow=6.8,SNR=17						
AKASG	**Malin Array Be**	**65.13**	**325**	P	**P**	07 16 53.5	-1.4
	comp=Z,1.8nm,0.3s,baz=33,slow=6.8,SNR=4.6						
KBZ	**Khabaz**	**65.61**	**312**	P	**P**	07 16 56.7	-1.3
	comp=Z,2.8nm,0.7s,baz=33,slow=3.0,SNR=4.5						
MLR	**Muntele Rosu**	**70.74**	**324**	PKKP	PKKPdf	07 37 18.1	+20
	comp=Z,21nm,1.0s,baz=266,slow=4.1,SNR=6.0						
GERES	**GERESS Array B**	**71.44**	**333**	P	**P**	07 17 32.8	-0.3
	comp=Z,0.4nm,0.2s,baz=68,slow=7.4,SNR=3.0						
BRTR	**Keskin Array B**	**72.81**	**316**	P	**P**	07 17 40.8	-0.4
	comp=Z,0.6nm,0.5s,baz=41,slow=1.9,SNR=3.8						
BRTR				PKKP	**PKKPbc**	07 37 07.5	-4.9
	comp=Z,15nm,1.0s,baz=182,slow=5.3,SNR=17						
TXAR	**Lajitas Array**	**73.53**	**63**	P	**P**	07 17 46.2	+0.8
	comp=Z,2.1nm,0.6s,baz=297,slow=5.1,SNR=25						
TXAR				PKKP	**PKKPdf**	07 37 01.7	+7.3
	comp=Z,0.3nm,0.6s,baz=149,slow=6.0,SNR=3.5						
WSAR	**Wadi Sarin**	**74.06**	**288**	P	**P**	07 17 46.7	-1.7
	comp=Z,1.7nm,0.3s,baz=59,slow=4.2,SNR=4.3						
DAVOX	**Davos/Dischmat**	**74.32**	**335**	P	**P**	07 17 49.6	-0.1
	comp=Z,1.1nm,0.3s,baz=347,slow=23,SNR=2.2						
WRA	**Warramunga Arr**	**76.09**	**198**	P	**P**	07 17 58.4	-1.1
	comp=Z,1.4nm,0.4s						
ASAR	**Alice Springs**	**79.80**	**198**	P	**P**	07 18 18.2	-1.2
	comp=Z,0.8nm,0.4s,baz=11,slow=4.7,SNR=13						
ASAR				PKKP	PKKPdf	07 36 37.5	-11
	comp=Z,0.4nm,0.6s,baz=186,slow=4.6,SNR=3.2						
IDI	**Anoyia**	**80.09**	**319**	P	**P**	07 18 19.3	-1.7
	comp=Z,5.4nm,0.8s,baz=296,slow=23,SNR=2.0						
ESDC	**Sonseca Array**	**84.05**	**343**	PKKP	PKKPdf	07 36 23.0	-14
	comp=Z,1.1nm,0.7s,baz=193,slow=3.8,SNR=7.1						
CFA	**Coronel Fontan**	**142.63**	**69**	PKhKP	PKPpre	07 25 34.4	
	comp=Z,6.2nm,0.6s,baz=274,slow=2.4,SNR=9.7						
CPUP	**Villa Florida**	**143.81**	**51**	PKP	PKPbc	07 25 38.2	-1.1
	comp=Z,3.1nm,0.7s,baz=304,slow=2.9,SNR=7.9						
PLCA	**Paso Flores**	**147.85**	**83**	PKPbc	**PKPbc**	07 25 49.4	-1.0
	comp=Z,1.5nm,0.8s,baz=331,slow=2.7,SNR=5.3						

*ISCJB **24** 07:08:31.1±0.4, 47°.14N±0°.02×76°.73W±0°.03, h22km±3km, Error ellipse: s-maj=3.7km s-min=3.3km az=29.4*
*ANF **24** 07:08:31.6±0.1, 47°.09N×76°.81W, h13km±1km, ML3.4/15, Error ellipse: s-maj=1.4km s-min=1.3km az=167.0*
*OTT **24** 07:08:31.3±0.1, 47°.12N×76°.78W, h18km, MN3.6/19, 103km northwest from Maniwaki, Qc Western Quebec Seismic Zone.*

ISC 24 07:08:31.3±0.8, 47°.11N±0°.02×76°.77W±0°.03, h16km±5km, n55, σ0=74/88, 2D, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
D54A	**Lac Fusel, La**	**0.09**	**60**	P	**Pg**	07 08 34.9	+0.3
	baz=252,SNR=1000						
D54A				S	**Sb**	07 08 37.3	+0.5
	baz=252						
D53A	**Lac Vacive, Po**	**0.64**	**268**	P	**Pg**	07 08 43.5	-0.3
	baz=86						
D53A				S	**Sb**	07 08 52.5	-0.2
	baz=86						
E54A	**Lac Daplat, Po**	**0.73**	**203**	P	**Pg**	07 08 45.4	-0.3
	baz=22						
E54A				S	**Sb**	07 08 55.6	+0.2
	baz=22						
E53A	**Dumoine, Ponti**	**0.95**	**220**	P	**Pb**	07 08 48.8	-0.6
	baz=39						
E53A				S	**Sn**	07 09 02.8	-0.5
	baz=39						
VLDQ	**Val d'Or**	**1.11**	**335**	PG	**Pg**	07 08 54.4	+1.7
VLDQ				SG	**Sn**	07 09 10.1	+3.1
VLDQ				Trac		07 09 12.4	
	comp=Z,130nm,0.1s						
D52A	**ZEK Kipawa Sen**	**1.13**	**264**	P	**Pb**	07 08 51.9	-0.5
	baz=82						
CRLO	**Chalk River**	**1.15**	**202**	⇓PG	**Pn**	07 08 52.2	-0.5
CRLO				SG	**Sn**	07 09 08.1	0.0
CRLO				Trac		07 09 08.9	
	comp=Z,462nm,0.2s						
F55A	**Otter Lake**	**1.31**	**167**	P	**Pn**	07 08 55.2	+0.4
	baz=347,SNR=64						
F55A				S	**Sg**	07 09 13.1	-0.4
	baz=347						
F55A	**Otter Lake**	**1.31**	**167**	PG	**Pn**	07 08 55.2	+0.4
F55A				SG	**Sg**	07 09 13.1	-0.4
F55A				Trac		07 09 14.1	
	comp=Z,2μm,0.2s						
LSQ1	**Lac Sinclair,**	**1.39**	**162**	⇓PG	**Pn**	07 08 56.6	+0.7
LSQ1				SG	**Sb**	07 09 15.0	+0.8
LDSQ	**Shawville**	**1.43**	**168**	PG	**Pn**	07 08 57.2	+0.7
LDSQ				SG	**Sb**	07 09 16.2	+0.8
LDSQ				Trac		07 09 17.8	
	comp=Z,504nm,0.2s						
ALGO	**Algonquin Park**	**1.45**	**218**	P	**Pn**	07 08 57.2	+0.4
	baz=36,SNR=99						
ALGO	**Algonquin Park**	**1.45**	**218**	PG	**Pn**	07 08 57.3	+0.4
ALGO				SG	**Sg**	07 09 17.8	-0.4
ALGO				Trac		07 09 20.1	
	comp=Z,668nm,0.1s						
PEMO	**Pembroke**	**1.47**	**193**	P	**Pn**	07 08 57.4	+0.3
	baz=12,SNR=266						
PEMO				S	**Sb**	07 09 17.4	+0.8
	baz=12						
PEMO	**Pembroke**	**1.47**	**193**	PG	**Pn**	07 08 57.4	+0.3
PEMO				SG	**Sg**	07 09 17.8	-0.8
PEMO				Trac		07 09 24.1	
	comp=Z,153nm,0.1s						
E52A	**Mattawa**	**1.54**	**238**	P	**Pn**	07 08 58.5	+0.5
	baz=56,SNR=86						
E52A				S	**Sb**	07 09 19.2	+0.6
	baz=56						
EEO	**Eldee**	**1.65**	**254**	PG	**Pb**	07 09 00.9	-0.4
EEO				SG	**Sb**	07 09 21.9	+0.1
EEO				Trac		07 09 24.2	
	comp=Z,165nm,0.1s						
GAC	**Glen Almond**	**1.67**	**147**	PN	**Pn**	07 09 00.3	+0.5
GAC				SN	**Sn**	07 09 20.6	-0.2
GAC				Trac		07 09 23.9	
	comp=Z,100nm,0.3s						
D51A	**Lot 18 Range I**	**1.78**	**270**	P	**Pn**	07 09 01.4	0.0
	baz=88						
G55A	**Calabogie**	**1.86**	**179**	P	**Pn**	07 09 02.9	+0.5
	baz=359,SNR=27						
G55A				Sb	**Sb**	07 09 29.2	+1.5
	baz=359						
ORHO	**Orleans, Herit**	**1.86**	**152**	PN	**Pn**	07 09 02.4	0.0
ORHO				SN	**Sn**	07 09 25.8	+0.2
ORHO				LG	Lg	07 09 30.3	
ORHO				Trac		07 09 33.7	
	comp=Z,380nm,0.1s						
OTT	**Ottawa**	**1.86**	**157**	PN	**Pn**	07 09 02.5	0.0
OTT				SN	**Sn**	07 09 25.3	-0.4
OTT				Trac		07 09 29.6	
	comp=Z,336nm,0.2s						
OTT				LG	Lg	07 09 30.4	
ORIO	**Orleans, Innes**	**1.87**	**152**	P	**Pn**	07 09 03.1	+0.5
	baz=333,SNR=86						
ORIO	**Orleans, Innes**	**1.87**	**152**	PN	**Pn**	07 09 02.9	+0.3
ORIO				SN	**Sn**	07 09 25.7	-0.2
ORIO				Trac		07 09 31.1	
	comp=Z,94nm,0.2s						
ORIO				LG	Lg	07 09 31.3	
LSQQ	**Lebel-sur-Quev**	**1.96**	**356**	S	**Sb**	07 09 30.0	-0.7
	baz=176						
LSQQ	**Lebel-sur-Quev**	**1.96**	**356**	PN	**Pn**	07 09 03.6	-0.2
LSQQ				SN	**Sn**	07 09 26.7	-1.3
LSQQ				LG	Lg	07 09 31.2	
LSQQ				Trac		07 09 31.3	
	comp=Z,28nm,0.0s						
E51A	**G1948 Merrick**	**1.96**	**254**	P	**Pn**	07 09 04.5	+0.7
	baz=71,SNR=273						
ALFO	**Alfred**	**1.97**	**138**	P	**Pn**	07 09 04.8	+0.8
	baz=320						
ALFO	**Alfred**	**1.97**	**138**	PN	**Pn**	07 09 03.8	-0.2
ALFO				SN	**Sn**	07 09 28.3	-0.1
ALFO				Trac		07 09 32.6	
	comp=Z,73nm,0.1s						
ALFO				LG	Lg	07 09 32.7	
PLVO	**Plevna**	**2.08**	**186**	P	**Pn**	07 09 06.0	+0.5
	baz=5.5,SNR=49						
PLVO	**Plevna**	**2.08**	**186**	PN	**Pn**	07 09 05.9	+0.4
PLVO				SN	**Sn**	07 09 30.2	-0.9
PLVO				LG	Lg	07 09 37.7	
PLVO				Trac		07 09 41.1	
	comp=Z,48nm,0.0s						
BANO	**Bancroft**	**2.24**	**202**	P	**Pn**	07 09 08.6	+0.9
	baz=20,SNR=63						
BANO	**Bancroft**	**2.24**	**202**	PN	**Pn**	07 09 08.2	+0.5
BANO				SN	**Sn**	07 09 35.3	+0.3
BANO				LG	Lg	07 09 42.5	
BANO				Trac		07 09 48.0	
	comp=Z,125nm,0.1s						
WBO	**Williamsburg**	**2.35**	**153**	PN	**Pn**	07 09 09.6	+0.4
WBO				SN	**Sn**	07 09 37.1	-0.6
WBO				Trac		07 09 51.7	
	comp=Z,39nm,0.1s						
G53A	**Haliburton**	**2.37**	**214**	P	**Pn**	07 09 10.0	+0.6
	baz=32,SNR=32						
BUKO	**Buck Lake**	**2.47**	**229**	P	**Pn**	07 09 11.6	+0.8
	baz=46,SNR=101						
BUKO	**Buck Lake**	**2.47**	**229**	PN	**Pn**	07 09 11.5	+0.6
BUKO				SN	**Sn**	07 09 40.3	-0.4
BUKO				LG	Lg	07 09 50.2	
BUKO				Trac		07 09 54.8	
	comp=Z,63nm,0.1s						
F51A	**Arnstein**	**2.47**	**243**	P	**Pn**	07 09 11.7	+0.8
	baz=60,SNR=78						
H56A	**Elgin**	**2.54**	**172**	P	**Pn**	07 09 12.4	+0.6
	baz=352						
H55A	**Tweed**	**2.58**	**187**	P	**Pn**	07 09 13.0	+0.7
	baz=6.1,SNR=33						
STUQ	**Sainte-Ursule**	**2.65**	**106**	PN	**Pn**	07 09 15.3	+1.9
STUQ				SN	**Sn**	07 09 44.4	-0.8
STUQ				LG	Lg	07 09 54.1	
STUQ				Trac		07 09 55.4	
	comp=Z,63nm,0.1s						
DELO	**Deloro Mine**	**2.66**	**193**	P	**Pn**	07 09 14.2	+0.8
	baz=12,SNR=28						
DELO	**Deloro Mine**	**2.66**	**193**	PN	**Pn**	07 09 14.2	+0.8
DELO				SN	**Sn**	07 09 44.7	-0.6
DELO				LG	Lg	07 09 55.7	
DELO				Trac		07 10 01.1	
	comp=Z,42nm,0.1s						
MNTQ	**Montreal, Queb**	**2.71**	**125**	PN	**Pn**	07 09 13.9	-0.2
MNTQ				SN	**Sn**	07 09 45.8	-0.8
MNTQ				LG	Lg	07 09 55.7	
MNTQ				Trac		07 09 58.8	
	comp=Z,25nm,0.1s						
MATQ	**Matagami**	**2.71**	**348**	PN	**Pn**	07 09 13.9	-0.3
MATQ				SN	**Sn**	07 09 45.5	-1.2
MATQ				LG	Lg	07 09 54.9	
MATQ				Trac		07 09 57.2	
	comp=Z,32nm,0.1s						
DPQ	**Saint Jean**	**2.77**	**97**	PN	**Pn**	07 09 14.2	-0.8
DPQ				SN	**Sn**	07 09 47.6	-0.5
DPQ				Trac		07 09 57.5	
	comp=Z,116nm,0.2s						
SADO	**Sadowa**	**2.87**	**216**	PN	**Pn**	07 09 16.3	0.0
SADO				SN	**Sn**	07 09 50.2	-0.2
SADO				LG	Lg	07 10 03.4	
SADO				Trac		07 10 08.2	
	comp=Z,83nm,0.2s						
KGNO	**Kingston**	**2.89**	**176**	PN	**Pn**	07 09 17.6	+1.0
KGNO				SN	**Sn**	07 09 50.5	-0.5
KGNO				Trac		07 10 01.9	
	comp=Z,164nm,0.3s						
KGNO				LG	Lg	07 10 02.4	
LONY	**Lake Ozonia**	**2.92**	**148**	P	**Pn**	07 09 17.1	+0.1
	baz=329,SNR=25						
I55A	**Frankford**	**2.96**	**193**	P	**Pn**	07 09 18.3	+0.7
	baz=12,SNR=12						
KLBO	**Killbear Provi**	**2.96**	**235**	P	**Pn**	07 09 18.3	+0.7
	baz=52,SNR=28						
PECO	**Prince Edward**	**3.18**	**183**	P	**Pn**	07 09 21.4	+0.9
	baz=2.6						
D48A	**Paudash Townsh**	**3.44**	**273**	P	**Pn**	07 09 24.0	-0.2
	baz=89						
K54A	**Basiliko Farm,**	**4.70**	**198**	P	**Pn**	07 09 42.3	+0.7
	baz=16,SNR=8.5						
N59A	**State Game Lan**	**6.23**	**173**	P	**Pn**	07 10 03.2	+0.7
	baz=354,SNR=6.3						

*ISCJB **24** 07:14:20.6±0.2, 54°.03N±0°.07×153°.95E±0°.07, h650km, mb3.3/19, Error ellipse: s-maj=8.7km s-min=5.5km az=13.8*
*MOS **24** 07:14:20.9±0.9, 54°.13N×153°.61E, h634km, mb3.9/1, Error ellipse: s-maj=13.1km s-min=10.3km az=101.9*
*KRSC **24** 07:14:22.0±10.0, 54°.13N×153°.75E, h613km±10km, ML4.3*
*IDC **24** 07:14:22.6±0.9, 54°.18N×153°.51E, h633km±13km, mb2.9/20, mb1 3.0/24, mb1mx2.9/45, mbtmp3.9/24, Error ellipse: s-maj=15.5km s-min=11.2km az=151.0*

ISC 24 07:14:22.0±0.5, 53°.93N±0°.08×153°.95E±0°.07, h650km, n84, σ0=44/102, mb3.2/19, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.17**	**116**	P	**P**	07 15 40.8	-0.6
APC				S	**S**	07 16 42.5	-3.8
APC	**Apacha**	**2.17**	**116**	P	**P**	07 15 40.8	-0.6
APC				S	**S**	07 16 42.5	-3.8
PETK	**Petropavlovsk-**	**2.38**	**109**	P	**P**	07 15 41.5	-0.8
	3.7nm,0.3s,baz=2.6,slow=2.3,SNR=36						
KRMR	**Karymshinskiy**	**2.74**	**112**	*e*P	**P**	07 15 43.1	-0.8
KRMR	**Karymshinskiy**	**2.74**	**112**	P	**P**	07 15 43.1	-0.8
KRX	**Arik**	**2.85**	**100**	*e*P	**P**	07 15 44.0	-0.6
KRX	**Arik**	**2.85**	**100**	P	**P**	07 15 44.0	-0.6
KOK	**Koryaka**	**2.86**	**101**	*e*P	**P**	07 15 44.0	-0.6
KOK	**Koryaka**	**2.86**	**101**	P	**P**	07 15 44.0	-0.6
KRER	**Koryakskii**	**2.93**	**100**	*e*P	**P**	07 15 44.8	-0.3
KRER	**Koryakskii**	**2.93**	**100**	P	**P**	07 15 44.8	-0.3
AVH	**Avacha**	**2.93**	**101**	P	**P**	07 15 44.4	-0.5
AVH	**Avacha**	**2.93**	**101**	P	**P**	07 15 44.4	-0.5
MTVR	**Mutnovka**	**2.93**	**118**	P	**P**	07 15 45.3	+0.2
MTVR				S	**S**	07 16 49.7	-3.2
MTVR	**Mutnovka**	**2.93**	**118**	P	**P**	07 15 45.3	+0.2
MTVR				S	**S**	07 16 49.7	-3.2
PET	**Petropavlovsk**	**2.95**	**106**	P	**P**	07 15 44.2	-0.7
SMAR	**Somma**	**2.97**	**101**	*e*P	**P**	07 15 44.9	-0.4
SMAR	**Somma**	**2.97**	**101**	P	**P**	07 15 44.9	-0.4
UGLR	**Uglovaya**	**3.00**	**102**	*e*P	**P**	07 15 44.7	-0.6
UGLR	**Uglovaya**	**3.00**	**102**	P	**P**	07 15 44.7	-0.6
DALK	**Dalny**	**3.01**	**106**	*e*P	**P**	07 15 43.9	-1.3
DALK				S	**S**	07 16 48.9	-4.4
DALK	**Dalny**	**3.01**	**106**	P	**P**	07 15 43.9	-1.3
DALK				S	**S**	07 16 48.9	-4.4
SDLR	**Sedlovina**	**3.01**	**101**	*e*P	**P**	07 15 44.0	-1.4
SDLR	**Sedlovina**	**3.01**	**101**	P	**P**	07 15 44.0	-1.4
PAU	**Pauzhetka**	**3.02**	**144**	*e*P	**P**	07 15 44.6	-0.8
PAU	**Pauzhetka**	**3.02**	**144**	P	**P**	07 15 44.6	-0.8
RUS	**Russkaya**	**3.13**	**117**	*e*P	**P**	07 15 44.6	-1.3
RUS				S	**S**	07 16 48.8	-5.6
RUS	**Russkaya**	**3.13**	**117**	P	**P**	07 15 44.6	-1.3
RUS				S	**S**	07 16 48.8	-5.6
ALID	**Alaid**	**3.22**	**162**	*e*P	**P**	07 15 46.2	-0.5
ALID	**Alaid**	**3.22**	**162**	P	**P**	07 15 46.2	-0.5
KDTR	**Khodutka, Kamc**	**3.28**	**129**	*e*P	**P**	07 15 44.8	-1.9
KDTR				S	**S**	07 16 50.2	-5.7
KDTR	**Khodutka, Kamc**	**3.28**	**129**	P	**P**	07 15 44.8	-1.9
KDTR				S	**S**	07 16 50.2	-5.7
ESO	**Esso**	**3.39**	**52**	*e*P	**P**	07 15 46.9	-0.3
ESO	**Esso**	**3.39**	**52**	P	**P**	07 15 46.9	-0.3
SKR	**Severo-Kuril's**	**3.52**	**157**	*e*P	**P**	07 15 46.7	-1.4
SKR	**Severo-Kuril's**	**3.52**	**157**	P	**P**	07 15 46.7	-1.4
SPN	**Mys Shipunski**	**3.72**	**101**	*e*P	**P**	07 15 47.9	-1.3
SPN				S	**S**	07 16 55.7	-4.9
SPN	**Mys Shipunski**	**3.72**	**101**	P	**P**	07 15 47.9	-1.3
SPN				S	**S**	07 16 55.7	-4.9
TUMR	**Tumrok**	**3.85**	**67**	*e*P	**P**	07 15 49.5	-0.6
TUMR	**Tumrok**	**3.85**	**67**	P	**P**	07 15 49.5	-0.6
KZV	**Kizimen**	**3.88**	**70**	*e*P	**P**	07 15 49.2	-1.2
KZV	**Kizimen**	**3.88**	**70**	P	**P**	07 15 49.2	-1.2
SRDR	**Sredinnyy**	**4.08**	**52**	*e*P	**P**	07 15 49.0	-2.5
SRDR	**Sredinnyy**	**4.08**	**52**	P	**P**	07 15 49.0	-2.5
MKZ	**Mys Kozlova**	**4.61**	**79**	*e*P	**P**	07 15 52.9	-2.1
MKZ				S	**S**	07 17 04.8	-6.4
MKZ	**Mys Kozlova**	**4.61**	**79**	P	**P**	07 15 52.9	-2.1
MKZ				S

ESO	**Esso**	**3.00**	**46**	*e*P	P	07 22 25.1	+1.6
ALID	**Alaid**	**3.08**	**172**	*e*P	P	07 22 24.9	+0.6
SPN	**Mys Shipunski**	**3.20**	**103**	*e*P	P	07 22 26.3	+1.7
SPN				*e*S	S	07 23 33.8	-1.5
MKZ	**Mys Kozlova**	**4.09**	**78**	S	S	07 23 44.6	0.0
KBTR	**Krutoberegovo**	**5.13**	**60**	P	P	07 22 36.8	+0.3
KBTR				S	S	07 23 54.1	-3.2

ISCJB ***24*** *07:32:03.8±0.1, 54°.93N±0°.04×153°.61E±0°.05, h604km±3km, mb4.2/119, Error ellipse: s-maj=6.3km s-min=3.8km az=161.7*
MOS ***24*** *07:32:03.2±1.0, 54°.77N×154°.26E, h644km, mb4.4/24, Error ellipse: s-maj=9.9km s-min=6.1km az=107.9*
KRSC ***24*** *07:32:03.3±10.0, 54°.81N×154°.07E, h620km±10km, ML4.7*
NEIC ***24*** *07:32:04.9±1.4, 54°.95N×153°.59E, h602km±6km, mb4.3/74, Error ellipse: s-maj=14.5km s-min=12.1km az=142.0*
IDC ***24*** *07:32:05.7±0.7, 54°.94N×153°.55E, h615km±7km, mb3.6/39, mb1 3.7/45, mb1mx3.6/74, mbtmp4.6/45, Error ellipse: s-maj=9.8km s-min=7.1km az=161.0*
ISC 24 07:32:04.8±0.4, 54°.87N±0°.05×153°.78E±0°.04, h609km±5km, n328, σ1°51/386, mb4.2/119, 15C-22D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time (h m s)	Res (ISC)
APC	**Apacha**	**2.79**	**133**	*e*P	**P**	**07 33 23.7**	**+0.2**
APC				*e*S	**S**	**07 34 27.2**	**-0.5**
APC	**Apacha**	**2.79**	**133**	P	**P**	**07 33 23.7**	**+0.2**
APC				S	**S**	**07 34 27.2**	**-0.5**
PEA0B	**Petropavlovsk-**	**2.91**	**126**	*e*P	**P**	**07 33 24.3**	**+0.2**
PETK	**Petropavlovsk-**	**2.91**	**126**	*e*P	**P**	**07 33 24.2**	**+0.1**
PETK	**Petropavlovsk-**	**2.91**	**126**	*e*P	**P**	**07 33 24.2**	**+0.1**
PETK	**Petropavlovsk-**	**2.91**	**126**	P	**P**	**07 33 24.6**	**+0.5**
	28nm,0.3s,baz=277,slow=12,SNR=636						
ESO	**Esso**	**3.00**	**67**	*e*P	**P**	**07 33 24.9**	**+0.4**
ESO				*e*S	**S**	**07 34 29.0**	**-0.8**
ESO	**Esso**	**3.00**	**67**	P	**P**	**07 33 24.9**	**+0.4**
ESO				S	**S**	**07 34 29.0**	**-0.8**
KRX	**Arik**	**3.24**	**116**	*e*P	**P**	**07 33 26.4**	**+0.2**
KRX	**Arik**	**3.24**	**116**	P	**P**	**07 33 26.4**	**+0.2**
KOK	**Koryaka**	**3.27**	**117**	*e*P	**P**	**07 33 26.6**	**+0.3**
KOK	**Koryaka**	**3.27**	**117**	P	**P**	**07 33 26.6**	**+0.3**
KRMR	**Karymshinskiy**	**3.29**	**127**	*e*P	**P**	**07 33 25.6**	**-0.7**
KRMR	**Karymshinskiy**	**3.29**	**127**	P	**P**	**07 33 25.6**	**-0.7**
KRER	**Koryakskii**	**3.32**	**116**	*e*P	**P**	**07 33 26.8**	**+0.1**
KRER	**Koryakskii**	**3.32**	**116**	P	**P**	**07 33 26.8**	**+0.1**
AVH	**Avacha**	**3.33**	**117**	*e*P	**P**	**07 33 26.7**	**+0.1**
AVH	**Avacha**	**3.33**	**117**	P	**P**	**07 33 26.7**	**+0.1**
SMAR	**Somma**	**3.37**	**117**	*e*P	**P**	**07 33 27.1**	**+0.1**
SMAR	**Somma**	**3.37**	**117**	P	**P**	**07 33 27.1**	**+0.1**
SDLR	**Sedlovina**	**3.40**	**116**	*e*P	**P**	**07 33 26.8**	**-0.3**
SDLR	**Sedlovina**	**3.40**	**116**	P	**P**	**07 33 26.8**	**-0.3**
UGLR	**Uglovaya**	**3.41**	**117**	*e*P	**P**	**07 33 27.3**	**+0.2**
UGLR				*e*S	**S**	**07 34 33.3**	**-1.1**
UGLR	**Uglovaya**	**3.41**	**117**	P	**P**	**07 33 27.3**	**+0.2**
UGLR				S	**S**	**07 34 33.3**	**-1.1**
KII	**Karymskiy**	**3.41**	**102**	*e*P	**P**	**07 33 26.7**	**-0.4**
KII	**Karymskiy**	**3.41**	**102**	P	**P**	**07 33 26.7**	**-0.4**
PET	**Petropavlovsk**	**3.42**	**121**	*e*P	**P**	**07 33 26.5**	**-0.6**
PET	**Petropavlovsk**	**3.42**	**121**	⇓*i*P	**P**	**07 33 26.6**	**-0.4**
PET				*e*S	**S**	**07 34 33.1**	**-1.2**
PET				pmax	pmax		
	comp=Z,216nm,0.3s						
PET				smax	smax		
	comp=E,92nm,0.7s						
PET				smax	smax		
	comp=N,100nm,0.7s						
DALK	**Dalny**	**3.47**	**120**	*e*P	**P**	**07 33 26.7**	**-0.6**
DALK				*e*S	**S**	**07 34 33.1**	**-1.7**
DALK	**Dalny**	**3.47**	**120**	P	**P**	**07 33 26.7**	**-0.6**
DALK				S	**S**	**07 34 33.1**	**-1.7**
ASAK	**Asacha**	**3.50**	**134**	*e*P	**P**	**07 33 27.4**	**-0.3**
ASAK	**Asacha**	**3.50**	**134**	P	**P**	**07 33 27.4**	**-0.3**
MTVR	**Mutnovka**	**3.55**	**131**	*e*P	**P**	**07 33 26.7**	**-1.3**
MTVR				S	**S**	**07 34 33.5**	**-2.5**
MTVR	**Mutnovka**	**3.55**	**131**	P	**P**	**07 33 26.7**	**-1.3**
MTVR				S	**S**	**07 34 33.5**	**-2.5**
KOZ	**Kozyrevsk**	**3.66**	**69**	*e*P	**P**	**07 33 28.7**	**+0.2**
KOZ	**Kozyrevsk**	**3.66**	**69**	P	**P**	**07 33 28.7**	**+0.2**
SRDR	**Sredinnyy**	**3.66**	**64**	*e*P	**P**	**07 33 29.0**	**+0.5**
SRDR	**Sredinnyy**	**3.66**	**64**	P	**P**	**07 33 29.0**	**+0.5**
TUMR	**Tumrok**	**3.68**	**81**	*e*P	**P**	**07 33 28.9**	**+0.2**
TUMR	**Tumrok**	**3.68**	**81**	P	**P**	**07 33 29.0**	**+0.2**
NLC	**Nalytchevo**	**3.70**	**115**	*e*P	**P**	**07 33 27.9**	**-0.8**
NLC				*e*S	**S**	**07 34 34.5**	**-2.9**
NLC	**Nalytchevo**	**3.70**	**115**	P	**P**	**07 33 27.9**	**-0.8**
NLC				S	**S**	**07 34 34.5**	**-2.9**
RUS	**Russkaya**	**3.73**	**129**	*e*P	**P**	**07 33 27.8**	**-1.2**
RUS				*e*S	**S**	**07 34 33.9**	**-3.9**
RUS	**Russkaya**	**3.73**	**129**	P	**P**	**07 33 27.8**	**-1.2**
RUS				S	**S**	**07 34 33.9**	**-3.9**
KZV	**Kizimen**	**3.76**	**84**	*e*P	**P**	**07 33 28.8**	**-0.5**
KZV				*e*S	**S**	**07 34 36.4**	**-2.1**
KZV	**Kizimen**	**3.76**	**84**	P	**P**	**07 33 28.8**	**-0.5**
KZV				S	**S**	**07 34 36.4**	**-2.1**
TUMD	**Tumrok D**	**3.82**	**82**	*e*P	**P**	**07 33 29.0**	**-0.5**
PAU	**Pauzhetka**	**3.87**	**151**	*e*P	**P**	**07 33 29.6**	**-0.4**
PAU	**Pauzhetka**	**3.87**	**151**	P	**P**	**07 33 29.6**	**-0.4**
KDTR	**Khodutka, Kamc**	**4.00**	**138**	*e*P	**P**	**07 33 28.7**	**-2.1**
KDTR				*e*S	**S**	**07 34 35.0**	**-6.2**
KDTR	**Khodutka, Kamc**	**4.00**	**138**	P	**P**	**07 33 28.7**	**-2.1**
KDTR				S	**S**	**07 34 35.0**	**-6.2**
KRSR	**Krestovskiy**	**4.08**	**68**	*e*P	**P**	**07 33 29.7**	**-1.6**
KRSR	**Krestovskiy**	**4.08**	**68**	P	**P**	**07 33 29.7**	**-1.6**
BZGR	**Bezymyannyi-Gr**	**4.08**	**72**	*e*P	**P**	**07 33 31.7**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**4.08**	**72**	P	**P**	**07 33 31.7**	**+0.3**
SPN	**Mys Shipunski**	**4.09**	**113**	*e*P	**P**	**07 33 29.7**	**-1.7**
SPN				*e*S	**S**	**07 34 36.9**	**-5.3**
SPN	**Mys Shipunski**	**4.09**	**113**	P	**P**	**07 33 29.7**	**-1.7**
SPN				S	**S**	**07 34 36.9**	**-5.3**
LGNR	**Loginova**	**4.11**	**70**	*e*P	**P**	**07 33 32.0**	**+0.2**
LGNR	**Loginova**	**4.11**	**70**	P	**P**	**07 33 32.0**	**+0.2**
ALID	**Alaid**	**4.15**	**164**	*e*P	**P**	**07 33 32.3**	**+0.2**
ALID	**Alaid**	**4.15**	**164**	P	**P**	**07 33 32.3**	**+0.2**
CIRR	**Tsirk**	**4.15**	**70**	*e*P	**P**	**07 33 31.8**	**-0.1**
CIRR	**Tsirk**	**4.15**	**70**	P	**P**	**07 33 31.8**	**-0.1**
SKR	**Severo-Kuril's**	**4.43**	**160**	*e*P	**P**	**07 33 33.3**	**-0.6**
SKR	**Severo-Kuril's**	**4.43**	**160**	*e*P	**P**	**07 33 32.9**	**-1.0**
SKR				*e*S	**S**	**07 34 45.4**	**-1.2**
SKR				pmax	pmax		
	comp=Z,160nm,0.4s						
SKR				smax	smax		
	comp=N,157nm,0.7s						
SKR				smax	smax		
	comp=E,119nm,0.7s						
BDR	**Baidarnaya**	**4.53**	**65**	*e*P	**P**	**07 33 34.6**	**+0.1**
BDR	**Baidarnaya**	**4.53**	**65**	P	**P**	**07 33 34.6**	**+0.1**
SRKR	**Sorokina**	**4.54**	**64**	*e*P	**P**	**07 33 34.7**	**+0.2**
SRKR	**Sorokina**	**4.54**	**64**	P	**P**	**07 33 34.7**	**+0.2**
MKZ	**Mys Kozlova**	**4.62**	**91**	*e*P	**P**	**07 33 32.2**	**-2.9**
MKZ				*e*S	**S**	**07 34 42.5**	**-6.6**
MKZ	**Mys Kozlova**	**4.62**	**91**	P	**P**	**07 33 32.2**	**-2.9**
MKZ				S	**S**	**07 34 42.5**	**-6.6**
SMKR	**Semkarok**	**4.67**	**65**	*e*P	**P**	**07 33 35.3**	**-0.2**
SMKR	**Semkarok**	**4.67**	**65**	P	**P**	**07 33 35.3**	**-0.2**
MA2	**Magadan**	**4.99**	**342**	*ce*P	**P**	**07 33 38.0**	**+0.2**
MA2				pmax	pmax		
	comp=Z,192nm,0.7s						
MA2	**Magadan**	**4.99**	**342**	P	**P**	**07 33 38.1**	**+0.3**
	comp=Z,16nm,0.3s,baz=146,slow=8.2,SNR=109						
KBG	**Krutoberegovo**	**5.25**	**71**	*e*P	**P**	**07 33 37.8**	**-2.1**
KBG				*e*S	**S**	**07 34 52.6**	**-5.4**
KBG	**Krutoberegovo**	**5.25**	**71**	P	**P**	**07 33 37.8**	**-2.1**
KBG				S	**S**	**07 34 52.6**	**-5.4**
KBTR	**Krutoberegovo**	**5.30**	**72**	*e*P	**P**	**07 33 38.3**	**-2.1**
KBTR				*e*S	**S**	**07 34 53.0**	**-5.8**
KBTR	**Krutoberegovo**	**5.30**	**72**	P	**P**	**07 33 38.3**	**-2.1**
KBTR				S	**S**	**07 34 53.0**	**-5.8**
PALN	**Palana**	**5.41**	**36**	*e*P	**P**	**07 33 42.2**	**+1.1**
PALN	**Palana**	**5.41**	**36**	P	**P**	**07 33 42.2**	**+1.1**
OSSR	**Ossora**	**6.69**	**45**	*e*P	**P**	**07 33 52.9**	**+0.8**
OSSR	**Ossora**	**6.69**	**45**	P	**P**	**07 33 52.9**	**+0.8**
BKI	**Bering**	**7.01**	**82**	*e*P	**P**	**07 33 55.9**	**+0.9**
BKI				*e*S	**S**	**07 35 25.2**	**-0.4**
BKI	**Bering**	**7.01**	**82**	P	**P**	**07 33 55.9**	**+0.9**
BKI				S	**S**	**07 35 25.2**	**-0.4**
SEY	**Seymchan**	**8.12**	**355**	P	**P**	**07 34 05.7**	**+0.6**
	comp=Z,19nm,0.3s,baz=176,slow=9.1,SNR=320						
YSS	**Yuzh-Sakhalins**	**10.54**	**226**	⇑*e*P	**P**	**07 34 31.1**	**+2.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SMY	**Shemya**	**12.20**	**92**	*e*P	**P**	**07 34 46.1**	**+0.9**
SMY	**Shemya**	**12.20**	**92**	*e*P	**P**	**07 34 46.1**	**+0.9**
YAK	**Yakutsk**	**14.44**	**309**	*e*P	**P**	**07 35 05.3**	**-1.8**
YAK				*e*S	**S**	**07 37 35.3**	**-0.6**
YAK				pmax	pmax		
	comp=Z,187nm,0.9s						
YAK				pmax	pmax		
	comp=E,29nm,1.0s						
YAK				pmax	pmax		
	comp=N,37nm,1.1s						
YAK				smax	smax		
	comp=N,2μm,1.5s						
YAK				smax	smax		
	comp=E,1μm,1.2s						
BILL	**Bilibino**	**14.45**	**19**	*e*P	**P**	**07 35 06.1**	**-0.9**
BILL	**Bilibino**	**14.45**	**19**	⇑*e*P	**P**	**07 35 07.0**	**-0.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ERM	**Erimo**	**14.65**	**213**	*e*P	**P**	**07 35 06.9**	**-2.4**
ERM				*e*S	**S**	**07 37 41.9**	**+2.0**
ERM	**Erimo**	**14.65**	**213**	*e*P	**P**	**07 35 06.9**	**-2.4**
ERM				*e*S	**S**	**07 37 41.9**	**+2.0**
KLR	**Kul'dur**	**14.66**	**256**	⇑*i*P	**P**	**07 35 08.6**	**-0.7**
KLR	**Kul'dur**	**14.66**	**256**	P	**P**	**07 35 09.0**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=66,slow=8.4,SNR=44						
KLR				ScP	**ScP**	**07 42 12.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=73,slow=2.7,SNR=13						
ZEA	**Zeya**	**15.50**	**277**	*e*P	**P**	**07 35 16.0**	**-0.9**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
USA0B	**Ussuriysk Arra**	**17.65**	**242**	*e*P	**P**	**07 35 36.4**	**-0.2**
	comp=Z,8.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**17.65**	**242**	*e*P	**P**	**07 35 36.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**17.65**	**242**	P	**P**	**07 35 36.2**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=36,slow=6.9,SNR=10						
USRK				ScP	**ScP**	**07 42 18.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=36,slow=1.9,SNR=7.8						
TIXI	**Tiksi**	**19.94**	**337**	*e*P	**P**	**07 35 57.0**	**+0.1**
	comp=Z,7.1nm,0.7s						
TIXI	**Tiksi**	**19.94**	**337**	*i*P	**P**	**07 35 56.1**	**-0.8**
TIXI	**Tiksi**	**19.94**	**337**	P	**P**	**07 35 56.5**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=128,slow=9.7,SNR=31						
SPIA	**Saint Paul Isl**	**20.09**	**69**	*e*P	**P**	**07 36 03.5**	**+5.0**
	comp=Z,67nm,1.0s						
MJAR	**Matsushiro Arr**	**21.23**	**217**	P	**P**	**07 36 09.7**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=3.7,slow=9.3,SNR=4.9						
MJAR				ScP	**ScP**	**07 42 27.4**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=58,slow=1.7,SNR=5.0						
KSRS	**Korea Array**	**24.76**	**236**	P	**P**	**07 36 41.0**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=33,slow=9.0,SNR=23						
KSRS				ScP	**ScP**	**07 42 36.9**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=12,slow=1.8,SNR=11						
KSAR	**Wonju Array Be**	**24.79**	**236**	*e*P	**P**	**07 36 40.5**	**0.0**
KSAR	**Wonju Array Be**	**24.79**	**236**	*e*P	**P**	**07 36 40.5**	**0.0**
IMAR	**Indian Mountai**	**27.29**	**45**	*e*P	**P**	**07 37 02.9**	**+0.8**
IMAR				*e*PcP	**PcP**	**07 40 01.1**	**+0.8**
CAST	**Castle Rocks**	**28.22**	**50**	*e*P	**P**	**07 37 11.7**	**+1.6**
	comp=Z,2.4nm,1.2s						
SPU	**Mount Spurr**	**28.62**	**55**	*e*P	**P**	**07 37 15.7**	**+2.0**
OHAK	**Old Harbor**	**29.04**	**63**	*e*P	**P**	**07 37 17.5**	**+0.2**
	comp=Z,15nm,1.3s						
BJT	**Baijiatuau**	**29.04**	**255**	*e*P	**P**	**07 37 18.8**	**+1.2**
	comp=Z,8.8nm,0.4s						
BJT	**Baijiatuau**	**29.04**	**255**	*e*P	**P**	**07 37 18.8**	**+1.2**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.4s						
SUA	**Susitna One**	**29.18**	**54**	*e*P	**P**	**07 37 18.9**	**+0.3**
	comp=Z,2.9nm,0.9s						
KDAK	**Kodiak Island**	**29.23**	**62**	*e*P	**P**	**07 37 19.4**	**+0.4**
	comp=Z,7.6nm,0.3s						
KDAK	**Kodiak Island**	**29.23**	**62**	*i*P	**P**	**07 37 18.7**	**-0.2**
BRLK	**Bradley Lake**	**29.52**	**58**	*e*P	**P**	**07 37 21.7**	**+0.3**
	comp=Z,4.2nm,0.9s						
TLY	**Talaya**	**29.63**	**285**	*i*P	**P**	**07 37 23.1**	**+0.6**
TLY				pmax	pmax		
	comp=Z,32nm,0.7s						
SONM	**Songino Array**	**29.93**	**276**	*e*P	**P**	**07 37 25.4**	**+0.2**
SONM				*e*PcP	**PcP**	**07 40 07.7**	**+0.1**
SONM	**Songino Array**	**29.93**	**276**	P	**P**	**07 37 25.8**	**+0.6**
	comp=Z,8.9nm,0.5s,baz=55,slow=8.7,SNR=42						
SONM				PcP	**PcP**	**07 40 07.3**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=63,slow=1.9,SNR=7.7						
SONM				ScP	**ScP**	**07 42 52.2**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=28,slow=3.4,SNR=3.0						
GHO	**Glory Hole Cre**	**29.96**	**53**	*e*P	**P**	**07 37 26.8**	**+1.6**
	comp=Z,7.1nm,1.1s						
SEW	**Seward**	**30.12**	**57**	*e*P	**P**	**07 37 27.2**	**+0.7**
	comp=Z,1.0nm,0.8s						
SML	**Sawmill**	**30.22**	**53**	*e*P	**P**	**07 37 28.7**	**+1.3**
	comp=Z,5.8nm,0.5s						
SML	**Sawmill**	**30.22**	**53**	*e*P	**P**	**07 37 28.7**	**+1.3**
SML				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KNK	**Knik Glacier**	**30.26**	**54**	*e*P	**P**	**07 37 28.9**	**+1.2**
	comp=Z,6.4nm,0.6s						
ILAR	**Eielson Array**	**30.27**	**47**	P	**P**	**07 37 28.8**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=281,slow=11,SNR=4.3						
ILAR				ScP	**ScP**	**07 42 51.7**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=287,slow=3.5,SNR=12						
DHY	**Denali Highway**	**30.38**	**50**	*e*P	**P**	**07 37 29.6**	**+0.7**
	comp=Z,1.8nm,0.8s						
ZAK	**Zakamensk**	**30.43**	**283**	*e*P	P	07 37 19.0	-10
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,8.0nm,2.0s						
SCM	**Sheep Creek Mo**	**30.68**	**53**	*e*P	**P**	**07 37 32.6**	**+1.3**
	comp=Z,3.6nm,0.4s						
SCM	**Sheep Creek Mo**	**30.68**	**53**	*e*P	**P**	**07 37 32.7**	**+1.3**
SCM				pmax	pmax		
	comp=Z,4.0nm,0.4s						
HHC	**Hu-ho-hao-te**	**31.08**	**261**	*e*P	**P**	**07 37 35.8**	**+0.6**
MOY	**Mondy**	**31.11**	**286**	*e*P	**P**	**07 37 36.1**	**+0.8**
MOY				pmax	pmax		
	comp=Z,26nm,1.7s						
RIDG	**Independent Ri**	**31.34**	**49**	*e*P	**P**	**07 37 37.4**	**+0.4**
	comp=Z,2.4nm,1.1s						
SCRK	**Sand Creek**	**31.66**	**48**	*e*P	**P**	**07 37 39.9**	**+0.1**
	comp=Z,0.2nm,0.5s						
NRIK	**Noril'sk**	**32.26**	**323**	P	**P**	**07 37 44.2**	**-0.4**
	comp=Z,3.5nm,0.4s,baz=103,slow=6.8,SNR=4.5						
BCAR	**Beaver Creek A**	**32.85**	**49**	*e*P	**P**	**07 37 51.4**	**+1.7**
TGL	**Tana Glacier**	**33.07**	**54**	*e*P	**P**	**07 37 53.0**	**+1.4**
	comp=Z,3.6nm,0.6s						
BALM	**Baldy**	**33.20**	**53**	*e*P	**P**	**07 37 55.0**	**+2.2**
	comp=Z,3.3nm,0.6s						
BALM	**Baldy**	**33.20**	**53**	*e*P	**P**	**07 37 55.0**	**+2.2**
BALM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CTGM	**Chitina Glacie**	**33.69**	**53**	*e*P	**P**	**07 37 58.0**	**+1.2**
	comp=Z,4.9nm,0.6s						
INK	**Inuvik**	**34.77**	**38**	P	**P**	**07 38 06.4**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=279,slow=7.3,SNR=6.8						
INK				PcP	**PcP**	**07 40 21.2**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=316,slow=2.8,SNR=2.2						
INK				ScP	**ScP**	**07 43 08.3**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=310,slow=5.2,SNR=9.0						
WHN	**Wuhan**	**37.08**	**245**	P	**P**	**07 38 21.4**	**-3.6**
XAN	**Xi'an**	**37.36**	**255**	P	**P**	**07 38 27.0**	**-0.3**
ZAA0	**Zalesovo Array**	**38.66**	**298**	*e*P	**P**	**07 38 37.0**	**-0.5**
	comp=Z,6.6nm,0.8s						
ZALV	**Zalesovo Beam**	**38.66**	**298**	*e*P	**P**	**07 38 36.9**	**-0.6**
ZALV				*e*PcP	**PcP**	**07 40 32.8**	**-0.2**
ZALV	**Zalesovo Beam**	**38.66**	**298**	*e*P	**P**	**07 38 36.9**	**-0.6**
ZALV				*e*		07 40 32.8	
ZALV	**Zalesovo Beam**	**38.66**	**298**	P	**P**	**07 38 36.7**	**-0.8**
	comp=Z,6.4nm,0.6s,baz=56,slow=6.8,SNR=18						
ZALV				PcP	**PcP**	**07 40 32.5**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=63,slow=3.4,SNR=5.5						
GTA	**Gaotai**	**38.80**	**269**	P	**P**	**07 38 40.0**	**+1.0**
NVS	**Novosibirsk**	**39.01**	**300**	⇑*i*P	**P**	**07 38 40.3**	**0.0**
NVS				pmax	pmax		
	comp=Z,46nm,0.9s						
NVS				pmax	pmax		
	comp=N,10.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,19nm,0.8s						
DGZ	**Jazzator, Alta**	**39.54**	**291**	*d*P	**P**	**07 38 45.4**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,11nm,0.6s						
DLBC	**Dease Lake**	**39.95**	**53**	*e*P	**P**	**07 38 50.4**	**+2.6**
	comp=Z,2.6nm,1.2s						
DLBC	**Dease Lake**	**39.95**	**53**	P	**P**	**07 38 50.1**	**+2.3**
	comp=Z,1.2nm,0.5s,baz=49,slow=27,SNR=3.4						
RES	**Resolute Bay**	**43.04**	**21**	*e*P	**P**	**07 39 12.4**	**+0.7**
	comp=Z,6.0nm,1.1s						
RES	**Resolute Bay**	**43.04**	**21**	P	**P**	**07 39 12.2**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=8.3,slow=5.3,SNR=17						
RES				ScP	**ScP**	**07 43 40.6**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=249,slow=2.6,SNR=4.0						
KURK	**Kurchatov**	**43.61**	**297**	*e*P	**P**	**07 39 16.3**	**-0.2**
	comp=Z,64nm,0.3s						
KURK				*e*PcP	**PcP**	**07 40 49.0**	**-0.7**
KURK	**Kurchatov**	**43.61**	**297**	⇓*i*P	**P**	**07 39 15.9**	**-0.6**
KURK				pmax	pmax		
	comp=Z,21nm,0.4s						
KURBB	**Kurchatov Arra**	**43.71**	**297**	P	**P**	**07 39 16.8**	**-0.5**
	comp=Z,22nm,0.4s,baz=59,slow=7.4,SNR=175						
KURBB				PcP	**PcP**	**07 40 49.2**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=57,slow=3.5,SNR=5.9						
KURBB				ScP	**ScP**	**07 43 41.4**	**-2.7**
	comp=Z,0.5nm,0.4s,baz=52,slow=4.1,SNR=5.1						
MK31	**Makanchi Array**	**44.03**	**290**	*e*P	**P**	**07 39 19.4**	**-0.4**
	comp=Z,12nm,0.6s						
MK31	**Makanchi Array**	**44.03**	**290**	*e*P	**P**	**07 39 19.4**	**-0.4**
MK31				pmax	pmax		
	comp=Z,12nm,0.6s						
MKAR	**Makanchi Array**	**44.03**	**290**	P	**P**	**07 39 19.3**	**-0.5**
	comp=Z,13nm,0.5s,baz=54,slow=6.8,SNR=150						
MKAR				PcP	**PcP**	**07 40 50.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=49,slow=7.8,SNR=1.7						
MAKZ	**Makanchi**	**44.19**	**291**	*e*P	**P**	**07 39 20.5**	**-0.5**
	comp=Z,20nm,1.2s						
MAKZ	**Makanchi**	**44.19**	**291**	*e*P	**P**	**07 39 20.5**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,20nm,1.2s						
YKA	**Yellowknife Ar**	**44.34**	**42**	P	**P**	**07 39 22.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=305,slow=7.4,SNR=4.1						
YKA				PcP	**PcP**	**07 40 52.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=315,slow=3.6,SNR=3.6						
YKA				ScP	**ScP**	**07 43 45.8**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=306,slow=4.0,SNR=9.2						
KBS	**Kingsbay**	**44.54**	**350**	*e*P	**P**	**07 39 23.6**	**+0.4**
	comp=Z,27nm,1.4s						
KBS	**Kingsbay**	**44.54**	**350**	*e*P	**P**	**07 39 23.6**	**+0.4**
KBS				pmax	pmax		
	comp=Z,27nm,1.4s						
SPA0	**Spitsbergen Ar**	**44.70**	**349**	*e*P	**P**	**07 39 23.9**	**-0.6**
	comp=Z,42nm,1.4s						
SPITS	**Spitsbergen Ar**	**44.70**	**349**	P	**P**	**07 39 24.1**	**-0.3**
	comp=Z,4.5nm,0.4s,baz=57,slow=6.3,SNR=47						
SPITS				PcP	**PcP**	**07 40 52.7**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=93,slow=2.9,SNR=2.6						
BVAR	**Borovoye Array**	**46.33**	**304**	P	**P**	**07 39 36.6**	**-0.5**
	comp=Z,21nm,0.4s,baz=61,slow=7.5,SNR=97						
BVAR				PcP	**PcP**	**07 40 58.2**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=65,slow=4.2,SNR=5.5						
BVAR				PP	**pP**	**07 41 29.1**	**+4.3**
	comp=Z,1.4nm,0.6s,baz=60,slow=9.0,SNR=3.8						
BVAR				ScP	**ScP**	**07 43 52.5**	**-2.5**
	comp=Z,0.9nm,0.6s,baz=66,slow=3.5,SNR=4.0						
BRVK	**Borovoye**	**46.36**	**304**	*e*P	**P**	**07 39 37.0**	**-0.3**
	comp=Z,23nm,0.6s						
BRVK	**Borovoye**	**46.36**	**304**	*i*P	**P**	**07 39 36.8**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,24nm,0.6s						
KIP	**Kipapa**	**49.06**	**113**	*e*P	**P**	**07 39 59.5**	**+1.7

comp=Z,4.5nm,0.7s,baz=19,slow=6.7,SNR=14
CMAR ScP **ScP** 07 44 31.9 -1.4
comp=Z,0.8nm,0.3s,baz=28,slow=4.1,SNR=3.0
JIRN Jiri 55.09 269 *eP* **P** 07 40 41.1 -0.2
comp=Z,17nm,0.4s
RAMN Ramite 55.39 268 *eP* **P** 07 40 42.9 -0.3
comp=Z,49nm,0.4s
KKN Kakani 55.52 270 *eP* **P** 07 40 44.0 0.0
comp=Z,47nm,0.5s
PKI Pulchoki 55.61 270 *eP* **P** 07 40 44.5 -0.3
comp=Z,31nm,0.6s
PKIN Phulchoki 55.61 270 *eP* **P** 07 40 44.4 -0.3
comp=Z,20nm,0.5s
DMN Daman 55.76 270 *eP* **P** 07 40 45.5 -0.2
comp=Z,8.3nm,0.3s
HRY Holter Researc 55.83 56 *eP* **P** 07 40 47.7 +2.0
DANN Dangsing 55.98 272 *eP* **P** 07 40 47.2 -0.1
comp=Z,35nm,0.4s
BEKR Beckworth 56.41 67 *eP* **P** 07 40 49.2 -0.8
comp=Z,18nm,1.4s
KOLN Koldanda 56.51 272 *eP* **P** 07 40 50.5 -0.3
comp=Z,35nm,0.5s
PYUN Piuthan 56.61 272 *eP* **P** 07 40 51.3 -0.2
comp=Z,28nm,0.3s
BOZ Bozeman (W) 56.73 57 *eP* **P** 07 40 54.1 +2.2
comp=Z,0.9nm,0.4s
FIA1 FINESS Array S 56.92 333 *eP* **P** 07 40 52.1 -0.6
comp=Z,13nm,1.3s
FINES FINESS Array B 56.92 333 *eP* **P** 07 40 52.2 -0.5
FINES *e*PcP **PcP** 07 41 38.2 -1.1
FINES FINESS Array B 56.92 333 P **P** 07 40 52.1 -0.7
comp=Z,7.1nm,0.3s,baz=36,slow=7.0,SNR=72
FINES PcP **PcP** 07 41 38.0 -1.3
comp=Z,1.2nm,0.3s,baz=49,slow=4.3,SNR=3.8
YERR Yerington 57.65 67 *eP* **P** 07 41 00.6 +2.2
comp=Z,5.2nm,0.6s
NIL Nilore 58.04 284 *eP* **P** 07 41 01.6 +0.7
comp=Z,42nm,1.1s
RLMT Red Lodge 58.21 56 *eP* **P** 07 41 04.2 +2.1
comp=Z,2.9nm,1.0s
FXWY Fox Creek 58.45 58 *eP* **P** 07 41 06.0 +2.3
comp=Z,1.1nm,0.7s
NVAR Mina Array Bea 58.56 67 P **P** 07 41 06.2 +1.7
comp=Z,2.1nm,0.6s,baz=313,slow=6.0,SNR=4.8
OBN Obninsk 58.93 323||*eP* **P** 07 41 04.1 -2.3
OBN pmax pmax
comp=Z,6.0nm,0.9s
PD31 Pinedale Array 59.82 58 *eP* **P** 07 41 13.7 +0.8
comp=Z,1.3nm,0.6s
PDAR Pinedale Array 59.82 58 *eP* **P** 07 41 14.1 +1.2
PDAR Pinedale Array 59.82 58 P **P** 07 41 13.9 +1.2
comp=Z,1.1nm,0.5s,baz=326,slow=1.0,SNR=8.9
NC303 NORSAR Array S 60.49 340 *eP* **P** 07 41 16.3 -0.4
comp=Z,19nm,0.6s
NB201 NORSAR Array S 60.67 340 *eP* **P** 07 41 17.6 -0.3
comp=Z,53nm,1.4s
NB2 NORSAR Subarra 60.69 340 P **P** 07 41 17.1 -0.9
comp=Z,3.1nm,0.4s,baz=24,slow=6.5
NOA NORSAR Array B 60.69 340 P **P** 07 41 17.7 -0.3
comp=Z,8.3nm,0.7s,baz=25,slow=6.6,SNR=31
TPNV Topopah Spring 60.74 67 *eP* **P** 07 41 20.8 +1.8
comp=Z,5.2nm,0.5s
SBUM Sibu 62.18 229 *eP* **P** 07 41 30.1 +1.8
comp=Z,6.4nm,0.8s
O20A White River Ci 62.45 59 *eP* **P** 07 41 31.5 +1.5
comp=Z,3.7nm,0.6s
IVI Ivigtut 62.97 12 *eP* **P** 07 41 32.5 -0.1
comp=Z,19nm,1.1s
GEYT Alibeck 62.97 298 *eP* **P** 07 41 33.5 +0.3
GEYT Alibeck 62.97 298 P **P** 07 41 33.1 -0.1
comp=Z,15nm,0.6s,baz=13,slow=3.3,SNR=23
GYA0B ALIBECK ARRAY 62.97 298 *eP* **P** 07 41 33.5 +0.3
comp=Z,15nm,0.7s
PV22 Blue Mesa, Par 63.40 60 *eP* **P** 07 41 37.2 +1.1
comp=Z,3.3nm,0.7s
Y14A Wickenburg 64.75 67 *eP* **P** 07 41 46.8 +2.3
comp=Z,3.0nm,1.3s
AKASG Malin Array Be 65.08 325 *eP* **P** 07 41 45.2 -1.0
AKASG Malin Array Be 65.08 325 *eP* **P** 07 41 45.2 -1.0
AKASG Malin Array Be 65.08 325 P **P** 07 41 45.0 -1.1
comp=Z,5.6nm,0.3s,baz=31,slow=6.8,SNR=15
KIEV Kiev 65.09 325 *eP* **P** 07 41 45.2 -1.0
comp=Z,7.6nm,0.8s
KIEV Kiev 65.09 325||*iP* **P** 07 41 45.3 -1.0
KIEV Kiev 65.09 325||P **P** 07 41 45.3 -1.0
X16A Lo Mia Camp, P 65.20 65 *eP* **P** 07 41 49.7 +2.2
comp=Z,1.9nm,0.6s
KIV Kislovodsk 65.53 312||*iP* **P** 07 41 50.2 +0.9
KIV Kislovodsk 65.53 312 *eP* **P** 07 41 50.5 +1.2
KIV pmax pmax
comp=Z,33nm,1.0s
KBZ Khabaz 65.62 312 P **P** 07 41 49.8 +0.1
comp=Z,6.9nm,0.6s,baz=65,slow=3.9,SNR=14
ZEI Tsey 65.94 311 *eP* **P** 07 41 50.4 -1.6
ZEI pmax pmax
comp=Z,6.0nm,0.7s
AKH Akhalkalaki 67.23 310||*iP* **P** 07 42 00.3 +0.4
ANMO Albuquerque 67.36 61 P **P** 07 42 02.4 +1.6
comp=Z,0.4nm,0.7s,baz=350,slow=10.0,SNR=2.8
LAZ Ladron 67.44 62 *eP* **P** 07 42 03.4 +2.1
ESK Eskdalemuir 68.56 346 *eP* **P** 07 42 07.2 -0.2
comp=Z,32nm,1.3s
VLDQ Val d'Or 68.70 34 *eP* **P** 07 42 07.0 -1.4
comp=Z,4.8nm,0.7s
KOLS Kolonicke sedl 68.85 328 *eP* **P** 07 42 09.2 -0.1
KOLS pmax pmax
comp=Z,7.0nm,1.1s
KOLS Kolonicke sedl 68.85 328 *eP* **P** 07 42 09.2 -0.1
BURAR Bucovina Array 69.08 326 *eP* **P** 07 42 10.6 -0.2
BURAR Bucovina Array 69.08 326||*iP* **P** 07 42 10.0 -0.8
BURAR Bucovina Array 69.08 326||P **P** 07 42 10.0 -0.8
CLL Collm 69.26 335 *iP* **P** 07 42 11.0 -0.6
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 69.26 335 *iP* **P** 07 42 11.0 -0.6
comp=Z,8.0nm,0.8s
BRG Berggiesshubel 69.42 334 *eP* **P** 07 42 11.3 -1.3
comp=Z,20nm,1.6s
BRG Berggiesshubel 69.42 334 *eP* **P** 07 42 11.3 -1.3
BRG pmax pmax
comp=Z,20nm,1.6s
MORC Moravsky Berou 69.47 331 *eP* **P** 07 42 13.2 +0.2
comp=Z,6.1nm,0.8s
TRPA Tarpa 69.48 327||*iP* **P** 07 42 13.4 +0.4
LANS Liptovska Anna 69.49 330 *eP* **P** 07 42 14.2 +1.1
LANS Liptovska Anna 69.49 330 *eP* **P** 07 42 14.2 +1.1
TESR Tescani 69.56 324⇑*iP* **P** 07 42 12.2 -1.4
VRI Vrincioaia 70.10 324||*iP* P 07 42 08.8 -8.0
VRI Vrincioaia 70.10 324 ||P P 07 42 08.8 -8.0
CFR Carcaliu 70.21 322⇑*iP* **P** 07 42 14.5 -2.9
CFR Carcaliu 70.21 322 ⇑P **P** 07 42 14.5 -2.9
VYHS Vyhne 70.26 330 *eP* **P** 07 42 17.8 +0.1
VYHS pmax pmax
comp=Z,3.0nm,0.6s
VYHS Vyhne 70.26 330 *eP* **P** 07 42 17.8 +0.1
DIKM Dikmen 70.52 316⇑*iP* **P** 07 42 19.0 -0.3
DRGR 70.61 327||*iP* **P** 07 42 19.5 -0.3
DRGR 70.61 327 ||P **P** 07 42 19.5 -0.3
MLR Muntele Rosu 70.69 324 *eP* **P** 07 42 21.0 +0.5
comp=Z,5.7nm,0.6s
MLR Muntele Rosu 70.69 324⇑*iP* **P** 07 42 19.1 -1.3
MLR Muntele Rosu 70.69 324 ⇑P **P** 07 42 19.1 -1.3
MLR Muntele Rosu 70.69 324 P **P** 07 42 20.9 +0.5
comp=Z,5.3nm,0.6s,baz=179,slow=4.8,SNR=8.1
TLB Topalu 70.75 322||*iP* **P** 07 42 19.9 -0.7
TLB Topalu 70.75 322 ||P **P** 07 42 19.9 -0.7
VOIR 71.04 324⇑*iP* **P** 07 42 22.6 +0.2
VOIR 71.04 324 ⇑P **P** 07 42 22.6 +0.2
ARR Arges 71.24 325⇑*iP* **P** 07 42 24.1 +0.5
GERES GERESS Array B 71.35 333 P **P** 07 42 23.8 -0.4
comp=Z,2.0nm,0.5s,baz=31,slow=5.4,SNR=9.0
GZR Gura Zlata 71.83 326||*iP* P 07 42 21.0 -6.0
GZR Gura Zlata 71.83 326 ||P P 07 42 21.0 -6.0
BRTR Keskin Array B 72.81 316 *eP* **P** 07 42 32.5 -0.3
BRTR Keskin Array B 72.81 316 P **P** 07 42 32.3 -0.5
comp=Z,2.6nm,0.6s,baz=33,slow=2.8,SNR=10
KBA Koelnbreinsper 73.07 333 *iP* **P** 07 42 34.9 +0.8
comp=Z,10nm,0.6s
TXAR Lajitas Array 73.26 63 P **P** 07 42 37.0 +1.6
comp=Z,1.6nm,0.6s,baz=296,slow=5.0,SNR=34
CTYL Yalikoy Yolu 73.37 320||*iP* **P** 07 42 32.9 -2.8
PALK Pallekele 74.37 260 *eP* **P** 07 42 41.6 -0.2
comp=Z,35nm,1.3s
TUE Stuetta 74.64 335 *eP* **P** 07 42 43.6 +0.5
comp=Z,8.1nm,0.8s
WRA Warramunga Arr 76.35 199 P **P** 07 42 51.7 -0.8
comp=Z,1.0nm,0.9s,baz=8.3,slow=7.3,SNR=3.9
MMAI Mount Meron Ar 77.78 311 P **P** 07 43 00.6 +0.3
comp=Z,2.9nm,0.3s,baz=43,slow=7.4,SNR=5.2
ASF Jabal al Asfar 77.83 309 P **P** 07 43 00.4 -0.2
comp=Z,3.3nm,0.4s,baz=141,slow=4.1,SNR=9.5
ASAR Alice Springs 80.06 198 P **P** 07 43 12.2 -0.1
comp=Z,0.2nm,0.3s,baz=15,slow=4.6,SNR=4.8
EIL Elat 80.83 309 P **P** 07 43 15.5 -0.8
comp=Z,3.9nm,0.5s,baz=16,slow=10,SNR=4.7
COCO West Island 82.13 236 *iP* P 07 43 14.1 -8.8
ESDC Sonseca Array 83.91 343 P **P** 07 43 31.2 -0.5
comp=Z,0.8nm,0.5s,baz=240,slow=43,SNR=6.1
KEST Kesra 84.73 332 *eP* **P** 07 43 36.5 +0.8
comp=Z,13nm,1.3s
KEST Kesra 84.73 332 P **P** 07 43 36.1 +0.4
comp=Z,5.1nm,0.5s,baz=253,slow=1.7,SNR=8.6
CPUP Villa Florida 143.52 51 PKP PKPbc 07 50 30.1 +0.2
comp=Z,1.6nm,0.5s,baz=295,slow=2.8,SNR=9.4
QSPA South Pole Qui 144.62 180 *e*PKPdf **PKPdf** 07 50 31.4 -0.2
PLCA Paso Flores 147.63 83 *e*PKPbc **PKPbc** 07 50 41.8 +0.6
PLCA Paso Flores 147.63 83 PKPbc **PKPbc** 07 50 41.5 +0.3
comp=Z,1.6nm,0.9s,baz=346,slow=4.2,SNR=3.3
SYO Syowa Base 147.84 218||*e*PKPdf **PKPbc** 07 50 39.4 -1.3

*UCR **24** 07:32:31.5±2.0, 13°.86N×91°.54W, h24km±11km, MD3.5, ML3.4*
*SNET **24** 07:32:33.0±1.1, 13°.77N×91°.40W, h16km±7km, ML3.5*
ISC 24 07:32:28.8±3.8, 13°.9N±0°.1×91°.6W±0°.2, h8km±15km, n14, σ0°.93/23, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.95**	**53**	*eP*	**Pg**	**07 32 46.5**	**-0.6**
PCG	**Pacaya**	**1.11**	**62**	*eP*	**Pg**	**07 32 50.0**	**-0.3**
PCG				*eS*	**Sn**	**07 33 06.9**	**+0.2**
IXG	**Ixpaco**	**1.19**	**75**	*eP*	**Pg**	**07 32 52.0**	**+0.4**
IXG				*eS*	**Sn**	**07 33 10.5**	**+2.1**
NBG	**Las Nubes**	**1.43**	**60**	*eP*	**Pn**	**07 32 55.0**	**-0.3**
NBG				*eS*	**Sb**	**07 33 14.8**	**+0.4**
RTR	**El Retiro**	**1.92**	**89**	*eP*	**Pn**	**07 33 02.8**	**+0.7**
RTR				*eS*	**Sn**	**07 33 26.1**	**-0.5**
RTR	**El Retiro**	**1.92**	**89**	*eP*	**Pn**	**07 33 02.8**	**+0.7**
RTR				*eS*	**Sn**	**07 33 26.1**	**-0.5**
CEVE	**Cerro Verde**	**1.94**	**91**	*eP*	**Pn**	**07 33 03.2**	**+0.8**
CEVE				*eS*	**Sn**	**07 33 26.4**	**-0.8**
CEVE				IAML		07 33 39.9	
	comp=Z,754nm,0.3s						
CEVE	**Cerro Verde**	**1.94**	**91**	*eP*	**Pn**	**07 33 03.2**	**+0.8**
CEVE				*eS*	**Sn**	**07 33 26.4**	**-0.8**
CEVE				IAML		07 33 39.9	
	comp=Z,754nm,0.3s						
SBLS	**San Blas**	**1.95**	**91**	*eP*	**Pn**	**07 33 02.7**	**+0.3**
SBLS				*eS*	**Sn**	**07 33 25.5**	**-1.8**
SBLS	**San Blas**	**1.95**	**91**	*eP*	**Pn**	**07 33 02.7**	**+0.3**
SBLS				*eS*	**Sn**	**07 33 25.5**	**-1.8**
LFU	**La Fuente**	**2.44**	**93**	*eP*	**Pn**	**07 33 09.6**	**+0.5**
LFU	**La Fuente**	**2.44**	**93**	*eP*	**Pn**	**07 33 09.6**	**+0.5**
LCND	**La Caada**	**3.68**	**98**	*eP*	**Pn**	**07 33 26.2**	**+0.2**
LCND	**La Caada**	**3.68**	**98**	*eP*	**Pn**	**07 33 26.2**	**+0.2**

KRSC 24 07:35:04.6±10.0, 54°.14N×153°.45E, h595km±10km, ML4.4, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.53**	**117**	*eP*	P	07 36 23.3	+2.6
AVH	**Avacha**	**3.27**	**104**	P	P	07 36 27.8	+2.9
SMAR	**Somma**	**3.30**	**103**	*eP*	P	07 36 27.0	+1.7
SDLR	**Sedlovina**	**3.35**	**103**	*eP*	P	07 36 25.7	+0.3
RUS	**Russkaya**	**3.49**	**117**	*eP*	P	07 36 27.0	+0.8
RUS				*eS*	S	07 37 33.6	+0.7
ESO	**Esso**	**3.51**	**57**	*eP*	P	07 36 29.3	+3.1
KDTR	**Khodutka, Kamc**	**3.65**	**128**	*eP*	P	07 36 27.1	-0.1
KDTR				*eS*	S	07 37 33.4	-1.3
SPN	**Mys Shipunski**	**4.05**	**102**	*eP*	P	07 36 30.3	+0.4
SPN				*eS*	S	07 37 38.7	-1.1
MKZ	**Mys Kozlova**	**4.87**	**82**	*eP*	P	07 36 36.1	+0.2
MKZ				*eS*	S	07 37 48.5	-2.2
KBTR	**Krutoberegovo**	**5.76**	**65**	*eP*	P	07 36 43.5	+0.4
KBTR				*eS*	S	07 38 00.3	-3.7
BKI	**Bering**	**7.34**	**77**	P	P	07 36 59.0	+1.7
BKI				S	S	07 38 30.9	+1.1

*ISCJB **24** 07:41:00.8±0.4, 54°.69N±0°.08×153°.13E±0°.08, h600km, mb3.6/23, Error ellipse: s-maj=10.3km s-min=6.0km az=9.4*
*MOS **24** 07:41:00.8±1.0, 54°.52N×153°.27E, h621km, mb4.2/1, Error ellipse: s-maj=17.3km s-min=10.4km az=95.5*
*KRSC **24** 07:41:01.4±10.0, 54°.54N×153°.25E, h596km±10km, ML4.6*
*IDC **24** 07:41:02.4±1.1, 54°.56N×153°.15E, h617km±13km, mb3.1/24, mb1 3.2/28, mb1mx3.1/58, mbtmp4.1/28, Error ellipse: s-maj=17.5km s-min=9.1km az=171.0*
ISC 24 07:41:01.3±0.6, 54°.57N±0°.09×153°.22E±0°.06, h600km, n49, σ1°.38/54, mb3.6/23, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.86**	**123**	*eP*	**P**	**07 42 20.9**	**+1.3**
APC	**Apacha**	**2.86**	**123**	P	**P**	**07 42 20.9**	**+1.3**
PETK	**Petropavlovsk-**	**3.03**	**117**	P	**P**	**07 42 21.7**	**+1.2**
	7.1nm,0.3s,baz=325,slow=1.8,SNR=17						
ESO	**Esso**	**3.42**	**64**	*eP*	**P**	**07 42 24.8**	**+2.1**
ESO	**Esso**	**3.42**	**64**	P	**P**	**07 42 24.8**	**+2.1**
RUS	**Russkaya**	**3.82**	**122**	S	**S**	**07 43 34.0**	**-0.1**
ALID	**Alaid**	**3.96**	**158**	*eP*	**P**	**07 42 27.8**	**+1.1**
ALID	**Alaid**	**3.96**	**158**	P	**P**	**07 42 27.8**	**+1.1**
KZV	**Kizimen**	**4.13**	**79**	P	**P**	**07 42 28.9**	**+1.3**
KZV	**Kizimen**	**4.13**	**79**	P	**P**	**07 42 28.9**	**+1.3**
SKR	**Severo-Kuril's**	**4.27**	**154**	P	**P**	**07 42 28.9**	**+0.3**
SKR	**Severo-Kuril's**	**4.27**	**154**	P	**P**	**07 42 28.9**	**+0.3**
MKZ	**Mys Kozlova**	**4.96**	**87**	*eS*	**S**	**07 43 46.0**	**-3.2**
BDR	**Baidarnaya**	**4.96**	**63**	*eP*	**P**	**07 42 35.5**	**+1.8**
BDR	**Baidarnaya**	**4.96**	**63**	P	**P**	**07 42 35.5**	**+1.8**
MA2	**Magadan**	**5.20**	**346**	P	**P**	**07 42 37.8**	**+2.4**
MA2	**Magadan**	**5.20**	**346**	P	**P**	**07 42 37.9**	**+2.5**
	2.2nm,0.3s,baz=148,slow=8.0,SNR=14						
KBTR	**Krutoberegovo**	**5.71**	**69**	*eP*	**P**	**07 42 38.4**	**-1.4**
KBTR				*eS*	**S**	**07 43 57.6**	**-2.9**
KBTR	**Krutoberegovo**	**5.71**	**69**	P	**P**	**07 42 38.4**	**-1.4**
KBTR				S	**S**	**07 43 57.6**	**-2.9**
BKI	**Bering**	**7.39**	**80**	*eP*	**P**	**07 42 56.3**	**+1.7**
BKI				*eS*	**S**	**07 44 29.4**	**+1.8**
BKI	**Bering**	**7.39**	**80**	P	**P**	**07 42 56.3**	**+1.7**
BKI				S	**S**	**07 44 29.4**	**+1.8**
SEY	**Seymchan**	**8.40**	**357**	P	**P**	**07 43 06.4**	**+2.4**
	1.0nm,0.3s,baz=172,slow=9.4,SNR=14						
KLR	**Kul'dur**	**14.26**	**257**	P	**P**	**07 44 03.7**	**+1.2**
	0.3nm,0.3s,baz=66,slow=9.2,SNR=6.3						
TIXI	**Tiksi**	**20.09**	**338**	P	**P**	**07 44 55.9**	**+0.7**
	3.1nm,0.5s,baz=134,slow=9.8,SNR=6.4						
KSRS	**Korea Array**	**24.32**	**236**	P	**P**	**07 45 32.9**	**-0.4**
	0.4nm,0.3s,baz=134,slow=12,SNR=4.5						
SONM	**Songino Array**	**29.63**	**276**	P	**P**	**07 46 20.2**	**+0.4**
	0.6nm,0.4s,baz=52,slow=9.0,SNR=2.6						
ILAR	**Eielson Array**	**30.72**	**47**	P	**P**	**07 46 29.1**	**+0.5**
	1.1nm,0.7s,baz=279,slow=11,SNR=22						
INK	**Inuvik**	**35.21**	**38**	P	**P**	**07 47 06.8**	**+0.5**
	0.6nm,0.3s,baz=267,slow=7.2,SNR=6.3						
ZALV	**Zalesovo Beam**	**38.52**	**298**	P	**P**	**07 47 33.3**	**-0.1**
	1.1nm,0.5s,baz=57,slow=5.5,SNR=3.0						
RES	**Resolute Bay**	**43.45**	**21**	P	**P**	**07 48 12.0**	**+0.1**
	3.2nm,0.9s,baz=297,slow=4.6,SNR=4.7						
KURK	**Kurchatov**	**43.46**	**297**	P	**P**	**07 48 13.2**	**+0.8**
KURK						07 49 45.6	
KURBB	**Kurchatov Arra**	**43.56**	**297**	P	**P**	**07 48 13.2**	**0.0**
	1.6nm,0.4s,baz=59,slow=7.5,SNR=19						
KURBB				PcP	**PcP**	**07 49 45.6**	**-1.3**
	0.4nm,0.6s,baz=66,slow=3.4,SNR=3.5						
MKAR	**Makanchi Array**	**43.83**	**290**	P	**P**	**07 48 15.3**	**0.0**
	3.3nm,0.5s,baz=57,slow=6.6,SNR=46						
YKA	**Yellowknife Ar**	**44.79**	**41**	P	**P**	**07 48 22.4**	**0.0**
	0.3nm,0.4s,baz=304,slow=5.6,SNR=4.5						
SPITS	**Spitsbergen Ar**	**44.94**	**348**	P	**P**	**07 48 23.2**	**-0.1**
	1.1nm,0.4s,baz=51,slow=6.6,SNR=19						
BVAR	**Borovoye Array**	**46.23**	**304**	P	**P**	**07 48 33.3**	**-0.2**
	3.3nm,0.4s,baz=60,slow=7.3,SNR=22						
ARU	**Arti**	**49.48**	**313**	P	**P**	**07 48 57.4**	**-0.2**
	2.3nm,0.3s,baz=65,slow=5.9,SNR=6.8						
ARCES	**ARCESS Array B**	**50.53**	**339**	P	**P**	**07 49 04.3**	**-0.7**
	1.0nm,0.3s,baz=38,slow=7.4,SNR=20						
FINES	**FINESS Array B**	**57.04**	**333**	P	**P**	**07 49 50.2**	**-0.6**
	1.6nm,0.4s,baz=34,slow=7.5,SNR=18						
NVAR	**Mina Array Bea**	**58.98**	**66**	P	**P**	**07 50 05.4**	**+0.8**
	2.0nm,0.7s,baz=321,slow=7.1,SNR=1.7						
PDAR	**Pinedale Array**	**60.26**	**57**	P	**P**	**07 50 12.8**	**-0.1**
	0.6nm,0.6s,baz=95,slow=0.6,SNR=4.5						
NB2	**NORSAR Subarra**	**60.87**	**340**	P	**P**	**07 50 15.2**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=24,slow=6.5						
NOA	**NORSAR Array B**	**60.87**	**340**	P	**P**	**07 50 15.6**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=24,slow=6.5,SNR=7.2						
GEYT	**Alibeck**	**62.83**	**298**	P	**P**	**07 50 29.7**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=74,slow=5.3,SNR=4.7						
AKASG	**Malin Array Be**	**65.14**	**324**	P	**P**	**07 50 42.8**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=33,slow=6.8,SNR=4.0						
KBZ	**Khabaz**	**65.58**	**312**	P	**P**	**07 50 46.6**	**0.0**
	comp=Z,1.5nm,0.6s,baz=2.4,slow=2.6,SNR=4.0						
GERES	**GERESS Array B**	**71.48**	**333**	P	**P**	**07 51 21.9**	**-0.3**
	comp=Z,0.4nm,0.2s,baz=17,slow=7.2,SNR=4.1						
BRTR	**Keskin Array B**	**72.80**	**315**	P	**P**	**07 51 29.6**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=86,slow=4.0,SNR=3.8						
TXAR	**Lajitas Array**	**73.69**	**62**	P	**P**	**07 51 35.4**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=302,slow=5.3,SNR=12						

KRSC 24 07:41:27.8±10.0, 52°.22N×160°.94E, h45km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.05**	**328**	*eP*	Pn	07 41 47.3	+1.3
SPN				*eS*	Sn	07 42 00.0	+0.5
NLC	**Nalytchevo**	**1.36**	**315**	*eP*	Pn	07 41 53.0	+2.6
NLC				*eS*	Sn	07 42 09.1	+1.9
RUS	**Russkaya**	**1.50**	**279**	*eP*	Pn	07 41 53.5	+1.2
RUS				*eS*	Sn	07 42 11.2	+0.5
DALK	**Dalny**	**1.56**	**302**	*eP*	Pn	07 41 55.1	+2.0
DALK				*eS*	Sn	07 42 14.4	+2.3
UGLR	**Uglovaya**	**1.63**	**309**	*eP*	Pn	07 41 56.6	+2.5
SDLR	**Sedlovina**	**1.64**	**311**	*eP*	Pn	07 41 56.4	+2.1
SMAR	**Somma**	**1.67**	**310**	*eP*	Pn	07 41 57.7	+2.9
AVH	**Avacha**	**1.70**	**309**	*eP*	Pn	07 41 57.7	+2.6
MTVR	**Mutnovka**	**1.71**	**280**	*eP*	Pn	07 41 57.1	+1.8
MTVR				*eS*	Sn	07 42 17.6	+1.6
KRER	**Koryakskii**	**1.72**	**310**	*eP*	Pn	07 41 58.2	+2.7
KOK	**Koryaka**	**1.77**	**309**	*eP*	Pn	07 41 58.5	+2.5
KRX	**Arik**	**1.80**	**310**	*eP*	Pn	07 41 58.8	+2.3
KDTR	**Khodutka, Kamc**	**1.81**	**258**	*eP*	Pn	07 41 57.4	+0.9
KDTR				*eS*	Sn	07 42 18.1	-0.2
KRMR	**Karymshinskiy**	**1.82**	**291**	*eP*	Pn	07 41 58.7	+2.0
ASAK	**Asacha**	**1.87**	**276**	*eP*	Pn	07 41 59.5	+2.1
MKZ	**Mys Kozlova**	**2.39**	**11**	*eP*	Pn	07 42 07.5	+3.0
MKZ				*eS*	Sn	07 42 35.0	+2.5
APC	**Apacha**	**2.41**	**289**	*eP*	Pn	07 42 07.8	+3.0
KZV	**Kizimen**	**2.93**	**353**	*eP*	Pn	07 42 15.8	+3.8
TUMR	**Tumrok**	**3.11**	**352**	*eP*	Pn	07 42 19.0	+4.6
BKI	**Bering**	**4.23**	**43**	S	Sn	07 43 19.1	+1.4

JMA 24 07:41:48.3±0.2, 25°.36N×140°.35E, h138km, M4.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.08**	**52**	P	Pn	07 42 23.8	+0.2
JHH2				S	Sn	07 42 51.2	+0.5
CBIJ	**Chichi jima**	**2.39**	**43**	P	Pn	07 42 27.9	+0.5
CBIJ				S	Sn	07 42 58.0	+0.4
BSO3	**Boso 3**	**9.41**	**1**	P	Pn	07 43 59.8	-0.5
BSO3				*eS*	Sn	07 45 41.1	-3.2
BSO4	**Boso 4**	**9.60**	**360**	P	Pn	07 44 04.1	+1.1
BSO4				S	Sn	07 45 49.7	+0.6

*ISCJB **24** 07:46:09.0±0.2, 40°.13N±0°.02×121°.14W±0°.03, h10km, mb3.1/1, Error ellipse: s-maj=3.7km s-min=2.1km az=44.4*
*NCEDC **24** 07:46:08.7, 40°.20N×121°.11W, h7km, ML3.7*
*IDC **24** 07:46:08.2±1.5, 40°.02N×121°.48W, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.4/40, mbtmp3.2/4, ML3.4/3, Error ellipse: s-maj=26.8km s-min=7.4km az=44.0*
*NEIC **24** 07:46:08.7±0.0, 40°.20N×121°.11W, h7km, ML3.7(NCEDC), After NCEDC.*
*ANF **24** 07:46:09.9±0.6, 40°.10N×121°.30W, h16km±4km, ML3.6/11, Error ellipse: s-maj=5.4km s-min=4.4km az=37.0*
ISC 24 07:46:08.8±0.7, 40°.10N±0°.03×121°.25W±0°.02, h10km, n58, σ1°.50/75, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	**Paynes Creek**	**0.46**	**295**	P	**Pb**	**07 46 18.6**	**-0.5**
	baz=100						
O03E				S	**Sb**	**07 46 26.1**	**0.0**
	baz=100						
ORV	**Oroville**	**0.58**	**199**	*e*Pg	**Pb**	**07 46 21.5**	**+0.4**
BEKR	**Beckworth**	**0.72**	**109**	*e*Pg	**Pg**	**07 46 21.1**	**-1.7**
BEKR				*e*Sg	**Sg**	**07 46 30.0**	**-2.4**
WDC	**Whiskeytown Da**	**1.09**	**296**	*e*Pg	**Pb**	**07 46 28.9**	**-1.0**
WDC				*e*Sg	**Sn**	**07 46 45.5**	**+0.1**
AFDM	**Forest Hills D**	**1.17**	**169**	*e*Pn	**Pg**	**07 46 31.2**	**-0.2**
AFDM				*e*Sg	**Sn**	**07 46 47.8**	**+0.4**
O02D	**Mt. Diablo Mer**	**1.18**	**274**	P	**Pg**	**07 46 31.7**	**+0.1**
	baz=88						
O02D				S	**Sb**	**07 46 45.7**	**-1.0**
	baz=88						
RUBR	**Rubicon Trail**	**1.35**	**141**	*e*Pn	**Pn**	**07 46 33.7**	**-0.2**
RUBR				*e*Sn	**Sg**	**07 46 52.5**	**+0.2**
N02D	**Trinity Center**	**1.41**	**309**	P	**Pn**	**07 46 33.7**	**-0.9**
	baz=122,SNR=107						
N02D				S	**Sg**	**07 46 53.6**	**-0.5**
	baz=122						
VCNR	**Virgin

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
J05D					Sb		Sb	07 47 45.1	+0.7
	baz=178								
J04D	**Umpqua Nationa**	**3.20**	**349**	Pb			**Pb**	**07 47 06.2**	**+0.4**
	baz=166								
SAO	**San Andreas Ge**	**3.34**	**183**	*e*Pn			**Pb**	**07 47 04.4**	**-3.6**
PINE	**Pine Mountain**	**3.69**	**3**	*e*Pn			**Pn**	**07 47 07.7**	**+1.5**
J08A	**Circle Bar Ran**	**3.86**	**32**	*e*Pn			**Pn**	**07 47 06.9**	**-1.4**
I07A	**Izee**	**4.18**	**18**	*e*Pn			**Pn**	**07 47 14.9**	**+2.1**
ELK	**Elko**	**4.63**	**80**	*e*Pn			**Pn**	**07 47 17.9**	**-1.2**
ELK	**Elko**	**4.63**	**80**	Pn			**Pn**	**07 47 22.8**	**+3.7**
	0.4nm,0.3s,baz=242,slow=9.2,SNR=6.1								
ELK					Pg		**Pb**	**07 47 32.3**	**+2.0**
	2.8nm,0.3s,baz=276,slow=17,SNR=37								
ELK					Lg		Lg	07 48 28.8	
	4.1nm,0.3s,baz=39,slow=17,SNR=12								
R11A	**Troy Canyon, C**	**4.74**	**110**	*e*Pn			**Pn**	**07 47 20.8**	**+0.3**
R11A	**Troy Canyon, C**	**4.74**	**110**	P			**Pn**	**07 47 20.6**	**+0.1**
	baz=295								
DAC	**Darwin (Calif)**	**4.78**	**142**	*e*Pg			**Pg**	**07 47 38.9**	**-1.5**
TPNV	**Topopah Spring**	**5.03**	**127**	*e*Pn			**Pn**	**07 47 25.8**	**+1.3**
TPNV	**Topopah Spring**	**5.03**	**127**	P			**Pn**	**07 47 25.5**	**+1.0**
	baz=312								
PSUT	**Pine Spring**	**5.95**	**103**	*e*Pn			**Pn**	**07 47 36.7**	**-0.4**
SHPR	**Sheep Range**	**5.99**	**125**	*e*Pn			**Pn**	**07 47 39.2**	**+1.6**
DUG	**Dugway, Tooele**	**6.47**	**86**	*e*Pn			**Pn**	**07 47 44.0**	**-0.1**
CCUT	**Cedar City**	**6.67**	**110**	*e*Pn			**Pn**	**07 47 47.7**	**+0.7**
TCRU	**Three Creeks R**	**6.98**	**100**	*e*Pn			**Pn**	**07 47 46.6**	**-4.8**
MSU	**Marysvale**	**7.21**	**100**	*e*Pn			**Pn**	**07 47 55.6**	**+1.1**
KNB	**Kanab**	**7.29**	**112**	*e*Pn			**Pn**	**07 47 56.8**	**+1.3**
EGMT	**Eagleton**	**11.44**	**42**	*e*Pn			**Pn**	**07 48 51.7**	**-0.5**
TXAR	**Lajitas Array**	**17.98**	**121**	P			**P**	**07 50 21.8**	**+2.3**
	0.0nm,0.3s,baz=301,slow=9.1,SNR=5.7								
YKA	**Yellowknife Ar**	**22.78**	**8**	P			**P**	**07 51 14.8**	**+3.7**
	0.6nm,0.7s,baz=199,slow=11,SNR=6.3								

KRSC ***24*** *07:48:06.0±10.0, 52°.22N×160°.90E, h61km±10km, ML4.7*
ISCJB ***24*** *07:48:10.0±0.5, 52°.32N±0°.03×160°.66E±0°.04, h45km±3km, mb4.7/100, Error ellipse: s-maj=6.3km s-min=3.3km az=145.8*
NEIC ***24*** *07:48:09.9±2.1, 52°.17N×160°.52E, h33km±4km, mb4.6/61, Error ellipse: s-maj=17.8km s-min=11.7km az=177.0*
MOS ***24*** *07:48:10.2±1.1, 52°.37N×160°.62E, h47km, mb5.0/24, Error ellipse: s-maj=6.8km s-min=3.6km az=99.6*
IDC ***24*** *07:48:12.9±2.2, 52°.46N×160°.51E, h48km±20km, mb4.0/27, mb1 4.1/29, mb1mx4.0/43, mbtmp4.2/29, ML3.4/2, Error ellipse: s-maj=17.4km s-min=10.7km az=150.0*
ISC 24 07:48:05.4±1.9, 52°.25N±0°.04×160°.78E±0°.03, h4km±11km, n312, σ1$62/341, mb4.7/100, 18C-15D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97**	**332**	*e*P			**Pb**	**07 48 25.0**	**+0.2**
SPN				*e*S			**Sb**	**07 48 37.9**	**0.0**
SPN	**Mys Shipunski**	**0.97**	**332**	PN			**Pb**	**07 48 25.0**	**+0.2**
SPN				S			**Sb**	**07 48 37.9**	**0.0**
NLC	**Nalytchevo**	**1.27**	**317**	*e*P			**Pn**	**07 48 30.1**	**+0.2**
NLC	**Nalytchevo**	**1.27**	**317**	PN			**Pn**	**07 48 30.1**	**+0.2**
RUS	**Russkaya**	**1.40**	**279**	*e*P			**Pn**	**07 48 32.1**	**+0.4**
RUS				*e*S			**Sb**	**07 48 49.9**	**-0.5**
RUS	**Russkaya**	**1.40**	**279**	PN			**Pn**	**07 48 32.1**	**+0.4**
RUS				S			**Sb**	**07 48 49.9**	**-0.5**
DALK	**Dalny**	**1.46**	**303**	*e*P			**Pb**	**07 48 33.2**	**0.0**
DALK				*e*S			**Sg**	**07 48 52.9**	**+0.5**
DALK	**Dalny**	**1.46**	**303**	PN			**Pb**	**07 48 33.2**	**0.0**
DALK				S			**Sg**	**07 48 52.9**	**+0.5**
PET	**Petropavlovsk**	**1.51**	**302**	*e*Pn			**Pn**	**07 48 33.8**	**+0.6**
PET	**Petropavlovsk**	**1.51**	**302**	*e*P			**Pb**	**07 48 34.0**	**0.0**
PET				*e*S			**Sb**	**07 48 53.9**	**+0.4**
PET	**Petropavlovsk**	**1.51**	**302**	*e*PN			**Pn**	**07 48 33.8**	**+0.6**
PET				*e*S			**Sb**	**07 48 53.6**	**+0.1**
PET				pmax			pmax		
	comp=Z,1μm,0.7s								
PET				smax			smax		
	comp=E,7μm,1.0s								
PET				smax			smax		
	comp=N,4μm,0.9s								
UGLR	**Uglovaya**	**1.53**	**310**	*e*P			**Pb**	**07 48 34.5**	**+0.1**
UGLR	**Uglovaya**	**1.53**	**310**	PN			**Pb**	**07 48 34.5**	**+0.1**
SDLR	**Sedlovina**	**1.55**	**313**	*e*P			**Pn**	**07 48 34.3**	**+0.4**
SDLR	**Sedlovina**	**1.55**	**313**	PN			**Pn**	**07 48 34.3**	**+0.4**
SMAR	**Somma**	**1.58**	**311**	*e*P			**Pb**	**07 48 35.2**	**0.0**
SMAR	**Somma**	**1.58**	**311**	PN			**Pb**	**07 48 35.2**	**0.0**
AVH	**Avacha**	**1.61**	**310**	*e*P			**Pb**	**07 48 35.8**	**+0.1**
AVH	**Avacha**	**1.61**	**310**	PN			**Pb**	**07 48 35.8**	**+0.1**
MTVR	**Mutnovka**	**1.61**	**280**	*e*P			**Pb**	**07 48 35.6**	**-0.1**
MTVR				*e*S			**Sn**	**07 48 55.5**	**-0.5**
MTVR	**Mutnovka**	**1.61**	**280**	PN			**Pb**	**07 48 35.6**	**-0.1**
MTVR				S			**Sn**	**07 48 55.5**	**-0.5**
KRER	**Koryakskii**	**1.63**	**311**	*e*P			**Pb**	**07 48 36.1**	**0.0**
KRER	**Koryakskii**	**1.63**	**311**	PN			**Pb**	**07 48 36.1**	**0.0**
KOK	**Koryaka**	**1.67**	**310**	*e*P			**Pb**	**07 48 36.6**	**-0.2**
KOK				*e*S			**Sn**	**07 48 57.0**	**-0.5**
KOK	**Koryaka**	**1.67**	**310**	PN			**Pb**	**07 48 36.6**	**-0.2**
KOK				S			**Sn**	**07 48 57.0**	**-0.5**
GRL	**Gorelyy**	**1.69**	**282**	*e*P			**Pb**	**07 48 37.4**	**+0.4**
GRL	**Gorelyy**	**1.69**	**282**	PN			**Pb**	**07 48 37.4**	**+0.4**
KRX	**Arik**	**1.71**	**312**	*e*P			**Pb**	**07 48 37.3**	**-0.1**
KRX	**Arik**	**1.71**	**312**	PN			**Pb**	**07 48 37.3**	**-0.1**
KRMR	**Karymshinskiy**	**1.72**	**291**	*e*P			**Pb**	**07 48 37.2**	**-0.3**
KRMR				*e*S			**Sn**	**07 48 59.0**	**+0.5**
KRMR	**Karymshinskiy**	**1.72**	**291**	PN			**Pb**	**07 48 37.2**	**-0.3**
KRMR				S			**Sn**	**07 48 59.0**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.73**	**256**	*e*P			**Pn**	**07 48 36.3**	**+0.2**
KDTR				*e*S			**Sn**	**07 48 57.1**	**-1.5**
KDTR	**Khodutka, Kamc**	**1.73**	**256**	PN			**Pn**	**07 48 36.3**	**+0.2**
KDTR				S			**Sn**	**07 48 57.1**	**-1.5**
ASAK	**Asacha**	**1.77**	**276**	P			**Pb**	**07 48 38.3**	**-0.2**
ASAK	**Asacha**	**1.77**	**276**	PN			**Pb**	**07 48 38.3**	**-0.2**
PEA0B	**Petropavlovsk-**	**2.06**	**296**	*e*Pn			**Pn**	**07 48 42.2**	**+1.4**
PETK	**Petropavlovsk-**	**2.06**	**296**	*e*Pn			**Pn**	**07 48 41.9**	**+1.0**
PETK	**Petropavlovsk-**	**2.06**	**296**	*e*PN			**Pn**	**07 48 41.9**	**+1.0**
PETK	**Petropavlovsk-**	**2.06**	**296**	P			**Pb**	**07 48 42.7**	**-0.8**
	comp=N,131nm,0.3s,baz=107,slow=17,SNR=862								
PETK				S			**Sn**	**07 49 08.4**	**+1.4**
	comp=N,75nm,0.3s,baz=242,slow=30,SNR=6.7								
PEA1	**Petropavlovsk-**	**2.07**	**296**	*e*Pn			**Pb**	**07 48 42.7**	**-0.8**
PEA1				*e*Sn			**Sn**	**07 49 08.4**	**+1.3**
APC	**Apacha**	**2.31**	**289**	P			**Pb**	**07 48 46.2**	**-1.4**
APC				*e*S			**Sb**	**07 49 15.4**	**-1.1**
APC	**Apacha**	**2.31**	**289**	PN			**Pb**	**07 48 46.2**	**-1.4**
APC				S			**Sb**	**07 49 15.4**	**-1.1**
MKZ	**Mys Kozlova**	**2.38**	**13**	*e*P			**Pn**	**07 48 45.2**	**0.0**
MKZ				*e*S			**Sn**	**07 49 11.6**	**-3.2**
MKZ	**Mys Kozlova**	**2.38**	**13**	PN			**Pn**	**07 48 45.2**	**0.0**
MKZ				S			**Sn**	**07 49 11.6**	**-3.2**
PAU	**Pauzhetka**	**2.58**	**254**	*e*P			**Pn**	**07 48 48.6**	**+0.7**
PAU	**Pauzhetka**	**2.58**	**254**	PN			**Pn**	**07 48 48.6**	**+0.7**
KZV	**Kizimen**	**2.89**	**354**	*e*P			**Pn**	**07 48 53.6**	**+1.3**
KZV				*e*S			**Sn**	**07 49 27.5**	**0.0**
KZV	**Kizimen**	**2.89**	**354**	PN			**Pn**	**07 48 53.6**	**+1.3**
KZV				S			**Sn**	**07 49 27.5**	**0.0**
TUMD	**Tumrok D**	**2.97**	**356**	*e*P			**Pn**	**07 48 54.1**	**+0.8**
TUMD				*e*S			**Sn**	**07 49 26.2**	**-3.2**
TUMR	**Tumrok**	**3.07**	**353**	*e*P			**Pn**	**07 48 56.4**	**+1.7**
TUMR	**Tumrok**	**3.07**	**353**	PN			**Pn**	**07 48 54.1**	**-0.6**
TUMR				S			**Sn**	**07 49 26.2**	**-5.7**
SKR	**Severo-Kuril's**	**3.31**	**244**	*e*P			**Pn**	**07 48 58.3**	**+0.4**
SKR				*e*S			**Sn**	**07 49 34.7**	**-3.0**
SKR	**Severo-Kuril's**	**3.31**	**244**	*e*PN			**Pn**	**07 48 58.1**	**+0.2**
SKR				pmax			pmax		
	comp=Z,120nm,0.5s								
ALID	**Alaid**	**3.54**	**249**	P			**Pn**	**07 49 02.1**	**+0.8**
ALID	**Alaid**	**3.54**	**249**	PN			**Pn**	**07 49 02.1**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**3.70**	**359**	*e*P			**Pn**	**07 49 05.7**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**3.70**	**359**	PN			**Pn**	**07 49 05.7**	**+2.3**
LGNR	**Loginova**	**3.85**	**359**	*e*P			**Pn**	**07 49 08.0**	**+2.4**
LGNR	**Loginova**	**3.85**	**359**	PN			**Pn**	**07 49 08.0**	**+2.4**
KOZ	**Kozyrevsk**	**3.86**	**352**	*e*P			**Pn**	**07 49 07.2**	**+1.7**
KOZ	**Kozyrevsk**	**3.86**	**352**	PN			**Pn**	**07 49 07.2**	**+1.7**
CIRR	**Tsirk**	**3.88**	**360**	*e*P			**Pb**	**07 49 11.9**	**-2.5**
CIRR	**Tsirk**	**3.88**	**360**	PN			**Pb**	**07 49 11.9**	**-2.5**
ESO	**Esso**	**3.88**	**342**	*e*P			**Pn**	**07 49 07.6**	**+1.7**
ESO	**Esso**	**3.88**	**342**	PN			**Pn**	**07 49 07.6**	**+1.7**
KRSR	**Krestovskiy**	**3.98**	**358**	*e*P			**Pn**	**07 49 07.1**	**-0.2**
KRSR	**Krestovskiy**	**3.98**	**358**	PN			**Pn**	**07 49 07.1**	**-0.2**
KLY	**Klyuchi**	**4.08**	**359**	*e*P			**Pn**	**07 49 10.0**	**+1.6**
KLY	**Klyuchi**	**4.08**	**359**	PN			**Pn**	**07 49 10.0**	**+1.6**
SRDR	**Sredinnyy**	**4.13**	**352**	*e*P			**Pn**	**07 49 10.6**	**+1.4**
SRDR	**Sredinnyy**	**4.13**	**352**	PN			**Pn**	**07 49 10.6**	**+1.4**
KBTR	**Krutoberegovo**	**4.15**	**16**	*e*P			**Pn**	**07 49 09.1**	**-0.3**
KBTR	**Krutoberegovo**	**4.15**	**16**	PN			**Pn**	**07 49 09.1**	**-0.3**
KBG	**Krutoberegovo**	**4.17**	**15**	*e*P			**Pn**	**07 49 10.8**	**+1.0**
KBG	**Krutoberegovo**	**4.17**	**15**	PN			**Pn**	**07 49 10.8**	**+1.0**
BKI	**Bering**	**4.28**	**44**	*e*P			**Pn**	**07 49 10.8**	**-0.4**
BKI				*e*S			**Sn**	**07 49 55.4**	**-6.1**
BKI	**Bering**	**4.28**	**44**	PN			**Pn**	**07 49 10.8**	**-0.4**
BDR	**Baidarnaya**	**4.34**	**3**	P			**Pn**	**07 49 13.5**	**+1.4**
BDR	**Baidarnaya**	**4.34**	**3**	PN			**Pn**	**07 49 13.5**	**+1.4**
SMKR	**Semkarok**	**4.36**	**5**	*e*P			**Pn**	**07 49 14.0**	**+1.5**
SMKR	**Semkarok**	**4.36**	**5**	PN			**Pn**	**07 49 14.0**	**+1.5**
SRKR	**Sorokina**	**4.42**	**3**	*e*P			**Pn**	**07 49 14.4**	**+1.1**
SRKR	**Sorokina**	**4.42**	**3**	PN			**Pn**	**07 49 14.4**	**+1.1**
OSSR	**Ossora**	**7.14**	**9**	*e*P			**Pn**	**07 49 51.1**	**+0.7**
OSSR	**Ossora**	**7.14**	**9**	PN			**Pn**	**07 49 51.1**	**+0.7**
SMY	**Shemya**	**8.15**	**81**	*e*Pn			**Pn**	**07 50 05.3**	**+1.0**
SMY	**Shemya**	**8.15**	**81**	*e*PN			**Pn**	**07 50 05.3**	**+1.0**
KUR	**Kuril'sk**	**11.03**	**236**	*i* PN			Pn	07 50 48.9	+5.1
SEY	**Seymchan**	**11.61**	**341**	*i* PN			**Pn**	**07 50 53.0**	**+1.3**
SEY	**Seymchan**	**11.61**	**341**	P			**Pn**	**07 50 53.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=94,slow=22,SNR=2.9								
YSS	**Yuzh-Sakhalins**	**12.82**	**253**	‖*e*PN			**Pn**	**07 51 10.8**	**+2.5**
YSS				pmax			pmax		
	comp=Z,20nm,1.0s								
ASAJ	**Asahikawa**	**14.57**	**243**	P			**Pn**	**07 51 32.6**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=48,slow=6.4,SNR=10.0								
BILL	**Bilibino**	**16.07**	**7**	*e*Pn			**Pn**	**07 51 53.0**	**+1.2**
	comp=Z,24nm,0.8s								
BILL	**Bilibino**	**16.07**	**7**	*c i*P			**Pn**	**07 51 52.9**	**+1.0**
BILL				pmax			pmax		
	comp=Z,42nm,1.3s								
KLR	**Kul'dur**	**18.56**	**272**	*i* P			**Pn**	**07 52 23.4**	**+0.2**
KLR	**Kul'dur**	**18.56**	**272**	P			**Pn**	**07 52 23.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=53,slow=9.3,SNR=15								
YAK	**Yakutsk**	**19.32**	**313**	*e*P			**P**	**07 52 29.7**	**-1.4**
YAK				pmax			pmax		
	comp=Z,309nm,0.9s								
YAK				pmax			pmax		
	comp=N,45nm,0.9s								
YAK				pmax			pmax		
	comp=E,98nm,0.9s								
ZEA	**Zeya**	**20.14**	**288**	*e*P			**P**	**07 52 38.4**	**-1.8**
ZEA				pmax			pmax		
	comp=Z,29nm,1.0s								
USA0B	**Ussuriysk Arra**	**20.70**	**259**	*e*P			**P**	**07 52 43.5**	**-2.8**
	comp=Z,15nm,0.9s								
USRK	**Ussuriysk Ar.**	**20.70**	**259**	*e*P			**P**	**07 52 43.9**	**-2.4**
USRK	**Ussuriysk Ar.**	**20.70**	**259**	P			**P**	**07 52 45.8**	**-0.6**
	comp=Z,16nm,0.9s,baz=54,slow=8.2,SNR=18								
MJB9	**Matsu-Tunnel**	**22.37**	**234**	*e*P			**P**	**07 52 59.0**	**-5.4**
	comp=Z,26nm,0.7s								
MAJO	**Matsushiro**	**22.37**	**234**	*e*P			**P**	**07 52 58.7**	**-5.7**
	comp=Z,26nm,0.7s								
MAJO	**Matsushiro**	**22.37**	**234**	*e*P			**P**	**07 52 58.7**	**-5.7**
MAJO				pmax			pmax		
	comp=Z,26nm,0.7s								
MAT	**Matsushiro**	**22.37**	**234**	P			**P**	**07 52 58.9**	**-5.5**
MAT				S			**P**	**07 53 03.0**	**-1.4**
MJAR	**Matsushiro Arr**	**22.37**	**234**	*e*P			**P**	**07 52 58.8**	**-5.6**
MJAR	**Matsushiro Arr**	**22.37**	**234**	*e*P			**P**	**07 52 58.8**	**-5.6**
MJAR	**Matsushiro Arr**	**22.37**	**234**	P			**P**	**07 53 07.0**	**+2.6**
	comp=Z,13nm,0.8s,baz=25,slow=9.3,SNR=29								
TIXI	**Tiksi**	**24.03**	**336**	*e*P			**P**	**07 53 19.4**	**-1.5**
	comp=Z,17nm,0.9s								
TIXI	**Tiksi**	**24.03**	**336**	*c e*P			**P**	**07 53 19.0**	**-1.9**
TIXI				pmax			pmax		
	comp=Z,13nm,0.6s								
TIXI	**Tiksi**	**24.03**	**336**	P			**P**	**07 53 19.6**	**-1.3**
	comp=Z,12nm,0.6s,baz=119,slow=9.2,SNR=33								
CN2	**Changchun**	**24.89**	**264**	*e*P			**P**	**07 53 27.3**	**-1.7**
SVW2	**Sparrevohn**	**25.11**	**52**	*e*P			**P**	**07 53 32.6**	**+1.7**
	comp=Z,9.3nm,1.0s								
IMAR	**Indian Mountai**	**26.36**	**41**	*e*P			**P**	**07 53 43.4**	**+1.2**
OHAK	**Old Harbor**	**26.57**	**61**	*e*P			**P**	**07 53 46.5**	**+2.4**
	comp=Z,26nm,1.2s								
SPU	**Mount Spurr**	**26.82**	**52**	*e*P			**P**	**07 53 48.8**	**+2.4**
KDAK	**Kodiak Island**	**26.86**	**60**	*e*P			**P**	**07 53 48.1**	**+1.3**
	comp=Z,7.9nm,0.9s								
KDAK	**Kodiak Island**	**26.86**	**60**	*i* P			**P**	**07 53 49.9**	**+3.1**
KSRS	**Korea Array**	**27.30**	**250**	P			**P**	**07 53 52.7**	**+1.9**
	comp=Z,4.1nm,0.8s,baz=46,slow=9.2,SNR=16								
BPAW	**Bear Paw Mtn.**	**27.33**	**46**	*e*P			**P**	**07 53 52.1**	**+1.1**
	comp=Z,2.5nm,0.8s								
KS15	**Wonju Array Si**	**27.33**	**250**	*e*P			**P**	**07 53 49.4**	**-1.8**
	comp=Z,8.8nm,1.1s								
KSAR	**Wonju Array Be**	**27.33**	**250**	*e*P			**P**	**07 53 52.7**	**+1.5**
SML	**Sawmill**	**28.57**	**50**	*e*P			**P**	**07 54 03.7**	**+1.6**
	comp=Z,12nm,0.9s								
COLA	**College**	**28.71**	**44**	*i* P			**P**	**07 54 04.1**	**+0.9**
COLA				pmax			pmax		
	comp=Z,2.0nm,1.0s								
JNU	**Nakatsue**	**28.81**	**240**	P			**P**	**07 54 05.7**	**+1.2**
	comp=Z,7.6nm,0.8s,baz=284,slow=13,SNR=3.2								
ILAR	**Eielson Array**	**29.12**	**44**	P			**P**	**07 54 07.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=263,slow=7.9,SNR=6.2								
ILB	**Eielson Array**	**29.12**	**44**	*e*P			**P**	**07 54 07.4**	**+0.5**
	comp=Z,1.7nm,0.8s								
BCAR	**Beaver Creek A**	**31.48**	**47**	*e*P			**P**	**07 54 29.2**	**+1.4**
EGAK	**Eagle**	**31.58**	**44**	*e*P			**P**	**07 54 29.0**	**+0.5**
	comp=Z,3.2nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**32.80**	**169**	T			T	08 30 34.6	
	baz=352,slow=76,SNR=31								
H11N3	**WAKE ISLAND Hy**	**32.81**	**169**	T			T	08 30 28.1	
	baz=352,slow=76,SNR=29								
H11N1	**WAKE ISLAND Hy**	**32.82**	**169**	T			T	08 30 23.1	
	baz=352,slow=76,SNR=42								
INK	**Inuvik**	**34.29**	**37**	*e*P			**P**	**07 54 53.0**	**+0.8**
	comp=Z,2.6nm,0.8s								
INK	**Inuvik**	**34.29**	**37**	P			**P**	**07 54 52.7**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=254,slow=5.7,SNR=3.6								
TLY	**Talaya**	**34.42**	**292**	*e*P			**P**	**07 54 51.9**	**-1.7**
	comp=Z,14nm,1.3s								
TLY	**Talaya**	**34.42**	**292**	*c e*P			**P**	**07 54 54.1**	**+0.5**
TLY				pmax			pmax		
	comp=Z,23nm,1.7s								
SONA0	**Songino Array**	**34.51**	**285**	*e*P			**P**	**07 54 53.9**	**-0.7**
SONA0				*e*PcP			**PcP**	**07 57 30.4**	**+1.0**
SONM	**Songino Array**	**34.51**	**285**	*e*P			**P**	**07 54 52.1**	**-2.4**
SONM	**Songino Array**	**34.51**	**285**	P			**P**	**07 54 53.8**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=38,slow=9.8,SNR=4.7								
SONM				PcP			**PcP**	**07 57 30.4**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=45,slow=2.2,SNR=4.0								
HHC	**Hu-ho-hao-te**	**35.06**	**271**	*e*P			**P**	**07 54 58.5**	**-0.8**
JIS	**Juneau Island**	**36.13**	**54**	*e*P			**P**	**07 55 10.8**	**+2.7**
	comp=Z,7.1nm,0.9s								
NJ2	**Nanjing**	**36.39**	**253**	*e*P			**P**	**07 55 08.6**	**-2.1**
NRIK	**Noril'sk**	**36.84**	**325**	P			**P**	**07 55 13.6**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=88,slow=6.7,SNR=3.9								
DLBC	**Dease Lake**	**38.22**	**53**	*e*P			**P**	**07 55 29.4**	**+3.4**
	comp=Z,3.9nm,0.9s								
DLBC	**Dease Lake**	**38.22**	**53**	P			**P**	**07 55 27.5**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=333,slow=6.2,SNR=3.0								
WHN	**Wuhan**	**40.15**	**256**	P			P	07 55 50.0	+7.7
LZH	**Lanzhou**	**42.76**	**271**	*e*P			**P**	**07 56 03.0**	**-0.9**
LZH				pP			pwP	07 56 09.5	+0.1
LZH				sP			pP	07 56 12.4	+8.6
LZH				*e*PP			**PP**	**07 57 44.3**	**+1.5**
YKA	**Yellowknife Ar**	**43.51**	**42**	*e*P			**P**	**07 56 11.4**	**+2.0**
YKA	**Yellowknife Ar**	**43.51**	**42**	P			**P**	**07 56 10.4**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=302,slow=8.4,SNR=5.9								
YKB5	**Yellowknife Ar**	**43.51**	**42**	*e*P			**P**	**07 56 10.4**	**+1.0**
ZAA1	**Zalesovo Array**	**43.59**	**304**	*e*P			**P**	**07 56 07.5**	**-2.7**
ZALV	**Zalesovo Beam**	**43.59**	**304**	*e*P			**P**	**07 56 10.8**	**+0.6**
ZALV	**Zalesovo Beam**	**43.59**	**304**	P			**P**	**07 56 07.5**	**-2.8**
	comp=Z,1.1nm,0.4s,baz=59,slow=7.1,SNR=5.9								
NVS	**Novosibirsk**	**43.94**	**306**	*e*P			**P**	**07 56 11.2**	**-1.8**
NVS				*i*				07 56 19.3	
NVS				pmax			pmax		
	comp=N,21nm,1.1s								
NVS				pmax			pmax		
	comp=Z,30nm,1.1s								
RES	**Resolute Bay**	**43.96**	**22**	*e*P			**P**	**07 56 14.4**	**+1.5**
	comp=Z,3.0nm,0.8s								
RES	**Resolute Bay**	**43.96**	**22**	P			**P**	**07 56 14.3**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=303,slow=5.2,SNR=4.9								
DGZ	**Jazzator, Alta**	**44.42**	**297**	*i* P			**P**	**07 56 16.1**	**-1.1**
DGZ				pmax			pmax		
	comp=Z,7.0nm,0.9s								
WMQ	**Urumqi**	**47.65**	**290**	*e*P			**P**	**07 56 42.5**	**-0.1**
WMQ				sP			pwP	07 56 52.9	+4.8
KBS	**Kingsbay**	**47.77**	**352**	*e*P			**P**	**07 56 44.3**	**+1.3**
	comp=Z,15nm,1.0s								
SPA0	**Spitsbergen Ar**	**48.04**	**351**	*e*P			**P**	**07 56 45.6**	**+0.6**
	comp=Z,31nm,1.0s								
KURK	**Kurchatov**	**48.54**	**303**	*e*P			**P**	**07 56 47.5**	**-1.7**
	comp=Z,28nm,1.0s								
KURK	**Kurchatov**	**48.54**	**303**	*i* P			**P**	**07 56 47.9**	**-1.3**
KURK				pmax			pmax		
	comp=Z,21nm,0.8s								
MK31	**Makanchi Array**	**48.90**	**297**	*e*P			**P**	**07 56 50.3**	**-1.8**
	comp=Z,3.2nm,0.7s								
MK32	**Makanchi Array**	**48.90**	**297**	*e*P			**P**	**07 56 50.2**	**-1.9**
MKAR	**Makanchi Array**	**48.90**	**297**	*e*P			**P**	**07 56 50.3**	**-1.8**
MKAR	**Makanchi Array**	**48.90**	**297**	P			**P**	**07 56 50.2**	**-1.9**
	comp=Z,2.5nm,0.5s,baz=54,slow=6.6,SNR=27								
MAKZ	**Makanchi**	**49.07**	**297**	*e*P			**P**	**07 56 52.0**	**-1.4**
	comp=Z,9.4nm,1.3s								
KULLO	**Kullorsuaq**	**50.93**	**12**	*e*P			**P**	**07 57 11.3**	**+4.2**
KULLO	**Kullorsuaq**	**50.93**	**12**	*i* P			**P**	**07 57 11.3**	**+4.2**
DAG	**Danmarks Havn**	**51.26**	**360**	*i* P			**P**	**07 57 09.2**	**-0.3**
DAG				pmax			pmax		
	comp=Z,4.0nm,0.8s								
DAG	**Danmarks Havn**	**51.26**	**360**	*i* P			**P**	**07 57 09.2**	**-0.3**
	comp=Z,5.8nm,0.8s								
BRVK	**Borovoye**	**51.28**	**309**	*e*P			**P**	**07 57 08.9**	**-1.1**
	comp=Z,8.6nm,0.7s								
BRVK	**Borovoye**	**51.28**	**309

NB200 **NORSAR Array S** 64.47 344 *eP* P 07 58 42.0 -0.6
NOA **NORSAR Array B** 64.47 344 P P 07 58 42.0 -0.6
NOA **NORSAR Array B** 64.47 344 P P 07 58 42.0 -0.6
comp=Z,4.6nm,0.8s,baz=22,slow=6.5,SNR=19
LPSR **Galich'ya Gora** 64.72 325 *eP* P 07 58 43.4 -0.8
LPSR *e* 07 59 11.6
LPSR pmax pmax
comp=Z,30nm,0.7s
VRH **Novokhopyorsk** 64.84 323 *eP* P 07 58 43.5 -1.5
VRH *e* 07 59 11.4
VRH pmax pmax
comp=Z,20nm,0.6s
VSR **Storozhevoye** 65.77 324 *eP* P 07 58 50.4 -0.7
VSR *e* 07 59 18.0
VSR pmax pmax
comp=Z,20nm,0.8s
VORD **Divnogorie** 65.93 324 *eP* P 07 58 50.3 -1.8
VORD *e* 07 59 19.1
VORD pmax pmax
comp=Z,10.0nm,0.9s
MICGM **Minsk** 66.64 332 *e* P 07 58 53.0 -3.6
MNK **Minsk** 66.64 332 *eP* P 07 58 53.0 -3.6
GEYT **Alibeck** 67.90 304 P P 07 59 04.4 -0.6
comp=Z,3.9nm,0.7s,baz=90,slow=0.6,SNR=6.2
AKASG **Malin Array Be** 69.56 329 P P 07 59 14.7 -0.3
comp=Z,3.0nm,0.5s,baz=29,slow=6.2,SNR=13
AKBB **Malin Array Si** 69.56 329 *eP* P 07 59 14.8 -0.2
comp=Z,14nm,1.0s
KIEV **Kiev** 69.57 329 *eP* P 07 59 14.9 -0.2
comp=Z,13nm,1.0s
KIEV **Kiev** 69.57 329 ⇑*iP* P 07 59 15.0 0.0
KIEV **Kiev** 69.57 329 ⇑P P 07 59 15.0 0.0
KIV **Kislovodsk** 70.34 317 *eP* P 07 59 18.4 -1.7
KIV pmax pmax
comp=Z,22nm,1.0s
KBZ **Khabaz** 70.44 317 P P 07 59 21.1 +0.6
comp=Z,8.2nm,0.8s,baz=63,slow=4.6,SNR=18
LTX **Lajitas** 70.58 67 *eP* P 07 59 23.0 +1.2
TX31 **Lajitas Ar. Si** 70.58 67 *eP* P 07 59 23.3 +1.6
comp=Z,5.5nm,1.4s
TXAR **Lajitas Array** 70.58 67 P P 07 59 23.0 +1.2
comp=Z,1.1nm,0.7s,baz=301,slow=4.7,SNR=17
ZEI **Tsey** 70.78 316 *eP* P 07 59 21.3 -1.6
ZEI pmax pmax
comp=Z,11nm,1.0s
GNI **Garni** 72.56 314 *eP* P 07 59 34.8 +1.1
GNI pmax pmax
comp=Z,47nm,1.0s
KOLS **Kolonicke sedl** 73.19 333 *eP* P 07 59 37.9 +0.9
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS **Kolonicke sedl** 73.19 333 *eP* P 07 59 37.9 +0.9
CLL **Collm** 73.30 340 *eP* P 07 59 36.0 -1.6
CLL pmax pmax
comp=Z,14nm,1.3s
CLL **Collm** 73.30 340 *eP* P 07 59 36.0 -1.6
comp=Z,14nm,1.3s
DPC **Dobruska-Polom** 73.44 337 *eP* P 07 59 40.0 +1.5
DPC **Dobruska-Polom** 73.44 337 *eP* P 07 59 40.0 +1.5
BUR08 **Bucovina Ar. S** 73.50 330 *eP* P 07 59 39.6 +0.6
comp=Z,7.0nm,0.8s
BURAR **Bucovina Array** 73.52 330 *eP* P 07 59 39.5 +0.4
BURAR **Bucovina Array** 73.52 330 ⇑*iP* P 07 59 39.3 +0.2
BURAR **Bucovina Array** 73.52 330 ⇑P P 07 59 39.3 +0.2
MORC **Moravsky Berou** 73.67 336 ⇓*iP* P 07 59 40.9 +1.0
MORC **Moravsky Berou** 73.67 336 ⇓P P 07 59 40.9 +1.0
LANS **Liptovska Anna** 73.76 335 *eP* P 07 59 42.2 +1.8
LANS **Liptovska Anna** 73.76 335 *eP* P 07 59 42.2 +1.8
TRPA **Tarpa** 73.84 332 ⇓*iP* P 07 59 41.9 +1.1
TRPA **Tarpa** 73.84 332 *eP* P 07 59 41.0 +0.2
BIZ **Bicaz** 73.85 330 ⇑*iP* P 07 59 41.0 +0.1
TESR **Tescani** 74.06 329 ⇓*iP* P 07 59 42.5 +0.4
ARCR **ARCALIA** 74.25 331 ⇑*iP* P 07 59 44.9 +1.6
VYHS **Vyhne** 74.53 335 *eP* P 07 59 45.6 +0.7
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS **Vyhne** 74.53 335 *eP* P 07 59 45.6 +0.7
CFR **Carcaliu** 74.76 327 ⇑*iP* P 07 59 45.6 -0.6
CFR **Carcaliu** 74.76 327 ⇑P P 07 59 45.6 -0.6
PSZ **Piszkesteto** 74.77 334 *eP* P 07 59 44.0 -2.3
DRGR 75.01 332 ⇓*iP* P 07 59 48.4 +0.7
DRGR 75.01 332 ⇓P P 07 59 48.4 +0.7
MLR **Muntele Rosu** 75.19 329 ⇓*iP* P 07 59 50.1 +1.2
MLR **Muntele Rosu** 75.19 329 ⇓P P 07 59 50.1 +1.2
KHC **Kasperske Hory** 75.22 338 *eP* P 07 59 49.6 +0.7
KHC **Kasperske Hory** 75.22 338 *eP* P 07 59 49.6 +0.7
MEM **Membach** 75.32 344 ⇓P P 07 59 50.1 +0.8
GEC2 **GERESS Array S** 75.46 338 *eP* P 07 59 50.4 +0.1
comp=Z,8.7nm,1.4s
GERES **GERESS Array B** 75.46 338 P P 07 59 50.4 +0.1
comp=Z,1.0nm,0.4s,baz=27,slow=7.5,SNR=6.7
VOIR 75.52 329 ⇓*iP* P 07 59 51.6 +0.9
VOIR 75.52 329 ⇓P P 07 59 51.6 +0.9
ARR **Arges** 75.71 330 ⇑*iP* P 07 59 53.4 +1.6
BZS **Buzias** 76.39 332 ⇓*iP* P 07 59 55.9 +0.3
BZS **Buzias** 76.39 332 ⇓P P 07 59 55.9 +0.3
KBA **Koelnbreinsper** 77.20 338 *iP* P 08 00 01.9 +1.5
comp=Z,16nm,1.0s
BR101 **Keskin Array S** 77.54 321 *eP* P 08 00 02.6 +0.3
BR131 **Keskin Array S** 77.54 321 *eP* P 08 00 02.9 +0.6
comp=Z,5.0nm,0.9s
BRTR **Keskin Array B** 77.54 321 P P 08 00 02.6 +0.3
comp=Z,3.4nm,0.9s,baz=58,slow=3.5,SNR=12
VTS **Vitosha** 78.63 329 *eP* P 08 00 08.8 +0.5
comp=Z,3.9nm,0.6s
TUE **Stuetta** 78.65 340 *eP* P 08 00 09.7 +1.2
comp=Z,11nm,0.9s
ASAR **Alice Springs** 79.16 205 P P 08 00 13.3 +2.2
comp=Z,0.4nm,0.7s,baz=16,slow=5.4,SNR=5.5
PDG **Podgorica** 79.99 332 ⇑*iP* P 08 00 15.3 -0.3
ESDC **Sonseca Array** 87.50 348 P P 08 00 54.2 0.0
comp=Z,0.4nm,0.4s,baz=8.0,slow=3.9,SNR=6.7

KRSC ***24*** *07:49:44.4±10.0, 53.°22N×154.°64E, h532km±10km, ML5.2*
MOS ***24*** *07:49:45.1±1.0, 53.°36N×154.°45E, h527km, mb4.4/9, Error ellipse: s-maj=10.5km s-min=7.3km az=80.1*
ISCJB ***24*** *07:49:46.1±0.2, 53.°57N±0.°04×153.°78E±0.°05, h487km±2km, mb4.2/104, Error ellipse: s-maj=6.4km s-min=3.5km az=149.3*
NEIC ***24*** *07:49:47.2±1.1, 53.°57N×153.°76E, h487km±7km, mb4.4/81, Error ellipse: s-maj=14.2km s-min=4.2km az=88.0*
IDC ***24*** *07:49:47.2±0.5, 53.°59N×153.°69E, h486km±5km, mb3.5/32, mb1 3.7/37, mb1mx3.6/47, mbtmp4.4/37, Error ellipse: s-maj=8.9km s-min=6.7km az=149.0*
ISC 24 07:49:46.7±0.5, 53.°56N±0.°05×153.°89E±0.°04, h486km±5km, n254, σ1°46/331, mb4.3/104, 4C-2D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.06**	**107**	*eP*	**P**		**07 50 51.0**	**+0.3**
APC				eS	**S**		**07 51 44.4**	**+1.5**
APC	**Apacha**	**2.06**	**107**	P	**P**		**07 50 51.0**	**+0.3**
APC				S	**S**		**07 51 44.4**	**+1.5**
PEA0B	**Petropavlovsk-**	**2.33**	**100**	*eP*	**P**		**07 50 53.3**	**+1.1**
PETK	**Petropavlovsk-**	**2.33**	**100**	*eP*	**P**		**07 50 52.2**	**+0.1**
PETK	**Petropavlovsk-**	**2.33**	**100**	P	**P**		**07 50 51.9**	**-0.3**
	46nm,0.3s,baz=23,slow=2.0,SNR=8.1							
PETK				S		**S**	**07 51 47.2**	**+1.6**
	baz=124,slow=22,SNR=2.1							
KRMR	**Karymshinskiy**	**2.65**	**104**	*eP*	**P**		**07 50 54.2**	**+0.1**
KRMR				eS	**S**		**07 51 50.6**	**+1.5**
KRMR	**Karymshinskiy**	**2.65**	**104**	P	**P**		**07 50 54.2**	**+0.1**
KRMR				S	**S**		**07 51 50.6**	**+1.5**
ASAK	**Asacha**	**2.69**	**114**	*eP*	**P**		**07 50 54.4**	**-0.1**
ASAK	**Asacha**	**2.69**	**114**	P	**P**		**07 50 54.4**	**-0.1**
GRL	**Gorelyy**	**2.72**	**110**	*eP*	**P**		**07 50 55.9**	**+1.2**
GRL	**Gorelyy**	**2.72**	**110**	P	**P**		**07 50 55.9**	**+1.2**
PAU	**Pauzhetka**	**2.75**	**138**	*eP*	**P**		**07 50 54.9**	**+0.1**
PAU				eS	**S**		**07 51 50.3**	**0.0**
PAU	**Pauzhetka**	**2.75**	**138**	P	**P**		**07 50 54.9**	**+0.1**
PAU				S	**S**		**07 51 50.3**	**0.0**
MTVR	**Mutnovka**	**2.81**	**111**	*eP*	**P**		**07 50 56.2**	**+0.9**
MTVR				eS	**S**		**07 51 52.7**	**+1.4**
MTVR	**Mutnovka**	**2.81**	**111**	P	**P**		**07 50 56.2**	**+0.9**
MTVR				S	**S**		**07 51 52.7**	**+1.4**
KOK	**Koryaka**	**2.85**	**93**	*eP*	**P**		**07 50 56.2**	**+0.7**
KOK	**Koryaka**	**2.85**	**93**	P	**P**		**07 50 56.2**	**+0.7**
KRX	**Arik**	**2.85**	**92**	*eP*	**P**		**07 50 56.5**	**+0.9**
KRX	**Arik**	**2.85**	**92**	P	**P**		**07 50 56.5**	**+0.9**
INSR	**Institute**	**2.87**	**98**	*eP*	**P**		**07 50 56.5**	**+1.0**
INSR	**Institute**	**2.87**	**98**	P	**P**		**07 50 56.5**	**+1.0**
ALID	**Alaid**	**2.88**	**159**	*eP*	**P**		**07 50 56.5**	**+0.6**
ALID	**Alaid**	**2.88**	**159**	P	**P**		**07 50 56.5**	**+0.6**
PET	**Petropavlovsk**	**2.91**	**99**	*eP*	**P**		**07 50 56.0**	**+0.2**
PET	**Petropavlovsk**	**2.91**	**99**	*eP*	**P**		**07 50 55.9**	**+0.2**
PET				*eS*	**S**		**07 51 50.6**	**-1.5**
PET				pmax	pmax			
	comp=Z,1μm,0.4s							
PET				smax	smax			
	comp=E,1μm,1.1s							
PET				smax	smax			
	comp=N,971nm,1.2s							
AVH	**Avacha**	**2.92**	**94**	*eP*	**P**		**07 50 56.4**	**+0.5**
AVH	**Avacha**	**2.92**	**94**	P	**P**		**07 50 56.4**	**+0.5**
KRER	**Koryakskii**	**2.92**	**93**	*eP*	**P**		**07 50 56.8**	**+0.7**
KRER				*eS*	**S**		**07 51 52.4**	**-0.3**
KRER	**Koryakskii**	**2.92**	**93**	P	**P**		**07 50 56.8**	**+0.7**
KRER				S	**S**		**07 51 52.4**	**-0.3**
SMAR	**Somma**	**2.96**	**94**	*eP*	**P**		**07 50 57.2**	**+0.8**
SMAR				*eS*	**S**		**07 51 52.3**	**-0.9**
SMAR	**Somma**	**2.96**	**94**	P	**P**		**07 50 57.2**	**+0.8**
SMAR				S	**S**		**07 51 52.3**	**-0.9**
DALK	**Dalny**	**2.97**	**98**	*eP*	**P**		**07 50 56.2**	**0.0**
DALK				*eS*	**S**		**07 51 52.3**	**-0.5**
DALK	**Dalny**	**2.97**	**98**	P	**P**		**07 50 56.2**	**0.0**
DALK				S	**S**		**07 51 52.3**	**-0.5**
UGLR	**Uglovaya**	**2.98**	**95**	*eP*	**P**		**07 50 57.3**	**+0.9**
UGLR				*eS*	**S**		**07 51 53.6**	**+0.4**
UGLR	**Uglovaya**	**2.98**	**95**	P	**P**		**07 50 57.3**	**+0.9**
UGLR				S	**S**		**07 51 53.6**	**+0.4**
SDLR	**Sedlovina**	**3.00**	**93**	*eP*	**P**		**07 50 57.1**	**+0.5**
SDLR				*eS*	**S**		**07 51 53.6**	**0.0**
SDLR	**Sedlovina**	**3.00**	**93**	P	**P**		**07 50 57.1**	**+0.5**
SDLR				S	**S**		**07 51 53.6**	**0.0**
RUS	**Russkaya**	**3.01**	**110**	*eP*	**P**		**07 50 55.7**	**-0.8**
RUS				*eS*	**S**		**07 51 50.4**	**-3.0**
RUS	**Russkaya**	**3.01**	**110**	P	**P**		**07 50 55.7**	**-0.8**
RUS				S	**S**		**07 51 50.4**	**-3.0**
KDTR	**Khodutka, Kamc**	**3.09**	**123**	*eP*	**P**		**07 50 55.2**	**-1.9**
KDTR				*eS*	**S**		**07 51 49.1**	**-5.3**
KDTR	**Khodutka, Kamc**	**3.09**	**123**	P	**P**		**07 50 55.2**	**-1.9**
KDTR				S	**S**		**07 51 49.1**	**-5.3**
SKR	**Severo-Kuril's**	**3.19**	**154**	*eP*	**P**		**07 50 57.0**	**-0.8**
SKR				*eS*	**S**		**07 51 53.2**	**-2.5**
SKR	**Severo-Kuril's**	**3.19**	**154**	*iP*	**P**		**07 50 56.8**	**-1.0**
NLC	**Nalytchevo**	**3.29**	**95**	*eP*	**P**		**07 50 58.0**	**-0.5**
NLC				*eS*	**S**		**07 51 54.7**	**-2.3**
NLC	**Nalytchevo**	**3.29**	**95**	P	**P**		**07 50 58.0**	**-0.5**
NLC				S	**S**		**07 51 54.7**	**-2.3**
KII	**Karymskiy**	**3.33**	**79**	*eP*	**P**		**07 51 00.5**	**+1.6**
KII	**Karymskiy**	**3.33**	**79**	P	**P**		**07 51 00.5**	**+1.6**
ESO	**Esso**	**3.66**	**48**	*eP*	**P**		**07 51 02.9**	**+1.7**
ESO	**Esso**	**3.66**	**48**	P	**P**		**07 51 02.9**	**+1.7**
SPN	**Mys Shipunski**	**3.71**	**95**	*eP*	**P**		**07 51 00.6**	**-1.0**
SPN				*eS*	**S**		**07 51 57.2**	**-5.6**
SPN	**Mys Shipunski**	**3.71**	**95**	P	**P**		**07 51 00.6**	**-1.0**
SPN				S	**S**		**07 51 57.2**	**-5.6**
TUMR	**Tumrok**	**4.04**	**62**	*eP*	**P**		**07 51 06.0**	**+1.6**
TUMR				*eS*	**S**		**07 52 08.7**	**+0.7**
TUMR	**Tumrok**	**4.04**	**62**	P	**P**		**07 51 05.5**	**+1.1**
TUMR				S	**S**		**07 52 08.7**	**+0.7**
KZV	**Kizimen**	**4.06**	**65**	*eP*	**P**		**07 51 05.2**	**+0.6**
KZV				*eS*	**S**		**07 52 08.0**	**-0.4**
KZV	**Kizimen**	**4.06**	**65**	P	**P**		**07 51 05.2**	**+0.6**
KZV				S	**S**		**07 52 08.0**	**-0.4**
TUMD	**Tumrok D**	**4.15**	**64**	*eP*	**P**		**07 51 05.5**	**+0.3**
TUMD				*eS*	**S**		**07 52 08.7**	**-0.8**
LGNR	**Loginova**	**4.68**	**55**	*eP*	**P**		**07 51 11.0**	**+0.9**
LGNR	**Loginova**	**4.68**	**55**	P	**P**		**07 51 11.0**	**+0.9**
MKZ	**Mys Kozlova**	**4.73**	**75**	*eP*	**P**		**07 51 08.6**	**-1.6**
MKZ				*eS*	**S**		**07 52 11.8**	**-6.7**
MKZ	**Mys Kozlova**	**4.73**	**75**	P	**P**		**07 51 08.6**	**-1.6**
MKZ				S	**S**		**07 52 11.8**	**-6.7**
KBG	**Krutoberegovo**	**5.76**	**58**	*eP*	**P**		**07 51 19.1**	**-0.7**
KBG				*eS*	**S**		**07 52 31.7**	**-4.4**
KBG	**Krutoberegovo**	**5.76**	**58**	P	**P**		**07 51 19.1**	**-0.7**
KBG				S	**S**		**07 52 31.7**	**-4.4**
KBTR	**Krutoberegovo**	**5.80**	**59**	*eP*	**P**		**07 51 18.2**	**-2.0**
KBTR				*eS*	**S**		**07 52 32.5**	**-4.3**
KBTR	**Krutoberegovo**	**5.80**	**59**	P	**P**		**07 51 18.2**	**-2.0**
KBTR				S	**S**		**07 52 32.5**	**-4.3**
MA2	**Magadan**	**6.28**	**345**	*eP*	**P**		**07 51 25.6**	**+0.8**
MA2	**Magadan**	**6.28**	**345**	P	**P**		**07 51 25.2**	**+0.4**
	comp=N,1.3nm,0.3s,baz=143,slow=9.7,SNR=4.2							
MA2				S		**S**	**07 52 46.1**	**+0.8**
	comp=N,0.3nm,0.3s,baz=197,slow=19,SNR=6.9							
PALN	**Palana**	**6.49**	**29**	*eP*	**P**		**07 51 29.0**	**+2.1**
PALN	**Palana**	**6.49**	**29**	P	**P**		**07 51 29.0**	**+2.1**
BKI	**Bering**	**7.25**	**72**	*eP*	**P**		**07 51 35.0**	**+0.3**
BKI				*eS*	**S**		**07 53 00.8**	**-2.6**
BKI	**Bering**	**7.25**	**72**	P	**P**		**07 51 35.0**	**+0.3**
BKI				S	**S**		**07 53 00.8**	**-2.6**
OSSR	**Ossora**	**7.64**	**38**	*eP*	**P**		**07 51 40.6**	**+2.0**
OSSR	**Ossora**	**7.64**	**38**	P	**P**		**07 51 40.6**	**+2.0**
UGL	**Uglegorsk**	**8.65**	**244**	*eP*	**P**		**07 51 51.6**	**+2.1**
UGL				S	**S**		**07 53 25.0**	**-5.4**
UGL				pmax	pmax			
	comp=Z,287nm,0.8s							
UGL				smax	smax			
	comp=N,66nm,1.0s							
KUR	**Kuril'sk**	**9.21**	**208**	*iP*	**P**		**07 51 55.7**	**+0.3**
SEY	**Seymchan**	**9.44**	**356**	*iP*	**P**		**07 51 58.8**	**+1.3**
SEY	**Seymchan**	**9.44**	**356**	P	**P**		**07 51 59.5**	**+2.0**
	comp=N,7.9nm,0.3s,baz=171,slow=10.0,SNR=90							
TILK	**Tilichiki**	**9.60**	**39**	*eP*	**P**		**07 52 00.1**	**+0.8**
TILK	**Tilichiki**	**9.60**	**39**	P	**P**		**07 52 00.1**	**+0.8**
YSS	**Yuzh-Sakhalins**	**9.72**	**232**	*eP*	**P**		**07 52 02.1**	**+1.3**
YSS	**Yuzh-Sakhalins**	**9.72**	**232**	⇑*eP*	**P**		**07 52 02.2**	**+1.4**
YSS				pmax	pmax			
	comp=Z,60nm,0.8s							
KMSK	**Kamenskaya**	**11.04**	**31**	*eP*	**P**		**07 52 15.8**	**+1.2**
KMSK	**Kamenskaya**	**11.04**	**31**	P	**P**		**07 52 15.8**	**+1.2**
SMY	**Shemya**	**12.16**	**86**	*eP*	**P**		**07 52 27.8**	**+1.1**
SMY	**Shemya**	**12.16**	**86**	*eP*	**P**		**07 52 27.8**	**+1.1**
ERM	**Erimo**	**13.60**	**216**	*eP*	**P**		**07 52 40.4**	**-1.8**
ERM	**Erimo**	**13.60**	**216**	*eP*	**P**		**07 52 40.4**	**-1.8**
TEY	**Ternei**	**14.11**	**240**	⇑*iP*	**P**		**07 52 48.5**	**+0.9**
TEY				pmax	pmax			
	comp=Z,100nm,0.7s							
TEY				pmax	pmax			
	comp=E,70nm,0.7s							
TEY				pmax	pmax			
	comp=N,60nm,0.8s							
KLR	**Kul'dur**	**14.46**	**262**	*iP*	**P**		**07 52 51.2**	**-0.1**
KLR	**Kul'dur**	**14.46**	**262**	P	**P**		**07 52 52.0**	**+0.7**
	comp=N,0.8nm,0.3s,baz=75,slow=6.2,SNR=6.4							
BILL	**Bilibino**	**15.68**	**17**	*eP*	**P**		**07 53 03.7**	**-0.1**
	comp=N,17nm,0.8s							
BILL	**Bilibino**	**15.68**	**17**	*iP*	**P**		**07 53 02.2**	**-1.5**
BILL				pmax	pmax			
	comp=Z,12nm,0.8s							
USRK	**Ussuriysk Ar.**	**17.12**	**246**	P	**P**		**07 53 19.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=51,slow=12,SNR=3.9							
ADK	**Adak**	**17.85**	**83**	*eP*	**P**		**07 53 26.1**	**0.0**
	comp=Z,15nm,1.0s							
ADK	**Adak**	**17.85**	**83**	*eP*	**P**		**07 53 26.1**	**0.0**
ADK				pmax	pmax			
	comp=Z,15nm,1.0s							
ATKA	**Atka Island**	**19.23**	**81**	*eP*	**P**		**07 53 40.7**	**+2.0**
	comp=Z,23nm,1.0s							
MJB9	**Matsu-Tunnel**	**20.22**	**219**	*eP*	**P**		**07 53 48.3**	**+0.3**
	comp=Z,38nm,0.6s							
MAJO	**Matsushiro**	**20.22**	**219**	*eP*	**P**		**07 53 48.5**	**+0.5**
	comp=Z,38nm,0.6s							
MAJO	**Matsushiro**	**20.22**	**219**	*eP*	**P**		**07 53 48.5**	**+0.5**
MAJO				pmax	pmax			
	comp=Z,38nm,0.6s							
MAT	**Matsushiro**	**20.22**	**219**	P	**P**		**07 53 47.2**	**-0.8**
MJAR	**Matsushiro Arr**	**20.22**	**219**	*eP*	**P**		**07 53 48.7**	**+0.7**
MJAR				*ePcP*	**PcP**		**07 57 39.7**	**+0.2**
MJAR	**Matsushiro Arr**	**20.22**	**219**	*eP*	**P**		**07 53 48.7**	**+0.7**
MJAR				*e*			07 57 39.7	
MJAR	**Matsushiro Arr**	**20.22**	**219**	P	**P**		**07 53 48.2**	**+0.1**
	comp=Z,19nm,0.6s,baz=12,slow=8.4,SNR=12							
TIXI	**Tiksi**	**21.18**	**338**	*eP*	**P**		**07 53 56.4**	**+0.2**
	comp=Z,9.3nm,0.7s							
TIXI	**Tiksi**	**21.18**	**338**	*iP*	**P**		**07 53 55.5**	**-0.7**
TIXI				pmax	pmax			
	comp=Z,9.0nm,0.9s							
TIXI	**Tiksi**	**21.18**	**338**	P	**P**		**07 53 56.4**	**+0.2**
	comp=Z,6.7nm,0.6s,baz=133,slow=11,SNR=5.8							
TIXI				ScP	**ScP**		**08 00 30.3**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=96,slow=2.5,SNR=6.3							
ANM	**Nome**	**23.21**	**46**	*eP*	**P**		**07 54 16.3**	**+1.7**
	comp=Z,7.3nm,0.7s							
AKUT	**Akutan**	**23.58**	**72**	*eP*	**P**		**07 54 19.0**	**+1.0**
	comp=Z,28nm,1.1s							
KSRS	**Korea Array**	**24.10**	**239**	P	**P**		**07 54 22.9**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=42,slow=9.5,SNR=7.2							
KSRS				PcP	**PcP**		**07 57 47.6**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=20,slow=1.9,SNR=7.5							
KSAR	**Wonju Array Be**	**24.13**	**239**	*eP*	**P**		**07 54 22.9**	**-0.1**
SVW2	**Sparrevohn**	**27.66**	**54**	*eP*	**P**		**07 54 55.5**	**+1.5**
	comp=Z,7.7nm,0.7s							
SVW2				*ePcP*	**PcP**		**07 57 56.7**	**+1.3**
IMAR	**Indian Mountai**	**28.19**	**43**	*eP*	**P**		**07 54 59.4**	**+0.8**
IMAR				*ePcP*	**PcP**		**07 57 57.9**	**+1.2**
CAST	**Castle Rocks**	**29.03**	**49**	*eP*	**P**		**07 55 07.1**	**+1.2**
	comp=Z,13nm,0.8s							
PPLA	**Purkeypile**	**29.03**	**50**	*eP*	**P**		**07 55 07.6**	**+1.5**
	comp=Z,15nm,1.1s							
RSO	**Redoubt South**	**29.13**	**55**	*eP*	**P**		**07 55 08.2**	**+1.1**
SPU	**Mount Spurr**	**29.34**	**53**	*eP*	**P**		**07 55 10.2**	**+1.5**
BPAW	**Bear Paw Mtn.**	**29.45**	**47**	*eP*	**P**		**07 55 10.8**	**+1.2**
	comp=Z,10nm,1.1s							
BPAW				*ePcP*	**PcP**		**07 58 01.7**	**+1.8**
MLY	**Manley**	**29.48**	**45**	*eP*	**P**		**07 55 11.0**	**+1.2**
	comp=Z,13nm,1.2s							
MLY				*ePcP*	**PcP**		**07 58 00.6**	**+0.6**
OHAK	**Old Harbor**	**29.60**	**61**	*eP*	**P**		**07 55 11.2**	**+0.3**
	comp=Z,16nm,1.2s							
OHAK				*ePcP*	**PcP**		**07 58 00.4**	**0.0**
COLD	**Coldfoot**	**29.61**	**41**	*eP*	**P**		**07 55 11.9**	**+1.0**
	comp=Z,5.9nm,0.8s							
KDAK	**Kodiak Island**	**29.81**	**60**	*eP*	**P**		**07 55 12.7**	**-0.1**
	comp=Z,7.7nm,0.6s							
KDAK				*ePcP*	**PcP**		**07 58 01.9**	**+1.0**
KDAK	**Kodiak Island**	**29.81**	**60**	*iP*	**P**		**07 55 12.7**	**-0.1**
HOM	**Homer**	**29.84**	**56**	*eP*	**P**		**07 55 13.4**	**+0.4**
	comp=Z,29nm,0.8s							
TOLK	**Toolik Lake Re**	**29.86**	**38**	*eP*	**P**		**07 55 14.0**	**+0.9**
	comp=Z,10nm,0.6s							
SUA	**Susitna One**	**29.91**	**52**	*eP*	**P**		**07 55 14.4**	**+0.6**
	comp=Z,16nm,0.5s							
SUA				*ePcP*	**PcP**		**07 58 02.2**	**+0.9**
TLY	**Talaya**	**30.05**	**287**	*iP*	**P**		**07 55 14.5**	**-0.5**
TLY				pmax	pmax			
	comp=Z,9.0nm,1.0s							
BWN	**Browne**	**30.10**	**47**	*eP*	**P**		**07 55 17.1**	**+1.9**
	comp=Z,43nm,1.2s							
SONM	**Songino Array**	**30.16**	**279**	P	**P**		**07 55 16.5**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=61,slow=8.2,SNR=3.0							
SONM				PcP	**PcP**		**07 58 02.1**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=61,slow=1.5,SNR=5.1							
MCK	**McKinley**	**30.39**	**48**	*eP*	**P**		**07 55 19.0**	**+1.3**
	comp=Z,12nm,0.6s							
RC01	**Rabbit Creek A**	**30.46**	**53**	*eP*	**P**		**07 55 18.9**	**+0.6**
	comp=Z,11nm,0.5s							
RC01				*ePcP*	**PcP**		**07 58 03.2**	**+0.5**
MDM	**Murphy Dome**	**30.55**	**45**	*eP*	**P**		**07 55 19.9**	**+0.8**
	comp=Z,18nm,1.3s							
PMR	**Palmer**	**30.65**	**52**	*eP*	**P**		**07 55 20.4**	**+0.5**
	comp=Z,5.6nm,0.6s							
WRH	**Wood River Hil**	**30.66**	**46**	*eP*	**P**		**07 55 21.2**	**+1.1**
	comp=Z,32nm,0.8s							
GHO	**Glory Hole Cre**	**30.71**	**51**	*eP*	**P**		**07 55 21.3**	**+0.7**
	comp=Z,17nm,0.7s							
COLA	**College**	**30.71**	**45**	*eP*	**P**		**07 55 21.8**	**+1.4**
	comp=Z,50nm,1.4s							
CCB	**Clear Creek Bu**	**30.76**	**46**	*eP*	**P**		**07 55 21.9**	**+1.0**
	comp=Z,18nm,1.2s							
SEW	**Seward**	**30.82**	**55**	*eP*	**P**		**07 55 21.9**	**+0.5**
	comp=Z,15nm,0.7s							
HHC	**Hu-ho-hao-te**	**30.96**	**263**	*eP*	**P**		**07 55 22.9**	**-0.2**
SML	**Sawmill**	**30.98**	**51**	*eP*	**P**		**07 55 23.8**	**+0.9**
	comp=Z,50nm,0.6s							
KNK	**Knik Glacier**	**31.00**	**52**	*eP*	**P**		**07 55 23.9**	**+0.8**
	comp=Z,52nm,0.6s							
ILAR	**Eielson Array**	**31.14**	**45**	*eP*	**P**		**07 55 24.7**	**+0.6**
ILAR	**Eielson Array**	**31.14**	**45**	P	**P**		**07 55 24.9**	**+0.8**
	comp=Z,6.5nm,0.6s,baz=264,slow=6.2,SNR=56							
ILAR				PcP	**PcP**		**07 58 03.0**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=287,slow=4.0,SNR=3.9							
ILAR				ScP	**ScP**		**08 00 60.0**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=274,slow=3.5,SNR=5.4							
ILB	**Eielson Array**	**31.14**	**45**	*eP*	**P**		**07 55 24.8**	**+0.6**
	comp=Z,8.7nm,0.9s							
HDA	**Harding Lake**	**31.16**	**46**	*eP*	**P**		**07 55 24.7**	**+0.3**
	comp=Z,8.4nm,0.8

comp=Z,0.2nm,0.3s,baz=59,slow=4.3,SNR=3.4
MAKZ Makanchi 44.73 292 *e*P **P 07 57 14.9 -0.5**
comp=Z,4.3nm,0.6s
YKA Yellowknife Ar 45.29 41 *e*P **P 07 57 20.0 +0.5**
YKA Yellowknife Ar 45.29 41 P **P 07 57 20.5 +1.0**
comp=Z,3.1nm,0.6s,baz=301,slow=7.3,SNR=22
YKA PcP **PcP 07 58 49.2 +0.2**
comp=Z,1.0nm,0.7s,baz=312,slow=3.4,SNR=8.2
YKA ScP **ScP 08 01 54.8 +0.1**
comp=Z,0.3nm,0.7s,baz=303,slow=4.4,SNR=4.2
BRVK Borovoye 47.16 305 *e*P **P 07 57 33.8 0.0**
comp=Z,12nm,0.6s
BRVK *e*PcP **PcP 07 58 55.6 -0.3**
BRVK Borovoye 47.16 305 *i* P **P 07 57 33.4 -0.5**
BRVK pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 50.47 314 *e*P **P 07 57 58.2 -0.2**
comp=Z,21nm,1.0s
ARU Arti 50.47 314 *d i*P **P 07 57 57.9 -0.5**
ARU 07 59 57.6
ARU S **S 08 04 35.8 +0.9**
ARU SS **SS 08 08 13.5 -2.4**
ARU pmax pmax
comp=Z,20nm,0.9s
AAK Ala-Archa 51.49 292 *e*P **P 07 58 06.7 +0.4**
comp=Z,7.7nm,0.9s
AAK Ala-Archa 51.49 292 *i* P **P 07 58 05.9 -0.4**
AAK pmax pmax
comp=Z,6.0nm,0.7s
ARCES ARCESS Array B 51.61 339 P **P 07 58 06.1 -0.4**
comp=Z,2.5nm,0.6s,baz=40,slow=8.0,SNR=6.5
ARCES PcP **PcP 07 59 11.5 -0.5**
comp=Z,1.1nm,0.5s,baz=28,slow=4.5,SNR=3.5
PRGR Permogore 51.99 325 *e*P **P 07 58 06.6 -2.7**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
KSH Kashi 52.76 288 P P 07 58 20.3 +4.9
KK31 Karatay Array 53.36 295 *e*P **P 07 58 19.4 -0.1**
comp=Z,5.5nm,0.7s
KKAR Karatay Array 53.36 295 *e*P **P 07 58 19.3 -0.2**
ABKAR Akbulak array 54.59 307 *e*P **P 07 58 27.8 -0.3**
comp=Z,8.0nm,0.9s
ABKAR *e*P **P 07 58 27.9 -0.3**
KLMR Klimovskoe 54.60 327 *e*P **P 07 58 27.3 -0.7**
KLMR pmax pmax
comp=Z,11nm,0.6s
CMAR Chiang Mai Arr 54.70 252 P **P 07 58 30.1 +0.8**
comp=Z,2.0nm,0.4s,baz=24,slow=7.0,SNR=3.0
CMAR PcP **PcP 07 59 25.0 +0.3**
comp=Z,1.4nm,0.4s,baz=5.7,slow=4.5,SNR=2.9
BTK Batken 55.27 292 *e*P **P 07 58 33.3 +0.2**
comp=Z,15nm,0.7s
FCC Fort Churchill 55.37 36 *e*P **P 07 58 33.5 +0.2**
comp=Z,5.1nm,1.4s
GAR Garm 56.29 291 *e*P **P 07 58 40.5 +0.2**
comp=Z,17nm,0.8s
HRY Holter Researc 56.52 55 *e*P **P 07 58 43.7 +1.9**
FINES FINESS Array B 58.12 333 P **P 07 58 52.2 -0.1**
comp=Z,3.0nm,0.5s,baz=36,slow=8.2,SNR=5.8
FINES PcP **PcP 07 59 36.6 -0.9**
comp=Z,1.0nm,0.5s,baz=46,slow=4.0,SNR=2.3
NIL Nilore 58.43 285 *e*P **P 07 58 55.3 +0.4**
comp=Z,21nm,0.7s
ELK Elko 59.01 62 P **P 07 59 01.2 +2.2**
comp=Z,0.3nm,0.3s,baz=224,slow=22,SNR=1.9
NVAR Mina Array Bea 59.02 66 *e*P **P 07 59 00.6 +1.5**
NVAR Mina Array Bea 59.02 66 P **P 07 59 01.0 +1.9**
comp=Z,0.7nm,0.5s,baz=303,slow=6.6,SNR=5.3
NVAR PcP **PcP 07 59 42.6 +0.8**
comp=Z,0.3nm,0.7s,baz=317,slow=6.3,SNR=2.0
NVAR PP **PP 08 01 16.1 -0.2**
comp=Z,0.8nm,0.3s,baz=308,slow=13,SNR=5.1
PDAR Pinedale Array 60.47 57 *e*P **P 07 59 09.9 +1.2**
PDAR Pinedale Array 60.47 57 P **P 07 59 10.0 +1.2**
comp=Z,0.4nm,0.4s,baz=347,slow=2.9,SNR=3.9
ULM Lac du Bonnet 61.13 43 P **P 07 59 13.0 +0.4**
comp=Z,0.8nm,0.3s,baz=286,slow=4.7,SNR=2.2
NB2 NORSAR Subarra 61.95 340 P **P 07 59 17.2 -0.7**
comp=Z,1.6nm,0.6s,baz=24,slow=6.5
NOA NORSAR Array B 61.95 340 P **P 07 59 17.6 -0.3**
comp=Z,3.0nm,0.7s,baz=24,slow=6.6,SNR=5.8
BORG Borgarnes 61.97 358 *i* P **P 07 59 14.0 -3.8**
O20A White River Ci 63.09 58 *e*P **P 07 59 27.1 +1.3**
comp=Z,3.0nm,0.6s
PFO Pinyon Flats O 63.56 69 P **P 07 59 30.2 +1.3**
comp=Z,3.9nm,0.6s,baz=315,slow=1.4,SNR=4.3
PFO PcP **PcP 08 00 00.3 0.0**
comp=Z,2.5nm,0.4s,baz=306,slow=8.7,SNR=4.8
GEYT Alibeck 63.65 299 P **P 07 59 29.4 +0.2**
comp=Z,11nm,0.7s,baz=2.5,slow=3.4,SNR=11
GYA0B ALIBECK ARRAY 63.65 299 *e*P **P 07 59 29.7 +0.4**
comp=Z,14nm,0.8s
PV22 Blue Mesa, Par 64.01 60 *e*P **P 07 59 33.0 +1.3**
comp=Z,3.0nm,0.7s
ECSD EROS Data Cent 65.89 48 *e*P **P 07 59 43.6 +0.3**
comp=Z,5.8nm,0.4s
AKASG Malin Array Be 66.20 325 P **P 07 59 44.4 -0.7**
comp=Z,2.1nm,0.4s,baz=31,slow=6.8,SNR=4.7
KBZ Khabaz 66.56 312 P **P 07 59 47.8 +0.4**
comp=Z,10nm,0.8s,baz=87,slow=4.4,SNR=7.3
SCHQ Schefferville 66.86 24 P **P 07 59 48.9 -0.2**
comp=Z,2.1nm,0.4s,baz=310,slow=4.7,SNR=2.7
ANMO Albuquerque 67.95 61 P **P 07 59 58.0 +1.6**
ANMO Albuquerque 67.95 61 P **P 07 59 58.0 +1.6**
comp=Z,0.3nm,0.3s,baz=314,slow=13,SNR=1.8
VLDQ Val d'Or 69.76 34 *e*P **P 08 00 05.7 -1.1**
comp=Z,8.2nm,0.7s
BUR08 Bucovina Ar. S 70.18 326 *e*P **P 08 00 09.2 -0.3**
comp=Z,7.4nm,1.2s
BURAR Bucovina Array 70.20 326 *e*P **P 08 00 09.2 -0.4**
CLL Collm 70.48 335 *e*P **P 08 00 10.0 -1.1**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 70.48 335 *e*P **P 08 00 10.0 -1.1**
comp=Z,9.0nm,1.0s
MNTX Cornudas Mount 71.04 62 *e*P **P 08 00 15.7 +1.0**
comp=Z,2.5nm,0.6s
GDL2 Guadalupe Moun 71.18 61 *e*P **P 08 00 16.9 +1.2**
TUL1 Leonard 72.52 53 *e*P **P 08 00 23.9 +0.6**
comp=Z,6.3nm,0.6s
GERES GERESS Array B 72.56 334 P **P 08 00 23.5 +0.1**
comp=Z,1.5nm,0.9s,baz=23,slow=5.3,SNR=2.4
BRTR Keskin Array B 73.80 316 *e*P **P 08 00 30.7 -0.1**
BRTR Keskin Array B 73.80 316 *e*P **P 08 00 30.7 -0.1**
BRTR Keskin Array B 73.80 316 P **P 08 00 31.0 +0.3**
comp=Z,3.0nm,0.8s,baz=34,slow=2.0,SNR=5.7
TXAR Lajitas Array 73.81 63 *e*P **P 08 00 32.2 +1.3**
TXAR Lajitas Array 73.81 63 P **P 08 00 32.5 +1.5**
comp=Z,1.9nm,0.4s,baz=298,slow=5.1,SNR=15
W41B Gary Mavity, V 74.78 51 *e*P **P 08 00 36.5 +0.3**
comp=Z,4.6nm,0.7s
WB2 Warramunga Arr 75.12 199 *e*P **P 08 00 38.1 -0.1**
comp=Z,9.8nm,0.8s
WRA Warramunga Arr 75.12 199 P **P 08 00 38.4 +0.2**
comp=Z,8.3nm,0.3s,baz=9.8,slow=5.4,SNR=4.5
AS31 Alice Springs 78.83 199 *e*P **P 08 00 58.6 +0.2**
comp=Z,4.1nm,0.6s
ASAR Alice Springs 78.83 199 *e*P **P 08 00 58.5 +0.1**
ASAR Alice Springs 78.83 199 P **P 08 00 59.0 +0.6**
comp=Z,9.9nm,0.6s,baz=11,slow=5.4,SNR=50
ESDC Sonseca Array 85.19 343 *e*P **P 08 01 29.5 -1.3**
ESDC Sonseca Array 85.19 343 P **P 08 01 30.1 -0.8**
comp=Z,2.3nm,0.8s,baz=20,slow=4.7,SNR=5.6
STKA Stephens Creek 85.75 190 P **P 08 01 33.2 -0.1**
comp=Z,0.7nm,0.3s,baz=315,slow=13,SNR=3.0
STKA PP **PP 08 05 02.0 +0.3**
comp=Z,2.1nm,0.8s,baz=334,slow=4.1,SNR=3.7
DBIC Dimbokro 117.37 336 PKP **PKPdf 08 07 35.3 -1.3**
comp=Z,1.3nm,0.5s,baz=34,slow=3.6,SNR=3.1
LPAZ La Paz 130.49 58 PKhKP PKPpre 08 07 58.6
comp=Z,1.1nm,0.8s,baz=0.0,slow=2.0,SNR=2.6
QSPA South Pole Qui 143.30 180 *e*PKPpre PKPpre 08 08 20.6
CPUP Villa Florida 144.28 53 *e*PKPbc PKPbc 08 08 25.6 -0.4
CPUP Villa Florida 144.28 53 *e*PKIKP PKPbc 08 08 25.6 -0.5
CPUP Villa Florida 144.28 53 PKP PKPbc 08 08 26.0 -0.1
comp=Z,4.6nm,0.7s,baz=9.4,slow=2.6,SNR=12
SYO Syowa Base 146.83 217 *i* PKPdf **PKPdf 08 08 30.5 +1.1**
SYO Syowa Base 146.83 217 *e*PKPbc **PKPbc 08 08 33.6 +1.4**
PLCA Paso Flores 147.71 85 PKPbc **PKPbc 08 08 35.8 +0.3**
comp=Z,6.5nm,0.9s,baz=329,slow=5.2,SNR=10
TRQA Tornquist 150.96 72 *e*PKPbc **PKPbc 08 08 43.1 -0.2**
TRQA Tornquist 150.96 72 *e*PKIKP **PKPbc 08 08 43.2 -0.2**
GO09 Cerro Castillo 152.09 104 *e*PKPbc **PKPbc 08 08 48.3 +2.9**

KRSC 24 07:56:37.9±10.0**,54°.11N×154°.62E,h646**km±10km**,ML4.0,**

Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.93**	**127**	*e*P	P	07 57 56.6	+0.6
KOK	**Koryaka**	**2.52**	**107**	*e*P	P	07 57 59.9	+1.3
UGLR	**Uglovaya**	**2.66**	**108**	*e*P	P	07 58 01.4	+2.2
ESO	**Esso**	**2.97**	**51**	*e*P	P	07 58 02.0	+1.5
KDTR	**Khodutka, Kamc**	**3.11**	**136**	*e*P	P	07 58 01.1	-0.3
KDTR				*e*S	S	07 59 08.1	-1.5
ALID	**Alaid**	**3.30**	**170**	*e*P	P	07 58 03.2	+0.5
SPN	**Mys Shipunski**	**3.37**	**105**	*e*P	P	07 58 04.1	+1.3
SPN				*e*S	S	07 59 11.7	-0.5
KZV	**Kizimen**	**3.45**	**71**	*e*P	P	07 58 02.8	-0.5
MKZ	**Mys Kozlova**	**4.18**	**81**	*e*P	P	07 58 09.9	+2.2
MKZ				*e*S	S	07 59 20.2	-1.1
KBTR	**Krutoberegovo**	**5.15**	**63**	*e*P	P	07 58 15.0	+0.5
KBTR				*e*S	S	07 59 30.0	-3.8

MOS ***24*** *08:00:08.4±0.8,54°.10N×154°.05E,h673km,mb4.0/1,Error ellipse: s-maj=19.6km s-min=17.3km az=59.9*
ISCJB ***24*** *08:00:09.4±0.4,54°.07N±0°.10×153°.7E±0°.1,h650km, mb3.3/10,Error ellipse: s-maj=12.6km s-min=7.4km az=166.1*
KRSC ***24*** *08:00:11.0±10.0,54°.02N×154°.15E,h632km±10km,ML4.3*
IDC ***24*** *08:00:10.9±0.9,54°.18N×153°.37E,h634km±14km, mb2.7/11,mb1 3.0/15,mb1mx2.8/45,mbtmp3.8/15,Error ellipse: s-maj=20.2km s-min=10.1km az=156.0*
ISC 24 08:00:10.8±0.7**,54°.1N**±0°.1×**153°.80E**±0°.08**,h650**km**,n49,** σ1**98/53,mb3.4/10,Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.34**	**120**	*e*P	**P**	**08 01 29.6**	**-1.3**
APC	**Apacha**	**2.34**	**120**	P	**P**	**08 01 29.6**	**-1.3**
PETK	**Petropavlovsk-**	**2.54**	**112**	P	**P**	**08 01 30.5**	**-1.3**
	1.2nm,0.3s,baz=335,slow=2.8,SNR=19						
KRX	**Arik**	**2.98**	**103**	*e*P	**P**	**08 01 33.4**	**-0.7**
KRX	**Arik**	**2.98**	**103**	P	**P**	**08 01 33.4**	**-0.7**
KOK	**Koryaka**	**2.99**	**104**	*e*P	**P**	**08 01 33.2**	**-0.9**
KOK	**Koryaka**	**2.99**	**104**	P	**P**	**08 01 33.2**	**-0.9**
KRER	**Koryakskii**	**3.05**	**104**	*e*P	**P**	**08 01 33.6**	**-0.9**
KRER	**Koryakskii**	**3.05**	**104**	P	**P**	**08 01 33.6**	**-0.9**
SMAR	**Somma**	**3.10**	**104**	*e*P	**P**	**08 01 33.8**	**-1.0**
SMAR	**Somma**	**3.10**	**104**	P	**P**	**08 01 33.8**	**-1.0**
UGLR	**Uglovaya**	**3.13**	**105**	*e*P	**P**	**08 01 34.0**	**-0.8**
UGLR	**Uglovaya**	**3.13**	**105**	P	**P**	**08 01 34.0**	**-0.8**
SDLR	**Sedlovina**	**3.14**	**104**	*e*P	**P**	**08 01 33.4**	**-1.5**
SDLR	**Sedlovina**	**3.14**	**104**	P	**P**	**08 01 33.4**	**-1.5**
RUS	**Russkaya**	**3.30**	**119**	*e*P	**P**	**08 01 33.4**	**-2.2**
RUS	**Russkaya**	**3.30**	**119**	P	**P**	**08 01 33.4**	**-2.2**
ESO	**Esso**	**3.35**	**55**	*e*P	**P**	**08 01 35.6**	**-0.2**
ESO	**Esso**	**3.35**	**55**	P	**P**	**08 01 35.6**	**-0.2**
SPN	**Mys Shipunski**	**3.85**	**103**	*e*P	**P**	**08 01 36.8**	**-2.0**
SPN	**Mys Shipunski**	**3.85**	**103**	P	**P**	**08 01 36.8**	**-2.0**
TUMR	**Tumrok**	**3.86**	**70**	*e*P	**P**	**08 01 38.6**	**-0.4**
TUMR	**Tumrok**	**3.86**	**70**	P	**P**	**08 01 38.6**	**-0.4**
SRDR	**Sredinnyy**	**4.04**	**55**	*e*P	**P**	**08 01 39.8**	**-0.2**
SRDR	**Sredinnyy**	**4.04**	**55**	P	**P**	**08 01 39.8**	**-0.2**
MKZ	**Mys Kozlova**	**4.66**	**81**	*e*P	**P**	**08 01 42.0**	**-2.1**
MKZ	**Mys Kozlova**	**4.66**	**81**	P	**P**	**08 01 42.0**	**-2.1**
KBG	**Krutoberegovo**	**5.53**	**64**	*e*P	**P**	**08 01 48.9**	**-1.7**
KBG				*e*S	**S**	**08 03 07.6**	**-4.9**
KBG	**Krutoberegovo**	**5.53**	**64**	P	**P**	**08 01 48.9**	**-1.7**
KBG				S	**S**	**08 03 07.6**	**-4.9**
KBTR	**Krutoberegovo**	**5.58**	**64**	*e*P	**P**	**08 01 49.2**	**-1.8**
KBTR				*e*S	**S**	**08 03 08.2**	**-5.0**
KBTR	**Krutoberegovo**	**5.58**	**64**	P	**P**	**08 01 49.2**	**-1.8**
KBTR				S	**S**	**08 03 08.2**	**-5.0**
MA2	**Magadan**	**5.71**	**344**	P	**P**	**08 01 51.1**	**-0.8**
	1.7nm,0.3s,baz=155,slow=5.4,SNR=9.5						
BKI	**Bering**	**7.15**	**76**	*e*P	**P**	**08 02 05.4**	**+1.4**
BKI	**Bering**	**7.15**	**76**	P	**P**	**08 02 05.4**	**+1.4**
SEY	**Seymchan**	**8.87**	**356**	P	**P**	**08 02 19.5**	**+0.1**
	0.7nm,0.3s,baz=180,slow=9.6,SNR=15						
KLR	**Kul'dur**	**14.51**	**259**	P	**P**	**08 03 11.6**	**-0.8**
	1.0nm,0.3s,baz=65,slow=7.8,SNR=18						
MJAR	**Matsushiro Arr**	**20.64**	**218**	P	**P**	**08 04 07.4**	**-0.6**
	0.4nm,0.4s,baz=23,slow=6.6,SNR=4.5						
KSRS	**Korea Array**	**24.36**	**237**	P	**P**	**08 04 41.0**	**+0.1**
KSRS	**Korea Array**	**24.36**	**237**	P	**P**	**08 04 41.0**	**+0.1**
	2.8nm,0.6s,baz=34,slow=9.3,SNR=12						
SONM	**Songino Array**	**30.02**	**278**	P	**P**	**08 05 29.9**	**-0.1**
	0.5nm,0.3s,baz=62,slow=7.8,SNR=3.8						
ILAR	**Eielson Array**	**30.78**	**46**	P	**P**	**08 05 38.2**	**+2.1**
	0.2nm,0.4s,baz=276,slow=5.7,SNR=5.6						
INK	**Inuvik**	**35.35**	**38**	P	**P**	**08 06 16.4**	**+2.3**
	0.5nm,0.4s,baz=282,slow=5.6,SNR=7.3						
ZALV	**Zalesovo Beam**	**39.03**	**299**	P	**P**	**08 06 42.2**	**-1.8**
	0.6nm,0.4s,baz=81,slow=8.9,SNR=2.7						
MKAR	**Makanchi Array**	**44.30**	**291**	P	**P**	**08 07 23.4**	**-1.9**
	1.1nm,0.4s,baz=58,slow=7.0,SNR=20						
CMAR	**Chiang Mai Arr**	**54.83**	**252**	P	**P**	**08 08 43.1**	**+0.9**
	1.1nm,0.5s,baz=31,slow=7.5,SNR=4.0						
NVAR	**Mina Array Bea**	**58.85**	**67**	P	**P**	**08 09 12.7**	**+3.2**
	0.6nm,0.7s,baz=307,slow=7.5,SNR=2.3						
PDAR	**Pinedale Array**	**60.21**	**57**	P	**P**	**08 09 19.9**	**+1.5**
	0.4nm,0.3s,baz=345,slow=4.3,SNR=3.7						
TXAR	**Lajitas Array**	**73.59**	**63**	P	**P**	**08 10 42.9**	**+2.8**
	0.8nm,0.7s,baz=294,slow=5.1,SNR=11						
CPUP	**Villa Florida**	**143.98**	**52**	PKP	**PKPdf**	**08 18 34.8**	**+1.0**
	1.0nm,0.5s,baz=326,slow=2.1,SNR=5.6						

ISCJB ***24*** *08:01:45.4±0.5,49°.35N±0°.05×155°.77E±0°.10,h54km, mb4.0/15,Error ellipse: s-maj=10.9km s-min=3.9km az=37.2*
MOS ***24*** *08:01:45.4±1.0,49°.35N×155°.71E,h55km,mb4.1/7,Error ellipse: s-maj=14.0km s-min=4.5km az=74.6*
KRSC ***24*** *08:01:47.5±10.0,49°.47N×156°.63E,h48km±10km,ML4.8*
IDC ***24*** *08:01:49.9±2.6,49°.53N×155°.46E,h82km±24km,mb3.7/11, mb1 3.9/17,mb1mx3.7/44,mbtmp4.0/17,Error ellipse: s-maj=27.4km s-min=11.7km az=137.0*
ISC 24 08:01:46.4±0.7**,49°.34N**±0°.08×**155°.90E**±0°.08**,h54**km**,n77,** σ1**63/81,mb4.0/15,1C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.36**	**6**	*e*P	**Pn**	**08 02 08.1**	**-0.9**
SKR				S	**Sn**	**08 02 24.3**	**-1.7**
SKR	**Severo-Kuril's**	**1.36**	**6**	*e*PN	**Pn**	**08 02 08.0**	**-0.9**
SKR				*e*S	**Sn**	**08 02 24.2**	**-1.7**
SKR				pmax	pmax		
	comp=Z,196nm,0.4s						
SKR				smax	smax		
	comp=E,3μm,0.2s						
SKR				smax	smax		
	comp=N,2μm,0.4s						
ALID	**Alaid**	**1.55**	**352**	*e*P	**Pn**	**08 02 11.4**	**-0.4**
ALID				S	**Sn**	**08 02 31.3**	**+0.4**
ALID	**Alaid**	**1.55**	**352**	PN	**Pn**	**08 02 11.4**	**-0.4**
ALID				S	**Sn**	**08 02 31.3**	**+0.4**
PAU	**Pauzhetka**	**2.21**	**15**	*e*P	**Pn**	**08 02 20.5**	**-0.2**
PAU				S	**Sn**	**08 02 46.7**	**-0.1**
PAU	**Pauzhetka**	**2.21**	**15**	PN	**Pn**	**08 02 20.5**	**-0.2**
PAU				S	**Sn**	**08 02 46.7**	**-0.1**
KDTR	**Khodutka, Kamc**	**2.84**	**28**	*e*P	**Pn**	**08 02 28.8**	**-0.4**
KDTR				S	**Sn**	**08 03 00.5**	**-1.6**
KDTR	**Khodutka, Kamc**	**2.84**	**28**	PN	**Pn**	**08 02 28.8**	**-0.4**
KDTR				S	**Sn**	**08 03 00.5**	**-1.6**
ASAK	**Asacha**	**3.30**	**22**	*e*P	**Pn**	**08 02 37.2**	**+1.5**
ASAK	**Asacha**	**3.30**	**22**	PN	**Pn**	**08 02 37.2**	**+1.5**
MTVR	**Mutnovka**	**3.47**	**24**	*e*P	**Pn**	**08 02 38.8**	**+0.8**
MTVR				S	**Sn**	**08 03 18.5**	**+0.7**
MTVR	**Mutnovka**	**3.47**	**24**	PN	**Pn**	**08 02 38.8**	**+0.8**
MTVR				S	**Sn**	**08 03 18.5**	**+0.7**
RUS	**Russkaya**	**3.52**	**27**	*e*P	**Pn**	**08 02 38.1**	**-0.4**
RUS	**Russkaya**	**3.52**	**27**	PN	**Pn**	**08 02 38.1**	**-0.4**
APC	**Apacha**	**3.68**	**12**	*e*P	**Pn**	**08 02 43.2**	**+2.5**
APC	**Apacha**	**3.68**	**12**	PN	**Pn**	**08 02 43.2**	**+2.5**
KRMR	**Karymshinskiy**	**3.77**	**21**	*e*P	**Pn**	**08 02 43.5**	**+1.5**
KRMR	**Karymshinskiy**	**3.77**	**21**	PN	**Pn**	**08 02 43.5**	**+1.5**
PETK	**Petropavlovsk-**	**3.94**	**16**	P	**Pn**	**08 02 46.4**	**+2.0**
	comp=N,5.8nm,0.3s,baz=184,slow=11,SNR=54						
PETK				S	Sn	08 03 45.1	+16
	comp=N,4.4nm,0.3s,baz=165,slow=18,SNR=3.6						
PET	**Petropavlovsk**	**4.08**	**24**	*e*P	**Pn**	**08 02 46.9**	**+0.7**
PET	**Petropavlovsk**	**4.08**	**24**	*e*PN	**Pn**	**08 02 47.2**	**+1.0**
PET				*e*S	**Sn**	**08 03 32.3**	**-0.3**
PET				smax	smax		
	comp=N,220nm,0.4s						
PET				smax	smax		
	comp=E,261nm,0.6s						
DALK	**Dalny**	**4.11**	**25**	*e*P	**Pn**	**08 02 47.6**	**+1.0**
DALK	**Dalny**	**4.11**	**25**	PN	**Pn**	**08 02 47.6**	**+1.0**
UGLR	**Uglovaya**	**4.29**	**24**	P	**Pn**	**08 02 51.1**	**+1.9**
UGLR	**Uglovaya**	**4.29**	**24**	PN	**Pn**	**08 02 51.1**	**+1.9**
KOK	**Koryaka**	**4.32**	**22**	*e*P	**Pn**	**08 02 51.8**	**+2.2**
KOK	**Koryaka**	**4.32**	**22**	PN	**Pn**	**08 02 51.8**	**+2.2**
AVH	**Avacha**	**4.32**	**23**	P	**Pn**	**08 02 52.1**	**+2.5**
AVH	**Avacha**	**4.32**	**23**	PN	**Pn**	**08 02 52.1**	**+2.5**
SMAR	**Somma**	**4.33**	**24**	P	**Pn**	**08 02 52.3**	**+2.4**
SMAR	**Somma**	**4.33**	**24**	PN	**Pn**	**08 02 52.3**	**+2.4**
KRER	**Koryakskii**	**4.36**	**23**	*e*P	**Pn**	**08 02 51.8**	**+1.6**
KRER	**Koryakskii**	**4.36**	**23**	PN	**Pn**	**08 02 51.8**	**+1.6**
SDLR	**Sedlovina**	**4.37**	**24**	*e*P	**Pn**	**08 02 50.9**	**+0.6**
SDLR	**Sedlovina**	**4.37**	**24**	PN	**Pn**	**08 02 50.9**	**+0.6**
KRX	**Arik**	**4.38**	**22**	*e*P	**Pn**	**08 02 52.4**	**+1.9**
KRX	**Arik**	**4.38**	**22**	PN	**Pn**	**08 02 52.4**	**+1.9**
SPN	**Mys Shipunski**	**4.57**	**33**	*e*S	**Sn**	**08 03 43.2**	**-1.5**
TUMR	**Tumrok**	**6.50**	**22**	P	**Pn**	**08 03 23.1**	**+3.6**
TUMR	**Tumrok**	**6.50**	**22**	PN	**Pn**	**08 03 23.1**	**+3.6**
KBTR	**Krutoberegovo**	**8.06**	**29**	*e*P	**Pn**	**08 03 39.5**	**-1.2**
KBTR	**Krutoberegovo**	**8.06**	**29**	PN	**Pn**	**08 03 39.5**	**-1.2**
BKI	**Bering**	**8.52**	**43**	S	Sn	08 05 11.3	-10
YSS	**Yuzh-Sakhalins**	**9.11**	**260**⇑	*e*PN	**Pn**	**08 03 57.5**	**+2.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ	**Asahikawa**	**10.52**	**245**	P	**Pn**	**08 04 15.6**	**+1.3**
	comp=Z,1.9nm,0.3s,baz=58,slow=11,SNR=15						
MA2	**Magadan**	**10.68**	**346**	P	**Pn**	**08 04 16.0**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=152,slow=12,SNR=4.5						
ERM	**Erimo**	**11.52**	**235**	*i* PN	**Pn**	**08 04 26.5**	**-1.6**
SEY	**Seymchan**	**13.77**	**353**	P	**Pn**	**08 05 00.0**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=180,slow=13,SNR=5.0						
KLR	**Kul'dur**	**15.75**	**279**	*i* P	**Pn**	**08 05 23.2**	**-1.3**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KLR	**Kul'dur**	**15.75**	**279**	P	**Pn**	**08 05 26.1**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=90,slow=14,SNR=3.3						
USRK	**Ussuriysk Ar.**	**17.14**	**262**	P	**Pn**	**08 05 39.9**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=74,slow=8.5,SNR=4.6						
MJAR	**Matsushiro Arr**	**18.14**	**232**	P	**P**	**08 05 54.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=27,slow=9.2,SNR=5.1						
BILL	**Bilibino**	**19.46**	**12**	*i* P	**P**	**08 06 06.6**	**-1.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSRS	**Korea Array**	**23.40**	**250**	*e*P	**P**	**08 06 50.8**	**+0.5**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**23.40**	**250**	P	**P**	**08 06 49.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=50,slow=9.2,SNR=8.5						
JNU	**Nakatsue**	**24.66**	**238**	P	**P**	**08 07 01.8**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=63,slow=9.1,SNR=6.3						
TIXI	**Tiksi**	**25.58**	**341**	*i* P	**P**	**08 07 09.1**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**30.83**	**159**	T	T	08 40 45.4	
	baz=347,slow=77,SNR=12						
H11N1	**WAKE ISLAND Hy**	**30.84**	**159**	T	T	08 40 55.9	
	baz=347,slow=77,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**30.84**	**159**	T	T	08 40 59.8	
	baz=347,slow=77,SNR=16						
H11S1	**WAKE ISLAND Hy**	**31.96**	**160**	T	T	08 42 04.3	
	baz=347,slow=76,SNR=421						
H11S3	**WAKE ISLAND Hy**	**31.97**	**160**	T	T	08 42 16.2	
	baz=347,slow=76,SNR=1001						
H11S2	**WAKE ISLAND Hy**	**31.98**	**160**	T	T	08 42 05.8	
	baz=347,slow=76,SNR=250						
INK	**Inuvik**	**38.46**	**34**	P	**P**	**08 09 03.2**	**+0.7**
	comp=Z,2.6nm,0.6s,baz=298,slow=8.9,SNR=6.8						
DGZ	**Jazzator, Alta**	**43.02**	**298**	*i* P	**P**	**08 09 36.0**	**-4.5**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**47.44**	**297**	*e*P	**P**	**08 10 13.3**	**-2.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.44**	**297**	P	**P**	**08 10 12.4**	**-2.9**
	comp=Z,0.6nm,0.8s,baz=62,slow=8.4,SNR=5.0						
KURK	**Kurchatov**	**47.51**	**303**	*i* P	**P**	**08 10 13.3**	**-2.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YKA	**Yellowknife Ar**	**47.73**	**39**	P	**P**	**08 10 18.3**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=295,slow=8.4,SNR=4.4						
RES	**Resolute Bay**	**47.78**	**20**	P	**P**	**08 10 17.7**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=16,slow=7.1,SNR=12						
CMAR	**Chiang Mai Arr**	**54.79**	**257**	P	**P**	**08 11 11.2**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=36,slow=6.6,SNR=8.5						
PDAR	**Pinedale Array**	**61.73**	**56**	P	**P**	**08 12 00.9**	**+1.6**
	comp=Z

YBH Sn **Sb** **08 03 19.9 -0.6**
53nm,0.3s,baz=91,slow=15,SNR=5.1
KMRM Mail Ridge 1.96 272 *e*Pn **Pn** **08 02 54.7 +1.2**
KHMM Horse Mountain 2.09 291 *e*Pn **Pn** **08 02 56.5 +1.2**
WAKR Walker 2.13 141 *e*Pn **Pn** **08 02 56.0 +0.1**
CMB Columbia Colle 2.21 164 *e*Pn **Pn** **08 02 57.0 0.0**
L04D Klamath Falls 2.22 337 P **Pn** **08 02 58.4 +1.2**
baz=162,SNR=304
JCC Jacoby Creek, 2.29 287 *e*Pn **Pn** **08 02 58.6 +0.6**
MCCM Marconi Confer 2.43 214 *e*Pn **Pn** **08 02 60.0 +0.1**
KRMB Red Mountain 2.49 304 *e*Pn **Pn** **08 03 01.2 +0.4**
K04D Chiloquin, OR 2.49 350 P **Pn** **08 03 01.9 +1.0**
baz=174,SNR=158
K05A Summer Lake 2.56 4 *e*Pn **Pn** **08 03 02.1 +0.2**
KVN Kaiserville 2.61 114 *e*Pn **Pn** **08 03 01.6 -0.9**
L02E Cave Junction 2.72 318 P **Pb** **08 03 06.4 -2.1**
baz=140,SNR=127
NVAR Mina Array Bea 2.81 127 *e*Pn **Pn** **08 03 04.7 -0.7**
NVAR Mina Array Bea 2.81 127 Pn **Pn** **08 03 05.4 +0.1**
85nm,0.3s,baz=302,slow=14,SNR=992
NVAR Lg Lg 08 03 48.8
160nm,0.3s,baz=292,slow=23,SNR=7.4
NV11 Mina Array Sit 2.90 126 *e*Pn **Pn** **08 03 06.1 -0.4**
WVOR Wild Horse Val 2.95 39 *e*Pn **Pn** **08 03 06.0 -1.1**
OMMB Old Mammoth Mi 3.05 146 *e*Pn **Pn** **08 03 09.4 +0.7**
J05D Fort Rock, OR 3.11 359 P **Pn** **08 03 11.1 +1.7**
baz=182,SNR=903
MLAC Mammoth, Mammo 3.11 144 P **Pn** **08 03 10.7 +1.2**
baz=322
J04D Umpqua Nationa 3.15 347 P **Pn** **08 03 11.9 +1.9**
baz=170,SNR=151
K02D Willamette Mer 3.15 324 P **Pn** **08 03 12.2 +2.2**
baz=146,SNR=54
SAO San Andreas Ge 3.41 184 *e*Pn **Pn** **08 03 14.1 +0.7**
J01E Myrtle Point 3.64 326 P **Pn** **08 03 19.0 +2.5**
baz=147,SNR=19
I04A Tendick Farm, 3.74 346 P **Pn** **08 03 20.2 +2.2**
baz=168,SNR=38
J08A Circle Bar Ran 3.76 31 *e*Pg **Pb** **08 03 26.1 -0.2**
TIN Tinemaha, Big 3.86 143 P **Pn** **08 03 21.4 +1.8**
baz=322
TIN Sb **Sg** **08 04 20.1 -3.2**
baz=322
I03D Drain, OR 3.89 336 P **Pn** **08 03 22.9 +3.0**
baz=157,SNR=25
VOG Valley Oaks Go 4.09 160 P **Pn** **08 03 24.4 +1.8**
baz=338
VOG Sb **Sb** **08 04 25.1 +3.5**
baz=338
I05D Terrebonne, OR 4.17 358 P **Pn** **08 03 26.1 +2.2**
baz=180,SNR=15
GRAC Grapevine Rang 4.34 136 P **Pn** **08 03 27.4 +1.2**
baz=316
CWC Cottonwood Cre 4.44 146 P **Pn** **08 03 29.7 +2.1**
baz=326
CWC Sb **Sg** **08 04 36.9 -4.9**
baz=326
PAGB Antelope Grade 4.49 171 *e*Pn **Pn** **08 03 29.8 +1.6**
H04D Lebanon 4.51 345 P **Pn** **08 03 31.2 +2.7**
baz=167
ELK Elko 4.54 81 *e*Pn **Pn** **08 03 27.6 -1.6**
ELK Elko 4.54 81 Pn **Pn** **08 03 28.2 -1.0**
1.8nm,0.3s,baz=285,slow=15,SNR=24
ELK Pg **Pb** **08 03 39.3 -0.5**
6.2nm,0.3s,baz=269,slow=15,SNR=23
ELK Lg Lg 08 04 39.1
31nm,0.3s,baz=28,slow=22,SNR=11
VES Vestal, Richgr 4.62 159 Sb **Sb** **08 04 40.9 +3.9**
baz=338
R11A Troy Canyon, C 4.69 111 *e*Pn **Pn** **08 03 30.9 -0.2**
R11A Troy Canyon, C 4.69 111 P **Pn** **08 03 31.1 0.0**
baz=293
SMMC Simmler 4.93 169 P **Pn** **08 03 35.7 +1.4**
baz=347
ISA Isabella, Lake 4.97 154 P **Pn** **08 03 37.0 +2.1**
baz=333
ISA Sb **Sb** **08 04 51.6 +4.4**
baz=333
FURC Furnace Creek, 5.00 136 P **Pn** **08 03 36.8 +1.6**
baz=317
TPNV Topopah Spring 5.01 128 P **Pn** **08 03 36.3 +0.8**
baz=310
MPMC Manual Prospec 5.02 144 P **Pn** **08 03 37.3 +1.6**
baz=324
G08A Pilot Rock 5.37 17 *e*Pn **Pn** **08 03 43.0 +2.7**
F07A Phinny Hill Vi 5.79 8 *e*Pn **Pn** **08 03 49.7 +3.7**
PSUT Pine Spring 5.88 104 *e*Pn **Pn** **08 03 47.6 0.0**
SHPR Sheep Range 5.96 126 *e*Pn **Pn** **08 03 49.3 +0.7**
HLID Hailey 6.06 54 *e*Pn **Pn** **08 03 51.6 +1.7**
BGU Big Grassy Mou 6.23 80 *e*Pn **Pn** **08 03 53.6 +1.3**
DUG Dugway, Tooele 6.38 87 *e*Pn **Pn** **08 03 54.7 +0.3**
E07A Sunnyside 6.46 8 *e*Pn **Pn** **08 03 59.3 +4.1**
HVU Hansel Valley 6.54 73 *e*Pn **Pn** **08 03 59.1 +2.7**
LON Longmire 6.59 356 *e*Pn Pn 08 04 02.0 +4.8
E09A Wood Farm, Sta 6.71 18 *e*Pn **Pn** **08 04 00.9 +2.2**
SZCU Shurtz Canyon 6.79 110 *e*Pn **Pn** **08 04 00.6 +0.5**
TCRU Three Creeks R 6.92 100 *e*Pn **Pn** **08 04 02.5 +0.7**
NLU North Lily Min 6.96 89 *e*Pn **Pn** **08 04 02.9 +0.5**
LDFC Landfair 6.99 135 *e*Pn **Pn** **08 04 03.7 +1.1**
D05A Enumclaw 7.04 355 *e*Pn Pn 08 04 09.8 +6.5
D08A Wollman Farm, 7.07 12 *e*Pn **Pn** **08 04 05.8 +2.1**
MSU Marysvale 7.15 101 *e*Pn **Pn** **08 04 06.0 +1.0**
KNB Kanab 7.24 113 *e*Pn **Pn** **08 04 07.0 +0.9**
MTPU Mount Pierson 7.29 104 *e*Pn **Pn** **08 04 07.9 +0.9**
HWUT Hardware Ranch 7.40 76 *e*Pn **Pn** **08 04 11.3 +2.9**
PFO Pinyon Flats O 7.55 149 *e*Pn **Pn** **08 04 12.5 +2.2**
PFO Pinyon Flats O 7.55 149 Pn **Pn** **08 04 13.4 +3.1**
0.6nm,0.3s,baz=311,slow=10,SNR=7.5
PFO Lg Lg 08 06 14.7
1.3nm,0.3s,baz=45,slow=20,SNR=4.6
C09A Chrisman Ranch 7.90 14 *e*Pn **Pn** **08 04 16.7 +1.7**
AHID Auburn Hatcher 7.98 68 *e*Pn **Pn** **08 04 19.4 +3.1**
SRU San Rafael Swe 8.27 94 *e*Pn **Pn** **08 04 24.7 +4.4**
B06A Marblemount 8.35 358 *e*Pn **Pn** **08 04 25.3 +4.1**
SNOW Snow King Moun 8.43 64 *e*Pn **Pn** **08 04 27.1 +4.5**
NEW Newport 8.59 18 *e*Pn **Pn** **08 04 27.9 +3.3**
NEW Newport 8.59 18 Pn **Pn** **08 04 27.5 +3.0**
0.3nm,0.3s,baz=191,slow=17,SNR=6.0
BOZ Bozeman (W) 8.84 49 *e*Pn **Pn** **08 04 30.7 +2.6**
WUAZ Wupatki 9.02 118 *e*Pn **Pn** **08 04 33.5 +3.0**
PDAR Pinedale Array 9.08 70 *e*Pn **Pn** **08 04 34.5 +3.0**
PDAR Pinedale Array 9.08 70 Pn **Pn** **08 04 35.0 +3.6**
0.1nm,0.3s,baz=252,slow=14,SNR=18
PDAR Lg Lg 08 07 03.0
0.1nm,0.3s,baz=223,slow=36,SNR=2.9
HRY Holter Researc 9.41 43 *e*Pn **Pn** **08 04 36.7 +0.8**
X16A Lo Mia Camp, P 9.63 124 *e*Pn **Pn** **08 04 41.1 +2.2**
O20A White River Ci 9.88 86 *e*Pn **Pn** **08 04 46.0 +3.5**
RLMT Red Lodge 10.05 57 *e*Pn Pn 08 04 50.4 +5.6
WALA Waterton Lakes 10.27 28 *e*Pn **Pn** **08 04 52.0 +4.4**
MVCO Mesa Verde 10.32 103 *e*Pn **Pn** **08 04 50.2 +1.8**
X18A Snowflake 10.54 119 *e*Pn **Pn** **08 04 55.6 +4.2**
RWWY Rawlins 10.66 77 *e*Pn **Pn** **08 04 54.2 +1.1**
K22A Casper 11.26 73 *e*Pn **Pn** **08 05 03.2 +1.9**
TUC Tucson 11.46 130 *e*Pn **Pn** **08 05 07.0 +3.0**
PHWY Pilot Hill 11.96 80 *e*Pn **Pn** **08 05 12.6 +1.7**
Q24A Divide 12.41 90 *e*Pn **Pn** **08 05 19.8 +2.7**
ANMO Albuquerque 12.77 109 *e*Pn **Pn** **08 05 24.2 +2.3**
ANMO Albuquerque 12.77 109 Pn **Pn** **08 05 23.3 +1.4**
0.1nm,0.3s,baz=299,slow=12,SNR=9.1
ANMO Lg Lg 08 08 58.0
0.1nm,0.3s,baz=193,slow=17,SNR=3.3
319A Douglas 13.02 129 *e*Pn **Pn** **08 05 29.0 +3.7**
KSCO Kaye Shedlock' 14.33 89 *e*Pn **Pn** **08 05 45.6 +2.4**
OGNE Ogallala 14.56 81 *e*Pn **Pn** **08 05 45.8 -0.4**
SRIG Santa Rosalia 14.79 147 *e*Pn **P** **08 05 58.1 +2.6**
MNTX Cornudas Mount 15.30 119 *e*Pn **P** **08 06 00.1 -1.1**
60nm,1.4s
GDL2 Guadalupe Moun 15.70 115 *e*Pn **P** **08 06 06.1 +0.4**
CBKS Cedar Bluff 16.58 88 *e*Pn **Pn** **08 06 14.0 +1.2**
29nm,0.9s
U32A Winter Ranch, 17.79 95 *e*Pn **P** **08 06 31.6 +2.9**
51nm,1.0s
TXAR Lajitas Array 17.95 122 *e*Pn **P** **08 06 32.3 +1.7**
TXAR Lajitas Array 17.95 122 P **P** **08 06 33.4 +2.8**
0.2nm,0.3s,baz=302,slow=8.7,SNR=103
ECSD EROS Data Cent 18.57 71 *e*P **P** **08 06 36.6 -0.8**
14nm,0.7s
SLBS Sierra La Lagu 18.96 147 *e*P **Pn** **08 06 45.1 +2.8**
36nm,1.4s
DLBC Dease Lake 19.15 346 *e*P **Pn** **08 06 46.4 +2.0**
15nm,1.4s
DLBC Dease Lake 19.15 346 P **Pn** **08 06 44.1 -0.2**
baz=188,slow=9.5,SNR=2.2

FFC Flin Flon 19.40 35 *e*P **P** **08 06 46.0 -0.3**
8.0nm,0.8s
AGMN Agassiz Nation 19.79 57 *e*P **P** **08 06 49.8 -0.8**
24nm,0.8s
JCT Junction City 19.88 112 *e*P **Pn** **08 06 52.5 -0.8**
23nm,1.1s
JIS Juneau Island 20.01 339 *e*P Pn 08 06 57.1 +2.5
22nm,1.3s
ULM Lac du Bonnet 20.37 52 *e*P **P** **08 06 55.2 -1.7**
6.4nm,0.8s
ULM Lac du Bonnet 20.37 52 P **P** **08 06 55.0 -1.9**
4.3nm,0.8s,baz=241,slow=12,SNR=11
SCIA State Center 21.11 76 *e*P **P** **08 07 05.0 0.0**
42nm,0.8s
SPMN Marine on St. 21.38 67 *e*P **P** **08 07 06.6 -1.3**
15nm,0.6s
W39A Magazine 22.18 94 *e*P **P** **08 07 16.0 -0.5**
51nm,1.2s
I39A Houston 22.26 71 *e*P **P** **08 07 15.7 -1.6**
30nm,1.0s
L40A Anamosa 22.58 75 *e*P **P** **08 07 19.1 -1.6**
21nm,0.9s
MIAR Mount Ida 22.58 96 *e*P **P** **08 07 22.4 +1.6**
17nm,1.0s
EYMN Ely 22.58 60 *e*P **P** **08 07 19.6 -1.1**
20nm,1.5s
YKA Yellowknife Ar 22.70 8 *e*P **P** **08 07 21.3 -0.5**
YKA Yellowknife Ar 22.70 8 P **P** **08 07 21.7 -0.1**
4.1nm,0.9s,baz=190,slow=10.0,SNR=30
YKW3 Yellowknife Ar 22.77 8 *e*P **P** **08 07 21.9 -0.6**
9.9nm,1.0s
N41A Harden Midland 23.01 79 *e*P **P** **08 07 23.4 -1.9**
24nm,0.8s
HKT Hockley 23.02 108 *e*P **P** **08 07 25.4 0.0**
17nm,1.4s
JFWS Jewell Farm 23.23 73 *e*P **P** **08 07 25.6 -1.9**
20nm,0.8s
CCM Cathedral Cave 23.25 86 *e*P **P** **08 07 26.9 -0.8**
33nm,1.0s
WHAR Wooly Hollow 23.29 93 *e*P **P** **08 07 27.9 -0.2**
53nm,0.9s
W41B Gary Mavity, V 23.36 93 *e*P **P** **08 07 28.7 -0.2**
42nm,0.9s
LNIG Linares 23.70 123 *e*P **P** **08 07 32.6 +0.3**
25nm,1.3s
SLM Saint Louis 23.88 84 *e*P **P** **08 07 32.8 -1.2**
57nm,1.3s
FVM French Village 23.89 85 *e*P **P** **08 07 33.5 -0.7**
18nm,0.9s
I42A Draeger Farm, 24.15 71 *e*P **P** **08 07 37.0 +0.5**
27nm,1.3s
HDIL Hopedale 24.21 79 *e*P **P** **08 07 35.6 -1.4**
27nm,0.8s
PBMO Poplar Bluff 24.23 88 *e*P **P** **08 07 36.4 -0.9**
56nm,0.9s
HBAR Harrisburg 24.45 91 *e*P **P** **08 07 38.5 -0.7**
62nm,1.0s
TGL Tana Glacier 24.58 334 *e*P **P** **08 07 42.4 +2.0**
9.9nm,1.0s
BALM Baldy 24.63 335 *e*P **P** **08 07 43.1 +2.2**
19nm,1.2s
PARMO Parma 24.78 88 *e*P **P** **08 07 42.5 +0.2**
83nm,0.7s
SIUC Southern Illin 24.89 85 *e*P **P** **08 07 43.9 +0.7**
70nm,1.5s
FCC Fort Churchill 25.31 34 *e*P **P** **08 07 46.3 -0.6**
12nm,0.8s
OXF Oxford 25.77 93 *e*P **P** **08 07 50.5 -0.8**
49nm,1.0s
DIV Divide 25.86 332 *e*P **P** **08 07 53.9 +1.9**
14nm,1.1s
BCAR Beaver Creek A 26.03 339 *e*P **P** **08 07 54.3 +0.9**
GLI Glacier Island 26.18 331 *e*P **P** **08 07 56.4 +1.7**
17nm,1.0s
DAWY Dawson 26.22 342 *e*P **P** **08 07 56.9 +1.7**
9.9nm,0.9s
WVT Waverly 26.42 88 *e*P **P** **08 07 56.6 -0.5**
14nm,0.8s
MENT Mentasta 26.49 337 *e*P **P** **08 07 59.8 +2.2**
12nm,1.4s
PLAL Pickwick Lake 26.62 91 *e*P **P** **08 07 57.6 -1.4**
20nm,1.1s
SCM Sheep Creek Mo 26.89 332 *e*P **P** **08 08 03.6 +2.4**
12nm,0.8s
KNK Knik Glacier 27.03 331 *e*P **P** **08 08 05.2 +2.7**
13nm,0.9s
PAX Paxson 27.05 336 *e*P **P** **08 08 04.2 +1.4**
3.7nm,1.0s
EGAK Eagle 27.24 341 *e*P **P** **08 08 05.4 +1.1**
6.1nm,1.2s
RC01 Rabbit Creek A 27.31 330 *e*P **P** **08 08 06.4 +1.5**
8.0nm,1.2s
PMR Palmer 27.39 331 *e*P **P** **08 08 07.5 +1.9**
20nm,1.4s
GHO Glory Hole Cre 27.43 331 *e*P **P** **08 08 08.3 +2.2**
19nm,1.4s
RSO Redoubt South 28.18 327 *e*P **P** **08 08 15.4 +2.4**
LRAL Lakeview Retre 28.20 94 *e*P **P** **08 08 11.9 -1.3**
31nm,1.4s
ILAR Eielson Array 28.80 337 *e*P **P** **08 08 19.0 +0.8**
ILAR Eielson Array 28.80 337 P **P** **08 08 18.7 +0.6**
6.2nm,0.7s,baz=153,slow=8.1,SNR=89
ILAR PcP **PcP** **08 11 27.9 +0.1**
0.6nm,0.7s,baz=164,slow=2.7,SNR=6.0
ILB Eielson Array 28.80 337 *e*P **P** **08 08 19.3 +1.1**
7.6nm,0.7s
ILB *e*PcP **PcP** **08 11 27.9 +0.1**
PRP Porcupine Dome 28.96 339 *e*P **P** **08 08 21.3 +1.5**
6.0nm,0.8s
INK Inuvik 28.99 351 *e*P **P** **08 08 20.4 +0.6**
14nm,0.9s
INK Inuvik 28.99 351 P **P** **08 08 20.5 +0.8**
10.0nm,0.8s,baz=153,slow=9.2,SNR=41
PPLA Purkeypile 29.32 331 *e*P **P** **08 08 25.1 +2.0**
35nm,1.4s
BPAW Bear Paw Mtn. 29.64 334 *e*P **P** **08 08 27.1 +1.4**
13nm,0.8s
TLIG Tlapa 29.81 133 *e*P **P** **08 08 28.9 +1.2**
12nm,0.9s
IMAR Indian Mountai 31.74 335 *e*P **P** **08 08 45.6 +1.5**
RES Resolute Bay 36.67 11 *e*P **P** **08 09 26.8 0.0**
13nm,0.8s
RES *e*PcP **PcP** **08 11 48.9 -0.5**
RES Resolute Bay 36.67 11 P **P** **08 09 27.1 +0.4**
11nm,0.9s,baz=207,slow=11,SNR=15
RES PcP **PcP** **08 11 48.9 -0.5**
3.8nm,1.0s,baz=235,slow=6.0,SNR=2.2
SCHQ Schefferville 38.49 49 P **P** **08 09 42.0 -0.5**
7.0nm,0.6s,baz=258,slow=9.6,SNR=4.8
ESTN Estel 40.72 122 *e*P **P** **08 10 01.9 +0.4**
33nm,1.2s
SUMG Summit 50.06 23 *e*P **P** **08 11 14.7 -0.6**
8.1nm,0.9s
SUMG Summit 50.06 23 *i* P **P** **08 11 14.8 -0.5**
21nm,0.9s
SMLC San Martn de 52.16 114 *e*P **P** **08 11 26.6 -4.7**
SMLC San Martn de 52.16 114 *e*P **P** **08 11 26.6 -4.7**
MALC Bahia Malaga 53.40 121 *e*P P 08 11 32.6 -7.9
MALC Bahia Malaga 53.40 121 *e*P P 08 11 32.6 -7.9
PTBC PUERTO BERRIO, 53.49 116 *e*P **P** **08 11 38.5 -2.7**
PTBC PUERTO BERRIO, 53.49 116 *e*P **P** **08 11 38.5 -2.7**
SEY Seymchan 53.63 325 P **P** **08 11 41.9 +0.4**
2.6nm,0.8s,baz=157,slow=4.5,SNR=6.7
GUY2C Guyana, Caldas 53.82 118 *e*P **P** **08 11 41.9 -2.2**
GUY2C Guyana, Caldas 53.82 118 *e*P **P** **08 11 41.9 -2.2**
NORC Norcasia 53.91 117 *e*P **P** **08 11 41.9 -2.4**
NORC Norcasia 53.91 117 *e*P **P** **08 11 41.9 -2.4**
DAG Danmarks Havn 54.05 16 *i* P **P** **08 11 43.6 -0.8**
2.9nm,0.9s
CAPV Capacho 54.05 113 *e*P **P** **08 11 45.3 -0.2**
CAPV Capacho 54.05 113 *e*P **P** **08 11 45.3 -0.2**
RREF El Recreo 54.07 118 *e*P **P** **08 11 44.5 -1.6**
RREF El Recreo 54.07 118 *e*P **P** **08 11 44.5 -1.6**
YOTC Yotoco, Valle 54.08 120 *e*P **P** **08 11 42.8 -2.8**
YOTC Yotoco, Valle 54.08 120 *e*P **P** **08 11 42.8 -2.8**
PAMC Pamplona, Colo 54.15 114 *e*P **P** **08 11 44.5 -2.1**
PAMC Pamplona, Colo 54.15 114 *e*P **P** **08 11 44.5 -2.1**
PETK Petropavlovsk- 54.29 313 *e*P **P** **08 11 48.0 +1.5**
PETK Petropavlovsk- 54.29 313 P **P** **08 11 47.7 +1.1**
5.5nm,0.7s,baz=75,slow=14,SNR=7.9
BARC Barichara 54.34 115 *e*P **P** **08 11 45.3 -2.3**
BARC Barichara 54.34 115 *e*P **P** **08 11 45.3 -2.3**
SDV Santo Domingo 54.54 111 *e*P **P** **08 11 49.1 0.0**
12nm,0.9s
ROSC El Rosal 54.81 117 P **P** **08 11 52.2 +1.0**
4.9nm,0.7s,baz=353,slow=19,SNR=5.3
RUSC La Rusia 54.91 115 *e*P **P** **08 11 48.7 -3.3**

RUSC La Rusia 54.91 115 *e*P **P** **08 11 48.7 -3.3**
POPC Popayan, Colom 54.93 121 *e*P **P** **08 11 49.6 -2.3**
POPC Popayan, Colom 54.93 121 *e*P **P** **08 11 49.6 -2.3**
BBAC Balboa, Cauca 54.95 122 *e*P **P** **08 11 54.7 +2.7**
BBAC Balboa, Cauca 54.95 122 *e*P **P** **08 11 54.7 +2.7**
SOTA Rioblanco 55.28 121 *e*P P 08 11 49.6 -5.2
SOTA Rioblanco 55.28 121 *e*P P 08 11 49.6 -5.2
CRUC La Cruz 55.48 122 *e*P **P** **08 11 53.8 -2.2**
CRUC La Cruz 55.48 122 *e*P **P** **08 11 53.8 -2.2**
OTAV Otavalo 55.54 125 *e*P **P** **08 11 57.4 +0.9**
17nm,1.3s
OTAV Otavalo 55.54 125 *e*P **P** **08 11 56.4 -0.2**
OTAV Otavalo 55.54 125 *e*P **P** **08 11 56.4 -0.2**
ELOV Elorza 56.66 111 *e*P **P** **08 12 02.4 -1.7**
ELOV Elorza 56.66 111 *e*P **P** **08 12 02.4 -1.7**
ASAJ Asahikawa 67.32 309 P **P** **08 13 16.5 +1.1**
3.2nm,0.2s,baz=295,slow=18,SNR=3.6
ARCES ARCESS Array B 67.89 12 P **P** **08 13 17.8 -0.8**
1.6nm,0.7s,baz=323,slow=9.8,SNR=4.8
NRIK Noril'sk 68.77 349 P **P** **08 13 23.0 -1.0**
2.5nm,0.8s,baz=73,slow=3.1,SNR=4.9
PTGA Pitinga 68.83 110 *e*P **P** **08 13 25.1 -0.2**
21nm,1.3s
KLR Kul'dur 70.28 318 P **P** **08 13 34.0 +0.2**
1.3nm,0.9s,baz=88,slow=8.1,SNR=4.1
NOA NORSAR Array B 71.94 22 P **P** **08 13 43.2 -0.5**
1.0nm,0.8s,baz=324,slow=6.0,SNR=3.5
USRK Ussuriysk Ar. 73.35 314 *e*P **P** **08 13 52.4 +0.1**
USRK Ussuriysk Ar. 73.35 314 P **P** **08 13 52.0 -0.3**
3.8nm,0.7s,baz=64,slow=17,SNR=5.6
MJAR Matsushiro Arr 74.52 305 P **P** **08 13 59.8 +0.5**
2.8nm,0.7s,baz=45,slow=4.6,SNR=6.6
MAJO Matsushiro 74.52 305 *e*P **P** **08 13 59.8 +0.5**
MAT Matsushiro 74.52 305 P **P** **08 13 59.6 +0.3**
MJB9 Matsu-Tunnel 74.52 305 *e*P **P** **08 13 59.5 +0.1**
12nm,0.9s
LPAZ La Paz 74.72 127 *e*P **P** **08 14 00.1 -1.1**
4.9nm,0.6s
LPAZ La Paz 74.72 127 P **P** **08 14 00.4 -0.9**
4.3nm,0.6s,baz=329,slow=3.5,SNR=28
FINES FINESS Array B 75.29 16 P **P** **08 14 02.6 -0.6**
2.2nm,0.7s,baz=353,slow=7.7,SNR=9.4
MNMC Minye Minye 76.05 130 *e*P **P** **08 14 09.1 +0.7**
15nm,0.8s
KSRS Korea Array 80.14 311 P **P** **08 14 31.8 +1.0**
2.4nm,0.8s,baz=56,slow=5.2,SNR=11
KSAR Wonju Array Be 80.17 311 *e*P **P** **08 14 31.4 +0.4**
JNU Nakatsue 81.31 306 P **P** **08 14 37.0 -0.3**
3.3nm,0.9s,baz=175,slow=1.8,SNR=3.5
ESDC Sonseca Array 82.05 44 *e*P **P** **08 14 39.6 -1.4**
ESDC Sonseca Array 82.05 44 P **P** **08 14 39.8 -1.2**
1.7nm,0.8s,baz=305,slow=5.8,SNR=6.4
SONM Songino Array 82.74 330 *e*P **P** **08 14 44.9 +0.3**
SONM Songino Array 82.74 330 P **P** **08 14 45.5 +0.9**
2.0nm,0.7s,baz=28,slow=3.1,SNR=8.3
ZALV Zalesovo Beam 83.62 345 *e*P **P** **08 14 47.6 -1.2**
ZALV Zalesovo Beam 83.62 345 P **P** **08 14 48.5 -0.3**
1.4nm,0.5s,baz=35,slow=4.2,SNR=5.8
AKASG Malin Array Be 85.85 18 P **P** **08 14 59.3 -0.8**
1.9nm,0.7s,baz=334,slow=3.5,SNR=5.1
AKBB Malin Array Si 85.85 18 *e*P **P** **08 14 59.3 -0.8**
3.8nm,0.9s
HHC Hu-ho-hao-te 86.19 323 *e*P **P** **08 15 02.0 -0.1**
HHC pmax pmax
comp=Z,57nm,1.2s
HHC pmax pmax
comp=Z,260nm,7.3s
BRVK Borovoye 86.62 353 *e*P **P** **08 15 03.6 -0.2**
12nm,1.5s
BDFB Brasilia 87.59 113 P **P** **08 15 09.0 -0.2**
2.4nm,0.7s,baz=330,slow=1.4,SNR=3.8
CPUP Villa Florida 88.86 126 P **P** **08 15 14.0 -0.8**
1.6nm,0.8s,baz=348,slow=6.7,SNR=4.8
NJ2 Nanjing 89.20 313 *e*P **P** **08 15 16.9 +0.3**
NJ2 pmax pmax
comp=Z,17nm,0.5s
MKAR Makanchi Array 90.93 344 *e*P **P** **08 15 23.0 -1.4**
MKAR Makanchi Array 90.93 344 P **P** **08 15 23.4 -1.0**
1.2nm,1.1s,baz=19,slow=7.8,SNR=5.5
ABKAR Akbulak array 90.95 359 *e*P **P** **08 15 23.9 -0.5**
WMQ Urumqi 92.44 340 *e*P **P** **08 15 32.0 +0.5**
LZH Lanzhou 93.56 325 *e*P **P** **08 15 36.0 -1.0**
LZH pP pP 08 15 38.1 -0.2
LZH *e*PP **PP** **08 19 23.1 +2.5**
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,87nm,9.5s
LZH LR LR
comp=N,180nm,17.2s
LZH LR LR
comp=E,180nm,17.3s
LZH LR LR
comp=Z,290nm,19.5s
KSH Kashi 99.16 347 P **Pdif** **08 16 03.6 +1.3**
AS31 Alice Springs 115.95 260 *e*PKPdf **PKPdf** **08 21 01.9 -1.9**
ASAR Alice Springs 115.96 260 PKP **PKPdf** **08 21 01.9 -1.9**
0.2nm,0.6s,baz=70,slow=2.9,SNR=4.1
VNDA Vanda 126.13 195 PKP **PKiKP** **08 21 22.1 -0.1**
0.8nm,0.8s,baz=22,slow=3.6,SNR=4.2
VNA3 Neumayer Olymp 134.33 155 PKPdf **PKPdf** **08 21 36.6 -0.8**
VNA2 Neumayer--Watz 135.10 155 PKPdf **PKPdf** **08 21 38.2 -0.6**
baz=312,slow=4.5
SNAA Sanae 136.43 156 PKPdf **PKPdf** **08 21 40.8 -0.5**
KMBO Kilima Mbogo 136.46 32 PKP **PKPdf** **08 21 43.1 -0.3**
0.8nm,0.3s,baz=96,slow=19,SNR=2.9
MATP Matopo 147.47 62 PKPbc **PKPbc** **08 22 03.5 -1.6**
4.3nm,1.0s,baz=348,slow=6.1,SNR=6.4
LBTB Lobatse 148.38 72 PKPbc **PKPbc** **08 22 06.5 -1.0**
5.3nm,1.0s,baz=252,slow=3.6,SNR=6.7
BOSA Boshof 150.15 78 *e*PKPbc **PKPbc** **08 22 11.4 -0.4**
BOSA Boshof 150.15 78 PKPbc **PKPbc** **08 22 11.3 -0.5**
5.4nm,0.9s,baz=255,slow=3.9,SNR=7.3
MAW Mawson 152.42 183 *e*PKPbc **PKPbc** **08 22 15.6 -0.1**
MAW Mawson 152.42 183 PKPbc **PKPbc** **08 22 14.9 -0.8**
2.7nm,0.8s,baz=261,slow=1.7,SNR=4.0

ISCJB ***24*** *08:07:40.4±0.4, 54°.37N±0'.08×154°.33E±0'.10, h600km, mb3.3/12, Error ellipse: s-maj=10.2km s-min=7.4km az=12.9*
IDC ***24*** *08:07:41.7±1.1, 54°.65N×153°.85E, h567km±15km, mb2.8/12, mb1 3.0/15, mb1mx2.8/45, mbtmp3.8/15, Error ellipse: s-maj=19.8km s-min=11.7km az=155.0*
KRSC ***24*** *08:07:42.6±10.0, 54°.65N×154°.43E, h556km±10km, ML4.2*
ISC 24 08:07:41.7±0.6, 54°.42N±0'.09×154°.44E±0'.08, h600km, n39, σ2.9 62/46, mb3.4/12, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.21**	**132**	*e*P	**P**	**08 08 56.2**	**-0.6**
PETK	**Petropavlovsk-**	**2.34**	**123**	P	**P**	**08 08 56.8**	**-0.7**
	3.9nm,0.3s,baz=356,slow=6.2,SNR=54						
KRX	**Arik**	**2.71**	**111**	*e*P	**P**	**08 08 59.5**	**+0.1**
KRMR	**Karymshinskiy**	**2.71**	**125**	*e*P	**P**	**08 08 58.6**	**-0.6**
KOK	**Koryaka**	**2.73**	**113**	*e*P	**P**	**08 08 59.3**	**-0.1**
KRER	**Koryakskii**	**2.79**	**112**	*e*P	**P**	**08 09 00.7**	**+0.8**
AVH	**Avacha**	**2.80**	**113**	*e*P	**P**	**08 08 59.7**	**-0.1**
SMAR	**Somma**	**2.83**	**112**	*i* P	**P**	**08 08 59.9**	**-0.2**
ESO	**Esso**	**2.87**	**57**	*e*P	**P**	**08 08 58.4**	**-1.5**
UGLR	**Uglovaya**	**2.87**	**113**	*i* P	**P**	**08 08 59.9**	**-0.3**
SDLR	**Sedlovina**	**2.87**	**112**	*e*P	**P**	**08 08 59.7**	**-0.5**
ASAK	**Asacha**	**2.91**	**133**	*e*P	**P**	**08 09 00.2**	**-0.2**
DALK	**Dalny**	**2.92**	**117**	*e*P	**P**	**08 08 59.4**	**-0.9**
DALK				*e*S	**S**	**08 10 01.7**	**-2.8**
RUS	**Russkaya**	**3.15**	**128**	*e*P	**P**	**08 09 00.3**	**-1.3**
RUS				*e*S	**S**	**08 10 03.3**	**-3.6**
TUMR	**Tumrok**	**3.41**	**73**	*e*P	**P**	**08 09 02.3**	**-0.9**
KDTR	**Khodutka, Kamc**	**3.41**	**139**	*e*P	**P**	**08 09 02.2**	**-1.1**
KDTR				*e*S	**S**	**08 10 05.7**	**-4.1**
KZV	**Kizimen**	**3.46**	**76**	*e*P	**P**	**08 09 02.2**	**-1.4**
SRDR	**Sredinnyy**	**3.56**	**56**	*e*P	**P**	**08 09 02.7**	**-1.4**
SPN	**Mys Shipunski**	**3.57**	**110**	*e*P	**P**	**08 09 02.2**	**-2.0**
SPN				*e*S	**S**	**08 10 05.5**	**-6.1**
ALID	**Alaid**	**3.62**	**169**	*e*P	**P**	**08 09 05.1**	**+0.3**
MKZ	**Mys Kozlova**	**4.25**	**85**	*i* P	**P**	**08 09 05.5**	**-3.2**
MKZ				*e*S	**S**	**08 10 12.6**	**-7.4**
BDR	**Baidarnaya**	**4.41**	**58**	*e*P	**P**	**08 09 09.2**	**-0.7**
SMKR	**Semkarok**	**4.54**	**59**	*e*P	**P**	**08 09 11.0**	**+0.1**
KBTR	**Krutoberegovo**	**5.11**	**66**	*e*P	**P**	**08 09 12.1**	**-3.1**
KBTR				*e*S	**S**	**08 10 24.0**	**-7.9**
BKI	**Bering**	**6.71**	**79**	*e*P	**P**	**08 09 30.1**	**+1.3**
BKI				*e*S	**S**	**08 10 57.2**	**+0.4**
SEY	**Seymchan**	**8.60**	**354**	P	**P**	**08 09 43.4**	**-3.0**

0.7nm,0.3s,baz=177,slow=10,SNR=12
KLR Kul'dur 14.93 259 P P 08 10 46.9 -2.3
0.2nm,0.3s,baz=45,slow=7.1,SNR=7.5
KSRS Korea Array 24.84 238 P P 08 12 17.8 -0.5
0.6nm,0.4s,baz=25,slow=9.4,SNR=4.7
ILAR Eielson Array 30.30 47 P P 08 13 07.5 +2.0
0.6nm,0.7s,baz=276,slow=10,SNR=9.0
SONM Songino Array 30.36 278 P P 08 13 05.8 -0.6
0.4nm,0.4s,baz=76,slow=6.1,SNR=2.7
INK Inuvik 34.88 38 P P 08 13 46.1 +2.1
0.5nm,0.3s,baz=289,slow=9.6,SNR=5.5
YKA Yellowknife Ar 44.42 42 P P 08 15 02.7 +2.6
0.2nm,0.6s,baz=303,slow=8.0,SNR=4.6
MKAR Makanchi Array 44.55 291 P P 08 15 00.4 -0.9
0.7nm,0.4s,baz=58,slow=6.2,SNR=9.8
ARCES ARCESS Array B 50.91 339 P P 08 15 47.1 -1.1
1.2nm,0.7s,baz=34,slow=8.8,SNR=3.9
GEYT Alibeck 63.52 299 P P 08 17 14.6 +0.2
1.7nm,0.5s,baz=145,slow=3.5,SNR=4.8
KBZ Khabaz 66.21 313 P P 08 17 31.1 +0.1
1.0nm,0.6s,baz=74,slow=7.4,SNR=2.4
TXAR Lajitas Array 73.12 63 P P 08 18 16.7 +4.3
0.3nm,0.6s,baz=297,slow=4.6,SNR=5.7
BRTR Keskin Array B 73.40 316 P P 08 18 14.1 +0.3
0.3nm,0.5s,baz=72,slow=4.7,SNR=2.6
ASAR Alice Springs 79.76 199 P P 08 18 52.0 +3.6
0.3nm,0.4s,baz=9.0,slow=4.9,SNR=6.5

MEX 24 08:16:55.8±0.4, 14°.32N×92°.78W, h21km±15km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.77	40	*i* P	Pb	08 17 07.4	-3.0
THIG				*e*S	Sb	08 17 17.6	-2.8
PCIG		1.45	343	*e*P	Pn	08 17 17.7	-3.1
PCIG				*i* S	Sn	08 17 35.2	-3.9
CCIG	Comitan	2.05	17	*e*P	Pn	08 17 27.0	-2.2
CCIG				*i* S	Sn	08 17 50.3	-3.9
TGIG		2.47	352	*e*P	Pn	08 17 32.7	-2.2
TGIG				*e*S	Sn	08 18 01.6	-2.9
CMIG	Matias Romero	3.43	324	*e*P	Pn	08 17 45.8	-2.2
CMIG				*e*S	Sn	08 18 24.5	-3.5

KRSC 24 08:18:31.9±10.0, 52°.76N×153°.53E, h530km±10km, ML4.2, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.21	84	*e*P	P	08 19 41.2	+0.7
ASAK	Asacha	2.69	96	*e*P	P	08 19 45.4	+2.0
KDTR	Khodutka, Kamc	2.95	107	*e*P	P	08 19 45.5	+0.7
KDTR				*e*S	S	08 20 43.3	-1.1
RUS	Russkaya	3.06	94	*e*P	P	08 19 46.6	+1.1
KOK	Koryaka	3.13	78	*e*P	P	08 19 48.4	+2.3
DALK	Dalny	3.17	83	*e*P	P	08 19 47.8	+1.6
DALK				*e*S	S	08 20 46.0	-1.0
AVH	Avacha	3.19	79	*e*P	P	08 19 48.8	+2.4
KRER	Koryakskii	3.20	78	*e*P	P	08 19 49.4	+2.8
KRER				*e*S	S	08 20 50.3	+2.5
SMAR	Somma	3.22	79	*e*P	P	08 19 48.9	+2.1
UGLR	Uglovaya	3.23	80	*e*P	P	08 19 49.1	+2.3
SDLR	Sedlovina	3.27	79	*e*P	P	08 19 48.9	+1.8
SPN	Mys Shipunski	3.94	82	*e*P	P	08 19 52.9	+1.2
KZV	Kizimen	4.64	57	*e*P	P	08 20 00.4	+3.0
MKZ	Mys Kozlova	5.20	66	*e*P	P	08 20 03.6	+1.6
MKZ				*e*S	S	08 21 13.4	-2.5
KBTR	Krutoberegovo	6.42	54	*e*P	P	08 20 13.6	+0.4
KBTR				*e*S	S	08 21 33.7	-2.7
BKI	Bering	7.73	67	*e*S	S	08 22 01.3	+1.4

*IDC **24** 08:19:53.4±0.7, 28°.41N×53°.53E, h0km, mb4.3/30, mb1 4.4/36, mb1mx4.3/56, mbtmp4.3/36, ML4.0/6, Error ellipse: s-maj=15.7km s-min=11.6km az=169.0*
*TEH **24** 08:19:56.2, 28°.57N×53°.57E, h11km, ML4.2*
*NEIC **24** 08:19:57.3±0.0, 28°.56N×53°.53E, h18km, mb4.4/54, ML4.1(THR), MN4.2(TEH), After THR.*
*DSN **24** 08:20:02.7±1.6, 28°.18N×53°.67E, h10km, ML4.3/10, Error ellipse: s-maj=21.4km s-min=13.2km az=34.0*
*OMAN **24** 08:20:21.5±5.8, 27°.19N×54°.80E, h12km, ml3.8/11, Error ellipse: s-maj=109.0km s-min=7.7km az=331.0*

ISC 24 08:19:56.3±0.6, 28°.56N±0°.03×53°.55E±0°.03, h13km±3km, n242, σ1§60/249, mb4.5/74, 11C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	Jahrom	0.06	155	*e*Pg	Pg	08 19 58.5	-0.4
JHRM				*e*Sg	Sg	08 20 00.0	-0.8
JHRM				IAMB	IAmb	08 20 00.6	
	comp=Z,0.0nm,0.4s						
GHIR	Ghir-Karzin	0.56	242	*e*Pg	Pg	08 20 08.1	+0.7
GHIR				*e*Sg	Sg	08 20 16.0	+1.1
GHIR	Ghir-Karzin	0.56	242	*e*Pg	Pg	08 20 08.1	+0.7
LMD1	Lamerd	1.26	196	*e*Pg	Pg	08 20 20.9	+0.4
LMD1				*e*Sg	Sg	08 20 41.4	+4.5
LMD1				IAMB	IAmb	08 20 56.0	
	comp=Z,0.0nm,0.5s						
IPAR	Pars	1.35	341	*e*Pn	Pb	08 20 21.6	-0.1
IPAR	Pars	1.35	341	*e*Pg	Pb	08 20 21.7	0.0
IPAR				IAMB	IAmb	08 20 45.9	
	comp=Z,47μm,0.9s						
SHI	Shiraz	1.41	320	*e*Pg	Pg	08 20 23.5	+0.1
IKAZ	Kazeroun	1.93	310	*e*Pn	Pb	08 20 30.7	-0.8
IKAZ	Kazeroun	1.93	310	*e*Pn	Pb	08 20 30.7	-0.8
IKAZ				IAMB	IAmb	08 21 20.8	
	comp=Z,28μm,0.5s						
GENO	Geno	2.59	116	*e*Pn	Pn	08 20 39.3	+1.2
GENO	Geno	2.59	116	*e*Pn	Pn	08 20 39.3	+1.2
IMEH	Mehriz	2.97	18	*e*Pn	Pb	08 20 46.3	-2.9
IMEH	Mehriz	2.97	18	*e*Pn	Pb	08 20 46.4	-2.8
IMEH				IAMB	IAmb	08 21 41.0	
	comp=Z,4μm,0.6s						
KLNJ	Kolanjah	2.98	326	*e*Pn	Pn	08 20 45.2	+1.6
NGRK	Negar Kerman	2.99	68	*e*Pn	Pn	08 20 45.3	+1.6
NGRK	Negar Kerman	2.99	68	*e*Pn	Pn	08 20 45.3	+1.6
NGRK				IAMB	IAmb	08 21 40.8	
	comp=Z,0.0nm,0.8s						
KHGB	Koh Gabri	3.13	54	*e*Pn	Pn	08 20 47.5	+1.9
TVBK	TV Kerman	3.15	62	*e*Pn	Pn	08 20 48.3	+2.4
ISAD	Sadrabad	3.35	2	*e*Pn	Pn	08 20 51.8	+3.2
ISAD	Sadrabad	3.35	2	*e*Pn	Pn	08 20 51.8	+3.2
IRAM	Ramesheh	3.40	343	*e*Pn	Pn	08 20 51.4	+2.2
IRAM	Ramesheh	3.40	343	*e*Pn	Pn	08 20 51.4	+2.2
IRAM				IAMB	IAmb	08 22 00.4	
	comp=Z,3μm,0.6s						
SHME	Shamm	3.40	137	*i* P	Pn	08 20 49.1	0.0
	SNR=6.4						
SHME	Shamm	3.40	137	*e*Pn	Pn	08 20 49.5	+0.4
IBAF	Bafgh	3.49	30	*e*Pn	Pn	08 20 52.8	+2.3
IBAF	Bafgh	3.49	30	*e*Pn	Pn	08 20 52.8	+2.3
CHMN	Cheshme madani	3.72	69	*e*Pn	Pn	08 20 56.3	+2.5
CHMN	Cheshme madani	3.72	69	*e*Pn	Pn	08 20 56.3	+2.5
YZKH	Yazd	3.92	13	*e*Pn	Pn	08 20 59.5	+3.1
MSFE	Esma-Masafi	3.95	143	*i* P	Pn	08 20 58.8	+2.2
	SNR=23						
MSFE	Esma-Masafi	3.95	143	*e*Pn	Pn	08 20 58.8	+2.2
NAZ	Nazwa, Dubai	4.03	152	*i* P	Pn	08 21 00.1	+2.4
	SNR=8.1						
NAZ	Nazwa, Dubai	4.03	152	P	Pn	08 21 00.1	+2.4
NAZ	Nazwa, Dubai	4.03	152	*e*Pn	Pn	08 21 00.4	+2.8
IGAR	Gharneh	4.05	342	*e*Pn	Pn	08 21 00.6	+2.4
AJN	Ajban	4.18	162	*i* P	Pn	08 21 02.3	+2.6
	SNR=17						
AJN	Ajban	4.18	162	*e*Pn	Pn	08 21 02.2	+2.4
FAQ	Al Faqa, Dubai	4.21	154	*i* P	Pn	08 21 02.6	+2.3
	SNR=14						
FAQ	Al Faqa, Dubai	4.21	154	P	Pn	08 21 02.7	+2.5
FAQ	Al Faqa, Dubai	4.21	154	*e*Pn	Pn	08 21 02.6	+2.3
ASUD	Al Ashush, Dub	4.23	157	*e*Pn	Pn	08 21 03.7	+3.3
ASUD	Al Ashush, Dub	4.23	157	*i* P	Pn	08 21 03.4	+2.9
	SNR=50						
ASUD	Al Ashush, Dub	4.23 157	P	Pn	08 21 03.6	+3.1	
	SNR=50						
ASUD	Al Ashush, Dub	4.23 157	*e*Pn	Pn	08 21 03.7	+3.3	
ZNGN	Zangian	4.25	327	*e*Pn	Pn	08 21 03.0	+2.0
NASN	Na'in	4.28	352	*e*Pn	Pn	08 21 03.7	+2.3
ROKH	ROKH	4.36	331	*e*Pn	Pn	08 21 04.1	+1.7
HATD	Hatta, Dubai	4.38	148	*e*Pn	Pn	08 21 04.9	+2.4
HATD	Hatta, Dubai	4.38	148	*i* P	Pn	08 21 05.0	+2.4
	SNR=5.9						
HATD	Hatta, Dubai	4.38	148	P	Pn	08 21 05.4	+2.9
	SNR=6.0						
HATD	Hatta, Dubai	4.38	148	*e*Pn	Pn	08 21 04.9	+2.4
JHBN	Jahan bin	4.43	326	*e*Pn	Pn	08 21 06.0	+2.5
IZEF	Zefreh	4.45	347	*e*Pn	Pn	08 21 05.0	+1.3
IZEF	Zefreh	4.45	347	*e*Pn	Pn	08 21 05.1	+1.3
ASHO	Ashiyiah	4.46	149	*e*Pn	Pn	08 21 05.7	+2.0
ASHO	Ashiyiah	4.46	149	*i* P	Pn	08 21 05.5	+1.8
	SNR=20						
ASHO				S	Sn	08 21 54.4	-1.2
ASHO	Ashiyiah	4.46	149	P	Pn	08 21 05.6	+2.0
	SNR=14						
ASHO	Ashiyiah	4.46	149	*e*Pn	Pn	08 21 05.8	+2.0
IPIR	Pirpir	4.71	332	*e*Pn	Pn	08 21 09.1	+1.8
IPIR	Pirpir	4.71	332	*e*Pn	Pn	08 21 09.1	+1.8
IPIR				IAMB	IAmb	08 22 05.7	
	comp=Z,2μm,0.6s						
ALNE	Al Ain	4.90	156	*i* P	Pn	08 21 11.5	+1.8
	SNR=24						
ALNE	Al Ain	4.90	156	*e*Pn	Pn	08 21 12.0	+2.3
SOHO	SOHO	5.15	148	P	Pn	08 21 14.7	+1.5
	SNR=8.1						
TPRV	Parvadeh(Tabas	5.21	30	*e*Pn	Pn	08 21 15.9	+1.9
KRSH	Karshahi	5.53	348	*e*Pn	Pn	08 21 19.5	+1.0
MZR	Muzera	5.53	181	P	Pn	08 21 19.4	+1.0
MZR	Muzera	5.53	181	*e*Pn	Pn	08 21 20.1	+1.7
ARQ	Araqi	5.85	152	P	Pn	08 21 24.5	+1.7
TKDS	Koohdasht(Taba	5.90	30	*e*Pn	Pn	08 21 25.1	+1.6
TNSJ	Nastanj	5.99	25	*e*Pn	Pn	08 21 26.6	+1.8
HOQ	Hoqain	6.00	145	P	Pn	08 21 27.1	+2.3
HOQ	Hoqain	6.00	145	*e*Pn	Pn	08 21 26.8	+2.0
GHVR	GHOM	6.21	343	*e*Pn	Pn	08 21 30.5	+2.8
GHVR	GHOM	6.21	343	*e*Pn	Pn	08 21 30.6	+2.8
ITEG	Tejag	6.22	45	*e*Pn	Pn	08 21 30.5	+2.5
ITEG	Tejag	6.22	45	*e*Pn	Pn	08 21 30.5	+2.5
BIDO	Bidbid	6.49	140	P	Pn	08 21 33.0	+1.5
IVRN	Varamin	6.60	347	*e*Pn	Pn	08 21 35.2	+2.1
IVRN	Varamin	6.60	347	*e*Pn	Pn	08 21 35.2	+2.1
BSY	Bisya	6.66	150	P	Pn	08 21 35.4	+1.5
	SNR=11						
WSAR	Wadi Sarin	7.00	138	P	Pn	08 21 39.6	+1.0
WSAR	Wadi Sarin	7.00	138	Pn	Pn	08 21 39.5	+1.0
	comp=Z,11nm,0.3s,baz=278,slow=4.0,SNR=35						
WSAR				Sn	Sn	08 22 55.3	-2.7
	comp=Z,1.9nm,0.3s,baz=165,slow=23,SNR=7.0						
IRAZ	Razeghan	7.49	337	*e*Pn	Pn	08 21 46.4	+1.0
IRAZ	Razeghan	7.49	337	*e*Pn	Pn	08 21 46.4	+1.0
WBK	Wadi Bani Khal	7.68	139	P	Pn	08 21 49.4	+1.5
JLN	Jalan Bani Buh	8.29	139	P	Pn	08 21 57.6	+1.3
MHTO	MHTO	8.54	151	P	Pn	08 22 00.3	+0.6
GEYT	Alibeck	10.10	21	*e*Pn	Pn	08 22 25.7	+4.7
GEYT	Alibeck	10.10	21	Pn	Pn	08 22 24.7	+3.6
	comp=Z,6.0nm,0.3s,baz=264,slow=13,SNR=3.3						
GYA0B	ALIBECK ARRAY	10.10	21	*e*Pn	Pn	08 22 25.6	+4.5
SIRT	Sirnak	12.89	317	*e*Pn	Pn	08 22 59.4	0.0
GNI	Garni	13.65	330	Pn	P	08 23 18.5	-0.1
	comp=Z,1.7nm,0.3s,baz=167,slow=18,SNR=3.7						
KBL	Kabul	14.49	62	*e*Pn	Pn	08 23 24.2	+3.0
ASF	Jabal al Asfar	14.82	288	Pn	Pn	08 23 25.8	+0.1
	comp=Z,0.8nm,0.3s,baz=255,slow=3.7,SNR=6.8						
ASF				Sn	Sn	08 26 01.2	-8.7
	comp=Z,0.3nm,0.3s,baz=254,slow=20,SNR=4.7						
TBLG	Delisi	14.98	334	*e*Pn	P	08 23 31.7	-1.5
AKH	Akhalkalaki	15.23	330	*e*Pn	P	08 23 36.6	+0.5
	comp=Z,7.7nm,0.8s						
MMAI	Mount Meron Ar	16.21	290	Pn	Pn	08 23 41.5	-2.4
	comp=Z,1.0nm,0.3s,baz=112,slow=15,SNR=2.4						
EIL	Elat	16.30	278	Pn	Pn	08 23 43.8	-1.1
	comp=Z,0.2nm,0.3s,baz=90,slow=15,SNR=2.1						
DAMY	Dhamar	16.30	213	*e*Pn	Pn	08 23 42.9	-2.5
	comp=Z,28nm,1.2s						
GAR	Garm	17.37	49	*e*Pn	Pn	08 23 56.6	-2.0
	comp=Z,14nm,0.9s						
KBZ	Khabaz	17.39	333	P	P	08 24 00.4	+0.5
	comp=Z,0.1nm,0.3s,baz=72,slow=6.8,SNR=4.6						
NIL	Nilore	17.61	68	*e*Pn	Pn	08 24 01.7	+0.2
	comp=Z,18nm,1.1s						
KVAR	Kislovodsk Arr	17.66	333	P	P	08 24 06.3	+3.3
	baz=270,slow=20,SNR=11						
KIV	Kislovodsk	17.66	333	*e*Pn	P	08 24 06.3	+3.3
	comp=Z,22nm,1.1s						
BTK	Batken	18.27	47	*e*Pn	Pn	08 24 08.3	-1.3
	comp=Z,5.6nm,0.6s						
ATD	Arta Tunnel	19.68	213	*e*P	P	08 24 24.6	-0.7
	comp=Z,22nm,1.4s						
ATD	Arta Tunnel	19.68	213	P	P	08 24 24.2	-1.0
	comp=Z,1.3nm,0.3s,baz=246,slow=20,SNR=2.2						
BR101	Keskin Array S	19.85	309	*e*P	Pn	08 24 28.2	-0.4
BR131	Keskin Array S	19.85	309	*e*P	P	08 24 27.7	+0.6
	comp=Z,18nm,1.3s						
BRTR	Keskin Array B	19.85	309	*e*P	P	08 24 26.3	-0.8
BRTR	Keskin Array B	19.85	309	P	Pn	08 24 28.2	-0.4
	comp=Z,0.5nm,0.3s,baz=129,slow=13,SNR=23						
KK31	Karatay Array	19.94	39	*e*P	P	08 24 27.9	-0.1
	comp=Z,8.8nm,1.3s						
KKAR	Karatay Array	19.94	39	*e*P	P	08 24 28.0	+0.1
	comp=Z,8.8nm,1.3s						
ARSB	Arslanbob	20.34	46	*e*P	P	08 24 29.4	-3.0
	comp=Z,9.0nm,0.8s						
ABKAR	Akbulak array	21.24	12	*e*P	P	08 24 43.3	+1.3
ISP	Isparta	21.33	302	*e*P	P	08 24 44.3	+1.2
	comp=Z,14nm,0.8s						
AAK	Ala-Archa	22.00	45	*e*P	P	08 24 50.5	+0.2
	comp=Z,13nm,1.4s						
AAK	Ala-Archa	22.00	45	P	P	08 24 51.8	+1.5
	comp=Z,1.2nm,0.4s,baz=168,slow=12,SNR=3.7						
AKTO	Aktyubinsk	22.11	8	P	P	08 24 52.5	+1.2
	comp=Z,3.6nm,0.5s,baz=188,slow=12,SNR=13						
NRN	Naryn	22.36	49	*e*P	P	08 24 54.3	-0.1
	comp=Z,4.4nm,0.7s						
KARP	Karpathos	23.38	294	*e*P	P	08 25 04.9	0.0
	comp=Z,7.1nm,1.1s						
TARG	Taragay, Kyrgy	23.70	50	*e*P	P	08 25 06.7	-1.6
	comp=Z,3.0nm,0.8s						
SANT	Santorini	24.89	295	*e*P	P	08 25 17.8	-1.1
	comp=Z,128nm,1.3s						
IDI	Anoyia	25.18	293	P	P	08 25 21.7	+0.1
	comp=Z,7.7nm,0.7s,baz=86,slow=16,SNR=2.6						
PLOR	Plostina	27.32	316	⇑*i*P	P	08 25 41.3	+0.5
BVAR	Borovoye Array	27.43	22	P	P	08 25 42.4	+0.8
	comp=Z,4.5nm,0.7s,baz=217,slow=7.2,SNR=31						
MLR	Muntele Rosu	27.58	315	*e*P	P	08 25 42.4	-0.8
	comp=Z,7.7nm,1.0s						
MLR	Muntele Rosu	27.58	315	⇑*i*P	P	08 25 43.5	+0.3
MLR	Muntele Rosu	27.58	315	P	P	08 25 44.6	+1.3
	comp=Z,2.1nm,0.4s,baz=259,slow=13,SNR=4.7						
TESR	Tescani	27.66	318	⇑*i*P	P	08 25 43.3	-0.5
LIT	Litokhoron	27.98	302	*e*P	P	08 25 46.8	+0.1
	comp=Z,51nm,1.4s						
ARU	Arti	28.08	6	*e*P	P	08 25 47.2	-0.2
	comp=Z,2.7nm,0.6s						
VOIR		28.11	315	⇑*i*P	P	08 25 49.0	+1.1
DOPR	Dopca	28.15	316	⇑*i*P	P	08 25 48.8	+0.6
ARR	Arges	28.34	314	⇑*i*P	P	08 25 50.8	+0.8
MAKZ	Makanchi	28.72	43	*e*P	P	08 25 53.9	+0.7
	comp=Z,2.9nm,0.8s						
AKASG	Malin Array Be	28.75	327	*e*P	P	08 25 53.2	-0.2
AKASG	Malin Array Be	28.75	327	P	P	08 25 52.6	-0.7
	comp=Z,1.7nm,0.6s,baz=133,slow=8.5,SNR=5.1						
AKBB	Malin Array Si	28.75	327	*e*P	P	08 25 52.5	-0.9
	comp=Z,7.7nm,1.1s						
KIEV	Kiev	28.75	327	*e*P	P	08 25 52.6	-0.8
	comp=Z,7.7nm,1.1s						
KIEV	Kiev	28.75	327	⇑*i*P	P	08 25 52.6	-0.8
MK31	Makanchi Array	28.90	43	*e*P	P	08 25 55.1	+0.3
	comp=Z,4.1nm,1.3s						
MK32	Makanchi Array	28.90	43	*e*P	P	08 25 55.1	+0.3
MKAR	Makanchi Array	28.90	43	*e*P	P	08 25 53.9	-1.0
MKAR	Makanchi Array	28.90	43	P	P	08 25 55.1	+0.3
	comp=Z,1.0nm,0.6s,baz=221,slow=8.0,SNR=9.4						
KURBB	Kurchatov Arra	29.01	34	P	P	08 25 56.4	+0.6
	comp=Z,1.3nm,0.7s,baz=232,slow=8.7,SNR=9.6						
BURAR	Bucovina Array	29.07	319	*e*P	P	08 25 56.1	-0.3
BURAR	Bucovina Array	29.07	319	⇑*i*P	P	08 25 56.8	+0.4
BUR08	Bucovina Ar. S	29.09	319	*e*P	P	08 25 55.0	-1.7
	comp=Z,5.9nm,1.3s						
OBN	Obninsk	29.24	340	*e*P	P	08 25 58.0	+0.3
	comp=Z,25nm,0.4s						
GZR	Gura Zlata	29.54	313	⇑*i*P	P	08 26 01.2	+0.6
MDVR	Moldovita	29.99	311	⇓*i*P	P	08 26 05.3	+0.7
DRGR		30.18	316	⇑*i*P	P	08 26 07.1	+0.9
SIRR	Siria	30.61	314	⇑*i*P	P	08 26 11.2	+1.2
WMQ	Urumqi	31.23	52	*e*P	P	08 26 17.5	+1.9
KOLS	Kolonicke sedl	31.43	319	*e*P	P	08 26 18.7	+1.5
PSZ	Piszkesteto	32.39	316	*e*P	P	08 26 26.9	+1.2
	comp=Z,5.4nm,0.9s						
LANS	Liptovska Anna	33.17	318	*e*P	P	08 26 33.6	+1.1
VYHS	Vyhne	33.27	316	*e*P	P	08 26 32.7	-0.6
OJC	Ojcow	33.46	320	*e*P	P	08 26 35.2	+0.3
	comp=Z,4.9nm,0.6s						
ZALV	Zalesovo Beam	34.10	33	*e*P	P	08 26 40.3	-0.2
ZALV	Zalesovo Beam	34.10	33	P	P	08 26 40.5	0.0
	comp=Z,3.5nm,0.4s,baz=242,slow=9.3,SNR=8.4						
ZAA1	Zalesovo Array	34.10	33	*e*P	P	08 26 40.5	0.0
MORC	Moravsky Berou	34.57	318	*e*P	P	08 26 44.0	-0.7
	comp=Z,15nm,1.5s						
MORC	Moravsky Berou	34.57	318	*e*P	P	08 26 44.3	-0.4
VRAC	Vranov	34.95	317	*e*P	P	08 26 48.2	+0.3
VRAC	Vranov	34.95	317	P	P	08 26 47.9	0.0
	comp=Z,6.6nm,0.6s,baz=107,slow=7.4,SNR=6.6						
KRUC	Moravsky	34.98	316	*e*P	P	08 26 48.3	+0.2
KRLC	Kraliky	35.14	318	*e*P	P	08 26 49.2	-0.4
KRLC				*e*pP	sP	08 26 55.5	-0.1
DPC	Dobruska-Polom	35.52	318	*e*P	P	08 26 52.7	-0.2
DPC				*e*pP	sP	08 26 58.8	-0.1
KBA	Koelnbreinsper	36.26	312	*i* P	P	08 26 59.7	+0.3
	comp=Z,5.2nm,0.5s						
GERES	GERESS Array B	36.57	315	*e*P	P	08 27 01.0	-0.9
GERES	GERESS Array B	36.57	315	P	P	08 27 01.6	-0.3
	comp=Z,1.1nm,0.5s,baz=103,slow=8.2,SNR=10						
KHC	Kasperske Hory	36.74	315	*e*P	P	08 27 02.6	-0.6
	comp=Z,2.6nm,0.9s						
KHC	Kasperske Hory	36.74	315	*e*P	P	08 27 03.3	0.0
BRG	Berggiesshubel	37.12	318	*e*P	P	08 27 12.3	+5.8
	comp=Z,6.7nm,1.0s						
WTTA	Wattenberg	37.43	312	*i* P	P	08 27 09.1	-0.3
	comp=Z,6.0nm,0.5s						
WATA	Walderalm	37.49	312	*i* P	P	08 27 09.3	-0.5
	comp=Z,9.3nm,0.7s						
FIA0	FINESS Array S	37.62	339	*e*P	P	08 27 10.6	+0.1
FIA1	FINESS Array S	37.62	339	*e*P	P	08 27 10.3	-0.2
	comp=Z,9.4nm,0.6s						
FINES	FINESS Array B	37.62	339	*e*P	P	08 27 10.4	-0.1
FINES	FINESS Array B	37.62	339	P	P	08 27 10.6	+0.1
	comp=Z,6.8nm,0.5s,baz=142,slow=9.6,SNR=48						
SQTA	Sankt Quirin	37.70	311	*i* P	P	08 27 11.2	-0.4
	comp=Z,13nm,0.5s						
MOTA	Moosalm	37.80	312	*i* P	P	08 27 11.0	-1.5
	comp=Z,3.8nm,0.6s						
CLL	Collm	37.84	318	*e*P	P	08 27 12.8	+0.3
	comp=Z,17nm,1.4s						
CLL	Collm	37.84	318	*i* P	P	08 27 12.6	+0.1
	comp=Z,9.0nm,1.0s						
FETA	Feichten	37.97	311	*i* P	P	08 27 13.8	-0.1
	comp=Z,14nm,1.1s						
RETA	Reutte	38.06	312	*i* P	P	08 27 13.6	-1.0
	comp=Z,3.7nm,0.5s						
DAVOX	Davos/Dischmat	38.49	310	P	P	08 27 17.4	-0.9
	comp=Z,3.1nm,0.4s,baz=131,slow=23,SNR=4.0						
DAVA	Damuels	38.60	311	*i* P	P	08 27 18.7	-0.5
	comp=Z,19nm,0.5s						
GTA	Gaotai	39.48	62	*e*P	P	08 27 27.4	+0.8
GTA				pP	sP	08 27 34.6	+1.9
GTA				sP	pP	08 27 38.3	+7.3
HFS	Hagfors	41.44	331	P	P	08 27 42.0	-0.4
	comp=Z,4.3nm,0.5s,baz=125,slow=9.6,SNR=19						
CMAR	Chiang Mai Arr	42.61	93	P	P	08 27 51.0	-1.5
	comp=Z,1.1nm,0.4s,baz=285,slow=10,SNR=3.8						
LZH	Lanzhou	42.77	67	*e*P	P	08 27 54.3	+0.5
LZH				pP	sP	08 27 59.8	-0.1
LZH				sP	pP	08 28 02.5	+4.3
LZH				*e*PP	PP	08 29 36.4	+3.4
NB2	NORSAR Subarra	42.95	331	P	P	08 27 53.8	-1.0
	comp=Z,1.0nm,0.5s,baz=121,slow=8.6						
NB200	NORSAR Array S	42.95	331	*e*P	P	08 27 53.9	-0.9
NOA	NORSAR Array B	42.95	331	P	P	08 27 53.9	-0.9
	comp=Z,2.0nm,0.8s,baz=120,slow=8.1,SNR=7.2						
ARCES	ARCESS Array B	44.09	346	P

APC	Apacha	1.97	142	P	P	08 29 27.7	0.0
PETK	Petropavlovsk-	2.04	132	P	P	08 29 28.3	+0.3
	1.7nm,0.3s,baz=330,slow=2.4,SNR=35						
KRX	Arik	2.35	118	eP	P	08 29 30.9	+1.6
KRX	Arik	2.35	118	P	P	08 29 30.9	+1.6
KOK	Koryaka	2.38	119	eP	P	08 29 31.3	+1.9
KOK	Koryaka	2.38	119	P	P	08 29 31.3	+1.9
KRMR	Karymshinskiy	2.42	132	eP	P	08 29 30.0	+0.5
KRMR	Karymshinskiy	2.42	132	P	P	08 29 30.0	+0.5
KRER	Koryakskii	2.43	118	eP	P	08 29 30.8	+1.1
KRER	Koryakskii	2.43	118	P	P	08 29 30.8	+1.1
AVH	Avacha	2.44	119	eP	P	08 29 31.3	+1.7
AVH	Avacha	2.44	119	P	P	08 29 31.3	+1.7
SMAR	Somma	2.48	119	eP	P	08 29 31.7	+1.7
SMAR	Somma	2.48	119	P	P	08 29 31.7	+1.7
SDLR	Sedlovina	2.51	118	eP	P	08 29 31.5	+1.5
SDLR	Sedlovina	2.51	118	P	P	08 29 31.5	+1.5
UGLR	Uglovaya	2.52	119	eP	P	08 29 31.6	+1.6
UGLR	Uglovaya	2.52	119	P	P	08 29 31.6	+1.6
RUS	Russkaya	2.87	135	eP	P	08 29 32.6	+1.0
RUS	Russkaya	2.87	135	P	P	08 29 32.6	+1.0
TUMR	Tumrok	2.97	73	eP	P	08 29 33.6	+1.5
TUMR	Tumrok	2.97	73	P	P	08 29 33.6	+1.5
KZV	Kizimen	3.02	76	eP	P	08 29 33.3	+0.9
KZV				eS	S	08 30 41.1	+0.3
KZV	Kizimen	3.02	76	P	P	08 29 33.3	+0.9
KZV				S	S	08 30 41.1	+0.3
SPN	Mys Shipunski	3.20	114	eP	P	08 29 33.9	+0.7
SPN	Mys Shipunski	3.20	114	P	P	08 29 33.9	+0.7
MKZ	Mys Kozlova	3.82	86	eP	P	08 29 36.6	-0.1
MKZ				eS	S	08 30 47.0	-1.6
MKZ	Mys Kozlova	3.82	86	P	P	08 29 36.6	-0.1
MKZ				S	S	08 30 47.0	-1.6
KBTR	Krutoberegovo	4.68	65	eP	P	08 29 43.0	+0.5
KBTR				S	S	08 30 58.3	-0.9
KBTR	Krutoberegovo	4.68	65	P	P	08 29 43.0	+0.5
KBTR				S	S	08 30 58.3	-0.9
KURK	Kurchatov	44.51	298	P	P	08 35 24.3	-0.6
KURBB	Kurchatov Arra	44.61	298	P	P	08 35 24.3	-1.4
	0.5nm,0.3s,baz=59,slow=7.7,SNR=5.8						
MKAR	Makanchi Array	44.92	292	P	P	08 35 26.6	-1.6
	0.4nm,0.4s,baz=55,slow=6.5,SNR=6.9						
BVAR	Borovoye Array	47.21	305	P	P	08 35 44.4	-0.9
	0.9nm,0.4s,baz=56,slow=5.8,SNR=3.8						
ARCES	ARCESS Array B	50.99	340	P	P	08 36 13.6	+0.9
	0.4nm,0.7s,baz=41,slow=8.4,SNR=1.1						
FINES	FINESS Array B	57.62	334	P	P	08 36 59.8	+1.1
	0.3nm,0.3s,baz=38,slow=7.6,SNR=3.5						
NOA	NORSAR Array B	61.32	341	P	P	08 37 23.7	+0.5
	0.3nm,0.4s,baz=26,slow=6.8,SNR=1.7						

*BJI **24** 08:33:12.6±0.0, 37°.56N×141°.76E, h38km, mb5.1/66, mB5.3/6, Ms5.3/13, Ms7 5.2/8*
*MOS **24** 08:33:15.4±1.0, 37°.78N×141°.61E, h43km, mb5.5/37, Error ellipse: s-maj=8.4km s-min=4.4km az=106.3*
*JMA **24** 08:33:16.5, 37°.67N×141°.64E, h44km±1km, M4.9*
JMA Felt III J1.
*ISCJB **24** 08:33:16.9±0.3, 37°.68N±0°.02×141°.53E±0°.03, h55km±2km, mb5.0/245, Error ellipse: s-maj=4.1km s-min=2.7km az=41.7*
*NEIC **24** 08:33:17.8±1.4, 37°.71N×141°.52E, h48km±3km, mb4.9/172, Error ellipse: s-maj=11.4km s-min=10.3km az=115.0*
NEIC Felt [III] at Koriyama and in Sendai. Also felt at Furukawa, Hitachi, Iwaki, Okegawa, Shiogama, Sukagawa, Tsukuba and Yonezawa and in Fukushima and Utsunomiya. Recorded [3 JMA] in Fukushima and Miyagi.
*IDC **24** 08:33:17.7±0.5, 37°.71N×141.55E, h50km±4km, mb4.6/25, mb1 4.7/30, mb1mx4.6/42, mbtmp4.8/30, Error ellipse: s-maj=12.3km s-min=9.3km az=107.0*
ISC 24 08:33:16.6±0.4, 37°.70N±0°.04×141°.69E±0°.04, h44km±3km, h43km:pP-P, n522, σ1§31/557, mb5.0/251, 49C-13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.64	344	P	Pn	08 33 29.5	+0.2
JIKH				S	Sn	08 33 38.2	-0.2
JFK	Kawauchi	0.73	243	P	Pn	08 33 29.8	-0.7
JFK				eS	Sn	08 33 39.0	-1.6
JMM	Marumori	0.73	284	P	Pn	08 33 30.2	-0.3
JMM				S	Sn	08 33 39.7	-0.8
JIO	Ouri	0.80	341	P	Pn	08 33 31.7	+0.2
JIO				S	Sn	08 33 42.0	-0.3
ONAJ	Iwakimizuishiy	0.93	230	P	Pn	08 33 32.4	-0.9
ONAJ				S	Sn	08 33 43.4	-2.0
JOU	Okura	1.05	310	P	Pn	08 33 34.9	0.0
JOU				S	Sn	08 33 48.6	+0.2
JFT	Otama	1.09	261	P	Pn	08 33 35.7	+0.3
JFT				S	Sn	08 33 49.4	+0.1
JKMT	Kesennumamotoy	1.12	351	P	Pn	08 33 36.2	+0.3
JKMT				eS	Sn	08 33 50.3	+0.1
JMK	Ichinoseki	1.30	344	P	Pn	08 33 39.3	+0.9
JMK				S	Sn	08 33 55.1	+0.5
JYS	Shiratake	1.38	293	P	Pn	08 33 39.5	0.0
JYS				eS	Sn	08 33 56.5	-0.1
JFY	Yanaizu	1.60	260	P	Pn	08 33 42.5	0.0
JFY				eS	Sn	08 34 01.7	-0.3
JYK	Kaneyama	1.60	320	P	Pn	08 33 43.0	+0.5
JYK				S	Sn	08 34 02.7	+0.7
MJAR	Matsushiro Arr	3.01	248	ePn	Pn	08 34 02.6	+0.8
MJAR	Matsushiro Arr	3.01	248	eP	Pn	08 34 02.6	+0.8
MJAR	Matsushiro Arr	3.01	248	P	Pn	08 34 02.4	+0.6
	15nm,0.3s,baz=57,slow=10,SNR=307						
MJAR				S	Sn	08 34 44.0	+7.4
	18nm,0.3s,baz=79,slow=15,SNR=4.6						
MAJO	Matsushiro	3.01	249	ePn	Pn	08 34 03.1	+1.2
MAJO				eSn	Sn	08 34 44.0	+7.4
MAJO	Matsushiro	3.01	249	d iP	Pn	08 34 02.9	+1.1
MAT	Matsushiro	3.01	249	P	Pn	08 34 02.9	+1.1
MAT				S	Sn	08 34 39.3	+2.6
MJB9	Matsu-Tunnel	3.01	249	ePn	Pn	08 34 03.0	+1.2
INU	Inuyama	4.43	239	ePn	Pn	08 34 23.0	+2.0
ERM	Erimo	4.46	14	ePn	Pn	08 34 22.6	+0.9
ERM	Erimo	4.46	14	ceP	Pn	08 34 22.3	+0.7
ERM				pmax	pmax		
	comp=Z,36nm,0.6s						
JHJ2	Mitsune	4.82	199	ePn	Pn	08 34 26.9	+0.2
JHJ2				eSn	Sn	08 35 21.9	+0.6
JHJ	Hachijo jima 2	4.83	199	P	Pn	08 34 26.6	-0.2
	comp=Z,172nm,0.3s,baz=332,slow=15,SNR=54						
JHJ				S	Sn	08 35 18.6	-2.8
	comp=Z,236nm,0.3s,baz=96,slow=21,SNR=11						
ASAJ	Asahikawa	6.45	6	P	Pn	08 34 49.1	+0.1
	comp=Z,7.0nm,0.3s,baz=199,slow=14,SNR=18						
ASAJ				S	Sn	08 36 01.5	+0.3
	comp=Z,6.7nm,0.3s,baz=167,slow=24,SNR=4.2						
YUK	Yuzh-Kuril'sk	7.08	25	eP	Pn	08 34 55.9	-1.6
YUK				eS	Sn	08 36 12.1	-4.5
YUK				pmax	pmax		
	comp=Z,139nm,0.5s						
TEY	Ternei	8.27	334	⇑eP	Pn	08 35 18.9	+5.0
TEY				eS	Sn	08 36 50.0	+4.2
TEY				pmax	pmax		
	comp=E,90nm,0.8s						
TEY				pmax	pmax		
	comp=N,140nm,0.7s						
TEY				pmax	pmax		
	comp=Z,140nm,0.6s						
KUR	Kuril'sk	8.84	30	P	Pn	08 35 21.3	-0.4
KUR				eS	Sn	08 36 55.9	-4.0
KUR				pmax	pmax		
	comp=Z,62nm,0.7s						
KUR				smax	smax		
	comp=N,136nm,0.5s						
KUR				smax	smax		
	comp=E,128nm,0.9s						
YSS	Yuzh-Sakhalins	9.28	5	ePn	Pn	08 35 27.9	+0.1
YSS	Yuzh-Sakhalins	9.28	5	⇑eP	Pn	08 35 27.3	-0.5
YSS				eS	Sn	08 37 07.0	-3.8
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=Z,4μm,18.0s						
MSHR	Mys Shultsa	9.42	304	i P	Pn	08 35 31.8	+2.1
USA0B	Ussuriysk Arra	9.79	315	ePn	Pn	08 35 36.5	+1.8
USRK	Ussuriysk Ar.	9.79	315	ePn	Pn	08 35 38.2	+3.4
USRK	Ussuriysk Ar.	9.79	315	P	Pn	08 35 36.1	+1.3
	comp=Z,5.1nm,0.3s,baz=124,slow=13,SNR=51						
JNU	Nakatsue	9.93	246	ePn	Pn	08 35 38.6	+1.8
JNU	Nakatsue	9.93	246	P	Pn	08 35 38.8	+2.0
	comp=Z,2.8nm,0.3s,baz=75,slow=7.0,SNR=36						
KSRS	Korea Array	10.93	273	P	Pn	08 35 53.6	+3.3
	comp=Z,2.0nm,0.3s,baz=89,slow=14,SNR=38						
KS15	Wonju Array Si	10.96	273	ePn	Pn	08 35 53.9	+3.1
KSAR	Wonju Array Be	10.96	273	ePn	Pn	08 35 52.8	+2.0
MDJ	Mudanjiang	11.43	311	P	Pn	08 36 02.1	+4.9
MDJ				pmax	pmax		
	comp=Z,83nm,0.7s						
MDJ	Mudanjiang	11.43	311	ePn	Pn	08 36 02.5	+5.2
KLR	Kul'dur	13.58	331	eP	Pn	08 36 26.3	-0.3
KLR	Kul'dur	13.58	331	P	Pn	08 36 26.6	0.0
	comp=Z,0.4nm,0.3s,baz=163,slow=16,SNR=6.1						
CN2	Changchun	13.73	301	eP	Pn	08 36 29.8	+1.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SNY	Shenyang	14.52	292	⇓P	Pn	08 36 40.5	+1.2
SNY				pmax	pmax		
	comp=Z,16nm,1.0s						
JOW	Kunigami	15.67	230	ePn	Pn	08 36 53.8	-0.6
	comp=Z,38nm,0.9s						
DL2	Dalian	15.80	281	P	Pn	08 36 56.0	+0.1
DL2				pmax	pmax		
	comp=Z,170nm,0.8s						
ZEA	Zeya	18.88	333	eP	P	08 37 31.2	-1.9
ZEA				pmax	pmax		
	comp=N,47nm,1.0s						
ZEA				pmax	pmax		
	comp=E,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,58nm,1.0s						
PETK	Petropavlovsk-	19.00	31	eP	Pn	08 37 36.3	+0.7
PETK	Petropavlovsk-	19.00	31	P	Pn	08 37 35.5	0.0
	comp=Z,0.1nm,0.3s,baz=206,slow=9.9,SNR=5.2						
PEA1	Petropavlovsk-	19.01	31	eP	Pn	08 37 35.5	0.0
NJ2	Nanjing	19.54	260	eP	P	08 37 39.9	-0.6
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
TIA	Tai'an	19.68	273	P	P	08 37 40.4	-1.6
TIA				pmax	pmax		
	comp=Z,31nm,1.0s						
BJI	Beijing	19.98	285	P	P	08 37 43.3	-2.0
BJI				pP	pP	08 37 53.0	-2.8
BJI				pmax	pmax		
	comp=Z,13nm,0.7s						
BJT	Baijiatuau	19.99	285	eP	P	08 37 43.0	-2.4
	comp=Z,63nm,0.6s						
YHNB	Yeheng	21.64	239	eP	P	08 38 01.0	-2.3
	comp=Z,30nm,0.7s						
NACB	Ninganchiao	21.82	238	eP	P	08 38 01.8	-3.4
	comp=Z,86nm,0.4s						
SSLB	Suanglung	22.51	238	eP	P	08 38 09.1	-3.6
	comp=Z,30nm,0.7s						
YULB	Yu-li	22.55	237	eP	P	08 38 11.9	-1.1
	comp=Z,33nm,1.1s						
MA2	Magadan	22.66	12	eP	P	08 38 14.3	+0.4
	comp=Z,25nm,0.8s						
MA2	Magadan	22.66	12	ceP	P	08 38 14.2	+0.3
MA2				pmax	pmax		
	comp=Z,48nm,1.7s						
MA2	Magadan	22.66	12	P	P	08 38 13.6	-0.3
	comp=Z,20nm,0.8s,baz=173,slow=7.2,SNR=12						
TPUB	Ta-pu	23.06	237	eP	P	08 38 14.4	-3.9
	comp=Z,50nm,0.5s						
TWG	Pinlang	23.10	236	eP	P	08 38 19.3	+0.6
	comp=Z,139nm,0.8s						
HHC	Hu-ho-hao-te	23.48	287	eP	P	08 38 29.9	+7.5
HHC				sP	sP	08 38 36.6	-2.2
WHN	Wuhan	23.68	261	⇓P	P	08 38 23.4	-0.8
WHN				pmax	pmax		
	comp=Z,110nm,0.9s						
YAK	Yakutsk	25.47	347	eP	P	08 38 40.1	-0.2
YAK				eS	S	08 43 02.6	-1.6
YAK				pmax	pmax		
	comp=Z,749nm,0.9s						
YAK				pmax	pmax		
	comp=E,77nm,0.8s						
YAK				pmax	pmax		
	comp=N,250nm,1.0s						
YAK				smax	smax		
	comp=N,814nm,2.7s						
YAK				smax	smax		
	comp=E,363nm,2.5s						
SEY	Seymchan	26.10	11	ceP	P	08 38 47.0	+1.0
SEY	Seymchan	26.10	11	P	P	08 38 47.1	+1.2
	comp=E,30nm,1.1s,baz=185,slow=8.8,SNR=31						
XAN	Xi'an	26.73	272	P	P	08 38 50.5	-1.5
XAN				S	S	08 43 12.6	-12
XAN				sS	sS	08 43 38.6	-5.5
XAN				pmax	pmax		
	comp=E,23nm,0.7s						
XAN				LR	LR		
	comp=E,4μm,20.6s						
XAN				LR	LR		
	comp=E,3μm,18.4s						
XAN	Xi'an	26.73	272	eP	P	08 38 50.5	-1.5
	comp=E,68nm,0.6s						
SONA0	Songino Array	27.60	303	eP	P	08 38 59.5	-0.4
SONA0				ePcP	PcP	08 42 16.9	+0.4
SONM	Songino Array	27.60	303	eP	P	08 38 59.3	-0.6
SONM	Songino Array	27.60	303	P	P	08 38 59.5	-0.4
	comp=E,15nm,0.5s,baz=100,slow=8.7,SNR=93						
SONM				PcP	PcP	08 42 16.9	+0.4
	comp=E,1.1nm,0.6s,baz=103,slow=2.4,SNR=3.0						
ENH	Enshi	27.61	264	eP	P	08 38 58.4	-1.6
	comp=E,183nm,0.9s						
H11N2	WAKE ISLAND Hy	28.31	122	T	T	09 09 21.3	
	baz=315,slow=75,SNR=1673						
H11N1	WAKE ISLAND Hy	28.32	122	T	T	09 09 20.2	
	baz=315,slow=75,SNR=3302						
H11N3	WAKE ISLAND Hy	28.33	122	T	T	09 09 23.5	
	baz=315,slow=75,SNR=2707						
H11S1	WAKE ISLAND Hy	29.05	124	T	T	09 10 16.8	
	baz=316,slow=76,SNR=1472						
H11S3	WAKE ISLAND Hy	29.05	124	T	T	09 10 17.4	
	baz=316,slow=76,SNR=1407						
H11S2	WAKE ISLAND Hy	29.06	124	T	T	09 10 17.0	
	baz=316,slow=76,SNR=374						
ZAK	Zakamensk	30.03	307	eP	P	08 39 20.1	-1.3
ZAK				pmax	pmax		
	comp=Z,16nm,1.0s						
TLY	Talaya	30.07	310	eP	P	08 39 20.8	-0.7
	comp=Z,12nm,0.7s						
TLY	Talaya	30.07	310	i P	P	08 39 21.1	-0.5
LZH	Lanzhou	30.18	279	⇑P	P	08 39 22.3	-0.6
LZH				pP	pP	08 39 33.8	-0.7
LZH				sP	sP	08 39 39.3	-0.4
LZH				PP	PnPn	08 40 20.5	-0.9
LZH				pmax	pmax		
	comp=Z,29nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,5.2s						
LZH				LR	LR		
	comp=Z,690nm,12.9s						
LZH				LR	LR		
	comp=Z,710nm,13.4s						
LZH				LR	LR		
	comp=Z,980nm,16.5s						
GYA	Guiyang	31.55	259	⇑i P	P	08 39 33.3	-1.7
GYA				pmax	pmax		
	comp=Z,110nm,0.9s						
MOY	Mondy	31.68	309	eP	P	08 39 35.5	-0.4
MOY				pmax	pmax		
	comp=Z,13nm,1.2s						
CD2	Chengdu	31.89	269	⇓P	P	08 39 36.5	-1.4
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
ADK	Adak	32.29	50	eP	P	08 39 43.4	+2.4
	comp=Z,19nm,1.0s						
GTA	Gaotai	32.58	286	eP	P	08 39 42.5	-1.5
GTA				pP	pP	08 39 52.3	-3.4
GTA				sP	sP	08 39 56.4	-4.5
GTA				pmax	pmax		
	comp=Z,17nm,0.7s						
BILL	Bilibino	33.33	17	eP	P	08 39 49.6	-0.4
	comp=Z,4.7nm,0.9s						
BILL	Bilibino	33.33	17	⇑i P	P	08 39 49.6	-0.4
BILL				i		08 42 31.5	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TIXI	Tiksi	34.66	353	eP	P	08 40 00.7	-0.8
	comp=Z,13nm,0.6s						
TIXI	Tiksi	34.66	353	ceP	P	08 39 59.9	-1.5
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI	Kunming	35.28	261	P	P	08 40 07.8	+0.2
KMI				pP	pP	08 40 19.1	-0.3
KMI				sP	sP	08 40 24.5	-0.1
KMI				pmax	pmax		
	comp=Z,83nm,0.9s						
KMI				LR	LR		
	comp=Z,4μm,18.5s						
KMI				LR	LR		
	comp=Z,5μm,21.9s						
KMI	Kunming	35.28	261	eP	P	08 40 06.7	-0.9
	comp=Z,101nm,1.1s						
SLVN	Son La	36.42	254	eP	P	08 40 16.6	-0.5
	comp=Z,14nm,1.0s						
PANO	Nakornpanom	38.41	248	P	P	08 40 34.9	+0.8
	comp=Z,0.3nm,1.2s						
SKNT	Sakolnakorn	38.99	248	P	P	08 40 39.0	+0.1
	comp=Z,22nm,1.0s						
DLV	T Lat	39.22	238	eP	P	08 40 41.0	0.0
	comp=Z,24nm,0.8s						
DGZ	Jazzator, Alta	40.18	305	c iP	P	08 40 49.7	+1.0
DGZ				pmax	pmax		
	comp=Z,87nm,0.8s						
KHON	Khomkaen	40.25	249	P	P	08 40 51.3	+1.9
	comp=Z,62μm,0.7s						
PAYA	Payao	40.64	255	P	P	08 40 58.0	+5.4
	comp=Z,19μm,0.8s						
WMQ	Urumqi	40.74	296	eP	P	08 40 54.0	+0.8
WMQ				pP	pP	08 40 58.3	-6.9
WMQ				pmax	pmax		
	comp=Z,180nm,1.1s						
WMQ	Urumqi	40.74	296	eP	P	08 40 53.9	+0.6
	comp=Z,66nm,0.8s						
PHRA	Phrae	40.87	254	P	P	08 40 54.4	-0.1
	comp=Z,1.6nm,0.7s						
ANM	Nome	40.92	32	eP	P	08 40 56.3	+2.0
	comp=Z,16nm,1.2s						
UTTA	Uttaradit	41.08	253	P	P	08 40 56.0	-0.2
	comp=Z,17μm,0.9s,comp=Z,270μm						
CHAI	Chaiyaphum	41.15	249	P	P	08 40 56.2	-0.6
	comp=Z,28μm,1.0s						
LAMP	Lampang	41.31	254	P	P	08 40 59.1	+1.0
	comp=Z,22μm,0.6s						
FAKI	Fak Fak	41.35	194	eP	P	08 40 58.6	+0.2
	comp=Z,21nm,0.8s						
PBKT	Sadao Pong	41.48	251	P	P	08 40 59.4	-0.1
	comp=Z,8.4nm,1.1s						
ZAA0	Zalesovo Array	41.63	312	eP	P	08 40 59.4	-0.9
	comp=Z,28nm,0.8s						
ZAA1	Zalesovo Array	41.63	312	eP	P	08 41 00.2	-0.1
ZAA1				ePcP	PcP	08 42 56.1	-0.5
ZALV	Zalesovo Beam	41.63	312	eP	P	08 40 59.5	-0.8
ZALV	Zalesovo Beam	41.63	312	P	P	08 41 00.2	-0.1
	comp=Z,19nm,0.5s,baz=89,slow=7.2,SNR=65						
ZALV				PcP	PcP	08 42 56.1	-0.5
	comp=Z,3.9nm,0.6s,baz=90,slow=3.9,SNR=3.6						
CMMT	Chiang Mai	41.67	255	P	P	08 41 01.2	+0.2
	comp=Z,7.9nm,0.8s,comp=Z,5μm						
CHTO	Chiang Mai	41.67	255	eP	P	08 41 00.1	-0.9
	comp=Z,9.2nm,0.8s						
CM31	Chiang Mai Arr	41.88	255	eP	P	08 41 02.4	-0.4
	comp=Z,7.4nm,0.8s						
CM31				ePcP	PcP	08 42 58.5	+0.5
CMAR	Chiang Mai Arr	41.88	255	eP	P	08 41 02.0	-0.8
CMAR	Chiang Mai Arr	41.88	255	P	P	08 41 02.4	-0.4
	comp=Z,3.1nm,0.7s,baz=44,slow=7.6,SNR=14						
CMAR				PcP	PcP	08 42 58.5	+0.5
	comp=Z,3.0nm,0.8s,baz=34,slow=2.7,SNR=5.9						
LSA	Lhasa	42.37	275	eP	P	08 41 07.4	+0.2
	comp=Z,22nm,0.6s						
NVS	Novosibirsk	42.54	313	⇓i P	P	08 41 07.1	-0.6
NVS				pmax	pmax		
	comp=N,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,26nm,1.0s						
NVS				pmax	pmax		
	comp=Z,44nm,1.0s						
NRIK	Noril'sk	42.76	335	P	P	08 41 08.3	-1.0
	comp=Z,9.6nm,0.5s,baz=105,slow=8.5,SNR=19						
RDOG	Red Dog Mine	42.81	27	eP	P	08 41 11.4	+1.6
	comp=Z,17nm,1.2s						
MK31	Makanchi Array	43.95	302	eP	P	08 41 18.5	-0.8
	comp=Z,33nm,1.0s						
MK31	Makanchi Array	43.95	302	i P	P	08 41 19.1	-0.2
MK31				pmax	pmax		
	comp=Z,19nm,0.7s						
MK32	Makanchi Array	43.95	302	eP	P	08 41 19.1	-0.2
MKAR	Makanchi Array	43.95	302	eP	P	08 41 18.9	-0.4
MKAR	Makanchi Array	43.95	302	P	P	08 41 19.1	-0.2
	comp=Z,19nm,0.7s,baz=83,slow=9.9,SNR=140						
MAKZ	Makanchi	44.16	302	eP	P	08 41 20.4	-0.6
	comp=Z,53nm,1.3s						
MAKZ	Makanchi	44.16	302	P	P	08 41 20.3	-0.6
MAKZ				pmax	pmax		
	comp=Z,21nm,0.8s						
SBUM	Sibu	44.29	225	eP	P	08 41 21.5	-0.7
	comp=Z,3.8nm,0.9s						
SBUM	Sibu	44.29	225	P	P	08 41 22.0	-0.2
PHET	Kaeng Krachan	44.81	248	P	P	08 41 27.2	+0.8
	comp=Z,48μm,0.7s						
SVW2	Sparrevohn	44.86	38	eP	P	08 41 28.5	+2.1
	comp=Z,12nm,1.2s						
KURK	Kurchatov	45.70	308	eP	P	08 41 32.5	-0.5
	comp=Z,48nm,0.7s						
KURK	Kurchatov	45.70	308	ceP	P	08 41 32.5	-0.5
KURK				pmax	pmax		
	comp=Z,55nm,0.8s						
KURK	Kurchatov	45.70	308	P	P	08 41 32.5	-0.5
	SNR=28						
KURBB	Kurchatov Arra	45.77	308	P	P	08 41 32.9	-0.7
	comp=Z,24nm,0.4s,baz=81,slow=8.0,SNR=307						
IMAR	Indian Mountai	45.97	31	eP	P	08 41 36.1	+1.1
KSM	Kuching	46.17	226	eP	P	08 41 37.5	+0.3
	comp=Z,17nm,0.8s						
RSO	Redoubt South	46.25	39	eP	P	08 41 38.5	+1.0
KDAK	Kodiak Island	46.46	42	eP	P	08 41 39.5	+0.6
	comp=Z,21nm,0.8s						
KDAK	Kodiak Island	46.46	42	i P	P	08 41 40.0	+1.1
PPLA	Purkeypile	46.50	35	eP	P	08 41 41.3	+2.0
	comp=Z,6.3nm,0.9s						
CAST	Castle Rocks	46.55	35	eP	P	08 41 41.8	+2.1
	comp=Z,7.5nm,1.0s						
ODAN	Odare	46.59	273	eP	P	08 41 40.4	-0.3
	comp=Z,111nm,0.9s						
HOM	Homer	46.84	40	eP	P	08 41 43.1	+1.2
	comp=Z,29nm,1.0s						
BPAW	Bear Paw Mtn.	47.05	34	eP	P	08 41 45.2	+1.7
	comp=Z,4.7nm,1.0s						
KAPI	Kappang	47.14	211	eP	P	08 41 44.2	-0.5
	comp=Z,22nm,0.8s						
MLY	Manley	47.17	32	eP	P	08 41 46.2	+1.7
	comp=Z,9.7nm,0.9s						
JIRN	Jiri	47.18	275	eP	P	08 41 45.3	-0.1
	comp=Z,65nm,0.3s						
RAMN	Ramite	47.18	274	eP	P	08 41 44.9	-0.4
	comp=Z,214nm,1.0s

SML	Sawmill	48.33	37	eP		P	08 41 55.0	+1.5
	comp=Z,11nm,0.9s							
CCB	Clear Creek Bu	48.43	33	eP		P	08 41 55.2	+1.1
	comp=Z,3.2nm,0.9s							
KDJ	Kajisay	48.63	297	eP		P	08 41 56.4	+0.2
	comp=Z,25nm,0.6s							
DHY	Denali Highway	48.69	35	eP		P	08 41 57.3	+0.9
	comp=Z,13nm,1.5s							
DANN	Dangsing	48.78	277	eP		P	08 41 57.9	+0.1
	comp=Z,524nm,0.7s							
SCM	Sheep Creek Mo	48.80	37	eP		P	08 41 58.6	+1.4
	comp=Z,9.6nm,0.8s							
HDA	Harding Lake	48.81	33	eP		P	08 41 57.7	+0.6
	comp=Z,10.0nm,0.9s							
ILAR	Eielson Array	48.82	33	eP		P	08 41 57.5	+0.3
ILAR	Eielson Array	48.82	33	P		P	08 41 57.9	+0.8
	comp=Z,4.6nm,0.9s,baz=270,slow=6.3,SNR=35							
ILAR				pP		pP	08 42 11.2	+1.9
	comp=Z,6.2nm,0.9s,baz=267,slow=6.4,SNR=12							
ILB	Eielson Array	48.82	33	eP		P	08 41 57.9	+0.8
	comp=Z,10.0nm,0.9s							
KOLN	Koldanda	49.17	276	eP		P	08 42 00.6	0.0
	comp=Z,91nm,0.8s							
KULM	Kulim	49.34	240	P		P	08 42 02.0	+0.3
PRP	Porcupine Dome	49.36	32	eP		P	08 42 02.8	+1.3
	comp=Z,9.9nm,1.1s							
BOOM	Boomskoye usch	49.40	297	eP		P	08 42 02.2	0.0
	comp=Z,38nm,0.6s							
FYU	Fort Yukon	49.43	30	eP		P	08 42 04.5	+2.7
	comp=Z,36nm,0.8s							
PYUN	Piuthan	49.50	277	eP		P	08 42 03.1	-0.1
	comp=Z,408nm,1.0s							
TKM2	Tokmak 2	49.51	298	P		P	08 42 03.6	+0.6
	SNR=79							
PAX	Paxson	49.57	35	eP		P	08 42 05.3	+2.2
	comp=Z,3.1nm,0.8s							
DIV	Divide	49.62	37	eP		P	08 42 05.3	+1.9
	comp=Z,18nm,1.0s							
IPM	Ipoh	49.67	238	eP		P	08 42 03.2	-1.1
	comp=Z,17nm,0.6s							
IPM	Ipoh	49.67	238	P		P	08 42 04.0	-0.3
NRN	Naryn	49.68	296	eP		P	08 42 04.5	0.0
	comp=Z,12nm,0.6s							
KZA	Kyzart	50.01	297	P		P	08 42 08.0	+0.9
	SNR=24							
KBK	Karagaybulak	50.04	298	P		P	08 42 07.5	+0.4
	SNR=37							
CHMS	Chumysh	50.08	298	P		P	08 42 07.2	+0.1
	SNR=5.9							
DOT	Dot Lake	50.13	34	eP		P	08 42 08.4	+1.2
	comp=Z,4.3nm,0.8s							
SCRK	Sand Creek	50.13	34	eP		P	08 42 08.1	+0.8
	comp=Z,14nm,1.2s							
USP	Ospenovka	50.17	299	P		P	08 42 07.7	-0.2
	SNR=26							
FRU1	Bishkek	50.22	298	eP		P	08 42 08.1	-0.1
	comp=Z,48nm,0.5s							
KSH	Kashi	50.34	294	P		P	08 42 13.3	+4.1
KSH				pP		sP	08 42 26.4	-0.1
KSH				PP		PP	08 44 10.8	+6.0
KSH				S		S	08 49 23.1	+3.9
KSH				SS		SS	08 52 54.8	+2.0
KSH				pmax		pmax		
	comp=Z,21nm,0.6s							
KSH				LR		LR		
	comp=Z,3μm,13.7s							
KSH				LR		LR		
	comp=Z,2μm,15.4s							
BRVK	Borovoye	50.34	312	eP		P	08 42 08.7	-0.2
	comp=Z,24nm,1.0s							
BRVK	Borovoye	50.34	312	⇑iP		P	08 42 08.8	-0.2
BRVK				pmax		pmax		
	comp=Z,20nm,0.9s							
BRVK	Borovoye	50.34	312	P		P	08 42 08.7	-0.2
	SNR=11							
MENT	Mentasta	50.37	35	eP		P	08 42 10.9	+1.9
	comp=Z,7.1nm,0.9s							
AAK	Ala-Archa	50.37	298	P		P	08 42 09.6	+0.1
	SNR=20							
AAK	Ala-Archa	50.37	298	eP		P	08 42 09.1	-0.4
	comp=Z,26nm,0.8s							
AAK	Ala-Archa	50.37	298	ceP		P	08 42 09.2	-0.3
AAK				pmax		pmax		
	comp=Z,28nm,0.8s							
AAK	Ala-Archa	50.37	298	P		P	08 42 09.4	-0.1
	SNR=11							
UCH	Uchtor	50.48	297	P		P	08 42 11.2	+0.5
	SNR=24							
EKS2	Erkin-Say	50.86	298	P		P	08 42 13.1	0.0
	SNR=30							
AML	Almayashu	51.09	298	P		P	08 42 15.8	+0.6
	SNR=60							
BCAR	Beaver Creek A	51.22	35	eP		P	08 42 17.1	+1.6
BALM	Baldy	51.28	37	eP		P	08 42 17.5	+1.5
	comp=Z,7.5nm,0.9s							
ARSB	Arslanbob	51.86	297	eP		P	08 42 21.0	+0.3
	comp=Z,38nm,0.6s							
PSI	Prapat	52.32	239	eP		P	08 42 23.4	-0.9
	comp=Z,13nm,0.7s							
BKNI	Bangkinang	52.75	235	eP		P	08 42 27.6	+0.3
	comp=Z,76nm,1.0s							
EPYK	Eagle Plains	52.84	30	eP		P	08 42 29.5	+2.1
	comp=Z,24nm,0.8s							
KK31	Karatay Array	52.98	300	iP		P	08 42 28.2	-0.6
KK31				pmax		pmax		
	comp=Z,7.0nm,0.5s							
KKAR	Karatay Array	52.98	300	eP		P	08 42 28.1	-0.7
	comp=Z,21nm,1.0s							
INK	Inuvik	53.70	27	eP		P	08 42 35.0	+1.4
	comp=Z,14nm,1.2s							
BTK	Batken	53.85	296	eP		P	08 42 34.5	-0.8
	comp=Z,17nm,0.8s							
GSI	Gunungsitoli	54.33	239	eP		P	08 42 39.2	+0.3
	comp=Z,56nm,0.7s							
GAR	Garm	54.61	295	eP		P	08 42 40.5	-0.4
	comp=Z,92nm,1.2s							
NIL	Nilore	54.62	288	eP		P	08 42 41.0	+0.1
	comp=Z,32nm,0.6s							
SVE	Sverdlovsk	54.80	318	⇓eP		P	08 42 42.2	+0.4
SVE				pmax		pmax		
	comp=Z,68nm,0.9s							
WHY	Whitehorse	54.92	37	eP		P	08 42 45.4	+2.6
	comp=Z,6.6nm,1.0s							
ARU	Arti	56.01	318	eP		P	08 42 50.1	-0.4
	comp=Z,52nm,0.8s							
ARU	Arti	56.01	318	dP		P	08 42 49.7	-0.8
ARU				S		S	08 50 34.4	-1.1
ARU				SS		SS	08 54 16.8	-4.6
ARU				pmax		pmax		
	comp=Z,74nm,1.0s							
KBL	Kabul	57.38	291	eP		P	08 42 59.9	-1.0
	comp=Z,44nm,0.9s							
AB31	Akbulak array	57.68	310	iP		P	08 43 01.2	-1.3
AB31				pmax		pmax		
	comp=Z,15nm,0.5s							
ABKAR	Akbulak array	57.68	310	eP		P	08 43 01.7	-0.7
	comp=Z,53nm,1.2s							
WRAB	Tennant Creek	57.74	188	eP		P	08 43 01.9	-1.2
	comp=Z,17nm,0.9s							
WRAB	Tennant Creek	57.74	188	ceP		P	08 43 03.2	+0.1
WRAB				pmax		pmax		
	comp=Z,42nm,2.5s							
WB2	Warramunga Arr	57.75	188	eP		P	08 43 02.7	-0.5
	comp=Z,20nm,0.8s							
WR1	Warramunga Arr	57.75	188	eP		P	08 43 02.8	-0.4
WR1				ePcP		PcP	08 43 55.5	-0.1
WRA	Warramunga Arr	57.75	188	P		P	08 43 02.8	-0.4
	comp=Z,28nm,0.3s,baz=359,slow=8.4,SNR=1.8							
WRA				PcP		PcP	08 43 55.5	-0.1
	comp=Z,35nm,0.4s,baz=9.9,slow=5.3,SNR=2.1							
AKTO	Aktyubinsk	58.39	312	P		P	08 43 05.9	-1.6
AKTO				pmax		pmax		
	comp=Z,26nm,1.0s							
HYB	Hyderabad	58.44	268	iP		P	08 43 08.0	-0.3
KBS	Kingsbay	60.04	350	ceP		P	08 43 20.5	+2.1
KBS				pmax		pmax		
	comp=Z,234nm,1.7s							
PRGR	Permogore	60.33	327	eP		P	08 43 19.0	-1.6
PRGR				e			08 45 30.1	
PRGR				pmax		pmax		
	comp=Z,42nm,0.9s							
HSPB	Hornsund (broa	60.84	348	eP		P	08 43 24.7	+0.8
AS31	Alice Springs	61.47	188	eP		P	08 43 28.6	-0.2
ASAR	Alice Springs	61.48	188	P		P	08 43 28.6	-0.2
	comp=Z,6.6nm,0.7s,baz=12,slow=6.8,SNR=76							
ASAR				pP		pP	08 43 43.1	+1.8
	comp=Z,5.7nm,0.7s,baz=10,slow=6.4,SNR=16							
LVZ	Lovozero	61.59	336	eP		P	08 43 29.2	0.0
	comp=Z,15nm,0.7s							
LVZ	Lovozero	61.59	336	ceP		P	08 43 28.3	-0.9
LVZ				pmax		pmax		
	comp=Z,27nm,1.7s							
RES	Resolute Bay	61.90	15	eP		P	08 43 31.1	0.0
	comp=Z,13nm,1.0s							
TMCR	Tamitsa	62.27	331	eP		P	08 43 33.4	-0.2
TMCR				pmax		pmax		
	comp=Z,35nm,1.0s							
YKA	Yellowknife Ar	63.12	30	P		P	08 43 40.0	+0.6
	comp=Z,3.1nm,0.7s,baz=302,slow=6.6,SNR=39							
YKA				pP		sP	08 43 54.6	-2.3
	comp=Z,2.5nm,0.7s,baz=299,slow=6.9,SNR=11							
YKB5	Yellowknife Ar	63.12	30	eP		P	08 43 40.0	+0.6
KLMR	Klimovskoe	63.31	328	eP		P	08 43 39.6	-1.1
KLMR				pmax		pmax		
	comp=Z,21nm,0.7s							
ARCES	ARCESS Array B	63.45	339	eP		P	08 43 41.8	+0.3
ARCES	ARCESS Array B	63.45	339	eP		P	08 43 41.8	+0.3
ARCES	ARCESS Array B	63.45	339	P		P	08 43 41.6	+0.1
	comp=Z,10nm,0.8s,baz=49,slow=8.2,SNR=26							
ARCES				PP		PP	08 46 00.7	-0.2
	comp=Z,4.0nm,1.0s,baz=38,slow=4.6,SNR=4.3							
GEYT	Alibeck	63.70	299	P		P	08 43 43.6	-0.1
	comp=Z,8.8nm,0.7s,baz=48,slow=2.2,SNR=22							
GYA0B	ALIBECK ARRAY	63.70	299	eP		P	08 43 43.4	-0.3
	comp=Z,17nm,0.8s							
DAG	Danmarks Havn	65.13	355	iP		P	08 43 52.3	-0.1
DAG				pmax		pmax		
	comp=Z,13nm,0.9s							
DAG	Danmarks Havn	65.13	355	iP		P	08 43 52.3	-0.1
	comp=Z,16nm,0.9s							
MOS	Moscow	66.85	323	eP		P	08 44 01.9	-1.8
VRH	Novokhopyorsk	67.23	318	eP		P	08 44 05.3	-0.9
VRH				pmax		pmax		
	comp=Z,60nm,0.6s							
OBN	Obninsk	67.69	323	iP		P	08 44 08.9	-0.1
OBN				i			08 44 20.1	
OBN				i			08 46 37.7	
OBN				pmax		pmax		
	comp=Z,36nm,1.1s							
LPSR	Galich'ya Gora	67.93	320	eP		P	08 44 10.0	-0.6
LPSR				pmax		pmax		
	comp=Z,60nm,0.7s							
FIA0	FINESS Array S	68.33	332	eP		P	08 44 12.8	-0.2
FINES	FINESS Array B	68.33	332	P		P	08 44 12.8	-0.2
	comp=Z,42nm,0.7s,baz=54,slow=7.8,SNR=157							
VSR	Storozhevoye	68.58	319	eP		P	08 44 14.0	-0.7
VSR				pmax		pmax		
	comp=Z,60nm,0.7s							
STKA	Stephens Creek	69.22	180	P		P	08 44 19.1	+0.4
	comp=Z,1.8nm,0.6s,baz=24,slow=6.5,SNR=3.8							
STKA				pP		pP	08 44 33.3	+2.0
	comp=Z,3.6nm,0.5s,baz=351,slow=7.3,SNR=5.0							
NEW	Newport	69.50	44	eP		P	08 44 22.0	+1.5
	comp=Z,13nm,1.3s							
PINE	Pine Mountain	69.74	50	eP		P	08 44 24.6	+2.3
	comp=Z,17nm,1.1s							
VSU	Vasula	69.99	330	ceP		P	08 44 23.2	-0.1
VSU				pmax		pmax		
	comp=Z,78nm,0.8s							
VSU	Vasula	69.99	330	eP		P	08 44 23.4	+0.2
VSU				IAmb		IAmb	08 44 23.8	
	comp=Z,101nm,0.9s							
SUMG	Summit	70.02	0	eP		P	08 44 24.4	+0.6
	comp=Z,22nm,1.1s							
SUMG	Summit	70.02	0	iP		P	08 44 25.3	+1.5
SUMG	Summit	70.02	0	iP		P	08 44 25.3	+1.5
NCK	Nalchik	70.34	310	iP		P	08 44 23.6	-2.2
K05A	Summer Lake	70.36	51	eP		P	08 44 28.4	+2.3
	comp=Z,16nm,1.1s							
ZEI	Tsey	70.55	309	eP		P	08 44 25.5	-1.8
ZEI				pmax		pmax		
	comp=Z,11nm,0.6s							
TBLG	Delisi	70.61	308	eP		P	08 44 27.0	-0.4
	comp=Z,21nm,1.0s							
KBZ	Khabaz	70.64	311	P		P	08 44 27.6	+0.1
	comp=Z,29nm,0.9s,baz=47,slow=3.7,SNR=45							
KIV	Kislovodsk	70.64	311	eP		P	08 44 27.8	+0.1
	comp=Z,56nm,0.9s							
KIV	Kislovodsk	70.64	311	⇑iP		P	08 44 28.7	+1.1
KIV	Kislovodsk	70.64	311	eP		P	08 44 28.2	+0.5
KIV				pmax		pmax		
	comp=Z,221nm,1.1s							
KIV	Kislovodsk	70.64	311	P		P	08 44 28.2	+0.5
	SNR=19							
WALA	Waterton Lakes	70.80	42	eP		P	08 44 29.0	+0.4
	comp=Z,24nm,1.4s							
WSAR	Wadi Sarin	70.91	285	P		P	08 44 29.4	-0.1
BIDO	Bidbid	71.14	285	P		P	08 44 31.6	+0.7
BMO	Blue Mountains	71.32	47	eP		P	08 44 33.2	+1.4
	comp=Z,5.6nm,1.0s							
SCO	Scoresbysund	71.47	354	eP		P	08 44 33.2	+1.1
	comp=Z,22nm,1.3s							
SCO	Scoresbysund	71.47	354	iP		P	08 44 32.7	+0.6
SCO				pmax		pmax		
	comp=Z,19nm,1.2s							
SCO	Scoresbysund	71.47	354	iP		P	08 44 32.7	+0.6
	comp=Z,19nm,1.2s							
GNI	Garni	71.48	307	eP		P	08 44 33.4	+0.4
	comp=Z,18nm,0.9s							
GNI	Garni	71.48	307	ceP		P	08 44 33.6	+0.7
GNI				pmax		pmax		
	comp=Z,121nm,1.3s							
GNI	Garni	71.48	307	P		P	08 44 33.6	+0.7
	SNR=6.3							
AKH	Akhalkalaki	71.57	308	eP		P	08 44 33.9	+0.4
	comp=Z,13nm,0.8s							
AKH	Akhalkalaki	71.57	308	⇑iP		P	08 44 34.1	+0.7
HATD	Hatta, Dubai	71.93	288	P		P	08 44 35.8	+0.2
IZAR	Zarasai	71.97	328	eP		P	08 44 35.5	+0.2
IZAR				IAmb		IAmb	08 44 36.1	
	comp=Z,16nm,0.6s							
SOHO	SOHO	72.01	287	P		P	08 44 35.7	-0.4
IDID	Didziasalis	72.04	327	eP		P	08 44 35.9	+0.2
IDID				IAmb		IAmb	08 44 37.3	
	comp=Z,16nm,0.9s							
ASHO	Ashiyiah	72.07	288	P		P	08 44 36.1	-0.4
ISAL	Salakas	72.13	327	eP		P	08 44 36.7	+0.4
ISAL				IAmb		IAmb	08 44 37.2	
	comp=Z,17nm,0.5s							
IIGN	Ignalina	72.24	327	eP		P	08 44 37.3	+0.3
IIGN				IAmb		IAmb	08 44 38.5	
	comp=Z,14nm,0.7s							
BEKR	Beckworth	72.28	53	eP		P	08 44 39.3	+1.5
	comp=Z,9.9nm,1.2s							
FAQ	Al Faqa, Dubai	72.39	288	P		P	08 44 38.0	-0.4
SOC	Sochi	72.62	312	eP		P	08 44 38.3	-1.1
SOC				e*PP		pP	08 44 51.7	-0.5
SOC				e			08 44 55.3	
SOC				eS		S	08 53 51.2	-10
SOC				pmax		pmax		
	comp=Z,41nm,0.9s							
ASUD	Al Ashush, Dub	72.65	288	P		P	08 44 39.7	-0.2
MHTO	MHTO	72.67	283	P		P	08 44 39.7	-0.4
	SNR=6.1							
BCA	Borcka	72.70	309	⇑iP		P	08 44 40.2	+0.2
PAHR	Pah Rah Range	72.99	53	eP		P	08 44 43.5	+1.5
	comp=Z,4.9nm,1.0s							
FFC	Flin Flon	73.03	33	eP		P	08 44 42.1	+0.5
	comp=Z,8.2nm,0.8s							
FFC	Flin Flon	73.03	33	iP		P	08 44 42.7	+1.0
PABE	Paberze	73.09	328	eP		P	08 44 42.2	+0.2
PABE				IAmb		IAmb	08 44 43.2	
	comp=Z,60nm,0.7s							
ANN	Anapa	73.23	314	eP		P	08 44 42.0	-1.0
ANN				pmax		pmax		
	comp=Z,117nm,1.4s							
FCC	Fort Churchill	73.31	27	eP		P	08 44 43.3	+0.1
	comp=Z,16nm,1.1s							
HRY	Holter Researc	73.32	44	eP		P	08 44 44.4	+0.6
YERR	Yerington	73.50	53	eP		P	08 44 46.5	+1.5
	comp=Z,10nm,1.3s							
LRM	Limekiln Ridge	73.52	45	eP		P	08 44 46.4	+1.3
DQM	DQM	73.59	283	P		P	08 44 45.1	-0.5
EGMT	Eagleton	73.63	42	eP		P	08 44 46.3	+0.9
	comp=Z,18nm,1.0s							
NB2	NORSAR Subarra	73.66	337	P		P	08 44 45.0	-0.3
	comp=Z,11nm,0.8s,baz=39,slow=6.2							
NB200	NORSAR Array S	73.66	337	eP		P	08 44 45.4	0.0
NOA	NORSAR Array B	73.66	337	P		P	08 44 45.4	0.0
	comp=Z,20nm,0.8s,baz=39,slow=5.8,SNR=56							
DLMT	Dillon	73.72	45	eP		P	08 44 47.4	+1.3
	comp=Z,11nm,1.0s							
HLID	Hailey	73.76	47	eP		P	08 44 47.4	+1.0
	comp=Z,6.4nm,1.1s							
AKASG	Malin Array Be	73.91	322	P		P	08 44 46.5	-0.4
	comp=Z,22nm,0.6s,baz=46,slow=6.3,SNR=72							
AKBB	Malin Array Si	73.91	322	eP		P	08 44 46.2	-0.6
	comp=Z,34nm,0.8s							
KIEV	Kiev	73.92	322	eP		P	08 44 46.1	-0.8
	comp=Z,34nm,0.8s							
KIEV	Kiev	73.92	322	⇑iP		P	08 44 46.4	-0.5
KIEV	Kiev	73.92	322	iP		P	08 44 46.5	-0.5
BOZ	Bozeman (W)	74.11	44	eP		P	08 44 49.6	+1.1
	comp=Z,12nm,1.1s							
NV01	Mina Array Sit	74.42	53	eP		P	08 44 52.3	+1.9
NVAR	Mina Array Bea	74.42	53	eP		P	08 44 51.5	+1.1
NVAR	Mina Array Bea	74.42	53	P		P	08 44 52.3	+1.9
	comp=Z,3.7nm,0.9s,baz=282,slow=6.5,SNR=21							
SUW	Suwalki	74.45	327	eP		P	08 44 50.3	+0.3
SUW	Suwalki	74.45	327	eP		P	08 44 49.6	-0.4
	comp=Z,68nm,1.1s							
SUW	Suwalki	74.45	327	eP		P	08 44 50.3	+0.3
QLMT	Earthquake Lak	74.70	45	eP		P	08 44 53.4	+1.5
YHB	Horse Butte	74.88	45	eP		P	08 44 54.9	+2.0
	comp=Z,7.4nm,0.9s							
ELK	Elko	74.95	50	eP		P	08 44 55.1	+1.6
	comp=Z,1.6nm,0.8s							
SIM	Simferopol'	75.01	316	deP		P	08 44 53.6	+0.2
SIM				pmax		pmax		
	comp=Z,31nm,0.9s							
YHH	Holmes Hill	75.05	45	eP		P	08 44 56.0	+2.0
	comp=Z,5.7nm,1.0s							
KONO	Kongsberg	75.25	337	ceP		P	08 44 50.7	-3.8
KONO				pmax		pmax		
	comp=Z,125nm,2.5s							
YFT	Old Faithful	75.27	45	eP		P	08 44 58.8	+3.6
	comp=Z,12nm,1.0s							
IMW	Indian Meadow	75.55	45	eP		P	08 44 59.0	+2.0
	comp=Z,6.0nm,0.8s							
FXWY	Fox Creek	75.66	46	eP		P	08 44 59.4	+1.9
	comp=Z,9.9nm,1.1s							
RLMT	Red Lodge	75.71	44	eP		P	08 44 59.0	+1.2
	comp=Z,5.4nm,0.9s							
MOOW	Moose Ponds	75.75	45	eP		P	08 44 59.8	+1.8
	comp=Z,7.7nm,1.0s							
TPAW	Teton Pass	75.80	46	eP		P	08 44 59.8	+1.4
	comp=Z,8.4nm,0.9s							
HVU	Hansel Valley	75.80	48	eP		P	08 44 59.8	+1.5
	comp=Z,7.2nm,1.0s							
LOHW	Long Hollow	75.92	46	eP		P	08 45 00.2	+1.2
	comp=Z,6.9nm,1.3s							
SNOW	Snow King Moun	75.93	46	eP		P	08 45 00.8	+1.7
	comp=Z,9.3nm,0.9s							
REDW	Red Top Meadow	75.94	46	eP		P	08 45 00.2	+1.2
	comp=Z,12nm,1.1s							
R11A	Troy Canyon, C	76.18	52	eP		P	08 45 01.7	+1.2
	comp=Z,5.7nm,1.1s							
DIKM	Dikmen	76.41	312	⇑iP		P	08 45 01.9	+0.4
TPNV	Topopah Spring	76.61	54	eP		P	08 45 03.5	+0.6
	comp=Z,7.0nm,0.8s							
HWUT	Hardware Ranch	76.62	48	eP		P	08 45 05.0	+2.1
	comp=Z,9.4nm,1.0s							
DUG	Dugway, Tooele	76.76	49	eP		P	08 45 05.3	+1.7
	comp=Z,7.5nm,0.9s							
DMTO	DMTO	76.87	282	P		P	08 45 03.5	-0.9
BZK	Bozkurt	76.94	313	⇑iP		P	08 45 04.7	+0.2
BSD	Bornholm Skovb	76.96	332	iP		P	08 45 04.0	-0.3
BSD				pmax		pmax		
	comp=Z,31nm,0.9s							
BSD	Bornholm Skovb	76.96	332	iP		P	08 45 04.0	-0.3
	comp=Z,31nm,0.9s							
LVV	L'vov	76.97	324	eP		P	08 45 03.9	-0.6
TCUT	Toone Canyon	77.02	48	eP		P	08 45 06.7	+1.4
	comp=Z,12nm,0.9s							
BW06	Boulder Array	77.05	46	eP		P	08 45 06.2	+0.9
	comp=Z,6.9nm,1.0s							
PD31	Pinedale Array	77.05	46	eP		P	08 45 05.9	+0.6
	comp=Z,6.4nm,1.0s							
PDAR	Pinedale Array	77.05	46	eP		P	08 45 05.8	+0.4
PDAR	Pinedale Array	77.05	46	P		P	08 45 06.6	+1.2
	comp=Z,3.2nm,0.8s,baz=285,slow=2.9,SNR=21							
PSUT	Pine Spring	77.15	51	eP		P	08 45 07.4	+1.4
	comp=Z,5.2nm,1.0s							
JLU	Jordanelle	77.32	48	eP		P	08 45 08.8	+1.9
	comp=Z,8.2nm,1.2s							
COP	Copenhagen	77.43	333	iP		P	08 45 07.4	+0.5
COP				pmax		pmax		
	comp=Z,29nm,0.6s							
COP	Copenhagen	77.43	333	iP		P	08 45 07.4	+0.5
	comp=Z,29nm,0.6s							
SHPR	Sheep Range	77.57	53	eP		P	08 45 10.4	+2.1
	comp=Z,5.2nm,1.0s							
MPU	Maple Canyon	77.58	49	eP		P	08 45 10.1	+1.7
	comp=Z,6.6nm,1.0s							
KWP	Kalwaria Pacla	77.72	324	eP		P	08 45 09.6	+0.9
KWP	Kalwaria Pacla	77.72	324	eP		P	08 45 09.2	+0.5
	comp=Z,590nm,1.2s							
KWP	Kalwaria Pacla	77.72	324	eP		P	08 45 09.6	+0.9
TLCR		77.73	318	⇑iP		P	08 45 08.9	+0.1
BURAR	Bucovina Array	77.92	322	⇑iP		P	08 45 10.2	+0.2
BIZ	Bicaz	77.95	321	⇑iP		P	08 45 10.4	+0.4
TESR	Tescani	77.96	320	⇑iP		P	08 45 09.9	-0.2
RGN	Rugen	77.99	332	eP		P	08 45 11.0	+0.9
	comp=Z,58nm,1.1s							
CCUT	Cedar City	78.06	52	eP		P	08 45 12.2	+1.1
	comp=Z,7.6nm,1.2s							
CFR	Carcaliu	78.09	318	⇑iP		P	08 45 10.8	0.0
MSU	Marysvale	78.19	50	eP		P	08 45 13.9	+2.1
PETR	Petresti	78.20	319	⇓iP		P	08 45 12.8	+1.4
VRI	Vrincioaia	78.36	320	⇑iP		P	08 45 12.9	+0.6
KOLS	Kolonicke sedl	78.41	324	eP		P	08 45 12.9	+0.3
KOLS				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KOLS	Kolonicke sedl	78.41	324	e

PSZ	Piszkesteto	80.24	325	eP	P	08 45 23.1	+0.4
VYHS	Vyhne	80.30	325	eP	P	08 45 23.4	+0.5
VYHS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
VYHS	Vyhne	80.30	325	eP	P	08 45 23.4	+0.5
JAVC	Velka Javorina	80.55	326	eP	P	08 45 25.6	+1.3
WUAZ	Wupatki	80.58	52	eP	P	08 45 26.4	+1.6
	comp=Z,6.5nm,1.0s						
BRG	Berggiesshubel	80.59	329	eP	P	08 45 24.4	+0.1
	comp=Z,13nm,0.7s						
BRG	Berggiesshubel	80.59	329	eP	P	08 45 24.4	+0.1
BRG				pmax	pmax		
	comp=Z,13nm,0.7s						
PVCC	Panska Ves	80.60	329	eP	P	08 45 25.1	+0.7
PVCC	Panska Ves	80.60	329	eP	P	08 45 25.1	+0.7
SIRR	Siria	80.61	322	⇓iP	P	08 45 25.2	+0.6
CLL	Collm	80.63	330	eP	P	08 45 24.8	+0.2
	comp=Z,26nm,0.9s						
CLL	Collm	80.63	330	⇑iP	P	08 45 24.4	-0.1
CLL				pmax	pmax		
	comp=Z,28nm,0.9s						
CLL	Collm	80.63	330	⇑iP	P	08 45 24.4	-0.1
	comp=Z,28nm,0.9s						
VRAC	Vranov	80.68	327	⇑iP	P	08 45 25.7	+0.8
VRAC	Vranov	80.68	327	eP	P	08 45 25.4	+0.5
GZR	Gura Zlata	80.68	321	⇑iP	P	08 45 25.2	+0.2
KRUC	Moravsky	80.95	327	eP	P	08 45 26.7	+0.4
GOPC	GO Pecny, Ondr	80.98	328	eP	P	08 45 26.9	+0.4
GOPC				e		08 45 39.9	
GOPC	GO Pecny, Ondr	80.98	328	eP	P	08 45 26.9	+0.4
GOPC				epP	pP	08 45 39.9	+0.5
PRU	Pruhonice	81.03	329	eP	P	08 45 27.3	+0.6
PRU	Pruhonice	81.03	329	eP	P	08 45 27.3	+0.6
MODS	Modra-Piesok	81.09	326	eP	P	08 45 27.1	0.0
MODS				pmax	pmax		
	comp=Z,16nm,1.0s						
MODS	Modra-Piesok	81.09	326	eP	P	08 45 27.1	0.0
BZS	Buzias	81.09	322	⇑iP	P	08 45 27.2	+0.1
TREC	Trest	81.17	328	eP	P	08 45 27.8	+0.3
TREC	Trest	81.17	328	eP	P	08 45 27.8	+0.3
HERR	Herculane	81.23	321	⇑iP	P	08 45 27.9	0.0
ISCO	Idaho Springs	81.23	46	eP	P	08 45 30.3	+1.9
	comp=Z,3.5nm,1.0s						
X16A	Lo Mia Camp, P	81.24	53	eP	P	08 45 29.4	+1.1
	comp=Z,7.2nm,1.1s						
MDVR	Moldovita	81.65	321	⇑iP	P	08 45 30.1	-0.1
NKC	Novy Kostel	81.69	330	eP	P	08 45 30.4	+0.2
NKC	Novy Kostel	81.69	330	eP	P	08 45 30.4	+0.2
CSS	Mathiatis	81.83	308	eP	P	08 45 30.8	-0.5
	comp=Z,13nm,0.6s						
S22A	4UR Ranch, Cre	81.90	48	eP	P	08 45 33.8	+1.9
	comp=Z,14nm,1.4s						
CONA	Conrad Observa	82.05	327	iP	P	08 45 33.0	+0.8
	comp=Z,12nm,0.8s,SNR=6.0						
KHC	Kasperske Hory	82.09	329	eP	P	08 45 32.6	+0.2
	comp=Z,7.1nm,0.8s						
KHC	Kasperske Hory	82.09	329	eP	P	08 45 32.8	+0.4
KHC				e		08 45 46.0	
KHC	Kasperske Hory	82.09	329	eP	P	08 45 32.8	+0.4
KHC				epP	pP	08 45 46.0	+0.7
GERES	GERESS Array B	82.26	328	P	P	08 45 33.4	0.0
	comp=Z,6.0nm,0.6s,baz=37,slow=5.3,SNR=30						
VTS	Vitosha	82.42	319	eP	P	08 45 34.8	+0.4
	comp=Z,13nm,0.7s						
VTS	Vitosha	82.42	319	⇓iP	P	08 45 34.9	+0.5
ESK	Eskdalemuir	82.61	341	iP	P	08 45 38.3	+3.4
GRFO	Grafenberg	82.61	330	eP	P	08 45 35.8	+0.8
	comp=Z,46nm,1.2s						
SDCO	Great Sand Dun	82.68	47	eP	P	08 45 37.3	+1.3
	comp=Z,6.2nm,1.4s						
ARSA	Arzberg	82.71	326	iP	P	08 45 36.1	+0.4
	comp=Z,7.3nm,0.8s						
MOA	Molln	82.80	327	iP	P	08 45 37.0	+0.9
	comp=Z,13nm,1.2s						
ECSD	EROS Data Cent	83.26	38	eP	P	08 45 38.8	+0.2
	comp=Z,5.2nm,0.8s						
PERS	Pernice	83.36	326	iP	P	08 45 39.1	0.0
SOKA	Soboth	83.36	326	iP	P	08 45 39.4	+0.2
	comp=Z,21nm,0.8s						
OBKA	Obir	83.71	326	iP	P	08 45 41.1	+0.2
	comp=Z,11nm,0.8s						
KBA	Koelnbreinsper	83.79	327	iP	P	08 45 42.0	+0.6
	comp=Z,16nm,0.8s						
ANMO	Albuquerque	83.99	50	eP	P	08 45 43.7	+1.0
	comp=Z,8.9nm,1.2s						
ANMO	Albuquerque	83.99	50	ceP	P	08 45 44.5	+1.8
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MYKA	Terra Mystica	84.01	327	iP	P	08 45 41.9	-0.5
	comp=Z,8.6nm,0.6s						
VISS	Visnje	84.12	326	iP	P	08 45 42.3	-0.6
BOJS	Bojanci	84.17	325	iP	P	08 45 43.3	+0.2
WTTA	Wattenberg	84.36	328	iP	P	08 45 44.4	0.0
	comp=Z,6.9nm,0.7s						
JAVS	Javornik	84.40	326	iP	P	08 45 43.6	-0.8
MOTA	Moosalm	84.52	329	iP	P	08 45 44.5	-0.6
	comp=Z,7.8nm,0.6s						
RETA	Reutte	84.55	329	iP	P	08 45 45.4	+0.3
	comp=Z,22nm,0.7s,SNR=6.3						
SQTA	Sankt Quirin	84.57	329	iP	P	08 45 45.2	-0.1
	comp=Z,6.9nm,0.6s						
TTG	Podgorica	84.58	321	eP	P	08 45 44.6	-0.6
	comp=Z,40nm,1.0s						
BFO	Black Forest	84.83	331	eP	P	08 45 46.7	+0.2
	comp=Z,26nm,0.9s						
BFO	Black Forest	84.83	331	iP	P	08 45 46.7	+0.2
FETA	Feichten	84.93	329	iP	P	08 45 47.1	0.0
	comp=Z,10nm,0.7s						
DAVA	Damuels	85.06	329	iPcP	P	08 45 48.2	+0.4
	comp=Z,33nm,1.0s,SNR=5.4						
FUORN	Ofenpass-Fuorn	85.44	329	eP	P	08 45 50.2	+0.4
	comp=Z,31nm,0.8s						
AMTX	Amarillo	86.88	47	eP	P	08 45 58.3	+1.3
	comp=Z,8.2nm,0.9s						
LTX	Lajitas	89.54	53	eP	P	08 46 10.8	+1.1
LTX				ePKKPdf	PKKPbc	09 03 44.1	+1.5
TXAR	Lajitas Array	89.54	53	P	P	08 46 10.8	+1.1
	comp=Z,2.7nm,0.8s,baz=293,slow=3.3,SNR=35						
TXAR				pP	pP	08 46 24.9	+2.2
	comp=Z,1.7nm,0.8s,baz=301,slow=2.2,SNR=5.7						
TXAR				PKKPbc	PKKPbc	09 03 44.1	+1.5
	comp=Z,0.2nm,0.6s,baz=132,slow=5.8,SNR=3.9						
ESDC	Sonseca Array	96.79	334	P	P	08 46 42.8	-0.1
	comp=Z,1.2nm,0.7s,baz=24,slow=4.5,SNR=4.0						
TOA1	Torodi Ar. Sit	117.01	315	ePKPdf	PKPdf	08 51 56.0	-1.2
TOA1				ePP	PP	08 52 55.3	-11
TORD	Torodi Ar. Bea	117.02	315	PKP	PKPdf	08 51 56.0	-1.2
	comp=Z,0.5nm,0.6s,baz=26,slow=1.6,SNR=4.0						
TORD				PP	PP	08 52 55.3	-11
	comp=Z,1.6nm,0.8s,baz=52,slow=5.0,SNR=4.8						
MAW	Mawson	120.23	206	PKP	PKiKP	08 52 01.9	+0.2
	comp=Z,1.3nm,0.8s,baz=107,slow=4.9,SNR=3.1						
DBIC	Dimbokro	125.95	317	PKP	PKPdf	08 52 13.2	-1.2
	comp=Z,3.1nm,0.8s,baz=293,slow=1.9,SNR=3.8						
BOSA	Boshof	126.91	260	PKP	PKPdf	08 52 15.2	-0.8
	comp=Z,2.9nm,0.7s,baz=66,slow=1.9,SNR=7.2						
SNAA	Sanae	141.45	197	PKPdf	PKPdf	08 52 34.8	-6.9
VNA2	Neumayer--Watz	143.02	196	PKPdf	PKPab	08 52 40.5	+0.8
	baz=98,slow=2.2						
VNA3	Neumayer Olymp	143.26	195	PKPdf	PKPab	08 52 41.3	+0.5
VNA1	Neumayer--Stat	143.41	196	PKPdf	PKPab	08 52 41.0	-0.3
LPAZ	La Paz	146.17	59	ePKPdf	PKPbc	08 52 53.6	+0.4
LPAZ	La Paz	146.17	59	ePKP2	PKPbc	08 52 53.7	+0.4
LPAZ	La Paz	146.17	59	PKPbc	PKPbc	08 52 53.5	+0.2
	comp=Z,8.3nm,0.8s,baz=348,slow=2.0,SNR=41						
MNMC	Minye Minye	147.07	65	ePKPbc	PKPbc	08 52 56.3	+0.9
PB11	IPOC Station P	147.43	66	ePKPbc	PKPbc	08 52 57.1	+0.8
GO01	Chusmiza	147.70	65	ePKPdf	PKPdf	08 52 56.2	+1.5
GO02	Mina Guanaco	150.67	74	ePKPbc	PKiKP	08 53 06.1	+0.9
LCO	Las Campanas	151.70	82	ePKPbc	PKiKP	08 53 07.9	+0.7
LCO	Las Campanas	151.70	82	ePKIKP	PKiKP	08 53 07.9	+0.7
GO04	Tololo Observa	152.12	84	ePKPbc	PKiKP	08 53 08.4	+0.5
ROC1	El Roble	152.99	90	ePKPbc	PKiKP	08 53 10.3	+0.6
PEL	Peldehue	153.31	90	ePKPbc	PKiKP	08 53 11.0	+0.9
PEL	Peldehue	153.31	90	ePKIKP	PKiKP	08 53 11.0	+0.9
CPUP	Villa Florida	160.33	60	PKP	PKPdf	08 53 11.3	-0.2
	comp=Z,1.0nm,0.7s,baz=32,slow=6.1,SNR=3.4						

PGC 24 08:36:38.1±0.2, 61°.14N×140°.01W, h1km, ML2.4/10, 140km west of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTGM	Chitina Glacie	0.66	256	P	Pg	08 36 50.0	-0.9
CTGM				S	Sg	08 36 59.1	-0.4
YUK3	Moose Creek	0.68	342	P	Pg	08 36 50.8	-0.4
YUK3				S	Sg	08 37 00.6	+0.7
YUK2	White River	0.77	329	P	Pg	08 36 52.2	-0.6
YUK2				S	Sg	08 37 03.5	+0.8
YUK6	Outpost Mounta	0.83	103	P	Pg	08 36 52.6	-1.4
YUK5	Granite Creek	1.04	89	P	Pg	08 36 56.8	-1.4
YUK5				S	Sg	08 37 10.4	-1.3
PCA	Pinnacle	1.05	187	P	Pg	08 36 57.1	-1.1
PCA				S	Sg	08 37 11.5	-0.3
YUK1	Sand Pete Hill	1.05	347	P	Pg	08 36 57.6	-0.7
YUK1				S	Sg	08 37 12.0	+0.1
RKAV	Rock Avalanche	1.06	219	P	Pg	08 36 56.5	-2.0
RKAV				S	Sg	08 37 10.2	-2.0
SAMH	Samovar Hills	1.08	201	P	Pg	08 36 57.3	-1.5
SAMH				S	Sg	08 37 12.9	+0.2
YUK7	Dusty Glacier	1.10	123	P	Pg	08 36 57.4	-1.8
BALM	Baldy	1.14	266	P	Pg	08 36 58.3	-1.6
BALM				S	Sg	08 37 13.8	-0.8
KIAG	Kiagna River	1.16	261	P	Pg	08 36 58.5	-1.8
KIAG				S	Sg	08 37 13.9	-1.5
PTPK	Patty Peak	1.19	274	P	Pg	08 36 59.5	-1.4
PTPK				S	Sg	08 37 16.4	+0.1
HYT	Haines Junctio	1.26	103	S	Sg	08 37 16.9	-1.8
BVCY	Beaver Creek	1.35	343	S	Sb	08 37 22.2	+0.3
MESA	MESA	1.35	226	P	Pg	08 37 03.1	-1.0
MESA				S	Sg	08 37 21.7	+0.1
PNL	Peninsula	1.50	168	Pn	Pn	08 37 04.8	-1.4
PNL				Sn	Sg	08 37 24.7	-1.6
PLBC	Pleasant Camp	2.48	131	Pg	Pb	08 37 21.7	-1.7
PLBC				Sg	Sg	08 37 56.1	-1.5
WHY	Whitehorse	2.55	99	Pn	Pn	08 37 19.8	-1.0
WHY				Pg	Pb	08 37 23.3	-1.4
WHY				Sn	Sn	08 37 52.6	+0.1
WHY				Sg	Sb	08 37 56.8	+0.1
DIV	Divide	2.79	272	Pg	Pb	08 37 27.3	-1.6
DIV				Sg	Sb	08 38 03.8	+0.3
DAWY	Dawson	2.96	5	Pn	Pn	08 37 26.1	-0.1
DAWY				Sg	Sb	08 38 09.8	+1.6
DOT	Dot Lake	3.15	325	Pg	Pb	08 37 35.2	+0.4
DOT				Sg	Sb	08 38 16.2	+2.5
BESE	Bessie Mountai	3.65	132	Pg	Pb	08 37 41.5	-1.9
BESE				Sg	Sb	08 38 31.3	+3.0

*ISCJB **24** 08:43:35.3±0.4, 54°.1N±0°.1×153°.6E±0°.1, h650km, mb3.2/8, Error ellipse: s-maj=13.7km s-min=8.2km az=15.8*
*MOS **24** 08:43:35.4±1.0, 54°.08N×153°.51E, h642km, mb4.0/1, Error ellipse: s-maj=18.3km s-min=15.2km az=111.6*
*IDC **24** 08:43:36.8±1.1, 54°.13N×153°.37E, h633km±15km, mb2.7/8, mb1 2.9/12, mb1mx2.6/57, mbtmp3.7/12, Error ellipse: s-maj=24.3km s-min=14.6km az=170.0*
*KRSC **24** 08:43:37.1±10.0, 54°.13N×153°.27E, h595km±10km, ML4.3*
ISC 24 08:43:36.2±0.7, 53°.9N±0°.1×153°.72E±0°.08, h650km, n47, σ1§93/51, mb3.2/8, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.27	114	eP	P	08 44 56.0	0.0
APC	Apacha	2.27	114	P	P	08 44 56.0	0.0
PETK	Petropavlovsk-	2.50	107	P	P	08 44 56.7	-0.3
	1.3nm,0.3s,baz=342,slow=2.3,SNR=19						
KRMR	Karymshinskiy	2.85	110	eP	P	08 44 58.4	-0.2
KRMR	Karymshinskiy	2.85	110	P	P	08 44 58.4	-0.2
KRX	Arik	2.99	98	eP	P	08 44 59.1	-0.4
KRX	Arik	2.99	98	P	P	08 44 59.1	-0.4
KOK	Koryaka	2.99	100	eP	P	08 44 59.6	+0.1
KOK	Koryaka	2.99	100	P	P	08 44 59.6	+0.1
KRER	Koryakskii	3.06	99	eP	P	08 45 00.1	+0.2
KRER	Koryakskii	3.06	99	P	P	08 45 00.1	+0.2
AVH	Avacha	3.06	100	eP	P	08 44 59.9	+0.1
AVH	Avacha	3.06	100	P	P	08 44 59.9	+0.1
SMAR	Somma	3.10	100	eP	P	08 45 00.1	0.0
SMAR	Somma	3.10	100	P	P	08 45 00.1	0.0
UGLR	Uglovaya	3.12	101	eP	P	08 45 00.6	+0.4
UGLR	Uglovaya	3.12	101	P	P	08 45 00.6	+0.4
DALK	Dalny	3.13	104	eP	P	08 44 59.8	-0.2
DALK	Dalny	3.13	104	P	P	08 44 59.8	-0.2
SDLR	Sedlovina	3.14	99	eP	P	08 44 59.9	-0.4
SDLR	Sedlovina	3.14	99	P	P	08 44 59.9	-0.4
KDTR	Khodutka, Kamc	3.37	126	eP	P	08 44 59.9	-1.5
KDTR				eS	S	08 46 06.2	-4.8
KDTR	Khodutka, Kamc	3.37	126	P	P	08 44 59.9	-1.5
KDTR				S	S	08 46 06.2	-4.8
ESO	Esso	3.53	53	eP	P	08 45 02.0	-0.2
ESO	Esso	3.53	53	P	P	08 45 02.0	-0.2
KZV	Kizimen	4.03	70	eP	P	08 45 04.4	-1.1
KZV	Kizimen	4.03	70	P	P	08 45 04.4	-1.1
MKZ	Mys Kozlova	4.75	79	eP	P	08 45 08.0	-2.2
MKZ				eS	S	08 46 22.0	-5.2
MKZ	Mys Kozlova	4.75	79	P	P	08 45 08.0	-2.2
MKZ				S	S	08 46 22.0	-5.2
KBTR	Krutoberegovo	5.73	62	eP	P	08 45 15.1	-2.4
KBTR	Krutoberegovo	5.73	62	P	P	08 45 15.1	-2.4
MA2	Magadan	5.93	345	P	P	08 45 17.1	-2.0
MA2	Magadan	5.93	345	P	P	08 45 16.7	-2.4
	1.0nm,0.3s,baz=164,slow=9.2,SNR=7.0						
BKI	Bering	7.25	75	eS	S	08 47 07.0	+3.0
SEY	Seymchan	9.10	356	P	P	08 45 45.6	-1.4
	0.6nm,0.3s,baz=175,slow=10.0,SNR=14						
KLR	Kul'dur	14.41	260	P	P	08 46 37.0	+0.2
	0.3nm,0.3s,baz=65,slow=8.2,SNR=6.0						
KSRS	Korea Array	24.19	238	P	P	08 48 06.4	+1.6
	1.0nm,0.6s,baz=27,slow=8.7,SNR=4.4						
INK	Inuvik	35.57	38	P	P	08 49 42.4	+1.1
	0.5nm,0.5s,baz=252,slow=3.3,SNR=4.0						
KURK	Kurchatov	44.03	298	P	P	08 50 48.8	+0.3
KURBB	Kurchatov Arra	44.13	298	P	P	08 50 48.8	-0.5
MKAR	Makanchi Array	44.34	291	P	P	08 50 50.6	-0.4
	0.8nm,0.5s,baz=56,slow=6.0,SNR=9.1						
BVAR	Borovoye Array	46.85	305	P	P	08 51 09.4	-0.4
	1.0nm,0.4s,baz=52,slow=5.7,SNR=4.6						
ARCES	ARCESS Array B	51.27	339	P	P	08 51 40.8	-1.0
	1.0nm,0.8s,baz=28,slow=8.2,SNR=2.7						
FINES	FINESS Array B	57.78	333	P	P	08 52 26.0	-1.0
	1.7nm,1.1s,baz=3.8,slow=5.7,SNR=3.7						
NVAR	Mina Array Bea	58.98	66	P	P	08 52 38.4	+2.6
	0.4nm,0.7s,baz=316,slow=7.6,SNR=3.8						
TXAR	Lajitas Array	73.75	63	P	P	08 54 09.0	+2.7
TXAR	Lajitas Array	73.75	63	P	P	08 54 08.9	+2.7
	0.3nm,0.6s,baz=289,slow=4.7,SNR=5.8						

*ISCJB **24** 08:44:15.7±0.9, 54°.7N±0°.2×153°.0E±0°.2, h600km, mb3.2/7, Error ellipse: s-maj=29.2km s-min=13.2km az=170.1*
*IDC **24** 08:44:16.2±1.5, 54°.18N×153°.14E, h627km±24km, mb2.6/7, mb1 2.8/9, mb1mx2.5/57, mbtmp3.6/9, Error ellipse: s-maj=50.3km s-min=13.7km az=173.0*
ISC 24 08:44:16.1±1.0, 54°.6N±0°.2×153°.1E±0°.1, h600km, n10, σ1§05/10, mb3.1/7, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	3.11	116	P	P	08 45 37.1	+1.3
	0.4nm,0.3s,baz=321,slow=2.2,SNR=5.1						
KLR	Kul'dur	14.17	257	P	P	08 47 16.1	-0.2
	0.3nm,0.3s,baz=77,slow=9.3,SNR=5.8						
ILAR	Eielson Array	30.80	46	P	P	08 49 44.4	+0.3
	0.3nm,0.6s,baz=290,slow=10.0,SNR=5.8						
INK	Inuvik	35.28	38	P	P	08 50 22.6	+1.1
	0.5nm,0.5s,baz=300,slow=6.7,SNR=6.1						
KURBB	Kurchatov Arra	43.48	297	P	P	08 51 27.7	+0.3
MKAR	Makanchi Array	43.74	290	P	P	08 51 29.2	-0.3
	0.8nm,0.5s,baz=56,slow=6.5,SNR=8.0						
YKA	Yellowknife Ar	44.86	41	P	P	08 51 38.2	+0.5
	0.2nm,0.3s,baz=304,slow=6.9,SNR=4.3						
BVAR	Borovoye Array	46.16	304	P	P	08 51 47.8	+0.1
	0.7nm,0.3s,baz=44,slow=7.2,SNR=3.7						
NVAR	Mina Array Bea	59.08	66	P	P	08 53 18.0	-2.0
	1.1nm,1.0s,baz=286,slow=6.5,SNR=3.2						
TXAR	Lajitas Array	73.78	62	P	P	08 54 49.9	-0.6
	0.3nm,0.6s,baz=305,slow=3.0,SNR=5.2						

*ISCJB **24** 08:45:40.9±0.3, 54°.44N±0°.08×153°.27E±0°.09, h600km, mb3.4/8, Error ellipse: s-maj=10.7km s-min=6.7km az=178.0*
*IDC **24** 08:45:41.8±1.0, 54°.44N×153°.51E, h616km±14km, mb2.8/9, mb1 3.0/14, mb1mx2.7/64, mbtmp3.9/14, Error ellipse: s-maj=20.3km s-min=14.2km az=114.0*
*MOS **24** 08:45:41.7±0.8, 54°.37N×153°.19E, h587km, mb4.0/1, Error ellipse: s-maj=16.0km s-min=15.7km az=75.0*
*KRSC **24** 08:45:43.2±10.0, 54°.44N×153°.41E, h565km±10km, ML4.3*
ISC 24 08:45:40.9±0.7, 54°.34N±0°.09×153°.49E±0°.08, h600km, n53, σ1§90/59, mb3.5/8, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.60	121	eP	P	08 46 59.6	+1.8
APC	Apacha	2.60	121	P	P	08 46 59.6	+1.8
PETK	Petropavlovsk-	2.79	114	P	P	08 47 00.4	+1.6
	2.1nm,0.3s,baz=308,slow=2.4,SNR=17						
KRMR	Karymshinskiy	3.15	117	eP	P	08 47 02.3	+1.5
KRMR	Karymshinskiy	3.15	117	P	P	08 47 02.3	+1.5
KRX	Arik	3.21	106	eP	P	08 47 03.1	+1.7
KRX	Arik	3.21	106	P	P	08 47 03.1	+1.7
KOK	Koryaka	3.23	107	eP	P	08 47 03.3	+1.9
KOK	Koryaka	3.23	107	P	P	08 47 03.3	+1.9
KRER	Koryakskii	3.29	106	eP	P	08 47 03.6	+1.7
KRER	Koryakskii	3.29	106	P	P	08 47 03.6	+1.7
ASAK	Asacha	3.29	125	eP	P	08 47 03.6	+1.8
ASAK	Asacha	3.29	125	P	P	08 47 03.6	+1.8
SMAR	Somma	3.33	107	P	P	08 47 03.8	+1.6
SMAR	Somma	3.33	107	P	P	08 47 03.8	+1.6
PET	Petropavlovsk	3.34	111	eP	P	08 47 04.0	+2.1
PET				pmax	pmax		
	comp=Z,30nm,0.4s						
UGLR	Uglovaya	3.36	107	P	P	08 47 04.5	+2.3
UGLR	Uglovaya	3.36	107	P	P	08 47 04.5	+2.3
SDLR	Sedlovina	3.37	106	P	P	08 47 04.0	+1.7
SDLR	Sedlovina	3.37	106	P	P	08 47 04.0	+1.7
ESO	Esso	3.39	60	eP	P	08 47 04.2	+2.1
ESO	Esso	3.39	60	P	P	08 47 04.2	+2.1
DALK	Dalny	3.40	111	eP	P	08 47 03.3	+1.0
DALK	Dalny	3.40	111	P	P	08 47 03.3	+1.0
NLC	Nalytchevo	3.67	106	P	P	08 47 06.6	+2.6
NLC	Nalytchevo	3.67	106	P	P	08 47 06.6	+2.6
KDTR	Khodutka, Kamc	3.75	131	P	P	08 47 04.3	-0.3
KDTR				S	S	08 48 09.6	-3.3
KDTR	Khodutka, Kamc	3.75	131	P	P	08 47 04.3	-0.3
KDTR				S	S	08 48 09.6	-3.3
TUMR	Tumrok	3.97	73	P	P	08 47 07.7	+1.6
TUMR	Tumrok	3.97	73	P	P	08 47 07.7	+1.6
KZV	Kizimen	4.02	76	eP	P	08 47 07.5	+1.0
KZV	Kizimen	4.02	76	P	P	08 47 07.5	+1.0
MKZ	Mys Kozlova	4.82	84	eS	S	08 48 25.0	-1.9
MA2	Magadan	5.46	345	P	P	08 47 18.6	+1.5
MA2	Magadan	5.46	345	P	P	08 47 18.7	+1.6
	comp=Z,2.3nm,0.3s,baz=166,slow=9.6,SNR=14						
KBTR	Krutoberegovo	5.66	67	eP	P	08 47 17.8	-1.0
KBTR				eS	S	08 48 35.4	-3.8
KBTR	Krutoberegovo	5.66	67	P	P	08 47 17.8	-1.0
KBTR				S	S	08 48 35.4	-3.8
BKI	Bering	7.28	78	eP	P	08 47 35.4	+2.2
BKI				eS	S	08 49 08.7	+3.3
BKI	Bering	7.28	78	P	P	08 47 35.4	+2.2
BKI				S	S	08 49 08.7	+3.3
SEY	Seymchan	8.64	357	P	P	08 47 47.1	+1.2
	comp=Z,2.2nm,0.3s,baz=174,slow=10.0,SNR=40						
KLR	Kul'dur	14.37	258	P	P	08 48 43.9	+0.8
	comp=Z,0.8nm,0.3s,baz=69,slow=8.4,SNR=19						
USRK	Ussuriysk Ar.	17.24	243	P	P	08 49 09.6	+0.1
	comp=Z,0.2nm,0.3s,baz=56,slow=8.7,SNR=4.0						
MJAR	Matsushiro Arr	20.70	217	P	P	08 49 42.3	+1.4
	comp=Z,1.3nm,0.6s,baz=41,slow=6.8,SNR=3.9						
KSRS	Korea Array	24.32	236	P	P	08 50 14.4	+1.5
	comp=Z,1.2nm,0.5s,baz=28,slow=8.7,SNR=6.4						
JNU	Nakatsue	26.55	226	P	P	08 50 33.5	+0.8
	comp=Z,1.0nm,0.3s,baz=0.0,slow=6.1,SNR=3.8						
KURK	Kurchatov	43.70	297	P	P	08 52 54.2	+0.3
KURBB	Kurchatov Arra	43.80	297	P	P	08 52 54.2	-0.5
MKAR	Makanchi Array	44.05	291	P	P	08 52 56.2	-0.5
	comp=Z,2.5nm,0.5s,baz=56,slow=6.6,SNR=28						
ARCES	ARCESS Array B	50.80	339	P	P	08 53 45.2	-1.4
	comp=Z,1.5nm,0.9s,baz=50,slow=8.4,SNR=3.3						
CMAR	Chiang Mai Arr	54.72	251	P	P	08 54 15.8	+0.7
	comp=Z,1.4nm,0.5s,baz=13,slow=8.0,SNR=5.8						
FINES	FINESS Array B	57.32	333	P	P	08 54 31.0	-1.3
	comp=Z,0.5nm,0.5s,baz=30

PAGZ	Pagadian	6.98	4	eP	Pn	09 00 08.2	-2.1
PAGZ				eS		09 00 16.0	
PAGZ	Pagadian	6.98	4	eS	Sn	09 01 33.9	+5.4
BSSI	Bau Bau, Buton 99nm,0.6s,7µm0.4nm	7.32	199	P	Pn	09 00 17.6	+2.6
BUKP	Musuan	7.33	18	eP	Pn	09 00 20.9	+5.6
BUKP	Musuan	7.33	18	eS	Sn	09 01 43.5	+6.2
DCPH	Dipolog City	7.71	4‖	eP	Sn	09 01 54.9	+8.5
MMRI	Maumere	9.43	184	ePn	Pn	09 00 45.1	+1.1
MMRI	Maumere	9.43	184	P	Pn	09 00 47.2	+3.2
FAKI	Fak Fak	10.12	112	ePn	Pn	09 00 57.0	+3.5
SBUM	Sibu	10.73	279	ePn	Pn	09 01 06.3	+4.5
JAGI	Jajag, Banyuwa	12.67	223	ePn	Pn	09 01 29.2	+0.9
JAGI	Jajag, Banyuwa	12.67	223	P	P	09 01 40.9	+1.8
DLV	T Lat 23nm,1.2s	18.01	308	eP	P	09 02 40.3	+1.7
FITZ	Fitzroy Crossi 1.1nm,0.3s,baz=0.2,slow=7.0,SNR=17	19.02	172	P	P	09 02 48.5	-1.0
TWG	Pinlang 189nm,1.4s	21.91	356	eP	P	09 03 24.1	+3.3
QIZ	Qiongzhong 32nm,1.2s	22.11	326	eP	P	09 03 24.3	+1.3
PSA00	Pilbara Seismi 16nm,0.8s	22.47	187	eP	P	09 03 23.8	-3.0
SSLB	Suanglung 18nm,0.5s	22.88	356	eP	P	09 03 33.7	+2.5
WRAB	Tennant Creek 15nm,0.7s	23.53	152	eP	P	09 03 35.8	-1.9
WR1	Warramunga Arr	23.53	152	eP	P	09 03 35.7	-2.0
WRA	Warramunga Arr 114nm,0.3s,baz=334,slow=11,SNR=1.7	23.53	152	P	P	09 03 35.7	-2.0
WB2	Warramunga Arr 14nm,0.6s	23.54	152	eP	P	09 03 35.6	-2.2
PSI	Prapat 21nm,1.3s	23.98	275	eP	P	09 03 41.4	-0.8
PSI	Prapat 4.0nm,0.4s,baz=76,slow=6.6,SNR=5.3	23.98	275	P	P	09 03 40.4	-1.7
TRTT	Trang 32nm,1.1s	24.09	287	P	P	09 03 43.8	+0.8
PANO	Nakornpanom 0.3nm,1.0s	24.17	313	P	P	09 03 45.1	+1.4
SKNT	Sakolnakorn 10nm,0.9s	24.53	312	P	P	09 03 48.4	+1.4
CHAI	Chaiyaphum 13µm,1.0s	25.43	307	P	P	09 03 56.3	+1.1
JOW	Kunigami 82nm,1.4s	26.36	11	eP	P	09 04 04.5	+1.0
AS31	Alice Springs 1.0nm,0.8s	26.63	157	eP	P	09 04 04.0	-2.0
ASAR	Alice Springs	26.63	157	eP	P	09 04 03.4	-2.6
ASAR	Alice Springs 2.3nm,0.8s,baz=343,slow=13,SNR=24	26.63	157	P	P	09 04 04.2	-1.8
ASAR				PcP	PcP	09 07 27.7	-2.0
	0.3nm,0.3s,baz=347,slow=2.1,SNR=4.7						
SLVN	Son La 4.4nm,0.9s	27.49	319	eP	P	09 04 13.5	-0.3
PHRA	Phrae 1.2nm,1.3s,862nm	28.29	310	P	P	09 04 24.9	+4.0
CMAR	Chiang Mai Arr	29.27	308	eP	P	09 04 29.9	+0.3
CMAR	Chiang Mai Arr 1.4nm,0.5s,baz=135,slow=6.9,SNR=11	29.27	308	P	P	09 04 30.4	+0.8
CMAR				ScP	ScP	09 11 09.2	-6.2
	0.8nm,0.3s,baz=166,slow=1.6,SNR=5.0						
CMMT	Chiang Mai 5.6nm,1.0s,17µm	29.46	309	P	P	09 04 32.8	+1.4
CHTO	Chiang Mai 8.0nm,0.8s	29.47	309	eP	P	09 04 32.2	+0.8
MORW	Morawa 9.9nm,0.9s	30.44	192	eP	P	09 04 36.4	-3.5
WHN	Wuhan	30.62	346	P	P	09 04 46.3	+4.9
NJ2	Nanjing	31.27	353	eP	P	09 04 49.8	+2.7
FORT	Forrest 21nm,0.6s	31.84	171	eP	P	09 04 49.2	-2.9
ENH	Enshi 20nm,0.8s	31.90	338	eP	P	09 04 54.1	+1.4
JNU	Nakatsue 5.9nm,1.0s	32.99	12	eP	P	09 05 02.9	+0.6
NWAO	Narrogin (SRO) 5.7nm,0.7s,baz=17,slow=15,SNR=3.3	34.00	188	P	P	09 05 07.8	-3.2
CD2	Chengdu	34.95	331	P	P	09 05 20.3	+1.0
XAN	Xi'an	35.51	340	P	P	09 05 25.1	+1.0
XAN				pP	sP	09 05 37.9	-0.5
XAN	Xi'an 14nm,0.8s	35.51	340	eP	P	09 05 24.8	+0.7
KSAR	Wonju Array Be	36.72	7	eP	P	09 05 37.0	+2.7
KSRS	Korea Array 1.2nm,0.6s,baz=186,slow=11,SNR=8.1	36.73	7	P	P	09 05 34.6	+0.2
STKA	Stephens Creek 1.8nm,0.7s	37.08	153	eP	P	09 05 34.4	-3.1
STKA	Stephens Creek 9.3nm,0.7s,baz=324,slow=9.3,SNR=29	37.08	153	P	P	09 05 36.0	-1.5
MJAR	Matsushiro Arr 16nm,0.9s,baz=196,slow=9.6,SNR=35	38.27	20	P	P	09 05 47.5	0.0
MAJO	Matsushiro 22nm,1.1s	38.27	20	eP	P	09 05 47.3	-0.2
MAT	Matsushiro	38.27	20	P	P	09 05 47.1	-0.4
MJB9	Matsu-Tunnel 22nm,1.1s	38.27	20	eP	P	09 05 47.2	-0.4
LZH	Lanzhou	39.25	335	eP	P	09 05 57.4	+1.5
LZH				pP	sP	09 06 18.5	+8.1
LZH				sP	pP	09 06 29.0	+23
LZH				ePP	PnPn	09 07 34.5	+5.2
BJT	Baijiatuau 10.0nm,0.7s	39.46	352	eP	P	09 05 58.6	+1.2
BJI	Beijing	39.48	352‖	eP	P	09 05 58.3	+0.7
CN2	Changchun	42.84	3	eP	P	09 06 30.0	+4.9
RAMN	Ramite 30nm,0.7s	43.41	310	eP	P	09 06 30.6	+0.3
GTA	Gaotai	43.77	334	eP	P	09 06 33.9	+1.0
GTA				pP	pP	09 06 37.9	-5.3
GTA				sP	sP	09 06 41.3	-6.1
USRK	Ussuriysk Ar. 7.1nm,0.7s,baz=216,slow=11,SNR=8.9	43.93	9	P	P	09 06 34.5	+0.6
JIRN	Jiri 32nm,0.7s	44.08	310	eP	P	09 06 35.9	0.0
PKI	Pulchoki 7.9nm,0.5s	44.63	310	eP	P	09 06 39.8	-0.5
PKIN	Phulchoki 7.7nm,0.5s	44.65	310	eP	P	09 06 39.8	-0.5
KKN	Kakani 22nm,0.8s	44.84	310	eP	P	09 06 41.5	-0.3
DMN	Daman 28nm,0.9s	44.89	310	eP	P	09 06 42.0	-0.2
KOLN	Koldanda 30nm,0.7s	46.13	309	eP	P	09 06 52.0	0.0
DANN	Dangsing 49nm,0.7s	46.29	310	eP	P	09 06 52.9	-0.4
ASAJ	Asahikawa 22nm,0.8s,baz=231,slow=11,SNR=18	46.54	20	P	P	09 06 56.0	+1.4
PYUN	Piuthan 59nm,0.8s	46.76	309	eP	P	09 06 57.0	+0.1
KLR	Kul'dur 0.9nm,0.5s,baz=236,slow=3.8,SNR=10.0	48.81	8	P	P	09 07 11.9	-0.2
SONA0	Songino Array	48.94	345	eP	P	09 07 14.0	+0.7
SONM	Songino Array	48.94	345	eP	P	09 07 13.8	+0.5
SONM	Songino Array 12nm,0.8s,baz=161,slow=8.7,SNR=61	48.94	345	P	P	09 07 14.0	+0.7
WMQ	Urumqi	52.99	329	eP	P	09 07 45.8	+1.9
TLY	Talaya 16nm,1.3s	53.18	345	eP	P	09 07 46.1	+1.1
MK31	Makanchi Array 3.8nm,0.6s	57.82	328	eP	P	09 08 18.0	-0.5
MK32	Makanchi Array	57.82	328	eP	P	09 08 18.4	-0.1
MKAR	Makanchi Array	57.82	328	eP	P	09 08 18.1	-0.4
MKAR	Makanchi Array 4.4nm,0.5s,baz=123,slow=8.8,SNR=55	57.82	328	P	P	09 08 18.4	-0.1
MAKZ	Makanchi 4.4nm,0.6s	57.99	328	eP	P	09 08 19.2	-0.5
NRN	Naryn 3.7nm,0.9s	58.40	320	eP	P	09 08 22.0	-1.1
PETK	Petropavlovsk-	59.58	24	eP	P	09 08 30.9	+0.3
PETK	Petropavlovsk- 3.0nm,0.5s,baz=160,slow=4.6,SNR=3.2	59.58	24	P	P	09 08 30.4	-0.2
PEA1	Petropavlovsk-	59.59	24	eP	P	09 08 30.4	-0.2
AAK	Ala-Archa 3.4nm,0.7s	59.98	320	eP	P	09 08 33.9	+0.1
AAK	Ala-Archa 3.1nm,0.6s,baz=140,slow=6.3,SNR=10	59.98	320	P	P	09 08 34.2	+0.5
KBL	Kabul 5.5nm,0.7s	60.28	310	eP	P	09 08 35.1	-0.9
ARSB	Arslanbob 17nm,1.4s	60.32	318	eP	P	09 08 35.6	-0.5
GAR	Garm 13nm,0.8s	61.10	315	eP	P	09 08 40.6	-0.8
BTK	Batken 5.8nm,0.8s	61.21	316	eP	P	09 08 41.8	-0.3
ZAA0	Zalesovo Array 6.7nm,0.9s	61.48	336	eP	P	09 08 42.3	-1.3
ZALV	Zalesovo Beam	61.48	336	eP	P	09 08 42.1	-1.4
ZALV	Zalesovo Beam 4.6nm,0.7s,baz=125,slow=6.7,SNR=11	61.48	336	P	P	09 08 41.6	-1.9
ZAA1	Zalesovo Array	61.49	336	eP	P	09 08 41.6	-1.9
KURBB	Kurchatov Arra 9.0nm,0.7s,baz=142,slow=6.7,SNR=64	62.16	330	P	P	09 08 47.8	-0.4
KURK	Kurchatov 26nm,0.8s	62.17	330	eP	P	09 08 47.6	-0.6
KK31	Karatay Array 5.1nm,1.0s	62.77	319	eP	P	09 08 52.0	-0.5
KKAR	Karatay Array 5.1nm,1.0s	62.77	319	eP	P	09 08 52.1	-0.3
SEY	Seymchan 1.2nm,0.5s,baz=205,slow=2.6,SNR=3.5	65.74	14	P	P	09 09 11.9	+0.4
BVAR	Borovoye Array 3.2nm,0.7s,baz=145,slow=8.2,SNR=20	67.68	329	P	P	09 09 22.8	-1.3
BRVK	Borovoye 13nm,1.1s	67.75	329	eP	P	09 09 23.3	-1.2
GEYT	Alibeck 3.4nm,0.6s,baz=130,slow=4.6,SNR=6.3	69.72	310	P	P	09 09 36.6	-0.5
TIXI	Tiksi 3.6nm,0.8s	70.80	2	eP	P	09 09 41.4	-1.6
ABKAR	Akbulak array 4.0nm,0.8s	71.97	322	eP	P	09 09 49.3	-1.2
NRIK	Noril'sk 1.8nm,0.6s,baz=135,slow=3.2,SNR=3.7	72.34	348	P	P	09 09 50.8	-1.5
AKTO	Aktyubinsk 1.1nm,0.3s,baz=101,slow=8.3,SNR=7.1	73.54	323	P	P	09 09 58.4	-1.4
ARU	Arti 5.7nm,0.9s	75.33	329	eP	P	09 10 07.7	-2.4
ARU	Arti 1.5nm,0.3s,baz=130,slow=7.1,SNR=4.4	75.33	329	P	P	09 10 07.3	-2.8
VNDA	Vanda	81.10	172	eP	P	09 10 38.3	-3.3
VNDA	Vanda 2.0nm,0.8s,baz=317,slow=6.2,SNR=13	81.10	172	P	P	09 10 39.1	-2.6
IMAR	Indian Mountai	86.55	24	eP	P	09 11 08.9	-0.8
MLY	Manley 2.2nm,0.9s	87.73	25	eP	P	09 11 14.4	-1.1
SYO	Syowa Base	88.35	201‖	eP	P	09 11 14.4	-3.9
ARCES	ARCESS Array B 0.9nm,0.7s,baz=95,slow=7.3,SNR=5.0	91.79	340	P	P	09 11 31.1	-3.3
PV17	East Wray Mesa	118.53	45	ePKPdf	PKPdf	09 17 14.6	-0.8
TORD	Torodi Ar. Bea 0.5nm,0.7s,baz=139,slow=3.1,SNR=3.9	120.03	286	PKP	PKPdf	09 17 16.4	-2.1
TOA1	Torodi Ar. Sit	120.03	286	ePKPdf	PKPdf	09 17 16.4	-2.1

*MOS **24** 09:05:20.8±0.8, 52°.80N×154°.15E, h540km, mb4.0/1, Error ellipse: s-maj=13.2km s-min=9.7km az=71.3*
*KRSC **24** 09:05:20.2±10.0, 52°.82N×154°.07E, h531km±10km, ML4.4*
*ISCJB **24** 09:05:22.0±0.3, 53°.11N±0°.07×153°.5E±0°.1, h499km±5km, mb3.5/19, Error ellipse: s-maj=12.6km s-min=8.0km az=40.4*
*IDC **24** 09:05:23.0±0.7, 53°.15N×153°.38E, h492km±9km, mb3.1/19, mb1 3.2/23, mb1mx3.1/43, mbtmp3.9/23, Error ellipse: s-maj=12.6km s-min=10.7km az=129.0*

ISC 24 09:05:22.8±0.6, 53°.02N±0°.08×153°.79E±0°.07, h503km±7km, n90, σ1§86/131, mb3.6/19, 1C, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.04	91	eP	P	09 06 28.5	+0.3
APC				i S	S	09 07 21.8	+0.2
APC	Apacha	2.04	91	P	P	09 06 28.5	+0.3
APC				S	S	09 07 21.8	+0.2
PETK	Petropavlovsk-	2.36	86	P	P	09 06 30.4	+0.4
PETK	8.9nm,0.3s,baz=322,slow=1.1,SNR=155 baz=328,slow=18,SNR=4.4			S	S	09 07 25.7	+0.9
PAU	Pauzhetka	2.42	129	P	P	09 06 30.4	0.0
PAU	Pauzhetka	2.42	129	P	P	09 06 30.4	0.0
ASAK	Asacha	2.58	103	eP	P	09 06 32.0	+0.6
ASAK				i S	S	09 07 28.2	+0.9
ASAK	Asacha	2.58	103	P	P	09 06 32.0	+0.6
ASAK				S	S	09 07 28.2	+0.9
KRMR	Karymshinskiy	2.64	92	eP	P	09 06 32.1	+0.6
KRMR				i S	S	09 07 27.1	-0.5
KRMR	Karymshinskiy	2.64	92	P	P	09 06 32.1	+0.6
KRMR				S	S	09 07 27.1	-0.5
MTVR	Mutnovka	2.73	100	eP	P	09 06 33.1	+0.8
MTVR	Mutnovka	2.73	100	P	P	09 06 33.1	+0.8
SKR	Severo-Kuril's	2.75	147	i P	P	09 06 32.0	-0.3
SKR	Severo-Kuril's	2.75	147	P	P	09 06 32.0	-0.3
KDTR	Khodutka, Kamc	2.89	113	eP	P	09 06 32.4	-0.8
KDTR				i S	S	09 07 26.3	-4.3
KDTR	Khodutka, Kamc	2.89	113	P	P	09 06 32.4	-0.8
KDTR				S	S	09 07 26.3	-4.3
KOK	Koryaka	2.93	83	eP	P	09 06 34.7	+1.2
KOK				eS	S	09 07 31.7	+0.4
KOK	Koryaka	2.93	83	P	P	09 06 34.7	+1.2
KOK				S	S	09 07 31.7	+0.4
RUS	Russkaya	2.93	100	P	P	09 06 33.0	-0.4
RUS				eS	S	09 07 27.3	-3.8
RUS	Russkaya	2.93	100	P	P	09 06 33.0	-0.4
RUS				S	S	09 07 27.3	-3.8
PET	Petropavlovsk	2.94	88	eP	P	09 06 33.9	+0.5
PET				eS	S	09 07 29.7	-1.4
PET				pmax	pmax		
	comp=Z,209nm,0.5s						
PET				smax	smax		
	comp=N,57nm,0.6s						
PET				smax	smax		
	comp=E,56nm,0.4s						
KRX	Arik	2.95	81	eP	P	09 06 34.4	+0.7
KRX	Arik	2.95	81	P	P	09 06 34.4	+0.7
AVH	Avacha	2.99	83	eP	P	09 06 35.0	+1.1
AVH	Avacha	2.99	83	P	P	09 06 35.0	+1.1
DALK	Dalny	3.00	88	eP	P	09 06 34.1	+0.3
DALK				eS	S	09 07 30.6	-1.3
DALK	Dalny	3.00	88	P	P	09 06 34.1	+0.3
DALK				S	S	09 07 30.6	-1.3
KRER	Koryakskii	3.00	83	eP	P	09 06 35.2	+1.1
KRER				eS	S	09 07 33.0	+0.7
KRER	Koryakskii	3.00	83	P	P	09 06 35.2	+1.1
KRER				S	S	09 07 33.0	+0.7
SMAR	Somma	3.03	83	i P	P	09 06 35.2	+0.9
SMAR				eS	S	09 07 33.2	+0.5
SMAR	Somma	3.03	83	P	P	09 06 35.2	+0.9
SMAR				S	S	09 07 33.2	+0.5
UGLR	Uglovaya	3.04	84	i P	P	09 06 35.4	+1.1
UGLR				eS	S	09 07 32.7	0.0
UGLR	Uglovaya	3.04	84	P	P	09 06 35.4	+1.1
UGLR				S	S	09 07 32.7	0.0
SDLR	Sedlovina	3.08	83	P	P	09 06 35.2	+0.6
SDLR				eS	S	09 07 32.7	-0.5
SDLR	Sedlovina	3.08	83	P	P	09 06 35.2	+0.6
SDLR				S	S	09 07 32.7	-0.5
NLC	Nalytchevo	3.36	85	eP	P	09 06 36.9	+0.6
NLC				eS	S	09 07 35.3	-1.1
NLC	Nalytchevo	3.36	85	P	P	09 06 36.9	+0.6
NLC				S	S	09 07 35.3	-1.1
SPN	Mys Shipunski	3.77	86	i P	P	09 06 38.7	-0.7
SPN				eS	S	09 07 37.3	-4.7
SPN	Mys Shipunski	3.77	86	P	P	09 06 38.7	-0.7
SPN				S	S	09 07 37.3	-4.7
ESO	Esso	4.09	43	eP	P	09 06 43.2	+1.3
ESO	Esso	4.09	43	P	P	09 06 43.2	+1.3
KZV	Kizimen	4.37	59	eP	P	09 06 46.1	+1.7
KZV				eS	S	09 07 50.2	-1.0
KZV	Kizimen	4.37	59	P	P	09 06 46.1	+1.7
KZV				S	S	09 07 50.2	-1.0
TUMR	Tumrok	4.37	56	i P	P	09 06 47.2	+2.8
TUMR				eS	S	09 07 52.3	+1.1
TUMR	Tumrok	4.37	56	P	P	09 06 46.4	+2.0
TUMD	Tumrok D	4.47	58	i P	P	09 06 46.4	+1.3
SRDR	Sredinnyy	4.77	44	i P	P	09 06 49.2	+1.5
SRDR	Sredinnyy	4.77	44	P	P	09 06 49.2	+1.5
MKZ	Mys Kozlova	4.96	69	eP	P	09 06 49.6	+0.3
MKZ				eS	S	09 07 54.3	-5.9
MKZ	Mys Kozlova	4.96	69	P	P	09 06 49.6	+0.3
MKZ				S	S	09 07 54.3	-5.9
BDR	Baidarnaya	5.58	47	eP	P	09 06 55.3	+0.2
BDR	Baidarnaya	5.58	47	P	P	09 06 55.3	+0.2
SRKR	Sorokina	5.61	47	i P	P	09 06 56.4	+1.0
SRKR				eS	S	09 08 12.6	+1.4
SRKR	Sorokina	5.61	47	P	P	09 06 56.4	+1.0
SRKR				S	S	09 08 12.6	+1.4
SMKR	Semkarok	5.70	48	P	P	09 06 56.3	+0.1
SMKR	Semkarok	5.70	48	P	P	09 06 56.3	+0.1
KBG	Krutoberegovo	6.11	54	eP	P	09 06 58.5	-1.5
KBG				eS	S	09 08 14.9	-4.9
KBG	Krutoberegovo	6.11	54	P	P	09 06 58.5	-1.5
KBG				S	S	09 08 14.9	-4.9
KBTR	Krutoberegovo	6.14	55	eP	P	09 06 58.5	-1.9
KBTR				eS	S	09 08 14.8	-5.6
KBTR	Krutoberegovo	6.14	55	P	P	09 06 58.5	-1.9
KBTR				S	S	09 08 14.8	-5.6
BKI	Bering	7.49	68	eP	P	09 07 15.4	+1.6
BKI				eS	S	09 08 42.3	-2.6
BKI	Bering	7.49	68	P	P	09 07 15.4	+1.6
BKI				S	S	09 08 42.3	-2.6
OSSR	Ossora	8.11	36	P	P	09 07 21.4	+1.4
OSSR	Ossora	8.11	36	P	P	09 07 21.4	+1.4
SEY	Seymchan comp=E,0.1nm,0.3s,baz=190,slow=10,SNR=4.7	9.97	356	P	P	09 07 39.1	-0.3
KLR	Kul'dur comp=E,0.2nm,0.3s,baz=66,slow=11,SNR=4.3	14.33	264	P	P	09 08 24.6	-1.1
MAT	Matsushiro	19.77	220	P	P	09 09 19.8	+0.7
MJAR	Matsushiro Arr comp=E,0.1nm,0.3s,baz=13,slow=9.2,SNR=10.0	19.77	220	P	P	09 09 20.2	+1.1
TIXI	Tiksi	21.66	339	ceP	P	09 09 35.1	-0.6
TIXI	Tiksi comp=E,1.5nm,0.3s,baz=126,slow=11,SNR=6.0	21.66	339	P	P	09 09 34.7	-1.0
KDAK	Kodiak Island	30.14	59	i P	P	09 10 51.9	+1.2
ILAR	Eielson Array comp=E,0.7nm,0.7s,baz=279,slow=10,SNR=14	31.56	45	P	P	09 11 04.3	+1.4
INK	Inuvik comp=E,1.1nm,0.3s,baz=300,slow=10,SNR=23	36.24	37	P	P	09 11 43.7	+1.5
ZALV	Zalesovo Beam comp=E,0.7nm,0.4s,baz=87,slow=6.7,SNR=3.4	39.56	300	P	P	09 12 08.0	-1.5
MKAR	Makanchi Array comp=E,1.2nm,0.4s,baz=61,slow=7.6,SNR=13	44.70	292	P	P	09 12 49.1	-1.1
YKA	Yellowknife Ar comp=E,0.4nm,0.5s,baz=304,slow=7.0,SNR=5.6	45.74	40	P	P	09 12 59.6	+1.7
BVAR	Borovoye Array comp=E,2.5nm,0.4s,baz=50,slow=7.2,SNR=12	47.39	305	P	P	09 13 09.5	-1.1
ARU	Arti comp=E,1.5nm,0.2s,baz=354,slow=3.7,SNR=4.6	50.80	314	P	P	09 13 34.3	-1.4
AAK	Ala-Archa comp=E,1.9nm,0.4s,baz=119,slow=8.5,SNR=4.3	51.64	292	P	P	09 13 41.9	-0.3
ARCES	ARCESS Array B comp=E,1.0nm,0.8s,baz=36,slow=6.3,SNR=3.8	52.10	340	P	P	09 13 43.7	-1.3
FINES	FINESS Array B comp=E,1.1nm,0.5s,baz=32,slow=7.5,SNR=7.3	58.58	334	P	P	09 14 28.9	-1.3
PDAR	Pinedale Array comp=E,0.2nm,0.4s,baz=347,slow=7.5,SNR=2.6	60.82	57	P	P	09 14 47.8	+2.0
NOA	NORSAR Array B	62.44	341	P	P	09 14 55.0	-0.9
NOA	NORSAR Array B comp=E,0.8nm,0.8s,baz=24,slow=6.8,SNR=3.2	62.44	341	P	P	09 14 55.0	-0.9
AKASG	Malin Array Be comp=E,2.0nm,0.6s,baz=32,slow=6.4,SNR=4.1	66.61	325	P	P	09 15 20.8	-1.6
KBZ	Khabaz comp=E,1.5nm,0.7s,baz=166,slow=2.1,SNR=5.1	66.87	313	P	P	09 15 24.1	+0.1
TXAR	Lajitas Array	74.11	62	P	P	09 16 10.0	+2.6
TXAR	Lajitas Array comp=E,0.1nm,0.4s,baz=301,slow=4.8,SNR=3.5	74.11	62	P	P	09 16 09.9	+2.6
BRTR	Keskin Array B comp=E,0.7nm,0.6s,baz=60,slow=2.7,SNR=4.0	74.14	316	P	P	09 16 06.6	-0.8
WRA	Warramunga Arr comp=E,2.2nm,0.7s,baz=9.5,slow=6.1,SNR=9.2	74.59	199	P	P	09 16 10.7	+0.8
ASAR	Alice Springs comp=E,1.2nm,0.5s,baz=8.7,slow=5.0,SNR=26	78.30	199	P	P	09 16 31.6	+1.4

*KRSC **24** 09:16:39.1±10.0, 53°.89N×154°.27E, h651km±10km, ML4.3*
*IDC **24** 09:16:40.6±1.2, 54°.05N×153°.36E, h627km±17km, mb2.6/11, mb1 2.8/13, mb1mx2.7/41, mbtmp3.7/13, Error ellipse: s-maj=21.7km s-min=12.7km az=160.0*

ISC 24 09:16:39.4±0.7, 54°.1N±0°.1×153°.38E±0°.09, h600km, n27, σ1§68/31, mb3.2/11, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.53	116	eP	P	09 17 58.6	+2.6
PETK	Petropavlovsk-	2.75	109	P	P	09 17 59.9	+2.8
	1.2nm,0.3s,baz=49,slow=3.2,SNR=5.4						
MTVR	Mutnovka	3.30	117	eP	P	09 18 02.5	+2.1
MTVR				eS	S	09 19 07.6	+1.0
SMAR	Somma	3.33	102	eP	P	09 18 02.5	+1.8
PAU	Pauzhetka	3.34	140	P	P	09 18 03.0	+2.4
UGLR	Uglovaya	3.35	103	eP	P	09 18 03.3	+2.6
SDLR	Sedlovina	3.37	102	eP	P	09 18 01.9	+1.1
DALK	Dalny	3.37	106	eP	P	09 18 02.6	+2.0
RUS	Russkaya	3.50	116	eP	P	09 18 02.4	+1.0
RUS				eS	S	09 19 07.4	-1.1
ESO	Esso	3.58	57	eP	P	09 18 04.7	+2.8
KDTR	Khodutka, Kamc	3.64	127	eP	P	09 18 03.5	+1.1
NLC	Nalytchevo	3.67	102	eP	P	09 18 04.8	+2.3
NLC				eS	S	09 19 11.6	+1.2
SPN	Mys Shipunski	4.08	101	eP	P	09 18 06.2	+0.9
SPN				eS	S	09 19 13.8	-1.7
MKZ	Mys Kozlova	4.91	81	eP	P	09 18 12.5	+1.1
KBTR	Krutoberegovo	5.81	65	eP	P	09 18 18.8	+0.1
SEY	Seymchan 0.7nm,0.3s,baz=180,slow=9.5,SNR=18	8.89	357	P	P	09 18 49.6	+2.7
KSRS	Korea Array	24.13	237	P	P	09 21 10.1	+0.3
SONM	0.3nm,0.4s,baz=34,slow=9.6,SNR=4.3 Songino Array	29.79	277	P	P	09 21 59.8	+0.5
ILAR	0.2nm,0.3s,baz=61,slow=6.8,SNR=1.8 Eielson Array	30.99	46	P	P	09 22 09.2	+0.2
ZALV	0.7nm,0.4s,baz=262,slow=5.9,SNR=17 Zalesovo Beam	38.83	299	P	P	09 23 14.0	-0.1
MKAR	0.6nm,0.3s,baz=62,slow=9.9,SNR=3.6 Makanchi Array	44.09	291	P	P	09 23 54.7	-0.8
YKA	1.0nm,0.4s,baz=55,slow=6.4,SNR=10 Yellowknife Ar	45.09	41	P	P	09 24 02.5	-0.4
ARCES	0.4nm,0.5s,baz=306,slow=7.1,SNR=7.4 ARCESS Array B	51.02	339	P	P	09 24 45.5	-1.2
FINES	0.3nm,0.3s,baz=18,slow=9.5,SNR=2.7 FINESS Array B	57.52	333	P	P	09 25 30.8	-1.4
PDAR	0.5nm,0.4s,baz=57,slow=12,SNR=3.5 Pinedale Array	60.44	57	P	P	09 25 52.0	-0.3
TXAR	0.2nm,0.5s,baz=353,slow=3.6,SNR=3.1 Lajitas Array	73.83	62	P	P	09 27 13.9

(after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)
*HEL **24** 09:20:18.7±0.4, 67°.66N×33°.91E, h0km, ML2.2, Explosion*
*ISCJB **24** 09:20:20.0±0.9, 67°.62N±0°.04×33°.3E±0°.1, h0km, Error ellipse: s-maj=7.3km s-min=4.9km az=157.9*

ISC 24 09:20:19.6±1.7, 67°.72N±0°.04×33°.69E±0°.09, h0km, n23, σ1§83/39, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.18**	**217**	Pg	**Pg**	**09 20 21.9**	**-1.2**
APZ9				Lg	Lg	09 20 25.6	
APZ9	**Apatity**	**0.18**	**217**	Pg	**Pg**	**09 20 21.9**	**-1.2**
APA0	**Apatity Array**	**0.29**	**248**	Pg	**Pg**	**09 20 24.5**	**-0.6**
APA0				Lg	Lg	09 20 30.9	
APA0				Rg	Rg	09 20 33.8	
APA0	**Apatity Array**	**0.29**	**248**	Pg	**Pg**	**09 20 24.5**	**-0.6**
APA0				Rg	Rg	09 20 33.8	
VRF	**Varrio**	**1.56**	**273**	PG	**Pn**	**09 20 47.8**	**-0.7**
	baz=87						
VRF				MSG		09 21 07.7	
	comp=Z,24nm,0.2s						
VRF				SG	**Sn**	**09 21 09.9**	**+0.6**
KU6	**Riekki**	**2.27**	**223**	PB	**Pn**	**09 20 58.2**	**0.0**
	baz=47						
KU6				MSG		09 21 26.3	
	comp=Z,9.4nm,0.2s						
MSF	**Maaselka**	**2.58**	**228**	PG	**Pb**	**09 21 05.6**	**-1.1**
MSF				SG	**Sb**	**09 21 39.0**	**+0.1**
SGF	**Sodankyl**	**2.76**	**268**	PN	**Pn**	**09 21 05.5**	**+0.5**
	baz=79						
SGF				SG	**Sb**	**09 21 45.0**	**+1.0**
KEV	**Kevo**	**3.18**	**313**	Pn	**Pn**	**09 21 11.3**	**+0.6**
KEV				Sn	**Sn**	**09 21 52.0**	**+2.7**
KEV				Lg	Lg	09 22 03.1	
KEV	**Kevo**	**3.18**	**313**	Pn	**Pn**	**09 21 11.3**	**+0.6**
KEV				Sn	**Sn**	**09 21 52.0**	**+2.7**
KEV				Sg	**Sg**	**09 22 03.1**	**+1.4**
KEV	**Kevo**	**3.18**	**313**	PN	**Pn**	**09 21 11.5**	**+0.7**
KEV				SN	**Sn**	**09 21 51.3**	**+1.9**
RNF	**Rovaniemi**	**3.19**	**253**	PN	**Pn**	**09 21 10.3**	**-0.7**
ARA0	**ARCESS Array S**	**3.51**	**305**	Pn	**Pn**	**09 21 15.1**	**-0.2**
	baz=122,slow=16						
ARA0				Pg	**Pg**	**09 21 25.9**	**-0.8**
	baz=115,slow=16						
ARA0				Sn	**Sn**	**09 21 57.9**	**+0.4**
	baz=120,slow=28						
ARA0				Lg	Lg	09 22 11.7	
	baz=112,slow=37						
ARA0	**ARCESS Array S**	**3.51**	**305**	Pn	**Pn**	**09 21 15.1**	**-0.2**
	baz=122,slow=16						
ARA0				Pg	**Pg**	**09 21 25.9**	**-0.8**
	baz=115,slow=16						
ARA0				Sn	**Sn**	**09 21 57.9**	**+0.4**
	baz=120,slow=28						
ARA0				Sg	**Sg**	**09 22 11.7**	**-0.5**
	baz=112,slow=37						
ARE0	**ARCESS Array S**	**3.51**	**305**	PN	**Pn**	**09 21 15.1**	**-0.2**
	baz=122						
ARE0				SN	**Sn**	**09 21 59.8**	**+2.3**
HEF	**Hetta**	**3.83**	**285**	PN	**Pn**	**09 21 21.5**	**+1.8**
	baz=98						
HEF				SN	**Sn**	**09 22 07.3**	**+2.0**
KTK1	**Kautokeino**	**4.08**	**293**	*e*P	**Pn**	**09 21 23.6**	**+0.4**
KTK1				*e*S	**Sn**	**09 22 12.2**	**+0.6**
KTK1				IAML		09 22 40.9	
	comp=Z,7.3nm,0.5s						
LANU	**Lannavaara**	**4.44**	**280**	PN	**Pn**	**09 21 28.3**	**+0.2**
LANU				SG	**Sg**	**09 22 38.4**	**-3.5**
ERTU	**Ertsjaerv**	**4.64**	**261**	PN	**Pn**	**09 21 29.8**	**-1.0**
ERTU				SN	**Sn**	**09 22 25.8**	**+0.6**
FIA0	**FINESS Array S**	**7.09**	**211**	Sn	Sn	09 23 13.4	-12
	baz=16,slow=22						
FIA0				Lg	Lg	09 23 55.2	
	baz=18,slow=28						
FIA0	**FINESS Array S**	**7.09**	**211**	Sn	Sn	09 23 13.4	-12
	baz=16,slow=22						
FIA0				Sg	**Sb**	**09 23 55.2**	**+6.7**
	baz=18,slow=28						
SPA0	**Spitsbergen Ar**	**11.59**	**342**	Pn	**Pn**	**09 23 02.8**	**-3.1**
	baz=151,slow=18						
SPA0	**Spitsbergen Ar**	**11.59**	**342**	Pn	**Pn**	**09 23 02.8**	**-3.1**
	baz=151,slow=18						

KRSC 24 09:24:39.7±10.0, 50°.35N×157°.65E, h51km±10km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.03**	**290**	*e*P	Pn	09 24 58.1	+0.3
SKR				*e*S	Sn	09 25 10.8	-0.4
PAU	**Pauzhetka**	**1.24**	**335**	*e*P	Pn	09 25 02.7	+2.1
PAU				*e*S	Sn	09 25 18.4	+2.2
KDTR	**Khodutka, Kamc**	**1.49**	**10**	*e*P	Pn	09 25 06.0	+2.0
KDTR				*e*S	Sn	09 25 24.5	+2.2
ASAK	**Asacha**	**2.04**	**4**	P	Pn	09 25 14.6	+2.9
RUS	**Russkaya**	**2.16**	**14**	*e*P	Pn	09 25 14.8	+1.7
RUS				*e*S	Sn	09 25 40.7	+2.0
MTVR	**Mutnovka**	**2.16**	**9**	*e*P	Pn	09 25 15.9	+2.5
MTVR				*e*S	Sn	09 25 41.9	+2.8
KRMR	**Karymshinskiy**	**2.50**	**7**	P	Pn	09 25 21.6	+3.7
KRMR				S	Sn	09 25 52.5	+5.3
DALK	**Dalny**	**2.77**	**14**	P	Pn	09 25 24.4	+2.8
DALK				*e*S	Sn	09 25 57.1	+3.3
UGLR	**Uglovaya**	**2.96**	**14**	P	Pn	09 25 27.5	+3.3
AVH	**Avacha**	**3.00**	**13**	P	Pn	09 25 28.8	+4.0
SMAR	**Somma**	**3.01**	**13**	P	Pn	09 25 28.9	+3.9
KOK	**Koryaka**	**3.01**	**11**	*e*P	Pn	09 25 29.0	+4.1
SDLR	**Sedlovina**	**3.03**	**14**	*e*P	Pn	09 25 28.1	+2.8
SDLR				*e*S	Sn	09 26 02.8	+2.4
KRX	**Arik**	**3.08**	**11**	*e*P	Pn	09 25 29.7	+3.8
SPN	**Mys Shipunski**	**3.12**	**27**	P	Pn	09 25 30.1	+3.7
MKZ	**Mys Kozlova**	**4.90**	**29**	*e*P	Pn	09 25 53.6	+2.9

KRSC 24 09:25:41.2±10.0, 53°.80N×153°.89E, h426km±10km, ML4.2, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAR	**Somma**	**2.98**	**98**	P	P	09 26 49.2	+2.8
SDLR	**Sedlovina**	**3.02**	**98**	P	P	09 26 49.6	+3.0
RUS	**Russkaya**	**3.10**	**114**	*e*P	P	09 26 47.9	+0.8
SPN	**Mys Shipunski**	**3.73**	**98**	P	P	09 26 52.8	+0.5
SPN				*e*S	S	09 27 49.3	-1.0
MKZ	**Mys Kozlova**	**4.67**	**78**	P	P	09 27 02.0	+1.1
MKZ				*e*S	S	09 28 04.0	-2.0
KBTR	**Krutoberegovo**	**5.67**	**61**	*e*P	P	09 27 12.4	+1.4
KBTR				*e*S	S	09 28 24.8	+0.3
BKI	**Bering**	**7.17**	**74**	*e*S	S	09 28 54.3	+0.4

KRSC 24 09:27:49.6±10.0, 53°.92N×155°.03E, h682km±10km, ML4.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOK	**Koryaka**	**2.24**	**105**	*e*P	P	09 29 13.4	+1.3
SMAR	**Somma**	**2.34**	**105**	*e*P	P	09 29 13.7	+1.0
UGLR	**Uglovaya**	**2.37**	**106**	P	P	09 29 14.6	+1.9
SDLR	**Sedlovina**	**2.39**	**104**	*e*P	P	09 29 14.1	+1.4
RUS	**Russkaya**	**2.57**	**124**	*e*P	P	09 29 14.0	+0.6
ESO	**Esso**	**2.92**	**45**	*e*P	P	09 29 15.9	+1.1
SPN	**Mys Shipunski**	**3.09**	**103**	*e*P	P	09 29 16.3	+0.5
SPN				*e*S	S	09 30 24.4	-1.8
MKZ	**Mys Kozlova**	**3.98**	**78**	P	P	09 29 22.1	+1.5
MKZ				S	S	09 30 34.8	-0.4
KBTR	**Krutoberegovo**	**5.03**	**60**	*e*P	P	09 29 28.7	+1.2

IDC 24 09:28:35.1±8.3, 20°.87S×178°.16W, h499km±78km, mb3.4/3, mb1 3.5/5, mb1mx2.9/38, mbtmp4.4/5, Error ellipse: s-maj=81.3km s-min=35.6km az=38.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.39**	**262**	P	P	09 31 39.0	0.0
	0.3nm,0.3s,baz=75,slow=17,SNR=6.4						
URZ	**Urewera**	**17.81**	**192**	P	P	09 32 13.5	0.0
	1.6nm,0.3s,baz=264,slow=2.8,SNR=6.4						
CTA	**Charters Tower**	**33.31**	**265**	P	P	09 34 31.6	+0.6
	4.0nm,0.5s,baz=96,slow=8.9,SNR=9.2						
ASAR	**Alice Springs**	**44.29**	**257**	P	P	09 35 59.8	-0.4
	2.6nm,0.5s,baz=93,slow=8.1,SNR=70						
ASAR				PcP	PcP	09 37 34.1	+0.2
	0.5nm,0.7s,baz=106,slow=4.3,SNR=6.3						
WRA	**Warramunga Arr**	**44.41**	**262**	P	P	09 36 00.2	-0.9
	1.1nm,0.3s,baz=98,slow=7.2,SNR=2.7						
BRTR	**Keskin Array B**	**146.98**	**312**	PKPbc	PKPbc	09 47 20.9	-0.8
	0.4nm,0.5s,baz=95,slow=1.1,SNR=3.1						

KRSC 24 09:33:54.5±10.0, 52°.63N×154°.90E, h526km±10km, ML4.2, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.21**	**94**	*e*P	P	09 35 03.8	+0.9
KOK	**Koryaka**	**2.35**	**72**	*e*P	P	09 35 05.3	+1.5
UGLR	**Uglovaya**	**2.44**	**75**	*e*P	P	09 35 06.3	+2.0
SDLR	**Sedlovina**	**2.50**	**73**	*e*P	P	09 35 05.9	+1.3
SPN	**Mys Shipunski**	**3.14**	**79**	*e*P	P	09 35 09.9	+1.6
SPN				*e*S	S	09 36 08.2	-0.5
MKZ	**Mys Kozlova**	**4.50**	**62**	*e*P	P	09 35 21.2	+2.7
MKZ				*e*S	S	09 36 26.8	-0.5
KBTR	**Krutoberegovo**	**5.85**	**49**	*e*P	P	09 35 31.7	+1.4

KRSC 24 09:36:27.4±10.0, 53°.70N×153°.34E, h623km±10km, ML4.3, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**3.37**	**110**	*e*P	P	09 37 53.2	+2.7
KDTR	**Khodutka, Kamc**	**3.45**	**121**	S	S	09 38 59.7	+0.4
ESO	**Esso**	**3.82**	**52**	*e*P	P	09 37 56.9	+3.7
SPN	**Mys Shipunski**	**4.05**	**96**	*e*P	P	09 37 54.6	-0.2
SPN				*e*S	S	09 39 04.9	-1.4
MKZ	**Mys Kozlova**	**5.01**	**77**	*e*P	P	09 38 01.3	-0.3
MKZ				*e*S	S	09 39 16.6	-2.3
KBTR	**Krutoberegovo**	**6.01**	**61**	*e*P	P	09 38 10.5	+0.9
KBTR				S	S	09 39 31.0	-2.5
BKI	**Bering**	**7.52**	**73**	S	S	09 39 58.3	+0.6

*NORS **24** 09:40:39.8±0.0, 41°.48N×44°.09E, h15km, MPVA3.4*
*DDA **24** 09:40:39.1, 41°.43N×44°.08E, h7km±2km, ML2.9*
*TIF **24** 09:40:39.7, 41°.44N×44°.09E, h11km±1km*
*ISK **24** 09:40:39.4, 41°.45N×44°.07E, h8km, ML2.8/4*

ISC 24 09:40:39.7±0.9, 41°.44N±0°.02×44°.09E±0°.02, h12km±8km, n37, σ0§96/66, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZRT	**Kazreti**	**0.24**	**102**	P	**Pg**	**09 40 44.7**	**-0.1**
KZRT				S	**Sg**	**09 40 48.0**	**-0.1**
BGD	**Bogdanovka**	**0.41**	**245**	P	**Pg**	**09 40 48.1**	**+0.3**
BGD				S	**Sg**	**09 40 54.1**	**+0.8**
AKH	**Akhalkalaki**	**0.45**	**267**	PG	**Pg**	**09 40 48.8**	**+0.2**
AKH				SG	**Sg**	**09 40 54.5**	**-0.1**
AKH	**Akhalkalaki**	**0.45**	**267**	P	**Pg**	**09 40 48.7**	**+0.2**
AKH				S	**Sg**	**09 40 55.1**	**+0.6**
AKH	**Akhalkalaki**	**0.45**	**267**	*e*Pg	**Pg**	**09 40 48.7**	**+0.2**
AKH				*e*Sg	**Sg**	**09 40 55.1**	**+0.6**
TBLG	**Delisi**	**0.57**	**59**	PG	**Pb**	**09 40 50.9**	**-0.8**
TBLG				SG	**Sb**	**09 40 59.4**	**-0.4**
TBLG	**Delisi**	**0.57**	**59**	P	**Pb**	**09 40 50.9**	**-0.8**
TBLG				S	**Sb**	**09 40 59.3**	**-0.5**
TBLG	**Delisi**	**0.57**	**59**	*e*Pg	**Pb**	**09 40 50.9**	**-0.8**
TBLG				*e*Sg	**Sb**	**09 40 59.3**	**-0.5**
BTNK	**Botanikuri**	**0.59**	**65**	IAML_P			
	comp=Z,6μm,0.1s						
BTNK				*i* P	**Pb**	**09 40 51.9**	**-0.1**
BTNK				*i* S	**Sb**	**09 40 60.0**	**-0.4**
SEAG	**Tbilisi Sea**	**0.63**	**58**	P	Pn	09 41 01.3	+6.8
SRKG	**Sareki**	**1.04**	**329**	P	**Pg**	**09 40 57.3**	**-2.5**
SRKG				S	**Sg**	**09 41 11.9**	**-1.5**
GUDG	**Gudauri**	**1.07**	**16**	P	**Pn**	**09 41 00.9**	**+0.1**
GUDG				S	**Sn**	**09 41 16.1**	**+0.4**
DIGO	**Kars**	**1.15**	**208**	IAML_P			
	comp=Z,1μm,0.2s						
DIGO				*i* P	**Pb**	**09 41 01.7**	**-0.1**
DIGO				*i* S	**Sg**	**09 41 17.3**	**+0.4**
TKB	**Tkibuli**	**1.23**	**319**	P	**Pg**	**09 41 03.4**	**+0.1**
TKB				S	**Sn**	**09 41 19.8**	**+0.5**
ONI	**Oni**	**1.25**	**338**	PN	**Pg**	**09 41 03.2**	**-0.5**
ONI				SN	**Sn**	**09 41 20.3**	**+0.4**
ONI	**Oni**	**1.25**	**338**	P	**Pg**	**09 41 03.2**	**-0.5**
ONI				S	**Sn**	**09 41 20.6**	**+0.7**
ONI	**Oni**	**1.25**	**338**	*e*Pg	**Pg**	**09 41 03.2**	**-0.5**
ONI				*e*Sg	**Sn**	**09 41 20.6**	**+0.7**
ZEI	**Tsey**	**1.36**	**354**	*e*Pg	**Pg**	**09 41 05.6**	**-0.3**
ZEI				*e*Sg	**Sg**	**09 41 24.6**	**+1.1**
GNI	**Garni**	**1.38**	**159**	PN	**Pb**	**09 41 05.8**	**+0.3**
GNI				SN	**Sg**	**09 41 24.6**	**+0.6**
LACR	**Lac**	**1.40**	**6**	*e*Pg	**Pg**	**09 41 06.2**	**-0.3**
LACR				*e*Sg	**Sg**	**09 41 26.1**	**+1.3**
DIGR	**Digorskoe uzhe**	**1.51**	**346**	*e*Pg	**Pg**	**09 41 09.0**	**+0.3**
DIGR				*e*Sg	**Sg**	**09 41 29.4**	**+1.0**
DDFL	**Dedoflistskaro**	**1.53**	**89**	P	**Pn**	**09 41 05.1**	**-1.8**
DDFL				S	**Sg**	**09 41 28.8**	**0.0**
LGD	**Lagodekhi**	**1.66**	**75**	P	**Pb**	**09 41 10.3**	**0.0**
LGD				S	**Sg**	**09 41 34.0**	**+0.8**
LGD	**Lagodekhi**	**1.66**	**75**	*e*Pg	**Pb**	**09 41 10.3**	**0.0**
LGD				*e*Sg	**Sg**	**09 41 34.0**	**+0.8**
DAGI	**Agillar**	**1.68**	**258**	IAML_P			
	comp=Z,518nm,0.3s						
DAGI				*i* P	**Pg**	**09 41 11.2**	**-0.7**
ARNR	**Ardon**	**1.75**	**5**	*i* Pg	**Pg**	**09 41 15.2**	**+1.9**
ARNR				*e*Sg	**Sg**	**09 41 38.1**	**+2.1**
BATM	**Batumi**	**1.81**	**276**	PN	**Pb**	**09 41 12.3**	**-0.4**
DBOC	**Borcka**	**1.82**	**268**	IAML_P			
	comp=Z,1μm,0.3s						
DBOC				*i* P	**Pb**	**09 41 13.3**	**+0.2**
DDEM	**Demirkent**	**1.85**	**254**	IAML_P			
	comp=Z,1μm,0.3s						
DDEM				*i* P	**Pb**	**09 41 13.9**	**+0.5**
DBAD	**Bademkaya**	**1.85**	**258**	IAML_P			
	comp=Z,711nm,0.2s						
DBAD				*i* P	**Pb**	**09 41 14.0**	**+0.4**
LSNR	**Lesken**	**1.85**	**354**	*e*Pg	**Pg**	**09 41 14.1**	**-1.1**
LSNR				*e*Sg	**Sg**	**09 41 39.2**	**0.0**
BCA	**Borcka**	**1.85**	**271**	PN	**Pb**	**09 41 12.9**	**-0.6**
BTLR	**Botlikh**	**2.01**	**52**	*e*Pg	**Pb**	**09 41 16.7**	**+0.5**
BTLR				*e*Sg	**Sg**	**09 41 43.1**	**-1.2**
NEY	**Neytrino**	**2.08**	**331**	*e*Pg	**Pg**	**09 41 18.2**	**-1.4**
NEY				*e*Sg	**Sb**	**09 41 44.0**	**+0.7**
DVE	**Vedeno**	**2.15**	**44**	*e*Pg	**Pg**	**09 41 20.9**	**+0.1**
DVE				*i* Sg	**Sg**	**09 41 47.9**	**-0.8**
GROC	**Groznyy**	**2.17**	**35**	*e*Pg	**Pg**	**09 41 24.3**	**+3.0**
GROC				*e*Sg	**Sg**	**09 41 51.6**	**+2.0**
GNBR	**Gunib**	**2.35**	**65**	*i* Pn	**Pb**	**09 41 20.5**	**-1.6**
GNBR				*e*Sn	**Sb**	**09 41 52.0**	**+1.0**

IDC 24 09:41:07.6±3.1, 53°.69N×88°.13E, h0km, mb1 3.2/2, mb1mx3.0/52, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=28.7km s-min=22.1km az=83.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**279**	*i*		09 53 57.0	
	baz=93,slow=341,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.98**	**279**	Pn	Pn	09 41 42.2	-0.1
	2.3nm,0.3s,baz=94,slow=13,SNR=25						
ZALV				Sn	Sg	09 42 10.8	-0.4
	5.7nm,0.3s,baz=95,slow=24,SNR=18						
KURBB	**Kurchatov Arra**	**6.66**	**246**	Pn	Pn	09 42 47.2	+0.7
	0.2nm,0.3s,baz=62,slow=14,SNR=12						
KURBB				Sn	Sn	09 44 01.7	-1.4
	0.0nm,0.3s,baz=62,slow=24,SNR=2.1						
KURBB				Lg	Lg	09 44 36.7	
	0.1nm,0.3s,baz=64,slow=32,SNR=3.3						
MKAR	**Makanchi Array**	**7.85**	**211**	Pn	Pn	09 43 04.1	+1.1
	0.2nm,0.3s,baz=33,slow=15,SNR=5.1						
MKAR				Lg	Lg	09 45 16.2	
	0.1nm,0.3s,baz=28,slow=31,SNR=3.9						

*NCEDC **24** 09:42:52.3, 40°.17N×121°.07W, h6km, MLA.0, MB4.2(NEIC)*
*IDC **24** 09:42:52.6±1.0, 40°.25N×121°.04W, h0km, mb3.3/3, mb1 3.7/7, mb1mx3.5/50, mbtmp3.4/7, ML3.5/4, Error ellipse: s-maj=15.8km s-min=6.6km az=38.0*

*NEIC **24** 09:42:52.3±0.0, 40°.17N×121°.07W, h6km, mb4.2/3, ML4.0(NCEDC). After NCEDC.*
NEIC Felt at Chico, Colfax, Colusa, Cool, Grass Valley, Janesville, Meadow Vista, Paradise, Penn Valley, Portola, Quincy, Sacramento and Yuba City.
*ANF **24** 09:42:53.2±0.5, 40°.25N×121°.17W, h14km±4km, ML3.9/14, Error ellipse: s-maj=4.4km s-min=2.6km az=67.0*

ISC 24 09:42:51.5±1.1, 40°.17N±0°.02×121°.08W±0°.02, h2km±9km, n105, σ1§40/137, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	**Paynes Creek**	**0.57**	**283**	P	**Pg**	**09 43 03.0**	**+0.6**
	baz=102,SNR=1000						
O03E				S	**Sg**	**09 43 10.9**	**+1.1**
	baz=102						
BEKR	**Beckworth**	**0.63**	**118**	*e*Pg	**Pg**	**09 43 04.2**	**+0.7**
BEKR				*e*Sg	**Sg**	**09 43 12.5**	**+0.9**
ORV	**Oroville**	**0.69**	**208**	*e*Pg	**Pg**	**09 43 05.2**	**+0.4**
ORV				*e*Sg	**Sg**	**09 43 15.0**	**+1.3**
WDC	**Whiskeytown Da**	**1.19**	**291**	*e*Pg	**Pb**	**09 43 13.2**	**-1.6**
WDC				*e*Sg	**Sb**	**09 43 30.5**	**-0.2**
AFDM	**Forest Hills D**	**1.22**	**176**	*e*Pg	**Pn**	**09 43 14.6**	**-1.1**
AFDM				*e*Sg	**Sb**	**09 43 29.5**	**-2.1**
O02D	**Mt. Diablo Mer**	**1.31**	**271**	P	**Pn**	**09 43 15.9**	**-1.1**
	baz=90,SNR=189						
RUBR	**Rubicon Trail**	**1.32**	**147**	*e*Pn	**Pn**	**09 43 16.8**	**-0.4**
RUBR				*e*Sn	**Sb**	**09 43 34.1**	**-0.6**
PAHR	**Pah Rah Range**	**1.38**	**109**	*e*Pn	**Pn**	**09 43 17.6**	**-0.3**
PAHR				*e*Sn	**Sb**	**09 43 35.9**	**-0.4**
VCNR	**Virginia City**	**1.40**	**128**	*e*Pn	**Pn**	**09 43 18.2**	**-0.1**
VCNR				*e*Sn	**Sn**	**09 43 36.8**	**-0.7**
N02D	**Trinity Center**	**1.48**	**304**	P	**Pn**	**09 43 18.0**	**-1.2**
	baz=122,SNR=163						
N02D				S	**Sn**	**09 43 36.9**	**-2.4**
	baz=122						
PNTR	**Pine Nut**	**1.57**	**133**	*e*Pn	**Pb**	**09 43 21.3**	**-0.1**
PNTR				*e*Sn	**Sb**	**09 43 41.6**	**-0.2**
M04C	**Macdoel**	**1.71**	**341**	Pb	**Pb**	**09 43 23.3**	**-0.6**
	baz=160,SNR=97						
M02C	**Callahan**	**1.82**	**313**	Pb	**Pb**	**09 43 24.8**	**-0.8**
	baz=131,SNR=298						
MOD	**Modoc Plateau**	**1.83**	**18**	*e*Pn	**Pn**	**09 43 24.7**	**+0.6**
MOD				*e*Sn	**Sn**	**09 43 47.3**	**-0.7**
YERR	**Yerington**	**1.85**	**129**	*e*Pn	**Pn**	**09 43 25.0**	**+0.5**
YERR				*e*Sn	**Sg**	**09 43 51.6**	**+0.9**
GDXM	**Geysers**	**1.90**	**225**	*e*Pn	**Pn**	**09 43 25.8**	**+0.8**
HOPS	**Hopland Field**	**1.94**	**233**	*e*Pn	**Pn**	**09 43 26.0**	**+0.5**
KCPM	**Cahto Peak**	**1.98**	**257**	*e*Pn	**Pn**	**09 43 27.2**	**+1.0**
KCPM				*e*Sn	**Sn**	**09 43 51.1**	**-0.7**
YBH	**Yreka Blue Hor**	**1.99**	**322**	*e*Pn	**Pn**	**09 43 27.3**	**+1.0**
YBH	**Yreka Blue Hor**	**1.99**	**322**	Pn	**Pn**	**09 43 27.2**	**+0.8**
	10nm,0.3s,baz=134,slow=10,SNR=140						
YBH				Sn	**Sb**	**09 43 53.9**	**0.0**
	18nm,0.3s,baz=59,slow=19,SNR=3.4						
KMRM	**Mail Ridge**	**2.02**	**272**	*e*Pn	**Pb**	**09 43 28.1**	**-0.9**
WAKR	**Walker**	**2.09**	**142**	*e*Pn	**Pb**	**09 43 29.1**	**-1.2**
WAKR				*e*Sn	**Sg**	**09 43 59.6**	**+0.9**
KHMM	**Horse Mountain**	**2.14**	**290**	*e*Pn	**Pn**	**09 43 29.8**	**+1.3**
CMB	**Columbia Colle**	**2.20**	**166**	*e*Pn	**Pn**	**09 43 30.1**	**+1.0**
CMB				*e*Sn	**Sn**	**09 43 56.7**	**-0.2**
L04D	**Klamath Falls**	**2.25**	**336**	Pb	**Pb**	**09 43 31.8**	**-1.1**
	baz=155,SNR=57						
JCC	**Jacoby Creek,**	**2.34**	**287**	*e*Pn	**Pn**	**09 43 31.7**	**+0.6**
MCCM	**Marconi Confer**	**2.46**	**215**	*e*Pn	**Pn**	**09 43 33.4**	**+0.8**
MCCM				*e*Sn	**Sn**	**09 44 03.2**	**0.0**
RYN	**Ryan**	**2.51**	**127**	*e*Pn	**Pn**	**09 43 34.4**	**+1.0**
RYN				*e*Sn	**Sg**	**09 44 12.2**	**+0.2**
K04D	**Chiloquin, OR**	**2.51**	**349**	Pb	**Pb**	**09 43 36.2**	**-1.1**
	baz=168,SNR=20						
KVN	**Kaiserville**	**2.56**	**115**	*e*Pn	**Pn**	**09 43 34.8**	**+0.7**
KVN				*e*Sn	**Sg**	**09 44 14.0**	**+0.4**
K05A	**Summer Lake**	**2.56**	**3**	*e*Pn	**Pb**	**09 43 36.3**	**-2.0**
K05A				*e*Sn	**Sg**	**09 44 13.5**	**-0.2**
L02E	**Cave Junction**	**2.75**	**317**	Pb	**Pb**	**09 43 39.9**	**-1.6**
	baz=135						
NV01	**Mina Array Sit**	**2.77**	**128**	*e*Pn	**Pn**	**09 43 38.1**	**+1.0**
NVAR	**Mina Array Bea**	**2.77**	**128**	*e*Pn	**Pn**	**09 43 37.8**	**+0.7**
NVAR	**Mina Array Bea**	**2.77**	**128**	Pn	**Pn**	**09 43 38.1**	**+1.0**
	26nm,0.3s,baz=300,slow=14,SNR=518						
NVAR				Lg	Lg	09 44 21.0	
	43nm,0.3s,baz=322,slow=28,SNR=8.8						
HUMO	**Hull Mountain**	**2.82**	**330**	*e*Pn	**Pb**	**09 43 40.1**	**-2.5**
NV11	**Mina Array Sit**	**2.85**	**126**	*e*Pn	**Pn**	**09 43 39.5**	**+1.2**
NV11				*e*Sn	**Sg**	**09 44 23.4**	**+0.3**
WVOR	**Wild Horse Val**	**2.92**	**38**	*e*Pn	**Pn**	**09 43 40.1**	**+1.1**
WVOR				*e*Sn	**Sg**	**09 44 24.7**	**-0.5**
BMN	**Battle Mountai**	**2.96**	**84**	*e*Pn	**Pn**	**09 43 38.9**	**-0.8**
BMN				*e*Sn	**Sg**	**09 44 25.1**	**-1.5**
MDPB	**Devils Postpil**	**2.97**	**148**	*e*Pn	**Pn**	**09 43 42.6**	**+2.6**
MDPB				*e*Sn	**Sg**	**09 44 25.7**	**-1.3**
OMMB	**Old Mammoth Mi**	**3.02**	**147**	*e*Pn	**Pn**	**09 43 43.2**	**+2.5**
OMMB				*e*Sg	**Sg**	**09 44 27.6**	**-0.9**

PDAR	**Pinedale Array**	**9.03**	**70**	Pn		**Pn**	**09 45 07.2**	**+4.0**
	0.1nm,0.3s,baz=258,slow=13,SNR=4.7							
PDAR				Pg			09 45 34.6	
	0.1nm,0.3s,baz=266,slow=11,SNR=4.5							
PDAR				Lg		Lg	09 47 37.9	
	0.1nm,0.3s,baz=241,slow=24,SNR=2.5							
PV11	**David Mesa, Pa**	**9.65**	**97**	*e*Pn		**Pn**	**09 45 13.1**	**+1.5**
PV03	**Paradox Valley**	**9.68**	**97**	*e*Pn		**Pn**	**09 45 10.2**	**-1.8**
ANMO	**Albuquerque**	**12.71**	**110**	Lg		Lg	09 49 31.7	
	baz=192,slow=14,SNR=1.6							
TX31	**Lajitas Ar. Si**	**17.90**	**122**	*e*Pn		**Pn**	**09 47 00.1**	**-1.6**
	4.3nm,1.3s							
LTX	**Lajitas**	**17.90**	**122**	*e*Pn		**P**	**09 47 04.9**	**+2.5**
TXAR	**Lajitas Array**	**17.90**	**122**	*e*Pn		**Pn**	**09 47 00.6**	**-1.1**
TXAR	**Lajitas Array**	**17.90**	**122**	P		**P**	**09 47 04.9**	**+2.5**
	0.1nm,0.3s,baz=309,slow=10,SNR=11							
YKA	**Yellowknife Ar**	**22.70**	**8**	P		**P**	**09 47 56.2**	**+2.0**
	0.2nm,0.6s,baz=189,slow=11,SNR=3.0							
YKB5	**Yellowknife Ar**	**22.70**	**8**	*e*P		**P**	**09 47 56.2**	**+2.0**
BCPM	**Bancas Point**	**22.96**	**336**	*e*P		**P**	**09 47 56.8**	**-0.1**
	93nm,1.2s							
ILAR	**Eielson Array**	**28.82**	**337**	*e*P		**P**	**09 48 50.4**	**-0.4**
ILAR	**Eielson Array**	**28.82**	**337**	P		**P**	**09 48 50.9**	**+0.1**
	0.3nm,0.8s,baz=126,slow=9.1,SNR=2.7							
ILB	**Eielson Array**	**28.82**	**337**	*e*P		**P**	**09 48 50.0**	**-0.8**
	6.0nm,1.5s							
INK	**Inuvik**	**29.00**	**350**	P		**P**	**09 48 53.9**	**+1.6**
	1.1nm,0.9s,baz=148,slow=5.5,SNR=3.0							
HHC	**Hu-ho-hao-te**	**86.22**	**323**	*e*P		**P**	**09 55 32.3**	**-2.4**
WMQ	**Urumqi**	**92.46**	**340**	*e*P		**P**	**09 56 05.3**	**+1.2**

KRSC 24 09:44:47.4±10.0, 54°.34N×153°.35E, h619km±10km, ML4.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.67**	**120**	*e*P	P	09 46 07.7	+1.3
KRMR	**Karymshinskiy**	**3.23**	**116**	*e*P	P	09 46 10.1	+0.8
KOK	**Koryaka**	**3.31**	**106**	*e*P	P	09 46 11.0	+1.1
ASAK	**Asacha**	**3.36**	**124**	*e*P	P	09 46 10.8	+0.5
AVH	**Avacha**	**3.37**	**106**	*e*P	P	09 46 12.4	+2.1
SMAR	**Somma**	**3.41**	**106**	*e*P	P	09 46 11.8	+1.1
UGLR	**Uglovaya**	**3.44**	**107**	*e*P	P	09 46 12.2	+1.5
SDLR	**Sedlovina**	**3.45**	**106**	*e*P	P	09 46 11.6	+0.8
ESO	**Esso**	**3.46**	**60**	*e*P	P	09 46 12.8	+2.2
DALK	**Dalny**	**3.47**	**110**	*e*P	P	09 46 12.1	+1.3
RUS	**Russkaya**	**3.63**	**120**	*e*P	P	09 46 11.5	-0.3
KDTR	**Khodutka, Kamc**	**3.81**	**130**	*e*S	S	09 47 20.6	-2.3
SPN	**Mys Shipunski**	**4.16**	**105**	*e*P	P	09 46 14.9	-0.3
SPN				*e*S	S	09 47 24.8	-2.2
MKZ	**Mys Kozlova**	**4.90**	**84**	*e*P	P	09 46 19.8	-0.7
MKZ				S	S	09 47 35.1	-1.7
KBTR	**Krutoberegovo**	**5.73**	**67**	*e*P	P	09 46 26.5	-0.6
BKI	**Bering**	**7.36**	**78**	S	S	09 48 15.1	+0.5

*DDA **24** 09:50:05.8, 37°.18N×27°.87E, h7km±7km, ML2.5*
*ISK **24** 09:50:05.4, 37°.18N×27°.86E, h5km±1km, ML2.2/3*
ISC 24 09:50:04.7±1.4, 37°.18N±0°.07×27°.93E±0°.03, h2km±16km, n7, σ0°.92/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.40**	**254**	IAML_P			
	comp=Z,2μm,0.1s						
BDRM				*i* P	**Pg**	**09 50 12.7**	**+0.2**
BDRM				*i* S	**Sb**	**09 50 20.7**	**-0.6**
AYDN	**Tasoluk**	**0.48**	**355**	*i* P	**Pb**	**09 50 16.2**	**+0.1**
AYDN				*i* S	**Sb**	**09 50 22.7**	**-1.0**
BODT	**Bodrum**	**0.51**	**257**	PG	**Pg**	**09 50 15.2**	**+0.8**
BODT				SG	**Sb**	**09 50 23.1**	**-1.1**
TURN	**Turunc**	**0.62**	**119**	PG	**Pg**	**09 50 16.9**	**+0.3**
TURN				SG	**Sg**	**09 50 24.5**	**-0.2**
TURN	**Turunc**	**0.62**	**119**	*i* P	**Pg**	**09 50 16.1**	**-0.5**
TURN				*i* S	**Sg**	**09 50 23.4**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**0.77**	**358**	PG	**Pb**	**09 50 21.3**	**+0.4**
TAVA	**DENIZLI_Tavas**	**0.84**	**70**	*e*P	**Pb**	**09 50 23.6**	**+1.5**
TAVA				*i* S	**Sn**	**09 50 37.0**	**+0.4**

KRSC 24 09:50:26.4±10.0, 52°.78N×161°.61E, h50km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.01**	**289**	*e*P	Pn	09 50 45.3	+1.1
SPN				*e*S	Sn	09 50 58.2	+0.8
NLC	**Nalytchevo**	**1.42**	**287**	*e*P	Pn	09 50 51.7	+1.9
NLC				*e*S	Sn	09 51 09.2	+1.8
SDLR	**Sedlovina**	**1.72**	**288**	*e*P	Pn	09 50 56.4	+2.4
UGLR	**Uglovaya**	**1.74**	**285**	*e*P	Pn	09 50 56.7	+2.5
DALK	**Dalny**	**1.75**	**279**	*e*P	Pn	09 50 56.4	+2.2
SMAR	**Somma**	**1.76**	**287**	*e*P	Pn	09 50 56.5	+1.8
MKZ	**Mys Kozlova**	**1.78**	**2**	*e*P	Pn	09 50 57.2	+2.6
MKZ				*e*S	Sn	09 51 19.0	+3.0
AVH	**Avacha**	**1.80**	**287**	*e*P	Pn	09 50 57.7	+2.7
AVH				*e*S	Sn	09 51 18.0	+1.3
KRER	**Koryakskii**	**1.80**	**288**	*e*P	Pn	09 50 56.5	+1.3
KOK	**Koryaka**	**1.87**	**287**	*e*P	Pn	09 50 58.5	+2.5
RUS	**Russkaya**	**1.92**	**261**	*e*P	Pn	09 50 59.5	+2.9
RUS				*e*S	Sn	09 51 21.9	+2.4
MTVR	**Mutnovka**	**2.11**	**263**	*e*P	Pn	09 51 02.0	+2.7
MTVR				*e*S	Sn	09 51 27.3	+2.9
KRMR	**Karymshinskiy**	**2.11**	**273**	*e*P	Pn	09 51 01.8	+2.6
KRMR				*e*S	Sn	09 51 26.8	+2.5
ASAK	**Asacha**	**2.30**	**261**	*e*P	Pn	09 51 05.2	+3.3
KDTR	**Khodutka, Kamc**	**2.38**	**247**	*e*P	Pn	09 51 05.4	+2.5
KDTR				*e*S	Sn	09 51 32.4	+1.6
KZV	**Kizimen**	**2.46**	**342**	*e*P	Pn	09 51 07.8	+3.7
KZV				*e*S	Sn	09 51 36.9	+3.9
TUMD	**Tumrok D**	**2.53**	**344**	*e*P	Pn	09 51 08.0	+3.1
TUMD				*e*S	Sn	09 51 37.4	+2.9
TUMR	**Tumrok**	**2.65**	**342**	*e*P	Pn	09 51 10.6	+3.9
APC	**Apacha**	**2.70**	**275**	*e*P	Pn	09 51 10.9	+3.6
KBTR	**Krutoberegovo**	**3.50**	**11**	*e*P	Pn	09 51 21.8	+3.5
BKI	**Bering**	**3.54**	**45**	*e*P	Pn	09 51 22.1	+3.4
BKI				*e*S	Sn	09 52 01.2	+2.0
SRKR	**Sorokina**	**3.89**	**356**	*e*P	Pn	09 51 26.9	+3.3

*ANF **24** 09:52:17.1±0.8, 40°.16N×121°.03W, h8km±5km, ML3.5/11, Error ellipse: s-maj=6.5km s-min=4.2km az=134.0*
*ISCJB **24** 09:52:18.8±0.2, 40°.17N±0°.02×121°.07W±0°.02, h10km, mb3.2/3, Error ellipse: s-maj=2.9km s-min=1.9km az=37.9*
*NCEDC **24** 09:52:19.0, 40°.19N×121°.08W, h6km, ML3.6, MB4.0(NEIC)*
*IDC **24** 09:52:19.7±1.0, 40°.30N×120°.98W, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.4/40, mbtmp3.3/5, ML3.0/3, Error ellipse: s-maj=17.5km s-min=6.9km az=35.0*
*NEIC **24** 09:52:19.0±0.0, 40°.19N×121°.08W, h6km, mb4.0/3, ML3.6(NCEDC), After NCEDC.*
ISC 24 09:52:19.4±0.6, 40°.18N±0°.02×121°.06W±0°.02, h10km, n83, σ1°.72/115, mb3.6/3, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	**Paynes Creek**	**0.58**	**281**	P	**Pg**	**09 52 29.4**	**-1.2**
	baz=102,SNR=341						
O03E				S	**Sg**	**09 52 36.6**	**-1.6**
	baz=102						
BEKR	**Beckworth**	**0.63**	**120**	*e*Pg	**Pg**	**09 52 31.1**	**-0.5**
BEKR				*e*Sg	**Sg**	**09 52 39.7**	**-0.1**
ORV	**Oroville**	**0.71**	**208**	*e*Pg	**Pg**	**09 52 31.8**	**-1.4**
ORV				*e*Pn	**Sg**	**09 52 40.6**	**-1.8**
WDC	**Whiskeytown Da**	**1.20**	**290**	*e*Pg	**Pb**	**09 52 39.9**	**-2.3**
WDC				*e*Sg	**Sb**	**09 52 56.7**	**-1.0**
AFDM	**Forest Hills D**	**1.23**	**177**	*e*Pg	**Pn**	**09 52 41.1**	**-1.6**
AFDM				*e*Sg	**Sb**	**09 52 58.1**	**-0.8**
O02D	**Mt. Diablo Mer**	**1.32**	**270**	P	**Pn**	**09 52 42.3**	**-1.7**
	baz=90,SNR=128						
O02D				S	**Sg**	**09 53 01.2**	**-0.8**
	baz=90						
RUBR	**Rubicon Trail**	**1.33**	**148**	*e*Pn	**Pn**	**09 52 43.7**	**-0.5**
RUBR				*e*Sn	**Sb**	**09 53 01.4**	**-0.3**
PAHR	**Pah Rah Range**	**1.38**	**110**	*e*Pn	**Pn**	**09 52 44.6**	**-0.3**
PAHR				*e*Sn	**Sb**	**09 53 02.5**	**-0.6**
VCNR	**Virginia City**	**1.41**	**129**	*e*Pn	**Pn**	**09 52 45.1**	**-0.2**
VCNR				*e*Sn	**Sb**	**09 53 03.3**	**-0.6**
N02D	**Trinity Center**	**1.48**	**303**	P	**Pn**	**09 52 44.8**	**-1.4**
	baz=122,SNR=177						
N02D				S	**Sb**	**09 53 05.3**	**-0.6**
	baz=122						

PNTR	**Pine Nut**	**1.57**	**134**	*e*Pn		**Pb**	**09 52 48.2**	**-0.5**
PNTR				*e*Sn		**Sn**	**09 53 07.2**	**-0.9**
M04C	**Macdoel**	**1.70**	**340**	Pb		**Pb**	**09 52 49.7**	**-1.2**
	baz=160,SNR=93							
M04C				Sb		**Sg**	**09 53 13.2**	**-1.0**
	baz=160							
MOD	**Modoc Plateau**	**1.81**	**18**	*e*Pn		**Pn**	**09 52 50.7**	**-0.1**
MOD				*e*Sn		**Sn**	**09 53 14.3**	**+0.3**
M02C	**Callahan**	**1.82**	**312**	Pb		**Pn**	**09 52 50.9**	**0.0**
	baz=132,SNR=97							
YERR	**Yerington**	**1.85**	**130**	*e*Pn		**Pn**	**09 52 51.9**	**+0.6**
YERR				*e*Sn		**Sn**	**09 53 14.8**	**-0.1**
GDXM	**Geysers**	**1.92**	**225**	*e*Pn		**Pn**	**09 52 52.8**	**+0.6**
HOPS	**Hopland Field**	**1.95**	**233**	*e*Pn		**Pn**	**09 52 52.6**	**0.0**
YBH	**Yreka Blue Hor**	**1.99**	**322**	*e*Pn		**Pn**	**09 52 53.5**	**+0.3**
YBH	**Yreka Blue Hor**	**1.99**	**322**	Pn		**Pb**	**09 52 53.9**	**-1.8**
	7.6nm,0.3s,baz=125,slow=12,SNR=96							
YBH				Sn		**Sb**	**09 53 21.0**	**+0.4**
	5.6nm,0.3s,baz=26,slow=20,SNR=9.8							
KCPM	**Cahto Peak**	**2.00**	**256**	*e*Pn		**Pb**	**09 52 54.1**	**-1.8**
KCPM				*e*Sn		**Sn**	**09 53 17.5**	**-1.0**
KMRM	**Mail Ridge**	**2.03**	**272**	*e*Pn		**Pb**	**09 52 54.6**	**-1.7**
KMRM				*e*Sn		**Sn**	**09 53 18.5**	**-0.6**
WAKR	**Walker**	**2.10**	**143**	*e*Pn		**Pb**	**09 52 56.2**	**-1.5**
KHMM	**Horse Mountain**	**2.15**	**290**	*e*Pn		**Pb**	**09 52 56.7**	**-1.8**
KHMM				*e*Sn		**Sn**	**09 53 22.1**	**-0.1**
CMB	**Columbia Colle**	**2.21**	**166**	*e*Pn		**Pn**	**09 52 56.9**	**+0.7**
CMB				*e*Sn		**Sn**	**09 53 24.4**	**+0.8**
L04D	**Klamath Falls**	**2.24**	**336**	Pb		**Pb**	**09 52 58.1**	**-1.9**
	baz=155,SNR=102							
JCC	**Jacoby Creek,**	**2.35**	**287**	*e*Pn		**Pn**	**09 52 58.8**	**+0.7**
MCCM	**Marconi Confer**	**2.48**	**215**	*e*Pn		**Pn**	**09 53 00.1**	**+0.3**
MCCM				*e*Sn		**Sn**	**09 53 29.1**	**-1.0**
K04D	**Chiloquin, OR**	**2.50**	**348**	Pb		**Pb**	**09 53 02.8**	**-1.6**
	baz=168,SNR=32							
RYN	**Ryan**	**2.51**	**127**	*e*Pn		**Pn**	**09 53 01.1**	**+0.7**
RYN				*e*Sn		**Sn**	**09 53 31.3**	**+0.2**
KRMB	**Red Mountain**	**2.54**	**303**	*e*Pn		**Pn**	**09 53 02.3**	**+1.5**
K05A	**Summer Lake**	**2.54**	**3**	*e*Pn		**Pn**	**09 52 56.3**	**-4.6**
KVN	**Kaiserville**	**2.55**	**115**	*e*Pn		**Pn**	**09 53 01.9**	**+0.9**
L02E	**Cave Junction**	**2.75**	**317**	Pb		**Pb**	**09 53 06.6**	**-2.1**
	baz=135							
NV01	**Mina Array Sit**	**2.77**	**128**	*e*Pn		**Pn**	**09 53 05.0**	**+1.0**
NVAR	**Mina Array Bea**	**2.77**	**128**	*e*Pn		**Pn**	**09 53 05.2**	**+1.2**
NVAR	**Mina Array Bea**	**2.77**	**128**	Pn		**Pn**	**09 53 05.0**	**+1.0**
	8.6nm,0.3s,baz=301,slow=14,SNR=70							
NVAR				Lg		Lg	09 53 47.9	
	16nm,0.3s,baz=290,slow=23,SNR=5.8							
HUMO	**Hull Mountain**	**2.81**	**330**	*e*Pn		**Pn**	**09 53 06.3**	**+1.9**
NV11	**Mina Array Sit**	**2.85**	**127**	*e*Pn		**Pn**	**09 53 06.5**	**+1.3**
NV11				*e*Sn		**Sg**	**09 53 49.9**	**-1.2**
WVOR	**Wild Horse Val**	**2.90**	**38**	*e*Pn		**Pn**	**09 53 06.3**	**+0.6**
BMN	**Battle Mountai**	**2.95**	**84**	*e*Pn		**Pn**	**09 53 05.9**	**-0.5**
BMN				*e*Sn		**Sg**	**09 53 51.5**	**-2.6**
MDPB	**Devils Postpil**	**2.98**	**148**	*e*Pn		**Pn**	**09 53 09.3**	**+2.4**
MDPB				*e*Sn		**Sg**	**09 53 52.8**	**-2.3**
MLAC	**Mammoth, Mammo**	**3.08**	**145**	Sg		**Sg**	**09 53 58.6**	**+0.1**
	baz=326							
J05D	**Fort Rock, OR**	**3.10**	**358**	Pb		**Pb**	**09 53 13.2**	**-1.6**
	baz=178,SNR=91							
J05D				Sb		**Sb**	**09 53 55.3**	**+2.5**
	baz=178							
J04D	**Umpqua Nationa**	**3.15**	**346**	Pb		**Pb**	**09 53 14.1**	**-1.6**
	baz=166							
SAO	**San Andreas Ge**	**3.43**	**185**	*e*Pn		**Pn**	**09 53 14.8**	**+1.9**
PINE	**Pine Mountain**	**3.61**	**1**	*e*Pn		**Pn**	**09 53 18.7**	**+3.1**
KEBM	**Edson Butte**	**3.64**	**319**	*e*Pn		**Pn**	**09 53 18.7**	**+2.8**
J08A	**Circle Bar Ran**	**3.72**	**31**	*e*Pn		**Pb**	**09 53 21.0**	**-4.3**
J08A				*e*Sg		**Sg**	**09 54 16.5**	**-2.3**
I07A	**Izee**	**4.07**	**16**	*e*Pn		**Pn**	**09 53 25.0**	**+3.2**
ELK	**Elko**	**4.48**	**81**	*e*Pn		**Pn**	**09 53 28.1**	**+0.5**
ELK				*e*Sg		**Sg**	**09 54 39.8**	**-3.5**
ELK	**Elko**	**4.48**	**81**	Pn		**Pn**	**09 53 27.9**	**+0.4**
	0.2nm,0.3s,baz=267,slow=16,SNR=2.9							
ELK				Pg		**Pb**	**09 53 37.5**	**-0.8**
	1.8nm,0.3s,baz=287,slow=19,SNR=22							
ELK				Lg		Lg	09 54 37.5	
	2.5nm,0.3s,baz=34,slow=23,SNR=10							
H04A	**Detroit Lake**	**4.57**	**350**	*e*Pn		**Pn**	**09 53 28.4**	**-0.3**
R11A	**Troy Canyon, C**	**4.63**	**112**	*e*Pn		**Pn**	**09 53 28.7**	**-0.9**
R11A				*e*Sg		**Sg**	**09 54 45.9**	**-2.2**
ISA	**Isabella, Lake**	**4.96**	**155**	*e*Pn		**Pn**	**09 53 34.2**	**+0.2**
TPNV	**Topopah Spring**	**4.97**	**129**	*e*Pn		**Pn**	**09 53 34.9**	**+0.7**
TPNV				*e*Sg		**Sg**	**09 54 56.6**	**-2.3**
G08A	**Pilot Rock**	**5.33**	**16**	*e*Pn		**Pn**	**09 53 38.7**	**-0.5**
BMO	**Blue Mountains**	**5.43**	**30**	*e*Pn		**Pn**	**09 53 39.9**	**-0.6**
PSUT	**Pine Spring**	**5.83**	**104**	*e*Pn		**Pn**	**09 53 47.3**	**+1.2**
PSUT				*e*Sg		**Sg**	**09 55 22.6**	**-3.9**
SHPR	**Sheep Range**	**5.92**	**126**	*e*Pn		**Pn**	**09 53 48.4**	**+1.1**
GSC	**Goldstone, Bar**	**5.93**	**144**	*e*Pn		**Pn**	**09 53 48.8**	**+1.5**
GSC				*e*Sg		**Sg**	**09 55 28.4**	**-1.2**
HLID	**Hailey**	**6.00**	**54**	*e*Pn		**Pn**	**09 53 48.2**	**-0.2**
PLID	**Pearl Lake**	**6.16**	**36**	*e*Pn		**Pn**	**09 53 52.0**	**+1.3**
DUG	**Dugway, Tooele**	**6.32**	**87**	*e*Pn		**Pn**	**09 53 52.8**	**+0.1**
F10A	**Beach Ranch, E**	**6.43**	**25**	*e*Pn		**Pn**	**09 53 52.6**	**-1.7**
CCUT	**Cedar City**	**6.56**	**111**	*e*Pn		**Pn**	**09 53 54.4**	**-1.8**
CCUT				*e*Sg		**Sg**	**09 55 44.5**	**-5.5**
TCRU	**Three Creeks R**	**6.86**	**100**	*e*Pn		**Pn**	**09 54 01.4**	**+1.1**
MSU	**Marysvale**	**7.09**	**101**	*e*Pn		**Pn**	**09 54 04.9**	**+1.5**
KNB	**Kanab**	**7.19**	**113**	*e*Pn		**Pn**	**09 54 06.6**	**+1.9**
MTPU	**Mount Pierson**	**7.23**	**104**	*e*Pn		**Pn**	**09 54 06.2**	**+0.8**
PKCU	**Pink Cliffs**	**7.36**	**109**	*e*Pn		**Pn**	**09 54 07.0**	**-0.2**
PFO	**Pinyon Flats O**	**7.52**	**149**	Lg		Lg	09 56 18.1	
	0.1nm,0.3s,baz=160,slow=2.1,SNR=3.5							
MCMT	**McKenzie Canyo**	**7.64**	**50**	*e*Pn		**Pn**	**09 54 12.2**	**+1.3**
U15A	**North Rim**	**7.85**	**116**	*e*Pn		**Pn**	**09 54 13.6**	**-0.3**
SRU	**San Rafael Swe**	**8.20**	**94**	*e*Pn		**Pn**	**09 54 20.0**	**+1.3**
LTX	**Lajitas**	**17.90**	**122**	*e*Pn		**P**	**09 56 31.9**	**+2.7**
TXAR	**Lajitas Array**	**17.90**	**122**	P		**P**	**09 56 31.9**	**+2.7**
	0.0nm,0.3s,baz=298,slow=6.1,SNR=5.5							
WMOK	**Wichita Mounta**	**18.49**	**100**	*e*P		**P**	**09 56 34.6**	**-1.0**
	12nm,1.8s							
YKA	**Yellowknife Ar**	**22.68**	**8**	P		**P**	**09 57 24.2**	**+3.5**
	0.1nm,0.5s,baz=205,slow=10,SNR=2.4							
YKB5	**Yellowknife Ar**	**22.68**	**8**	*e*P		**P**	**09 57 24.2**	**+3.5**
ILAR	**Eielson Array**	**28.81**	**337**	P		**P**	**09 58 19.9**	**+2.6**
	0.3nm,0.7s,baz=143,slow=7.9,SNR=4.4							
ILB	**Eielson Array**	**28.81**	**337**	*e*P		**P**	**09 58 19.9**	**+2.6**
	3.4nm,1.4s							
INK	**Inuvik**	**28.98**	**350**	*e*P		**P**	**09 58 20.1**	**+1.4**
	5.4nm,1.7s							
INK	**Inuvik**	**28.98**	**350**	P		**P**	**09 58 20.1**	**+1.4**
	0.6nm,0.8s,baz=167,slow=3.5,SNR=2.5							

KRSC 24 09:55:06.6±10.0, 54°.31N×154°.34E, h650km±10km, ML4.1, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.18**	**128**	*e*P	P	09 56 26.5	+0.4
KOK	**Koryaka**	**2.74**	**110**	*e*P	P	09 56 30.3	+1.6
KRER	**Koryakskii**	**2.80**	**109**	*e*P	P	09 56 31.0	+1.9
AVH	**Avacha**	**2.81**	**110**	*e*P	P	09 56 29.7	+0.7
SMAR	**Somma**	**2.84**	**110**	*e*P	P	09 56 31.3	+2.0
UGLR	**Uglovaya**	**2.88**	**111**	*e*P	P	09 56 30.8	+1.5
SDLR	**Sedlovina**	**2.88**	**109**	*e*P	P	09 56 31.1	+1.7
DALK	**Dalny**	**2.92**	**114**	*e*P	P	09 56 30.1	+0.7
RUS	**Russkaya**	**3.13**	**125**	*e*P	P	09 56 30.8	+0.3
SPN	**Mys Shipunski**	**3.59**	**107**	*e*P	P	09 56 34.0	+0.9
SPN				*e*S	S	09 57 42.1	-1.7
MKZ	**Mys Kozlova**	**4.32**	**84**	*e*P	P	09 56 39.2	+1.6
MKZ				*e*S	S	09 57 51.1	-1.1
KBTR	**Krutoberegovo**	**5.21**	**65**	*e*P	P	09 56 44.2	+0.2

*ISCJB **24** 09:58:16.7±0.6, 54°.9N±0°.1×153°.2E±0°.2, h600km, mb3.1/9, Error ellipse: s-maj=16.8km s-min=9.5km az=41.8*
*KRSC **24** 09:58:17.7±10.0, 54°.20N×155°.03E, h665km±10km, ML4.0*
*IDC **24** 09:58:18.1±1.5, 54°.79N×153°.20E, h608km±25km, mb2.5/9, mb1 2.7/10, mb1mx2.5/34, mbtmp3.5/10, Error ellipse: s-maj=46.1km s-min=16.0km az=177.0*
ISC 24 09:58:17.3±0.9, 54°.7N±0°.1×153°.5E±0°.1, h600km, n25, σ1°.98/29, mb3.0/9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.80**	**128**	*e*P	**P**	**09 59 37.3**	**+2.0**
PETK	**Petropavlovsk-**	**2.95**	**121**	P	**P**	**09 59 38.5**	**+2.4**
	1.7nm,0.3s,baz=25,slow=2.5,SNR=31						
KRMR	**Karymshinskiy**	**3.32**	**123**	*e*P	**P**	**09 59 39.2**	**+1.0**
KOK	**Koryaka**	**3.34**	**113**	*e*P	**P**	**09 59 41.7**	**+3.2**

KRER	**Koryakskii**	**3.39**	**112**	*e*P		**P**	**09 59 40.9**	**+2.0**
AVH	**Avacha**	**3.41**	**113**	*e*P		**P**	**09 59 40.6**	**+1.8**
SMAR	**Somma**	**3.44**	**113**	*e*P		**P**	**09 59 41.5**	**+2.3**
SDLR	**Sedlovina**	**3.48**	**112**	*e*P		**P**	**09 59 41.9**	**+2.6**
UGLR	**Uglovaya**	**3.48**	**114**	*e*P		**P**	**09 59 42.3**	**+3.0**
DALK	**Dalny**	**3.53**	**116**	*e*P		**P**	**09 59 42.0**	**+2.5**
RUS	**Russkaya**	**3.75**	**125**	*e*P		**P**	**09 59 41.9**	**+0.9**
RUS				*e*S		**S**	**10 00 48.8**	**-0.5**
KZV	**Kizimen**	**3.93**	**81**	*e*P		**P**	**09 59 43.9**	**+1.6**
KDTR	**Khodutka, Kamc**	**3.99**	**135**	*e*P		**P**	**09 59 42.5**	**-0.1**
KDTR				*e*S		**S**	**10 00 49.9**	**-2.4**
SPN	**Mys Shipunski**	**4.17**	**110**	*e*P		**P**	**09 59 43.9**	**+0.1**
SPN				*e*S		**S**	**10 00 52.1**	**-2.5**
MKZ	**Mys Kozlova**	**4.77**	**89**	*e*P		**P**	**09 59 47.3**	**-0.9**
MKZ				*e*S		**S**	**10 00 58.3**	**-4.4**
KBTR	**Krutoberegovo**	**5.50**	**70**	*e*P		**P**	**09 59 54.7**	**+0.8**
ILAR	**Eielson Array**	**30.49**	**47**	P		**P**	**10 03 44.0**	**+1.3**
	0.2nm,0.4s,baz=279,slow=7.2,SNR=5.4							
INK	**Inuvik**	**34.99**	**38**	P		**P**	**10 04 21.5**	**+1.1**
	0.4nm,0.5s,baz=291,slow=5.1,SNR=4.9							
KURBB	**Kurchatov Arra**	**43.65**	**297**	P		**P**	**10 05 28.8**	**-1.1**
	0.5nm,0.3s,baz=51,slow=8.3,SNR=4.7							
MKAR	**Makanchi Array**	**43.94**	**290**	P		**P**	**10 05 31.2**	**-1.1**
	0.5nm,0.5s,baz=64,slow=5.9,SNR=6.5							
YKA	**Yellowknife Ar**	**44.56**	**41**	P		**P**	**10 05 37.4**	**+0.7**
	0.2nm,0.5s,baz=303,slow=6.7,SNR=2.9							
ARCES	**ARCESS Array B**	**50.45**	**339**	P		**P**	**10 06 19.4**	**-1.1**
	0.2nm,0.3s,baz=41,slow=8.4,SNR=1.3							
FINES	**FINESS Array B**	**56.99**	**333**	P		**P**	**10 07 05.0**	**-1.4**
	0.3nm,0.3s,baz=31,slow=14,SNR=3.1							
NVAR	**Mina Array Bea**	**58.76**	**67**	P		**P**	**10 07 19.4**	**+0.3**
	0.3nm,0.5s,baz=304,slow=6.4,SNR=3.0							
TXAR	**Lajitas Array**	**73.47**	**63**	P		**P**	**10 08 51.2**	**+1.3**
	0.2nm,0.5s,baz=300,slow=4.1,SNR=4.0							

*ISCJB **24** 10:00:45.9±0.5, 38°.89N±0°.03×27°.69E±0°.05, h12km±4km, Error ellipse: s-maj=6.6km s-min=4.9km az=151.3*
*ISK **24** 10:00:45.2, 38°.90N×27°.71E, h16km, ML2.2/6*
*DDA **24** 10:00:46.2, 38°.93N×27°.70E, h7km±1km, ML2.5*
ISC 24 10:00:45.8±0.9, 38°.91N±0°.03×27°.69E±0°.04, h14km±6km, n14, σ0°.39/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.10**	**108**	PG	**Pg

KDTR Khodutka, Kamc 3.31 100 PN **P 10 10 01.6 0.0**
KDTR S **S 10 10 57.4 -3.2**
RUS Russkaya 3.48 89 *eP* **P 10 10 02.9 0.0**
RUS *eS* **S 10 10 59.7 -3.3**
RUS Russkaya 3.48 89 PN **P 10 10 02.9 0.0**
RUS S **S 10 10 59.7 -3.3**
RUS Russkaya 3.48 89 *eP* **P 10 10 02.9 0.0**
PET Petropavlovsk 3.58 79 PN **P 10 10 03.7 +0.1**
PET S **S 10 11 01.3 -3.1**
PET Petropavlovsk 3.58 79 *i P* **P 10 10 04.3 +0.7**
PET AMB AMB 10 10 05.7
comp=N,20nm,0.6s
PET AMB AMB 10 10 05.7
comp=N,70nm,0.6s
PET *eS* **S 10 11 03.1 -1.3**
PET A A 10 11 06.3
comp=N,50nm,0.6s
PET A A 10 11 06.3
comp=N,110nm,0.6s
KOK Koryaka 3.61 75 *eP* **P 10 10 06.0 +2.0**
KOK Koryaka 3.61 75 PN **P 10 10 06.0 +2.0**
KOK Koryaka 3.61 75 *eP* **P 10 10 06.1 +2.0**
KRX Arik 3.63 74 *eP* **P 10 10 05.9 +1.7**
KRX Arik 3.63 74 PN **P 10 10 05.9 +1.7**
DALK Dalny 3.64 79 *eP* **P 10 10 04.5 +0.4**
DALK *eS* **S 10 11 03.5 -1.7**
DALK Dalny 3.64 79 PN **P 10 10 04.5 +0.4**
DALK S **S 10 11 03.5 -1.7**
AVH Avacha 3.67 76 *eP* **P 10 10 05.9 +1.5**
AVH *eS* **S 10 11 05.1 -0.7**
AVH Avacha 3.67 76 PN **P 10 10 05.9 +1.5**
AVH S **S 10 11 05.1 -0.7**
KRER Koryakskii 3.68 75 *eP* **P 10 10 06.6 +1.9**
KRER Koryakskii 3.68 75 PN **P 10 10 06.6 +1.9**
SMAR Somma 3.70 76 *eP* **P 10 10 06.7 +1.8**
SMAR *eS* **S 10 11 06.1 -0.5**
SMAR Somma 3.70 76 PN **P 10 10 06.7 +1.8**
SMAR S **S 10 11 06.1 -0.5**
UGLR Uglovaya 3.71 77 *eP* **P 10 10 06.3 +1.5**
UGLR *eS* **S 10 11 05.1 -1.3**
UGLR Uglovaya 3.71 77 PN **P 10 10 06.3 +1.5**
UGLR S **S 10 11 05.1 -1.3**
SDLR Sedlovina 3.75 76 *eP* **P 10 10 06.0 +0.8**
SDLR *eS* **S 10 11 04.7 -2.4**
SDLR Sedlovina 3.75 76 PN **P 10 10 06.0 +0.8**
SDLR S **S 10 11 04.7 -2.4**
NLC Nalytchevo 4.01 78 *eP* **P 10 10 08.0 +0.9**
NLC *eS* **S 10 11 08.2 -2.4**
NLC Nalytchevo 4.01 78 PN **P 10 10 08.0 +0.9**
NLC S **S 10 11 08.2 -2.4**
NLC Nalytchevo 4.01 78 *eP* **P 10 10 08.0 +0.9**
KII Karymskiy 4.27 66 *eP* **P 10 10 11.0 +1.7**
KII Karymskiy 4.27 66 PN **P 10 10 11.0 +1.7**
SPN Mys Shipunski 4.41 79 *eP* **P 10 10 10.7 +0.3**
SPN *eS* **S 10 11 11.5 -5.2**
SPN Mys Shipunski 4.41 79 PN **P 10 10 10.7 +0.3**
ESO Esso 4.87 43 *eP* **P 10 10 16.9 +2.5**
ESO Esso 4.87 43 PN **P 10 10 16.9 +2.5**
ESO Esso 4.87 43 *eP* **P 10 10 16.8 +2.4**
KZV Kizimen 5.15 56 *eP* **P 10 10 19.2 +2.1**
KZV Kizimen 5.15 56 PN **P 10 10 19.2 +2.1**
TUMR Tumrok 5.15 54 *eP* **P 10 10 20.0 +2.9**
TUMR Tumrok 5.15 54 PN **P 10 10 20.0 +2.9**
TUMD Tumrok D 5.24 56 *eP* **P 10 10 20.7 +2.8**
KOZ Kozyrevsk 5.46 46 *eP* **P 10 10 22.4 +2.5**
KOZ Kozyrevsk 5.46 46 PN **P 10 10 22.4 +2.5**
BZWR Bezymyannyi-We 5.69 49 *eP* **P 10 10 23.6 +1.4**
BZWR Bezymyannyi-We 5.69 49 PN **P 10 10 23.6 +1.4**
MKZ Mys Kozlova 5.70 65 *eP* **P 10 10 21.9 -0.2**
MKZ *eS* **S 10 11 33.1 -5.1**
MKZ Mys Kozlova 5.70 65 PN **P 10 10 21.9 -0.2**
MKZ S **S 10 11 33.1 -5.1**
MKZ Mys Kozlova 5.70 65 *eP* **P 10 10 21.9 -0.2**
LGNR Loginova 5.84 49 *eP* **P 10 10 26.2 +2.4**
LGNR Loginova 5.84 49 PN **P 10 10 26.2 +2.4**
CIRR Tsirk 5.89 49 *eP* **P 10 10 25.9 +1.8**
CIRR Tsirk 5.89 49 PN **P 10 10 25.9 +1.8**
OKH Okha 6.06 284 *i P* **P 10 10 23.9 -1.8**
OKH AMB AMB 10 10 26.9
comp=N,160nm,0.9s
BDR Baidarnaya 6.36 47 *eP* **P 10 10 29.6 +0.9**
BDR Baidarnaya 6.36 47 PN **P 10 10 29.6 +0.9**
TYV Tymovskoe 6.53 260 *eP* **P 10 10 31.7 +1.3**
TYV AMB AMB 10 10 32.8
comp=N,30nm,0.4s
KBG Krutoberegovo 6.89 53 *eP* **P 10 10 33.4 -0.4**
KBG *eS* **S 10 11 56.9 -2.7**
KBG Krutoberegovo 6.89 53 PN **P 10 10 33.4 -0.4**
KBG S **S 10 11 56.9 -2.7**
KBTR Krutoberegovo 6.92 54 *eP* **P 10 10 33.3 -0.9**
KBTR Krutoberegovo 6.92 54 PN **P 10 10 33.3 -0.9**
MA2 Magadan 7.19 352 PN **P 10 10 38.0 +1.2**
MA2 Magadan 7.19 352 P **P 10 10 38.3 +1.5**
comp=N,2.0nm,0.3s,baz=158,slow=8.1,SNR=12
MA2 Magadan 7.19 352 *eP* **P 10 10 38.0 +1.2**
UGL Uglegorsk 7.63 248 *eP* **P 10 10 42.0 +0.5**
UGL AMB AMB 10 10 44.6
comp=N,70nm,1.0s
KUR Kuril'sk 7.97 206 *e*PN **P 10 10 46.7 +1.6**
KUR pmax pmax
comp=Z,39nm,0.6s
KUR pmax pmax
comp=N,17nm,0.3s
KUR pmax pmax
comp=E,12nm,0.1s
KUR Kuril'sk 7.97 206 *eP* **P 10 10 46.2 +1.1**
KUR AMB AMB 10 10 47.0
comp=E,20nm,0.9s
KUR AMB AMB 10 10 47.0
comp=E,40nm,0.9s
KUR AMB AMB 10 10 47.0
comp=E,70nm,0.9s
KUR *eS* **S 10 12 19.6 -0.5**
KUR A A 10 12 24.5
comp=E,70nm,0.6s
KUR A A 10 12 24.5
comp=E,40nm,0.6s
BKI Bering 8.23 66 *eP* **P 10 10 50.9 +3.2**
BKI *eS* **S 10 12 23.2 -1.8**
BKI Bering 8.23 66 PN **P 10 10 50.9 +3.2**
BKI S **S 10 12 23.2 -1.8**
YSS Yuzh-Sakhalins 8.56 234 *e*PN **P 10 10 52.0 +0.7**
YSS pmax pmax
comp=Z,40nm,0.7s
YSS Yuzh-Sakhalins 8.56 234 *eP* **P 10 10 52.0 +0.7**
YSS AMB AMB 10 10 53.3
comp=Z,20nm,0.8s
YUK Yuzh-Kuril'sk 9.65 211 PN **P 10 11 03.3 +0.4**
YUK *eS* **S 10 12 54.3 +1.7**
YUK pmax pmax
comp=Z,98nm,0.3s
YUK Yuzh-Kuril'sk 9.65 211 *i P* **P 10 11 03.2 +0.4**
YUK AMB AMB 10 11 04.9
comp=Z,50nm,1.0s
YUK *eS* **S 10 12 51.9 -0.7**
GRPR Tuman 9.72 212 *e*PN **P 10 11 02.5 -1.1**
GRPR *eS* **S 10 12 54.4 +0.4**
GRPR pmax pmax
comp=Z,116nm,0.3s
GRPR pmax pmax
comp=N,95nm,0.1s
GRPR pmax pmax
comp=E,28nm,0.1s
GRPR Tuman 9.72 212 *eP* **P 10 11 02.0 -1.6**
GRPR AMB AMB 10 11 07.0
comp=E,100nm,0.3s
GRPR AMB AMB 10 11 07.0
comp=E,30nm,0.3s
GRPR AMB AMB 10 11 07.0
comp=E,10.0nm,0.3s
GRPR *eS* **S 10 12 54.0 0.0**
GLVR Golovnino 10.03 212 *e*PN **P 10 11 06.9 +0.1**
GLVR *eS* **S 10 13 00.5 +0.5**
GLVR Golovnino 10.03 212 *eP* **P 10 11 06.0 -0.8**
GLVR *eS* **S 10 13 00.0 0.0**
SEY Seymchan 10.47 359 P **P 10 11 13.3 +2.1**
comp=E,2.4nm,0.3s,baz=180,slow=10,SNR=43
JKA Kamikawa-asahi 10.79 223 *eP* **P 10 11 16.0 +1.0**
ASAJ Asahikawa 10.79 223 PN **P 10 11 16.0 +1.0**
ASAJ Asahikawa 10.79 223 P **P 10 11 16.0 +1.0**
comp=E,2.7nm,0.3s,baz=51,slow=1.4,SNR=17
EKMR Ekimchan 12.05 281 *eP* **P 10 11 29.4 +1.2**
ERM Erimo 12.36 216 *c*PN **P 10 11 29.9 -1.8**
ERM pmax pmax
comp=Z,20nm,0.6s
KLR Kul'dur 13.70 265 *i P* **P 10 11 45.2 -0.6**
KLR Kul'dur 13.70 265 P **P 10 11 45.9 +0.1**
comp=Z,0.5nm,0.3s,baz=71,slow=7.9,SNR=10
KLR Kul'dur 13.70 265 *eP* **P 10 11 45.2 -0.6**
BMKR Bomnak 14.39 288 *eP* **P 10 11 53.5 +0.5**
USRK Ussuriysk Ar. 16.10 247 P **P 10 12 11.0 -0.1**
USRK Ussuriysk Ar. 16.10 247 P **P 10 12 11.0 -0.1**
comp=Z,0.5nm,0.3s,baz=46,slow=12,SNR=7.6
BILL Bilibino 16.89 18 *i P* **P 10 12 21.7 +2.7**
BILL pmax pmax
comp=Z,1.0nm,0.9s
BILL Bilibino 16.89 18 *eP* **P 10 12 18.2 -0.8**
MJAR Matsushiro Arr 18.99 219 P **P 10 12 40.2 +0.9**
comp=Z,0.9nm,0.3s,baz=3.7,slow=6.9,SNR=54
TIXI Tiksi 21.94 340 *i P* **P 10 13 04.5 -1.0**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 21.94 340 P **P 10 13 05.5 0.0**
comp=Z,1.8nm,0.4s,baz=138,slow=6.2,SNR=6.0
TIXI Tiksi 21.94 340 *eP* **P 10 13 04.5 -1.0**
KSRS Korea Array 23.00 239 P **P 10 13 16.2 +0.9**
comp=Z,2.2nm,0.8s,baz=44,slow=8.9,SNR=10
JNU Nakatsue 25.01 228 P **P 10 13 33.4 0.0**
comp=Z,3.3nm,0.6s,baz=50,slow=3.4,SNR=6.9
KDAK Kodiak Island 30.91 58 *c*eP **P 10 14 25.1 +0.5**
ILAR Eielson Array 32.35 44 P **P 10 14 37.1 +0.3**
comp=Z,0.8nm,0.4s,baz=261,slow=6.1,SNR=18
WHN Wuhan 35.60 247 P P 10 14 57.5 -7.2
XAN Xi'an 36.22 257 P P 10 15 20.5 +11
INK Inuvik 37.01 36 P **P 10 15 16.6 +0.8**
comp=Z,2.4nm,0.3s,baz=293,slow=9.6,SNR=47
INK PcP **PcP 10 17 23.7 +0.1**
comp=Z,0.6nm,0.4s,baz=256,slow=2.5,SNR=5.4
DLBC Dease Lake 41.88 50 P **P 10 15 57.9 +2.4**
comp=Z,2.6nm,0.9s,baz=21,slow=6.3,SNR=4.5
KURK Kurchatov 44.22 299 *c*eP **P 10 16 13.5 -0.2**
KURK Kurchatov 44.22 299 *eP* **P 10 16 13.5 -0.2**
MKAR Makanchi Array 44.36 292 P **P 10 16 14.8 -0.1**
comp=Z,0.6nm,0.4s,baz=42,slow=5.7,SNR=8.3
RES Resolute Bay 45.47 20 P **P 10 16 22.6 -0.5**
comp=Z,2.3nm,0.5s,baz=325,slow=5.5,SNR=18
YKA Yellowknife Ar 46.52 40 P **P 10 16 31.7 +0.5**
comp=Z,2.2nm,0.5s,baz=303,slow=7.1,SNR=27
YKA PcP **PcP 10 17 55.7 +0.1**
comp=Z,0.4nm,0.4s,baz=311,slow=3.6,SNR=8.1
BRVK Borovoye 47.25 305 *i P* **P 10 16 36.6 -0.2**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 47.25 305 *eP* **P 10 16 36.6 -0.2**
ARU Arti 50.75 314 *c i P* **P 10 17 02.2 -0.6**
ARU S **S 10 23 41.4 +0.7**
ARU SS **SS 10 27 19.3 -3.2**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 50.75 314 *eP* **P 10 17 02.0 -0.8**
AAK Ala-Archa 51.29 292 *i P* **P 10 17 07.3 +0.1**
AAK Ala-Archa 51.29 292 *eP* **P 10 17 07.3 +0.1**
ARCES ARCESS Array B 52.38 339 P **P 10 17 13.7 -0.8**
comp=Z,0.9nm,0.4s,baz=36,slow=7.5,SNR=20
FFC Flin Flon 56.52 42 *c*eP **P 10 17 44.8 +1.0**
FINES FINESS Array B 58.79 333 P **P 10 17 58.4 -0.7**
comp=Z,2.2nm,0.4s,baz=39,slow=7.7,SNR=26
FINES PcP **PcP 10 18 41.1 -1.2**
comp=Z,0.4nm,0.3s,baz=33,slow=4.5,SNR=3.4
NVAR Mina Array Bea 60.05 65 P **P 10 18 09.8 +1.6**
comp=Z,1.2nm,0.7s,baz=307,slow=6.8,SNR=8.6
PDAR Pinedale Array 61.60 56 P **P 10 18 19.4 +0.9**
comp=Z,1.5nm,0.7s,baz=353,slow=1.6,SNR=11
ULM Lac du Bonnet 62.35 42 P **P 10 18 22.4 -0.5**
comp=Z,1.2nm,0.5s,baz=343,slow=7.8,SNR=3.3
NB2 NORSAR Subarra 62.74 340 P **P 10 18 24.5 -0.8**
comp=Z,0.6nm,0.4s,baz=26,slow=6.5
NOA NORSAR Array B 62.74 340 P **P 10 18 24.8 -0.5**
comp=Z,2.0nm,0.8s,baz=30,slow=6.3,SNR=6.3
AKASG Malin Array Be 66.70 325 *c*eP **P 10 18 49.2 -1.2**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 66.70 325 P **P 10 18 49.1 -1.4**
comp=Z,2.6nm,0.4s,baz=34,slow=6.7,SNR=4.1
KBZ Khabaz 66.80 312 P **P 10 18 50.6 -0.5**
comp=Z,1.5nm,0.4s,baz=74,slow=6.1,SNR=5.0
SCHQ Schefferville 68.09 23 P **P 10 18 58.1 -0.9**
comp=Z,2.4nm,0.4s,baz=324,slow=5.3,SNR=8.1
GERES GERESS Array B 73.22 333 P **P 10 19 29.2 -0.3**
comp=Z,0.6nm,0.4s,baz=32,slow=6.3,SNR=4.5
BRTR Keskin Array B 74.11 316 *c*eP **P 10 19 36.5 +1.7**
BRTR Keskin Array B 74.11 316 P **P 10 19 34.4 -0.4**
comp=Z,0.2nm,0.3s,baz=9.5,slow=4.4,SNR=3.6
TXAR Lajitas Array 74.87 62 P **P 10 19 40.5 +1.2**
comp=Z,1.1nm,0.5s,baz=298,slow=4.9,SNR=18
ASAR Alice Springs 77.62 198 P **P 10 19 55.3 +1.1**
comp=Z,0.4nm,0.4s,baz=10,slow=5.1,SNR=7.9
CFA Coronel Fontan 143.71 71 PKP PKPab 10 27 25.9 -0.4
comp=Z,3.2nm,0.4s,baz=262,slow=2.4,SNR=8.5
CPUP Villa Florida 145.44 53 PKPbc **PKPbc 10 27 31.2 -0.6**
comp=Z,1.7nm,0.6s,baz=307,slow=5.9,SNR=4.4
PLCA Paso Flores 148.44 86 PKPbc **PKPbc 10 27 39.9 +0.3**
comp=Z,3.1nm,0.7s,baz=0.3,slow=3.7,SNR=11

*ISCJB **24** 10:13:07.4±0.4, 21°.10S±0°.03×68°.95W±0°.07, h122km±4km, mb3.8/5, Error ellipse: s-maj=10.0km s-min=4.5km az=1.1*
*IDC **24** 10:13:07.1±1.6, 20°.94S×68°.77W, h100km±20km, mb3.4/5, mb1 3.6/7, mb1mx3.4/36, mbtmp3.8/7, Error ellipse: s-maj=24.8km s-min=17.4km az=130.0*
*SJA **24** 10:13:07.3±0.8, 21°.09S×68°.91W, h108km±5km, ML3.0, MW2.9*
*GUC **24** 10:13:08.1±0.5, 21°.09S×68°.92W, h118km±4km, ML3.9*
ISC 24 10:13:07.8±0.7, 21°.08S±0°.03×68°.92W±0°.06, h114km±6km, n34, σ0§76/55, mb3.8/5, 10C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.54**	**274**	*eP*	**Pn**	**10 13 25.6**	**+0.2**
PB01				*eS*	**Sn**	**10 13 38.9**	**+0.2**
PB01	**IPOC Station P**	**0.54**	**274**	⇑*iP*	**Pn**	**10 13 25.6**	**+0.2**
PB01				*eS*	**Sn**	**10 13 38.7**	**+0.1**
PB01				IAML		10 13 39.2	
comp=N,9μm,0.3s							
PB09	**IPOC Station P**	**0.77**	**203**	*eP*	**Pn**	**10 13 27.4**	**0.0**
PB09				*eS*	**Sn**	**10 13 41.8**	**-0.3**
PB09	**IPOC Station P**	**0.77**	**203**	⇑*iP*	**Pn**	**10 13 27.8**	**+0.4**
PB09				IAML		10 13 47.5	
comp=E,2μm,0.3s							
PB02	**IPOC Station P**	**0.95**	**255**	*eP*	**Pn**	**10 13 29.1**	**+0.3**
PB02				*eS*	**Sn**	**10 13 44.6**	**-0.2**
PB02	**IPOC Station P**	**0.95**	**255**	⇑*iP*	**Pn**	**10 13 29.3**	**+0.4**
PB02				*eS*	**Sn**	**10 13 45.3**	**+0.5**
PB02				IAML		10 13 46.7	
comp=E,6μm,0.4s							
PB08	**IPOC Station P**	**0.96**	**347**	*eP*	**Pn**	**10 13 29.7**	**+0.3**
PB08				*eS*	**Sn**	**10 13 45.4**	**-0.2**
PB08	**IPOC Station P**	**0.96**	**347**	⇑*iP*	**Pn**	**10 13 30.1**	**+0.7**
PB08				*eS*	**Sn**	**10 13 46.6**	**+1.0**
PB08				IAML		10 13 47.2	
comp=E,2μm,0.4s							
PB07	**IPOC Station P**	**1.11**	**235**	*eP*	**Pn**	**10 13 30.8**	**+0.2**
PB07				*eS*	**Sn**	**10 13 48.1**	**+0.2**
PB07	**IPOC Station P**	**1.11**	**235**	⇑*iP*	**Pn**	**10 13 30.9**	**+0.2**
PB07				*eS*	**Sn**	**10 13 48.2**	**+0.3**
PB07				IAML		10 13 49.2	
comp=N,3μm,0.3s							
PB03	**IPOC Station P**	**1.24**	**219**	*eP*	**Pn**	**10 13 32.0**	**0.0**
PB03				*eS*	**Sn**	**10 13 50.3**	**-0.1**
PB03	**IPOC Station P**	**1.24**	**219**	⇑*iP*	**Pn**	**10 13 32.3**	**+0.2**
PB03				*eS*	**Sn**	**10 13 50.2**	**-0.2**
PB03				IAML		10 13 50.8	
comp=E,2μm,0.2s							
GO01	**Chusmiza**	**1.43**	**349**	⇑*iP*	**Pn**	**10 13 35.0**	**+0.4**
GO01				*eS*	**Sn**	**10 13 56.1**	**+1.3**
GO01				IAML		10 13 57.5	
comp=N,3μm,0.3s							
PB11	**IPOC Station P**	**1.49**	**332**	*eP*	**Pn**	**10 13 35.0**	**+0.2**
PB11				*eS*	**Sn**	**10 13 55.8**	**+0.4**
PB11	**IPOC Station P**	**1.49**	**332**	⇑*iP*	**Pn**	**10 13 35.1**	**+0.2**
PB11				*eS*	**Sn**	**10 13 55.9**	**+0.4**
PB11				IAML		10 13 58.1	
comp=E,3μm,0.2s							
LVC	**Limon Verde**	**1.52**	**180**	*eP*	**Pn**	**10 13 36.0**	**+0.5**
LVC				*eS*	**Sn**	**10 13 56.3**	**-0.1**
LVC	**Limon Verde**	**1.52**	**180**	P	**Pn**	**10 13 36.2**	**+0.7**
comp=E,33nm,0.3s,baz=19,slow=8.6,SNR=140							
LVC				S	**Sn**	**10 13 57.3**	**+0.9**
comp=E,92nm,0.3s,baz=313,slow=10,SNR=31							
PB04	**IPOC Station P**	**1.69**	**222**	*eP*	**Pn**	**10 13 37.2**	**-0.1**
PB04				*eS*	**Sn**	**10 13 59.5**	**-0.4**
PB04	**IPOC Station P**	**1.69**	**222**	⇑*iP*	**Pn**	**10 13 37.5**	**+0.1**
PB04				*eS*	**Sn**	**10 13 59.3**	**-0.6**
PB04				IAML		10 14 01.5	
comp=N,1μm,0.3s							
PB06	**IPOC Station P**	**1.73**	**201**	⇑*iP*	**Pn**	**10 13 38.1**	**+0.4**
PB06				*eS*	**Sn**	**10 14 00.8**	**+0.3**
PB06				IAML		10 14 01.6	
comp=E,1μm,0.2s							
MNMCX	**Minye Minye**	**2.04**	**342**	*eP*	**Pn**	**10 13 42.5**	**+0.6**
MNMCX				*eS*	**Sn**	**10 14 08.3**	**+0.5**
PB15	**IPOC Station P**	**2.18**	**194**	*eP*	**Pn**	**10 13 43.7**	**+0.2**
PB15				⇓*eS*	**Sn**	**10 14 10.4**	**-0.3**
YJA	**Yavi**	**3.35**	**110**	*eP*	**Pn**	**10 13 59.5**	**+0.6**
YJA				IAML		10 14 03.9	
comp=Z,18nm,0.7s							
HJA	**Humahuaca**	**3.88**	**124**	*eP*	**Pn**	**10 14 07.5**	**+1.5**
HJA				IAML		10 14 08.7	
comp=Z,33nm,0.3s							
LPAZ	**La Paz**	**4.83**	**9**	P	**Pn**	**10 14 20.5**	**+1.5**
comp=Z,0.5nm,0.3s,baz=178,slow=5.0,SNR=23							
SIV	**San Ignacio**	**9.00**	**57**	P	**Pn**	**10 15 11.9**	**-3.0**
comp=Z,3.2nm,0.3s,baz=251,slow=10.0,SNR=58							
PLCA	**Paso Flores**	**19.64**	**184**	P	**Pn**	**10 17 31.1**	**+1.0**
comp=Z,0.1nm,0.3s,baz=23,slow=12,SNR=3.3							
BDFB	**Brasilia**	**20.55**	**78**	P	**P**	**10 17 37.2**	**-0.6**
comp=Z,4.5nm,0.5s,baz=257,slow=10,SNR=7.7							
PTGA	**Pitinga**	**22.03**	**24**	P	**P**	**10 17 51.8**	**-1.5**
comp=Z,2.9nm,0.4s,baz=200,slow=14,SNR=8.0							
TXAR	**Lajitas Array**	**60.28**	**325**	P	**P**	**10 23 05.6**	**+0.9**
comp=Z,0.1nm,0.4s,baz=154,slow=6.1,SNR=4.0							
LPIG	**La Paz**	**60.33**	**316**	P	**P**	**10 23 04.9**	**0.0**
comp=Z,11nm,0.5s,baz=132,slow=15,SNR=3.6							
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P	**P**	**10 24 49.0**	**-0.9**
comp=Z,0.3nm,0.3s,baz=251,slow=5.2,SNR=12							
YKA	**Yellowknife Ar**	**90.79**	**341**	P	**P**	**10 25 58.5**	**+0.8**
comp=Z,0.2nm,0.6s,baz=135,slow=3.6,SNR=5.7							
YKA				pP	**pP**	**10 26 27.5**	**-0.7**
comp=Z,0.6nm,0.8s,baz=135,slow=4.6,SNR=8.1							
MKAR	**Makanchi Array**	**145.30**	**36**	pPKPbc	pPKPbc	10 33 03.7	-0.5
comp=Z,0.4nm,0.7s,baz=318,slow=1.6,SNR=3.7							

*ISCJB **24** 10:21:04.9±0.3, 54°.82N±0°.07×153°.46E±0°.10, h600km, mb3.2/11, Error ellipse: s-maj=9.3km s-min=7.0km az=16.2*
*IDC **24** 10:21:05.8±1.0, 54°.83N×153°.53E, h621km±14km, mb2.6/11, mb1 2.9/16, mb1mx2.7/40, mbtmp3.7/16, Error ellipse: s-maj=16.5km s-min=11.5km az=150.0*
*KRSC **24** 10:21:05.2±10.0, 54°.82N×154°.10E, h616km±10km, ML4.0*
ISC 24 10:21:04.7±0.6, 54°.80N±0°.09×153°.70E±0°.07, h600km, n43, σ1§97/48, mb3.3/11, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APC	**Apacha**	**2.78**	**131**	*eP*	**P**	**10 22 24.9**	**+2.3**
PETK	**Petropavlovsk-**	**2.91**	**124**	P	**P**	**10 22 26.1**	**+2.8**
3.4nm,0.3s,baz=358,slow=2.0,SNR=63							
KRX	**Arik**	**3.25**	**114**	*eP*	**P**	**10 22 28.4**	**+3.0**
KOK	**Koryaka**	**3.28**	**115**	*eP*	**P**	**10 22 28.9**	**+3.4**
KRMR	**Karymshinskiy**	**3.28**	**125**	*eP*	**P**	**10 22 27.5**	**+2.1**
KRMR				*eS*	**S**	**10 23 32.3**	**+0.9**
KRER	**Koryakskii**	**3.33**	**115**	*eP*	**P**	**10 22 29.1**	**+3.1**
AVH	**Avacha**	**3.34**	**115**	*eP*	**P**	**10 22 27.1**	**+1.2**
SMAR	**Somma**	**3.38**	**115**	*eP*	**P**	**10 22 28.8**	**+2.5**
SDLR	**Sedlovina**	**3.41**	**114**	*eP*	**P**	**10 22 29.4**	**+3.0**
UGLR	**Uglovaya**	**3.42**	**116**	*eP*	**P**	**10 22 29.4**	**+3.0**
KII	**Karymskiy**	**3.44**	**100**	*eP*	**P**	**10 22 29.7**	**+3.2**
DALK	**Dalny**	**3.47**	**119**	*eP*	**P**	**10 22 28.7**	**+2.1**
ASAK	**Asacha**	**3.48**	**132**	*eP*	**P**	**10 22 29.6**	**+2.8**
MTVR	**Mutnovka**	**3.54**	**129**	*eP*	**P**	**10 22 28.6**	**+1.4**
NLC	**Nalytchevo**	**3.71**	**114**	*eP*	**P**	**10 22 30.6**	**+2.5**
RUS	**Russkaya**	**3.72**	**128**	*eP*	**P**	**10 22 29.6**	**+1.4**
RUS				*eS*	**S**	**10 23 36.1**	**-0.3**
TUMR	**Tumrok**	**3.74**	**80**	*eP*	**P**	**10 22 30.8**	**+2.4**
SRDR	**Sredinnyy**	**3.74**	**64**	*eP*	**P**	**10 22 30.3**	**+2.0**
KZV	**Kizimen**	**3.81**	**83**	*eP*	**P**	**10 22 30.4**	**+1.5**
PAU	**Pauzhetka**	**3.83**	**149**	*eP*	**P**	**10 22 30.4**	**+1.4**
TUMD	**Tumrok D**	**3.88**	**81**	*eP*	**P**	**10 22 31.6**	**+2.4**
KDTR	**Khodutka, Kamc**	**3.98**	**137**	*eP*	**P**	**10 22 30.7**	**+0.7**
KDTR				*eS*	**S**	**10 23 38.1**	**-1.5**
SPN	**Mys Shipunski**	**4.11**	**112**	*eP*	**P**	**10 22 31.3**	**+0.5**
SPN				*eS*	**S**	**10 23 39.3**	**-1.9**
LGNR	**Loginova**	**4.18**	**69**	*eP*	**P**	**10 22 33.0**	**+1.4**
MKZ	**Mys Kozlova**	**4.67**	**90**	*eP*	**P**	**10 22 34.2**	**-0.6**
MKZ				*eS*	**S**	**10 23 45.4**	**-3.2**
SMKR	**Semkarok**	**4.74**	**65**	*eP*	**P**	**10 22 38.4**	**+2.9**
MA2	**Magadan**	**5.05**	**343**	P	**P**	**10 22 39.4**	**+1.8**
1.9nm,0.3s,baz=140,slow=8.3,SNR=13							
KBTR	**Krutoberegovo**	**5.37**	**71**	*eP*	**P**	**10 22 40.1**	**-0.2**
PALN	**Palana**	**5.50**	**36**	*eP*	**P**	**10 22 43.3**	**+2.0**
SEY	**Seymchan**	**8.19**	**356**	P	**P**	**10 23 06.9**	**+1.5**
1.3nm,0.3s,baz=169,slow=10,SNR=34							
KLR	**Kul'dur**	**14.59**	**257**	P	**P**	**10 24 08.8**	**-0.2**
0.3nm,0.3s,baz=59,slow=11,SNR=8.1							
USRK	**Ussuriysk Ar.**	**17.57**	**242**	P	**P**	**10 24 35.7**	**-0.6**
0.3nm,0.3s,baz=39,slow=9.1,SNR=4.5							
KSRS	**Korea Array**	**24.68**	**236**	P	**P**	**10 25 40.5**	**+0.5**
1.1nm,0.6s,baz=27,slow=8.6,SNR=5.1							
SONM	**Songino Array**	**29.89**	**276**	P	**P**	**10 26 25.6**	**+0.2**
0.5nm,0.4s,baz=56,slow=8.7,SNR=3.7							
ILAR	**Eielson Array**	**30.36**	**47**	P	**P**	**10 26 29.5**	**+0.5**
0.3nm,0.6s,baz=279,slow=10.0,SNR=4.8							
ZALV	**Zalesovo Beam**	**38.65**	**298**	P	**P**	**10 27 37.7**	**-0.2**
0.7nm,0.4s,baz=64,slow=10,SNR=3.5							
MKAR	**Makanchi Array**	**44.01**	**290**	P	**P**	**10 28 19.0**	**-1.2**
1.2nm,0.5s,baz=55,slow=7.9,SNR=13							
YKA	**Yellowknife Ar**	**44.43**	**42**	P	**P**	**10 28 23.1**	**0.0**
0.2nm,0.5s,baz=306,slow=7.0,SNR=3.1							
ARCES	**ARCESS Array B**	**50.41**	**339**	P	**P**	**10 29 05.5**	**-2.1**
1.3nm,0.8s,baz=36,slow=7.9,SNR=3.9							
NVAR	**Mina Array Bea**	**58.63**	**67**	P	**P**	**10 30 06.3**	**+0.7**
0.2nm,0.3s,baz=308,slow=7.4,SNR=4.1							
TXAR	**Lajitas Array**	**73.33**	**63**	P	**P**	**10 31 37.4**	**+0.8**
0.1nm,0.4s,baz=328,slow=4.4,SNR=5.5							
WRA	**Warramunga Arr**	**76.26**	**199**	P	**P**	**10 31 51.8**	**-1.0**
1.0nm,0.9s,baz=15,slow=6.8,SNR=3.2							
ASAR	**Alice Springs**	**79.97**	**198**	P	**P**	**10 32 11.2**	**-1.4**
0.3nm,0.4s,baz=6.2,slow=5.4,SNR=5.1							

*ISK **24** 10:22:50.7, 37°.23N×28°.20E, h5km, ML2.3/5*
*ISCJB **24** 10:22:52.0±0.7, 37°.22N±0°.04×28°.21E±0°.08, h6km±9km, Error ellipse: s-maj=11.5km s-min=5.2km az=151.6*
*DDA **24** 10:22:51.3, 37°.19N×28°.14E, h7km±2km, ML2.6*
**ISC 24 10:22:51.5±1.4, 37°.22N±0°.04×28°.18E±0°.05, h11km±15km, n9, σ0§59/15

DALK	**Dalny**	**2.13**	**86**	P	P	10 34 57.0 +1.8
AVH	**Avacha**	**2.13**	**80**	*e*P	P	10 34 57.5 +2.2
KRER	**Koryakskii**	**2.15**	**79**	P	P	10 34 57.8 +2.2
SMAR	**Somma**	**2.17**	**80**	*e*P	P	10 34 57.3 +1.6
UGLR	**Uglovaya**	**2.18**	**82**	*e*P	P	10 34 57.9 +2.3
SDLR	**Sedlovina**	**2.22**	**80**	*e*P	P	10 34 57.1 +1.3
SPN	**Mys Shipunski**	**2.89**	**85**	*e*P	P	10 35 01.1 +1.6
SPN				*e*S	S	10 35 59.2 +0.5
ESO	**Esso**	**3.61**	**33**	P	P	10 35 04.8 +0.6
TUMR	**Tumrok**	**3.72**	**49**	*e*P	P	10 35 08.6 +3.4
MKZ	**Mys Kozlova**	**4.18**	**65**	P	P	10 35 11.2 +2.7
MKZ				*e*S	S	10 36 16.0 +0.7
KBTR	**Krutoberegovo**	**5.49**	**50**	*e*P	P	10 35 20.4 +0.8
KBTR				*e*S	S	10 36 33.3 -2.4

KRSC 24 10:37:29.1±10.0, 52°.11N×160°.70E, h52km±10km, ML3.6,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.07**	**338**	*e*P		Pn	10 37 49.3	+1.5
SPN				*e*S		Sn	10 38 02.0	+0.4
NLC	**Nalytchevo**	**1.34**	**323**	*e*P		Pn	10 37 53.4	+2.0
NLC				*e*S		Sn	10 38 09.5	+1.4
RUS	**Russkaya**	**1.38**	**284**	*e*P		Pn	10 37 53.3	+1.4
RUS				*e*S		Sn	10 38 08.7	-0.3
DALK	**Dalny**	**1.50**	**309**	*e*P		Pn	10 37 55.5	+1.9
DALK				*e*S		Sn	10 38 13.6	+1.6
PET	**Petropavlovsk**	**1.55**	**307**	*e*P		Pn	10 37 56.1	+1.9
PET				*e*S		Sn	10 38 14.8	+1.7
UGLR	**Uglovaya**	**1.58**	**315**	*e*P		Pn	10 37 57.5	+2.7
UGLR				*e*S		Sn	10 38 17.1	+2.9
MTVR	**Mutnovka**	**1.59**	**285**	*e*P		Pn	10 37 56.6	+1.7
MTVR				*e*S		Sn	10 38 15.9	+1.6
SDLR	**Sedlovina**	**1.61**	**317**	*e*P		Pn	10 37 57.8	+2.7
SDLR				*e*S		Sn	10 38 17.0	+2.2
SMAR	**Somma**	**1.63**	**316**	*e*P		Pn	10 37 58.1	+2.5
SMAR				*e*S		Sn	10 38 17.9	+2.4
KDTR	**Khodutka, Kamc**	**1.65**	**260**	*e*P		Pn	10 37 57.3	+1.7
KDTR				*e*S		Sn	10 38 15.9	+0.3
AVH	**Avacha**	**1.66**	**315**	P		Pn	10 37 58.6	+2.8
AVH				*e*S		Sn	10 38 18.5	+2.5
KRER	**Koryakskii**	**1.68**	**316**	*e*P		Pn	10 37 59.0	+2.8
KRER				*e*S		Sn	10 38 19.5	+2.8
KOK	**Koryaka**	**1.72**	**314**	*e*P		Pn	10 37 59.4	+2.7
KRMR	**Karymshinskiy**	**1.73**	**296**	*e*P		Pn	10 37 58.7	+2.1
KRMR				*e*S		Sn	10 38 18.7	+1.2
ASAK	**Asacha**	**1.74**	**280**	P		Pn	10 37 59.3	+2.4
ASAK				*e*S		Sn	10 38 20.2	+2.2
KRX	**Arik**	**1.76**	**316**	*e*P		Pn	10 38 00.2	+2.9
KRX				*e*S		Sn	10 38 21.4	+2.7
APC	**Apacha**	**2.31**	**292**	P		Pn	10 38 06.6	+2.0
APC				*e*S		Sn	10 38 38.1	+6.3
MKZ	**Mys Kozlova**	**2.53**	**14**	*e*P		Pn	10 38 11.5	+3.9
KZV	**Kizimen**	**3.02**	**356**	*e*P		Pn	10 38 15.7	+1.3
KBTR	**Krutoberegovo**	**4.29**	**16**	*e*P		Pn	10 38 36.9	+5.2
BKI	**Bering**	**4.41**	**43**	S		Sn	10 39 23.3	0.0

*GUC **24** 10:41:17.2±0.6, 26°.24S×69°.16W, h19km±4km, ML4.7*
*NEIC **24** 10:41:17.0±0.0, 26°.24S×69°.16W, h19km, mb4.8/130, ML4.7(GUC), After GUC.*
NEIC Felt [II] at Caldera, Copiapo and Tierra Amarilla.
*SJA **24** 10:41:17.2±0.9, 26°.23S×69°.40W, h4km±9km, ML3.4, MW3.1*
*ISCJB **24** 10:41:18.3±0.9, 26°.20S±0°.02×69°.15W±0°.04, h22km±6km, mb4.7/142, Error ellipse: s-maj=5.8km s-min=3.4km az=169.2*
*IDC **24** 10:41:23.7±1.7, 26°.20S×69°.04W, h42km±15km, mb4.2/13, mb1 4.3/19, mb1mx4.2/29, mbtmp4.4/19, ML4.0/5, Error ellipse: s-maj=19.4km s-min=11.1km az=87.0*
*VAO **24** 10:41:41.2±0.3, 25°.11S×68°.03W, h118km, mb4.3*
ISC 24 10:41:16.6±0.9, 26°.24S±0°.02×69°.22W±0°.04, h5km±6km, n476, σ1992/480, mb4.8/142, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.12**	**343**	*e*Pn		**Pn**	**10 41 37.8**	**-1.4**
GO02				*e*Sn		**Sn**	**10 41 54.0**	**-1.1**
GO02	**Mina Guanaco**	**1.12**	**343**	*e*P		**Pn**	**10 41 37.7**	**-1.4**
GO02				*e*S		**Sb**	**10 41 52.8**	**-0.8**
GO03	**Copiap**	**1.63**	**213**	*e*Pn		**Pb**	**10 41 46.6**	**-0.5**
GO03				*e*Sn		**Sb**	**10 42 08.0**	**0.0**
GO03	**Copiap**	**1.63**	**213**	*e*P		**Pb**	**10 41 46.7**	**-0.5**
GO03	**Copiap**	**1.63**	**213**	↑*i*P		**Pb**	**10 41 46.4**	**-0.7**
GO03				*e*S		**Sb**	**10 42 08.3**	**+0.3**
GO03				IAML			10 42 15.8	
	comp=N,7μm,0.3s							
PB14	**IPOC Station P**	**1.93**	**326**	*i*P		**Pb**	**10 41 51.6**	**-0.7**
PB14				*e*S		**Sb**	**10 42 17.9**	**+1.1**
PB14	**IPOC Station P**	**1.93**	**326**	↑*e*P		**Pb**	**10 41 51.7**	**-0.7**
PB14				*e*S		**Sb**	**10 42 17.1**	**+0.3**
PB14				IAML			10 42 19.3	
	comp=E,14μm,0.6s							
VCA	**Vinchina**	**2.65**	**160**	*i*P		**Pg**	**10 42 06.4**	**-1.0**
VCA				IAML			10 42 14.2	
	comp=Z,310nm,0.5s							
FSA	**Cafayete**	**2.92**	**88**	*e*P		**Pb**	**10 42 09.2**	**-0.1**
FSA				IAML			10 42 16.8	
	comp=Z,42nm,0.5s							
PB10	**IPOC Station P**	**2.97**	**336**	*e*Pn		**Pn**	**10 42 06.3**	**+1.9**
PB10				*e*Sn		**Sn**	**10 42 38.9**	**-1.4**
PB10	**IPOC Station P**	**2.97**	**336**	*e*P		**Pb**	**10 42 06.9**	**-3.1**
PB10				*e*S		**Sb**	**10 42 46.0**	**-0.5**
PB10				IAML			10 42 56.3	
	comp=E,1μm,0.3s							
PB15	**IPOC Station P**	**3.02**	**356**	*e*P		**Pb**	**10 42 08.8**	**-2.2**
PB15				*e*S		**Sb**	**10 42 46.4**	**-1.9**
LCO	**Las Campanas**	**3.06**	**205**	*e*Pn		**Pb**	**10 42 08.4**	**-3.3**
LCO				*e*Sn		**Sn**	**10 42 38.1**	**-4.9**
LCO	**Las Campanas**	**3.06**	**205**	*i*P		**Pb**	**10 42 08.8**	**-2.9**
LCO				*i*S		**Sb**	**10 42 50.1**	**+0.6**
LCO	**Las Campanas**	**3.06**	**205**	*e*P		**Pb**	**10 42 08.8**	**-2.9**
LCO				IAML			10 42 56.3	
	comp=E,4μm,0.6s							
LCO	**Las Campanas**	**3.06**	**205**	*e*P		**Sb**	**10 42 48.0**	**-1.5**
AGUA	**GUANDACOL**	**3.30**	**169**	*i*P		**Pb**	**10 42 14.3**	**-1.4**
LVC	**Limon Verde**	**3.62**	**5**	*e*Pn		**Pn**	**10 42 09.8**	**-3.9**
LVC	**Limon Verde**	**3.62**	**5**	*i*P		**Pb**	**10 42 18.4**	**-2.9**
LVC				*i*S		**Sb**	**10 43 06.2**	**+0.5**
LVC	**Limon Verde**	**3.62**	**5**	P		**Pb**	**10 42 18.4**	**-2.9**
	comp=E,57nm,0.3s,baz=214,slow=9.1,SNR=33							
LVC				S		**Sb**	**10 43 03.9**	**-1.8**
	comp=E,49nm,0.3s,baz=67,slow=13,SNR=4.8							
CYA	**Choya**	**3.75**	**127**	*i*P		**Pb**	**10 42 20.9**	**-2.5**
CYA				IAML			10 43 19.4	
	comp=Z,88nm,0.6s							
ACLC	**CERRO LA CRUZ**	**3.76**	**148**	*i*P		**Pb**	**10 42 20.8**	**-2.8**
ACDV	**Cuesta del Vie**	**3.92**	**179**	*i*P		**Pb**	**10 42 23.6**	**-2.7**
AROD	**Rodeo**	**3.92**	**183**	*i*P		**Pb**	**10 42 23.4**	**-3.1**
PB04	**IPOC Station P**	**3.98**	**348**	*e*Pn		**Pn**	**10 42 18.7**	**+0.3**
PB04	**IPOC Station P**	**3.98**	**348**	*e*P		**Pn**	**10 42 20.5**	**+2.2**
PB04				*e*S		**Sb**	**10 43 10.0**	**-5.7**
GO04	**Tololo Observa**	**4.16**	**199**	*e*Pn		**Pn**	**10 42 22.8**	**+1.8**
AZAP	**Zapla**	**4.26**	**63**	*i*P		**Pb**	**10 42 29.2**	**-3.0**
ACCO	**Cerro Coronel**	**4.34**	**178**	*i*P		Pb	10 42 28.9	-4.7
HJA	**Humahuaca**	**4.59**	**50**	*e*P		Pb	10 42 33.5	-4.4
RTLL	**Cerro Villicun**	**5.12**	**173**	*i*P		Pn	10 42 38.3	+4.3
PB01	**IPOC Station P**	**5.17**	**357**	*e*Pn		**Pn**	**10 42 37.1**	**+2.3**
YJA	**Yavi**	**5.27**	**41**	*i*P		Pb	10 42 43.3	-6.2
YJA				IAML			10 42 52.3	
	comp=Z,16nm,0.6s							
CFA	**Coronel Fontan**	**5.42**	**171**	P		Pn	10 42 42.2	+4.1
	comp=Z,5.5nm,0.3s,baz=348,slow=14,SNR=61							
CFA				S		**Sn**	**10 43 43.9**	**+2.9**
	comp=Z,6.7nm,0.3s,baz=270,slow=18,SNR=3.6							
PB11	**IPOC Station P**	**6.46**	**356**	*e*Pn		**Pn**	**10 42 52.8**	**+0.3**
GO01	**Chusmiza**	**6.54**	**0**	*e*Pn		**Pn**	**10 42 56.1**	**+2.2**
ROC1	**El Roble**	**6.90**	**193**	*e*Pn		**Pn**	**10 42 59.0**	**+0.4**
PEL	**Peldehue**	**7.00**	**190**	*e*Pn		**Pn**	**10 43 00.7**	**+0.8**
MNMC	**Minye Minye**	**7.08**	**357**	*e*Pn		**Pn**	**10 43 01.7**	**+0.6**
GO05	**Huala**	**9.05**	**194**	*e*Pn		**Pn**	**10 43 27.9**	**0.0**
LPAZ	**La Paz**	**9.95**	**6**	*e*Pn		**Pn**	**10 43 44.1**	**+3.3**
LPAZ	**La Paz**	**9.95**	**6**	P		**Pn**	**10 43 43.5**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=198,slow=7.7,SNR=18							
LPAZ	**La Paz**	**9.95**	**6**	*e*P		**Pn**	**10 43 44.4**	**+3.6**
CPUP	**Villa Florida**	**10.68**	**93**	P		**Pn**	**10 43 51.8**	**+1.6**
	baz=277,slow=11,SNR=3.1							
SIV	**San Ignacio**	**12.71**	**38**	P		**Pn**	**10 44 18.2**	**+0.1**
	comp=Z,3.1nm,0.3s,baz=245,slow=12,SNR=50							
TRQA	**Tornquist**	**13.28**	**154**	*e*Pn		**Pn**	**10 44 27.2**	**+1.3**
TRQA	**Tornquist**	**13.28**	**154**	*e*P		P	10 44 52.7	+17
GO06	**Curarrehue**	**13.45**	**187**	*e*Pn		**Pn**	**10 44 29.9**	**+1.7**
AQDB	**Aquidauana**	**13.68**	**68**	*e*P		**Pn**	**10 44 32.5**	**+1.3**
PLCA	**Paso Flores**	**14.50**	**184**	*e*Pn		**Pn**	**10 44 43.2**	**+0.7**
PLCA	**Paso Flores**	**14.50**	**184**	P		**P**	**10 44 46.4**	**-3.0**
	comp=Z,0.0nm,0.3s,baz=8.4,slow=14,SNR=4.1							
ITAB	**Concordia**	**15.31**	**98**	*e*P		**P**	**10 44 59.6**	**+1.4**
PTGB	**Pitanga**	**15.57**	**88**	*e*P		**P**	**10 45 01.3**	**0.0**
NNA	**Nana**	**15.89**	**332**	*e*Pn		**Pn**	**10 44 60.0**	**-1.1**
	comp=Z,32nm,1.1s							
GO07	**Milladeo Hill,**	**17.23**	**191**	*e*Pn		**Pn**	**10 45 16.0**	**-1.8**
	comp=Z,24nm,0.6s							
BB19B	**Bebedouro**	**19.64**	**79**	*e*P		**Pn**	**10 45 47.6**	**0.0**
SPB	**Sao Paulo**	**19.94**	**87**	*e*P		**Pn**	**10 45 52.1**	**+1.1**
RCLB	**Rio Claro- Sao**	**20.12**	**84**	*e*P		Pn	10 45 52.8	-0.6
ATAH	**Atahualpa**	**20.91**	**334**	P		Pn	10 46 03.5	+0.6
	comp=Z,7.7nm,0.8s,baz=164,slow=14,SNR=5.1							
BDFB	**Brasilia**	**22.41**	**66**	P		**P**	**10 46 16.7**	**+0.5**
	comp=Z,6.4nm,0.9s,baz=229,slow=12,SNR=4.2							
MCI6	**Montes Claros**	**25.32**	**73**	*e*P		**P**	**10 46 45.6**	**+1.1**
MCI8	**Montes Claros**	**25.36**	**73**	*e*P		**P**	**10 46 44.6**	**-0.3**
MCI9	**Montes Claros**	**25.37**	**73**	*e*P		**P**	**10 46 43.9**	**-1.0**
ALF01	**Guarapari-ES**	**26.71**	**84**	*e*P		**P**	**10 46 57.9**	**+0.9**
SMTB	**Santa Maria do**	**26.83**	**54**	*e*P		**P**	**10 46 58.5**	**+0.4**
PTGA	**Pitinga**	**26.88**	**21**	*e*P		**P**	**10 46 56.9**	**-1.6**
	comp=Z,8.8nm,1.1s							
PTGA	**Pitinga**	**26.88**	**21**	P		**P**	**10 47 01.2**	**+2.7**
	comp=Z,2.4nm,0.5s,baz=224,slow=9.5,SNR=6.6							
PTGA	**Pitinga**	**26.88**	**21**	*e*P		**P**	**10 46 57.1**	**-1.4**
RIB01	**Linhares ES**	**27.42**	**81**	*e*P		**P**	**10 47 06.2**	**+2.8**
OTAV	**Otavalo**	**27.78**	**340**	*e*P		**P**	**10 47 07.3**	**+0.2**
	comp=Z,3.0nm,0.8s							
ROSC	**El Rosal**	**31.28**	**350**	*e*P		**P**	**10 47 34.8**	**-3.3**
	comp=Z,5.7nm,0.4s							
PAYG	**Puerto Ayora**	**32.52**	**318**	*e*P		**P**	**10 47 45.5**	**-3.0**
	comp=Z,36nm,1.0s							
SDV	**Santo Domingo**	**34.94**	**358**	*e*P		**P**	**10 48 09.9**	**+0.1**
	comp=Z,4.6nm,1.0s							
MDP	**Montagnes des**	**35.05**	**30**	P		**P**	**10 48 11.0**	**+0.5**
	comp=Z,7.1nm,0.8s,baz=202,slow=8.7,SNR=3.9							
PMSA	**Palmer Station**	**38.69**	**176**	*e*P		**P**	**10 48 40.7**	**-0.3**
	comp=Z,40nm,0.4s							
ICMP	**Isla Caja de M**	**43.94**	**4**	*e*P		**P**	**10 49 25.4**	**+0.8**
	comp=Z,35nm,0.9s							
GTBY	**Guantanamo Bay**	**46.24**	**352**	*e*P		**P**	**10 49 43.2**	**+0.3**
	comp=Z,25nm,1.1s							
TLIG	**Tlapa**	**52.05**	**324**	*e*P		**P**	**10 50 28.5**	**+0.9**
061Z	**Ochoppi**	**53.01**	**347**	*e*P		**P**	**10 50 33.8**	**-0.7**
	comp=Z,53nm,1.0s							
VNA3	**Neumayer Olymp**	**55.72**	**160**	P		**P**	**10 50 54.5**	**+0.8**
VNA1	**Neumayer--Stat**	**55.95**	**159**	P		**P**	**10 50 56.1**	**+0.8**
VNA2	**Neumayer--Watz**	**56.31**	**160**	P		**P**	**10 50 59.6**	**+1.6**
	baz=287,slow=8.2							
SNAA	**Sanae**	**57.93**	**160**	P		**P**	**10 51 10.4**	**+0.9**
SNAA	**Sanae**	**57.93**	**160**	*e*P		**P**	**10 51 10.0**	**+0.5**
	comp=Z,8.0nm,0.9s							
BBSR	**BB Station**	**58.44**	**4**	*e*P		**P**	**10 51 13.2**	**-0.1**
	comp=Z,32nm,0.9s							
453A	**Whigham**	**58.58**	**345**	P		**P**	**10 51 16.6**	**+2.3**
	baz=164							
LNIG	**Linares**	**58.63**	**328**	*e*P		**P**	**10 51 16.3**	**+1.5**
	comp=Z,4.3nm,1.0s							
257A	**Skidaway Islan**	**58.97**	**348**	*e*P		**P**	**10 51 16.0**	**-1.0**
	comp=Z,176nm,1.1s							
257A	**Skidaway Islan**	**58.97**	**348**	P		**P**	**10 51 19.1**	**+2.1**
	baz=168							
TIGA	**Tifton**	**58.97**	**346**	*e*P		**P**	**10 51 16.7**	**-0.3**
	comp=Z,15nm,1.1s							
353A	**Camilla**	**59.02**	**345**	P		**P**	**10 51 18.9**	**+1.5**
	baz=164							
450A	**Crestview**	**59.10**	**343**	P		**P**	**10 51 19.8**	**+1.9**
	baz=162							
255A	**Hazlehurst**	**59.20**	**347**	P		**P**	**10 51 20.4**	**+1.7**
	baz=166							
351A	**Pinckard**	**59.29**	**344**	P		**P**	**10 51 20.8**	**+1.6**
	baz=163							
352A	**Blakely**	**59.32**	**344**	*e*P		**P**	**10 51 20.1**	**+0.6**
	comp=Z,13nm,0.8s							
352A	**Blakely**	**59.32**	**344**	P		**P**	**10 51 20.2**	**+0.8**
	baz=164							
254A	**Abbeville**	**59.39**	**346**	P		**P**	**10 51 21.1**	**+1.2**
	baz=165							
253A	**Americus**	**59.69**	**345**	P		**P**	**10 51 24.1**	**+2.1**
	baz=164							
252A	**Lumpkin**	**59.77**	**345**	P		**P**	**10 51 23.8**	**+1.3**
	baz=164							
349A	**Repton**	**59.78**	**342**	P		**P**	**10 51 24.2**	**+1.6**
	baz=161							
155A	**Kite**	**59.87**	**347**	P		**P**	**10 51 24.8**	**+1.5**
	baz=166							
154A	**Montrose**	**60.00**	**346**	*e*P		**P**	**10 51 24.4**	**+0.3**
	comp=Z,21nm,0.9s							
251A	**Midway**	**60.02**	**344**	P		**P**	**10 51 25.7**	**+1.4**
	baz=163							
250A	**Grady**	**60.13**	**343**	*e*P		**P**	**10 51 25.5**	**+0.5**
	comp=Z,8.6nm,0.8s							
Z57A	**Bowman**	**60.20**	**349**	P		**P**	**10 51 27.4**	**+1.9**
	baz=168							
152A	**Waverly Hall**	**60.41**	**345**	*e*P		**P**	**10 51 27.8**	**+0.8**
	comp=Z,10.0nm,1.0s							
152A	**Waverly Hall**	**60.41**	**345**	P		**P**	**10 51 27.7**	**+0.8**
	baz=164							
151A	**Opelika**	**60.42**	**344**	P		**P**	**10 51 27.9**	**+0.9**
	baz=163							
150A	**Eclectic**	**60.66**	**344**	P		**P**	**10 51 29.4**	**+0.7**
	baz=163							
Z53A	**Monticello**	**60.74**	**346**	P		**P**	**10 51 30.2**	**+1.1**
	baz=165							
Z52A	**Williamson**	**60.84**	**345**	P		**P**	**10 51 31.9**	**+2.1**
	baz=164							
149A	**Jones**	**60.85**	**343**	P		**P**	**10 51 31.8**	**+1.8**
	baz=162							
Y55A	**Saluda**	**61.03**	**348**	P		**P**	**10 51 33.6**	**+2.5**
	baz=167							
X60A	**Albert Glenn T**	**61.05**	**352**	P		**P**	**10 51 32.6**	**+1.4**
	baz=171							
Y54A	**Tignall**	**61.12**	**347**	P		**P**	**10 51 32.8**	**+1.1**
	baz=166							
Z50A	**Ashland**	**61.26**	**344**	P		**P**	**10 51 33.4**	**+0.7**
	baz=163							
Y53A	**Monroe**	**61.30**	**346**	P		**P**	**10 51 33.7**	**+0.7**
	baz=165							
LRAL	**Lakeview Retre**	**61.32**	**343**	P		**P**	**10 51 33.4**	**+0.2**
	baz=162							
147A	**Livingston**	**61.33**	**342**	*e*P		**P**	**10 51 30.9**	**-2.2**
	comp=Z,2μm,1.1s							
Z49A	**Columbiana**	**61.35**	**343**	P		**P**	**10 51 34.7**	**+1.4**
	baz=162							
HKT	**Hockley**	**61.41**	**334**	*e*P		**P**	**10 51 35.2**	**+1.5**
	comp=Z,7.1nm,1.1s							
X56A	**White Oak**	**61.42**	**349**	P		**P**	**10 51 36.0**	**+2.2**
	baz=168							
BIRD	**Birdtown, Kers**	**61.48**	**349**	*e*P		**P**	**10 51 32.5**	**-1.6**
	comp=Z,21nm,1.2s							
833A	**Chaparral WMA,**	**61.51**	**330**	*e*P		**P**	**10 51 33.9**	**-0.6**
	comp=Z,18nm,1.0s							
833A	**Chaparral WMA,**	**61.51**	**330**	P		**P**	**10 51 36.5**	**+2.0**
	baz=149							
X55A	**Gracelyn & Ava**	**61.51**	**348**	P		**P**	**10 51 36.0**	**+1.7**
	baz=167							
W58A	**Raeford**	**61.66**	**351**	P		**P**	**10 51 37.7**	**+2.4**
	baz=170							
Y51A	**Rockmart**	**61.67**	**345**	P		**P**	**10 51 37.1**	**+1.6**
	baz=164							
X54A	**Belton**	**61.72**	**348**	P		**P**	**10 51 37.1**	**+1.3**
	baz=167							
Y50A	**Piedmont**	**61.82**	**344**	P		**P**	**10 51 38.1**	**+1.6**
	baz=163							
X53A	**Estanollee**	**61.86**	**347**	P		**P**	**10 51 38.4**	**+1.6**
	baz=166							
W57A	**Gilead**	**61.90**	**350**	P		**P**	**10 51 38.9**	**+1.9**
	baz=169							
W56A	**Indian Trail**	**61.98**	**349**	P		**P**	**10 51 39.5**	**+2.0**
	baz=168							
V61A	**Roper**	**62.08**	**353**	P		**P**	**10 51 40.1**	**+2.0**
	baz=172							
Y48A	**Jasper**	**62.20**	**343**	P		**P**	**10 51 41.6**	**+2.5**
	baz=162							
W54A	**Cherokee Point**	**62.21**	**348**	P		**P**	**10 51 42.0**	**+2.9**
	baz=167							
V59A	**Middlesex**	**62.25**	**352**	P		**P**	**10 51 41.5**	**+2.2**
	baz=171							
X51A	**Calhoun**	**62.26**	**345**	P		**P**	**10 51 41.9**	**+2.4**
	baz=164							
V58A	**Windy Hill, Pi**	**62.40**	**351**	P		**P**	**10 51 41.4**	**+1.0**
	baz=170							
W53A	**Cullowhee**	**62.48**	**347**	P		**P**	**10 51 41.8**	**+0.7**
	baz=166							
NATX	**Nacogdoches**	**62.57**	**336**	*e*P		**P**	**10 51 39.0**	**-2.6**
	comp=Z,21nm,0.5s							
V56A	**Mocksville**	**62.62**	**350**	P		**P**	**10 51 43.0**	**+1.1**
	baz=169							
X48A	**Hartselle**	**62.68**	**343**	*e*P		**P**	**10 51 42.3**	**+0.1**
	comp=Z,11nm,1.1s							
X48A	**Hartselle**	**62.68**	**343**	P		**P**	**10 51 43.1**	**+0.8**
	baz=162							
U59A	**Littleton**	**62.77**	**352**	P		**P**	**10 51 44.2**	**+1.4**
	baz=171							
V55A	**Taylorsville**	**62.78**	**349**	P		**P**	**10 51 44.3**	**+1.3**
	baz=168							
W51A	**Cleveland**	**62.81**	**346**	P		**P**	**10 51 44.1**	**+1.0**
	baz=164							
V54A	**Nebo**	**62.84**	**348**	P		**P**	**10 51 43.9**	**+0.6**
	baz=167							
V53A	**Saluda**	**62.90**	**348**	*e*P		**P**	**10 51 42.7**	**-1.1**
	comp=Z,9.1nm,1.1s							
V53A	**Saluda**	**62.90**	**348**	P		**P**	**10 51 44.3**	**+0.6**
	baz=166							
X47A	**Russelville**	**62.95**	**343**	P		**P**	**10 51 44.4**	**+0.4**
	baz=161							
W50A	**Signal Mountai**	**62.97**	**345**	*e*P		**P**	**10 51 44.1**	**-0.1**
	comp=Z,12nm,1.0s							
W50A	**Signal Mountai**	**62.97**	**345**	P		**P**	**10 51 44.9**	**+0.7**
	baz=164							
U57A	**Blanch**	**63.06**	**351**	P		**P**	**10 51 45.6**	**+0.9**
	baz=170							
W49A	**Belvidere**	**63.12**	**344**	P		**P**	**10 51 45.8**	**+0.6**
	baz=163							
SWET	**Sewanee**	**63.13**	**345**	*e*P		**P**	**10 51 45.5**	**+0.2**
	comp=Z,10nm,0.6s							
V52A	**Sevierville**	**63.22**	**347**	*e*P		**P**	**10 51 44.0**	**-1.8**
	comp=Z,5.4nm,0.8s							
V52A	**Sevierville**	**63.22**	**347**	P		**P**	**10 51 46.3**	**+0.5**
	baz=166							
W48A	**Pulaski**	**63.30**	**344**	P		**P**	**10 51 47.2**	**+0.8**
	baz=162							
V50A	**Pikevile**	**63.37**	**346**	P		**P**	**10 51 47.8**	**+1.0**
	baz=164							
T58A	**Grand View Acr**	**63.45**	**352**	P		**P**	**10 51 49.6**	**+2.3**
	baz=171							
U53A	**Fall Branch**	**63.52**	**348**	P		**P**	**10 51 49.4**	**+1.5**
	baz=167							
JCT	**Junction City**	**63.53**	**331**	*e*P		**P**	**10 51 44.1**	**-3.9**
	comp=Z,17nm,1.1s							
JCT	**Junction City**	**63.53**	**331**	P		**P**	**10 51 49.9**	**+1.9**
	baz=149							
U54A	**Nelsons Funny**	**63.54**	**349**	P		**P**	**10 51 49.4**	**+1.4**
	baz=167							
W47A	**Westpoint**	**63.58**	**343**	P		**P**	**10 51 49.0**	**+0.8**
	baz=162							
V49A	**McMinnville**	**63.65**	**345**	P		**P**	**10 51 49.5**	**+0.8**
	baz=163							
T56A	**Rocky Mt**	**63.74**	**350**	P		**P**	**10 51 50.7**	**+1.5**
	baz=169							
WLAR	**White Oak Lake**	**63.77**	**338**	*e*P		**P**	**10 51 46.2**	**-3.3**
	comp=Z,23nm,1.0s							
X43A	**Marvell**	**63.81**	**340**	*e*P		**P**	**10 51 47.5**	**-2.3**
	comp=Z,29nm,1.0s							
V48A	**Smith Brothers**	**63.84**	**344**	*e*P		**P**	**10 51 47.5**	**-2.5**
	comp=Z,4.7nm,0.6s							
V48A	**Smith Brothers**	**63.84**	**344**	P		**P**	**10 51 50.9**	**+1.0**
	baz=162							
WHTX	**Lake Whitney,**	**63.86**	**333**	*e*P		**P**	**10 51 50.6**	**+0.5**
	comp=Z,6.5nm,0.8s							
TZTN	**Tazewell**	**63.89**	**347**	*e*P		**P**	**10 51 47.9**	**-2.4**
	comp=Z,9.9nm,1.1s							
QSPA	**South Pole Qui**	**63.98**	**180**	*e*P		**P**	**10 51 49.4**	**-1.4**
T54A	**Tazewell**	**64.02**	**349**	P		**P**	**10 51 52.1**	**+0.9**
	baz=168	

P55A	Reedsville	66.15 351	P	P	10 52 06.3	+1.4
	baz=170					
USIN	University of	66.17 344	eP	P	10 52 04.4	-0.6
	comp=Z,15nm,1.0s					
R47A	Wooly Knot Far	66.21 345	P	P	10 52 06.4	+1.1
	baz=163					
P54A	Burton	66.33 351	P	P	10 52 07.2	+1.1
	baz=169					
P53A	Whipple	66.36 350	P	P	10 52 07.3	+1.1
	baz=168					
HHAR	Hobbs	66.41 338	eP	P	10 52 06.8	+0.1
	comp=Z,4.4nm,0.7s					
Q49A	Aurora	66.53 347	P	P	10 52 08.2	+0.8
	baz=165					
P52A	Corning	66.63 349	P	P	10 52 08.2	+0.3
	baz=167					
R45A	Skylar, Fairfi	66.63 344	P	P	10 52 08.5	+0.6
	baz=161					
Q48A	North Vernon	66.64 346	P	P	10 52 08.4	+0.3
	baz=164					
TUL1	Leonard	66.71 337	eP	P	10 52 07.6	-1.0
	comp=Z,10nm,1.0s					
TUL1	Leonard	66.71 337	P	P	10 52 08.9	+0.4
	baz=154					
O56A	Blue Knob Stat	66.73 352	P	P	10 52 09.3	+0.7
	baz=171					
WMOK	Wichita Mounta	66.80 334	eP	P	10 52 08.4	-0.7
	comp=Z,4.1nm,1.0s					
WMOK	Wichita Mounta	66.80 334	P	P	10 52 09.9	+0.7
	baz=151					
FVM	French Village	66.91 342	eP	P	10 52 10.6	+0.8
	comp=Z,12nm,0.8s					
MNTX	Cornudas Mount	67.16 327	eP	P	10 52 12.7	+1.1
	comp=Z,6.0nm,1.0s					
MNTX	Cornudas Mount	67.16 327	P	P	10 52 12.4	+0.9
	baz=145,SNR=13					
CCM	Cathedral Cave	67.21 341	eP	P	10 52 10.8	-0.8
	comp=Z,7.2nm,0.8s					
CCM	Cathedral Cave	67.21 341	P	P	10 52 12.7	+1.1
	baz=159					
N55A	Marion Center	67.29 352	P	P	10 52 13.6	+1.5
	baz=170					
O50A	Cable	67.39 348	P	P	10 52 13.9	+1.1
	baz=166					
R41A	Rosebud	67.47 341	P	P	10 52 13.7	+0.4
	baz=158,SNR=7.4					
Q42A	Golden Eagle	67.81 342	P	P	10 52 17.0	+1.6
	baz=159					
MSTX	Muleshoe	67.82 330	eP	P	10 52 16.1	+0.4
	comp=Z,29nm,1.1s					
MSTX	Muleshoe	67.82 330	P	P	10 52 17.0	+1.2
	baz=148,SNR=15					
M56A	Emporium	67.89 353	P	P	10 52 17.8	+1.8
	baz=171					
N50A	Nevada	67.91 349	P	P	10 52 17.4	+1.4
	baz=166					
M55A	Ridgway	67.94 352	P	P	10 52 17.7	+1.5
	baz=171					
HSIG		67.98 321	eP	P	10 52 19.0	+2.2
	comp=Z,12nm,1.0s					
O47A	Sheridan	67.99 346	P	P	10 52 18.0	+1.5
	baz=164					
AMTX	Amarillo	68.12 332	eP	P	10 52 16.5	-1.1
P43A	Skaggs, Pawnee	68.22 343	P	P	10 52 19.0	+1.0
	baz=160					
N49A	Columbus Grove	68.24 348	P	P	10 52 19.3	+1.2
	baz=166					
U32A	Winter Ranch,	68.32 334	eP	P	10 52 15.6	-3.2
	comp=Z,11nm,0.7s					
L55A	Hinsdale	68.61 353	P	P	10 52 22.5	+2.1
	baz=171					
M49A	Liberty Center	68.74 348	P	P	10 52 23.0	+1.8
	baz=166					
319A	Douglas	68.89 324	eP	P	10 52 22.1	-0.5
	comp=Z,11nm,1.0s					
HDIL	Hopedale	69.02 344	eP	P	10 52 23.1	0.0
	comp=Z,12nm,0.7s					
HDIL	Hopedale	69.02 344	P	P	10 52 23.6	+0.6
	baz=161					
121A	Cookes Peak, D	69.03 326	P	P	10 52 26.3	+2.8
	baz=143					
L48A	N Adams	69.28 348	P	P	10 52 25.6	+1.0
	baz=165					
N43A	Stutzman Famil	69.35 344	P	P	10 52 25.7	+0.7
	baz=161					
L47A	Sherwood	69.46 347	P	P	10 52 26.4	+0.7
	baz=165					
BNM	Barren Site	69.76 328	eP	P	10 52 24.0	-4.0
LPM	Los Pinos Moun	69.89 328	eP	P	10 52 28.9	+0.1
LENM	Lemitar	69.94 327	eP	P	10 52 25.0	-4.1
LIC	Lamto	70.04 72	eP	P	10 52 31.6	+1.7
	comp=Z,27nm,0.9s					
K48A	Perry	70.05 348	P	P	10 52 30.1	+0.7
	baz=166					
TIC	Toumodi	70.26 72	eP	P	10 52 33.2	+1.9
ANMO	Albuquerque	70.32 328	eP	P	10 52 33.4	+2.0
	comp=Z,9.4nm,1.1s					
ANMO	Albuquerque	70.32 328	P	P	10 52 34.1	+2.7
	baz=145					
TASM	ASL Pad, Albuq	70.32 328	P	P	10 52 33.4	+2.0
	baz=145,SNR=12					
TASM	ASL Pad, Albuq	70.32 328	P	P	10 52 33.4	+2.0
	baz=145,SNR=12					
KIC	Kosan Boka	70.36 72	eP	P	10 52 34.1	+2.2
	comp=Z,25nm,1.1s					
DBIC	Dimbokro	70.41 72	eP	P	10 52 30.8	-1.4
DBIC	Dimbokro	70.41 72	P	P	10 52 31.6	-0.6
	comp=Z,5.7nm,0.9s,baz=232,slow=8.8,SNR=5.2					
TUC	Tucson	70.42 323	P	P	10 52 34.2	+2.3
	baz=141					
I51A	Listowel	70.53 351	P	P	10 52 35.3	+3.0
	baz=169					
CBKS	Cedar Bluff	70.73 335	P	P	10 52 35.9	+2.2
	baz=151					
L40A	Anamosa	70.93 343	P	P	10 52 35.7	+1.0
	baz=159					
L39A	Vinton	71.20 342	P	P	10 52 37.8	+1.4
	baz=158					
T25A	Trinidad	71.20 331	P	P	10 52 38.7	+1.9
	baz=147					
214A	Organ Pipe Nat	71.25 322	P	P	10 52 39.4	+2.4
	baz=139,SNR=5.6					
PLVO	Plevna	71.29 354	P	P	10 52 39.1	+2.2
	baz=172					
J43A	Natural Harves	71.49 345	P	P	10 52 39.5	+1.5
	baz=162					
K40A	Colesburg	71.51 343	P	P	10 52 39.4	+1.2
	baz=159					
X18A	Snowflake	71.71 325	eP	P	10 52 38.0	-1.8
	comp=Z,5.5nm,1.0s					
K39A	Oelwein	71.71 343	P	P	10 52 40.6	+1.2
	baz=159					
J41A	Loganville	71.85 344	P	P	10 52 42.2	+1.9
	baz=160					
I43A	Langenfeld Bro	71.90 346	P	P	10 52 42.7	+2.2
	baz=162					
BUKO	Buck Lake	71.93 352	P	P	10 52 42.6	+1.9
	baz=170					
KSCO	Kaye Shedlock'	72.03 333	eP	P	10 52 37.6	-4.0
	comp=Z,24nm,1.1s					
J40A	Soldiers Grove	72.06 344	P	P	10 52 42.3	+0.8
	baz=160					
VNDA	Vanda	72.16 190	P	P	10 52 45.0	+3.3
	comp=Z,1.5nm,0.9s,baz=106,slow=4.2,SNR=5.2					
SDCO	Great Sand Dun	72.18 330	eP	P	10 52 38.5	-4.3
	comp=Z,7.5nm,1.1s					
SDCO	Great Sand Dun	72.18 330	P	P	10 52 44.9	+2.2
	baz=146,SNR=10					
SYO	Syowa Base	72.20 159	eP	P	10 52 41.7	-0.4
SYO	Syowa Base	72.20 159	epP	pP	10 52 44.2	-0.8
J39A	Decorah	72.25 343	P	P	10 52 44.5	+1.9
	baz=159					
F52A	Sundridge	72.27 353	P	P	10 52 44.9	+2.2
	baz=170					
ALGO	Algonquin Park	72.29 354	P	P	10 52 44.9	+2.1
	baz=172					
X16A	Lo Mia Camp, P	72.39 324	eP	P	10 52 44.2	+0.3
	comp=Z,9.4nm,1.0s					
113A	Mohawk Valley,	72.39 322	eP	P	10 52 41.5	-2.2
	comp=Z,5.1nm,1.1s					
BGNE	Belgrade	72.44 338	eP	P	10 52 42.1	-1.8
	comp=Z,42nm,0.8s					
BGNE	Belgrade	72.44 338	P	P	10 52 46.2	+2.3
	baz=153					
E53A	Dumoine, Ponti	72.67 354	P	P	10 52 47.0	+1.9
	baz=172					
E54A	Lac Daplat, Po	72.68 354	P	P	10 52 47.4	+2.2
	baz=172					
I39A	Houston	72.69 343	P	P	10 52 47.4	+2.1
	baz=159					
S22A	4UR Ranch, Cre	72.78 330	P	P	10 52 48.0	+1.7
	baz=145					
Q24A	Divide	73.04 331	P	P	10 52 49.9	+2.0
	baz=147,SNR=5.9					
MVCO	Mesa Verde	73.12 328	P	P	10 52 50.2	+1.9
	baz=144,SNR=12					
WUAZ	Wupatki	73.21 325	P	P	10 52 51.5	+2.7
	baz=141,SNR=11					
G42A	Mountain	73.26 346	P	P	10 52 50.9	+2.3
	baz=162					
D52A	ZEK Kipawa Sen	73.34 353	P	P	10 52 51.5	+2.5
	baz=171					
D53A	Lac Vacive, Po	73.37 354	P	P	10 52 51.9	+2.7
	baz=172					
E47A	Iron Bridge	73.46 350	P	P	10 52 52.2	+2.5
	baz=167					
Y12C	Blythe	73.55 322	eP	P	10 52 46.3	-4.2
	comp=Z,7.7nm,0.8s					
F43A	Flat Rock, Esc	73.56 347	P	P	10 52 52.2	+1.9
	baz=163					
SWSC	Sam W. Stewart	73.67 320	P	P	10 52 54.2	+2.9
	baz=137					
G40A	Rib Lake	73.69 345	P	P	10 52 52.1	+1.0
	baz=160					
F41A	Three Lakes	73.88 346	P	P	10 52 53.9	+1.7
	baz=162					
ISCO	Idaho Springs	73.94 332	P	P	10 52 55.1	+1.9
	baz=146,SNR=12					
D48A	Paudash Townsh	73.94 351	P	P	10 52 54.8	+2.2
	baz=168					
MONP2	Monument Peak	73.99 320	P	P	10 52 54.1	+0.7
	baz=137					
BC3	Big Chuckawall	74.00 321	P	P	10 52 56.0	+2.7
	baz=138					
ECSD	EROS Data Cent	74.03 340	P	P	10 52 54.0	+0.8
	baz=155,SNR=9.9					
IRM	Iron Mountain	74.19 322	P	P	10 52 56.6	+2.2
	baz=138					
W13A	Hualapai Mount	74.21 323	eP	P	10 52 54.8	+0.1
	comp=Z,2.5nm,0.8s					
PV20	West Nyswonger	74.25 329	eP	P	10 52 50.1	-4.7
	comp=Z,6.5nm,1.2s					
E42A	Champion	74.28 347	P	P	10 52 56.5	+1.9
	baz=163					
F40A	Park Falls	74.28 345	P	P	10 52 55.9	+1.3
	baz=161,SNR=7.7					
SPMN	Marine on St.	74.30 343	P	P	10 52 56.2	+1.6
	baz=158					
PV22	Blue Mesa, Par	74.32 329	eP	P	10 52 52.6	-2.7
	comp=Z,7.4nm,1.0s					
U15A	North Rim	74.38 325	eP	P	10 52 53.9	-1.8
	comp=Z,7.8nm,0.9s					
F39A	Loretta	74.47 344	P	P	10 52 57.8	+2.1
	baz=160					
PFO	Pinyon Flats O	74.53 321	P	P	10 52 59.1	+2.6
	baz=137					
BELC	Belle Mtn. Jos	74.56 321	P	P	10 52 58.9	+2.3
	baz=137					
F37A	Hinrichs Farm,	74.71 343	P	P	10 52 59.1	+2.0
	baz=158					
E40A	Wakefield	74.72 345	P	P	10 52 58.6	+1.4
	baz=161					
F38A	Pierce - Schro	74.74 344	P	P	10 52 58.7	+1.5
	baz=159					
E39A	Mellen	74.81 345	P	P	10 52 58.7	+1.0
	baz=160,SNR=6.2					
GMRC	Granite Mounta	74.94 322	P	P	10 53 01.3	+2.4
	baz=138,SNR=7.9					
MURC	Murrieta	74.95 320	P	P	10 53 00.7	+1.9
	baz=136					
N23A	Red Feather La	74.99 332	eP	P	10 52 56.2	-2.9
	comp=Z,8.1nm,1.0s					
N23A	Red Feather La	74.99 332	P	P	10 53 01.5	+2.3
	baz=146,SNR=5.9					
D41A	Chassel	75.02 346	P	P	10 53 00.4	+1.6
	baz=162					
KNB	Kanab	75.11 325	eP	P	10 52 59.4	-0.4
	comp=Z,28nm,1.1s					
PHWY	Pilot Hill	75.12 333	eP	P	10 52 58.4	-1.5
	comp=Z,7.2nm,1.1s					
PKCU	Pink Cliffs	75.17 326	eP	P	10 52 56.9	-3.5
	comp=Z,4.2nm,0.8s					
E38A	The Farm, Brul	75.27 344	eP	P	10 52 56.6	-3.7
	comp=Z,4.9nm,0.9s					
E38A	The Farm, Brul	75.27 344	P	P	10 53 01.7	+1.5
	baz=159					
LCMT	Little Creek M	75.32 325	eP	P	10 53 00.8	-0.2
	comp=Z,8.8nm,1.1s					
HEC	Hector,Ludlow	75.35 321	P	P	10 53 03.8	+2.6
	baz=137					
O20A	White River Ci	75.36 330	eP	P	10 52 59.1	-2.1
	comp=Z,11nm,0.8s					
O20A	White River Ci	75.36 330	P	P	10 53 03.3	+2.0
	baz=144,SNR=11					
TUQ	Turquoise Moun	75.57 322	P	P	10 53 05.0	+2.5
	baz=138					
CCUT	Cedar City	75.79 325	eP	P	10 53 04.8	+1.0
	comp=Z,23nm,1.1s					
MSU	Marysvale	75.93 327	eP	P	10 53 00.8	-3.8
SHPR	Sheep Range	75.95 323	eP	P	10 53 02.6	-2.0
	comp=Z,12nm,1.2s					
GSC	Goldstone, Bar	75.96 322	eP	P	10 52 59.9	-4.8
	comp=Z,3.6nm,1.1s					
GSC	Goldstone, Bar	75.96 322	P	P	10 53 07.2	+2.6
	baz=137					
P17A	Butcher Ranch,	75.99 328	eP	P	10 53 01.1	-3.7
	comp=Z,9.7nm,1.0s					
TMUT	Trail Mountain	76.07 328	eP	P	10 53 02.8	-2.7
	comp=Z,5.2nm,1.2s					
EYMN	Ely	76.51 345	eP	P	10 53 04.9	-2.5
	comp=Z,5.9nm,0.9s					
EYMN	Ely	76.51 345	P	P	10 53 09.1	+1.8
	baz=160					
LRMC	Laurel Mtn Rad	76.58 321	P	P	10 53 10.3	+2.0
	baz=136					
K22A	Casper	76.69 333	P	P	10 53 11.6	+2.9
	baz=146					
PSUT	Pine Spring	76.79 326	eP	P	10 53 05.3	-4.2
	comp=Z,6.3nm,0.9s					
MPU	Maple Canyon	76.84 328	eP	P	10 53 03.0	-6.6
	comp=Z,15nm,1.2s					
FURC	Furnace Creek,	76.84 322	P	P	10 53 12.0	+2.5
	baz=137,SNR=5.4					
TPNV	Topopah Spring	76.86 323	eP	P	10 53 03.7	-6.1
	comp=Z,5.6nm,0.9s					
TPNV	Topopah Spring	76.86 323	P	P	10 53 12.0	+2.2
	baz=138,SNR=10					
MPMC	Manual Prospec	76.89 322	P	P	10 53 12.0	+2.0
	baz=137					
RSSD	Black Hills	76.94 335	eP	P	10 53 07.4	-2.8
	comp=Z,4.9nm,0.8s					
RSSD	Black Hills	76.94 335	P	P	10 53 12.5	+2.3
	baz=148					
NLU	North Lily Min	77.00 328	eP	P	10 53 06.8	-3.8
	comp=Z,13nm,1.1s					
SBC	Santa Barbara	77.01 319	P	P	10 53 13.1	+2.6
	baz=135					
ISA	Isabella, Lake	77.16 321	P	P	10 53 14.1	+2.7
	baz=136					
JLU	Jordanelle	77.21 328	eP	P	10 53 10.6	-1.2
	comp=Z,6.5nm,0.8s					
PKM	Mcpherson Peak	77.39 319	P	P	10 53 15.3	+2.5
	baz=135					
CWC	Cottonwood Cre	77.50 322	P	P	10 53 15.8	+2.4
	baz=136					
R11A	Troy Canyon, C	77.54 324	eP	P	10 53 10.0	-3.6
	comp=Z,9.9nm,1.1s					
R11A	Troy Canyon, C	77.54 324	P	P	10 53 16.0	+2.3
	baz=138,SNR=17					
DUG	Dugway, Tooele	77.55 327	eP	P	10 53 09.3	-4.3
	comp=Z,8.2nm,1.1s					
DUG	Dugway, Tooele	77.55 327	P	P	10 53 15.6	+2.0
	baz=141,SNR=9.9					
VES	Vestal, Richgr	77.64 321	P	P	10 53 16.6	+2.7
	baz=135					
SMMC	Simmler	77.79 320	P	P	10 53 18.0	+3.1
	baz=135					
AGMN	Agassiz Nation	77.95 342	P	P	10 53 17.4	+2.0
	baz=156					
BW06	Boulder Array	78.07 331	eP	P	10 53 11.1	-5.4
	comp=Z,7.1nm,1.1s					
BW06	Boulder Array	78.07 331	P	P	10 53 18.2	+1.6
	baz=144,SNR=8.0					
PD31	Pinedale Array	78.07 331	eP	P	10 53 12.1	-4.5
	comp=Z,7.0nm,1.1s					
PDAR	Pinedale Array	78.07 331	eP	P	10 53 13.0	-3.5
PDAR	Pinedale Array	78.07 331	P	P	10 53 17.8	+1.2
	comp=Z,1.6nm,0.7s,baz=139,slow=7.0,SNR=18					
BGU	Big Grassy Mou	78.22 328	eP	P	10 53 13.8	-3.5
	comp=Z,6.3nm,1.1s					
SPUT	South Promonto	78.23 328	eP	P	10 53 14.4	-3.0
	comp=Z,9.9nm,1.0s					
MDND	Maddock	78.64 340	eP	P	10 53 17.4	-1.9
	comp=Z,48nm,1.0s					
MDND	Maddock	78.64 340	P	P	10 53 21.8	+2.5
	baz=152					
HVU	Hansel Valley	78.75 328	eP	P	10 53 18.5	-1.8
	comp=Z,13nm,1.2s					
MLAC	Mammoth, Mammo	78.77 322	P	P	10 53 22.4	+1.8
	baz=136					
NVAR	Mina Array Bea	79.05 323	P	P	10 53 24.4	+2.3
	comp=Z,8.5nm,1.2s,baz=148,slow=5.9,SNR=21					
REDW	Red Top Meadow	79.12 330	eP	P	10 53 23.2	+0.9
	comp=Z,6.0nm,1.0s					
ELK	Elko	79.16 326	eP	P	10 53 20.3	-2.3
	comp=Z,8.7nm,1.1s					
LOHW	Long Hollow	79.20 331	eP	P	10 53 20.0	-2.8
	comp=Z,9.3nm,1.1s					
TOA0	Torodi Ar. Sit	79.24 70	eP	P	10 53 23.2	-0.1
	comp=Z,6.0nm,0.7s					
TORD	Torodi Ar. Bea	79.24 70	eP	P	10 53 22.6	-0.7
TORD	Torodi Ar. Bea	79.24 70	P	P	10 53 24.0	+0.7
	comp=Z,2.0nm,0.5s,baz=277,slow=5.2,SNR=33					
TPAW	Teton Pass	79.26 330	eP	P	10 53 21.0	-2.2
	comp=Z,13nm,1.1s					
RYN	Ryan	79.31 323	eP	P	10 53 21.3	-2.1
	comp=Z,9.1nm,1.1s					
MOOW	Moose Ponds	79.38 331	eP	P	10 53 20.9	-2.8
	comp=Z,2.2nm,1.0s					
WAKR	Walker	79.73 322	eP	P	10 53 23.8	-1.9
	comp=Z,7.8nm,0.9s					
ULM	Lac du Bonnet	79.73 343	P	P	10 53 25.8	+0.6
	comp=Z,3.1nm,0.5s,baz=142,slow=3.3,SNR=8.0					
YPP	Pitchstone Pla	79.82 331	eP	P	10 53 26.0	-0.2
	comp=Z,4.9nm,1.1s					
RLMT	Red Lodge	79.85 332	eP	P	10 53 23.4	-2.8
	comp=Z,5.8nm,0.8s					
RLMT	Red Lodge	79.85 332	P	P	10 53 28.2	+2.0
	baz=144					
MAW	Mawson	79.90 163	P	P	10 53 27.1	+1.1
	comp=Z,8.4nm,1.0s,baz=226,slow=7.2,SNR=8.4					
CMB	Columbia Colle	79.92 321	eP	P	10 53 26.5	-0.1
	comp=Z,4.3nm,1.0s					
LAO	LASA Array	79.93 335	P	P	10 53 28.5	+2.0
	baz=147					
YERR	Yerington	79.96 323	eP	P	10 53 26.3	-0.7
	comp=Z,11nm,0.9s					
PNTR	Pine Nut	80.23 323	eP	P	10 53 25.2	-3.3
	comp=Z,17nm,0.8s					
YHH	Holmes Hill	80.25 331	eP	P	10 53 27.5	-1.0
	comp=Z,18nm,1.1s					
YHB	Horse Butte	80.37 331	eP	P	10 53 25.6	-3.5
	comp=Z,16nm,1.2s					
VCNR	Virginia City	80.41 323	eP	P	10 53 26.6	-2.7
	comp=Z,6.3nm,1.0s					
DGMT	Dagmar	80.70 337	P	P	10 53 32.6	+2.1
	baz=149					
AFDM	Forest Hills D	80.89 322	eP	P	10 53 28.4	-3.3
	comp=Z,4.4nm,0.9s					
HLID	Hailey	80.90 329	eP	P	10 53 28.1	-3.7
	comp=Z,11nm,0.9s					
HLID	Hailey	80.90 329	P	P	10 53 34.0	+2.2
	baz=140,SNR=29					
BEKR	Beckworth	81.20 323	eP	P	10 53 30.3	-3.2
	comp=Z,4.4nm,0.8s					
BOZ	Bozeman (W)	81.23 331	P	P	10 53 35.8	+2.2
	baz=142					
DLMT	Dillon	81.46 331	eP	P	10 53 33.3	-1.5
	comp=Z,11nm,1.1s					
ORV	Oroville	81.61 322	eP	P	10 53 32.2	-3.3
	comp=Z,11nm,1.1s					
LRM	Limekiln Ridge	81.76 331	eP	P	10 53 38.9	+2.4
WVOR	Wild Horse Val	82.12 325	eP	P	10 53 34.9	-3.4
	comp=Z,4.5nm,1.1s					
HRY	Holter Researc	82.19 332	eP	P	10 53 35.7	-2.9
O03E	Paynes Creek	82.29 322	P	P	10 53 40.9	+1.7
	baz=134					
EGMT	Eagleton	82.39 334	eP	P	10 53 36.2	-3.4
	comp=Z,3.6nm,0.8s					
EGMT	Eagleton	82.39 334	P	P	10 53 41.7	+2.2
	baz=144					
MOD	Modoc Plateau	82.61 324	eP	P	10 53 39.4	-1.5
	comp=Z,4.8nm,1.0s					
J08A	Circle Bar Ran	82.71 326	eP	P	10 53 39.8	-1.6
	comp=Z,9.1nm,1.0s					
O02D	Mt. Diablo Mer	82.75 322	P	P	10 53 43.3	+1.7
	baz=133					
PLID	Pearl Lake	82.80 329	eP	P	10 53 41.7	-0.2
	comp=Z,10nm,0.9s					
MSO	Missoula	83.19 331	eP	P	10 53 42.1	-1.7
	comp=Z,4.3nm,1.0s					
MSO	Missoula	83.19 331	P	P	10 53 45.8	+2.0
	baz=140					
BMO	Blue Mountains	83.24 328	eP	P	10 53 40.5	-3.6
	comp=Z,3.6nm,1.0s					
N02D	Trinity Center	83.25 322	P	P	10 53 45.9	+1.7
	baz=133					
M04C	Macdoel	83.34 323	P	P	10 53 46.2	+1.6
	baz=134					
I07A	Izee	83.75 326	eP	P	10 53 44.7	-2.0
	comp=Z,4.1nm,1.1s					
F10A	Beach Ranch, E	84.03 329	eP	P	10 53 48.7	+0.7
	comp=Z,3.4nm,0.8s					
J05D	Fort Rock, OR	84.07 325	P	P	10 53 49.7	+1.3
	baz=135					
J04D	Umpqua Nationa	84.50 324	P	P	10 53 52.5	+1.8
	baz=134					
I05D	Terrebonne, OR	84.86 325	P	P	10 53 54.1	+1.8
	baz=135					
NEW	Newport	85.69 330	eP	P	10 53 54.2	-2.1
	comp=Z,4.6nm,1.0s					
NEW	Newport	85.69 330	P	P	10 53 57.8	+1.5
	baz=138					
C09A	Chrisman Ranch	85.86 329	eP	P	10 53 56.8	-0.3
	comp=Z,12nm,0.8s					
D03D	Eldon	87.96 327	P	P	10 54 09.9	+2.5
	baz=134					
B05A	Bryant	87.99 328	P	P	10 54 08.3	+0.9
	baz=134					
YKA	Yellowknife Ar	95.54 341	P	P	10 54 42.4	+0.3
	comp=Z,0.9nm,0.8s,baz=138,slow=4.9,SNR=12					
ASAR	Alice Springs	125.58 206	PKP	PKiKP	11 00 20.1	-0.1
	comp=Z,1.9nm,0.9s,baz=145,slow=2.6,SNR=12					
WR1	Warramunga Arr	128.71 209	ePKPdf	PKiKP	11 00 26.5	+0.1
WRA	Warramunga Arr	128.72 209	PKP	PKiKP	11 00 26.5	+0.1
	comp=Z,1.9nm,0.7s,baz=199,slow=2.3,SNR=5.6					
KURBB	Kurchatov Arra	145.37 37	PKPbc	PKiKP	11 00 56.6	-2.7
	comp=Z,4.3nm,0.8s,baz=302,slow=3.7,SNR=20					
AAK	Ala-Archa	146.20 52	PKPbc	PKiKP	11 00 59.3	-2.2
	comp=Z,5.1nm,0.8s,baz=261,slow=2.9,SNR=22					
ZAA1	Zalesovo Array	146.30 28	ePKPdf	PKiKP	11 00 58.6	-2.4
ZAA0	Zalesovo Array	146.30 28	ePKPdf	PKPab	11 00 57.3	-1.4
ZALV	Zalesovo Beam	146.30 28	PKPbc	PKiKP	11 00 58.6	-2.4
	comp=Z,8.7nm,0.6s,baz=299,slow=4.1,SNR=32					
MAKZ	Makanchi	149.33 40	ePKPbc	PKPbc	11 01 03.1	-3.3
MAKZ			ePKPab	pPKPdf	11 01 08.2	+3.1
MK32	Makanchi Array	149.52 40	ePKPbc	PKPbc	11 01 08.0	+1.1
MKAR	Makanchi Array	149.52 40	PKPbc	PKPbc	11 01 08.0	+1.1
	comp=Z,7.1nm,0.8s,baz=306,slow=2.7,SNR=26					
KLR	Kul'dur	151.86 330	PKPbc	PKPbc	11 01 12.8	+0.5
	comp=Z,1.6nm,0.7s,baz=88,slow=4.6,SNR=5.8					
SONA0	Songino Array	158.16 8	ePKPdf	PKPdf	11 01 16.3	+1.5
SONM	Songino Array	158.16 8	PKP	PKPdf	11 01 16.3	+1.5
	comp=Z,0.6nm,0.6s,baz=5.7,slow=1.5,SNR=5.2					
SONM			PKPab	PKPab	11 01 50.8	+2.4
	comp=Z,0.8nm,0.7s,baz=343,slow=4.5,SNR=2.8					
LZH	Lanzhou	168.53 29	ePKP	PKPdf	11 01 25.5	+0.5
LZH			pPKP	pPKPdf	11 01 28.9	+0.9
LZH			sPKP		11 01 30.1	
LZH			PKP	pPKPab	11 02 37.3	+0.1

KRSC 24 10:43:28.6±10.0s, 53°.83N×154°.39E, h659km±10km, ML3.9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOK	Koryaka	2.59	100	P	P	10 44 51.8

SPN	**Mys Shipunski**	**3.45 100**	*e*P	P	10 44 55.8	+0.9
SPN			*e*S	S	10 46 03.5	-2.0
MKZ	**Mys Kozlova**	**4.38 77**	*e*P	P	10 45 02.7	+2.1
MKZ			*e*S	S	10 46 15.1	-0.9
KBTR	**Krutoberegovo**	**5.41 60**	*e*P	P	10 45 08.1	+0.1

*CMWS **24** 10:43:55.1±0.3, 44°.06N±0°.07×42°.04E±0°.07, M1.7, Industrial explosion (after The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NORS **24** 10:43:56.3±0.0, 44°.00N×42°.02E, h1km, MPVA3.5*
ISC 24 10:43:54.7±1.5, 44°.09N±0°.07×41°.99E±0°.03, h16km±10km, n11, σ0°.94/22, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHA1	**Shidzhatmaz**	**0.60**	**126**	*e*Pg	**Pg**	**10 44 06.1**	**-0.4**
SHA1				*e*Sg	**Sg**	10 44 13.9	-0.6
ARXR	**Arkhyz**	**0.74**	**225**	*e*Pg	**Pg**	**10 44 09.4**	**+0.3**
ARXR				*e*Sg	**Sb**	10 44 20.0	+0.8
PYA1	**Pyatigorsk**	**0.80**	**92**	*e*Pg	**Pb**	**10 44 08.9**	**-1.3**
PYA1				*e*Sg	**Sg**	10 44 20.1	-0.6
DOMR	**Dombai**	**0.84**	**198**	*e*Pg	**Pb**	**10 44 10.3**	**-0.8**
DOMR				*e*Sg	**Sg**	10 44 21.6	-0.5
NEY	**Neytrino**	**1.00**	**147**	*e*Pg	**Pb**	**10 44 13.4**	**-0.2**
NEY				*e*Sg	**Sb**	10 44 26.5	-0.1
KBTC	**Kuba-Taba**	**1.06**	**104**	*e*Pg	**Pb**	**10 44 15.4**	**+0.7**
KBTC				*e*Sg	**Sn**	10 44 30.1	+0.7
GUZR	**Guzeripl'**	**1.35**	**267**	*e*Pg	**Pn**	**10 44 19.0**	**0.0**
GUZR				*e*Sg	**Sn**	10 44 36.8	+0.1
LSNR	**Lesken**	**1.56**	**121**	*e*Pg	**Pb**	**10 44 24.5**	**+1.2**
LSNR				*e*Sg	**Sg**	10 44 45.1	+0.2
DIGR	**Digorskoe uzhe**	**1.66**	**135**	*e*Pg	**Pb**	**10 44 26.1**	**+1.1**
DIGR				*e*Sg	**Sg**	10 44 48.2	0.0
STDR	**Stavd-Durt**	**1.67**	**115**	*e*Pg	**Pg**	**10 44 27.3**	**+0.6**
STDR				*e*Sg	**Sg**	10 44 50.7	+2.3
ARNR	**Ardon**	**1.90**	**118**	*e*Pg	**Pn**	**10 44 25.5**	**-1.0**
ARNR				*e*Sg	**Sn**	10 44 48.9	-1.2

MEX 24 10:45:10.7±0.8, 16°.46N×93°.22W, h197km±6km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.33**	**17**	*i* P	Pn	10 45 35.7	-1.4
TGIG				*i* S	Sn	10 45 54.6	-3.0
PCIG		**0.75**	**180**	*e*P	Pn	10 45 37.4	-1.3
PCIG				*e*S	Sn	10 45 58.2	-2.2
CCIG	**Comitan**	**1.06**	**99**	*e*P	Pn	10 45 39.7	-1.1
CCIG				*i* S	Sn	10 46 02.0	-2.0
CMIG	**Matias Romero**	**1.71**	**292**	*e*P	Pn	10 45 44.6	-1.5
CMIG				*i* S	Sn	10 46 11.6	-2.1
THIG		**1.80**	**149**	*e*P	Pn	10 45 46.6	-0.4
THIG				*e*S	Sn	10 46 13.8	-1.4

*GUC **24** 10:57:00.5±0.8, 26°.23S×69°.12W, h11km±12km, ML4.2*
*NEIC **24** 10:57:00.0±0.0, 26°.23S×69°.12W, h11km, mb4.1/4, ML4.2(GUC), After GUC.*
*SJA **24** 10:57:02.4±0.6, 26°.22S×69°.36W, h10km, ML3.2, MW3.5*
*IDC **24** 10:57:08.3±1.9, 26°.19S×68°.80W, h43km±18km, mb3.7/4, mb1 4.0/8, mb1mx3.7/27, mbtmp3.9/8, ML3.8/4, Error ellipse: s-maj=41.3km s-min=14.4km az=89.0*
ISC 24 10:57:00.5±0.5, 26°.22S±0°.02×69°.15W±0°.04, h10km, n53, σ2°.70/72, mb4.0/7, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.12**	**339**	*e*Pg	**Pg**	**10 57 21.7**	**-0.5**
GO02				*e*Sg	**Sg**	10 57 35.9	-1.0
GO02	**Mina Guanaco**	**1.12**	**339**	*e*P	**Pg**	**10 57 21.4**	**-0.8**
GO02				*e*S	**Sg**	10 57 35.8	-1.0
GO03	**Copiap**	**1.68**	**215**	*e*Pn	**Pn**	**10 57 30.8**	**+0.8**
GO03				*e*Sn	**Sn**	10 57 51.0	-0.6
GO03	**Copiap**	**1.68**	**215**	*e*S	**Sb**	**10 57 53.7**	**+0.9**
GO03	**Copiap**	**1.68**	**215**	*i* P	**Pn**	**10 57 30.3**	**+0.3**
GO03				*e*S	**Sb**	10 57 52.6	-0.2
GO03				IAML		10 58 00.3	
	comp=N,935nm,0.4s						
PB14	**IPOC Station P**	**1.95**	**324**	*e*P	**Pb**	**10 57 35.8**	**-0.5**
PB14				*e*S	**Sb**	**10 58 02.3**	**+1.4**
PB14	**IPOC Station P**	**1.95**	**324**	*e*P	**Pn**	**10 57 35.3**	**+1.3**
PB14				*e*S	**Sb**	**10 58 01.3**	**+0.5**
PB14				IAML		10 58 03.9	
	comp=E,3μm,0.4s						
VCA	**Vinchina**	**2.64**	**162**	*e*P	**Pb**	**10 57 48.6**	**+0.5**
VCA				IAML		10 57 58.9	
	comp=Z,85nm,0.6s						
FSA	**Cafayete**	**2.85**	**89**	*e*P	**Pg**	**10 57 53.5**	**-1.7**
PB10	**IPOC Station P**	**2.98**	**334**	*e*Pn	**Pn**	**10 57 50.9**	**+3.0**
PB10				*e*Sn	**Sn**	**10 58 22.2**	**-1.5**
PB15	**IPOC Station P**	**3.01**	**354**	*e*P	**Pb**	**10 57 52.6**	**-1.8**
PB15				*e*S	**Sb**	**10 58 30.5**	**-0.8**
PB15	**IPOC Station P**	**3.01**	**354**	*e*P	**Pb**	**10 57 52.9**	**-1.6**
PB15				*e*S	**Sb**	**10 58 33.5**	**+2.2**
PB15				IAML		10 58 41.9	
	comp=E,3μm,0.3s						
LCO	**Las Campanas**	**3.10**	**206**	*e*Pn	**Pn**	**10 57 52.7**	**+2.9**
LCO				*e*Sn	**Sn**	**10 58 27.6**	**+0.5**
LCO	**Las Campanas**	**3.10**	**206**	*e*P	**Pb**	**10 57 53.3**	**-2.6**
LCO	**Las Campanas**	**3.10**	**206**	*e*P	**Pb**	**10 57 53.1**	**-2.9**
LVC	**Limon Verde**	**3.60**	**4**	*e*Pn	**Pb**	**10 58 01.8**	**-2.7**
LVC				*e*Sg	**Sb**	**10 58 50.6**	**+2.1**
LVC	**Limon Verde**	**3.60**	**4**	*e*P	**Pb**	**10 58 01.8**	**-2.7**
LVC				*e*S	**Sb**	**10 58 46.1**	**-2.3**
LVC	**Limon Verde**	**3.60**	**4**	P	**Pb**	**10 58 02.1**	**-2.5**
	comp=E,23nm,0.3s,baz=179,slow=8.8,SNR=55						
LVC				S	**Sb**	**10 58 48.5**	**+0.1**
	comp=E,6.0nm,0.3s,baz=60,slow=20,SNR=2.4						
ACLC	**CERRO LA CRUZ**	**3.74**	**149**	*e*P	**Pb**	**10 58 05.0**	**-1.8**
ACDV	**Cuesta del Vie**	**3.94**	**180**	*e*P	**Pb**	**10 58 06.5**	**-3.6**
PB04	**IPOC Station P**	**3.98**	**347**	*e*Pn	**Pn**	**10 58 01.9**	**+0.2**
PB04				*e*Sg	**Sg**	10 59 04.6	-3.6
AZAP	**Zapla**	**4.20**	**63**	*e*P	**Pb**	**10 58 12.7**	**-1.9**
GO04	**Tololo Observa**	**4.20**	**200**	*e*Pn	**Pn**	**10 58 07.3**	**+2.4**
GO04				*e*Sg	**Sb**	**10 59 09.8**	**+4.3**
ACCO	**Cerro Coronel**	**4.35**	**179**	*e*P	**Pb**	**10 58 12.9**	**-4.4**
HJA	**Humahuaca**	**4.53**	**49**	*e*P	**Pb**	**10 58 17.5**	**-3.0**
PB01	**IPOC Station P**	**5.16**	**356**	*e*Pn	**Pn**	**10 58 19.3**	**+1.3**
PB01				*e*Sg	**Sg**	**10 59 41.7**	**-4.6**
YJA	**Yavi**	**5.22**	**40**	*e*P	Pb	10 58 26.9	-5.2
CFA	**Coronel Fontan**	**5.42**	**172**	P	Pn	10 58 26.6	+5.0
	comp=E,1.1nm,0.3s,baz=354,slow=14,SNR=16						
CFA				S	**Sn**	**10 59 28.2**	**+4.2**
	comp=E,1.6nm,0.3s,baz=273,slow=18,SNR=2.6						
PB11	**IPOC Station P**	**6.45**	**356**	*e*Pn	**Pn**	**10 58 35.3**	**-0.4**
PB11				*e*Sg	**Sg**	**11 00 20.2**	**-7.3**
GO01	**Chusmiza**	**6.52**	**360**	*e*Pn	**Pn**	**10 58 40.5**	**+3.5**
GO01				*e*Sg	**Sb**	**11 00 19.4**	**+6.7**
ROC1	**El Roble**	**6.93**	**193**	*e*Pn	**Pn**	**10 58 39.5**	**-2.8**
ROC1				*e*Sg	**Sg**	**11 00 37.5**	**-5.3**
PEL	**Peldehue**	**7.03**	**191**	*e*Pn	**Pn**	**10 58 42.3**	**-1.3**
MNMC	**Minye Minye**	**7.07**	**357**	*e*Pn	**Pn**	**10 58 43.4**	**-0.9**
MNMC				*e*Sg	**Sg**	**11 00 43.2**	**-4.3**
GO05	**Huala**	**9.08**	**195**	*e*Pn	**Pn**	**10 59 10.8**	**-0.9**
LPAZ	**La Paz**	**9.93**	**6**	*e*Pn	**Pn**	**10 59 23.3**	**-0.6**
LPAZ	**La Paz**	**9.93**	**6**	P	**Pn**	**10 59 28.2**	**+4.3**
	comp=E,0.4nm,0.3s,baz=184,slow=7.4,SNR=9.8						
SIV	**San Ignacio**	**12.66**	**38**	P	**Pn**	**11 00 01.3**	**+0.5**
	comp=E,0.7nm,0.3s,baz=252,slow=7.8,SNR=13						
GO09	**Cerro Castillo**	**25.13**	**185**	*e*P	**P**	**11 02 24.1**	**-1.5**
	comp=E,40nm,1.4s						
PTGA	**Pitinga**	**26.84**	**21**	P	**P**	**11 02 44.8**	**+3.5**
	comp=E,1.8nm,0.5s,baz=152,slow=6.5,SNR=5.3						
TXAR	**Lajitas Array**	**64.40**	**327**	*e*P	**P**	**11 07 33.9**	**-3.1**
TX31	**Lajitas Ar. Si**	**64.40**	**327**	*e*P	**P**	**11 07 35.9**	**-1.1**
	comp=E,0.7nm,0.7s						
NV01	**Mina Array Sit**	**79.08**	**323**	*e*P	**P**	**11 09 08.8**	**+3.4**
NVAR	**Mina Array Bea**	**79.08**	**323**	*e*P	**P**	**11 09 02.4**	**-2.9**
NVAR	**Mina Array Bea**	**79.08**	**323**	P	**P**	**11 09 08.8**	**+3.4**
	comp=E,0.4nm,0.6s,baz=144,slow=6.7,SNR=4.2						
TOA1	**Torodi Ar. Sit**	**79.17**	**70**	*e*P	**P**	**11 09 06.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**79.17**	**70**	P	**P**	**11 09 06.6**	**+0.5**
	comp=E,1.3nm,0.8s,baz=285,slow=5.5,SNR=8.5						
HLID	**Hailey**	**80.92**	**328**	*e*P	**P**	**11 09 18.7**	**+3.6**
	comp=E,2.4nm,0.9s						
YKA	**Yellowknife Ar**	**95.55**	**341**	P	**P**	**11 10 27.0**	**+1.8**
	comp=E,0.2nm,0.6s,baz=144,slow=4.5,SNR=4.4						
YKB5	**Yellowknife Ar**	**95.55**	**341**	*e*P	**P**	**11 10 27.1**	**+1.8**
ZAA1	**Zalesovo Array**	**146.25**	**28**	*e*PKPdf	**PKiKP**	**11 16 43.4**	**-0.7**
ZALV	**Zalesovo Beam**	**146.26**	**28**	PKPbc	**PKPbc**	**11 16 43.4**	**+2.4**
	comp=E,2.9nm,0.6s,baz=305,slow=4.0,SNR=13						
MK32	**Makanchi Array**	**149.47**	**40**	*e*PKPbc	**PKPbc**	**11 16 52.5**	**+2.6**
MKAR	**Makanchi Array**	**149.47**	**40**	PKPbc	**PKPbc**	**11 16 52.5**	**+2.6**
	comp=E,1.6nm,0.8s,baz=310,slow=2.6,SNR=11						

*BJI **24** 11:10:46.9±0.0, 24°.13S×174°.73W, h5km, mb5.7/65, mB6.2/47, Ms5.6/58, Ms7 5.6/39*
*ISCJB **24** 11:10:47.6±0.1, 24°.45S±0°.02×174°.99W±0°.02, h13km, mb5.8/369, MS5.7/219, Error ellipse: s-maj=3.6km s-min=2.2km az=141.7*
*IDC **24** 11:10:47.9±0.3, 24°.35S×175°.06W, h0km, mb5.6/39, mb1 5.7/39, mb1mx5.7/42, mbtmp5.6/39, MS5.4/17, Ms1 5.4/17, ms1mx5.2/35, Error ellipse: s-maj=12.6km s-min=9.5km az=164.0*
*MOS **24** 11:10:47.9±1.3, 24°.34S×175°.05W, h10km, mb6.0/84, MS5.6/15, Error ellipse: s-maj=8.0km s-min=6.7km az=80.9*
*NEIC **24** 11:10:48.6±0.9, 24°.34S×174°.92W, h10km, mb5.8/327, MS5.9/193, Error ellipse: s-maj=14.5km s-min=10.4km az=131.0*
ISC 24 11:10:49.0±0.3, 24°.40S±0°.04×175°.00W±0°.04, h13km±1km, h13km:pP-P, n1462, σ1°.40/1413, mb5.8/367, MS5.8/220, 73C-48D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.49**	**208**	P	**Pn**	**11 12 10.8**	**+0.3**
RIZ				S	**Sn**	**11 13 12.0**	**-1.4**
RAO	**Raoul Island**	**5.49**	**208**	*e*Pn	**Pn**	**11 12 10.0**	**-0.5**
RAO				*e*Sn	**Sn**	**11 13 13.0**	**+0.1**
RAO	**Raoul Island**	**5.49**	**208**	*e*P	**Pn**	**11 12 10.0**	**-0.5**
RAO				*e*		11 13 13.6	
GLKZ	**Green Lake**	**5.50**	**208**	P	**Pn**	**11 12 10.5**	**-0.1**
NIUE	**Niue**	**7.09**	**43**	*e*Pn	Pn	11 12 26.8	-5.7
NIUE				*e*Sn	Sn	11 13 38.5	-15
NIUE	**Niue**	**7.09**	**43**	P	Pn	11 12 26.4	-6.2
	baz=6.9,SNR=402						
MXZ	**Matakaoa Point**	**14.31**	**202**	*e*Pn	**Pn**	**11 14 07.2**	**-4.2**
MXZ	**Matakaoa Point**	**14.31**	**202**	P	Pn	11 14 01.0	-10
GRZ	**Great Barrier**	**14.39**	**213**	P	**Pn**	**11 14 08.3**	**-4.2**
RAR	**Rarotonga**	**14.40**	**80**	*e*Pn	Pn	11 14 06.5	-6.1
RAR				*e*Sn	Sn	11 16 32.8	-19
RAR	**Rarotonga**	**14.40**	**80**	*e*P	Pn	11 14 06.5	-6.1
RAR	**Rarotonga**	**14.40**	**80**	Pn	Pn	11 14 06.2	-6.4
	66nm,0.3s,baz=262,slow=10,SNR=75						
RAR				Sn	Sn	11 16 30.0	-22
	24nm,0.3s,baz=73,slow=18,SNR=4.2						
RAR				LR	LR	11 20 09.3	
	comp=Z,26μm,18.3s,baz=278,slow=39						
WMGZ	**Waiomatatini S**	**14.51**	**201**	P	Pn	11 14 07.2	-6.8
OUZ	**Omahuta**	**14.62**	**220**	*e*Pn	**Pn**	**11 14 16.2**	**+0.6**
OUZ	**Omahuta**	**14.62**	**220**	P	**Pn**	**11 14 16.4**	**+0.8**
KUZ	**Kuaotunu**	**14.66**	**211**	P	Pn	11 14 10.4	-5.8
HAZ	**Te Kaha**	**14.67**	**203**	P	Pn	11 14 08.0	-8.2
PKGZ	**Pakihiroa**	**14.69**	**202**	P	Pn	11 14 07.5	-9.0
WCZ	**Waipu Caves**	**14.72**	**216**	P	**Pn**	**11 14 17.6**	**+0.6**
PUZ	**Puketiti**	**14.79**	**201**	P	Pn	11 14 08.2	-10
RUGZ	**Raukumara Rang**	**14.89**	**203**	P	Pn	11 14 11.7	-7.7
WIAZ	**Waiheke Island**	**14.98**	**212**	P	**Pn**	**11 14 16.5**	**-4.0**
MKAZ	**Moumakai**	**15.21**	**211**	P	**Pn**	**11 14 19.6**	**-3.9**
OPRZ	**Ohinepanea**	**15.22**	**206**	P	Pn	11 14 15.6	-8.0
TKGZ	**Te Karaka**	**15.26**	**202**	P	Pn	11 14 16.6	-7.5
URZ	**Urewera**	**15.36**	**204**	*e*Pn	**Pn**	**11 14 25.8**	**+0.3**
	167nm,1.3s						
URZ	**Urewera**	**15.36**	**204**	Pn	Pn	11 14 15.6	-10
	1.3nm,0.3s,baz=276,slow=4.5,SNR=18						
URZ				Sn	Sn	11 17 01.3	-14
	22nm,0.3s,baz=233,slow=4.3,SNR=12						
URZ	**Urewera**	**15.36**	**204**	P	Pn	11 14 17.1	-8.4
MARNC	**Mare, Loyalty**	**15.90**	**277**	*e*Pn	**Pn**	**11 14 33.3**	**+0.7**
	546nm,0.9s						
NFK	**Norfolk Island**	**15.93**	**249**	P	**P**	**11 14 37.5**	**+0.9**
	baz=16,SNR=9.8						
TLZ	**Tolley Road**	**16.05**	**208**	P	**Pn**	**11 14 32.6**	**-1.9**
PINNC	**Pines Island,**	**16.20**	**273**	*e*Pn	**Pn**	**11 14 37.3**	**+0.9**
	1μm,1.2s						
BKZ	**Black Stump Fm**	**16.39**	**204**	*e*Pn	**Pn**	**11 14 38.1**	**-0.7**
	111nm,1.3s						
HIZ	**Hauiti**	**16.50**	**209**	*e*Pn	**Pn**	**11 14 38.9**	**-1.3**
	117nm,1.1s						
FUNA	**Funafuti**	**16.73**	**340**	*e*Pn	**Pn**	**11 14 41.1**	**-2.1**
	931nm,1.5s						
OUENC	**Ouen Island, N**	**16.78**	**273**	*e*Pn	**P**	**11 14 45.0**	**-1.1**
	1μm,1.4s						
ONTNC	**Ouen Toro**	**17.16**	**273**	*e*Pn	**P**	**11 14 50.2**	**0.0**
	972nm,1.1s						
WPHZ	**Waipukurau**	**17.20**	**203**	P	**Pn**	**11 14 44.7**	**-4.3**
WPHZ				S	Sn	11 17 41.3	-19
DZM	**Mont Dzumac**	**17.21**	**274**	*e*Pn	**P**	**11 14 52.2**	**+1.3**
	2μm,1.1s						
DZM				*e*LQ	LQ	11 18 08.6	
	12μm,30.8s						
DZM				*e*LR	LR	11 19 00.0	
	comp=Z,23μm,26.1s						
DZM	**Mont Dzumac**	**17.21**	**274**	*e*Pn	**P**	**11 14 51.0**	**+0.1**
	673nm,0.9s						
DZM				*e*S	**S**	**11 18 11.7**	**+1.7**
DZM	**Mont Dzumac**	**17.21**	**274**	P	**P**	**11 14 51.9**	**+1.0**
	4.4nm,0.3s,baz=97,slow=17,SNR=68						
DZM				S	**S**	**11 18 09.8**	**-0.2**
	baz=121,slow=18,SNR=2.4						
TSZ	**Takapari Road**	**17.37**	**204**	P	Pn	11 14 42.5	-8.7
TSZ				S	Sn	11 17 44.3	-20
BFZ	**Birch Farm**	**17.82**	**202**	*e*Pn	**Pn**	**11 14 55.6**	**-1.0**
	189nm,0.9s						
BFZ				*e*Sn	Sn	11 18 00.1	-15
TIWZ	**Tintock**	**18.02**	**203**	P	Pn	11 14 51.6	-7.6
TIWZ				S	Sn	11 17 59.3	-21
OGWZ	**Otaki Gorge**	**18.32**	**204**	P	Pn	11 14 53.6	-9.3
KIW	**Kapiti Island**	**18.46**	**205**	P	P	11 14 54.8	-10
KIW				S	Sn	11 18 08.3	-22
MTW	**Mount Morrison**	**18.50**	**203**	P	P	11 14 57.1	-7.8
MTW				S	Sn	11 18 08.1	-24
CAW	**Cannon Point**	**18.61**	**204**	P	P	11 14 56.5	-10
CAW				S	Sn	11 18 12.7	-22
TRWZ	**Traveller**	**18.64**	**202**	P	**P**	**11 15 00.6**	**-5.9**
PAWZ	**Paruwai Farm**	**18.72**	**203**	P	**P**	**11 15 05.7**	**-1.7**
DUWZ	**D'Urville Isla**	**18.80**	**207**	P	**P**	**11 15 02.4**	**-5.9**
MSWZ	**Moikau Station**	**18.82**	**203**	P	**P**	**11 15 07.5**	**-0.9**
SNZO	**South Karori**	**18.93**	**205**	*e*P	**P**	**11 15 09.0**	**-0.6**
	101nm,0.8s						
BHW	**Baring Head**	**18.95**	**204**	P	**P**	**11 15 09.0**	**-0.8**
PLWZ	**Palliser**	**18.95**	**203**	P	**P**	**11 15 07.0**	**-2.9**
TCW	**Tory Channel**	**19.00**	**206**	P	**P**	**11 15 07.4**	**-3.0**
TUWZ	**Tuamarina**	**19.32**	**206**	P	**P**	**11 15 07.4**	**-6.5**
NNZ	**Nelson**	**19.37**	**207**	P	**P**	**11 15 09.6**	**-4.9**
QRZ	**Quartz Range**	**19.42**	**210**	P	**P**	**11 15 12.1**	**-2.9**
BSWZ	**Blackbirch Sta**	**19.59**	**206**	P	**P**	**11 15 15.4**	**-1.4**
THZ	**Tophouse**	**20.02**	**207**	PFAKE		11 15 40.0	+17
THZ				LR	LR		
	comp=Z,11μm,22.0s						
THZ	**Tophouse**	**20.02**	**207**	P	**P**	**11 15 16.3**	**-5.4**
KHZ	**Kahutara**	**20.32**	**205**	PFAKE		11 15 40.0	+13
KHZ				LR	LR		
	comp=Z,11μm,18.0s						
KHZ	**Kahutara**	**20.32**	**205**	P	**P**	**11 15 18.4**	**-6.3**
DSZ	**Denniston Nort**	**20.48**	**209**	P	**P**	**11 15 25.3**	**-1.4**
LTZ	**Lake Taylor**	**21.13**	**207**	*e*P	**P**	**11 15 33.3**	**-0.3**
	comp=Z,78nm,0.9s						
LTZ				LR	LR		
	comp=Z,9μm,21.0s						
LTZ	**Lake Taylor**	**21.13**	**207**	P	**P**	**11 15 32.5**	**-1.1**
AMCZ	**Amberley**	**21.31**	**205**	P	**P**	**11 15 36.4**	**+0.9**
OKCZ	**Okains Bay**	**21.62**	**204**	P	**P**	**11 15 40.6**	**+1.7**
OXZ	**Oxford**	**21.68**	**206**	*e*P	**P**	**11 15 39.6**	**+0.1**
	comp=Z,155nm,1.1s						
OXZ				LR	LR		
	comp=Z,5μm,19.0s						
OXZ	**Oxford**	**21.68**	**206**	P	**P**	**11 15 39.4**	**0.0**
KNTN	**Kanton**	**21.73**	**9**	*e*P	**P**	**11 15 38.2**	**-2.0**
	comp=Z,266nm,0.9s						
KNTN				LR	LR		
	comp=Z,9μm,22.0s						
MQZ	**McQueen's Vall**	**21.76**	**205**	P	**P**	**11 15 38.7**	**-1.6**
WVZ	**Waitaha Valley**	**22.02**	**209**	P	**P**	**11 15 43.6**	**+0.5**
RPZ	**Rata Peaks**	**22.41**	**207**	P	**P**	**11 15 41.3**	**-6.0**
	comp=Z,14nm,0.8s,baz=203,slow=16,SNR=3.2						
RPZ				S	S	11 19 36.0	-17
	comp=Z,20nm,0.4s,baz=143,slow=24,SNR=12						
RPZ	**Rata Peaks**	**22.41**	**207**	P	**P**	**11 15 47.9**	**+0.6**
FOZ	**Fox Glacier**	**22.80**	**209**	*e*P	**P**	**11 15 51.5**	**+0.1**
	comp=Z,220nm,1.0s						
FOZ				LR	LR		
	comp=Z,15μm,21.0s						
LBZ	**Lake Benmore**	**23.32**	**208**	PFAKE		11 16 10.0	+13
LBZ				LR	LR		
	comp=Z,13μm,22.0s						
ODZ	**Otahua Downs**	**23.66**	**206**	*e*P	**P**	**11 16 00.5**	**+0.4**
	comp=Z,92nm,1.0s						
LHI	**Lord Howe Isla**	**23.95**	**247**	*e*P	**P**	**11 16 02.9**	**-0.1**
	comp=Z,263nm,1.1s						
LHI				LR	LR		
	comp=Z,17μm,20.0s						
LHI	**Lord Howe Isla**	**23.95**	**247**	P	**P**	**11 16 07.5**	**+4.5**
	baz=24						
WKZ	**Wanaka**	**24.17**	**209**	*e*P	**P**	**11 16 05.5**	**+0.5**
	comp=Z,73nm,0.9s						
WKZ				LR	LR		
	comp=Z,11μm,19.0s						
PAE	**Paea**	**24.63**	**79**	*e*P	**P**	**11 16 08.0**	**-1.4**
	comp=Z,24nm,1.1s						
PAE	**Paea**	**24.63**	**79**	*e*T	T	11 42 14.5	
	comp=Z,14nm,0.3s						
PPT2	**Papeete2**	**24.66**	**79**	*e*P	**P**	**11 16 08.8**	**-1.0**
	comp=Z,325nm,1.3s						
PPT2				*e*LQ	LQ	11 20 49.2	
	comp=Z,21μm,25.8s						
PPT2				*e*LR	LR	11 21 50.7	
	comp=Z,25μm,25.0s						
PPT2	**Papeete2**	**24.66**	**79**	*e*T	T	11 42 17.9	
	comp=Z,11nm,0.3s						
PPT	**Papeete**	**24.67**	**79**	*e*P	**P**	**11 16 07.3**	**-2.5**
PPT	**Papeete**	**24.67**	**79**	*e*P	**P**	**11 16 07.3**	**-2.5**
PPT	**Papeete**	**24.67**	**79**	P	**P**	**11 16 09.2**	**-0.6**
	comp=Z,198nm,1.0s,baz=277,slow=2.8,SNR=7.9						
PPT				LR	LR	11 25 31.2	
	comp=Z,16μm,18.5s,baz=260,slow=36						
PPTF	**Pamatai, Papee**	**24.67**	**79**	*e*P	**P**	**11 16 07.6**	**-2.2**
	comp=Z,574nm,1.4s						
PPTF				LR	LR		
	comp=Z,24μm,20.0s						
TIAR	**Tiarei**	**24.88**	**79**	*e*P	**P**	**11 16 10.7**	**-1.0**
	comp=Z,215nm,1.4s						
TVO	**Taravao**	**24.89**	**80**	*e*P	**P**	**11 16 10.6**	**-1.2**
	comp=Z,134nm,1.2s						
TVO	**Taravao**	**24.89**	**80**	*e*T	T	11 42 33.4	
	comp=Z,1.9nm,0.3s						
MLZ	**Mavora Lakes**	**24.99**	**209**	*e*P	**P**	**11 16 13.2**	**+0.7**
	comp=Z,102nm,0.9s						
MLZ				LR	LR		
	comp=Z,8μm,19.0s						
WHZ	**Wether Hill Ro**	**25.47**	**208**	*e*P	**P**	**11 16 18.2**	**+1.4**
	comp=Z,271nm,1.3s						
WHZ				LR	LR		
	comp=Z,8μm,20.0s						
DCZ	**Deep Cove**	**25.50**	**210**	*e*P	**P**	**11 16 18.0**	**+1.0**
	comp=Z,190nm,1.0s						
DCZ				LR	LR		
	comp=Z,11μm,21.0s						
MEH	**Mehetia**	**25.92**	**81**	*e*P	**P**	**11 16 20.3**	**-0.8**
	comp=Z,75nm,1.3s						
MEH	**Mehetia**	**25.92**	**81**	*e*T	T	11 43 50.1	
	comp=Z,42nm,0.2s						
HNR	**Honiara**	**28.14**	**298**	*e*P	**P**	**11 16 40.0**	**-1.1**
HNR	**Honiara**	**28.14**	**298**	*e*P	**P**	**11 16 40.5**	**-0.6**
	comp=Z,371nm,0.9s						
HNR	**Honiara**	**28.14**	**298**	P	**P**	**11 16 39.3**	**-1.8**
	comp=Z,166nm,0.9s,baz=228,slow=4.4,SNR=14						
HNR				S	**S**	**11 21 21.0**	**-5.1**
	comp=Z,33nm,0.3s,baz=126,slow=19,SNR=3.7						
HNR				LR	LR	11 27 11.6	
	comp=Z,4μm,18.6s,baz=144,slow=35						
TARA	**Tarawa**	**28.16**	**334**	*e*P	**P**	**11 16 40.1**	**-1.1**
	comp=Z,486nm,1.4s						
TARA				LR	LR		
	comp=Z,8μm,20.0s						
ARMA	**Armidale**	**30.15**	**251**	PFAKE		11 17 10.0	+11
ARMA				LR	LR		
	comp=Z,14μm

baz=39,SNR=7.4
PMG Port Moresby 39.00 286 *e*P P 11 18 14.9 -0.6
comp=Z,634nm,1.0s
PMG LR LR
comp=Z,7µm,22.0s
PMG Port Moresby 39.00 286*c i*P P 11 18 14.7 -0.8
PMG pmax pmax
comp=Z,3µm,1.0s
PMG Port Moresby 39.00 286 P P 11 18 14.8 -0.6
comp=Z,643nm,1.1s,baz=104,slow=5.3,SNR=62
PMG S S 11 24 07.1 -7.2
comp=Z,3.0nm,0.5s,baz=38,slow=19,SNR=4.8
PATS Pohnpei 40.51 317 *e*P P 11 18 27.4 -0.6
comp=Z,92nm,0.8s
PATS Pohnpei 40.51 317 P P 11 18 28.8 +0.9
baz=40
PTCN Pitcairn Islan 40.65 101 PFAKE 11 18 40.0 +11
PTCN LR LR
comp=Z,12µm,20.0s
COEN Coen 40.71 277 *e*P P 11 18 30.0 +0.4
comp=Z,147nm,1.2s
COEN LR LR
comp=Z,12µm,20.0s
COEN Coen 40.71 277 P P 11 18 30.0 +0.4
baz=41,SNR=17
HTT Hallett 41.05 247 P P 11 18 31.8 -0.6
baz=41,SNR=69
QIS Mount Isa 41.98 266 P P 11 18 39.6 -0.6
baz=42,SNR=14
MANU Manus Island 42.60 296 *e*P P 11 18 44.9 -0.2
comp=Z,83nm,1.4s
MANU LR LR
comp=Z,3µm,20.0s
BBOO Buckleboo 43.46 247 *e*P P 11 18 51.8 -0.2
comp=Z,76nm,0.9s
BBOO LR LR
comp=Z,10µm,19.0s
BBOO Buckleboo 43.46 247 P P 11 18 51.1 -0.9
baz=44
AS31 Alice Springs 46.45 260 *e*P P 11 19 15.4 -0.6
comp=Z,41nm,1.0s
AS31 *e*S S 11 26 01.3 -2.6
AS31 LR LR
comp=Z,200nm,18.0s
ASAR Alice Springs 46.45 260 P P 11 19 14.8 -1.2
comp=Z,168nm,1.0s,baz=101,slow=7.7,SNR=249
ASAR ScP ScP 11 24 45.2 +1.2
comp=Z,3.5nm,1.0s,baz=101,slow=5.7,SNR=4.8
ASAR S S 11 25 58.5 -5.5
comp=Z,3.3nm,0.9s,baz=95,slow=17,SNR=5.8
ASAR LR LR 11 38 37.8
comp=Z,7µm,18.4s,baz=110,slow=36
WC3 Warramunga Arr 46.89 265 PFAKE 11 19 30.0 +11
WC3 LR LR
comp=Z,11µm,18.0s
WB2 Warramunga Arr 46.91 265 *e*P P 11 19 18.7 -0.9
comp=Z,97nm,0.9s
WB2 LR LR
comp=Z,12µm,18.0s
WRAB Tennant Creek 46.91 265 *e*P P 11 19 18.6 -1.0
comp=Z,103nm,1.0s
WRAB LR LR
comp=Z,12µm,18.0s
WRAB Tennant Creek 46.91 265*ce*P P 11 19 18.1 -1.5
WRAB pmax pmax
comp=Z,106nm,1.0s
WR1 Warramunga Arr 46.92 265 *e*P P 11 19 18.4 -1.3
WRA Warramunga Arr 46.92 265 P P 11 19 18.4 -1.3
comp=Z,87nm,0.8s,baz=92,slow=9.1,SNR=230
WRA S S 11 26 03.2 -7.5
comp=Z,7.2nm,1.0s,baz=91,slow=17,SNR=3.3
WC1 Warramunga Arr 46.92 265 PFAKE 11 19 30.0 +10
WC1 LR LR
comp=Z,9µm,18.0s
WAKE Wake Island 46.95 336 *e*P P 11 19 18.6 -1.1
comp=Z,125nm,0.8s
WAKE LR LR
comp=Z,6µm,20.0s
KHLU Kahalu`u 47.52 25 *e*P P 11 19 23.2 -1.1
comp=Z,264nm,0.9s
PUH Pauahi 47.59 26 *e*P P 11 19 23.8 -1.0
comp=Z,341nm,1.1s
HUH Hualalai 47.63 25 *e*P P 11 19 24.3 -1.0
comp=Z,248nm,1.0s
MLH Mauna Loa 47.63 25 *e*P P 11 19 23.7 -1.6
comp=Z,208nm,1.0s
MLH Mauna Loa 47.63 25 *e*P P 11 19 23.7 -1.6
MLH pmax pmax
comp=Z,208nm,1.0s
JCUZ Jacuzzi 47.64 26 PFAKE 11 19 40.0 +15
JCUZ LR LR
comp=Z,5µm,20.0s
HMH Humu`ula Sheep 47.69 25 *e*P P 11 19 24.9 -1.0
comp=Z,492nm,1.1s
POHA Pohakuloa 47.81 25 *e*P P 11 19 25.5 -1.2
comp=Z,216nm,1.0s
HPAH Hawaii Prepara 48.00 25 *e*P P 11 19 27.2 -0.8
comp=Z,237nm,0.9s
GENI Genyem 48.37 290 P P 11 19 30.7 -0.2
comp=Z,126nm,0.8s,comp=Z,4µm
KIP Kipapa 48.45 21 *e*P P 11 19 30.1 -1.2
comp=Z,212nm,1.0s
KIP Kipapa 48.45 21*ce*P P 11 19 31.9 +0.6
KIP pmax pmax
comp=Z,218nm,1.0s
FORT Forrest 50.41 249 *e*P P 11 19 45.5 -0.9
comp=Z,100nm,0.8s
FORT LR LR
comp=Z,14µm,18.0s
FORT Forrest 50.41 249 P P 11 19 45.3 -1.1
baz=50,SNR=57
KDU Kakadu 50.88 273 P P 11 19 48.9 -1.1
baz=51,SNR=24
WRKA Warakurna 51.18 257 P P 11 19 51.0 -1.3
baz=51,SNR=115
KNRA Kununurra 53.24 268 P P 11 20 07.4 -0.3
baz=53,SNR=38
SBA Scott Base 54.20 185 *e*P P 11 20 14.8 +1.0
comp=Z,166nm,1.1s
SBA Scott Base 54.20 185 *e*P P 11 20 14.8 +1.0
SBA pmax pmax
comp=Z,166nm,1.1s
VNDA Vanda 54.31 186 *e*P P 11 20 16.3 +1.7
comp=Z,77nm,1.0s
VNDA Vanda 54.31 186 P P 11 20 17.6 +2.9
comp=Z,28nm,1.0s,baz=8.9,slow=7.2,SNR=55
VNDA PcP PcP 11 21 19.9 +1.4
comp=Z,28nm,1.0s,baz=341,slow=5.3,SNR=5.9
VNDA LR LR 11 40 47.8
comp=Z,474nm,18.5s,baz=329,slow=33
GUMO Guam 54.41 310 *e*P P 11 20 15.9 -0.3
comp=Z,177nm,1.1s
GUMO Guam 54.41 310 *e*P P 11 20 15.9 -0.3
GUMO pmax pmax
comp=Z,177nm,1.1s
GUMO Guam 54.41 310 P P 11 20 16.7 +0.5
comp=Z,77nm,0.7s,baz=194,slow=7.1,SNR=7.5
FAKI Fak Fak 55.12 284 *e*P P 11 20 20.6 -0.8
comp=Z,314nm,1.3s
FAKI Fak Fak 55.12 284 P P 11 20 21.1 -0.3
comp=Z,188nm,1.4s,comp=Z,3µm
FITZ Fitzroy Crossi 55.33 264 *e*P P 11 20 22.9 0.0
comp=Z,116nm,1.1s
FITZ Fitzroy Crossi 55.33 264 P P 11 20 23.0 +0.1
baz=55,SNR=28
FITZ Fitzroy Crossi 55.33 264 P P 11 20 22.4 -0.4
comp=Z,73nm,1.0s,baz=136,slow=9.7,SNR=30
FITZ S S 11 28 00.5 -6.6
comp=Z,5.0nm,1.0s,baz=41,slow=20,SNR=1.9
KMBL Kambalda 55.57 248 P P 11 20 24.4 0.0
baz=56,SNR=12
BNDI Bandanaira 56.48 281 P P 11 20 31.5 +0.4
comp=Z,470nm,1.2s,comp=Z,5µm
PALU Palau 58.48 296 P P 11 20 46.3 +1.0
baz=58,SNR=6.3
KLBR Kellerberrin 58.99 247 P P 11 20 48.4 -0.2
baz=59,SNR=27
NWAO Narrogin (SRO) 59.18 245 *e*P P 11 20 50.5 +0.6
comp=Z,165nm,1.4s
NWAO LR LR
comp=Z,6µm,19.0s
NWAO Narrogin (SRO) 59.18 245 P P 11 20 51.1 +1.2
baz=59,SNR=8.4
NWAO Narrogin (SRO) 59.18 245 *e*P P 11 20 50.5 +0.6
NWAO pmax pmax
comp=Z,165nm,1.4s
NWAO MLR MLR
comp=Z,6µm,19.0s
NWAO Narrogin (SRO) 59.18 245 P P 11 20 52.0 +2.1
comp=Z,45nm,1.1s,baz=96,slow=6.0,SNR=8.7
PSAD2 Pilbara Seismi 59.43 258 PFAKE 11 21 00.0 +8.1
PSAD2 LR LR
comp=Z,12µm,19.0s
SOEI Soe 59.43 273 *e*P P 11 20 52.1 0.0
comp=Z,291nm,1.1s
SOEI Soe 59.43 273 P P 11 20 52.5 +0.4
comp=Z,261nm,0.9s,comp=Z,5µm
PSAC2 Pilbara Seismi 59.51 258 PFAKE 11 21 10.0 +18
PSAC2 LR LR
comp=Z,10µm,19.0s
PSAB3 Pilbara Seismi 59.54 258 PFAKE 11 21 10.0 +17
PSAB3 LR LR
comp=Z,10µm,19.0s
PSAA3 Pilbara Seismi 59.54 258 PFAKE 11 21 10.0 +17
PSAA3 LR LR
comp=Z,10µm,20.0s
PSAB2 Pilbara Seismi 59.54 258 PFAKE 11 21 10.0 +17
PSAB2 LR LR
comp=Z,10µm,20.0s
PSA00 Pilbara Seismi 59.55 258 *e*P P 11 20 52.3 -0.3
comp=Z,29nm,0.9s
PSA00 LR LR
comp=Z,10µm,19.0s
PSAA2 Pilbara Seismi 59.55 258 PFAKE 11 21 10.0 +17
PSAA2 LR LR
comp=Z,10µm,19.0s
PSAC3 Pilbara Seismi 59.55 258 PFAKE 11 21 10.0 +17
PSAC3 LR LR
comp=Z,10µm,18.0s
PSAA1 Pilbara Seismi 59.56 258 PFAKE 11 21 10.0 +17
PSAA1 LR LR
comp=Z,10µm,19.0s
PSAB1 Pilbara Seismi 59.57 258 PFAKE 11 21 10.0 +17
PSAB1 LR LR
comp=Z,10µm,18.0s
PSAD3 Pilbara Seismi 59.59 258 PFAKE 11 21 10.0 +17
PSAD3 LR LR
comp=Z,11µm,18.0s
PSAC1 Pilbara Seismi 59.59 258 PFAKE 11 21 10.0 +17
PSAC1 LR LR
comp=Z,10µm,18.0s
PSAD1 Pilbara Seismi 59.60 259 PFAKE 11 21 10.0 +17
PSAD1 LR LR
comp=Z,9µm,18.0s
MBWA Marble Bar 59.77 259 PFAKE 11 21 10.0 +16
MBWA LR LR
comp=Z,7µm,18.0s
BATI Baumata 59.81 272 P P 11 20 55.1 +0.5
comp=Z,42nm,0.5s,baz=346,slow=0.7,SNR=12
BATI LR LR 11 46 01.6
comp=Z,4µm,21.8s,baz=128,slow=35
BLDU Ballidu 60.07 248 P P 11 20 55.8 -0.3
baz=60,SNR=28
MUN Mundaring 60.21 246 P P 11 20 58.0 +0.9
baz=60,SNR=5.9
MORW Morawa 60.98 249 *e*P P 11 21 02.8 +0.4
comp=Z,106nm,1.1s
MORW LR LR
comp=Z,11µm,18.0s
MORW Morawa 60.98 249 P P 11 21 02.4 +0.1
baz=61,SNR=31
SANI Sanana 61.07 282 P P 11 21 02.7 -0.4
comp=Z,143nm,1.0s,comp=Z,3µm
TNTI Ternate 61.15 285 *e*P P 11 21 03.4 -0.2
comp=Z,227nm,1.1s
TNTI Ternate 61.15 285 P P 11 21 04.1 +0.5
comp=Z,198nm,1.1s,comp=Z,2µm
CASY Casey 61.67 206 *e*P P 11 21 07.0 +0.6
comp=Z,110nm,1.1s
CASY LR LR
comp=Z,2µm,21.0s
MMRI Maumere 61.71 273 *e*P P 11 21 07.1 -0.3
comp=Z,155nm,1.1s
MMRI Maumere 61.71 273 P P 11 21 07.0 -0.5
comp=Z,156nm,1.0s,comp=Z,3µm
WSI Waingapu 63.08 271 P P 11 21 17.1 +0.5
comp=Z,435nm,1.1s,comp=Z,22µm
KDI Kendari 63.27 278 P P 11 21 18.8 +0.9
comp=Z,78nm,1.1s
KMSI Cibinong 64.05 283 P P 11 21 23.2 +0.2
comp=Z,155nm,1.1s
GIRL Giralia 64.23 256 *e*P P 11 21 24.5 +0.4
comp=Z,317nm,1.2s
GIRL LR LR
comp=Z,7µm,18.0s
GIRL Giralia 64.23 256 P P 11 21 25.8 +1.7
baz=64,SNR=11
BSSI Bau Bau, Buton 64.29 275 P P 11 21 25.2 +0.6
comp=Z,50nm,1.5s,comp=Z,1µm
LUWI Luwuk 64.39 281 *e*P P 11 21 25.6 +0.3
comp=Z,257nm,1.1s
LUWI Luwuk 64.39 281 P P 11 21 26.4 +1.1
comp=Z,226nm,1.0s
BKSI Bulukumba 64.96 276 P P 11 21 28.8 -0.2
comp=Z,40nm,1.1s
DDMP Don Marcelino, 65.19 290 *e*P P 11 21 29.1 -1.3
BNSI Bone 65.35 277 P P 11 21 32.7 +1.2
comp=Z,71nm,1.3s,comp=Z,2µm
KAPI Kappang 65.42 276 *e*P P 11 21 32.5 +0.6
comp=Z,63nm,1.4s
KAPI Kappang 65.42 276 *e*P P 11 21 32.6 +0.6
KAPI pmax pmax
comp=Z,63nm,1.4s
KAPI Kappang 65.42 276 P P 11 21 32.6 +0.6
comp=Z,19nm,0.9s,baz=49,slow=5.9,SNR=8.0
KAPI LR LR 11 51 26.4
comp=Z,1µm,18.5s,baz=112,slow=37
APSI Ampana 65.46 281 P P 11 21 33.3 +1.1
comp=Z,115nm,1.1s,comp=Z,2µm
QSPA South Pole Qui 65.69 180 *e*P P 11 21 34.5 +1.4
comp=Z,200nm,1.0s
QSPA LR LR
comp=Z,3µm,18.0s
DAV Davao City (W) 65.79 290 PFAKE 11 21 50.0 +16
DAV LR LR
comp=Z,5µm,20.0s
MRSI Marisa 65.82 282 P P 11 21 34.8 +0.3
comp=Z,40nm,1.0s
SPSI Sidrap Palu 65.84 277 P P 11 21 34.8 +0.1
comp=Z,24nm,1.1s,comp=Z,1µm
TTSI Tana Toraja 66.18 278 P P 11 21 38.5 +1.6
comp=Z,54nm,1.1s
SKMP Bagumbayan, Su 66.40 289 *e*P P 11 21 38.6 +0.3
BUKP Musuan 66.64 291 *e*P P 11 21 41.3 +1.4
BUTP Butuan 66.72 292 *e*P P 11 21 41.5 +1.2
MPSI Mapaga 67.58 281 P P 11 21 45.4 -0.4
comp=Z,53nm,1.0s,comp=Z,1µm
PAGZ Pagadian 68.06 290 *e*P P 11 21 50.5 +1.8
BESP Borongan 68.25 295 *e*P P 11 21 51.8 +1.8
JAGI Jajag, Banyuwa 69.14 270 *e*P P 11 21 55.3 -0.3
comp=Z,54nm,1.0s
CNP Catarman 69.38 295 *e*P P 11 21 58.7 +1.8
KMMI Kalianget 69.87 271 P P 11 22 01.3 +1.2
comp=Z,47nm,0.9s,comp=Z,960nm
GUIM Jordan 70.13 292 *e*P P 11 22 03.6 +1.9
PVCP Virac 70.37 296 *e*P P 11 22 04.2 +1.1
GRJI Gresik 71.28 271 P P 11 22 09.7 +1.0
comp=Z,116nm,0.9s,comp=Z,1µm
PWJI Pagerwojo 71.46 269 P P 11 22 08.2 -1.6
comp=Z,46nm,0.7s
MTKI Muara Teweh, K 71.52 278 P P 11 22 11.0 +0.8
comp=Z,61nm,1.0s
CUYO Cuyo Island 71.58 291 *e*P P 11 22 10.9 +0.4
JHJ2 Mitsune 71.58 321 *e*P P 11 22 09.9 -0.1
comp=Z,469nm,1.2s
JHJ Hachijo jima 2 71.60 321 P P 11 22 09.7 -0.5
comp=Z,240nm,0.8s,baz=211,slow=8.8,SNR=6.5
SJMP San Jose 72.30 293 *e*P P 11 22 16.0 +1.2
BUSP Coron 72.85 292 *e*P P 11 22 19.4 +1.3
ENPP El Nido 73.11 291 *e*P P 11 22 24.5 +4.9
BATP Bataraza 73.33 288 *e*P P 11 22 22.6 +1.7
BALP Baler 73.62 296 *e*P P 11 22 23.9 +1.4
LUBP Lubang 73.68 294 *e*P P 11 22 25.4 +2.4
CAUP Cauayan 74.05 297 *e*P P 11 22 31.2 +6.1
INU Inuyama 74.80 321 *e*P P 11 22 29.0 0.0
comp=Z,71nm,1.1s
MJAR Matsushiro Arr 74.98 323 P P 11 22 30.6 +0.5
comp=Z,15nm,0.9s,baz=164,slow=5.9,SNR=27
MJAR LR LR 11 50 43.5
comp=Z,1µm,21.6s,baz=130,slow=32
MAJO Matsushiro 74.98 323 *e*P P 11 22 30.1 0.0
comp=Z,110nm,1.3s
MAJO Matsushiro 74.98 323*d i*P P 11 22 30.4 +0.3
MAJO pmax pmax
comp=Z,101nm,1.3s
MAT Matsushiro 74.98 323 P P 11 22 29.3 -0.8
MJB9 Matsu-Tunnel 74.98 323 *e*P P 11 22 30.1 0.0
comp=Z,107nm,1.3s
APYP Conner 75.01 298 *e*P P 11 22 31.7 +1.1
CISI Cisompet, Garu 75.28 268 *e*P P 11 22 32.9 +0.5
comp=Z,88nm,1.0s
ABRA Dolores 75.32 297 *e*P P 11 22 32.8 +0.4
SBUM Sibu 75.39 280 *e*P P 11 22 33.6 +0.6
comp=Z,18nm,1.1s
SBUM Sibu 75.39 280 P P 11 22 35.0 +2.0
LEM Lembang 75.74 269 P P 11 22 36.4 +1.2
comp=Z,74nm,0.8s,baz=122,slow=7.5,SNR=21
LEM LR LR 11 57 50.3
comp=Z,3µm,18.4s,baz=162,slow=37
BBP Basco 75.81 300 *e*P P 11 22 35.0 -0.2
KIWB Kanaga Island 75.95 359 *e*P P 11 22 34.9 -0.3
ADK Adak 75.97 359 *e*P P 11 22 35.0 -0.3
comp=Z,66nm,0.9s
ADK Adak 75.97 359 *e*P P 11 22 35.0 -0.3
ADK pmax pmax
comp=Z,66nm,0.9s
ATKA Atka Island 76.28 1 *e*P P 11 22 36.7 -0.3
comp=Z,112nm,1.0s
ERM Erimo 76.57 329 *e*P P 11 22 38.8 -0.2
comp=Z,159nm,1.4s
ERM Erimo 76.57 329 *e*P P 11 22 38.8 -0.2
ERM pmax pmax
comp=Z,159nm,1.4s
KSM Kuching 76.69 278 *e*P P 11 22 41.1 +0.7
comp=Z,123nm,1.2s
KSM Kuching 76.69 278 P P 11 22 43.0 +2.6
JNU Nakatsue 77.00 316 *e*P P 11 22 42.6 +0.9
comp=Z,257nm,1.4s
JNU Nakatsue 77.00 316 P P 11 22 42.7 +1.0
comp=Z,29nm,0.8s,baz=109,slow=4.6,SNR=21
KUR Kuril'sk 77.12 334*d i*P P 11 22 43.1 +1.1
KUR *i* S S 11 32 35.6 +5.0
KUR pmax pmax
comp=Z,253nm,1.2s
KUR pmax pmax
comp=N,67nm,1.0s
KUR pmax pmax
comp=E,127nm,1.2s
KUR pmax pmax
comp=Z,2µm,8.6s
KUR pmax pmax
comp=N,695nm,5.7s
KUR pmax pmax
comp=E,588nm,4.6s
YOJ Yonaguni jima 77.23 304 *e*P P 11 22 43.2 +0.1
comp=E,324nm,1.3s
YOJ Yonaguni jima 77.23 304 *e*P P 11 22 43.2 +0.1
YOJ pmax pmax
comp=Z,324nm,1.3s
SMY Shemya 77.39 353 *e*P P 11 22 43.4 +0.1
comp=Z,134nm,1.1s
SMY Shemya 77.39 353 *e*P P 11 22 43.4 +0.1
SMY pmax pmax
comp=Z,134nm,1.1s
TWG Pinlang 77.80 302 *e*P P 11 22 45.5 -0.9
comp=Z,282nm,0.8s
YULB Yu-li 77.94 303 *e*P P 11 22 46.4 -0.8
comp=Z,86nm,1.0s
SNCC San Nicolas Is 77.95 45 P P 11 22 48.0 +1.0
baz=230
NACB Ninganchiao 78.14 303 *e*P P 11 22 48.2 0.0
comp=Z,425nm,1.3s
UNV Unalaska Valle 78.27 5 PFAKE 11 23 00.0 +12
UNV LR LR
comp=Z,2µm,20.0s
SCZ2 Santa Cruz Isl 78.36 44 P P 11 22 49.4 +0.2
baz=230
TPUB Ta-pu 78.40 302 *e*P P 11 22 49.3 -0.4
comp=Z,346nm,1.0s
SCI2 San Clemente I 78.41 46 P P 11 22 49.5 -0.1
baz=231
SSLB Suanglung 78.42 303 *e*P P 11 22 49.6 -0.3
comp=Z,140nm,0.9s
ASAJ Asahikawa 78.47 330 P P 11 22 51.8 +2.2
comp=Z,100nm,0.8s,baz=209,slow=5.9,SNR=79
ASAJ S S 11 32 47.6 +2.3
comp=Z,1.7nm,0.4s,baz=61,slow=11,SNR=4.2
YHNB Yeheng 78.58 304 *e*P P 11 22 51.0 +0.2
comp=Z,264nm,1.1s
SBC Santa Barbara 78.59 44 P P 11 22 51.3 +0.8
baz=230
AKUT Akutan 78.61 6 PFAKE 11 23 00.0 +10
AKUT LR LR
comp=Z,2µm,20.0s
TATO Taipei 78.66 304 *e*P P 11 22 50.6 -0.5
comp=Z,608nm,1.4s
GO10 Punta Arenas 78.72 143 *e*P P 11 22 51.4 +0.3
comp=Z,375nm,1.2s
CIS Catalina Islan 78.76 45 P P 11 22 51.2 -0.3
baz=231
BLG Laguna Peak, P 78.79 44 P P 11 22 50.7 -0.9
baz=230
GO09 Cerro Castillo 78.81 141 *e*P P 11 22 51.3 -0.3
comp=Z,191nm,1.4s
PKM Mcpherson Peak 78.82 43 P P 11 22 53.0 +1.0
baz=230
MAW Mawson 78.83 199 *e*P P 11 22 52.3 +0.9
comp=Z,46nm,1.2s
MAW Mawson 78.83 199 P P 11 22 53.6 +2.2
baz=79,SNR=7.9
MAW Mawson 78.83 199 *e*P P 11 22 52.3 +0.9
MAW pmax pmax
comp=Z,46nm,1.2s
MAW Mawson 78.83 199 P P 11 22 53.9 +2.5
comp=Z,97nm,1.0s,baz=120,slow=6.5,SNR=60
SMMC Simmler 78.98 43 P P 11 22 52.7 0.0
baz=229
SKR Severo-Kuril's 79.00 342*ce*P P 11 22 52.5 +0.2
FMP Fort Macarthur 79.04 45 P P 11 22 53.4 +0.4
baz=231
SAO San Andreas Ge 79.04 41 PFAKE 11 23 00.0 +7.1
SAO LR LR
comp=Z,8µm,19.0s
LPIG La Paz 79.09 57 P P 11 22 54.7 +1.3
comp=Z,23nm,0.8s,baz=66,slow=5.5,SNR=5.3
SLBS Sierra La Lagu 79.14 58 *e*P P 11 22 53.5 -0.4
comp=Z,112nm,1.3s
109C Camp Elliot, M 79.30 46 P P 11 22 54.5 0.0
baz=232
OSI Osito Audit: C 79.33 44 P P 11 22 55.0 +0.4
baz=230
DECC Creen Verdugo 79.35 45 P P 11 22 55.0 +0.3
baz=231
PASC Pasadena Art C 79.39 45 *e*P P 11 22 54.5 -0.5
comp=Z,24nm,0.8s
SRIG Santa Rosalia 79.41 54 *e*P P 11 22 54.8 -0.4
comp=Z,226nm,1.2s
SRIG LR LR
comp=Z,6µm,22.0s
BAR Barrett 79.46 47 *e*P P 11 22 54.7 -0.6
comp=Z,62nm,1.4s
BAR LR LR
comp=Z,8µm,20.0s
MWC Mount Wilson 79.51 45 *e*P P 11 22 55.1 -0.7
comp=Z,45nm,1.0s
MWC Mount Wilson 79.51 45 *e*P P 11 22 55.1 -0.7
MWC pmax pmax
comp=Z,45nm,1.0s
ARVC Arvin 79.59 44 P P 11 22 56.0 0.0
baz=230
HOPS Hopland Field 79.59 39 *e*P P 11 22 55.3 -0.6
comp=Z,114nm,1.4s
HOPS LR LR
comp=Z,5µm,19.0s
GDXM Geysers 79.62 39 *e*P P 11 22 55.5 -0.7
comp=Z,52nm,1.3s
GDXM LR LR
comp=Z,5µm,18.0s
MURC Murrieta 79.68 46 P P 11 22 57.3 +0.8
baz=232,SNR=14
MONP2 Monument Peak 79.75 47 P P 11 22 57.7 +0.5
baz=232,SNR=23
BFSC Mount Baldy Ra 79.78 45 P P 11 22 57.8 +0.6
baz=231,SNR=7.6
KCPM Cahto Peak 79.78 38 PFAKE 11 23 10.0 +13
KCPM LR LR
comp=Z,5µm,19.0s
IKP In-Ko-Pah, Jac 79.82 47 P P 11 22 58.0 +0.7
baz=232,SNR=14
VES Vestal, Richgr 79.88 43 P P 11 22 58.1 +0.5
baz=230,SNR=9.8
EDW2 Edwards Air Fo 79.96 44 P P 11 22 58.7 +0.6

baz=231,SNR=25
VOG Valley Oaks Go 80.01 43 P **P 11 22 57.9 -0.2**
baz=230
KMRM Mail Ridge 80.08 37 *e*P **P 11 22 58.0 -0.6**
comp=Z,118nm,1.2s
KMRM LR LR
comp=Z,6μm,19.0s
ISA Isabella, Lake 80.15 44 *e*P **P 11 22 58.6 -0.5**
comp=Z,102nm,1.4s
ISA Isabella, Lake 80.15 44 *e*P **P 11 22 58.6 -0.5**
ISA pmax pmax
comp=Z,102nm,1.4s
ISA Isabella, Lake 80.15 44 P **P 11 23 00.3 +1.2**
baz=230,SNR=44
PFO Pinyon Flats O 80.17 46 *e*P **P 11 22 58.6 -0.7**
comp=Z,83nm,1.4s
PFO LR LR
comp=Z,8μm,21.0s
PFO Pinyon Flats O 80.17 46 *e*P **P 11 22 58.6 -0.7**
PFO pmax pmax
comp=Z,83nm,1.4s
PFO MLR MLR
comp=Z,8μm,21.0s
PFO Pinyon Flats O 80.17 46 P **P 11 23 00.2 +0.9**
baz=232,SNR=22
PFO Pinyon Flats O 80.17 46 P **P 11 23 00.1 +0.9**
comp=Z,36nm,1.1s,baz=268,slow=2.9,SNR=16
PFO LR LR 11 51 17.1
comp=Z,7μm,20.5s,baz=244,slow=30
SWSC Sam W. Stewart 80.20 47 P **P 11 22 59.7 +0.4**
baz=232,SNR=14
BBRC Big Bear Solar 80.27 46 P **P 11 23 00.6 +0.7**
baz=232,SNR=6.8
JCC Jacoby Creek, 80.31 37 PFAKE 11 23 10.0 +10
JCC LR LR
comp=Z,6μm,21.0s
SDPT Sand Point 80.39 8 *e*P **P 11 22 59.4 -0.4**
comp=Z,114nm,0.8s
PET Petropavlovsk 80.44 344 *e*P **P 11 22 58.7 -1.4**
PET *e*S **S 11 33 00.2 -5.6**
PET pmax pmax
comp=Z,1μm,11.0s
PET pmax pmax
comp=Z,44nm,1.5s
CMB Columbia Colle 80.51 41 PFAKE 11 23 10.0 +9.0
CMB LR LR
comp=Z,4μm,19.0s
KHMM Horse Mountain 80.52 37 PFAKE 11 23 10.0 +9.0
KHMM LR LR
comp=Z,6μm,22.0s
LRMC Laurel Mtn Rad 80.54 44 P **P 11 23 02.1 +0.9**
baz=231,SNR=36
O02D Mt. Diablo Mer 80.56 38 P **P 11 23 03.1 +1.9**
baz=227
RRX Edison Barstow 80.60 45 P **P 11 23 02.0 +0.5**
baz=232
YSS Yuzh-Sakhalins 80.61 332 *e*P **P 11 23 01.5 +0.4**
comp=Z,283nm,0.9s
YSS Yuzh-Sakhalins 80.61 332⇑ *e*P **P 11 23 03.0 +1.8**
YSS *e*S **S 11 33 12.0 +4.1**
YSS pmax pmax
comp=Z,300nm,0.9s
YSS pmax pmax
comp=Z,1μm,9.8s
BELC Belle Mtn. Jos 80.71 46 P **P 11 23 03.1 +0.9**
baz=232,SNR=32
PEA0B Petropavlovsk- 80.75 344 *e*P **P 11 23 01.4 -0.4**
comp=Z,133nm,1.3s
PETK Petropavlovsk- 80.75 344 *e*P **P 11 23 01.6 -0.2**
PETK Petropavlovsk- 80.75 344 *e*P **P 11 23 01.6 -0.2**
PETK Petropavlovsk- 80.75 344 P **P 11 23 02.6 +0.8**
comp=Z,57nm,0.8s,baz=122,slow=7.5,SNR=82
PETK LR LR 12 00 13.8
comp=Z,1μm,18.1s,baz=98,slow=37
AFDM Forest Hills D 80.77 40 PFAKE 11 23 10.0 +7.7
AFDM LR LR
comp=Z,5μm,20.0s
QZH Quanzhou 80.85 303⇓ *i*P **P 11 23 02.9 -0.1**
QZH S **S 11 33 12.5 +1.2**
QZH pmax pmax
comp=Z,120nm,1.2s
QZH pmax pmax
comp=Z,2μm,4.6s
QZH LR LR
comp=Z,1μm,19.0s
QZH LR LR
comp=Z,520nm,18.0s
QZH LR LR
comp=Z,2μm,18.1s
BC3 Big Chuckawall 80.86 47 P **P 11 23 04.1 +1.1**
baz=233,SNR=38
KRMB Red Mountain 80.87 36 *e*P **P 11 23 01.7 -1.2**
CWC Cottonwood Cre 80.89 43 P **P 11 23 04.3 +1.1**
baz=231
GLA Glamis 80.92 48 PFAKE 11 23 10.0 +6.8
GLA LR LR
comp=Z,8μm,19.0s
GLA Glamis 80.92 48 P **P 11 23 04.3 +1.1**
baz=233,SNR=22
WDC Whiskeytown Da 80.97 38 PFAKE 11 23 10.0 +6.7
WDC LR LR
comp=Z,4μm,19.0s
GSC Goldstone, Bar 80.99 45 *e*P **P 11 23 03.2 -0.4**
comp=Z,95nm,1.4s
GSC Goldstone, Bar 80.99 45 *e*P **P 11 23 03.2 -0.4**
GSC pmax pmax
comp=Z,95nm,1.4s
GSC Goldstone, Bar 80.99 45 P **P 11 23 04.2 +0.5**
baz=232,SNR=25
HEC Hector,Ludlow 81.00 45 P **P 11 23 04.3 +0.7**
baz=232,SNR=12
MPMC Manual Prospec 81.02 44 P **P 11 23 04.8 +0.9**
baz=231,SNR=48
MDPB Devils Postpil 81.04 42 PFAKE 11 23 20.0 +16
MDPB LR LR
comp=Z,5μm,21.0s
DAC Darwin (Calif) 81.09 44 *e*P **P 11 23 03.8 -0.5**
comp=Z,54nm,1.4s
DAC Darwin (Calif) 81.09 44 *e*P **P 11 23 03.8 -0.5**
DAC pmax pmax
comp=Z,54nm,1.4s
N02D Trinity Center 81.15 37 P **P 11 23 05.5 +1.2**
baz=227
MLAC Mammoth, Mammo 81.18 42 P **P 11 23 06.0 +1.2**
baz=230
TIN Tinemaha, Big 81.19 43 P **P 11 23 05.8 +1.2**
baz=230
O03E Paynes Creek 81.19 38 P **P 11 23 05.3 +0.7**
baz=228
TJN Taejon 81.30 316 *c*e**P P 11 23 07.1 +2.0**
HSIG 81.31 53 *e*P **P 11 23 04.8 -0.6**
comp=Z,46nm,1.0s
HSIG LR LR
comp=Z,4μm,21.0s
RUBR Rubicon Trail 81.32 40 PFAKE 11 23 20.0 +15
RUBR LR LR
comp=Z,4μm,19.0s
M02C Callahan 81.35 37 P **P 11 23 06.5 +1.1**
baz=227
IRM Iron Mountain 81.37 46 P **P 11 23 06.5 +0.9**
baz=233,SNR=67
WAKR Walker 81.39 41 PFAKE 11 23 20.0 +14
WAKR LR LR
comp=Z,5μm,20.0s
GMRC Granite Mounta 81.41 46 P **P 11 23 06.4 +0.5**
baz=232,SNR=29
GO07 Milladeo Hill, 81.46 133 *e*P **P 11 23 06.2 +0.2**
comp=Z,221nm,1.1s
113A Mohawk Valley, 81.47 48 *e*P **P 11 23 05.9 -0.2**
comp=Z,64nm,1.3s
113A LR LR
comp=Z,9μm,20.0s
L02E Cave Junction 81.48 36 P **P 11 23 07.0 +1.0**
baz=226
Y12C Blythe 81.54 47 *e*P **P 11 23 06.4 -0.1**
comp=Z,87nm,1.3s
Y12C Blythe 81.54 47 P **P 11 23 07.6 +1.2**
baz=233,SNR=21
KEBM Edson Butte 81.59 35 PFAKE 11 23 20.0 +13
KEBM LR LR
comp=Z,6μm,22.0s
CHGN Chignik 81.61 9 *e*P **P 11 23 06.2 0.0**
comp=Z,102nm,0.9s
CHGN LR LR
comp=Z,2μm,19.0s
KSRS Korea Array 81.63 318 P **P 11 23 08.8 +2.0**
comp=Z,22nm,0.9s,baz=136,slow=6.0,SNR=81
KSRS LR LR 11 53 44.1
comp=Z,1μm,21.9s,baz=120,slow=32
TUQ Turquoise Moun 81.64 45 P **P 11 23 07.7 +0.6**
baz=232,SNR=18
KS15 Wonju Array Si 81.64 318 *e*P **P 11 23 07.6 +0.7**
comp=Z,83nm,1.2s
KSAR Wonju Array Be 81.64 318 *e*P **P 11 23 07.6 +0.7**
KSAR Wonju Array Be 81.64 318 *e*P **P 11 23 07.6 +0.7**
214A Organ Pipe Nat 81.65 49 P **P 11 23 08.0 +0.9**
baz=234,SNR=12
YBH Yreka Blue Hor 81.67 37 PFAKE
YBH LR LR 11 23 20.0 +13
comp=Z,4μm,21.0s
YBH Yreka Blue Hor 81.67 37 P **P 11 23 09.4 +2.3**
comp=Z,9.9nm,0.9s,baz=162,slow=4.0,SNR=8.0
PNTR Pine Nut 81.67 40 PFAKE 11 23 20.0 +13
PNTR LR LR
comp=Z,5μm,20.0s
FURC Furnace Creek, 81.67 44 P **P 11 23 08.0 +1.0**
baz=231,SNR=22
GRAC Grapevine Rang 81.69 43 P **P 11 23 08.3 +1.0**
baz=231,SNR=17
SHOC Shoshone, Teco 81.69 45 P **P 11 23 08.0 +0.8**
baz=232,SNR=33
BEKR Beckworth 81.73 39 PFAKE 11 23 20.0 +12
BEKR LR LR
comp=Z,3μm,18.0s
VCNR Virginia City 81.77 40 PFAKE 11 23 20.0 +12
VCNR LR LR
comp=Z,6μm,22.0s
K02D Willamette Mer 81.81 36 P **P 11 23 08.6 +0.8**
baz=226
LDFC Landfair 81.95 46 *e*P **P 11 23 08.1 -0.6**
comp=Z,245nm,1.3s
TEY Ternei 81.98 328 *e*P **P 11 23 10.1 +1.6**
J01E Myrtle Point 82.00 35 P **P 11 23 09.2 +0.5**
baz=226
NVAR Mina Array Bea 82.02 42 *e*P **P 11 23 08.9 -0.3**
NVAR Mina Array Bea 82.02 42 P **P 11 23 10.6 +1.5**
comp=Z,35nm,0.9s,baz=221,slow=8.2,SNR=36
NVAR PKPPKP **P'P'df 11 49 45.5 +5.3**
comp=Z,0.8nm,0.8s,baz=68,slow=2.5,SNR=3.6
NVAR LR LR 11 52 32.4
comp=Z,5μm,21.1s,baz=246,slow=30
NEE2 Needles Airpor 82.08 46 P **P 11 23 10.6 +1.3**
baz=233,SNR=8.2
NV11 Mina Array Sit 82.11 42 PFAKE 11 23 20.0 +10
NV11 LR LR
comp=Z,400nm,21.0s
PDMCI Parker Dam,Lak 82.12 47 P **P 11 23 10.5 +0.9**
baz=233,SNR=30
M04C Macdoel 82.18 37 P **P 11 23 10.8 +1.0**
baz=227
L04D Klamath Falls 82.22 37 P **P 11 23 11.4 +1.4**
baz=227,SNR=5.8
TPNV Topopah Spring 82.36 44 *e*P **P 11 23 10.6 -0.3**
comp=Z,80nm,1.3s
TPNV Topopah Spring 82.36 44 *e*P **P 11 23 10.6 -0.3**
TPNV pmax pmax
comp=Z,80nm,1.3s
TPNV Topopah Spring 82.36 44 P **P 11 23 11.9 +1.0**
baz=232,SNR=35
SII Sitkinak Islan 82.55 11 *e*P **P 11 23 11.4 +0.2**
comp=Z,195nm,1.0s
Y14A Wickenburg 82.67 48 *e*P **P 11 23 12.0 -0.5**
comp=Z,120nm,1.1s
I03D Drain, OR 82.68 35 P **P 11 23 13.3 +1.1**
baz=226
MYKOM Kota Tinggi 82.68 275 *e*P **P 11 23 13.2 +0.3**
comp=Z,174nm,1.1s
MYKOM LR LR
comp=Z,3μm,18.0s
MYKOM Kota Tinggi 82.68 275 P **P 11 23 15.0 +2.1**
I02D Swisshome 82.70 34 P **P 11 23 14.0 +1.7**
baz=226
W13A Hualapai Mount 82.76 46 *e*P **P 11 23 12.6 -0.6**
comp=Z,86nm,1.1s
SHPR Sheep Range 82.78 45 *e*P **P 11 23 12.7 -0.4**
comp=Z,51nm,1.3s
K04D Chiloquin, OR 82.79 37 P **P 11 23 13.8 +0.8**
baz=227
DLV T Lat 82.90 286 *e*P **P 11 23 14.6 +0.3**
comp=Z,197nm,1.1s
HKPS Hong Kong Po S 82.99 298 *e*P **P 11 23 14.5 +0.2**
comp=Z,263nm,1.3s
J04D Umpqua Nationa 83.02 36 P **P 11 23 15.0 +0.8**
baz=227,SNR=9.1
MSHR Mys Shultsa 83.09 323 *d i*P **P 11 23 15.6 +1.3**
I04A Tendick Farm, 83.24 35 P **P 11 23 15.8 +0.6**
baz=227,SNR=10
TUC Tucson 83.27 50 *e*P **P 11 23 15.3 -0.3**
comp=Z,89nm,1.2s
TUC LR LR
comp=Z,7μm,21.0s
TUC Tucson 83.27 50 *e*P **P 11 23 15.3 -0.3**
TUC pmax pmax
comp=Z,89nm,1.2s
TUC MLR MLR
comp=Z,7μm,21.0s
TUC Tucson 83.27 50 P **P 11 23 16.4 +0.8**
baz=236
COR Corvallis 83.32 34 PFAKE
COR LR LR 11 23 30.0 +15
comp=Z,7μm,21.0s
OHAK Old Harbor 83.34 12 *e*P **P 11 23 14.9 -0.3**
comp=Z,32nm,1.0s
J05D Fort Rock, OR 83.52 36 P **P 11 23 18.0 +1.3**
baz=228,SNR=20
SYO Syowa Base 83.52 192⇑ *e*P **P 11 23 15.1 -1.2**
SYO Syowa Base 83.52 192⇓ *i*pP pP 11 23 19.4 +1.6
H04D Lebanon 83.57 35 P **P 11 23 17.5 +0.7**
baz=226,SNR=7.9
R11A Troy Canyon, C 83.63 43 P **P 11 23 18.1 +0.6**
baz=232,SNR=16
TYV Tymovskoe 83.73 335 *e*P **P 11 23 18.9 +1.5**
TYV *e*S **S 11 33 42.9 +3.2**
TYV pmax pmax
comp=Z,86nm,0.9s
TYV pmax pmax
comp=Z,1μm,7.4s
TYV smax smax
comp=N,1μm,7.2s
TYV smax smax
comp=E,17nm,1.4s
USA0B Ussuriysk Arra 83.73 325 *e*P **P 11 23 18.2 +0.6**
comp=E,129nm,0.9s
USRK Ussuriysk Ar. 83.73 325 *e*P **P 11 23 18.0 +0.4**
USRK Ussuriysk Ar. 83.73 325 P **P 11 23 20.0 +2.4**
comp=E,122nm,0.9s,baz=113,slow=3.4,SNR=137
G03D McMinnville, O 83.77 34 P **P 11 23 19.3 +1.5**
baz=226,SNR=6.6
319A Douglas 83.81 52 *e*P **P 11 23 18.1 -0.5**
comp=E,106nm,1.2s
BMN Battle Mountai 83.93 40 PFAKE 11 23 30.0 +11
BMN LR LR
comp=Z,6μm,21.0s
H04A Detroit Lake 83.96 35 *e*P **P 11 23 18.4 -0.4**
comp=Z,97nm,1.2s
KDAK Kodiak Island 84.00 12 *e*P **P 11 23 18.6 0.0**
comp=Z,55nm,1.2s
KDAK Kodiak Island 84.00 12 *e*P **P 11 23 18.6 0.0**
KDAK pmax pmax
comp=Z,55nm,1.2s
X16A Lo Mia Camp, P 84.00 48 *e*P **P 11 23 19.2 -0.3**
comp=Z,140nm,1.0s
X16A LR LR
comp=Z,7μm,19.0s
PINE Pine Mountain 84.02 36 *e*P **P 11 23 19.0 -0.3**
comp=Z,168nm,1.1s
GZH Guangzhou 84.03 298 P **P 11 23 20.3 +0.7**
GZH S **S 11 33 45.1 +1.2**
GZH LR LR
comp=Z,1μm,17.4s
GZH LR LR
comp=Z,2μm,17.6s
SNAA Sanae 84.03 178 P **P 11 23 19.4 +0.4**
SNAA Sanae 84.03 178 *e*P **P 11 23 19.6 +0.6**
comp=Z,110nm,1.2s
SNAA Sanae 84.03 178 *i* P **P 11 23 17.3 -1.7**
VNA3 Neumayer Olymp 84.06 175 P **P 11 23 19.4 +0.3**
HPIG 84.14 57 *e*P **P 11 23 19.9 -0.5**
comp=Z,48nm,1.0s
MOIG Morelia 84.15 65 *e*P **P 11 23 20.0 -0.6**
comp=Z,127nm,1.0s
MOIG LR LR
comp=Z,6μm,20.0s
I05D Terrebonne, OR 84.17 36 P **P 11 23 21.2 +1.2**
baz=228,SNR=18
LCMT Little Creek M 84.31 45 *e*P **P 11 23 21.0 0.0**
comp=Z,108nm,1.1s
NJ2 Nanjing 84.48 309 *e*P **P 11 23 23.3 +1.6**
NJ2 pP **PcP 11 23 28.5 +3.2**
NJ2 S **S 11 33 50.8 +2.7**
NJ2 pmax pmax
comp=Z,40nm,0.9s
NJ2 pmax pmax
comp=Z,2μm,8.4s
NJ2 LR LR
comp=Z,880nm,17.4s
NJ2 LR LR
comp=Z,1μm,16.3s
NJ2 LR LR
comp=Z,1μm,16.3s
GO06 Curarrehue 84.50 131 *e*P **P 11 23 22.8 +0.8**
comp=Z,151nm,1.1s
ZAIG Zacatecas 84.50 62 *e*P **P 11 23 22.2 -0.2**
comp=Z,73nm,1.4s
F04D Rainier, OR 84.50 33 P **P 11 23 23.1 +1.6**
baz=226,SNR=6.8
VNA2 Neumayer--Watz 84.54 176 P **P 11 23 22.2 +0.7**
baz=179,slow=3.8
CCUT Cedar City 84.55 45 *e*P **P 11 23 22.6 +0.3**
comp=Z,126nm,1.1s
KNB Kanab 84.59 45 *e*P **P 11 23 22.8 +0.4**
comp=Z,145nm,1.2s
KNB Kanab 84.59 45 *e*P **P 11 23 22.8 +0.4**
KNB pmax pmax
comp=Z,145nm,1.2s
U15A North Rim 84.59 46 *e*P **P 11 23 22.9 +0.3**
comp=Z,126nm,1.0s
PLCA Paso Flores 84.60 132 *e*P **P 11 23 23.3 +0.8**
comp=Z,165nm,1.3s
PLCA Paso Flores 84.60 132 *e*P **P 11 23 23.3 +0.8**
PLCA pmax pmax
comp=Z,165nm,1.3s
PLCA Paso Flores 84.60 132 P **P 11 23 23.9 +1.4**
comp=Z,78nm,1.1s,baz=263,slow=5.6,SNR=44
PLCA PKPPKP **P'P'df 11 49 44.4 +1.4**
comp=Z,6.6nm,1.2s,baz=289,slow=5.1,SNR=3.2
PLCA Paso Flores 84.60 132 *e*P **P 11 23 23.8 +1.3**
WUAZ Wupatki 84.68 47 *e*P **P 11 23 22.9 0.0**
comp=Z,127nm,1.1s
WUAZ Wupatki 84.68 47 P **P 11 23 24.1 +1.3**
baz=235,SNR=73
VNA1 Neumayer--Stat 84.75 176 P **P 11 23 23.1 +0.6**
SZCU Shurtz Canyon 84.76 45 *e*P **P 11 23 23.4 +0.1**
comp=Z,121nm,1.2s
G05D Wamic, OR 84.80 35 P **P 11 23 23.8 +0.8**
baz=227,SNR=6.6
PSUT Pine Spring 84.83 44 *e*P **P 11 23 23.6 0.0**
comp=Z,36nm,1.1s
I07A Izee 84.99 37 *e*P **P 11 23 24.3 +0.2**
comp=Z,87nm,1.3s
E04D Cinebar 85.05 33 P **P 11 23 25.5 +1.3**
baz=226,SNR=14
X18A Snowflake 85.08 49 *e*P **P 11 23 25.2 +0.2**
comp=Z,114nm,1.0s
X18A LR LR
comp=Z,7μm,20.0s
G06A Carlson Farm, 85.15 35 *e*P **P 11 23 24.9 0.0**
comp=Z,84nm,1.1s
F05D White Salmon 85.16 34 P **P 11 23 25.4 +0.6**
baz=227
PKCU Pink Cliffs 85.17 45 *e*P **P 11 23 25.6 0.0**
comp=Z,226nm,1.2s
MDJ Mudanjiang 85.29 324 P **P 11 23 27.1 +1.6**
MDJ pmax pmax
comp=Z,170nm,1.0s
MDJ pmax pmax
comp=Z,2μm,7.6s
MDJ Mudanjiang 85.29 324 *e*P **P 11 23 26.5 +1.0**
comp=Z,137nm,0.9s
ELK Elko 85.31 41 *e*P **P 11 23 26.0 -0.1**
comp=Z,49nm,1.1s
ELK Elko 85.31 41 *e*P **P 11 23 26.0 -0.1**
ELK pmax pmax
comp=Z,49nm,1.1s
TLIG Tlapa 85.37 68 *e*P **P 11 23 26.5 -0.2**
comp=Z,136nm,1.2s
D04E Lakebay 85.38 33 P **P 11 23 27.3 +1.4**
baz=226,SNR=7.7
D03D Eldon 85.47 32 P **P 11 23 27.9 +1.6**
baz=226,SNR=12
121A Cookes Peak, D 85.50 51 P **P 11 23 28.3 +1.2**
baz=237,SNR=27
W18A Petrified Fore 85.56 48 *e*P **P 11 23 26.9 -0.4**
comp=Z,149nm,1.2s
W18A Petrified Fore 85.56 48 P **P 11 23 28.5 +1.2**
baz=236,SNR=12
LON Longmire 85.56 34 *e*P **P 11 23 26.9 0.0**
comp=Z,18nm,1.0s
LON LR LR
comp=Z,2μm,18.0s
LON Longmire 85.56 34 *e*P **P 11 23 26.9 0.0**
LON pmax pmax
comp=Z,18nm,1.0s
LON MLR MLR
comp=Z,2μm,18.0s
MTPU Mount Pierson 85.60 45 *e*P **P 11 23 27.3 -0.4**
comp=Z,72nm,0.9s
TCRU Three Creeks R 85.76 44 *e*P **P 11 23 28.4 0.0**
comp=Z,74nm,1.2s
D05A Enumclaw 85.77 33 *e*P **P 11 23 27.7 -0.1**
comp=Z,138nm,1.0s
D05A LR LR
comp=Z,3μm,20.0s
HOM Homer 85.93 12 *e*P **P 11 23 28.4 +0.2**
comp=Z,146nm,0.9s
HOM LR LR
comp=Z,3μm,20.0s
F07A Phinny Hill Vi 85.96 35 *e*P **P 11 23 28.6 -0.2**
comp=Z,58nm,1.3s
F07A LR LR
comp=Z,5μm,19.0s
G08A Pilot Rock 86.07 36 *e*P **P 11 23 29.4 -0.2**
comp=Z,84nm,1.1s
PGC Sidney 86.07 31 *e*P **P 11 23 29.3 0.0**
comp=Z,80nm,1.1s
BRLK Bradley Lake 86.17 12 *e*P **P 11 23 29.7 +0.1**
comp=Z,68nm,1.0s
BRLK LR LR
comp=Z,5μm,22.0s
GO05 Huala 86.25 127 *e*P **P 11 23 30.6 -0.1**
comp=Z,82nm,1.0s
NKL Nikolayevsk 86.28 335 *e*P **P 11 23 31.8 +1.7**
NKL pmax pmax
comp=Z,55nm,1.0s
IPM Ipoh 86.36 277 *e*P **P 11 23 31.5 -0.1**
comp=Z,114nm,1.3s
IPM Ipoh 86.36 277 P **P 11 23 33.0 +1.4**
E07A Sunnyside 86.43 35 *e*P **P 11 23 31.0 -0.2**
comp=Z,46nm,1.0s
E07A LR LR
comp=Z,7μm,20.0s
DL2 Dalian 86.45 316 P **P 11 23 33.3 +1.9**
DL2 S **S 11 34 08.1 +0.8**
DL2 pmax pmax
comp=Z,50nm,0.9s
DL2 pmax pmax
comp=Z,1μm,8.6s
DL2 LR LR
comp=Z,690nm,18.9s
DL2 LR LR
comp=Z,970nm,17.3s
DL2 LR LR
comp=Z,5μm,54.9s
B05A Bryant 86.46 32 P **P 11 23 32.5 +1.3**
baz=227,SNR=26
DUG Dugway, Tooele 86.46 43 *e*P **P 11 23 31.4 -0.2**
comp=Z,35nm,1.3s
DUG Dugway, Tooele 86.46 43 *e*P **P 11 23 31.4 -0.2**
DUG pmax pmax
comp=Z,35nm,1.3s
DUG Dugway, Tooele 86.46 43 P **P 11 23 32.3 +0.7**
baz=234
A04D Lummi Island 86.48 32 P **P 11 23 32.6 +1.3**
baz=226,SNR=60
RSO Redoubt South 86.49 11 *e*P **P 11 23 31.2 -0.1**
HAWA Hanford 86.49 35 *e*P **P 11 23 31.2 -0.2**
comp=Z,83nm,1.4s
HAWA LR LR
comp=Z,7μm,21.0s
SVW2 Sparrevohn 86.64 9 *e*P **P 11 23 31.5 -0.3**
comp=Z,13nm,0.9s
BMO Blue Mountains 86.69 37 *e*P **P 11 23 31.8 -0.8**

comp=Z,14nm,1.0s
BMO Blue Mountains 86.69 37 *e*P **P 11 23 31.8 -0.8**
BMO pmax pmax
comp=Z,14nm,1.0s
Q16A Castle Valley 86.75 45 *e*P **P 11 23 33.2 +0.1**
comp=Z,77nm,1.4s
BGU Big Grassy Mou 86.76 42 *e*P **P 11 23 33.0 -0.1**
comp=Z,47nm,1.5s
SEW Seward 86.76 12 *e*P **P 11 23 32.2 -0.1**
SEW comp=Z,46nm,1.0s LR LR
comp=Z,4μm,22.0s
NLU North Lily Min 86.78 43 *e*P **P 11 23 33.4 +0.1**
comp=Z,49nm,1.4s
MNTX Cornudas Mount 86.80 53 *e*P **P 11 23 33.5 +0.2**
comp=Z,150nm,1.2s
MNTX Cornudas Mount 86.80 53 P **P 11 23 34.2 +0.9**
baz=239
E08A Dider Farm, El 86.80 35 *e*P **P 11 23 33.2 +0.3**
E08A comp=Z,32nm,1.1s LR LR
comp=Z,5μm,20.0s
C06D Leavenworth 86.82 33 P **P 11 23 33.4 +0.4**
baz=228
TXAR Lajitas Array 86.87 56 P **P 11 23 34.4 +0.5**
comp=Z,35nm,1.0s,baz=210,slow=6.7,SNR=118
TXAR PKKPbc **PKKPbc 11 41 26.7 -1.4**
comp=Z,1.3nm,1.0s,baz=142,slow=4.6,SNR=3.6
B06A Marblemount 86.93 32 *e*P **P 11 23 33.7 +0.2**
comp=Z,72nm,1.1s
Y22D IRIS PASSCAL I 86.94 50 PFAKE 11 23 40.0 +5.9
Y22D LR LR
comp=Z,7μm,21.0s
Y22D IRIS PASSCAL I 86.94 50 P **P 11 23 35.3 +1.1**
baz=238
TMUT Trail Mountain 86.95 44 *e*P **P 11 23 33.9 -0.3**
comp=Z,107nm,1.1s
LAZ Ladron 86.96 50 *e*P **P 11 23 34.3 0.0**
SNY Shenyang 86.96 319 ⇓P **P 11 23 35.0 +1.2**
SNY SKS **SKSac 11 34 00.0 -0.6**
SNY S **ScS 11 34 17.9 -1.8**
SNY pmax pmax
comp=Z,29nm,1.3s
SNY pmax pmax
comp=Z,1μm,9.0s
SNY LR LR
comp=Z,910nm,21.6s
SNY LR LR
comp=Z,1μm,21.6s
SNY LR LR
comp=Z,14μm,21.9s
WHN Wuhan 86.97 305 P **P 11 23 35.9 +1.8**
KULM Kulim 87.03 277 *e*P **P 11 23 35.5 +0.6**
comp=Z,85nm,1.2s
KULM Kulim 87.03 277 P **P 11 23 37.0 +2.1**
CN2 Changchun 87.07 321 *e*P **P 11 23 35.1 +0.8**
CN2 *e*S **S 11 34 10.8 -2.2**
CN2 pmax pmax
comp=Z,50nm,1.3s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,700nm,21.0s
CN2 LR LR
comp=Z,1μm,21.0s
CN2 LR LR
comp=Z,1μm,22.0s
MPU Maple Canyon 87.09 43 *e*P **P 11 23 34.6 -0.2**
comp=Z,48nm,1.2s
BNM Barren Site 87.19 51 *e*P **P 11 23 35.5 +0.1**
D08A Wollman Farm, 87.25 35 *e*P **P 11 23 35.2 +0.1**
D08A comp=Z,65nm,1.1s LR LR
comp=Z,7μm,21.0s
LPM Los Pinos Moun 87.27 50 *e*P **P 11 23 35.2 -0.6**
SRU San Rafael Swe 87.28 45 *e*P **P 11 23 34.8 -0.9**
comp=Z,116nm,1.3s
SRU San Rafael Swe 87.28 45 *e*P **P 11 23 34.8 -0.9**
SRU pmax pmax
comp=Z,116nm,1.3s
SPU Mount Spurr 87.28 11 *e*P **P 11 23 34.5 -0.5**
KLR Kul'dur 87.28 328 *d i*P **P 11 23 34.8 -0.4**
KLR pmax pmax
comp=Z,80nm,1.2s
KLR Kul'dur 87.28 328 P **P 11 23 37.4 +2.2**
comp=Z,44nm,0.8s,baz=111,slow=4.1,SNR=116
KLR PKKPbc **PKKPbc 11 41 26.4 -1.6**
comp=Z,1.6nm,0.8s,baz=297,slow=6.8,SNR=4.5
E09A Wood Farm, Sta 87.30 35 *e*P **P 11 23 35.2 -0.1**
comp=Z,36nm,1.1s
SPUT South Promonto 87.34 42 *e*P **P 11 23 35.5 -0.4**
comp=Z,78nm,1.2s
P17A Butcher Ranch, 87.34 44 *e*P **P 11 23 35.6 -0.4**
comp=Z,81nm,1.2s
CTU Camp Tracy 87.41 43 *e*P **P 11 23 35.9 -0.4**
comp=Z,55nm,1.2s
HVU Hansel Valley 87.42 41 *e*P **P 11 23 36.1 -0.2**
comp=Z,74nm,1.3s
HVU Hansel Valley 87.42 41 *e*P **P 11 23 36.1 -0.2**
HVU pmax pmax
comp=Z,74nm,1.3s
F10A Beach Ranch, E 87.44 36 *e*P **P 11 23 35.8 -0.4**
comp=Z,30nm,1.0s
HLID Hailey 87.52 39 *e*P **P 11 23 36.1 -0.6**
comp=Z,20nm,1.0s
HLID LR LR
comp=Z,2μm,19.0s
HLID Hailey 87.52 39 P **P 11 23 37.3 +0.6**
baz=232
JLU Jordanelle 87.54 43 *e*P **P 11 23 36.7 -0.3**
comp=Z,59nm,1.5s
MVCO Mesa Verde 87.55 47 *e*P **P 11 23 36.7 -0.4**
comp=Z,18nm,1.0s
MVCO LR LR
comp=Z,8μm,19.0s
MVCO Mesa Verde 87.55 47 P **P 11 23 37.9 +0.8**
baz=237,SNR=14
PLID Pearl Lake 87.55 37 *e*P **P 11 23 36.7 -0.2**
comp=Z,30nm,1.4s
PSI Prapat 87.57 274 *e*P **P 11 23 37.5 -0.1**
comp=Z,131nm,1.2s
PSI Prapat 87.57 274 *e*P **P 11 23 37.5 -0.1**
PSI pmax pmax
comp=Z,131nm,1.2s
PSI Prapat 87.57 274 P **P 11 23 38.3 +0.6**
comp=Z,54nm,0.9s,baz=199,slow=2.1,SNR=22
RC01 Rabbit Creek A 87.62 12 *e*P **P 11 23 36.4 -0.1**
comp=Z,98nm,1.0s
PV05 Paradox Valley 87.62 46 *e*P **P 11 23 37.4 -0.1**
comp=Z,56nm,1.0s
PV05 LR LR
comp=Z,5μm,20.0s
TASM ASL Pad, Albuq 87.72 50 P **P 11 23 38.8 +0.9**
baz=238,SNR=153
TASM ASL Pad, Albuq 87.72 50 P **P 11 23 38.7 +0.8**
baz=238,SNR=144
ANMO Albuquerque 87.72 50 *e*P **P 11 23 37.6 -0.4**
comp=Z,83nm,1.0s
ANMO LR LR
comp=Z,9μm,21.0s
ANMO Albuquerque 87.72 50 *ce*P **P 11 23 38.7 +0.7**
ANMO pmax pmax
comp=Z,73nm,1.0s
ANMO Albuquerque 87.72 50 P **P 11 23 38.9 +1.0**
baz=238
ANMO Albuquerque 87.72 50 LR LR 11 55 28.6
comp=Z,7μm,20.6s,baz=246,slow=31
PV17 East Wray Mesa 87.83 46 PFAKE 11 23 50.0 +12
PV17 LR LR
comp=Z,5μm,20.0s
PV10 Paradox Valley 87.83 46 *e*P **P 11 23 37.7 -0.8**
comp=Z,66nm,1.4s
PV19 Morning Glory 87.83 46 PFAKE 11 23 50.0 +12
PV19 LR LR
comp=Z,4μm,20.0s
PV14 Lion Creek, Pa 87.84 46 PFAKE 11 23 50.0 +12
PV14 LR LR
comp=Z,6μm,21.0s
PV18 Skein Mesa, Pa 87.84 46 PFAKE 11 23 50.0 +12
PV18 LR LR
comp=Z,5μm,21.0s
SKLT Songkhla 87.84 279 P **P 11 23 42.7 +4.0**
PV13 Radium Mtn., P 87.85 46 PFAKE 11 23 50.0 +11
PV13 LR LR
comp=Z,6μm,19.0s
PV20 West Nyswonger 87.86 46 PFAKE 11 23 50.0 +11
PV20 LR LR
comp=Z,5μm,20.0s
ROC1 El Roble 87.86 125 *e*P **P 11 23 39.0 +0.1**
TCUT Toone Canyon 87.87 43 *e*P **P 11 23 38.7 +0.1**
comp=Z,169nm,1.2s
PV16 Nyswonger Mesa 87.87 46 PFAKE 11 23 50.0 +11
PV16 LR LR
comp=Z,5μm,21.0s
PV03 Paradox Valley 87.89 46 PFAKE 11 23 50.0 +11
PV03 LR LR
comp=Z,5μm,20.0s
B08A Colville Reser 87.89 33 *e*P **P 11 23 37.7 -0.5**
comp=Z,57nm,1.0s
PV23 Carpenter Ridg 87.89 46 PFAKE 11 23 50.0 +11
PV23 LR LR
comp=Z,7μm,20.0s
PV11 David Mesa, Pa 87.89 46 PFAKE 11 23 50.0 +11
PV11 LR LR
comp=Z,7μm,21.0s
GAMB Gambell 87.92 1 *e*P **P 11 23 37.2 -0.7**
comp=Z,37nm,1.0s
PV04 Paradox Valley 87.92 46 *e*P **P 11 23 38.2 -0.7**
comp=Z,23nm,1.0s
PV04 LR LR
comp=Z,6μm,21.0s
PV02 Paradox Valley 87.93 46 PFAKE 11 23 50.0 +11
PV02 LR LR
comp=Z,6μm,20.0s
TIA Tai'an 87.93 311 P **P 11 23 40.1 +1.4**
TIA pmax pmax
comp=Z,55nm,0.9s
EYAK Cordova Ski Ar 87.94 14 *e*P **P 11 23 38.2 +0.2**
comp=Z,77nm,1.0s
GLI Glacier Island 87.95 13 *e*P **P 11 23 38.2 +0.1**
comp=Z,142nm,1.1s
PV12 Saucer Basin, 87.95 46 PFAKE 11 23 50.0 +11
PV12 LR LR
comp=Z,7μm,21.0s
PV01 Paradox Valley 88.00 46 *e*P **P 11 23 39.0 -0.3**
comp=Z,37nm,1.0s
PV01 LR LR
comp=Z,6μm,20.0s
LNIG Linares 88.00 62 *e*P **P 11 23 38.8 -0.5**
comp=Z,111nm,1.2s
PEL Peldehue 88.03 126 *e*P **P 11 23 38.9 -0.6**
comp=Z,145nm,1.1s
PEL Peldehue 88.03 126 *e*P **P 11 23 38.9 -0.6**
PEL pmax pmax
comp=Z,145nm,1.1s
HWUT Hardware Ranch 88.05 42 *e*P **P 11 23 39.2 -0.2**
C09A Chrisman Ranch 88.06 34 *e*P **P 11 23 38.9 -0.1**
comp=Z,70nm,1.0s
C09A LR LR
comp=Z,6μm,20.0s
PV22 Blue Mesa, Par 88.08 46 PFAKE 11 23 50.0 +10
PV22 LR LR
comp=Z,4μm,20.0s
HMT Hamilton 88.09 15 *e*P **P 11 23 39.0 +0.2**
comp=Z,45nm,0.9s
PV07 Paradox Valley 88.12 46 *e*P **P 11 23 39.4 -0.4**
comp=Z,36nm,1.1s
PV07 LR LR
comp=Z,5μm,19.0s
LVIG Laguna Verde 88.16 68 *e*P **P 11 23 39.1 -0.9**
comp=Z,142nm,1.1s
KNK Knik Glacier 88.16 12 *e*P **P 11 23 39.3 +0.1**
comp=Z,102nm,1.0s
LLLB Lillooet 88.17 31 *e*P **P 11 23 39.3 -0.2**
comp=Z,58nm,1.0s
LLLB LR LR
comp=Z,4μm,19.0s
GSI Gunungsitoli 88.18 272 *e*P **P 11 23 40.9 +0.5**
comp=Z,246nm,1.0s
PMR Palmer 88.19 12 *e*P **P 11 23 39.4 +0.2**
comp=Z,71nm,1.0s
PMR Palmer 88.19 12 *e*P **P 11 23 39.4 +0.2**
PMR pmax pmax
comp=Z,71nm,1.0s
WRAK Wrangell Islan 88.22 22 *e*P **P 11 23 39.5 0.0**
MA2 Magadan 88.28 343 *e*P **P 11 23 39.6 -0.1**
comp=Z,48nm,1.0s
MA2 Magadan 88.28 343 *ce*P **P 11 23 40.0 +0.3**
MA2 pmax pmax
comp=Z,46nm,1.0s
MA2 Magadan 88.28 343 P **P 11 23 40.3 +0.6**
comp=Z,40nm,0.9s,baz=147,slow=4.8,SNR=19
CMIG Matias Romero 88.30 70 P **P 11 23 41.7 +0.9**
comp=Z,38nm,1.0s,baz=257,slow=4.7,SNR=22
GHO Glory Hole Cre 88.40 12 *e*P **P 11 23 40.7 +0.3**
comp=Z,137nm,0.9s
DIV Divide 88.46 14 *e*P **P 11 23 40.8 +0.1**
comp=Z,108nm,1.0s
PANO Nakornpanom 88.56 289 P **P 11 23 44.1 +2.1**
SCM Sheep Creek Mo 88.77 13 *e*P **P 11 23 42.1 0.0**
comp=Z,147nm,1.0s
SCM Sheep Creek Mo 88.77 13 *e*P **P 11 23 42.1 0.0**
SCM pmax pmax
comp=Z,147nm,1.0s
TGL Tana Glacier 88.79 15 *e*P **P 11 23 42.3 0.0**
comp=Z,83nm,1.0s
PPLA Purkeypile 88.87 10 *e*P **P 11 23 41.8 -0.9**
comp=Z,21nm,1.2s
BCPM Bancas Point 88.90 17 *e*P **P 11 23 42.9 +0.2**
comp=Z,59nm,0.8s
S22A 4UR Ranch, Cre 88.95 47 *e*P **P 11 23 43.9 0.0**
comp=Z,79nm,1.1s
S22A 4UR Ranch, Cre 88.95 47 P **P 11 23 44.9 +1.1**
baz=238,SNR=98
NEW Newport 88.95 34 *e*P **P 11 23 43.1 -0.1**
comp=Z,29nm,1.0s
NEW Newport 88.95 34 *e*P **P 11 23 43.1 -0.1**
NEW pmax pmax
comp=Z,29nm,1.0s
NEW Newport 88.95 34 P **P 11 23 43.3 +0.1**
baz=230,SNR=12
TRTT Trang 88.95 279 P **P 11 23 47.0 +3.0**
ANM Nome 88.99 4 *e*P **P 11 23 43.3 +0.3**
comp=Z,17nm,1.3s
ANM Nome 88.99 4 *e*P **P 11 23 43.3 +0.3**
ANM pmax pmax
comp=Z,17nm,1.3s
AHID Auburn Hatcher 89.00 41 *e*P **P 11 23 43.5 -0.3**
comp=Z,57nm,1.1s
AHID LR LR
comp=Z,5μm,20.0s
SKNT Sakolnakorn 89.02 289 P **P 11 23 46.3 +2.1**
JIS Juneau Island 89.03 20 *e*P **P 11 23 43.6 +0.4**
comp=Z,74nm,1.4s
BESE Bessie Mountai 89.13 20 *e*P **P 11 23 44.2 +0.4**
comp=Z,99nm,1.3s
BALM Baldy 89.15 15 *e*P **P 11 23 44.5 +0.5**
comp=Z,73nm,0.8s
BALM Baldy 89.15 15 *e*P **P 11 23 44.5 +0.5**
BALM pmax pmax
comp=Z,73nm,0.8s
O20A White River Ci 89.31 45 *e*P **P 11 23 45.0 -0.4**
comp=Z,28nm,1.0s
O20A White River Ci 89.31 45 P **P 11 23 45.6 +0.3**
baz=237,SNR=16
GO04 Tololo Observa 89.33 123 *e*P **P 11 23 45.9 0.0**
comp=Z,134nm,1.1s
CTGM Chitina Glacie 89.34 16 *e*P **P 11 23 45.0 +0.1**
comp=Z,89nm,0.9s
CAST Castle Rocks 89.38 10 *e*P **P 11 23 44.2 -0.6**
comp=Z,39nm,0.9s
REDW Red Top Meadow 89.49 41 *e*P **P 11 23 46.0 -0.1**
comp=Z,40nm,1.1s
TPAW Teton Pass 89.51 41 *e*P **P 11 23 46.1 -0.2**
comp=Z,37nm,1.3s
FXWY Fox Creek 89.55 41 *e*P **P 11 23 46.2 -0.2**
comp=Z,25nm,1.2s
SNOW Snow King Moun 89.61 41 *e*P **P 11 23 46.4 -0.4**
comp=Z,50nm,1.1s
SMCO Snowmass 89.62 46 *e*P **P 11 23 46.3 -0.8**
comp=Z,56nm,1.4s
DLMT Dillon 89.63 39 *e*P **P 11 23 46.6 0.0**
comp=Z,40nm,1.3s
DLMT LR LR
comp=Z,2μm,19.0s
833A Chaparral WMA, 89.66 59 *e*P **P 11 23 46.6 -0.4**
comp=Z,85nm,1.3s
833A Chaparral WMA, 89.66 59 P **P 11 23 46.7 -0.4**
baz=242
SKAG Skagway 89.70 19 *e*P **P 11 23 46.5 +0.1**
comp=Z,124nm,1.3s
HARP HAARP 89.73 13 *e*P **P 11 23 47.2 +0.6**
comp=Z,87nm,0.9s
IMW Indian Meadow 89.75 41 *e*P **P 11 23 46.9 -0.5**
comp=Z,31nm,1.2s
KHON Khomkaen 89.75 288 P **P 11 23 50.8 +3.1**
MSO Missoula 89.76 37 *e*P **P 11 23 46.7 -0.5**
comp=Z,40nm,1.3s
MSO Missoula 89.76 37 P **P 11 23 47.2 +0.1**
baz=233,SNR=9.6
MOOW Moose Ponds 89.78 41 *e*P **P 11 23 46.9 -0.6**
comp=Z,39nm,1.4s
LOHW Long Hollow 89.78 41 *e*P **P 11 23 46.9 -0.6**
comp=Z,23nm,1.4s
MSTX Muleshoe 89.84 52 *e*P **P 11 23 47.5 -0.4**
comp=Z,90nm,1.5s
MSTX LR LR
comp=Z,3μm,21.0s
MSTX Muleshoe 89.84 52 P **P 11 23 47.8 0.0**
baz=240
SDCO Great Sand Dun 89.85 48 *e*P **P 11 23 47.4 -0.6**
comp=Z,50nm,1.0s
SDCO Great Sand Dun 89.85 48 P **P 11 23 48.2 +0.1**
baz=238,SNR=84
DHY Denali Highway 89.89 12 *e*P **P 11 23 47.2 -0.2**
comp=Z,54nm,1.2s
BW06 Boulder Array 89.94 42 *e*P **P 11 23 47.5 -0.8**
comp=Z,13nm,1.0s
BW06 Boulder Array 89.94 42 P **P 11 23 48.1 -0.1**
baz=236,SNR=21
PD31 Pinedale Array 89.94 42 *e*P **P 11 23 47.5 -0.7**
comp=Z,12nm,1.0s
PDAR Pinedale Array 89.94 42 P **P 11 23 48.7 +0.4**
comp=Z,10nm,0.9s,baz=204,slow=3.3,SNR=55
PDAR PP **PP 11 27 17.8 -3.7**
comp=Z,2.8nm,1.0s,baz=232,slow=6.5,SNR=5.0
PDAR PKKP **PKKPdf 11 41 15.0 -2.8**
comp=Z,0.6nm,0.8s,baz=101,slow=4.7,SNR=2.6
PDAR PKPPKP 11 49 27.3
comp=Z,0.2nm,0.4s,baz=54,slow=2.6,SNR=4.0
PDAR LR LR 11 57 25.6
comp=Z,3μm,20.5s,baz=248,slow=31
LCO Las Campanas 89.94 122 *e*P **P 11 23 48.2 -0.6**
comp=Z,113nm,1.1s
LCO Las Campanas 89.94 122 *e*P **P 11 23 48.2 -0.6**
LCO pmax pmax
comp=Z,113nm,1.1s
LCO Las Campanas 89.94 122 *e*P **P 11 23 49.3 +0.4**
FLWY Flagg Ranch 89.99 40 *e*P **P 11 23 48.3 -0.1**
comp=Z,39nm,1.1s
YPP Pitchstone Pla 90.04 40 *e*P **P 11 23 48.7 -0.1**
comp=Z,16nm,1.3s
YHB Horse Butte 90.09 40 *e*P **P 11 23 49.2 +0.3**
comp=Z,26nm,1.3s
YFT Old Faithful 90.12 40 *e*P **P 11 23 48.7 -0.4**
comp=Z,37nm,1.5s
PAX Paxson 90.17 13 *e*P **P 11 23 48.4 -0.3**
comp=Z,62nm,1.0s
PAX Paxson 90.17 13 *e*P **P 11 23 48.4 -0.3**
PAX pmax pmax
comp=Z,62nm,1.0s
YMR Madison River 90.17 40 *e*P **P 11 23 48.9 -0.4**
comp=Z,64nm,1.5s
BPAW Bear Paw Mtn. 90.19 10 *e*P **P 11 23 48.0 -0.6**
comp=Z,18nm,1.0s
MCK McKinley 90.20 11 *e*P **P 11 23 48.4 -0.3**
comp=Z,112nm,1.0s
MCK McKinley 90.20 11 *e*P **P 11 23 48.4 -0.3**
MCK pmax pmax
comp=Z,112nm,1.0s
H17A Grant Village 90.25 40 *e*P **P 11 23 48.9 -0.7**
comp=Z,28nm,1.3s
H17A Grant Village 90.25 40 P **P 11 23 51.3 +1.6**
baz=235,SNR=6.4
T25A Trinidad 90.28 49 P **P 11 23 50.2 +0.2**
baz=239,SNR=10
CHAI Chaiyaphum 90.29 287 P **P 11 23 52.3 +2.1**
YHH Holmes Hill 90.31 40 *e*P **P 11 23 49.7 -0.4**
comp=Z,45nm,1.4s
BOZ Bozeman (W) 90.32 39 *e*P **P 11 23 49.6 -0.3**
comp=Z,72nm,1.2s
BOZ LR LR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 90.32 39 *e*P **P 11 23 49.6 -0.3**
BOZ pmax pmax
comp=Z,73nm,1.2s
BOZ MLR MLR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 90.32 39 P **P 11 23 50.8 +0.9**
baz=234,SNR=85
CCIG Comitan 90.33 72 *e*P **P 11 23 49.8 -0.7**
comp=Z,99nm,1.2s
JCT Junction City 90.36 57 *e*P **P 11 23 49.5 -0.8**
comp=Z,55nm,1.2s
JCT Junction City 90.36 57 *e*P **P 11 23 49.5 -0.8**
JCT pmax pmax
comp=Z,55nm,1.2s
JCT Junction City 90.36 57 P **P 11 23 50.2 -0.1**
baz=242
ENH Enshi 90.50 303 *e*P **P 11 23 51.8 +0.9**
comp=Z,266nm,1.1s
BWN Browne 90.51 11 *e*P **P 11 23 50.0 -0.1**
comp=Z,138nm,1.2s
MENT Mentasta 90.51 14 *e*P **P 11 23 50.4 +0.2**
comp=Z,97nm,0.9s
DLBC Dease Lake 90.58 22 *e*P **P 11 23 50.5 -0.1**
comp=Z,97nm,1.0s
BJI Beijing 90.60 314 ⇓*e*P **P 11 23 52.3 +1.3**
BJI pP **PcP 11 23 55.3 +3.2**
BJI sP **sP 11 23 57.6 +4.6**
BJI S **S 11 34 48.9 +2.5**
BJI pmax pmax
comp=Z,10.0nm,0.8s
Q24A Divide 90.71 47 *e*P **P 11 23 51.4 -0.6**
comp=Z,54nm,1.1s
Q24A Divide 90.71 47 P **P 11 23 52.5 +0.5**
baz=239,SNR=16
SEY Seymchan 90.80 346 *ce*P **P 11 23 51.6 +0.2**
SEY Seymchan 90.80 346 P **P 11 23 52.4 +1.0**
comp=Z,59nm,1.0s,baz=145,slow=4.9,SNR=70
RWWY Rawlins 90.81 44 *e*P **P 11 23 50.9 -1.5**
comp=Z,46nm,1.4s
RWWY LR LR
comp=Z,8μm,22.0s
WHY Whitehorse 90.81 19 *e*P **P 11 23 51.8 +0.1**
comp=Z,67nm,1.4s
ISCO Idaho Springs 90.84 46 P **P 11 23 52.6 -0.1**
baz=238,SNR=15
GYA Guiyang 90.96 299 ⇓*i*P **P 11 23 55.4 +2.1**
GYA PP **PP 11 27 35.4 +5.6**
GYA SS SS 11 40 58.8 +4.2
GYA pmax pmax
comp=Z,50nm,1.1s
GYA pmax pmax
comp=Z,350nm,7.8s
GYA LR LR
comp=Z,1μm,22.0s
GYA LR LR
comp=Z,760nm,19.9s
GYA LR LR
comp=Z,1μm,22.5s
SLVN Son La 90.97 293 *e*P **P 11 23 53.3 0.0**
comp=Z,57nm,1.2s
RIDG Independent Ri 90.99 13 *e*P **P 11 23 52.2 -0.2**
comp=Z,107nm,1.0s
WRH Wood River Hil 91.03 11 *e*P **P 11 23 52.4 -0.1**
comp=Z,160nm,1.1s
BCAR Beaver Creek A 91.05 14 *e*P **P 11 23 52.6 -0.1**
DOT Dot Lake 91.07 13 *e*P **P 11 23 52.8 0.0**
comp=Z,119nm,1.0s
AMTX Amarillo 91.08 52 *e*P **P 11 23 53.0 -0.6**
comp=Z,62nm,1.1s
AMTX LR LR
comp=Z,7μm,22.0s
AMTX Amarillo 91.08 52 P **P 11 23 53.2 -0.3**
baz=241
MLY Manley 91.10 10 *e*P **P 11 23 52.5 -0.4**
comp=Z,39nm,1.1s
PHET Kaeng Krachan 91.11 284 P **P 11 23 58.0 +4.0**
HDA Harding Lake 91.18 12 *e*P **P 11 23 52.4 -0.8**
comp=Z,111nm,1.0s
HDA LR LR
comp=Z,3μm,20.0s
HDA Harding Lake 91.18 12 P **P 11 23 53.4 +0.2**
baz=205,SNR=121
N23A Red Feather La 91.20 45 *e*P **P 11 23 52.8 -1.4**
comp=Z,30nm,1.2s
N23A Red Feather La 91.20 45 P **P 11 23 54.8 +0.6**
baz=238,SNR=9.1
CCB Clear Creek Bu 91.24 11 *e*P **P 11 23 53.0 -0.5**
comp=Z,119nm,1.3s

RLMT	**Red Lodge**	**91.42**	**40**	PFAKE		11 24 10.0	+15
RLMT				LR	LR		
	comp=Z,2μm,19.0s						
RLMT	**Red Lodge**	**91.42**	**40**	P	**P**	**11 23 55.9**	**+0.8**
	baz=236,SNR=8.2						
TCOL	**CIGO, UAF Yank**	**91.44**	**11**	P	**P**	**11 23 54.7**	**+0.4**
	baz=204,SNR=33						
COLA	**College**	**91.44**	**11**	*e*P	**P**	**11 23 54.0**	**-0.3**
	comp=Z,114nm,1.0s						
COLA				LR	LR		
	comp=Z,4μm,21.0s						
COLA	**College**	**91.44**	**11***d*	*i*P	**P**	**11 23 54.0**	**-0.3**
COLA				pmax	pmax		
	comp=Z,108nm,1.0s						
MDM	**Murphy Dome**	**91.45**	**11**	*e*P	**P**	**11 23 53.8**	**-0.6**
	comp=Z,94nm,1.0s						
MDM				LR	LR		
	comp=Z,4μm,22.0s						
PBKT	**Sadao Pong**	**91.46**	**287**	P	**P**	**11 23 58.3**	**+2.7**
ABTX	**Abilene, Hawle**	**91.49**	**55**	*e*P	**P**	**11 23 54.8**	**-0.7**
	comp=Z,115nm,1.2s						
ILAR	**Eielson Array**	**91.52**	**12**	P	**P**	**11 23 55.2**	**+0.4**
	comp=Z,44nm,1.0s,baz=218,slow=5.1,SNR=203						
ILAR				PKiKP	**PKiKP**	**11 28 45.5**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=232,slow=2.1,SNR=2.5						
ILAR				PKKP	**PKKPbc**	**11 41 16.7**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=340,slow=4.0,SNR=4.5						
ILB	**Eielson Array**	**91.52**	**12**	*e*P	**P**	**11 23 54.5**	**-0.3**
	comp=Z,81nm,1.3s						
IMAR	**Indian Mountai**	**91.55**	**9**	*e*P	**P**	**11 23 54.9**	**0.0**
TRQA	**Tornquist**	**91.68**	**133**	*e*P	**P**	**11 23 56.5**	**+0.1**
	comp=Z,45nm,1.1s						
TRQA	**Tornquist**	**91.68**	**133**	*e*P	**P**	**11 23 56.5**	**+0.1**
TRQA				pmax	pmax		
	comp=Z,45nm,1.1s						
PHWY	**Pilot Hill**	**91.72**	**45**	*e*P	**P**	**11 23 55.4**	**-1.3**
	comp=Z,14nm,1.1s						
PHWY				LR	LR		
	comp=Z,2μm,19.0s						
POKR	**Poker Plat Res**	**91.74**	**11**	P	**P**	**11 23 55.8**	**0.0**
	baz=205,SNR=22						
K22A	**Casper**	**91.75**	**43**	*e*P	**P**	**11 23 56.0**	**-0.6**
	comp=Z,26nm,1.1s						
K22A				LR	LR		
	comp=Z,8μm,20.0s						
K22A	**Casper**	**91.75**	**43**	P	**P**	**11 23 56.9**	**+0.3**
	baz=238,SNR=7.2						
TIY	**Taiyuan**	**91.92**	**311**	*e*P	**P**	**11 23 59.6**	**+2.2**
TIY				SKS	**SKSac**	**11 34 29.5**	**-0.7**
TIY				pmax	pmax		
	comp=Z,97nm,0.8s						
TIY				pmax	pmax		
	comp=Z,550nm,4.1s						
TIY				LR	LR		
	comp=Z,1μm,18.3s						
TIY				LR	LR		
	comp=Z,410nm,15.7s						
TIY				LR	LR		
	comp=Z,18μm,55.2s						
SRDT	**SRDT**	**92.16**	**285**	P	P	11 24 06.5	+7.6
435B	**Jarrell**	**92.19**	**57**	*e*P	**P**	**11 23 58.0**	**-0.7**
	comp=Z,45nm,1.0s						
435B				LR	LR		
	comp=Z,4μm,21.0s						
UTTA	**Uttaradit**	**92.31**	**288**	P	**P**	**11 24 02.3**	**+2.8**
ZEA	**Zeya**	**92.38**	**330**	*e*P	**P**	**11 24 00.5**	**+1.5**
ZEA				*e*S	**SKSac**	**11 34 35.0**	**+3.2**
ZEA				*e*		11 35 08.0	
ZEA				pmax	pmax		
	comp=N,35nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,35nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,500nm,9.0s						
ZEA				smax	smax		
	comp=N,400nm,8.0s						
NNA	**Nana**	**92.40**	**104**	PFAKE		11 24 10.0	+10
NNA				LR	LR		
	comp=Z,5μm,19.0s						
KSCO	**Kaye Shedlock'**	**92.43**	**48**	*e*P	**P**	**11 23 59.2**	**-0.7**
	comp=Z,49nm,1.0s						
KSCO	**Kaye Shedlock'**	**92.43**	**48**	P	**P**	**11 24 00.2**	**+0.4**
	baz=240						
PRP	**Porcupine Dome**	**92.45**	**12**	*e*P	**P**	**11 23 59.1**	**-0.1**
	comp=Z,88nm,1.0s						
PRP				LR	LR		
	comp=Z,4μm,21.0s						
DAWY	**Dawson**	**92.47**	**15**	*e*P	**P**	**11 23 59.0**	**-0.2**
	comp=Z,39nm,0.8s						
NANT	**Nan**	**92.62**	**289**	P	**P**	**11 24 03.3**	**+2.3**
PB10	**IPOC Station P**	**92.63**	**117**	*e*P	**P**	**11 24 00.6**	**-0.5**
	comp=Z,54nm,1.2s						
GO02	**Mina Guanaco**	**92.63**	**119**	*e*P	**P**	**11 24 01.2**	**-0.2**
	comp=Z,70nm,1.1s						
EGAK	**Eagle**	**92.68**	**14**	*e*P	**P**	**11 23 59.9**	**-0.2**
	comp=Z,48nm,1.0s						
EGAK				LR	LR		
	comp=Z,3μm,19.0s						
XAN	**Xi'an**	**92.68**	**306**	P	**P**	**11 24 02.6**	**+1.6**
XAN				pP	sP	11 24 07.3	+4.4
XAN				sP	pwP	11 24 09.8	-4.0
XAN				PP	PP	11 27 51.0	+7.9
XAN				SKS	**SKSac**	**11 34 35.3**	**+0.7**
XAN				S	**ScS**	**11 35 08.8**	**+1.1**
XAN				sS	sS	11 35 16.1	+8.0
XAN				pmax	pmax		
	comp=Z,34nm,0.8s						
XAN				pmax	pmax		
	comp=Z,1μm,7.6s						
XAN				LR	LR		
	comp=Z,700nm,17.9s						
XAN				LR	LR		
	comp=Z,1μm,19.2s						
XAN	**Xi'an**	**92.68**	**306**	*e*P	**P**	**11 24 01.4**	**+0.4**
	comp=Z,48nm,1.1s						
XAN	**Xi'an**	**92.68**	**306**	*e*P	**P**	**11 24 01.4**	**+0.4**
XAN				pmax	pmax		
	comp=Z,48nm,1.1s						
EGMT	**Eagleton**	**92.76**	**38**	*e*P	**P**	**11 24 00.7**	**-0.3**
	comp=Z,47nm,1.3s						
EGMT	**Eagleton**	**92.76**	**38**	P	**P**	**11 24 01.8**	**+0.8**
	baz=236						
WHTX	**Lake Whitney,**	**92.84**	**56**	*e*P	**P**	**11 24 01.0**	**-0.6**
	comp=Z,35nm,1.0s						
PHRA	**Phrae**	**92.91**	**289**	P	**P**	**11 24 04.8**	**+2.5**
WMOK	**Wichita Mounta**	**93.11**	**53**	*e*P	**P**	**11 24 02.0**	**-0.9**
	comp=Z,22nm,1.1s						
WMOK	**Wichita Mounta**	**93.11**	**53**	*e*P	**P**	**11 24 02.0**	**-0.9**
WMOK				pmax	pmax		
	comp=Z,23nm,1.1s						
WMOK	**Wichita Mounta**	**93.11**	**53**	P	**P**	**11 24 02.0**	**-0.9**
	baz=242						
UMPA	**Umpang Tak**	**93.15**	**286**	P	P	11 24 10.7	+7.2
HKT	**Hockley**	**93.17**	**59**	*e*P	**P**	**11 24 02.8**	**-0.4**
	comp=Z,65nm,1.5s						
BILL	**Bilibino**	**93.20**	**353**	*e*P	**P**	**11 24 02.6**	**+0.1**
	comp=Z,48nm,1.0s						
BILL	**Bilibino**	**93.20**	**353***d*	*i*P	**P**	**11 24 03.2**	**+0.7**
BILL				*i*		11 24 07.1	
BILL				*i*		11 27 48.0	
BILL				pmax	pmax		
	comp=Z,47nm,1.0s						
BILL				MLR	MLR		
	comp=Z,4μm,19.0s						
COLD	**Coldfoot**	**93.22**	**9**	*e*P	**P**	**11 24 02.9**	**+0.3**
	comp=Z,15nm,1.4s						
LAMP	**Lampang**	**93.43**	**289**	P	**P**	**11 24 07.4**	**+2.7**
HIA	**Hailar**	**93.47**	**323**	*e*P	**P**	**11 24 04.3**	**+0.1**
	comp=Z,28nm,1.0s						
HIA				LR	LR		
	comp=Z,700nm,18.0s						
HIA	**Hailar**	**93.47**	**323**	*e*P	**P**	**11 24 04.3**	**+0.1**
HIA				pmax	pmax		
	comp=Z,28nm,1.0s						
HIA				MLR	MLR		
	comp=Z,700nm,18.0s						
PB04	**IPOC Station P**	**93.51**	**116**	*e*P	**P**	**11 24 04.7**	**-0.6**
	comp=Z,158nm,1.3s						
KMI	**Kunming**	**93.56**	**296**	P	**P**	**11 24 07.5**	**+2.0**
KMI				pP	sP	11 24 09.6	+2.2
KMI				sP	pP	11 24 11.8	+4.9
KMI				S	**S**	**11 35 12.0**	**-2.3**
KMI				sS	ScS	11 35 18.5	+2.6
KMI				SS	**SS**	**11 41 31.5**	**-0.7**
KMI				pmax	pmax		
	comp=Z,28nm,0.6s						
KMI				pmax	pmax		
	comp=Z,250nm,4.0s						
KMI				LR	LR		
	comp=Z,730nm,22.7s						
KMI				LR	LR		
	comp=Z,790nm,18.1s						
KMI				LR	LR		
	comp=Z,4μm,37.0s						
PAYA	**Payao**	**93.57**	**290**	P	**P**	**11 24 08.0**	**+2.6**
TGUH	**Tegucigalpa,Un**	**93.67**	**76**	*e*P	**P**	**11 24 05.9**	**+0.1**
	comp=Z,28nm,0.9s						
U32A	**Winter Ranch,**	**93.70**	**52**	*e*P	**P**	**11 24 05.4**	**-0.2**
	comp=Z,172nm,1.0s						
OGNE	**Ogallala**	**93.78**	**47**	*e*P	**P**	**11 24 05.5**	**-0.4**
	comp=Z,43nm,1.0s						
OGNE	**Ogallala**	**93.78**	**47**	P	**P**	**11 24 06.1**	**+0.2**
	baz=241						
CM31	**Chiang Mai Arr**	**94.00**	**288**	*e*P	**P**	**11 24 08.2**	**+0.8**
	comp=Z,102nm,1.0s						
CMAR	**Chiang Mai Arr**	**94.00**	**288**	P	**P**	**11 24 09.4**	**+2.1**
	comp=Z,19nm,0.9s,baz=139,slow=3.3,SNR=70						
CMAR				PP	**PP**	**11 27 52.5**	**-1.2**
	comp=Z,2.7nm,0.9s,baz=119,slow=5.6,SNR=5.0						
HHC	**Hu-ho-hao-te**	**94.04**	**313**	*e*P	**P**	**11 24 07.6**	**+0.5**
HHC				sP	pwP	11 24 14.3	-5.7
HHC				SKS	**SKSac**	**11 34 46.5**	**+4.6**
HHC				S	**S**	**11 35 18.0**	**+0.4**
HHC				pmax	pmax		
	comp=Z,420nm,1.3s						
HHC				pmax	pmax		
	comp=Z,2μm,7.6s						
HHC				LR	LR		
	comp=Z,3μm,17.2s						
HHC				LR	LR		
	comp=Z,3μm,17.6s						
HHC				LR	LR		
	comp=Z,4μm,18.2s						
LAO	**LASA Array**	**94.06**	**40**	*e*P	**P**	**11 24 07.1**	**+0.1**
	comp=Z,99nm,1.1s						
LAO	**LASA Array**	**94.06**	**40**	P	**P**	**11 24 08.2**	**+1.1**
	baz=238,SNR=19						
RSSD	**Black Hills**	**94.06**	**43**	*e*P	**P**	**11 24 06.8**	**-0.5**
	comp=Z,75nm,1.1s						
RSSD				LR	LR		
	comp=Z,6μm,20.0s						
RSSD	**Black Hills**	**94.06**	**43**	*e*P	**P**	**11 24 06.8**	**-0.5**
RSSD				pmax	pmax		
	comp=Z,75nm,1.1s						
RSSD				MLR	MLR		
	comp=Z,6μm,20.0s						
RSSD	**Black Hills**	**94.06**	**43**	P	**P**	**11 24 07.0**	**-0.3**
	baz=240						
CMMT	**Chiang Mai**	**94.14**	**289**	P	**P**	**11 24 10.3**	**+2.3**
CHTO	**Chiang Mai**	**94.14**	**289**	*e*P	**P**	**11 24 08.5**	**+0.5**
	comp=Z,85nm,1.0s						
JTS	**Las Juntas de**	**94.22**	**81**	*e*P	**P**	**11 24 07.8**	**-0.7**
	comp=Z,72nm,1.1s						
JTS	**Las Juntas de**	**94.22**	**81**	*e*P	**P**	**11 24 07.8**	**-0.7**
JTS				pmax	pmax		
	comp=Z,72nm,1.1s						
CBKS	**Cedar Bluff**	**94.32**	**49**	*e*P	**P**	**11 24 08.0**	**-0.4**
	comp=Z,46nm,1.0s						
CBKS	**Cedar Bluff**	**94.32**	**49**	*e*P	**P**	**11 24 08.0**	**-0.4**
CBKS				pmax	pmax		
	comp=Z,46nm,1.0s						
CBKS	**Cedar Bluff**	**94.32**	**49**	P	**P**	**11 24 08.6**	**+0.2**
	baz=242						
MYIG	**Mrida**	**94.34**	**69**	PFAKE		11 24 20.0	+11
MYIG				LR	LR		
	comp=Z,4μm,20.0s						
LVC	**Limon Verde**	**94.39**	**117**	*e*P	**P**	**11 24 09.2**	**-0.4**
	comp=Z,107nm,1.2s						
LVC	**Limon Verde**	**94.39**	**117**	*e*P	**P**	**11 24 09.2**	**-0.4**
LVC				pmax	pmax		
	comp=Z,107nm,1.2s						
LVC	**Limon Verde**	**94.39**	**117**	*e*P	**P**	**11 24 12.1**	**+2.5**
TOLK	**Toolik Lake Re**	**94.62**	**9**	*e*P	**P**	**11 24 09.2**	**+0.1**
	comp=Z,15nm,1.4s						
TOLK	**Toolik Lake Re**	**94.62**	**9**	P	**P**	**11 24 09.9**	**+0.8**
	baz=203						
PB01	**IPOC Station P**	**94.65**	**115**	*e*P	**P**	**11 24 10.0**	**-0.5**
	comp=Z,71nm,1.3s						
NATX	**Nacogdoches**	**94.87**	**57**	P	**P**	**11 24 11.4**	**+0.4**
	baz=244						
EPYK	**Eagle Plains**	**95.02**	**15**	*e*P	**P**	**11 24 10.8**	**-0.1**
	comp=Z,28nm,0.9s						
EPYK	**Eagle Plains**	**95.02**	**15**	P	**P**	**11 24 11.4**	**+0.5**
	baz=214,SNR=32						
PB11	**IPOC Station P**	**95.12**	**114**	*e*P	**P**	**11 24 11.7**	**-1.0**
	comp=Z,103nm,1.1s						
CD2	**Chengdu**	**95.20**	**301**	P	**P**	**11 24 16.0**	**+3.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
MNMC	**Minye Minye**	**95.46**	**114**	*e*P	**P**	**11 24 14.3**	**-0.2**
	comp=Z,97nm,1.2s						
ESPN	**Las Esperanzas**	**95.57**	**79**	PFAKE		11 24 30.0	+15
ESPN				LR	LR		
	comp=Z,2μm,20.0s						
TUL1	**Leonard**	**95.81**	**53**	P	**P**	**11 24 15.4**	**+0.1**
	baz=244						
OTAV	**Otavalo**	**96.07**	**92**	*e*P	**P**	**11 24 19.2**	**+1.7**
DGMT	**Dagmar**	**96.15**	**39**	*e*P	**P**	**11 24 15.2**	**-1.3**
	comp=Z,102nm,1.1s						
DGMT	**Dagmar**	**96.15**	**39**	P	**P**	**11 24 17.3**	**+0.8**
	baz=240,SNR=7.2						
BGNE	**Belgrade**	**96.59**	**48**	PFAKE		11 24 30.0	+11
BGNE				LR	LR		
	comp=Z,5μm,22.0s						
BGNE	**Belgrade**	**96.59**	**48**	P	**P**	**11 24 18.6**	**-0.1**
	baz=243						
KSU1	**Kansas State U**	**96.62**	**50**	PFAKE		11 24 30.0	+11
KSU1				LR	LR		
	comp=Z,8μm,22.0s						
KSU1	**Kansas State U**	**96.62**	**50**	P	**P**	**11 24 18.8**	**0.0**
	baz=244						
YAK	**Yakutsk**	**96.76**	**337**	*e*P	**P**	**11 24 18.8**	**0.0**
YAK				*e**PP	**pwP**	**11 24 27.1**	**-4.6**
YAK				*e*S	**SKSac**	**11 34 53.1**	**-1.9**
YAK				*e*		11 35 42.6	
YAK				pmax	pmax		
	comp=Z,146nm,0.9s						
YAK				pmax	pmax		
	comp=E,21nm,1.0s						
YAK				pmax	pmax		
	comp=N,28nm,0.9s						
YAK				smax	smax		
	comp=E,969nm,7.0s						
YAK				smax	smax		
	comp=N,803nm,5.3s						
MIAR	**Mount Ida**	**96.87**	**55**	P	**P**	**11 24 19.7**	**-0.4**
	baz=245						
W39A	**Magazine**	**96.99**	**55**	PFAKE		11 24 30.0	+9.4
W39A				LR	LR		
	comp=Z,10μm,20.0s						
W39A	**Magazine**	**96.99**	**55**	P	**P**	**11 24 20.8**	**+0.2**
	baz=245						
LZH	**Lanzhou**	**97.32**	**306**	*e*P	Pdif	11 24 23.4	+1.0
LZH				pP	sP	11 24 26.8	+2.6
LZH				sP	pP	11 24 28.0	+4.3
LZH				PP	**PP**	**11 28 23.3**	**+3.9**
LZH				SKS	**SKSac**	**11 34 59.3**	**-0.3**
LZH				*e*S	**ScS**	**11 35 47.4**	**+0.8**
LZH				sS	sS	11 35 53.4	+4.7
LZH				pmax	pmax		
	comp=Z,37nm,1.5s						
LZH				pmax	pmax		
	comp=Z,540nm,9.7s						
LZH				LR	LR		
	comp=Z,1μm,18.2s						
LZH				LR	LR		
	comp=Z,1μm,18.1s						
LZH				LR	LR		
	comp=Z,4μm,20.5s						
INK	**Inuvik**	**97.32**	**14**	*e*P	Pdif	11 24 21.5	+0.2
	comp=Z,19nm,0.9s						
INK	**Inuvik**	**97.32**	**14**	*e*P	Pdif	11 24 21.5	+0.2
INK				pmax	pmax		
	comp=Z,19nm,0.9s						
INK	**Inuvik**	**97.32**	**14**	P	Pdif	11 24 21.6	+0.3
	comp=Z,16nm,0.9s,baz=206,slow=4.9,SNR=55						
HHAR	**Hobbs**	**97.33**	**54**	*e*P	**P**	**11 24 21.4**	**-0.7**
	comp=Z,14nm,1.1s						
HHAR				LR	LR		
	comp=Z,5μm,22.0s						
SUSD	**Miller**	**97.42**	**45**	P	**P**	**11 24 22.2**	**-0.1**
	baz=243						
LPAZ	**La Paz**	**98.02**	**112**	*e*P	**P**	**11 24 25.6**	**-0.9**
	comp=Z,35nm,1.4s						
LPAZ	**La Paz**	**98.02**	**112**	*e*P	**P**	**11 24 25.6**	**-0.9**
LPAZ				pmax	pmax		
	comp=Z,35nm,1.4s						
LPAZ	**La Paz**	**98.02**	**112**	P	Pdif	11 24 28.4	+1.9
	comp=Z,27nm,1.4s,baz=204,slow=3.7,SNR=20						
LPAZ				PP	**PP**	**11 28 24.9**	**-0.3**
	comp=Z,5.0nm,1.2s,baz=246,slow=8.0,SNR=5.0						
LPAZ				PKKP	**PKKPdf**	**11 41 00.3**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=29,slow=3.8,SNR=6.3						
U40A	**Yellville**	**98.16**	**54**	P	**P**	**11 24 25.1**	**-0.8**
	baz=246						
VBMS	**Vicksburg**	**98.26**	**58**	P	**P**	**11 24 25.4**	**-1.0**
	baz=246						
MDND	**Maddock**	**98.56**	**41**	PFAKE		11 24 40.0	+13
MDND				LR	LR		
	comp=Z,4μm,19.0s						
MDND	**Maddock**	**98.56**	**41**	P	**P**	**11 24 27.1**	**-0.3**
	baz=243						
ECSD	**EROS Data Cent**	**98.62**	**46**	*e*P	**P**	**11 24 26.9**	**-0.9**
	comp=Z,16nm,1.1s						
ECSD				LR	LR		
	comp=Z,8μm,18.0s						
ECSD	**EROS Data Cent**	**98.62**	**46**	P	**P**	**11 24 27.1**	**-0.7**
	baz=244						
U41A	**Viola**	**98.84**	**54**	P	**P**	**11 24 28.7**	**-0.3**
	baz=246						
X43A	**Marvell**	**98.89**	**56**	P	**P**	**11 24 27.7**	**-1.4**
	baz=247						
YKA	**Yellowknife Ar**	**98.90**	**24**	*e*P	Pdif	11 24 28.5	0.0
YKA	**Yellowknife Ar**	**98.90**	**24**	*e*P	Pdif	11 24 28.5	0.0
YKA	**Yellowknife Ar**	**98.90**	**24**	P	Pdif	11 24 28.8	+0.3
	comp=Z,9.6nm,0.9s,baz=234,slow=4.2,SNR=79						
YKA				PP	**PP**	**11 28 23.9**	**-6.7**
	comp=Z,5.2nm,1.1s,baz=233,slow=7.6,SNR=7.5						
YKA				PKiKP	**PKiKP**	**11 28 59.7**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=224,slow=2.1,SNR=4.9						
YKA				PKKPbc	**PKKPbc**	**11 40 56.3**	**-1.4**
	comp=Z,3.2nm,0.8s,baz=42,slow=2.5,SNR=25						
YKA				LR	LR	12 01 34.7	
	comp=Z,116nm,21.0s,baz=220,slow=31						
R41A	**Rosebud**	**100.01**	**53**	P	**Pdif**	**11 24 33.1**	**-1.0**
	baz=247						
CCM	**Cathedral Cave**	**100.02**	**53**	P	**Pdif**	**11 24 33.8**	**-0.3**
	baz=247						
SCIA	**State Center**	**100.14**	**49**	PFAKE		11 24 50.0	+15
SCIA				LR	LR		
	comp=Z,4μm,20.0s						
FFC	**Flin Flon**	**100.38**	**34**	PFAKE		11 24 50.0	+15
FFC				LR	LR		
	comp=Z,5μm,21.0s						
SONM	**Songino Array**	**100.50**	**318**	P	**Pdif**	**11 24 36.6**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=122,slow=3.8,SNR=8.8						
SONM				PP	**PP**	**11 28 36.9**	**-6.5**
	comp=Z,1.9nm,1.0s,baz=125,slow=5.0,SNR=5.3						
SONM				PKKP	PKKPdf	11 41 14.5	+16
	comp=Z,3.6nm,1.0s,baz=273,slow=4.4,SNR=11						
CPUP	**Villa Florida**	**101.46**	**126**	P	**Pdif**	**11 24 43.7**	**+2.7**
	comp=Z,3.7nm,1.0s,baz=273,slow=9.3,SNR=4.9						
GTA	**Gaotai**	**101.56**	**308**	*e*P	**Pdif**	**11 24 44.1**	**+3.0**
GTA				pP	pwP	11 24 48.4	-5.8
GTA				sP	sPdif	11 24 51.5	+8.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ULM	**Lac du Bonnet**	**101.80**	**40**	P	**Pdif**	**11 24 42.3**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=254,slow=5.9,SNR=5.0						
ULM				PKKP	PKKPdf	11 41 09.4	+13
	comp=Z,6.3nm,1.0s,baz=96,slow=2.3,SNR=6.2						
G38A	**Ridgeland**	**102.32**	**46**	P	**Pdif**	**11 24 44.7**	**+0.6**
	baz=248						
JFWS	**Jewell Farm**	**102.56**	**49**	P	**Pdif**	**11 24 45.1**	**-0.2**
	baz=248						
TIXI	**Tiksi**	**103.22**	**344**	Pdiff	**Pdif**	**11 24 47.3**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=3.9,slow=2.6,SNR=3.2						
ZAK	**Zakamensk**	**103.39**	**319**	*e*P	**Pdif**	**11 24 49.9**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
EYMN	**Ely**	**103.58**	**43**	P	**Pdif**	**11 24 49.8**	**0.0**
	baz=249						
TLY	**Talaya**	**103.66**	**321**	*e*P	**Pdif**	**11 24 50.2**	**+0.2**
TLY				pmax	pmax		
	comp=Z,13nm,0.9s						
K43A	**Burlington**	**103.80**	**49**	PFAKE		11 25 00.0	+9.2
K43A				LR	LR		
	comp=Z,6μm,20.0s						
T49A	**Edmonton**	**103.89**	**55**	P	**Pdif**	**11 24 51.3**	**0.0**
	baz=250						
456A	**Hilliard**	**104.46**	**63**	PFAKE		11 25 00.0	+6.0
456A				LR	LR		
	comp=Z,2μm,22.0s						
Y55A	**Saluda**	**105.66**	**60**	P	**PKiKP**	**11 29 12.0**	**-0.4**
	baz=251						
I45A	**Fountain**	**105.69**	**49**	PFAKE		11 29 20.0	+7.8
I45A				LR	LR		
	comp=Z,5μm,20.0s						
Q49A	**Covington**	**105.79**	**53**	PFAKE		11 29 20.0	+7.5
O49A				LR	LR		
	comp=Z,4μm,21.0s						
M48A	**Edgerton**	**105.93**	**51**	PFAKE		11 29 20.0	+7.3
M48A				LR	LR		
	comp=Z,6μm,22.0s						
T53A	**Wise**	**106.11**	**56**	P	**PKiKP**	**11 29 12.3**	**-1.0**
	baz=251						
N49A	**Columbus Grove**	**106.14**	**52**	PFAKE		11 29 20.0	+6.9
N49A				LR	LR		
	comp=Z,4μm,19.0s						
Q51A	**Peebles**	**106.15**	**54**	PFAKE		11 29 20.0	+6.8
Q51A				LR	LR		
	comp=Z,4μm,21.0s						
Z57A	**Bowman**	**106.36**	**61**	P	**PKiKP**	**11 29 13.0**	**-0.8**
	baz=251						
158A	**Hollywood**	**106.59**	**61**	P	**PKiKP**	**11 29 13.1**	**-1.0**
	baz=251						
SDV	**Santo Domingo**	**106.66**	**88**	PFAKE		11 29 30.0	+15
SDV				LR	LR		
	comp=Z,3μm,21.0s						
NHSC	**New Hope**	**106.72**	**61**	PFAKE		11 29 30.0	+16
NHSC				LR	LR		
	comp=Z,3μm,21.0s						
N50A	**Nevada**	**106.84**	**52**	P	**PKiKP**	**11 29 13.4**	**-1.0**
	baz=252						
Y57A	**Sumter**	**106.84**	**60**	PFAKE		11 29 30.0	+15
Y57A				LR	LR		
	comp=Z,2μm,21.0s						
Q52A	**Bidwell**	**106.93**	**54**	P	**PKiKP**	**11 29 13.9**	**-0.7**
	baz=252						
ODAN	**Odare**	**107.01**	**292**	*e*P	**PKiKP**	**11 29 15.9**	**+0.4**
	comp=Z,41nm,1.0s						
U55A	**TA2, Sparta**	**107.10**	**57**	P	**PKiKP**	**11 29 15.5**	**+0.3**
	baz=252						
Y58A	**Scranton**	**107.37**	**60**	PFAKE		11 29 30.0	+14
Y58A				LR	LR		
	comp=Z,3μm,22.0s						
RAMN	**Ramite**	**107.70**	**292**	*e*P	**PKiKP**	**11 29 17.0**	**+0.2**
	comp=Z,28nm,0.9s						
T56A	**Rocky Mt**	**108.03**	**57**	P	**PKiKP**	**11 29 16.4**	**-0.4**
	baz=253						
R55A	**Marlinton**	**108.33**	**56**	P	**PKiKP**	**11 29 17.3**	**-0.1**
	baz=253						
U57A	**Blanch**	**108.39**	**58**	P	**PKiKP**	**11 29 17.3**	**-0.1**
	baz=253						
PKI	**Pulchoki**	**108.90**	**292**	*e*P	**PKiKP**	**11 29 18.8**	**-0.3**
	comp=Z,24nm,0.9s						
PKIN	**Phulchoki**	**108.92**	**292**	*e*P	**PKiKP**	**11 29 18.8**	**-0.2**
	comp=Z,18nm,0.9s						
KKN	**Kakani**	**109.08**	**292**

DANN Dangsing 110.53 293 *eP* **PKiKP 11 29 21.8 -0.3**
comp=Z,46nm,0.9s
F52A Sundridge 110.89 48 P **PKiKP 11 29 21.2 -0.6**
baz=256
N57A Milroy 110.91 54 P **PKiKP 11 29 21.4 -0.7**
baz=255
PYUN Piuthan 111.11 292 *eP* **PKiKP 11 29 22.8 -0.3**
comp=Z,37nm,1.0s
E52A Mattawa 111.46 48 P **PKiKP 11 29 22.6 -0.2**
baz=257
WMQ Urumqi 111.55 309 *e*PKP **PKiKP 11 29 21.8 -1.5**
I55A Frankford 111.66 50 P **PKiKP 11 29 23.4 0.0**
baz=257
D52A ZEK Kipawa Sen 111.78 47 P **PKiKP 11 29 23.3 -0.2**
baz=257
ALGO Algonquin Park 111.80 48 P **PKiKP 11 29 22.7 -0.8**
baz=257
O59A Robesonia 111.81 54 P **PKiKP 11 29 23.4 -0.4**
baz=256
E54A Lac Daplat, Po 112.49 48 P **PKiKP 11 29 24.4 -0.5**
baz=258
DGZ Jazzator, Alta 112.98 316 *i* PKIKP **PKiKP 11 29 26.6 +0.7**
D54A Lac Fusel, La 112.99 47 P **PKiKP 11 29 25.2 -0.6**
baz=258
AOPR Arecibo Observ 113.56 80 PFAKE 11 29 40.0 +12
AOPR LR LR
comp=Z,2μm,19.0s
ALFO Alfred 113.90 49 P **PKiKP 11 29 27.3 -0.2**
baz=259
YLE Yale 114.44 54 PFAKE 11 29 40.0 +11
YLE LR LR
comp=Z,5μm,20.0s
BDFB Brasilia 114.73 122 PKKPab PKKPab 11 40 15.2 +0.3
comp=Z,3.8nm,0.6s,baz=51,slow=4.1,SNR=5.1
NRIK Noril'sk 115.21 337 PKP **PKPdf 11 29 29.9 +0.5**
comp=Z,12nm,1.0s,baz=93,slow=4.7,SNR=11
ZALV Zalesovo Beam 115.25 320 PKP **PKiKP 11 29 29.7 -0.2**
comp=Z,7.1nm,0.9s,baz=186,slow=0.3,SNR=20
MK31 Makanchi Array 115.87 312 *e*PKPdf **PKPdf 11 29 31.0 -0.3**
MK31 Makanchi Array 115.87 312 *i* PKIKP **PKPdf 11 29 30.3 -1.1**
MK31 pmax pmax
comp=Z,12nm,0.9s
MK32 Makanchi Array 115.87 312 *e*PKPdf **PKPdf 11 29 30.9 -0.4**
MK32 *e*PKKPbc **PKKPbc 11 40 03.7 0.0**
MKAR Makanchi Array 115.87 312 *e*PKIKP **PKPdf 11 29 31.0 -0.4**
MKAR Makanchi Array 115.87 312 PKP **PKPdf 11 29 30.9 -0.4**
comp=Z,11nm,0.9s,baz=74,slow=3.0,SNR=46
MKAR PKKPbc **PKKPbc 11 40 03.7 0.0**
comp=Z,3.6nm,0.9s,baz=289,slow=3.7,SNR=10
MAKZ Makanchi 116.08 312 *e*PKPdf **PKPdf 11 29 31.6 -0.2**
MAKZ Makanchi 116.08 312 PKIKP **PKPdf 11 29 31.4 -0.4**
MAKZ pmax pmax
comp=Z,16nm,0.9s
TARG Taragay, Kyrgy 118.30 306 *e*PKPdf **PKPdf 11 29 36.7 -0.1**
KURK Kurchatov 118.72 316 *e*PKPdf **PKPdf 11 29 36.3 -0.4**
KURK LR LR
comp=Z,2μm,20.0s
KURK Kurchatov 118.72 316*c i*PKIKP **PKPdf 11 29 36.2 -0.4**
KURK pmax pmax
comp=Z,27nm,1.0s
KURK Kurchatov 118.72 316 PKPdf **PKPdf 11 29 36.5 -0.2**
SNR=12
KSH Kashi 119.36 303 PKP **PKiKP 11 29 39.8 +1.3**
KSH PP **PP 11 31 05.6 +5.5**
KSH SKKS **SKKSac 11 38 00.8 +0.9**
KSH SS **SS 11 47 22.9 +0.2**
KSH AMB AMB
comp=Z,780nm,7.1s
KSH LR LR
comp=Z,460nm,12.7s
KSH LR LR
comp=Z,680nm,12.8s
GGN Saint George 119.43 51 PFAKE 11 29 50.0 +12
GGN LR LR
comp=Z,4μm,20.0s
ULHL Ulahol 119.53 306 P **PKiKP 11 29 39.5 +0.6**
SNR=6.0
NRN Naryn 119.60 305 *e*PKPdf **PKPdf 11 29 38.8 -0.3**
NRN Naryn 119.60 305 *e*PKIKP **PKPdf 11 29 38.8 -0.3**
SCHQ Schefferville 119.97 39 *e*PKPdf **PKiKP 11 29 39.1 0.0**
SCHQ Schefferville 119.97 39 PKP **PKPdf 11 29 38.9 -0.1**
comp=Z,10nm,0.8s,baz=254,slow=7.4,SNR=3.6
TKM2 Tokmak 2 120.08 307 P **PKiKP 11 29 39.9 -0.1**
SNR=25
KZA Kyzart 120.24 306 P **PKiKP 11 29 41.2 +0.7**
SNR=18
KBK Karagaybulak 120.53 306 P **PKiKP 11 29 41.3 +0.5**
SNR=13
NIL Nilore 120.56 296 *e*PKPdf **PKPdf 11 29 40.4 -0.4**
NIL Nilore 120.56 296 *e*PKIKP **PKPdf 11 29 40.4 -0.4**
KULLO Kullorsuaq 120.63 16 *i* PKIKP **PKPdf 11 29 39.5 -0.2**
KULLO pmax pmax
comp=Z,56nm,1.2s
KULLO Kullorsuaq 120.63 16 *i* P **PKPdf 11 29 39.5 -0.2**
comp=Z,56nm,1.2s
CHMS Chumysh 120.71 307 P **PKiKP 11 29 41.3 +0.4**
SNR=7.3
OPO Ambohidratompo 120.71 228 PKP **PKiKP 11 29 42.2 +0.4**
comp=Z,20nm,0.9s,baz=125,slow=1.3,SNR=22
UCH Uchtor 120.80 306 P **PKiKP 11 29 42.5 +0.8**
SNR=34
AAK Ala-Archa 120.86 306 P **PKiKP 11 29 41.9 +0.5**
SNR=10
AAK Ala-Archa 120.86 306 *e*PKPdf **PKPdf 11 29 41.1 -0.2**
AAK Ala-Archa 120.86 306 *i* PKiKP **PKiKP 11 29 41.3 -0.1**
SNR=12
AAK Ala-Archa 120.86 306*c i*PKIKP **PKiKP 11 29 41.7 +0.3**
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 120.86 306 PKiKP **PKiKP 11 29 41.3 -0.1**
SNR=8.1
USP Ospenovka 120.92 307 P **PKiKP 11 29 41.5 +0.2**
SNR=14
EKS2 Erkin-Say 121.39 306 P **PKiKP 11 29 42.9 +0.5**
SNR=18
AML Almayashu 121.40 306 P **PKiKP 11 29 43.3 +0.5**
SNR=22
SUR Sutherland 121.55 196 *e*PKPdf **PKPdf 11 29 42.8 -0.3**
BTK Batken 123.37 303 *e*PKPdf **PKPdf 11 29 46.1 0.0**
BTK Batken 123.37 303 *e*PKIKP **PKPdf 11 29 46.1 0.0**
GAR Garm 123.65 302 *e*PKPdf **PKiKP 11 29 47.1 +0.1**
BOSA Boshof 123.80 201 *e*PKPdf **PKiKP 11 29 47.7 0.0**
BOSA Boshof 123.80 201 PKP **PKPdf 11 29 46.9 -0.5**
comp=Z,25nm,0.9s,baz=153,slow=5.3,SNR=22
BOSA PKKPbc **PKKPbc 11 39 33.4 -0.9**
comp=Z,2.9nm,0.9s,baz=85,slow=1.1,SNR=3.7
KK31 Karatay Array 123.81 307 *i* PKIKP **PKiKP 11 29 47.0 0.0**
KK31 pmax pmax
comp=Z,25nm,0.9s
KKAR Karatay Array 123.81 307 *e*PKPdf **PKPdf 11 29 46.7 -0.1**
BRVK Borovoye 123.89 319 *e*PKPdf **PKPdf 11 29 46.6 0.0**
BRVK Borovoye 123.89 319 PKIKP **PKPdf 11 29 46.1 -0.4**
BRVK pmax pmax
comp=Z,38nm,1.1s
KBL Kabul 124.14 296 *e*PKPdf **PKiKP 11 29 48.4 +0.1**
ILULI Ilulissat 124.42 21 *e*PKPdf **PKPdf 11 29 47.0 -0.1**
ILULI Ilulissat 124.42 21 *e*PKIKP **PKPdf 11 29 47.0 -0.1**
ILULI Ilulissat 124.42 21 *i* P **PKiKP 11 29 47.4 0.0**
comp=Z,85nm,1.0s
KBS Kingsbay 125.31 358 *e*PKPdf **PKPdf 11 29 48.5 -0.1**
KBS Kingsbay 125.31 358*c i*PKIKP **PKiKP 11 29 50.2 +1.2**
KBS pmax pmax
comp=Z,185nm,0.8s
KBS Kingsbay 125.31 358 *e*PKPdf **PKiKP 11 29 49.3 +0.3**
SFJD Kangerlussuaq 125.46 23 *e*PKPdf **PKPdf 11 29 48.9 -0.2**
SFJD Kangerlussuaq 125.46 23 *i* PKIKP **PKPdf 11 29 48.7 -0.4**
SFJD pmax pmax
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 125.46 23 *i* P **PKPdf 11 29 48.7 -0.4**
comp=Z,28nm,0.9s
SPA0 Spitsbergen Ar 125.89 357 *e*PKPdf **PKPdf 11 29 49.7 -0.1**
SPA0 Spitsbergen Ar 125.89 357 *e*PKPdf **PKiKP 11 29 50.3 +0.1**
SUMG Summit 126.24 15 *e*PKPdf **PKPdf 11 29 50.9 -0.2**
SUMG Summit 126.24 15 *e*PKIKP **PKPdf 11 29 50.9 -0.2**
SUMG Summit 126.24 15 *i* P **PKiKP 11 29 51.8 +0.3**
comp=Z,183nm,1.2s
DAG Danmarks Havn 126.31 7 *i* PKIKP **PKPdf 11 29 49.6 -0.9**
DAG pmax pmax
comp=Z,26nm,1.0s
DAG Danmarks Havn 126.31 7 *i* P **PKPdf 11 29 49.6 -0.9**
comp=Z,26nm,1.0s
HSPB Hornsund (broa 127.09 357 *e*PKPdf **PKiKP 11 29 52.6 +0.1**
IVI Ivigtut 128.61 30 *e*PKPdf **PKPdf 11 29 55.0 -0.3**
SVE Sverdlovsk 128.76 324 *e*PKIKP **PKiKP 11 29 56.4 0.0**
SVE pmax pmax
comp=Z,38nm,1.0s
MATP Matopo 129.91 209 PKP **PKPdf 11 29 59.5 +0.2**
comp=Z,16nm,0.9s,baz=165,slow=2.3,SNR=19
ARU Arti 129.97 324 *e*PKPdf **PKPdf 11 29 58.3 +0.2**
ARU Arti 129.97 324 *i* PKIKP **PKiKP 11 29 59.3 +0.5**
ARU 11 32 09.1
ARU 11 37 06.1
RCBR Riachuelo 130.10 122 *eP* **PKiKP 11 30 01.2 +0.7**
AB31 Akbulak array 130.80 315 *i* PKIKP **PKPdf 11 30 00.1 +0.2**
AB31 pmax pmax
comp=Z,15nm,1.2s
ABKAR Akbulak array 130.80 315 *e*PKPdf **PKPdf 11 29 60.0 +0.1**
MHTO MHTO 131.25 277 PKiKP **PKPdf 11 30 01.7 +0.1**
SNR=5.3
SCO Scoresbysund 131.30 12 *e*PKPdf **PKPdf 11 29 59.6 -0.6**
SCO LR LR
comp=Z,1μm,19.0s
SCO Scoresbysund 131.30 12 *e*PKIKP **PKPdf 11 29 59.6 -0.6**
SCO MLR MLR
comp=Z,1μm,19.0s
SCO Scoresbysund 131.30 12 *i* P **PKiKP 11 30 01.1 0.0**
comp=Z,25nm,1.1s
AKTO Aktyubinsk 131.80 317 PKIKP **PKPdf 11 30 01.9 +0.2**
AKTO pmax pmax
comp=Z,16nm,0.9s
HAMF Hammerfest 132.48 352 *e*PKPdf **PKPdf 11 30 02.8 +0.4**
KEV Kevo 132.79 350 PFAKE 11 30 10.0 +5.9
KEV LR LR
comp=Z,800nm,21.0s
LVZ Lovozero 132.85 345 *e*PKPdf **PKPdf 11 30 02.3 -1.0**
LVZ Lovozero 132.85 345*c i*PKIKP **PKiKP 11 30 04.0 -0.4**
LVZ pmax pmax
comp=Z,56nm,2.5s
GEYT Alibeck 133.17 300 *e*PKPdf **PKPdf 11 30 04.8 +0.1**
GEYT Alibeck 133.17 300 PKP **PKiKP 11 30 06.5 +0.6**
comp=Z,27nm,0.9s,baz=294,slow=1.5,SNR=27
GEYT PP **PP 11 32 32.0 +0.3**
comp=Z,5.2nm,0.9s,baz=72,slow=4.8,SNR=4.4
GYA0B ALIBECK ARRAY 133.17 300 *e*PKPdf **PKPdf 11 30 04.8 0.0**
ARCES ARCESS Array B 133.23 350 *e*PKPdf **PKPdf 11 30 03.8 -0.1**
ARCES ARCESS Array B 133.23 350 *e*PKIKP **PKPdf 11 30 03.8 -0.1**
ARCES ARCESS Array B 133.23 350 PKhKP PKPpre 11 29 58.1
comp=Z,3.7nm,0.9s,baz=343,slow=3.6,SNR=6.9
ARCES PKP **PKPdf 11 30 04.3 +0.5**
comp=Z,32nm,0.9s,baz=0.0,slow=1.2,SNR=43
ARE0 ARCESS Array S 133.23 350 *e*PKPdf **PKPdf 11 30 03.9 0.0**
ARE0 ARCESS Array S 133.23 350 *e*Pdif **Pdif 11 27 01.1 +0.1**
SOHO SOHO 133.25 281 pPKPdf **PKiKP 11 30 07.0 +0.5**
SNR=8.0
HATD Hatta, Dubai 133.74 282 *i* PKiKP **PKPdf 11 30 06.7 +0.5**
SNR=9.7
HATD Hatta, Dubai 133.74 282 PKiKP **PKiKP 11 30 07.0 -0.5**
PRGR Permogore 133.74 335 *e*PKIKP **PKPdf 11 30 02.9 -2.1**
PRGR pmax pmax
comp=Z,40nm,1.0s
ASHO Ashiyiah 133.78 281 *i* PKiKP **PKPdf 11 30 06.7 +0.4**
SNR=6.3
ASHO Ashiyiah 133.78 281 PKiKP **PKPdf 11 30 06.8 +0.5**
MSFE Esma-Masafi 133.81 282 *i* PKiKP **PKiKP 11 30 07.1 -0.6**
SNR=6.1
ALNE Al Ain 133.93 281 *i* PKiKP **PKPdf 11 30 07.1 +0.5**
SNR=7.6
TRO Tromso 134.00 353 *e*PKPdf **PKPdf 11 30 04.5 -0.8**
KTK1 Kautokeino 134.04 351 *e*PKPdf **PKPdf 11 30 05.5 +0.1**
NAZ Nazwa, Dubai 134.19 282 *i* PKiKP **PKPdf 11 30 07.6 +0.6**
SNR=6.0
NAZ Nazwa, Dubai 134.19 282 PKiKP **PKPdf 11 30 07.6 +0.6**
ASUD Al Ashush, Dub 134.42 281 PKiKP **PKiKP 11 30 08.4 -0.4**
ASUD Al Ashush, Dub 134.42 281 PKiKP **PKPdf 11 30 07.9 +0.5**
LSZ Lusaka 134.53 212 *e*PKPdf **PKPdf 11 30 07.7 -0.4**
LSZ Lusaka 134.53 212 PKhKP PKPpre 11 30 04.0
comp=Z,1.5nm,0.3s,baz=139,slow=7.0,SNR=3.6
LSZ PKP sPKPdf 11 30 10.1 +0.1
comp=Z,22nm,1.0s,baz=170,slow=2.5,SNR=12
TSUM Tsumeb 134.96 197 *e*PKPdf **PKPdf 11 30 08.9 +0.1**
TSUM LR LR
comp=Z,2μm,18.0s
TSUM Tsumeb 134.96 197 PKP **PKiKP 11 30 10.6 +0.3**
comp=Z,17nm,1.1s,baz=159,slow=4.4,SNR=8.9
TSUM PP **PP 11 32 39.3 -2.4**
comp=Z,1.9nm,0.6s,baz=169,slow=5.2,SNR=2.4
STEI Steigen 136.01 354 *e*PKPdf **PKPdf 11 30 09.3 +0.3**
KLMR Klimovskoe 136.55 336 *e*PKIKP **PKPdf 11 30 07.7 -2.6**
KLMR *e* 11 32 55.7
KLMR pmax pmax
comp=Z,32nm,1.1s
MOR8 Moi Rana 137.80 354 *e*PKPdf **PKPdf 11 30 12.5 0.0**
NSS Namsos 139.62 355 *e*PKPdf **PKPdf 11 30 15.9 +0.1**
KMBO Kilima Mbogo 139.72 236 *e*PKPdf **PKPdf 11 30 17.5 -0.5**
KMBO Kilima Mbogo 139.72 236 PKhKP PKPpre 11 30 10.8
comp=Z,2.0nm,0.3s,baz=62,slow=4.0,SNR=7.7
KMBO PKP **PKPdf 11 30 17.6 -0.3**
comp=Z,11nm,0.9s,baz=24,slow=6.2,SNR=12
KMBO PP **PP 11 33 12.4 -0.4**
comp=Z,1.5nm,0.3s,baz=106,slow=15,SNR=4.1
FIA0 FINESS Array S 140.27 344 *e*PKPpre PKPpre 11 30 10.2
FIA0 *e*PKPdf **PKPdf 11 30 16.6 -0.4**
FINES FINESS Array B 140.27 344 PKhKP PKPpre 11 30 10.2
comp=Z,11nm,0.8s,baz=40,slow=3.2,SNR=30
FINES PKP **PKPdf 11 30 16.6 -0.4**
comp=Z,18nm,0.9s,baz=66,slow=3.4,SNR=21
FINES SKPab **SKPab 11 34 13.9 +9.2**
comp=Z,2.3nm,0.7s,baz=22,slow=4.9,SNR=3.8
MAK Makhachkala 140.57 309 *i* P **Pdif 11 27 29.8 -4.5**
MAK *i* 11 30 16.4
MAK *e* 11 33 13.1
MAK pmax pmax
comp=Z,166nm,1.1s
MOS Moscow 140.63 331 *e*PKIKP **PKiKP 11 30 22.2 +1.7**
MOS *e* 11 33 18.8
MOS pmax pmax
comp=Z,55nm,1.1s
VRH Novokhopyorsk 141.18 323 *e*PKHKP PKPpre 11 30 14.1
VRH pmax pmax
comp=Z,30nm,1.1s
OBN Obninsk 141.49 331 PFAKE 11 30 30.0 +7.7
OBN LR LR
comp=Z,700nm,19.0s
OBN Obninsk 141.49 331 *i* PKIKP **PKPdf 11 30 18.5 -1.0**
OBN *i* 11 33 20.6
OBN pmax pmax
comp=Z,42nm,1.0s
GROC Groznyy 141.71 310 *e*PKIKP **PKPdf 11 30 21.0 +0.7**
GROC *e* 11 33 26.4
GROC pmax pmax
comp=Z,25nm,0.4s
DAMY Dhamar 141.71 263 *e*PKPdf **PKPdf 11 30 19.7 -1.7**
LPSR Galich'ya Gora 141.90 327 *e*PKHKP PKPpre 11 30 15.2
LPSR pmax pmax
comp=Z,40nm,1.0s
ATD Arta Tunnel 141.92 257 *e*PKPdf **PKPdf 11 30 21.2 -0.4**
ATD Arta Tunnel 141.92 257 PKP **PKPdf 11 30 22.6 +1.0**
comp=Z,18nm,0.8s,baz=294,slow=4.4,SNR=8.6
AKN Aaknes 142.21 358 *e*PKPdf **PKPdf 11 30 19.9 -0.7**
DOMB Dombas 142.27 357 *e*PKPdf **PKPdf 11 30 16.6 -4.1**
VSR Storozhevoye 142.54 324 *e*PKIKP **PKPdf 11 30 17.3 -4.2**
VSR pmax pmax
comp=Z,20nm,0.9s
VSU Vasula 142.62 341*c i*PKIKP **PKiKP 11 30 26.4 +1.9**
VSU pmax pmax
comp=Z,121nm,1.3s
VSU Vasula 142.62 341 *eP* **PKPdf 11 30 17.0 -4.4**
VSU IAmb IAmb 11 30 18.9
comp=Z,116nm,0.9s
ASCN Ascension 142.72 147 PFAKE 11 30 30.0 +3.9
ASCN LR LR
comp=Z,37μm,21.0s
NC303 NORSAR Array S 142.93 355 *e*PKPpre PKPpre 11 30 16.8
NB2 NORSAR Subarra 143.13 355 PKP PKPbc 11 30 18.6 -0.6
comp=Z,89nm,2.5s,baz=10,slow=3.2
NB2 NORSAR Subarra 143.13 355 PKP PKPbc 11 30 18.6 -0.6
baz=10,slow=3.2
NB200 NORSAR Array S 143.13 355 *e*PKPpre PKPpre 11 30 18.4
NOA NORSAR Array B 143.13 355 PKhKP PKPpre 11 30 18.4
comp=Z,7.0nm,0.8s,baz=1.6,slow=2.4,SNR=21
ZEI Tsey 143.16 310 *i* PKIKP PKPbc 11 30 19.8 -0.3
ZEI pmax pmax
comp=Z,14nm,0.4s
GNI Garni 143.24 305 *e*PKPdf **PKPdf 11 30 22.3 -1.0**
GNI Garni 143.24 305 *i* PKPdf **PKPdf 11 30 24.2 +0.9**
SNR=11
GNI Garni 143.24 305 PKP PKPbc 11 30 21.7 +1.4
comp=Z,6.6nm,0.3s,baz=153,slow=6.8,SNR=6.2
NC602 NORSAR Array S 143.40 355 *e*PKPdf PKPbc 11 30 20.9 +1.0
ONI Oni 143.54 309 *eP* PKPbc 11 30 21.4 +0.4
KBZ Khabaz 143.56 311 PKP PKPbc 11 30 21.6 +0.8
comp=Z,15nm,0.8s,baz=100,slow=0.5,SNR=19
KIV Kislovodsk 143.63 312 ⇓ *i*P **PKPdf 11 30 25.0 +1.2**
KIV Kislovodsk 143.63 312 *i* PKiKP **PKPdf 11 30 25.1 +1.2**
SNR=9.9
KIV Kislovodsk 143.63 312 *i* PKIKP PKPab 11 30 20.7 +0.3
KIV pmax pmax
comp=Z,100nm,1.1s
KIV MLR MLR
comp=Z,2μm,25.0s
SKAR Skarslia 143.67 357 *e*PKPdf PKPbc 11 30 21.8 +1.1
AKH Akhalkalaki 143.85 307 *e*P PKPbc 11 30 22.9 +0.8
AKH Akhalkalaki 143.85 307 *e*PKPdf **PKPdf 11 30 23.5 -0.8**
AKH Akhalkalaki 143.85 307 ⇓ *i*P **PKPdf 11 30 23.8 -0.6**
ASK Askoy 143.94 360 *e*PKPdf PKPbc 11 30 22.4 +1.0
BER Bergen 144.04 360 *e*PKPdf **PKPdf 11 30 22.9 -0.9**
CLDR Caldiran 144.09 304 *eP* **PKPab 11 30 22.2 -0.3**
FURI Furi 144.37 250 PFAKE 11 30 40.0 +10
FURI LR LR
comp=Z,500nm,18.0s
ODD1 Odda 144.49 359 *e*PKPdf **PKPdf 11 30 24.3 -0.5**
SLIT Slitere, Latvi 144.55 344 *eP* **PKPab 11 30 22.0 -1.2**
SLIT IAmb IAmb 11 30 24.2
comp=Z,361nm,1.2s
VANB Van 144.61 303 *eP* **PKPdf 11 30 25.3 -0.4**
KONO Kongsberg 144.63 356 *e*PKPdf **PKPdf 11 30 24.4 -0.5**
AGRB Hanur-Agry 144.69 305 *eP* **PKPdf 11 30 25.8 -0.1**
CUKT Cukurca 144.70 300 *eP* PKPbc 11 30 24.9 +0.1
MBAR Mbarara 144.78 229 *e*PKPdf **PKPdf 11 30 26.3 -0.5**
MBAR Mbarara 144.78 229 PKP **PKPdf 11 30 27.8 +1.0**
comp=Z,123nm,0.9s,baz=135,slow=4.1,SNR=105
SENK Senkaya-Erzuru 144.91 306 *eP* **PKPdf 11 30 26.7 +0.4**
BLS5 Blasjo 144.99 359 *e*PKPdf **PKPdf 11 30 25.4 -0.2**
IZAR Zarasai 145.01 339 *eP* **PKPdf 11 30 25.6 0.0**
IZAR IAmb IAmb 11 30 27.7
comp=Z,85nm,0.9s
BATM Batumi 145.09 308 *eP* **PKPdf 11 30 26.0 -0.3**
BATM Batumi 145.09 308 ⇑ *i*P **PKPdf 11 30 26.6 +0.3**
BCA Borcka 145.18 308 *eP* **PKPdf 11 30 26.4 -0.1**
BCA Borcka 145.18 308 ⇑ *i*P **PKPdf 11 30 26.9 +0.4**
ISAL Salakas 145.20 339 *eP* **PKPdf 11 30 26.3 +0.3**
ISAL IAmb IAmb 11 30 28.4
comp=Z,112nm,0.9s
IDID Didziasalis 145.20 338 *eP* **PKPdf 11 30 26.4 +0.4**
IDID IAmb IAmb 11 30 28.3
comp=Z,87nm,0.8s
KMY Karmoy 145.21 360 *e*PKPdf **PKPdf 11 30 25.8 0.0**
RSC Scourie 145.31 9 *eP* **PKPdf 11 30 26.2 +0.2**
BIGH Upper Bighouse 145.35 8 *eP* **PKPbc 11 30 25.0 -1.0**
IIGN Ignalina 145.35 339 *eP* **PKPab 11 30 26.9 +0.6**
IIGN IAmb IAmb 11 30 28.9
comp=Z,140nm,0.9s
KOPR Koprukoy-ERZUR 145.43 306 *eP* **PKPab 11 30 27.8 +0.5**
MICGM Minsk 145.45 336 ⇑ *i*P **PKiKP 11 30 37.0 +6.6**
MICGM PM 11 30 38.0
comp=Z,1.5nm,1.0s
MNK Minsk 145.45 336 ⇑ *i*PKIKP **PKiKP 11 30 37.0 +6.6**
MNK pmax pmax
comp=Z,2μm,1.0s
RRH Rhenigidale 145.48 11 *eP* **PKPab 11 30 26.7 +0.1**
NACGM Naroch 145.52 338 *eP* **PKPab 11 30 27.0 +0.1**
SIRT Sirnak 145.56 301 *eP* **PKPab 11 30 27.9 +0.1**
SIRT Sirnak 145.56 301 *e*PKPdf **PKPab 11 30 27.9 +0.1**
RRR Rubha Reidh 145.68 10 *eP* **PKPab 11 30 27.4 0.0**
PABE Paberze 145.93 341 *eP* **PKPbc 11 30 27.9 0.0**
PABE IAmb IAmb 11 30 30.6
comp=Z,786nm,1.0s
VRTB Varto-Mus 145.94 304 *eP* **PKiKP 11 30 31.9 -0.3**
KRIK Erzurum-spir 146.02 307 *i* P **PKiKP 11 30 31.3 -1.1**
SNART Snartemo 146.05 358 *e*PKPab **PKPab 11 30 28.6 -0.1**
PBUR Paburg 146.06 343 *eP* **PKPbc 11 30 28.1 -0.2**
PBUR IAmb IAmb 11 30 30.8
comp=Z,558nm,0.9s
HOMB Homborsund 146.07 357 *e*PKPab **PKPab 11 30 28.6 -0.2**
H07S1 FLORES T-PHASE 146.08 55 *e*PKP **PKPdf 11 30 28.3 +0.2**
KAC Achnashellach 146.11 10 *eP* **PKPdf 11 30 27.8 +0.3**
KPL Plockton 146.20 10 *eP* **PKPbc 11 30 28.9 +0.2**
KARO Karliova-Bingo 146.21 305 *eP* **PKPab 11 30 31.4 +1.1**
BNGL BINGOL 146.23 304 *i* P **PKiKP 11 30 31.8 -1.0**
MDO Dochfour 146.31 9 *eP* **PKPab 11 30 29.5 -0.3**
MCD Coleburn Disti 146.32 8 *eP* **PKPbc 11 30 28.9 -0.1**
SVAN Silvan-Diyarba 146.38 303 *eP* **PKPab 11 30 31.3 +0.5**
YEDI Yedisu-Bingol 146.55 305 *eP* **PKPab 11 30 32.0 +0.4**
BNGB Bingl 146.57 304 *eP* **PKPbc 11 30 31.0 +0.4**
KTUT Trabzon 146.66 308 *eP* **PKPab 11 30 31.5 -0.2**
KTUT Trabzon 146.66 308 ⇑ *i*P **PKPab 11 30 31.3 -0.4**
ANN Anapa 146.75 316 *e*PKP2 **PKPbc 11 30 31.0 +0.3**
ANN pmax pmax
comp=Z,240nm,1.0s
LAWE Loch Awe, Argy 147.28 11 *eP* **PKPbc 11 30 31.6 -0.3**
INVG Invergeldie, C 147.33 9 *eP* **PKPbc 11 30 32.2 +0.2**
ELO Logie Almond 147.34 9 *eP* **PKPbc 11 30 31.7 -0.4**
EDU Dundee 147.36 8 *eP* **PKPbc 11 30 32.2 +0.2**
SUW Suwalki 147.44 340 *e*PKP **PKPbc 11 30 33.0 +0.6**
SUW Suwalki 147.44 340 *e*PKPdf **PKPdf 11 30 30.7 +0.8**
SUW Suwalki 147.44 340 *e*PKP2 **PKPbc 11 30 33.0 +0.6**
EAB Aberfoyle 147.52 10 *eP* **PKPbc 11 30 32.9 +0.4**
EBH Black Hill 147.58 9 *eP* **PKPbc 11 30 33.4 +0.7**
AKASG Malin Array Be 147.75 331 *e*PKPdf **PKPdf 11 30 30.8 +0.3**
AKASG Malin Array Be 147.75 331 *e*PKIKP **PKPdf 11 30 30.8 +0.3**
AKASG Malin Array Be 147.75 331 PKPbc **PKPbc 11 30 33.1 -0.2**
comp=Z,105nm,0.9s,baz=42,slow=4.3,SNR=101
AKBB Malin Array Si 147.75 331 *e*PKPdf **PKPdf 11 30 30.4 -0.1**
AKBB LR LR
comp=Z,2μm,22.0s
KIEV Kiev 147.77 331 *e*PKPdf **PKPdf 11 30 30.5 0.0**
KIEV Kiev 147.77 331 ⇑ *i*P **PKPbc 11 30 33.5 +0.2**
KIEV Kiev 147.77 331 *i* PKPbc **PKPbc 11 30 32.9 -0.5**
SNR=11
KIEV Kiev 147.77 331 ⇑PKP2 **PKPbc 11 30 33.5 +0.2**
SVRC Sivrice-ELAZID 147.77 304 *eP* **PKPdf 11 30 31.7 +0.5**
MUD Monsted U'grnd 147.83 356 *i* PKP2 **PKPbc 11 30 33.8 +0.5**
MUD pmax pmax
comp=Z,350nm,1.1s
MUD Monsted U'grnd 147.83 356 *i* P **PKPbc 11 30 33.8 +0.5**
comp=Z,352nm,1.1s
EDI Edinburgh 147.94 9 *eP* **PKPbc 11 30 32.9 -0.7**
EAU Auchinoon 147.98 9 *eP* **PKPbc 11 30 34.1 +0.4**
ESY Stoneypath 148.02 8 *eP* **PKPbc 11 30 33.9 0.0**
EBL Broad Law 148.11 9 *eP* **PKPbc 11 30 34.8 +0.7**
PCED Cedros 148.16 55 *e*PKP **PKPbc 11 30 35.1 +0.3**
CLGH Cloghs, Cushen 148.27 12 *eP* **PKPbc 11 30 33.8 -0.7**
COP Copenhagen 148.27 352 ⇓ *i*PKP2 **PKPbc 11 30 34.9 +0.4**
COP pmax pmax
comp=Z,170nm,1.1s
COP Copenhagen 148.27 352 ⇓ *i*P **PKPbc 11 30 34.9 +0.4**
comp=Z,166nm,1.1s
PCAN Candelaria 148.37 56 *e*PKP **PKPbc 11 30 35.4 0.0**
URFA Urfa 148.38 302 *eP* **PKPdf 11 30 32.7 +0.6**
PICO Pico 148.40 56 *e*PKP **PKPdf 11 30 33.7 +1.6**
BSD Bornholm Skovb 148.46 349 ⇓ *i*PKP2 **PKPbc 11 30 35.0 0.0**
BSD pmax pmax
comp=Z,290nm,1.1s
BSD Bornholm Skovb 148.46 349 ⇓ *i*P **PKPbc 11 30 35.0 0.0**
comp=Z,286nm,1.1s
CUZAR Zara_SIVAS 148.46 307 *i* P **PKPbc 11 30 34.6 -1.2**
ROSA Rosais 148.48 55 *e*PKP **PKPdf 11 30 32.1 0.0**
ROSA Rosais 148.48 55 *e*PKPdf **PKPdf 11 30 32.4 +0.3**
ESK Eskdalemuir 148.53 9 PFAKE 11 30 40.0 +1.4
ESK LR LR
comp=Z,3μm,22.0s
ESK Eskdalemuir 148.53 9 *eP* **PKPbc 11 30 34.0 -1.2**
PPNO Prainha do Nor 148.53 56 *e*PKP **PKPbc 11 30 34.2 -1.7**
PGRA Graciosa 148.58 54 *e*PKP **PKPdf 11 30 32.6 +0.4**
RSDY Resadiye-TOKAT 148.60 308 *eP* **PKPdf 11 30 32.1 -0.2**
PMAN Manadas 148.62 55 *e*PKP **PKPdf 11 30 32.5 +0.2**
GAL1 Galloway 148.73 11 *eP* **PKPbc 11 30 35.2 -0.5**
SIM Simferopol' 148.74 318 *i* PKP2 **PKiKP 11 30 37.5 -0.1**
SIM pmax pmax
comp=Z,134nm,0.9s
BHH Howats Hill 148.75 9 *eP* **PKPdf 11 30 32.9 +0.9**
CUKAN kangal_SIVAS 148.87 306 *i* P **PKiKP 11 30 38.7 +0.5**
SVSK Karacayir 149.01 308 *eP* **PKPdf 11 30 33.9 +1.0**
BBO1 Bothel 149.09 9 *eP* **PKPdf 11 30 33.3 +0.8**
DARE Darende-Malaty 149.09 305 *eP* **PKPdf 11 30 33.8 +0.6**
EDMD Edmundbyers 149.17 8 *eP* **PKPbc 11 30 36.0 -0.8**
TOKT Tokat 149.19 309 *eP* **PKiKP 11 30 38.1 -0.6**
SEVA Sevastopol 149.23 318 ⇓ *i*P **PKiKP 11 30 38.4 -0.1**
KESW Keswick, Cumbr 149.25 9 *eP* **PKPdf 11 30 33.0 +0.1**
KVT Kavak 149.25 310 *eP* **PKPdf 11 30 33.2 -0.1**
RGN Rugen 149.26 351 *e*PKPdf **PKPdf 11 30 33.3 +0.6**
PSCM Serra do Cume 149.32 55 *e*PKP **PKPdf 11 30 33.7 +0.2**

IOMK	Kirk Michael	149.33	11	eP	PKPbc	11 30 36.7	-0.5
CUALT	Altinyayla-SIV	149.40	307	i P	PKiKP	11 30 39.6	+0.3
WIM	Isle of Man	149.42	11	eP	PKPdf	11 30 34.4	+1.3
SNOP	Sinop	149.44	312	eP	PKPdf	11 30 33.5	0.0
SNOP	Sinop	149.44	312	ePKPdf	PKPdf	11 30 33.5	0.0
SNOP				LR	LR		
	comp=Z,600nm,21.0s						
DIKM	Dikmen	149.56	312	eP	PKPdf	11 30 33.7	0.0
DIKM	Dikmen	149.56	312	⇓iP	PKiKP	11 30 39.8	+0.4
GAZ	Gaziantep	149.69	302	eP	PKPdf	11 30 34.4	+0.2
CUSAR	Sarkisla-SIVAS	149.72	307	i P	PKiKP	11 30 40.5	+0.5
GKP	Gorka Klasztor	149.73	345	ePKP	PKiKP	11 30 39.1	-0.2
GKP	Gorka Klasztor	149.73	345	ePKP2	PKiKP	11 30 39.1	-0.2
KMRS	Kahramanmaras	149.84	303	eP	PKPdf	11 30 34.2	-0.2
DSB	Dublin	149.94	14	PFAKE		11 30 50.0	+5.6
DSB				LR	LR		
	comp=Z,3μm,20.0s						
BEL	Belsk	150.06	340	ePKP	PKiKP	11 30 40.3	+0.3
BEL	Belsk	150.06	340	ePKP2	PKiKP	11 30 40.3	+0.3
WME	Myndd Eilian	150.21	11	eP	PKPdf	11 30 35.5	+1.2
BZK	Bozkurt	150.27	313	eP	PKPdf	11 30 35.1	+0.3
BZK	Bozkurt	150.27	313	⇓iP	PKiKP	11 30 40.9	+0.1
KIS	Kishinev	150.50	326	i PKP	PKPbc	11 30 40.0	-0.4
	comp=Z,230nm,1.0s						
KIS	Kishinev	150.50	326	ePKS		11 34 30.0	
KIS				LRM	MLR	12 35 44.0	
	comp=Z,1μm,24.0s						
KIS	Kishinev	150.50	326	⇑iPKIKP	PKPbc	11 30 40.0	-0.4
KIS				i		11 30 45.0	
KIS				pmax	pmax		
	comp=Z,230nm,1.0s						
MILM	Milestii Mici	150.56	326	⇓iP	PKPbc	11 30 40.8	+0.3
CORM	Corum	150.60	310	eP	PKiKP	11 30 41.4	-0.3
LBWR	Ladybower, Pea	150.60	8	eP	PKPdf	11 30 36.1	+1.1
LVV	L'vov	150.60	335	ePKIKP	PKiKP	11 30 41.7	+0.5
PSET	Sete Cidades	150.64	56	ePKP	PKPdf	11 30 35.6	0.0
KOZT	Kozan	150.66	304	eP	PKPdf	11 30 35.3	-0.3
TAHT	Tahtakopru-Hat	150.70	301	eP	PKPdf	11 30 35.9	+0.2
CMLA	Cha da Macela	150.81	56	ePKP	PKPdf	11 30 38.4	+2.6
CMLA	Cha da Macela	150.81	56	PFAKE		11 30 50.0	+1.4
CMLA				LR	LR		
	comp=Z,1μm,18.0s						
CEYT	Ceyhan	150.86	303	eP	PKPdf	11 30 35.2	-0.7
FOEL	Foel Wylfa	150.88	10	eP	PKPbc	11 30 38.5	-2.6
ASF	Jabal al Asfar	150.94	293	PKPbc	PKPbc	11 30 43.8	+1.8
	comp=Z,45nm,0.9s,baz=66,slow=1.8,SNR=37						
YURE	YUREGIR	151.00	303	eP	PKiKP	11 30 42.6	+0.1
BART	Pico Bartolome	151.07	55	ePKP	PKPdf	11 30 36.3	0.0
CANT	Cankiri	151.12	311	eP	PKiKP	11 30 42.6	-0.1
RUE	Ruedersdorf	151.18	349	eP	PKPbc	11 30 41.9	+0.1
RUE				IAmb	IAmb	11 30 44.6	
	comp=Z,269nm,0.9s						
KWP	Kalwaria Pacla	151.26	336	ePKP	PKiKP	11 30 43.2	+0.6
KWP	Kalwaria Pacla	151.26	336	ePKPdf	PKPdf	11 30 36.6	+0.5
KWP	Kalwaria Pacla	151.26	336	ePKIKP	PKiKP	11 30 43.2	+0.6
KRTS	Karatas	151.27	302	eP	PKPbc	11 30 42.5	0.0
CWF	Charnwood Fore	151.30	8	eP	PKPbc	11 30 39.0	-3.0
KARA	Karaisali	151.31	304	eP	PKPdf	11 30 36.2	-0.4
PSMA	Santa Maria	151.34	57	ePKP	PKPdf	11 30 36.6	0.0
PSMN	Pico do Norte,	151.39	57	ePKP	PKPdf	11 30 36.8	+0.1
BR101	Keskin Array S	151.48	309	ePKPdf	PKPdf	11 30 36.5	-0.5
BR101				ePKPbc	PKPbc	11 30 43.7	+0.6
BRTR	Keskin Array B	151.48	309	PKP	PKPdf	11 30 36.5	-0.5
	comp=Z,3.9nm,1.0s,baz=168,slow=2.3,SNR=12						
BRTR				PKPbc	PKPbc	11 30 43.7	+0.6
	comp=Z,47nm,0.9s,baz=116,slow=1.8,SNR=89						
RSBS	Rosebush, Pemb	151.50	13	eP	PKPdf	11 30 39.2	+2.8
PRAR	RASCA	151.53	329	⇓iP	PKPbc	11 30 42.2	-0.6
YAYX	Yaylak	151.66	308	eP	PKPbc	11 30 42.2	-1.3
TLCR		151.68	323	⇑iP	PKiKP	11 30 44.0	+0.4
TLCR		151.68	323	⇑PKIKP	PKiKP	11 30 44.0	+0.4
BHL	Bhannes	151.69	297	eP	PKiKP	11 30 44.9	+0.7
OJC	Ojcow	151.77	340	ePKP	PKPdf	11 30 39.0	+2.1
OJC	Ojcow	151.77	340	ePKPdf	PKPdf	11 30 37.1	+0.3
OJC	Ojcow	151.77	340	ePKIKP	PKPdf	11 30 39.0	+2.1
BUR08	Bucovina Ar. S	151.79	330	ePKPdf	PKPdf	11 30 37.5	+0.3
BURAR	Bucovina Array	151.81	330	ePKPdf	PKPdf	11 30 37.0	-0.2
BURAR	Bucovina Array	151.81	330	⇑iP	PKiKP	11 30 45.9	+2.0
BURAR	Bucovina Array	151.81	330	⇑PKIKP	PKiKP	11 30 45.9	+2.0
MERS	Mersin	151.84	303	eP	PKPdf	11 30 36.7	-0.8
BIZ	Bicaz	151.89	328	⇑iP	PKiKP	11 30 45.0	+1.0
TESR	Tescani	151.93	327	⇑iP	PKPbc	11 30 42.9	-0.8
MONM	Monmouth	151.96	10	eP	PKPdf	11 30 38.4	+1.4
KOLS	Kolonicke sedl	152.00	335	ePKIKP	PKPdf	11 30 39.6	+2.3
KOLS				e		11 30 45.3	
KOLS	Kolonicke sedl	152.00	335	ePKP	PKPdf	11 30 39.6	+2.3
KOLS				e		11 30 45.3	
ANTO	Ankara	152.01	310	ePKPdf	PKPdf	11 30 38.0	+0.3
ANTO	Ankara	152.01	310	⇓iP	PKiKP	11 30 44.9	+0.3
ANTO	Ankara	152.01	310	⇓PKIKP	PKiKP	11 30 44.9	+0.3
LOD	Lodumlu	152.02	310	eP	PKPbc	11 30 44.1	-0.2
CFR	Carcaliu	152.06	324	⇑iP	PKPdf	11 30 38.6	+1.2
CFR	Carcaliu	152.06	324	⇑PKIKP	PKPdf	11 30 38.6	+1.2
MMAI	Mount Meron Ar	152.06	295	PKPbc	PKPbc	11 30 46.1	+1.5
	comp=Z,71nm,0.9s,baz=64,slow=5.7,SNR=53						
MMLI	Mount Malkishu	152.14	294	eP	PKPdf	11 30 38.9	+0.8
SULT	Sultanhani-AKS	152.15	306	eP	PKPdf	11 30 35.4	-2.6
KSP	Ksiaz	152.19	345	ePKP	PKPdf	11 30 39.9	+2.4
KSP	Ksiaz	152.19	345	ePKIKP	PKPdf	11 30 39.9	+2.4
UZH	Uzhgorod	152.24	335	d iPKIKP	PKPdf	11 30 37.7	+0.1
UZH				i	i	11 34 25.0	
UZH				i	i	11 37 40.4	
KIZK	Mersin	152.25	303	eP	PKPdf	11 30 37.2	-0.8
NIE	Niedzica	152.30	338	ePKP	PKPdf	11 30 38.4	+0.7
NIE	Niedzica	152.30	338	ePKIKP	PKPdf	11 30 38.4	+0.7
VRI	Vrincioaia	152.34	326	⇑iP	PKPbc	11 30 44.4	-0.3
VRI	Vrincioaia	152.34	326	⇑PKIKP	PKPbc	11 30 44.4	-0.3
RAC	Raciborz	152.38	342	ePKIKP	PKPdf	11 30 39.1	+1.3
PLOR	Plostina	152.38	326	⇑iP	PKPbc	11 30 42.9	-1.9
PLOR	Plostina	152.38	326	⇑PKIKP	PKPbc	11 30 42.9	-1.9
CLL	Collm	152.44	349	ePKPdf	PKPdf	11 30 37.6	-0.3
CLL	Collm	152.44	349	⇓ePKIKP	PKPdf	11 30 39.0	+1.2
CLL				i		11 30 45.7	
CLL				i		11 30 50.6	
CLL				pmax	pmax		
	comp=Z,135nm,0.9s						
CLL				pmax	pmax		
	comp=Z,140nm,1.3s						
CLL	Collm	152.44	349	ePKPdf	PKPdf	11 30 39.0	+1.2
CLL				⇓iPKPbc	pPKPbc	11 30 45.7	-0.4
	comp=Z,135nm,0.9s						
CLL				i sPKPbc	PKPab	11 30 50.6	-4.2
	comp=Z,140nm,1.3s						
CLL				i PKPab	pPKPab	11 30 55.0	-1.3
	comp=Z,49nm,0.9s						
WTSB	Winterswijk	152.44	358	ePKPdf	PKPdf	11 30 38.6	+0.9
WTSB				ePKPbc	PKiKP	11 30 44.7	-0.2
	comp=Z,143nm,0.9s						
WTSB				ePKPab	sPKPbc	11 30 49.0	+2.4
HARR	Harsova	152.48	323	⇑iP	PKPbc	11 30 44.0	-1.0
HARR	Harsova	152.48	323	⇑PKIKP	PKPbc	11 30 44.0	-1.0
TLB	Topalu	152.49	323	⇑iP	PKPbc	11 30 43.8	-1.2
TLB	Topalu	152.49	323	⇑PKIKP	PKPbc	11 30 43.8	-1.2
BMR	Baia Mare	152.51	332	⇓iP	PKiKP	11 30 46.7	+1.5
BMR	Baia Mare	152.51	332	⇓PKIKP	PKiKP	11 30 46.7	+1.5
MFTR	Murfatlar	152.53	322	⇓iP	PKPbc	11 30 44.4	-0.7
TRPA	Tarpa	152.55	334	⇑iP	PKiKP	11 30 46.1	+0.8
TRPA	Tarpa	152.55	334	eP	PKPdf	11 30 40.1	+2.0
UPC	Upice	152.57	345	ePKIKP	PKPdf	11 30 39.5	+1.4
UPC				e		11 30 46.4	
UPC	Upice	152.57	345	ePKPDF	PKPdf	11 30 39.5	+1.4
UPC				⇑ePKP	sPKPbc	11 30 46.4	-0.6
ARCR	ARCALIA	152.59	331	⇑iP	PKiKP	11 30 46.4	+1.0
OKC	Ostrava-Krasne	152.61	341	ePKIKP	PKPdf	11 30 38.3	+0.2
OKC				e		11 30 46.3	
OKC	Ostrava-Krasne	152.61	341	ePKPDF	PKPdf	11 30 38.3	+0.2
OKC				⇑ePKP	pPKPbc	11 30 46.3	-0.3
DPC	Dobruska-Polom	152.64	344	ePKIKP	PKPdf	11 30 39.7	+1.5
DPC				e		11 30 46.6	
DPC	Dobruska-Polom	152.64	344	ePKPDF	PKPdf	11 30 39.7	+1.5
DPC				⇑ePKP	pPKPbc	11 30 46.6	-0.1
IKL	Isikli	152.67	302	eP	PKPdf	11 30 37.6	-1.1
BRG	Berggiesshubel	152.68	348	i PKP	PKPdf	11 30 39.2	+1.0
	comp=Z,29nm,1.4s						
BRG	Berggiesshubel	152.68	348	i PKP	PKiKP	11 30 46.2	+0.7
	comp=Z,99nm,1.0s						
BRG	Berggiesshubel	152.68	348	i PKP	PKPab	11 30 51.6	-4.3
	comp=Z,174nm,1.5s						
BRG	Berggiesshubel	152.68	348	i PKIKP	PKPdf	11 30 39.2	+1.0
BRG				i		11 30 46.2	
BRG				i		11 30 51.6	
BRG				pmax	pmax		
	comp=Z,29nm,1.4s						
BRG				pmax	pmax		
	comp=Z,99nm,1.0s						
BRG				pmax	pmax		
	comp=Z,174nm,1.5s						
KRLC	Kraliky	152.78	343	ePKIKP	PKPdf	11 30 40.4	+1.9
KRLC				e		11 30 46.9	
KRLC	Kraliky	152.78	343	ePKPDF	PKPdf	11 30 40.4	+1.9
KRLC				⇑ePKP	pPKPbc	11 30 46.9	-0.1
LANS	Liptovska Anna	152.81	339	ePKIKP	PKiKP	11 30 47.8	+1.9
LANS	Liptovska Anna	152.81	339	ePKP	PKiKP	11 30 47.8	+1.9
MDUB	Mudurnu	152.83	312	ePKPdf	PKPdf	11 30 39.4	+0.5
MORC	Moravsky Berou	152.84	342	ePKPdf	PKPdf	11 30 39.0	+0.5
MORC	Moravsky Berou	152.84	342	⇓iP	PKiKP	11 30 47.6	+1.7
MORC	Moravsky Berou	152.84	342	⇓PKIKP	PKiKP	11 30 47.6	+1.7
MORC	Moravsky Berou	152.84	342	ePKP	PKPdf	11 30 39.5	+0.9
EIL	Elat	152.85	288	PKP	PKPdf	11 30 40.6	+1.5
	comp=Z,40nm,0.9s,baz=298,slow=1.3,SNR=9.6						
PVCC	Panska Ves	152.88	347	ePKIKP	PKPdf	11 30 39.9	+1.4
PVCC				e		11 30 47.2	
PVCC	Panska Ves	152.88	347	ePKPDF	PKPdf	11 30 39.9	+1.4
PVCC				⇑ePKP	sPKPbc	11 30 47.2	-0.5
DOPR	Dopca	152.93	325	⇓iP	PKiKP	11 30 47.1	+0.9
ISR	Istrita	152.94	325	⇓iP	PKPbc	11 30 43.8	-2.3
ISR	Istrita	152.94	325	⇓PKIKP	PKPbc	11 30 43.8	-2.3
MLR	Muntele Rosu	152.99	326	⇓iP	PKiKP	11 30 46.6	+0.1
MLR	Muntele Rosu	152.99	326	PKP	PKPdf	11 30 39.2	+0.2
	comp=Z,5.8nm,1.0s,baz=101,slow=5.2,SNR=4.8						
TEKE	Tekeli-Mersin	153.14	302	eP	PKPdf	11 30 39.1	-0.3
CJR	Cluj-Napoca	153.21	331	⇑iP	PKiKP	11 30 48.1	+1.3
CJR	Cluj-Napoca	153.21	331	⇑PKIKP	PKiKP	11 30 48.1	+1.3
SECR		153.24	326	⇑iP	PKiKP	11 30 48.3	+1.4
CSS	Mathiatis	153.31	300	ePKPdf	PKPdf	11 30 39.2	-0.5
PRU	Pruhonice	153.40	346	ePKIKP	PKPdf	11 30 40.3	+1.0
PRU				e		11 30 47.8	
PRU	Pruhonice	153.40	346	ePKPDF	PKPdf	11 30 40.3	+1.0
PRU				⇑ePKP	pPKPbc	11 30 47.8	-0.5
PRU				ePKPAB	pPKPab	11 31 00.0	-0.4
GOPC	GO Pecny, Ondr	153.41	346	ePKIKP	PKPdf	11 30 40.0	+0.7
GOPC				e		11 30 47.9	
GOPC	GO Pecny, Ondr	153.41	346	ePKPDF	PKPdf	11 30 40.0	+0.7
GOPC				⇑ePKP	pPKPbc	11 30 47.9	-0.5
CIFT	Cifteler, Eski	153.44	310	eP	PKPdf	11 30 39.1	-0.7
VOIR		153.48	327	⇓iP	PKiKP	11 30 48.5	+1.1
VOIR		153.48	327	⇓PKIKP	PKiKP	11 30 48.5	+1.1
SILT	Sile	153.52	315	⇑iP	PKiKP	11 30 47.6	+0.1
VRAC	Vranov	153.53	343	⇑iP	PKPdf	11 30 41.0	+1.5
VRAC	Vranov	153.53	343	ePKP	PKPdf	11 30 40.2	+0.7
VRAC	Vranov	153.53	343	PKP	PKPdf	11 30 40.3	+0.7
	comp=Z,2.4nm,0.4s,baz=249,slow=2.1,SNR=3.6						
VRAC				PKPab	sPKPab	11 31 01.0	-0.4
	comp=Z,35nm,1.0s,baz=28,slow=2.9,SNR=14						
DRGR		153.54	332	⇑iP	PKiKP	11 30 48.6	+1.1
DRGR		153.54	332	⇑PKIKP	PKiKP	11 30 48.6	+1.1
NKC	Novy Kostel	153.57	349	ePKIKP	PKPdf	11 30 41.0	+1.4
NKC	Novy Kostel	153.57	349	ePKPDF	PKPdf	11 30 41.0	+1.4
VYHS	Vyhne	153.59	339	ePKIKP	PKPdf	11 30 40.2	+0.6
VYHS				e		11 30 48.5	
VYHS	Vyhne	153.59	339	ePKP	PKPdf	11 30 40.2	+0.6
VYHS				e		11 30 48.5	
VYHS				e		11 31 01.3	
LEF	Lefka	153.62	300	⇑iP	PKPbc	11 30 46.3	-1.5
JAVC	Velka Javorina	153.63	341	ePKP	PKPdf	11 30 41.5	+1.8
UCC	Uccle	153.64	1	PFAKE		11 30 50.0	+2.6
UCC				LR	LR		
	comp=Z,2μm,20.0s						
HGN	Heimansgroeve	153.67	359	ePKPbc	PKiKP	11 30 47.8	+0.3
	comp=Z,61nm,1.0s						
HGN				ePKPab	PKPab	11 30 55.7	-4.3
PSZ	Piszkesteto	153.72	337	ePKPdf	PKPdf	11 30 39.7	-0.3
PSZ	Piszkesteto	153.72	337	⇑iP	PKPbc	11 30 46.2	-1.6
PSZ	Piszkesteto	153.72	337	⇑PKIKP	PKPbc	11 30 46.2	-1.6
PSZ	Piszkesteto	153.72	337	eP	PKPbc	11 30 45.0	-2.7
ARR	Arges	153.73	328	⇑iP	PKPdf	11 30 40.8	+0.8
KRUC	Moravsky	153.81	343	ePKP	PKPdf	11 30 40.4	+0.5
MEM	Membach	153.82	359	⇑PKP	PKPdf	11 30 40.6	+0.7
TREC	Trest	153.82	344	ePKIKP	PKPdf	11 30 40.6	+0.6
TREC	Trest	153.82	344	ePKPDF	PKPdf	11 30 40.6	+0.6
TREC				⇑ePKP	sPKPbc	11 30 49.4	-0.4
BCLA	Clavier	154.03	360	⇑PKPab	PKPab	11 31 02.2	+0.7
HUMR	Humele	154.15	326	⇑iP	PKiKP	11 30 50.0	+1.3
DEV	Deva	154.16	330	⇑iP	PKiKP	11 30 49.8	+1.1
DEV	Deva	154.16	330	⇑PKIKP	PKiKP	11 30 49.8	+1.1
MODS	Modra-Piesok	154.18	341	ePKIKP	PKPdf	11 30 41.5	+1.0
MODS				e		11 30 49.3	
MODS	Modra-Piesok	154.18	341	ePKP	PKPdf	11 30 41.5	+1.0
MODS				e		11 30 49.3	
MODS				e		11 31 03.9	
CTYL	Yalikoy Yolu	154.20	317	⇓iP	PKPbc	11 30 48.2	-0.7
GRA1	Grafenberg Arr	154.29	351	ePKPdf	PKPdf	11 30 41.0	+0.5
DOU	Dourbes	154.35	1	⇓PKP	PKiKP	11 30 49.3	+0.4
ZST	Bratislava	154.39	341	ePKP2	PKPab	11 31 04.4	+1.2
ZST	Bratislava	154.39	341	ePKP	PKPab	11 31 04.4	+1.2
SIRR	Siria	154.40	333	⇑iP	PKPdf	11 30 41.5	+0.6
KHC	Kasperske Hory	154.41	347	ePKPdf	PKPdf	11 30 40.6	-0.2
KHC	Kasperske Hory	154.41	347	ePKIKP	PKPdf	11 30 41.4	+0.6
KHC	Kasperske Hory	154.41	347	ePKPDF	PKPdf	11 30 41.4	+0.6
KHC				⇑ePKP	pPKPbc	11 30 50.4	-0.2
KHC				ePKPAB	sPKPab	11 31 04.5	-0.7
PHSR	Pinarhisar	154.59	318	⇓iP	PKiKP	11 30 50.9	+1.2
GEC2	GERESS Array S	154.66	346	ePKPdf	PKPdf	11 30 41.2	0.0
GERES	GERESS Array B	154.66	346	ePKPdf	PKPdf	11 30 40.8	-0.4
GERES	GERESS Array B	154.66	346	PKP	PKPdf	11 30 41.5	+0.2
	comp=Z,5.3nm,1.0s,baz=90,slow=1.3,SNR=21						
CSKK	Cskako	154.76	339	eP	PKPab	11 31 00.1	-4.7
WLF	Walferdange	154.76	358	ePKPdf	PKPdf	11 30 41.1	-0.1
WLF	Walferdange	154.76	358	⇑PKPbc	PKiKP	11 30 52.0	+2.1
WLF				⇓PKPab	pPKPab	11 31 05.8	-0.4
EDRB	Edirne	154.93	319	eP	PKPdf	11 30 42.2	+0.5
BZS	Buzias	154.93	332	⇑iP	PKPdf	11 30 41.3	-0.3
BZS	Buzias	154.93	332	⇑PKIKP	PKPdf	11 30 41.3	-0.3
CONA	Conrad Observa	154.99	343	i PKPdf	PKPdf	11 30 42.2	+0.5
	comp=Z,7.8nm,1.0s						
CONA				i P	pPKPdf	11 30 47.6	+4.5
	comp=Z,24nm,1.0s						
CONA				i pPKPab	sPKPab	11 31 07.9	+0.1
	comp=Z,50nm,1.0s,SNR=4.8						
HERR	Herculane	155.14	330	⇓iP	PKPdf	11 30 51.1	+9.2
STU	Stuttgart	155.45	353	ePKPdf	PKPdf	11 30 42.2	0.0
STU	Stuttgart	155.45	353	ePKIKP	PKPdf	11 30 42.2	0.0
BALB	Balikesir	155.46	314	PFAKE		11 30 50.0	+7.5
BALB				LR	LR		
	comp=Z,4μm,21.0s						
MOA	Molln	155.47	345	i PKPdf	PKPdf	11 30 42.4	+0.2
	comp=Z,17nm,1.4s						
MDVR	Moldovita	155.54	330	⇑iP	PKPdf	11 30 42.4	-0.1
MANT	Manisa	155.57	311	PFAKE		11 30 50.0	+7.0
MANT				LR	LR		
	comp=Z,700nm,20.0s						
ARSA	Arzberg	155.70	342	i PKPdf	PKPdf	11 30 42.9	+0.2
	comp=Z,12nm,1.2s						
ARSA				i pPKPab	sPKPab	11 31 10.6	-0.2
	comp=Z,20nm,0.8s						
BFO	Black Forest	155.97	355	ePKPdf	PKPdf	11 30 42.9	-0.1
BFO				ePKPab	pPKPab	11 31 10.6	-0.8
BFO				LR	LR		
	comp=Z,600nm,19.0s						
BFO	Black Forest	155.97	355	ePKIKP	PKPdf	11 30 42.9	-0.1
BFO				e		11 31 10.6	
BFO				MLR	MLR		
	comp=Z,600nm,19.0s						
ECH	Echery	156.17	356	ePKPdf	PKPdf	11 30 43.3	+0.1
ECH				ePKPab	pPKPab	11 31 11.6	-0.7
ECH				LR	LR		
	comp=Z,2μm,22.0s						
ECH	Echery	156.17	356	ePKIKP	PKPdf	11 30 43.3	+0.1
ECH				MLR	MLR		
	comp=Z,2μm,22.0s						
CLF	Chambon-Foret	156.32	5	PFAKE		11 30 50.0	+6.7
CLF				LR	LR		
	comp=Z,3μm,21.0s						
SOKA	Soboth	156.36	343	i pPKPab	PKPab	11 31 13.4	+1.6
	comp=Z,49nm,1.0s,SNR=8.8						
EZN	Ezine	156.36	316	⇓iP	PKPdf	11 30 50.8	+7.1
EZN	Ezine	156.36	316	⇓PKIKP	PKPdf	11 30 50.9	+7.2
PERS	Pernice	156.37	342	i PKPdf	PKPdf	11 30 47.8	+4.3
PERS				e		11 31 13.4	
VTS	Vitosha	156.40	325	⇓iP	PKPdf	11 30 50.1	+6.2
VTS	Vitosha	156.40	325	⇓PKIKP	PKPdf	11 30 50.1	+6.2
KBA	Koelnbreinsper	156.41	346	i pPKPdf	PKPdf	11 30 44.6	+0.9
	comp=Z,38nm,1.5s						
KBA				i pPKPab	sPKPab	11 31 13.7	-0.3
	comp=Z,32nm,0.9s						
RETA	Reutte	156.51	350	i PKPdf	PKPdf	11 30 43.9	+0.2
	comp=Z,4.2nm,0.7s						
RETA				i pPKPab	pPKPab	11 31 13.5	-0.3
	comp=Z,21nm,0.9s						
WATA	Walderalm	156.52	349	i PKPdf	PKPdf	11 30 44.4	+0.5
	comp=Z,9.9nm,0.9s						
WATA				i pPKPab	pPKPab	11 31 13.6	-0.4
	comp=Z,25nm,1.2s						
WTTA	Wattenberg	156.58	349	i pPKPdf	PKPdf	11 30 45.1	+1.1
	comp=Z,0.1nm,0.2s						
WTTA				i pPKPab	sPKPab	11 31 14.2	-0.6
	comp=Z,42nm,1.1s						
MOTA	Moosalm	156.59	350	i PKPdf	PKPdf	11 30 44.0	0.0
	comp=Z,16nm,1.2s						
MOTA				i PKPab	PKPab	11 31 12.9	+0.1
	comp=Z,31nm,0.9s,SNR=6.1						
OBKA	Obir	156.64	343	i pPKPab	PKPab	11 31 14.1	+1.1
	comp=Z,33nm,0.9s,SNR=7.8						
SQTA	Sankt Quirin	156.69	349	i pPKPdf	PKPdf	11 30 45.0	+0.9
	comp=Z,26nm,1.3s						
SQTA				i pPKPab	sPKPab	11 31 14.6	-0.6
	comp=Z,15nm,0.8s						
MYKA	Terra Mystica	156.76	345	i pPKPdf	PKPdf	11 30 46.2	+2.1
	comp=Z,18nm,1.4s						
MYKA				i PKPab	pPKPab	11 31 14.3	-0.6
	comp=Z,34nm,1.4s,SNR=5.4						
DAVA	Damuels	156.83	352	i PKPdf	PKPdf	11 30 44.8	+0.5
	comp=Z,16nm,1.0s						
DAVA				i pPKPab	pPKPab	11 31 14.9	-0.4
	comp=Z,25nm,0.9s,SNR=4.7						
ABTA	Abfaltersbach	156.90	347	i PKPdf	PKPdf	11 30 44.1	-0.2
	comp=Z,23nm,1.1s						
ABTA				i pPKPab	sPKPab	11 31 15.3	-0.7
	comp=Z,32nm,1.1s						
FETA	Feichten	156.97	350	i PKPdf	PKPdf	11 30 45.1	+0.6
	comp=Z,28nm,1.0s						
FETA				i pPKPab	pPKPab	11 31 15.5	-0.4
	comp=Z,30nm,0.9s						
VISS	Visnje	157.21	342	ePKPdf	PKPdf	11 30 46.7	+2.1
VISS				i		11 31 15.5	
DAVOX	Davos/Dischmat	157.33	351	PKP	PKPdf	11 30 44.9	-0.1
	comp=Z,17nm,1.1s,baz=19,slow=3.9,SNR=3.2						
DAVOX				PKPab	PKPab	11 31 15.8	-0.2
	comp=Z,26nm,0.9s,baz=357,slow=4.8,SNR=6.8						
JAVS	Javornik	157.34	343	i PKPdf	PKPdf	11 30 49.2	+4.3
JAVS				e		11 31 16.8	
BOJS	Bojanci	157.37	341	i PKPdf	PKPdf	11 30 48.4	+3.6
BOJS				e		11 31 17.4	
BLY	Banja Luka	157.41	337	⇓iP	PKPab	11 31 05.4	-11
STIP	Stip	157.60	324	i PKP	PKPab	11 31 17.4	+0.2
VAY	Valandovo	157.65	323	i PKP	PKPab	11 31 18.

DALK	**Dalny**	**2.22**	**101**	*e*P		11 20 26.0	0.0
UGLR	**Uglovaya**	**2.23**	**96**	*e*P		11 20 26.0	0.0
SDLR	**Sedlovina**	**2.25**	**94**	*e*P		11 20 26.0	0.0
RUS	**Russkaya**	**2.30**	**116**	*e*P		11 20 25.9	0.0
SPN	**Mys Shipunski**	**2.96**	**96**	*e*P		11 20 29.5	0.0
SPN				*e*S		11 21 38.0	0.0
MKZ	**Mys Kozlova**	**4.03**	**72**	*e*P		11 20 34.2	0.0
MKZ				*e*S		11 21 48.4	0.0
KBTR	**Krutoberegovo**	**5.20**	**55**	*e*P		11 20 42.5	0.0

*IDC **24** 11:36:04.8±1.5, 9°37N×127°66E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.6/49, mbtmp3.9/6, ML4.5/1, Error ellipse: s-maj=60.9km s-min=22.8km az=82.0*
*NEIC **24** 11:36:06.6±1.1, 9°27N×127°17E, h10km, mb4.6/17, Error ellipse: s-maj=22.4km s-min=13.0km az=102.0*
*MAN **24** 11:36:10.1, 9°18N×126°94E, h20km, MS4.4*

ISC 24 11:36:08.0±2.5, 9°23N±0°03×127°03E±0°07, h17km±15km, n47, σ1§63/58, mb4.5/19, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.24**	**213⇑**	*e*P	**Pn**	**11 36 30.6**	**0.0**
BIPH				*e*S	**Sb**	**11 36 42.1**	**-4.6**
BUTP	**Butuan**	**1.42**	**259**	*e*P	**Pn**	**11 36 30.7**	**-2.4**
BUTP				*e*S	**Sn**	**11 36 50.1**	**-1.4**
SCPH	**Surigao**	**1.62**	**290⇓**	*e*P	Pg	11 36 44.2	+5.0
MSLP	**Maasin**	**2.32**	**293**	*e*P	**Pn**	**11 36 46.9**	**+1.4**
MSLP				*e*S	**Sb**	**11 37 18.4**	**+0.4**
BUKP	**Musuan**	**2.37**	**236**	*e*P	**Pn**	**11 36 46.5**	**+0.2**
BUKP				*e*S	**Sn**	**11 37 15.2**	**+0.3**
MATI	**Mati**	**2.40**	**199**	*e*P	**Pn**	**11 36 47.8**	**+1.1**
MATI				*e*S	Sg	11 37 36.5	+11
DAV	**Davao City (W)**	**2.59**	**214**	*e*Pn	**Pn**	**11 36 49.6**	**+0.4**
DAV				*e*Sn	**Sn**	**11 37 22.7**	**+2.4**
DAV	**Davao City (W)**	**2.59**	**214**	Pn	**Pb**	**11 36 55.4**	**+1.3**
	63nm,0.3s,baz=250,slow=22,SNR=4.0						
DAV				Sn	**Sb**	**11 37 26.1**	**+0.5**
	57nm,0.3s,baz=263,slow=23,SNR=11						
DMPH	**Davao City--Mi**	**2.62**	**215⇑**	*e*P	**Pn**	**11 36 50.4**	**+0.8**
DMPH				*e*S	**Sn**	**11 37 20.8**	**-0.2**
PLP	**Palo**	**2.79**	**314⇓**	*e*P	**Pn**	**11 36 53.6**	**+1.7**
PLP				*e*S	**Sb**	**11 37 33.4**	**+2.0**
BESP	**Borongan**	**2.83**	**326**	*e*P	**Pb**	**11 36 55.2**	**-2.9**
BESP				*e*S	**Sb**	**11 37 31.8**	**-0.7**
OCLP	**Ormoc**	**2.99**	**307**	*e*P	**Pn**	**11 36 56.6**	**+1.9**
OCLP				*e*S	**Sg**	**11 37 45.7**	**+1.4**
DDMP	**Don Marcelino,**	**3.37**	**203**	*e*P	**Pn**	**11 37 02.0**	**+2.0**
DDMP				*e*S	**Sn**	**11 37 45.2**	**+5.5**
SKMP	**Bagumbayan, Su**	**3.66**	**223**	*e*P	**Pn**	**11 37 02.8**	**-1.1**
CNP	**Catarman**	**4.00**	**325**	*e*P	**Pn**	**11 37 11.3**	**+2.7**
CNP				*e*S	**Sn**	**11 37 58.8**	**+3.6**
PVCP	**Virac**	**5.17**	**327**	*e*P	**Pn**	**11 37 27.8**	**+3.0**
TNTI	**Ternate**	**8.41**	**178**	*e*Pn	**Pn**	**11 38 07.9**	**-1.4**
MMRI	**Maumere**	**18.38**	**195**	*e*P	**Pn**	**11 40 22.9**	**+0.6**
	32nm,0.5s						
MTN	**Manton Dam**	**22.31**	**169**	*e*P	**P**	**11 41 04.9**	**0.0**
	33nm,1.4s						
COEN	**Coen**	**28.06**	**145**	*e*P	**P**	**11 41 57.3**	**-1.5**
	12nm,1.0s						
MJAR	**Matsushiro Arr**	**29.02**	**19**	*e*P	**P**	**11 42 06.1**	**-1.1**
WB2	**Warramunga Arr**	**29.88**	**166**	*e*P	**P**	**11 42 15.6**	**+0.6**
	10nm,1.3s						
PSA00	**Pilbara Seismi**	**31.42**	**193**	*e*P	**P**	**11 42 29.1**	**+0.6**
	28nm,1.5s						
AS31	**Alice Springs**	**33.38**	**168**	*e*P	**P**	**11 42 45.8**	**0.0**
	0.7nm,0.8s						
ASAR	**Alice Springs**	**33.38**	**169**	P	**P**	**11 42 45.2**	**-0.6**
	0.2nm,0.3s,baz=355,slow=7.1,SNR=7.7						
MORW	**Morawa**	**39.53**	**195**	*e*P	**P**	**11 43 38.4**	**+0.2**
	13nm,1.3s						
FORT	**Forrest**	**39.80**	**179**	*e*P	**P**	**11 43 40.1**	**-0.3**
	13nm,0.9s						
SONA0	**Songino Array**	**42.25**	**339**	*e*P	**P**	**11 44 02.5**	**+1.9**
SONM	**Songino Array**	**42.25**	**339**	P	**P**	**11 44 02.5**	**+1.9**
	0.3nm,0.4s,baz=145,slow=7.4,SNR=2.9						
BBOO	**Buckleboo**	**42.69**	**169**	*e*P	**P**	**11 44 04.0**	**-0.2**
	8.2nm,1.0s						
NWAO	**Narrogin (SRO)**	**42.95**	**192**	*e*P	**P**	**11 44 06.3**	**0.0**
	19nm,1.2s						
PETK	**Petropavlovsk-**	**50.27**	**24**	*e*P	**P**	**11 45 02.5**	**-1.0**
MK31	**Makanchi Array**	**53.30**	**323**	*e*P	**P**	**11 45 26.5**	**+0.2**
	1.9nm,0.8s						
MK32	**Makanchi Array**	**53.30**	**323**	*e*P	**P**	**11 45 26.5**	**+0.3**
MKAR	**Makanchi Array**	**53.30**	**323**	*e*P	**P**	**11 45 25.9**	**-0.4**
MKAR	**Makanchi Array**	**53.30**	**323**	P	**P**	**11 45 26.5**	**+0.3**
	2.1nm,0.8s,baz=118,slow=8.6,SNR=13						
MAKZ	**Makanchi**	**53.50**	**323**	*e*P	**P**	**11 45 27.3**	**-0.4**
	4.0nm,1.1s						
KDJ	**Kajisay**	**54.55**	**316**	*e*P	**P**	**11 45 35.3**	**-0.3**
	9.2nm,1.4s						
NIL	**Nilore**	**54.94**	**305**	*e*P	**P**	**11 45 38.0**	**-0.4**
	5.8nm,0.8s						
ZALV	**Zalesovo Beam**	**55.89**	**331**	*e*P	**P**	**11 45 44.4**	**-0.4**
ZALV	**Zalesovo Beam**	**55.89**	**331**	P	**P**	**11 45 45.1**	**+0.2**
	0.3nm,0.3s,baz=111,slow=6.3,SNR=3.2						
ZAA1	**Zalesovo Array**	**55.89**	**331**	*e*P	**P**	**11 45 45.1**	**+0.2**
KURK	**Kurchatov**	**57.34**	**326**	*e*P	**P**	**11 45 55.2**	**0.0**
	5.0nm,1.0s						
KKAR	**Karatay Array**	**59.51**	**315**	*e*P	**P**	**11 46 10.1**	**-0.5**
ABKAR	**Akbulak array**	**68.15**	**319**	*e*P	**P**	**11 47 07.1**	**-0.2**
ARCES	**ARCESS Array B**	**85.42**	**340**	P	**P**	**11 48 43.8**	**-0.6**
	1.7nm,0.8s,baz=64,slow=9.2,SNR=4.0						
X51A	**Calhoun**	**126.99**	**33**	*e*Pdif	**Pdif**	**11 51 52.8**	**0.0**

KRSC 24 11:38:47.5±10.0, 55°37N×153°37E, h535km±10km, ML4.2, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**3.31**	**136**	*e*P	P	11 40 05.3	+2.0
KRX	**Arik**	**3.69**	**121**	*e*P	P	11 40 08.9	+2.8
KOK	**Koryaka**	**3.72**	**122**	*e*P	P	11 40 08.3	+2.0
KRER	**Koryakskii**	**3.77**	**121**	*e*P	P	11 40 08.7	+1.9
KRMR	**Karymshinskiy**	**3.78**	**130**	*e*P	P	11 40 08.4	+1.8
AVH	**Avacha**	**3.78**	**122**	*e*P	P	11 40 08.7	+2.0
SMAR	**Somma**	**3.82**	**121**	*e*P	P	11 40 09.1	+2.0
SDLR	**Sedlovina**	**3.85**	**121**	*e*P	P	11 40 08.9	+1.6
UGLR	**Uglovaya**	**3.86**	**122**	*e*P	P	11 40 09.5	+2.2
PET	**Petropavlovsk**	**3.89**	**125**	*e*P	P	11 40 08.7	+1.3
DALK	**Dalny**	**3.93**	**124**	*e*P	P	11 40 08.7	+1.0
RUS	**Russkaya**	**4.23**	**132**	*e*P	P	11 40 09.6	-0.4
SPN	**Mys Shipunski**	**4.52**	**117**	*e*P	P	11 40 12.2	-0.1
SPN				*e*S	S	11 41 19.4	-2.3
MKZ	**Mys Kozlova**	**4.89**	**96**	*e*P	P	11 40 14.8	-0.5
MKZ				*e*S	S	11 41 25.4	-1.8
KBTR	**Krutoberegovo**	**5.40**	**77**	*e*P	P	11 40 20.9	+1.1
KBTR				*e*S	S	11 41 36.4	+1.0
BKI	**Bering**	**7.20**	**86**	*e*S	S	11 42 08.2	+1.9

*NCEDC **24** 11:40:04.5, 40°18N×121°06W, h6km, MD3.6*

NEIC 24 11:40:04.5±0.0, 40°18N×121°06W, h6km, MD3.6(NCEDC), After NCEDC., Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEKR	**Beckworth**	**0.62**	**120**	*e*Pg	Pg	11 40 16.1	-0.3
BEKR				*e*Sg	Sg	11 40 24.5	-0.1
ORV	**Oroville**	**0.71**	**209**	*e*Pg	Pg	11 40 18.6	+0.4
WDC	**Whiskeytown Da**	**1.20**	**290**	*e*Pg	Pg	11 40 27.2	-0.4
AFDM	**Forest Hills D**	**1.23**	**177**	*e*Pg	Pg	11 40 27.3	-0.9
RUBR	**Rubicon Trail**	**1.33**	**148**	*e*Pn	Pn	11 40 29.0	-0.8
PAHR	**Pah Rah Range**	**1.37**	**110**	*e*Pn	Pn	11 40 29.9	-0.5
VCNR	**Virginia City**	**1.40**	**129**	*e*Pn	Pn	11 40 30.8	-0.1
PNTR	**Pine Nut**	**1.57**	**134**	*e*Pn	Pb	11 40 33.7	-0.4

*NCEDC **24** 11:40:15.7, 40°18N×121°05W, h3km, ML3.8*
*NEIC **24** 11:40:15.7±0.0, 40°18N×121°05W, h3km, ML3.8(NCEDC), After NCEDC.*
NEIC Felt at Chico and Janesville.
*ANF **24** 11:40:17.5±0.5, 40°14N×121°25W, h14km±3km, ML3.8/18, Error ellipse: s-maj=4.6km s-min=3.2km az=40.0*

ISC 24 11:40:16.4±1.1, 40°12N±0°03×121°15W±0°03, h10km±10km, n73, σ1§08/89, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	**Paynes Creek**	**0.53**	**290**	P	**Pg**	**11 40 26.5**	**-0.1**
	baz=102						
O03E				S	**Sg**	**11 40 33.7**	**+0.1**
	baz=102						
ORV	**Oroville**	**0.62**	**205**	*e*Pg	**Pg**	**11 40 28.6**	**+0.1**
ORV				*e*Sg	**Sg**	**11 40 37.8**	**+1.2**
BEKR	**Beckworth**	**0.66**	**112**	*e*Sg	**Sg**	**11 40 35.8**	**-2.1**
WDC	**Whiskeytown Da**	**1.16**	**294**	*e*Pg	**Pb**	**11 40 37.2**	**-1.3**
WDC				*e*Sg	**Sb**	**11 40 54.0**	**+0.4**
AFDM	**Forest Hills D**	**1.18**	**173**	*e*Pg	**Pb**	**11 40 37.7**	**-1.1**
AFDM				*e*Sg	**Sg**	**11 40 54.8**	**+0.5**
O02D	**Mt. Diablo Mer**	**1.25**	**273**	P	**Pn**	**11 40 39.5**	**-0.6**
	baz=90,SNR=60						
O02D				S	**Sb**	**11 40 55.3**	**-1.1**
	baz=90						
RUBR	**Rubicon Trail**	**1.31**	**144**	*e*Pn	**Pn**	**11 40 40.1**	**-1.0**
RUBR				*e*Sg	**Sb**	**11 40 57.9**	**-0.4**
VCNR	**Virginia City**	**1.42**	**125**	*e*Pn	**Pn**	**11 40 41.8**	**-0.7**
VCNR				*e*Sn	**Sb**	**11 41 00.5**	**-0.9**
PAHR	**Pah Rah Range**	**1.42**	**106**	*e*Pn	**Pn**	**11 40 41.0**	**-1.5**
PAHR				*e*Sn	**Sb**	**11 40 59.9**	**-1.5**
N02D	**Trinity Center**	**1.46**	**306**	P	**Pn**	**11 40 41.8**	**-1.1**
	baz=122,SNR=158						
N02D				S	**Sn**	**11 41 01.2**	**-0.9**
	baz=122						
PNTR	**Pine Nut**	**1.58**	**130**	*e*Pn	**Pn**	**11 40 44.5**	**-0.2**
M04C	**Macdoel**	**1.74**	**343**	P	**Pn**	**11 40 46.6**	**-0.2**
	baz=160,SNR=144						
M04C				S	**Sn**	**11 41 09.4**	**+0.1**
	baz=160						
M02C	**Callahan**	**1.81**	**315**	P	**Pn**	**11 40 47.8**	**0.0**
	baz=131,SNR=87						
M02C				S	**Sn**	**11 41 09.6**	**-1.3**
	baz=131						
GDXM	**Geysers**	**1.82**	**225**	*e*Pn	**Pb**	**11 40 49.3**	**-0.6**
HOPS	**Hopland Field**	**1.86**	**233**	*e*Pn	**Pb**	**11 40 49.7**	**-0.8**
YERR	**Yerington**	**1.86**	**127**	*e*Pn	**Pn**	**11 40 48.1**	**-0.4**
MOD	**Modoc Plateau**	**1.90**	**20**	*e*Pn	**Pn**	**11 40 47.7**	**-1.3**
MOD				*e*Sn	**Sn**	**11 41 12.3**	**-0.7**
KCPM	**Cahto Peak**	**1.92**	**258**	*e*Pn	**Pb**	**11 40 50.8**	**-0.8**
KMRM	**Mail Ridge**	**1.96**	**274**	*e*Pn	**Pb**	**11 40 51.7**	**-0.6**
YBH	**Yreka Blue Hor**	**2.00**	**324**	*e*Pn	**Pn**	**11 40 50.5**	**+0.1**
WAKR	**Walker**	**2.09**	**140**	*e*Pn	**Pn**	**11 40 52.3**	**+0.6**
KHMM	**Horse Mountain**	**2.10**	**292**	*e*Pn	**Pn**	**11 40 53.3**	**+1.4**
CMB	**Columbia Colle**	**2.17**	**164**	*e*Pn	**Pn**	**11 40 53.5**	**+0.9**
L04D	**Klamath Falls**	**2.27**	**338**	P	**Pn**	**11 40 54.3**	**+0.2**
	baz=155,SNR=189						
JCC	**Jacoby Creek,**	**2.30**	**289**	*e*Pn	**Pn**	**11 40 55.6**	**+1.2**
RYN	**Ryan**	**2.52**	**125**	*e*Pn	**Pn**	**11 40 57.8**	**+0.1**
K04D	**Chiloquin, OR**	**2.54**	**350**	P	**Pn**	**11 40 58.6**	**+0.7**
	baz=168						
K04D				Sb	**Sb**	**11 41 34.5**	**+0.8**
	baz=168						
KVN	**Kaiserville**	**2.59**	**113**	*e*Pn	**Pn**	**11 40 58.4**	**-0.1**
K05A	**Summer Lake**	**2.61**	**4**	*e*Pn	**Pn**	**11 40 59.0**	**+0.1**
L02E	**Cave Junction**	**2.75**	**319**	P	**Pn**	**11 41 01.2**	**+0.6**
	baz=135						
L02E				Sb	**Sb**	**11 41 40.8**	**+1.3**
	baz=135						
NVAR	**Mina Array Bea**	**2.78**	**126**	*e*Pn	**Pn**	**11 41 01.2**	**0.0**
HUMO	**Hull Mountain**	**2.83**	**332**	*e*Pn	**Pn**	**11 41 02.8**	**+1.1**
NV11	**Mina Array Sit**	**2.87**	**125**	*e*Pn	**Pn**	**11 41 02.5**	**+0.1**
MDPB	**Devils Postpil**	**2.96**	**146**	*e*Pn	**Pn**	**11 41 04.6**	**+0.8**
WVOR	**Wild Horse Val**	**2.99**	**39**	*e*Pn	**Pn**	**11 41 03.0**	**-1.0**
BMN	**Battle Mountai**	**3.02**	**83**	*e*Pn	**Pn**	**11 41 03.5**	**-1.0**
MLAC	**Mammoth, Mammo**	**3.07**	**143**	Pb	**Pb**	**11 41 11.5**	**+0.2**
	baz=326						
J05D	**Fort Rock, OR**	**3.17**	**359**	P	**Pn**	**11 41 07.2**	**+0.8**
	baz=178,SNR=85						
J05D				Sb	**Sb**	**11 41 52.7**	**+1.2**
	baz=178						
K02D	**Willamette Mer**	**3.19**	**325**	P	**Pn**	**11 41 07.2**	**+0.4**
	baz=141						
SAO	**San Andreas Ge**	**3.36**	**184**	*e*Pn	**Pn**	**11 41 10.7**	**+1.7**
PINE	**Pine Mountain**	**3.67**	**2**	*e*Pn	**Pn**	**11 41 13.9**	**+0.4**
I04A	**Tendick Farm,**	**3.79**	**346**	P	**Pn**	**11 41 16.2**	**+1.2**
	baz=164						
J08A	**Circle Bar Ran**	**3.81**	**31**	*e*Pn	**Pn**	**11 41 15.0**	**-0.2**
I07A	**Izee**	**4.15**	**17**	*e*Pn	**Pn**	**11 41 19.2**	**-0.7**
I05D	**Terrebonne, OR**	**4.22**	**358**	Pb	**Pb**	**11 41 31.5**	**+0.7**
	baz=177						
PAGB	**Antelope Grade**	**4.44**	**170**	*e*Pn	**Pn**	**11 41 25.3**	**+1.5**
H04D	**Lebanon**	**4.56**	**346**	Pb	**Pb**	**11 41 36.9**	**+0.4**
	baz=164						
ELK	**Elko**	**4.56**	**80**	*e*Pn	**Pn**	**11 41 24.6**	**-1.1**
R11A	**Troy Canyon, C**	**4.67**	**110**	*e*Pn	**Pn**	**11 41 27.4**	**+0.2**
R11A	**Troy Canyon, C**	**4.67**	**110**	P	**Pn**	**11 41 27.1**	**0.0**
	baz=295						
R11A				Sb	**Sb**	**11 42 40.0**	**+5.0**
	baz=295						
ISA	**Isabella, Lake**	**4.93**	**154**	*e*Pn	**Pn**	**11 41 31.9**	**+1.3**
ISA	**Isabella, Lake**	**4.93**	**154**	P	**Pn**	**11 41 32.7**	**+2.1**
	baz=336						
MPMC	**Manual Prospec**	**4.98**	**143**	P	**Pn**	**11 41 33.8**	**+2.4**
	baz=327						
TPNV	**Topopah Spring**	**4.98**	**128**	*e*Pn	**Pn**	**11 41 32.2**	**+0.8**
TPNV	**Topopah Spring**	**4.98**	**128**	P	**Pn**	**11 41 32.5**	**+1.1**
	baz=312						
G06A	**Carlson Farm,**	**5.13**	**4**	*e*Pn	**Pn**	**11 41 32.9**	**-0.4**
G08A	**Pilot Rock**	**5.42**	**17**	*e*Pn	**Pn**	**11 41 36.9**	**-0.4**
BMO	**Blue Mountains**	**5.52**	**30**	*e*Pn	**Pn**	**11 41 38.4**	**-0.4**
PSUT	**Pine Spring**	**5.88**	**103**	*e*Pn	**Pn**	**11 41 43.6**	**-0.1**
GSC	**Goldstone, Bar**	**5.92**	**143**	*e*Pn	**Pn**	**11 41 45.7**	**+1.5**
SHPR	**Sheep Range**	**5.93**	**126**	*e*Pn	**Pn**	**11 41 45.4**	**+0.8**
HLID	**Hailey**	**6.10**	**53**	*e*Pn	**Pn**	**11 41 45.5**	**-1.2**
PLID	**Pearl Lake**	**6.25**	**36**	*e*Pn	**Pn**	**11 41 48.8**	**-0.1**
DUG	**Dugway, Tooele**	**6.39**	**87**	*e*Pn	**Pn**	**11 41 49.9**	**-0.8**
F10A	**Beach Ranch, E**	**6.52**	**25**	*e*Pn	**Pn**	**11 41 51.6**	**-0.9**
HVU	**Hansel Valley**	**6.56**	**73**	*e*Pn	**Pn**	**11 41 53.8**	**+0.8**
CCUT	**Cedar City**	**6.60**	**110**	*e*Pn	**Pn**	**11 41 54.5**	**+0.8**
LON	**Longmire**	**6.65**	**356**	*e*Pn	**Pn**	**11 41 54.5**	**+0.4**
LCMT	**Little Creek M**	**6.93**	**114**	*e*Pn	**Pn**	**11 41 59.2**	**+1.1**
MSU	**Marysvale**	**7.14**	**100**	*e*Pn	**Pn**	**11 42 01.7**	**+0.6**
KNB	**Kanab**	**7.22**	**113**	*e*Pn	**Pn**	**11 42 02.5**	**+0.3**
PKCU	**Pink Cliffs**	**7.41**	**108**	*e*Pn	**Pn**	**11 42 05.4**	**+0.5**
JLU	**Jordanelle**	**7.43**	**83**	*e*Pn	**Pn**	**11 42 05.7**	**+0.6**

*IDC **24** 11:41:02.4±0.5, 9°09N×126°59E, h0km, mb4.4/27, mb1 4.5/29, mb1mx4.5/40, mbtmp4.4/29, ML4.3/2, Error ellipse: s-maj=21.0km s-min=10.6km az=86.0*
*MAN **24** 11:41:04.0, 9°16N×127°17E, h31km, MS3.2*
*NEIC **24** 11:41:04.2±2.0, 9°13N×126°66E, h10km, mb4.8/82, Error ellipse: s-maj=18.6km s-min=13.1km az=90.0*
*ISCJB **24** 11:41:08.3±0.5, 9°08N±0°02×126°69E±0°04, h56km±4km, mb4.7/113, Error ellipse: s-maj=6.7km s-min=3.7km az=169.7*
*DJA **24** 11:41:09.2±0.9, 9°N±3°×12°7E±°, h34km±8km, M5.4/24, mB5.8/12, mb4.8/24, MLv5.6/2, Mw(mB)5.4/12*
*BJI **24** 11:41:10.0±0.0, 8°96N×126°52E, h79km, mb4.7/33, mB5.1/15, Ms4.8/11, Ms7 4.7/7*
*KLM **24** 11:41:17.0, 8°54N×127°54E, h174km, mb4.9*

ISC 24 11:41:09.2±0.9, 9°13N±0°03×126°90E±0°06, h50km±8km, n211, σ2§01/217, mb4.7/113, 6C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.08**	**209**	⇓*i*P	**Pn**	**11 41 26.0**	**-2.0**
BIPH				*i* S	**Sn**	**11 41 38.1**	**-3.9**
BUTP	**Butuan**	**1.27**	**263**	*e*P	**Pn**	**11 41 26.7**	**-4.0**
BUTP				*e*S	**Sn**	**11 41 46.5**	**-0.1**
SCPH	**Surigao**	**1.53**	**295**	⇑*e*P	Pn	11 41 39.7	+5.5
SCPH				*e*S	Sn	11 42 01.6	+8.6
BUKP	**Musuan**	**2.20**	**236**	*e*P	**Pn**	**11 41 41.6**	**-1.9**
BUKP				*e*S	**Sn**	**11 42 11.6**	**+2.1**
MSLP	**Maasin**	**2.24**	**297**	*e*P	**Pn**	**11 41 42.8**	**-1.2**
MSLP				*e*S	Sn	11 42 20.3	+10
MATI	**Mati**	**2.26**	**196**	*e*P	**Pn**	**11 41 40.8**	**-3.4**
MATI				*e*S	**Sn**	**11 42 15.7**	**+4.7**
DAV	**Davao City (W)**	**2.43**	**213**	*e*Pn	**Pn**	**11 41 45.9**	**-0.6**
DAV				*e*Sn	**Sn**	**11 42 11.4**	**-3.7**
DAV	**Davao City (W)**	**2.43**	**213**	Pn	**Pn**	**11 41 46.8**	**+0.3**
	171nm,0.3s,baz=69,slow=4.5,SNR=11						
DAV				Sn	**Sn**	**11 42 18.0**	**+3.0**
	251nm,0.3s,baz=75,slow=15,SNR=5.8						
DMPH	**Davao City--Mi**	**2.46**	**214**	⇑*e*P	**Pn**	**11 41 46.0**	**-0.9**
DMPH				*e*S	**Sn**	**11 42 19.1**	**+3.4**
PLP	**Palo**	**2.77**	**317**	⇑*e*P	**Pn**	**11 41 49.0**	**-2.1**
PLP				*e*S	**Sn**	**11 42 29.6**	**+6.3**
BESP	**Borongan**	**2.84**	**330**	*e*P	**Pn**	**11 41 50.6**	**-1.6**
BESP				*e*S	**Sn**	**11 42 25.0**	**-0.2**
OCLP	**Ormoc**	**2.95**	**310**	*e*P	**Pn**	**11 41 51.8**	**-1.9**
LLP	**Lapu-Lapu**	**3.12**	**292**	*e*P	**Pn**	**11 41 55.0**	**-1.0**
LLP				*e*S	**Sn**	**11 42 38.5**	**+6.4**
DDMP	**Don Marcelino,**	**3.23**	**201**	*e*P	**Pn**	**11 41 57.9**	**+0.4**
SKMP	**Bagumbayan, Su**	**3.49**	**222**	*e*P	**Pn**	**11 41 57.5**	**-3.6**
DCPH	**Dipolog City**	**3.55**	**261**	⇑*e*P	**Pn**	**11 42 02.0**	**+0.2**
DCPH				*e*S	**Sn**	**11 42 49.6**	**+7.1**
SNPH	**Sibulan**	**3.62**	**274**	⇑*i*P	**Pn**	**11 42 02.6**	**-0.3**
SNPH				*i* S	**Sn**	**11 42 47.9**	**+3.5**
PAGZ	**Pagadian**	**3.70**	**250**	*e*P	**Pn**	**11 42 04.1**	**+0.1**
CNP	**Catarman**	**4.01**	**327**	*e*P	**Pn**	**11 42 07.0**	**-1.1**
JAP	**San Jose, Anti**	**5.13**	**289**	⇑*e*P	**Pn**	**11 42 25.9**	**+2.3**
PVCP	**Virac**	**5.19**	**329**	*e*P	**Pn**	**11 42 22.7**	**-1.6**
SGSI	**Sangihe**	**5.58**	**194**	P	**Pn**	**11 42 32.7**	**+3.0**
	204nm,0.6s,3.1nm						
SGSI				S	**Sn**	**11 43 39.4**	**+6.8**
	204nm,0.6s,3.1nm						
TGY	**Tagaytay City**	**7.65**	**311**	Pn	**Pn**	**11 42 58.2**	**+0.1**
	baz=135,slow=14,SNR=2.9						
TNTI	**Ternate**	**8.32**	**177**	*e*Pn	**Pn**	**11 43 06.2**	**-1.1**
TNTI	**Ternate**	**8.32**	**177**	P	**Pn**	**11 43 09.6**	**+2.3**
	77nm,1.0s,2μm						
KMSI	**Cibinong**	**8.98**	**199**	P	**Pn**	**11 43 20.0**	**+3.6**
MRSI	**Marisa**	**9.91**	**210**	P	**Pn**	**11 43 28.0**	**-1.2**
LUWI	**Luwuk**	**10.91**	**202**	*e*Pn	**Pn**	**11 43 40.9**	**-1.9**
LUWI	**Luwuk**	**10.91**	**202**	P	**Pn**	**11 43 47.1**	**+4.3**
	132nm,1.0s,4μm						
SANI	**Sanana**	**11.14**	**185**	P	**Pn**	**11 43 45.5**	**-0.5**
FAKI	**Fak Fak**	**13.11**	**156**	*e*Pn	**Pn**	**11 44 11.3**	**-1.5**
TTSI	**Tana Toraja**	**14.00**	**211**	P	**Pn**	**11 44 28.0**	**+2.9**
	30nm,1.0s						
SPSI	**Sidrap Palu**	**14.82**	**209**	P	**P**	**11 44 41.5**	**+0.8**
	9.1nm,1.1s						
BNSI	**Bone**	**15.05**	**207**	P	**Pn**	**11 44 36.8**	**-2.1**
YULB	**Yu-li**	**15.16**	**340**	*e*Pn	**Pn**	**11 44 38.8**	**-1.5**
	12nm,1.1s						
KAPI	**Kappang**	**15.76**	**207**	Pn	**Pn**	**11 44 43.1**	**-4.8**
	0.4nm,0.3s,baz=78,slow=16,SNR=2.0						
BKSI	**Bulukumba**	**15.87**	**205**	P	**Pn**	**11 44 49.5**	**+0.1**
	8.9nm,0.9s,1μm						
YHNB	**Yeheng**	**16.32**	**342**	*e*Pn	**Pn**	**11 44 53.4**	**-1.8**
	24nm,0.9s						
KSM	**Kuching**	**18.18**	**246**	P	**Pn**	**11 45 21.0**	**+2.9**
SOEI	**Soe**	**18.95**	**188**	*e*P	**P**	**11 45 24.4**	**-2.0**
	45nm,0.7s						
SOEI	**Soe**	**18.95**	**188**	P	**Pn**	**11 45 33.0**	**+5.5**
BATI	**Baumata**	**19.48**	**190**	P	**Pn**	**11 45 34.3**	**+0.5**
BATI	**Baumata**	**19.48**	**190**	P	**P**	**11 45 29.9**	**-2.3**
	3.2nm,0.3s,baz=153,slow=2.3,SNR=3.7						
PLAI	**Plampang**	**20.02**	**207**	P	Pn	11 45 40.3	+0.1
PANO	**Nakornpanom**	**23.10**	**292**	P	**P**	**11 46 10.3**	**-0.7**
	0.2nm,0.9s						
SKNT	**Sakolnakorn**	**23.63**	**292**	P	**P**	**11 46 14.7**	**-1.4**
	13nm,0.9s						
NJ2	**Nanjing**	**24.00**	**343**	*e*P	**P**	**11 46 20.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,33nm,0.6s						
MYKOM	**Kota Tinggi**	**24.06**	**254**	P	**P**	**11 46 21.0**	**+0.9**
JNU	**Nakatsue**	**24.16**	**8**	*e*P	**P**	**11 46 20.9**	**+0.1**
	38nm,1.

MDJ	Mudanjiang	35.43	3	eP	P	11 48 01.5	+1.0
	22nm,0.9s						
SHL	Shillong	37.05	301	eP	P	11 48 11.0	-3.8
ASAJ	Asahikawa	37.43	19	P	P	11 48 19.4	+1.8
	8.1nm,1.0s,baz=249,slow=27,SNR=4.1						
GTA	Gaotai	38.66	326	eP	P	11 48 27.8	-0.4
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MORW	Morawa	39.40	195	eP	P	11 48 33.0	-1.2
	26nm,1.3s						
H11S3	WAKE ISLAND Hy	39.66	72	T	T	12 31 43.5	
	baz=262,slow=75,SNR=67						
H11S1	WAKE ISLAND Hy	39.68	72	T	T	12 31 43.5	
	baz=262,slow=75,SNR=50						
H11S2	WAKE ISLAND Hy	39.68	72	T	T	12 31 35.4	
	baz=262,slow=75,SNR=44						
FORT	Forrest	39.70	178	eP	P	11 48 36.0	-0.8
	14nm,0.8s						
H11N1	WAKE ISLAND Hy	40.04	70	T	T	12 32 22.6	
	baz=265,slow=74,SNR=46						
H11N2	WAKE ISLAND Hy	40.05	70	T	T	12 32 21.1	
	baz=265,slow=74,SNR=33						
H11N3	WAKE ISLAND Hy	40.06	70	T	T	12 32 31.8	
	baz=265,slow=74,SNR=46						
KLR	Kul'dur	40.17	5	P	P	11 48 39.5	-1.0
	3.7nm,0.7s,baz=216,slow=3.6,SNR=16						
HIA	Hailar	40.45	353	eP	P	11 48 42.8	-0.1
	28nm,1.3s						
RAMN	Ramite	41.98	300	eP	P	11 48 54.2	-1.8
	25nm,0.7s						
SONM	Songino Array	42.30	339	eP	P	11 48 57.4	-0.7
SONM	Songino Array	42.30	339	P	P	11 48 56.8	-1.3
	1.5nm,0.7s,baz=160,slow=8.2,SNR=5.8						
SONM				ScP	ScP	11 54 41.8	+4.0
	0.2nm,0.4s,baz=130,slow=2.3,SNR=3.6						
JIRN	Jiri	42.54	301	eP	P	11 48 58.8	-1.9
	46nm,0.7s						
BBOO	Buckleboo	42.61	169	eP	P	11 48 59.9	-0.8
	17nm,0.9s						
NWAO	Narrogin (SRO)	42.83	192	eP	P	11 49 01.0	-1.4
STKA	Stephens Creek	43.13	162	eP	P	11 49 04.3	-0.6
	2.4nm,1.1s						
STKA	Stephens Creek	43.13	162	P	P	11 49 04.7	-0.2
	3.2nm,0.6s,baz=342,slow=8.8,SNR=11						
KOLN	Koldanda	44.77	300	eP	P	11 49 16.5	-2.0
	29nm,0.7s						
DANN	Dangsing	44.80	301	eP	P	11 49 16.3	-2.5
	22nm,0.5s						
PYUN	Piuthan	45.38	301	eP	P	11 49 21.3	-2.0
	42nm,0.9s						
WMQ	Urumqi	48.50	322	eP	P	11 49 45.8	-1.4
WMQ				pmax	pmax		
	comp=Z,60nm,0.7s						
WMQ				LR	LR		
	comp=N,2μm,18.9s						
WMQ				LR	LR		
	comp=E,2μm,17.3s						
PETK	Petropavlovsk-	50.42	24	eP	P	11 50 03.2	+1.6
PETK	Petropavlovsk-	50.42	24	P	P	11 50 04.2	+2.6
	3.0nm,0.8s,baz=178,slow=3.9,SNR=6.3						
PEA1	Petropavlovsk-	50.42	24	eP	P	11 50 04.2	+2.6
MK31	Makanchi Array	53.30	323	eP	P	11 50 22.2	-1.1
	11nm,0.9s						
MK32	Makanchi Array	53.30	323	eP	P	11 50 22.5	-0.8
MKAR	Makanchi Array	53.30	323	P	P	11 50 22.5	-0.8
	13nm,0.8s,baz=116,slow=8.2,SNR=55						
MKAR				PcP	PcP	11 51 30.1	-0.2
	2.4nm,0.8s,baz=100,slow=5.9,SNR=1.8						
MAKZ	Makanchi	53.50	323	eP	P	11 50 23.6	-1.1
	15nm,0.8s						
TARG	Taragay, Kyrgy	53.94	316	eP	P	11 50 27.2	-1.3
	16nm,1.2s						
KSH	Kashi	54.45	312	P	P	11 50 34.5	+2.6
KSH				pP	pwP	11 50 53.3	+1.8
KSH				PP	PP	11 52 38.9	+4.5
KSH				S	S	11 58 05.1	-2.2
KSH				SS	SS	12 01 48.8	-1.4
KSH				pmax	pmax		
	comp=Z,380nm,6.3s						
KSH				LR	LR		
	comp=N,340nm,12.0s						
KSH				LR	LR		
	comp=E,440nm,12.9s						
KDJ	Kajisay	54.53	316	eP	P	11 50 31.4	-1.1
	11nm,0.9s						
NIL	Nilore	54.88	305	eP	P	11 50 33.2	-1.8
	33nm,0.9s						
NRN	Naryn	55.09	315	eP	P	11 50 35.4	-1.4
	6.3nm,0.8s						
KZA	Kyzart	55.85	315	P	P	11 50 41.5	-0.7
	SNR=14						
TKM2	Tokmak 2	55.91	316	P	P	11 50 41.4	-1.0
	SNR=6.9						
ZAA0	Zalesovo Array	55.91	331	eP	P	11 50 40.7	-1.3
	4.6nm,1.0s						
ZALV	Zalesovo Beam	55.91	331	P	P	11 50 40.5	-1.4
	2.0nm,0.6s,baz=123,slow=5.5,SNR=8.4						
ZAA1	Zalesovo Array	55.92	331	eP	P	11 50 40.5	-1.5
UCH	Uchtor	56.41	315	P	P	11 50 46.0	-0.4
	SNR=30						
AAK	Ala-Archa	56.57	316	eP	P	11 50 45.6	-1.5
	4.1nm,0.9s						
USP	Ospenovka	56.78	316	P	P	11 50 47.3	-1.2
	SNR=5.5						
AML	Almayashu	56.95	315	P	P	11 50 50.9	+0.8
	SNR=6.7						
EKS2	Erkin-Say	57.07	315	P	P	11 50 49.5	-1.2
	SNR=6.1						
KURK	Kurchatov	57.35	326	eP	P	11 50 51.0	-1.3
	27nm,1.0s						
BTK	Batken	58.40	312	eP	P	11 50 58.8	-1.2
	9.1nm,1.1s						
GAR	Garm	58.49	310	eP	P	11 50 59.2	-1.5
KK31	Karatay Array	59.49	315	eP	P	11 51 05.4	-2.0
	6.6nm,0.8s						
TIXI	Tiksi	62.47	1	eP	P	11 51 27.4	+0.4
	12nm,0.9s						
BRVK	Borovoye	63.02	326	eP	P	11 51 29.8	-1.2
	18nm,0.9s						
BILL	Bilibino	64.33	15	eP	P	11 51 40.8	+1.5
	4.1nm,0.7s						
NRIK	Noril'sk	65.26	346	P	P	11 51 45.5	+0.1
	14nm,1.0s,baz=128,slow=6.8,SNR=12						
BKZ	Black Stump Fm	66.52	140	eP	P	11 51 55.1	+1.0
	25nm,1.1s						
KHZ	Kahutara	66.67	144	eP	P	11 51 55.8	+1.0
	50nm,1.5s						
GEYT	Alibeck	67.72	307	P	P	11 52 00.7	-1.1
	3.6nm,0.7s,baz=134,slow=6.4,SNR=9.6						
ABKAR	Akbulak array	68.14	319	eP	P	11 52 02.5	-1.6
	3.6nm,1.0s						
ARU	Arti	70.51	327	eP	P	11 52 17.6	-1.0
	12nm,0.5s						
SDPT	Sand Point	72.67	35	eP	P	11 52 33.3	+1.6
	13nm,1.0s						
SVW2	Sparrevohn	76.03	29	eP	P	11 52 53.2	+2.1
	5.2nm,1.0s						
CASY	Casey	76.17	187	eP	P	11 52 52.0	+0.4
	6.9nm,0.8s						
KDAK	Kodiak Island	77.28	33	eP	P	11 52 59.2	+1.1
	5.8nm,0.6s						
IMAR	Indian Mountai	77.38	24	eP	P	11 52 59.9	+1.3
CAST	Castle Rocks	77.87	27	eP	P	11 53 03.1	+1.7
	4.2nm,1.0s						
TBLG	Delisi	78.15	311	eP	P	11 53 02.3	-1.1
	10nm,0.7s						
BRLK	Bradley Lake	78.25	31	eP	P	11 53 05.4	+1.8
	11nm,1.2s						
BPAW	Bear Paw Mtn.	78.40	26	eP	P	11 53 06.3	+1.9
	12nm,1.2s						
MLY	Manley	78.55	25	eP	P	11 53 06.9	+1.7
	9.3nm,1.4s						
SEW	Seward	78.98	30	eP	P	11 53 09.6	+2.1
	22nm,1.4s						
AKH	Akhalkalaki	79.09	310	eP	P	11 53 07.5	-1.3
	13nm,0.9s						
PMR	Palmer	79.16	29	eP	P	11 53 10.1	+1.6
	14nm,1.4s						
TOLK	Toolik Lake Re	79.19	22	eP	P	11 53 10.5	+1.8
	5.8nm,0.7s						
MCK	McKinley	79.29	27	eP	P	11 53 10.7	+1.5
	8.0nm,0.6s						
KBZ	Khabaz	79.43	313	P	P	11 53 08.3	-2.1
	3.3nm,1.0s,baz=115,slow=2.1,SNR=4.8						
KNK	Knik Glacier	79.48	29	eP	P	11 53 11.7	+1.4
	8.7nm,0.7s						
MDM	Murphy Dome	79.62	26	eP	P	11 53 13.0	+2.0
	3.7nm,0.7s						
WRH	Wood River Hil	79.67	26	eP	P	11 53 13.0	+1.7
	3.2nm,0.9s						
CCB	Clear Creek Bu	79.80	26	eP	P	11 53 13.4	+1.5
	3.0nm,0.7s						
DHY	Denali Highway	79.99	27	eP	P	11 53 14.6	+1.4
	2.7nm,0.9s						
SCM	Sheep Creek Mo	80.02	29	eP	P	11 53 15.0	+1.7
	10nm,1.0s						
SIRT	Sirnak	80.13	307	eP	P	11 53 13.3	-1.2
	137nm,1.2s						
HDA	Harding Lake	80.17	26	eP	P	11 53 15.0	+1.1
	4.1nm,0.6s						
ILAR	Eielson Array	80.19	26	eP	P	11 53 15.3	+1.2
ILAR	Eielson Array	80.19	26	P	P	11 53 15.5	+1.4
	1.1nm,0.8s,baz=239,slow=5.5,SNR=14						
ILB	Eielson Array	80.19	26	eP	P	11 53 16.2	+2.1
	3.2nm,0.8s						
PAX	Paxson	80.86	28	eP	P	11 53 19.0	+1.2
	6.0nm,1.3s						
RIDG	Independent Ri	81.11	27	eP	P	11 53 20.5	+1.4
	6.8nm,0.7s						
DOT	Dot Lake	81.46	27	eP	P	11 53 22.6	+1.7
	3.8nm,1.0s						
SCRK	Sand Creek	81.48	26	eP	P	11 53 23.1	+1.9
	2.6nm,0.7s						
MENT	Mentasta	81.66	28	eP	P	11 53 24.2	+2.2
	5.3nm,0.7s						
BCAR	Beaver Creek A	82.53	27	eP	P	11 53 28.2	+1.6
EGAK	Eagle	82.64	26	eP	P	11 53 28.9	+1.9
	4.6nm,1.0s						
CTGM	Chitina Glacie	82.95	29	eP	P	11 53 31.5	+2.6
	8.7nm,0.7s						
DAWY	Dawson	83.48	26	eP	P	11 53 33.6	+2.1
	10nm,1.2s						
EPYK	Eagle Plains	84.26	24	eP	P	11 53 37.0	+1.6
	12nm,1.0s						
INK	Inuvik	85.11	22	eP	P	11 53 40.8	+1.3
	8.9nm,1.5s						
INK	Inuvik	85.11	22	P	P	11 53 40.9	+1.3
	2.3nm,0.8s,baz=301,slow=7.1,SNR=9.4						
ARCES	ARCESS Array B	85.47	340	P	P	11 53 41.5	+0.2
	3.2nm,0.7s,baz=66,slow=5.9,SNR=12						
FIA1	FINESS Array S	87.18	332	eP	P	11 53 50.1	+0.3
	18nm,1.4s						
FINES	FINESS Array B	87.18	332	P	P	11 53 49.1	-0.8
	2.3nm,0.8s,baz=15,slow=7.9,SNR=6.9						
AKASG	Malin Array Be	87.83	321	P	P	11 53 54.9	+1.6
	0.4nm,0.3s,baz=57,slow=4.4,SNR=2.4						
VNDA	Vanda	88.73	173	eP	P	11 53 57.7	+0.8
	3.4nm,1.0s						
VNDA	Vanda	88.73	173	P	P	11 53 58.0	+1.2
	2.7nm,0.9s,baz=303,slow=4.0,SNR=8.6						
MAW	Mawson	88.85	200	eP	P	11 53 57.5	-0.1
	1.1nm,1.1s						
MAW	Mawson	88.85	200	P	P	11 53 59.5	+1.9
	1.2nm,0.7s,baz=27,slow=4.5,SNR=2.6						
KMBO	Kilima Mbogo	89.83	269	eP	P	11 54 02.4	-1.3
	3.6nm,0.9s						
KMBO	Kilima Mbogo	89.83	269	P	P	11 54 03.1	-0.6
	1.5nm,0.3s,baz=107,slow=19,SNR=5.1						
BURAR	Bucovina Array	91.10	318	eP	P	11 54 07.4	-1.4
DAG	Danmarks Havn	91.95	353	i P	P	11 54 12.0	0.0
	9.4nm,1.0s						
NB200	NORSAR Array S	94.05	334	eP	P	11 54 21.3	-0.7
NOA	NORSAR Array B	94.05	334	P	P	11 54 21.3	-0.7
	0.7nm,0.7s,baz=65,slow=4.5,SNR=2.5						
YKA	Yellowknife Ar	94.54	24	P	P	11 54 25.7	+1.6
	0.5nm,0.6s,baz=300,slow=4.7,SNR=8.0						
YKB5	Yellowknife Ar	94.54	24	eP	P	11 54 25.7	+1.6
TOA1	Torodi Ar. Sit	121.26	291	ePKPdf	PKPdf	11 59 56.6	-1.2
TORD	Torodi Ar. Bea	121.26	291	PKP	PKPdf	11 59 56.6	-1.2
	0.5nm,0.8s,baz=43,slow=2.0,SNR=3.8						
PLCA	Paso Flores	144.92	157	ePKPbc	PKPbc	12 00 41.9	+1.4
PLCA	Paso Flores	144.92	157	PKPbc	PKPdf	12 00 41.1	-0.2
	5.8nm,1.1s,baz=194,slow=6.7,SNR=4.7						

*IDC **24** 11:42:51.5±0.7, 8°.93N×126°.55E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.0/38, mbtmp4.1/14, Error ellipse: s-maj=43.7km s-min=15.2km az=80.0*
*NEIC **24** 11:42:52.9±1.0, 8°.99N×126°.63E, h10km, mb4.4/23, Error ellipse: s-maj=25.8km s-min=15.9km az=75.0*
*MAN **24** 11:42:55.3, 9°.15N×126°.82E, h1km, MS4.0*

ISC 24 11:42:52.3±1.8, 9°.10N±0°.04×126°.78E±0°.07, h4km±11km, n56, σ1.9 25/61, mb4.3/34, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	1.00	204	↓↓iP		Pn	11 43 15.9	+2.8
BIPH				i S		Sn	11 43 28.5	+0.9
BUTP	Butuan	1.15	264	eP		Pn	11 43 15.2	+0.1
BUTP				eS		Sn	11 43 33.0	+1.7
SCPH	Surigao	1.44	298	↓↓eP		Pg	11 43 29.4	+9.5
SCPH				eS		Sg	11 43 51.3	+13
BUKP	Musuan	2.08	235	eP		Pg	11 43 31.9	-0.4
BUKP				eS		Sg	11 44 00.9	+1.5
MSLP	Maasin	2.15	299	eP		Pb	11 43 31.9	0.0
MSLP				eS		Sg	11 44 05.5	+4.0
MATI	Mati	2.20	194	eP		Pg	11 43 34.9	+0.4
DMPH	Davao City--Mi	2.36	212	↑eP		Pg	11 43 36.9	-0.7
DMPH				eS		Sg	11 44 08.8	+0.5
OCLP	Ormoc	2.88	312	eP		Pg	11 43 46.9	-0.7
LLP	Lapu-Lapu	3.02	294	eP		Pb	11 43 45.9	-0.9
LLP				eS		Sg	11 44 26.1	-3.5
TNTI	Ternate	8.29	176	ePn		Pn	11 44 52.1	-1.4
FAKI	Fak Fak	13.12	155	ePn		Pn	11 45 59.0	-0.7
YHNB	Yeheng	16.32	342	ePn		Pn	11 46 42.9	+0.3
	17nm,1.1s						
JNU	Nakatsue	24.21	8	eP		P	11 48 10.9	+0.7
	19nm,1.1s						
FITZ	Fitzroy Crossi	27.05	182	P		P	11 48 34.2	-1.7
	2.7nm,0.7s,baz=333,slow=11,SNR=1.4						
KSRS	Korea Array	28.25	2	P		P	11 48 48.5	+1.9
	1.0nm,0.6s,baz=184,slow=11,SNR=3.4						
PSI	Prapat	28.38	259	eP		P	11 48 47.4	-0.8
	17nm,1.1s						
PSI	Prapat	28.38	259	P		P	11 48 49.3	+1.1
	9.0nm,0.9s,baz=146,slow=9.2,SNR=4.6						
CMAR	Chiang Mai Arr	28.55	292	eP		P	11 48 48.6	-0.9
PSA00	Pilbara Seismi	31.23	193	eP		P	11 49 12.2	-0.9
ASAR	Alice Springs	33.30	168	P		P	11 49 29.9	-1.4
	0.8nm,0.5s,baz=6.0,slow=9.7,SNR=4.3						
MORW	Morawa	39.33	195	eP		P	11 50 21.9	-0.9
	7.7nm,1.1s						
FORT	Forrest	39.67	178	eP		P	11 50 25.3	-0.2
	7.0nm,0.8s						
KLR	Kul'dur	40.22	5	P		P	11 50 31.0	+1.1
	0.8nm,0.4s,baz=179,slow=16,SNR=3.1						
SONA0	Songino Array	42.28	340	eP		P	11 50 48.2	+1.1
SONM	Songino Array	42.28	340	P		P	11 50 48.2	+1.1
	0.8nm,0.6s,baz=161,slow=9.2,SNR=2.6						
BBOO	Buckleboo	42.60	168	eP		P	11 50 48.9	-0.8
	13nm,1.0s						
STKA	Stephens Creek	43.14	161	eP		P	11 50 53.3	-0.8
	1.4nm,1.0s						
STKA	Stephens Creek	43.14	161	P		P	11 50 52.9	-1.2
	2.6nm,0.7s,baz=331,slow=13,SNR=2.6						
MK31	Makanchi Array	53.26	323	eP		P	11 52 11.5	-0.7
	4.4nm,0.8s						
MK32	Makanchi Array	53.26	323	eP		P	11 52 11.8	-0.4
MKAR	Makanchi Array	53.26	323	P		P	11 52 11.8	-0.4
	6.1nm,0.8s,baz=126,slow=8.3,SNR=6.1						
MAKZ	Makanchi	53.45	323	eP		P	11 52 13.0	-0.6
	7.2nm,1.1s						
NIL	Nilore	54.80	305	eP		P	11 52 22.6	-1.2
	12nm,0.8s						
ZAA0	Zalesovo Array	55.89	331	eP		P	11 52 30.2	-0.9
	3.0nm,0.9s						
ZALV	Zalesovo Beam	55.89	331	P		P	11 52 30.1	-1.0
	1.7nm,0.7s,baz=111,slow=7.9,SNR=3.2						
KURK	Kurchatov	57.31	326	eP		P	11 52 40.5	-0.8
	11nm,0.9s						
GAR	Garm	58.42	310	eP		P	11 52 48.5	-1.1
	9.9nm,0.9s						
KK31	Karatay Array	59.42	315	eP		P	11 52 55.0	-1.3
	2.3nm,0.8s						
TIXI	Tiksi	62.51	1	eP		P	11 53 17.3	+0.6
	7.9nm,1.1s						
BRVK	Borovoye	62.98	326	eP		P	11 53 19.5	-0.7
	5.7nm,0.9s						
NRIK	Noril'sk	65.27	346	P		P	11 53 34.8	-0.1
	4.2nm,0.8s,baz=125,slow=8.3,SNR=3.6						
BKZ	Black Stump Fm	66.57	140	eP		P	11 53 43.8	-0.1
ABKAR	Akbulak array	68.08	320	eP		P	11 53 51.8	-1.5
	2.4nm,1.1s						
MLY	Manley	78.64	25	eP		P	11 54 56.4	+1.1
	1.4nm,0.7s						
RC01	Rabbit Creek A	78.95	29	eP		P	11 54 57.4	+0.4
	3.7nm,1.1s						
CCB	Clear Creek Bu	79.88	26	eP		P	11 55 02.8	+0.8
	1.2nm,1.1s						
HDA	Harding Lake	80.25	26	eP		P	11 55 04.4	+0.3
	1.5nm,0.6s						
ILAR	Eielson Array	80.27	26	P		P	11 55 05.4	+1.2
	0.4nm,0.7s,baz=255,slow=6.4,SNR=3.5						
ILB	Eielson Array	80.27	26	eP		P	11 55 04.9	+0.7
	0.9nm,0.7s						
RIDG	Independent Ri	81.19	27	eP		P	11 55 10.3	+1.1
	4.9nm,1.0s						
INK	Inuvik	85.19	22	P		P	11 55 30.4	+0.9
	1.1nm,0.7s,baz=346,slow=6.1,SNR=3.2						
ARCES	ARCESS Array B	85.46	340	P		P	11 55 30.2	-0.8
	2.2nm,0.7s,baz=74,slow=5.2,SNR=3.8						
FINES	FINESS Array B	87.15	332	eP		P	11 55 39.5	0.0
FINES	FINESS Array B	87.15	332	P		P	11 55 41.2	+1.7
	1.1nm,0.8s,baz=46,slow=4.0,SNR=3.3						
YKA	Yellowknife Ar	94.62	24	P		P	11 56 15.1	+0.9
	0.4nm,0.7s,baz=297,slow=3.4,SNR=4.2						
YKB5	Yellowknife Ar	94.62	24	eP		P	11 56 15.1	+0.9

KRSC 24 11:44:15.9±10.0, 54°.31N×155°.63E, h706km±10km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	2.55	136	eP		11 45 42.7	0.0
KZV	Kizimen	2.82	72	P		11 45 43.9	0.0
SPN	Mys Shipunski	2.88	113	eP		11 45 44.3	0.0
SPN				eS		11 46 53.4	0.0
KDTR	Khodutka, Kamc	2.91	148	eS		11 46 53.2	0.0
MKZ	Mys Kozlova	3.57	84	P		11 45 47.0	0.0
MKZ				S		11 46 59.1	0.0
KBTR	Krutoberegovo	4.53	62	eP		11 45 53.9	0.0

KRSC 24 11:47:45.5±10.0, 53°.05N×154°.84E, h549km±10km, ML4.1, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOK	Koryaka	2.30	83	eP	P	11 48 58.0	+1.5
AVH	Avacha	2.36	83	eP	P	11 48 58.4	+1.6
SMAR	Somma	2.40	83	eP	P	11 48 58.5	+1.4
UGLR	Uglovaya	2.41	85	eP	P	11 48 58.5	+1.4
SDLR	Sedlovina	2.45	83	eP	P	11 48 58.5	+1.2
SPN	Mys Shipunski	3.13	87	eP	P	11 49 02.1	+1.0
SPN				eS	S	11 50 02.1	-0.8
MKZ	Mys Kozlova	4.36	67	eP	P	11 49 12.2	+2.4
MKZ				eS	S	11 50 18.5	-0.3
KBTR	Krutoberegovo	5.61	53	eP	P	11 49 21.7	+1.4

KRSC 24 11:50:47.9±10.0, 54°.63N×152°.56E, h531km±10km, ML4.3, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOK	Koryaka	3.83	108	eP	P	11 52 10.6	+3.4
SMAR	Somma	3.93	108	eP	P	11 52 07.1	-1.0
UGLR	Uglovaya	3.97	109	eP	P	11 52 11.6	+3.4
SDLR	Sedlovina	3.97	107	eP	P	11 52 11.4	+3.1
DALK	Dalny	4.00	111	eP	P	11 52 10.6	+2.2
DALK				eS	S	11 53 15.8	+1.7
RUS	Russkaya	4.18	119	eP	P	11 52 10.8	+1.1
KDTR	Khodutka, Kamc	4.36	128	eS	S	11 53 16.3	-2.9
SPN	Mys Shipunski	4.68	106	eP	P	11 52 14.2	+0.4
SPN				eS	S	11 53 21.6	-2.4
MKZ	Mys Kozlova	5.33	87	eP	P	11 52 20.8	+1.5
MKZ				eS	S	11 53 32.9	-1.3
KBTR	Krutoberegovo	6.05	71	eP	P	11 52 26.8	+0.9
BKI	Bering	7.75	80	eS	S	11 54 17.9	+1.5

IDC 24 11:58:53.8±24.0, 24°.90S×179°.42E, h520km±229km, mb3.2/6, mb1 3.4/6, mb1mx3.1/24, mbtmp4.2/6, Error ellipse: s-maj=153.5km s-min=57.8km az=99.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	30.97	272	P	P	12 04 28.6	+0.1
	3.6nm,0.6s,baz=89,slow=11,SNR=3.5						
STKA	Stephens Creek	33.87	249	P	P	12 04 52.1	-0.8
	1.0nm,0.8s,baz=63,slow=11,SNR=3.7						
ASAR	Alice Springs	41.36	262	P	P	12 05 54.2	-0.2
	1.4nm,0.6s,baz=94,slow=7.8,SNR=39						
WRA	Warramunga Arr	41.82	267	P	P	12 05 57.8	-0.3
	3.1nm,0.4s,baz=94,slow=8.5,SNR=30						
FITZ	Fitzroy Crossi	50.23	267	P	P	12 07 02.3	+0.2
	3.2nm,0.9s,baz=98,slow=13,SNR=5.2						
MJAR	Matsushiro Arr	72.42	326	P	P	12 09 27.7	+0.6
	1.5nm,0.7s,baz=147,slow=5.5,SNR=4.4						
HFS	Hagfors	143.41	348	PKP	PKPbc	12 17 26.8	0.0
	1.3nm,0.4s,baz=42,slow=2.3,SNR=9.2						

*IDC **24** 12:10:32.3±1.4, 38°.65N×20°.61E, h0km, mb3.6/5, mb1 3.5/6, mb1mx3.4/43, mbtmp3.6/6, ML2.8/1, Error ellipse: s-maj=35.7km s-min=23.8km az=127.0*
*ISCJB **24** 12:10:33.3±0.4, 38°.64N±0°.02×20°.49E±0°.03, h7km±2km, mb3.5/5, Error ellipse: s-maj=3.6km s-min=2.6km az=147.8*
*ATH **24** 12:10:34.2, 38°.63N×20°.60E, h10km±2km, ML3.5/10, Error ellipse: s-maj=2.2km s-min=0.8km az=209.0*
*THE **24** 12:10:34.2, 38°.63N×20°.58E, h0km±1km, ML3.3/16, Error ellipse: s-maj=1.3km s-min=0.5km az=199.0*

ISC 24 12:10:33.9±0.8, 38°.64N±0°.02×20°.58E±0°.02, h9km±4km, n90, σ1.9 18/124, mb3.5/5, 2C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVGI	Lefkada island	0.07	109	P	Pg	12 10 35.8	-0.1
EVGI				S	Sg	12 10 36.7	-0.6
EVGI	Lefkada island	0.07	109	P	Pg	12 10 35.8	-0.1
EVGI				S	Sg	12 10 37.6	+0.3
LKD2	Lefkada island	0.16	23	P	Pg	12 10 37.1	-0.2

KFL				AML	AML	12 10 59.4	
	comp=E,9422μm,0.5s						
KFL				AML	AML	12 11 00.1	
	comp=N,11069μm,0.6s						
PVO	**Paravola**	**0.74**	**92**	P	**Pb**	**12 10 48.7**	**-0.3**
PVO	**Paravola**	**0.74**	**92**	P	**Pb**	**12 10 48.8**	**-0.2**
PVO				S	**Sb**	**12 10 57.9**	**-1.4**
PVO				AML	AML	12 11 02.8	
	comp=N,14849μm,0.4s						
PVO				AML	AML	12 11 02.8	
	comp=E,13765μm,0.4s						
VTN	**Vitineika**	**0.87**	**146**	P	**Pg**	**12 10 50.7**	**+0.1**
VTN	**Vitineika**	**0.87**	**146**	P	**Pb**	**12 10 51.0**	**-0.1**
VTN				S	**Sb**	**12 11 03.2**	**+0.3**
IGT	**Igoumenitsa**	**0.91**	**348**	P	**Pg**	**12 10 50.5**	**-0.9**
IGT				S	**Sb**	**12 11 04.6**	**+0.5**
IGT	**Igoumenitsa**	**0.91**	**348**	P	**Pb**	**12 10 51.9**	**0.0**
IGT				S	**Sb**	**12 11 03.9**	**-0.2**
IGT				AML	AML	12 11 09.8	
	comp=E,2534μm,0.5s						
IGT				AML	AML	12 11 10.2	
	comp=N,2319μm,0.3s						
RLS	**Riolos of Patr**	**0.91**	**130**	P	**Pg**	**12 10 51.2**	**-0.2**
RLS	**Riolos of Patr**	**0.91**	**130**	P	**Pg**	**12 10 51.2**	**-0.2**
RLS				S	**Sb**	**12 11 03.8**	**-0.3**
RLS				AML	AML	12 11 13.4	
	comp=N,4330μm,0.5s						
RLS				AML	AML	12 11 14.2	
	comp=E,4696μm,0.7s						
EVR	**Evrytania**	**1.00**	**74**	P	**Pb**	**12 10 52.9**	**-0.6**
EVR				S	**Sn**	**12 11 07.6**	**-1.0**
EVR	**Evrytania**	**1.00**	**74**	P	**Pb**	**12 10 52.9**	**-0.6**
JAN	**Janina**	**1.03**	**12**	P	**Pn**	**12 10 54.3**	**-0.4**
JAN	**Janina**	**1.03**	**12**	P	**Pn**	**12 10 54.5**	**-0.2**
EFP	**Efpalio**	**1.06**	**101**	P	**Pg**	**12 10 53.6**	**-0.7**
EFP				S	**Sn**	**12 11 10.2**	**+0.3**
EFP	**Efpalio**	**1.06**	**101**	P	**Pg**	**12 10 53.7**	**-0.6**
EFP				S	**Sb**	**12 11 08.0**	**-0.5**
DRO	**Drossia**	**1.13**	**127**	P	**Pg**	**12 10 54.6**	**-0.9**
DRO				S	**Sn**	**12 11 11.6**	**+0.1**
DRO	**Drossia**	**1.13**	**127**	P	**Pg**	**12 10 55.0**	**-0.5**
DRO				S	**Sb**	**12 11 09.8**	**-0.6**
DRO				AML	AML	12 11 20.8	
	comp=N,5424μm,0.4s						
DRO				AML	AML	12 11 22.1	
	comp=E,7022μm,0.5s						
LAKA	**Lakka**	**1.17**	**110**	P	**Pb**	**12 10 55.2**	**-1.1**
LAKA				S	**Sn**	**12 11 15.5**	**+2.8**
SERG	**Sergoula**	**1.18**	**101**	P	**Pb**	**12 10 55.6**	**-0.9**
SERG	**Sergoula**	**1.18**	**101**	P	**Pb**	**12 10 55.8**	**-0.7**
TRIZ	**Trizonia**	**1.21**	**103**	P	**Pb**	**12 10 56.1**	**-0.8**
TRIZ				S	**Sn**	**12 11 14.7**	**+1.3**
KASA	**Kassiopi**	**1.21**	**336**	P	**Pg**	**12 10 57.5**	**+0.3**
KEK	**Kerkira**	**1.23**	**331**	P	**Pn**	**12 10 57.5**	**+0.2**
KEK				S	**Sn**	**12 11 16.0**	**+1.9**
KEK	**Kerkira**	**1.23**	**331**	P	**Pg**	**12 10 57.9**	**+0.4**
MEV	**Metsovon**	**1.25**	**24**	P	**Pg**	**12 10 58.3**	**+0.4**
ALIK	**Aliki, Aigiali**	**1.26**	**107**	P	**Pg**	**12 10 57.6**	**-0.5**
SRN	**Sarande**	**1.31**	**340**	P	**Pb**	**12 10 59.1**	**+0.3**
SRN				S	**Sg**	**12 11 18.6**	**+2.4**
KLV	**Kalavryta, Ach**	**1.37**	**115**	P	**Pn**	**12 10 58.6**	**-0.7**
KLV				S	**Sg**	**12 11 20.0**	**+1.9**
KLV	**Kalavryta, Ach**	**1.37**	**115**	P	**Pn**	**12 10 58.8**	**-0.5**
AGG	**Agios Georgios**	**1.42**	**74**	P	**Pb**	**12 11 00.4**	**-0.2**
AGG	**Agios Georgios**	**1.42**	**74**	P	**Pg**	**12 11 00.7**	**-0.4**
AMT	**Artemida-Makis**	**1.42**	**141**	P	**Pb**	**12 11 00.3**	**-0.3**
AMT	**Artemida-Makis**	**1.42**	**141**	P	**Pb**	**12 11 00.3**	**-0.3**
KPRO	**Kipourio**	**1.45**	**25**	P	**Pg**	**12 11 01.5**	**-0.1**
KPRO				S	**Sg**	**12 11 22.0**	**+1.6**
KPRO	**Kipourio**	**1.45**	**25**	P	**Pg**	**12 11 02.0**	**+0.3**
THL	**Klokotos Trika**	**1.45**	**50**	P	**Pb**	**12 11 01.0**	**-0.1**
THL				S	**Sg**	**12 11 22.1**	**+1.6**
THL	**Klokotos Trika**	**1.45**	**50**	P	**Pb**	**12 11 00.8**	**-0.2**
DSF	**Desfina**	**1.55**	**98**	P	**Pg**	**12 11 02.8**	**-0.8**
DSF				S	**Sg**	**12 11 24.4**	**+0.8**
DSF	**Desfina**	**1.55**	**98**	P	**Pg**	**12 11 03.2**	**-0.3**
GUR	**Goura**	**1.56**	**116**	P	**Pn**	**12 11 01.6**	**-0.3**
GUR	**Goura**	**1.56**	**116**	P	**Pn**	**12 11 02.1**	**+0.2**
NEST	**Nestorio**	**1.81**	**11**	P	**Pb**	**12 11 07.3**	**0.0**
FYTO	**Fytoko, Volos**	**1.99**	**67**	P	**Pb**	**12 11 10.0**	**-0.3**
FYTO				S	**Sb**	**12 11 35.3**	**0.0**
LIT	**Litokhoron**	**2.08**	**45**	P	**Pb**	**12 11 11.5**	**-0.3**
XOR	**Xorichti**	**2.16**	**70**	P	**Pb**	**12 11 11.9**	**-1.3**
VILL	**Villia**	**2.20**	**102**	P	**Pb**	**12 11 12.5**	**-1.4**
BIA	**Bitola**	**2.44**	**13**	*i* Pn	**Pb**	**12 11 17.4**	**-0.7**
OHR	**Ohrid**	**2.47**	**4**	*i* Pn	**Pb**	**12 11 16.7**	**-1.8**
EREA	**Eretria**	**2.64**	**94**	P	**Pb**	**12 11 19.4**	**-2.0**
GRG	**Griva**	**2.71**	**31**	P	**Pn**	**12 11 18.9**	**+1.3**
TIR	**Tirane**	**2.76**	**349**	⇑*i*P	**Pn**	**12 11 18.6**	**+0.3**
TIR	**Tirane**	**2.76**	**349**	S	**Sn**	**12 11 50.5**	**-1.3**
KRUS	**Krusevo**	**2.77**	**11**	*i* Pn	**Pn**	**12 11 18.8**	**+0.2**
TIP	**Timpagrande**	**3.03**	**281**	⇑*i*P	**Pn**	**12 11 21.9**	**-0.2**
TIP	**Timpagrande**	**3.03**	**281**	S	**Sn**	**12 11 57.7**	**-0.8**
STIP	**Stip**	**3.29**	**22**	*i* Pn	**Pn**	**12 11 28.4**	**+2.7**
MATE	**Matera**	**3.60**	**305**	⇓*i*P	**Pn**	**12 11 31.0**	**+1.1**
DRME	**Dracevica, Mon**	**3.70**	**344**	*e*Pn	**Pn**	**12 11 31.5**	**+0.3**
PDG	**Podgorica**	**3.92**	**346**	⇓*i*P	**Pn**	**12 11 34.2**	**0.0**
PDG	**Podgorica**	**3.92**	**346**	S	**Sn**	**12 12 18.3**	**-2.0**
PDG	**Podgorica**	**3.92**	**346**	*e*Pn	**Pn**	**12 11 35.2**	**+1.0**
APE	**Apeiranthos**	**4.22**	**110**	⇓*i*P	**Pn**	**12 11 42.6**	**+4.1**
TREB	**Trebinje**	**4.41**	**338**	*e*Pn	**Pn**	**12 11 39.6**	**-1.4**
VTS	**Vitosha**	**4.46**	**26**	⇓*i*P	**Pn**	**12 11 43.2**	**+1.4**
VTS	**Vitosha**	**4.46**	**26**	S	**Sn**	**12 12 34.1**	**+0.2**
STON	**Ston**	**4.76**	**334**	*e*Pn	**Pn**	**12 11 44.5**	**-1.2**
STON				Sn	**Sn**	**12 12 35.0**	**-6.0**
DIVS	**Divibare**	**5.47**	**356**	*e*Pn	**Pn**	**12 11 55.2**	**-0.5**
HAPS	**Han Pijesak,BI**	**5.58**	**348**	*e*Pn	**Pn**	**12 11 55.3**	**-1.8**
NVLJ	**Novalja**	**7.30**	**326**	*e*Pn	**Pn**	**12 12 20.7**	**+0.1**
VOIR		**7.56**	**25**	⇓*i*P	**Pn**	**12 12 25.6**	**+1.2**
MLR	**Muntele Rosu**	**7.92**	**29**	⇓*i*P	**Pn**	**12 12 31.1**	**+1.8**
BRTR	**Keskin Array B**	**10.20**	**80**	Pn	**Pn**	**12 13 04.3**	**+3.7**
	comp=E,0.1nm,0.3s,baz=256,slow=14,SNR=3.0						
HFS	**Hagfors**	**21.95**	**351**	P	**P**	**12 15 28.8**	**+1.2**
	comp=E,0.9nm,0.5s,baz=181,slow=14,SNR=5.0						
FINES	**FINESS Array B**	**23.08**	**7**	P	**P**	**12 15 37.9**	**-1.7**
	comp=E,0.7nm,0.5s,baz=176,slow=8.9,SNR=8.0						
TORD	**Torodi Ar. Bea**	**30.42**	**219**	P	**P**	**12 16 46.6**	**-0.1**
	comp=E,0.3nm,0.6s,baz=38,slow=8.0,SNR=3.3						
MKAR	**Makanchi Array**	**45.02**	**59**	P	**P**	**12 18 49.5**	**-0.3**
	comp=E,0.4nm,0.4s,baz=276,slow=5.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**45.35**	**48**	P	**P**	**12 18 51.2**	**-1.0**
	comp=E,1.3nm,0.4s,baz=278,slow=8.2,SNR=4.8						

NNC 24 12:16:03.1±0.6, 50°.91N×73°.91E, h0km, mb3.7, mpv3.6, 6C-6D, Error ellipse: s-maj=6.8km s-min=4.6km az=40.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.86**	**202**	⇑Pg	Pb	12 16 54.6	-0.4
	5.6nm,0.7s						
OTUK				⇓Lg	Lg	12 17 29.7	
	23nm,0.8s						
KURBB	**Kurchatov Arra**	**2.95**	**94**	⇑Pg	Pb	12 16 55.3	-1.1
	8.0nm,0.9s						
KURBB				⇑Lg	Lg	12 17 38.3	
	55nm,0.8s						
KURK	**Kurchatov**	**2.99**	**92**	⇓Pg	Pb	12 16 56.1	-1.1
	4.3nm,1.0s						
KURK				⇑Lg	Lg	12 17 38.5	
	31nm,0.9s						
BVA0	**Borovoye Array**	**3.04**	**316**	⇓Pg	Pg	12 17 00.8	-0.5
	4.1nm,1.0s,baz=131,slow=16,SNR=8.4						
BVA0				⇓Lg	Lg	12 17 38.8	
	5.1nm,0.9s,baz=132,slow=33,SNR=13						
BRVK	**Borovoye**	**3.11**	**315**	⇓Pg	Pb	12 16 59.5	+0.3
	3.8nm,0.8s						
BRVK				⇑Lg	Lg	12 17 40.4	
	78nm,1.0s						
TDK	**Taldyqorghan**	**6.64**	**151**	Pg	Pg	12 18 06.3	-3.9
	69nm,0.4s						
TDK				Lg	Lg	12 19 38.4	
	77nm,0.6s						
KAPS	**Kapalarasan**	**6.71**	**145**	Pg	Pb	12 18 05.3	+4.8
	0.9nm,0.7s						
KAPS				Lg	Lg	12 19 36.2	
	12nm,0.6s						
MAKZ	**Makanchi**	**6.72**	**125**	⇑Lg	Lg	12 19 37.8	
	7.5nm,0.9s						
MK31	**Makanchi Array**	**6.89**	**123**	⇓Lg	Lg	12 19 42.1	
	7.8nm,0.8s,baz=312,slow=26,SNR=5.8						
ARXS	**Arharly**	**7.20**	**157**	Pg	Pb	12 18 14.8	+5.8
	2.7nm,0.6s						
ARXS				Lg	Lg	12 19 53.0	
	10nm,0.8s						
KUU	**Kurty**	**7.21**	**166**	Pg	Pb	12 18 13.9	+4.8
	1.3nm,0.2s						
KUU				Lg	Lg	12 19 51.2	
	12nm,1.1s						
ZSN	**Zaisan**	**7.97**	**112**	Pg	Pb	12 18 23.4	+1.4
	3.2nm,0.3s						
ZSN				Lg	Lg	12 20 07.4	
	4.4nm,0.7s						
KURS	**Kuram**	**7.97**	**157**	Pg	Pg	12 18 30.2	-5.5
	3.4nm,0.5s						
KURS				Lg	Lg	12 20 19.5	
	8.0nm,1.2s						
MDOK	**Medeo**	**8.04**	**163**	Pg	Pg	12 18 31.3	-5.7
	1.5nm,0.3s						
MDOK				Lg	Lg	12 20 21.3	
	8.3nm,1.0s						
TNSS	**Tian-Shan**	**8.14**	**164**	Pg	Pg	12 18 32.6	-6.5
	1.0nm,0.2s						
TNSS				Lg	Lg	12 20 23.2	
	5.8nm,0.5s						
PDGK	**Podgornoye**	**8.48**	**151**	Pg	Pg	12 18 40.8	-4.7
	1.3nm,1.0s						
PDGK				Lg	Lg	12 20 38.0	
	3.8nm,1.1s						
UZB	**Uzynbulak**	**8.51**	**154**	Pg	Pg	12 18 39.9	-6.2
	0.9nm,0.4s						
UZB				Lg	Lg	12 20 35.8	
	5.9nm,0.7s						
SHLS	**Shalkode**	**8.63**	**152**	Pg	Pg	12 18 44.5	-3.9
	2.4nm,0.1s						
SHLS				Lg	Lg	12 20 43.8	
	9.4nm,0.4s						

*MAN **24** 12:25:19.5, 5°.66N×126°.60E, h16km, MS3.7*
*DJA **24** 12:25:19.5±0.6, 6°N±3°×12°6E±°, h125km±10km, M4.5/7, mb4.6/6, mB5.0/4, MLv4.6/7, Mw(mB)4.4/4*
*ISCJB **24** 12:25:20.0±0.6, 5°.69N±0°.03×126°.68E±0°.06, h75km±5km, mb4.3/34, Error ellipse: s-maj=9.9km s-min=4.1km az=166.5*
*IDC **24** 12:25:20.4±2.5, 5°.83N×126°.88E, h61km±21km, mb3.9/14, mb1 4.0/15, mb1mx3.7/46, mbtmp4.2/15, Error ellipse: s-maj=39.4km s-min=11.7km az=70.0*
*NEIC **24** 12:25:22.1±1.0, 5°.70N×126°.62E, h78km±7km, mb4.5/28, Error ellipse: s-maj=21.7km s-min=4.0km az=75.0*
ISC 24 12:25:21.3±1.0, 5°.68N±0°.04×126°.62E±0°.08, h68km±8km, n74, σ1°25/80, mb4.3/34, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.00**	**295**	*e*P	**Pn**	**12 25 37.8**	**-1.8**
DDMP				*e*S	**Sn**	**12 25 52.2**	**-1.0**
MATI	**Mati**	**1.31**	**344**	*e*P	**Pn**	**12 25 42.3**	**-1.4**
MATI				*e*S	**Sn**	**12 26 01.4**	**+0.9**
DAV	**Davao City (W)**	**1.73**	**323**	*e*Pn	**Pn**	**12 25 49.5**	**+0.2**
DAV				*e*Sn	**Sn**	**12 26 12.5**	**+2.1**
DAV	**Davao City (W)**	**1.73**	**323**	P	**Pn**	**12 25 50.0**	**+0.7**
	239nm,0.3s,baz=130,slow=1.6,SNR=12						
DAV				S	**Sn**	**12 26 14.1**	**+3.7**
	381nm,0.3s,baz=265,slow=21,SNR=9.9						
DMPH	**Davao City--Mi**	**1.78**	**322**	*e*P	**Pn**	**12 25 49.0**	**-0.9**
DMPH				*e*S	**Sn**	**12 26 12.1**	**+0.4**
SKMP	**Bagumbayan, Su**	**2.23**	**292**	*e*P	**Pn**	**12 25 55.2**	**-0.8**
SKMP				*e*S	**Sn**	**12 26 24.9**	**+2.4**
SGSI	**Sangihe**	**2.25**	**209**	P	**Pn**	**12 25 55.8**	**-0.6**
SGSI				S	**Sn**	**12 26 24.4**	**+1.2**
BUKP	**Musuan**	**2.68**	**325**	*e*P	**Pn**	**12 26 01.9**	**-0.3**
BUKP				*e*S	**Sn**	**12 26 35.6**	**+2.0**
BUTP	**Butuan**	**3.42**	**343**	*e*P	**Pn**	**12 26 14.4**	**+2.2**
BUTP				*e*S	Sn	12 27 00.2	+8.7
MSLP	**Maasin**	**4.76**	**339**	*e*P	**Pn**	**12 26 29.9**	**-0.6**
TNTI	**Ternate**	**4.93**	**171**	*e*Pn	**Pn**	**12 26 33.6**	**+0.8**
TNTI				*e*Sn	**Sn**	**12 27 29.9**	**+1.3**
TNTI	**Ternate**	**4.93**	**171**	P	**Pn**	**12 26 33.1**	**+0.2**
TNTI				S	**Sn**	**12 27 28.0**	**-0.6**
MRSI	**Marisa**	**6.96**	**222**	P	**Pn**	**12 27 00.5**	**-0.2**
	88nm,0.7s,1μm						
LUWI	**Luwuk**	**7.70**	**210**	*e*Pn	**Pn**	**12 27 13.1**	**+2.4**
LUWI	**Luwuk**	**7.70**	**210**	P	**Pn**	**12 27 14.0**	**+3.2**
SANI	**Sanana**	**7.70**	**185**	P	**Pn**	**12 27 07.4**	**-3.4**
	15nm,0.5s						
APSI	**Ampana**	**8.21**	**217**	P	**Pn**	**12 27 15.7**	**-2.1**
FAKI	**Fak Fak**	**10.22**	**146**	*e*Pn	**Pn**	**12 27 45.5**	**+0.1**
TTSI	**Tana Toraja**	**11.01**	**218**	P	**Pn**	**12 27 59.6**	**+3.6**
SOEI	**Soe**	**15.51**	**189**	*e*Pn	**Pn**	**12 28 57.3**	**+1.2**
	23nm,0.9s						
BATI	**Baumata**	**16.05**	**191**	P	**P**	**12 29 06.4**	**+1.2**
	baz=25,slow=1.7						
KSM	**Kuching**	**16.80**	**256**	*e*Pn	**P**	**12 29 13.9**	**+0.4**
	26nm,1.2s						
MTN	**Manton Dam**	**18.94**	**166**	*e*P	**P**	**12 29 36.3**	**-0.7**
	44nm,1.4s						
DLV	**T Lat**	**18.96**	**290**	*e*P	**Pn**	**12 29 38.6**	**-0.2**
	17nm,1.1s						
FITZ	**Fitzroy Crossi**	**23.64**	**182**	*e*P	**P**	**12 30 27.5**	**+0.8**
	17nm,1.4s						
FITZ	**Fitzroy Crossi**	**23.64**	**182**	P	**P**	**12 30 27.4**	**+0.8**
	3.0nm,0.5s,baz=3.0,slow=6.5,SNR=21						
WRAB	**Tennant Creek**	**26.56**	**164**	*e*P	**P**	**12 30 52.8**	**-0.4**
	6.6nm,0.7s						
WR1	**Warramunga Arr**	**26.57**	**164**	*e*P	**P**	**12 30 53.3**	**+0.1**
WRA	**Warramunga Arr**	**26.57**	**164**	P	**P**	**12 30 53.3**	**+0.1**
	1.0nm,0.3s,baz=347,slow=11,SNR=28						
WB2	**Warramunga Arr**	**26.57**	**164**	*e*P	**P**	**12 30 53.0**	**-0.2**
	17nm,1.4s						
PSA00	**Pilbara Seismi**	**27.88**	**194**	*e*P	**P**	**12 31 05.0**	**+0.1**
	17nm,1.1s						
GSI	**Gunungsitoli**	**29.30**	**263**	*e*P	**P**	**12 31 16.4**	**-1.4**
	14nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.84**	**298**	P	**P**	**12 31 23.2**	**+0.9**
	0.5nm,0.3s,baz=102,slow=7.5,SNR=4.3						
AS31	**Alice Springs**	**30.02**	**167**	*e*P	**P**	**12 31 23.9**	**0.0**
	0.9nm,0.6s						
ASAR	**Alice Springs**	**30.02**	**167**	P	**P**	**12 31 24.2**	**+0.3**
	1.9nm,0.6s,baz=348,slow=7.2,SNR=38						
ASAR				PcP	**PcP**	**12 34 25.6**	**+0.7**
	0.5nm,0.5s,baz=352,slow=2.3,SNR=8.3						
ASAR				ScP	**ScP**	**12 38 03.9**	**+2.6**
	0.4nm,1.0s,baz=338,slow=3.4,SNR=4.5						
MORW	**Morawa**	**36.01**	**196**	*e*P	**P**	**12 32 16.0**	**-0.1**
	18nm,1.4s						
FORT	**Forrest**	**36.27**	**178**	*e*P	**P**	**12 32 18.2**	**0.0**
	18nm,1.2s						
BBOO	**Buckleboo**	**39.31**	**167**	*e*P	**P**	**12 32 44.0**	**+0.2**
	26nm,1.5s						
NWAO	**Narrogin (SRO)**	**39.41**	**192**	*e*P	**P**	**12 32 45.0**	**+0.3**
	18nm,1.3s						
STKA	**Stephens Creek**	**39.98**	**160**	*e*P	**P**	**12 32 49.6**	**+0.2**
	1.7nm,1.3s						
STKA	**Stephens Creek**	**39.98**	**160**	P	**P**	**12 32 49.8**	**+0.3**
	3.3nm,0.9s,baz=342,slow=12,SNR=4.7						
H11S3	**WAKE ISLAND Hy 41.09**	**68**		T	T	13 16 54.5	
	baz=257,slow=75,SNR=9.5						
H11S1	**WAKE ISLAND Hy 41.10**	**68**		T	T	13 17 01.2	
	baz=257,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy 41.10**	**68**		T	T	13 16 53.9	
	baz=257,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy 41.56**	**67**		T	T	13 17 34.2	
	baz=255,slow=74,SNR=8.8						
H11N2	**WAKE ISLAND Hy 41.57**	**67**		T	T	13 17 33.6	
	baz=255,slow=74,SNR=6.8						
H11N3	**WAKE ISLAND Hy 41.58**	**67**		T	T	13 17 32.3	
	baz=255,slow=74,SNR=6.6						
MK31	**Makanchi Array**	**55.91**	**325**	*e*P	**P**	**12 34 52.2**	**-0.2**
	1.5nm,1.1s						
MK32	**Makanchi Array**	**55.91**	**325**	*e*P	**P**	**12 34 52.0**	**-0.3**
MKAR	**Makanchi Array**	**55.91**	**325**	P	**P**	**12 34 52.0**	**-0.3**
	1.5nm,0.5s,baz=120,slow=8.1,SNR=16						
NIL	**Nilore**	**56.67**	**307**	*e*P	**P**	**12 34 57.5**	**-0.4**
	13nm,1.1s						
ZALV	**Zalesovo Beam**	**58.82**	**333**	*e*P	**P**	**12 35 12.9**	**+0.3**
ZALV	**Zalesovo Beam**	**58.82**	**333**	P	**P**	**12 35 13.3**	**+0.8**
	0.5nm,0.4s,baz=90,slow=4.4,SNR=3.9						
KURBB	**Kurchatov Arra**	**60.05**	**327**	P	**P**	**12 35 20.8**	**-0.4**
	2.6nm,0.6s,baz=127,slow=6.7,SNR=17						
KURK	**Kurchatov**	**60.05**	**327**	*e*P	**P**	**12 35 20.8**	**-0.4**
	4.0nm,0.6s						
GAR	**Garm**	**60.54**	**312**	*e*P	**P**	**12 35 24.8**	**-0.1**
	5.7nm,0.7s						
KK31	**Karatay Array**	**61.75**	**316**	*e*P	**P**	**12 35 32.2**	**-0.7**
	2.0nm,1.1s						
BVAR	**Borovoye Array**	**65.64**	**327**	P	**P**	**12 35 57.9**	**-0.4**
	2.1nm,0.6s,baz=132,slow=8.2,SNR=12						
BRVK	**Borovoye**	**65.71**	**327**	*e*P	**P**	**12 35 59.4**	**+0.6**
	3.7nm,0.8s						
TIXI	**Tiksi**	**65.91**	**1**	P	**P**	**12 35 58.4**	**-1.3**
	1.9nm,0.4s,baz=232,slow=0.8,SNR=7.9						
ABKAR	**Akbulak array**	**70.58**	**320**	*e*P	**P**	**12 36 28.4**	**-1.0**
	1.0nm,0.6s						
CASY	**Casey**	**72.72**	**187**	*e*P	**P**	**12 36 42.2**	**+0.4**
	4.1nm,0.9s						
ARU	**Arti**	**73.24**	**327**	*e*P	**P**	**12 36 44.4**	**-0.8**
	3.8nm,0.8s						
ARU	**Arti**	**73.24**	**327**	P	**P**	**12 36 44.3**	**-0.8**
	1.4nm,0.4s,baz=158,slow=4.4,SNR=6.3						
OHAK	**Old Harbor**	**79.89**	**33**	*e*P	**P**	**12 37 22.1**	**-0.5**
	20nm,1.4s						
KDAK	**Kodiak Island**	**80.32**	**32**	*e*P	**P**	**12 37 24.3**	**-0.6**
	5.6nm,1.1s						
IMAR	**Indian Mountai**	**80.62**	**24**	*e*P	**P**	**12 37 26.9**	**+0.5**
BRLK	**Bradley Lake**	**81.34**	**30**	*e*P	**P**	**12 37 29.8**	**-0.6**
	3.3nm,0.8s						
ILAR	**Eielson Array**	**83.41**	**26**	P	**P**	**12 37 39.8**	**-1.3**
	1.1nm,1.1s,baz=249,slow=5.0,SNR=5.5						
ARCES	**ARCESS Array B**	**88.59**	**340**	P	**P**	**12 38 06.3**	**-0.2**
	0.7nm,0.5s,baz=68,slow=6.7,SNR=9.0						
FIA0	**FINESS Array S**	**90.08**	**332**	*e*P	**P**	**12 38 13.2**	**-0.4**
FINES	**FINESS Array B**	**90.08**	**332**	P	**P**	**12 38 13.2**	**-0.4**
	1.0nm,0.5s,baz=62,slow=4.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**122.19**	**289**	PKP	**PKPdf**	**12 44 08.7**	**-0.8**
	0.5nm,0.7s,baz=87,slow=1.8,SNR=3.9						
TOA1	**Torodi Ar. Sit**	**122.19**	**289**	*e*PKPdf	**PKPdf**	**12 44 08.7**	**-0.8**

*ISK **24** 12:25:39.4, 37°.08N×28°.23E, h5km, ML2.8/11*
*DDA **24** 12:25:40.3, 37°.09N×28°.25E, h7km±4km, ML2.6*
ISC 24 12:25:40.0±1.2, 37°.08N±0°.03×28°.24E±0°.03, h3km±11km, n19, σ1°53/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.36**	**125**	PG	**Pg**	**12 25 46.5**	**-0.4**
TURN				SG	**Sg**	**12 25 51.9**	**+0.4**
TURN	**Turunc**	**0.36**	**125**	IAML_P			
	comp=Z,7μm,0.1s						
TURN				*i* P	**Pg**	**12 25 46.3**	**-0.6**
TURN				*i* S	**Sb**	**12 25 53.4**	**-1.7**
MRSB	**Marmaris-Mugla**	**0.37**	**185**	PG	**Pg**	**12 25 47.3**	**+0.2**
DALY	**Dalyan (Mula)**	**0.42**	**128**	PG	**Pb**	**12 25 49.3**	**-0.8**
DALY	**Dalyan (Mula)**	**0.42**	**128**	IAML_P			
	comp=Z,2μm,0.2s						
DALY				*i* P	**Pg**	**12 25 48.6**	**+0.4**
DALY				*i* S	**Sb**	**12 25 56.1**	**-0.8**
BBRN	**Bozburun-Marma**	**0.43**	**200**	PG	**Pg**	**12 25 48.9**	**+0.7**
DATC	**Datca-Mugla**	**0.56**	**236**	PG	**Pb**	**12 25 51.9**	**-0.7**
BDRM	**Kayabasi**	**0.64**	**269**	IAML_P			
	comp=Z,1μm,0.2s						
BDRM				*i* P	**Pb**	**12 25 53.4**	**-0.4**
BDRM				*i* S	**Sb**	**12 26 03.2**	**+0.1**
AYDN	**Tasoluk**	**0.65**	**334**	*i* P	**Pb**	**12 25 53.7**	**-0.4**
AYDN				*i* S	**Sg**	**12 26 01.7**	**+0.8**
TAVA	**DENIZLI_Tavas**	**0.66**	**54**	IAML_P			
	comp=Z,2μm,0.1s						
TAVA				*i* P	**Pg**	**12 25 53.1**	**+0.4**
TAVA				*i* S	**Sg**	**12 26 02.1**	**+0.8**
BODT	**Bodrum**	**0.74**	**269**	PG	**Pb**	**12 25 55.0**	**-0.6**
FETY	**Fethiye**	**0.81**	**123**	PG	**Pb**	**12 25 56.3**	**-0.5**
FETY	**Fethiye**	**0.81**	**123**	IAML_P			
	comp=Z,576nm,0.2s						
FETY				*i* P	**Pn**	**12 25 57.3**	**-1.1**
FETY				*i* S	**Sn**	**12 26 09.9**	**-1.0**
ARG	**Arkhangelos**	**0.87**	**186**	PG	**Pg**	**12 25 56.7**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.91**	**342**	PG	**Pb**	**12 25 57.9**	**-0.6**
GCAM	**G?zelcaml?**	**1.01**	**308**	PG	**Pb**	**12 26 00.1

KBTR				S	S		
KBTR	Krutoberegovo	5.69	69	P	P	12 36 37.3	-0.6
KBTR				S	S	12 37 54.9	-3.6
BKI	Bering	7.35	79	P	P	12 36 54.0	+1.4
BKI				S	S	12 38 22.9	-2.4
BKI	Bering	7.35	79	P	P	12 36 54.0	+1.4
BKI				S	S	12 38 22.9	-2.4
SEY	Seymchan	8.46	357	P	P	12 37 05.2	+2.3
comp=Z,1.6nm,0.3s,baz=175,slow=8.3,SNR=24							
YSS	Yuzh-Sakhalins	10.08	226	eP	P	12 37 19.9	+0.9
YSS	Yuzh-Sakhalins	10.08	226	eP	P	12 37 20.0	+0.9
SMY	Shemya	12.47	90	eP	P	12 37 43.9	+1.1
SMY	Shemya	12.47	90	eP	P	12 37 43.9	+1.1
ERM	Erimo	14.19	212	eP	P	12 37 59.9	-0.3
ERM	Erimo	14.19	212	eP	P	12 37 59.9	-0.3
KLR	Kul'dur	14.30	257	P	P	12 38 01.3	+0.2
comp=Z,0.2nm,0.3s,baz=47,slow=9.5,SNR=4.8							
TIXI	Tiksi	20.16	338	eP	P	12 38 54.5	+0.3
comp=Z,4.8nm,0.7s							
TIXI	Tiksi	20.16	338	P	P	12 38 54.9	+0.6
comp=Z,2.0nm,0.3s,baz=133,slow=9.4,SNR=18							
AKUT	Akutan	23.64	74	eP	P	12 39 25.9	+0.5
comp=Z,52nm,1.2s							
SDPT	Sand Point	26.20	69	eP	P	12 39 47.8	-0.2
comp=Z,30nm,1.5s							
CHGN	Chignik	27.04	66	eP	P	12 39 55.7	+0.4
comp=Z,25nm,1.6s							
SVW2	Sparrevohn	27.39	55	eP	P	12 39 59.4	+1.1
comp=Z,2.5nm,0.8s							
IMAR	Indian Mountai	27.75	45	eP	P	12 40 01.9	+0.6
CAST	Castle Rocks	28.67	50	eP	P	12 40 10.7	+1.3
comp=Z,3.9nm,0.9s							
PPLA	Purkeypile	28.70	51	eP	P	12 40 11.2	+1.4
comp=Z,7.8nm,1.4s							
TOLK	Toolik Lake Re	29.33	39	eP	P	12 40 15.7	+0.7
comp=Z,6.0nm,1.3s							
OHAK	Old Harbor	29.46	63	eP	P	12 40 16.0	-0.2
comp=Z,16nm,1.2s							
KDAK	Kodiak Island	29.65	61	eP	P	12 40 18.0	+0.1
comp=Z,5.8nm,0.5s							
KDAK	Kodiak Island	29.65	61	eP	P	12 40 18.0	+0.1
KDAK				pmax	pmax		
comp=Z,6.0nm,0.5s							
SONM	Songino Array	29.68	277	P	P	12 40 19.5	+1.0
comp=Z,0.4nm,0.6s,baz=72,slow=9.3,SNR=2.9							
MCK	McKinley	30.02	49	eP	P	12 40 21.9	+0.9
comp=Z,4.1nm,0.5s							
MCK	McKinley	30.02	49	eP	P	12 40 21.9	+0.9
MCK				pmax	pmax		
comp=Z,4.0nm,0.5s							
MDM	Murphy Dome	30.13	46	eP	P	12 40 22.7	+0.8
comp=Z,2.1nm,0.5s							
COLA	College	30.30	46	eP	P	12 40 23.9	+0.7
comp=Z,5.5nm,0.6s							
COLA	College	30.30	46	eP	P	12 40 24.0	+0.7
COLA				pmax	pmax		
comp=Z,5.0nm,0.6s							
PMR	Palmer	30.35	53	eP	P	12 40 24.5	+0.8
comp=Z,6.8nm,1.4s							
PMR	Palmer	30.35	53	eP	P	12 40 24.5	+0.8
PMR				pmax	pmax		
comp=Z,7.0nm,1.4s							
CCB	Clear Creek Bu	30.36	47	eP	P	12 40 24.5	+0.7
comp=Z,4.9nm,1.2s							
GHO	Glory Hole Cre	30.40	53	eP	P	12 40 25.2	+0.8
comp=Z,8.2nm,1.1s							
ILAR	Eielson Array	30.73	46	eP	P	12 40 27.5	+0.5
ILAR	Eielson Array	30.73	46	P	P	12 40 27.4	+0.4
comp=Z,2.5nm,0.7s,baz=277,slow=11,SNR=43							
ILB	Eielson Array	30.73	46	eP	P	12 40 27.5	+0.5
comp=Z,3.6nm,0.4s							
HHC	Hu-ho-hao-te	30.75	261	eP	P	12 40 26.3	-1.3
HDA	Harding Lake	30.76	47	eP	P	12 40 28.0	+0.7
comp=Z,3.3nm,0.5s							
DHY	Denali Highway	30.83	50	eP	P	12 40 28.7	+0.6
comp=Z,3.0nm,0.5s							
SCM	Sheep Creek Mo	31.13	52	eP	P	12 40 31.2	+0.7
comp=Z,5.0nm,0.8s							
SCM	Sheep Creek Mo	31.13	52	eP	P	12 40 31.2	+0.7
SCM				pmax	pmax		
comp=Z,5.0nm,0.8s							
PRP	Porcupine Dome	31.17	45	eP	P	12 40 31.9	+1.0
comp=Z,8.1nm,1.0s							
RIDG	Independent Ri	31.80	48	eP	P	12 40 36.0	-0.2
comp=Z,4.2nm,0.6s							
SCRK	Sand Creek	32.12	48	eP	P	12 40 38.9	0.0
comp=Z,3.3nm,0.8s							
DOT	Dot Lake	32.16	48	eP	P	12 40 39.3	+0.1
comp=Z,2.7nm,0.6s							
MENT	Mentasta	32.48	49	eP	P	12 40 42.7	+0.8
comp=Z,1.4nm,0.6s							
EGAK	Eagle	33.13	46	eP	P	12 40 47.9	+0.6
comp=Z,4.3nm,0.8s							
BCAR	Beaver Creek A	33.30	49	eP	P	12 40 49.5	+0.7
EPYK	Eagle Plains	34.52	42	eP	P	12 40 59.9	+0.9
comp=Z,2.2nm,0.6s							
INK	Inuvik	35.23	38	eP	P	12 41 05.5	+0.8
comp=Z,2.6nm,0.4s							
INK	Inuvik	35.23	38	eP	P	12 41 05.5	+0.8
INK				pmax	pmax		
comp=Z,3.0nm,0.4s							
INK	Inuvik	35.23	38	P	P	12 41 05.5	+0.8
comp=Z,2.2nm,0.4s,baz=272,slow=6.5,SNR=32							
WHY	Whitehorse	37.19	51	eP	P	12 41 22.6	+1.5
comp=Z,2.5nm,0.6s							
ZALV	Zalesovo Beam	38.58	298	eP	P	12 41 31.8	-0.4
ZALV	Zalesovo Beam	38.58	298	eP	P	12 41 31.8	-0.4
ZALV	Zalesovo Beam	38.58	298	P	P	12 41 31.7	-0.6
comp=Z,1.4nm,0.5s,baz=71,slow=9.6,SNR=5.5							
NVS	Novosibirsk	38.95	300	i P	P	12 41 35.4	+0.2
KURK	Kurchatov	43.53	297	eP	P	12 42 11.2	0.0
comp=Z,6.3nm,0.8s							
KURK	Kurchatov	43.53	297	P	P	12 42 11.9	+0.7
KURBB	Kurchatov Arra	43.63	297	P	P	12 42 11.9	-0.1
comp=Z,1.7nm,0.4s,baz=80,slow=5.7,SNR=6.8							
MK31	Makanchi Array	43.89	290	eP	P	12 42 13.9	-0.3
comp=Z,3.0nm,0.6s							
MK31	Makanchi Array	43.89	290	eP	P	12 42 13.9	-0.3
MK31				pmax	pmax		
comp=Z,3.0nm,0.6s							
MKAR	Makanchi Array	43.89	290	eP	P	12 42 14.0	-0.2
MKAR	Makanchi Array	43.89	290	P	P	12 42 14.2	+0.1
comp=Z,3.2nm,0.5s,baz=56,slow=6.9,SNR=21							
MAKZ	Makanchi	44.05	291	eP	P	12 42 15.2	-0.2
comp=Z,3.2nm,0.4s							
MAKZ	Makanchi	44.05	291	eP	P	12 42 15.2	-0.2
MAKZ				pmax	pmax		
comp=Z,3.0nm,0.4s							
YKA	Yellowknife Ar	44.80	41	P	P	12 42 21.1	+0.3
comp=Z,1.0nm,0.4s,baz=305,slow=7.2,SNR=16							
ARU	Arti	49.55	313	P	P	12 42 56.0	-0.4
comp=Z,1.6nm,0.3s,baz=6.8,slow=3.2,SNR=7.7							
KDJ	Kajisay	49.68	289	eP	P	12 42 58.0	+0.2
comp=Z,3.7nm,0.6s							
KDJ	Kajisay	49.68	289	eP	P	12 42 58.0	+0.2
KDJ				pmax	pmax		
comp=Z,4.0nm,0.6s							
ARCES	ARCESS Array B	50.60	339	P	P	12 43 03.2	-0.6
comp=Z,1.0nm,0.3s,baz=42,slow=8.0,SNR=15							
AAK	Ala-Archa	50.81	291	P	P	12 43 06.6	+0.6
comp=Z,1.6nm,0.3s,baz=66,slow=3.4,SNR=4.0							
KK31	Karatay Array	52.65	294	eP	P	12 43 18.2	-0.8
comp=Z,1.9nm,0.8s							
KK31	Karatay Array	52.65	294	eP	P	12 43 18.2	-0.8
KK31				pmax	pmax		
comp=Z,2.0nm,0.8s							
KKAR	Karatay Array	52.65	294	eP	P	12 43 18.2	-0.8
comp=Z,1.9nm,0.8s							
KKAR	Karatay Array	52.65	294	eP	P	12 43 18.2	-0.8
KKAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
ABKAR	Akbulak array	53.75	306	eP	P	12 43 26.0	-0.5
comp=Z,1.8nm,0.6s							
K05A	Summer Lake	54.51	65	eP	P	12 43 33.7	+1.4
comp=Z,9.3nm,1.2s							
BTK	Batken	54.60	291	eP	P	12 43 32.8	0.0
comp=Z,5.4nm,0.6s							
BTK	Batken	54.60	291	eP	P	12 43 32.8	0.0
BTK				pmax	pmax		
comp=Z,5.0nm,0.6s							
CMAR	Chiang Mai Arr	54.67	251	P	P	12 43 33.1	-0.4
comp=Z,0.4nm,0.4s,baz=16,slow=7.5,SNR=4.0							
FCC	Fort Churchill	54.80	36	eP	P	12 43 33.2	-0.4
comp=Z,7.9nm,1.6s							
FCC	Fort Churchill	54.80	36	eP	P	12 43 33.3	-0.4
FCC				pmax	pmax		
comp=Z,8.0nm,1.6s							
PLID	Pearl Lake	55.37	59	eP	P	12 43 38.9	+0.6
comp=Z,2.9nm,0.6s							
GAR	Garm	55.62	290	eP	P	12 43 39.8	-0.1
comp=Z,9.7nm,1.2s							
GAR	Garm	55.62	290	eP	P	12 43 39.8	-0.1
GAR				pmax	pmax		
comp=Z,10.0nm,1.2s							
FIA1	FINESS Array S	57.12	333	eP	P	12 43 48.9	-0.7
FINES	FINESS Array B	57.12	333	P	P	12 43 49.0	-0.6
comp=Z,1.4nm,0.4s,baz=33,slow=7.2,SNR=17							
YHH	Holmes Hill	58.13	57	eP	P	12 43 57.9	+0.8
comp=Z,1.6nm,0.7s							
KVN	Kaiserville	58.62	66	eP	P	12 44 01.1	+0.7
comp=Z,3.6nm,1.0s							
KVN	Kaiserville	58.62	66	eP	P	12 44 01.1	+0.7
KVN				pmax	pmax		
comp=Z,4.0nm,1.0s							
NVAR	Mina Array Bea	58.96	66	eP	P	12 44 03.8	+1.0
NVAR	Mina Array Bea	58.96	66	P	P	12 44 04.1	+1.4
comp=Z,1.4nm,0.6s,baz=299,slow=6.3,SNR=12							
NV11	Mina Array Sit	59.04	66	eP	P	12 44 04.2	+1.0
comp=Z,0.2nm,1.1s							
PD31	Pinedale Array	60.25	57	eP	P	12 44 11.8	+0.6
comp=Z,3.5nm,1.2s							
PDAR	Pinedale Array	60.25	57	eP	P	12 44 11.7	+0.4
PDAR	Pinedale Array	60.25	57	P	P	12 44 11.8	+0.6
comp=Z,1.2nm,0.5s,baz=322,slow=0.7,SNR=11							
NB2	NORSAR Subarra	60.94	340	P	P	12 44 14.3	-0.9
comp=Z,0.5nm,0.4s,baz=24,slow=6.5							
NOA	NORSAR Array B	60.94	340	P	P	12 44 14.6	-0.6
comp=Z,0.7nm,0.4s,baz=24,slow=6.5,SNR=5.7							
TPNV	Topopah Spring	61.15	66	eP	P	12 44 18.0	+0.9
comp=Z,3.1nm,0.5s							
TPNV	Topopah Spring	61.15	66	eP	P	12 44 18.0	+0.9
TPNV				pmax	pmax		
comp=Z,3.0nm,0.5s							
PSUT	Pine Spring	61.23	63	eP	P	12 44 18.5	+0.8
comp=Z,1.4nm,0.7s							
RSSD	Black Hills	61.87	53	eP	P	12 44 22.1	+0.4
comp=Z,3.8nm,0.8s							
RSSD	Black Hills	61.87	53	eP	P	12 44 22.1	+0.4
RSSD				pmax	pmax		
comp=Z,4.0nm,0.8s							
PV22	Blue Mesa, Par	63.83	60	eP	P	12 44 35.0	+0.6
comp=Z,3.5nm,0.5s							
AKASG	Malin Array Be	65.22	325	P	P	12 44 41.3	-1.3
comp=Z,1.1nm,0.3s,baz=32,slow=6.8,SNR=3.4							
BUR08	Bucovina Ar. S	69.20	325	eP	P	12 45 06.6	-0.5
comp=Z,2.9nm,1.1s							
WMOK	Wichita Mounta	71.76	56	eP	P	12 45 22.2	0.0
comp=Z,4.9nm,1.3s							
WMOK	Wichita Mounta	71.76	56	eP	P	12 45 22.3	0.0
WMOK				pmax	pmax		
comp=Z,5.0nm,1.3s							
BRTR	Keskin Array B	72.87	315	P	P	12 45 27.7	-1.0
comp=Z,0.6nm,0.6s,baz=81,slow=4.7,SNR=2.7							
TX31	Lajitas Ar. Si	73.67	62	eP	P	12 45 34.1	+0.7
comp=Z,5.6nm,1.5s							
TXAR	Lajitas Array	73.68	62	P	P	12 45 34.5	+1.1
comp=Z,1.6nm,0.7s,baz=296,slow=4.4,SNR=9.3							
ASAR	Alice Springs	79.62	198	P	P	12 46 04.8	-0.8
comp=Z,0.2nm,1.0s,baz=9.7,slow=5.2,SNR=3.6							
CPUP	Villa Florida	143.97	51	PKP	PKPbc	12 53 24.7	-2.2
comp=Z,0.6nm,0.3s,baz=242,slow=5.2,SNR=3.1							

*SOME **24** 12:36:13.6, 43°.28N×84°.93E, h5km*
*NNC **24** 12:36:20.7±2.3, 43°.40N×84°.58E, h0km, mb3.9, mpv3.7,*
Error ellipse: s-maj=19.2km s-min=10.4km az=136.0
ISC 24 12:36:22.7±2.2, 43°.41N±0°.08×84°.55E±0°.09, h10km, n34,
σ1§81/49, 6C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	3.06	272	Pg	Pb	12 37 15.9	-1.4
14nm,0.2s							
KTMS				Lg	Lg	12 38 01.8	
43nm,0.2s							
KTMS	Ketmen	3.06	272	eP	Pb	12 37 15.9	-1.4
14nm,0.2s							
KTMS				eS	Sg	12 38 01.8	+0.9
43nm,0.2s							
DJR	Jarkent	3.56	287	eP	Pb	12 37 23.2	-2.6
8.3nm,0.3s							
DJR				eS	Sg	12 38 14.5	-2.6
20nm,0.5s							
PDGK	Podgornoye	3.69	271	Pg	Pb	12 37 26.6	-1.5
3.2nm,0.4s							
PDGK				Lg	Lg	12 38 20.0	
12nm,0.4s							
PDGK	Podgornoye	3.69	271	⇓Pn	Pb	12 37 23.3	-4.8
3.1nm,0.4s							
PDGK				⇑Lg	Lg	12 38 19.0	
16nm,0.5s							
SHLS	Shalkode	3.72	268	Pg	Pn	12 37 22.4	+2.1
17nm,0.1s							
SHLS				Lg	Lg	12 38 13.0	
55nm,0.3s							
SHLS	Shalkode	3.72	268	eP	Pn	12 37 22.4	+2.1
17nm,0.1s							
SHLS				eS	Sb	12 38 13.0	-0.9
55nm,0.3s							
MK31	Makanchi Array	3.75	336	⇓Pn	Pn	12 37 21.5	+0.9
0.1nm,0.2s,baz=151,slow=15,SNR=65							
MK31				⇑Pg	Pb	12 37 29.3	+0.4
0.8nm,0.2s,baz=144,slow=17,SNR=28							
MK31				⇓Lg	Lg	12 38 19.4	
4.3nm,0.3s,baz=149,slow=29,SNR=7.2							
MAKZ	Makanchi	3.86	333	⇑Pg	Pb	12 37 31.6	+0.7
2.1nm,0.3s							
MAKZ				⇑Lg	Lg	12 38 22.2	
16nm,0.8s							
UZB	Uzynbulak	4.04	268	Pg	Pb	12 37 32.2	-1.9
6.4nm,0.2s							
UZB				Lg	Lg	12 38 30.1	
14nm,0.5s							
UZB	Uzynbulak	4.04	268	eP	Pb	12 37 32.2	-1.9
6.4nm,0.2s							
UZB				eS	Sg	12 38 30.1	-2.4
14nm,0.5s							
ZSN	Zaisan	4.05	3	eP	Pb	12 37 29.9	-4.2
1.4nm,0.3s							
ZSN				eS	Sb	12 38 26.1	+3.0
8.1nm,0.2s							
KAPS	Kapalarasan	4.17	299	eP	Pb	12 37 35.5	-0.7
6.3nm,0.3s							
KAPS				eS	Sg	12 38 36.1	-0.5
20nm,0.3s							
KPKS	Kokpek	4.27	273	eP	Pb	12 37 37.4	-0.6
8.6nm,0.1s							
KPKS				eS	Sg	12 38 38.9	-0.9
35nm,0.3s							
SATY	Saty	4.50	268	Pg	Pb	12 37 42.5	+0.6
12nm,0.4s							
SATY				Lg	Lg	12 38 47.7	
20nm,0.3s							
SATY	Saty	4.50	268	eP	Pb	12 37 42.5	+0.6
12nm,0.4s							
SATY				eS	Sg	12 38 47.7	+0.4
20nm,0.3s							
MNBS	Baschi	4.50	281	Pg	Pb	12 37 40.7	-1.2
15nm,0.4s							
MNBS				Lg	Lg	12 38 44.6	
23nm,0.3s							
MNBS	Baschi	4.50	281	eP	Pb	12 37 40.7	-1.2
15nm,0.4s							
MNBS				eS	Sg	12 38 44.6	-2.7
23nm,0.3s							
KURS	Kuram	4.64	273	Pg	Pb	12 37 43.5	-0.8
5.0nm,0.8s							
KURS				Lg	Lg	12 38 49.5	
7.8nm,0.4s							
KURS	Kuram	4.64	273	eP	Pb	12 37 43.5	-0.8
5.0nm,0.8s							
KURS				eS	Sg	12 38 49.5	-2.3
7.8nm,0.4s							
TDK	Taldyqorghan	4.70	292	Pg	Pb	12 37 45.1	-0.1
44nm,0.2s							
TDK				Lg	Lg	12 38 51.8	
82nm,0.3s							
TDK	Taldyqorghan	4.70	292	eP	Pb	12 37 45.1	-0.1
44nm,0.2s							
TDK				eS	Sg	12 38 51.8	-1.6
82nm,0.3s							
ARXS	Arharly	4.93	282	Pg	Pb	12 37 49.8	+0.6
4.4nm,0.4s							
ARXS				Lg	Lg	12 39 00.4	
19nm,0.2s							
ARXS	Arharly	4.93	282	eP	Pb	12 37 49.8	+0.6
4.4nm,0.4s							
ARXS				eS	Sg	12 39 00.4	-0.6
19nm,0.2s							
KOTS	Kotyrbulak	5.43	271	Pg	Pb	12 37 58.4	+0.7
4.7nm,0.3s							
KOTS				Lg	Lg	12 39 15.2	
14nm,0.6s							
KOTS	Kotyrbulak	5.43	271	eP	Pb	12 37 58.4	+0.7
4.7nm,0.3s							
KOTS				eS	Sg	12 39 15.2	-1.7
14nm,0.6s							
TNSS	Tian-Shan	5.57	269	Pg	Pb	12 38 00.2	0.0
3.1nm,0.4s							
TNSS				Lg	Lg	12 39 17.5	
8.9nm,0.5s							
TNSS	Tian-Shan	5.57	269	eP	Pb	12 38 00.2	0.0
2.0nm,0.4s							
TNSS				eS	Sg	12 39 18.4	-3.1
8.9nm,0.5s							
KTBS	Karatobe	5.72	276	Pg	Pb	12 38 04.5	+1.8
2.0nm,0.4s							
KTBS				Lg	Lg	12 39 25.5	
14nm,0.5s							
KTBS	Karatobe	5.72	276	eP	Pb	12 38 04.5	+1.8
2.0nm,0.4s							
KTBS				eS	Sg	12 39 25.4	-1.0
14nm,0.5s							
KUU	Kurty	5.98	277	Pg	Pb	12 38 09.3	+2.3
1.8nm,0.4s							
KUU				Lg	Lg	12 39 33.7	
8.9nm,0.3s							
KUU	Kurty	5.98	277	eP	Pb	12 38 09.3	+2.3
1.8nm,0.4s							
KUU				eS	Sg	12 39 33.7	-0.8
8.9nm,0.3s							
KURBB	Kurchatov Arra	8.30	332	⇑Lg	Lg	12 40 44.7	
14nm,0.7s							
KURK	Kurchatov	8.35	333	⇑Lg	Lg	12 40 46.1	
5.5nm,0.7s							

*KRSC **24** 12:37:57.9±10.0, 54°.97N×154°.03E, h617km±10km, ML4.2*
*ISCJB **24** 12:37:58.9±0.6, 54°.94N±0°.09×153°.7E±0°.1, h600km,*
mb3.4/5, Error ellipse: s-maj=11.6km s-min=9.7km
az=28.5
*IDC **24** 12:37:59.6±1.1, 54°.87N×153°.63E, h604km±16km, mb2.8/5,*
mb1 3.0/9, mb1mx2.7/34, mbtmp3.8/9, Error ellipse:
s-maj=36.8km s-min=14.8km az=124.0
ISC 24 12:37:59.4±0.8, 54°.9N±0°.1×153°.94E±0°.09, h600km, n22,
σ1§54/26, mb3.5/5, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	2.85	127	P	P	12 39 19.3	+1.6
0.3nm,0.3s,baz=29,slow=3.3,SNR=4.3							
ESO	Esso	2.91	67	P	P	12 39 18.8	+1.0
KOK	Koryaka	3.20	118	eP	P	12 39 21.9	+2.2
SMAR	Somma	3.30	118	P	P	12 39 22.2	+1.7
SDLR	Sedlovina	3.33	117	eP	P	12 39 22.0	+1.4
UGLR	Uglovaya	3.34	118	eP	P	12 39 22.4	+1.8
DALK	Dalny	3.40	121	eP	P	12 39 21.6	+0.8
DALK				eS	S	12 40 28.6	+1.2
NLC	Nalytchevo	3.63	116	eS	S	12 40 30.8	+0.9
KZV	Kizimen	3.67	84	eP	P	12 39 22.9	+0.3
RUS	Russkaya	3.67	130	eP	P	12 39 22.5	-0.1
RUS				eS	S	12 40 30.5	0.0
SPN	Mys Shipunski	4.02	114	P	P	12 39 23.8	-1.1
SPN				eS	S	12 40 31.6	-3.1
MKZ	Mys Kozlova	4.53	91	eP	P	12 39 26.6	-1.9
MKZ				eS	S	12 40 37.5	-3.9
MA2	Magadan	5.00	341	P	P	12 39 31.8	-0.1
1.7nm,0.3s,baz=141,slow=9.4,SNR=13							
KBTR	Krutoberegovo	5.21	72	eP	P	12 39 33.6	-0.1
BKI	Bering	6.92	83	S	S	12 41 18.4	+0.4
SEY	Seymchan	8.10	355	P	P	12 39 59.4	+0.2
1.9nm,0.3s,baz=175,slow=9.9,SNR=20							
KLR	Kul'dur	14.75	257	P	P	12 41 03.8	-1.2
0.1nm,0.3s,baz=23,slow=4.7,SNR=3.9							
ILAR	Eielson Array	30.19	47	P	P	12 43 23.3	+1.1
0.8nm,0.5s,baz=275,slow=10,SNR=16							
INK	Inuvik	34.70	39	P	P	12 44 01.0	+0.9
1.2nm,0.3s,baz=281,slow=6.6,SNR=18							
YKA	Yellowknife Ar	44.26	42	P	P	12 45 17.2	+0.7
0.3nm,0.5s,baz=295,slow=8.1,SNR=4.8							
WRA	Warramunga Arr	76.40	199	P	P	12 48 47.3	-0.8
1.9nm,1.0s,baz=3.6,slow=6.7,SNR=3.7							
ASAR	Alice Springs	80.11	199	P	P	12 49 07.5	-0.4
0.3nm,0.6s,baz=9.9,slow=4.9,SNR=10							

*IDC **24** 12:59:52.3±1.3, 54°.11N×152°.84E, h628km±19km, mb2.6/9,*
mb1 2.8/11, mb1mx2.6/45, mbtmp3.7/11, Error ellipse:
s-maj=19.1km s-min=14.6km az=112.0
*KRSC **24** 12:59:53.3±10.0, 54°.48N×152°.62E, h558km±10km, ML4.3*
ISC 24 12:59:51.1±0.7, 54°.2N±0°.1×152°.90E±0°.09, h600km, n28,
σ1§97/33, mb3.2/8, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.83	114	eP	P	13 01 12.3	+3.1
PETK	Petropavlovsk-	3.05	109	P	P	13 01 13.3	+2.8
2.2nm,0.3s,baz=352,slow=3.5,SNR=67							
KRMR	Karymshinskiy	3.40	111	P	P	13 01 14.8	+2.3
ASAK	Asacha	3.50	119	eP	P	13 01 15.4	+2.1
KOK	Koryaka	3.52	102	eP	P	13 01 16.3	+2.9
KRER	Koryakskii	3.58	102	eP	P	13 01 16.1	+2.2
PET	Petropavlovsk	3.62	106	P	P	13 01 16.1	+2.2
SMAR	Somma	3.62	102	eP	P	13 01 16.9	+2.7
UGLR	Uglovaya	3.65	103	eP	P	13 01 17.1	+2.8
SDLR	Sedlovina	3.67	102	eP	P	13 01 16.7	+2.3
DALK	Dalny	3.67	106	eP	P	13 01 16.1	+1.9
RUS	Russkaya	3.79	115	P	P	13 01 16.5	+1.4
RUS				S	S	13 02 23.7	0.0
KDTR	Khodutka, Kamc	3.92	125	eP	P	13 01 16.4	+0.4
KDTR				eS	S	13 02 23.8	-1.5
SPN	Mys Shipunski	4.38	101	eP	P	13 01 19.8	+0.7
SPN				eS	S	13 02 28.6	-2.5
KZV	Kizimen	4.40	75	P	P	13 01 21.6	+2.2
MKZ	Mys Kozlova	5.18	82	P	P	13 01 25.3	+0.1
MKZ				S	S	13 02 40.2	-2.1
KBTR	Krutoberegovo	6.04	66	eP	P	13 01 32.1	-0.2
KBTR				eS	S	13 02 53.5	-1.9
BKI	Bering	7.65	77

PVAQ				A	A	13 02 12.2	
	2.6nm,0.6s						
PVAQ	**Vaqueiros**	**5.03**	**359**	P	Pn	13 01 15.5	-1.2
PVAQ				S	Sn	13 02 10.9	-4.7
	2.6nm,0.6s						
EGRO	**El Granado**	**5.16**	**1**	P	Pn	13 01 17.0	-1.6
	0.7nm,0.2s,SNR=7.9						
EGRO				S	Sn	13 02 13.6	-5.2
	0.4nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**5.27**	**357**	*e*Pn	Pn	13 01 18.6	-1.4
PCVE				*e*Sn	Sn	13 02 16.7	-4.7
PCVE				A	A	13 02 19.5	
	3.2nm,0.4s						
PCVE	**Castro Verde**	**5.27**	**357**	P	Pn	13 01 18.6	-1.4
PCVE				S	Sn	13 02 16.7	-4.7
	3.2nm,0.4s						
EMIN	**Mina Concepcio**	**5.45**	**8**	P	Pn	13 01 20.9	-1.6
	0.6nm,0.2s,SNR=7.9						
MESJ	**Messejana**	**5.49**	**355**	*e*Pn	Pn	13 01 22.6	-0.4
MESJ	**Messejana**	**5.49**	**355**	P	Pn	13 01 22.6	-0.4
PNCL	**Nicolau / Gran**	**5.78**	**353**	*e*Pn	Pn	13 01 25.9	-1.2
PNCL				*e*Sn	Sn	13 02 29.8	-4.3
PNCL				A	A	13 02 36.5	
	1.4nm,0.3s						
PNCL	**Nicolau / Gran**	**5.78**	**353**	P	Pn	13 01 25.9	-1.2
PNCL				S	Sn	13 02 29.8	-4.3
	1.4nm,0.3s						
ECAB	**El Cabril**	**5.99**	**17**	P	Pn	13 01 28.7	-1.2
	0.3nm,0.2s,SNR=7.9						
ECAB				S	Sn	13 02 33.5	-5.7
	0.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.31**	**23**	P	Pn	13 01 33.7	-0.7
	0.4nm,0.2s,SNR=7.9						
EADA				S	Sn	13 02 41.9	-5.4
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.40**	**4**	P	Pn	13 01 33.9	-1.6
	0.4nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**6.71**	**356**	*e*Pn	Pn	13 01 38.4	-1.4
PMTG	**Montargil**	**6.71**	**356**	P	Pn	13 01 38.4	-1.4
PMRV	**Marv??o**	**7.05**	**2**	*e*Pn	Pn	13 01 43.4	-1.2
PMRV	**Marv??o**	**7.05**	**2**	P	Pn	13 01 43.4	-1.2

*IDC **24** 13:22:18.9±18.0, 12.˚96N×89.˚55W, h0km, mb3.6/3,*
mb1 4.0/3, mb1mx3.6/29, mbtmp3.6/3, Error ellipse:
s-maj=380.4km s-min=131.7km az=173.0
*MEX **24** 13:22:37.8±0.5, 14.˚09N×92.˚52W, h16km±45km, MD4.0*
ISC 24 13:22:34.9±2.1, 14.˚2N±0.˚1×92.˚5W±0.˚1, h10km, n8,
σ1º07/12, mb3.7/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.80**	**19**	*e*P	**Pg**	**13 22 51.5**	**+1.3**
THIG				*i* S	**Sg**	**13 23 01.3**	**+0.6**
PCIG		**1.68**	**337**	*e*P	**Pn**	**13 23 03.7**	**-0.6**
PCIG				*e*S	**Sn**	**13 23 24.4**	**-1.6**
CCIG	**Comitan**	**2.15**	**10**	*e*P	**Pn**	**13 23 10.3**	**-0.8**
CCIG				*i* S	**Sn**	**13 23 36.2**	**-1.7**
TGIG		**2.67**	**348**	*e*P	**Pn**	**13 23 18.9**	**+0.9**
TGIG				*e*S	**Sn**	**13 23 50.0**	**-0.5**
CMIG	**Matias Romero**	**3.69**	**323**	*e*P	**Pn**	**13 23 32.5**	**+0.4**
CMIG				*i* S	**Sn**	**13 24 15.7**	**-0.1**
NVAR	**Mina Array Bea**	**33.23**	**321**	P	P	13 29 22.1	+10
	0.2nm,0.5s,baz=124,slow=8.0,SNR=2.4						
YKA	**Yellowknife Ar**	**50.76**	**347**	P	**P**	**13 31 34.0**	**-0.8**
	1.0nm,0.7s,baz=152,slow=7.2,SNR=13						
ILAR	**Eielson Array**	**62.50**	**337**	P	**P**	**13 32 58.7**	**+0.3**
	0.6nm,1.0s,baz=119,slow=5.6,SNR=4.1						

KRSC 24 13:24:52.7±10.0, 53.˚79N×154.˚63E, h681km±10km, ML4.3,
Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.75**	**119**	*e*P	P	13 26 13.9	+0.6
KOK	**Koryaka**	**2.44**	**100**	*e*P	P	13 26 17.6	+1.7
SPN	**Mys Shipunski**	**3.30**	**100**	*e*P	P	13 26 21.0	+1.2
SPN				*e*S	S	13 27 29.2	-1.9
MKZ	**Mys Kozlova**	**4.24**	**77**	P	P	13 26 26.5	+1.3
MKZ				S	S	13 27 40.4	-0.6
KBTR	**Krutoberegovo**	**5.30**	**60**	P	P	13 26 33.2	+0.8

*IDC **24** 13:36:20.4±1.0, 52.˚57N×160.˚96E, h0km, mb3.5/10,*
mb1 3.8/11, mb1mx3.6/37, mbtmp3.6/11, ML1.9/1, Error
ellipse: s-maj=25.5km s-min=18.2km az=162.0
*KRSC **24** 13:36:22.1±10.0, 52.˚34N×160.˚94E, h40km±10km, ML4.2*
ISC 24 13:36:21.1±1.7, 52.˚53N±0.˚05×160.˚92E±0.˚04, h7km±10km,
n49, σ1º48/61, mb3.6/10, Off east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.79**	**317**	*e*P	**Pn**	**13 36 38.9**	**+0.3**
SPN				*e*S	**Sn**	**13 36 50.9**	**+0.2**
NLC	**Nalytchevo**	**1.15**	**305**	P	**Pn**	**13 36 44.3**	**+0.7**
NLC				*e*S	**Sn**	**13 37 00.7**	**+1.1**
DALK	**Dalny**	**1.41**	**292**	*i* P	**Pg**	**13 36 48.2**	**+0.1**
DALK				*e*S	**Sn**	**13 37 06.5**	**+0.6**
UGLR	**Uglovaya**	**1.44**	**299**	*e*P	**Pg**	**13 36 49.3**	**+0.6**
UGLR				*e*S	**Sg**	**13 37 08.7**	**+1.2**
SDLR	**Sedlovina**	**1.45**	**302**	*e*P	**Pg**	**13 36 49.3**	**+0.5**
PET	**Petropavlovsk**	**1.47**	**291**	P	**Pb**	**13 36 48.7**	**+0.1**
PET				*e*S	**Sn**	**13 37 07.6**	**+0.3**
RUS	**Russkaya**	**1.48**	**267**	P	**Pn**	**13 36 48.3**	**+0.3**
RUS				*e*S	**Sn**	**13 37 06.7**	**-0.9**
SMAR	**Somma**	**1.48**	**301**	*e*P	**Pg**	**13 36 49.7**	**+0.2**
AVH	**Avacha**	**1.52**	**300**	*e*P	**Pg**	**13 36 50.5**	**+0.4**
AVH				*e*S	**Sg**	**13 37 10.8**	**+1.0**
KRER	**Koryakskii**	**1.53**	**301**	*e*P	**Pg**	**13 36 50.9**	**+0.5**
KOK	**Koryaka**	**1.58**	**300**	*e*P	**Pg**	**13 36 51.4**	**0.0**
KRX	**Arik**	**1.61**	**302**	P	**Pg**	**13 36 51.7**	**-0.2**
MTVR	**Mutnovka**	**1.68**	**270**	*e*P	**Pb**	**13 36 51.6**	**-0.7**
MTVR				*e*S	**Sn**	**13 37 13.1**	**+0.4**
KRMR	**Karymshinskiy**	**1.73**	**281**	*e*P	**Pb**	**13 36 52.3**	**-0.8**
KRMR				*e*S	**Sn**	**13 37 14.0**	**+0.2**
GRL	**Gorelyy**	**1.74**	**272**	*i* P	**Pn**	**13 36 52.2**	**+0.4**
ASAK	**Asacha**	**1.86**	**267**	*e*P	**Pn**	**13 36 54.3**	**+1.0**
ASAK				*e*S	**Sn**	**13 37 17.2**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.90**	**249**	*i* P	**Pn**	**13 36 53.1**	**-0.7**
KDTR				*e*S	**Sn**	**13 37 14.1**	**-3.8**
PETK	**Petropavlovsk-**	**2.04**	**288**	Pn	**Pb**	**13 36 57.4**	**-1.1**
	2.2nm,0.3s,baz=98,slow=15,SNR=166						
PETK				Sn	**Sb**	**13 37 23.7**	**-0.4**
	36nm,0.3s,baz=106,slow=20,SNR=10						
MKZ	**Mys Kozlova**	**2.09**	**13**	P	**Pb**	**13 36 59.3**	**+0.1**
MKZ				*e*S	**Sb**	**13 37 25.5**	**+0.2**
APC	**Apacha**	**2.32**	**281**	*e*P	**Pb**	**13 37 01.8**	**-1.4**
APC				*e*S	**Sb**	**13 37 31.3**	**-0.8**
KZV	**Kizimen**	**2.62**	**352**	P	**Pb**	**13 37 08.5**	**+0.1**
KZV				*e*S	**Sb**	**13 37 40.7**	**0.0**
TUMD	**Tumrok D**	**2.70**	**354**	*e*P	**Pb**	**13 37 09.1**	**-0.6**
TUMD				*e*S	**Sb**	**13 37 41.8**	**-1.1**
PAU	**Pauzhetka**	**2.75**	**249**	P	**Pn**	**13 37 05.6**	**0.0**
TUMR	**Tumrok**	**2.80**	**351**	*e*P	**Pb**	**13 37 10.8**	**-0.6**
LGNR	**Loginova**	**3.56**	**358**	P	**Pb**	**13 37 23.7**	**-0.9**
ESO	**Esso**	**3.65**	**340**	P	**Pb**	**13 37 22.0**	**-3.8**
KLY	**Klyuchi**	**3.80**	**358**	*e*P	**Pb**	**13 37 27.3**	**-1.0**
KBTR	**Krutoberegovo**	**3.85**	**16**	*i* P	**Pb**	**13 37 24.5**	**-4.8**
SRDR	**Sredinnyy**	**3.86**	**350**	*e*P	**Pb**	**13 37 27.1**	**-2.4**
BKI	**Bering**	**4.01**	**46**	*e*P	**Pn**	**13 37 25.8**	**+2.9**
BKI				*e*S	**Sn**	**13 38 09.7**	**-0.4**
BDR	**Baidarnaya**	**4.05**	**2**	*e*P	**Pb**	**13 37 30.2**	**-2.5**
SMKR	**Semkarok**	**4.08**	**4**	*e*P	**Pb**	**13 37 30.6**	**-2.5**
SRKR	**Sorokina**	**4.14**	**2**	*e*P	**Pb**	**13 37 30.3**	**-3.9**
SRKR				*e*S	**Sb**	**13 38 21.8**	**-2.6**
MJAR	**Matsushiro Arr**	**22.61**	**234**	P	**P**	**13 41 22.6**	**+0.5**
	1.3nm,0.5s,baz=17,slow=12,SNR=8.8						
TIXI	**Tiksi**	**23.81**	**335**	P	**P**	**13 41 34.0**	**0.0**
	1.2nm,0.3s,baz=101,slow=5.7,SNR=3.7						
ILAR	**Eielson Array**	**28.86**	**45**	P	**P**	**13 42 19.9**	**+0.1**
	0.1nm,0.5s,baz=270,slow=12,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**33.06**	**170**	T	T	14 18 51.4	
	baz=351,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**33.08**	**170**	T	T	14 18 51.4	
	baz=351,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy**	**33.08**	**170**	T	T	14 18 49.1	
	baz=351,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**34.25**	**170**	T	T	14 20 30.6	
	baz=352,slow=74,SNR=2.1						
H11S3	**WAKE ISLAND Hy**	**34.26**	**170**	T	T	14 20 27.1	
	baz=352,slow=74,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**34.27**	**170**	T	T	14 20 31.7	
	baz=352						
MKAR	**Makanchi Array**	**48.86**	**297**	P	**P**	**13 45 05.3**	**-1.6**
	0.2nm,0.4s,baz=48,slow=6.5,SNR=4.3						
ARCES	**ARCESS Array B**	**53.98**	**342**	P	**P**	**13 45 46.0**	**+1.0**
	1.2nm,0.9s,baz=48,slow=8.6,SNR=2.6						
PDAR	**Pinedale Array**	**57.36**	**61**	P	**P**	**13 46 09.3**	**-0.6**
	0.3nm,0.6s,baz=318,slow=2.4,SNR=3.0						
CMAR	**Chiang Mai Arr**	**58.56**	**259**	P	**P**	**13 46 18.8**	**+0.4**
	0.5nm,0.5s,baz=30,slow=9.4,SNR=4.6						
FINES	**FINESS Array B**	**60.84**	**337**	P	**P**	**13 46 33.7**	**+0.3**
	0.4nm,0.4s,baz=42,slow=8.8,SNR=7.4						
TXAR	**Lajitas Array**	**70.39**	**67**	P	**P**	**13 47 36.4**	**+0.6**
	0.2nm,0.5s,baz=302,slow=5.2,SNR=2.8						
ASAR	**Alice Springs**	**79.45**	**205**	P	**P**	**13 48 29.6**	**+1.7**
	0.1nm,0.5s,baz=12,slow=4.8,SNR=3.6						

IDC 24 13:37:54.5±3.2, 31.˚67S×177.˚51W, h0km, mb3.8/2,
mb1 4.0/3, mb1mx3.7/25, mbtmp3.8/3, ML3.0/1, Error
ellipse: s-maj=74.6km s-min=37.8km az=117.0,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.92**	**212**	Pn	Pn	13 39 51.0	+0.2
	0.2nm,0.3s,baz=356,slow=19,SNR=3.3						
URZ				Sn	Sn	13 41 21.8	+0.7
	0.4nm,0.3s,baz=18,slow=20,SNR=4.6						
ASAR	**Alice Springs**	**43.47**	**268**	P	P	13 46 00.1	+0.4
	0.6nm,0.6s,baz=104,slow=7.1,SNR=20						
WRA	**Warramunga Arr**	**44.58**	**273**	P	P	13 46 07.9	-0.7
	1.0nm,0.4s,baz=122,slow=7.5,SNR=12						
FINES	**FINESS Array B**	**146.48**	**340**	PKPbc	PKPdf	13 57 36.0	+0.6
	0.8nm,0.8s,baz=62,slow=4.5,SNR=5.0						

*KRSC **24** 13:49:44.9±10.0, 54.˚01N×153.˚61E, h648km±10km, ML4.3*
*ISCJB **24** 13:49:45.1±0.3, 54.˚09N±0.˚06×153.˚51E±0.˚08, h650km,*
mb3.4/18, Error ellipse: s-maj=8.5km s-min=5.6km
az=15.4
*IDC **24** 13:49:46.0±0.7, 54.˚22N×153.˚18E, h626km±9km, mb3.0/19,*
mb1 3.1/23, mb1mx2.9/52, mbtmp4.0/23, Error ellipse:
s-maj=13.0km s-min=10.5km az=135.0
*MOS **24** 13:49:45.2±1.0, 54.˚53N×152.˚86E, h606km, mb4.0/1, Error*
ellipse: s-maj=14.6km s-min=11.6km az=116.1
ISC 24 13:49:46.2±0.5, 54.˚01N±0.˚08×153.˚57E±0.˚07, h650km, n73,
σ2º01/99, mb3.5/18, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.41**	**115**	P	**P**	**13 51 05.9**	**-0.7**
APC				S	**S**	**13 52 10.5**	**-1.8**
APC	**Apacha**	**2.41**	**115**	P	**P**	**13 51 05.9**	**-0.7**
APC				S	**S**	**13 52 10.5**	**-1.8**
PETK	**Petropavlovsk-**	**2.63**	**109**	P	**P**	**13 51 06.7**	**-0.9**
	3.0nm,0.3s,baz=321,slow=3.3,SNR=92						
PETK				S	**S**	**13 52 12.4**	**-1.8**
	baz=296,slow=7.6,SNR=1.9						
KRMR	**Karymshinskiy**	**2.98**	**112**	P	**P**	**13 51 08.6**	**-0.7**
KRMR				S	**S**	**13 52 15.5**	**-1.7**
KRMR	**Karymshinskiy**	**2.98**	**112**	P	**P**	**13 51 08.6**	**-0.7**
KRMR				S	**S**	**13 52 15.5**	**-1.7**
ASAK	**Asacha**	**3.08**	**120**	P	**P**	**13 51 09.5**	**-0.5**
ASAK	**Asacha**	**3.08**	**120**	P	**P**	**13 51 09.5**	**-0.5**
KRX	**Arik**	**3.09**	**100**	P	**P**	**13 51 10.4**	**+0.3**
KRX	**Arik**	**3.09**	**100**	P	**P**	**13 51 10.4**	**+0.3**
KOK	**Koryaka**	**3.10**	**101**	P	**P**	**13 51 09.5**	**-0.6**
KOK	**Koryaka**	**3.10**	**101**	P	**P**	**13 51 09.5**	**-0.6**
KRER	**Koryakskii**	**3.17**	**101**	P	**P**	**13 51 10.5**	**0.0**
KRER				S	**S**	**13 52 18.4**	**-1.1**
KRER	**Koryakskii**	**3.17**	**101**	P	**P**	**13 51 10.5**	**0.0**
KRER				S	**S**	**13 52 18.4**	**-1.1**
AVH	**Avacha**	**3.17**	**102**	P	**P**	**13 51 11.0**	**+0.6**
AVH	**Avacha**	**3.17**	**102**	P	**P**	**13 51 11.0**	**+0.6**
MTVR	**Mutnovka**	**3.17**	**117**	P	**P**	**13 51 11.3**	**+0.8**
MTVR	**Mutnovka**	**3.17**	**117**	P	**P**	**13 51 11.3**	**+0.8**
PET	**Petropavlovsk**	**3.19**	**106**	*e*P	**P**	**13 51 10.7**	**+0.3**
PET				pmax	pmax		
	comp=Z,42nm,0.4s						
SMAR	**Somma**	**3.21**	**101**	P	**P**	**13 51 10.2**	**-0.6**
SMAR	**Somma**	**3.21**	**101**	P	**P**	**13 51 10.2**	**-0.6**
PAU	**Pauzhetka**	**3.23**	**141**	P	**P**	**13 51 10.2**	**-0.5**
PAU	**Pauzhetka**	**3.23**	**141**	P	**P**	**13 51 10.2**	**-0.5**
UGLR	**Uglovaya**	**3.23**	**102**	P	**P**	**13 51 10.7**	**-0.1**
UGLR	**Uglovaya**	**3.23**	**102**	P	**P**	**13 51 10.7**	**-0.1**
DALK	**Dalny**	**3.25**	**106**	P	**P**	**13 51 09.7**	**-1.0**
DALK				S	**S**	**13 52 16.9**	**-2.9**
DALK	**Dalny**	**3.25**	**106**	P	**P**	**13 51 09.7**	**-1.0**
DALK				S	**S**	**13 52 16.9**	**-2.9**
SDLR	**Sedlovina**	**3.25**	**101**	P	**P**	**13 51 10.3**	**-0.6**
SDLR				S	**S**	**13 52 18.0**	**-2.2**
SDLR	**Sedlovina**	**3.25**	**101**	P	**P**	**13 51 10.3**	**-0.6**
SDLR				S	**S**	**13 52 18.0**	**-2.2**
RUS	**Russkaya**	**3.37**	**116**	P	**P**	**13 51 10.1**	**-1.3**
RUS				S	**S**	**13 52 17.3**	**-3.8**
RUS	**Russkaya**	**3.37**	**116**	P	**P**	**13 51 10.1**	**-1.3**
RUS				S	**S**	**13 52 17.3**	**-3.8**
KDTR	**Khodutka, Kamc**	**3.51**	**127**	P	**P**	**13 51 10.1**	**-2.2**
KDTR				S	**S**	**13 52 17.1**	**-5.4**
KDTR	**Khodutka, Kamc**	**3.51**	**127**	P	**P**	**13 51 10.1**	**-2.2**
KDTR				S	**S**	**13 52 17.1**	**-5.4**
ESO	**Esso**	**3.52**	**55**	P	**P**	**13 51 11.6**	**-0.6**
ESO				S	**S**	**13 52 21.1**	**-1.7**
ESO	**Esso**	**3.52**	**55**	P	**P**	**13 51 11.6**	**-0.6**
ESO				S	**S**	**13 52 21.1**	**-1.7**
NLC	**Nalytchevo**	**3.55**	**101**	S	**S**	**13 52 19.3**	**-3.6**
SPN	**Mys Shipunski**	**3.96**	**101**	P	**P**	**13 51 13.4**	**-1.5**
SPN				S	**S**	**13 52 23.3**	**-4.3**
SPN	**Mys Shipunski**	**3.96**	**101**	P	**P**	**13 51 13.4**	**-1.5**
SPN				S	**S**	**13 52 23.3**	**-4.3**
KZV	**Kizimen**	**4.07**	**72**	P	**P**	**13 51 15.6**	**-0.2**
KZV	**Kizimen**	**4.07**	**72**	P	**P**	**13 51 15.6**	**-0.2**
MKZ	**Mys Kozlova**	**4.81**	**80**	P	**P**	**13 51 19.9**	**-0.8**
MKZ				S	**S**	**13 52 33.9**	**-4.2**
MKZ	**Mys Kozlova**	**4.81**	**80**	P	**P**	**13 51 19.9**	**-0.8**
MKZ				S	**S**	**13 52 33.9**	**-4.2**
KBTR	**Krutoberegovo**	**5.75**	**64**	P	**P**	**13 51 25.2**	**-2.5**
KBTR				S	**S**	**13 52 45.3**	**-5.8**
KBTR	**Krutoberegovo**	**5.75**	**64**	P	**P**	**13 51 25.2**	**-2.5**
KBTR				S	**S**	**13 52 45.3**	**-5.8**
BKI	**Bering**	**7.30**	**76**	P	**P**	**13 51 42.8**	**+2.0**
BKI				S	**S**	**13 53 15.2**	**+0.3**
BKI	**Bering**	**7.30**	**76**	P	**P**	**13 51 42.8**	**+2.0**
BKI				S	**S**	**13 53 15.2**	**+0.3**
SEY	**Seymchan**	**8.97**	**357**	P	**P**	**13 51 54.0**	**-1.8**
SEY	**Seymchan**	**8.97**	**357**	P	**P**	**13 51 54.0**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=163,slow=19,SNR=2.9						
KMSK	**Kamenskaya**	**10.76**	**33**	P	**P**	**13 52 12.7**	**-0.2**
KMSK	**Kamenskaya**	**10.76**	**33**	P	**P**	**13 52 12.7**	**-0.2**
KLR	**Kul'dur**	**14.35**	**259**	P	**P**	**13 52 45.9**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=70,slow=8.5,SNR=21						
USRK	**Ussuriysk Ar.**	**17.14**	**244**	P	**P**	**13 53 11.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=53,slow=6.5,SNR=6.4						
TIXI	**Tiksi**	**20.68**	**338**	P	**P**	**13 53 42.2**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=131,slow=10,SNR=7.6						
KSRS	**Korea Array**	**24.18**	**237**	P	**P**	**13 54 16.0**	**+1.2**
KSRS	**Korea Array**	**24.18**	**237**	P	**P**	**13 54 16.0**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=30,slow=9.2,SNR=7.2						
SONM	**Songino Array**	**29.90**	**278**	P	**P**	**13 55 04.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=64,slow=7.6,SNR=3.6						
INK	**Inuvik**	**35.52**	**38**	P	**P**	**13 55 51.7**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=296,slow=9.4,SNR=9.4						
INK				PcP	**PcP**	**13 58 02.0**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=329,slow=7.0,SNR=4.5						
RES	**Resolute Bay**	**43.89**	**21**	P	**P**	**13 56 57.9**	**+0.8**
	comp=Z,4.5nm,1.1s,baz=330,slow=8.1,SNR=5.2						
MKAR	**Makanchi Array**	**44.22**	**291**	P	**P**	**13 56 59.4**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=60,slow=8.0,SNR=6.3						
YKA	**Yellowknife Ar**	**45.07**	**41**	P	**P**	**13 57 07.9**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=306,slow=7.2,SNR=9.7						
ARCES	**ARCESS Array B**	**51.12**	**339**	P	**P**	**13 57 49.4**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=32,slow=8.1,SNR=8.1						
FINES	**FINESS Array B**	**57.63**	**333**	P	**P**	**13 58 35.2**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=33,slow=8.3,SNR=15						
PDAR	**Pinedale Array**	**60.39**	**57**	P	**P**	**13 58 57.0**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=340,slow=2.7,SNR=4.3						
NB2	**NORSAR Subarra**	**61.46**	**340**	P	**P**	**13 59 00.3**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**61.46**	**340**	P	**P**	**13 59 00.9**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=28,slow=6.5,SNR=5.6						
GEYT	**Alibeck**	**63.27**	**298**	P	**P**	**13 59 13.3**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=76,slow=6.1,SNR=3.0						
AKASG	**Malin Array Be**	**65.71**	**325**	P	**P**	**13 59 27.4**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=28,slow=6.8,SNR=3.6						
MLR	**Muntele Rosu**	**71.31**	**324**	P	**P**	**14 00 02.1**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=339,slow=8.6,SNR=3.5						
GERES	**GERESS Array B**	**72.06**	**333**	P	**P**	**14 00 06.1**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=32,slow=8.1,SNR=3.3						
TXAR	**Lajitas Array**	**73.77**	**62**	P	**P**	**14 00 19.6**	**+3.2**
	comp=Z,0.7nm,0.6s,baz=295,slow=3.8,SNR=6.8						
WRA	**Warramunga Arr**	**75.49**	**199**	P	**P**	**14 00 27.8**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=8.7,slow=7.8,SNR=8.0						
MMAI	**Mount Meron Ar**	**78.24**	**311**	P	**P**	**14 00 41.3**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=46,slow=6.2,SNR=2.3						
ASAR	**Alice Springs**	**79.20**	**198**	P	**P**	**14 00 48.3**	**+2.5**
	comp=Z,0.5nm,0.4s,baz=11,slow=5.0,SNR=23						
CPUP	**Villa Florida**	**144.16**	**52**	PKP	**PKiKP**	**14 08 11.5**	**-1.8**
	comp=Z,1.9nm,0.5s,baz=360,slow=2.0,SNR=5.0						

*ISK **24** 13:50:56.8, 38.˚86N×43.˚58E, h3km, ML2.6/3*
*DDA **24** 13:50:56.3, 38.˚86N×43.˚65E, h20km±1km, ML2.6*
*ISCJB **24** 13:50:58.3±0.7, 38.˚87N±0.˚03×43.˚63E±0.˚06, h11km±6km,*
Error ellipse: s-maj=7.9km s-min=4.3km az=26.0
ISC 24 13:50:57.2±1.0, 38.˚86N±0.˚03×43.˚61E±0.˚04, h16km±8km,
n12, σ0º77/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.13**	**346**	*i* P	**Pb**	**13 51 00.6**	**-0.8**
VMUR				*i* S	**Sg**	**13 51 04.7**	**+0.8**
VANB	**Van**	**0.32**	**213**	PG	**Pb**	**13 51 04.6**	**0.0**
VANB				SG	**Sb**	**13 51 10.9**	**+1.3**
CLDR	**Caldiran**	**0.37**	**40**	PG	**Pb**	**13 51 05.3**	**-0.2**
CLDR				SG	**Sb**	**13 51 11.2**	**+0.1**
CLDR	**Caldiran**	**0.37**	**40**	IAML_P			
	comp=Z,4μm,0.2s						
CLDR				*i* P	**Pg**	**13 51 04.4**	**-0.5**
CLDR				*i* S	**Sb**	**13 51 12.4**	**+1.3**
TVAN	**Van**	**0.37**	**206**	*i* P	**Pb**	**13 51 04.9**	**-0.6**
TVAN				*i* S	**Sb**	**13 51 11.2**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.69**	**266**	IAML_P			
	comp=Z,567nm,0.1s						
ADCV				*i* P	**Pb**	**13 51 11.0**	**0.0**
ADCV				*i* S	**Sn**	**13 51 22.4**	**-0.7**
GEVA	**Gevas**	**0.70**	**218**	IAML_P			
	comp=Z,1μm,0.1s						
GEVA				*i* P	**Pg**	**13 51 10.2**	**-0.8**
GEVA				*i* S	**Sn**	**13 51 23.7**	**+0.5**
TUTA	**Tutak**	**0.82**	**311**	*i* P	**Pg**	**13 51 12.7**	**-0.6**
TUTA				*i* S	**Sb**	**13 51 24.7**	**+0.5**
AGRB	**Hanur-Agry**	**0.86**	**326**	PG	**Pb**	**13 51 13.9**	**0.0**
HAKT	**HAKKARI**	**1.30**	**177**	IAML_P			
	comp=Z,453nm,0.3s						
HAKT				*i* P	**Pb**	**13 51 21.3**	**-0.2**
EATA	**Eleskirt**	**1.32**	**319**	IAML_P			
	comp=Z,454nm,0.3s						
EATA				*i* P	**Pg**	**13 51 22.0**	**-0.8**
EATA				*i* S	**Sg**	**13 51 41.3**	**+1.2**
GNI	**Garni**	**1.55**	**34**	PN	**Pg**	**13 51 26.5**	**-0.7**

*ISCJB **24** 13:56:23.8±0.4, 0.˚16N±0.˚07×16.˚91W±0.˚07, h13km,*
mb4.3/20, Error ellipse: s-maj=12.5km s-min=7.5km
az=140.5
*IDC **24** 13:56:23.9±0.7, 0.˚15N×17.˚05W, h0km, mb4.0/12,*
mb1 4.1/13, mb1mx3.8/58, mbtmp4.0/13, ML4.6/1, Error
ellipse: s-maj=23.8km s-min=18.7km az=126.0
*NEIC **24** 13:

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**1.25**	**348**	*i* PN	Pg	14 09 30.6	-0.6
SRN				*i* SN	Sn	14 09 48.7	-0.1
TPE	**Tepelena**	**1.66**	**352**	*i* PN	Pn	14 09 36.9	-0.2
TPE				*i* SN	Sn	14 09 56.1	-2.7
VLO	**Vlora**	**1.93**	**341**	*i* PN	Pb	14 09 42.4	-0.5
VLO				*i* SN	Sg	14 10 11.3	+2.2
SCTE	**Santa Cesarea**	**2.02**	**315**	*i* PN	Pn	14 09 41.7	-0.4
SCTE				*i* SN	Sn	14 10 04.6	-3.2
TIR	**Tirane**	**2.72**	**353**	*i* PN	Pn	14 09 51.3	-0.3
TIR				*i* SN	Sn	14 10 26.1	+1.2
PHP	**Peshkopia**	**3.03**	**2**	*i* PN	Pn	14 09 55.6	-0.4
PHP				*i* SN	Sn	14 10 32.2	-0.5
BCI	**Bajram Curri**	**3.72**	**357**	*i* PN	Pn	14 10 05.3	-0.1
BCI				*i* SN	Sn	14 10 49.6	0.0

*ISCJB **24** 14:19:52.0±0.4, 21°.23N±0°.02×121°.85E±0°.05, h167km±4km, mb3.2/5, Error ellipse: s-maj=7.7km s-min=4.0km az=174.8*
*TAP **24** 14:19:52.6, 21°.24N×121°.86E, h172km, ML4.4, C*
*MAN **24** 14:19:53.5, 20°.70N×120°.70E, h18km, MS2.3*
*IDC **24** 14:19:54.7±8.0, 21°.07N×121°.97E, h200km±82km, mb2.9/5, mb1 3.0/6, mb1mx2.8/37, mbtmp3.4/6, Error ellipse: s-maj=32.8km s-min=20.2km az=80.0*

ISC 24 14:19:51.2±0.8, 21°.13N±0°.03×121°.95E±0°.07, h168km±6km, n100, σ1§44/163, mb3.1/5, 3C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.69**	**179**	*e*P	**Pn**	**14 20 14.8**	**-0.9**
BBP				*e*S	**Sn**	**14 20 32.1**	**-2.2**
LAY	**Lan-yu**	**0.98**	**338**	*e*P	**Pn**	**14 20 17.9**	**+0.3**
LAY	baz=340			*e*S	**Sn**	**14 20 37.5**	**-0.4**
TSEB	**Hengchuen, Pin**	**1.24**	**308**	P	**Pn**	**14 20 21.2**	**+1.5**
TSEB	baz=300			S	**Sn**	**14 20 42.2**	**+0.5**
TWKBT	**Hengchun**	**1.33**	**307**	P	**Pn**	**14 20 21.6**	**+1.0**
TWKBT	baz=303			*e*S	**Sn**	**14 20 42.6**	**-0.5**
TWK1	**Hengchun**	**1.34**	**307**	P	**Pn**	**14 20 21.6**	**+1.0**
TWK1	baz=303			S	**Sn**	**14 20 42.8**	**-0.5**
HEN	**Hengchun**	**1.42**	**308**	*e*P	**Pn**	**14 20 22.6**	**+1.2**
HEN	baz=298			S	**Sn**	**14 20 44.3**	**-0.4**
TAW	**Tawu**	**1.56**	**321**	*e*P	**Pn**	**14 20 22.9**	**+0.1**
TAW	baz=316			*e*S	**Sn**	**14 20 45.3**	**-1.9**
EAST	**Anshuo**	**1.61**	**321**	⇓P	**Pn**	**14 20 23.4**	**+0.1**
EAST	baz=321			S	**Sn**	**14 20 46.3**	**-1.9**
ECL	**Taimali**	**1.73**	**328**	*e*P	**Pn**	**14 20 24.3**	**-0.2**
ECL	baz=325			*e*S	**Sn**	**14 20 47.1**	**-3.1**
SCZT	**Fangliau**	**1.75**	**315**	*e*P	**Pn**	**14 20 25.2**	**+0.5**
SCZT	baz=319			S	**Sn**	**14 20 48.9**	**-1.7**
TTN	**Taitung**	**1.78**	**335**	*e*P	**Pn**	**14 20 25.8**	**+0.8**
TTN	baz=329			*e*S	**Sn**	**14 20 51.1**	**-0.1**
SSPT	**Xinbi**	**1.86**	**317**	*e*P	**Pn**	**14 20 26.7**	**+0.8**
SSPT	baz=319			*e*S	**Sn**	**14 20 51.1**	**-1.6**
TWGBT	**Beinan**	**1.86**	**334**	P	**Pn**	**14 20 25.5**	**-0.4**
TWGBT	baz=330			S	**Sn**	**14 20 50.6**	**-2.3**
TWG	**Pinlang**	**1.87**	**334**	P	**Pn**	**14 20 25.5**	**-0.5**
TWG	baz=330			S	**Sn**	**14 20 50.5**	**-2.5**
WLCH	**Liuqiu**	**1.90**	**310**	*e*P	**Pn**	**14 20 28.2**	**+1.9**
TWP	**Hsiaoliuchiu**	**1.91**	**310**	*e*P	**Pn**	**14 20 27.7**	**+1.3**
MASBT	**Mashibuluo**	**1.91**	**321**	⇓P	**Pn**	**14 20 26.9**	**+0.4**
MASBT	baz=323			*e*S	**Sn**	**14 20 51.6**	**-2.3**
SSD	**Sandimen**	**2.02**	**323**	⇑P	**Pn**	**14 20 28.0**	**+0.3**
SSD	baz=323			*e*S	**Sn**	**14 20 53.6**	**-2.3**
CHKT	**Chengkung**	**2.03**	**345**	*e*P	**Pn**	**14 20 28.2**	**+0.4**
CHKT	baz=349			*e*S	**Sn**	**14 20 55.3**	**-0.9**
SGLT	**Jiouru**	**2.08**	**320**	*e*P	**Pn**	**14 20 29.2**	**+0.8**
SGLT	baz=323			*e*S	**Sn**	**14 20 56.1**	**-1.1**
KAU	**Kaohsiung**	**2.09**	**313**	*e*P	**Pn**	**14 20 29.4**	**+0.9**
KAU	baz=306			*e*S	**Sn**	**14 20 57.4**	**0.0**
TWM1	**Shoushan**	**2.20**	**320**	*e*P	**Pn**	**14 20 31.0**	**+1.2**
SNJT	**Kaohsiung City**	**2.20**	**317**	*e*P	**Pn**	**14 20 32.0**	**+2.3**
SNJT	baz=310			*e*S	**Sn**	**14 20 59.6**	**0.0**
SLGT	**Liugui**	**2.21**	**327**	*e*P	**Pn**	**14 20 30.3**	**+0.4**
SLGT	baz=332			*e*S	**Sn**	**14 20 57.9**	**-2.0**
ELDTW	**Lidau**	**2.22**	**337**	P	**Pn**	**14 20 30.7**	**+0.6**
ELDTW	baz=338			*e*S	**Sn**	**14 20 58.3**	**-2.0**
TWF1	**Yuli**	**2.29**	**345**	*e*P	**Pn**	**14 20 30.9**	**+0.1**
TWF1	baz=337			*e*S	**Sn**	**14 20 59.5**	**-2.1**
STYT	**Tauyuan**	**2.30**	**332**	*e*P	**Pn**	**14 20 30.6**	**-0.4**
STYT	baz=332			S	**Sn**	**14 21 00.1**	**-1.8**
SGST	**Jiashian**	**2.32**	**327**	*e*P	**Pn**	**14 20 31.4**	**+0.3**
SGST	baz=327			*e*S	**Sn**	**14 21 00.6**	**-1.5**
YULB	**Yu-li**	**2.33**	**345**	*e*P	**Pn**	**14 20 31.1**	**-0.2**
YULB	baz=338			*e*S	**Sn**	**14 21 00.2**	**-2.2**
HGSD	**Ruisui**	**2.40**	**348**	*e*P	**Pn**	**14 20 32.8**	**+0.8**
HGSD	baz=352			*e*S	**Sn**	**14 21 02.8**	**-1.0**
CHN3	**Shinhua**	**2.43**	**323**	*e*P	**Pn**	**14 20 33.1**	**+0.7**
CHN3	baz=330			*e*S	**Sn**	**14 21 04.7**	**+0.4**
CHN1	**Nanshi**	**2.43**	**327**	P	**Pn**	**14 20 32.6**	**+0.1**
CHN1	baz=327			S	**Sn**	**14 21 02.8**	**-1.7**
EHY	**Hungye**	**2.43**	**346**	*e*P	**Pn**	**14 20 32.7**	**+0.2**
EHY	baz=340			*e*S	**Sn**	**14 21 02.4**	**-2.1**
WTP	**Ta-pu**	**2.44**	**330**	P	**Pn**	**14 20 32.7**	**+0.1**
WTP	baz=330			*e*S	**Sn**	**14 21 02.9**	**-1.9**
SNST	**Tainan City**	**2.48**	**327**	*e*P	**Pn**	**14 20 33.1**	**+0.1**
SNST	baz=327			*e*S	**Sn**	**14 21 03.4**	**-2.0**
TAI1	**Yung-k'ang**	**2.48**	**320**	*e*P	**Pn**	**14 20 33.9**	**+1.0**
TPUB	**Ta-pu**	**2.48**	**331**	⇑P	**Pn**	**14 20 33.1**	**+0.1**
TPUB	baz=331			*e*S	**Sn**	**14 21 03.1**	**-2.5**
YUS	**Yu-Shan**	**2.52**	**339**	*e*P	**Pn**	**14 20 34.3**	**+0.3**
YUS	baz=334			S	**Sn**	**14 21 06.5**	**-0.7**
CHN4	**Tsaushan**	**2.54**	**331**	⇑P	**Pn**	**14 20 33.8**	**+0.1**
CHN4	baz=331			*e*S	**Sn**	**14 21 04.9**	**-1.9**
EGFH	**Guangfu**	**2.57**	**349**	*e*P	**Pn**	**14 20 34.7**	**+0.6**
EGFH	baz=343			*e*S	**Sn**	**14 21 05.6**	**-1.8**
SCLT	**Jiali**	**2.60**	**322**	*e*P	**Pn**	**14 20 34.8**	**+0.3**
SCLT	baz=328			*e*S	**Sn**	**14 21 07.2**	**-0.9**
ESL	**Shilin**	**2.71**	**350**	*e*P	**Pn**	**14 20 35.9**	**+0.1**
ESL	baz=351			*e*S	**Sn**	**14 21 07.7**	**-2.8**
VWDT	**VWDT**	**2.71**	**344**	*e*P	**Pn**	**14 20 36.8**	**+1.0**
VWDT	baz=348			*e*S	**Sn**	**14 21 09.3**	**-1.2**
CHN5	**Tsauling**	**2.72**	**335**	*e*P	**Pn**	**14 20 35.9**	**-0.1**
CHN5	baz=335			*e*S	**Sn**	**14 21 08.8**	**-2.1**
CHN8	**Yiju**	**2.73**	**324**	*e*P	**Pn**	**14 20 36.1**	**+0.2**
CHN8	baz=330			*e*S	**Sn**	**14 21 09.2**	**-1.6**
CHY	**Chiayi**	**2.75**	**329**	*e*P	**Pn**	**14 20 35.9**	**-0.3**
CHY	baz=330			*e*S	**Sn**	**14 21 08.4**	**-2.7**
WHYT	**Xinyi Township**	**2.75**	**339**	*e*P	**Pn**	**14 20 36.2**	**-0.1**
WHYT	baz=332			*e*S	**Sn**	**14 21 09.4**	**-1.8**
CHN2	**Minshiung**	**2.75**	**331**	*e*P	**Pn**	**14 20 36.5**	**+0.2**
ENLB	**Shoufeng**	**2.78**	**353**	*e*P	**Pn**	**14 20 36.9**	**+0.3**
WLGB	**Puzi**	**2.79**	**327**	*e*P	**Pn**	**14 20 36.6**	**-0.1**
WLGB	baz=327			*e*S	**Sn**	**14 21 10.1**	**-2.0**
SSLB	**Suanglung**	**2.80**	**341**	*e*P	**Pn**	**14 20 36.6**	**-0.3**
SSLB	baz=334			*e*S	**Sn**	**14 21 09.6**	**-2.8**
WGK	**Gukeng**	**2.85**	**333**	*e*P	**Pn**	**14 20 37.0**	**-0.4**
WGK	baz=334			*e*S	**Sn**	**14 21 11.3**	**-2.1**
WDLH	**Douliu**	**2.86**	**333**	*e*P	**Pn**	**14 20 36.7**	**-0.9**
WDLH	baz=333			*e*S	**Sn**	**14 21 11.5**	**-2.2**
OWD	**Renai**	**2.90**	**346**	*e*P	**Pn**	**14 20 39.0**	**+0.7**
SMLT	**Sun Moon Lake**	**2.91**	**341**	*e*P	**Pn**	**14 20 38.1**	**-0.2**
SMLT	baz=335			*e*S	**Sn**	**14 21 12.2**	**-2.7**
TYC	**Yuchr**	**2.94**	**340**	*e*P	**Pn**	**14 20 38.6**	**+0.1**
TYC	baz=335			*e*S	**Sn**	**14 21 12.1**	**-3.3**
TWD	**Chiawan**	**2.95**	**354**	*e*P	**Pn**	**14 20 38.9**	**+0.2**
WSF	**Szhu**	**2.96**	**328**	*e*P	**Pn**	**14 20 38.4**	**-0.4**
WSF	baz=328			*e*S	**Sn**	**14 21 12.9**	**-3.0**
WNT	**Mingjian**	**2.97**	**337**	*e*P	**Pn**	**14 20 39.0**	**+0.1**
WNT	baz=338			*e*S	**Sn**	**14 21 13.6**	**-2.6**
WDGT	**Dungji**	**3.00**	**315**	*e*P	**Pn**	**14 20 39.0**	**-0.3**
WDGT	baz=315			*e*S	**Sn**	**14 21 13.7**	**-2.9**
CHGB	**Renai**	**3.00**	**346**	*e*P	**Pn**	**14 20 40.2**	**+0.7**
CHGB	baz=347			*e*S	**Sn**	**14 21 15.0**	**-2.1**
NACB	**Ninganchiao**	**3.04**	**354**	*e*P	**Pn**	**14 20 40.3**	**+0.4**
WHF	**Hehuan Shan**	**3.06**	**348**	P	**Pn**	**14 20 41.2**	**+0.6**
WHF	baz=355			*e*S	**Sn**	**14 21 17.3**	**-1.6**
ETLH	**Xiulin Townshi**	**3.09**	**352**	*e*P	**Pn**	**14 20 40.7**	**+0.1**
ETLH	baz=348			*e*S	**Sn**	**14 21 16.8**	**-2.2**
RLNB	**Erlin**	**3.12**	**332**	*e*P	**Pn**	**14 20 40.8**	**+0.1**
VCHM	**Qimei**	**3.12**	**312**	P	**Pn**	**14 20 40.6**	**-0.2**
VCHM	baz=311			*e*S	**Sn**	**14 21 17.3**	**-2.1**
WCHH	**Zhanghua**	**3.20**	**337**	*e*P	**Pn**	**14 20 42.0**	**+0.1**
TCU	**Taichung**	**3.22**	**339**	*e*P	**Pn**	**14 20 42.4**	**+0.3**
PHUB	**P'eng-hu**	**3.23**	**318**	*e*P	**Pn**	**14 20 41.9**	**-0.3**
PHUB	baz=323			*e*S	**Sn**	**14 21 18.5**	**-3.4**
WHP	**Taichung City**	**3.27**	**344**	*e*P	**Pn**	**14 20 43.0**	**+0.3**
WHP	baz=338			*e*S	**Sn**	**14 21 21.5**	**-1.4**
PNG	**Penghu**	**3.28**	**318**	P	**Pn**	**14 20 42.5**	**-0.3**
PNG	baz=323			*e*S	**Sn**	**14 21 19.8**	**-3.2**
APYP	**Conner**	**3.32**	**192**	*e*P	**Pn**	**14 20 43.2**	**-0.2**
APYP				*e*S	**Sn**	**14 21 21.6**	**-2.3**
NNSB	**Datong**	**3.32**	**351**	*e*P	**Pn**	**14 20 43.9**	**+0.4**
NNS	**Nan Shan**	**3.33**	**351**	*e*P	**Pn**	**14 20 44.5**	**+0.9**
TWQ1	**Liyutan**	**3.38**	**341**	*e*P	**Pn**	**14 20 43.9**	**-0.1**
TWQ1	baz=342			*e*S	**Sn**	**14 21 24.0**	**-1.3**
EOS1	**EOS1**	**3.41**	**3**	*e*P	**Pn**	**14 20 45.3**	**+1.0**
CVP	**Callao Caves**	**3.41**	**182**	*e*P	**Pn**	**14 20 43.3**	**-1.2**
NSY	**Sanyi**	**3.45**	**342**	*e*P	**Pn**	**14 20 44.8**	**-0.2**
NDT	**Datong Townshi**	**3.48**	**353**	*e*P	**Pn**	**14 20 46.1**	**+0.8**
PTSB	**Yuanli**	**3.49**	**341**	*e*P	**Pn**	**14 20 44.6**	**-0.8**
ENTT	**Nioudou**	**3.51**	**354**	*e*P	**Pn**	**14 20 46.7**	**+1.0**
YHNB	**Yeheng**	**3.56**	**352**	*e*P	**Pn**	**14 20 47.7**	**+1.2**
TWE	**Neicheng**	**3.58**	**356**	*e*P	**Pn**	**14 20 47.9**	**+1.3**
LIOB	**Emei**	**3.60**	**346**	*e*P	**Pn**	**14 20 46.7**	**-0.2**
NWLT	**Wulai**	**3.65**	**354**	*e*P	**Pn**	**14 20 48.2**	**+0.6**
NWLT	baz=347			*e*S	**Sn**	**14 21 28.8**	**-2.7**
ABRA	**Dolores**	**3.66**	**199**	*e*P	**Pn**	**14 20 47.4**	**-0.3**
TIPB	**Shuangxi**	**3.82**	**358**	*e*P	**Pn**	**14 20 50.8**	**+1.1**
PALP	**Palanan**	**4.07**	**174**	*e*P	**Pn**	**14 20 55.6**	**+2.6**
CAUP	**Cauayan**	**4.17**	**182**	*e*P	**Pn**	**14 20 55.8**	**+1.6**
VWUC	**VWUC**	**4.48**	**330**	P	**Pn**	**14 20 58.1**	**0.0**
KNMB	**Chin-men Tao**	**4.67**	**316**	*e*P	**Pn**	**14 21 00.5**	**-0.1**
SMPP	**San Manuel, Pa**	**5.10**	**194**	*e*P	**Pn**	**14 21 06.4**	**+0.1**
MATB	**Ma-tsu**	**5.32**	**340**	P	**Pn**	**14 21 08.4**	**-0.7**
MATB	baz=340			*e*S	**Sn**	**14 22 05.5**	**-4.9**
BALP	**Baler**	**5.37**	**184**	*e*P	**Pn**	**14 21 09.5**	**-0.5**
KSRS	**Korea Array**	**17.07**	**16**	P	**Pn**	**14 23 41.1**	**+1.2**
	0.1nm,0.3s,baz=196,slow=11,SNR=3.4						
CMAR	**Chiang Mai Arr**	**21.81**	**267**	P	**P**	**14 24 31.7**	**+1.4**
	0.6nm,0.6s,baz=74,slow=7.6,SNR=3.8						
SONM	**Songino Array**	**29.45**	**338**	P	**P**	**14 25 39.9**	**+0.6**
	0.3nm,0.7s,baz=151,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**41.04**	**318**	P	**P**	**14 27 18.9**	**+0.8**
	0.2nm,0.4s,baz=111,slow=7.9,SNR=3.5						
ASAR	**Alice Springs**	**46.02**	**165**	P	**P**	**14 27 57.8**	**-0.4**
	0.3nm,0.7s,baz=341,slow=7.2,SNR=2.7						
YKA	**Yellowknife Ar**	**85.50**	**23**	P	**P**	**14 32 10.3**	**+0.4**
	0.5nm,0.7s,baz=309,slow=4.6,SNR=6.1						

*ISCJB **24** 14:22:20.4±0.4, 27°.75N±0°.05×127°.87E±0°.08, h133km±5km, mb3.6/8, Error ellipse: s-maj=13.8km s-min=5.5km az=32.6*
*JMA **24** 14:22:21.7±0.1, 27°.83N×127°.82E, h115km±3km, M3.8*
*IDC **24** 14:22:22.7±3.0, 27°.80N×127°.89E, h141km±29km, mb3.5/8, mb1 3.5/10, mb1mx3.2/39, mbtmp3.9/10, Error ellipse: s-maj=30.8km s-min=15.7km az=68.0*

ISC 24 14:22:21.3±0.7, 27°.76N±0°.06×127°.86E±0°.07, h127km±7km, n24, σ0§82/36, mb3.7/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.73**	**172**	P	**Pn**	**14 22 41.8**	**+0.2**
JIH				S	**Sn**	**14 22 56.7**	**-0.2**
JOKE	**Okinoerabujima**	**0.75**	**122**	P	**Pn**	**14 22 41.7**	**0.0**
JYRO	**Yoronjima**	**0.91**	**144**	P	**Pn**	**14 22 43.2**	**+0.2**
JYRO				S	**Sn**	**14 22 58.8**	**-0.7**
JTK	**Tokunoshima**	**0.97**	**88**	P	**Pn**	**14 22 43.5**	**-0.1**
JTK				S	**Sn**	**14 22 59.7**	**-0.8**
JOW	**Kunigami**	**1.00**	**158**	P	**Pn**	**14 22 44.3**	**+0.4**
JOW				*e*S	**Sn**	**14 23 00.4**	**-0.7**
JNTH	**Nagotoyohara**	**1.25**	**173**	P	**Pn**	**14 22 47.0**	**+0.6**
JNTH				S	**Sn**	**14 23 05.5**	**0.0**
JAMN	**Amaminishikomi**	**1.26**	**67**	P	**Pn**	**14 22 46.2**	**-0.3**
JAGN	**Aguni-jima**	**1.29**	**205**	P	**Pn**	**14 22 47.1**	**+0.3**
JAGN				*e*S	**Sn**	**14 23 06.0**	**-0.3**
JJT3	**Tamagusuku3**	**1.61**	**182**	P	**Pn**	**14 22 51.8**	**+1.3**
JJT3				*e*S	**Sn**	**14 23 13.9**	**+1.2**
JAM	**Amami Oshima**	**1.68**	**67**	P	**Pn**	**14 22 51.0**	**-0.1**
JAM				*e*S	**Sn**	**14 23 13.9**	**0.0**
JKE	**Kume jima 2**	**1.72**	**214**	P	**Pn**	**14 22 51.8**	**+0.1**
JTAJ	**Takarajima**	**1.82**	**40**	P	**Pn**	**14 22 52.7**	**-0.2**
JZK	**Kikaishima**	**1.95**	**73**	P	**Pn**	**14 22 55.2**	**+0.8**
JZK				S	**Sn**	**14 23 21.4**	**+1.6**
JNN	**Nakanoshima**	**2.73**	**40**	P	**Pn**	**14 23 04.6**	**+0.4**
JNU	**Nakatsue**	**5.94**	**25**	P	**Pn**	**14 23 48.5**	**+1.5**
	1.4nm,0.3s,baz=269,slow=3.3,SNR=10						
JNU				S	**Sn**	**14 24 53.7**	**-0.2**
	0.2nm,0.3s,baz=29,slow=19,SNR=2.6						
KSRS	**Korea Array**	**9.66**	**0**	P	**Pn**	**14 24 38.1**	**+1.2**
	0.1nm,0.3s,baz=183,slow=13,SNR=7.0						
SONM	**Songino Array**	**26.09**	**326**	P	**P**	**14 27 44.4**	**+1.3**
	3.2nm,0.6s,baz=139,slow=11,SNR=18						
MKAR	**Makanchi Array**	**40.27**	**311**	P	**P**	**14 29 44.8**	**-1.0**
	0.4nm,0.5s,baz=99,slow=9.9,SNR=5.2						
MKAR				pP	**pP**	**14 30 14.4**	**+0.5**
	0.3nm,0.5s,baz=98,slow=8.9,SNR=2.8						
MKAR				PcP	**PcP**	**14 31 46.5**	**-0.5**
	0.4nm,0.4s,baz=77,slow=2.6,SNR=4.7						
KURBB	**Kurchatov Arra**	**43.52**	**315**	P	**P**	**14 30 11.8**	**-0.3**
	0.7nm,0.4s,baz=101,slow=9.0,SNR=2.8						
ASAR	**Alice Springs**	**51.46**	**173**	P	**P**	**14 31 14.6**	**+0.9**
	0.5nm,0.5s,baz=1.2,slow=13,SNR=15						
STKA	**Stephens Creek**	**60.74**	**167**	P	**P**	**14 32 18.2**	**-1.2**
	1.4nm,0.6s,baz=346,slow=9.0,SNR=5.1						
FINES	**FINESS Array B**	**71.37**	**330**	P	**P**	**14 33 25.2**	**-1.8**
	0.5nm,0.3s,baz=48,slow=5.2,SNR=6.7						
BRTR	**Keskin Array B**	**75.83**	**308**	P	**P**	**14 33 54.3**	**+0.5**
	0.6nm,0.7s,baz=85,slow=4.3,SNR=3.4						
YKA	**Yellowknife Ar**	**77.28**	**25**	P	**P**	**14 34 01.7**	**+0.4**
	0.7nm,0.5s,baz=298,slow=5.6,SNR=8.3						

IDC 24 14:33:12.1±1.8, 54°.47N×153°.66E, h626km±26km, mb2.6/3, mb1 2.7/6, mb1mx2.3/34, mbtmp3.6/6, Error ellipse: s-maj=58.3km s-min=41.1km az=86.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**2.76**	**118**	P	P	14 34 32.1	0.0
	0.6nm,0.3s,baz=300,slow=5.5,SNR=19						
MA2	**Magadan**	**5.36**	**344**	P	P	14 34 48.8	-0.3
	0.5nm,0.3s,baz=136,slow=9.7,SNR=7.1						
SEY	**Seymchan**	**8.52**	**356**	P	P	14 35 16.8	+0.1
	0.5nm,0.3s,baz=180,slow=10,SNR=16						
MKAR	**Makanchi Array**	**44.10**	**291**	P	P	14 40 26.6	+0.1
	0.3nm,0.4s,baz=55,slow=6.5,SNR=4.2						
ARCES	**ARCESS Array B**	**50.71**	**339**	P	P	14 41 15.4	+0.1
	1.2nm,1.0s,baz=45,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**57.25**	**333**	P	P	14 42 00.9	-0.1
	0.3nm,0.4s,baz=39,slow=9.1,SNR=3.6						

*KRSC **24** 14:33:21.5±10.0, 53°.92N×153°.82E, h657km±10km, ML4.6*
*ISCJB **24** 14:33:23.6±0.2, 54°.02N±0°.04×153°.73E±0°.04, h650km, mb4.1/61, Error ellipse: s-maj=4.7km s-min=3.0km az=1.0*
*MOS **24** 14:33:23.4±0.8, 54°.11N×153°.46E, h632km, mb4.2/22, Error ellipse: s-maj=9.0km s-min=7.2km az=100.3*
*NEIC **24** 14:33:24.6±0.3, 54°.11N×153°.50E, h625km±4km, mb4.1/24, Error ellipse: s-maj=11.1km s-min=4.3km az=167.0*
*IDC **24** 14:33:25.3±0.8, 54°.16N×153°.45E, h637km±10km, mb3.3/23, mb1 3.5/28, mb1mx3.4/37, mbtmp4.3/28, Error ellipse: s-maj=11.4km s-min=7.6km az=150.0*

ISC 24 14:33:24.9±0.4, 54°.03N±0°.06×153°.71E±0°.05, h650km, n209, σ2§16/255, mb4.0/61, 8C-3D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.34**	**117**	P	**P**	**14 34 43.2**	**-1.8**
APC				S	**S**	**14 35 48.4**	**-2.0**
APC	**Apacha**	**2.34**	**117**	P	**P**	**14 34 43.2**	**-1.8**
APC				S	**S**	**14 35 48.4**	**-2.0**
PEA0B	**Petropavlovsk-**	**2.55**	**110**	*e*P	**P**	**14 34 44.2**	**-1.7**
PETK	**Petropavlovsk-**	**2.55**	**110**	P	**P**	**14 34 44.1**	**-1.8**
	13nm,0.3s,baz=358,slow=2.2,SNR=180						
KRMR	**Karymshinskiy**	**2.91**	**113**	P	**P**	**14 34 45.6**	**-2.0**
KRMR				S	**S**	**14 35 52.2**	**-3.0**
KRMR	**Karymshinskiy**	**2.91**	**113**	P	**P**	**14 34 45.6**	**-2.0**
KRMR				S	**S**	**14 35 52.2**	**-3.0**
ASAK	**Asacha**	**3.01**	**121**	P	**P**	**14 34 46.6**	**-1.7**
ASAK	**Asacha**	**3.01**	**121**	P	**P**	**14 34 46.6**	**-1.7**
KRX	**Arik**	**3.01**	**101**	P	**P**	**14 34 46.8**	**-1.5**
KRX	**Arik**	**3.01**	**101**	P	**P**	**14 34 46.8**	**-1.5**
KOK	**Koryaka**	**3.02**	**102**	P	**P**	**14 34 46.9**	**-1.4**
KOK	**Koryaka**	**3.02**	**102**	P	**P**	**14 34 46.9**	**-1.4**
KRER	**Koryakskii**	**3.09**	**102**	P	**P**	**14 34 47.2**	**-1.6**
KRER				S	**S**	**14 35 55.1**	**-2.3**
KRER	**Koryakskii**	**3.09**	**102**	P	**P**	**14 34 47.2**	**-1.6**
KRER				S	**S**	**14 35 55.1**	**-2.3**
AVH	**Avacha**	**3.09**	**102**	P	**P**	**14 34 47.3**	**-1.4**
AVH	**Avacha**	**3.09**	**102**	P	**P**	**14 34 47.3**	**-1.4**
MTVR	**Mutnovka**	**3.10**	**118**	P	**P**	**14 34 47.2**	**-1.7**
MTVR				S	**S**	**14 35 56.1**	**-1.3**
MTVR	**Mutnovka**	**3.10**	**118**	P	**P**	**14 34 47.2**	**-1.7**
MTVR				S	**S**	**14 35 56.1**	**-1.3**
PET	**Petropavlovsk**	**3.12**	**107**	*e*P	**P**	**14 34 46.6**	**-2.1**
PET	**Petropavlovsk**	**3.12**	**107**	P	**P**	**14 34 46.7**	**-2.0**
PET				S	**S**	**14 35 53.4**	**-3.8**
SMAR	**Somma**	**3.13**	**102**	P	**P**	**14 34 47.5**	**-1.5**
SMAR	**Somma**	**3.13**	**102**	P	**P**	**14 34 47.5**	**-1.5**
UGLR	**Uglovaya**	**3.16**	**103**	P	**P**	**14 34 47.6**	**-1.5**
UGLR	**Uglovaya**	**3.16**	**103**	P	**P**	**14 34 47.6**	**-1.5**
SDLR	**Sedlovina**	**3.17**	**102**	P	**P**	**14 34 47.0**	**-2.1**
SDLR	**Sedlovina**	**3.17**	**102**	P	**P**	**14 34 47.0**	**-2.1**
DALK	**Dalny**	**3.17**	**106**	P	**P**	**14 34 47.1**	**-1.9**
DALK				S	**S**	**14 35 54.5**	**-3.3**
DALK	**Dalny**	**3.17**	**106**	P	**P**	**14 34 47.1**	**-1.9**
DALK				S	**S**	**14 35 54.5**	**-3.3**
PAU	**Pauzhetka**	**3.19**	**142**	P	**P**	**14 34 47.3**	**-1.8**
PAU	**Pauzhetka**	**3.19**	**142**	P	**P**	**14 34 47.3**	**-1.8**
RUS	**Russkaya**	**3.30**	**117**	P	**P**	**14 34 47.2**	**-2.5**
RUS				S	**S**	**14 35 54.9**	**-4.1**
RUS	**Russkaya**	**3.30**	**117**	P	**P**	**14 34 47.2**	**-2.5**
RUS				S	**S**	**14 35 54.9**	**-4.1**
ESO	**Esso**	**3.45**	**55**	P	**P**	**14 34 49.6**	**-0.8**
ESO				S	**S**	**14 35 58.3**	**-2.4**
ESO	**Esso**	**3.45**	**55**	P	**P**	**14 34 49.6**	**-0.8**

ESO				S	S	14 35 58.3	-2.4
KDTR	**Khodutka, Kamc**	**3.46**	**128**	P	P	14 34 47.3	-3.3
KDTR				S	S	14 35 53.2	-7.4
KDTR	**Khodutka, Kamc**	**3.46**	**128**	P	P	14 34 47.3	-3.3
KDTR				S	S	14 35 53.2	-7.4
NLC	**Nalytchevo**	**3.47**	**102**	P	P	14 34 48.4	-2.2
NLC				S	S	14 35 57.1	-3.6
NLC	**Nalytchevo**	**3.47**	**102**	P	P	14 34 48.4	-2.2
NLC				S	S	14 35 57.1	-3.6
SKR	**Severo-Kuril's**	**3.66**	**155**	P	P	14 34 49.3	-2.6
SKR				S	S	14 35 58.2	-4.7
SKR	**Severo-Kuril's**	**3.66**	**155**	*e*P	P	14 34 49.4	-2.5
SKR				*e*S	S	14 36 01.4	-1.5
SKR				pmax	pmax		
	comp=Z,50nm,0.4s						
SKR				smax	smax		
	comp=N,73nm,0.7s						
SKR				smax	smax		
	comp=E,52nm,0.6s						
SPN	**Mys Shipunski**	**3.88**	**101**	P	P	14 34 50.5	-2.6
SPN				S	S	14 35 59.6	-5.7
SPN	**Mys Shipunski**	**3.88**	**101**	P	P	14 34 50.5	-2.6
SPN				S	S	14 35 59.6	-5.7
TUMR	**Tumrok**	**3.94**	**69**	P	P	14 34 52.6	-1.0
KZV	**Kizimen**	**3.98**	**72**	P	P	14 34 52.0	-1.9
KZV				S	S	14 36 03.7	-3.2
KZV	**Kizimen**	**3.98**	**72**	P	P	14 34 52.0	-1.9
KZV				S	S	14 36 03.7	-3.2
TUMD	**Tumrok D**	**4.06**	**70**	P	P	14 34 52.6	-1.7
KOZ	**Kozyrevsk**	**4.09**	**58**	P	P	14 34 53.3	-1.1
KOZ	**Kozyrevsk**	**4.09**	**58**	P	P	14 34 53.3	-1.1
SRDR	**Sredinnyy**	**4.14**	**54**	P	P	14 34 53.6	-1.1
SRDR				S	S	14 36 06.6	-1.9
SRDR	**Sredinnyy**	**4.14**	**54**	P	P	14 34 53.6	-1.1
SRDR				S	S	14 36 06.6	-1.9
KRSR	**Krestovskiy**	**4.51**	**58**	P	P	14 34 55.5	-1.8
KRSR	**Krestovskiy**	**4.51**	**58**	P	P	14 34 55.5	-1.8
LGNR	**Loginova**	**4.51**	**60**	P	P	14 34 56.5	-1.1
LGNR	**Loginova**	**4.51**	**60**	P	P	14 34 56.5	-1.1
KLY	**Klyuchi**	**4.59**	**57**	P	P	14 34 56.6	-1.1
KLY				S	S	14 36 12.4	-1.5
KLY	**Klyuchi**	**4.59**	**57**	P	P	14 34 56.6	-1.1
KLY				S	S	14 36 12.4	-1.5
MKZ	**Mys Kozlova**	**4.73**	**80**	P	P	14 34 55.2	-3.5
MKZ				S	S	14 36 08.5	-7.2
MKZ	**Mys Kozlova**	**4.73**	**80**	P	P	14 34 55.2	-3.5
MKZ				S	S	14 36 08.5	-7.2
BDR	**Baidarnaya**	**4.98**	**56**	P	P	14 34 59.8	-0.9
BDR	**Baidarnaya**	**4.98**	**56**	P	P	14 34 59.8	-0.9
SRKR	**Sorokina**	**5.00**	**55**	P	P	14 34 59.2	-1.6
SRKR	**Sorokina**	**5.00**	**55**	P	P	14 34 59.2	-1.6
SMKR	**Semkarok**	**5.12**	**57**	P	P	14 35 00.6	-1.1
SMKR	**Semkarok**	**5.12**	**57**	P	P	14 35 00.6	-1.1
KBG	**Krutoberegovo**	**5.62**	**63**	P	P	14 35 02.5	-2.9
KBG				S	S	14 36 21.6	-6.3
KBG	**Krutoberegovo**	**5.62**	**63**	P	P	14 35 02.5	-2.9
KBG				S	S	14 36 21.6	-6.3
KBTR	**Krutoberegovo**	**5.67**	**64**	P	P	14 35 02.9	-2.9
KBTR				S	S	14 36 21.7	-6.9
KBTR	**Krutoberegovo**	**5.67**	**64**	P	P	14 35 02.9	-2.9
KBTR				S	S	14 36 21.7	-6.9
MA2	**Magadan**	**5.79**	**345**	*e*P	P	14 35 05.2	-1.5
MA2	**Magadan**	**5.79**	**345**	*ce*P	P	14 35 05.2	-1.5
MA2				pmax	pmax		
	comp=Z,96nm,1.0s						
MA2	**Magadan**	**5.79**	**345**	P	P	14 35 04.9	-1.7
	comp=Z,7.2nm,0.3s,baz=147,slow=8.3,SNR=73						
MA2				S	S	14 36 27.5	-2.8
	baz=202,slow=21,SNR=4.0						
BKI	**Bering**	**7.22**	**76**	P	P	14 35 19.5	+0.7
BKI				S	S	14 36 54.3	+2.1
BKI	**Bering**	**7.22**	**76**	P	P	14 35 19.5	+0.7
BKI				S	S	14 36 54.3	+2.1
OSSR	**Ossora**	**7.34**	**41**	P	P	14 35 19.6	-0.1
OSSR	**Ossora**	**7.34**	**41**	P	P	14 35 19.6	-0.1
SEY	**Seymchan**	**8.96**	**356**	*d*P	P	14 35 33.6	-0.8
SEY	**Seymchan**	**8.96**	**356**	P	P	14 35 33.3	-1.1
	comp=Z,5.8nm,0.3s,baz=175,slow=10,SNR=131						
SEY				S	S	14 37 18.4	-2.4
	baz=163,slow=19,SNR=3.8						
YSS	**Yuzh-Sakhalins**	**9.93**	**229**	*e*P	P	14 35 44.3	+0.3
YSS				*e*S	S	14 37 38.3	+0.2
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMSK	**Kamenskaya**	**10.70**	**33**	P	P	14 35 51.1	+0.1
KMSK	**Kamenskaya**	**10.70**	**33**	P	P	14 35 51.1	+0.1
SMY	**Shemya**	**12.24**	**88**	*e*P	P	14 36 06.4	+0.9
SMY	**Shemya**	**12.24**	**88**	*e*P	P	14 36 06.4	+0.9
KLR	**Kul'dur**	**14.44**	**260**	⇑*i*P	P	14 36 26.1	+0.3
KLR	**Kul'dur**	**14.44**	**260**	P	P	14 36 26.2	+0.4
	comp=Z,2.2nm,0.3s,baz=72,slow=8.4,SNR=44						
YAK	**Yakutsk**	**14.96**	**312**	*e*P	P	14 36 29.1	-1.2
YAK				*e*S	S	14 38 59.4	-2.0
YAK				pmax	pmax		
	comp=Z,37nm,0.8s						
YAK				pmax	pmax		
	comp=E,21nm,0.8s						
YAK				smax	smax		
	comp=E,324nm,1.1s						
YAK				smax	smax		
	comp=N,155nm,0.9s						
BILL	**Bilibino**	**15.26**	**18**	*i*P	P	14 36 33.8	+0.8
BILL				pmax	pmax		
	comp=Z,1.0nm,1.4s						
USRK	**Ussuriysk Ar.**	**17.22**	**244**	*e*P	P	14 36 51.6	+0.3
USRK	**Ussuriysk Ar.**	**17.22**	**244**	P	P	14 36 50.4	-0.9
	comp=Z,0.4nm,0.3s,baz=57,slow=9.0,SNR=7.7						
MAT	**Matsushiro**	**20.53**	**218**	P	P	14 37 22.0	+0.8
MJAR	**Matsushiro Arr**	**20.53**	**218**	P	P	14 37 22.1	+0.9
	comp=Z,2.1nm,0.7s,baz=21,slow=7.6,SNR=6.7						
TIXI	**Tiksi**	**20.70**	**338**	⇑*i*P	P	14 37 22.3	+0.1
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TIXI	**Tiksi**	**20.70**	**338**	P	P	14 37 22.1	-0.1
	comp=Z,3.6nm,0.3s,baz=132,slow=9.1,SNR=28						
KSRS	**Korea Array**	**24.26**	**237**	P	P	14 37 55.5	+1.3
	comp=Z,5.9nm,0.5s,baz=36,slow=8.6,SNR=32						
KSAR	**Wonju Array Be**	**24.29**	**237**	*e*P	P	14 37 54.3	-0.1
KSAR	**Wonju Array Be**	**24.29**	**237**	*e*P	P	14 37 54.3	-0.1
JNU	**Nakatsue**	**26.44**	**227**	P	P	14 38 14.5	+1.1
	comp=Z,4.1nm,0.8s,baz=24,slow=2.8,SNR=5.7						
IMAR	**Indian Mountai**	**27.93**	**44**	*e*P	P	14 38 26.6	+0.8
SUA	**Susitna One**	**29.71**	**53**	*e*P	P	14 38 42.4	+1.1
	comp=Z,4.3nm,1.1s						
TLY	**Talaya**	**29.82**	**286**	*i*P	P	14 38 38.5	-3.7
TLY				pmax	pmax		
	comp=Z,18nm,1.0s						
SONM	**Songino Array**	**29.98**	**278**	P	P	14 38 44.5	+0.6
	comp=Z,1.6nm,0.3s,baz=66,slow=7.6,SNR=17						
SONM				PcP	PcP	14 41 24.2	+0.2
	comp=Z,1.0nm,0.6s,baz=44,slow=3.0,SNR=3.9						
WRH	**Wood River Hil**	**30.41**	**47**	*e*P	P	14 38 48.7	+1.6
	comp=Z,6.0nm,0.6s						
GHO	**Glory Hole Cre**	**30.50**	**52**	*e*P	P	14 38 49.7	+1.7
	comp=Z,4.1nm,0.8s						
ZAK	**Zakamensk**	**30.58**	**284**	*e*P	P	14 38 48.3	-0.6
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ILAR	**Eielson Array**	**30.89**	**46**	P	P	14 38 52.3	+1.3
	comp=Z,1.3nm,0.6s,baz=263,slow=11,SNR=26						
ILAR				ScP	ScP	14 44 08.8	+0.5
	comp=Z,0.6nm,0.8s,baz=274,slow=3.8,SNR=4.7						
ILB	**Eielson Array**	**30.89**	**46**	*e*P	P	14 38 51.9	+0.8
	comp=Z,1.9nm,0.5s						
HHC	**Hu-ho-hao-te**	**30.91**	**262**	*e*P	P	14 38 52.8	+1.0
MOY	**Mondy**	**31.32**	**288**	*e*P	P	14 38 55.8	+0.7
DOT	**Dot Lake**	**32.30**	**48**	*e*P	P	14 39 03.5	+0.4
	comp=Z,2.1nm,0.6s						
BCAR	**Beaver Creek A**	**33.44**	**48**	*e*P	P	14 39 14.3	+1.8
INK	**Inuvik**	**35.46**	**38**	P	P	14 39 30.5	+1.4
	comp=Z,1.2nm,0.4s,baz=287,slow=5.9,SNR=14						
INK				ScP	ScP	14 44 25.8	+1.4
	comp=Z,0.8nm,0.8s,baz=278,slow=5.0,SNR=4.1						
WHN	**Wuhan**	**36.69**	**246**	P	P	14 39 30.3	-9.4
LZH	**Lanzhou**	**38.60**	**263**	⇓P	P	14 39 55.9	+0.7
LZH				pP	pP	14 41 40.5	-0.9
LZH				PP	PP	14 41 43.1	-0.5
LZH				sP	sP	14 42 49.0	-6.0
GTA	**Gaotai**	**38.75**	**270**	*e*P	P	14 39 57.4	+1.1
ZAA0	**Zalesovo Array**	**39.02**	**299**	*e*P	P	14 39 57.8	-0.4
	comp=Z,2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**39.02**	**299**	P	P	14 39 56.7	-1.4
	comp=Z,2.6nm,0.4s,baz=57,slow=6.7,SNR=11						
ZALV				PcP	PcP	14 41 50.2	-0.4
	comp=Z,0.7nm,0.5s,baz=72,slow=4.8,SNR=3.7						
NVS	**Novosibirsk**	**39.40**	**301**	⇑*i*P	P	14 40 01.3	+0.2
NVS				pmax	pmax		
	comp=Z,17nm,0.7s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,11nm,0.8s						
ENH	**Enshi**	**39.58**	**251**	*e*P	P	14 40 03.3	+0.3
	comp=E,20nm,0.4s						
DGZ	**Jazzator, Alta**	**39.81**	**292**	*c i*P	P	14 40 05.6	+1.0
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WMQ	**Urumqi**	**43.05**	**284**	*e*P	P	14 40 31.4	+1.4
KURK	**Kurchatov**	**43.96**	**298**	*e*P	P	14 40 36.8	+0.1
	comp=Z,17nm,0.5s						
KURK	**Kurchatov**	**43.96**	**298**	*ce*P	P	14 40 36.8	+0.1
KURK				pmax	pmax		
	comp=Z,13nm,0.6s						
MK31	**Makanchi Array**	**44.29**	**291**	P	P	14 40 38.5	-0.8
MK31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR	**Makanchi Array**	**44.29**	**291**	P	P	14 40 39.4	0.0
	comp=Z,6.3nm,0.4s,baz=57,slow=6.5,SNR=87						
MAKZ	**Makanchi**	**44.45**	**291**	*e*P	P	14 40 40.4	-0.2
	comp=Z,10nm,0.4s						
MAKZ	**Makanchi**	**44.45**	**291**	*e*P	P	14 40 40.4	-0.2
MAKZ				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YKA	**Yellowknife Ar**	**45.00**	**41**	P	P	14 40 45.6	+1.1
	comp=Z,0.6nm,0.4s,baz=304,slow=7.0,SNR=7.4						
BRVK	**Borovoye**	**46.80**	**305**	⇑*i*P	P	14 40 58.1	0.0
BRVK				pmax	pmax		
	comp=Z,12nm,0.7s						
SVE	**Sverdlovsk**	**48.92**	**313**	*e*P	P	14 41 14.3	+0.6
ARU	**Arti**	**50.06**	**314**	*d i*P	P	14 41 21.4	-0.6
ARU						14 42 27.2	
ARU				S	S	14 47 46.7	0.0
ARU				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TKM2	**Tokmak 2**	**50.42**	**291**	P	P	14 41 25.7	+0.6
	SNR=5.2						
ULHL	**Ulahol**	**50.51**	**290**	P	P	14 41 26.7	+0.9
	SNR=6.1						
USP	**Ospenovka**	**50.79**	**292**	P	P	14 41 28.5	+0.9
	SNR=7.2						
ARCES	**ARCESS Array B**	**51.13**	**339**	P	P	14 41 29.4	-0.2
	comp=Z,2.6nm,0.5s,baz=36,slow=7.8,SNR=31						
AAK	**Ala-Archa**	**51.22**	**292**	P	P	14 41 31.6	+0.7
	SNR=8.5						
AAK	**Ala-Archa**	**51.22**	**292**	*e*P	P	14 41 31.4	+0.6
	comp=Z,8.2nm,0.5s						
AAK	**Ala-Archa**	**51.22**	**292**	*ce*P	P	14 41 31.5	+0.7
AAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PRGR	**Permogore**	**51.54**	**325**	*e*P	P	14 41 31.8	-0.7
PRGR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
EKS2	**Erkin-Say**	**51.59**	**292**	P	P	14 41 34.2	+0.8
	SNR=9.9						
AML	**Almayashu**	**51.99**	**292**	P	P	14 41 37.3	+0.6
	SNR=5.7						
KK31	**Karatay Array**	**53.06**	**295**	*e*P	P	14 41 43.9	+0.2
	comp=Z,6.4nm,0.8s						
KK31	**Karatay Array**	**53.06**	**295**	*e*P	P	14 41 43.9	+0.2
KK31				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KKAR	**Karatay Array**	**53.06**	**295**	*e*P	P	14 41 43.7	0.0
KKAR	**Karatay Array**	**53.06**	**295**	*e*P	P	14 41 43.7	0.0
NANT	**Nan**	**53.49**	**250**	P	P	14 41 45.4	-1.6
	comp=Z,28μm,0.7s,comp=Z,292μm						
PAYA	**Payao**	**53.51**	**251**	P	P	14 41 49.3	+2.2
	comp=Z,28μm,0.7s,comp=Z,292μm						
PHRA	**Phrae**	**54.00**	**251**	P	P	14 41 52.5	+2.0
KLMR	**Klimovskoe**	**54.15**	**327**	*e*P	P	14 41 50.1	-0.8
KLMR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AB31	**Akbulak array**	**54.23**	**306**	*i*P	P	14 41 51.3	-0.4
AB31				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ABKAR	**Akbulak array**	**54.23**	**306**	*e*P	P	14 41 51.4	-0.3
LAMP	**Lampang**	**54.31**	**251**	P	P	14 41 54.8	+2.1
CMMT	**Chiang Mai**	**54.46**	**252**	P	P	14 41 55.2	+1.4
	comp=Z,7.5nm,0.7s,comp=Z,299nm						
CHTO	**Chiang Mai**	**54.46**	**252**	*e*P	P	14 41 55.0	+1.2
	comp=Z,9.9nm,0.6s						
CHTO	**Chiang Mai**	**54.46**	**252**	*e*P	P	14 41 55.0	+1.2
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**54.75**	**252**	*e*P	P	14 41 57.3	+1.5
CMAR	**Chiang Mai Arr**	**54.75**	**252**	P	P	14 41 57.4	+1.6
	comp=Z,5.5nm,0.6s,baz=24,slow=7.1,SNR=29						
ODAN	**Odare**	**54.93**	**268**	*e*P	P	14 41 57.7	+0.5
	comp=Z,15nm,0.5s						
JIRN	**Jiri**	**55.04**	**270**	*e*P	P	14 41 59.1	+0.9
	comp=Z,13nm,0.4s						
RAMN	**Ramite**	**55.33**	**269**	*e*P	P	14 42 00.6	+0.6
	comp=Z,66nm,0.4s						
KKN	**Kakani**	**55.48**	**271**	*e*P	P	14 42 01.8	+0.8
	comp=Z,22nm,0.4s						
PKI	**Pulchoki**	**55.57**	**270**	*e*P	P	14 42 02.1	+0.3
	comp=Z,18nm,0.5s						
PKIN	**Phulchoki**	**55.57**	**270**	*e*P	P	14 42 02.0	+0.3
	comp=Z,14nm,0.5s						
DMN	**Daman**	**55.72**	**271**	*e*P	P	14 42 03.3	+0.6
	comp=Z,17nm,0.5s						
DANN	**Dangsing**	**55.96**	**272**	*e*P	P	14 42 05.1	+0.7
	comp=Z,30nm,0.6s						
GAR	**Garm**	**56.02**	**291**	*e*P	P	14 42 04.7	+0.3
	comp=Z,27nm,0.5s						
GAR	**Garm**	**56.02**	**291**	*e*P	P	14 42 04.7	+0.3
GAR				pmax	pmax		
	comp=Z,27nm,0.5s						
KOLN	**Koldanda**	**56.49**	**272**	*e*P	P	14 42 08.3	+0.4
	comp=Z,21nm,0.5s						
PYUN	**Piuthan**	**56.60**	**273**	*e*P	P	14 42 09.2	+0.5
	comp=Z,17nm,0.3s						
CHGR	**Chuyangaron**	**56.90**	**291**	*e*P	P	14 42 13.0	+2.7
	comp=Z,18nm,0.8s						
BOZ	**Bozeman (W)**	**57.23**	**56**	*e*P	P	14 42 14.9	+2.3
	comp=Z,2.6nm,0.7s						
BOZ	**Bozeman (W)**	**57.23**	**56**	*e*P	P	14 42 14.9	+2.3
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**57.65**	**333**	P	P	14 42 14.7	-0.2
	comp=Z,2.8nm,0.4s,baz=36,slow=8.3,SNR=29						
YHH	**Holmes Hill**	**58.19**	**57**	*e*P	P	14 42 21.6	+2.4
	comp=Z,2.7nm,0.7s						
NIL	**Nilore**	**58.20**	**285**	*e*P	P	14 42 20.2	+1.1
	comp=Z,22nm,0.6s						
NIL	**Nilore**	**58.20**	**285**	*e*P	P	14 42 20.2	+1.1
NIL				pmax	pmax		
	comp=Z,22nm,0.6s						
KVN	**Kaiserville**	**58.59**	**66**	*e*P	P	14 42 24.4	+2.5
	comp=Z,3.4nm,0.9s						
KVN	**Kaiserville**	**58.59**	**66**	*e*P	P	14 42 24.4	+2.5
KVN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**58.93**	**66**	*e*P	P	14 42 26.5	+2.3
NVAR	**Mina Array Bea**	**58.93**	**66**	P	P	14 42 26.7	+2.5
	comp=Z,2.4nm,0.7s,baz=302,slow=6.6,SNR=17						
OBN	**Obninsk**	**59.59**	**324**	*i*P	P	14 42 26.2	-1.7
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBL	**Kabul**	**59.93**	**288**	*e*P	P	14 42 30.2	-0.6
	comp=Z,8.4nm,0.6s						
KBL	**Kabul**	**59.93**	**288**	*e*P	P	14 42 30.2	-0.6
KBL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BW06	**Boulder Array**	**60.31**	**57**	*e*P	P	14 42 35.1	+1.9
	comp=Z,2.2nm,1.0s						
PD31	**Pinedale Array**	**60.31**	**57**	*e*P	P	14 42 35.1	+1.9
	comp=Z,2.1nm,1.0s						
PDAR	**Pinedale Array**	**60.31**	**57**	P	P	14 42 35.0	+1.8
	comp=Z,1.2nm,0.4s,baz=358,slow=1.8,SNR=14						
NB2	**NORSAR Subarra**	**61.47**	**340**	P	P	14 42 39.8	-0.4
	comp=Z,1.4nm,0.5s,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**61.47**	**340**	P	P	14 42 40.1	-0.1
	comp=Z,3.4nm,0.7s,baz=24,slow=6.5,SNR=12						
RSSD	**Black Hills**	**61.97**	**53**	*e*P	P	14 42 45.5	+1.6
	comp=Z,4.1nm,0.7s						
RSSD	**Black Hills**	**61.97**	**53**	*e*P	P	14 42 45.5	+1.6
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GEYT	**Alibeck**	**63.33**	**298**	P	P	14 42 53.2	+0.7
	comp=Z,8.2nm,0.6s,baz=328,slow=2.3,SNR=16						
GYA0B	**ALIBECK ARRAY**	**63.33**	**298**	*e*P	P	14 42 53.4	+0.9
	comp=Z,11nm,0.7s						
AKASG	**Malin Array Be**	**65.75**	**325**	P	P	14 43 06.8	-0.6
	comp=Z,2.8nm,0.3s,baz=31,slow=6.4,SNR=7.2						
KIEV	**Kiev**	**65.76**	**325**	*i*P	P	14 43 05.8	-1.6
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIV	**Kislovodsk**	**66.07**	**312**	*e*P	P	14 43 15.7	+6.1
KIV				pmax	pmax		
	comp=Z,20nm,1.0s						
KBZ	**Khabaz**	**66.16**	**312**	P	P	14 43 10.6	+0.7
	comp=Z,4.4nm,0.8s,baz=74,slow=5.6,SNR=8.6						
BUR08	**Bucovina Ar. S**	**69.73**	**326**	*e*P	P	14 43 32.0	+0.4
	comp=Z,2.3nm,0.6s						
CLL	**Collm**	**70.00**	**335**	*i*P	P	14 43 32.3	-0.7
CLL				*i* *PP	pP	14 45 34.7	-6.7
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**70.00**	**335**	*i*P	P	14 43 32.3	-0.7
	comp=Z,5.0nm,0.8s						
BRG	**Berggiesshubel**	**70.16**	**334**	*e*P	P	14 43 33.0	-1.0
	comp=Z,5.1nm,1.2s						
BRG	**Berggiesshubel**	**70.16**	**334**	*e*P	P	14 43 33.0	-1.0
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
LANS	**Liptovska Anna**	**70.20**	**330**	*e*P	P	14 43 35.8	+1.6
LANS	**Liptovska Anna**	**70.20**	**330**	*e*P	P	14 43 35.8	+1.6
VYHS	**Vyhne**	**70.97**	**330**	*e*P	P	14 43 39.1	+0.4
VYHS	**Vyhne**	**70.97**	**330**	*e*P	P	14 43 39.1	+0.4
GERES	**GERESS Array B**	**72.09**	**333**	P	P	14 43 45.5	+0.3
	comp=Z,0.7nm,0.4s,baz=35,slow=5.4,SNR=5.6						
BRTR	**Keskin Array B**	**73.38**	**316**	P	P	14 43 53.0	+0.1
	comp=Z,1.3nm,0.6s,baz=21,slow=2.6,SNR=6.7						
TXAR	**Lajitas Array**	**73.68**	**63**	*e*P	P	14 43 56.6	+1.9
TXAR	**Lajitas Array**	**73.68**	**63**	*e*P	P	14 43 56.6	+1.9
TXAR	**Lajitas Array**	**73.68**	**63**	P	P	14 43 57.0	+2.4
	comp=Z,1.2nm,0.4s,baz=305,slow=4.9,SNR=17						
ASAR	**Alice Springs**	**79.24**	**198**	P	P	14 44 26.1	+1.5
	comp=Z,0.2nm,0.3s,baz=9.0,slow=4.8,SNR=9.7						

SOME ***24*** *14:46:23.9, 47˚.05N×75˚.00E*
NNC 24 14:46:28.9±1.4, 46˚.59N×74˚.37E, h0km, mb3.5, mpv3.3, 3C-4D, Error ellipse: s-maj=19.9km s-min=9.6km az=52.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLS	**Baital**	**1.56**	**188**	Pg	Pg	14 47 02.2	+3.4
	1.6nm,0.1s						
BTLS				Lg	Lg	14 47 29.3	
	2.8nm,0.2s						
OTUK	**Ortayu**	**2.15**	**321**	⇓Pn	Pn	14 47 05.7	-0.4
	3.9nm,0.6s						
OTUK				⇓Sn	Sn	14 47 34.4	+0.9
	4.4nm,0.4s						
KUU	**Kurty**	**3.03**	**152**	Pg	Pb	14 47 23.6	-0.1
	5.6nm,0.0s						
KUU				Lg	Lg	14 48 06.3	
	16nm,0.5s						
KTBS	**Karatobe**	**3.31**	**149**	Pg	Pb	14 47 28.0	-0.5
	3.5nm,0.1s						
KTBS				Lg	Lg	14 48 13.6	
	28nm,0.4s						
ARXS	**Arharly**	**3.40**	**133**	Pg	Pn	14 47 26.6	+3.3
	5.8nm,0.8s						
ARXS				Lg	Lg	14 48 11.2	
	9.5nm,0.7s						
DGS	**Degeres**	**3.49**	**163**	Pg	Pg	14 47 34.9	-0.9
	6.4nm,0.5s						
DGS				Lg	Lg	14 48 25.5	
	6.1nm,0.8s						
KAPS	**Kapalarasan**	**3.72**	**109**	Pg	Pn	14 47 29.0	+1.4
	2.5nm,0.5s						
KAPS				Lg	Lg	14 48 15.5	
	7.2nm,0.3s						
KST	**Kastek**	**3.72**	**162**	Pg	Pg	14 47 38.7	-1.5
	7.8nm,0.5s						
KST				Lg	Lg	14 48 31.7	
KOTS	**Kotyrbulak**	**3.88**	**149**	Pg	Pb	14 47 39.4	+1.1
	2.1nm,0.4s						
KOTS				Lg	Lg	14 48 33.2	
	8.7nm,0.7s						
TNSS	**Tian-Shan**	**4.00**	**152**	Pg	Pg	14 47 43.2	-2.2
	2.9nm,0.4s						
TNSS				Lg	Lg	14 48 40.0	
	4.5nm,0.4s						
DJR	**Jarkent**	**4.43**	**119**	Pg	Pb	14 47 44.0	-3.6
	1.1nm,0.1s						
DJR				Lg	Lg	14 48 41.2	
	2.2nm,0.5s						
KURK	**Kurchatov**	**5.00**	**33**	⇓Pn	Pn	14 47 45.9	+0.8
	2.1nm,0.7s						
KURK				⇑Sn	Sn	14 48 45.0	+1.4
	3.4nm,0.7s						
MAKZ	**Makanchi**	**5.24**	**85**	⇑Sn	Sn	14 48 51.3	+1.7
	3.7nm,0.8s						
MK31	**Makanchi Array**	**5.46**	**85**	⇑Pn	Pn	14 47 50.2	-1.3

20μm,0.8s
SKR A A 14 59 10.0
15μm,0.8s
SKR AMS AMS 15 00 28.0
25μm,19.0s
PAU Pauzhetka 3.32 100 *e*P **P 14 57 54.7 -0.4**
PAU *e*S **S 14 59 01.7 -1.7**
PAU Pauzhetka 3.32 100 P **P 14 57 54.7 -0.4**
PAU S **S 14 59 01.7 -1.7**
PAU Pauzhetka 3.32 100 *e*P **P 14 57 54.5 -0.6**
PAU AMB AMB 14 57 56.6
208μm,4.0s
PAU AMB AMB 14 57 56.8
20μm,0.6s
PAU *e*S **S 14 58 59.2 -4.2**
PAU A A 14 59 02.8
18μm,1.0s
PAU A A 14 59 02.8
9μm,1.0s
PAU A A 14 59 05.4
128μm,3.0s
PAU AMS AMS 14 59 12.0
70μm,15.0s
PAU AMS AMS 14 59 17.0
96μm,15.0s
PAU AMS AMS 14 59 17.0
116μm,15.0s
APC Apacha 3.50 75 *e*P **P 14 57 55.6 -0.5**
APC *e*S **S 14 59 01.9 -3.4**
APC Apacha 3.50 75 P **P 14 57 55.6 -0.5**
APC S **S 14 59 01.9 -3.4**
PEA0B Petropavlovsk- 3.86 73 *e*P **P 14 57 57.8 -0.5**
PEA1 Petropavlovsk- 3.86 73 *e*P **P 14 57 57.7 -0.6**
PETK Petropavlovsk- 3.86 73 *e*P **P 14 57 58.0 -0.3**
PETK Petropavlovsk- 3.86 73 *e*P **P 14 57 58.0 -0.3**
PETK Petropavlovsk- 3.86 73 P **P 14 57 57.7 -0.6**
2μm,0.3s,baz=290,slow=1.9,SNR=9361
PETK PcP **PcP 15 03 51.3 +1.0**
baz=108,slow=3.3,SNR=4.4
PETK ScP **ScP 15 06 22.8 +0.2**
2.5nm,0.3s,baz=83,slow=3.8,SNR=7.3
PETK ScS **ScS 15 09 55.6 +0.7**
baz=348,slow=14,SNR=8.3
PETK PKiKP **PKiKP 15 11 51.5 -0.9**
4.3nm,0.3s,baz=91,slow=3.7,SNR=17
PETK P3KPbc 15 34 51.9
0.8nm,0.3s,baz=101,slow=1.5,SNR=5.1
I44RU PETROPAVLOVSK- 3.87 73 P **P 14 57 57.4 -1.0**
baz=264,slow=9.7,SNR=6.4
ASAK Asacha 3.90 84 *e*P **P 14 57 58.2 -0.5**
ASAK Asacha 3.90 84 P **P 14 57 58.2 -0.5**
GRL Gorelyy 4.01 81 *e*P **P 14 57 59.3 -0.2**
GRL Gorelyy 4.01 81 P **P 14 57 59.3 -0.2**
KDTR Khodutka, Kamc 4.04 92 *e*P **P 14 57 58.0 -1.5**
KDTR *e*S **S 14 59 05.9 -5.6**
KDTR Khodutka, Kamc 4.04 92 P **P 14 57 58.0 -1.5**
KDTR S **S 14 59 05.9 -5.6**
KRMR Karymshinskiy 4.07 78 *e*P **P 14 57 59.0 -0.7**
KRMR *e*S **S 14 59 09.6 -2.3**
KRMR Karymshinskiy 4.07 78 P **P 14 57 59.0 -0.7**
KRMR S **S 14 59 09.6 -2.3**
MTVR Mutnovka 4.07 82 *e*P **P 14 57 59.3 -0.6**
MTVR Mutnovka 4.07 82 P **P 14 57 59.3 -0.6**
RUS Russkaya 4.28 83 *e*P **P 14 57 59.9 -1.2**
RUS *e*S **S 14 59 09.0 -5.4**
RUS Russkaya 4.28 83 P **P 14 57 59.9 -1.2**
RUS S **S 14 59 09.0 -5.4**
RUS Russkaya 4.28 83 *e*P **P 14 57 59.9 -1.2**
PET Petropavlovsk 4.41 76 *e*P **P 14 58 01.2 -0.8**
PET Petropavlovsk 4.41 76 ⇊*i*P **P 14 58 01.0 -0.9**
PET *e*S **S 14 59 10.9 -5.2**
PET pmax pmax
comp=Z,202μm,4.3s
PET pmax pmax
comp=Z,101μm,15.3s
PET pmax pmax
comp=Z,44μm,0.7s
PET smax smax
comp=E,11μm,1.2s
PET smax smax
comp=N,10μm,0.8s
PET smax smax
comp=N,107μm,6.1s
PET smax smax
comp=E,174μm,7.5s
PET MLR MLR
comp=Z,22μm,16.0s
PET MLR MLR
comp=Z,26μm,14.0s
PET Petropavlovsk 4.41 76 *e*P **P 14 58 01.1 -0.9**
PET AMB AMB 14 58 03.1
comp=Z,198μm,4.0s
PET AMB AMB 14 58 04.0
comp=Z,29μm,1.0s
PET *e*S **S 14 59 12.1 -4.0**
PET A A 14 59 14.4
comp=Z,8μm,0.9s
PET A A 14 59 14.4
comp=Z,9μm,0.9s
PET A A 14 59 16.3
comp=Z,104μm,4.0s
PET A A 14 59 16.3
comp=Z,79μm,4.0s
PET AMS AMS 15 00 55.3
comp=Z,26μm,14.0s
KOK Koryaka 4.45 72 *e*P **P 14 58 02.0 -0.4**
KOK Koryaka 4.45 72 P **P 14 58 02.0 -0.4**
KOK Koryaka 4.45 72 *e*P **P 14 58 02.0 -0.4**
DALK Dalny 4.47 76 *e*P **P 14 58 01.6 -0.8**
DALK *e*S **S 14 59 12.0 -4.9**
DALK Dalny 4.47 76 P **P 14 58 01.6 -0.8**
DALK S **S 14 59 12.0 -4.9**
KRX Arik 4.47 71 *e*P **P 14 58 02.3 -0.3**
KRX Arik 4.47 71 P **P 14 58 02.3 -0.3**
AVH Avacha 4.50 73 *e*P **P 14 58 02.2 -0.6**
AVH *e*S **S 14 59 14.9 -2.6**
AVH Avacha 4.50 73 P **P 14 58 02.2 -0.6**
AVH S **S 14 59 14.9 -2.6**
AVH Avacha 4.50 73 *e*P **P 14 58 02.2 -0.6**
SMAR Somma 4.54 73 *e*P **P 14 58 02.5 -0.7**
SMAR Somma 4.54 73 P **P 14 58 02.5 -0.7**
UGLR Uglovaya 4.54 73 *e*P **P 14 58 02.5 -0.6**
UGLR Uglovaya 4.54 73 P **P 14 58 02.5 -0.6**
SDLR Sedlovina 4.59 73 *e*P **P 14 58 02.6 -0.9**
SDLR Sedlovina 4.59 73 P **P 14 58 02.6 -0.9**
NLC Nalytchevo 4.85 75 *e*P **P 14 58 04.6 -0.5**
NLC *e*S **S 14 59 17.9 -3.9**
NLC Nalytchevo 4.85 75 P **P 14 58 04.6 -0.5**
NLC S **S 14 59 17.9 -3.9**
NLC Nalytchevo 4.85 75 *e*P **P 14 58 04.6 -0.5**
SPN Mys Shipunski 5.24 76 *e*P **P 14 58 06.5 -1.6**
SPN *e*S **S 14 59 19.9 -7.4**
SPN Mys Shipunski 5.24 76 P **P 14 58 06.5 -1.6**
SPN S **S 14 59 19.9 -7.4**
SPN Mys Shipunski 5.24 76 *e*P **P 14 58 06.5 -1.6**
OKH Okha 5.42 289 *c i*P **P 14 58 10.5 +1.0**
OKH *i*S **S 14 59 31.1 +1.2**
OKH pmax pmax
comp=Z,251μm,2.3s
OKH smax smax
comp=N,595μm,8.5s
OKH smax smax
comp=E,417μm,9.4s
OKH MLR MLR
comp=Z,39μm,7.0s
OKH Okha 5.42 289 *e*P **P 14 58 10.5 +1.0**
OKH AMB AMB 14 58 13.6
comp=Z,251μm,2.0s
OKH *e*S **S 14 59 31.1 +1.2**
OKH A A 14 59 32.6
comp=Z,595μm,8.0s
OKH A A 14 59 32.6
comp=Z,417μm,8.0s
OKH AMS AMS 15 01 55.4
comp=Z,39μm,7.0s
ESO Esso 5.66 45 *e*P **P 14 58 11.6 +0.2**
ESO *e*S **S 14 59 29.2 -4.2**
ESO Esso 5.66 45 P **P 14 58 11.6 +0.2**
ESO S **S 14 59 29.2 -4.2**
ESO Esso 5.66 45 *e*P **P 14 58 11.6 +0.2**
TYV Tymovskoe 5.71 261 *e*P **P 14 58 13.3 +1.3**
TYV *e*S **S 14 59 34.7 +0.5**
TYV pmax pmax
comp=Z,16μm,0.6s
TYV pmax pmax
comp=Z,85μm,2.1s
TYV smax smax
comp=N,7μm,1.2s
TYV smax smax
comp=N,319μm,5.2s
TYV Tymovskoe 5.71 261 *e*P **P 14 58 12.9 +0.9**
TYV AMB AMB 14 58 14.7
comp=N,16μm,0.6s
TYV AMB AMB 14 58 15.6
comp=N,85μm,2.0s
TYV *e*S **S 14 59 33.7 -0.5**
TYV A A 14 59 36.4
comp=N,7μm,1.0s
TYV A A 14 59 38.3
comp=N,319μm,5.0s
TYV AMS AMS 15 00 02.3
comp=N,86μm,15.0s
TYV AMS AMS 15 00 02.3
comp=N,38μm,15.0s
KZV Kizimen 5.99 57 *e*P **P 14 58 13.1 -1.2**
KZV Kizimen 5.99 57 P **P 14 58 13.1 -1.2**
TUMR Tumrok 5.99 55 *e*P **P 14 58 13.5 -0.7**
TUMR Tumrok 5.99 55 P **P 14 58 13.8 -0.4**
TUMR S **S 14 59 32.7 -5.8**
TUMD Tumrok D 6.08 56 *e*P **P 14 58 13.8 -1.1**
TUMD *e*S **S 14 59 32.7 -7.0**
MKZ Mys Kozlova 6.55 64 *e*P **P 14 58 16.0 -2.8**
MKZ *e*S **S 14 59 38.0 -8.8**
MKZ Mys Kozlova 6.55 64 P **P 14 58 16.0 -2.8**
MKZ S **S 14 59 38.0 -8.8**
LGNR Loginova 6.66 50 *e*P **P 14 58 19.2 -0.9**
LGNR *e*S **S 14 59 48.4 -0.8**
LGNR Loginova 6.66 50 P **P 14 58 19.2 -0.9**
LGNR S **S 14 59 48.4 -0.8**
NKL Nikolayevsk 6.71 283 *i*P **P 14 58 20.0 -0.2**
NKL *e*S **S 14 59 45.0 -4.3**
NKL pmax pmax
comp=E,84μm,3.0s
NKL pmax pmax
comp=Z,6μm,3.0s
NKL smax smax
comp=E,149μm,2.0s
NKL Nikolayevsk 6.71 283 *e*P **P 14 58 20.0 -0.2**
KLY Klyuchi 6.77 48 *e*P **P 14 58 19.8 -0.9**
KLY *e*S **S 14 59 49.9 -0.4**
KLY Klyuchi 6.77 48 P **P 14 58 19.8 -0.9**
KLY S **S 14 59 49.9 -0.4**
UGL Uglegorsk 6.78 247 ⇊*i*P **P 14 58 22.2 +1.2**
UGL *e*S **S 14 59 52.2 +1.6**
UGL pmax pmax
comp=E,6μm,0.6s
UGL pmax pmax
comp=Z,27μm,0.8s
UGL pmax pmax
comp=N,12μm,0.6s
UGL smax smax
comp=E,21μm,1.3s
UGL Uglegorsk 6.78 247 *e*P **P 14 58 22.0 +1.0**
UGL AMB AMB 14 58 24.0
comp=E,12μm,0.7s
UGL AMB AMB 14 58 24.0
comp=E,6μm,0.7s
UGL AMB AMB 14 58 24.0
comp=E,27μm,0.7s
UGL *e*S **S 14 59 50.1 -0.5**
UGL A A 14 59 55.2
comp=E,21μm,1.0s
UGL AMS AMS 15 01 15.0
comp=E,75μm,14.0s
UGL AMS AMS 15 01 15.0
comp=E,56μm,14.0s
UGL AMS AMS 15 01 15.0
comp=E,44μm,14.0s
BDR Baidarnaya 7.17 48 *e*P **P 14 58 23.0 -1.3**
BDR Baidarnaya 7.17 48 P **P 14 58 23.0 -1.3**
SRKR Sorokina 7.20 47 *e*P **P 14 58 23.0 -1.6**
SRKR Sorokina 7.20 47 P **P 14 58 23.0 -1.6**
SMKR Semkarok 7.30 48 *e*P **P 14 58 23.6 -1.9**
SMKR Semkarok 7.30 48 P **P 14 58 23.6 -1.9**
KUR Kuril'sk 7.33 201 *d i*P **P 14 58 24.4 -1.6**
KUR *i*S **S 14 59 56.4 -3.2**
KUR pmax pmax
comp=Z,11μm,2.8s
KUR pmax pmax
comp=E,4μm,3.2s
KUR pmax pmax
comp=N,5μm,2.9s
KUR pmax pmax
comp=N,497nm,0.5s
KUR pmax pmax
comp=E,663nm,0.5s
KUR pmax pmax
comp=Z,3μm,0.5s
KUR smax smax
comp=N,103μm,4.0s
KUR smax smax
comp=E,87μm,2.7s
KUR smax smax
comp=E,2μm,0.9s
KUR smax smax
comp=N,2μm,0.8s
KUR Kuril'sk 7.33 201 *i*P **P 14 58 24.1 -1.9**
KUR AMB AMB 14 58 27.0
comp=N,5μm,2.0s
KUR AMB AMB 14 58 28.0
comp=N,280nm,0.5s
KUR AMB AMB 14 58 28.0
comp=N,780nm,0.5s
KUR AMB AMB 14 58 28.0
comp=N,4μm,0.5s
KUR *i*S **S 14 59 56.0 -3.6**
KUR A A 15 00 01.0
comp=N,36μm,3.0s
KUR A A 15 00 01.0
comp=N,28μm,3.0s
KUR AMS AMS 15 01 11.7
comp=N,24μm,13.0s
KUR AMS AMS 15 01 11.7
comp=N,24μm,13.0s
KUR AMS AMS 15 01 11.7
comp=N,18μm,13.0s
MA2 Magadan 7.47 357 *c i*P **P 14 58 26.2 -0.7**
MA2 Magadan 7.47 357 P **P 14 58 26.7 -0.2**
comp=N,372nm,0.3s,baz=163,slow=8.0,SNR=1477
MA2 S **S 15 00 01.6 -0.1**
baz=269,slow=23,SNR=17
MA2 ScS **ScS 15 09 58.0 -0.4**
comp=N,0.3nm,0.3s,baz=347,slow=21,SNR=6.0
MA2 PKiKP **PKiKP 15 11 51.4 -1.3**
comp=N,3.2nm,0.3s,baz=134,slow=4.9,SNR=11
MA2 P3KPbc 15 34 42.1
comp=N,1.2nm,0.3s,baz=209,slow=2.8,SNR=7.8
MA2 Magadan 7.47 357 *e*P **P 14 58 26.2 -0.7**
KBG Krutoberegovo 7.72 53 *e*P **P 14 58 26.2 -3.0**
KBG *e*S **S 14 59 58.5 -7.3**
KBG Krutoberegovo 7.72 53 P **P 14 58 26.2 -3.0**
KBG S **S 14 59 58.5 -7.3**
YSS Yuzh-Sakhalins 7.73 231 *e*P **P 14 58 29.9 +0.3**
YSS Yuzh-Sakhalins 7.73 231 *K i*P **P 14 58 29.8 +0.3**
YSS *e*S **S 15 00 02.8 -3.3**
YSS pmax pmax
comp=Z,2μm,0.5s
YSS pmax pmax
comp=Z,9μm,3.3s
YSS pmax pmax
comp=N,4μm,3.0s
YSS pmax pmax
comp=E,8μm,2.3s
YSS smax smax
comp=N,106μm,6.5s
YSS smax smax
comp=E,141μm,6.5s
YSS MLR MLR
comp=Z,16μm,10.0s
YSS Yuzh-Sakhalins 7.73 231 *i*P **P 14 58 29.0 -0.5**
YSS AMB AMB 14 58 31.0
comp=Z,2μm,0.5s
YSS AMB AMB 14 58 32.0
comp=Z,9μm,3.0s
YSS *e*S **S 15 00 04.1 -2.0**
YSS A A 15 00 09.0
comp=Z,106μm,7.0s
YSS A A 15 00 09.0
comp=Z,141μm,7.0s
YSS A A 15 00 24.8
comp=Z,3μm,1.0s
YSS A A 15 00 24.8
comp=Z,4μm,1.0s
YSS AMS AMS 15 02 18.0
comp=Z,16μm,10.0s
KBTR Krutoberegovo 7.76 54 *e*P **P 14 58 26.5 -3.1**
KBTR *e*S **S 14 59 59.2 -7.2**
KBTR Krutoberegovo 7.76 54 P **P 14 58 26.5 -3.1**
KBTR S **S 14 59 59.2 -7.2**
PALN Palana 8.43 31 *e*P **P 14 58 35.2 -0.5**
PALN *e*S **S 15 00 15.2 -2.4**
PALN Palana 8.43 31 P **P 14 58 35.2 -0.5**
PALN S **S 15 00 15.2 -2.4**
YUK Yuzh-Kuril'sk 8.96 207 *d i*P **P 14 58 37.7 -3.3**
YUK *i*S **S 15 00 21.9 -5.2**
YUK pmax pmax
comp=Z,3μm,2.3s
YUK pmax pmax
comp=Z,4μm,0.4s
YUK pmax pmax
comp=N,505nm,0.2s
YUK pmax pmax
comp=E,1μm,0.4s
YUK smax smax
comp=N,37μm,2.8s
YUK smax smax
comp=E,12μm,1.7s
YUK Yuzh-Kuril'sk 8.96 207 *i*P **P 14 58 38.1 -2.9**
YUK AMB AMB 14 58 40.0
comp=E,3μm,2.0s
YUK AMB AMB 14 58 42.0
comp=E,510nm,0.4s
YUK AMB AMB 14 58 42.0
comp=E,1μm,0.4s
YUK AMB AMB 14 58 42.0
comp=E,4μm,0.4s
YUK *e*S **S 15 00 23.4 -3.7**
YUK A A 15 00 32.0
comp=E,37μm,3.0s
YUK A A 15 00 32.0
comp=E,12μm,3.0s
YUK AMS AMS 15 03 48.4
comp=E,13μm,15.0s
YUK AMS AMS 15 03 48.4
comp=E,17μm,15.0s
YUK AMS AMS 15 03 48.4
comp=E,12μm,15.0s
LAGR Lagunnoye 8.96 208 *d i*P **P 14 58 38.2 -2.8**
LAGR *i*S **S 15 00 22.9 -4.3**
LAGR pmax pmax
comp=Z,4μm,0.4s
LAGR pmax pmax
comp=N,2μm,0.5s
LAGR pmax pmax
comp=E,2μm,0.5s
LAGR Lagunnoye 8.96 208 *i*P **P 14 58 38.0 -3.0**
LAGR AMB AMB 14 58 54.0
comp=E,2μm,0.5s
LAGR AMB AMB 14 58 54.0
comp=E,2μm,0.5s
LAGR AMB AMB 14 58 54.0
comp=E,4μm,0.5s
LAGR *i*S **S 15 00 22.0 -5.2**
GRPR Tuman 9.02 208 ⇑*i*P **P 14 58 38.4 -3.2**
GRPR *i*S **S 15 00 23.3 -5.0**
GRPR pmax pmax
comp=Z,3μm,1.9s
GRPR pmax pmax
comp=N,1μm,0.4s
GRPR pmax pmax
comp=E,3μm,0.4s
GRPR pmax pmax
comp=Z,3μm,0.4s
GRPR smax smax
comp=N,13μm,2.8s
GRPR smax smax
comp=E,14μm,2.7s
GRPR Tuman 9.02 208 *i*P **P 14 58 38.0 -3.6**
GRPR AMB AMB 14 58 42.0
comp=E,3μm,2.0s
GRPR AMB AMB 14 58 45.0
comp=E,1μm,0.4s
GRPR AMB AMB 14 58 45.0
comp=E,3μm,0.4s
GRPR AMB AMB 14 58 45.0
comp=E,3μm,0.4s
GRPR *i*S **S 15 00 23.0 -5.3**
GRPR A A 15 00 26.0
comp=E,13μm,3.0s
GRPR A A 15 00 26.0
comp=E,14μm,3.0s
BKI Bering 9.09 65 *e*P **P 14 58 43.2 +1.3**
BKI *e*S **S 15 00 27.2 -1.8**
BKI Bering 9.09 65 P **P 14 58 43.2 +1.3**
BKI S **S 15 00 27.2 -1.8**
GLVR Golovnino 9.33 208 ⇑*i*P **P 14 58 41.3 -3.2**
GLVR *i*S **S 15 00 28.4 -5.2**
GLVR pmax pmax
comp=Z,3μm,2.1s
GLVR pmax pmax
comp=Z,2μm,0.5s
GLVR pmax pmax
comp=N,672nm,0.3s
GLVR pmax pmax
comp=E,1μm,0.5s
GLVR smax smax
comp=N,11μm,2.5s
GLVR smax smax
comp=E,19μm,2.1s
GLVR Golovnino 9.33 208 *i*P **P 14 58 41.0 -3.5**
GLVR AMB AMB 14 58 45.0
comp=E,3μm,2.0s
GLVR AMB AMB 14 58 49.0
comp=E,670nm,0.5s
GLVR AMB AMB 14 58 49.0
comp=E,1μm,0.5s
GLVR AMB AMB 14 58 49.0
comp=E,2μm,0.5s
GLVR *i*S **S 15 00 28.0 -5.6**
GLVR A A 15 00 31.0
comp=E,11μm,3.0s
GLVR A A 15 00 31.0
comp=E,19μm,3.0s
GRNR Gornyy 9.56 268 ⇊*i*P **P 14 58 50.8 +4.2**
GRNR pmax pmax
comp=Z,500nm,0.9s
GRNR Gornyy 9.56 268 *e*P **P 14 58 50.8 +4.2**
GRNR AMB AMB 14 58 51.1
comp=Z,500nm,0.9s
OSSR Ossora 9.63 38 *e*P **P 14 58 46.8 -0.2**
OSSR *e*S **S 15 00 36.5 -1.9**
OSSR Ossora 9.63 38 P **P 14 58 46.8 -0.2**
OSSR S **S 15 00 36.5 -1.9**
ASAJ Asahikawa 10.01 220 P **P 14 58 49.4 -1.8**
comp=Z,33nm,0.3s,baz=28,slow=6.4,SNR=180
ASAJ PcP **PcP 15 03 55.9 +1.2**
comp=Z,56nm,0.3s,baz=292,slow=5.4,SNR=8.6
ASAJ ScP **ScP 15 06 28.0 -0.2**
comp=Z,7.9nm,0.3s,baz=260,slow=7.3,SNR=7.3
SEY Seymchan 10.84 2 P **P 14 58 58.7 -0.1**
comp=Z,264nm,0.3s,baz=188,slow=8.3,SNR=4778
SEY PKiKP **PKiKP 15 11 53.0 -0.3**
comp=Z,4.4nm,0.3s,baz=180,slow=3.0,SNR=17
SEY P3KPbc 15 34 32.0
comp=Z,0.8nm,0.3s,baz=337,slow=2.3,SNR=7.1
EKMR Ekimchan 11.36 282 *i*P **P 14 59 04.3 +0.2**
comp=Z,460nm,0.1s,comp=E,300nm,0.1s,comp=N,240nm,0.1s
EKMR AMB AMB 14 59 32.1
comp=N,1μm,1.0s
EKMR AMB AMB 14 59 32.1
comp=N,890nm,1.0s
EKMR AMB AMB 14 59 32.1
comp=N,2μm,1.0s
TILK Tilichiki 11.59 38 *e*P **P 14 59 06.2 +0.2**
TILK *e*S **S 15 01 07.3 -5.4**
TILK Tilichiki 11.59 38 P **P 14 59 06.2 +0.2**
TILK S **S 15 01 07.3 -5.4**
ERM Erimo 11.63 213 *e*P **P 14 59 05.7 -1.1**
ERM Erimo 11.63 213 *ce*P **P 14 59 04.2 -2.6**
ERM pmax pmax
comp=Z,3μm,1.3s
TEY Ternei 12.18 240 ⇑*e*P **P 14 59 12.5 +0.6**
TEY *e*S **S 15 01 19.7 -3.5**
TEY pmax pmax
comp=E,700nm,1.3s
TEY pmax pmax

comp=N,230nm,0.7s
TEY pmax pmax
comp=Z,1μm,1.4s
TEY pmax pmax
comp=Z,8μm,2.0s
TEY smax smax
comp=E,7μm,8.9s
TEY smax smax
comp=N,5μm,19.1s
TEY MLR MLR
comp=E,18μm,4.0s
TEY MLR MLR
comp=N,18μm,8.0s
TEY MLR MLR
comp=Z,17μm,4.0s
TEY Ternei 12.18 240 *e*P **P 14 59 11.5 -0.4**
TEY AMB AMB 14 59 13.9
comp=Z,700nm,1.0s
TEY AMB AMB 14 59 13.9
comp=Z,1μm,1.0s
TEY AMB AMB 14 59 14.0
comp=Z,5μm,2.0s
TEY AMB AMB 14 59 14.0
comp=Z,8μm,2.0s
TEY *e*S **S 15 01 19.7 -3.5**
TEY A A 15 01 29.7
comp=Z,5μm,8.0s
TEY A A 15 01 29.7
comp=Z,7μm,8.0s
KLR Kul'dur 12.89 265*c i*P **P 14 59 18.8 +0.1**
KLR pmax pmax
comp=Z,3μm,0.7s
KLR Kul'dur 12.89 265 P **P 14 59 18.6 0.0**
comp=Z,167nm,0.3s,baz=70,slow=9.1,SNR=3838
KLR S **S 15 01 38.6 +3.1**
comp=Z,21nm,0.3s,baz=234,slow=17,SNR=18
KLR PcP **PcP 15 03 58.6 +0.8**
comp=Z,50nm,0.3s,baz=178,slow=1.5,SNR=6.6
KLR ScP **ScP 15 06 32.5 +0.2**
comp=Z,8.8nm,0.3s,baz=46,slow=2.1,SNR=6.5
KLR ScS **ScS 15 10 08.1 -0.8**
comp=Z,0.3nm,0.3s,baz=138,slow=23,SNR=9.7
KLR P3KPbc 15 34 23.5
comp=Z,0.2nm,0.3s,baz=329,slow=4.0,SNR=5.5
KLR Kul'dur 12.89 265 *e*P **P 14 59 18.8 +0.1**
KMSK Kamenskaya 12.99 31 *e*P **P 14 59 20.0 +0.7**
KMSK *e*S **S 15 01 35.0 -1.6**
KMSK Kamenskaya 12.99 31 P **P 14 59 20.0 +0.7**
KMSK S **S 15 01 35.0 -1.6**
SMY Shemya 13.75 79 *e*P **P 14 59 27.9 +1.2**
SMY Shemya 13.75 79 *e*P **P 14 59 27.9 +1.2**
BMKR Bomnak 13.78 290 *i*P **P 14 59 26.2 -0.8**
comp=Z,320nm,0.5s,comp=E,130nm,0.5s,comp=N,80nm,0.5s
ZEA Zeya 14.73 286*c i*P **P 14 59 34.8 -1.0**
ZEA *i* 15 02 05.0
ZEA pmax pmax
comp=Z,25μm,8.0s
ZEA pmax pmax
comp=N,8μm,5.0s
ZEA MLR MLR
comp=Z,21μm,11.0s
ZEA MLR MLR
comp=E,18μm,9.0s
ZEA MLR MLR
comp=N,9μm,7.0s
ZEA Zeya 14.73 286 *i*P **P 14 59 35.0 -0.8**
ZEA AMB AMB 14 59 40.0
comp=N,25μm,8.0s
ZEA AMS AMS 15 06 42.0
comp=N,9μm,10.0s
ZEA AMS AMS 15 06 42.0
comp=N,18μm,10.0s
ZEA AMS AMS 15 06 42.0
comp=N,21μm,10.0s
KROS Kirovskiy 14.87 289 *e*P **P 14 59 36.8 -0.2**
KROS AMB AMB 14 59 40.0
comp=N,600nm,0.8s
KROS AMB AMB 14 59 40.0
comp=N,700nm,0.8s
USA0B Ussuriysk Arra 15.25 246 *e*P **P 14 59 40.5 -0.1**
comp=N,2μm,1.0s
USRK Ussuriysk Ar. 15.25 246 P **P 14 59 40.3 -0.4**
comp=N,20nm,0.3s,baz=56,slow=10,SNR=562
USRK S **S 15 02 16.1 +1.5**
baz=56,slow=12,SNR=8.4
USRK PcP **PcP 15 04 01.6 +0.4**
comp=N,16nm,0.3s,baz=52,slow=1.2,SNR=4.4
USRK ScP **ScP 15 06 36.7 +0.2**
comp=N,4.8nm,0.3s,baz=349,slow=1.9,SNR=17
USRK PKiKP **PKiKP 15 11 53.6 -1.6**
comp=N,1.1nm,0.3s,baz=292,slow=2.3,SNR=8.7
USRK P3KPbc 15 34 18.6
comp=N,0.1nm,0.3s,baz=176,slow=1.3,SNR=4.9
YAK Yakutsk 15.40 319*c i*P **P 14 59 41.1 -0.6**
YAK *e*S **S 15 02 14.3 -2.2**
YAK smax smax
comp=E,62μm,0.9s
YAK smax smax
comp=N,49μm,1.0s
YAK Yakutsk 15.40 319 *e*P **P 14 59 41.1 -0.6**
VLA Vladivostok 16.00 243*d i*P **P 14 59 47.5 0.0**
VLA Vladivostok 16.00 243 *e*P **P 14 59 47.5 0.0**
MDJ Mudanjiang 16.38 251 P **P 14 59 51.3 +0.3**
MDJ sP sP 15 02 03.0 -17
MDJ S **S 15 02 29.3 -3.8**
MDJ ScS **ScS 15 10 16.8 -1.5**
MDJ pmax pmax
comp=N,4μm,1.4s
MDJ Mudanjiang 16.38 251 *e*P **P 14 59 51.5 +0.5**
comp=N,7μm,1.4s
MSHR Mys Shultsa 16.76 243*d i*P **P 14 59 54.6 +0.2**
BILL Bilibino 17.47 19 *e*P **P 15 00 00.8 +0.3**
comp=N,2μm,1.0s
BILL Bilibino 17.47 19*d i*P **P 15 00 00.9 +0.4**
BILL pmax pmax
comp=Z,936nm,1.1s
BILL pmax pmax
comp=Z,1μm,1.4s
BILL Bilibino 17.47 19 *e*P **P 15 00 00.9 +0.4**
MJB9 Matsu-Tunnel 18.23 217 *e*P **P 15 00 09.1 +1.1**
comp=Z,6μm,1.1s
MAJO Matsushiro 18.24 216 *e*P **P 15 00 09.1 +1.1**
comp=Z,6μm,1.1s
MAJO *e*PcP **PcP 15 04 05.9 -0.3**
MAJO *e*ScP **ScP 15 06 41.6 -1.3**
MAJO Matsushiro 18.24 216*d i*P **P 15 00 09.1 +1.1**
MAT Matsushiro 18.24 216 P **P 15 00 09.2 +1.2**
MAT S **S 15 03 04.7 +1.4**
MJAR Matsushiro Arr 18.24 216 P **P 15 00 09.1 +1.1**
comp=Z,21nm,0.3s,baz=12,slow=7.8,SNR=2111
MJAR S **S 15 03 05.9 +2.6**
baz=22,slow=16,SNR=5.1
MJAR PcP **PcP 15 04 05.9 -0.3**
comp=Z,7.0nm,0.3s,baz=104,slow=1.1,SNR=18
MJAR ScP **ScP 15 06 41.6 -1.3**
comp=Z,3.0nm,0.3s,baz=330,slow=0.6,SNR=17
MJAR PKiKP **PKiKP 15 11 55.4 -1.1**
comp=Z,0.5nm,0.3s,baz=171,slow=2.9,SNR=16
MJAR PKKP **PKKPdf 15 27 15.3 +6.1**
comp=Z,0.1nm,0.3s,baz=245,slow=4.5,SNR=4.7
MJAR P3KPbc 15 34 06.3
comp=Z,0.0nm,0.3s,baz=231,slow=2.7,SNR=7.0
MJAR PKP2ab 15 38 15.2
baz=204,slow=6.8,SNR=5.0
KIWB Kanaga Island 19.19 78 *e*P **P 15 00 16.0 -0.3**
CN2 Changchun 19.29 255 *e*P **P 15 00 17.5 +0.1**
CN2 pmax pmax
comp=Z,2μm,1.7s
ADK Adak 19.47 78 *e*P **P 15 00 18.0 -0.8**
comp=Z,3μm,1.0s
ADK Adak 19.47 78 *e*P **P 15 00 18.0 -0.8**
ADK pmax pmax
comp=Z,3μm,1.0s
GSTR Great Sitkin T 19.80 77 *e*P **P 15 00 20.9 -0.9**
HIA Hailar 20.27 275 *e*P **P 15 00 26.1 -0.1**
comp=Z,6μm,0.9s
HIA *e*PcP **PcP 15 04 10.8 +1.0**
HIA Hailar 20.27 275 *e*P **P 15 00 26.1 -0.1**
HIA *e* 15 04 10.8
HIA pmax pmax
comp=Z,6μm,0.9s
JHJ2 Mitsune 20.84 209 *e*P **P 15 00 32.8 +1.4**
comp=Z,3μm,1.0s
JHJ2 *e*PcP **PcP 15 04 11.4 +0.3**
JHJ Hachijo jima 2 20.84 209 P **P 15 00 32.8 +1.4**
comp=Z,2μm,0.7s,baz=263,slow=23,SNR=158
JHJ PcP **PcP 15 04 10.9 -0.2**
comp=Z,762nm,0.6s,baz=206,slow=9.6,SNR=8.1
JHJ ScP **ScP 15 06 47.3 -1.6**
comp=Z,440nm,0.7s,baz=84,slow=14,SNR=4.2
JHJ ScS **ScS 15 10 30.6 -2.7**
comp=Z,164nm,1.0s,baz=54,slow=23,SNR=12
JHJ PKiKP **PKiKP 15 11 56.1 -1.6**
comp=Z,46nm,0.3s,baz=104,slow=20,SNR=7.5
SNY Shenyang 21.57 253 ⇓P **P 15 00 39.0 +1.2**
SNY sP **sP 15 03 19.8 +2.4**
SNY S **S 15 03 57.6 +1.9**
SNY pmax pmax
comp=Z,4μm,1.0s
SNY pmax pmax
comp=Z,29μm,3.5s
TIXI Tiksi 22.02 341 *e*P **P 15 00 41.2 -0.2**
comp=Z,794nm,0.8s
TIXI *e*PcP **PcP 15 04 13.3 +0.5**
TIXI Tiksi 22.02 341*c i*P **P 15 00 41.2 -0.2**
TIXI pmax pmax
comp=Z,942nm,0.9s
TIXI Tiksi 22.02 341 P **P 15 00 41.1 -0.2**
comp=Z,733nm,0.9s,baz=146,slow=8.6,SNR=963
TIXI PcP **PcP 15 04 13.1 +0.3**
comp=Z,641nm,0.3s,baz=90,slow=5.0,SNR=28
TIXI ScP **ScP 15 06 50.9 -0.4**
comp=Z,683nm,0.8s,baz=72,slow=1.6,SNR=12
TIXI ScS **ScS 15 10 36.2 -0.2**
comp=Z,240nm,0.9s,baz=144,slow=23,SNR=31
TIXI PKiKP **PKiKP 15 11 55.9 -1.3**
comp=Z,105nm,0.6s,baz=143,slow=1.8,SNR=14
KSRS Korea Array 22.15 238 P **P 15 00 44.9 +1.9**
comp=Z,4μm,1.0s,baz=40,slow=8.9,SNR=1923
KSRS PcP **PcP 15 04 14.7 +1.0**
comp=Z,2μm,0.8s,baz=4.4,slow=1.5,SNR=29
KSRS ScP **ScP 15 06 52.5 +0.2**
comp=Z,301nm,0.8s,baz=19,slow=1.9,SNR=13
KSRS PKiKP **PKiKP 15 11 57.0 -1.2**
comp=Z,35nm,0.7s,baz=333,slow=1.0,SNR=21
KSRS P3KPbc 15 33 51.4
comp=Z,2.5nm,0.8s,baz=201,slow=1.9,SNR=5.1
KSRS PKP2bc 15 36 12.1
comp=Z,5.3nm,0.9s,baz=39,slow=2.5,SNR=5.5
KSRS P4KP 15 42 53.9
comp=Z,25nm,1.1s,baz=47,slow=3.9,SNR=32
KS15 Wonju Array Si 22.18 238 *e*P **P 15 00 45.2 +1.9**
comp=Z,5μm,1.0s
KS15 *e*PcP **PcP 15 04 15.2 +1.4**
KSAR Wonju Array Be 22.18 238 *e*P **P 15 00 44.5 +1.2**
KSAR *e*PcP **PcP 15 04 15.5 +1.7**
KSAR Wonju Array Be 22.18 238 *e*P **P 15 00 44.5 +1.2**
KSAR *e* 15 04 15.5
KSAR Wonju Array Be 22.18 238 *e*P **P 15 00 44.5 +1.2**
GAMB Gambell 22.34 44 *e*P **P 15 00 44.8 +0.5**
comp=Z,355nm,0.9s
CIT Chita 23.19 285 *e*P **P 15 00 52.8 +0.7**
CIT *e*S **S 15 04 20.7 -0.4**
CIT pmax pmax
comp=Z,4μm,1.3s
TJN Taejon 23.26 237*d i*P **P 15 00 54.5 +1.7**
NIKH Nikolski High 23.87 72 *e*P **P 15 00 56.8 -1.2**
comp=Z,2μm,0.9s
JNU Nakatsue 24.20 226 P **P 15 01 02.5 +1.3**
comp=Z,1μm,0.9s,baz=22,slow=2.8,SNR=900
JNU PcP **PcP 15 04 18.1 -0.2**
comp=Z,418nm,0.9s,baz=37,slow=6.3,SNR=4.5
JNU ScP **ScP 15 06 56.5 -1.4**
comp=Z,436nm,1.0s,baz=56,slow=5.3,SNR=8.3
JNU ScS **ScS 15 10 43.0 -3.5**
comp=Z,145nm,1.1s,baz=142,slow=23,SNR=8.1
JNU P3KPbc 15 33 47.6
comp=Z,6.7nm,0.9s,baz=124,slow=5.4,SNR=3.0
DL2 Dalian 24.59 249⇓*i*P **P 15 01 05.6 +1.1**
DL2 sP **sP 15 03 45.4 -5.0**
DL2 PcP **PcP 15 04 19.0 0.0**
DL2 S **S 15 04 43.1 -0.1**
DL2 ScP **ScP 15 06 58.5 -0.4**
DL2 PcS **PcS 15 07 57.4 -2.3**
DL2 pmax pmax
comp=Z,18μm,4.7s
FALS False Pass 26.57 66 *e*P **P 15 01 20.8 -0.8**
comp=Z,2μm,0.9s
FALS *e*PcP **PcP 15 04 24.0 +0.7**
IRK Irkutsk 28.59 289⇓*i*P **P 15 01 39.7 +0.5**
IRK *e* 15 04 28.4
IRK *e* 15 05 46.2
IRK pmax pmax
comp=Z,4μm,2.1s
SONM Songino Array 29.00 280 *e*P **P 15 01 43.6 +0.6**
SONM *e*PcP **PcP 15 04 30.6 +0.8**
SONM Songino Array 29.00 280 P **P 15 01 43.7 +0.8**
comp=Z,445nm,0.9s,baz=63,slow=7.7,SNR=537
SONM PcP **PcP 15 04 30.2 +0.4**
comp=Z,2μm,0.7s,baz=76,slow=1.5,SNR=28
SONM ScP **ScP 15 07 11.4 -0.9**
comp=Z,696nm,1.0s,baz=74,slow=2.1,SNR=14
SONM PKiKP **PKiKP 15 12 01.0 -1.0**
comp=Z,111nm,1.0s,baz=183,slow=3.5,SNR=8.6
SONM P3KPbc 15 33 33.6
comp=Z,3.5nm,0.8s,baz=224,slow=4.5,SNR=4.4
SONM P3KP 15 34 36.1
comp=Z,5.9nm,0.8s,baz=201,slow=4.2,SNR=4.1
SONM P4KPbc 15 40 18.7
comp=Z,1.1nm,0.5s,baz=11,slow=1.9,SNR=3.6
SONM P4KP 15 43 22.1
comp=Z,11nm,1.0s,baz=43,slow=3.1,SNR=11
TIA Tai'an 29.04 250 P **P 15 01 44.3 +1.0**
TIA pmax pmax
comp=Z,4μm,0.9s
TLY Talaya 29.15 288 *e*P **P 15 01 45.3 +1.3**
comp=Z,3μm,1.0s
TLY *e*PcP **PcP 15 04 31.6 +1.5**
TLY Talaya 29.15 288*c i*P **P 15 01 45.4 +1.4**
TLY *e*S **S 15 05 57.0 +3.4**
TLY pmax pmax
comp=Z,10μm,1.1s
TLY Talaya 29.15 288 P **P 15 01 45.5 +1.4**
SNR=1110
TLY Talaya 29.15 288 *e*P **P 15 01 46.0 +2.0**
HHC Hu-ho-hao-te 29.40 263⇓*i*P **P 15 01 47.3 +0.9**
HHC sP PcP 15 04 31.8 +0.8
HHC S **S 15 05 57.5 -0.4**
HHC ScP **ScP 15 07 13.5 -0.3**
HHC PcS **PcS 15 08 17.8 +2.8**
HHC ScS **ScS 15 11 14.4 +4.4**
HHC pmax pmax
comp=Z,6μm,0.8s
HHC pmax pmax
comp=Z,20μm,4.2s
SVW2 Sparrevohn 29.64 52 *e*P **P 15 01 49.9 +1.8**
comp=Z,1μm,0.8s
SVW2 *e*PcP **PcP 15 04 33.2 +2.1**
ZAK Zakamensk 29.83 286 *e*P **P 15 01 51.5 +1.5**
ZAK *e* 15 04 31.6
ZAK pmax pmax
comp=Z,2μm,1.1s
IMAR Indian Mountai 30.19 42 *e*P **P 15 01 53.6 +0.9**
IMAR *e*PcP **PcP 15 04 34.4 +1.9**
BTO Baotou 30.49 264 *e*P **P 15 01 56.8 +1.1**
BTO S **S 15 06 08.3 -6.3**
SSE Sheshan 30.59 238 P **P 15 01 57.8 +1.2**
SSE sP **sP 15 04 46.5 -1.9**
SSE S **S 15 06 16.3 +0.2**
SSE pmax pmax
comp=Z,1μm,1.0s
SSE pmax pmax
comp=Z,6μm,3.9s
MOY Mondy 30.70 290 *e*P **P 15 01 58.7 +1.3**
MOY pmax pmax
comp=Z,5μm,1.4s
TIY Taiyuan 30.82 258 *e*P **P 15 01 59.9 +1.4**
TIY S **S 15 06 22.3 +2.7**
TIY pmax pmax
comp=Z,3μm,0.9s
NJ2 Nanjing 31.10 243⇓*i*P **P 15 02 02.3 +1.4**
NJ2 PcP **PcP 15 04 35.3 -0.2**
NJ2 ScS ScS 15 11 15.6 -2.9
NJ2 pmax pmax
comp=Z,6μm,1.1s
SII Sitkinak Islan 31.22 60 *e*P **P 15 02 02.0 +0.3**
comp=Z,2μm,1.0s
SPU Mount Spurr 31.33 51 *e*P **P 15 02 04.2 +1.8**
BPAW Bear Paw Mtn. 31.45 45 *e*P **P 15 02 04.7 +1.3**
comp=Z,1μm,0.9s
COLD Coldfoot 31.61 39 *e*P **P 15 02 05.8 +1.1**
comp=Z,611nm,0.8s
KDAK Kodiak Island 31.75 57 *e*P **P 15 02 06.2 +0.1**
comp=Z,1μm,0.7s
KDAK Kodiak Island 31.75 57*c e*P **P 15 02 05.6 -0.5**
TOLK Toolik Lake Re 31.84 36 *e*P **P 15 02 07.5 +0.7**
comp=Z,3μm,1.3s
TOLK *e*PcP **PcP 15 04 39.1 +2.1**
TOLK Toolik Lake Re 31.84 36 P **P 15 02 07.8 +1.0**
baz=269,SNR=1000
TOLK S **S 15 06 33.9 -0.5**
baz=269
BWN Browne 32.10 45 *e*P **P 15 02 11.3 +2.3**
comp=Z,4μm,0.7s
BRLK Bradley Lake 32.16 53 *e*P **P 15 02 09.6 +0.1**
comp=Z,1μm,1.0s
BRLK *e*PcP **PcP 15 04 38.9 +0.8**
RC01 Rabbit Creek A 32.45 51 *e*P **P 15 02 12.2 +0.3**
comp=Z,958nm,0.8s
RC01 *e*PcP **PcP 15 04 39.8 +1.0**
PMR Palmer 32.64 50 *e*P **P 15 02 14.2 +0.7**
comp=Z,545nm,0.9s
PMR *e*PcP **PcP 15 04 40.2 +0.9**
PMR Palmer 32.64 50 *e*P **P 15 02 14.2 +0.7**
PMR *e* 15 04 40.2
PMR pmax pmax
comp=Z,545nm,0.9s
I53US FAIRBANKS INFR 32.71 43 P **P 15 02 15.0 +1.0**
baz=263,slow=6.9,SNR=5.7
TCOL CIGO, UAF Yank 32.71 43 P **P 15 02 15.3 +1.2**
baz=277,SNR=739
COLA College 32.72 43 *e*P **P 15 02 15.2 +1.2**
comp=Z,3μm,0.8s
COLA College 32.72 43*d i*P **P 15 02 15.0 +1.0**
COLA pmax pmax
comp=Z,3μm,0.9s
POKR Poker Plat Res 32.87 43 P **P 15 02 16.8 +1.5**
baz=277,SNR=793
ILAR Eielson Array 33.14 44 *e*P **P 15 02 18.0 +0.4**
ILAR Eielson Array 33.14 44 P **P 15 02 18.4 +0.7**
comp=Z,1μm,0.7s,baz=270,slow=8.0,SNR=3404
ILAR PcP **PcP 15 04 40.3 -0.4**
comp=Z,229nm,0.8s,baz=288,slow=4.3,SNR=10
ILAR S **S 15 06 54.4 +0.4**
comp=Z,108nm,1.0s,baz=270,slow=15,SNR=5.3
ILAR ScP **ScP 15 07 24.6 -1.4**
comp=Z,102nm,0.8s,baz=291,slow=3.7,SNR=6.0
ILAR PKiKP **PKiKP 15 12 02.6 -1.7**
comp=Z,33nm,0.7s,baz=296,slow=2.5,SNR=16
ILAR P3KPbc 15 33 16.6
comp=Z,80nm,1.0s,baz=0.8,slow=4.1,SNR=35
ILAR P4KPbc 15 40 39.8
comp=Z,1.0nm,0.7s,baz=284,slow=3.7,SNR=4.8
HDA Harding Lake 33.16 44 *e*P **P 15 02 18.0 +0.2**
comp=Z,2μm,1.3s
HDA Harding Lake 33.16 44 P **P 15 02 18.3 +0.4**
baz=278,SNR=1000
SCM Sheep Creek Mo 33.44 49 *e*P **P 15 02 21.1 +0.9**
comp=Z,2μm,0.9s
SCM *e*PcP **PcP 15 04 43.0 +1.3**
SCM Sheep Creek Mo 33.44 49 *e*P **P 15 02 21.1 +0.9**
SCM *e* 15 04 43.0
SCM pmax pmax
comp=Z,2μm,0.9s
PRP Porcupine Dome 33.61 42 *e*P **P 15 02 22.8 +1.1**
comp=Z,3μm,0.8s
NRIK Noril'sk 33.69 325 P **P 15 02 22.0 -0.1**
comp=Z,555nm,1.0s,baz=96,slow=8.8,SNR=493
NRIK PcP **PcP 15 04 42.7 +0.5**
comp=Z,2μm,0.8s,baz=97,slow=4.2,SNR=16
NRIK S **S 15 07 01.8 -0.3**
comp=Z,292nm,0.8s,baz=286,slow=21,SNR=25
NRIK P3KPbc 15 33 15.2
comp=Z,5.6nm,0.8s,baz=201,slow=0.6,SNR=6.2
NRIK P4KPbc 15 40 37.6
comp=Z,4.9nm,0.9s,baz=102,slow=6.4,SNR=4.1
H11N2 WAKE ISLAND Hy 34.49 154 P **P 15 02 30.4 +1.2**
baz=295,slow=6.7,SNR=1764
H11N1 WAKE ISLAND Hy 34.50 154 P **P 15 02 30.5 +1.1**
baz=295,slow=6.7,SNR=1273
H11N3 WAKE ISLAND Hy 34.51 154 P **P 15 02 30.6 +1.2**
baz=295,slow=6.7,SNR=2730
WHN Wuhan 34.75 246 ⇓P **P 15 02 32.1 +0.6**
WHN PcP **PcP 15 04 46.6 +0.6**
WHN S **S 15 07 17.5 -1.4**
WHN ScP **ScP 15 07 31.4 -0.9**
WHN PcS **PcS 15 08 34.0 +0.1**
WHN ScS **ScS 15 11 36.4 -1.5**
WHN pmax pmax
comp=Z,28μm,6.7s
WAKE Wake Island 34.85 155 *e*P **P 15 02 33.3 +0.9**
comp=Z,22μm,1.8s
XAN Xi'an 35.39 256 P **P 15 02 37.1 +0.3**
XAN sP sP 15 05 25.3 -5.6
XAN S **S 15 07 26.8 -1.7**
XAN ScS **ScS 15 11 46.4 +4.9**
XAN pmax pmax
comp=Z,2μm,1.4s
XAN pmax pmax
comp=Z,12μm,6.5s
XAN Xi'an 35.39 256 *e*P **P 15 02 37.0 +0.3**
comp=Z,4μm,1.4s
XAN Xi'an 35.39 256 *e*P **P 15 02 37.0 +0.3**
XAN pmax pmax
comp=Z,4μm,1.4s
TATO Taipei 35.44 232 *e*P **P 15 02 38.2 +1.0**
comp=Z,2μm,1.0s
TATO *e*PcP **PcP 15 04 48.5 +0.3**
TATO Taipei 35.44 232 P **P 15 02 37.9 +0.6**
SNR=43
H11S1 WAKE ISLAND Hy 35.60 155 P **P 15 02 39.4 +1.0**
baz=276,slow=4.0,SNR=1211
H11S3 WAKE ISLAND Hy 35.61 155 P **P 15 02 39.7 +1.2**
baz=276,slow=4.0,SNR=1068
H11S2 WAKE ISLAND Hy 35.62 155 P **P 15 02 39.5 +0.9**
baz=276,slow=4.0,SNR=1066
ANA2 Anatahan 36.01 190 *e*P **P 15 02 41.6 -0.4**
comp=Z,403nm,0.9s
NACB Ninganchiao 36.07 231 *e*P **P 15 02 40.5 -1.9**
comp=Z,620nm,0.9s
NACB *e*PcP **PcP 15 04 51.8 +1.6**
QZH Quanzhou 36.90 235⇓*i*P **P 15 02 49.8 +0.6**
QZH PcP **PcP 15 04 53.1 +0.4**
QZH sP **sP 15 05 45.8 +1.8**
QZH ScP **ScP 15 07 38.0 -2.4**
QZH S **S 15 07 50.3 -0.6**
QZH pmax pmax
comp=Z,2μm,1.1s
QZH pmax pmax
comp=Z,10μm,5.3s
EPYK Eagle Plains 37.00 39 *e*P **P 15 02 50.7 +1.3**
comp=Z,2μm,0.9s
EPYK Eagle Plains 37.00 39 P **P 15 02 50.9 +1.4**
baz=284,SNR=406
EPYK S **S 15 07 51.8 +0.4**
baz=284
LZH Lanzhou 37.09 264 ⇓P **P 15 02 52.8 +2.0**
LZH PP **PP 15 04 38.4 +1.1**
LZH sP sP 15 05 47.3 +1.4
LZH S **S 15 07 55.8 +1.9**
LZH sS sS 15 11 05.3 +1.0
LZH SS **SS 15 11 10.4 -3.3**
LZH ScS **ScS 15 11 51.0 -0.5**
LZH pmax pmax
comp=Z,11μm,1.3s
LZH pmax pmax
comp=Z,29μm,4.9s
GTA Gaotai 37.48 271 ⇓P **P 15 02 55.4 +1.5**
GTA sP sP 15 05 47.8 -1.5
GTA ScP **ScP 15 07 42.1 -0.5**
GTA S **S 15 08 00.1 +0.6**
GTA sS sS 15 11 04.3 -5.9
GTA SS **SS 15 11 13.8 -6.0**
GTA ScS **ScS 15 11 51.9 -1.7**
GTA pmax pmax
comp=Z,3μm,1.2s
GTA pmax pmax
comp=Z,15μm,6.4s
INK Inuvik 37.75 36 P **P 15 02 56.2 +0.8**
comp=Z,913nm,0.5s,baz=290,slow=7.0,SNR=6009
INK PcP **PcP 15 04 55.3 +0.7**
comp=Z,823nm,0.6s,baz=294,slow=4.2,SNR=13
INK ScP **ScP 15 07 43.1 +0.3**
comp=Z,413nm,1.0s,baz=304,slow=6.2,SNR=8.1
INK S **S 15 08 02.1 -0.1**
comp=Z,128nm,0.8s,baz=66,slow=32,SNR=15
INK ScS **ScS 15 11 52.6 -1.1**

comp=Z,164nm,1.2s,baz=232,slow=20,SNR=17
INK PKiKP **PKiKP** **15 12 07.3 -0.4**
comp=Z,102nm,0.7s,baz=353,slow=4.5,SNR=17
INK P3KPbc 15 32 56.9
comp=Z,39nm,0.8s,baz=88,slow=5.0,SNR=23
GUMO Guam 38.82 190 P **P** **15 03 02.9 -1.8**
comp=Z,548nm,0.8s,baz=59,slow=9.7,SNR=42
GUMO PcP **PcP** **15 04 57.5 -1.4**
comp=Z,1μm,0.9s,baz=213,slow=3.0,SNR=11
GUMO S **S** **15 08 13.0 -6.2**
comp=Z,510nm,1.2s,baz=343,slow=10,SNR=14
GUMO P3KPbc 15 32 52.7
comp=Z,133nm,1.1s,baz=220,slow=10.0,SNR=4.8
ZAA0 Zalesovo Array 38.83 300 *eP* **P** **15 03 03.9 -0.4**
comp=Z,899nm,0.8s
ZAA0 *e*PP **PcP** **15 04 59.0 +0.6**
ZALV Zalesovo Beam 38.83 300 *eP* **P** **15 03 04.4 +0.1**
ZALV *e*PP **PcP** **15 04 59.1 +0.7**
ZALV Zalesovo Beam 38.83 300 P **P** **15 03 04.1 -0.2**
comp=Z,1μm,0.8s,baz=62,slow=6.9,SNR=1087
ZALV PcP **PcP** **15 04 58.4 +0.1**
comp=Z,3μm,0.7s,baz=56,slow=2.7,SNR=44
ZALV ScP **ScP** **15 07 46.2 -1.1**
comp=Z,168nm,0.6s,baz=45,slow=3.0,SNR=4.4
ZALV ScS **ScS** **15 11 58.2 -2.4**
comp=Z,179nm,1.0s,baz=56,slow=5.8,SNR=6.7
ZALV PKiKP **PKiKP** **15 12 07.7 -1.4**
comp=Z,189nm,0.6s,baz=197,slow=0.9,SNR=21
ZALV P3KP 15 34 20.4
comp=Z,5.8nm,0.7s,baz=244,slow=3.1,SNR=3.9
ZALV PKP2ab 15 36 51.1
comp=Z,4.8nm,0.6s,baz=65,slow=1.4,SNR=5.2
ZALV P4KPbc 15 41 02.9
comp=Z,2.9nm,0.6s,baz=74,slow=3.1,SNR=5.9
BBP Basco 39.11 227 *eP* **P** **15 03 07.0 0.0**
BBP *e*S **PcP** **15 04 58.6 -1.2**
NVS Novosibirsk 39.29 302⇑ *iP* **P** **15 03 09.2 +1.3**
NVS *e**PP **pP** **15 04 53.1 +0.3**
NVS *e*S **S** **15 08 23.3 -1.7**
NVS pmax pmax
comp=N,1μm,1.0s
NVS pmax pmax
comp=E,2μm,1.0s
NVS pmax pmax
comp=Z,4μm,1.0s
NVS smax smax
comp=N,8μm,1.6s
NVS smax smax
comp=E,7μm,1.5s
DGZ Jazzator, Alta 39.33 293*d iP* **P** **15 03 10.1 +1.5**
DGZ pmax pmax
comp=Z,2μm,0.9s
CD2 Chengdu 40.69 258 P **P** **15 03 20.4 +0.9**
CD2 pP pP 15 05 05.6 0.0
CD2 PP **PP** **15 05 09.5 -0.5**
CD2 sP sP 15 06 14.4 -2.1
CD2 S **S** **15 08 39.3 -6.7**
CD2 SS **SS** **15 12 06.8 -5.3**
CD2 pmax pmax
comp=Z,9μm,0.9s
CD2 pmax pmax
comp=Z,19μm,7.8s
SGCP Mt. Cagua 41.00 226 *eP* **P** **15 03 21.7 -0.3**
SGCP *e*S **PcP** **15 05 05.6 -0.4**
GZH Guangzhou 41.16 240⇓ *iP* P 15 03 18.3 -4.9
GZH PP **PcP** **15 05 07.8 +1.3**
GZH sP sP 15 06 09.3 -11
GZH S **S** **15 08 43.9 -8.8**
GZH PcS **PcS** **15 08 57.8 -1.2**
GZH SS ScS 15 12 03.0 -13
HKC Hong Kong Obse 41.36 238 ⇑P **P** **15 03 26.0 +1.3**
HKPS Hong Kong Po S 41.39 238 *eP* **P** **15 03 26.3 +1.2**
comp=Z,3μm,1.0s
APYP Conner 41.69 226 *eP* **P** **15 03 26.5 -0.9**
APYP *e*S **PcP** **15 05 08.3 0.0**
MCO Taipa Grande 41.83 239 P **P** **15 03 28.0 -0.4**
PALP Palanan 41.88 224 *eP* **P** **15 03 29.3 +0.5**
PALP *e*S **PcP** **15 05 09.2 +0.2**
ZSN Zaisan 41.95 291 *eP* **P** **15 03 29.6 +0.6**
ZSN *e**PP **PcP** **15 05 08.5 -0.3**
ZSN *e*S **S** **15 09 03.2 -0.3**
ZSN pmax pmax
comp=Z,905nm,1.8s
ZSN smax smax
comp=E,1μm,4.5s
ZSN Zaisan 41.95 291 *eP* **P** **15 03 29.7 +0.6**
comp=E,905nm,1.8s
ZSN *e*pP **PcP** **15 05 08.6 -0.3**
ZSN *e*S **S** **15 09 03.2 -0.3**
comp=E,1μm,4.5s
ABRA Dolores 42.11 227 *eP* **P** **15 03 30.7 0.0**
ABRA *e*S **PcP** **15 05 10.4 +0.6**
GYA Guiyang 42.24 250⇓ *iP* **P** **15 03 31.9 +0.1**
GYA sP sP 15 06 29.3 -0.4
GYA ScP **ScP** **15 07 59.1 -2.4**
GYA S **S** **15 09 02.5 -6.0**
GYA ScS **ScS** **15 12 18.8 -4.0**
GYA SS **SS** **15 12 34.6 -2.9**
GYA pmax pmax
comp=E,7μm,1.0s
GYA pmax pmax
comp=E,9μm,9.9s
CAUP Cauayan 42.24 225 *eP* **P** **15 03 33.1 +1.4**
CAUP *e*S **PcP** **15 05 11.4 +1.2**
WMQ Urumqi 42.29 285 P **P** **15 03 33.8 +2.0**
WMQ PcP **PcP** **15 05 10.9 +0.8**
WMQ pP pP 15 05 19.8 +0.6
WMQ sP sP 15 06 30.0 +0.1
WMQ ScP **ScP** **15 08 06.9 +5.5**
WMQ S **S** **15 09 10.3 +1.7**
WMQ sS ScS 15 12 20.5 -2.0
WMQ SS **SS** **15 12 31.9 -5.6**
DLBC Dease Lake 42.70 49 P **P** **15 03 37.2 +2.4**
comp=E,731nm,0.8s,baz=304,slow=7.7
DLBC PcP **PcP** **15 05 12.7 +1.5**
comp=E,565nm,0.8s,baz=320,slow=2.6,SNR=16
DLBC ScP **ScP** **15 08 03.5 +0.7**
comp=E,488nm,1.1s,baz=289,slow=3.8,SNR=13
DLBC PKiKP **PKiKP** **15 12 12.2 -0.3**
comp=E,50nm,0.8s,baz=0.6,slow=3.1,SNR=6.0
SEM Semipalatinsk 42.99 297*ceP* **P** **15 03 36.9 -0.4**
SEM *i* *PP **PcP** **15 05 11.6 -1.0**
SEM *i* S **S** **15 09 15.7 -2.9**
SEM pmax pmax
comp=Z,1μm,0.5s
SEM smax smax
comp=N,9μm,2.3s
SEM Semipalatinsk 42.99 297⇑ *eP* **P** **15 03 37.0 -0.4**
comp=N,1μm,0.5s
SEM *i* pP **PcP** **15 05 11.7 -1.0**
SEM *i* S **S** **15 09 15.8 -2.9**
comp=N,9μm,2.3s
BALP Baler 43.42 224 *eP* **P** **15 03 41.7 +0.9**
BALP *e*S **PcP** **15 05 14.9 +0.6**
SMPP San Manuel, Pa 43.45 226 *eP* **P** **15 03 39.8 -1.3**
SMPP *e*S **PcP** **15 05 13.7 -0.7**
BOLP Bolinao 43.59 227 *eP* **P** **15 03 42.5 +0.4**
KURK Kurchatov 43.72 298 *eP* **P** **15 03 43.4 +0.8**
comp=N,7μm,0.8s
KURK *e*PcP **PcP** **15 05 15.3 +0.5**
KURK Kurchatov 43.72 298*d iP* **P** **15 03 43.3 +0.6**
KURK pmax pmax
comp=Z,8μm,0.8s
KURK Kurchatov 43.72 298 P **P** **15 03 43.4 +0.8**
SNR=3034
KURK Kurchatov 43.72 298 *eP* **P** **15 03 43.3 +0.6**
MK31 Makanchi Array 43.78 292 *eP* **P** **15 03 44.0 +0.7**
comp=Z,4μm,1.1s
MK31 Makanchi Array 43.78 292 *i* P **P** **15 03 43.8 +0.5**
MK31 pmax pmax
comp=Z,860nm,0.4s
MKAR Makanchi Array 43.78 292 P **P** **15 03 43.9 +0.6**
comp=Z,1μm,0.4s,baz=57,slow=6.6,SNR=5201
MKAR PcP **PcP** **15 05 15.2 0.0**
comp=Z,862nm,0.8s,baz=48,slow=3.6,SNR=7.6
MKAR ScP **ScP** **15 08 06.0 -1.4**
comp=Z,546nm,0.9s,baz=36,slow=2.3,SNR=7.7
MKAR S **S** **15 09 30.4 +0.8**
comp=Z,344nm,0.9s,baz=57,slow=16,SNR=6.5
MKAR P3KP 15 34 04.2
comp=Z,4.6nm,0.9s,baz=48,slow=1.8,SNR=4.3
MKAR P4KPbc 15 41 25.7
comp=Z,17nm,0.7s,baz=54,slow=3.8,SNR=50
KURBB Kurchatov Arra 43.81 298 P **P** **15 03 44.2 +0.8**
comp=Z,5μm,0.7s,baz=64,slow=8.2,SNR=4610
KURBB PcP **PcP** **15 05 15.0 -0.1**
comp=Z,3μm,0.8s,baz=57,slow=3.2,SNR=34
KURBB ScP **ScP** **15 08 05.8 -1.6**
comp=Z,439nm,0.8s,baz=59,slow=3.4,SNR=6.6
KURBB S **S** **15 09 22.7 -7.1**
comp=Z,129nm,1.1s,baz=55,slow=12,SNR=4.0
KURBB PKiKP **PKiKP** **15 12 12.4 -1.2**
comp=Z,37nm,0.8s,baz=305,slow=2.6,SNR=9.8
KURBB P3KPbc 15 32 32.2
comp=Z,2.6nm,0.7s,baz=240,slow=4.7,SNR=7.6
KURBB P3KP 15 34 11.2
comp=Z,9.2nm,1.0s,baz=207,slow=2.1,SNR=5.7
KURBB P4KPbc 15 41 25.3
comp=Z,13nm,0.8s,baz=65,slow=4.6,SNR=27
MAKZ Makanchi 43.95 292 *eP* **P** **15 03 45.1 +0.5**
comp=Z,3μm,0.8s
MAKZ *e*PcP **PcP** **15 05 16.1 +0.3**
MAKZ Makanchi 43.95 292 *eP* **P** **15 03 45.1 +0.5**
MAKZ *e* 15 05 16.1
MAKZ pmax pmax
comp=Z,3μm,0.8s
H02S1 DAWSON INLET T 44.03 57 P **P** **15 03 46.5 +1.6**
SNR=1908
SCZP Santa Cruz 44.12 227 *eP* **P** **15 03 46.4 +0.2**
SCZP *e*S **PcP** **15 05 17.1 +0.4**
POLP Polilio Island 44.17 223 *eP* **P** **15 03 48.2 +1.6**
POLP *e*S **PcP** **15 05 18.0 +1.2**
PVCP Virac 44.28 220 *eP* **P** **15 03 48.8 +1.4**
PVCP *e*S **PcP** **15 05 17.6 +0.3**
CNP Catarman 45.07 219 *eP* **P** **15 03 55.3 +1.9**
CNP *e*S **PcP** **15 05 20.7 +0.7**
AUQP San Andres 45.12 222 *eP* **P** **15 03 56.0 +2.2**
AUQP *e*S **PcP** **15 05 22.6 +2.4**
TGY Tagaytay City 45.15 224 P **P** **15 03 56.0 +1.8**
comp=Z,12μm,1.0s,baz=309,slow=1.5,SNR=392
TGY PcP **PcP** **15 05 21.7 +1.3**
comp=Z,6μm,0.9s,baz=198,slow=3.1,SNR=7.8
TGY ScP **ScP** **15 08 13.1 -0.4**
comp=Z,1μm,1.0s,baz=164,slow=7.1,SNR=6.1
TGY P4KPbc 15 41 31.3
comp=Z,79nm,0.3s,baz=164,slow=2.9,SNR=8.7
KWAJ Kwajalein Atol 45.16 157 *eP* **P** **15 03 56.3 +2.2**
comp=Z,7μm,0.8s
KWAJ *e*PcP **PcP** **15 05 21.7 +1.4**
KWAJ Kwajalein Atol 45.16 157 *eP* **P** **15 03 56.3 +2.2**
KWAJ *e* 15 05 21.7
KWAJ pmax pmax
comp=Z,7μm,0.8s
BOAC Boac 45.34 223 *eP* **P** **15 03 56.7 +1.2**
BOAC *e*S **PcP** **15 05 21.1 +0.1**
PATS Pohnpei 45.50 171 *eP* **P** **15 03 58.5 +1.8**
comp=Z,3μm,1.0s
KMI Kunming 45.55 253 P **P** **15 03 58.3 +1.0**
KMI pP PP 15 05 51.1 -3.4
KMI PP pP 15 05 55.3 +7.8
KMI S **S** **15 09 50.4 -4.8**
KMI sS sS 15 13 12.8 -1.8
KMI SS **SS** **15 13 31.5 +1.1**
KMI pmax pmax
comp=Z,5μm,1.1s
KMI pmax pmax
comp=Z,24μm,3.9s
BESP Borongan 45.61 217 *eP* **P** **15 03 59.2 +1.7**
BESP *e*S **PcP** **15 05 22.3 +0.3**
LUBP Lubang 45.78 225 *eP* **P** **15 03 57.7 -1.1**
LUBP *e*S **PcP** **15 05 22.3 -0.3**
RES Resolute Bay 46.07 20 *eP* **P** **15 04 00.2 +0.1**
comp=Z,3μm,1.2s
RES Resolute Bay 46.07 20 P **P** **15 04 00.5 +0.4**
comp=Z,1μm,0.9s,baz=280,slow=7.3,SNR=1257
RES PcP **PcP** **15 05 23.2 +0.6**
comp=Z,1μm,0.8s,baz=308,slow=4.1,SNR=16
RES ScP **ScP** **15 08 16.4 +0.1**
comp=Z,313nm,1.1s,baz=297,slow=3.3,SNR=5.5
RES PKiKP **PKiKP** **15 12 14.1 -1.0**
comp=Z,72nm,0.8s,baz=231,slow=4.2,SNR=7.3
RES P3KPbc 15 32 17.0
comp=Z,4.0nm,1.1s,baz=182,slow=5.7,SNR=4.6
RES P3KP 15 34 06.8
comp=Z,12nm,1.1s,baz=76,slow=6.3,SNR=3.6
RES P4KPbc 15 41 34.1
comp=Z,15nm,0.8s,baz=299,slow=4.0,SNR=13
PLP Palo 46.18 217⇓ *eP* **P** **15 04 02.7 +0.8**
OTRP Odiongan 46.26 222 *eP* **P** **15 04 04.5 +2.1**
OTRP *e*S **PcP** **15 05 25.6 +1.3**
QIZ Qiongzhong 46.34 240 P **P** **15 04 05.3 +2.3**
QIZ sP **sP** **15 07 00.4 -2.7**
QIZ S **S** **15 10 08.3 +2.5**
QIZ sS **sS** **15 13 26.6 +0.5**
QIZ SS **SS** **15 13 47.9 +5.2**
QIZ pmax pmax
comp=Z,4μm,1.1s
QIZ pmax pmax
comp=Z,18μm,5.2s
OCLP Ormoc 46.43 218 *eP* **P** **15 04 05.2 +1.5**
OCLP *e*S **PcP** **15 05 25.1 +0.2**
SJMP San Jose 46.54 223 *eP* **P** **15 04 05.9 +1.4**
SJMP *e*S **PcP** **15 05 26.2 +1.0**
JOHN Johnston Islan 46.77 124 *eP* **P** **15 04 07.7 +1.5**
comp=Z,31μm,1.8s
BVAR Borovoye Array 46.79 305 P **P** **15 04 06.2 +0.3**
comp=Z,2μm,0.7s,baz=58,slow=7.6,SNR=4136
BVAR PcP **PcP** **15 05 25.9 +0.2**
comp=Z,1μm,0.5s,baz=78,slow=3.9,SNR=28
BVAR ScP **ScP** **15 08 18.4 -1.4**
comp=Z,208nm,0.6s,baz=60,slow=3.5,SNR=5.6
BVAR S **S** **15 10 04.3 -6.9**
comp=Z,697nm,1.0s,baz=64,slow=15,SNR=15
BVAR PKiKP **PKiKP** **15 12 16.2 -0.3**
comp=Z,62nm,0.7s,baz=0.2,slow=1.4,SNR=4.6
BVAR ScS **ScS** **15 12 46.6 -4.8**
comp=Z,136nm,0.9s,baz=36,slow=5.4,SNR=3.9
BVAR P3KP 15 34 09.0
comp=Z,5.7nm,0.8s,baz=226,slow=3.9,SNR=4.4
BVAR P4KPbc 15 41 38.0
comp=Z,51nm,0.6s,baz=72,slow=4.0,SNR=81
BBB Bella Bella 46.82 56 P **P** **15 04 07.8 +1.8**
comp=Z,527nm,0.8s,baz=310,slow=8.0,SNR=166
BBB PcP **PcP** **15 05 26.7 +1.0**
comp=Z,258nm,0.7s,baz=312,slow=6.7,SNR=7.1
BBB ScP **ScP** **15 08 20.0 +0.1**
comp=Z,201nm,1.1s,baz=266,slow=3.2,SNR=7.1
BBB PKiKP **PKiKP** **15 12 16.4 -0.1**
comp=Z,23nm,0.9s,baz=90,slow=2.0,SNR=3.5
BRVK Borovoye 46.83 305 *eP* **P** **15 04 06.3 +0.1**
comp=Z,4μm,0.8s
BRVK *e*PcP **PcP** **15 05 26.0 +0.3**
BRVK Borovoye 46.83 305*d iP* **P** **15 04 06.5 +0.3**
BRVK pmax pmax
comp=Z,5μm,0.8s
BRVK Borovoye 46.83 305 P **P** **15 04 06.7 +0.5**
SNR=1810
BRVK Borovoye 46.83 305 *eP* **P** **15 04 06.5 +0.3**
KBS Kingsbay 47.01 350 *eP* **P** **15 04 07.4 +0.2**
comp=Z,1μm,0.8s
KBS Kingsbay 47.01 350*d iP* **P** **15 04 07.2 0.0**
KBS pmax pmax
comp=Z,6μm,0.9s
KBS Kingsbay 47.01 350⇓ *iP* **P** **15 04 07.4 +0.2**
KBS IVmB_BB 15 04 08.0
comp=Z,17μm,1.7s
KBS *e*S **S** **15 10 13.6 0.0**
TDK Taldyqorghan 47.03 292 *i* P **P** **15 04 09.1 +1.2**
TDK *e*S **S** **15 10 14.0 -0.7**
TDK smax smax
comp=E,9μm,1.6s
TDK Taldyqorghan 47.03 292 *i* P **P** **15 04 09.1 +1.2**
comp=E,10μm,0.9s
TDK *e*S **S** **15 10 14.1 -0.7**
comp=E,9μm,1.6s
SPA0 Spitsbergen Ar 47.13 349⇓ *iP* **P** **15 04 07.5 -0.6**
SPA0 IVmB_BB 15 04 08.4
comp=Z,19μm,1.7s
SPA0 *e*S **S** **15 10 12.2 -2.9**
SPITS Spitsbergen Ar 47.13 349 P **P** **15 04 07.5 -0.6**
comp=Z,747nm,0.8s,baz=56,slow=8.2,SNR=664
SPITS PcP **PcP** **15 05 26.4 0.0**
comp=Z,2μm,0.8s,baz=116,slow=8.7,SNR=32
SPITS PKiKP **PKiKP** **15 12 15.9 -0.4**
comp=Z,32nm,0.8s,baz=97,slow=4.5,SNR=5.5
SPITS P3KPbc 15 32 16.9
comp=Z,2.1nm,0.5s,baz=166,slow=7.4,SNR=7.7
SPITS P4KPbc 15 41 40.4
comp=Z,3.9nm,0.8s,baz=130,slow=5.8,SNR=4.4
MSLP Maasin 47.17 217 *eP* **P** **15 04 10.2 +1.0**
MSLP *e*S **PcP** **15 05 27.9 +0.4**
HOPEN Hopen 47.21 345⇓ *iP* **P** **15 04 07.9 -0.8**
HOPEN IVmBBB 15 04 08.9
comp=Z,15μm,1.4s
HOPEN *e*S **S** **15 10 14.4 -1.8**
SCPH Surigao 47.27 216⇓ *eP* P 15 04 19.4 +9.4
YKA Yellowknife Ar 47.29 39 *eP* **P** **15 04 09.2 -0.2**
YKA Yellowknife Ar 47.29 39 P **P** **15 04 10.1 +0.7**
comp=Z,1μm,0.7s,baz=304,slow=7.1,SNR=4731
YKA PcP **PcP** **15 05 28.1 +0.8**
comp=Z,591nm,0.8s,baz=313,slow=3.6,SNR=31
YKA ScP **ScP** **15 08 21.8 +0.2**
comp=Z,316nm,0.9s,baz=302,slow=4.3,SNR=17
YKA S **S** **15 10 18.1 +0.5**
comp=Z,158nm,1.2s,baz=303,slow=13,SNR=5.5
YKA PKiKP **PKiKP** **15 12 16.0 -0.7**
comp=Z,37nm,0.8s,baz=316,slow=1.7,SNR=12
YKA P3KPbc 15 32 14.8
comp=Z,3.0nm,0.6s,baz=118,slow=4.3,SNR=9.1
YKA PKPPKP 15 35 08.5
comp=Z,12nm,0.8s,baz=157,slow=2.3,SNR=6.1
YKA PKP2ab 15 36 02.7
comp=Z,22nm,1.0s,baz=131,slow=4.5,SNR=5.7
YKA P4KPbc 15 41 40.8
comp=Z,5.9nm,0.8s,baz=298,slow=4.3,SNR=17
BRZS Berezniki 47.31 300 *eP* **P** **15 04 09.7 -0.1**
BRZS *e*S **S** **15 10 15.0 -3.4**
BRZS pmax pmax
comp=Z,5μm,1.1s
BRZS smax smax
comp=N,5μm,3.5s
BRZS Berezniki 47.31 300 *eP* **P** **15 04 09.7 -0.1**
comp=N,5μm,1.1s
BRZS *e*S **S** **15 10 15.1 -3.4**
comp=N,5μm,3.5s
BUSP Coron 47.34 224 *eP* **P** **15 04 11.3 +0.8**
BUSP *e*S **PcP** **15 05 29.0 +0.8**
SHLS Shalkode 47.52 289*ceP* **P** **15 04 10.5 -1.2**
SHLS *i* S **S** **15 10 18.9 -2.9**
SHLS pmax pmax
comp=Z,3μm,0.8s
SHLS smax smax
comp=N,10μm,3.5s
SHLS Shalkode 47.52 289⇑ *eP* **P** **15 04 10.5 -1.2**
comp=N,3μm,0.8s
SHLS *i* S **S** **15 10 19.0 -2.9**
comp=N,10μm,3.5s
GUIM Jordan 47.60 220 *eP* **P** **15 04 13.8 +1.4**
GUIM *e*S **PcP** **15 05 29.0 -0.1**
UZB Uzynbulak 47.79 289*d iP* **P** **15 04 14.4 +0.7**
UZB *i* S **S** **15 10 25.5 +0.1**
UZB pmax pmax
comp=Z,2μm,1.3s
UZB smax smax
comp=N,3μm,2.6s
UZB Uzynbulak 47.79 289⇓ *iP* **P** **15 04 14.4 +0.7**
comp=N,2μm,1.3s
UZB *i* S **S** **15 10 25.5 +0.1**
comp=N,3μm,2.6s
KPKS Kokpek 47.79 290*d iP* **P** **15 04 14.4 +0.8**
KPKS *e*S **S** **15 10 20.5 -4.8**
KPKS pmax pmax
comp=Z,3μm,0.8s
KPKS smax smax
comp=N,8μm,5.4s
KPKS Kokpek 47.79 290⇓ *iP* **P** **15 04 14.5 +0.8**
comp=N,3μm,0.8s
KPKS *e*S **S** **15 10 20.5 -4.8**
comp=N,8μm,5.4s
SLVN Son La 47.79 248 *eP* **P** **15 04 15.4 +1.5**
comp=N,5μm,0.9s
BUTP Butuan 47.97 216 *eP* **P** **15 04 16.1 +0.9**
BUTP *e*S **PcP** **15 05 30.8 +0.3**
CUYO Cuyo Island 48.03 222 *eP* **P** **15 04 16.9 +1.3**
CUYO *e*S **PcP** **15 05 31.7 +1.0**
HSPB Hornsund (broa 48.20 348 *eP* **P** **15 04 15.6 -0.3**
HSPB *i* S **S** **15 10 27.6 -2.1**
HSPB Hornsund (broa 48.20 348⇓ *iP* **P** **15 04 15.7 -0.3**
HSPB IVmB_BB 15 04 16.6
comp=Z,21μm,1.6s
HSPB *e*S **S** **15 10 27.4 -2.3**
SATY Saty 48.20 290*d iP* **P** **15 04 17.6 +0.9**
SATY *e*S **S** **15 10 31.7 +0.7**
SATY pmax pmax
comp=Z,5μm,1.4s
SATY smax smax
comp=E,2μm,1.3s
SATY Saty 48.20 290⇓ *iP* **P** **15 04 17.7 +0.9**
comp=E,5μm,1.4s
SATY *i* pP **pP** **15 06 03.7 -5.0**
SATY *e*S **S** **15 10 31.7 +0.7**
comp=E,2μm,1.3s
ENPP El Nido 48.39 224 *eP* **P** **15 04 19.5 +1.2**
ENPP *e*S **PcP** **15 05 33.3 +1.3**
SNPH Sibulan 48.52 219⇓ *eP* **P** **15 04 21.3 +2.0**
SNPH *e*S **PcP** **15 05 32.7 +0.2**
DIBR DIBRUGARH 48.52 262 *eP* **P** **15 04 19.4 +0.3**
CGP Cagayan de Oro 48.78 216⇓ *eP* **P** **15 04 20.3 -0.8**
KUU Kurty 48.88 292*d iP* **P** **15 04 21.5 0.0**
KUU *i* S **S** **15 10 39.1 -0.9**
KUU pmax pmax
comp=Z,4μm,0.7s
KUU smax smax
comp=N,3μm,1.4s
KUU Kurty 48.88 292⇓ *iP* **P** **15 04 21.6 0.0**
comp=N,4μm,0.7s
KUU *i* S **S** **15 10 39.1 -0.9**
comp=N,3μm,1.4s
MDOK Medeo 48.92 291 *i* P **P** **15 04 22.8 +0.8**
MDOK *e*S **S** **15 10 41.4 +0.6**
MDOK pmax pmax
comp=Z,42μm,1.2s
MDOK Medeo 48.92 291 *i* P **P** **15 04 22.8 +0.8**
comp=Z,42μm,1.2s
MDOK *e*S **S** **15 10 41.4 +0.6**
comp=Z,25μm,2.8s
AAA Alma-Ata 48.97 291 *eP* **P** **15 04 23.2 +0.9**
AAA *e*S **S** **15 10 40.6 -0.7**
AAA pmax pmax
comp=Z,9μm,1.3s
AAA smax smax
comp=N,20μm,7.1s
AAA Alma-Ata 48.97 291⇓ *iP* **P** **15 04 23.4 +1.2**
comp=N,4μm,1.3s
AAA *i* S **S** **15 10 42.1 +0.8**
comp=N,15μm,4.7s
TNSS Tian-Shan 49.05 291⇓ *iP* **P** **15 04 24.1 +0.8**
TNSS pmax pmax
comp=Z,2μm,0.6s
TNSS Tian-Shan 49.05 291⇓ *iP* **P** **15 04 24.1 +0.8**
comp=Z,2μm,0.6s
ZIRO ZIRO 49.13 263 *eP* **P** **15 04 24.5 +0.7**
DCPH Dipolog City 49.17 218⇑ *eP* **P** **15 04 28.2 +4.2**
BUKP Musuan 49.18 216 *eP* **P** **15 04 25.3 +1.2**
BUKP *e*S **PcP** **15 05 36.6 +1.6**
LSA Lhasa 49.24 267 P **P** **15 04 26.8 +1.8**
LSA pmax pmax
comp=Z,2μm,0.5s
LSA Lhasa 49.24 267 P **P** **15 04 26.7 +1.8**
SVE Sverdlovsk 49.29 314*c iP* **P** **15 04 25.1 +0.8**
SVE *e* 15 05 34.4
SVE *e* 15 06 14.1
SVE *i* S **S** **15 10 44.5 -0.5**
SVE *e* 15 13 02.7
SVE *e*SS SS 15 14 06.2 -21
SVE pmax pmax
comp=Z,6μm,0.9s
SVE pmax pmax
comp=Z,2μm,8.5s
SVE Sverdlovsk 49.29 314 *eP* **P** **15 04 25.1 +0.8**
MTBS Maitube 49.30 291⇓ *iP* **P** **15 04 25.6 +0.9**
MTBS pmax pmax
comp=Z,5μm,0.7s
MTBS Maitube 49.30 291⇓ *iP* **P** **15 04 25.6 +0.9**
comp=Z,5μm,0.7s
KIP Kipapa 49.32 109 *eP* **P** **15 04 26.3 +1.3**
comp=Z,14μm,1.4s
KIP Kipapa 49.32 109*ceP* **P** **15 04 26.2 +1.2**
KIP pmax pmax
comp=Z,9μm,1.3s
JORH JORHAT 49.45 262 *eP* **P** **15 04 26.4 +0.4**
BTLS Baital 49.48 294 *eP* **P** **15 04 26.1 +0.2**
BTLS *i* S **S** **15 10 47.5 -0.5**
BTLS pmax pmax
comp=Z,765nm,0.6s

BTLS smax smax
comp=N,3µm,2.7s
BTLS Baital 49.48 294 *eP* **P 15 04 26.2 +0.2**
comp=N,765nm,0.6s
BTLS *i* S **S 15 10 47.5 -0.5**
comp=N,3µm,2.7s
MOKO MOKOCHONG 49.60 262 *eP* **P 15 04 28.2 +1.0**
MATI Mati 49.63 214 *eP* **P 15 04 25.9 -1.5**
MATI *eS* **PcP 15 05 35.5 -1.1**
BJO Bjornoya 49.70 345 ⇓*iP* **P 15 04 26.5 -0.5**
BJO IVmB_BB 15 04 27.2
comp=Z,15µm,1.8s
BJO *eS* **S 15 10 47.4 -2.7**
DAV Davao City (W) 49.75 215 *eP* **P 15 04 29.5 +1.3**
DAV *e*PcP **PcP 15 05 38.8 +1.7**
DAV Davao City (W) 49.75 215⇓*eP* P 15 04 20.9 -7.3
DAV Davao City (W) 49.75 215 P **P 15 04 29.6 +1.3**
SNR=105
DAV Davao City (W) 49.75 215 P **P 15 04 29.8 +1.5**
comp=Z,5µm,1.1s,baz=56,slow=3.1,SNR=122
DAV PcP **PcP 15 05 38.2 +1.2**
comp=Z,5µm,0.9s,baz=48,slow=2.9,SNR=10.0
DAV ScP **ScP 15 08 32.3 -0.7**
comp=Z,433nm,0.5s,baz=101,slow=1.9,SNR=3.6
DMPH Davao City--Mi 49.76 215⇓*iP* **P 15 04 29.5 +1.2**
PAGZ Pagadian 49.83 218 *eP* **P 15 04 29.2 +0.4**
PAGZ *eS* **PcP 15 05 37.4 +0.1**
TKM2 Tokmak 2 49.90 291 P **P 15 04 30.1 +0.8**
SNR=3241
ULHL Ulahol 49.95 290 P **P 15 04 30.9 +1.2**
SNR=276
IPIL Ipil 50.19 219 *eP* **P 15 04 32.0 +0.5**
IPIL *eS* **PcP 15 05 38.5 -0.3**
KOHI KOHIMA 50.29 261 *ex* **P 15 04 33.7 +1.5**
USP Ospenovka 50.32 292 P **P 15 04 33.0 +0.9**
SNR=372
CHMS Chumysh 50.34 292 P **P 15 04 33.2 +1.0**
SNR=98
TEZP TEZPUR 50.43 263 *eP* **P 15 04 34.2 +1.1**
KBK Karagaybulak 50.44 291 P **P 15 04 34.2 +1.0**
SNR=115
ARU Arti 50.45 314 *eP* **P 15 04 32.8 +0.1**
comp=Z,6µm,0.7s
ARU *e*PcP **PcP 15 05 39.4 +0.3**
ARU Arti 50.45 314 *d iP* **P 15 04 33.0 +0.3**
ARU *e* 15 05 38.8
ARU *PP **pP** 15 06 23.3 -2.9
ARU 15 06 36.4
ARU *SP **sP** 15 07 30.7 -4.4
ARU *eS* **S 15 11 01.2 +0.6**
ARU 15 13 10.6
ARU pmax pmax
comp=Z,7µm,0.7s
ARU Arti 50.45 314 ScP **ScP 15 08 33.7 -1.7**
comp=Z,74nm,0.6s,baz=122,slow=12,SNR=3.6
ARU S **S 15 11 00.6 0.0**
comp=Z,73nm,0.6s,baz=214,slow=18,SNR=24
ARU P4KPbc 15 41 51.7
comp=Z,2.1nm,0.6s,baz=49,slow=10.0,SNR=3.3
ARU Arti 50.45 314 *eP* **P 15 04 33.0 +0.3**
DDMP Don Marcelino, 50.60 214 *eP* **P 15 04 34.7 +0.3**
DDMP *eS* **PcP 15 05 39.8 -0.5**
SKMP Bagumbayan, Su 50.63 216 *eP* **P 15 04 35.7 +1.1**
SKMP *eS* **PcP 15 05 40.3 -0.1**
KZA Kyzart 50.63 291 P **P 15 04 36.1 +1.2**
SNR=1339
KHLH Kahului Airpor 50.65 108 *eP* **P 15 04 36.6 +1.9**
comp=Z,8µm,0.7s
AAK Ala-Archa 50.71 292 P **P 15 04 36.0 +0.9**
SNR=273
AAK Ala-Archa 50.71 292 *eP* **P 15 04 36.0 +0.9**
comp=Z,5µm,0.7s
AAK Ala-Archa 50.71 292 *i* P **P 15 04 36.0 +0.9**
SNR=266
AAK Ala-Archa 50.71 292 P **P 15 04 36.3 +1.1**
SNR=1464
AAK Ala-Archa 50.71 292 P **P 15 04 36.2 +1.1**
comp=Z,4µm,0.7s,baz=106,slow=4.7,SNR=2837
AAK PcP **PcP 15 05 40.9 +0.3**
comp=Z,585nm,0.6s,baz=155,slow=3.9,SNR=5.9
AAK ScP **ScP 15 08 35.7 -1.4**
comp=Z,427nm,0.8s,baz=177,slow=2.1,SNR=4.9
AAK S **S 15 11 05.4 +0.3**
comp=Z,700nm,1.0s,baz=7.8,slow=9.2,SNR=38
AAK P4KPbc 15 41 53.8
comp=Z,36nm,0.7s,baz=115,slow=2.8,SNR=59
PANO Nakornpanom 50.73 245 P **P 15 04 36.7 +1.4**
comp=Z,239nm,1.1s,comp=Z,2µm
NONG Nongkai 50.82 247 P **P 15 04 37.0 +1.1**
comp=Z,104nm,1.0s,comp=Z,1µm
HLK Haleakala 50.87 108 *eP* **P 15 04 38.0 +1.4**
comp=Z,16µm,1.5s
UCH Uchtor 50.96 291 P **P 15 04 38.2 +0.9**
SNR=33
EKS2 Erkin-Say 51.11 292 P **P 15 04 38.8 +0.9**
SNR=509
ZCP Zamboanga City 51.17 219⇓*eP* **P 15 04 40.1 +1.6**
DAG Danmarks Havn 51.21 357⇓*iP* **P 15 04 37.6 -0.3**
DAG *i* 15 05 41.1
DAG pmax pmax
comp=Z,4µm,1.3s
DAG Danmarks Havn 51.21 357⇓*iP* **P 15 04 37.6 -0.3**
comp=Z,2µm,1.3s
DAG *i* 15 05 41.1
SKNT Sakolnakorn 51.22 245 P **P 15 04 39.8 +0.9**
comp=Z,7µm,1.4s,comp=Z,83µm
BATP Bataraza 51.24 225 *eP* **P 15 04 40.9 +1.9**
BATP *eS* **PcP 15 05 43.4 +0.7**
LVZ Lovozero 51.44 334 *eP* **P 15 04 39.3 -0.5**
comp=Z,2µm,0.9s
LVZ Lovozero 51.44 334 *d iP* **P 15 04 39.2 -0.5**
LVZ pmax pmax
comp=Z,2µm,0.9s
AML Almayashu 51.49 292 P **P 15 04 42.1 +1.1**
SNR=1513
A04D Lummi Island 51.65 57 P **P 15 04 42.9 +1.4**
baz=309,SNR=160
A04D S **S 15 11 17.9 +1.0**
baz=309
PAYA Payao 51.67 251 P **P 15 04 43.4 +1.3**
SHL Shillong 51.76 263 *eP* **P 15 04 43.5 +0.7**
SHL IAmb IAmb 15 04 45.3
KSH Kashi 51.85 288 P **P 15 04 48.0 +4.7**
KSH PcP **PcP 15 05 48.1 +3.2**
KSH sP sP 15 07 43.8 -2.5
KSH PcS **PcS 15 09 46.3 +2.0**
KSH S **S 15 11 28.1 +7.9**
KSH SS **SS 15 15 18.3 +9.4**
KEV Kevo 51.94 339 *eP* **P 15 04 42.8 -0.4**
comp=Z,939nm,0.8s
KEV Kevo 51.94 339 *eP* **P 15 04 42.8 -0.4**
KEV pmax pmax
comp=Z,939nm,0.8s
HAMF Hammerfest 51.96 340⇓*iP* **P 15 04 42.7 -0.6**
HAMF IVmB_BB 15 04 43.1
comp=Z,19µm,1.7s
HAMF *eS* **S 15 11 18.8 -1.6**
APA Apatity 52.01 335⇑*iP* **P 15 04 42.4 -1.3**
APA *i* 15 05 44.0
APA *i *PP **pP** 15 06 38.0 -0.4
APA *i* S **S 15 11 17.0 -4.1**
APA *i* 15 13 24.0
APA *i* SS **SS 15 15 07.0 -2.9**
POHA Pohakuloa 52.06 108 *eP* **P 15 04 46.2 +1.0**
comp=Z,13µm,1.1s
KULLO Kullorsuaq 52.10 9⇓*iP* **P 15 04 43.8 -0.5**
KULLO pmax pmax
comp=Z,1µm,0.7s
KULLO Kullorsuaq 52.10 9⇓*iP* **P 15 04 43.8 -0.5**
comp=Z,1µm,0.7s
PHRA Phrae 52.14 250 P **P 15 04 46.8 +1.4**
comp=Z,1µm,1.5s,comp=Z,13µm
D03D Eldon 52.19 59 P **P 15 04 47.0 +1.6**
baz=309,SNR=419
B05A Bryant 52.25 57 P **P 15 04 47.2 +1.4**
baz=309,SNR=392
PRGR Permogore 52.34 325⇓*iP* **P 15 04 46.6 +0.5**
PRGR *e* 15 05 43.9
PRGR *e* 15 06 44.7
PRGR *i* S **S 15 11 24.3 -1.3**
PRGR pmax pmax
comp=Z,6µm,0.9s
ARCES ARCESS Array B 52.44 339 P **P 15 04 46.9 0.0**
comp=Z,1µm,0.9s,baz=45,slow=8.5,SNR=1779
ARCES PcP **PcP 15 05 46.6 +0.2**
comp=Z,313nm,0.7s,baz=57,slow=4.5,SNR=8.8
ARCES ScP **ScP 15 08 42.8 -1.0**
comp=Z,182nm,0.9s,baz=21,slow=5.2,SNR=5.3
ARCES PKiKP **PKiKP 15 12 21.4 -0.6**
comp=Z,27nm,0.6s,baz=106,slow=0.8,SNR=6.8
ARCES P3KPbc 15 31 57.3
comp=Z,1.3nm,0.5s,baz=202,slow=1.0,SNR=4.8
ARCES PKPPKP **P'P'df 15 35 02.6 -3.5**
comp=Z,55nm,0.8s,baz=225,slow=1.4,SNR=8.3
ARCES P4KPbc 15 42 00.3
comp=Z,10.0nm,1.0s,baz=45,slow=4.8,SNR=8.6
ARE0 ARCESS Array S 52.44 339 *eP* **P 15 04 46.9 +0.1**
comp=Z,68nm,0.9s
ARE0 ARCESS Array S 52.44 339⇓*iP* **P 15 04 47.0 +0.1**
ARE0 IVmB_BB 15 04 47.3
comp=Z,18µm,1.9s
ARE0 *eS* **S 15 11 25.1 -1.8**
ARE0 IVMsBB 15 19 29.1
comp=Z,3µm,8.2s
LAMP Lampang 52.47 250 P **P 15 04 49.0 +1.3**
GTK Tadong 52.50 267 *eP* **P 15 04 48.5 +0.4**
GTK IAmb IAmb 15 04 51.4
comp=Z,3µm,0.5s
UTTA Uttaradit 52.55 249 P **P 15 04 49.3 +1.0**
D04E Lakebay 52.58 59 P **P 15 04 50.4 +2.2**
baz=310,SNR=56
DHUB DHUBRI 52.59 265 *eP* **P 15 04 48.6 +0.1**
NPOC North of Pu'u 52.59 108 *eP* **P 15 04 49.7 +1.0**
comp=Z,8µm,0.9s
JCUZ Jacuzzi 52.61 108 *eP* **P 15 04 49.8 +1.0**
comp=Z,7µm,0.8s
CMMT Chiang Mai 52.64 251 P **P 15 04 49.9 +0.9**
comp=Z,4µm,1.2s,comp=Z,41µm
CHTO Chiang Mai 52.64 251 *eP* **P 15 04 49.6 +0.6**
comp=Z,7µm,0.9s
CHTO Chiang Mai 52.64 251 *eP* **P 15 04 49.6 +0.6**
CHTO pmax pmax
comp=Z,7µm,0.9s
CHTO Chiang Mai 52.64 251 P **P 15 04 50.5 +1.5**
SNR=1627
KK31 Karatay Array 52.67 295 *eP* **P 15 04 49.6 +0.7**
comp=Z,4µm,0.8s
KK31 Karatay Array 52.67 295 *i* P **P 15 04 49.1 +0.2**
KK31 pmax pmax
comp=Z,3µm,0.7s
KKAR Karatay Array 52.67 295 *eP* **P 15 04 49.4 +0.5**
KKAR Karatay Array 52.67 295 *eP* **P 15 04 49.4 +0.5**
CM31 Chiang Mai Arr 52.92 251 *eP* **P 15 04 52.6 +1.7**
comp=Z,5µm,0.9s
CM31 Chiang Mai Arr 52.92 251 P **P 15 04 52.7 +1.7**
SNR=1141
CMAR Chiang Mai Arr 52.92 251 P **P 15 04 52.6 +1.7**
comp=Z,3µm,0.8s,baz=25,slow=7.3,SNR=448
CMAR PcP **PcP 15 05 50.6 +1.5**
comp=Z,2µm,0.7s,baz=9.9,slow=3.2,SNR=29
CMAR ScP **ScP 15 08 46.5 -0.3**
comp=Z,320nm,0.9s,baz=13,slow=4.1,SNR=12
CMAR PKiKP **PKiKP 15 12 23.3 -0.6**
comp=Z,28nm,0.7s,baz=286,slow=1.6,SNR=13
CMAR PKKP **PKKPdf 15 26 35.5 -4.4**
comp=Z,3.0nm,0.7s,baz=263,slow=5.7,SNR=4.3
CMAR P3KP 15 33 54.9
comp=Z,2.8nm,0.9s,baz=251,slow=3.2,SNR=5.1
CMAR P4KPbc 15 42 07.2
comp=Z,85nm,0.7s,baz=22,slow=4.0,SNR=185
SGSI Sangihe 52.92 213 P **P 15 04 50.9 -0.1**
KIRV Kirov 52.93 320 ScP **ScP 15 08 44.6 -1.4**
comp=Z,498nm,0.7s,baz=117,slow=2.1,SNR=7.2
KIRV S **S 15 11 33.1 -0.3**
comp=Z,258nm,0.9s,baz=200,slow=22,SNR=27
KIRV P4KPbc 15 42 01.1
comp=Z,79nm,0.8s,baz=48,slow=2.5,SNR=24
TAPN Taplejung 53.03 268 *eP* **P 15 04 53.1 +1.1**
comp=Z,18µm,0.8s
E04D Cinebar 53.09 59 P **P 15 04 53.5 +1.8**
baz=310,SNR=199
C06D Leavenworth 53.09 57 P **P 15 04 53.0 +1.2**
baz=310,SNR=34
JBG Jabagly 53.10 294 *d iP* **P 15 04 53.4 +1.3**
JBG *eS* **S 15 11 38.1 +1.6**
JBG pmax pmax
comp=Z,4µm,1.1s
JBG smax smax
comp=N,9µm,3.6s
TMCR Tamitsa 53.13 330 *eP* **P 15 04 52.1 +0.4**
TMCR *eS* **S 15 11 36.4 +0.5**
TMCR pmax pmax
comp=Z,8µm,1.2s
F04D Rainier, OR 53.15 60 P **P 15 04 53.8 +1.6**
baz=310,SNR=28
CHAI Chaiyaphum 53.21 246 P **P 15 04 53.6 +0.6**
PBKT Sadao Pong 53.25 248 P **P 15 04 54.2 +1.0**
comp=Z,2µm,1.5s,comp=Z,25µm
KTK1 Kautokeino 53.35 339⇓*iP* **P 15 04 53.0 -0.2**
KTK1 IVmB_BB 15 04 54.8
comp=Z,25µm,0.7s
KTK1 *eS* **S 15 11 36.8 -2.0**
SAIH SAIHA 53.37 260 *eP* **P 15 04 55.3 +1.0**
IUG Iuzhnay 53.56 294 *eP* **P 15 04 56.2 +0.9**
IUG *i* S **S 15 11 43.5 +0.9**
IUG pmax pmax
comp=Z,5µm,0.6s
IUG smax smax
comp=E,4µm,2.1s
IUG Iuzhnay 53.56 294 *eP* **P 15 04 56.3 +0.9**
comp=E,5µm,0.7s
IUG *i* S **S 15 11 43.6 +0.9**
comp=E,4µm,2.1s
G03D McMinnville, O 53.58 61 P **P 15 04 56.9 +1.7**
baz=310,SNR=9.6
ODAN Odare 53.58 268 *eP* **P 15 04 56.8 +1.0**
ODAN Odare 53.58 268 *eP* **P 15 04 56.8 +1.0**
comp=E,9µm,1.0s
TARA Tarawa 53.67 153 *eP* **P 15 04 57.3 +1.1**
comp=E,7µm,1.4s
CHM Chimkent 53.69 294 *d iP* **P 15 04 58.4 +2.3**
CHM *eS* **S 15 11 45.2 +1.1**
CHM pmax pmax
comp=Z,4µm,0.9s
CHM smax smax
comp=N,9µm,3.0s
CHM Chimkent 53.69 294⇓*iP* **P 15 04 58.5 +2.3**
comp=N,4µm,0.9s
CHM *eS* **S 15 11 45.2 +1.1**
comp=N,9µm,3.0s
TRO Tromso 53.74 341⇓*iP* **P 15 04 56.0 +0.1**
TRO IVmB_BB 15 04 56.6
comp=Z,26µm,1.4s
TRO *eS* **S 15 11 42.4 -1.4**
JIRN Jiri 53.74 270 *eP* **P 15 04 58.2 +1.1**
COR Corvallis 53.96 62 *eP* **P 15 05 00.4 +2.5**
comp=Z,1µm,0.9s
COR Corvallis 53.96 62 *eP* **P 15 05 00.4 +2.5**
COR pmax pmax
comp=Z,1µm,0.9s
I02D Swisshome 53.98 62 P **P 15 05 00.2 +2.2**
baz=311,SNR=23
RAMN Ramite 54.00 269 *eP* **P 15 04 59.7 +0.9**
RAMN Ramite 54.00 269 *eP* **P 15 04 59.7 +0.9**
comp=Z,19µm,0.9s
MANU Manus Island 54.10 185 *eP* **P 15 05 00.8 +1.6**
comp=Z,504nm,0.8s
F05D White Salmon 54.11 59 P **P 15 05 00.6 +1.7**
baz=311,SNR=58
KKN Kakani 54.21 270 *eP* **P 15 05 01.3 +1.1**
PKI Pulchoki 54.29 270 *eP* **P 15 05 01.6 +0.7**
comp=Z,16µm,0.8s
PKI Pulchoki 54.29 270 *eP* **P 15 05 01.8 +0.9**
PKIN Phulchoki 54.29 270 *eP* **P 15 05 01.6 +0.8**
AB31 Akbulak array 54.31 306 *i* P **P 15 05 00.3 +0.1**
AB31 pmax pmax
comp=Z,4µm,0.7s
ABKAR Akbulak array 54.31 306 *eP* **P 15 05 00.8 +0.6**
H04D Lebanon 54.31 61 P **P 15 05 02.5 +2.1**
baz=311,SNR=51
DMN Daman 54.45 270 *eP* **P 15 05 03.2 +1.3**
GKN Gorkha 54.45 271 *eP* **P 15 05 02.9 +1.1**
AKTO Aktyubinsk 54.48 308 P **P 15 05 00.8 -0.6**
AKTO pmax pmax
comp=Z,2µm,0.9s
AKTO Aktyubinsk 54.48 308 ScP **ScP 15 08 51.5 -1.6**
comp=Z,272nm,0.9s,baz=61,slow=1.7,SNR=4.0
AKTO S **S 15 11 53.8 -0.2**
comp=Z,531nm,1.2s,baz=238,slow=19,SNR=31
AKTO P4KPbc 15 42 10.4
comp=Z,104nm,0.9s,baz=53,slow=4.2,SNR=86
I31KZ AKTYUBINSK INF 54.49 308 P **P 15 05 00.0 -1.5**
baz=52,slow=5.8,SNR=6.2
I03D Drain, OR 54.52 63 P **P 15 05 04.3 +2.5**
baz=311,SNR=148
J01E Myrtle Point 54.55 63 P **P 15 05 04.6 +2.6**
baz=311,SNR=78
G05D Wamic, OR 54.60 60 P **P 15 05 04.2 +1.8**
baz=311,SNR=107
UMPA Umpang Tak 54.75 249 P **P 15 05 06.3 +2.5**
DANN Dangsing 54.75 272 *eP* **P 15 05 05.1 +1.1**
NEW Newport 54.80 55 *eP* **P 15 05 04.6 +0.8**
comp=Z,725nm,1.0s
NEW Newport 54.80 55 P **P 15 05 04.7 +0.9**
baz=311,SNR=288
NEW Newport 54.80 55 P **P 15 05 04.5 +0.8**
comp=Z,298nm,0.8s,baz=311,slow=6.6,SNR=357
NEW PcP **PcP 15 05 57.2 +1.2**
comp=Z,474nm,0.9s,baz=326,slow=3.9,SNR=14
NEW ScP **ScP 15 08 54.8 +0.2**
comp=Z,244nm,1.1s,baz=306,slow=4.4,SNR=11
NEW S **S 15 11 58.9 +0.5**
comp=Z,53nm,1.1s,baz=153,slow=18,SNR=7.7
NEW P4KPbc 15 42 14.8
comp=Z,24nm,0.9s,baz=305,slow=4.2,SNR=18
I04A Tendick Farm, 54.97 62 P **P 15 05 06.9 +1.9**
baz=312,SNR=277
K02D Willamette Mer 55.01 64 P **P 15 05 07.5 +2.2**
baz=312,SNR=56
KLMR Klimovskoe 55.01 326⇓*iP* **P 15 05 05.1 +0.2**
KLMR *e* 15 05 55.9
KLMR *eS* **S 15 12 00.2 -0.4**
KLMR pmax pmax
comp=Z,8µm,1.1s
TNTI Ternate 55.06 210 *eP* **P 15 05 06.5 +0.6**
comp=Z,2µm,1.0s
TNTI Ternate 55.06 210 P **P 15 05 06.8 +0.9**
I05D Terrebonne, OR 55.19 61 P **P 15 05 08.3 +1.8**
baz=312,SNR=244
KOLN Koldanda 55.26 272 *eP* **P 15 05 08.4 +1.0**
GENI Genyem 55.38 194 P **P 15 05 10.1 +2.0**
SUMG Summit 55.39 4 *eP* **P 15 05 08.2 +0.4**
comp=Z,5µm,1.2s
SUMG Summit 55.39 4⇓*iP* **P 15 05 08.5 +0.7**
SUMG Summit 55.39 4⇓*iP* **P 15 05 08.5 +0.7**
L02E Cave Junction 55.40 64 P **P 15 05 10.2 +2.3**
baz=312,SNR=33
PYUN Piuthan 55.40 272 *eP* **P 15 05 09.4 +1.0**
VLK Valmikinagar 55.42 271 *ex* **P 15 05 07.0 -1.3**
J04D Umpqua Nationa 55.50 62 P **P 15 05 11.1 +2.2**
baz=312,SNR=389
SWI Sorong 55.51 205 P **P 15 05 10.6 +1.6**
TMDB BangkokBB_BH_I 55.79 246 P **P 15 05 13.4 +2.5**
comp=Z,1µm,1.5s,comp=Z,15µm
G08A Pilot Rock 55.82 59 *eP* **P 15 05 12.2 +1.3**
comp=Z,185nm,0.8s
STEI Steigen 55.90 342⇓*iP* **P 15 05 10.5 -0.4**
STEI IVmBBB 15 05 11.3
comp=Z,15µm,1.5s
STEI *eS* **S 15 12 11.0 -0.8**
STEI IVMsBB 15 19 34.6
comp=Z,2µm,11.4s
J05D Fort Rock, OR 55.95 62 P **P 15 05 14.2 +2.3**
baz=312,SNR=474
LOF Lofoten 56.05 342⇓*iP* **P 15 05 11.3 -0.6**
LOF IVmB_BB 15 05 12.3
comp=Z,32µm,1.5s
LOF *eS* **S 15 12 12.3 -1.4**
L04D Klamath Falls 56.07 63 P **P 15 05 14.8 +2.0**
baz=312,SNR=350
PTH Pithoragarh 56.07 276 *eP* **P 15 05 11.2 -1.8**
SRDT SRDT 56.08 248 P **P 15 05 14.0 +1.1**
comp=Z,2µm,1.6s,comp=Z,28µm
K04D Chiloquin, OR 56.10 63 P **P 15 05 15.2 +2.3**
baz=312,SNR=84
RABL Rabaul 56.12 179 *eP* **P 15 05 14.6 +1.5**
comp=Z,2µm,0.8s
SRNI Srinagar 56.16 283 *ex* **P 15 05 11.0 -2.2**
YBH Yreka Blue Hor 56.18 64 *eP* **P 15 05 15.7 +2.3**
comp=Z,525nm,0.7s
YBH Yreka Blue Hor 56.18 64 *eP* **P 15 05 15.7 +2.3**
YBH pmax pmax
comp=Z,525nm,0.7s
YBH Yreka Blue Hor 56.18 64 ScP **ScP 15 09 01.2 +0.3**
comp=Z,73nm,1.0s,baz=323,slow=1.4,SNR=5.1
YBH PKPPKP 15 34 56.1
comp=Z,28nm,0.8s,baz=60,slow=5.9,SNR=7.7
YBH P4KPbc 15 42 21.5
comp=Z,10.0nm,1.1s,baz=79,slow=2.7,SNR=9.2
M02C Callahan 56.33 64 P **P 15 05 16.9 +2.5**
baz=313,SNR=296
KMSI Cibinong 56.35 214 P **P 15 05 15.4 +0.6**
JMIC Jan Mayen 56.35 352 PKPPKP **P'P'df 15 34 56.1 -4.3**
comp=Z,74nm,0.8s,baz=212,slow=1.1,SNR=5.7
JMIC Jan Mayen 56.35 352⇓*iP* **P 15 05 15.1 +1.2**
JMIC IVmB_BB 15 05 15.7
comp=Z,26µm,1.5s
JMIC *eS* **S 15 12 14.0 -3.6**
DHRM DHARAMSHALA 56.56 281 *eP* **P 15 05 16.4 +0.1**
M04C Macdoel 56.62 63 P **P 15 05 18.7 +2.2**
baz=313,SNR=405
N02D Trinity Center 56.69 65 P **P 15 05 19.4 +2.5**
baz=313,SNR=550
BOK Bokaro 56.74 267 *eP* **P 15 05 17.9 +0.5**
BOK IAmb IAmb 15 05 19.4
comp=Z,88µm,3.4s
SMLA Simla 56.83 279 *eP* **P 15 05 17.9 +0.1**
DDI Dehra Dun 56.85 278 *eP* **P 15 05 18.8 +0.7**
PHET Kaeng Krachan 56.95 246 P **P 15 05 20.5 +1.6**
BHK Bhakra 57.08 280 *eP* **P 15 05 16.6 -3.0**
MRSI Marisa 57.16 216 P **P 15 05 21.3 +1.0**
O02D Mt. Diablo Mer 57.19 65 P **P 15 05 22.6 +2.3**
baz=313,SNR=343
FAKI Fak Fak 57.24 203 P **P 15 05 22.1 +1.3**
FFC Flin Flon 57.30 41 *eP* **P 15 05 21.4 +0.7**
comp=Z,4µm,1.2s
FFC Flin Flon 57.30 41 *eP* **P 15 05 21.4 +0.7**
FFC pmax pmax
comp=Z,4µm,1.2s
MSO Missoula 57.36 54 P **P 15 05 22.7 +1.3**
baz=313,SNR=1000
KONS Konsvik 57.56 342 *i* P **P 15 05 21.6 -0.6**
KONS IVmB_BB 15 05 22.4
comp=Z,14µm,1.7s
KONS *eS* **S 15 12 33.2 +0.2**
MOR8 Moi Rana 57.59 341⇓*iP* **P 15 05 21.2 -1.3**
MOR8 IVmB_BB 15 05 21.6
comp=Z,40µm,1.5s
MOR8 *eS* **S 15 12 31.2 -2.2**
SCO Scoresbysund 57.60 357⇓*iP* **P 15 05 23.2 +0.8**
SCO *i* 15 06 06.7
SCO pmax pmax
comp=Z,1µm,1.1s
SCO Scoresbysund 57.60 357⇓*iP* **P 15 05 23.2 +0.8**
comp=Z,1µm,1.1s
SCO *i* 15 06 06.7
O03E Paynes Creek 57.66 65 P **P 15 05 24.7 +1.3**
baz=314,SNR=333
STOK Stokkvaagen 57.73 342 *eP* **P 15 05 23.2 -0.1**
STOK *eS* **S 15 12 35.7 +0.7**
ILULI Ilulissat 57.82 9 *eP* **P 15 05 23.5 -0.5**
comp=Z,5µm,1.4s
ILULI Ilulissat 57.82 9⇓*iP* **P 15 05 23.4 -0.5**
ILULI *i* 15 06 07.5
ILULI *e* 15 07 26.9
ILULI pmax pmax
comp=Z,1µm,0.7s
ILULI Ilulissat 57.82 9⇓*iP* **P 15 05 23.4 -0.5**
comp=Z,1µm,0.7s
ILULI *i* 15 06 07.5
ILULI *e* 15 07 26.9
MPSI Mapaga 58.05 218 P **P 15 05 27.3 +1.0**
SANI Sanana 58.16 211 P **P 15 05 27.5 +0.5**
LUWI Luwuk 58.28 214 P **P 15 05 27.0 -0.8**
NDI New Delhi 58.53 277 *eP* **P 15 05 27.0 -2.4**
APSI Ampana 58.55 216 P **P 15 05 30.2 +0.6**
EGMT Eagleton 58.59 51 P **P 15 05 30.7 +1.2**
baz=315,SNR=838
FINES FINESS Array B 58.76 333 P **P 15 05 30.6 +0.3**
comp=Z,3µm,0.7s,baz=36,slow=7.5,SNR=9533
FINES PcP **PcP 15 06 11.3 0.0**
comp=Z,1µm,0.7s,baz=67,slow=5.0,SNR=10.0
FINES S **S 15 12 47.5 -0.7**
comp=Z,1µm,1.1s,baz=41,slow=13,SNR=25
FINES P4KPbc 15 42 30.4
comp=Z,37nm,0.9s,baz=49,slow=6.1,SNR=37

PUL	**Pulkovo**	**58.84**	330	*c*eP	**P**	**15 05 31.1**	**+0.2**
PUL	**Pulkovo**	**58.84**	330	*e*P	**P**	**15 05 31.4**	**+0.5**
PUL				IAmb	IAmb	15 05 32.5	
	comp=Z,6μm,0.7s						
PUL	**Pulkovo**	**58.84**	330	*e*P	**P**	**15 05 31.1**	**+0.2**
KBL	**Kabul**	**59.29**	288	*e*P	**P**	**15 05 34.0**	**-0.6**
	comp=Z,4μm,0.8s						
KBL	**Kabul**	**59.29**	288	*e*P	**P**	**15 05 34.0**	**-0.6**
KBL				pmax	pmax		
	comp=Z,4μm,0.8s						
SBUM	**Sibu**	**59.36**	227	P	**P**	**15 05 38.0**	**+3.0**
BOZ	**Bozeman (W)**	**59.37**	54	P	**P**	**15 05 36.4**	**+1.5**
	baz=315,SNR=1000						
BNDI	**Bandanaira**	**59.38**	205	P	**P**	**15 05 36.5**	**+1.4**
HLID	**Hailey**	**59.38**	57	P	**P**	**15 05 36.7**	**+1.7**
	baz=315,SNR=448						
MOS	**Moscow**	**59.47**	323κ	*i*P	**P**	**15 05 35.1**	**0.0**
MOS				*i*		15 06 13.9	
MOS				*e**PP	**pP**	**15 07 33.7**	**-1.1**
MOS				*e*		15 07 55.7	
MOS				*e**SP	**sP**	**15 08 39.3**	**-2.4**
MOS				*i* S	**S**	**15 12 55.6**	**-1.6**
MOS				*i*		15 14 17.5	
MOS				pmax	pmax		
	comp=Z,13μm,1.4s						
MOS				pmax	pmax		
	comp=Z,8μm,1.2s						
MOS				smax	smax		
	comp=N,40μm,3.0s						
MOS				smax	smax		
	comp=E,26μm,3.0s						
MOS	**Moscow**	**59.47**	323	*e*P	**P**	**15 05 35.1**	**0.0**
NSS	**Namsos**	**59.53**	341	⇓*i*P	**P**	**15 05 35.1**	**-0.2**
NSS				IVmB_BB		15 05 36.0	
	comp=Z,18μm,1.8s						
NSS				*e*S	**S**	**15 12 57.4**	**-0.3**
NSS				IVMsBB		15 20 25.8	
	comp=Z,3μm,6.3s						
SGKI	**Sangatta, Kali**	**59.74**	220	P	**P**	**15 05 33.6**	**-3.9**
SMKI	**Samarinda**	**59.82**	221	P	**P**	**15 05 40.6**	**+2.5**
SFJD	**Kangerlussuaq**	**60.01**	10	*e*P	**P**	**15 05 38.0**	**-0.5**
	comp=Z,3μm,1.2s						
SFJD	**Kangerlussuaq**	**60.01**	10	⇓*i*P	**P**	**15 05 38.3**	**-0.2**
SFJD				*i*		15 06 15.5	
SFJD				*e*		15 07 39.1	
SFJD	**Kangerlussuaq**	**60.01**	10	SKKS	**SKKSdf**	**15 32 32.1**	**-0.6**
	comp=Z,9.5nm,0.8s,baz=159,slow=4.9,SNR=4.0						
SFJD				PKPPKP		15 34 53.4	
	comp=Z,136nm,0.9s,baz=170,slow=2.8,SNR=12						
SFJD				P4KPbc		15 42 35.8	
	comp=Z,50nm,0.9s,baz=4.9,slow=5.0,SNR=18						
SFJD	**Kangerlussuaq**	**60.01**	10	⇓*i*P	**P**	**15 05 38.3**	**-0.2**
SFJD				*i*		15 06 15.5	
SFJD				*e*		15 07 39.1	
JHNI	**Jhansi**	**60.04**	274	*ex*	**P**	**15 05 41.0**	**+1.6**
OBN	**Obninsk**	**60.34**	323	*e*P	**P**	**15 05 40.5**	**-0.3**
	comp=Z,5μm,0.8s						
OBN	**Obninsk**	**60.34**	323	⇓*i*P	**PcP**	**15 06 17.8**	**0.0**
OBN	**Obninsk**	**60.34**	323	*d i*P	**P**	**15 05 40.5**	**-0.3**
OBN				*i*		15 06 16.9	
OBN				*i* *PP	**pP**	**15 07 43.1**	**+2.1**
OBN				*i* S	**S**	**15 13 07.3**	**-0.7**
OBN				pmax	pmax		
	comp=Z,4μm,1.0s						
OBN	**Obninsk**	**60.34**	323	S	**S**	**15 13 06.5**	**-1.4**
	comp=Z,584nm,1.4s,baz=80,slow=16,SNR=37						
OBN				P4KPbc		15 42 35.8	
	comp=Z,6.8nm,0.4s,baz=107,slow=6.8,SNR=5.7						
OBN	**Obninsk**	**60.34**	323	*e*P	**P**	**15 05 40.5**	**-0.3**
DGPR	**DIGLIPUR**	**60.61**	253	*e*P	**P**	**15 05 43.4**	**+0.2**
H17A	**Grant Village**	**60.75**	54	P	**P**	**15 05 47.2**	**+3.1**
	baz=316,SNR=286						
JBP	**Jabalpur**	**60.84**	271	*e*P	**P**	**15 05 45.3**	**+0.7**
JBP				AMB	AMB	15 05 52.3	
	comp=N,1μm,0.9s						
DGMT	**Dagmar**	**60.86**	48	P	**P**	**15 05 45.5**	**+1.0**
	baz=317,SNR=139						
RLMT	**Red Lodge**	**60.88**	53	P	**P**	**15 05 46.7**	**+1.8**
	baz=316,SNR=444						
NVAR	**Mina Array Bea**	**60.90**	64	P	**P**	**15 05 46.7**	**+1.5**
	comp=N,393nm,0.6s,baz=302,slow=6.7,SNR=2914						
NVAR				PcP	**PcP**	**15 06 22.2**	**+1.4**
	comp=N,316nm,0.9s,baz=304,slow=4.6,SNR=6.6						
NVAR				ScP	**ScP**	**15 09 20.3**	**-1.7**
	comp=N,144nm,0.9s,baz=294,slow=4.5,SNR=6.3						
NVAR				PKiKP	**PKiKP**	**15 12 34.4**	**+1.1**
	comp=N,8.7nm,0.6s,baz=256,slow=3.6,SNR=4.1						
NVAR				SKKS	**SKKSdf**	**15 32 34.6**	**+0.3**
	comp=N,40nm,1.0s,baz=143,slow=3.6,SNR=14						
NVAR				PKPPKP	**P'P'df**	**15 34 52.9**	**-1.0**
	comp=N,94nm,0.9s,baz=158,slow=3.7,SNR=10						
NVAR				P4KPbc		15 42 43.2	
	comp=N,19nm,0.8s,baz=285,slow=4.7,SNR=57						
VSU	**Vasula**	**61.00**	330	*d i*P	**P**	**15 05 45.1**	**0.0**
VSU				pmax	pmax		
	comp=Z,14μm,0.8s						
VSU	**Vasula**	**61.00**	330	*e*P	**P**	**15 05 45.5**	**+0.4**
VSU				IAmb	IAmb	15 05 46.9	
	comp=Z,12μm,0.8s						
TBLU	**Trondheim**	**61.02**	341	⇓*i*P	**P**	**15 05 44.4**	**-0.8**
TBLU				IVmB_BB		15 05 44.9	
	comp=Z,28μm,1.2s						
TBLU				*e*S	**S**	**15 13 14.0**	**-2.1**
KRAB	**Krabi**	**61.03**	244	P	**P**	**15 05 47.2**	**+1.2**
KDI	**Kendari**	**61.05**	213	P	**P**	**15 05 47.8**	**+1.7**
TRTT	**Trang**	**61.08**	243	P	**P**	**15 05 47.5**	**+1.2**
	comp=Z,6μm,1.4s,comp=Z,64μm						
KSM	**Kuching**	**61.10**	229	P	**P**	**15 05 49.0**	**+2.6**
SKLT	**Songkhla**	**61.12**	242	P	**P**	**15 05 48.1**	**+1.5**
	comp=Z,4μm,1.3s,comp=Z,40μm						
MLAC	**Mammoth, Mammo**	**61.17**	65	P	**P**	**15 05 49.2**	**+2.2**
	baz=316,SNR=23						
TTSI	**Tana Toraja**	**61.19**	217	P	**P**	**15 05 47.2**	**+0.2**
LAO	**LASA Array**	**61.22**	50	P	**P**	**15 05 48.4**	**+1.5**
	baz=317,SNR=120						
MTKI	**Muara Teweh, K**	**61.22**	223	P	**P**	**15 05 48.6**	**+1.4**
VRH	**Novokhopyorsk**	**61.28**	318	*e*P	**P**	**15 05 46.7**	**-0.4**
VRH				*e*		15 06 18.8	
VRH				*e**PP	**pP**	**15 07 45.9**	**-2.0**
VRH				*e**SP	**sP**	**15 08 50.1**	**-4.1**
VRH				*e*PPP	PPP	15 09 49.5	
VRH				*e*S	**S**	**15 13 16.8**	**-3.0**
VRH				pmax	pmax		
	comp=Z,9μm,0.6s						
VRH				pmax	pmax		
	comp=Z,9μm,0.6s						
VRH				smax	smax		
	comp=E,6μm,6.0s						
LPSR	**Galich'ya Gora**	**61.36**	320	*e*P	**P**	**15 05 47.4**	**-0.2**
LPSR				*e*		15 06 17.4	
LPSR				*e**PP	**pP**	**15 07 45.9**	**-2.5**
LPSR				*e*PPP	PPP	15 09 50.5	
LPSR				*e*S	**S**	**15 13 17.3**	**-3.3**
LPSR				pmax	pmax		
	comp=Z,9μm,0.7s						
LPSR				pmax	pmax		
	comp=Z,9μm,0.7s						
LPSR				smax	smax		
	comp=N,7μm,4.8s						
PMG	**Port Moresby**	**61.41**	185	*e*P	**P**	**15 05 49.9**	**+1.6**
	comp=N,1μm,0.9s						
PMG	**Port Moresby**	**61.41**	185	*d i*P	**P**	**15 05 49.8**	**+1.4**
PMG				pmax	pmax		
	comp=Z,3μm,0.7s						
PMG	**Port Moresby**	**61.41**	185	S	**S**	**15 13 21.7**	**-0.5**
	comp=Z,104nm,1.1s,baz=356,slow=10,SNR=9.9						
PMG				PKPPKP		15 34 54.8	
	comp=Z,193nm,1.0s,baz=235,slow=4.2,SNR=13						
HNR	**Honiara**	**61.74**	171	*e*P	**P**	**15 05 51.0**	**+0.4**
HNR				*e*S	**S**	**15 13 24.0**	**-2.2**
HNR	**Honiara**	**61.74**	171	*e*P	**P**	**15 05 50.9**	**+0.4**
	comp=Z,2μm,1.1s						
HNR	**Honiara**	**61.74**	171	*e*P	**P**	**15 05 50.9**	**+0.4**
HNR				pmax	pmax		
	comp=Z,2μm,1.1s						
PKDT	**Phuket**	**61.78**	244	P	**P**	**15 05 52.1**	**+1.3**
	comp=Z,5μm,1.3s,comp=Z,60μm						
VOG	**Valley Oaks Go**	**61.79**	66	P	**P**	**15 05 51.9**	**+1.2**
	baz=316,SNR=5.0						
TIN	**Tinemaha, Big**	**61.92**	65	P	**P**	**15 05 53.6**	**+2.0**
	baz=316,SNR=45						
PBA	**Port Blair**	**61.92**	252	*e*P	P	15 05 52.4	+0.6
PBA				IAmb	IAmb	15 05 53.6	
	comp=Z,12μm,1.4s						
VORR	**Voronezh**	**61.96**	319	⇓*i*P	**P**	**15 05 51.0**	**-0.4**
VORR				*e*S	**S**	**15 13 27.0**	**-1.0**
VORR				pmax	pmax		
	comp=Z,12μm,1.4s						
SPSI	**Sidrap Palu**	**62.06**	217	P	**P**	**15 05 53.2**	**+0.6**
MOL	**Molde**	**62.16**	342	⇓*i*P	**P**	**15 05 52.8**	**+0.2**
MOL				IVmB_BB		15 05 53.5	
	comp=Z,27μm,1.6s						
MOL				*e*S	**S**	**15 13 29.5**	**-0.6**
SMMC	**Simmler**	**62.16**	68	P	**P**	**15 05 55.0**	**+1.9**
	baz=316,SNR=119						
VES	**Vestal, Richgr**	**62.30**	67	P	**P**	**15 05 54.8**	**+0.9**
	baz=316,SNR=74						
VSR	**Storozhevoye**	**62.32**	319	*e*P	**P**	**15 05 53.6**	**-0.2**
VSR				*e*		15 06 23.6	
VSR				*e*S	**S**	**15 13 29.6**	**-2.8**
VSR				pmax	pmax		
	comp=Z,6μm,1.0s						
VSR				pmax	pmax		
	comp=Z,7μm,0.9s						
VSR				smax	smax		
	comp=E,3μm,6.0s						
BNSI	**Bone**	**62.34**	216	P	**P**	**15 05 55.3**	**+0.9**
DOMB	**Dombas**	**62.35**	341	⇓*i*P	**P**	**15 05 53.8**	**-0.1**
DOMB				IVmB_BB		15 05 54.3	
	comp=Z,30μm,1.6s						
DOMB				*e*S	**S**	**15 13 32.4**	**-0.2**
SAUI	**Saumlaki**	**62.35**	203	P	**P**	**15 05 56.5**	**+2.0**
BHPL	**Bhopal**	**62.36**	273	*e*P	**P**	**15 05 54.6**	**0.0**
BW06	**Boulder Array**	**62.44**	55	P	**P**	**15 05 56.1**	**+1.1**
	baz=317,SNR=898						
PDAR	**Pinedale Array**	**62.44**	55	P	**P**	**15 05 56.1**	**+1.1**
	comp=Z,576nm,0.6s,baz=357,slow=1.6,SNR=3693						
PDAR				PcP	**PcP**	**15 06 27.4**	**+0.3**
	comp=Z,94nm,0.7s,baz=92,slow=0.8,SNR=4.0						
PDAR				S	**S**	**15 13 34.5**	**-0.1**
	comp=Z,14nm,0.8s,baz=91,slow=2.8,SNR=4.3						
PDAR				PKPPKP	**P'P'df**	**15 34 49.5**	**-2.0**
	comp=Z,260nm,1.2s,baz=149,slow=4.7,SNR=6.6						
PDAR				P4KPbc		15 42 48.5	
	comp=Z,6.8nm,1.0s,baz=306,slow=1.0,SNR=10						
CWC	**Cottonwood Cre**	**62.44**	65	P	**P**	**15 05 56.6**	**+1.5**
	baz=316						
GRAC	**Grapevine Rang**	**62.44**	65	P	**P**	**15 05 57.0**	**+2.1**
	baz=316,SNR=231						
R11A	**Troy Canyon, C**	**62.45**	62	P	**P**	**15 05 56.5**	**+1.4**
	baz=316,SNR=659						
VORD	**Divnogorie**	**62.46**	319	*e*P	**P**	**15 05 54.7**	**0.0**
VORD				*e*		15 06 23.6	
VORD				*e**SP	**sP**	**15 08 57.2**	**-5.2**
VORD				*e*S	**S**	**15 13 31.3**	**-2.8**
VORD				pmax	pmax		
	comp=Z,7μm,1.1s						
VORD				pmax	pmax		
	comp=Z,7μm,1.0s						
VORD				smax	smax		
	comp=N,1μm,2.9s						
BBSI	**Bau Bau**	**62.49**	213	P	**P**	**15 05 58.0**	**+2.6**
PKM	**Mcpherson Peak**	**62.57**	68	P	**P**	**15 05 57.9**	**+1.9**
	baz=316,SNR=140						
DUG	**Dugway, Tooele**	**62.61**	59	P	**P**	**15 05 57.8**	**+1.8**
	baz=317,SNR=1000						
AKN	**Aaknes**	**62.63**	342	⇓*i*P	**P**	**15 05 56.2**	**+0.6**
AKN				IVmB_BB		15 05 56.6	
	comp=Z,34μm,1.4s						
AKN				*e*S	**S**	**15 13 36.2**	**+0.3**
KULM	**Kulim**	**62.67**	240	P	**P**	**15 05 59.0**	**+2.4**
ISA	**Isabella, Lake**	**62.78**	66	P	**P**	**15 05 57.7**	**+0.6**
	baz=316,SNR=166						
NB2	**NORSAR Subarra**	**62.81**	340	P	**P**	**15 05 57.1**	**+0.3**
	comp=Z,2μm,0.7s,baz=26,slow=6.9						
NB2	**NORSAR Subarra**	**62.81**	340	P	**P**	**15 05 57.1**	**+0.3**
	baz=26,slow=6.9						
NOA	**NORSAR Array B**	**62.81**	340	P	**P**	**15 05 56.7**	**-0.2**
	comp=Z,1μm,0.6s,baz=26,slow=6.3,SNR=5792						
NOA				S	**S**	**15 13 37.6**	**-0.6**
	comp=Z,123nm,1.1s,baz=14,slow=12,SNR=6.1						
NOA				SKKS	**SKKSdf**	**15 32 24.6**	**-5.2**
	comp=Z,10.0nm,1.0s,baz=212,slow=2.5,SNR=9.1						
NOA				P4KPbc		15 42 48.1	
	comp=Z,5.6nm,0.9s,baz=27,slow=3.4,SNR=9.6						
SBC	**Santa Barbara**	**62.95**	68	P	**P**	**15 05 59.9**	**+1.7**
	baz=316,SNR=26						
ARVC	**Arvin**	**62.96**	67	P	**P**	**15 05 59.1**	**+0.9**
	baz=316,SNR=12						
SLIT	**Slitere, Latvi**	**63.01**	332	*e*P	**P**	**15 05 58.0**	**0.0**
SLIT				IAmb	IAmb	15 05 59.5	
	comp=Z,31μm,0.8s						
NC602	**NORSAR Array S**	**63.02**	339	⇓*i*P	**P**	**15 05 58.0**	**-0.1**
NC602				IVmB_BB		15 05 58.8	
	comp=Z,19μm,1.4s						
NC602				*e*S	**S**	**15 13 39.9**	**-0.6**
KAPI	**Kappang**	**63.04**	216	P	**P**	**15 06 00.4**	**+1.5**
	SNR=722						
KAPI	**Kappang**	**63.04**	216	S	**S**	**15 13 45.6**	**+3.5**
	comp=Z,43nm,1.1s,baz=296,slow=23,SNR=10						
MPMC	**Manual Prospec**	**63.05**	65	P	**P**	**15 06 00.4**	**+1.4**
	baz=316,SNR=490						
HFS	**Hagfors**	**63.07**	338	S	**S**	**15 13 40.7**	**-0.5**
	comp=Z,268nm,1.0s,baz=359,slow=6.2,SNR=13						
HFS				SKKS	**SKKSdf**	**15 32 23.3**	**-6.1**
	comp=Z,8.4nm,0.8s,baz=151,slow=3.4,SNR=6.8						
HFS				PKPPKP		15 34 46.5	
	comp=Z,55nm,1.1s,baz=222,slow=2.0,SNR=6.8						
HFS				P4KPbc		15 42 48.9	
	comp=Z,6.0nm,0.8s,baz=24,slow=5.5,SNR=8.2						
GEYT	**Alibeck**	**63.08**	298	P	**P**	**15 05 59.9**	**+0.9**
	comp=Z,3μm,0.6s,baz=34,slow=3.1,SNR=3261						
GEYT				PKiKP	**PKiKP**	**15 12 35.2**	**-0.6**
	comp=Z,67nm,0.8s,baz=0.0,slow=3.0,SNR=5.0						
GEYT				S	**S**	**15 13 44.9**	**+2.7**
	comp=Z,475nm,1.2s,baz=34,slow=21,SNR=13						
GEYT				SKKS	**SKKSdf**	**15 32 27.9**	**-3.4**
	comp=Z,11nm,1.2s,baz=270,slow=5.9,SNR=7.3						
GEYT				PKPPKP		15 34 46.2	
	comp=Z,57nm,1.3s,baz=294,slow=1.5,SNR=8.3						
GEYT				P4KPbc		15 42 51.3	
	comp=Z,10.0nm,0.9s,baz=338,slow=1.6,SNR=15						
TPNV	**Topopah Spring**	**63.09**	64	P	**P**	**15 06 00.9**	**+1.6**
	baz=317,SNR=1000						
FURC	**Furnace Creek,**	**63.10**	65	P	**P**	**15 06 00.8**	**+1.8**
	baz=317,SNR=572						
ULM	**Lac du Bonnet**	**63.13**	42	P	**P**	**15 05 58.7**	**-0.3**
	comp=Z,297nm,0.4s,baz=318,slow=6.9,SNR=643						
ULM				S	**S**	**15 13 39.7**	**-2.5**
	comp=Z,130nm,1.1s,baz=84,slow=18,SNR=5.9						
ULM				SKKS	**SKKSdf**	**15 32 25.7**	**-4.3**
	comp=Z,30nm,0.8s,baz=109,slow=1.4,SNR=14						
ULM				PKPPKP	**P'P'df**	**15 34 48.9**	**-1.1**
	comp=Z,119nm,0.8s,baz=210,slow=1.6,SNR=7.2						
ULM				P4KPbc		15 42 51.1	
	comp=Z,23nm,0.9s,baz=312,slow=5.3,SNR=12						
IPM	**Ipoh**	**63.15**	240	P	**P**	**15 06 01.0**	**+1.3**
BKSI	**Bulukumba**	**63.19**	216	P	**P**	**15 06 00.6**	**+0.8**
SCZ2	**Santa Cruz Isl**	**63.32**	68	P	**P**	**15 06 01.7**	**+1.2**
	baz=317,SNR=32						
BORG	**Borgarnes**	**63.32**	357	*e*P	**P**	**15 06 01.6**	**+1.7**
	comp=Z,3μm,1.1s						
BORG	**Borgarnes**	**63.32**	357	*e*P	**P**	**15 06 01.6**	**+1.7**
BORG				pmax	pmax		
	comp=Z,3μm,1.1s						
LRMC	**Laurel Mtn Rad**	**63.36**	66	P	**P**	**15 06 02.3**	**+1.4**
	baz=317,SNR=249						
MDND	**Maddock**	**63.38**	45	P	**P**	**15 06 01.7**	**+1.0**
	baz=320,SNR=148						
IZAR	**Zarasai**	**63.38**	329	*e*P	**P**	**15 06 01.0**	**+0.5**
IZAR				IAmb	IAmb	15 06 02.1	
	comp=Z,2μm,0.6s						
OSI	**Osito Audit: C**	**63.39**	67	P	**P**	**15 06 02.6**	**+1.5**
	baz=317,SNR=70						
FOO	**Floro**	**63.52**	343	*e*P	**P**	**15 06 01.9**	**+0.7**
BLG	**Laguna Peak, P**	**63.56**	68	P	**P**	**15 06 03.3**	**+1.2**
	baz=317,SNR=67						
ISAL	**Salakas**	**63.57**	329	*e*P	**P**	**15 06 02.3**	**+0.6**
ISAL				IAmb	IAmb	15 06 03.4	
	comp=Z,2μm,0.8s						
IDID	**Didziasalis**	**63.59**	328	*e*P	**P**	**15 06 02.3**	**+0.6**
IDID				IAmb	IAmb	15 06 04.3	
	comp=Z,2μm,0.8s						
EDW2	**Edwards Air Fo**	**63.61**	67	P	**P**	**15 06 03.9**	**+1.4**
	baz=317,SNR=338						
HYA	**Hoyanger**	**63.71**	342	⇓*i*P	**P**	**15 06 02.5**	**+0.1**
HYA				IVmB_BB		15 06 03.3	
	comp=Z,37μm,1.4s						
HYA				*e*S	**S**	**15 13 49.3**	**+0.5**
IIGN	**Ignalina**	**63.72**	329	*e*P	**P**	**15 06 03.3**	**+0.7**
IIGN				IAmb	IAmb	15 06 04.5	
	comp=Z,3μm,0.6s						
SKAR	**Skarslia**	**63.74**	341	⇓*i*P	**P**	**15 06 03.5**	**+0.7**
SKAR				IVmB_BB		15 06 04.0	
	comp=Z,27μm,1.7s						
SKAR				*e*S	**S**	**15 13 50.4**	**+1.0**
BSSI	**Bau Bau, Buton**	**63.82**	215	P	**P**	**15 06 04.4**	**+0.6**
SHOC	**Shoshone, Teco**	**63.84**	65	P	**P**	**15 06 05.4**	**+1.6**
	baz=317,SNR=36						
DECC	**Green Verdugo**	**63.88**	67	P	**P**	**15 06 05.4**	**+1.4**
	baz=317,SNR=39						
MICGM	**Minsk**	**63.88**	327	⇓IP	**P**	**15 06 03.0**	**-0.7**
MICGM				⇓IP	**P**	**15 06 03.0**	**-0.7**
MICGM				PM		15 06 04.0	
	comp=N,3.1nm,1.0s						
MICGM				PM		15 06 04.0	
	comp=Z,6.6nm,1.0s						
MICGM				PM		15 06 04.0	
	comp=E,7.5nm,1.0s						
MICGM				PM		15 06 04.0	
	comp=N,30nm,10.0s						
MICGM				PM		15 06 04.0	
	comp=Z,55nm,10.0s						
MICGM				PM		15 06 05.0	
	comp=E,22nm,10.0s						
MICGM				*e*PcP	**PcP**	**15 06 30.0**	**-2.4**
MICGM				*e*pP	**pP**	**15 08 06.0**	**+0.1**
MICGM				*e*PP	**PP**	**15 08 40.0**	**+5.1**
MICGM				*e*sP	**sP**	**15 09 08.0**	**-4.0**
MICGM				*e*PPP	PPP	15 10 16.0	
MICGM				*e*S	**S**	**15 13 48.0**	**-3.1**
MICGM				SM		15 13 50.0	
	comp=N,151nm,10.0s						
MICGM				SM		15 13 51.0	
	comp=E,66nm,10.0s						
MICGM				*e*SP	SKSac	15 14 34.0	-21
MICGM				*e*sS	sS	15 17 21.0	-8.3
MICGM				*e*SS	**SS**	**15 18 14.0**	**-0.9**
MICGM				*e*SSS	SSS	15 21 18.0	
MNK	**Minsk**	**63.88**	327	⇓*i*P	**P**	**15 06 03.0**	**-0.7**
MNK				*e*		15 06 30.0	
MNK				*e**PP	**pP**	**15 08 06.0**	**+0.1**
MNK				*e*		15 08 40.0	
MNK				*e*		15 09 08.0	
MNK				*e*PPP	PPP	15 10 16.0	
MNK				*e*S	**S**	**15 13 48.0**	**-3.1**
MNK				*e*SP	SKSac	15 14 34.0	-21
MNK				*e*SS	**SS**	**15 18 19.0**	**+4.1**
MNK				pmax	pmax		
	comp=N,3μm,1.0s						
MNK				pmax	pmax		
	comp=E,8μm,1.0s						
MNK				pmax	pmax		
	comp=Z,7μm,1.0s						
MNK				smax	smax		
	comp=N,151μm,10.0s						
MNK				smax	smax		
	comp=E,66μm,10.0s						
NACGM	**Naroch**	**63.91**	328	*e*P	**P**	**15 06 04.0**	**+0.2**
NACGM				*e*P	**P**	**15 06 04.0**	**+0.2**
NACGM				*e*pP	**pP**	**15 08 04.0**	**-2.1**
NACGM				*e*sP	**sP**	**15 09 08.0**	**-4.3**
NACGM				*e*PPP	PPP	15 10 10.0	
NACGM				*e*S	**S**	**15 13 44.0**	**-7.4**
NACGM				*e*sS	sS	15 17 20.0	-10
NACGM				*e*SS	**SS**	**15 18 10.0**	**-5.3**
NACGM				*e*SSS	SSS	15 21 18.0	
NACGM				*e*LQ	LQ	15 22 36.0	
NACGM				*e*LR	LR	15 23 42.0	
NACGM				LRM	MLR	15 25 26.0	
	comp=Z,18nm,18.0s						
OSL	**Oslo**	**63.91**	339	⇓*i*P	**P**	**15 06 04.1**	**+0.3**
SNCC	**San Nicolas Is**	**63.92**	69	P	**P**	**15 06 05.7**	**+1.3**
	baz=317,SNR=36						
MYKOM	**Kota Tinggi**	**63.97**	235	P	**P**	**15 06 07.0**	**+2.2**
GSC	**Goldstone, Bar**	**63.98**	65	P	**P**	**15 06 06.2**	**+1.5**
	baz=317,SNR=285						
PASC	**Pasadena Art C**	**64.02**	67	*e*P	**P**	**15 06 05.9**	**+0.9**
	comp=Z,194nm,0.6s						
K22A	**Casper**	**64.04**	53	P	**P**	**15 06 06.0**	**+0.9**
	baz=318,SNR=328						
SUE	**Sulen**	**64.08**	343	⇓*i*P	**P**	**15 06 05.4**	**+0.6**
SUE				IVmB_BB		15 06 05.7	
	comp=Z,49μm,1.5s						
SUE				*e*S	**S**	**15 13 54.2**	**+1.0**
RSSD	**Black Hills**	**64.15**	51	*e*P	**P**	**15 06 06.6**	**+0.7**
	comp=Z,3μm,1.0s						
RSSD	**Black Hills**	**64.15**	51	*e*P	**P**	**15 06 06.6**	**+0.7**
RSSD				pmax	pmax		
	comp=Z,3μm,1.0s						
RSSD	**Black Hills**	**64.15**	51	P	**P**	**15 06 06.8**	**+0.9**
	baz=319						
RRX	**Edison Barstow**	**64.18**	66	P	**P**	**15 06 07.7**	**+1.7**
	baz=317,SNR=18						
PBKI	**Pangkalan Bun**	**64.19**	225	P	**P**	**15 06 07.7**	**+1.5**
BFSC	**Mount Baldy Ra**	**64.27**	67	P	**P**	**15 06 08.0**	**+1.4**
	baz=317,SNR=166						
FMP	**Fort Macarthur**	**64.29**	68	P	**P**	**15 06 07.9**	**+1.3**
	baz=317,SNR=5.3						
PABE	**Paberze**	**64.30**	330	*e*P	**P**	**15 06 06.6**	**+0.4**
PABE				IAmb	IAmb	15 06 07.8	
	comp=Z,8μm,0.9s						
TPRI	**Tanjung Pinang**	**64.37**	234	P	**P**	**15 06 09.2**	**+1.8**
TUQ	**Turquoise Moun**	**64.37**	65	P	**P**	**15 06 09.1**	**+1.7**
	baz=317,SNR=625						
KONO	**Kongsberg**	**64.42**	340	*d i*P	**P**	**15 06 07.1**	**+0.2**
KONO				pmax	pmax		
	comp=Z,3μm,1.0s						
KONO	**Kongsberg**	**64.42**	340	⇓*i*P	**P**	**15 06 07.5**	**+0.5**
KONO				I

PFO pmax pmax
comp=Z,333nm,0.9s
PFO Pinyon Flats O 65.41 67 P **P 15 06 14.9 +1.1**
baz=318,SNR=111
XMAS Kiritimati 65.44 121 *e*P **P 15 06 15.3 +1.3**
comp=Z,10μm,1.3s
GROC Groznyy 65.50 309⇓*i*P **P 15 06 14.2 +0.2**
GROC *e* 15 06 37.6
GROC *e**PP **pP** 15 08 17.9 +0.9
GROC *e* 15 08 57.6
GROC *e*S **S 15 14 08.4 -2.4**
GROC pmax pmax
comp=Z,6μm,1.5s
DSRI Dabo 65.55 233 P **P 15 06 16.6 +1.9**
MMRI Maumere 65.55 212 P **P 15 06 14.9 +0.2**
109C Camp Elliot, M 65.57 67 P **P 15 06 15.8 +1.2**
baz=318,SNR=24
NEE2 Needles Airpor 65.59 64 P **P 15 06 16.0 +1.3**
baz=318,SNR=20
N23A Red Feather La 65.64 54 P **P 15 06 16.5 +1.3**
baz=319,SNR=388
PSI Prapat 65.68 241 P4KPbc 15 43 04.3
comp=Z,37nm,0.7s,baz=2.9,slow=3.9,SNR=29
KMY Karmoy 65.70 342⇓*i*P **P 15 06 15.5 +0.5**
KMY IVmB_BB 15 06 16.3
comp=Z,34μm,1.5s
KMY *e*S **S 15 14 13.9 +1.3**
IRM Iron Mountain 65.75 65 P **P 15 06 17.5 +1.8**
baz=318,SNR=565
SUW Suwalki 65.81 330 *e*P **P 15 06 15.3 -0.4**
SUW *i*S **S 15 14 12.8 -1.2**
SUW Suwalki 65.81 330 *e*P **P 15 06 15.3 -0.4**
SUW *i*S **S 15 14 12.8 -1.2**
HOMB Homborsund 65.91 340⇓*i*P **P 15 06 16.5 +0.3**
HOMB IVmB_BB 15 06 17.4
comp=Z,29μm,1.7s
HOMB *e*S **S 15 14 16.2 +1.2**
BC3 Big Chuckawall 65.94 66 P **P 15 06 18.4 +1.3**
baz=318,SNR=193
LRW Lerwick 65.95 345⇓*e*P **P 15 06 16.2 -0.2**
LRW IAmb IAmb 15 06 17.9
comp=Z,1μm,0.8s
MONP2 Monument Peak 65.96 67 P **P 15 06 18.5 +1.2**
baz=318,SNR=101
SOEI Soe 65.96 210 P **P 15 06 17.7 +0.4**
HYB Hyderabad 66.04 268 *i*P **P 15 06 18.0 +0.2**
HYB *e*PcP **PcP 15 06 42.0 -0.1**
HYB *e*pP **pP 15 08 22.5 +1.3**
HYB *e*PP **PP 15 08 54.0 -0.5**
HYB *e*sP **sP 15 09 28.0 +1.4**
HYB *e* 15 11 50.0
HYB *e* 15 13 26.0
HYB *e*S **S 15 14 16.0 -1.8**
HYB *e*sS **sS 15 18 04.0 +5.7**
HYB Hyderabad 66.04 268 *e*P **P 15 06 17.6 -0.1**
TPI Tanjungpandan 66.05 229 P **P 15 06 19.0 +1.2**
SNART Snartemo 66.12 340⇓*i*P **P 15 06 18.4 +0.8**
SNART IVmB_BB 15 06 18.7
comp=Z,35μm,1.4s
SNART *e*S **S 15 14 18.7 +1.2**
PDMCI Parker Dam,Lak 66.20 64 P **P 15 06 20.1 +1.6**
baz=318,SNR=256
NRS Narsarsuaq 66.24 9⇓*i*P **P 15 06 17.8 -0.4**
NRS pmax pmax
comp=Z,2μm,1.1s
NRS Narsarsuaq 66.24 9⇓*i*P **P 15 06 17.8 -0.4**
comp=Z,2μm,1.1s
TPTI 66.25 242 P **P 15 06 17.4 -1.6**
SWSC Sam W. Stewart 66.27 67 P **P 15 06 20.2 +1.3**
baz=318,SNR=92
SUSD Miller 66.28 48 P **P 15 06 19.3 +0.5**
baz=321,SNR=157
IKP In-Ko-Pah, Jac 66.31 67 P **P 15 06 20.7 +1.4**
baz=318,SNR=179
KVAR Kislovodsk Arr 66.38 312 S **S 15 14 23.8 +2.4**
comp=Z,1μm,1.3s,baz=180,slow=20,SNR=28
KIV Kislovodsk 66.38 312⇓*i*P **P 15 06 20.7 +1.1**
KIV Kislovodsk 66.38 312 *i*P **P 15 06 20.3 +0.6**
SNR=591
KIV Kislovodsk 66.38 312 *e*P **P 15 06 20.2 +0.6**
KIV *e* 15 10 42.6
KIV *e* 15 14 23.9
KIV MLR MLR
comp=Z,6μm,17.0s
KIV Kislovodsk 66.38 312 P **P 15 06 20.5 +0.9**
SNR=1340
KIV Kislovodsk 66.38 312 *e*P **P 15 06 20.2 +0.6**
Y12C Blythe 66.39 65 P **P 15 06 21.4 +1.7**
baz=318,SNR=272
SMCO Snowmass 66.40 56 *e*P **P 15 06 21.1 +1.0**
comp=Z,748nm,0.6s
KBZ Khabaz 66.46 311 P **P 15 06 20.6 +0.7**
comp=Z,4μm,0.7s,baz=69,slow=2.7,SNR=2605
KBZ S **S 15 14 23.1 +1.1**
comp=Z,181nm,1.1s,baz=287,slow=22,SNR=14
KBZ SKKS **SKKSdf 15 32 21.1 -5.1**
comp=Z,8.2nm,0.9s,baz=199,slow=2.2,SNR=5.7
KBZ PKPPKP **P'P'df 15 34 44.1 -0.4**
comp=Z,34nm,0.9s,baz=269,slow=1.6,SNR=4.8
KBZ P4KPbc 15 43 05.4
comp=Z,3.7nm,0.8s,baz=53,slow=5.6,SNR=5.9
AKASG Malin Array Be 66.54 324 P **P 15 06 19.5 -0.8**
comp=Z,3μm,0.7s,baz=34,slow=6.8,SNR=1303
AKASG PKiKP **PKiKP 15 12 39.4 -0.6**
comp=Z,12nm,0.6s,baz=3.8,slow=2.0,SNR=5.8
AKASG S **S 15 14 21.2 -1.5**
comp=Z,792nm,1.0s,baz=33,slow=12,SNR=39
AKASG SKKS **SKKSdf 15 32 20.5 -5.1**
comp=Z,1.9nm,0.6s,baz=221,slow=2.2,SNR=4.1
AKASG PKPPKP **P'P'df 15 34 41.0 -3.4**
comp=Z,19nm,0.8s,baz=226,slow=2.3,SNR=7.7
AKASG P4KPbc 15 43 04.8
comp=Z,12nm,0.8s,baz=35,slow=5.2,SNR=26
AKBB Malin Array Si 66.54 324 *e*P **P 15 06 20.0 -0.3**
comp=Z,3μm,0.8s
AKBB Malin Array Si 66.54 324 *e*P **P 15 06 20.0 -0.3**
AKBB pmax pmax
comp=Z,3μm,0.8s
KIEV Kiev 66.56 324 *e*P **P 15 06 20.1 -0.3**
comp=Z,3μm,0.8s
KIEV Kiev 66.56 324⇓*i*P **P 15 06 19.9 -0.5**
KIEV Kiev 66.56 324 *i*P **P 15 06 19.3 -1.1**
SNR=1967
KIEV Kiev 66.56 324⇓P **P 15 06 19.9 -0.5**
BATI Baumata 66.58 210 P **P 15 06 21.0 0.0**
comp=Z,4μm,0.8s,baz=189,slow=0.3,SNR=304
BATI S **S 15 14 26.1 +2.1**
comp=Z,141nm,1.0s,baz=38,slow=22,SNR=6.7
ISCO Idaho Springs 66.63 55 *e*P **P 15 06 23.0 +1.5**
comp=Z,2μm,1.3s
ISCO Idaho Springs 66.63 55 *e*P **P 15 06 23.0 +1.5**
ISCO pmax pmax
comp=Z,2μm,1.3s
ISCO Idaho Springs 66.63 55 P **P 15 06 22.9 +1.5**
baz=319,SNR=810
BKNI Bangkinang 66.66 237 P **P 15 06 22.9 +1.4**
ZEI Tsey 66.72 310 *e*P P 15 06 13.8 -8.0
ZEI pmax pmax
comp=Z,3μm,0.9s
EYMN Ely 66.72 41 *e*P **P 15 06 21.2 -0.2**
comp=Z,3μm,1.0s
EYMN Ely 66.72 41 P **P 15 06 21.3 -0.2**
baz=324,SNR=1000
GLA Glamis 66.74 66 P **P 15 06 23.6 +1.7**
baz=318,SNR=258
WUAZ Wupatki 66.82 62 P **P 15 06 24.4 +1.9**
baz=319,SNR=469
NEY Neytrino 66.91 311 *d i*P **P 15 06 23.0 0.0**
NEY pmax pmax
comp=Z,785nm,1.3s
JMBI JAMBI 67.01 234 P **P 15 06 26.1 +2.4**
MVCO Mesa Verde 67.09 59 P **P 15 06 25.5 +1.2**
baz=319,SNR=494
BHJ Bhuj 67.12 279 *e*P **P 15 06 24.8 +0.5**
KMMI Kalianget 67.13 221 P **P 15 06 26.0 +1.7**
WSI Waingapu 67.17 214 P **P 15 06 22.7 -1.9**
BSD Bornholm Skovb 67.23 335 *i*P **P 15 06 24.4 0.0**
BSD Bornholm Skovb 67.23 335 *i*P **P 15 06 24.4 0.0**
PLAI Plampang 67.28 217 P **P 15 06 24.1 -1.2**
COP Copenhagen 67.35 336⇓*i*P **P 15 06 25.7 +0.6**
COP pmax pmax
comp=Z,3μm,0.8s
COP Copenhagen 67.35 336⇓*i*P **P 15 06 25.7 +0.6**
comp=Z,3μm,0.8s
MUD Monsted U'grnd 67.43 338⇓*i*P **P 15 06 26.4 +0.9**

MUD pmax pmax
comp=Z,2μm,0.9s
MUD Monsted U'grnd 67.43 338⇓*i*P **P 15 06 26.4 +0.9**
comp=Z,2μm,0.9s
Q24A Divide 67.49 55 *e*P **P 15 06 27.6 +0.9**
comp=Z,1μm,1.0s
Q24A Divide 67.49 55 P **P 15 06 27.8 +1.1**
baz=320,SNR=242
OGNE Ogallala 67.53 52 P **P 15 06 27.8 +1.1**
baz=320,SNR=494
S22A 4UR Ranch, Cre 67.56 57 P **P 15 06 28.8 +1.7**
baz=320,SNR=1000
SRBI Singaraja 67.57 219 P **P 15 06 27.2 +0.2**
PMBI Palembang 67.58 232 P **P 15 06 28.7 +1.6**
GRJI Gresik 67.62 223 P **P 15 06 28.0 +0.7**
GSI Gunungsitoli 67.66 241 P **P 15 06 28.3 +0.6**
C40A Isle Royale Na 67.67 39 P **P 15 06 26.4 -0.8**
baz=325,SNR=249
E38A The Farm, Brul 67.77 42 P **P 15 06 27.8 -0.1**
baz=324,SNR=1000
ECSD EROS Data Cent 67.89 47 P **P 15 06 29.0 +0.3**
baz=322,SNR=1000
BIGH Upper Bighouse 67.94 346⇓*i*P **P 15 06 28.6 0.0**
BIGH IAmb IAmb 15 06 30.1
comp=Z,2μm,0.8s
AKH Akhalkalaki 67.97 310⇓*i*P **P 15 06 30.5 +1.1**
W18A Petrified Fore 68.00 61 P **P 15 06 31.5 +1.8**
baz=319,SNR=303
PDSI Padang 68.01 237 P **P 15 06 29.0 -0.8**
SOC Sochi 68.02 313 *d i*P **P 15 06 29.8 +0.4**
SOC *e* 15 09 10.5
SOC *e**SP **sP 15 09 34.7 -4.5**
SOC *e*PPP PPP 15 10 53.3
SOC *i*S **S 15 14 39.4 -0.7**
SOC *e*SS **SS 15 19 17.3 -1.4**
SOC *e*SSS SSS 15 22 38.1
SOC pmax pmax
comp=Z,6μm,0.9s
SOC pmax pmax
comp=Z,4μm,0.8s
MLA1 Latheron 68.04 346⇓*i*P **P 15 06 29.5 +0.3**
F37A Hinrichs Farm, 68.04 43 P **P 15 06 29.4 -0.1**
baz=324,SNR=170
ANN Anapa 68.06 316 *d i*P **P 15 06 29.2 -0.4**
ANN *e* 15 06 48.7
ANN *e**PP **pP 15 08 32.8 -1.3**
ANN *e* 15 09 11.6
ANN *e*S **S 15 14 38.2 -2.3**
ANN *e*SS **SS 15 19 22.4 +3.1**
ANN pmax pmax
comp=Z,5μm,1.4s
ANN pmax pmax
comp=E,869nm,1.5s
ANN pmax pmax
comp=E,2μm,5.3s
ANN pmax pmax
comp=Z,7μm,5.3s
ANN pmax pmax
comp=N,2μm,5.3s
POO Poona 68.09 272 *e*P **P 15 06 30.4 +0.1**
POO IAmb IAmb 15 06 31.8
comp=Z,5μm,0.8s
F38A Pierce - Schro 68.16 42 P **P 15 06 30.7 +0.4**
baz=324,SNR=1000
GKP Gorka Klasztor 68.23 332 *e*P **P 15 06 30.6 +0.1**
GKP *i*S **S 15 14 40.9 -1.3**
GKP Gorka Klasztor 68.23 332 *e*P **P 15 06 30.6 +0.1**
GKP *i*S **S 15 14 40.9 -1.3**
SDCO Great Sand Dun 68.24 56 P **P 15 06 32.5 +1.3**
baz=320,SNR=960
RSC Scourie 68.25 347⇓*i*P **P 15 06 30.6 +0.1**
EPOS Posof 68.26 310 *i*P **P 15 06 32.1 +1.0**
MDRS Chennai 68.33 263 *e*P **P 15 06 32.3 +0.6**
JAGI Jajag, Banyuwa 68.34 220 P **P 15 06 29.6 -2.1**
GNI Garni 68.35 308 *e*P **P 15 06 33.1 +1.4**
comp=Z,10μm,1.4s
GNI Garni 68.35 308 *i*P **P 15 06 33.2 +1.5**
SNR=1039
GNI Garni 68.35 308 *d i*P **P 15 06 33.5 +1.8**
GNI Garni 68.35 308 P **P 15 06 33.4 +1.7**
SNR=1842
GNI Garni 68.35 308 S **S 15 14 52.3 +7.9**
comp=Z,248nm,1.1s,baz=193,slow=22,SNR=7.3
GNI P4KPbc 15 43 14.2
comp=Z,4.9nm,0.6s,baz=159,slow=8.6,SNR=7.1
SPMN Marine on St. 68.36 43 P **P 15 06 31.5 0.0**
baz=324,SNR=306
E39A Mellen 68.36 41 P **P 15 06 31.5 0.0**
baz=324,SNR=1000
BEL Belsk 68.42 330 *e*P **P 15 06 32.4 +0.7**
BEL *i*S **S 15 14 44.6 +0.1**
BEL Belsk 68.42 330 *e*P **P 15 06 32.4 +0.7**
BEL *i*S **S 15 14 44.6 +0.1**
PBSI Pulau Batu 68.43 240 P **P 15 06 33.2 +0.9**
GMJI Gumukmas 68.45 221 P **P 15 06 31.6 -0.7**
NGJI Ngawi 68.45 223 P **P 15 06 34.1 +1.7**
E40A Wakefield 68.58 41 P **P 15 06 33.2 +0.4**
baz=325,SNR=1000
F39A Loretta 68.59 42 P **P 15 06 33.1 +0.2**
baz=324,SNR=1000
D41A Chassel 68.60 40 P **P 15 06 32.8 -0.1**
baz=325,SNR=526
SMRI Semarang 68.60 225 P **P 15 06 34.2 +0.9**
BATM Batumi 68.67 311⇓*i*P **P 15 06 33.6 +0.2**
214A Organ Pipe Nat 68.69 65 P **P 15 06 35.3 +1.6**
baz=319,SNR=215
MCD Coleburn Disti 68.72 346⇓*i*P **P 15 06 33.6 +0.2**
KSCO Kaye Shedlock' 68.72 54 P **P 15 06 34.4 +0.5**
baz=321,SNR=100
SCHQ Schefferville 68.73 23 P **P 15 06 33.1 -0.4**
comp=Z,990nm,0.7s,baz=351,slow=6.1,SNR=451
SCHQ S **S 15 14 45.6 -2.3**
comp=Z,196nm,1.2s,baz=150,slow=14,SNR=9.7
SCHQ PKPPKP P'P'df 15 34 31.1 -10
comp=Z,120nm,1.0s,baz=135,slow=2.8,SNR=21
G38A Ridgeland 68.81 43 P **P 15 06 33.8 -0.3**
baz=324,SNR=455
RRR Rubha Reidh 68.82 347⇓*i*P **P 15 06 33.6 -0.3**
BCA Borcka 68.83 311 *e*P **P 15 06 34.7 +0.3**
BCA Borcka 68.83 311⇓*i*P **P 15 06 34.5 +0.1**
RRH Rhenigidale 68.87 348⇓*i*P **P 15 06 34.4 +0.1**
F40A Park Falls 68.91 41 P **P 15 06 34.7 -0.1**
baz=325,SNR=1000
MME1 Meikle Cairn 68.93 346⇓*i*P **P 15 06 34.6 0.0**
E41A Kenton 68.93 40 P **P 15 06 34.7 -0.2**
baz=325,SNR=614
DAGI Agillar 68.98 310 *i*P **P 15 06 36.5 +1.2**
G39A Holcombe 69.00 42 P **P 15 06 34.8 -0.5**
baz=324,SNR=498
BGNE Belgrade 69.01 49 P **P 15 06 35.8 +0.3**
baz=322,SNR=161
MDO Dochfour 69.02 346⇓*i*P **P 15 06 35.4 +0.2**
H38A Maiden Rock 69.02 43 P **P 15 06 35.4 0.0**
baz=324,SNR=277
SISI Saibi 69.07 238 P **P 15 06 36.6 +0.5**
KAC Achnashellach 69.09 347⇓*i*P **P 15 06 35.9 +0.3**
LVV L'vov 69.10 327 *c i*P **P 15 06 35.9 +0.1**
LVV *e**PP **pP 15 08 40.0 -1.0**
LVV *i*S **S 15 14 51.0 -1.3**
LVV pmax pmax
comp=Z,10μm,1.4s
WOJI Wonogiri, Jawa 69.10 224 P **P 15 06 35.6 -0.6**
SENK Senkaya-Erzuru 69.18 310 *e*P **P 15 06 37.9 +1.2**
DRUM Mains of Drumt 69.24 345⇓*i*P **P 15 06 36.5 0.0**
DRUM IAmb IAmb 15 06 37.8
comp=Z,3μm,0.8s
T25A Trinidad 69.26 56 P **P 15 06 38.0 +0.7**
baz=320,SNR=528
KPL Plockton 69.30 347⇓*i*P **P 15 06 36.8 +0.1**
KPL IAmb IAmb 15 06 38.2
comp=Z,3μm,1.0s
UGM Wanagama 69.34 224 P **P 15 06 37.3 -0.4**
SIM Simferopol' 69.35 318 *c i*P **P 15 06 37.9 +0.5**
SIM *e**PP **pP 15 08 46.0 +3.5**
SIM *i*S **S 15 14 52.0 -3.3**
SIM pmax pmax
comp=Z,3μm,1.0s
YOGI Yogyakarta 69.35 224 P **P 15 06 37.3 -0.5**
E42A Champion 69.38 40 P **P 15 06 37.3 -0.2**
baz=326,SNR=473
G40A Rib Lake 69.41 42 P **P 15 06 37.7 -0.1**
baz=325,SNR=1000
H39A Augusta 69.44 43 P **P 15 06 37.6 -0.4**
baz=324,SNR=299
F41A Three Lakes 69.47 41 P **P 15 06 38.2 +0.1**

baz=325,SNR=1000
CLDR Caldiran 69.53 308 *e*P **P 15 06 40.3 +1.5**
TUC Tucson 69.55 64 *e*P **P 15 06 40.1 +1.2**
comp=Z,530nm,1.1s
TUC Tucson 69.55 64 *e*P **P 15 06 40.1 +1.2**
TUC pmax pmax
comp=Z,530nm,1.1s
TUC Tucson 69.55 64 P **P 15 06 40.4 +1.6**
baz=320
AGRB Hanur-Agry 69.64 309 *e*P **P 15 06 41.0 +1.6**
CBJI Citeko 69.65 228 P **P 15 06 39.9 +0.4**
LEM Lembang 69.66 227 P **P 15 06 39.7 -0.1**
LEM Lembang 69.66 227 P **P 15 06 39.5 -0.3**
comp=Z,4μm,1.0s,baz=46,slow=3.8,SNR=466
LEM S **S 15 14 57.9 -1.9**
comp=Z,60nm,1.0s,baz=299,slow=14,SNR=4.7
EDU Dundee 69.67 345⇓*i*P **P 15 06 39.1 +0.1**
MNAI Manna 69.70 233 P **P 15 06 38.8 -1.1**
KWP Kalwaria Pacla 69.71 327 *e*P **P 15 06 40.1 +0.7**
KWP *i*S **S 15 14 58.6 -0.6**
KWP Kalwaria Pacla 69.71 327 *e*P **P 15 06 40.1 +0.7**
KWP *i*S **S 15 14 58.6 -0.6**
SBJI Serang 69.72 229 P **P 15 06 38.7 -1.2**
KIS Kishinev 69.77 322⇑*i*P **P 15 06 38.0 -1.8**
comp=Z,15μm,2.0s
KIS Kishinev 69.77 322 *i*PcP **PcP 15 06 52.0 -5.3**
KIS *i*pP **pP 15 08 44.0 -1.2**
KIS Kishinev 69.77 322 *i*PP PP 15 09 44.0 +19
KIS Kishinev 69.77 322⇓*i*P **P 15 06 38.0 -1.8**
KIS *i* 15 06 52.0
KIS *i**PP **pP 15 08 44.0 -1.2**
KIS *i* 15 09 44.0
KIS *i*PPP PPP 15 11 10.0
KIS *i*S **S 15 14 52.0 -7.9**
KIS *i*SS **SS 15 19 50.0 +5.0**
KIS pmax pmax
comp=Z,15μm,2.0s
KIS pmax pmax
comp=N,10μm,2.0s
KIS pmax pmax
comp=Z,5μm,16.0s
KIS smax smax
comp=N,7μm,16.0s
E43A Lone Tree Farm 69.78 39 P **P 15 06 39.4 -0.5**
baz=326,SNR=311
PPSI Pulau Pagai 69.81 236 P **P 15 06 41.5 +1.0**
F42A Maple Grove Fa 69.84 40 P **P 15 06 40.1 -0.2**
baz=326,SNR=58
ELO Logie Almond 69.86 346⇓*i*P **P 15 06 40.2 +0.1**
KOPR Koprukoy-ERZUR 69.86 310 *e*P **P 15 06 42.0 +1.3**
H40A Chili 69.86 42 P **P 15 06 40.4 0.0**
baz=325,SNR=924
SEVA Sevastopol 69.87 318⇓*i*P **P 15 06 40.8 +0.4**
TASM ASL Pad, Albuq 69.88 59 P **P 15 06 42.5 +1.5**
baz=320,SNR=758
TASM ASL Pad, Albuq 69.88 59 P **P 15 06 42.5 +1.5**
baz=320,SNR=741
ANMO Albuquerque 69.88 59 *e*P **P 15 06 42.1 +1.2**
comp=N,811nm,1.1s
ANMO Albuquerque 69.88 59 *d i*P **P 15 06 42.0 +1.0**
ANMO pmax pmax
comp=Z,943nm,1.3s
ANMO Albuquerque 69.88 59 P **P 15 06 42.5 +1.5**
baz=320
ANMO Albuquerque 69.88 59 PKPPKP **P'P'df 15 34 40.2 +1.2**
comp=Z,25nm,0.9s,baz=139,slow=7.9,SNR=6.9
ANMO P4KPbc 15 43 22.5
comp=Z,9.8nm,1.1s,baz=330,slow=5.2,SNR=6.9
RUE Ruedersdorf 69.89 334 *e*P **P 15 06 40.9 +0.6**
RUE IAmb IAmb 15 06 42.1
comp=Z,4μm,1.0s
INVG Invergeldie, C 69.95 346⇓*i*P **P 15 06 40.4 -0.2**
INVG IAmb IAmb 15 06 41.9
comp=Z,2μm,0.7s
E44A Grand Marais A 69.99 38 P **P 15 06 41.0 -0.1**
baz=327,SNR=109
AKDA Akdag 70.00 310 *i*P **P 15 06 43.5 +1.9**
I39A Houston 70.01 43 P **P 15 06 40.9 -0.4**
baz=324,SNR=647
KTUT Trabzon 70.05 312 *e*P **P 15 06 41.5 -0.1**
KTUT Trabzon 70.05 312⇑*i*P **P 15 06 41.5 -0.1**
IAS Iasi 70.07 323⇑*i*P **P 15 06 41.4 -0.2**
IAS Iasi 70.07 323⇑P **P 15 06 41.4 -0.2**
OJC Ojcow 70.14 329 *e*P **P 15 06 42.4 +0.5**
OJC *i*S **S 15 15 02.9 -1.2**
OJC Ojcow 70.14 329 *e*P **P 15 06 42.4 +0.5**
OJC *i*S **S 15 15 02.9 -1.2**
G42A Mountain 70.15 41 *e*P **P 15 06 42.1 0.0**
comp=Z,3μm,1.0s
G42A Mountain 70.15 41 P **P 15 06 42.1 0.0**
baz=326,SNR=940
F43A Flat Rock, Esc 70.16 39 P **P 15 06 41.9 -0.2**
baz=326,SNR=322
H41A Junction City 70.17 42 *e*P **P 15 06 42.1 -0.1**
comp=Z,2μm,0.8s
H41A Junction City 70.17 42 P **P 15 06 42.1 -0.1**
baz=325,SNR=622
MLAZ Malazgirt-MUS 70.19 309 *e*P **P 15 06 44.4 +1.7**
CISI Cisompet, Garu 70.21 227 P **P 15 06 40.3 -2.6**
VANB Van 70.21 308 *e*P **P 15 06 44.3 +1.6**
ESY Stoneypath 70.22 345⇓*i*P **P 15 06 42.5 +0.2**
EAB Aberfoyle 70.22 346⇓*i*P **P 15 06 42.7 +0.4**
MATQ Matagami 70.23 31 P **P 15 06 42.1 -0.4**
baz=330,SNR=318
CBKS Cedar Bluff 70.29 52 P **P 15 06 43.1 -0.1**
baz=322,SNR=215
SKJI Sukabumi 70.30 228 P **P 15 06 40.9 -2.4**
EDI Edinburgh 70.30 345⇓*i*P **P 15 06 42.7 -0.1**
EDI IAmb IAmb 15 06 44.0
comp=Z,1μm,0.9s
Y22D IRIS PASSCAL I 70.30 60 P **P 15 06 45.6 +2.2**
baz=320,SNR=17
LAWE Loch Awe, Argy 70.31 347⇓*i*P **P 15 06 43.1 +0.3**
LAWE IAmb IAmb 15 06 44.2
comp=Z,3μm,0.8s
F44A Big Bay de Noc 70.33 39 P **P 15 06 42.9 -0.3**
baz=326,SNR=451
BAYT Aydıntepe-Bayb 70.35 311 *e*P **P 15 06 44.6 +1.0**
J39A Decorah 70.35 44 P **P 15 06 42.6 -0.7**
baz=324,SNR=424
CGJI Cibinong 70.35 229 P **P 15 06 41.1 -2.6**
I40A Norwalk 70.36 43 P **P 15 06 43.2 -0.1**
baz=325,SNR=365
STHS Stebnicka Huta 70.38 328 *e*P **P 15 06 43.4 0.0**
STHS pmax pmax
comp=Z,3μm,0.8s
STHS Stebnicka Huta 70.38 328 *e*P **P 15 06 43.4 0.0**
GOA Goa 70.42 270 *e*P **P 15 06 44.8 +0.7**
EAU Auchinoon 70.42 345⇓*i*P **P 15 06 43.9 +0.4**
PRAR RASCA 70.42 324⇓*i*P **P 15 06 43.6 -0.1**
EBL Broad Law 70.42 345⇓*i*P **P 15 06 43.7 +0.2**
G43A Wallace 70.43 40 P **P 15 06 43.8 0.0**
baz=326,SNR=675
KOLS Kolonicke sedl 70.45 327 *e*P **P 15 06 44.4 +0.6**
KOLS pmax pmax
comp=Z,2μm,1.0s
KOLS Kolonicke sedl 70.45 327 *e*P **P 15 06 44.3 +0.5**
KOLS *e*S **S 15 15 03.6 -4.1**
KOLS *e* 15 33 54.7
D46A Sault St. Mari 70.47 37 P **P 15 06 43.2 -0.8**
baz=328,SNR=565
E45A Wooded Hills, 70.49 38 P **P 15 06 43.5 -0.6**
baz=327,SNR=121
I41A Arkdale 70.53 42 P **P 15 06 44.2 -0.1**
baz=325,SNR=81
BURAR Bucovina Array 70.57 325 *e*P **P 15 06 44.8 +0.1**
BURAR Bucovina Array 70.57 325⇓*i*P **P 15 06 44.7 +0.1**
BURAR Bucovina Array 70.57 325⇓P **P 15 06 44.7 +0.1**
ECAT Cat-ERZURUM 70.58 310 *i*P **P 15 06 46.4 +1.4**
PGBU Glenifferbraes 70.61 346⇓*i*P **P 15 06 44.8 +0.2**
PGBU IAmb IAmb 15 06 46.2
comp=Z,8μm,0.9s
KSP Ksiaz 70.65 332 *e*P **P 15 06 45.4 +0.5**
KSP *i*S **S 15 15 08.5 -1.3**
KSP Ksiaz 70.65 332 *e*P **P 15 06 45.4 +0.5**
KSP *i*S **S 15 15 08.5 -1.3**
D47A Chapleau 70.67 36 P **P 15 06 44.4 -0.7**
baz=328,SNR=429
NIE Niedzica 70.68 329 *e*P **P 15 06 46.0 +0.8**
NIE *i*S **S 15 15 10.0 -0.2**
NIE Niedzica 70.68 329 *e*P **P 15 06 46.0 +0.8**
NIE *i*S **S 15 15 10.0 -0.2**
VRTB Varto-Mus 70.70 309 *e*P **P 15 06 47.8 +2.2**
UZH Uzhgorod 70.71 327 *d i*P **P 15 06 42.6 -2.7**

UZH e*PP pP 15 08 46.0 -5.3
UZH i SP 15 09 50.8
UZH i S S 15 15 04.6 -5.9
J40A Soldiers Grove 70.71 43 P P 15 06 44.8 -0.7
baz=325,SNR=231
H42A Shiocton 70.71 41 eP **P 15 06 45.3 -0.1**
comp=Z,3µm,0.9s
H42A Shiocton 70.71 41 P P 15 06 45.4 +0.1
baz=326,SNR=144
RAC Raciborz 70.75 330 eP **P 15 06 46.2 +0.7**
RAC e*PP pP 15 08 51.0 -0.6
RAC eS S 15 15 10.2 -0.8
KARO Karliova-Bingo 70.78 310 eP **P 15 06 47.2 +1.1**
K39A Oelwein 70.78 44 P P 15 06 45.0 -0.9
baz=324,SNR=348
E46A Sault Ste Mari 70.81 37 eP **P 15 06 45.2 -0.8**
comp=Z,8µm,2.0s
E46A Sault Ste Mari 70.81 37 P P 15 06 45.2 -0.8
baz=328,SNR=222
BIZ Bicaz 70.82 324⇑iP **P 15 06 46.0 0.0**
BIR Birlad 70.83 322⇑iP **P 15 06 46.9 +0.9**
BIR Birlad 70.83 322⇑iP **P 15 06 46.9 +0.9**
SCIA State Center 70.85 46 P P 15 06 46.6 +0.3
baz=324,SNR=280
EKA Eskdalemuir Ar 70.87 345 PKiKP **PKiKP 15 12 45.4 -0.5**
comp=Z,6.1nm,0.5s,baz=354,slow=1.7,SNR=5.3
EKA S S 15 15 10.8 -1.3
comp=Z,54nm,1.1s,baz=21,slow=9.9,SNR=7.0
EKA PKPPKP **P'P'df 15 34 33.9 -3.0**
comp=Z,56nm,1.1s,baz=174,slow=1.7,SNR=5.0
EKA P4KPbc 15 43 23.0
comp=Z,7.0nm,1.0s,baz=19,slow=7.0,SNR=4.7
ESK Eskdalemuir 70.89 345 eP **P 15 06 46.5 +0.2**
comp=Z,2µm,0.8s
ESK Eskdalemuir 70.89 345⇓iP **P 15 06 46.4 +0.2**
ESK IAmb IAmb 15 06 47.7
comp=Z,2µm,0.7s
ESK Eskdalemuir 70.89 345 eP **P 15 06 46.5 +0.2**
ESK pmax pmax
comp=Z,2µm,0.8s
YEDI Yedisu-Bingol 70.92 310 eP **P 15 06 47.9 +1.0**
F45A CMU Biological 70.93 39 P P 15 06 46.3 -0.3
baz=327,SNR=202
TESR Tescani 70.98 323⇓iP **P 15 06 47.1 +0.1**
OKC Ostrava-Krasne 70.99 330⇓iP **P 15 06 47.6 +0.7**
OKC e*PP **pP 15 08 50.8 -2.3**
OKC e 15 09 56.7
OKC eS **S 15 15 12.3 -1.3**
OKC Ostrava-Krasne 70.99 330⇓iP **P 15 06 47.6 +0.7**
OKC epP **pP 15 08 50.8 -2.3**
OKC esP **sP 15 09 56.7 -1.3**
OKC eS **S 15 15 12.3 -1.3**
OKC eXS **sS 15 19 03.4 +5.1**
BNGL BINGOL 71.01 309 iP **P 15 06 49.2 +1.7**
121A Cookes Peak, D 71.02 61 P P 15 06 49.7 +2.0
baz=320,SNR=584
UPC Upice 71.03 332⇓iP **P 15 06 47.4 +0.2**
UPC e*PP **pP 15 08 54.2 +0.8**
UPC e 15 09 57.1
UPC eS **S 15 15 13.3 -0.8**
UPC Upice 71.03 332⇓iP **P 15 06 47.4 +0.2**
UPC epP **pP 15 08 54.2 +0.8**
UPC esP **sP 15 09 57.1 -1.2**
UPC eS **S 15 15 13.3 -0.8**
UPC eXS **sS 15 19 00.6 +1.7**
D48A Paudash Townsh 71.04 35 P P 15 06 46.3 -1.0
baz=329,SNR=376
J41A Loganville 71.04 43 P P 15 06 47.0 -0.3
baz=325,SNR=267
H43A Windswept, Lux 71.05 41 P P 15 06 47.6 +0.2
baz=326,SNR=483
LSQQ Lebel-sur-Quev 71.05 31 P P 15 06 47.0 -0.3
baz=331
TRPA Tarpa 71.06 327⇓iP **P 15 06 48.2 +0.9**
TRPA Tarpa 71.06 327⇓iP **P 15 06 47.1 -0.2**
TRPA ePP **pP 15 08 54.1 +0.7**
TRPA i S S 15 15 11.1 -3.3
I42A Draeger Farm, 71.07 42 P P 15 06 47.5 +0.1
baz=326,SNR=481
DPC Dobruska-Polom 71.08 332⇓iP **P 15 06 48.0 +0.5**
DPC e 15 09 58.0
DPC eS **S 15 15 10.5 -4.2**
DPC Dobruska-Polom 71.08 332⇓iP **P 15 06 48.0 +0.5**
DPC esP **sP 15 09 58.0 -0.7**
DPC eS **S 15 15 10.5 -4.2**
DPC ePKKP 15 32 01.4
BHH Howats Hill 71.11 345⇓iP **P 15 06 47.9 +0.4**
K40A Colesburg 71.11 44 P P 15 06 47.3 -0.5
baz=325,SNR=429
CHGQ Chibougamau 71.11 29 P P 15 06 47.2 -0.5
baz=332,SNR=731
D49A Beulah Townshi 71.12 35 P P 15 06 47.0 -0.7
baz=329,SNR=188
E47A Iron Bridge 71.12 37 P P 15 06 47.0 -0.8
baz=328,SNR=236
BMR Baia Mare 71.12 326⇑iP **P 15 06 48.0 +0.3**
BMR Baia Mare 71.12 326⇑iP **P 15 06 48.0 +0.3**
F46A Macinaw City C 71.14 38 P P 15 06 47.6 -0.2
baz=327,SNR=287
EDMD Edmundbyers 71.15 344⇓iP **P 15 06 47.8 0.0**
EDMD IAmb IAmb 15 06 50.1
comp=Z,4µm,1.4s
CLL Collm 71.16 334⇓iP **P 15 06 48.2 +0.3**
CLL e*PP **pP 15 08 51.0 -3.1**
CLL e*SP **sP 15 10 02.0 +2.9**
CLL i S S 15 15 14.0 -1.4
CLL pmax pmax
comp=Z,6µm,1.0s
CLL Collm 71.16 334⇓iP **P 15 06 48.2 +0.3**
comp=Z,6µm,1.0s
CLL ePmax 15 06 49.0
CLL ePcP **PcP 15 07 06.0 +2.8**
CLL epP **pP 15 08 51.0 -3.1**
CLL esP **sP 15 10 02.0 +2.9**
CLL ePPP PPP 15 11 20.0
CLL esPP 15 12 30.0
CLL e 15 14 19.0
CLL i S S 15 15 14.0 -1.4
comp=N,9µm,19.5s
CLL i S S 15 15 14.0 -1.4
comp=E,2µm,19.3s
CLL i S S 15 15 14.0 -1.4
comp=Z,7µm,18.9s
CLL e 15 15 37.0
CLL eSP **SKSac 15 15 48.0 -2.4**
CLL i 15 16 06.0
CLL esS **sS 15 19 00.0 -0.3**
CLL eSS **SS 15 20 11.0 +5.3**
CLL eSSS SSS 15 23 29.0
CLL ePKKPdf **PKKPdf 15 26 19.0 +5.8**
CLL eSSSS 15 26 30.0
CLL i 15 33 30.2
CLL e 15 33 49.0
CLL e 15 34 21.0
CLL ePKPPKPbc **P'P'bc** 15 34 27.0 -8.3
comp=Z,39nm,1.0s
CLL epPKPPKPb 15 36 35.0
CLL e 15 36 53.0
CLL e3PKPdf 15 54 06.0
CUKT Cukurca 71.16 307 eP **P 15 06 49.2 +0.9**
LANS Liptovska Anna 71.18 329 eP **P 15 06 49.6 +1.5**
LANS Liptovska Anna 71.18 329 eP **P 15 06 49.5 +1.5**
LANS e 15 33 52.6
ERZN Erzincan 71.18 311 eP **P 15 06 49.7 +1.3**
KRLC Kraliky 71.19 331⇓iP **P 15 06 48.9 +0.8**
KRLC e*PP **pP 15 08 51.5 -2.9**
KRLC e 15 09 58.4
KRLC eS **S 15 15 14.7 -1.3**
KRLC Kraliky 71.19 331⇓iP **P 15 06 48.9 +0.8**
KRLC epP **pP 15 08 51.5 -2.9**
KRLC esP **sP 15 09 58.4 -1.0**
KRLC eS **S 15 15 14.7 -1.3**
KRLC eXS **sS 15 19 01.5 +0.6**
BNGB Bingl 71.20 310 eP **P 15 06 49.8 +1.3**
L39A Vinton 71.21 45 P P 15 06 48.0 -0.3
baz=325,SNR=592
MORC Moravsky Berou 71.22 331⇑iP **P 15 06 49.2 +0.8**
MORC Moravsky Berou 71.22 331⇑iP **P 15 06 49.2 +0.8**
MORC Moravsky Berou 71.22 331⇓iP **P 15 06 48.7 +0.3**
MORC epP **pP 15 08 57.3 +2.6**
MORC eS **S 15 15 14.6 -1.8**
MORC e 15 15 42.0
MORC e 15 32 02.8
MORC e 15 43 27.1
SNOP Sinop 71.26 315 eP **P 15 06 48.8 +0.2**
TLCR 71.28 321⇓iP **P 15 06 49.1 +0.4**
TLCR 71.28 321⇓iP **P 15 06 49.1 +0.4**
BRG Berggiesshubel 71.29 333⇓iP **P 15 06 48.8 +0.2**
comp=Z,3µm,1.2s
BRG i 15 07 04.1
comp=Z,843nm,1.2s
BRG i pP **pP 15 08 56.9 +1.9**
comp=Z,417nm,1.4s
BRG sP **sP 15 09 59.0 -0.9**
BRG S **S 15 15 11.0 -6.0**
BRG sS sS 15 18 53.0 -9.0
BRG SS SS 15 19 47.0 -21
BRG ePKPPKP P'P'df 15 33 56.4 -40
comp=Z,22nm,1.0s
BRG e 15 36 27.3
comp=Z,32nm,1.6s
BRG Berggiesshubel 71.29 333⇓iP **P 15 06 48.8 +0.2**
BRG i 15 07 04.1
BRG i *PP **pP 15 08 56.9 +1.9**
BRG *SP **sP 15 09 59.0 -0.9**
BRG S **S 15 15 11.0 -6.0**
BRG pmax pmax
comp=Z,3µm,1.2s
JFWS Jewell Farm 71.31 43 P P 15 06 48.2 -0.7
baz=325,SNR=187
ARCR ARCALIA 71.33 325⇓iP **P 15 06 49.8 +0.9**
GDLE Glaisdale, N Y 71.35 343⇓iP **P 15 06 48.4 -0.5**
GDLE IAmb IAmb 15 06 50.2
comp=Z,2µm,1.0s
I43A Langenfeld Bro 71.39 41 P P 15 06 49.3 0.0
baz=326,SNR=341
G45A Suttons Bay 71.41 39 P P 15 06 49.2 -0.2
baz=327,SNR=88
PVCC Panska Ves 71.43 333⇓iP **P 15 06 50.2 +0.8**
PVCC e*PP **pP 15 08 56.4 +0.6**
PVCC e 15 09 59.4
PVCC eS **S 15 15 16.3 -2.2**
PVCC Panska Ves 71.43 333⇓iP **P 15 06 50.2 +0.8**
PVCC epP **pP 15 08 56.4 +0.6**
PVCC esP **sP 15 09 59.4 -1.4**
PVCC eS **S 15 15 16.3 -2.2**
PVCC ex x 15 18 58.2
KECS Kecovo 71.43 328 eP **P 15 06 50.1 +0.6**
KECS pmax pmax
comp=Z,7µm,1.1s
KECS Kecovo 71.43 328 eP **P 15 06 50.1 +0.6**
PETR Petresti 71.43 322⇓iP **P 15 06 51.2 +1.7**
J42A Columbus 71.45 42 P P 15 06 49.6 -0.2
baz=326,SNR=521
BBO1 Bothel 71.45 345⇓iP **P 15 06 50.0 +0.5**
ODBI Odobesti 71.47 323⇓iP **P 15 06 51.3 +1.6**
CEI Carei 71.47 326⇑iP **P 15 06 51.0 +1.3**
CEI Carei 71.47 326⇑iP **P 15 06 51.0 +1.3**
G46A Petoskey 71.48 38 P P 15 06 49.7 -0.2
baz=327,SNR=172
VRI Vrincioaia 71.50 323⇓iP **P 15 06 50.5 +0.5**
VRI Vrincioaia 71.50 323⇓iP **P 15 06 50.5 +0.5**
E48A Lockeyer 71.50 36 P P 15 06 49.2 -0.8
baz=328,SNR=208
SIRT Sirnak 71.53 308 eP **P 15 06 51.2 +0.8**
DIKM Dikmen 71.54 315 eP **P 15 06 51.4 +1.1**
DIKM Dikmen 71.54 315⇓iP **P 15 06 51.0 +0.7**
PLOR Plostina 71.54 323⇓iP **P 15 06 50.7 +0.4**
PLOR Plostina 71.54 323⇓iP **P 15 06 50.7 +0.4**
CFR Carcaliu 71.55 322⇓iP **P 15 06 50.0 -0.2**
CFR Carcaliu 71.55 322⇓iP **P 15 06 50.0 -0.2**
CLGH Cloghs, Cushen 71.55 347⇓iP **P 15 06 50.1 0.0**
CLGH IAmb IAmb 15 06 51.5
comp=Z,4µm,0.9s
GAL1 Galloway 71.56 346⇓iP **P 15 06 50.0 0.0**
GAL1 IAmb IAmb 15 06 51.4
comp=Z,1µm,0.9s
KSU1 Kansas State U 71.56 50 P P 15 06 50.2 -0.3
baz=323,SNR=326
KESW Keswick, Cumbr 71.57 345⇓iP **P 15 06 50.5 +0.3**
KESW IAmb IAmb 15 06 51.9
comp=Z,6µm,1.0s
L40A Anamosa 71.59 44 P P 15 06 50.0 -0.6
baz=325,SNR=362
H45A Beulah 71.61 39 P P 15 06 50.6 0.0
baz=327,SNR=87
SVAN Silvan-Diyarba 71.62 309 eP **P 15 06 52.2 +1.3**
RSDY Resadiye-TOKAT 71.63 313 eP **P 15 06 51.9 +1.0**
OZUR 71.66 324⇓iP **P 15 06 52.9 +2.0**
KVT Kavak 71.66 314 eP **P 15 06 52.2 +1.2**
J43A Natural Harves 71.69 42 P P 15 06 50.8 -0.3
baz=326,SNR=256
BISRR Bisoca 71.78 323⇓iP **P 15 06 52.5 +0.8**
SLPK Sellapark 71.78 345⇓iP **P 15 06 51.7 +0.3**
K42A Prairie Point, 71.80 43 P P 15 06 51.3 -0.5
baz=326,SNR=508
GRER 71.82 322⇓iP **P 15 06 53.6 +1.8**
BZK Bozkurt 71.83 316 eP **P 15 06 52.3 +0.4**
BZK Bozkurt 71.83 316⇓iP **P 15 06 52.3 +0.4**
CUZAR Zara_SIVAS 71.84 312 iP **P 15 06 53.1 +0.8**
F48A Evansville 71.89 37 P P 15 06 51.6 -0.6
baz=328,SNR=177
DOPR Dopca 71.91 324⇓iP **P 15 06 52.9 +0.5**
CJR Cluj-Napoca 71.91 325⇓iP **P 15 06 53.0 +0.6**
CJR Cluj-Napoca 71.91 325⇓iP **P 15 06 53.0 +0.6**
GOPC GO Pecny, Ondr 71.92 332⇓iP **P 15 06 52.9 +0.6**
GOPC e*PP **pP 15 09 00.0 +1.0**
GOPC e 15 10 02.0
GOPC eS **S 15 15 22.2 -1.8**
GOPC GO Pecny, Ondr 71.92 332⇓iP **P 15 06 52.9 +0.6**
GOPC epP **pP 15 09 00.0 +1.0**
GOPC esP **sP 15 10 02.0 -1.8**
GOPC eS **S 15 15 22.2 -1.8**
GOPC ePKKP 15 32 03.1
LTVH Ltavrtes, Hu 71.92 327⇓iP **P 15 06 53.0 +0.7**
LTVH ePP **pP 15 09 01.1 +2.2**
LTVH i S S 15 15 24.1 +0.1
PRU Pruhonice 71.92 332⇓iP **P 15 06 52.6 +0.3**
PRU e*PP **pP 15 08 57.9 -1.1**
PRU e 15 10 02.2
PRU eS **S 15 15 20.7 -3.3**
PRU Pruhonice 71.92 332⇓iP **P 15 06 52.6 +0.3**
PRU epP **pP 15 08 57.9 -1.1**
PRU esP **sP 15 10 02.2 -1.6**
PRU eS **S 15 15 20.7 -3.3**
PRU eXS **sS 15 19 09.7 +0.2**
PRU ePKKP 15 32 02.8
VRAC Vranov 71.93 331⇓iP **P 15 06 53.5 +1.1**
VRAC Vranov 71.93 331⇓iP **P 15 06 53.5 +1.1**
VRAC Vranov 71.93 331⇓iP **P 15 06 52.9 +0.5**
VRAC epP **pP 15 09 01.9 +2.8**
VRAC eS **S 15 15 23.6 -0.5**
VRAC e 15 15 51.9
VRAC e 15 32 02.6
VRAC e 15 43 30.5
VRAC Vranov 71.93 331 S S 15 15 25.1 +1.0
comp=Z,196nm,1.3s,baz=196,slow=16,SNR=25
VRAC P4KPbc 15 43 30.6
comp=Z,5.6nm,0.8s,baz=14,slow=5.4,SNR=11
HPK Haverah Park 71.93 344⇓iP **P 15 06 52.8 +0.5**
HPK IAmb IAmb 15 06 54.0
comp=Z,9µm,1.1s
VYHS Vyhne 71.95 329 eP **P 15 06 53.4 +0.8**
VYHS pmax pmax
comp=Z,3µm,1.4s
VYHS Vyhne 71.95 329 eP **P 15 06 53.4 +0.8**
VYHS eS **S 15 15 18.6 -5.9**
VYHS e 15 33 45.9
D51A Lot 18 Range I 71.97 34 P P 15 06 52.0 -0.6
baz=330,SNR=207
G47A Hillman 71.99 38 P P 15 06 52.4 -0.4
baz=328,SNR=119
GLMI Grayling 71.99 38 P P 15 06 53.0 +0.1
baz=328,SNR=88
JAVC Velka Javorina 72.00 330⇓iP **P 15 06 54.1 +1.2**
JAVC epP **pP 15 09 03.8 +4.3**
JAVC eS **S 15 15 25.2 +0.2**
JAVC e 15 15 52.7
JAVC e 15 32 01.7
JAVC e 15 43 31.7
H46A Fife Lake 72.01 39 P P 15 06 52.8 -0.1
baz=327,SNR=182
I45A Fountain 72.02 40 P P 15 06 53.3 +0.3
baz=327,SNR=93
HARR Harsova 72.04 321⇓iP **P 15 06 53.5 +0.4**
HARR Harsova 72.04 321⇓iP **P 15 06 53.5 +0.4**
TOKT Tokat 72.05 313 eP **P 15 06 54.1 +0.8**
CTA Charters Tower 72.06 185 P P 15 06 54.5 +1.0
comp=Z,1µm,0.9s,baz=359,slow=7.3,SNR=750
CTA PKPPKP 15 34 30.6
comp=Z,20nm,1.1s,baz=237,slow=3.6,SNR=4.6
CTA P4KPbc 15 43 31.8
comp=Z,10.0nm,0.9s,baz=23,slow=8.8,SNR=5.5
CTAO Charters Tower 72.06 185 eP **P 15 06 54.5 +1.0**
comp=Z,2µm,1.0s
CTAO Charters Tower 72.06 185 eP **P 15 06 54.5 +1.0**
CTAO pmax pmax
comp=Z,2µm,1.0s
E50A Wahnapitae 72.06 35 P P 15 06 52.7 -0.5
baz=329,SNR=251
TLB Topalu 72.08 321⇓iP **P 15 06 53.8 +0.5**
TLB Topalu 72.08 321⇓iP **P 15 06 53.8 +0.5**
MLR Muntele Rosu 72.11 323⇑iP **P 15 06 54.9 +1.2**
MLR Muntele Rosu 72.11 323⇑iP **P 15 06 54.9 +1.2**
MLR Muntele Rosu 72.11 323 S S 15 15 25.8 -0.8
comp=Z,428nm,1.3s,baz=197,slow=23,SNR=24
WTSB Winterswijk 72.11 338 eP **P 15 06 53.6 +0.3**
comp=Z,3µm,0.6s
IOMK Kirk Michael 72.12 346⇓iP **P 15 06 53.4 +0.1**
IOMK IAmb IAmb 15 06 54.6
comp=Z,5µm,0.9s
PSZ Piszkesteto 72.12 328⇓iP **P 15 06 54.4 +0.8**
PSZ Piszkesteto 72.12 328⇓iP **P 15 06 54.4 +0.8**
PSZ Piszkesteto 72.12 328⇓iP **P 15 06 54.0 +0.4**
PSZ ePP **pP 15 09 00.1 -0.2**
PSZ i S S 15 15 25.0 -1.4
MDB Medias 72.12 324⇓iP **P 15 06 54.7 +1.1**
MDB Medias 72.12 324⇓iP **P 15 06 54.7 +1.1**
DRGR 72.16 326⇓iP **P 15 06 53.7 -0.1**
DRGR 72.16 326⇓iP **P 15 06 53.7 -0.1**
F49A Sandfield 72.16 36 P P 15 06 53.2 -0.5
baz=329,SNR=199
SVSK Karacayir 72.17 313 eP **P 15 06 55.1 +1.2**
LMK Market Rasen 72.18 343⇓iP **P 15 06 53.9 +0.2**
LMK IAmb IAmb 15 06 55.1
comp=Z,3µm,1.0s
ISR Istrita 72.20 322⇓iP **P 15 06 55.0 +0.9**
ISR Istrita 72.20 322⇓iP **P 15 06 55.0 +0.9**
KRUC Moravsky 72.20 331⇓iP **P 15 06 54.4 +0.4**
KRUC epP **pP 15 09 04.0 +3.3**
KRUC eS **S 15 15 27.0 -0.2**
KRUC e 15 15 56.0
KRUC e 15 32 01.7
KRUC e 15 43 31.4
WIM Isle of Man 72.25 346⇓iP **P 15 06 54.3 +0.2**
TREC Trest 72.27 332⇓iP **P 15 06 55.1 +0.7**
TREC eS **S 15 15 28.1 +0.2**
TREC Trest 72.27 332⇓iP **P 15 06 55.1 +0.7**
TREC eS **S 15 15 28.1 +0.2**
TREC ex x 15 19 18.2
TREC ePKKP 15 32 01.8
EFOR EFORIE 72.28 321⇓iP **P 15 06 55.4 +1.0**
MFTR Murfatlar 72.28 321⇓iP **P 15 06 54.7 +0.3**
NKC Novy Kostel 72.28 334⇓iP **P 15 06 54.7 +0.3**
NKC e 15 10 04.3
NKC eS **S 15 15 23.0 -5.0**
NKC Novy Kostel 72.28 334⇓iP **P 15 06 54.7 +0.3**
NKC ex x 15 08 53.8
NKC esP **sP 15 10 04.3 -1.8**
NKC eS **S 15 15 23.0 -5.0**
K43A Burlington 72.28 42 P P 15 06 54.2 -0.4
baz=326,SNR=243
CVDA Cernavoda 72.30 321⇑iP **P 15 06 55.3 +0.8**
L42A Oliver, Polo 72.31 43 P P 15 06 54.0 -0.7
baz=326,SNR=383
AMRR Amara 72.33 322⇑iP **P 15 06 55.3 +0.6**
AMRR Amara 72.33 322⇑iP **P 15 06 55.3 +0.6**
H47A Mio 72.34 38 P P 15 06 54.9 +0.1
baz=328,SNR=75
SVRC Sivrice-ELAZID 72.34 310 eP **P 15 06 56.5 +1.3**
GMM Mts of Mourne 72.35 346⇓iP **P 15 06 54.6 0.0**
D52A ZEK Kipawa Sen 72.39 33 P P 15 06 54.6 -0.5
baz=330
N40A Mertquake, Sal 72.40 45 P P 15 06 55.3 +0.1
baz=325,SNR=348
AMTX Amarillo 72.41 56 P P 15 06 56.4 +0.9
baz=322
E51A G1948 Merrick 72.41 34 P P 15 06 54.5 -0.6
baz=330,SNR=636
I46A Reed City 72.41 39 P P 15 06 55.5 +0.3
baz=327,SNR=190
M41A Milan 72.45 44 P P 15 06 55.1 -0.4
baz=325,SNR=149
SECR 72.45 323⇓iP **P 15 06 55.8 +0.3**
J45A Montague 72.47 40 P P 15 06 55.7 +0.2
baz=327,SNR=124
LBWR Ladybower, Pea 72.48 344⇓iP **P 15 06 55.9 +0.4**
LBWR IAmb IAmb 15 06 57.1
comp=Z,9µm,1.1s
VOIR 72.49 324⇑iP **P 15 06 56.5 +0.8**
VOIR 72.49 324⇑iP **P 15 06 56.5 +0.8**
D53A Lac Vacive, Po 72.54 33 P P 15 06 55.9 -0.1
baz=331,SNR=639
L43A Garden Prairie 72.55 43 P P 15 06 55.5 -0.5
baz=326,SNR=151
MODS Modra-Piesok 72.55 330 eP **P 15 06 56.1 +0.1**
MODS pmax pmax
comp=Z,4µm,1.2s
MODS Modra-Piesok 72.55 330 eP **P 15 06 56.1 +0.1**
MODS eS **S 15 15 26.2 -4.8**
MSTX Muleshoe 72.56 57 P P 15 06 57.1 +0.6
baz=322,SNR=620
PLAR PLOIESTI 72.57 323⇓iP **P 15 06 56.6 +0.5**
PALK Pallekele 72.58 259 eP **P 15 06 57.2 +0.5**
comp=Z,6µm,0.8s
PALK Pallekele 72.58 259 iP **P 15 06 57.1 +0.4**
SNR=249
PALK Pallekele 72.58 259 eP **P 15 06 57.2 +0.5**
PALK pmax pmax
comp=Z,6µm,0.8s
H48A Harrisville 72.59 38 P P 15 06 56.3 0.0
baz=328,SNR=195
LEHL Lehliu 72.65 322⇓iP **P 15 06 56.7 +0.2**
MTUR Matau 72.66 323⇓iP **P 15 06 57.3 +0.5**
MTUR Matau 72.66 323⇓iP **P 15 06 57.3 +0.5**
SULR 72.69 322⇓iP **P 15 06 56.9 +0.1**
ARR Arges 72.70 324⇓iP **P 15 06 57.8 +0.9**
WACR West Acre 72.70 342⇓iP **P 15 06 57.1 +0.4**
WACR IAmb IAmb 15 06 58.3
comp=Z,7µm,1.0s
I47A Gladwin 72.71 39 P P 15 06 57.1 +0.2
baz=328,SNR=90
SRO Srobarova 72.72 329 eP **P 15 06 58.1 +1.2**
SRO Srobarova 72.72 329 eP **P 15 06 58.1 +1.2**
SRO2 Moca 72.74 329 eP **P 15 06 57.3 +0.3**
SRO2 Moca 72.74 329 eP **P 15 06 57.3 +0.3**
ZST Bratislava 72.76 330 eP **P 15 06 57.4 +0.3**
ZST eS **S 15 15 30.8 -2.5**
ZST Bratislava 72.76 330 eP **P 15 06 57.4 +0.3**
ZST eS **S 15 15 30.8 -2.5**
F51A Arnstein 72.78 35 P P 15 06 56.5 -0.8
baz=330,SNR=185
PSN Preselentsi 72.79 321 iP **P 15 06 58.3 +0.9**
TOBO Tobermory, Bru 72.81 36 P P 15 06 57.1 -0.3
baz=329,SNR=110
D54A Lac Fusel, La 72.83 32 P P 15 06 57.3 -0.3
baz=331,SNR=862
J46A Howard City 72.83 40 P P 15 06 57.9 +0.3
baz=327,SNR=122
N41A Harden Midland 72.86 45 P P 15 06 57.5 -0.4
baz=325,SNR=150
STNC Stoke 72.86 344⇓eP **P 15 06 58.1 +0.5**
STNC IAmb IAmb 15 06 59.4
comp=Z,5µm,1.3s
DEV Deva 72.87 325⇓iP **P 15 06 58.0 +0.2**
DEV Deva 72.87 325⇓iP **P 15 06 58.0 +0.2**
I48A Sherman Twp 72.88 38 P P 15 06 58.1 +0.2
baz=328,SNR=200
L44A Lake County Fo 72.89 42 P P 15 06 57.8 -0.2
baz=326,SNR=75
E52A Mattawa 72.91 34 P P 15 06 57.2 -0.8
baz=330,SNR=243
WME Myndd Eilian 72.92 345⇓iP **P 15 06 57.8 -0.1**
INCR INCERC-Sediu C 72.92 322⇓iP **P 15 06 58.3 +0.2**
LOT Lotru 72.94 324⇓iP **P 15 06 58.3 -0.1**
WPS Cemaes, Angles 72.94 345⇓iP **P 15 06 57.6 -0.4**
WPS IAmb IAmb 15 06 59.0
comp=Z,2µm,1.2s
MNTX Cornudas Mount 72.95 60 P P 15 07 00.1 +1.5
baz=321,SNR=1000

KHC Kasperske Hory 72.97 333⇓*i*P P 15 06 58.8 +0.4
KHC *e* 15 07 09.0
KHC *e* 15 10 09.0
KHC *e*S **S 15 15 32.3 -3.3**
KHC Kasperske Hory 72.97 333⇓*i*P P 15 06 58.8 +0.4
KHC *e*PCP **PcP 15 07 09.0 -2.1**
KHC *e*pP **pP 15 09 01.8 -3.7**
KHC *e*sP **sP 15 10 09.0 -1.2**
KHC *e*S **S 15 15 32.3 -3.3**
KHC *e*XS **sS 15 19 23.6 +1.5**
KHC *e*PKKP 15 31 58.6
SIRR Siria 72.97 326⇓*i*P P 15 06 58.8 +0.4
CORM Corum 73.02 314 *e*P P 15 07 00.4 +1.5
GOLR 73.03 323⇑*i*P P 15 06 58.7 0.0
WLF1 Llynfaes 73.03 345⇓*i*P P 15 06 58.5 -0.1
WLF1 IAmb IAmb 15 06 59.7
comp=Z,8μm,1.5s
CWF Charnwood Fore 73.05 343⇓*i*P P 15 06 58.6 -0.1
CWF IAmb IAmb 15 07 00.9
comp=Z,4μm,1.0s
BUC1 Bucharest 73.05 322⇓*i*P P 15 06 59.4 +0.6
BUC1 Bucharest 73.05 322 ⇓P P 15 06 59.4 +0.6
SHME Shamm 73.05 291 *i* P P 15 06 59.1 -0.2
SNR=555
M43A Waltham Townsh 73.07 43 P P 15 06 58.7 -0.3
baz=326,SNR=218
YRC Rhoscolyn 73.10 345⇓*i*P P 15 06 58.6 -0.3
F52A Sundridge 73.10 35 P P 15 06 58.9 -0.3
baz=330,SNR=631
CANT Cankiri 73.11 315 *e*P P 15 07 00.4 +1.0
GRFO Grafenberg 73.11 334 *e*P P 15 07 00.1 +1.0
comp=Z,5μm,0.9s
CSKK Cskako 73.14 329⇓*i*P P 15 06 59.1 -0.2
CSKK *e*PP **pP 15 09 11.1 +4.6**
CSKK *i* S **S 15 15 39.1 +1.6**
YLL Llanberis 73.14 345⇓*e*P P 15 06 59.3 +0.1
E53A Dumoine, Ponti 73.17 33 P P 15 06 59.1 -0.5
baz=331,SNR=421
KLBO Killbear Provi 73.17 35 P P 15 06 59.1 -0.4
baz=330,SNR=200
SGRR Singureni 73.18 322⇑*i*P P 15 06 59.4 -0.2
GERES GERESS Array B 73.19 332 *e*P P 15 07 00.1 +0.4
GERES GERESS Array B 73.19 332 P P 15 06 59.6 -0.1
comp=Z,653nm,0.5s,baz=36,slow=5.9,SNR=3788
GERES PKiKP **PKiKP 15 12 49.3 -0.3**
comp=Z,16nm,0.7s,baz=58,slow=1.9,SNR=6.1
GERES PKKP **PKKPdf 15 26 05.2 -5.2**
comp=Z,2.2nm,0.6s,baz=207,slow=1.5,SNR=4.2
GERES PKPPKP 15 34 30.2
comp=Z,4.4nm,0.3s,baz=178,slow=4.0,SNR=17
FOEL Foel Wylfa 73.23 344⇓*i*P P 15 07 00.1 +0.4
FOEL IAmb IAmb 15 07 01.4
comp=Z,3μm,0.9s
J47A Sunmer 73.25 39 *e*P P 15 07 00.6 +0.5
comp=Z,7μm,1.0s
J47A Sunmer 73.25 39 P P 15 07 00.5 +0.5
baz=328,SNR=197
E54A Lac Daplat, Po 73.28 33 P P 15 06 59.6 -0.5
baz=331,SNR=570
HUMR Humele 73.29 323⇓*i*P P 15 06 59.6 -0.6
WRAB Tennant Creek 73.32 197 *e*P P 15 07 01.8 +1.1
comp=Z,6μm,0.8s
WRAB Tennant Creek 73.32 197*d i*P P 15 07 01.6 +1.0
WRAB pmax pmax
comp=Z,7μm,0.8s
URFA Urfa 73.32 310 *e*P P 15 07 02.1 +1.4
WB2 Warramunga Arr 73.33 197 *e*P P 15 07 02.0 +1.3
comp=Z,7μm,0.8s
WRA Warramunga Arr 73.33 197 P P 15 07 01.9 +1.2
comp=Z,6μm,0.8s,baz=8.9,slow=5.9,SNR=7549
K46A Dorr 73.33 40 P P 15 07 00.7 +0.2
baz=327,SNR=348
GZR Gura Zlata 73.34 325⇓*i*P P 15 07 00.9 +0.3
GZR Gura Zlata 73.34 325 ⇓P P 15 07 00.9 +0.3
LLW Llanuwchllyn 73.34 345⇓*i*P P 15 07 00.6 +0.3
CONA Conrad Observa 73.38 331 *i* P P 15 07 01.5 +0.7
comp=Z,4μm,1.3s,SNR=1347
CONA *i* PKiKP **PKiKP 15 12 50.0 +0.1**
comp=Z,95nm,1.4s
CONA *e*S **S 15 15 42.0 +1.7**
comp=Z,397nm,1.5s
BUKO Buck Lake 73.38 35 P P 15 07 00.3 -0.4
baz=330,SNR=316
SOP Sopron 73.38 330⇓*i*P P 15 07 01.1 +0.4
SOP PP **pP 15 09 09.1 +1.1**
SOP *i* S **S 15 15 41.0 +0.9**
N43A Stutzman Famil 73.39 44 P P 15 07 00.6 -0.2
baz=326,SNR=287
ALGO Algonquin Park 73.41 34 P P 15 07 00.1 -0.7
baz=331,SNR=318
I49A Point Hope 73.42 38 P P 15 07 01.1 +0.1
baz=329,SNR=137
HGN Heimansgroeve 73.43 338 *e*P P 15 07 01.2 +0.4
comp=Z,10μm,1.4s
KDZE Karadeniz Ereo 73.45 317⇓*i*P P 15 07 01.1 -0.1
BEBN Eben Emael 73.46 338 ⇓P P 15 07 01.2 +0.2
BMRO Meriville Lake 73.46 36 P P 15 07 01.2 +0.1
baz=329,SNR=186
FITZ Fitzroy Crossi 73.50 206 *e*P P 15 07 03.0 +1.4
comp=Z,5μm,0.9s
FITZ Fitzroy Crossi 73.50 206 P P 15 07 02.9 +1.3
comp=Z,5μm,0.9s,baz=14,slow=5.8,SNR=3370
M44A Midewin, Midew 73.50 43 P P 15 07 01.2 -0.2
baz=327,SNR=225
PRD Provadia 73.50 321 *i* P P 15 07 02.3 +0.9
HLM1 Long Mynd 73.53 344⇓*i*P P 15 07 00.8 -0.6
HLM1 IAmb IAmb 15 07 02.0
comp=Z,4μm,1.2s
BZS Buzias 73.55 326⇓*i*P P 15 07 01.5 -0.1
BZS Buzias 73.55 326 ⇓P P 15 07 01.6 -0.1
BNN Bunyan 73.56 313 *e*P P 15 07 02.8 +0.8
MEM Membach 73.56 338 ⇓P P 15 07 02.1 +0.5
MSFE Esma-Masafi 73.57 290 *i* P P 15 07 02.1 -0.1
SNR=516
TIM Timisoara 73.58 326⇑*i*P P 15 07 02.9 +1.1
TIM Timisoara 73.58 326 ⇑P P 15 07 02.9 +1.1
ROIA ROIAK 73.60 321 *i* P P 15 07 02.7 +0.7
J48A Bridge Port 73.60 39 P P 15 07 02.2 +0.1
baz=328,SNR=227
HDIL Hopedale 73.66 44 *e*P P 15 07 02.2 -0.2
comp=Z,4μm,0.9s
HDIL Hopedale 73.66 44 P P 15 07 02.2 -0.2
baz=326,SNR=478
K47A Vermontville 73.66 40 P P 15 07 02.6 +0.2
baz=328,SNR=568
TIH Tihany 73.66 329⇓*i*P P 15 07 02.1 -0.2
TIH *e*PP **pP 15 09 09.0 -0.7**
TIH *i* S **S 15 15 42.0 -1.2**
BRCO Bruce Peninsul 73.68 37 P P 15 07 02.5 +0.1
baz=329,SNR=174
L46A Eue Claire 73.69 41 *e*P P 15 07 02.6 0.0
comp=Z,4μm,1.0s
L46A Eue Claire 73.69 41 P P 15 07 02.6 0.0
baz=327,SNR=157
UMQ Umm Al-Quwin 73.73 291 *i* P P 15 07 04.0 +0.9
SNR=277
UMQ Umm Al-Quwin 73.73 291 P P 15 07 04.1 +1.1
SNR=159
WSAR Wadi Sarin 73.75 287 P P 15 07 03.9 +0.7
SNR=237
WSAR Wadi Sarin 73.75 287 PKPPKP P'P'df 15 34 29.8 -2.1
comp=Z,16nm,1.1s,baz=271,slow=1.7,SNR=4.9
UCC Uccle 73.75 339 ⇓P P 15 07 02.9 +0.2
BASO Ashfield 73.80 37 P P 15 07 03.5 +0.4
baz=329,SNR=222
J49A Marlette 73.80 38 P P 15 07 03.1 0.0
baz=329,SNR=111
SRE Strehaia 73.82 324⇓*i*P P 15 07 03.5 +0.3
SRE Strehaia 73.82 324 ⇓P P 15 07 03.5 +0.3
BR131 Keskin Array S 73.82 315 *e*P P 15 07 04.2 +0.6
comp=Z,3μm,0.9s
BR131 Keskin Array S 73.82 315 P P 15 07 04.0 +0.5
SNR=1000
BRTR Keskin Array B 73.82 315 *e*P P 15 07 04.0 +0.5
BRTR Keskin Array B 73.82 315 P P 15 07 03.8 +0.3
comp=Z,2μm,0.9s,baz=52,slow=2.6,SNR=2011
BRTR PKiKP **PKiKP 15 12 50.5 -0.4**
comp=Z,42nm,0.9s,baz=137,slow=2.2,SNR=5.9
BRTR S **S 15 15 45.9 +0.4**
comp=Z,29nm,0.9s,baz=73,slow=24,SNR=6.0
BRTR PKKP **PKKPdf 15 26 07.9 -1.9**
comp=Z,6.0nm,0.8s,baz=182,slow=4.6,SNR=3.8
BRTR P4KPbc 15 43 36.4
comp=Z,3.6nm,0.9s,baz=79,slow=3.2,SNR=12
M45A Boilermakers S 73.83 42 P P 15 07 03.1 -0.2
baz=327,SNR=51
BIDO Bidbid 73.83 287 P P 15 07 03.8 +0.2
SNR=175
LATQ La Tuque 73.85 30 P P 15 07 03.2 -0.1
baz=334,SNR=168
TRD Trivandrum 73.89 263 *e*P P 15 07 04.2 +0.2
K48A Perry 73.89 39 P P 15 07 04.1 +0.5
baz=328,SNR=615
CRAR CRAIOVA 73.90 324⇑*i*P P 15 07 03.9 +0.3
CRAR CRAIOVA 73.90 324 ⇑P P 15 07 03.9 +0.3
BCLA Clavier 73.90 338 ⇓P P 15 07 03.6 0.0
BWLO Walkerton 73.90 37 P P 15 07 03.7 +0.1
baz=330,SNR=179
H52A Wyevale 73.90 36 P P 15 07 03.2 -0.5
baz=330,SNR=192
HERR Herculane 73.91 325⇓*i*P P 15 07 03.6 -0.1
PEMO Pembroke 73.92 33 P P 15 07 03.2 -0.6
baz=331,SNR=413
BANR Banloc 73.92 326⇓*i*P P 15 07 04.2 +0.5
MOA Molln 73.92 332 *i* P P 15 07 04.2 +0.4
comp=Z,2μm,0.9s,SNR=598
MOA *i* PKiKP **PKiKP 15 12 50.1 -0.5**
comp=Z,76nm,1.3s
MOA *e*S **S 15 15 47.5 +1.4**
comp=Z,264nm,1.4s
G53A Haliburton 73.93 34 P P 15 07 03.6 -0.2
baz=331,SNR=602
N44A Piper City 73.95 43 P P 15 07 03.9 -0.1
baz=327,SNR=278
VLAD Vladila 73.96 323⇑*i*P P 15 07 04.2 +0.2
WMOK Wichita Mounta 73.98 54 P P 15 07 05.1 +0.8
baz=323,SNR=1000
HATD Hatta, Dubai 73.99 290 *i* P P 15 07 04.6 +0.1
SNR=2298
HATD Hatta, Dubai 73.99 290 P P 15 07 04.8 +0.2
SNR=1025
SZH Strazhica 74.01 322 *i* P P 15 07 04.2 -0.1
WBK Wadi Bani Khal 74.03 286 P P 15 07 05.8 +1.0
SNR=91
SNF Seneffe 74.04 339 ⇓P P 15 07 04.7 +0.3
MCH1 Michaelchurch 74.05 344⇓*i*P P 15 07 04.4 0.0
MCH1 IAmb IAmb 15 07 05.8
comp=Z,3μm,1.1s
LOD Lodumlu 74.07 315 *e*P P 15 07 05.6 +0.8
F55A Otter Lake 74.08 33 P P 15 07 04.2 -0.5
baz=332,SNR=230
ARSA Arzberg 74.09 331 *i* P P 15 07 05.3 +0.6
comp=Z,3μm,1.4s,SNR=860
ELSH Elham, Standar 74.10 341⇓*i*P P 15 07 05.1 +0.4
ELSH IAmb IAmb 15 07 06.5
comp=Z,7μm,0.9s
JLN Jalan Bani Buh 74.12 286 P P 15 07 06.1 +0.8
SNR=289
STRD Stroud 74.12 343⇓*i*P P 15 07 05.2 +0.4
STRD IAmb IAmb 15 07 06.4
comp=Z,9μm,1.0s
NAZ Nazwa, Dubai 74.14 290 *i* P P 15 07 05.2 -0.1
SNR=1059
NAZ Nazwa, Dubai 74.14 290 P P 15 07 05.4 0.0
SNR=494
ASHO Ashiyiah 74.15 290 *i* P P 15 07 05.7 +0.2
SNR=53
ASHO Ashiyiah 74.15 290 P P 15 07 05.5 +0.1
SNR=855
L47A Sherwood 74.17 40 P P 15 07 05.2 0.0
baz=328,SNR=356
K49A Clarkson 74.17 39 P P 15 07 05.8 +0.5
baz=329,SNR=105
KMRS Kahramanmaras 74.17 311 *e*P P 15 07 06.3 +0.9
N45A Kentland 74.17 43 P P 15 07 05.1 -0.1
baz=327,SNR=208
MONM Monmouth 74.17 344⇓*i*P P 15 07 05.4 +0.4
MONM IAmb IAmb 15 07 06.7
comp=Z,7μm,1.0s
M46A Old House Fiel 74.18 41 P P 15 07 05.3 0.0
baz=327,SNR=132
I51A Listowel 74.21 37 P P 15 07 05.7 +0.3
baz=330,SNR=304
SMDO Samad 74.23 287 P P 15 07 06.3 +0.3
SNR=196
MDVR Moldovita 74.25 325⇓*i*P P 15 07 05.5 -0.2
PUNG Punghina 74.25 324⇓*i*P P 15 07 05.5 -0.1
MDUB Mudurnu 74.25 317 *e*P P 15 07 06.3 +0.4
HOQ Hoqain 74.26 288 P P 15 07 06.2 +0.1
SNR=263
BANO Bancroft 74.26 34 P P 15 07 05.5 -0.2
baz=331,SNR=502
PVL Pavlikeni 74.28 322 *i* P P 15 07 06.4 +0.6
SOHO SOHO 74.29 289 P P 15 07 05.4 -0.7
SNR=892
GAZ Gaziantep 74.29 311 *e*P P 15 07 07.2 +1.1
I52A Shelburne 74.29 36 P P 15 07 05.8 -0.2
baz=330,SNR=55
OLDB Oldbury-Upon-S 74.30 344⇓*i*P P 15 07 05.6 -0.1
AFSR Afar-Bala (An 74.30 315 *e*P P 15 07 06.9 +0.8
SWN1 Swindon 74.31 343⇓*i*P P 15 07 06.4 +0.6
SWN1 IAmb IAmb 15 07 07.7
comp=Z,13μm,0.9s
P43A Skaggs, Pawnee 74.32 45 P P 15 07 05.9 -0.2
baz=326,SNR=274
SILT Sile 74.33 318 *e*P P 15 07 06.5 +0.4
SILT Sile 74.33 318⇓*i*P P 15 07 06.6 +0.4
O44A Mansfield 74.35 44 P P 15 07 05.8 -0.4
baz=327,SNR=95
DOU Dourbes 74.36 339 ⇓P P 15 07 06.1 0.0
comp=Z,1μm,1.2s
FAQ Al Faqa, Dubai 74.37 290 *i* P P 15 07 06.2 -0.4
SNR=79
FAQ Al Faqa, Dubai 74.37 290 P P 15 07 06.4 -0.2
SNR=390
RSBS Rosebush, Pemb 74.38 345⇓*i*P P 15 07 06.1 -0.1
RSBS IAmb IAmb 15 07 07.4
comp=Z,2μm,1.4s
SAUV Serdivan-Sakar 74.39 318 *e*P P 15 07 06.8 +0.3
YAYX Yaylak 74.39 314 *e*P P 15 07 06.9 +0.2
WOL Wolverton 74.39 343⇓*i*P P 15 07 06.5 +0.2
WOL IAmb IAmb 15 07 07.7
comp=Z,4μm,0.6s
BEHE Becsehely 74.40 329⇓*i*P P 15 07 06.9 +0.5
BEHE Becsehely 74.40 329⇓*i*P P 15 07 06.1 -0.3
BEHE *e*PP **pP 15 09 13.1 -1.2**
BEHE *i* S **S 15 15 50.1 -1.1**
JMB Yambol 74.44 321 *i* P P 15 07 06.9 +0.2
SPNC Sapanca-Adapaz 74.45 318 *e*P P 15 07 07.5 +0.7
N46A Monticello 74.45 42 P P 15 07 06.4 -0.5
baz=327,SNR=73
BATH Bath 74.47 343⇓*i*P P 15 07 07.0 +0.3
BATH IAmb IAmb 15 07 08.1
comp=Z,4μm,1.0s
G55A Calabogie 74.47 33 P P 15 07 06.4 -0.4
baz=332,SNR=570
Q42A Golden Eagle 74.48 46 P P 15 07 07.4 +0.4
baz=326,SNR=540
KLYT Kilyos 74.49 319 *e*P P 15 07 06.9 -0.1
KLYT Kilyos 74.49 319⇓*i*P P 15 07 07.3 +0.3
K50A Casco 74.50 38 P P 15 07 07.0 0.0
baz=329,SNR=56
SERE Serefikochisa 74.50 314 *e*P P 15 07 07.8 +0.5
L48A N Adams 74.50 40 P P 15 07 07.3 +0.2
baz=328,SNR=329
AAM Ann Arbor 74.50 39 P P 15 07 07.5 +0.4
baz=328,SNR=122
TUL1 Leonard 74.50 51 P P 15 07 07.9 +0.7
baz=324,SNR=497
M47A Cromwell 74.52 41 P P 15 07 07.1 0.0
baz=328,SNR=100
HMNX Herstmonceux 74.53 342⇓*i*P P 15 07 08.1 +1.1
HMNX IAmb IAmb 15 07 09.3
comp=Z,8μm,0.9s
PLVO Plevna 74.54 34 P P 15 07 06.9 -0.4
baz=332,SNR=408
FRGS Fruska Gora 74.57 327⇓*i*P P 15 07 07.4 -0.1
GULT Gulveren 74.57 317 *e*P P 15 07 08.0 +0.4
O45A Potomac 74.58 43 P P 15 07 07.7 +0.1
baz=327,SNR=626
HRT Hereke 74.60 318 *e*P P 15 07 07.9 +0.2
R41A Rosebud 74.61 47 P P 15 07 07.8 +0.1
baz=326,SNR=776
CTYL Yalikoy Yolu 74.61 319 *e*P P 15 07 07.6 -0.1
CTYL Yalikoy Yolu 74.61 319⇓*i*P P 15 07 07.8 +0.1
ASUD Al Ashush, Dub 74.61 290 *i* P P 15 07 08.2 +0.3
SNR=177
ASUD Al Ashush, Dub 74.61 290 P P 15 07 08.3 +0.3
SNR=250
L49A Milan 74.62 39 P P 15 07 08.3 +0.5
baz=328,SNR=378
ISK Istanbul-Kandi 74.64 319 *e*P P 15 07 07.6 -0.3
ISK Istanbul-Kandi 74.64 319 P P 15 07 07.4 -0.5
KAVV Kandilli-Istan 74.64 319 *e*P P 15 07 07.7 -0.2
BGKT Bogazkoy 74.66 319 *e*P P 15 07 07.9 -0.1
KULU Kulu 74.66 315 *e*P P 15 07 09.2 +1.0
KOZT Kozan 74.68 312 *e*P P 15 07 08.8 +0.6
ORHO Orleans, Herit 74.69 32 P P 15 07 07.4 -0.6
baz=332
ORIO Orleans, Innes 74.70 32 P P 15 07 07.6 -0.4
baz=332,SNR=455
I53A Kortright Cn E 74.72 36 P P 15 07 08.2 0.0
baz=330,SNR=100
CTKS Kestanelik-??a 74.72 319 *e*P P 15 07 08.4 +0.1
JMDO Jabal Madar 74.72 287 P P 15 07 09.2 +0.5
SNR=187
ACTO Acton 74.73 36 P P 15 07 08.5 +0.1
baz=330,SNR=176
SFIN Lafayette 74.73 43 P P 15 07 08.2 -0.2
baz=327,SNR=283
ALFO Alfred 74.75 32 P P 15 07 08.1 -0.2
baz=333,SNR=1000
SOKA Soboth 74.75 331 *i* P P 15 07 08.8 +0.3
comp=Z,6μm,1.3s,SNR=710
SOKA *e*S **S 15 15 55.0 -0.2**
comp=Z,141nm,1.5s
PERS Pernice 74.76 331 *i* P P 15 07 08.7 +0.2
PERS *i* S **S 15 15 54.2 -1.0**
M48A Edgerton 74.77 40 P P 15 07 08.7 +0.1
baz=328,SNR=333
PHSR Pinarhisar 74.78 320 *e*P P 15 07 09.2 +0.5
PHSR Pinarhisar 74.78 320⇓*i*P P 15 07 09.4 +0.7
PKRO Pickering 74.78 35 P P 15 07 08.5 -0.1
baz=331,SNR=106
BUY Buyukada 74.80 318 *e*P P 15 07 08.8 +0.1
ALNE Al Ain 74.81 290 *i* P P 15 07 09.2 +0.1
SNR=476
DELO Deloro Mine 74.81 34 P P 15 07 08.4 -0.4
baz=331,SNR=320
SLVT Silivri 74.85 319 *e*P P 15 07 09.4 +0.4
SRCK Saricakaya, Es 74.85 317 *e*P P 15 07 08.9 -0.2
AJN Ajban 74.86 290 *i* P P 15 07 09.0 -0.3
SNR=512
AJN Ajban 74.86 290 P P 15 07 09.1 -0.2
SNR=245
CCM Cathedral Cave 74.87 47 *e*P P 15 07 09.0 -0.2
comp=Z,2μm,1.0s
CCM Cathedral Cave 74.87 47 *e*P P 15 07 09.0 -0.2
CCM pmax pmax
comp=Z,2μm,1.0s
CCM Cathedral Cave 74.87 47 P P 15 07 09.2 0.0
baz=326
KBA Koelnbreinsper 74.89 332 *i* P P 15 07 10.1 +0.7
comp=Z,9μm,0.9s,SNR=2258
KBA *e*S **S 15 15 58.1 +1.3**
comp=Z,228nm,1.2s,SNR=9.8
N47A Urbana 74.89 41 P P 15 07 08.9 -0.3
baz=328,SNR=471
ADVT Abdulvahap 74.89 318 *e*P P 15 07 09.5 +0.2
J52A Paris 74.90 37 P P 15 07 09.4 +0.1
baz=330,SNR=221
EDRB Edirne 74.91 321 *e*P P 15 07 09.5 +0.2
EDRB Edirne 74.91 321 P P 15 07 09.2 -0.1
ARQ Araqi 74.91 289 P P 15 07 10.2 +0.5
SNR=436
H55A Tweed 74.93 34 P P 15 07 09.1 -0.3
baz=332,SNR=466
K51A Iona Station 74.96 38 P P 15 07 10.0 +0.4
baz=330,SNR=139
BSY Bisya 74.97 288 P P 15 07 10.6 +0.5
SNR=442
SVRH Sivrihisar-ESK 74.97 316 *e*P P 15 07 09.5 -0.4
DRWO Darlington Wes 74.98 35 P P 15 07 09.8 +0.1
baz=331,SNR=160
DRCO St. Marys Ceme 74.99 35 P P 15 07 09.8 0.0
baz=331,SNR=146
TORO Toronto--Lesli 74.99 36 P P 15 07 09.7 0.0
baz=330,SNR=7.1
DZM Mont Dzumac 75.03 166 *e*P P 15 07 12.8 +2.6
comp=Z,678nm,1.1s
DZM Mont Dzumac 75.03 166 PKiKP PKiKP 15 12 53.2 +0.3
comp=Z,29nm,0.7s,baz=155,slow=2.3,SNR=11
DZM PKPPKP P'P'df 15 34 27.3 +1.1
comp=Z,81nm,1.3s,baz=76,slow=5.0,SNR=7.2
CAVI Cavuskoy 75.05 318 *e*P P 15 07 10.6 +0.4
OBKA Obir 75.05 331 *i* P P 15 07 10.4 +0.3
comp=Z,5μm,1.8s,SNR=229
OBKA *e*S **S 15 15 58.7 +0.3**
comp=Z,158nm,1.4s,SNR=12
L50A Kingsville 75.05 39 P P 15 07 10.2 +0.1
baz=329,SNR=180
I55A Frankford 75.05 34 P P 15 07 09.6 -0.5
baz=331,SNR=240
WLVO Wesleyville 75.06 35 P P 15 07 10.1 -0.1
baz=331,SNR=232
M49A Liberty Center 75.08 40 P P 15 07 10.2 -0.1
baz=328,SNR=250
HHAR Hobbs 75.08 50 *e*P P 15 07 10.4 0.0
comp=Z,2μm,0.9s
BLJ Bijeljina 75.08 327⇓*i*P P 15 07 10.9 +0.7
HEX Exmoor 75.08 344 *i* P P 15 07 10.6 +0.5
CEYT Ceyhan 75.10 312 *e*P P 15 07 11.6 +1.1
BFO Black Forest 75.11 336 *e*P P 15 07 10.8 +0.4
comp=Z,2μm,1.0s
BFO Black Forest 75.11 336 *e*P P 15 07 10.8 +0.4
BFO pmax pmax
comp=Z,2μm,1.0s
CRLT Corlu 75.12 320 *e*P P 15 07 11.5 +0.9
SULT Sultanhani-AKS 75.13 314 *e*P P 15 07 11.1 +0.3
ARMT Armutlu 75.14 318 *e*P P 15 07 10.6 -0.1
WATA Walderalm 75.16 333 *i* P P 15 07 10.6 -0.2
comp=Z,2μm,0.6s,SNR=1374
WATA *e*S **S 15 16 00.0 +0.3**
comp=Z,507nm,1.2s,SNR=9.2
P45A Graceland, Par 75.17 43 P P 15 07 10.7 -0.1
baz=327,SNR=262
N48A Decatur 75.18 41 P P 15 07 10.7 -0.2
baz=328,SNR=446
TEKS Tekeris 75.20 327⇓*i*P P 15 07 11.1 +0.1
DIM Dimitrovgrad 75.20 321 *i* P P 15 07 11.5 +0.5
H56A Elgin 75.21 33 P P 15 07 10.6 -0.3
baz=332,SNR=308
MYKA Terra Mystica 75.21 331 *i* P P 15 07 11.0 0.0
comp=Z,3μm,1.1s,SNR=460
MYKA *i* PKiKP **PKiKP 15 12 51.5 -1.1**
comp=Z,71nm,0.9s
MYKA *e*S **S 15 15 58.7 -1.3**
comp=Z,208nm,1.2s
WTTA Wattenberg 75.21 333 *i* P P 15 07 11.9 +0.7
comp=Z,9μm,1.0s,SNR=1637
WTTA *e*S **S 15 16 00.2 -0.1**
comp=Z,402nm,1.0s,SNR=5.3
K52A Tillsonburg 75.21 37 P P 15 07 11.1 +0.1
baz=330,SNR=58
KARA Karaisali 75.21 312 *e*P P 15 07 11.9 +0.7
ZAG Zagreb 75.22 330⇓*i*P P 15 07 11.5 +0.5
ABTX Abilene, Hawle 75.23 56 P P 15 07 12.0 +0.7
baz=323,SNR=510
CIFT Cifteler, Eski 75.24 316 *e*P P 15 07 11.0 -0.3
O47A Sheridan 75.24 42 P P 15 07 10.6 -0.6
baz=328,SNR=204
RETA Reutte 75.24 334 *i* P P 15 07 11.4 +0.2
comp=Z,3μm,1.1s,SNR=614
RETA *i* PKiKP **PKiKP 15 12 54.0 +1.4**
comp=Z,95nm,1.5s
RETA *e*S **S 15 16 00.6 +0.1**
comp=Z,269nm,1.7s
TYNO Tyneside 75.25 36 P P 15 07 11.3 +0.1
baz=330,SNR=183
HTL Hartland 75.27 345⇓*i*P P 15 07 11.5 +0.4
HTL IAmb IAmb 15 07 12.8
comp=Z,3μm,0.9s
MOTA Moosalm 75.28 333 *i* P P 15 07 11.2 -0.4
comp=Z,7μm,1.1s,SNR=2077
MOTA *i* PKiKP **PKiKP 15 12 51.3 -1.5**
comp=Z,74nm,0.9s
MOTA *e*S **S 15 16 01.7 +0.7**
comp=Z,307nm,1.3s,SNR=5.1
KIZT Kizilcal 75.29 315 *e*P P 15 07 11.9 +0.2
PGB Panagyurishte 75.29 323 *i* P P 15 07 11.8 +0.3
MDNY Mudanya-Bursa 75.30 318 *e*P P 15 07 11.9 +0.4
YURE YUREGIR 75.31 312 *e*P P 15 07 13.2 +1.5
P46A Rosedale 75.33 43 P P 15 07 11.7 0.0
baz=327,SNR=319
SQTA Sankt Quirin 75.37 333 *i* P P 15 07 12.7 +0.7
comp=Z,8μm,1.2s,SNR=1918
SQTA *i* PKiKP **PKiKP 15 12 51.8 -1.1**

comp=Z,98nm,1.4s
SQTA eS S 15 16 02.2 +0.4
comp=Z,811nm,1.6s
PLIO Pelee Island, 75.37 39 P P 15 07 11.9 0.0
baz=329,SNR=122
CRES Cresnjev 75.38 330 ||iP P 15 07 11.8 -0.1
STCO Saint Catharin 75.40 36 P P 15 07 12.0 0.0
baz=331,SNR=95
TAHT Tahtakopru-Hat 75.42 311 eP P 15 07 13.2 +0.9
ABTA Abfaltersbach 75.43 332 iP P 15 07 12.2 0.0
comp=Z,3μm,1.0s,SNR=586
ABTA i PKiKP **PKiKP** 15 12 52.1 -0.8
comp=Z,85nm,0.6s
ABTA eS S 15 16 01.4 -1.0
comp=Z,366nm,1.2s
DIVS Divibare 75.44 326 ||iP P 15 07 12.2 -0.2
N49A Columbus Grove 75.47 40 P P 15 07 12.5 0.0
baz=328,SNR=380
LJU Ljubljana 75.47 331 ||iP P 15 07 12.1 -0.3
PLD Plovdiv 75.47 322 iP P 15 07 12.4 -0.1
M50A Fremont 75.50 39 P P 15 07 12.4 -0.2
baz=329,SNR=123
DOB Doboj 75.52 328 eP P 15 07 11.6 -1.0
U40A Yellville 75.52 49 P P 15 07 13.1 +0.2
baz=325,SNR=1000
Q45A Warren Harvey, 75.53 44 P P 15 07 12.8 0.0
baz=327,SNR=545
PECO Prince Edward 75.54 34 P P 15 07 12.4 -0.4
baz=332,SNR=208
J54A Appleton 75.54 35 P P 15 07 12.7 -0.1
baz=331,SNR=194
OZLJ Ozalj 75.57 330 P P 15 07 12.8 -0.1
VTS Vitosha 75.58 323 eP P 15 07 13.1 -0.1
VTS Vitosha 75.58 323 P P 15 07 13.1 -0.1
VTS Vitosha 75.58 323 ||iP P 15 07 13.9 +0.7
VTS Vitosha 75.58 323 ||P P 15 07 13.9 +0.7
VTS Vitosha 75.58 323 iP P 15 07 13.5 +0.3
KDZ Kurdzhali 75.59 321 iP P 15 07 17.8 +4.7
VISS Visnje 75.59 330 iP P 15 07 13.0 -0.1
VISS eS S 15 16 01.1 -3.0
VISS eSKSac ScS 15 16 41.6 +13
KCTX Karacabey (Bur 75.60 319 eP P 15 07 13.5 +0.2
KRTS Karatas 75.63 312 eP P 15 07 15.0 +1.6
Q48A Farmland 75.64 41 P P 15 07 13.1 -0.3
baz=328,SNR=760
LADK Ladik-KONYA 75.64 315 eP P 15 07 13.7 +0.1
DAVA Damuels 75.67 334 iP P 15 07 13.9 +0.3
comp=Z,4μm,1.1s,SNR=591
DAVA i PKiKP **PKiKP** 15 12 54.0 +0.6
comp=Z,86nm,1.0s
DAVA eS S 15 16 05.0 -0.1
comp=Z,297nm,1.6s
FETA Feichten 75.68 334 iP P 15 07 14.4 +0.6
comp=Z,4μm,1.1s,SNR=1396
FETA i PKiKP **PKiKP** 15 12 52.4 -1.1
comp=Z,66nm,0.7s
FETA eS S 15 16 05.2 -0.1
comp=Z,438nm,1.3s
MEDO Medina 75.70 35 P P 15 07 13.5 -0.1
baz=331,SNR=175
TXAR Lajitas Array 75.72 61 eP P 15 07 15.5 +1.3
TXAR Lajitas Array 75.72 61 P P 15 07 15.9 +1.7
comp=Z,803nm,0.7s,baz=297,slow=4.3,SNR=4670
TXAR PKiKP **PKiKP** 15 12 53.8 -0.1
comp=Z,12nm,0.7s,baz=170,slow=1.9,SNR=5.2
TXAR PKKP **PKKPdf** 15 26 09.8 +2.5
comp=Z,5.2nm,0.6s,baz=154,slow=4.5,SNR=3.7
TXAR PKPPKP **P'P'df** 15 34 27.9 -0.8
comp=Z,51nm,1.1s,baz=156,slow=4.0,SNR=5.5
TXAR P4KPbc 15 43 45.2
comp=Z,2.8nm,0.9s,baz=284,slow=5.0,SNR=8.4
RKY Sarkoy-Tekirda 75.72 320 eP P 15 07 14.1 +0.2
EDC Edincik 75.73 319 eP P 15 07 14.2 +0.2
BOJS Bojanci 75.74 330 iP P 15 07 14.0 +0.1
BOJS eS S 15 16 02.7 -2.9
LONY Lake Ozonia 75.74 32 P P 15 07 13.5 -0.4
baz=333,SNR=307
JAVS Javornik 75.75 331 iP P 15 07 13.4 -0.6
JAVS iS S 15 16 02.8 -3.2
JAVS i 15 16 16.0
JAVS eSKSac ScS 15 16 41.6 +11
Q46A CEJHS Indians, 75.76 43 P P 15 07 14.1 0.0
baz=327,SNR=48
X37A Clayton 75.77 52 eP P 15 07 14.7 +0.5
comp=Z,865nm,1.0s
CEY Cerknica 75.78 331 ||iP P 15 07 13.8 -0.3
MERS Mersin 75.78 313 eP P 15 07 14.4 +0.1
BLY Banja Luka 75.80 328 eP P 15 07 13.9 -0.3
comp=Z,792nm,0.5s
BLY Banja Luka 75.80 328 ||iP P 15 07 13.9 -0.3
BLY Banja Luka 75.80 328 ||iP P 15 07 13.8 -0.4
HAPS Han Pijesak,BI 75.81 327 ||iP P 15 07 13.6 -0.8
RZN Rozhen 75.83 322 iP P 15 07 15.1 +0.4
P47A Martinsville 75.83 43 P P 15 07 14.3 -0.1
baz=328,SNR=413
J55A Hilton 75.84 35 P P 15 07 14.1 -0.3
baz=331,SNR=142
TVSB Tavsanli 75.84 317 eP P 15 07 14.7 0.0
BBLS Lazići 75.85 326 ||iP P 15 07 14.9 +0.3
KONT Konya--Tatoy 75.85 315 eP P 15 07 14.9 +0.2
MHTO MHTO 75.86 286 P P 15 07 15.5 +0.5
SNR=1464
M51A Elyria 75.90 39 P P 15 07 14.7 -0.1
baz=329,SNR=90
U41A Viola 75.97 48 P P 15 07 15.2 -0.1
baz=326,SNR=628
R45A Skylar, Fairfi 75.97 45 P P 15 07 15.4 +0.1
baz=327,SNR=246
RDO Rodhopi 75.97 321 eP P 15 07 14.5 -0.7
RDO Rodhopi 75.97 321 P P 15 07 14.5 -0.7
ALN Alexandroupoli 75.99 321 P P 15 07 15.0 -0.3
ERIK Erikli-Kesan 76.00 320 eP P 15 07 15.4 0.0
N50A Nevada 76.00 40 P P 15 07 15.6 +0.2
baz=329,SNR=348
O49A Covington 76.03 41 P P 15 07 15.4 -0.2
baz=328,SNR=266
W39A Magazine 76.03 50 eP P 15 07 16.0 +0.3
comp=Z,3μm,1.1s
W39A Magazine 76.03 50 P P 15 07 16.0 +0.3
baz=325,SNR=758
M52A Chesterland 76.04 38 P P 15 07 15.9 +0.3
baz=330,SNR=142
SIUC Southern Illin 76.05 45 eP P 15 07 16.0 +0.3
comp=Z,4μm,1.0s
S44A Carbondale 76.05 46 P P 15 07 16.0 +0.3
baz=327,SNR=756
ERPA Erie 76.05 37 P P 15 07 15.8 +0.2
baz=330,SNR=138
ENEZ Enez 76.08 320 eP P 15 07 16.2 +0.4
L53A Girard 76.09 37 P P 15 07 16.2 +0.3
baz=330,SNR=318
K54A Basiliko Farm, 76.10 36 P P 15 07 15.8 -0.1
baz=331,SNR=309
SHUT Suhut-Afyon 76.13 316 eP P 15 07 16.6 +0.3
DAVOX Davos/Dischmat 76.13 334 PKiKP **PKiKP** 15 12 54.2 +0.1
comp=Z,43nm,0.6s,baz=328,slow=1.9,SNR=7.5
DAVOX S S 15 16 11.4 +1.2
comp=Z,157nm,1.2s,baz=305,slow=21,SNR=17
DAVOX PKKPbc **PKKPbc** 15 26 22.0 -0.2
comp=Z,20nm,0.6s,baz=186,slow=5.3,SNR=6.8
DAVOX PKPPKP **P'P'df** 15 34 24.9 -3.1
comp=Z,20nm,0.8s,baz=257,slow=2.4,SNR=3.9
RIY Rijeka 76.13 330 ||iP P 15 07 15.5 -0.5
LPK Lapseki 76.16 320 eP P 15 07 16.6 +0.4
CCA1 Carnmenellis 76.17 345 ||iP P 15 07 16.3 +0.1
CCA1 IAmb IAmb 15 07 17.6
comp=Z,4μm,1.0s
FUORN Ofenpass-Fuorn 76.18 334 eP P 15 07 17.7 +1.1
comp=Z,4μm,0.9s
N51A Ashland 76.18 39 P P 15 07 16.3 -0.1
baz=329,SNR=263
L54A Sinclairville 76.20 36 P P 15 07 16.4 -0.1
baz=331,SNR=160
GEDZ Gediz 76.20 317 eP P 15 07 16.9 +0.3
P48A Milroy 76.20 42 P P 15 07 16.2 -0.3
baz=328,SNR=531
K55A Perry 76.22 35 P P 15 07 16.3 -0.2
baz=331,SNR=480
Q47A Bedord North L 76.22 43 P P 15 07 16.9 +0.2
baz=328,SNR=549
GELI Tayfur-Gelibol 76.25 320 eP P 15 07 16.8 +0.1
KIZK Mersin 76.27 313 eP P 15 07 16.7 -0.2
KKB Krupnik 76.28 323 iP P 15 07 17.4 +0.4
MMB Musomiste 76.28 322 iP P 15 07 17.4 +0.4
PLE Pljevlja 76.32 326 ||iP P 15 07 17.9 +0.6

BALB Balikesir 76.33 319 eP P 15 07 17.2 0.0
O50A Cable 76.35 40 P P 15 07 17.4 +0.1
baz=329,SNR=468
R46A Gibon Southern 76.37 44 P P 15 07 17.7 +0.2
baz=327,SNR=325
M53A WI Miller and 76.38 38 P P 15 07 17.8 +0.3
baz=330,SNR=358
P49A Miami Univ. Ec 76.43 41 P P 15 07 17.6 -0.2
baz=328,SNR=556
NVR Nevrokopi 76.44 322 P P 15 07 17.7 -0.1
UDBI Udbina 76.45 329 P P 15 07 17.4 -0.4
SILI Silifke-Mersin 76.46 313 eP P 15 07 17.8 -0.2
MNCY Minicoy 76.48 266 eP P 15 07 18.1 -0.3
KEBE Keben-Mersin 76.49 313 eP P 15 07 18.2 -0.1
KAVA Kavala 76.50 322 eP P 15 07 18.0 -0.1
KAVA Kavala 76.50 322 P P 15 07 18.0 -0.1
Q48A North Vernon 76.52 42 P P 15 07 18.3 +0.1
baz=328,SNR=422
ACSO Alum Creek Sta 76.53 40 P P 15 07 18.3 0.0
baz=329,SNR=468
N52A McGinn's Farm, 76.54 39 P P 15 07 18.2 -0.2
baz=330,SNR=213
JLP Les Platons 76.54 343 ||iP P 15 07 18.5 +0.3
IVA Berane 76.55 326 ||iP P 15 07 18.6 +0.1
SMTH Samothraki Isl 76.56 321 eP P 15 07 17.9 -0.6
SMTH Samothraki Isl 76.56 321 P P 15 07 17.9 -0.6
L55A Hinsdale 76.56 36 P P 15 07 18.3 -0.2
baz=331,SNR=194
JQE Queens East 76.57 343 ||eP P 15 07 18.8 +0.5
JDG Jersey Dam (Ga 76.58 343 ||iP P 15 07 18.7 +0.4
JVM Valle D.L. Mar 76.59 343 ||iP P 15 07 18.8 +0.4
JDC Jersey Dam (Cr 76.59 343 ||iP P 15 07 18.7 +0.3
JRS Jersey 76.59 343 ||iP P 15 07 18.8 +0.4
UPM Unac-Piva 76.60 326 ||iP P 15 07 18.4 -0.5
UPM Unac-Piva 76.60 326 eP P 15 07 18.4 -0.5
JSA Saint Aubin 76.61 343 ||iP P 15 07 18.7 +0.2
JSA IAmb IAmb 15 07 20.0
comp=Z,7μm,1.1s
TEVE Tevekalti-Mers 76.62 313 eP P 15 07 18.8 -0.2
MIAR Mount Ida 76.66 50 P P 15 07 19.7 +0.6
baz=325,SNR=1000
IKL Isikli 76.68 313 eP P 15 07 18.8 -0.4
M54A Oil Creek Stat 76.70 37 P P 15 07 19.3 0.0
baz=331,SNR=424
NVLJ Novalja 76.70 330 P P 15 07 18.2 -0.9
KOME Kolasin 76.70 326 ||iP P 15 07 18.9 -0.4
R47A Wooly Knot Far 76.72 43 P P 15 07 19.6 +0.2
baz=328,SNR=918
S46A Don Dixon Farm 76.73 44 P P 15 07 19.5 +0.1
baz=327,SNR=377
P50A Jamestown 76.74 41 P P 15 07 19.4 0.0
baz=329,SNR=549
SRS Serrai 76.74 322 P P 15 07 18.9 -0.6
ISP Isparta 76.75 316 eP P 15 07 19.0 -0.7
ISP Isparta 76.75 316 P P 15 07 19.0 -0.7
ISP Isparta 76.75 316 ||iP P 15 07 19.4 -0.3
ISP Isparta 76.75 316 ||P P 15 07 19.4 -0.3
THAS Thassos island 76.75 321 P P 15 07 19.0 -0.5
STIP Stip 76.77 324 iP P 15 07 18.7 -0.8
W41B Gary Mavity, V 76.77 49 P P 15 07 20.0 +0.3
baz=326,SNR=1000
PVY Plav 76.78 325 ||iP P 15 07 19.4 -0.4
EZN Ezine 76.80 320 eP P 15 07 19.6 -0.1
EZN Ezine 76.80 320 eP P 15 07 19.4 -0.3
EZN Ezine 76.80 320 P P 15 07 19.4 -0.3
EZN Ezine 76.80 320 ||iP P 15 07 20.0 +0.3
EZN Ezine 76.80 320 ||P P 15 07 20.0 +0.3
BERE Bereket-Mersin 76.80 313 eP P 15 07 19.5 -0.5
PKME Peaks-Kenny Pk 76.80 28 P P 15 07 19.8 +0.1
baz=336,SNR=160
Q49A Aurora 76.80 42 P P 15 07 19.9 +0.1
baz=328,SNR=359
AKKU Akkuyu-Mersin 76.80 313 eP P 15 07 19.4 -0.5
WHTX Lake Whitney, 76.84 55 P P 15 07 20.9 +0.8
baz=324,SNR=634
JCT Junction City 76.85 57 P P 15 07 20.9 +0.6
baz=323,SNR=620
N53A Lisbon 76.87 38 P P 15 07 20.2 +0.1
baz=330,SNR=450
WCI Wyandotte Cave 76.88 43 eP P 15 07 20.6 +0.4
comp=Z,4μm,0.9s
WCI Wyandotte Cave 76.88 43 eP P 15 07 20.6 +0.4
WCI pmax pmax
comp=Z,4μm,0.9s
WCI Wyandotte Cave 76.88 43 P P 15 07 20.5 +0.4
baz=328
T45A Paducah 76.88 46 P P 15 07 20.7 +0.5
baz=327,SNR=198
BOZC Bozcaada 76.89 320 eP P 15 07 19.7 -0.6
R48A Northridge Ran 76.91 43 P P 15 07 20.8 +0.4
baz=328,SNR=442
NKY Niksic 76.92 326 ||iP P 15 07 19.9 -0.6
LBNH Lisbon 76.93 31 P P 15 07 20.8 +0.4
baz=334,SNR=161
DQM DQM 76.93 286 P P 15 07 20.8 0.0
SNR=160
VAY Valandovo 76.95 323 iP P 15 07 20.7 +0.1
KULA Kula-Manisa 76.96 317 eP P 15 07 20.7 -0.1
KULA Kula-Manisa 76.96 317 P P 15 07 20.6 -0.2
KNT Kendrikon 76.97 323 P P 15 07 20.6 -0.1
NKME Niksic 76.97 326 ||iP P 15 07 19.9 -0.8
BRY Bratogost 76.99 327 ||iP P 15 07 20.1 -0.9
BRY Bratogost 76.99 327 ||iP P 15 07 20.0 -0.9
TEKE Tekeli-Mersin 77.02 313 eP P 15 07 20.2 -0.8
BCK Bucak 77.03 316 eP P 15 07 20.5 -0.7
EREN Erenkoy 77.04 312 eP P 15 07 21.4 +0.3
ASAR Alice Springs 77.05 197 eP P 15 07 22.9 +1.7
ASAR Alice Springs 77.05 197 P P 15 07 23.4 +2.2
comp=Z,6μm,0.7s,baz=8.3,slow=5.5
ASAR PKiKP **PKiKP** 15 12 54.7 -1.1
comp=Z,27nm,0.7s,baz=61,slow=1.1,SNR=6.9
ASAR S S 15 16 23.7 +3.9
comp=Z,128nm,1.1s,baz=1.8,slow=8.5,SNR=15
ASAR PKKPbc **PKKPbc** 15 26 22.1 +1.6
comp=Z,41nm,0.7s,baz=183,slow=2.0,SNR=14
ASAR PKPPKP **P'P'df** 15 34 24.8 +2.3
comp=Z,48nm,0.8s,baz=174,slow=2.1,SNR=12
ASAR P4KPbc 15 43 49.8
comp=Z,2.0nm,0.9s,baz=356,slow=3.3,SNR=5.7
N54A Moraine State 77.05 37 P P 15 07 21.2 +0.1
baz=330,SNR=640
X40A Basin Creek Fa 77.06 50 P P 15 07 21.6 +0.3
baz=326,SNR=945
M55A Ridgway 77.07 36 P P 15 07 21.2 0.0
baz=331,SNR=575
O52A Adamsville 77.08 39 P P 15 07 21.2 -0.1
baz=330,SNR=660
SOH Sokhos 77.09 322 P P 15 07 20.6 -0.8
P51A Williamsport 77.14 40 P P 15 07 21.3 -0.3
baz=329,SNR=141
S47A Hartford 77.16 44 P P 15 07 21.6 -0.1
baz=328,SNR=193
PDG Podgorica 77.16 326 ||iP P 15 07 21.4 -0.3
PDG Podgorica 77.16 326 ||iP P 15 07 21.2 -0.5
TTG Podgorica 77.16 326 ||iP P 15 07 21.1 -0.6
CEME Cevo 77.18 326 ||iP P 15 07 21.0 -0.9
LIA Limnos Island 77.18 321 P P 15 07 21.3 -0.5
T46A Princeton 77.19 45 P P 15 07 22.5 +0.6
baz=327,SNR=1000
O53A New Philadelph 77.20 39 P P 15 07 22.0 0.0
baz=330,SNR=727
TREB Trebinje 77.22 327 ||iP P 15 07 20.7 -1.3
HWQ Hawqa 77.25 310 eP P 15 07 22.5 +0.1
M56A Emporium 77.27 36 P P 15 07 21.9 -0.4
baz=331,SNR=331
OUR Ouranopolis 77.27 322 eP P 15 07 21.5 -0.8
OUR Ouranopolis 77.27 322 P P 15 07 21.5 -0.8
OUR Ouranopolis 77.27 322 eP P 15 07 21.5 -0.8
R49A Shelbyville 77.29 42 P P 15 07 22.8 +0.3
baz=328,SNR=309
STON Ston 77.30 327 P P 15 07 21.2 -1.1
STON Ston 77.30 327 ||iP P 15 07 21.0 -1.4
PRK Paraskevi 77.31 319 P P 15 07 22.8 +0.3
Q50A Georgetown 77.31 41 P P 15 07 22.9 +0.3
baz=329,SNR=185
GRG Griva 77.33 323 P P 15 07 22.3 -0.4
P52A Corning 77.38 40 P P 15 07 22.6 -0.3
baz=330,SNR=312
HORT Hortiatis 77.38 322 P P 15 07 22.1 -0.9
KRUS Krusevo 77.39 324 iP P 15 07 23.1 0.0
THE Thessaloniki 77.40 322 P P 15 07 21.9 -1.1
BUM Brajici-Budva 77.40 326 ||iP P 15 07 22.4 -0.7
DRME Dracevica, Mon 77.40 326 ||iP P 15 07 22.6 -0.4
DRME Dracevica, Mon 77.40 326 ||iP P 15 07 22.8 -0.2

PHP Peshkopia 77.41 325 P P 15 07 22.3 -0.8
HCY Herceg Novi 77.41 326 ||iP P 15 07 22.0 -1.0
BINY Binghamton 77.41 34 P P 15 07 22.7 -0.4
baz=332,SNR=213
Q51A Peebles 77.42 41 P P 15 07 23.4 +0.2
baz=329,SNR=797
PLG Polygyros 77.44 322 P P 15 07 22.5 -0.8
S48A Wiedeman Farm, 77.46 43 P P 15 07 23.5 +0.1
baz=328,SNR=820
ANTB Antalya 77.47 315 eP P 15 07 21.9 -1.5
SIGR SIGRI 77.51 320 P P 15 07 23.1 -0.5
KORT Korkueli 77.52 315 eP P 15 07 23.2 -0.7
PHNC Paralimni 77.54 312 P P 15 07 23.9 +0.1
T47A Sharon Grove 77.58 44 P P 15 07 24.4 +0.4
baz=328,SNR=829
ULC Ulcinj 77.58 326 ||iP P 15 07 23.3 -0.7
O54A Avella 77.58 38 P P 15 07 24.2 +0.1
baz=330,SNR=430
N55A Marion Center 77.58 37 P P 15 07 24.1 +0.1
baz=331,SNR=723
U46A Springville 77.64 46 P P 15 07 24.7 +0.4
baz=327,SNR=78
R50A Paris 77.65 42 P P 15 07 24.7 +0.3
baz=329,SNR=516
BIA Bitola 77.67 324 iP P 15 07 24.4 -0.1
S49A Springfield 77.67 43 P P 15 07 24.9 +0.4
baz=328,SNR=943
BHL Bhannes 77.69 310 eP P 15 07 25.0 +0.2
QASN Qassioun 77.70 309 eP P 15 07 26.3 +1.4
N56A West Decatur 77.72 36 P P 15 07 24.7 0.0
baz=331,SNR=486
PAIG Paliouri 77.74 322 P P 15 07 23.9 -0.9
435B Jarrell 77.75 55 P P 15 07 25.7 +0.6
baz=324,SNR=53
AYDB Zeytinkoy-Aydi 77.76 318 eP P 15 07 24.9 -0.2
TOTH TOTAH 77.77 309 eP P 15 07 26.1 +0.9
MAMC Mammari 77.77 312 P P 15 07 24.8 -0.3
T48A Bowling Green 77.78 44 P P 15 07 25.2 +0.1
baz=328,SNR=515
OHR Ohrid 77.78 324 iP P 15 07 24.8 -0.3
BEYL Beirut 77.79 310 eP P 15 07 25.6 +0.4
P53A Whipple 77.80 39 P P 15 07 25.2 0.0
baz=330,SNR=436
FNA Florina 77.86 324 P P 15 07 24.6 -0.9
DQRL Deir Qamar 77.89 310 eP P 15 07 26.5 +0.6
Q52A Bidwell 77.90 40 P P 15 07 25.6 -0.1
baz=330,SNR=436
TIR Tirane 77.91 325 P P 15 07 25.3 -0.4
ELL Elmali 77.92 316 eP P 15 07 25.8 -0.2
KTI Kastanea 77.93 323 P P 15 07 25.1 -0.9
R51A Hillsboro 77.94 41 P P 15 07 26.3 +0.4
baz=329,SNR=903
RCY Rachaya 77.94 310 eP P 15 07 26.8 +0.5
URLA Izmir 77.94 319 eP P 15 07 25.5 -0.5
X43A Marvell 77.95 48 P P 15 07 26.8 +0.8
baz=326,SNR=128
BRBR Barbar 77.95 310 eP P 15 07 27.3 +0.9
U47A Clarksville 77.95 45 P P 15 07 26.4 +0.3
baz=328,SNR=392
LEF Lefka 77.97 313 eP P 15 07 25.7 -0.4
LEF Lefka 77.97 313 ||iP P 15 07 26.0 -0.1
O55A Ligonier 77.97 37 P P 15 07 26.0 -0.1
baz=331,SNR=486
QRWL Qaraoun 77.97 310 eP P 15 07 26.6 +0.3
WVT Waverly 77.98 45 eP P 15 07 26.6 +0.4
comp=Z,4μm,1.4s
WVT Waverly 77.98 45 eP P 15 07 26.6 +0.4
WVT pmax pmax
comp=Z,4μm,1.4s
WVT Waverly 77.98 45 P P 15 07 26.6 +0.4
baz=327
LIT Litokhoron 78.04 323 P P 15 07 25.1 -1.4
P54A Burton 78.05 39 P P 15 07 26.9 +0.4
baz=330
ALFC Alefka 78.07 313 P P 15 07 26.1 -0.6
Z41A Richland Creek 78.09 51 P P 15 07 27.6 +0.8
baz=326,SNR=58
MBWA Marble Bar 78.10 210 P P 15 07 27.4 +0.5
SNR=267
SHBL Chebaa 78.11 310 eP P 15 07 27.4 +0.3
SSPA Standing Stone 78.11 36 eP P 15 07 26.6 -0.1
comp=Z,2μm,0.9s
SSPA Standing Stone 78.11 36 P P 15 07 26.7 -0.1
baz=332
V46A Holladay 78.13 46 P P 15 07 27.1 +0.1
baz=327,SNR=624
KZN Kozani 78.13 323 P P 15 07 25.8 -1.2
N57A Milroy 78.13 36 P P 15 07 26.9 0.0
baz=332,SNR=722
S50A Richmond 78.13 42 P P 15 07 27.2 +0.2
baz=329,SNR=538
CHOS Chios island 78.14 319 P P 15 07 26.6 -0.5
T49A Edmonton 78.15 43 eP P 15 07 27.3 +0.2
comp=Z,2μm,0.8s
T49A Edmonton 78.15 43 P P 15 07 27.4 +0.2
baz=328,SNR=621
O56A Blue Knob Stat 78.19 37 P P 15 07 27.3 0.0
baz=331,SNR=666
U48A Cassie Pea, Po 78.22 44 P P 15 07 27.6 +0.1
baz=328,SNR=527
MCWV Mont Chateau 78.24 38 P P 15 07 27.9 +0.4
baz=331,SNR=316
GCAM G?zelcaml? 78.24 318 eP P 15 07 27.3 -0.2
SZAC Souni 78.27 312 P P 15 07 27.8 0.0
Q53A Leroy 78.28 40 P P 15 07 28.3 +0.5
baz=330,SNR=1000
R52A Catlettsburg 78.29 41 P P 15 07 27.9 +0.1
baz=330,SNR=518
NEST Nestorio 78.30 324 P P 15 07 26.9 -1.0
SKY Skiros Island 78.31 320 eP P 15 07 27.1 -0.8
SKY Skiros Island 78.31 320 P P 15 07 27.1 -0.8
V47A Nunnelly 78.37 45 P P 15 07 28.6 +0.3
baz=328,SNR=832
FETY Fethiye 78.37 316 eP P 15 07 27.9 -0.4
FETY Fethiye 78.37 316 eP P 15 07 27.6 -0.7
FETY Fethiye 78.37 316 P P 15 07 27.6 -0.7
TURN Turunc 78.37 317 eP P 15 07 29.5 +1.3
P55A Reedsville 78.38 38 P P 15 07 28.8 +0.5
baz=331
SMG Samos 78.40 318 P P 15 07 27.1 -1.3
DALY Dalyan (Mula) 78.40 317 eP P 15 07 28.4 0.0
PPCY Paphos 78.41 313 P P 15 07 28.0 -0.5
NATX Nacogdoches 78.41 53 P P 15 07 30.1 +1.5
baz=325,SNR=335
XOR Xorichti 78.42 322 P P 15 07 27.0 -1.5
Q54A Coxs Mills 78.45 39 P P 15 07 29.1 +0.5
baz=330,SNR=902
LRSO Larissa Observ 78.45 322 P P 15 07 27.4 -1.2
NEO Neokhori 78.45 322 P P 15 07 27.2 -1.5
PENT Pentalofos 78.46 323 P P 15 07 28.2 -0.6
FYTO Fytoko, Volos 78.47 322 eP P 15 07 27.5 -1.2
FYTO Fytoko, Volos 78.47 322 P P 15 07 27.5 -1.2
AKAS Kas 78.49 316 eP P 15 07 28.2 -0.9
S51A Beattyville 78.50 42 P P 15 07 29.0 +0.1
baz=329,SNR=440
T50A Nancy 78.51 43 P P 15 07 29.3 +0.2
baz=329,SNR=1000
ASF Jabal al Asfar 78.52 308 PKiKP **PKiKP** 15 12 58.0 0.0
comp=Z,38nm,0.8s,baz=225,slow=1.4,SNR=3.9
ASF PKKPbc **PKKPbc** 15 26 18.6 +2.1
comp=Z,22nm,1.0s,baz=200,slow=1.5,SNR=7.0
MMAI Mount Meron Ar 78.54 310 PKiKP **PKiKP** 15 12 58.4 +0.4
comp=Z,13nm,0.4s,baz=25,slow=2.2,SNR=23
MMAI S S 15 16 35.1 -0.5
comp=Z,94nm,1.2s,baz=334,slow=5.6,SNR=6.0
MMAI PKKPbc **PKKPbc** 15 26 17.1 +0.6
comp=Z,16nm,0.7s,baz=158,slow=0.4,SNR=6.9
U49A Red Boiling Sp 78.55 44 P P 15 07 29.3 +0.1
baz=328,SNR=780
KSL Kastellorizon 78.57 316 P P 15 07 28.4 -0.9
R53A Hurricane 78.57 40 P P 15 07 29.5 +0.2
baz=330,SNR=422
W46A Michie 78.57 46 P P 15 07 29.2 -0.1
baz=327,SNR=133
KPRO Kipourio 78.59 323 P P 15 07 28.2 -1.2
SHMJ Saham 78.61 309 P P 15 07 30.6 +1.0
HRV Adam Dziewonsk 78.61 31 eP P 15 07 30.0 +0.6
comp=Z,3μm,1.0s
HRV Adam Dziewonsk 78.61 31 eP P 15 07 30.0 +0.6
HRV pmax pmax
comp=Z,3μm,1.0s
HRV Adam Dziewonsk 78.61 31 P P 15 07 29.8 +0.4
baz=335
N59A State Game Lan 78.62 35 P P 15 07 29.4 -0.1
baz=333,SNR=467

OXF Oxford 78.63 47 P P 15 07 30.0 +0.3
baz=327,SNR=270
S52A Salyersville 78.68 41 P P 15 07 30.1 +0.2
baz=329,SNR=108
THL Klokotos Trika 78.69 323 P P 15 07 27.6 -2.3
Q55A Buckhannon 78.73 39 P P 15 07 30.5 +0.3
baz=331
V48A Smith Brothers 78.75 45 P P 15 07 30.4 +0.1
baz=328,SNR=620
BODT Bodrum 78.75 318 eP P 15 07 29.9 -0.4
BODT Bodrum 78.75 318 eP P 15 07 29.1 -1.2
BODT Bodrum 78.75 318 P P 15 07 29.1 -1.2
TPE Tepelena 78.78 324 P P 15 07 29.9 -0.5
833A Chaparral WMA, 78.79 58 P P 15 07 31.8 +1.2
baz=324,SNR=119
VLO Vlora 78.81 325 P P 15 07 30.6 +0.1
W47A Westpoint 78.82 46 P P 15 07 30.8 +0.1
baz=328,SNR=667
SMIA Simia 78.83 321 P P 15 07 29.5 -1.2
MRKA Markates 78.84 321 P P 15 07 29.6 -1.1
HSUJ Al Zarqa 78.91 309 P P 15 07 32.1 +0.8
T51A Gray 78.93 42 P P 15 07 31.2 0.0
baz=329,SNR=344
EREA Eretria 78.95 321 P P 15 07 30.3 -1.0
X46A Booneville 78.96 47 P P 15 07 31.4 0.0
baz=327,SNR=125
O59A Robesonia 79.01 35 P P 15 07 31.4 -0.2
baz=332,SNR=304
U50A Jamestown 79.03 43 P P 15 07 31.9 +0.2
baz=329,SNR=703
JAN Janina 79.04 323 eP P 15 07 31.7 -0.1
JAN Janina 79.04 323 P P 15 07 31.7 -0.1
JAN Janina 79.04 323 eP P 15 07 31.7 -0.1
AGG Agios Georgios 79.04 322 P P 15 07 29.6 -2.2
S53A Williamson 79.06 41 P P 15 07 32.1 +0.1
baz=330,SNR=79
ATAL Atalanti 79.06 321 eP P 15 07 30.3 -1.6
ATAL Atalanti 79.06 321 P P 15 07 30.3 -1.6
R54A Victor 79.08 40 P P 15 07 32.3 +0.2
baz=330,SNR=749
LKR Lokris 79.11 321 P P 15 07 30.4 -1.7
V49A McMinnville 79.12 44 P P 15 07 32.2 0.0
baz=328,SNR=419
ARG Arkhangelos 79.13 317 eP P 15 07 32.0 -0.3
ARG Arkhangelos 79.13 317 P P 15 07 32.0 -0.3
AXAR Agios Charalam 79.14 322 eP P 15 07 33.4 +1.1
AXAR Agios Charalam 79.14 322 P P 15 07 33.4 +1.1
BAI Bari 79.15 327 ||iP P 15 07 31.8 -0.5
SRN Sarande 79.15 324 P P 15 07 31.6 -0.7
AQU L'Aquila 79.16 330 ||iP P 15 07 32.7 +0.3
PAL Palisades 79.19 33 P P 15 07 32.4 0.0
baz=334,SNR=225
T52A Hallie 79.20 42 P P 15 07 33.1 +0.4
baz=330,SNR=414
W48A Pulaski 79.21 45 P P 15 07 32.9 +0.2
baz=328,SNR=750
NISR Nisiros 79.22 318 eP P 15 07 31.8 -0.9
NISR Nisiros 79.22 318 P P 15 07 31.8 -0.9
DION Dionisos Attik 79.25 320 P P 15 07 31.6 -1.3
FASA Fasano 79.25 326 ||iP P 15 07 32.3 -0.5
O60A Telford 79.28 35 P P 15 07 32.6 -0.3
baz=333,SNR=142
S54A Dingess, Beckl 79.28 40 P P 15 07 33.3 +0.2
baz=330,SNR=235
PTL Penteli 79.30 321 eP P 15 07 31.5 -1.7
PTL Penteli 79.30 321 P P 15 07 31.5 -1.7
HKT Hockley 79.30 55 eP P 15 07 34.1 +0.9
comp=Z,3µm,1.6s
X47A Russelville 79.32 46 P P 15 07 33.2 -0.1
baz=328,SNR=406
Q57A Strasburg 79.33 37 P P 15 07 33.3 +0.1
baz=332,SNR=318
EVR Evrytania 79.33 322 P P 15 07 32.0 -1.4
R55A Marlinton 79.33 39 P P 15 07 33.7 +0.3
baz=331,SNR=751
IGT Igoumenitsa 79.34 324 eP P 15 07 32.2 -1.1
IGT Igoumenitsa 79.34 324 P P 15 07 32.2 -1.1
CGL1 Ceglie Messapi 79.35 326 ||iP P 15 07 32.9 -0.5
KEK Kerkira 79.37 324 eP P 15 07 31.7 -1.8
KEK Kerkira 79.37 324 P P 15 07 31.7 -1.8
U51A La Follette 79.40 43 P P 15 07 33.6 -0.1
baz=329,SNR=271
VILL Villia 79.41 321 P P 15 07 32.1 -1.7
ATH Athens Observa 79.42 321 P P 15 07 32.3 -1.4
TZTN Tazewell 79.46 42 P P 15 07 34.3 +0.3
baz=329,SNR=415
COCO West Island 79.47 234 P P 15 07 35.3 +1.1
SNR=75
APE Apeiranthos 79.48 319 eP P 15 07 31.8 -2.4
APE Apeiranthos 79.48 319 P P 15 07 31.8 -2.4
APE Apeiranthos 79.48 319 ||iP P 15 07 31.8 -2.4
APE Apeiranthos 79.48 319 ||iP P 15 07 31.8 -2.4
MASS Massafra 79.49 326 ||iP P 15 07 33.5 -0.6
VLY Voula,Athens 79.50 320 eP P 15 07 32.2 -2.0
VLY Voula,Athens 79.50 320 P P 15 07 32.2 -2.0
T53A Wise 79.50 41 P P 15 07 34.6 +0.3
baz=330,SNR=407
DSF Desfina 79.50 322 P P 15 07 32.1 -2.1
W49A Belvidere 79.52 45 P P 15 07 34.3 0.0
baz=328,SNR=781
TAR1 Taranto 79.53 326 ||iP P 15 07 33.4 -0.9
AMGA Amorgos Island 79.54 318 P P 15 07 32.5 -1.9
WALJ Wala 79.54 309 P P 15 07 35.4 +0.9
P59A Jarrettsville 79.55 36 P P 15 07 34.2 -0.2
baz=332,SNR=231
V50A Pikeville 79.55 44 P P 15 07 34.4 -0.1
baz=329,SNR=455
MATE Matera 79.62 327 ||iP P 15 07 34.8 +0.1
S55A Lewisburg 79.62 39 P P 15 07 34.9 0.0
baz=331,SNR=285
P60A Greenville 79.65 35 P P 15 07 34.6 -0.3
baz=333,SNR=125
U52A Thorn Hill 79.66 42 P P 15 07 35.3 +0.3
baz=329,SNR=938
KALE Kalithea 79.67 322 eP P 15 07 33.4 -1.7
KALE Kalithea 79.67 322 P P 15 07 33.4 -1.7
SERG Sergoula 79.68 322 P P 15 07 33.4 -1.7
SWQJ Swaqa 79.68 308 P P 15 07 35.6 +0.2
LOUT Loutraki 79.70 321 P P 15 07 33.1 -2.1
PVO Paravola 79.70 322 P P 15 07 34.3 -0.9
TRIZ Trizonia 79.71 322 P P 15 07 33.7 -1.6
EFP Efpalio 79.72 322 P P 15 07 34.2 -1.1
X48A Hartselle 79.74 46 P P 15 07 35.2 -0.3
baz=328,SNR=388
M65A Busby, Falmout 79.75 31 P P 15 07 35.6 +0.2
baz=335,SNR=12
V51A Loudon 79.75 43 P P 15 07 35.6 +0.1
baz=329,SNR=254
H06N1 SOCORRO T-PHAS 79.78 73 P P 15 07 37.8 +1.9
SNR=18
ALIK Aliki, Aigiali 79.79 322 P P 15 07 35.1 -0.6
T54A Tazewell 79.82 41 P P 15 07 36.3 +0.4
baz=330,SNR=758
W50A Signal Mountai 79.86 44 P P 15 07 36.1 0.0
baz=329,SNR=523
LAKA Lakka 79.86 322 eP P 15 07 35.0 -1.1
LAKA Lakka 79.86 322 P P 15 07 35.0 -1.1
GHAJ Ghor Haditha 79.87 309 P P 15 07 36.7 +0.5
comp=Z,5µm,1.4s
LKD2 Lefkada Island 79.87 323 P P 15 07 35.0 -1.1
H06E1 SOCORRO T-PHAS 79.88 73 P P 15 07 37.8 +1.4
SNR=37
H06S1 SOCORRO T 79.90 73 P P 15 07 38.9 +2.4
SNR=33
R57A Stanardsville 79.93 38 P P 15 07 36.9 +0.5
baz=332,SNR=472
KLV Kalavryta, Ach 79.97 322 P P 15 07 35.3 -1.4
LISJ El Lisan 79.97 309 P P 15 07 37.7 +1.1
GUR Goura 79.98 322 eP P 15 07 35.0 -1.8
GUR Goura 79.98 322 P P 15 07 35.0 -1.8
ANAF Anafi Island 79.99 318 P P 15 07 34.4 -2.4
AMAZ Amatzia 80.00 309 P P 15 07 37.2 +0.3
comp=Z,16µm,1.3s
X49A Woodville 80.00 45 P P 15 07 36.9 +0.1
baz=328,SNR=1000
U53A Fall Branch 80.01 42 P P 15 07 37.2 +0.2
baz=330,SNR=763
DID Didima 80.01 321 eP P 15 07 34.0 -2.9
DID Didima 80.01 321 P P 15 07 34.0 -2.9
EVGI Lefkada island 80.02 323 P P 15 07 35.8 -1.1
VBMS Vicksburg 80.02 50 P P 15 07 38.3 +1.3
baz=327,SNR=50
V52A Sevierville 80.04 43 P P 15 07 37.3 +0.3
baz=329,SNR=708

CMBO Columbo, Santo 80.05 319 P P 15 07 35.1 -1.9
THR2 Thira island, 80.05 319 eP P 15 07 34.8 -2.3
THR2 Thira island, 80.05 319 P P 15 07 34.8 -2.3
S56A Natural Bridge 80.07 39 P P 15 07 37.5 +0.3
baz=331,SNR=217
THR7 Fira-Santorini 80.08 319 P P 15 07 35.7 -1.5
T55A Pulaski 80.08 40 P P 15 07 37.7 +0.4
baz=330,SNR=501
THR3 Thira Island, 80.10 319 eP P 15 07 34.9 -2.4
THR3 Thira Island, 80.10 319 P P 15 07 34.9 -2.4
SANT Santorini 80.11 319 P P 15 07 34.5 -2.9
SANT Santorini 80.11 319 ||iP P 15 07 35.2 -2.2
KARP Karpathos 80.11 317 P P 15 07 36.0 -1.4
Q59A Harwood 80.12 36 P P 15 07 37.8 +0.4
baz=332,SNR=90
R58A Rapidan 80.12 37 P P 15 07 37.6 +0.1
baz=332,SNR=375
W51A Cleveland 80.13 44 P P 15 07 37.4 -0.1
baz=329,SNR=293
Y48A Jasper 80.14 46 P P 15 07 37.2 -0.4
baz=328,SNR=303
BLA Blacksburg 80.14 40 eP P 15 07 37.8 +0.2
comp=Z,3µm,1.1s
BLA Blacksburg 80.14 40 eP P 15 07 37.8 +0.2
BLA pmax pmax
comp=Z,3µm,1.1s
BLA Blacksburg 80.14 40 P P 15 07 37.8 +0.2
baz=331,SNR=475
SAP1 Santorini-Akro 80.15 319 P P 15 07 34.8 -2.8
THR6 Thira Island, 80.15 319 eP P 15 07 35.2 -2.4
THR6 Thira Island, 80.15 319 P P 15 07 35.2 -2.4
KRND KRANIDI 80.16 321 P P 15 07 34.9 -2.7
U54A Nelsons Funny 80.18 41 eP P 15 07 38.1 +0.2
comp=Z,3µm,0.8s
U54A Nelsons Funny 80.18 41 P P 15 07 38.1 +0.2
baz=330,SNR=429
DMTO DMTO 80.19 286 P P 15 07 37.3 -0.7
SNR=44
FSK Fiskardo 80.20 323 P P 15 07 36.1 -1.7
DRO Drossia 80.21 322 P P 15 07 37.2 -0.7
RLS Riolos of Patr 80.21 322 P P 15 07 37.4 -0.5
S57A Dark Hollow, R 80.23 38 P P 15 07 38.5 +0.5
baz=331,SNR=476
MHLO Agia Marina, M 80.26 319 P P 15 07 35.2 -3.0
JDRJ Daraweish 80.30 308 P P 15 07 39.2 +0.6
X50B Fort Payne 80.34 45 P P 15 07 38.5 -0.2
baz=328,SNR=409
KFL Anninata 80.42 323 P P 15 07 37.8 -1.2
VLS Valsamata 80.44 323 P P 15 07 38.0 -1.1
CBN Corbin Frederi 80.44 37 P P 15 07 39.3 +0.3
baz=332,SNR=69
VTN Vitineika 80.44 322 P P 15 07 38.6 -0.4
T56A Rocky Mt 80.46 39 P P 15 07 39.1 -0.1
baz=331,SNR=206
R58B Mineral 80.46 38 P P 15 07 39.4 +0.3
baz=332,SNR=387
VLX Vlachokerasia 80.47 321 eP P 15 07 37.5 -1.8
VLX Vlachokerasia 80.47 321 P P 15 07 37.5 -1.8
U55A TA2, Sparta 80.51 40 P P 15 07 39.8 +0.2
baz=330,SNR=556
V53A Saluda 80.51 42 P P 15 07 39.6 +0.1
baz=330,SNR=428
Y49A Blount Mountai 80.52 46 P P 15 07 39.5 -0.1
baz=328,SNR=464
W52A Murphy 80.54 43 P P 15 07 39.8 +0.1
baz=329,SNR=304
R59A King George, V 80.54 37 P P 15 07 39.9 +0.3
baz=332,SNR=113
AMT Artemida-Makis 80.58 322 P P 15 07 38.7 -1.1
X51A Calhoun 80.59 44 P P 15 07 39.9 0.0
baz=329,SNR=257
HSNJ Maan 80.68 308 P P 15 07 41.8 +1.2
R60A Leonardtown, M 80.68 36 P P 15 07 40.8 +0.6
baz=332,SNR=33
147A Livingston 80.68 48 P P 15 07 41.1 +0.8
baz=328,SNR=10
S58A Poland Farm, P 80.71 38 P P 15 07 40.5 0.0
baz=332,SNR=167
WHFO Wadi Hawf 80.72 287 P P 15 07 40.3 -0.6
SNR=206
V54A Nebo 80.77 41 P P 15 07 40.9 0.0
baz=330,SNR=360
T57A Hurt 80.78 39 P P 15 07 40.9 +0.1
baz=331,SNR=308
Y50A Piedmont 80.79 45 P P 15 07 40.9 0.0
baz=328,SNR=312
RBK Rabkut 80.79 287 P P 15 07 40.5 -0.7
SNR=59
W53A Cullowhee 80.80 43 P P 15 07 41.2 +0.1
baz=330,SNR=293
ITM Ithomi 80.81 321 P P 15 07 39.5 -1.5
VLI Veliai 80.82 321 eP P 15 07 38.1 -2.9
VLI Veliai 80.82 321 P P 15 07 38.1 -2.9
STIA Sitia Lasithi 80.85 318 P P 15 07 40.3 -0.9
S59A Mechanicsville 80.86 37 P P 15 07 41.7 +0.5
baz=332,SNR=129
ZKR Zakros 80.88 317 eP P 15 07 40.8 -0.6
ZKR Zakros 80.88 317 P P 15 07 40.8 -0.6
U56A King 80.91 40 P P 15 07 41.8 +0.3
baz=331,SNR=304
TIP Timpagrande 80.92 326 P P 15 07 41.2 -0.4
TIP Timpagrande 80.92 326 ||iP P 15 07 41.7 +0.1
LRAL Lakeview Retre 80.95 47 P P 15 07 41.6 -0.2
baz=328,SNR=342
X52A Dahlonega 80.97 43 P P 15 07 42.1 +0.2
baz=329,SNR=403
NPS Neapolis 81.00 318 P P 15 07 39.4 -2.6
V55A Taylorsville 81.01 41 P P 15 07 42.2 +0.2
baz=330,SNR=234
148A Greensboro 81.02 47 P P 15 07 42.1 0.0
baz=328,SNR=33
Z49A Columbiana 81.03 46 P P 15 07 42.1 0.0
baz=328,SNR=595
Y51A Rockmart 81.07 45 P P 15 07 42.4 0.0
baz=329,SNR=870
T58A Grand View Acr 81.11 38 P P 15 07 42.6 +0.1
baz=332,SNR=414
PYL PYLOS 81.13 321 eP P 15 07 41.4 -1.2
PYL PYLOS 81.13 321 P P 15 07 41.4 -1.2
LAST Lasithi 81.14 318 eP P 15 07 41.5 -1.3
LAST Lasithi 81.14 318 P P 15 07 41.5 -1.3
S60A Water View 81.15 37 P P 15 07 43.3 +0.6
baz=332,SNR=60
KYTH Kithira 81.17 320 eP P 15 07 41.0 -1.9
KYTH Kithira 81.17 320 P P 15 07 41.0 -1.9
IACM Heraklion 81.19 318 P P 15 07 41.2 -1.7
KTHR Kythira 81.19 320 P P 15 07 41.4 -1.6
Z50A Ashland 81.25 46 P P 15 07 43.5 +0.2
baz=328,SNR=1000
U57A Blanch 81.25 39 P P 15 07 43.5 +0.3
baz=331,SNR=616
W54A Cherokee Point 81.27 42 P P 15 07 43.5 +0.1
baz=330,SNR=352
IDI Anoyia 81.28 318 PKiKP PKiKP 15 13 02.8 +0.6
comp=Z,129nm,0.9s,baz=45,slow=3.6,SNR=5.1
IDI S S 15 16 52.9 -10
comp=Z,143nm,0.7s,baz=46,slow=14,SNR=21
IDI PKKPbc PKKPbc 15 26 12.6 +2.0
comp=Z,42nm,0.9s,baz=104,slow=4.1,SNR=4.5
X53A Estanollee 81.31 43 P P 15 07 44.2 +0.6
baz=330,SNR=566
V56A Mocksville 81.33 40 P P 15 07 44.0 +0.3
baz=331,SNR=798
PRNS Prines Rethymn 81.37 319 P P 15 07 43.6 -0.2
149A Jones 81.41 47 P P 15 07 44.5 +0.4
baz=328,SNR=208
ANKY Antikythira Is 81.42 320 eP P 15 07 42.5 -1.6
ANKY Antikythira Is 81.42 320 P P 15 07 42.5 -1.6
CHAN Chania 81.42 319 P P 15 07 41.8 -2.3
AQBJ Aqaba 81.42 308 P P 15 07 45.0 +0.8
ABTO Aybut 81.44 287 P P 15 07 44.2 -0.4
SNR=74
VAM Vamos 81.45 319 P P 15 07 42.5 -1.8
T59A Double "B" Far 81.46 38 P P 15 07 44.5 +0.3
baz=332,SNR=381
IMMV Iera Moni Meta 81.50 319 P P 15 07 42.7 -1.8
LNIG Linares 81.50 60 eP P 15 07 45.0 +0.3
comp=Z,1µm,1.1s
TMBK Timbaki Herakl 81.51 318 P P 15 07 44.0 -0.6
EIL Elat 81.52 308 P P 15 07 44.8 +0.1
comp=Z,8µm,1.4s
EIL Elat 81.52 308 PKiKP PKiKP 15 13 02.8 +0.1
comp=Z,94nm,0.9s,baz=164,slow=2.9,SNR=8.8
EIL S S 15 17 03.6 -2.1
comp=Z,97nm,1.0s,baz=11,slow=9.8,SNR=3.7

EIL PKKPbc PKKPbc 15 26 10.9 +1.1
comp=Z,60nm,0.8s,baz=248,slow=2.2,SNR=16
Z51A Franklin 81.52 45 P P 15 07 44.6 -0.1
baz=329,SNR=298
Y52A Lilburn 81.53 44 eP P 15 07 45.1 +0.4
comp=Z,1µm,0.9s
Y52A Lilburn 81.53 44 P P 15 07 45.1 +0.4
baz=329,SNR=261
SIVA Sivas 81.54 318 P P 15 07 44.1 -0.6
V57A Coltrane Farms 81.55 40 P P 15 07 44.9 +0.1
baz=331,SNR=632
KMSC Kings Mountain 81.57 41 P P 15 07 45.0 +0.1
baz=330,SNR=634
U58A Oxford 81.59 39 P P 15 07 45.2 +0.3
baz=332,SNR=588
T60A Surry 81.62 37 P P 15 07 45.4 +0.4
baz=332,SNR=59
X54A Belton 81.66 42 P P 15 07 45.6 +0.2
baz=330,SNR=480
Y53A Monroe 81.75 44 P P 15 07 46.2 +0.4
baz=330,SNR=439
150A Eclectic 81.75 46 P P 15 07 46.0 +0.2
baz=328,SNR=836
249A Camden 81.79 47 P P 15 07 47.1 +1.1
baz=328,SNR=215
W56A Indian Trail 81.88 41 P P 15 07 46.4 -0.1
baz=331,SNR=306
V58A Windy Hill, Pi 81.89 39 P P 15 07 46.8 +0.3
baz=331,SNR=817
U59A Littleton 81.91 38 P P 15 07 47.0 +0.4
baz=332,SNR=469
Z52A Williamson 81.96 45 P P 15 07 47.2 +0.3
baz=329,SNR=554
GVD Gavdhos 81.99 319 eP P 15 07 45.9 -1.1
GVD Gavdhos 81.99 319 P P 15 07 45.9 -1.1
U60A Pendleton 82.05 38 P P 15 07 47.6 +0.4
baz=332,SNR=42
W57A Gilead 82.10 40 P P 15 07 47.8 +0.3
baz=331,SNR=805
Y54A Tignall 82.12 43 P P 15 07 48.3 +0.7
baz=330,SNR=1000
151A Opelika 82.12 46 P P 15 07 47.7 -0.1
baz=329,SNR=186
250A Grady 82.17 47 P P 15 07 48.6 +0.6
baz=328,SNR=193
GOGA Godfrey 82.17 44 P P 15 07 48.2 +0.3
baz=330,SNR=286
Z53A Monticello 82.24 44 P P 15 07 48.6 +0.3
baz=330,SNR=515
V59A Middlesex 82.26 39 P P 15 07 48.8 +0.4
baz=332,SNR=704
X56A White Oak 82.26 41 P P 15 07 48.6 +0.2
baz=331,SNR=479
152A Waverly Hall 82.27 45 P P 15 07 48.4 0.0
baz=329,SNR=322
349A Repton 82.29 48 P P 15 07 50.0 +1.4
baz=328,SNR=210
Y55A Saluda 82.40 42 P P 15 07 49.5 +0.4
baz=330,SNR=530
U61A Possum Corner 82.44 37 P P 15 07 49.7 +0.5
baz=333,SNR=228
251A Midway 82.46 46 P P 15 07 49.7 +0.3
baz=329,SNR=570
BRAL Brewton 82.50 48 P P 15 07 51.2 +1.5
baz=328,SNR=150
W58A Raeford 82.52 40 P P 15 07 50.1 +0.4
baz=331,SNR=682
Z54A Sparta 82.59 43 P P 15 07 50.6 +0.6
baz=330,SNR=598
350A Dozier 82.61 47 P P 15 07 51.3 +1.1
baz=328,SNR=83
V60A Jim Taylor Roa 82.63 38 P P 15 07 50.5 +0.3
baz=332,SNR=127
X57A Johnson Farm, 82.66 41 P P 15 07 50.8 +0.5
baz=331,SNR=142
153A Fort Valley 82.67 44 P P 15 07 50.9 +0.4
baz=330,SNR=59
W59A Clinton 82.70 39 P P 15 07 51.1 +0.6
baz=332,SNR=122
Y56A Pelion 82.75 42 P P 15 07 51.2 +0.3
baz=330,SNR=52
449A Pace 82.78 48 P P 15 07 52.9 +1.9
baz=328,SNR=184
252A Lumpkin 82.84 45 P P 15 07 51.5 +0.2
baz=329,SNR=113
CNNC Cliffs of the 82.86 39 P P 15 07 51.9 +0.6
baz=332,SNR=57
V61A Roper 82.87 38 P P 15 07 51.9 +0.5
baz=333,SNR=114
X58A Rowland 82.89 40 P P 15 07 52.0 +0.5
baz=331,SNR=184
Z55A Blythe 82.90 43 P P 15 07 52.2 +0.6
baz=330,SNR=54
Y57A Sumter 82.93 41 P P 15 07 51.9 +0.2
baz=331,SNR=54
154A Montrose 83.02 44 P P 15 07 52.8 +0.7
baz=330,SNR=211
450A Crestview 83.02 47 P P 15 07 53.9 +1.6
baz=328,SNR=38
253A Americus 83.05 45 P P 15 07 52.8 +0.5
baz=329,SNR=102
351A Pinckard 83.07 46 P P 15 07 53.3 +0.9
baz=329,SNR=232
W60A Pink Hill 83.09 39 P P 15 07 53.0 +0.5
baz=332,SNR=130
Z56A Williston 83.13 42 P P 15 07 53.3 +0.5
baz=330,SNR=37
X59A McDuffie Farm, 83.16 40 P P 15 07 53.2 +0.3
baz=332,SNR=49
352A Blakely 83.19 46 P P 15 07 53.8 +0.7
baz=329,SNR=8.9
VAE Valguarnera 83.25 327 PKKP PKKPdf 15 25 54.2 -0.6
comp=Z,19nm,0.4s,baz=100,slow=3.3,SNR=4.2
W61A Ground Anchor 83.25 38 P P 15 07 53.6 +0.3
baz=332,SNR=97
155A Kite 83.28 43 P P 15 07 54.0 +0.6
baz=330,SNR=185
V62A Hyde County Ai 83.31 37 P P 15 07 54.4 +0.9
baz=333,SNR=70
Y58A Scranton 83.32 41 P P 15 07 54.0 +0.4
baz=331,SNR=209
X60A Albert Glenn T 83.40 39 P P 15 07 54.4 +0.3
baz=332,SNR=135
Z57A Bowman 83.43 42 P P 15 07 54.6 +0.4
baz=331,SNR=182
254A Abbeville 83.51 44 P P 15 07 55.3 +0.7
baz=330,SNR=329
451A Vernon 83.56 47 P P 15 07 56.3 +1.4
baz=329,SNR=146
452A Marianna 83.62 46 P P 15 07 56.0 +0.8
baz=329,SNR=99
353A Camilla 83.62 45 P P 15 07 56.1 +0.9
baz=329,SNR=264
156A Sylvania 83.66 43 P P 15 07 56.4 +1.0
baz=330,SNR=127
Z58A St. Stephen 83.76 41 P P 15 07 56.1 +0.3
baz=331,SNR=67
NHSC New Hope 83.81 42 P P 15 07 56.6 +0.5
baz=331,SNR=41
Y60A Bolivia 83.81 40 P P 15 07 56.3 +0.2
baz=332,SNR=98
TIGA Tifton 83.81 45 P P 15 07 57.1 +1.0
baz=330,SNR=85
157A Early Branch 83.85 42 P P 15 07 57.0 +0.8
baz=331,SNR=65
255A Hazlehurst 83.88 44 P P 15 07 57.3 +0.9
baz=330,SNR=137
TAOE Nuku Hiva Isla 83.97 113 eP P 15 07 57.9 +0.7
comp=Z,1µm,1.0s
453A Whigham 84.00 46 P P 15 07 58.2 +1.2
baz=329,SNR=96
MAHO Mahon 84.03 335 i P P 15 07 55.3 -1.7
MAHO i S S 15 17 30.1 +0.1
Z59A Georgetown, SC 84.06 41 P P 15 07 57.8 +0.5
baz=332,SNR=56
256A Glennville 84.08 43 P P 15 07 58.1 +0.7
baz=330,SNR=42
STKA Stephens Creek 84.11 189 eP P 15 07 58.4 +1.1
comp=Z,283nm,0.8s
STKA Stephens Creek 84.11 189 P P 15 07 58.3 +1.0
comp=Z,1µm,0.8s,baz=347,slow=6.3,SNR=1747
STKA PKiKP PKiKP 15 13 05.5 -1.0
comp=Z,36nm,0.8s,baz=124,slow=2.8,SNR=5.7
STKA S SKSac 15 17 15.5 -5.5
comp=Z,46nm,1.0s,baz=230,slow=22,SNR=15
STKA PKKPbc PKKPbc 15 26 04.9 +0.1
comp=Z,96nm,0.9s,baz=148,slow=2.9,SNR=6.4
STKA PKPPKP 15 34 08.5

comp=Z,39nm,1.0s,baz=174,slow=3.8,SNR=12
158A **Hollywood** 84.13 42 P P 15 07 58.2 +0.6
baz=331,SNR=26
552A **Lynn Haven** 84.18 47 P P 15 07 59.3 +1.4
baz=329,SNR=44
355A **Pearson** 84.22 44 P P 15 07 58.9 +0.8
baz=330,SNR=100
454A **Quitman** 84.42 45 P P 15 08 00.0 +0.9
baz=330,SNR=94
257A **Skidaway Islan** 84.45 43 P P 15 07 60.0 +0.8
baz=331,SNR=14
RAR **Rarotonga** 84.46 135 PKKPbc PKKPbc 15 26 06.0 +2.6
comp=Z,36nm,0.7s,baz=230,slow=8.5,SNR=6.3
RAR PKPPKP 15 34 09.6
comp=Z,54nm,0.9s,baz=171,slow=5.4,SNR=4.5
356A **Blackshear** 84.54 44 P P 15 08 00.4 +0.7
baz=330,SNR=33
PBRG **Braganca** 84.56 344⇓ *i*P P 15 07 58.6 -1.1
comp=Z,1μm,1.5s
PGAV **Gavieira, Arco** 84.66 345⇓ *i*P P 15 07 59.1 -1.1
comp=Z,2μm,1.4s
PGAV **Gavieira, Arco** 84.66 345 *e*PP PP 15 11 19.0 -8.2
PGAV *e*S **S** 15 17 37.0 +0.7
PGAV *e*SS **SS** 15 23 32.2 +6.6
455A **Stateville** 84.66 45 P P 15 08 01.1 +0.9
baz=330,SNR=114
357A **Townsend** 84.73 43 P P 15 08 01.4 +0.8
baz=331,SNR=15
PMOR **Pomariorio Ree** 84.81 122 *e*P P 15 08 03.1 +2.0
comp=Z,2μm,1.1s
PCAB **Cabril** 84.87 345⇓ *i*P P 15 08 00.0 -1.2
comp=Z,2μm,1.5s
554A **Perry** 84.94 46 P P 15 08 02.7 +1.1
baz=330,SNR=84
456A **Hilliard** 85.11 44 P P 15 08 03.7 +1.2
baz=330,SNR=38
VAH **Vaihoa** 85.15 122 *e*P P 15 08 04.6 +1.9
comp=Z,994nm,1.0s
POLO **Lamas de Olo** 85.16 345⇓ *i*P P 15 08 01.8 -0.8
comp=Z,2μm,1.4s
555A **McAlpin** 85.22 45 P P 15 08 04.0 +1.1
baz=330,SNR=140
MVO **Moncorvo** 85.23 344⇓ *i*P P 15 08 01.9 -1.1
comp=Z,3μm,1.4s
MVO *e*pP **pP** 15 10 16.0 +0.2
MVO **Moncorvo** 85.23 344 *e*PP PP 15 11 20.3 -11
MVO *e*S **S** 15 17 42.4 +0.7
MVO *e*SS **SS** 15 23 40.8 +6.9
PVRL **Vila Real** 85.24 344⇓ *i*P P 15 08 02.1 -0.9
comp=Z,3μm,1.2s
UCM **Universidad Co** 85.36 341 *i*P P 15 08 02.1 -1.5
UCM *i*S **SKSac** 15 17 26.1 -3.1
457A **Yulee** 85.40 44 P P 15 08 05.1 +1.3
baz=331,SNR=25
PTO **Porto** 85.52 345 *e*P P 15 08 03.3 -0.9
comp=Z,2μm,1.4s
556A **Lake Butler** 85.57 45 P P 15 08 06.1 +1.5
baz=330,SNR=287
655A **Horseshoe Beac** 85.62 46 P P 15 08 05.9 +1.0
baz=330,SNR=40
PVIS **Viseu** 85.82 344⇓ *i*P P 15 08 04.5 -1.2
comp=Z,2μm,1.4s
557A **Orange Park** 85.85 44 P P 15 08 07.4 +1.4
baz=331,SNR=77
656A **Willston** 86.06 45 P P 15 08 08.6 +1.6
baz=330,SNR=392
MTE **Manteigas** 86.07 344⇓ *i*P P 15 08 06.0 -0.9
comp=Z,2μm,1.4s
MTE *e*pP **pP** 15 10 21.1 +0.9
MTE **Manteigas** 86.07 344 *e*PP PP 15 11 24.8 -14
MTE *e*S **S** 15 17 50.9 +1.3
MTE *e*SS **SS** 15 23 52.3 +6.4
PPT **Papeete** 86.11 125 P P 15 08 09.5 +2.3
comp=Z,436nm,1.0s,baz=11,slow=2.8,SNR=20
PPT PKiKP **PKiKP** 15 13 11.0 +0.8
comp=Z,84nm,0.9s,baz=78,slow=20,SNR=2.9
PPT PKKPbc **PKKPbc** 15 26 03.7 +4.2
comp=Z,103nm,1.1s,baz=51,slow=5.3,SNR=3.7
PPT2 **Papeete2** 86.13 125 *e*P P 15 08 09.5 +2.1
comp=Z,663nm,1.2s
657A **Interlachen** 86.16 45 P P 15 08 08.8 +1.4
baz=330,SNR=94
PAE **Paea** 86.19 125 *e*P P 15 08 09.5 +2.0
comp=Z,109nm,1.2s
TIAR **Tiarei** 86.22 125 *e*P P 15 08 10.0 +2.3
comp=Z,214nm,1.1s
CMAH **Djebel Manchou** 86.22 332 P P 15 08 06.9 -0.8
CAEH **'Ain El Ouahch** 86.25 332 P P 15 08 06.6 -1.2
COI **Coimbra** 86.40 345⇓ *i*P P 15 08 07.3 -1.1
comp=Z,3μm,1.2s
TVO **Taravao** 86.45 125 *e*P P 15 08 11.3 +2.4
comp=Z,157nm,1.2s
KEST **Kesra** 86.48 330 P P 15 08 09.6 +0.6
comp=Z,3μm,0.8s,baz=306,slow=0.8,SNR=1414
KEST PKKPbc **PKKPbc** 15 26 00.2 +1.2
comp=Z,26nm,0.9s,baz=174,slow=4.1,SNR=6.0
ABSA **Djebel Ababsia** 86.53 332 P P 15 08 08.4 -0.8
PCAS **Casmilo, Conde** 86.56 345⇓ *i*P P 15 08 08.0 -1.2
comp=Z,3μm,1.4s
658A **Bunnell** 86.56 44 P P 15 08 10.8 +1.5
baz=331,SNR=72
PCBR **Castelo Branco** 86.60 344⇓ *i*P P 15 08 08.0 -1.3
comp=Z,2μm,1.4s
757A **Oxford** 86.63 45 P P 15 08 11.2 +1.5
baz=330,SNR=188
CKFL **Kef-Lekhel** 86.64 332 P P 15 08 08.8 -0.9
DFRA **Djebel Bou Aff** 86.74 333 P P 15 08 09.0 -1.2
CASM **Ain Smara** 86.83 332 P P 15 08 09.5 -1.1
PTOM **Tomar** 86.97 345⇓ *i*P P 15 08 09.6 -1.5
comp=Z,2μm,1.3s
758A **Lake Helen** 86.99 44 P P 15 08 12.9 +1.6
baz=331,SNR=88
PMRV **Marv??o** 86.99 344⇓ *i*P P 15 08 09.7 -1.5
comp=Z,2μm,1.6s
PMRV *e*pP **pP** 15 10 26.4 +1.5
PMRV **Marv??o** 86.99 344 *e*PP PP 15 11 29.1 -16
PMRV *e*S **S** 15 17 58.6 +0.4
PMRV *e*SS SS 15 24 30.2 +31
CTEI **Djebel Teioual** 87.04 332 P P 15 08 10.9 -0.8
MEH **Mehetia** 87.13 124 *e*P P 15 08 14.4 +2.4
comp=Z,277nm,1.0s
857A **Zephyrhills** 87.14 45 P P 15 08 13.7 +1.6
baz=330,SNR=320
SET **Setif** 87.20 333 P P 15 08 13.0 +0.7
CKHR **Kef el Ahmar** 87.34 333 P P 15 08 12.9 -0.1
PMTG **Montargil** 87.48 344⇓ *i*P P 15 08 11.8 -1.6
comp=Z,2μm,1.4s
CART **Cartagena** 87.50 339 *i*P P 15 08 11.0 -2.6
CART *i*S **S** 15 18 03.4 +0.5
858A **St. Cloud** 87.57 45 P P 15 08 15.6 +1.6
baz=331,SNR=90
DWPF **Disney Wildern** 87.62 45 *e*P P 15 08 15.9 +1.5
comp=Z,4μm,0.8s
DWPF **Disney Wildern** 87.62 45 P P 15 08 15.8 +1.5
baz=331
957A **Wimauma** 87.65 46 P P 15 08 16.0 +1.6
baz=330,SNR=12
PMAFR **Mafra** 87.76 345⇓ *i*P P 15 08 13.4 -1.4
comp=Z,2μm,1.6s
859A **Kempfer Cattle** 87.90 45 P P 15 08 17.4 +1.8
baz=331,SNR=291
958A **Wauchula** 87.94 45 P P 15 08 17.4 +1.6
baz=331,SNR=144
LIS **Lisbon** 87.97 345 *e*P P 15 08 14.6 -1.2
LIS AMb AMB 15 08 16.8
comp=Z,1μm,1.4s
LIS *e*pP **pP** 15 10 28.2 -1.6
LIS *e*SKSac **SKSac** 15 17 44.6 -0.2
LIS **Lisbon** 87.97 345⇓ *i*P P 15 08 14.6 -1.2
comp=Z,2μm,1.3s
LIS **Lisbon** 87.97 345 *e*P P 15 08 14.5 -1.2
LIS *e* 15 17 44.5
EBNR **Beni Rached** 88.13 336 P P 15 08 15.0 -1.6
ECHA **Ech Chlef** 88.30 336 P P 15 08 16.0 -1.3
058A **Arcadia** 88.38 46 P P 15 08 19.3 +1.5
baz=331,SNR=276
959A **Okeechobee** 88.38 45 P P 15 08 19.5 +1.7
baz=331,SNR=71
PBEJ **Beja** 88.43 344⇓ *i*P P 15 08 17.9 0.0
comp=Z,2μm,1.4s
PNCL **Nicolau / Gran** 88.46 344⇓ *i*P P 15 08 16.7 -1.3
comp=Z,1μm,1.3s
H07N1 **FLORES T-PHASE** 88.52 2 *e*P P 15 08 18.1 -0.2
H07N1 **FLORES T-PHASE** 88.52 2 P P 15 08 19.1 +0.8
SNR=75
EANR **'Ain N'Sour** 88.56 336 P P 15 08 16.6 -2.0

MESJ **Messejana** 88.67 344 *e*P P 15 08 17.9 -1.1
MESJ AMb AMB 15 08 20.3
comp=Z,2μm,1.3s
MESJ *e*pP **pP** 15 10 32.0 -1.3
MESJ *e*SKSac **SKSac** 15 17 48.1 -0.8
MESJ **Messejana** 88.67 344⇓ *i*P P 15 08 18.0 -1.1
comp=Z,2μm,1.5s
MESJ **Messejana** 88.67 344 *e*P P 15 08 17.9 -1.1
MESJ *e* 15 17 48.0
059A **Moore Haven** 88.74 45 P P 15 08 20.8 +1.3
baz=331,SNR=82
H07S1 **FLORES T-PHASE** 88.83 2 *e*P P 15 08 19.7 -0.1
H07S1 **FLORES T-PHASE** 88.83 2 P P 15 08 20.8 +1.0
SNR=283
PCVE **Castro Verde** 88.85 344⇓ *i*P P 15 08 18.8 -1.1
comp=Z,3μm,1.4s
PVAQ **Vaqueiros** 89.02 344⇓ *i*P P 15 08 19.6 -1.0
comp=Z,2μm,1.5s
PVAQ **Vaqueiros** 89.02 344 *e*PP pP 15 10 34.1 -0.9
PVAQ **Vaqueiros** 89.02 344 *e*PP PP 15 11 37.2 -24
PVAQ *e*S **S** 15 18 12.0 -4.8
EMAL **Malaga-Limoner** 89.02 341 *i*P P 15 08 17.1 -3.5
EMAL *i*S **SKSac** 15 17 45.5 -5.4
060A **Indiantown** 89.02 45 P P 15 08 22.2 +1.4
baz=331,SNR=36
PTEO **Sao Teotonio** 89.05 344⇓ *i*P P 15 08 19.7 -1.1
comp=Z,3μm,1.4s
LIJA **Lijar** 89.07 342 *i*P P 15 08 20.7 -0.4
OJBR **Djebel Berber** 89.09 337 P P 15 08 27.0 +5.9
OUZ **Omahuta** 89.10 162 P P 15 08 23.4 +2.7
059Z **Ave Maria** 89.16 46 P P 15 08 22.8 +1.4
baz=331,SNR=29
DGAR **Diego Garcia** 89.17 257 *e*P P 15 08 21.6 0.0
comp=Z,2μm,0.8s
DGAR **Diego Garcia** 89.17 257 *e*P P 15 08 21.6 0.0
DGAR pmax pmax
comp=Z,2μm,0.8s
DGAR **Diego Garcia** 89.17 257 P P 15 08 21.7 +0.1
SNR=28
H08N2 **Diego Garcia H** 89.19 259 P P 15 08 20.8 -0.5
baz=339,slow=1.8,SNR=154
H08N1 **Diego Carcia H** 89.19 259 P P 15 08 20.8 -0.6
baz=339,slow=1.8,SNR=79
H08N3 **Diego Garcia H** 89.21 259 P P 15 08 21.0 -0.4
baz=339,slow=1.8,SNR=104
PBDV **Barranco-do-Ve** 89.21 344⇓ *i*P P 15 08 20.9 -0.7
comp=Z,2μm,1.5s
PGRA **Graciosa** 89.21 360 *e*P P 15 08 21.1 -0.4
comp=Z,3μm,1.8s
GIBL **Gibalbin** 89.25 342⇑ *i*P P 15 08 21.0 -0.8
MORF **Marmelete** 89.27 344 *e*P P 15 08 20.7 -1.2
MORF AMb AMB 15 08 23.8
comp=Z,3μm,1.3s
MORF *e*pP **pP** 15 10 34.8 -1.5
MORF *e*pP pP 15 10 35.3 -1.1
MORF *e*pP pP 15 10 35.4 -0.9
MORF *e*SKSac **SKSac** 15 17 51.5 -1.0
MORF **Marmelete** 89.27 344⇓ *i*P P 15 08 20.9 -1.0
comp=Z,3μm,1.4s
MORF **Marmelete** 89.27 344 *e*P P 15 08 20.7 -1.2
MORF *e* 15 17 51.4
H08S3 **Diego Garcia H** 89.32 257 P P 15 08 21.8 -0.3
baz=1.6,slow=9.5,SNR=372
H08S2 **Diego Garcia H** 89.33 257 P P 15 08 22.0 0.0
baz=1.6,slow=9.5,SNR=184
H08S1 **Diego Carcia H** 89.34 257 P P 15 08 22.0 -0.1
baz=1.6,slow=9.5,SNR=289
REAL **Reales** 89.44 341⇑ *i*P P 15 08 21.7 -1.1
ODJA **Bouhanifia** 89.45 337 P P 15 08 27.0 +4.2
PFVI **Vila Bisbo** 89.47 344⇓ *i*P P 15 08 21.8 -0.9
comp=Z,2μm,1.5s
ALJ **Aljibe** 89.49 342⇑ *i*P P 15 08 22.5 -0.3
060Z **West Palm Beac** 89.49 45 P P 15 08 24.4 +1.4
baz=331,SNR=87
ROSA **Rosais** 89.52 360 *e*P P 15 08 22.2 -0.8
comp=Z,3μm,1.2s
PSCM **Serra do Cume** 89.53 359 *e*P P 15 08 22.7 -0.3
comp=Z,848nm,1.5s
ADH **Angra Heroismo** 89.58 359 *e*P P 15 08 22.6 -0.6
comp=Z,1μm,1.4s
PMAN **Manadas** 89.61 360 *e*P P 15 08 23.3 0.0
comp=Z,4μm,1.2s
PCED **Cedros** 89.61 0 *e*P P 15 08 23.1 -0.3
comp=Z,2μm,1.2s
SFS **San Fernando** 89.65 342 *e*P P 15 08 18.5 -5.1
SFS *i*S **SKSac** 15 17 54.8 +0.3
SFS **San Fernando** 89.65 342 *e*P P 15 08 23.8 +0.2
MOMI **Momias** 89.69 342 *e*P P 15 08 23.7 -0.1
CNIL **Conil** 89.72 342 *i*P P 15 08 23.8 -0.1
PICO **Pico** 89.74 360 *e*P P 15 08 24.1 +0.1
comp=Z,2μm,1.3s
PCAN **Candelaria** 89.78 0 *e*P P 15 08 24.1 -0.1
comp=Z,2μm,1.2s
061Z **Ochoppi** 89.80 46 P P 15 08 25.6 +1.2
baz=331,SNR=33
NWAO **Narrogin (SRO)** 89.88 208 *e*P P 15 08 24.1 -0.4
comp=Z,3μm,1.0s
NWAO **Narrogin (SRO)** 89.88 208 *e*P P 15 08 24.1 -0.4
NWAO pmax pmax
comp=Z,3μm,1.0s
NWAO **Narrogin (SRO)** 89.88 208 P P 15 08 24.2 -0.2
SNR=100
NWAO **Narrogin (SRO)** 89.88 208 P P 15 08 24.1 -0.4
comp=Z,2μm,0.9s,baz=27,slow=4.4,SNR=480
NWAO PKKPbc **PKKPbc** 15 25 52.6 +1.7
comp=Z,129nm,0.7s,baz=182,slow=2.7,SNR=27
WCZ **Waipu Caves** 89.94 162 P P 15 08 26.4 +1.8
BBSR **BB Station** 90.05 30 *e*P P 15 08 25.9 +0.4
comp=Z,2μm,1.1s
CMIG **Matias Romero** 90.31 61 PKPPKP **P'P'df** 15 34 01.7 -0.2
comp=Z,10nm,0.8s,baz=200,slow=3.1,SNR=7.0
PSET **Sete Cidades** 90.38 358 *e*P P 15 08 26.1 -0.9
comp=Z,466nm,1.0s
BART **Pico Bartolome** 90.42 357 *e*P P 15 08 26.2 -1.0
comp=Z,554nm,1.5s
CMLA **Cha da Macela** 90.44 358 *e*P P 15 08 26.8 -0.4
comp=Z,551nm,1.0s
CMLA **Cha da Macela** 90.44 358 *e*P P 15 08 27.3 +0.1
comp=Z,476nm,1.0s
CMLA **Cha da Macela** 90.44 358 *e*P P 15 08 27.3 +0.1
CMLA pmax pmax
comp=Z,476nm,1.0s
GRZ **Great Barrier** 90.46 161 P P 15 08 27.9 +0.9
PVLZ **Peæn de** 90.53 340 *i*P P 15 08 23.1 -4.5
062Z **Marathon** 90.73 46 P P 15 08 29.6 +0.9
baz=331,SNR=9.4
MBAZ **Motutapu North** 90.85 161 P P 15 08 30.4 +1.6
WIAZ **Waiheke Island** 90.92 161 P P 15 08 30.5 +1.4
KUZ **Kuaotunu** 90.99 161 P P 15 08 30.4 +0.9
ETAZ **East Tamaki Re** 91.04 161 P P 15 08 31.2 +1.6
TBI **Tubuai** 91.05 128 *e*P P 15 08 32.5 +2.5
comp=Z,124nm,1.0s
PSMN **Pico do Norte,** 91.18 357 *e*P P 15 08 29.5 -1.2
comp=Z,573nm,1.6s
PSMA **Santa Maria** 91.19 357 *e*P P 15 08 29.8 -0.9
comp=Z,551nm,1.6s
ATD **Arta Tunnel** 92.15 292 P P 15 08 36.1 +0.6
ATD **Arta Tunnel** 92.15 292 PKKPbc PKKPbc 15 25 46.7 +2.1
comp=Z,12nm,0.9s,baz=318,slow=7.4,SNR=5.4
IFR **Ifrane** 92.30 341 *e*P P 15 08 31.0 -5.1
MXZ **Matakaoa Point** 92.33 159 P P 15 08 34.5 -1.0
HIZ **Hauiti** 92.53 162 P P 15 08 37.7 +1.2
PKGZ **Pakihiroa** 92.59 159 P P 15 08 36.7 -0.2
WMGZ **Waiomatatini S** 92.60 159 P P 15 08 36.3 -0.5
H01W3 **Cape Leeuwin H** 92.63 210 P P 15 08 37.3 +0.5
baz=35,slow=3.8,SNR=57
H01W1 **Cape Leeuwin H** 92.64 210 P P 15 08 37.3 +0.6
baz=35,slow=3.8,SNR=48
H01W2 **Cape Leeuwin H** 92.65 210 P P 15 08 37.3 +0.5
baz=35,slow=3.8,SNR=63
URZ **Urewera** 92.74 160 P P 15 08 36.3 -1.1
comp=Z,34nm,0.7s,baz=283,slow=2.1,SNR=28
URZ PKiKP **PKiKP** 15 13 18.8 -1.9
comp=Z,25nm,0.6s,baz=277,slow=3.2,SNR=9.2
URZ PKKPbc **PKKPbc** 15 25 44.6 +0.8
comp=Z,48nm,0.7s,baz=272,slow=6.3,SNR=7.2
URZ PKPPKP 15 33 54.6
comp=Z,36nm,0.9s,baz=100,slow=1.3,SNR=6.3
PUZ **Puketiti** 92.81 159 P P 15 08 36.5 -1.2
MDT **Midelt** 92.87 340 PKiKP **PKiKP** 15 13 21.7 +0.2
comp=Z,25nm,0.8s,baz=13,slow=1.6,SNR=5.1
MDT PKKPbc **PKKPbc** 15 25 44.0 +0.4
comp=Z,34nm,0.7s,baz=185,slow=1.7,SNR=23
AVE **Averroes** 92.96 342 *i*P P 15 08 37.0 -1.9
DESE **Dese** 94.31 294 *i*P P 15 08 40.7 -5.0
DESE **Dese** 94.31 294 *i*P P 15 08 40.7 -5.0

APG **El Apazote** 94.40 59 PKiKP **PKiKP** 15 13 24.0 -0.7
comp=Z,19nm,1.0s,baz=348,slow=20,SNR=2.6
PMPST **Porto Santo, M** 94.49 350⇓ *i*P P 15 08 44.2 -1.6
PMPS **Porto Santo** 94.51 350⇓ *i*P P 15 08 44.6 -1.3
comp=Z,2μm,1.5s
TAU **Tasmania Unive** 94.74 183 *e*P P 15 08 47.9 +1.5
comp=Z,183nm,0.8s
TAU **Tasmania Unive** 94.74 183 *e*P P 15 08 47.9 +1.5
TAU pmax pmax
comp=Z,183nm,0.8s
PMOZ **Porto Moniz, M** 94.83 351⇓ *i*P P 15 08 46.5 -1.0
comp=Z,1μm,1.2s
PMOZ **Porto Moniz, M** 94.83 351 *e*S S 15 19 09.4 +1.4
PMOZ *e*SS **SS** 15 26 00.5 +10
PMAR **Madeira** 94.90 350⇓ *i*P P 15 08 46.9 -1.0
comp=Z,2μm,1.5s
FUL **Funchal** 94.97 350 *e*P P 15 08 47.7 -0.3
comp=Z,1μm,1.5s
SNZO **South Karori** 95.21 163 *e*P P 15 08 48.1 -0.5
comp=Z,203nm,1.1s
LTZ **Lake Taylor** 96.22 165 P P 15 08 57.3 +4.1
WVZ **Waitaha Valley** 96.27 166 P P 15 08 55.0 +1.7
FOZ **Fox Glacier** 96.59 167 P P 15 08 55.4 +0.7
FURI **Furi** 96.66 294 *e*P P 15 08 57.6 +1.3
comp=Z,616nm,1.0s
OXZ **Oxford** 96.72 165 P P 15 08 56.2 +0.9
RPZ **Rata Peaks** 96.95 166 P P 15 08 56.3 0.0
comp=Z,19nm,0.6s,baz=286,slow=3.0,SNR=8.7
RPZ PKiKP **PKiKP** 15 13 27.0 -1.0
comp=Z,48nm,0.8s,baz=344,slow=4.9,SNR=7.7
RPZ PKKP **PKKPbc** 15 25 33.0 +0.1
comp=Z,17nm,0.7s,baz=92,slow=1.5,SNR=4.3
RPZ PKPPKP 15 33 45.7
comp=Z,17nm,0.9s,baz=171,slow=7.7,SNR=4.9
RPZ **Rata Peaks** 96.95 166 P P 15 08 57.9 +1.6
JCZ **Jackson Bay** 96.98 168 P P 15 08 58.8 +2.3
MQZ **McQueen's Vall** 97.19 165 P P 15 08 59.5 +2.1
MSEY **Mahe Island** 97.41 272 *i*P Pdif 15 08 58.7 -0.6
SNR=22
MSEY **Mahe Island** 97.41 272 P P 15 08 59.3 +0.1
SNR=9.7
MSZ **Milford Sound** 97.46 168 P P 15 09 09.5 +11
LBZ **Lake Benmore** 97.48 167 P P 15 08 59.7 +1.0
WKZ **Wanaka** 97.75 168 P P 15 09 05.2 +5.3
BBJ **Bamboo Saint A** 97.96 46⇓ *i*P P 15 09 01.8 +0.2
CVJ **Coleyville** 97.97 47⇑ *i*P P 15 09 02.4 +0.6
MLZ **Mavora Lakes** 98.16 168 P P 15 09 05.7 +3.9
EAZ **Earnscleugh** 98.19 167 P P 15 09 07.1 +5.3
ODZ **Otahua Downs** 98.19 166 P P 15 09 03.3 +1.5
STH **Stony Hill** 98.43 46⇓ *i*P P 15 09 03.9 +0.2
HOJ **Hope** 98.52 46 *i*P P 15 09 05.1 +1.0
PCJ **Portland Cotta** 98.57 46 *i*P P 15 09 04.6 +0.3
WHZ **Wether Hill Ro** 98.66 169 P P 15 09 10.9 +6.9
PRVC **Isla de Provid** 100.40 52 *e*P Pdif 15 09 12.7 +0.3
PRVC **Isla de Provid** 100.40 52 *e*P Pdif 15 09 12.7 +0.3
JTS **Las Juntas de** 101.23 57 P Pdif 15 09 14.8 -1.4
comp=Z,7.2nm,0.7s,baz=346,slow=7.8,SNR=4.9
JTS S **SKSac** 15 18 53.3 -2.0
comp=Z,22nm,1.0s,baz=344,slow=22,SNR=11
JTS PKKPbc **PKKPbc** 15 25 20.6 -0.1
comp=Z,43nm,0.5s,baz=29,slow=0.4,SNR=15
SJG **San Juan** 102.73 37 *e*P Pdif 15 09 22.2 -0.5
SJG **San Juan** 102.73 37 *e*P Pdif 15 09 22.2 -0.5
SJG **San Juan** 102.73 37 Pdiff Pdif 15 09 23.0 +0.2
comp=Z,12nm,0.3s,baz=317,slow=4.4,SNR=11
SJG Sdiff 15 18 58.8
comp=Z,40nm,0.8s,baz=262,slow=21,SNR=8.2
BCIP **Isla Barro Col** 104.77 53 *e*P Pdif 15 09 29.3 -2.6
BCIP **Isla Barro Col** 104.77 53 *e*P Pdif 15 09 29.3 -2.6
KMBO **Kilima Mbogo** 105.61 289 *i*P PKiKP 15 13 46.0 +1.0
KMBO **Kilima Mbogo** 105.61 289 *i*P PKiKP 15 13 46.0 +1.0
KMBO **Kilima Mbogo** 105.61 289 Pdiff Pdif 15 09 35.7 -0.3
comp=Z,19nm,0.8s,baz=32,slow=6.8,SNR=24
KMBO PKiKP **PKiKP** 15 13 45.4 +0.4
comp=Z,61nm,1.0s,baz=75,slow=3.5,SNR=12
KMBO PKKPbc **PKKPbc** 15 25 11.7 +3.6
comp=Z,9.7nm,0.7s,baz=210,slow=5.9,SNR=7.8
URIC **Uribia, Colomb** 106.19 45 *e*P Pdif 15 09 38.4 +0.2
URIC **Uribia, Colomb** 106.19 45 *e*P Pdif 15 09 38.4 +0.2
CODC **Agustn Codazz** 107.12 47 *e*P Pdif 15 09 42.3 -0.1
CODC **Agustn Codazz** 107.12 47 *e*P Pdif 15 09 42.3 -0.1
DABV **Dabajuro** 107.47 44 *e*P PP 15 14 16.9 -3.3
DABV **Dabajuro** 107.47 44 *e*P PP 15 14 16.9 -3.3
SMLC **San Martn de** 107.83 48 *e*P Pdif 15 09 45.1 -0.4
SMLC **San Martn de** 107.83 48 *e*P Pdif 15 09 45.1 -0.4
OCAC **Ocana** 108.67 48 *e*P Pdif 15 09 49.8 +0.3
OCAC **Ocana** 108.67 48 *e*P Pdif 15 09 49.8 +0.3
MBAR **Mbarara** 108.85 295 PKiKP **PKiKP** 15 13 51.1 +0.1
comp=Z,61nm,0.8s,baz=328,slow=0.4,SNR=22
MBAR PP **PP** 15 14 31.1 -0.1
comp=Z,48nm,0.7s,baz=36,slow=10,SNR=5.7
MBAR PKKPbc **PKKPbc** 15 25 01.1 +3.1
comp=Z,29nm,0.7s,baz=255,slow=2.0,SNR=10.0
SDV **Santo Domingo** 109.29 45 *e*P Pdif 15 09 52.0 -0.2
SDV **Santo Domingo** 109.29 45 *e*P Pdif 15 09 52.0 -0.2
SDV **Santo Domingo** 109.29 45 Pdiff Pdif 15 09 52.6 +0.3
comp=Z,14nm,0.7s,baz=340,slow=5.2,SNR=12
SDV PKiKP **PKiKP** 15 13 51.5 -0.2
comp=Z,250nm,0.8s,baz=327,slow=1.1,SNR=55
SDV Sdiff 15 19 28.4
comp=Z,69nm,1.1s,baz=198,slow=23,SNR=8.8
SDV PKKPbc **PKKPbc** 15 24 56.9 -0.2
comp=Z,18nm,0.7s,baz=100,slow=6.1,SNR=3.4
HELC **Santa Helena** 109.44 51 *e*P Pdif 15 09 52.9 -0.3
HELC **Santa Helena** 109.44 51 *e*P Pdif 15 09 52.9 -0.3
CAPV **Capacho** 109.46 47 *e*P PKiKP 15 13 52.0 -0.1
CAPV **Capacho** 109.46 47 *e*P PKiKP 15 13 52.0 -0.1
BRRC **Barranca, Sant** 109.49 48 *e*P Pdif 15 09 52.6 -0.3
BRRC **Barranca, Sant** 109.49 48 *e*P Pdif 15 09 52.6 -0.3
PTBC **PUERTO BERRIO** 109.64 49 *e*P Pdif 15 09 52.9 -0.7
PTBC **PUERTO BERRIO** 109.64 49 *e*P Pdif 15 09 52.9 -0.7
PAMC **Pamplona, Colo** 109.75 47 *e*P Pdif 15 09 54.0 -0.6
PAMC **Pamplona, Colo** 109.75 47 *e*P Pdif 15 09 54.0 -0.6
TORD **Torodi Ar. Bea** 109.96 329 Pdiff Pdif 15 09 52.0 -3.0
comp=Z,41nm,0.9s,baz=349,slow=6.4,SNR=43
TORD PKiKP **PKiKP** 15 13 50.5 -2.3
comp=Z,115nm,0.4s,baz=15,slow=2.4,SNR=192
TORD PKKPbc **PKKPbc** 15 24 54.4 -0.6
comp=Z,31nm,0.8s,baz=188,slow=2.1,SNR=12
TORD SKKPbc SKKPbc 15 27 36.6 +1.7
comp=Z,17nm,1.0s,baz=233,slow=1.8,SNR=3.7
BARC **Barichara** 110.19 48 *e*P Pdif 15 09 56.0 -0.3
BARC **Barichara** 110.19 48 *e*P Pdif 15 09 56.0 -0.3
NORC **Norcasia** 110.30 50 *e*P Pdif 15 09 56.1 -0.5
NORC **Norcasia** 110.30 50 *e*P Pdif 15 09 56.1 -0.5
GUY2C **Guyana, Caldas** 110.36 51 *e*P Pdif 15 09 56.9 -0.5
GUY2C **Guyana, Caldas** 110.36 51 *e*P Pdif 15 09 56.9 -0.5
RUSC **La Rusia** 110.85 48 *e*P Pdif 15 09 59.2 -0.3
RUSC **La Rusia** 110.85 48 *e*P Pdif 15 09 59.2 -0.3
TAMC **Tame, Arauca** 110.96 47 *e*P Pdif 15 10 00.2 +0.7
TAMC **Tame, Arauca** 110.96 47 *e*P Pdif 15 10 00.2 +0.7
ROSC **El Rosal** 111.19 50 Pdiff Pdif 15 10 01.6 +0.6
comp=Z,8.8nm,0.6s,baz=110,slow=7.9,SNR=6.4
ROSC PKiKP **PKiKP** 15 13 56.2 +0.5
comp=Z,48nm,0.7s,baz=230,slow=3.5,SNR=14
ROSC Sdiff 15 19 39.3
comp=Z,79nm,1.0s,baz=197,slow=23,SNR=6.8
ROSC PKKPbc **PKKPbc** 15 24 50.8 -0.6
comp=Z,214nm,0.8s,baz=140,slow=7.0,SNR=29
PRAC **Prado** 111.91 51 *e*P Pdif 15 10 02.3 -1.5
PRAC **Prado** 111.91 51 *e*P Pdif 15 10 02.3 -1.5
POPC **Popayan, Colom** 112.05 54 *e*P Pdif 15 10 03.5 -1.1
POPC **Popayan, Colom** 112.05 54 *e*P Pdif 15 10 03.5 -1.1
MARP **Paez Belalcaza** 112.14 53 *e*P Pdif 15 10 20.6 +15
MARP **Paez Belalcaza** 112.14 53 *e*P Pdif 15 10 20.6 +15
BBAC **Balboa, Cauca** 112.21 54 *e*P Pdif 15 10 07.1 +1.8
BBAC **Balboa, Cauca** 112.21 54 *e*P Pdif 15 10 07.1 +1.8
PCON **Cinco Dias** 112.37 53 *e*P Pdif 15 10 06.6 +0.2
PCON **Cinco Dias** 112.37 53 *e*P Pdif 15 10 06.6 +0.2
SOTA **Rioblanco** 112.43 54 *e*P Pdif 15 10 07.2 +0.6
SOTA **Rioblanco** 112.43 54 *e*P Pdif 15 10 07.2 +0.6
BETC **Betania** 112.53 52 *e*P Pdif 15 10 07.4 +0.8
BETC **Betania** 112.53 52 *e*P Pdif 15 10 07.4 +0.8
CRUC **La Cruz** 112.75 54 *e*P Pdif 15 10 12.3 +4.4
CRUC **La Cruz** 112.75 54 *e*P Pdif 15 10 12.3 +4.4
OTAV **Otavalo** 113.13 56 *e*P Pdif 15 10 11.1 +1.5
OTAV **Otavalo** 113.13 56 *e*P Pdif 15 10 11.1 +1.5
OPO **Ambohidratompo** 113.23 269 PKKPbc PKKPbc 15 24 47.4 +3.2
comp=Z,8.5nm,0.6s,baz=217,slow=4.6,SNR=7.4
FLOC **Florencia** 113.38 53 *e*P Pdif 15 10 11.0 +0.7
FLOC **Florencia** 113.38 53 *e*P Pdif 15 10 11.0 +0.7
RPN **Rapa Nui** 116.36 101 PKP **PKiKP** 15 14 05.5 +0.9
comp=Z,72nm,0.5s,baz=319,slow=7.2,SNR=6.3
DBIC **Dimbokro** 118.05 333 Pdiff Pdif 15 10 31.7 +0.7

comp=Z,10nm,0.8s,baz=317,slow=4.7,SNR=9.4
DBIC PKP **PKPdf** **15 14 07.4 -0.8**
comp=Z,558nm,0.4s,baz=13,slow=2.7,SNR=563
DBIC PP **PP** **15 15 32.5 -1.3**
comp=Z,318nm,0.9s,baz=5.2,slow=8.1,SNR=8.0
DBIC PKKPbc **PKKPbc** **15 24 28.0 -0.2**
comp=Z,37nm,0.5s,baz=158,slow=2.9,SNR=28
DBIC SKKPbc SKKPbc 15 27 11.5 +0.5
comp=Z,33nm,0.9s,baz=205,slow=5.9,SNR=4.5
TIC Toumodi 118.12 333 *e*PKIKP **PKPdf** **15 14 07.5 -1.0**
TIC Toumodi 118.12 333 *e*P **Pdif** **15 10 28.6 -2.7**
TIC Toumodi 118.12 333 *e*P **PKKPbc** **15 24 28.7 +0.7**
KIC Kosan Boka 118.32 333 *e*PKIKP **PKPdf** **15 14 07.3 -1.5**
comp=Z,511nm,0.5s
KIC Kosan Boka 118.32 333 *e*P **Pdif** **15 10 31.3 -0.9**
comp=Z,64nm,1.1s
KIC Kosan Boka 118.32 333 *e*P **PKKPbc** **15 24 28.2 +0.9**
comp=Z,358nm,1.1s
LIC Lamto 118.53 333 *e*PKIKP **PKPdf** **15 14 07.6 -1.6**
comp=Z,5μm,1.0s
LIC Lamto 118.53 333 *e*P **Pdif** **15 10 30.7 -2.4**
comp=Z,79nm,1.2s
LIC Lamto 118.53 333 *e*P **PKKPbc** **15 24 27.0 +0.4**
comp=Z,286nm,1.2s
MDP Montagnes des 119.37 28 PKP **PKiKP** **15 14 11.4 +0.5**
comp=Z,357nm,0.7s,baz=313,slow=1.4,SNR=182
MDP PKKPbc **PKKPbc** **15 24 24.1 +0.5**
comp=Z,174nm,0.7s,baz=175,slow=3.8,SNR=53
ATAH Atahualpa 119.38 61 PKP **PKiKP** **15 14 12.4 +1.0**
comp=Z,370nm,0.8s,baz=102,slow=0.6,SNR=84
ATAH SKP 15 16 48.3
comp=Z,160nm,1.1s,baz=346,slow=2.2,SNR=6.1
LSZ Lusaka 122.24 288 PKhKP PKPpre 15 13 57.6
comp=Z,2.4nm,0.3s,baz=81,slow=6.0,SNR=2.5
LSZ PKP **PKiKP** **15 14 16.4 -0.1**
comp=Z,1μm,0.6s,baz=23,slow=2.4,SNR=339
PTGA Pitinga 122.36 38 PKhKP PKPpre 15 14 00.1
comp=Z,8.2nm,0.7s,baz=346,slow=3.2,SNR=5.9
PTGA PKP **PKiKP** **15 14 16.9 +0.1**
comp=Z,508nm,0.7s,baz=317,slow=1.7,SNR=182
PTGA PKKPbc **PKKPbc** **15 24 13.9 +1.3**
comp=Z,60nm,0.5s,baz=169,slow=5.7,SNR=27
PTGA Pitinga 122.36 38 *e*P **PKiKP** **15 14 17.0 +0.2**
NNA Nana 124.25 62 PKhKP PKPpre 15 14 04.9
comp=Z,15nm,0.7s,baz=334,slow=5.6,SNR=4.4
NNA PKP **PKPdf** **15 14 20.0 -0.1**
comp=Z,486nm,0.6s,baz=304,slow=4.0,SNR=94
NNA SKP 15 16 56.8
comp=Z,182nm,1.1s,baz=302,slow=3.9,SNR=6.1
NNA PKKPbc **PKKPab** **15 24 07.9 0.0**
comp=Z,301nm,0.9s,baz=164,slow=3.1,SNR=52
BLWY Bulawayo 125.78 284 *i* P PKPpre 15 14 16.1
BLWY Bulawayo 125.78 284 *i* P PKPpre 15 14 16.1
MATP Matopo 126.06 284 *i* P PKPpre 15 14 17.8
MATP Matopo 126.06 284 *i* P PKPpre 15 14 17.8
MATP Matopo 126.06 284 PKhKP PKPpre 15 14 01.0
comp=Z,10nm,0.5s,baz=26,slow=5.9,SNR=3.9
MATP PKP **PKPdf** **15 14 23.5 -0.1**
comp=Z,2μm,0.9s,baz=35,slow=1.4,SNR=153
MSNA Messina 126.60 281 *i* P PKPpre 15 14 18.6
MSNA Messina 126.60 281 *i* P PKPpre 15 14 18.6
VNDA Vanda 129.54 177 PKhKP PKPpre 15 14 05.4
comp=Z,5.5nm,0.6s,baz=317,slow=4.8,SNR=17
VNDA PKP **PKPdf** **15 14 28.0 -0.3**
comp=Z,396nm,0.6s,baz=323,slow=4.0,SNR=126
VNDA SKPbc SKPbc 15 16 50.3 -2.1
comp=Z,544nm,1.1s,baz=332,slow=4.2,SNR=26
VNDA PKKP **PKKPdf** **15 24 33.5 -0.2**
comp=Z,23nm,0.8s,baz=262,slow=2.2,SNR=4.3
VNDA SKKP 15 27 08.0
comp=Z,30nm,1.1s,baz=215,slow=3.4,SNR=3.4
NBMO Morrinhos-CE 130.39 15 *e*P **PKPdf** **15 14 32.0 +0.1**
LBTB Lobatse 131.27 282 PKhKP PKPpre 15 14 12.8
comp=Z,36nm,0.5s,baz=55,slow=2.3,SNR=1.8
LBTB PKP **PKPdf** **15 14 33.7 +0.4**
comp=Z,2μm,0.7s,baz=57,slow=2.0,SNR=24
LBTB SKPbc **SKPbc** **15 16 59.5 -0.8**
comp=Z,1μm,1.0s,baz=42,slow=2.8,SNR=30
TSUM Tsumeb 131.45 295 *i* P PKPpre 15 14 13.7
TSUM Tsumeb 131.45 295 *i* P PKPpre 15 14 13.7
TSUM Tsumeb 131.45 295 PKhKP PKPpre 15 14 13.6
comp=Z,60nm,0.8s,baz=34,slow=3.8,SNR=30
TSUM PKP **PKPdf** **15 14 33.5 -0.3**
comp=Z,738nm,1.0s,baz=62,slow=2.3,SNR=49
TSUM SKPbc **SKPbc** **15 16 59.7 -1.4**
comp=Z,624nm,1.1s,baz=37,slow=3.7,SNR=16
TSUM PKKP **PKKPdf** **15 24 31.1 +2.4**
comp=Z,21nm,0.7s,baz=198,slow=3.7,SNR=5.7
LPAZ La Paz 132.45 56 PKhKP PKPpre 15 14 16.8
comp=Z,27nm,0.9s,baz=43,slow=7.6,SNR=8.6
LPAZ PKP **PKiKP** **15 14 37.2 -0.4**
comp=Z,177nm,0.7s,baz=1.1,slow=7.3,SNR=58
LPAZ SKPbc **SKPbc** **15 17 04.7 -0.6**
comp=Z,558nm,1.1s,baz=359,slow=6.3,SNR=16
LPAZ PKKPab PKKPab 15 23 35.9
comp=Z,11nm,0.7s,baz=164,slow=1.7,SNR=6.9
NBPA Parau_RN 133.21 12 *e*P **PKPdf** **15 14 36.4 -0.7**
RCBR Riachuelo 133.43 10 *e*P **PKPdf** **15 14 37.0 -0.7**
BOSA Boshof 134.11 279 *i* P PKPpre 15 14 24.1
BOSA Boshof 134.11 279 *i* P PKPpre 15 14 24.1
BOSA Boshof 134.11 279 PKhKP PKPpre 15 14 21.1
BOSA PKP **PKiKP** **15 14 39.7 -0.4**
comp=Z,64nm,0.5s,baz=24,slow=1.9,SNR=31
comp=Z,724nm,0.5s,baz=61,slow=1.9,SNR=27
BOSA SKPbc **SKPbc** **15 17 09.0 -0.8**
comp=Z,416nm,1.0s,baz=7.4,slow=2.4,SNR=5.7
BOSA PKKP **PKKPdf** **15 24 22.7 -1.2**
comp=Z,22nm,0.8s,baz=182,slow=7.2,SNR=3.3
SIV San Ignacio 135.62 48 PKhKP PKPpre 15 14 25.0
comp=Z,123nm,0.9s,baz=330,slow=2.5,SNR=59
SIV PKP **PKPdf** **15 14 42.4 +0.8**
comp=Z,661nm,0.8s,baz=338,slow=0.8,SNR=61
SIV SKPbc **SKPbc** **15 17 14.5 -0.2**
comp=Z,212nm,0.8s,baz=349,slow=2.3,SNR=8.8
SIV PKKP **PKKPdf** **15 24 22.6 +2.2**
comp=Z,49nm,0.9s,baz=115,slow=3.0,SNR=8.1
SIV SKKPbc **SKKPbc** **15 26 18.3 +5.7**
comp=Z,19nm,0.8s,baz=124,slow=10,SNR=3.6
SIV SKKP 15 26 55.5
comp=Z,35nm,0.9s,baz=200,slow=6.2,SNR=3.6
MAW Mawson 136.22 214 PKhKP PKPpre 15 14 29.1
comp=Z,180nm,0.6s,baz=102,slow=4.6,SNR=62
MAW PKP **PKiKP** **15 14 42.4 -0.4**
comp=Z,760nm,0.7s,baz=46,slow=2.5,SNR=27
MAW SKPbc **SKPbc** **15 17 13.7 -1.0**
comp=Z,442nm,0.9s,baz=16,slow=3.2,SNR=10
MAW SKKPbc **SKKPbc** **15 26 14.8 +0.6**
comp=Z,50nm,0.9s,baz=262,slow=7.6,SNR=7.4
LVC Limon Verde 137.24 62 PKhKP PKPpre 15 14 34.7
comp=Z,197nm,0.6s,baz=312,slow=3.0,SNR=69
LVC PKP **PKiKP** **15 14 46.3 -0.6**
comp=Z,593nm,1.0s,baz=300,slow=2.6,SNR=45
LVC SKPbc **SKPbc** **15 17 20.5 +0.8**
comp=Z,176nm,0.8s,baz=288,slow=1.8,SNR=12
LVC PKKP **PKKPdf** **15 24 20.4 +2.4**
comp=Z,39nm,0.7s,baz=106,slow=0.3,SNR=8.9
LVC SKKPbc **SKKPbc** **15 26 10.4 +3.0**
comp=Z,36nm,0.8s,baz=124,slow=1.6,SNR=4.3
BDFB Brasilia 140.40 30 PKhKP PKPpre 15 14 44.3
comp=Z,388nm,0.8s,baz=322,slow=3.4,SNR=248
BDFB PKP **PKPdf** **15 14 51.8 +1.3**
comp=Z,825nm,0.9s,baz=12,slow=2.8,SNR=31
AQDB Aquidauana 141.95 44 *e*P **PKPdf** **15 14 48.8 -4.1**
AQDB *i* 15 14 53.5
AQDB *i* 15 15 19.5
AQDB *i* 15 17 32.1
AQDB *i* 15 18 05.6
MCI9 Montes Claros 142.58 25 *e*P **PKPdf** **15 14 52.1 -2.1**
MCI6 Montes Claros 142.68 25 *e*P **PKPdf** **15 14 52.2 -2.2**
ITRB Iturama 143.38 36 *e*P PKPbc 15 14 54.3 -0.1
PMNB Patos De Minas 143.61 30 *e*P PKPbc 15 14 53.2 -2.0
PMNB *i* 15 14 55.3
PMNB *i* 15 14 58.1
PMNB *e* 15 15 49.9
CFA Coronel Fontan 144.56 70 PKP PKPbc 15 14 57.8 +0.1
comp=Z,2μm,0.6s,baz=303,slow=2.5,SNR=2591
CFA SKPbc **SKPbc** **15 17 37.5 -0.3**
comp=Z,202nm,0.9s,baz=6.4,slow=1.1,SNR=5.1
CFA PKKP **PKKPdf** **15 24 04.9 +1.1**
comp=Z,21nm,0.5s,baz=138,slow=0.9,SNR=10
CFA SKKPbc **SKKPab** **15 25 39.9 -1.0**
comp=Z,94nm,1.0s,baz=143,slow=4.2,SNR=6.1
GO05 Huala 144.76 78 *e*PKPdf PKPbc 15 14 58.0 -0.2
SYO Syowa Base 144.85 215 ⇑*i*P **PKPdf** **15 14 54.4 -2.0**
SJMB Sao Joao De Ma 145.16 21 *e*P **PKPdf** **15 14 57.2 -1.3**
BB19B Bebedouro 145.29 34 *e*P **PKPbc** **15 14 59.7 -0.4**
BB19B *i* 15 15 01.0
BB19B *i* 15 15 08.1
BB19B *i* 15 16 45.8
BB19B *i* 15 18 25.0
BB19B Bebedouro 145.29 34 *e*P **PKPdf** **15 14 58.8 0.0**
BSFB Barra de Sao F 145.36 21 *e*P **PKPdf** **15 14 58.9 0.0**
RIB01 Linhares ES 145.93 20 *e*P **PKPdf** **15 14 59.9 0.0**
CPUP Villa Florida 146.27 51 *e*PKPdf **PKPdf** **15 15 00.9 +0.7**
CPUP Villa Florida 146.27 51 *e*PKIKP **PKPdf** **15 15 00.9 +0.7**
CPUP Villa Florida 146.27 51 PKPbc **PKPbc** **15 15 00.7 -1.9**
comp=Z,2μm,0.8s,baz=343,slow=2.0,SNR=603
CPUP Villa Florida 146.27 51 *e*P **PKPdf** **15 15 00.9 +0.7**
BSCB Bom Sucesso 146.43 28 *e*P **PKPdf** **15 15 00.1 -0.6**
BSCB *i* 15 15 00.7
BSCB *i* 15 15 03.0
BSCB *i* 15 15 06.2
BSCB *i* 15 17 23.2
BSCB Bom Sucesso 146.43 28 *e*P **PKPdf** **15 14 58.9 -1.9**
RCLB Rio Claro- Sao 146.88 34 *e*P **PKPdf** **15 15 02.0 +0.5**
FRTB Fartura 147.00 37 *e*P **PKPdf** **15 15 02.5 +0.9**
ALF01 Guarapari-ES 147.12 22 *e*P **PKPdf** **15 15 02.2 +0.5**
PTGB Pitanga 147.24 42 *e*P **PKPdf** **15 15 02.4 +0.4**
GO06 Curarrehue 147.98 84 *e*PKPbc **PKPbc** **15 15 07.4 +0.4**
SPB Sao Paulo 148.00 34 *e*PKPbc **PKiKP** **15 15 08.1 -0.4**
SPB Sao Paulo 148.00 34 *e*P **PKPdf** **15 15 03.4 +0.2**
VAS01 Vassouras-RJ 148.02 27 *e*P **PKPdf** **15 15 04.2 +0.9**
CAM01 Campos-RJ 148.06 24 *e*P **PKPdf** **15 15 04.0 +0.8**
DUB01 Friburgo-RJ 148.12 25 *e*P **PKPdf** **15 15 04.0 +0.6**
GO07 Milladeo Hill, 148.66 92 *e*PKPbc **PKiKP** **15 15 09.2 0.0**
PLCA Paso Flores 149.24 85 *e*PKPbc **PKiKP** **15 15 11.0 +0.4**
PLCA Paso Flores 149.24 85 PKP **PKPdf** **15 15 04.0 -0.7**
comp=Z,637nm,1.1s,baz=318,slow=2.7
PLCA PKPbc **PKiKP** **15 15 10.8 +0.2**
comp=Z,4μm,0.8s,baz=302,slow=3.2,SNR=406
PLCA PKKP **PKKPdf** **15 23 53.2 -1.9**
comp=Z,13nm,0.8s,baz=150,slow=3.2,SNR=3.5
PLCA Paso Flores 149.24 85 *e*P **PKPdf** **15 15 04.2 -0.5**
ITAB Concordia 149.43 45 *e*P **PKPdf** **15 15 05.8 +0.5**
CNLB Canela 151.78 45 *e*P **PKPdf** **15 15 08.6 -0.3**
TER01 Tubaro-SC 151.82 41 *e*P **PKPdf** **15 15 10.0 +1.0**
TRQA Tornquist 152.74 72 *e*PKPbc **PKiKP** **15 15 18.2 +0.3**
TRQA Tornquist 152.74 72 *e*PKIKP **PKiKP** **15 15 18.2 +0.3**
USHA Ushuaia 156.27 112 PKP **PKPdf** **15 15 12.0 -2.2**
comp=Z,55nm,0.9s,baz=297,slow=1.4,SNR=15
USHA PKPbc PKPbc 15 15 25.0
comp=Z,177nm,0.8s,baz=27,slow=2.4,SNR=26
SNAA Sanae 157.35 201 PKPdf **PKPdf** **15 15 13.9 -1.3**
SNAA Sanae 157.35 201 PKP **PKPdf** **15 15 13.7 -1.5**
comp=Z,254nm,1.1s,baz=124,slow=1.0,SNR=316
SNAA PKPab **PKPab** **15 15 51.3 +0.1**
comp=Z,638nm,0.8s,baz=103,slow=3.0,SNR=17
PMSA Palmer Station 157.85 139 PKP **PKPdf** **15 15 13.7 -2.1**
comp=Z,149nm,0.8s,baz=159,slow=1.7,SNR=18
PMSA Palmer Station 157.85 139 *e*P **PKPdf** **15 15 16.1 +0.3**
VNA2 Neumayer--Watz 158.88 199 PKPdf **PKPdf** **15 15 16.2 -0.7**
baz=14,slow=0.9
VNA3 Neumayer Olymp 159.05 197 PKPdf **PKPdf** **15 15 16.0 -1.2**
VNA1 Neumayer--Stat 159.27 199 PKPdf **PKPdf** **15 15 16.2 -1.2**

*ANF **24** 15:26:18.2±0.7,40.°24N×120.°95W,ML3.8/13,Error ellipse: s-maj=6.4km s-min=4.4km az=123.0*
*NEIC **24** 15:26:21.1±0.0,40.°18N×121.°05W,h10km, ML3.9(NCEDC),After NCEDC.*
NEIC Felt [III] at Janesville and [II] at Susanville. Also felt at Cedarville, Chico, Clio, Doyle, Forbestown, Forest Ranch, Grass Valley, Isleton, Magalia, Meadow Vista, Nevada City, Oroville, Paradise, Quincy, Sacramento, Tahoe City, Westwood and Woodland. Felt at Silver Springs, Nevada.
*NCEDC **24** 15:26:21.1,40.°18N×121.°05W,h10km,ML3.9*
ISC 24 15:26:20.6±1.1,40.°16N±0.°02×121.°09W±0.°02,
h10km±10km,n47,σ1°58/64,Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	**Paynes Creek**	**0.56**	**284**	P	**Pg**	**15 26 31.8**	**+0.2**
	baz=101,SNR=1000						
O03E				S	**Sg**	**15 26 39.9**	**+0.8**
	baz=101						
BEKR	**Beckworth**	**0.63**	**118**	*e*Pg	**Pg**	**15 26 32.8**	**-0.2**
BEKR				*e*Sg	**Sg**	**15 26 41.2**	**0.0**
ORV	**Oroville**	**0.69**	**208**	*e*Pg	**Pg**	**15 26 34.0**	**+0.1**
ORV				*e*Pn	**Sg**	**15 26 42.9**	**+0.1**
WDC	**Whiskeytown Da**	**1.19**	**291**	*e*Pn	**Pb**	**15 26 41.9**	**-1.3**
AFDM	**Forest Hills D**	**1.22**	**176**	*e*Pn	**Pn**	**15 26 43.0**	**-0.7**
AFDM				*e*Sg	**Sb**	**15 27 00.2**	**+0.7**
O02D	**Mt. Diablo Mer**	**1.30**	**271**	P	**Pn**	**15 26 44.6**	**-0.4**
	baz=89,SNR=479						
O02D				S	**Sb**	**15 27 03.6**	**+1.5**
	baz=89						
RUBR	**Rubicon Trail**	**1.32**	**147**	*e*Pn	**Pn**	**15 26 45.4**	**0.0**
RUBR				*e*Sn	**Sg**	**15 27 03.6**	**+0.4**
PAHR	**Pah Rah Range**	**1.39**	**109**	*e*Pn	**Pn**	**15 26 46.3**	**+0.1**
PAHR				*e*Sn	**Sg**	**15 27 05.0**	**-0.3**
VCNR	**Virginia City**	**1.41**	**128**	*e*Pn	**Pn**	**15 26 46.9**	**+0.4**
VCNR				*e*Sn	**Sg**	**15 27 05.7**	**-0.2**
N02D	**Trinity Center**	**1.48**	**304**	P	**Pn**	**15 26 46.7**	**-0.6**
	baz=122,SNR=463						
N02D				S	**Sb**	**15 27 08.2**	**+1.1**
	baz=122						
PNTR	**Pine Nut**	**1.57**	**133**	*e*Pn	**Pb**	**15 26 50.1**	**+0.2**
PNTR				*e*Sn	**Sg**	**15 27 11.8**	**+0.6**
M04C	**Macdoel**	**1.72**	**341**	Pg	**Pn**	**15 26 51.5**	**+0.8**
	baz=160,SNR=182						
M02C	**Callahan**	**1.82**	**313**	Pb	**Pn**	**15 26 52.9**	**+0.8**
	baz=131,SNR=420						
M02C				S	**Sn**	**15 27 16.4**	**+1.2**
	baz=131						
MOD	**Modoc Plateau**	**1.84**	**19**	*e*Pn	**Pn**	**15 26 53.3**	**+0.9**
MOD				*e*Sn	**Sb**	**15 27 17.5**	**-0.1**
YERR	**Yerington**	**1.85**	**129**	*e*Pn	**Pb**	**15 26 54.7**	**+0.1**
YERR				*e*Sn	**Sg**	**15 27 19.5**	**-0.5**
GDXM	**Geysers**	**1.89**	**225**	*e*Pn	**Pb**	**15 26 55.4**	**+0.1**
GDXM				*e*Sn	**Sn**	**15 27 14.8**	**-2.1**
HOPS	**Hopland Field**	**1.93**	**233**	*e*Pn	**Pn**	**15 26 55.0**	**+1.6**
HOPS				*e*Sn	**Sn**	**15 27 15.5**	**-2.3**
KCPM	**Cahto Peak**	**1.98**	**257**	*e*Pn	**Pn**	**15 26 56.5**	**+2.2**
YBH	**Yreka Blue Hor**	**1.99**	**322**	*e*Pn	**Pn**	**15 26 56.1**	**+1.7**
YBH				*e*Sn	**Sn**	**15 27 17.7**	**-1.8**
KMRM	**Mail Ridge**	**2.01**	**273**	*e*Pn	**Pn**	**15 26 56.6**	**+1.9**
WAKR	**Walker**	**2.09**	**142**	*e*Pn	**Pb**	**15 26 58.0**	**-0.8**
KHMM	**Horse Mountain**	**2.14**	**290**	*e*Pn	**Pn**	**15 26 57.9**	**+1.4**
CMB	**Columbia Colle**	**2.19**	**165**	*e*Pn	**Pn**	**15 26 58.8**	**+1.6**
L04D	**Klamath Falls**	**2.25**	**336**	Pb	**Pn**	**15 26 59.6**	**+1.5**
	baz=155,SNR=200						
L04D				Sg	**Sg**	**15 27 32.3**	**-0.6**
	baz=155						
JCC	**Jacoby Creek,**	**2.34**	**287**	*e*Pn	**Pn**	**15 27 00.8**	**+1.7**
MCCM	**Marconi Confer**	**2.45**	**215**	*e*Pn	**Pn**	**15 27 01.3**	**+0.7**
RYN	**Ryan**	**2.51**	**127**	*e*Pn	**Pn**	**15 27 03.1**	**+1.4**
K04D	**Chiloquin, OR**	**2.51**	**349**	Pb	**Pn**	**15 27 03.6**	**+1.9**
	baz=168,SNR=56						
KRMB	**Red Mountain**	**2.54**	**303**	*e*Pn	**Pn**	**15 27 04.0**	**+2.0**
KVN	**Kaiserville**	**2.56**	**115**	*e*Pn	**Pn**	**15 27 03.5**	**+1.1**
K05A	**Summer Lake**	**2.57**	**3**	*e*Pn	**Pb**	**15 27 06.1**	**-0.8**
L02E	**Cave Junction**	**2.75**	**317**	Pb	**Pn**	**15 27 07.8**	**+3.0**
	baz=135						
HUMO	**Hull Mountain**	**2.82**	**331**	*e*Pn	**Pn**	**15 27 08.3**	**+2.5**
NV11	**Mina Array Sit**	**2.86**	**126**	*e*Pn	**Pn**	**15 27 07.9**	**+1.5**
WVOR	**Wild Horse Val**	**2.93**	**38**	*e*Pn	**Pn**	**15 27 09.5**	**+2.1**
J05D	**Fort Rock, OR**	**3.12**	**358**	Pb	**Pn**	**15 27 13.1**	**+3.0**
	baz=178						
J04D	**Umpqua Nationa**	**3.17**	**346**	Pb	**Pb**	**15 27 14.7**	**-2.5**
	baz=165						
K02D	**Willamette Mer**	**3.19**	**323**	Pb	**Pb**	**15 27 15.4**	**-2.0**
	baz=141						
SAO	**San Andreas Ge**	**3.40**	**185**	*e*Pn	**Pn**	**15 27 16.7**	**+2.9**
PINE	**Pine Mountain**	**3.63**	**2**	*e*Pn	**Pn**	**15 27 20.4**	**+3.3**
J01E	**Myrtle Point**	**3.68**	**326**	Pb	**Pb**	**15 27 22.8**	**-2.9**
	baz=143						
TIN	**Tinemaha, Big**	**3.83**	**143**	Pg	**Pg**	**15 27 32.4**	**-1.6**
	baz=326						
ELK	**Elko**	**4.50**	**81**	*e*Pn	**Pn**	**15 27 31.3**	**+2.2**
H04A	**Detroit Lake**	**4.59**	**350**	*e*Pn	**Pn**	**15 27 31.0**	**+0.9**
R11A	**Troy Canyon, C**	**4.64**	**111**	*e*Pn	**Pn**	**15 27 32.5**	**+1.6**
SHPR	**Sheep Range**	**5.92**	**126**	*e*Pn	**Pn**	**15 27 51.2**	**+2.7**
LTY	**Liberty**	**7.10**	**2**	*e*Pn	**Pn**	**15 28 03.8**	**-0.8**

KRSC 24 16:00:21.9±10.0,53.°97N×154.°43E,h649km±10km,ML4.1, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDLR	**Sedlovina**	**2.74**	**103**	P	**P**	**16 01 45.3**	**+1.4**
RUS	**Russkaya**	**2.90**	**120**	P	**P**	**16 01 45.5**	**+0.9**
RUS				S	**S**	**16 02 51.5**	**-0.6**
KDTR	**Khodutka, Kamc**	**3.09**	**133**	S	**S**	**16 02 51.1**	**-2.8**
ESO	**Esso**	**3.15**	**50**	P	**P**	**16 01 46.9**	**+1.1**
SPN	**Mys Shipunski**	**3.45**	**102**	*e*P	**P**	**16 01 48.3**	**+0.8**
SPN				S	**S**	**16 02 56.2**	**-1.3**
MKZ	**Mys Kozlova**	**4.32**	**79**	P	**P**	**16 01 53.8**	**+0.9**
MKZ				S	**S**	**16 03 05.9**	**-1.6**
KBTR	**Krutoberegovo**	**5.31**	**62**	P	**P**	**16 02 00.8**	**+0.7**

*IDC **24** 16:09:35.5±0.8,5.°17S×152.°32E,h0km,mb4.1/14, mb1 4.2/15,mb1mx3.9/44,mbtmp4.1/15,ML1.9/1,Error ellipse: s-maj=27.5km s-min=15.6km az=112.0*
*ISCJB **24** 16:09:39.7±0.3,5.°40S±0.°05×152.°42E±0.°06,h40km, mb4.2/39,Error ellipse: s-maj=9.8km s-min=5.7km az=35.1*
*NEIC **24** 16:09:42.0±0.8,5.°39S×152.°44E,h46km±7km,mb4.4/27, Error ellipse: s-maj=8.0km s-min=5.8km az=117.0*
ISC 24 16:09:41.3±0.5,5.°35S±0.°07×152.°44E±0.°08,h40km,n59, σ1°13/63,mb4.3/39,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.18**	**347**	*e*Pn	**Pn**	**16 10 02.0**	**+0.7**
PMG	**Port Moresby**	**6.61**	**232**	*e*Pn	**Pn**	**16 11 17.6**	**+1.6**
PMG				*e*Sn	**Sn**	**16 12 31.0**	**+0.9**
PMG	**Port Moresby**	**6.61**	**232**	Pn	**Pn**	**16 11 16.3**	**+0.3**
	1.3nm,0.3s,baz=47,slow=10,SNR=8.5						
PMG				Sn	**Sn**	**16 12 28.8**	**-1.3**
	2.1nm,0.3s,baz=309,slow=8.4,SNR=3.6						
HNR	**Honiara**	**8.48**	**119**	*e*Pn	**Pn**	**16 11 42.5**	**+0.9**
DZM	**Mont Dzumac**	**21.45**	**142**	*e*P	**P**	**16 14 24.7**	**-1.7**
	9.7nm,1.1s						
DZM	**Mont Dzumac**	**21.45**	**142**	P	**P**	**16 14 27.8**	**+1.4**
	3.9nm,0.8s,baz=333,slow=18,SNR=3.8						
MTN	**Manton Dam**	**22.30**	**249**	*e*P	**P**	**16 14 36.4**	**+0.9**
	21nm,1.0s						
WRAB	**Tennant Creek**	**22.80**	**229**	*e*P	**P**	**16 14 39.5**	**-1.3**
	8.8nm,0.9s						
WB2	**Warramunga Arr**	**22.81**	**229**	*e*P	**P**	**16 14 40.2**	**-0.6**
	7.4nm,1.0s						
WR1	**Warramunga Arr**	**22.82**	**229**	*e*P	**P**	**16 14 41.0**	**+0.1**
WRA	**Warramunga Arr**	**22.82**	**229**	P	**P**	**16 14 41.1**	**+0.1**
	4.4nm,0.6s,baz=54,slow=9.9,SNR=12						
AS31	**Alice Springs**	**25.50**	**223**	*e*P	**P**	**16 15 05.2**	**-1.0**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**25.51**	**223**	*e*P	**P**	**16 15 07.6**	**+1.4**
ASAR	**Alice Springs**	**25.51**	**223**	P	**P**	**16 15 07.0**	**+0.8**
	1.7nm,0.7s,baz=60,slow=8.8,SNR=35						
STKA	**Stephens Creek**	**28.28**	**200**	*e*P	**P**	**16 15 32.0**	**+1.0**
	0.3nm,0.8s						
STKA	**Stephens Creek**	**28.28**	**200**	P	**P**	**16 15 32.0**	**+1.0**
	1.8nm,0.9s,baz=37,slow=13,SNR=2.6						
FITZ	**Fitzroy Crossi**	**29.08**	**242**	P	**P**	**16 15 36.4**	**-1.9**
	3.5nm,0.8s,baz=53,slow=10,SNR=4.2						
CAN	**Canberra**	**30.00**	**186**	*e*P	**P**	**16 15 45.6**	**-0.7**
	5.5nm,1.0s						
OUZ	**Omahuta**	**35.57**	**149**	*e*P	**P**	**16 16 33.5**	**-1.4**
	2.9nm,0.9s						
PETK	**Petropavlovsk-**	**58.40**	**4**	P	**P**	**16 19 31.8**	**-0.9**
	0.7nm,0.5s,baz=168,slow=6.7,SNR=3.8						
PEA1	**Petropavlovsk-**	**58.41**	**4**	*e*P	**P**	**16 19 31.8**	**-0.9**
SONA0	**Songino Array**	**66.59**	**328**	*e*P	**P**	**16 20 27.2**	**-0.5**
SONM	**Songino Array**	**66.59**	**328**	P	**P**	**16 20 27.2**	**-0.5**
	0.7nm,0.5s,baz=130,slow=6.4,SNR=3.5						
SDPT	**Sand Point**	**71.86**	**26**	*e*P	**P**	**16 20 59.3**	**-0.6**
	6.0nm,0.6s						
TIXI	**Tiksi**	**78.39**	**353**	*e*P	**P**	**16 21 38.5**	**+1.3**
	1.6nm,1.1s						
BRLK	**Bradley Lake**	**78.64**	**26**	*e*P	**P**	**16 21 39.5**	**+0.6**
	4.3nm,1.0s						
RDOG	**Red Dog Mine**	**79.60**	**16**	*e*P	**P**	**16 21 45.0**	**+1.0**
	9.4nm,0.6s						
PPLA	**Purkeypile**	**79.81**	**23**	*e*P	**P**	**16 21 45.6**	**+0.2**
	4.6nm,1.2s						
RC01	**Rabbit Creek A**	**79.82**	**25**	*e*P	**P**	**16 21 46.0**	**+0.8**
	14nm,1.2s						
CAST	**Castle Rocks**	**80.14**	**22**	*e*P	**P**	**16 21 47.4**	**+0.4**
	3.7nm,0.7s						
MK32	**Makanchi Array**	**80.50**	**319**	*e*P	**P**	**16 21 48.8**	**-0.5**
MKAR	**Makanchi Array**	**80.50**	**319**	P	**P**	**16 21 48.8**	**-0.5**
	1.4nm,1.0s,baz=88,slow=7.4,SNR=5.9						
GHO	**Glory Hole Cre**	**80.50**	**24**	*e*P	**P**	**16 21 49.8**	**+0.7**
	3.3nm,0.8s						
KNK	**Knik Glacier**	**80.52**	**25**	*e*P	**P**	**16 21 50.1**	**+1.1**
	7.0nm,1.2s						
SML	**Sawmill**	**80.77**	**24**	*e*P	**P**	**16 21 51.5**	**+1.1**
	9.3nm,0.6s						
BPAW	**Bear Paw Mtn.**	**80.92**	**22**	*e*P	**P**	**16 21 51.4**	**+0.2**
	3.2nm,1.2s						
IMAR	**Indian Mountai**	**81.02**	**20**	*e*P	**P**	**16 21 51.7**	**+0.1**
SCM	**Sheep Creek Mo**	**81.19**	**25**	*e*P	**P**	**16 21 53.9**	**+1.2**
	4.7nm,0.9s						
ZAA0	**Zalesovo Array**	**81.41**	**326**	*e*P	**P**	**16 21 53.7**	**-0.2**
	1.7nm,1.0s						
ZALV	**Zalesovo Beam**	**81.41**	**326**	*e*P	**P**	**16 21 53.5**	**-0.4**
ZALV	**Zalesovo Beam**	**81.41**	**326**	P	**P**	**16 21 53.3**	**-0.6**
	0.7nm,0.4s,baz=118,slow=6.2,SNR=4.5						
ZAA1	**Zalesovo Array**	**81.41**	**326**	*e*P	**P**	**16 21 53.3**	**-0.6**
**ML

EZ5V			*e*S	**Sn**	**16 11 46.2**	**+2.6**
CAIG	**El Cayaco**	**2.16 130**	*e*Pn	**Pn**	**16 11 23.9**	**-0.6**
CAIG	**El Cayaco**	**2.16 130**	*e*P	**Pn**	**16 11 24.8**	**+0.4**
CAIG			*i* S	**Sn**	**16 11 50.7**	**0.0**
TLIG	**Tlapa**	**3.38 104**	*e*Pn	**Pn**	**16 11 42.1**	**+1.1**
TLIG	**Tlapa**	**3.38 104**	*e*P	**Pn**	**16 11 42.1**	**+1.1**
TLIG			*i* S	**Sn**	**16 12 21.7**	**+1.4**
ZAIG	**Zacatecas**	**4.34 353**	*e*Pn	**Pn**	**16 11 55.1**	**+1.1**
LVIG	**Laguna Verde**	**5.43 76**	*e*P	**Pn**	**16 12 11.4**	**+2.8**
LNIG	**Linares**	**6.84 20**	*e*Pn	**Pn**	**16 12 29.0**	**+1.2**
SRIG	**Santa Rosalia**	**12.92 315**	*e*Pn	**Pn**	**16 13 48.2**	**-1.9**
SDCO	**Great Sand Dun** 1.2nm,1.1s	**19.48 352**	*e*P	**Pn**	**16 15 12.4**	**+0.5**
PV03	**Paradox Valley** 1.6nm,0.8s	**20.63 345**	*e*P	**P**	**16 15 23.1**	**+1.0**
CPCT	**Cooper Cave**	**22.96 39**	*e*PcP	**PcP**	**16 19 30.6**	**-2.8**
LKWY	**Lake** 81nm,1.0s	**26.98 347**	*e*P	**P**	**16 16 23.7**	**+0.5**

*IDC **24** 16:11:27.6±1.3,54°.86N×153°.40E,h621km±15km,mb2.7/8, mb1 2.8/11,mb1mx2.6/54,mbtmp3.7/11,Error ellipse: s-maj=32.6km s-min=15.8km az=174.0*
*KRSC **24** 16:11:28.5±10.0,54°.96N×154°.22E,h617km±10km,ML4.1*
ISC 24 16:11:26.8±0.9,54°.9N±0°.1×153°.59E±0°.09,h600km,n28, σ2°36/30,mb3.2/8,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.92**	**132**	*e*P	**P**	**16 12 48.2**	**+2.8**
PETK	**Petropavlovsk-** 1.9nm,0.3s,baz=11,slow=2.5,SNR=27	**3.04**	**125**	P	**P**	**16 12 48.9**	**+2.7**
ESO	**Esso**	**3.08**	**69**	*e*P	**P**	**16 12 49.9**	**+3.7**
KRX	**Arik**	**3.37**	**116**	*e*P	**P**	**16 12 51.3**	**+3.0**
KOK	**Koryaka**	**3.40**	**117**	*e*P	**P**	**16 12 51.4**	**+3.0**
KRMR	**Karymshinskiy**	**3.42**	**126**	*e*P	**P**	**16 12 50.4**	**+2.0**
KRER	**Koryakskii**	**3.45**	**116**	*e*P	**P**	**16 12 52.3**	**+3.5**
AVH	**Avacha**	**3.47**	**117**	*e*P	**P**	**16 12 52.0**	**+3.2**
SMAR	**Somma**	**3.50**	**117**	*e*P	**P**	**16 12 51.9**	**+2.8**
SDLR	**Sedlovina**	**3.53**	**116**	*e*P	**P**	**16 12 51.7**	**+2.5**
UGLR	**Uglovaya**	**3.54**	**117**	*e*P	**P**	**16 12 52.1**	**+2.8**
PET	**Petropavlovsk**	**3.55**	**121**	*e*P	**P**	**16 12 51.3**	**+2.1**
SRDR	**Sredinnyy**	**3.74**	**66**	P	**P**	**16 12 53.7**	**+3.3**
RUS	**Russkaya**	**3.86**	**129**	*e*P	**P**	**16 12 52.1**	**+0.9**
KZV	**Kizimen**	**3.87**	**85**	*e*P	**P**	**16 12 53.9**	**+2.5**
SPN	**Mys Shipunski**	**4.22**	**113**	*e*P	**P**	**16 12 54.4**	**+0.7**
SPN				*e*S	**S**	**16 14 03.0**	**-1.8**
MKZ	**Mys Kozlova**	**4.74**	**91**	P	**P**	**16 12 57.5**	**+0.1**
MKZ				S	**S**	**16 14 08.2**	**-3.5**
MA2	**Magadan** 0.7nm,0.3s,baz=148,slow=9.3,SNR=6.5	**4.89**	**343**	P	**P**	**16 13 00.7**	**+2.2**
KBTR	**Krutoberegovo**	**5.39**	**73**	*e*P	**P**	**16 13 03.0**	**+0.4**
SEY	**Seymchan** 0.3nm,0.3s,baz=188,slow=9.3,SNR=12	**8.04**	**356**	P	**P**	**16 13 28.2**	**+2.1**
SONM	**Songino Array** 5.9nm,1.1s,baz=116,slow=1.4,SNR=13	**29.80**	**276**	P	**P**	**16 16 45.5**	**-1.3**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=270,slow=7.2,SNR=4.8	**30.31**	**47**	P	**P**	**16 16 52.1**	**+1.4**
KURBB	**Kurchatov Arra** 0.8nm,0.3s,baz=58,slow=7.6,SNR=13	**43.58**	**297**	P	**P**	**16 18 38.3**	**-0.6**
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=59,slow=6.7,SNR=9.8	**43.90**	**290**	P	**P**	**16 18 40.6**	**-0.8**
BVAR	**Borovoye Array** 0.9nm,0.4s,baz=50,slow=7.0,SNR=5.8	**46.20**	**304**	P	**P**	**16 18 57.6**	**-1.2**
FINES	**FINESS Array B** 0.6nm,0.6s,baz=270,slow=2.8,SNR=3.9	**56.81**	**333**	P	**P**	**16 20 13.9**	**-0.8**
NOA	**NORSAR Array B** 0.3nm,0.6s,baz=19,slow=6.7,SNR=3.5	**60.59**	**340**	P	**P**	**16 20 39.6**	**-0.5**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=285,slow=4.9,SNR=4.8	**73.33**	**63**	P	**P**	**16 21 58.3**	**-0.4**

*EAF **24** 16:25:55.6±1.2,26°.78S×27°.30E,h3km±999km,MD3.9*
*BUL **24** 16:25:56.9±1.6,26°.87S×27°.32E,h11km±999km,MD4.2*
*ISCJB **24** 16:25:58.9±1.2,26°.3S±0°.1×27°.2E±0°.2,h5km,mb3.6/2, Error ellipse: s-maj=28.5km s-min=8.1km az=27.9*
*IDC **24** 16:26:05.2±2.0,26°.13S×26°.03E,h0km,mb3.5/2, mb1 3.5/3,mb1mx3.3/26,mbtmp3.5/3,ML3.1/1,Error ellipse: s-maj=87.8km s-min=16.4km az=100.0*
ISC 24 16:26:01.2±1.4,26°.4S±0°.1×27°.3E±0°.2,h5km,n9,σ1°82/15, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof** 2.6nm,0.3s,baz=29,slow=11,SNR=63	**2.89**	**218**	Pn	**Pn**	**16 26 46.8**	**-1.3**
BOSA	26nm,0.3s,baz=326,slow=21,SNR=29			Lg	Lg	16 27 28.2	
MSNA	**Messina**	**4.70**	**33**	*i* P	**Pn**	**16 27 10.8**	**-2.1**
MSNA				*i* S	**Sn**	**16 28 07.8**	**+0.1**
MSNA	**Messina**	**4.70**	**33**	*i* P	**Pn**	**16 27 10.8**	**-2.1**
MSNA				*i* S	**Sn**	**16 28 07.8**	**+0.1**
MATP	**Matopo**	**6.00**	**11**	*i* P	**Pn**	**16 27 30.9**	**+0.1**
MATP				*i* S	**Sn**	**16 28 38.8**	**-1.2**
MATP	**Matopo**	**6.00**	**11**	*i* P	**Pn**	**16 27 30.9**	**+0.1**
MATP				*i* S	**Sn**	**16 28 38.8**	**-1.2**
BLWY	**Bulawayo**	**6.30**	**11**	*i* P	**Pn**	**16 27 34.6**	**-0.3**
BLWY				*i* S	**Sn**	**16 28 46.1**	**-1.2**
BLWY	**Bulawayo**	**6.30**	**11**	*i* P	**Pn**	**16 27 34.6**	**-0.3**
BLWY				*i* S	**Sn**	**16 28 46.1**	**-1.2**
TORD	**Torodi Ar. Bea** 0.3nm,0.3s,baz=156,slow=7.7,SNR=6.0	**46.49**	**325**	P	**P**	**16 34 27.7**	**-1.9**
BRTR	**Keskin Array B** 0.2nm,0.4s,baz=192,slow=7.6,SNR=2.7	**66.00**	**5**	P	**P**	**16 36 53.2**	**+4.5**

IDC 24 16:29:02.2±15.0,23°.13S×178°.79W,h531km±65km, mb3.4/4,mb1 3.4/6,mb1mx3.0/28,mbtmp4.3/6,Error ellipse: s-maj=249.2km s-min=44.6km az=56.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.3nm,0.3s,baz=303,slow=22,SNR=9.8	**13.68**	**272**	P	P	16 31 58.1	-0.2
URZ	**Urewera** 0.9nm,0.3s,baz=281,slow=2.9,SNR=8.7	**15.48**	**192**	P	P	16 32 16.4	-0.3
CTA	**Charters Tower** 7.9nm,0.3s,baz=97,slow=12,SNR=42	**32.59**	**269**	P	P	16 34 50.5	+0.4
STKA	**Stephens Creek** 1.0nm,0.7s,baz=108,slow=12,SNR=3.9	**36.04**	**247**	P	P	16 35 18.1	-0.7
ASAR	**Alice Springs** 1.6nm,0.4s,baz=95,slow=7.3,SNR=72	**43.26**	**260**	P	P	16 36 17.1	+0.1
WRA	**Warramunga Arr** 2.9nm,0.3s,baz=95,slow=9.3,SNR=26	**43.57**	**265**	P	P	16 36 18.9	-0.6

*ISCJB **24** 16:34:44.2±0.5,67°.80N±0°.04×140°.97W±0°.09,h10km, Error ellipse: s-maj=5.3km s-min=4.6km az=160.0*
*ANF **24** 16:34:45.2±0.6,67°.80N×140°.95W,ML4.0/5,Error ellipse: s-maj=6.9km s-min=4.0km az=7.0*
*NEIC **24** 16:34:47.0±0.0,67°.79N×141°.00W,h22km,ML3.3(OTT), ML3.4(AEIC),After AEIC.*
*AEIC **24** 16:34:47.0,67°.79N×141°.00W,h22km,ML3.4, ML3.3(OTT)*
*PGC **24** 16:34:46.6±1.5,67°.94N×141°.14W,h10km,ML3.3/2, 289km west of Fort McPherson, Nt Northern Alaska*
ISC 24 16:34:44.9±0.8,67°.79N±0°.04×141°.02W±0°.03,h10km,n56, σ2°09/77,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FYU	**Fort Yukon**	**2.05**	**235**	*e*Pn	**Pg**	**16 35 24.5**	**+0.2**
EPYK	**Eagle Plains**	**2.21**	**128**	*e*Pn	**Pn**	**16 35 23.1**	**+1.5**
EPYK	**Eagle Plains** baz=312	**2.21**	**128**	P	**Pn**	**16 35 23.2**	**+1.5**
EPYK	baz=312			Sb	**Sg**	**16 35 54.8**	**-1.0**
INK	**Inuvik**	**2.87**	**76**	*e*Pn	**Pn**	**16 35 31.6**	**+1.1**
INK				*e*Sn	**Sn**	**16 36 04.1**	**-0.9**
INK	**Inuvik**	**2.87**	**76**	Pn	**Pn**	**16 35 31.5**	**+0.9**
INK				Pg	**Pb**	**16 35 37.5**	**+1.4**
INK				Sn	**Sn**	**16 36 07.1**	**+2.1**
PRP	**Porcupine Dome**	**2.90**	**220**	*e*Pn	**Pn**	**16 35 31.9**	**+0.6**
EGAK	**Eagle**	**3.03**	**181**	*e*Pn	**Pn**	**16 35 34.4**	**+1.5**
EGAK				*e*Sn	**Sn**	**16 36 07.1**	**-2.1**
TOLK	**Toolik Lake Re**	**3.30**	**289**	*e*Pn	**Pn**	**16 35 37.9**	**+1.3**
TOLK	**Toolik Lake Re** baz=101	**3.30**	**289**	P	**Pn**	**16 35 38.0**	**+1.3**
TOLK	baz=101			Sb	**Sg**	**16 36 30.1**	**-0.7**
COLD	**Coldfoot**	**3.57**	**265**	*e*Pn	**Pn**	**16 35 41.6**	**+1.2**
COLD	**Coldfoot**	**3.57**	**265**	Pn	**Pn**	**16 35 41.2**	**+0.8**
COLD				Pg	**Pb**	**16 35 50.7**	**+2.5**
COLD				Sg	**Sg**	**16 36 37.0**	**-2.6**
PS01	**TAPS Pump Stn**	**3.68**	**316**	*e*Pn	**Pn**	**16 35 43.3**	**+1.5**
POKR	**Poker Plat Res** baz=41	**3.72**	**227**	P	**Pn**	**16 35 43.4**	**+1.0**
POKR	baz=41			Sb	**Sb**	**16 36 39.7**	**+3.9**
DAWY	**Dawson**	**3.80**	**169**	*e*Pn	**Pn**	**16 35 44.4**	**+0.8**
DAWY				*e*Sn	**Sn**	**16 36 29.4**	**+1.1**
DAWY	**Dawson**	**3.80**	**169**	Pn	**Pn**	**16 35 45.3**	**+1.8**
DAWY				Sn	**Sn**	**16 36 32.9**	**+4.6**
ILAR	**Eielson Array**	**3.85**	**221**	*e*Pn	**Pn**	**16 35 44.8**	**+0.7**
ILB	**Eielson Array**	**3.85**	**221**	*e*Pn	**Pn**	**16 35 44.5**	**+0.4**
SCRK	**Sand Creek**	**4.02**	**199**	*e*Pn	**Pn**	**16 35 48.4**	**+1.8**
PS08	**TAPS Pump Stn8**	**4.02**	**218**	*e*Pn	**Pn**	**16 35 47.5**	**+1.0**
TCOL	**CIGO, UAF Yank** baz=40	**4.02**	**226**	Sb	**Sg**	**16 36 50.6**	**-3.4**
MDM	**Murphy Dome**	**4.06**	**229**	*e*Pn	**Pn**	**16 35 47.5**	**+0.4**
HDA	**Harding Lake** baz=33	**4.17**	**218**	Sb	**Sg**	**16 36 54.5**	**-4.0**
CCB	**Clear Creek Bu**	**4.18**	**224**	*e*Pn	**Pn**	**16 35 49.5**	**+0.7**
DOT	**Dot Lake**	**4.35**	**198**	*e*Pn	**Pn**	**16 35 53.0**	**+1.9**
DOT	**Dot Lake**	**4.35**	**198**	Pn	**Pn**	**16 35 52.9**	**+1.9**
DOT				Sn	**Sn**	**16 36 41.6**	**0.0**
RIDG	**Independent Ri**	**4.36**	**203**	*e*Pn	**Pn**	**16 35 53.0**	**+1.8**
RIDG				*e*Sn	**Sn**	**16 36 39.3**	**-2.8**
WRH	**Wood River Hil**	**4.40**	**224**	*e*Pn	**Pn**	**16 35 53.5**	**+1.8**
BCA3	**Beaver Creek A**	**4.76**	**184**	*e*Pn	**Pn**	**16 35 58.5**	**+1.8**
MLY	**Manley**	**4.79**	**239**	*e*Pn	**Pn**	**16 35 58.2**	**+1.2**
MENT	**Mentasta**	**5.00**	**194**	*e*Pn	**Pn**	**16 36 01.2**	**+1.2**
BWN	**Browne**	**5.01**	**227**	*e*Pn	**Pn**	**16 36 00.3**	**+0.3**
PAX	**Paxson**	**5.19**	**203**	*e*Pn	**Pn**	**16 36 04.6**	**+2.0**
PAX	**Paxson**	**5.19**	**203**	Pn	**Pn**	**16 36 04.7**	**+2.1**
PAX				Sn	**Sn**	**16 37 03.1**	**+0.7**
PAX				Sg	**Sg**	**16 37 30.8**	**-0.5**
MCK	**McKinley**	**5.22**	**222**	*e*Pn	**Pn**	**16 36 04.0**	**+1.1**
IMAR	**Indian Mountai**	**5.33**	**256**	*e*Pn	**Pn**	**16 36 05.6**	**+1.1**
BVCY	**Beaver Creek**	**5.40**	**179**	Pn	**Pn**	**16 36 07.5**	**+2.0**
BVCY				Sn	**Sn**	**16 37 10.5**	**+2.8**
BVCY				Sg	**Sg**	**16 37 37.0**	**-1.1**
DHY	**Denali Highway**	**5.42**	**212**	*e*Pn	**Pn**	**16 36 08.4**	**+2.5**
BPAW	**Bear Paw Mtn.**	**5.51**	**232**	*e*Pn	**Pn**	**16 36 06.7**	**-0.3**
YUK1	**Sand Pete Hill**	**5.67**	**178**	Pn	**Pn**	**16 36 12.7**	**+3.4**
YUK1				Pg	**Pg**	**16 36 30.3**	**-3.1**
HARP	**HAARP**	**5.68**	**200**	*e*Pn	**Pn**	**16 36 11.1**	**+1.8**
HARP				*e*Pg	**Pn**	**16 36 12.4**	**+3.1**
HARP	**HAARP**	**5.68**	**200**	Pn	**Pn**	**16 36 12.3**	**+3.1**
YUK2	**White River**	**6.03**	**179**	Pn	**Pn**	**16 36 16.0**	**+1.8**
YUK3	**Moose Creek**	**6.05**	**177**	Pn	**Pn**	**16 36 16.0**	**+1.5**
CAST	**Castle Rocks**	**6.34**	**231**	*e*Pn	**Pn**	**16 36 19.6**	**+1.3**
YUK4	**Talbot Arm**	**6.55**	**170**	Pn	**Pn**	**16 36 22.3**	**+0.8**
PTPK	**Patty Peak**	**6.66**	**186**	Pn	**Pn**	**16 36 25.4**	**+2.5**
BALM	**Baldy**	**6.81**	**185**	Pn	**Pn**	**16 36 27.7**	**+2.9**
YUK5	**Granite Creek**	**6.83**	**167**	Pn	**Pn**	**16 36 27.1**	**+1.9**
YUK5				Sn	**Sn**	**16 37 43.8**	**+1.0**
CTGM	**Chitina Glacie**	**6.86**	**181**	Pn	**Pn**	**16 36 28.8**	**+3.3**
KIAG	**Kiagna River**	**6.92**	**185**	Pn	**Pn**	**16 36 29.5**	**+3.0**
YUK6	**Outpost Mounta**	**6.97**	**169**	Pn	**Pn**	**16 36 29.5**	**+2.3**
YUK7	**Dusty Glacier**	**7.40**	**169**	Pn	**Pn**	**16 36 35.6**	**+2.6**
TT01	**Tatalina**	**7.94**	**239**	*e*Pn	**Pn**	**16 36 42.1**	**+1.8**
DHRN	**Dharma Camp**	**8.30**	**85**	Pn	**Pn**	**16 36 44.4**	**-0.8**
KUKN	**Kugluktuk,NWT**	**9.78**	**78**	Pn	**Pn**	**16 37 05.8**	**+0.4**
KUKN				Sn	**Sn**	**16 38 48.7**	**-6.4**
YKW3	**Yellowknife Ar**	**12.20**	**103**	Pn	**Pn**	**16 37 37.4**	**-1.1**
YKW3				Sn	Sn	16 39 44.4	-10

*ISCJB **24** 16:49:47.4±0.6,31°.12S±0°.03×68°.80W±0°.05,h113km±6km, Error ellipse: s-maj=6.7km s-min=4.0km az=168.1*
*GUC **24** 16:49:47.6±0.4,31°.08S×68°.91W,h116km±10km,ML3.5*
*SJA **24** 16:49:47.7±0.6,31°.15S×68°.86W,h102km±3km,ML3.5, MW3.5*
ISC 24 16:49:48.1±1.4,31°.12S±0°.03×68°.80W±0°.05,h108km±8km, n23,σ0°69/38,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMOG	**MOGNA**	**0.32**	**56**	*e*P	**Pn**	**16 50 03.8**	**0.0**
AMOG				*e*S	**Sn**	**16 50 15.6**	**+0.1**
RTLL	**Cerro Villicun**	**0.35**	**127**	*e*P	**Pn**	**16 50 03.4**	**-0.5**
RTLL				*e*S	**Sn**	**16 50 15.5**	**-0.3**
RTLL	comp=Z,2μm,0.3s			IAML		16 50 16.7	
ZON	**Zonda** comp=Z,14μm,0.2s	**0.44**	**166**	AMSG		16 50 17.2	
ACCO	**Cerro Coronel**	**0.58**	**336**	*e*P	**Pn**	**16 50 05.9**	**+0.2**
ACCO				*e*S	**Sn**	**16 50 19.3**	**+0.4**
CFA	**Coronel Fontan**	**0.68**	**135**	*e*P	**Pn**	**16 50 05.9**	**-0.2**
CFA				*e*S	**Sn**	**16 50 19.5**	**-0.2**
RTCV	**Cerro Valdivia**	**0.77**	**163**	*e*P	**Pn**	**16 50 06.7**	**-0.3**
RTCV				*e*S	**Sn**	**16 50 20.4**	**-0.8**
ACDV	**Cuesta del Vie**	**0.98**	**344**	*e*P	**Pn**	**16 50 09.7**	**+0.5**
ACDV				*e*S	**Sn**	**16 50 25.2**	**+0.2**
ACDV	comp=Z,961nm,0.5s			IAML		16 50 26.5	
AROD	**Rodeo**	**1.11**	**328**	*e*P	**Pn**	**16 50 11.2**	**+0.6**
AROD				*e*S	**Sn**	**16 50 28.6**	**+0.9**
AUSP	**Uspallata**	**1.21**	**204**	*e*P	**Pn**	**16 50 11.7**	**0.0**
ASAL	**Salagasta**	**1.47**	**181**	*e*P	**Pn**	**16 50 14.8**	**+0.3**
ASAL				*e*S	**Sn**	**16 50 34.6**	**0.0**
ARCO	**CERRO ARCO**	**1.72**	**184**	*e*P	**Pn**	**16 50 17.9**	**+0.3**
ARCO	comp=Z,293nm,0.3s			IAML		16 50 18.2	
ACAN	**Cantantal**	**1.79**	**130**	*e*P	**Pn**	**16 50 19.0**	**+0.6**
AAGR	**Agrelo**	**1.96**	**181**	*e*P	**Pn**	**16 50 20.7**	**+0.1**
AAGR				*e*S	**Sn**	**16 50 44.9**	**-0.5**
GO04	**Tololo Observa**	**1.96**	**298**	*e*P	**Pn**	**16 50 20.9**	**+0.1**
GO04				*e*S	**Sn**	**16 50 45.8**	**+0.1**
VCA	**Vinchina**	**2.43**	**12**	*e*P	**Pn**	**16 50 27.6**	**+0.9**
VCA				*e*S	**Sn**	**16 50 57.6**	**+1.3**
VCA	comp=E,495nm,0.4s			IAML		16 51 06.0	
LSCH	**La Serena**	**2.43**	**299**	*e*P	**Pn**	**16 50 25.8**	**-0.7**
LSCH				*e*S	**Sn**	**16 50 54.6**	**-1.4**
FCH	**Farellones**	**2.54**	**209**	*e*P	**Pn**	**16 50 29.0**	**+0.7**
FCH				*e*S	**Sn**	**16 51 00.9**	**+1.8**
FCH	comp=E,143nm,0.3s			IAML		16 51 08.7	
ROCH	**El Roble**	**2.63**	**225**	*e*P	**Pn**	**16 50 29.3**	**-0.1**
ROCH				*e*S	**Sn**	**16 51 00.2**	**-0.9**
ROCH	comp=N,213nm,0.3s			IAML		16 51 02.9	
LCO	**Las Campanas**	**2.67**	**321**	*e*P	**Pn**	**16 50 29.9**	**0.0**
LCO				*e*S	**Sn**	**16 51 01.9**	**-0.2**
LCO	comp=N,177nm,0.3s			IAML		16 51 05.7	
LMEL	**Las Melosas**	**2.97**	**203**	*e*P	**Pn**	**16 50 34.3**	**+0.6**
LMEL	comp=N,81nm,0.2s			IAML		16 51 18.8	
TCA	**Tanti**	**3.61**	**95**	*e*P	**Pn**	**16 50 42.0**	**-0.2**
CYA	**Choya**	**3.73**	**45**	*e*P	**Pn**	**16 50 43.0**	**-0.8**
GO03	**Copiap**	**3.73**	**340**	*e*P	**Pn**	**16 50 43.7**	**-0.2**
GO03				*e*S	**Sn**	**16 51 25.6**	**-1.3**

MEX 24 16:55:13.6±0.3,17°.74N×101°.66W,h9km±2km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.23**	**126**	*i* P	Pg	16 55 17.8	-0.4
ZIIG				*i* S	Sg	16 55 21.2	-0.1
ARIG	**Puente Sto Nin**	**1.36**	**66**	*e*P	Pn	16 55 34.9	-3.8
ARIG				*e*S	Sb	16 55 51.6	-5.0
CAIG	**El Cayaco**	**1.49**	**117**	*e*P	Pn	16 55 36.8	-3.7
CAIG				*i* S	Sn	16 55 55.2	-5.0
MMIG	**Aquila**	**1.70**	**289**	*i* P	Pn	16 55 40.4	-3.0
MMIG				*e*S	Sn	16 56 00.2	-5.0
MEIG	**Mezcala**	**1.95**	**84**	*i* P	Pn	16 55 44.0	-2.9
MEIG				*e*S	Sn	16 56 06.5	-5.1

*ISCJB **24** 17:15:43.5±0.6,54°.4N±0°.2×153°.4E±0°.1,h650km,mb2.7/2, Error ellipse: s-maj=20.6km s-min=11.2km az=5.1*
*IDC **24** 17:15:44.2±1.5,54°.19N×153°.19E,h630km±35km,mb2.3/2, mb1 2.4/5,mb1mx2.2/44,mbtmp3.2/5,Error ellipse: s-maj=82.8km s-min=31.1km az=49.0*
*MOS **24** 17:15:45.4±1.7,53°.76N×154°.23E,h658km,mb4.0/1,Error ellipse: s-maj=30.7km s-min=25.7km az=36.3*
*KRSC **24** 17:15:45.4±10.0,53°.76N×154°.23E,h658km±10km,ML4.4*
ISC 24 17:15:43.5±0.9,54°.2N±0°.1×153°.58E±0°.09,h650km,n31, σ1°96/37,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.49**	**119**	*e*P	**P**	**17 17 04.8**	**+0.6**
APC	**Apacha**	**2.49**	**119**	P	**P**	**17 17 04.8**	**+0.6**
PETK	**Petropavlovsk-** 0.5nm,0.3s,baz=275,slow=7.7,SNR=16	**2.69**	**112**	P	**P**	**17 17 05.5**	**+0.4**
KOK	**Koryaka**	**3.14**	**105**	*e*P	**P**	**17 17 08.8**	**+1.3**
KOK	**Koryaka**	**3.14**	**105**	P	**P**	**17 17 08.8**	**+1.3**
ASAK	**Asacha**	**3.17**	**123**	*e*P	**P**	**17 17 09.5**	**+1.8**
ASAK	**Asacha**	**3.17**	**123**	P	**P**	**17 17 09.5**	**+1.8**
AVH	**Avacha**	**3.21**	**105**	*e*P	**P**	**17 17 09.4**	**+1.5**
AVH	**Avacha**	**3.21**	**105**	P	**P**	**17 17 09.4**	**+1.5**
PET	**Petropavlovsk**	**3.25**	**109**	P	**P**	**17 17 09.8**	**+1.8**
PET	**Petropavlovsk**	**3.25**	**109**	P	**P**	**17 17 09.8**	**+1.8**
UGLR	**Uglovaya**	**3.27**	**106**	*e*P	**P**	**17 17 09.8**	**+1.5**
UGLR	**Uglovaya**	**3.27**	**106**	P	**P**	**17 17 09.8**	**+1.5**
SDLR	**Sedlovina**	**3.28**	**104**	*e*P	**P**	**17 17 09.4**	**+1.0**
SDLR	**Sedlovina**	**3.28**	**104**	P	**P**	**17 17 09.4**	**+1.0**
DALK	**Dalny**	**3.30**	**109**	*e*P	**P**	**17 17 08.8**	**+0.5**
DALK	**Dalny**	**3.30**	**109**	P	**P**	**17 17 08.8**	**+0.5**
KDTR	**Khodutka, Kamc**	**3.62**	**130**	*e*P	**P**	**17 17 10.2**	**0.0**
KDTR				*e*S	**S**	**17 18 16.6**	**-4.4**
KDTR	**Khodutka, Kamc**	**3.62**	**130**	P	**P**	**17 17 10.2**	**0.0**
KDTR				S	**S**	**17 18 16.6**	**-4.4**
SPN	**Mys Shipunski**	**3.99**	**103**	*e*P	**P**	**17 17 12.7**	**+0.3**
SPN				*e*S	**S**	**17 18 21.0**	**-4.2**
SPN	**Mys Shipunski**	**3.99**	**103**	P	**P**	**17 17 12.7**	**+0.3**
SPN				S	**S**	**17 18 21.0**	**-4.2**
MKZ	**Mys Kozlova**	**4.78**	**82**	*e*P	**P**	**17 17 19.5**	**+1.8**
MKZ				*e*S	**S**	**17 18 33.6**	**-1.3**
MKZ	**Mys Kozlova**	**4.78**	**82**	P	**P**	**17 17 19.5**	**+1.8**
MKZ				S	**S**	**17 18 33.6**	**-1.3**
MA2	**Magadan** 0.2nm,0.3s,baz=152,slow=16,SNR=2.6	**5.60**	**345**	P	**P**	**17 17 22.0**	**-1.8**
KBTR	**Krutoberegovo**	**5.66**	**65**	*e*P	**P**	**17 17 26.1**	**+1.8**
KBTR	**Krutoberegovo**	**5.66**	**65**	P	**P**	**17 17 26.1**	**+1.8**
KLR	**Kul'dur**	**14.39**	**259**	P	**P**	**17 18 44.0**	**0.0**
KLR	**Kul'dur** 0.2nm,0.3s,baz=79,slow=16,SNR=4.9	**14.39**	**259**	P	**P**	**17 18 44.0**	**0.0**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=46,slow=6.3,SNR=3.1	**44.15**	**291**	P	**P**	**17 22 57.6**	**+0.7**
ASAR	**Alice Springs**	**79.38**	**198**	P	**P**	**17 26 46.0**	**+2.0**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=12,slow=5.1,SNR=5.8	**79.38**	**198**	P	**P**	**17 26 46.0**	**+2.0**

*ISCJB **24** 17:32:35.8±0.5,54°.1N±0°.1×153°.2E±0°.1,h600km,mb3.4/4, Error ellipse: s-maj=18.8km s-min=8.6km az=179.1*
*KRSC **24** 17:32:37.2±10.0,54°.25N×153°.31E,h578km±10km,ML4.3*
*IDC **24** 17:32:37.5±2.0,53°.91N×152°.83E,h592km±55km,mb2.7/4, mb1 2.7/5,mb1mx2.4/59,mbtmp3.6/5,Error ellipse: s-maj=80.7km s-min=39.6km az=89.0*
ISC 24 17:32:35.7±0.8,54°.1N±0°.1×153°.41E±0°.09,h600km,n22, σ2°11/27,mb3.4/4,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.53**	**116**	P	**P**	**17 33 55.3**	**+3.0**
PETK	**Petropavlovsk-** 0.9nm,0.3s,baz=260,slow=12,SNR=24	**2.75**	**110**	P	**P**	**17 33 56.1**	**+2.6**
KRX	**Arik**	**3.20**	**101**	P	**P**	**17 33 58.7**	**+2.6**
KOK	**Koryaka**	**3.21**	**103**	*e*P	**P**	**17 33 58.9**	**+2.8**
KRER	**Koryakskii**	**3.27**	**102**	P	**P**	**17 33 58.8**	**+2.2**
AVH	**Avacha**	**3.28**	**103**	*e*P	**P**	**17 33 59.0**	**+2.5**
SMAR	**Somma**	**3.32**	**103**	*e*P	**P**	**17 33 59.5**	**+2.6**
UGLR	**Uglovaya**	**3.34**	**103**	*e*P	**P**	**17 33 59.4**	**+2.4**
SDLR	**Sedlovina**	**3.36**	**102**	*e*P	**P**	**17 33 59.3**	**+2.2**
DALK	**Dalny**	**3.36**	**107**	*e*P	**P**	**17 33 58.9**	**+2.0**
RUS	**Russkaya**	**3.49**	**117**	P	**P**	**17 33 58.7**	**+1.0**
RUS				S	**S**	**17 35 04.6**	**-0.1**
ESO	**Esso**	**3.55**	**57**	*e*P	**P**	**17 34 01.1**	**+3.1**
KDTR	**Khodutka, Kamc**	**3.64**	**127**	*e*P	**P**	**17 33 59.4

DBIC LR LR 18 03 39.3
comp=Z,367nm,20.2s,baz=170,slow=31
RCBR Riachuelo 21.85 285 *eP* **P 17 57 21.0 -1.7**
comp=Z,51nm,1.1s
RCBR Riachuelo 21.85 285 *eP* **P 17 57 21.0 -1.7**
RCBR pmax pmax
comp=Z,51nm,1.1s
RCBR Riachuelo 21.85 285 *eP* **P 17 57 21.9 -0.8**
NBPA Parau_RN 23.02 285 *eP* **P 17 57 33.6 -1.4**
TRIS Tristan da Cun 24.68 175 *eP* **P 17 57 47.8 -2.8**
comp=Z,87nm,0.9s
RIB01 Linhares ES 25.58 251 *eP* **P 17 58 00.6 +1.5**
BSFB Barra de Sao F 25.90 252 *eP* **P 17 58 01.7 -0.3**
ALF01 Guarapari-ES 26.17 248 *eP* **P 17 58 04.5 +0.2**
SJMB Sao Joao De Ma 26.20 253 *eP* **P 17 58 05.1 +0.5**
NBMO Morrinhos-CE 26.59 288 *eP* **P 17 58 08.0 -0.2**
CAM01 Campos-RJ 27.32 246 *eP* **P 17 58 14.1 -0.6**
DUB01 Friburgo-RJ 28.03 246 *eP* **P 17 58 20.6 -0.6**
MCI9 Montes Claros 28.50 258 *eP* **P 17 58 25.3 -0.2**
JANB Januaria 28.82 261 *eP* **P 17 58 26.8 -1.4**
VAS01 Vassouras-RJ 29.04 246 *eP* **P 17 58 29.5 -0.6**
BSCB Bom Sucesso 29.95 249 *eP* **P 17 58 37.4 -0.8**
TOA0 Torodi Ar. Sit 30.17 33 *eP* **P 17 58 40.3 +0.2**
comp=Z,13nm,0.9s
TORD Torodi Ar. Bea 30.17 33 P **P 17 58 39.1 -1.0**
comp=Z,1.5nm,0.7s,baz=220,slow=9.3,SNR=8.5
TORD LR LR 18 08 55.9
comp=Z,329nm,19.8s,baz=290,slow=33
TOA1 Torodi Ar. Sit 30.17 33 *eP* **P 17 58 39.1 -1.0**
PMNB Patos De Minas 31.10 255 *eP* **P 17 58 47.4 -1.1**
TSUM Tsumeb 31.82 106 *eP* **P 17 58 54.8 -0.1**
comp=Z,18nm,1.1s
BDFB Brasilia 32.40 260 *eP* **P 17 58 58.4 -1.6**
comp=Z,9.3nm,1.0s
BDFB *eP* **P 17 58 58.7 -1.3**
BDFB Brasilia 32.40 260 *eP* **P 17 58 58.4 -1.6**
BDFB *e* 17 58 58.7
BDFB pmax pmax
comp=Z,9.0nm,1.0s
BDFB Brasilia 32.40 260 P **P 17 58 58.7 -1.3**
comp=Z,4.9nm,0.7s,baz=82,slow=10,SNR=5.7
BDFB LR LR 18 09 33.1
comp=Z,722nm,20.5s,baz=95,slow=32
SPB Sao Paulo 32.93 246 *eP* **P 17 59 04.6 +0.3**
BB19B Bebedouro 33.41 251 *eP* **P 17 59 08.3 -0.3**
FRTB Fartura 34.78 247 *eP* **P 17 59 20.7 +0.2**
ITRB Iturama 34.92 253 *eP* **P 17 59 21.6 -0.1**
TER01 Tubaro-SC 35.81 238 *eP* **P 17 59 29.5 +0.1**
C2SB Chapadao do Su 37.16 255 *eP* **P 17 59 42.3 +1.3**
PTGB Pitanga 37.30 245 *eP* **P 17 59 41.8 -0.4**
CNLB Canela 37.50 238 *eP* **P 17 59 44.1 +0.3**
ITAB Concordia 37.96 241 *eP* **P 17 59 47.7 +0.1**
SUR Sutherland 38.19 127 *eP* **P 17 59 48.5 -1.2**
comp=Z,33nm,1.1s
AQDB Aquidauana 39.99 253 *eP* **P 18 00 04.8 +0.1**
LBTB Lobatse 40.09 114 *eP* **P 18 00 04.7 -0.9**
comp=Z,4.9nm,0.9s
LBTB Lobatse 40.09 114 *eP* **P 18 00 04.7 -0.9**
LBTB pmax pmax
comp=Z,5.0nm,0.9s
LBTB Lobatse 40.09 114 P **P 18 00 05.3 -0.3**
comp=Z,5.5nm,1.0s,baz=267,slow=7.2,SNR=6.9
CLDB Colider 40.19 268 *eP* **P 18 00 05.6 -0.9**
TAM Tamanrasset 40.22 30 *eP* **P 18 00 08.6 +1.9**
comp=Z,5.8nm,1.0s
TAM Tamanrasset 40.22 30 *eP* **P 18 00 08.6 +1.9**
TAM pmax pmax
comp=Z,6.0nm,1.0s
BOSA Boshof 40.59 120 *eP* **P 18 00 09.5 -0.2**
comp=Z,16nm,1.0s
BOSA Boshof 40.59 120 *eP* **P 18 00 09.5 -0.2**
BOSA pmax pmax
comp=Z,16nm,1.0s
BOSA Boshof 40.59 120 P **P 18 00 09.6 -0.2**
comp=Z,35nm,1.2s,baz=287,slow=6.8,SNR=17
BOSA LR LR 18 14 01.6
comp=Z,431nm,20.3s,baz=274,slow=32
MDP Montagnes des 41.47 293 P **P 18 00 15.9 -1.1**
comp=Z,14nm,1.1s,baz=125,slow=8.0,SNR=5.4
LSZ Lusaka 41.76 99 *eP* **P 18 00 20.4 +0.9**
comp=Z,20nm,1.1s
LSZ Lusaka 41.76 99 *eP* **P 18 00 20.4 +0.9**
LSZ pmax pmax
comp=Z,20nm,1.1s
CPUP Villa Florida 42.28 244 *eP* **P 18 00 22.6 -0.9**
comp=Z,13nm,1.1s
CPUP Villa Florida 42.28 244 *eP* **P 18 00 22.6 -0.9**
CPUP pmax pmax
comp=Z,13nm,1.1s
CPUP Villa Florida 42.28 244 P **P 18 00 23.2 -0.3**
comp=Z,10nm,1.0s,baz=78,slow=7.2,SNR=10.0
CPUP LR LR 18 15 23.9
comp=Z,420nm,20.7s,baz=71,slow=33
CPUP Villa Florida 42.28 244 *eP* **P 18 00 22.9 -0.6**
SIV San Ignacio 44.97 260 P **P 18 00 45.0 -0.4**
comp=Z,1.0nm,0.7s,baz=120,slow=7.6,SNR=7.4
SIV PP **PcP 18 02 27.7 +1.1**
comp=Z,1.6nm,0.8s,baz=101,slow=5.0,SNR=3.2
MDT Midelt 45.98 12 P **P 18 00 54.0 +0.9**
comp=Z,2.2nm,1.1s,baz=194,slow=4.2,SNR=2.1
PTGA Pitinga 46.28 281 *eP* **P 18 00 55.4 -0.4**
comp=Z,23nm,1.0s
PTGA Pitinga 46.28 281 *eP* **P 18 00 55.3 -0.5**
MBAR Mbarara 46.61 79 *eP* **P 18 00 59.2 +0.7**
comp=Z,5.3nm,0.8s
MBAR Mbarara 46.61 79⇑ *iP* **P 18 00 58.8 +0.3**
MBAR Mbarara 46.61 79 P **P 18 00 59.8 +1.3**
comp=Z,3.3nm,0.2s,baz=263,slow=5.0,SNR=7.6
TRQA Tornquist 49.10 230 *eP* **P 18 01 16.8 -0.5**
comp=Z,43nm,1.0s
TRQA Tornquist 49.10 230 *eP* **P 18 01 16.8 -0.5**
TRQA pmax pmax
comp=Z,43nm,1.0s
TRQA Tornquist 49.10 230 *eP* **P 18 01 17.6 +0.3**
LPAZ La Paz 51.73 259 *eP* **P 18 01 36.3 -1.9**
LPAZ *epP* **P 18 01 37.6 -0.6**
LPAZ La Paz 51.73 259 *eP* **P 18 01 36.3 -1.9**
LPAZ *e*PP **P 18 01 37.7 -0.6**
LPAZ La Paz 51.73 259 P **P 18 01 37.3 -1.0**
comp=Z,2.6nm,0.7s,baz=130,slow=2.9,SNR=11
LPAZ LR LR 18 21 55.9
comp=Z,154nm,20.1s,baz=71,slow=34
LPAZ La Paz 51.73 259 *eP* **P 18 01 37.5 -0.8**
PMRV Marv??o 52.00 7 *eP* **P 18 01 39.3 +0.2**
LVC Limon Verde 52.39 251 *eP* **P 18 01 42.5 -0.3**
EFI East Falkland 52.44 213⇑ *eP* **P 18 01 42.1 -0.1**
COI Coimbra 52.66 6 *eP* **P 18 01 44.6 +0.8**
comp=Z,35nm,1.1s
COI Coimbra 52.66 6 *eP* **P 18 01 44.7 +0.8**
COI pmax pmax
comp=Z,35nm,1.1s
KMBO Kilima Mbogo 52.75 82 *eP* **P 18 01 45.1 -0.3**
KMBO *epP* **P 18 01 46.3 +0.9**
KMBO Kilima Mbogo 52.75 82 *eP* **P 18 01 45.1 -0.3**
KMBO *e*PP **P 18 01 46.3 +0.9**
KMBO Kilima Mbogo 52.75 82 P **P 18 01 46.7 +1.3**
comp=Z,3.8nm,0.8s,baz=271,slow=4.3,SNR=7.0
KMBO LR LR 18 22 07.7
comp=Z,167nm,18.9s,baz=264,slow=34
H05S1 Guadeloupe/Mar 52.85 299 T T 18 58 40.2
SNR=14
MTE Manteigas 52.94 7 *eP* **P 18 01 48.7 +2.6**
comp=Z,47nm,1.5s
MTE Manteigas 52.94 7 *eP* **P 18 01 47.7 +1.6**
comp=Z,24nm,1.0s
KEST Kesra 53.01 25 *eP* **P 18 01 47.8 +1.1**
comp=Z,72nm,1.1s
KEST Kesra 53.01 25 P **P 18 01 47.8 +1.1**
comp=Z,12nm,1.0s,baz=202,slow=5.6,SNR=7.1
KEST LR LR 18 23 49.2
comp=Z,144nm,18.1s,baz=304,slow=36
PB11 IPOC Station P 53.07 255 *eP* **P 18 01 47.3 -0.3**
comp=Z,7.3nm,0.9s
FDF Fort de France 53.26 299 *eP* **P 18 01 48.8 0.0**
comp=Z,30nm,0.8s
FDF Fort de France 53.26 299 *eP* **P 18 01 48.8 0.0**
FDF pmax pmax
comp=Z,30nm,0.8s
MVO Moncorvo 53.76 7 *eP* **P 18 01 52.8 +0.7**
comp=Z,47nm,1.7s
H05N1 Guadeloupe/Mar 53.93 301 T T 18 59 39.0
SNR=108
LCO Las Campanas 54.40 243 *eP* **P 18 01 57.0 -0.3**
comp=Z,34nm,0.9s
LCO Las Campanas 54.40 243 *eP* **P 18 01 57.0 -0.3**
LCO pmax pmax
comp=Z,34nm,0.9s
LCO Las Campanas 54.40 243 *eP* **P 18 01 57.4 +0.1**
PGAV Gavieira, Arco 54.41 6 *eP* **P 18 01 57.7 +0.8**
comp=Z,94nm,1.6s
GO04 Tololo Observa 54.60 242 *eP* **P 18 01 57.2 -1.5**
comp=Z,30nm,0.8s
PEL Peldehue 54.88 238 *eP* **P 18 02 00.5 0.0**
comp=Z,41nm,1.0s
PEL Peldehue 54.88 238 *eP* **P 18 02 00.5 0.0**
PEL pmax pmax
comp=Z,41nm,1.0s
ROC1 El Roble 55.13 238 *eP* **P 18 02 01.0 -1.5**
PLCA Paso Flores 56.22 229 LR LR 18 22 22.8
comp=Z,155nm,19.6s,baz=82,slow=32
PLCA Paso Flores 56.22 229 *eP* **P 18 02 10.2 +0.2**
VNA1 Neumayer--Stat 58.36 177 P **P 18 02 25.5 +1.0**
MTP Monte Pirata 58.55 300 *eP* **P 18 02 26.6 -0.1**
comp=Z,32nm,1.1s
VNA2 Neumayer--Watz 58.68 177 P **P 18 02 26.9 +0.1**
baz=348,slow=8.6
HUMP Col San Antoni 58.83 300 *eP* **P 18 02 28.6 0.0**
comp=Z,49nm,1.1s
VNA3 Neumayer Olymp 58.90 178 P **P 18 02 32.2 +3.8**
SDV Santo Domingo 59.40 288 *eP* **P 18 02 32.5 -0.4**
comp=Z,32nm,0.9s
SDV Santo Domingo 59.40 288 *eP* **P 18 02 32.7 -0.2**
SDV Santo Domingo 59.40 288 *eP* **P 18 02 32.7 -0.2**
SDV Santo Domingo 59.40 288 *eP* **P 18 02 32.5 -0.4**
USHA Ushuaia 59.42 213 P **P 18 02 31.6 -0.6**
comp=Z,8.0nm,1.0s,baz=45,slow=4.3,SNR=1.9
OBIP Obispado Ponce 59.42 300 *eP* **P 18 02 32.8 +0.1**
comp=Z,29nm,0.9s
AOPR Arecibo Observ 59.68 300 *eP* **P 18 02 33.4 -1.1**
comp=Z,64nm,1.1s
SNAA Sanae 59.69 176 P **P 18 02 34.2 +0.4**
SNAA Sanae 59.69 176 *eP* **P 18 02 34.0 +0.1**
comp=Z,20nm,1.1s
SNAA Sanae 59.69 176⇑ *eP* **P 18 02 34.0 +0.1**
SNAA Sanae 59.69 176 P **P 18 02 34.0 +0.1**
comp=Z,7.5nm,0.9s,baz=333,slow=7.1,SNR=18
SSB Saint Sauveur 59.99 16 *eP* **P 18 02 36.9 +0.7**
comp=Z,7.4nm,1.1s
SSB Saint Sauveur 59.99 16 *eP* **P 18 02 36.9 +0.7**
SSB pmax pmax
comp=Z,7.0nm,1.1s
ITM Ithomi 60.17 33 *eP* **P 18 02 37.8 +0.2**
comp=Z,15nm,1.0s
AQU L'Aquila 60.31 24 *eP* **P 18 02 38.2 -0.2**
comp=Z,26nm,1.0s
AQU L'Aquila 60.31 24 *eP* **P 18 02 38.2 -0.2**
AQU pmax pmax
comp=Z,26nm,1.0s
GO09 Cerro Castillo 60.33 218 *eP* **P 18 02 38.4 -0.1**
comp=Z,60nm,1.0s
BNI Bardonecchia 60.38 17 *eP* **P 18 02 40.0 +1.0**
comp=Z,18nm,1.1s
BNI Bardonecchia 60.38 17 *eP* **P 18 02 40.0 +1.0**
BNI pmax pmax
comp=Z,18nm,1.1s
CAPV Capacho 60.63 286 *eP* **P 18 02 43.0 +1.6**
CAPV Capacho 60.63 286 *eP* **P 18 02 43.0 +1.6**
RUSC La Rusia 60.74 284 *eP* **P 18 02 41.0 -1.5**
RUSC La Rusia 60.74 284 *eP* **P 18 02 41.0 -1.5**
PAMC Pamplona, Colo 60.83 286 *eP* **P 18 02 44.6 +1.5**
PAMC Pamplona, Colo 60.83 286 *eP* **P 18 02 44.6 +1.5**
PTLC Puerto Leguiza 60.83 277 *eP* **P 18 02 41.0 -1.6**
PTLC Puerto Leguiza 60.83 277 *eP* **P 18 02 41.0 -1.6**
BARC Barichara 61.05 285 *eP* **P 18 02 43.5 -0.8**
BARC Barichara 61.05 285 *eP* **P 18 02 43.5 -0.8**
SANT Santorini 61.56 36 *eP* **P 18 02 46.0 -1.1**
comp=Z,105nm,1.1s
ROSC El Rosal 61.61 282 *eP* **P 18 02 48.4 +0.1**
comp=Z,11nm,0.8s
ROSC El Rosal 61.61 282 P **P 18 02 48.9 +0.6**
comp=Z,3.5nm,0.3s,baz=57,slow=8.8,SNR=6.3
ROSC LR LR 18 28 05.8
comp=Z,193nm,20.7s,baz=88,slow=35
URIC Uribia, Colomb 61.64 291 *eP* **P 18 02 45.5 -2.4**
URIC Uribia, Colomb 61.64 291 *eP* **P 18 02 45.5 -2.4**
PRAC Prado 61.84 281 *eP* **P 18 02 49.0 -0.4**
PRAC Prado 61.84 281 *eP* **P 18 02 49.0 -0.4**
KARP Karpathos 62.00 38 *eP* **P 18 02 49.5 -0.5**
comp=Z,63nm,1.1s
FLOC Florencia 62.01 278 *eP* **P 18 02 49.5 -1.1**
FLOC Florencia 62.01 278 *eP* **P 18 02 49.5 -1.1**
APE Apeiranthos 62.09 36 *i P* **P 18 02 50.3 -0.3**
PTBC PUERTO BERRIO, 62.24 284 *eP* **P 18 02 49.0 -3.1**
PTBC PUERTO BERRIO, 62.24 284 *eP* **P 18 02 49.0 -3.1**
PMSA Palmer Station 62.24 202 *eP* **P 18 02 50.8 -0.4**
comp=Z,30nm,1.0s
PMSA Palmer Station 62.24 202 *eP* **P 18 02 52.2 +1.0**
NORC Norcasia 62.34 283 *eP* **P 18 02 50.4 -2.4**
NORC Norcasia 62.34 283 *eP* **P 18 02 50.4 -2.4**
TUE Stuetta 62.47 19 *eP* **P 18 02 52.2 -0.9**
comp=Z,4.1nm,1.0s
SMLC San Martn de 62.58 287 *eP* **P 18 02 49.7 -4.6**
SMLC San Martn de 62.58 287 *eP* **P 18 02 49.7 -4.6**
FNA Florina 62.59 30 *eP* **P 18 02 54.4 +0.5**
comp=Z,26nm,1.2s
LIT Litokhoron 62.63 32 *eP* **P 18 02 54.0 -0.1**
comp=Z,41nm,1.0s
LIT Litokhoron 62.63 32 *eP* **P 18 02 54.1 -0.1**
LIT pmax pmax
comp=Z,41nm,1.0s
GUY2C Guyana, Caldas 62.72 283 *eP* **P 18 02 54.3 -1.5**
GUY2C Guyana, Caldas 62.72 283 *eP* **P 18 02 54.3 -1.5**
FUORN Ofenpass-Fuorn 62.89 19 *eP* **P 18 02 56.8 +0.8**
comp=Z,5.8nm,1.0s
PCON Cinco Dias 62.92 279 *eP* **P 18 02 57.3 0.0**
PCON Cinco Dias 62.92 279 *eP* **P 18 02 57.3 0.0**
SOTA Rioblanco 63.07 279 *eP* **P 18 02 58.0 -0.3**
SOTA Rioblanco 63.07 279 *eP* **P 18 02 58.0 -0.3**
POPC Popayan, Colom 63.24 279 *eP* **P 18 02 57.0 -2.0**
POPC Popayan, Colom 63.24 279 *eP* **P 18 02 57.0 -2.0**
YOTC Yotoco, Valle 63.31 281 *eP* **P 18 02 57.5 -1.8**
YOTC Yotoco, Valle 63.31 281 *eP* **P 18 02 57.5 -1.8**
DAVA Damuels 63.36 19 *eP* **P 18 02 59.6 +0.6**
comp=Z,39nm,1.1s,SNR=5.7
FETA Feichten 63.39 19 *eP* **P 18 02 58.9 -0.3**
comp=Z,45nm,1.0s,SNR=6.7
ECH Echery 63.40 16 *eP* **P 18 03 00.2 +1.1**
comp=Z,11nm,1.0s
ECH Echery 63.40 16 *eP* **P 18 03 00.2 +1.1**
ECH pmax pmax
comp=Z,11nm,1.0s
UREC San Jos de Ur 63.62 285 *eP* **P 18 02 59.1 -2.2**
UREC San Jos de Ur 63.62 285 *eP* **P 18 02 59.1 -2.2**
BBAC Balboa, Cauca 63.66 279 *eP* **P 18 03 00.2 -1.5**
BBAC Balboa, Cauca 63.66 279 *eP* **P 18 03 00.2 -1.5**
SQTA Sankt Quirin 63.72 19 *eP* **P 18 03 00.9 -0.4**
comp=Z,48nm,1.1s,SNR=7.5
ABTA Abfaltersbach 63.74 21 *eP* **P 18 03 01.8 +0.3**
comp=Z,38nm,1.5s,SNR=5.3
MOTA Moosalm 63.80 19 *eP* **P 18 03 01.1 -0.8**
comp=Z,24nm,1.1s,SNR=8.0
RETA Reutte 63.81 19 *eP* **P 18 03 01.3 -0.6**
comp=Z,22nm,1.0s
BLY Banja Luka 63.82 25 *eP* **P 18 03 02.9 +0.9**
comp=Z,18nm,1.1s
BLY Banja Luka 63.82 25⇓ *iP* **P 18 03 01.6 -0.3**
SDDR Presa de Saban 63.83 298 *eP* **P 18 03 02.0 -0.5**
comp=Z,15nm,1.1s
BFO Black Forest 63.83 17 *eP* **P 18 03 01.1 -0.9**
comp=Z,31nm,1.1s
BFO Black Forest 63.83 17 *i P* **P 18 03 02.3 +0.3**
WTTA Wattenberg 63.90 20 *eP* **P 18 03 03.5 +0.8**
comp=Z,46nm,1.0s,SNR=6.2
WATA Walderalm 63.94 20 *eP* **P 18 03 05.4 +2.5**
comp=Z,21nm,1.0s,SNR=5.4
OTAV Otavalo 64.39 276 *eP* **P 18 03 06.1 -0.8**
comp=Z,10nm,1.1s
OTAV Otavalo 64.39 276 *eP* **P 18 03 05.8 -1.1**
OTAV Otavalo 64.39 276 *eP* **P 18 03 05.8 -1.1**
OTAV Otavalo 64.39 276 *eP* **P 18 03 06.7 -0.2**
EZN Ezine 64.46 34⇓ *iP* **P 18 03 06.1 -0.1**
EZN Ezine 64.46 34⇓ P **P 18 03 06.1 -0.1**
STU Stuttgart 64.48 17 *eP* **P 18 03 05.9 -0.2**
comp=Z,25nm,1.0s
STU Stuttgart 64.48 17 *eP* **P 18 03 05.9 -0.2**
STU pmax pmax
comp=Z,25nm,1.0s
SOKA Soboth 64.58 22 *eP* **P 18 03 07.8 +0.8**
comp=Z,31nm,1.1s,SNR=5.7
MANT Manisa 64.81 37 *eP* **P 18 03 08.8 -0.1**
comp=Z,32nm,0.8s
VTS Vitosha 64.88 30 *eP* **P 18 03 09.8 +0.7**
comp=Z,13nm,1.0s
VTS Vitosha 64.88 30⇑ *iP* **P 18 03 08.9 -0.2**
VTS Vitosha 64.88 30⇑ P **P 18 03 08.9 -0.2**
BEHE Becsehely 65.07 23 *eP* P 18 03 16.0 +6.0
BALB Balikesir 65.20 35 *eP* **P 18 03 11.4 +0.4**
comp=Z,129nm,1.2s
ARSA Arzberg 65.25 22 *eP* **P 18 03 12.7 +1.5**
comp=Z,36nm,1.1s,SNR=6.1
MOA Molln 65.30 21 *eP* **P 18 03 11.8 +0.3**
comp=Z,32nm,1.3s,SNR=6.2
CSS Mathiatis 65.52 42 *eP* **P 18 03 13.9 +0.6**
comp=Z,9.1nm,0.9s
ISP Isparta 65.53 38 *eP* **P 18 03 13.9 +0.5**
comp=Z,8.9nm,1.0s
ISP Isparta 65.53 38 *eP* **P 18 03 13.9 +0.5**
ISP pmax pmax
comp=Z,9.0nm,1.0s
MDVR Moldovita 65.81 28⇓ *iP* **P 18 03 14.6 -0.3**
GRFO Grafenberg 65.90 18 *eP* **P 18 03 15.8 +0.5**
comp=Z,9.5nm,1.1s
GRA1 Grafenberg Arr 65.90 18 *eP* **P 18 03 15.6 +0.2**
comp=Z,27nm,1.1s
GRF Grafenberg Arr 65.90 18 *eP* **P 18 03 15.6 +0.2**
GRF pmax pmax
comp=Z,27nm,1.1s
CONA Conrad Observa 65.94 22 *eP* **P 18 03 16.2 +0.4**
comp=Z,36nm,1.2s
GEC2 GERESS Array S 65.96 20 *eP* **P 18 03 15.6 -0.3**
comp=Z,28nm,1.2s
GEC2 GERESS Array S 65.96 20 *eP* **P 18 03 15.6 -0.3**
GEC2 pmax pmax
comp=Z,28nm,1.2s
GERES GERESS Array B 65.96 20 P **P 18 03 15.8 -0.1**
comp=Z,1.7nm,0.9s,baz=212,slow=4.7,SNR=8.8
GERES PP **PP 18 05 41.9 +0.5**
comp=Z,2.2nm,1.0s,baz=194,slow=8.3,SNR=4.1
KHC Kasperske Hory 66.17 20 *eP* **P 18 03 16.4 -0.7**
comp=Z,7.7nm,1.1s
KHC Kasperske Hory 66.17 20 *eP* **P 18 03 16.8 -0.3**
KHC *e* 18 03 24.0
KHC Kasperske Hory 66.17 20 *eP* **P 18 03 16.8 -0.3**
KHC *ex* x 18 03 24.0
SYO Syowa Base 66.17 161⇑ *esP* **P 18 03 15.0 -1.9**
SYO Syowa Base 66.17 161⇑ *esP* **P 18 03 19.4 +2.5**
HERR Herculane 66.20 28⇑ *iP* **P 18 03 17.2 -0.2**
CSKK Cskako 66.39 24 *eP* P 18 03 26.0 +7.5
BZS Buzias 66.41 27⇓ *iP* **P 18 03 19.2 +0.5**
BZS Buzias 66.41 27⇓ P **P 18 03 19.2 +0.5**
ZST Bratislava 66.62 23 *eP* P 18 03 27.3 +7.3
ZST Bratislava 66.62 23 *esP* P 18 03 27.3 +7.3
GZR Gura Zlata 66.76 28⇓ *iP* **P 18 03 21.5 +0.5**
GZR Gura Zlata 66.76 28⇓ P **P 18 03 21.5 +0.5**
NKC Novy Kostel 66.76 19 *eP* **P 18 03 20.7 -0.2**
NKC Novy Kostel 66.76 19 *eP* **P 18 03 20.7 -0.2**
MODS Modra-Piesok 66.84 23 *eP* **P 18 03 23.9 +2.5**
MODS *e* 18 03 28.3
MODS pmax pmax
comp=Z,46nm,1.3s
MODS Modra-Piesok 66.84 23 *eP* **P 18 03 23.8 +2.4**
MODS *esP* **sP 18 03 28.3 -0.2**
SIRR Siria 66.93 27⇑ *iP* **P 18 03 22.8 +0.7**
KRUC Moravsky 67.08 22 *eP* **P 18 03 22.5 -0.5**
KRUC *esP* **sP 18 03 29.4 -0.7**
PRU Pruhonice 67.22 20 *eP* **P 18 03 26.2 +2.4**
PRU Pruhonice 67.22 20 *eP* **P 18 03 26.2 +2.4**
GOPC GO Pecny, Ondr 67.24 20 *eP* **P 18 03 23.4 -0.6**
GOPC GO Pecny, Ondr 67.24 20 *eP* **P 18 03 23.4 -0.6**
VRAC Vranov 67.36 22⇑ *iP* **P 18 03 25.8 +1.1**
VRAC Vranov 67.36 22⇑ P **P 18 03 25.8 +1.1**
VRAC Vranov 67.36 22 *eP* **P 18 03 24.5 -0.2**
VRAC *esP* **sP 18 03 31.4 -0.5**
VRAC Vranov 67.36 22 P **P 18 03 25.5 +0.8**
comp=Z,2.9nm,0.8s,baz=208,slow=5.2,SNR=3.7
JAVC Velka Javorina 67.39 23 *eP* **P 18 03 25.7 +0.8**
JAVC *esP* **pwP 18 03 32.8 -1.9**
PSZ Piszkesteto 67.49 24 *eP* **P 18 03 25.6 0.0**
comp=Z,33nm,1.1s
PSZ Piszkesteto 67.49 24⇓ *iP* **P 18 03 26.5 +0.9**
PSZ Piszkesteto 67.49 24⇓ P **P 18 03 26.5 +0.9**
PSZ Piszkesteto 67.49 24 *eP* **P 18 03 25.0 -0.6**
VYHS Vyhne 67.53 23 *eP* **P 18 03 26.1 +0.3**
VYHS *e* 18 03 33.3
VYHS pmax pmax
comp=Z,18nm,1.2s
VYHS Vyhne 67.53 23 *eP* **P 18 03 26.1 +0.3**
VYHS *esP* **pwP 18 03 33.3 -2.3**
ARR Arges 67.60 29⇑ *iP* **P 18 03 26.5 +0.1**
PVCC Panska Ves 67.70 20 *eP* **P 18 03 27.0 +0.2**
PVCC Panska Ves 67.70 20 *eP* **P 18 03 27.0 +0.2**
BRG Berggiesshubel 67.79 19 *eP* P 18 03 34.2 +6.8
comp=Z,17nm,1.1s
BRG Berggiesshubel 67.79 19 *eP* P 18 03 34.2 +6.8
BRG pmax pmax
comp=Z,17nm,1.1s
DRGR 67.80 27⇓ *iP* **P 18 03 28.3 +0.7**
DRGR 67.80 27⇓ P **P 18 03 28.3 +0.7**
VOIR 67.85 29⇓ *iP* **P 18 03 28.2 +0.2**
VOIR 67.85 29⇓ P **P 18 03 28.2 +0.2**
CLL Collm 67.87 18 *eP* **P 18 03 28.2 +0.4**
comp=Z,5.5nm,1.0s
CLL Collm 67.87 18 *eP* **P 18 03 30.0 +2.2**
CLL *i* 18 03 34.6
CLL Collm 67.87 18 *eP* **P 18 03 30.0 +2.2**
CLL *i* Pmax 18 03 34.6
comp=Z,36nm,2.1s
CLL *i* 18 03 39.2
MORC Moravsky Berou 68.10 22 *eP* **P 18 03 30.0 +0.6**
comp=Z,14nm,1.1s
MORC Moravsky Berou 68.10 22⇑ *iP* **P 18 03 29.7 +0.3**
MORC Moravsky Berou 68.10 22⇑ P **P 18 03 29.7 +0.3**
MORC Moravsky Berou 68.10 22 *eP* **P 18 03 29.6 +0.2**
MORC *esP* **sP 18 03 36.7 +0.2**
BCIP Isla Barro Col 68.11 285 *eP* **P 18 03 29.0 -1.1**
comp=Z,24nm,1.1s
BCIP Isla Barro Col 68.11 285 *eP* **P 18 03 29.0 -1.1**
BCIP pmax pmax
comp=Z,24nm,1.1s
DPC Dobruska-Polom 68.14 21 *eP* **P 18 03 30.0 +0.3**
DPC Dobruska-Polom 68.14 21 *eP* **P 18 03 30.0 +0.3**
UPC Upice 68.16 21 *eP* **P 18 03 29.3 -0.5**
UPC Upice 68.16 21 *eP* **P 18 03 29.3 -0.5**
BR231 Keskin MP Arra 68.17 38 *eP* **P 18 03 30.9 +0.7**
comp=Z,29nm,0.9s
KECS Kecovo 68.18 24 *eP* P 18 03 38.0 +8.1
KECS Kecovo 68.18 24 *esP* P 18 03 38.0 +8.1
MLR Muntele Rosu 68.32 30 *eP* **P 18 03 30.5 -0.5**
comp=Z,9.3nm,1.1s
MLR Muntele Rosu 68.32 30⇑ *iP* **P 18 03 31.1 +0.1**
MLR Muntele Rosu 68.32 30⇑ P **P 18 03 31.1 +0.1**
DOPR Dopca 68.40 29⇑ *iP* **P 18 03 31.3 -0.1**
BR131 Keskin Array S 68.62 38 *eP* **P 18 03 32.9 -0.1**
comp=Z,17nm,1.1s
BRTR Keskin Array B 68.62 38 P **P 18 03 33.8 +0.8**
comp=Z,3.3nm,0.9s,baz=201,slow=6.6,SNR=12
BRTR LR LR 18 34 48.0
comp=Z,38nm,20.8s,baz=242,slow=37
TRPA Tarpa 68.75 26⇑ *iP* **P 18 03 34.1 +0.7**
TRPA Tarpa 68.75 26 *eP* P 18 03 39.0 +5.6
VRI Vrincioaia 68.97 30⇓ *iP* **P 18 03 34.9 0.0**
VRI Vrincioaia 68.97 30⇓ P **P 18 03 34.9 0.0**
UZH Uzhgorod 69.04 25 *eP* **P 18 03 35.1 -0.1**
UZH *e* 18 03 36.7
UZH *i* 18 03 41.7
CFR Carcaliu 69.17 31⇑ *iP* **P 18 03 36.4 +0.3**
CFR Carcaliu 69.17 31⇑ P **P 18 03 36.4 +0.3**
KOLS Kolonicke sedl 69.26 25 *eP* P 18 03 44.3 +7.6
KOLS Kolonicke sedl 69.26 25 *esP* P 18 03 44.2 +7.5
OJC Ojcow 69.30 23 *eP* **P 18 03 35.1 -1.7**
comp=Z,8.0nm,1.0s
OJC Ojcow 69.30 23 *eP* **P 18 03 35.1 -1.7**
OJC pmax pmax
comp=Z,8.0nm,1.0s
TESR Tescani 69.40 29⇑ *iP* **P 18 03 37.8 +0.3**
BIZ Bicaz 69.45 29⇑ *iP* **P 18 03 38.1 +0.3**
BURAR Bucovina Array 69.54 28⇓ *iP* **P 18 03 38.8 +0.3**
BURAR Bucovina Array 69.54 28⇓ P **P 18 03 38.8 +0.3**
BUR08 Bucovina Ar. S 69.55 28 *eP* **P 18 03 38.0 -0.6**
KWP Kalwaria Pacla 69.99 25 *eP* **P 18 03 40.8 -0.3**
comp=Z,282nm,1.1s
KWP Kalwaria Pacla 69.99 25 *eP* **P 18 03 40.8 -0.3**
KWP pmax pmax

comp=Z,282nm,1.1s
LVV L'vov 70.68 25 eP P 18 03 47.0 +1.7
KIS Kishinev 70.79 30 eP P 18 03 52.0 +6.0
KIS Kishinev 70.79 30 eP P 18 03 52.0 +6.0
RGN Rugen 70.80 17 eP P 18 03 45.8 -0.1
comp=Z,59nm,1.0s
SIRT Sirnak 73.04 44 eP P 18 03 59.2 -0.2
comp=Z,36nm,1.1s
JTS Las Juntas de 73.26 285⇑ iP P 18 04 02.3 +0.7
JTS pmax pmax
comp=Z,6.0nm,0.9s
LMN Caledonia Moun 73.37 326 eP P 18 04 01.7 +0.1
comp=Z,21nm,0.9s
KIEV Kiev 73.58 27 eP P 18 04 01.9 -0.8
comp=Z,43nm,1.0s
KIEV Kiev 73.58 27⇓ iP P 18 04 03.8 +1.2
KIEV Kiev 73.58 27⇓ P P 18 04 03.8 +1.2
SUW Suwalki 73.58 22 eP P 18 04 02.4 -0.1
comp=Z,121nm,1.1s
AKASG Malin Array Be 73.59 27 P P 18 04 02.0 -0.7
comp=Z,4.2nm,0.9s,baz=227,slow=5.5,SNR=12
AKBB Malin Array Si 73.59 27 eP P 18 04 02.0 -0.7
comp=Z,53nm,1.1s
AKBB Malin Array Si 73.59 27 eP P 18 04 02.0 -0.7
AKBB pmax pmax
comp=Z,53nm,1.1s
MAW Mawson 73.92 157 eP P 18 04 03.9 -0.5
comp=Z,2.2nm,1.0s
MAW Mawson 73.92 157 P P 18 04 04.8 +0.4
comp=Z,2.8nm,0.3s,baz=281,slow=6.1,SNR=8.8
PABE Paberze 75.03 22 eP P 18 04 15.6 +4.7
HRV Adam Dziewonsk 75.39 320 P P 18 04 15.3 +1.9
baz=122
859A Kempfer Cattle 75.55 303 P P 18 04 15.5 +0.9
baz=113
NACGM Naroch 75.62 23 eP P 18 04 22.0 +7.6
NACGM PM 18 04 23.0
comp=Z,0.1nm,1.0s
IIGN Ignalina 75.74 23 eP P 18 04 17.4 +2.3
AKH Akhalkalaki 75.75 41 eP P 18 04 15.7 0.0
comp=Z,18nm,1.2s
AKH Akhalkalaki 75.75 41⇓ iP P 18 04 16.0 +0.3
ISAL Salakas 75.87 23 eP P 18 04 17.8 +1.9
IDID Didziasalis 75.91 23 eP P 18 04 18.2 +2.1
GNI Garni 75.93 43 eP P 18 04 15.2 -1.5
GNI Garni 75.93 43⇑ eP P 18 04 15.2 -1.5
GNI pmax pmax
comp=Z,90nm,1.6s
NB2 NORSAR Subarra 76.04 13 P P 18 04 16.9 +0.2
comp=Z,3.3nm,0.9s,baz=205,slow=6.2
NOA NORSAR Array B 76.04 13 P P 18 04 17.0 +0.3
comp=Z,2.5nm,0.8s,baz=205,slow=6.1,SNR=8.8
NOA LR LR 18 41 04.5
comp=Z,24nm,18.2s,baz=80,slow=38
PAL Palisades 76.12 318 P P 18 04 19.2 +1.7
baz=120
NC405 NORSAR Array S 76.21 13 eP P 18 04 17.8 +0.1
comp=Z,12nm,1.0s
NC303 NORSAR Array S 76.24 13 eP P 18 04 17.6 -0.2
comp=Z,21nm,1.0s
KIV Kislovodsk 76.57 39 eP P 18 04 19.7 -0.5
comp=Z,9.8nm,0.9s
KIV Kislovodsk 76.57 39⇓ iP P 18 04 21.4 +1.2
KIV Kislovodsk 76.57 39⇓ P P 18 04 21.4 +1.2
KBZ Khabaz 76.58 39 P P 18 04 20.8 +0.7
comp=Z,5.8nm,1.0s,baz=239,slow=3.8,SNR=7.0
U59A Littleton 76.59 312 P P 18 04 21.9 +1.5
baz=117
V59A Middlesex 76.65 312 P P 18 04 21.8 +1.1
baz=116
T59A Double "B" Far 76.69 313 P P 18 04 22.5 +1.6
baz=117
ZEI Tsey 76.72 40 eP P 18 04 17.9 -3.3
ZEI pmax pmax
comp=Z,11nm,1.1s
U58A Oxford 77.16 312 P P 18 04 24.8 +1.3
baz=116
O59A Robesonia 77.29 316 P P 18 04 25.8 +1.6
baz=119
N59A State Game Lan 77.30 317 P P 18 04 25.7 +1.3
baz=119
V58A Windy Hill, Pi 77.31 311 P P 18 04 26.0 +1.6
baz=116
R58B Mineral 77.37 314 P P 18 04 25.8 +1.1
baz=117
T58A Grand View Acr 77.39 313 P P 18 04 26.1 +1.3
baz=116
157A Early Branch 77.43 308 P P 18 04 26.4 +1.2
baz=114
556A Lake Butler 77.50 305 P P 18 04 26.8 +1.2
baz=112
R58A Rapidan 77.61 314 P P 18 04 27.6 +1.6
baz=117
W57A Gilead 77.69 310 P P 18 04 27.6 +1.1
baz=115
U57A Blanch 77.74 312 P P 18 04 28.2 +1.4
baz=116
QSPA South Pole Qui 77.76 180 eP P 18 04 27.2 +0.6
comp=Z,44nm,1.1s
V57A Coltrane Farms 77.83 311 P P 18 04 28.7 +1.3
baz=115
T57A Hurt 77.93 312 P P 18 04 29.4 +1.5
baz=116
R57A Stanardsville 77.97 314 P P 18 04 29.8 +1.7
baz=116
S57A Dark Hollow, R 78.04 313 P P 18 04 30.2 +1.8
baz=116
BINY Binghamton 78.06 318 P P 18 04 30.5 +1.9
baz=119
W56A Indian Trail 78.12 310 P P 18 04 30.5 +1.5
baz=114
GROC Groznyy 78.13 41 eP P 18 04 26.8 -2.0
GROC e 18 04 36.4
GROC e 18 07 22.7
GROC eS S 18 14 16.2 -6.1
GROC pmax pmax
comp=Z,38nm,1.8s
X56A White Oak 78.19 309 P P 18 04 31.4 +2.1
baz=114
Q57A Strasburg 78.22 315 P P 18 04 31.2 +1.7
baz=117
VSU Vasula 78.27 21 i P P 18 04 29.4 +0.2
VSU Vasula 78.27 21 eP P 18 04 31.8 +2.6
V56A Mocksville 78.33 311 P P 18 04 31.6 +1.4
baz=115
LONY Lake Ozonia 78.37 321 P P 18 04 31.6 +1.4
baz=121
N57A Milroy 78.42 316 P P 18 04 32.1 +1.7
baz=118
S56A Natural Bridge 78.44 313 P P 18 04 32.3 +1.6
baz=116
U56A King 78.47 311 P P 18 04 32.1 +1.2
baz=115
T56A Rocky Mt 78.50 312 P P 18 04 32.4 +1.3
baz=115
155A Kite 78.55 307 P P 18 04 33.0 +1.6
baz=113
SSPA Standing Stone 78.59 316 P P 18 04 33.0 +1.5
baz=117
Y55A Saluda 78.60 309 P P 18 04 33.2 +1.6
baz=114
KMSC Kings Mountain 78.68 310 P P 18 04 33.5 +1.4
baz=114
VSR Storozhevoye 78.69 31 eP P 18 04 37.4 +5.7
VSR pmax pmax
comp=Z,40nm,1.1s
454A Quitman 78.75 305 P P 18 04 33.8 +1.3
baz=112
BLA Blacksburg 78.86 312 P P 18 04 34.8 +1.8
baz=115
V55A Taylorsville 78.88 311 P P 18 04 34.7 +1.5
baz=114
O56A Blue Knob Stat 78.88 316 P P 18 04 34.5 +1.3
baz=117
N56A West Decatur 78.99 316 P P 18 04 35.3 +1.6
baz=117
U55A TA2, Sparta 79.02 311 P P 18 04 35.6 +1.6
baz=114
ALFO Alfred 79.06 322 P P 18 04 35.5 +1.6
baz=120
Z54A Sparta 79.08 308 P P 18 04 35.8 +1.5
baz=113
T55A Pulaski 79.09 312 P P 18 04 36.6 +2.3
baz=115
R55A Marlinton 79.10 313 P P 18 04 35.6 +1.2
baz=115
S55A Lewisburg 79.16 313 P P 18 04 35.9 +1.2
baz=115
M56A Emporium 79.17 317 P P 18 04 36.3 +1.6
baz=117
Y54A Tignall 79.20 308 P P 18 04 36.3 +1.3
baz=113
X54A Belton 79.23 309 P P 18 04 36.8 +1.7
baz=113
W54A Cherokee Point 79.30 310 P P 18 04 37.0 +1.6
baz=114
453A Whigham 79.36 305 P P 18 04 37.0 +1.2
baz=112
ORIO Orleans, Innes 79.36 321 P P 18 04 36.8 +1.3
baz=120
O55A Ligonier 79.36 315 P P 18 04 37.3 +1.6
baz=116
Q55A Buckhannon 79.38 314 P P 18 04 37.3 +1.5
baz=116
V54A Nebo 79.40 310 P P 18 04 37.5 +1.5
baz=114
H56A Elgin 79.40 320 P P 18 04 37.0 +1.3
baz=119
N55A Marion Center 79.40 316 P P 18 04 37.3 +1.4
baz=117
LPSR Galich'ya Gora 79.40 30 eP P 18 04 41.9 +6.3
LPSR pmax pmax
comp=Z,30nm,1.0s
P55A Reedsville 79.42 314 P P 18 04 37.4 +1.3
baz=116
353A Camilla 79.45 305 P P 18 04 37.7 +1.3
baz=112
MCWV Mont Chateau 79.50 315 P P 18 04 37.7 +1.2
baz=116
PECO Prince Edward 79.54 319 P P 18 04 37.0 +0.4
baz=119
M55A Ridgway 79.56 317 P P 18 04 37.5 +0.7
baz=117
GOGA Godfrey 79.63 308 P P 18 04 38.8 +1.5
baz=112
T54A Tazewell 79.64 312 P P 18 04 38.8 +1.5
baz=114
Z53A Monticello 79.66 307 P P 18 04 38.8 +1.4
baz=112
L55A Hinsdale 79.66 317 P P 18 04 38.6 +1.3
baz=117
K55A Perry 79.67 318 P P 18 04 38.7 +1.3
baz=118
R54A Victor 79.68 313 P P 18 04 39.2 +1.7
baz=115
S54A Dingess, Beckl 79.75 312 P P 18 04 39.7 +1.7
baz=114
J55A Hilton 79.75 319 P P 18 04 39.5 +1.8
baz=118
BG3 Lake Jocassee 79.83 309 eP P 18 04 37.6 -0.8
comp=Z,23nm,1.1s
OBN Obninsk 79.85 27 i P P 18 04 35.9 -2.0
OBN i 18 04 44.4
OBN pmax pmax
comp=Z,4.0nm,1.2s
Y53A Monroe 79.89 308 P P 18 04 40.9 +2.2
baz=112,SNR=5.4
Q54A Coxs Mills 79.90 314 P P 18 04 40.6 +2.0
baz=115
P54A Burton 79.91 314 P P 18 04 39.9 +1.2
baz=115
X53A Estnollee 79.92 309 P P 18 04 40.6 +1.8
baz=113
H55A Tweed 79.95 320 P P 18 04 40.0 +1.2
baz=119
VRH Novokhopyorsk 80.00 32 eP P 18 04 45.5 +6.7
VRH pmax pmax
comp=Z,60nm,1.5s
V53A Saluda 80.00 310 P P 18 04 40.7 +1.4
baz=113
SCHQ Schefferville 80.00 332 eP P 18 04 38.5 -0.3
comp=Z,14nm,0.8s
SCHQ Schefferville 80.00 332 P P 18 04 38.8 -0.1
comp=Z,11nm,0.7s,baz=130,slow=8.0,SNR=7.0
G55A Calabogie 80.00 321 P P 18 04 40.2 +1.1
baz=119
K54A Basiliko Farm, 80.02 318 P P 18 04 40.7 +1.4
baz=117
WSAR Wadi Sarin 80.03 64 LR LR 18 38 56.5
comp=Z,116nm,18.9s,baz=214,slow=35
W53A Cullowhee 80.07 309 P P 18 04 41.9 +2.1
baz=113,SNR=5.8
O54A Avella 80.09 315 P P 18 04 41.1 +1.4
baz=116
U53A Fall Branch 80.10 311 P P 18 04 41.4 +1.6
baz=114
252A Lumpkin 80.10 306 P P 18 04 41.4 +1.5
baz=112
I55A Frankford 80.11 319 P P 18 04 41.1 +1.4
baz=118
MEDO Medina 80.12 318 P P 18 04 41.0 +1.3
baz=117
PLVO Plevna 80.12 320 P P 18 04 41.2 +1.5
baz=119
N54A Moraine State 80.16 316 P P 18 04 41.7 +1.7
baz=116
M54A Oil Creek Stat 80.18 316 P P 18 04 41.7 +1.6
baz=116
DELO Deloro Mine 80.21 320 P P 18 04 41.9 +1.7
baz=118
Y52A Lilburn 80.26 308 eP P 18 04 40.9 +0.1
comp=Z,22nm,1.0s
Y52A Lilburn 80.26 308 P P 18 04 42.3 +1.6
baz=112
L54A Sinclairville 80.27 317 P P 18 04 42.4 +1.9
baz=117
Z52A Williamson 80.28 307 P P 18 04 43.1 +2.2
baz=112,SNR=5.2
S53A Williamson 80.29 312 P P 18 04 42.7 +1.8
baz=114
T53A Wise 80.31 311 P P 18 04 42.9 +1.9
baz=114
FINES FINESS Array B 80.31 19 P P 18 04 40.7 +0.4
comp=Z,3.4nm,0.6s,baz=214,slow=4.2,SNR=18
FIA1 FINESS Array S 80.32 19 eP P 18 04 40.4 +0.1
comp=Z,17nm,1.0s
152A Waverly Hall 80.33 307 P P 18 04 42.7 +1.5
baz=112
Q53A Leroy 80.34 313 P P 18 04 42.7 +1.7
baz=115
X52A Dahlonega 80.41 309 P P 18 04 43.5 +2.0
baz=112,SNR=8.0
R53A Hurricane 80.43 313 P P 18 04 43.0 +1.5
baz=114
WLVO Wesleyville 80.43 319 P P 18 04 42.8 +1.4
baz=118
P53A Whipple 80.50 314 P P 18 04 43.3 +1.4
baz=115
PEMO Pembroke 80.53 321 P P 18 04 43.0 +1.1
baz=119
W52A Murphy 80.62 309 eP P 18 04 42.2 -0.4
comp=Z,20nm,0.8s
W52A Murphy 80.62 309 P P 18 04 44.3 +1.6
baz=112
DRWO Darlington Wes 80.62 319 P P 18 04 43.5 +1.1
baz=117
BANO Bancroft 80.64 320 P P 18 04 44.1 +1.5
baz=118
V52A Sevierville 80.65 310 P P 18 04 44.5 +1.7
baz=113
251A Midway 80.67 306 P P 18 04 44.6 +1.6
baz=111
N53A Lisbon 80.67 315 P P 18 04 44.4 +1.6
baz=115
T52A Hallie 80.69 311 eP P 18 04 42.2 -0.7
comp=Z,14nm,1.1s
U52A Thorn Hill 80.69 310 P P 18 04 44.0 +1.0
baz=113
O53A New Philadelph 80.70 315 P P 18 04 45.0 +2.0
baz=115,SNR=5.2
MOS Moscow 80.71 27 eP P 18 04 41.2 -1.4
MOS i 18 04 49.6
151A Opelika 80.76 306 P P 18 04 45.0 +1.6
baz=111,SNR=5.4
L53A Girard 80.78 317 P P 18 04 44.3 +1.0
baz=116
M53A WI Miller and 80.83 316 P P 18 04 45.0 +1.4
baz=116
E54A Lac Daplat, Po 80.86 322 P P 18 04 45.1 +1.5
baz=119
D54A Lac Fusel, La 80.89 322 P P 18 04 44.3 +0.5
baz=119
TZTN Tazewell 80.89 311 P P 18 04 45.3 +1.2
baz=113
Q52A Bidwell 80.91 313 P P 18 04 45.8 +1.8
baz=114,SNR=5.7
Z51A Franklin 80.92 307 P P 18 04 45.8 +1.5
baz=111
R52A Catlettsburg 80.93 312 P P 18 04 45.0 +0.8
baz=114
CHGQ Chibougamau 80.97 326 P P 18 04 45.2 +1.1
baz=122
Y51A Rockmart 81.05 308 P P 18 04 46.4 +1.4
baz=112
O52A Adamsville 81.08 314 eP P 18 04 45.6 +0.6
comp=Z,46nm,1.0s
O52A Adamsville 81.08 314 P P 18 04 46.9 +2.0
baz=114,SNR=6.4
P52A Corning 81.09 314 P P 18 04 46.3 +1.3
baz=114
E53A Dumoine, Ponti 81.12 321 P P 18 04 46.2 +1.1
baz=118
G53A Haliburton 81.13 320 P P 18 04 46.4 +1.3
baz=118
X51A Calhoun 81.13 308 P P 18 04 46.3 +0.9
baz=112
ALGO Algonquin Park 81.16 321 P P 18 04 46.1 +0.9
baz=118
U51A La Follette 81.17 310 P P 18 04 47.0 +1.4
baz=112
V51A Loudon 81.21 310 P P 18 04 47.0 +1.3
baz=112
N52A McGinn's Farm, 81.26 315 P P 18 04 47.6 +1.6
baz=115
W51A Cleveland 81.28 309 P P 18 04 46.6 +0.5
baz=112
SADO Sadowa 81.29 319 eP P 18 04 45.4 -0.6
comp=Z,22nm,0.9s
250A Grady 81.31 305 P P 18 04 46.9 +0.6
baz=111
150A Eclectic 81.33 306 P P 18 04 48.4 +1.9
baz=111,SNR=8.9
M52A Chesterland 81.34 316 P P 18 04 47.6 +1.3
baz=115
S51A Beattyville 81.34 312 eP P 18 04 46.7 +0.3
comp=Z,14nm,0.9s
S51A Beattyville 81.34 312 P P 18 04 47.4 +1.0
baz=113
T51A Gray 81.34 311 P P 18 04 48.4 +1.9
baz=113,SNR=5.5
ACTO Acton 81.37 318 P P 18 04 47.5 +1.1
baz=116
K52A Tillsonburg 81.44 317 P P 18 04 48.1 +1.3
baz=116
D53A Lac Vacive, Po 81.48 322 eP P 18 04 45.7 -1.2
comp=Z,25nm,0.9s
D53A Lac Vacive, Po 81.48 322 P P 18 04 47.6 +0.7
baz=118,SNR=7.4
J52A Paris 81.48 318 P P 18 04 48.5 +1.5
baz=116
Z50A Ashland 81.48 307 P P 18 04 48.2 +0.9
baz=111
R51A Hillsboro 81.59 312 P P 18 04 48.9 +1.2
baz=113
I52A Shelburne 81.64 319 P P 18 04 49.4 +1.5
baz=116
E52A Mattawa 81.69 321 P P 18 04 48.9 +0.9
baz=118
X50B Fort Payne 81.70 308 P P 18 04 49.4 +1.0
baz=111
Q51A Peebles 81.71 313 P P 18 04 49.8 +1.4
baz=113
W50A Signal Mountai 81.71 309 P P 18 04 49.9 +1.4
baz=112
H52A Wyevale 81.71 319 P P 18 04 49.9 +1.7
baz=116
V50A Pikeville 81.72 309 P P 18 04 49.6 +1.2
baz=112
BUKO Buck Lake 81.76 320 P P 18 04 49.8 +1.4
baz=117
N51A Ashland 81.78 315 P P 18 04 49.8 +1.2
baz=114
U50A Jamestown 81.80 310 P P 18 04 50.2 +1.3
baz=112
VLDQ Val d'Or 81.82 323 eP P 18 04 50.0 +1.3
comp=Z,10nm,0.8s
D52A ZEK Kipawa Sen 81.86 322 P P 18 04 49.5 +0.6
baz=118,SNR=6.4
F52A Sundridge 81.87 320 P P 18 04 50.2 +1.2
baz=117
ACSO Alum Creek Sta 81.93 314 P P 18 04 51.2 +1.7
baz=114
K51A Iona Station 81.94 317 P P 18 04 50.8 +1.4
baz=115
149A Jones 81.94 306 P P 18 04 50.5 +0.8
baz=110
Z49A Columbiana 81.94 306 P P 18 04 50.8 +1.2
baz=111
S50A Richmond 81.95 311 P P 18 04 51.1 +1.5
baz=112
LSQQ Lebel-sur-Quev 82.01 324 P P 18 04 51.1 +1.4
baz=119
T50A Nancy 82.03 311 P P 18 04 51.4 +1.3
baz=112
Y49A Blount Mountai 82.08 307 eP P 18 04 49.6 -0.8
comp=Z,9.4nm,0.8s
Y49A Blount Mountai 82.08 307 P P 18 04 51.4 +0.9
baz=111
I51A Listowel 82.08 318 P P 18 04 51.7 +1.5
baz=116
R50A Paris 82.13 312 P P 18 04 52.0 +1.5
baz=113
KLBO Killbear Provi 82.24 320 P P 18 04 52.2 +1.3
baz=116
X49A Woodville 82.24 308 P P 18 04 52.6 +1.3
baz=111
LRAL Lakeview Retre 82.25 306 P P 18 04 52.5 +1.2
baz=110
P50A Jamestown 82.26 313 P P 18 04 52.3 +1.1
baz=113
N50A Nevada 82.26 315 P P 18 04 52.9 +1.7
baz=114
PLIO Pelee Island, 82.30 316 P P 18 04 53.0 +1.7
baz=114
F51A Arnstein 82.30 320 P P 18 04 52.1 +0.8
baz=117
E51A G1948 Merrick 82.31 321 P P 18 04 52.3 +1.0
baz=117,SNR=6.7
O50A Cable 82.34 314 P P 18 04 52.6 +1.0
baz=113
V49A McMinnville 82.37 309 P P 18 04 52.8 +0.9
baz=111
W49A Belvidere 82.41 308 P P 18 04 53.0 +0.9
baz=111
M50A Fremont 82.44 315 P P 18 04 53.1 +1.0
baz=114
D51A Lot 18 Range I 82.49 321 P P 18 04 53.6 +1.3
baz=117
L50A Kingsville 82.54 316 P P 18 04 54.0 +1.4
baz=114
U49A Red Boiling Sp 82.54 310 P P 18 04 54.2 +1.4
baz=112
BMRO Meriville Lake 82.55 319 P P 18 04 54.3 +1.7
baz=116
T49A Edmonton 82.57 310 P P 18 04 54.1 +1.2
baz=112
BASO Ashfield 82.59 318 P P 18 04 54.5 +1.7
baz=115
S49A Springfield 82.64 311 P P 18 04 54.1 +0.9
baz=112
Y48A Jasper 82.69 307 P P 18 04 54.6 +1.0
baz=110
MATQ Matagami 82.72 324 P P 18 04 54.2 +0.9
baz=119
R49A Shelbyville 82.75 312 P P 18 04 54.6 +0.8
baz=112
X48A Hartselle 82.78 307 eP P 18 04 53.6 -0.4
comp=Z,11nm,0.9s
X48A Hartselle 82.78 307 P P 18 04 55.1 +1.1
baz=110
CLTN Cedars of Leba 82.81 309 eP P 18 04 53.2 -0.9
comp=Z,4.9nm,1.0s
Q49A Aurora 82.81 312 P P 18 04 55.0 +0.9
baz=112
O49A Covington 82.86 314 P P 18 04 55.2 +0.9
baz=113
W48A Pulaski 82.93 308 P P 18 04 55.3 +0.5
baz=111
E50A Wahnapitae 83.03 320 P P 18 04 55.9 +0.8
baz=116
N49A Columbus Grove 83.04 314 P P 18 04 56.5 +1.3
baz=113
V48A Smith Brothers 83.06 309 eP P 18 04 54.0 -1.5
comp=Z,13nm,0.9s

V48A	Smith Brothers	83.06 309	P	P	18 04 56.5	+1.0
	baz=111,SNR=5.5					
M49A	Liberty Center	83.11 315	P	P	18 04 57.1	+1.5
	baz=113					
U48A	Cassie Pea, Po	83.11 310	P	P	18 04 56.8	+1.0
	baz=111					
S48A	Wiedeman Farm,	83.16 311	P	P	18 04 57.1	+1.1
	baz=111					
L49A	Milan	83.22 316	P	P	18 04 57.8	+1.6
	baz=113					
T48A	Bowling Green	83.22 310	P	P	18 04 57.5	+1.3
	baz=111					
J49A	Marlette	83.29 317	P	P	18 04 57.2	+0.7
	baz=114					
I49A	Point Hope	83.32 318	P	P	18 04 58.0	+1.4
	baz=114					
P48A	Milroy	83.36 313	P	P	18 04 58.1	+1.2
	baz=112					
Q48A	North Vernon	83.39 312	P	P	18 04 58.1	+1.0
	baz=112					
X47A	Russelville	83.43 307	P	P	18 04 58.2	+0.8
	baz=110					
O48A	Farmland	83.47 313	P	P	18 04 58.8	+1.3
	baz=112					
W47A	Westpoint	83.48 308	P	P	18 04 58.5	+0.9
	baz=110,SNR=8.3					
WCI	Wyandotte Cave	83.54 311	P	P	18 04 59.0	+1.1
	baz=111					
N48A	Decatur	83.61 314	P	P	18 04 59.4	+1.2
	baz=112					
L48A	N Adams	83.61 315	P	P	18 04 59.3	+1.1
	baz=113					
V47A	Nunnelly	83.62 309	P	P	18 04 59.1	+0.8
	baz=110,SNR=5.8					
U47A	Clarksville	83.65 309	P	P	18 04 59.3	+0.8
	baz=110					
J48A	Bridge Port	83.70 317	P	P	18 04 56.6	-2.0
	baz=114					
T47A	Sharon Grove	83.71 310	eP	P	18 04 57.6	-1.1
	comp=Z,12nm,0.9s					
T47A	Sharon Grove	83.71 310	P	P	18 04 59.7	+0.9
	baz=111					
K48A	Perry	83.73 316	P	P	18 04 59.7	+1.0
	baz=113					
R47A	Wooly Knot Far	83.74 311	P	P	18 05 00.0	+1.1
	baz=111					
S47A	Hartford	83.75 310	P	P	18 04 59.7	+0.7
	baz=111					
PLAL	Pickwick Lake	83.76 308	eP	P	18 04 58.3	-0.8
	comp=Z,11nm,0.8s					
D49A	Beulah Townshi	83.79 321	P	P	18 04 59.6	+0.6
	baz=116,SNR=7.1					
Q47A	Bedord North L	83.90 312	P	P	18 05 00.6	+0.9
	baz=111					
WVT	Waverly	83.96 309	P	P	18 05 00.8	+0.8
	baz=110					
P47A	Martinsville	83.98 312	P	P	18 05 00.9	+0.8
	baz=112					
I48A	Sherman Twp	84.00 318	P	P	18 05 01.1	+1.0
	baz=114					
X46A	Booneville	84.01 307	P	P	18 05 01.0	+0.6
	baz=110					
D48A	Paudash Townsh	84.02 321	P	P	18 05 01.3	+1.1
	baz=115					
V46A	Holladay	84.06 308	P	P	18 05 01.1	+0.5
	baz=110,SNR=8.1					
N47A	Urbana	84.08 314	P	P	18 05 01.5	+0.9
	baz=112					
L47A	Sherwood	84.15 315	P	P	18 05 02.1	+1.1
	baz=112					
O47A	Sheridan	84.19 313	P	P	18 05 02.0	+0.8
	baz=112					
K47A	Vermontville	84.28 316	P	P	18 05 02.5	+0.9
	baz=113					
T46A	Princeton	84.32 310	P	P	18 05 02.7	+0.8
	baz=110					
S46A	Don Dixon Farm	84.40 310	P	P	18 05 03.1	+0.8
	baz=110					
GEYT	Alibeck	84.44 49	P	P	18 05 03.0	+0.4
	comp=Z,3.1nm,0.8s,baz=298,slow=6.2,SNR=8.4					
GEYT			LR	LR	18 43 17.7	
	comp=Z,73nm,18.9s,baz=190,slow=36					
GYA0B	ALIBECK ARRAY	84.44 49	eP	P	18 05 01.9	-0.7
	comp=Z,4.4nm,0.8s					
G47A	Hillman	84.49 318	P	P	18 05 03.8	+1.3
	baz=114					
KLMR	Klimovskoe	84.64 24	eP	P	18 04 55.1	-7.8
KLMR			pmax	pmax		
	comp=Z,29nm,1.3s					
P46A	Rosedale	84.70 312	P	P	18 05 04.6	+0.8
	baz=111					
D47A	Chapleau	84.78 320	P	P	18 05 04.4	+0.4
	baz=114					
N46A	Monticello	84.82 314	P	P	18 05 05.1	+0.7
	baz=111					
J46A	Howard City	84.97 316	P	P	18 05 05.6	+0.6
	baz=112					
R45A	Skylar, Fairfi	85.03 311	P	P	18 05 05.9	+0.5
	baz=110					
P45A	Graceland, Par	85.06 312	P	P	18 05 06.1	+0.5
	baz=110					
H46A	Fife Lake	85.13 317	P	P	18 05 06.5	+0.7
	baz=113					
Q45A	Warren Harvey,	85.14 311	P	P	18 05 06.6	+0.6
	baz=110					
E46A	Sault Ste Mari	85.26 319	P	P	18 05 06.9	+0.5
	baz=113					
D46A	Sault St. Mari	85.29 320	P	P	18 05 06.8	+0.3
	baz=114					
N45A	Kentland	85.36 313	P	P	18 05 07.5	+0.5
	baz=111					
S44A	Carbondale	85.56 310	P	P	18 05 08.6	+0.6
	baz=109					
TMCR	Tamitsa	86.14 20	eP	P	18 05 08.9	-1.4
TMCR			pmax	pmax		
	comp=Z,26nm,1.1s					
SUMG	Summit	86.20 353	eP	P	18 05 14.4	+3.4
SUMG	Summit	86.20 353	i P	P	18 05 14.4	+3.4
ARCES	ARCESS Array B	86.41 13	P	P	18 05 11.6	0.0
	comp=Z,1.7nm,0.7s,baz=212,slow=4.3,SNR=7.2					
FVM	French Village	86.53 310	eP	P	18 05 12.2	-0.7
	comp=Z,18nm,0.8s					
FVM	French Village	86.53 310	eP	P	18 05 12.2	-0.7
FVM			pmax	pmax		
	comp=Z,18nm,0.8s					
HDIL	Hopedale	86.53 313	P	P	18 05 13.5	+0.6
	baz=110					
M43A	Waltham Townsh	86.58 314	P	P	18 05 14.0	+0.9
	baz=110					
H43A	Windswept, Lux	86.81 317	P	P	18 05 15.1	+1.0
	baz=111					
I43A	Langenfeld Bro	86.86 316	P	P	18 05 15.1	+0.8
	baz=110					
J43A	Natural Harves	86.87 316	P	P	18 05 15.4	+1.0
	baz=110					
F43A	Flat Rock, Esc	86.90 318	P	P	18 05 15.8	+1.3
	baz=111					
Q42A	Golden Eagle	86.90 311	P	P	18 05 15.4	+0.7
	baz=109					
E43A	Lone Tree Farm	86.98 319	eP	P	18 05 15.1	+0.2
	comp=Z,20nm,0.8s					
E43A	Lone Tree Farm	86.98 319	P	P	18 05 15.8	+0.9
	baz=111,SNR=8.8					
G43A	Wallace	87.03 317	P	P	18 05 16.1	+1.0
	baz=111,SNR=5.5					
W41B	Gary Mavity, V	87.06 307	eP	P	18 05 15.2	-0.4
	comp=Z,10nm,1.0s					
W41B	Gary Mavity, V	87.06 307	P	P	18 05 16.2	+0.6
	baz=107					
U41A	Viola	87.16 308	P	P	18 05 16.1	+0.1
	baz=108					
CCM	Cathedral Cave	87.16 310	eP	P	18 05 14.9	-1.1
	comp=Z,26nm,0.9s					
CCM	Cathedral Cave	87.16 310	eP	P	18 05 14.9	-1.1
CCM			pmax	pmax		
	comp=Z,26nm,0.9s					
CCM	Cathedral Cave	87.16 310	P	P	18 05 16.8	+0.8
	baz=108					
L42A	Oliver, Polo	87.27 314	P	P	18 05 17.2	+0.8
	baz=109					
J42A	Columbus	87.33 315	P	P	18 05 17.5	+0.8
	baz=110					
I42A	Draeger Farm,	87.38 316	P	P	18 05 18.1	+1.2
	baz=110					
F42A	Maple Grove Fa	87.50 318	P	P	18 05 18.6	+1.1
	baz=111					
G42A	Mountain	87.52 317	P	P	18 05 18.7	+1.1
	baz=110					
PRGR	Permogore	87.52 25	eP	P	18 05 16.4	-0.7
PRGR			pmax	pmax		
	comp=Z,15nm,0.9s					
E42A	Champion	87.59 319	P	P	18 05 19.2	+1.3
	baz=111					
U40A	Yellville	87.88 308	P	P	18 05 20.0	+0.5
	baz=107					
J41A	Loganville	87.96 315	P	P	18 05 20.6	+0.9
	baz=109					
JFWS	Jewell Farm	87.98 315	P	P	18 05 20.9	+1.1
	baz=109					
I41A	Arkdale	88.09 316	P	P	18 05 21.4	+1.2
	baz=109					
H41A	Junction City	88.12 316	eP	P	18 05 20.3	-0.1
	comp=Z,21nm,0.9s					
H41A	Junction City	88.12 316	P	P	18 05 21.6	+1.1
	baz=109,SNR=7.3					
F41A	Three Lakes	88.14 318	P	P	18 05 21.2	+0.7
	baz=110					
D41A	Chassel	88.23 319	eP	P	18 05 20.5	-0.4
	comp=Z,27nm,0.8s					
D41A	Chassel	88.23 319	P	P	18 05 22.1	+1.2
	baz=110,SNR=6.7					
W39A	Magazine	88.27 306	P	P	18 05 22.6	+1.2
	baz=106					
E41A	Kenton	88.29 318	P	P	18 05 22.0	+0.8
	baz=110,SNR=7.3					
J40A	Soldiers Grove	88.47 315	P	P	18 05 23.2	+1.1
	baz=109					
K40A	Colesburg	88.53 314	P	P	18 05 23.2	+0.7
	baz=108					
I40A	Norwalk	88.55 315	P	P	18 05 23.5	+1.0
	baz=109					
H40A	Chili	88.62 316	P	P	18 05 24.2	+1.3
	baz=109,SNR=14					
G40A	Rib Lake	88.71 317	P	P	18 05 24.1	+0.9
	baz=109					
AKTO	Aktyubinsk	88.79 38	LR	LR	18 47 54.5	
	comp=Z,44nm,20.7s,baz=220,slow=37					
F40A	Park Falls	88.86 318	P	P	18 05 24.8	+0.9
	baz=109,SNR=5.1					
E40A	Wakefield	88.89 318	P	P	18 05 25.0	+1.0
	baz=109,SNR=7.9					
C40A	Isle Royale Na	88.90 320	P	P	18 05 25.2	+1.2
	baz=110					
L39A	Vinton	88.96 313	P	P	18 05 25.4	+0.9
	baz=108					
DAG	Danmarks Havn	89.02 359	eP	P	18 05 25.8	+1.8
DAG	Danmarks Havn	89.02 359	i P	P	18 05 25.8	+1.8
K39A	Oelwein	89.06 314	P	P	18 05 25.6	+0.7
	baz=108					
J39A	Decorah	89.12 315	P	P	18 05 26.1	+0.9
	baz=108					
I39A	Houston	89.16 315	P	P	18 05 26.1	+0.8
	baz=108					
E39A	Mellen	89.30 318	P	P	18 05 26.8	+0.8
	baz=109					
G39A	Holcombe	89.36 317	P	P	18 05 27.1	+0.8
	baz=108					
F39A	Loretta	89.39 317	P	P	18 05 27.2	+0.7
	baz=109,SNR=5.9					
ABKAR	Akbulak array	89.55 39	eP	P	18 05 27.0	-0.1
	comp=Z,2.9nm,0.9s					
G38A	Ridgeland	89.78 316	P	P	18 05 29.2	+0.9
	baz=108,SNR=9.9					
H38A	Maiden Rock	89.92 316	P	P	18 05 29.7	+0.8
	baz=108					
E38A	The Farm, Brul	90.03 318	P	P	18 05 30.2	+0.8
	baz=108					
F38A	Pierce - Schro	90.04 317	P	P	18 05 30.2	+0.8
	baz=108					
VNDA	Vanda	90.24 179	P	P	18 05 30.6	+0.8
	comp=Z,2.6nm,1.0s,baz=224,slow=3.8,SNR=8.9					
EYMN	Ely	90.40 319	P	P	18 05 31.6	+0.5
	baz=108					
ARU	Arti	91.23 32	eP	P	18 05 35.2	+0.5
	comp=Z,14nm,1.0s					
ARU	Arti	91.23 32	c iP	P	18 05 35.8	+1.1
ARU					18 09 12.3	
ARU			S	SKSac	18 16 07.5	+1.7
ARU			pmax	pmax		
	comp=Z,21nm,2.4s					
JCT	Junction City	91.98 301	eP	P	18 05 37.7	-1.2
	comp=Z,15nm,1.0s					
JCT	Junction City	91.98 301	eP	P	18 05 37.7	-1.2
JCT			pmax	pmax		
	comp=Z,15nm,1.0s					
JCT	Junction City	91.98 301	P	P	18 05 40.5	+1.6
	baz=103					
SVE	Sverdlovsk	92.45 32	eP	P	18 05 41.4	+1.1
SVE			pmax	pmax		
	comp=Z,27nm,1.4s					
ECSD	EROS Data Cent	92.66 314	P	P	18 05 42.5	+0.8
	baz=105					
AGMN	Agassiz Nation	93.31 319	P	P	18 05 45.6	+1.1
	baz=105					
ULM	Lac du Bonnet	93.81 321	P	P	18 05 46.8	0.0
	comp=Z,5.4nm,0.8s,baz=83,slow=2.9,SNR=9.1					
ULM			LR	LR	18 40 25.8	
	comp=Z,65nm,21.3s,baz=12,slow=31					
TXAR	Lajitas Array	95.02 299	P	P	18 05 53.3	+0.3
	comp=Z,1.9nm,0.9s,baz=120,slow=7.4,SNR=14					
TXAR			LR	LR	18 44 44.2	
	comp=Z,26nm,21.9s,baz=0.0,slow=33					
TX31	Lajitas Ar. Si	95.02 299	eP	P	18 05 54.2	+1.2
	comp=Z,2.7nm,0.9s					
FCC	Fort Churchill	95.02 329	eP	P	18 05 51.2	-0.9
	comp=Z,7.3nm,0.8s					
FCC	Fort Churchill	95.02 329	eP	P	18 05 51.2	-0.9
FCC			pmax	pmax		
	comp=Z,7.0nm,0.8s					
BRVK	Borovoye	96.84 37⇑	i P	P	18 06 00.3	-0.2
BRVK			pmax	pmax		
	comp=Z,1.0nm,0.9s					
AAK	Ala-Archa	97.73 48⇓	i P	Pdif	18 06 06.2	+1.1
AAK			pmax	pmax		
	comp=Z,3.0nm,1.4s					
ANMO	Albuquerque	98.35 304⇑	eP	Pdif	18 06 08.8	+0.7
ANMO			pmax	pmax		
	comp=Z,5.0nm,2.7s					
KURK	Kurchatov	101.61 40⇓	eP	Pdif	18 06 20.8	-1.1
KURK			pmax	pmax		
	comp=Z,4.0nm,1.8s					
MKAR	Makanchi Array	103.73 45	PKiKP	PKiKP	18 10 49.3	-0.3
	comp=Z,0.6nm,0.9s,baz=323,slow=0.7,SNR=2.6					
L04D	Klamath Falls	111.19 311	P	PKiKP	18 11 04.0	+0.2
	baz=88					
I03D	Drain, OR	111.87 312	P	PKiKP	18 11 05.7	+0.8
	baz=86					
CMAR	Chiang Mai Arr	116.10 75	PKP	PKPdf	18 11 13.2	-0.5
	comp=Z,0.8nm,0.8s,baz=256,slow=2.9,SNR=4.5					
GTA	Gaotai	116.72 52	eP	PKiKP	18 11 22.0	+7.5
GTA			pP	sPKPdf	18 11 26.8	+5.3
GTA			sP	pPKPdf	18 11 29.9	+10
TIXI	Tiksi	116.83 12	i PKIKP	PKiKP	18 11 13.7	+0.2
TLY	Talaya	117.14 38	i PKIKP	PKPdf	18 11 14.3	-0.5
ILAR	Eielson Array	118.26 339	PKP	PKPdf	18 11 16.2	-0.3
	comp=Z,0.4nm,0.8s,baz=202,slow=1.2,SNR=4.3					
HDA	Harding Lake	118.48 339	P	PKiKP	18 11 18.4	+1.4
	baz=56					
COLA	College	118.53 339	i PKIKP	PKPdf	18 11 16.9	-0.1
SONA0	Songino Array	119.88 42	ePKPdf	PKPdf	18 11 19.9	-0.4
SONM	Songino Array	119.88 42	PKP	PKPdf	18 11 19.9	-0.4
	comp=Z,1.0nm,0.9s,baz=225,slow=1.9,SNR=5.4					
LZH	Lanzhou	120.26 55	ePKP	PKiKP	18 11 23.0	+1.5
LZH			sPKP		18 11 27.6	
LZH			eSS	SS	18 29 16.5	+1.9
LZH			LR	LR		
	comp=Z,170nm,18.0s					
LZH			LR	LR		
	comp=Z,170nm,17.9s					
LZH			LR	LR		
	comp=Z,240nm,20.1s					
CD2	Chengdu	120.66 61	PKP	PKPdf	18 11 21.0	-1.2
SKNT	Sakolnakorn	120.77 78	PKP	PKiKP	18 11 31.9	+9.1
PANO	Nakornpanom	121.38 77	PKP	PKiKP	18 11 33.1	+9.1
BILL	Bilibino	124.40 360	i PKIKP	PKiKP	18 11 28.4	-0.1
BILL			i		18 11 36.0	
BILL			i		18 13 18.2	
BILL			pmax	pmax		
	comp=Z,2.0nm,1.1s					
XAN	Xi'an	124.66 57	P	PKiKP	18 11 36.6	+6.5
HHC	Hu-ho-hao-te	125.31 48	ePKP	PKiKP	18 11 32.3	+1.0
SEY	Seymchan	128.70 7	i PKIKP	PKiKP	18 11 37.1	-0.1
ZEA	Zeya	128.97 28	ePKIKP	PKPdf	18 11 37.2	-0.1
STKA	Stephens Creek	130.50 153	PKP	PKPdf	18 11 40.2	-0.8
	comp=Z,1.7nm,1.0s,baz=315,slow=1.4,SNR=2.6					
MA2	Magadan	131.68 10	i PKIKP	PKiKP	18 11 43.1	-0.2
SPSI	Sidrap Palu	131.99 107	PKP	PKiKP	18 11 45.5	+0.2
SPSI			PKP	sPKPdf	18 11 54.6	+3.3
ASAR	Alice Springs	132.85 139	PKP	PKPdf	18 11 45.8	+0.1
	comp=Z,0.5nm,0.7s,baz=214,slow=1.1,SNR=7.5					
NJ2	Nanjing	133.23 58	ePKP	PKPdf	18 11 45.8	-0.3
KLR	Kul'dur	134.04 30	i PKIKP	PKiKP	18 11 47.9	-0.5
WRA	Warramunga Arr	135.76 136	PKP	PKPdf	18 11 50.1	-1.1
	comp=Z,1.0nm,0.9s,baz=249,slow=2.3,SNR=2.8					
WR1	Warramunga Arr	135.76 136	ePKPdf	PKPdf	18 11 50.1	-1.1
TJN	Taejon	138.44 48	i PKIKP	PKiKP	18 11 56.9	-0.8
JNU	Nakatsue	142.45 51	PKP	PKPdf	18 12 03.4	+0.4
	comp=Z,5.2nm,0.9s,baz=101,slow=2.6,SNR=4.2					
INU	Inuyama	145.74 43	ePKPdf	PKPdf	18 12 08.8	+0.2
MJB9	Matsu-Tunnel	145.81 41	ePKPdf	PKPdf	18 12 08.3	-0.6
MAJO	Matsushiro	145.82 41	ePKPdf	PKPdf	18 12 08.5	-0.3
MAJO	Matsushiro	145.82 41	ePKP2	PKPdf	18 12 08.5	-0.3
MAT	Matsushiro	145.82 41	PKP	PKPdf	18 12 09.0	+0.2
MJAR	Matsushiro Arr	145.82 41	PKPbc	PKPbc	18 12 09.4	0.0
	comp=Z,3.1nm,1.0s,baz=271,slow=4.5,SNR=9.3					

*ISCJB **24** 17:55:39.8±0.5,24°.88N±0°.02×122°.45E±0°.02,h11km±3km,*
Error ellipse: s-maj=3.8km s-min=2.5km az=23.4
*TAP **24** 17:55:40.4,24°.90N×122°.38E,h16km,ML3.3,C*
*JMA **24** 17:55:40.5±0.1,24°.86N×122°.44E,h41km±3km,M3.1*
ISC 24 17:55:38.5±1.3,24°.90N±0°.03×122°.44E±0°.02,h8km±10km,
n89,σ0°75/132,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.42	284	⇑P	Pb	17 55 48.4	+0.3
	baz=287						
TWB1				S	Sb	17 55 53.9	-0.8
	baz=287						
EOS1	EOS1	0.45	218	P	Pb	17 55 49.3	+0.6
	baz=225						
EOS1				eS	Sb	17 55 55.7	+0.2
	baz=225						
EGS		0.46	263	eP	Pb	17 55 49.3	+0.4
	baz=254						
NTC	Toucheng	0.55	265	eP	Pb	17 55 51.1	+0.7
	baz=265						
TIPB	Shuangxi	0.56	277	eP	Pb	17 55 51.2	+0.6
	baz=278						
TIPB				eS	Sb	17 55 58.4	-0.3
	baz=278						
TWC	Suao	0.61	241	eP	Pb	17 55 51.2	-0.1
	baz=238						
TWC				eS	Sb	17 55 59.4	-0.7
	baz=238						
NWF	Wu-fen Shan	0.62	286	eP	Pn	17 55 52.6	-1.1
	baz=287						
NWF				eS	Sb	17 56 00.8	+0.3
	baz=287						
WFSB	Wu-fen Shan	0.62	286	eP	Pn	17 55 52.6	-1.0
	baz=287						
WFSB				eS	Sb	17 56 00.8	+0.4
	baz=287						
ILA	Ilan	0.64	258	eP	Pn	17 55 53.0	-0.9
	baz=256						
JYNG	Yonagunijimaku	0.65	134	P	Pb	17 55 52.8	+0.8
JYNG				S	Sb	17 56 01.3	+0.1
YOJ	Yonaguni jima	0.68	130	eS	Sb	17 56 02.5	+0.2
	baz=117						
YOJ	Yonaguni jima	0.68	130	P	Pb	17 55 53.3	+0.6
TWE	Neicheng	0.72	256	eP	Pb	17 55 53.6	+0.3
	baz=245						
TWE				eS	Sb	17 56 02.9	-0.5
	baz=245						
TWA	Mucha	0.78	276	P	Pn	17 55 55.2	-0.6
	baz=276						
TWA				eS	Sb	17 56 05.6	+0.6
	baz=276						
NANB	Nanao	0.78	233	eP	Pb	17 55 54.6	+0.2
	baz=230						
NANB				eS	Sb	17 56 05.5	+0.3
	baz=230						
YM07	YM07	0.79	290	eP	Pn	17 55 55.4	-0.6
	baz=291						
YM07				eS	Sb	17 56 05.8	+0.5
	baz=291						
ENA	Nanau	0.79	233	eP	Pb	17 55 54.6	+0.1
	baz=230						
ENA				eS	Sb	17 56 05.5	+0.2
	baz=230						
PCYT	Pengchaiyu	0.79	336	eP	Pn	17 55 56.7	+0.7
	baz=323						
YM08	YM08	0.82	290	eP	Pn	17 55 55.6	-0.7
	baz=291						
YM08				eS	Sb	17 56 06.3	+0.1
	baz=291						
YM01	YM01	0.82	287	eP	Pn	17 55 56.0	-0.5
	baz=288						
YM01				eS	Sb	17 56 06.8	+0.5
	baz=288						
YM11	YM11	0.82	289	eP	Pn	17 55 56.0	-0.5
	baz=289						
YM11				eS	Sn	17 56 07.7	-1.2
	baz=289						
NHDH	Xindian Distri	0.83	274	eP	Pn	17 55 56.3	-0.2
	baz=274						
NHDH				eS	Sb	17 56 07.2	+0.8
	baz=274						
YM10	YM10	0.83	288	eP	Pn	17 55 56.1	-0.5
	baz=288						
YM10				eS	Sb	17 56 07.1	+0.4
	baz=288						
ENTT	Nioudou	0.83	252	P	Pn	17 55 56.0	-0.6
	baz=250						
ENTT				eS	Sb	17 56 06.5	-0.1
	baz=250						
TWY	Chenhua	0.84	296	eP	Pn	17 55 56.4	-0.2
	baz=285						
TWY				eS	Sb	17 56 08.0	+1.1
	baz=285						
NWLT	Wulai	0.86	262	eP	Pn	17 55 56.6	-0.3
	baz=261						
TATO	Taipei	0.86	275	eP	Pn	17 55 56.4	-0.5
	baz=275						
ANP	Anpu	0.88	289	eP	Pn	17 55 56.7	-0.5
	baz=290						
NDT	Datong Townshi	0.89	251	eP	Pn	17 55 57.1	-0.3
	baz=249						
NDT				eS	Sb	17 56 08.6	+0.4
	baz=249						
TWS1	Kuangyinshan	0.94	282	eP	Pn	17 55 58.1	+0.1
	baz=282						
TWS1				eS	Sb	17 56 10.5	+0.7
	baz=282						
YHNB	Yeheng	0.99	257	eP	Pn	17 55 58.5	-0.2
	baz=270						
YHNB				eS	Sb	17 56 10.8	-0.4
	baz=270						
NSK	Sanguang	1.00	257	P	Pn	17 55 59.0	0.0
	baz=270						
NSK				eS	Sb	17 56 11.5	-0.1
	baz=270						
NACB	Ningnanchiao	1.06	227	eP	Pb	17 55 58.9	-0.2
	baz=224						
NACB				eS	Sg	17 56 11.9	-0.6
	baz=224						
NNSB	Datong	1.07	244	eP	Pn	17 55 59.9	0.0
	baz=230						
NNSB				eS	Sb	17 56 13.4	-0.1
	baz=230						
NNS	Nan Shan	1.07	245	P	Pn	17 55 60.0	0.0
	baz=242						
NNS				eS	Sb	17 56 13.7	+0.2
	baz=242						
ETLH	Xiulin Townshi	1.11	232	eP	Pn	17 56 00.5	0.0
	baz=229						
ETLH				eS	Sb	17 56 14.7	0.0
	baz=229						
TWD	Chiawan	1.12	223	eP	Pn	17 56 00.8	+0.3
	baz=229						
TWD				eS	Sb	17 56 14.8	-0.1
	baz=229						
IRIF	Iriomote-Funau	1.31	115	P	Pn	17 56 02.3	-0.8
WHF	Hehuan Shan	1.31	235	eP	Pg	17 56 04.1	+0.5
	baz=232						
WHF				eS	Sg	17 56 20.3	-0.3
	baz=232						
LIOB	Emei	1.32	259	eP	Pg	17 56 03.7	-0.1
	baz=257						
LIOB				eS	Sb	17 56 20.2	-0.3
	baz=257						

TDCB	Techi	1.33	241	eP	Pg	17 56 04.0	-0.1
	baz=240						
NSTT	Nanjuang	1.33	259	eP	Pg	17 56 04.0	-0.1
	baz=257						
NSTT				eS	Sn	17 56 22.1	+0.8
	baz=257						
ESL	Shilin	1.42	220	eP	Pb	17 56 04.9	-0.3
	baz=200						
CHGB	Renai	1.42	234	eP	Pg	17 56 06.5	+0.7
	baz=232						
CHGB				eS	Sg	17 56 24.6	+0.3
	baz=232						
OWD	Renai	1.49	231	eP	Pg	17 56 07.1	0.0
	baz=229						
WHP	Taichung City	1.49	246	eP	Pg	17 56 08.0	+0.8
	baz=230						
WHP				eS	Sb	17 56 26.0	+0.3
	baz=230						
HATJ	Hateruma jima	1.51	124	P	Pn	17 56 05.9	+0.1
HATJ				eS	Sn	17 56 23.7	-1.9
EGFH	Guangfu	1.54	217	eP	Pb	17 56 06.9	-0.3
	baz=197						
NMLH	Miaoli	1.54	257	eP	Pg	17 56 09.2	+1.2
	baz=270						
JKRS	Kuro-shima	1.58	115	P	Pn	17 56 06.5	-0.3
NSY	Sanyi	1.60	253	eP	Pg	17 56 09.9	+0.7
	baz=267						
TWQ1	Liyutan	1.61	250	eP	Pg	17 56 09.5	+0.1
	baz=264						
DPDB	Guoxing	1.62	238	eP	Pg	17 56 09.9	+0.2
	baz=237						
JIJ	Ishigaki jima	1.64	109	P	Pn	17 56 06.7	-1.0
VWDT	VWDT	1.65	226	eP	Pb	17 56 09.1	0.0
	baz=224						
VWDT				eS	Sb	17 56 30.1	+0.1
	baz=224						
HGSD	Ruisui	1.68	214	eP	Pn	17 56 08.7	+0.4
	baz=197						
EHY	Hungye	1.72	216	eP	Pn	17 56 09.0	+0.2
	baz=214						
SMLT	Sun Moon Lake	1.73	234	eP	Pg	17 56 11.1	-0.6
	baz=232						
SMLT				eS	Sb	17 56 32.9	+0.3
	baz=232						
JISG	Ishigakijimahi	1.73	100	P	Pn	17 56 09.5	+0.6
SSLB	Suanglung	1.75	231	eP	Pb	17 56 10.8	-0.1
	baz=240						
SSLB				eS	Sn	17 56 31.9	+0.2
	baz=240						
TYC	Yuchr	1.75	236	eP	Pg	17 56 11.5	-0.5
	baz=233						
TYC				eS	Sb	17 56 33.4	+0.4
	baz=233						
YULB	Yu-li	1.83	215	eP	Pn	17 56 10.4	+0.1
	baz=213						
TWF1	Yuli	1.86	214	eP	Pn	17 56 10.5	-0.2
	baz=212						
WHYT	Xinyi Township	1.88	231	eP	Pb	17 56 13.3	+0.2
	baz=211						
WHYT				eS	Sb	17 56 36.2	-0.6
	baz=211						
WNT	Mingjian	1.90	238	eP	Pg	17 56 14.1	-0.8
	baz=236						
YUS	Yu-Shan	1.95	224	eP	Pb	17 56 13.7	-0.9
	baz=222						
ALS	Alisham	2.04	227	eP	Pb	17 56 15.4	-0.5
	baz=209						
CHN5	Tsauling	2.06	231	eP	Pb	17 56 16.0	-0.3
	baz=230						
WGK	Gukeng	2.10	235	eP	Pb	17 56 16.8	0.0
	baz=251						
WDLH	Douliu	2.11	235	eP	Pb	17 56 17.5	+0.4
	baz=251						
ELDTW	Lidau	2.14	218	eP	Pn	17 56 15.3	+0.7
	baz=202						
CHN4	Tsaushan	2.29	228	eP	Pb	17 56 19.2	-0.8
	baz=210						
CHN4				eS	Sb	17 56 47.3	-1.1
	baz=210						
TPUB	Ta-pu	2.30	226	eP	Pb	17 56 19.1	-1.1
	baz=209						
CHY	Chiayi	2.31	233	eP	Pb	17 56 19.3	-1.1
	baz=248						
STYT	Tauyuan	2.31	222	eP	Pb	17 56 18.9	-1.6
	baz=205						
WTP	Ta-pu	2.34	226	eP	Pb	17 56 19.6	-1.4
	baz=208						
TWGBT	Beinan	2.42	211	eP	Pn	17 56 19.1	+0.7
	baz=210						
TWG	Pinlang	2.42	211	eP	Pn	17 56 19.2	+0.8
	baz=210						
CHN1	Nanshi	2.44	226	eP	Pb	17 56 21.4	-1.3
	baz=225						
SLGT	Liugui	2.51	221	eP	Pb	17 56 22.1	-1.7
	baz=220						
ECL	Taimali	2.67	211	eP	Pn	17 56 21.8	+0.1
	baz=209						
SSD	Sandimen	2.71	218	eP	Pn	17 56 24.6	+2.2
	baz=202						
VWUC	VWUC	2.71	272	eP	Pn	17 56 21.9	-0.5
	baz=271						
MASBT	Mashibuluo	2.82	216	eP	Pn	17 56 25.7	+1.9
	baz=202						
MASBT				eS	Sn	17 56 59.8	+1.8
	baz=202						
EAST	Anshuo	2.90	210	eP	Pn	17 56 27.0	+2.0
	baz=209						
EAST				eS	Sn	17 56 59.7	-0.4
	baz=209						
TAW	Tawu	2.90	209	eP	Pn	17 56 26.8	+1.8
	baz=208						
TAW				eS	Sn	17 56 59.9	-0.1
	baz=208						
PHUB	P'eng-hu	2.96	243	eP	Pn	17 56 26.3	+0.5
	baz=242						
SCZT	Fangliau	3.02	214	eP	Pn	17 56 29.5	+2.9
	baz=199						
KNMB	Chin-men Tao	3.71	264	eP	Pn	17 56 35.9	-0.2
	baz=263						

*ISCJB **24** 18:05:34.0±0.4,24°.53N±0°.03×122°.88E±0°.02,h93km±4km,*
Error ellipse: s-maj=5.0km s-min=2.3km az=174.4
*JMA **24** 18:05:33.5±0.2,24°.51N×122°.87E,h102km±2km,M1.9*
*TAP **24** 18:05:33.6,24°.58N×122°.89E,h100km,ML3.0,C*
ISC 24 18:05:34.1±1.3,**24°.54N**±0°.05×**122°.88E**±0°.02,**h96**km±7km,
n82,σ0°.**71**/134,**5C-1D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.11	143	P	Pn	18 05 47.9	+0.3
JYNG				S	Sn	18 05 58.3	+0.7
YOJ	Yonaguni jima	0.14	121	eP	Pn	18 05 47.9	+0.3
	baz=144						
YOJ				S	Sn	18 05 58.2	+0.5
	baz=144						
YOJ	Yonaguni jima	0.14	121	P	Pn	18 05 48.0	+0.3
YOJ				eS	Sn	18 05 58.2	+0.5
EOS1	EOS1	0.68	271	P	Pn	18 05 51.1	+0.2
	baz=260						
EOS1				eS	Sn	18 06 04.1	+0.6
	baz=260						
IRIF	Iriomote-Funau	0.80	104	P	Pn	18 05 52.1	-0.1
IRIF				S	Sn	18 06 05.2	-0.5
EGS		0.91	290	eP	Pn	18 05 53.2	0.0
	baz=283						
TWB1	Santiao Chiao	0.93	300	eP	Pn	18 05 53.3	-0.2
	baz=292						
TWB1				eS	Sn	18 06 07.4	-0.7
	baz=292						
TWC	Suao	0.94	275	P	Pn	18 05 53.2	-0.3
	baz=271						
TWC				S	Sn	18 06 07.2	-1.0
	baz=271						
HATJ	Hateruma jima	0.97	119	eS	Sn	18 06 09.4	+0.6
NTC	Toucheng	1.00	289	eP	Pn	18 05 54.8	+0.6
	baz=280						
ENA	Nanau	1.04	264	P	Pn	18 05 54.7	+0.1
	baz=256						
ENA				eS	Sn	18 06 09.9	-0.3
	baz=256						
TIPB	Shuangxi	1.05	295	P	Pn	18 05 54.8	0.0
	baz=286						
TIPB				eS	Sn	18 06 09.8	-0.6
	baz=286						
JKRS	Kuro-shima	1.07	106	P	Pn	18 05 55.8	+0.7
JKRS				S	Sn	18 06 11.6	+0.7
TWE	Neicheng	1.11	280	⇑P	Pn	18 05 55.6	+0.1
	baz=273						
TWE				eS	Sn	18 06 11.0	-0.6
	baz=273						
NWF	Wu-fen Shan	1.13	298	eP	Pn	18 05 56.1	+0.3
	baz=295						
WFSB	Wu-fen Shan	1.13	298	eP	Pn	18 05 56.0	+0.3
	baz=295						
JIJ	Ishigaki jima	1.17	98	P	Pn	18 05 56.2	+0.1
JIJ				S	Sn	18 06 12.0	-0.8
ENTT	Nioudou	1.20	275	P	Pn	18 05 57.0	+0.5
	baz=270						
NACB	Ninganchiao	1.22	253	P	Pn	18 05 56.2	-0.6
	baz=245						
NACB				S	Sn	18 06 12.9	-1.0
	baz=245						
NDT	Datong Townshi	1.24	273	P	Pn	18 05 57.6	+0.6
	baz=270						
NDT				eS	Sn	18 06 14.3	0.0
	baz=270						
TWD	Chiawan	1.25	249	⇓P	Pn	18 05 56.9	-0.3
	baz=247						
TWD				eS	Sn	18 06 13.7	-0.9
	baz=247						
TWA	Mucha	1.25	291	eP	Pn	18 05 57.1	-0.1
	baz=280						
TWA				eS	Sn	18 06 14.0	-0.7
	baz=280						
NWLT	Wulai	1.27	281	eP	Pn	18 05 57.6	+0.2
	baz=284						
NWLT				eS	Sn	18 06 14.7	-0.4
	baz=284						
HWA	Hwalien	1.29	245	eP	Pn	18 05 57.5	0.0
	baz=243						
NHDH	Xindian Distri	1.30	289	eP	Pn	18 05 57.8	+0.1
	baz=278						
NHDH				eS	Sn	18 06 14.8	-0.7
	baz=278						
YM07	YM07	1.31	299	eP	Pn	18 05 58.1	+0.3
	baz=296						
YM07				eS	Sn	18 06 15.8	0.0
	baz=296						
JISG	Ishigakijimahi	1.31	88	P	Pn	18 05 57.6	-0.2
JISG				S	Sn	18 06 15.0	-0.7
ETLH	Xiulin Townshi	1.31	256	P	Pn	18 05 57.8	-0.2
	baz=248						
ETLH				eS	Sn	18 06 15.3	-0.7
	baz=248						
ENLB	Shoufeng	1.32	242	eP	Pn	18 05 58.7	+0.7
	baz=236						
YM01	YM01	1.33	297	eP	Pn	18 05 58.5	+0.3
	baz=287						
YM10	YM10	1.34	298	eP	Pn	18 05 58.4	+0.1
	baz=289						
NNSB	Datong	1.36	266	eP	Pn	18 05 58.6	0.0
	baz=257						
NNSB				S	Sn	18 06 16.8	-0.4
	baz=257						
YHNB	Yeheng	1.37	276	⇑P	Pn	18 05 59.1	+0.4
	baz=266						
YHNB				eS	Sn	18 06 17.0	-0.2
	baz=266						
NNS	Nan Shan	1.37	266	eP	Pn	18 05 58.8	0.0
	baz=257						
NNS				eS	Sn	18 06 16.9	-0.5
	baz=257						
NSK	Sanguang	1.39	276	eP	Pn	18 05 59.1	+0.2
	baz=267						
NSK				eS	Sn	18 06 17.2	-0.4
	baz=267						
TWS1	Kuangyinshan	1.44	293	eP	Pn	18 05 59.3	-0.1
	baz=283						
ESL	Shilin	1.50	242	eP	Pn	18 05 59.8	-0.4
	baz=240						
WHF	Hehuan Shan	1.52	255	P	Pn	18 06 00.7	-0.1
	baz=260						
WHF				eS	Sn	18 06 20.1	-0.9
	baz=260						
EGFH	Guangfu	1.58	237	eP	Pn	18 06 00.8	-0.3
	baz=232						
EGFH				eS	Sn	18 06 20.7	-1.0
	baz=232						
TDCB	Techi	1.59	260	eP	Pn	18 06 01.8	+0.3
	baz=256						
CHGB	Renai	1.62	253	P	Pn	18 06 02.1	+0.2
	baz=246						
CHGB				eS	Sn	18 06 22.1	-0.9
	baz=246						
OWD	Renai	1.66	250	eP	Pn	18 06 02.2	-0.1
	baz=245						
JTJ	Tarama	1.67	86	P	Pn	18 06 01.4	-0.8
JTJ				S	Sn	18 06 22.9	-0.7
HGSD	Ruisui	1.69	232	eP	Pn	18 06 02.2	-0.3
	baz=228						
HGSD				eS	Sn	18 06 22.9	-1.2
	baz=228						
LIOB	Emei	1.70	274	eP	Pn	18 06 03.0	+0.3
	baz=272						
LIOB				eS	Sn	18 06 24.6	+0.2
	baz=272						
NSTT	Nanjuang	1.71	274	eP	Pn	18 06 03.2	+0.4
	baz=271						
NSTT				eS	Sn	18 06 24.4	-0.2
	baz=271						
SBCB	Hsinchu	1.74	279	eP	Pn	18 06 03.4	+0.2
	baz=277						
EHY	Hungye	1.75	234	eP	Pn	18 06 02.8	-0.6
	baz=242						
VWDT	VWDT	1.77	244	⇑P	Pn	18 06 03.8	+0.3
	baz=237						
VWDT				eS	Sn	18 06 24.9	-1.0
	baz=237						
WHP	Taichung City	1.78	262	eP	Pn	18 06 05.1	+1.3
	baz=257						
WHP				eS	Sn	18 06 26.6	+0.3
	baz=257						
YULB	Yu-li	1.84	232	⇑P	Pn	18 06 04.0	-0.5
	baz=240						
YULB				eS	Sn	18 06 26.8	-0.8
	baz=240						
DPDB	Guoxing	1.85	255	eP	Pn	18 06 05.3	+0.6
	baz=250						
DPDB				eS	Sn	18 06 28.2	+0.3
	baz=250						
TWF1	Yuli	1.86	231	⇑iP	Pn	18 06 04.6	-0.2
	baz=239						
TWF1				eS	Sn	18 06 27.5	-0.7
	baz=239						
NMLH	Miaoli	1.90	270	eP	Pn	18 06 05.6	+0.4
	baz=269						
SSLB	Suanglung	1.91	247	eP	Pn	18 06 05.5	+0.2
	baz=246						
SSLB				eS	Sn	18 06 27.9	-1.3
	baz=246						
SMLT	Sun Moon Lake	1.92	251	eP	Pn	18 06 06.2	+0.6
	baz=246						
SMLT				eS	Sn	18 06 30.6	+1.1
	baz=246						
TWQ1	Liyutan	1.93	265	eP	Pn	18 06 05.7	+0.2
	baz=263						
TYC	Yuchr	1.95	252	eP	Pn	18 06 06.7	+0.8
	baz=246						
TYC				eS	Sn	18 06 30.5	+0.4
	baz=246						
CHKT	Chengkung	1.99	224	eP	Pn	18 06 05.7	-0.8
	baz=220						
CHKT				eS	Sn	18 06 28.9	-2.2
	baz=220						
WHYT	Xinyi Township	2.03	246	eP	Pn	18 06 07.9	+1.0
	baz=246						
WHYT				eS	Sn	18 06 32.5	+0.5
	baz=246						
YUS	Yu-Shan	2.04	240	P	Pn	18 06 08.0	+0.4
	baz=232						
YUS				eS	Sn	18 06 31.7	-1.3
	baz=232						
WNT	Mingjian	2.11	252	eP	Pn	18 06 09.2	+1.3
	baz=261						
JIRB	Irabujima	2.11	82	P	Pn	18 06 07.7	-0.2
JIRB				S	Sn	18 06 33.7	-0.1
ELDTW	Lidau	2.17	232	P	Pn	18 06 08.4	-0.4
	baz=227						
ELDTW				eS	Sn	18 06 33.5	-1.9
	baz=227						
CHN5	Tsauling	2.22	245	eP	Pn	18 06 10.5	+1.1
	baz=238						
CHN5				eS	Sn	18 06 37.9	+1.4
	baz=238						
JMJ	Miyako jima 2	2.22	82	eP	Pn	18 06 09.5	+0.2
	baz=84						
JMJ				eS	Sn	18 06 36.0	-0.3
	baz=84						
JMJ2	Miyako jima3	2.24	84	P	Pn	18 06 10.0	+0.3
JMJ2				eS	Sn	18 06 37.2	+0.3
WDLH	Douliu	2.30	249	eP	Pn	18 06 11.6	+1.2
	baz=259						
TWGBT	Beinan	2.38	224	eP	Pn	18 06 10.9	-0.5
	baz=231						
TWG	Pinlang	2.38	224	eP	Pn	18 06 11.1	-0.4
	baz=231						
RLNB	Erlin	2.39	255	eP	Pn	18 06 11.7	+0.1
	baz=254						
TPUB	Ta-pu	2.40	240	eP	Pn	18 06 12.8	+1.1
	baz=232						
TPUB				eS	Sn	18 06 41.4	+0.8
	baz=232						
CHN4	Tsaushan	2.40	241	eP	Pn	18 06 13.2	+1.5
	baz=233						
CHN4				eS	Sn	18 06 42.4	+1.7
	baz=233						
WTP	Ta-pu	2.44	239	eP	Pn	18 06 13.7	+1.4
	baz=247						
CHN1	Nanshi	2.54	238	eP	Pn	18 06 14.8	+1.2
	baz=247						
CHN1				eS	Sn	18 06 44.7	+0.8
	baz=247						
SLGT	Liugui	2.56	234	eP	Pn	18 06 14.8	+1.0
	baz=240						
WLGB	Puzi	2.58	246	eP	Pn	18 06 14.4	+0.3
	baz=246						
SSD	Sandimen	2.72	230	eP	Pn	18 06 17.3	+1.2
	baz=230						
MASBT	Mashibuluo	2.81	228	eP	Pn	18 06 18.1	+0.8
	baz=224						
MASBT				eS	Sn	18 06 50.6	+0.2
	baz=224						
EAST	Anshuo	2.84	221	eP	Pn	18 06 17.4	-0.3
	baz=226						
SCZT	Fangliau	2.99	224	eP	Pn	18 06 21.3	+1.6
	baz=225						
VWUC	VWUC	3.15	279	eP	Pn	18 06 21.2	-0.5
	baz=277						

*ISCJB **24** 18:09:33.8±0.6,24°.87N±0°.03×122°.41E±0°.02,h11km±4km,*
Error ellipse: s-maj=4.5km s-min=2.7km az=19.0
*JMA **24** 18:09:33.7±0.3,24°.79N×122°.38E,h2km±4km,M2.4*
*TAP **24** 18:09:34.0,24°.88N×122°.42E,h13km,ML2.6,C*
ISC 24 18:09:33.9±1.0,**24°.84N**±0°.03×**122°.40E**±0°.02,**h10**km±10km,
n46,σ0°.**40**/75,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.38	221	eP	Pb	18 09 42.5	-0.2
	baz=218						
EOS1				eS	Sb	18 09 48.7	+0.1
	baz=218						
TWB1	Santiao Chiao	0.41	295	P	Pg	18 09 41.8	-0.2
	baz=287						
TWB1				eS	Sg	18 09 47.5	+0.1
	baz=287						
TIPB	Shuangxi	0.54	285	eP	Pg	18 09 44.6	+0.2
	baz=279						
TIPB				eS	Sg	18 09 52.5	+0.9
	baz=279						
TWC	Suao	0.55	246	eP	Pg	18 09 44.9	+0.3
	baz=241						
TWC				eS	Sb	18 09 53.5	-0.1
	baz=241						
NWF	Wu-fen Shan	0.61	293	eP	Pg	18 09 46.0	+0.2
	baz=287						
NWF				eS	Sg	18 09 54.4	+0.6
	baz=287						
WFSB	Wu-fen Shan	0.61	293	eP	Pg	18 09 45.9	+0.1
	baz=287						
WFSB				eS	Sg	18 09 54.2	+0.5
	baz=287						
JYNG	Yonagunijimaku	0.63	128	P	Pg	18 09 46.0	-0.1
JYNG				S	Sg	18 09 54.4	+0.1
YOJ	Yonaguni jima	0.67	124	eP	Pg	18 09 46.6	-0.3
	baz=128						
YOJ				eS	Sg	18 09 55.6	-0.1
	baz=128						
YOJ	Yonaguni jima	0.67	124	P	Pg	18 09 46.6	-0.3
YOJ				eS	Sg	18 09 55.6	-0.1
TWE	Neicheng	0.68	260	P	Pg	18 09 47.0	-0.1
	baz=256						
TWE				eS	Sg	18 09 56.3	+0.4
	baz=256						
SLBB	Yuanshan	0.70	263	eP	Pb	18 09 47.9	-0.3
	baz=259						
SLBB				eS	Sb	18 09 57.7	-0.3
	baz=259						
ENA	Nanau	0.72	236	eP	Pg	18 09 48.0	+0.1
	baz=233						
ENA				eS	Sb	18 09 58.3	-0.3
	baz=233						
TWA	Mucha	0.76	281	eP	Pg	18 09 48.5	0.0
	baz=277						
TWA				eS	Sg	18 09 58.1	-0.3
	baz=277						
ENTT	Nioudou	0.78	256	eP	Pg	18 09 49.3	+0.3
	baz=252						
ENTT				eS	Sb	18 10 00.1	-0.2
	baz=252						
YM07	YM07	0.78	296	eP	Pg	18 09 48.8	-0.3
	baz=291						
YM07				eS	Sg	18 09 59.3	0.0
	baz=291						
YM01	YM01	0.81	292	eP	Pg	18 09 49.4	-0.3
	baz=288						
YM01				eS	Sg	18 10 00.3	0.0
	baz=288						
YM08	YM08	0.81	296	eP	Pg	18 09 49.1	-0.5
	baz=291						
NWLT	Wulai	0.82	266	eP	Pg	18 09 49.6	-0.1
	baz=262						
NWLT				eS	Sg	18 10 01.0	+0.6
	baz=262						
YM11	YM11	0.82	294	eP	Pg	18 09 49.5	-0.2
	baz=290						
YM10	YM10	0.82	293	eP	Pg	18 09 48.9	-1.0
	baz=289						
YM10				eS	Sg	18 10 01.0	+0.3
	baz=289						
NDT	Datong Townshi	0.84	254	eP	Pb	18 09 50.6	0.0
	baz=251						
TATO	Taipei	0.84	280	eP	Pg	18 09 49.6	-0.5
	baz=276						
TATO				eS	Sg	18 10 00.9	-0.2
	baz=276						
PCYT	Pengchaiyu	0.84	339	eP	Pg	18 09 50.1	-0.1
	baz=337						
TWY	Chenhua	0.85	301	eP	Pg	18 09 50.0	-0.3
	baz=297						
TWY				eS	Sg	18 10 00.6	-0.7
	baz=297						
YHNB	Yeheng	0.95	260	eP	Pg	18 09 52.0	-0.2
	baz=257						
YHNB				eS	Sb	18 10 05.0	0.0
	baz=257						
NSK	Sanguang	0.96	261	eP	Pg	18 09 52.3	-0.2
	baz=257						
NACB	Ninganchiao	0.99	228	eP	Pg	18 09 52.0	-0.9
	baz=226						
NACB				eS	Sg	18 10 05.9	+0.1
	baz=226						
NNSB	Datong	1.01	247	eP	Pg	18 09 52.3	-1.1
	baz=244						
NNSB				eS	Sb	18 10 07.0	0.0
	baz=244						
NNS	Nan Shan	1.01	247	eP	Pg	18 09 53.3	-0.2
	baz=244						
NNS				eS	Sg	18 10 06.9	+0.2
	baz=244						
ETLH	Xiulin Townshi	1.04	233	eP	Pg	18 09 54.1	0.0
	baz=231						
ETLH				eS	Sb	18 10 08.2	+0.3
	baz=231						
TWD	Chiawan	1.05	224	eP	Pg	18 09 54.0	-0.2
	baz=223						
WHF	Hehuan Shan	1.24	237	eP	Pg	18 09 57.4	-0.5
	baz=234						
WHF				eS	Sg	18 10 13.5	-0.5
	baz=234						
LIOB	Emei	1.27	262	eP	Pn	18 09 57.1	-0.7

	baz=259						
IRIF	**Iriomote-Funau**	**1.31 112**	P		**Pb**	**18 09 58.6**	**0.0**
IRIF			*e*S		**Sb**	**18 10 14.9**	**-0.6**
CHGB	**Renai**	**1.36 236**	*e*P		**Pn**	**18 09 59.4**	**+0.2**
	baz=234						
CHGB			*e*S		**Sb**	**18 10 17.5**	**+0.4**
	baz=234						
OWD	**Renai**	**1.42 232**	*e*P		**Pn**	**18 10 00.2**	**+0.3**
	baz=230						
HATJ	**Hateruma jima**	**1.50 121**	P		**Pb**	**18 10 02.2**	**+0.4**
DPDB	**Guoxing**	**1.56 240**	*e*P		**Pn**	**18 10 02.4**	**+0.6**
	baz=238						
VWDT	**VWDT**	**1.57 227**	*e*P		**Pn**	**18 10 01.7**	**-0.2**
	baz=226						
VWDT			*e*S		**Sn**	**18 10 22.8**	**+0.5**
	baz=226						
JKRS	**Kuro-shima**	**1.58 112**	P		**Pb**	**18 10 03.2**	**-0.1**
JIJ	**Ishigaki jima**	**1.66 106**	P		**Pn**	**18 10 03.5**	**+0.5**
SMLT	**Sun Moon Lake**	**1.67 236**	*e*P		**Pg**	**18 10 05.4**	**-0.5**
	baz=234						
SSLB	**Suanglung**	**1.68 232**	*e*P		**Pn**	**18 10 03.6**	**+0.1**
	baz=230						
TYC	**Yuchr**	**1.69 237**	*e*P		**Pn**	**18 10 03.9**	**+0.4**
	baz=235						
YULB	**Yu-li**	**1.75 215**	*e*P		**Pn**	**18 10 04.0**	**-0.4**
	baz=214						
CHN4	**Tsaushan**	**2.22 229**	*e*P		**Pn**	**18 10 11.2**	**+0.4**
	baz=227						

TAP ***24*** *18:17:35.3,24.°05N×122.°75E,h47km±1km,ML2.7,C*
ISCJB ***24*** *18:17:36.5±0.5,24.°02N±0.°03×122.°65E±0.°02,h32km±5km, Error ellipse: s-maj=4.6km s-min=2.6km az=164.2*
JMA ***24*** *18:17:36.3±0.1,24.°15N×122.°61E,h50km±4km,M2.0*
ISC 24 18:17:35.3±1.1**,24.°01N**±0.°03×**122.°63E**±0.°02**,h27**km±12km**, n70,**σ0.**84**/101**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.53**	**33**	P	**Pn**	**18 17 46.8**	**-0.3**
JYNG				S	**Sn**	**18 17 54.6**	**-0.6**
YOJ	**Yonaguni jima**	**0.57**	**37**	*e*P	**Pb**	**18 17 45.9**	**-0.8**
	baz=26						
YOJ				*e*S	**Sn**	**18 17 54.6**	**-1.6**
	baz=26						
YOJ	**Yonaguni jima**	**0.57**	**37**	P	**Pn**	**18 17 47.4**	**-0.3**
YOJ				S	**Sn**	**18 17 55.6**	**-0.6**
EOS1	**EOS1**	**0.71**	**320**	P	**Pn**	**18 17 50.3**	**+0.8**
	baz=311						
EOS1				*e*S	**Sn**	**18 18 01.2**	**+1.7**
	baz=311						
NANB	**Nanao**	**0.91**	**298**	*e*P	**Pb**	**18 17 52.7**	**+0.3**
	baz=292						
NANB				*e*S	**Sn**	**18 18 06.2**	**+1.7**
	baz=292						
ENA	**Nanau**	**0.91**	**298**	*e*P	**Pb**	**18 17 52.8**	**+0.3**
	baz=292						
TWC	**Suao**	**0.93**	**310**	*e*P	**Pb**	**18 17 53.0**	**+0.2**
	baz=304						
TWD	**Chiawan**	**0.95**	**275**	*e*P	**Pb**	**18 17 53.2**	**+0.1**
	baz=272						
NACB	**Ninganchiao**	**0.96**	**280**	*e*P	**Pb**	**18 17 53.3**	**0.0**
	baz=277						
EGS		**1.05**	**323**	*e*P	**Pb**	**18 17 55.3**	**+0.5**
	baz=325						
IRIF	**Iriomote-Funau**	**1.06**	**72**	P	**Pb**	**18 17 54.8**	**-0.1**
IRIF				S	**Sb**	**18 18 08.8**	**+0.5**
ETLH	**Xiulin Townshi**	**1.07**	**281**	*e*P	**Pb**	**18 17 55.1**	**0.0**
	baz=278						
HATJ	**Hateruma jima**	**1.07**	**87**	P	**Pb**	**18 17 56.4**	**+1.2**
HATJ				*e*S	**Sb**	**18 18 11.1**	**+2.2**
ILA	**Ilan**	**1.10**	**313**	*e*P	**Pn**	**18 17 54.5**	**-0.5**
	baz=308						
ESL	**Shilin**	**1.11**	**260**	*e*P	**Pb**	**18 17 55.3**	**-0.5**
	baz=259						
TWE	**Neicheng**	**1.13**	**309**	*e*P	**Pb**	**18 17 56.1**	**0.0**
	baz=304						
EGFH	**Guangfu**	**1.15**	**253**	*e*P	**Pb**	**18 17 56.3**	**-0.2**
	baz=252						
TWB1	**Santiao Chiao**	**1.16**	**330**	*e*P	**Pn**	**18 17 55.6**	**-0.1**
	baz=324						
ENTT	**Nioudou**	**1.16**	**303**	*e*P	**Pb**	**18 17 56.8**	**+0.1**
	baz=299						
NDT	**Datong Townshi**	**1.18**	**300**	*e*P	**Pb**	**18 17 57.1**	**+0.1**
	baz=286						
TIPB	**Shuangxi**	**1.21**	**323**	*e*P	**Pb**	**18 17 56.8**	**-0.7**
	baz=328						
TIPB				*e*S	**Sn**	**18 18 11.7**	**-0.3**
	baz=328						
NNSB	**Datong**	**1.21**	**291**	*e*P	**Pb**	**18 17 57.4**	**-0.3**
	baz=287						
HGSD	**Ruisui**	**1.22**	**245**	*e*P	**Pb**	**18 17 57.2**	**-0.5**
	baz=245						
HGSD				*e*S	**Sn**	**18 18 12.3**	**+0.1**
	baz=245						
NNS	**Nan Shan**	**1.23**	**291**	*e*P	**Pb**	**18 17 57.5**	**-0.3**
	baz=287						
WHF	**Hehuan Shan**	**1.25**	**277**	P	**Pb**	**18 17 58.1**	**-0.4**
	baz=274						
JKRS	**Kuro-shima**	**1.28**	**79**	P	**Pb**	**18 17 58.7**	**0.0**
JKRS				*e*S	**Sb**	**18 18 15.4**	**+0.6**
NWLT	**Wulai**	**1.28**	**307**	*e*P	**Pb**	**18 17 58.6**	**-0.1**
	baz=314						
EHY	**Hungye**	**1.30**	**248**	*e*P	**Pn**	**18 17 58.0**	**+0.3**
	baz=246						
EHY				*e*S	**Sn**	**18 18 14.5**	**+0.3**
	baz=246						
YHNB	**Yeheng**	**1.32**	**300**	*e*P	**Pb**	**18 17 59.0**	**-0.4**
	baz=284						
YHNB				*e*S	**Sb**	**18 18 15.8**	**-0.3**
	baz=284						
OWD	**Renai**	**1.33**	**268**	*e*P	**Pb**	**18 17 59.1**	**-0.6**
	baz=266						
CHGB	**Renai**	**1.33**	**273**	P	**Pb**	**18 17 59.4**	**-0.4**
	baz=270						
NSK	**Sanguang**	**1.34**	**300**	*e*P	**Pb**	**18 17 58.8**	**-0.9**
	baz=285						
YULB	**Yu-li**	**1.37**	**244**	*e*P	**Pb**	**18 17 59.6**	**-0.6**
	baz=235						
YULB				*e*S	**Sb**	**18 18 16.6**	**-0.6**
	baz=235						
TWF1	**Yuli**	**1.39**	**242**	*e*P	**Pb**	**18 17 59.8**	**-0.7**
	baz=233						
TWF1				*e*S	**Sb**	**18 17 18.5**	**-0.3**
	baz=233						
VWDT	**VWDT**	**1.39**	**260**	*e*P	**Pb**	**18 18 00.1**	**-0.3**
	baz=258						
TATO	**Taipei**	**1.42**	**313**	*e*S	**Sb**	**18 18 18.5**	**-0.2**
	baz=321						
JIJ	**Ishigaki jima**	**1.43**	**75**	P	**Pb**	**18 17 59.8**	**-1.4**
JIJ				S	**Sb**	**18 18 17.4**	**-1.6**
CHKT	**Chengkung**	**1.47**	**232**	*e*P	**Pn**	**18 18 00.5**	**+0.4**
	baz=223						
CHKT				*e*S	**Sn**	**18 18 17.7**	**-0.7**
	baz=223						
YM07	**YM07**	**1.48**	**322**	*e*P	**Pb**	**18 17 59.8**	**-0.4**
	baz=318						
SSLB	**Suanglung**	**1.55**	**262**	*e*P	**Pb**	**18 18 02.4**	**-0.9**
	baz=261						
DPDB	**Guoxing**	**1.56**	**271**	*e*P	**Pb**	**18 18 02.9**	**-0.6**
	baz=269						
WHP	**Taichung City**	**1.56**	**280**	*e*P	**Pb**	**18 18 04.2**	**+0.6**
	baz=268						
WHP				*e*S	**Sb**	**18 18 23.6**	**+0.6**
	baz=268						
SMLT	**Sun Moon Lake**	**1.59**	**266**	P	**Pb**	**18 18 03.3**	**-0.7**
	baz=264						
SMLT				*e*S	**Sb**	**18 18 23.0**	**-0.7**
	baz=264						
LIOB	**Emei**	**1.60**	**294**	*e*P	**Pb**	**18 18 03.7**	**-0.6**
	baz=290						
LIOB				*e*S	**Sb**	**18 18 23.1**	**-1.0**
	baz=290						
NSTT	**Nanjuang**	**1.61**	**293**	*e*S	**Sn**	**18 18 22.9**	**+1.0**
	baz=290						
YUS	**Yu-Shan**	**1.62**	**252**	*e*P	**Pb**	**18 18 04.0**	**-0.9**
	baz=250						
YUS				*e*S	**Sn**	**18 18 23.5**	**+0.6**
	baz=250						
TYC	**Yuchr**	**1.62**	**267**	*e*P	**Pb**	**18 18 03.8**	**-0.8**
	baz=265						
JISG	**Ishigakijimahi**	**1.64**	**69**	P	**Pn**	**18 18 02.5**	**+0.1**
JISG				*e*S	**Sn**	**18 18 22.4**	**-0.2**
WHYT	**Xinyi Township**	**1.66**	**260**	*e*P	**Pb**	**18 18 04.6**	**-0.5**
	baz=258						
ELDTW	**Lidau**	**1.69**	**242**	*e*P	**Pn**	**18 18 03.8**	**+0.7**
	baz=240						
ELDTW				*e*S	**Sn**	**18 18 23.1**	**-0.9**
	baz=240						
TWQ1	**Liyutan**	**1.73**	**282**	*e*P	**Pb**	**18 18 05.8**	**-0.5**
	baz=279						
ALS	**Alishan**	**1.74**	**254**	*e*P	**Pb**	**18 18 06.2**	**-0.6**
	baz=252						
ALS				*e*S	**Sn**	**18 18 26.9**	**+1.3**
	baz=252						
WNT	**Mingjian**	**1.79**	**266**	*e*P	**Pb**	**18 18 07.3**	**0.0**
	baz=265						
TCU	**Taichung**	**1.79**	**275**	*e*P	**Pb**	**18 18 07.0**	**-0.4**
	baz=273						
CHN5	**Tsauling**	**1.83**	**258**	*e*P	**Pb**	**18 18 07.9**	**-0.3**
	baz=248						
CHN5				*e*S	**Sb**	**18 18 30.8**	**0.0**
	baz=248						
TWGBT	**Beinan**	**1.85**	**231**	*e*P	**Pn**	**18 18 06.3**	**+1.0**
	baz=242						
TWGBT				*e*S	**Sn**	**18 18 28.0**	**+0.1**
	baz=242						
TWG	**Pinlang**	**1.85**	**231**	*e*P	**Pn**	**18 18 06.3**	**+0.9**
	baz=224						
WGK	**Gukeng**	**1.92**	**261**	*e*P	**Pb**	**18 18 09.3**	**-0.3**
	baz=259						
WDLH	**Douliu**	**1.94**	**261**	*e*P	**Pb**	**18 18 09.4**	**-0.6**
	baz=260						
TPUB	**Ta-pu**	**1.96**	**249**	*e*P	**Pb**	**18 18 09.3**	**-1.1**
	baz=248						
TPUB				*e*S	**Sb**	**18 18 34.0**	**-0.5**
	baz=248						
CHN4	**Tsaushan**	**1.98**	**251**	*e*P	**Pb**	**18 18 09.9**	**-0.7**
	baz=250						
CHN4				*e*S	**Sb**	**18 18 35.0**	**+0.1**
	baz=250						
JTJ	**Tarama**	**1.99**	**71**	P	**Pn**	**18 18 08.1**	**+0.9**
JTJ				*e*S	**Sn**	**18 18 31.9**	**+0.6**
WTP	**Ta-pu**	**2.00**	**248**	*e*P	**Pb**	**18 18 10.2**	**-0.7**
	baz=239						
SLGT	**Liugui**	**2.08**	**241**	*e*P	**Pb**	**18 18 11.4**	**-1.0**
	baz=234						
ECL	**Taimali**	**2.08**	**228**	*e*P	**Pb**	**18 18 10.3**	**-2.1**
	baz=238						
CHN1	**Nanshi**	**2.10**	**247**	*e*P	**Pb**	**18 18 11.9**	**-0.7**
	baz=247						
CHN1				*e*S	**Sb**	**18 18 38.2**	**0.0**
	baz=247						
SNST	**Tainan City**	**2.11**	**249**	*e*P	**Pb**	**18 18 11.9**	**-0.9**
	baz=248						
SSD	**Sandimen**	**2.22**	**236**	*e*P	**Pn**	**18 18 12.3**	**+1.9**
	baz=232						
SSD				*e*S	**Sb**	**18 18 39.6**	**-2.3**
	baz=232						
EAST	**Anshuo**	**2.30**	**226**	*e*P	**Pn**	**18 18 13.5**	**+2.0**
	baz=232						
EAST				*e*S	**Sn**	**18 18 38.2**	**-0.8**
	baz=232						
MASBT	**Mashibuluo**	**2.30**	**233**	*e*P	**Pn**	**18 18 13.1**	**+1.6**
	baz=227						

ISCJB ***24*** *18:26:07.7±1.2,28.°85S±0.°05×71.°3W±0.°1,h47km±17km, Error ellipse: s-maj=16.2km s-min=7.3km az=17.2*
GUC ***24*** *18:26:07.8±0.8,28.°94S×71.°06W,h60km±4km,ML3.3*
SJA ***24*** *18:26:08.8±0.8,28.°90S×71.°13W,h49km±6km,ML4.7, MW4.1*
ISC 24 18:26:07.2±2.1**,28.°85S**±0.°06×**71.°39W**±0.°09**,h28**km±14km**, n13,**σ0.**68**/19**,3C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.62**	**105**	*e*P	**Pb**	**18 26 19.9**	**+0.2**
LCO				*e*S	**Sb**	**18 26 27.8**	**-0.4**
LCO				IAML		18 26 28.8	
	comp=Z,50μm,0.2s						
LCO	**Las Campanas**	**0.62**	**105**	⇑*i*P	**Pb**	**18 26 19.9**	**+0.2**
LCO				*i* S	**Sb**	**18 26 28.1**	**-0.1**
LCO				IAML		18 26 29.0	
	comp=E,7μm,0.3s						
LSCH	**La Serena**	**1.06**	**173**	*e*P	**Pb**	**18 26 26.8**	**-0.1**
LSCH				*i* S	**Sn**	**18 26 40.2**	**+0.1**
LSCH				IAML		18 26 41.8	
	comp=N,668nm,0.3s						
GO04	**Tololo Observa**	**1.41**	**159**	⇑*i*P	**Pn**	**18 26 30.9**	**-0.4**
GO04				*i* S	**Sn**	**18 26 48.9**	**-0.3**
GO03	**Copiap**	**1.61**	**39**	⇑*i*P	**Pn**	**18 26 34.3**	**+0.4**
GO03				*i* S	**Sn**	**18 26 53.2**	**-0.6**
GO03				IAML		18 26 54.1	
	comp=N,758nm,0.2s						
AROD	**Rodeo**	**2.12**	**129**	*e*P	**Pn**	**18 26 41.7**	**+0.6**
AROD				*e*S	**Sn**	**18 27 05.9**	**-0.8**
AGUA	**GUANDACOL**	**2.61**	**105**	*e*P	**Pn**	**18 26 47.5**	**-0.1**
VCA	**Vinchina**	**2.79**	**88**	*e*P	**Pn**	**18 26 50.7**	**+0.4**
AMOG	**MOGNA**	**3.26**	**130**	*e*P	**Pn**	**18 26 57.3**	**+0.7**
AUSP	**Uspallata**	**3.78**	**153**	*e*P	**Pn**	**18 27 05.8**	**+1.9**
ACLC	**CERRO LA CRUZ**	**3.92**	**99**	*e*P	**Pn**	**18 27 06.3**	**+0.6**
PEL	**Peldehue**	**4.32**	**172**	*e*P	**Pn**	**18 27 10.8**	**-0.4**
APLL	**PUNTA DE LOS L**	**4.50**	**111**	*e*P	**Pn**	**18 27 13.6**	**-0.1**

IDC ***24*** *18:31:56.7±0.6,42.°58N×85.°97E,h0km,mb3.9/19, mb1 4.0/24,mb1mx3.9/50,mbtmp3.9/24,ML3.3/5,Error ellipse: s-maj=16.4km s-min=9.9km az=44.0*
ISCJB ***24*** *18:31:58.3±0.3,42.°65N±0.°03×85.°97E±0.°04,h22km, mb3.9/30,Error ellipse: s-maj=5.2km s-min=3.8km az=26.4*
BJI ***24*** *18:31:59.7±0.0,42.°57N×85.°92E,h7km,mb4.2/12, mB4.0/3,ML4.1/12*
SOME ***24*** *18:31:59.2,42.°80N×85.°88E,h15km*
MOS ***24*** *18:32:00.3±1.2,42.°64N×85.°83E,h37km,mb4.1/9,Error ellipse: s-maj=7.8km s-min=5.9km az=121.6*
NEIC ***24*** *18:32:01.0±2.9,42.°61N×85.°87E,h29km±5km,mb4.1/17, Error ellipse: s-maj=15.3km s-min=12.0km az=191.0*
NNC ***24*** *18:32:04.4±2.2,43.°03N×85.°76E,h0km,mb4.6,mpv4.2, Error ellipse: s-maj=17.8km s-min=11.5km az=132.0*
ISC 24 18:32:00.5±0.4**,42.°63N**±0.°04×**86.°00E**±0.°03**,h22km,n142,**
σ1.994/146**,mb4.0**/30**,23C-8D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.72**	**46**	Pg	**Pn**	**18 32 31.5**	**+2.2**
WMQ				Sg	**Sb**	**18 32 54.8**	**+2.1**
WMQ				smax	smax		
	comp=N,10μm,0.7s						
WMQ				smax	smax		
	comp=E,8μm,0.5s						
WMQ	**Urumqi**	**1.72**	**46**	*e*Pn	**Pn**	**18 32 31.4**	**+2.2**
WMQ				*e*Sn	**Sb**	**18 32 54.6**	**+2.0**
WMQ	**Urumqi**	**1.72**	**46**	*e*P	**Pn**	**18 32 31.4**	**+2.2**
WMQ				*e*		18 32 54.6	
KTMS	**Ketmen**	**4.22**	**283**	Pg	Pb	18 33 18.7	+4.6
KTMS				Lg	Lg	18 34 06.6	
PDGK	**Podgornoye**	**4.83**	**281**	Pg	Pb	18 33 31.2	+6.8
	22nm,0.4s						
PDGK				Lg	Lg	18 34 28.0	
	83nm,0.7s						
PDGK	**Podgornoye**	**4.83**	**281**	⇓Pn	**Pn**	**18 33 12.8**	**+0.9**
	14nm,0.5s						
PDGK				⇑Pg	**Pb**	**18 33 28.6**	**+4.2**
	47nm,0.7s						
PDGK				⇑Lg	Lg	18 34 29.8	
	202nm,0.7s						
DJR	**Jarkent**	**4.83**	**293**	Pg	Pb	18 33 31.8	+7.4
	70nm,0.4s						
DJR				Lg	Lg	18 34 29.3	
	61nm,0.5s						
DJR	**Jarkent**	**4.83**	**293**	*e*P	**Pb**	**18 33 24.6**	**+0.2**
	22nm,0.3s						
DJR				*e*S	**Sb**	**18 34 25.6**	**+3.6**
	75nm,0.5s						
SHLS	**Shalkode**	**4.83**	**278**	Pg	**Pb**	**18 33 26.6**	**+2.1**
	198nm,0.6s						
SHLS				Lg	Lg	18 34 20.0	
	384nm,0.5s						
SHLS	**Shalkode**	**4.83**	**278**	*e*P	**Pb**	**18 33 20.9**	**-3.5**
	198nm,0.6s						
SHLS				*e*S	**Sb**	**18 34 19.9**	**-2.3**
	564nm,0.5s						
ZSN	**Zaisan**	**4.89**	**351**	Pg	Pb	18 33 36.1	+11
	27nm,0.5s						
ZSN				Lg	Lg	18 34 36.6	
	40nm,0.7s						
ZSN	**Zaisan**	**4.89**	**351**	*e*P	**Pb**	**18 33 26.4**	**+1.0**
	22nm,0.6s						
ZSN				*e*S	**Sb**	**18 34 29.2**	**+5.5**
	66nm,0.5s						
MK31	**Makanchi Array**	**4.93**	**329**	*e*Pn	**Pn**	**18 33 14.1**	**+0.8**
MK31				*e*Sg	**Sb**	**18 34 29.3**	**+4.3**
MK31	**Makanchi Array**	**4.93**	**329**	⇓Pn	**Pn**	**18 33 14.0**	**+0.8**
	2.2nm,0.2s,baz=146,slow=14,SNR=285						
MK31				⇓Pg	**Pb**	**18 33 26.5**	**+0.4**
	4.1nm,0.3s,baz=142,slow=15,SNR=11						
MK31				⇓Lg	Lg	18 34 30.2	
	86nm,0.6s,baz=142,slow=30,SNR=9.5						
MK31	**Makanchi Array**	**4.93**	**329**	*e*P	**Pn**	**18 33 14.1**	**+0.8**
MK32	**Makanchi Array**	**4.93**	**329**	*e*Pn	**Pn**	**18 33 14.1**	**+0.8**
MK32				*e*Sn	**Sn**	**18 34 11.0**	**+1.3**
MKAR	**Makanchi Array**	**4.93**	**329**	Pn	**Pn**	**18 33 14.1**	**+0.8**
	3.0nm,0.3s,baz=149,slow=14,SNR=103						
MKAR				Sn	**Sn**	**18 34 11.0**	**+1.4**
	11nm,0.3s,baz=153,slow=19,SNR=7.1						
MKAR				Lg	Lg	18 34 30.4	
	43nm,0.3s,baz=142,slow=30,SNR=18						
MAKZ	**Makanchi**	**5.07**	**327**	*e*Pn	**Pn**	**18 33 15.4**	**+0.3**
MAKZ				*e*Sg	**Sb**	**18 34 35.1**	**+6.3**
MAKZ	**Makanchi**	**5.07**	**327**	⇓Pn	**Pn**	**18 33 15.7**	**+0.6**
	10nm,0.5s						
MAKZ				⇑Pg	**Pb**	**18 33 28.6**	**+0.2**
	16nm,0.5s						
MAKZ				⇑Sn	**Sn**	**18 34 11.1**	**-1.9**
	18nm,0.4s						
MAKZ				⇑Lg	Lg	18 34 34.3	
	140nm,0.8s						
MAKZ	**Makanchi**	**5.07**	**327**	*e*P	**Pn**	**18 33 15.4**	**+0.3**
UZB	**Uzynbulak**	**5.15**	**278**	Pg	Pb	18 33 37.7	+7.7
	24nm,0.4s						
UZB				Lg	Lg	18 34 39.3	
	141nm,0.7s						
UZB	**Uzynbulak**	**5.15**	**278**	*e*P	**Pb**	**18 33 31.6**	**+1.7**
	20nm,0.5s						
UZB				*e*S	**Sb**	**18 34 37.6**	**+6.2**
	137nm,0.7s						
KAPS	**Kapalarasan**	**5.48**	**301**	Pg	Pb	18 33 44.8	+9.3
	15nm,0.4s						
KAPS				Lg	Lg	18 34 51.6	
	83nm,0.8s						
KAPS	**Kapalarasan**	**5.48**	**301**	*e*P	**Pb**	**18 33 39.4**	**+4.0**
	16nm,0.6s						
KAPS				*e*S	Sb	18 34 51.7	+11
	76nm,0.5s						
SATY	**Saty**	**5.60**	**277**	Pg	Pb	18 33 44.7	+7.2
	70nm,0.6s						
SATY				Lg	Lg	18 34 51.9	
	126nm,0.4s						
SATY	**Saty**	**5.60**	**277**	*e*P	**Pb**	**18 33 41.5**	**+4.0**
	71nm,0.6s						
SATY				*e*S	Sb	18 34 55.2	+11
	139nm,0.5s						
KURS	**Kuram**	**5.80**	**281**	Pg	Pb	18 33 49.4	+8.5
	9.5nm,0.5s						
KURS				Lg	Lg	18 34 59.1	
	64nm,0.6s						
KURS	**Kuram**	**5.80**	**281**	*e*P	Pb	18 33 46.0	+5.1
	9.5nm,0.6s						
KURS				*e*S	Sb	18 35 02.8	+13
	63nm,0.8s						
TARG	**Taragay, Kyrgy**	**6.15**	**264**	*e*Pn	**Pn**	**18 33 30.4**	**0.0**
ARXS	**Arharly**	**6.16**	**288**	Pg	Pb	18 33 56.2	+9.2
	14nm,0.3s						
ARXS				Lg	Lg	18 35 11.2	
	140nm,0.7s						
KDJ	**Kajisay**	**6.55**	**269**	*e*Pn	**Pn**	**18 33 36.5**	**+0.9**
KDJ	**Kajisay**	**6.55**	**269**	*e*P	**Pn**	**18 33 36.5**	**+0.9**
KOTS	**Kotyrbulak**	**6.55**	**278**	Pg	Pb	18 34 03.6	+10
	10nm,0.3s						
KOTS				Lg	Lg	18 35 23.7	
	87nm,0.8s						
MDOK	**Medeo**	**6.59**	**278**	⇑Pn	**Pn**	**18 33 36.9**	**+0.7**
	9.5nm,0.6s						
MDOK				⇓Lg	Lg	18 35 23.8	
	90nm,0.8s						
MDOK	**Medeo**	**6.59**	**278**	Pg	Pb	18 34 04.1	+10
	9.0nm,0.5s						
MDOK				Lg	Lg	18 35 24.7	
	65nm,0.9s						
KNDC	**Almaty**	**6.66**	**278**	⇑Pg	**Pb**	**18 33 57.5**	**+2.0**
	37nm,0.8s						
KNDC				⇑Lg	Lg	18 35 26.1	
	200nm,1.1s						
TNSS	**Tian-Shan**	**6.67**	**277**	Pg	Pb	18 34 05.4	+10
	13nm,0.4s						
TNSS				Lg	Lg	18 35 26.6	
	56nm,0.7s						
TNSS	**Tian-Shan**	**6.67**	**277**	*e*P	**Pb**	**18 33 59.8**	**+3.9**
	12nm,0.4s						
TNSS				*e*S	Sb	18 35 26.8	+12
	56nm,0.6s						
KTBS	**Karatobe**	**6.90**	**282**	Pg	Pb	18 34 08.9	+9.3
	6.0nm,0.6s						
KTBS				Lg	Lg	18 35 32.8	
	63nm,0.6s						
DGZ	**Jazzator, Alta**	**7.14**	**8**	*c i*P	**Pn**	**18 33 47.1**	**+3.4**
BOOM	**Boomskoye usch**	**7.43**	**272**	*e*Pn	**Pn**	**18 33 48.0**	**+0.3**
BOOM	**Boomskoye usch**	**7.43**	**272**	P	**Pn**	**18 33 47.2**	**-0.5**
NRN	**Naryn**	**7.54**	**264**	*e*Pn	**Pn**	**18 33 47.2**	**-2.2**
NRN	**Naryn**	**7.54**	**264**	*e*P	**Pn**	**18 33 47.2**	**-2.2**
TKM2	**Tokmak 2**	**7.66**	**276**	⇑Pn	**Pn**	**18 33 53.0**	**+2.2**
	6.1nm,0.6s						
TKM2				⇓Sn	**Sn**	**18 35 19.9**	**+2.9**
	17nm,0.8s						
TKM2				⇑Lg	Lg	18 35 58.9	
	20nm,0.6s						
AAK	**Ala-Archa**	**8.48**	**274**	*e*Pn	**Pn**	**18 34 02.9**	**+0.8**
AAK	**Ala-Archa**	**8.48**	**274**	Pn	**Pn**	**18 34 05.4**	**+3.3**
	1.8nm,0.6s						
AAK				⇑Lg	Lg	18 36 26.9	
	27nm,0.9s						
AAK	**Ala-Archa**	**8.48**	**274**	*ce*P	**Pn**	**18 33 59.8**	**-2.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
AAK	**Ala-Archa**	**8.48**	**274**	Pn	**Pn**	**18 34 06.4**	**+4.3**
	comp=Z,0.7nm,0.3s,baz=153,slow=10,SNR=7.1						
AAK				Lg	Lg	18 36 26.2	
	comp=Z,0.9nm,0.3s,baz=248,slow=16,SNR=5.8						
KURBB	**Kurchatov Arra**	**9.50**	**330**	⇑Pn	**Pn**	**18 34 14.8**	**-1.1**
	comp=Z,10.0nm,0.6s						
KURBB				⇓Lg	Lg	18 36 55.4	
	comp=Z,100nm,0.8s						
KURBB	**Kurchatov Arra**	**9.50**	**330**	Pn	**Pn**	**18 34 15.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=146,slow=10,SNR=19						
KURBB				Sn	**Sn**	**18 35 59.2**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=153,slow=17,SNR=5.9						
KURBB				Lg	Lg	18 36 57.1	
	comp=Z,0.6nm,0.3s,baz=141,slow=30,SNR=6.5						
KURK	**Kurchatov**	**9.54**	**331**	*e*Pn	**Pn**	**18 34 15.2**	**-1.2**
KURK	**Kurchatov**	**9.54**	**331**	⇑

NIL	**Nilore**	**13.44 232**	*e*P	**Pn**	**18 35 10.5 +0.6**	
LSA	**Lhasa**	**13.55 161**	*e*Pn	**Pn**	**18 35 13.1 +1.3**	
LSA	**Lhasa**	**13.55 161**	*e*P	**Pn**	**18 35 13.1 +1.3**	
ZAK	**Zakamensk**	**14.18 51**	*e*P	**P**	**18 35 28.6 +1.3**	
ZAK			pmax	pmax		
comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**14.73 320**	P	**Pn**	**18 35 25.0 -2.4**	
BVAR	**Borovoye Array**	**14.73 320**	Pn	**Pn**	**18 35 25.0 -2.4**	
comp=Z,0.1nm,0.3s,baz=133,slow=14,SNR=3.1						
BVAR			Lg	Lg	18 39 46.5	
comp=Z,0.2nm,0.3s,baz=124,slow=26,SNR=3.6						
BRVK	**Borovoye**	**14.80 320**	*e*Pn	**Pn**	**18 35 24.9 -3.4**	
BRVK	**Borovoye**	**14.80 320**	*e*P	**Pn**	**18 35 24.9 -3.4**	
SONA0	**Songino Array**	**15.27 63**	*e*Pn	**Pn**	**18 35 36.0 +1.3**	
SONM	**Songino Array**	**15.27 63**	Pn	**Pn**	**18 35 36.0 +1.3**	
comp=Z,0.1nm,0.3s,baz=259,slow=14,SNR=6.8						
SONM			Lg	Lg	18 40 03.5	
comp=Z,0.2nm,0.3s,baz=244,slow=29,SNR=3.4						
KBL	**Kabul**	**15.51 244**	*e*Pn	**Pn**	**18 35 38.3 +0.4**	
comp=Z,6.3nm,0.4s						
KBL	**Kabul**	**15.51 244**	*e*P	**Pn**	**18 35 38.3 +0.4**	
KBL			pmax	pmax		
comp=Z,6.0nm,0.4s						
HHC	**Hu-ho-hao-te**	**19.14 87**	*e*P	**Pn**	**18 36 24.0 +0.8**	
HHC			pmax	pmax		
comp=Z,42nm,0.7s						
ABKAR	**Akbulak array**	**19.23 299**	*e*P	**P**	**18 36 22.0 -1.0**	
comp=Z,1.8nm,1.0s						
XAN	**Xi'an**	**19.88 108**	P	**Pn**	**18 36 33.3 +1.4**	
XAN			pP	pP	18 36 37.4 +0.4	
XAN			pmax	pmax		
comp=Z,6.0nm,0.6s						
XAN	**Xi'an**	**19.88 108**	*e*P	**P**	**18 36 31.9 +1.6**	
comp=Z,4.7nm,0.6s						
XAN	**Xi'an**	**19.88 108**	*e*P	**P**	**18 36 31.9 +1.6**	
XAN			pmax	pmax		
comp=Z,5.0nm,0.6s						
AKTO	**Aktyubinsk**	**20.68 302**	P	**P**	**18 36 39.2 +0.4**	
comp=Z,0.9nm,0.4s,baz=80,slow=13,SNR=3.8						
SVE	**Sverdlovsk**	**21.52 320**	*e*P	**P**	**18 36 46.8 -0.9**	
GEYT	**Alibeck**	**21.73 267**	P	**P**	**18 36 49.3 -1.0**	
comp=Z,0.8nm,0.5s,baz=79,slow=7.5,SNR=2.3						
ARU	**Arti**	**22.34 318**	*e*P	**P**	**18 36 55.2 -1.3**	
comp=Z,2.6nm,0.7s						
ARU	**Arti**	**22.34 318**	*c i*P	**P**	**18 36 57.2 +0.7**	
ARU					18 37 16.8	
ARU			SS	Sn	18 41 33.7 +20	
ARU			pmax	pmax		
comp=Z,4.0nm,1.2s						
ARU	**Arti**	**22.34 318**	P	**P**	**18 36 57.0 +0.4**	
comp=Z,0.4nm,0.3s,baz=104,slow=14,SNR=3.1						
ENH	**Enshi**	**22.48 116**	*e*P	**P**	**18 37 02.4 +4.1**	
comp=Z,8.1nm,0.8s						
WHN	**Wuhan**	**25.64 109**	P	**P**	**18 37 26.4 -2.0**	
CM31	**Chiang Mai Arr**	**26.48 152**	*e*P	**P**	**18 37 35.6 -0.5**	
comp=Z,5.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**26.48 152**	*e*P	**P**	**18 37 36.7 +0.5**	
CMAR			pmax	pmax		
comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**26.48 152**	P	**P**	**18 37 36.3 +0.1**	
comp=Z,2.0nm,0.8s,baz=334,slow=8.6,SNR=11						
NRIK	**Noril'sk**	**26.79 1**	P	**P**	**18 37 39.0 +0.5**	
comp=Z,2.2nm,0.5s,baz=186,slow=9.2,SNR=3.2						
KBZ	**Khabaz**	**31.19 287**	P	**P**	**18 38 17.6 -0.2**	
comp=Z,1.5nm,1.0s,baz=117,slow=4.5,SNR=2.2						
KLR	**Kul'dur**	**32.10 62**	P	**P**	**18 38 26.1 +0.3**	
comp=Z,3.0nm,0.6s,baz=278,slow=8.8,SNR=13						
KS15	**Wonju Array Si**	**32.24 85**	*e*P	**P**	**18 38 27.4 +0.2**	
comp=Z,4.4nm,1.0s						
KSRS	**Korea Array**	**32.27 85**	P	**P**	**18 38 27.5 +0.1**	
comp=Z,1.1nm,0.5s,baz=288,slow=8.8,SNR=9.6						
BR101	**Keskin Array S**	**39.00 284**	*e*P	**P**	**18 39 25.5 +0.1**	
BRTR	**Keskin Array B**	**39.00 284**	*ce*P	**P**	**18 39 26.2 +0.9**	
BRTR			pmax	pmax		
comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**39.00 284**	P	**P**	**18 39 25.5 +0.1**	
comp=Z,1.3nm,0.9s,baz=98,slow=8.9,SNR=5.9						
FIA0	**FINESS Array S**	**39.69 319**	*e*P	**P**	**18 39 30.2 -0.4**	
FIA0	**FINESS Array S**	**39.69 319**	*e*P	**P**	**18 39 30.2 -0.4**	
FINES	**FINESS Array B**	**39.69 319**	*i* P	**P**	**18 39 29.3 -1.3**	
FINES			pmax	pmax		
comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**39.69 319**	P	**P**	**18 39 30.2 -0.4**	
comp=Z,0.9nm,0.5s,baz=90,slow=9.9,SNR=7.9						
ARCES	**ARCESS Array B**	**40.58 332**	P	**P**	**18 39 37.5 -0.4**	
comp=Z,1.9nm,0.7s,baz=82,slow=7.4,SNR=14						
ARE0	**ARCESS Array S**	**40.58 332**	*e*P	**P**	**18 39 37.3 -0.6**	
comp=Z,0.2nm,0.9s						
VTS	**Vitosha**	**45.20 292**	*e*P	**P**	**18 40 14.8 -1.1**	
comp=Z,2.3nm,0.9s						
VTS	**Vitosha**	**45.20 292**	*e*P	**P**	**18 40 14.8 -1.1**	
VTS			pmax	pmax		
comp=Z,2.0nm,0.9s						
MORC	**Moravsky Berou**	**46.41 304**	*e*P	**P**	**18 40 24.4 -0.8**	
comp=Z,1.2nm,0.8s						
MORC	**Moravsky Berou**	**46.41 304**	*e*P	**P**	**18 40 24.4 -0.8**	
MORC			pmax	pmax		
comp=Z,1.0nm,0.8s						
NC405	**NORSAR Array S**	**46.61 320**	*e*P	**P**	**18 40 24.9 -1.7**	
comp=Z,3.3nm,0.8s						
NC303	**NORSAR Array S**	**46.75 320**	*e*P	**P**	**18 40 25.8 -1.8**	
comp=Z,3.7nm,0.9s						
NC602	**NORSAR Array S**	**46.77 319**	*e*P	**P**	**18 40 26.8 -1.0**	
comp=Z,1.2nm,1.1s						
NB2	**NORSAR Subarra**	**46.86 320**	P	**P**	**18 40 27.7 -0.9**	
comp=Z,0.8nm,0.5s,baz=78,slow=7.9						
NOA	**NORSAR Array B**	**46.86 320**	P	**P**	**18 40 27.7 -0.9**	
comp=Z,0.8nm,0.5s,baz=77,slow=7.8,SNR=6.8						
AGG	**Agios Georgios**	**47.30 288**	*e*P	**P**	**18 40 32.4 +0.1**	
comp=Z,4.9nm,1.0s						
AGG	**Agios Georgios**	**47.30 288**	*e*P	**P**	**18 40 32.4 +0.1**	
AGG			pmax	pmax		
comp=Z,5.0nm,1.0s						
CLL	**Collm**	**48.64 307**	*e*P	**P**	**18 40 42.0 -0.4**	
CLL	**Collm**	**48.64 307**	*e*P	**P**	**18 40 42.0 -0.4**	
CLL			*i* (pP)	**pP**	**18 40 47.2 -3.1**	
COLD	**Coldfoot**	**62.50 21**	*e*P	**P**	**18 42 22.3 +0.5**	
comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**65.24 22**	P	**P**	**18 42 39.4 -0.5**	
comp=Z,0.8nm,0.8s,baz=317,slow=5.6,SNR=10						
INK	**Inuvik**	**65.50 15**	*e*P	**P**	**18 42 41.2 -0.2**	
comp=Z,1.6nm,0.8s						
INK	**Inuvik**	**65.50 15**	*e*P	**P**	**18 42 41.2 -0.2**	
INK			pmax	pmax		
comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**65.50 15**	P	**P**	**18 42 41.1 -0.2**	
comp=Z,1.2nm,0.8s,baz=335,slow=5.4,SNR=5.1						
YKA	**Yellowknife Ar**	**73.92 10**	P	**P**	**18 43 33.0 -0.4**	
comp=Z,1.3nm,0.8s,baz=339,slow=5.7,SNR=10.0						
YKB5	**Yellowknife Ar**	**73.92 10**	*e*P	**P**	**18 43 33.0 -0.4**	
WR1	**Warramunga Arr**	**76.54 134**	*e*P	**P**	**18 43 48.3 -0.8**	
WRA	**Warramunga Arr**	**76.54 134**	P	**P**	**18 43 48.3 -0.8**	
comp=Z,2.4nm,0.6s,baz=311,slow=6.6,SNR=11						
TOA1	**Torodi Ar. Sit**	**77.06 276**	*e*P	**P**	**18 43 51.1 -1.1**	
TORD	**Torodi Ar. Bea**	**77.06 276**	P	**P**	**18 43 51.1 -1.1**	
comp=Z,0.3nm,0.6s,baz=30,slow=6.7,SNR=2.8						
AS31	**Alice Springs**	**79.38 136**	*e*P	**P**	**18 44 03.6 -1.1**	
comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	**79.38 136**	P	**P**	**18 44 04.4 -0.3**	
comp=Z,0.8nm,0.7s,baz=333,slow=5.4,SNR=14						
STKA	**Stephens Creek**	**89.99 135**	P	**P**	**18 44 57.5 -0.5**	
comp=Z,1.6nm,0.7s,baz=315,slow=7.1,SNR=2.9						
LPAZ	**La Paz**	**145.67 312**	*e*PKPdf	**PKPdf**	**18 51 35.5 -2.6**	
LPAZ	**La Paz**	**145.67 312**	*e*PKP2	**PKPdf**	**18 51 35.6 -2.6**	
LPAZ	**La Paz**	**145.67 312**	PKPbc	**PKPbc**	**18 51 37.4 -1.1**	
comp=Z,1.1nm,0.7s,baz=39,slow=6.5,SNR=3.2						

KRSC 24 18:33:39.2±10.0s, 54°.57N×155°.40E, h651km±10km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.95**	**147**	*e*P	P	18 34 58.2	+0.2
KOK	**Koryaky**	**2.31**	**122**	*e*P	P	18 35 01.4	+2.0
AVH	**Avacha**	**2.37**	**122**	*e*P	P	18 35 01.4	+1.7
SMAR	**Somma**	**2.40**	**122**	*e*P	P	18 35 01.9	+1.9
SDLR	**Sedlovina**	**2.44**	**121**	*e*P	P	18 35 01.2	+1.2
UGLR	**Uglovaya**	**2.44**	**123**	*e*P	P	18 35 01.8	+1.8
RUS	**Russkaya**	**2.84**	**138**	*e*P	P	18 35 02.0	+0.3
SPN	**Mys Shipunski**	**3.11**	**116**	*e*P	P	18 35 04.1	+1.0
SPN				*e*S	S	18 36 10.5	-1.2
KDTR	**Khodutka, Kamc**	**3.20**	**149**	*e*S	S	18 36 11.2	-1.3
MKZ	**Mys Kozlova**	**3.69**	**88**	*e*P	P	18 35 07.1	+0.9
KBTR	**Krutoberegovo**	**4.54**	**66**	*e*P	P	18 35 12.2	+0.4

IDC ***24*** *18:50:26.5±0.5, 30°.47S×69°.23W, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.3/32, mbtmp4.2/16, ML4.2/3, MS4.2/10, Ms1 4.2/10, ms1mx3.9/19, Error ellipse: s-maj=17.9km s-min=10.8km az=72.0*
SJA ***24*** *18:50:29.0±0.8, 30°.58S×69°.31W, h12km±7km, ML4.6, MW5.1*
GUC ***24*** *18:50:29.6±0.8, 30°.74S×69°.42W, h100km±9km, ML4.7*
VAO ***24*** *18:50:29.4±0.3, 30°.68S×69°.07W, h10km, mb4.6*
NEIC ***24*** *18:50:31.7±2.3, 30°.51S×69°.26W, h43km±5km, mb4.6/24, ML4.7(GUC), Error ellipse: s-maj=11.8km s-min=3.1km az=190.0*
NEIC Felt [III] at San Juan. Felt [II] at Paiguano, Chile.
ISCJB ***24*** *18:50:32.1±0.3, 30°.51S±0°.02×69°.20W±0°.03, h58km±3km, mb4.5/28, MS4.3/5, Error ellipse: s-maj=4.2km s-min=3.3km az=175.2*

ISC 24 18:50:29.0±0.6, 30°.58S±0°.02×69°.32W±0°.02, h18km±3km, n183, σ1§66/232, mb4.6/27, MS4.2/5, 12C-22D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACCO	**Cerro Coronel**	**0.22**	**93**	*i* P	**Pb**	**18 50 35.3**	**+0.6**
ACCO	**Cerro Coronel**	**0.22**	**93**	⇑*i*P	**Pb**	**18 50 35.3**	**+0.6**
AROD	**Rodeo**	**0.43**	**342**	*e*P	**Pg**	**18 50 38.5**	**+0.6**
AROD	**Rodeo**	**0.43**	**342**	⇓*i*P	**Pg**	**18 50 38.5**	**+0.6**
AROD				*i* S	**Sg**	**18 50 44.6**	**+0.7**
ACDV	**Cuesta del Vie**	**0.44**	**23**	*i* P	**Pg**	**18 50 38.2**	**+0.2**
ACDV	**Cuesta del Vie**	**0.44**	**23**	⇑*i*P	**Pg**	**18 50 38.2**	**+0.2**
ACDV				*e*S	**Sg**	**18 50 44.1**	**0.0**
ACDV				IAML		18 50 47.4	
comp=Z,9μm,0.7s							
AMOG	**MOGNA**	**0.80**	**117**	*e*P	**Pg**	**18 50 44.3**	**-0.3**
AMOG	**MOGNA**	**0.80**	**117**	⇓*i*P	**Pg**	**18 50 44.5**	**-0.1**
RTLL	**Cerro Villicun**	**1.04**	**136**	*i* P	**Pb**	**18 50 48.9**	**+0.3**
RTLL				*i* S	**Sg**	**18 51 02.7**	**-0.3**
RTLL	**Cerro Villicun**	**1.04**	**136**	⇓*e*P	**Pb**	**18 50 48.8**	**+0.2**
RTLL				AMPG		18 50 49.0	
comp=Z,2μm,0.5s							
RTLL				*i* S	**Sg**	**18 51 02.9**	**-0.1**
RTLL				AMSG		18 51 03.3	
comp=Z,59μm,0.3s							
RTLL	**Cerro Villicun**	**1.04**	**136**	*e*P	**Pb**	**18 50 48.5**	**-0.1**
RTLL				*e*S	**Sb**	**18 51 02.0**	**0.0**
ZON	**Zonda**	**1.11**	**150**	*e*P	**Pn**	**18 50 50.4**	**+0.7**
ZON				IAML		18 51 12.6	
comp=Z,6μm,0.5s							
ZON	**Zonda**	**1.11**	**150**	*i* P	**Pb**	**18 50 50.3**	**+0.5**
ZON				*e*S	**Sg**	**18 51 05.1**	**0.0**
ZON				IAML		18 51 12.6	
comp=Z,6μm,0.5s							
SJA	**San Juan**	**1.15**	**146**	*e*P	**Pn**	**18 50 51.1**	**+0.8**
SJA				*i* S	**Sg**	**18 51 06.3**	**0.0**
SJA				IAML		18 51 08.4	
comp=Z,6μm,0.4s							
SJA	**San Juan**	**1.15**	**146**	⇓*e*P	**Pn**	**18 50 51.1**	**+0.8**
SJA				*i* S	**Sg**	**18 51 06.3**	**0.0**
AGUA	**GUANDACOL**	**1.30**	**34**	*i* P	**Pb**	**18 50 53.2**	**+0.2**
AGUA	**GUANDACOL**	**1.30**	**34**	⇓*e*P	**Pb**	**18 50 53.4**	**+0.3**
AGUA				*i* S	**Sg**	**18 51 12.1**	**+0.9**
GO04	**Tololo Observa**	**1.34**	**287**	*e*Pn	**Pb**	**18 50 54.7**	**+1.0**
GO04				*e*Sn	**Sb**	**18 51 12.6**	**+1.9**
GO04	**Tololo Observa**	**1.34**	**287**	*e*P	**Pb**	**18 50 54.8**	**+1.0**
GO04				*i* S	**Sn**	**18 51 12.3**	**+1.8**
GO04	**Tololo Observa**	**1.34**	**287**	⇓*i*P	**Pb**	**18 50 54.8**	**+1.0**
GO04				AMPG		18 50 54.9	
comp=Z,21μm,0.3s							
GO04				*i* S	**Sb**	**18 51 12.5**	**+1.9**
GO04				AMSG		18 51 13.0	
comp=Z,87μm,0.4s							
GO04	**Tololo Observa**	**1.34**	**287**	⇓*i*P	**Pb**	**18 50 54.7**	**+1.0**
GO04				*i* S	**Sn**	**18 51 12.3**	**+1.8**
GO04				IAML		18 51 15.7	
comp=N,43μm,0.5s							
CFA	**Coronel Fontan**	**1.38**	**138**	*i* P	**Pb**	**18 50 54.5**	**+0.2**
CFA				*i* S	**Sb**	**18 51 12.7**	**+1.0**
CFA	**Coronel Fontan**	**1.38**	**138**	⇓*e*P	**Pb**	**18 50 54.6**	**+0.2**
CFA				*i* S	**Sg**	**18 51 13.1**	**-0.6**
CFA	**Coronel Fontan**	**1.38**	**138**	Pg	**Pn**	**18 50 54.4**	**+0.9**
comp=N,192nm,0.3s,baz=324,slow=15,SNR=1069							
CFA				Lg	Lg	18 51 11.8	
comp=N,3μm,0.3s,baz=244,slow=7.5,SNR=86							
CFA				LR	LR	18 51 43.3	
comp=N,5μm,19.1s,baz=296,slow=54							
RTCV	**Cerro Valdivia**	**1.45**	**153**	*i* P	**Pb**	**18 50 56.0**	**+0.5**
RTCV	**Cerro Valdivia**	**1.45**	**153**	⇑*i*P	**Pb**	**18 50 56.0**	**+0.5**
AUSP	**Uspallata**	**1.64**	**182**	*e*P	**Pb**	**18 51 00.2**	**+1.3**
AUSP	**Uspallata**	**1.64**	**182**	⇑*e*P	**Pb**	**18 51 00.0**	**+1.1**
LSCH	**La Serena**	**1.79**	**291**	*e*P	**Pb**	**18 51 01.6**	**+0.3**
LSCH				*e*S	**Sb**	**18 51 25.1**	**+1.6**
LSCH				IAML		18 51 28.4	
comp=N,3μm,0.5s							
LCO	**Las Campanas**	**1.97**	**322**	*e*Pn	**Pb**	**18 51 04.9**	**+0.4**
LCO				*e*Sn	**Sb**	**18 51 30.6**	**+1.8**
LCO	**Las Campanas**	**1.97**	**322**	⇓*e*P	**Pb**	**18 51 05.2**	**+0.8**
LCO				AMPN		18 51 05.4	
comp=Z,2μm,0.6s							
LCO				*i* S	**Sb**	**18 51 31.0**	**+2.2**
LCO				AMSN		18 51 31.2	
comp=Z,29μm,0.5s							
LCO	**Las Campanas**	**1.97**	**322**	⇓*i*P	**Pb**	**18 51 05.0**	**+0.5**
LCO				*i* S	**Sb**	**18 51 30.9**	**+2.2**
LCO				IAML		18 51 33.6	
comp=N,3μm,0.5s							
LCO	**Las Campanas**	**1.97**	**322**	*e*P	**Pb**	**18 51 05.6**	**+1.2**
ASAL	**Salagasta**	**2.05**	**168**	*e*P	**Pg**	**18 51 07.9**	**-0.4**
ASAL	**Salagasta**	**2.05**	**168**	⇑*e*P	**Pg**	**18 51 07.8**	**-0.6**
ASAL				*i* S	**Sb**	**18 51 33.0**	**+2.0**
VCA	**Vinchina**	**2.08**	**28**	*i* P	**Pb**	**18 51 06.8**	**+0.6**
VCA				IAML		18 51 40.8	
comp=Z,6μm,0.6s							
VCA	**Vinchina**	**2.08**	**28**	⇓*e*P	**Pb**	**18 51 06.9**	**+0.6**
VCA				AMPN		18 51 07.0	
comp=Z,971nm,0.4s							
VCA				⇑*i*Pg	**Pg**	**18 51 08.8**	**-0.1**
VCA				AMSN		18 51 33.5	
comp=Z,6μm,0.3s							
VCA				*e*S	**Sb**	**18 51 33.7**	**+1.9**
VCA				IAML		18 51 40.7	
comp=Z,6μm,0.6s							
VCA	**Vinchina**	**2.08**	**28**	*e*P	**Pb**	**18 51 06.8**	**+0.6**
VCA				*i* S	**Sg**	**18 51 35.4**	**-0.4**
ARCO	**CERRO ARCO**	**2.28**	**172**	*e*P	**Pb**	**18 51 11.0**	**+1.3**
ARCO				IAML		18 51 45.9	
comp=Z,5μm,0.4s							
ARCO	**CERRO ARCO**	**2.28**	**172**	⇑*e*P	**Pb**	**18 51 11.0**	**+1.3**
ARCO				*i* S	**Sg**	**18 51 42.8**	**+0.4**
ARCO				IAML		18 51 45.8	
comp=Z,5μm,0.4s							
UTNM	**Universidad Te**	**2.35**	**170**	*e*P	**Pb**	**18 51 11.9**	**+1.1**
UTNM				*e*S	**Sg**	**18 51 44.2**	**-0.2**
UTNM				IAML		18 51 47.4	
comp=Z,2μm,0.5s							
ACLC	**CERRO LA CRUZ**	**2.35**	**61**	⇓*e*P	**Pb**	**18 51 10.2**	**-0.8**
APLL	**PUNTA DE LOS L**	**2.42**	**86**	*e*P	**Pb**	**18 51 10.7**	**-1.3**
APLL				IAML		18 51 42.9	
comp=Z,1μm,0.2s							
APLL	**PUNTA DE LOS L**	**2.42**	**86**	⇓*i*P	**Pb**	**18 51 10.7**	**-1.3**
APLL				*e*S	**Sb**	**18 51 41.1**	**-0.4**
APLL				IAML		18 51 42.8	
comp=Z,1μm,0.2s							
ACAN	**Cantantal**	**2.49**	**133**	*i* P	**Pb**	**18 51 12.6**	**-0.6**
ACAN	**Cantantal**	**2.49**	**133**	⇓*i*P	**Pb**	**18 51 12.7**	**-0.5**
ACAN				*i* S	**Sb**	**18 51 45.5**	**+1.9**
AAGR	**Agrelo**	**2.54**	**171**	*i* P	**Pb**	**18 51 14.3**	**+0.2**
AAGR	**Agrelo**	**2.54**	**171**	⇑*i*P	**Pb**	**18 51 14.2**	**+0.2**
ROCH	**El Roble**	**2.79**	**211**	*e*P	**Pb**	**18 51 17.3**	**-1.1**
ROCH				*e*S	**Sb**	**18 51 53.7**	**+1.4**
ROC1	**El Roble**	**2.79**	**211**	*e*Pn	**Pb**	**18 51 17.0**	**-1.5**
ROC1				*e*Sn	**Sb**	**18 51 53.3**	**+0.8**
ROC1	**El Roble**	**2.79**	**211**	*i* P	**Pb**	**18 51 17.3**	**-1.2**
ROC1	**El Roble**	**2.79**	**211**	⇑*e*P	**Pb**	**18 51 17.5**	**-1.0**
ROC1				*e*S	**Sb**	**18 51 53.5**	**+0.9**
PEL	**Peldehue**	**2.81**	**204**	*e*Pn	**Pb**	**18 51 17.2**	**-1.4**
PEL				*e*Sn	**Sb**	**18 51 54.3**	**+1.5**
PEL	**Peldehue**	**2.81**	**204**	*e*P	**Pb**	**18 51 17.5**	**-1.2**
PEL	**Peldehue**	**2.81**	**204**	⇑*e*P	**Pb**	**18 51 17.8**	**-0.9**
PEL				*i* S	**Sg**	**18 51 57.7**	**-1.5**
PEL	**Peldehue**	**2.81**	**204**	*e*P	**Pn**	**18 51 16.9**	**+3.8**
PEL				*i* S	**Sb**	**18 51 56.9**	**+4.1**
PEL				IAML		18 52 04.9	
comp=N,5μm,0.5s							
FCH	**Farellones**	**2.86**	**196**	*e*P	**Pb**	**18 51 19.6**	**-0.2**
FCH				*i* S	**Sb**	**18 51 58.9**	**+4.3**
FCH				IAML		18 52 03.9	
comp=E,4μm,0.3s							
AVIZ	**Vizcacheras**	**2.97**	**167**	*e*P	**Pb**	**18 51 19.3**	**-2.1**
CLCH	**Cerro Calan**	**2.99**	**200**	*e*P	**Pb**	**18 51 19.9**	**-1.9**
GO03	**Copiap**	**3.08**	**345**	*e*Pn	**Pn**	**18 51 18.9**	**+2.1**
GO03				*e*Sn	**Sb**	**18 51 59.0**	**-1.5**
GO03	**Copiap**	**3.08**	**345**	⇑*e*P	**Pn**	**18 51 20.6**	**+3.8**
GO03				*e*S	**Sb**	**18 51 59.0**	**-1.5**
GO03	**Copiap**	**3.08**	**345**	*e*P	**Pn**	**18 51 20.5**	**+3.6**
GO03				*e*S	**Sb**	**18 51 58.7**	**-1.9**
GO03				IAML		18 52 14.4	
comp=E,1μm,0.5s							
LMEL	**Las Melosas**	**3.34**	**193**	*e*P	**Pb**	**18 51 25.4**	**-2.4**
LMEL				IAML		18 52 21.8	
comp=N,1μm,0.5s							
MRA	**San Martin**	**3.58**	**122**	*e*P	**Pn**	**18 51 26.4**	**+2.5**
MRA				IAML		18 52 20.6	
comp=Z,2μm,0.7s							
MRA	**San Martin**	**3.58**	**122**	⇓*e*P	**Pn**	**18 51 26.5**	**+2.7**
MRA				AMPN		18 51 26.6	
comp=Z,90nm,0.6s							
MRA				⇓*e*Pg	**Pb**	**18 51 33.2**	**+1.2**
MRA				*e*S	**Sn**	**18 52 10.3**	**+4.5**
MRA				AMSN		18 52 10.7	
comp=Z,665nm,0.4s							
MRA				*i* Sg	**Sb**	**18 52 19.0**	**+3.8**
MRA				IAML		18 52 20.7	
comp=Z,2μm,0.7s							
CYA	**Choya**	**3.73**	**56**	⇓*i*P	**Pn**	**18 51 27.8**	**+2.0**
CYA				AMPN		18 51 28.4	
comp=Z,530nm,1.2s							
CYA				*e*S	**Sn**	**18 52 13.2**	**+3.8**
CYA				AMSN		18 52 13.9	
comp=Z,2μm,0.6s							
CYA				IAML		18 52 28.7	
comp=Z,752nm,0.8s							
CYA	**Choya**	**3.73**	**56**	*e*P	**Pn**	**18 51 27.7**	**+1.9**
CYA				*e*S	**Sb**	**18 52 20.8**	**+1.4**
TCA	**Tanti**	**4.13**	**102**	⇓*e*P	**Pn**	**18 51 33.0**	**+1.7**
TCA				*e*Pg	**Pb**	**18 51 42.9**	**+1.7**
TCA				*e*S	**Sn**	**18 52 24.7**	**+5.5**
TCA				IAML		18 52 48.5	
comp=Z,862nm,0.6s							
TCA	**Tanti**	**4.13**	**102**	*e*P	**Pn**	**18 51 32.8**	**+1.5**
COIS	**El Sosneado**	**4.52**	**183**	⇑*e*P	**Pn**	**18 51 40.6**	**+4.0**
PUMA	**Malargue**	**4.91**	**181**	⇓*e*P	**Pn**	**18 51 45.9**	**+4.0**
GO05	**Huala**	**4.94**	**206**	*e*Pn	**Pn**	**18 51 44.1**	**+1.8**
GO05	**Huala**	**4.94**	**206**	*i* P	**Pn**	**18 51 44.7**	**+2.4**
AHML	**Horco Molle**	**5.15**	**44**	⇓*i*P	**Pn**	**18 51 47.3**	**+2.0**
AHML				IAML		18 53 11.1	
comp=Z,183nm,0.4s							
EDS3	**Malargue**	**5.18**	**181**	*e*P	**Pn**	**18 51 49.4**	**+3.6**
FSA	**Cafayete**	**5.34**	**34**	*i* P	**Pn**	**18 51 51.7**	**+3.7**
GO02	**Mina Guanaco**	**5.40**	**357**	*e*Pn	**Pn**	**18 51 52.4**	**+3.5**
GO02				*e*Sn	**Sn**	**18 52 53.4**	**+2.6**
GO02	**Mina Guanaco**	**5.40**	**357**	*e*P	**Pn**	**18 51 53.1**	**+4.2**
SLA	**San Lorenzo**	**6.74**	**31**	*e*P	**Pn**	**18 52 11.6**	**+4.2**
SLA				IAML		18 52 49.6	
comp=Z,56nm,0.5s							
PB10	**IPOC Station P**	**7.12**	**351**	*e*Pn	**Pn**	**18 52 13.2**	**+0.9**
AZAP	**Zapla**	**7.37**	**32**	⇓*i*P	**Pn**	**18 52 18.4**	**+2.4**
LVC	**Limon Verde**	**7.94**	**3**	*e*Pn	**Pn**	**18 52 24.1**	**+0.2**
LVC	**Limon Verde**	**7.94**	**3**	Pn	**Pn**	**18 52 25.1**	**+1.1**
comp=Z,1.7nm,0.3s,baz=164,slow=9.4,SNR=6.6							
LVC				Lg	Lg	18 54 33.9	
comp=Z,6.9nm,0.3s,baz=333,slow=11,SNR=5.0							
LVC				LR	LR	18 55 30.7	
comp=Z,285nm,21.8s,baz=194,slow=39							
LVC	**Limon Verde**	**7.94**	**3**	*e*P	**P

LNIG	Linares	62.27	329	*eP*	P	19 00 48.2	-1.7
	comp=Z,4.4nm,1.0s						
JCT	Junction City	67.28	332	*eP*	P	19 01 20.3	-2.3
	comp=Z,12nm,1.1s						
VNDA	Vanda	67.89	191	*eP*	P	19 01 26.9	+1.0
VNDA	Vanda	67.89	191	P	P	19 01 27.5	+1.6
	comp=Z,1.0nm,0.9s,baz=106,slow=7.4,SNR=4.3						
TXAR	Lajitas Array	67.97	328	P	P	19 01 28.1	+1.0
	comp=Z,1.1nm,0.6s,baz=152,slow=8.5,SNR=13						
TX31	Lajitas Ar. Si	67.97	328	*eP*	P	19 01 26.9	-0.2
	comp=Z,2.4nm,0.8s						
HSIG		71.32	322	*eP*	P	19 01 47.7	+0.1
	comp=Z,21nm,0.8s						
LIC	Lamto	71.50	71	*eP*	P	19 01 48.8	-0.3
	comp=Z,20nm,0.6s						
TIC	Toumodi	71.74	70	*eP*	P	19 01 49.3	-1.3
KIC	Kosan Boka	71.81	71	*eP*	P	19 01 50.9	0.0
	comp=Z,39nm,1.1s						
DBIC	Dimbokro	71.89	71	*eP*	P	19 01 50.0	-1.5
	comp=Z,10nm,0.8s						
DBIC	Dimbokro	71.89	71	P	P	19 01 51.1	-0.3
	comp=Z,4.5nm,0.7s,baz=191,slow=7.2,SNR=6.5						
DBIC				LR	LR	19 30 22.7	
	comp=Z,289nm,21.0s,baz=232,slow=33						
319A	Douglas	72.35	325	*eP*	P	19 01 53.9	-0.1
	comp=Z,7.4nm,0.8s						
T25A	Trinidad	74.95	332	*eP*	P	19 02 08.2	-1.1
	comp=Z,8.8nm,1.1s						
MAW	Mawson	75.78	163	*eP*	P	19 02 12.7	-0.7
	comp=Z,1.1nm,1.0s						
MAW	Mawson	75.78	163	P	P	19 02 13.1	-0.3
	comp=Z,1.5nm,0.7s,baz=258,slow=5.1,SNR=2.9						
X16A	Lo Mia Camp, P	75.87	325	*eP*	P	19 02 11.8	-2.7
	comp=Z,5.4nm,1.0s						
PV12	Saucer Basin,	77.81	329	*eP*	P	19 02 22.6	-2.8
	comp=Z,24nm,1.0s						
D41A	Chassel	79.21	347	*eP*	P	19 02 30.6	-2.0
	comp=Z,16nm,0.8s						
BOSA	Boshof	79.59	117	LR	LR	19 32 14.7	
	comp=Z,87nm,19.7s,baz=255,slow=32						
TORD	Torodi Ar. Bea	80.86	69	P	P	19 02 41.8	-0.5
	comp=Z,2.2nm,0.7s,baz=258,slow=4.3,SNR=12						
TOA1	Torodi Ar. Sit	80.86	69	*eP*	P	19 02 41.8	-0.5
PD31	Pinedale Array	81.81	331	*eP*	P	19 02 44.1	-2.9
	comp=Z,1.9nm,1.0s						
PDAR	Pinedale Array	81.81	331	P	P	19 02 47.0	0.0
	comp=Z,0.6nm,0.6s,baz=134,slow=4.3,SNR=6.6						
NVAR	Mina Array Bea	82.46	323	P	P	19 02 51.8	+1.3
	comp=Z,1.8nm,0.8s,baz=151,slow=5.7,SNR=7.3						
ELK	Elko	82.72	327	*eP*	P	19 02 51.0	-0.8
	comp=Z,2.9nm,0.9s						
RLMT	Red Lodge	83.65	333	*eP*	P	19 02 56.1	-0.4
	comp=Z,3.2nm,0.7s						
ULM	Lac du Bonnet	83.85	343	*eP*	P	19 02 56.7	-0.4
	comp=Z,5.8nm,0.9s						
ULM	Lac du Bonnet	83.85	343	P	P	19 02 56.7	-0.4
	comp=Z,0.8nm,0.3s,baz=148,slow=3.3,SNR=3.8						
KEST	Kesra	99.00	54	LR	LR	19 51 25.1	
	comp=Z,267nm,19.0s,baz=24,slow=37						
YKA	Yellowknife Ar	99.59	340	P	Pdif	19 04 10.1	-0.4
	comp=Z,0.4nm,0.7s,baz=134,slow=4.4,SNR=3.9						
ASAR	Alice Springs	121.64	205	PKP	PKPdf	19 09 21.2	-1.2
	comp=Z,0.2nm,0.5s,baz=145,slow=1.5,SNR=3.4						
WR1	Warramunga Arr	124.86	207	*e*PKPdf	PKPdf	19 09 27.6	-0.9
WRA	Warramunga Arr	124.86	207	PKP	PKPdf	19 09 27.6	-0.9
	comp=Z,1.0nm,0.5s,baz=165,slow=1.6,SNR=5.1						
GAR	Garm	146.03	65	*e*PKPdf	PKPdf	19 10 07.9	+0.7
ZAA1	Zalesovo Array	150.11	31	*e*PKPbc	PKPbc	19 10 18.6	+0.4
ZAA1				*ep*PKPdf	PKPab	19 10 25.9	+1.7
ZAA0	Zalesovo Array	150.11	31	*e*PKPdf	PKPdf	19 10 12.9	-0.2
ZAA0				*ep*PKPdf	sPKPbc	19 10 26.3	-0.9
ZALV	Zalesovo Beam	150.11	31	PKPbc	PKPbc	19 10 18.6	+0.4
	comp=Z,2.4nm,0.6s,baz=307,slow=4.7,SNR=7.2						
ZALV				PKPab	PKPab	19 10 25.9	+1.7
	comp=Z,10nm,0.7s,baz=312,slow=3.3,SNR=27						
TARG	Taragay, Kyrgy	151.38	58	*e*PKPdf	PKPdf	19 10 15.6	-0.5
TARG				*e*PKPab	pPKPbc	19 10 29.4	+0.5
MK31	Makanchi Array	152.76	46	*e*PKPdf	PKPdf	19 10 15.0	-2.5
MK32	Makanchi Array	152.76	46	*e*PKPbc	PKPbc	19 10 24.8	+0.1
MK32				*e*PKPab	sPKPbc	19 10 32.6	-1.0
MKAR	Makanchi Array	152.76	46	PKPbc	PKPbc	19 10 24.8	+0.1
	comp=Z,0.3nm,0.5s,baz=277,slow=1.6,SNR=5.2						
MKAR				PKPab	sPKPbc	19 10 32.6	-1.0
	comp=Z,3.6nm,0.7s,baz=312,slow=2.2,SNR=22						
LZH	Lanzhou	172.07	44	*e*PKP	PKPdf	19 10 26.6	-10
LZH				pPKP	sPKPdf	19 10 54.8	+8.7
LZH				sPKP		19 11 05.8	
LZH				PKP	PKPab	19 11 58.3	-2.0

*ISCJB **24** 18:51:59.9±0.4, 6°.86N±0°.02×73°.14W±0°.03, h160km±3km, mb3.6/5, Error ellipse: s-maj=5.3km s-min=3.8km az=20.6*
*IDC **24** 18:52:00.5±0.8, 6°.68N×72°.86W, h167km±8km, mb3.4/5, mb1 3.8/10, mb1mx3.5/36, mbtmp4.2/10, Error ellipse: s-maj=24.4km s-min=8.3km az=132.0*
*RSNC **24** 18:52:02.0±0.9, 6°.80N×73°.16W, h150km±4km, ML4.0, Mw4.1*

ISC 24 18:52:00.6±0.7, 6°.84N±0°.03×73°.13W±0°.04, h159km±5km, n40, σ1§05/63, mb3.8/5, 1C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	Giron, Santand	0.25	345	*eP*	Pn	18 52 22.4	+0.1
GIRC				*eS*	Sn	18 52 37.6	-1.1
BARC	Barichara	0.25	193	⇑*iP*	Pn	18 52 22.3	0.0
BARC				*eS*	Sn	18 52 37.5	-1.4
BARC				*i*		18 52 39.4	
	comp=Z,2μm,0.4s						
BRRC	Barranca, Sant	0.64	295	⇓*iP*	Pn	18 52 24.2	+0.6
BRRC				*eS*	Sn	18 52 41.2	0.0
BRRC				*i*		18 52 44.7	
	comp=Z,900nm,0.4s						
PAMC	Pamplona, Colo	0.66	40	⇓*iP*	Pn	18 52 25.1	+0.8
PAMC				*eS*	Sn	18 52 42.3	-0.2
PAMC				*i*		18 52 44.6	
	comp=Z,2μm,0.5s						
RUSC	La Rusia	0.94	177	*eP*	Pn	18 52 26.2	-0.1
RUSC				*eS*	Sn	18 52 44.9	-1.1
RUSC				*i*		18 52 46.7	
	comp=Z,1μm,0.4s						
PTBC	PUERTO BERRIO,	1.35	257	*eP*	Pn	18 52 28.8	-0.6
PTBC				*eS*	Sn	18 52 50.3	-1.1
PTBC				*i*		18 52 57.6	
	comp=Z,1μm,0.6s						
TAMC	Tame, Arauca	1.39	107	⇓*iP*	Pn	18 52 30.5	+0.8
TAMC				*eS*	Sn	18 52 52.2	+0.1
OCAC	Ocana	1.41	352	*eP*	Pn	18 52 30.3	+0.3
OCAC				*eS*	Sn	18 52 52.5	-0.3
OCAC				*i*		18 52 58.1	
	comp=Z,957nm,0.3s						
YOPC	Yopal, Colombi	1.63	154	*eP*	Pn	18 52 32.8	+0.5
YOPC				*eS*	Sn	18 52 56.2	-0.6
YOPC				*i*		18 52 57.5	
	comp=Z,1μm,0.3s						
ZARC	Zaragoza, Cauc	1.84	291	*eP*	Pn	18 52 34.7	+0.3
ZARC				*eS*	Sn	18 53 00.1	-0.3
ZARC				*i*		18 53 07.5	
	comp=Z,960nm,0.3s						
NORC	Norcasia	2.15	234	*eP*	Pn	18 52 38.0	0.0
NORC				*eS*	Sn	18 53 06.0	-0.9
NORC				*i*		18 53 13.1	
	comp=Z,666nm,0.3s						
SMLC	San Martn de	2.16	334	*eS*	Sn	18 53 08.6	+1.4
ROSC	El Rosal	2.31	211	P	Pn	18 52 41.9	+1.6
	comp=Z,101nm,0.3s,baz=60,slow=6.1,SNR=82						
ROSC				S	Sn	18 53 11.7	+0.8
	comp=Z,52nm,0.3s,baz=145,slow=16,SNR=3.7						
HELC	Santa Helena	2.47	255	*eP*	Pn	18 52 42.8	+0.7
HELC				*eS*	Sn	18 53 13.3	-0.8
HELC				*i*		18 53 20.7	
	comp=Z,520nm,0.4s						
UREC	San Jos de Ur	2.55	291	*eP*	Pn	18 52 42.1	-0.6
UREC				*eS*	Sn	18 53 13.7	-1.8
UREC				*i*		18 53 30.3	
	comp=Z,413nm,0.4s						
GUY2C	Guyana, Caldas	2.74	234	*eP*	Pn	18 52 46.3	+0.7
GUY2C				*eS*	Sn	18 53 19.9	-0.4
GUY2C				*i*		18 53 29.5	
	comp=Z,582nm,0.5s						
VILC	Villavicencio,	2.77	192	*eP*	Pn	18 52 45.3	-0.3
VILC				*eS*	Sn	18 53 19.5	-0.9
CODC	Agustn Codazz	3.09	354	*eP*	Pn	18 52 49.4	-0.1
CODC				*eS*	Sn	18 53 25.7	-1.8
CODC				*i*		18 53 35.1	
	comp=Z,194nm,0.3s						
SDV	Santo Domingo	3.20	50	*eP*	Pn	18 52 51.7	+0.7
SDV				*eS*	Sn	18 53 28.1	-2.0
SDV	Santo Domingo	3.20	50	P	Pn	18 52 51.7	+0.7
	comp=Z,73nm,0.3s,baz=221,slow=3.6,SNR=234						
SDV				S	Sn	18 53 28.9	-1.3
	comp=Z,103nm,0.3s,baz=330,slow=5.1,SNR=36						
PRAC	Prado	3.56	210	*eP*	Pn	18 52 55.3	-0.2
PRAC				*eS*	Sn	18 53 37.2	-1.1
PRAC				*i*		18 53 42.5	
	comp=Z,398nm,0.3s						
PLMC	San Jos del P	3.68	239	*eP*	Pn	18 52 58.0	+1.0
PLMC				*eS*	Sn	18 53 40.1	-0.8
YOTC	Yotoco, Valle	4.28	229	*eP*	Pn	18 53 04.8	0.0
GUVC	San Jose del G	4.29	173	*eP*	Pn	18 53 05.6	+0.7
GUVC				*eS*	Sn	18 53 52.3	-2.8
SMRC	Santa Marta, M	4.43	346	*eP*	Pn	18 53 06.3	-0.4
SMRC				*eS*	Sn	18 53 55.4	-3.0
BETC	Betania	4.73	209	*eP*	Pn	18 53 09.9	-0.8
PCON	Cinco Dias	5.54	216	*eP*	Pn	18 53 21.2	-0.6
POPC	Popayan, Colom	5.54	220	*eP*	Pn	18 53 21.7	+0.1
FLOC	Florencia	5.80	206	*eP*	Pn	18 53 24.1	-0.6
SOTA	Rioblanco	5.82	217	*eP*	Pn	18 53 26.9	+1.4
JTS	Las Juntas de	12.19	287	P	P	18 54 53.9	-1.2
	comp=Z,0.5nm,0.3s,baz=294,slow=20,SNR=2.7						
SJG	San Juan	13.11	31	P	Pn	18 55 00.0	-0.9
	comp=Z,3.7nm,0.3s,baz=28,slow=20,SNR=6.2						
APG	El Apazote	18.85	297	P	Pn	18 56 13.3	+2.1
	comp=Z,0.4nm,0.3s,baz=54,slow=7.0,SNR=6.6						
TXAR	Lajitas Array	36.45	312	P	P	18 58 51.9	+1.5
	comp=Z,1.4nm,0.7s,baz=127,slow=8.8,SNR=13						
ULM	Lac du Bonnet	47.27	340	P	P	19 00 17.4	-0.4
	comp=Z,1.4nm,0.4s,baz=153,slow=6.7,SNR=3.7						
PDAR	Pinedale Array	48.06	324	P	P	19 00 25.1	+0.8
	comp=Z,0.7nm,0.7s,baz=126,slow=9.3,SNR=5.3						
YKA	Yellowknife Ar	63.25	340	P	P	19 02 12.4	+0.5
	comp=Z,0.8nm,0.6s,baz=134,slow=6.7,SNR=16						
INK	Inuvik	73.01	340	P	P	19 03 13.0	+0.4
	comp=Z,0.5nm,0.6s,baz=104,slow=3.1,SNR=3.9						
ASAR	Alice Springs	149.12	234	PKPbc	PKPbc	19 11 30.4	-0.6
	comp=Z,0.9nm,0.6s,baz=120,slow=3.4,SNR=15						
WRA	Warramunga Arr	150.34	241	PKPbc	PKPbc	19 11 33.0	-1.1
	comp=Z,1.2nm,0.4s,baz=99,slow=2.8,SNR=11						

ISC 24 18:54:54.2±1.5, 47°.64N±0°.05×20°.31E±0°.05, h8km±13km, n14, σ1§16/20, 2C-2D, Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSZ	Piszkesteto	0.40	315	⇑*iP*	Pg	18 55 01.6	-0.4
PSZ				S	Sg	18 55 07.4	+0.2
PSZ	Piszkesteto	0.40	315	*e*Pg	Pg	18 55 01.1	-0.9
PSZ				*e*Sg	Sg	18 55 07.0	-0.2
KECS	Kecovo	0.85	8	*e*PG	Pb	18 55 11.5	+0.2
KECS				*e*SG	Sb	18 55 22.7	-0.2
KECS				*e*LG	Lg	18 55 25.1	
VYHS	Vyhne	1.31	311	*e*PG	Pn	18 55 18.3	-0.5
VYHS				*e*SG	Sg	18 55 35.7	-0.6
CSKK	Cskako	1.42	260	*e*Pn	Pg	18 55 23.0	+1.7
CSKK				Sn	Sg	18 55 41.0	+1.3
TRPA	Tarpa	1.58	71	⇓*iP*	Pn	18 55 23.4	+0.9
TRPA	Tarpa	1.58	71	S	Sn	18 55 44.2	+1.2
TRPA	Tarpa	1.58	71	*e*Pn	Pn	18 55 23.0	+0.6
TRPA				Sn	Sn	18 55 44.1	+1.0
LANS	Liptovska Anna	1.61	340	*e*PG	Pb	18 55 24.4	+0.1
LANS				*e*SG	Sg	18 55 45.4	-0.7
DRGR		1.84	116	⇓*iP*	Pn	18 55 25.1	-1.1
DRGR		1.84	116	S	Sn	18 55 49.9	+0.2
KOLS	Kolonicke sedl	1.84	45	*e*PG	Pg	18 55 29.6	0.0
BZS	Buzias	2.21	155	⇑*iP*	Pn	18 55 26.8	-4.4
BZS	Buzias	2.21	155	S	Sn	18 55 55.5	-3.2

*ISCJB **24** 18:59:41.6±0.4, 54°.60N±0°.07×153°.05E±0°.10, h600km, mb3.3/15, Error ellipse: s-maj=10.3km s-min=6.6km az=26.1*
*IDC **24** 18:59:43.2±1.2, 54°.56N×153°.10E, h616km±13km, mb2.8/16, mb1 3.0/20, mb1mx2.8/46, mbtmp3.8/20, Error ellipse: s-maj=21.1km s-min=11.3km az=174.0*
*KRSC **24** 18:59:45.7±10.0, 54°.50N×153°.43E, h559km±10km, ML4.2*

ISC 24 18:59:41.7±0.6, 54°.47N±0°.10×153°.29E±0°.07, h600km, n45, σ1§97/49, mb3.4/15, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.77	122	*eP*	P	19 01 01.9	+2.4
PETK	Petropavlovsk-	2.95	116	P	P	19 01 02.8	+2.3
	1.7nm,0.3s,baz=29,slow=3.1,SNR=47						
KRMR	Karymshinskiy	3.31	118	*eP*	P	19 01 03.1	+0.5
KRX	Arik	3.36	107	*eP*	P	19 01 05.4	+2.4
KOK	Koryaka	3.37	108	*eP*	P	19 01 05.6	+2.5
ESO	Esso	3.42	63	*eP*	P	19 01 06.0	+2.8
KRER	Koryakskii	3.43	108	*eP*	P	19 01 06.1	+2.5
AVH	Avacha	3.44	108	*eP*	P	19 01 06.0	+2.5
ASAK	Asacha	3.46	125	*eP*	P	19 01 04.8	+1.2
SMAR	Somma	3.48	108	*eP*	P	19 01 06.3	+2.4
PET	Petropavlovsk	3.50	112	*eP*	P	19 01 05.6	+1.9
UGLR	Uglovaya	3.51	109	*eP*	P	19 01 06.2	+2.3
SDLR	Sedlovina	3.52	108	*eP*	P	19 01 05.8	+1.8
DALK	Dalny	3.55	112	*eP*	P	19 01 05.6	+1.6
KII	Karymskiy	3.64	94	P	P	19 01 07.7	+3.0
PAU	Pauzhetka	3.68	143	*eP*	P	19 01 07.0	+2.0
RUS	Russkaya	3.73	121	*eP*	P	19 01 06.1	+0.9
KDTR	Khodutka, Kamc	3.92	131	*eP*	P	19 01 06.7	+0.2
KDTR				*eS*	S	19 02 14.1	-1.7
TUMR	Tumrok	4.04	76	*eP*	P	19 01 09.8	+2.4
KZV	Kizimen	4.10	78	*eP*	P	19 01 09.5	+1.6
SKR	Severo-Kuril's	4.17	154	*eP*	P	19 01 09.9	+1.6
SPN	Mys Shipunski	4.22	106	*eP*	P	19 01 08.9	+0.3
SPN				*eS*	S	19 02 16.5	-3.1
MKZ	Mys Kozlova	4.92	86	*eP*	P	19 01 12.9	-0.8
MKZ				*eS*	S	19 02 23.6	-5.5
MA2	Magadan	5.30	346	P	P	19 01 18.7	+2.0
	1.1nm,0.3s,baz=155,slow=9.0,SNR=14						
KBTR	Krutoberegovo	5.71	68	*eP*	P	19 01 19.7	-0.4
KBTR				*eS*	S	19 02 37.1	-3.7
OSSR	Ossora	7.18	44	P	P	19 01 38.1	+5.1
BKI	Bering	7.36	79	*eP*	P	19 01 38.1	+3.3
BKI				*eS*	S	19 03 08.6	+1.0
SEY	Seymchan	8.50	357	P	P	19 01 47.0	+1.6
	0.6nm,0.3s,baz=164,slow=9.3,SNR=12						
KLR	Kul'dur	14.29	257	P	P	19 02 43.9	+0.8
	0.2nm,0.3s,baz=64,slow=9.6,SNR=7.1						
TIXI	Tiksi	20.20	338	P	P	19 03 37.1	+0.5
	1.2nm,0.3s,baz=124,slow=8.2,SNR=6.3						
ILAR	Eielson Array	30.75	46	P	P	19 05 10.4	+1.1
	0.6nm,0.6s,baz=277,slow=11,SNR=10						
INK	Inuvik	35.26	38	P	P	19 05 48.0	+0.9
	0.5nm,0.4s,baz=274,slow=3.6,SNR=4.6						
ZALV	Zalesovo Beam	38.60	298	P	P	19 06 13.5	-0.9
	0.8nm,0.3s,baz=53,slow=6.2,SNR=3.9						
MKAR	Makanchi Array	43.90	290	P	P	19 06 56.1	-0.3
	2.3nm,0.5s,baz=55,slow=6.7,SNR=56						
YKA	Yellowknife Ar	44.83	41	P	P	19 07 03.2	0.0
	0.2nm,0.5s,baz=304,slow=7.0,SNR=3.4						
ARCES	ARCESS Array B	50.63	339	P	P	19 07 45.4	-0.8
	0.5nm,0.3s,baz=32,slow=7.3,SNR=12						
CMAR	Chiang Mai Arr	54.66	251	P	P	19 08 15.7	+0.2
	0.5nm,0.6s,baz=24,slow=7.9,SNR=4.7						
FINES	FINESS Array B	57.15	333	P	P	19 08 31.2	-0.8
	0.9nm,0.4s,baz=33,slow=6.5,SNR=21						
NVAR	Mina Array Bea	58.98	66	P	P	19 08 45.9	+1.0
	0.5nm,0.6s,baz=305,slow=7.0,SNR=4.2						
PDAR	Pinedale Array	60.27	57	P	P	19 08 53.7	+0.2
	0.3nm,0.4s,baz=270,slow=0.6,SNR=3.6						
NOA	NORSAR Array B	60.98	340	P	P	19 08 56.7	-0.9
	0.4nm,0.4s,baz=22,slow=8.2,SNR=3.5						
GEYT	Alibeck	62.91	298	P	P	19 09 10.1	-0.4
	1.0nm,0.6s,baz=46,slow=4.3,SNR=3.9						
AKASG	Malin Array Be	65.25	325	P	P	19 09 23.6	-1.3
	0.9nm,0.3s,baz=33,slow=6.7,SNR=3.8						
BRTR	Keskin Array B	72.90	315	P	P	19 10 10.2	-0.8
	0.3nm,0.8s,baz=37,slow=4.5,SNR=3.7						
TXAR	Lajitas Array	73.69	62	P	P	19 10 16.7	+1.1
	0.5nm,0.7s,baz=296,slow=4.8,SNR=6.9						

*ISCJB **24** 19:06:36.9±0.5, 55°.0N±0°.1×154°.2E±0°.1, h650km, mb3.1/4, Error ellipse: s-maj=14.4km s-min=9.7km az=31.0*
*KRSC **24** 19:06:37.0±10.0, 54°.29N×155°.51E, h699km±10km, ML3.9*
*IDC **24** 19:06:38.5±1.5, 54°.89N×153°.35E, h624km±26km, mb2.6/4, mb1 2.7/7, mb1mx2.4/49, mbtmp3.6/7, Error ellipse: s-maj=44.5km s-min=22.8km az=161.0*

ISC 24 19:06:36.6±0.9, 54°.8N±0°.1×154°.4E±0°.1, h650km, n22, σ1§93/25, mb3.1/4, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.47	137	P	P	19 07 59.3	+1.9
PETK	Petropavlovsk-	2.58	129	P	P	19 07 59.9	+2.0
	1.4nm,0.3s,baz=277,slow=10,SNR=42						
KRX	Arik	2.89	117	P	P	19 08 02.1	+2.6
KRER	Koryakskii	2.97	118	P	P	19 08 03.1	+3.1
AVH	Avacha	2.98	118	P	P	19 08 02.5	+2.6
SMAR	Somma	3.02	118	P	P	19 08 02.5	+2.2
SDLR	Sedlovina	3.05	117	P	P	19 08 02.5	+2.2
UGLR	Uglovaya	3.06	119	P	P	19 08 02.7	+2.4
DALK	Dalny	3.12	122	S	S	19 09 10.1	+1.1
ASAK	Asacha	3.18	137	P	P	19 08 03.4	+2.4
RUS	Russkaya	3.40	132	*eP*	P	19 08 03.2	+1.1
KDTR	Khodutka, Kamc	3.70	141	P	P	19 08 05.1	+1.2
KDTR				S	S	19 09 12.4	-2.7
SPN	Mys Shipunski	3.74	114	P	P	19 08 05.3	+1.3
SPN				S	S	19 09 13.8	-1.7
SKR	Severo-Kuril's	4.22	165	P	P	19 08 08.1	+0.9
MKZ	Mys Kozlova	4.28	90	P	P	19 08 07.8	+0.4
MKZ				S	S	19 09 20.1	-1.7
KBTR	Krutoberegovo	5.03	70	P	P	19 08 13.6	+1.0
KBTR				S	S	19 09 29.5	-1.9
SEY	Seymchan	8.26	354	P	P	19 08 39.4	-0.4
	0.5nm,0.3s,baz=163,slow=8.5,SNR=14						
KLR	Kul'dur	14.96	258	P	P	19 09 40.4	-1.9
	0.2nm,0.3s,baz=25,slow=7.7,SNR=5.4						
ILAR	Eielson Array	30.10	47	P	P	19 12 02.6	+6.4
	0.2nm,0.5s,baz=276,slow=8.9,SNR=4.8						
MKAR	Makanchi Array	44.38	291	P	P	19 13 51.2	-0.6
	0.7nm,0.5s,baz=56,slow=7.2,SNR=8.1						
ARCES	ARCESS Array B	50.58	339	P	P	19 14 38.1	+0.7
	1.1nm,0.9s,baz=54,slow=9.1,SNR=3.6						
FINES	FINESS Array B	57.17	333	P	P	19 15 24.3	+0.9
	0.6nm,0.5s,baz=32,slow=8.2,SNR=5.5						

*ISCJB **24** 19:09:35.9±0.4, 43°.78N±0°.03×105°.24W±0°.04, h0km, mb3.9/1, Error ellipse: s-maj=4.6km s-min=3.9km az=153.5*
*IDC **24** 19:09:37.0±1.6, 44°.06N×105°.60W, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.4/40, mbtmp3.6/4, ML3.0/2, Error ellipse: s-maj=47.0km s-min=8.4km az=147.0*
*NEIC **24** 19:09:37.2±0.2, 43°.82N×105°.21W, h0km, ML3.3, Error ellipse: s-maj=3.3km s-min=2.9km az=85.0, Suspected Mining explosion.*
NEIC 57 km [35 miles] SSE of Gillette.

ISC 24 19:09:36.2±0.9, 43°.81N±0°.06×105°.26W±0°.07, h0km, n75, σ1§46/75, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.93	70	*e*Pg	Pg	19 09 55.1	+1.0
K22A	Casper	1.48	219	*e*Pn	Pn	19 10 03.4	-0.9
PHWY	Pilot Hill	2.51	183	*e*Pn	Pn	19 10 19.0	+0.4
RWWY	Rawlins	2.56	215	*e*Pn	Pn	19 10 20.6	+1.4
LAO	LASA Array	2.96	347	*e*Pn	Pn	19 10 25.5	+1.0
N23A	Red Feather La	2.96	190	*e*Pn	Pn	19 10 25.6	+1.0
RLMT	Red Lodge	3.16	296	*e*Pn	Pn	19 10 28.6	+1.2
BW06	Boulder Array	3.31	253	*e*Pn	Pn	19 10 30.9	+1.4
PD31	Pinedale Array	3.31	253	*e*Pn	Pn	19 10 30.9	+1.4
PD31				*e*Lg	Lg	19 11 16.8	
PDAR	Pinedale Array	3.31	253	Pn	Pn	19 10 30.9	+1.4
	14nm,0.3s,baz=70,slow=16,SNR=86						
PDAR				Lg	Lg	19 11 16.8	
	19nm,0.3s,baz=65,slow=32,SNR=12						
GCMT	Greycliff	3.71	304	*e*Pn	Pn	19 10 36.4	+1.5
OGNE	Ogallala	3.73	139	*e*Pn	Pn	19 10 36.6	+1.5
LKWY	Lake	3.78	283	*e*Pn	Pn	19 10 37.5	+1.6
H17A	Grant Village	3.88	281	*e*Pn	Pn	19 10 38.3	+1.0
LOHW	Long Hollow	3.88	269	*e*Pn	Pn	19 10 39.3	+2.0
FLWY	Flagg Ranch	3.94	276	*e*Pn	Pn	19 10 39.4	+1.3
MOOW	Moose Ponds	3.98	271	*e*Pn	Pn	19 10 40.1	+1.5
YNR	Norris Junctio	4.00	285	*e*Pn	Pn	19 10 41.1	+2.2
SNOW	Snow King Moun	4.01	267	*e*Pn	Pn	19 10 40.6	+1.6
IS

CFA			eS	Sg	19 23 13.0	-0.8
LSCH	**La Serena**	**1.77 291**	eP	Pg	19 23 01.8	-0.7
LSCH			IAML		19 23 26.8	
comp=E,150nm,0.3s						
LCO	**Las Campanas**	**1.94 322** ⇓	iP	Pg	19 23 04.7	-1.2
LCO			iS	Sg	19 23 30.8	-0.3
LCO			IAML		19 23 32.6	
comp=N,139nm,0.3s						
ASAL	**Salagasta**	**2.07 168**	eP	Pb	19 23 05.1	-1.1
VCA	**Vinchina**	**2.07 29**	eP	Pb	19 23 06.2	-0.2
VCA			eS	Sg	19 23 34.2	-1.0
VCA			IAML		19 23 40.1	
comp=Z,160nm,0.3s						
VCA	**Vinchina**	**2.07 29** ⇑	iP	Pg	19 23 07.0	-1.3
VCA			iS	Sg	19 23 33.9	-1.3
VCA			IAML		19 23 40.5	
comp=N,220nm,0.3s						
ACLC	**CERRO LA CRUZ**	**2.37 62**	eP	Pb	19 23 10.0	-1.3
ACLC			eS	Sb	19 23 40.5	-0.2
APLL	**PUNTA DE LOS L**	**2.44 87**	eP	Pb	19 23 10.3	-2.2
APLL			IAML		19 23 41.0	
comp=Z,47nm,0.3s						
APLL			eS	Sb	19 23 41.6	-1.1
ROCH	**El Roble**	**2.79 210**	IAML		19 23 57.3	
comp=N,117nm,0.4s						
PEL	**Peldehue**	**2.81 204**	iP	Pb	19 23 18.1	-0.9
PEL			IAML		19 24 03.3	
comp=N,57nm,0.5s						
FCH	**Farellones**	**2.87 196**	eP	Pb	19 23 19.8	-0.3
FCH			IAML		19 24 02.3	
comp=E,45nm,0.2s						
GO03	**Copiap**	**3.06 345**	eP	Pb	19 23 20.5	-2.6
GO03			eS	Sb	19 23 60.0	-0.6
CYA	**Choya**	**3.74 56**	eP	Pn	19 23 29.1	+2.7
CYA			eS	Sn	19 24 14.2	+3.7
CYA			IAML		19 24 30.1	
comp=E,16nm,0.3s						
TCA	**Tanti**	**4.15 102**	eP	Pn	19 23 32.4	+0.3
TCA			eS	Sn	19 24 23.7	+2.9

*ISCJB **24** 19:44:38.9±0.5, 24°.86N±0°.02×122°.41E±0°.02, h10km±3km,*
Error ellipse: s-maj=3.7km s-min=2.4km az=20.4
*JMA **24** 19:44:38.3±0.3, 24°.83N×122°.40E, h0km±3km, M2.5*
*TAP **24** 19:44:39.5, 24°.87N×122°.40E, h9km±1km, ML3.0, C*
ISC 24 19:44:37.8±1.1, 24°.87N±0°.03×122°.42E±0°.02, h17km±9km, n62, σ0°.59/100, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.41**	**220**	P	**Pb**	**19 44 47.7**	**+1.1**
baz=217							
EOS1				eS	**Sb**	**19 44 53.4**	**+0.9**
baz=217							
TWB1	**Santiao Chiao**	**0.41**	**290**	P	**Pb**	**19 44 47.0**	**+0.3**
baz=290							
TWB1				eS	**Sb**	**19 44 52.4**	**-0.4**
baz=290							
EGS		**0.44**	**268**	eP	**Pb**	**19 44 47.9**	**+0.8**
baz=266							
NTC	**Toucheng**	**0.53**	**269**	P	**Pb**	**19 44 49.4**	**+0.7**
baz=268							
TIPB	**Shuangxi**	**0.55**	**281**	eP	**Pb**	**19 44 49.7**	**+0.7**
baz=280							
TIPB				eS	**Sb**	**19 44 57.1**	**+0.5**
baz=280							
TWC	**Suao**	**0.57**	**244**	P	**Pb**	**19 44 49.9**	**+0.5**
baz=241							
TWC				eS	**Sb**	**19 44 58.1**	**+0.8**
baz=241							
WFSB	**Wu-fen Shan**	**0.61**	**290**	eP	**Pn**	**19 44 51.2**	**-0.5**
baz=289							
WFSB				eS	**Sn**	**19 44 59.8**	**-1.5**
baz=289							
JYNG	**Yonagunijimaku**	**0.63**	**130**	P	**Pb**	**19 44 50.9**	**+0.5**
JYNG				eS	**Sb**	**19 44 59.9**	**+0.9**
YOJ	**Yonaguni jima**	**0.67**	**126**	eP	**Pb**	**19 44 51.5**	**+0.4**
baz=125							
YOJ				eS	**Sb**	**19 45 00.7**	**+0.5**
baz=125							
YOJ	**Yonaguni jima**	**0.67**	**126**	P	**Pb**	**19 44 51.4**	**+0.3**
YOJ				eS	**Sb**	**19 45 00.4**	**+0.2**
TWE	**Neicheng**	**0.70**	**258**	eP	**Pn**	**19 44 52.2**	**-0.7**
baz=256							
TWE				eS	**Sb**	**19 45 01.6**	**+0.8**
baz=256							
SLBB	**Yuanshan**	**0.72**	**261**	eP	**Pn**	**19 44 52.9**	**-0.3**
baz=260							
NANB	**Nanao**	**0.75**	**234**	eP	**Pn**	**19 44 53.1**	**-0.5**
baz=233							
NANB				eS	**Sb**	**19 45 02.6**	**+0.3**
baz=233							
ENA	**Nanau**	**0.75**	**235**	P	**Pn**	**19 44 53.2**	**-0.5**
baz=233							
ENA				eS	**Sb**	**19 45 03.2**	**+0.7**
baz=233							
TWA	**Mucha**	**0.77**	**279**	eP	**Pn**	**19 44 53.7**	**-0.2**
baz=278							
TWA				eS	**Sn**	**19 45 03.9**	**-1.2**
baz=278							
YM07	**YM07**	**0.79**	**293**	eP	**Pn**	**19 44 54.0**	**-0.2**
baz=293							
YM07				eS	**Sb**	**19 45 04.3**	**+0.8**
baz=293							
ENTT	**Nioudou**	**0.81**	**254**	eP	**Pn**	**19 44 54.4**	**0.0**
baz=252							
ENTT				eS	**Sn**	**19 45 05.5**	**-0.5**
baz=252							
NHDH	**Xindian Distri**	**0.81**	**277**	eP	**Pn**	**19 44 54.8**	**+0.3**
baz=276							
NHDH				eS	**Sn**	**19 45 05.6**	**-0.7**
baz=276							
YM08	**YM08**	**0.82**	**293**	eP	**Pn**	**19 44 54.1**	**-0.4**
baz=293							
YM08				eS	**Sg**	**19 45 04.7**	**+0.1**
baz=293							
YM01	**YM01**	**0.82**	**290**	eP	**Pn**	**19 44 54.4**	**-0.3**
baz=290							
YM01				eS	**Sn**	**19 45 05.7**	**-0.7**
baz=290							
YM11	**YM11**	**0.82**	**292**	eP	**Pn**	**19 44 54.9**	**+0.2**
baz=291							
PCYT	**Pengchaiyu**	**0.82**	**338**	eP	**Pn**	**19 44 55.2**	**+0.5**
baz=339							
PCYT				eS	**Sn**	**19 45 05.6**	**-0.9**
baz=339							
YM10	**YM10**	**0.83**	**291**	eP	**Pn**	**19 44 54.6**	**-0.2**
baz=290							
YM10				eS	**Sn**	**19 45 06.0**	**-0.7**
baz=290							
NWLT	**Wulai**	**0.83**	**264**	eP	**Pn**	**19 44 55.0**	**+0.2**
baz=263							
NWLT				eS	**Sg**	**19 45 05.5**	**+0.4**
baz=263							
TWY	**Chenhua**	**0.85**	**299**	eP	**Pn**	**19 44 55.8**	**+0.8**
baz=299							
TWY				eS	**Sn**	**19 45 06.5**	**-0.5**
baz=299							
TATO	**Taipei**	**0.85**	**278**	eP	**Pn**	**19 44 54.9**	**-0.2**
baz=277							
NDT	**Datong Townshi**	**0.86**	**253**	eP	**Pn**	**19 44 55.6**	**+0.4**
baz=251							
NDT				eS	**Sn**	**19 45 07.0**	**-0.4**
baz=251							
ANP	**Anpu**	**0.87**	**292**	eP	**Pn**	**19 44 56.0**	**+0.5**
baz=291							
ANP				eS	**Sb**	**19 45 05.8**	**-0.3**
baz=291							
TWS1	**Kuangyinshan**	**0.94**	**285**	eP	**Pn**	**19 44 56.9**	**+0.6**
baz=284							
TWS1				eS	**Sn**	**19 45 09.3**	**+0.1**
baz=284							
YHNB	**Yeheng**	**0.97**	**259**	eP	**Pn**	**19 44 57.1**	**+0.4**
baz=257							
YHNB				eS	**Sn**	**19 45 10.2**	**+0.1**
baz=257							
NSK	**Sanguang**	**0.98**	**259**	P	**Pn**	**19 44 57.3**	**+0.4**
baz=258							
NSK				eS	**Sn**	**19 45 10.2**	**-0.3**
baz=258							
NACB	**Ninganchiao**	**1.02**	**228**	eP	**Pn**	**19 44 57.4**	**+0.1**
baz=226							
NACB				eS	**Sg**	**19 45 10.8**	**-0.1**
baz=226							
NNSB	**Datong**	**1.04**	**245**	eP	**Pg**	**19 44 58.2**	**+0.3**
baz=244							
NNSB				eS	**Sn**	**19 45 12.1**	**+0.2**
baz=244							
NNS	**Nan Shan**	**1.04**	**246**	P	**Pg**	**19 44 58.3**	**+0.4**
baz=245							
NNS				eS	**Sn**	**19 45 12.2**	**+0.2**
baz=245							
ETLH	**Xiulin Townshi**	**1.07**	**233**	P	**Pg**	**19 44 59.0**	**+0.4**
baz=231							
ETLH				eS	**Sn**	**19 45 13.6**	**+0.8**
baz=231							
TWD	**Chiawan**	**1.08**	**224**	eP	**Pn**	**19 44 58.4**	**+0.2**
baz=222							
WHF	**Hehuan Shan**	**1.27**	**236**	P	**Pg**	**19 45 02.7**	**+0.3**
baz=234							
WHF				eS	**Sn**	**19 45 18.4**	**+0.4**
baz=234							
LIOB	**Emei**	**1.29**	**261**	eP	**Pb**	**19 45 01.9**	**+0.2**
baz=259							
IRIF	**Iriomote-Funau**	**1.31**	**114**	P	**Pg**	**19 45 03.1**	**+0.1**
NSTT	**Nanjuang**	**1.31**	**260**	eP	**Pg**	**19 45 03.2**	**+0.1**
baz=259							
ESL	**Shilin**	**1.38**	**221**	eP	**Pb**	**19 45 03.2**	**+0.1**
baz=219							
CHGB	**Renai**	**1.39**	**235**	eP	**Pg**	**19 45 04.6**	**0.0**
baz=234							
CHGB				eS	**Sg**	**19 45 22.4**	**-0.3**
baz=234							
OWD	**Renai**	**1.45**	**232**	eP	**Pg**	**19 45 05.5**	**-0.3**
baz=230							
WHP	**Taichung City**	**1.46**	**247**	eP	**Pg**	**19 45 06.5**	**+0.5**
baz=245							
HATJ	**Hateruma jima**	**1.50**	**122**	P	**Pg**	**19 45 07.1**	**+0.4**
HATJ				eS	**Sg**	**19 45 25.5**	**-0.7**
JKRS	**Kuro-shima**	**1.58**	**113**	P	**Pg**	**19 45 07.7**	**-0.5**
JKRS				eS	**Sg**	**19 45 27.9**	**-0.9**
TWQ1	**Liyutan**	**1.58**	**251**	eP	**Pg**	**19 45 07.6**	**-0.6**
baz=250							
DPDB	**Guoxing**	**1.59**	**239**	eP	**Pg**	**19 45 08.3**	**-0.1**
baz=238							
VWDT	**VWDT**	**1.60**	**227**	eP	**Pb**	**19 45 07.5**	**+0.5**
baz=225							
VWDT				eS	**Sg**	**19 45 28.5**	**-1.1**
baz=225							
JIJ	**Ishigaki jima**	**1.65**	**107**	P	**Pb**	**19 45 08.2**	**+0.4**
SMLT	**Sun Moon Lake**	**1.69**	**235**	eP	**Pg**	**19 45 09.6**	**-0.8**
baz=234							
SMLT				eS	**Sb**	**19 45 30.9**	**+1.2**
baz=234							
SSLB	**Suanglung**	**1.71**	**232**	eP	**Pb**	**19 45 09.3**	**+0.4**
baz=230							
SSLB				eS	**Sb**	**19 45 29.9**	**-0.2**
baz=230							
TYC	**Yuchr**	**1.71**	**236**	eP	**Pg**	**19 45 09.9**	**-0.8**
baz=235							
JISG	**Ishigakijimahi**	**1.75**	**99**	P	**Pb**	**19 45 09.9**	**+0.5**
YULB	**Yu-li**	**1.79**	**215**	eP	**Pn**	**19 45 08.3**	**+0.3**
baz=214							
TWF1	**Yuli**	**1.82**	**214**	eP	**Pn**	**19 45 08.9**	**+0.5**
baz=213							
WHYT	**Xinyi Township**	**1.84**	**231**	eP	**Pb**	**19 45 11.5**	**+0.5**
baz=230							
CHN5	**Tsauling**	**2.03**	**232**	eP	**Pb**	**19 45 14.3**	**0.0**
baz=231							
ELDTW	**Lidau**	**2.10**	**218**	eP	**Pb**	**19 45 14.2**	**-1.3**
baz=216							
CHN4	**Tsaushan**	**2.25**	**228**	eP	**Pb**	**19 45 18.1**	**+0.1**
baz=227							
CHN4				eS	**Sb**	**19 45 44.0**	**-1.5**
baz=227							
TPUB	**Ta-pu**	**2.26**	**227**	eP	**Pb**	**19 45 18.0**	**-0.2**
baz=225							
WTP	**Ta-pu**	**2.31**	**226**	eP	**Pb**	**19 45 18.1**	**-0.9**
baz=225							

*ISCJB **24** 19:52:59.4±0.6, 24°.86N±0°.03×122°.41E±0°.02, h11km±4km,*
Error ellipse: s-maj=5.2km s-min=2.7km az=9.4
*JMA **24** 19:52:59.1±0.3, 24°.83N×122°.40E, h3km±4km, M2.3*
*TAP **24** 19:52:59.4, 24°.88N×122°.43E, h13km, ML2.6, C*
ISC 24 19:52:59.3±1.0, 24°.84N±0°.03×122°.41E±0°.02, h11km±10km, n35, σ0°.39/55, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.39**	**222**	P	**Pb**	**19 53 07.9**	**-0.3**
baz=220							
EOS1				eS	**Sb**	**19 53 13.7**	**-0.4**
baz=220							
TWB1	**Santiao Chiao**	**0.42**	**294**	eP	**Pg**	**19 53 07.2**	**-0.4**
baz=288							
TWB1				eS	**Sg**	**19 53 12.9**	**-0.2**
baz=288							
TIPB	**Shuangxi**	**0.55**	**284**	eP	**Pg**	**19 53 10.4**	**+0.4**
baz=280							
TIPB				eS	**Sg**	**19 53 18.0**	**+0.8**
baz=280							
TWC	**Suao**	**0.56**	**246**	eP	**Pg**	**19 53 10.2**	**0.0**
baz=242							
TWC				eS	**Sb**	**19 53 19.7**	**+0.6**
baz=242							
NWF	**Wu-fen Shan**	**0.61**	**292**	eS	**Sg**	**19 53 19.9**	**+0.5**
baz=288							
WFSB	**Wu-fen Shan**	**0.61**	**292**	eP	**Pg**	**19 53 11.4**	**+0.2**
baz=288							
WFSB				eS	**Sg**	**19 53 20.0**	**+0.6**
baz=288							
JYNG	**Yonagunijimaku**	**0.62**	**128**	P	**Pg**	**19 53 11.4**	**0.0**
JYNG				S	**Sg**	**19 53 20.0**	**+0.4**
YOJ	**Yonaguni jima**	**0.67**	**124**	eP	**Pg**	**19 53 12.0**	**-0.2**
baz=127							
YOJ				eS	**Sg**	**19 53 20.9**	**0.0**
baz=127							
YOJ	**Yonaguni jima**	**0.67**	**124**	P	**Pg**	**19 53 12.2**	**0.0**
YOJ				eS	**Sg**	**19 53 20.9**	**0.0**
TWE	**Neicheng**	**0.68**	**260**	eP	**Pg**	**19 53 12.7**	**+0.1**
baz=257							
TWE				eS	**Sb**	**19 53 23.0**	**+0.2**
baz=257							
NANB	**Nanao**	**0.73**	**236**	eP	**Pg**	**19 53 13.6**	**+0.2**
baz=234							
ENA	**Nanau**	**0.73**	**236**	eP	**Pg**	**19 53 13.6**	**+0.1**
baz=234							
ENA				eS	**Sg**	**19 53 22.9**	**-0.2**
baz=234							
YM07	**YM07**	**0.79**	**295**	eP	**Pg**	**19 53 14.2**	**-0.4**
baz=292							
ENTT	**Nioudou**	**0.79**	**256**	eP	**Pg**	**19 53 14.7**	**+0.1**
baz=253							
ENTT				eS	**Sb**	**19 53 26.4**	**+0.5**
baz=253							
YM01	**YM01**	**0.82**	**292**	eP	**Pg**	**19 53 14.7**	**-0.5**
baz=289							
YM08	**YM08**	**0.82**	**295**	eP	**Pg**	**19 53 15.1**	**-0.1**
baz=292							
YM05	**YM05**	**0.83**	**293**	eP	**Pg**	**19 53 14.8**	**-0.6**
baz=290							
YM10	**YM10**	**0.83**	**292**	eP	**Pg**	**19 53 14.8**	**-0.6**
baz=289							
PCYT	**Pengchaiyu**	**0.84**	**339**	eP	**Pg**	**19 53 14.9**	**-0.7**
baz=337							
TATO	**Taipei**	**0.85**	**279**	eS	**Sg**	**19 53 26.6**	**-0.2**
baz=276							
NDT	**Datong Townshi**	**0.85**	**254**	eP	**Pg**	**19 53 15.5**	**-0.2**
baz=252							
YHNB	**Yeheng**	**0.95**	**260**	eP	**Pg**	**19 53 17.1**	**-0.6**
baz=257							
YHNB				eS	**Sg**	**19 53 30.7**	**+0.5**
baz=257							
NSK	**Sanguang**	**0.97**	**261**	eP	**Pg**	**19 53 17.8**	**-0.2**
baz=258							
NACB	**Ninganchiao**	**0.99**	**228**	eP	**Pg**	**19 53 18.1**	**-0.3**
baz=227							
NACB				eS	**Sg**	**19 53 30.9**	**-0.6**
baz=227							
NNSB	**Datong**	**1.02**	**247**	eP	**Pg**	**19 53 18.5**	**-0.4**
baz=245							
NNSB				eS	**Sg**	**19 53 31.8**	**-0.5**
baz=245							
NNS	**Nan Shan**	**1.02**	**247**	eP	**Pg**	**19 53 18.5**	**-0.5**
baz=245							
NNS				eS	**Sg**	**19 53 32.2**	**-0.2**
baz=245							
ETLH	**Xiulin Townshi**	**1.05**	**233**	eP	**Pg**	**19 53 19.5**	**-0.1**
baz=232							
ETLH				eS	**Sg**	**19 53 33.2**	**-0.1**
baz=232							
WHF	**Hehuan Shan**	**1.25**	**237**	eP	**Pg**	**19 53 23.4**	**0.0**
baz=235							
WHF				eS	**Sg**	**19 53 38.9**	**-0.8**
baz=235							
IRIF	**Iriomote-Funau**	**1.30**	**112**	P	**Pb**	**19 53 24.1**	**+0.2**
IRIF				eS	**Sb**	**19 53 40.2**	**-0.4**
CHGB	**Renai**	**1.37**	**236**	eP	**Pn**	**19 53 24.6**	**0.0**
baz=234							
HATJ	**Hateruma jima**	**1.49**	**121**	P	**Pb**	**19 53 27.5**	**+0.4**
JKRS	**Kuro-shima**	**1.58**	**112**	P	**Pg**	**19 53 29.2**	**-0.4**
JKRS				eS	**Sn**	**19 53 47.6**	**0.0**
JIJ	**Ishigaki jima**	**1.65**	**106**	P	**Pn**	**19 53 28.0**	**-0.2**
JIJ				eS	**Sb**	**19 53 50.9**	**+0.4**
TYC	**Yuchr**	**1.69**	**237**	eP	**Pn**	**19 53 29.2**	**+0.3**
baz=235							
JISG	**Ishigakijimahi**	**1.75**	**98**	P	**Pb**	**19 53 31.7**	**+0.3**

KRSC 24 19:58:36.3±10.0, 53°.75N×154°.48E, h705km±10km, ML4.1, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.81**	**116**	eP		20 00 00.0	0.0
SPN	**Mys Shipunski**	**3.38**	**99**	eP		20 00 06.9	0.0
SPN				eS		20 01 17.0	0.0
MKZ	**Mys Kozlova**	**4.34**	**76**	eP		20 00 12.5	0.0
MKZ				eS		20 01 28.0	0.0
KBTR	**Krutoberegovo**	**5.40**	**60**	eP		20 00 19.0	0.0

*ISCJB **24** 19:59:01.1±1.4, 17°.7S±0°.6×178°.3W±0°.4, h550km, mb3.4/6,*
Error ellipse: s-maj=98.7km s-min=18.2km az=148.1
*IDC **24** 19:59:03.0±5.0, 17°.75S×178°.22W, h562km±57km, mb3.0/5,*
mb1 3.3/6, mb1mx3.0/26, mbtmp4.0/6, Error ellipse:
s-maj=92.6km s-min=23.3km az=147.0
ISC 24 19:59:01.8±1.4, 17°.8S±0°.6×178°.1W±0°.4, h550km, n8, σ0°.83/9, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.11**	**251**	P	**P**	**20 02 14.0**	**+1.5**
0.4nm,0.3s,baz=96,slow=7.9,SNR=8.3							
STKA	**Stephens Creek**	**38.91**	**241**	P	**P**	**20 05 40.1**	**-0.6**
2.1nm,0.8s,baz=107,slow=12,SNR=5.1							
ASAR	**Alice Springs**	**45.07**	**254**	P	**P**	**20 06 28.9**	**-0.5**
3.1nm,0.6s,baz=89,slow=8.3,SNR=64							
ASAR				PcP	**PcP**	**20 07 57.9**	**-0.5**
0.6nm,0.4s,baz=104,slow=3.8,SNR=12							
NVAR	**Mina Array Bea**	**79.17**	**44**	P	**P**	**20 10 10.1**	**-0.2**
0.2nm,0.3s,baz=228,slow=3.8,SNR=3.6							
TXAR	**Lajitas Array**	**85.72**	**58**	P	**P**	**20 10 43.9**	**+0.5**
0.5nm,0.7s,baz=216,slow=7.8,SNR=7.4							
ILAR	**Eielson Array**	**85.73**	**13**	P	**P**	**20 10 42.1**	**-0.4**
0.4nm,0.4s,baz=218,slow=5.3,SNR=10							
PDAR	**Pinedale Array**	**87.10**	**43**	P	**P**	**20 10 49.7**	**-0.1**
0.2nm,0.6s,baz=224,slow=3.8,SNR=2.5							
BRTR	**Keskin Array B**	**144.90**	**315**	PKP	**PKPdf**	**20 17 37.8**	**+0.8**
0.4nm,0.6s,baz=103,slow=5.6,SNR=2.7							

*DDA **24** 20:07:26.8, 39°.94N×39°.84E, h7km±4km, ML2.5*
*ISK **24** 20:07:26.9, 39°.95N×39°.88E, h5km, ML2.2/4*
*ISCJB **24** 20:07:27.5±0.6, 39°.96N±0°.03×39°.85E±0°.04, h5km±6km,*
Error ellipse: s-maj=5.7km s-min=4.2km az=139.9
ISC 24 20:07:27.1±1.1, 39°.96N±0°.03×39°.85E±0°.03, h10km±11km, n14, σ0°.86/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUZM	**Uzumlu**	**0.27**	**205**	IAML_P			
comp=Z,15μm,0.1s							
EUZM				iP	**Pb**	**20 07 33.9**	**-0.3**
ERZN	**Erzincan**	**0.38**	**194**	PG	**Pg**	**20 07 34.9**	**+0.2**
ERZN				SG	**Sb**	**20 07 40.8**	**-1.2**
BAYB	**BAYBURT**	**0.44**	**46**	iP	**Pb**	**20 07 36.6**	**-0.4**
BAYB				iS	**Sg**	**20 07 42.6**	**+1.0**
BAYT	**Aydıntepe-Bayb**	**0.49**	**27**	PG	**Pg**	**20 07 36.9**	**+0.1**
BAYT				SG	**Sg**	**20 07 43.8**	**+0.5**
KELT	**Kelkit**	**0.49**	**293**	iP	**Pg**	**20 07 37.2**	**+0.5**
KELT				iS	**Sg**	**20 07 44.1**	**+0.8**
KOPT	**Kop Dagi**	**0.51**	**83**	iP	**Pb**	**20 07 38.0**	**-0.2**
YEDI	**Yedisu-Bingol**	**0.75**	**134**	PG	**Pg**	**20 07 41.1**	**-0.5**
TNCL	**Tunceli-Merkez**	**0.87**	**196**	IAML_P			
comp=Z,164nm,0.1s							
TNCL				iP	**Pg**	**20 07 43.4**	**-0.5**
KRIK	**Erzurum-spir**	**0.91**	**65**	iP	**Pb**	**20 07 45.3**	**+0.1**
KRIK				iS	**Sb**	**20 07 58.1**	**+0.7**
MACK	**Trabzon**	**0.99**	**357**	IAML_P			
comp=Z,2μm,0.1s							
MACK				iP	**Pg**	**20 07 44.3**	**-1.8**
MACK				iS	**Sg**	**20 07 58.3**	**-0.7**
BNGB	**Bingl**	**1.16**	**146**	PN	**Pn**	**20 07 49.6**	**+0.1**
KEMA	**Kemaliye**	**1.25**	**237**	IAML_P			
comp=Z,108nm,0.1s							
KEMA				iP	**Pg**	**20 07 49.7**	**-1.4**
KEMA				iS	**Sn**	**20 08 08.6**	**+1.0**
SUSE	**Susehri**	**1.28**	**282**	IAML_P			
comp=Z,472nm,0.2s							
SUSE				iP	**Pn**	**20 07 51.6**	**+0.4**
SUSE				iS	**Sb**	**20 08 08.8**	**+0.7**
BCA	**Borcka**	**2.01**	**42**	PN	**Pb**	**20 08 02.9**	**-0.8**

*ISCJB **24** 20:37:23.2±0.7, 28°.05S±0°.05×179°.8W±0°.1, h450km,*
mb3.8/5, Error ellipse: s-maj=13.9km s-min=7.1km
az=173.6
*IDC **24** 20:37:24.4±4.0, 28°.17S×179°.61W, h472km±46km, mb3.4/5,*
mb1 3.7/8, mb1mx3.4/26, mbtmp4.6/8, Error ellipse:
s-maj=34.0km s-min=28.7km az=34.0
*WEL **24** 20:37:29.2±1.3, 29°.S±11°×17°.9W±2°.4, h453km±15km*
ISC 24 20:37:23.3±0.8, 28°.02S±0°.08×179°.6W±0°.1, h450km, n87, σ1°.97/91, mb3.8/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**1.92**	**130**	P	**P**	**20 38 27.5**	**+4.2**
GLKZ	**Green Lake**	**1.94**	**130**	P	**P**	**20 38 25.0**	**+1.7**
GLKZ				S	**S**	**20 39 15.3**	**+3.1**
GRZ	**Great Barrier**	**9.20**	**206**	P	**P**	**20 39 34.4**	**+2.9**
OUZ	**Omahuta**	**9.21**	**217**	P	**P**	**20 39 34.5**	**+2.8**
KUZ	**Kuaotunu**	**9.54**	**203**	P	**P**	**20 39 38.5**	**+3.2**
WIAZ	**Waiheke Island**	**9.80**	**206**	P	**P**	**20 39 41.6**	**+3.4**
WIZ	**White Island**	**9.85**	**195**	P	**P**	**20 39 41.2**	**+2.6**
HAZ	**Te Kaha**	**9.95**	**192**	P	**P**	**20 39 42.0**	**+2.4**
MKAZ	**Moumakai**	**10.07**	**205**	P	**P**	**20 39 44.2**	**+3.2**
WTAZ	**Waiatarua**	**10.14**	**207**	P	**P**	**20 39 45.5**	**+3.7**
PUZ	**Puketiti**	**10.18**	**190**	P	**P**	**20 39 43.0**	**+0.8**
PUZ				S	**S**	**20 41 34.4**	**-2.2**
WHRZ	**Whale Island**	**10.21**	**195**	P	**P**	**20 39 45.5**	**+2.9**
TWGZ	**Tauwhareparae**	**10.32**	**191**	P	**P**	**20 39 45.9**	**+2.0**
TWGZ				S	**S**	**20 41 37.5**	**-2.1**
EDRZ	**Edgecumbe**	**10.51**	**196**	P	**P**	**20 39 48.7**	**+2.8**
KARZ	**Kaharoa**	**10.55**	**198**	P	**P**	**20 39 49.8**	**+3.5**
MWZ	**Matawai**	**10.56**	**192**	P	**P**	**20 39 47.6**	**+1.2**
URZ	**Urewera**	**10.57**	**194**	P	**P**	**20 39 46.8**	**+0.4**
32nm,0.3s,baz=357,slow=2.8,SNR=117							
URZ				S	**S**	**20 41 43.5**	**-0.9**
2.4nm,0.3s,baz=68,slow=23,SNR=8.5							
URZ	**Urewera**	**10.57**	**194**	P	**P**	**20 39 45.3**	**-1.1**
URZ				S	**S**	**20 41 43.7**	**-0.7**
CNGZ	**Carnagh Statio**	**10.59**	**189**	P	**P**	**20 39 49.0**	**+2.4**
OMRZ	**Omania**	**10.60**	**197**	P	**P**	**20 39 50.3**	**+3.4**
TKGZ	**Te Karaka**	**10.60**	**191**	P	**P**	**20 39 48.0**	**+1.2**
TARZ	**Mount Tarawera**	**10.

KATZ	Kakaramea	11.60	198	P	P	20 39 59.0	+1.2
KRVZ	Karewarewa	11.72	198	P	P	20 39 58.7	-0.4
WTVZ	West Tongariro	11.76	199	P	P	20 39 59.4	-0.1
TWVZ	Taurewa	11.76	199	P	P	20 40 01.2	+1.7
MCHZ	McNeill Hill	11.79	194	P	P	20 39 59.0	-0.8
NGZ	Ngauruhoe	11.81	198	P	P	20 40 00.9	+0.8
KWHZ	Kaweka Forest	11.84	195	P	P	20 39 59.9	-0.4
FWVZ	Far West T-bar	11.90	198	P	P	20 40 00.1	-1.1
WHVZ	Whangaehu Hut	11.91	198	P	P	20 40 02.0	+0.6
TRVZ	Turoa	11.94	198	P	P	20 40 01.5	-0.1
BHHZ	Black Hill Sta	11.98	196	P	P	20 40 00.2	-1.7
MOVZ	Moawhango	11.99	198	P	P	20 40 00.7	-1.3
VRZ	Vera Road	12.02	201	P	P	20 40 04.6	+2.4
KRHZ	Kereru	12.06	195	P	P	20 40 00.9	-1.8
PXZ	Pawanui	12.32	193	P	P	20 40 03.9	-1.6
PKE	Pukeiti	12.35	204	P	P	20 40 09.2	+3.4
PNHZ	Pukenui	12.35	195	P	P	20 40 02.9	-2.9
LREZ	Lake Rotokare	12.44	202	P	P	20 40 11.6	+4.9
TSZ	Takapari Road	12.55	196	P	P	20 40 05.6	-2.4
DVHZ	Dannevirke	12.73	195	P	P	20 40 08.9	-1.0
ANWZ	Angora Road	12.82	194	P	P	20 40 11.3	+0.5
POWZ	Post Office Ro	12.91	196	P	P	20 40 08.9	-2.9
BFZ	Birch Farm	13.08	194	P	P	20 40 12.6	-1.0
MRZ	Mangatainoka R	13.21	196	P	P	20 40 13.9	-1.2
HOWZ	Holdsworth Sta	13.45	196	P	P	20 40 16.6	-1.1
OGWZ	Otaki Gorge	13.46	197	P	P	20 40 16.6	-1.2
TMWZ	Te Maipa	13.56	195	P	P	20 40 20.3	+1.4
KIW	Kapiti Island	13.57	198	P	P	20 40 16.9	-2.1
MTW	Mount Morrison	13.70	196	P	P	20 40 19.9	-0.4
CAW	Cannon Point	13.76	197	P	P	20 40 20.2	-0.8
TRWZ	Traveller	13.89	195	P	P	20 40 21.8	-0.5
DZM	Mont Dzumac	13.95	292	P	P	20 40 23.9	+0.5
	3.1nm,0.3s,baz=116,slow=10,SNR=36						
MSWZ	Moikau Station	14.01	196	P	P	20 40 21.8	-1.8
QRZ	Quartz Range	14.31	205	P	P	20 40 26.9	0.0
NNZ	Nelson	14.36	202	P	P	20 40 25.8	-1.7
TUWZ	Tuamarina	14.38	200	P	P	20 40 26.5	-1.0
BSWZ	Blackbirch Sta	14.66	200	P	P	20 40 30.4	-0.2
RPZ	Rata Peaks	17.37	203	P	P	20 40 57.6	-1.7
	2.2nm,0.3s,baz=21,slow=2.8,SNR=9.7						
STKA	Stephens Creek	33.71	254	P	P	20 43 25.7	+0.1
	1.0nm,0.4s,baz=100,slow=11,SNR=6.5						
ASAR	Alice Springs	41.86	265	P	P	20 44 32.0	-0.7
	1.6nm,0.4s,baz=96,slow=7.5,SNR=52						
WRA	Warramunga Arr	42.63	270	P	P	20 44 37.9	-0.9
	3.5nm,0.4s,baz=100,slow=8.7,SNR=32						
MJAR	Matsushiro Arr	75.49	326	P	P	20 48 19.5	-0.7
	1.0nm,0.6s,baz=157,slow=4.8,SNR=4.5						
PETK	Petropavlovsk-	83.17	346	P	P	20 49 01.3	+0.6
	2.6nm,0.6s,baz=126,slow=7.9,SNR=5.9						
FINES	FINESS Array B	142.44	340	PKP	PKPdf	20 55 59.6	-3.5
	0.7nm,0.4s,baz=59,slow=3.4,SNR=9.1						
NB2	NORSAR Subarra	146.19	351	PKP	PKPbc	20 56 11.7	0.0
	comp=Z,0.5nm,0.5s,baz=23,slow=3.1						
NOA	NORSAR Array B	146.19	351	PKPbc	PKPbc	20 56 11.4	-0.3
	comp=Z,0.6nm,0.6s,baz=45,slow=2.4,SNR=4.2						
GERES	GERESS Array B	156.81	337	PKPab	PKPab	20 56 57.3	-1.2
	comp=Z,0.2nm,0.3s,baz=343,slow=4.2,SNR=3.8						

*IDC **24** 20:53:42.5±4.4, 13°.21N×92°.17W, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.4/29, mbtmp3.2/5, ML3.3/3, Error ellipse: s-maj=67.0km s-min=30.1km az=172.0*
*MEX **24** 20:53:55.8±0.6, 14°.28N×92°.20W, h79km±17km, MD3.9*
ISC 24 20:53:57.2±1.7, 14°.4N±0°.1×92°.29W±0°.07, h35km, n9, σ1§87/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.59	326	eP	Pn	20 54 22.9	+0.1
PCIG				i S	Sn	20 54 42.9	+0.7
APG	El Apazote	1.87	71	Pn	Pn	20 54 25.1	-1.9
	5.3nm,0.3s,baz=351,slow=18,SNR=28						
APG				Sn	Sn	20 54 54.4	+4.8
	12nm,0.3s,baz=203,slow=21,SNR=10						
CCIG	Comitan	1.89	5	eP	Pn	20 54 27.0	-0.3
CCIG				eS	Sn	20 54 50.0	+0.1
TGIG		2.51	342	i P	Pn	20 54 35.1	-0.5
TGIG				i S	Sn	20 55 05.2	+0.2
CMIG	Matias Romero	3.67	318	eP	Pn	20 54 51.6	+0.1
CMIG				i S	Sn	20 55 34.2	+0.6
CMIG	Matias Romero	3.67	318	Pn	Pn	20 54 52.8	+1.3
	1.5nm,0.3s,baz=147,slow=9.6,SNR=11						
CMIG				Sn	Sn	20 55 52.3	+19
	1.6nm,0.3s,baz=97,slow=8.8,SNR=6.4						
TXAR	Lajitas Array	18.22	327	P	Pn	20 58 08.7	+1.2
	0.0nm,0.3s,baz=143,slow=9.1,SNR=3.0						
NVAR	Mina Array Bea	33.19	321	P	P	21 00 31.6	+0.6
	0.3nm,0.5s,baz=139,slow=8.4,SNR=2.4						
YKA	Yellowknife Ar	50.59	347	P	P	21 02 49.7	-2.6
	0.5nm,0.7s,baz=151,slow=7.1,SNR=5.9						

*DDA **24** 21:05:15.8, 37°.27N×38°.65E, h7km±5km, ML2.5*
*ISK **24** 21:05:15.3, 37°.34N×38°.69E, h14km, ML1.8/4*
*ISCJB **24** 21:05:16.1±0.6, 37°.34N±0°.04×38°.74E±0°.05, h11km±5km, Error ellipse: s-maj=6.5km s-min=5.6km az=40.5*
ISC 24 21:05:15.7±1.0, 37°.31N±0°.03×38°.69E±0°.03, h9km±9km, n12, σ1§08/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.17	39	PG	Pg	21 05 19.3	-0.1
URFA				SG	Sg	21 05 22.2	+0.3
SANL	SANLIURFA_Merk	0.28	120	i P	Pg	21 05 21.3	0.0
SANL				i S	Sg	21 05 26.3	+1.2
ATAB	Bozova	0.35	297	IAML_P			
	comp=Z,4μm,0.1s						
ATAB				i P	Pg	21 05 22.2	-0.5
ATAB				i S	Sb	21 05 28.3	-1.6
SURC	SANLIURFA_SURC	0.43	188	IAML_P			
	comp=Z,420nm,0.1s						
SURC				i P	Pb	21 05 25.1	-0.5
SURC				i S	Sb	21 05 31.1	-1.1
GZT	Gaziantep	0.90	273	IAML_P			
	comp=Z,441nm,0.2s						
GZT				i P	Pn	21 05 34.2	-0.5
AKCD	Akcadag	1.16	329	IAML_P			
	comp=Z,489nm,0.2s						
AKCD				i P	Pn	21 05 38.8	+0.5
AKCD				i S	Sn	21 05 56.7	+2.5
SVRC	Sivrice-ELAZID	1.17	24	PN	Pb	21 05 37.3	-1.0
SVRC				SN	Sb	21 05 53.5	-0.2
KUZU	Kuzuini	1.40	248	i P	Pb	21 05 41.4	-0.7
KUZU				i S	Sg	21 06 01.9	+1.2
HCB	Kahramanmara	1.42	272	IAML_P			
	comp=Z,117nm,0.1s						
HCB				i P	Pg	21 05 43.0	-0.1
KMRS	Kahramanmaras	1.44	278	PN	Pn	21 05 41.8	-0.2
AYKD	Aykdinkavak	1.50	275	i P	Pg	21 05 44.6	0.0
AYKD				i S	Sg	21 06 05.8	+1.7
DARE	Darende-Malaty	1.58	323	PN	Pn	21 05 43.2	-0.8

*TIR **24** 21:12:06.5, 40°.06N×19°.86E, h7km, Md2.7/4*
*THE **24** 21:12:07.6, 40°.06N×19°.91E, h1km±2km, ML2.3/5, Error ellipse: s-maj=2.0km s-min=0.6km az=279.0*
*ATH **24** 21:12:07.2, 40°.06N×19°.87E, h13km±3km, ML2.3/6, Error ellipse: s-maj=3.9km s-min=1.3km az=192.0*
ISC 24 21:12:07.6±1.0, 40°.03N±0°.02×19°.88E±0°.03, h8km±8km, n28, σ1§07/45, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	Sarande	0.18	148	P	Pg	21 12 11.2	-0.1
SRN				S	Sg	21 12 14.2	+0.5
SRN	Sarande	0.18	148	i PG	Pg	21 12 11.2	-0.1
SRN				i SG	Sg	21 12 14.4	+0.6
TPE	Tepelena	0.28	22	P	Pg	21 12 11.9	-1.2
TPE				S	Sg	21 12 16.0	-0.9
TPE	Tepelena	0.28	22	i PG	Pg	21 12 12.3	-0.8
TPE				i SG	Sg	21 12 16.3	-0.6
KASA	Kassiopi	0.29	171	P	Pg	21 12 13.2	0.0
KASA				S	Sg	21 12 18.1	+1.0
KASA				AML	AML	21 12 20.9	
	comp=E,2828μm,0.4s						
KASA				AML	AML	21 12 21.0	
	comp=N,2744μm,0.3s						
KEK	Kerkira	0.33	191	P	Pg	21 12 14.1	+0.1
KEK				S	Sb	21 12 20.0	-1.1
KEK	Kerkira	0.33	191	P	Pg	21 12 14.3	+0.3
KEK				S	Sb	21 12 20.2	-0.8
KEK				AML	AML	21 12 23.1	
	comp=N,1145μm,0.4s						
KEK				AML	AML	21 12 23.5	
	comp=E,2099μm,0.2s						
VLO	Vlora	0.52	326	P	Pg	21 12 17.9	+0.2
IGT	Igoumenitsa	0.61	145	P	Pg	21 12 19.2	-0.2
IGT				S	Sg	21 12 28.1	+0.8
IGT	Igoumenitsa	0.61	145	P	Pg	21 12 19.2	-0.2
IGT				S	Sb	21 12 29.3	0.0
IGT				AML	AML	21 12 31.2	
	comp=E,520μm,0.4s						
IGT				AML	AML	21 12 33.7	
	comp=N,442μm,0.3s						
JAN	Janina	0.84	116	P	Pg	21 12 23.4	-0.3
JAN	Janina	0.84	116	P	Pg	21 12 23.3	-0.4
JAN				S	Sb	21 12 36.0	+0.1
JAN				AML	AML	21 12 39.2	
	comp=E,797μm,0.4s						
JAN				AML	AML	21 12 39.9	
	comp=N,579μm,0.5s						
NEST	Nestorio	0.97	67	P	Pg	21 12 25.9	-0.4
NEST	Nestorio	0.97	67	P	Pg	21 12 25.8	-0.4
NEST				S	Sb	21 12 40.0	+0.1
NEST				AML	AML	21 12 45.6	
	comp=N,119μm,0.5s						
NEST				AML	AML	21 12 47.7	
	comp=E,171μm,0.5s						
PENT	Pentalofos	0.98	80	P	Pg	21 12 25.6	-0.8
PENT	Pentalofos	0.98	80	P	Pg	21 12 25.7	-0.8
SCTE	Santa Cesarea	1.08	273	i PG	Pg	21 12 28.1	-0.2
SCTE				i SG	Sn	21 12 43.4	-0.9
SCTE	Santa Cesarea	1.08	273	P	Pg	21 12 27.9	-0.5
KPRO	Kipourio	1.15	93	P	Pg	21 12 28.7	-0.8
KPRO	Kipourio	1.15	93	P	Pg	21 12 28.7	-0.8
KPRO				S	Sn	21 12 46.0	+0.1
KPRO				AML	AML	21 12 51.3	
	comp=E,312μm,0.4s						
KPRO				AML	AML	21 12 55.6	
	comp=N,262μm,0.7s						
TIR	Tirane	1.31	360	i PN	Pg	21 12 33.0	+0.2
TIR				i SN	Sn	21 12 52.1	+2.1
FNA	Florina	1.37	56	P	Pn	21 12 32.0	-1.1
FNA				S	Sg	21 12 52.4	+0.8
FNA	Florina	1.37	56	P	Pn	21 12 32.2	-0.9
LKD2	Lefkada island	1.38	154	P	Pb	21 12 33.8	+0.1
BIA	Bitola	1.48	48	ePn	Pn	21 12 33.5	-1.1
BIA				i Sn	Sg	21 12 59.9	+4.8
KRUS	Krusevo	1.69	38	ePn	Pn	21 12 37.9	+0.4
KRUS				i Sn	Sg	21 13 03.9	+1.9
THL	Klokotos Trika	1.71	105	P	Pb	21 12 39.1	-0.2
STIP	Stip	2.41	46	ePn	Pb	21 12 51.2	0.0

*ISK **24** 21:23:16.5, 42°.35N×40°.98E, h10km, ML2.7/2*
*TIF **24** 21:23:17.1, 42°.35N×41°.04E, h26km±2km*
*NORS **24** 21:23:18.5±0.0, 42°.49N×41°.17E, h4km, MPVA3.6*
*DDA **24** 21:23:20.7, 42°.00N×40°.96E, h10km±2km, ML3.2*
ISC 24 21:23:15.4±1.2, 42°.35N±0°.02×41°.02E±0°.03, h0km±11km, n35, σ1§07/61, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	Batumi	0.90	146	PG	Pn	21 23 34.7	-0.5
BATM				SG	Sn	21 23 47.9	-1.0
BATM	Batumi	0.90	146	P	Pn	21 23 35.0	-0.2
BATM				S	Sn	21 23 47.5	-1.4
BCA	Borcka	1.01	154	PG	Pn	21 23 36.3	-0.5
BCA				SG	Sn	21 23 50.7	-1.0
DOMR	Dombai	1.04	25	ePg	Pg	21 23 35.1	-0.3
DOMR				eSg	Sg	21 23 47.9	-0.9
ARXR	Arkhyz	1.22	9	ePg	Pg	21 23 39.0	+0.1
ARXR				eSg	Sg	21 23 54.4	-0.4
DBAD	Bademkaya	1.42	159	IAML_P			
	comp=Z,2μm,0.2s						
DBAD				i P	Pg	21 23 43.1	+0.4
DBAD				i S	Sn	21 24 01.8	-0.2
DAGI	Agillar	1.44	152	IAML_P			
	comp=Z,631nm,0.1s						
DAGI				i P	Pg	21 23 43.1	+0.2
DAGI				i S	Sg	21 24 01.3	-0.2
TKB	Tkibuli	1.46	89	P	Pn	21 23 42.7	-0.3
TKB				S	Sb	21 24 01.7	-0.8
EPOS	Posof	1.53	123	i P	Pg	21 23 45.1	+0.4
EPOS				i S	Sg	21 24 05.4	+0.9
NEY	Neytrino	1.54	54	ePg	Pn	21 23 44.3	+0.1
NEY				eSg	Sn	21 24 03.1	-1.9
DDEM	Demirkent	1.56	159	IAML_P			
	comp=Z,2μm,0.1s						
DDEM				i P	Pb	21 23 44.8	-0.3
DDEM				i S	Sg	21 24 05.6	+0.2
SOC	Sochi	1.56	323	ePg	Pg	21 23 45.0	-0.3
SOC				eSg	Sg	21 24 05.4	-0.1
SRKG	Sareki	1.73	90	P	Pn	21 23 44.6	-2.0
SRKG				S	Sn	21 24 07.1	-2.3
GUZR	Guzeripl'	1.77	338	ePg	Pg	21 23 48.5	-0.3
GUZR				eSg	Sg	21 24 12.0	-0.4
ONI	Oni	1.81	82	PN	Pb	21 23 48.7	-0.8
ONI				SN	Sb	21 24 12.6	-0.1
ONI	Oni	1.81	82	P	Pb	21 23 48.7	-0.8
ONI				S	Sg	21 24 35.4	+22
ONI	Oni	1.81	82	ePg	Pb	21 23 48.7	-0.8
ONI				eSg	Sb	21 24 12.4	-0.3
SHA1	Shidzhatmaz	1.83	40	ePg	Pb	21 23 49.9	0.0
SHA1				eSg	Sn	21 24 12.3	0.0
DIGR	Digorskoe uzhe	1.96	73	ePg	Pn	21 23 51.0	+0.9
DIGR				eSg	Sn	21 24 16.0	+0.5
KIV	Kislovodsk	2.01	37	PN	Pb	21 23 51.9	-1.0
KRIK	Erzurum-spir	2.01	182	i P	Pb	21 23 52.8	-0.1
KRIK				i S	Sg	21 24 19.6	-0.4
SENK	Senkaya-Erzuru	2.05	150	PN	Pb	21 23 52.3	-1.2
AKH	Akhalkalaki	2.07	116	P	Sb	21 24 21.3	+1.1
ZEI	Tsey	2.17	77	ePg	Pn	21 23 53.8	+0.9
ZEI				eSg	Sb	21 24 22.2	-1.0
NCK	Nalchik	2.21	58	i Pg	Pb	21 23 57.1	+0.9
NCK				eSg	Sb	21 24 23.8	-0.3
BGD	Bogdanovka	2.21	119	P	Pb	21 23 56.8	+0.5
BGD				S	Sb	21 24 24.2	0.0
AKDA	Akdag	2.26	173	i P	Pb	21 23 56.4	-0.8
LSNR	Lesken	2.26	65	ePg	Pg	21 23 58.8	+0.1
LSNR				eSg	Sb	21 24 26.1	+0.5
KBTC	Kuba-Taba	2.28	49	ePg	Pg	21 24 00.5	+1.4
KBTC				eSg	Sb	21 24 27.5	+1.3
LACR	Lac	2.46	78	ePn	Pb	21 23 59.0	-1.6
LACR				eSn	Sn	21 24 29.5	+1.8
GUDG	Gudauri	2.56	86	P	Sb	21 24 35.4	+1.0
KELT	Kelkit	2.57	212	i P	Pb	21 24 01.0	-1.5
KELT				i S	Sn	21 24 31.6	+1.1
TBLG	Delisi	2.83	101	P	Sb	21 24 43.9	+1.8
LGD	Lagodekhi	3.92	96	P	Sb	21 25 17.0	+3.8
DIKM	Dikmen	4.35	263	PN	Pn	21 24 24.3	+1.6

*IDC **24** 21:25:01.2±2.2, 53°.87N×153°.56E, h664km±41km, mb2.6/4, mb1 2.6/7, mb1mx2.3/39, mbtmp3.6/7, Error ellipse: s-maj=74.1km s-min=40.0km az=130.0*
*KRSC **24** 21:25:02.1±10.0, 53°.66N×154°.75E, h679km±10km, ML3.9*
ISC 24 21:25:00.7±0.9, 54°.0N±0°.1×153°.7E±0°.1, h650km, n18, σ1§84/20, mb3.1/4, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.30	115	eP	P	21 26 22.8	+2.2
PETK	Petropavlovsk-	2.52	108	P	P	21 26 23.4	+1.8
	1.4nm,0.3s,baz=308,slow=2.9,SNR=27						
KRMR	Karymshinskiy	2.87	111	eP	P	21 26 25.4	+2.2
KOK	Koryaka	3.00	101	eP	P	21 26 26.6	+2.6
AVH	Avacha	3.07	101	eP	P	21 26 26.5	+2.2
SMAR	Somma	3.10	101	eP	P	21 26 26.7	+2.0
UGLR	Uglovaya	3.13	102	eP	P	21 26 26.2	+1.5
SDLR	Sedlovina	3.15	100	eP	P	21 26 26.9	+2.1
ALID	Alaid	3.29	159	eP	P	21 26 28.3	+2.5
KDTR	Khodutka, Kamc	3.40	127	eP	P	21 26 27.4	+1.3
KDTR				eS	S	21 27 33.4	-2.5
SPN	Mys Shipunski	3.86	100	eP	P	21 26 29.9	+1.1
SPN				eS	S	21 27 38.7	-2.2
KBTR	Krutoberegovo	5.69	63	eP	P	21 26 42.2	+0.4
SEY	Seymchan	9.03	356	P	P	21 27 12.2	+1.2
	baz=323,slow=20						
KLR	Kul'dur	14.43	260	P	P	21 28 01.3	-0.2
	0.2nm,0.3s,baz=28,slow=9.4,SNR=5.2						
KURBB	Kurchatov Arra	44.11	298	P	P	21 32 12.8	-0.8
	0.5nm,0.5s,baz=58,slow=7.8,SNR=5.0						
MKAR	Makanchi Array	44.32	291	P	P	21 32 14.9	-0.5
	0.3nm,0.4s,baz=55,slow=7.1,SNR=5.6						
BVAR	Borovoye Array	46.82	305	P	P	21 32 33.5	-0.6
	0.8nm,0.4s,baz=52,slow=7.9,SNR=8.7						
FINES	FINESS Array B	57.72	333	P	P	21 33 51.1	-0.1
	0.3nm,0.3s,baz=33,slow=7.7,SNR=6.0						

*IDC **24** 21:57:07.7±1.1, 16°.84S×173°.16W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.8/43, mbtmp3.9/6, Error ellipse: s-maj=53.1km s-min=21.8km az=134.0*
*ISCJB **24** 21:57:12.0±1.0, 16°.8S±0°.2×173°.3W±0°.3, h41km, mb3.9/6, Error ellipse: s-maj=44.3km s-min=19.9km az=39.4*
ISC 24 21:57:13.5±1.1, 16°.9S±0°.3×173°.2W±0°.3, h41km, n8, σ0§99/8, mb3.9/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	22.93	200	P	P	22 02 13.6	-0.4
	6.3nm,0.6s,baz=24,slow=3.4,SNR=8.0						
WRA	Warramunga Arr	49.73	258	P	P	22 06 02.1	-0.1
	0.9nm,0.4s,baz=89,slow=7.9,SNR=4.1						
ASAR	Alice Springs	49.87	253	P	P	22 06 03.5	+0.4
	4.1nm,0.6s,baz=89,slow=8.4,SNR=34						
NVAR	Mina Array Bea	75.29	42	P	P	22 08 53.1	+0.4
	0.2nm,0.4s,baz=254,slow=6.5,SNR=3.0						
ILAR	Eielson Array	83.87	11	P	P	22 09 36.7	-1.7
	0.2nm,0.5s,baz=218,slow=5.7,SNR=4.8						
YKA	Yellowknife Ar	91.38	23	P	P	22 10 15.5	+0.8
	0.1nm,0.4s,baz=238,slow=4.2,SNR=2.9						
BRTR	Keskin Array B	147.45	320	PKPbc	PKPbc	22 16 54.4	+0.9
	0.7nm,0.8s,baz=33,slow=3.4,SNR=4.6						
GERES	GERESS Array B	147.65	352	PKPbc	PKPbc	22 16 53.7	0.0
	0.2nm,0.4s,baz=26,slow=2.5,SNR=4.6						

*IDC **24** 21:57:40.2±0.8, 38°.31N×144°.83E, h0km, mb3.7/11, mb1 3.9/15, mb1mx3.7/62, mbtmp3.8/15, ML3.5/4, Error ellipse: s-maj=20.8km s-min=17.7km az=101.0*
*ISCJB **24** 21:57:43.4±0.6, 38°.51N±0°.04×144°.66E±0°.05, h29km, mb3.7/11, Error ellipse: s-maj=5.9km s-min=4.6km az=140.0*
*JMA **24** 21:57:44.9±0.2, 38°.39N×144°.55E, h39km, M4.0*
ISC 24 21:57:44.9±0.8, 38°.46N±0°.06×144°.70E±0°.06, h29km, n32, σ1§29/46, mb3.7/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.45	286	P	Pn	21 58 22.7	-0.1
OFUJ				eS	Sn	21 58 50.2	-1.6
MIYJ	Miyakonagasawa	2.50	297	P	Pn	21 58 23.5	-0.1
MIYJ				eS	Sn	21 58 52.2	-1.0
JIKH	Ishinomakikobu	2.54	268	P	Pn	21 58 23.2	-1.0
JKMT	Kesennumamotoy	2.55	279	P	Pn	21 58 23.7	-0.5
JMK	Ichinoseki	2.76	281	P	Pn	21 58 27.2	0.0
JMK				eS	Sn	21 58 58.7	-0.9
JOM	Ohasama	2.84	292	P	Pn	21 58 28.5	+0.3
JOM				eS	Sn	21 59 01.2	-0.3
JANG	Nango	3.12	309	P	Pn	21 58 31.9	-0.2
JYK	Kaneyama	3.42	279	P	Pn	21 58 36.8	+0.5
JYK				eS	Sn	21 59 15.4	-0.5
JFT	Otama	3.57	256	P	Pn	21 58 38.3	0.0
JFT				S	Sn	21 59 17.6	-1.9
JOT	Ohata	4.05	317	P	Pn	21 58 45.4	+0.6
JOT				eS	Sn	21 59 30.0	-1.2
JCH	Churui	4.27	347	P	Pn	21 58 47.8	-0.1
JCH				eS	Sn	21 59 35.7	-1.1
JKB	Kayabe	4.43	322	P	Pn	21 58 51.5	+1.5
JKB				eS	Sn	21 59 39.4	-1.2
NEM2	Nemuro 2	4.96	9	P	Pn	21 58 56.0	-1.4
NEM2				eS	Sn	21 59 49.9	-3.9
JRY	Ryogami san	5.23	244	P	Pn	21 58 59.9	-1.2
JRY				eS	Sn	21 59 57.3	-3.1
JOSM	Okushiri--Mats	5.39	314	P	Pn	21 59 04.3	+1.1
MJAR	Matsushiro Arr	5.50	252	Pn	Pn	21 59 04.7	-0.2
	0.3nm,0.3s,baz=33,slow=14,SNR=14						
MAT	Matsushiro	5.50	252	P	Pn	21 59 05.8	+0.9
MAT				S	Sn	22 00 06.2	-1.0
JTKR	Abashiri--Toko	5.54	354	P	Pn	21 59 05.0	-0.3
JTKR				eS	Sn	22 00 06.1	-1.8
ASAJ	Asahikawa	5.87	345	Pn	Pn	21 59 09.2	-0.6
	5.4nm,0.3s,baz=192,slow=9.5,SNR=14						
ASAJ				Sn	Sn	22 00 15.0	-1.1
	1.6nm,0.3s,baz=11,slow=27,SNR=5.6						
USRK	Ussuriysk Ar.	11.14	305	Pn	Pn	22 00 22.9	+0.9
	0.6nm,0.3s,baz=107,slow=14,SNR=16						
KLR	Kul'dur	14.23	323	Pn	Pn	22 01 04.2	0.0
	0.1nm,0.3s,baz=125,slow=13,SNR=3.7						
SEY	Seymchan	24.95	8	P	P	22 03 07.2	+1.9
	5.2nm,0.8s,baz=202,slow=8.6,SNR=12						
ZALV	Zalesovo Beam	42.90	311	P	P	22 05 41.1	+0.5
	0.9nm,0.7s,baz=72,slow=15,SNR=3.3						
MKAR	Makanchi Array	45.58	302	P	P	22 06 03.0	+0.8
	0.7nm,0.7s,baz=81,slow=8.8,SNR=6.9						
ILAR	Eielson Array	46.89	33	P	P	22 06 10.5	-1.7
	0.5nm,0.8s,baz=273,slow=7.0,SNR=5.4						
KURBB	Kurchatov Arra	47.19	307	P	P	22 06 16.5	+1.8
	1.3nm,0.5s,baz=81,slow=8.3,SNR=15						
WRA	Warramunga Arr	58.90	191	P	P	22 07 39.8	-1.4
	1.1nm,0.7s,baz=11,slow=8.9,SNR=3.9						
YKA	Yellowknife Ar	61.25	31	P	P	22 07 57.0	+0.1
	0.1nm,0.4s,baz=302,slow=12,SNR=5.4						
ASAR	Alice Springs	62.62	191	P	P	22 08 05.2	-1.3
	0.5nm,0.8s,baz=15,slow=7.8,SNR=4.3			

0.7nm,0.3s,baz=340,slow=23,SNR=7.7
FINES FINESS Array B 24.40 300 P P 22 10 13.1 -0.6
0.5nm,0.7s,baz=74,slow=10,SNR=2.5

UCR 24 22:11:51.1±1.3, 10°28N×86°31W, h14km±10km, MD4.0, 4C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**0.85**	**64**	*i* P	Pg	22 12 07.1	-0.5
GBS3	**Finca Las Img**	**0.98**	**59**	*i* P	Pb	22 12 08.5	-1.5
BUEV	**Buena Vista**	**1.03**	**60**	⇑*e*P	Pb	22 12 09.3	-1.4
BUEV				*e*S	Sb	22 12 23.9	-0.3
GPS3	**Bodega del ICE**	**1.05**	**63**	*i* P	Pb	22 12 09.7	-1.3
GB1A	**Borinquen Arri**	**1.05**	**59**	*i* P	Pb	22 12 09.6	-1.5
GPS2	**Hotel Rincn d**	**1.06**	**63**	*i* P	Pb	22 12 09.8	-1.4
GPS1	**Guardaparques**	**1.07**	**62**	*i* P	Pb	22 12 10.0	-1.4
LIM1	**Limonal**	**1.13**	**68**	*i* P	Pb	22 12 10.8	-1.6
BUAI	**Buenos Aires**	**1.14**	**58**	*i* P	Pb	22 12 11.4	-1.1
MESS	**Mesas**	**1.19**	**67**	⇑*e*P	Pn	22 12 12.0	-1.4
MESS				*e*S	Sg	22 12 29.8	0.0
HORNC	**Hornillas**	**1.20**	**69**	*i* P	Pn	22 12 11.9	-1.6
JTS	**Las Juntas de**	**1.34**	**89**	*e*P	Pn	22 12 14.2	-1.2
ARE1	**Arenal 1**	**1.58**	**83**	⇑*e*P	Pn	22 12 18.5	-0.2
CEDE	**Laguna Cedeo**	**1.60**	**82**	*e*P	Pn	22 12 18.8	-0.2
ACON	**Acoyapa**	**2.02**	**34**	⇑*i*P	Pn	22 12 23.3	-1.4
CSGN	**Cosíguina Volc**	**2.95**	**336**	*e*P	Pn	22 12 38.1	+0.5

NNC ***24*** *22:18:29.7±0.8, 40°80N×69°04E, h0km, mb6.0, mpv5.7, Error ellipse: s-maj=8.7km s-min=5.1km az=172.0*
BJI ***24*** *22:18:30.7±0.0, 40°93N×69°34E, h7km, mb5.1/64, mB5.2/60, ML5.5/2, Ms5.4/81, Ms7 5.3/76*
IDC ***24*** *22:18:30.5±0.4, 40°86N×69°23E, h0km, mb4.9/46, mb1 4.9/57, mb1mx4.9/67, mbtmp4.9/57, ML4.3/10, MS4.8/35, Ms1 4.8/35, ms1mx4.7/48, Error ellipse: s-maj=8.9km s-min=6.6km az=168.0*
KRNET ***24*** *22:18:31.9±0.1, 40°85N×69°11E, mb5.9*
MOS ***24*** *22:18:31.9±0.9, 40°91N×69°16E, h19km, mb5.5/51, MS5.2/28, Error ellipse: s-maj=4.7km s-min=3.9km az=120.8*
ISCJB ***24*** *22:18:32.2±0.5, 40°87N±0°02×69°18E±0°01, h20km±3km, mb5.2/211, MS5.1/71, Error ellipse: s-maj=2.5km s-min=1.7km az=3.9*
SOME ***24*** *22:18:33.2, 40°73N×69°48E, h15km, MS5.5*
NEIC ***24*** *22:18:33.9±0.7, 40°91N×69°17E, h19km±4km, mb5.3/80, MW5.3, Error ellipse: s-maj=4.0km s-min=3.4km az=186.0*
Best double couple: NP1:φ±69.00000°, δ39.00000°, λ157.00000°. NP2:φ±177.00000°, δ76.00000°, λ53.00000°.
Principal axes: T 1.1500, Plg46.0000°, Azm49.0000°; N -0.0900, Plg36.0000°, Azm188.0000°; P -1.0600, Plg22.0000°, Azm294.0000°;
NEIC Felt [V] at Tashkent. Also felt at Andijon and Angren. Felt at Shymkent, Kazakhstan.

ISC 24 22:18:32.6±0.3, 40°91N±0°02×69°29E±0°02, h13km±1km, h13km:pP-P, n868, σ1§95/1028, mb5.2/222, MS5.2/74, 106C-56D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.42**	**360**	PG	**Pb**	**22 18 41.8**	**-0.1**
TAS	**Tashkent**	**0.42**	**360**	⇓*i*P	**Pb**	**22 18 42.3**	**+0.4**
TAS	baz=17			⇓*i*S	**Sb**	**22 18 49.1**	**+0.9**
IUG	**Iuzhnay**	**1.35**	**24**	*e*P	**Pg**	**22 18 59.9**	**+1.3**
IUG	10μm,0.5s			*e*S	**Sg**	**22 19 19.1**	**+2.8**
CHM	**Chimkent**	**1.43**	**9**	*e*P	**Pg**	**22 19 02.0**	**+2.1**
CHM	27μm,0.4s			*e*S	**Sg**	**22 19 23.2**	**+4.7**
BTK	**Batken**	**1.45**	**126**	*e*Pn	**Pg**	**22 19 00.5**	**+0.1**
BTK	**Batken**	**1.45**	**126**	*e*PG	**Pg**	**22 19 00.5**	**+0.1**
BTK	**Batken**	**1.45**	**126**	⇑*i*P	**Pb**	**22 18 59.9**	**+0.4**
BTK	baz=21			⇑*i*S	**Sg**	**22 19 19.6**	**+0.4**
GAR	**Garm**	**2.07**	**157**	*e*Pn	**Pb**	**22 19 09.0**	**-1.1**
GAR	**Garm**	**2.07**	**157**	*e*PN	**Pb**	**22 19 09.0**	**-1.1**
ARK	**Arkit**	**2.20**	**65**	⇑*i*P	**Pb**	**22 19 11.7**	**-0.6**
ARK	baz=66			⇑*i*S	**Sb**	**22 19 40.4**	**+0.8**
CHGR	**Chuyangaron**	**2.25**	**183**	*e*Pn	**Pn**	**22 19 07.5**	**-2.2**
KK31	**Karatay Array**	**2.37**	**22**	*e*Pn	**Pn**	**22 19 13.1**	**+1.8**
KK31	**Karatay Array**	**2.37**	**22**	⇑Pn	**Pn**	**22 19 13.1**	**+1.8**
KK31	23nm,0.2s,baz=208,slow=18			⇓Pg	**Pg**	**22 19 17.9**	**-0.2**
KK31	923nm,0.3s,baz=208,slow=16,SNR=8.1			⇓Lg	Lg	22 19 50.3	
KK31	**Karatay Array**	**2.37**	**22**	*e*PN	**Pn**	**22 19 13.1**	**+1.8**
KKAR	**Karatay Array**	**2.37**	**22**	*e*Pn	**Pn**	**22 19 13.1**	**+1.8**
KKAR	**Karatay Array**	**2.37**	**22**	*e*PN	**Pn**	**22 19 13.1**	**+1.8**
DZA	**Taraz**	**2.50**	**37**	*e*P	**Pg**	**22 19 20.4**	**-0.1**
DZA	9μm,0.5s			*e*S	**Sg**	**22 19 54.2**	**+1.4**
ARSB	**Arslanbob**	**2.82**	**80**	⇓*i*P	**Pn**	**22 19 19.7**	**+2.1**
ARSB	baz=80			⇓*i*S	**Sn**	**22 19 54.6**	**+3.1**
MRKS	**Merke**	**3.47**	**57**	*e*P	**Pb**	**22 19 36.6**	**+2.7**
MRKS	4μm,0.3s			*e*S	**Sg**	**22 20 21.2**	**-2.7**
AML	**Almayashu**	**3.53**	**68**	P	**Pn**	**22 19 29.7**	**+2.3**
AML	SNR=358 **Almayashu**	**3.53**	**68**	⇑*i*P	**Pn**	**22 19 29.8**	**+2.3**
AML	baz=68			⇑*i*S	**Sn**	**22 20 12.8**	**+3.5**
EKS2	**Erkin-Say**	**3.79**	**61**	P	**Pn**	**22 19 33.8**	**+3.0**
EKS2	SNR=909 **Erkin-Say**	**3.79**	**61**	⇑*i*P	**Pn**	**22 19 33.6**	**+2.8**
EKS2	baz=61			⇑*i*S	**Sn**	**22 20 18.1**	**+2.8**
ARLS	**Aral**	**3.91**	**74**	⇓*i*P	**Pn**	**22 19 35.1**	**+2.6**
ARLS	baz=74			⇓*i*S	**Sn**	**22 20 20.7**	**+2.4**
UCH	**Uchtor**	**4.14**	**70**	P	**Pn**	**22 19 38.0**	**+2.1**
UCH	SNR=199 **Uchtor**	**4.14**	**70**	⇑*e*P	**Pn**	**22 19 38.2**	**+2.3**
UCH	baz=69			⇑*i*S	**Sn**	**22 20 27.7**	**+3.3**
AAK	**Ala-Archa**	**4.26**	**64**	P	**Pn**	**22 19 40.4**	**+3.0**
AAK	SNR=363 **Ala-Archa**	**4.26**	**64**	*e*Pn	**Pn**	**22 19 40.3**	**+3.0**
AAK	**Ala-Archa**	**4.26**	**64**	⇓Pn	**Pn**	**22 19 40.5**	**+3.2**
AAK	223nm,0.7s			⇑Pg	**Pg**	**22 19 51.6**	**-2.6**
AAK	2μm,0.7s			⇑Lg	Lg	22 20 52.5	
AAK	15μm,1.1s **Ala-Archa**	**4.26**	**64**	*i* P	**Pn**	**22 19 40.7**	**+3.4**
AAK	SNR=462 **Ala-Archa**	**4.26**	**64**	*e*PN	**Pn**	**22 19 40.3**	**+3.0**
AAK	**Ala-Archa**	**4.26**	**64**	P	**Pn**	**22 19 40.6**	**+3.2**
AAK	SNR=563 **Ala-Archa**	**4.26**	**64**	⇓*e*P	**Pn**	**22 19 40.0**	**+2.7**
AAK	baz=64			⇓*i*S	**Sn**	**22 20 29.5**	**+2.5**
AAK	baz=64 **Ala-Archa**	**4.26**	**64**	Pn	**Pn**	**22 19 40.6**	**+3.2**
AAK	39nm,0.3s,baz=230,slow=7.7,SNR=596			Lg	Lg	22 20 48.1	
FRU1	352nm,0.3s,baz=233,slow=7.9,SNR=3.8 **Bishkek**	**4.42**	**63**	*e*Pn	**Pn**	**22 19 42.6**	**+3.2**
FRU1	**Bishkek**	**4.42**	**63**	*e*PN	**Pn**	**22 19 42.6**	**+3.2**
FRU1	**Bishkek**	**4.42**	**63**	⇓*i*P	**Pn**	**22 19 42.4**	**+3.0**
FRU1	baz=63			⇓*i*S	**Sn**	**22 20 33.8**	**+3.0**
USP	**Ospenovka**	**4.54**	**57**	P	**Pn**	**22 19 43.4**	**+2.4**
USP	SNR=46 **Ospenovka**	**4.54**	**57**	⇑*i*P	**Pn**	**22 19 43.1**	**+2.1**
USP	baz=57			⇑*i*S	**Sn**	**22 20 36.1**	**+2.4**
CHMS	baz=57 **Chumysh**	**4.58**	**61**	P	**Pn**	**22 19 44.1**	**+2.5**
CHMS	SNR=258 **Chumysh**	**4.58**	**61**	⇑*i*P	**Pn**	**22 19 44.1**	**+2.5**
CHMS	baz=61			⇑*i*S	**Sn**	**22 20 36.5**	**+1.8**
KBK	baz=61 **Karagaybulak**	**4.58**	**66**	P	**Pn**	**22 19 45.0**	**+3.3**
KBK	SNR=491 **Karagaybulak**	**4.58**	**66**	⇑*i*P	**Pn**	**22 19 44.8**	**+3.1**
KBK	baz=66			⇑*i*S	**Sn**	**22 20 37.4**	**+2.5**
KZA	baz=66 **Kyzart**	**4.63**	**73**	P	**Pn**	**22 19 45.0**	**+2.4**
KZA	SNR=525 **Kyzart**	**4.63**	**73**	⇓*i*P	**Pn**	**22 19 45.6**	**+3.0**
KZA	baz=73			⇓*i*S	**Sn**	**22 20 38.7**	**+2.3**
NRN	baz=73 **Naryn**	**5.09**	**82**	*e*Pn	**Pn**	**22 19 50.1**	**+1.2**
NRN	**Naryn**	**5.09**	**82**	*e*PN	**Pn**	**22 19 50.2**	**+1.2**
NRN	**Naryn**	**5.09**	**82**	⇓*i*P	**Pn**	**22 19 50.6**	**+1.7**
NRN	baz=81			⇓*i*S	**Sn**	**22 20 48.6**	**+0.8**
TKM2	baz=81 **Tokmak 2**	**5.12**	**65**	P	**Pn**	**22 19 51.5**	**+2.3**
TKM2	SNR=41 **Tokmak 2**	**5.12**	**65**	⇑Pn	**Pn**	**22 19 51.1**	**+2.0**
TKM2	109nm,0.7s			⇓Pg	**Pb**	**22 20 06.3**	**+4.1**
TKM2	1μm,0.8s			⇓Lg	Lg	22 21 20.2	
TKM2	8μm,0.8s **Tokmak 2**	**5.12**	**65**	⇑*e*P	**Pn**	**22 19 51.3**	**+2.1**
TKM2	baz=65			⇑*i*S	**Sn**	**22 20 49.9**	**+1.7**
BOOM	baz=65 **Boomskoye usch**	**5.22**	**70**	*e*Pn	**Pn**	**22 19 53.4**	**+2.8**
BOOM	**Boomskoye usch**	**5.22**	**70**	*e*PN	**Pn**	**22 19 53.4**	**+2.8**
BOOM	**Boomskoye usch**	**5.22**	**70**	⇑*i*P	**Pn**	**22 19 53.3**	**+2.8**
BOOM	baz=70			⇑*i*S	**Sn**	**22 20 52.9**	**+2.1**
KSH	baz=70 **Kashi**	**5.30**	**103**	Pn	**Pn**	**22 19 51.5**	**-0.2**
KSH				Sn	**Sn**	**22 20 51.5**	**-1.2**
KSH	comp=N,64μm,6.3s			LR	LR		
KSH	comp=E,89μm,5.7s			LR	LR		
KSH	comp=Z,31μm,9.2s			LR	LR		
DGS	**Degeres**	**5.36**	**62**	Pg	**Pb**	**22 20 10.5**	**+4.4**
DGS	1μm,0.8s			Lg	Lg	22 21 21.3	
DGS	11μm,1.1s **Degeres**	**5.36**	**62**	*e*P	Pg	22 20 11.1	-4.1
DGS	1μm,0.8s			*e*S	**Sg**	**22 21 21.3**	**-3.3**
ULHL	11μm,1.1s **Ulahol**	**5.38**	**73**	P	**Pn**	**22 19 55.3**	**+2.5**
ULHL	SNR=126 **Ulahol**	**5.38**	**73**	⇑*i*P	**Pn**	**22 19 55.1**	**+2.3**
ULHL	baz=73			⇑*i*S	**Sn**	**22 20 56.4**	**+1.6**
BTLS	baz=73 **Baital**	**5.41**	**39**	Pg	**Pg**	**22 20 12.8**	**-3.2**
BTLS	836nm,0.4s			Lg	Lg	22 21 24.2	
BTLS	3μm,0.8s **Baital**	**5.41**	**39**	*e*P	**Pg**	**22 20 12.8**	**-3.2**
BTLS	836nm,0.4s			*e*S	**Sg**	**22 21 24.2**	**-1.8**
KST	3μm,0.8s **Kastek**	**5.41**	**65**	Pg	**Pg**	**22 20 12.7**	**-3.5**
KST	2μm,1.0s			Lg	Lg	22 21 24.6	
KST	13μm,1.1s **Kastek**	**5.41**	**65**	⇓*i*P	**Pg**	**22 20 12.7**	**-3.5**
KST	2μm,1.0s			⇓*i*S	**Sg**	**22 21 24.6**	**-1.7**
MTBS	13μm,1.1s **Maitube**	**5.76**	**65**	Pg	**Pg**	**22 20 19.1**	**-3.8**
MTBS	716nm,1.1s			Lg	Lg	22 21 34.5	
MTBS	5μm,1.4s **Maitube**	**5.76**	**65**	⇑*i*P	**Pg**	**22 20 19.1**	**-3.8**
MTBS	716nm,1.1s			⇓*i*S	**Sg**	**22 21 34.5**	**-3.0**
IZV	5μm,1.4s **Izvestkoviy**	**5.86**	**66**	Pg	**Pg**	**22 20 21.1**	**-3.6**
IZV	687nm,1.1s			Lg	Lg	22 21 38.7	
IZV	3μm,0.6s **Izvestkoviy**	**5.86**	**66**	*e*P	**Pg**	**22 20 21.1**	**-3.6**
IZV	687nm,1.1s			*e*S	**Sg**	**22 21 38.7**	**-1.9**
KUU	3μm,0.6s **Kurty**	**6.01**	**58**	Pg	Pg	22 20 23.4	-4.2
KUU	1μm,0.6s			Lg	Lg	22 21 42.4	
KUU	5μm,0.7s **Kurty**	**6.01**	**58**	*e*P	Pg	22 20 23.4	-4.2
KUU	1μm,0.6s			*e*S	**Sg**	**22 21 42.4**	**-3.0**
KDJ	5μm,0.7s **Kajisay**	**6.05**	**76**	*e*Pn	**Pn**	**22 20 04.4**	**+2.5**
KDJ	**Kajisay**	**6.05**	**76**	*e*PN	**Pn**	**22 20 04.4**	**+2.5**
TNSS	**Tian-Shan**	**6.09**	**67**	Pg	Pg	22 20 25.3	-3.9
TNSS	1μm,0.7s			Lg	Lg	22 21 45.8	
TNSS	5μm,0.7s **Tian-Shan**	**6.09**	**67**	*e*P	Pg	22 20 25.3	-3.9
TNSS	1μm,0.7s			*e*S	**Sg**	**22 21 45.8**	**-2.3**
AAA	5μm,0.7s **Alma-Ata**	**6.12**	**65**	Pg	**Pg**	**22 20 26.2**	**-3.6**
AAA	907nm,0.8s			Lg	Lg	22 21 47.2	
AAA	6μm,1.0s **Alma-Ata**	**6.12**	**65**	*e*PN	**Pg**	**22 20 26.2**	**-3.6**
AAA				pmax	pmax		
KTBS	comp=Z,907nm,0.8s **Karatobe**	**6.16**	**61**	Pg	**Pg**	**22 20 27.6**	**-2.8**
KTBS	comp=Z,1μm,0.7s			Lg	Lg	22 21 48.7	
KTBS	comp=Z,13μm,0.7s **Karatobe**	**6.16**	**61**	*e*P	**Pg**	**22 20 27.6**	**-2.8**
KTBS	comp=Z,1μm,0.7s			*e*S	**Sg**	**22 21 48.7**	**-1.3**
KNDC	comp=Z,13μm,0.7s **Almaty**	**6.16**	**66**	⇓Pn	**Pn**	**22 20 05.8**	**+2.4**
KNDC	comp=Z,324nm,0.9s			⇓Pg	**Pg**	**22 20 27.2**	**-3.4**
KNDC	comp=Z,3μm,1.1s			⇑Lg	Lg	22 21 52.8	
MDOK	comp=Z,22μm,0.9s **Medeo**	**6.20**	**66**	⇓Pn	**Pn**	**22 20 05.3**	**+1.3**
MDOK	comp=Z,204nm,0.7s			⇑Pg	Pb	22 20 25.6	+5.1
MDOK	comp=Z,2μm,1.0s			Lg	Lg	22 21 55.6	
MDOK	comp=Z,8μm,0.9s **Medeo**	**6.20**	**66**	Pg	**Pg**	**22 20 27.7**	**-3.6**
MDOK	comp=Z,1μm,1.0s			Lg	Lg	22 21 48.7	
MDOK	comp=Z,5μm,0.9s **Medeo**	**6.20**	**66**	*e*P	**Pg**	**22 20 27.7**	**-3.6**
MDOK	comp=Z,1μm,1.0s			*e*S	**Sg**	**22 21 48.7**	**-2.9**
KOTS	comp=Z,5μm,0.9s **Kotyrbulak**	**6.27**	**66**	Pg	**Pg**	**22 20 29.1**	**-3.4**
KOTS	comp=Z,413nm,0.8s			Lg	Lg	22 21 51.7	
KOTS	comp=Z,6μm,1.4s **Kotyrbulak**	**6.27**	**66**	*e*P	**Pg**	**22 20 29.1**	**-3.4**
KOTS	comp=Z,413nm,0.8s			*e*S	**Sg**	**22 21 51.7**	**-2.0**
KBL	comp=Z,6μm,1.4s **Kabul**	**6.36**	**182**	*e*Pn	**Pn**	**22 20 07.9**	**+1.6**
KBL	**Kabul**	**6.36**	**182**	*e*PN	**Pn**	**22 20 07.9**	**+1.6**
TARG	**Taragay, Kyrgy**	**6.46**	**80**	*e*Pn	**Pn**	**22 20 09.9**	**+2.0**
KURS	**Kuram**	**7.08**	**66**	Pg	Pg	22 20 42.9	-5.2
KURS	comp=Z,447nm,1.1s			Lg	Lg	22 22 16.1	
KURS	comp=Z,3μm,1.3s **Kuram**	**7.08**	**66**	*e*P	Pg	22 20 42.9	-5.2
KURS	comp=Z,447nm,1.1s			*e*S	**Sg**	**22 22 16.1**	**-3.7**
ARXS	comp=Z,3μm,1.3s **Arharly**	**7.12**	**60**	Pg	Pg	22 20 43.6	-5.1
ARXS	comp=Z,478nm,1.0s			Lg	Lg	22 22 16.6	
ARXS	comp=Z,6μm,0.9s **Arharly**	**7.12**	**60**	*e*P	Pg	22 20 43.6	-5.1
ARXS	comp=Z,478nm,1.0s			*e*S	**Sg**	**22 22 16.6**	**-4.2**
SATY	comp=Z,6μm,0.9s **Saty**	**7.12**	**69**	Pg	Pg	22 20 43.3	-5.7
SATY	comp=Z,1μm,0.8s			Lg	Lg	22 22 16.2	
SATY	comp=Z,2μm,0.9s **Saty**	**7.12**	**69**	*e*P	Pg	22 20 43.3	-5.7
SATY	comp=Z,1μm,0.8s			*e*S	**Sg**	**22 22 16.2**	**-5.0**
CEP	comp=Z,2μm,0.9s **Cherat**	**7.38**	**163**	P	**Pn**	**22 20 21.2**	**+1.1**
MNBS	**Baschi**	**7.44**	**62**	Pg	Pg	22 20 50.3	-4.7
MNBS	comp=Z,210nm,1.0s			Lg	Lg	22 22 29.1	
MNBS	comp=Z,3μm,0.8s **Baschi**	**7.44**	**62**	*e*P	Pg	22 20 50.3	-4.7
MNBS	comp=Z,210nm,1.0s			*e*S	**Sg**	**22 22 29.1**	**-2.2**
OTUK	comp=Z,3μm,0.8s **Ortayu**	**7.65**	**16**	⇑Pn	**Pn**	**22 20 24.7**	**+1.0**
OTUK	comp=Z,257nm,0.7s			⇑Lg	Lg	22 22 37.7	
TDK	comp=Z,8μm,1.3s **Taldyqorghan**	**7.84**	**56**	Pg	Pg	22 20 56.5	-6.1
TDK	comp=Z,2μm,0.7s			Lg	Lg	22 22 38.9	
TDK	comp=Z,24μm,1.0s **Taldyqorghan**	**7.84**	**56**	*e*P	Pg	22 20 56.5	-6.1
TDK	comp=Z,2μm,0.7s			*e*S	**Sg**	**22 22 38.9**	**-5.1**
CHCP	comp=Z,24μm,1.0s **Chirah Chowk**	**7.90**	**155**	P	**Pn**	**22 20 28.8**	**+1.5**
CHCP				S	**Sn**	**22 21 59.0**	**+2.4**
NIL	**Nilore**	**7.91**	**155**	*e*Pn	**Pn**	**22 20 28.7**	**+1.4**
NIL	**Nilore**	**7.91**	**155**	*e*P	**Pn**	**22 20 28.7**	**+1.4**
PDGK	**Podgornoye**	**7.96**	**69**	⇑Pn	**Pn**	**22 20 29.1**	**+1.0**
PDGK	comp=Z,67nm,0.7s			⇑Pg	Pg	22 20 59.1	-5.8
PDGK	comp=Z,780nm,0.9s			⇓Lg	Lg	22 22 50.2	
DJR	comp=Z,5μm,1.0s **Jarkent**	**8.46**	**63**	Pg	Pg	22 21 08.1	-6.4
DJR	comp=Z,384nm,0.9s			Lg	Lg	22 22 59.2	
DJR	comp=Z,3μm,1.1s **Jarkent**	**8.46**	**63**	*e*P	Pg	22 21 08.1	-6.4
DJR	comp=Z,384nm,0.9s			*e*S	**Sg**	**22 22 59.2**	**-4.9**
KAPS	comp=Z,3μm,1.1s **Kapalarasan**	**8.56**	**56**	Pg	Pg	22 21 09.9	-6.5
KAPS	comp=Z,167nm,0.8s			Lg	Lg	22 23 01.4	
KAPS	comp=Z,4μm,1.0s **Kapalarasan**	**8.56**	**56**	*e*P	Pg	22 21 09.9	-6.5
KAPS	comp=Z,167nm,0.8s			*e*S	**Sg**	**22 23 01.4**	**-5.9**
KTMS	comp=Z,4μm,1.0s **Ketmen**	**8.60**	**69**	Pg	Pg	22 21 11.0	-6.1
KTMS	comp=Z,40nm,0.4s			Lg	Lg	22 23 03.9	
KTMS	comp=Z,1μm,0.7s **Ketmen**	**8.60**	**69**	*e*P	Pg	22 21 11.0	-6.1
KTMS	comp=Z,40nm,0.4s			*e*S	**Sg**	**22 23 03.9**	**-4.5**
GEYT	comp=Z,1μm,0.7s **Alibeck**	**9.14**	**255**	Pn	**Pn**	**22 20 40.9**	**-3.3**
GEYT	comp=Z,4.6nm,0.3s,baz=74,slow=7.9,SNR=58			Sn	**Sn**	**22 22 19.4**	**-7.7**
GEYT	comp=Z,27nm,0.3s,baz=77,slow=14,SNR=2.8			Lg	Lg	22 23 26.4	
GEYT	baz=82,slow=15,SNR=2.5			LR	LR	22 24 55.2	
GYA0B	comp=Z,8μm,19.6s,baz=60,slow=42 **ALIBECK ARRAY**	**9.14**	**255**	*e*Pn	**Pn**	**22 20 40.8**	**-3.4**
GYA0B	**ALIBECK ARRAY**	**9.14**	**255**	⇓Pn	**Pn**	**22 20 39.6**	**-4.6**
GYA0B				⇓Sn	**Sn**	**22 22 20.1**	**-7.0**
SARP	**Sargodha**	**9.38**	**162**	P	**Pn**	**22 20 49.9**	**+2.5**
DHRM	**DHARAMSHALA**	**10.32**	**145**	*e*P	**Pn**	**22 20 59.9**	**-0.6**
DHRM				*e*S	**Sn**	**22 22 49.6**	**-6.6**
DHRM				IAML		22 23 39.6	
DHRM	comp=N,78μm,1.7s			IAML		22 23 43.7	
AB31	comp=E,424nm,0.9s **Akbulak array**	**10.63**	**325**	⇑Pn	**Pn**	**22 21 02.0**	**-2.6**
AB31	comp=E,121nm,0.6s,baz=146,slow=12,SNR=2763			⇑Sn	**Sn**	**22 23 02.6**	**-0.9**
ABKAR	comp=E,496nm,0.8s,baz=151,slow=23,SNR=13 **Akbulak array**	**10.63**	**325**	*e*Pn	**Pn**	**22 21 02.2**	**-2.4**
MAKZ	**Makanchi**	**10.89**	**53**	*e*Pn	**Pn**	**22 21 08.5**	**+0.4**
MAKZ	**Makanchi**	**10.89**	**53**	⇓Pn	**Pn**	**22 21 08.0**	**-0.1**
MAKZ	comp=E,194nm,1.2s			⇑Lg	Lg	22 24 23.9	
MAKZ	comp=E,2μm,1.0s **Makanchi**	**10.89**	**53**	*e*P	**Pn**	**22 21 08.5**	**+0.4**
MK31	**Makanchi Array**	**11.07**	**54**	*e*Pn	**Pn**	**22 21 11.7**	**+1.0**
MK31	**Makanchi Array**	**11.07**	**54**	⇑Pn	**Pn**	**22 21 11.3**	**+0.6**
MK31	comp=E,251nm,1.0s,baz=236,slow=14,SNR=449			⇓Lg	Lg	22 24 27.7	
MK31	comp=E,1μm,0.8s,baz=260,slow=27,SNR=5.8 **Makanchi Array**	**11.07**	**54**	*e*P	**Pn**	**22 21 11.7**	**+1.0**
MKAR	**Makanchi Array**	**11.07**	**54**	*i* P	**Pn**	**22 21 11.6**	**+1.0**
MKAR	comp=Z,35nm,0.6s			pmax	pmax		
MKAR	**Makanchi Array**	**11.07**	**54**	Pn	**Pn**	**22 21 10.1**	**-0.5**
MKAR	comp=Z,5.1nm,0.3s,baz=236,slow=14,SNR=142			Lg	Lg	22 24 21.5	
MKAR	comp=Z,42nm,0.3s,baz=247,slow=27,SNR=8.3			LR	LR	22 25 56.6	
BHK	comp=Z,7μm,20.7s,baz=251,slow=40 **Bhakra**	**11.09**	**146**	*ex*	**Pn**	**22 21 11.0**	**+0.1**
BHK				*ex*	**Sn**	**22 23 12.2**	**-2.5**
KURBB	**Kurchatov Arra**	**11.65**	**30**	⇓Lg	Lg	22 24 47.8	
KURBB	comp=Z,9μm,1.1s **Kurchatov Arra**	**11.65**	**30**	Pn	**Pn**	**22 21 16.6**	**-1.8**
KURBB	comp=Z,1.0nm,0.3s,baz=220,slow=13,SNR=57			Sn	**Sn**	**22 23 25.6**	**-2.7**
KURBB	comp=Z,1.6nm,0.3s,baz=212,slow=16,SNR=4.4			Lg	Lg	22 24 41.7	
SMLA	comp=Z,11nm,0.3s,baz=215,slow=31,SNR=7.6 **Simla**	**11.66**	**144**	*e*P	**Pn**	**22 21 17.7**	**-1.0**
SMLA				IAmb	IAmb	22 21 19.8	
SMLA	comp=Z,186nm,0.1s			*e*S	Sn	22 23 17.5	-11
SMLA				IAML		22 23 36.7	
SMLA	comp=N,278nm,0.3s			IAML		22 24 59.2	
KURK	comp=E,122nm,0.1s **Kurchatov**	**11.76**	**30**	*e*Pn	**Pn**	**22 21 18.3**	**-1.6**
KURK	**Kurchatov**	**11.76**	**30**	⇑Lg	Lg	22 24 49.7	
KURK	comp=E,5μm,1.4s **Kurchatov**	**11.76**	**30**	*ce*P	**Pn**	**22 21 18.9**	**-1.1**
KURK				pmax	pmax		
KURK	comp=Z,40nm,1.7s **Kurchatov**	**11.76**	**30**	P	**Pn**	**22 21 17.6**	**-2.4**
BVAR	SNR=22 **Borovoye Array**	**12.14**	**3**	Pn	**Pn**	**22 21 23.4**	**-1.8**
BVAR	comp=Z,11nm,0.3s,baz=170,slow=15,SNR=153			Sn	**Sn**	**22 23 42.4**	**+2.1**
BVAR	comp=Z,34nm,0.3s,baz=158,slow=20,SNR=5.1			LR	LR	22 26 26.1	
BRVK	comp=Z,261nm,18.1s,baz=353,slow=39 **Borovoye**	**12.17**	**3**	*e*Pn	**Pn**	**22 21 23.8**	**-1.8**
BRVK	**Borovoye**	**12.17**	**3**	⇓Pn	**Pn**	**22 21 25.0**	**-0.5**
BRVK	comp=Z,109nm,0.6s			⇓Sn	**Sn**	**22 23 43.7**	**+2.7**
BRVK	comp=Z,211nm,0.7s			⇑Lg	Lg	22 24 59.3	
BRVK	comp=Z,1μm,1.4s **Borovoye**	**12.17**	**3**	*e*P	**Pn**	**22 21 23.8**	**-1.8**
BRVK	**Borovoye**	**12.17**	**3**	P	**Pn**	**22 21 23.7**	**-1.8**
AKTO	SNR=56 **Aktyubinsk**	**12.35**	**324**	⇓Pn	**Pn**	**22 21 25.3**	**-2.7**
AKTO	comp=Z,138nm,0.8s			⇑Sn	**Sn**	**22 23 43.7**	**-1.7**
AKTO	comp=Z,376nm,0.8s **Aktyubinsk**	**12.35**	**324**	Pn	**Pn**	**22 21 25.8**	**-2.2**
AKTO	comp=Z,4.5nm,0.3s,baz=136,slow=14,SNR=49			Sn	**Sn**	**22 23 38.8**	**-6.6**

comp=Z,24nm,0.3s,baz=161,slow=14,SNR=6.5
AKTO LR LR 22 26 49.6
comp=Z,8μm,19.1s,baz=141,slow=40
DDI Dehra Dun 12.74 143 *e*P **Pn 22 21 33.1 -0.4**
DDI *e*S **Sn 22 23 46.6 -8.6**
DDI IAML 22 25 16.9
comp=N,110nm,0.6s
DDI IAML 22 25 24.1
comp=E,103nm,1.8s
NDI New Delhi 13.82 150 *e*P **Pn 22 21 49.0 +0.8**
WMQ Urumqi 13.92 72 *e*P **Pn 22 21 52.0 +2.4**
WMQ pP P 22 21 58.0 +0.3
WMQ sP 22 22 00.8
WMQ PP **PnPn 22 22 04.8 +7.5**
WMQ S **Sn 22 24 29.8 +5.9**
WMQ PcP **PcP 22 27 13.9 +2.7**
WMQ pmax pmax
comp=E,43nm,0.9s
WMQ pmax pmax
comp=E,590nm,3.8s
WMQ LR LR
comp=E,10μm,12.7s
WMQ LR LR
comp=E,18μm,12.7s
WMQ LR LR
comp=E,24μm,18.1s
WMQ Urumqi 13.92 72 *e*Pn **Pn 22 21 52.6 +3.0**
WMQ Urumqi 13.92 72 *e*P **Pn 22 21 52.6 +3.0**
DGZ Jazzator, Alta 15.47 49 *e*P **Pn 22 22 10.2 -0.3**
MAK Makhachkala 16.33 284 *e*P **Pn 22 22 16.3 -5.2**
MAK *e*S **Sn 22 25 14.0 -8.6**
MAK pmax pmax
comp=Z,106nm,1.0s
MAK MLR MLR
comp=Z,11μm,15.0s
ZAA0 Zalesovo Array 16.70 33 *e*P **Pn 22 22 25.9 -0.2**
ZALV Zalesovo Beam 16.70 33 *i* P **Pn 22 22 24.2 -1.9**
ZALV pmax pmax
comp=Z,10.0nm,0.5s
ZALV Zalesovo Beam 16.70 33 Pn **Pn 22 22 25.0 -1.1**
comp=Z,1.5nm,0.3s,baz=223,slow=17,SNR=46
ZALV Sn **Sn 22 25 36.5 +5.3**
comp=Z,3.8nm,0.3s,baz=222,slow=17,SNR=4.0
ZALV Lg Lg 22 27 33.5
comp=Z,4.1nm,0.3s,baz=215,slow=25,SNR=5.1
ZALV LR LR 22 29 13.1
comp=Z,5μm,19.8s,baz=244,slow=38
NVS Novosibirsk 16.74 29 ⇓*i*P **Pn 22 22 27.3 +0.7**
NVS *e* 22 25 28.3
SVE Sverdlovsk 16.89 343 *d i*P **Pn 22 22 25.2 -3.3**
SVE pmax pmax
comp=Z,189nm,1.0s
SVE MLR MLR
comp=Z,9μm,12.0s
PYUN Piuthan 17.03 134 *e*P **Pn 22 22 26.2 -4.5**
comp=Z,1μm,1.0s
ARU Arti 17.03 339 *e*Pn **Pn 22 22 26.8 -3.6**
comp=Z,110nm,0.8s
ARU Arti 17.03 339 *c i*P **Pn 22 22 27.2 -3.1**
ARU S **Sn 22 25 35.0 -4.4**
ARU pmax pmax
comp=Z,96nm,1.4s
ARU MLR MLR
comp=Z,8μm,16.0s
ARU Arti 17.03 339 Pn **Pn 22 22 27.4 -2.9**
comp=Z,0.0nm,0.3s,baz=149,slow=6.6,SNR=58
ARU Sn **Sn 22 25 30.0 -9.4**
comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=5.5
ARU Lg Lg 22 27 42.9
comp=Z,0.0nm,0.3s,baz=137,slow=3.3,SNR=4.2
ARU LR LR 22 29 51.5
comp=Z,16μm,20.3s,baz=145,slow=40
DANN Dangsing 17.26 132 *e*P **Pn 22 22 29.5 -4.1**
comp=Z,310nm,0.6s
GROC Groznyy 17.58 285 *e*P **Pn 22 22 34.6 -2.7**
GROC pmax pmax
comp=Z,186nm,1.0s
BHJ Bhuj 17.61 179 *e*P **Pn 22 22 36.9 -0.8**
KOLN Koldanda 17.62 134 *e*P **Pn 22 22 34.0 -4.0**
comp=Z,90nm,0.5s
GKN Gorkha 18.02 131 *e*P **Pn 22 22 39.0 -4.0**
comp=Z,200nm,0.4s
TBLG Delisi 18.45 281 *e*P **P 22 22 45.5 -2.4**
TBLG *e*Pn **Pn 22 22 46.3 -1.6**
TBLG Delisi 18.45 281 *e*P **P 22 22 45.5 -2.4**
KKN Kakani 18.55 130 *e*P **P 22 22 46.0 -3.3**
comp=Z,194nm,0.5s
DMN Daman 18.59 131 *e*P **P 22 22 46.5 -3.3**
comp=Z,122nm,0.5s
GNI Garni 18.66 276 *e*P **Pn 22 22 50.7 -0.1**
comp=Z,371nm,1.1s
GNI Garni 18.66 276 *i* P **Pn 22 22 50.5 -0.2**
SNR=75
GNI Garni 18.66 276 *c e*P **P 22 22 49.0 -1.4**
GNI pmax pmax
comp=Z,2μm,1.3s
GNI Garni 18.66 276 P **Pn 22 22 50.8 0.0**
SNR=55
GNI Garni 18.66 276 P **P 22 22 49.4 -1.0**
comp=Z,2.2nm,0.3s,baz=26,slow=2.2,SNR=56
GNI LR LR 22 31 28.7
comp=Z,2μm,18.2s,baz=89,slow=42
PKIN Phulchoki 18.78 130 *e*P **P 22 22 48.7 -3.2**
comp=Z,65nm,0.4s
PKI Pulchoki 18.79 130 *e*P **P 22 22 48.8 -3.3**
comp=Z,98nm,0.4s
BHPL Bhopal 18.90 156 *e*P **P 22 22 52.9 -0.1**
MSFE Esma-Masafi 18.97 219 P **P 22 22 52.6 -1.1**
ZEI Tsey 18.99 284 *e*P **P 22 22 50.2 -3.8**
ZEI pmax pmax
comp=Z,62nm,0.6s
TASB TASBURUN-IGDIR 19.07 275 *e*P **Pn 22 22 55.9 +0.3**
NCK Nalchik 19.18 286 *e*P **P 22 22 52.9 -3.1**
NCK pmax pmax
comp=Z,171nm,0.9s
JIRN Jiri 19.19 128 *e*P **P 22 22 54.3 -2.1**
comp=Z,307nm,0.5s
AKH Akhalkalaki 19.41 280 *e*P **Pn 22 22 59.7 -0.1**
comp=Z,91nm,0.9s
AKH Akhalkalaki 19.41 280 ⇑*i*P **Pn 22 22 59.3 -0.5**
AKH Akhalkalaki 19.41 280 *e*P **Pn 22 22 59.7 -0.1**
AKH pmax pmax
comp=Z,91nm,0.9s
CLDR Caldiran 19.49 273 *e*P **Pn 22 23 01.3 +0.5**
NAZ Nazwa, Dubai 19.53 220 *i* P **P 22 23 00.1 +0.3**
SNR=9.3
ASHO Ashiyiah 19.60 218 P **P 22 23 01.1 +0.5**
KBZ Khabaz 19.69 287 P **P 22 23 00.3 -1.1**
comp=Z,0.7nm,0.3s,baz=120,slow=8.4,SNR=36
KBZ LR LR 22 32 40.5
comp=Z,4μm,19.4s,baz=80,slow=43
FAQ Al Faqa, Dubai 19.77 220 *i* P **P 22 23 02.5 +0.1**
SNR=9.8
WSAR Wadi Sarin 19.77 210 P **P 22 23 01.6 -0.8**
comp=Z,1.4nm,0.3s,baz=37,slow=4.7,SNR=25
WSAR LR LR 22 32 04.2
comp=Z,2μm,21.0s,baz=84,slow=41
NEY Neytrino 19.83 286 *i* P **P 22 23 03.1 -0.1**
NEY pmax pmax
comp=Z,9.0nm,0.6s
KVAR Kislovodsk Arr 19.83 288 LR LR 22 32 48.3
comp=Z,3μm,18.8s,baz=242,slow=43
KARS Kars 19.83 278 *e*P **Pn 22 23 04.9 +0.1**
KARS Kars 19.83 278 *e*P **Pn 22 23 04.0 -0.8**
KARS *e*Pn **Pn 22 23 05.0 +0.1**
KARS Kars 19.83 278 *e*P **Pn 22 23 04.0 -0.8**
KIV Kislovodsk 19.84 288 *e*P **P 22 23 02.2 -0.9**
comp=Z,222nm,0.7s
KIV Kislovodsk 19.84 288 ⇓*i*P **P 22 23 02.0 -1.2**
KIV Kislovodsk 19.84 288 *i* P **P 22 23 03.0 -0.2**
SNR=16
KIV Kislovodsk 19.84 288 *e*P **P 22 23 02.8 -0.4**
KIV *e* 22 26 44.9
KIV pmax pmax
comp=Z,501nm,0.9s
KIV MLR MLR
comp=Z,7μm,14.0s
KIV Kislovodsk 19.84 288 P **P 22 23 02.5 -0.6**
SNR=31
JBP Jabalpur 19.85 150 *e*P **P 22 23 03.4 +0.1**
JBP *e*x x 22 26 39.3
RAMN Ramite 19.96 129 *e*P **P 22 23 03.7 -1.0**
comp=Z,571nm,0.7s
EPOS Posof 19.97 280 *i* P **Pn 22 23 06.9 +0.5**
HOQ Hoqain 19.99 214 P **Pn 22 23 06.8 +0.2**
SNR=8.5

ASUD Al Ashush, Dub 19.99 220 P **P 22 23 05.5 +0.7**
AGRB Hanur-Agry 20.10 275 *e*P Pn 22 23 08.2 +0.2
CUKT Cukurca 20.24 268 *e*P Pn 22 23 08.7 -0.9
ALNE Al Ain 20.28 218 *i* P **P 22 23 08.2 +0.2**
SNR=14
SENK Senkaya-Erzuru 20.39 278 *e*P Pn 22 23 11.2 -0.2
ODAN Odare 20.49 128 *e*P **P 22 23 11.1 +0.5**
comp=Z,177nm,0.6s
MLAZ Malazgirt-MUS 20.53 274 *e*P Pn 22 23 12.9 -0.1
BSY Bisya 20.78 213 P Pn 22 23 14.7 -1.2
SNR=19
BCA Borcka 20.80 281 ⇑*i*P **P 22 23 14.2 +0.6**
KOPR Koprukoy-ERZUR 20.87 276 *e*P Pn 22 23 16.7 -0.3
LSA Lhasa 21.00 115 P **P 22 23 18.5 +2.2**
LSA pmax pmax
comp=Z,93nm,0.7s
LSA Lhasa 21.00 115 *e*P **P 22 23 17.0 +0.7**
comp=Z,109nm,0.8s
LSA Lhasa 21.00 115 *e*P **P 22 23 17.0 +0.7**
LSA pmax pmax
comp=Z,109nm,0.8s
SIRT Sirnak 21.05 269 *e*P **P 22 23 17.0 +0.6**
SIRT Sirnak 21.05 269 *e*P **P 22 23 17.0 +0.6**
comp=Z,435nm,1.0s
AKDA Akdag 21.22 277 *i* P **P 22 23 20.4 +2.1**
VRTB Varto-Mus 21.35 274 *e*P **P 22 23 22.9 +3.2**
NGP Nagpur 21.37 154 *e*P **P 22 23 18.6 -1.2**
NGP IAmb IAmb 22 23 20.7
comp=Z,106nm,1.4s
VRH Novokhopyorsk 21.60 308 *e*P **P 22 23 21.4 -0.6**
VRH *e*S **S 22 27 15.7 -5.2**
VRH pmax pmax
comp=Z,170nm,0.8s
VRH smax smax
comp=E,820nm,2.4s
VRH MLR MLR
comp=Z,9μm,24.0s
ECAT Cat-ERZURUM 21.61 276 *i* P **P 22 23 24.9 +2.4**
KARO Karliova-Bingo 21.62 275 *e*P **P 22 23 24.4 +1.8**
KIRV Kirov 21.71 331 P **P 22 23 23.1 -0.1**
comp=Z,123nm,0.6s,baz=127,slow=5.6,SNR=54
KIRV LR LR 22 31 51.0
comp=Z,2μm,19.2s,baz=150,slow=37
YEDI Yedisu-Bingol 21.97 276 *e*P **P 22 23 27.2 +0.8**
BNGB Bingl 21.98 274 *e*P **P 22 23 27.7 +1.4**
SOC Sochi 22.00 287 *e*P **P 22 23 26.3 -0.1**
SOC *e*PPP PPP 22 23 54.3
SOC *e*S **S 22 27 27.1 -1.7**
SOC *e*S Sn 22 27 31.3 -8.0
SOC *e*SSS SSS 22 28 07.5
SOC pmax pmax
comp=Z,739nm,0.9s
SOC MLR MLR
comp=Z,19μm,15.0s
BOK Bokaro 22.02 136 *e*P **P 22 23 26.7 -0.1**
MHTO MHTO 22.07 209 P **P 22 23 26.9 -0.4**
SNR=9.6
MHTO P **P 22 23 26.9 -0.4**
SNR=9.6
KTUT Trabzon 22.25 280 ⇑*i*P **P 22 23 28.9 -0.3**
POO Poona 22.65 169 *e*P **P 22 23 32.4 -1.1**
POO IAmb IAmb 22 23 35.6
comp=Z,83nm,1.5s
VORD Divnogorie 23.01 306 *e*P **P 22 23 35.7 -1.3**
VORD pmax pmax
comp=Z,90nm,0.8s
VSR Storozhevoye 23.15 307 *e*P **P 22 23 37.2 -1.3**
VSR *e*S **S 22 27 40.9 -8.6**
VSR pmax pmax
comp=Z,200nm,1.7s
VSR smax smax
comp=N,1μm,4.8s
VSR MLR MLR
comp=Z,3μm,12.0s
SVRC Sivrice-ELAZID 23.17 274 *e*P **P 22 23 39.2 +0.1**
VORR Voronezh 23.24 308 *e*P **P 22 23 36.0 -3.4**
VORR pmax pmax
comp=Z,300nm,2.0s
GTA Gaotai 23.33 84 *e*P **P 22 23 41.3 +0.7**
GTA pP sP 22 23 45.8 -0.2
GTA sP pP 22 23 48.5 +4.1
GTA S **S 22 27 53.0 0.0**
GTA sS pS 22 27 57.8 +0.7
GTA pmax pmax
comp=Z,590nm,6.5s
GTA LR LR
comp=Z,4μm,13.7s
GTA LR LR
comp=Z,7μm,16.8s
GTA LR LR
comp=Z,10μm,14.1s
ANN Anapa 23.59 290 *c i*P **P 22 23 42.0 -0.9**
ANN *e**PP **pP 22 23 45.3 -1.5**
ANN *e*S **S 22 27 57.8 +1.0**
ANN pmax pmax
comp=Z,204nm,1.2s
LPSR Galich'ya Gora 23.67 310 *e*P **P 22 23 42.9 -0.8**
LPSR *e*S **S 22 27 55.7 -2.3**
LPSR pmax pmax
comp=Z,270nm,0.9s
LPSR smax smax
comp=E,1μm,3.8s
LPSR MLR MLR
comp=Z,8μm,14.0s
URFA Urfa 23.81 272 *e*P **P 22 23 45.9 +0.6**
CUZAR Zara_SIVAS 23.96 278 *i* P **P 22 23 48.9 +2.1**
SHL Shillong 24.22 122 *e*P **P 22 23 49.0 -0.3**
SHL *e*S **S 22 28 09.5 +2.0**
MOY Mondy 24.22 53 *e*P **P 22 23 51.1 +2.1**
MOY *e* 22 28 13.2
MOY pmax pmax
comp=Z,192nm,2.5s
CUKAN kangal_SIVAS 24.32 277 *i* P **P 22 23 51.5 +1.4**
SVSK Karacayir 24.53 278 *e*P **P 22 23 52.9 +1.1**
HYB Hyderabad 24.74 158 *i* P **P 22 23 53.0 -0.9**
HYB *e*S **S 22 28 18.0 +2.3**
CUALT Altinyayla-SIV 24.87 277 *i* P **P 22 23 57.9 +2.9**
BWNR Bhubaneshwar 24.91 141 *e*x **P 22 23 51.7 -3.6**
BWNR IAmb IAmb 22 23 54.8
comp=Z,132nm,0.8s
KVT Kavak 25.01 281 *e*P **P 22 23 56.6 +0.4**
GAZ Gaziantep 25.11 272 *e*P **P 22 23 58.0 +0.8**
CUSAR Sarkisla-SIVAS 25.21 278 *i* P **P 22 23 59.5 +1.4**
PRGR Permogore 25.22 333 ⇑*i*P **P 22 23 57.6 -0.2**
PRGR *e*S **S 22 28 26.1 +3.5**
PRGR pmax pmax
comp=Z,89nm,1.1s
MOS Moscow 25.46 316 *e*P **P 22 23 58.5 -1.6**
MOS *e* 22 24 06.2
MOS *e*S **S 22 28 22.4 -4.2**
MOS pmax pmax
comp=Z,300nm,1.5s
MOS pmax pmax
comp=Z,159nm,1.3s
MOS MLR MLR
comp=Z,6μm,14.0s
MOS MLR MLR
comp=E,5μm,15.0s
DIKM Dikmen 25.49 283 *e*P **P 22 24 00.7 +0.2**
DIKM Dikmen 25.49 283 ⇑*i*P **P 22 24 00.7 +0.2**
GOA Goa 25.63 170 *e*P **P 22 24 03.0 +1.1**
GOA IAmb IAmb 22 24 05.0
comp=Z,52nm,1.1s
OBN Obninsk 25.80 314 *e*P **P 22 24 03.4 +0.2**
comp=Z,111nm,0.8s
OBN Obninsk 25.80 314 ⇓*i*P **P 22 24 02.7 -0.4**
OBN Obninsk 25.80 314 *c i*P **P 22 24 02.5 -0.6**
OBN pmax pmax
comp=Z,67nm,1.2s
OBN MLR MLR
comp=Z,3μm,15.0s
OBN Obninsk 25.80 314 P **P 22 24 02.9 -0.3**
comp=Z,6.5nm,0.4s,baz=163,slow=1.2,SNR=17
TLY Talaya 25.84 54 *e*P **P 22 24 05.3 +1.7**
comp=Z,39nm,1.1s
TLY Talaya 25.84 54 *e*P **P 22 24 05.6 +2.0**
TLY *e*S **S 22 28 35.7 +3.0**
TLY pmax pmax
comp=Z,135nm,1.8s
TLY MLR MLR
comp=Z,38μm,10.0s
TLY Talaya 25.84 54 P **P 22 24 06.2 +2.6**
SNR=13
SIM Simferopol' 25.94 291 *c i*P **P 22 24 04.3 -0.2**

SIM *e*S **S 22 28 29.0 -5.4**
SIM pmax pmax
comp=Z,133nm,1.0s
KOZT Kozan 26.07 273 *e*P **P 22 24 06.5 +0.7**
BRDH Bariadhala 26.17 127 LR LR 22 36 46.8
comp=Z,5μm,18.7s,baz=320,slow=42
SEVA Sevastopol 26.28 290 ⇓*i*P **P 22 24 07.5 -0.1**
IRK Irkutsk 26.33 53 *e*P **P 22 24 09.0 +1.0**
IRK pmax pmax
comp=Z,106nm,2.4s
BZK Bozkurt 26.36 284 ⇑*i*P **P 22 24 08.6 +0.2**
AVNS Nevsehir-Avano 26.42 277 *i* P **P 22 24 10.0 +0.9**
KARA Karaisali 26.72 273 *e*P **P 22 24 15.5 +3.8**
ILGA Ilgaz 26.74 282 *e*P **P 22 24 13.0 +0.9**
comp=Z,114nm,1.1s
KLMR Klimovskoe 27.01 328 ⇑*i*P **P 22 24 13.5 -0.5**
KLMR *e*S **S 22 28 51.2 +0.2**
KLMR pmax pmax
comp=Z,58nm,1.3s
BR131 Keskin Array S 27.09 279 *e*P **P 22 24 15.1 -0.1**
comp=Z,28nm,0.8s
BR131 Keskin Array S 27.09 279 P **P 22 24 15.4 +0.2**
SNR=19
BRTR Keskin Array B 27.09 279 P **P 22 24 15.1 -0.1**
comp=Z,10nm,0.7s,baz=88,slow=8.2,SNR=67
BRTR LR LR 22 36 47.9
comp=Z,1μm,18.6s,baz=116,slow=41
SONM Songino Array 27.21 63 P **P 22 24 17.4 +1.3**
comp=Z,4.4nm,0.6s,baz=272,slow=10,SNR=30
ASF Jabal al Asfar 27.32 262 P **P 22 24 17.5 +0.3**
comp=Z,8.7nm,1.1s,baz=29,slow=2.2,SNR=10
LZH Lanzhou 27.36 89 ⇑P **P 22 24 19.0 +1.4**
LZH pP sP 22 24 24.1 +0.9
LZH sP pP 22 24 26.9 +5.3
LZH PP **PnPn 22 25 06.9 +5.3**
LZH *e*S **S 22 28 57.3 0.0**
LZH sS sS 22 29 05.4 +1.5
LZH SS **SnSn 22 30 14.8 +8.7**
LZH pmax pmax
comp=Z,59nm,1.3s
LZH pmax pmax
comp=Z,500nm,5.4s
LZH LR LR
comp=Z,4μm,12.5s
LZH LR LR
comp=Z,5μm,12.5s
LZH LR LR
comp=Z,6μm,15.7s
MMAI Mount Meron Ar 28.07 265 P **P 22 24 24.4 +0.5**
comp=Z,10nm,1.1s,baz=81,slow=16,SNR=8.3
MMAI LR LR 22 38 12.4
comp=Z,912nm,18.9s,baz=55,slow=42
AKASG Malin Array Be 29.27 303 P **P 22 24 33.4 -0.8**
comp=Z,8.8nm,0.6s,baz=77,slow=7.9,SNR=24
AKASG LR LR 22 39 10.7
comp=Z,3μm,18.0s,baz=85,slow=42
KIEV Kiev 29.28 303 *e*P **P 22 24 33.0 -1.4**
comp=Z,48nm,1.0s
KIEV Kiev 29.28 303 ⇑*i*P **P 22 24 33.5 -0.9**
KIEV Kiev 29.28 303 *i* P **P 22 24 33.3 -1.1**
SNR=13
KIEV Kiev 29.28 303 *e*P **P 22 24 32.8 -1.6**
KIEV pmax pmax
comp=Z,11nm,0.7s
CD2 Chengdu 29.48 99 P **P 22 24 38.8 +2.3**
CD2 sP sP 22 24 43.6 +1.5
CD2 PcP **PcP 22 27 38.9 -2.9**
CD2 S **S 22 29 32.3 +1.7**
CD2 sS sS 22 29 40.9 +3.7
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,470nm,9.9s
CD2 LR LR
comp=Z,4μm,11.6s
CD2 LR LR
comp=Z,4μm,12.1s
CD2 LR LR
comp=Z,3μm,11.9s
TMCR Tamitsa 29.50 333 *e*P **P 22 24 36.4 +0.2**
TMCR *e*S **S 22 29 30.6 +0.5**
TMCR pmax pmax
comp=Z,58nm,0.9s
KIS Kishinev 29.51 296 *e*P P 22 24 41.0 +4.5
KIS *e*S **S 22 29 37.0 +6.4**
KIS *e*SS SnSn 22 30 34.0 -24
KIS Kishinev 29.51 296 *e*P P 22 24 41.0 +4.5
KIS *e* 22 27 40.0
KIS *e*S **S 22 29 37.0 +6.4**
MILM Milestii Mici 29.52 295 ⇑*i*P **P 22 24 35.8 -0.7**
EIL Elat 30.01 259 P **P 22 24 41.5 +0.4**
comp=Z,8.9nm,0.8s,baz=25,slow=5.0,SNR=8.3
EIL LR LR 22 39 11.2
comp=Z,1μm,19.9s,baz=82,slow=41
MFTR Murfatlar 30.06 290 ⇓*i*P **P 22 24 41.3 -0.1**
NRIK Noril'sk 30.08 13 P **P 22 24 42.3 +1.0**
comp=Z,10nm,0.8s,baz=206,slow=7.0,SNR=41
NRIK LR LR 22 38 41.9
comp=Z,4μm,18.7s,baz=216,slow=40
CFR Carcaliu 30.14 292 ⇑*i*P **P 22 24 41.5 -0.5**
TLB Topalu 30.28 291 ⇑*i*P **P 22 24 43.3 0.0**
HARR Harsova 30.34 291 ⇓*i*P **P 22 24 43.7 -0.1**
MICGM Minsk 30.52 311 *e*P **P 22 24 45.0 -0.3**
MICGM *e*S **S 22 29 48.0 +1.8**
MICGM *e*LQ LQ 22 36 05.0
MICGM *e*LR LR 22 38 07.0
MICGM LRM MLR 22 39 54.0
comp=Z,6.1nm,10.0s
MNK Minsk 30.52 311 *e*P **P 22 24 45.0 -0.3**
MNK *e*S **S 22 29 48.0 +1.8**
MNK MLR MLR
comp=Z,6μm,10.0s
CTYL Yalikoy Yolu 30.65 285 ⇑*i*P **P 22 24 46.9 +0.3**
BTO Baotou 30.66 77 *e*P **P 22 24 45.1 -1.8**
TESR Tescani 31.03 295 ⇑*i*P **P 22 24 49.8 -0.2**
VRI Vrincioaia 31.04 294 ⇓*i*P **P 22 24 49.6 -0.5**
GIRR Girov 31.10 296 ⇓*i*P **P 22 24 50.4 -0.1**
PLOR Plostina 31.10 294 ⇑*i*P **P 22 24 50.2 -0.4**
PHSR Pinarhisar 31.18 285 ⇓*i*P **P 22 24 51.5 +0.2**
NACGM Naroch 31.21 311 *e*P **P 22 24 50.0 -1.4**
NACGM *e*PP PnPn 22 25 30.0 -23
NACGM *e*PPP PPP 22 26 12.0
NACGM *e*S **S 22 29 54.0 -3.1**
NACGM *e*SS ScP 22 30 46.0 -42
NACGM *e*SSS SSS 22 32 06.0
NACGM *e*LQ LQ 22 35 38.0
NACGM *e*LR LR 22 37 50.0
NACGM LRM MLR 22 39 34.0
comp=Z,7.2nm,10.0s
IDID Didziasalis 31.30 312 *e*P **P 22 24 52.3 +0.2**
IDID IAmb IAmb 22 24 54.0
comp=Z,29nm,1.0s
BIZ Bicaz 31.37 296 ⇓*i*P **P 22 24 52.9 0.0**
IIGN Ignalina 31.60 312 *e*P **P 22 24 55.2 +0.4**
IIGN IAmb IAmb 22 24 56.8
comp=Z,29nm,1.0s
MLR Muntele Rosu 31.63 293 ⇑*i*P **P 22 24 55.2 -0.2**
MLR Muntele Rosu 31.63 293 P **P 22 24 55.6 +0.2**
comp=Z,14nm,0.8s,baz=56,slow=1.5,SNR=29
IZAR Zarasai 31.65 313 *e*P **P 22 24 55.5 +0.2**
IZAR IAmb IAmb 22 24 57.1
comp=Z,31nm,0.8s
ISAL Salakas 31.69 312 *e*P **P 22 24 55.5 -0.1**
ISAL IAmb IAmb 22 24 57.5
comp=Z,21nm,0.9s
HHC Hu-ho-hao-te 31.74 76 *e*P **P 22 24 58.3 +1.9**
HHC sP sP 22 25 05.1 +3.1
HHC PP **PP 22 26 03.3 -4.6**
HHC S **S 22 30 06.3 +0.4**
HHC pmax pmax
comp=Z,230nm,0.8s
HHC pmax pmax
comp=Z,1μm,4.4s
HHC LR LR
comp=Z,2μm,12.2s
HHC LR LR
comp=Z,3μm,11.6s
HHC LR LR
comp=Z,4μm,12.2s
BURAR Bucovina Array 31.92 297 ⇑*i*P **P 22 24 57.5 -0.3**
KMI Kunming 31.93 109 P **P 22 24 58.6 +0.3**
KMI pP pP 22 25 02.8 +0.5
KMI sP sP 22 25 06.3 +2.3
KMI PP **PP 22 26 03.0 -7.4**

KMI S S 22 30 10.4 +1.0
KMI sS sS 22 30 17.6 +1.6
KMI pmax pmax
comp=Z,18nm,1.0s
KMI pmax pmax
comp=Z,200nm,3.9s
KMI LR LR
comp=Z,2μm,14.1s
KMI LR LR
comp=Z,3μm,14.8s
KMI LR LR
comp=Z,3μm,15.7s
VSU Vasula 31.96 318 *ce*P **P 22 24 57.7 -0.2**
VSU pmax pmax
comp=Z,110nm,0.6s
VSU Vasula 31.96 318 *e*P **P 22 24 57.0 -0.9**
VSU IAmb IAmb 22 24 58.3
comp=Z,190nm,0.9s
DOPR Dopca 31.96 294 ⇓ *i*P **P 22 24 58.1 -0.1**
CIT Chita 31.97 55 *e*P **P 22 24 58.9 +0.7**
CIT *e* 22 25 06.9
CIT *e*S **ScS 22 35 33.8 +4.4**
CIT pmax pmax
comp=Z,122nm,1.5s
XAN Xi'an 31.99 89 P **P 22 24 59.1 +0.6**
XAN pP pP 22 25 03.3 +0.8
XAN sP sP 22 25 05.9 +1.7
XAN PP **PnPn 22 26 06.3 +2.7**
XAN S **S 22 30 10.5 +0.7**
XAN sS sS 22 30 18.1 +1.7
XAN PcS **PcS 22 31 36.1 +3.0**
XAN SS SS 22 32 04.6 -22
XAN ScS **ScS 22 35 27.3 -2.8**
XAN pmax pmax
comp=Z,24nm,1.4s
XAN pmax pmax
comp=Z,130nm,3.4s
XAN LR LR
comp=Z,4μm,15.7s
XAN LR LR
comp=Z,5μm,16.8s
XAN LR LR
comp=Z,6μm,17.9s
XAN Xi'an 31.99 89 *e*P **P 22 24 59.2 +0.6**
comp=Z,29nm,1.1s
XAN Xi'an 31.99 89 *e*P **P 22 24 59.2 +0.7**
XAN pmax pmax
comp=Z,29nm,1.1s
VOIR 32.27 293 ⇑ *i*P **P 22 25 01.0 +0.1**
ARR Arges 32.56 293 ⇓ *i*P **P 22 25 03.5 0.0**
LVV L'vov 32.58 301 *e*P **P 22 25 03.2 -0.3**
LVV *e* 22 26 05.2
LVV *e*S **S 22 30 15.0 -3.7**
LVV MLR MLR
comp=N,700nm,15.0s
LVV MLR MLR
comp=E,4μm,15.0s
LVV MLR MLR
comp=Z,4μm,15.0s
LVZ Lovozero 32.88 337 *e*P **P 22 25 06.1 +0.2**
comp=Z,27nm,0.9s
LVZ Lovozero 32.88 337 *ce*P **P 22 25 06.1 +0.2**
LVZ pmax pmax
comp=Z,17nm,0.8s
PABE Paberze 32.89 312 *e*P **P 22 25 06.2 0.0**
PABE IAmb IAmb 22 25 07.0
comp=Z,82nm,0.6s
APA Apatity 33.06 336 ⇑ *i*P **P 22 25 06.9 -0.6**
APA *i* 22 26 16.0
APA *i*S **S 22 30 19.0 -6.7**
APA *i*SS **SS 22 32 47.0 -0.8**
APA pmax pmax
comp=Z,11nm,0.4s
FINES FINESS Array B 33.12 323 P **P 22 25 08.1 +0.1**
comp=Z,39nm,0.6s,baz=109,slow=9.8,SNR=287
FINES LR LR 22 39 32.7
comp=Z,6μm,18.4s,baz=105,slow=38
LOT Lotru 33.16 293 ⇓ *i*P **P 22 25 09.0 +0.3**
SUW Suwalki 33.20 309 *e*P **P 22 25 08.4 -0.5**
SUW Suwalki 33.20 309 *e*P **P 22 25 08.4 -0.5**
TIY Taiyuan 33.29 81 *e*P **P 22 25 11.3 +1.4**
TIY PP **PP 22 26 25.4 +0.3**
TIY S **S 22 30 30.5 +0.5**
TIY pmax pmax
comp=Z,50nm,1.4s
TIY LR LR
comp=Z,3μm,8.7s
TIY LR LR
comp=Z,1μm,9.1s
TIY LR LR
comp=Z,1μm,10.3s
CHTO Chiang Mai 33.59 122 *e*P **P 22 25 13.0 +0.3**
comp=Z,22nm,1.5s
CHTO Chiang Mai 33.59 122 *e*P **P 22 25 13.0 +0.3**
CHTO pmax pmax
comp=Z,22nm,1.5s
CMMT Chiang Mai 33.60 122 P **P 22 25 16.6 +3.9**
comp=Z,4.4nm,1.2s,comp=Z,336nm
TRPA Tarpa 33.67 298 ⇓ *i*P **P 22 25 13.4 +0.4**
TRPA Tarpa 33.67 298 ⇓ *e*P **P 22 25 12.1 -0.9**
TRPA *e*PP **PnPn 22 26 22.1 -2.7**
DRGR 33.70 296 ⇑ *i*P **P 22 25 13.9 +0.5**
KOLS Kolonicke sedl 33.78 300 *e*P **P 22 25 14.0 0.0**
KOLS pmax pmax
comp=Z,15nm,1.4s
KOLS Kolonicke sedl 33.78 300 *e*P **P 22 25 14.0 0.0**
UZH Uzhgorod 33.79 299 *e*P **P 22 25 12.5 -1.5**
UZH *e* 22 25 16.0
UZH *e* 22 25 24.8
UZH *e* 22 26 27.7
UZH *e* 22 27 50.0
UZH *i*S **S 22 30 30.6 -6.8**
UZH *e*SSS SSS 22 32 41.7
PAYA Payao 33.80 120 P **P 22 25 15.3 +0.9**
comp=Z,65μm,1.1s,comp=Z,495μm
CMAR Chiang Mai Arr 33.85 123 P **P 22 25 15.0 +0.1**
comp=Z,3.2nm,0.6s,baz=314,slow=9.1,SNR=17
CMAR PcP **PcP 22 27 53.5 -0.2**
comp=Z,3.3nm,0.7s,baz=303,slow=5.4,SNR=5.8
CMAR LR LR 22 41 43.3
comp=Z,1μm,20.8s,baz=315,slow=41
GZR Gura Zlata 33.85 293 ⇑ *i*P **P 22 25 14.6 -0.2**
PUNG Punghina 33.94 291 ⇓ *i*P **P 22 25 15.4 0.0**
APE Apeiranthos 33.96 278 ⇑ *i*P **P 22 25 15.4 -0.4**
GYA Guiyang 34.00 103 ⇑ *i*P **P 22 25 16.6 +0.3**
GYA pP pP 22 25 20.8 +0.5
GYA PP **PP 22 26 33.6 +0.4**
GYA S **S 22 30 40.8 -0.6**
GYA sS sS 22 30 51.6 +3.6
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,150nm,10.9s
GYA LR LR
comp=Z,870nm,18.0s
GYA LR LR
comp=Z,1μm,17.1s
GYA LR LR
comp=Z,1μm,22.0s
DAMY Dhamar 34.03 227 *e*P **P 22 25 18.6 +1.8**
comp=Z,19nm,0.9s
VTS Vitosha 34.07 288 ⇑ *i*P **P 22 25 17.3 +0.5**
PBUR Paburg 34.09 313 *e*P **P 22 25 16.5 -0.1**
PBUR IAmb IAmb 22 25 17.3
comp=Z,160nm,0.8s
LTVH Ltavrtes, Hu 34.18 297 ⇑ *e*P **P 22 25 18.0 +0.6**
HERR Herculane 34.19 293 ⇓ *i*P **P 22 25 17.5 -0.1**
LAMP Lampang 34.25 122 P **P 22 25 18.6 +0.3**
comp=Z,71μm,1.1s,comp=Z,562μm
SIRR Siria 34.49 295 ⇑ *i*P **P 22 25 20.5 +0.3**
DGPR DIGLIPUR 34.51 136 *e*P **P 22 25 21.4 +0.8**
BZS Buzias 34.62 294 ⇓ *i*P **P 22 25 21.5 +0.2**
PHRA Phrae 34.65 121 P **P 22 25 22.2 +0.4**
comp=Z,3.2nm,1.1s
MDVR Moldovita 34.70 293 ⇑ *i*P **P 22 25 22.3 +0.2**
VAY Valandovo 34.87 286 *i*P **P 22 25 23.8 +0.3**
KECS Kecovo 35.00 299 *e*P **P 22 25 25.1 +0.5**
KECS pmax pmax
comp=Z,37nm,1.0s
KECS Kecovo 35.00 299 *e*P **P 22 25 25.1 +0.5**
NIE Niedzica 35.03 301 *e*P **P 22 25 25.6 +0.7**
NIE Niedzica 35.03 301 *e*P **P 22 25 25.6 +0.7**
STIP Stip 35.05 287 *i*P **P 22 25 23.6 -1.5**
SLVN Son La 35.17 113 *e*P **P 22 25 27.5 +1.1**
comp=Z,30nm,1.2s
UTTA Uttaradit 35.41 121 P **P 22 25 29.5 +1.1**
comp=Z,36μm,1.1s,comp=Z,360μm
PSZ Piszkesteto 35.46 298 ⇓ *i*P **P 22 25 28.2 -0.4**
PSZ Piszkesteto 35.46 298 *e*P **P 22 25 28.0 -0.6**
PSZ *e*PP PnPn 22 26 36.1 -11
PSZ *e*S **S 22 31 05.1 +1.8**
UMPA Umpang Tak 35.49 125 P P 22 25 37.7 +8.6
LANS Liptovska Anna 35.60 300 *e*P **P 22 25 30.6 +0.8**
LANS Liptovska Anna 35.60 300 *e*P **P 22 25 30.6 +0.8**
KRUS Krusevo 35.81 287 *i*P **P 22 25 31.8 0.0**
FRGS Fruska Gora 35.96 294 *e*P **P 22 25 32.7 -0.2**
DIVS Divibare 36.05 292 *e*P **P 22 25 33.9 +0.2**
VYHS Vyhne 36.09 299 *e*P **P 22 25 34.3 +0.4**
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 36.09 299 *e*P **P 22 25 34.3 +0.4**
KEV Kevo 36.22 337 *e*P **P 22 25 35.2 +0.5**
comp=Z,18nm,0.7s
KEV Kevo 36.22 337 *e*P **P 22 25 35.2 +0.5**
KEV pmax pmax
comp=Z,18nm,0.7s
OKC Ostrava-Krasne 36.38 302 *e*P **P 22 25 36.3 -0.1**
OKC *e*S **S 22 31 17.2 -0.1**
OKC MLR MLR
comp=Z,3μm,17.2s
OKC Ostrava-Krasne 36.38 302 *e*P **P 22 25 36.3 -0.1**
OKC *e*S **S 22 31 17.2 -0.1**
OKC AMS AMS 22 43 40.0
comp=Z,3μm,17.2s
PBKT Sadao Pong 36.55 122 P **P 22 25 39.1 +1.0**
comp=Z,18nm,1.5s,comp=Z,986nm
ARCES ARCESS Array B 36.57 336 P **P 22 25 38.1 +0.3**
comp=Z,33nm,0.6s,baz=104,slow=7.5,SNR=262
ARCES LR LR 22 41 47.2
comp=Z,7μm,18.7s,baz=122,slow=38
ARE0 ARCESS Array S 36.57 336 *e*P **P 22 25 38.5 +0.8**
CSKK Cskako 36.63 298 *e*P **P 22 25 39.0 +0.5**
GKP Gorka Klasztor 36.72 308 *e*P **P 22 25 39.4 +0.2**
GKP Gorka Klasztor 36.72 308 *e*P **P 22 25 39.4 +0.2**
MORC Moravsky Berou 36.78 302 ⇑ *i*P **P 22 25 39.6 -0.3**
MORC Moravsky Berou 36.78 302 *e*P **P 22 25 39.5 -0.3**
JAVC Velka Javorina 36.81 300 *e*P **P 22 25 41.4 +1.3**
NONG Nongkai 36.89 118 P **P 22 25 41.7 +0.7**
comp=Z,0.9nm,0.9s
PDG Podgorica 36.97 289 ⇑ *i*P **P 22 25 41.6 +0.1**
PDG Podgorica 36.97 289 *e*P **P 22 25 40.9 -0.6**
KTK1 Kautokeino 37.05 335 *e*P **P 22 25 42.0 +0.2**
SRDT SRDT 37.07 127 P **P 22 25 44.4 +1.8**
comp=Z,18nm,1.8s
DRME Dracevica, Mon 37.08 289 *e*P P 22 25 48.8 +6.3
MODS Modra-Piesok 37.13 299 *e*P **P 22 25 42.3 -0.5**
MODS pmax pmax
comp=Z,16nm,1.2s
MODS Modra-Piesok 37.13 299 *e*P **P 22 25 42.3 -0.5**
KRLC Kraliky 37.23 302 *e*P **P 22 25 44.0 +0.3**
KRLC Kraliky 37.23 302 *e*P **P 22 25 44.0 +0.3**
ATD Arta Tunnel 37.38 226 *e*P **P 22 25 44.9 -0.4**
comp=Z,33nm,1.1s
ATD Arta Tunnel 37.38 226 P **P 22 25 45.8 +0.5**
comp=Z,8.6nm,0.9s,baz=26,slow=13,SNR=3.8
VRAC Vranov 37.45 301 ⇓ *i*P **P 22 25 46.1 +0.5**
VRAC Vranov 37.45 301 *e*P **P 22 25 46.0 +0.5**
DPC Dobruska-Polom 37.50 303 *e*P **P 22 25 46.5 +0.5**
DPC *e*S **S 22 31 33.9 -0.5**
DPC MLR MLR
comp=Z,3μm,15.9s
DPC Dobruska-Polom 37.50 303 *e*P **P 22 25 46.5 +0.5**
DPC *e*S **S 22 31 33.9 -0.5**
DPC AMS AMS 22 44 20.0
comp=Z,3μm,15.9s
TREB Trebinje 37.54 290 *e*P **P 22 25 46.1 -0.2**
KRUC Moravsky 37.61 301 *e*P **P 22 25 47.4 +0.5**
HAMF Hammerfest 37.64 337 *e*P **P 22 25 47.9 +1.1**
WHN Wuhan 37.65 91 P **P 22 25 48.3 +0.9**
WHN pP **sP 22 25 56.9 +3.8**
WHN PP **PnPn 22 27 17.6 +3.3**
WHN S **S 22 31 31.8 -5.2**
WHN SS **SnSn 22 34 06.8 -9.2**
WHN pmax pmax
comp=Z,62nm,0.9s
WHN pmax pmax
comp=Z,430nm,4.1s
WHN LR LR
comp=Z,5μm,12.5s
WHN LR LR
comp=Z,5μm,14.4s
WHN LR LR
comp=Z,10μm,14.9s
UPC Upice 37.68 303 *e*P **P 22 25 47.8 +0.4**
UPC *e* 22 25 53.0
UPC *e*S **S 22 31 39.4 +2.4**
UPC MLR MLR
comp=Z,4μm,13.5s
UPC Upice 37.68 303 *e*P **P 22 25 47.8 +0.4**
UPC *e*pP **sP 22 25 53.0 -0.1**
UPC *e*S **S 22 31 39.4 +2.4**
UPC AMS AMS 22 44 20.0
comp=Z,4μm,13.5s
CHAI Chaiyaphum 37.69 122 P **P 22 25 48.2 +0.4**
comp=Z,57μm,0.7s,comp=Z,517μm
SOP Sopron 37.72 298 *e*P **P 22 25 47.1 -0.7**
SOP *e*PP **PP 22 27 12.0 -1.7**
BLY Banja Luka 37.87 294 *e*P **P 22 25 49.0 -0.1**
comp=Z,31nm,1.1s
BLY Banja Luka 37.87 294 ⇑ *i*P **P 22 25 49.5 +0.4**
BLY Banja Luka 37.87 294 *e*P **P 22 25 49.3 +0.2**
KHON Khomkaen 37.91 120 P **P 22 25 50.8 +1.1**
comp=Z,99μm,0.6s
CONA Conrad Observa 38.14 299 *i*P **P 22 25 51.8 +0.4**
comp=Z,27nm,0.9s,SNR=13
TREC Trest 38.17 301 *e*P **P 22 25 52.1 +0.5**
TREC MLR MLR
comp=Z,3μm,17.8s
TREC Trest 38.17 301 *e*P **P 22 25 52.1 +0.5**
TREC AMS AMS 22 44 50.0
comp=Z,3μm,17.8s
SKNT Sakolnakorn 38.22 118 P **P 22 25 52.7 +0.4**
comp=Z,74nm,0.9s
ARSA Arzberg 38.48 298 *i*P **P 22 25 54.2 -0.1**
comp=Z,14nm,0.8s,SNR=5.9
PHET Kaeng Krachan 38.50 128 P **P 22 25 57.1 +2.4**
comp=Z,49μm,1.0s
PANO Nakornpanom 38.52 117 P **P 22 25 55.5 +0.7**
comp=Z,1.0nm,1.1s,comp=Z,132nm
GOPC GO Pecny, Ondr 38.53 302 *e*P **P 22 25 54.4 -0.3**
GOPC *e* 22 25 59.7
GOPC MLR MLR
comp=Z,4μm,18.9s
GOPC GO Pecny, Ondr 38.53 302 *e*P **P 22 25 54.4 -0.3**
GOPC *e*pP **sP 22 25 59.7 -0.6**
GOPC AMS AMS 22 44 50.0
comp=Z,4μm,18.9s
PVCC Panska Ves 38.59 303 *e*P **P 22 25 55.5 +0.4**
PVCC *e*S **S 22 31 47.2 -3.6**
PVCC MLR MLR
comp=Z,3μm,13.1s
PVCC Panska Ves 38.59 303 *e*P **P 22 25 55.5 +0.4**
PVCC *e*S **S 22 31 47.2 -3.6**
PVCC AMS AMS 22 44 50.0
comp=Z,3μm,13.1s
PRU Pruhonice 38.68 302 *e*P **P 22 25 56.2 +0.3**
PRU *e*S **S 22 31 52.8 +0.7**
PRU MLR MLR
comp=Z,3μm,15.9s
PRU Pruhonice 38.68 302 *e*P **P 22 25 56.2 +0.3**
PRU *e*S **S 22 31 52.8 +0.7**
PRU AMS AMS 22 45 00.0
comp=Z,3μm,15.9s
TRO Tromso 38.70 334 *e*P **P 22 25 56.2 +0.4**
CRES Cresnjev 38.82 296 *e*P **P 22 25 56.3 -0.8**
HFS Hagfors 38.82 319 P **P 22 25 56.8 -0.1**
comp=Z,24nm,0.5s,baz=99,slow=9.8,SNR=148
RUE Ruedersdorf 38.86 307 *e*P **P 22 25 55.8 -1.5**
PERS Pernice 38.88 297 *i*P **P 22 25 57.6 0.0**
SOKA Soboth 38.92 297 *i*P **P 22 25 58.2 +0.1**
comp=Z,17nm,1.2s,SNR=5.6
BRG Berggiesshubel 38.94 304 ⇑ *i*P **P 22 25 58.4 +0.3**
comp=Z,32nm,0.8s
BRG *i* 22 26 04.0
comp=Z,39nm,0.9s
BRG *i*PP **PP 22 27 24.6 -2.5**
comp=Z,18nm,0.9s
BRG PP **PnPn 22 27 28.0 -1.5**
BRG S **S 22 31 54.0 -2.1**
BRG SS **SnSn 22 34 40.0 -6.5**
BRG Berggiesshubel 38.94 304 ⇑ *i*P **P 22 25 58.3 +0.3**
BRG *i* 22 26 04.0
BRG 22 27 28.0
BRG S **S 22 31 54.0 -2.1**
BRG SS **SnSn 22 34 40.0 -6.5**
BRG pmax pmax
comp=Z,32nm,0.8s
BRG MLR MLR
comp=N,2μm,16.1s
BRG MLR MLR
comp=E,2μm,11.1s
BRG MLR MLR
comp=Z,3μm,18.6s
RGN Rugen 38.98 310 *e*P **P 22 25 58.2 -0.1**
comp=Z,159nm,0.8s
BOJS Bojanci 39.03 295 *i*P **P 22 25 59.1 +0.3**
MOA Molln 39.21 299 *i*P **P 22 26 00.2 -0.1**
comp=Z,13nm,0.9s,SNR=6.2
VISS Visnje 39.24 296 *e*P **P 22 26 00.3 -0.3**
OBKA Obir 39.29 297 *i*P **P 22 26 01.4 +0.3**
comp=Z,16nm,0.8s
MOR8 Moi Rana 39.34 328 *e*P **P 22 26 00.7 -0.5**
GERES GERESS Array B 39.40 301 P **P 22 26 02.5 +0.5**
comp=Z,15nm,0.8s,baz=64,slow=9.1,SNR=99
GERES PP **PnPn 22 27 36.0 +0.9**
comp=Z,9.1nm,0.8s,baz=69,slow=9.3,SNR=4.3
KHC Kasperske Hory 39.43 301 *e*P **P 22 26 02.6 +0.4**
KHC *e* 22 26 07.7
KHC *e*S **S 22 32 04.6 +1.0**
KHC MLR MLR
comp=Z,3μm,19.5s
KHC Kasperske Hory 39.43 301 *e*P **P 22 26 02.6 +0.4**
KHC *e*pP **sP 22 26 07.7 -0.2**
KHC *e*S **S 22 32 04.6 +1.0**
KHC AMS AMS 22 45 30.0
comp=Z,3μm,19.5s
STEI Steigen 39.45 331 *e*P **P 22 26 02.6 +0.5**
CLL Collm 39.47 305 ⇑ *i*P **P 22 26 02.3 -0.2**
CLL *i* 22 26 07.5
CLL *e*S **S 22 32 02.0 -2.0**
CLL pmax pmax
comp=Z,26nm,0.8s
CLL MLR MLR
comp=Z,2μm,19.7s
CLL Collm 39.47 305 ⇑ *i*P **P 22 26 02.3 -0.2**
comp=Z,26nm,0.8s
CLL *i*pP **pP 22 26 07.5 +1.0**
comp=Z,31nm,0.8s
CLL *e*PP **PP 22 27 32.0 -0.9**
CLL *e*pPP 22 27 37.0
CLL *e*PcP **PcP 22 28 09.0 -1.1**
CLL *e*pPcP 22 28 16.0
CLL *e*ScP **ScP 22 31 57.0 -1.4**
CLL *e*S **S 22 32 02.0 -2.0**
CLL *e*sS **sS 22 32 14.0 +3.3**
CLL *e*SS **SS 22 34 54.0 -4.1**
CLL Lm MLR 22 44 00.0
comp=Z,2μm,19.7s
CEY Cerknica 39.54 296 *e*P **P 22 26 03.2 +0.1**
DL2 Dalian 39.71 75 P **P 22 26 05.3 +0.8**
DL2 PP **PnPn 22 27 43.8 +5.0**
DL2 S **S 22 32 08.9 +1.1**
DL2 SS **SS 22 34 59.9 -3.2**
DL2 pmax pmax
comp=Z,18nm,1.1s
DL2 pmax pmax
comp=Z,200nm,3.7s
DL2 LR LR
comp=Z,1μm,13.8s
DL2 LR LR
comp=Z,2μm,15.2s
DL2 LR LR
comp=Z,2μm,15.3s
TIP Timpagrande 39.75 285 ⇑ *i*P **P 22 26 04.1 -0.9**
JAVS Javornik 39.75 296 *i*P **P 22 26 04.7 -0.3**
NC405 NORSAR Array S 39.86 320 *e*P **P 22 26 05.5 -0.1**
comp=Z,410nm,1.8s
MYKA Terra Mystica 39.87 297 *e*P **P 22 26 05.9 -0.1**
comp=Z,19nm,0.8s
NC602 NORSAR Array S 39.92 320 *e*P **P 22 26 05.9 -0.2**
KONS Konsvik 39.93 329 *e*P **P 22 26 06.5 +0.5**
KBA Koelnbreinsper 39.98 298 *e*P **P 22 26 06.6 -0.3**
comp=Z,19nm,1.0s
NKC Novy Kostel 39.98 303 *e*P **P 22 26 07.3 +0.6**
NKC *e* 22 26 12.4
NKC *e*S **S 22 32 07.0 -4.7**
NKC MLR MLR
comp=Z,4μm,16.0s
NKC Novy Kostel 39.98 303 *e*P **P 22 26 07.3 +0.6**
NKC *e*pP **sP 22 26 12.4 0.0**
NKC *e*S **S 22 32 07.0 -4.7**
NKC AMS AMS 22 45 40.0
comp=Z,4μm,16.0s
NSS Namsos 40.08 326 *e*P **P 22 26 07.2 -0.1**
NB2 NORSAR Subarra 40.09 320 P **P 22 26 06.9 -0.7**
comp=Z,95nm,1.4s,baz=94,slow=8.6
NB2 NORSAR Subarra 40.09 320 P **P 22 26 06.9 -0.7**
baz=94,slow=8.6
NOA NORSAR Array B 40.09 320 P **P 22 26 06.9 -0.7**
comp=Z,4.4nm,0.4s,baz=88,slow=7.6,SNR=38
NOA PP **PP 22 27 45.1 +5.5**
comp=Z,12nm,0.8s,baz=92,slow=12,SNR=4.2
NOA LR LR 22 44 40.0
comp=Z,588nm,19.9s,baz=90,slow=39
SNY Shenyang 40.18 70 ⇑ P **P 22 26 09.0 +0.6**
SNY S **S 22 32 22.6 +7.8**
SNY pmax pmax
comp=Z,8.0nm,0.5s
SNY pmax pmax
comp=Z,380nm,10.0s
SNY LR LR
comp=Z,3μm,12.1s
SNY LR LR
comp=Z,4μm,15.9s
SNY LR LR
comp=Z,6μm,15.1s
ZEA Zeya 40.22 51 *e*P **P 22 26 10.7 +2.1**
ZEA *e* 22 27 46.0
ZEA *e*S **S 22 32 16.0 +0.9**
ZEA pmax pmax
comp=E,49nm,1.6s
ZEA pmax pmax
comp=Z,85nm,1.6s
ZEA pmax pmax
comp=Z,400nm,10.0s
ZEA pmax pmax
comp=E,200nm,12.0s
ZEA pmax pmax
comp=Z,300nm,12.0s
ZEA smax smax
comp=E,200nm,11.0s
ZEA MLR MLR
comp=E,4μm,13.0s
ZEA MLR MLR
comp=Z,4μm,13.0s
ZEA MLR MLR
comp=N,1μm,15.0s
OSL Oslo 40.30 318 *e*P **P 22 26 09.6 +0.5**
NC204 NORSAR Array S 40.33 320 *e*P **P 22 26 09.2 -0.3**
comp=N,86nm,0.9s
NJ2 Nanjing 40.37 86 *e*P **P 22 26 11.6 +1.5**
NJ2 S **S 22 32 21.9 +4.1**
NJ2 pmax pmax
comp=N,24nm,1.0s
NJ2 pmax pmax
comp=N,370nm,5.6s
NJ2 LR LR
comp=N,4μm,15.2s
NJ2 LR LR
comp=N,4μm,14.6s
NJ2 LR LR
comp=N,5μm,14.1s
ABTA Abfaltersbach 40.60 298 *e*P **P 22 26 12.0 -0.1**
comp=N,21nm,1.4s
TBLU Trondheim 40.69 323 *e*P **P 22 26 12.3 -0.1**
GRFO Grafenberg 40.85 303 *e*P **P 22 26 13.6 -0.3**
comp=N,62nm,0.9s
GRFO Grafenberg 40.85 303 *e*P **P 22 26 13.6 -0.3**
GRFO pmax pmax
comp=Z,62nm,0.9s
KONO Kongsberg 40.87 318 *e*P **P 22 26 14.1 +0.2**
comp=Z,56nm,1.0s
KONO Kongsberg 40.87 318 *ce*P **P 22 26 14.5 +0.6**

KONO pmax pmax
comp=Z,32nm,1.3s
QIZ Qiongzhong 40.87 110 P **P** **22 26 15.1 +0.7**
QIZ S **S** **22 32 28.1 +2.5**
QIZ sS **sS** **22 32 34.4 +2.1**
QIZ pmax pmax
comp=Z,270nm,9.8s
QIZ LR LR
comp=Z,780nm,14.7s
QIZ LR LR
comp=Z,1µm,14.7s
QIZ LR LR
comp=Z,1µm,15.7s
CN2 Changchun 40.93 67 *e*P **P** **22 26 13.8 -0.8**
CN2 *e*PP **PP** **22 27 51.1 +2.2**
CN2 *e*S **S** **22 32 24.1 -1.8**
CN2 SS **SS** **22 35 19.9 -7.4**
CN2 pmax pmax
comp=Z,10.0nm,0.3s
CN2 pmax pmax
comp=Z,200nm,9.3s
CN2 LR LR
comp=Z,2µm,13.0s
CN2 LR LR
comp=Z,2µm,13.0s
CN2 LR LR
comp=Z,2µm,17.0s
WTTA Wattenberg 41.07 299 *i* P **P** **22 26 15.3 -0.7**
comp=Z,26nm,0.9s,SNR=6.9
WTTA *i* PP **PP** **22 27 57.1 +6.5**
comp=Z,39nm,1.2s
WATA Walderalm 41.10 299 *i* P **P** **22 26 15.3 -0.8**
comp=Z,18nm,0.7s,SNR=15
DOMB Dombas 41.17 322 *e*P **P** **22 26 16.5 +0.1**
YAK Yakutsk 41.25 38 *e*P **P** **22 26 17.2 +0.2**
YAK *e**PP **sP** **22 26 25.5 +2.8**
YAK *e* 22 27 51.0
YAK *e* 22 28 14.1
YAK *e*S **S** **22 32 30.1 -0.1**
YAK *e*SS **SS** **22 35 30.8 -2.3**
YAK *e* 22 36 16.5
YAK pmax pmax
comp=E,296nm,1.0s
YAK pmax pmax
comp=N,50nm,0.9s
YAK pmax pmax
comp=Z,153nm,0.8s
YAK pmax pmax
comp=N,34nm,0.9s
YAK pmax pmax
comp=E,70nm,0.9s
YAK smax smax
comp=N,523nm,1.8s
YAK smax smax
comp=E,298nm,1.4s
YAK MLR MLR
comp=Z,16µm,11.0s
YAK MLR MLR
comp=N,4µm,9.0s
YAK MLR MLR
comp=E,14µm,14.0s
SQTA Sankt Quirin 41.37 299 *e*P **P** **22 26 17.4 -0.9**
comp=E,17nm,0.7s,SNR=7.7
SQTA *i* PP **PnPn** **22 27 58.8 +0.5**
comp=E,23nm,1.0s
MOTA Moosalm 41.41 299 *i* P **P** **22 26 16.8 -2.0**
comp=E,17nm,0.8s,SNR=15
HOMB Homborsund 41.47 316 *e*P **P** **22 26 19.0 +0.2**
SKAR Skarslia 41.51 320 *e*P **P** **22 26 19.8 +0.5**
RETA Reutte 41.60 299 *e*P **P** **22 26 19.7 -0.5**
comp=E,15nm,1.2s,SNR=6.0
FETA Feichten 41.73 299 *e*P **P** **22 26 20.5 -0.9**
comp=E,16nm,1.2s,SNR=5.8
FETA *i* PP **PnPn** **22 28 03.5 +0.9**
comp=E,39nm,1.0s
PKDT Phuket 41.81 134 P P 22 26 30.3 +8.2
MOL Molde 41.89 322 *e*P **P** **22 26 22.7 +0.5**
HKPS Hong Kong Po S 41.97 102 *e*P **P** **22 26 24.5 +1.1**
comp=E,52nm,1.1s
KRAB Krabi 42.02 132 P **P** **22 26 26.7 +2.9**
comp=E,147µm,1.0s
VAE Valguarnera 42.08 284 P **P** **22 26 24.4 +0.1**
comp=E,12nm,0.8s,baz=14,slow=0.5,SNR=5.5
AKN Aaknes 42.14 322 *e*P **P** **22 26 24.7 +0.3**
SNART Snartemo 42.14 316 *e*P **P** **22 26 25.0 +0.6**
DAVA Damuels 42.23 299 *i* P **P** **22 26 25.0 -0.5**
comp=E,34nm,1.0s,SNR=6.8
DAVA *e*PP **PP** **22 28 07.6 +4.5**
comp=E,28nm,1.2s
TIXI Tiksi 42.24 24 *e*P **P** **22 26 25.5 +0.5**
comp=E,203nm,1.5s
TIXI Tiksi 42.24 24 *ce*P **P** **22 26 25.5 +0.5**
TIXI pmax pmax
comp=Z,33nm,0.6s
TIXI Tiksi 42.24 24 P **P** **22 26 25.6 +0.6**
comp=Z,34nm,0.5s,baz=271,slow=5.5,SNR=122
STU Stuttgart 42.34 302 *e*P **P** **22 26 26.4 +0.3**
comp=Z,44nm,0.9s
DAVOX Davos/Dischmat 42.35 299 P **P** **22 26 25.8 -0.7**
comp=Z,10nm,0.4s,baz=96,slow=5.5,SNR=32
DAVOX PP **PP** **22 28 08.7 +4.2**
comp=Z,8.9nm,0.6s,baz=85,slow=16,SNR=3.3
BLS5 Blasjo 42.47 318 *e*P **P** **22 26 27.9 +0.8**
SSE Sheshan 42.57 86 P **P** **22 26 29.4 +1.2**
SSE S **S** **22 32 47.9 -2.6**
SSE pmax pmax
comp=Z,22nm,0.9s
SSE pmax pmax
comp=Z,140nm,3.6s
SSE LR LR
comp=Z,660nm,13.7s
TRTT Trang 42.61 132 P **P** **22 26 30.0 +1.4**
comp=Z,41nm,1.1s
SPA0 Spitsbergen Ar 42.90 346 *e*P **P** **22 26 31.8 +1.5**
SPITS Spitsbergen Ar 42.90 346 P **P** **22 26 30.6 +0.3**
comp=Z,19nm,0.7s,baz=112,slow=13,SNR=33
BER Bergen 42.99 319 *e*P **P** **22 26 31.5 +0.4**
BFO Black Forest 43.00 301 *e*P **P** **22 26 31.4 -0.2**
comp=Z,26nm,1.0s
BFO Black Forest 43.00 301 *i* P **P** **22 26 31.7 +0.2**
LHMI Lhok Sumawe 43.32 138 *e*P **P** **22 26 35.4 +1.0**
comp=Z,191nm,1.4s
MDJ Mudanjiang 43.55 64 P **P** **22 26 36.3 +0.3**
MDJ pP pP 22 26 41.0 +0.9
MDJ sP sP 22 26 43.0 +1.3
MDJ PP **PP** **22 28 18.1 +1.0**
MDJ S **S** **22 33 05.6 +1.0**
MDJ sS sS 22 33 13.4 +2.0
MDJ pmax pmax
comp=Z,15nm,0.9s
MDJ pmax pmax
comp=Z,290nm,3.2s
MDJ LR LR
comp=Z,2µm,8.0s
MDJ LR LR
comp=Z,2µm,6.8s
MDJ LR LR
comp=Z,3µm,12.7s
KLR Kul'dur 43.75 57 *c i*P **P** **22 26 38.2 +0.6**
KLR pmax pmax
comp=Z,11nm,1.2s
KLR Kul'dur 43.75 57 P **P** **22 26 38.7 +1.1**
comp=Z,4.1nm,0.5s,baz=279,slow=7.8,SNR=23
KLR LR LR 22 46 05.3
comp=Z,3µm,18.5s,baz=282,slow=38
QZH Quanzhou 43.76 96 P **P** **22 26 40.8 +2.9**
QZH S **S** **22 33 09.4 +1.3**
QZH LR LR
comp=Z,1µm,13.4s
QZH LR LR
comp=Z,960nm,10.0s
QZH LR LR
comp=Z,2µm,13.6s
MEM Membach 43.95 305 ⇑P **P** **22 26 39.3 +0.2**
MEM ⇑pP **pP** **22 26 42.0 -1.2**
MEM ⇑sP **sP** **22 26 44.2 -0.6**
comp=Z,18nm,1.3s
KBS Kingsbay 44.02 346 *e*P **P** **22 26 39.8 +0.5**
comp=Z,53nm,0.9s
KBS Kingsbay 44.02 346 *e*P **P** **22 26 39.8 +0.5**
KBS pmax pmax
comp=Z,53nm,0.9s
WLF Walferdange 44.07 304 ⇓P **P** **22 26 40.7 +0.6**
WLF ⇑sP **sP** **22 26 45.9 +0.1**
comp=Z,29nm,1.0s
BCLA Clavier 44.43 305 ⇑P **P** **22 26 43.1 +0.2**
BCLA ⇑pP **pP** **22 26 46.4 -0.7**
BCLA ⇑sP **sP** **22 26 49.3 +0.6**
KSRS Korea Array 44.85 74 P **P** **22 26 47.1 +0.7**
comp=Z,8.5nm,1.1s,baz=284,slow=6.8,SNR=20
KSRS LR LR 22 47 15.5
comp=Z,1µm,18.3s,baz=280,slow=38
DLV T Lat 44.85 119 *e*P **P** **22 26 48.4 +1.4**
comp=Z,37nm,1.2s
TJN Taejon 44.87 76 *ce*P **P** **22 26 47.3 +0.6**
SNF Seneffe 45.04 305 ⇓pP pP 22 26 51.9 0.0
MSHR Mys Shultsa 45.27 66 *c i*P **P** **22 26 51.2 +1.4**
USA0B Ussuriysk Arra 45.31 64 *e*P **P** **22 26 50.5 +0.4**
comp=Z,18nm,1.0s
USRK Ussuriysk Ar. 45.31 64 P **P** **22 26 50.8 +0.7**
comp=Z,5.1nm,0.7s,baz=302,slow=11,SNR=15
USRK LR LR 22 47 54.0
comp=Z,2µm,18.0s,baz=283,slow=39
SSLB Suanglung 46.19 95 *e*P **P** **22 26 59.5 +2.1**
comp=Z,63nm,1.2s
PSI Prapat 46.40 137 *e*P **P** **22 26 58.8 -0.3**
comp=Z,18nm,1.1s
PSI Prapat 46.40 137 *e*P **P** **22 26 58.8 -0.3**
PSI pmax pmax
comp=Z,18nm,1.1s
KEST Kesra 46.51 284 P **P** **22 27 00.2 +0.4**
comp=Z,56nm,0.9s,baz=316,slow=1.8,SNR=50
YULB Yu-li 46.67 96 *e*P **P** **22 27 03.0 +1.9**
comp=Z,22nm,1.2s
TWG Pinlang 46.83 96 *e*P **P** **22 27 04.1 +1.8**
comp=Z,401nm,1.5s
GSI Gungsitoli 47.00 140 *e*P **P** **22 27 03.3 -0.4**
comp=Z,82nm,1.1s
GSI Gunungsitoli 47.00 140 P **P** **22 27 03.9 +0.2**
comp=Z,78nm,0.9s
MSEY Mahe Island 47.10 199 *e*P **P** **22 27 05.0 +0.6**
comp=Z,49nm,1.0s
MSEY Mahe Island 47.10 199 P **P** **22 27 04.6 +0.2**
MSEY Mahe Island 47.10 199 *e*P **P** **22 27 05.0 +0.6**
MSEY pmax pmax
comp=Z,49nm,1.0s
CMAH Djebel Manchou 47.55 286 P **P** **22 27 07.0 -0.8**
ABSA Djebel Ababsia 47.65 285 P **P** **22 27 08.3 -0.4**
TEY Ternei 48.14 61 ⇑*e*P **P** **22 27 12.5 +0.3**
TEY pmax pmax
comp=Z,10.0nm,1.4s
EKA Eskdalemuir Ar 48.24 313 P **P** **22 27 12.1 -0.7**
comp=Z,3.9nm,0.6s,baz=88,slow=8.0,SNR=20
CASM Ain Smara 48.38 286 P **P** **22 27 13.3 -1.0**
DFRA Djebel Bou Aff 48.70 287 P **P** **22 27 16.4 -0.4**
JNU Nakatsue 48.90 78 P **P** **22 27 19.1 +0.8**
comp=Z,22nm,1.0s,baz=293,slow=4.2,SNR=13
CKHR Kef el Ahmar 49.20 286 P **P** **22 27 19.8 -0.8**
SET Setif 49.20 286 P **P** **22 27 21.0 +0.4**
BKNI Bangkinang 49.60 136 *e*P **P** **22 27 23.7 0.0**
comp=Z,109nm,0.5s
BKNI Bangkinang 49.60 136 P **P** **22 27 23.5 -0.2**
MYKOM Kota Tinggi 49.91 132 P **P** **22 27 27.0 +1.0**
SISI Saibi 50.02 140 P **P** **22 27 28.1 +1.2**
TYV Tymovskoe 50.05 52 *e*P **P** **22 27 28.1 +1.4**
TYV *e*S **S** **22 34 44.0 +6.7**
TYV pmax pmax
comp=Z,300nm,2.2s
TYV smax smax
comp=E,600nm,5.4s
TYV MLR MLR
comp=Z,4µm,13.0s
DAG Danmarks Havn 50.12 343 *i* P **P** **22 27 27.4 +0.4**
DAG pmax pmax
comp=Z,24nm,0.7s
DAG Danmarks Havn 50.12 343 *i* P **P** **22 27 27.4 +0.4**
comp=Z,35nm,0.7s
PDSI Padang 50.35 138 P **P** **22 27 28.9 -0.6**
KMBO Kilima Mbogo 50.98 223 *e*P **P** **22 27 35.3 +0.8**
comp=Z,22nm,1.1s
KMBO Kilima Mbogo 50.98 223 *i* P **P** **22 27 35.1 +0.7**
SNR=11
KMBO Kilima Mbogo 50.98 223 P **P** **22 27 35.3 +0.8**
SNR=9.3
KMBO Kilima Mbogo 50.98 223 P **P** **22 27 34.9 +0.4**
comp=Z,12nm,1.1s,baz=32,slow=10,SNR=16
KMBO LR LR 22 52 04.9
comp=Z,816nm,19.4s,baz=13,slow=40
TPRI Tanjung Pinang 51.00 132 P **P** **22 27 34.1 -0.2**
YSS Yuzh-Sakhalins 51.47 57 ⇑*e*P **P** **22 27 37.9 +0.4**
YSS *e**SP **sP** **22 27 46.1 +2.9**
YSS *e* 22 29 39.0
YSS *e*S **S** **22 34 54.9 -2.1**
YSS *e*PS PKiKP 22 35 09.0 -25
YSS pmax pmax
comp=Z,50nm,0.9s
YSS MLR MLR
comp=Z,3µm,18.0s
YSS MLR MLR
comp=E,3µm,17.0s
SEY Seymchan 51.55 35 *ce*P **P** **22 27 38.8 +0.9**
SEY Seymchan 51.55 35 P **P** **22 27 39.0 +1.1**
comp=E,10nm,0.9s,baz=285,slow=9.7,SNR=14
SEY LR LR 22 51 12.0
comp=E,2µm,20.4s,baz=298,slow=38
MA2 Magadan 51.78 40 *e*P **P** **22 27 39.8 +0.2**
comp=E,36nm,1.0s
MA2 Magadan 51.78 40 *ce*P **P** **22 27 40.2 +0.6**
MA2 pmax pmax
comp=Z,61nm,1.7s
MA2 Magadan 51.78 40 P **P** **22 27 40.9 +1.3**
comp=Z,21nm,1.0s,baz=279,slow=9.0,SNR=9.9
ASAJ Asahikawa 52.46 60 P **P** **22 27 45.9 +0.9**
comp=Z,10nm,0.9s,baz=278,slow=11,SNR=6.1
SCO Scoresbysund 52.49 335 *e*P **P** **22 27 44.6 -0.1**
comp=Z,33nm,1.4s
SCO Scoresbysund 52.49 335 *e*P **P** **22 27 44.6 -0.1**
SCO pmax pmax
comp=Z,33nm,1.4s
MAJO Matsushiro 52.68 71 *e*P **P** **22 27 46.6 -0.1**
comp=Z,41nm,1.2s
MAJO Matsushiro 52.68 71 *e*P **P** **22 27 46.6 -0.1**
MAJO pmax pmax
comp=Z,41nm,1.2s
MAT Matsushiro 52.68 71 P **P** **22 27 46.1 -0.6**
MAT S **S** **22 35 12.8 -1.3**
MJAR Matsushiro Arr 52.68 71 P **P** **22 27 46.8 +0.1**
comp=Z,19nm,1.1s,baz=290,slow=9.9,SNR=34
MJAR LR LR 22 50 37.4
comp=Z,828nm,21.0s,baz=285,slow=36
KSM Kuching 53.97 126 P **P** **22 27 58.0 +1.7**
MBAR Mbarara 54.13 230 *e*P **P** **22 27 57.9 +0.1**
comp=Z,27nm,0.9s
MBAR Mbarara 54.13 230 *e*P **P** **22 27 57.9 +0.1**
MBAR pmax pmax
comp=Z,27nm,0.9s
SBUM Sibu 54.40 123 P **P** **22 28 01.0 +1.5**
PAB San Pablo 54.63 295 *e*P **P** **22 28 00.8 -0.3**
comp=Z,100nm,1.8s
PAB San Pablo 54.63 295 *e*P **P** **22 28 00.8 -0.3**
PAB pmax pmax
comp=Z,100nm,1.8s
YUK Yuzh-Kuril'sk 54.63 59 *e*P **P** **22 28 00.1 -0.8**
YUK *e* 22 29 59.2
YUK *e*S **S** **22 35 41.2 +0.9**
YUK *e*SS **SS** **22 39 21.2 -1.4**
YUK pmax pmax
comp=Z,141nm,2.2s
YUK pmax pmax
comp=Z,175nm,1.1s
YUK pmax pmax
comp=E,91nm,0.6s
YUK pmax pmax
comp=N,41nm,0.5s
YUK MLR MLR
comp=Z,2µm,15.0s
YUK MLR MLR
comp=N,2µm,16.0s
YUK MLR MLR
comp=E,954nm,12.0s
PBRG Braganca 55.24 298 *e*P **P** **22 28 06.8 +1.4**
comp=E,33nm,1.3s
BILL Bilibino 55.26 27 *e*P **P** **22 28 06.0 +0.9**
comp=E,82nm,1.5s
BILL Bilibino 55.26 27 *c i*P **P** **22 28 06.1 +1.0**
BILL *i* 22 28 10.5
BILL *i* 22 29 05.6
BILL pmax pmax
comp=Z,32nm,1.4s
BILL MLR MLR
comp=Z,2µm,16.0s
MVO Moncorvo 55.73 297 *e*P **P** **22 28 09.0 +0.1**
comp=Z,56nm,1.6s
MVO *e*S **S** **22 35 58.2 +3.0**
MVO Moncorvo 55.73 297 *e*LR LR 22 55 07.4
comp=Z,880nm,16.0s
TPI Tanjungpandan 55.78 131 P **P** **22 28 11.5 +2.1**
TAM Tamanrasset 55.91 272 *e*P **P** **22 28 09.9 -0.7**
comp=Z,32nm,1.7s
TAM Tamanrasset 55.91 272 *e*P **P** **22 28 09.9 -0.7**
TAM pmax pmax
comp=Z,32nm,1.7s
PVRL Vila Real 56.14 298 *e*P **P** **22 28 11.3 -0.5**
comp=Z,39nm,1.3s
PVRL *e*pP **sP** **22 28 17.9 +0.3**
POLO Lamas de Olo 56.14 298 *e*P **P** **22 28 12.0 +0.1**
comp=Z,19nm,1.6s
POLO *e*pP **sP** **22 28 17.5 -0.2**
PCAB Cabril 56.15 298 *e*P **P** **22 28 12.3 +0.4**
comp=Z,116nm,1.4s
PCAB *e*pP **sP** **22 28 17.9 +0.3**
PGAV Gavieira, Arco 56.19 299 *e*P **P** **22 28 12.7 +0.4**
comp=Z,82nm,1.6s
PGAV *e*pP **sP** **22 28 18.3 +0.3**
MTE Manteigas 56.42 297 *e*P **P** **22 28 13.2 -0.7**
comp=Z,37nm,1.1s
MTE *e*pP **pP** **22 28 18.4 +0.3**
MTE *e*S **S** **22 36 09.6 +5.1**
MTE Manteigas 56.42 297 *e*LR LR 22 55 00.7
comp=Z,671nm,18.0s
SUMG Summit 56.46 340 *e*P **P** **22 28 15.2 +1.1**
comp=Z,70nm,0.8s
SUMG Summit 56.46 340 ⇑*i*P **P** **22 28 15.3 +1.2**
SUMG pmax pmax
comp=Z,170nm,0.8s
SUMG Summit 56.46 340 ⇑*i*P **P** **22 28 15.3 +1.2**
comp=Z,174nm,0.8s
PVIS Viseu 56.51 297 *e*P **P** **22 28 14.8 +0.3**
comp=Z,59nm,1.5s
PVIS *e*pP **pP** **22 28 18.9 +0.2**
PCBR Castelo Branco 56.64 296 *e*P **P** **22 28 15.3 -0.1**
comp=Z,42nm,1.7s
PCBR *e*pP **sP** **22 28 21.6 +0.5**
PMRV Marv??o 56.77 296 *e*P **P** **22 28 16.7 +0.3**
comp=Z,72nm,1.4s
PMRV *e*pP **sP** **22 28 22.2 +0.1**
PMRV *e*S **S** **22 36 15.2 +6.1**
PMRV Marv??o 56.77 296 *e*LR LR 22 55 10.3
comp=Z,439nm,18.0s
COI Coimbra 57.10 297 *e*P **P** **22 28 19.2 +0.6**
comp=Z,92nm,1.3s
COI *e*pP **sP** **22 28 25.1 +0.7**
PCAS Casmilo, Conde 57.23 297 *e*P **P** **22 28 19.9 +0.3**
comp=Z,86nm,1.6s
PCAS *e*pP **sP** **22 28 25.7 +0.3**
PTOM Tomar 57.38 296 *e*P **P** **22 28 20.9 +0.3**
comp=Z,74nm,1.4s
PTOM *e*pP **sP** **22 28 26.7 +0.3**
PMTG Montargil 57.52 296 *e*P **P** **22 28 20.4 -1.2**
comp=Z,36nm,2.4s
PMTG *e*pP **sP** **22 28 27.5 +0.2**
EVO Evora 57.63 295 *e*P **P** **22 28 22.7 +0.3**
PBEJ Beja 57.77 294 *e*P **P** **22 28 24.5 +1.1**
comp=Z,41nm,1.4s
PBEJ *e*pP **sP** **22 28 30.4 +1.2**
PETK Petropavlovsk- 57.78 45 P **P** **22 28 23.3 +0.1**
comp=Z,26nm,1.2s,baz=328,slow=1.9,SNR=19
PVAQ Vaqueiros 57.97 294 *e*P **P** **22 28 24.9 +0.1**
comp=Z,103nm,1.6s
PVAQ *e*pP **sP** **22 28 30.5 -0.1**
PVAQ *e*S **S** **22 36 27.1 +2.3**
PVAQ Vaqueiros 57.97 294 *e*LR LR 22 55 00.7
comp=Z,797nm,18.0s
PCVE Castro Verde 58.08 294 *e*P **P** **22 28 26.0 +0.4**
PCVE *e*pP **sP** **22 28 31.1 -0.3**
PBKI Pangkalan Bun 58.09 128 P **P** **22 28 26.8 +1.0**
MESJ Messejana 58.11 294 *e*P **P** **22 28 25.1 -0.7**
MESJ AMb AMB 22 28 35.1
comp=Z,45nm,1.4s
MESJ Messejana 58.11 294 *e*P **P** **22 28 25.3 -0.4**
comp=Z,45nm,1.3s
MESJ *e*pP **sP** **22 28 31.8 +0.3**
MESJ Messejana 58.11 294 *e*P **P** **22 28 25.0 -0.7**
PBDV Barranco-do-Ve 58.20 294 *e*P **P** **22 28 26.8 +0.3**
comp=Z,56nm,1.5s
PBDV *e*pP **sP** **22 28 32.8 +0.6**
PET Petropavlovsk 58.33 45 *e*P **P** **22 28 26.3 -0.8**
comp=Z,72nm,1.4s
PET Petropavlovsk 58.33 45 *e*P **P** **22 28 24.9 -2.2**
PET pmax pmax
comp=Z,40nm,1.5s
MORF Marmelete 58.67 294 *e*P **P** **22 28 28.9 -0.8**
MORF AMb AMB 22 28 32.4
comp=Z,33nm,1.5s
MORF Marmelete 58.67 294 *e*P **P** **22 28 28.9 -0.8**
KULLO Kullorsuaq 59.47 346 ⇑*i*P **P** **22 28 34.9 +0.2**
KULLO Kullorsuaq 59.47 346 ⇑*i*P **P** **22 28 34.9 +0.2**
SMKI Samarinda 59.81 121 P **P** **22 28 41.9 +4.1**
comp=Z,71nm,0.7s
MPSI Mapaga 61.00 118 P **P** **22 28 46.7 +0.7**
ILULI Ilulissat 61.80 340 *i* P **P** **22 28 51.1 +0.5**
ILULI pmax pmax
comp=Z,220nm,1.6s
ILULI Ilulissat 61.80 340 *i* P **P** **22 28 51.1 +0.5**
comp=Z,221nm,1.6s
MRSI Marisa 62.28 116 P **P** **22 28 55.5 +0.9**
ABPO Ambohimpanom 63.05 203 *e*P **P** **22 28 60.0 +0.3**
comp=Z,23nm,1.0s
ABPO Ambohimpanom 63.05 203 *i* P **P** **22 29 00.4 +0.7**
APSI Ampana 63.10 117 P **P** **22 29 00.0 0.0**
SFJD Kangerlussuaq 63.17 338 *e*P **P** **22 28 59.9 +0.1**
comp=Z,37nm,0.8s
SFJD Kangerlussuaq 63.17 338 *e*P **P** **22 28 59.9 +0.1**
SFJD pmax pmax
comp=Z,37nm,0.8s
SFJD Kangerlussuaq 63.17 338 *i* P **P** **22 29 00.0 +0.2**
comp=Z,39nm,0.8s
TTSI Tana Toraja 63.47 120 P **P** **22 29 01.6 -0.9**
SPSI Sidrap Palu 64.13 121 P **P** **22 29 06.9 +0.1**
SRBI Singaraja 64.48 128 P **P** **22 29 08.0 -1.1**
RDOG Red Dog Mine 64.54 19 *e*P **P** **22 29 08.8 -0.1**
comp=Z,42nm,1.5s
TOA0 Torodi Ar. Sit 64.60 265 *e*P **P** **22 29 08.4 -1.6**
comp=Z,57nm,1.4s
TOA0 Torodi Ar. Sit 64.60 265 P **P** **22 29 08.8 -1.2**
SNR=12
TORD Torodi Ar. Bea 64.60 265 P **P** **22 29 07.3 -2.7**
comp=Z,13nm,1.0s,baz=40,slow=4.7,SNR=55
TORD LR LR 23 02 18.7
comp=Z,292nm,19.1s,baz=0.0,slow=41
BKSI Bulukumba 65.39 122 P **P** **22 29 16.1 +1.1**
TNTI Ternate 65.83 112 P **P** **22 29 15.5 -2.4**
IVI Ivigtut 66.32 332 *e*P **P** **22 29 21.2 +0.8**
comp=Z,138nm,1.7s
ANM Nome 66.48 23 *e*P **P** **22 29 21.8 +0.4**
ANM Nome 66.48 23 *e*P **P** **22 29 21.8 +0.4**
SANI Sanana 66.88 115 P **P** **22 29 24.1 -0.6**
TOLK Toolik Lake Re 66.99 14 P **P** **22 29 25.1 +0.4**
baz=329,SNR=14
LSZ Lusaka 67.64 223 *e*P **P** **22 29 29.2 -0.3**
comp=Z,11nm,0.8s
LSZ Lusaka 67.64 223 *e*P **P** **22 29 29.2 -0.3**
LSZ pmax pmax
comp=Z,11nm,0.8s
SARN Sarigan 69.15 86 *e*P **P** **22 29 38.5 -0.4**
comp=Z,81nm,1.8s
FYU Fort Yukon 69.62 14 *e*P **P** **22 29 41.3 +0.2**
comp=Z,162nm,2.0s
INK Inuvik 69.76 9 P **P** **22 29 41.6 -0.3**
comp=Z,9.7nm,0.8s,baz=356,slow=7.3,SNR=34
GUMO Guam 70.38 89 *e*P **P** **22 29 46.6 +0.1**
comp=Z,84nm,1.1s
GUMO Guam 70.38 89 *e*P **P** **22 29 46.6 +0.1**
GUMO pmax pmax
comp=Z,84nm,1.1s
POKR Poker Plat Res 70.48 16 P **P** **22 29 47.1 +0.7**
baz=331
TCOL CIGO, UAF Yank 70.61 16 P **P** **22 29 47.6 +0.4**
baz=331
ILAR Eielson Array 70.90 16 P **P** **22 29 48.5 -0.5**
comp=Z,3.0nm,0.8s,baz=336,slow=4.3,SNR=36
ILAR LR LR 23 05 56.6
comp=Z,613nm,18.8s,baz=314,slow=40
EPYK Eagle Plains 71.19 11 P **P** **22 29 50.6 -0.2**
baz=340
HDA Harding Lake 71.21 16 P **P** **22 29 50.1 -0.8**
baz=332
FAKI Fak Fak 71.88 111 *e*P **P** **22 29 55.6 0.0**

comp=Z,57nm,1.2s
DBIC Dimbokro 73.68 265 *e*P **P 22 30 05.1 -1.3**
comp=Z,35nm,1.3s
DBIC Dimbokro 73.68 265 *e*P **P 22 30 05.1 -1.3**
DBIC pmax pmax
comp=Z,35nm,1.3s
DBIC Dimbokro 73.68 265 P **P 22 30 05.0 -1.3**
comp=Z,5.5nm,0.7s,baz=31,slow=8.1,SNR=9.4
KIC Kosan Boka 73.79 264 *e*P **P 22 30 05.8 -1.2**
comp=Z,113nm,1.3s
TIC Toumodi 73.82 265 *e*P **P 22 30 05.8 -1.4**
KLU Klutina 74.02 17 *e*P **P 22 30 08.4 +0.7**
comp=Z,36nm,1.4s
LIC Lamto 74.10 264 *e*P **P 22 30 07.4 -1.4**
comp=Z,64nm,0.9s
KDAK Kodiak Island 75.61 22 *e*P **P 22 30 17.1 +0.3**
comp=Z,17nm,0.9s
KDAK Kodiak Island 75.61 22 *e*P **P 22 30 17.1 +0.3**
KDAK pmax pmax
comp=Z,17nm,0.9s
MID Middleton Isla 75.77 18 *e*P **P 22 30 19.2 +1.6**
comp=Z,108nm,1.0s
MID Middleton Isla 75.77 18 *e*P **P 22 30 19.3 +1.6**
MID pmax pmax
comp=Z,109nm,1.0s
TSUM Tsumeb 76.67 230 *e*P **P 22 30 23.3 -0.2**
comp=Z,22nm,0.9s
YKA Yellowknife Ar 76.89 2 P **P 22 30 24.0 -0.1**
YKA Yellowknife Ar 76.89 2 P **P 22 30 24.0 -0.1**
comp=Z,13nm,0.7s,baz=353,slow=6.2,SNR=174
YKA LR LR 23 07 59.0
comp=Z,71nm,18.8s,baz=358,slow=39
YKU2 Yakutat 77.11 15 *e*P **P 22 30 25.7 +0.4**
GENI Genyem 77.37 105 P **P 22 30 28.5 +1.0**
SCHQ Schefferville 77.52 336 P **P 22 30 27.6 -0.2**
comp=Z,15nm,1.0s,baz=22,slow=4.4,SNR=18
SCHQ LR LR 23 04 10.9
comp=Z,546nm,21.5s,baz=47,slow=35
PSA00 Pilbara Seismi 77.90 133 *e*P **P 22 30 29.7 -0.5**
comp=Z,46nm,1.3s
FITZ Fitzroy Crossi 78.58 126 *e*P **P 22 30 34.3 +0.3**
FITZ Fitzroy Crossi 78.58 126 P **P 22 30 33.9 -0.1**
comp=Z,20nm,1.1s,baz=344,slow=4.9,SNR=8.7
BOSA Boshof 80.31 218 P **P 22 30 42.7 -0.7**
comp=Z,5.4nm,0.7s,baz=38,slow=2.8,SNR=14
BOSA LR LR 23 07 41.7
comp=Z,190nm,18.5s,baz=21,slow=37
MANU Manus Island 82.34 99 *e*P **P 22 30 55.7 +1.3**
comp=Z,227nm,0.1s
CHGQ Chibougamau 84.09 337 P **P 22 31 02.8 -0.2**
baz=27,SNR=6.8
FFC Flin Flon 84.44 355 *e*P **P 22 31 04.5 -0.2**
comp=Z,72nm,1.0s
FFC Flin Flon 84.44 355 *e*P **P 22 31 04.5 -0.2**
FFC pmax pmax
comp=Z,72nm,1.0s
PQI Presque Isle 84.87 332 *e*P **P 22 31 06.9 0.0**
comp=Z,38nm,0.9s
MATQ Matagami 85.14 339 P **P 22 31 08.6 +0.4**
baz=25,SNR=12
WRA Warramunga Arr 85.44 121 P **P 22 31 09.0 -1.1**
comp=Z,6.7nm,0.5s,baz=310,slow=5.1,SNR=29
LSQQ Lebel-sur-Quev 85.60 339 P **P 22 31 10.1 -0.4**
baz=25
LATQ La Tuque 85.85 335 P **P 22 31 11.4 -0.4**
baz=28
PKME Peaks-Kenny Pk 86.53 332 P **P 22 31 14.8 -0.4**
baz=30
VLDQ Val d'Or 86.59 338 *e*P **P 22 31 16.4 +1.0**
PMG Port Moresby 87.07 105 *e*P **P 22 31 18.5 +0.3**
comp=Z,29nm,1.1s
PMG Port Moresby 87.07 105 P **P 22 31 16.7 -1.5**
comp=Z,9.7nm,0.5s,baz=328,slow=8.7,SNR=3.4
D54A Lac Fusel, La 87.23 338 P **P 22 31 18.3 -0.3**
baz=25
D53A Lac Vacive, Po 87.60 338 P **P 22 31 20.1 -0.3**
baz=24
AS31 Alice Springs 87.85 124 *e*P **P 22 31 21.6 -0.3**
comp=Z,2.6nm,0.8s
ASAR Alice Springs 87.85 124 P **P 22 31 20.7 -1.2**
comp=Z,2.9nm,0.6s,baz=316,slow=4.5,SNR=41
ASAR LR LR 23 15 25.9
comp=Z,145nm,18.3s,baz=320,slow=39
D52A ZEK Kipawa Sen 87.89 339 P **P 22 31 21.9 +0.1**
baz=24
E54A Lac Daplat, Po 88.04 338 P **P 22 31 22.2 -0.3**
baz=25
ALFO Alfred 88.07 336 P **P 22 31 21.8 -0.8**
baz=26
E53A Dumoine, Ponti 88.23 338 P **P 22 31 23.1 -0.3**
baz=24
ULM Lac du Bonnet 88.29 351 P **P 22 31 22.6 -1.1**
comp=Z,14nm,0.9s,baz=359,slow=5.0,SNR=19
ULM LR LR 23 14 23.8
comp=Z,808nm,19.4s,baz=23,slow=38
F55A Otter Lake 88.34 337 P **P 22 31 23.8 -0.1**
baz=25
D49A Beulah Townshi 88.40 340 P **P 22 31 24.1 -0.1**
baz=22
ORIO Orleans, Innes 88.43 336 P **P 22 31 24.4 +0.1**
baz=26
E52A Mattawa 88.59 338 P **P 22 31 24.6 -0.5**
baz=24
E51A G1948 Merrick 88.59 339 P **P 22 31 25.0 -0.1**
baz=23,SNR=7.4
D48A Paudash Townsh 88.60 341 P **P 22 31 24.7 -0.4**
baz=22
ALGO Algonquin Park 88.72 338 P **P 22 31 25.0 -0.8**
baz=24
PEMO Pembroke 88.74 337 P **P 22 31 25.3 -0.5**
baz=25
LONY Lake Ozonia 88.88 335 P **P 22 31 26.2 -0.4**
baz=27
G55A Calabogie 88.97 337 P **P 22 31 26.0 -0.9**
baz=25
E50A Wahnapitae 89.03 340 P **P 22 31 27.8 +0.6**
baz=22,SNR=8.8
D47A Chapleau 89.03 342 P **P 22 31 27.1 -0.1**
baz=21,SNR=8.8
F52A Sundridge 89.23 339 P **P 22 31 28.4 +0.2**
baz=23
F51A Arnstein 89.27 339 P **P 22 31 28.5 +0.3**
baz=23
PLVO Plevna 89.27 337 P **P 22 31 27.7 -0.7**
baz=25
E48A Lockeyer 89.34 341 P **P 22 31 29.0 +0.4**
baz=21,SNR=8.7
D46A Sault St. Mari 89.41 342 P **P 22 31 29.0 0.0**
baz=20,SNR=13
H56A Elgin 89.43 336 P **P 22 31 28.9 -0.2**
baz=25
C40A Isle Royale Na 89.51 346 P **P 22 31 28.7 -0.7**
baz=16,SNR=8.5
BANO Bancroft 89.54 337 P **P 22 31 29.3 -0.3**
baz=24
BUKO Buck Lake 89.57 339 P **P 22 31 29.8 0.0**
baz=23
E47A Iron Bridge 89.64 341 P **P 22 31 30.2 +0.1**
baz=20
G53A Haliburton 89.65 338 P **P 22 31 29.7 -0.5**
baz=24
FORT Forrest 89.66 133 *e*P **P 22 31 30.3 +0.2**
comp=Z,28nm,0.9s
H55A Tweed 89.75 337 P **P 22 31 30.8 +0.2**
baz=25
KLBO Killbear Provi 89.87 339 P **P 22 31 31.5 +0.4**
baz=23
EYMN Ely 89.90 347 P **P 22 31 30.8 -0.4**
baz=14
DELO Deloro Mine 89.91 337 P **P 22 31 31.3 0.0**
baz=24
E46A Sault Ste Mari 89.97 342 P **P 22 31 31.4 -0.2**
baz=20,SNR=9.2
F49A Sandfield 89.98 340 P **P 22 31 31.4 -0.2**
baz=21
F48A Evansville 90.06 341 P **P 22 31 32.2 +0.1**
baz=21
E44A Grand Marais A 90.09 343 P **P 22 31 32.2 0.0**
baz=19
PGC Sidney 90.11 8 *e*P **P 22 31 32.8 +0.7**
comp=Z,24nm,1.3s
A04D Lummi Island 90.12 8 P **P 22 31 32.3 +0.1**
baz=351
E45A Wooded Hills, 90.17 343 P **P 22 31 32.1 -0.4**
baz=19
AGMN Agassiz Nation 90.20 350 P **P 22 31 32.1 -0.5**
baz=11
D41A Chassel 90.22 345 P **P 22 31 32.2 -0.5**
baz=17
PECO Prince Edward 90.25 336 P **P 22 31 32.7 -0.2**
baz=25
TOBO Tobermory, Bru 90.34 340 P **P 22 31 33.0 -0.3**
baz=22
E43A Lone Tree Farm 90.55 344 P **P 22 31 33.9 -0.4**
baz=18,SNR=7.7
B05A Bryant 90.64 8 P **P 22 31 34.6 0.0**
baz=352,SNR=7.1
E42A Champion 90.69 344 P **P 22 31 34.5 -0.5**
baz=17,SNR=8.2
DGMT Dagmar 90.81 356 P **P 22 31 35.9 +0.4**
baz=5.0
F44A Big Bay de Noc 90.81 343 P **P 22 31 35.4 -0.1**
baz=18
BMRO Meriville Lake 90.85 339 P **P 22 31 35.6 -0.1**
baz=22
F45A CMU Biological 90.89 343 P **P 22 31 35.8 -0.1**
baz=19
G47A Hillman 90.98 341 P **P 22 31 36.4 +0.1**
baz=20
NEW Newport 91.02 4 P **P 22 31 36.7 +0.2**
baz=355
I52A Shelburne 91.05 339 P **P 22 31 36.5 -0.2**
baz=23
E40A Wakefield 91.06 346 P **P 22 31 36.5 -0.2**
baz=16,SNR=15
J55A Hilton 91.11 337 P **P 22 31 36.6 -0.3**
baz=24
F43A Flat Rock, Esc 91.11 344 P **P 22 31 36.8 -0.1**
baz=18,SNR=13
E38A The Farm, Brul 91.20 347 P **P 22 31 36.8 -0.6**
baz=14,SNR=9.4
E39A Mellen 91.25 346 P **P 22 31 37.1 -0.5**
baz=15,SNR=12
D03D Eldon 91.25 8 P **P 22 31 38.0 +0.5**
baz=351
H48A Harrisville 91.29 341 P **P 22 31 37.9 +0.1**
baz=20
NLWA Neilton Lookou 91.30 9 *e*P **P 22 31 37.9 +0.1**
comp=Z,23nm,1.2s
F42A Maple Grove Fa 91.38 344 P **P 22 31 37.6 -0.6**
baz=17
MEDO Medina 91.39 337 P **P 22 31 37.9 -0.4**
baz=24
EGMT Eagleton 91.44 359 P **P 22 31 38.3 -0.3**
baz=0.8
ACTO Acton 91.44 338 P **P 22 31 38.4 -0.2**
baz=23
G45A Suttons Bay 91.53 343 P **P 22 31 38.5 -0.4**
baz=19
I51A Listowel 91.53 339 P **P 22 31 38.9 0.0**
baz=22
F41A Three Lakes 91.59 345 P **P 22 31 38.7 -0.5**
baz=16,SNR=15
F40A Park Falls 91.61 346 P **P 22 31 38.7 -0.6**
baz=16
MMNY Mt. Morris Dam 91.62 336 *e*P **P 22 31 39.5 +0.2**
comp=Z,32nm,1.0s
D04E Lakebay 91.64 8 P **P 22 31 38.4 -0.8**
baz=351
K55A Perry 91.67 337 P **P 22 31 39.1 -0.5**
baz=24
D05A Enumclaw 91.71 8 *e*P **P 22 31 40.3 +0.6**
comp=Z,94nm,1.8s
F39A Loretta 91.76 346 P **P 22 31 39.6 -0.4**
baz=15,SNR=9.6
G43A Wallace 91.77 344 P **P 22 31 39.6 -0.3**
baz=17,SNR=11
LTY Liberty 91.77 7 *e*P **P 22 31 39.7 -0.3**
comp=Z,35nm,1.9s
TYNO Tyneside 91.86 338 P **P 22 31 40.2 -0.2**
baz=23
I48A Sherman Twp 91.87 341 P **P 22 31 40.2 -0.2**
baz=20
I49A Point Hope 91.88 340 P **P 22 31 39.6 -0.9**
baz=21
F38A Pierce - Schro 91.89 347 P **P 22 31 40.5 0.0**
baz=14,SNR=10
H46A Fife Lake 91.90 342 P **P 22 31 39.8 -0.8**
baz=19
J52A Paris 91.90 338 P **P 22 31 40.5 -0.1**
baz=22
G42A Mountain 91.93 344 P **P 22 31 40.5 -0.2**
baz=17,SNR=11
K54A Basiliko Farm, 91.97 337 P **P 22 31 40.7 -0.3**
baz=24
I47A Gladwin 92.22 341 P **P 22 31 41.6 -0.5**
baz=20
F37A Hinrichs Farm, 92.24 347 P **P 22 31 41.9 -0.2**
baz=14
G40A Rib Lake 92.25 346 P **P 22 31 42.0 -0.3**
baz=15,SNR=10
L55A Hinsdale 92.28 337 P **P 22 31 42.1 -0.3**
baz=24
K52A Tillsonburg 92.39 338 P **P 22 31 42.5 -0.4**
baz=22
G39A Holcombe 92.42 346 P **P 22 31 42.4 -0.6**
baz=15
L54A Sinclairville 92.50 337 P **P 22 31 43.0 -0.4**
baz=23
H43A Windswept, Lux 92.54 344 P **P 22 31 43.5 0.0**
baz=17
MSO Missoula 92.59 2 P **P 22 31 43.7 -0.2**
baz=358
I45A Fountain 92.61 343 P **P 22 31 43.7 -0.1**
baz=18
G38A Ridgeland 92.65 347 P **P 22 31 43.7 -0.4**
baz=14
LAO LASA Array 92.69 357 P **P 22 31 44.8 +0.5**
baz=3.5
F04D Rainier, OR 92.69 9 P **P 22 31 44.2 0.0**
baz=351
J48A Bridge Port 92.72 341 P **P 22 31 42.3 -2.1**
baz=20
SPMN Marine on St. 92.76 347 P **P 22 31 44.3 -0.2**
baz=14
H41A Junction City 92.78 345 P **P 22 31 43.9 -0.7**
baz=16
H40A Chili 92.91 346 P **P 22 31 44.9 -0.4**
baz=15
H39A Augusta 93.02 346 P **P 22 31 45.3 -0.5**
baz=15
L53A Girard 93.03 338 P **P 22 31 45.4 -0.4**
baz=23
J47A Sunmer 93.04 341 P **P 22 31 45.5 -0.4**
baz=19
I43A Langenfeld Bro 93.17 344 P **P 22 31 46.2 -0.3**
baz=17
H38A Maiden Rock 93.20 347 P **P 22 31 46.1 -0.5**
baz=14
M54A Oil Creek Stat 93.27 337 *e*P **P 22 31 47.8 +0.8**
comp=Z,109nm,1.6s
K48A Perry 93.27 341 P **P 22 31 46.9 -0.1**
baz=20
I42A Draeger Farm, 93.33 344 P **P 22 31 47.3 +0.1**
baz=16
I41A Arkdale 93.36 345 P **P 22 31 47.0 -0.3**
baz=16
P60A Greenville 93.54 334 P **P 22 31 48.2 -0.1**
baz=26
CTA Charters Tower 93.56 113 P **P 22 31 48.8 +0.3**
comp=Z,8.8nm,0.9s,baz=356,slow=3.3,SNR=4.4
L50A Kingsville 93.65 340 P **P 22 31 47.7 -1.0**
baz=21
I40A Norwalk 93.66 346 P **P 22 31 48.2 -0.5**
baz=15
J43A Natural Harves 93.71 344 P **P 22 31 48.6 -0.4**
baz=17
L49A Milan 93.84 340 P **P 22 31 49.1 -0.4**
baz=20
I39A Houston 93.86 346 P **P 22 31 49.0 -0.6**
baz=14
BOZ Bozeman (W) 93.87 1 P **P 22 31 50.1 +0.3**
baz=359,SNR=10
J42A Columbus 93.92 344 P **P 22 31 49.9 -0.1**
baz=16
J41A Loganville 94.05 345 P **P 22 31 50.4 -0.2**
baz=16
J40A Soldiers Grove 94.16 346 P **P 22 31 50.6 -0.4**
baz=15
RLMT Red Lodge 94.34 359 P **P 22 31 52.6 +0.5**
baz=1.2,SNR=10
K43A Burlington 94.34 344 P **P 22 31 51.5 -0.4**
baz=17
J39A Decorah 94.40 346 P **P 22 31 51.6 -0.5**
baz=14
JFWS Jewell Farm 94.53 345 P **P 22 31 52.0 -0.8**
baz=15
ECSD EROS Data Cent 94.78 350 P **P 22 31 53.7 -0.2**
baz=11,SNR=19
K39A Oelwein 95.04 346 P **P 22 31 54.2 -0.9**
baz=14
RSSD Black Hills 95.14 355 *e*P **P 22 31 56.5 +0.7**
comp=Z,20nm,0.9s
RSSD Black Hills 95.14 355 *e*P **P 22 31 56.5 +0.7**
RSSD pmax pmax
comp=Z,20nm,0.9s
RSSD Black Hills 95.14 355 P **P 22 31 56.3 +0.6**
baz=5.1
L42A Oliver, Polo 95.29 344 P **P 22 31 55.6 -0.7**
baz=16
L39A Vinton 95.63 346 P **P 22 31 57.3 -0.4**
baz=14
O50A Cable 95.64 339 P **P 22 31 57.3 -0.6**
baz=20
M43A Waltham Townsh 95.69 344 P **P 22 31 57.6 -0.4**
baz=16
O49A Covington 95.79 340 P **P 22 31 58.5 0.0**
baz=20
HLID Hailey 95.84 3 P **P 22 31 59.1 +0.2**
baz=357
N44A Piper City 96.12 343 P **P 22 31 59.5 -0.6**
baz=17
P50A Jamestown 96.19 339 P **P 22 31 59.7 -0.7**
baz=20
K05A Summer Lake 96.24 8 *e*pP pP 22 32 08.0 +2.8
Q53A Leroy 96.25 337 P **P 22 32 00.6 0.0**
baz=22
PDAR Pinedale Array 96.70 359 P **P 22 32 03.2 +0.3**
comp=Z,0.9nm,0.8s,baz=36,slow=2.8,SNR=6.5
PDAR LR LR 23 20 11.9
comp=Z,682nm,18.2s,baz=9.0,slow=38
Q49A Aurora 97.04 340 P **P 22 32 03.9 -0.4**
baz=19
SPUT South Promonto 98.14 1 *e*P Pdif 22 32 11.3 +1.9
comp=Z,7.2nm,1.1s
STKA Stephens Creek 98.45 125 LR LR 23 26 01.4
comp=Z,156nm,19.3s,baz=346,slow=41
BGU Big Grassy Mou 98.52 2 *e*P Pdif 22 32 13.2 +2.1
comp=Z,10nm,1.5s
W56A Indian Trail 99.41 335 P **Pdif 22 32 14.7 -0.3**
baz=23
U50A Jamestown 99.47 339 P **Pdif 22 32 14.4 -0.8**
baz=20
ISCO Idaho Springs 99.53 356 *e*P **Pdif 22 32 16.0 +0.2**
comp=Z,6.7nm,1.1s
ISCO Idaho Springs 99.53 356 *e*P **Pdif 22 32 16.0 +0.2**
ISCO pmax pmax
comp=Z,7.0nm,1.1s
NVAR Mina Array Bea 100.73 6 P **Pdif 22 32 19.6 -1.5**
comp=Z,0.1nm,0.3s,baz=343,slow=1.9,SNR=2.7
ANMO Albuquerque 104.41 356 *e*Pdif **Pdif 22 32 40.2 +2.7**
ANMO Albuquerque 104.41 356 *e*P **Pdif 22 32 40.2 +2.7**
DZM Mont Dzumac 109.35 103 *e*LR LR 23 09 26.9
comp=Z,452nm,23.5s
TXAR Lajitas Array 109.80 353 Pdiff **Pdif 22 33 01.3 -0.1**
comp=Z,0.5nm,0.9s,baz=122,slow=4.5,SNR=5.0
TXAR PKKPbc **PKKPbc 22 48 09.8 +3.9**
comp=Z,0.4nm,1.0s,baz=197,slow=3.8,SNR=3.7
QSPA South Pole Qui 130.70 180 *e*PKPdf **PKPdf 22 37 42.3 -0.1**
CPUP Villa Florida 133.91 271 *e*PKPdf **PKPdf 22 37 48.5 -1.0**
CPUP Villa Florida 133.91 271 PKIKP **PKPdf 22 37 48.0 -1.6**
CPUP Villa Florida 133.91 271 PKP **PKPdf 22 37 48.0 -1.6**
comp=Z,3.0nm,0.9s,baz=44,slow=2.8,SNR=6.3
LPAZ La Paz 135.87 291 *e*PKPdf **PKPdf 22 37 53.5 -0.7**
LPAZ La Paz 135.87 291 PKIKP **PKPdf 22 37 53.0 -1.3**
LPAZ La Paz 135.87 291 PKP **PKPdf 22 37 53.0 -1.3**
comp=Z,1.8nm,0.8s,baz=38,slow=1.3,SNR=7.5
TAOE Nuku Hiva Isla 138.77 47 *e*LR LR 23 23 00.9
comp=Z,310nm,22.0s
PPT2 Papeete2 139.36 67 *e*LR LR 23 23 19.4
comp=Z,338nm,26.0s
TRQA Tornquist 142.66 258 *e*PKPdf **PKPdf 22 38 05.6 +0.3**
TRQA Tornquist 142.66 258 *e*PKIKP **PKPdf 22 38 05.6 +0.3**
LCO Las Campanas 145.41 277 *e*PKPbc **PKPbc 22 38 10.0 -0.6**
LCO Las Campanas 145.41 277 *e*PKIKP **PKPbc 22 38 10.0 -0.6**
GO05 Huala 149.04 268 *e*PKPdf **PKPdf 22 38 17.9 +1.6**
PLCA Paso Flores 149.79 257 PKP **PKPdf 22 38 18.0 +0.7**
comp=Z,16nm,1.1s,baz=113,slow=3.2,SNR=12
PLCA PKPbc **PKPbc 22 38 22.1 -0.1**
comp=Z,16nm,1.1s,baz=119,slow=2.8,SNR=13
GO06 Curarrehue 150.19 260 *e*PKPbc **PKPbc 22 38 22.6 -0.6**
GO09 Cerro Castillo 151.74 235 *e*PKPbc **PKPbc 22 38 26.2 0.0**

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*IDC **24** 22:35:23.8±1.2, 13°.01S×168°.06E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.0/41, mbtmp4.2/10, ML3.8/1, Error ellipse: s-maj=45.5km s-min=22.5km az=129.0*
*ISCJB **24** 22:35:26.4±0.9, 13°.3S±0°.1×168°.1E±0°.2, h33km, mb4.2/9, Error ellipse: s-maj=31.3km s-min=15.4km az=17.5*
ISC 24 22:35:28.6±0.9, 13°.2S±0°.1×168°.1E±0°.2, h35km, n13, σ0s97/13, mb4.1/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.97**	**190**	Pn	**Pn**	**22 37 35.0**	**-0.8**
	1.0nm,0.3s,baz=112,slow=17,SNR=17						
WRA	**Warramunga Arr**	**33.01**	**254**	P	**P**	**22 42 01.3**	**+0.6**
	0.7nm,0.5s,baz=84,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**33.99**	**247**	P	**P**	**22 42 11.2**	**+1.9**
	1.3nm,0.5s,baz=70,slow=9.5,SNR=18						
KLR	**Kul'dur**	**69.94**	**336**	P	**P**	**22 46 35.6**	**-0.6**
	1.0nm,0.5s,baz=104,slow=4.1,SNR=3.7						
CMAR	**Chiang Mai Arr**	**75.08**	**293**	P	**P**	**22 47 06.8**	**-0.6**
	0.4nm,0.3s,baz=124,slow=5.0,SNR=4.9						
SEY	**Seymchan**	**76.87**	**353**	P	**P**	**22 47 16.4**	**-0.2**
	2.0nm,0.5s,baz=155,slow=3.9,SNR=5.3						
ILAR	**Eielson Array**	**84.82**	**18**	P	**P**	**22 47 59.6**	**+0.6**
	3.2nm,0.6s,baz=245,slow=5.1,SNR=45						
TIXI	**Tiksi**	**88.63**	**348**	P	**P**	**22 48 16.9**	**-0.6**
	1.4nm,0.5s,baz=156,slow=4.1,SNR=4.2						
YKA	**Yellowknife Ar**	**95.82**	**27**	P	**P**	**22 48 51.8**	**+0.9**
	0.3nm,0.6s,baz=260,slow=4.0,SNR=4.6						
MKAR	**Makanchi Array**	**96.66**	**316**	P	**P**	**22 48 53.9**	**-1.3**
	1.4nm,0.7s,baz=92,slow=6.5,SNR=9.8						
ARCES	**ARCESS Array B**	**118.97**	**346**	PKP	**PKiKP**	**22 54 13.7**	**+0.7**
	1.4nm,0.5s,baz=77,slow=1.9,SNR=19						
FINES	**FINESS Array B**	**124.60**	**339**	PKP	**PKPdf**	**22 54 24.2**	**+0.3**
	0.4nm,0.4s,baz=82,slow=2.2,SNR=7.2						
KEST	**Kesra**	**150.51**	**323**	PKPbc	**PKPbc**	**22 55 17.5**	**+0.4**
	2.1nm,0.7s,baz=354,slow=2.0,SNR=4.3						

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*KRSC **24** 22:38:37.7±10.0, 52°.12N×160°.81E, h80km±10km, ML4.2*
*IDC **24** 22:38:37.2±1.1, 52°.25N×160°.57E, h0km, mb3.9/17, mb1 4.1/19, mb1mx3.9/46, mbtmp3.9/19, ML3.6/2, Error ellipse: s-maj=29.3km s-min=16.4km az=156.0*
*ISCJB **24** 22:38:39.3±0.7, 52°.06N±0°.04×160°.84E±0°.05, h33km±4km, mb4.1/27, Error ellipse: s-maj=7.0km s-min=4.7km az=146.0*
*MOS **24** 22:38:40.2±0.9, 52°.11N×160°.78E, h42km, mb4.6/12, Error ellipse: s-maj=8.1km s-min=4.9km az=113.7*
*NEIC **24** 22:38:41.8±1.8, 52°.14N×160°.67E, h35km±2km, mb4.6/1, Error ellipse: s-maj=22.7km s-min=9.0km az=182.0*
ISC 24 22:38:38.7±2.0, 52°.12N±0°.04×160°.78E±0°.04, h16km±12km, n139, σ1s07/158, mb4.3/27, 19C-8D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.09**	**335**	*e*P	**Pb**	**22 38 58.3**	**-0.8**
SPN				*e*S	**Sb**	**22 39 12.0**	**-1.0**
SPN	**Mys Shipunski**	**1.09**	**335**	PN	**Pb**	**22 38 58.3**	**-0.8**
SPN				S	**Sb**	**22 39 12.0**	**-1.0**
NLC	**Nalytchevo**	**1.37**	**321**	*e*P	**Pn**	**22 39 03.1**	**0.0**
NLC				*e*S	**Sb**	**22 39 21.4**	**+0.2**
NLC	**Nalytchevo**	**1.37**	**321**	PN	**Pn**	**22 39 03.1**	**0.0**
NLC				S	**Sb**	**22 39 21.4**	**+0.2**
RUS	**Russkaya**	**1.43**	**284**	*e*P	**Pn**	**22 39 03.8**	**-0.1**
RUS				*e*S	**Sb**	**22 39 22.0**	**-0.8**
RUS	**Russkaya**	**1.43**	**284**	PN	**Pn**	**22 39 03.8**	**-0.1**
RUS				S	**Sb**	**22 39 22.0**	**-0.8**
DALK	**Dalny**	**1.54**	**307**	*e*P	**Pn**	**22 39 05.6**	**+0.2**
DALK				*e*S	**Sb**	**22 39 25.3**	**-0.7**
DALK	**Dalny**	**1.54**	**307**	PN	**Pn**	**22 39 05.6**	**+0.2**
DALK				S	**Sb**	**22 39 25.3**	**-0.7**
PET	**Petropavlovsk**	**1.59**	**306**	*e*Pn	**Pn**	**22 39 06.0**	**-0.1**
PET	**Petropavlovsk**	**1.59**	**306**	*e*P	**Pb**	**22 39 06.8**	**-0.8**
PET	**Petropavlovsk**	**1.59**	**306**	*e*PN	**Pn**	**22 39 06.2**	**+0.2**
PET				*e*S	**Sn**	**22 39 26.1**	**-0.1**
PET				pmax	pmax		
	comp=Z,289nm,1.0s						

PET smax smax
comp=E,607nm,0.6s
PET smax smax
comp=N,923nm,0.7s
UGLR Uglovaya 1.62 313 *eP* **Pb 22 39 07.5 -0.7**
UGLR Uglovaya 1.62 313 PN **Pb 22 39 07.5 -0.7**
MTVR Mutnovka 1.64 284 *eP* **Pn 22 39 07.1 +0.2**
MTVR S **Sb 22 39 28.3 -0.7**
MTVR Mutnovka 1.64 284 PN **Pn 22 39 07.1 +0.2**
MTVR S **Sb 22 39 28.3 -0.7**
SDLR Sedlovina 1.64 316 *eP* **Pn 22 39 07.5 +0.6**
SDLR Sedlovina 1.64 316 PN **Pn 22 39 07.5 +0.6**
SMAR Somma 1.67 314 *eP* **Pn 22 39 07.8 +0.5**
SMAR Somma 1.67 314 PN **Pn 22 39 07.8 +0.5**
AVH Avacha 1.69 314 *eP* **Pb 22 39 08.6 -0.9**
AVH Avacha 1.69 314 PN **Pb 22 39 08.6 -0.9**
KDTR Khodutka, Kamc 1.70 261 *eP* **Pn 22 39 07.0 -0.6**
KDTR *eS* **Sn 22 39 27.3 -1.7**
KDTR Khodutka, Kamc 1.70 261 PN **Sn 22 39 07.0 -0.6**
KDTR S **Sn 22 39 27.3 -1.7**
KRER Koryakskii 1.72 315 *eP* **Pn 22 39 08.7 +0.7**
KRER Koryakskii 1.72 315 PN **Pn 22 39 08.7 +0.7**
GRL Gorelyy 1.72 286 *eP* **Pn 22 39 08.5 +0.5**
GRL Gorelyy 1.72 286 PN **Pn 22 39 08.5 +0.5**
KOK Koryaka 1.76 313 *eP* **Pn 22 39 09.3 +0.8**
KOK Koryaka 1.76 313 PN **Pn 22 39 09.3 +0.8**
KRMR Karymshinskiy 1.77 295 *eP* **Pn 22 39 08.9 +0.3**
KRMR *eS* **Sn 22 39 30.6 -0.2**
KRMR Karymshinskiy 1.77 295 PN **Pn 22 39 08.9 +0.3**
KRMR S **Sn 22 39 30.6 -0.2**
ASAK Asacha 1.79 280 *eP* **Pn 22 39 09.6 +0.6**
ASAK Asacha 1.79 280 PN **Pn 22 39 09.6 +0.6**
KRX Arik 1.80 315 *eP* **Pn 22 39 09.7 +0.6**
KRX Arik 1.80 315 PN **Pn 22 39 09.7 +0.6**
KII Karymskiy 2.08 338 *eP* **Pn 22 39 13.7 +0.7**
KII Karymskiy 2.08 338 PN **Pn 22 39 13.7 +0.7**
PEA0B Petropavlovsk- 2.13 299 *e*Pn **Pn 22 39 14.0 +0.5**
PETK Petropavlovsk- 2.13 299 Pn **Pn 22 39 14.4 +0.9**
comp=N,8.3nm,0.3s,baz=101,slow=18,SNR=175
PETK Sn **Sb 22 39 42.0 -0.9**
comp=N,15nm,0.3s,baz=104,slow=18,SNR=7.2
PEA1 Petropavlovsk- 2.13 299 *e*Pn **Pn 22 39 14.4 +0.9**
APC Apacha 2.36 291 *eP* **Pn 22 39 18.1 +1.5**
APC Apacha 2.36 291 PN **Pn 22 39 18.1 +1.5**
MKZ Mys Kozlova 2.51 13 *eS* **Sn 22 39 47.6 -1.3**
PAU Pauzhetka 2.55 257 *eP* **Pn 22 39 19.0 -0.3**
PAU Pauzhetka 2.55 257 PN **Pn 22 39 19.0 -0.3**
KZV Kizimen 3.02 355 *eP* **Pn 22 39 27.2 +1.4**
KZV Kizimen 3.02 355 PN **Pn 22 39 27.2 +1.4**
TUMD Tumrok D 3.10 356 *eS* **Sn 22 40 00.2 -3.4**
TUMR Tumrok 3.19 353 *eP* **Pn 22 39 29.8 +1.5**
TUMR Tumrok 3.19 353 PN **Pn 22 39 29.8 +1.5**
SKR Severo-Kuril's 3.26 246 *eS* **Sn 22 40 04.3 -3.0**
SKR Severo-Kuril's 3.26 246 *e*PN **Pn 22 39 29.0 0.0**
SKR MLR MLR
comp=Z,400nm,19.0s
ALID Alaid 3.50 251 *eP* **Pn 22 39 32.9 +0.4**
ALID *eS* **Sn 22 40 12.9 -0.7**
ALID Alaid 3.50 251 PN **Pn 22 39 32.9 +0.4**
ALID S **Sn 22 40 12.9 -0.7**
KBTR Krutoberegovo 4.27 15 *eP* **Pn 22 39 43.4 +0.5**
KBTR Krutoberegovo 4.27 15 PN **Pn 22 39 43.4 +0.5**
BKI Bering 4.37 43 *eP* **Pn 22 39 44.4 +0.2**
BKI *eS* **Sn 22 40 29.6 -5.1**
BKI Bering 4.37 43 PN **Pn 22 39 44.4 +0.2**
SMY Shemya 8.16 80 *e*Pn **Pn 22 40 36.7 +0.4**
SMY Shemya 8.16 80 *e*PN **Pn 22 40 36.7 +0.4**
MA2 Magadan 9.35 327 *e*Pn **Pn 22 40 51.3 -1.3**
MA2 Magadan 9.35 327 *e*PN **Pn 22 40 51.3 -1.3**
TYV Tymovskoe 11.37 271 *e*PN Pn 22 41 24.9 +4.6
TYV pmax pmax
comp=Z,9.0nm,1.1s
TYV pmax pmax
comp=Z,300nm,3.9s
ASAJ Asahikawa 14.52 244 Pn **Pn 22 42 03.0 -0.3**
comp=Z,0.5nm,0.3s,baz=138,slow=7.8,SNR=6.1
BILL Bilibino 16.20 7 *i P* **Pn 22 42 26.3 +1.1**
BILL pmax pmax
comp=Z,3.0nm,1.0s
KLR Kul'dur 18.57 273⇑ *eP* **Pn 22 42 55.4 +0.5**
KLR pmax pmax
comp=Z,3.0nm,1.0s
KLR Kul'dur 18.57 273 P **P 22 42 54.4 -0.2**
comp=Z,0.1nm,0.3s,baz=46,slow=13,SNR=4.7
USRK Ussuriysk Ar. 20.67 259 P **P 22 43 15.8 -1.8**
comp=Z,4.7nm,0.9s,baz=64,slow=8.7,SNR=6.0
MSHR Mys Shultsa 22.09 256 *i P* **P 22 43 34.2 +1.4**
MAJO Matsushiro 22.30 235 *eP* **P 22 43 35.4 +0.3**
MAJO Matsushiro 22.30 235 *eP* **P 22 43 35.4 +0.3**
MJAR Matsushiro Arr 22.30 235 P **P 22 43 35.4 +0.3**
comp=Z,2.1nm,0.3s,baz=27,slow=11,SNR=2.3
TIXI Tiksi 24.15 336⇑ *eP* **P 22 43 52.3 -1.1**
TIXI pmax pmax
comp=Z,6.0nm,1.1s
TIXI Tiksi 24.15 336 P **P 22 43 52.7 -0.8**
comp=Z,3.7nm,0.7s,baz=120,slow=10,SNR=8.0
EGAK Eagle 31.67 44 *eS* **S 22 50 06.8 -2.3**
TLY Talaya 34.48 292⇑ *eP* **P 22 45 26.8 +1.4**
TLY pmax pmax
comp=Z,8.0nm,0.8s
SONA0 Songino Array 34.55 285 *eP* **P 22 45 25.9 -0.3**
SONM Songino Array 34.55 285 P **P 22 45 25.9 -0.3**
comp=Z,0.3nm,0.4s,baz=28,slow=6.5,SNR=3.3
NJ2 Nanjing 36.36 253 *eP* **P 22 45 41.0 -0.7**
YKA Yellowknife Ar 43.60 42 P **P 22 46 41.6 +0.1**
comp=Z,0.1nm,0.4s,baz=308,slow=6.4,SNR=4.3
YKB5 Yellowknife Ar 43.60 42 *eP* **P 22 46 41.6 +0.1**
NVS Novosibirsk 44.02 306 *eP* **P 22 46 41.9 -3.1**
NVS *i* 22 46 55.7
NVS pmax pmax
comp=Z,12nm,1.3s
NVS pmax pmax
comp=E,8.0nm,1.4s
DGZ Jazzator, Alta 44.48 297⇑ *eP* **P 22 46 48.9 -0.1**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 48.61 303 *eP* **P 22 47 19.4 -1.7**
comp=Z,6.6nm,1.0s
KURK Kurchatov 48.61 303⇓ *iP* **P 22 47 19.4 -1.7**
KURK pmax pmax
comp=Z,6.0nm,0.9s
MK32 Makanchi Array 48.96 297 *eP* **P 22 47 22.4 -1.6**
MKAR Makanchi Array 48.96 297 *ce*P **P 22 47 24.7 +0.8**
MKAR Makanchi Array 48.96 297 P **P 22 47 22.4 -1.6**
comp=Z,0.3nm,0.4s,baz=65,slow=6.2,SNR=4.9
BRVK Borovoye 51.36 309⇑ *eP* **P 22 47 41.5 -0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 54.35 342 P **P 22 48 04.0 +0.2**
comp=Z,3.0nm,0.8s,baz=32,slow=12,SNR=6.5
ARU Arti 54.40 318 *c iP* **P 22 48 04.0 -0.4**
ARU 22 49 03.2
ARU 22 50 08.3
ARU S **S 22 55 41.6 -0.1**
ARU SS **SKiKP 22 59 14.4 +1.2**
ARU pmax pmax
comp=Z,5.0nm,1.7s
PRGR Permogore 55.49 328 *eP* P 22 48 07.2 -4.9
PRGR pmax pmax
comp=Z,7.0nm,0.5s
KSH Kashi 57.17 294 P **P 22 48 25.3 +0.6**
PDAR Pinedale Array 57.63 61 P **P 22 48 29.5 +1.5**
comp=Z,0.6nm,0.8s,baz=299,slow=3.1,SNR=4.2
KLMR Klimovskoe 58.01 330 *eP* **P 22 48 29.3 -0.7**
KLMR pmax pmax
comp=Z,7.0nm,0.8s
CMAR Chiang Mai Arr 58.40 259 P **P 22 48 34.6 +1.3**
comp=Z,3.6nm,0.9s,baz=30,slow=7.1,SNR=4.1
FIA0 FINESS Array S 61.19 337 *eP* **P 22 48 51.9 0.0**
FIA0 FINESS Array S 61.19 337 *eP* **P 22 48 51.9 0.0**
FINES FINESS Array B 61.19 337 P **P 22 48 51.9 0.0**
comp=Z,5.3nm,0.9s,baz=23,slow=6.2,SNR=15
OBN Obninsk 63.57 328 *i P* **P 22 49 07.0 -0.9**
OBN *i* 22 49 42.0
OBN pmax pmax
comp=Z,6.0nm,0.9s
NB2 NORSAR Subarra 64.60 344 P **P 22 49 15.1 +0.4**
comp=Z,1.3nm,0.7s,baz=29,slow=6.5
NB200 NORSAR Array S 64.60 344 *eP* **P 22 49 14.8 +0.1**
NOA NORSAR Array B 64.60 344 P **P 22 49 14.8 +0.1**
comp=Z,1.5nm,0.9s,baz=23,slow=6.4,SNR=4.6
GEYT Alibeck 67.98 304 P **P 22 49 37.1 +0.4**
comp=Z,0.9nm,0.4s,baz=32,slow=11,SNR=3.6
AKASG Malin Array Be 69.67 330 *ce*P **P 22 49 47.0 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 69.67 330 P **P 22 49 46.3 -0.6**
comp=Z,1.3nm,0.5s,baz=37,slow=7.5,SNR=6.0
KIEV Kiev 69.68 330⇑ *iP* **P 22 49 46.4 -0.6**
KIEV pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 70.54 317 P **P 22 49 52.3 -0.1**
comp=Z,3.5nm,0.9s,baz=187,slow=5.1,SNR=5.5
LTX Lajitas 70.63 67 *eP* **P 22 49 55.0 +1.7**
LTX Lajitas 70.63 67 *eP* **P 22 49 55.0 +1.7**
TXAR Lajitas Array 70.63 67 P **P 22 49 55.0 +1.7**
comp=Z,0.5nm,0.7s,baz=286,slow=4.3,SNR=6.7
AKH Akhalkalaki 72.18 315⇑ *iP* **P 22 50 04.0 +1.4**
KOLS Kolonicke sedl 73.31 333 *eP* **P 22 50 10.3 +1.3**
KOLS Kolonicke sedl 73.31 333 *eP* **P 22 50 10.3 +1.3**
CLL Collm 73.42 340 *eP* **P 22 50 09.0 -0.5**
CLL pmax pmax
comp=Z,6.0nm,1.2s
CLL Collm 73.42 340 *eP* **P 22 50 10.0 +0.5**
comp=Z,6.0nm,1.2s
BURAR Bucovina Array 73.63 330⇓ *iP* **P 22 50 11.9 +0.9**
BURAR Bucovina Array 73.63 330 ⇓P **P 22 50 11.9 +0.9**
MORC Moravsky Berou 73.79 336⇑ *iP* **P 22 50 13.3 +1.5**
MORC Moravsky Berou 73.79 336 ⇑P **P 22 50 13.3 +1.5**
LANS Liptovska Anna 73.87 335 *eP* **P 22 50 14.5 +2.2**
LANS Liptovska Anna 73.87 335 *eP* **P 22 50 14.5 +2.2**
TRPA Tarpa 73.96 332⇑ *iP* **P 22 50 13.6 +0.9**
VRAC Vranov 74.46 337⇑ *iP* **P 22 50 16.2 +0.5**
VRAC Vranov 74.46 337 ⇑P **P 22 50 16.2 +0.5**
VYHS Vyhne 74.64 335 *eP* **P 22 50 17.0 +0.2**
VYHS Vyhne 74.64 335 *eP* **P 22 50 17.0 +0.2**
DRGR 75.12 332⇓ *iP* **P 22 50 19.9 +0.3**
DRGR 75.12 332 ⇓P **P 22 50 19.9 +0.3**
GERES GERESS Array B 75.58 338 P **P 22 50 23.1 +0.8**
comp=Z,0.2nm,0.5s,baz=60,slow=3.2,SNR=4.4
VOIR 75.63 330⇑ *iP* **P 22 50 22.4 -0.2**
VOIR 75.63 330 ⇑P **P 22 50 22.4 -0.2**
ARR Arges 75.82 330⇓ *iP* **P 22 50 23.1 -0.6**
GZR Gura Zlata 76.37 331⇓ *iP* **P 22 50 25.6 -1.2**
GZR Gura Zlata 76.37 331 ⇓P **P 22 50 25.6 -1.2**
BZS Buzias 76.51 332⇑ *iP* **P 22 50 26.9 -0.6**
BZS Buzias 76.51 332 ⇑P **P 22 50 26.9 -0.6**
BR101 Keskin Array S 77.64 321 *eP* **P 22 50 34.7 +0.5**
BRTR Keskin Array B 77.64 321 P **P 22 50 34.7 +0.5**
comp=Z,1.2nm,0.9s,baz=15,slow=5.1,SNR=5.2

*ISCJB **24** 22:41:22.9±0.4, 34°.11N±0°.05×138°.46E±0°.04, h255km±2km, mb3.6/12, Error ellipse: s-maj=7.8km s-min=5.5km az=164.0*
*JMA **24** 22:41:22.7±0.1, 34°.07N×138°.47E, h257km±2km, M3.7 Broadband fault plane solution: P waves. NP1: φ=18.00000°, δ70.00000°, λ-56.00000°. NP2:φ=136.00000°, δ39.00000°, λ-146.00000°. Principal axes: T Plg18.0000°, Azm84.0000°; N Plg31.0000°, Azm185.0000°; P Plg53.0000°, Azm329.0000°;*
*IDC **24** 22:41:23.4±1.1, 34°.02N×138°.49E, h250km±9km, mb3.4/12, mb1 3.5/16, mb1mx3.3/43, mbtmp4.0/16 Error ellipse: s-maj=25.8km s-min=17.3km az=13.0*
ISC 24 22:41:24.0±0.7, 34°.12N±0°.05×138°.43E±0°.05, h253km±5km, n56, σ0°.76/80, mb3.7/12, 9C-9D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK03	**Tokai 3**	**0.39**	**277**	P	**Pn**	**22 41 57.0**	**+0.2**
TK03				S	**S**	**22 42 23.6**	**+1.0**
TK04	**Tokai 4**	**0.53**	**300**	⇓P	**Pn**	**22 41 57.3**	**+0.1**
TK04				S	**S**	**22 42 24.0**	**+0.7**
JKO	**Kozu shima**	**0.59**	**83**	⇓P	**Pn**	**22 41 57.1**	**-0.4**
TK02	**Tokai 2**	**0.59**	**253**	⇓P	**Pn**	**22 41 57.2**	**-0.1**
TK02				S	**S**	**22 42 23.3**	**-0.1**
JSG	**Sagara**	**0.59**	**340**	P	**Pn**	**22 41 57.7**	**+0.2**
JSG				S	**S**	**22 42 24.7**	**+0.8**
TTO5	**TONANKAI O.B.S**	**0.61**	**283**	⇓P	**Pn**	**22 41 57.3**	**-0.1**
TTO5				S	**S**	**22 42 24.1**	**+0.5**
TTO4	**TONANKAI O.B.S**	**0.75**	**262**	⇓P	**Pn**	**22 41 57.6**	**-0.2**
TTO4				*e*S	**S**	**22 42 24.3**	**-0.1**
TK01	**Tokai 1**	**0.79**	**244**	P	**Pn**	**22 41 57.4**	**-0.5**
TK01				S	**S**	**22 42 24.7**	**+0.1**
JHMK	**Hamakita**	**0.89**	**321**	P	**Pn**	**22 41 58.3**	**-0.3**
JHMK				*e*S	**S**	**22 42 24.8**	**-1.1**
TTO3	**TONANKAI O.B.S**	**0.90**	**254**	P	**Pn**	**22 41 58.7**	**0.0**
HMMJ	**Hamamatsu 2**	**0.94**	**322**	P	**Pn**	**22 41 58.7**	**-0.3**
HMMJ				S	**S**	**22 42 25.6**	**-1.0**
JOD2	**Odawara 2**	**1.26**	**25**	⇓P	**Pn**	**22 42 00.7**	**-0.2**
JNY	**Yasuok**	**1.32**	**339**	⇑P	**Pn**	**22 42 01.3**	**-0.1**
JNY				*e*S	**S**	**22 42 30.8**	**-0.2**
JYN	**Shimob**	**1.38**	**4**	P	**Pn**	**22 42 01.9**	**+0.1**
JYN				S	**S**	**22 42 32.1**	**+0.5**
JIE	**Ise**	**1.46**	**281**	⇑P	**Pn**	**22 42 01.8**	**-0.5**
JIE				S	**S**	**22 42 30.9**	**-1.5**
TTO1	**TONANKAI O.B.S**	**1.46**	**251**	⇑P	**Pn**	**22 42 01.8**	**-0.2**
TTO1				S	**S**	**22 42 32.6**	**+0.7**
JAO	**Obara**	**1.50**	**320**	⇑P	**Pn**	**22 42 02.4**	**-0.2**
JAO				S	**S**	**22 42 32.5**	**-0.6**
JHJ	**Hachijo jima 2**	**1.50**	**131**	P	**Pn**	**22 42 01.0**	**-1.7**
	150nm,0.3s,baz=60,slow=22,SNR=64						
JHJ				S	**S**	**22 42 35.0**	**+1.9**
	81nm,0.3s,baz=30,slow=22,SNR=8.6						
JHJ2	**Mitsune**	**1.53**	**131**	P	**Pn**	**22 42 01.9**	**-1.0**
JKN2	**Miekihoku**	**1.79**	**274**	⇑P	**Pn**	**22 42 04.3**	**-0.6**
JKN2				*e*S	**S**	**22 42 35.4**	**-1.8**
BSO4	**Boso 4**	**1.80**	**61**	⇓P	**Pn**	**22 42 04.2**	**-0.6**
BSO4				S	**S**	**22 42 36.8**	**-0.2**
BSO3	**Boso 3**	**1.85**	**68**	P	**Pn**	**22 42 04.0**	**-1.0**
BSO3				S	**S**	**22 42 36.3**	**-1.2**
JHU	**Hanno**	**1.86**	**22**	⇓P	**Pn**	**22 42 05.4**	**-0.1**
JHU				S	**S**	**22 42 36.5**	**-1.8**
JRY	**Ryogami san**	**1.93**	**11**	P	**Pn**	**22 42 06.6**	**+0.5**
JEG	**Eigenji**	**1.97**	**302**	⇑P	**Pn**	**22 42 06.4**	**0.0**
BSO1	**Boso 1**	**2.17**	**75**	P	**Pn**	**22 42 06.2**	**-1.4**
BSO1				S	**S**	**22 42 40.9**	**-1.3**
JWY	**Kouya**	**2.36**	**273**	⇑P	**Pn**	**22 42 09.6**	**-0.6**
JTNC	**Tanabenakahech**	**2.37**	**264**	P	**Pn**	**22 42 09.3**	**-0.9**
MJAR	**Matsushiro Arr**	**2.42**	**356**	P	**Pn**	**22 42 10.8**	**+0.1**
	0.4nm,0.3s,baz=178,slow=12,SNR=17						
MJAR				S	**S**	**22 42 47.0**	**-0.7**
	0.4nm,0.3s,baz=62,slow=20,SNR=5.8						
MAT	**Matsushiro**	**2.42**	**356**	P	**Pn**	**22 42 11.0**	**+0.3**
MAT				S	**S**	**22 42 46.8**	**-0.9**
MAT	**Matsushiro**	**2.42**	**356**	P	**Pn**	**22 42 11.0**	**+0.3**
MAT				*e*S	**S**	**22 42 48.3**	**+0.6**
JAG	**Ashikaga**	**2.45**	**20**	P	**Pn**	**22 42 10.1**	**-0.8**
JYT	**Yasato**	**2.55**	**34**	P	**Pn**	**22 42 10.9**	**-1.0**
JWT	**Wachi**	**2.75**	**296**	⇑P	**Pn**	**22 42 13.8**	**-0.2**
JWT				*e*S	**S**	**22 42 52.5**	**-1.2**
JKG	**Kaga**	**2.76**	**322**	⇑P	**Pn**	**22 42 14.0**	**0.0**
JHO	**Hitachi**	**3.04**	**34**	⇓P	**Pn**	**22 42 15.8**	**-1.2**
JAI	**Aioi**	**3.33**	**265**	P	**Pn**	**22 42 19.2**	**-1.0**
JNU	**Nakatsue**	**6.38**	**263**	P	**Pn**	**22 42 56.5**	**-0.5**
	0.7nm,0.3s,baz=82,slow=6.0,SNR=11						
KSRS	**Korea Array**	**9.16**	**294**	P	**Pn**	**22 43 33.2**	**+1.3**
	0.4nm,0.3s,baz=105,slow=13,SNR=7.5						
KLR	**Kul'dur**	**15.89**	**344**	P	**P**	**22 44 52.6**	**-0.6**
	0.4nm,0.3s,baz=160,slow=13,SNR=7.7						
SONM	**Songino Array**	**27.57**	**309**	P	**P**	**22 46 49.1**	**+1.1**
	1.0nm,0.5s,baz=115,slow=8.8,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**29.03**	**112**	T	T	23 17 36.3	
	baz=206,slow=74,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**29.04**	**112**	T	T	23 17 12.0	
	baz=307,slow=74,SNR=3.8						
ZALV	**Zalesovo Beam**	**42.16**	**315**	P	**P**	**22 48 51.7**	**0.0**
	0.7nm,0.3s,baz=108,slow=9.3,SNR=3.6						
ZALV				PcP	**PcP**	**22 50 40.4**	**-0.5**
	1.7nm,0.4s,baz=104,slow=3.0,SNR=7.0						
MKAR	**Makanchi Array**	**43.68**	**304**	P	**P**	**22 49 04.3**	**+0.4**
	1.3nm,0.4s,baz=84,slow=10,SNR=16						
MKAR				PcP	**PcP**	**22 50 46.3**	**+0.1**
	0.5nm,0.7s,baz=72,slow=4.7,SNR=4.1						
NRIK	**Noril'sk**	**44.95**	**337**	P	**P**	**22 49 14.0**	**+0.4**
	2.0nm,0.5s,baz=130,slow=9.1,SNR=4.6						
ARCES	**ARCESS Array B**	**65.86**	**339**	P	**P**	**22 51 42.5**	**+0.4**
	0.8nm,0.6s,baz=74,slow=8.9,SNR=7.8						
YKA	**Yellowknife Ar**	**67.53**	**29**	P	**P**	**22 51 53.2**	**+0.4**
	0.2nm,0.5s,baz=304,slow=6.7,SNR=3.2						
FINES	**FINESS Array B**	**70.24**	**332**	P	**P**	**22 52 09.6**	**+0.2**
	2.1nm,0.5s,baz=64,slow=5.2,SNR=35						
AKASG	**Malin Array Be**	**75.09**	**322**	P	**P**	**22 52 37.8**	**-0.3**
	1.4nm,0.5s,baz=47,slow=6.9,SNR=3.6						
NB2	**NORSAR Subarra**	**75.91**	**336**	P	**P**	**22 52 42.6**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=43,slow=5.6						
NOA	**NORSAR Array B**	**75.91**	**336**	P	**P**	**22 52 42.9**	**+0.3**
	comp=Z,3.1nm,1.0s,baz=44,slow=5.7,SNR=6.1						
BRTR	**Keskin Array B**	**78.93**	**311**	P	**P**	**22 53 00.1**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=145,slow=4.5,SNR=6.6						
GERES	**GERESS Array B**	**83.86**	**327**	P	**P**	**22 53 25.4**	**0.0**
	comp=Z,0.6nm,0.6s,baz=28,slow=6.0,SNR=7.3						
TXAR	**Lajitas Array**	**93.83**	**51**	P	**P**	**22 54 12.7**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=270,slow=2.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**117.54**	**311**	PKP	**PKiKP**	**22 59 39.8**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=35,slow=2.6,SNR=3.7						

*ISCJB **24** 23:04:31.8±0.5, 39°.99N±0°.03×142°.04E±0°.08, h99km±3km, mb3.5/9, Error ellipse: s-maj=10.4km s-min=5.2km az=7.9*
*IDC **24** 23:04:32.8±1.8, 40°.03N×141°.96E, h88km±16km, mb3.4/9, mb1 3.5/13, mb1mx3.3/34, mbtmp3.7/13, Error ellipse: s-maj=22.4km s-min=13.6km az=119.0*
*JMA **24** 23:04:33.4±0.1, 39°.98N×142°.01E, h91km±1km, M3.7*
JMA Felt II J1.
ISC 24 23:04:32.8±0.8, 39°.96N±0°.04×142°.01E±0°.08, h94km±6km, n32, σ1°.52/40, mb3.6/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.11**	**262**	P	**Pn**	**23 04 46.5**	**+0.5**
JTH				S	**Sn**	**23 04 55.9**	**+0.1**
JKEN	**Kujiedanarisaw**	**0.34**	**318**	P	**Pn**	**23 04 47.2**	**+0.4**
JKEN				S	**Sn**	**23 04 57.1**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.40**	**201**	P	**Pn**	**23 04 47.9**	**+0.6**
MIYJ				S	**Sn**	**23 04 58.3**	**+0.3**
JANG	**Nango**	**0.56**	**318**	P	**Pn**	**23 04 48.6**	**+0.2**
JANG				S	**Sn**	**23 04 59.9**	**-0.2**
JOM	**Ohasama**	**0.73**	**229**	P	**Pn**	**23 04 50.5**	**+0.6**
JOM				S	**Sn**	**23 05 03.1**	**+0.4**
JAH	**Hinai**	**1.08**	**283**	P	**Pn**	**23 04 54.1**	**+0.5**
JAH				S	**Sn**	**23 05 10.0**	**+0.8**
JTM	**Tenmabayashi**	**1.10**	**320**	P	**Pn**	**23 04 53.9**	**+0.1**
JTM				S	**Sn**	**23 05 09.5**	**-0.2**
JMK	**Ichinoseki**	**1.17**	**211**	P	**Pn**	**23 04 55.1**	**+0.4**
JMK				S	**Sn**	**23 05 12.1**	**+0.9**
JRG	**Rokugo**	**1.20**	**243**	P	**Pn**	**23 04 55.8**	**+0.8**
JRG				S	**Sn**	**23 05 13.4**	**+1.7**
JIO	**Ouri**	**1.58**	**199**	P	**Pn**	**23 05 00.1**	**+0.4**
JIO				S	**Sn**	**23 05 19.8**	**-0.4**
JOT	**Ohata**	**1.60**	**333**	P	**Pn**	**23 05 00.0**	**0.0**
JOT				S	**Sn**	**23 05 19.5**	**-1.1**
JYK	**Kaneyama**	**1.64**	**231**	P	**Pn**	**23 05 01.3**	**+0.8**
JYK				S	**Sn**	**23 05 21.6**	**+0.1**
ASAJ	**Asahikawa**	**4.18**	**6**	P	**Pn**	**23 05 33.9**	**-0.4**
	2.3nm,0.3s,baz=223,slow=16,SNR=6.9						
ASAJ				S	**Sn**	**23 06 20.3**	**-1.7**
	2.9nm,0.3s,baz=116,slow=33,SNR=6.8						
MJAR	**Matsushiro Arr**	**4.53**	**222**	P	**Pn**	**23 05 40.5**	**+1.4**
	0.6nm,0.3s,baz=30,slow=13,SNR=73						
MAT	**Matsushiro**	**4.53**	**222**	P	**Pn**	**23 05 40.5**	**+1.4**
JHJ	**Hachijo jima 2**	**7.05**	**195**	P	**Pn**	**23 06 12.5**	**-0.8**
	7.2nm,0.3s,baz=342,slow=20,SNR=4.1						
JHJ				S	**Sn**	**23 07 24.2**	**-7.7**
	12nm,0.3s,baz=134,slow=23,SNR=11						
USRK	**Ussuriysk Ar.**	**8.57**	**303**	P	**Pn**	**23 06 34.3**	**+0.4**
	0.2nm,0.3s,baz=102,slow=13,SNR=3.6						
SEY	**Seymchan**	**23.84**	**12**	P	**P**	**23 09 38.5**	**+1.6**
	1.9nm,0.7s,baz=187,slow=12,SNR=4.1						
SONM	**Songino Array**	**26.66**	**299**	P	**P**	**23 10 01.9**	**-0.9**
	0.3nm,0.3s,baz=116,slow=9.8,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**29.37**	**126**	T	T	23 41 25.8	
	baz=318,slow=75,SNR=78						
H11N1	**WAKE ISLAND Hy**	**29.38**	**126**	T	T	23 41 21.2	
	baz=318,slow=75,SNR=78						
H11N3	**WAKE ISLAND Hy**	**29.39**	**126**	T	T	23 41 27.1	
	baz=318,slow=75,SNR=82						
H11S1	**WAKE ISLAND Hy**	**30.17**	**128**	T	T	23 42 16.6	
	baz=319,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**30.18**	**128**	T	T	23 42 19.3	
	baz=319,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**30.19**	**128**	T	T	23 42 22.1	
	baz=319,slow=76,SNR=20						
TIXI	**Tiksi**	**32.45**	**352**	P	**P**	**23 10 51.9**	**-1.7**
	1.2nm,0.3s,baz=235,slow=1.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.34**	**310**	P	**P**	**23 12 00.8**	**0.0**
	0.6nm,0.5s,baz=95,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**43.02**	**300**	P	**P**	**23 12 23.2**	**+0.4**
	0.7nm,0.8s,baz=83,slow=11,SNR=6.2						
ILAR	**Eielson Array**	**46.80**	**34**	P	**P**	**23 12 52.5**	**-0.1**
	0.6nm,0.6s,baz=263,slow=6.0,SNR=10						
YKA	**Yellowknife Ar**	**61.06**	**31**	P	**P**	**23 14 37.1**	**+0.8**
	0.2nm,0.5s,baz=301,slow=6.2,SNR=3.5						
FINES	**FINESS Array B**	**66.45**	**332**	P	**P**	**23 15 11.6**	**-0.1**
	0.6nm,0.8s,baz=26,slow=9.5,SNR=3.6						
PDAR	**Pinedale Array**	**75.30**	**46**	P	**P**	**23 16 06.2**	**+0.3**
	0.4nm,0.5s,baz=314,slow=1.6,SNR=4.0						

*KRSC **24** 23:09:01.8±10.0, 52°.21N×160°.69E, h49km±10km, ML5.6*
*IDC **24** 23:09:01.2±0.5, 52°.42N×160°.25E, h0km, mb4.6/28, mb1 4.7/32, mb1mx4.7/36, mbtmp4.6/32, ML4.5/3, MS4.3/26, Ms1 4.3/26, ms1mx4.1/44, Error ellipse: s-maj=13.0km s-min=10.5km az=150.0*
*BJI **24** 23:09:04.5±0.0, 52°.85N×159°.82E, h26km, mb5.0/59, mB4.9/44, Ms4.9/48, Ms7 4.8/44*
*MOS **24** 23:09:06.2±1.1, 52°.36N×160°.33E, h51km, mb5.4/37, MS4.6/20, Error ellipse: s-maj=6.2km s-min=3.2km az=96.3*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
*NEIC **24** 23:09:07.2±2.1, 52°.50N×160°.01E, h32km±6km, mb4.9/123, Error ellipse: s-maj=18.9km s-min=11.7km az=167.0*
*ISCJB **24** 23:09:07.6±0.4, 52°.39

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GRL   Gorelyy          1.45 279 eP      Pn      23 09 31.2 +0.4
GRL   Gorelyy          1.45 279 PN      Pn      23 09 31.2 +0.4
KRX   Arik             1.47 314 eP      Pn      23 09 31.4 +0.2
KRX   Arik             1.47 314 PN      Pn      23 09 31.4 +0.2
KRMR  Karymshinskiy    1.47 290 eP      Pn      23 09 30.9 -0.2
KRMR                            eS      Sn      23 09 50.3 +1.2
KRMR  Karymshinskiy    1.47 290 PN      Pn      23 09 30.9 -0.2
KRMR                            S       Sn      23 09 50.3 +1.2
ASAK  Asacha           1.54 272 eP      Pn      23 09 32.2 +0.1
ASAK  Asacha           1.54 272 PN      Pn      23 09 32.2 +0.1
KDTR  Khodutka, Kamc   1.54 250 eP      Pn      23 09 30.7 -1.3
KDTR                            eS      Sn      23 09 49.9 -0.9
KDTR  Khodutka, Kamc   1.54 250 PN      Pn      23 09 30.7 -1.3
KDTR                            S       Sn      23 09 49.9 -0.9
KII   Karymskiy        1.78 341 eP      Pn      23 09 35.4  0.0
KII   Karymskiy        1.78 341 PN      Pn      23 09 35.4  0.0
I44RU PETROPAVLOVSK-   1.81 296 Pn      Pn      23 09 36.4 +0.7
      baz=102,slow=19,SNR=2.4
I44RU                           Sn      Sn      23 10 01.4 +4.0
PEA0B Petropavlovsk-   1.82 296 ePn     Pn      23 09 36.2 +0.4
PETK  Petropavlovsk-   1.82 296 Pn      Pn      23 09 36.2 +0.4
      comp=N,297nm,0.3s,baz=102,slow=18,SNR=3997
PETK                            Sn      Sn      23 10 00.7 +3.1
      comp=N,532nm,0.3s,baz=102,slow=19,SNR=12
PETK                            LR      LR      23 10 32.1
      comp=N,10μm,18.7s,baz=47,slow=54
APC   Apacha           2.07 287 eP      Pn      23 09 40.2 +1.0
APC                             eS      Sn      23 10 08.0 +4.3
APC   Apacha           2.07 287 PN      Pn      23 09 40.2 +1.0
APC                             S       Sn      23 10 08.0 +4.3
MKZ   Mys Kozlova      2.34  19 eP      Pn      23 09 41.7 -1.2
MKZ                             eS      Sn      23 10 08.9 -1.5
MKZ   Mys Kozlova      2.34  19 PN      Pn      23 09 41.7 -1.2
MKZ                             S       Sn      23 10 08.9 -1.5
PAU   Pauzhetka        2.40 250 eP      Pn      23 09 43.1 -0.7
PAU   Pauzhetka        2.40 250 PN      Pn      23 09 43.1 -0.7
KZV   Kizimen         2.76 359 eP      Pn      23 09 49.1 +0.2
KZV                             eS      Sn      23 10 23.0 +1.9
KZV   Kizimen          2.76 359 PN      Pn      23 09 49.1 +0.2
KZV                             S       Sn      23 10 23.0 +1.9
TUMD  Tumrok D         2.85 360 eP      Pn      23 09 51.2 +1.2
TUMD                            eS      Sn      23 10 26.0 +2.9
TUMR  Tumrok           2.94 357 eP      Pn      23 09 52.1 +0.8
TUMR                            eS      Sn      23 10 28.8 +3.5
TUMR  Tumrok           2.94 357 PN      Pn      23 09 51.2 -0.1
TUMR                            S       Sn      23 10 26.0 +0.7
SKR   Severo-Kuril's   3.17 240 eP      Pn      23 09 53.2 -1.1
SKR                             eS      Sn      23 10 28.0 -2.7
SKR   Severo-Kuril's   3.17 240 ePN     Pn      23 09 53.0 -1.3
SKR                             eS      Sn      23 10 31.6 +0.9
SKR                             pmax    pmax
      comp=Z,267nm,0.5s
SKR                             smax    smax
      comp=N,5μm,0.6s
SKR                             smax    smax
      comp=E,4μm,0.7s
ALID  Alaid            3.38 246 eP      Pn      23 09 56.5 -0.9
ALID  Alaid            3.38 246 PN      Pn      23 09 56.5 -0.9
BZGR  Bezymyannyi-Gr   3.59   3 eP      Pn      23 10 01.7 +1.4
BZGR  Bezymyannyi-Gr   3.59   3 PN      Pn      23 10 01.7 +1.4
KIRR  Kirishev         3.60 359 eP      Pn      23 10 01.6 +1.2
KIRR  Kirishev         3.60 359 PN      Pn      23 10 01.6 +1.2
KPT   Kopyto           3.62 358 eP      Pn      23 10 02.2 +1.6
KPT   Kopyto           3.62 358 PN      Pn      23 10 02.2 +1.6
ESO   Esso             3.72 345 eP      Pn      23 10 02.4 +0.5
ESO   Esso             3.72 345 PN      Pn      23 10 02.4 +0.5
LGNR  Loginova         3.74   2 eP      Pn      23 10 03.9 +1.5
LGNR  Loginova         3.74   2 PN      Pn      23 10 03.9 +1.5
CIRR  Tsirk            3.77   3 eP      Pn      23 10 04.9 +2.2
CIRR  Tsirk            3.77   3 PN      Pn      23 10 04.9 +2.2
KRSR  Krestovskiy      3.87   1 eP      Pn      23 10 05.9 +1.9
KRSR  Krestovskiy      3.87   1 PN      Pn      23 10 05.9 +1.9
KLY   Klyuchi          3.97   2 P       Pn      23 10 07.2 +1.9
KLY   Klyuchi          3.97   2 PN      Pn      23 10 07.2 +1.9
SRDR  Sredinnyy        3.99 354 eP      Pn      23 10 06.8 +1.1
SRDR  Sredinnyy        3.99 354 PN      Pn      23 10 06.8 +1.1
KBTR  Krutoberegovo    4.11  19 eP      Pn      23 10 06.4 -0.8
KBTR  Krutoberegovo    4.11  19 PN      Pn      23 10 06.4 -0.8
KBG   Krutoberegovo    4.13  18 eP      Pn      23 10 07.8 +0.3
KBG   Krutoberegovo    4.13  18 PN      Pn      23 10 07.8 +0.3
BDR   Baidarnaya       4.25   6 eP      Pn      23 10 10.8 +1.6
BDR   Baidarnaya       4.25   6 PN      Pn      23 10 10.8 +1.6
SMKR  Semkarok         4.28   8 eP      Pn      23 10 10.0 +0.4
SMKR  Semkarok         4.28   8 PN      Pn      23 10 10.0 +0.4
SRKR  Sorokina         4.33   6 eP      Pn      23 10 11.5 +1.2
SRKR  Sorokina         4.33   6 PN      Pn      23 10 11.5 +1.2
BKI   Bering           4.36  47 eP      Pn      23 10 08.5 -2.1
BKI                             eS      Sn      23 10 53.9 -6.2
BKI   Bering           4.36  47 PN      Pn      23 10 08.5 -2.1
OSSR  Ossora           7.07  11 P       Pn      23 10 48.3 +0.6
OSSR  Ossora           7.07  11 PN      Pn      23 10 48.3 +0.6
SMY   Shemya           8.35  82 ePn     Pn      23 11 03.9 -1.5
SMY   Shemya           8.35  82 ePN     Pn      23 11 03.9 -1.5
TILK  Tilichiki        8.71  19 eP      Pn      23 11 09.7 -0.5
TILK  Tilichiki        8.71  19 PN      Pn      23 11 09.7 -0.5
MA2   Magadan          9.03 327 ePn     Pn      23 11 11.8 -2.7
MA2   Magadan          9.03 327 cePN    Pn      23 11 15.4 +0.8
MA2                             pmax    pmax
      comp=Z,22nm,1.0s
MA2   Magadan          9.03 327 Pn      Pn      23 11 15.9 +1.3
      comp=Z,1.0nm,0.3s,baz=141,slow=17,SNR=3.4
MA2                             LR      LR      23 15 20.5
      comp=Z,2μm,18.2s,baz=136,slow=42
OKH   Okha            10.62 283 dePN    Pn      23 11 53.5 +17
OKH                             MLR     MLR
      comp=Z,3μm,15.0s
KUR   Kuril'sk         10.91 234 ePN    Pn      23 11 42.5 +2.1
KUR                             MLR     MLR
      comp=E,2μm,16.0s
KUR                             MLR     MLR
      comp=Z,2μm,16.0s
KUR                             MLR     MLR
      comp=N,3μm,14.0s
TYV   Tymovskoe        11.15 269 ePN    Pn      23 11 46.3 +2.7
TYV                             eS      Sn      23 13 50.2 +3.5
TYV                             pmax    pmax
      comp=Z,300nm,4.2s
TYV                             pmax    pmax
      comp=Z,27nm,1.1s
TYV                             smax    smax
      comp=N,400nm,8.9s
TYV                             MLR     MLR
      comp=Z,3μm,16.0s
TYV                             MLR     MLR
      comp=E,4μm,15.0s
SEY   Seymchan         11.43 341 cePN   Pn      23 11 49.0 +1.6
SEY   Seymchan         11.43 341 Pn     Pn      23 11 48.2 +0.8
      comp=E,0.2nm,0.3s,baz=122,slow=19,SNR=5.7
SEY                             LR      LR      23 16 47.9
      comp=E,1μm,18.3s,baz=147,slow=41
UGL   Uglegorsk        12.08 262 PN     Pn      23 11 57.9 +1.5
UGL                             pmax    pmax
      comp=Z,116nm,0.9s
UGL                             MLR     MLR
      comp=Z,2μm,15.0s
UGL                             MLR     MLR
      comp=N,1μm,15.0s
UGL                             MLR     MLR
      comp=E,1μm,15.0s
YSS   Yuzh-Sakhalins   12.64 252 ePn    Pn      23 12 02.1 -2.0
YSS   Yuzh-Sakhalins   12.64 252 ePN    Pn      23 12 04.4 +0.3
YSS                             pmax    pmax
      comp=Z,30nm,1.0s
YSS                             MLR     MLR
      comp=E,1μm,13.0s
YSS                             MLR     MLR
      comp=Z,2μm,13.0s
YUK   Yuzh-Kuril'sk    12.77 235⇑ iPN   P       23 12 13.8 -2.0
YUK                             S       Sn      23 14 37.3 +11
YUK                             pmax    pmax
      comp=Z,199nm,1.5s
YUK                             pmax    pmax
      comp=Z,173nm,0.8s
YUK                             MLR     MLR
      comp=E,2μm,19.0s
YUK                             MLR     MLR
      comp=Z,2μm,19.0s
YUK                             MLR     MLR
      comp=N,1μm,16.0s
ASAJ  Asahikawa        14.43 242 Pn     Pn      23 12 27.4 -0.9
      comp=N,1.9nm,0.3s,baz=72,slow=14,SNR=18
GRNR  Gornyy           14.99 273 eP     P       23 12 45.9 +5.4
GRNR                            pmax    pmax
      comp=Z,40nm,1.0s
ERM   Erimo            15.60 235 ePn    Pn      23 12 40.6 -3.1
      comp=Z,57nm,1.3s
ERM   Erimo            15.60 235 eP     Pn      23 12 40.6 -3.1
ERM                             pmax    pmax
      comp=Z,57nm,1.3s
BILL  Biilibino        15.99   8 ePn    Pn      23 12 48.4 -0.1
      comp=Z,60nm,0.8s
BILL  Biilibino        15.99   8 d iP   Pn      23 12 48.3 -0.1
BILL                            pmax    pmax
      comp=Z,81nm,1.0s
BILL                            MLR     MLR
      comp=Z,1μm,20.0s
TEY   Ternei           17.29 254⇓ eP    Pn      23 13 05.1 +0.1
TEY                             pmax    pmax
      comp=N,10.0nm,0.8s
TEY                             pmax    pmax
      comp=E,50nm,0.8s
TEY                             pmax    pmax
      comp=Z,50nm,0.8s
KLR   Kul'dur          18.34 272⇓ eP    Pn      23 13 17.8  0.0
KLR   Kul'dur          18.34 272 P      P       23 13 17.1 -0.3
      comp=Z,0.7nm,0.3s,baz=63,slow=10,SNR=45
KLR                             LR      LR      23 21 16.1
      comp=Z,2μm,18.2s,baz=42,slow=40
YAK   Yakutsk          19.08 313 eP     P       23 13 23.4 -2.0
YAK                             eS      S       23 16 52.2 -7.0
YAK                             pmax    pmax
      comp=Z,1μm,0.8s
YAK                             pmax    pmax
      comp=E,659nm,1.1s
YAK                             pmax    pmax
      comp=N,319nm,1.0s
YAK                             pmax    pmax
      comp=Z,557nm,0.8s
YAK                             pmax    pmax
      comp=N,223nm,1.3s
YAK                             pmax    pmax
      comp=E,163nm,0.8s
YAK                             smax    smax
      comp=E,23nm,0.6s
YAK                             smax    smax
      comp=N,63nm,0.9s
YAK                             MLR     MLR
      comp=Z,5μm,14.0s
YAK                             MLR     MLR
      comp=E,3μm,11.0s
YAK                             MLR     MLR
      comp=N,3μm,13.0s
ZEA   Zeya             19.89 287 eP     P       23 13 32.8 -1.6
ZEA                             pmax    pmax
      comp=E,24nm,1.0s
ZEA                             pmax    pmax
      comp=Z,32nm,1.0s
ZEA                             MLR     MLR
      comp=E,1μm,15.0s
ZEA                             MLR     MLR
      comp=Z,2μm,15.0s
ZEA                             MLR     MLR
      comp=N,500nm,12.0s
USA0B Ussuriysk Arra   20.50 258 eP     P       23 13 38.7 -2.4
      comp=N,40nm,1.0s
USRK  Ussuriysk Ar.    20.50 258 P      P       23 13 38.6 -2.5
      comp=N,34nm,0.9s,baz=58,slow=11,SNR=43
USRK                            LR      LR      23 22 21.2
      comp=N,759nm,18.6s,baz=59,slow=39
ANM   Nome             21.34  42 eP     P       23 13 52.9 +2.9
      comp=N,27nm,1.3s
ANM   Nome             21.34  42 eP     P       23 13 52.9 +2.9
ANM                             pmax    pmax
      comp=Z,27nm,1.3s
MDJ   Mudanjiang       21.72 261 P      P       23 13 52.1 -2.1
MDJ                             pP      pP      23 14 00.9 -3.2
MDJ                             sP      pwP     23 14 05.3 -2.4
MDJ                             S       S       23 17 49.4 -2.6
MDJ                             pmax    pmax
      comp=Z,21nm,0.6s
MDJ                             LR      LR
      comp=Z,1μm,14.3s
MDJ                             LR      LR
      comp=Z,840nm,13.5s
MDJ                             LR      LR
      comp=Z,2μm,14.3s
MDJ   Mudanjiang       21.72 261 eP     P       23 13 52.5 -1.7
      comp=Z,20nm,0.9s
MJB9  Matsu-Tunnel     22.25 234 eP     P       23 14 00.4 +0.4
      comp=Z,75nm,1.0s
MAJO  Matsushiro       22.25 233 eP     P       23 13 59.9 -0.1
      comp=Z,73nm,1.0s
MAJO  Matsushiro       22.25 233⇑ eP    P       23 14 00.7 +0.7
MAJO                            pmax    pmax
      comp=Z,84nm,1.1s
MAT   Matsushiro       22.25 233 P      P       23 13 59.6 -0.4
MAT                             eS      S       23 18 06.4 +4.3
MJAR  Matsushiro Arr   22.25 233 P      P       23 14 00.1 +0.1
      comp=Z,25nm,0.9s,baz=14,slow=10,SNR=46
MJAR                            LR      LR      23 23 10.4
      comp=Z,924nm,21.5s,baz=35,slow=38
INU   Inuyama          23.79 234 eP     P       23 14 15.9 +0.4
      comp=Z,32nm,0.9s
TIXI  Tiksi            23.84 336 eP     P       23 14 13.2 -2.3
      comp=Z,29nm,0.7s
TIXI  Tiksi            23.84 336⇑ iP    P       23 14 13.6 -1.9
TIXI                            pmax    pmax
      comp=Z,35nm,0.8s
TIXI  Tiksi            23.84 336 P      P       23 14 14.2 -1.3
      comp=Z,30nm,0.7s,baz=122,slow=9.9,SNR=74
CHGN  Chignik          24.06  64 eP     P       23 14 20.1 +2.3
      comp=Z,44nm,1.7s
JHJ2  Mitsune          24.32 226 eP     P       23 14 20.9 +0.6
      comp=Z,166nm,1.0s
CN2   Changchun        24.68 264 eP     P       23 14 20.8 -2.7
CN2                             pmax    pmax
      comp=Z,20nm,1.2s
CN2                             pmax    pmax
      comp=Z,200nm,4.0s
CN2                             LR      LR
      comp=Z,1μm,17.0s
CN2                             LR      LR
      comp=Z,990nm,17.0s
CN2                             LR      LR
      comp=Z,1μm,18.0s
SVW2  Sparrevohn       25.22  52 eP     P       23 14 30.3 +2.0
      comp=Z,10nm,1.0s
HIA   Hailar           25.65 279 eP     P       23 14 30.4 -1.9
      comp=Z,82nm,0.9s
HIA   Hailar           25.65 279 eP     P       23 14 30.4 -1.9
HIA                             pmax    pmax
      comp=Z,82nm,0.9s
SII   Sitkinak Islan   26.34  63 eP     P       23 14 41.7 +3.2
      comp=Z,20nm,1.0s
OHAK  Old Harbor       26.71  61 eP     P       23 14 44.8 +3.0
      comp=Z,10nm,0.8s
KDAK  Kodiak Island    27.00  60 i P    P       23 14 48.6 +4.2
KSRS  Korea Array      27.13 250 P      P       23 14 46.4 +0.7
      comp=Z,6.9nm,0.8s,baz=45,slow=8.9,SNR=21
KSRS                            LR      LR      23 26 26.3
      comp=Z,516nm,18.9s,baz=53,slow=39
SUA   Susitna One      27.55  51 eP     P       23 14 51.8 +2.4
      comp=Z,5.5nm,1.0s
MLY   Manley           27.57  44 eP     P       23 14 52.3 +2.9
      comp=Z,5.2nm,1.0s
MLY                             ePcP    PcP     23 18 07.7 +1.7
BRLK  Bradley Lake     27.61  55 eP     P       23 14 53.4 +3.5
      comp=Z,40nm,1.9s
COLD  Coldfoot         28.00  39 eP     P       23 14 58.3 +5.0
      comp=Z,3.6nm,0.9s
BWN   Browne           28.08  46 eP     P       23 14 58.9 +4.9
      comp=Z,56nm,1.4s
RND   Reindeer         28.35  47 eP     P       23 14 59.3 +2.8
      comp=Z,9.0nm,1.1s
RND   Reindeer         28.35  47 eP     P       23 14 59.3 +2.8
RND                             pmax    pmax
      comp=Z,9.0nm,1.1s
TOLK  Toolik Lake Re   28.44  36 eP     P       23 15 00.7 +3.5
      comp=Z,5.1nm,0.6s
KNK   Knik Glacier     28.64  51 eP     P       23 15 00.8 +1.7
      comp=Z,9.2nm,0.8s
JNU   Nakatsue         28.68 240 P      P       23 15 00.2 +0.6
      comp=Z,12nm,0.8s,baz=46,slow=8.9,SNR=10.0
WRH   Wood River Hil   28.68  45 eP     P       23 15 02.6 +3.3
      comp=Z,7.4nm,0.9s
HDA   Harding Lake     29.18  45 epP    pP      23 15 11.9 -2.6
ILAR  Eielson Array    29.20  44 P      P       23 15 04.7 +0.8
      comp=Z,0.8nm,0.8s,baz=267,slow=8.4,SNR=11
ILAR                            PcP     PcP     23 18 09.2 -0.8
      comp=Z,1.3nm,0.9s,baz=274,slow=3.1,SNR=5.9
ILAR                            LR      LR      23 28 46.5
      comp=Z,335nm,18.1s,baz=279,slow=41
PRP   Porcupine Dome   29.77  43 eP     P       23 15 10.8 +1.7
      comp=Z,7.9nm,1.0s
PAX   Paxson           29.91  48 ePcP   PcP     23 18 13.9 +1.9
RIDG  Independent Ri   30.13  46 eP     P       23 15 13.0 +0.8
      comp=Z,17nm,1.6s
DOT   Dot Lake         30.48  46 eP     P       23 15 16.6 +1.3
      comp=Z,5.8nm,1.3s
DOT                             ePcP    PcP     23 18 16.0 +2.6
EGAK  Eagle            31.65  44 ePcP   PcP     23 18 18.1 +1.7
H11N2 WAKE ISLAND Hy   32.95 169 T       T       23 51 28.4
      baz=352,slow=76,SNR=2117
H11N3 WAKE ISLAND Hy   32.97 169 T       T       23 51 29.4
      baz=352,slow=76,SNR=1525
H11N1 WAKE ISLAND Hy   32.97 169 T       T       23 51 29.6
      baz=352,slow=76,SNR=2125
EPYK  Eagle Plains     33.32  41 ePcP   PcP     23 18 22.6 +1.5
H11S1 WAKE ISLAND Hy   34.13 169 T       T       23 53 39.5
      SNR=28
H11S3 WAKE ISLAND Hy   34.15 169 T       T       23 53 17.1
      baz=218,slow=74,SNR=73
H11S2 WAKE ISLAND Hy   34.15 169 T       T       23 52 58.7
      baz=351,slow=74,SNR=20
TLY   Talaya           34.18 292 eP     P       23 15 47.1 -0.7
      comp=Z,16nm,1.1s
TLY   Talaya           34.18 292 eP     P       23 15 46.1 -1.7
TLY                             pmax    pmax
      comp=Z,52nm,1.4s
TLY                             MLR     MLR
      comp=Z,2μm,16.0s
TLY   Talaya           34.18 292 P      P       23 15 46.7 -1.1
      SNR=5.6
TLY                             P       P       23 15 46.7 -1.1
      SNR=5.6
SONM  Songino Array    34.27 284 P      P       23 15 47.7 -1.0
      comp=Z,2.7nm,0.3s,baz=58,slow=9.3,SNR=28
SONM                            PcP     PcP     23 18 24.2  0.0
      comp=Z,0.7nm,0.4s,baz=76,slow=1.7,SNR=3.3
SONM                            LR      LR      23 31 15.7
      comp=Z,2μm,18.6s,baz=70,slow=39
INK   Inuvik           34.34  37 eP     P       23 15 49.5 +0.6
      comp=Z,7.4nm,0.8s
INK   Inuvik           34.34  37 P      P       23 15 48.7 -0.2
      comp=Z,2.2nm,0.5s,baz=312,slow=6.3,SNR=12
INK                             PcP     PcP     23 18 23.8  0.0
      comp=Z,2.1nm,0.5s,baz=324,slow=2.9,SNR=6.6
TIA   Tai'an           34.35 259 P      P       23 15 49.9 +0.5
TIA                             pmax    pmax
      comp=Z,25nm,0.6s
HHC   Hu-ho-hao-te     34.84 271 eP     P       23 15 54.0 +0.3
HHC                             pmax    pmax
      comp=Z,89nm,0.8s
HHC                             pmax    pmax
      comp=Z,320nm,4.4s
HHC                             LR      LR
      comp=Z,1μm,12.1s
HHC                             LR      LR
      comp=Z,920nm,12.3s
HHC                             LR      LR
      comp=Z,2μm,12.7s
ZAK   Zakamensk        34.93 290 eP     P       23 15 51.5 -2.9
ZAK                             pmax    pmax
      comp=Z,14nm,1.1s
MOY   Mondy            35.68 293 eP     P       23 16 00.2 -0.7
MOY                             pmax    pmax
      comp=Z,20nm,1.3s
NJ2   Nanjing          36.21 252 eP     P       23 16 05.8 +0.4
NJ2                             pmax    pmax
      comp=Z,27nm,0.9s
NJ2                             LR      LR
      comp=Z,670nm,19.5s
NJ2                             LR      LR
      comp=Z,590nm,17.3s
NJ2                             LR      LR
      comp=Z,750nm,17.9s
NRIK  Noril'sk         36.62 325 P      P       23 16 07.3 -1.2
      comp=Z,7.0nm,0.8s,baz=93,slow=7.5,SNR=15
NRIK                            LR      LR      23 32 29.9
      comp=Z,1μm,19.5s,baz=68,slow=39
DLBC  Dease Lake       38.33  53 eP     P       23 16 26.2 +3.0
      comp=Z,6.0nm,0.9s
WHN   Wuhan            39.96 255 P      P       23 16 37.6 +0.6
WHN                             S       S       23 22 44.4 +5.3
WHN                             pmax    pmax
      comp=Z,40nm,0.9s
WHN                             LR      LR
      comp=Z,2μm,18.7s
WHN                             LR      LR
      comp=Z,3μm,22.2s
WHN                             LR      LR
      comp=Z,1μm,12.5s
XAN   Xi'an            40.79 264 P      P       23 16 42.8 -1.1
XAN                             PP      PP      23 18 17.9 -0.4
XAN                             S       S       23 22 41.3 -10
XAN                             sS      sS      23 23 07.8 -2.4
XAN                             pmax    pmax
      comp=Z,5.0nm,0.7s
XAN                             pmax    pmax
      comp=Z,90nm,7.9s
XAN                             LR      LR
      comp=Z,750nm,14.1s
XAN                             LR      LR
      comp=Z,480nm,13.8s
XAN                             LR      LR
      comp=Z,690nm,14.4s
LZH   Lanzhou          42.54 271 eP     P       23 16 56.3 -2.0
LZH                             pP      pP      23 17 05.9 -3.7
LZH                             sP      pwP     23 17 10.1 -3.0
LZH                             PP      PP      23 18 37.5 +0.2
LZH                             pmax    pmax
      comp=Z,29nm,1.2s
LZH                             pmax    pmax
      comp=Z,100nm,5.4s
LZH                             LR      LR
      comp=Z,920nm,15.7s
LZH                             LR      LR
      comp=Z,980nm,13.6s
LZH                             LR      LR
      comp=Z,2μm,16.8s
GTA   Gaotai           42.89 277 eP     P       23 17 00.1 -1.0
GTA                             pP      pP      23 17 04.5 -7.9
GTA                             sP      pwP     23 17 07.6 -8.3
GTA                             pmax    pmax
      comp=Z,11nm,1.1s
GTA                             LR      LR
      comp=Z,810nm,17.2s
GTA                             LR      LR
      comp=Z,630nm,17.2s
GTA                             LR      LR
      comp=Z,1μm,17.9s
ENH   Enshi            43.06 260 eP     P       23 17 02.5  0.0
      comp=Z,12nm,0.7s
ZALV  Zalesovo Beam    43.34 303 P      P       23 17 02.0 -2.3
      comp=Z,15nm,0.9s,baz=61,slow=7.0,SNR=42
ZALV                            LR      LR      23 36 25.5
      comp=Z,510nm,18.9s,baz=70,slow=38
YKW3  Yellowknife Ar   43.54  42 eP     P       23 17 09.2 +3.4
      comp=Z,2.7nm,0.8s
YKA   Yellowknife Ar   43.58  42 P      P       23 17 06.6 +0.5
      comp=Z,1.6nm,0.8s,baz=299,slow=8.0,SNR=14
YKA                             PcP     PcP     23 18 54.0 +1.1
      comp=Z,0.5nm,0.9s,baz=338,slow=2.7,SNR=5.5
NVS   Novosibirsk      43.70 305⇓ iP    P       23 17 05.8 -1.4
NVS                             i       i       23 17 17.6
NVS                             i       i       23 18 47.0
NVS                             i S     S       23 23 28.8 -5.0
NVS                             pmax    pmax
      comp=N,27nm,1.1s
NVS                             pmax    pmax
      comp=E,74nm,1.1s
NVS                             pmax    pmax
      comp=Z,123nm,1.1s
NVS                             smax    smax
      comp=N,11nm,1.6s
NVS                             smax    smax
      comp=E,6.0nm,1.3s
RES   Resolute Bay     43.94  22 eP     P       23 17 10.1 +1.2
      comp=E,8.8nm,0.9s
RES   Resolute Bay     43.94  22 eP     P       23 17 10.1 +1.2
RES                             pmax    pmax
      comp=Z,9.0nm,0.9s
DGZ   Jazzator, Alta   44.17 297 c iP   P       23 17 10.4 -0.9
DGZ                             pmax    pmax
      comp=Z,23nm,0.8s
CD2   Chengdu          46.10 265 P      P       23 17 25.3 -1.4
CD2                             pmax    pmax
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comp=Z,40nm,0.8s
CD2 LR LR
comp=Z,670nm,15.3s
CD2 LR LR
comp=Z,670nm,13.2s
CD2 LR LR
comp=Z,1μm,13.7s
WMQ Urumqi 47.40 290 *eP* **P 23 17 36.5 -0.3**
WMQ pP pP 23 17 40.5 -7.7
WMQ pmax pmax
comp=Z,120nm,0.9s
WMQ pmax pmax
comp=Z,270nm,3.6s
WMQ LR LR
comp=Z,1μm,13.9s
WMQ LR LR
comp=Z,2μm,10.1s
WMQ LR LR
comp=Z,3μm,13.9s
GYA Guiyang 47.54 259⇑ *iP* **P 23 17 38.3 +0.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
SPA0 Spitsbergen Ar 47.90 351 *eP* **P 23 17 41.0 +1.0**
comp=Z,106nm,1.1s
SPA0 Spitsbergen Ar 47.90 351 *eP* **P 23 17 40.5 +0.5**
KURK Kurchatov 48.29 303 *eP* **P 23 17 41.6 -1.9**
comp=Z,109nm,1.0s
KURK Kurchatov 48.29 303*c i P* **P 23 17 41.5 -1.9**
KURK pmax pmax
comp=Z,119nm,1.1s
KURK Kurchatov 48.29 303 P **P 23 17 41.6 -1.9**
SNR=48
KURK P **P 23 17 41.6 -1.9**
SNR=48
MKAR Makanchi Array 48.66 296 P **P 23 17 44.3 -2.1**
comp=Z,9.9nm,0.7s,baz=56,slow=7.0,SNR=86
MKAR LR LR 23 39 36.0
comp=Z,529nm,18.7s,baz=45,slow=38
MAKZ Makanchi 48.82 297 *eP* **P 23 17 45.2 -2.4**
comp=Z,26nm,1.0s
MAKZ Makanchi 48.82 297 *eP* **P 23 17 45.2 -2.4**
MAKZ pmax pmax
comp=Z,26nm,1.0s
TGY Tagaytay City 49.42 234 LR LR 23 38 50.5
comp=Z,98nm,21.1s,baz=40,slow=36
KULLO Kullorsuaq 50.87 12 *i P* **P 23 18 02.8 +0.1**
KULLO pmax pmax
comp=Z,18nm,0.8s
KULLO Kullorsuaq 50.87 12 *i P* **P 23 18 02.8 +0.1**
comp=Z,18nm,0.8s
KMI Kunming 50.89 261 P **P 23 18 04.4 +0.6**
KMI pP pP 23 18 10.3 -5.3
KMI sP pwP 23 18 16.6 -1.5
KMI pmax pmax
comp=Z,11nm,1.1s
KMI pmax pmax
comp=Z,130nm,6.9s
KMI LR LR
comp=Z,290nm,13.5s
KMI LR LR
comp=Z,350nm,13.8s
KMI LR LR
comp=Z,420nm,14.9s
BRVK Borovoye 51.03 309 *eP* **P 23 18 02.3 -1.9**
comp=Z,45nm,0.7s
BRVK Borovoye 51.03 309*c i P* **P 23 18 02.3 -1.9**
BRVK pmax pmax
comp=Z,43nm,0.7s
BRVK Borovoye 51.03 309 P **P 23 18 02.5 -1.8**
SNR=20
BRVK P **P 23 18 02.5 -1.8**
SNR=20
DAG Danmarks Havn 51.14 360 *i P* **P 23 18 04.5 -0.3**
DAG pmax pmax
comp=Z,10.0nm,0.8s
DAG Danmarks Havn 51.14 360 *i P* **P 23 18 04.5 -0.3**
comp=Z,13nm,0.8s
SVE Sverdlovsk 52.95 317⇓ *iP* **P 23 18 18.7 +0.2**
SVE pmax pmax
comp=Z,13nm,1.0s
SVE MLR MLR
comp=Z,674nm,16.0s
SLVN Son La 53.05 257 *eP* **P 23 18 20.0 +0.3**
comp=Z,18nm,0.9s
HAMF Hammerfest 53.44 343 *eP* **P 23 18 20.4 -1.4**
LVZ Lovozero 53.46 338 *eP* **P 23 18 21.0 -1.1**
comp=Z,29nm,0.9s
LVZ Lovozero 53.46 338*ceP* **P 23 18 21.8 -0.3**
LVZ pmax pmax
comp=Z,47nm,1.7s
KEV Kevo 53.58 342 *eP* **P 23 18 22.4 -0.4**
comp=Z,18nm,1.1s
KEV Kevo 53.58 342 *eP* **P 23 18 22.5 -0.4**
KEV pmax pmax
comp=Z,18nm,1.1s
FCC Fort Churchill 53.94 38 *eP* **P 23 18 26.4 +0.8**
comp=Z,5.5nm,0.8s
FCC Fort Churchill 53.94 38 *eP* **P 23 18 26.4 +0.8**
FCC pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 54.05 342 P **P 23 18 25.5 -0.9**
comp=Z,18nm,0.8s,baz=44,slow=8.3,SNR=44
ARE0 ARCESS Array S 54.05 342 *eP* **P 23 18 26.1 -0.3**
ARU Arti 54.08 318 *eP* **P 23 18 24.9 -1.8**
comp=Z,26nm,0.8s
ARU Arti 54.08 318*c i P* **P 23 18 25.2 -1.5**
ARU *PP **pP 23 18 37.9 -0.5**
ARU 23 19 30.1
ARU 23 20 24.0
ARU S **S 23 25 56.8 -2.7**
ARU SS **SS 23 29 36.9 -3.7**
ARU pmax pmax
comp=Z,27nm,0.8s
ARU MLR MLR
comp=Z,497nm,16.0s
SUMG Summit 54.67 7 *eP* **P 23 18 32.0 +0.7**
comp=Z,31nm,1.0s
SUMG Summit 54.67 7 *eP* **P 23 18 32.0 +0.7**
SUMG pmax pmax
comp=Z,31nm,1.0s
SUMG Summit 54.67 7 *i P* **P 23 18 32.4 +1.1**
comp=Z,76nm,1.0s
TKM2 Tokmak 2 54.79 296 P **P 23 18 31.2 -1.2**
SNR=18
ULHL Ulahol 54.88 295 P **P 23 18 32.1 -1.0**
SNR=17
KTK1 Kautokeino 54.92 343 *eP* **P 23 18 32.4 -0.3**
TRO Tromso 55.12 345 *eP* **P 23 18 34.1 0.0**
USP Ospenovka 55.16 297 P **P 23 18 34.0 -0.9**
SNR=12
PRGR Permogore 55.17 328⇑ *iP* **P 23 18 34.3 -0.2**
PRGR *e*PP **sP 23 18 52.2 +0.9**
PRGR *e* 23 20 44.9
PRGR pmax pmax
comp=Z,44nm,0.7s
CHMS Chumysh 55.20 297 P **P 23 18 34.1 -1.0**
SNR=13
KBK Karagaybulak 55.32 297 P **P 23 18 35.1 -1.1**
SNR=18
KVN Kaiserville 55.51 69 *eP* **P 23 18 41.5 +3.9**
comp=Z,9.4nm,1.2s
KVN Kaiserville 55.51 69 *eP* **P 23 18 41.5 +3.9**
KVN pmax pmax
comp=Z,9.0nm,1.2s
TMCR Tamitsa 55.52 333 *eP* **P 23 18 35.9 -1.1**
TMCR pmax pmax
comp=Z,107nm,0.9s
KZA Kyzart 55.54 296 P **P 23 18 37.3 -0.7**
SNR=9.1
AAK Ala-Archa 55.58 297 P **P 23 18 37.1 -0.9**
SNR=22
AAK Ala-Archa 55.58 297 *eP* **P 23 18 36.5 -1.5**
comp=Z,33nm,1.2s
AAK Ala-Archa 55.58 297 *i P* **P 23 18 37.1 -0.9**
SNR=5.3
AAK Ala-Archa 55.58 297*ceP* **P 23 18 36.7 -1.3**
AAK pmax pmax
comp=Z,25nm,1.0s
AAK Ala-Archa 55.58 297 P **P 23 18 36.9 -1.1**
SNR=14
AAK P **P 23 18 36.9 -1.1**
SNR=14
NVAR Mina Array Bea 55.81 70 P **P 23 18 41.5 +1.7**
comp=Z,1.3nm,0.6s,baz=300,slow=7.2,SNR=6.3
NVAR LR LR 23 38 43.3
comp=Z,111nm,21.4s,baz=286,slow=32
UCH Uchtor 55.85 296 P **P 23 18 39.6 -0.6**
SNR=7.6
PANO Nakornpanom 55.87 253 P **P 23 18 42.7 +2.5**
comp=Z,0.9nm,1.1s
EKS2 Erkin-Say 55.96 297 P **P 23 18 39.5 -1.1**
SNR=35
NONG Nongkai 56.02 255 P **P 23 18 42.9 +1.7**
comp=Z,0.8nm,1.0s,comp=Z,103nm
AML Almayashu 56.36 297 P **P 23 18 43.4 -0.5**
SNR=11
SKNT Sakolnakorn 56.38 253 P **P 23 18 45.2 +1.4**
comp=Z,32nm,0.8s
KSH Kashi 56.87 293 P **P 23 18 50.3 +3.1**
KSH pP pP 23 18 54.3 -4.6
KSH S **S 23 26 41.8 +4.2**
KSH SS **SS 23 30 29.8 +4.2**
KSH pmax pmax
comp=Z,28nm,0.9s
KSH pmax pmax
comp=Z,50nm,4.3s
KSH LR LR
comp=Z,110nm,11.3s
KSH LR LR
comp=Z,100nm,9.1s
KSH LR LR
comp=Z,650nm,14.3s
PAYA Payao 56.98 259 P **P 23 18 49.4 +1.4**
comp=Z,62μm,0.8s,comp=Z,585μm
LOF Lofoten 57.33 346 *eP* **P 23 18 49.2 -0.6**
PHRA Phrae 57.42 258 P **P 23 18 52.5 +1.4**
comp=Z,6.3nm,1.0s
KHON Khomkaen 57.56 254 P **P 23 18 54.4 +2.3**
comp=Z,44μm,0.7s
KLMR Klimovskoe 57.69 330⇑ *iP* **P 23 18 52.2 -0.2**
KLMR pmax pmax
comp=Z,59nm,0.9s
PDAR Pinedale Array 57.71 61 P **P 23 18 55.0 +1.8**
comp=Z,2.1nm,0.8s,baz=320,slow=3.9,SNR=18
LAMP Lampang 57.76 258 P **P 23 18 54.9 +1.4**
comp=Z,54μm,1.0s,comp=Z,495μm
UTTA Uttaradit 57.81 257 P **P 23 18 55.0 +1.1**
comp=Z,55μm,0.9s,comp=Z,382μm
CMMT Chiang Mai 57.95 259 P **P 23 18 55.6 +0.7**
comp=Z,22nm,1.0s,comp=Z,278nm
CHTO Chiang Mai 57.95 259 *eP* **P 23 18 55.8 +0.9**
comp=Z,38nm,1.0s
CHTO Chiang Mai 57.95 259 *eP* **P 23 18 55.8 +0.9**
CHTO pmax pmax
comp=Z,38nm,1.0s
CHTO Chiang Mai 57.95 259 P **P 23 18 55.6 +0.7**
SNR=6.7
CHTO P **P 23 18 55.6 +0.7**
SNR=6.7
CM31 Chiang Mai Arr 58.23 259 *eP* **P 23 18 56.8 0.0**
comp=Z,25nm,0.9s
CM31 Chiang Mai Arr 58.23 259 P **P 23 18 57.9 +1.1**
SNR=7.1
CMAR Chiang Mai Arr 58.23 259 *i P* **P 23 18 58.0 +1.2**
CMAR pmax pmax
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 58.23 259 P **P 23 18 58.0 +1.2**
comp=Z,16nm,0.8s,baz=24,slow=7.1,SNR=64
CMAR LR LR 23 47 04.6
comp=Z,292nm,18.7s,baz=50,slow=39
CHAI Chaiyaphum 58.40 254 P **P 23 18 59.4 +1.4**
comp=Z,27μm,0.9s
PBKT Sadao Pong 58.48 256 P **P 23 19 00.1 +1.6**
comp=Z,7.4nm,1.1s,comp=Z,378nm
MOR8 Moi Rana 58.99 345 *eP* **P 23 19 00.2 -1.3**
ODAN Odare 59.01 275 *eP* **P 23 19 01.6 -0.9**
comp=Z,26nm,0.7s
JIRN Jiri 59.16 276 *eP* **P 23 19 03.1 -0.6**
comp=Z,44nm,0.8s
ULM Lac du Bonnet 59.19 47 P **P 23 19 03.6 +0.6**
comp=Z,2.2nm,0.8s,baz=318,slow=8.9,SNR=4.0
RAMN Ramite 59.43 275 *eP* **P 23 19 04.6 -0.8**
comp=Z,93nm,0.8s
KKN Kakani 59.62 277 *eP* **P 23 19 06.0 -0.7**
comp=Z,34nm,0.6s
RSSD Black Hills 59.65 56 *eP* **P 23 19 08.1 +1.4**
comp=Z,9.2nm,0.6s
RSSD Black Hills 59.65 56 *eP* **P 23 19 08.1 +1.4**
RSSD pmax pmax
comp=Z,9.0nm,0.6s
PKI Pulchoki 59.70 277 *eP* **P 23 19 06.6 -0.8**
comp=Z,50nm,0.9s
PKIN Phulchoki 59.71 277 *eP* **P 23 19 06.5 -0.8**
comp=Z,36nm,0.8s
DMN Daman 59.86 277 *eP* **P 23 19 07.9 -0.5**
comp=Z,62nm,0.7s
UMPA Umpang Tak 60.02 257 P **P 23 19 12.4 +3.2**
comp=Z,67μm,1.1s
DANN Dangsing 60.14 279 *eP* **P 23 19 09.8 -0.5**
comp=Z,57nm,0.7s
KOLN Koldanda 60.66 278 *eP* **P 23 19 13.0 -0.8**
comp=Z,27nm,0.6s
PYUN Piuthan 60.79 279 *eP* **P 23 19 13.8 -0.8**
comp=Z,99nm,1.1s
FINES FINESS Array B 60.88 337 P **P 23 19 14.5 +0.1**
comp=Z,28nm,0.8s,baz=41,slow=7.0,SNR=133
FINES LR LR 23 49 19.8
comp=Z,250nm,18.8s,baz=28,slow=40
NSS Namsos 60.91 345 *eP* **P 23 19 14.7 +0.1**
HNR Honiara 61.54 181 LR LR 23 42 53.6
comp=Z,115nm,21.9s,baz=359,slow=33
PHET Kaeng Krachan 62.15 254 P **P 23 19 25.9 +2.3**
comp=Z,94μm,0.9s,comp=Z,719μm
MOS Moscow 62.39 328 *eP* **P 23 19 23.7 -1.0**
MOS *eS* **S 23 27 44.7 -3.1**
MOS pmax pmax
comp=Z,60nm,1.1s
NIL Nilore 62.55 290 *eP* **P 23 19 25.9 -0.4**
comp=Z,41nm,0.8s
NIL Nilore 62.55 290 *eP* **P 23 19 25.9 -0.4**
NIL pmax pmax
comp=Z,41nm,0.8s
EYMN Ely 62.83 46 *eP* **P 23 19 29.2 +1.3**
comp=Z,7.5nm,0.9s
BORG Borgarnes 63.22 1 LR LR 23 45 31.4
comp=Z,48nm,21.4s,baz=23,slow=35
OBN Obninsk 63.24 328 *eP* **P 23 19 29.6 -0.8**
comp=Z,50nm,0.9s
OBN Obninsk 63.24 328*c i P* **P 23 19 29.7 -0.7**
OBN *i* 23 20 07.8
OBN pmax pmax
comp=Z,79nm,1.3s
OBN MLR MLR
comp=Z,302nm,20.0s
VSU Vasula 63.30 335*ceP* **P 23 19 31.0 +0.3**
VSU pmax pmax
comp=Z,171nm,1.0s
VSU Vasula 63.30 335 *eP* **P 23 19 30.8 0.0**
VSU IAmb IAmb 23 19 32.5
comp=Z,138nm,0.9s
ECSD EROS Data Cent 63.62 52 *eP* **P 23 19 34.0 +0.8**
comp=Z,5.2nm,1.0s
DOMB Dombas 63.71 345 *eP* **P 23 19 33.5 +0.1**
NC303 NORSAR Array S 64.11 344 *eP* **P 23 19 36.3 +0.3**
comp=Z,32nm,1.2s
NB201 NORSAR Array S 64.28 344 *eP* **P 23 19 37.9 +0.7**
KBL Kabul 64.30 294 *eP* **P 23 19 35.7 -2.3**
comp=Z,15nm,0.9s
KBL Kabul 64.30 294 *eP* **P 23 19 35.7 -2.3**
KBL pmax pmax
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 64.31 344 P **P 23 19 37.0 -0.4**
comp=Z,2.8nm,0.6s,baz=21,slow=6.9
NB2 NORSAR Subarra 64.31 344 P **P 23 19 37.0 -0.4**
baz=21,slow=6.9
NOA NORSAR Array B 64.31 344 P **P 23 19 36.3 -1.1**
comp=Z,5.0nm,0.7s,baz=21,slow=6.7,SNR=24
NOA LR LR 23 51 11.5
comp=Z,129nm,19.3s,baz=50,slow=39
NBO00 NORSAR Array S 64.39 344 *eP* **P 23 19 38.3 +0.4**
comp=Z,128nm,2.0s
LPSR Galich'ya Gora 64.50 325 *eP* **P 23 19 37.9 -0.8**
LPSR pmax pmax
comp=Z,90nm,0.8s
VRH Novokhopyorsk 64.62 322 *eP* **P 23 19 38.3 -1.2**
VRH pmax pmax
comp=Z,70nm,0.6s
HFS Hagfors 64.71 342 LR LR 23 52 59.2
comp=Z,218nm,18.9s,baz=24,slow=41
SLIT Slitere, Latvi 65.16 337 *i* Pg **P 23 19 41.6 -1.3**
SLIT *eP* **P 23 19 42.3 -0.6**
SLIT IAmb IAmb 23 19 44.5
comp=Z,360nm,0.8s
VSR Storozhevoye 65.55 324*c i P* **P 23 19 45.1 -0.4**
VSR pmax pmax
comp=Z,83nm,0.9s
VORD Divnogorie 65.71 324 *eP* **P 23 19 45.4 -1.1**
VORD pmax pmax
comp=Z,40nm,0.8s
IZAR Zarasai 65.81 334 *eP* **P 23 19 47.3 +0.2**
IZAR IAmb IAmb 23 19 48.8
comp=Z,13nm,0.9s
ISAL Salakas 66.00 334 *eP* **P 23 19 48.4 +0.1**
ISAL IAmb IAmb 23 19 49.3
comp=Z,7.5nm,0.7s
IDID Didziasalis 66.05 333 *eP* **P 23 19 48.8 +0.1**
IDID IAmb IAmb 23 19 50.5
comp=Z,20nm,0.9s
KRAB Krabi 66.14 252 P P 23 20 01.0 +11
IIGN Ignalina 66.16 333 *eP* **P 23 19 49.9 +0.5**
IIGN IAmb IAmb 23 19 51.3
comp=Z,27nm,0.9s
PABE Paberze 66.63 335 *eP* **P 23 19 52.2 -0.2**
PABE IAmb IAmb 23 19 54.1
comp=Z,87nm,0.8s
PBUR Paburg 66.69 336 *eP* **P 23 19 52.7 -0.1**
PBUR IAmb IAmb 23 19 54.5
comp=Z,64nm,1.0s
GEYT Alibeck 67.66 303 P **P 23 19 59.1 -0.2**
comp=Z,28nm,0.7s,baz=5.7,slow=3.0,SNR=68
GEYT LR LR 23 52 13.7
comp=Z,400nm,18.4s,baz=30,slow=38
MNTX Cornudas Mount 67.99 66 *eP* **P 23 20 04.8 +3.3**
comp=Z,9.8nm,1.6s
SUW Suwalki 68.17 334 *eP* **P 23 20 02.4 +0.3**
SUW Suwalki 68.17 334 *eP* **P 23 20 02.4 +0.3**
MAK Makhachkala 68.84 314 *eP* **P 23 20 05.9 -0.6**
MAK *eS* **S 23 29 03.3 -3.6**
MAK pmax pmax
comp=Z,172nm,1.3s
MAK MLR MLR
comp=Z,215nm,16.0s
AKASG Malin Array Be 69.35 329 P **P 23 20 09.1 -0.4**
comp=Z,9.1nm,0.4s,baz=30,slow=6.6,SNR=56
AKASG LR LR 23 55 51.5
comp=Z,324nm,18.3s,baz=40,slow=41
KIEV Kiev 69.36 329 *eP* **P 23 20 08.8 -0.8**
comp=Z,38nm,0.9s
KIEV Kiev 69.36 329⇑ *iP* **P 23 20 09.3 -0.3**
KIEV Kiev 69.36 329 *i P* **P 23 20 09.3 -0.3**
SNR=15
KIEV Kiev 69.36 329⇓ *iP* **P 23 20 08.7 -0.9**
KIEV pmax pmax
comp=Z,39nm,0.9s
GROC Groznyy 69.39 315 *eP* **P 23 20 07.2 -2.8**
GROC *e*PP **pP 23 20 24.3 +2.3**
GROC *e* 23 20 30.3
KIV Kislovodsk 70.11 317 *eP* **P 23 20 14.8 +0.2**
comp=Z,10.0nm,0.7s
KIV Kislovodsk 70.11 317⇑ *iP* **P 23 20 14.6 +0.1**
KIV Kislovodsk 70.11 317 *i P* **P 23 20 14.8 +0.2**
SNR=6.9
KIV Kislovodsk 70.11 317 *eP* **P 23 20 14.3 -0.2**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,512nm,17.0s
KIV Kislovodsk 70.11 317 P **P 23 20 14.7 +0.2**
KBZ Khabaz 70.21 317 P **P 23 20 15.4 +0.5**
comp=Z,20nm,0.8s,baz=80,slow=4.0,SNR=30
GKP Gorka Klasztor 70.33 338 *eP* **P 23 20 16.8 +1.2**
GKP Gorka Klasztor 70.33 338 *eP* **P 23 20 16.8 +1.2**
ZEI Tsey 70.55 316 *eP* **P 23 20 16.2 -1.1**
ZEI pmax pmax
comp=Z,12nm,0.8s
TXAR Lajitas Array 70.75 67 P **P 23 20 19.8 +1.2**
comp=Z,1.6nm,0.6s,baz=298,slow=4.5,SNR=21
BEL Belsk 70.76 335 *eP* **P 23 20 20.0 +1.8**
BEL Belsk 70.76 335 *eP* **P 23 20 20.0 +1.8**
ANN Anapa 71.52 321 *eP* P 23 20 10.0 -13
ANN MLR MLR
comp=Z,238nm,17.0s
ANN MLR MLR
comp=N,303nm,17.0s
ANN MLR MLR
comp=E,202nm,17.0s
LVV L'vov 71.69 332 *eP* **P 23 20 24.0 +0.1**
LVV MLR MLR
comp=Z,400nm,17.0s
AKH Akhalkalaki 71.85 315⇓ *iP* **P 23 20 26.0 +0.8**
KWP Kalwaria Pacla 72.24 333 *eP* **P 23 20 28.2 +1.0**
KWP Kalwaria Pacla 72.24 333 *eP* **P 23 20 28.2 +1.0**
GNI Garni 72.33 314 *eP* **P 23 20 29.3 +1.2**
comp=Z,15nm,0.8s
GNI Garni 72.33 314 *i P* **P 23 20 29.2 +1.2**
SNR=8.8
GNI Garni 72.33 314*ceP* **P 23 20 29.0 +0.9**
GNI pmax pmax
comp=Z,71nm,0.7s
GNI Garni 72.33 314 P **P 23 20 28.9 +0.9**
OJC Ojcow 72.50 335 *eP* **P 23 20 29.6 +0.9**
OJC Ojcow 72.50 335 *eP* **P 23 20 29.6 +0.9**
KIS Kishinev 72.72 328 *eP* **P 23 20 30.0 0.0**
KIS LRM MLR 23 56 12.0
comp=Z,600nm,16.0s
KIS Kishinev 72.72 328 *eP* **P 23 20 30.0 0.0**
KIS MLR MLR
comp=Z,600nm,16.0s
KIS MLR MLR
comp=N,300nm,17.0s
KSP Ksiaz 72.80 337 *eP* **P 23 20 31.2 +0.7**
KSP Ksiaz 72.80 337 *eP* **P 23 20 31.2 +0.7**
IAS Iasi 72.95 328⇑ *iP* **P 23 20 31.9 +0.5**
KOLS Kolonicke sedl 72.99 333 *eP* **P 23 20 32.3 +0.6**
KOLS pmax pmax
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 72.99 333 *eP* **P 23 20 32.3 +0.6**
NIE Niedzica 73.09 334 *eP* **P 23 20 33.7 +1.4**
NIE Niedzica 73.09 334 *eP* **P 23 20 33.7 +1.4**
CLL Collm 73.11 339⇑ *iP* **P 23 20 32.5 +0.2**
CLL pmax pmax
comp=Z,16nm,0.9s
CLL Collm 73.11 339⇑ *iP* **P 23 20 32.5 +0.2**
comp=Z,16nm,0.9s
CLL *i* 23 20 38.2
UPC Upice 73.18 337 AMS AMS 23 59 00.0
comp=Z,600nm,17.1s
DPC Dobruska-Polom 73.25 337 *eP* **P 23 20 34.5 +1.3**
DPC MLR MLR
comp=Z,400nm,16.8s
DPC Dobruska-Polom 73.25 337 *eP* **P 23 20 34.5 +1.3**
DPC AMS AMS 23 59 00.0
comp=Z,400nm,16.8s
UZH Uzhgorod 73.26 332*d iP* **P 23 20 33.1 -0.1**
UZH *i* 23 20 46.5
OKC Ostrava-Krasne 73.27 336 AMS AMS 23 56 40.0
comp=Z,400nm,15.2s
BURAR Bucovina Array 73.31 330⇑ *iP* **P 23 20 33.7 0.0**
BRG Berggiesshubel 73.31 339 *eP* **P 23 20 33.8 +0.3**
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 73.31 339 *eP* **P 23 20 33.8 +0.3**
BRG pmax pmax
comp=Z,5.0nm,1.0s
KRLC Kraliky 73.39 337 *eP* **P 23 20 35.2 +1.2**
KRLC Kraliky 73.39 337 *eP* **P 23 20 35.2 +1.2**
MORC Moravsky Berou 73.48 336⇓ *iP* **P 23 20 35.6 +1.0**
MORC Moravsky Berou 73.48 336 *eP* **P 23 20 35.3 +0.7**
PVCC Panska Ves 73.50 338 AMS AMS 23 59 10.0
comp=Z,400nm,12.7s
LANS Liptovska Anna 73.56 334 *eP* **P 23 20 37.1 +2.1**
LANS Liptovska Anna 73.56 334 *eP* **P 23 20 37.1 +2.1**
BIZ Bicaz 73.64 329⇑ *iP* **P 23 20 35.9 +0.4**
TRPA Tarpa 73.64 332⇑ *iP* **P 23 20 35.7 +0.3**
TRPA Tarpa 73.64 332⇑ *eP* **P 23 20 36.0 +0.6**
WTSB Winterswijk 73.70 343 *eP* **P 23 20 39.0 +3.3**
comp=Z,41nm,1.2s
BIR Birlad 73.75 328⇑ *iP* **P 23 20 37.2 +1.1**
BMR Baia Mare 73.78 331⇓ *iP* **P 23 20 36.6 +0.3**
TESR Tescani 73.85 329⇓ *iP* **P 23 20 37.0 +0.3**
PRU Pruhonice 74.01 338 *eP* **P 23 20 38.6 +1.0**
PRU *e* 23 20 48.7
PRU MLR MLR
comp=Z,400nm,13.7s
PRU Pruhonice 74.01 338 *eP* **P 23 20 38.6 +1.0**
PRU *ep*P **pP 23 20 48.7 -1.0**
PRU AMS AMS 23 59 30.0
comp=Z,400nm,13.7s
GOPC GO Pecny, Ondr 74.02 338 *eP* **P 23 20 39.9 +2.2**

GOPC MLR MLR
comp=Z,300nm,14.5s
GOPC GO Pecny, Ondr 74.02 338 *eP* **P 23 20 39.9 +2.2**
GOPC *epP* **pP 23 20 45.9 -4.0**
GOPC AMS AMS 23 59 40.0
comp=Z,300nm,14.5s
ARCR ARCALIA 74.05 330⇑ *iP* **P 23 20 38.6 +0.7**
VRAC Vranov 74.15 336⇑ *iP* **P 23 20 39.3 +0.9**
VRAC Vranov 74.15 336 *eP* **P 23 20 39.5 +1.1**
NKC Novy Kostel 74.25 339 *eP* **P 23 20 40.2 +1.2**
NKC *e* 23 20 50.3
NKC Novy Kostel 74.25 339 *eP* **P 23 20 40.2 +1.2**
NKC *epP* **pP 23 20 50.3 -0.9**
JAVC Velka Javorina 74.30 335 *eP* **P 23 20 41.1 +1.7**
VYHS Vyhne 74.33 335 *eP* **P 23 20 40.5 +1.0**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 74.33 335 *eP* **P 23 20 40.5 +1.0**
PETR Petresti 74.36 328⇑ *iP* **P 23 20 40.6 +0.9**
ODBI Odobesti 74.38 328⇓ *iP* **P 23 20 40.8 +1.0**
VRI Vrincioaia 74.39 328⇑ *iP* **P 23 20 40.8 +0.9**
KRUC Moravsky 74.43 336 *eP* **P 23 20 41.0 +1.0**
TREC Trest 74.43 337 *eP* **P 23 20 41.1 +1.0**
TREC MLR MLR
comp=Z,500nm,16.4s
TREC Trest 74.43 337 *eP* **P 23 20 41.1 +1.0**
TREC AMS AMS 23 59 40.0
comp=Z,500nm,16.4s
PLOR Plostina 74.43 328⇑ *iP* **P 23 20 41.3 +1.1**
OZUR 74.49 329⇑ *iP* **P 23 20 41.2 +0.7**
CFR Carcaliu 74.54 327⇑ *iP* **P 23 20 41.0 +0.3**
PSZ Piszkesteto 74.58 334⇓ *iP* **P 23 20 41.9 +0.9**
PSZ Piszkesteto 74.58 334 *eP* **P 23 20 41.1 +0.1**
CJR Cluj-Napoca 74.61 331⇑ *iP* **P 23 20 42.2 +1.0**
BISRR Bisoca 74.68 328⇓ *iP* **P 23 20 42.8 +1.1**
DOPR Dopca 74.73 329⇓ *iP* **P 23 20 43.0 +1.1**
DRGR 74.80 331⇑ *iP* **P 23 20 42.7 +0.3**
MODS Modra-Piesok 74.84 336 *eP* **P 23 20 42.9 +0.4**
MODS pmax pmax
comp=Z,12nm,1.1s
MODS Modra-Piesok 74.84 336 *eP* **P 23 20 42.9 +0.4**
MLR Muntele Rosu 74.98 329⇓ *iP* **P 23 20 44.2 +0.7**
HGN Heimansgroeve 75.01 344 *eP* **P 23 20 44.0 +0.6**
comp=Z,22nm,0.9s
GRFO Grafenberg 75.02 340 *eP* **P 23 20 45.0 +1.5**
comp=Z,18nm,1.0s
GRFO Grafenberg 75.02 340 *eP* **P 23 20 45.0 +1.5**
GRFO pmax pmax
comp=Z,19nm,1.0s
KHC Kasperske Hory 75.03 338 *eP* **P 23 20 44.3 +0.7**
KHC MLR MLR
comp=Z,500nm,12.4s
KHC Kasperske Hory 75.03 338 *eP* **P 23 20 44.3 +0.7**
KHC *ex* x 23 21 14.0
KHC AMS AMS 23 59 50.0
comp=Z,500nm,12.4s
DIKM Dikmen 75.03 321⇓ *iP* **P 23 20 41.0 -2.7**
TLB Topalu 75.10 327⇓ *iP* **P 23 20 44.6 +0.6**
MEM Membach 75.15 343⇑ *iP* **P 23 20 44.9 +0.7**
comp=Z,25nm,1.0s
GERES GERESS Array B 75.27 338 P **P 23 20 45.1 +0.1**
comp=Z,2.7nm,0.7s,baz=33,slow=5.1,SNR=28
GERES LR LR 23 57 37.1
comp=Z,139nm,21.2s,baz=26,slow=39
VOIR 75.31 329⇑ *iP* **P 23 20 46.2 +0.9**
BCLA Clavier 75.45 344⇑ *iP* **P 23 20 46.2 +0.2**
WRA Warramunga Arr 75.50 205 P **P 23 20 45.9 -0.6**
comp=Z,1.7nm,0.7s,baz=16,slow=6.2,SNR=3.5
ARR Arges 75.50 329⇑ *iP* **P 23 20 47.1 +0.7**
CSKK Cskako 75.52 334 *eP* **P 23 20 47.1 +0.7**
ICOR Ion Corvin 75.59 327⇓ *iP* **P 23 20 48.0 +1.2**
CONA Conrad Observa 75.61 336 *eP* **P 23 20 48.2 +1.2**
comp=Z,9.8nm,0.9s
TIH Tihany 76.05 335 *eP* P 23 20 41.1 -8.3
MOA Molln 76.07 337 *eP* **P 23 20 50.4 +0.8**
comp=Z,9.0nm,1.0s
ILGA Ilgaz 76.14 321 *eP* **P 23 20 51.1 +0.8**
comp=Z,41nm,1.0s
BZS Buzias 76.19 332⇑ *iP* **P 23 20 50.5 +0.3**
ARSA Arzberg 76.33 336 *eP* **P 23 20 50.8 -0.2**
comp=Z,9.3nm,1.0s
HERR Herculane 76.62 331⇑ *iP* **P 23 20 53.1 +0.4**
BFO Black Forest 76.91 341 *eP* **P 23 20 55.4 +1.1**
comp=Z,11nm,1.2s
BFO Black Forest 76.91 341 *eP* **P 23 20 55.4 +1.1**
BFO pmax pmax
comp=Z,11nm,1.2s
MDVR Moldovita 76.92 331⇓ *iP* **P 23 20 54.5 +0.1**
SOKA Soboth 76.98 336 *eP* **P 23 20 55.8 +1.0**
comp=Z,15nm,1.1s
KBA Koelnbreinsper 77.01 338 *eP* **P 23 20 56.7 +1.6**
comp=Z,43nm,0.9s,SNR=17
RETA Reutte 77.21 339 *iP* **P 23 20 56.2 +0.2**
comp=Z,10nm,1.1s
WTTA Wattenberg 77.23 339 *eP* **P 23 20 57.6 +1.3**
comp=Z,16nm,1.0s,SNR=5.1
OBKA Obir 77.26 337 *eP* **P 23 20 58.2 +1.8**
comp=Z,21nm,1.1s
MOTA Moosalm 77.27 339 *iP* **P 23 20 56.2 -0.2**
comp=Z,11nm,0.8s,SNR=6.4
BR131 Keskin Array S 77.32 321 P **P 23 20 57.1 +0.2**
SNR=6.6
BRTR Keskin Array B 77.32 321 P **P 23 20 57.1 +0.2**
comp=Z,8.0nm,1.0s,baz=47,slow=2.2,SNR=32
BRTR LR LR 00 00 28.0
comp=Z,152nm,20.0s,baz=22,slow=40
SQTA Sankt Quirin 77.36 339 *eP* **P 23 20 58.3 +1.3**
comp=Z,15nm,1.0s
ABTA Abfaltersbach 77.52 338 *eP* **P 23 20 58.6 +0.8**
comp=Z,29nm,1.1s
DAVA Damuels 77.58 340 *iP* **P 23 21 00.1 +1.8**
comp=Z,14nm,1.1s
FETA Feichten 77.66 339 *eP* **P 23 20 59.9 +1.3**
comp=Z,10nm,0.8s,SNR=5.6
SHME Shamm 77.94 297 P **P 23 21 00.1 -0.3**
FUORN Ofenpass-Fuorn 78.14 339 *eP* **P 23 21 02.3 +0.8**
comp=Z,13nm,0.9s
BORA Eskisehir 78.39 323 *iP* **P 23 21 03.3 +0.6**
VTS Vitosha 78.42 329⇓ *iP* **P 23 21 03.2 +0.2**
TUE Stuetta 78.47 340 *eP* **P 23 21 03.8 +0.6**
comp=Z,14nm,0.9s
AUBOZ BOZOYUK 78.52 323 *iP* **P 23 21 04.9 +1.5**
ULDT Uludag 78.64 324 *iP* **P 23 21 05.9 +1.7**
WSAR Wadi Sarin 78.78 293 P **P 23 21 05.1 0.0**
HATD Hatta, Dubai 78.91 296 *iP* **P 23 21 05.8 0.0**
SNR=9.4
HATD Hatta, Dubai 78.91 296 P **P 23 21 05.5 -0.3**
NAZ Nazwa, Dubai 79.04 297 *iP* **P 23 21 06.1 -0.3**
SNR=8.6
NAZ Nazwa, Dubai 79.04 297 P **P 23 21 06.6 +0.1**
ASHO Ashiyiah 79.07 296 *iP* **P 23 21 06.3 -0.4**
SNR=8.8
ASHO Ashiyiah 79.07 296 P **P 23 21 06.1 -0.6**
ASAR Alice Springs 79.17 205 P **P 23 21 07.7 +0.8**
comp=Z,2.3nm,0.7s,baz=16,slow=5.1,SNR=18
ASAR LR LR 23 54 45.7
comp=Z,23nm,22.0s,baz=26,slow=35
SOHO SOHO 79.24 295 P **P 23 21 06.8 -0.7**
SNR=7.5
FAQ Al Faqa, Dubai 79.28 297 *iP* **P 23 21 07.2 -0.5**
SNR=6.4
DURS Dursunbey 79.35 324 *iP* **P 23 21 09.2 +1.1**
GDZ Gediz 79.44 323 *iP* **P 23 21 09.5 +0.9**
DOGA KONYA_Doganhis 79.48 321 *iP* **P 23 21 09.5 +0.7**
ASUD Al Ashush, Dub 79.51 297 P **P 23 21 08.9 -0.1**
ASUD Al Ashush, Dub 79.51 297 P **P 23 21 08.5 -0.5**
STIP Stip 79.58 330 *iP* **P 23 21 08.6 -0.6**
ALNE Al Ain 79.73 296 *iP* **P 23 21 10.0 -0.3**
SNR=13
AJN Ajban 79.75 297 P **P 23 21 09.8 -0.5**
AJN Ajban 79.75 297 P **P 23 21 09.3 -1.0**
PDG Podgorica 79.79 332⇑ *iP* **P 23 21 10.6 +0.4**
VAY Valandovo 79.80 329 *iP* **P 23 21 11.2 +0.8**
STEP BALIKESIR_Sava 79.82 325 *iP* **P 23 21 11.1 +0.6**
EZN Ezine 79.91 326⇓ *iP* **P 23 21 11.5 +0.6**
USAK Uak-Merkez 79.94 323 *iP* **P 23 21 11.9 +0.7**
BSY Bisya 79.97 294 P **P 23 21 12.0 +0.4**
SNR=5.1
KHAL Karahalli 80.07 323 *iP* **P 23 21 12.4 +0.4**
KRUS Krusevo 80.17 330 *iP* **P 23 21 12.5 +0.1**
MANT Manisa 80.31 324 *iP* **P 23 21 13.1 -0.3**
BRDR BURDUR-Merkez 80.45 322 *iP* **P 23 21 14.1 +0.1**
MHTO MHTO 80.93 292 P **P 23 21 16.6 -0.1**
SNR=8.2
KORT Korkueli 80.95 322 *iP* **P 23 21 15.2 -1.6**
TAVA DENIZLI_Tavas 81.08 323 *iP* **P 23 21 18.6 +1.2**
AYDN Tasoluk 81.29 324 *iP* **P 23 21 19.7 +1.2**
TURN Turunc 81.72 323 *iP* P 23 21 07.2 -13
DALY Dalyan (Mula) 81.75 323 *iP* P 23 21 07.7 -13
PPT Papeete 82.01 132 LR LR 23 50 41.7
comp=Z,114nm,21.9s,baz=353,slow=30
TIP Timpagrande 83.51 332⇑ *iP* **P 23 21 30.4 +0.4**
KEST Kesra 88.71 337 P **P 23 21 55.9 +0.2**
comp=Z,9.0nm,0.9s,baz=42,slow=1.7,SNR=11
KEST LR LR 00 07 04.4
comp=Z,177nm,18.8s,baz=294,slow=39
SYO Syowa Base 148.21 216⇑ *iP* **PKPbc 23 28 45.3 -1.2**

PRU 24 23:19:30.5±0.0, 49°.86N×18°.49E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**264**	*e*PG	Pg	23 19 35.4	+0.6
OKC				*e*SG	Sg	23 19 38.6	+1.0
comp=Z,26nm,0.6s							
MORC	**Moravsky Berou**	**0.62**	**263**	*e*PG	Pg	23 19 42.5	+0.1
MORC				*e*SG	Sg	23 19 50.2	-0.2
OJC	**Ojcow**	**0.92**	**66**	*e*Pg	Pg	23 19 46.9	-1.1
OJC				*e*Sg	Sg	23 19 59.7	-0.2
JAVC	**Velka Javorina**	**1.14**	**208**	*e*PG	Pg	23 19 52.0	-0.2
NIE	**Niedzica**	**1.26**	**110**	*e*Pg	Pg	23 19 53.2	-1.4
NIE				*e*Sg	Sb	23 20 12.1	+0.3
VRAC	**Vranov**	**1.35**	**247**	*e*PG	Pg	23 19 55.4	-1.0
VRAC				*e*SG	Sg	23 20 12.6	-1.3
DPC	**Dobruska-Polom**	**1.48**	**290**	*e*PG	Pn	23 19 57.7	-0.7
DPC				*e*SG	Sg	23 20 17.6	-0.4
comp=Z,2.4nm,0.4s							
KRUC	**Moravsky**	**1.58**	**240**	*e*PG	Pn	23 19 58.6	-1.2
KRUC				*e*SG	Sn	23 20 19.2	-1.8

IDC 24 23:31:05.6±1.7, 54°.58N×153°.37E, h617km±27km, mb2.2/2, mb1 2.5/4, mb1mx2.3/43, mbtmp3.4/4, Error ellipse: s-maj=52.7km s-min=26.2km az=165.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**2.96**	**118**	P	P	23 32 25.9	0.0
0.4nm,0.3s,baz=347,slow=4.5,SNR=7.9							
SEY	**Seymchan**	**8.40**	**357**	P	P	23 33 08.7	-0.1
0.5nm,0.3s,baz=82,slow=2.2,SNR=5.6							
ILAR	**Eielson Array**	**30.65**	**47**	P	P	23 36 31.4	0.0
0.4nm,0.7s,baz=271,slow=8.7,SNR=6.0							
MKAR	**Makanchi Array**	**43.91**	**290**	P	P	23 38 19.2	-0.1
0.2nm,0.5s,baz=55,slow=6.6,SNR=3.9							

*IDC **24** 23:34:15.4±2.8, 48°.74N×156°.71E, h0km, mb3.3/2, mb1 3.9/4, mb1mx3.4/44, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=84.3km s-min=34.2km az=144.0*
*KRSC **24** 23:34:22.9±10.0, 49°.26N×156°.35E, h31km±10km, ML4.4*
*MOS **24** 23:34:22.9±2.6, 49°.26N×156°.35E, h31km, mb4.0/1, Error ellipse: s-maj=28.5km s-min=4.7km az=78.1*
*ISCJB **24** 23:34:23.5±1.0, 49°.27N±0°.09×155°.8E±0°.2, h35km, mb3.5/2, Error ellipse: s-maj=21.3km s-min=7.5km az=33.4*

ISC 24 23:34:22.5±1.3, 49°.2N±0°.1×155°.9E±0°.1, h35km, n48, σ1°95/66, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.54**	**6**	*e*P	**Pn**	**23 34 48.3**	**+0.8**
SKR				*e*S	**Sn**	**23 35 05.8**	**-0.4**
SKR	**Severo-Kuril's**	**1.54**	**6**	*e*PN	**Pn**	**23 34 48.2**	**+0.8**
SKR				*e*S	**Sn**	**23 35 06.6**	**+0.4**
SKR				pmax	pmax		
comp=Z,669nm,0.7s							
SKR				smax	smax		
comp=E,453nm,0.4s							
SKR				smax	smax		
comp=N,706nm,0.6s							
ALID	**Alaid**	**1.73**	**353**	*e*P	**Pn**	**23 34 49.6**	**-0.6**
ALID	**Alaid**	**1.73**	**353**	PN	**Pn**	**23 34 49.6**	**-0.6**
PAU	**Pauzhetka**	**2.40**	**14**	*e*P	**Pn**	**23 35 00.1**	**+0.9**
PAU				*e*S	**Sn**	**23 35 27.5**	**+0.2**
PAU	**Pauzhetka**	**2.40**	**14**	PN	**Pn**	**23 35 00.1**	**+0.9**
PAU				S	**Sn**	**23 35 27.5**	**+0.2**
KDTR	**Khodutka, Kamc**	**3.01**	**27**	*e*P	**Pn**	**23 35 09.1**	**+1.4**
KDTR				*e*S	**Sn**	**23 35 42.1**	**-0.4**
KDTR	**Khodutka, Kamc**	**3.01**	**27**	PN	**Pn**	**23 35 09.1**	**+1.4**
KDTR				S	**Sn**	**23 35 42.1**	**-0.4**
ASAK	**Asacha**	**3.48**	**21**	P	**Pn**	**23 35 16.5**	**+2.3**
ASAK	**Asacha**	**3.48**	**21**	PN	**Pn**	**23 35 16.5**	**+2.3**
MTVR	**Mutnovka**	**3.65**	**23**	*e*P	**Pn**	**23 35 18.6**	**+2.1**
MTVR				*e*S	**Sn**	**23 35 58.3**	**0.0**
MTVR	**Mutnovka**	**3.65**	**23**	PN	**Pn**	**23 35 18.6**	**+2.1**
MTVR				S	**Sn**	**23 35 58.3**	**0.0**
RUS	**Russkaya**	**3.69**	**26**	*e*P	**Pn**	**23 35 18.1**	**+1.1**
RUS				*e*S	**Sn**	**23 35 58.0**	**-1.2**
RUS	**Russkaya**	**3.69**	**26**	PN	**Pn**	**23 35 18.1**	**+1.1**
RUS				S	**Sn**	**23 35 58.0**	**-1.2**
APC	**Apacha**	**3.87**	**12**	*e*P	**Pn**	**23 35 20.2**	**+0.8**
APC	**Apacha**	**3.87**	**12**	PN	**Pn**	**23 35 20.2**	**+0.8**
KRMR	**Karymshinskiy**	**3.95**	**20**	*e*P	**Pn**	**23 35 22.6**	**+2.0**
KRMR	**Karymshinskiy**	**3.95**	**20**	PN	**Pn**	**23 35 22.6**	**+2.0**
PETK	**Petropavlovsk-**	**4.13**	**16**	Pn	**Pn**	**23 35 23.6**	**+0.6**
comp=N,5.9nm,0.3s,baz=170,slow=12,SNR=119							
PET	**Petropavlovsk**	**4.26**	**23**	*e*P	**Pn**	**23 35 27.2**	**+2.4**
PET				*e*S	**Sn**	**23 36 13.9**	**+0.7**
PET	**Petropavlovsk**	**4.26**	**23**	*e*PN	**Pn**	**23 35 26.9**	**+2.1**
PET				*e*S	**Sn**	**23 36 12.9**	**-0.3**
PET				pmax	pmax		
comp=Z,64nm,0.5s							
PET				smax	smax		
comp=N,105nm,0.4s							
PET				smax	smax		
comp=E,96nm,0.6s							
DALK	**Dalny**	**4.29**	**24**	*e*P	**Pn**	**23 35 27.2**	**+2.0**
DALK				S	**Sn**	**23 36 15.5**	**+1.5**
DALK	**Dalny**	**4.29**	**24**	PN	**Pn**	**23 35 27.2**	**+2.0**
DALK				S	**Sn**	**23 36 15.5**	**+1.5**
UGLR	**Uglovaya**	**4.47**	**24**	*e*P	**Pn**	**23 35 30.2**	**+2.4**
UGLR	**Uglovaya**	**4.47**	**24**	PN	**Pn**	**23 35 30.2**	**+2.4**
KOK	**Koryaka**	**4.50**	**22**	*e*P	**Pn**	**23 35 31.3**	**+3.1**
KOK	**Koryaka**	**4.50**	**22**	PN	**Pn**	**23 35 31.3**	**+3.1**
AVH	**Avacha**	**4.50**	**23**	*e*P	**Pn**	**23 35 31.1**	**+2.9**
AVH				*e*S	**Sn**	**23 36 21.6**	**+2.4**
AVH	**Avacha**	**4.50**	**23**	PN	**Pn**	**23 35 31.1**	**+2.9**
AVH				S	**Sn**	**23 36 21.6**	**+2.4**
SMAR	**Somma**	**4.51**	**23**	*e*P	**Pn**	**23 35 30.9**	**+2.4**
SMAR	**Somma**	**4.51**	**23**	PN	**Pn**	**23 35 30.9**	**+2.4**
KRER	**Koryakskii**	**4.54**	**22**	*e*P	**Pn**	**23 35 31.1**	**+2.3**
KRER	**Koryakskii**	**4.54**	**22**	PN	**Pn**	**23 35 31.1**	**+2.3**
SDLR	**Sedlovina**	**4.55**	**24**	*e*P	**Pn**	**23 35 30.5**	**+1.6**
SDLR	**Sedlovina**	**4.55**	**24**	PN	**Pn**	**23 35 30.5**	**+1.6**
KRX	**Arik**	**4.56**	**21**	*e*P	**Pn**	**23 35 31.6**	**+2.5**
KRX	**Arik**	**4.56**	**21**	PN	**Pn**	**23 35 31.6**	**+2.5**
SPN	**Mys Shipunski**	**4.74**	**32**	*e*P	**Pn**	**23 35 32.9**	**+1.5**
SPN				*e*S	**Sn**	**23 36 23.2**	**-1.9**
SPN	**Mys Shipunski**	**4.74**	**32**	PN	**Pn**	**23 35 32.9**	**+1.5**
SPN				S	**Sn**	**23 36 23.2**	**-1.9**
KZV	**Kizimen**	**6.56**	**23**	*e*P	**Pn**	**23 35 59.5**	**+2.9**
KZV	**Kizimen**	**6.56**	**23**	PN	**Pn**	**23 35 59.5**	**+2.9**
TUMR	**Tumrok**	**6.68**	**22**	*e*P	**Pn**	**23 36 01.7**	**+3.6**
TUMR	**Tumrok**	**6.68**	**22**	PN	**Pn**	**23 36 01.7**	**+3.6**
KBTR	**Krutoberegovo**	**8.23**	**28**	*e*P	**Pn**	**23 36 20.7**	**+1.4**
KBTR	**Krutoberegovo**	**8.23**	**28**	PN	**Pn**	**23 36 20.7**	**+1.4**
ASAJ	**Asahikawa**	**10.42**	**246**	Pn	**Pn**	**23 36 51.0**	**+1.7**
comp=E,1.1nm,0.3s,baz=72,slow=19,SNR=6.5							
ILAR	**Eielson Array**	**33.52**	**41**	P	**P**	**23 40 55.9**	**-2.4**
comp=E,0.2nm,0.5s,baz=274,slow=6.2,SNR=5.6							
YKA	**Yellowknife Ar**	**47.89**	**39**	P	**P**	**23 42 54.3**	**-2.3**
comp=E,0.4nm,0.6s,baz=296,slow=7.6,SNR=3.8							

*SJA **24** 23:37:08.9±0.5, 21°.01S×68°.65W, h107km±6km, ML2.1, MW2.7*
*ISCJB **24** 23:37:09.4±1.0, 21°.12S±0°.03×68°.8W±0°.1, h129km±11km, Error ellipse: s-maj=15.7km s-min=5.6km az=1.1*
*GUC **24** 23:37:09.5±0.7, 21°.12S×68°.76W, h127km±4km, ML3.3*

ISC 24 23:37:09.7±1.8, 21°.11S±0°.04×68°.79W±0°.09, h126km±14km, n19, σ0°38/30, 2C-9D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.65**	**276**	*e*P	**Pn**	**23 37 29.6**	**+0.2**
PB01				*e*S	**Sn**	**23 37 44.7**	**+0.4**
PB01	**IPOC Station P**	**0.65**	**276**	*i*P	**Pn**	**23 37 29.0**	**-0.5**
PB01				*i* S	**Sn**	**23 37 44.1**	**-0.2**
PB01				IAML		23 37 45.4	
comp=E,545nm,0.2s							
PB09	**IPOC Station P**	**0.80**	**211**	*e*P	**Pn**	**23 37 30.6**	**-0.2**
PB09				*e*S	**Sn**	**23 37 46.5**	**-0.1**
PB09	**IPOC Station P**	**0.80**	**211**	*i*P	**Pn**	**23 37 30.5**	**-0.2**
PB09				*i* S	**Sn**	**23 37 46.2**	**-0.3**
PB09				IAML		23 37 48.2	
comp=E,362nm,0.2s							
PB08	**IPOC Station P**	**1.02**	**340**	*i*P	**Pn**	**23 37 33.2**	**+0.3**
PB08				*i* S	**Sn**	**23 37 50.7**	**+0.3**
PB08				IAML		23 37 51.4	
comp=E,340nm,0.3s							
PB02	**IPOC Station P**	**1.05**	**258**	*e*P	**Pn**	**23 37 33.2**	**+0.4**
PB02	**IPOC Station P**	**1.05**	**258**	*i*P	**Pn**	**23 37 33.0**	**+0.2**
PB02				*i* S	**Sn**	**23 37 50.6**	**+0.2**
PB02				IAML		23 37 53.0	
comp=N,810nm,0.3s							
PB07	**IPOC Station P**	**1.19**	**239**	*e*P	**Pn**	**23 37 34.7**	**+0.3**
PB07	**IPOC Station P**	**1.19**	**239**	*i*P	**Pn**	**23 37 34.3**	**0.0**
PB07				*i* S	**Sn**	**23 37 53.2**	**+0.1**
PB07				IAML		23 37 55.1	
comp=N,472nm,0.2s							
PB03	**IPOC Station P**	**1.29**	**224**	*i*P	**Pn**	**23 37 35.3**	**-0.2**
PB03				*i* S	**Sn**	**23 37 54.6**	**-0.4**
GO01	**Chusmiza**	**1.48**	**345**	*i*P	**Pn**	**23 37 38.0**	**+0.2**
GO01				*i* S	**Sn**	**23 37 59.2**	**0.0**
GO01				IAML		23 38 02.4	
comp=N,808nm,0.1s							
PB11	**IPOC Station P**	**1.57**	**329**	*i*P	**Pn**	**23 37 38.4**	**-0.1**
PB11				*i* S	**Sn**	**23 38 00.5**	**+0.1**
PB11				IAML		23 38 02.2	
comp=N,534nm,0.3s							
PB06	**IPOC Station P**	**1.75**	**204**	*i*P	**Pn**	**23 37 40.4**	**-0.2**
PB06				*i* S	**Sn**	**23 38 03.8**	**-0.4**
PB06				IAML		23 38 04.5	
comp=E,547nm,0.4s							
PB04	**IPOC Station P**	**1.75**	**226**	IAML		23 38 11.1	
comp=N,282nm,0.3s							
PSGC	**Pisagua**	**1.96**	**320**	*i*P	**Pn**	**23 37 42.7**	**-0.4**
PSGC				*i* S	**Sn**	**23 38 08.0**	**-0.5**
PSGC				IAML		23 38 14.4	
comp=N,127nm,0.5s							
MNMC	**Minye Minye**	**2.11**	**339**	IAML		23 38 17.5	
comp=E,432nm,0.2s							
PB15	**IPOC Station P**	**2.18**	**197**	*e*P	**Pn**	**23 37 47.3**	**+1.3**
PB15	**IPOC Station P**	**2.18**	**197**	*i*P	**Pn**	**23 37 45.7**	**-0.3**
PB15				*i* S	**Sn**	**23 38 13.8**	**0.0**
HJA	**Humahuaca**	**3.77**	**124**	*e*P	**Pn**	**23 38 06.6**	**-0.1**
HJA				IAML		23 38 07.9	
comp=Z,2.7nm,0.4s							

KRSC 24 23:39:54.5±10.0, 53°.89N×154°.88E, h649km±10km, ML3.9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.67**	**124**	*e*P	P	23 41 13.1	+1.0
ESO	**Esso**	**3.00**	**46**	*e*P	P	23 41 19.0	+1.5
SPN	**Mys Shipunski**	**3.17**	**102**	*e*P	P	23 41 20.0	+1.5
SPN				*e*S	S	23 42 26.1	-1.1
KBTR	**Krutoberegovo**	**5.12**	**60**	*e*P	P	23 41 32.2	+1.1

*IDC **24** 23:53:12.1±1.9, 5°.23S×152°.65E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/25, mbtmp3.8/5, Error ellipse: s-maj=70.6km s-min=24.3km az=117.0*
*ISCJB **24** 23:53:17.7±1.7, 5°.1S±0°.2×152°.2E±0°.3, h35km, mb4.0/6, Error ellipse: s-maj=56.6km s-min=11.8km az=36.8*

ISC 24 23:53:19.4±1.9, 5°.2S±0°.3×152°.2E±0°.4, h35km, n8, σ1°59/8, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.58**	**230**	Sn	**Sn**	**23 56 06.8**	**-0.8**
2.0nm,0.3s,baz=90,slow=14,SNR=5.9							
WRA	**Warramunga Arr**	**22.80**	**228**	P	**P**	**23 58 19.8**	**+0.5**
128nm,0.3s,baz=55,slow=10,SNR=1.2							
ASAR	**Alice Springs**	**25.52**	**222**	P	**P**	**23 58 44.7**	**-0.3**
1.0nm,0.7s,baz=55,slow=9.0,SNR=8.6							
SONM	**Songino Array**	**66.32**	**328**	P	**P**	**00 04 05.1**	**+0.5**
0.3nm,0.5s,baz=116,slow=3.4,SNR=3.0							
MKAR	**Makanchi Array**	**80.22**	**319**	P	**P**	**00 05 26.5**	**0.0**
0.6nm,0.8s,baz=116,slow=5.5,SNR=4.8							
ZALV	**Zalesovo Beam**	**81.13**	**326**	P	**P**	**00 05 30.6**	**-0.6**
0.3nm,0.3s,baz=119,slow=5.1,SNR=2.7							
ILAR	**Eielson Array**	**82.69**	**22**	P	**P**	**00 05 37.5**	**-1.6**
1.6nm,1.0s,baz=249,slow=5.3,SNR=10							
TORD	**Torodi Ar. Bea**	**149.88**	**287**	PKPbc	**PKPdf**	**00 13 05.1**	**+2.9**
0.4nm,0.7s,baz=56,slow=4.1,SNR=3.2							

*HEL **24** 23:58:25.7, 67°.85N×19°.90E, h0km, ML1.8, Explosion*

UPP 24 23:58:27.2±0.0, 67°.85N×20°.21E, h0km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**25**	P	Pg	23 58 29.6	+0.2
KUA				S	Sg	23 58 31.1	+0.3
KUA	**Kurravaara**	**0.12**	**25**	*i* P	Pg	23 58 29.6	+0.2
KUA				*i* S	Sg	23 58 31.1	+0.3
RATU	**Laukkuluspa**	**0.23**	**264**	P	Pg	23 58 31.9	+0.3
RATU	**Laukkuluspa**	**0.23**	**264**	*i* P	Pg	23 58 31.9	+0.3
NIKU	**Nikkaluokta**	**0.44**	**273**	P	Pg	23 58 35.7	0.0
NIKU	**Nikkaluokta**	**0.44**	**273**	*i* P	Pg	23 58 35.7	0.0
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	23 58 40.4	-0.2
LANU	**Lannavaara**	**0.70**	**73**	*i* P	Pg	23 58 40.4	-0.2
DUNU	**Dundret**	**0.75**	**169**	P	Pg	23 58 41.0	-0.5
DUNU				S	Sg	23 58 51.4	+0.3
DUNU	**Dundret**	**0.75**	**169**	*i* P	Pg	23 58 41.0	-0.5
DUNU				*i* S	Sg	23 58 51.4	+0.3
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	23 58 42.3	0.0
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	23 58 42.3	0.0
SALU	**Saltoluokta**	**0.81**	**235**	P	Pg	23 58 42.1	-0.4
SALU	**Saltoluokta**	**0.81**	**235**	*i* P	Pg	23 58 42.1	-0.4
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	Pb	23 58 50.1	-0.3
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*PB	Pg	23 58 50.0	+0.2
KIF				MSG		23 59 03.3	
comp=Z,13nm,0.2s							
KIF				*e*SB	Sg	23 59 05.4	+0.4
PAJU	**Pajala**	**1.40**	**125**	P

DUNU	Dundret	0.76 169	P	Pg	23 58 46.0	-0.2
SALU	Saltoluokta	0.81 234	P	Pg	23 58 46.8	-0.3

MAN 25 00:05:55.4, 9°.08N×126°.72E, h14km, MS3.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.09	264	eP		Pb	00 06 14.8 -1.1
BUTP				eS		Sn	00 06 31.2 +0.1
SCPH	Surigao	1.40	300⇑	eP		Pg	00 06 29.4 +7.0
BUKP	Musuan	2.02	234	eP		Pb	00 06 31.0 -0.9
BUKP				eS		Sg	00 06 59.6 -0.9
MSLP	Maasin	2.11	300	eP		Pn	00 06 30.6 +0.3
MSLP				eS		Sg	00 07 04.7 +1.4
DMPH	Davao City--Mi	2.31	211⇑	eP		Pb	00 06 37.0 +0.1
DMPH				eS		Sb	00 07 07.0 +1.6
DDMP	Don Marcelino,	3.12	199	eP		Pn	00 06 44.5 +0.4
DDMP				eS		Sn	00 07 23.3 +2.1

KRSC ***25*** *00:19:32.2±10.0, 54°.40N×153°.52E, h648km±10km, ML4.6*
ISCJB ***25*** *00:19:33.6±0.1, 54°.71N±0°.03×153°.10E±0°.03, h600km, mb4.5/140, Error ellipse: s-maj=3.6km s-min=2.0km az=173.1*
MOS ***25*** *00:19:34.1±0.9, 54°.48N×153°.36E, h628km, mb4.3/44, Error ellipse: s-maj=7.5km s-min=5.4km az=91.5*
IDC ***25*** *00:19:35.7±0.7, 54°.57N×153°.13E, h620km±8km, mb3.7/27, mb1 3.8/32, mb1mx3.8/46, mbtmp4.7/32, Error ellipse: s-maj=10.2km s-min=7.0km az=151.0*
NEIC ***25*** *00:19:35.2±1.4, 54°.63N×153°.13E, h605km±8km, mb4.4/220, Error ellipse: s-maj=16.7km s-min=12.8km az=160.0*
ISC 25 00:19:34.2±0.3, 54°.56N±0°.05×153°.23E±0°.04, h600km, n594, σ1°37/658, mb4.4/140, 23C-38D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.85	123	eP		P	00 20 54.2 +1.7
APC	Apacha	2.85	123	P		P	00 20 54.2 +1.7
PEA0B	Petropavlovsk-	3.02	117	eP		P	00 20 55.3 +1.8
PETK	Petropavlovsk-	3.02	117	P		P	00 20 55.1 +1.7
	16nm,0.3s,baz=297,slow=0.6,SNR=297						
KRMR	Karymshinskiy	3.39	119	eP		P	00 20 56.9 +1.3
KRMR	Karymshinskiy	3.39	119	P		P	00 20 56.9 +1.3
ESO	Esso	3.42	64	eP		P	00 20 58.4 +2.7
ESO				eS		S	00 22 06.3 +3.8
ESO	Esso	3.42	64	P		P	00 20 58.4 +2.7
ESO				S		S	00 22 06.3 +3.8
KRX	Arik	3.42	108	eP		P	00 20 57.8 +1.8
KRX	Arik	3.42	108	P		P	00 20 57.8 +1.8
KOK	Koryaka	3.44	109	eP		P	00 20 58.0 +2.0
KOK	Koryaka	3.44	109	P		P	00 20 58.0 +2.0
KRER	Koryakskii	3.50	109	eP		P	00 20 58.6 +2.1
KRER				eS		S	00 22 06.8 +3.0
KRER	Koryakskii	3.50	109	P		P	00 20 58.6 +2.1
KRER				S		S	00 22 06.8 +3.0
AVH	Avacha	3.51	109	eP		P	00 20 58.1 +1.7
AVH	Avacha	3.51	109	P		P	00 20 58.1 +1.7
ASAK	Asacha	3.54	126	eP		P	00 20 58.1 +1.4
ASAK	Asacha	3.54	126	P		P	00 20 58.1 +1.4
SMAR	Somma	3.54	109	eP		P	00 20 58.5 +1.7
SMAR	Somma	3.54	109	P		P	00 20 58.5 +1.7
PET	Petropavlovsk	3.57	113	eP		P	00 20 57.8 +1.1
PET	Petropavlovsk	3.57	113	eP		P	00 20 57.9 +1.2
PET				eS		S	00 22 05.5 +1.5
PET	Petropavlovsk	3.57	113	P		P	00 20 57.8 +1.1
PET				S		S	00 22 05.6 +1.5
UGLR	Uglovaya	3.58	110	eP		P	00 20 58.6 +1.7
UGLR				eS		S	00 22 07.6 +3.1
UGLR	Uglovaya	3.58	110	P		P	00 20 58.6 +1.7
UGLR				S		S	00 22 07.6 +3.1
SDLR	Sedlovina	3.58	109	eP		P	00 20 58.1 +1.1
SDLR	Sedlovina	3.58	109	P		P	00 20 58.1 +1.1
MTVR	Mutnovka	3.62	123	eP		P	00 20 58.2 +0.9
MTVR	Mutnovka	3.62	123	P		P	00 20 58.2 +0.9
DALK	Dalny	3.62	113	eP		P	00 20 58.0 +1.0
DALK				eS		S	00 22 05.9 +1.2
DALK	Dalny	3.62	113	P		P	00 20 58.0 +1.0
DALK				S		S	00 22 05.9 +1.2
PAU	Pauzhetka	3.78	144	eP		P	00 20 59.4 +1.2
PAU	Pauzhetka	3.78	144	P		P	00 20 59.4 +1.2
RUS	Russkaya	3.81	122	eP		P	00 20 58.5 +0.2
RUS				eS		S	00 22 06.6 -0.4
RUS	Russkaya	3.81	122	P		P	00 20 58.5 +0.2
RUS				S		S	00 22 06.6 -0.4
NLC	Nalytchevo	3.88	109	eP		P	00 20 59.6 +0.9
NLC				eS		S	00 22 08.7 +0.9
NLC	Nalytchevo	3.88	109	P		P	00 20 59.6 +0.9
NLC				S		S	00 22 08.7 +0.9
ALID	Alaid	3.96	158	eP		P	00 21 01.2 +1.6
ALID	Alaid	3.96	158	P		P	00 21 01.2 +1.6
KDTR	Khodutka, Kamc	4.01	131	eP		P	00 20 59.0 -0.7
KDTR				eS		S	00 22 07.7 -1.8
KDTR	Khodutka, Kamc	4.01	131	P		P	00 20 59.0 -0.7
KDTR				S		S	00 22 07.7 -1.8
TUMR	Tumrok	4.06	77	eP		P	00 21 02.0 +1.9
TUMR				eS		S	00 22 13.8 +3.4
TUMR	Tumrok	4.06	77	P		P	00 21 01.9 +1.9
TUMR				S		S	00 22 13.4 +3.0
KOZ	Kozyrevsk	4.08	66	eP		P	00 21 02.4 +2.3
KOZ	Kozyrevsk	4.08	66	P		P	00 21 02.4 +2.3
SRDR	Sredinnyy	4.09	62	eP		P	00 21 02.5 +2.3
SRDR	Sredinnyy	4.09	62	P		P	00 21 02.5 +2.3
KZV	Kizimen	4.12	79	eP		P	00 21 01.8 +1.2
KZV				eS		S	00 22 12.5 +1.2
KZV	Kizimen	4.12	79	P		P	00 21 01.8 +1.2
KZV				S		S	00 22 12.5 +1.2
TUMD	Tumrok D	4.19	78	eP		P	00 21 01.9 +1.0
TUMD				eS		S	00 22 13.4 +1.5
SKR	Severo-Kuril's	4.26	154	eP		P	00 21 02.2 +0.7
SKR	Severo-Kuril's	4.26	154	eP		P	00 21 01.6 +0.1
SKR				eS		S	00 22 12.6 -0.2
SKR				pmax	pmax		
	comp=Z,200nm,0.9s						
SKR				pmax	pmax		
	comp=Z,235nm,0.5s						
SKR				smax	smax		
	comp=N,154nm,0.9s						
SKR				smax	smax		
	comp=E,111nm,0.7s						
SPN	Mys Shipunski	4.29	107	eP		P	00 21 01.2 -0.4
SPN				eS		S	00 22 09.0 -4.0
SPN	Mys Shipunski	4.29	107	P		P	00 21 01.2 -0.4
SPN				S		S	00 22 09.0 -4.0
KIRR	Kirishev	4.30	68	eP		P	00 21 02.2 +0.4
KIRR	Kirishev	4.30	68	P		P	00 21 02.2 +0.4
BZMR	Bezymyannaya	4.38	69	eP		P	00 21 04.0 +1.6
BZMR	Bezymyannaya	4.38	69	P		P	00 21 04.0 +1.6
BZWR	Bezymyannyi-We	4.39	68	eP		P	00 21 03.7 +1.2
BZWR	Bezymyannyi-We	4.39	68	P		P	00 21 03.7 +1.2
BZGR	Bezymyannyi-Gr	4.49	69	eP		P	00 21 05.0 +1.9
BZGR	Bezymyannyi-Gr	4.49	69	P		P	00 21 05.0 +1.9
KRSR	Krestovskiy	4.50	65	eP		P	00 21 04.4 +1.2
KRSR	Krestovskiy	4.50	65	P		P	00 21 04.4 +1.2
LGNR	Loginova	4.53	67	eP		P	00 21 05.9 +2.3
LGNR				eS		S	00 22 19.8 +2.9
LGNR	Loginova	4.53	67	P		P	00 21 05.9 +2.3
LGNR				S		S	00 22 19.8 +2.9
CIRR	Tsirk	4.57	67	eP		P	00 21 06.2 +2.5
CIRR	Tsirk	4.57	67	P		P	00 21 06.2 +2.5
KLY	Klyuchi	4.58	64	eP		P	00 21 05.6 +2.0
KLY	Klyuchi	4.58	64	P		P	00 21 05.6 +2.0
MKZ	Mys Kozlova	4.95	87	eP		P	00 21 05.0 -1.5
MKZ				eS		S	00 22 19.9 -2.2
MKZ	Mys Kozlova	4.95	87	P		P	00 21 05.0 -1.5
MKZ				S		S	00 22 19.9 -2.2
BDR	Baidarnaya	4.96	63	eP		P	00 21 08.2 +1.6
BDR				eS		S	00 22 24.0 +1.6
BDR	Baidarnaya	4.96	63	P		P	00 21 08.2 +1.6
BDR				S		S	00 22 24.0 +1.6
SRKR	Sorokina	4.97	62	eP		P	00 21 08.3 +1.6
SRKR				eS		S	00 22 24.7 +2.2
SRKR	Sorokina	4.97	62	P		P	00 21 08.3 +1.6
SRKR				S		S	00 22 24.7 +2.2
SMKR	Semkarok	5.10	63	eP		P	00 21 09.1 +1.4
SMKR				eS		S	00 22 27.1 +2.7
SMKR	Semkarok	5.10	63	P		P	00 21 09.1 +1.4
SMKR				S		S	00 22 27.1 +2.7
MA2	Magadan	5.20	346	eP		P	00 21 11.2 +2.8
MA2	Magadan	5.20	346	c P		P	00 21 11.2 +2.8
MA2	Magadan	5.20	346	P		P	00 21 11.0 +2.6
	comp=E,10nm,0.3s,baz=148,slow=7.9,SNR=57						
MA2				S		S	00 22 28.2 +2.4
	comp=E,0.8nm,0.3s,baz=255,slow=16,SNR=6.7						
KBG	Krutoberegovo	5.66	69	eP		P	00 21 11.9 -0.3
KBG				eS		S	00 22 30.3 -2.3
KBG	Krutoberegovo	5.66	69	P		P	00 21 11.9 -0.3
KBG				S		S	00 22 30.3 -2.3
KBTR	Krutoberegovo	5.71	69	eP		P	00 21 12.1 -0.6
KBTR				eS		S	00 22 29.6 -3.8
KBTR	Krutoberegovo	5.71	69	P		P	00 21 12.1 -0.6
KBTR				S		S	00 22 29.6 -3.8
PALN	Palana	5.86	36	eP		P	00 21 16.4 +2.6
PALN	Palana	5.86	36	P		P	00 21 16.4 +2.6
OSSR	Ossora	7.14	45	eP		P	00 21 27.0 +1.8
OSSR	Ossora	7.14	45	P		P	00 21 27.0 +1.8
BKI	Bering	7.38	80	eP		P	00 21 29.8 +2.3
BKI				eS		S	00 23 02.1 +1.6
BKI	Bering	7.38	80	P		P	00 21 29.8 +2.3
BKI				S		S	00 23 02.1 +1.6
TYV	Tymovskoe	7.41	244	eP		P	00 21 30.7 +2.8
TYV				eS		S	00 22 57.7 -3.4
TYV				pmax	pmax		
	comp=Z,200nm,1.9s						
TYV				pmax	pmax		
	comp=Z,84nm,0.8s						
TYV				smax	smax		
	comp=N,10.0nm,1.4s						
SEY	Seymchan	8.41	357⇑	iP		P	00 21 39.8 +2.8
SEY	Seymchan	8.41	357	P		P	00 21 39.7 +2.6
	comp=N,4.9nm,0.3s,baz=174,slow=8.3,SNR=67						
SEY				S		S	00 23 20.6 +2.5
	comp=N,0.2nm,0.3s,baz=197,slow=19,SNR=5.6						
TILK	Tilichiki	9.11	44	eP		P	00 21 46.0 +2.2
TILK	Tilichiki	9.11	44	P		P	00 21 46.0 +2.2
YSS	Yuzh-Sakhalins	10.09	225	eP		P	00 21 56.4 +2.6
YSS				eS		S	00 23 52.4 +4.0
YSS				pmax	pmax		
	comp=Z,30nm,0.3s						
YSS				smax	smax		
	comp=N,30nm,0.5s						
SMY	Shemya	12.52	90	eP		P	00 22 18.9 +1.0
SMY	Shemya	12.52	90	eP		P	00 22 18.9 +1.0
KLR	Kul'dur	14.27	257	d iP		P	00 22 36.2 +0.7
KLR				pmax	pmax		
	comp=Z,11nm,0.8s						
KLR	Kul'dur	14.27	257	P		P	00 22 35.8 +0.2
	comp=Z,3.5nm,0.3s,baz=65,slow=7.9,SNR=91						
KLR				S		S	00 25 05.0 +1.4
	baz=68,slow=17,SNR=5.9						
KLR				ScP		ScP	00 29 40.7 -2.3
	comp=Z,0.4nm,0.3s,baz=55,slow=3.1,SNR=19						
TEY	Ternei	14.32	235⇓	iP		P	00 22 36.6 +0.6
TEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=Z,30nm,0.7s						
YAK	Yakutsk	14.39	311	eP		P	00 22 35.9 -0.5
YAK				eS		S	00 25 03.2 -2.1
YAK				pmax	pmax		
	comp=Z,339nm,0.9s						
YAK				pmax	pmax		
	comp=E,71nm,0.8s						
YAK				pmax	pmax		
	comp=N,56nm,1.0s						
YAK				smax	smax		
	comp=N,2μm,1.5s						
YAK				smax	smax		
	comp=E,368nm,0.8s						
BILL	Biiibino	14.85	19⇑	iP		P	00 22 41.9 +1.4
BILL				i S		S	00 25 17.0 +4.4
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZEA	Zeya	15.21	278	eP		P	00 22 44.7 +0.6
ZEA				eS		S	00 25 21.0 +2.0
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA				smax	smax		
	comp=N,200nm,2.0s						
ZEA				smax	smax		
	comp=E,300nm,2.0s						
USA0B	Ussuriysk Arra	17.21	242	eP		P	00 23 02.5 -0.1
	comp=E,5.5nm,0.6s						
USRK	Ussuriysk Ar.	17.21	242	P		P	00 23 02.4 -0.1
	comp=E,1.3nm,0.3s,baz=47,slow=8.7,SNR=19						
USRK				ScP		ScP	00 29 46.9 -1.9
	comp=E,0.2nm,0.3s,baz=37,slow=2.0,SNR=7.7						
MDJ	Mudanjiang	18.18	247	P		P	00 23 10.5 -0.9
MDJ				S		S	00 26 06.4 -1.2
MDJ	Mudanjiang	18.18	247	ScS		ScS	00 33 31.8 -0.3
MSHR	Mys Shultsa	18.80	239⇓	iP		P	00 23 16.0 -0.9
GAMB	Gambell	19.94	48	eP		P	00 23 27.9 +0.9
	comp=E,6.0nm,0.8s						
TIXI	Tiksi	20.10	338	eP		P	00 23 28.9 +0.6
	comp=E,17nm,0.7s						
TIXI	Tiksi	20.10	338	⇓ iP		P	00 23 29.2 +0.9
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TIXI	Tiksi	20.10	338	P		P	00 23 29.1 +0.9
	comp=Z,8.0nm,0.3s,baz=131,slow=8.6,SNR=43						
MJB9	Matsu-Tunnel	20.78	216	eP		P	00 23 35.5 +0.5
	comp=Z,7.7nm,0.8s						
MAJO	Matsushiro	20.78	216	eP		P	00 23 35.5 +0.5
	comp=Z,7.6nm,0.8s						
MAJO	Matsushiro	20.78	216	⇓ iP		P	00 23 35.2 +0.2
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAT	Matsushiro	20.78	216	P		P	00 23 35.3 +0.3
MJAR	Matsushiro Arr	20.78	216	P		P	00 23 35.1 +0.1
	comp=Z,1.5nm,0.3s,baz=90,slow=8.5,SNR=11						
CN2	Changchun	20.97	251	eP		P	00 23 35.6 -0.9
BOD	Bodaibo	21.85	295	eP		P	00 23 44.7 +0.5
BOD				pmax	pmax		
	comp=Z,3μm,0.4s						
ANM	Nome	22.80	47	eP		P	00 23 54.5 +1.9
	comp=Z,6.7nm,1.0s						
ANM	Nome	22.80	47	eP		P	00 23 54.5 +1.9
ANM				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KSRS	Korea Array	24.32	236	P		P	00 24 07.1 +0.8
	comp=Z,5.3nm,0.7s,baz=33,slow=9.2,SNR=19						
SDPT	Sand Point	26.22	69	eP		P	00 24 22.4 -0.3
	comp=Z,26nm,0.8s						
JNU	Nakatsue	26.60	225	eP		P	00 24 27.0 +0.5
	comp=Z,17nm,1.5s						
JNU	Nakatsue	26.60	225	P		P	00 24 26.7 +0.2
	comp=Z,2.7nm,0.4s,baz=356,slow=8.8,SNR=3.8						
CHGN	Chignik	27.05	66	eP		P	00 24 30.4 +0.4
	comp=Z,9.8nm,0.9s						
SVW2	Sparrevohn	27.40	55	eP		P	00 24 34.6 +1.6
	comp=Z,10nm,0.8s						
RSO	Redoubt South	28.88	56	eP		P	00 24 47.7 +1.6
TOLK	Toolik Lake Re	29.31	39	eP		P	00 24 50.6 +1.0
	comp=Z,22nm,1.3s						
TOLK	Toolik Lake Re	29.31	39	P		P	00 24 50.6 +1.0
	baz=271,SNR=12						
TLY	Talaya	29.40	285	eP		P	00 24 51.6 +1.2
	comp=Z,9.2nm,0.6s						
TLY	Talaya	29.40	285	⇑ iP		P	00 24 52.5 +2.0
TLY				pmax	pmax		
	comp=Z,20nm,0.9s						
SUA	Susitna One	29.62	54	eP		P	00 24 53.0 +0.6
	comp=Z,8.6nm,0.5s						
SONM	Songino Array	29.64	276	P		P	00 24 53.3 +0.6
	comp=Z,3.7nm,0.6s,baz=60,slow=8.3,SNR=28						
SONM				PcP		sP	00 27 36.0 -1.4
	comp=Z,1.3nm,0.6s,baz=105,slow=3.1,SNR=6.0						
SONM				ScP		ScP	00 30 19.2 -3.5
	comp=Z,2.3nm,1.0s,baz=78,slow=2.3,SNR=9.1						
KDAK	Kodiak Island	29.66	61	eP		P	00 24 52.8 +0.2
	comp=Z,32nm,0.3s						
KDAK	Kodiak Island	29.66	61	i P		P	00 24 52.1 -0.5
BWN	Browne	29.71	48	eP		P	00 24 55.0 +2.0
	comp=Z,50nm,0.5s						
BRLK	Bradley Lake	29.96	57	eP		P	00 24 55.4 +0.2
	comp=Z,15nm,0.9s						
RND	Reindeer	30.10	49	eP		P	00 24 57.4 +1.0
	comp=Z,20nm,0.4s						
RND	Reindeer	30.10	49	eP		P	00 24 57.4 +1.0
RND				pmax	pmax		
	comp=Z,20nm,0.4s						
ZAK	Zakamensk	30.18	283	eP		P	00 24 57.3 0.0
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TCOL	CIGO, UAF Yank	30.29	46	P		P	00 24 59.1 +1.2
	baz=279						
COLA	College	30.30	46	eP		P	00 24 59.2 +1.3
	comp=Z,28nm,0.4s						
COLA	College	30.30	46	⇑ iP		P	00 24 59.0 +1.1
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
POKR	Poker Plat Res	30.43	46	P		P	00 25 00.4 +1.2
	baz=279,SNR=6.4						
SEW	Seward	30.57	56	eP		P	00 25 00.6 +0.3
	comp=Z,53nm,1.6s						
HHC	Hu-ho-hao-te	30.71	261	eP		P	00 25 03.4 +1.4
ILAR	Eielson Array	30.72	47	P		P	00 25 02.1 +0.5
	comp=Z,9.8nm,0.7s,baz=277,slow=10,SNR=139						
ILAR				S		S	00 29 21.5 -1.6
	comp=Z,0.6nm,0.9s,baz=274,slow=12,SNR=6.2						
ILAR				ScP		ScP	00 30 21.9 -4.0
	comp=Z,1.7nm,0.8s,baz=283,slow=3.8,SNR=9.6						
ILB	Eielson Array	30.72	47	eP		P	00 25 02.2 +0.6
	comp=Z,12nm,0.5s						
HDA	Harding Lake	30.75	47	P		P	00 25 02.4 +0.5
	baz=280						
DHY	Denali Highway	30.82	50	epP		pP	00 26 38.0 -0.5
MOY	Mondy	30.89	286	eP		P	00 25 04.6 +1.2
FYU	Fort Yukon	31.12	43	eP		P	00 25 06.8 +1.8
	comp=Z,29nm,1.2s						
GLI	Glacier Island	31.48	54	ePcP		PcP	00 27 41.9 +0.1
KLU	Klutina	31.86	53	eP		P	00 25 12.5 +1.1
	comp=Z,14nm,0.7s						
DIV	Divide	32.03	53	eP		P	00 25 13.9 +1.1
	comp=Z,12nm,0.7s						
NRIK	Noril'sk	32.31	323	P		P	00 25 15.4 +0.4
	comp=Z,3.7nm,0.5s,baz=90,slow=9.7,SNR=12						
HMT	Hamilton	32.98	54	eP		P	00 25 22.3 +1.6
	comp=Z,9.7nm,0.8s						
NJ2	Nanjing	33.12	241	eP		P	00 25 22.1 -0.2
EPYK	Eagle Plains	34.51	42	P		P	00 25 34.6 +1.1
	baz=285,SNR=8.6						
INK	Inuvik	35.21	38	eP		P	00 25 40.3 +1.1
	comp=Z,9.9nm,0.4s						
INK	Inuvik	35.21	38	P		P	00 25 40.1 +1.0
	comp=Z,8.5nm,0.4s,baz=276,slow=5.8,SNR=97						
INK				ScP		ScP	00 30 39.0 -2.6
	comp=Z,1.3nm,0.6s,baz=286,slow=4.3,SNR=9.2						
XAN	Xi'an	36.96	255	P		P	00 25 52.9 -1.2
BESE	Bessie Mountai	38.08	54	eP		P	00 26 04.0 +1.1
	comp=Z,21nm,1.4s						
LZH	Lanzhou	38.39	262	eP		P	00 26 06.4 +0.6
LZH				pP		pP	00 27 49.4 +2.8
LZH				sP		sP	00 28 47.6 -6.9
JIS	Juneau Island	38.44	54	eP		P	00 26 07.7 +2.1
	comp=Z,10nm,0.8s						
GTA	Gaotai	38.47	269	eP		P	00 26 07.5 +1.1
ZAA0	Zalesovo Array	38.52	298	eP		P	00 26 05.8 -0.5
	comp=Z,8.5nm,0.8s						
ZALV	Zalesovo Beam	38.52	298	P		P	00 26 05.9 -0.5
	comp=Z,6.2nm,0.3s,baz=56,slow=7.0,SNR=31						
ZALV				PcP		PcP	00 28 01.4 -1.6
	comp=Z,1.7nm,0.5s,baz=70,slow=2.1,SNR=6.9						
NVS	Novosibirsk	38.89	300⇓	iP		P	00 26 09.7 +0.4
NVS				pmax	pmax		
	comp=Z,25nm,0.6s						
NVS				pmax	pmax		
	comp=N,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,15nm,0.6s						
DGZ	Jazzator, Alta	39.35	291	d iP		P	00 26 14.3 +1.0
DGZ				pmax	pmax		
	comp=Z,13nm,0.5s						
ENH	Enshi	39.49	250	eP		P	00 26 14.0 -0.5
	comp=Z,17nm,0.8s						
DLBC	Dease Lake	40.40	52	eP		P	00 26 22.2 +0.8
	comp=Z,13nm,1.1s						
DIB	Dawson Inlet,	41.91	60	eP		P	00 26 34.2 +0.9
	comp=Z,30nm,1.3s						
CD2	Chengdu	42.20	257	⇓ iP		P	00 26 36.3 +0.4
WMQ	Urumqi	42.65	283	eP		P	00 26 40.5 +1.2
RES	Resolute Bay	43.45	21	P		P	00 26 45.3 +0.4
	comp=Z,2.2nm,0.9s,baz=354,slow=5.5,SNR=3.3						
RES				ScP		ScP	00 31 11.5 -2.2
	comp=Z,2.2nm,0.7s,baz=289,slow=5.7,SNR=6.5						
KURK	Kurchatov	43.47	297	eP		P	00 26 45.5 +0.1
	comp=Z,62nm,0.3s						
KURK	Kurchatov	43.47	297	d iP		P	00 26 45.3 -0.1
KURK				pmax	pmax		
	comp=Z,30nm,1.1s						
MKAR	Makanchi Array	43.83	290	P		P	00 26 48.2 -0.1
	comp=Z,23nm,0.5s,baz=58,slow=7.2,SNR=395						
MKAR				S		S	00 32 34.9 -1.7
	comp=Z,0.3nm,0.7s,baz=58,slow=14,SNR=2.8						
MAKZ	Makanchi	44.00	291	eP		P	00 26 49.3 -0.3
	comp=Z,25nm,0.4s						
MAKZ	Makanchi	44.00	291	eP		P	00 26 49.3 -0.3
MAKZ				pmax	pmax		
	comp=Z,25nm,0.4s						
YKA	Yellowknife Ar	44.79	41	P		P	00 26 55.8 +0.4
	comp=Z,4.4nm,0.4s,baz=305,slow=7.1,SNR=91						
YKA				ScP		ScP	00 31 16.7 -2.8
	comp=Z,0.9nm,0.6s,baz=306,slow=3.9,SNR=15						
SPA0	Spitsbergen Ar	44.94	348	eP		P	00 26 57.3 +0.9
	comp=Z,72nm,1.4s						
BRVK	Borovoye	46.27	304	eP		P	00 27 06.4 -0.3
	comp=Z,21nm,0.6s						
BRVK	Borovoye	46.27	304	d iP		P	00 27 06.4 -0.3
BRVK				pmax	pmax		
	comp=Z,17nm,0.6s						
SVE	Sverdlovsk	48.35	313	eP		P	00 27 22.1 -0.1
SVE				pmax	pmax		
	comp=Z,18nm,0.8s						
PGC	Sidney	49.21	60	eP		P	00 27 29.6 +1.0
ARU	Arti	49.49	313	eP		P	00 27 30.4 -0.2
	comp=Z,31nm,0.5s						
ARU	Arti	49.49	313	d iP		P	00 27 30.2 -0.4
ARU				e			00 28 39.5
ARU				S		S	00 33 52.3 -2.0
ARU				pmax	pmax		
	comp=Z,22nm,0.6s						
A04D	Lummi Island	49.54	60	P		P	00 27 32.0 +1.0
	baz=311						
SLVN	Son La	49.61	248	eP		P	00 27 32.9 +0.8
	comp=Z,9.5nm,0.7s						
KDJ	Kajisay	49.63	289	eP		P	00 27 32.4 +0.3
LVZ	Lovozero	49.68	334	eP		P	00 27 31.4 -0.5
	comp=Z,

D05A	Enumclaw	50.91	61	eP		P	00 27 41.8	+0.8
	comp=Z,12nm,0.9s							
PRGR	Permogore	50.94	324	⇓iP		P	00 27 41.1	+0.1
PRGR				pmax	pmax			
	comp=Z,15nm,0.5s							
E04D	Cinebar	51.03	62	P		P	00 27 43.2	+1.2
	baz=312							
EKS2	Erkin-Say	51.13	291	P		P	00 27 43.5	+0.5
	SNR=33							
LON	Longmire	51.29	61	eP		P	00 27 45.1	+1.2
	comp=Z,21nm,1.7s							
LON	Longmire	51.29	61	eP		P	00 27 45.1	+1.2
LON				pmax	pmax			
	comp=Z,21nm,1.7s							
TMCR	Tamitsa	51.53	330	eP		P	00 27 44.6	-0.6
TMCR				pmax	pmax			
	comp=Z,16nm,0.8s							
AML	Almayashu	51.54	291	P		P	00 27 46.8	+0.7
	SNR=12							
KSH	Kashi	52.08	287	P		P	00 27 54.0	+4.3
KSH				pP		pP	00 29 46.8	+6.5
KSH				PP		PP	00 30 02.6	+6.1
KSH				S		S	00 34 33.1	+3.3
KSH	Kashi	52.08	287	SS		SS	00 38 23.3	+5.3
H04D	Lebanon	52.31	64	P		P	00 27 52.5	+1.4
	baz=313							
BYL	Byron's Ledge	52.36	111	eP		P	00 27 53.3	+1.3
	comp=Z,163nm,0.7s							
G05D	Wamic, OR	52.56	62	P		P	00 27 54.0	+1.0
	baz=313							
NEW	Newport	52.62	57	eP		P	00 27 53.5	+0.2
	comp=Z,6.6nm,1.0s							
NEW	Newport	52.62	57	eP		P	00 27 53.5	+0.2
NEW				pmax	pmax			
	comp=Z,7.0nm,1.0s							
NEW	Newport	52.62	57	P		P	00 27 54.1	+0.8
	baz=313							
HAWA	Hanford	52.69	60	eP		P	00 27 54.5	+0.7
	comp=Z,6.5nm,0.5s							
F07A	Phinny Hill Vi	52.83	61	eP		P	00 27 55.4	+0.6
	comp=Z,13nm,0.6s							
SUMG	Summit	52.89	4	eP		P	00 27 55.6	+0.3
	comp=Z,9.5nm,1.4s							
SUMG	Summit	52.89	4	eP		P	00 27 55.6	+0.3
SUMG				pmax	pmax			
	comp=Z,10.0nm,1.4s							
I04A	Tendick Farm,	52.98	64	P		P	00 27 57.0	+1.0
	baz=314							
K02D	Willamette Mer	53.08	66	P		P	00 27 57.8	+1.1
	baz=314							
SKNT	Sakolnakorn	53.15	245	P		P	00 27 58.3	+0.8
I05D	Terrebonne, OR	53.17	63	P		P	00 27 58.6	+1.2
	baz=314							
PAYA	Payao	53.41	251	P		P	00 28 00.4	+1.1
	comp=Z,49µm,0.6s							
J04D	Umpqua Nationa	53.53	65	P		P	00 28 01.3	+1.3
	baz=314,SNR=6.2							
KLMR	Klimovskoe	53.55	326	⇓iP		P	00 27 59.4	-0.2
KLMR				pmax	pmax			
	comp=Z,15nm,0.6s							
PHRA	Phrae	53.91	250	P		P	00 28 03.8	+1.0
	comp=Z,4.2nm,0.6s							
J05D	Fort Rock, OR	53.95	64	P		P	00 28 04.8	+1.8
	baz=314,SNR=15							
L04D	Klamath Falls	54.13	66	P		P	00 28 05.6	+1.4
	baz=314,SNR=7.5							
K04D	Chiloquin, OR	54.14	65	P		P	00 28 05.6	+1.4
	baz=314							
LAMP	Lampang	54.22	250	P		P	00 28 05.7	+0.7
	comp=Z,58µm,0.7s,comp=Z,719µm							
YBH	Yreka Blue Hor	54.26	67	eP		P	00 28 06.6	+1.5
	comp=Z,8.2nm,0.6s							
UTTA	Uttaradit	54.35	249	P		P	00 28 06.5	+0.6
	comp=Z,35µm,0.8s							
CMMT	Chiang Mai	54.36	251	P		P	00 28 06.4	+0.4
	comp=Z,9.9nm,0.7s							
CHTO	Chiang Mai	54.36	251	eP		P	00 28 06.4	+0.4
	comp=Z,11nm,0.6s							
CHTO	Chiang Mai	54.36	251	eP		P	00 28 06.4	+0.4
CHTO				pmax	pmax			
	comp=Z,11nm,0.6s							
M02C	Callahan	54.42	67	P		P	00 28 07.5	+1.4
	baz=315							
CMAR	Chiang Mai Arr	54.65	251	P		P	00 28 08.5	+0.5
	comp=Z,6.6nm,0.6s,baz=20,slow=6.6,SNR=21							
ODAN	Odare	54.67	268	eP		P	00 28 08.6	+0.3
	comp=Z,26nm,0.4s							
M04C	Macdoel	54.69	66	P		P	00 28 09.4	+1.3
	baz=315,SNR=5.4							
JIRN	Jiri	54.77	269	eP		P	00 28 08.9	-0.2
	comp=Z,23nm,0.4s							
FCC	Fort Churchill	54.78	36	eP		P	00 28 07.9	-0.3
	comp=Z,5.1nm,0.8s							
FCC	Fort Churchill	54.78	36	eP		P	00 28 07.9	-0.3
FCC				pmax	pmax			
	comp=Z,5.0nm,0.8s							
N02D	Trinity Center	54.79	67	P		P	00 28 10.2	+1.5
	baz=315							
FFC	Flin Flon	54.84	43	eP		P	00 28 09.3	+0.5
FFC				e			00 28 09.5	
FFC	Flin Flon	54.84	43	eP		P	00 28 09.3	+0.5
RAMN	Ramite	55.06	268	eP		P	00 28 10.9	-0.1
	comp=Z,105nm,0.4s							
CHAI	Chaiyaphum	55.10	246	P		P	00 28 11.5	+0.4
MSO	Missoula	55.16	57	P		P	00 28 11.9	+0.6
	baz=315,SNR=7.1							
KKN	Kakani	55.20	270	eP		P	00 28 12.0	+0.1
	comp=Z,64nm,0.4s							
PKI	Pulchoki	55.29	270	eP		P	00 28 12.4	-0.3
	comp=Z,52nm,0.7s							
PKIN	Phulchoki	55.29	270	eP		P	00 28 12.4	-0.2
	comp=Z,38nm,0.7s							
DMN	Daman	55.43	270	eP		P	00 28 13.6	0.0
	comp=Z,38nm,0.6s							
DANN	Dangsing	55.66	272	eP		P	00 28 15.3	+0.1
	comp=Z,77nm,0.6s							
O03E	Paynes Creek	55.76	67	P		P	00 28 16.3	+0.8
	baz=316							
KOLN	Koldanda	56.19	271	eP		P	00 28 18.4	-0.4
	comp=Z,48nm,0.5s							
PYUN	Piuthan	56.30	272	eP		P	00 28 19.3	-0.2
	comp=Z,46nm,0.4s							
EGMT	Eagleton	56.31	53	P		P	00 28 19.4	+0.3
	baz=316							
CHGR	Chuyangaron	56.44	291	eP		P	00 28 21.9	+1.7
	comp=Z,28nm,0.8s							
SRAK	Srakaew	56.64	245	P		P	00 28 20.6	-1.1
FIA1	FINESS Array S	57.05	333	eP		P	00 28 23.6	-0.2
	comp=Z,12nm,0.5s							
FINES	FINESS Array B	57.05	333	P		P	00 28 23.2	-0.6
	comp=Z,7.9nm,0.4s,baz=35,slow=7.2,SNR=181							
BOZ	Bozeman (W)	57.17	56	P		P	00 28 26.0	+0.9
	baz=316,SNR=5.6							
AFDM	Forest Hills D	57.17	68	eP		P	00 28 25.8	+0.7
	comp=Z,3.6nm,1.0s							
HLID	Hailey	57.26	60	P		P	00 28 27.2	+1.4
	baz=316							
CHCP	Chirah Chowk	57.78	284	⇓P		P	00 28 29.9	+0.6
NIL	Nilore	57.80	284	eP		P	00 28 29.8	+0.4
	comp=Z,68nm,1.1s							
NIL	Nilore	57.80	284	eP		P	00 28 29.8	+0.4
NIL				pmax	pmax			
	comp=Z,68nm,1.1s							
QLMT	Earthquake Lak	57.82	57	eP		P	00 28 30.0	+0.3
GCMT	Greycliff	57.97	55	eP		P	00 28 31.6	+1.1
BMN	Battle Mountai	58.09	64	eP		P	00 28 31.3	-0.1
	comp=Z,5.5nm,0.7s							
BMN	Battle Mountai	58.09	64	eP		P	00 28 31.3	-0.1
BMN				pmax	pmax			
	comp=Z,6.0nm,0.7s							
WAKR	Walker	58.32	67	eP		P	00 28 34.5	+1.4
	comp=Z,7.2nm,0.7s							
SAO	San Andreas Ge	58.50	70	eP		P	00 28 35.2	+1.2
	comp=Z,18nm,1.0s							
SAO	San Andreas Ge	58.50	70	eP		P	00 28 35.2	+1.2
SAO				pmax	pmax			
	comp=Z,18nm,1.0s							
RLMT	Red Lodge	58.65	55	P		P	00 28 36.5	+1.3
	baz=318,SNR=13							
LAO	LASA Array	58.92	52	P		P	00 28 38.1	+1.3
	baz=318							
NVAR	Mina Array Bea	58.98	66	P		P	00 28 38.6	+1.1
	comp=Z,8.7nm,0.7s,baz=304,slow=6.4,SNR=53							
OBN	Obninsk	58.99	323	⇑eP		P	00 28 36.3	-0.6
OBN				e*PP		pP	00 30 32.3	+0.6
OBN				e			00 30 59.2	
OBN				eS		S	00 35 52.2	-5.8
OBN				eSS		SS	00 40 06.1	+1.2
OBN				pmax	pmax			
	comp=Z,10.0nm,1.1s							
SNOW	Snow King Moun	59.16	58	eP		P	00 28 39.9	+1.2
	comp=Z,3.9nm,0.8s							
REDW	Red Top Meadow	59.18	58	eP		P	00 28 39.7	+0.9
	comp=Z,8.3nm,1.2s							
THW	Thamme Wali	59.28	284	⇓P		P	00 28 37.7	-1.6
KBL	Kabul	59.50	288	eP		P	00 28 39.6	-1.4
	comp=Z,17nm,0.8s							
KBL	Kabul	59.50	288	eP		P	00 28 39.6	-1.4
KBL				pmax	pmax			
	comp=Z,17nm,0.8s							
LPSR	Galich'ya Gora	60.13	320	eP		P	00 28 43.4	-1.2
LPSR				pmax	pmax			
	comp=Z,20nm,0.7s							
VRH	Novokhopyorsk	60.16	318	eP		P	00 28 43.2	-1.6
VRH				pmax	pmax			
	comp=Z,20nm,0.6s							
BW06	Boulder Array	60.26	57	P		P	00 28 46.4	+0.5
	baz=318,SNR=13							
PDAR	Pinedale Array	60.26	57	P		P	00 28 46.5	+0.5
	comp=Z,4.1nm,0.5s,baz=357,slow=2.0,SNR=48							
VES	Vestal, Richgr	60.47	69	P		P	00 28 47.7	+0.6
	baz=318							
R11A	Troy Canyon, C	60.48	65	P		P	00 28 47.8	+0.4
	baz=318							
DUG	Dugway, Tooele	60.54	61	P		P	00 28 48.7	+1.0
	baz=318,SNR=7.3							
CWC	Cottonwood Cre	60.56	68	P		P	00 28 48.7	+0.7
	baz=318							
ULM	Lac du Bonnet	60.67	43	eP		P	00 28 47.5	-0.7
	comp=Z,6.2nm,0.9s							
ULM	Lac du Bonnet	60.67	43	eP		P	00 28 47.5	-0.7
ULM				pmax	pmax			
	comp=Z,6.0nm,0.9s							
ULM	Lac du Bonnet	60.67	43	P		P	00 28 47.5	-0.7
	comp=Z,1.6nm,0.3s,baz=323,slow=7.4,SNR=8.1							
NC303	NORSAR Array S	60.67	340	eP		P	00 28 47.8	-0.2
	comp=Z,120nm,1.9s							
PKM	Mcpherson Peak	60.77	70	P		P	00 28 50.4	+1.0
	baz=318							
NB2	NORSAR Subarra	60.88	340	P		P	00 28 48.5	-0.9
	comp=Z,3.6nm,0.5s,baz=24,slow=6.5							
NOA	NORSAR Array B	60.88	340	P		P	00 28 48.8	-0.6
	comp=Z,5.2nm,0.6s,baz=26,slow=6.4,SNR=31							
DAC	Darwin (Calif)	60.95	68	eP		P	00 28 52.5	+2.1
	comp=Z,4.0nm,0.6s							
DAC	Darwin (Calif)	60.95	68	eP		P	00 28 52.6	+2.1
DAC				pmax	pmax			
	comp=Z,4.0nm,0.6s							
NC602	NORSAR Array S	61.09	340	eP		P	00 28 49.8	-0.9
	comp=Z,55nm,1.8s							
NAO01	NORSAR Array S	61.12	340	eP		P	00 28 50.0	-0.9
	comp=Z,118nm,2.0s							
VSR	Storozhevoye	61.14	319	d iP		P	00 28 50.5	-0.7
VSR				pmax	pmax			
	comp=Z,39nm,0.9s							
TPNV	Topopah Spring	61.17	66	P		P	00 28 52.8	+0.9
	baz=319,SNR=11							
MPMC	Manual Prospec	61.17	68	P		P	00 28 52.8	+0.8
	baz=319,SNR=6.9							
FURC	Furnace Creek,	61.20	67	P		P	00 28 52.9	+1.1
	baz=319,SNR=7.6							
SBUM	Sibu	61.73	228	eP		P	00 28 56.7	+1.2
	comp=Z,6.6nm,0.7s							
EDW2	Edwards Air Fo	61.77	69	P		P	00 28 56.2	+0.5
	baz=319							
K22A	Casper	61.82	55	P		P	00 28 56.2	+0.2
	baz=320							
RSSD	Black Hills	61.87	53	eP		P	00 28 56.7	+0.3
	comp=Z,16nm,0.7s							
RSSD	Black Hills	61.87	53	eP		P	00 28 56.7	+0.3
RSSD				pmax	pmax			
	comp=Z,16nm,0.7s							
RSSD	Black Hills	61.87	53	P		P	00 28 56.4	0.0
	baz=320							
GSC	Goldstone, Bar	62.10	68	P		P	00 28 58.4	+0.5
	baz=319							
AGMN	Agassiz Nation	62.21	45	P		P	00 28 57.2	-1.0
	baz=322							
BFSC	Mount Baldy Ra	62.44	69	P		P	00 29 00.6	+0.5
	baz=319							
TUQ	Turquoise Moun	62.48	67	P		P	00 29 01.2	+0.9
	baz=319,SNR=5.5							
HEC	Hector,Ludlow	62.71	68	P		P	00 29 02.6	+0.8
	baz=319,SNR=9.9							
GEYT	Alibeck	62.83	298	P		P	00 29 02.5	0.0
	comp=Z,14nm,0.7s,baz=29,slow=3.4,SNR=42							
GYA0B	ALIBECK ARRAY	62.83	298	eP		P	00 29 02.5	+0.1
	comp=Z,14nm,0.7s							
O20A	White River Ci	62.89	58	P		P	00 29 03.5	+0.5
	baz=320,SNR=8.9							
GMRC	Granite Mounta	63.11	67	P		P	00 29 05.1	+0.7
	baz=320,SNR=8.8							
MURC	Murrieta	63.17	69	P		P	00 29 04.8	+0.1
	baz=320							
N23A	Red Feather La	63.44	56	P		P	00 29 06.8	+0.3
	baz=320							
BELC	Belle Mtn. Jos	63.52	68	P		P	00 29 07.3	+0.3
	baz=320							
U15A	North Rim	63.65	64	eP		P	00 29 08.8	+0.8
	comp=Z,5.5nm,0.8s							
IRM	Iron Mountain	63.86	67	P		P	00 29 09.9	+0.8
	baz=320							
PV19	Moning Glory	63.91	60	eP		P	00 29 10.9	+1.3
	comp=Z,16nm,1.0s							
PV05	Paradox Valley	64.03	60	eP		P	00 29 11.0	+0.7
	comp=Z,16nm,0.7s							
BC3	Big Chuckawall	64.08	68	P		P	00 29 10.9	+0.3
	baz=320							
SUW	Suwalki	64.21	330	eP		P	00 29 10.3	-0.5
	comp=Z,29nm,1.2s							
SUW	Suwalki	64.21	330	eP		P	00 29 10.3	-0.5
SUW				pmax	pmax			
	comp=Z,29nm,1.2s							
EYMN	Ely	64.24	42	P		P	00 29 10.4	-0.8
	baz=324							
PV01	Paradox Valley	64.26	60	eP		P	00 29 12.2	+0.4
	comp=Z,31nm,1.8s							
PDMCI	Parker Dam,Lak	64.29	67	P		P	00 29 12.2	+0.6
	baz=320							
SWSC	Sam W. Stewart	64.43	69	P		P	00 29 13.3	+0.7
	baz=320							
ISCO	Idaho Springs	64.44	57	P		P	00 29 13.4	+0.4
	baz=321							
IKP	In-Ko-Pah, Jac	64.48	69	P		P	00 29 13.7	+0.6
	baz=320							
Y12C	Blythe	64.50	67	P		P	00 29 13.5	+0.5
	baz=320							
WUAZ	Wupatki	64.82	64	P		P	00 29 15.6	+0.3
	baz=320							
GLA	Glamis	64.87	68	eP		P	00 29 16.6	+1.2
	comp=Z,8.8nm,0.9s							
GLA	Glamis	64.87	68	P		P	00 29 16.1	+0.7
	baz=320							
MVCO	Mesa Verde	65.00	61	eP		P	00 29 16.7	+0.3
	comp=Z,3.7nm,0.7s							
MVCO	Mesa Verde	65.00	61	P		P	00 29 16.7	+0.3
	baz=321							
AKASG	Malin Array Be	65.15	324	i P		P	00 29 15.6	-1.2
AKASG				pmax	pmax			
	comp=Z,7.0nm,0.3s							
AKASG	Malin Array Be	65.15	324	P		P	00 29 15.7	-1.1
	comp=Z,7.0nm,0.3s,baz=32,slow=6.8,SNR=20							
KIEV	Kiev	65.16	324	eP		P	00 29 15.4	-1.5
	comp=Z,10nm,0.9s							
KIEV	Kiev	65.16	324	⇓iP		P	00 29 15.7	-1.2
KIEV	Kiev	65.16	324	P		P	00 29 15.6	-1.2
KIEV	Kiev	65.16	324	⇓iP		P	00 29 15.8	-1.2
KIEV				pmax	pmax			
	comp=Z,8.0nm,0.9s							
OGNE	Ogallala	65.27	54	P		P	00 29 18.3	+0.5
	baz=322							
E38A	The Farm, Brul	65.31	43	P		P	00 29 17.2	-0.7
	baz=325,SNR=5.1							
S22A	4UR Ranch, Cre	65.43	59	P		P	00 29 19.7	+0.5
	baz=321							
BSD	Bornholm Skovb	65.45	335	i P		P	00 29 18.3	-0.3
BSD				pmax	pmax			
	comp=Z,2.0nm,0.4s							
BSD	Bornholm Skovb	65.45	335	i P		P	00 29 18.3	-0.3
	comp=Z,1.5nm,0.4s							
KIV	Kislovodsk	65.50	312	eP		P	00 29 19.4	+0.1
	comp=Z,7.2nm,0.6s							
KIV	Kislovodsk	65.50	312	⇓iP		P	00 29 19.0	-0.3
KIV	Kislovodsk	65.50	312	eP		P	00 29 19.4	+0.1
KIV				pmax	pmax			
	comp=Z,7.0nm,0.6s							
ECSD	EROS Data Cent	65.51	48	P		P	00 29 18.7	-0.6
	baz=323,SNR=8.4							
KBZ	Khabaz	65.59	312	P		P	00 29 19.8	+0.1
	comp=Z,11nm,0.7s,baz=103,slow=2.5,SNR=20							
F38A	Pierce - Schro	65.71	44	P		P	00 29 20.1	-0.3
	baz=325							
E39A	Mellen	65.89	43	P		P	00 29 20.5	-1.0
	baz=325,SNR=5.5							
ZEI	Tsey	65.90	310	eP		P	00 29 19.9	-2.0
ZEI				pmax	pmax			
	comp=Z,10.0nm,0.9s							
SDCO	Great Sand Dun	66.09	58	P		P	00 29 23.4	+0.1
	baz=322							
E40A	Wakefield	66.10	42	P		P	00 29 22.4	-0.4
	baz=326,SNR=6.6							
D41A	Chassel	66.11	41	P		P	00 29 22.0	-0.8
	baz=326							
F39A	Loretta	66.13	43	P		P	00 29 22.5	-0.5
	baz=325							
ONI	Oni	66.26	311	P		P	00 29 31.4	+7.4
ONI				S		P	00 29 32.7	+8.8
ONI	Oni	66.26	311	eP		P	00 29 31.3	+7.4
X18A	Snowflake	66.33	64	eP		P	00 29 26.0	+1.3
	comp=Z,5.0nm,0.8s							
G38A	Ridgeland	66.36	44	P		P	00 29 23.1	-1.4
	baz=325							
F40A	Park Falls	66.44	43	P		P	00 29 24.1	-0.8
	baz=326,SNR=7.6							
E41A	Kenton	66.45	42	P		P	00 29 23.8	-1.2
	baz=326							
BGNE	Belgrade	66.69	51	eP		P	00 29 26.3	-0.3
	comp=Z,19nm,0.6s							
BGNE	Belgrade	66.69	51	P		P	00 29 26.1	-0.5
	baz=323							
214A	Organ Pipe Nat	66.80	67	P		P	00 29 27.6	+0.2
	baz=321							
E42A	Champion	66.88	41	P		P	00 29 26.5	-1.1
	baz=326							
G40A	Rib Lake	66.95	43	eP		P	00 29 28.2	+0.1
	comp=Z,28nm,1.9s							
G40A	Rib Lake	66.95	43	P		P	00 29 27.3	-0.8
	baz=326							
F41A	Three Lakes	66.99	42	eP		P	00 29 28.0	-0.4
	comp=Z,4.3nm,0.6s							
F41A	Three Lakes	66.99	42	P		P	00 29 27.3	-1.1
	baz=326							
ANN	Anapa	67.02	316	eP		P	00 29 24.8	-3.6
ANN				e*PP		pP	00 31 24.6	-3.0
ANN				eS		S	00 37 29.8	-5.7
ANN				eSS		SS	00 42 08.1	-1.0
ANN				pmax	pmax			
	comp=Z,101nm,1.6s							
AKH	Akhalkalaki	67.19	310	⇓iP		P	00 29 30.1	+0.3
E43A	Lone Tree Farm	67.28	41	P		P	00 29 29.0	-1.0
	baz=327							
H40A	Chili	67.41	44	P		P	00 29 29.6	-1.2
	baz=326							
E44A	Grand Marais A	67.48	40	P		P	00 29 30.6	-0.7
	baz=327							
I39A	Houston	67.58	45	P		P	00 29 30.7	-1.2
	baz=325							
TUC	Tucson	67.61	66	P		P	00 29 32.6	+0.2
	baz=321							
GNI	Garni	67.63	308	eP		P	00 29 33.3	+0.8
	comp=Z,30nm,1.8s							
GNI	Garni	67.63	308	⇑eP		P	00 29 33.7	+1.2
GNI				pmax	pmax			
	comp=Z,19nm,1.1s							
G42A	Mountain	67.67	42	P		P	00 29 31.3	-1.1
	baz=326							
H41A	Junction City	67.70	43	P		P	00 29 31.8	-0.9
	baz=326							
TASM	ASL Pad, Albuq	67.80	61	P		P	00 29 33.8	+0.1
	baz=322							
TASM	ASL Pad, Albuq	67.80	61	P		P	00 29 33.7	+0.1
	baz=322							
ANMO	Albuquerque	67.80	61	eP		P	00 29 34.3	+0.6
	comp=Z,1.8nm,0.8s							
ANMO	Albuquerque	67.80	61	ceP		P	00 29 34.8	+1.1
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.3s							
LENM	Lemitar	68.15	62	epP		pP	00 31 37.8	+1.9
H43A	Windswept, Lux	68.57	42	P		P	00 29 37.0	-0.9
	baz=327							
J41A	Loganville	68.60	44	P		P	00 29 37.1	-1.0
	baz=326							
I42A	Draeger Farm,	68.60	43	P		P	00 29 37.2	-0.9
	baz=327							
K40A	Colesburg	68.69	46	P		P	00 29 37.4	-1.2
	baz=326							
L39A	Vinton	68.80	46	P		P	00 29 38.3	-1.0
	baz=326							
I43A	Langenfeld Bro	68.92	43	P		P	00 29 38.4	-1.5
	baz=327							
KOLS	Kolonicke sedl	68.94	328	eP		P	00 29 39.8	-0.2
KOLS				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KOLS	Kolonicke sedl	68.94	328	eP		P	00 29 39.8	-0.2
G46A	Petoskey	68.97	40	P		P	00 29 39.3	-1.0
	baz=328							
J42A	Columbus	69.00	44	P		P	00 29 39.6	-0.9
	baz=327							
121A	Cookes Peak, D	69.01	63	P		P	00 29 41.2	+0.3
	baz=322							
BURAR	Bucovina Array	69.15	325	⇑iP		P	00 29 40.4	-1.0
L40A	Anamosa	69.18	46	P		P	00 29 40.3	-1.2
	baz=326							
KSU1	Kansas State U	69.25	51	P		P	00 29 41.2	-0.8
	baz=324							
UPC	Upice	69.35	332	eP		P	00 29 42.4	-0.1
UPC	Upice	69.35	332	eP		P	00 29 42.4	-0.1
K42A	Prairie Point,	69.36	44	P		P	00 29 41.4	-1.3
	baz=327							
OKC	Ostrava-Krasne	69.36	331	eP		P	00 29 42.4	-0.1
OKC	Ostrava-Krasne	69.36	331	eP		P	00 29 42.4	-0.1
CLL	Collm	69.40	335	⇓iP		P	00 29 42.0	-0.7
CLL				pmax	pmax			
	comp=Z,9.0nm,0.6s							
CLL	Collm	69.40	335	⇓iP		P	00 29 42.0	-0.7
	comp=Z,9.0nm,0.6s							
DPC	Dobruska-Polom	69.41	332	eP		P	00 29 42.9	0.0
DPC	Dobruska-Polom	69.41	332	eP		P	00 29 42.9	0.0
BIZ	Bicaz	69.44	324	⇑iP		P	00 29 42.6	-0.5
GLMI	Grayling	69.48	40	P		P	00 29 42.8	-0.5
	baz=328							
BIR	Birlad	69.50	323	⇑iP		P	00 29 43.3	-0.1
TRPA	Tarpa	69.56	327	⇓iP		P	00 29 43.6	-0.1
MORC	Moravsky Berou	69.59	331	⇓iP		P	00 29 43.7	-0.2
MORC	Moravsky Berou	69.59	331	eP		P	00 29 43.8	-0.2
LANS	Liptovska Anna	69.59	330	eP		P	00 29 44.7	+0.7
LANS	Liptovska Anna	69.59	330	eP		P	00 29 44.7	+0.7
TESR	Tescani	69.62	324	⇓iP		P

TREC	Trest	70.59	332	eP		P	00 29 49.7	-0.2
TREC	Trest	70.59	332	eP		P	00 29 49.7	-0.2
M43A	Waltham Townsh	70.64	45	P		P	00 29 48.7	-1.5
	baz=327							
DRGR		70.69	326	⇑iP		P	00 29 49.6	-0.9
E54A	Lac Daplat, Po	70.71	34	P		P	00 29 49.3	-1.2
	baz=332							
HARR	Harsova	70.75	322	⇑iP		P	00 29 50.4	-0.4
MLR	Muntele Rosu	70.75	324	⇑iP		P	00 29 50.8	-0.2
TLB	Topalu	70.80	322	⇓iP		P	00 29 50.4	-0.7
MNTX	Cornudas Mount	70.91	62	P		P	00 29 52.5	+0.5
	baz=323,SNR=13							
MODS	Modra-Piesok	70.93	331	eP		P	00 29 51.4	-0.4
MODS				pmax		pmax		
	comp=Z,8.0nm,1.1s							
MODS	Modra-Piesok	70.93	331	eP		P	00 29 51.4	-0.4
CVDA	Cernavoda	71.02	322	⇓iP		P	00 29 52.1	-0.3
M44A	Midewin, Midew	71.05	44	P		P	00 29 51.2	-1.4
	baz=328							
VOIR		71.11	324	⇑iP		P	00 29 52.9	-0.1
L46A	Eue Claire	71.22	43	P		P	00 29 52.7	-0.9
	baz=328							
KHC	Kasperske Hory	71.25	333	eP		P	00 29 53.5	-0.2
KHC	Kasperske Hory	71.25	333	eP		P	00 29 53.5	-0.2
ICOR	Ion Corvin	71.29	322	⇑iP		P	00 29 54.1	+0.1
ARR	Arges	71.31	324	⇓iP		P	00 29 54.2	0.0
G53A	Haliburton	71.38	36	P		P	00 29 53.4	-1.1
	baz=331							
GERES	GERESS Array B	71.48	333	P		P	00 29 54.6	-0.5
	comp=Z,3.0nm,0.7s,baz=32,slow=6.0,SNR=25							
SIRR	Siria	71.49	327	⇑iP		P	00 29 54.2	-1.0
K49A	Clarkson	71.66	40	P		P	00 29 55.6	-0.6
	baz=329							
CONA	Conrad Observa	71.73	331	iP		P	00 29 56.9	+0.3
	comp=Z,4.4nm,0.6s							
WMOK	Wichita Mounta	71.76	56	P		P	00 29 56.8	-0.2
	baz=324,SNR=7.2							
GZR	Gura Zlata	71.91	326	⇑iP		P	00 29 56.4	-1.2
BZS	Buzias	72.08	327	⇓iP		P	00 29 57.4	-1.2
O45A	Potomac	72.14	45	P		P	00 29 58.2	-0.7
	baz=328							
ALFO	Alfred	72.17	33	P		P	00 29 58.3	-0.7
	baz=333							
TUL1	Leonard	72.22	53	P		P	00 29 59.3	-0.2
	baz=325							
N47A	Urbana	72.42	43	P		P	00 29 59.7	-0.9
	baz=329							
ARSA	Arzberg	72.45	331	iP		P	00 30 00.7	+0.1
	comp=Z,5.5nm,0.7s							
CCM	Cathedral Cave	72.49	48	P		P	00 30 00.0	-1.0
	baz=327							
N48A	Decatur	72.70	42	P		P	00 30 00.9	-1.3
	baz=329							
BRTR	Keskin Array B	72.80	315	P		P	00 30 02.4	-0.6
	comp=Z,3.5nm,0.6s,baz=0.8,slow=3.6,SNR=31							
PUNG	Punghina	72.84	325	⇓iP		P	00 30 01.6	-1.3
P46A	Rosedale	72.89	45	P		P	00 30 02.7	-0.5
	baz=328							
N49A	Columbus Grove	72.98	42	eP		P	00 30 03.2	-0.6
	comp=Z,35nm,1.5s							
N49A	Columbus Grove	72.98	42	P		P	00 30 02.8	-0.9
	baz=329							
SOKA	Soboth	73.11	331	eP		P	00 30 04.3	-0.2
	comp=Z,3.3nm,0.4s,SNR=6.7							
SHME	Shamm	73.12	291	P		P	00 30 03.9	-0.9
U40A	Yellville	73.19	50	P		P	00 30 04.2	-0.9
	baz=326,SNR=16							
KBA	Koelnbreinsper	73.20	333	eP		P	00 30 05.5	+0.4
	comp=Z,14nm,0.7s,SNR=12							
OBKA	Obir	73.39	332	iP		P	00 30 06.0	-0.2
	comp=Z,3.3nm,0.5s							
WATA	Walderalm	73.43	334	iP		P	00 30 06.6	+0.2
	comp=Z,1.9nm,0.5s							
WTTA	Wattenberg	73.48	334	iP		P	00 30 06.9	+0.2
	comp=Z,2.3nm,0.4s							
RETA	Reutte	73.49	334	iP		P	00 30 06.5	-0.2
	comp=Z,6.9nm,1.1s							
M52A	Chesterland	73.52	40	P		P	00 30 05.9	-0.9
	baz=330							
MYKA	Terra Mystica	73.53	332	iP		P	00 30 07.7	+0.8
	comp=Z,2.8nm,0.5s							
PHSR	Pinarhisar	73.55	321	⇑iP		P	00 30 06.0	-1.0
R45A	Skylar, Fairfi	73.56	46	P		P	00 30 06.8	-0.3
	baz=328							
U41A	Viola	73.62	50	P		P	00 30 06.8	-0.7
	baz=327							
SQTA	Sankt Quirin	73.63	334	iP		P	00 30 07.8	+0.3
	comp=Z,6.3nm,1.1s							
MSFE	Esma-Masafi	73.65	291	P		P	00 30 06.8	-1.2
K55A	Perry	73.67	37	P		P	00 30 06.7	-1.0
	baz=332							
N51A	Ashland	73.68	41	P		P	00 30 07.1	-0.6
	baz=330							
TXAR	Lajitas Array	73.69	62	P		P	00 30 08.6	+0.4
	comp=Z,7.2nm,0.7s,baz=298,slow=4.6,SNR=78							
ABTA	Abfaltersbach	73.73	333	iP		P	00 30 07.7	-0.3
	comp=Z,4.3nm,0.7s							
W39A	Magazine	73.73	52	P		P	00 30 07.7	-0.4
	baz=326							
Q47A	Bedord North L	73.78	45	P		P	00 30 07.9	-0.5
	baz=329							
DAVA	Damuels	73.90	335	iP		P	00 30 08.8	-0.3
	comp=Z,12nm,1.3s							
FETA	Feichten	73.94	334	iP		P	00 30 09.3	0.0
	comp=Z,4.6nm,0.7s							
Q48A	North Vernon	74.07	44	P		P	00 30 09.0	-1.0
	baz=329							
HATD	Hatta, Dubai	74.09	290	P		P	00 30 09.5	-0.8
VTS	Vitosha	74.21	324	eP		P	00 30 10.4	-0.5
	comp=Z,12nm,1.1s							
VTS	Vitosha	74.21	324	⇓iP		P	00 30 10.2	-0.7
VTS	Vitosha	74.21	324	eP		P	00 30 10.4	-0.5
VTS				pmax		pmax		
	comp=Z,12nm,1.1s							
ASHO	Ashiyiah	74.25	290	P		P	00 30 10.3	-0.9
R47A	Wooly Knot Far	74.29	45	P		P	00 30 10.5	-0.7
	baz=329							
MIAR	Mount Ida	74.37	52	P		P	00 30 11.4	-0.3
	baz=326							
WCI	Wyandotte Cave	74.44	45	P		P	00 30 11.6	-0.5
	baz=329							
W41B	Gary Mavity, V	74.45	51	P		P	00 30 11.8	-0.3
	baz=327							
FAQ	Al Faqa, Dubai	74.45	291	P		P	00 30 11.1	-1.3
R48A	Northridge Ran	74.47	44	P		P	00 30 11.8	-0.4
	baz=329							
N54A	Moraine State	74.53	39	P		P	00 30 11.8	-0.8
	baz=331							
O52A	Adamsville	74.58	41	P		P	00 30 12.0	-0.8
	baz=330							
WHTX	Lake Whitney,	74.64	56	P		P	00 30 13.0	-0.3
	baz=326							
ASUD	Al Ashush, Dub	74.69	291	iP		P	00 30 13.0	-0.7
	SNR=10							
JCT	Junction City	74.72	59	P		P	00 30 13.4	-0.5
	baz=325							
X40A	Basin Creek Fa	74.75	51	P		P	00 30 13.4	-0.5
	baz=327							
T46A	Princeton	74.78	47	P		P	00 30 13.2	-0.8
	baz=328							
ALNE	Al Ain	74.92	290	P		P	00 30 14.1	-0.9
S48A	Wiedeman Farm,	75.02	45	P		P	00 30 14.4	-1.0
	baz=329							
N55A	Marion Center	75.06	38	P		P	00 30 14.7	-0.8
	baz=332							
T47A	Sharon Grove	75.16	46	P		P	00 30 15.5	-0.6
	baz=329							
R50A	Paris	75.19	43	P		P	00 30 15.5	-0.7
	baz=330							
S49A	Springfield	75.23	44	P		P	00 30 15.8	-0.7
	baz=329							
STIP	Stip	75.39	324	iP		P	00 30 15.3	-2.0
U47A	Clarksville	75.55	46	P		P	00 30 17.5	-0.7
	baz=329							
WVT	Waverly	75.58	47	P		P	00 30 18.1	-0.3
	baz=328							
T49A	Edmonton	75.71	45	P		P	00 30 18.5	-0.7
	baz=329							
V46A	Holladay	75.74	47	P		P	00 30 18.6	-0.7
	baz=329							
Q53A	Leroy	75.79	41	P		P	00 30 18.8	-0.8
	baz=331							
P55A	Reedsville	75.86	40	P		P	00 30 19.5	-0.5
	baz=332							
Q54A	Coxs Mills	75.94	41	P		P	00 30 20.2	-0.2
	baz=331							
V47A	Nunnelly	75.97	47	P		P	00 30 20.4	-0.2
	baz=329							
KRUS	Krusevo	75.99	325	iP		P	00 30 19.4	-1.4
T50A	Nancy	76.07	44	P		P	00 30 20.2	-0.9
	baz=330							
U49A	Red Boiling Sp	76.12	45	P		P	00 30 20.9	-0.5
	baz=329							
V48A	Smith Brothers	76.34	47	P		P	00 30 22.1	-0.5
	baz=329							
U50A	Jamestown	76.59	45	P		P	00 30 23.2	-0.8
	baz=330							
X46A	Booneville	76.59	48	P		P	00 30 23.2	-0.8
	baz=328							
W48A	Pulaski	76.81	47	P		P	00 30 24.2	-1.0
	baz=329							
X47A	Russelville	76.94	48	P		P	00 30 25.5	-0.4
	baz=329							
CSS	Mathiatis	76.98	313	eP		P	00 30 25.1	-1.0
	comp=Z,15nm,0.7s							
TZTN	Tazewell	77.00	44	P		P	00 30 25.8	-0.5
	baz=330							
V50A	Pikeville	77.12	45	P		P	00 30 26.4	-0.5
	baz=330							
V51A	Loudon	77.31	45	P		P	00 30 26.9	-1.0
	baz=330							
V52A	Sevierville	77.59	44	P		P	00 30 28.3	-1.1
	baz=330							
X49A	Woodville	77.60	47	P		P	00 30 28.2	-1.2
	baz=329							
Y49A	Blount Mountai	78.12	47	P		P	00 30 31.2	-1.1
	baz=329							
Y50A	Piedmont	78.38	47	P		P	00 30 32.9	-0.7
	baz=330							
LRAL	Lakeview Retre	78.58	48	P		P	00 30 33.6	-1.1
	baz=329							
Z49A	Columbiana	78.64	48	P		P	00 30 33.9	-1.1
	baz=329							
Z50A	Ashland	78.85	47	P		P	00 30 35.2	-1.0
	baz=330							
150A	Eclectic	79.36	48	P		P	00 30 37.9	-1.0
	baz=330							
TIP	Timpagrande	79.44	327	⇑iP		P	00 30 39.0	-0.3
ASAR	Alice Springs	79.66	198	P		P	00 30 39.6	-0.8
	comp=Z,1.2nm,0.6s,baz=11,slow=5.0,SNR=12							
Y54A	Tignall	79.67	44	P		P	00 30 40.0	-0.5
	baz=331							
251A	Midway	80.07	47	P		P	00 30 42.0	-0.5
	baz=330							
KEST	Kesra	84.84	331	P		P	00 31 06.5	-0.1
	comp=Z,5.3nm,0.6s,baz=331,slow=1.1,SNR=21							
VNDA	Vanda	131.93	177	SKPbc		SKPbc	00 40 06.5	-2.6
	comp=Z,0.6nm,0.6s,baz=329,slow=3.1,SNR=4.2							
BOSA	Boshof	134.61	283	PKP		PKPdf	00 37 44.7	-0.5
	comp=Z,0.7nm,0.4s,baz=112,slow=2.1,SNR=4.0							
BOSA				SKPbc		SKPbc	00 40 16.3	-3.4
	comp=Z,1.3nm,0.9s,baz=131,slow=3.2,SNR=3.5							
CPUP	Villa Florida	143.97	51	PKP		PKPbc	00 38 00.8	-0.8
	comp=Z,0.8nm,0.3s,baz=17,slow=2.6,SNR=6.4							
SYO	Syowa Base	147.40	218	⇑ePKPdf		PKPdf	00 38 07.3	+0.9
SYO	Syowa Base	147.40	218	⇑ePKPab		PKPab	00 38 17.7	+3.5
PLCA	Paso Flores	147.99	83	PKPbc		PKPbc	00 38 11.6	-0.9
	comp=Z,2.9nm,0.9s,baz=339,slow=6.0,SNR=7.0							

ISCJB ***25*** *00:46:45.3±1.3, 54°.7N±0°.2×153°.2E±0°.3, h600km, mb3.0/5, Error ellipse: s-maj=30.9km s-min=22.8km az=10.3*
IDC ***25*** *00:46:46.4±1.6, 54°.65N×153°.17E, h611km±19km, mb2.4/5, mb1 2.7/7, mb1mx2.5/31, mbtmp3.4/7, Error ellipse: s-maj=43.4km s-min=21.1km az=175.0*
ISC 25 00:46:46.1±1.4, 54°.7N±0°.2×153°.2E±0°.2, h600km, n7, σ1$03/7, mb3.0/5, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	3.10	119	P	P	00 48 06.8	+1.0
	0.8nm,0.3s,baz=24,slow=4.7,SNR=20						
SEY	Seymchan	8.30	357	P	P	00 48 49.2	+1.3
	0.3nm,0.3s,baz=167,slow=12,SNR=5.0						
ILAR	Eielson Array	30.66	47	P	P	00 52 12.7	-0.2
	0.4nm,0.6s,baz=282,slow=9.9,SNR=8.0						
MKAR	Makanchi Array	43.77	290	P	P	00 53 59.1	-0.6
	0.4nm,0.5s,baz=58,slow=8.0,SNR=6.0						
YKA	Yellowknife Ar	44.72	41	P	P	00 54 05.8	-0.9
	0.3nm,0.6s,baz=306,slow=7.2,SNR=5.3						
PDAR	Pinedale Array	60.22	57	P	P	00 55 57.3	-0.3
	0.2nm,0.6s,baz=310,slow=2.1,SNR=2.3						
TXAR	Lajitas Array	73.66	62	P	P	00 57 19.7	-0.2
	0.2nm,0.6s,baz=317,slow=7.4,SNR=3.5						

KRNET ***25*** *00:46:53.0±0.1, 40°.95N×69°.31E, mb2.6*
SOME ***25*** *00:46:54.1, 40°.90N×69°.40E, h5km*
NNC ***25*** *00:46:55.1±1.6, 40°.96N×69°.40E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=10.8km s-min=8.0km az=59.0*
ISC 25 00:46:54.6±1.6, 40°.95N±0°.05×69°.48E±0°.06, h2km±12km, n22, σ2$02/36, 17C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	Tashkent	0.41	339	⇑eP	Pg	00 47 00.9	-1.6
	baz=59						
TAS				⇑eS	Sg	00 47 07.4	-0.5
	baz=59						
IUG	luzhnay	1.27	19	P	Pn	00 47 18.9	-0.6
	17nm,0.3s						
IUG				S	Sg	00 47 37.1	+1.7
	84nm,0.3s						
IUG	luzhnay	1.27	19	eP	Pn	00 47 18.9	-0.6
	17nm,0.3s						
IUG				eS	Sg	00 47 37.1	+1.7
	84nm,0.3s						
BTK	Batken	1.35	131	⇑iP	Pn	00 47 19.5	-1.1
	baz=27						
BTK				⇑iS	Sg	00 47 38.7	+0.6
	baz=27						
ARK	Arkit	2.05	65	⇑iP	Pn	00 47 29.0	-1.3
	baz=67						
ARK				⇑iS	Sn	00 47 56.8	+0.3
	baz=67						
KK31	Karatay Array	2.29	19	⇑Pg	Pb	00 47 37.8	+1.2
	2.0nm,0.5s,baz=201,slow=16,SNR=11						
KK31				⇓Lg	Lg	00 48 07.5	
	11nm,0.5s,baz=210,slow=32,SNR=14						
ARSB	Arslanbob	2.67	81	⇑iP	Pn	00 47 38.4	-0.4
	baz=81						
ARSB				⇑iS	Sn	00 48 11.1	-0.7
	baz=81						
MRKS	Merke	3.33	56	Pg	Pb	00 47 56.4	+2.0
	4.9nm,0.5s						
MRKS				Lg	Lg	00 48 42.2	
	9.8nm,0.4s						
MRKS	Merke	3.33	56	eP	Pb	00 47 56.4	+2.0
	4.9nm,0.5s						
MRKS				eS	Sg	00 48 42.2	+0.8
	9.8nm,0.4s						
AML	Almayashu	3.38	68	⇑eP	Pn	00 47 48.4	-0.3
	baz=69						
AML				⇑iS	Sn	00 48 28.3	-1.3
	baz=69						
EKS2	Erkin-Say	3.64	60	⇓eP	Pn	00 47 51.7	-0.4
	baz=61						
EKS2				⇓iS	Sn	00 48 34.0	-1.7
	baz=61						
ARLS	Aral	3.76	74	⇑iP	Pn	00 47 54.0	+0.3
	baz=75						
ARLS				⇑iS	Sn	00 48 37.4	-1.2
	baz=75						
UCH	Uchtor	3.99	70	⇑eP	Pn	00 47 56.8	-0.3
	baz=70						
UCH				⇑iS	Sn	00 48 43.5	-1.2
	baz=70						
KZA	Kyzart	4.48	73	⇑iP	Pn	00 48 03.3	-0.5
	baz=74						
KZA				⇑iS	Sn	00 48 55.1	-1.6
	baz=74						
DGS	Degeres	5.21	62	Pg	Pg	00 48 32.4	-2.1
	1.4nm,0.3s						
DGS				Lg	Lg	00 49 43.4	
	4.5nm,0.3s						
DGS	Degeres	5.21	62	eP	Pg	00 48 32.4	-2.1
	1.4nm,0.3s						
DGS				eS	Sg	00 49 43.4	+1.3
	4.5nm,0.3s						
KST	Kastek	5.27	64	Pg	Pb	00 48 31.8	+4.4
	2.1nm,0.3s						
KST				Lg	Lg	00 49 43.1	
	3.1nm,0.5s						
KST	Kastek	5.27	64	eP	Pb	00 48 31.8	+4.4
	2.1nm,0.3s						
KST				eS	Sg	00 49 43.1	-0.7
	3.1nm,0.5s						
BTLS	Baital	5.29	38	Pg	Pb	00 48 32.0	+4.3
	3.3nm,0.9s						
BTLS				Lg	Lg	00 49 42.3	
	3.1nm,0.4s						
BTLS	Baital	5.29	38	eP	Pb	00 48 32.0	+4.3
	3.3nm,0.9s						
BTLS				eS	Sg	00 49 42.3	-2.1
	3.1nm,0.4s						
KTBS	Karatobe	6.01	60	Pg	Pb	00 48 45.4	+5.3
KTBS				Lg	Lg	00 50 04.9	
KTBS	Karatobe	6.01	60	eP	Pb	00 48 45.4	+5.3
KTBS				eS	Sg	00 50 04.9	-2.7

ISCJB ***25*** *01:04:23.2±0.3, 16°.53S±0°.02×69°.55W±0°.03, h131km±3km, mb5.2/144, Error ellipse: s-maj=4.7km s-min=2.8km az=148.9*
SJA ***25*** *01:04:26.6±0.6, 16°.89S×69°.68W, h179km±3km, ML5.0, MW4.0*
NEIC ***25*** *01:04:27.1±0.4, 16°.75S×69°.54W, h153km±3km, mb5.3/73, Error ellipse: s-maj=5.5km s-min=3.3km az=80.0*
NEIC Felt at Ilo.
GUC ***25*** *01:04:27.9±0.7, 16°.80S×69°.76W, h165km±9km, ML5.0*
MOS ***25*** *01:04:27.9±1.2, 16°.70S×69°.59W, h165km, mb5.4/22, Error ellipse: s-maj=9.7km s-min=6.1km az=98.6*
IDC ***25*** *01:04:30.0±0.5, 16°.66S×69°.50W, h174km±3km, mb5.0/29, mb1 5.1/31, mb1mx5.1/36, mbtmp5.5/31, MS4.3/5, Ms1 4.3/5, ms1mx3.6/28, Error ellipse: s-maj=9.0km s-min=7.5km az=57.0*
VAO ***25*** *01:04:30.7±0.4, 16°.85S×69°.45W, h179km±4km, mb5.3*
ISC 25 01:04:27.9±0.4, 16°.82S±0°.03×69°.62W±0°.04, h165km±3km, h165km:pP-P, n1056, σ1$65/1152, mb5.2/140, 21C-7D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	LAS PENAS INFR	1.27	62	P	Pn	01 04 59.6	+2.7
	baz=259,slow=15,SNR=7.8						
I08BO				S	Sn	01 05 22.9	+3.7
	baz=279,slow=55						
PB16	IPOC Station P	1.52	176	eP	Pn	01 04 58.7	-0.7
PB16				eS	Sn	01 05 23.0	-0.7
PB16	IPOC Station P	1.52	176	⇑iP	Pn	01 05 01.0	+1.7
PB16				eS	Sn	01 05 26.0	+2.3
PB16				IAML		01 05 29.6	
	comp=E,3μm,0.6s						
LPAZ	La Paz	1.52	70	ePn	Pn	01 05 01.1	+1.7
LPAZ				eSn	Sn	01 05 22.7	-1.0
LPAZ	La Paz	1.52	70	eP	Pn	01 05 00.8	+1.3
LPAZ				eS	Sn	01 05 26.1	+2.4
LPAZ	La Paz	1.52	70	eP	Pn	01 05 01.2	+1.7
LPAZ				e		01 05 22.7	
LPAZ	La Paz	1.52	70	eP	Pn	01 05 01.5	+2.0
LPAZ				eS	Sn	01 05 25.3	+1.7
LPAZ	La Paz	1.52	70	P	Pn	01 05 01.3	+1.9
	comp=E,805nm,0.3s,baz=292,slow=5.9						
LPAZ				S	Sn	01 05 25.1	+1.4
	comp=E,414nm,0.3s,baz=143,slow=20,SNR=28						
PB12	IPOC Station P	1.91	201	⇑iP	Pn	01 05 02.3	-0.7
PB12				eS	Sn	01 05 28.7	-1.6
PB12				IAML		01 05 30.6	
	comp=N,11μm,0.4s						
MNMC	Minye Minye	2.30	179	ePn	Pn	01 05 08.4	+0.7
MNMC				eSn	Sn	01 05 36.9	-1.7
MNMC	Minye Minye	2.30	179	⇑iP	Pn	01 05 08.6	+0.9
MNMC				eS	Sn	01 05 38.4	-0.1
MNMC				IAML		01 05 47.0	
	comp=N,14μm,0.5s						
MNMCX	Minye Minye	2.30	179	eP	Pn	01 05 07.2	-0.5
MNMCX				eS	Sn	01 05 37.1	-1.5
PSGC	Pisagua	2.81	190	⇑iP	Pn	01 05 12.7	-0.9
PSGC				eS	Sn	01 05 47.2	-1.9
PSGC				IAML		01 05 50.8	
	comp=E,4μm,0.7s						
GO01	Chusmiza	2.87	172	ePn	Pn	01 05 15.8	+1.1
GO01				eSn	Sn	01 05 49.6	-1.4
GO01	Chusmiza	2.87	172	⇑iP	Pn	01 05 15.9	+1.3
GO01				eS	Sn	01 05 52.1	+1.1
PB11	IPOC Station P	2.93	181	ePn	Pn	01 05 15.2	+0.1
PB11				eSn	Sn	01 05 50.0	-1.9
PB11	IPOC Station P	2.93	181	eP	Pn	01 05 14.4	-0.7
PB11				eS	Sn	01 05 49.8	-2.1
PB11	IPOC Station P	2.93	181	⇑iP	Pn	01 05 15.3	+0.1
PB11				eS	Sn	01 05 51.2	-0.7
PB08	IPOC Station P	3.34	172	eP	Pn	01 05 20.0	-0.5
PB08				eS	Sn	01 05 59.2	-2.1
PB01	IPOC Station P	4.21	178	ePn	Pn	01 05 30.6	-0.7
PB01				eSn	Sn	01 06 17.3	-3.5
PB04	IPOC Station P	5.51	185	ePn	Pn	01 05 46.8	-1.6
PB04				eSn	Sn	01 06 45.2	-6.4
LVC	Limon Verde	5.80	174	ePn	Pn	01 05 52.6	+0.1
LVC				eSn	Sn	01 06 54.7	-4.1
LVC	Limon Verde	5.80	174	eP	Pn	01 05 51.4	-1.0
LVC				eS	Sn	01 06 53.9	-4.9
LVC	Limon Verde	5.80	174	eP	Pn	01 05 52.6	+0.1
LVC				e		01 06 54.7	
LVC	Limon Verde	5.80	174	P	Pn	01 05 52.7	+0.1
	comp=E,67nm,0.3s,baz=19,slow=8.4,SNR=415						
LVC				S	Sn	01 06 54.2	-4.5
	comp=E,152nm,0.3s,baz=190,slow=18,SNR=20						
PB05	IPOC Station P	6.03	185	eP	Pn	01 05 53.3	-2.0
YJA	Yavi	6.59	145	eP	Pn	01 06 02.2	-0.7
YJA				IAML		01 07 29.1	
	comp=Z,49nm,0.5s						
PB10	IPOC Station P	6.72	187	ePn	Pn	01 06 01.8	-2.5
PB10				eSn	Sn	01 07 13.9	-6.2
HJA	Humahuaca	7.49	149	eP	Pn	01 06 14.2	-0.7
HJA				eS	Sn	01 07 33.5	-5.5
SIV	San Ignacio	8.24	86	P	Pn	01 06 23.0	-1.5
	comp=Z,64nm,0.3s,baz=275,slow=11,SNR=492						
GO02	Mina Guanaco	8.31	180	ePn	Pn	01 06 23.9	-1.7
GO02				eSn	Sn	01 07 54.1	-4.3
NNA	Nana	8.48	304	ePn	Pn	01 06 26.2	-1.5
NNA				eSn	Sn	01 07 57.5	-5.0
NNA	Nana	8.48	304	eP	Pn	01 06 26.2	-1.5
NNA				e		01 07 57.5	
NNA	Nana	8.48	304	P	Pn	01 06 26.6	-1.1
	comp=Z,285nm,0.3s,baz=133,slow=11,SNR=356						
NNA				S	Sn	01 07 55.3	-7.1
	comp=Z,528nm,0.3s,baz=26,slow=16,SNR=17						
AZAP	Zapla	8.52	151	eP	Pn	01 06 27.3	-1.0
AZAP				eS	Sn	01 07 56.8	-6.6
SLA	San Lorenzo	8.76	155	eP	Pn	01 06 30.8	-0.6
SLA				IAML		01 06 34.8	
	comp=Z,78nm,0.6s						
FSA	Cafayete	9.85	161	eP	Pn	01 06 44.5	-1.4
FSA				eS	Sn	01 08 26.0	-9.4
AHML	Horco Molle	10.69	159	eP	Pn	01 06 55.0	-1.7
AHML				eS

PEL pmax pmax
comp=Z,172nm,0.9s
PTLC Puerto Leguiza 17.63 343 *eP* **P 01 08 16.5 -5.8**
PTLC Puerto Leguiza 17.63 343 *eP* **P 01 08 16.5 -5.8**
GO05 Huala 18.24 186 *eP* **Pn 01 08 30.1 -0.5**
comp=Z,224nm,1.1s
PTGA Pitinga 18.60 32 *eP* **P 01 08 32.1 -0.7**
comp=Z,291nm,1.0s
PTGA S **S 01 11 53.5 -2.7**
PTGA Pitinga 18.60 32 P **P 01 08 32.0 -0.7**
comp=Z,12nm,0.3s,baz=209,slow=11,SNR=136
PTGA S **S 01 11 53.5 -2.7**
comp=Z,0.6nm,0.3s,baz=134,slow=12,SNR=4.9
OTAV Otavalo 19.05 332 *eP* **P 01 08 38.7 +0.5**
comp=Z,39nm,0.8s
OTAV Otavalo 19.05 332 *eP* **P 01 08 39.5 +1.4**
OTAV Otavalo 19.05 332 *eP* **P 01 08 38.7 +0.5**
OTAV pmax pmax
comp=Z,39nm,0.8s
OTAV Otavalo 19.05 332 *eP* **P 01 08 39.5 +1.4**
ITAB Concordia 19.22 126 *eP* **P 01 08 40.1 +0.7**
ITAB *eS* **S 01 12 06.5 -1.9**
FLOC Florencia 19.23 341 *eP* **P 01 08 37.9 -1.7**
FLOC Florencia 19.23 341 *eP* **P 01 08 37.9 -1.7**
GUVC San Jose del G 19.46 351 *eP* **P 01 08 40.6 -1.6**
GUVC San Jose del G 19.46 351 *eP* **P 01 08 40.6 -1.6**
GCUF Volcan Galeras 19.48 336 *eP* **Pn 01 08 44.5 -1.4**
GCUF Volcan Galeras 19.48 336 *eP* **Pn 01 08 44.5 -1.4**
CRUC La Cruz 19.65 338 *eP* **Pn 01 08 47.0 -0.7**
CRUC La Cruz 19.65 338 *eP* **Pn 01 08 47.0 -0.7**
FRTB Fartura 19.91 112 *eP* **Pn 01 08 49.0 -1.5**
FRTB *eS* **S 01 12 20.3 -2.0**
CPSB Cacapava Do Su 20.04 135 *eP* **P 01 08 47.7 -0.5**
CPSB *eS* **S 01 12 21.8 -2.6**
SOTA Rioblanco 20.05 339 *eP* **P 01 08 47.0 -2.1**
SOTA Rioblanco 20.05 339 *eP* **P 01 08 47.0 -2.1**
PCON Cinco Dias 20.16 340 *eP* **P 01 08 51.1 +0.8**
PCON Cinco Dias 20.16 340 *eP* **P 01 08 51.1 +0.8**
BBAC Balboa, Cauca 20.17 337 *eP* **P 01 08 48.6 -1.4**
BBAC Balboa, Cauca 20.17 337 *eP* **P 01 08 48.6 -1.4**
BETC Betania 20.21 343 *eP* **P 01 08 47.0 -3.2**
BETC Betania 20.21 343 *eP* **P 01 08 47.0 -3.2**
BB19B Bebedouro 20.39 105 *eP* **P 01 08 52.5 +0.3**
BB19B *eS* **S 01 12 27.7 -4.0**
POPC Popayan, Colom 20.45 339 *eP* **P 01 08 51.1 -2.0**
POPC Popayan, Colom 20.45 339 *eP* **P 01 08 51.1 -2.0**
BDFB Brasilia 20.78 90 *eP* **P 01 08 55.8 -0.5**
comp=Z,182nm,0.9s
BDFB Brasilia 20.78 90 P **P 01 08 56.2 -0.2**
comp=Z,179nm,0.8s,baz=261,slow=12,SNR=180
PLTB Pedras Altas 20.81 139 *eP* **P 01 08 55.9 -0.5**
PLTB *eS* **S 01 12 36.5 -3.0**
TIJ01 Guaruva-PR 21.00 117 *eP* **P 01 09 00.9 +2.2**
PRAC Prado 21.05 345 *eP* **P 01 08 56.8 -2.4**
PRAC Prado 21.05 345 *eP* **P 01 08 56.8 -2.4**
VILC Villavicencio, 21.18 349 *eP* **P 01 09 01.8 +1.1**
VILC Villavicencio, 21.18 349 *eP* **P 01 09 01.8 +1.1**
CHIC Chingaza 21.69 349 *eP* **P 01 09 05.2 -1.2**
CHIC Chingaza 21.69 349 *eP* **P 01 09 05.2 -1.2**
YOTC Yotoco, Valle 21.71 342 *eP* **P 01 09 05.9 -0.4**
YOTC Yotoco, Valle 21.71 342 *eP* **P 01 09 05.9 -0.4**
SPB Sao Paulo 21.87 112 *eP* **P 01 09 07.0 -0.8**
comp=Z,155nm,0.8s
ROSC El Rosal 22.01 347 *eP* **P 01 09 09.7 +0.1**
comp=Z,23nm,0.8s
ROSC S **S 01 12 58.5 -2.8**
ROSC El Rosal 22.01 347 P **P 01 09 09.2 -0.4**
comp=Z,11nm,0.6s,baz=120,slow=20,SNR=5.3
ROSC S **S 01 12 58.5 -2.8**
comp=Z,9.4nm,0.7s,baz=75,slow=20,SNR=4.1
PMNB Patos De Minas 22.15 98 *eP* **P 01 09 10.5 -0.2**
TER01 Tubaro-SC 22.18 125 *eP* **P 01 09 09.2 -1.5**
YOPC Yopal, Colombi 22.20 353 *eP* **P 01 09 10.0 -1.2**
YOPC Yopal, Colombi 22.20 353 *eP* **P 01 09 10.0 -1.2**
TRQA Tornquist 22.20 164 *eP* **P 01 09 10.8 -0.1**
comp=Z,350nm,1.0s
TRQA Tornquist 22.20 164 *eP* **P 01 09 10.8 -0.1**
TRQA pmax pmax
comp=Z,350nm,1.0s
RREF El Recreo 22.31 345 *eP* **P 01 09 11.6 -1.1**
RREF El Recreo 22.31 345 *eP* **P 01 09 11.6 -1.1**
PLMC San Jos del P 22.56 342 *eP* **P 01 09 12.5 -2.1**
PLMC San Jos del P 22.56 342 *eP* **P 01 09 12.5 -2.1**
GUY2C Guyana, Caldas 22.62 345 *eP* **P 01 09 14.9 -0.6**
GUY2C Guyana, Caldas 22.62 345 *eP* **P 01 09 14.9 -0.6**
GO06 Curarrehue 22.74 184 *eP* **P 01 09 16.8 +0.7**
comp=Z,490nm,1.1s
RUSC La Rusia 22.82 351 *eP* **P 01 09 15.8 -1.6**
RUSC La Rusia 22.82 351 *eP* **P 01 09 15.8 -1.6**
NORC Norcasia 22.83 346 *eP* **P 01 09 13.3 -3.7**
NORC Norcasia 22.83 346 *eP* **P 01 09 13.3 -3.7**
TAMC Tame, Arauca 23.20 355 *eP* **P 01 09 18.2 -2.1**
TAMC Tame, Arauca 23.20 355 *eP* **P 01 09 18.2 -2.1**
BARC Barichara 23.52 351 *eP* **P 01 09 21.5 -2.0**
BARC Barichara 23.52 351 *eP* **P 01 09 21.5 -2.0**
HELC Santa Helena 23.59 345 *eP* **P 01 09 21.5 -2.8**
HELC Santa Helena 23.59 345 *eP* **P 01 09 21.5 -2.8**
ELOV Elorza 23.66 0 *eP* **P 01 09 21.5 -3.0**
ELOV Elorza 23.66 0 *eP* **P 01 09 21.5 -3.0**
PTBC PUERTO BERRIO, 23.69 348 *eP* **P 01 09 20.7 -4.1**
PTBC PUERTO BERRIO, 23.69 348 *eP* **P 01 09 20.7 -4.1**
PLCA Paso Flores 23.85 182 *eP* **P 01 09 26.8 +0.7**
comp=Z,693nm,1.0s
PLCA *ePcP* **PcP 01 13 06.3 +1.6**
PLCA Paso Flores 23.85 182 P **P 01 09 27.4 +1.3**
comp=Z,589nm,1.0s,baz=26,slow=11,SNR=191
PLCA PcP **PcP 01 13 06.3 +1.6**
comp=Z,14nm,1.0s,baz=347,slow=0.5,SNR=4.4
GIRC Giron, Santand 24.00 351 *eP* **P 01 09 24.0 -3.8**
GIRC Giron, Santand 24.00 351 *eP* **P 01 09 24.0 -3.8**
BRRC Barranca, Sant 24.11 350 *eP* **P 01 09 24.9 -3.6**
BRRC Barranca, Sant 24.11 350 *eP* **P 01 09 24.9 -3.6**
PAMC Pamplona, Colo 24.19 353 *eP* **P 01 09 27.3 -2.6**
PAMC Pamplona, Colo 24.19 353 *eP* **P 01 09 27.3 -2.6**
CAPV Capacho 24.67 354 *eP* **P 01 09 32.7 -1.2**
CAPV Capacho 24.67 354 *eP* **P 01 09 32.7 -1.2**
ZARC Zaragoza, Cauc 24.70 347 *eP* **P 01 09 31.3 -2.6**
ZARC Zaragoza, Cauc 24.70 347 *eP* **P 01 09 31.3 -2.6**
UREC San Jos de Ur 25.10 346 *eP* **P 01 09 35.5 -2.1**
UREC San Jos de Ur 25.10 346 *eP* **P 01 09 35.5 -2.1**
VAS01 Vassouras-RJ 25.24 107 *eP* **P 01 09 40.4 +1.5**
SDV Santo Domingo 25.56 358 *eP* **P 01 09 40.1 -1.8**
comp=Z,55nm,0.8s
SDV Santo Domingo 25.56 358 *eP* **P 01 09 39.6 -2.3**
SDV Santo Domingo 25.56 358 *eP* **P 01 09 39.6 -2.3**
SDV Santo Domingo 25.56 358 P **P 01 09 39.9 -2.0**
comp=Z,70nm,0.9s,baz=190,slow=9.5,SNR=40
SMLC San Martn de 25.83 350 *eP* **P 01 09 40.4 -3.7**
SMLC San Martn de 25.83 350 *eP* **P 01 09 40.4 -3.7**
AZU Azuero 26.62 336 *eP* **P 01 09 51.1 -0.1**
AZU Azuero 26.62 336 *eP* **P 01 09 51.1 -0.1**
CODC Agustn Codazz 26.85 352 *eP* **P 01 09 47.6 -5.6**
CODC Agustn Codazz 26.85 352 *eP* **P 01 09 47.6 -5.6**
ARGC Ariguani, Magd 26.89 350 *eP* **P 01 09 52.0 -1.7**
ARGC Ariguani, Magd 26.89 350 *eP* **P 01 09 52.0 -1.7**
MDP Montagnes des 27.49 39 P **P 01 09 59.1 0.0**
comp=Z,144nm,0.7s,baz=215,slow=9.1,SNR=123
MDP PcP **PcP 01 13 14.8 +1.5**
comp=Z,14nm,0.7s,baz=256,slow=4.2,SNR=3.2
DABV Dabajuro 27.58 358 *eP* **P 01 09 56.3 -3.5**
DABV Dabajuro 27.58 358 *eP* **P 01 09 56.3 -3.5**
BCIP Isla Barro Col 27.72 338 *eP* **P 01 10 01.1 0.0**
comp=Z,12nm,0.8s
BCIP Isla Barro Col 27.72 338 *eP* **P 01 10 01.1 0.0**
BCIP pmax pmax
comp=Z,12nm,0.8s
TPP Pointe-a-Pierr 28.14 17 *eP* **P 01 10 07.0 +2.2**
SMRC Santa Marta, M 28.17 350 *eP* **P 01 10 01.8 -3.2**
SMRC Santa Marta, M 28.17 350 *eP* **P 01 10 01.8 -3.2**
TRN Trinidad (W) 28.47 17 *eP* **P 01 10 08.7 +1.0**
TOSP Speyside 29.34 18 *eP* **P 01 10 15.1 -0.3**
GRGR Grenville 29.82 16 *eP* **P 01 10 19.1 -0.5**
comp=Z,355nm,0.8s
GRGR Grenville 29.82 16 *eP* **P 01 10 17.8 -1.8**
GRHS Sauteurs 29.91 16 *eP* **P 01 10 20.3 -0.1**
GRSS Sisters 29.99 16 *eP* **P 01 10 21.2 +0.1**
JTS Las Juntas de 30.91 330 *eP* **P 01 10 30.1 +0.8**
comp=Z,19nm,0.8s
JTS Las Juntas de 30.91 330 P **P 01 10 31.2 +1.9**
comp=Z,19nm,0.8s,baz=201,slow=4.2,SNR=13
SVB Belmont 31.02 16 *eP* **P 01 10 28.6 -1.6**
comp=Z,130nm,0.7s
SVB Belmont 31.02 16 *eP* **P 01 10 28.4 -1.8**
SVCV St. Vincent, C 31.05 16 *eP* **P 01 10 29.6 -0.9**
SSV Crater Summit 31.09 16 *e* **P 01 10 29.7 -1.2**
BBGH Gun Hill 31.38 19 *eP* **P 01 10 33.4 0.0**
comp=Z,686nm,1.4s
MCLT Moule a Chique 31.52 16 *eP* **P 01 10 32.7 -1.8**
SLDE Delcer 31.58 16 *eP* **P 01 10 34.0 -1.1**
SLB Belfond 31.60 16 *eP* **P 01 10 34.1 -1.3**
SLPA Patience 31.66 16 *eP* **P 01 10 33.7 -2.1**
SLBI Saint Lucia, B 31.81 16 *eP* **P 01 10 34.7 -2.3**
SLW Petit Monier 31.82 16 *eP* **P 01 10 36.0 -1.2**
FDF Fort de France 32.44 15 *eP* **P 01 10 40.7 -2.0**
comp=Z,270nm,0.9s
FDF Fort de France 32.44 15 *eP* **P 01 10 40.0 -2.7**
FDF Fort de France 32.44 15 *eP* **P 01 10 40.7 -2.0**
FDF pmax pmax
comp=Z,270nm,0.9s
BBL Barber's Block 33.13 14 *eP* **P 01 10 45.1 -3.5**
BPA Boggy Peak 34.51 13 *eP* **P 01 10 56.6 -3.9**
ICMP Isla Caja de M 34.62 5 *eP* **P 01 11 00.3 -1.1**
comp=Z,137nm,0.8s
RCBR Riachuelo 34.76 76 *eP* **P 01 11 02.2 -0.6**
comp=Z,185nm,1.0s
OBIP Obispado Ponce 34.77 5 *eP* **P 01 11 01.8 -0.9**
SJG San Juan 34.88 6 *eP* **P 01 11 01.8 -1.8**
comp=Z,136nm,1.0s
SJG San Juan 34.88 6 *eP* **P 01 11 01.8 -1.8**
SJG pmax pmax
comp=Z,136nm,1.0s
HUMP Col San Antoni 34.94 6 *eP* **P 01 11 02.0 -2.2**
comp=Z,50nm,0.6s
BANI BANI 34.99 359 *eP* **P 01 11 04.2 -0.6**
ANWB Willy Bob 35.12 13 *eP* P 01 10 59.6 -6.2
PCDR Punta Cana, DR 35.13 2 *eP* **P 01 11 05.4 -0.4**
comp=Z,328nm,1.1s
SMRT St. Maarten 35.24 11 *eP* **P 01 11 02.8 -3.9**
EFI East Falkland 35.98 168 *eP* **P 01 11 13.2 +0.5**
comp=Z,408nm,1.1s
EFI East Falkland 35.98 168 *eP* **P 01 11 13.2 +0.5**
EFI pmax pmax
comp=Z,408nm,1.1s
APG El Apazote 37.72 326 P **P 01 11 29.6 +1.6**
comp=Z,35nm,0.7s,baz=153,slow=5.8,SNR=19
USHA Ushuaia 37.95 179 P **P 01 11 31.4 +2.1**
comp=Z,95nm,0.8s,baz=350,slow=4.8,SNR=40
USHA PcP **PcP 01 13 43.0 +1.5**
comp=Z,17nm,0.8s,baz=356,slow=3.9,SNR=4.7
RPN Rapa Nui 38.09 247 LR LR 01 24 24.0
comp=Z,452nm,19.7s,baz=110,slow=31
CMIG Matias Romero 41.89 322 P **P 01 12 03.4 +1.1**
comp=Z,33nm,0.7s,baz=129,slow=5.8,SNR=38
061Z Ochoppi 43.82 345 P **P 01 12 16.9 -0.8**
baz=164
060Z West Palm Beac 44.26 346 P **P 01 12 20.0 -1.1**
baz=165
059Z Ave Maria 44.41 345 P **P 01 12 20.7 -1.5**
baz=164
TLIG Tlapa 44.49 319 *eP* **P 01 12 24.5 +1.3**
comp=Z,33nm,1.0s
TLIG *ePcP* **PcP 01 14 06.1 +2.2**
060A Indiantown 44.82 346 P **P 01 12 24.3 -1.2**
baz=165
059A Moore Haven 44.94 345 P **P 01 12 25.8 -0.6**
baz=164
058A Arcadia 45.19 345 P **P 01 12 27.8 -0.6**
baz=163
959A Okeechobee 45.41 346 P **P 01 12 28.2 -2.0**
baz=165
859A Kempfer Cattle 45.93 346 P **P 01 12 33.0 -1.3**
baz=165
DWPF Disney Wildern 46.10 345 *eP* **P 01 12 35.2 -0.4**
comp=Z,22nm,0.7s
DWPF Disney Wildern 46.10 345 P **P 01 12 34.2 -1.4**
baz=164
857A Zephyrhills 46.45 345 P **P 01 12 36.9 -1.4**
baz=163
758A Lake Helen 46.86 346 P **P 01 12 40.8 -0.7**
baz=165
757A Oxford 47.05 345 P **P 01 12 42.2 -0.8**
baz=164
658A Bunnell 47.32 346 P **P 01 12 44.6 -0.4**
baz=165
656A Wilton 47.58 345 *eP* **P 01 12 46.4 -0.6**
comp=Z,94nm,1.5s
656A *ePcP* **PcP 01 14 15.6 +1.4**
656A Willston 47.58 345 P **P 01 12 46.5 -0.6**
baz=163
657A Interlachen 47.62 346 P **P 01 12 46.4 -0.9**
baz=164
MOIG Morelia 47.72 318 *eP* **P 01 12 50.4 +1.8**
comp=Z,91nm,0.7s
655A Horseshoe Beac 47.90 344 P **P 01 12 48.3 -1.2**
baz=162
557A Orange Park 48.00 346 P **P 01 12 49.0 -1.2**
baz=164
PMSA Palmer Station 48.07 177 *eP* **P 01 12 52.1 +1.7**
comp=Z,141nm,1.1s
PMSA Palmer Station 48.07 177 P **P 01 12 52.6 +2.3**
comp=Z,65nm,0.9s,baz=19,slow=6.8,SNR=9.9
556A Lake Butler 48.15 345 P **P 01 12 50.2 -1.2**
baz=163
555A McAlpin 48.40 344 P **P 01 12 52.2 -1.1**
baz=163
455A Stateville 49.01 345 P **P 01 12 56.6 -1.3**
baz=163
454A Quitman 49.14 344 P **P 01 12 57.2 -1.8**
baz=162
356A Blackshear 49.35 346 P **P 01 12 58.9 -1.6**
baz=164
453A Whigham 49.46 343 P **P 01 12 59.6 -1.8**
baz=161
355A Pearson 49.54 345 P **P 01 13 00.9 -1.1**
baz=163
451A Vernon 49.65 342 P **P 01 13 01.3 -1.5**
baz=160
452A Marianna 49.70 342 P **P 01 13 02.0 -1.2**
baz=160,SNR=5.7
257A Skidaway Islan 49.73 347 P **P 01 13 02.3 -1.1**
baz=166
TIGA Tifton 49.82 344 P **P 01 13 02.8 -1.3**
baz=162
353A Camilla 49.90 344 P **P 01 13 03.4 -1.3**
baz=162
256A Glennville 49.92 346 P **P 01 13 02.5 -2.3**
baz=164
255A Hazlehurst 50.01 346 P **P 01 13 03.6 -1.9**
baz=164
450A Crestview 50.08 341 P **P 01 13 04.0 -2.0**
baz=159
352A Blakely 50.22 343 P **P 01 13 05.6 -1.5**
baz=161,SNR=7.3
351A Pinckard 50.22 342 P **P 01 13 05.7 -1.4**
baz=160,SNR=7.6
254A Abbeville 50.22 345 P **P 01 13 05.6 -1.5**
baz=163,SNR=7.0
253A Americus 50.55 344 P **P 01 13 08.4 -1.2**
baz=162
BRAL Brewton 50.56 341 P **P 01 13 08.6 -1.1**
baz=158
350A Dozier 50.58 341 P **P 01 13 08.3 -1.5**
baz=159
252A Lumpkin 50.65 343 P **P 01 13 08.7 -1.6**
baz=161,SNR=8.1
NHSC New Hope 50.66 349 P **P 01 13 09.1 -1.2**
baz=167
155A Kite 50.67 346 P **P 01 13 09.3 -1.2**
baz=164
349A Repton 50.78 341 P **P 01 13 10.1 -1.2**
baz=158,SNR=8.6
154A Montrose 50.81 345 P **P 01 13 10.0 -1.5**
baz=163,SNR=7.2
ZAIG Zacatecas 50.86 320 *eP* **P 01 13 13.7 +1.2**
comp=Z,67nm,0.8s
251A Midway 50.93 343 P **P 01 13 10.7 -1.7**
baz=160,SNR=17
153A Fort Valley 51.03 345 P **P 01 13 11.1 -2.1**
baz=162
250A Grady 51.07 342 P **P 01 13 11.8 -1.7**
baz=159
152A Waverly Hall 51.28 344 P **P 01 13 13.7 -1.3**
baz=161
151A Opelika 51.31 343 P **P 01 13 13.9 -1.4**
baz=161
249A Camden 51.33 341 P **P 01 13 14.1 -1.3**
baz=158,SNR=8.2
Y58A Scranton 51.34 349 P **P 01 13 14.0 -1.5**
baz=168
Z54A Sparta 51.35 346 P **P 01 13 14.0 -1.5**
baz=164
Z53A Monticello 51.56 345 P **P 01 13 15.9 -1.3**
baz=163
Y57A Sumter 51.58 349 P **P 01 13 15.9 -1.3**
baz=167
150A Eclectic 51.59 342 P **P 01 13 15.8 -1.6**
baz=160,SNR=7.2
GOGA Godfrey 51.66 345 P **P 01 13 15.7 -2.2**
baz=163
Z52A Williamson 51.69 344 P **P 01 13 16.4 -1.8**
baz=162
Y55A Saluda 51.80 347 P **P 01 13 17.3 -1.6**
baz=165
149A Jones 51.81 342 P **P 01 13 17.2 -1.8**
baz=159
Y54A Tignall 51.91 346 P **P 01 13 17.5 -2.2**
baz=164
148A Greensboro 52.10 341 P **P 01 13 19.4 -1.7**
baz=158
Y53A Monroe 52.12 345 P **P 01 13 19.5 -1.7**
baz=163
Z50A Ashland 52.17 343 P **P 01 13 19.9 -1.8**
baz=160,SNR=8.4
W61A Ground Anchor 52.18 352 P **P 01 13 19.9 -1.7**
baz=171
Y52A Lilburn 52.24 345 *eP* **P 01 13 21.6 -0.6**
comp=Z,19nm,1.3s
Y52A *ePcP* **PcP 01 14 32.3 +1.0**
Y52A Lilburn 52.24 345 P **P 01 13 20.3 -1.9**
baz=162
LRAL Lakeview Retre 52.28 342 *eP* **P 01 13 20.8 -1.6**
comp=Z,16nm,1.2s
LRAL Lakeview Retre 52.28 342 P **P 01 13 20.8 -1.6**
baz=159
Z49A Columbiana 52.29 342 P **P 01 13 20.7 -1.8**
baz=159
W58A Raeford 52.35 350 P **P 01 13 21.5 -1.4**
baz=168
V62A Hyde County Ai 52.43 353 P **P 01 13 21.6 -1.9**
baz=172
X54A Belton 52.50 347 P **P 01 13 22.6 -1.5**
baz=164,SNR=5.4
Y51A Rockmart 52.54 344 P **P 01 13 22.5 -1.8**
baz=161,SNR=7.9
W57A Gilead 52.61 349 P **P 01 13 23.0 -1.8**
baz=167
X53A Estanollee 52.67 346 P **P 01 13 23.4 -1.8**
baz=163
W56A Indian Trail 52.70 349 P **P 01 13 23.6 -1.9**
baz=167
Y50A Piedmont 52.71 343 P **P 01 13 24.2 -1.4**
baz=160
V60A Jim Taylor Roa 52.79 352 P **P 01 13 24.1 -2.0**
baz=171
KMSC Kings Mountain 52.85 348 P **P 01 13 25.2 -1.5**
baz=166
Y49A Blount Mountai 52.87 342 P **P 01 13 25.0 -1.8**
baz=160
X52A Dahlonega 52.91 345 P **P 01 13 24.9 -2.1**
baz=163
HKT Hockley 52.92 331 *eP* **P 01 13 27.6 +0.5**
comp=Z,22nm,1.0s
HKT *ePcP* **PcP 01 14 35.2 +1.3**
HKT Hockley 52.92 331 *eP* **P 01 13 27.6 +0.5**
HKT *e* 01 14 35.2
HKT pmax pmax
comp=Z,22nm,1.0s
V59A Middlesex 52.93 351 P **P 01 13 25.5 -1.6**
baz=170
W54A Cherokee Point 52.98 347 P **P 01 13 26.2 -1.3**
baz=165,SNR=5.4
X51A Calhoun 53.11 344 P **P 01 13 26.9 -1.6**
baz=162
Y48A Jasper 53.15 342 P **P 01 13 27.0 -1.8**
baz=159
X50B Fort Payne 53.23 343 P **P 01 13 27.6 -1.8**
baz=161
U61A Possum Corner 53.25 353 P **P 01 13 27.7 -1.7**
baz=172
W53A Cullowhee 53.27 346 P **P 01 13 28.3 -1.5**
baz=164,SNR=8.1
V57A Coltrane Farms 53.29 350 P **P 01 13 27.9 -1.9**
baz=168
V56A Mocksville 53.34 349 P **P 01 13 28.4 -1.8**
baz=167
W52A Murphy 53.38 345 *eP* **P 01 13 30.0 -0.5**
comp=Z,13nm,1.0s
W52A *ePcP* **PcP 01 14 36.7 +1.1**
W52A Murphy 53.38 345 P **P 01 13 28.1 -2.4**
baz=163
X49A Woodville 53.46 343 P **P 01 13 28.5 -2.5**
baz=160
U60A Pendleton 53.47 352 P **P 01 13 29.0 -2.1**
baz=171
V55A Taylorsville 53.52 348 P **P 01 13 29.3 -2.2**
baz=166
V54A Nebo 53.59 348 P **P 01 13 30.6 -1.5**
baz=165,SNR=6.2
X48A Hartselle 53.61 342 P **P 01 13 30.5 -1.7**
baz=159,SNR=6.2
W51A Cleveland 53.65 345 P **P 01 13 30.6 -1.8**
baz=162
V53A Saluda 53.67 347 P **P 01 13 31.1 -1.5**
baz=164
U57A Blanch 53.75 350 P **P 01 13 31.3 -1.8**
baz=168
W50A Signal Mountai 53.83 344 P **P 01 13 32.0 -1.9**
baz=161,SNR=6.7
U56A King 53.84 349 P **P 01 13 31.6 -2.3**
baz=167
X47A Russelville 53.92 341 P **P 01 13 32.5 -1.9**
baz=158
NATX Nacogdoches 53.94 334 P **P 01 13 32.7 -1.9**
baz=150
W49A Belvidere 54.01 343 P **P 01 13 33.3 -1.7**
baz=160
V52A Sevierville 54.02 346 P **P 01 13 33.5 -1.6**
baz=163,SNR=7.0
T59A Double "B" Far 54.02 352 P **P 01 13 33.3 -1.7**
baz=170
U55A TA2, Sparta 54.12 349 P **P 01 13 34.5 -1.4**
baz=166
T58A Grand View Acr 54.13 351 P **P 01 13 34.5 -1.3**
baz=169
V51A Loudon 54.16 345 P **P 01 13 34.5 -1.6**
baz=162
W48A Pulaski 54.22 343 P **P 01 13 34.6 -1.9**
baz=159,SNR=6.9
V50A Pikeville 54.22 344 P **P 01 13 34.6 -2.0**
baz=162,SNR=13
U54A Nelsons Funny 54.28 348 P **P 01 13 35.6 -1.5**
baz=166,SNR=5.4
T57A Hurt 54.29 351 P **P 01 13 35.4 -1.7**
baz=169
U53A Fall Branch 54.29 347 P **P 01 13 35.3 -1.8**
baz=165
OXF Oxford 54.41 340 P **P 01 13 36.1 -1.8**
baz=156
T56A Rocky Mt 54.45 350 P **P 01 13 37.5 -0.7**
baz=168
U52A Thorn Hill 54.49 346 P **P 01 13 36.4 -2.2**
baz=164
Z41A Richland Creek 54.49 336 *eP* **P 01 13 39.0 +0.4**
comp=Z,21nm,0.6s
Z41A *ePcP* **PcP 01 14 40.9 +1.0**
Z41A Richland Creek 54.49 336 P **P 01 13 37.9 -0.7**
baz=152
W47A Westpoint 54.52 342 P **P 01 13 36.5 -2.2**
baz=159
V49A McMinnville 54.52 344 P **P 01 13 36.4 -2.4**
baz=161,SNR=10
U51A La Follette 54.63 346 P **P 01 13 37.3 -2.2**
baz=163
T55A Pulaski 54.66 349 P **P 01 13 38.2 -1.6**
baz=167
TZTN Tazewell 54.68 346 P **P 01 13 38.4 -1.5**
baz=164
V48A Smith Brothers 54.75 343 P **P 01 13 38.5 -1.8**
baz=160
T54A Tazewell 54.76 348 P **P 01 13 38.6 -1.9**
baz=166
U50A Jamestown 54.86 345 P **P 01 13 39.6 -1.6**
baz=162,SNR=6.2
T53A Wise 54.88 347 P **P 01 13 39.3 -2.1**
baz=165,SNR=5.1
S57A Dark Hollow, R 54.99 351 P **P 01 13 39.8 -2.2**
baz=169

S56A	Natural Bridge	55.00 350	P	P	01 13 40.1	-2.1
	baz=168					
V47A	Nunnelly	55.03 342	P	P	01 13 40.3	-2.1
	baz=159					
R58B	Mineral	55.04 352	P	P	01 13 41.2	-1.2
	baz=170					
T52A	Hallie	55.09 347	P	P	01 13 41.6	-1.2
	baz=164					
T51A	Gray	55.17 346	P	P	01 13 42.2	-1.2
	baz=163					
V46A	Holladay	55.19 342	P	P	01 13 42.0	-1.5
	baz=158					
U49A	Red Boiling Sp	55.19 344	P	P	01 13 41.2	-2.4
	baz=161,SNR=7.6					
S55A	Lewisburg	55.25 350	P	P	01 13 43.4	-0.6
	baz=167,SNR=5.9					
JCT	Junction City	55.27 328	P	P	01 13 44.8	+0.5
	baz=144,SNR=42					
R58A	Rapidan	55.38 352	P	P	01 13 43.1	-1.7
	baz=170					
WHTX	Lake Whitney,	55.38 331	P	P	01 13 45.5	+0.5
	baz=147,SNR=20					
U48A	Cassie Pea, Po	55.40 343	P	P	01 13 43.1	-1.9
	baz=160					
WVT	Waverly	55.41 342	eP	P	01 13 44.5	-0.6
	comp=Z,12nm,0.7s					
WVT	Waverly	55.41 342	eP	P	01 13 44.5	-0.6
WVT			pmax	pmax		
	comp=Z,12nm,0.7s					
WVT	Waverly	55.41 342	P	P	01 13 43.0	-2.1
	baz=159					
S54A	Dingess, Beckl	55.42 349	P	P	01 13 43.4	-1.8
	baz=166					
T50A	Nancy	55.44 345	P	P	01 13 43.5	-1.8
	baz=162					
R57A	Stanardsville	55.45 351	P	P	01 13 43.4	-2.0
	baz=170					
S53A	Williamson	55.47 348	P	P	01 13 43.9	-1.6
	baz=165					
U47A	Clarksville	55.54 343	P	P	01 13 44.1	-1.9
	baz=159,SNR=5.6					
X40A	Basin Creek Fa	55.59 337	P	P	01 13 44.2	-2.3
	baz=153					
R55A	Marlinton	55.68 350	P	P	01 13 46.2	-0.9
	baz=168					
T49A	Edmonton	55.69 345	P	P	01 13 45.2	-1.9
	baz=161,SNR=11					
U46A	Springville	55.72 342	P	P	01 13 45.1	-2.2
	baz=158					
R54A	Victor	55.74 349	P	P	01 13 45.5	-1.9
	baz=167					
S51A	Beattyville	55.74 347	P	P	01 13 45.4	-2.0
	baz=164					
T48A	Bowling Green	55.92 344	P	P	01 13 47.2	-1.5
	baz=160,SNR=8.2					
MIAR	Mount Ida	55.93 336	P	P	01 13 47.7	-1.1
	baz=152,SNR=20					
S50A	Richmond	55.96 346	P	P	01 13 47.3	-1.7
	baz=163					
W41B	Gary Mavity, V	55.99 338	P	P	01 13 47.8	-1.4
	baz=154,SNR=11					
T47A	Sharon Grove	56.00 343	P	P	01 13 47.1	-2.2
	baz=160,SNR=14					
R53A	Hurricane	56.06 348	P	P	01 13 47.5	-2.2
	baz=166					
WHAR	Wooly Hollow	56.11 338	eP	P	01 13 49.2	-0.9
	comp=Z,31nm,0.9s					
Q57A	Strasburg	56.16 352	P	P	01 13 48.0	-2.4
	baz=170					
R52A	Catlettsburg	56.20 348	P	P	01 13 48.5	-2.2
	baz=165					
T46A	Princeton	56.27 342	P	P	01 13 49.7	-1.6
	baz=159,SNR=16					
S49A	Springfield	56.27 345	P	P	01 13 49.0	-2.2
	baz=162					
SLBS	Sierra La Lagu	56.32 315	eP	P	01 13 53.2	+1.2
	comp=Z,39nm,0.8s					
S48A	Wiedeman Farm,	56.35 344	P	P	01 13 49.8	-2.0
	baz=161,SNR=9.2					
R51A	Hillsboro	56.37 347	P	P	01 13 50.3	-1.5
	baz=164					
Q55A	Buckhannon	56.37 350	P	P	01 13 50.6	-1.4
	baz=168					
TXAR	Lajitas Array	56.44 324	P	P	01 13 52.7	0.0
	comp=Z,22nm,0.7s,baz=151,slow=9.0,SNR=159					
TXAR			PcP	PcP	01 14 49.0	+1.2
	comp=Z,7.3nm,0.7s,baz=140,slow=5.2,SNR=4.4					
T45A	Paducah	56.47 342	P	P	01 13 51.3	-1.4
	baz=158					
Q54A	Coxs Mills	56.49 350	P	P	01 13 51.0	-1.7
	baz=167					
Q53A	Leroy	56.49 349	P	P	01 13 51.4	-1.3
	baz=166,SNR=10					
S47A	Hartford	56.50 344	P	P	01 13 50.7	-2.1
	baz=160,SNR=6.8					
R50A	Paris	56.52 346	P	P	01 13 51.3	-1.7
	baz=163					
W39A	Magazine	56.58 336	P	P	01 13 53.5	+0.1
	baz=152,SNR=17					
P60A	Greenville	56.61 354	P	P	01 13 51.9	-1.6
	baz=173					
R49A	Shelbyville	56.73 345	P	P	01 13 53.0	-1.4
	baz=162					
Q52A	Bidwell	56.73 348	P	P	01 13 52.9	-1.5
	baz=165					
S46A	Don Dixon Farm	56.82 343	P	P	01 13 53.4	-1.7
	baz=159					
U41A	Viola	56.92 339	P	P	01 13 54.1	-1.8
	baz=154,SNR=22					
ABTX	Abilene, Hawle	56.94 330	P	P	01 13 56.3	+0.3
	baz=145,SNR=32					
WCI	Wyandotte Cave	56.95 344	eP	P	01 13 54.4	-1.6
	comp=Z,12nm,0.8s					
WCI	Wyandotte Cave	56.95 344	eP	P	01 13 54.4	-1.6
WCI			pmax	pmax		
	comp=Z,12nm,0.8s					
WCI	Wyandotte Cave	56.95 344	P	P	01 13 53.9	-2.0
	baz=161					
MCWV	Mont Chateau	56.98 351	P	P	01 13 54.9	-1.3
	baz=168					
R48A	Northridge Ran	57.00 345	P	P	01 13 55.0	-1.3
	baz=161					
Q51A	Peebles	57.01 347	P	P	01 13 54.9	-1.5
	baz=164					
P54A	Burton	57.03 350	P	P	01 13 55.1	-1.5
	baz=168					
R47A	Wooly Knot Far	57.07 344	P	P	01 13 55.4	-1.4
	baz=161					
P53A	Whipple	57.08 349	P	P	01 13 56.0	-0.9
	baz=166,SNR=8.0					
O59A	Robesonia	57.16 354	P	P	01 13 56.1	-1.3
	baz=172					
R46A	Gibon Southern	57.26 343	P	P	01 13 56.7	-1.4
	baz=160					
U40A	Yellville	57.26 338	P	P	01 13 57.1	-1.2
	baz=153,SNR=31					
S44A	Carbondale	57.28 342	P	P	01 13 56.9	-1.4
	baz=158,SNR=29					
Q49A	Aurora	57.34 346	P	P	01 13 57.2	-1.5
	baz=162					
P52A	Corning	57.36 349	P	P	01 13 57.6	-1.2
	baz=166					
P51A	Williamsport	57.39 348	P	P	01 13 57.9	-1.2
	baz=165					
O56A	Blue Knob Stat	57.40 352	P	P	01 13 57.9	-1.2
	baz=170					
O55A	Ligonier	57.44 351	P	P	01 13 58.1	-1.3
	baz=169					
Q48A	North Vernon	57.47 345	P	P	01 13 57.7	-1.9
	baz=162					
R45A	Skylar, Fairfi	57.55 343	P	P	01 13 58.3	-1.9
	baz=159					
O54A	Avella	57.58 350	P	P	01 13 58.5	-1.9
	baz=168					
Q47A	Bedord North L	57.65 345	P	P	01 13 59.0	-1.9
	baz=161					
PAL	Palisades	57.66 356	P	P	01 13 59.1	-1.8
	baz=175					
SSPA	Standing Stone	57.67 353	P	P	01 13 59.7	-1.3
	baz=171					
P50A	Jamestown	57.67 347	P	P	01 13 59.4	-1.6
	baz=164					
N57A	Milroy	57.75 353	P	P	01 14 00.0	-1.5
	baz=171					
O52A	Adamsville	57.77 349	P	P	01 14 00.1	-1.6
	baz=166					
O53A	New Philadelph	57.79 350	P	P	01 13 59.6	-2.2
	baz=167					
P49A	Miami Univ. Ec	57.80 346	P	P	01 13 59.7	-2.2
	baz=163					
P48A	Milroy	57.90 346	P	P	01 14 00.4	-2.2
	baz=162					
N55A	Marion Center	57.96 352	P	P	01 14 00.9	-2.1
	baz=169					
N56A	West Decatur	58.00 352	P	P	01 14 01.8	-1.5
	baz=170					
TUL1	Leonard	58.00 335	P	P	01 14 03.1	-0.2
	baz=150,SNR=22					
Q45A	Warren Harvey,	58.07 343	P	P	01 14 02.0	-1.8
	baz=159					
ACSO	Alum Creek Sta	58.10 348	P	P	01 14 02.5	-1.5
	baz=165					
P47A	Martinsville	58.13 345	P	P	01 14 02.4	-1.8
	baz=161					
O50A	Cable	58.15 347	P	P	01 14 02.9	-1.4
	baz=164					
CCM	Cathedral Cave	58.24 340	eP	P	01 14 04.1	-0.9
	comp=Z,31nm,0.8s					
CCM	Cathedral Cave	58.24 340	eP	P	01 14 04.1	-0.9
CCM			pmax	pmax		
	comp=Z,31nm,0.8s					
CCM	Cathedral Cave	58.24 340	P	P	01 14 03.5	-1.5
	baz=155					
N53A	Lisbon	58.27 350	P	P	01 14 03.7	-1.4
	baz=167					
N54A	Monroe State	58.28 351	P	P	01 14 04.0	-1.3
	baz=168					
WMOK	Wichita Mounta	58.28 332	P	P	01 14 05.0	-0.5
	baz=147,SNR=26					
O49A	Covington	58.34 347	P	P	01 14 04.0	-1.6
	baz=163					
P46A	Rosedale	58.49 344	P	P	01 14 04.7	-2.0
	baz=160					
P45A	Graceland, Par	58.55 344	P	P	01 14 05.3	-1.8
	baz=160					
O48A	Farmland	58.59 346	P	P	01 14 05.6	-1.7
	baz=162					
M55A	Ridgway	58.60 352	P	P	01 14 05.8	-1.6
	baz=170					
N51A	Ashland	58.65 349	P	P	01 14 06.1	-1.6
	baz=166					
M54A	Oil Creek Stat	58.77 351	eP	P	01 14 08.1	-0.6
	comp=Z,38nm,1.3s					
M54A	Oil Creek Stat	58.77 351	P	P	01 14 07.2	-1.4
	baz=169					
Q42A	Golden Eagle	58.79 341	P	P	01 14 07.7	-1.1
	baz=156					
M53A	WI Miller and	58.86 350	P	P	01 14 07.8	-1.4
	baz=168					
BINY	Binghamton	59.01 354	P	P	01 14 09.1	-1.2
	baz=173					
N49A	Columbus Grove	59.01 347	P	P	01 14 08.5	-1.7
	baz=164,SNR=7.2					
HRV	Adam Dziewonsk	59.05 358	P	P	01 14 08.9	-1.6
	baz=178					
M52A	Chesterland	59.07 350	P	P	01 14 08.9	-1.7
	baz=167					
N48A	Decatur	59.14 346	P	P	01 14 09.2	-2.0
	baz=163					
P43A	Skaggs, Pawnee	59.16 342	P	P	01 14 09.9	-1.4
	baz=158,SNR=8.7					
SFIN	Lafayette	59.18 345	P	P	01 14 09.0	-2.4
	baz=158					
MNTX	Cornudas Mount	59.19 325	P	P	01 14 11.8	0.0
	baz=139,SNR=99					
O45A	Potomac	59.22 344	P	P	01 14 09.4	-2.3
	baz=160					
L55A	Hinsdale	59.26 352	P	P	01 14 10.5	-1.5
	baz=170					
L53A	Girard	59.29 351	P	P	01 14 11.3	-0.9
	baz=168					
N47A	Urbana	59.31 346	P	P	01 14 10.7	-1.6
	baz=162					
O44A	Mansfield	59.33 343	P	P	01 14 10.9	-1.5
	baz=159					
ERPA	Erie	59.41 351	P	P	01 14 11.6	-1.4
	baz=168					
L54A	Sinclairville	59.43 352	P	P	01 14 11.0	-2.2
	baz=169					
M49A	Liberty Center	59.50 348	P	P	01 14 11.9	-1.7
	baz=164					
PLIO	Pelee Island,	59.50 349	P	P	01 14 12.5	-1.1
	baz=166					
MSTX	Muleshoe	59.57 328	P	P	01 14 14.6	+0.1
	baz=143,SNR=56					
N46A	Monticello	59.57 345	P	P	01 14 11.6	-2.5
	baz=161					
K54A	Basiliko Farm,	59.72 352	P	P	01 14 14.1	-1.0
	baz=170					
N45A	Kentland	59.73 344	P	P	01 14 14.0	-1.2
	baz=160					
AMTX	Amarillo	59.76 330	P	P	01 14 15.2	-0.5
	baz=144					
N44A	Piper City	59.84 344	P	P	01 14 14.0	-2.0
	baz=159					
HDIL	Hopedale	59.94 343	eP	P	01 14 15.4	-1.2
	comp=Z,21nm,0.7s					
HDIL	Hopedale	59.94 343	P	P	01 14 15.0	-1.6
	baz=158					
M46A	Old House Fiel	59.97 346	P	P	01 14 15.4	-1.4
	baz=161					
L48A	N Adams	60.04 347	P	P	01 14 15.4	-2.0
	baz=164					
L49A	Milan	60.07 348	P	P	01 14 15.9	-1.6
	baz=164					
L47A	Sherwood	60.24 347	P	P	01 14 17.2	-1.5
	baz=163					
N43A	Stutzman Famil	60.26 343	P	P	01 14 17.6	-1.2
	baz=158,SNR=10					
SRIG	Santa Rosalia	60.28 316	eP	P	01 14 20.6	+1.4
	comp=Z,31nm,0.9s					
STCO	Saint Catharin	60.37 352	P	P	01 14 18.0	-1.4
	baz=169					
K50A	Casco	60.49 349	P	P	01 14 18.6	-1.7
	baz=166					
L46A	Eue Claire	60.53 346	P	P	01 14 18.8	-1.8
	baz=162					
N41A	Harden Midland	60.53 342	P	P	01 14 19.0	-1.7
	baz=156,SNR=5.9					
HSIG		60.58 318	eP	P	01 14 22.1	+0.9
	comp=Z,32nm,1.0s					
J52A	Paris	60.59 351	P	P	01 14 19.6	-1.3
	baz=168					
K49A	Clarkson	60.65 348	P	P	01 14 20.1	-1.4
	baz=165					
M43A	Waltham Townsh	60.66 343	P	P	01 14 19.7	-1.8
	baz=159,SNR=10					
LBNH	Lisbon	60.79 358	P	P	01 14 20.7	-1.7
	baz=177					
K48A	Perry	60.80 348	P	P	01 14 21.1	-1.4
	baz=164					
K47A	Vermontville	60.86 347	P	P	01 14 21.4	-1.5
	baz=163					
N40A	Mertquake, Sal	60.92 341	P	P	01 14 22.2	-1.1
	baz=156					
DRWO	Darlington Wes	60.96 352	P	P	01 14 22.1	-1.4
	baz=170					
DRCO	St. Marys Ceme	60.96 352	P	P	01 14 22.6	-0.8
	baz=170					
WLVO	Wesleyville	60.97 353	P	P	01 14 22.6	-1.0
	baz=170					
K46A	Dorr	61.05 346	P	P	01 14 22.4	-1.7
	baz=162					
M41A	Milan	61.05 342	P	P	01 14 22.2	-2.0
	baz=157,SNR=6.7					
KSU1	Kansas State U	61.09 336	P	P	01 14 23.9	-0.5
	baz=150,SNR=31					
PKRO	Pickering	61.10 352	P	P	01 14 23.2	-1.2
	baz=170					
121A	Cookes Peak, D	61.17 323	P	P	01 14 26.5	+1.1
	baz=138					
I55A	Frankford	61.18 353	P	P	01 14 23.7	-1.2
	baz=171					
J48A	Bridge Port	61.22 348	P	P	01 14 23.1	-2.1
	baz=164					
I51A	Listowel	61.22 351	P	P	01 14 24.1	-1.1
	baz=168					
L43A	Garden Prairie	61.30 344	P	P	01 14 24.3	-1.5
	baz=159,SNR=14					
LONY	Lake Ozonia	61.30 356	P	P	01 14 24.5	-1.3
	baz=174					
RKT	Rikitea	61.32 253	eP	P	01 14 29.1	+2.7
	comp=Z,100nm,1.0s					
I52A	Shelburne	61.35 351	P	P	01 14 25.5	-0.7
	baz=168					
J47A	Sunmer	61.37 347	P	P	01 14 24.9	-1.3
	baz=163					
L42A	Oliver, Polo	61.38 343	P	P	01 14 24.9	-1.5
	baz=158,SNR=5.9					
H56A	Elgin	61.41 355	P	P	01 14 25.5	-1.0
	baz=173					
DELO	Deloro Mine	61.47 353	P	P	01 14 25.9	-1.0
	baz=171					
BASO	Ashfield	61.53 350	P	P	01 14 26.5	-0.8
	baz=167					
BWLO	Walkerton	61.54 351	P	P	01 14 25.7	-1.7
	baz=167					
I49A	Point Hope	61.65 349	P	P	01 14 27.0	-1.1
	baz=166					
K43A	Burlington	61.68 344	P	P	01 14 27.1	-1.3
	baz=160					
BNM	Barren Site	61.73 325	eP	P	01 14 29.9	+0.7
PKME	Peaks-Kenny Pk	61.78 0	P	P	01 14 28.1	-0.9
	baz=180					
Y22D	IRIS PASSCAL I	61.83 325	P	P	01 14 30.8	+1.1
	baz=139					
H52A	Wyevale	61.87 352	P	P	01 14 28.7	-0.9
	baz=169					
L40A	Anamosa	61.89 342	P	P	01 14 28.3	-1.4
	baz=156,SNR=11					
PLVO	Plevna	61.93 354	P	P	01 14 29.2	-0.7
	baz=172					
BANO	Bancroft	62.00 353	P	P	01 14 29.6	-0.9
	baz=171					
K42A	Prairie Point,	62.02 344	P	P	01 14 29.3	-1.3
	baz=158,SNR=15					
BMRO	Meriville Lake	62.02 351	P	P	01 14 29.4	-1.2
	baz=167					
I47A	Gladwin	62.05 348	P	P	01 14 29.6	-1.2
	baz=164					
I48A	Sherman Twp	62.05 349	P	P	01 14 29.7	-1.1
	baz=165					
G55A	Calabogie	62.11 354	P	P	01 14 30.2	-1.0
	baz=172					
CBKS	Cedar Bluff	62.11 334	P	P	01 14 31.8	+0.4
	baz=147					
I46A	Reed City	62.17 347	P	P	01 14 30.2	-1.4
	baz=163					
L39A	Vinton	62.18 341	P	P	01 14 30.2	-1.5
	baz=156,SNR=8.4					
G53A	Haliburton	62.18 353	P	P	01 14 30.1	-1.6
	baz=170,SNR=5.4					
ORIO	Orleans, Innes	62.20 355	P	P	01 14 30.7	-1.1
	baz=174					
ANMO	Albuquerque	62.24 326	eP	P	01 14 32.7	+0.2
	comp=Z,21nm,0.7s					
ANMO	Albuquerque	62.24 326	eP	P	01 14 33.0	+0.5
ANMO			pmax	pmax		
	comp=Z,23nm,0.8s					
ANMO	Albuquerque	62.24 326	P	P	01 14 33.1	+0.5
	baz=140					
TASM	ASL Pad, Albuq	62.24 326	P	P	01 14 32.9	+0.3
	baz=140,SNR=49					
TASM	ASL Pad, Albuq	62.24 326	P	P	01 14 33.0	+0.5
	baz=140,SNR=36					
ALFO	Alfred	62.33 356	P	P	01 14 31.7	-0.8
	baz=174					
J43A	Natural Harves	62.34 345	P	P	01 14 30.9	-1.9
	baz=160,SNR=6.0					
JFWS	Jewell Farm	62.39 343	P	P	01 14 31.5	-1.6
	baz=158,SNR=9.6					
K40A	Colesburg	62.45 342	P	P	01 14 31.7	-1.7
	baz=157,SNR=18					
J42A	Columbus	62.46 344	P	P	01 14 31.9	-1.6
	baz=159					
H48A	Harrisville	62.48 349	P	P	01 14 32.1	-1.6
	baz=165					
H47A	Mio	62.55 348	P	P	01 14 33.1	-1.0
	baz=164					
PEMO	Pembroke	62.58 354	P	P	01 14 33.3	-1.0
	baz=172					
BUKO	Buck Lake	62.59 352	P	P	01 14 33.1	-1.2
	baz=169,SNR=6.5					
KLBO	Killbear Provi	62.62 352	P	P	01 14 33.1	-1.4
	baz=168					
K39A	Oelwein	62.67 342	P	P	01 14 33.5	-1.4
	baz=156,SNR=8.0					
TOBO	Tobermory, Bru	62.69 351	P	P	01 14 34.0	-1.0
	baz=167					
H46A	Fife Lake	62.69 348	P	P	01 14 33.9	-1.2
	baz=163,SNR=5.3					
I43A	Langenfeld Bro	62.74 345	P	P	01 14 33.9	-1.5
	baz=160,SNR=7.7					
J41A	Loganville	62.74 343	P	P	01 14 34.5	-0.9
	baz=158,SNR=6.2					
TUC	Tucson	62.77 321	eP	P	01 14 36.2	+0.4
	comp=Z,22nm,1.0s					
TUC	Tucson	62.77 321	eP	P	01 14 36.3	+0.4
TUC			pmax	pmax		
	comp=Z,22nm,1.0s					
TUC	Tucson	62.77 321	P	P	01 14 36.5	+0.6
	baz=135					
T25A	Trinidad	62.89 329	eP	P	01 14 37.4	+0.6
	comp=Z,29nm,0.9s					
T25A			ePcP	PcP	01 15 15.3	+1.8
T25A	Trinidad	62.89 329	P	P	01 14 36.4	-0.4
	baz=142,SNR=18					
F52A	Sundridge	62.93 352	P	P	01 14 35.5	-1.1
	baz=170					
ALGO	Algonquin Park	62.94 353	P	P	01 14 35.4	-1.2
	baz=171					
I42A	Draeger Farm,	62.94 344	P	P	01 14 35.7	-1.0
	baz=159,SNR=7.7					
H45A	Beulah	62.95 347	P	P	01 14 35.6	-1.1
	baz=162					
J40A	Soldiers Grove	62.97 343	P	P	01 14 35.5	-1.4
	baz=157,SNR=14					
G47A	Hillman	63.03 349	P	P	01 14 36.1	-1.2
	baz=165					
J39A	Decorah	63.20 342	P	P	01 14 36.6	-1.8
	baz=156,SNR=19					
H43A	Windswept, Lux	63.20 346	P	P	01 14 36.9	-1.5
	baz=160,SNR=7.5					
F49A	Sandfield	63.29 350	P	P	01 14 37.9	-1.1
	baz=167					
E53A	Dumoine, Ponti	63.31 354	P	P	01 14 38.0	-1.1
	baz=171					
E54A	Lac Daplat, Po	63.32 354	P	P	01 14 38.1	-1.1
	baz=172,SNR=5.7					
I41A	Arkdale	63.35 344	P	P	01 14 38.0	-1.4
	baz=158					
G46A	Petoskey	63.37 348	P	P	01 14 38.4	-1.1
	baz=164					
I40A	Norwalk	63.40 343	P	P	01 14 39.2	-0.6
	baz=157,SNR=5.4					
H42A	Shiocton	63.42 345	P	P	01 14 39.1	-0.8
	baz=160					
F48A	Evansville	63.45 350	P	P	01 14 39.6	-0.4
	baz=166					
KSCO	Kaye Shedlock'	63.54 332	P	P	01 14 41.4	+0.5
	baz=144,SNR=11					
I39A	Houston	63.62 342	P	P	01 14 40.7	-0.5
	baz=156,SNR=7.9					
BGNE	Belgrade	63.67 336	P	P	01 14 41.8	+0.2
	baz=149,SNR=29					
E51A	G1948 Merrick	63.68 352	P	P	01 14 41.7	+0.2
	baz=169					
E50A	Wahnapitae	63.74 351	P	P	01 14 41.1	-0.7
	baz=168					
214A	Organ Pipe Nat	63.76 320	P	P	01 14 43.6	+1.2
	baz=133					
F46A	Macinaw City C	63.78 348	P	P	01 14 41.3	-0.9
	baz=164					
H41A	Junction City	63.81 344	P	P	01 14 41.1	-1.3
	baz=158					
F45A	CMU Biological	63.85 348	P	P	01 14 41.5	-1.1
	baz=163					
SDCO	Great Sand Dun	63.90 329	P	P	01 14 44.4	+0.9
	baz=141,SNR=67					
G43A	Wallace	63.92 346	P	P	01 14 41.6	-1.5
	baz=161,SNR=5.5					
LATQ	La Tuque	63.96 358	P	P	01 14 42.3	-1.1
	baz=177					
D54A	Lac Fusel, La	63.98 355	P	P	01 14 42.0	-1.5
	baz=172,SNR=5.6					
D52A	ZEK Kipawa Sen	63.98 353	P	P	01 14 42.5	-1.0
	baz=171,SNR=6.3					
H40A	Chili	64.01 344	P	P	01 14 42.4	-1.3
	baz=158,SNR=11					
E48A	Lockeyer	64.01 350	P	P	01 14 42.9	-0.8
	baz=167					
D53A	Lac Vacive, Po	64.01 354	P	P	01 14 42.4	-1.3
	baz=171,SNR=6.1					
G42A	Mountain	64.08 345	P	P	01 14 43.3	-0.8

baz=160,SNR=10.0
E46A Sault Ste Mari 64.27 349 P P 01 14 44.9 -0.4
baz=164,SNR=5.9
H39A Augusta 64.31 343 P P 01 14 44.9 -0.7
baz=157
F44A Big Bay de Noc 64.32 347 P P 01 14 44.0 -1.7
baz=162
F43A Flat Rock, Esc 64.35 346 P P 01 14 44.3 -1.6
baz=161,SNR=9.6
E45A Wooded Hills, 64.43 348 P P 01 14 45.4 -1.0
baz=163
F42A Maple Grove Fa 64.50 346 P P 01 14 46.1 -0.8
baz=160
G40A Rib Lake 64.56 344 P P 01 14 46.4 -0.8
baz=158
S22A 4UR Ranch, Cre 64.57 328 P P 01 14 48.2 +0.3
baz=140,SNR=30
H38A Maiden Rock 64.59 342 P P 01 14 46.3 -1.2
baz=156,SNR=6.6
D48A Paudash Townsh 64.63 351 P P 01 14 46.8 -0.9
baz=167
D49A Beulah Townshi 64.66 351 P P 01 14 46.9 -1.0
baz=168
Q24A Divide 64.68 330 P P 01 14 49.2 +0.6
baz=142,SNR=31
VNA3 Neumayer Olymp 64.71 162 P P 01 14 49.5 +1.5
F41A Three Lakes 64.72 345 P P 01 14 46.8 -1.5
baz=159,SNR=20
D47A Chapleau 64.72 350 P P 01 14 46.7 -1.6
baz=166
D46A Sault St. Mari 64.72 349 P P 01 14 46.6 -1.7
baz=165
E43A Lone Tree Farm 64.82 347 P P 01 14 47.4 -1.6
baz=162,SNR=14
G39A Holcombe 64.83 343 P P 01 14 48.0 -1.0
baz=157
OGNE Ogallala 64.86 333 P P 01 14 50.4 +0.9
baz=145,SNR=21
VNA1 Neumayer--Stat 64.91 161 P P 01 14 51.5 +2.3
G38A Ridgeland 64.92 343 P P 01 14 48.1 -1.5
baz=156,SNR=9.7
VLDQ Val d'Or 65.01 354 eP P 01 14 50.2 +0.1
comp=Z,20nm,1.0s
VLDQ ePcP PcP 01 15 22.4 +0.8
MVCO Mesa Verde 65.03 326 P P 01 14 51.5 +0.7
baz=138,SNR=42
E42A Champion 65.08 346 P P 01 14 49.3 -1.4
baz=161,SNR=7.7
ECSD EROS Data Cent 65.13 339 P P 01 14 50.6 -0.5
baz=151,SNR=65
F40A Park Falls 65.14 344 P P 01 14 50.0 -1.0
baz=158,SNR=41
SPMN Marine on St. 65.24 342 P P 01 14 51.1 -0.6
baz=155,SNR=8.3
VNA2 Neumayer--Watz 65.28 161 P P 01 14 53.1 +1.5
baz=290,slow=6.8
F39A Loretta 65.35 344 P P 01 14 51.4 -0.9
baz=158,SNR=17
E41A Kenton 65.36 345 P P 01 14 51.2 -1.3
baz=160
WUAZ Wupatki 65.38 323 P P 01 14 54.4 +1.3
baz=136,SNR=32
ISCO Idaho Springs 65.56 330 P P 01 14 55.3 +1.0
baz=142,SNR=65
E40A Wakefield 65.57 345 P P 01 14 53.2 -0.6
baz=159,SNR=30
F37A Hinrichs Farm, 65.64 343 P P 01 14 53.8 -0.5
baz=156
F38A Pierce - Schro 65.65 343 P P 01 14 53.9 -0.4
baz=156,SNR=25
E39A Mellen 65.68 344 P P 01 14 53.8 -0.7
baz=158,SNR=26
GLA Glamis 65.75 319 eP P 01 14 56.1 +0.8
comp=Z,18nm,0.8s
GLA ePcP PcP 01 15 26.6 +1.4
GLA Glamis 65.75 319 eP P 01 14 56.1 +0.8
GLA e 01 15 26.6
GLA pmax pmax
comp=Z,18nm,0.8s
GLA Glamis 65.75 319 P P 01 14 56.5 +1.2
baz=132,SNR=7.7
D41A Chassel 65.83 346 P P 01 14 55.4 0.0
baz=160,SNR=9.8
LSQQ Lebel-sur-Quev 65.90 355 P P 01 14 54.8 -1.1
baz=172
Y12C Blythe 66.03 320 eP P 01 14 57.9 +0.9
comp=Z,32nm,0.8s
Y12C Blythe 66.03 320 P P 01 14 58.2 +1.2
baz=132,SNR=15
E38A The Farm, Brul 66.15 344 P P 01 14 56.8 -0.7
baz=157,SNR=13
PDMCI Parker Dam,Lak 66.17 321 P P 01 14 58.9 +1.0
baz=133
SWSC Sam W. Stewart 66.30 319 P P 01 14 59.8 +1.1
baz=131
IKP In-Ko-Pah, Jac 66.30 318 P P 01 15 00.6 +1.7
baz=131,SNR=13
H07S1 FLORES T-PHASE 66.42 32 eP P 01 14 58.2 -1.2
BC3 Big Chuckawall 66.55 319 P P 01 15 02.1 +1.6
baz=132,SNR=19
CHGQ Chibougamau 66.56 357 P P 01 14 59.3 -0.7
baz=175,SNR=11
N23A Red Feather La 66.58 331 P P 01 15 01.4 +0.7
baz=142,SNR=41
SUSD Miller 66.58 338 P P 01 15 00.3 0.0
baz=149,SNR=6.4
MATQ Matagami 66.66 354 P P 01 14 59.8 -0.8
baz=172,SNR=7.0
MONP2 Monument Peak 66.66 318 P P 01 15 02.9 +1.6
baz=130,SNR=12
IRM Iron Mountain 66.69 320 P P 01 15 02.8 +1.6
baz=132,SNR=22
C40A Isle Royale Na 66.77 346 P P 01 15 00.6 -0.8
baz=160
SNAA Sanae 66.91 162 P P 01 15 03.4 +1.3
SNAA Sanae 66.91 162 d iP P 01 15 03.4 +1.3
SNAA Sanae 66.91 162 P P 01 15 03.0 +0.9
comp=Z,126nm,0.8s,baz=288,slow=5.7,SNR=233
109C Camp Elliot, M 67.09 318 P P 01 15 05.2 +1.4
baz=130
O20A White River Ci 67.10 329 P P 01 15 04.7 +0.8
baz=140,SNR=36
BELC Belle Mtn. Jos 67.11 319 P P 01 15 05.3 +1.2
baz=131,SNR=16
HOR Horta 67.13 34 eP P 01 15 03.4 -0.4
comp=Z,72nm,0.7s
PFO Pinyon Flats O 67.15 319 eP P 01 15 05.4 +1.1
comp=Z,35nm,0.9s
PFO Pinyon Flats O 67.15 319 eP P 01 15 05.4 +1.1
PFO pmax pmax
comp=Z,35nm,0.9s
PFO Pinyon Flats O 67.15 319 P P 01 15 05.9 +1.6
baz=131,SNR=10
PCAN Candelaria 67.16 34 eP P 01 15 04.1 0.0
PCED Cedros 67.16 34 eP P 01 15 03.9 -0.2
comp=Z,39nm,0.8s
PICO Pico 67.22 34 eP P 01 15 03.9 -0.6
comp=Z,59nm,1.2s
PPNO Prainha do Nor 67.28 34 eP P 01 15 04.8 -0.1
comp=Z,76nm,1.1s
EYMN Ely 67.37 344 P P 01 15 04.7 -0.5
baz=157,SNR=21
GMRC Granite Mounta 67.42 320 P P 01 15 07.2 +1.3
baz=132,SNR=58
PMAN Manadas 67.49 34 eP P 01 15 06.4 +0.3
comp=Z,50nm,0.6s
MURC Murrieta 67.61 318 P P 01 15 08.6 +1.5
baz=130,SNR=6.6
LIC Lamto 67.82 76 eP P 01 15 07.0 -1.7
comp=Z,269nm,0.9s
PGRA Graciosa 67.84 34 eP P 01 15 07.7 -0.6
comp=Z,94nm,1.2s
HEC Hector,Ludlow 67.87 320 P P 01 15 10.4 +1.7
baz=131,SNR=25
ADH Angra Heroismo 67.97 35 eP P 01 15 09.2 +0.1
comp=Z,63nm,0.9s
TIC Toumodi 67.97 75 eP P 01 15 08.5 -1.2
TUQ Turquoise Moun 68.02 320 P P 01 15 11.2 +1.5
baz=132,SNR=11
PSCM Serra do Cume 68.07 35 eP P 01 15 07.5 -2.3
comp=Z,66nm,1.3s
SCI2 San Clemente I 68.09 317 P P 01 15 11.5 +1.5
baz=129
KIC Kosan Boka 68.13 76 eP P 01 15 09.2 -1.5
comp=Z,406nm,1.0s
DBIC Dimbokro 68.13 76 eP P 01 15 10.3 -0.3
comp=Z,125nm,0.8s
DBIC Dimbokro 68.13 76 eP P 01 15 10.4 -0.3
DBIC pmax pmax
comp=Z,125nm,0.8s
DBIC Dimbokro 68.13 76 P P 01 15 10.1 -0.6
comp=Z,129nm,0.9s,baz=225,slow=5.5,SNR=80
DBIC LR LR 01 45 19.4
comp=Z,220nm,18.0s,baz=240,slow=36
PDA Ponta Delgada 68.20 36 eP P 01 15 07.0 -3.6
comp=Z,62nm,1.3s
K22A Casper 68.23 332 P P 01 15 11.5 +0.7
baz=142,SNR=32
CMLA Cha da Macela 68.30 36 eP P 01 15 10.1 -1.1
comp=Z,69nm,0.2s
CMLA Cha da Macela 68.30 36 i P P 01 15 11.8 +0.6
RRX Edison Barstow 68.31 319 P P 01 15 12.4 +1.1
baz=131
RSSD Black Hills 68.31 334 eP P 01 15 11.5 +0.1
comp=Z,70nm,0.9s
RSSD Black Hills 68.31 334 eP P 01 15 11.5 +0.1
RSSD pmax pmax
comp=Z,70nm,0.9s
RSSD Black Hills 68.31 334 P P 01 15 12.3 +0.9
baz=144
BFSC Mount Baldy Ra 68.31 318 P P 01 15 12.9 +1.3
baz=130,SNR=17
FMP Fort Macarthur 68.39 318 P P 01 15 12.9 +1.1
baz=129
GSC Goldstone, Bar 68.47 320 P P 01 15 14.0 +1.6
baz=131,SNR=36
SHOC Shoshone, Teco 68.54 321 P P 01 15 14.1 +1.3
baz=132,SNR=17
DECC Green Verdugo 68.75 318 P P 01 15 15.5 +1.4
baz=130,SNR=7.5
SNCC San Nicolas Is 68.90 317 P P 01 15 16.3 +1.2
baz=128
AGMN Agassiz Nation 68.92 342 P P 01 15 14.3 -0.5
baz=153,SNR=49
EDW2 Edwards Air Fo 68.94 319 P P 01 15 16.5 +1.2
baz=130,SNR=22
LRMC Laurel Mtn Rad 69.13 319 P P 01 15 17.9 +1.4
baz=130,SNR=5.5
BLG Laguna Peak, P 69.13 318 P P 01 15 17.9 +1.5
baz=129,SNR=5.3
TPNV Topopah Spring 69.22 321 P P 01 15 19.2 +2.1
baz=132,SNR=48
FURC Furnace Creek, 69.27 321 P P 01 15 19.1 +1.9
baz=131,SNR=67
SCZ2 Santa Cruz Isl 69.43 317 P P 01 15 19.5 +1.2
baz=128
DUG Dugway, Tooele 69.51 326 P P 01 15 20.3 +1.4
baz=136,SNR=75
ARVC Arvin 69.62 319 P P 01 15 21.2 +1.7
baz=129
ISA Isabella, Lake 69.74 319 P P 01 15 21.6 +1.3
baz=130,SNR=40
MDND Maddock 69.74 339 P P 01 15 20.2 +0.3
baz=149,SNR=27
BW06 Boulder Array 69.74 330 P P 01 15 20.4 +0.1
baz=139,SNR=42
PDAR Pinedale Array 69.74 330 P P 01 15 20.5 +0.2
comp=Z,14nm,0.4s,baz=125,slow=8.3,SNR=200
PDAR PKP2ab 01 43 22.9
comp=Z,0.4nm,0.8s,baz=336,slow=3.3,SNR=4.5
R11A Troy Canyon, C 69.77 323 P P 01 15 22.0 +1.5
baz=133,SNR=92
CWC Cottonwood Cre 69.99 320 P P 01 15 23.8 +1.9
baz=130
PKM Mcpherson Peak 70.10 318 P P 01 15 24.3 +1.7
baz=128,SNR=20
VES Vestal, Richgr 70.23 319 P P 01 15 24.8 +1.7
baz=129,SNR=28
TIN Tinemaha, Big 70.48 320 P P 01 15 26.9 +2.1
baz=130,SNR=6.9
SMMC Simmler 70.48 318 P P 01 15 26.9 +2.2
baz=128,SNR=13
ULM Lac du Bonnet 70.67 342 P P 01 15 24.5 -1.0
comp=Z,83nm,0.5s,baz=154,slow=6.3,SNR=198
ULM S S 01 24 18.6 -7.5
comp=Z,5.4nm,1.0s,baz=342,slow=16,SNR=8.7
VOG Valley Oaks Go 70.72 319 P P 01 15 26.6 +0.5
baz=129
MLAC Mammoth, Mammo 71.22 321 P P 01 15 31.0 +1.6
baz=130
LAO LASA Array 71.29 334 P P 01 15 30.1 +0.7
baz=143,SNR=32
RLMT Red Lodge 71.39 332 P P 01 15 31.3 +1.0
baz=140,SNR=54
SCHQ Schefferville 71.40 2 P P 01 15 28.1 -1.7
comp=Z,13nm,0.9s,baz=140,slow=5.4,SNR=7.2
NVAR Mina Array Bea 71.42 322 P P 01 15 32.0 +1.5
comp=Z,38nm,0.9s,baz=146,slow=6.6,SNR=160
H17A Grant Village 71.45 330 P P 01 15 32.3 +1.6
baz=138,SNR=14
DGMT Dagmar 71.93 337 P P 01 15 34.2 +1.0
baz=145,SNR=19
HLID Hailey 72.74 328 P P 01 15 39.8 +1.5
baz=135,SNR=90
BOZ Bozeman (W) 72.85 331 P P 01 15 40.0 +1.2
baz=138,SNR=27
QSPA South Pole Qui 73.35 180 eP P 01 15 42.7 +1.2
comp=Z,114nm,0.9s
EGMT Eagleton 73.83 333 P P 01 15 45.1 +0.7
baz=140,SNR=57
TBI Tubuai 74.42 250 eS S 01 25 13.5 +3.6
comp=Z,775nm,27.8s
VAH Vaihoa 74.50 258 eP P 01 15 50.4 +1.5
comp=Z,156nm,1.1s
O03E Paynes Creek 74.69 321 P P 01 15 49.7 +0.1
baz=128
PMOR Pomariorio Ree 74.81 259 eP P 01 15 52.0 +1.4
comp=Z,164nm,1.2s
MSO Missoula 74.84 330 P P 01 15 51.9 +1.6
baz=136,SNR=33
O02D Mt. Diablo Mer 75.22 321 P P 01 15 53.2 +0.7
baz=128,SNR=9.3
KCPM Cahto Peak 75.41 320 eP P 01 15 55.2 +1.5
comp=Z,68nm,1.0s
M04C Macdoel 75.64 322 P P 01 15 56.3 +1.3
baz=129,SNR=34
N02D Trinity Center 75.65 321 P P 01 15 55.4 +0.3
baz=128,SNR=21
PAE Paea 75.77 256 eP P 01 15 57.5 +1.4
comp=Z,9.2nm,1.0s
PAE epP pP 01 16 35.6 -2.1
comp=Z,9.5nm,1.1s
PPT2 Papeete2 75.78 256 eP P 01 15 57.8 +1.5
comp=Z,137nm,1.4s
PPT2 eS S 01 25 28.0 +2.8
comp=Z,498nm,29.0s
PPT Papeete 75.78 256 P P 01 15 59.6 +3.3
comp=Z,66nm,1.0s,baz=73,slow=5.9,SNR=4.2
M02C Callahan 76.00 322 P P 01 15 57.8 +0.8
baz=128,SNR=15
K04D Chiloquin, OR 76.12 323 P P 01 15 59.1 +1.4
baz=129,SNR=5.7
L04D Klamath Falls 76.18 323 P P 01 15 58.8 +0.7
baz=128,SNR=14
J05D Fort Rock, OR 76.24 324 P P 01 15 59.9 +1.6
baz=129,SNR=32
FFC Flin Flon 76.40 341 eP P 01 15 58.8 -0.1
comp=Z,45nm,0.8s
FFC Flin Flon 76.40 341 i P P 01 15 59.2 +0.4
TORD Torodi Ar. Bea 76.47 72 P P 01 15 57.9 -2.2
comp=Z,126nm,0.8s,baz=252,slow=5.1,SNR=246
TORD pP pP 01 16 41.5 0.0
comp=Z,12nm,0.8s,baz=248,slow=5.2,SNR=1.8
TORD S S 01 25 26.1 -6.5
comp=Z,6.6nm,1.0s,baz=269,slow=11,SNR=18
TORD PKPPKP P'P'df 01 43 15.4 +0.8
comp=Z,1.0nm,1.1s,baz=95,slow=3.4,SNR=3.5
TORD LR LR 01 49 21.1
comp=Z,467nm,18.8s,baz=310,slow=35
J04D Umpqua Nationa 76.71 323 P P 01 16 02.9 +1.8
baz=129,SNR=22
L02E Cave Junction 76.91 322 P P 01 16 03.7 +1.7
baz=127,SNR=19
I05D Terrebonne, OR 76.97 325 P P 01 16 04.4 +2.0
baz=130,SNR=48
I04A Tendick Farm, 77.22 324 P P 01 16 04.8 +1.0
baz=128,SNR=12
K02D Willamette Mer 77.27 322 P P 01 16 06.0 +1.9
baz=127,SNR=16
NEW Newport 77.38 330 P P 01 16 05.2 +0.7
baz=134,SNR=11
G05D Wamic, OR 77.53 325 P P 01 16 07.5 +2.1
baz=130,SNR=17
I03D Drain, OR 77.70 323 P P 01 16 07.9 +1.6
baz=128,SNR=8.6
J01E Myrtle Point 77.71 323 P P 01 16 08.2 +1.8
baz=127
H04D Lebanon 77.86 324 P P 01 16 08.2 +1.0
baz=128
F05D White Salmon 78.02 326 P P 01 16 09.7 +1.6
baz=130,SNR=7.0
COR Corvallis 78.22 324 eP P 01 16 09.7 +0.5
comp=Z,103nm,0.8s
COR Corvallis 78.22 324 eP P 01 16 09.7 +0.5
COR pmax pmax
comp=Z,103nm,0.8s
I02D Swisshome 78.23 323 P P 01 16 11.1 +1.9
baz=128
PFVI Vila Bisbo 78.42 45 eP P 01 16 11.7 +1.2
comp=Z,133nm,1.1s
G03D McMinnville, O 78.58 324 P P 01 16 13.0 +1.9
baz=128
MORF Marmelete 78.63 45 eP P 01 16 12.2 +0.5
MORF AMb AMB 01 16 14.1
comp=Z,96nm,1.2s
MORF Marmelete 78.63 45 eP P 01 16 12.7 +1.0
comp=Z,99nm,1.0s
MORF Marmelete 78.63 45 eP P 01 16 12.2 +0.5
PTEO Sao Teotonio 78.71 45 eP P 01 16 12.9 +0.9
comp=Z,122nm,1.0s
F04D Rainier, OR 78.98 325 P P 01 16 15.3 +2.0
baz=128,SNR=6.0
E04D Cinebar 79.04 326 P P 01 16 14.8 +1.2
baz=129,SNR=9.0
PBDV Barranco-do-Ve 79.09 46 eP P 01 16 14.7 +0.5
comp=Z,43nm,1.0s
PNCL Nicolau / Gran 79.13 45 eP P 01 16 15.3 +1.0
comp=Z,54nm,0.9s
MESJ Messejana 79.20 45 eP P 01 16 15.0 +0.3
MESJ AMb AMB 01 16 16.6
comp=Z,47nm,1.1s
MESJ eS S 01 26 01.4 +0.4
MESJ Messejana 79.20 45 eP P 01 16 15.5 +0.8
comp=Z,51nm,1.0s
MESJ Messejana 79.20 45 eP P 01 16 15.0 +0.3
MESJ eS S 01 26 01.4 +0.4
PCVE Castro Verde 79.22 45 eP P 01 16 15.4 +0.6
comp=Z,47nm,1.8s
MDT Midelt 79.30 51 P P 01 16 16.2 +0.7
comp=Z,24nm,0.9s,baz=263,slow=4.9,SNR=36
PVAQ Vaqueiros 79.32 46 eP P 01 16 16.0 +0.6
comp=Z,46nm,1.2s
PVAQ eS S 01 26 05.7 +3.4
D04E Lakebay 79.54 326 P P 01 16 17.8 +1.5
baz=129,SNR=6.1
PBEJ Beja 79.54 45 eP P 01 16 18.5 +2.0
comp=Z,29nm,1.0s
EVO Evora 79.70 45 eP P 01 16 17.6 +0.2
comp=Z,26nm,2.1s
PMTG Montargil 79.83 44 eP P 01 16 18.6 +0.5
comp=Z,57nm,1.0s
B05A Bryant 79.87 327 P P 01 16 18.7 +0.7
baz=130,SNR=40
D03D Eldon 79.93 326 P P 01 16 19.7 +1.3
baz=129,SNR=18
PTOM Tomar 80.00 43 eP P 01 16 19.3 +0.3
comp=Z,52nm,1.0s
PCAS Casmilo, Conde 80.17 43 eP P 01 16 20.0 +0.1
comp=Z,52nm,1.1s
SBA Scott Base 80.29 190 eP P 01 16 21.9 +2.0
comp=Z,114nm,1.2s
SBA Scott Base 80.29 190 eP P 01 16 21.9 +2.0
SBA pmax pmax
comp=Z,114nm,1.2s
COI Coimbra 80.31 43 eP P 01 16 21.1 +0.5
comp=Z,81nm,1.2s
A04D Lummi Island 80.47 328 P P 01 16 22.6 +1.4
baz=129,SNR=9.1
PMRV Marv??o 80.57 44 eP P 01 16 22.0 -0.1
comp=Z,22nm,1.7s
PMRV eS S 01 26 17.1 +1.7
PTO Porto 80.67 42 eP P 01 16 22.8 +0.3
comp=Z,66nm,1.3s
PCBR Castelo Branco 80.73 44 eP P 01 16 23.1 +0.2
comp=Z,39nm,1.3s
MTE Manteigas 80.97 43 eP P 01 16 24.6 +0.4
comp=Z,54nm,1.1s
MTE eS S 01 26 19.3 -0.3
SYO Syowa Base 81.11 160 eP P 01 16 23.2 -1.2
SYO Syowa Base 81.11 160 ePcP PcP 01 16 28.9 -1.3
PVRL Vila Real 81.31 42 eP P 01 16 26.5 +0.5
comp=Z,45nm,1.1s
POLO Lamas de Olo 81.31 42 eP P 01 16 25.7 -0.4
comp=Z,24nm,1.3s
PGAV Gavieira, Arco 81.32 41 eS S 01 26 26.2 +3.0
VNDA Vanda 81.32 190 eP P 01 16 26.9 +1.4
comp=Z,39nm,0.9s
VNDA Vanda 81.32 190 P P 01 16 27.4 +2.0
comp=Z,25nm,0.8s,baz=134,slow=4.8,SNR=98
PCAB Cabril 81.34 42 eP P 01 16 25.6 -0.5
comp=Z,50nm,1.0s
SUR Sutherland 81.54 121 eP P 01 16 28.8 +1.1
comp=Z,39nm,0.9s
MVO Moncorvo 81.70 43 eP P 01 16 28.0 -0.1
comp=Z,66nm,1.0s
MVO Moncorvo 81.70 43 eS S 01 26 28.5 +1.4
TSUM Tsumeb 82.06 108 eP P 01 16 30.5 -0.1
comp=Z,35nm,1.0s
PAB San Pablo 82.68 45 eP P 01 16 33.3 +0.1
comp=Z,24nm,0.9s
PAB San Pablo 82.68 45 eP P 01 16 33.3 +0.1
PAB pmax pmax
comp=Z,24nm,0.9s
RAR Rarotonga 84.20 250 eP P 01 16 43.5 +2.2
comp=Z,39nm,1.0s
SFJD Kangerlussuaq 84.75 7 P P 01 16 42.1 -0.8
comp=Z,10nm,0.9s,baz=179,slow=7.8,SNR=4.5
SFJD Kangerlussuaq 84.75 7 i P P 01 16 41.5 -1.4
comp=Z,14nm,1.1s
BOSA Boshof 86.25 119 eP P 01 16 52.1 +0.5
comp=Z,46nm,1.1s
BOSA PKKPbc PKKPbc 01 34 49.4 +0.5
BOSA Boshof 86.25 119 eP P 01 16 52.1 +0.5
BOSA pmax pmax
comp=Z,47nm,1.1s
BOSA Boshof 86.25 119 P P 01 16 51.6 0.0
comp=Z,25nm,0.9s,baz=259,slow=3.5,SNR=36
BOSA PKKPbc PKKPbc 01 34 49.4 +0.5
comp=Z,1.6nm,0.7s,baz=18,slow=2.9,SNR=4.0
YKA Yellowknife Ar 86.57 341 P P 01 16 52.4 +0.4
comp=Z,99nm,0.8s,baz=133,slow=5.0,SNR=1299
YKA pP pP 01 17 35.1 +0.7
comp=Z,11nm,1.0s,baz=128,slow=5.2,SNR=1.4
YKA S SKSac 01 27 03.2 +0.5
comp=Z,0.4nm,0.9s,baz=125,slow=8.7,SNR=4.4
YKA PKKP PKKPbc 01 34 48.0 -2.3
comp=Z,0.4nm,0.7s,baz=314,slow=2.8,SNR=5.9
LBTB Lobatse 87.60 115 eP P 01 16 58.8 +0.7
comp=Z,57nm,0.9s
LBTB Lobatse 87.60 115 eP P 01 16 58.8 +0.7
LBTB pmax pmax
comp=Z,57nm,0.9s
MAW Mawson 88.99 164 P P 01 17 04.8 +1.2
comp=Z,72nm,0.8s,baz=220,slow=5.9,SNR=103
BORG Borgarnes 89.22 19 eP P 01 17 06.2 +1.7
comp=Z,31nm,0.9s
BORG Borgarnes 89.22 19 eP P 01 17 06.2 +1.7
BORG pmax pmax
comp=Z,31nm,0.9s
BORG Borgarnes 89.22 19 P P 01 17 06.2 +1.7
comp=Z,26nm,1.0s,baz=211,slow=6.6,SNR=3.8
EKA Eskdalemuir Ar 91.00 32 P P 01 17 11.9 -1.2
comp=Z,9.1nm,0.8s,baz=243,slow=6.0,SNR=22
KEST Kesra 91.03 53 P P 01 17 13.7 -0.1
comp=Z,16nm,0.9s,baz=267,slow=0.9,SNR=18
KEST LR LR 01 59 34.0
comp=Z,84nm,18.8s,baz=308,slow=36
KULLO Kullorsuaq 91.53 3 i P P 01 17 14.7 -0.4
KULLO pmax pmax
comp=Z,32nm,0.9s
KULLO Kullorsuaq 91.53 3 i P P 01 17 14.7 -0.4
comp=Z,32nm,0.9s
SUMG Summit 91.56 9 eP P 01 17 16.2 +0.4
comp=Z,25nm,0.9s
SUMG Summit 91.56 9 i P P 01 17 16.6 +0.8
SUMG pmax pmax
comp=Z,66nm,0.9s
SUMG Summit 91.56 9 i P P 01 17 16.6 +0.8
comp=Z,66nm,0.9s
LSZ Lusaka 92.88 107 eP P 01 17 23.7 +0.8
comp=Z,7.1nm,1.2s
LSZ Lusaka 92.88 107 eP P 01 17 23.7 +0.8
LSZ pmax pmax

comp=Z,7.0nm,1.2s
SNF Seneffe 92.96 38 ⇑P **P 01 17 22.1 -0.1**
DOU Dourbes 92.99 38 ⇑P **P 01 17 22.2 -0.2**
comp=Z,12nm,1.4s
SCO Scoresbysund 93.10 14 *i* P **P 01 17 23.6 +1.2**
SCO pmax pmax
comp=Z,7.0nm,0.8s
SCO Scoresbysund 93.10 14 *i* P **P 01 17 23.6 +1.2**
comp=Z,6.7nm,0.8s
BCLA Clavier 93.53 38 ⇑P **P 01 17 24.8 -0.1**
comp=Z,18nm,1.9s
WLF Walferdange 93.76 39 *e*P **P 01 17 26.0 0.0**
comp=Z,116nm,1.1s
WLF Walferdange 93.76 39 *e*P **P 01 17 26.0 0.0**
WLF pmax pmax
comp=Z,116nm,1.1s
WLF Walferdange 93.76 39 ⇑P **P 01 17 25.9 -0.1**
comp=Z,21nm,1.3s
MEM Membach 94.02 38 ⇓P **P 01 17 26.5 -0.6**
comp=Z,9.0nm,1.2s
DAVOX Davos/Dischmat 95.10 43 P **P 01 17 32.0 -0.4**
comp=Z,7.2nm,0.8s,baz=184,slow=7.0,SNR=11
DAVOX pP **pP 01 18 16.1 +0.8**
comp=Z,3.8nm,0.9s,baz=231,slow=2.4,SNR=2.9
DAVA Damuels 95.27 42 *i* P **P 01 17 33.2 +0.1**
comp=Z,12nm,1.1s
FETA Feichten 95.73 43 *e*P **P 01 17 34.3 -0.9**
comp=Z,6.9nm,1.0s
RETA Reutte 95.90 42 *e*P **P 01 17 35.7 -0.2**
comp=Z,12nm,1.2s,SNR=4.9
MOTA Moosalm 96.07 42 *e*P **P 01 17 35.2 -1.6**
comp=Z,2.7nm,0.7s,SNR=4.5
SQTA Sankt Quirin 96.10 43 *e*P **P 01 17 36.4 -0.5**
comp=Z,14nm,0.9s
INK Inuvik 96.33 340 PKKPbc PKKPbc 01 34 23.7 -1.6
comp=Z,2.6nm,0.9s,baz=336,slow=1.0,SNR=8.1
WATA Walderalm 96.38 43 *i* P **P 01 17 37.7 -0.4**
comp=Z,11nm,1.0s
WTTA Wattenberg 96.39 43 *e*P **P 01 17 38.2 -0.1**
comp=Z,15nm,0.9s,SNR=9.9
EPYK Eagle Plains 96.48 338 P **P 01 17 38.6 +0.5**
baz=117,SNR=8.8
GRFO Grafenberg 96.87 40 *e*P **P 01 17 40.2 0.0**
comp=Z,11nm,0.9s
GRA1 Grafenberg Arr 96.87 40 *e*P **P 01 17 40.0 -0.2**
comp=Z,12nm,0.9s
GRF Grafenberg Arr 96.87 40 *e*P **P 01 17 40.0 -0.2**
GRF pmax pmax
comp=Z,12nm,0.9s
CASY Casey 97.15 180 *e*P Pdif 01 17 43.2 +1.9
comp=Z,15nm,1.0s
NKC Novy Kostel 97.79 40 *e*P Pdif 01 17 45.0 +0.7
NKC *e* 01 28 11.0
NKC Novy Kostel 97.79 40 *e*PDIFF Pdif 01 17 45.0 +0.7
NKC *e*SKS **SKSac 01 28 11.0 +4.9**
MUD Monsted U'grnd 97.80 33 *i* P **P 01 17 43.7 -0.4**
MUD pmax pmax
comp=Z,32nm,1.1s
MUD Monsted U'grnd 97.80 33 *i* P **P 01 17 43.7 -0.4**
comp=Z,32nm,1.1s
LTZ Lake Taylor 97.91 221 *e*P Pdif 01 17 48.2 +2.9
comp=Z,18nm,0.9s
DAG Danmarks Havn 98.10 10 *i* P **P 01 17 44.7 -0.4**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 98.10 10 *i* P **P 01 17 44.7 -0.4**
comp=Z,2.1nm,0.8s
GERES GERESS Array B 98.18 42 P **P 01 17 45.4 -0.8**
comp=Z,2.4nm,0.8s,baz=249,slow=3.7,SNR=22
GERES pP **pP 01 18 29.6 +0.5**
comp=Z,0.9nm,0.8s,baz=256,slow=4.0,SNR=3.1
GERES PKKPbc **PKKPbc 01 34 20.1 +0.5**
comp=Z,0.1nm,0.4s,baz=116,slow=3.1,SNR=5.6
KHC Kasperske Hory 98.18 41 *e*P **P 01 17 45.9 -0.2**
KHC *e* 01 28 09.4
KHC Kasperske Hory 98.18 41 *e*PDIFF **P 01 17 45.9 -0.2**
KHC *e*SKS **SKSac 01 28 09.4 +1.2**
CLL Collm 98.43 39 *e*P Pdif 01 17 47.3 +0.2
comp=Z,4.3nm,0.8s
CLL Collm 98.43 39 *e*P Pdif 01 17 47.3 +0.2
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 98.43 39 *i* Pdif **P 01 17 47.0 -0.1**
comp=Z,13nm,1.5s
BRG Berggiesshubel 98.88 40 *e*PKP Pdif 01 17 49.8 +0.6
comp=Z,19nm,1.6s
BRG Berggiesshubel 98.88 40 *e*P Pdif 01 17 49.8 +0.7
BRG pmax pmax
comp=Z,19nm,1.6s
PRU Pruhonice 99.02 41 *e*P **Pdif 01 17 50.3 +0.5**
PRU *e* 01 28 15.8
PRU Pruhonice 99.02 41 *e*PDIFF **Pdif 01 17 50.3 +0.5**
PRU *e*SKS **SKSac 01 28 15.8 +3.6**
GOPC GO Pecny, Ondr 99.15 41 *e*P **Pdif 01 17 52.5 +2.1**
GOPC *e* 01 28 16.5
GOPC GO Pecny, Ondr 99.15 41 *e*PDIFF **Pdif 01 17 52.5 +2.1**
GOPC *e*SKS **SKSac 01 28 16.5 +3.6**
PVCC Panska Ves 99.17 40 *e*SKS **SKSac 01 28 15.9 +2.9**
TREC Trest 99.43 41 *e*P **Pdif 01 17 52.3 +0.6**
TREC *e* 01 28 17.5
TREC Trest 99.43 41 *e*PDIFF **Pdif 01 17 52.3 +0.6**
TREC *e*SKS **SKSac 01 28 17.5 +3.1**
ILAR Eielson Array 99.75 335 P **Pdif 01 17 52.2 -0.4**
comp=Z,2.7nm,0.9s,baz=145,slow=3.6,SNR=18
ILAR PP **PP 01 21 52.1 -7.2**
comp=Z,2.2nm,0.8s,baz=109,slow=6.7,SNR=8.9
ILAR PKKPbc **PKKPbc 01 34 12.7 -3.0**
comp=Z,0.7nm,0.8s,baz=273,slow=3.3,SNR=4.6
KRUC Moravsky 99.95 42 *e*PDIFF **Pdif 01 17 53.7 -0.2**
UPC Upice 100.06 40 *e*P **Pdif 01 17 55.2 +0.8**
UPC *e* 01 28 21.5
UPC Upice 100.06 40 *e*PDIFF **Pdif 01 17 55.2 +0.8**
UPC *e*SKS 01 28 21.5
POKR Poker Plat Res 100.08 335 P **Pdif 01 17 54.3 +0.1**
baz=108
CCB Clear Creek Bu 100.08 335 *e*Pdif **Pdif 01 17 54.4 +0.2**
VRAC Vranov 100.14 42 *e*PDIFF **Pdif 01 17 54.8 0.0**
WRH Wood River Hil 100.15 334 *e*Pdif **Pdif 01 17 54.7 +0.3**
TCOL CIGO, UAF Yank 100.17 335 P **Pdif 01 17 54.4 -0.2**
baz=108
NOA NORSAR Array B 100.19 29 P **Pdif 01 17 54.9 +0.1**
comp=Z,2.4nm,1.1s,baz=254,slow=4.4,SNR=2.8
DPC Dobruska-Polom 100.22 40 *e*P **Pdif 01 17 55.0 -0.2**
DPC *e* 01 28 21.4
DPC Dobruska-Polom 100.22 40 *e*PDIFF **Pdif 01 17 55.0 -0.2**
DPC *e*SKS **SKSac 01 28 21.4 +3.2**
JAVC Velka Javorina 100.72 42 *e*PDIFF **Pdif 01 17 58.1 +0.7**
MORC Moravsky Berou 100.85 41 *e*PDIFF **Pdif 01 17 58.6 +0.6**
HFS Hagfors 101.13 30 P **Pdif 01 17 59.0 +0.1**
HFS Hagfors 101.13 30 P **Pdif 01 17 59.0 +0.1**
comp=Z,1.0nm,0.7s,baz=185,slow=8.7,SNR=2.8
HFS PP **PP 01 22 05.5 -4.5**
comp=Z,2.3nm,0.9s,baz=157,slow=8.0,SNR=3.6
VYHS Vyhne 101.39 43 *i* P **Pdif 01 18 00.1 -0.3**
VYHS Vyhne 101.39 43 *e*PDIF **Pdif 01 18 00.1 -0.3**
TOLK Toolik Lake Re 101.91 338 P **Pdif 01 18 02.4 +0.2**
baz=105
MLR Muntele Rosu 105.64 47 PKiKP **PKiKP 01 22 32.7 +0.9**
comp=Z,2.4nm,0.9s,baz=208,slow=3.2,SNR=5.8
FIA0 FINESS Array S 107.33 30 *e*PKiKP **PKiKP 01 22 35.1 +0.8**
FINES FINESS Array B 107.33 30 PKiKP **PKiKP 01 22 35.1 +0.8**
comp=Z,2.0nm,0.9s,baz=222,slow=2.5,SNR=4.6
FINES PKKPbc **PKKPbc 01 33 51.9 -0.9**
comp=Z,2.8nm,0.8s,baz=101,slow=3.9,SNR=7.5
FINES PKKP **PKKPdf 01 34 05.2 -0.4**
comp=Z,0.9nm,0.7s,baz=98,slow=4.2,SNR=4.1
ARCES ARCESS Array B 107.41 22 PKKPbc PKKPbc 01 33 51.1 -1.7
comp=Z,1.6nm,0.9s,baz=84,slow=5.0,SNR=7.4
AKASG Malin Array Be 108.39 41 PKiKP **PKiKP 01 22 36.1 -0.4**
comp=Z,0.7nm,0.4s,baz=279,slow=3.0,SNR=5.0
APA Apatity 110.39 24 ⇓*i* PKIKP PKiKP 01 22 55.4 +16
APA pmax pmax
comp=Z,6.0nm,1.0s
APA MLR MLR
comp=Z,300nm,19.0s
BRTR Keskin Array B 110.64 53 PKiKP **PKiKP 01 22 42.0 +0.6**
comp=Z,3.2nm,0.8s,baz=172,slow=2.4,SNR=18
BRTR SKP 01 26 02.0
comp=Z,1.2nm,1.0s,baz=273,slow=5.2,SNR=3.6
BRTR PKKPab **PKKPab 01 33 52.6 +1.8**
comp=Z,3.3nm,0.8s,baz=95,slow=4.2,SNR=20
OBN Obninsk 112.88 37*c i*PKIKP **PKiKP 01 22 45.7 +0.8**
OBN *e* 01 23 24.8
OBN pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 114.44 39 *e*PKIKP **PKiKP 01 22 48.1 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 114.68 41 *e*PKIKP PKPdf 01 22 48.3 -0.2
VSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 116.28 41 *e*PKIKP **PKPdf 01 22 50.9 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.6s
PRGR Permogore 116.59 29 *e*PKIKP **PKPdf 01 22 50.4 -1.5**
PRGR pmax pmax
comp=Z,22nm,0.8s
KIV Kislovodsk 117.48 49 *i* PKIKP **PKPdf 01 22 52.3 -2.0**
KIV pmax pmax
comp=Z,35nm,1.0s
KIV MLR MLR
comp=Z,107nm,21.0s
KBZ Khabaz 117.64 49 PKP **PKiKP 01 22 55.2 +0.7**
comp=Z,22nm,0.8s,baz=208,slow=2.7,SNR=34
BILL Bilibino 117.93 339 *e*PKPdf **PKiKP 01 22 55.4 +1.1**
BILL Bilibino 117.93 339 ⇓*i*PKIKP **PKiKP 01 22 54.7 +0.4**
BILL *e* 01 23 40.7
BILL *e* 01 24 10.0
BILL pmax pmax
comp=Z,9.0nm,1.7s
ZEI Tsey 118.42 50 *i* PKIKP **PKiKP 01 22 56.8 +0.5**
ZEI pmax pmax
comp=Z,13nm,0.9s
GNI Garni 119.17 53 *e*PKPdf **PKiKP 01 22 58.9 +1.1**
GNI Garni 119.17 53 *e*PKIKP **PKiKP 01 22 58.9 +1.1**
STKA Stephens Creek 123.08 212 *e*PKPdf **PKiKP 01 23 05.9 +0.3**
STKA PKKPab **PKKPab 01 32 59.4 +0.4**
STKA Stephens Creek 123.08 212 *e*PKIKP **PKiKP 01 23 05.9 +0.3**
STKA Stephens Creek 123.08 212 PKP **PKiKP 01 23 06.3 +0.7**
comp=Z,16nm,0.7s,baz=102,slow=3.0,SNR=35
STKA PKKPab **PKKPab 01 32 59.4 +0.4**
comp=Z,1.1nm,0.4s,baz=324,slow=8.7,SNR=3.4
TIXI Tiksi 124.08 353*c i*PKIKP **PKPdf 01 23 06.1 +0.1**
TIXI pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 124.08 353 PKKPbc PKKPbc 01 32 51.3 -3.0
comp=Z,1.7nm,0.4s,baz=138,slow=1.9,SNR=6.3
TIXI SKKPbc SKKPbc 01 36 28.2 -2.4
comp=Z,0.9nm,0.3s,baz=139,slow=3.0,SNR=4.1
ARU Arti 124.61 32 *e*PKPdf **PKiKP 01 23 08.1 +0.3**
ARU Arti 124.61 32 *i* PKIKP **PKiKP 01 23 08.2 +0.4**
ARU 01 24 59.7
ARU 01 30 04.2
ARU PS **SP 01 34 40.3 +2.3**
ARU SS **SS 01 41 33.4 -3.2**
SVE Sverdlovsk 125.48 31 *e*PKIKP **PKiKP 01 23 10.1 +0.6**
SVE pmax pmax
comp=Z,24nm,1.3s
SEY Seymchan 125.54 338*c i*PKIKP **PKiKP 01 23 10.6 +1.2**
SEY Seymchan 125.54 338 SKP **SKPdf 01 26 31.0 +2.0**
comp=Z,5.9nm,0.9s,baz=69,slow=2.3,SNR=5.1
NRIK Noril'sk 125.60 10 PKP **PKiKP 01 23 09.6 +0.2**
comp=Z,7.0nm,0.9s,baz=37,slow=3.1,SNR=11
NRIK SKKPbc SKKPbc 01 36 26.1 +0.7
comp=Z,1.8nm,0.4s,baz=108,slow=2.8,SNR=4.3
NRIK PKP2ab 01 38 43.6
comp=Z,2.4nm,0.4s,baz=103,slow=5.5,SNR=4.3
AB31 Akbulak array 128.09 40 *i* PKIKP **PKiKP 01 23 15.5 +0.6**
AB31 pmax pmax
comp=Z,39nm,0.9s
ABKAR Akbulak array 128.09 40 *e*PKPdf **PKiKP 01 23 15.2 +0.3**
MA2 Magadan 128.23 335*c i*PKIKP **PKiKP 01 23 15.8 +0.9**
MA2 pmax pmax
comp=Z,25nm,1.7s
MA2 Magadan 128.23 335 PKP **PKiKP 01 23 15.2 +0.3**
comp=Z,10nm,0.7s,baz=110,slow=12
PETK Petropavlovsk- 128.38 326 PKP **PKiKP 01 23 16.0 +0.6**
comp=Z,22nm,0.8s,baz=92,slow=6.5,SNR=39
CTA Charters Tower 129.15 225 PKP **PKiKP 01 23 18.3 +0.3**
comp=Z,18nm,0.7s,baz=55,slow=9.5,SNR=8.8
FORT Forrest 129.72 200 *e*PKPdf **PKPdf 01 23 18.4 +0.3**
GEYT Alibeck 129.76 54 PKP **PKiKP 01 23 19.1 +0.4**
comp=Z,14nm,0.8s,baz=266,slow=5.5,SNR=30
GEYT SKPbc SKPbc 01 26 25.4 +0.3
comp=Z,4.1nm,0.8s,baz=286,slow=5.4,SNR=7.8
NWAO Narrogin (SRO) 130.11 188 PKP **PKiKP 01 23 19.5 -0.1**
comp=Z,21nm,1.1s,baz=199,slow=7.2,SNR=3.8
SKR Severo-Kuril's 130.32 323*c i*PKIKP **PKiKP 01 23 20.1 +0.8**
BRVK Borovoye 132.18 32 *e*PKPdf **PKiKP 01 23 23.1 0.0**
BRVK Borovoye 132.18 32*c i*PKIKP **PKiKP 01 23 23.7 +0.6**
BRVK pmax pmax
comp=Z,36nm,1.7s
BVAR Borovoye Array 132.25 32 PKKP **PKKPdf 01 33 16.2 -1.5**
comp=Z,1.3nm,0.9s,baz=108,slow=4.7,SNR=4.4
BVAR SKKPbc SKKPbc 01 36 02.8 +1.5
comp=Z,0.9nm,0.7s,baz=114,slow=1.8,SNR=3.9
ASAR Alice Springs 133.66 210 PKhKP PKPpre 01 23 11.2
comp=Z,1.8nm,0.9s,baz=146,slow=2.5,SNR=11
ASAR PKP **PKPdf 01 23 26.2 +0.4**
comp=Z,16nm,0.6s,baz=134,slow=2.2,SNR=66
ASAR PP **PP 01 25 55.0 -0.1**
comp=Z,5.7nm,1.1s,baz=150,slow=5.2,SNR=6.9
ASAR SKPbc **SKPbc 01 26 38.9 -0.5**
comp=Z,12nm,1.1s,baz=151,slow=3.4,SNR=7.6
ASAR PKKP **PKKPdf 01 33 14.2 +0.2**
comp=Z,0.6nm,0.6s,baz=351,slow=2.0,SNR=7.4
ASAR SKKPbc **SKKPbc 01 35 56.7 +3.5**
comp=Z,1.1nm,0.8s,baz=327,slow=4.2,SNR=5.6
PMG Port Moresby 135.26 237 PKP **PKiKP 01 23 30.9 +0.5**
comp=Z,4.8nm,0.3s,baz=115,slow=8.7,SNR=4.1
WRAB Tennant Creek 136.55 214*c i*PKIKP **PKiKP 01 23 32.4 -0.6**
WRAB pmax pmax
comp=Z,47nm,0.8s
NVS Novosibirsk 136.68 23 *e*PKIKP **PKiKP 01 23 31.8 -0.3**
NVS *e* 01 24 18.7
NVS pmax pmax
comp=Z,40nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.8s
KK31 Karatay Array 137.24 44 *i* PKIKP **PKPdf 01 23 32.5 +0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 137.70 30 *e*PKPdf **PKiKP 01 23 33.5 -0.8**
KURK Kurchatov 137.70 30*c i*PKIKP **PKiKP 01 23 34.0 -0.3**
KURK pmax pmax
comp=Z,28nm,1.0s
KURBB Kurchatov Arra 137.72 30 SKP **SKPdf 01 26 51.8 -0.2**
comp=Z,7.4nm,0.9s,baz=302,slow=3.2,SNR=20
KURBB SKKPbc **SKKPbc 01 35 40.0 -0.7**
comp=Z,1.4nm,0.9s,baz=145,slow=4.3,SNR=6.7
KURBB SKKP 01 36 27.4
comp=Z,0.5nm,0.9s,baz=140,slow=4.9,SNR=4.3
ZAA1 Zalesovo Array 137.95 22 *e*PKPdf **PKPdf 01 23 32.9 +0.2**
ZAA1 *ep*PKPdf **pPKPdf 01 24 18.4 +0.8**
ZAA0 Zalesovo Array 137.96 22 *e*PKPdf **PKPdf 01 23 32.8 +0.1**
ZALV Zalesovo Beam 137.96 22 PKhKP PKPpre 01 23 24.3
comp=Z,16nm,0.7s,baz=313,slow=3.8,SNR=10
ZALV PKP **PKPdf 01 23 32.9 +0.2**
comp=Z,95nm,0.8s,baz=293,slow=1.9,SNR=113
ZALV pPKP pPKPdf 01 24 18.4 +0.8
comp=Z,56nm,0.9s,baz=298,slow=3.2,SNR=5.6
ZALV SKP 01 26 51.9
comp=Z,24nm,0.8s,baz=302,slow=3.5,SNR=18
GAR Garm 138.71 49 *e*PKPdf **PKiKP 01 23 36.1 -0.9**
GAR Garm 138.71 49 *e*PKIKP **PKiKP 01 23 36.1 -0.9**
KBL Kabul 139.10 56 *e*PKPdf **PKPdf 01 23 36.3 +0.6**
KBL Kabul 139.10 56 *e*PKIKP **PKPdf 01 23 36.3 +0.6**
EKS2 Erkin-Say 139.58 43 P **PKiKP 01 23 38.5 -0.2**
SNR=15
USP Ospenovka 139.75 41 P **PKiKP 01 23 38.3 -0.5**
SNR=7.1
AML Almayashu 139.77 43 P **PKiKP 01 23 39.2 -0.2**
SNR=20
YSS Yuzh-Sakhalins 139.78 325 *e*PKIKP **PKiKP 01 23 37.5 -1.2**
YSS pmax pmax
comp=Z,30nm,0.7s
AAK Ala-Archa 140.05 42 P **PKiKP 01 23 39.7 0.0**
SNR=10
AAK Ala-Archa 140.05 42 *e*PKPdf **PKiKP 01 23 39.1 -0.5**
AAK Ala-Archa 140.05 42 PKIKP **PKPdf 01 23 36.8 -0.4**
AAK pmax pmax
comp=Z,20nm,0.9s
AAK Ala-Archa 140.05 42 SKKPbc SKKPbc 01 35 29.8 -1.7
comp=Z,0.6nm,0.4s,baz=134,slow=10.0,SNR=3.5
UCH Uchtor 140.26 43 P **PKiKP 01 23 40.6 +0.1**
SNR=15
KBK Karagaybulak 140.34 42 P **PKiKP 01 23 40.1 -0.1**
SNR=7.8
TKM2 Tokmak 2 140.62 41 P **PKiKP 01 23 40.0 -0.9**
SNR=13
KZA Kyzart 140.81 43 P **PKiKP 01 23 41.7 +0.1**
SNR=9.6
ZEA Zeya 140.88 344 *e*PKHKP PKPpre 01 23 32.0
ZEA pmax pmax
comp=Z,18nm,1.2s
BOOM Boomskoye usch 141.05 42 *e*PKPdf **PKPdf 01 23 40.1 +1.2**
ULHL Ulahol 141.37 42 P **PKPdf 01 23 40.9 +1.3**
SNR=14
ASAJ Asahikawa 141.54 322 PKhKP PKPpre 01 23 34.1
comp=Z,16nm,0.8s,baz=25,slow=2.3,SNR=14
ASAJ PKP **PKPdf 01 23 40.1 +0.5**
comp=Z,15nm,0.7s,baz=130,slow=2.7,SNR=9.1
MAKZ Makanchi 141.97 32 *e*PKPpre PKPpre 01 23 36.4
MAKZ Makanchi 141.97 32 PKHKP PKPpre 01 23 35.9
MAKZ pmax pmax
comp=Z,20nm,0.9s
MK31 Makanchi Array 142.13 32 *i* PKHKP PKPpre 01 23 36.6
MK31 pmax pmax
comp=Z,16nm,0.7s
MK32 Makanchi Array 142.13 32 *e*PKPdf **PKiKP 01 23 42.1 -1.5**
MK32 *e*SKPbc **SKPbc 01 27 01.9 -1.0**
MKAR Makanchi Array 142.13 32 PKhKP PKPpre 01 23 36.9
comp=Z,6.8nm,0.7s,baz=328,slow=4.2,SNR=76
MKAR PKP **PKiKP 01 23 42.1 -1.5**
comp=Z,19nm,0.7s,baz=334,slow=2.2,SNR=30
MKAR SKPbc **SKPbc 01 27 01.9 -1.0**
comp=Z,11nm,0.8s,baz=338,slow=2.6,SNR=15
MKAR SKKPbc **SKKPab 01 35 14.0 -8.4**
comp=Z,1.7nm,0.9s,baz=137,slow=5.9,SNR=5.0
FITZ Fitzroy Crossi 142.19 204 PKhKP PKPpre 01 23 37.2
comp=Z,22nm,0.8s,baz=177,slow=5.8,SNR=20
ERM Erimo 142.36 319 *e*PKPpre PKPpre 01 23 38.2
ERM Erimo 142.36 319 *e*PKIKP **PKPdf 01 23 38.2 -2.8**
KSH Kashi 142.51 46 PKP **PKPdf 01 23 39.8 -1.8**
KSH pPKP pPKPdf 01 24 21.4 -5.1
KSH sPKP 01 24 38.5
KSH PP **PP 01 26 51.3 +0.6**
KSH SKS **SKSdf 01 30 32.3 -3.9**
KSH AMB AMB
comp=Z,160nm,4.3s
KSH LR LR
comp=Z,130nm,10.9s
KSH LR LR
comp=Z,210nm,10.0s
NIL Nilore 142.71 56 *e*PKPpre PKPpre 01 23 39.0
NIL Nilore 142.71 56 *e*PKIKP **PKPdf 01 23 39.0 -3.0**
KLR Kul'dur 143.30 336 PKhKP PKPpre 01 23 39.0
comp=Z,16nm,0.8s,baz=77,slow=3.6,SNR=31
KLR PP **PP 01 26 52.9 -1.6**
comp=Z,6.2nm,1.0s,baz=54,slow=6.1,SNR=4.3
TEY Ternei 144.29 328⇓*e*PKIKP **PKPdf 01 23 44.3 0.0**
TEY pmax pmax
comp=Z,20nm,1.1s
IRK Irkutsk 144.32 6 *e*PKIKP **PKPdf 01 23 43.6 -0.6**
IRK *e* 01 24 31.7
IRK pmax pmax
comp=Z,145nm,2.5s
MOY Mondy 144.44 10 *e*PKIKP **PKPdf 01 23 44.7 +0.1**
MOY pmax pmax
comp=Z,136nm,1.4s
CIT Chita 144.78 357 *e*PKIKP **PKPdf 01 23 45.8 +0.7**
CIT *e* 01 24 31.8
CIT pmax pmax
comp=Z,273nm,1.1s
TLY Talaya 144.80 7 *e*PKPbc PKPbc 01 23 45.5 +1.0
TLY Talaya 144.80 7 *e*PKIKP **PKPdf 01 23 45.5 +0.4**
GENI Genyem 144.83 240 PKP **PKPdf 01 23 47.0 +0.7**
GENI PKP PKPbc 01 23 47.3 +1.6
ZAK Zakamensk 146.03 8 *e*PKP2 **PKPbc 01 23 48.3 -0.1**
ZAK pmax pmax
comp=Z,73nm,1.4s
SARN Sarigan 146.13 275 *e*PKPdf **PKPdf 01 23 48.7 +0.3**
GUMO Guam 146.59 269 *e*PKPdf **PKPbc 01 23 50.1 -0.8**
GUMO Guam 146.59 269 PKPbc **PKPbc 01 23 51.4 +0.5**
comp=Z,204nm,0.7s,baz=177,slow=7.8,SNR=17
HIA Hailar 146.75 349 *e*PKPbc **PKPbc 01 23 50.8 +0.4**
HIA Hailar 146.75 349 *e*PKP2 **PKPbc 01 23 50.8 +0.4**
WMQ Urumqi 146.93 31 *e*PKPbc **PKPdf 01 23 48.8 -0.2**
WMQ LR LR
comp=Z,3μm,25.9s
WMQ LR LR
comp=Z,4μm,38.9s
WMQ LR LR
comp=Z,310nm,39.1s
USRK Ussuriysk Ar. 147.16 331 PKPbc **PKPbc 01 23 50.5 -1.2**
comp=Z,105nm,0.8s,baz=333,slow=1.2,SNR=91
MDJ Mudanjiang 147.91 334 *e*PKPbc **PKPbc 01 23 53.7 0.0**
MJAR Matsushiro Arr 148.49 314 PKP **PKPdf 01 23 52.8 +1.0**
comp=Z,81nm,0.8s,baz=90,slow=2.1,SNR=30
MJAR PKPbc **PKPbc 01 23 55.8 +0.2**
comp=Z,83nm,0.8s,baz=145,slow=0.6,SNR=115
MJAR pPKPbc **pPKPbc 01 24 41.1 +1.2**
comp=Z,43nm,0.8s,baz=101,slow=1.0,SNR=6.0
MAJO Matsushiro 148.49 314 *e*PKPdf **PKPdf 01 23 52.7 +0.9**
MAJO *e*PKPbc **PKPbc 01 23 56.6 +1.0**
MAJO *ep*PKPdf **pPKPbc 01 24 41.1 +1.2**
MAJO Matsushiro 148.49 314 *e*PKIKP **PKPdf 01 23 52.7 +0.9**
MAJO *e* 01 23 56.6
MAJO *e* 01 24 41.1
MJB9 Matsu-Tunnel 148.49 314 *e*PKPdf **PKPdf 01 23 52.4 +0.6**
MJB9 *e*PKPbc **PKPbc 01 23 56.9 +1.4**
SONM Songino Array 148.89 5 PKP **PKPdf 01 23 53.2 +1.0**
comp=Z,123nm,0.7s,baz=319,slow=0.5,SNR=73
SONM PKPbc **PKPbc 01 23 57.5 +1.2**
comp=Z,124nm,0.7s,baz=326,slow=1.8,SNR=226
JHJ2 Mitsune 148.91 307 *e*PKPbc **PKPbc 01 23 57.3 +0.6**
JHJ Hachijo jima 2 148.94 307 PKPbc **PKPbc 01 23 57.0 +0.3**
comp=Z,177nm,0.8s,baz=133,slow=8.9,SNR=6.8
HYB Hyderabad 149.59 84 *i* PKP **PKPdf 01 23 53.0 -1.1**
HYB *e* 01 24 46.0
INU Inuyama 149.94 313 *e*PKPdf **PKPdf 01 23 55.0 +0.9**
INU *e*PKPbc **PKPbc 01 23 60.0 +0.9**
CN2 Changchun 150.22 338 *e*PKPbc **PKPbc 01 23 59.3 -0.2**
SOEI Soe 150.24 208 *e*PKPbc **PKPbc 01 24 02.5 +1.9**
FAKI Fak Fak 150.83 230 *e*PKPbc **PKPbc 01 24 02.8 +0.9**
PYUN Piuthan 152.37 61 *e*P **PKPdf 01 23 58.6 +0.3**
comp=Z,220nm,1.0s
DANN Dangsing 152.94 60 *e*P **PKPdf 01 23 59.9 +0.7**
comp=Z,250nm,0.9s
KOLN Koldanda 152.99 62 *e*P **PKPdf 01 23 59.6 +0.4**
comp=Z,21nm,0.7s
KSRS Korea Array 154.27 326 PKP **PKPdf 01 24 01.5 +1.1**
comp=Z,15nm,0.9s,baz=35,slow=0.9,SNR=54
KSRS PKPbc **PKPbc 01 24 10.2 +1.5**
comp=Z,26nm,0.9s,baz=38,slow=1.5,SNR=30
KSAR Wonju Array Be 154.30 326 PKP **PKPdf 01 24 01.5 +1.0**
KSAR PKPbc **PKPbc 01 24 10.2 +1.4**
KSAR Wonju Array Be 154.30 326 PKIKP **PKPdf 01 24 01.5 +1.0**
DMN Daman 154.31 61 *e*P **PKPdf 01 24 02.1 +0.9**
comp=Z,55nm,0.6s
KKN Kakani 154.39 60 *e*P **PKPdf 01 24 02.1 +0.9**
comp=Z,96nm,0.7s
PKIN Phulchoki 154.56 61 *e*P **PKPdf 01 24 02.0 +0.5**
comp=Z,71nm,1.3s
PKI Pulchoki 154.57 61 *e*P **PKPdf 01 24 01.5 -0.1**
comp=Z,75nm,1.4s
JIRN Jiri 155.19 60 *e*P **PKPdf 01 24 03.1 +0.6**
comp=Z,39nm,0.7s
JNU Nakatsue 155.40 315 *e*PKPdf **PKPdf 01 24 02.1 -0.1**
JNU *e*PKPab **PKPab 01 24 28.4 0.0**
JNU Nakatsue 155.40 315 PKP **PKPdf 01 24 02.6 +0.4**
comp=Z,4.2nm,0.9s,baz=9.4,slow=9.4,SNR=3.1
JNU PKPab **PKPab 01 24 28.0 -0.4**
comp=Z,12nm,0.9s,baz=46,slow=6.5,SNR=4.4
GTA Gaotai 155.67 20 *e*PKP **PKPdf 01 24 03.8 +1.3**
GTA pPKP pPKPdf 01 24 46.3 -1.3
GTA sPKP 01 25 03.1
RAMN Ramite 155.78 61 *e*P **PKPdf 01 24 03.8 +0.6**
comp=Z,27nm,0.6s
HHC Hu-ho-hao-te 156.03 358 *e*PKP **PKPdf 01 24 04.5 +1.6**
HHC SKKS 01 34 42.1
HHC LR LR
comp=Z,270nm,17.9s
HHC LR LR
comp=Z,370nm,16.2s
HHC LR LR
comp=Z,380nm,19.3s
BTO Baotou 156.29 1 *e*PKP **PKPdf 01 24 03.8 +0.6**
ODAN Odare 156.47 61 *e*P **PKPdf 01 24 04.9 +0.8**
comp=Z,34nm,0.8s
LSA Lhasa 158.21 51 *e*PKPdf **PKPdf 01 24 07.4 +0.9**
LSA Lhasa 158.21 51 *e*PKIKP **PKPdf 01 24 07.4 +0.9**
TIA Tai'an 159.77 344 P **PKPab 01 24 47.4 +0.4**
TIA Tai'an 159.77 344 PKP **PKPdf 01 24 08.9 +1.4**
PDSI Padang 159.85 150 PKP **PKPdf 01 24 10.8 +2.5**
LZH Lanzhou 159.94 16 *e*PKP **PKPdf 01 24 09.8 +1.9**
LZH pPKP PKPab 01 24 48.9 +0.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH				sPKP		01 25 08.9	
LZH				SKKS		01 35 00.3	
GSI	**Gunungsitoli**	**160.09**	**139**	*e*PKPab	**PKPab**	**01 24 51.3**	**+2.2**
PSI	**Prapat**	**162.09**	**140**	*e*PKPdf	**PKPdf**	**01 24 10.2**	**-0.6**
PSI				*e*PKPab	**PKPab**	**01 24 58.5**	**+0.5**
PSI	**Prapat**	**162.09**	**140**	*e*PKIKP	**PKPdf**	**01 24 10.2**	**-0.6**
PSI				*e*		01 24 58.5	
XAN	**Xi'an**	**162.80**	**4**	PKP	**PKPdf**	**01 24 11.9**	**+1.1**
XAN				pPKP	pPKPdf	01 24 56.3	+0.5
XAN				AMB	AMB		
	comp=Z,110nm,7.3s						
XAN	**Xi'an**	**162.80**	**4**	*e*PKPdf	**PKPdf**	**01 24 11.4**	**+0.6**
XAN				*e*PKPab	**PKPab**	**01 24 59.5**	**-0.9**
XAN	**Xi'an**	**162.80**	**4**	*e*PKIKP	**PKPdf**	**01 24 11.4**	**+0.6**
XAN				*e*		01 24 59.5	
NJ2	**Nanjing**	**162.99**	**335**	⇓PKP	**PKPdf**	**01 24 12.3**	**+1.3**
CD2	**Chengdu**	**164.72**	**22**	PKP	**PKPdf**	**01 24 14.6**	**+1.9**
KSM	**Kuching**	**164.75**	**180**	*e*PKPdf	**PKPdf**	**01 24 13.3**	**+0.2**
KSM				*e*PKPab	**PKPab**	**01 25 09.8**	**+0.5**
SBUM	**Sibu**	**165.61**	**187**	*e*PKPdf	**PKPdf**	**01 24 14.7**	**+0.8**
SBUM				*e*PKPab	**PKPab**	**01 25 14.0**	**+0.9**
WHN	**Wuhan**	**165.86**	**346**	⇓PKP	**PKPdf**	**01 24 14.6**	**+1.1**
WHN				sPKP		01 25 13.6	
ENH	**Enshi**	**166.58**	**3**	*e*PKPdf	**PKPdf**	**01 24 14.7**	**+0.5**
SSLB	**Suanglung**	**167.90**	**307**	*e*PKPdf	**PKPdf**	**01 24 15.7**	**+0.4**
SRDT	**SRDT**	**168.88**	**101**	PKP	**PKPdf**	**01 24 17.9**	**+1.8**
CHTO	**Chiang Mai**	**168.93**	**78**	*e*PKPdf	**PKPdf**	**01 24 17.0**	**+0.9**
CMMT	**Chiang Mai**	**168.93**	**78**	PKP	**PKPdf**	**01 24 17.0**	**+0.9**
CM31	**Chiang Mai Arr**	**168.97**	**80**	*e*PKPdf	**PKPdf**	**01 24 16.4**	**+0.2**
CM31				*e*PKPab	**PKPab**	**01 25 28.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**168.97**	**80**	PKP	**PKPdf**	**01 24 16.9**	**+0.7**
	comp=Z,8.1nm,1.0s,baz=279,slow=2.0,SNR=32						
CMAR				PKPab	**PKPab**	**01 25 28.5**	**+0.2**
	comp=Z,7.8nm,0.9s,baz=279,slow=6.0,SNR=15						
CMAR				PP	**PP**	**01 29 20.6**	**+2.3**
	comp=Z,0.8nm,0.3s,baz=258,slow=5.9,SNR=4.6						
KMI	**Kunming**	**169.08**	**40**	PKP	**PKPdf**	**01 24 17.3**	**+1.0**
KMI				pPKP	pPKPdf	01 25 02.5	+1.0
LAMP	**Lampang**	**169.62**	**79**	PKP	**PKPdf**	**01 24 17.7**	**+1.2**
PAYA	**Payao**	**169.69**	**74**	PKP	**PKPdf**	**01 24 17.7**	**+1.1**
GYA	**Guiyang**	**169.80**	**19**	*i* PKP	**PKPdf**	**01 24 17.9**	**+1.3**
GYA				pPKP	pPKPdf	01 25 04.0	+2.3
GYA				AMB	AMB		
	comp=Z,130nm,7.8s						
PHRA	**Phrae**	**170.18**	**79**	PKP	**PKPdf**	**01 24 18.1**	**+1.3**
UTTA	**Uttaradit**	**170.57**	**83**	PKP	**PKPdf**	**01 24 18.0**	**+1.0**
NANT	**Nan**	**170.57**	**76**	PKP	**PKPdf**	**01 24 18.1**	**+1.1**
PBKT	**Sadao Pong**	**170.98**	**90**	PKP	**PKPdf**	**01 24 17.9**	**+0.6**
CHAI	**Chaiyaphum**	**171.89**	**95**	PKP	**PKPdf**	**01 24 18.9**	**+1.2**
SLVN	**Son La**	**172.41**	**53**	*e*PKPdf	**PKPdf**	**01 24 19.1**	**+1.2**
KHON	**Khomkaen**	**172.74**	**93**	PKP	**PKPdf**	**01 24 21.6**	**+3.5**
NONG	**Nongkai**	**172.98**	**79**	PKP	**PKPdf**	**01 24 19.0**	**+0.8**
SKNT	**Sakolnakorn**	**173.87**	**88**	PKP	**PKPdf**	**01 24 19.5**	**+1.0**
PANO	**Nakornpanom**	**174.47**	**86**	PKP	**PKPdf**	**01 24 20.7**	**+2.0**
DLV	**T Lat**	**174.82**	**159**	*e*PKPdf	**PKPdf**	**01 24 19.8**	**+0.6**
DLV				*e*PKPab	**PKPab**	**01 25 54.7**	**+0.6**
QIZ	**Qiongzhong**	**177.74**	**13**	*e*PKPdf	**PKPdf**	**01 24 20.7**	**+1.2**

ISCJB ***25*** *01:22:11.9±1.1, 16°.8S±0°.1×69°.4W±0°.2, h189km, mb3.5/3, Error ellipse: s-maj=23.0km s-min=13.0km az=31.2*
IDC ***25*** *01:22:13.0±1.6, 16°.82S×69°.34W, h183km±9km, mb3.3/3, mb1 3.5/6, mb1mx3.2/26, mbtmp3.9/6, Error ellipse: s-maj=36.0km s-min=16.9km az=110.0*
ISC 25 01:22:13.7±1.2, 16°.7S±0°.2×69°.3W±0°.2, h189km, n8, σ9°30/8, mb3.5/3, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.19**	**68**	P	**Pn**	**01 22 44.1**	**-0.4**
	11nm,0.3s,baz=270,slow=6.9,SNR=355						
LPAZ				S	**Sn**	**01 23 07.8**	**-0.3**
	13nm,0.3s,baz=144,slow=19,SNR=24						
LVC	**Limon Verde**	**5.85**	**177**	P	Pn	01 23 35.3	-3.8
	1.3nm,0.3s,baz=8.1,slow=7.1,SNR=21						
LVC				S	Sn	01 24 35.7	-11
	3.6nm,0.3s,baz=187,slow=18,SNR=14						
SIV	**San Ignacio**	**7.91**	**86**	P	**Pn**	**01 24 05.9**	**0.0**
	3.1nm,0.3s,baz=276,slow=12,SNR=45						
PTGA	**Pitinga**	**18.36**	**31**	P	**P**	**01 26 14.5**	**+0.2**
	0.5nm,0.3s,baz=190,slow=6.1,SNR=2.7						
PLCA	**Paso Flores**	**23.93**	**182**	P	**P**	**01 27 10.4**	**0.0**
	2.7nm,0.9s,baz=22,slow=12,SNR=7.7						
TORD	**Torodi Ar. Bea**	**76.14**	**72**	P	**P**	**01 33 41.7**	**+0.4**
	0.5nm,0.5s,baz=259,slow=4.9,SNR=15						
YKA	**Yellowknife Ar**	**86.60**	**341**	P	**P**	**01 34 35.2**	**0.0**
	0.2nm,0.5s,baz=135,slow=5.0,SNR=4.7						
SONM	**Songino Array**	**148.79**	**6**	PKPbc	**PKPbc**	**01 41 38.8**	**-0.1**
	0.4nm,0.4s,baz=338,slow=2.4,SNR=4.2						

BJI ***25*** *01:46:27.2±0.0, 19°.11S×177°.36W, h529km, mb4.8/27, mB4.7/20*
NEIC ***25*** *01:46:29.6±0.2, 18°.93S×177°.91W, mb4.9/50, Error ellipse: s-maj=6.6km s-min=5.1km az=135.0*
ISCJB ***25*** *01:46:30.2±0.6, 18°.96S±0°.05×177°.95W±0°.04, h531km±8km, mb4.8/70, Error ellipse: s-maj=7.7km s-min=5.2km az=156.0*
IDC ***25*** *01:46:30.1±0.7, 18°.93S×177°.92W, h519km±8km, mb3.8/16, mb1 4.0/19, mb1mx3.9/24, mbtmp4.6/19, Error ellipse: s-maj=12.2km s-min=10.7km az=117.0*
ISC 25 01:46:30.8±0.4, 18°.99S±0°.06×177°.93W±0°.05, h531km±4km, h531km; pP-P, n257, σ1§12/290, mb4.8/70, 39C-20D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.57**	**92**	*e*P	**P**	**01 48 23.5**	**-0.1**
NIUE				*e*S	**S**	**01 49 55.4**	**-0.7**
NIUE	**Niue**	**7.57**	**92**	P	**P**	**01 48 23.7**	**+0.1**
	baz=7.5,SNR=25						
NIUE				S	**S**	**01 49 56.8**	**+0.6**
	baz=7.5						
FUNA	**Funafuti**	**10.77**	**345**	*e*P	**P**	**01 48 55.6**	**-1.0**
MARNC	**Mare, Loyalty**	**13.41**	**257**	*e*P	**P**	**01 49 23.6**	**-0.4**
PINNC	**Pines Island,**	**14.14**	**253**	*e*P	**P**	**01 49 31.5**	**-0.1**
OUENC	**Ouen Island, N**	**14.65**	**254**	*e*P	**P**	**01 49 37.3**	**+0.3**
DZM	**Mont Dzumac**	**14.96**	**256**	*e*P	**P**	**01 49 40.0**	**-0.3**
	122nm,0.9s						
DZM	**Mont Dzumac**	**14.96**	**256**	*e*P	**P**	**01 49 40.8**	**+0.5**
DZM	**Mont Dzumac**	**14.96**	**256**	P	**P**	**01 49 39.8**	**-0.4**
	6.9nm,0.3s,baz=98,slow=8.9,SNR=84						
ONTNC	**Ouen Toro**	**14.99**	**255**	*e*P	**P**	**01 49 40.5**	**0.0**
	45nm,0.7s						
RAR	**Rarotonga**	**17.19**	**100**	*e*P	**P**	**01 50 02.0**	**-0.3**
	74nm,1.0s						
RAR	**Rarotonga**	**17.19**	**100**	P	**P**	**01 50 02.6**	**+0.4**
	2.2nm,0.3s,baz=246,slow=9.3,SNR=13						
KNTN	**Kanton**	**17.22**	**21**	*e*P	**P**	**01 50 01.7**	**-0.9**
	31nm,0.8s						
OUZ	**Omahuta**	**17.83**	**203**	*e*P	**P**	**01 50 08.6**	**+0.8**
	43nm,1.1s						
URZ	**Urewera**	**19.68**	**192**	*e*P	**P**	**01 50 23.2**	**-1.5**
	21nm,1.3s						
URZ				S	**S**	**01 53 28.9**	**-5.9**
URZ	**Urewera**	**19.68**	**192**	P	**P**	**01 50 23.6**	**-1.1**
	4.4nm,0.3s,baz=329,slow=12,SNR=31						
URZ				S	**S**	**01 53 28.9**	**-5.9**
	0.3nm,0.3s,baz=307,slow=20,SNR=6.5						
BKZ	**Black Stump Fm**	**20.68**	**192**	*e*P	**P**	**01 50 32.5**	**-1.4**
	16nm,1.4s						
BFZ	**Birch Farm**	**22.19**	**192**	*e*P	**P**	**01 50 47.0**	**-0.4**
	71nm,1.4s						
THZ	**Tophouse**	**24.01**	**197**	*e*P	**P**	**01 51 02.9**	**-0.8**
	27nm,1.3s						
KHZ	**Kahutara**	**24.45**	**195**	*e*P	**P**	**01 51 06.5**	**-1.0**
	18nm,1.1s						
FOZ	**Fox Glacier**	**26.56**	**200**	*e*P	**P**	**01 51 26.8**	**+0.7**
	16nm,1.1s						
TBI	**Tubuai**	**26.88**	**104**	*e*P	**P**	**01 51 30.3**	**+1.1**
	59nm,0.8s						
PAE	**Paea**	**26.93**	**92**	*e*P	**P**	**01 51 30.1**	**+0.4**
	12nm,1.0s						
PPT2	**Papeete2**	**26.94**	**92**	*e*P	**P**	**01 51 30.6**	**+0.7**
	88nm,1.1s						
PPT	**Papeete**	**26.95**	**92**	*e*P	**P**	**01 51 29.2**	**-0.7**
PPT	**Papeete**	**26.95**	**92**	P	**P**	**01 51 30.1**	**+0.2**
	53nm,0.7s,baz=287,slow=7.8,SNR=5.6						
PPTF	**Pamatai, Papee**	**26.95**	**92**	*e*P	**P**	**01 51 29.8**	**-0.3**
	93nm,1.0s						
MLZ	**Mavora Lakes**	**28.74**	**201**	*e*P	**P**	**01 51 46.4**	**+1.1**
	29nm,1.2s						
WHZ	**Wether Hill Ro**	**29.26**	**200**	*e*P	**P**	**01 51 50.4**	**+0.6**
	54nm,1.0s						
EIDS	**Eidsvold**	**29.35**	**252**	P	**P**	**01 51 51.2**	**+0.4**
	baz=30,SNR=12						
ARMA	**Armidale**	**29.82**	**242**	*e*P	**P**	**01 51 55.7**	**+0.8**
	36nm,0.7s						
ARMA	**Armidale**	**29.82**	**242**	P	**P**	**01 51 56.4**	**+1.5**
	baz=30,SNR=25						
MGCD	**Mangrove Creek**	**31.07**	**237**	P	**P**	**01 52 07.0**	**+1.5**
	baz=31,SNR=4.9						
RMQ	**Roma**	**31.55**	**250**	P	**P**	**01 52 10.8**	**+1.0**
	baz=32,SNR=26						
CNB	**Canberra Magne**	**33.15**	**234**	P	**P**	**01 52 24.6**	**+1.3**
	baz=33,SNR=22						
CAN	**Canberra**	**33.43**	**234**	P	**P**	**01 52 27.0**	**+1.3**
	baz=34						
CTAO	**Charters Tower**	**33.74**	**262**	*e*P	**P**	**01 52 29.0**	**+0.6**
	136nm,0.8s						
CMSA	**Cobar Meteorol**	**35.03**	**242**	P	**P**	**01 52 40.0**	**+0.9**
	baz=35,SNR=58						
PMG	**Port Moresby**	**35.10**	**281**	*e*P	**P**	**01 52 40.7**	**+0.9**
	120nm,0.9s						
TOO	**Toolangi**	**36.86**	**232**	P	**P**	**01 52 55.2**	**+1.1**
	baz=37,SNR=7.5						
COEN	**Coen**	**37.58**	**272**	*e*P	**P**	**01 53 01.3**	**+0.9**
	79nm,0.8s						
COEN	**Coen**	**37.58**	**272**	P	**P**	**01 53 01.0**	**+0.7**
	baz=38,SNR=7.2						
TAU	**Tasmania Unive**	**37.76**	**223**	*e*P	**P**	**01 53 02.2**	**+0.9**
	55nm,1.1s						
MANU	**Manus Island**	**37.92**	**292**	*e*P	**P**	**01 53 03.9**	**+0.8**
	99nm,1.0s						
STKA	**Stephens Creek**	**38.52**	**242**	*e*P	**P**	**01 53 08.9**	**+1.2**
	22nm,1.1s						
STKA	**Stephens Creek**	**38.52**	**242**	P	**P**	**01 53 09.1**	**+1.2**
	baz=39,SNR=39						
STKA	**Stephens Creek**	**38.52**	**242**	P	**P**	**01 53 08.8**	**+0.9**
	52nm,0.8s,baz=92,slow=9.7,SNR=69						
ARPS	**Mount Arapiles**	**39.39**	**235**	P	**P**	**01 53 15.5**	**+0.8**
	baz=40,SNR=5.6						
QIS	**Mount Isa**	**39.91**	**260**	P	**P**	**01 53 19.1**	**-0.1**
	baz=40,SNR=9.3						
RKT	**Rikitea**	**40.19**	**104**	*e*P	**P**	**01 53 22.3**	**+1.0**
	65nm,1.0s						
WAKE	**Wake Island**	**40.93**	**337**	*e*P	**P**	**01 53 26.5**	**-0.7**
	74nm,1.4s						
HTT	**Hallett**	**41.01**	**241**	P	**P**	**01 53 28.7**	**+0.9**
	baz=41,SNR=28						
BBOO	**Buckleboo**	**43.30**	**242**	P	**P**	**01 53 46.4**	**+0.7**
	baz=43,SNR=73						
HMH	**Humu'ula Sheep**	**44.22**	**31**	*e*P	**P**	**01 53 54.0**	**+0.7**
	188nm,1.5s						
WRAB	**Tennant Creek**	**44.89**	**261**	*e*P	**P**	**01 53 58.4**	**+0.1**
	116nm,1.0s						
AS31	**Alice Springs**	**44.95**	**255**	*e*P	**P**	**01 53 58.9**	**+0.2**
	53nm,0.6s						
ASAR	**Alice Springs**	**44.95**	**255**	P	**P**	**01 53 59.1**	**+0.4**
	176nm,0.7s,baz=89,slow=8.5,SNR=1332						
ASAR				S	**S**	**01 59 55.9**	**-2.5**
	1.3nm,0.8s,baz=92,slow=15,SNR=5.0						
KDU	**Kakadu**	**48.01**	**270**	P	**P**	**01 54 21.8**	**-0.1**
	baz=48,SNR=51						
MTN	**Manton Dam**	**49.23**	**269**	P	**P**	**01 54 31.0**	**0.0**
	baz=49,SNR=5.3						
WRKA	**Warakurna**	**49.96**	**253**	P	**P**	**01 54 36.6**	**+0.3**
	baz=50,SNR=85						
FORT	**Forrest**	**49.97**	**245**	P	**P**	**01 54 36.0**	**-0.2**
	baz=50,SNR=51						
KNRA	**Kununurra**	**50.84**	**265**	P	**P**	**01 54 42.9**	**+0.1**
	baz=51,SNR=20						
FAKI	**Fak Fak**	**51.24**	**282**	*e*P	**P**	**01 54 45.5**	**-0.2**
	26nm,0.9s						
TNTI	**Ternate**	**57.16**	**284**	*e*P	**P**	**01 55 27.5**	**0.0**
	104nm,1.0s						
NWAO	**Narrogin (SRO)**	**59.12**	**242**	*e*P	**P**	**01 55 39.9**	**-0.5**
	45nm,1.4s						
VNDA	**Vanda**	**59.41**	**185**	*e*P	**P**	**01 55 43.4**	**+1.8**
	1.8nm,0.9s						
VNDA				*e*ScP	**ScP**	**01 59 34.9**	**+2.6**
VNDA	**Vanda**	**59.41**	**185**	P	**P**	**01 55 43.3**	**+1.7**
	0.7nm,0.4s,baz=12,slow=6.3,SNR=5.4						
VNDA				ScP	**ScP**	**01 59 34.9**	**+2.6**
	0.9nm,0.9s,baz=330,slow=5.3,SNR=3.9						
KAPI	**Kappang**	**62.23**	**274**	*e*P	**P**	**01 56 01.0**	**-0.3**
	14nm,0.7s						
GIRL	**Giralia**	**63.03**	**254**	*e*P	**P**	**01 56 07.3**	**+1.0**
	92nm,0.8s						
CASY	**Casey**	**65.35**	**205**	*e*P	**P**	**01 56 20.9**	**+0.6**
	17nm,1.1s						
JAGI	**Jajag, Banyuwa**	**66.47**	**269**	*e*P	**P**	**01 56 26.6**	**-1.6**
	83nm,0.9s						
MJAR	**Matsushiro Arr**	**69.04**	**323**	P	**P**	**01 56 42.8**	**-0.6**
	10nm,0.6s,baz=163,slow=6.3,SNR=23						
MAJO	**Matsushiro**	**69.05**	**323**	*e*P	**P**	**01 56 42.4**	**-1.0**
MAJO				*e*PcP	**P**	**01 56 43.1**	**-0.3**
MJB9	**Matsu-Tunnel**	**69.05**	**323**	*e*P	**P**	**01 56 42.9**	**-0.6**
MJB9				*e*PcP	**P**	**01 56 43.4**	**-0.1**
UGM	**Wanagama**	**70.07**	**268**	*e*P	**P**	**01 56 49.7**	**-0.3**
	372nm,1.4s						
ADK	**Adak**	**70.58**	**1**	*e*P	**P**	**01 56 50.5**	**-1.6**
	47nm,1.0s						
QSPA	**South Pole Qui**	**71.07**	**180**	*e*P	**P**	**01 56 56.7**	**+1.6**
	12nm,1.4s						
SBUM	**Sibu**	**71.83**	**279**	P	**P**	**01 57 01.0**	**+0.7**
CISI	**Cisompet, Garu**	**72.74**	**268**	*e*P	**P**	**01 57 05.0**	**-0.7**
	71nm,0.6s						
YULB	**Yu-li**	**72.74**	**303**	*e*P	**P**	**01 57 03.9**	**-1.5**
	9.0nm,0.6s						
NACB	**Ninganchiao**	**72.89**	**304**	*e*P	**P**	**01 57 04.3**	**-2.0**
	83nm,1.4s						
TPUB	**Ta-pu**	**73.22**	**302**	*e*P	**P**	**01 57 07.2**	**-1.0**
	44nm,0.6s						
KSM	**Kuching**	**73.28**	**278**	P	**P**	**01 57 10.0**	**+1.3**
PETK	**Petropavlovsk-**	**74.84**	**345**	P	**P**	**01 57 16.2**	**-0.5**
	10.0nm,0.6s,baz=109,slow=7.3,SNR=33						
KSRS	**Korea Array**	**75.81**	**318**	P	**P**	**01 57 22.9**	**+0.5**
	2.4nm,0.7s,baz=134,slow=6.1,SNR=9.5						
KSAR	**Wonju Array Be**	**75.83**	**318**	P	**P**	**01 57 22.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**77.76**	**326**	P	**P**	**01 57 33.5**	**+0.6**
	7.2nm,0.9s,baz=157,slow=4.0,SNR=16						
NJ2	**Nanjing**	**78.98**	**309**	*e*P	**P**	**01 57 40.8**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
MDJ	**Mudanjiang**	**79.33**	**325**	*e*P	**P**	**01 57 42.6**	**+1.3**
	24nm,0.9s						
KDAK	**Kodiak Island**	**79.34**	**13**	*e*P	**P**	**01 57 41.3**	**+0.2**
	12nm,1.0s						
MYKOM	**Kota Tinggi**	**79.46**	**276**	P	**P**	**01 57 44.0**	**+1.3**
NV01	**Mina Array Sit**	**79.89**	**43**	*e*P	**P**	**01 57 45.9**	**+1.2**
NV01				*e*pP	**pP**	**01 59 37.0**	**-0.7**
NVAR	**Mina Array Bea**	**79.89**	**43**	P	**P**	**01 57 45.9**	**+1.2**
	0.8nm,0.6s,baz=221,slow=9.7,SNR=6.9						
NVAR				pP	**pP**	**01 59 37.0**	**-0.7**
	0.5nm,0.7s,baz=240,slow=7.2,SNR=2.7						
CN2	**Changchun**	**81.15**	**322**	*e*P	**P**	**01 57 51.5**	**+0.7**
LCMT	**Little Creek M**	**82.53**	**47**	*e*P	**P**	**01 58 00.5**	**+2.2**
	2.9nm,1.2s						
MAW	**Mawson**	**83.00**	**200**	P	**P**	**01 58 00.3**	**+0.4**
	3.2nm,0.8s,baz=137,slow=7.6,SNR=7.2						
IPM	**Ipoh**	**83.01**	**277**	P	**P**	**01 58 02.0**	**+1.0**
KULM	**Kulim**	**83.63**	**278**	P	**P**	**01 58 05.0**	**+0.9**
PANO	**Nakornpanom**	**84.17**	**290**	P	**P**	**01 58 07.7**	**+1.1**
PSI	**Prapat**	**84.43**	**275**	*e*P	**P**	**01 58 07.3**	**-0.9**
	23nm,0.9s						
SKNT	**Sakolnakorn**	**84.66**	**290**	P	**P**	**01 58 09.9**	**+0.8**
NONG	**Nongkai**	**85.80**	**291**	P	**P**	**01 58 15.6**	**+1.1**
TXAR	**Lajitas Array**	**86.19**	**57**	P	**P**	**01 58 18.1**	**+1.8**
	2.2nm,0.8s,baz=215,slow=6.5,SNR=12						
WRH	**Wood River Hil**	**86.32**	**12**	*e*P	**P**	**01 58 14.7**	**-1.3**
	17nm,1.0s						
WRH				*e*pP	**pwP**	**02 00 13.1**	**-1.5**
HDA	**Harding Lake**	**86.50**	**13**	*e*P	**P**	**01 58 15.8**	**-1.0**
	7.2nm,0.8s						
HDA				*e*pP	**pP**	**02 00 13.1**	**+0.9**
COLA	**College**	**86.72**	**12**	*e*P	**P**	**01 58 17.2**	**-0.6**
	17nm,0.6s						
ILAR	**Eielson Array**	**86.83**	**13**	P	**P**	**01 58 17.3**	**-1.1**
	3.6nm,0.7s,baz=229,slow=5.1,SNR=42						
ILAR				pP	**pP**	**02 00 13.1**	**-0.8**
	1.7nm,1.0s,baz=198,slow=3.8,SNR=6.4						
ILB	**Eielson Array**	**86.83**	**13**	*e*P	**P**	**01 58 17.1**	**-1.2**
	5.8nm,0.8s						
ILB				*e*pP	**pP**	**02 00 13.1**	**-0.8**
PHET	**Kaeng Krachan**	**87.16**	**285**	P	**P**	**01 58 23.6**	**+2.6**
XAN	**Xi'an**	**87.28**	**307**	P	**P**	**01 58 21.6**	**+0.4**
XAN				pmax	pmax		
	comp=Z,22nm,1.2s						
XAN				pmax	pmax		
	comp=Z,75nm,5.7s						
PD31	**Pinedale Array**	**87.82**	**43**	*e*P	**P**	**01 58 23.5**	**-0.3**
	6.0nm,1.5s						
PD31				*e*pP	**pP**	**02 00 18.6**	**-1.2**
PDAR	**Pinedale Array**	**87.82**	**43**	P	**P**	**01 58 23.5**	**-0.3**
	0.5nm,0.6s,baz=242,slow=3.2,SNR=5.4						
PDAR				pP	**pP**	**02 00 18.6**	**-1.2**
	0.6nm,0.8s,baz=194,slow=4.3,SNR=3.9						
BOZ	**Bozeman (W)**	**87.89**	**40**	*e*P	**P**	**01 58 25.2**	**+1.2**
	3.7nm,1.1s						
DAWY	**Dawson**	**88.00**	**16**	*e*P	**P**	**01 58 23.6**	**-0.3**
	9.4nm,1.3s						
DAWY				*e*pP	**pwP**	**02 00 22.1**	**-1.0**
SYO	**Syowa Base**	**88.21**	**193**	⇑*e*P	**P**	**01 58 24.0**	**-0.9**
SYO	**Syowa Base**	**88.21**	**193**	⇑*e*PcP	**P**	**01 58 25.4**	**+0.5**
HHC	**Hu-ho-hao-te**	**88.35**	**314**	*e*P	**P**	**01 58 25.0**	**-1.2**
HHC				pmax	pmax		
	comp=Z,50nm,1.1s						
HHC				pmax	pmax		
	comp=Z,180nm,6.8s						
KMI	**Kunming**	**88.73**	**297**	P	**P**	**01 58 30.1**	**+1.6**
KMI				pmax	pmax		
	comp=Z,17nm,1.2s						
LAMP	**Lampang**	**89.08**	**290**	P	**P**	**01 58 31.8**	**+1.8**
	41μm,0.8s,282nm						
PAYA	**Payao**	**89.16**	**291**	P	**P**	**01 58 32.3**	**+2.0**
	32μm,0.9s,95nm						
CMAR	**Chiang Mai Arr**	**89.68**	**290**	P	**P**	**01 58 34.2**	**+1.5**
	8.1nm,0.8s,baz=114,slow=2.8,SNR=39						
CMMT	**Chiang Mai**	**89.79**	**290**	P	**P**	**01 58 34.5**	**+1.2**
	11nm,0.9s,0.0nm						
CHTO	**Chiang Mai**	**89.80**	**290**	*e*P	**P**	**01 58 33.9**	**+0.6**
	12nm,0.8s						
CD2	**Chengdu**	**90.04**	**303**	P	**P**	**01 58 33.6**	**-0.6**
PLCA	**Paso Flores**	**90.26**	**134**	*e*P	**P**	**01 58 36.3**	**+1.2**
	5.6nm,1.4s						
PLCA	**Paso Flores**	**90.26**	**134**	P	**P**	**01 58 36.3**	**+1.2**
	0.9nm,0.7s,baz=299,slow=10,SNR=3.1						
LZH	**Lanzhou**	**91.91**	**307**	*e*P	**P**	**01 58 42.1**	**-0.8**
LZH				pP	pwP	02 00 44.8	+2.6
LZH				sP	sP	02 01 35.3	+2.6
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH				pmax	pmax		
	comp=Z,92nm,5.4s						
SONM	**Songino Array**	**94.66**	**319**	P	**P**	**01 58 55.2**	**0.0**
	0.4nm,0.5s,baz=130,slow=4.6,SNR=4.4						
YKA	**Yellowknife Ar**	**95.12**	**25**	P	**P**	**01 58 56.2**	**-0.4**
	1.0nm,0.7s,baz=241,slow=4.3,SNR=19						
ZALV	**Zalesovo Beam**	**109.36**	**322**	PKiKP	**PKiKP**	**02 03 59.1**	**-1.3**
	1.0nm,0.6s,baz=192,slow=1.9,SNR=4.3						
MKAR	**Makanchi Array**	**110.21**	**314**	PKiKP	**PKiKP**	**02 04 01.0**	**-1.3**
	1.4nm,0.5s,baz=164,slow=0.6,SNR=20						
KSH	**Kashi**	**114.08**	**306**	PKP	PKPdf	02 04 09.0	-1.0
KSH				PP	**PP**	**02 05 20.5**	**+5.7**
KSH				SKS	**SKSdf**	**02 10 31.0**	**-1.0**
KSH				AMB	AMB		
	comp=Z,170nm,5.9s						
KK31	**Karatay Array**	**118.35**	**309**	*e*PKPdf	**PKPdf**	**02 04 17.4**	**-0.6**
KKAR	**Karatay Array**	**118.35**	**309**	*e*PKPdf	**PKPdf**	**02 04 17.1**	**-0.9**
OPO	**Ambohidratompo**	**122.08**	**232**	PKP	**PKiKP**	**02 04 26.3**	**0.0**
	1.9nm,0.7s,baz=67,slow=3.3,SNR=2.8						
ABKAR	**Akbulak array**	**125.04**	**317**	*e*PKPdf	**PKPdf**	**02 04 30.1**	**-0.5**
ARCES	**ARCESS Array B**	**127.45**	**350**	PKP	**PKPdf**	**02 04 34.0**	**-0.6**
	2.9nm,0.5s,baz=26,slow=1.5,SNR=38						
BOSA	**Boshof**	**127.64**	**206**	PKP	**PKiKP**	**02 04 37.1**	**0.0**
	2.0nm,0.8s,baz=174,slow=4.1,SNR=4.6						
GEYT	**Alibeck**	**128.02**	**304**	PKP	**PKPdf**	**02 04 36.5**	**-0.2**
	1.0nm,0.4s,baz=153

JAVC	Velka Javorina	147.65 341	*e*PKP		PKiKP	02 05 16.8	-0.3
PSZ	Piszkesteto	147.70 337	‖ *i*P		PKPbc	02 05 16.0	+0.2
ARR	Arges	147.72 330	‖ *i*P		PKiKP	02 05 16.7	-0.7
NKC	Novy Kostel	147.75 347	⇑ *e*PKP		PKPbc	02 05 16.0	+0.3
KRUC	Moravsky	147.85 342	*e*PKP		PKPbc	02 05 16.0	0.0
TREC	Trest	147.90 343	⇑ *e*PKP		PKPbc	02 05 15.9	-0.3
LOT	Lotru	148.06 331	‖ *i*P		PKPbc	02 05 16.3	-0.5
MODS	Modra-Piesok	148.20 341	*e*PKP		PKPbc	02 05 16.6	-0.3
MODS			*e*			02 05 21.6	
MEM	Membach	148.30 355	⇑ PKP		PKPbc	02 05 17.0	0.0
SIRR	Siria	148.37 334	‖ *i*P		PKPbc	02 05 17.4	0.0
KHC	Kasperske Hory	148.53 345	*e*PKPbc		PKPbc	02 05 17.3	-0.5
KHC	Kasperske Hory	148.53 345	⇑ *e*PKP		PKPbc	02 05 17.9	+0.1
KHC			*e*PKPAB		PKPab	02 05 23.7	+0.5
KHC			*e*pPKP		pPKPab	02 07 22.8	+0.5
GZR	Gura Zlata	148.56 331	⇑ *i*P		PKPbc	02 05 17.8	-0.2
PHSR	Pinarhisar	148.71 322	‖ *i*P		PKPbc	02 05 18.3	-0.1
GERES	GERESS Array B	148.77 345	PKPbc		PKPbc	02 05 18.2	-0.2
	comp=Z,7.4nm,0.9s,baz=294,slow=1.3,SNR=18						
GERES			pPKPbc		pPKPbc	02 07 22.2	+0.6
	comp=Z,2.5nm,1.0s,baz=38,slow=2.4,SNR=4.8						
VLAD	Vladila	148.82 328	⇑ *i*P		PKiKP	02 05 19.2	-0.4
BZS	Buzias	148.90 333	‖ *i*P		PKPbc	02 05 18.6	-0.1
SRE	Strehaia	148.92 330	⇑ *i*P		PKPbc	02 05 18.1	-0.7
CONA	Conrad Observa	149.03 342	*i* PKiKP		PKPbc	02 05 19.3	+0.2
	comp=Z,24nm,1.3s,SNR=9.7						
SOP	Sopron	149.04 341	⇑ *e*P		PKPdf	02 05 15.0	+0.8
HERR	Herculane	149.12 331	‖ *i*P		PKPbc	02 05 19.1	-0.2
WLF	Walferdange	149.22 355	⇑ PKP		PKPbc	02 05 19.4	0.0
BANR	Banloc	149.29 333	‖ *i*P		PKPbc	02 05 20.0	+0.3
MDVR	Moldovita	149.51 332	‖ *i*P		PKPbc	02 05 20.3	0.0
MOA	Molln	149.55 344	*i* PKPbc		PKPbc	02 05 20.1	-0.2
	comp=Z,9.5nm,1.1s						
BALB	Balikesir	149.69 318	*e*PKPbc		PKPbc	02 05 20.4	-0.4
ARSA	Arzberg	149.74 342	*i* PKPbc		PKPbc	02 05 20.2	-0.5
	comp=Z,6.2nm,1.0s						
BFO	Black Forest	150.29 352	*e*PKPbc		PKPbc	02 05 21.6	-0.4
SOKA	Soboth	150.40 342	*i* PKPbc		PKPbc	02 05 21.8	-0.6
	comp=Z,10nm,0.9s						
VTS	Vitosha	150.41 327	‖ *i*P		PKPbc	02 05 22.8	+0.2
PERS	Pernice	150.41 342	*i* PKPbc		PKPbc	02 05 21.6	-0.7
KBA	Koelnbreinsper	150.50 344	*i* PKPbc		PKPbc	02 05 21.6	-1.1
	comp=Z,10nm,0.7s						
EZN	Ezine	150.54 320	⇑ *i*P		PKPbc	02 05 22.3	-0.5
WATA	Walderalm	150.68 347	*i* PKPbc		PKPbc	02 05 22.5	-0.6
	comp=Z,11nm,0.5s,SNR=5.1						
RETA	Reutte	150.70 348	*i* PKPbc		PKPbc	02 05 22.6	-0.4
	comp=Z,4.7nm,0.6s						
WTTA	Wattenberg	150.73 347	*i* PKPbc		PKPbc	02 05 22.9	-0.3
	comp=Z,24nm,0.5s,SNR=7.2						
MOTA	Moosalm	150.77 347	*i* PKPbc		PKPbc	02 05 21.8	-1.5
	comp=Z,9.2nm,0.6s,SNR=7.5						
MYKA	Terra Mystica	150.84 344	*i* PKPbc		PKPbc	02 05 22.3	-1.0
	comp=Z,11nm,0.5s						
SQTA	Sankt Quirin	150.87 347	*i* PKPbc		PKPbc	02 05 23.1	-0.3
	comp=Z,17nm,0.6s,SNR=7.7						
ABTA	Abfaltersbach	151.02 345	*i* PKPbc		PKPbc	02 05 22.9	-0.9
	comp=Z,21nm,0.6s,SNR=7.3						
DAVA	Damuels	151.06 349	*i* PKiKP		PKPbc	02 05 24.0	0.0
	comp=Z,8.1nm,0.6s						
LJU	Ljubljana	151.12 342	*i* PKPbc		PKPbc	02 05 23.7	-0.3
FETA	Feichten	151.15 348	*i* PKiKP		PKPbc	02 05 24.0	-0.2
	comp=Z,11nm,0.7s						
CRNS	Crni Vrh	151.17 342	*i* PKPbc		PKPbc	02 05 23.4	-0.7
BLY	Banja Luka	151.39 337	⇑ *i*P		PKiKP	02 05 25.4	+0.5
FUORN	Ofenpass-Fuorn	151.63 348	*e*PKPbc		PKPbc	02 05 24.9	-0.5
FNA	Florina	152.70 327	*e*PKPbc		PKPbc	02 05 26.6	-1.0
KEST	Kesra	162.13 340	PKPab		PKPab	02 06 21.2	-0.7
	comp=Z,8.8nm,1.1s,baz=19,slow=22,SNR=4.8						
DBIC	Dimbokro	166.02 150	*e*PKPdf		PKPdf	02 05 35.1	-0.7
DBIC	Dimbokro	166.02 150	PKP		PKPdf	02 05 34.7	-1.1
	comp=Z,6.6nm,1.1s,baz=177,slow=4.2,SNR=3.3						
TOA0	Torodi Ar. Sit	174.18 176	*e*PKPdf		PKPdf	02 05 39.0	-1.3
TORD	Torodi Ar. Bea	174.18 176	PKP		PKPdf	02 05 37.9	-2.4
	comp=Z,1.6nm,1.0s,baz=112,slow=0.7,SNR=6.4						
TORD			PKPab		PKPab	02 07 14.2	-1.3
	comp=Z,0.3nm,0.8s,baz=151,slow=3.3,SNR=2.8						
TOA1	Torodi Ar. Sit	174.19 176	*e*PKPdf		PKPdf	02 05 37.9	-2.4
TOA1			*e*PKPab		PKPab	02 07 14.2	-1.4

IDC ***25*** *02:07:02.2±5.2, 17°.30S×178°.76W, h488km±60km, mb3.4/7, mb1 3.6/7, mb1mx3.2/40, mbtmp4.1/7, Error ellipse: s-maj=29.8km s-min=24.4km az=75.0*
ISCJB ***25*** *02:07:05.2±0.9, 17°.4S±0°.2×178°.9W±0°.2, h539km, mb3.8/7, Error ellipse: s-maj=31.5km s-min=19.9km az=14.4*
ISC 25 02:07:06.3±1.0, 17°.4S±0°.2×178°.8W±0°.2, h539km, n10, σ0§49/11, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	21.08 189		P	P	02 11 11.9	-0.6
ASAR	Alice Springs	44.56 254		P	P	02 14 31.1	+0.3
	6.7nm,0.5s,baz=87,slow=7.9,SNR=89						
ASAR				PcP	PcP	02 16 02.9	+0.7
	0.4nm,0.6s,baz=102,slow=3.1,SNR=3.8						
MJAR	Matsushiro Arr	67.28 323		P	P	02 17 07.0	-0.6
	1.7nm,0.5s,baz=144,slow=6.3,SNR=4.0						
PETK	Petropavlovsk-	73.11 345		P	P	02 17 41.7	0.0
	1.0nm,0.6s,baz=134,slow=4.2,SNR=3.1						
KSRS	Korea Array	74.08 318		P	P	02 17 47.1	-0.4
	0.7nm,0.5s,baz=117,slow=5.6,SNR=2.4						
PDAR	Pinedale Array	87.26 44		P	P	02 18 56.5	+0.5
	0.4nm,0.4s,baz=215,slow=4.4,SNR=4.8						
YKA	Yellowknife Ar	94.04 25		P	P	02 19 26.2	-0.3
	0.4nm,0.6s,baz=244,slow=4.4,SNR=5.7						
ARCES	ARCESS Array B	125.76 350		PKP	PKiKP	02 25 06.6	0.0
	1.6nm,0.8s,baz=0.0,slow=1.8,SNR=2.6						
BRTR	Keskin Array B	144.16 315		PKP	PKPab	02 25 41.2	0.0
	0.4nm,0.4s,baz=66,slow=3.6,SNR=4.9						
GERES	GERESS Array B	147.03 345		PKPbc	PKPbc	02 25 49.1	+0.3
	0.7nm,0.6s,baz=35,slow=3.6,SNR=6.5						

MEX ***25*** *02:08:11.0±0.7, 13°.53N×91°.51W, h35km±67km, MD4.0*
ISCJB ***25*** *02:08:11.8±1.4, 13°.68N±0°.06×91°.60W±0°.04, h31km±12km, mb4.1/12, MS3.3/2, Error ellipse: s-maj=10.7km s-min=3.3km az=28.7*
UCR ***25*** *02:08:13.7±1.9, 13°.67N×91°.37W, h10km, MD4.0, ML3.6, mb4.1(NEIC)*
SNET ***25*** *02:08:13.1±1.2, 13°.75N×91°.40W, h13km±7km, ML3.7*
IDC ***25*** *02:08:14.1±4.3, 13°.94N×91°.37W, h35km±27km, mb3.7/8, mb1 3.9/11, mb1mx3.7/46, mbtmp3.8/11, ML3.8/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/29, Error ellipse: s-maj=44.1km s-min=24.1km az=32.0*
NEIC ***25*** *02:08:17.6±1.6, 13°.99N×91°.26W, h62km±11km, mb4.1/8, Error ellipse: s-maj=32.9km s-min=10.7km az=213.0*
ISC 25 02:08:13.2±1.6, 13°.79N±0°.08×91°.47W±0°.05, h29km±11km, n78, σ1§73/92, mb4.2/12, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.89	43	*e*P	Pn	02 08 31.4	+1.5
PCG	Pacaya	1.03	54	*e*P	Pb	02 08 33.6	+1.1
IXG	Ixpaco	1.07	69	*e*P	Pb	02 08 33.1	0.0
NBG	Las Nubes	1.34	54	*e*P	Pb	02 08 39.1	+1.2
THIG		1.35	325	*e*P	Pn	02 08 34.8	-1.3
THIG				*i* S	Sn	02 08 53.0	-0.1
APG	El Apazote	1.55	39	Pg	Pb	02 08 41.2	-0.2
	59nm,0.3s,baz=214,slow=17,SNR=223						
APG				Lg	Lg	02 09 03.2	
	127nm,0.3s,baz=326,slow=16,SNR=16						
RTR	El Retiro	1.77	86	*e*P	Pn	02 08 42.2	+0.1
RTR	El Retiro	1.77	86	*e*P	Pn	02 08 42.2	+0.1
CEVE	Cerro Verde	1.79	89	*e*P	Pb	02 08 43.2	-2.3
CEVE				*e*S	Sb	02 09 06.6	-1.1
CEVE				IAML		02 09 12.8	
	comp=Z,2μm,0.3s						
CEVE	Cerro Verde	1.79	89	*e*P	Pb	02 08 43.2	-2.3
CEVE				*e*S	Sb	02 09 06.6	-1.1
CEVE				IAML		02 09 12.8	
	comp=Z,2μm,0.3s						
SBLS	San Blas	1.79	88	*e*P	Pn	02 08 42.4	0.0
SBLS	San Blas	1.79	88	*e*P	Pn	02 08 42.4	0.0
SNJE	San Jose	1.81	87	*e*P	Pn	02 08 42.7	+0.1
SNJE				*e*S	Sb	02 09 07.1	-1.0
SNJE	San Jose	1.81	87	*e*P	Pn	02 08 42.7	+0.1
SNJE				*e*S	Sb	02 09 07.1	-1.0
BOQS	Boqueron	2.13	91	*e*P	Pn	02 08 48.0	+1.0
MTO3	Montecristo	2.13	73	*e*P	Pn	02 08 48.4	+1.3
MTO3				IAML		02 09 27.6	
	comp=Z,147nm,0.8s						
MTO3	Montecristo	2.13	73	*e*P	Pn	02 08 48.4	+1.3
MTO3				IAML		02 09 27.6	
	comp=Z,147nm,0.8s						
UEES	San Salvador	2.16	91	IAML		02 09 23.9	
	comp=Z,872nm,0.4s						
UEES	San Salvador	2.16	91	IAML		02 09 23.9	
	comp=Z,872nm,0.4s						
SNET	Serv Nac Est T	2.18	93	*e*P	Pn	02 08 48.6	+1.0
SNET				*e*S	Sn	02 09 14.9	+1.2
SNET				IAML		02 09 24.1	
	comp=Z,826nm,0.3s						
SNET	Serv Nac Est T	2.18	93	*e*S	Sn	02 09 14.9	+1.2
SNET				IAML		02 09 24.1	
	comp=Z,826nm,0.3s						
OPAM	San Salvador	2.21	92	*e*S	Sb	02 09 16.3	-3.0
OPAM	San Salvador	2.21	92	*e*S	Sb	02 09 16.3	-3.0
LFU	La Fuente	2.29	91	*e*P	Pn	02 08 50.0	+0.8
LFU	La Fuente	2.29	91	*e*P	Pn	02 08 50.0	+0.8
LFRS	El Faro	2.35	94	*e*P	Pn	02 08 50.5	+0.5
LFRS				*e*S	Sn	02 09 19.2	+1.4
LBRS	Las Brisas	2.36	91	*e*P	Pn	02 08 51.1	+1.1
PAVA	Las Pavas	2.46	92	*e*P	Pn	02 08 52.9	+1.4
PAVA				IAML		02 09 36.9	
	comp=Z,412nm,0.5s						
PAVA	Las Pavas	2.46	92	*e*P	Pn	02 08 52.9	+1.4
PAVA				IAML		02 09 36.9	
	comp=Z,412nm,0.5s						
PCIG		2.54	319	*e*Pn	Pb	02 09 01.5	+3.3
PCIG		2.54	319	*e*P	Pn	02 08 50.8	-1.7
PCIG				*e*S	Sn	02 09 21.5	-1.1
CCIG	Comitan	2.56	345	*e*Pn	Pn	02 08 55.4	+2.5
CCIG	Comitan	2.56	345	*e*P	Pn	02 08 52.1	-0.8
CCIG				*i* S	Sn	02 09 24.7	+1.5
CAHU	Cacacuatique	3.17	90	*e*P	Pn	02 09 01.8	+0.5
TGIG		3.37	332	*e*Pn	Pn	02 09 03.2	-0.7
TGIG		3.37	332	*e*P	Pn	02 09 03.0	-0.9
TGIG				*i* S	Sn	02 09 44.4	+1.4
CNCH	Conchagua	3.57	98	*e*P	Pn	02 09 09.2	+2.4
CSGN	Cosiguina Volc	3.89	102	*e*Pn	Pn	02 09 12.8	+1.6
CSGN	Cosiguina Volc	3.89	102	*e*P	Pn	02 09 12.9	+1.7
CSGN				*e*S	Sn	02 10 00.1	+4.1
TGUH	Tegucigalpa,Un	4.08	86	*e*Pn	Pn	02 09 15.2	+1.5
CRIN	San Cristobal	4.44	104	*e*P	Pn	02 09 20.0	+1.3
CRIN				*e*S	Sn	02 10 14.3	+4.9
CRIN				IAML		02 10 32.1	
	comp=N,224nm,0.5s						
CMIG	Matias Romero	4.65	315	*e*P	Pn	02 09 20.6	-0.8
CMIG				*i* S	Sn	02 10 14.1	-0.4
CMIG	Matias Romero	4.65	315	Pn	Pn	02 09 20.5	-1.0
	comp=N,4.6nm,0.3s,baz=132,slow=11,SNR=21						
CMIG				Sn	Sn	02 10 14.4	-0.1
	comp=N,6.8nm,0.3s,baz=79,slow=12,SNR=4.6						
ESTN	Estel	5.01	97	*e*Pn	Pn	02 09 28.7	+2.1
ESTN	Estel	5.01	97	*e*P	Pn	02 09 27.4	+0.8
MATN	Matagalpa	5.46	98	*e*P	Pn	02 09 33.4	+0.6
MATN				*e*S	Sn	02 10 38.6	+3.8
JTS	Las Juntas de	7.26	118	Pn	Pn	02 09 59.1	+1.6
	comp=N,0.7nm,0.3s,baz=347,slow=17,SNR=5.2						
JTS				Sn	Sn	02 11 14.4	-4.6
	comp=N,0.7nm,0.3s,baz=0.0,slow=20,SNR=1.8						
GUY2C	Guyana, Caldas	18.01 117		*e*P	P	02 12 22.6	+0.2
SOTA	Rioblanco	18.71 127		*e*P	Pn	02 12 33.7	+3.1
LTX	Lajitas	19.15 326		*e*P	Pn	02 12 37.1	+1.6
TXAR	Lajitas Array	19.15 326		Pn	Pn	02 12 37.1	+1.6
	comp=N,0.1nm,0.3s,baz=155,slow=13,SNR=13						
TX31	Lajitas Ar. Si	19.16 326		*e*P	Pn	02 12 36.7	+1.2
	comp=N,2.1nm,0.9s						
RUSC	La Rusia	19.73 112		*e*P	Pn	02 12 42.3	-0.6
MNTX	Cornudas Mount	21.92 327		*e*P	P	02 13 06.2	+1.8
	comp=N,3.8nm,0.6s						
PBMO	Poplar Bluff	22.91 2		*e*P	P	02 13 14.2	-0.5
	comp=N,5.5nm,0.6s						
SJG	San Juan	24.71 77		LR	LR	02 23 47.3	
	comp=N,47nm,20.1s,baz=66,slow=38						
ANMO	Albuquerque	25.04 330		*e*P	P	02 13 36.6	+1.4
	comp=N,4.1nm,1.5s						
ANMO	Albuquerque	25.04 330		P	P	02 13 36.6	+1.4
	comp=N,0.6nm,0.4s,baz=146,slow=11,SNR=3.8						
PD31	Pinedale Array	32.82 335		*e*P	P	02 14 45.1	+0.7
	comp=N,3.8nm,1.4s						
PDAR	Pinedale Array	32.82 335		P	P	02 14 45.1	+0.7
	comp=N,0.3nm,0.5s,baz=132,slow=8.2,SNR=3.7						
NV01	Mina Array Sit	34.16 321		*e*P	P	02 14 58.5	+2.4
NVAR	Mina Array Bea	34.16 321		P	P	02 14 58.5	+2.4
	comp=N,2.1nm,0.5s,baz=134,slow=8.2,SNR=12						
MCMT	McKenzie Canyo	35.88 334		*e*P	P	02 15 12.4	+1.5
J08A	Circle Bar Ran	37.49 327		*e*P	P	02 15 26.3	+1.8
	comp=N,16nm,1.4s						
SCHQ	Schefferville	45.24 20		LR	LR	02 36 23.4	
	comp=N,70nm,19.1s,baz=40,slow=38						
YKA	Yellowknife Ar	51.34 346		P	P	02 17 13.8	-1.0
	comp=N,0.8nm,0.6s,baz=151,slow=7.6,SNR=20						
YKA				PcP	PcP	02 18 28.7	-0.6
	comp=N,0.2nm,0.6s,baz=153,slow=3.9,SNR=4.1						
YKB5	Yellowknife Ar	51.34 346		*e*P	P	02 17 13.8	-1.0
YKB5				*e*PcP	PcP	02 18 28.7	-0.6
FRB	Frobisher Bay	52.40 13		P	P	02 17 19.6	-3.0
	comp=N,2.0nm,0.6s,baz=212,slow=9.5,SNR=6.6						
DLBC	Dease Lake	53.05 336		*e*P	P	02 17 28.8	+1.2
	comp=N,8.2nm,1.4s						
DLBC	Dease Lake	53.05 336		P	P	02 17 28.8	+1.2
	comp=N,1.6nm,0.6s,baz=134,slow=7.6,SNR=3.3						
INK	Inuvik	60.78 343		*e*P	P	02 18 21.1	-1.1
	comp=N,11nm,1.9s						
INK	Inuvik	60.78 343		P	P	02 18 21.1	-1.1
	comp=N,1.0nm,0.7s,baz=120,slow=7.8,SNR=5.1						
RES	Resolute Bay	60.91 359		*e*P	P	02 18 20.4	-2.6
	comp=N,9.2nm,1.3s						
RES	Resolute Bay	60.91 359		P	P	02 18 20.4	-2.6
	comp=N,1.5nm,0.9s,baz=180,slow=8.1,SNR=3.5						
ILAR	Eielson Array	63.23 337		P	P	02 18 37.6	-1.1
	comp=N,0.9nm,0.9s,baz=124,slow=5.0,SNR=10						
ILB	Eielson Array	63.23 337		*e*P	P	02 18 37.6	-1.1
	comp=N,2.4nm,0.7s						
CM31	Chiang Mai Arr	146.35 342		*e*PKPdf	PKPbc	02 27 51.8	-0.4
CMAR	Chiang Mai Arr	146.35 342		PKPbc	PKPbc	02 27 51.8	-0.4
	comp=N,1.5nm,0.3s,baz=337,slow=2.6,SNR=10						

NIED ***25*** *02:11:00, 37°.70N×141°.10E, h62km, Mw4.2 Best double couple: M0=2.09000×10^15 NP1:φ=128.00000°, δ=37.00000°, λ=-14.00000°. NP2:φ=229.00000°, δ=82.00000°, λ=-126.00000°.*
ISCJB ***25*** *02:11:41.3±0.3, 37°.71N±0°.03×141°.17E±0°.05, h69km±2km, mb4.0/32, Error ellipse: s-maj=6.6km s-min=3.9km az=20.4*
JMA ***25*** *02:11:42.2, 37°.74N×141°.12E, h65km±1km, M4.3*
JMA Felt III J1.
NEIC ***25*** *02:11:43.5±0.9, 37°.74N×141°.08E, h68km±9km, mb4.3/11, Error ellipse: s-maj=15.4km s-min=9.8km az=131.0*
NEIC Felt [III] at Koriyama. Also felt at Fukushima, Funehiki, Hitachi, Iwaki, Iwanuma, Sendai and Shirakawa. Recorded [3 JMA] in Fukushima.
IDC ***25*** *02:11:45.4±1.7, 37°.67N×140°.95E, h94km±16km, mb3.7/21, mb1 3.9/28, mb1mx3.8/54, mbtmp4.1/28, MS2.6/1, Ms1 2.6/1, ms1mx2.4/34, Error ellipse: s-maj=15.6km s-min=13.1km az=102.0*
ISC 25 02:11:42.5±0.7, 37°.73N±0°.04×141°.17E±0°.05, h63km±6km, n73, σ1§16/83, mb4.2/32, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	Marumori	0.33 294		P	Pn	02 11 52.8	-0.3
JMM				S	Sn	02 12 00.5	-0.3
JFK	Kawauchi	0.44 213		P	Pn	02 11 53.9	-0.2
JFK				S	Sn	02 12 02.2	-0.3
JIKH	Ishinomakikobu	0.62 22		P	Pn	02 11 56.0	+0.1
JIKH				S	Sn	02 12 05.8	0.0
JFT	Otama	0.70 252		P	Pn	02 11 56.5	-0.4
JFT				S	Sn	02 12 06.8	-0.6
ONAJ	Iwakimizuishiy	0.70 205		P	Pn	02 11 56.6	-0.3
ONAJ				S	Sn	02 12 06.9	-0.6
JIO	Ouri	0.73 11		P	Pn	02 11 57.4	+0.1
JIO				S	Sn	02 12 08.0	-0.1
JOU	Okura	0.75 328		P	Pn	02 11 57.1	-0.4
JOU				*e*S	Sn	02 12 08.0	-0.5
JYS	Shirataka	1.00 299		P	Pn	02 12 00.3	-0.3
JYS				S	Sn	02 12 14.1	0.0
JFY	Yanaizu	1.21 255		P	Pn	02 12 03.0	-0.4
JFY				*e*S	Sn	02 12 18.7	-0.3
JMK	Ichinoseki	1.22 2		P	Pn	02 12 03.3	-0.1
JMK				S	Sn	02 12 19.0	-0.1
JYK	Kaneyama	1.34 332		P	Pn	02 12 05.2	+0.1
JYK				*e*S	Sn	02 12 22.0	-0.1
JYA	Atsumi	1.44 307		P	Pn	02 12 06.0	-0.3
JYA				*e*S	Sn	02 12 24.4	+0.1
JNS	Sasagawa	1.47 274		P	Pn	02 12 06.6	-0.2
MJAR	Matsushiro Arr	2.65 244		P	Pn	02 12 23.3	+0.5
	5.3nm,0.3s,baz=68,slow=12,SNR=170						
MJAR				LR	LR	02 13 44.6	
	comp=Z,117nm,18.0s,baz=55,slow=49						
MAJO	Matsushiro	2.65 244		*e*Pn	Pn	02 12 23.2	+0.3
MAT	Matsushiro	2.65 244		P	Pn	02 12 23.4	+0.6
MAT				S	Sn	02 12 58.8	+4.9
MJB9	Matsu-Tunnel	2.65 244		*e*Pn	Pn	02 12 23.4	+0.6
INU	Inuyama	4.11 236		*e*Pn	Pn	02 12 44.0	+1.3
ERM	Erimo	4.54 19		*e*Pn	Pn	02 12 48.6	0.0
JHJ	Hachijo jima 2	4.74 194		P	Pn	02 12 51.4	-0.1
	58nm,0.3s,baz=330,slow=20,SNR=16						
JHJ				S	Sn	02 13 42.8	-2.3
	130nm,0.3s,baz=90,slow=20,SNR=12						
JHJ2	Mitsune	4.74 194		*e*Pn	Pn	02 12 51.2	-0.2
JHJ2				*e*Sn	Sn	02 13 43.9	-1.1
ASAJ	Asahikawa	6.47 9		P	Pn	02 13 14.7	-0.2
	3.0nm,0.3s,baz=198,slow=19,SNR=7.5						
ASAJ				S	Sn	02 14 24.6	-2.8
	baz=131,slow=19,SNR=1.8						
USA0B	Ussuriysk Arra	9.48 316		*e*Pn	Pn	02 13 57.5	+1.3
USRK	Ussuriysk Ar.	9.48 316		P	Pn	02 13 57.9	+1.7
	1.0nm,0.3s,baz=107,slow=13,SNR=37						
JNU	Nakatsue	9.58 244		P	Pn	02 13 59.0	+1.4
	0.3nm,0.3s,baz=55,slow=14,SNR=5.9						
KSRS	Korea Array	10.52 273		P	Pn	02 14 12.9	+2.6
	0.9nm,0.3s,baz=84,slow=14,SNR=17						
KLR	Kul'dur	13.36 332		P	Pn	02 14 51.3	+2.3
	0.4nm,0.3s,baz=131,slow=12,SNR=22						
PETK	Petropavlovsk-	19.18 31		P	Pn	02 16 04.1	+1.8
	0.1nm,0.3s,baz=207,slow=9.1,SNR=3.7						
MA2	Magadan	22.71 13		P	P	02 16 39.5	+0.7
	5.1nm,0.4s,baz=159,slow=15,SNR=3.8						
HHC	Hu-ho-hao-te	23.08 287		*e*P	P	02 16 42.6	-0.2
SEY	Seymchan	26.14 12		P	P	02 17 12.4	+2.0
	4.9nm,0.9s,baz=186,slow=10,SNR=6.8						
XAN	Xi'an	26.32 272		P	P	02 17 11.6	-0.8
ENH	Enshi	27.21 264		*e*P	P	02 17 20.8	+0.4
	7.4nm,0.8s						
SONM	Songino Array	27.24 303		P	P	02 17 19.0	-1.6
	2.3nm,0.8s,baz=71,slow=8.6,SNR=12						
H11N2	WAKE ISLAND Hy	28.67 122		T	T	02 47 49.5	
	baz=315,slow=75,SNR=776						
H11N1	WAKE ISLAND Hy	28.68 122		T	T	02 47 48.4	
	baz=315,slow=75,SNR=1401						
H11N3	WAKE ISLAND Hy	28.69 122		T	T	02 47 48.7	
	baz=315,slow=75,SNR=919						
H11S1	WAKE ISLAND Hy	29.40 124		T	T	02 48 43.7	
	baz=316,slow=76,SNR=678						
H11S3	WAKE ISLAND Hy	29.40 124		T	T	02 48 43.3	
	baz=316,slow=76,SNR=508						
H11S2	WAKE ISLAND Hy	29.42 124		T	T	02 48 44.6	
	baz=316,slow=76,SNR=380						
TIXI	Tiksi	34.57 353		P	P	02 18 24.2	-0.5
	1.2nm,0.3s,baz=154,slow=5.8,SNR=5.3						
KMI	Kunming	34.88 260		P	P	02 18 28.6	+0.4
WMQ	Urumqi	40.36 296		*e*P	P	02 19 15.8	+1.8
ZAA0	Zalesovo Array	41.30 312		*e*P	P	02 19 20.6	-0.9
	4.2nm,0.8s						
ZALV	Zalesovo Beam	41.30 312		P	P	02 19 20.3	-1.3
	3.7nm,0.7s,baz=88,slow=7.6,SNR=8.5						
MK31	Makanchi Array	43.59 301		*e*P	P	02 19 39.1	-1.2
	3.3nm,0.8s						
MKAR	Makanchi Array	43.59 301		P	P	02 19 39.2	-1.1
	3.5nm,0.8s,baz=86,slow=9.6,SNR=29						
MAKZ	Makanchi	43.80 302		*e*P	P	02 19 41.4	-0.6
	4.6nm,0.9s						
KURK	Kurchatov	45.35 308		*e*P	P	02 19 53.1	-1.1

MTVR S Sn 02 27 40.8 +0.7
MTVR Mutnovka 3.39 18 PN Pn 02 27 01.0 -0.1
MTVR S Sn 02 27 40.8 +0.7
RUS Russkaya 3.42 21 *e*P Pn 02 27 00.2 -1.0
RUS S Sn 02 27 39.2 -1.2
RUS Russkaya 3.42 21 PN Pn 02 27 00.2 -1.0
RUS S Sn 02 27 39.2 -1.2
GRL Gorelyy 3.44 16 P Pn 02 27 02.5 +0.9
GRL S Sn 02 27 43.1 +2.0
GRL Gorelyy 3.44 16 PN Pn 02 27 02.5 +0.9
APC Apacha 3.69 6 *e*P Pn 02 27 05.4 +0.5
APC Apacha 3.69 6 PN Pn 02 27 05.4 +0.5
KRMR Karymshinskiy 3.71 15 *e*P Pn 02 27 05.9 +0.6
KRMR Karymshinskiy 3.71 15 PN Pn 02 27 05.9 +0.6
PEA0B Petropavlovsk- 3.92 11 *e*Pn Pn 02 27 08.5 +0.3
PETK Petropavlovsk- 3.92 11 P Pn 02 27 09.0 +0.9
13nm,0.3s,baz=183,slow=11,SNR=175
PETK LR LR 02 28 50.6
comp=Z,905nm,19.5s,baz=190,slow=42
PEA1 Petropavlovsk- 3.92 11 *e*Pn Pn 02 27 09.0 +0.8
PET Petropavlovsk 4.00 19 *e*Pn Pn 02 27 09.6 +0.4
PET Petropavlovsk 4.00 19 *e*PN Pn 02 27 11.1 +1.9
PET *e*S Sn 02 27 56.0 +1.3
PET pmax pmax
comp=Z,187nm,0.4s
PET smax smax
comp=N,1μm,0.5s
PET smax smax
comp=E,2μm,0.6s
PET MLR MLR
comp=Z,700nm,21.0s
PET MLR MLR
comp=Z,800nm,12.0s
DALK Dalny 4.03 20 *e*P Pn 02 27 09.4 -0.2
DALK S Sn 02 27 55.2 -0.2
DALK Dalny 4.03 20 PN Pn 02 27 09.4 -0.2
DALK S Sn 02 27 55.2 -0.2
UGLR Uglovaya 4.21 19 P Pn 02 27 13.3 +1.1
UGLR Uglovaya 4.21 19 PN Pn 02 27 13.3 +1.1
AVH Avacha 4.24 18 *e*P Pn 02 27 13.9 +1.2
AVH Avacha 4.24 18 PN Pn 02 27 13.9 +1.2
KOK Koryaka 4.25 18 *e*P Pn 02 27 14.1 +1.4
KOK S Sn 02 28 02.2 +1.2
KOK Koryaka 4.25 18 PN Pn 02 27 14.1 +1.4
KOK S Sn 02 28 02.2 +1.2
SMAR Somma 4.25 19 *e*P Pn 02 27 13.8 +0.9
SMAR Somma 4.25 19 PN Pn 02 27 13.8 +0.9
KRER Koryakskii 4.28 18 *e*P Pn 02 27 14.3 +1.0
KRER Koryakskii 4.28 18 PN Pn 02 27 14.3 +1.0
SDLR Sedlovina 4.29 19 *e*P Pn 02 27 13.2 -0.1
SDLR Sedlovina 4.29 19 PN Pn 02 27 13.2 -0.1
NLC Nalytchevo 4.30 23 P Pn 02 27 12.5 -0.8
NLC S Sn 02 28 00.2 -1.9
NLC Nalytchevo 4.30 23 PN Pn 02 27 12.5 -0.8
NLC S Sn 02 28 00.2 -1.9
KRX Arik 4.31 17 *e*P Pn 02 27 14.6 +0.9
KRX S Sn 02 28 03.3 +0.6
KRX Arik 4.31 17 PN Pn 02 27 14.6 +0.9
KRX S Sn 02 28 03.3 +0.6
SPN Mys Shipunski 4.43 29 *e*P Pn 02 27 14.5 -0.6
SPN Mys Shipunski 4.43 29 PN Pn 02 27 14.5 -0.6
MKZ Mys Kozlova 6.20 29 P Pn 02 27 37.9 -1.5
MKZ S Sn 02 28 47.2 -1.7
MKZ Mys Kozlova 6.20 29 PN Pn 02 27 37.9 -1.5
MKZ S Sn 02 28 47.2 -1.7
KZV Kizimen 6.30 20 *e*P Pn 02 27 41.4 +0.5
KZV S Sn 02 28 50.0 -1.6
KZV Kizimen 6.30 20 PN Pn 02 27 41.4 +0.5
KZV S Sn 02 28 50.0 -1.6
TUMD Tumrok D 6.41 20 P Pn 02 27 41.1 -1.2
TUMD S Sn 02 28 52.5 -1.5
TUMR Tumrok 6.43 19 P Pn 02 27 42.8 +0.2
TUMR Tumrok 6.43 19 PN Pn 02 27 41.1 -1.5
TUMR S Sn 02 28 52.5 -2.1
ESO Esso 6.80 10 *e*P Pn 02 27 47.6 -0.1
ESO Esso 6.80 10 PN Pn 02 27 47.6 -0.1
KOZ Kozyrevsk 7.10 15 P Pn 02 27 53.2 +1.4
KOZ Kozyrevsk 7.10 15 PN Pn 02 27 53.2 +1.4
KUR Kuril'sk 7.13 239 *e*PN Pn 02 27 52.2 0.0
KUR pmax pmax
comp=Z,149nm,0.6s
KUR pmax pmax
comp=N,36nm,0.5s
KUR pmax pmax
comp=E,61nm,0.7s
BZWR Bezymyannyi-We 7.13 18 P Pn 02 27 53.9 +1.5
BZWR Bezymyannyi-We 7.13 18 PN Pn 02 27 53.9 +1.5
SRDR Sredinnyy 7.33 14 *e*P Pn 02 27 56.7 +1.8
SRDR Sredinnyy 7.33 14 PN Pn 02 27 56.7 +1.8
CIRR Tsirk 7.33 19 *e*P Pn 02 27 55.7 +0.7
CIRR Tsirk 7.33 19 PN Pn 02 27 55.7 +0.7
BDR Baidarnaya 7.84 19 *e*P Pn 02 28 02.1 +0.1
BDR Baidarnaya 7.84 19 PN Pn 02 28 02.1 +0.1
KBTR Krutoberegovo 7.94 26 *e*P Pn 02 28 02.2 -1.0
KBTR Krutoberegovo 7.94 26 PN Pn 02 28 02.2 -1.0
KBG Krutoberegovo 7.94 26 *e*P Pn 02 28 02.4 -0.8
KBG Krutoberegovo 7.94 26 PN Pn 02 28 02.4 -0.8
BKI Bering 8.31 41 *e*P Pn 02 28 06.9 -1.3
BKI S Sn 02 29 32.5 -8.1
BKI Bering 8.31 41 PN Pn 02 28 06.9 -1.3
YUK Yuzh-Kuril'sk 9.00 238⇑*i*PN Pn 02 28 15.4 -2.3
YUK pmax pmax
comp=Z,301nm,0.5s
YUK pmax pmax
comp=E,221nm,0.4s
YUK pmax pmax
comp=N,112nm,0.3s
YUK MLR MLR
comp=Z,563nm,15.0s
TYV Tymovskoe 9.05 285 *e*PN Pn 02 28 21.2 +2.7
TYV *e*S Sn 02 30 02.2 +3.3
TYV pmax pmax
comp=Z,26nm,1.2s
TYV pmax pmax
comp=Z,200nm,2.7s
TYV smax smax
comp=E,14nm,0.9s
TYV MLR MLR
comp=Z,1μm,14.0s
GRPR Tuman 9.07 238 *e*PN Pn 02 28 16.7 -2.1
GRPR pmax pmax
comp=Z,247nm,0.7s
GRPR pmax pmax
comp=N,152nm,0.2s
GRPR pmax pmax
comp=E,197nm,0.3s
GLVR Golovnino 9.38 238 *e*PN Pn 02 28 21.0 -1.9
GLVR pmax pmax
comp=Z,257nm,0.6s
GLVR pmax pmax
comp=N,124nm,0.3s
GLVR pmax pmax
comp=E,77nm,0.3s
GLVR MLR MLR
comp=Z,825nm,16.0s
UGL Uglegorsk 9.46 274 *e*PN Pn 02 28 26.3 +2.2
UGL pmax pmax
comp=Z,110nm,0.8s
UGL MLR MLR
comp=Z,2μm,14.0s
UGL MLR MLR
comp=N,1μm,19.0s
UGL MLR MLR
comp=E,1μm,19.0s
YSS Yuzh-Sakhalins 9.49 261⇑*e*PN Pn 02 28 26.3 +1.9
YSS pmax pmax
comp=Z,30nm,0.4s
YSS MLR MLR
comp=Z,500nm,10.1s
YSS MLR MLR
comp=E,400nm,13.6s
ASAJ Asahikawa 10.85 247 P Pn 02 28 43.6 +0.5
comp=E,12nm,0.3s,baz=53,slow=15,SNR=22
MA2 Magadan 10.85 344 *e*Pn Pn 02 28 41.8 -1.2
MA2 Magadan 10.85 344 *i*PN Pn 02 28 42.9 -0.1
MA2 Magadan 10.85 344 P Pn 02 28 43.2 +0.1
comp=E,9.6nm,0.3s,baz=155,slow=8.7,SNR=30
MA2 LR LR 02 33 24.2
comp=E,305nm,19.0s,baz=170,slow=41
SMY Shemya 11.61 66 *e*Pn Pn 02 28 52.1 -1.3
SMY *e*Sn Sn 02 30 51.7 -10
SMY Shemya 11.61 66 *e*PN Pn 02 28 52.1 -1.3
ERM Erimo 11.82 237 *e*Pn Pn 02 28 54.8 -1.5
ERM Erimo 11.82 237 *ce*PN Pn 02 28 54.5 -1.8
ERM pmax pmax
comp=Z,47nm,0.6s
SEY Seymchan 13.89 352 *i*P Pn 02 29 23.0 -1.4
SEY Seymchan 13.89 352 P Pn 02 29 25.1 +0.7
comp=Z,0.4nm,0.3s,baz=153,slow=13,SNR=5.3
TEY Ternei 14.18 260⇓*e*P P 02 29 33.1 -1.6
TEY pmax pmax
comp=Z,10.0nm,1.6s
KLR Kul'dur 16.15 279⇑*i*P P 02 29 56.1 -0.5
KLR Kul'dur 16.15 279 P P 02 29 55.4 -1.2
comp=Z,1.1nm,0.3s,baz=70,slow=9.2,SNR=18
KLR LR LR 02 36 31.8
comp=Z,464nm,18.4s,baz=82,slow=39
USA0B Ussuriysk Arra 17.52 262 *e*Pn Pn 02 30 10.6 -0.5
comp=Z,16nm,1.4s
USRK Ussuriysk Ar. 17.52 262 P Pn 02 30 09.4 -1.8
comp=Z,0.6nm,0.3s,baz=65,slow=15,SNR=10
USRK LR LR 02 36 41.7
comp=Z,54nm,18.5s,baz=25,slow=36
MJB9 Matsu-Tunnel 18.41 233 *e*P Pn 02 30 22.2 0.0
comp=Z,18nm,0.6s
MAJO Matsushiro 18.42 233 *e*P Pn 02 30 21.7 -0.4
comp=Z,17nm,0.6s
MAJO Matsushiro 18.42 233 *i*P P 02 30 21.3 -0.4
MAJO pmax pmax
comp=Z,14nm,0.6s
MAT Matsushiro 18.42 233 P P 02 30 20.6 -1.1
MJAR Matsushiro Arr 18.42 233 P P 02 30 21.5 -0.2
comp=Z,0.2nm,0.3s,baz=30,slow=8.6,SNR=10
ZEA Zeya 18.68 295 *e*P Pn 02 30 25.4 +0.2
ZEA pmax pmax
comp=Z,14nm,1.2s
ZEA MLR MLR
comp=Z,600nm,14.0s
ZEA MLR MLR
comp=E,400nm,13.0s
BILL Bilibino 19.45 11 *e*P P 02 30 32.4 -0.4
comp=E,12nm,0.5s
BILL Bilibino 19.45 11 *de*P P 02 30 31.6 -1.2
BILL pmax pmax
comp=Z,20nm,1.3s
BILL MLR MLR
comp=Z,367nm,19.0s
YAK Yakutsk 19.62 321 *e*P P 02 30 31.1 -3.5
YAK pmax pmax
comp=Z,91nm,1.0s
YAK pmax pmax
comp=E,44nm,1.1s
YAK pmax pmax
comp=N,15nm,0.9s
INU Inuyama 19.95 233 *e*P P 02 30 38.7 +0.3
comp=N,22nm,0.6s
CN2 Changchun 21.96 267 *e*P P 02 30 52.0 -8.0
KSRS Korea Array 23.75 251 P P 02 31 18.0 -0.3
KSRS Korea Array 23.75 251 P P 02 31 17.9 -0.3
comp=N,21nm,1.0s,baz=51,slow=9.4,SNR=48
KSRS LR LR 02 39 52.7
comp=N,148nm,20.8s,baz=60,slow=35
KS15 Wonju Array Si 23.78 251 *e*P P 02 31 18.6 0.0
comp=N,23nm,1.0s
KSAR Wonju Array Be 23.78 251 P P 02 31 17.9 -0.6
KSAR Wonju Array Be 23.78 251 P P 02 31 18.0 -0.6
JNU Nakatsue 24.97 239 *e*P P 02 31 29.6 +0.2
comp=N,25nm,1.1s
JNU Nakatsue 24.97 239 P P 02 31 29.5 0.0
comp=N,12nm,0.8s,baz=42,slow=6.4,SNR=8.3
ANM Nome 25.30 39 *e*P P 02 31 34.0 +1.8
comp=N,36nm,1.8s
ANM Nome 25.30 39 *e*P P 02 31 34.0 +1.8
ANM pmax pmax
comp=Z,36nm,1.8s
TIXI Tiksi 25.78 340 *e*P P 02 31 34.2 -2.1
comp=Z,19nm,0.7s
TIXI Tiksi 25.78 340 *ce*P P 02 31 33.8 -2.6
TIXI pmax pmax
comp=Z,21nm,0.8s
TIXI Tiksi 25.78 340 P P 02 31 33.7 -2.7
comp=Z,20nm,0.7s,baz=128,slow=9.6,SNR=53
RDOG Red Dog Mine 27.48 32 *e*P P 02 31 52.5 +0.8
comp=Z,11nm,1.0s
H11N2 WAKE ISLAND Hy 30.62 161 T T 03 05 12.4
baz=347,slow=76,SNR=42
H11N3 WAKE ISLAND Hy 30.64 161 T T 03 05 31.4
baz=347,slow=76,SNR=70
H11N1 WAKE ISLAND Hy 30.64 161 T T 03 05 13.6
baz=347,slow=76,SNR=37
BPAW Bear Paw Mtn. 31.36 42 *e*P P 02 32 27.8 +1.6
comp=Z,3.3nm,0.9s
H11S1 WAKE ISLAND Hy 31.77 161 T T 03 06 28.8
baz=346,slow=76,SNR=637
H11S3 WAKE ISLAND Hy 31.78 161 T T 03 06 29.4
baz=346,slow=76,SNR=823
H11S2 WAKE ISLAND Hy 31.79 161 T T 03 06 32.4
baz=346,slow=76,SNR=732
TOLK Toolik Lake Re 32.40 34 *e*P P 02 32 36.6 +1.4
comp=Z,25nm,1.9s
SML Sawmill 32.58 46 *e*P P 02 32 39.3 +2.4
comp=Z,8.4nm,0.8s
SML Sawmill 32.58 46 *e*P P 02 32 39.3 +2.4
SML pmax pmax
comp=Z,8.0nm,0.8s
MDM Murphy Dome 32.59 40 *e*P P 02 32 39.1 +2.2
comp=Z,2.6nm,0.9s
WRH Wood River Hil 32.63 41 *e*P P 02 32 39.6 +2.2
comp=Z,5.2nm,1.0s
SONA0 Songino Array 32.71 287 *e*P P 02 32 36.4 -1.9
SONA0 *e*PcP PcP 02 35 23.5 +0.6
SONM Songino Array 32.71 287 P P 02 32 36.4 -1.9
comp=Z,0.5nm,0.4s,baz=72,slow=9.3,SNR=3.3
SONM PcP PcP 02 35 23.5 +0.6
comp=Z,0.4nm,0.5s,baz=42,slow=2.4,SNR=2.7
SONM LR LR 02 47 08.8
comp=Z,159nm,18.6s,baz=74,slow=39
CCB Clear Creek Bu 32.76 41 *e*P P 02 32 39.8 +1.4
comp=Z,6.6nm,1.2s
TLY Talaya 33.12 295 *e*P P 02 32 41.4 -0.4
comp=Z,6.3nm,0.8s
TLY Talaya 33.12 295⇓*i*P P 02 32 40.5 -1.3
HDA Harding Lake 33.13 42 *e*P P 02 32 43.3 +1.6
comp=Z,3.3nm,0.7s
ILAR Eielson Array 33.16 41 P P 02 32 42.8 +0.9
comp=Z,1.1nm,0.7s,baz=253,slow=7.5,SNR=15
ILB Eielson Array 33.16 41 *e*P P 02 32 43.2 +1.3
comp=Z,2.6nm,0.6s
PRP Porcupine Dome 33.73 40 *e*P P 02 32 48.5 +1.4
comp=Z,18nm,1.7s
ZAK Zakamensk 33.75 293 *e*P P 02 32 45.4 -1.9
ZAK *e* 02 35 26.3
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ZAK pmax pmax
comp=Z,2.0nm,0.7s
RIDG Independent Ri 34.08 43 *e*P P 02 32 51.4 +1.5
comp=Z,5.9nm,1.0s
DOT Dot Lake 34.43 43 *e*P P 02 32 54.1 +1.2
comp=Z,2.0nm,0.6s
SCRK Sand Creek 34.44 42 *e*P P 02 32 54.3 +1.2
comp=Z,2.7nm,0.8s
WHN Wuhan 36.77 255⇑P P 02 33 12.4 -1.0
EPYK Eagle Plains 37.29 38 *e*P P 02 33 19.3 +1.9
comp=Z,10nm,1.3s
NRIK Noril'sk 37.83 327 LR LR 02 50 52.7
comp=Z,101nm,19.1s,baz=58,slow=40
XAN Xi'an 38.01 265 P P 02 33 31.1 +7.2
INK Inuvik 38.30 34 *e*P P 02 33 26.9 +1.1
comp=Z,7.4nm,0.9s
INK Inuvik 38.30 34 *e*P P 02 33 26.9 +1.1
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 38.30 34 P P 02 33 27.5 +1.7
comp=Z,4.5nm,0.6s,baz=295,slow=6.1,SNR=20
INK LR LR 02 51 16.2
comp=Z,70nm,18.4s,baz=318,slow=39
ZAA1 Zalesovo Array 43.02 305 *e*P P 02 34 02.8 -2.1
ZAA1 *e*PcP PcP 02 35 53.9 -0.4
ZAA0 Zalesovo Array 43.02 305 *e*P P 02 34 03.0 -1.9
comp=Z,3.3nm,0.8s
ZALV Zalesovo Beam 43.02 305 P P 02 34 02.8 -2.2
comp=Z,3.0nm,0.6s,baz=63,slow=6.2,SNR=9.8
ZALV PcP PcP 02 35 53.9 -0.4
comp=Z,1.0nm,0.4s,baz=64,slow=3.4,SNR=4.2
NVS Novosibirsk 43.50 306 *e*P P 02 34 07.5 -1.3
GYA Guiyang 44.48 258⇑*i*P P 02 34 15.8 -1.3
GYA pmax pmax
comp=Z,20nm,0.8s
YKA Yellowknife Ar 47.54 39 P P 02 34 42.0 +1.4
YKA Yellowknife Ar 47.54 39 *e*P P 02 34 42.0 +1.4
YKA Yellowknife Ar 47.54 39 P P 02 34 42.0 +1.4
comp=Z,1.3nm,0.8s,baz=297,slow=7.9,SNR=10
YKB5 Yellowknife Ar 47.54 39 *e*P P 02 34 42.0 +1.4
RES Resolute Bay 47.71 20 *e*P P 02 34 42.3 +0.6
comp=Z,4.5nm,0.7s
RES Resolute Bay 47.71 20 *e*P P 02 34 42.3 +0.6
RES pmax pmax
comp=Z,4.0nm,0.7s
RES Resolute Bay 47.71 20 P P 02 34 43.0 +1.2
comp=Z,3.4nm,0.5s,baz=310,slow=5.6,SNR=14
MK31 Makanchi Array 47.82 297 *e*P P 02 34 41.4 -1.7
comp=Z,4.4nm,0.8s
MK31 Makanchi Array 47.82 297 *e*P P 02 34 41.4 -1.7
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK32 Makanchi Array 47.82 297 *e*P P 02 34 40.9 -2.2
MKAR Makanchi Array 47.82 297 P P 02 34 40.9 -2.2
comp=Z,4.1nm,0.7s,baz=60,slow=7.2,SNR=44
MKAR LR LR 02 56 13.5
comp=Z,299nm,18.1s,baz=53,slow=38
KURK Kurchatov 47.88 303 *e*P P 02 34 42.1 -1.4
comp=Z,16nm,0.8s
KURK Kurchatov 47.88 303 *ce*P P 02 34 41.9 -1.5
KURK pmax pmax
comp=Z,17nm,0.8s
MAKZ Makanchi 48.00 297 *e*P P 02 34 43.4 -1.0
comp=Z,3.0nm,0.6s
MAKZ Makanchi 48.00 297 *e*P P 02 34 43.4 -1.0
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
SLVN Son La 49.90 256 *e*P P 02 34 59.4 +0.1
comp=Z,9.3nm,0.9s
BRVK Borovoye 51.06 309 *e*P P 02 35 06.3 -1.3
comp=Z,18nm,0.9s
BRVK Borovoye 51.06 309 *d i*P P 02 35 06.4 -1.2
BRVK pmax pmax
comp=Z,21nm,1.0s
PANO Nakornpanom 52.56 251 P P 02 35 21.7 +2.5
comp=Z,0.3nm,0.9s
NONG Nongkai 52.79 253 P P 02 35 22.8 +1.9
comp=Z,0.3nm,0.8s,comp=Z,72nm
SKNT Sakolnakorn 53.09 252 P P 02 35 24.5 +1.4
comp=Z,27nm,1.1s
SVE Sverdlovsk 53.53 317 *e*P P 02 35 24.3 -1.6
PAYA Payao 53.91 257 P P 02 35 31.1 +2.0
comp=Z,28μm,0.6s
BOOM Boomskoye usch 53.99 296 *e*P P 02 35 29.0 -0.7
comp=Z,2.7nm,0.6s
BOOM Boomskoye usch 53.99 296 *e*P P 02 35 29.0 -0.7
BOOM pmax pmax
comp=Z,3.0nm,0.6s
DAG Danmarks Havn 54.20 359 *i*P P 02 35 29.8 -0.7
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 54.20 359 *i*P P 02 35 29.8 -0.7
comp=Z,4.3nm,0.8s
PHRA Phrae 54.31 256 P P 02 35 33.8 +1.8
comp=Z,2.0nm,0.8s,comp=Z,1μm
ARU Arti 54.69 318 *e*P P 02 35 32.7 -1.6
comp=Z,17nm,1.0s
ARU Arti 54.69 318 *c i*P P 02 35 32.4 -1.9
ARU *PP pP 02 35 46.6 -0.7
ARU S S 02 43 10.9 +0.3
ARU SS SS 02 46 47.9 -5.4
ARU pmax pmax
comp=Z,20nm,1.2s
ARU Arti 54.69 318 LR LR 03 01 32.0
comp=Z,130nm,18.6s,baz=42,slow=39
AAK Ala-Archa 54.75 297 *e*P P 02 35 34.9 -0.3
comp=Z,2.5nm,1.0s
AAK Ala-Archa 54.75 297 *ce*P P 02 35 32.3 -2.9
AAK pmax pmax
comp=Z,7.0nm,2.5s
AAK Ala-Archa 54.75 297 LR LR 03 00 25.1
comp=Z,193nm,19.4s,baz=58,slow=38
CMMT Chiang Mai 54.90 258 P P 02 35 37.7 +1.4
comp=Z,9.5nm,1.2s
CHTO Chiang Mai 54.90 258 *e*P P 02 35 37.2 +0.9
comp=Z,12nm,0.8s
CHTO Chiang Mai 54.90 258 *e*P P 02 35 37.2 +0.9
CHTO pmax pmax
comp=Z,12nm,0.8s
CHAI Chaiyaphum 55.14 253 P P 02 35 40.8 +2.8
comp=Z,25μm,0.8s
CM31 Chiang Mai Arr 55.16 257 *e*P P 02 35 39.1 +1.0
comp=Z,27nm,1.3s
CMAR Chiang Mai Arr 55.16 257 P P 02 35 39.1 +1.0
comp=Z,2.5nm,0.5s,baz=25,slow=7.3,SNR=13
KSH Kashi 55.79 293 LR LR 02 35 45.8 +3.1
KSH PP PP 02 37 50.1 +2.9
KSH S S 02 43 27.8 +1.7
KSH SS SS 02 47 12.6 +1.0
KSH pmax pmax
comp=Z,200nm,4.1s
KSH LR LR
comp=Z,180nm,7.2s
KSH LR LR
comp=Z,220nm,8.0s
KSH LR LR
comp=Z,290nm,7.8s
ARCES ARCESS Array B 56.21 341 P P 02 35 42.2 -2.8
comp=Z,0.6nm,0.3s,baz=46,slow=8.7,SNR=8.5
ARCES PcP PcP 02 36 43.2 +1.1
comp=Z,2.1nm,0.9s,baz=46,slow=2.6,SNR=4.2
ARCES LR LR 03 04 40.9
comp=Z,69nm,18.5s,baz=2.0,slow=41
KK31 Karatay Array 56.77 299 *e*P P 02 35 48.7 -0.8
comp=Z,2.3nm,0.9s
KK31 Karatay Array 56.77 299 *e*P P 02 35 48.7 -0.8
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 56.77 299 *e*P P 02 35 48.2 -1.3
comp=Z,2.3nm,0.9s
KKAR Karatay Array 56.77 299 *e*P P 02 35 48.2 -1.3
KKAR pmax pmax
comp=Z,2.0nm,0.9s
KIRV Kirov 57.12 323 LR LR 03 01 37.1
comp=Z,63nm,18.4s,baz=154,slow=37
FCC Fort Churchill 57.90 35 *e*P P 02 35 58.1 +1.1
comp=Z,29nm,1.9s
FCC Fort Churchill 57.90 35 *e*P P 02 35 58.1 +1.1
FCC pmax pmax
comp=Z,29nm,1.9s
SUMG Summit 58.01 5 *e*P P 02 35 58.3 +0.2
comp=Z,16nm,1.0s
SUMG Summit 58.01 5 *i*P P 02 35 58.8 +0.6
SUMG pmax pmax
comp=Z,35nm,0.9s
SUMG Summit 58.01 5 *i*P P 02 35 58.8 +0.6
comp=Z,35nm,0.9s
BOZ Bozeman (W) 58.46 55 *e*P P 02 36 03.2 +1.8
comp=Z,18nm,2.0s
BOZ Bozeman (W) 58.46 55 *e*P P 02 36 03.2 +1.8
BOZ pmax pmax
comp=Z,18nm,2.0s
BTK Batken 58.52 296 *e*P P 02 36 01.2 -0.7
comp=Z,5.5nm,0.9s
BTK Batken 58.52 296 *e*P P 02 36 01.2 -0.7
BTK pmax pmax
comp=Z,6.0nm,0.9s
ABKAR Akbulak array 58.55 310 *e*P P 02 36 00.8 -0.9
comp=Z,14nm,1.3s
AKTO Aktyubinsk 58.73 312 LR LR 03 02 58.6
comp=Z,43nm,21.1s,baz=54,slow=38
NV01 Mina Array Sit 59.28 66 *e*P P 02 36 10.4 +3.1
NVAR Mina Array Bea 59.28 66 P P 02 36 10.4 +3.1
comp=Z,1.0nm,0.7s,baz=283,slow=6.6,SNR=4.6
NVAR LR LR 02 59 51.5
comp=Z,42nm,19.5s,baz=163,slow=34
GAR Garm 59.50 296 *e*P P 02 36 08.0 -0.7
comp=Z,14nm,0.6s
GAR Garm 59.50 296 *e*P P 02 36 08.0 -0.7
GAR pmax pmax
comp=Z,14nm,0.6s
NIL Nilore 61.26 289 *e*P P 02 36 21.1 +0.5
comp=Z,12nm,0.9s
NIL Nilore 61.26 289 *e*P P 02 36 21.1 +0.5
NIL pmax pmax
comp=Z,13nm,0.9s
PD31 Pinedale Array 61.44 57 *e*P P 02 36 24.1 +2.1
comp=Z,5.0nm,1.4s
PDAR Pinedale Array 61.44 57 P P 02 36 24.1 +2.1
comp=Z,0.8nm,0.8s,baz=232,slow=1.7,SNR=7.2
FRB Frobisher Bay 61.91 21 P P 02 36 24.4 -0.1
comp=Z,2.9nm,0.6s,baz=331,slow=7.2,SNR=12
FIA0 FINESS Array S 62.71 336 *e*P P 02 36 27.7 -2.2

FIA0	**FINESS Array S**	62.71 336	*e*P		P	02 36 27.7	-2.2
FINES	**FINESS Array B**	62.71 336	P		P	02 36 27.7	-2.2
	comp=Z,1.5nm,0.6s,baz=38,slow=6.9,SNR=17						
FINES			LR	LR		03 06 39.7	
	comp=Z,78nm,18.9s,baz=6.5,slow=39						
ULM	**Lac du Bonnet**	63.13 43	P		P	02 36 34.5	+1.7
	comp=Z,1.1nm,0.6s,baz=297,slow=7.6,SNR=3.6						
NB2	**NORSAR Subarra**	66.55 342	P		P	02 36 54.2	-0.8
	comp=Z,0.6nm,0.5s,baz=25,slow=6.5						
NB200	**NORSAR Array S**	66.55 342	*e*P		P	02 36 53.9	-1.1
NOA	**NORSAR Array B**	66.55 342	P		P	02 36 53.9	-1.1
	comp=Z,0.7nm,0.5s,baz=23,slow=6.4,SNR=7.6						
NOA			LR	LR		03 10 33.5	
	comp=Z,64nm,19.6s,baz=35,slow=40						
HFS	**Hagfors**	66.86 341	LR		LR	03 08 39.4	
	comp=Z,57nm,19.7s,baz=346,slow=38						
GEYT	**Alibeck**	67.24 302	P		P	02 36 59.9	+0.2
	comp=Z,5.8nm,0.5s,baz=29,slow=3.4,SNR=15						
AKASG	**Malin Array Be**	70.68 328	P		P	02 37 19.1	-1.7
	comp=Z,1.4nm,0.3s,baz=32,slow=6.6,SNR=6.9						
AKASG			LR	LR		03 10 34.4	
	comp=Z,47nm,19.1s,baz=0.0,slow=38						
AKBB	**Malin Array Si**	70.68 328	*e*P		P	02 37 19.9	-0.9
	comp=Z,4.7nm,0.9s						
AKBB	**Malin Array Si**	70.68 328	*e*P		P	02 37 19.9	-0.9
AKBB			pmax	pmax			
	comp=Z,5.0nm,0.9s						
KIEV	**Kiev**	70.69 328	⇓*i*P		P	02 37 20.1	-0.8
KIEV	**Kiev**	70.69 328	⇓P		P	02 37 20.1	-0.8
KBZ	**Khabaz**	70.72 315	P		P	02 37 21.1	0.0
	comp=Z,4.4nm,0.8s,baz=18,slow=1.8,SNR=7.2						
TX31	**Lajitas Ar. Si**	74.30 63	*e*P		P	02 37 44.8	+1.9
	comp=Z,3.4nm,1.1s						
LTX	**Lajitas**	74.30 63	*e*P		P	02 37 44.4	+1.5
LTX	**Lajitas**	74.30 63	*e*P		P	02 37 44.4	+1.5
TXAR	**Lajitas Array**	74.30 63	P		P	02 37 44.4	+1.5
	comp=Z,0.9nm,0.7s,baz=302,slow=4.7,SNR=8.7						
BUR08	**Bucovina Ar. S**	74.68 328	*e*P		P	02 37 44.6	-0.2
	comp=Z,3.7nm,0.5s						
BURAR	**Bucovina Array**	74.70 328	⇑*i*P		P	02 37 44.3	-0.6
BURAR	**Bucovina Array**	74.70 328	⇑P		P	02 37 44.3	-0.6
DPC	**Dobruska-Polom**	75.06 335	*e*P		P	02 37 48.9	+2.0
DPC	**Dobruska-Polom**	75.06 335	*e*P		P	02 37 48.9	+2.0
CLL	**Collm**	75.07 337	*i*P		P	02 37 46.8	0.0
CLL			*i*			02 38 02.7	
CLL			pmax	pmax			
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	75.07 337	*i*P		P	02 37 46.8	0.0
	comp=Z,7.0nm,1.0s						
CLL			*i*pP		pwP	02 38 02.7	+2.4
TRPA	**Tarpa**	75.15 330	⇑*i*P		P	02 37 47.3	0.0
LANS	**Liptovska Anna**	75.22 332	*e*P		P	02 37 48.6	+0.8
LANS	**Liptovska Anna**	75.22 332	*e*P		P	02 37 48.6	+0.8
MORC	**Moravsky Berou**	75.23 334	*e*P		P	02 37 48.5	+0.7
	comp=Z,17nm,1.7s						
MORC	**Moravsky Berou**	75.23 334	*e*P		P	02 37 48.5	+0.7
MORC	**Moravsky Berou**	75.23 334	*e*P		P	02 37 47.8	0.0
AS31	**Alice Springs**	75.35 201	*e*P		P	02 37 50.0	+1.4
	comp=Z,1.7nm,1.0s						
ASAR	**Alice Springs**	75.35 201	P		P	02 37 50.0	+1.4
	comp=Z,0.8nm,0.8s,baz=14,slow=4.9,SNR=5.5						
CFR	**Carcaliu**	75.73 325	⇑*i*P		P	02 37 49.8	-0.9
CFR	**Carcaliu**	75.73 325	⇑P		P	02 37 49.8	-0.9
PRU	**Pruhonice**	75.87 336	*e*P		P	02 37 52.0	+0.5
PRU	**Pruhonice**	75.87 336	*e*P		P	02 37 52.0	+0.5
VRAC	**Vranov**	75.92 334	⇓*i*P		P	02 37 52.8	+1.0
VRAC	**Vranov**	75.92 334	⇓P		P	02 37 52.8	+1.0
VRAC	**Vranov**	75.92 334	*e*P		P	02 37 52.1	+0.3
VYHS	**Vyhne**	75.99 333	*e*P		P	02 37 52.6	+0.4
VYHS	**Vyhne**	75.99 333	*e*P		P	02 37 52.6	+0.4
JAVC	**Velka Javorina**	76.01 333	*e*P		P	02 37 53.8	+1.4
KRUC	**Moravsky**	76.20 334	*e*P		P	02 37 53.5	+0.2
DRGR		76.26 329	⇓*i*P		P	02 37 53.9	+0.1
DRGR		76.26 329	⇓P		P	02 37 53.9	+0.1
MLR	**Muntele Rosu**	76.27 327	*e*P		P	02 37 54.0	+0.1
	comp=Z,5.8nm,0.7s						
MLR	**Muntele Rosu**	76.27 327	*e*P		P	02 37 54.0	+0.1
MLR			pmax	pmax			
	comp=Z,6.0nm,0.7s						
TLB	**Topalu**	76.27 325	⇓*i*P		P	02 37 54.0	+0.3
TLB	**Topalu**	76.27 325	⇓P		P	02 37 54.0	+0.3
ISR	**Istrita**	76.37 326	⇑*i*P		P	02 37 55.9	+1.5
ISR	**Istrita**	76.37 326	⇑P		P	02 37 55.9	+1.5
MODS	**Modra-Piesok**	76.56 333	*e*P		P	02 37 55.8	+0.4
MODS	**Modra-Piesok**	76.56 333	*e*P		P	02 37 55.8	+0.4
VOIR		76.63 327	⇓*i*P		P	02 37 56.8	+0.8
VOIR		76.63 327	⇓P		P	02 37 56.8	+0.8
ICOR	**Ion Corvin**	76.75 325	⇓*i*P		P	02 37 57.6	+1.1
ARR	**Arges**	76.84 327	⇑*i*P		P	02 37 57.8	+0.7
KHC	**Kasperske Hory**	76.91 336	*e*P		P	02 37 58.0	+0.6
	comp=Z,4.0nm,1.2s						
KHC	**Kasperske Hory**	76.91 336	*e*P		P	02 37 57.5	+0.1
KHC	**Kasperske Hory**	76.91 336	*e*P		P	02 37 57.5	+0.1
ILGA	**Ilgaz**	76.94 319	*e*P		P	02 37 58.4	+0.5
	comp=Z,16nm,0.8s						
GERES	**GERESS Array B**	77.14 336	P		P	02 37 58.5	-0.3
	comp=Z,0.9nm,0.5s,baz=30,slow=5.7,SNR=9.9						
CONA	**Conrad Observa**	77.38 334	*e*P		P	02 38 00.5	+0.3
	comp=Z,9.9nm,1.5s						
GZR	**Gura Zlata**	77.46 329	⇑*i*P		P	02 38 00.5	-0.1
GZR	**Gura Zlata**	77.46 329	⇑P		P	02 38 00.5	-0.1
BZS	**Buzias**	77.66 329	⇓*i*P		P	02 38 01.3	-0.3
BZS	**Buzias**	77.66 329	⇓P		P	02 38 01.3	-0.3
HERR	**Herculane**	78.03 329	⇑*i*P		P	02 38 03.7	0.0
BR101	**Keskin Array S**	78.06 319	*e*P		P	02 38 04.1	-0.1
BR131	**Keskin Array S**	78.06 319	*e*P		P	02 38 04.6	+0.4
	comp=Z,10nm,1.1s						
BRTR	**Keskin Array B**	78.06 319	P		P	02 38 04.1	-0.1
	comp=Z,5.9nm,0.8s,baz=72,slow=2.8,SNR=29						
PUNG	**Punghina**	78.38 328	⇓*i*P		P	02 38 04.3	-1.3
MDUB	**Mudurnu**	78.48 321	*e*P		P	02 38 07.3	+0.9
	comp=Z,60nm,0.9s						
SOKA	**Soboth**	78.75 334	*i*P		P	02 38 08.4	+0.7
	comp=Z,2.9nm,0.5s,SNR=5.2						
KBA	**Koelnbreinsper**	78.86 335	*e*P		P	02 38 09.6	+1.2
	comp=Z,17nm,0.6s,SNR=8.4						
PHSR	**Pinarhisar**	78.98 324	⇑*i*P		P	02 38 09.5	+0.5
OBKA	**Obir**	79.04 334	*e*P		P	02 38 09.4	0.0
	comp=Z,17nm,1.3s						
WATA	**Walderalm**	79.09 337	*e*P		P	02 38 10.4	+0.8
	comp=Z,4.0nm,0.6s,SNR=5.6						
WTTA	**Wattenberg**	79.14 336	*i*P		P	02 38 11.0	+1.0
	comp=Z,14nm,0.8s,SNR=5.1						
RETA	**Reutte**	79.16 337	*i*P		P	02 38 10.6	+0.6
	comp=Z,5.8nm,0.8s						
MYKA	**Terra Mystica**	79.19 335	*e*P		P	02 38 10.0	-0.1
	comp=Z,3.5nm,0.5s						
MOTA	**Moosalm**	79.21 337	*e*P		P	02 38 09.9	-0.5
	comp=Z,0.9nm,0.4s,SNR=8.3						
SQTA	**Sankt Quirin**	79.29 337	*i*P		P	02 38 11.7	+0.9
	comp=Z,11nm,0.8s						
ECH	**Echery**	79.35 340	*e*P		P	02 38 11.5	+0.6
	comp=Z,10.0nm,0.9s						
ECH	**Echery**	79.35 340	*e*P		P	02 38 11.5	+0.6
ECH			pmax	pmax			
	comp=Z,10.0nm,0.9s						
ABTA	**Abfaltersbach**	79.39 336	*e*P		P	02 38 12.2	+1.0
	comp=Z,15nm,1.2s						
DAVA	**Damuels**	79.57 338	*i*P		P	02 38 13.6	+1.3
	comp=Z,14nm,1.1s						
FETA	**Feichten**	79.60 337	*i*P		P	02 38 13.3	+0.9
	comp=Z,7.4nm,0.8s						
VTS	**Vitosha**	79.73 327	⇓*i*P		P	02 38 13.6	+0.4
VTS	**Vitosha**	79.73 327	⇓P		P	02 38 13.7	+0.5
FUORN	**Ofenpass-Fuorn**	80.09 337	*e*P		P	02 38 16.0	+0.7
	comp=Z,11nm,0.8s						
TUE	**Stuetta**	80.46 338	*e*P		P	02 38 18.4	+1.2
	comp=Z,16nm,0.8s						
BALB	**Balikesir**	80.54 322	*e*P		P	02 38 17.8	+0.4
	comp=Z,78nm,1.0s						
EZN	**Ezine**	81.00 323	⇓*i*P		P	02 38 19.8	-0.1
EZN	**Ezine**	81.00 323	⇓P		P	02 38 19.8	-0.1
MANT	**Manisa**	81.25 321	*e*P		P	02 38 21.7	+0.2
	comp=Z,53nm,0.9s						
CPUP	**Villa Florida**	145.25 61	PKPbc		PKPbc	02 45 43.4	+1.0
	comp=Z,0.8nm,0.6s,baz=278,slow=5.7,SNR=4.6						
PLCA	**Paso Flores**	146.13 94	PKPbc		PKPbc	02 45 46.1	+1.2
	comp=Z,1.2nm,0.8s,baz=268,slow=5.8,SNR=3.3						

IDC ***25*** *02:27:17.0±0.5, 56°.65S×147°.32E, h0km, mb4.9/17, mb1 4.8/18, mb1mx4.8/25, mbtmp4.9/18, ML4.0/1, MS4.7/17, Ms1 4.7/17, ms1mx4.6/19, Error ellipse: s-maj=18.3km s-min=14.0km az=101.0*

ISCJB ***25*** *02:27:18.3±2.0, 56°.60S±0°.04×147°.28E±0°.08, h13km±12km, mb5.0/40, MS4.8/31, Error ellipse: s-maj=7.4km s-min=6.3km az=28.0*

BJI ***25*** *02:27:19.0±0.0, 56°.59S×147°.24E, h10km, mb5.5/11, mB5.6/6, Ms5.2/8, Ms7 4.9/8*

NEIC ***25*** *02:27:19.6±0.8, 56°.61S×147°.16E, h14km±4km, mb5.1/38, Error ellipse: s-maj=6.2km s-min=4.8km az=132.0*

GCMT ***25*** *02:27:20.6±0.4, 56°.49S±0°.03×147°.14E±0°.07, h27km±1km, MW5.5/63, Moment Tensor Solution. s14,c17; s63,c86; Duration: 1ŝ3 Moment tensor: Scale 10^17^Nm; Mrr-1.80±.24; Mθθ1.00±.14; Mφφ0.80±.13; Mrθ-0.12±.21; Mθφ-1.04±.05; Mφr0.28±.23; Best double couple: M0 1.89900×10^17^ NP1:φs137.00000°, δ49.00000°, λ-84.00000°. NP2:φs308.00000°, δ41.00000°, λ-97.00000°. Principal axes: T 1.9670, Plg4.0000°, Azm223.0000°; N -0.1330, Plg4.0000°, Azm313.0000°; P -1.8310, Plg84.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 02:27:22.5±0.7, 56°.62S±0°.06×147°.43E±0°.06, h31km±4km, h31km:pP-P, n374, σ1ŝ23/363, mb5.0/40, MS4.9/31, 6C-13D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	6.88	77	*e*Pn	Pn	02 29 01.1	0.0
MCQ	**Macquarie Isla**	6.88	77	P	Pn	02 28 55.8	-5.3
	baz=6.7,SNR=5.8						
TAU	**Tasmania Unive**	13.72	360	*e*Pn	Pn	02 30 34.1	-0.7
MOO	**Moorlands**	14.19	359	P	Pn	02 30 41.5	+0.3
	baz=14,SNR=5.0						
DCZ	**Deep Cove**	16.62	56	*e*Pn	P	02 31 15.0	-0.1
	217nm,1.5s						
WHZ	**Wether Hill Ro**	16.67	59	*e*Pn	Pn	02 31 14.4	+0.8
	431nm,1.6s						
MLZ	**Mavora Lakes**	17.14	58	*e*Pn	Pn	02 31 20.3	+0.8
	322nm,1.8s						
WKZ	**Wanaka**	17.96	58	*e*Pn	P	02 31 30.2	+0.2
	1μm,1.4s						
ODZ	**Otahua Downs**	18.58	61	*e*P	Pn	02 31 37.3	+0.1
	196nm,1.7s						
LBZ	**Lake Benmore**	18.85	59	*e*P	P	02 31 39.9	+0.1
	125nm,1.4s						
TOO	**Toolangi**	19.10	355	*e*P	P	02 31 42.1	-0.5
	210nm,1.1s						
TOO	**Toolangi**	19.10	355	P	Pn	02 31 42.9	-0.7
	baz=19,SNR=25						
FOZ	**Fox Glacier**	19.32	57	*e*P	Pn	02 31 46.3	+0.2
	255nm,2.0s						
RPZ	**Rata Peaks**	19.77	59	*e*P	P	02 31 50.6	+0.8
	136nm,1.3s						
RPZ	**Rata Peaks**	19.77	59	P	P	02 31 49.1	-0.6
	0.4nm,0.3s,baz=199,slow=12,SNR=9.2						
RPZ				LR	LR	02 38 07.2	
	comp=Z,6μm,19.0s,baz=236,slow=33						
CASY	**Casey**	19.79	226	*e*P	P	02 31 48.7	-1.2
	168nm,1.4s						
ARPS	**Mount Arapiles**	20.21	347	P	P	02 31 54.1	-0.5
	baz=20,SNR=9.6						
OXZ	**Oxford**	20.53	60	*e*P	P	02 31 58.7	+0.7
	258nm,1.5s						
MQZ	**Mcmuen's Vall**	20.54	62	*e*P	P	02 31 58.4	+0.3
	92nm,1.2s						
CRLZ	**Canterbury Las**	20.62	61	*e*P	P	02 32 00.2	+1.2
	363nm,1.9s						
LTZ	**Lake Taylor**	21.05	59	*e*P	P	02 32 06.3	+2.5
	100nm,1.4s						
CAN	**Canberra**	21.33	4	*e*P	P	02 32 05.9	-0.9
	253nm,1.8s						
CNB	**Canberra Magne**	21.35	4	P	P	02 32 06.8	-0.2
	baz=22,SNR=18						
VNDA	**Vanda**	21.59	172	*e*P	P	02 32 09.6	+0.4
	388nm,1.8s						
VNDA	**Vanda**	21.59	172	P	P	02 32 09.4	+0.2
	16nm,0.9s,baz=340,slow=12,SNR=31						
KHZ	**Kahutara**	21.94	61	*e*P	P	02 32 14.3	+1.2
	173nm,1.3s						
YNG	**Young**	22.33	2	P	P	02 32 18.8	+1.3
	baz=23,SNR=18						
SBA	**Scott Base**	22.35	169	*e*P	P	02 32 17.2	-0.1
	157nm,1.7s						
MGCD	**Mangrove Creek**	23.55	8	P	P	02 32 31.2	+1.3
	baz=24						
STKA	**Stephens Creek**	25.07	348	*e*P	P	02 32 43.6	-0.4
	16nm,1.3s						
STKA	**Stephens Creek**	25.07	348	P	P	02 32 44.0	+0.1
	baz=25,SNR=26						
STKA	**Stephens Creek**	25.07	348	P	P	02 32 43.8	-0.2
	55nm,1.1s,baz=163,slow=12,SNR=24						
STKA				LR	LR	02 40 09.7	
	comp=Z,1μm,18.6s,baz=174,slow=31						
BBOO	**Buckleboo**	25.07	337	P	P	02 32 42.7	-1.3
	baz=25,SNR=6.3						
CMSA	**Cobar Meteorol**	25.11	357	P	P	02 32 43.9	-0.4
	baz=25,SNR=11						
ARMA	**Armidale**	26.36	8	*e*P	P	02 32 55.5	-0.3
	43nm,1.0s						
ARMA	**Armidale**	26.36	8	P	P	02 32 58.3	+2.5
	baz=27,SNR=5.6						
URZ	**Urewera**	26.88	60	*e*P	P	02 32 58.9	-1.4
	105nm,1.0s						
URZ	**Urewera**	26.88	60	P	P	02 32 58.4	-1.9
	59nm,0.9s,baz=239,slow=4.6,SNR=23						
URZ				LR	LR	02 42 36.1	
	comp=Z,3μm,21.9s,baz=200,slow=34						
FORT	**Forrest**	29.17	324	*e*P	P	02 33 19.5	-1.3
	43nm,1.3s						
RMQ	**Roma**	30.12	2	P	P	02 33 29.7	+0.4
	baz=30,SNR=10						
H01W1	**Cape Leeuwin H**	31.30	300	T	T	03 06 32.1	
	baz=143,slow=75,SNR=887						
H01W2	**Cape Leeuwin H**	31.31	300	T	T	03 06 32.4	
	baz=143,slow=75,SNR=1011						
H01W3	**Cape Leeuwin H**	31.32	300	T	T	03 06 33.4	
	baz=143,slow=75,SNR=867						
EIDS	**Eidsvold**	31.33	6	*e*P	P	02 33 40.3	+0.3
	120nm,1.6s						
EIDS	**Eidsvold**	31.33	6	P	P	02 33 41.3	+1.4
	baz=32,SNR=6.0						
NWAO	**Narrogin (SRO)**	31.50	306	LR	LR	02 43 22.4	
	comp=Z,2μm,21.4s,baz=136,slow=31						
KLBR	**Kellerberrin**	32.40	308	P	P	02 33 47.4	-1.9
	baz=33,SNR=5.5						
QSPA	**South Pole Qui**	33.49	180	*e*P	P	02 33 59.0	+0.4
	44nm,1.6s						
ASAR	**Alice Springs**	34.37	338	P	P	02 34 04.8	-1.8
	8.1nm,0.9s,baz=165,slow=8.6,SNR=28						
ASAR				PcP	PcP	02 36 39.4	-2.5
	3.5nm,1.0s,baz=154,slow=1.9,SNR=6.7						
ASAR				LR	LR	02 45 44.0	
	comp=Z,860nm,21.2s,baz=167,slow=32						
AS31	**Alice Springs**	34.37	338	*e*P	P	02 34 05.2	-1.3
	2.2nm,0.7s						
AS31				*e*PcP	PcP	02 36 39.4	-2.5
WRKA	**Warakurna**	34.47	328	P	P	02 34 05.7	-1.6
	baz=35,SNR=15						
QIS	**Mount Isa**	36.48	348	P	P	02 34 24.2	-0.4
	baz=37,SNR=10						
CTA	**Charters Tower**	36.49	358	P	P	02 34 25.2	+0.4
	31nm,1.1s,baz=193,slow=11,SNR=13						
CTAO	**Charters Tower**	36.49	358	*e*P	P	02 34 24.9	+0.2
	52nm,1.1s						
DZM	**Mont Dzumac**	37.24	30	*e*S	S	02 40 00.1	-16
	315nm,24.1s						
DZM				*e*LQ	LQ	02 42 46.5	
	1μm,24.9s						
DZM				*e*LR	LR	02 44 22.6	
	comp=Z,5μm,25.4s						
DZM	**Mont Dzumac**	37.24	30	P	P	02 34 30.9	-0.3
	39nm,0.8s,baz=192,slow=7.7,SNR=24						
DZM				LR	LR	02 46 30.9	
	comp=Z,2μm,20.1s,baz=192,slow=31						
MAW	**Mawson**	37.83	218	*e*P	P	02 34 36.1	+0.4
	3.4nm,1.1s						
MAW	**Mawson**	37.83	218	P	P	02 34 35.9	+0.3
	11nm,1.1s,baz=131,slow=8.0,SNR=9.0						
MAW				LR	LR	02 49 40.9	
	comp=Z,3μm,18.3s,baz=86,slow=36						
PSA00	**Pilbara Seismi**	40.48	318	*e*P	P	02 34 57.1	-1.1
	28nm,0.9s						
FITZ	**Fitzroy Crossi**	41.80	328	P	P	02 35 08.4	-0.7
	6.6nm,0.9s,baz=184,slow=4.3,SNR=5.5						
COEN	**Coen**	42.70	354	*e*P	P	02 35 15.8	-0.6
	34nm,1.1s						
SYO	**Syowa Base**	44.25	209	⇑*i*P	P	02 35 27.2	-1.1
SYO	**Syowa Base**	44.25	209	⇓*i*pP	P	02 35 30.0	+1.7
PMG	**Port Moresby**	47.10	360	*e*P	P	02 35 51.5	+0.1
	37nm,1.1s						
PMG	**Port Moresby**	47.10	360	P	P	02 35 51.2	-0.2
	26nm,1.0s,baz=142,slow=8.5,SNR=3.1						
HNR	**Honiara**	48.08	17	P	P	02 35 59.4	+0.4
HNR	**Honiara**	48.08	17	P	P	02 35 59.4	+0.3
	62nm,0.5s,baz=156,slow=2.8,SNR=6.1						
HNR				LR	LR	02 52 44.6	
	comp=Z,349nm,19.5s,baz=189,slow=32						
SNAA	**Sanae**	50.31	192	P	P	02 36 15.5	-0.1
SNAA	**Sanae**	50.31	192	*e*P	P	02 36 15.6	0.0
	24nm,1.2s						
VNA3	**Neumayer Olymp**	51.41	189	P	P	02 36 24.3	+0.5
VNA2	**Neumayer--Watz**	51.50	190	P	P	02 36 23.8	-0.7
	baz=151,slow=7.4						
VNA1	**Neumayer--Stat**	51.85	190	P	P	02 36 27.9	+0.9
RAR	**Rarotonga**	52.29	70	P	P	02 36 30.5	-0.4
	5.8nm,0.4s,baz=138,slow=14,SNR=3.6						
FAKI	**Fak Fak**	54.90	341	*e*P	P	02 36 49.2	-0.9
	39nm,1.1s						
KAPI	**Kappang**	55.94	326	P	P	02 36 57.2	-0.4
	6.5nm,0.6s,baz=228,slow=8.2,SNR=5.2						
TBI	**Tubuai**	56.07	81	*e*S	S	02 44 45.2	+0.2
	367nm,26.5s						
TBI				*e*LQ	LQ	02 51 07.7	
	713nm,29.8s						
TBI				*e*LR	LR	02 53 25.8	
	comp=Z,831nm,26.8s,baz=210						
SPSI	**Sidrap Palu**	56.93	326	P	P	02 37 04.6	0.0
	12nm,1.4s						
TTSI	**Tana Toraja**	57.78	327	P	P	02 37 16.1	+5.5
PPT2	**Papeete2**	60.68	77	*e*S	S	02 45 46.0	+0.7
	611nm,28.0s						
PPT2				*e*LQ	LQ	02 52 48.1	
	920nm,26.0s						
PPT2				*e*LR	LR	02 55 41.0	
	comp=Z,3μm,27.5s,baz=212						
PPT	**Papeete**	60.70	77	LR	LR	02 57 46.6	
	comp=Z,946nm,21.4s,baz=216,slow=30						
MPSI	**Mapaga**	60.97	328	P	P	02 37 33.5	+0.9
	8.5nm,1.1s						
TAOE	**Nuku Hiva Isla**	73.00	80	*e*LR	LR	03 01 20.0	
	comp=Z,2μm,29.7s						
H08S2	**Diego Garcia H**	75.37	278	T	T	04 01 37.9	
	baz=147,slow=76,SNR=255						
H08S1	**Diego Garcia H**	75.38	278	T	T	04 01 29.9	
	baz=147,slow=76,SNR=295						
H08S3	**Diego Garcia H**	75.39	278	T	T	04 01 39.4	
	baz=147,slow=76,SNR=283						
PLCA	**Paso Flores**	77.84	151	*e*P	P	02 39 18.4	+1.6
	33nm,1.8s						
PLCA	**Paso Flores**	77.84	151	P	P	02 39 16.7	-0.1
	4.2nm,0.9s,baz=223,slow=4.9,SNR=6.4						
PLCA				LR	LR	03 07 10.1	
	comp=Z,427nm,20.4s,baz=214,slow=31						
ABPO	**Ambohimpanom**	79.79	251	*e*P	P	02 39 28.6	+0.7
	9.1nm,1.0s						
SUR	**Sutherland**	80.49	224	*e*P	P	02 39 32.3	+0.8
	15nm,0.8s						
BOSA	**Boshof**	82.05	229	*e*P	P	02 39 39.8	+0.1
	7.7nm,0.9s						
BOSA	**Boshof**	82.05	229	P	P	02 39 38.3	-1.4
	7.1nm,1.0s,baz=147,slow=6.5,SNR=8.6						
BOSA				LR	LR	03 10 51.2	
	comp=Z,364nm,19.6s,baz=156,slow=32						
LBTB	**Lobatse**	85.07	231	*e*P	P	02 39 55.1	-0.1
	12nm,1.3s						
CMAR	**Chiang Mai Arr**	85.09	314	P	P	02 39 54.6	-0.5
	1.5nm,0.3s,baz=172,slow=3.8,SNR=9.4						
CMAR				LR	LR	03 16 05.6	
	comp=Z,326nm,20.7s,baz=174,slow=34						
JHJ	**Hachijo jima 2**	89.62	354	LR	LR	03 16 29.2	
	comp=Z,186nm,21.1s,baz=107,slow=33						
KMI	**Kunming**	89.75	320	P	P	02 40 18.8	+1.1
KMI				pP	pP	02 40 23.3	-3.6
KMI				sP	sP	02 40 25.8	-4.4
KMI				SKS	SKSac	02 50 51.3	+5.5
KMI				S	ScS	02 51 11.0	-0.4
KMI				SS	SS	02 57 04.8	-0.4
KMI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KMI				pmax	pmax		
	comp=Z,120nm,5.2s						
KMI				LR	LR		
	comp=N,460nm,17.9s						
KMI				LR	LR		
	comp=E,130nm,17.9s						
KMI				LR	LR		
	comp=Z,500nm,18.4s						
JNU	**Nakatsue**	90.49	346	*e*P	P	02 40 21.5	+0.8
	7.1nm,1.0s						
JNU	**Nakatsue**	90.49	346	P	P	02 40 21.5	+0.8
	2.9nm,0.5s,baz=133,slow=9.6,SNR=2.9						
NJ2	**Nanjing**	91.60	336	*e*P	P	02 40 28.0	+2.2
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
LSZ	**Lusaka**	92.43	237	*e*P	P	02 40 30.7	+0.3
	8.0nm,1.1s						
MJAR	**Matsushiro Arr**	93.13	353	P	P

K02D Willamette Mer 123.73 62 P PKiKP 02 46 18.3 +1.7
baz=222
HUMO Hull Mountain 124.01 63 *e*PKPdf PKPdf 02 46 16.8 0.0
TXAR Lajitas Array 124.23 88 PKP PKPdf 02 46 17.4 -0.3
1.2nm,0.9s,baz=191,slow=2.6,SNR=4.6
R11A Troy Canyon, C 124.59 71 P PKiKP 02 46 19.4 +0.9
baz=222
MOD Modoc Plateau 124.81 65 *e*PKPdf PKPdf 02 46 18.4 -0.1
J04D Umpqua Nationa 124.90 63 P PKiKP 02 46 20.5 +1.5
baz=222
MNTX Cornudas Mount 125.10 84 *e*PKPdf PKiKP 02 46 19.3 -0.2
J05D Fort Rock, OR 125.36 64 P PKiKP 02 46 21.3 +1.4
baz=223
H04D Lebanon 125.53 62 P PKiKP 02 46 22.4 +2.5
baz=223
PINE Pine Mountain 125.88 63 *e*PKPdf PKiKP 02 46 20.6 -0.3
TASM ASL Pad, Albuq 126.96 81 P PKiKP 02 46 25.0 +1.6
baz=222
TASM ASL Pad, Albuq 126.96 81 P PKiKP 02 46 25.3 +2.0
baz=222
DUG Dugway, Tooele 127.41 72 *e*PKPdf PKiKP 02 46 23.7 -0.3
DUG Dugway, Tooele 127.41 72 P PKiKP 02 46 25.4 +1.4
baz=223
MVCO Mesa Verde 127.53 78 *e*PKPdf PKiKP 02 46 24.3 -0.2
MVCO Mesa Verde 127.53 78 P PKiKP 02 46 25.7 +1.3
baz=222
PV20 West Nyswonger 128.10 76 *e*PKPdf PKiKP 02 46 25.4 -0.1
MSTX Muleshoe 128.25 85 P PKiKP 02 46 26.8 +1.0
baz=221
TIXI Tiksi 128.64 353 PKP PKPdf 02 46 23.3 -1.3
1.3nm,0.5s,baz=68,slow=3.1,SNR=4.3
S22A 4UR Ranch, Cre 128.82 78 P PKiKP 02 46 28.1 +0.9
baz=223
TORD Torodi Ar. Bea 129.30 225 PKP PKPdf 02 46 24.9 -2.8
1.4nm,1.0s,baz=148,slow=1.9,SNR=6.4
TOA1 Torodi Ar. Sit 129.30 225 *e*PKPdf PKPdf 02 46 24.9 -2.8
AMTX Amarillo 129.53 85 P PKiKP 02 46 28.3 0.0
baz=222
SDCO Great Sand Dun 129.54 79 P PKiKP 02 46 29.0 +0.4
baz=223
WHTX Lake Whitney, 129.70 91 P PKiKP 02 46 29.0 +0.3
baz=220
CCB Clear Creek Bu 130.59 31 *e*PKPdf PKPdf 02 46 27.8 -0.7
ILAR Eielson Array 130.95 31 PKP PKPdf 02 46 27.9 -1.3
1.3nm,1.1s,baz=273,slow=3.1,SNR=7.4
BW06 Boulder Array 130.95 72 P PKiKP 02 46 31.5 +0.4
baz=225
PDAR Pinedale Array 130.95 72 PKP PKPdf 02 46 29.6 -0.7
0.2nm,0.4s,baz=107,slow=1.5,SNR=4.2
ISCO Idaho Springs 130.96 77 P PKiKP 02 46 31.5 +0.1
baz=224
WMOK Wichita Mounta 131.02 87 *e*PKPdf PKPdf 02 46 30.1 -0.2
WMOK Wichita Mounta 131.02 87 P PKiKP 02 46 31.2 -0.1
baz=222
MSO Missoula 131.51 65 P PKiKP 02 46 32.5 +0.5
baz=227
BOZ Bozeman (W) 131.84 68 P PKiKP 02 46 33.6 +0.9
baz=227
DAWY Dawson 132.70 35 *e*PKPdf PKPdf 02 46 33.0 +0.4
BR101 Keskin Array S 134.62 277 *e*PKPdf PKPdf 02 46 35.9 -1.3
BRTR Keskin Array B 134.62 277 PKP PKPdf 02 46 35.9 -1.3
1.3nm,1.0s,baz=129,slow=5.0,SNR=5.5
RSSD Black Hills 134.81 74 P PKiKP 02 46 39.0 +0.1
baz=228
WHAR Wooly Hollow 135.02 92 *e*PKPdf PKiKP 02 46 38.9 -0.4
EPYK Eagle Plains 135.09 34 *e*PKPdf PKPdf 02 46 36.6 -0.5
959A Okeechobee 135.20 110 P PKiKP 02 46 39.2 -0.7
baz=216
U41A Viola 135.99 91 P PKiKP 02 46 40.9 -0.4
baz=223
151A Opelika 136.77 101 P PKiKP 02 46 42.4 -0.6
baz=220
Z50A Ashland 137.00 100 P PKiKP 02 46 42.7 -0.7
baz=220
INK Inuvik 137.27 33 PKP PKPdf 02 46 40.2 -0.7
1.4nm,0.7s,baz=135,slow=1.4,SNR=4.4
W47A Westpoint 137.57 96 P PKPdf 02 46 43.4 +0.8
baz=222
Z52A Williamson 137.76 101 P PKPdf 02 46 43.9 +0.8
baz=220
V47A Nunnelly 138.04 96 P PKPdf 02 46 44.2 +0.7
baz=222
Y52A Lilburn 138.47 101 P PKPdf 02 46 45.0 +0.7
baz=221
ECSD EROS Data Cent 138.54 80 P PKPdf 02 46 45.1 +0.9
baz=229
U49A Red Boiling Sp 139.50 97 P PKPdf 02 46 46.4 +0.3
baz=223
X54A Belton 139.90 102 P PKPdf 02 46 47.7 +0.8
baz=221
U51A La Follette 140.37 98 P PKPdf 02 46 48.1 +0.4
baz=222
R47A Wooly Knot Far 140.37 94 P PKPdf 02 46 47.0 -0.6
baz=224
WCI Wyandotte Cave 140.46 94 *e*PKPdf PKiKP 02 46 49.0 -1.3
YKA Yellowknife Ar 140.68 47 PKhKP PKPpre 02 46 42.5
0.6nm,0.8s,baz=239,slow=3.5,SNR=6.9
YKA PP PP 02 49 46.2 -2.2
0.9nm,1.0s,baz=237,slow=5.5,SNR=5.8
YKB5 Yellowknife Ar 140.68 47 *e*PKPpre PKPpre 02 46 42.5
U52A Thorn Hill 140.73 99 P PKPdf 02 46 47.5 -0.8
baz=222
HARR Harsova 141.10 279 ‖ *i*P PKPdf 02 46 47.0 -1.7
MLR Muntele Rosu 142.69 278 ‖ *i*P PKPdf 02 46 50.4 -1.3
ULM Lac du Bonnet 142.97 72 *e*PKPpre PKPpre 02 46 47.2
ULM Lac du Bonnet 142.97 72 PKhKP PKPpre 02 46 46.7
9.0nm,1.1s,baz=243,slow=3.8,SNR=8.5
AKASG Malin Array Be 144.02 287 PKhKP PKPpre 02 46 50.0
3.6nm,0.7s,baz=96,slow=2.0,SNR=6.8
KIEV Kiev 144.03 287 ‖ *i*P PKPab 02 46 49.8 -1.4
GZR Gura Zlata 144.37 276 ‖ *i*P PKPab 02 46 52.1 -0.7
BURAR Bucovina Array 144.39 281 ‖ *i*P PKPbc 02 46 52.8 -0.3
Q55A Buckhannon 144.41 99 P PKPab 02 46 52.3 -0.8
baz=224
G43A Wallace 144.41 85 P PKPab 02 46 51.5 -1.3
baz=231,SNR=12
BUR08 Bucovina Ar. S 144.42 281 *e*PKPdf PKPbc 02 46 53.6 +0.4
I45A Fountain 144.44 87 P PKPab 02 46 52.2 -0.8
baz=230
E41A Kenton 144.46 82 P PKPab 02 46 51.7 -1.3
baz=232,SNR=7.1
M50A Fremont 144.46 93 P PKPab 02 46 52.1 -1.1
baz=227
F42A Maple Grove Fa 144.48 84 P PKPab 02 46 52.7 -0.4
baz=232
N51A Ashland 144.50 95 P PKPab 02 46 52.8 -0.6
baz=226
S58A Poland Farm, P 144.51 103 P PKPab 02 46 52.7 -0.7
baz=223
L49A Milan 144.54 92 P PKPab 02 46 52.6 -0.8
baz=228,SNR=12
ARCR ARCALIA 144.54 279 ‖ *i*P PKPbc 02 46 53.2 -0.3
MDVR Moldovita 144.57 274 ‖ *i*P PKPab 02 46 52.2 -1.3
MATE Matera 144.60 265 ‖ *i*P PKPbc 02 46 53.5 -0.3
O53A New Philadelph 144.68 97 P PKPab 02 46 53.1 -0.9
baz=226,SNR=7.1
J47A Sunmer 144.70 90 P PKPab 02 46 53.0 -0.9
baz=229,SNR=15
AAM Ann Arbor 144.73 92 *e*PKPdf PKPab 02 46 53.6 -0.5
AAM Ann Arbor 144.73 92 P PKPab 02 46 53.4 -0.7
baz=228
CJR Cluj-Napoca 144.73 278 ⇑ *i*P PKPbc 02 46 53.9 -0.3
R57A Stanardsville 144.76 101 P PKPab 02 46 53.3 -1.0
baz=223
K48A Perry 144.80 91 P PKPab 02 46 53.1 -1.2
baz=229,SNR=11
N52A McGinn's Farm, 144.80 95 P PKPab 02 46 53.5 -0.9
baz=226
I46A Reed City 144.81 88 P PKPab 02 46 54.1 -0.3
baz=230
R58B Mineral 144.86 103 P PKPab 02 46 54.1 -0.6
baz=223
M51A Elyria 144.89 94 P PKPab 02 46 54.3 -0.4
baz=227
P55A Reedsville 144.91 99 P PKPab 02 46 54.1 -0.8
baz=225
H45A Beulah 144.92 87 P PKPab 02 46 54.6 -0.2
baz=230
PLIO Pelee Island, 144.92 93 P PKPbc 02 46 54.2 -0.7
baz=227
KEST Kesra 145.00 251 PKP PKPbc 02 46 55.1 -0.3
19nm,0.9s,baz=211,slow=5.3,SNR=12
MCWV Mont Chateau 145.01 99 P PKPbc 02 46 54.6 -0.6
baz=225
E42A Champion 145.01 83 P PKPbc 02 46 53.5 -1.5
baz=232,SNR=15
L50A Kingsville 145.02 93 P PKPbc 02 46 54.3 -0.9
baz=228
S59A Mechanicsville 145.03 103 P PKPbc 02 46 53.9 -1.4
baz=223
D41A Chassel 145.04 81 P PKPbc 02 46 54.4 -0.7
baz=233,SNR=21
R58A Rapidan 145.04 102 P PKPbc 02 46 54.4 -1.0
baz=223
F43A Flat Rock, Esc 145.05 84 P PKPbc 02 46 54.0 -1.2
baz=232,SNR=10
O54A Avella 145.09 97 P PKPbc 02 46 54.6 -0.9
baz=226
BZS Buzias 145.15 275 ‖ *i*P PKPbc 02 46 54.7 -0.8
K49A Clarkson 145.16 91 P PKPbc 02 46 54.8 -0.8
baz=229
C40A Isle Royale Na 145.22 80 P PKPbc 02 46 55.0 -0.6
baz=234
DRGR 145.26 278 ⇑ *i*P PKPbc 02 46 54.3 -1.6
N53A Lisbon 145.27 96 P PKPbc 02 46 54.9 -1.1
baz=226,SNR=10
CBN Corbin Frederi 145.31 103 P PKPbc 02 46 55.4 -0.7
baz=223
J48A Bridge Port 145.31 90 P PKPab 02 46 56.6 +0.3
baz=229
H46A Fife Lake 145.33 88 P PKPbc 02 46 55.7 -0.3
baz=230
Q57A Strasburg 145.35 101 P PKPbc 02 46 55.7 -0.6
baz=224
I47A Gladwin 145.38 89 P PKPdf 02 46 55.6 -0.6
baz=230
G45A Suttons Bay 145.39 86 P PKPdf 02 46 55.6 -0.7
baz=231
R59A King George, V 145.45 103 P PKPdf 02 46 55.2 -1.3
baz=223
E43A Lone Tree Farm 145.48 84 P PKPdf 02 46 55.3 -1.1
baz=232,SNR=14
M52A Chesterland 145.48 95 *e*PKPdf PKPab 02 46 57.0 +0.1
M52A Chesterland 145.48 95 P PKPdf 02 46 55.6 -1.0
baz=227
SIRR Siria 145.52 276 ⇑ *i*P PKPdf 02 46 55.0 -1.5
F44A Big Bay de Noc 145.55 85 P PKPdf 02 46 56.2 -0.3
baz=232
O55A Ligonier 145.69 98 P PKPdf 02 46 56.7 -0.3
baz=225
J49A Marlette 145.71 91 P PKPdf 02 46 56.2 -0.7
baz=229
M53A Wt Miller and 145.79 96 P PKPdf 02 46 56.5 -0.5
baz=227
GLMI Grayling 145.83 88 *e*PKPbc PKPbc 02 46 57.8 +0.2
N54A Moraine State 145.84 97 P PKPdf 02 46 56.8 -0.3
baz=226
F45A CMU Biological 145.87 86 P PKPdf 02 46 56.6 -0.4
baz=232
H47A Mio 145.92 88 P PKPdf 02 46 57.4 +0.2
baz=231
I48A Sherman Twp 145.93 89 P PKPdf 02 46 57.1 -0.1
baz=230
G46A Petoskey 146.01 87 P PKPdf 02 46 57.4 +0.1
baz=231
O56A Blue Knob Stat 146.14 99 P PKPdf 02 46 57.9 +0.1
baz=225
TRPA Tarpa 146.15 279 ⇑ *i*P PKPbc 02 46 58.2 -0.3
E44A Grand Marais A 146.22 84 *e*PKPdf PKPbc 02 46 58.3 -0.5
E44A Grand Marais A 146.22 84 P PKPbc 02 46 58.2 -0.5
baz=233
I49A Point Hope 146.26 90 P PKPdf 02 46 58.0 +0.3
baz=230
N55A Marion Center 146.26 98 P PKPdf 02 46 58.1 +0.2
baz=226
F46A Macinaw City C 146.35 86 P PKPbc 02 46 58.5 -0.6
baz=232
L53A Girard 146.37 95 P PKPdf 02 46 58.3 +0.3
baz=227
M54A Oil Creek Stat 146.39 96 P PKPdf 02 46 58.6 +0.4
baz=227
H48A Harrisville 146.47 89 P PKPdf 02 46 58.7 +0.6
baz=231
E45A Wooded Hills, 146.47 85 P PKPbc 02 46 59.2 -0.3
baz=233
G47A Hillman 146.47 88 P PKPbc 02 46 58.8 -0.7
baz=231
ERPA Erie 146.63 95 P PKPdf 02 46 59.2 +0.7
baz=228
K52A Tillsonburg 146.67 94 P PKPbc 02 46 59.4 -0.8
baz=228
N56A West Decatur 146.74 98 P PKPbc 02 46 59.7 -0.8
baz=226
KOLS Kolonicke sedl 146.76 280 *e*PKP PKPbc 02 47 00.1 -0.2
SSPA Standing Stone 146.76 99 P PKPbc 02 46 59.9 -0.7
baz=226
P59A Jarrettsville 146.83 102 P PKPbc 02 47 00.2 -0.6
baz=224
M55A Ridgway 146.86 97 P PKPdf 02 46 59.7 +0.8
baz=227
KWP Kalwaria Pacla 146.91 282 *e*P PKPbc 02 46 60.0 -0.7
BASO Ashfield 146.95 91 P PKPbc 02 47 00.1 -0.9
baz=230
E46A Sault Ste Mari 146.96 86 P PKPbc 02 47 00.1 -0.8
baz=233
N57A Milroy 147.03 99 P PKPbc 02 47 00.2 -1.1
baz=226
BLY Banja Luka 147.05 270 ‖ *i*P PKPab 02 47 02.7 -0.1
L54A Sinclairville 147.07 96 P PKPbc 02 47 00.3 -1.1
baz=228
J52A Paris 147.10 93 P PKPbc 02 47 00.5 -0.9
baz=229
I51A Listowel 147.17 92 P PKPbc 02 47 01.1 -0.5
baz=230
M56A Emporium 147.19 98 P PKPbc 02 47 00.9 -0.9
baz=227
BRCO Bruce Peninsul 147.22 91 P PKPbc 02 47 01.1 -0.6
baz=230
BWLO Walkerton 147.31 91 P PKPbc 02 47 01.2 -0.7
baz=230
D46A Sault St. Mari 147.42 85 P PKPbc 02 47 01.2 -1.0
baz=233
O59A Robesonia 147.46 101 P PKPbc 02 47 01.7 -0.9
baz=225
PSZ Piszkesteto 147.47 277 ‖ *i*P PKPdf 02 46 58.5 -1.3
F48A Evansville 147.56 88 P PKPbc 02 47 02.2 -0.4
baz=232
ACTO Acton 147.57 93 P PKPbc 02 47 02.3 -0.4
baz=229
E47A Iron Bridge 147.58 86 P PKPbc 02 47 02.4 -0.2
baz=233
K54A Basiliko Farm, 147.67 96 P PKPbc 02 47 02.5 -0.5
baz=228
IDID Didziasalis 147.67 293 *e*P PKPbc 02 47 01.2 -1.3
IDID IAmb IAmb 02 47 05.3
comp=Z,11nm,0.8s
F49A Sandfield 147.84 88 P PKPbc 02 47 02.5 -0.9
baz=232
O60A Telford 147.89 102 P PKPbc 02 47 02.8 -0.8
baz=225
IIGN Ignalina 147.95 293 *e*P PKPdf 02 47 01.5 +1.3
IIGN IAmb IAmb 02 47 05.0
comp=Z,5.4nm,1.0s
D47A Chapleau 148.03 86 P PKPbc 02 47 03.2 -0.6
baz=234
FCC Fort Churchill 148.06 60 *e*PKPdf PKPdf 02 47 01.1 +0.9
FCC *e*PKPbc PKPbc 02 47 03.8 +0.3
ISAL Salakas 148.10 293 *e*P PKPdf 02 47 01.2 +0.8
ISAL IAmb IAmb 02 47 04.4
comp=Z,11nm,1.1s
N59A State Game Lan 148.11 101 *e*PKPbc PKPbc 02 47 05.1 +0.8
N59A State Game Lan 148.11 101 P PKPbc 02 47 03.8 -0.5
baz=226
IZAR Zarasai 148.12 294 *e*P PKPdf 02 47 01.2 +0.8
E48A Lockeyer 148.21 87 P PKPbc 02 47 04.2 -0.1
baz=233
H52A Wyevale 148.33 92 P PKPbc 02 47 04.0 -0.6
baz=231
PKRO Pickering 148.35 93 P PKPbc 02 47 04.1 -0.7
baz=230
VYHS Vyhne 148.38 277 *e*PKP PKPbc 02 47 03.8 -0.9
LANS Liptovska Anna 148.41 279 *e*PKP PKPbc 02 47 04.7 -0.1
LVZ Lovozero 148.47 318 *e*PKPdf PKPdf 02 47 01.4 +0.6
WLVO Wesleyville 148.69 94 P PKPbc 02 47 03.8 -1.8
baz=230
OJC Ojcow 148.81 281 *e*P PKPbc 02 47 05.3 -0.4
D48A Paudash Townsh 148.82 86 P PKPbc 02 47 04.0 -1.8
baz=234
SADO Sadowa 148.82 92 *e*PKPbc PKPbc 02 47 04.5 -1.4
BINY Binghamton 148.88 99 P PKPdf 02 47 03.9 +1.6
baz=227
SUW Suwalki 148.91 289 *e*P PKPbc 02 47 04.8 -1.0
VSU Vasula 149.01 299 *e*P PKPbc 02 47 04.6 -1.3
VSU IAmb IAmb 02 47 05.9
comp=Z,57nm,0.9s
D49A Beulah Townshi 149.12 87 P PKPdf 02 47 04.1 +1.6
baz=234
MODS Modra-Piesok 149.17 276 *e*PKP PKPbc 02 47 06.5 -0.2
PABE Paberze 149.17 292 *e*P PKPbc 02 47 04.6 -1.8
PABE IAmb IAmb 02 47 10.9
comp=Z,57nm,1.2s
JAVC Velka Javorina 149.23 277 *e*PKP PKPbc 02 47 06.8 -0.1
SOKA Soboth 149.42 272 *e*PKPbc PKPbc 02 47 07.0 -0.5
comp=Z,15nm,1.1s,SNR=6.4
ARSA Arzberg 149.49 273 *e*PKPbc PKPbc 02 47 07.0 -0.6
comp=Z,9.0nm,0.8s
OKC Ostrava-Krasne 149.50 279 *e*PKP PKPbc 02 47 06.4 -1.1
OKC *e*PKP PKiKP 02 47 10.2 +1.7
OKC AMS AMS 04 07 50.0
comp=Z,300nm,17.7s
BANO Bancroft 149.65 93 P PKPbc 02 47 06.8 -1.2
baz=231
CONA Conrad Observa 149.70 274 *e*PKPdf PKPbc 02 47 06.9 -1.2
comp=Z,10nm,1.6s
E51A G1948 Merrick 149.72 89 P PKPbc 02 47 06.9 -1.2
baz=233
MORC Moravsky Berou 149.80 279 ⇑ *i*P PKPbc 02 47 08.3 0.0
MORC Moravsky Berou 149.80 279 *e*PKP PKPbc 02 47 07.1 -1.2
E52A Mattawa 150.03 90 P PKPbc 02 47 07.2 -1.7
baz=233
KRUC Moravsky 150.04 277 *e*PKP PKPbc 02 47 07.9 -0.9
VRAC Vranov 150.07 277 ‖ *i*P PKPbc 02 47 07.0 -1.9
PLVO Plevna 150.13 94 P PKPbc 02 47 07.4 -1.7
baz=231
ALGO Algonquin Park 150.16 91 P PKPbc 02 47 08.1 -1.1
baz=232
MYKA Terra Mystica 150.16 270 *e*PKPdf PKPbc 02 47 08.8 -0.5
comp=Z,22nm,1.3s
H56A Elgin 150.30 95 P PKPbc 02 47 08.4 -1.2
baz=230
FIA1 FINESS Array S 150.34 304 *e*PKPbc PKPbc 02 47 08.7 -0.4
FIA0 FINESS Array S 150.34 304 *e*PKPdf PKPbc 02 47 07.2 -1.9
FINES FINESS Array B 150.34 304 PKPbc PKPbc 02 47 07.2 -1.9
comp=Z,11nm,0.8s,baz=105,slow=4.5,SNR=30
KRLC Kraliky 150.38 278 *e*PKP PKPbc 02 47 09.1 -0.6
PEMO Pembroke 150.44 92 P PKPbc 02 47 08.6 -1.3
baz=232
G55A Calabogie 150.47 94 P PKPbc 02 47 09.0 -1.0
baz=231
D52A ZEK Kipawa Sen 150.58 89 P PKPbc 02 47 09.2 -1.0
baz=234
KBA Koelnbreinsper 150.59 271 *e*PKPdf PKPbc 02 47 09.2 -1.3
comp=Z,15nm,1.0s
E53A Dumoine, Ponti 150.63 91 P PKPbc 02 47 09.1 -1.2
baz=233
RES Resolute Bay 150.64 29 *e*PKPbc PKPbc 02 47 08.1 -1.4
RES Resolute Bay 150.64 29 PKPbc PKPbc 02 47 07.4 -2.1
comp=Z,3.9nm,0.8s,baz=279,slow=2.4,SNR=11
TREC Trest 150.67 276 *e*PKP PKPbc 02 47 09.1 -1.2
TREC AMS AMS 04 03 10.0
comp=Z,200nm,19.7s
DPC Dobruska-Polom 150.77 279 *e*PKP PKPbc 02 47 09.0 -1.6
DPC *e*pPKP PKiKP 02 47 12.2 +1.0
DPC AMS AMS 04 04 40.0
comp=Z,200nm,19.4s
ABTA Abfaltersbach 150.86 270 *e*pPKPdf PKPbc 02 47 10.2 -0.8
comp=Z,17nm,1.1s,SNR=5.1
E54A Lac Daplat, Po 150.93 91 P PKPbc 02 47 09.8 -1.2
baz=233
UPC Upice 151.02 279 *e*PKP PKPdf 02 47 07.9 +2.6
UPC AMS AMS 04 05 10.0
comp=Z,200nm,19.1s
F55A Otter Lake 151.03 93 P PKPbc 02 47 10.2 -1.1
baz=232
D53A Lac Vacive, Po 151.03 90 *e*PKPbc PKPbc 02 47 10.6 -0.6
D53A Lac Vacive, Po 151.03 90 P PKPbc 02 47 10.4 -0.8
baz=234
LONY Lake Ozonia 151.24 97 P PKPbc 02 47 10.6 -1.2
baz=230
ORIO Orleans, Innes 151.25 94 P PKPbc 02 47 10.9 -0.9
baz=231
GOPC GO Pecny, Ondr 151.38 277 *e*PKP PKPbc 02 47 10.9 -1.1
GOPC *e*pPKP pPKPdf 02 47 15.0 -0.3
GOPC AMS AMS 04 09 20.0
comp=Z,200nm,19.3s
GEC2 GERESS Array S 151.40 274 *e*PKPbc PKPbc 02 47 11.1 -1.1
GERES GERESS Array B 151.40 274 PKPbc PKPbc 02 47 09.9 -2.2
comp=Z,3.6nm,0.8s,baz=144,slow=2.5,SNR=28
PRU Pruhonice 151.56 277 *e*PKP PKPbc 02 47 11.4 -0.9
PRU *e*pPKP pPKPdf 02 47 16.8 +1.2
PRU AMS AMS 04 09 30.0
comp=Z,200nm,20.4s
KHC Kasperske Hory 151.63 275 *e*PKP PKPbc 02 47 11.3 -1.3
KHC *e*pPKP pPKPdf 02 47 16.5 +0.7
KHC AMS AMS 04 01 40.0
comp=Z,200nm,18.3s
WTTA Wattenberg 151.65 270 *e*pPKPdf PKPbc 02 47 11.9 -1.0
comp=Z,12nm,1.0s,SNR=4.9
D54A Lac Fusel, La 151.65 91 P PKPbc 02 47 11.6 -1.1
baz=234
ALFO Alfred 151.71 95 P PKPbc 02 47 12.1 -0.7
baz=232
WATA Walderalm 151.72 270 *e*pPKPdf PKPbc 02 47 11.0 -2.0
comp=Z,8.2nm,0.8s
VLDQ Val d'Or 151.76 88 *e*PKPbc PKPbc 02 47 12.8 0.0
PVCC Panska Ves 151.82 278 AMS AMS 03 59 30.0
comp=Z,200nm,17.9s
SQTA Sankt Quirin 151.86 269 *e*pPKPdf PKPbc 02 47 11.6 -1.7
comp=Z,12nm,0.7s,SNR=7.2
MOTA Moosalm 151.99 269 *e*pPKPdf PKPbc 02 47 11.9 -1.7
comp=Z,7.8nm,0.8s
ARCES ARCESS Array B 151.99 321 PKPbc PKPbc 02 47 10.9 -1.9
comp=Z,3.7nm,0.8s,baz=90,slow=2.4,SNR=9.3
FETA Feichten 152.01 269 *e*P PKPbc 02 47 13.1 -0.6
comp=Z,14nm,1.0s,SNR=8.4
FUORN Ofenpass-Fuorn 152.03 267 *e*PKPbc PKPbc 02 47 13.1 -0.8
RETA Reutte 152.26 269 *e*P PKPbc 02 47 13.3 -0.8
comp=Z,8.8nm,1.0s
BRG Berggiesshubel 152.34 278 *e*PKP PKPbc 02 47 13.3 -0.8
comp=Z,5.3nm,0.9s
LBNH Lisbon 152.45 100 P PKPbc 02 47 13.5 -1.0
baz=229
LSQQ Lebel-sur-Quev 152.55 87 P PKPbc 02 47 13.5 -1.1
baz=237
DAVA Damuels 152.63 268 *e*P PKPbc 02 47 13.6 -1.5
comp=Z,7.9nm,0.9s
NKC Novy Kostel 152.84 276 *e*PKP PKPbc 02 47 15.0 -0.3
NKC AMS AMS 04 08 40.0
comp=Z,200nm,14.8s
CLL Collm 153.07 278 *e*PKPbc PKPbc 02 47 14.5 -1.2
CLL Collm 153.07 278 *i*PKPbc PKPbc 02 47 14.4 -1.2
comp=Z,5.0nm,0.7s
CLL *i*pPKPbc pPKPdf 02 47 18.9 +1.1
CLL *i*PKPab pPKPbc 02 47 25.8 +0.7
comp=Z,9.0nm,1.2s
CLL *i*pPKPab sPKPbc 02 47 29.5 +1.1
CLL LmV 04 12 00.0
comp=Z,200nm,22.0s
BFO Black Forest 154.09 269 *e*PKPbc PKPbc 02 47 16.8 -1.2
BFO *e*PKPab PKPab 02 47 30.7 -1.1
NB2 NORSAR Subarra 157.25 299 P PKPab 02 47 43.2 -1.9
comp=Z,9.2nm,1.4s,baz=91,slow=5.1
NOA NORSAR Array B 157.25 299 PKPab PKPab 02 47 43.8 -1.3
comp=Z,1.6nm,0.8s,baz=99,slow=4.6,SNR=5.4

*ISCJB **25** 02:40:10.9±1.0, 54°.5N±0°.2×153°.6E±0°.3, h650km, mb2.9/5, Error ellipse: s-maj=27.5km s-min=23.0km az=142.4*
*IDC **25** 02:40:11.5±1.4, 54°.48N×153°.39E, h631km±23km, mb2.6/5, mb1 2.7/7, mb1mx2.4/41, mbtmp3.6/7, Error ellipse: s-maj=44.0km s-min=25.3km az=84.0*
ISC 25 02:40:11.8±1.1, 54°.4N±0°.2×153°.7E±0°.2, h650km, n7, σ0 97/7, mb3.0/5, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	2.73	117	P	P	02 41 32.7	-1.0
1.1nm,0.3s,baz=321,slow=3.4,SNR=26							
KLR	Kul'dur	14.50	258	P	P	02 43 12.6	-0.7
0.3nm,0.3s,baz=58,slow=9.7,SNR=6.8							
MKAR	Makanchi Array	44.13	291	P	P	02 47 24.6	-0.5
0.3nm,0.4s,baz=57,slow=7.1,SNR=4.4							
ARCES	ARCESS Array B	50.75	339	P	P	02 48 13.8	+0.1
1.4nm,0.8s,baz=22,slow=7.8,SNR=2.7							
FINES	FINESS Array B	57.29	333	P	P	02 48 59.5	+0.2
0.4nm,0.4s,baz=42,slow=9.3,SNR=3.8							
BRTR	Keskin Array B	73.08	316	P	P	02 50 38.8	+0.7
0.2nm,0.6s,baz=19,slow=4.9,SNR=2.9							
ASAR	Alice Springs	79.62	198	P	P	02 51 14.8	+1.2
0.3nm,0.7s,baz=9.0,slow=4.6,SNR=4.3							

*DDA **25** 02:48:19.8, 38.′64N×43.′47E, h18km±1km, ML3.0*
*ISK **25** 02:48:19.9, 38.′66N×43.′42E, h8km, ML2.7/12*
*ISCJB **25** 02:48:21.0±0.4, 38.′67N±0.′02×43.′44E±0.′04, h11km±3km, Error ellipse: s-maj=5.0km s-min=3.4km az=13.4*
ISC 25 02:48:20.4±0.9, 38.′64N±0.′02×43.′45E±0.′03, h16km±6km, n33, σ0.9 75/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.07**	**225**	**Pg**		**02 48 23.7**	**0.0**
VANB				SG		**Sg**	**02 48 26.1**	**+0.3**
TVAN	**Van**	**0.12**	**197**	*i* P		**Pb**	**02 48 24.5**	**0.0**
TVAN				*i* S		**Sb**	**02 48 27.7**	**+0.6**
VMUR	**Van-Muradiye**	**0.36**	**15**	*i* P		**Pb**	**02 48 28.2**	**-0.4**
VMUR				*i* S		**Sb**	**02 48 34.1**	**+0.1**
ERCV	**ERCIS-VAN**	**0.39**	**347**	PG		**Pg**	**02 48 27.8**	**-0.6**
GEVA	**Gevas** comp=Z,16μm,0.3s	**0.45**	**223**	IAML_P				
GEVA				*i* P		**Pb**	**02 48 29.3**	**-0.8**
GEVA				*i* S		**Sb**	**02 48 37.3**	**+0.6**
ADCV	**BITLIS_Adilcev** comp=Z,2μm,0.1s	**0.59**	**286**	IAML_P				
ADCV				*i* P		**Pb**	**02 48 32.6**	**+0.1**
ADCV				*i* S		**Sb**	**02 48 41.2**	**+0.5**
CLDR	**Caldiran**	**0.62**	**36**	PG		**Pg**	**02 48 32.1**	**-0.6**
CLDR				SG		**Sb**	**02 48 41.8**	**+0.3**
CLDR	**Caldiran** comp=Z,8μm,0.1s	**0.62**	**36**	IAML_P				
CLDR				*i* P		**Pb**	**02 48 32.9**	**-0.1**
CLDR				*i* S		**Sb**	**02 48 42.6**	**+1.1**
BASK	**Baskale_VAN** comp=Z,5μm,0.1s	**0.73**	**143**	IAML_P				
BASK				*i* P		**Pg**	**02 48 33.7**	**-1.1**
BASK				*i* S		**Sb**	**02 48 45.3**	**+0.5**
MLAZ	**Malazgirt-MUS**	**0.86**	**306**	PG		**Pg**	**02 48 36.5**	**-0.7**
TUTA	**Tutak**	**0.91**	**327**	*i* P		**Pb**	**02 48 37.8**	**-0.1**
AGRB	**Hanur-Agry**	**1.00**	**339**	PG		**Pg**	**02 48 38.9**	**-0.9**
AGRB				SG		**Sb**	**02 48 52.7**	**+0.3**
BLIS	**Bitlis-Merkez** comp=Z,2μm,0.3s	**1.07**	**258**	IAML_P				
BLIS				*i* P		**Pb**	**02 48 39.9**	**-0.8**
BLIS				*i* S		**Sg**	**02 48 54.7**	**-0.5**
HAKT	**HAKKARI** comp=Z,2μm,0.2s	**1.10**	**169**	IAML_P				
HAKT				*i* P		**Pb**	**02 48 40.1**	**-1.1**
HAKT				*i* S		**Sn**	**02 48 56.4**	**0.0**
IGDI	**IGDIR** comp=Z,523nm,0.3s	**1.32**	**22**	IAML_P				
IGDI				*i* P		**Pg**	**02 48 44.9**	**-0.9**
SRTM	**Siirt_Merkez** comp=Z,1μm,0.3s	**1.37**	**242**	IAML_P				
SRTM				*i* P		**Pg**	**02 48 46.2**	**-0.6**
SIRT	**Sirnak**	**1.39**	**215**	PN		**Pg**	**02 48 46.3**	**-0.9**
CUKT	**Cukurca**	**1.40**	**175**	PN		**Pb**	**02 48 46.4**	**+0.2**
CUKT	**Cukurca** comp=Z,2μm,0.4s	**1.40**	**175**	IAML_P				
CUKT				*i* P		**Pg**	**02 48 47.0**	**-0.4**
SIRN	**Sırnak** comp=Z,1μm,0.3s	**1.41**	**216**	IAML_P				
SIRN				*i* P		**Pg**	**02 48 47.1**	**-0.4**
EATA	**Eleskirt** comp=Z,837nm,0.3s	**1.43**	**329**	IAML_P				
EATA				*i* P		**Pg**	**02 48 47.5**	**-0.5**
EATA				*i* S		**Sg**	**02 49 06.2**	**-0.4**
MUSM	**Mu-Merkez** comp=Z,792nm,0.2s	**1.52**	**274**	IAML_P				
MUSM				*i* P		**Pn**	**02 48 47.4**	**+0.3**
VRTB	**Varto-Mus**	**1.64**	**289**	PN		**Pb**	**02 48 49.4**	**-1.0**
GNI	**Garni**	**1.81**	**33**	PN		**Pn**	**02 48 51.7**	**+0.7**
BNGL	**BINGOL**	**1.82**	**280**	*i* P		**Pg**	**02 48 54.6**	**-0.9**
KOPR	**Koprukoy-ERZUR**	**1.83**	**318**	PN		**Pb**	**02 48 52.2**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.84**	**255**	PN		**Pb**	**02 48 52.6**	**-1.0**
HOMI	**Horasan** comp=Z,296nm,0.2s	**1.84**	**320**	IAML_P				
HOMI				*i* P		**Pg**	**02 48 56.2**	**+0.4**
BTMN	**Batman** comp=Z,288nm,0.5s	**1.87**	**247**	IAML_P				
BTMN				*i* P		**Pg**	**02 48 55.2**	**-1.2**
KARO	**Karliova-Bingo**	**1.99**	**290**	PN		**Pn**	**02 48 54.6**	**+1.1**
BNGB	**Bingl**	**2.19**	**280**	PN		**Pn**	**02 48 57.6**	**+1.3**
HANI	**Diyarbakir_Han** comp=Z,159nm,0.3s	**2.40**	**266**	IAML_P				
HANI				*i* P		**Pb**	**02 49 04.0**	**+0.7**
MARD	**Mardin** comp=Z,297nm,0.2s	**2.49**	**239**	IAML_P				
MARD				*i* P		**Pn**	**02 49 01.5**	**+1.1**

TRN 25 03:09:03.1, 18.′50N×62.′59W, h14km, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.64**	**226**	*e*P	Pn	03 09 17.9	+0.1
SMRT				*e*S	Sn	03 09 28.9	+1.0
SEUS	**St. Eustatius**	**1.07**	**200**	*e*P	Pg	03 09 25.7	+1.9
SEUS				*e*S	Sn	03 09 41.6	+3.2
ANWB	**Willy Bob**	**1.13**	**137**	*e*P	Pg	03 09 25.9	+1.0
ANWB				*e*S	Sn	03 09 42.6	+2.7
SKI	**Saint Kitts**	**1.17**	**187**	*e*P	Pg	03 09 27.4	+1.7
SKI				*e*S	Sg	03 09 44.0	+3.1
SKOC	**St. Kitts, UWI**	**1.21**	**186**	*e*P	Pg	03 09 26.8	+0.4
SKOC				*e*S	Sg	03 09 45.6	+3.4
NEV	**Hard Times**	**1.36**	**179**	*e*P	Pg	03 09 29.4	+0.1
NEV				*e*S	Sg	03 09 49.5	+2.6
NVDO	**Nevis, Disaste**	**1.38**	**181**	*e*P	Pg	03 09 29.4	-0.2
NVDO				*e*S	Sg	03 09 49.2	+1.7
NVBH	**Bath Hotel, Ne**	**1.38**	**181**	*e*P	Pg	03 09 29.7	0.0
NVBH				*e*S	Sg	03 09 49.5	+1.9
BPA	**Boggy Peak**	**1.61**	**154**	*e*P	Pg	03 09 33.7	-0.4
BPA				*e*S	Sg	03 09 55.0	0.0
MLYT	**Lee's Yard**	**1.81**	**168**	*e*P	Pb	03 09 36.5	+0.3
MLYT				*e*S	Sb	03 09 59.3	+0.6
BBL	**Barber's Block**	**3.15**	**160**	*e*P	Pn	03 09 54.9	+2.5
BBL				*e*S	Sn	03 10 32.1	+2.3

IDC 25 03:15:02.0±2.1, 15.′23N×120.′66E, h133km±14km, mb3.0/3, mb1 3.2/3, mb1mx2.9/33, mbtmp3.4/3, Error ellipse: s-maj=65.3km s-min=22.3km az=52.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City** 133nm,0.3s,baz=267,slow=17,SNR=3.8	**1.15**	**166**	P	Pn	03 15 26.6	-0.1
TGY	157nm,0.3s,baz=24,slow=20,SNR=19			S	Sn	03 15 45.6	+0.2
CMAR	**Chiang Mai Arr** 1.7nm,0.4s,baz=94,slow=8.6,SNR=7.4	**21.03**	**282**	P	P	03 19 35.4	+0.1
ASAR	**Alice Springs** 0.2nm,0.4s,baz=336,slow=7.0,SNR=6.0	**40.77**	**161**	P	P	03 22 30.1	-0.1
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=127,slow=8.8,SNR=2.8	**44.79**	**323**	P	P	03 23 02.3	-0.2

IDC 25 03:31:57.4±1.9, 56.′76S×145.′98E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.6/15, mbtmp3.5/3, Error ellipse: s-maj=199.1km s-min=26.1km az=79.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 0.5nm,0.6s,baz=342,slow=7.9,SNR=3.5	**21.58**	**171**	P	P	03 36 48.0	-0.1
STKA	**Stephens Creek** 0.7nm,0.3s,baz=175,slow=12,SNR=2.6	**25.06**	**351**	P	P	03 37 23.3	+0.1
H01W1	**Cape Leeuwin H** baz=142	**30.68**	**302**	T	T	04 11 09.8	
H01W2	**Cape Leeuwin H** baz=142	**30.69**	**302**	T	T	04 11 11.9	
H01W3	**Cape Leeuwin H** baz=142	**30.70**	**302**	T	T	04 11 11.1	
ASAR	**Alice Springs** 0.7nm,0.8s,baz=164,slow=8.9,SNR=3.5	**34.21**	**340**	P	P	03 38 44.2	-0.3
H08S2	**Diego Garcia H** baz=148	**74.60**	**280**	T	T	05 06 16.6	
H08S1	**Diego Garcia H** baz=148	**74.61**	**280**	T	T	05 06 17.6	
H08S3	**Diego Garcia H** baz=148	**74.62**	**280**	T	T	05 06 18.2	
FINES	**FINESS Array B** 0.9nm,0.7s,baz=30,slow=6.4,SNR=3.8	**149.76**	**304**	PKPbc	PKPbc	03 51 47.4	-0.2

IDC 25 03:32:48.9±5.3, 56.′92S×146.′04E, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.6/18, mbtmp4.0/2, Error ellipse: s-maj=302.0km s-min=44.7km az=91.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 3.4nm,0.8s,baz=161,slow=8.3,SNR=4.8	**25.23**	**351**	P	P	03 38 16.0	-0.2
H01W1	**Cape Leeuwin H** baz=144,slow=74	**30.80**	**302**	T	T	04 12 01.3	
H01W2	**Cape Leeuwin H** baz=144,slow=74	**30.80**	**302**	T	T	04 12 02.0	
H01W3	**Cape Leeuwin H** baz=144,slow=74	**30.82**	**302**	T	T	04 12 02.6	
ASAR	**Alice Springs** 1.6nm,0.9s,baz=164,slow=8.5,SNR=5.7	**34.37**	**340**	P	P	03 39 37.5	0.0
H08S2	**Diego Garcia H** baz=148,slow=76	**74.67**	**280**	T	T	05 07 08.4	
H08S1	**Diego Garcia H** baz=148,slow=76	**74.67**	**280**	T	T	05 07 09.2	
H08S3	**Diego Garcia H** baz=148,slow=76	**74.69**	**280**	T	T	05 07 09.9	
FINES	**FINESS Array B** 2.9nm,1.0s,baz=31,slow=5.7,SNR=3.6	**149.88**	**304**	PKPbc	PKPbc	03 52 39.4	0.0
GERES	**GERESS Array B** 0.2nm,0.6s,baz=133,slow=4.3,SNR=3.3	**150.67**	**275**	PKPbc	PKPbc	03 52 41.2	-0.7

MEX 25 03:36:57.0±0.7, 19.′11N×104.′79W, h25km±19km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.45**	**329**	*i* P	Pb	03 37 04.7	-1.7
CJM				*i* S	Sb	03 37 11.1	-1.8
EZ5V		**1.18**	**72**	*e*P	Pn	03 37 15.2	-3.0
EZ5V				*i* S	Sn	03 37 29.7	-4.0
MMIG	**Aquila**	**1.60**	**121**	*e*P	Pn	03 37 21.3	-2.4
MMIG				*i* S	Sn	03 37 40.7	-2.8
ANIG	**Ahuacatlan**	**1.95**	**8**	*e*P	Pn	03 37 26.8	-1.8
ANIG				*e*S	Sn	03 37 49.9	-2.5

IDC 25 03:38:02.5±5.6, 56.′57S×145.′50E, h0km, mb3.9/2, mb1 3.9/2, mb1mx3.6/18, mbtmp3.9/2, MS3.7/4, Ms1 3.7/4, ms1mx3.4/13, Error ellipse: s-maj=317.8km s-min=47.2km az=92.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks** comp=Z,142nm,18.5s,baz=218,slow=30	**20.67**	**62**	LR	LR	03 48 29.0	
VNDA	**Vanda** comp=Z,302nm,18.3s,baz=354,slow=35	**21.80**	**171**	LR	LR	03 50 52.5	
STKA	**Stephens Creek** 2.5nm,0.8s,baz=173,slow=8.1,SNR=4.5	**24.84**	**352**	P	P	03 43 26.5	+0.1
H01W1	**Cape Leeuwin H** baz=143,slow=74,SNR=44	**30.36**	**302**	T	T	04 17 15.5	
H01W2	**Cape Leeuwin H** baz=143,slow=74,SNR=43	**30.37**	**302**	T	T	04 17 15.0	
H01W3	**Cape Leeuwin H** baz=143,slow=74,SNR=36	**30.38**	**302**	T	T	04 17 16.8	
ASAR	**Alice Springs** 1.0nm,0.8s,baz=166,slow=8.6,SNR=6.0	**33.95**	**341**	P	P	03 44 47.4	0.0
PPT	**Papeete** comp=Z,28nm,19.9s,baz=224,slow=31	**61.73**	**79**	LR	LR	04 09 58.2	
H08S2	**Diego Garcia H** baz=147,slow=76,SNR=12	**74.31**	**280**	T	T	05 12 19.2	
H08S1	**Diego Garcia H** baz=147,slow=76,SNR=12	**74.32**	**280**	T	T	05 12 19.1	
H08S3	**Diego Garcia H** baz=147,slow=76,SNR=18	**74.33**	**280**	T	T	05 12 25.6	
CMAR	**Chiang Mai Arr** comp=Z,47nm,19.3s,baz=160,slow=35	**84.31**	**316**	LR	LR	04 27 30.8	
FINES	**FINESS Array B** 2.3nm,0.7s,baz=72,slow=6.2,SNR=7.3	**149.44**	**305**	PKPbc	PKPbc	03 57 51.1	-0.9
GERES	**GERESS Array B** 0.3nm,0.4s,baz=114,slow=3.4,SNR=5.0	**150.34**	**276**	PKPbc	PKPbc	03 57 54.8	0.0

*CRAAG **25** 04:30:16.9, 36.′37N×3.′36E, Ml2.7*
*ISCJB **25** 04:30:17.8±1.4, 36.′40N±0.′09×3.′5E±0.′2, h24km±11km, Error ellipse: s-maj=25.8km s-min=14.7km az=6.7*
*MDD **25** 04:30:18.6±0.7, 36.′34N×3.′45E, h8km±8km, mb3.5/6, Error ellipse: s-maj=18.4km s-min=5.8km az=89.0, PRXIMO*
ISC 25 04:30:17.9±1.5, 36.′34N±0.′05×3.′5E±0.′1, h19km±7km, n12, σ1.9 52/14, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADJB	**Djebel Djouab**	**0.19**	**191**	P	**Pg**	**04 30 22.3**	**-0.6**
ADJB	**Djebel Djouab**	**0.19**	**191**	P	**Pg**	**04 30 22.3**	**-0.6**
ABMS	**Boumerdes**	**0.41**	**360**	P	**Pg**	**04 30 26.4**	**+0.1**
ABMS	**Boumerdes**	**0.41**	**360**	P	**Pg**	**04 30 26.4**	**+0.1**
ABA	**Alger-Bouzarea**	**0.58**	**322**	P	**Pg**	**04 30 28.8**	**-0.8**
ABA	**Alger-Bouzarea**	**0.58**	**322**	P	**Pg**	**04 30 28.8**	**-0.8**
EIBI	**Ibiza** 1.0nm,0.2s,SNR=7.9	**3.17**	**328**	P	**Pn**	**04 31 07.8**	**+1.2**
EIBI	0.8nm,0.2s,SNR=7.9			S	**Sn**	**04 31 42.1**	**-1.9**
ETOS	**Mallorca** 0.5nm,0.2s,SNR=7.9	**3.46**	**351**	P	**Pn**	**04 31 10.9**	**+0.2**
ETOS	0.1nm,0.1s,SNR=7.9			S	**Sn**	**04 31 49.1**	**-2.0**
ETOB	**Tobarra** 0.6nm,0.2s,SNR=7.9	**4.61**	**301**	P	**Pn**	**04 31 29.1**	**+2.5**
ECHE	**Chera** 1.3nm,0.3s,SNR=7.9	**4.78**	**314**	P	**Pn**	**04 31 30.0**	**+1.1**
EMOS	**Mosqueruela** 0.3nm,0.1s,SNR=7.9	**5.08**	**323**	P	**Pn**	**04 31 34.5**	**+1.4**
CFON	**Fontmartina** 0.7nm,0.1s,SNR=7.9	**5.47**	**352**	P	**Pn**	**04 31 40.0**	**+1.6**

*ISK **25** 04:31:40.9, 38.′53N×43.′77E, h16km, ML2.4/3*
*DDA **25** 04:31:42.5, 38.′64N×43.′63E, h7km±4km, ML2.6*
*ISCJB **25** 04:31:44.0±1.0, 38.′67N±0.′03×43.′69E±0.′06, h6km±5km, Error ellipse: s-maj=7.9km s-min=4.6km az=26.4*
ISC 25 04:31:43.0±1.2, 38.′62N±0.′03×43.′72E±0.′04, h9km±10km, n15, σ0.8 86/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.26**	**266**	PG	**Pg**	**04 31 47.7**	**-0.5**
VANB				SG	**Sg**	**04 31 52.2**	**+0.4**
TVAN	**Van** comp=Z,11μm,0.1s	**0.26**	**251**	IAML_P			
TVAN				*i* P	**Pg**	**04 31 48.5**	**+0.2**
VMUR	**Van-Muradiye** comp=Z,835nm,0.2s	**0.39**	**343**	IAML_P			
VMUR				*i* P	**Pg**	**04 31 50.9**	**+0.2**
VMUR				*i* S	**Sg**	**04 31 55.0**	**-0.9**
CLDR	**Caldiran**	**0.55**	**16**	PG	**Pg**	**04 31 53.4**	**-0.3**
CLDR				SG	**Sb**	**04 32 02.8**	**-0.2**
CLDR	**Caldiran** comp=Z,2μm,0.1s	**0.55**	**16**	IAML_P			
CLDR				*i* P	**Pg**	**04 31 54.0**	**+0.3**
GEVA	**Gevas** comp=Z,1μm,0.2s	**0.60**	**240**	IAML_P			
GEVA				*i* P	**Pg**	**04 31 54.4**	**-0.2**
GEVA				*i* S	**Sb**	**04 32 04.4**	**0.0**
BASK	**Baskale_VAN** comp=Z,2μm,0.1s	**0.60**	**158**	IAML_P			
BASK				*i* P	**Pb**	**04 31 55.7**	**-0.1**
ADCV	**BITLIS_Adilcev** comp=Z,730nm,0.1s	**0.80**	**284**	IAML_P			
ADCV				*i* P	**Pg**	**04 31 57.6**	**-0.8**
ADCV				*i* S	**Sb**	**04 32 10.7**	**+0.5**
HAKT	**HAKKARI** comp=Z,1μm,0.1s	**1.06**	**181**	IAML_P			
HAKT				*i* P	**Pg**	**04 32 03.0**	**-0.3**
HAKT				*i* S	**Sn**	**04 32 20.1**	**+0.9**
TUTA	**Tutak**	**1.06**	**318**	*i* P	**Pg**	**04 32 02.7**	**-0.5**
TUTA				*i* S	**Sg**	**04 32 17.0**	**-0.1**
AGRB	**Hanur-Agry**	**1.11**	**330**	PN	**Pg**	**04 32 03.9**	**-0.5**
AGRB				SN	**Sb**	**04 32 20.4**	**+1.2**
BLIS	**Bitlis-Merkez** comp=Z,660nm,0.2s	**1.27**	**261**	IAML_P			
BLIS				*i* P	**Pn**	**04 32 05.0**	**-2.1**
BLIS				*i* S	**Sb**	**04 32 22.7**	**-1.1**
SRTM	**Siirt_Merkez** comp=Z,403nm,0.3s	**1.55**	**247**	IAML_P			
SRTM				*i* P	**Pb**	**04 32 12.6**	**+0.7**
SRTM				*i* S	**Sg**	**04 32 34.7**	**+2.0**
EATA	**Eleskirt** comp=Z,124nm,0.3s	**1.57**	**323**	IAML_P			
EATA				*i* P	**Pn**	**04 32 11.5**	**+0.2**
MUSM	**Mu-Merkez** comp=Z,254nm,0.3s	**1.73**	**274**	IAML_P			
MUSM				*i* P	**Pn**	**04 32 13.3**	**-0.1**

*MDD **25** 04:33:06.7±3.8, 35.′01N×3.′34E, h0km, mb3.0/6, Error ellipse: s-maj=37.1km s-min=32.9km az=50.0, PRXIMO*
*CRAAG **25** 04:33:06.7, 34.′69N×3.′39E, Ml3.7*
ISC 25 04:33:08.4±3.5, 35.′00N±0.′2×3.′0E±0.′2, h10km, n11, σ1.9 72/17, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**1.24**	**359**	P	**Pb**	**04 33 33.3**	**+1.3**
EMHD	**Djebel Mahouad**	**1.24**	**359**	P	**Pb**	**04 33 33.3**	**+1.3**
EBNR	**Beni Rached**	**1.78**	**319**	P	**Pn**	**04 33 41.0**	**+1.7**
OJGS	**Djebel Guires**	**1.91**	**287**	P	**Pn**	**04 33 39.2**	**-2.0**
OJGS	**Djebel Guires**	**1.91**	**287**	P	**Pn**	**04 33 39.2**	**-2.0**
EIBI	**Ibiza** 0.4nm,0.1s,SNR=7.9	**4.26**	**342**	P	**Pn**	**04 34 12.2**	**-1.2**
EIBI	0.2nm,0.3s,SNR=7.9			S	**Sn**	**04 35 01.0**	**-2.3**
EMUR	**La Murta** 0.1nm,0.4s,SNR=7.9	**4.46**	**311**	P	**Pn**	**04 34 16.5**	**+0.4**
EMUR	0.4nm,0.2s,SNR=7.9			S	**Sn**	**04 35 08.1**	**0.0**
EBEN2	**Beniarda presa** 0.1nm,0.3s,SNR=7.9	**4.50**	**326**	P	**Pn**	**04 34 16.4**	**-0.3**
EBEN2	0.3nm,0.2s,SNR=7.9			S	**Sn**	**04 35 06.9**	**-2.1**
ETOB	**Tobarra** 0.2nm,0.2s,SNR=7.9	**5.17**	**317**	P	**Pn**	**04 34 26.5**	**+0.5**
ETOB	0.5nm,0.2s,SNR=7.9			S	**Sn**	**04 35 27.0**	**+1.3**
EQES	**Quesada** 0.4nm,0.2s,SNR=7.9	**5.65**	**302**	P	**Pn**	**04 34 34.3**	**+1.7**
EQES	0.2nm,0.2s,SNR=7.9			S	**Sn**	**04 35 37.7**	**+0.1**
EMOS	**Mosqueruela** 0.0nm,0.1s,SNR=7.9	**6.05**	**334**	P	**Pn**	**04 34 38.0**	**-0.1**
EMOS	0.0nm,0.1s,SNR=7.9			S	**Sn**	**04 35 44.2**	**-3.3**

*ATH **25** 04:40:20.9, 38.′89N×23.′12E, h14km±1km, ML1.8/8, Error ellipse: s-maj=1.9km s-min=0.7km az=88.0*
THE 25 04:40:21.2, 38.′89N×23.′12E, h12km±1km, ML1.8/11, Error ellipse: s-maj=1.1km s-min=0.4km az=317.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.07**	**95**	P	Pg	04 40 23.7	0.0
SMIA				S	Sg	04 40 25.6	+0.1
SMIA	**Simia**	**0.07**	**95**	P	Pg	04 40 23.7	0.0
SMIA				S	Sg	04 40 25.6	+0.1
SMIA				AML	AML	04 40 27.5	
SMIA	comp=E,3021μm,0.4s			AML	AML	04 40 27.6	
ATAL	**Atalanti** comp=N,2257μm,0.3s	**0.21**	**202**	P	Pg	04 40 25.6	0.0
ATAL				S	Sg	04 40 28.9	+0.2
ATAL	**Atalanti**	**0.21**	**202**	P	Pg	04 40 25.7	0.0
ATAL				S	Sg	04 40 29.1	+0.4
ATAL				AML	AML	04 40 29.4	
ATAL	comp=E,616μm,0.1s			AML	AML	04 40 30.3	
LKR	**Lokris** comp=N,641μm,0.1s	**0.25**	**202**	P	Pg	04 40 26.4	0.0
LKR				S	Sg	04 40 30.4	+0.4
LKR	**Lokris**	**0.25**	**202**	P	Pg	04 40 26.2	-0.2
LKR				S	Sg	04 40 30.4	+0.4
LKR				AML	AML	04 40 31.4	
LKR	comp=E,621μm,0.1s			AML	AML	04 40 34.2	
MRKA	**Markates** comp=E,584μm,0.2s	**0.41**	**116**	P	Pg	04 40 29.2	0.0
MRKA				S	Sg	04 40 35.0	+0.3
MRKA	**Markates**	**0.41**	**116**	P	Pg	04 40 29.2	-0.1
MRKA				S	Sg	04 40 35.1	+0.5
MRKA				AML	AML	04 40 35.4	
MRKA	comp=E,231μm,0.4s			AML	AML	04 40 35.6	
NEO	**Neokhori** comp=N,493μm,0.4s	**0.43**	**11**	P	Pg	04 40 29.8	+0.1
NEO				S	Sg	04 40 35.6	+0.2
NEO	**Neokhori**	**0.43**	**11**	P	Pg	04 40 29.5	-0.2
NEO				S	Sg	04 40 35.2	-0.2
NEO				AML	AML	04 40 38.6	
NEO	comp=N,650μm,0.3s			AML	AML	04 40 40.8	
XOR	**Xorichti** comp=E,599μm,0.2s	**0.48**	**6**	P	Pg	04 40 30.6	-0.1
XOR				S	Sg	04 40 37.8	+0.6
XOR	**Xorichti**	**0.48**	**6**	P	Pg	04 40 30.5	-0.2
XOR				S	Sg	04 40 36.6	-0.6
XOR				AML	AML	04 40 40.6	
XOR	comp=N,322μm,0.3s			AML	AML	04 40 40.7	
FYTO	**Fytoko, Volos** comp=E,232μm,0.1s	**0.54**	**345**	P	Pg	04 40 31.8	0.0
FYTO				S	Sg	04 40 38.8	-0.2
FYTO	**Fytoko, Volos**	**0.54**	**345**	P	Pg	04 40 31.9	+0.1
FYTO				S	Sg	04 40 39.2	+0.2
AGG	**Agios Georgios**	**0.63**	**283**	P	Pg	04 40 32.9	-0.6
AGG				S	Sb	04 40 43.0	-0.1
AGG	**Agios Georgios**	**0.63**	**283**	P	Pg	04 40 32.9	-0.6
AGG				S	Sb	04 40 42.7	-0.4
AGG				AML	AML	04 40 43.6	
AGG	comp=N,78μm,0.4s			AML	AML	04 40 43.9	
DSF	**Desfina** comp=E,92μm,0.3s	**0.66**	**225**	P	Pg	04 40 33.4	-0.7
DSF				S	Sg	04 40 43.2	+0.4
DSF	**Desfina**	**0.66**	**225**	P	Pg	04 40 33.2	-0.9
DSF				S	Sg	04 40 42.9	+0.1
DSF				AML	AML	04 40 47.3	
DSF	comp=E,158μm,0.3s			AML	AML	04 40 47.4	
VIL2	**Platees** comp=N,223μm,0.2s	**0.68**	**170**	P	Pg	04 40 34.6	+0.2
EREA	**Eretria**	**0.79**	**126**	P	Pg	04 40 36.1	-0.3
EREA				S	Sb	04 40 47.4	-0.1
KALE	**Kalithea**	**0.91**	**238**	P	Pg	04 40 38.0	-0.8
KALE				S	Sg	04 40 50.5	-0.3
SERG	**Sergoula**	**0.96**	**241**	P	Pg	04 40 38.8	-0.8
SERG				S	Sb	04 40 52.6	+0.1
TRIZ	**Trizonia**	**0.97**	**238**	P	Pg	04 40 39.1	-0.8
PTL	**Penteli**	**1.02**	**145**	P	Pg	04 40 40.2	-0.7
DION	**Dionisos Attik**	**1.03**	**141**	P	Pb	04 40 40.9	-0.1
DION				S	Sb	04 40 55.0	+0.6
DION	**Dionisos Attik**	**1.03**	**141**	P	Pb	04 40 40.9	-0.1
DION				S	Sg	04 40 53.8	-0.6
ATHU	**Athens Univers**	**1.05**	**150**	P	Pb	04 40 41.4	-0.1
EFP	**Efpalio**	**1.06**	**245**	P	Pb	04 40 40.3	-1.2
EFP				S	Sg	04 40 55.9	+0.6
LAKA	**Lakka**	**1.10**	**235**	P	Pb	04 40 41.6	-0.7
GUR	**Goura**	**1.13**	**213**	P	Pb	04 40 42.1	-0.7
KLV	**Kalavryta, Ach**	**1.13**	**223**	P	Pb	04 40 42.2	-0.6
VLY	**Voula,Athens**	**1.16**	**153**	P	Pn	04 40 43.4	+0.1
EPID	**Epidavros**	**1.27**	**180**	P	Pg	04 40 45.7	+0.1
DID	**Didima**	**1.38**	**176**	P	Pn	04 40 45.9	-0.5
TRIP	**Tripoli**	**1.51**	**207**	P	Pg	04 40 50.2	0.0

ROM 25 04:43:41.3±0.1, 43.′127N±0.′004×13.′235E±0.′009, h27km, ML1.4/2, Error ellipse: s-maj=0.5km s-min=0.5km az=74.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSP1	**Cessapalombo**	**0.04**

comp=E,61μm,1.6s
FDMO AML AML
comp=N,67μm,0.4s
FDMO AML AML
comp=N,67μm,0.4s
FDMO AML AML
comp=E,61μm,1.6s
EL6 Elcito 0.23 334 P Pb 04 43 45.2 -2.4
EL6 Elcito 0.23 334 P Pb 04 43 47.6 0.0
EL6 S Sb 04 43 52.4 +0.5
SNTG Esanatoglia 0.25 301 P Pb 04 43 47.8 -0.1
SNTG Esanatoglia 0.25 301 P Pb 04 43 47.9 0.0
SNTG Esanatoglia 0.25 301 S Sb 04 43 52.3 0.0
CESI CESI - Serrava 0.27 243 P Pb 04 43 48.2 0.0
CESI CESI - Serrava 0.27 243 P Pb 04 43 48.4 +0.2
CESI S Sb 04 43 53.3 +0.5
CESI CESI - Serrava 0.27 243 S Sb 04 43 53.3 +0.5
NRCA Norcia 0.31 197 P Pb 04 43 48.6 0.0
NRCA S Sb 04 43 54.3 +0.7
FOSV Fossato di Vic 0.39 296 P Pb 04 43 49.7 -0.1
FOSV Fossato di Vic 0.39 296 P Pb 04 43 49.8 0.0
FOSV S Sb 04 43 56.5 +0.9
FOSV Fossato di Vic 0.39 296 P Pb 04 43 49.9 0.0
FOSV Fossato di Vic 0.39 296 S Sb 04 43 56.2 +0.7
ASSB Assisi San Ben 0.43 259 P Pb 04 43 50.6 +0.1
ASSB Assisi San Ben 0.43 259 P Pb 04 43 50.8 +0.3
ASSB Assisi San Ben 0.43 259 S Sb 04 43 57.2 +0.5
GUMA Gualdo di Mace 0.52 97 P Pb 04 43 46.4 -5.5
GUMA S Sb 04 43 50.3 -8.8
GUMA AML AML
comp=E,378μm,0.9s
GUMA AML AML
comp=N,230μm,1.5s
GUMA AML AML
comp=E,378μm,0.9s
GUMA AML AML
comp=N,230μm,1.5s
GUMA AML AML
comp=N,230μm,1.5s
GUMA AML AML
comp=E,378μm,0.9s
GUMA Gualdo di Mace 0.52 97 S Sb 04 43 50.2 -8.8

*IDC **25** 05:00:38.6±1.6, 12°.41S×72°.69W, h0km, mb3.8/2, mb1 3.8/6, mb1mx3.6/28, mbtmp3.6/6, ML3.3/4, Error ellipse: s-maj=60.3km s-min=23.0km az=27.0*
*ISCJB **25** 05:00:40.0±0.5, 14°.61S±0°.08×73°.4W±0°.1, h87km, mb3.8/5, Error ellipse: s-maj=18.2km s-min=5.5km az=142.6*
*NEIC **25** 05:00:41.5±1.8, 14°.58S×73°.37W, h79km±13km, mb4.0/4, Error ellipse: s-maj=18.4km s-min=14.9km az=97.0*
ISC 25 05:00:41.1±0.7, 14°.7S±0°.1×73°.5W±0°.1, h87km, n23, σ2°06/26, mb3.8/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.20**	**309**	*e*Pn	**Pn**	**05 01 43.9**	**+1.0**
NNA				*e*Sn	**Sn**	**05 02 30.1**	**-0.8**
NNA	**Nana**	**4.20**	**309**	**Pn**	**Pn**	**05 01 42.3**	**-0.6**
	8.0nm,0.3s,baz=136,slow=15,SNR=14						
NNA				Sn	**Sn**	**05 02 26.5**	**-4.3**
	19nm,0.3s,baz=226,slow=16,SNR=7.3						
LPAZ	**La Paz**	**5.43**	**108**	*e*Pn	Pn	05 02 07.9	+7.7
LPAZ	**La Paz**	**5.43**	**108**	Pn	Pn	05 02 07.8	+7.6
	0.5nm,0.3s,baz=314,slow=6.9,SNR=15						
MNMC	**Minye Minye**	**5.80**	**140**	*e*Pn	**Pn**	**05 02 07.0**	**+2.1**
MNMC				*e*Sn	**Sn**	**05 03 10.9**	**+0.7**
PB11	**IPOC Station P**	**6.25**	**144**	*e*Pn	**Pn**	**05 02 10.9**	**0.0**
PB11				*e*Sn	**Sn**	**05 03 17.9**	**-3.1**
GO01	**Chusmiza**	**6.45**	**141**	*e*Pn	**Pn**	**05 02 15.6**	**+1.7**
GO01				*e*Sn	**Sn**	**05 03 24.4**	**-1.9**
PB01	**IPOC Station P**	**7.39**	**149**	*e*Pn	**Pn**	**05 02 26.5**	**+0.1**
PB01				*e*Sn	**Sn**	**05 03 44.0**	**-4.9**
PB04	**IPOC Station P**	**8.25**	**158**	*e*Pn	**Pn**	**05 02 39.6**	**+1.5**
ATAH	**Atahualpa**	**8.90**	**327**	Pn	Pn	05 02 31.7	-16
	0.3nm,0.3s,baz=126,slow=14,SNR=2.5						
ATAH				Lg	Lg	05 04 28.8	
	0.4nm,0.3s,baz=65,slow=14,SNR=2.3						
LVC	**Limon Verde**	**9.01**	**152**	*e*Pn	**Pn**	**05 02 48.8**	**+0.1**
SIV	**San Ignacio**	**12.08**	**98**	*e*Pn	**Pn**	**05 03 27.5**	**-2.7**
SIV	**San Ignacio**	**12.08**	**98**	Pn	**Pn**	**05 03 27.5**	**-2.7**
	0.1nm,0.3s,baz=281,slow=16,SNR=2.3						
LCO	**Las Campanas**	**14.49**	**170**	*e*P	**P**	**05 04 08.5**	**+2.1**
GO04	**Tololo Observa**	**15.61**	**171**	*e*Pn	**P**	**05 04 17.9**	**-1.0**
	11nm,1.0s						
CPUP	**Villa Florida**	**19.06**	**130**	*e*P	**P**	**05 04 57.1**	**+0.5**
T25A	**Trinidad**	**59.19**	**331**	*e*P	**P**	**05 10 34.5**	**+1.1**
	4.7nm,0.8s						
SDCO	**Great Sand Dun**	**60.19**	**331**	*e*P	**P**	**05 10 41.7**	**+1.4**
	0.9nm,0.8s						
ECSD	**EROS Data Cent**	**61.85**	**341**	*e*P	**P**	**05 10 52.2**	**+1.1**
	0.8nm,1.0s						
TOA1	**Torodi Ar. Sit**	**79.42**	**73**	*e*P	**P**	**05 12 39.8**	**+1.3**
TORD	**Torodi Ar. Bea**	**79.42**	**73**	P	**P**	**05 12 39.8**	**+1.3**
	0.4nm,0.8s,baz=252,slow=5.3,SNR=4.3						
YKA	**Yellowknife Ar**	**83.37**	**342**	P	**P**	**05 12 57.4**	**-0.8**
	0.9nm,0.9s,baz=136,slow=4.9,SNR=15						
YKB5	**Yellowknife Ar**	**83.37**	**342**	*e*P	**P**	**05 12 57.4**	**-0.8**

*TIF **25** 05:05:42.7, 42°.55N×43°.47E, h14km*
*NORS **25** 05:05:43.1±0.0, 42°.60N×43°.57E, h3km, MPVA3.3*
ISC 25 05:05:43.5±0.9, 42°.51N±0°.02×43°.50E±0°.03, h7km±7km, n21, σ0°85/37, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.09**	**337**	P	**Pg**	**05 05 45.7**	**0.0**
ONI				S	**Sg**	**05 05 47.3**	**+0.1**
ONI	**Oni**	**0.09**	**337**	*e*Pg	**Pg**	**05 05 45.7**	**0.0**
ONI				*e*Sg	**Sg**	**05 05 47.3**	**+0.1**
SRKG	**Sareki**	**0.21**	**211**	P	**Pg**	**05 05 46.6**	**-1.1**
SRKG				S	**Sg**	**05 05 50.9**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.40**	**9**	*i* Pg	**Pg**	**05 05 50.9**	**-0.3**
DIGR				*e*Sg	**Sg**	**05 05 56.6**	**+0.1**
TKB	**Tkibuli**	**0.41**	**247**	P	**Pg**	**05 05 51.8**	**+0.4**
TKB				S	**Sg**	**05 05 57.9**	**+1.2**
ZEI	**Tsey**	**0.41**	**46**	*e*Pg	**Pg**	**05 05 51.5**	**+0.1**
ZEI				*e*Sg	**Sg**	**05 05 57.4**	**+0.5**
LACR	**Lac**	**0.67**	**61**	*e*Pg	**Pg**	**05 05 56.1**	**-0.2**
LACR				*e*Sg	**Sb**	**05 06 06.7**	**-0.4**
KORR	**Kora**	**0.71**	**36**	*e*Pg	**Pb**	**05 05 57.9**	**-0.4**
KORR				*e*Sg	**Sb**	**05 06 08.8**	**+0.6**
GUDG	**Gudauri**	**0.72**	**93**	P	**Sn**	**05 06 08.9**	**-2.8**
LSNR	**Lesken**	**0.81**	**17**	*e*Pg	**Pb**	**05 05 59.4**	**-0.5**
LSNR				*e*Sg	**Sb**	**05 06 11.0**	**0.0**
ARNR	**Ardon**	**0.89**	**40**	*e*Pg	**Pn**	**05 06 03.6**	**+1.3**
ARNR				*i* Sg	**Sn**	**05 06 14.7**	**-0.7**
STDR	**Stavd-Durt**	**0.95**	**25**	*e*Pg	**Pn**	**05 06 05.1**	**+1.8**
STDR				*e*Sg	**Sn**	**05 06 18.3**	**+1.2**
AKH	**Akhalkalaki**	**1.10**	**180**	P	**Pg**	**05 06 04.5**	**0.0**
AKH				S	**Sn**	**05 06 20.9**	**0.0**
AKH	**Akhalkalaki**	**1.10**	**180**	P	**Pg**	**05 06 04.5**	**0.0**
AKH				S	**Sn**	**05 06 20.9**	**0.0**
AKH	**Akhalkalaki**	**1.10**	**180**	*e*Pg	**Pg**	**05 06 04.5**	**0.0**
AKH				*e*Sg	**Sn**	**05 06 20.9**	**0.0**
TBLG	**Delisi**	**1.21**	**130**	P	**Sn**	**05 06 24.4**	**+1.1**
BGD	**Bogdanovka**	**1.24**	**177**	P	**Sn**	**05 06 25.1**	**+0.5**
KBTC	**Kuba-Taba**	**1.31**	**357**	*e*Pg	**Pn**	**05 06 08.1**	**-0.2**
KBTC				*e*Sg	**Sn**	**05 06 26.5**	**+0.5**
SHA1	**Shidzhatmaz**	**1.38**	**334**	*e*Pg	**Pn**	**05 06 08.8**	**-0.6**
SHA1				*e*Sg	**Sb**	**05 06 25.9**	**-1.6**
BATM	**Batumi**	**1.62**	**237**	P	**Sg**	**05 06 35.5**	**0.0**
LGD	**Lagodekhi**	**2.15**	**107**	P	**Sg**	**05 06 52.1**	**-0.3**

*ISCJB **25** 05:07:44.5±1.1, 25°.02N±0°.07×123°.53E±0°.04, h20km±12km, mb3.4/6, MS3.2/2, Error ellipse: s-maj=11.4km s-min=6.1km az=171.8*
*JMA **25** 05:07:44.4±0.1, 25°.03N×123°.55E, h19km, M3.1*
*IDC **25** 05:07:49.4±5.4, 25°.05N×123°.50E, h46km±54km, mb3.3/6, mb1 3.4/8, mb1mx3.3/33, mbtmp3.5/8, ML3.3/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/21, Error ellipse: s-maj=40.3km s-min=24.3km az=66.0*
ISC 25 05:07:44.4±1.7, 25°.01N±0°.08×123°.56E±0°.04, h9km±13km, n18, σ0°62/22, mb3.5/6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.69**	**167**	P	**Pg**	**05 07 57.9**	**+0.3**
YOJ	**Yonaguni jima**	**0.74**	**223**	P	**Pg**	**05 07 58.5**	**-0.1**
YOJ				S	**Sg**	**05 08 08.0**	**-0.2**
JYNG	**Yonagunijimaku**	**0.79**	**225**	P	**Pg**	**05 07 59.3**	**-0.2**
JYNG				S	**Sg**	**05 08 09.6**	**-0.2**
JISG	**Ishigakijimahi**	**0.80**	**121**	P	**Pg**	**05 07 59.7**	**-0.1**
JIJ	**Ishigaki jima**	**0.83**	**140**	P	**Pg**	**05 07 59.9**	**-0.5**
JIJ				*e*S	**Sg**	**05 08 10.9**	**-0.3**
JKRS	**Kuro-shima**	**0.87**	**152**	P	**Pg**	**05 08 00.9**	**-0.2**
JKRS				S	**Sg**	**05 08 13.0**	**+0.6**
HATJ	**Hateruma jima**	**0.97**	**167**	P	**Pg**	**05 08 02.7**	**-0.4**
HATJ				S	**Sg**	**05 08 15.9**	**+0.2**
JTJ	**Tarama**	**1.10**	**109**	P	**Pg**	**05 08 04.9**	**-0.6**
JTJ				S	**Sb**	**05 08 20.0**	**0.0**
KSRS	**Korea Array**	**12.95**	**16**	P	**Pn**	**05 10 50.1**	**+1.4**
	0.5nm,0.3s,baz=208,slow=13,SNR=4.2						
KSRS				LR	LR	05 16 32.4	
	comp=Z,62nm,18.1s,baz=210,slow=40						
MJAR	**Matsushiro Arr**	**17.02**	**44**	P	**P**	**05 11 44.1**	**-0.5**
	0.0nm,0.3s,baz=232,slow=6.0,SNR=2.6						
DAV	**Davao City (W)**	**17.94**	**173**	LR	LR	05 18 11.3	
	comp=Z,28nm,18.6s,baz=339,slow=35						
KLR	**Kul'dur**	**25.01**	**13**	P	**P**	**05 13 08.9**	**+0.3**
	0.6nm,0.7s,baz=212,slow=12,SNR=2.9						
SONM	**Songino Array**	**26.52**	**334**	P	**P**	**05 13 23.0**	**+0.6**
	0.6nm,0.7s,baz=146,slow=10,SNR=2.5						
SONM				LR	LR	05 25 08.2	
	comp=Z,45nm,19.5s,baz=68,slow=39						
MKAR	**Makanchi Array**	**39.28**	**314**	P	**P**	**05 15 13.1**	**-0.4**
	0.8nm,0.7s,baz=98,slow=10,SNR=8.1						
ZALV	**Zalesovo Beam**	**40.76**	**325**	P	**P**	**05 15 24.2**	**-1.5**
	0.5nm,0.4s,baz=111,slow=6.7,SNR=3.6						
NRIK	**Noril'sk**	**49.19**	**344**	LR	LR	05 40 08.5	
	comp=Z,28nm,18.9s,baz=80,slow=40						
ASAR	**Alice Springs**	**49.41**	**167**	P	**P**	**05 16 35.2**	**+0.4**
	0.4nm,0.5s,baz=352,slow=6.6,SNR=7.2						
YKA	**Yellowknife Ar**	**81.36**	**24**	P	**P**	**05 20 00.8**	**-0.4**
	0.2nm,0.7s,baz=310,slow=4.4,SNR=3.9						

SVSA 25 05:11:14.2±1.2, 37°.87N×26°.37W, h2km±6km, MD3.5, ML1.9, Error ellipse: s-maj=7.4km s-min=2.1km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	**Sete Cidades**	**0.52**	**95**	*e*P	Pg	05 11 23.4	-0.7
PSET				*e*S	Sg	05 11 30.3	-0.5
PSET				A	A	05 11 31.9	
	22nm,0.1s						
PDA	**Ponta Delgada**	**0.57**	**102**	*e*P	Pg	05 11 23.8	-1.4
PDA				*e*S	Sg	05 11 31.6	-1.0
PDA				A	A	05 11 32.9	
	13nm,0.1s						
GRON	**Grota Negra**	**0.67**	**99**	*e*P	Pg	05 11 27.0	-0.1
CMLA	**Cha da Macela**	**0.68**	**99**	*e*P	Pg	05 11 25.9	-1.3
CMLA				*e*S	Sg	05 11 34.8	-1.2
CMLA				A	A	05 11 36.6	
	13nm,0.1s						
PSCM	**Serra do Cume**	**1.01**	**325**	*e*P	Pg	05 11 30.1	-3.6
PSCM				*e*S	Sg	05 11 42.4	-4.4
PSCM				A	A	05 11 45.6	
	28nm,0.2s						
ADH	**Angra Heroismo**	**1.04**	**319**	*e*P	Pg	05 11 30.5	-3.6
ADH				*e*S	Sg	05 11 43.0	-4.5
ADH				A	A	05 11 44.3	
	7.7nm,0.1s						
PSMN	**Pico do Norte,**	**1.35**	**130**	*e*P	Pn	05 11 34.9	-5.2
PSMN				*e*S	Sg	05 11 50.5	-7.2
PSMN				A	A	05 11 52.1	
	6.8nm,0.3s						
ROSA	**Rosais**	**1.70**	**300**	*e*P	Pn	05 11 40.5	-4.3
ROSA				*e*S	Sn	05 11 59.0	-8.1
ROSA				A	A	05 12 00.0	
	6.4nm,0.2s						
PICO	**Pico**	**1.74**	**292**	*e*P	Pn	05 11 41.0	-4.4
PICO				*e*S	Sn	05 12 00.6	-7.5
PICO				A	A	05 12 03.3	
	10nm,0.3s						

*ISCJB **25** 05:14:00.4±2.1, 38°.55N±0°.07×43°.9E±0°.1, h11km±6km, Error ellipse: s-maj=15.9km s-min=6.9km az=38.0*
*ISK **25** 05:14:01.2, 38°.62N×43°.77E, h5km, ML2.5/3*
*DDA **25** 05:14:02.2, 38°.62N×43°.66E, h7km±2km, ML2.4*
ISC 25 05:14:01.8±1.4, 38°.60N±0°.04×43°.78E±0°.05, h10km±13km, n12, σ0°96/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.30**	**257**	IAML_P			
	comp=Z,8μm,0.1s						
TVAN				*i* P	**Pg**	**05 14 08.0**	**+0.1**
VANB	**Van**	**0.30**	**270**	PG	**Pg**	**05 14 07.7**	**-0.3**
VANB				SG	**Sg**	**05 14 12.4**	**+0.3**
VMUR	**Van-Muradiye**	**0.42**	**338**	IAML_P			
	comp=Z,396nm,0.2s						
VMUR				*i* P	**Pb**	**05 14 10.8**	**-0.8**
VMUR				*i* S	**Sb**	**05 14 18.3**	**+0.2**
CLDR	**Caldiran**	**0.56**	**11**	PG	**Pg**	**05 14 11.9**	**-0.8**
CLDR				SG	**Sg**	**05 14 19.9**	**-0.2**
CLDR	**Caldiran**	**0.56**	**11**	IAML_P			
	comp=Z,2μm,0.2s						
CLDR				*i* P	**Pb**	**05 14 14.0**	**+0.2**
CLDR				*i* S	**Sb**	**05 14 22.4**	**+0.5**
GEVA	**Gevas**	**0.63**	**243**	IAML_P			
	comp=Z,745nm,0.2s						
GEVA				*i* P	**Pg**	**05 14 13.4**	**-0.7**
GEVA				*i* S	**Sb**	**05 14 23.6**	**-0.5**
HAKT	**HAKKARI**	**1.04**	**183**	IAML_P			
	comp=Z,375nm,0.2s						
HAKT				*i* P	**Pb**	**05 14 22.4**	**+0.3**
TUTA	**Tutak**	**1.10**	**317**	IAML_P			
	comp=Z,1μm,0.2s						
TUTA				*i* P	**Pg**	**05 14 22.6**	**-0.4**
TUTA				*i* S	**Sg**	**05 14 37.0**	**-0.3**
AGRB	**Hanur-Agry**	**1.15**	**328**	PN	**Pg**	**05 14 23.6**	**-0.4**
AGRB				SN	**Sb**	**05 14 39.2**	**+0.1**
BLIS	**Bitlis-Merkez**	**1.32**	**263**	IAML_P			
	comp=Z,884nm,0.2s						
BLIS				*i* P	**Pg**	**05 14 25.4**	**-1.7**
BLIS				*i* S	**Sg**	**05 14 43.8**	**-0.5**
SRTM	**Siirt_Merkez**	**1.58**	**248**	IAML_P			
	comp=Z,229nm,0.2s						
SRTM				*i* P	**Pb**	**05 14 31.2**	**0.0**
SRTM				*i* S	**Sg**	**05 14 55.0**	**+2.3**
EATA	**Eleskirt**	**1.61**	**322**	IAML_P			
	comp=Z,174nm,0.4s						
EATA				*i* P	**Pg**	**05 14 33.0**	**+0.2**
EATA				*i* S	**Sg**	**05 14 55.9**	**+2.3**

*KRSC **25** 05:27:47.8±10.0, 52°.04N×160°.91E, h60km±10km, ML4.0*
*IDC **25** 05:27:48.3±1.0, 52°.23N×160°.64E, h0km, mb3.7/11, mb1 4.0/11, mb1mx3.7/31, mbtmp3.7/11, MS3.3/3, Ms1 3.3/3, ms1mx2.7/38, Error ellipse: s-maj=31.3km s-min=16.2km az=168.0*
ISC 25 05:27:48.1±3.6, 52°.07N±0°.05×160°.85E±0°.05, h7km±22km, n38, σ1°55/50, mb3.8/10, MS3.4/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.15**	**334**	P	**Pb**	**05 28 09.4**	**-0.9**
SPN				S	**Sb**	**05 28 23.7**	**-1.7**
NLC	**Nalytchevo**	**1.44**	**321**	P	**Pn**	**05 28 13.6**	**-0.9**
NLC				S	**Sn**	**05 28 31.0**	**-2.7**
RUS	**Russkaya**	**1.48**	**285**	*e*P	**Pn**	**05 28 14.6**	**-0.5**
RUS				S	**Sn**	**05 28 32.8**	**-1.9**
DALK	**Dalny**	**1.60**	**308**	*e*P	**Pn**	**05 28 16.8**	**0.0**
DALK				S	**Sn**	**05 28 37.2**	**-0.6**
UGLR	**Uglovaya**	**1.68**	**314**	P	**Pn**	**05 28 18.7**	**+0.7**
MTVR	**Mutnovka**	**1.69**	**285**	*e*P	**Pn**	**05 28 17.9**	**-0.3**
MTVR				S	**Sn**	**05 28 38.8**	**-1.3**
SDLR	**Sedlovina**	**1.70**	**316**	*e*P	**Pn**	**05 28 18.6**	**+0.3**
KDTR	**Khodutka, Kamc**	**1.73**	**263**	*e*P	**Pn**	**05 28 17.7**	**-0.9**
KDTR				S	**Sn**	**05 28 37.9**	**-3.1**
AVH	**Avacha**	**1.76**	**314**	*e*P	**Pn**	**05 28 19.9**	**+0.8**
KRER	**Koryakskii**	**1.78**	**315**	*e*P	**Pn**	**05 28 20.3**	**+0.8**
KOK	**Koryaka**	**1.82**	**313**	*e*P	**Pn**	**05 28 20.6**	**+0.7**
ASAK	**Asacha**	**1.84**	**281**	*e*P	**Pn**	**05 28 20.4**	**+0.2**
ASAK				S	**Sn**	**05 28 41.8**	**-2.0**
KRX	**Arik**	**1.86**	**315**	*e*P	**Pn**	**05 28 21.2**	**+0.7**
PETK	**Petropavlovsk-**	**2.19**	**300**	Pn	**Pn**	**05 28 25.1**	**+0.3**
	3.0nm,0.3s,baz=102,slow=18,SNR=71						
PETK				Sn	**Sn**	**05 28 53.5**	**+1.3**
	13nm,0.3s,baz=108,slow=18,SNR=8.0						
APC	**Apacha**	**2.41**	**292**	*e*P	**Pn**	**05 28 29.5**	**+1.5**
APC				S	**Sn**	**05 28 58.4**	**+0.7**
MKZ	**Mys Kozlova**	**2.55**	**12**	*e*P	**Pn**	**05 28 29.5**	**-0.3**
MKZ				S	**Sn**	**05 28 58.5**	**-2.6**
PAU	**Pauzhetka**	**2.58**	**258**	*e*P	**Pn**	**05 28 28.7**	**-1.5**
KZV	**Kizimen**	**3.07**	**354**	*e*P	**Pn**	**05 28 38.0**	**+0.8**
KZV				S	**Sn**	**05 29 12.8**	**-1.4**
TUMD	**Tumrok D**	**3.15**	**355**	P	**Pn**	**05 28 38.9**	**+0.7**
TUMD				S	**Sn**	**05 29 14.3**	**-1.8**
TUMR	**Tumrok**	**3.25**	**353**	P	**Pn**	**05 28 40.7**	**+1.1**
TUMR				S	**Sn**	**05 29 17.3**	**-1.3**
SKR	**Severo-Kuril's**	**3.27**	**247**	S	**Sn**	**05 29 17.1**	**-1.8**
ALID	**Alaid**	**3.52**	**252**	*e*P	**Pn**	**05 28 43.6**	**+0.3**
ESO	**Esso**	**4.07**	**343**	P	**Pn**	**05 28 53.9**	**+3.2**
KBTR	**Krutoberegovo**	**4.31**	**15**	*e*P	**Pn**	**05 28 54.2**	**+0.2**
BKI	**Bering**	**4.38**	**42**	*e*P	**Pn**	**05 28 54.4**	**-0.5**
BKI				S	**Sn**	**05 29 41.8**	**-4.4**
USRK	**Ussuriysk Ar.**	**20.70**	**259**	P	**P**	**05 32 28.1**	**-0.6**
	1.1nm,0.6s,baz=78,slow=14,SNR=3.7						
MJAR	**Matsushiro Arr**	**22.30**	**235**	P	**P**	**05 32 47.5**	**+1.6**
	1.1nm,0.5s,baz=28,slow=10,SNR=3.4						
YKA	**Yellowknife Ar**	**43.61**	**42**	P	**P**	**05 35 53.4**	**+0.9**
	0.2nm,0.6s,baz=298,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**49.02**	**297**	P	**P**	**05 36 33.7**	**-1.6**
	0.2nm,0.5s,baz=67,slow=10.0,SNR=3.2						
YBH	**Yreka Blue Hor**	**50.95**	**70**	LR	LR	05 53 25.8	
	comp=Z,47nm,20.3s,baz=304,slow=30						
NVAR	**Mina Array Bea**	**55.66**	**70**	P	**P**	**05 37 27.4**	**+2.4**
	0.7nm,0.6s,baz=292,slow=7.0,SNR=4.7						
PDAR	**Pinedale Array**	**57.62**	**61**	P	**P**	**05 37 40.6**	**+1.8**
	0.6nm,0.7s,baz=298,slow=3.8,SNR=6.2						
CMAR	**Chiang Mai Arr**	**58.43**	**259**	P	**P**	**05 37 45.5**	**+1.1**
	0.9nm,0.5s,baz=27,slow=6.7,SNR=4.1						
FINES	**FINESS Array B**	**61.25**	**337**	P	**P**	**05 38 03.9**	**+0.6**
	2.1nm,0.8s,baz=37,slow=7.9,SNR=7.9						
NOA	**NORSAR Array B**	**64.66**	**344**	P	**P**	**05 38 26.3**	**+0.2**
	0.3nm,0.6s,baz=40,slow=7.6,SNR=2.6						
AKASG	**Malin Array Be**	**69.73**	**330**	P	**P**	**05 38 57.0**	**-1.3**
	0.7nm,0.5s,baz=29,slow=6.6,SNR=2.9						
TXAR	**Lajitas Array**	**70.62**	**67**	P	**P**	**05 39 05.2**	**+1.0**
	1.0nm,0.7s,baz=304,slow=5.0,SNR=8.8						
TXAR				LR	LR	06 06 56.6	
	comp=Z,22nm,21.3s,baz=0.0,slow=33						
LPIG	**La Paz**	**70.68**	**76**	LR	LR	06 09 06.0	
	comp=Z,15nm,18.0s,baz=319,slow=35						

TEH 25 05:33:58.9, 26°.72N×57°.78E, h31km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.08**	**181**	*e*Pg	Pb	05 34 19.8	+0.8
NIAN	**Nian**	**1.19**	**315**	*e*Pg	Pb	05 34 21.5	+0.7
NIAN				IAMB	IAmb	05 34 50.4	
	comp=Z,0.0nm,0.3s						
KHNJ	**Kahnooj**	**1.22**	**357**	*e*Pg	Pn	05 34 20.6	+0.7
GENO	**Geno**	**1.59**	**296**	*e*Pg	Pb	05 34 28.1	+0.4
GENO				IAMB	IAmb	05 34 55.8	
	comp=Z,0.0nm,0.4s						
SHME	**Shamm**	**1.62**	**246**	*e*Pn	Pb	05 34 26.9	-1.2
MSFE	**Esma-Masafi**	**1.99**	**227**	*e*Pn	Pn	05 34 31.6	+1.0
HATD	**Hatta, Dubai**	**2.41**	**219**	*e*Pn	Pn	05 34 37.1	+0.9
ASHO	**Ashiyiah**	**2.56**	**218**	*e*Pn	Pn	05 34 38.9	+0.6
NAZ	**Nazwa, Dubai**	**2.58**	**228**	*e*Pn	Pn	05 34 37.6	-0.9
FAQ	**Al Faqa, Dubai**	**2.79**	**226**	*e*Pn	Pn	05 34 43.5	+2.0
NGRK	**Negar Kerman**	**3.06**	**343**	*e*Pn	Pn	05 34 48.0	+2.5
NGRK				IAMB	IAmb	05 35 43.2	
	comp=Z,0.0nm,0.8s						
CHMN	**Cheshme madani**	**3.13**	**356**	*e*Pn	Pb	05 34 50.5	-3.6
CHMN				IAMB	IAmb	05 35 58.5	
	comp=Z,0.0nm,0.8s						
ALNE	**Al Ain**	**3.23**	**215**	*e*Pn	Pn	05 34 48.8	+1.3
TVBK	**TV Kerman**	**3.37**	**345**	*e*Pn	Pb	05 34 54.6	-3.6
TVBK				IAMB	IAmb	05 35 05.1	
	comp=Z,0.0nm,0.3s						
KHGB	**Koh Gabri**	**3.82**	**343**	*e*Pn	Pn	05 34 59.9	+4.1
KHGB				IAMB	IAmb	05 36 08.4	
	comp=Z,0.0nm,0.8s						

*KRSC **25** 05:35:32.9±10.0, 52°.08N×160°.90E, h80km±10km, ML4.2*
*IDC **25** 05:35:33.5±0.7, 52°.41N×160°.62E, h0km, mb3.9/18, mb1 4.0/19, mb1mx3.9/43, mbtmp3.9/19, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/36, Error ellipse: s-maj=21.2km s-min=14.1km az=163.0*
*MOS **25** 05:35:35.8±0.9, 52°.17N×160°.81E, h38km, mb4.6/6, Error ellipse: s-maj=8.1km s-min=5.1km az=107.4*
*NEIC **25** 05:35:36.9±2.6, 52°.23N×160°.79E, h26km±6km, mb4.5/19, Error ellipse: s-maj=19.8km s-min=11.7km az=183.0*
ISC 25 05:35:34.8±1.7, 52°.23N±0°.05×160°.74E±0°.04, h13km±10km, n123, σ1°37/135, mb4.4/34, 2C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97**	**334**	*e*P	**Pg**	**05 35 53.7**	**+0.2**
SPN	**Mys Shipunski**	**0.97**	**334**	PN	**Pg**	**05 35 53.7**	**+0.2**
NLC	**Nalytchevo**	**1.27**	**319**	*e*P	**Pb**	**05 35 58.5**	**0.0**
NLC	**Nalytchevo**	**1.27**	**319**	PN	**Pb**	**05 35 58.5**	**0.0**
RUS	**Russkaya**	**1.38**	**279**	*e*P	**Pn**	**05 35 59.4

SKR				*e*S	**Sn**	05 37 01.5	-3.1
SKR	**Severo-Kuril's**	**3.28**	**244**	*e*PN	**Pn**	05 36 24.4	-1.4
SKR				pmax	pmax		
comp=Z,44nm,0.5s							
ALID	**Alaid**	**3.51**	**249**	*e*P	**Pn**	05 36 28.7	-0.4
ALID				S	**Sn**	05 37 08.9	-1.7
ALID	**Alaid**	**3.51**	**249**	PN	**Pn**	05 36 28.7	-0.4
ALID				S	**Sn**	05 37 08.9	-1.7
ESO	**Esso**	**3.89**	**343**	P	**Pn**	05 36 33.1	-1.2
ESO	**Esso**	**3.89**	**343**	PN	**Pn**	05 36 33.1	-1.2
KBTR	**Krutoberegovo**	**4.17**	**16**	*e*P	**Pn**	05 36 38.6	+0.6
KBTR	**Krutoberegovo**	**4.17**	**16**	PN	**Pn**	05 36 38.6	+0.6
BKI	**Bering**	**4.31**	**44**	P	**Pn**	05 36 40.3	+0.4
BKI				S	**Sn**	05 37 25.1	-4.8
BKI	**Bering**	**4.31**	**44**	PN	**Pn**	05 36 40.3	+0.4
SRKR	**Sorokina**	**4.44**	**3**	P	**Pn**	05 36 44.3	+2.5
SRKR	**Sorokina**	**4.44**	**3**	PN	**Pn**	05 36 44.3	+2.5
SMY	**Shemya**	**8.18**	**81**	*e*Pn	**Pn**	05 37 33.5	+0.5
SMY	**Shemya**	**8.18**	**81**	*e*PN	**Pn**	05 37 33.5	+0.5
YSS	**Yuzh-Sakhalins**	**12.79**	**253**	*e*Pn	**Pn**	05 38 40.1	+4.0
YSS	**Yuzh-Sakhalins**	**12.79**	**253**	*e*PN	**Pn**	05 38 40.2	+4.0
ERM	**Erimo**	**15.69**	**236**	*e*Pn	**Pn**	05 39 11.5	-3.9
comp=Z,30nm,1.3s							
ERM	**Erimo**	**15.69**	**236**	*e*P	**Pn**	05 39 11.5	-3.9
ERM				pmax	pmax		
comp=Z,30nm,1.3s							
BILL	**Bilibino**	**16.09**	**8**	*e*Pn	**P**	05 39 22.9	-0.7
comp=Z,8.7nm,1.2s							
BILL	**Bilibino**	**16.09**	**8**	*e*P	**P**	05 39 22.9	-0.7
BILL				pmax	pmax		
comp=Z,9.0nm,1.2s							
KLR	**Kul'dur**	**18.54**	**272**	P	**P**	05 39 49.3	-1.5
comp=Z,0.2nm,0.3s,baz=58,slow=9.1,SNR=5.0							
USRK	**Ussuriysk Ar.**	**20.67**	**259**	LR	LR	05 49 40.1	
comp=Z,86nm,18.4s,baz=158,slow=41							
MJAR	**Matsushiro Arr**	**22.34**	**234**	P	**P**	05 40 32.9	+0.7
comp=Z,1.1nm,0.4s,baz=31,slow=8.4,SNR=4.7							
MAJO	**Matsushiro**	**22.34**	**234**	*e*P	**P**	05 40 32.9	+0.7
MAJO	**Matsushiro**	**22.34**	**234**	*e*P	**P**	05 40 32.9	+0.7
TIXI	**Tiksi**	**24.03**	**336**	*e*P	**P**	05 40 48.3	-0.6
comp=Z,3.4nm,0.7s							
TIXI	**Tiksi**	**24.03**	**336**	P	**P**	05 40 47.9	-1.1
comp=Z,2.8nm,0.5s,baz=126,slow=10,SNR=7.9							
KSRS	**Korea Array**	**27.27**	**250**	P	**P**	05 41 19.5	+0.9
comp=Z,0.3nm,0.3s,baz=74,slow=31,SNR=3.1							
MCK	**McKinley**	**28.26**	**46**	*e*P	P	05 41 20.4	-6.8
comp=Z,4.4nm,0.5s							
MCK	**McKinley**	**28.26**	**46**	*e*P	P	05 41 20.4	-6.8
MCK				pmax	pmax		
comp=Z,4.0nm,0.5s							
CTGM	**Chitina Glacie**	**32.05**	**51**	*e*P	**P**	05 41 59.9	-1.0
comp=Z,4.0nm,0.6s							
YKA	**Yellowknife Ar**	**43.54**	**42**	P	**P**	05 43 37.7	+0.1
comp=Z,0.1nm,0.5s,baz=302,slow=9.3,SNR=3.0							
YKB5	**Yellowknife Ar**	**43.54**	**42**	*e*P	**P**	05 43 37.7	+0.1
POHA	**Pohakuloa**	**46.88**	**117**	*e*P	**P**	05 44 05.8	+0.9
comp=Z,57nm,1.0s							
KURK	**Kurchatov**	**48.53**	**303**	*e*P	**P**	05 44 15.3	-1.8
comp=Z,6.9nm,1.1s							
KURK	**Kurchatov**	**48.53**	**303**	*e*P	**P**	05 44 15.3	-1.8
KURK				pmax	pmax		
comp=Z,7.0nm,1.1s							
MK31	**Makanchi Array**	**48.89**	**297**	*e*P	**P**	05 44 18.6	-1.4
comp=Z,0.5nm,0.6s							
MK31	**Makanchi Array**	**48.89**	**297**	*e*P	**P**	05 44 18.6	-1.4
MK31				pmax	pmax		
comp=Z,1.0nm,0.6s							
MK32	**Makanchi Array**	**48.89**	**297**	*e*P	**P**	05 44 18.0	-2.0
MKAR	**Makanchi Array**	**48.89**	**297**	P	**P**	05 44 18.0	-2.0
MKAR	**Makanchi Array**	**48.89**	**297**	P	**P**	05 44 18.0	-2.0
comp=Z,0.4nm,0.5s,baz=52,slow=7.7,SNR=4.2							
BRVK	**Borovoye**	**51.27**	**309**	*e*P	**P**	05 44 36.6	-1.3
comp=Z,4.1nm,1.0s							
BRVK	**Borovoye**	**51.27**	**309**	*e*P	**P**	05 44 36.6	-1.3
BRVK				pmax	pmax		
comp=Z,4.0nm,1.0s							
KMRM	**Mail Ridge**	**51.34**	**72**	*e*P	**P**	05 44 39.4	+0.6
comp=Z,47nm,1.5s							
ARCES	**ARCESS Array B**	**54.23**	**342**	P	**P**	05 44 59.3	-0.3
comp=Z,3.4nm,1.0s,baz=31,slow=7.7,SNR=5.0							
NV01	**Mina Array Sit**	**55.67**	**70**	*e*P	**P**	05 45 11.5	+0.8
NVAR	**Mina Array Bea**	**55.67**	**70**	P	**P**	05 45 11.5	+0.8
comp=Z,0.6nm,0.8s,baz=293,slow=7.7,SNR=2.1							
PDAR	**Pinedale Array**	**57.60**	**61**	P	**P**	05 45 25.8	+1.4
comp=Z,0.3nm,0.6s,baz=297,slow=4.0,SNR=3.0							
CHTO	**Chiang Mai**	**58.12**	**259**	*e*P	**P**	05 45 32.1	+4.1
comp=Z,5.4nm,1.1s							
CHTO	**Chiang Mai**	**58.12**	**259**	*e*P	**P**	05 45 32.1	+4.1
CHTO				pmax	pmax		
comp=Z,5.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**58.40**	**259**	P	**P**	05 45 30.8	+0.9
comp=Z,1.3nm,0.3s,baz=30,slow=6.5,SNR=5.8							
ABKAR	**Akbulak array**	**58.66**	**311**	*e*P	**P**	05 45 30.9	-0.4
comp=Z,1.2nm,0.9s							
ULM	**Lac du Bonnet**	**59.13**	**47**	P	**P**	05 45 34.7	+0.1
comp=Z,0.7nm,0.5s,baz=226,slow=13,SNR=3.4							
W13A	**Hualapai Mount**	**60.53**	**70**	*e*P	**P**	05 45 45.7	+1.0
comp=Z,4.3nm,1.0s							
FIA1	**FINESS Array S**	**61.07**	**337**	*e*P	**P**	05 45 48.7	+1.0
comp=Z,9.0nm,1.3s							
FIA0	**FINESS Array S**	**61.07**	**337**	*e*P	**P**	05 45 48.1	+0.4
FIA0	**FINESS Array S**	**61.07**	**337**	*e*P	**P**	05 45 48.1	+0.4
FINES	**FINESS Array B**	**61.07**	**337**	P	**P**	05 45 48.1	+0.4
comp=Z,1.9nm,0.4s,baz=34,slow=7.3,SNR=21							
NC405	**NORSAR Array S**	**64.33**	**344**	*e*P	**P**	05 46 09.2	-0.3
comp=Z,23nm,1.4s							
NB2	**NORSAR Subarra**	**64.48**	**344**	P	**P**	05 46 10.4	-0.1
comp=Z,0.6nm,0.5s,baz=22,slow=6.9							
NB200	**NORSAR Array S**	**64.48**	**344**	*e*P	**P**	05 46 10.7	+0.2
NOA	**NORSAR Array B**	**64.48**	**344**	P	**P**	05 46 10.7	+0.2
comp=Z,0.8nm,0.5s,baz=20,slow=6.6,SNR=5.9							
GEYT	**Alibeck**	**67.89**	**304**	P	**P**	05 46 32.2	-0.6
comp=Z,2.0nm,0.5s,baz=35,slow=3.6,SNR=3.8							
AKASG	**Malin Array Be**	**69.56**	**329**	P	**P**	05 46 42.3	-0.6
comp=Z,1.3nm,0.4s,baz=28,slow=6.6,SNR=5.4							
AKBB	**Malin Array Si**	**69.56**	**329**	*e*P	**P**	05 46 43.2	+0.3
comp=Z,2.6nm,0.8s							
AKBB	**Malin Array Si**	**69.56**	**329**	*e*P	**P**	05 46 43.2	+0.3
AKBB				pmax	pmax		
comp=Z,3.0nm,0.8s							
KIEV	**Kiev**	**69.57**	**329**	*e*P	**P**	05 46 43.2	+0.2
comp=Z,2.6nm,0.8s							
KIEV	**Kiev**	**69.57**	**329**	*e*P	**P**	05 46 43.2	+0.2
KIEV				pmax	pmax		
comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**70.44**	**317**	P	**P**	05 46 47.4	-0.9
comp=Z,2.3nm,0.7s,baz=34,slow=3.6,SNR=4.3							
LTX	**Lajitas**	**70.61**	**67**	*e*P	**P**	05 46 49.3	-0.5
LTX	**Lajitas**	**70.61**	**67**	*e*P	**P**	05 46 49.3	-0.5
TXAR	**Lajitas Array**	**70.61**	**67**	P	**P**	05 46 49.3	-0.5
comp=Z,0.2nm,0.5s,baz=312,slow=8.4,SNR=2.6							
PVMO	**Portageville**	**72.55**	**53**	*e*P	**P**	05 47 01.3	+0.1
comp=Z,94nm,0.5s							
BUR08	**Bucovina Ar. S**	**73.50**	**330**	*e*P	**P**	05 47 07.0	+0.1
comp=Z,2.5nm,0.9s							
BURAR	**Bucovina Array**	**73.52**	**330**	‖ *i*P	**P**	05 47 07.4	+0.4
MLR	**Muntele Rosu**	**75.19**	**329**	‖ *i*P	**P**	05 47 18.2	+1.4
VOIR		**75.52**	**329**	‖ *i*P	**P**	05 47 19.0	+0.4
BRTR	**Keskin Array B**	**77.54**	**321**	P	**P**	05 47 30.1	-0.1
comp=Z,0.4nm,0.4s,baz=47,slow=4.3,SNR=3.2							
ASAR	**Alice Springs**	**79.13**	**205**	P	**P**	05 47 41.4	+2.6
comp=Z,0.4nm,1.1s,baz=8.5,slow=5.4,SNR=2.7							

MEX 25 05:39:33.8±0.4, 16°28N×98°31W, h4km±2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**57**	*e*P	Pg	05 39 37.7	-0.2
PNIG				*e*S	Sg	05 39 40.8	0.0
TLIG	**Tlapa**	**1.30**	**349**	*e*P	Pg	05 39 54.9	-3.9
TLIG				*i* S	Sg	05 40 11.5	-4.2
MEIG	**Mezcala**	**2.06**	**323**	*e*P	Pn	05 40 06.1	-3.2
MEIG				*e*S	Sn	05 40 30.9	-4.6
HUIG	**Huatulco**	**2.18**	**103**	*e*P	Pn	05 40 08.2	-2.7
HUIG				*e*S	Sn	05 40 34.2	-4.1
TPIG	**Tehuac#an**	**2.32**	**23**	*i* P	Pn	05 40 09.2	-3.7
TPIG				*e*S	Sn	05 40 38.3	-3.7

SJA 25 05:40:57.7±0.5, 31°25S×68°39W, h101km±9km, ML1.7, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMOG	**MOGNA**	**0.46**	**48**	*e*P	Pn	05 41 14.1	+0.7
AMOG				*e*S	Sn	05 41 26.0	+0.8
ACCO	**Cerro Coronel**	**0.68**	**347**	*e*P	Pn	05 41 16.7	+1.3
RTCV	**Cerro Valdivia**	**0.68**	**154**	*e*P	Pn	05 41 15.7	+0.5
RTCV				*e*S	Sn	05 41 29.6	+1.3
AUSP	**Uspallata**	**1.06**	**203**	*e*P	Pn	05 41 20.3	+1.1
ACDV	**Cuesta del Vie**	**1.09**	**349**	*e*P	Pn	05 41 20.7	+1.3
ACDV				IAML		05 41 21.0	
comp=Z,11nm,0.1s							
AROD	**Rodeo**	**1.19**	**335**	*e*P	Pn	05 41 22.1	+1.3

IDC ***25*** *05:44:47.2±1.8, 19°38S×173°35E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/36, mbtmp4.0/9, ML3.1/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/23, Error ellipse: s-maj=64.5km s-min=23.9km az=139.0*

ISCJB ***25*** *05:44:50.8±0.5, 19°34S±0°08×173°30E±0°09, h33km, mb4.4/15, MS3.6/7, Error ellipse: s-maj=13.8km s-min=9.2km az=36.3*

NEIC ***25*** *05:44:53.5±2.9, 19°45S×173°47E, h44km±7km, mb4.6/9, Error ellipse: s-maj=22.3km s-min=6.4km az=134.0*

ISC 25 05:44:52.3±0.6, 19°4S±0°1×173°4E±0°1, h35km, n36, σ0§98°/31, mb4.3/15, MS3.6/7, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**6.45**	**239**	*e*Pn	**Pn**	**05 46 23.6**	**-1.2**
OUENC	**Ouen Island, N**	**6.86**	**243**	*e*Pn	**Pn**	**05 46 30.8**	**+0.3**
DZM	**Mont Dzumac**	**7.07**	**246**	*e*Pn	**Pn**	**05 46 33.6**	**+0.3**
DZM				*e*LR	LR	05 48 01.3	
comp=Z,486nm,25.2s							
DZM	**Mont Dzumac**	**7.07**	**246**	*e*Pn	**Pn**	**05 46 34.4**	**+1.1**
DZM	**Mont Dzumac**	**7.07**	**246**	Pn	**Pn**	**05 46 32.8**	**-0.6**
0.3nm,0.3s,baz=84,slow=14,SNR=7.0							
HNR	**Honiara**	**16.36**	**305**	LR	LR	05 53 58.1	
comp=Z,372nm,21.2s,baz=154,slow=34							
BKZ	**Black Stump Fm**	**19.91**	**173**	*e*P	**Pn**	**05 49 23.8**	**+1.1**
14nm,1.0s							
BFZ	**Birch Farm**	**21.38**	**174**	*e*P	**P**	**05 49 38.0**	**+1.3**
48nm,1.0s							
RPZ	**Rata Peaks**	**24.35**	**184**	LR	LR	05 58 16.9	
comp=Z,191nm,18.9s,baz=318,slow=33							
RAR	**Rarotonga**	**25.20**	**99**	LR	LR	05 57 52.6	
comp=Z,108nm,21.1s,baz=265,slow=31							
WHZ	**Wether Hill Ro**	**26.84**	**188**	*e*P	**P**	**05 50 30.0**	**+0.7**
75nm,1.3s							
STKA	**Stephens Creek**	**31.17**	**240**	P	**P**	**05 51 08.0**	**-0.1**
2.8nm,0.8s,baz=63,slow=11,SNR=4.3							
TBI	**Tubuai**	**34.73**	**103**	*e*S	S	05 57 28.9	+22
254nm,26.8s							
TBI				*e*LR	LR	06 01 13.0	
comp=Z,229nm,26.5s							
PPT2	**Papeete2**	**35.09**	**93**	*e*LR	LR	06 01 24.2	
comp=Z,266nm,25.8s							
PPT	**Papeete**	**35.10**	**93**	LR	LR	06 02 37.7	
comp=Z,59nm,20.1s,baz=234,slow=30							
BBOO	**Buckleboo**	**35.94**	**241**	*e*P	**P**	**05 51 50.5**	**+0.9**
31nm,1.5s							
AS31	**Alice Springs**	**36.93**	**256**	*e*P	**P**	**05 51 59.4**	**+1.2**
1.1nm,0.9s							
ASAR	**Alice Springs**	**36.94**	**256**	P	**P**	**05 51 56.6**	**-1.6**
1.1nm,0.7s,baz=93,slow=8.9,SNR=13							
ASAR				PcP	**PcP**	**05 54 18.9**	**-0.3**
0.6nm,0.9s,baz=129,slow=3.7,SNR=3.3							
ASAR				LR	LR	06 06 11.6	
comp=Z,106nm,20.9s,baz=96,slow=35							
RIM	**Rim**	**49.26**	**40**	*e*P	**P**	**05 53 36.9**	**-1.0**
177nm,1.0s							
MJAR	**Matsushiro Arr**	**64.81**	**329**	P	**P**	**05 55 27.4**	**-0.2**
1.6nm,0.8s,baz=142,slow=7.2,SNR=3.7							
MAJO	**Matsushiro**	**64.81**	**329**	*e*P	**P**	**05 55 27.4**	**-0.2**
QSPA	**South Pole Qui**	**70.69**	**180**	*e*P	**P**	**05 56 02.2**	**-2.2**
5.2nm,1.3s							
PETK	**Petropavlovsk-**	**73.45**	**350**	P	**P**	**05 56 22.5**	**+1.7**
3.4nm,1.0s,baz=122,slow=5.4,SNR=3.3							
PEA1	**Petropavlovsk-**	**73.46**	**350**	*e*P	**P**	**05 56 22.5**	**+1.6**
CM31	**Chiang Mai Arr**	**82.19**	**293**	*e*P	**P**	**05 57 10.4**	**+0.2**
7.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**82.19**	**293**	P	**P**	**05 57 10.1**	**-0.1**
0.9nm,0.3s,baz=130,slow=3.8,SNR=3.8							
NV01	**Mina Array Sit**	**85.96**	**47**	*e*P	**P**	**05 57 30.1**	**+0.8**
NVAR	**Mina Array Bea**	**85.96**	**47**	P	**P**	**05 57 30.1**	**+0.8**
0.2nm,0.4s,baz=236,slow=11,SNR=2.4							
NVAR				LR	LR	06 31 20.6	
comp=Z,22nm,20.3s,baz=320,slow=32							
ILAR	**Eielson Array**	**89.23**	**16**	P	**P**	**05 57 43.7**	**-0.3**
0.4nm,0.8s,baz=217,slow=5.2,SNR=2.6							
ILB	**Eielson Array**	**89.23**	**16**	*e*P	**P**	**05 57 44.6**	**+0.5**
2.0nm,1.3s							
SONA0	**Songino Array**	**89.74**	**322**	*e*P	**P**	**05 57 46.1**	**-0.9**
SONM	**Songino Array**	**89.74**	**322**	P	**P**	**05 57 46.1**	**-0.9**
0.5nm,0.3s,baz=77,slow=6.2,SNR=3.7							
O56A	**Blue Knob Stat**	**115.82**	**54**	*e*PKPdf	**PKPdf**	**06 03 30.9**	**-0.5**
SJG	**San Juan**	**123.82**	**81**	*e*PKPdf	**PKiKP**	**06 03 47.4**	**-0.2**
CLL	**Collm**	**144.59**	**339**	*i* PKPdf	PKPbc	06 04 24.2	+0.5
comp=Z,5.0nm,1.0s							
CLL				*i* PKiKP	**PKiKP**	**06 04 28.2**	**-0.5**
comp=Z,9.0nm,0.9s							
GERES	**GERESS Array B**	**146.36**	**336**	PKPbc	**PKPbc**	**06 04 30.1**	**+0.6**
comp=Z,1.0nm,0.9s,baz=72,slow=0.4,SNR=5.4							

DRS ***25*** *05:48:09.8±0.0, 42°65N×46°23E, h16km, ML2.8/2*

ISC 25 05:48:07.9±0.8, 42°68N±0°03×46°24E±0°03, h12km±5km, n15, σ1§49/28, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.02**	**235**	*e*Pg	**Pg**	**05 48 08.8**	**-1.2**
832nm,0.4s							
BTLR				⇓ *i*Sg	**Sg**	**05 48 10.1**	**-1.5**
8μm,0.4s							
DVE	**Vedeno**	**0.29**	**343**	*e*Pg	**Pb**	**05 48 14.5**	**-0.7**
DVE				*e*Sg	**Sb**	**05 48 19.7**	**-0.4**
XNZR	**Khunzakh**	**0.37**	**111**	*e*Pg	**Pb**	**05 48 15.8**	**-0.6**
XNZR				*e*Sg	**Sb**	**05 48 21.9**	**-0.3**
UNCR	**Uncukul**	**0.41**	**84**	*e*Pg	**Pb**	**05 48 17.0**	**-0.1**
57nm,0.2s							
UNCR				*e*Sg	**Sb**	**05 48 23.5**	**+0.2**
315nm,0.5s							
DLMR	**Dylym**	**0.49**	**36**	*e*Pg	**Pn**	**05 48 19.0**	**-1.7**
DLMR				*e*Sg	**Sn**	**05 48 27.5**	**+3.6**
173nm,0.3s							
KRNR	**Karanay**	**0.51**	**73**	*e*Pg	**Pb**	**05 48 19.0**	**+0.1**
KRNR				*i* Sg	**Sb**	**05 48 27.0**	**+0.7**
ARKR	**Arakani**	**0.56**	**97**	*e*Pg	**Pb**	**05 48 20.0**	**+0.4**
ARKR				*e*Sg	**Sn**	**05 48 29.5**	**-1.5**
101nm,0.3s							
GNBR	**Gunib**	**0.60**	**118**	*e*Pg	**Pg**	**05 48 19.4**	**-0.2**
48nm,0.4s							
GNBR				⇑ *e*Sg	**Sb**	**05 48 28.2**	**-0.7**
235nm,0.5s							
GROC	**Groznyy**	**0.62**	**328**	*e*Pg	**Pb**	**05 48 20.2**	**-0.5**
GROC				*e*Sg	**Sb**	**05 48 29.4**	**0.0**
KMKR	**Kumukh**	**0.83**	**130**	*e*Pg	**Pg**	**05 48 24.0**	**0.0**
KMKR				*i* Sg	**Sn**	**05 48 37.0**	**-1.0**
LGD	**Lagodekhi**	**0.84**	**180**	P	**Pg**	**05 48 24.2**	**+0.1**
LGD				S	**Sb**	**05 48 35.1**	**-0.5**
DDFL	**Dedoflistskaro**	**1.23**	**184**	P	**Pn**	**05 48 30.6**	**-0.5**
GUDG	**Gudauri**	**1.32**	**261**	P	**Pg**	**05 48 33.9**	**+0.6**
GUDG				S	**Sg**	**05 48 54.1**	**+3.7**
AKT	**Akhty**	**1.63**	**137**	*e*Pg	**Pg**	**05 48 38.6**	**-0.5**
32nm,0.3s							
AKT				*e*Sg	**Sg**	**05 49 03.9**	**+3.6**
ONI	**Oni**	**2.06**	**269**	P	**Pg**	**05 48 46.9**	**-0.5**

ISCJB ***25*** *05:50:58.2±0.4, 44°47N±0°04×129°61W±0°04, h13km, mb4.1/15, MS3.4/6, Error ellipse: s-maj=6.1km s-min=3.2km az=30.0*

ANF ***25*** *05:50:58.6±2.6, 44°29N×129°46W, ML3.7/1, Error ellipse: s-maj=30.3km s-min=8.4km az=53.0*

IDC ***25*** *05:51:00.9±4.3, 44°26N×129°90W, h37km±35km, mb3.5/7, mb1 3.8/12, mb1mx3.5/49, mbtmp3.7/12, ML3.3/5, MS3.5/8, Ms1 3.5/8, ms1mx3.2/25, Error ellipse: s-maj=46.3km s-min=17.3km az=52.0*

NEIC ***25*** *05:51:00.4±2.2, 44°51N×129°63W, h11km±4km, mb4.0/51, Error ellipse: s-maj=17.7km s-min=14.1km az=49.0*

ISC 25 05:51:00.1±0.7, 44°45N±0°07×129°61W±0°06, h13km, n110, σ1§41/103, mb4.0/15, MS3.4/6, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**4.14**	**110**	*e*Pn	**Pn**	**05 52 00.7**	**-2.4**
KEBM				*e*Sn	**Sn**	**05 52 51.5**	**+0.1**
COR	**Corvallis**	**4.51**	**86**	*e*Pn	**Pn**	**05 52 06.9**	**-1.2**
COR				*e*Sn	**Sn**	**05 53 01.8**	**+1.3**
I03D	**Drain, OR**	**4.58**	**97**	P	**Pn**	**05 52 06.5**	**-2.5**
baz=282,SNR=14							
I03D				S	**Sn**	**05 52 58.6**	**-3.4**
baz=282							
G03D	**McMinnville, O**	**4.58**	**78**	P	**Pn**	**05 52 07.5**	**-1.6**
baz=263,SNR=16							
G03D				Sb	**Sb**	**05 53 15.4**	**0.0**
baz=263							
K02D	**Willamette Mer**	**4.66**	**110**	P	**Pn**	**05 52 07.9**	**-2.3**
baz=295							
K02D				S	**Sn**	**05 53 02.2**	**-2.1**
baz=295							
H04D	**Lebanon**	**4.92**	**87**	P	**Pn**	**05 52 12.3**	**-1.5**
baz=272							
L02E	**Cave Junction**	**4.95**	**115**	Sb	**Sb**	**05 53 25.2**	**-0.7**
baz=300							
NLWA	**Neilton Lookou**	**4.97**	**52**	*e*Pn	**Pn**	**05 52 13.6**	**-0.9**
NLWA				*e*Sn	**Sn**	**05 53 13.9**	**+2.1**
HUMO	**Hull Mountain**	**5.18**	**108**	*e*Pn	**Pn**	**05 52 16.5**	**-0.8**
HUMO				*e*Sn	**Sn**	**05 53 15.7**	**-1.2**
H04A	**Detroit Lake**	**5.31**	**85**	*e*Pn	**Pn**	**05 52 18.5**	**-0.7**
H04A				*e*Sn	**Sn**	**05 53 20.6**	**+0.4**
E04D	**Cinebar**	**5.38**	**64**	P	**Pn**	**05 52 19.1**	**-1.0**
baz=250,SNR=10.0							
D03D	**Eldon**	**5.50**	**54**	P	**Pn**	**05 52 20.9**	**-0.7**
baz=239,SNR=8.4							
D04E	**Lakebay**	**5.51**	**58**	P	**Pn**	**05 52 21.6**	**-0.2**
baz=243,SNR=11							
YBH	**Yreka Blue Hor**	**5.74**	**116**	*e*Pn	**Pn**	**05 52 27.4**	**+2.3**
YBH	**Yreka Blue Hor**	**5.74**	**116**	Pn	**Pn**	**05 52 26.2**	**+1.2**
0.1nm,0.3s,baz=281,slow=14,SNR=4.5							
LON	**Longmire**	**5.94**	**64**	*e*Pn	**Pn**	**05 52 27.5**	**-0.3**
F05D	**White Salmon**	**5.94**	**73**	P	**Pn**	**05 52 28.0**	**+0.2**
baz=259,SNR=10							
G05D	**Wamic, OR**	**5.95**	**79**	P	**Pn**	**05 52 27.5**	**-0.5**
baz=266							
PGC	**Sidney**	**5.98**	**43**	*e*Pn	**Pn**	**05 52 25.6**	**-2.6**
D05A	**Enumclaw**	**5.99**	**60**	*e*Pn	**Pn**	**05 52 29.2**	**+0.8**
PINE	**Pine Mountain**	**6.28**	**93**	*e*Pn	**Pn**	**05 52 32.2**	**-0.4**
B05A	**Bryant**	**6.45**	**51**	P	**Pn**	**05 52 34.8**	**+0.1**
baz=237,SNR=16							
K05A	**Summer Lake**	**6.56**	**102**	*e*Pn	**Pn**	**05 52 36.6**	**+0.1**
LTY	**Liberty**	**6.85**	**63**	*e*Pn	**Pn**	**05 52 40.4**	**+0.1**
B06A	**Marblemount**	**6.93**	**51**	*e*Pn	**Pn**	**05 52 41.6**	**+0.3**
MOD	**Modoc Plateau**	**7.26**	**107**	*e*Pn	**Pn**	**05 52 44.8**	**-1.3**
I07A	**Izee**	**7.27**	**89**	*e*Pn	**Pn**	**05 52 46.2**	**+0.1**
G08A	**Pilot Rock**	**7.62**	**80**	*e*Pn	**Pn**	**05 52 50.0**	**-0.8**
E08A	**Dider Farm, El**	**7.70**	**71**	*e*Pn	**Pn**	**05 52 51.9**	**+0.1**
BBB	**Bella Bella**	**7.81**	**7**	*e*Pn	**Pn**	**05 52 53.5**	**+0.2**
BBB	**Bella Bella**	**7.81**	**7**	Pn	**Pn**	**05 52 55.8**	**+2.5**
0.2nm,0.3s,baz=224,slow=20,SNR=3.8							
J08A	**Circle Bar Ran**	**8.12**	**94**	*e*Pn	**Pn**	**05 52 59.0**	**+1.2**
WVOR	**Wild Horse Val**	**8.24**	**100**	*e*Pn	**Pn**	**05 53 01.4**	**+2.0**
BMO	**Blue Mountains**	**8.79**	**83**	*e*Pn	**Pn**	**05 53 06.8**	**0.0**
PAHR	**Pah Rah Range**	**8.96**	**118**	*e*Pn	Pn	05 53 16.3	+7.0
NEW	**Newport**	**9.44**	**62**	LR	LR	05 56 46.4	
comp=Z,450nm,19.3s,baz=271,slow=36							
CMB	**Columbia Colle**	**9.45**	**130**	*e*Pn	**Pn**	**05 53 17.3**	**+1.4**
PLID	**Pearl Lake**	**9.71**	**81**	*e*Pn	**Pn**	**05 53 20.5**	**+0.9**
NV01	**Mina Array Sit**	**10.40**	**121**	*e*Pn	**Pn**	**05 53 30.3**	**+1.2**
NVAR	**Mina Array Bea**	**10.40**	**121**	Pn	**Pn**

H11N2	WAKE ISLAND Hy	57.63	266	T	T	07 02 55.1
	baz=49,slow=75,SNR=1412					
H11N1	WAKE ISLAND Hy	57.65	266	T	T	07 02 54.8
	baz=49,slow=75,SNR=1056					
H11S1	WAKE ISLAND Hy	58.57	265	T	T	07 04 07.0
	baz=48,slow=75,SNR=138					
H11S2	WAKE ISLAND Hy	58.58	265	T	T	07 04 04.3
	baz=48,slow=75,SNR=78					
H11S3	WAKE ISLAND Hy	58.59	265	T	T	07 04 10.3
	baz=48,slow=75,SNR=97					
NRIK	Noril'sk	63.27	346	LR	LR	06 30 20.1
	comp=Z,33nm,20.1s,baz=51,slow=37					
NOA	NORSAR Array B	70.16	19	LR	LR	06 30 51.5
	comp=Z,15nm,20.7s,baz=5.0,slow=34					
SONA0	Songino Array	75.77	325	*e*P	P	06 02 43.3 -2.2
SONM	Songino Array	75.77	325	P	P	06 02 43.3 -2.2
	0.8nm,0.6s,baz=33,slow=5.7,SNR=5.0					
ZAA1	Zalesovo Array	77.66	340	*e*P	P	06 02 53.8 -2.1
ZALV	Zalesovo Beam	77.66	340	P	P	06 02 53.8 -2.2
	0.6nm,0.4s,baz=46,slow=8.3,SNR=2.6					
ZALV				LR	LR	06 40 47.2
	comp=Z,21nm,19.9s,baz=70,slow=38					
HHC	Hu-ho-hao-te	78.89	317	*e*P	P	06 03 03.9 +0.8
WMQ	Urumqi	86.04	334	*e*P	P	06 03 39.3 -1.0

NIED ***25*** *06:01:00,44.°00N×148.°00E,h53km,Mw4.1 Best double couple: M₀1.84000×10¹⁵ NP1:φs159.00000°,δ20.00000°, λ25.00000°. NP2:φs46.00000°,δ82.00000°,λ109.00000°.*
IDC ***25*** *06:01:19.9±2.0,44.°54N×148.°17E,h48km±18km,mb3.8/22, mb1 3.9/29,mb1mx3.9/41,mbtmp4.0/29,ML3.7/5,MS3.0/6, Ms1 3.1/6,ms1mx2.9/29,Error ellipse: s-maj=19.5km s-min=12.1km az=155.0*
JMA ***25*** *06:01:19.5±0.3,44.°03N×147.°96E,h0km,M4.8*
ISCJB ***25*** *06:01:20.2±0.5,44.°33N±0.°04×148.°10E±0.°05,h65km±4km, mb4.2/70,Error ellipse: s-maj=7.5km s-min=3.8km az=139.3*
MOS ***25*** *06:01:20.1±0.9,44.°35N×148.°10E,h67km,mb4.6/16,Error ellipse: s-maj=8.2km s-min=6.7km az=59.9*
SKHL ***25*** *06:01:20.3±0.4,44.°34N×148.°19E,h70km±4km,mb4.7/11*
NEIC ***25*** *06:01:23.6±1.4,44.°45N×148.°01E,h77km±5km,mb4.3/52, Error ellipse: s-maj=18.3km s-min=10.9km az=139.0*
ISC 25 06:01:20.7±1.0,44.°35N±0.°05×148.°16E±0.°06,h56km±8km, n197,σ1$28/222,mb4.2/70,MS3.4/5,2C-5D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.91**	**347**	*d* i PN			**Pn**	**06 01 36.8**	**-0.6**
KUR				*i* S			**Sn**	**06 01 49.0**	**-0.6**
KUR				pmax		pmax			
	comp=Z,4μm,0.3s								
KUR				pmax		pmax			
	comp=N,818nm,0.4s								
KUR				pmax		pmax			
	comp=E,2μm,0.1s								
KUR				smax		smax			
	comp=E,4μm,0.4s								
KUR				smax		smax			
	comp=N,6μm,0.2s								
KUR	**Kuril'sk**	**0.91**	**347**	*i* P			**Pn**	**06 01 37.0**	**-0.4**
KUR				AMB		AMB		06 01 37.8	
	comp=N,280nm,0.3s								
KUR				AMB		AMB		06 01 37.8	
	comp=N,160nm,0.3s								
KUR				AMB		AMB		06 01 37.8	
	comp=N,670nm,0.3s								
KUR				*i* S			**Sn**	**06 01 49.0**	**-0.6**
KUR				A		A		06 01 50.9	
	comp=N,640nm,0.4s								
KUR				A		A		06 01 50.9	
	comp=N,4μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.69**	**260**	*d* iPN			**Pn**	**06 01 47.5**	**-0.3**
YUK				*e*S			**Sn**	**06 02 07.8**	**-0.5**
YUK				pmax		pmax			
	comp=N,1μm,0.2s								
YUK				pmax		pmax			
	comp=E,931nm,0.2s								
YUK				pmax		pmax			
	comp=Z,3μm,0.2s								
YUK				smax		smax			
	comp=E,5μm,0.5s								
YUK				smax		smax			
	comp=N,3μm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.69**	**260**	*i* P			**Pn**	**06 01 47.0**	**-0.8**
YUK				AMB		AMB		06 01 49.5	
	comp=N,130nm,0.3s								
YUK				AMB		AMB		06 01 49.5	
	comp=N,240nm,0.3s								
YUK				AMB		AMB		06 01 49.5	
	comp=N,530nm,0.3s								
YUK				*e*S			**Sn**	**06 02 07.0**	**-1.3**
YUK				A		A		06 02 11.0	
	comp=N,3μm,0.4s								
YUK				A		A		06 02 11.0	
	comp=N,540nm,0.4s								
LAGR	**Lagunnoye**	**1.73**	**261**	*e*PN			**Pn**	**06 01 48.4**	**-0.1**
LAGR				*e*S			**Sn**	**06 02 09.4**	**-0.1**
LAGR				pmax		pmax			
	comp=Z,979nm,0.4s								
LAGR				smax		smax			
	comp=N,7μm,0.3s								
LAGR				smax		smax			
	comp=E,5μm,0.3s								
LAGR	**Lagunnoye**	**1.73**	**261**	*e*P			**Pn**	**06 01 48.0**	**-0.5**
LAGR				AMB		AMB		06 01 54.0	
	comp=E,980nm,0.4s								
LAGR				*e*S			**Sn**	**06 02 09.0**	**-0.5**
LAGR				A		A		06 02 15.0	
	comp=E,680nm,0.4s								
LAGR				A		A		06 02 15.0	
	comp=E,2μm,0.4s								
GRPR	**Tuman**	**1.76**	**259**	*e*PN			**Pn**	**06 01 48.5**	**-0.3**
GRPR				*i* S			**Sn**	**06 02 09.4**	**-0.6**
GRPR				pmax		pmax			
	comp=Z,1μm,0.3s								
GRPR				smax		smax			
	comp=E,1μm,0.2s								
GRPR				smax		smax			
	comp=N,5μm,0.3s								
GRPR	**Tuman**	**1.76**	**259**	*e*P			**Pn**	**06 01 48.0**	**-0.8**
GRPR				AMB		AMB		06 01 53.0	
	comp=N,670nm,0.3s								
GRPR				*i* S			**Sn**	**06 02 09.0**	**-1.0**
GRPR				A		A		06 02 14.0	
	comp=N,470nm,0.3s								
GRPR				A		A		06 02 14.0	
	comp=N,1μm,0.3s								
GLVR	**Golovnino**	**2.00**	**253**	*e*PN			**Pn**	**06 01 52.5**	**+0.4**
GLVR				*e*S			**Sn**	**06 02 16.7**	**+0.7**
GLVR				pmax		pmax			
	comp=Z,561nm,0.3s								
GLVR				smax		smax			
	comp=E,5μm,0.2s								
GLVR				smax		smax			
	comp=N,4μm,0.4s								
GLVR	**Golovnino**	**2.00**	**253**	*e*P			**Pn**	**06 01 52.0**	**-0.1**
GLVR				AMB		AMB		06 01 57.0	
	comp=N,560nm,0.4s								
GLVR				*e*S			**Sn**	**06 02 16.0**	**0.0**
GLVR				A		A		06 02 23.0	
	comp=N,2μm,0.4s								
GLVR				A		A		06 02 23.0	
	comp=N,480nm,0.4s								
NEM2	**Nemuro 2**	**2.01**	**241**	P			**Pn**	**06 01 51.2**	**-1.0**
NEM2				*e*S			**Sn**	**06 02 14.0**	**-2.1**
JRA	**Rausu**	**2.23**	**260**	P			**Pn**	**06 01 55.9**	**+0.7**
JRA				*e*S			**Sn**	**06 02 22.5**	**+1.0**
JKHN	**Kushirohamanak**	**2.52**	**241**	P			**Pn**	**06 01 58.7**	**-0.5**
JKHN				*e*S			**Sn**	**06 02 27.2**	**-1.4**
JNK	**Nakash**	**2.60**	**254**	P			**Pn**	**06 02 00.7**	**+0.4**
JNK				*e*S			**Sn**	**06 02 30.2**	**-0.5**
JAK	**Akkeshi**	**2.86**	**243**	P			**Pn**	**06 02 03.2**	**-0.6**
JAK				*e*S			**Sn**	**06 02 35.5**	**-1.4**
JTKR	**Abashiri--Toko**	**3.09**	**264**	P			**Pn**	**06 02 07.6**	**+0.7**
JAR	**Ashorobuto**	**3.35**	**253**	P			**Pn**	**06 02 11.6**	**+1.1**
JAR				*e*S			**Sn**	**06 02 49.5**	**+0.4**
JOB	**Onbets**	**3.46**	**247**	P			**Pn**	**06 02 12.4**	**+0.4**
JOB				*e*S			**Sn**	**06 02 51.1**	**-0.6**
JMP	**Maruseppu**	**3.47**	**266**	P			**Pn**	**06 02 13.3**	**+1.1**
JCH	**Churui**	**3.90**	**245**	P			**Pn**	**06 02 18.0**	**-0.1**
JCH				*e*S			**Sn**	**06 03 00.7**	**-1.9**
JKK2	**Kamakawa 2**	**3.93**	**265**	P			**Pn**	**06 02 20.6**	**+2.1**
JKA	**Kamikawa-asahi**	**4.00**	**269**	*e*P			**Pn**	**06 02 20.9**	**+1.4**
ASAJ	**Asahikawa**	**4.01**	**269**	P			**Pn**	**06 02 20.9**	**+1.3**
	comp=N,4.4nm,0.3s,baz=98,slow=16,SNR=16								
ASAJ				S			**Sn**	**06 03 09.0**	**+3.8**
	comp=N,5.6nm,0.3s,baz=102,slow=18,SNR=2.3								
ASAJ				LR		LR		06 04 10.5	
	comp=N,252nm,18.5s,baz=94,slow=42								
JSE	**Soyaes**	**4.03**	**281**	P			**Pn**	**06 02 20.9**	**+1.1**
ERM	**Erimo**	**4.34**	**239**	*e*Pn			**Pn**	**06 02 26.3**	**+2.1**
ERM	**Erimo**	**4.34**	**239**	*d* iPN			**Pn**	**06 02 26.2**	**+2.1**
JNBK	**Urakawa-nobuka**	**4.46**	**244**	P			**Pn**	**06 02 25.6**	**-0.1**
YSS	**Yuzh-Sakhalins**	**4.60**	**306**	*e*Pn			**Pn**	**06 02 28.0**	**+0.4**
YSS	**Yuzh-Sakhalins**	**4.60**	**306**	‖ *e*PN			**Pn**	**06 02 28.3**	**+0.7**
YSS				*e*S			**Sn**	**06 03 15.9**	**-3.8**
YSS				pmax		pmax			
	comp=Z,50nm,0.6s								
YSS				smax		smax			
	comp=E,30nm,0.8s								
YSS				MLR		MLR			
	comp=Z,200nm,15.9s								
YSS	**Yuzh-Sakhalins**	**4.60**	**306**	AMB		AMB		06 02 26.0	
	comp=Z,70nm,0.8s								
YSS				*e*P			**Pn**	**06 02 28.5**	**+0.9**
YSS				A		A		06 03 17.0	
	comp=Z,30nm,0.8s								
YSS				*e*S			**Sn**	**06 03 17.5**	**-2.2**
JKB	**Kayabe**	**5.77**	**247**	P			**Pn**	**06 02 44.4**	**+0.7**
JKB				*e*S			**Sn**	**06 03 46.9**	**-1.6**
TYV	**Tymovskoe**	**7.50**	**332**	*e*PN			**Pn**	**06 03 10.2**	**+2.8**
TYV				*e*S			**Sn**	**06 04 36.5**	**+5.6**
TYV				pmax		pmax			
	comp=Z,16nm,1.2s								
TYV				smax		smax			
	comp=N,15nm,1.3s								
TYV	**Tymovskoe**	**7.50**	**332**	*e*P			**Pn**	**06 03 09.6**	**+2.2**
TYV				AMB		AMB		06 03 11.4	
	comp=N,20nm,0.9s								
TEY	**Ternei**	**8.27**	**279**	‖ *e*PN			Pn	06 03 23.2	+5.4
TEY				pmax		pmax			
	comp=E,20nm,0.9s								
TEY				pmax		pmax			
	comp=Z,20nm,0.7s								
TEY	**Ternei**	**8.27**	**279**	*e*P			**Pn**	**06 03 21.2**	**+3.4**
TEY				AMB		AMB		06 03 24.1	
	comp=Z,20nm,0.7s								
PEA0B	**Petropavlovsk-**	**10.78**	**32**	*e*Pn			**Pn**	**06 03 54.5**	**+2.3**
PETK	**Petropavlovsk-**	**10.78**	**32**	P			**Pn**	**06 03 49.3**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=2.5								
PEA1	**Petropavlovsk-**	**10.79**	**32**	*e*Pn			**Pn**	**06 03 49.3**	**-2.9**
MJA0	**Matsu Arr-Jizo**	**10.85**	**227**	*e*PN			**Pn**	**06 03 54.0**	**+0.7**
MJB9	**Matsu-Tunnel**	**10.87**	**228**	*e*Pn			**Pn**	**06 03 53.9**	**+0.3**
MAJO	**Matsushiro**	**10.87**	**228**	*e*Pn			**Pn**	**06 03 53.8**	**+0.3**
MAJO	**Matsushiro**	**10.87**	**228**	*i* PN			**Pn**	**06 03 54.1**	**+0.5**
MAT	**Matsushiro**	**10.87**	**228**	P			**Pn**	**06 03 52.8**	**-0.8**
MJAR	**Matsushiro Arr**	**10.87**	**228**	P			**Pn**	**06 03 53.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=24,slow=12,SNR=6.1								
MJAR				LR		LR		06 08 18.0	
	comp=Z,66nm,19.6s,baz=340,slow=38								
PET	**Petropavlovsk**	**11.10**	**35**	*i* PN			**Pn**	**06 03 57.3**	**+0.8**
PET	**Petropavlovsk**	**11.10**	**35**	*e*P			**Pn**	**06 03 56.3**	**-0.2**
USA0B	**Ussuriysk Arra**	**11.60**	**275**	*e*Pn			**Pn**	**06 04 07.3**	**+3.9**
USRK	**Ussuriysk Ar.**	**11.60**	**275**	P			**Pn**	**06 04 03.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=72,slow=13,SNR=8.5								
KLR	**Kul'dur**	**12.26**	**299**	*i* PN			**Pn**	**06 04 14.7**	**+2.4**
KLR				pmax		pmax			
	comp=Z,4.0nm,1.0s								
KLR	**Kul'dur**	**12.26**	**299**	P			**Pn**	**06 04 14.5**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=84,slow=16,SNR=7.2								
KLR				LR		LR		06 08 49.0	
	comp=Z,92nm,21.4s,baz=119,slow=37								
KLR	**Kul'dur**	**12.26**	**299**	*e*P			**Pn**	**06 04 14.7**	**+2.4**
EKMR	**Ekimchan**	**13.28**	**316**	*e*P			**Pn**	**06 04 25.6**	**-0.7**
EKMR				AMB		AMB		06 04 30.6	
	comp=Z,6.0nm,0.8s								
BMKR	**Bomnak**	**16.22**	**317**	*e*P			**Pn**	**06 05 03.9**	**-0.7**
BMKR				AMB		AMB		06 05 08.0	
	comp=Z,8.0nm,1.0s								
KSRS	**Korea Array**	**16.76**	**253**	P			**Pn**	**06 05 10.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=58,slow=12,SNR=4.0								
KSRS				LR		LR		06 10 58.0	
	comp=Z,48nm,19.6s,baz=47,slow=34								
JNU	**Nakatsue**	**17.50**	**236**	*e*Pn			**P**	**06 05 21.6**	**+0.3**
	comp=Z,9.4nm,0.9s								
JNU	**Nakatsue**	**17.50**	**236**	P			**P**	**06 05 21.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=150,slow=13,SNR=4.5								
SEY	**Seymchan**	**18.78**	**6**	P			**P**	**06 05 33.4**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=165,slow=19,SNR=4.2								
BILL	**Bilibino**	**25.58**	**16**	‖ *e*P			**P**	**06 06 46.0**	**+1.8**
BILL				*e*				06 07 25.2	
BILL				*e*S			**S**	**06 11 04.4**	**-3.4**
BILL				pmax		pmax			
	comp=Z,8.0nm,2.6s								
BILL				MLR		MLR			
	comp=Z,92nm,16.0s								
BILL	**Bilibino**	**25.58**	**16**	*e*P			**P**	**06 06 46.0**	**+1.8**
HHC	**Hu-ho-hao-te**	**27.02**	**275**	*e*P			**P**	**06 06 58.6**	**+1.0**
SONA0	**Songino Array**	**28.92**	**292**	*e*P			**P**	**06 07 14.3**	**-0.2**
SONM	**Songino Array**	**28.92**	**292**	P			**P**	**06 07 14.3**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=81,slow=9.2,SNR=4.3								
H11N2	**WAKE ISLAND Hy**	**29.10**	**142**	T		T		06 38 02.7	
	baz=332,slow=76,SNR=534								
H11N1	**WAKE ISLAND Hy**	**29.11**	**142**	T		T		06 38 07.3	
	baz=332,slow=76,SNR=669								
H11N3	**WAKE ISLAND Hy**	**29.11**	**142**	T		T		06 38 07.5	
	baz=332,slow=76,SNR=476								
H11S1	**WAKE ISLAND Hy**	**30.09**	**143**	T		T		06 39 27.0	
	baz=333,slow=76,SNR=871								
H11S3	**WAKE ISLAND Hy**	**30.09**	**143**	T		T		06 39 22.2	
	baz=333,slow=76,SNR=550								
H11S2	**WAKE ISLAND Hy**	**30.11**	**143**	T		T		06 39 18.4	
	baz=333,slow=76,SNR=466								
XAN	**Xi'an**	**31.84**	**265**	P			**P**	**06 07 39.8**	**-0.4**
LZH	**Lanzhou**	**34.48**	**272**	*e*P			**P**	**06 08 04.4**	**+1.0**
LZH				pP		pP		06 08 20.0	+2.5
LZH				sP		sP		06 08 27.0	+3.0
SVW2	**Sparrevohn**	**36.63**	**43**	*e*P			**P**	**06 08 22.7**	**+1.3**
	comp=Z,5.1nm,1.2s								
CD2	**Chengdu**	**37.19**	**264**	P			**P**	**06 08 26.6**	**+0.1**
OHAK	**Old Harbor**	**37.98**	**49**	*e*P			**P**	**06 08 33.8**	**+1.0**
	comp=Z,14nm,1.5s								
KDAK	**Kodiak Island**	**38.30**	**48**	*e*P			**P**	**06 08 35.6**	**+0.2**
	comp=Z,3.2nm,0.9s								
KDAK	**Kodiak Island**	**38.30**	**48**	*i* P			**P**	**06 08 35.8**	**+0.3**
MLY	**Manley**	**38.93**	**36**	*e*P			**P**	**06 08 42.7**	**+2.0**
	comp=Z,1.4nm,0.6s								
TOLK	**Toolik Lake Re**	**39.60**	**31**	*e*P			**P**	**06 08 46.8**	**+0.5**
	comp=Z,3.2nm,1.2s								
RND	**Reindeer**	**39.76**	**39**	*e*P			**P**	**06 08 48.2**	**+0.5**
	comp=Z,2.2nm,0.8s								
RND	**Reindeer**	**39.76**	**39**	*e*P			**P**	**06 08 48.2**	**+0.5**
RND				pmax		pmax			
	comp=Z,2.0nm,0.8s								
MDM	**Murphy Dome**	**39.99**	**36**	*e*P			**P**	**06 08 51.1**	**+1.5**
	comp=Z,1.9nm,0.7s								
SML	**Sawmill**	**40.09**	**41**	*e*P			**P**	**06 08 51.3**	**+0.9**
	comp=Z,6.6nm,0.8s								
SML	**Sawmill**	**40.09**	**41**	*e*P			**P**	**06 08 51.3**	**+0.9**
SML				pmax		pmax			
	comp=Z,7.0nm,0.8s								
COLA	**College**	**40.16**	**37**	*i* P			**P**	**06 08 51.5**	**+0.7**
COLA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
CCB	**Clear Creek Bu**	**40.18**	**37**	*e*P			**P**	**06 08 51.8**	**+0.7**
	comp=Z,3.3nm,1.4s								
DHY	**Denali Highway**	**40.44**	**39**	*e*P			**P**	**06 08 54.3**	**+0.9**
	comp=Z,2.9nm,0.7s								
HDA	**Harding Lake**	**40.56**	**37**	*e*P			**P**	**06 08 54.7**	**+0.5**
	comp=Z,2.9nm,0.7s								
ILAR	**Eielson Array**	**40.57**	**37**	P			**P**	**06 08 52.9**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=262,slow=6.3,SNR=12								
ILAR				PcP			**PcP**	**06 10 54.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=262,slow=3.5,SNR=2.6								
ILB	**Eielson Array**	**40.57**	**37**	*e*P			**P**	**06 08 55.0**	**+0.7**
	comp=Z,2.5nm,0.9s								
DGZ	**Jazzator, Alta**	**40.75**	**300**	*i* P			**P**	**06 08 57.9**	**+1.7**
PRP	**Porcupine Dome**	**41.12**	**35**	*e*P			**P**	**06 09 00.5**	**+1.5**
	comp=Z,2.2nm,0.7s								
ZAA1	**Zalesovo Array**	**41.22**	**307**	*e*PcP			**PcP**	**06 10 57.0**	**-0.7**
ZALV	**Zalesovo Beam**	**41.22**	**307**	PcP			**PcP**	**06 10 57.0**	**-0.7**
	comp=Z,2.8nm,0.3s,baz=76,slow=6.3,SNR=5.3								
RIDG	**Independent Ri**	**41.53**	**38**	*e*P			**P**	**06 09 03.3**	**+1.0**
	comp=Z,3.3nm,0.8s								
DOT	**Dot Lake**	**41.88**	**38**	*e*P			**P**	**06 09 05.6**	**+0.5**
	comp=Z,2.5nm,0.8s								
SCRK	**Sand Creek**	**41.88**	**38**	*e*P			**P**	**06 09 06.0**	**+0.8**
	comp=Z,3.4nm,0.9s								
WMQ	**Urumqi**	**42.55**	**291**	*e*P			**P**	**06 09 12.8**	**+1.9**
EGAK	**Eagle**	**43.02**	**36**	*e*P			**P**	**06 09 15.3**	**+1.1**
	comp=Z,4.9nm,0.4s								
DAWY	**Dawson**	**43.88**	**37**	*e*P			**P**	**06 09 22.1**	**+0.9**
	comp=Z,1.4nm,0.9s								
MK31	**Makanchi Array**	**44.95**	**297**	*e*P			**P**	**06 09 30.3**	**+0.2**
	comp=Z,2.2nm,0.8s								
MK31	**Makanchi Array**	**44.95**	**297**	*e*P			**P**	**06 09 30.3**	**+0.2**
MK31				pmax		pmax			
	comp=Z,2.0nm,0.8s								
MK32	**Makanchi Array**	**44.95**	**297**	*e*P			**P**	**06 09 29.4**	**-0.7**
MK32				*e*PcP			**PcP**	**06 11 10.7**	**+0.3**
MKAR	**Makanchi Array**	**44.95**	**297**	P			**P**	**06 09 29.4**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=79,slow=8.1,SNR=22								
MKAR				PcP			**PcP**	**06 11 10.7**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=73,slow=4.2,SNR=5.0								
MKAR	**Makanchi Array**	**44.95**	**297**	*e*P			**P**	**06 09 29.9**	**-0.2**
MAKZ	**Makanchi**	**45.15**	**298**	*e*P			**P**	**06 09 31.4**	**-0.2**
	comp=Z,3.9nm,0.6s								
MAKZ	**Makanchi**	**45.15**	**298**	*e*P			**P**	**06 09 31.4**	**-0.2**
MAKZ				pmax		pmax			
	comp=Z,4.0nm,0.6s								
INK	**Inuvik**	**45.52**	**31**	*e*P			**P**	**06 09 33.5**	**-0.6**
	comp=Z,4.1nm,0.9s								
INK	**Inuvik**	**45.52**	**31**	*e*P			**P**	**06 09 33.5**	**-0.6**
INK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
INK	**Inuvik**	**45.52**	**31**	P			**P**	**06 09 32.0**	**-2.1**
	comp=Z,1.1nm,0.4s,baz=289,slow=8.5,SNR=9.4								
KURK	**Kurchatov**	**45.80**	**304**	P			**P**	**06 09 36.3**	**-0.3**
KURK								06 11 13.4	
KURK	**Kurchatov**	**45.80**	**304**	*e*P			**P**	**06 09 36.3**	**-0.3**
KURBB	**Kurchatov Arra**	**45.89**	**304**	P			**P**	**06 09 36.3**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=73,slow=8.2,SNR=8.5								
KURBB				PcP			**PcP**	**06 11 13.4**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=74,slow=3.3,SNR=12								
WHY	**Whitehorse**	**46.68**	**41**	*e*P			**P**	**06 09 46.0**	**+2.4**
CM31	**Chiang Mai Arr**	**48.39**	**254**	*e*P			**P**	**06 09 56.9**	**-0.4**
	comp=Z,4.6nm,0.8s								
CMAR	**Chiang Mai Arr**	**48.39**	**254**	P			**P**	**06 09 57.4**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=38,slow=6.7,SNR=5.5								
CMAR				LR		LR		06 31 23.7	
	comp=Z,22nm,18.3s,baz=290,slow=37								
BVAR	**Borovoye Array**	**49.69**	**309**	P			**P**	**06 10 05.9**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=90,slow=12,SNR=3.0								
BVAR				PcP			**PcP**	**06 11 27.3**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=41,slow=2.9,SNR=4.6								
DLBC	**Dease Lake**	**49.74**	**43**	*e*P			**P**	**06 10 09.5**	**+2.4**
	comp=Z,4.7nm,1.3s								
DIB	**Dawson Inlet,**	**50.49**	**50**	*e*P			**P**	**06 10 14.9**	**+2.1**
	comp=Z,16nm,1.3s								
JIRN	**Jiri**	**51.63**	**273**	*e*P			**P**	**06 10 22.6**	**+0.5**
	comp=Z,32nm,0.8s								
AAK	**Ala-Archa**	**51.76**	**296**	*i* P			**P**	**06 10 22.8**	**+0.2**
AAK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
AAK	**Ala-Archa**	**51.76**	**296**	*e*P			**P**	**06 10 22.8**	**+0.2**
RAMN	**Ramite**	**51.76**	**272**	*e*P			**P**	**06 10 23.0**	**+0.1**
	comp=Z,33nm,0.4s								
DMN	**Daman**	**52.44**	**274**	*e*P			**P**	**06 10 28.3**	**+0.3**
	comp=Z,20nm,0.8s								
DANN	**Dangsing**	**52.97**	**275**	*e*P			**P**	**06 10 32.6**	**+0.7**
	comp=Z,31nm,0.6s								
KOLN	**Koldanda**	**53.42**	**275**	*e*P			**P**	**06 10 35.6**	**+0.4**
	comp=Z,20nm,0.8s								
PYUN	**Piuthan**	**53.66**	**276**	*e*P			**P**	**06 10 36.8**	**-0.1**
	comp=Z,8.5nm,0.5s								
KK31	**Karatay Array**	**54.08**	**298**	*e*P			**P**	**06 10 39.4**	**-0.2**
	comp=Z,1.9nm,0.7s								
KKAR	**Karatay Array**	**54.08**	**298**	*e*P			**P**	**06 10 39.3**	**-0.2**
	comp=Z,1.9nm,0.8s								
RES	**Resolute Bay**	**54.18**	**17**	*e*P			**P**	**06 10 39.2**	**-0.5**
	comp=Z,8.2nm,1.2s								
RES	**Resolute Bay**	**54.18**	**17**	*e*P			**P**	**06 10 39.3**	**-0.5**
RES				pmax		pmax			
	comp=Z,8.0nm,1.2s								
YKW3	**Yellowknife Ar**	**54.86**	**34**	*e*P			**P**	**06 10 45.6**	**+0.8**
	comp=Z,2.3nm,0.7s								
YKA	**Yellowknife Ar**	**54.90**	**34**	P			**P**	**06 10 45.5**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=301,slow=7.2,SNR=44								
YKA				PcP			**PcP**	**06

ULM					pmax	pmax		
	comp=Z,6.0nm,1.4s							
ULM	**Lac du Bonnet**	**70.58**	**38**	P		**P**	**06 12 28.4**	**-1.3**
	comp=Z,1.5nm,0.4s,baz=330,slow=6.7,SNR=4.5							
SRU	**San Rafael Swe**	**70.84**	**54**	*e*P		**P**	**06 12 32.7**	**+1.0**
	comp=Z,1.2nm,0.6s							
SRU	**San Rafael Swe**	**70.84**	**54**	*e*P		**P**	**06 12 32.7**	**+1.0**
SRU					pmax	pmax		
	comp=Z,1.0nm,0.6s							
W13A	**Hualapai Mount**	**71.50**	**59**	*e*P		P	06 12 28.7	-7.0
	comp=Z,21nm,1.5s							
AKASG	**Malin Array Be**	**71.53**	**324**	P		**P**	**06 12 34.8**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=39,slow=6.2,SNR=5.5							
AKBB	**Malin Array Si**	**71.53**	**324**	*e*P		**P**	**06 12 34.2**	**-1.2**
	comp=Z,3.2nm,0.9s							
AKBB	**Malin Array Si**	**71.53**	**324**	*e*P		**P**	**06 12 34.2**	**-1.2**
AKBB					pmax	pmax		
	comp=Z,3.0nm,0.9s							
EYMN	**Ely**	**74.21**	**37**	*e*P		**P**	**06 12 51.5**	**+0.2**
	comp=Z,8.7nm,1.4s							
ECSD	**EROS Data Cent**	**75.03**	**43**	*e*P		**P**	**06 12 56.5**	**+0.3**
E38A	**The Farm, Brul**	**75.22**	**38**	*e*P		**P**	**06 12 57.1**	**-0.1**
	comp=Z,8.2nm,1.1s							
BUR08	**Bucovina Ar. S**	**75.56**	**324**	*e*P		**P**	**06 12 59.6**	**+0.3**
	comp=Z,3.9nm,1.3s							
E43A	**Lone Tree Farm**	**77.36**	**36**	*e*P		**P**	**06 13 09.3**	**0.0**
BR101	**Keskin Array S**	**77.66**	**314**	*e*P		**P**	**06 13 10.8**	**-0.5**
BRTR	**Keskin Array B**	**77.66**	**314**	P		**P**	**06 13 10.8**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=86,slow=3.8,SNR=5.7							
GERES	**GERESS Array B**	**78.99**	**331**	*e*P		**P**	**06 13 18.2**	**-0.2**
GERES	**GERESS Array B**	**78.99**	**331**	P		**P**	**06 13 17.6**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=44,slow=4.1,SNR=4.7							
MMAI	**Mount Meron Ar**	**81.69**	**308**	P		**P**	**06 13 33.6**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=32,slow=7.9,SNR=5.7							
TX31	**Lajitas Ar. Si**	**81.71**	**57**	*e*P		**P**	**06 13 34.4**	**+1.0**
	comp=Z,3.7nm,1.5s							
LTX	**Lajitas**	**81.71**	**57**	*e*P		**P**	**06 13 32.9**	**-0.5**
LTX	**Lajitas**	**81.71**	**57**	*e*P		**P**	**06 13 32.9**	**-0.5**
TXAR	**Lajitas Array**	**81.71**	**57**	P		**P**	**06 13 32.9**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=293,slow=3.6,SNR=9.0							
MOQ	**Mont Orford**	**83.79**	**27**	*e*P		**P**	**06 13 44.3**	**+0.4**
M54A	**Oil Creek Stat**	**84.36**	**34**	*e*P		**P**	**06 13 47.1**	**+0.3**
	comp=Z,34nm,1.4s							
N54A	**Moraine State**	**84.69**	**35**	*e*P		**P**	**06 13 49.1**	**+0.6**
TOA1	**Torodi Ar. Sit**	**115.15**	**324**	*e*PKiKP		**PKiKP**	**06 19 55.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**115.16**	**324**	PKP		**PKiKP**	**06 19 55.2**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=50,slow=2.0,SNR=4.3							
GO04	**Tololo Observa**	**146.25**	**79**	*e*PKPdf		**PKPbc**	**06 20 55.5**	**+0.3**
BDFB	**Brasilia**	**148.26**	**31**	PKPbc		**PKPbc**	**06 21 01.8**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=275,slow=4.8,SNR=5.0							
PLCA	**Paso Flores**	**151.43**	**96**	*e*PKPbc		**PKPbc**	**06 21 09.2**	**+1.3**
PLCA	**Paso Flores**	**151.43**	**96**	*e*PKIKP		**PKPbc**	**06 21 09.2**	**+1.3**

TAP 25 06:06:03.6, 24°.73N×122°.87E, h19km±1km, ML2.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.30**	**155**	*e*P	Pb	06 06 10.5	+0.2
	baz=155						
YOJ				*e*S	Sg	06 06 14.1	-0.5
	baz=155						
EOS1	**EOS1**	**0.70**	**255**	*e*P	Pg	06 06 17.3	-0.1
	baz=254						
EOS1				*e*S	Sg	06 06 26.8	+0.1
	baz=254						
TWC	**Suao**	**0.94**	**263**	*e*P	Pb	06 06 19.9	-1.4
	baz=262						
TWC				*e*S	Sb	06 06 32.1	-1.2
	baz=262						
TIPB	**Shuangxi**	**0.98**	**284**	*e*P	Pb	06 06 19.9	-2.1
	baz=284						
ENA	**Nanau**	**1.07**	**254**	*e*P	Pb	06 06 23.4	-0.1
	baz=253						
ENA				*e*S	Sb	06 06 36.6	-0.6
	baz=253						
TWE	**Neicheng**	**1.09**	**270**	*e*P	Pn	06 06 23.3	-0.6
	baz=269						
TWE				*e*S	Sb	06 06 37.6	-0.3
	baz=269						
ENTT	**Nioudou**	**1.19**	**266**	P	Pn	06 06 24.8	-0.5
	baz=265						
ENTT				S	Sb	06 06 39.9	-0.8
	baz=265						
YM07	**YM07**	**1.22**	**292**	*e*P	Pn	06 06 24.9	-0.8
	baz=291						
NDT	**Datong Townshi**	**1.24**	**264**	*e*P	Pb	06 06 26.8	+0.3
	baz=264						
NDT				*e*S	Sn	06 06 42.6	+0.3
	baz=264						
NWLT	**Wulai**	**1.25**	**272**	P	Pn	06 06 25.6	-0.5
	baz=272						
NWLT				*e*S	Sb	06 06 40.0	-2.3
	baz=272						
NACB	**Ninganchiao**	**1.29**	**245**	*e*P	Pn	06 06 25.8	-0.9
	baz=244						
NACB				*e*S	Sn	06 06 43.3	-0.1
	baz=244						
YHNB	**Yeheng**	**1.36**	**268**	*e*P	Pn	06 06 27.0	-0.7
	baz=267						
YHNB				*e*S	Sb	06 06 46.2	+0.5
	baz=267						
ETLH	**Xiulin Townshi**	**1.37**	**248**	*e*P	Pn	06 06 28.3	+0.4
	baz=247						
ETLH				*e*S	Sn	06 06 45.4	-0.2
	baz=247						
NSK	**Sanguang**	**1.38**	**268**	*e*P	Pn	06 06 27.2	-0.7
	baz=267						
NSK				*e*S	Sn	06 06 44.7	-1.0
	baz=267						
NNS	**Nan Shan**	**1.39**	**258**	*e*P	Pn	06 06 27.9	-0.4
	baz=257						
NNS				*e*S	Sn	06 06 46.2	0.0
	baz=257						
WHF	**Hehuan Shan**	**1.58**	**249**	*e*P	Pn	06 06 30.9	-0.1
	baz=248						
WHF				*e*S	Sn	06 06 50.2	-0.9
	baz=248						
CHGB	**Renai**	**1.69**	**247**	*e*P	Pn	06 06 31.6	-0.7
	baz=246						
CHGB				*e*S	Sn	06 06 53.4	-0.1
	baz=246						
OWD	**Renai**	**1.73**	**244**	*e*P	Pn	06 06 32.4	-0.5
	baz=243						
HGSD	**Ruisui**	**1.81**	**227**	*e*P	Pn	06 06 33.6	-0.2
	baz=226						
VWDT	**VWDT**	**1.85**	**239**	*e*P	Pn	06 06 34.6	+0.2
	baz=238						

JMA 25 06:06:51.7±0.1, 24°.79N×123°.37E, h25km±4km, M1.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.46**	**225**	P	Pb	06 07 00.9	-0.4
YOJ				S	Sb	06 07 07.1	-0.7
JYNG	**Yonagunijimaku**	**0.51**	**229**	P	Pb	06 07 01.8	-0.3
JYNG				S	Sb	06 07 08.7	-0.5
IRIF	**Iriomote-Funau**	**0.56**	**144**	P	Pb	06 07 02.7	-0.2
IRIF				S	Sb	06 07 10.1	-0.4
JKRS	**Kuro-shima**	**0.80**	**133**	P	Pb	06 07 06.7	-0.3
JKRS				*e*S	Sb	06 07 17.2	-0.2
JIJ	**Ishigaki jima**	**0.82**	**121**	P	Pb	06 07 06.7	-0.6
JIJ				*e*S	Sb	06 07 17.4	-0.6
HATJ	**Hateruma jima**	**0.83**	**151**	P	Pb	06 07 07.2	-0.3
HATJ				*e*S	Sb	06 07 18.1	-0.2
JISG	**Ishigakijimahi**	**0.88**	**103**	P	Pb	06 07 07.7	-0.6
JISG				*e*S	Sb	06 07 19.3	-0.3

*ISCJB **25** 06:08:47.0±0.3, 24°.83N±0°.02×121°.85E±0°.02, h77km±2km, Error ellipse: s-maj=3.8km s-min=2.7km az=161.1*
*TAP **25** 06:08:47.5, 24°.79N×121°.84E, h71km, ML3.5, B*
*JMA **25** 06:08:47.5±0.1, 24°.81N×121°.88E, h71km±1km, M2.6*

ISC 25 06:08:47.5±1.3, 24°.83N±0°.03×121°.85E±0°.02, h74km±5km, n100, σ0°63/160, 15C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.03**	**323**	P	**Pn**	**06 08 58.2**	**0.0**
	baz=3.0						
NTC				S	**Sn**	**06 09 05.9**	**-0.1**
	baz=3.0						
EGS		**0.08**	**79**	*e*P	**Pn**	**06 08 58.2**	**0.0**
	baz=71						
ILA	**Ilan**	**0.11**	**235**	*e*P	**Pn**	**06 08 58.5**	**+0.2**
	baz=249						
ILA				*e*S	**Sn**	**06 09 06.4**	**+0.2**
	baz=249						
TIPB	**Shuangxi**	**0.14**	**351**	⇑*i*P	**Pn**	**06 08 58.5**	**0.0**
	baz=345						
TIPB				S	**Sn**	**06 09 05.8**	**-0.7**
	baz=345						
TWE	**Neicheng**	**0.20**	**237**	P	**Pn**	**06 08 58.8**	**+0.2**
	baz=242						
TWE				*e*S	**Sn**	**06 09 06.7**	**0.0**
	baz=242						
TWB1	**Santiao Chiao**	**0.22**	**36**	⇑*i*P	**Pn**	**06 08 58.7**	**0.0**
	baz=39						
TWB1				S	**Sn**	**06 09 06.4**	**-0.5**
	baz=39						
TWC	**Suao**	**0.22**	**180**	⇑*i*P	**Pn**	**06 08 58.8**	**+0.1**
	baz=174						
TWC				S	**Sn**	**06 09 06.6**	**-0.3**
	baz=174						
NWF	**Wu-fen Shan**	**0.25**	**345**	⇑P	**Pn**	**06 08 59.0**	**0.0**
	baz=349						
NWF				S	**Sn**	**06 09 06.8**	**-0.6**
	baz=349						
WFSB	**Wu-fen Shan**	**0.25**	**345**	⇑P	**Pn**	**06 08 59.0**	**+0.1**
	baz=355						
WFSB				S	**Sn**	**06 09 06.9**	**-0.4**
	baz=355						
TWA	**Mucha**	**0.28**	**302**	⇑*i*P	**Pn**	**06 08 59.2**	**+0.1**
	baz=314						
TWA				S	**Sn**	**06 09 07.8**	**+0.1**
	baz=314						
ENTT	**Nioudou**	**0.32**	**234**	⇑*i*P	**Pn**	**06 08 59.5**	**+0.2**
	baz=248						
ENTT				*e*S	**Sn**	**06 09 07.7**	**-0.3**
	baz=248						
NWLT	**Wulai**	**0.32**	**260**	P	**Pn**	**06 08 59.1**	**-0.2**
	baz=275						
NWLT				S	**Sn**	**06 09 07.4**	**-0.6**
	baz=275						
NHDH	**Xindian Distri**	**0.32**	**294**	⇑*i*P	**Pn**	**06 08 59.5**	**+0.2**
	baz=305						
NHDH				S	**Sn**	**06 09 07.8**	**-0.1**
	baz=305						
TATO	**Taipei**	**0.36**	**294**	⇑P	**Pn**	**06 08 59.6**	**+0.1**
	baz=304						
TATO				S	**Sn**	**06 09 08.0**	**-0.4**
	baz=304						
TAP	**Taipei**	**0.37**	**304**	⇑P	**Pn**	**06 08 59.8**	**+0.1**
	baz=317						
TAP				S	**Sn**	**06 09 08.9**	**+0.3**
	baz=317						
EOS1	**EOS1**	**0.38**	**138**	⇓*i*P	**Pn**	**06 08 59.8**	**+0.1**
	baz=128						
EOS1				S	**Sn**	**06 09 09.1**	**+0.5**
	baz=128						
NDT	**Datong Townshi**	**0.38**	**233**	⇓*i*P	**Pn**	**06 08 59.9**	**+0.2**
	baz=247						
NDT				S	**Sn**	**06 09 08.6**	**-0.2**
	baz=247						
YM07	**YM07**	**0.40**	**329**	⇑*i*P	**Pn**	**06 09 00.0**	**+0.1**
	baz=336						
YM07				S	**Sn**	**06 09 08.9**	**-0.2**
	baz=336						
YM01	**YM01**	**0.40**	**321**	⇑P	**Pn**	**06 09 00.1**	**+0.1**
	baz=332						
YM01				S	**Sn**	**06 09 09.2**	**0.0**
	baz=332						
ENA	**Nanau**	**0.41**	**194**	*e*P	**Pn**	**06 09 00.3**	**+0.3**
	baz=192						
ENA				*e*S	**Sn**	**06 09 10.1**	**+0.9**
	baz=192						
YM10	**YM10**	**0.42**	**321**	⇑P	**Pn**	**06 08 60.0**	**-0.1**
	baz=331						
YM10				S	**Sn**	**06 09 09.4**	**+0.1**
	baz=331						
YM11	**YM11**	**0.42**	**323**	P	**Pn**	**06 09 00.1**	**0.0**
	baz=319						
YM08	**YM08**	**0.43**	**327**	P	**Pn**	**06 08 60.0**	**-0.2**
	baz=334						
YM08				*e*S	**Sn**	**06 09 09.0**	**-0.4**
	baz=334						
YHNB	**Yeheng**	**0.46**	**250**	⇓P	**Pn**	**06 09 00.2**	**-0.2**
	baz=254						
YHNB				S	**Sn**	**06 09 09.8**	**-0.2**
	baz=254						
NSK	**Sanguang**	**0.47**	**251**	⇓*i*P	**Pn**	**06 09 00.3**	**-0.2**
	baz=255						
NSK				S	**Sn**	**06 09 09.7**	**-0.5**
	baz=255						
TWS1	**Kuangyinshan**	**0.47**	**305**	⇑*i*P	**Pn**	**06 09 00.9**	**+0.5**
	baz=318						
TWS1				S	**Sn**	**06 09 10.9**	**+0.9**
	baz=318						
NTST	**Danshui**	**0.49**	**313**	*e*P	**Pn**	**06 09 00.9**	**+0.3**
	baz=322						
NTST				*e*S	**Sn**	**06 09 11.4**	**+1.1**
	baz=322						
WLTB	**Daxi**	**0.54**	**272**	⇓P	**Pn**	**06 09 01.4**	**+0.3**
	baz=276						
WLTB				S	**Sn**	**06 09 11.7**	**+0.6**
	baz=276						
NNS	**Nan Shan**	**0.58**	**228**	⇓*i*P	**Pn**	**06 09 01.8**	**+0.1**
	baz=234						
NNS				S	**Sn**	**06 09 12.1**	**0.0**
	baz=234						
NNSB	**Datong**	**0.58**	**227**	⇓P	**Pn**	**06 09 01.7**	**+0.1**
	baz=233						
NNSB				S	**Sn**	**06 09 11.7**	**-0.4**
	baz=233						
NCU	**National Centr**	**0.62**	**283**	⇓*i*P	**Pn**	**06 09 02.2**	**+0.3**
	baz=278						
NCU				S	**Sn**	**06 09 13.2**	**+0.7**
	baz=278						
NCUH	**Zhongli**	**0.62**	**283**	P	**Pn**	**06 09 02.3**	**+0.4**
	baz=278						
NCUH				S	**Sn**	**06 09 13.4**	**+0.9**
	baz=278						
NACB	**Ninganchiao**	**0.69**	**200**	*e*P	**Pn**	**06 09 02.0**	**-0.6**
	baz=206						
NACB				*e*S	**Sn**	**06 09 13.6**	**-0.3**
	baz=206						
ETLH	**Xiulin Townshi**	**0.71**	**208**	*e*P	**Pn**	**06 09 02.3**	**-0.6**
	baz=203						
LIOB	**Emei**	**0.78**	**256**	P	**Pn**	**06 09 03.6**	**0.0**
	baz=258						
LIOB				S	**Sn**	**06 09 15.5**	**-0.1**
	baz=258						
TWD	**Chiawan**	**0.78**	**197**	*e*P	**Pn**	**06 09 02.9**	**-0.7**
	baz=205						
SBCB	**Hsinchu**	**0.79**	**267**	⇓P	**Pn**	**06 09 03.9**	**+0.2**
	baz=270						
SBCB				S	**Sn**	**06 09 16.2**	**+0.5**
	baz=270						
NSTT	**Nanjuang**	**0.80**	**256**	⇓*i*P	**Pn**	**06 09 03.7**	**-0.1**
	baz=257						
NSTT				S	**Sn**	**06 09 15.7**	**-0.3**
	baz=257						
HSN	**Hsinchu**	**0.80**	**268**	P	**Pn**	**06 09 03.6**	**-0.3**
	baz=272						
HSN				S	**Sn**	**06 09 15.8**	**-0.2**
	baz=272						
PCYT	**Pengchaiyu**	**0.82**	**14**	⇑P	**Pn**	**06 09 04.4**	**+0.3**
	baz=9.0						
TWT	**Tachien**	**0.84**	**227**	⇓P	**Pn**	**06 09 05.1**	**+0.6**
	baz=228						
TWT				S	**Sn**	**06 09 18.0**	**+0.8**
	baz=228						
TDCB	**Techi**	**0.85**	**228**	P	**Pn**	**06 09 05.2**	**+0.5**
	baz=228						
TDCB				S	**Sn**	**06 09 17.5**	**+0.1**
	baz=228						
WHF	**Hehuan Shan**	**0.87**	**218**	P	**Pn**	**06 09 05.0**	**-0.1**
	baz=211						
WHF				S	**Sn**	**06 09 18.0**	**-0.1**
	baz=211						
HWA	**Hwalien**	**0.88**	**195**	*e*P	**Pn**	**06 09 04.9**	**+0.2**
	baz=204						
ENLB	**Shoufeng**	**0.95**	**194**	*e*P	**Pn**	**06 09 06.4**	**+0.7**
	baz=203						
ENLB				*e*S	**Sn**	**06 09 20.5**	**+1.4**
	baz=203						
CHGB	**Renai**	**0.98**	**219**	⇓P	**Pn**	**06 09 06.6**	**+0.3**
	baz=218						
CHGB				S	**Sn**	**06 09 19.8**	**-0.4**
	baz=218						
WHP	**Taichung City**	**0.99**	**236**	⇓*i*P	**Pn**	**06 09 06.8**	**+0.6**
	baz=245						
WHP				*e*S	**Sn**	**06 09 20.3**	**+0.2**
	baz=245						
NMLH	**Miaoli**	**1.01**	**253**	*e*P	**Pn**	**06 09 06.6**	**+0.3**
	baz=255						
JYNG	**Yonagunijimaku**	**1.07**	**111**	P	**Pn**	**06 09 06.7**	**-0.3**
JYNG				S	**Sn**	**06 09 21.4**	**-0.2**
OWD	**Renai**	**1.07**	**215**	*e*P	**Pn**	**06 09 07.3**	**+0.1**
	baz=208						
OWD				*e*S	**Sn**	**06 09 21.5**	**-0.4**
	baz=208						
NSY	**Sanyi**	**1.07**	**248**	⇓P	**Pn**	**06 09 07.5**	**+0.3**
	baz=258						
NSY				*e*S	**Sn**	**06 09 22.1**	**+0.3**
	baz=258						
ESL	**Shilin**	**1.08**	**201**	*e*P	**Pn**	**06 09 06.1**	**-1.2**
	baz=200						
PTSB	**Yuanli**	**1.11**	**250**	*e*P	**Pn**	**06 09 08.6**	**+1.0**
	baz=251						
YOJ	**Yonaguni jima**	**1.12**	**109**	P	**Pn**	**06 09 07.4**	**-0.4**
	baz=101						
YOJ				S	**Sn**	**06 09 22.7**	**-0.1**
	baz=101						
YOJ	**Yonaguni jima**	**1.12**	**109**	P	**Pn**	**06 09 07.3**	**-0.4**
YOJ				*e*S	**Sn**	**06 09 22.3**	**-0.5**
DPDB	**Guoxing**	**1.16**	**227**	*e*P	**Pn**	**06 09 08.5**	**+0.2**
	baz=238						
WDJ	**Dajia District**	**1.20**	**247**	*e*P	**Pn**	**06 09 08.5**	**-0.3**
	baz=254						
WDJ				*e*S	**Sn**	**06 09 24.5**	**-0.1**
	baz=254						
EGFH	**Guangfu**	**1.22**	**198**	*e*P	**Pn**	**06 09 08.1**	**-0.9**
	baz=198						
VWDT	**VWDT**	**1.25**	**211**	*e*P	**Pn**	**06 09 09.5**	**+0.1**
	baz=203						
VWDT				*e*S	**Sn**	**06 09 25.9**	**+0.1**
	baz=203						
TCU	**Taichung**	**1.27**	**238**	*e*P	**Pn**	**06 09 09.4**	**-0.2**
	baz=238						
SMLT	**Sun Moon Lake**	**1.28**	**223**	*e*P	**Pn**	**06 09 10.1**	**+0.2**
	baz=230						
SMLT				*e*S	**Sn**	**06 09 28.1**	**+1.4**
	baz=230						
TYC	**Yuchr**	**1.29**	**225**	*e*P	**Pn**	**06 09 10.1**	**+0.2**
	baz=223						
TYC				*e*S	**Sn**	**06 09 27.6**	**+0.9**
	baz=223						
SSLB	**Suanglung**	**1.32**	**218**	*e*P	**Pn**	**06 09 10.4**	**+0.1**
	baz=229						
SSLB				*e*S	**Sn**	**06 09 27.9**	**+0.4**
	baz=229						
HGSD	**Ruisui**	**1.39**	**196**	*e*P	**Pn**	**06 09 10.8**	**-0.4**
	baz=202						
HGSD				*e*S	**Sn**	**06 09 30.9**	**+1.9**
	baz=202						
WCHH	**Zhanghua**	**1.39**	**238**	*e*P	**Pn**	**06 09 11.1**	**-0.1**
	baz=247						
WNT	**Mingjian**	**1.43**	**228**	*e*P	**Pn**	**06 09 11.7**	**0.0**
	baz=228						
WHYT	**Xinyi Township**	**1.45**	**219**	*e*P	**Pn**	**06 09 12.2**	**+0.2**
	baz=227						
WHYT				*e*S	**Sn**	**06 09 31.6**	**+1.1**
	baz=227						
YULB	**Yu-li**	**1.52**	**200**	*e*P	**Pn**	**06 09 11.7**	**-1.2**
	baz=199						
TWF1	**Yuli**	**1.56**	**199**	*e*P	**Pn**	**06 09 11.3**	**-2.0**
	baz=198						
YUS	**Yu-Shan**	**1.57**	**212**	*e*P	**Pn**	**06 09 14.5**	**+0.6**
	baz=223						
CHN5	**Tsauling**	**1.63**	**221**	*e*P	**Pn**	**06 09 13.9**	**-0.5**
	baz=220						
CHN5				*e*S	**Sn**	**06 09 35.2**	**+0.5**
	baz=220						
WGK	**Gukeng**	**1.64**	**226**	*e*P	**Pn**	**06 09 14.8**	**+0.4**
	baz=226						
RLNB	**Erlin**	**1.65**	**236**	*e*P	**Pn**	**06 09 14.3**	**-0.2**
	baz=236						
WDLH	**Douliu**	**1.65**	**227**	*e*P	**Pn**	**06 09 14.4**	**-0.2**
	baz=226						
CHKT	**Chengkung**	**1.78**	**194**	*e*P	**Pn**	**06 09 15.4**	**-0.9**
	baz=184						
IRIF	**Iriomote-Funau**	**1.78**	**106**	P	**Pn**	**06 09 16.1**	**-0.2**
IRIF				*e*S	**Sn**	**06 09 37.7**	**-0.5**
ELDTW	**Lidau**	**1.80**	**205**	*e*P	**Pn**	**06 09 16.0**	**-0.8**
	baz=198						
CHY	**Chiayi**	**1.86**	**225**	*e*P	**Pn**	**06 09 17.0**	**-0.3**
	baz=224						
CHN4	**Tsaushan**	**1.87**	**218**	*e*P	**Pn**	**06 09 17.9**	**+0.4**
	baz=217						
TPUB	**Ta-pu**	**1.89**	**216**	*e*P	**Pn**	**06 09 19.9**	**+2.1**
	baz=226						
HATJ	**Hateruma jima**	**1.94**	**113**	P	**Pn**	**06 09 18.7**	**+0.2**
TWK	**Hsinying**	**1.99**	**219**	*e*P	**Pn**	**06 09 19.5**	**+0.2**
	baz=218						
CHN1	**Nanshi**	**2.04**	**217**	*e*P	**Pn**	**06 09 19.6**	**-0.2**
	baz=227						
JKRS	**Kuro-shima**	**2.05**	**106**	P	**Pn**	**06 09 20.2**	**+0.2**
JKRS				*e*S	**Sn**	**06 09 44.9**	**+0.2**
SGST	**Jiashian**	**2.09**	**214**	*e*P	**Pn**	**06 09 21.5**	**+1.0**
	baz=224						
TWG	**Pinlang**	**2.12**	**200**	*e*P	**Pn**	**06 09 20.6**	**-0.3**
	baz=191						
TWGBT	**Beinan**	**2.12**	**200**	*e*P	**Pn**	**06 09 20.6**	**-0.4**
	baz=191						
SLGT	**Liugui**	**2.13**	**211**	*e*P	**Pn**	**06 09 21.7**	**+0.6**
	baz=210						
JIJ	**Ishigaki jima**	**2.14**	**102**	P	**Pn**	**06 09 20.9**	**-0.2**
JIJ				*e*S	**Sn**	**06 09 46.1**	**-0.7**
MATB	**Ma-tsu**	**2.17**	**308**	⇓*e*P	**Pn**	**06 09 21.1**	**-0.4**
	baz=308						
VWUC	**VWUC**	**2.19**	**275**	⇓*e*P	**Pn**	**06 09 21.4**	**-0.3**
	baz=274						
JISG	**Ishigakijimahi**	**2.25**	**96**	P	**Pn**	**06 09 23.2**	**+0.6**
JISG				S	**Sn**	**06 09 49.8**	**+0.3**
SSD	**Sandimen**	**2.36**	**208**	*e*P	**Pn**	**06 09 25.2**	**+1.1**
	baz=218						
PHUB	**P'eng-hu**	**2.46**	**238**	P	**Pn**	**06 09 24.0**	**-1.4**
	baz=238						
PHUB				S	**Sn**	**06 09 52.1**	**-2.4**
	baz=238						
MASBT	**Mashibuluo**	**2.47**	**207**	*e*P	**Pn**	**06 09 26.9**	**+1.2**
	baz=218						
WDGT	**Dungji**	**2.54**	**232**	*e*P	**Pn**	**06 09 25.3**	**-1.2**
	baz=232						
JTJ	**Tarama**	**2.60**	**94**	P	**Pn**	**06 09 28.6**	**+1.3**
JTJ				*e*S	**Sn**	**06 09 58.8**	**+0.9**
EAST	**Anshuo**	**2.60**	**201**	*e*P	**Pn**	**06 09 28.2**	**+0.8**
	baz=192						
LAY	**Lan-yu**	**2.79**	**186**	*e*P	**Pn**	**06 09 28.8**	**-1.2**
	baz=177						
KNMB	**Chin-men Tao**	**3.17**	**264**	*e*P	**Pn**	**06 09 34.2**	**-0.8**
	baz=263						

*ATH **25** 06:08:49.7, 41°.43N×19°.40E, h16km±1km, ML2.7/4, Error ellipse: s-maj=3.9km s-min=1.5km az=349.0*
*TIR **25** 06:08:49.8, 41°.30N×19°.41E, h24km, Md2.9/5*
*ISCJB **25** 06:08:50.6±0.4, 41°.34N±0°.02×19°.42E±0°.03, h1km±3km, Error ellipse: s-maj=3.4km s-min=2.3km az=151.5*
*BEO **25** 06:08:50.3±0.9, 41°.20N×19°.43E, h7km±3km, ML2.5/9*
*SAR **25** 06:08:50.6±1.0, 41°.30N×19°.38E, h5km±2km, ML2.8/4*
*THE **25** 06:08:52.9, 41°.40N×19°.53E, h2km±2km, ML2.4/2, Error ellipse: s-maj=4.8km s-min=2.0km az=325.0*
*PDG **25** 06:08:52.5±0.2, 41°.40N×19°.47E, h16km, ML2.8/9, Error ellipse: s-maj=0.4km s-min=0.5km az=0

PHP	**Peshkopia**	**0.83**	**66**	P	**Pg**	**06 09 05.4**	**-1.8**
PHP				S	**Sb**	**06 09 19.1**	**-0.4**
PHP	**Peshkopia**	**0.83**	**66**	*i* PG	**Pg**	**06 09 06.7**	**-0.5**
PHP				*i* SG	**Sg**	**06 09 18.6**	**+0.7**
DRME	**Dracevica, Mon**	**0.85**	**347**	⇑*i* Pg	**Pb**	**06 09 08.0**	**-0.6**
DRME				*e*Sg	**Sb**	**06 09 20.8**	**+0.5**
DRME	**Dracevica, Mon**	**0.85**	**347**	*e*Pn	**Pb**	**06 09 08.8**	**+0.2**
DRME				*e*Sn	**Sn**	**06 09 21.4**	**-1.3**
BUM	**Brajici-Budva**	**1.03**	**337**	⇓*i* Pg	**Pb**	**06 09 11.2**	**-0.4**
BUM				*i* Sg	**Sn**	**06 09 26.8**	**-0.4**
OHR	**Ohrid**	**1.06**	**103**	*e*Pn	**Pg**	**06 09 09.2**	**-2.4**
OHR				*i* Sn	**Sb**	**06 09 26.6**	**+0.5**
PDG	**Podgorica**	**1.09**	**353**	*e*Pg	**Pn**	**06 09 13.2**	**+0.2**
PDG				*e*Sg	**Sn**	**06 09 29.2**	**+0.8**
PDG	**Podgorica**	**1.09**	**353**	⇓*i* P	**Pn**	**06 09 13.5**	**+0.5**
PDG	**Podgorica**	**1.09**	**353**	*e*Pn	**Pn**	**06 09 13.0**	**0.0**
PDG				*e*Sn	**Sn**	**06 09 28.9**	**+0.5**
TTG	**Podgorica**	**1.09**	**353**	⇓*i* Pg	**Pg**	**06 09 11.9**	**-0.2**
TTG				*i* Sg	**Sn**	**06 09 28.3**	**-0.1**
BCI	**Bajram Curri**	**1.12**	**25**	*i* PG	**Pg**	**06 09 11.5**	**-1.3**
BCI				*i* SG	**Sn**	**06 09 28.7**	**-0.6**
TPE	**Tepelena**	**1.14**	**157**	P	**Pn**	**06 09 14.4**	**+0.6**
CEME	**Cevo**	**1.25**	**342**	⇑*i* Pg	**Pn**	**06 09 15.5**	**+0.1**
CEME				*e*Sg	**Sn**	**06 09 33.8**	**+1.1**
HCY	**Herceg Novi**	**1.30**	**328**	⇓*i* Pg	**Pb**	**06 09 16.4**	**+0.2**
HCY				*e*Sg	**Sn**	**06 09 36.0**	**+2.3**
HCY	**Herceg Novi**	**1.30**	**328**	*e*Pn	**Pg**	**06 09 15.8**	**-0.4**
HCY				*e*Sn	**Sn**	**06 09 33.9**	**+0.2**
PVY	**Plav**	**1.30**	**17**	⇓*i* Pg	**Pg**	**06 09 15.8**	**-0.5**
PVY				*i* Sg	**Sn**	**06 09 35.1**	**+1.2**
KRUS	**Krusevo**	**1.37**	**89**	*i* Pn	**Pn**	**06 09 15.4**	**-1.6**
KRUS				*i* Sn	**Sg**	**06 09 34.3**	**-0.9**
NKME	**Niksic**	**1.46**	**346**	⇑*i* Pg	**Pb**	**06 09 18.5**	**-0.4**
NKME				*e*Sg	**Sg**	**06 09 39.6**	**+1.4**
BIA	**Bitola**	**1.46**	**102**	P	**Pn**	**06 09 18.7**	**+0.4**
BIA				S	**Sg**	**06 09 38.8**	**+0.4**
BIA	**Bitola**	**1.46**	**102**	*i* Pn	**Pn**	**06 09 18.5**	**+0.2**
BIA				*i* Sn	**Sg**	**06 09 39.1**	**+0.8**
SCTE	**Santa Cesarea**	**1.47**	**210**	*i* PG	**Pn**	**06 09 17.9**	**-0.5**
SCTE				*i* SG	**Sg**	**06 09 38.7**	**0.0**
SCTE	**Santa Cesarea**	**1.47**	**210**	P	**Pn**	**06 09 18.2**	**-0.2**
NKY	**Niksic**	**1.50**	**347**	⇓*i* Pg	**Pb**	**06 09 19.4**	**-0.2**
NKY				*i* Sg	**Sg**	**06 09 40.6**	**+1.2**
KOME	**Kolasin**	**1.50**	**2**	⇑*i* Pg	**Pb**	**06 09 19.3**	**-0.3**
KOME				*e*Sg	**Sg**	**06 09 40.2**	**+0.7**
SRN	**Sarande**	**1.53**	**163**	P	**Pg**	**06 09 21.9**	**+1.2**
NEST	**Nestorio**	**1.54**	**127**	P	**Pb**	**06 09 20.5**	**+0.2**
NEST				AML	AML	06 09 46.2	
	comp=N,114μm,0.6s						
NEST				AML	AML	06 09 47.5	
	comp=E,124μm,0.4s						
IVA	**Berane**	**1.56**	**13**	⇑*i* Pg	**Pb**	**06 09 20.2**	**-0.4**
IVA				*i* Sg	**Sg**	**06 09 41.6**	**+0.3**
FNA	**Florina**	**1.57**	**110**	P	**Pn**	**06 09 20.1**	**+0.3**
FNA				S	**Sn**	**06 09 40.9**	**+0.4**
FNA	**Florina**	**1.57**	**110**	P	**Pn**	**06 09 19.4**	**-0.4**
FNA				S	**Sb**	**06 09 41.9**	**+0.9**
FNA				AML	AML	06 09 44.1	
	comp=N,547μm,0.5s						
FNA				AML	AML	06 09 45.6	
	comp=E,440μm,0.4s						
TREB	**Trebinje**	**1.58**	**330**	*e*Pn	**Pb**	**06 09 20.5**	**-0.5**
TREB				*e*Sn	**Sg**	**06 09 43.0**	**+0.8**
TREB	**Trebinje**	**1.58**	**330**	*e*Pn	**Pn**	**06 09 19.5**	**-0.4**
TREB				*e*Sn	**Sb**	**06 09 41.1**	**-0.2**
KEK	**Kerkira**	**1.66**	**170**	P	**Pg**	**06 09 23.6**	**+0.5**
KEK	**Kerkira**	**1.66**	**170**	P	**Pn**	**06 09 21.3**	**+0.3**
KEK				S	**Sg**	**06 09 44.9**	**+0.2**
BRY	**Bratogost**	**1.69**	**337**	⇑*i* Pn	**Pb**	**06 09 22.3**	**-0.5**
BRY				*i* Sn	**Sg**	**06 09 45.2**	**-0.3**
BRY	**Bratogost**	**1.69**	**337**	*e*Pn	**Pn**	**06 09 20.8**	**-0.6**
BRY				*e*Sn	**Sn**	**06 09 43.5**	**+0.1**
PENT	**Pentalofos**	**1.73**	**131**	P	**Pb**	**06 09 23.3**	**-0.3**
NOCI	**Noci**	**1.88**	**253**	P	**Pn**	**06 09 23.5**	**-0.5**
NOCI				AML	AML	06 09 56.8	
	comp=E,320μm,0.4s						
NOCI				AML	AML	06 10 00.4	
	comp=N,319μm,0.4s						
UPM	**Unac-Piva**	**1.89**	**348**	⇑*i* Pn	**Pn**	**06 09 24.8**	**+0.5**
UPM				*i* Sn	**Sb**	**06 09 50.0**	**-0.3**
IGT	**Igoumenitsa**	**1.94**	**159**	P	**Pb**	**06 09 27.0**	**-0.1**
IGT				S	**Sg**	**06 09 53.5**	**-0.2**
SJES	**Sjenica**	**1.95**	**12**	*e*Pn	**Pn**	**06 09 26.1**	**+1.1**
SJES				*e*Sn	**Sb**	**06 09 52.2**	**+0.3**
PLE	**Pljevlja**	**1.98**	**359**	⇑*i* Pn	**Pn**	**06 09 26.1**	**+0.7**
PLE				*i* Sn	**Sb**	**06 09 51.8**	**-0.9**
STON	**Ston**	**1.99**	**320**	*e*Pn	**Pn**	**06 09 25.5**	**0.0**
STON	**Ston**	**1.99**	**320**	*i* Pn	**Pn**	**06 09 25.0**	**-0.5**
STON				Sn	**Sn**	**06 09 50.2**	**-0.5**
STON	**Ston**	**1.99**	**320**	*e*Pn	**Pn**	**06 09 25.3**	**-0.2**
STON				*e*Sn	**Sn**	**06 09 50.2**	**-0.5**
KPRO	**Kipourio**	**2.02**	**133**	P	**Pn**	**06 09 25.8**	**-0.2**
STIP	**Stip**	**2.09**	**80**	*i* Pn	**Pb**	**06 09 29.1**	**-0.6**
MATE	**Matera**	**2.18**	**252**	⇓*i* P	**Sg**	**06 10 00.7**	**-0.7**
SELS	**Selova**	**2.25**	**33**	*e*Pn	**Pn**	**06 09 28.8**	**-0.2**
GRG	**Griva**	**2.27**	**99**	P	**Pn**	**06 09 29.5**	**0.0**
IVAS	**Ivanjica**	**2.29**	**13**	*e*Pn	**Pn**	**06 09 29.9**	**+0.3**
BARS	**Barje**	**2.30**	**50**	*e*Pn	**Pn**	**06 09 30.1**	**+0.4**
BBLS	**Lazići**	**2.51**	**360**	*e*Pn	**Pn**	**06 09 34.3**	**+1.6**
BOSS	**Bosilegrad**	**2.54**	**62**	*e*Pn	**Pn**	**06 09 32.7**	**-0.4**
KNT	**Kendrikon**	**2.62**	**93**	P	**Pn**	**06 09 34.2**	**+0.1**
GRUS	**Gruza**	**2.71**	**20**	*e*Pn	**Pn**	**06 09 36.7**	**+1.4**
HAPS	**Han Pijesak,BI**	**2.76**	**353**	*e*Pn	**Pn**	**06 09 36.3**	**+0.2**
HAPS				*e*Sn	**Sn**	**06 10 12.2**	**+2.4**
HAPS	**Han Pijesak,BI**	**2.76**	**353**	*e*Pn	**Pn**	**06 09 35.9**	**-0.2**
HAPS				*e*Sn	**Sn**	**06 10 10.2**	**+0.4**
DIVS	**Divibare**	**2.77**	**8**	*e*Pn	**Pn**	**06 09 36.7**	**+0.3**
TRUS	**Trudelj**	**2.96**	**14**	*e*Pn	**Pn**	**06 09 39.6**	**+0.8**
TIP	**Timpagrande**	**2.98**	**224**	P	**Pn**	**06 09 39.0**	**-0.2**
ZAPS	**Zavoj**	**3.05**	**50**	*e*Pn	**Pn**	**06 09 41.0**	**+0.9**
VTS	**Vitosha**	**3.10**	**65**	*e*Pn	**Pn**	**06 09 40.7**	**-0.2**
KUBS	**Kucevo**	**3.47**	**28**	*e*Pn	**Pn**	**06 09 45.9**	**0.0**
MDVR	**Moldovita**	**3.81**	**25**	⇑*i* P	**Pn**	**06 09 49.9**	**-0.7**
HERR	**Herculane**	**4.15**	**31**	⇓*i* P	**Pn**	**06 09 56.9**	**+1.8**
UDBI	**Udbina**	**4.16**	**321**	*i* Pn	**Pn**	**06 09 56.8**	**+1.4**
BZS	**Buzias**	**4.55**	**20**	⇓*i* P	**Pn**	**06 10 00.5**	**-0.1**
NVLJ	**Novalja**	**4.64**	**315**	*e*Pn	**Pn**	**06 10 01.2**	**-0.7**
NVLJ				Sn	**Sn**	**06 10 54.2**	**-1.8**

MEX 25 06:13:59.7±0.5, 14°.78N×92°.75W, h88km±5km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.49**	**75**	*e*P	Pn	06 14 13.2	-0.9
THIG				*i* S	Sn	06 14 23.4	-1.5
PCIG		**1.02**	**334**	*e*P	Pn	06 14 18.4	-1.2
PCIG				*e*S	Sn	06 14 32.3	-2.1
CCIG	**Comitan**	**1.61**	**22**	*e*P	Pn	06 14 25.4	-1.6
CCIG				*e*S	Sn	06 14 46.4	-1.1
CMIG	**Matias Romero**	**3.08**	**319**	*e*P	Pn	06 14 45.5	-0.8
CMIG				*i* S	Sn	06 15 21.1	-1.1

NIED ***25*** *06:19:00, 47°.50N×142°.70E, h8km, Mw3.9 Best double couple: M0 9.24000×10^14 NP1:φ=217.00000°, δ=29.00000°, λ=130.00000°. NP2:φ=352.00000°, δ=69.00000°, λ=71.00000°.*
IDC ***25*** *06:19:19.8±0.7, 46°.98N×142°.66E, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.7/38, mbtmp3.6/11, ML3.1/2, MS3.0/4, Ms1 3.0/4, ms1mx2.7/34, Error ellipse: s-maj=20.0km s-min=14.1km az=100.0*
MOS ***25*** *06:19:19.9±1.8, 47°.03N×142°.48E, h2km, mb4.1/8, Error ellipse: s-maj=13.4km s-min=8.6km az=109.2*
MOS Felt (II-III) at Aniva, Yuzhno-Sakhalinsk, Troitskoye, Sanatornyy.
SKHL ***25*** *06:19:21.1±0.5, 47°.00N×142°.50E, h10km, mb4.6/12*
SKHL Felt (II-III) at Aniva, Yuzhno-Sahalinsk, Troitskoye, Sanatornyi.

ISC 25 06:19:21.6±1.2, 46°.94N±0°.05×142°.47E±0°.04, h7km±8km, n43, σ1§48/43, mb3.8/15, MS3.4/4, 3C-5D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.20**	**86**	⇓*e*PN	**Pg**	**06 19 25.0**	**-0.5**
YSS				*e*		06 19 28.0	
YSS				pmax	pmax		
	comp=Z,7μm,1.0s						
YSS				smax	smax		
	comp=N,15μm,0.5s						
YSS				smax	smax		
	comp=E,9μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.20**	**86**	⇓*i* Pg	**Pg**	**06 19 25.0**	**-0.5**
YSS				AMB	AMB	06 19 25.6	
	comp=E,5μm,0.5s						
YSS				*e*Sg	**Sg**	**06 19 28.0**	**-0.1**
YSS				A	A	06 19 28.4	
	comp=E,15μm,0.5s						
YSS				A	A	06 19 28.4	
	comp=E,9μm,0.5s						
KHLM	**Kholmsk**	**0.31**	**292**	⇓*i* Pg	**Pb**	**06 19 29.2**	**-0.2**
KHLM				AMB	AMB	06 19 29.8	
	comp=E,3μm,0.3s						
KHLM				*e*Sg	**Sb**	**06 19 34.8**	**+0.1**
KHLM				A	A	06 19 36.0	
	comp=E,17μm,0.7s						
KHLM				A	A	06 19 36.0	
	comp=E,40μm,0.7s						
UGL	**Uglegorsk**	**2.16**	**353**	*e*PN	**Pb**	**06 20 00.0**	**-1.0**
UGL				*e*S	**Sg**	**06 20 28.9**	**-2.0**
UGL				pmax	pmax		
	comp=Z,208nm,1.0s						
UGL				smax	smax		
	comp=E,340nm,1.1s						
UGL				smax	smax		
	comp=N,398nm,0.8s						
UGL	**Uglegorsk**	**2.16**	**353**	*e*Pg	**Pb**	**06 20 01.1**	**+0.1**
UGL				AMB	AMB	06 20 06.5	
	comp=N,190nm,0.7s						
UGL				*e*Sg	**Sg**	**06 20 29.3**	**-1.6**
UGL				A	A	06 20 30.0	
	comp=N,270nm,1.0s						
UGL				A	A	06 20 30.0	
	comp=N,400nm,1.0s						
ASAJ	**Asahikawa**	**2.82**	**178**	Pn	**Pn**	**06 20 07.9**	**+0.7**
	comp=N,3.3nm,0.3s,baz=342,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**06 20 42.2**	**+0.8**
	comp=N,15nm,0.3s,baz=270,slow=31,SNR=12						
ASAJ				Lg	Lg	06 20 48.8	
	comp=N,13nm,0.3s,baz=291,slow=31,SNR=8.1						
TYV	**Tymovskoe**	**3.93**	**2**	*e*PN	**Pb**	**06 20 33.4**	**+2.3**
TYV				pmax	pmax		
	comp=Z,21nm,0.9s						
TYV	**Tymovskoe**	**3.93**	**2**	*e*Pg	**Pg**	**06 20 37.5**	**+0.7**
TYV				AMB	AMB	06 20 41.0	
	comp=Z,30nm,0.9s						
TYV				*e*Sg	**Sg**	**06 21 30.5**	**+2.8**
TYV				A	A	06 21 30.8	
	comp=Z,31nm,1.0s						
TEY	**Ternei**	**4.51**	**247**	⇓*e*PN	**Pn**	**06 20 31.8**	**+1.5**
TEY				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.9s						
TEY	**Ternei**	**4.51**	**247**	*e*P	**Pn**	**06 20 31.6**	**+1.3**
TEY				AMB	AMB	06 20 32.8	
	comp=E,14nm,0.9s						
ERM	**Erimo**	**4.95**	**174**	*d i* PN	Pn	06 20 42.1	+5.8
GRNR	**Gornyy**	**5.53**	**316**	*e*Pg	**Pg**	**06 21 07.2**	**-0.3**
GRNR				AMB	AMB	06 21 07.5	
	comp=E,21nm,1.0s						
GRNR				*e*Sg	**Sg**	**06 22 16.5**	**-2.6**
KLR	**Kul'dur**	**7.54**	**292**	*i* PN	**Pn**	**06 21 13.8**	**+2.0**
KLR	**Kul'dur**	**7.54**	**292**	Pn	**Pn**	**06 21 13.4**	**+1.5**
	comp=E,0.1nm,0.3s,baz=135,slow=18,SNR=2.4						
KLR				Lg	Lg	06 23 17.9	
	comp=E,0.1nm,0.3s,baz=67,slow=13,SNR=4.1						
KLR	**Kul'dur**	**7.54**	**292**	*e*P	**Pn**	**06 21 13.8**	**+2.0**
USRK	**Ussuriysk Ar.**	**7.85**	**253**	Lg	Lg	06 23 29.6	
	comp=E,0.1nm,0.3s,baz=68,slow=37,SNR=3.9						
EKMR	**Ekimchan**	**8.67**	**319**	*e*Pg	Pg	06 22 23.0	+16
EKMR				AMB	AMB	06 22 25.0	
	comp=E,4.0nm,0.5s						
EKMR				*e*Sg	Sg	06 24 10.5	+11
EKMR				A	A	06 24 11.1	
	comp=E,10.0nm,1.0s						
EKMR				A	A	06 24 11.1	
	comp=E,13nm,1.0s						
MJAR	**Matsushiro Arr**	**10.86**	**199**	LR	LR	06 25 54.6	
	comp=E,36nm,18.5s,baz=270,slow=36						
KSRS	**Korea Array**	**14.33**	**234**	LR	LR	06 28 13.4	
	comp=E,15nm,18.6s,baz=100,slow=37						
SONM	**Songino Array**	**24.31**	**285**	P	**P**	**06 24 40.5**	**+0.7**
	comp=E,0.7nm,0.5s,baz=89,slow=9.1,SNR=2.8						
BILL	**Bilibino**	**24.40**	**22**	*ce*P	**P**	**06 24 41.5**	**+1.2**
BILL				*e*		06 25 11.0	
BILL				*e*S	S	06 28 18.1	-42
BILL				pmax	pmax		
	comp=Z,9.0nm,3.8s						
BILL				MLR	MLR		
	comp=Z,84nm,17.0s						
TLY	**Talaya**	**25.54**	**295**	*i* P	**P**	**06 24 49.4**	**-1.3**
TIXI	**Tiksi**	**25.61**	**350**	*i* P	**P**	**06 24 51.5**	**+0.4**
ZAK	**Zakamensk**	**25.91**	**292**	*e*P	**P**	**06 24 52.8**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
DGZ	**Jazzator, Alta**	**36.01**	**295**	*i* P	**P**	**06 26 24.0**	**+0.7**
MKAR	**Makanchi Array**	**40.24**	**293**	*i* P	**P**	**06 26 59.5**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**40.24**	**293**	P	**P**	**06 26 59.0**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=68,slow=7.3,SNR=4.6						
COLA	**College**	**40.52**	**38**	*i* P	**P**	**06 27 03.2**	**+2.4**
COLA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**40.94**	**38**	P	**P**	**06 27 03.4**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=280,slow=8.4,SNR=10						
KURK	**Kurchatov**	**41.04**	**300**	*i* P	**P**	**06 27 05.0**	**-0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRVK	**Borovoye**	**44.99**	**306**	*i* P	**P**	**06 27 39.9**	**+2.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AAK	**Ala-Archa**	**47.06**	**291**	*i* P	**P**	**06 27 55.1**	**+1.1**
KKAR	**Karatay Array**	**49.36**	**293**	⇑*e*P	**P**	**06 28 12.3**	**+0.8**
ARU	**Arti**	**49.76**	**314**	*i* P	**P**	**06 28 13.5**	**-0.8**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**54.98**	**34**	P	**P**	**06 28 51.1**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=315,slow=6.9,SNR=3.3						
FINES	**FINESS Array B**	**60.50**	**330**	P	**P**	**06 29 29.6**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=25,slow=4.6,SNR=2.0						
OBN	**Obninsk**	**60.77**	**321**	⇑*e*P	**P**	**06 29 34.7**	**+1.0**
OBN				*e*		06 31 51.2	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,19nm,14.0s						
NVAR	**Mina Array Bea**	**68.62**	**56**	P	**P**	**06 30 24.4**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=328,slow=3.2,SNR=1.7						
PDAR	**Pinedale Array**	**70.30**	**48**	P	**P**	**06 30 34.7**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=315,slow=0.2,SNR=7.1						
ASAR	**Alice Springs**	**70.70**	**188**	P	**P**	**06 30 38.5**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=0.4,slow=5.1,SNR=7.6						
BRTR	**Keskin Array B**	**72.96**	**310**	LR	LR	07 06 42.2	
	comp=Z,21nm,18.4s,baz=244,slow=39						
GERES	**GERESS Array B**	**74.73**	**328**	LR	LR	07 05 51.7	
	comp=Z,21nm,18.2s,baz=126,slow=37						
TXAR	**Lajitas Array**	**83.52**	**53**	P	**P**	**06 31 47.6**	**-2.8**
	comp=Z,0.5nm,0.8s,baz=298,slow=3.9,SNR=7.5						

KRSC 25 06:27:59.3±10.0, 52°.15N×160°.84E, h49km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.07**	**333**	*e*P	Pn	06 28 19.3	+1.3
SPN				*e*S	Sn	06 28 32.9	+1.1
RUS	**Russkaya**	**1.46**	**282**	*e*P	Pn	06 28 24.2	+1.0
RUS				*e*S	Sn	06 28 41.5	+0.4
DALK	**Dalny**	**1.55**	**306**	*e*P	Pn	06 28 26.9	+2.5
DALK				*e*S	Sn	06 28 46.5	+3.2
PET	**Petropavlovsk**	**1.60**	**304**	*e*P	Pn	06 28 27.8	+2.7
UGLR	**Uglovaya**	**1.62**	**312**	P	Pn	06 28 28.1	+2.5
UGLR				*e*S	Sn	06 28 48.4	+3.0
SDLR	**Sedlovina**	**1.64**	**314**	*e*P	Pn	06 28 28.3	+2.5
SDLR				*e*S	Sn	06 28 48.4	+2.6
MTVR	**Mutnovka**	**1.66**	**283**	*e*P	Pn	06 28 27.7	+1.6
MTVR				*e*S	Sn	06 28 47.7	+1.3
SMAR	**Somma**	**1.67**	**313**	*e*P	Pn	06 28 28.8	+2.5
AVH	**Avacha**	**1.70**	**312**	*e*P	Pn	06 28 28.9	+2.3
KDTR	**Khodutka, Kamc**	**1.74**	**260**	*e*P	Pn	06 28 28.0	+1.0
KDTR				*e*S	Sn	06 28 47.9	-0.1
KOK	**Koryaka**	**1.76**	**312**	*e*P	Pn	06 28 30.2	+2.7
KRX	**Arik**	**1.80**	**313**	*e*P	Pn	06 28 30.9	+2.9
ASAK	**Asacha**	**1.82**	**279**	*e*P	Pn	06 28 30.5	+2.3
ASAK				*e*S	Sn	06 28 52.0	+1.9
APC	**Apacha**	**2.38**	**291**	*e*P	Pn	06 28 38.2	+2.4
MKZ	**Mys Kozlova**	**2.47**	**12**	*e*P	Pn	06 28 40.0	+2.9
MKZ				*e*S	Sn	06 29 08.2	+2.2
KZV	**Kizimen**	**2.99**	**354**	*e*P	Pn	06 28 47.9	+3.6
KZV				*e*S	Sn	06 29 22.5	+3.5
TUMD	**Tumrok D**	**3.07**	**355**	P	Pn	06 28 48.6	+3.2
TUMD				S	Sn	06 29 23.9	+3.0
TUMR	**Tumrok**	**3.17**	**353**	P	Pn	06 28 51.4	+4.6
ALID	**Alaid**	**3.54**	**251**	*e*P	Pn	06 28 57.3	+5.4
BKI	**Bering**	**4.33**	**43**	*e*S	Sn	06 29 54.2	+2.7

JMA ***25*** *06:42:54.8±0.3, 43°.96N×147°.94E, h0km, M3.8*
SKHL ***25*** *06:42:55.7±0.7, 44°.41N×148°.29E, h64km±4km, mb3.8/1*

ISC 25 06:42:51.3±3.1, 44°.23N±0°.10×148°.2E±0°.1, h5km±14km, n13, σ1§27/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.03**	**346**	*i* P	**Pb**	**06 43 11.6**	**-0.1**
KUR				AMB	AMB	06 43 12.0	
	40nm,0.2s						
KUR				*i* S	**Sg**	**06 43 23.1**	**-1.5**
KUR				A	A	06 43 25.0	
	500nm,0.2s						
KUR				A	A	06 43 25.0	
	360nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.70**	**264**	*e*P	**Pb**	**06 43 23.0**	**-0.1**
YUK				*i* S	**Sn**	**06 43 43.9**	**+0.1**
YUK				A	A	06 43 46.0	
	260nm,0.3s						
YUK				A	A	06 43 46.0	
	430nm,0.3s						
LAGR	**Lagunnoye**	**1.75**	**265**	*e*P	**Pg**	**06 43 25.1**	**+0.2**
LAGR				*e*S	**Sg**	**06 43 47.8**	**+0.2**
LAGR				A	A	06 43 50.0	
	320nm,0.4s						
LAGR				A	A	06 43 50.0	
	100nm,0.4s						
GRPR	**Tuman**	**1.77**	**263**	*e*P	**Pb**	**06 43 23.8**	**-0.5**
GRPR				*e*S	**Sn**	**06 43 44.5**	**-1.0**
GRPR				A	A	06 43 45.0	
	200nm,0.4s						
GRPR				A	A	06 43 45.0	
	250nm,0.4s						
NEM2	**Nemuro 2**	**1.98**	**245**	P	**Pn**	**06 43 25.9**	**+0.4**
NEM2				*e*S	**Sn**	**06 43 48.2**	**-2.5**
GLVR	**Golovnino**	**2.00**	**257**	*e*P	**Pb**	**06 43 28.0**	**-0.2**
GLVR				*e*S	**Sn**	**06 43 52.0**	**+0.8**
GLVR				A	A	06 43 57.0	
	280nm,0.4s						
GLVR				A	A	06 43 57.0	
	190nm,0.4s						
JRA	**Rausu**	**2.24**	**264**	P	**Pb**	**06 43 31.0**	**-1.3**
JRA				*e*S	**Sn**	**06 43 57.6**	**+0.4**
JKHN	**Kushirohamanak**	**2.49**	**244**	P	**Pn**	**06 43 33.4**	**+0.9**
JKHN				*e*S	**Sn**	**06 44 01.3**	**-2.0**
JNK	**Nakash**	**2.60**	**257**	*e*S	**Sn**	**06 44 05.4**	**-0.7**
JAK	**Akkeshi**	**2.83**	**245**	P	**Pn**	**06 43 38.2**	**+1.0**
JAK				*e*S	**Sn**	**06 44 10.1**	**-1.6**
JAR	**Ashorobuto**	**3.35**	**255**	P	**Pn**	**06 43 46.4**	**+2.1**
JAR				*e*S	**Sn**	**06 44 24.8**	**+0.3**
JOB	**Onbets**	**3.44**	**249**	P	**Pn**	**06 43 47.2**	**+1.6**
JCH	**Churui**	**3.88**	**247**	P	**Pn**	**06 43 53.3**	**+1.7**
JCH				*e*S	**Sn**	**06 44 36.6**	**-1.0**

ISK ***25*** *06:49:01.9, 37°.10N×28°.43E, h5km, ML2.7/10*
DDA ***25*** *06:49:03.1, 37°.05N×28°.42E, h7km±6km, ML2.2*

ISC 25 06:49:03.2±1.1, 37°.08N±0°.03×28°.39E±0°.03, h11km±10km, n18, σ0§82/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.27**	**141**	PG	**Pg**	**06 49 08.9**	**+0.2**
TURN				SG	**Sb**	**06 49 14.4**	**-0.1**
TURN	**Turunc**	**0.27**	**141**	*i* P	**Pg**	**06 49 09.2**	**+0.5**
TURN				*i* S	**Sb**	**06 49 14.5**	**0.0**
DALY	**Dalyan (Mula)**	**0.34**	**141**	PG	**Pg**	**06 49 09.1**	**-0.8**
DALY				SG	**Sg**	**06 49 13.9**	**-0.6**
DALY	**Dalyan (Mula)**	**0.34**	**141**	IAML_P			
	comp=Z,1μm,0.1s						
DALY				*i* P	**Pg**	**06 49 08.9**	**-1.1**
DALY				*i* S	**Sg**	**06 49 14.1**	**-0.3**
MRSB	**Marmaris-Mugla**

comp=Z,189nm,18.4s,baz=125,slow=49
MAJO Matsushiro 2.29 276 *e*Pn **Pn 06 58 58.9 0.0**
MAT Matsushiro 2.29 276 P **Pn 06 58 59.2 +0.3**
MAT S **Sn 06 59 25.5 -0.7**
MJB9 Matsu-Tunnel 2.29 276 *e*Pn **Pn 06 58 59.1 +0.1**
JHJ2 Mitsune 3.38 198 *e*Pn **Pn 06 59 16.2 +2.4**
JHJ2 *e*Sn **Sn 06 59 56.3 +3.3**
JHJ Hachijo jima 2 3.38 198 P **Pn 06 59 12.2 -1.6**
6.3nm,0.3s,baz=320,slow=7.9,SNR=3.7
JHJ S **Sn 06 59 51.3 -1.7**
10nm,0.3s,baz=75,slow=19,SNR=4.0
INU Inuyama 3.41 254 *e*Pn **Pn 06 59 14.3 0.0**
ERM Erimo 5.90 16 *e*Pn **Pn 06 59 48.4 0.0**
ERM *e*Sn **Sn 07 00 51.6 -3.5**
USRK Ussuriysk Ar. 10.45 321 P **Pn 07 00 54.5 +3.6**
0.4nm,0.3s,baz=131,slow=12,SNR=6.5
USA0B Ussuriysk Arra 10.45 321 *e*Pn **Pn 07 00 52.6 +1.7**
KSRS Korea Array 10.56 280 P **Pn 07 00 53.6 +1.2**
0.2nm,0.3s,baz=90,slow=15,SNR=3.6
KSRS LR LR 07 04 37.6
comp=Z,64nm,20.3s,baz=60,slow=36
TPUB Ta-pu 21.91 239 *e*P **P 07 03 15.4 +1.4**
33nm,1.5s
HHC Hu-ho-hao-te 23.41 290 *e*P **P 07 03 29.5 -0.3**
SEY Seymchan 27.53 11 P **P 07 04 10.6 +3.7**
2.9nm,0.9s,baz=176,slow=14,SNR=4.2
SONM Songino Array 27.93 305 P **P 07 04 11.6 +0.8**
0.5nm,0.4s,baz=75,slow=6.1,SNR=2.8
H11N2 WAKE ISLAND Hy 28.07 119 T T 07 34 13.9
baz=312,slow=75,SNR=45
H11N1 WAKE ISLAND Hy 28.07 119 T T 07 34 15.7
baz=312,slow=75,SNR=73
H11N3 WAKE ISLAND Hy 28.08 119 T T 07 34 14.9
baz=312,slow=75,SNR=58
ZAA0 Zalesovo Array 42.16 313 *e*P **P 07 06 12.7 -0.1**
5.3nm,1.0s
ZALV Zalesovo Beam 42.16 313 P **P 07 06 12.8 0.0**
1.7nm,0.4s,baz=92,slow=6.7,SNR=9.7
MK31 Makanchi Array 44.23 303 *e*P **P 07 06 29.1 -0.6**
1.9nm,0.9s
MKAR Makanchi Array 44.23 303 P **P 07 06 29.1 -0.6**
1.1nm,0.7s,baz=91,slow=9.7,SNR=10
MAKZ Makanchi 44.44 303 *e*P **P 07 06 31.8 +0.4**
1.4nm,0.9s
KURK Kurchatov 46.12 309 *e*P **P 07 06 44.1 -0.4**
2.9nm,0.7s
ILAR Eielson Array 50.24 32 P **P 07 07 17.5 +1.3**
0.2nm,0.6s,baz=267,slow=4.5,SNR=3.9
FYU Fort Yukon 50.86 30 *e*P **P 07 07 20.6 -0.2**
10nm,1.1s
KK31 Karatay Array 53.21 300 *e*P **P 07 07 38.6 -0.1**
2.2nm,1.1s
KKAR Karatay Array 53.21 300 *e*P **P 07 07 38.5 -0.2**
2.2nm,1.1s
GAR Garm 54.72 296 *e*P **P 07 07 50.2 +0.2**
4.2nm,0.6s
ARU Arti 56.68 319 *e*P **P 07 08 03.4 -0.1**
5.4nm,0.7s
SIT Sitka 57.11 40 *e*P **P 07 08 05.2 -1.3**
18nm,1.2s
XMIS Christmas Isla 57.26 223 *e*P **P 07 08 08.2 0.0**
140nm,1.4s
ABKAR Akbulak array 58.15 310 *e*P **P 07 08 13.3 -0.7**
1.5nm,0.6s
ASAR Alice Springs 60.06 188 P **P 07 08 25.6 -1.9**
0.6nm,0.8s,baz=9.4,slow=6.1,SNR=7.5
SPA0 Spitsbergen Ar 61.14 349 *e*P **P 07 08 32.6 -1.6**
46nm,1.2s
FORT Forrest 67.87 192 *e*P **P 07 09 19.1 +0.5**
10nm,1.0s
FINES FINESS Array B 69.28 332 P **P 07 09 27.8 +0.6**
0.7nm,0.8s,baz=66,slow=1.7,SNR=3.6
AKASG Malin Array Be 74.66 322 P **P 07 09 58.9 -0.7**
0.7nm,0.4s,baz=48,slow=5.5,SNR=2.5
NOA NORSAR Array B 74.71 337 P **P 07 09 59.4 -0.4**
0.4nm,0.8s,baz=38,slow=3.5,SNR=2.6
NVAR Mina Array Bea 75.65 53 P **P 07 10 07.4 +1.6**
0.2nm,0.4s,baz=289,slow=5.6,SNR=3.5
PDAR Pinedale Array 78.37 45 P **P 07 10 21.2 +0.1**
0.1nm,0.3s,baz=272,slow=7.1,SNR=2.7

IDC ***25*** *07:02:15.7±1.9, 13°.22N×91°.37W, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.6/33, mbtmp3.4/6, ML3.4/3, Error ellipse: s-maj=29.2km s-min=21.1km az=133.0*
SNET ***25*** *07:02:17.3±1.1, 13°.29N×91°.38W, h12km±16km, ML3.1*
ISC 25 07:02:20.4±1.6, 13°.4N±0°.1×91°.28W±0°.07, h28km, n16, σ0°.95/17, mb3.6/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**1.66**	**73**	*e*P	**Pn**	**07 02 47.6**	**-0.2**
CEVE	**Cerro Verde**	**1.66**	**75**	IAML		07 03 18.8	
comp=Z,476nm,0.3s							
SBLS	**San Blas**	**1.66**	**75**	*e*P	**Pn**	**07 02 48.1**	**+0.2**
SNJE	**San Jose**	**1.69**	**74**	*e*P	**Pn**	**07 02 48.3**	**+0.1**
UNIC	**Santa Ana**	**1.77**	**71**	*e*P	**Pn**	**07 02 49.8**	**+0.7**
UNIC				*e*S	**Sb**	**07 03 14.7**	**+0.8**
APG	**El Apazote**	**1.77**	**26**	Pn	**Pb**	**07 02 52.1**	**-0.2**
comp=Z,11nm,0.3s,baz=162,slow=10,SNR=70							
APG				Lg	Lg	07 03 18.2	
comp=Z,4.8nm,0.3s,baz=300,slow=20,SNR=3.5							
SNET	**Serv Nac Est T**	**2.01**	**82**	*e*P	**Pn**	**07 02 52.5**	**0.0**
SNET				*e*S	**Sb**	**07 03 20.1**	**-0.8**
SNET				IAML		07 03 24.1	
comp=Z,108nm,0.2s							
MTO3	**Montecristo**	**2.10**	**62**	*e*P	**Pn**	**07 02 55.4**	**+1.4**
LFU	**La Fuente**	**2.13**	**81**	*e*P	**Pn**	**07 02 54.7**	**+0.5**
PAVA	**Las Pavas**	**2.29**	**82**	IAML		07 03 33.8	
comp=Z,96nm,0.3s							
CMIG	**Matias Romero**	**5.05**	**317**	Pn	**Pn**	**07 03 33.9**	**-0.4**
comp=Z,0.5nm,0.3s,baz=168,slow=7.0,SNR=8.7							
CMIG				Sn	**Sn**	**07 04 29.6**	**-2.1**
comp=Z,0.5nm,0.3s,baz=63,slow=16,SNR=1.9							
JTS	**Las Juntas de**	**6.92**	**116**	Pn	**Pn**	**07 03 59.1**	**-1.0**
comp=Z,0.5nm,0.3s,baz=206,slow=5.5,SNR=9.1							
TXAR	**Lajitas Array**	**19.57**	**326**	P	**Pn**	**07 06 48.0**	**+0.3**
comp=Z,0.1nm,0.3s,baz=155,slow=14,SNR=7.0							
NVAR	**Mina Array Bea**	**34.57**	**321**	P	**P**	**07 09 08.3**	**+1.3**
comp=Z,0.6nm,0.7s,baz=128,slow=8.9,SNR=4.7							
YKA	**Yellowknife Ar**	**51.76**	**346**	P	**P**	**07 11 24.2**	**-0.9**
comp=Z,0.3nm,0.6s,baz=150,slow=7.5,SNR=7.1							
ILAR	**Eielson Array**	**63.65**	**337**	P	**P**	**07 12 49.0**	**+0.3**
comp=Z,0.7nm,0.8s,baz=138,slow=4.6,SNR=5.7							

BJI ***25*** *07:19:43.8±0.0, 0°.02S×98°.68E, h59km, mb4.9/36, mB4.8/22, Ms4.4/12, Ms7 4.1/11*
IDC ***25*** *07:19:46.4±0.6, 0°.47N×98°.56E, h42km±4km, mb4.2/21, mb1 4.3/23, mb1mx4.1/42, mbtmp4.5/23, ML4.8/2, MS3.4/9, Ms1 3.5/9, ms1mx3.2/33, Error ellipse: s-maj=18.7km s-min=11.3km az=54.0*
ISCJB ***25*** *07:19:46.3±0.4, 0°.50N±0°.03×98°.55E±0°.03, h55km±3km, mb4.7/66, MS3.8/11, Error ellipse: s-maj=6.5km s-min=4.3km az=144.4*
DJA ***25*** *07:19:46.8±0.6, 0°.N±3°.×9°.8E±°, h29km±8km, M4.6/11, mb4.6/3, mB4.7/1, MLv4.6/11, Mw(mB)3.9/1*
NEIC ***25*** *07:19:47.8±2.0, 0°.56N×98°.57E, h53km±5km, mb4.8/43, Error ellipse: s-maj=17.1km s-min=6.4km az=49.0*
KLM ***25*** *07:19:48.0, 0°.50N×98°.46E, h50km, mb4.7*
ISC 25 07:19:46.7±0.5, 0°.51N±0°.04×98°.53E±0°.04, h45km±4km, h45km:pP-P, n238, σ0°.98/233, mb4.8/66, MS3.7/11, 3C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.61**	**204**	P	**Pn**	**07 19 59.3**	**+0.1**
PBSI				S	**Sn**	**07 20 07.5**	**-0.6**
GSI	**Gunungsitoli**	**1.24**	**310**	*e*Pn	**Pn**	**07 20 08.9**	**+1.2**
GSI				*e*Sn	**Sn**	**07 20 25.4**	**+2.3**
GSI	**Gunungsitoli**	**1.24**	**310**	P	**Pn**	**07 20 08.4**	**+0.8**
GSI				S	**Sn**	**07 20 23.0**	**-0.1**
SISI	**Saibi**	**1.91**	**163**	P	**Pn**	**07 20 17.9**	**+1.1**
PSI	**Prapat**	**2.31**	**10**	*e*Pn	**Pn**	**07 20 21.9**	**-0.6**
PSI	**Prapat**	**2.31**	**10**	P	**Pn**	**07 20 22.0**	**-0.4**
118nm,0.3s,baz=162,slow=6.4,SNR=110							
PSI				S	Sn	07 20 36.0	-14
77nm,0.3s,baz=168,slow=14,SNR=14							
PSI				LR	LR	07 21 35.2	
comp=Z,1μm,20.6s,baz=185,slow=49							
PDSI	**Padang**	**2.40**	**126**	P	**Pn**	**07 20 25.0**	**+1.5**
BKNI	**Bangkinang**	**2.52**	**94**	*e*Pn	**Pn**	**07 20 24.8**	**-0.4**
BKNI	**Bangkinang**	**2.52**	**94**	P	**Pn**	**07 20 27.4**	**+2.2**
TPTI		**3.04**	**334**	P	**Pn**	**07 20 33.3**	**+0.9**
PPSI	**Pulau Pagai**	**3.57**	**156**	P	**Pn**	**07 20 39.8**	**+0.1**
RGRI	**Rengat**	**3.90**	**103**	P	**Pn**	**07 20 45.3**	**+1.1**
IPM	**Ipoh**	**4.67**	**32**	*e*Pn	**Pn**	**07 20 55.3**	**+0.6**
IPM	**Ipoh**	**4.67**	**32**	P	**Pn**	**07 20 57.0**	**+2.3**
LHMI	**Lhok Sumawe**	**4.95**	**341**	*e*Pn	**Pn**	**07 20 59.4**	**+0.8**
LHMI	**Lhok Sumawe**	**4.95**	**341**	P	**Pn**	**07 21 00.0**	**+1.4**
KULM	**Kulim**	**5.20**	**24**	*e*Pn	**Pn**	**07 21 03.3**	**+1.3**
KULM	**Kulim**	**5.20**	**24**	P	**Pn**	**07 21 04.0**	**+2.0**
MYKOM	**Kota Tinggi**	**5.47**	**77**	*e*Pn	**Pn**	**07 21 06.8**	**+1.0**
MYKOM	**Kota Tinggi**	**5.47**	**77**	P	**Pn**	**07 21 07.0**	**+1.2**
JMBI	**JAMBI**	**5.54**	**113**	P	**Pn**	**07 21 08.3**	**+1.6**
DSRI	**Dabo**	**6.13**	**99**	P	**Pn**	**07 21 16.2**	**+1.4**
MNAI	**Manna**	**6.56**	**138**	*e*Pn	**Pn**	**07 21 22.7**	**+2.0**
MNAI				*e*Sn	**Sn**	**07 22 34.0**	**-0.2**
MNAI	**Manna**	**6.56**	**138**	P	**Pn**	**07 21 21.7**	**+1.0**
SKLT	**Songkhla**	**6.94**	**17**	P	**Pn**	**07 21 27.7**	**+1.8**
TRTT	**Trang**	**7.37**	**9**	P	**Pn**	**07 21 34.5**	**+2.7**
75nm,0.8s,0.3nm							
KRAB	**Krabi**	**7.69**	**5**	P	**Pn**	**07 21 39.1**	**+2.9**
427μm,0.8s,2μm							
LEM	**Lembang**	**11.63**	**129**	LR	LR	07 26 40.0	
comp=Z,104nm,21.7s,baz=244,slow=36							
SBUM	**Sibu**	**13.82**	**82**	*e*P	**P**	**07 23 08.8**	**+1.3**
DLV	**T Lat**	**15.06**	**41**	*e*Pn	**P**	**07 23 20.6**	**-0.8**
CM31	**Chiang Mai Arr**	**17.84**	**1**	*e*Pn	**Pn**	**07 23 50.3**	**-1.5**
7.8nm,0.6s							
CMAR	**Chiang Mai Arr**	**17.84**	**1**	P	**Pn**	**07 23 51.9**	**+0.1**
1.9nm,0.3s,baz=192,slow=11,SNR=16							
CMAR				LR	LR	07 31 07.1	
comp=Z,155nm,18.6s,baz=190,slow=38							
CHTO	**Chiang Mai**	**18.19**	**1**	*e*P	**Pn**	**07 23 56.8**	**+0.7**
22nm,1.4s							
MRSI	**Marisa**	**23.41**	**90**	P	**P**	**07 24 52.3**	**+0.3**
KMI	**Kunming**	**24.80**	**9**	P	**P**	**07 25 06.5**	**+1.5**
KMI				pP	pP	07 25 20.5	+3.6
KMI				sP	sP	07 25 29.3	+7.0
KMI				S	**S**	**07 29 22.3**	**-2.5**
KMI				pmax	pmax		
comp=Z,20nm,0.5s							
KMI				pmax	pmax		
comp=Z,68nm,3.4s							
KMI				LR	LR		
comp=N,240nm,17.9s							
KMI				LR	LR		
comp=E,90nm,17.1s							
KMI				LR	LR		
comp=Z,220nm,20.2s							
TGY	**Tagaytay City**	**25.96**	**58**	LR	LR	07 35 03.0	
comp=Z,49nm,20.4s,baz=65,slow=35							
H08S2	**Diego Garcia H**	**27.20**	**252**	T	T	07 52 59.3	
baz=73,slow=75,SNR=1112							
H08S3	**Diego Garcia H**	**27.20**	**252**	T	T	07 52 56.8	
baz=73,slow=75,SNR=1549							
H08S1	**Diego Carcia H**	**27.21**	**252**	T	T	07 52 57.7	
baz=73,slow=75,SNR=1344							
DAV	**Davao City (W)**	**27.75**	**76**	LR	LR	07 38 12.8	
comp=Z,49nm,18.1s,baz=166,slow=40							
H08N1	**Diego Carcia H**	**28.29**	**256**	T	T	07 55 06.0	
baz=146,slow=74,SNR=10							
H08N2	**Diego Garcia H**	**28.30**	**256**	T	T	07 55 06.1	
baz=146,slow=74,SNR=8.2							
H08N3	**Diego Garcia H**	**28.32**	**256**	T	T	07 55 06.0	
baz=146,slow=74,SNR=11							
LSA	**Lhasa**	**29.87**	**347**	*e*P	**P**	**07 25 51.5**	**+0.9**
12nm,1.0s							
PSA00	**Pilbara Seismi**	**30.25**	**138**	*e*P	**P**	**07 25 54.2**	**+0.7**
32nm,1.4s							
ENH	**Enshi**	**31.38**	**18**	*e*P	**P**	**07 26 02.7**	**-0.8**
26nm,0.7s							
FITZ	**Fitzroy Crossi**	**32.45**	**126**	*e*P	**P**	**07 26 16.1**	**+3.1**
12nm,1.3s							
FITZ	**Fitzroy Crossi**	**32.45**	**126**	P	**P**	**07 26 11.5**	**-1.5**
3.1nm,1.0s,baz=300,slow=14,SNR=2.1							
FAKI	**Fak Fak**	**33.88**	**96**	*e*P	**P**	**07 26 24.6**	**-1.0**
14nm,1.1s							
XAN	**Xi'an**	**34.75**	**15**	P	**P**	**07 26 31.8**	**-1.0**
XAN				pP	pP	07 26 46.0	+1.1
XAN				sP	sP	07 26 53.5	+3.2
XAN				S	**S**	**07 31 54.5**	**-5.7**
XAN				pmax	pmax		
comp=Z,9.0nm,0.5s							
XAN				pmax	pmax		
comp=Z,72nm,4.3s							
XAN				LR	LR		
comp=N,120nm,16.0s							
XAN				LR	LR		
comp=E,120nm,16.3s							
XAN				LR	LR		
comp=Z,170nm,17.1s							
XAN	**Xi'an**	**34.75**	**15**	*e*P	**P**	**07 26 31.6**	**-1.2**
21nm,0.9s							
LZH	**Lanzhou**	**35.74**	**7**	*e*P	**P**	**07 26 41.8**	**+0.3**
LZH				pP	pP	07 26 58.0	+4.4
LZH				sP	sP	07 27 03.8	+4.8
LZH				pmax	pmax		
comp=Z,29nm,1.0s							
LZH				LR	LR		
comp=N,170nm,13.6s							
LZH				LR	LR		
comp=E,250nm,14.6s							
LZH				LR	LR		
comp=Z,270nm,16.0s							
NJ2	**Nanjing**	**36.78**	**30**	*e*P	**P**	**07 26 50.0**	**-0.2**
NJ2				pmax	pmax		
comp=Z,16nm,0.5s							
H01W3	**Cape Leeuwin H**	**38.12**	**159**	T	T	08 07 15.0	
baz=334,slow=76,SNR=4.1							
H01W2	**Cape Leeuwin H**	**38.13**	**159**	T	T	08 07 16.0	
baz=334,slow=76,SNR=3.4							
H01W1	**Cape Leeuwin H**	**38.13**	**159**	T	T	08 07 18.7	
baz=334,slow=76,SNR=4.7							
GTA	**Gaotai**	**38.73**	**2**	*e*P	**P**	**07 27 06.5**	**-0.3**
GTA				pmax	pmax		
comp=Z,9.0nm,1.0s							
TIA	**Tai'an**	**39.49**	**24**	P	**P**	**07 27 13.0**	**0.0**
TIA				pmax	pmax		
comp=Z,12nm,0.8s							
WRAB	**Tennant Creek**	**40.55**	**122**	*e*P	**P**	**07 27 24.0**	**+1.9**
18nm,0.8s							
NIL	**Nilore**	**40.61**	**327**	*e*P	**P**	**07 27 22.2**	**-0.2**
17nm,0.7s							
HHC	**Hu-ho-hao-te**	**41.86**	**15**	*e*P	**P**	**07 27 34.8**	**+2.2**
HHC				pmax	pmax		
comp=Z,78nm,0.9s							
HHC				pmax	pmax		
comp=Z,260nm,4.8s							
HHC				LR	LR		
comp=N,560nm,14.2s							
HHC				LR	LR		
comp=E,400nm,13.9s							
HHC				LR	LR		
comp=Z,680nm,13.8s							
FORT	**Forrest**	**41.90**	**141**	*e*P	**P**	**07 27 34.6**	**+1.6**
14nm,0.8s							
AS31	**Alice Springs**	**41.92**	**127**	*e*P	**P**	**07 27 32.4**	**-1.0**
2.6nm,1.3s							
ASAR	**Alice Springs**	**41.92**	**127**	P	**P**	**07 27 32.1**	**-1.2**
1.1nm,0.6s,baz=304,slow=8.0,SNR=19							
ASAR				pP	**pP**	**07 27 43.4**	**-2.3**
3.4nm,0.7s,baz=301,slow=7.9,SNR=17							
ASAR				PcP	**PcP**	**07 29 28.9**	**+0.6**
1.9nm,0.7s,baz=307,slow=2.9,SNR=10							
BJT	**Baijiatuau**	**42.48**	**20**	*e*P	**P**	**07 27 38.6**	**+1.1**
32nm,0.9s							
BJI	**Beijing**	**42.50**	**20**	P	**P**	**07 27 38.8**	**+1.1**
BJI				pmax	pmax		
comp=Z,18nm,0.9s							
WMQ	**Urumqi**	**44.19**	**349**	*e*P	**P**	**07 27 54.0**	**+2.6**
WMQ				LR	LR		
comp=N,3μm,39.0s							
WMQ				LR	LR		
comp=E,3μm,36.1s							
WMQ				LR	LR		
comp=Z,480nm,34.1s							
JNU	**Nakatsue**	**44.46**	**40**	*e*P	**P**	**07 27 54.0**	**+0.3**
12nm,0.9s							
TARG	**Taragay, Kyrgy**	**45.09**	**338**	*e*P	**P**	**07 28 00.9**	**+1.8**
12nm,0.7s							
NRN	**Naryn**	**45.54**	**336**	*e*P	**P**	**07 28 02.9**	**+0.4**
24nm,1.1s							
KS15	**Wonju Array Si**	**45.65**	**33**	*e*P	**P**	**07 28 02.8**	**-0.2**
12nm,0.7s							
KDJ	**Kajisay**	**45.68**	**338**	*e*P	**P**	**07 28 04.2**	**+0.8**
21nm,0.9s							
KSRS	**Korea Array**	**45.68**	**33**	P	**P**	**07 28 02.6**	**-0.5**
11nm,0.8s,baz=222,slow=8.9,SNR=34							
KSRS				pP	**pP**	**07 28 14.8**	**-0.8**
1.8nm,0.5s,baz=224,slow=8.3,SNR=2.7							
KSRS				LR	LR	07 48 06.0	
comp=Z,69nm,18.1s,baz=216,slow=37							
ULHL	**Ulahol**	**46.14**	**337**	P	**P**	**07 28 08.2**	**+1.1**
SNR=7.6							
GAR	**Garm**	**46.20**	**329**	*e*P	**P**	**07 28 07.4**	**-0.1**
15nm,1.0s							
ARSB	**Arslanbob**	**46.74**	**334**	*e*P	**P**	**07 28 11.8**	**+0.1**
13nm,0.6s							
BTK	**Batken**	**46.75**	**331**	*e*P	**P**	**07 28 12.7**	**+0.9**
5.8nm,0.6s							
UCH	**Uchtor**	**46.82**	**336**	P	**P**	**07 28 13.7**	**+1.1**
SNR=11							
TKM2	**Tokmak 2**	**46.96**	**337**	P	**P**	**07 28 14.6**	**+1.1**
SNR=13							
KBK	**Karagaybulak**	**47.00**	**336**	P	**P**	**07 28 15.8**	**+2.1**
SNR=8.9							
AML	**Almayashu**	**47.08**	**335**	P	**P**	**07 28 16.0**	**+1.4**
SNR=10							
AAK	**Ala-Archa**	**47.16**	**336**	*e*P	**P**	**07 28 16.3**	**+1.3**
7.1nm,1.2s							
EKS2	**Erkin-Say**	**47.48**	**335**	P	**P**	**07 28 19.2**	**+1.7**
SNR=8.2							
SONA0	**Songino Array**	**47.63**	**7**	*e*P	**P**	**07 28 19.4**	**+0.9**
SONA0				*e*PcP	**PcP**	**07 29 48.0**	**+0.4**
SONM	**Songino Array**	**47.63**	**7**	P	**P**	**07 28 19.4**	**+0.9**
4.0nm,0.4s,baz=191,slow=9.5,SNR=23							
SONM				PcP	**PcP**	**07 29 48.0**	**+0.4**
3.5nm,0.7s,baz=178,slow=3.7,SNR=6.1							
USP	**Ospenovka**	**47.69**	**336**	P	**P**	**07 28 19.8**	**+0.9**
SNR=8.1							
MK31	**Makanchi Array**	**48.24**	**345**	*e*P	**P**	**07 28 23.3**	**+0.2**
12nm,0.6s							
MK32	**Makanchi Array**	**48.24**	**345**	*e*P	**P**	**07 28 23.5**	**+0.4**
MKAR	**Makanchi Array**	**48.24**	**345**	P	**P**	**07 28 23.5**	**+0.4**
18nm,0.7s,baz=154,slow=8.0,SNR=186							
MAKZ	**Makanchi**	**48.33**	**345**	*e*P	**P**	**07 28 23.9**	**+0.1**
12nm,0.7s							
KK31	**Karatay Array**	**49.26**	**333**	*e*P	**P**	**07 28 30.9**	**-0.2**
6.9nm,1.4s							
KKAR	**Karatay Array**	**49.26**	**333**	*e*P	**P**	**07 28 31.3**	**+0.3**
6.9nm,1.4s							
CN2	**Changchun**	**49.33**	**26**	*e*P	**P**	**07 28 30.8**	**-0.7**
CN2				pmax	pmax		
comp=Z,10.0nm,1.0s							
MAJO	**Matsushiro**	**51.32**	**41**	*e*P	**P**	**07 28 45.2**	**-1.5**
MJAR	**Matsushiro Arr**	**51.32**	**41**	P	**P**	**07 28 45.2**	**-1.5**
1.8nm,0.6s,baz=214,slow=6.9,SNR=6.9							
MJAR				LR	LR	07 51 30.4	
comp=Z,31nm,19.5s,baz=190,slow=37							
STKA	**Stephens Creek**	**51.91**	**132**	*e*P	**P**	**07 28 51.5**	**+0.3**
1.2nm,1.0s							
STKA	**Stephens Creek**	**51.91**	**132**	P	**P**	**07 28 51.2**	**0.0**
1.9nm,0.6s,baz=307,slow=6.8,SNR=8.4							
GEYT	**Alibeck**	**52.59**	**320**	P	**P**	**07 28 56.6**	**+0.4**
1.3nm,0.4s,baz=152,slow=6.5,SNR=2.9							
GEYT				pP	**pP**	**07 29 09.2**	**+0.3**
2.6nm,0.7s,baz=150,slow=6.3,SNR=2.9							
USA0B	**Ussuriysk Arra**	**52.69**	**30**	*e*P	**P**	**07 28 57.1**	**+0.4**
10.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**52.69**	**30**	P	**P**	**07 28 57.0**	**+0.3**
13nm,1.0s,baz=228,slow=4.7,SNR=18							
USRK				pP	**pP**	**07 29 09.8**	**+0.4**
3.7nm,0.8s,baz=225,slow=7.8,SNR=4.1							
KURK	**Kurchatov**	**52.80**	**344**	*e*P	**P**	**07 28 57.8**	**+0.4**
13nm,0.9s							
ZAA0	**Zalesovo Array**	**54.45**	**350**	*e*P	**P**	**07 29 08.9**	**-0.6**
11nm,0.7s							
ZALV	**Zalesovo Beam**	**54.45**	**350**	P	**P**	**07 29 09.7**	**+0.2**
6.8nm,0.4s,baz=178,slow=6.5,SNR=26							
ZALV				pP	**pP**	**07 29 22.4**	**+0.2**
5.6nm,0.4s,baz=168,slow=7.2,SNR=5.8							
ZAA1	**Zalesovo Array**	**54.46**	**350**	*e*P	**P**	**07 29 09.7**	**+0.2**
BRVK	**Borovoye**	**57.40**	**340**	*e*P	**P**	**07 29 30.0**	**-0.5**
5.8nm,0.9s							
ABKAR	**Akbulak array**	**58.75**	**331**	*e*P	**P**	**07 29 39.3**	**-0.7**
5.1nm,0.8s							
KBZ	**Khabaz**	**65.46**	**319**	P	**P**	**07 30 25.4**	**+0.2**
5.4nm,1.0s,baz=144,slow=6.6,SNR=7.7							
NRIK	**Noril'sk**	**69.10**	**356**	P	**P**	**07 30 47.0**	**-0.7**
3.9nm,0.6s,baz=162,slow=6.0,SNR=9.8							
NRIK				LR	LR	08 03 15.2	
comp=Z,42nm,18.8s,baz=158,slow=38							
BR101	**Keskin Array S**	**70.55**	**312**	*e*P	**P**	**07 30 57.0**	**-0.5**
BRTR	**Keskin Array B**	**70.55**	**312**	P	**P**	**07 30 57.0**	**-0.5**
3.0nm,0.7s,baz=128,slow=6.9,SNR=18							
BRTR				pP	**pP**	**07 31 08.9**	**-1.7**
1.7nm,0.8s,baz=119,slow=7.0,SNR=5.1							
BR131	**Keskin Array S**	**70.56**	**312**	*e*P	**P**	**07 30 56.7**	**-0.8**
4.4nm,0.7s							
MA2	**Magadan**	**71.38**	**25**	*e*P	**P**	**07 31 02.3**	**+0.4**
10nm,0.8s							
PETK	**Petropavlovsk-**	**71.58**	**33**	P	**P**	**07 31 03.0**	**-0.3**
2.1nm,0.7s,baz=202,slow=1.6,SNR=5.0							
PEA1	**Petropavlovsk-**	**71.58**	**33**	*e*P	**P**	**07 31 03.0**	**-0.3**
MAW	**Mawson**	**72.35**	**194**	LR	LR	07 55 54.7	
comp=Z,58nm,20.2s,baz=64,slow=30							
TIXI	**Tiksi**	**73.64**	**10**	*e*P	**P**	**07 31 14.3**	**-0.8**
12nm,1.3s							
AKASG	**Malin Array Be**	**76.61**	**322**	P	**P**	**07 31 31.8**	**-0.8**
4.0nm,0.5s,baz=80,slow=5.1,SNR=8.6							
AKBB	**Malin Array Si**	**76.61**	**322**	*e*P	**P**	**07 31 31.8**	**-0.8**
3.4nm,0.6s							
KIEV	**Kiev**	**76.62**	**322**	*e*P	**P**	**07 31 32.1**	**-0.5**
3.3nm,0.6s							
KIEV	**Kiev**	**76.62**	**322**	⇑*i*P	**P**	**07 31 32.1**	**-0.5**
VRI	**Vrincioaia**	**77.02**	**317**	⇓*i*P	**P**	**07 31 35.4**	**+0.3**
MLR	**Muntele Rosu**	**77.48**	**317**	*e*P	**P**	**07 31 38.7**	**+0.9**
7.7nm,0.9s							
MLR	**Muntele Rosu**	**77.48**	**317**	⇓*i*P	**P**	**07 31 38.5**	**+0.7**
RPZ	**Rata Peaks**	**77.78**	**135**	*e*P	**P**	**07 31 40.5**	**+1.1**
21nm,1.2s							

BOZ	Bozeman (W)	126.92	26	P	PKPdf	07 38 45.9	-0.3
	baz=321						
HLID	Hailey	127.15	30	P	PKPdf	07 38 46.5	-0.2
	baz=317						
DGMT	Dagmar	127.39	19	P	PKPdf	07 38 46.5	-0.4
	baz=331						
NV01	Mina Array Sit	128.54	37	*e*PKPdf	PKiKP	07 38 50.0	-0.2
NV01				epPKPdf	pPKPdf	07 39 03.5	-0.1
NVAR	Mina Array Bea	128.54	37	PKP	PKiKP	07 38 50.0	-0.2
	comp=Z,0.5nm,0.6s,baz=305,slow=1.4,SNR=6.3						
NVAR				pPKP	pPKPdf	07 39 03.5	-0.1
	comp=Z,0.4nm,0.6s,baz=232,slow=1.7,SNR=2.9						
MATQ	Matagami	129.81	357	P	PKPdf	07 38 50.2	-1.1
	baz=4.9						
PD31	Pinedale Array	130.07	27	*e*PKPdf	PKPdf	07 38 52.4	0.0
PDAR	Pinedale Array	130.07	27	PKP	PKPdf	07 38 52.2	-0.2
	comp=Z,0.5nm,0.6s,baz=220,slow=1.2,SNR=4.5						
O20A	White River Ci	132.75	28	P	PKPdf	07 38 57.0	-0.4
	baz=322						
F39A	Loretta	133.02	9	P	PKPdf	07 38 57.5	-0.1
	baz=347						
F40A	Park Falls	133.14	8	P	PKPdf	07 38 57.4	-0.4
	baz=348						
ECSD	EROS Data Cent	133.91	15	P	PKPdf	07 38 58.9	-0.4
	baz=339						
MIAR	Mount Ida	143.33	17	*e*PKPdf	PKPbc	07 39 14.5	+0.7
TX31	Lajitas Ar. Si	143.53	34	*e*PKPdf	PKPbc	07 39 15.2	+0.5
LTX	Lajitas	143.53	34	*e*PKPdf	PKPbc	07 39 15.1	+0.4
TXAR	Lajitas Array	143.53	34	PKP	PKPbc	07 39 15.1	+0.4
	comp=Z,0.9nm,0.5s,baz=204,slow=0.9,SNR=13						
TXAR				pPKP	pPKPdf	07 39 30.9	-0.5
	comp=Z,0.3nm,0.4s,baz=264,slow=0.6,SNR=3.1						
W53A	Cullowhee	144.47	2	P	PKPbc	07 39 17.9	+0.4
	baz=357						
X46A	Booneville	144.49	10	P	PKPbc	07 39 17.7	+0.4
	baz=348						
KMSC	Kings Mountain	144.53	360	P	PKPbc	07 39 17.6	+0.1
	baz=0.2						
JCT	Junction City	144.59	28	*e*PKPdf	PKPab	07 39 16.9	-0.8
JCT	Junction City	144.59	28	P	PKPab	07 39 17.7	0.0
	baz=327						
X47A	Russelville	144.64	9	P	PKPab	07 39 17.6	-0.1
	baz=349						
X48A	Hartselle	144.83	8	*e*PKPdf	PKPab	07 39 17.0	-1.3
X48A	Hartselle	144.83	8	P	PKPab	07 39 17.6	-0.7
	baz=350						
X49A	Woodville	144.86	7	P	PKPab	07 39 17.8	-0.7
	baz=352						
X50B	Fort Payne	144.99	6	P	PKPab	07 39 18.5	-0.5
	baz=353						
X52A	Dahlonega	145.00	3	P	PKPab	07 39 18.5	-0.5
	baz=356						
X59A	McDuffie Farm,	145.00	356	P	PKPab	07 39 19.0	0.0
	baz=4.9						
X54A	Belton	145.12	1	P	PKPbc	07 39 19.1	-0.3
	baz=358						
X53A	Estanollee	145.13	3	P	PKPbc	07 39 19.3	-0.1
	baz=357						
X56A	White Oak	145.18	359	P	PKPbc	07 39 19.4	-0.1
	baz=0.7						
X57A	Johnson Farm,	145.18	358	P	PKPbc	07 39 19.5	-0.1
	baz=2.3						
X55A	Gracelyn & Ava	145.20	0	P	PKPbc	07 39 19.1	-0.5
	baz=360						
Y48A	Jasper	145.34	8	P	PKPbc	07 39 19.3	-0.8
	baz=350,SNR=11						
CPUP	Villa Florida	145.37	220	PKPbc	PKPbc	07 39 21.2	+0.8
	comp=Z,1.6nm,0.7s,baz=131,slow=3.4,SNR=5.4						
Y49A	Blount Mountai	145.50	7	*e*PKPdf	PKPbc	07 39 19.8	-0.8
Y49A	Blount Mountai	145.50	7	P	PKPbc	07 39 20.2	-0.5
	baz=351,SNR=7.9						
Y60A	Bolivia	145.53	355	P	PKPdf	07 39 20.7	+0.1
	baz=5.7						
Y50A	Piedmont	145.55	6	P	PKPdf	07 39 20.4	-0.3
	baz=352						
Y51A	Rockmart	145.60	5	P	PKPdf	07 39 20.6	-0.2
	baz=354						
Y57A	Sumter	145.64	358	P	PKPdf	07 39 20.9	+0.1
	baz=1.8						
Y52A	Lilburn	145.72	4	*e*PKPdf	PKPdf	07 39 20.5	-0.5
Y52A	Lilburn	145.72	4	P	PKPbc	07 39 21.5	+0.1
	baz=355,SNR=8.1						
Y58A	Scranton	145.72	357	P	PKPbc	07 39 21.2	-0.1
	baz=3.1						
Y55A	Saluda	145.73	1	P	PKPbc	07 39 21.2	-0.1
	baz=359						
Y53A	Monroe	145.76	3	P	PKPbc	07 39 21.3	-0.1
	baz=356,SNR=6.1						
Y54A	Tignall	145.79	2	P	PKPbc	07 39 21.4	-0.2
	baz=358						
Z49A	Columbiana	146.14	8	P	PKPbc	07 39 22.3	-0.3
	baz=351,SNR=9.3						
Z50A	Ashland	146.15	7	*e*PKPdf	PKPdf	07 39 22.1	+0.4
Z50A	Ashland	146.15	7	P	PKPbc	07 39 22.3	-0.4
	baz=352,SNR=5.2						
GOGA	Godfrey	146.21	3	P	PKPbc	07 39 22.9	+0.1
	baz=356						
LRAL	Lakeview Retre	146.23	8	P	PKPbc	07 39 22.9	0.0
	baz=350						
Z53A	Monticello	146.33	3	P	PKPbc	07 39 23.1	-0.1
	baz=356						
Z52A	Williamson	146.37	4	P	PKPbc	07 39 23.4	+0.1
	baz=355,SNR=6.6						
Z54A	Sparta	146.41	2	P	PKPbc	07 39 23.2	-0.2
	baz=358						
833A	Chaparral WMA,	146.58	30	P	PKPbc	07 39 23.9	-0.2
	baz=326						
149A	Jones	146.69	8	P	PKPbc	07 39 23.8	-0.4
	baz=350,SNR=6.9						
150A	Eclectic	146.78	7	P	PKPbc	07 39 24.1	-0.4
	baz=352						
152A	Waverly Hall	146.86	5	*e*PKPdf	PKPbc	07 39 24.5	-0.3
152A	Waverly Hall	146.86	5	P	PKPbc	07 39 24.9	+0.1
	baz=354						
151A	Opelika	146.94	6	P	PKPbc	07 39 24.8	-0.2
	baz=353,SNR=5.2						
154A	Montrose	147.02	3	P	PKPbc	07 39 25.5	+0.3
	baz=357						
249A	Camden	147.25	9	P	PKPbc	07 39 26.1	+0.3
	baz=350,SNR=5.9						
251A	Midway	147.36	6	P	PKPbc	07 39 26.4	+0.3
	baz=353,SNR=8.9						
253A	Americus	147.51	4	P	PKPbc	07 39 26.3	-0.3
	baz=355						
252A	Lumpkin	147.52	5	P	PKPbc	07 39 26.7	0.0
	baz=354						
254A	Abbeville	147.67	3	P	PKPbc	07 39 26.9	-0.2
	baz=356						
349A	Repton	147.85	9	P	PKPbc	07 39 27.5	0.0
	baz=349						
350A	Dozier	147.91	8	P	PKPbc	07 39 28.2	+0.5
	baz=351						
352A	Blakely	148.02	6	P	PKPbc	07 39 28.5	+0.5
	baz=353						
BRAL	Brewton	148.05	9	P	PKPbc	07 39 28.6	+0.5
	baz=349						
351A	Pinckard	148.15	7	P	PKPbc	07 39 28.6	+0.3
	baz=352						
353A	Camilla	148.21	4	P	PKPbc	07 39 28.6	+0.1
	baz=355						
357A	Townsend	148.24	0	P	PKPbc	07 39 28.8	+0.2
	baz=360						
356A	Blackshear	148.33	1	P	PKPbc	07 39 28.9	+0.1
	baz=359						
449A	Pace	148.43	9	P	PKPbc	07 39 28.8	-0.2
	baz=349						
453A	Whigham	148.69	5	P	PKiKP	07 39 30.7	-0.5
	baz=354						
451A	Vernon	148.78	7	P	PKPbc	07 39 30.6	+0.7
	baz=352						
555A	McAlpin	149.50	3	P	PKPbc	07 39 32.2	+0.3
	baz=357						
060A	Indiantown	152.59	358	P	PKPbc	07 39 37.8	-1.3
	baz=2.3						

MEX 25 08:21:39.4±0.6, 16°19N×97°97W, h14km±5km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.25	324	*i* P	Pg	08 21 44.3	-0.5
PNIG				*e*S	Sg	08 21 48.3	-0.1
TLIG	Tlapa	1.48	337	*e*P	Pn	08 22 03.0	-2.8
TLIG				*e*S	Sn	08 22 19.5	-5.6
HUIG	Huatulco	1.84	103	*i* P	Pn	08 22 08.1	-2.6
HUIG				*i* S	Sn	08 22 28.1	-5.7
MEIG	Mezcala	2.34	318	*i* P	Pn	08 22 15.3	-2.3
MEIG				*i* S	Sn	08 22 41.4	-4.8
ARIG	Puente Sto Nin	3.08	313	*i* P	Pn	08 22 24.1	-3.6
ARIG				*i* S	Sn	08 23 00.6	-3.7

ISCJB ***25*** *08:29:28.6±0.1, 66°.31N±0°.02×149°.39W±0°.05, h10km, mb4.3/58, MS3.5/11, Error ellipse: s-maj=2.7km s-min=2.3km az=176.3*
AEIC ***25*** *08:29:29.9, 66°.27N×149°.56W, h12km, ML4.4, MB4.4(NEIC), MW4.3(NEIC)*
IDC ***25*** *08:29:29.2±0.5, 66°.36N×149°.31W, h0km, mb4.1/17, mb1 4.3/21, mb1mx4.1/39, mbtmp4.1/21, ML3.9/4, MS3.5/14, Ms1 3.5/14, ms1mx3.2/31, Error ellipse: s-maj=14.7km s-min=8.1km az=43.0*
MOS ***25*** *08:29:29.3±1.4, 66°.29N×149°.39W, h10km, mb4.5/19, Error ellipse: s-maj=18.7km s-min=5.8km az=95.3*
NEIC ***25*** *08:29:29.9±0.0, 66°.27N×149°.56W, h12km, mb4.4/62, MW4.3, ML4.4(AEIC), Moment Tensor Solution. s48 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.08; $M_{\theta\theta}$=1.98; $M_{\phi\phi}$=2.06; $M_{r\theta}$=0.13; $M_{\theta\phi}$=-2.50; $M_{\phi r}$=1.28; Best double couple: M_0=3.50000×10^{15} NP1:ϕ_s=200.00000°, δ=83.00000°, λ=19.00000°. NP2:ϕ_s=108.00000°, δ=71.00000°, λ=173.00000°. Principal axes: T 3.6500, Plg18.0000°, Azm66.0000°; N -0.4200, Plg70.0000°, Azm219.0000°; P -3.2300, Plg8.0000°, Azm333.0000°; After AEIC.*
NEIC Felt at Hughes.
ISC 25 08:29:30.3±0.3, 66°.30N±0°.03×149°.36W±0°.03, h10km, n386, σ1°21/392, mb4.3/58, MS3.5/11, 10C-2D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS06	TAPS Pump Stn6	0.47	199	*e*Pg	Pg	08 29 38.6	-1.0
PS06				*e*Sg	Sg	08 29 44.4	-1.4
PS05	TAPS Pump Stn5	0.73	315	*e*Pg	Pg	08 29 43.6	-0.8
PS05				*e*Pn	Pn	08 29 53.1	+6.5
COLD	Coldfoot	0.99	341	*e*Pg	Pg	08 29 48.4	-0.9
COLD				*e*Sn	Sb	08 30 02.8	+0.3
PS07	TAPS Pump Stn7	1.09	155	*e*Pg	Pb	08 29 50.8	-0.4
MLY	Manley	1.40	205	*e*Pn	Pn	08 29 54.3	-1.6
MLY				*e*Sg	Sg	08 30 12.8	-2.5
MDM	Murphy Dome	1.43	160	*e*Pn	Pn	08 29 54.9	-1.4
MDM				*e*Sn	Sg	08 30 16.1	-0.1
POKR	Poker Plat Res	1.43	145	P	Pn	08 29 55.3	-1.0
	baz=324,SNR=1000						
I53US	FAIRBANKS INFR	1.56	156	Pg	Pg	08 29 59.7	-0.5
	baz=334,slow=19,SNR=0.1						
I53US				Lg	Lg	08 30 18.3	
	baz=331,slow=30,SNR=10						
I53US				*i*		08 39 20.0	
	baz=334,slow=321,SNR=0.8						
TCOL	CIGO, UAF Yank	1.56	156	P	Pn	08 29 57.0	-1.1
	baz=334,SNR=1000						
COLA	College	1.57	156	*e*Pn	Pn	08 29 57.1	-1.0
COLA	College	1.57	156	*d i*P	Pg	08 29 59.6	-0.7
FYU	Fort Yukon	1.68	79	*e*Pn	Pn	08 29 58.3	-1.4
PRP	Porcupine Dome	1.76	115	*e*Pn	Pn	08 30 00.0	-0.9
PRP				*e*Sn	Sn	08 30 23.1	-0.4
CCB	Clear Creek Bu	1.79	158	*e*Pn	Pn	08 29 59.9	-1.2
IM3	Indian Mountai	1.81	262	*e*Pn	Pn	08 29 59.9	-1.7
ILAR	Eielson Array	1.85	145	Pn	Pn	08 30 01.1	-1.0
	92nm,0.3s,baz=323,slow=12,SNR=518						
ILAR				Lg	Lg	08 30 26.4	
	494nm,0.3s,baz=328,slow=31,SNR=23						
ILAR				LR	LR	08 30 26.7	
	comp=Z,1μm,21.1s,baz=342,slow=30						
ILB	Eielson Array	1.85	145	*e*Pn	Pn	08 30 01.1	-1.0
WRH	Wood River Hil	1.91	163	*e*Pn	Pn	08 30 01.6	-1.3
PS08	TAPS Pump Stn8	2.06	148	*e*Pn	Pn	08 30 04.2	-0.7
PS08				*e*Sn	Sb	08 30 33.9	+0.5
PS04	TAPS Pump Stn4	2.13	0	*e*Pn	Pn	08 30 06.0	0.0
PS04				*e*Sn	Sb	08 30 35.8	+0.4
BWN	Browne	2.14	181	*e*Pn	Pn	08 30 04.7	-1.4
BWN				*e*Sn	Sn	08 30 31.8	-0.8
HDA	Harding Lake	2.15	151	*e*Pn	Pn	08 30 05.0	-1.2
HDA	Harding Lake	2.15	151	P	Pn	08 30 05.1	-1.2
	baz=331						
BM02	Burnt Mountain	2.23	57	*e*Pn	Pn	08 30 06.8	-0.5
BPAW	Bear Paw Mtn.	2.32	198	*e*Pn	Pn	08 30 06.8	-1.7
TOLK	Toolik Lake Re	2.35	358	*e*Pn	Pn	08 30 09.5	+0.6
TOLK	Toolik Lake Re	2.35	358	P	Pn	08 30 09.6	+0.6
	baz=180,SNR=1000						
MCK	McKinley	2.59	176	*e*Pn	Pn	08 30 11.3	-0.9
MCK	McKinley	2.59	176	*e*P	Pn	08 30 11.3	-0.9
CHUM	Lake Minchumin	2.73	209	*e*Pn	Pn	08 30 12.8	-1.3
RND	Reindeer	2.92	176	*e*Pn	Pn	08 30 16.2	-0.6
RND	Reindeer	2.92	176	*e*P	Pn	08 30 16.2	-0.6
RIDG	Independent Ri	3.21	141	*e*Pn	Pn	08 30 20.1	-0.7
SCRK	Sand Creek	3.26	133	*e*Pn	Pn	08 30 21.0	-0.5
PS10	TAPS Pump St10	3.27	150	*e*Pn	Pn	08 30 21.7	+0.1
DHY	Denali Highway	3.35	164	*e*Pn	Pn	08 30 23.1	+0.3
DOT	Dot Lake	3.49	137	*e*Pn	Pn	08 30 24.4	-0.2
GCSA	Galena City Sc	3.50	247	*e*Pn	Pn	08 30 21.5	-3.2
EGAK	Eagle	3.74	110	*e*Pn	Pn	08 30 27.0	-1.0
PAX	Paxson	3.74	152	*e*Pn	Pn	08 30 28.1	0.0
PAX	Paxson	3.74	152	*e*P	Pn	08 30 28.1	0.0
PS01	TAPS Pump Stn	3.98	4	*e*Pn	Pn	08 30 31.5	+0.2
MENT	Mentasta	4.16	142	*e*Pn	Pn	08 30 32.4	-1.4
HARP	HAARP	4.32	153	*e*Pn	Pn	08 30 36.5	+0.6
TT01	Tatalina	4.46	223	*e*Pn	Pn	08 30 35.7	-2.1
TT01				*e*Pn	Pn	08 30 35.7	-2.1
SML	Sawmill	4.54	174	*e*Pn	Pn	08 30 38.2	-0.8
SML	Sawmill	4.54	174	*e*P	Pn	08 30 38.2	-0.8
GHO	Glory Hole Cre	4.55	177	*e*Pn	Pn	08 30 37.3	-1.9
GHO				*e*Pn	Pn	08 30 38.9	-0.4
SCM	Sheep Creek Mo	4.58	168	*e*Pn	Pn	08 30 40.0	+0.4
SCM	Sheep Creek Mo	4.58	168	*e*P	Pn	08 30 40.0	+0.4
BCA3	Beaver Creek A	4.59	131	*e*Pn	Pn	08 30 38.9	-0.9
PMR	Palmer	4.73	179	*e*Pn	Pn	08 30 40.9	-0.7
PMR	Palmer	4.73	179	*e*P	Pn	08 30 40.9	-0.7
DAWY	Dawson	4.76	114	*e*Pn	Pn	08 30 40.6	-1.5
KNK	Knik Glacier	4.93	175	*e*Pn	Pn	08 30 44.2	-0.1
KLU	Klutina	5.06	161	*e*Pn	Pn	08 30 47.1	+0.9
EPYK	Eagle Plains	5.09	83	*e*Pn	Pn	08 30 45.3	-1.3
EPYK	Eagle Plains	5.09	83	P	Pn	08 30 45.4	-1.2
	baz=275,SNR=24						
RC01	Rabbit Creek A	5.24	182	*e*Pn	Pn	08 30 48.1	-0.5
SPWE	Spurr West	5.24	197	*e*Pn	Pn	08 30 49.0	+0.2
SPU	Mount Spurr	5.28	194	*e*Pn	Pn	08 30 49.4	+0.2
DIV	Divide	5.43	161	*e*Pn	Pn	08 30 51.8	+0.5
GLI	Glacier Island	5.54	168	*e*Pn	Pn	08 30 53.2	+0.5
RDOG	Red Dog Mine	5.56	295	*e*Pn	Pn	08 30 52.0	-1.0
SLKM	Skilak Lake	5.83	184	*e*Pn	Pn	08 30 56.9	+0.1
SLKM	Skilak Lake	5.83	184	*e*P	Pn	08 30 56.9	+0.1
SVW2	Sparrevohn	5.91	211	*e*Pn	Pn	08 30 55.7	-2.1
SVW2				*e*Pn	Pn	08 30 56.2	-1.6
RSO	Redoubt South	6.06	196	*e*Pn	Pn	08 30 57.3	-2.7
BALM	Baldy	6.13	146	*e*Pn	Pn	08 31 00.4	-0.6
BALM				*e*Pn	Pn	08 31 01.1	+0.1
BALM	Baldy	6.13	146	*e*P	Pn	08 31 00.4	-0.6
TGL	Tana Glacier	6.28	149	*e*Pn	Pn	08 31 03.9	+0.8
HMI	Hamilton	6.41	152	*e*Pn	Pn	08 31 05.0	+0.3
CTGM	Chitina Glacie	6.44	143	*e*Pn	Pn	08 31 06.8	+1.6
INK	Inuvik	6.45	65	Pn	Pn	08 31 05.0	-0.1
	2.8nm,0.3s,baz=239,slow=19,SNR=84						
INK				Sn	Sn	08 32 14.8	-3.7
	5.8nm,0.3s,baz=336,slow=30,SNR=5.4						
INK				Lg	Lg	08 32 51.6	
	3.8nm,0.3s,baz=290,slow=14,SNR=2.3						
INK				LR	LR	08 34 02.0	
	comp=Z,239nm,20.6s,baz=276,slow=43						
BRLK	Bradley Lake	6.60	187	*e*Pn	Pn	08 31 07.3	0.0
BRLK				*e*Pn	Pn	08 31 08.2	+0.9
YUK4	Talbot Arm	6.86	131	*e*Pn	Pn	08 31 10.3	-0.8
ANM	Nome	6.90	263	*e*Pn	Pn	08 31 10.3	-1.0
ANM	Nome	6.90	263	*e*P	Pn	08 31 10.3	-1.0
YUK6	Outpost Mounta	7.26	133	*e*Pn	Pn	08 31 16.8	+0.2
BCPM	Bancas Point	7.74	141	*e*Pn	Pn	08 31 22.8	-0.1
KDAK	Kodiak Island	8.68	192	*ce*P	Pn	08 31 39.3	+3.5
OHAK	Old Harbor	9.30	193	*e*Pn	Pn	08 31 42.8	-1.4
DLBC	Dease Lake	11.89	122	*e*Pn	Pn	08 32 20.8	+1.0
DLBC	Dease Lake	11.89	122	Pn	Pn	08 32 20.0	+0.2
	0.7nm,0.3s,baz=307,slow=10,SNR=20						
DLBC				Lg	Lg	08 35 38.1	
	0.4nm,0.3s,baz=360,slow=7.2,SNR=6.8						
DLBC				LR	LR	08 36 24.9	
	comp=Z,156nm,21.9s,baz=331,slow=35						
YKW3	Yellowknife Ar	15.32	88	*e*Pn	Pn	08 33 00.2	-6.0
YKA	Yellowknife Ar	15.36	88	Pn	Pn	08 33 02.0	-4.7
	0.4nm,0.3s,baz=295,slow=13,SNR=34						
YKA				LR	LR	08 39 27.9	
	comp=Z,15nm,21.8s,baz=259,slow=39						
YKB5	Yellowknife Ar	15.36	88	*e*Pn	Pn	08 33 02.0	-4.7
BILL	Bilibino	17.02	296	*e*Pn	Pn	08 33 24.9	-3.1
	13nm,1.1s						
BILL	Bilibino	17.02	296⇑	*e*P	Pn	08 33 26.2	-1.9
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,345nm,15.0s						
ATKA	Atka Island	18.80	233	*e*P	P	08 33 47.2	-2.2
	comp=Z,100nm,1.1s						
RES	Resolute Bay	19.23	41	*e*P	P	08 33 54.0	0.0
	comp=Z,6.1nm,0.9s						
RES	Resolute Bay	19.23	41	*e*P	P	08 33 54.0	0.0
RES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RES	Resolute Bay	19.23	41	P	P	08 33 53.0	-1.0
	comp=Z,0.3nm,0.3s,baz=238,slow=11,SNR=10						
RES				S	Sn	08 37 12.7	-17
	comp=Z,0.1nm,0.3s,baz=348,slow=20,SNR=1.9						
RES				LR	LR	08 43 39.6	
	comp=Z,82nm,19.0s,baz=276,slow=44						
B05A	Bryant	22.99	128	P	P	08 34 35.0	+0.2
	baz=332						
D03D	Eldon	23.33	131	P	P	08 34 40.7	+2.5
	baz=333						
D05A	Enumclaw	23.98	129	*e*P	P	08 34 45.1	+0.6
	comp=Z,21nm,1.1s						
LTY	Liberty	24.33	127	*e*P	P	08 34 48.2	+0.3
	comp=Z,6.3nm,0.9s						
E04D	Cinebar	24.36	131	P	P	08 34 49.0	+0.9
	baz=334						
SEY	Seymchan	24.41	290	*ce*P	P	08 34 49.2	+0.8
SEY	Seymchan	24.41	290	P	P	08 34 48.1	-0.3
	comp=Z,8.3nm,0.8s,baz=78,slow=5.7,SNR=18						
NEW	Newport	24.64	121	P	P	08 34 51.9	+1.3
	baz=329						
NEW	Newport	24.64	121	P	P	08 34 52.1	+1.5
	comp=Z,4.0nm,0.9s,baz=10.0,slow=8.0,SNR=6.5						
NEW				LR	LR	08 45 06.7	
	comp=Z,102nm,20.0s,baz=323,slow=38						
C09A	Chrisman Ranch	24.64	123	*e*P	P	08 34 50.1	-0.6
	comp=Z,6.9nm,0.8s						
FFC	Flin Flon	25.34	94	*i* P	P	08 35 00.4	+3.5
G03D	McMinnville, O	25.37	133	P	P	08 34 60.0	+2.8
	baz=335						
FCC	Fort Churchill	25.76	80	*e*P	P	08 35 01.8	+1.2
	comp=Z,6.5nm,0.8s						
FCC	Fort Churchill	25.76	80	*e*P	P	08 35 01.8	+1.2
FCC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
F10A	Beach Ranch, E	26.59	124	*e*P	P	08 35 09.8	+1.4
	comp=Z,4.6nm,0.8s						
I05D	Terrebonne, OR	26.73	131	P	P	08 35 10.4	+0.7
	baz=335						
I04A	Tendick Farm,	26.91	134	P	P	08 35 12.6	+1.3
	baz=336						
MSO	Missoula	26.98	119	*e*P	P	08 35 13.5	+1.6
	comp=Z,5.5nm,0.9s						
MSO	Missoula	26.98	119	P	P	08 35 13.1	+1.2
	baz=329,SNR=6.6						
MA2	Magadan	27.05	285	*i* P	P	08 35 14.7	+2.4
MA2				pmax	pmax		
	comp=Z,15nm,1.1s						
MA2	Magadan	27.05	285	P	P	08 35 11.6	-0.7
	comp=Z,6.0nm,0.9s,baz=127,slow=20,SNR=2.9						
MA2				LR	LR	08 45 29.5	
	comp=Z,83nm,18.9s,baz=60,slow=36						
EGMT	Eagleton	27.50	112	P	P	08 35 17.1	+0.5
	baz=326						
I07A	Izee	27.53	129	*e*P	P	08 35 18.6	+1.7
	comp=Z,2.3nm,0.8s						
BMO	Blue Mountains	27.55	125	*e*P	P	08 35 19.0	+1.9
	comp=Z,1.9nm,1.0s						
BMO	Blue Mountains	27.55	125	*e*P	P	08 35 19.0	+1.9
BMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
K02D	Willamette Mer	27.56	136	P	P	08 35 18.8	+1.6
	baz=338						
TIXI	Tiksi	27.64	317	*e*P	P	08 35 17.6	+0.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.3s						
J05D	Fort Rock, OR	27.72	132	P	P	08 35 19.8	+1.1
	baz=336,SNR=7.1						
HRY	Holter Researc	27.84	116	*e*P	P	08 35 21.0	+1.3
HUMO	Hull Mountain	27.84	135	*e*P	P	08 35 22.3	+2.6
	comp=Z,12nm,1.4s						
K05A	Summer Lake	28.34	132	*e*P	P	08 35 26.8	+2.6
	comp=Z,9.9nm,0.9s						
L04D	Klamath Falls	28.39	135	P	P	08 35 26.1	+1.5
	baz=337						
J08A	Circle Bar Ran	28.51	128	*e*P	P	08 35 27.8	+2.2
	comp=Z,3.7nm,1.0s						
YBH	Yreka Blue Hor	28.72	136	LR	LR	08 46 47.1	
	comp=Z,106nm,18.2s,baz=320,slow=36						
PEA1	Petropavlovsk-	28.76	269	*e*P	P	08 35 28.4	+0.7
PETK	Petropavlovsk-	28.77	269	P	P	08 35 28.4	+0.7
	comp=Z,2.3nm,0.7s,baz=70,slow=12,SNR=5.4						
PETK				LR	LR	08 48 50.3	
	comp=Z,48nm,18.7s,baz=55,slow=40						

ISCO	Idaho Springs baz=332	36.09	115	P	P	08 36 33.1	+0.9
F37A	Hinrichs Farm, baz=325	36.09	96	P	P	08 36 32.6	+0.7
ECSD	EROS Data Cent	36.15	102	P	P	08 36 32.6	+0.2
F38A	Pierce - Schro baz=325,SNR=5.4	36.20	95	P	P	08 36 33.8	+1.0
E39A	Mellen baz=324	36.39	94	P	P	08 36 33.2	-1.2
GSC	Goldstone, Bar comp=Z,4.9nm,0.8s	36.40	132	eP	P	08 36 37.2	+2.5
GSC GSC	Goldstone, Bar comp=Z,5.0nm,0.8s	36.40	132	eP pmax	P pmax	08 36 37.2	+2.5
GSC	Goldstone, Bar baz=338	36.40	132	P	P	08 36 35.7	+1.0
SPMN	Marine on St. comp=Z,13nm,0.9s	36.43	97	eP	P	08 36 36.4	+1.6
SPMN	Marine on St. baz=325,SNR=5.1	36.43	97	P	P	08 36 35.4	+0.7
TYV TYV	Tymovskoe comp=Z,10.0nm,1.1s	36.53	279	eP pmax	P pmax	08 36 28.6	-6.9
F39A	Loretta baz=325,SNR=5.7	36.62	94	P	P	08 36 37.0	+0.6
G38A	Ridgeland baz=325,SNR=5.8	36.86	96	P	P	08 36 38.6	+0.2
F40A	Park Falls baz=325	36.94	94	P	P	08 36 39.0	-0.1
E41A	Kenton baz=324	36.97	92	P	P	08 36 39.7	+0.4
G39A	Holcombe baz=325	37.04	95	P	P	08 36 40.4	+0.5
H38A	Maiden Rock baz=326	37.09	97	P	P	08 36 40.8	+0.5
BFSC	Mount Baldy Ra baz=339	37.14	134	P	P	08 36 42.4	+1.4
GMRC	Granite Mounta baz=338	37.23	131	P	P	08 36 42.5	+0.7
E42A	Champion baz=324	37.42	91	P	P	08 36 42.1	-1.0
H39A	Augusta baz=326	37.49	96	P	P	08 36 44.3	+0.5
F41A	Three Lakes baz=325	37.50	93	P	P	08 36 44.0	+0.1
BELC	Belle Mtn. Jos baz=339	37.85	132	P	P	08 36 46.6	-0.4
H40A	Chili baz=326	37.90	95	P	P	08 36 47.7	+0.5
WUAZ	Wupatki baz=336	37.92	125	P	P	08 36 47.3	-0.3
IRM	Iron Mountain baz=338	37.97	131	P	P	08 36 49.2	+1.3
E44A	Grand Marais A baz=324	38.07	89	P	P	08 36 48.2	-0.4
I39A	Houston baz=326	38.08	97	P	P	08 36 48.7	0.0
G42A	Mountain baz=325	38.18	93	P	P	08 36 49.4	-0.2
BC3	Big Chuckawall baz=339	38.34	131	P	P	08 36 50.7	-0.4
F44A	Big Bay de Noc baz=325	38.39	90	P	P	08 36 50.4	-0.9
I40A	Norwalk baz=326	38.41	96	P	P	08 36 52.0	+0.5
J39A	Decorah baz=327	38.44	97	P	P	08 36 50.9	-0.8
G43A	Wallace baz=325	38.47	92	P	P	08 36 51.1	-0.9
I41A	Arkdale baz=326	38.57	95	P	P	08 36 53.0	+0.2
H42A	Shiocton baz=326	38.74	93	P	P	08 36 54.3	+0.1
MONP2	Monument Peak baz=339	38.76	133	P	P	08 36 53.4	-1.4
J40A	Soldiers Grove baz=327	38.77	96	P	P	08 36 53.9	-0.7
W18A	Petrified Fore baz=336	38.83	124	P	P	08 36 56.0	+0.7
D47A	Chapleau baz=324	38.85	86	P	P	08 36 54.4	-0.8
MATQ	Matagami baz=322	38.88	79	P	P	08 36 54.4	-1.0
K39A	Oelwein baz=327,SNR=5.2	38.89	98	P	P	08 36 56.1	+0.6
NRIK	Noril'sk comp=Z,8.0nm,0.8s,baz=41,slow=7.8,SNR=12	39.03	332	P	P	08 36 57.2	+0.8
SCHQ	Schefferville comp=Z,79nm,20.8s,baz=35,slow=37	39.06	66	LR	LR	08 53 39.7	
J41A	Loganville baz=327,SNR=6.6	39.09	96	P	P	08 36 57.6	+0.4
I42A	Draeger Farm, baz=326	39.10	94	P	P	08 36 56.4	-0.9
K40A	Colesburg baz=327,SNR=6.6	39.20	97	P	P	08 36 58.7	+0.6
E47A	Iron Bridge baz=324	39.27	87	P	P	08 36 58.1	-0.6
D48A	Paudash Townsh baz=324	39.28	85	P	P	08 36 58.3	-0.5
L39A	Vinton baz=328	39.34	99	P	P	08 36 59.1	-0.1
JFWS	Jewell Farm baz=327	39.38	96	P	P	08 36 59.6	0.0
D49A	Beulah Townshi baz=324	39.38	84	P	P	08 36 59.2	-0.5
I43A	Langenfeld Bro baz=326	39.41	94	P	P	08 36 59.7	-0.2
J42A	Columbus baz=327	39.49	95	P	P	08 36 59.7	-0.9
YSS YSS	Yuzh-Sakhalins comp=Z,25nm,1.7s	39.59	275⇑	eP pmax	P pmax	08 37 01.8	+0.5
H45A	Beulah baz=326	39.65	91	P	P	08 36 59.9	-2.0
E48A	Lockeyer baz=324	39.70	86	P	P	08 37 01.4	-0.8
LSQQ	Lebel-sur-Quev baz=323	39.70	79	P	P	08 37 01.0	-1.2
L40A	Anamosa baz=328,SNR=5.2	39.70	98	P	P	08 37 02.4	+0.1
J43A	Natural Harves baz=326	39.72	94	P	P	08 37 02.3	-0.2
K42A	Prairie Point, baz=327	39.85	96	P	P	08 37 03.4	-0.2
TASM	ASL Pad, Albuq baz=335,SNR=7.6	40.11	120	P	P	08 37 07.9	+1.9
TASM	ASL Pad, Albuq baz=335,SNR=7.2	40.11	120	P	P	08 37 08.0	+1.9
ANMO	Albuquerque comp=Z,3.3nm,0.8s	40.11	120	eP	P	08 37 08.2	+2.2
ANMO ANMO	Albuquerque comp=Z,4.0nm,1.0s	40.11	120	ceP pmax	P pmax	08 37 07.4	+1.4
ANMO	Albuquerque baz=335	40.11	120	P	P	08 37 07.6	+1.5
E50A	Wahnapitae baz=324	40.32	85	P	P	08 37 09.0	+1.6
K43A	Burlington comp=Z,11nm,0.8s	40.32	95	eP	P	08 37 07.3	-0.1
K43A	Burlington baz=327	40.32	95	P	P	08 37 07.4	-0.1
F49A	Sandfield baz=325	40.33	86	P	P	08 37 08.8	+1.3
L42A	Oliver, Polo baz=327	40.37	97	P	P	08 37 06.7	-1.2
M41A	Milan baz=328	40.55	98	P	P	08 37 09.6	+0.2
L43A	Garden Prairie baz=327	40.59	96	P	P	08 37 09.1	-0.6
E51A	G1948 Merrick baz=324	40.73	83	P	P	08 37 11.2	+0.4
D52A	ZEK Kipawa Sen baz=324	40.80	82	P	P	08 37 10.6	-0.8
L44A	Lake County Fo baz=327	40.93	95	P	P	08 37 12.1	-0.3
M43A	Waltham Townsh baz=328	41.14	96	P	P	08 37 14.0	-0.2
D54A	Lac Fusel, La baz=324	41.36	80	P	P	08 37 15.5	-0.5
K46A	Dorr baz=327	41.37	92	P	P	08 37 15.7	-0.4
N43A	Stutzman Famil baz=328	41.47	97	P	P	08 37 17.3	+0.4
L46A	Eue Claire baz=327	41.72	93	P	P	08 37 19.1	+0.2
HDIL	Hopedale baz=328	41.75	97	P	P	08 37 19.2	0.0
ALGO	Algonquin Park baz=325	41.78	83	P	P	08 37 18.4	-1.0
KLR KLR	Kul'dur comp=Z,1.0nm,1.0s	42.12	286	i P pmax	P pmax	08 37 23.1	+1.0
L47A	Sherwood baz=327	42.20	92	P	P	08 37 22.8	0.0
MSTX	Muleshoe baz=334	42.30	116	P	P	08 37 24.2	+0.2
PEMO	Pembroke baz=325	42.33	82	P	P	08 37 23.8	-0.1
O44A	Mansfield baz=328	42.42	97	P	P	08 37 24.2	-0.5
N46A	Monticello baz=328	42.49	95	P	P	08 37 24.9	-0.4
L48A	N Adams baz=327	42.53	92	P	P	08 37 25.2	-0.4
Q42A	Golden Eagle baz=329	42.66	100	P	P	08 37 26.8	+0.2
SFIN	Lafayette baz=328	42.78	95	P	P	08 37 27.4	-0.2
N47A	Urbana baz=328	42.92	94	P	P	08 37 28.7	0.0
WMOK	Wichita Mounta baz=333	43.09	111	P	P	08 37 30.2	0.0
N48A	Decatur baz=328	43.21	93	P	P	08 37 31.2	+0.1
ORIO	Orrans, Innes baz=326	43.21	81	P	P	08 37 31.1	0.0
P45A	Graceland, Par baz=329	43.24	97	P	P	08 37 30.7	-0.7
O47A	Sheridan baz=328	43.27	95	P	P	08 37 31.1	-0.5
ALFO	Alfred baz=326	43.31	80	P	P	08 37 31.2	-0.6
P46A	Rosedale baz=329	43.38	96	P	P	08 37 32.5	0.0
MNTX	Cornudas Mount baz=336	43.43	121	P	P	08 37 32.9	0.0
N49A	Columbus Grove baz=328	43.49	92	P	P	08 37 33.2	-0.2
Q45A	Warren Harvey, baz=329	43.62	98	P	P	08 37 34.6	+0.2
O48A	Farmland baz=328	43.67	94	P	P	08 37 34.7	0.0
OLIL	Olney comp=Z,14nm,0.9s	43.78	98	eP	P	08 37 34.9	-0.8
P47A	Martinsville baz=329	43.87	95	P	P	08 37 36.3	-0.2
U40A	Yellville baz=331	43.95	104	P	P	08 37 36.2	-1.0
N50A	Nevada baz=328	44.04	91	P	P	08 37 37.9	+0.1
O49A	Covington baz=328	44.05	93	P	P	08 37 38.0	+0.1
M52A	Chesterland baz=328	44.12	89	P	P	08 37 37.9	-0.5
S44A	Carbondale baz=330	44.22	100	P	P	08 37 38.9	-0.3
Q47A	Bedord North L baz=329	44.28	96	P	P	08 37 39.1	-0.6
O50A	Cable baz=328	44.38	92	P	P	08 37 40.5	-0.1
Q48A	North Vernon baz=329	44.56	95	P	P	08 37 41.5	-0.5
P50A	Jamestown baz=329	44.76	93	P	P	08 37 43.5	-0.1
S46A	Don Dixon Farm baz=330	44.84	98	P	P	08 37 43.0	-1.2
WCI	Wyandotte Cave comp=Z,7.9nm,0.8s	44.94	96	eP	P	08 37 44.5	-0.4
WCI WCI	Wyandotte Cave comp=Z,8.0nm,0.8s	44.94	96	eP pmax	P pmax	08 37 44.5	-0.4
WCI	Wyandotte Cave baz=329	44.94	96	P	P	08 37 44.6	-0.4
KIP KIP	Kipapa comp=Z,144nm,2.5s	45.22	191	ceP pmax	P pmax	08 37 49.5	+2.2
S47A	Hartford baz=330	45.25	97	P	P	08 37 46.8	-0.7
MIAR	Mount Ida baz=332	45.26	106	P	P	08 37 47.3	-0.2
O53A	New Philadelph baz=328	45.26	90	P	P	08 37 48.0	+0.4
T46A	Princeton baz=330	45.32	99	P	P	08 37 47.6	-0.5
R49A	Shelbyville baz=329	45.34	95	P	P	08 37 47.8	-0.3
Q51A	Peebles baz=329	45.44	93	P	P	08 37 48.8	-0.2
S48A	Wiedeman Farm, baz=330,SNR=6.6	45.53	96	P	P	08 37 49.4	-0.2
X40A	Basin Creek Fa baz=332	45.60	105	P	P	08 37 49.7	-0.5
O54A	Avella baz=328	45.66	89	P	P	08 37 50.1	-0.6
T47A	Sharon Grove baz=330	45.68	98	P	P	08 37 50.8	-0.1
S49A	Springfield baz=330	45.73	96	P	P	08 37 50.5	-0.7
U46A	Springville baz=330	45.80	99	P	P	08 37 51.9	+0.1
PKME	Peaks-Kenny Pk baz=326	45.83	76	P	P	08 37 50.5	-1.4
R51A	Hillsboro baz=329	45.97	94	P	P	08 37 53.5	+0.3
WHTX	Lake Whitney, baz=334	46.04	112	P	P	08 37 54.1	+0.4
U47A	Clarksville baz=330	46.08	98	P	P	08 37 54.1	+0.1
WVT	Waverly comp=Z,9.4nm,0.9s	46.14	99	eP	P	08 37 54.5	0.0
WVT WVT	Waverly comp=Z,9.0nm,0.9s	46.14	99	eP pmax	P pmax	08 37 54.5	0.0
WVT	Waverly baz=330	46.14	99	P	P	08 37 54.3	-0.2
LTX	Lajitas	46.18	120	eP	P	08 37 56.7	+1.6
LTX	Lajitas	46.18	120	eP	P	08 37 56.7	+1.6
TXAR	Lajitas Array comp=Z,1.8nm,0.7s,baz=334,slow=5.9,SNR=23	46.18	120	P	P	08 37 56.7	+1.6
TXAR TXAR	comp=Z,82nm,19.6s,baz=0.0,slow=38			LR	LR	08 58 47.3	
V46A	Holladay baz=331	46.31	100	P	P	08 37 54.9	-1.0
N57A	Milroy baz=328	46.31	86	P	P	08 37 55.3	-0.6
Q53A	Leroy baz=329	46.32	91	P	P	08 37 55.5	-0.5
U48A	Cassie Pea, Po baz=330	46.32	98	P	P	08 37 55.3	-0.7
V47A	Nunnelly baz=331	46.52	99	P	P	08 37 57.4	-0.1
JCT	Junction City baz=335	46.53	115	P	P	08 37 58.3	+0.6
S51A	Beattyville baz=330	46.53	94	P	P	08 37 56.7	-0.9
T50A	Nancy baz=330	46.56	96	P	P	08 37 57.7	-0.2
R53A	Hurricane baz=329	46.60	92	P	P	08 37 57.6	-0.6
U49A	Red Boiling Sp baz=330	46.62	97	P	P	08 37 58.2	-0.1
S52A	Salyersville baz=330	46.71	94	P	P	08 37 58.9	-0.1
OXF	Oxford baz=331	46.92	102	P	P	08 38 01.3	+0.6
W47A	Westpoint baz=330	46.99	100	P	P	08 38 00.8	-0.5
U50A	Jamestown baz=330	47.09	96	P	P	08 38 01.8	-0.2
V49A	McMinnville baz=330	47.22	98	P	P	08 38 03.0	0.0
T52A	Hallie baz=330	47.24	94	P	P	08 38 03.6	+0.5
U51A	La Follette baz=330	47.45	95	P	P	08 38 05.1	+0.3
TZTN	Tazewell baz=330	47.49	95	P	P	08 38 05.3	+0.2
T53A	Wise baz=330	47.52	94	P	P	08 38 05.3	-0.1
X47A	Russelville baz=331	47.53	100	P	P	08 38 05.4	0.0
V50A	Pikevile baz=330	47.63	97	P	P	08 38 06.0	-0.1
X48A	Hartselle baz=331	47.91	100	P	P	08 38 08.1	-0.3
U53A	Fall Branch baz=330	48.04	94	P	P	08 38 08.8	-0.6
Y48A	Jasper baz=332	48.33	100	P	P	08 38 11.5	-0.1
T56A	Rocky Mt baz=330	48.50	91	P	P	08 38 11.8	-1.1
U55A	TA2, Sparta baz=330	48.54	93	P	P	08 38 14.1	+0.8
V53A	Saluda baz=330	48.55	95	P	P	08 38 13.5	+0.1
W52A	Murphy baz=331	48.60	96	P	P	08 38 12.8	-0.9
Y49A	Blount Mountai baz=331	48.68	99	P	P	08 38 14.2	-0.1
V54A	Nebo baz=330	48.80	94	P	P	08 38 15.4	+0.1
Y50A	Piedmont baz=331	48.92	99	P	P	08 38 15.9	-0.3
U56A	King baz=330	48.94	92	P	P	08 38 15.8	-0.6
X52A	Dahlonega baz=331	49.04	96	P	P	08 38 16.9	-0.2
LRAL	Lakeview Retre baz=332	49.17	100	P	P	08 38 17.3	-0.7
Z49A	Columbiana baz=332	49.22	100	P	P	08 38 18.5	+0.1
W54A	Cherokee Point baz=331	49.31	95	P	P	08 38 19.2	+0.1
Z50A	Ashland baz=332	49.41	99	P	P	08 38 19.1	-0.8
Y52A	Lilburn comp=Z,14nm,0.9s	49.62	97	eP	P	08 38 22.2	+0.8
Y52A	Lilburn baz=331	49.62	97	P	P	08 38 21.7	+0.2
149A	Jones baz=332,SNR=9.3	49.64	101	P	P	08 38 22.0	+0.4
Y53A	Monroe baz=331	49.82	97	P	P	08 38 23.1	+0.1
150A	Eclectic baz=332	49.94	100	P	P	08 38 24.5	+0.6
249A	Camden baz=332	50.05	101	P	P	08 38 23.9	-0.9
X55A	Gracelyn & Ava baz=331	50.07	94	P	P	08 38 24.5	-0.4
Z52A	Williamson baz=332	50.07	98	P	P	08 38 24.9	0.0
250A	Grady baz=332	50.39	100	P	P	08 38 27.2	-0.2
Y55A	Saluda baz=331	50.44	95	P	P	08 38 27.1	-0.6
251A	Midway baz=332	50.63	99	P	P	08 38 28.1	-1.1
Z54A	Sparta baz=331	50.66	96	P	P	08 38 28.9	-0.4
SONA0	Songino Array	52.49	305	eP	P	08 38 44.1	+1.0
SONM	Songino Array comp=Z,0.9nm,0.5s,baz=43,slow=6.7,SNR=4.2	52.49	305	P	P	08 38 44.1	+1.0
FIA0	FINESS Array S	52.51	3	eP	P	08 38 42.5	-0.3
FIA0	FINESS Array S	52.51	3	eP	P	08 38 42.5	-0.3
FINES	FINESS Array B	52.51	3	ceP	P	08 38 44.9	+2.1
FINES FINES	comp=Z,1.0nm,0.6s			pmax	pmax		
FINES	FINESS Array B comp=Z,0.8nm,0.6s,baz=12,slow=9.8,SNR=5.6	52.51	3	P	P	08 38 42.5	-0.3
ZALV	Zalesovo Beam comp=Z,51nm,19.9s,baz=350,slow=40	53.28	323	LR	LR	09 04 38.3	
KSRS	Korea Array comp=Z,0.7nm,0.4s,baz=28,slow=5.5,SNR=3.0	53.51	281	P	P	08 38 52.1	+1.6
KS15	Wonju Array Si comp=Z,16nm,1.5s	53.54	281	eP	P	08 38 47.8	-3.0
HHC	Hu-ho-hao-te	56.80	296	eP	P	08 39 12.5	-1.9
BRVK	Borovoye	57.22	333	ceP	P	08 39 19.0	+2.0
BRVK BRVK	comp=Z,7.0nm,1.7s			pmax	pmax		
KURK	Kurchatov	57.72	326	i P	P	08 39 22.7	+2.1
KURK KURK	comp=Z,1.0nm,0.8s			pmax	pmax		
OBN	Obninsk	58.82	356	⇓eP	P	08 39 27.4	-0.8
OBN OBN				e pmax	pmax	08 41 37.9	
MK32	Makanchi Array	60.51	322	eP	P	08 39 39.1	-0.9
MKAR	Makanchi Array	60.51	322	ceP	P	08 39 41.5	+1.5
MKAR MKAR	comp=Z,1.0nm,0.5s			pmax	pmax		
MKAR	Makanchi Array comp=Z,0.7nm,0.5s,baz=40,slow=7.5,SNR=7.8	60.51	322	P	P	08 39 39.1	-0.9
MKAR MKAR	comp=Z,64nm,18.8s,baz=19,slow=39			LR	LR	09 08 51.0	
WMQ	Urumqi	61.84	316	eP	P	08 39 50.5	+1.4
ABKAR	Akbulak array comp=Z,3.3nm,0.9s	62.61	339	eP	P	08 39 54.7	+0.6
AKASG	Malin Array Be	63.32	1	i P	P	08 40 04.5	+5.7
AKASG	Malin Array Be comp=Z,0.4nm,0.3s,baz=2.1,slow=6.3,SNR=3.1	63.32	1	P	P	08 39 58.9	+0.1
AKBB	Malin Array Si comp=Z,8.2nm,1.4s	63.32	1	eP	P	08 40 00.3	+1.5
AKBB AKBB				pmax	pmax		
AKBB	Malin Array Si comp=Z,8.0nm,1.4s	63.32	1	eP	P	08 40 00.3	+1.5
LZH	Lanzhou	63.78	300	eP	P	08 39 59.8	-2.5
LZH LZH				pP sP	pP sP	08 40 03.3 08 40 06.0	-2.3 -0.8
LZH	Lanzhou	63.78	300	SS	SS	08 52 30.0	-14
AAK	Ala-Archa	66.28	326	ceP	P	08 40 20.5	+2.0
AAK AAK	comp=Z,2.0nm,1.3s			pmax	pmax		
KSH	Kashi	68.91	324	P	P	08 40 38.5	+3.5
KIV	Kislovodsk	69.68	351	eP	P	08 40 43.2	+3.5
KIV KIV	comp=Z,16nm,1.0s			pmax	pmax		
GEYT	Alibeck comp=Z,37nm,18.3s,baz=125,slow=39	73.96	338	LR	LR	09 17 43.3	
BR101	Keskin Array S	74.28	358	eP	P	08 41 05.9	-1.5
BRTR	Keskin Array B	74.28	358	i P	P	08 41 12.5	+5.1
BRTR BRTR	comp=Z,1.0nm,0.8s			pmax	pmax		
BRTR	Keskin Array B comp=Z,0.2nm,0.3s,baz=335,slow=9.5,SNR=2.0	74.28	358	P	P	08 41 05.9	-1.5
CM31	Chiang Mai Arr comp=Z,8.6nm,1.2s	81.61	297	eP	P	08 41 48.9	+0.7
CMAR	Chiang Mai Arr	81.61	297	i P	P	08 41 51.5	+3.3
CMAR CMAR	comp=Z,2.0nm,0.6s			pmax	pmax		
CMAR	Chiang Mai Arr comp=Z,1.6nm,0.7s,baz=1.9,slow=7.3,SNR=7.8	81.61	297	P	P	08 41 49.4	+1.1
CMAR CMAR	comp=Z,41nm,18.1s,baz=170,slow=38			LR	LR	09 21 49.7	

ISK ***25*** *09:03:06.1,38.°26N×38.°07E,h5km,ML1.7/3,Suspected Mining explosion.*
ISCJB ***25*** *09:03:07.3±0.9,38.°23N±0.°06×38.°10E±0.°05,h0km,Error ellipse: s-maj=8.6km s-min=4.4km az=24.9*
DDA ***25*** *09:03:08.3,38.°31N×38.°03E,h10km±1km,ML2.5*
ISC 25 09:03:06.5±0.9,38.°32N±0.°04×38.°20E±0.°04,h0km,n11, σ0.50/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	Akcadag	0.22	265	i P	Pg	09 03 10.5	-0.1
AKCD				i S	Sg	09 03 13.8	+0.3
HEKM	Malatya_Hekimh	0.59	342	i P	Pb	09 03 19.3	-0.6
HEKM				i S	Sb	09 03 28.8	-0.1
DARE	Darende-Malaty	0.62	295	PG	Pg	09 03 17.9	-0.4
DARE				SG	Sg	09 03 26.8	+0.5
ELBS	KAHRAMANMARAS	0.84	271	IAML_P			
ELBS	comp=Z,172nm,0.1s			i P	Pg	09 03 21.7	-0.8
SVRC	Sivrice-ELAZID	0.87	86	PG	Pn	09 03 26.1	-0.1
SVRC				SG	Sn	09 03 40.5	+0.8
KEMA	Kemaliye	0.98	14	IAML_P			
KEMA	comp=Z,220nm,0.1s			i P	Pb	09 03 26.3	-0.1
URFA	Urfa	1.00	150	PG	Pb	09 03 26.6	-0.2
GZT	Gaziantep	1.08	208	IAML_P			
GZT	comp=Z,749nm,0.1s			i P	Pn	09 03 29.0	-0.1
CUKAN	kangal_SIVAS	1.15	330	i P	Pn	09 03 30.1	+0.1
CUKAN				i S	Sn	09 03 47.6	+1.0
HCB	Kahramanmara	1.41	227	IAML_P			
HCB	comp=Z,286nm,0.2s			i P	Pb	09 03 33.5	-0.1
AYKD	Aykdinkavak	1.42	231	IAML_P			
	comp=Z,763nm,0.1s						

AYKD *i* P **Pb** **09 03 33.8 -0.1**

*ISCJB **25** 09:44:57.1±0.3, 5°.39S±0°.05×151°.76E±0°.05, h45km, mb4.6/42, MS3.7/14, Error ellipse: s-maj=7.8km s-min=5.3km az=41.7*
*IDC **25** 09:44:58.9±2.6, 5°.33S×151°.78E, h49km±23km, mb4.0/12, mb1 4.3/13, mb1mx3.9/42, mbtmp4.3/13, ML2.6/1, MS3.7/12, Ms1 3.8/12, ms1mx3.6/24, Error ellipse: s-maj=21.1km s-min=18.2km az=124.0*
*NEIC **25** 09:44:59.8±1.6, 5°.39S×151°.81E, h59km±2km, mb4.5/41, Error ellipse: s-maj=16.5km s-min=13.8km az=104.0*

ISC 25 09:44:58.5±0.4, 5°.39S±0°.06×151°.84E±0°.07, h45km, n80, σ1§25/76, mb4.6/42, MS3.7/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.23	15	*e*Pn	Pn	09 45 20.9	+1.6
MANU	Manus Island	5.56	306	*e*Pn	Pn	09 46 24.8	+6.0
PMG	Port Moresby	6.12	229	*e*Pn	Pn	09 46 28.2	+1.8
PMG				*e*Sn	Sn	09 47 36.7	+1.4
PMG	Port Moresby	6.12	229	P	Pn	09 46 28.0	+1.6
	9.1nm,0.3s,baz=40,slow=7.6,SNR=23						
PMG				S	Sn	09 47 34.9	-0.3
	12nm,0.3s,baz=144,slow=19,SNR=4.0						
HNR	Honiara	8.99	117	*e*Pn	Pn	09 47 07.7	+2.0
COEN	Coen	12.06	224	*e*Pn	Pn	09 47 49.0	+1.1
CTAO	Charters Tower	15.59	200	*e*Pn	Pn	09 48 35.4	+0.1
	18nm,1.3s						
FAKI	Fak Fak	19.69	276	*e*P	P	09 49 23.9	-0.3
	8.6nm,0.9s						
EIDS	Eidsvold	19.88	182	*e*P	P	09 49 26.0	-0.2
	20nm,0.9s						
GUMO	Guam	20.08	340	LR	LR	09 58 04.8	
	comp=Z,86nm,18.7s,baz=156,slow=39						
MTN	Manton Dam	21.73	249	*e*P	P	09 49 48.0	+1.8
	88nm,1.5s						
DZM	Mont Dzumac	21.79	141	*e*S	S	09 53 42.3	-3.3
	287nm,24.3s						
DZM				*e*LQ	LQ	09 54 09.2	
	444nm,27.1s						
DZM				*e*LR	LR	09 55 05.9	
	comp=Z,589nm,22.8s						
DZM	Mont Dzumac	21.79	141	*e*P	P	09 49 47.7	+0.9
	15nm,1.3s						
DZM	Mont Dzumac	21.79	141	P	P	09 49 49.2	+2.4
	5.3nm,0.9s,baz=288,slow=20,SNR=3.5						
DZM				LR	LR	09 57 25.4	
	comp=Z,410nm,20.0s,baz=307,slow=34						
WRAB	Tennant Creek	22.33	228	*e*P	P	09 49 52.8	+0.2
	26nm,0.8s						
AS31	Alice Springs	25.07	222	*e*P	P	09 50 19.2	+0.2
	6.8nm,0.9s						
AS31				*e*ScP	ScP	09 57 29.5	+1.0
ASAR	Alice Springs	25.08	222	P	P	09 50 19.9	+0.9
	12nm,0.8s,baz=55,slow=9.3,SNR=69						
ASAR				ScP	ScP	09 57 29.5	+1.0
	0.4nm,0.8s,baz=24,slow=5.1,SNR=3.1						
ASAR				LR	LR	09 59 47.7	
	comp=Z,197nm,20.1s,baz=86,slow=36						
SOEI	Soe	27.67	259	*e*P	P	09 50 42.0	-0.6
	133nm,1.6s						
STKA	Stephens Creek	28.05	199	*e*P	P	09 50 44.7	-0.9
	0.8nm,0.9s						
STKA	Stephens Creek	28.05	199	P	P	09 50 44.7	-0.9
	1.8nm,0.7s,baz=25,slow=16,SNR=3.2						
STKA				LR	LR	10 01 57.5	
	comp=Z,298nm,18.3s,baz=6.7,slow=36						
FITZ	Fitzroy Crossi	28.54	242	*e*P	P	09 50 50.2	+0.1
	16nm,1.1s						
FITZ	Fitzroy Crossi	28.54	242	P	P	09 50 49.7	-0.5
	9.2nm,0.8s,baz=18,slow=8.2,SNR=12						
FITZ				LR	LR	10 01 24.5	
	comp=Z,124nm,18.4s,baz=85,slow=35						
DAV	Davao City (W)	28.98	295	LR	LR	10 02 02.2	
	comp=Z,189nm,19.1s,baz=149,slow=35						
KAPI	Kappang	31.96	269	*e*P	P	09 51 20.6	+0.1
	8.8nm,1.0s						
FORT	Forrest	33.73	219	*e*P	P	09 51 35.7	-0.1
	16nm,0.8s						
PSAB2	Pilbara Seismi	34.89	240	*e*P	P	09 51 45.5	-0.4
	45nm,1.4s						
PSAA3	Pilbara Seismi	34.90	239	*e*P	P	09 51 44.6	-1.5
	23nm,1.2s						
PSAA2	Pilbara Seismi	34.91	240	*e*P	P	09 51 44.7	-1.4
	33nm,1.3s						
TWG	Pinlang	41.12	314	*e*P	P	09 52 39.9	+1.5
	242nm,0.3s						
MJAR	Matsushiro Arr	43.62	344	LR	LR	10 09 55.3	
	comp=Z,95nm,20.7s,baz=210,slow=34						
KSRS	Korea Array	48.10	334	LR	LR	10 14 41.4	
	comp=Z,26nm,18.2s,baz=156,slow=37						
NJ2	Nanjing	48.70	322	*e*P	P	09 53 39.0	+0.4
ENH	Enshi	53.86	314	*e*P	P	09 54 16.9	-0.4
	24nm,1.4s						
XAN	Xi'an	56.39	317	P	P	09 54 45.3	+10
CM31	Chiang Mai Arr	57.26	296	*e*P	P	09 54 40.6	-1.4
	9.5nm,1.4s						
CMAR	Chiang Mai Arr	57.26	296	P	P	09 54 42.6	+0.7
	0.8nm,0.4s,baz=123,slow=4.7,SNR=9.1						
CMAR				LR	LR	10 20 40.8	
	comp=Z,36nm,18.2s,baz=192,slow=38						
PPT2	Papeete2	58.47	107	*e*LR	LR	10 11 57.7	
	comp=Z,40nm,22.8s						
PETK	Petropavlovsk-	58.48	4	LR	LR	10 16 24.2	
	comp=Z,66nm,21.8s,baz=181,slow=32						
HHC	Hu-ho-hao-te	58.97	325	*e*P	P	09 54 55.3	+1.7
TBI	Tubuai	59.19	114	*e*LR	LR	10 12 25.6	
	comp=Z,236nm,34.8s						
SONA0	Songino Array	66.31	328	*e*P	P	09 55 43.1	+0.6
SONM	Songino Array	66.31	328	P	P	09 55 43.1	+0.6
	1.8nm,0.5s,baz=138,slow=7.2,SNR=8.7						
WMQ	Urumqi	75.53	318	*e*P	P	09 56 40.0	+1.6
MK31	Makanchi Array	80.14	319	*e*P	P	09 57 01.8	-2.1
	2.6nm,1.0s						
MK32	Makanchi Array	80.14	319	*e*P	P	09 57 03.5	-0.4
MKAR	Makanchi Array	80.14	319	P	P	09 57 03.5	-0.4
	2.1nm,0.9s,baz=116,slow=5.5,SNR=11						
MAKZ	Makanchi	80.35	319	*e*P	P	09 57 05.0	-0.1
	7.1nm,1.4s						
SML	Sawmill	81.05	25	*e*P	P	09 57 09.2	+0.7
	4.8nm,0.8s						
MLY	Manley	81.77	21	*e*P	P	09 57 11.8	-0.5
	2.1nm,0.7s						
KDJ	Kajisay	82.32	314	*e*P	P	09 57 16.4	+0.5
	6.7nm,0.8s						
CCB	Clear Creek Bu	82.65	22	*e*P	P	09 57 16.5	-0.3
	1.4nm,0.7s						
ILAR	Eielson Array	83.06	22	P	P	09 57 17.5	-1.5
	1.1nm,0.7s,baz=251,slow=5.2,SNR=14						
ILB	Eielson Array	83.06	22	*e*P	P	09 57 18.1	-0.8
	1.6nm,0.7s						
DOT	Dot Lake	83.65	24	*e*P	P	09 57 23.0	+0.9
	3.3nm,1.0s						
KURBB	Kurchatov Arra	83.67	322	P	P	09 57 21.2	-1.1
	0.9nm,0.7s,baz=120,slow=4.2,SNR=6.7						
BVAR	Borovoye Array	89.14	323	P	P	09 57 45.4	-3.7
	0.7nm,0.4s,baz=117,slow=5.3,SNR=6.1						
HUMO	Hull Mountain	90.08	47	*e*P	P	09 57 53.6	-0.2
	5.8nm,0.9s						
PINE	Pine Mountain	91.68	46	*e*P	P	09 58 00.2	-1.2
	10nm,1.0s						
I07A	Izee	92.74	46	*e*P	P	09 58 06.7	+0.4
	6.0nm,1.0s						
NV01	Mina Array Sit	93.20	52	*e*P	P	09 58 09.1	+0.5
NVAR	Mina Array Bea	93.20	52	P	P	09 58 09.1	+0.5
	2.5nm,0.8s,baz=254,slow=6.4,SNR=12						
NVAR				LR	LR	10 36 12.6	
	comp=Z,75nm,18.5s,baz=266,slow=33						
WVOR	Wild Horse Val	93.24	48	*e*P	P	09 58 08.4	-0.3
	5.4nm,1.1s						
NV11	Mina Array Sit	93.31	52	*e*P	P	09 58 09.8	+0.7
	0.3nm,1.0s						
J08A	Circle Bar Ran	93.43	47	*e*P	P	09 58 08.9	-0.5
	2.7nm,0.9s						
BMO	Blue Mountains	94.36	46	*e*P	P	09 58 12.8	-0.9
	3.6nm,1.1s						
F10A	Beach Ranch, E	94.48	44	*e*P	P	09 58 14.0	-0.2
	3.0nm,1.0s						
R11A	Troy Canyon, C	95.32	52	*e*P	P	09 58 17.4	-1.0
	2.7nm,1.2s						
SHPR	Sheep Range	95.58	54	*e*P	P	09 58 20.7	+1.1
	2.2nm,1.0s						
YKA	Yellowknife Ar	96.39	28	P	P	09 58 23.0	+0.6
	0.1nm,0.4s,baz=274,slow=4.9,SNR=3.3						
YKB5	Yellowknife Ar	96.39	28	*e*P	P	09 58 23.0	+0.6
TMUT	Trail Mountain	98.76	51	*e*P	P	09 58 33.2	-0.8
	2.7nm,1.0s						
PDAR	Pinedale Array	99.95	48	P	Pdif	09 58 38.9	-0.3
	1.0nm,0.9s,baz=248,slow=1.6,SNR=7.5						
PDAR				LR	LR	10 35 56.0	
	comp=Z,66nm,21.5s,baz=230,slow=31						
BR101	Keskin Array S	114.97	311	*e*PKiKP	PKiKP	10 03 32.5	-2.6
BRTR	Keskin Array B	114.97	311	PKP	PKiKP	10 03 32.5	-2.6
	0.3nm,0.5s,baz=132,slow=2.1,SNR=2.3						
GERES	GERESS Array B	124.04	328	PKP	PKPdf	10 03 51.9	-0.3
	0.5nm,0.4s,baz=50,slow=1.7,SNR=5.5						
EKA	Eskdalemuir Ar	126.31	343	PKP	PKPdf	10 03 56.0	-0.1
	0.3nm,0.4s,baz=13,slow=2.3,SNR=5.4						
TOA0	Torodi Ar. Sit	149.57	287	*e*PKPdf	PKPdf	10 04 39.4	-0.1
TOA0				*e*PKPbc	PKPbc	10 04 43.7	-0.5
TORD	Torodi Ar. Bea	149.57	287	PKPbc	PKPbc	10 04 41.9	-2.3
	6.7nm,0.8s,baz=115,slow=3.1,SNR=32						
TOA1	Torodi Ar. Sit	149.57	287	*e*PKPbc	PKPbc	10 04 41.9	-2.3
BDFB	Brasilia	151.31	137	PKPbc	PKPbc	10 04 48.1	-0.3
	1.5nm,0.5s,baz=248,slow=3.2,SNR=4.0						

KRSC 25 09:46:40.1±10.0, 54°.27N×155°.04E, h656km±10km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	Ganaly	1.81	107	*e*P	P	09 47 59.5	+0.6
APC	Apacha	1.84	136	*e*P	P	09 47 59.2	+0.3
KOK	Koryaka	2.35	113	*e*P	P	09 48 02.9	+2.0
AVH	Avacha	2.41	113	*e*P	P	09 48 04.5	+3.4
SMAR	Somma	2.45	113	*e*P	P	09 48 02.9	+1.4
UGLR	Uglovaya	2.48	114	*e*P	P	09 48 02.8	+1.3
SDLR	Sedlovína	2.49	112	*e*P	P	09 48 02.4	+0.9
RUS	Russkaya	2.78	130	*e*P	P	09 48 02.9	+0.2
SPN	Mys Shipunski	3.19	110	*e*P	P	09 48 05.3	+0.6
SPN				*e*S	S	09 49 12.7	-1.2
ALID	Alaid	3.42	175	*e*P	P	09 48 06.6	+0.2
MKZ	Mys Kozlova	3.92	83	*e*P	P	09 48 09.4	+0.5
MKZ				*e*S	S	09 49 19.6	-2.1
KBTR	Krutoberegovo	4.86	63	*e*P	P	09 48 15.6	+0.4

*IDC **25** 09:49:56.1±4.6, 37°.17N×72°.29E, h186km±35km, mb3.3/6, mb1 3.4/11, mb1mx3.1/57, mbtmp3.9/11, MS2.9/1, Ms1 2.8/1, ms1mx2.3/23, Error ellipse: s-maj=48.8km s-min=30.0km az=152.0*
*ISCJB **25** 09:49:58.5±0.6, 37°.47N±0°.04×72°.23E±0°.09, h200km, mb3.4/6, Error ellipse: s-maj=9.8km s-min=5.6km az=162.4*
*NNC **25** 09:50:03.7±3.7, 37°.78N×72°.19E, h179km±57km, mb3.1, mpv3.9, Error ellipse: s-maj=39.0km s-min=20.9km az=11.0*

ISC 25 09:49:58.8±0.8, 37°.45N±0°.08×72°.33E±0°.10, h200km, n32, σ1§61/34, mb3.5/6, 3C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.79	12	P	Pn	09 51 11.4	+0.5
	SNR=131						
UCH	Uchtor	5.06	19	P	Pn	09 51 15.2	+0.9
	SNR=73						
KZA	Kyzart	5.14	25	P	Pn	09 51 15.6	+0.3
	SNR=15						
EKS2	Erkin-Say	5.33	12	P	Pn	09 51 18.4	+1.0
	SNR=28						
AAK	Ala-Archa	5.44	17	P	Pn	09 51 20.0	+1.0
	SNR=36						
AAK	Ala-Archa	5.44	17	P	Pn	09 51 20.0	+1.0
	11nm,0.4s						
AAK				S	Sn	09 52 21.2	-1.1
	17nm,0.6s						
AAK	Ala-Archa	5.44	17	P	Pn	09 51 20.3	+1.3
	7.1nm,0.3s,baz=184,slow=5.0,SNR=72						
AAK				S	Sn	09 52 20.7	-1.6
	4.5nm,0.3s,baz=102,slow=20,SNR=11						
KBK	Karagaybulak	5.58	20	P	Pn	09 51 22.4	+1.7
	SNR=14						
ULHL	Ulahol	5.66	31	P	Pn	09 51 22.6	+0.8
	SNR=15						
KK31	Karatay Array	5.82	347	P	Pn	09 51 23.8	+0.2
	1.9nm,0.3s,baz=151,slow=11,SNR=53						
KK31				S	Sn	09 52 26.6	-4.2
	9.5nm,0.3s,baz=160,slow=26,SNR=25						
CHMS	Chumysh	5.85	18	P	Pn	09 51 25.4	+1.4
	SNR=19						
TKM2	Tokmak 2	6.01	24	P	Pn	09 51 27.4	+1.1
	SNR=21						
TKM2	Tokmak 2	6.01	24	⇑P	Pn	09 51 27.1	+0.8
	11nm,0.6s						
TKM2				⇑S	Sn	09 52 33.2	-2.4
	1.9nm,0.4s						
MKAR	Makanchi Array	11.90	35	P	Pn	09 52 42.2	-0.1
	0.1nm,0.3s,baz=220,slow=13,SNR=3.1						
PYUN	Piuthan	12.93	133	*e*P	P	09 52 56.1	-2.8
	6.1nm,0.3s						
DANN	Dangsing	13.20	130	*e*P	P	09 52 58.8	-3.3
	13nm,0.4s						
KOLN	Koldanda	13.53	132	*e*P	P	09 53 04.7	-0.9
	4.1nm,0.3s						
KURBB	Kurchatov Arra	13.90	17	P	Pn	09 53 08.8	+1.5
	0.1nm,0.3s,baz=205,slow=4.1,SNR=4.6						
PKI	Pulchoki	14.78	128	*e*P	P	09 53 20.2	+0.6
	3.1nm,0.2s						
AB31	Akbulak array	14.82	327	P	P	09 53 20.7	+1.1
	1.4nm,0.5s,baz=137,slow=12,SNR=28						
JIRN	Jiri	15.21	126	*e*P	P	09 53 25.6	+1.2
	11nm,0.3s						
RAMN	Ramite	15.96	127	*e*P	Pn	09 53 35.3	+2.3
	5.3nm,0.3s						
AKTO	Aktyubinsk	16.54	326	⇑P	Pn	09 53 41.1	+1.7
	4.1nm,0.5s						
AKTO	Aktyubinsk	16.54	326	P	Pn	09 53 40.4	+1.0
	1.3nm,0.3s,baz=122,slow=12,SNR=7.7						
ZALV	Zalesovo Beam	18.62	24	P	P	09 54 01.5	+0.5
	1.0nm,0.3s,baz=234,slow=13,SNR=5.0						
KBZ	Khabaz	23.14	295	LR	LR	10 06 58.7	
	comp=Z,29nm,18.6s,baz=270,slow=44						
FINES	FINESS Array B	37.30	325	P	P	09 56 51.6	+0.3
	0.5nm,0.3s,baz=120,slow=10,SNR=5.7						
ARCES	ARCESS Array B	40.69	337	P	P	09 57 19.5	+0.3
	5.8nm,1.1s,baz=114,slow=8.5,SNR=5.4						
HFS	Hagfors	42.99	321	P	P	09 57 38.5	+0.5
	1.7nm,0.6s,baz=99,slow=9.2,SNR=5.0						
NOA	NORSAR Array B	44.27	322	P	P	09 57 47.0	-1.2
	0.5nm,0.6s,baz=93,slow=7.6,SNR=3.3						
TORD	Torodi Ar. Bea	66.80	269	P	P	10 00 27.7	-1.5
	0.4nm,0.5s,baz=37,slow=6.3,SNR=7.2						
YKA	Yellowknife Ar	80.25	3	P	P	10 01 47.8	+1.1
	0.3nm,0.4s,baz=349,slow=5.3,SNR=6.3						

TAP 25 09:51:49.6, 21°.48N×121°.91E, h143km, ML3.5, 5D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.65	329	*e*P	Pn	09 52 11.2	+0.2
	baz=329						
TSEB	Hengchuen, Pin	1.03	294	P	Pn	09 52 14.9	+0.9
	baz=288						
TSEB				S	Sn	09 52 34.2	+1.7
	baz=288						
TWKBT	Hengchun	1.12	294	P	Pn	09 52 15.4	+0.6
	baz=292						
TWKBT				S	Sn	09 52 34.1	+0.1
	baz=292						
TWK1	Hengchun	1.13	294	P	Pn	09 52 15.3	+0.5
	baz=292						
TWK1				S	Sn	09 52 34.1	0.0
	baz=292						
HEN	Hengchun	1.21	296	*e*P	Pn	09 52 16.4	+0.8
	baz=288						
TAW	Tawu	1.29	313	*e*P	Pn	09 52 16.1	-0.3
	baz=316						
TAW				*e*S	Sn	09 52 35.8	-1.0
	baz=316						
EAST	Anshuo	1.34	312	⇓P	Pn	09 52 17.1	+0.1
	baz=313						
EAST				*e*S	Sn	09 52 38.0	+0.1
	baz=313						
TTN	Taitung	1.45	331	*e*P	Pn	09 52 18.7	+0.6
	baz=327						
SCZT	Fangliau	1.49	307	P	Pn	09 52 18.8	+0.2
	baz=307						
SCZT				*e*S	Sn	09 52 39.7	-1.0
	baz=307						
TWGBT	Beinan	1.54	330	P	Pn	09 52 18.8	-0.3
	baz=324						
TWGBT				*e*S	Sn	09 52 40.7	-0.9
	baz=324						
TWG	Pinlang	1.55	330	P	Pn	09 52 19.1	-0.1
	baz=324						
TWG				S	Sn	09 52 40.7	-1.1
	baz=324						
SSPT	Xinbi	1.60	309	P	Pn	09 52 20.1	+0.4
	baz=309						
SSPT				*e*S	Sn	09 52 42.9	+0.1
	baz=309						
MASBT	Mashibuluo	1.64	314	⇓P	Pn	09 52 20.6	+0.4
	baz=314						
MASBT				*e*S	Sn	09 52 42.5	-1.0
	baz=314						
WLCH	Liuqiu	1.67	302	P	Pn	09 52 22.2	+1.8
	baz=301						
WLCH				*e*S	Sn	09 52 46.5	+2.3
	baz=301						
TWP	Hsiaoliuchiu	1.68	301	*e*P	Pn	09 52 21.9	+1.3
	baz=294						
CHKT	Chengkung	1.69	343	*e*P	Pn	09 52 21.0	+0.3
	baz=346						
SSD	Sandimen	1.73	317	*e*P	Pn	09 52 21.5	+0.2
	baz=317						
ELDTW	Lidau	1.89	334	*e*P	Pn	09 52 24.2	+1.0
	baz=334						
SLGT	Liugui	1.91	322	P	Pn	09 52 23.7	+0.4
	baz=322						
SLGT				*e*S	Sn	09 52 49.2	0.0
	baz=322						
TWM1	Shoushan	1.92	314	*e*P	Pn	09 52 24.5	+1.1
	baz=321						
TWM1				*e*S	Sn	09 52 49.7	+0.3
	baz=321						
SNJT	Kaohsiung City	1.94	311	*e*P	Pn	09 52 24.1	+0.5
	baz=302						
TWF1	Yuli	1.95	343	*e*P	Pn	09 52 23.7	0.0
	baz=335						
TWF1				*e*S	Sn	09 52 50.2	+0.3
	baz=335						
STYT	Tauyuan	1.99	328	*e*P	Pn	09 52 24.3	0.0
	baz=320						
SGST	Jiashian	2.02	323	*e*P	Pn	09 52 25.1	+0.6
	baz=323						
SGST				*e*S	Sn	09 52 51.4	0.0
	baz=323						
HGSD	Ruisui	2.05	347	*e*P	Pn	09 52 25.9	+0.9
	baz=349						
CHN1	Nanshi	2.13	323	P	Pn	09 52 26.4	+0.6
	baz=323						
CHN1				S	Sn	09 52 53.7	-0.1
	baz=323						
WTP	Ta-pu	2.13	326	⇓P	Pn	09 52 26.3	+0.4
	baz=319						
WTP				*e*S	Sn	09 52 53.8	0.0
	baz=319						
TPUB	Ta-pu	2.17	327	⇓P	Pn	09 52 26.7	+0.3
	baz=320						
TPUB				*e*S	Sn	09 52 53.7	-0.9
	baz=320						
SNST	Tainan City	2.17	323	P	Pn	09 52 26.7	+0.3
	baz=323						
SNST				*e*S	Sn	09 52 54.4	-0.3
	baz=323						
YUS	Yu-Shan	2.19	336	*e*P	Pn	09 52 27.7	+0.6
	baz=335						
CHN4	Tsaushan	2.23	327	P	Pn	09 52 27.5	+0.4
	baz=320						
CHN4				*e*S	Sn	09 52 55.7	-0.2
	baz=320						
ESL	Shilin	2.37	349	*e*P	Pn	09 52 29.1	+0.4
	baz=342						
VWDT	VWDT	2.37	343	*e*P	Pn	09 52 30.3	+1.5
	baz=346						
VWDT				*e*S	Sn	09 52 58.5	-0.6
	baz=346						
CHN5	Tsauling	2.40	332	P	Pn	09 52 29.4	+0.2
	baz=325						
CHN5				*e*S	Sn	09 52 59.2	-0.5
	baz=325						
WHYT	Xinyi Township	2.41	336	*e*P	Pn	09 52 29.7	+0.3
	baz=327						
WHYT				*e*S	Sn	09 52 60.0	-0.1
	baz=327						
CHY	Chiayi	2.44	326	*e*P	Pn	09 52 29.8	+0.2
	baz=326						
SSLB	Suanglung	2.46	339	*e*P	Pn	09 52 29.5	-0.4
	baz=330						
OWD	Renai	2.56	345	*e*P	Pn	09 52 32.2	+1.0
	baz=344						
SMLT	Sun Moon Lake	2.57	339	*e*P	Pn	09 52 31.6	+0.2
	baz=330						
CHGB	Renai	2.66	345	*e*P	Pn	09 52 33.0	+0.4
	baz=350						
NACB	Ninganchiao	2.70	354	*e*P	Pn	09 52 32.8	-0.1
	baz=359						
WDGT	Dungji	2.74	311	*e*P	Pn	09 52 32.9	-0.5
	baz=311						
ETLH	Xiulin Townshi	2.74	352	*e*P	Pn	09 52 33.8	+0.3
	baz=346						
VCHM	Qimei	2.87	307	*e*P	Pn	09 52 34.4	-0.7
	baz=307						
VCHM				*e*S	Sn	09 53 08.7	-1.5
	baz=307						
WHP	Taichung City	2.92	342	*e*P	Pn	09 52 36.5	+0.6
	baz=334						
PHUB	P'eng-hu	2.96	313	⇓P	Pn	09 52 35.7	-0.5
	baz=319						
PHUB				S	Sn	09 53 09.9	-2.4
	baz=319						
PNG	Penghu	3.01	314	*e*P	Pn	09 52 36.4	-0.5
	baz=314						
TWQ1	Liyutan	3.04	340	*e*P	Pn	09 52 37.6	+0.3
	baz=340						
TWQ1				*e*S	Sn	09 53 15.2	+1.1
	baz=340						
NDT	Datong Townshi	3.13	353	*e*P	Pn	09 52 38.7	+0.3
	baz=358						
YHNB	Yeheng	3.21	351	*e*P	Pn	09 52 40.6	+1.0
	baz=358						
ILA	Ilan	3.27	357	*e*P	Pn	09 52 40.5	+0.3
	baz=357						

KRNET 25 09:51:54.0±0.1, 39°.21N×70°.91E, mb3.6, 10C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.74	69	⇑*i*P	Pg	09 52 08.6	+0.4
	baz=68						
DRK				⇑*i*S	Sg	09 52 18.2	+0.4
	baz=68						
BTK	Batken	0.85	355	⇑*e*P	Pg	09 52 10.5	+0.2
	baz=55						
BTK				⇑*i*S	Sg	09 52 21.3	+0.1
	baz=55						
ARSB	Arslanbob	2.64	36	⇓*i*P	Pn	09 52 39.1	+1.1
	baz=36						
ARSB				⇓*i*S	Sn	09 53 09.6	-1.2
	baz=36						
ARLS	Aral	3.71	43	⇑*i*P	Pn	09 52 53.6	+0.9
	baz=43						
ARLS				⇑*i*S	Sn	09 53 36.3	-0.9
	baz=43						
UCH	Uchtor	4.07	41	⇑*e*P	Pn	09 52 56.3	-1.6
	baz=41						
UCH				⇑*i*S	Sn	09 53 44.6	-1.9
	baz=41

SMAR	Somma	3.35 121	P	P	10 18 21.1	+2.3
SDLR	Sedlovina	3.39 121	P	P	10 18 20.7	+1.8
UGLR	Uglovaya	3.40 122	P	P	10 18 20.8	+1.9
DALK	Dalny	3.47 125	*e*P	P	10 18 20.8	+1.5
ASAK	Asacha	3.56 138	*e*P	P	10 18 21.1	+1.0
KZV	Kizimen	3.60 87	P	P	10 18 23.0	+2.7
RUS	Russkaya	3.77 133	P	P	10 18 21.7	+0.2
SPN	Mys Shipunski	4.06 117	P	P	10 18 23.7	+0.1
ALID	Alaid	4.34 167	*e*P	P	10 18 25.9	-0.2
MKZ	Mys Kozlova	4.49 94	P	P	10 18 26.3	-0.6
MKZ			S	S	10 19 33.5	-2.4
KBTR	Krutoberegovo	5.10 74	*e*P	P	10 18 32.6	+0.6
KBTR			S	S	10 19 43.8	-1.5

ISCJB ***25*** *10:21:52.7±1.2, 20°.3S±0°.4×179°.1W±0°.2, h645km, mb3.7/8, Error ellipse: s-maj=54.9km s-min=13.0km az=153.5*
IDC ***25*** *10:21:53.1±2.8, 20°.38S×179°.08W, h638km±32km, mb3.2/8, mb1 3.5/9, mb1mx3.2/31, mbtmp4.2/9, Error ellipse: s-maj=53.4km s-min=14.2km az=155.0*
ISC 25 10:21:53.5±1.2, 20°.4S±0°.4×179°.1W±0°.2, h645km, n14, σ0991/16, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.62**	**260**	P	**P**	**10 24 46.7**	**-0.7**
0.9nm,0.3s,baz=319,slow=24,SNR=23							
CTA	**Charters Tower**	**32.51**	**264**	P	**P**	**10 27 34.8**	**+0.5**
2.7nm,0.2s,baz=90,slow=12							
STKA	**Stephens Creek**	**36.93**	**244**	P	**P**	**10 28 10.3**	**-0.3**
1.2nm,0.7s,baz=49,slow=7.4,SNR=3.1							
ASAR	**Alice Springs**	**43.57**	**257**	P	**P**	**10 29 03.4**	**+0.1**
2.0nm,0.5s,baz=88,slow=8.8,SNR=34							
ASAR				PcP	**PcP**	**10 30 36.0**	**+0.1**
0.7nm,0.5s,baz=102,slow=3.6,SNR=8.2							
ASAR				S	**S**	**10 34 49.2**	**+1.1**
0.9nm,0.8s,baz=93,slow=16,SNR=6.4							
PETK	**Petropavlovsk-**	**75.94**	**346**	P	**P**	**10 32 35.8**	**0.0**
1.6nm,0.6s,baz=166,slow=2.4,SNR=4.3							
NVAR	**Mina Array Bea**	**81.65**	**44**	P	**P**	**10 33 07.1**	**+0.5**
1.3nm,0.6s,baz=226,slow=7.8,SNR=9.8							
TXAR	**Lajitas Array**	**87.85**	**58**	P	**P**	**10 33 37.4**	**+0.8**
1.3nm,0.8s,baz=220,slow=6.1,SNR=14							
ILAR	**Eielson Array**	**88.45**	**13**	P	**P**	**10 33 38.0**	**-0.4**
0.9nm,0.7s,baz=234,slow=6.6,SNR=4.4							
PDAR	**Pinedale Array**	**89.58**	**44**	P	**P**	**10 33 44.8**	**+0.2**
0.7nm,0.6s,baz=205,slow=3.1,SNR=7.5							
ARCES	**ARCESS Array B**	**128.65**	**349**	PKP	**PKPdf**	**10 39 47.4**	**-0.9**
2.6nm,0.9s,baz=35,slow=3.0,SNR=6.1							
FINES	**FINESS Array B**	**135.40**	**343**	PKP	**PKPdf**	**10 40 01.6**	**+0.4**
0.6nm,0.6s,baz=48,slow=2.1,SNR=4.6							
AKASG	**Malin Array Be**	**142.45**	**330**	PKP	**PKPdf**	**10 40 11.9**	**-2.5**
3.4nm,0.5s,baz=44,slow=4.6,SNR=10							
BRTR	**Keskin Array B**	**146.04**	**312**	PKPbc	**PKPbc**	**10 40 23.8**	**+0.5**
1.0nm,0.6s,baz=141,slow=3.9,SNR=6.4							
GERES	**GERESS Array B**	**149.84**	**343**	PKPbc	**PKPbc**	**10 40 33.1**	**+0.6**
0.7nm,0.5s,baz=80,slow=1.5,SNR=7.0							

NEIC ***25*** *10:32:54.5±1.7, 7°.51S×127°.92E, h100km, mb5.6/192, MW5.5, Error ellipse: s-maj=12.3km s-min=9.2km az=241.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}2.21; $M_{\theta\theta}$-0.80; $M_{\phi\phi}$-1.41; $M_{r\theta}$0.88; $M_{\theta\phi}$0.90; $M_{r\phi}$0.26; Best double couple: $M_0$2.30000×10^{17} NP1:ϕ_s127.00000°, δ52.00000°, λ67.00000°. NP2: ϕ_s341.00000°, δ44.00000°, λ116.00000°. Principal axes: T 2.5100, Plg72.0000°, Azm336.0000°; N -0.4400, Plg18.0000°, Azm141.0000°; P -2.0800, Plg4.0000°, Azm232.0000°;*
NEIC Felt at Darwin, Australia. Broadband depth 100 km.
MOS ***25*** *10:32:54.9±1.0, 7°.44S×127°.90E, h112km, mb5.6/63, MS4.4/6 Error ellipse: s-maj=8.2km s-min=4.8km az=109.8*
DJA ***25*** *10:32:56.7±0.2, 8°.S±2°.×12°.8E±°, h88km±4km, M5.6/50, mb5.7/50, mB5.9/37, MLv6.0/13, Mw(mB)5.5/37, Mwp6.2/2*
ISCJB ***25*** *10:32:56.6±0.4, 7°.65S±0°.02×127°.92E±0°.02, h135km±3km, mb5.4/243, Error ellipse: s-maj=3.5km s-min=2.7km az=141.0*
IDC ***25*** *10:32:56.3±0.5, 7°.51S×127°.91E, h111km±4km, mb5.1/33, mb1 5.0/33, mb1mx5.0/35, mbtmp5.4/33, MS4.1/23, Ms1 4.1/23, ms1mx4.0/38, Error ellipse: s-maj=10.5km s-min=7.4km az=62.0*
GCMT ***25*** *10:32:56.5±0.1, 7°.78S±0°.01×127°.97E±0°.01, h117km±1km, MW5.5/118, Moment Tensor Solution. s90, c135; s118, c229; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.97±.03; $M_{\theta\theta}$-1.04±.04; $M_{\phi\phi}$-0.92±.04; $M_{r\theta}$0.85±.03; $M_{\theta\phi}$0.72±.03; $M_{r\phi}$0.15±.03; Best double couple: $M_0$2.00400×10^{17} NP1:ϕ_s116.00000°, δ55.00000°, λ72.00000°. NP2:ϕ_s326.00000°, δ39.00000°, λ114.00000°. Principal axes: T 2.2260, Plg73.0000°, Azm339.0000°; N -0.4430, Plg14.0000°, Azm127.0000°; P -1.7820, Plg9.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
KLM ***25*** *10:33:04.0, 7°.53S×128°.02E, h192km, mb5.6*
ISC 25 10:32:56.7±0.3, 7°.65S±0°.03×127°.92E±0°.03, h121km±2km, h121km: pP-P, n1519, σ1837/1649, mb5.5/252, 46C-25D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.36**	**96**	*e*Pn	**Pn**	**10 33 47.4**	**-0.4**
SAUI				*e*Sn	Sn	10 34 18.5	-8.8
SAUI	**Saumlaki**	**3.36**	**96**	P	**Pn**	**10 33 46.8**	**-1.0**
SAUI				S	**Sn**	**10 34 23.4**	**-3.9**
BNDI	**Bandanaira**	**3.68**	**33**	P	**Pn**	**10 33 52.9**	**+0.9**
SOEI	**Soe**	**4.18**	**240**	*e*Pn	**Pn**	**10 33 59.3**	**+0.5**
SOEI	**Soe**	**4.18**	**240**	P	**Pn**	**10 33 59.4**	**+0.7**
BATI	**Baumata**	**4.92**	**239**	*e*Pn	**Pn**	**10 34 09.4**	**+0.9**
BATI				*e*Pn	**Pn**	**10 34 09.4**	**+0.9**
BATI				*e*Sn	**Sn**	**10 35 03.8**	**-0.8**
BATI				*e*Sn	**Sn**	**10 35 03.8**	**-0.8**
BATI	**Baumata**	**4.92**	**239**	P	**Pn**	**10 34 09.4**	**+0.9**
BATI				S	**Sn**	**10 35 03.8**	**-0.8**
MMRI	**Maumere**	**5.71**	**260**	*e*Pn	**Pn**	**10 34 20.2**	**+0.9**
MMRI	**Maumere**	**5.71**	**260**	P	**Pn**	**10 34 19.8**	**+0.5**
4μm,0.9s,31μm12μm15nm							
BBSI	**Bau Bau**	**5.74**	**292**	P	**Pn**	**10 34 23.3**	**+3.7**
364nm,1.4s,4μm1.7nm							
SANI	**Sanana**	**5.89**	**341**	P	**Pn**	**10 34 25.7**	**+4.1**
514nm,1.0s,5μm1.7nm							
MTN	**Manton Dam**	**6.05**	**149**	*e*Pn	**Pn**	**10 34 23.0**	**-0.9**
MTN	**Manton Dam**	**6.05**	**149**	P	**Pn**	**10 34 20.6**	**-3.3**
baz=5.8,SNR=1000							
FAKI	**Fak Fak**	**6.37**	**43**	*e*Pn	**Pn**	**10 34 28.0**	**-0.2**
FAKI	**Fak Fak**	**6.37**	**43**	P	**Pn**	**10 34 28.1**	**-0.2**
1μm,0.9s,12μm4.0nm							
KDI	**Kendari**	**6.42**	**304**	P	**Pn**	**10 34 31.6**	**+2.7**
246nm,0.8s,4μm0.8nm							
KDU	**Kakadu**	**6.72**	**139**	P	**Pn**	**10 34 29.8**	**-3.0**
baz=6.5,SNR=1000							
SWI	**Sorong**	**7.52**	**26**	P	**Pn**	**10 34 46.0**	**+2.3**
691nm,0.9s,8μm							
BSSI	**Bau Bau, Buton**	**7.53**	**281**	P	**Pn**	**10 34 46.0**	**+2.1**
643nm,0.6s,10μm2.7nm							
WSI	**Waingapu**	**7.80**	**255**	P	**Pn**	**10 34 46.8**	**-0.7**
7μm,0.5s,68μm45nm							
KNRA	**Kununurra**	**8.02**	**174**	P	**Pn**	**10 34 47.5**	**-2.9**
baz=7.9,SNR=1000							
BKSI	**Bulukumba**	**8.09**	**286**	P	**Pn**	**10 34 54.1**	**+2.7**
921nm,0.9s,9μm							
LUWI	**Luwuk**	**8.33**	**322**	*e*Pn	Pn	10 35 00.4	+5.7
LUWI	**Luwuk**	**8.33**	**322**	P	Pn	10 35 00.8	+6.1
353nm,1.1s,3μm1.1nm							
TNTI	**Ternate**	**8.38**	**356**	*e*Pn	**Pn**	**10 34 59.4**	**+4.0**
TNTI	**Ternate**	**8.38**	**356**	P	**Pn**	**10 34 59.7**	**+4.3**
135nm,1.3s,3μm0.8nm							
BNSI	**Bone**	**8.42**	**292**	P	**Pn**	**10 34 59.2**	**+3.4**
744nm,0.8s,8μm							
KAPI	**Kappang**	**8.53**	**287**	*e*Pn	**Pn**	**10 34 60.0**	**+2.6**
KAPI	**Kappang**	**8.53**	**287**	*e*P	**Pn**	**10 35 00.0**	**+2.6**
KAPI	**Kappang**	**8.53**	**287**	P	**Pn**	**10 34 59.8**	**+2.4**
19nm,0.3s,baz=135,slow=6.9,SNR=113							
KAPI				S	**Sn**	**10 36 36.0**	**+4.0**
baz=90,slow=17,SNR=1.1							
SPSI	**Sidrap Palu**	**8.90**	**294**	P	**Pn**	**10 35 05.1**	**+2.7**
193nm,0.7s,2μm							
KMSI	**Cibinong**	**9.06**	**334**	P	Pn	10 35 11.4	+6.8
292nm,0.9s,4μm							
APSI	**Ampana**	**9.16**	**317**	P	Pn	10 35 10.8	+4.9
218nm,0.9s,2μm							
TTSI	**Tana Toraja**	**9.27**	**299**	P	**Pn**	**10 35 11.6**	**+4.2**
272nm,1.0s,2μm							
MRSI	**Marisa**	**10.04**	**323**	P	Pn	10 35 22.6	+4.9
107nm,1.1s,1μm							
PLAI	**Plampang**	**10.11**	**263**	P	**Pn**	**10 35 18.8**	**+0.1**
1μm,0.9s,13μm							
FITZ	**Fitzroy Crossi**	**10.62**	**192**	*e*Pn	Pn	10 35 20.3	-5.2
FITZ				*e*		10 40 20.1	
FITZ	**Fitzroy Crossi**	**10.62**	**192**	P	Pn	10 35 20.6	-5.0
baz=10,SNR=731							
FITZ	**Fitzroy Crossi**	**10.62**	**192**	P	Pn	10 35 20.0	-5.6
36nm,0.3s,baz=24,slow=11,SNR=421							
FITZ				S	Sn	10 37 08.8	-14
185nm,0.3s,baz=32,slow=15,SNR=9.2							
FITZ				LR	LR	10 40 20.2	
comp=Z,2μm,19.2s,baz=12,slow=41							
MPSI	**Mapaga**	**11.27**	**314**	P	**Pn**	**10 35 38.8**	**+4.5**
80nm,0.9s,1μm							
SGSI	**Sangihe**	**11.51**	**348**	P	**Pn**	**10 35 40.9**	**+3.4**
960nm,0.9s,8μm							
SGKI	**Sangatta, Kali**	**12.48**	**304**	P	P	10 36 09.1	+12
SRBI	**Singaraja**	**12.60**	**267**	P	**Pn**	**10 35 50.2**	**-1.6**
BKB	**Balikpapan**	**12.69**	**299**	P	P	10 36 04.9	+5.6
SMKI	**Samarinda**	**12.86**	**303**	P	**P**	**10 36 02.2**	**+1.0**
213nm,1.4s,7μm							
GENI	**Genyem**	**13.19**	**68**	P	**Pn**	**10 35 58.1**	**-1.3**
288nm,1.1s,6μm							
JAGI	**Jajag, Banyuwa**	**13.66**	**266**	*e*Pn	**Pn**	**10 36 01.7**	**-3.9**
JAGI	**Jajag, Banyuwa**	**13.66**	**266**	P	**Pn**	**10 36 03.1**	**-2.5**
WRAB	**Tennant Creek**	**13.71**	**154**	*e*Pn	Pn	10 36 00.7	-5.5
WRAB	**Tennant Creek**	**13.71**	**154**	*e*P	Pn	10 36 01.2	-4.9
WRAB				pmax	pmax		
comp=Z,690nm,1.7s							
DDMP	**Don Marcelino,**	**13.84**	**351**	*e*P	**Pn**	**10 36 08.4**	**+0.5**
DDMP				*e*S	**S**	**10 38 52.3**	**-1.8**
KMMI	**Kalianget**	**13.86**	**272**	P	**P**	**10 36 10.5**	**-1.8**
comp=Z,52nm,0.9s,comp=Z,731nm							
SKMP	**Bagumbayan, Su**	**14.47**	**346**	*e*P	**Pn**	**10 36 16.2**	**+0.3**
MATI	**Mati**	**14.59**	**353**	*e*P	**P**	**10 36 19.2**	**-1.3**
MATI				*e*S	**S**	**10 39 12.3**	**+2.6**
MTKI	**Muara Teweh, K**	**14.59**	**297**	P	**P**	**10 36 24.1**	**+3.6**
comp=Z,160nm,1.0s,comp=Z,9μm							
DAV	**Davao City (W)**	**14.81**	**351**	*e*P	**P**	**10 36 23.4**	**+0.5**
DAV				*e*		10 43 38.2	
DAV	**Davao City (W)**	**14.81**	**351**	P	**Pn**	**10 36 16.7**	**-3.4**
DAV	**Davao City (W)**	**14.81**	**351**	Pn	**P**	**10 36 27.5**	**+4.7**
SNR=9.6							
DAV	**Davao City (W)**	**14.81**	**351**	P	**P**	**10 36 23.8**	**+1.0**
comp=Z,36nm,0.3s,baz=188,slow=2.6,SNR=12							
DAV				LR	LR	10 43 38.2	
comp=Z,680nm,18.2s,baz=156,slow=44							
DMPH	**Davao City--Mi**	**14.83**	**351⇑**	*e*P	**P**	**10 36 24.8**	**+1.6**
CTBH	**Cotabato--PC H**	**15.22**	**346‖**	*i*P	**P**	**10 36 28.0**	**+0.5**
GRJI	**Gresik**	**15.34**	**272**	P	**P**	**10 36 29.8**	**+1.0**
comp=Z,82nm,0.7s,comp=Z,967nm							
MBWA	**Marble Bar**	**15.59**	**210**	Pn	**Pn**	**10 36 27.5**	**-2.4**
SNR=40							
BUKP	**Musuan**	**15.69**	**349**	*e*P	**P**	**10 36 32.4**	**-0.3**
PSAD1	**Pilbara Seismi**	**15.79**	**209**	*e*Pn	**Pn**	**10 36 29.1**	**-3.4**
comp=Z,875nm,0.7s							
PSAC2	**Pilbara Seismi**	**15.85**	**208**	*e*Pn	**Pn**	**10 36 29.8**	**-3.4**
comp=Z,1μm,0.9s							
PSAB2	**Pilbara Seismi**	**15.87**	**209**	*e*Pn	**Pn**	**10 36 29.9**	**-3.4**
comp=Z,1μm,0.8s							
PSAC1	**Pilbara Seismi**	**15.87**	**209**	*e*Pn	**Pn**	**10 36 30.0**	**-3.4**
comp=Z,1μm,0.7s							
PSAD2	**Pilbara Seismi**	**15.87**	**208**	*e*Pn	**Pn**	**10 36 29.7**	**-3.7**
comp=Z,857nm,0.9s							
PSAA2	**Pilbara Seismi**	**15.88**	**209**	*e*Pn	**Pn**	**10 36 30.2**	**-3.2**
comp=Z,1μm,0.7s							
PSA00	**Pilbara Seismi**	**15.89**	**209**	*e*Pn	**Pn**	**10 36 30.2**	**-3.4**
comp=Z,1μm,0.7s							
PSAA3	**Pilbara Seismi**	**15.89**	**209**	*e*Pn	**Pn**	**10 36 30.2**	**-3.4**
comp=Z,1μm,0.9s							
PSAA1	**Pilbara Seismi**	**15.90**	**209**	*e*Pn	**Pn**	**10 36 30.0**	**-3.7**
comp=Z,1μm,0.7s							
PSAB1	**Pilbara Seismi**	**15.90**	**209**	*e*Pn	**Pn**	**10 36 30.3**	**-3.4**
comp=Z,2μm,1.0s							
PSAB3	**Pilbara Seismi**	**15.90**	**208**	*e*Pn	**Pn**	**10 36 30.4**	**-3.4**
comp=Z,1μm,0.8s							
PSAC3	**Pilbara Seismi**	**15.94**	**209**	*e*Pn	**Pn**	**10 36 30.7**	**-3.5**
comp=Z,1μm,0.9s							
PWJI	**Pagerwojo**	**15.97**	**268**	P	**P**	**10 36 35.8**	**0.0**
comp=Z,153nm,0.6s							
PSAD3	**Pilbara Seismi**	**15.98**	**209**	*e*Pn	**Pn**	**10 36 31.2**	**-3.5**
comp=Z,1μm,1.0s							
PAGZ	**Pagadian**	**16.05**	**344**	*e*P	**P**	**10 36 38.1**	**+1.5**
COEN	**Coen**	**16.23**	**114**	*e*Pn	**Pn**	**10 36 34.3**	**-3.6**
comp=Z,231nm,0.9s							
COEN	**Coen**	**16.23**	**114**	P	**Pn**	**10 36 35.2**	**-2.7**
baz=16,SNR=51							
PALU	**Palau**	**16.26**	**24**	P	**P**	**10 36 40.6**	**+1.6**
baz=16,SNR=58							
CGP	**Cagayan de Oro**	**16.32**	**349‖**	*e*P	**P**	**10 36 44.1**	**+4.5**
NGJI	**Ngawi**	**16.32**	**270**	P	**P**	**10 36 40.0**	**+0.3**
comp=Z,106nm,0.9s							
BUTP	**Butuan**	**16.67**	**352**	*e*P	**P**	**10 36 45.2**	**+1.7**
DCPH	**Dipolog City**	**16.75**	**344‖**	*e*P	P	10 36 53.8	+9.3
WOJI	**Wonogiri, Jawa**	**16.85**	**268**	P	**Pn**	**10 36 42.1**	**-3.3**
AS31	**Alice Springs**	**16.93**	**161**	*e*Pn	**P**	**10 36 43.2**	**-3.2**
comp=Z,84nm,0.6s							
AS31				*e*		10 43 53.1	
ASAR	**Alice Springs**	**16.93**	**161**	P	**P**	**10 36 42.9**	**-3.5**
comp=Z,30nm,0.3s,baz=332,slow=10,SNR=446							
ASAR				S	Sn	10 39 41.4	-14
comp=Z,57nm,0.3s,baz=321,slow=17,SNR=10							
ASAR				LR	LR	10 43 53.1	
comp=Z,964nm,18.5s,baz=347,slow=38							
QIS	**Mount Isa**	**17.10**	**140**	P	**P**	**10 36 45.3**	**-3.0**
baz=17,SNR=94							
UGM	**Wanagama**	**17.24**	**268**	*e*P	**P**	**10 36 48.8**	**-1.2**
comp=Z,303nm,1.1s							
WRKA	**Warakurna**	**17.30**	**179**	P	**P**	**10 36 47.6**	**-2.8**
baz=17,SNR=227							
SMRI	**Semarang**	**17.35**	**271**	*e*P	**P**	**10 36 50.8**	**-0.3**
comp=Z,192nm,1.2s							
MSLP	**Maasin**	**17.93**	**350**	*e*P	**Pn**	**10 37 00.7**	**+2.3**
LLP	**Lapu-Lapu**	**18.28**	**347**	*e*P	**Pn**	**10 37 03.5**	**+0.9**
SBUM	**Sibu**	**18.60**	**302**	P	**Pn**	**10 37 09.0**	**+2.5**
PLP	**Palo**	**18.92**	**351⇑**	*e*P	**Pn**	**10 37 11.3**	**+1.2**
PMG	**Port Moresby**	**19.10**	**97**	*e*P	**P**	**10 37 10.3**	**+0.1**
comp=Z,1μm,1.5s							
PMG	**Port Moresby**	**19.10**	**97**	*e*P	**P**	**10 37 10.3**	**+0.1**
PMG				pmax	pmax		
comp=Z,1μm,1.5s							
PMG	**Port Moresby**	**19.10**	**97**	P	**Pn**	**10 37 13.3**	**+0.9**
comp=Z,13nm,0.3s,baz=202,slow=2.6,SNR=28							
PMG				S	**S**	**10 40 33.9**	**-6.8**
comp=Z,3.7nm,0.3s,baz=7.7,slow=23,SNR=8.9							
KSM	**Kuching**	**19.77**	**297**	*e*P	**P**	**10 37 18.8**	**+1.3**
comp=Z,282nm,1.1s							
KSM	**Kuching**	**19.77**	**297**	P	**Pn**	**10 37 20.0**	**-0.2**
GIRL	**Giralia**	**19.89**	**220**	*e*P	**Pn**	**10 37 20.8**	**-0.7**
comp=Z,1μm,0.9s							
GIRL	**Giralia**	**19.89**	**220**	P	**Pn**	**10 37 20.7**	**-0.7**
baz=20,SNR=67							
CISI	**Cisompet, Garu**	**19.93**	**269**	*e*P	**P**	**10 37 19.7**	**+0.4**
comp=Z,149nm,0.7s							
CISI	**Cisompet, Garu**	**19.93**	**269**	P	**P**	**10 37 20.0**	**+0.7**
comp=Z,212nm,0.8s							
MANU	**Manus Island**	**20.15**	**75**	*e*P	**P**	**10 37 22.7**	**+1.1**
comp=Z,224nm,1.1s							
LEM	**Lembang**	**20.16**	**271**	P	Pn	10 37 23.7	-1.2
comp=Z,55nm,0.7s,baz=70,slow=9.4,SNR=9.4							
LEM				S	**S**	**10 40 54.1**	**-7.8**
comp=Z,16nm,0.4s,baz=330,slow=20,SNR=2.3							
LEM				LR	LR	10 47 13.0	
comp=Z,837nm,18.6s,baz=100,slow=42							
CNP	**Catarman**	**20.29**	**351**	*e*P	**P**	**10 37 24.4**	**+1.5**
ENPP	**El Nido**	**20.55**	**336**	*e*P	**P**	**10 37 27.3**	**+1.5**
ENPP				*e*S	**S**	**10 41 14.4**	**+5.2**
OTRP	**Odiongan**	**20.73**	**344**	*e*P	**P**	**10 37 29.3**	**+1.6**
CBJI	**Citeko**	**20.95**	**272**	P	**P**	**10 37 28.7**	**-1.5**
BUSP	**Coron**	**20.98**	**338**	*e*P	**P**	**10 37 32.4**	**+1.9**
SJMP	**San Jose**	**21.09**	**341**	*e*P	**P**	**10 37 34.3**	**+2.7**
SJMP				*e*S	**S**	**10 41 26.6**	**+7.0**
PVCP	**Virac**	**21.43**	**350**	*e*P	**P**	**10 37 36.0**	**+0.7**
PVCP				*e*S	**S**	**10 41 32.1**	**+5.9**
AUQP	**San Andres**	**21.48**	**346**	*e*P	**P**	**10 37 38.9**	**+3.1**
CTA	**Charters Tower**	**21.64**	**127**	P	**P**	**10 37 38.1**	**+0.6**
comp=Z,26nm,0.6s,baz=299,slow=13,SNR=43							
CTA				S	**S**	**10 41 31.9**	**+1.8**
comp=Z,20nm,0.6s,baz=133,slow=20,SNR=9.6							
CTA				LR	LR	10 46 55.2	
comp=Z,3μm,18.0s,baz=309,slow=39							
CTAO	**Charters Tower**	**21.64**	**127**	*e*P	**P**	**10 37 38.3**	**+0.8**
comp=Z,86nm,0.8s							
CTAO	**Charters Tower**	**21.64**	**127**	*e*P	**P**	**10 37 38.3**	**+0.8**
CTAO				pmax	pmax		
comp=Z,86nm,0.8s							
XMIS	**Christmas Isla**	**22.17**	**261**	*e*P	**P**	**10 37 42.8**	**-0.4**
comp=Z,175nm,1.0s							
LUBP	**Lubang**	**22.57**	**340**	*e*P	**P**	**10 37 48.1**	**+1.0**
LUBP				*e*S	**S**	**10 41 44.5**	**-1.1**
POLP	**Polillo Island**	**23.01**	**345**	*e*P	**P**	**10 37 51.2**	**-0.1**
FORT	**Forrest**	**23.01**	**180**	*e*P	**P**	**10 37 52.3**	**+1.0**
comp=Z,377nm,0.8s							
FORT	**Forrest**	**23.01**	**180**	P	**P**	**10 37 51.6**	**+0.4**
baz=23,SNR=80							
MORW	**Morawa**	**24.07**	**206**	*e*P	**P**	**10 38 01.8**	**+0.9**
comp=Z,342nm,1.0s							
MORW	**Morawa**	**24.07**	**206**	P	**P**	**10 38 01.4**	**+0.5**
baz=24,SNR=95							
KMBL	**Kambalda**	**24.26**	**193**	P	**P**	**10 38 03.2**	**+0.5**
baz=24,SNR=91							
RABL	**Rabaul**	**24.35**	**83**	*e*P	**P**	**10 38 03.4**	**-0.2**
comp=Z,257nm,1.2s							
SCZP	**Santa Cruz**	**24.59**	**341**	*e*P	**P**	**10 38 04.7**	**-1.0**
SMPP	**San Manuel, Pa**	**24.71**	**343**	*e*P	**P**	**10 38 06.4**	**-0.4**
JMBI	**JAMBI**	**24.92**	**283**	P	**P**	**10 38 11.7**	**+2.9**
comp=Z,256nm,0.9s							
BLDU	**Ballidu**	**25.15**	**203**	P	**P**	**10 38 11.2**	**+0.5**
baz=25,SNR=91							
BOLP	**Bolinao**	**25.16**	**342**	*e*P	**P**	**10 38 10.5**	**-0.3**
KLBR	**Kellerberrin**	**25.64**	**200**	P	**P**	**10 38 16.0**	**+0.9**
baz=26,SNR=34							
MYKOM	**Kota Tinggi**	**25.78**	**290**	*e*P	**P**	**10 38 17.4**	**+0.8**
comp=Z,169nm,1.2s							
MYKOM	**Kota Tinggi**	**25.78**	**290**	P	**P**	**10 38 18.0**	**+1.4**
BBOO	**Buckleboo**	**26.15**	**164**	*e*P	**P**	**10 38 20.2**	**+0.4**
comp=Z,149nm,1.0s							
BBOO	**Buckleboo**	**26.15**	**164**	P	**P**	**10 38 20.1**	**+0.4**
baz=26,SNR=36							
APYP	**Conner**	**26.19**	**345**	*e*P	**P**	**10 38 18.7**	**-1.5**
MUN	**Mundaring**	**26.55**	**203**	P	**P**	**10 38 23.9**	**+0.5**
baz=26,SNR=13							
GUMO	**Guam**	**26.99**	**39**	*e*P	**P**	**10 38 26.4**	**-1.0**
comp=Z,187nm,0.8s							
GUMO	**Guam**	**26.99**	**39**	*e*P	**P**	**10 38 26.4**	**-1.0**
GUMO				pmax	pmax		
comp=Z,187nm,0.8s							
GUMO	**Guam**	**26.99**	**39**	P	**P**	**10 38 26.8**	**-0.6**
comp=Z,217nm,0.8s,baz=169,slow=4.3,SNR=15							
NWAO	**Narrogin (SRO)**	**27.04**	**200**	*e*P	**P**	**10 38 28.1**	**+0.4**
comp=Z,115nm,0.8s							
NWAO	**Narrogin (SRO)**	**27.04**	**200**	*e*P	**P**	**10 38 28.1**	**+0.4**
NWAO				pmax	pmax		
comp=Z,115nm,0.8s							
RMQ	**Roma**	**27.26**	**136**	P	**P**	**10 38 30.0**	**+0.3**
baz=27,SNR=14							
STKA	**Stephens Creek**	**27.27**	**154**	*e*P	**P**	**10 38 30.3**	**+0.6**
comp=Z,28nm,0.8s							
STKA				*e*S	**S**	**10 43 05.8**	**+5.6**
STKA				*e*		10 50 39.2	
STKA	**Stephens Creek**	**27.27**	**154**	P	**P**	**10 38 30.3**	**+0.6**
baz=27,SNR=91							
STKA	**Stephens Creek**	**27.27**	**154**	*e*P	**P**	**10 38 30.3**	**+0.6**
STKA				*e*S	**S**	**10 43 05.8**	**+5.6**
STKA				pmax	pmax		
comp=Z,28nm,0.8s							
STKA	**Stephens Creek**	**27.27**	**154**	P	**P**	**10 38 30.2**	**+0.6**
comp=Z,64nm,0.6s,baz=327,slow=9.1,SNR=263							
STKA				PcP	**PcP**	**10 41 47.4**	**+0.7**
comp=Z,37nm,0.5s,baz=347,slow=4.9,SNR=3.6							
STKA				S	**S**	**10 43 05.8**	**+5.6**
comp=Z,15nm,0.5s,baz=9.5,slow=18,SNR=1.5							

TOO	Toolangi	33.78	154	eP		P	10 39 28.7 +1.6
	comp=Z,159nm,1.2s						
TOO	Toolangi	33.78	154	eP		P	10 39 28.7 +1.6
TOO					pmax	pmax	
	comp=Z,159nm,1.2s						
SKNT	Sakolnakorn	34.05	316	P		P	10 39 31.1 +1.6
	comp=Z,52nm,0.8s						
JOW	Kunigami	34.28	1	eP		P	10 39 29.7 -1.7
	comp=Z,234nm,1.1s						
KHON	Khomkaen	34.42	314	P		P	10 39 36.0 +3.2
	comp=Z,77µm,0.8s						
CHAI	Chaiyaphum	34.74	312	P		P	10 39 37.1 +1.5
	comp=Z,40µm,0.8s,comp=Z,495µm						
PBKT	Sadao Pong	35.92	312	P		P	10 39 47.9 +2.3
	comp=Z,7.2nm,1.5s						
SRDT	SRDT	35.97	307	P		P	10 39 48.8 +2.7
	comp=Z,39nm,1.6s,comp=Z,610nm						
UTTA	Uttaradit	36.98	313	P		P	10 39 55.8 +1.2
	comp=Z,52µm,1.0s,comp=Z,405µm						
SLVN	Son La	37.22	321	eP		P	10 39 56.8 +0.1
	comp=Z,98nm,1.1s						
UMPA	Umpang Tak	37.27	310	P		P	10 39 59.4 +2.2
	comp=Z,58µm,0.9s						
PHRA	Phrae	37.70	314	P		P	10 40 03.7 +3.0
	comp=Z,2.7nm,2.3s						
LAMP	Lampang	38.15	313	P		P	10 40 06.4 +1.9
	comp=Z,52µm,1.0s,comp=Z,472µm						
PAYA	Payao	38.53	315	P		P	10 40 09.9 +2.2
	comp=Z,25µm,1.1s						
CM31	Chiang Mai Arr	38.61	313	eP		P	10 40 08.2 -0.1
	comp=Z,40nm,1.0s						
CM31				eS		S	10 45 56.7 +0.8
CM31	Chiang Mai Arr	38.61	313	P		P	10 40 10.1 +1.7
	SNR=13						
CMAR	Chiang Mai Arr	38.61	313	P		P	10 40 09.2 +0.9
	comp=Z,12nm,0.6s,baz=142,slow=7.0,SNR=45						
CMAR				pP		pP	10 40 34.5 +0.5
	comp=Z,20nm,1.0s,baz=145,slow=6.9,SNR=4.1						
CMAR				PcP		PcP	10 42 19.1 +0.7
	comp=Z,25nm,1.0s,baz=170,slow=2.6,SNR=8.4						
CMAR				ScP		S	10 45 56.7 +0.8
	comp=Z,3.4nm,0.9s,baz=158,slow=2.7,SNR=6.2						
CMMT	Chiang Mai	38.83	313	P		P	10 40 10.9 +0.7
	comp=Z,29nm,1.3s,comp=Z,568nm						
CHTO	Chiang Mai	38.83	313	eP		P	10 40 10.7 +0.5
	comp=Z,92nm,1.4s						
CHTO	Chiang Mai	38.83	313	eP		P	10 40 10.7 +0.5
CHTO				pmax		pmax	
	comp=Z,92nm,1.4s						
CHTO	Chiang Mai	38.83	313	P		P	10 40 12.8 +2.6
	SNR=15						
SSE	Sheshan	39.06	351	P		P	10 40 12.8 +0.9
SSE				S		S	10 46 04.5 +2.2
SSE				pmax		pmax	
	comp=Z,52nm,0.7s						
SSE				LR		LR	
	comp=Z,97nm,20.1s						
SSE				LR		LR	
	comp=Z,140nm,17.5s						
GYA	Guiyang	39.69	329⇑	iP		P	10 40 18.0 +0.6
GYA				pP		pwP	10 40 48.5 -0.6
GYA				sP		sP	10 40 59.5 +3.1
GYA				PP		PnPn	10 41 54.0 -1.4
GYA				PcP		PcP	10 42 22.3 +0.4
GYA				S		S	10 46 11.3 -0.8
GYA				pmax		pmax	
	comp=Z,60nm,1.0s						
GYA				pmax		pmax	
	comp=Z,360nm,7.8s						
GYA				LR		LR	
	comp=Z,440nm,18.3s						
GYA				LR		LR	
	comp=Z,280nm,19.5s						
GYA				LR		LR	
	comp=Z,530nm,15.5s						
DZM	Mont Dzumac	39.76	115	eP		P	10 40 19.2 +1.2
	comp=Z,254nm,1.3s						
DZM	Mont Dzumac	39.76	115	eLR		LR	10 51 30.3
	comp=Z,2µm,28.3s						
DZM	Mont Dzumac	39.76	115	eP		P	10 40 18.5 +0.5
	comp=Z,257nm,1.5s						
DZM	Mont Dzumac	39.76	115	P		P	10 40 19.1 +1.1
	comp=Z,67nm,0.9s,baz=274,slow=7.3,SNR=35						
ONTNC	Ouen Toro	39.83	116	eP		P	10 40 18.5 +0.1
	comp=Z,352nm,1.4s						
PBA	Port Blair	39.90	298	eP		P	10 40 18.1 -1.0
PBA				IAmb		IAmb	10 40 20.9
	comp=Z,89nm,0.7s						
WHN	Wuhan	40.15	342	⇑P		P	10 40 22.3 +1.4
WHN				pP		pP	10 40 48.8 +1.8
WHN				PP		PnPn	10 42 01.8 +1.3
WHN				S		S	10 46 20.5 +2.0
WHN				pmax		pmax	
	comp=Z,820nm,1.3s						
WHN				LR		LR	
	comp=Z,490nm,16.0s						
NJ2	Nanjing	40.41	348⇑	iP		P	10 40 24.0 +0.9
NJ2				pmax		pmax	
	comp=Z,140nm,1.3s						
DGPR	DIGLIPUR	40.45	301	eP		P	10 40 23.0 -0.6
JNU	Nakatsue	40.64	4	eP		P	10 40 24.3 -0.7
	comp=Z,147nm,1.1s						
JNU	Nakatsue	40.64	4	P		P	10 40 24.6 -0.4
	comp=Z,80nm,1.0s,baz=182,slow=3.2,SNR=28						
KMI	Kunming	40.77	324	P		P	10 40 28.3 +1.8
KMI				pP		pP	10 40 53.8 +1.5
KMI				sP		sP	10 41 05.5 0.0
KMI				S		S	10 46 29.8 +1.3
KMI				sS		sS	10 47 14.0 -0.5
KMI				SS		SS	10 49 32.5 -1.9
KMI				pmax		pmax	
	comp=Z,140nm,1.3s						
KMI				pmax		pmax	
	comp=Z,640nm,4.8s						
KMI				LR		LR	
	comp=Z,430nm,17.8s						
KMI				LR		LR	
	comp=Z,230nm,21.1s						
KMI				LR		LR	
	comp=Z,690nm,36.8s						
KMI	Kunming	40.77	324	eP		P	10 40 28.2 +1.8
	comp=Z,254nm,1.4s						
KMI	Kunming	40.77	324	eP		P	10 40 28.2 +1.8
KMI				pmax		pmax	
	comp=Z,254nm,1.4s						
PINNC	Pines Island,	40.79	116	eP		P	10 40 28.0 +1.6
	comp=Z,280nm,1.0s						
MARNC	Mare, Loyalty	41.04	114	eP		P	10 40 28.2 -0.2
	comp=Z,1µm,1.6s						
ENH	Enshi	41.65	336	eP		P	10 40 33.6 +0.3
	comp=Z,191nm,1.6s						
INU	Inuyama	43.62	11	eP		P	10 40 48.6 -0.4
	comp=Z,55nm,1.2s						
TJN	Taejon	43.79	359	ceP		P	10 40 50.6 +0.2
CD2	Chengdu	44.79	330	P		P	10 40 59.0 +0.4
CD2				PP		PP	10 42 42.8 -2.8
CD2				S		S	10 47 23.0 -3.8
CD2				pmax		pmax	
	comp=Z,80nm,1.3s						
CD2				pmax		pmax	
	comp=Z,850nm,5.4s						
CD2				LR		LR	
	comp=Z,610nm,21.1s						
CD2				LR		LR	
	comp=Z,680nm,20.1s						
CD2				LR		LR	
	comp=Z,500nm,19.0s						
TIA	Tai'an	44.79	348	P		P	10 40 58.5 +0.1
TIA				pmax		pmax	
	comp=Z,72nm,1.2s						
KS15	Wonju Array Si	44.85	360	eP		P	10 40 59.6 +0.7
	comp=Z,616nm,2.0s						
KS15				eScP		ScP	10 46 20.8 +0.8
KS15				e			10 58 30.3
KSRS	Korea Array	44.87	360	P		P	10 40 59.7 +0.8
	comp=Z,36nm,0.6s,baz=178,slow=10.0,SNR=244						
KSRS				PcP		PcP	10 42 39.2 +0.6
	comp=Z,5.8nm,0.9s,baz=177,slow=4.2,SNR=4.2						
KSRS				ScP		ScP	10 46 20.8 +0.8
	comp=Z,0.9nm,0.9s,baz=186,slow=3.8,SNR=4.3						
KSRS				LR		LR	10 58 30.3
	comp=Z,208nm,21.4s,baz=156,slow=34						
MJAR	Matsushiro Arr	45.00	12	P		P	10 40 59.0 -1.1
	comp=Z,64nm,1.1s,baz=193,slow=9.8,SNR=85						
MJAR				pP		pP	10 41 25.5 -0.8
	comp=Z,16nm,0.9s,baz=194,slow=10.0,SNR=2.8						
MJAR				ScP		ScP	10 46 20.4 -0.2
	comp=Z,1.7nm,0.8s,baz=196,slow=4.4,SNR=3.3						
MAJO	Matsushiro	45.01	12	eP		P	10 40 58.7 -1.4
	comp=Z,56nm,0.9s						
MAJO				eScP		ScP	10 46 20.4 -0.2
MAJO	Matsushiro	45.01	12	ciP		P	10 40 58.5 -1.6
MAJO				pmax		pmax	
	comp=Z,59nm,1.1s						
MAT	Matsushiro	45.01	12	P		P	10 40 58.0 -2.1
MAT				S		S	10 47 24.8 -4.9
MJB9	Matsu-Tunnel	45.01	12	eP		P	10 40 58.6 -1.6
	comp=Z,57nm,0.9s						
XAN	Xi'an	45.20	338	P		P	10 41 01.0 -0.7
XAN				pP		pP	10 41 27.3 -0.9
XAN				sP		sP	10 41 39.5 -1.7
XAN				pmax		pmax	
	comp=Z,49nm,1.2s						
XAN				pmax		pmax	
	comp=Z,520nm,6.2s						
XAN				LR		LR	
	comp=Z,410nm,17.6s						
XAN				LR		LR	
	comp=Z,210nm,15.7s						
XAN				LR		LR	
	comp=Z,560nm,19.5s						
XAN	Xi'an	45.20	338	eP		P	10 41 01.1 -0.7
	comp=Z,169nm,1.6s						
XAN	Xi'an	45.20	338	eP		P	10 41 01.1 -0.7
XAN				pmax		pmax	
	comp=Z,169nm,1.6s						
DL2	Dalian	46.68	353⇑	iP		P	10 41 13.5 +0.3
DL2				sP		pwP	10 41 49.8 +3.4
DL2				PP		PP	10 43 02.3 -2.4
DL2				S		S	10 47 59.3 +5.7
DL2				sS		sS	10 48 37.3 -3.1
DL2				pmax		pmax	
	comp=Z,120nm,1.3s						
DL2				pmax		pmax	
	comp=Z,620nm,6.5s						
TIY	Taiyuan	47.39	343	eP		P	10 41 20.0 +1.2
TIY				pP		pP	10 41 45.5 +0.2
TIY				PP		PP	10 43 12.5 +1.2
TIY				S		S	10 48 05.0 +1.1
TIY				pmax		pmax	
	comp=Z,37nm,0.5s						
TIY				pmax		pmax	
	comp=Z,230nm,3.5s						
SHL	Shillong	48.15	314	eP		P	10 41 24.2 -0.9
SHL				IAmb		IAmb	10 41 28.7
	comp=Z,156nm,0.1s						
BJT	Baijiatuau	48.66	348	eP		P	10 41 28.6 +0.1
	comp=Z,132nm,1.1s						
BJT	Baijiatuau	48.66	348	eP		P	10 41 28.6 +0.1
BJT				pmax		pmax	
	comp=Z,132nm,1.1s						
BJI	Beijing	48.68	348	P		P	10 41 28.3 -0.3
BJI				pP		pP	10 41 53.0 -2.2
BJI				sP		sP	10 42 07.5 -0.6
BJI				pmax		pmax	
	comp=Z,53nm,1.3s						
LZH	Lanzhou	49.04	334	eP		P	10 41 32.8 +1.1
LZH				pP		pP	10 41 59.5 +1.2
LZH				sP		sP	10 42 13.8 +2.6
LZH				PP		PP	10 43 27.5 +1.0
LZH				eS		S	10 48 27.3 -0.1
LZH				sS		sS	10 49 12.3 -2.3
LZH				pmax		pmax	
	comp=Z,140nm,1.2s						
LZH				pmax		pmax	
	comp=Z,1µm,4.1s						
LZH				LR		LR	
	comp=Z,1µm,14.6s						
LZH				LR		LR	
	comp=Z,840nm,16.0s						
LZH				LR		LR	
	comp=Z,3µm,19.0s						
PALK	Pallekele	49.37	286	eP		P	10 41 33.3 -1.1
	comp=Z,104nm,1.6s						
PALK	Pallekele	49.37	286	eP		P	10 41 33.3 -1.1
PALK				pmax		pmax	
	comp=Z,104nm,1.6s						
PALK	Pallekele	49.37	286	P		P	10 41 33.3 -1.1
	comp=Z,16nm,0.9s,baz=115,slow=12,SNR=4.2						
SNY	Shenyang	49.40	356	⇑P		P	10 41 34.0 0.0
SNY				pP		pP	10 42 00.3 -0.4
SNY				sP		sP	10 42 13.0 -0.5
SNY				S		S	10 48 28.8 -2.9
SNY				pmax		pmax	
	comp=Z,100nm,1.4s						
SNY				pmax		pmax	
	comp=Z,660nm,3.5s						
SNY				LR		LR	
	comp=Z,650nm,19.6s						
SNY				LR		LR	
	comp=Z,150nm,9.8s						
SNY				LR		LR	
	comp=Z,590nm,25.5s						
BWNR	Bhubaneshwar	49.87	305	ex		P	10 41 33.2 -4.7
BWNR				IAmb		IAmb	10 41 36.1
	comp=Z,42nm,0.8s						
OUZ	Omahuta	49.98	130	eP		P	10 41 40.5 +1.8
	comp=Z,191nm,1.3s						
OUZ	Omahuta	49.98	130	P		P	10 41 41.2 +2.5
MSHR	Mys Shultsa	50.07	3	ciP		P	10 41 39.4 +0.3
HHC	Hu-ho-hao-te	50.55	344	eP		P	10 41 43.5 +0.5
HHC				PP		PP	10 43 39.5 -0.6
HHC				S		S	10 48 46.8 -1.4
HHC				sS		sS	10 49 29.3 -6.3
HHC				pmax		pmax	
	comp=Z,440nm,1.0s						
HHC				pmax		pmax	
	comp=Z,2µm,5.2s						
HHC				LR		LR	
	comp=Z,2µm,14.5s						
HHC				LR		LR	
	comp=Z,3µm,15.6s						
HHC				LR		LR	
	comp=Z,3µm,13.6s						
MSZ	Milford Sound	50.63	144	P		P	10 41 45.7 +2.3
FUNA	Funafuti	50.74	95	eP		P	10 41 45.6 +0.8
	comp=Z,188nm,1.1s						
BTO	Baotou	50.77	342	eP		P	10 41 44.5 -0.1
JCZ	Jackson Bay	50.80	143	P		P	10 41 47.0 +2.1
WCZ	Waipu Caves	50.82	131	P		P	10 41 46.8 +1.8
MLZ	Mavora Lakes	51.13	144	eP		P	10 41 48.9 +1.6
	comp=Z,66nm,0.9s						
FOZ	Fox Glacier	51.14	141	eP		P	10 41 48.6 +1.4
	comp=Z,91nm,0.9s						
CN2	Changchun	51.26	358	eP		P	10 41 48.0 0.0
CN2				eS		S	10 49 05.0 +7.5
CN2				pmax		pmax	
	comp=Z,30nm,1.3s						
CN2				pmax		pmax	
	comp=Z,400nm,5.0s						
CN2				LR		LR	
	comp=Z,210nm,16.0s						
CN2				LR		LR	
	comp=Z,180nm,16.0s						
CN2				LR		LR	
	comp=Z,250nm,17.0s						
LSA	Lhasa	51.27	318	eP		P	10 41 50.0 +1.0
	comp=Z,81nm,1.1s						
LSA	Lhasa	51.27	318	P		P	10 41 50.0 +1.0
WHZ	Wether Hill Ro	51.34	145	eP		P	10 41 50.2 +1.5
	comp=Z,142nm,0.9s						
ERM	Erimo	51.35	15	eP		P	10 41 48.9 +0.1
	comp=Z,36nm,1.2s						
ERM	Erimo	51.35	15	ceP		P	10 41 49.1 +0.4
ERM				pmax		pmax	
	comp=Z,16nm,0.9s						
DSZ	Denniston Nort	51.51	138	P		P	10 41 52.6 +2.5
QRZ	Quartz Range	51.56	137	P		P	10 41 52.8 +2.3
BOK	Bokaro	51.59	308	eP		P	10 41 49.5 -1.4
BOK				IAmb		IAmb	10 41 53.4
	comp=Z,47nm,1.2s						
USA0B	Ussuriysk Arra	51.74	4	eP		P	10 41 51.7 +0.1
	comp=Z,144nm,1.4s						
USRK	Ussuriysk Ar.	51.74	4	P		P	10 41 51.7 +0.1
	comp=Z,24nm,0.7s,baz=184,slow=5.7,SNR=78						
USRK				pP		pP	10 42 21.8 +3.3
	comp=Z,10.0nm,0.7s,baz=171,slow=5.1,SNR=3.6						
USRK				LR		LR	11 04 48.2
	comp=Z,103nm,18.4s,baz=162,slow=37						
LBZ	Lake Benmore	51.82	142	eP		P	10 41 52.9 +0.5
	comp=Z,76nm,0.9s						
RPZ	Rata Peaks	52.01	141	eP		P	10 41 55.2 +1.5
	comp=Z,412nm,0.9s						
RPZ	Rata Peaks	52.01	141	P		P	10 41 55.8 +2.1
	comp=Z,318nm,0.9s,baz=292,slow=2.7,SNR=71						
MDJ	Mudanjiang	52.04	2	P		P	10 41 54.3 +0.4
MDJ				sP		sP	10 42 31.3 -2.3
MDJ				ScS		ScS	10 51 30.3 -1.5
MDJ				pmax		pmax	
	comp=Z,150nm,1.5s						
MDJ	Mudanjiang	52.04	2	eP		P	10 41 54.5 +0.7
	comp=Z,376nm,1.6s						
ODAN	Odare	52.15	313	eP		P	10 41 55.2 -0.1
	comp=Z,86nm,0.6s						
THZ	Tophouse	52.25	138	eP		P	10 41 56.7 +1.1
	comp=Z,516nm,1.9s						
LTZ	Lake Taylor	52.31	139	eP		P	10 41 57.6 +1.5
	comp=Z,268nm,1.9s						
NNZ	Nelson	52.31	137	P		P	10 41 56.6 +0.6
OXZ	Oxford	52.43	140	eP		P	10 41 57.6 +0.8
	comp=Z,80nm,0.8s						
ODZ	Otahua Downs	52.45	143	eP		P	10 41 57.9 +1.0
	comp=Z,46nm,0.9s						
DUWZ	D'Urville Isla	52.50	137	P		P	10 41 59.7 +2.3
RAMN	Ramite	52.78	312	eP		P	10 42 00.2 +0.2
	comp=Z,480nm,1.1s						
TUWZ	Tuamarina	52.79	137	P		P	10 42 00.5 +1.0
CRLZ	Canterbury Las	52.92	140	eP		P	10 42 01.4 +1.0
	comp=Z,148nm,1.3s						
MCQ	Macquarie Isla	52.93	158	eP		P	10 42 02.5 +2.2
	comp=Z,246nm,0.9s						
MCQ	Macquarie Isla	52.93	158	eP		P	10 42 02.5 +2.2
MCQ				pmax		pmax	
	comp=Z,246nm,0.9s						
WTVZ	West Tongariro	52.96	134	P		P	10 42 02.8 +1.8
KHZ	Kahutara	52.97	138	eP		P	10 42 02.0 +1.2
	comp=Z,188nm,0.8s						
NGZ	Ngauruhoe	52.99	134	P		P	10 42 02.8 +1.6
MQZ	McQueen's Vall	53.01	140	eP		P	10 42 02.1 +1.1
	comp=Z,229nm,1.6s						
TEY	Ternei	53.02	8⇑	iP		P	10 42 01.0 0.0
TEY				pmax		pmax	
	comp=N,40nm,1.0s						
TEY				pmax		pmax	
	comp=Z,70nm,0.9s						
MOVZ	Moawhango	53.19	134	P		P	10 42 04.2 +1.6
ASAJ	Asahikawa	53.21	13	P		P	10 42 02.1 -0.3
	comp=Z,25nm,0.9s,baz=226,slow=10,SNR=21						
TRD	Trivandrum	53.27	287	eP		P	10 42 02.2 -1.3
OGWZ	Otaki Gorge	53.36	136	P		P	10 42 04.3 +0.6
BHW	Baring Head	53.41	137	P		P	10 42 04.0 0.0
BHHZ	Black Hill Sta	53.44	134	P		P	10 42 05.5 +1.0
JIRN	Jiri	53.48	313	eP		P	10 42 05.1 -0.2
	comp=Z,219nm,0.9s						
GTA	Gaotai	53.58	333	P		P	10 42 06.0 +0.6
GTA				pP		pP	10 42 32.8 +0.3
GTA				sP		sP	10 42 45.5 +0.2
GTA				S		S	10 49 31.0 +1.4
GTA				sS		sS	10 50 13.3 -4.0
GTA				pmax		pmax	
	comp=Z,30nm,1.0s						
GTA				pmax		pmax	
	comp=Z,410nm,7.9s						
GTA				LR		LR	
	comp=Z,300nm,21.0s						
GTA				LR		LR	
	comp=Z,370nm,18.9s						
GTA				LR		LR	
	comp=Z,360nm,19.2s						
BKZ	Black Stump Fm	53.62	134	eP		P	10 42 06.5 +0.7
	comp=Z,68nm,1.0s						
URZ	Urewera	53.73	132	P		P	10 42 06.9 +0.4
	comp=Z,34nm,0.9s,baz=258,slow=9.2,SNR=9.9						
PLWZ	Palliser	53.74	137	P		P	10 42 06.4 -0.1
DVHZ	Dannevirke	53.84	135	P		P	10 42 07.6 +0.3
YUK	Yuzh-Kuril'sk	53.94	16	ciP		P	10 42 07.7 -0.1
YUK				e			10 43 12.4
YUK				e			10 44 07.0
YUK				eS		S	10 49 37.3 +3.3
YUK				e			10 51 48.4
YUK				eSS		SS	10 53 19.2 +2.0
PKI	Pulchoki	54.01	312	eP		P	10 42 08.5 -0.5
	comp=Z,129nm,1.0s						
PKIN	Phulchoki	54.02	312	eP		P	10 42 08.6 -0.4
	comp=Z,48nm,0.5s						
KKN	Kakani	54.22	312	eP		P	10 42 10.3 -0.1
	comp=Z,615nm,1.7s						
DMN	Daman	54.25	312	eP		P	10 42 10.7 0.0
	comp=Z,189nm,1.0s						
PKGZ	Pakihiroa	54.31	132	P		P	10 42 12.1 +1.3
TWGZ	Tauwhareparae	54.34	132	P		P	10 42 12.1 +1.1
WMGZ	Waiomatatini S	54.54	131	P		P	10 42 13.2 +0.8
HYB	Hyderabad	54.77	297	iP		P	10 42 14.0 -0.3
HYB	Hyderabad	54.77	297	eP		P	10 42 13.0 -1.3
HYB				IAmb		IAmb	10 42 14.8
	comp=Z,82nm,1.3s						
GKN	Gorkha	54.81	312	eP		P	10 42 14.6 0.0
	comp=Z,235nm,0.7s						
KOLN	Koldanda	55.45	311	eP		P	10 42 19.3 0.0
	comp=Z,187nm,0.9s						
KUR	Kuril'sk	55.61	17	eP		P	10 42 16.3 -3.5
KUR				S		S	10 49 56.7 +0.5
KUR				pmax		pmax	
	comp=Z,113nm,1.3s						
DANN	Dangsing	55.65	312	eP		P	10 42 20.6 -0.2
	comp=Z,282nm,1.0s						
NGP	Nagpur	55.87	302	eP		P	10 42 21.2 -0.9
NGP				IAmb		IAmb	10 42 22.9
	comp=Z,98nm,1.2s						
YSS	Yuzh-Sakhalins	55.94	12	eP		P	10 42 22.0 -0.1
	comp=Z,30nm,0.9s						
YSS	Yuzh-Sakhalins	55.94	12⇓	eP		P	10 42 20.8 -1.3
YSS				e*SP		pwP	10 42 59.1 +3.4
YSS				eS		S	10 49 57.0 -3.6
YSS				pmax		pmax	
	comp=Z,400nm,5.3s						
YSS				pmax		pmax	
	comp=Z,30nm,0.8s						
YSS				MLR		MLR	
	comp=Z,300nm,13.1s						
YSS				MLR		MLR	
	comp=E,200nm,10.0s						
PYUN	Piuthan	56.08	311	eP		P	10 42 23.8 0.0
	comp=E,563nm,1.1s						
KLR	Kul'dur	56.74	3	ciP		P	10 42 27.5 -0.2
KLR				pmax		pmax	
	comp=Z,38nm,1.4s						
KLR	Kul'dur	56.74	3	P		P	10 42 27.8 0.0
	comp=Z,37nm,1.2s,baz=192,slow=5.7,SNR=56						
KLR				PcP		PcP	10 43 22.6 +0.3
	comp=Z,5.4nm,0.6s,baz=244,slow=5.5,SNR=5.1						
HIA	Hailar	57.13	354	eP		P	10 42 31.0 +0.5
	comp=Z,75nm,1.4s						
HIA	Hailar	57.13	354	eP		P	10 42 31.0 +0.5
HIA				pmax		pmax	
	comp=Z,75nm,1.4s						
BHPL	Bhopal	58.12	303	eP		P	10 42 36.1 -2.0
BHPL				IAmb		IAmb	10 42 38.5
	comp=Z,2µm,3.8s						
GOA	Goa	58.31	293	eP		P	10 42 38.9 -0.5
GOA				IAmb		IAmb	10 42 40.1
	comp=Z,47nm,0.7s						
SONA0	Songino Array	58.43	343	eP		P	10 42 40.6 +0.8
SONA0				e			11 12 13.4
SONM	Songino Array	58.43	343	P		P	10 42 40.6 +0.8
	comp=Z,64nm,0.9s,baz=157,slow=6.7,SNR=125						
SONM				pP		pP	10 43 07.5 +0.3
	comp=Z,24nm,0.9s,baz=161,slow=6.0,SNR=5.3						
SONM				PKPPKP		P'P'df	11 12 13.4 -2.9
	comp=Z,1.3nm,0.8s,baz=204,slow=3.3,SNR=5.2						
SONM				PKP2bc			11 12 29.2
	comp=Z,7.7nm,1.0s,baz=324,slow=2.5,SNR=13						
GRNR	Gornyy	58.64	6	eP		P	10 42 45.4 +4.3
GRNR				pmax		pmax	
	comp=Z,26nm,1.0s						
POO	Poona	59.33	297	eP		P	10 42 45.4 -1.1
POO				IAmb		IAmb	10 42 46.6
	comp=Z,39nm,0.5s						
TYV	Tymovskoe	59.65	11	eP		P	10 42 48.8 +0.8
TYV				pmax		pmax	
	comp=Z,400nm,4.7s						
TYV				pmax		pmax	
	comp=Z,24nm,1.0s						
CASY	Casey	59.76	188	eP		P	10 42 49.6 +1.1
	comp=Z,57nm,1.2s						
DDI	Dehra Dun	60.92	311	eP		P	10 42 56.2 -1.0
DDI				IAmb		IAmb	10 42 58.3
	comp=Z,213nm,1.8s						
ZEA	Zeya	61.15	360	eP		P	10 42 58.0 -0.2

ZEA pmax pmax
comp=N,74nm,1.4s
ZEA pmax pmax
comp=Z,83nm,1.4s
NIUE Niue 61.26 107 *e*P **P 10 43 00.7 +1.1**
comp=Z,486nm,1.1s
ZAK Zakamensk 61.63 342 *e*P **P 10 43 01.4 -0.2**
ZAK pmax pmax
comp=Z,33nm,1.4s
SMLA Simla 61.98 311 *e*P **P 10 43 03.6 -0.5**
SMLA IAmb IAmb 10 43 06.6
comp=Z,4μm,3.3s
TLY Talaya 62.67 343 *e*P **P 10 43 09.3 +0.9**
comp=Z,38nm,1.1s
TLY Talaya 62.67 343*c i*P **P 10 43 09.2 +0.8**
TLY Talaya 62.67 343 P **P 10 43 10.6 +2.2**
SNR=28
WMQ Urumqi 62.84 328 *e*P **P 10 43 10.3 +0.6**
WMQ pP pP 10 43 37.8 +0.3
WMQ pmax pmax
comp=Z,150nm,1.1s
WMQ pmax pmax
comp=Z,1μm,3.6s
WMQ LR LR
comp=Z,6μm,34.1s
WMQ LR LR
comp=Z,4μm,30.1s
WMQ LR LR
comp=Z,1μm,28.5s
WMQ Urumqi 62.84 328 *e*P **P 10 43 09.2 -0.4**
comp=Z,216nm,1.9s
WMQ Urumqi 62.84 328 *e*P **P 10 43 09.3 -0.4**
WMQ pmax pmax
comp=Z,216nm,1.9s
IRK Irkutsk 63.00 344 *e*P **P 10 43 09.1 -1.4**
IRK *e* 10 43 35.5
IRK *e* 10 45 24.8
IRK pmax pmax
comp=Z,171nm,2.9s
DHRM DHARAMSHALA 63.18 312 *e*P **P 10 43 11.2 -1.3**
DHRM IAmb IAmb 10 43 14.6
comp=Z,103nm,0.8s
MOY Mondy 63.45 342 *e*P **P 10 43 15.0 +1.3**
MOY pmax pmax
comp=Z,159nm,2.0s
BHJ Bhuj 64.69 300 *e*P **P 10 43 21.4 -0.8**
BHJ IAmb IAmb 10 43 24.3
comp=Z,50nm,1.0s
PEA0B Petropavlovsk- 65.59 19 *e*P **P 10 43 27.7 +0.3**
comp=Z,23nm,0.8s
PETK Petropavlovsk- 65.59 19 P **P 10 43 28.0 +0.6**
comp=Z,18nm,0.7s,baz=167,slow=2.7,SNR=40
PETK pP **pP 10 43 53.6 -2.3**
comp=Z,13nm,0.8s,baz=184,slow=2.2,SNR=4.0
PETK LR LR 11 16 26.1
comp=Z,54nm,18.8s,baz=205,slow=40
PEA1 Petropavlovsk- 65.60 19 *e*P **P 10 43 28.0 +0.6**
PEA1 *e* 11 16 26.1
PET Petropavlovsk 65.84 20*c i*P **P 10 43 29.0 0.0**
PET *e**SP **pwP 10 44 05.0 +2.8**
PET *e*S **S 10 52 05.5 -0.6**
PET pmax pmax
comp=Z,32nm,2.1s
PET pmax pmax
comp=Z,400nm,11.9s
PET pmax pmax
comp=Z,200nm,15.5s
PET MLR MLR
comp=Z,200nm,17.0s
NIL Nilore 66.10 312 *e*P **P 10 43 30.9 -0.2**
comp=Z,63nm,0.6s
NIL Nilore 66.10 312 *e*P **P 10 43 30.9 -0.2**
NIL pmax pmax
comp=Z,63nm,0.6s
BOD Bodaibo 66.22 352 *e*P **P 10 43 32.2 +0.9**
BOD pmax pmax
comp=Z,1.0nm,1.4s
PDGK Podgornoye 67.08 324 P **P 10 43 36.9 -0.4**
PDGK pmax pmax
comp=Z,17nm,0.9s
DGZ Jazzator, Alta 67.11 333*c i*P **P 10 43 37.9 +0.5**
DGZ pmax pmax
comp=Z,13nm,1.1s
KSH Kashi 67.12 319 P **P 10 43 38.5 +0.9**
KSH pP pP 10 44 06.5 +0.6
KSH PP **PP 10 46 08.0 +0.8**
KSH S **S 10 52 18.8 -3.6**
KSH SS **SS 10 56 42.8 -1.3**
KSH pmax pmax
comp=Z,69nm,0.8s
KSH pmax pmax
comp=Z,530nm,3.2s
KSH LR LR
comp=Z,1μm,14.2s
KSH LR LR
comp=Z,1μm,15.9s
KSH LR LR
comp=Z,520nm,13.8s
TARG Taragay, Kyrgy 67.17 321 *e*P **P 10 43 38.6 +0.3**
comp=Z,20nm,0.9s
MK31 Makanchi Array 67.66 328 *e*P **P 10 43 40.8 +0.1**
comp=Z,67nm,1.5s
MK31 Makanchi Array 67.66 328 *e*P **P 10 43 40.8 +0.1**
MK31 pmax pmax
comp=Z,67nm,1.5s
MK32 Makanchi Array 67.66 328 *e*P **P 10 43 40.9 +0.1**
MK32 *e*S **S 10 52 26.5 -1.9**
MK32 ⇑*e* 11 12 04.2
MKAR Makanchi Array 67.66 328 P **P 10 43 40.9 +0.1**
comp=Z,7.3nm,0.5s,baz=120,slow=7.9,SNR=76
MKAR pP **PcP 10 44 07.0 +0.2**
comp=Z,19nm,0.8s,baz=125,slow=6.1,SNR=7.1
MKAR S **S 10 52 26.5 -1.9**
comp=Z,0.8nm,0.8s,baz=160,slow=9.0,SNR=2.4
MKAR PKPPKP **P'P'df 11 11 57.0 -5.0**
comp=Z,0.9nm,0.8s,baz=348,slow=3.5,SNR=2.8
MKAR PKP2bc 11 12 04.2
comp=Z,2.4nm,1.0s,baz=333,slow=1.6,SNR=5.9
KDJ Kajisay 67.78 322 *e*P **P 10 43 42.4 +0.6**
comp=Z,77nm,1.5s
MAKZ Makanchi 67.83 328 *e*P **P 10 43 41.8 0.0**
comp=Z,64nm,1.4s
MAKZ Makanchi 67.83 328 *e*P **P 10 43 41.8 0.0**
MAKZ pmax pmax
comp=Z,65nm,1.4s
NRN Naryn 68.13 320 *e*P **P 10 43 43.7 -0.5**
comp=Z,30nm,1.3s
NRN Naryn 68.13 320 *e*P **P 10 43 43.7 -0.5**
NRN pmax pmax
comp=Z,30nm,1.3s
BOOM Boomskoye usch 68.74 321 *e*P **P 10 43 48.3 +0.5**
comp=Z,96nm,1.5s
BOOM Boomskoye usch 68.74 321 *e*P **P 10 43 48.3 +0.5**
BOOM pmax pmax
comp=Z,96nm,1.5s
KZA Kyzart 68.95 321 P **P 10 43 50.0 +0.6**
SNR=36
TKM2 Tokmak 2 69.19 322 P **P 10 43 51.1 +0.5**
SNR=23
MA2 Magadan 69.45 12 *e*P **P 10 43 51.5 0.0**
comp=Z,42nm,1.0s
MA2 Magadan 69.45 12*ce*P **P 10 43 51.6 0.0**
MA2 pmax pmax
comp=Z,39nm,1.0s
KBK Karagaybulak 69.45 321 P **P 10 43 53.0 +0.8**
SNR=14
YAK Yakutsk 69.48 1*c i*P **P 10 43 51.3 -0.4**
YAK *e* 10 44 13.6
YAK *e* 10 44 20.7
YAK *e*S **S 10 52 48.1 -1.1**
YAK *e**SS **sS 10 53 35.8 -2.4**
YAK *e*SSS SSS 11 00 29.9
YAK pmax pmax
comp=Z,695nm,1.0s
YAK pmax pmax
comp=N,372nm,1.0s
YAK pmax pmax
comp=E,47nm,1.1s
YAK pmax pmax
comp=Z,296nm,0.8s
YAK pmax pmax
comp=E,45nm,0.8s
YAK pmax pmax
comp=N,158nm,1.2s
YAK smax smax
comp=N,399nm,1.6s

YAK smax smax
comp=E,737nm,2.2s
UCH Uchtor 69.49 320 P **P 10 43 53.4 +0.6**
SNR=29
KBL Kabul 69.62 311 *e*P **P 10 43 53.2 -0.2**
comp=E,57nm,1.1s
KBL Kabul 69.62 311 *e*P **P 10 43 53.2 -0.2**
KBL pmax pmax
comp=Z,57nm,1.1s
AAK Ala-Archa 69.72 321 P **P 10 43 54.5 +0.6**
SNR=18
AAK Ala-Archa 69.72 321 *e*P **P 10 43 54.2 +0.4**
comp=Z,85nm,1.4s
AAK Ala-Archa 69.72 321 *i* P **P 10 43 54.4 +0.6**
SNR=21
AAK Ala-Archa 69.72 321*ce*P **P 10 43 54.5 +0.6**
AAK pmax pmax
comp=Z,87nm,1.7s
AAK Ala-Archa 69.72 321 P **P 10 43 54.8 +1.0**
SNR=31
AAK Ala-Archa 69.72 321 PKP2bc **P'P'bc 11 11 56.7 -1.7**
comp=Z,22nm,1.4s,baz=288,slow=2.1,SNR=24
AML Almayashu 69.96 320 P **P 10 43 56.0 +0.4**
SNR=20
USP Ospenovka 70.05 321 P **P 10 43 56.1 +0.4**
SNR=21
EKS2 Erkin-Say 70.19 321 P **P 10 43 57.2 +0.6**
SNR=35
GAR Garm 70.68 316 *e*P **P 10 43 59.4 -0.3**
comp=Z,93nm,1.2s
GAR Garm 70.68 316 *e*P **P 10 43 59.4 -0.3**
GAR pmax pmax
comp=Z,93nm,1.2s
RAR Rarotonga 70.81 110 *e*P **P 10 44 00.3 -0.4**
comp=Z,95nm,1.1s
RAR *e* 11 13 58.0
RAR Rarotonga 70.81 110 P **P 10 44 01.1 +0.4**
comp=Z,54nm,1.0s,baz=242,slow=6.8,SNR=7.9
RAR LR LR 11 13 58.0
comp=Z,67nm,19.5s,baz=278,slow=35
BTK Batken 70.83 317 *e*P **P 10 44 00.5 0.0**
comp=Z,73nm,1.4s
ZAA0 Zalesovo Array 71.27 335 *e*P **P 10 44 02.3 -0.4**
comp=Z,110nm,1.5s
ZALV Zalesovo Beam 71.27 335 P **P 10 44 02.0 -0.7**
comp=Z,17nm,0.5s,baz=136,slow=5.3,SNR=44
ZALV pP **pP 10 44 29.8 -1.4**
comp=Z,19nm,0.8s,baz=135,slow=4.7,SNR=4.9
ZALV S **S 10 53 07.4 -3.0**
comp=Z,0.4nm,0.3s,baz=111,slow=7.9,SNR=2.2
ZALV PKPPKP **P'P'df 11 11 56.4 +1.1**
comp=Z,0.8nm,0.3s,baz=268,slow=7.1,SNR=5.4
ZAA1 Zalesovo Array 71.27 335 *e*P **P 10 44 02.0 -0.7**
ZAA1 *e*P'P'df **P'P'df 11 11 56.4 +1.1**
SMY Shemya 71.79 28 *e*P **P 10 44 05.6 -0.3**
comp=Z,296nm,2.0s
SMY Shemya 71.79 28 *e*P **P 10 44 05.6 -0.3**
SMY pmax pmax
comp=Z,296nm,2.0s
KURBB Kurchatov Arra 72.00 329 PKPPKP **P'P'df 11 11 55.1 +0.8**
comp=Z,0.2nm,0.5s,baz=291,slow=2.8,SNR=5.6
KURK Kurchatov 72.01 330 *e*P **P 10 44 07.5 +0.2**
comp=Z,183nm,1.5s
KURK Kurchatov 72.01 330 *e*P **P 10 44 07.5 +0.2**
KURK pmax pmax
comp=Z,183nm,1.5s
KURK Kurchatov 72.01 330 P **P 10 44 07.6 +0.4**
SNR=59
VNDA Vanda 72.06 173 *e*P **P 10 44 08.1 +0.9**
comp=Z,34nm,0.9s
VNDA *e*S **S 10 53 21.2 +2.4**
VNDA *e* 11 15 02.9
VNDA Vanda 72.06 173 *e*P **P 10 44 08.1 +0.9**
VNDA *e*S **S 10 53 21.3 +2.4**
VNDA pmax pmax
comp=Z,34nm,0.9s
VNDA Vanda 72.06 173 P **P 10 44 08.1 +0.9**
comp=Z,25nm,0.9s,baz=322,slow=6.5,SNR=65
VNDA S **S 10 53 21.2 +2.4**
comp=Z,1.5nm,1.0s,baz=92,slow=19,SNR=7.9
VNDA LR LR 11 15 02.9
comp=Z,455nm,19.5s,baz=338,slow=35
KK31 Karatay Array 72.48 320 *e*P **P 10 44 10.2 -0.1**
comp=Z,72nm,1.4s
KK31 Karatay Array 72.48 320 *e*P **P 10 44 10.2 -0.1**
KK31 pmax pmax
comp=Z,72nm,1.4s
KKAR Karatay Array 72.48 320 *e*P **P 10 44 10.2 -0.1**
comp=Z,72nm,1.4s
KKAR Karatay Array 72.48 320 *e*P **P 10 44 10.2 -0.1**
KKAR pmax pmax
comp=Z,72nm,1.4s
NVS Novosibirsk 72.56 335 ||*i*P **P 10 44 10.4 0.0**
NVS *e* 10 44 38.3
NVS *e*S **S 10 53 26.7 +1.7**
NVS *e* 10 54 06.8
NVS pmax pmax
comp=Z,100nm,1.8s
NVS pmax pmax
comp=N,54nm,1.9s
NVS pmax pmax
comp=E,22nm,1.1s
NVS pmax pmax
comp=Z,19nm,1.6s
NVS smax smax
comp=E,10.0nm,1.2s
SEY Seymchan 72.83 11*ce*P **P 10 44 12.1 +0.3**
SBA Scott Base 72.98 172 *e*P **P 10 44 14.2 +1.6**
comp=E,43nm,1.0s
SBA Scott Base 72.98 172 *e*P **P 10 44 14.2 +1.6**
SBA pmax pmax
comp=Z,43nm,1.0s
MAW Mawson 73.60 201 *e*P **P 10 44 17.8 +1.4**
comp=Z,17nm,1.3s
MAW *e* 11 14 09.0
MAW Mawson 73.60 201 *e*P **P 10 44 17.8 +1.4**
MAW pmax pmax
comp=Z,17nm,1.3s
MAW Mawson 73.60 201 P **P 10 44 18.2 +1.8**
comp=Z,26nm,0.9s,baz=70,slow=8.5,SNR=25
MAW LR LR 11 14 09.0
comp=Z,464nm,20.3s,baz=52,slow=34
OTUK Ortayu 73.97 325 P **P 10 44 18.9 0.0**
OTUK pmax pmax
comp=Z,120nm,1.3s
WSAR Wadi Sarin 74.31 297 P **P 10 44 21.8 +0.4**
SNR=8.2
WSAR Wadi Sarin 74.31 297 LR LR 11 18 53.9
comp=Z,88nm,21.5s,baz=131,slow=37
MHTO MHTO 74.31 294 P **P 10 44 21.0 -0.4**
SNR=9.5
BIDO Bidbid 74.83 297 P **P 10 44 25.0 +0.7**
SNR=19
HOQ Hoqain 75.56 297 P **P 10 44 30.0 +1.4**
SNR=8.4
SOHO SOHO 76.39 297 P **P 10 44 33.0 -0.3**
SNR=21
HATD Hatta, Dubai 76.92 298 *i* P **P 10 44 35.7 -0.6**
SNR=10
HATD Hatta, Dubai 76.92 298 P **P 10 44 37.0 +0.7**
SNR=12
ASHO Ashiyiah 76.95 297 *i* P **P 10 44 36.0 -0.4**
SNR=18
ASHO Ashiyiah 76.95 297 P **P 10 44 37.7 +1.2**
SNR=10
MSFE Esma-Masafi 77.04 298 *i* P **P 10 44 36.7 -0.2**
SNR=11
ALNE Al Ain 77.07 297 *i* P **P 10 44 36.7 -0.4**
SNR=6.1
SHME Shamm 77.23 299 *i* P **P 10 44 38.0 0.0**
SNR=9.8
FAQ Al Faqa, Dubai 77.38 297 *i* P **P 10 44 38.1 -0.7**
SNR=16
FAQ Al Faqa, Dubai 77.38 297 P **P 10 44 39.1 +0.3**
SNR=7.3
NAZ Nazwa, Dubai 77.38 298 *i* P **P 10 44 38.1 -0.7**
SNR=6.9
NAZ Nazwa, Dubai 77.38 298 P **P 10 44 40.0 +1.2**
SNR=7.1
ASUD Al Ashush, Dub 77.58 297 P **P 10 44 39.9 0.0**
BRVK Borovoye 77.60 329 *e*P **P 10 44 39.4 0.0**
comp=Z,112nm,1.3s
BRVK Borovoye 77.60 329*ce*P **P 10 44 39.3 -0.1**
BRVK pmax pmax
comp=Z,132nm,1.7s
BRVK Borovoye 77.60 329 P **P 10 44 39.7 +0.3**
SNR=54

AJN Ajban 77.87 297 P **P 10 44 40.7 -0.8**
KIP Kipapa 78.14 66 *e*P **P 10 44 44.3 +1.3**
comp=Z,373nm,1.8s
KIP Kipapa 78.14 66*ce*P **P 10 44 44.0 +1.0**
KIP pmax pmax
comp=Z,132nm,1.2s
GEYT Alibeck 79.07 311 P **P 10 44 47.9 0.0**
comp=Z,40nm,1.2s,baz=151,slow=3.4,SNR=31
GEYT LR LR 11 24 35.7
comp=Z,85nm,21.0s,baz=30,slow=39
GYA0B ALIBECK ARRAY 79.07 311 *e*P **P 10 44 47.5 -0.4**
comp=Z,70nm,1.3s
TIXI Tiksi 79.13 0 *e*P **P 10 44 46.2 -1.2**
comp=Z,44nm,0.7s
TIXI Tiksi 79.13 0*c i*P **P 10 44 46.5 -0.9**
TIXI pmax pmax
comp=Z,51nm,0.8s
TIXI Tiksi 79.13 0 P **P 10 44 46.2 -1.2**
comp=Z,36nm,0.6s,baz=141,slow=5.7,SNR=84
POHA Pohakuloa 80.05 68 *e*P **P 10 44 54.6 +0.8**
comp=Z,140nm,1.1s
HMH Humu'ula Sheep 80.06 69 *e*P **P 10 44 54.1 +0.1**
comp=Z,196nm,1.1s
MLH Mauna Loa 80.13 69 *e*P **P 10 44 53.2 -1.0**
comp=Z,164nm,1.0s
BILL Bilibino 80.22 14 *e*P **P 10 44 52.6 -0.8**
comp=Z,6.1nm,0.8s
BILL Bilibino 80.22 14*c i*P **P 10 44 52.7 -0.7**
BILL *e* 10 47 59.7
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,135nm,19.0s
TBI Tubuai 80.26 112 *e*P **P 10 44 56.8 +2.2**
comp=Z,238nm,1.1s
TBI *e*S **S 10 54 50.3 -0.2**
comp=Z,331nm,31.2s
TBI Tubuai 80.26 112 *e*LR LR 11 10 04.5
comp=Z,661nm,32.8s
PAE Paea 80.60 107 *e*P **P 10 44 58.5 +2.0**
comp=Z,11nm,1.2s
PPT2 Papeete2 80.61 107 *e*P **P 10 44 59.0 +2.3**
comp=Z,103nm,1.1s
PPT2 *e*S **S 10 54 53.8 -0.7**
comp=Z,119nm,21.8s
PPT2 Papeete2 80.61 107 *e*LQ LQ 11 06 55.2
comp=Z,330nm,26.8s
PPT2 *e*LR LR 11 10 14.7
comp=Z,950nm,33.8s
PPT Papeete 80.61 107 P **P 10 44 59.5 +2.9**
comp=Z,79nm,0.9s,baz=292,slow=8.3,SNR=7.4
PPT LR LR 11 17 19.1
comp=Z,46nm,21.1s,baz=249,slow=33
PPTF Pamatai, Papee 80.62 107 *e*P **P 10 44 56.3 -0.4**
comp=Z,239nm,1.4s
TIAR Tiarei 80.83 107 *e*P **P 10 45 00.0 +2.2**
comp=Z,23nm,1.1s
TVO Taravao 80.90 107 *e*P **P 10 45 00.5 +2.3**
comp=Z,49nm,1.5s
TVO *e*pP **pP 10 45 26.8 -1.0**
comp=Z,20nm,1.2s
NRIK Noril'sk 81.70 347 P **P 10 45 01.6 +0.4**
comp=Z,54nm,0.9s,baz=138,slow=5.4,SNR=41
NRIK LR LR 11 23 19.4
comp=Z,121nm,21.3s,baz=155,slow=37
AB31 Akbulak array 81.74 322 *i* P **P 10 45 00.7 -1.2**
AB31 pmax pmax
comp=Z,39nm,1.2s
ABKAR Akbulak array 81.74 322 *e*P **P 10 45 01.4 -0.4**
comp=Z,58nm,1.3s
MEH Mehetia 82.02 107 *e*P **P 10 45 05.8 +1.8**
comp=Z,41nm,1.2s
SYO Syowa Base 82.31 201 ||*i*P **P 10 45 04.2 -0.3**
SYO Syowa Base 82.31 201 ||*i*PcP **PcP 10 45 07.0 -2.5**
SYO Syowa Base 82.31 201 ||*i*X pP 10 45 30.0 -4.8
QSPA South Pole Qui 82.33 180 *e*P **P 10 45 05.5 +0.6**
comp=Z,93nm,1.1s
PMOR Pomariorio Ree 82.47 104 *e*P **P 10 45 08.4 +2.0**
comp=Z,244nm,1.3s
PMOR *e*pP **pP 10 45 36.0 -0.1**
comp=Z,202nm,1.3s
SVE Sverdlovsk 84.26 329*d i*P **P 10 45 14.5 -0.2**
SVE pmax pmax
comp=Z,159nm,1.5s
GAMB Gambell 84.30 23 *e*P **P 10 45 14.8 +0.1**
comp=Z,39nm,0.8s
ARU Arti 85.17 329 *e*P **P 10 45 19.0 -0.3**
comp=Z,111nm,1.2s
ARU Arti 85.17 329*c i*P **P 10 45 18.4 -0.8**
ARU S **S 10 55 33.9 -5.1**
ARU SS **SS 11 01 08.2 -7.6**
ARU pmax pmax
comp=Z,116nm,1.2s
DAMY Dhamar 85.69 285 *e*P **P 10 45 23.9 +0.8**
comp=Z,42nm,1.1s
ATD Arta Tunnel 86.72 282 *e*P **P 10 45 28.7 +0.8**
comp=Z,29nm,1.2s
ANM Nome 87.13 23 *e*P **P 10 45 28.1 -0.6**
comp=Z,6.6nm,0.9s
ANM Nome 87.13 23 *e*P **P 10 45 28.1 -0.6**
ANM pmax pmax
comp=Z,7.0nm,0.9s
GROC Groznyy 89.48 314 *e*P **P 10 45 39.4 -0.9**
GROC *e**SP **pP 10 46 12.9 +2.7**
GROC *e*S **SKSac 10 56 01.1 +1.6**
GROC pmax pmax
comp=Z,35nm,0.5s
GNI Garni 89.70 310*ce*P **P 10 45 42.0 +0.4**
GNI pmax pmax
comp=Z,49nm,1.0s
SII Sitkinak Islan 89.71 33 *e*P **P 10 45 41.2 +0.1**
comp=Z,121nm,1.4s
TBLG Delisi 89.98 312 *e*P **P 10 45 42.8 +0.1**
comp=Z,54nm,1.0s
TBLG Delisi 89.98 312 *e*P **P 10 45 42.8 +0.1**
TBLG pmax pmax
comp=Z,54nm,1.0s
SVW2 Sparrevohn 90.18 28 *e*P **P 10 45 43.0 -0.2**
comp=Z,8.8nm,1.0s
OHAK Old Harbor 90.35 32 *e*P **P 10 45 43.9 -0.1**
comp=Z,81nm,1.7s
KMBO Kilima Mbogo 90.52 269 *e*P **P 10 45 47.2 +1.1**
comp=Z,7.5nm,1.0s
KMBO *e* 11 23 51.3
KMBO Kilima Mbogo 90.52 269 P **P 10 45 47.2 +1.1**
comp=Z,2.0nm,0.3s,baz=172,slow=3.8,SNR=5.3
KMBO LR LR 11 23 51.3
comp=Z,82nm,20.1s,baz=96,slow=34
ZEI Tsey 90.77 313 *e*P **P 10 45 44.0 -2.6**
ZEI pmax pmax
comp=Z,30nm,1.2s
AKH Akhalkalaki 90.85 312 *e*P **P 10 45 47.6 +0.7**
comp=Z,62nm,1.2s
AKH Akhalkalaki 90.85 312 *e*P **P 10 45 47.6 +0.7**
AKH pmax pmax
comp=Z,62nm,1.2s
KDAK Kodiak Island 90.85 32 *e*P **P 10 45 45.7 -0.6**
comp=Z,59nm,1.8s
KDAK Kodiak Island 90.85 32 *i* P **P 10 45 46.1 -0.2**
SIRT Sirnak 91.04 308 *e*P **P 10 45 47.2 -0.6**
comp=Z,223nm,1.2s
KBZ Khabaz 91.65 314 *e*P **P 10 45 50.0 -0.3**
KBZ Khabaz 91.65 314 P **P 10 45 50.0 -0.3**
comp=Z,9.0nm,0.9s,baz=127,slow=3.0,SNR=13
KBZ PKKPbc **PKKPbc 11 03 10.6 -0.4**
comp=Z,2.0nm,0.9s,baz=198,slow=6.4,SNR=2.8
KBZ LR LR 11 33 31.3
comp=Z,61nm,20.6s,baz=92,slow=40
HOM Homer 91.73 30 *e*P **P 10 45 48.6 -1.7**
comp=Z,37nm,1.0s
KIV Kislovodsk 91.83 314 *e*P **P 10 45 50.7 -0.6**
KIV pmax pmax
comp=Z,32nm,1.1s
KIV MLR MLR
comp=Z,237nm,20.0s
BRLK Bradley Lake 92.13 30 *e*P **P 10 45 51.5 -0.7**
comp=Z,22nm,1.2s
SEW Seward 92.91 30 *e*P **P 10 45 54.8 -0.9**
comp=Z,18nm,1.1s
BPAW Bear Paw Mtn. 92.94 26 *e*P **P 10 45 54.3 -1.6**
comp=Z,41nm,1.8s
RC01 Rabbit Creek A 92.94 29 *e*P **P 10 45 54.3 -1.6**
comp=Z,23nm,1.1s
PRGR Permogore 93.02 332 *e*P P 10 45 49.5 -6.7
PRGR pmax pmax
comp=Z,16nm,1.0s
MLY Manley 93.23 25 *e*P **P 10 45 55.8 -1.5**

comp=Z,11nm,1.1s
PMR Palmer 93.32 28 eP P 10 45 56.1 -1.5
comp=Z,33nm,1.3s
PMR Palmer 93.32 28 eP P 10 45 56.1 -1.5
PMR pmax pmax
comp=Z,33nm,1.3s
GHO Glory Hole Cre 93.45 28 eP P 10 45 57.5 -0.8
comp=Z,9.3nm,0.8s
VRH Novokhopyorsk 93.52 321 eP P 10 45 57.0 -1.8
VRH pmax pmax
comp=Z,40nm,0.9s
KNK Knik Glacier 93.61 29 eP P 10 45 57.7 -1.4
comp=Z,61nm,1.3s
BWN Browne 93.61 26 eP P 10 45 58.1 -0.8
comp=Z,31nm,0.8s
SML Sawmill 93.73 28 eP P 10 45 58.6 -1.0
comp=Z,33nm,0.7s
MCK McKinley 93.77 26 eP P 10 45 58.4 -1.3
comp=Z,65nm,1.5s
MCK McKinley 93.77 26 eP P 10 45 58.4 -1.3
MCK pmax pmax
comp=Z,65nm,1.5s
COLD Coldfoot 93.86 23 eP P 10 45 59.9 -0.1
comp=Z,4.4nm,0.9s
GLI Glacier Island 94.18 29 eP P 10 46 00.6 -1.1
comp=Z,24nm,1.2s
SCM Sheep Creek Mo 94.20 28 eP P 10 46 00.9 -0.9
comp=Z,45nm,1.2s
SCM Sheep Creek Mo 94.20 28 eP P 10 46 01.0 -0.9
SCM pmax pmax
comp=Z,45nm,1.2s
WRH Wood River Hil 94.25 26 eP P 10 46 00.2 -1.7
comp=Z,37nm,1.3s
MDM Murphy Dome 94.27 25 eP P 10 45 60.0 -2.0
comp=Z,5.2nm,0.9s
TOLK Toolik Lake Re 94.34 21 eP P 10 46 01.4 -0.9
comp=Z,13nm,0.9s
TOLK Toolik Lake Re 94.34 21 P P 10 46 01.6 -0.7
baz=260
DHY Denali Highway 94.36 27 eP P 10 46 01.8 -0.8
comp=Z,48nm,1.4s
TCOL CIGO, UAF Yank 94.41 25 P P 10 46 00.7 -1.8
baz=262
SNAA Sanae 94.55 194 P P 10 46 05.3 +2.0
SNAA Sanae 94.55 194 eP P 10 46 04.3 +1.0
comp=Z,68nm,1.1s
SNAA Sanae 94.55 194 c iP **P 10 46 04.5 +1.2**
SNAA Sanae 94.55 194 P P 10 46 05.0 +1.7
comp=Z,37nm,0.9s,baz=125,slow=3.5,SNR=54
POKR Poker Plat Res 94.63 25 P P 10 46 03.0 -0.6
baz=262
HDA Harding Lake 94.73 26 eP P 10 46 02.3 -1.8
comp=Z,10.0nm,1.0s
HDA Harding Lake 94.73 26 P P 10 46 02.0 -2.1
baz=262
ILAR Eielson Array 94.81 25 P P 10 46 01.9 -2.5
comp=Z,6.1nm,1.1s,baz=268,slow=4.3,SNR=27
ILAR PP **PP 10 49 55.1 +0.5**
comp=Z,0.9nm,0.9s,baz=254,slow=5.7,SNR=3.1
ILAR PKKPbc **PKKPdf 11 03 01.4 -1.5**
comp=Z,3.2nm,0.9s,baz=62,slow=1.3,SNR=17
ILAR LR LR 11 22 39.5
comp=Z,74nm,21.9s,baz=281,slow=32
ILB Eielson Array 94.81 25 ePKKPdf PKKPdf 11 03 01.4 -1.5
ILB e 11 22 39.5
DIV Divide 94.85 29 eP P 10 46 04.2 -0.6
comp=Z,73nm,1.5s
VORD Divnogorie 95.02 321 eP P 10 46 03.8 -1.8
VORD pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 95.12 321 eP P 10 46 04.0 -2.1
VSR pmax pmax
comp=Z,30nm,1.3s
PAX Paxson 95.21 27 eP P 10 46 05.3 -1.1
comp=Z,14nm,0.8s
PAX Paxson 95.21 27 eP P 10 46 05.3 -1.1
PAX pmax pmax
comp=Z,14nm,0.8s
BMRM Bremner River 95.40 29 eP P 10 46 07.8 +0.5
comp=Z,9.4nm,0.9s
LPSR Galich'ya Gora 95.40 322 eP P 10 46 05.9 -1.5
LPSR pmax pmax
comp=Z,40nm,1.0s
HMT Hamilton 95.50 30 eP P 10 46 07.2 -0.6
comp=Z,74nm,0.2s
RIDG Independent Ri 95.58 27 eP P 10 46 06.7 -1.4
comp=Z,33nm,1.3s
ANN Anapa 95.67 314 eP P 10 46 02.0 -6.8
ANN e*PP pP 10 46 29.0 -10
ANN eS **SKSac 10 56 28.7 -5.1**
ANN pmax pmax
comp=Z,45nm,1.1s
KLMR Klimovskoe 95.84 331 eP P 10 46 05.3 -3.9
KLMR pmax pmax
comp=Z,38nm,1.4s
DOT Dot Lake 95.91 27 eP P 10 46 08.4 -1.1
comp=Z,38nm,1.6s
MENT Mentasta 96.00 27 eP P 10 46 09.3 -0.7
comp=Z,31nm,1.6s
VNA2 Neumayer--Watz 96.13 193 P P 10 46 12.2 +1.8
baz=132,slow=4.5
MMAI Mount Meron Ar 96.22 302 LR LR 11 36 34.9
comp=Z,65nm,19.2s,baz=125,slow=40
VNA3 Neumayer Olymp 96.41 193 P P 10 46 13.2 +1.5
MOS Moscow 96.43 325 eP P 10 46 09.3 -2.7
MOS pmax pmax
comp=Z,54nm,1.2s
BALM Baldy 96.50 29 eP P 10 46 12.0 -0.4
comp=Z,27nm,1.6s
BALM Baldy 96.50 29 eP P 10 46 12.0 -0.4
BALM pmax pmax
comp=Z,27nm,1.6s
VNA1 Neumayer--Stat 96.53 193 P P 10 46 13.9 +1.7
TMCR Tamitsa 96.78 334 eP P 10 46 11.1 -2.2
OBN Obninsk 96.99 325 d iP **P 10 46 13.3 -1.2**
OBN e 10 50 11.1
OBN eS **SKSac 10 56 37.5 -2.7**
OBN pmax pmax
comp=Z,46nm,1.2s
OBN MLR MLR
comp=Z,139nm,25.0s
OBN Obninsk 96.99 325 LR LR 11 34 37.8
comp=Z,24nm,20.7s,baz=184,slow=38
CTGM Chitina Glacie 96.99 29 eP P 10 46 14.2 -0.4
comp=Z,29nm,1.4s
EGAK Eagle 97.25 26 eP P 10 46 14.7 -0.8
comp=Z,12nm,1.4s
BOSA Boshof 97.36 240 P Pdif 10 46 17.6 +0.4
comp=Z,5.9nm,1.1s,baz=72,slow=7.5,SNR=4.0
BOSA PKKPbc **PKKPbc 11 02 54.1 -1.1**
comp=Z,1.9nm,0.9s,baz=270,slow=6.1,SNR=2.9
BOSA LR LR 11 26 26.8
comp=Z,162nm,19.9s,baz=54,slow=33
LBTB Lobatse 97.84 243 eP Pdif 10 46 19.7 +0.4
comp=Z,19nm,1.2s
LBTB Lobatse 97.84 243 eP Pdif 10 46 19.7 +0.4
LBTB pmax pmax
comp=Z,19nm,1.2s
DAWY Dawson 98.00 26 eP P 10 46 18.3 -0.7
comp=Z,35nm,1.6s
BR101 Keskin Array S 98.12 309 eP P 10 46 18.8 -1.4
BR101 ePKKPbc **PKKPbc 11 02 54.2 +0.4**
BR101 e 11 36 50.2
BR131 Keskin Array S 98.12 309 eP P 10 46 18.9 -1.4
comp=Z,5.9nm,1.0s
BRTR Keskin Array B 98.12 309 P P 10 46 18.8 -1.4
comp=Z,4.1nm,1.0s,baz=128,slow=5.2,SNR=16
BRTR PKKPbc **PKKPbc 11 02 54.2 +0.4**
comp=Z,1.9nm,1.0s,baz=232,slow=1.4,SNR=6.9
BRTR LR LR 11 36 50.2
comp=Z,43nm,20.9s,baz=90,slow=39
EPYK Eagle Plains 99.11 24 eP Pdif 10 46 22.6 -1.3
comp=Z,15nm,1.3s
EPYK Eagle Plains 99.11 24 P Pdif 10 46 22.5 -1.3
baz=272
WHY Whitehorse 100.15 30 ePdif **Pdif 10 46 28.2 -0.5**
INK Inuvik 100.23 22 eP Pdif 10 46 27.8 -0.9
INK Inuvik 100.23 22 P Pdif 10 46 27.6 -1.1
comp=Z,3.2nm,0.8s,baz=274,slow=6.4,SNR=6.2
INK PKKPbc **PKKPbc 11 02 46.5 -2.1**
comp=Z,2.0nm,0.4s,baz=158,slow=0.6,SNR=6.0
AKASG Malin Array Be 101.38 320 P Pdif 10 46 32.7 -1.5
comp=Z,0.3nm,0.3s,baz=68,slow=5.2,SNR=7.0
AKBB Malin Array Si 101.38 320 ePdif **Pdif 10 46 32.7 -1.5**
AKBB Malin Array Si 101.38 320 eP Pdif 10 46 32.7 -1.5
KIEV Kiev 101.39 320 ⇓ iP **Pdif 10 46 33.2 -1.1**
KIEV Kiev 101.39 320 ⇓P **Pdif 10 46 33.2 -1.1**

ARCES ARCESS Array B 101.46 339 P Pdif 10 46 33.1 -1.1
comp=Z,6.1nm,0.8s,baz=87,slow=6.2,SNR=7.8
ARCES PKiKP **PKiKP 10 50 58.5 +0.9**
comp=Z,0.9nm,0.4s,baz=112,slow=1.5,SNR=8.2
ARCES PKKPbc **PKKPbc 11 02 42.4 -2.8**
comp=Z,1.0nm,0.4s,baz=266,slow=3.0,SNR=14
TIRR Tirgusor 102.10 314 ⇓ iP **PKKPbc 11 02 41.8 -0.6**
CFR Carcaliu 102.28 314 ⇑ iP **Pdif 10 46 37.7 -0.7**
CFR Carcaliu 102.28 314 ⇓ iP **PKKPbc 11 02 41.7 -0.2**
CFR Carcaliu 102.28 314 ⇑P **Pdif 10 46 37.7 -0.7**
FIA0 FINESS Array S 102.34 331 ePdif **Pdif 10 46 36.6 -1.6**
FIA0 ePKiKP **PKiKP 10 51 00.1 +0.8**
FIA0 FINESS Array S 102.34 331 eP Pdif 10 46 36.7 -1.6
FIA0 i 10 51 00.2
FINES FINESS Array B 102.34 331 P Pdif 10 46 36.6 -1.6
comp=Z,1.3nm,0.8s,baz=77,slow=6.3,SNR=4.8
FINES PKiKP **PKiKP 10 51 00.1 +0.8**
comp=Z,1.0nm,0.4s,baz=115,slow=3.2,SNR=13
TLB Topalu 102.36 314 ⇑ iP **Pdif 10 46 38.3 -0.4**
TLB Topalu 102.36 314 ⇓ iP **PKKPbc 11 02 41.7 +0.1**
TLB Topalu 102.36 314 ⇑P **Pdif 10 46 38.3 -0.4**
DLBC Dease Lake 102.78 32 P Pdif 10 46 40.3 -0.1
comp=Z,1.6nm,0.9s,baz=274,slow=6.9,SNR=3.6
DLBC PP **PP 10 50 55.2 -0.3**
comp=Z,1.0nm,0.7s,baz=229,slow=3.8,SNR=3.8
DLBC PKiKP **PKiKP 10 51 01.0 +0.6**
comp=Z,1.4nm,0.9s,baz=301,slow=5.9,SNR=3.6
VRI Vrincioaia 103.24 315 ⇑ iP **Pdif 10 46 43.0 +0.3**
VRI Vrincioaia 103.24 315 ⇓ iP **PKKPbc 11 02 39.0 -0.1**
VRI Vrincioaia 103.24 315 ⇑P **Pdif 10 46 43.0 +0.3**
TESR Tescani 103.27 316 ⇓ iP **Pdif 10 46 42.4 -0.4**
PLOR Plostina 103.30 315 ⇑ iP **PKKPbc 11 02 39.8 +0.8**
BIZ Bicaz 103.62 316 ⇓ iP **PKKPbc 11 02 37.8 -0.2**
MLR Muntele Rosu 103.81 315 ePdif **Pdif 10 46 44.8 -0.6**
MLR Muntele Rosu 103.81 315 ⇓ iP **Pdif 10 46 45.0 -0.4**
MLR Muntele Rosu 103.81 315 ⇑ iP **PKKPbc 11 02 37.4 -0.2**
MLR Muntele Rosu 103.81 315 ⇓P **Pdif 10 46 45.0 -0.4**
DOPR Dopca 104.17 315 ⇑ iP **Pdif 10 46 46.6 -0.2**
DOPR Dopca 104.17 315 ⇓ iP **PKKPbc 11 02 36.2 -0.2**
BURAR Bucovina Array 104.17 317 ⇓ iP **Pdif 10 46 47.3 +0.4**
BURAR Bucovina Array 104.17 317 ⇓ iP **PKKPbc 11 02 37.0 +0.5**
BURAR Bucovina Array 104.17 317 ⇓P **Pdif 10 46 47.3 +0.4**
BUR08 Bucovina Ar. S 104.18 317 ePdif **Pdif 10 46 46.3 -0.6**
DRGR 105.95 316 ⇑ iP **Pdif 10 46 55.1 +0.3**
DRGR 105.95 316 ⇓ iP **PKKPbc 11 02 31.0 -0.1**
DRGR 105.95 316 ⇑P **Pdif 10 46 55.1 +0.3**
KOLS Kolonicke sedl 106.00 319 i P **Pdif 10 46 56.6 +1.7**
KOLS Kolonicke sedl 106.00 319 ePDIF **Pdif 10 46 56.6 +1.7**
GZR Gura Zlata 106.04 315 ⇑ iP **PKKPbc 11 02 30.8 +0.1**
HERR Herculane 106.34 314 ⇓ iP **PKKPbc 11 02 29.9 +0.2**
BZS Buzias 106.83 315 ⇑ iP **PKKPbc 11 02 28.4 +0.2**
MDVR Moldovita 106.85 314 ⇑ iP **PKKPbc 11 02 29.6 +1.4**
VYHS Vyhne 108.32 319 i P **Pdif 10 47 05.3 0.0**
VYHS Vyhne 108.32 319 ePDIF **Pdif 10 47 05.2 0.0**
D03D Eldon 108.41 42 P PKiKP 10 51 12.0 +1.0
comp=Z,1.0nm,0.8s,baz=306,slow=5.2,SNR=7.0
RES PKiKP **PKiKP 10 51 11.0 +0.2**
comp=Z,4.1nm,1.0s,baz=238,slow=3.7,SNR=10
MORC Moravsky Berou 108.93 320 ePP **PP 10 51 45.0 +4.0**
B05A Bryant 108.95 42 P PKiKP 10 51 12.6 +0.6
baz=280
JAVC Velka Javorina 109.02 319 ePP **PP 10 51 46.5 +4.8**
H04D Lebanon 109.10 46 P PKiKP 10 51 12.4 0.0
baz=278
YKA Yellowknife Ar 109.23 26 Pdiff **Pdif 10 47 08.1 -0.8**
comp=Z,0.3nm,0.6s,baz=295,slow=5.0,SNR=5.0
YKA PKiKP **PKiKP 10 51 11.8 -0.2**
comp=Z,5.1nm,0.7s,baz=294,slow=1.8,SNR=70
YKA PKKPbc **PKKPbc 11 02 19.1 -2.1**
comp=Z,4.4nm,0.9s,baz=105,slow=3.1,SNR=32
YKA PKKPab **PKKPab 11 02 31.0 -0.1**
comp=Z,2.0nm,0.9s,baz=107,slow=4.9,SNR=8.5
YKB5 Yellowknife Ar 109.23 26 ePdif **Pdif 10 47 08.2 -0.7**
YKB5 ePKiKP **PKiKP 10 51 11.8 -0.2**
YKB5 ePKKPbc **PKKPbc 11 02 19.1 -2.1**
YKB5 ePKKPab **PKKPab 11 02 31.0 -0.2**
KRLC Kraliky 109.36 320 ePKP **PKiKP 10 51 06.7 -6.1**
NB2 NORSAR Subarra 109.41 333 PKPdif **PKiKP 10 51 12.0 -0.6**
comp=Z,0.6nm,0.7s,baz=68,slow=1.9
NB200 NORSAR Array S 109.41 333 ePdif **Pdif 10 47 08.3 -1.5**
NB200 ePKiKP **PKiKP 10 51 11.9 -0.6**
NOA NORSAR Array B 109.41 333 Pdiff **Pdif 10 47 08.3 -1.5**
comp=Z,1.6nm,1.0s,baz=76,slow=4.4,SNR=2.8
NOA PKiKP **PKiKP 10 51 11.9 -0.6**
comp=Z,1.8nm,0.8s,baz=261,slow=3.2,SNR=5.0
M02C Callahan 109.43 49 P PKiKP 10 51 13.5 +0.2
baz=277
I04A Tendick Farm, 109.44 46 P PKiKP 10 51 13.4 +0.2
baz=278
YBH Yreka Blue Hor 109.49 49 PP PP 10 51 43.4 -2.1
comp=Z,3.8nm,1.1s,baz=225,slow=4.3,SNR=3.8
DPC Dobruska-Polom 109.59 321 ePKP **PKiKP 10 51 07.0 -6.2**
DPC ex x 10 51 13.7
DPC ePS **PS 11 01 15.7 -0.1**
DPC AMS AMS 11 36 50.0
comp=Z,100nm,21.4s
O02D Mt. Diablo Mer 109.62 50 P PKiKP 10 51 14.1 +0.4
baz=277
VRAC Vranov 109.63 320 ePP **PP 10 51 50.5 +4.5**
L04D Klamath Falls 109.73 48 P PKiKP 10 51 14.0 +0.2
baz=278
J04D Umpqua Nationa 109.73 47 P PKiKP 10 51 14.3 +0.4
baz=278
UPC Upice 109.75 321 ePKP **PKiKP 10 51 11.1 -2.4**
UPC AMS AMS 11 37 00.0
comp=Z,100nm,17.5s
KRUC Moravsky 109.81 319 ePP **PP 10 51 50.2 +2.9**
K04D Chiloquin, OR 110.08 47 P PKiKP 10 51 15.0 +0.6
baz=278
I05D Terrebonne, OR 110.12 46 P PKiKP 10 51 15.0 +0.6
baz=279
J05D Fort Rock, OR 110.36 47 P PKiKP 10 51 15.8 +0.8
baz=279
CONA Conrad Observa 110.38 318 ePKiKP **PKiKP 10 51 14.7 -0.1**
comp=Z,4.7nm,1.3s
CONA i PKKPbc **PKKPbc 11 02 16.9 -0.3**
comp=Z,4.4nm,0.8s
GOPC GO Pecny, Ondr 110.65 321 ePS PS 11 01 25.7 +0.2
GOPC AMS AMS 11 37 40.0
comp=Z,100nm,16.9s
ARSA Arzberg 110.74 318 ePKiKP **PKiKP 10 51 15.3 -0.1**
comp=Z,2.4nm,0.9s
ARSA ePKKPbc **PKKPbc 11 02 09.2 -6.7**
comp=Z,3.5nm,0.8s
PRU Pruhonice 110.79 321 ePKIKP **PKiKP 10 51 15.4 0.0**
PRU ePS **PS 11 01 27.6 +0.9**
PRU MLR MLR
comp=Z,100nm,17.5s
PRU Pruhonice 110.79 321 ePKP **PKiKP 10 51 15.4 0.0**
PRU ePS **PS 11 01 27.6 +0.9**
PRU AMS AMS 11 37 40.0
comp=Z,100nm,17.5s
BRG Berggiesshubel 110.95 322 ePKP **PKiKP 10 51 15.5 -0.2**
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 110.95 322 ePKIKP **PKiKP 10 51 15.5 -0.2**
BRG pmax pmax
comp=Z,5.0nm,0.9s
JMIC Jan Mayen 111.12 346 PKKPab PKKPab 11 02 21.6 -1.1
comp=Z,150nm,1.0s,baz=163,slow=16,SNR=3.3
SOKA Soboth 111.18 317 ePKKPbc PKKPbc 11 02 13.3 -1.2
comp=Z,3.9nm,0.9s
CLL Collm 111.41 322 i PKIKP **PKiKP 10 51 16.0 -0.5**
CLL Collm 111.41 322 i PKiKP **PKiKP 10 51 16.0 -0.5**
CLL ePP **PP 10 51 58.0 -0.7**
MOA Molln 111.45 318 ePKiKP **PKiKP 10 51 15.9 -0.8**
comp=Z,6.5nm,1.5s
OBKA Obir 111.54 317 ePKKPbc PKKPbc 11 02 13.4 +0.1
comp=Z,12nm,1.8s
GERES GERESS Array B 111.59 320 PKiKP **PKiKP 10 51 16.5 -0.6**
comp=Z,2.3nm,0.5s,baz=70,slow=1.6,SNR=16
GERES PP **PP 10 52 04.7 +4.5**
comp=Z,1.1nm,0.7s,baz=40,slow=5.1,SNR=3.4
GERES PKKPbc **PKKPbc 11 02 12.8 -0.4**
comp=Z,1.4nm,0.8s,baz=258,slow=4.0,SNR=8.5
GERES PKKPab **PKKPab 11 02 21.4 +0.3**
comp=Z,1.0nm,0.7s,baz=225,slow=3.6,SNR=5.7
KHC Kasperske Hory 111.60 320 ePKIKP **PKiKP 10 51 17.0 0.0**
KHC ePS **PS 11 01 37.2 +2.9**
KHC Kasperske Hory 111.60 320 ePKP **PKiKP 10 51 17.0 0.0**
KHC ePS **PS 11 01 37.2 +2.9**

NEW Newport 112.20 41 P PKiKP 10 51 18.4 +0.2
baz=284
NEW Newport 112.20 41 PKiKP **PKiKP 10 51 17.9 -0.3**
comp=Z,0.7nm,0.3s,baz=306,slow=5.2,SNR=4.1
NEW PP **PP 10 52 07.2 +2.7**
comp=Z,1.7nm,0.7s,baz=270,slow=4.0,SNR=4.7
KBA Koelnbreinsper 112.23 318 ePKKPbc PKKPbc 11 02 11.1 -0.1
comp=Z,7.2nm,1.2s
SMMC Simmler 112.38 55 P PKiKP 10 51 19.8 +0.8
baz=277
PKM Mcpherson Peak 112.58 55 P PKiKP 10 51 19.9 +0.4
baz=277
ABTA Abfaltersbach 112.86 318 ePKiKP **PKiKP 10 51 19.1 -0.5**
comp=Z,3.9nm,0.7s
ABTA ePKKPbc **PKKPbc 11 02 09.5 +0.6**
comp=Z,6.3nm,1.0s
NV01 Mina Array Sit 113.31 52 ePdif **Pdif 10 47 27.9 0.0**
NV01 ePKiKP **PKiKP 10 51 22.2 +1.3**
NV01 ePKKPbc **PKKPbc 11 02 08.1 +0.7**
NV01 ePKKPab **PKKPab 11 02 15.5 +1.7**
NVAR Mina Array Bea 113.31 52 Pdiff **Pdif 10 47 27.9 0.0**
comp=Z,0.1nm,0.5s,baz=249,slow=3.8,SNR=2.3
NVAR PKiKP **PKiKP 10 51 22.2 +1.3**
comp=Z,3.7nm,0.8s,baz=258,slow=2.3,SNR=21
NVAR PKKPbc **PKKPbc 11 02 08.1 +0.7**
comp=Z,1.0nm,0.9s,baz=144,slow=4.0,SNR=4.4
NVAR PKKPab **PKKPab 11 02 15.5 +1.7**
comp=Z,2.3nm,1.1s,baz=125,slow=5.1,SNR=6.5
WTTA Wattenberg 113.31 318 i PKiKP **PKiKP 10 51 20.4 -0.2**
comp=Z,8.6nm,0.4s,SNR=9.9
WTTA i PKKPbc **PKKPbc 11 02 07.8 +0.2**
comp=Z,8.1nm,1.1s
WATA Walderalm 113.34 318 ePKiKP **PKiKP 10 51 20.0 -0.6**
comp=Z,2.2nm,0.4s
WATA i PKKPbc **PKKPbc 11 02 08.1 +0.6**
comp=Z,2.3nm,0.5s
ISA Isabella, Lake 113.57 55 P PKiKP 10 51 21.9 +0.7
baz=278
SQTA Sankt Quirin 113.61 318 ePKiKP **PKiKP 10 51 21.3 +0.3**
comp=Z,2.7nm,0.5s
SQTA ePKKPbc **PKKPbc 11 02 06.8 +0.3**
comp=Z,16nm,1.1s
MOTA Moosalm 113.64 319 ePKiKP **PKiKP 10 51 19.8 -1.3**
comp=Z,3.5nm,0.5s,SNR=4.1
CWC Cottonwood Cre 113.78 54 P PKiKP 10 51 22.4 +0.7
baz=278
RETA Reutte 113.83 319 ePKKPab PKKPab 11 02 13.3 +2.2
comp=Z,11nm,1.3s
CIS Catalina Islan 113.91 57 P PKiKP 10 51 22.5 +0.5
baz=277
FETA Feichten 113.98 318 i PKiKP **PKiKP 10 51 22.0 +0.2**
comp=Z,7.7nm,1.1s
FETA ePKKPab **PKKPbc 11 02 06.8 +1.6**
comp=Z,11nm,1.4s
EDW2 Edwards Air Fo 114.07 55 P PKiKP 10 51 23.0 +0.8
baz=278
LRMC Laurel Mtn Rad 114.24 55 P PKiKP 10 51 23.4 +0.8
baz=278
GRAC Grapevine Rang 114.27 53 P PKiKP 10 51 23.1 +0.6
baz=279
MPMC Manual Prospec 114.31 54 P PKiKP 10 51 23.8 +0.9
baz=279
BFSC Mount Baldy Ra 114.43 56 P PKiKP 10 51 23.8 +0.8
baz=278
DAVA Damuels 114.46 319 i PKiKP PKPdf 10 51 22.5 -0.2
comp=Z,8.3nm,0.5s,SNR=8.8
MSO Missoula 114.65 42 P PKiKP 10 51 23.2 +0.2
baz=286
MURC Murrieta 114.89 57 P PKiKP 10 51 24.6 +0.8
baz=278
GSC Goldstone, Bar 114.97 55 P PKPdf 10 51 24.8 +0.8
baz=279
109C Camp Elliot, M 115.06 57 P PKPdf 10 51 24.9 +0.8
baz=277
TPNV Topopah Spring 115.16 53 P PKPdf 10 51 25.3 +0.9
baz=280
BFO Black Forest 115.16 320 i PKIKP **PKPdf 10 51 23.9 0.0**
HLID Hailey 115.17 45 P PKPdf 10 51 25.3 +1.0
baz=284
ELK Elko 115.21 49 PKP **PKPdf 10 51 25.4 +0.9**
comp=Z,3.1nm,0.6s,baz=291,slow=2.8,SNR=16
ELK PP **PP 10 52 22.9 -3.5**
comp=Z,4.8nm,1.2s,baz=270,slow=4.5,SNR=8.7
SHOC Shoshone, Teco 115.31 54 P PKPdf 10 51 25.6 +1.1
baz=279
HEC Hector,Ludlow 115.42 55 P PKiKP 10 51 26.0 +1.2
baz=279
R11A Troy Canyon, C 115.42 51 ePKiKP **PKiKP 10 51 24.6 -0.3**
R11A Troy Canyon, C 115.42 51 P PKPdf 10 51 25.8 +0.9
baz=281
PFO Pinyon Flats O 115.50 56 ePKPdf **PKPdf 10 51 23.2 -1.9**
PFO Pinyon Flats O 115.50 56 ePKIKP **PKPdf 10 51 23.2 -1.9**
PFO Pinyon Flats O 115.50 56 P PKiKP 10 51 26.0 +0.9
baz=278
MONP2 Monument Peak 115.63 57 P PKiKP 10 51 26.5 +1.0
baz=278,SNR=8.2
TUQ Turquoise Moun 115.66 54 P PKiKP 10 51 25.9 +0.5
baz=279
BELC Belle Mtn. Jos 115.82 56 P PKiKP 10 51 26.8 +1.1
baz=279,SNR=12
IKP In-Ko-Pah, Jac 115.92 57 P PKiKP 10 51 27.1 +1.2
baz=278,SNR=7.7
LRM Limekiln Ridge 115.92 43 ePKPdf **PKPdf 10 51 24.2 -1.5**
MCMT McKenzie Canyo 115.93 44 ePKPdf **PKiKP 10 51 26.1 +0.3**
DLMT Dillon 115.95 43 ePKPdf **PKPdf 10 51 25.4 -0.3**
GMRC Granite Mounta 115.98 55 P PKiKP 10 51 27.4 +1.4
baz=279,SNR=14
HRY Holter Researc 116.07 41 ePKPdf **PKiKP 10 51 26.2 +0.4**
SHPR Sheep Range 116.09 53 ePKPdf **PKiKP 10 51 26.9 +0.7**
SWSC Sam W. Stewart 116.14 57 P PKiKP 10 51 26.7 +0.6
baz=278
BC3 Big Chuckawall 116.32 56 P PKiKP 10 51 27.6 +1.0
baz=279,SNR=10
IRM Iron Mountain 116.50 56 P PKiKP 10 51 28.3 +1.4
baz=279,SNR=12
BOZ Bozeman (W) 116.54 43 ePKPdf **PKiKP 10 51 27.5 +0.7**
BOZ Bozeman (W) 116.54 43 ePKIKP **PKiKP 10 51 27.5 +0.7**
BOZ Bozeman (W) 116.54 43 P PKiKP 10 51 27.7 +0.9
baz=287
PSUT Pine Spring 116.72 51 ePKPdf **PKiKP 10 51 27.9 +0.4**
HVU Hansel Valley 116.78 47 ePKPdf **PKiKP 10 51 28.0 +0.6**
HVU Hansel Valley 116.78 47 ePKIKP **PKiKP 10 51 28.0 +0.6**
BGU Big Grassy Mou 116.80 48 ePKPdf **PKiKP 10 51 28.3 +0.8**
NEE2 Needles Airpor 116.83 55 P PKiKP 10 51 28.4 +0.9
baz=280
GLA Glamis 116.93 57 P PKiKP 10 51 28.5 +0.7
baz=279
EGMT Eagleton 116.99 40 ePKPdf **PKiKP 10 51 27.6 +0.2**
EGMT Eagleton 116.99 40 P PKiKP 10 51 27.9 +0.4
baz=290
Y12C Blythe 117.07 56 ePKPdf **PKiKP 10 51 28.6 +0.6**
Y12C Blythe 117.07 56 P PKiKP 10 51 29.0 +1.0
baz=279
YHB Horse Butte 117.08 43 ePKPdf **PKPdf 10 51 27.9 -0.1**
SPUT South Promonto 117.14 47 ePKPdf **PKiKP 10 51 28.4 +0.3**
DUG Dugway, Tooele 117.14 49 ePKPdf **PKiKP 10 51 28.9 +0.8**
DUG Dugway, Tooele 117.14 49 ePKIKP **PKiKP 10 51 28.9 +0.8**
YMR Madison River 117.26 43 ePKPdf **PKiKP 10 51 29.0 +0.7**
PDMCI Parker Dam,Lak 117.30 55 P PKiKP 10 51 29.4 +1.0
baz=280
CCUT Cedar City 117.31 52 ePKPdf **PKiKP 10 51 29.4 +0.8**
YHH Holmes Hill 117.31 43 ePKPdf **PKiKP 10 51 29.7 +1.2**
W13A Hualapai Mount 117.36 54 ePKPdf **PKiKP 10 51 30.1 +1.3**
YFT Old Faithful 117.42 44 ePKPdf **PKiKP 10 51 31.0 +2.3**
YPP Pitchstone Pla 117.49 44 ePKPdf **PKiKP 10 51 30.2 +1.3**
LCMT Little Creek M 117.51 52 ePKPdf **PKiKP 10 51 29.7 +0.7**
IMW Indian Meadow 117.51 44 ePKPdf **PKiKP 10 51 29.6 +0.7**
SZCU Shurtz Canyon 117.51 52 ePKPdf **PKiKP 10 51 30.2 +1.2**
FXWY Fox Creek 117.52 45 ePKPdf **PKiKP 10 51 29.7 +0.8**
KEST Kesra 117.56 306 ePKPdf **PKiKP 10 51 29.4 +0.5**
KEST ePP **PP 10 52 39.9 -2.8**
KEST Kesra 117.56 306 PKP **PKiKP 10 51 29.4 +0.5**
comp=Z,2.7nm,0.5s,baz=329,slow=4.3,SNR=5.3
KEST PP **PP 10 52 39.5 -3.2**
comp=Z,29nm,1.2s,baz=219,slow=1.2,SNR=6.9
H17A Grant Village 117.61 44 ePKPdf **PKiKP 10 51 30.0 +0.9**
H17A Grant Village 117.61 44 P PKiKP 10 51 30.8 +1.8
baz=288
TPAW Teton Pass 117.62 45 ePKPdf **PKiKP 10 51 30.4 +1.3**
FLWY Flagg Ranch 117.62 44 ePKPdf **PKiKP 10 51 29.7 +0.7**
MOOW Moose Ponds 117.69 44 ePKPdf **PKiKP 10 51 29.9 +0.7**
HWUT Hardware Ranch 117.70 47 ePKPdf **PKPdf 10 51 28.9 -0.3**
AHID Auburn Hatcher 117.72 45 ePKPdf **PKiKP 10 51 29.8 +0.5**
REDW Red Top Meadow 117.72 45 ePKPdf **PKiKP 10 51 30.2 +0.9**
NLU North Lily Min 117.75 49 ePKPdf **PKiKP 10 51 29.8 +0.4**
SNOW Snow King Moun 117.76 45 ePKPdf **PKiKP 10 51 30.3 +0.9**

GCMT	Greycliff	117.79	42	ePKPdf	PKPdf	10 51 27.8	-1.3
CTU	Camp Tracy	117.80	48	ePKPdf	PKiKP	10 51 29.9	+0.5
LOHW	Long Hollow	117.82	44	ePKPdf	PKiKP	10 51 30.0	+0.5
KNB	Kanab	117.84	52	ePKPdf	PKiKP	10 51 30.8	+1.2
113A	Mohawk Valley,	117.86	57	ePKPdf	PKiKP	10 51 30.2	+0.7
TCUT	Toone Canyon	117.94	47	ePKPdf	PKiKP	10 51 29.8	0.0
MSU	Marysvale	118.01	50	ePKPdf	PKiKP	10 51 31.9	+1.9
JLU	Jordanelle	118.05	48	ePKPdf	PKiKP	10 51 30.6	+0.6
MPU	Maple Canyon	118.06	49	ePKPdf	PKiKP	10 51 30.7	+0.7
PKCU	Pink Cliffs	118.14	52	ePKPdf	PKiKP	10 51 31.3	+0.9
RLMT	Red Lodge	118.27	43	ePKPdf	PKiKP	10 51 30.3	0.0
RLMT	Red Lodge baz=289	118.27	43	P	PKiKP	10 51 30.9	+0.6
Y14A	Wickenburg	118.29	56	ePKPdf	PKiKP	10 51 31.6	+1.2
U15A	North Rim	118.38	53	ePKPdf	PKPdf	10 51 30.4	-0.4
TMUT	Trail Mountain	118.56	49	ePKPdf	PKPdf	10 51 31.0	-0.1
FFC	Flin Flon	118.56	30	ePKPdf	PKPdf	10 51 30.1	-0.1
FFC	Flin Flon	118.56	30	i PKIKP	PKiKP	10 51 30.3	+0.1
Q16A	Castle Valley	118.68	50	ePKPdf	PKiKP	10 51 31.6	+0.4
214A	Organ Pipe Nat baz=280	118.79	58	P	PKiKP	10 51 32.5	+1.1
BW06	Boulder Array	118.81	45	ePKPdf	PKPdf	10 51 31.3	0.0
BW06	Boulder Array baz=288	118.81	45	P	PKiKP	10 51 32.3	+0.9
PD31	Pinedale Array	118.81	45	ePKPdf	PKPdf	10 51 31.2	-0.2
PD31				ePKKPbc	PKKPbc	11 01 48.2	-0.1
PDAR	Pinedale Array comp=Z,3.7nm,0.5s,baz=215,slow=1.4,SNR=40	118.81	45	PKP	PKiKP	10 51 31.9	+0.5
PDAR				PKKPbc	PKKPbc	11 01 47.8	-0.5
	comp=Z,2.4nm,1.0s,baz=108,slow=4.8,SNR=9.3						
P17A	Butcher Ranch,	118.86	49	ePKPdf	PKiKP	10 51 32.5	+1.0
SRU	San Rafael Swe	119.12	49	ePKPdf	PKiKP	10 51 32.5	+0.4
WUAZ	Wupatki	119.30	54	ePKPdf	PKiKP	10 51 33.5	+1.0
WUAZ	Wupatki baz=282	119.30	54	P	PKiKP	10 51 33.6	+1.2
X16A	Lo Mia Camp, P	119.47	55	ePKPdf	PKiKP	10 51 33.7	+0.8
LAO	LASA Array	119.71	40	ePKPdf	PKiKP	10 51 33.6	+0.8
LAO	LASA Array baz=292	119.71	40	P	PKiKP	10 51 34.2	+1.4
FCC	Fort Churchill	119.78	24	ePKPdf	PKPdf	10 51 31.5	-0.8
FCC	Fort Churchill	119.78	24	ePKIKP	PKPdf	10 51 31.5	-0.8
DGMT	Dagmar	120.25	37	ePKPdf	PKPdf	10 51 32.5	-1.1
DGMT	Dagmar baz=295	120.25	37	P	PKiKP	10 51 34.7	+0.9
PV09	Paradox Valley	120.33	50	ePKPdf	PKiKP	10 51 35.6	+1.0
TUC	Tucson	120.42	57	ePKPdf	PKiKP	10 51 35.1	+0.5
TUC	Tucson baz=281	120.42	57	P	PKiKP	10 51 35.4	+0.7
PV21	Cone Mtn., Par	120.43	50	ePKPdf	PKiKP	10 51 35.3	+0.6
PV10	Paradox Valley	120.43	50	ePKPdf	PKiKP	10 51 35.8	+1.1
PV23	Carpenter Ridg	120.43	50	ePKPdf	PKiKP	10 51 35.5	+0.7
PV14	Lion Creek, Pa	120.44	50	ePKPdf	PKiKP	10 51 35.8	+1.0
PV05	Paradox Valley	120.46	50	ePKPdf	PKiKP	10 51 34.9	+0.1
PV19	Morning Glory	120.49	50	ePKPdf	PKiKP	10 51 35.4	+0.6
PV20	West Nyswonger	120.49	50	ePKPdf	PKiKP	10 51 35.4	+0.7
PV17	East Wray Mesa	120.52	50	ePKPdf	PKiKP	10 51 35.5	+0.6
PV04	Paradox Valley	120.53	50	ePKPdf	PKiKP	10 51 35.6	+0.8
O20A	White River Ci	120.53	48	ePKPdf	PKiKP	10 51 35.0	+0.2
O20A	White River Ci baz=287	120.53	48	P	PKiKP	10 51 35.9	+1.1
PV16	Nyswonger Mesa	120.54	50	ePKPdf	PKiKP	10 51 35.5	+0.6
PV18	Skein Mesa, Pa	120.56	50	ePKPdf	PKiKP	10 51 35.6	+0.6
PV11	David Mesa, Pa	120.58	50	ePKPdf	PKiKP	10 51 36.0	+1.1
PV22	Blue Mesa, Par	120.58	50	ePKPdf	PKiKP	10 51 35.6	+0.7
PV03	Paradox Valley	120.61	50	ePKPdf	PKiKP	10 51 35.7	+0.6
PV12	Saucer Basin,	120.62	50	ePKPdf	PKiKP	10 51 35.7	+0.6
X18A	Snowflake	120.65	54	ePKPdf	PKiKP	10 51 36.2	+1.0
PV13	Radium Mtn., P	120.65	50	ePKPdf	PKiKP	10 51 35.9	+0.7
W18A	Petrified Fore	120.69	54	ePKPdf	PKiKP	10 51 36.0	+0.7
W18A	Petrified Fore baz=283	120.69	54	P	PKiKP	10 51 36.4	+1.2
PV02	Paradox Valley	120.70	50	ePKPdf	PKiKP	10 51 35.8	+0.6
PV07	Paradox Valley	120.71	50	ePKPdf	PKiKP	10 51 35.4	+0.2
SFJD	Kangerlussuaq	120.73	359	ePKPdf	PKiKP	10 51 34.3	+0.2
SFJD	Kangerlussuaq	120.73	359	ePKIKP	PKiKP	10 51 34.3	+0.2
SFJD	Kangerlussuaq comp=Z,18nm,1.0s,baz=2.4,slow=2.8,SNR=6.9	120.73	359	PKP	PKPdf	10 51 32.8	-1.1
RWWY	Rawlins	120.80	46	ePKPdf	PKiKP	10 51 35.3	0.0
PV01	Paradox Valley	120.85	50	ePKPdf	PKiKP	10 51 36.4	+0.9
K22A	Casper	120.96	44	ePKPdf	PKPdf	10 51 35.4	-0.1
K22A	Casper baz=290,SNR=14	120.96	44	P	PKPdf	10 51 35.3	-0.1
MVCO	Mesa Verde	121.15	51	ePKPdf	PKiKP	10 51 36.8	+0.7
MVCO	Mesa Verde baz=285	121.15	51	P	PKiKP	10 51 37.3	+1.1
SMCO	Snowmass	121.75	48	ePKPdf	PKiKP	10 51 38.5	+1.0
319A	Douglas	121.85	58	ePKPdf	PKiKP	10 51 38.9	+1.3
N23A	Red Feather La	121.96	46	ePKPdf	PKiKP	10 51 38.0	+0.3
N23A	Red Feather La baz=290	121.96	46	P	PKiKP	10 51 38.2	+0.5
RSSD	Black Hills	122.12	42	ePKPdf	PKPdf	10 51 37.4	-0.2
RSSD	Black Hills baz=293	122.12	42	P	PKPdf	10 51 37.6	-0.1
S22A	4UR Ranch, Cre	122.28	50	ePKPdf	PKiKP	10 51 39.7	+1.2
S22A	4UR Ranch, Cre baz=287	122.28	50	P	PKiKP	10 51 39.7	+1.2
SLBS	Sierra La Lagu	122.42	67	ePKPdf	PKPdf	10 51 38.5	-0.1
ISCO	Idaho Springs	122.56	47	ePKPdf	PKiKP	10 51 38.8	-0.1
ISCO	Idaho Springs baz=289	122.56	47	P	PKiKP	10 51 39.7	+0.8
TAM	Tamanrasset	122.76	292	ePKPdf	PKiKP	10 51 39.8	+0.2
TAM	Tamanrasset	122.76	292	ePKIKP	PKiKP	10 51 39.8	+0.2
FRB	Frobisher Bay comp=Z,17nm,0.7s,baz=347,slow=2.8,SNR=21	122.76	9	PKP	PKPdf	10 51 37.4	-0.6
121A	Cookes Peak, D baz=283	122.85	56	P	PKiKP	10 51 40.7	+1.1
LAZ	Ladron	122.94	54	ePKPdf	PKiKP	10 51 40.8	+1.1
LENM	Lemitar	123.13	54	ePKPdf	PKiKP	10 51 41.1	+1.0
Q24A	Divide baz=289	123.17	48	P	PKiKP	10 51 40.2	0.0
Y22D	IRIS PASSCAL I baz=285	123.19	54	P	PKiKP	10 51 41.2	+1.1
MDND	Maddock	123.27	36	ePKPdf	PKPdf	10 51 39.4	-0.1
MDND	Maddock baz=299	123.27	36	P	PKPdf	10 51 39.3	-0.1
SDCO	Great Sand Dun	123.29	50	ePKPdf	PKiKP	10 51 40.5	+0.1
SDCO	Great Sand Dun baz=288	123.29	50	P	PKiKP	10 51 41.2	+0.8
TASM	ASL Pad, Albuq baz=286	123.34	53	P	PKiKP	10 51 41.2	+0.7
TASM	ASL Pad, Albuq baz=286	123.34	53	P	PKiKP	10 51 41.4	+0.9
ANMO	Albuquerque	123.34	53	ePKPdf	PKiKP	10 51 40.9	+0.4
ANMO	Albuquerque baz=286	123.34	53	P	PKiKP	10 51 41.4	+0.9
LPM	Los Pinos Moun	123.37	54	ePKPdf	PKiKP	10 51 40.4	-0.1
BNM	Barren Site	123.41	54	ePKPdf	PKiKP	10 51 40.8	+0.1
ULM	Lac du Bonnet	124.10	32	ePKPdf	PKPdf	10 51 40.3	-0.7
ULM	Lac du Bonnet comp=Z,18nm,0.9s,baz=308,slow=2.3,SNR=27	124.10	32	PKP	PKPdf	10 51 40.6	-0.3
T25A	Trinidad	124.30	50	ePKPdf	PKiKP	10 51 43.0	+0.7
T25A	Trinidad baz=288	124.30	50	P	PKiKP	10 51 43.0	+0.7
OGNE	Ogallala baz=293	124.71	45	P	PKPdf	10 51 42.3	-0.2
KSCO	Kaye Shedlock' baz=291	125.00	47	P	PKiKP	10 51 43.7	+0.1
MNTX	Cornudas Mount	125.03	57	ePKPdf	PKiKP	10 51 44.0	+0.3
MNTX	Cornudas Mount baz=284	125.03	57	P	PKiKP	10 51 44.4	+0.7
AGMN	Agassiz Nation	125.19	34	ePKPdf	PKPdf	10 51 42.2	-1.0
AGMN	Agassiz Nation baz=303	125.19	34	P	PKPdf	10 51 42.1	-1.0
SUSD	Miller baz=298	125.28	40	P	PKPdf	10 51 42.6	-0.8
GDL2	Guadalupe Moun	125.74	56	ePKPdf	PKiKP	10 51 45.9	+0.7
HPIG		125.79	62	ePKPdf	PKiKP	10 51 45.4	-0.2
GO07	Milladeo Hill,	125.80	161	ePKPdf	PKiKP	10 51 45.3	+0.5
NRS	Narsarsuaq	126.37	356	ePKPdf	PKPdf	10 51 44.6	-0.3
NRS	Narsarsuaq	126.37	356	ePKIKP	PKPdf	10 51 44.6	-0.3
IVI	Ivigtut	126.47	358	ePKPdf	PKPdf	10 51 45.0	-0.1
MSTX	Muleshoe	126.54	53	ePKPdf	PKPdf	10 51 46.5	+0.2
MSTX	Muleshoe baz=288	126.54	53	P	PKPdf	10 51 46.5	+0.2
PAB	San Pablo	126.83	314	ePKPdf	PKiKP	10 51 47.1	0.0
PAB	San Pablo	126.83	314	ePKIKP	PKiKP	10 51 47.1	0.0
TOA0	Torodi Ar. Sit	126.91	281	ePKPdf	PKPdf	10 51 47.4	+0.1
TORD	Torodi Ar. Bea comp=Z,11nm,1.0s,baz=14,slow=2.5,SNR=36	126.91	281	PKP	PKPdf	10 51 45.7	-1.6
TORD				PKKPbc	PKKPbc	11 01 18.4	+1.8
	comp=Z,1.4nm,1.2s,baz=335,slow=6.6,SNR=4.5						
TOA1	Torodi Ar. Sit	126.91	281	ePKPdf	PKPdf	10 51 45.7	-1.6
TX31	Lajitas Ar. Si	127.02	59	ePKPdf	PKiKP	10 51 48.0	+0.1
LTX	Lajitas	127.03	59	ePKPdf	PKiKP	10 51 48.2	+0.3
LTX				e		11 04 59.0	
LTX	Lajitas	127.03	59	ePKIKP	PKiKP	10 51 48.2	+0.3
TXAR	Lajitas Array comp=Z,8.7nm,1.0s,baz=270,slow=1.3,SNR=42	127.03	59	PKP	PKiKP	10 51 48.2	+0.3
TXAR				SKKPbc	SKKPbc	11 04 59.0	+2.0
	comp=Z,0.3nm,0.9s,baz=127,slow=8.0,SNR=3.4						
ECSD	EROS Data Cent	127.10	40	ePKPdf	PKPdf	10 51 46.4	-0.5
ECSD	EROS Data Cent baz=300	127.10	40	P	PKPdf	10 51 46.5	-0.5
AMTX	Amarillo	127.11	52	ePKPdf	PKiKP	10 51 47.8	0.0
AMTX	Amarillo baz=289	127.11	52	P	PKiKP	10 51 47.7	-0.1
CBKS	Cedar Bluff baz=293	127.16	46	P	PKPdf	10 51 47.3	+0.1
BGNE	Belgrade	127.18	43	ePKPdf	PKPdf	10 51 46.9	-0.3
BGNE	Belgrade baz=297	127.18	43	P	PKPdf	10 51 46.7	-0.5
EYMN	Ely	127.78	33	ePKPdf	PKPdf	10 51 47.6	-0.5
EYMN	Ely baz=307	127.78	33	P	PKPdf	10 51 47.8	-0.3
POLO	Lamas de Olo	128.40	318	ePKP	PKiKP	10 51 50.8	+0.6
PGAV	Gavieira, Arco	128.43	319	ePKP	PKPdf	10 51 49.7	+0.1
F37A	Hinrichs Farm, baz=305,SNR=7.4	128.46	36	P	PKPdf	10 51 49.1	-0.3
E38A	The Farm, Brul	128.56	34	ePKPdf	PKPdf	10 51 49.0	-0.5
E38A	The Farm, Brul baz=306,SNR=8.0	128.56	34	P	PKPdf	10 51 49.1	-0.5
SPMN	Marine on St.	128.64	36	ePKPdf	PKPdf	10 51 49.2	-0.6
SPMN	Marine on St. baz=304	128.64	36	P	PKPdf	10 51 49.5	-0.3
F38A	Pierce - Schro baz=306,SNR=10	128.75	35	P	PKPdf	10 51 49.7	-0.3
PCBR	Castelo Branco	128.89	316	ePKP	PKiKP	10 51 51.8	+0.7
PLCA	Paso Flores	128.94	162	ePKPdf	PKiKP	10 51 51.5	+0.1
PLCA	Paso Flores comp=Z,29nm,0.9s,baz=231,slow=2.7,SNR=48	128.94	162	PKP	PKiKP	10 51 51.9	+0.6
PLCA				SKPbc	SKPbc	10 55 01.2	
	comp=Z,5.1nm,1.1s,baz=228,slow=3.8,SNR=5.0						
PLCA	Paso Flores	128.94	162	eP	PKiKP	10 51 52.1	+0.8
C40A	Isle Royale Na	129.04	31	ePKPdf	PKPdf	10 51 50.4	-0.1
C40A	Isle Royale Na baz=310,SNR=5.4	129.04	31	P	PKPdf	10 51 50.2	-0.3
G38A	Ridgeland baz=305,SNR=8.3	129.22	36	P	PKPdf	10 51 50.1	-0.8
E39A	Mellen baz=307,SNR=13	129.24	34	P	PKPdf	10 51 50.5	-0.5
H38A	Maiden Rock baz=304	129.25	36	P	PKPdf	10 51 50.4	-0.6
KSU1	Kansas State U baz=296	129.26	45	P	PKPdf	10 51 50.9	-0.3
ZAIG	Zacatecas	129.27	67	ePKPdf	PKiKP	10 51 53.1	+0.4
F39A	Loretta baz=307,SNR=8.6	129.32	34	P	PKPdf	10 51 50.5	-0.6
WMOK	Wichita Mounta	129.41	51	ePKPdf	PKPdf	10 51 51.8	+0.2
WMOK	Wichita Mounta	129.41	51	ePKIKP	PKPdf	10 51 51.8	+0.2
WMOK	Wichita Mounta baz=291	129.41	51	P	PKPdf	10 51 51.6	0.0
ABTX	Abilene, Hawle	129.44	54	ePKPdf	PKiKP	10 51 52.3	-0.2
ABTX	Abilene, Hawle baz=289	129.44	54	P	PKPdf	10 51 51.9	+0.1
MDT	Midelt comp=Z,4.2nm,0.8s,baz=130,slow=1.6,SNR=8.0	129.46	307	PKP	PKiKP	10 51 52.4	-0.3
G39A	Holcombe baz=306,SNR=7.7	129.55	35	P	PKPdf	10 51 51.1	-0.5
E40A	Wakefield baz=308,SNR=12	129.56	33	P	PKPdf	10 51 51.4	-0.1
GO06	Curarrehue	129.69	161	ePKPdf	PKiKP	10 51 53.2	+0.2
F40A	Park Falls baz=308,SNR=10	129.76	34	P	PKPdf	10 51 51.5	-0.5
H39A	Augusta baz=306,SNR=12	129.84	36	P	PKPdf	10 51 51.6	-0.5
D41A	Chassel	129.89	32	ePKPdf	PKiKP	10 51 52.5	-0.4
D41A	Chassel baz=310,SNR=5.8	129.89	32	P	PKPdf	10 51 52.1	0.0
JCT	Junction City	129.97	56	ePKPdf	PKiKP	10 51 53.4	-0.2
JCT	Junction City	129.97	56	ePKIKP	PKiKP	10 51 53.4	-0.2
JCT	Junction City baz=287	129.97	56	P	PKiKP	10 51 53.4	-0.2
E41A	Kenton baz=309,SNR=8.7	130.06	33	P	PKPdf	10 51 52.0	-0.5
G40A	Rib Lake	130.11	35	ePKPdf	PKPdf	10 51 52.8	+0.2
G40A	Rib Lake baz=307,SNR=7.0	130.11	35	P	PKPdf	10 51 52.5	-0.1
I39A	Houston	130.17	37	ePKPdf	PKPdf	10 51 52.0	-0.8
I39A	Houston baz=305,SNR=9.5	130.17	37	P	PKPdf	10 51 51.8	-1.0
COWI	Conover	130.19	33	ePKPdf	PKPdf	10 51 52.7	-0.1
J39A	Decorah baz=304,SNR=9.6	130.35	38	P	PKPdf	10 51 51.9	-1.2
PNCL	Nicolau / Gran	130.39	314	ePKP	PKiKP	10 51 54.3	+0.1
F41A	Three Lakes	130.43	34	ePKPdf	PKPdf	10 51 52.9	-0.3
F41A	Three Lakes baz=309	130.43	34	P	PKPdf	10 51 52.9	-0.3
K39A	Oelwein baz=304	130.59	38	P	PKPdf	10 51 52.9	-0.7
E42A	Champion baz=310,SNR=9.4	130.64	32	P	PKPdf	10 51 53.1	-0.5
I40A	Norwalk baz=306	130.68	36	P	PKPdf	10 51 52.8	-0.9
H41A	Junction City	130.81	35	ePKPdf	PKPdf	10 51 53.2	-0.8
H41A	Junction City baz=307	130.81	35	P	PKPdf	10 51 53.0	-0.9
L39A	Vinton baz=303	130.83	39	P	PKPdf	10 51 53.2	-0.8
J40A	Soldiers Grove baz=305,SNR=6.2	130.90	37	P	PKPdf	10 51 53.5	-0.7
833A	Chaparral WMA,	130.91	59	ePKPdf	PKPdf	10 51 54.8	+0.2
833A	Chaparral WMA, baz=286	130.91	59	P	PKiKP	10 51 55.1	-0.4
F42A	Maple Grove Fa baz=310	130.95	33	P	PKPdf	10 51 53.8	-0.4
K40A	Colesburg baz=304,SNR=10	131.05	38	P	PKPdf	10 51 53.6	-0.9
G42A	Mountain	131.12	34	ePKPdf	PKPdf	10 51 54.5	+0.1
G42A	Mountain baz=309	131.12	34	P	PKPdf	10 51 54.1	-0.4
E43A	Lone Tree Farm	131.16	32	ePKPdf	PKPdf	10 51 54.9	+0.4
E43A	Lone Tree Farm baz=311,SNR=9.4	131.16	32	P	PKPdf	10 51 54.3	-0.3
TUL1	Leonard	131.21	48	ePKPdf	PKPdf	10 51 55.0	+0.1
TUL1	Leonard baz=295	131.21	48	P	PKPdf	10 51 54.7	-0.2
J41A	Loganville baz=306,SNR=6.9	131.34	37	P	PKPdf	10 51 54.2	-0.8
L40A	Anamosa	131.35	39	ePKPdf	PKPdf	10 51 54.5	-0.6
L40A	Anamosa baz=304,SNR=6.4	131.35	39	P	PKPdf	10 51 54.5	-0.6
WHTX	Lake Whitney,	131.40	54	ePKPdf	PKiKP	10 51 56.6	+0.2
WHTX	Lake Whitney, baz=290	131.40	54	P	PKiKP	10 51 56.0	-0.4
F43A	Flat Rock, Esc baz=311	131.42	32	P	PKPdf	10 51 55.0	-0.1
JFWS	Jewell Farm	131.47	37	ePKPdf	PKPdf	10 51 54.5	-0.8
JFWS	Jewell Farm	131.47	37	ePKIKP	PKPdf	10 51 54.5	-0.8
JFWS	Jewell Farm baz=305,SNR=7.5	131.47	37	P	PKPdf	10 51 54.4	-0.8
SCHQ	Schefferville	131.48	11	ePKPdf	PKPdf	10 51 55.1	+0.2
SCHQ				eSKPbc	SKPab	10 55 09.5	-0.3
SCHQ	Schefferville comp=Z,10nm,0.6s,baz=295,slow=1.2,SNR=13	131.48	11	PKP	PKPdf	10 51 55.3	+0.4
SCHQ				SKPbc	SKPbc	10 55 08.3	-0.9
	comp=Z,8.9nm,0.8s,baz=358,slow=3.7,SNR=7.5						
G43A	Wallace	131.51	33	ePKPdf	PKPdf	10 51 54.9	-0.3
G43A	Wallace baz=310	131.51	33	P	PKPdf	10 51 55.3	+0.1
H42A	Shiocton	131.51	35	ePKPdf	PKPdf	10 51 54.9	-0.4
H42A	Shiocton baz=308	131.51	35	P	PKPdf	10 51 55.1	-0.2
E44A	Grand Marais A	131.55	31	ePKPdf	PKiKP	10 51 55.8	-0.5
E44A	Grand Marais A baz=313	131.55	31	P	PKPdf	10 51 55.3	+0.1
LNIG	Linares	131.66	63	ePKPdf	PKPdf	10 51 56.2	+0.1
I42A	Draeger Farm,	131.68	35	ePKPdf	PKPdf	10 51 54.9	-0.7
I42A	Draeger Farm, baz=308	131.68	35	P	PKPdf	10 51 54.8	-0.8
435B	Jarrell	131.69	55	ePKPdf	PKiKP	10 51 56.9	-0.1
435B	Jarrell baz=289	131.69	55	P	PKiKP	10 51 57.2	+0.1
F44A	Big Bay de Noc baz=312,SNR=7.4	131.72	32	P	PKPdf	10 51 55.3	-0.3
N40A	Mertquake, Sal baz=302	131.76	40	P	PKPdf	10 51 56.0	+0.2
J42A	Columbus baz=307	131.90	36	P	PKPdf	10 51 55.7	-0.3
H43A	Windswept, Lux	131.96	34	ePKPdf	PKPdf	10 51 55.8	-0.3
H43A	Windswept, Lux baz=309	131.96	34	P	PKPdf	10 51 55.8	-0.3
X37A	Clayton	132.06	50	ePKPdf	PKiKP	10 51 57.9	+0.2
K42A	Prairie Point, baz=306,SNR=5.6	132.09	37	P	PKPdf	10 51 56.1	-0.4
E45A	Wooded Hills, baz=313	132.10	31	P	PKiKP	10 51 56.8	-0.5
I43A	Langenfeld Bro baz=308	132.12	35	P	PKPdf	10 51 55.7	-0.7
M41A	Milan baz=304	132.16	39	P	PKPdf	10 51 56.0	-0.5
J43A	Natural Harves baz=308	132.27	36	P	PKPdf	10 51 56.0	-0.7
D46A	Sault St. Mari baz=315,SNR=8.2	132.30	29	P	PKPdf	10 51 55.8	-0.9
N41A	Harden Midland	132.32	40	ePKPdf	PKPdf	10 51 56.9	-0.1
N41A	Harden Midland baz=303	132.32	40	P	PKPdf	10 51 57.1	+0.2
L42A	Oliver, Polo	132.34	38	ePKPdf	PKPdf	10 51 56.8	-0.2
L42A	Oliver, Polo baz=305	132.34	38	P	PKPdf	10 51 56.3	-0.6
F45A	CMU Biological baz=312	132.39	32	P	PKPdf	10 51 56.6	-0.3
HHAR	Hobbs	132.41	47	ePKPdf	PKPdf	10 51 57.0	-0.2
E46A	Sault Ste Mari	132.53	30	ePKPdf	PKPdf	10 51 57.5	+0.4
E46A	Sault Ste Mari baz=314,SNR=6.8	132.53	30	P	PKPdf	10 51 57.0	-0.2
D47A	Chapleau baz=316,SNR=11	132.63	29	P	PKPdf	10 51 57.1	-0.2
K43A	Burlington	132.73	36	ePKPdf	PKPdf	10 51 57.2	-0.4
K43A	Burlington baz=307	132.73	36	P	PKPdf	10 51 57.7	+0.1
G45A	Suttons Bay	132.74	32	ePKPdf	PKPdf	10 51 57.8	+0.2
G45A	Suttons Bay baz=312	132.74	32	P	PKPdf	10 51 57.2	-0.4
L43A	Garden Prairie baz=306	132.80	37	P	PKPdf	10 51 57.3	-0.5
H45A	Beulah baz=311	132.81	33	P	PKPdf	10 51 57.8	+0.1
MATQ	Matagami baz=324	132.89	22	P	PKPdf	10 51 57.4	-0.3
G46A	Petoskey baz=313	132.97	31	P	PKPdf	10 51 58.2	+0.3
E47A	Iron Bridge baz=316,SNR=7.4	132.98	29	P	PKPdf	10 51 58.0	0.0
W39A	Magazine	132.99	48	ePKPdf	PKPdf	10 51 58.5	+0.2
W39A	Magazine baz=296	132.99	48	P	PKPdf	10 51 58.2	-0.1
KIC	Kosan Boka comp=Z,55nm,1.4s	133.02	272	ePKP2	PKPdf	10 51 58.9	-0.1
M43A	Waltham Townsh baz=306	133.10	38	P	PKPdf	10 51 57.9	-0.5
D48A	Paudash Townsh baz=318,SNR=7.5	133.15	28	P	PKPdf	10 51 57.6	-0.7
U40A	Yellville baz=298	133.15	46	P	PKPdf	10 51 58.1	-0.5
DBIC	Dimbokro	133.16	272	ePKPdf	PKiKP	10 52 00.5	+0.1
DBIC				eSKPbc	SKPbc	10 55 16.1	-0.3
DBIC	Dimbokro comp=Z,4.2nm,0.4s,baz=42,slow=2.3,SNR=8.6	133.16	272	PKP	PKiKP	10 52 00.5	+0.1
DBIC				SKPbc	SKPbc	10 55 15.2	-1.1
	comp=Z,8.2nm,0.8s,baz=107,slow=1.6,SNR=6.1						
D49A	Beulah Townshi baz=318	133.28	27	P	PKPdf	10 51 58.5	-0.1
LIC	Lamto comp=Z,32nm,0.5s	133.29	271	ePKP2	PKPdf	10 51 59.8	+0.3
L44A	Lake County Fo baz=307	133.29	37	P	PKPdf	10 51 58.8	+0.1
TIC	Pikumodi	133.32	272	ePKP2	PKiKP	10 52 00.5	-0.3
H46A	Fife Lake baz=312	133.32	32	P	PKPdf	10 51 58.9	+0.2
HKT	Hockley	133.40	56	ePKPdf	PKPdf	10 51 58.2	-1.0
HKT	Hockley	133.40	56	ePKIKP	PKPdf	10 51 58.2	-1.0
HDIL	Hopedale	133.40	39	ePKPdf	PKPdf	10 51 58.7	-0.2
HDIL	Hopedale baz=305	133.40	39	P	PKPdf	10 51 59.2	+0.3
MIAR	Mount Ida baz=296	133.43	49	P	PKiKP	10 52 00.0	-0.4
GLMI	Grayling	133.44	32	ePKPdf	PKPdf	10 51 57.3	-1.6
GLMI	Grayling baz=313	133.44	32	P	PKPdf	10 51 59.1	+0.2
CCM	Cathedral Cave	133.46	43	ePKPdf	PKPdf	10 51 59.4

baz=319,SNR=5.1
P45A Graceland, Par 134.96 40 ePKPdf PKPdf 10 52 01.9 +0.1
P45A Graceland, Par 134.96 40 P PKPdf 10 52 02.0 +0.1
baz=306
I49A Point Hope 134.98 31 P PKPdf 10 52 02.1 +0.3
baz=314
S44A Carbondale 134.99 43 P PKPdf 10 52 01.9 -0.1
baz=302
L47A Sherwood 135.00 35 P PKPdf 10 52 01.8 -0.1
baz=310
SIUC Southern Illin 135.00 43 ePKPdf PKPdf 10 52 01.2 -0.8
D53A Lac Vacive, Po 135.02 25 ePKPdf PKPdf 10 52 01.3 -0.5
D53A Lac Vacive, Po 135.02 25 P PKPdf 10 52 01.6 -0.2
baz=323
CCAR Cane Creek 135.05 49 ePKPdf PKPdf 10 52 02.5 +0.3
Q45A Warren Harvey, 135.06 41 P PKPdf 10 52 02.2 +0.1
baz=304,SNR=6.2
K48A Perry 135.06 34 P PKPdf 10 52 02.1 +0.1
baz=312
M47A Cromwell 135.15 36 P PKPdf 10 52 02.3 +0.1
baz=309
OLIL Olney 135.19 41 ePKPdf PKPdf 10 52 02.5 +0.2
PARMO Parma 135.19 44 ePKPdf PKPdf 10 52 02.4 0.0
J49A Marlette 135.21 32 P PKPdf 10 52 02.2 -0.1
baz=314
E52A Mattawa 135.24 26 P PKPdf 10 52 02.2 0.0
baz=321
KLBO Killbear Provi 135.24 28 P PKPdf 10 52 02.0 -0.3
baz=319
P46A Rosedale 135.25 39 P PKPdf 10 52 02.5 0.0
baz=306
R45A Skylar, Fairfi 135.31 41 P PKPdf 10 52 02.8 +0.2
baz=304,SNR=12
F52A Sundridge 135.32 27 P PKPdf 10 52 02.2 -0.2
baz=320,SNR=6.5
BMRO Meriville Lake 135.32 30 P PKPdf 10 52 02.2 -0.2
baz=317
GNAR Gosnell 135.35 45 ePKPdf PKPdf 10 52 03.0 +0.2
D54A Lac Fusel, La 135.38 24 P PKPdf 10 52 02.5 0.0
baz=324
N47A Urbana 135.41 37 P PKPdf 10 52 02.6 -0.1
baz=309
K49A Clarkson 135.44 33 P PKPdf 10 52 02.3 -0.4
baz=313
L48A N Adams 135.46 35 P PKPdf 10 52 03.0 +0.3
baz=311
BRCO Bruce Peninsul 135.46 30 P PKPdf 10 52 03.1 +0.4
baz=316
Q46A CEJHS Indians, 135.50 40 P PKPdf 10 52 02.9 0.0
baz=306
O47A Sheridan 135.51 38 P PKPdf 10 52 03.0 0.0
baz=308
BASO Ashfield 135.52 31 P PKPdf 10 52 02.8 0.0
baz=316
BUKO Buck Lake 135.55 27 P PKPdf 10 52 02.8 0.0
baz=320
E53A Dumoine, Ponti 135.59 25 P PKPdf 10 52 02.7 -0.2
baz=322
AAM Ann Arbor 135.65 34 P PKPdf 10 52 03.2 +0.1
baz=312
BWLO Walkerton 135.71 30 P PKPdf 10 52 03.4 +0.2
baz=317
L49A Milan 135.72 34 P PKPdf 10 52 03.2 0.0
baz=312
E54A Lac Daplat, Po 135.75 25 P PKPdf 10 52 03.0 -0.1
baz=323
ALGO Algonquin Park 135.76 26 P PKPdf 10 52 03.2 0.0
baz=322
ROC1 El Roble 135.76 157 ePKPdf PKPdf 10 52 04.7 +0.7
N48A Decatur 135.81 36 P PKPdf 10 52 03.2 -0.2
baz=310
R46A Gibon Southern 135.86 41 P PKPdf 10 52 04.3 +0.7
baz=305
K50A Casco 135.89 33 P PKPdf 10 52 03.1 -0.4
baz=314
P47A Martinsville 135.91 39 P PKPdf 10 52 04.1 +0.4
baz=307
H52A Wyevale 135.93 29 P PKPdf 10 52 04.1 +0.5
baz=318
BLO Bloomington 135.94 39 ePKPdf PKPdf 10 52 04.0 +0.3
BLO Bloomington 135.94 39 ePKIKP PKPdf 10 52 04.0 +0.3
I51A Listowel 135.99 30 P PKPdf 10 52 03.9 +0.1
baz=316
S46A Don Dixon Farm 136.02 42 P PKPdf 10 52 04.1 +0.1
baz=304
M49A Liberty Center 136.02 35 P PKPdf 10 52 03.9 +0.1
baz=311
O48A Farmland 136.11 37 P PKPdf 10 52 04.2 +0.1
baz=309
Q47A Bedord North L 136.14 39 P PKPdf 10 52 04.0 -0.1
baz=306
G53A Haliburton 136.15 27 P PKPdf 10 52 04.3 +0.3
baz=320
SADO Sadowa 136.18 28 ePKPdf PKPdf 10 52 04.5 +0.5
SADO eSKPbc SKPbc 10 55 25.4 +0.2
SADO Sadowa 136.18 28 SKPbc SKPbc 10 55 25.4 +0.2
comp=Z,6.4nm,0.8s,baz=348,slow=0.7,SNR=5.0
T46A Princeton 136.25 43 P PKPdf 10 52 04.0 -0.4
baz=303
N49A Columbus Grove 136.26 36 ePKPdf PKPdf 10 52 04.1 -0.2
N49A Columbus Grove 136.26 36 P PKPdf 10 52 03.8 -0.5
baz=311
L50A Kingsville 136.29 33 P PKPdf 10 52 04.1 -0.2
baz=313
PEMO Pembroke 136.32 26 P PKPdf 10 52 04.6 +0.3
baz=323,SNR=5.3
U46A Springville 136.43 44 P PKPdf 10 52 04.9 +0.2
baz=302,SNR=6.1
P48A Milroy 136.44 38 P PKPdf 10 52 04.7 0.0
baz=308
R47A Wooly Knot Far 136.45 40 P PKPdf 10 52 04.8 +0.1
baz=306
OXF Oxford 136.50 47 ePKPdf PKPdf 10 52 05.0 +0.1
OXF Oxford 136.50 47 ePKIKP PKPdf 10 52 05.0 +0.1
OXF Oxford 136.50 47 P PKPdf 10 52 04.8 -0.2
baz=299
BANO Bancroft 136.54 27 P PKPdf 10 52 05.1 +0.4
baz=321
Q48A North Vernon 136.58 39 P PKPdf 10 52 05.1 +0.1
baz=307
PLIO Pelee Island, 136.59 34 P PKPdf 10 52 05.0 +0.1
baz=313
M50A Fremont 136.59 34 P PKPdf 10 52 05.1 +0.2
baz=312
ACTO Acton 136.61 30 P PKPdf 10 52 04.8 -0.1
baz=318
S47A Hartford 136.62 41 P PKPdf 10 52 05.0 0.0
baz=305
WCI Wyandotte Cave 136.63 40 P PKPdf 10 52 05.0 0.0
baz=306
LATQ La Tuque 136.64 20 P PKPdf 10 52 04.7 -0.1
baz=330
Q49A Covington 136.65 37 ePKPdf PKPdf 10 52 04.4 -0.6
O49A Covington 136.65 37 P PKPdf 10 52 04.7 -0.3
baz=310
V46A Holladay 136.76 44 P PKPdf 10 52 05.1 -0.3
baz=302,SNR=7.4
WVT Waverly 136.79 44 ePKPdf PKPdf 10 52 05.6 +0.2
WVT Waverly 136.79 44 ePKIKP PKPdf 10 52 05.6 +0.2
WVT Waverly 136.79 44 P PKPdf 10 52 05.5 +0.2
baz=302
R48A Northridge Ran 136.80 40 P PKPdf 10 52 05.7 +0.3
baz=307
T47A Sharon Grove 136.81 42 ePKPdf PKPdf 10 52 05.5 +0.1
T47A Sharon Grove 136.81 42 P PKPdf 10 52 05.8 +0.4
baz=304
PKRO Pickering 136.82 29 P PKPdf 10 52 05.2 0.0
baz=319
P49A Miami Univ. Ec 136.83 38 P PKPdf 10 52 05.6 +0.2
baz=309
K52A Tillsonburg 136.88 31 P PKPdf 10 52 05.1 -0.3
baz=316
G55A Calabogie 136.88 26 P PKPdf 10 52 04.9 -0.4
baz=323
PLVO Plevna 136.90 26 P PKPdf 10 52 05.4 0.0
baz=322
W46A Michie 136.93 45 P PKPdf 10 52 05.3 -0.4
baz=301
N50A Nevada 136.96 35 P PKPdf 10 52 05.4 -0.2
baz=312
U47A Clarksville 136.99 43 P PKPdf 10 52 05.5 -0.2
baz=303,SNR=5.3
Q49A Aurora 137.05 38 P PKPdf 10 52 05.9 +0.1
baz=308
DELO Deloro Mine 137.07 27 P PKPdf 10 52 05.5 -0.1
baz=321
X46A Booneville 137.07 46 P PKPdf 10 52 06.0 0.0
baz=300
TYNO Tyneside 137.08 30 P PKPdf 10 52 05.6 -0.2
baz=318
O50A Cable 137.09 36 P PKPdf 10 52 05.6 -0.3
baz=311
M51A Elyria 137.12 34 P PKPdf 10 52 06.0 +0.1
baz=313
S48A Wiedeman Farm, 137.12 41 P PKPdf 10 52 05.9 -0.1
baz=306
V47A Nunnelly 137.16 44 P PKPdf 10 52 05.4 -0.7
baz=303,SNR=6.7
WLVO Wesleyville 137.17 28 P PKPdf 10 52 06.1 +0.2
baz=320
T48A Bowling Green 137.21 42 P PKPdf 10 52 05.8 -0.3
baz=305
PLAL Pickwick Lake 137.22 45 ePKPdf PKPdf 10 52 05.5 -0.8
ORIO Orleans, Innes 137.23 24 P PKPdf 10 52 05.4 -0.5
baz=325
H55A Tweed 137.24 27 P PKPdf 10 52 06.0 0.0
baz=322
I55A Frankford 137.28 27 P PKPdf 10 52 06.1 0.0
baz=321
N51A Ashland 137.29 34 ePKPdf PKPdf 10 52 05.6 -0.6
N51A Ashland 137.29 34 P PKPdf 10 52 06.2 0.0
baz=313
R49A Shelbyville 137.31 39 P PKPdf 10 52 06.4 +0.1
baz=307
P50A Jamestown 137.33 37 P PKPdf 10 52 05.9 -0.5
baz=310
ACSO Alum Creek Sta 137.41 36 ePKPdf PKPdf 10 52 06.8 +0.3
ACSO Alum Creek Sta 137.41 36 P PKPdf 10 52 06.3 -0.2
baz=311
W47A Westpoint 137.42 45 P PKPdf 10 52 05.7 -1.0
baz=302,SNR=12
M52A Chesterland 137.42 33 P PKPdf 10 52 06.6 +0.1
baz=314
U48A Cassie Pea, Po 137.45 42 P PKPdf 10 52 05.4 -1.3
baz=304
S49A Springfield 137.54 40 P PKPdf 10 52 05.9 -0.8
baz=307
H56A Elgin 137.61 26 P PKPdf 10 52 06.1 -0.6
baz=323
X47A Russelville 137.61 46 P PKPdf 10 52 06.6 -0.4
baz=301
V48A Smith Brothers 137.69 44 ePKPdf PKPdf 10 52 06.7 -0.4
V48A Smith Brothers 137.69 44 P PKPdf 10 52 06.6 -0.5
baz=303,SNR=5.3
ERPA Erie 137.73 31 P PKPdf 10 52 06.3 -0.7
baz=317
T49A Edmonton 137.78 41 ePKPdf PKPdf 10 52 07.0 -0.2
T49A Edmonton 137.78 41 P PKPdf 10 52 06.6 -0.6
baz=306
R50A Paris 137.84 39 P PKPdf 10 52 07.2 -0.1
baz=308
P51A Williamsport 137.85 36 ePKPdf PKPdf 10 52 07.0 -0.3
P51A Williamsport 137.85 36 P PKPdf 10 52 06.9 -0.3
baz=311
M53A WI Miller and 137.86 32 P PKPdf 10 52 06.7 -0.6
baz=315
W48A Pulaski 137.94 44 P PKPdf 10 52 07.2 -0.3
baz=302,SNR=5.9
J55A Hilton 137.95 28 P PKPdf 10 52 07.4 +0.1
baz=320
U49A Red Boiling Sp 137.96 42 P PKPdf 10 52 07.1 -0.5
baz=305,SNR=5.9
L54A Sinclairville 137.99 31 P PKPdf 10 52 07.4 -0.1
baz=318
CFA Coronel Fontan 138.02 159 PKhKP PKPpre 10 51 59.1
comp=Z,8.2nm,0.4s,baz=181,slow=3.7,SNR=14
CFA PKP PKiKP 10 52 10.1 +0.1
comp=Z,33nm,0.5s,baz=225,slow=2.5,SNR=23
CFA SKPbc SKPbc 10 55 31.3 +0.2
comp=Z,3.3nm,0.6s,baz=173,slow=3.6,SNR=3.4
K54A Basiliko Farm, 138.02 30 P PKPdf 10 52 07.2 -0.3
baz=319
O52A Adamsville 138.14 35 ePKPdf PKPdf 10 52 07.4 -0.4
O52A Adamsville 138.14 35 P PKPdf 10 52 07.7 -0.1
baz=313
S50A Richmond 138.16 39 P PKPdf 10 52 07.8 -0.2
baz=308
N53A Lisbon 138.22 33 ePKPdf PKPdf 10 52 08.1 +0.2
N53A Lisbon 138.22 33 P PKPdf 10 52 07.5 -0.4
baz=314
X48A Hartselle 138.22 45 P PKPdf 10 52 07.9 -0.2
baz=302
K55A Perry 138.24 29 P PKPdf 10 52 07.6 -0.3
baz=320
T50A Nancy 138.28 41 P PKPdf 10 52 08.7 +0.6
baz=307
LONY Lake Ozonia 138.29 24 ePKPdf PKPdf 10 52 08.6 +0.7
LONY Lake Ozonia 138.29 24 P PKPdf 10 52 08.0 0.0
baz=325
R51A Hillsboro 138.29 38 P PKPdf 10 52 08.3 +0.2
baz=309
P52A Corning 138.29 36 P PKPdf 10 52 08.0 -0.1
baz=312
V49A McMinnville 138.30 43 P PKPdf 10 52 08.3 +0.1
baz=304
GO04 Tololo Observa 138.32 155 ePKPdf PKPdf 10 52 08.9 +0.1
M54A Oil Creek Stat 138.34 32 ePKPdf PKPdf 10 52 07.6 -0.5
M54A Oil Creek Stat 138.34 32 P PKPdf 10 52 08.5 +0.3
baz=317
O53A New Philadelph 138.40 34 P PKPdf 10 52 08.7 +0.4
baz=314
W49A Belvidere 138.41 44 P PKPdf 10 52 09.1 +0.7
baz=303
Y48A Jasper 138.41 46 P PKPdf 10 52 08.5 +0.1
baz=301
L55A Hinsdale 138.47 30 P PKPdf 10 52 08.4 0.0
baz=319
N54A Moraine State 138.56 32 ePKPdf PKPdf 10 52 08.3 -0.2
N54A Moraine State 138.56 32 P PKPdf 10 52 09.0 +0.4
baz=316
SWET Sewanee 138.58 44 ePKPdf PKPdf 10 52 07.1 -1.7
U50A Jamestown 138.63 41 P PKPdf 10 52 09.4 +0.5
baz=306
Q52A Bidwell 138.66 36 P PKPdf 10 52 09.2 +0.5
baz=311
X49A Woodville 138.69 45 P PKPdf 10 52 09.1 +0.1
baz=303
S51A Beattyville 138.69 39 P PKPdf 10 52 09.1 +0.2
baz=308
P53A Whipple 138.81 35 ePKPdf PKPdf 10 52 09.2 +0.1
P53A Whipple 138.81 35 P PKPdf 10 52 09.3 +0.3
baz=313
M55A Ridgway 138.83 31 P PKPdf 10 52 09.5 +0.4
baz=318
R52A Catlettsburg 138.84 37 P PKPdf 10 52 09.6 +0.5
baz=310
T51A Gray 138.88 40 P PKiKP 10 52 10.6 -0.9
baz=308
V50A Pikevile 138.89 42 P PKPdf 10 52 10.4 +1.1
baz=305
O54A Avella 138.90 34 P PKPdf 10 52 10.2 +1.0
baz=315
Y49A Blount Mountai 138.98 46 P PKPdf 10 52 10.1 +0.6
baz=302
LRAL Lakeview Retre 138.98 47 ePKPdf PKPdf 10 52 09.0 -0.6
LRAL Lakeview Retre 138.98 47 P PKPdf 10 52 10.0 +0.5
baz=300
S52A Salyersville 138.99 39 P PKPdf 10 52 10.5 +1.0
baz=309
W50A Signal Mountai 139.01 43 ePKPdf PKPdf 10 52 09.0 -0.6
W50A Signal Mountai 139.01 43 P PKPdf 10 52 10.0 +0.4
baz=304
M56A Emporium 139.12 30 P PKPdf 10 52 10.2 +0.6
baz=318
Q53A Leroy 139.16 36 P PKPdf 10 52 10.2 +0.5
baz=312
X50B Fort Payne 139.19 44 P PKPdf 10 52 09.9 0.0
baz=303
U51A La Follette 139.19 41 P PKPdf 10 52 10.1 +0.2
baz=307
P54A Burton 139.25 34 P PKPdf 10 52 10.5 +0.6
baz=314
R53A Hurricane 139.26 37 ePKPdf PKPdf 10 52 09.3 -0.6
R53A Hurricane 139.26 37 P PKPdf 10 52 10.9 +1.0
baz=311
V51A Loudon 139.31 42 ePKPdf PKPdf 10 52 10.0 -0.1
V51A Loudon 139.31 42 P PKPdf 10 52 10.5 +0.5
baz=306
LCO Las Campanas 139.37 155 ePKPdf PKiKP 10 52 12.0 -1.1
LCO Las Campanas 139.37 155 ePKIKP PKiKP 10 52 12.0 -1.1
TZTN Tazewell 139.39 40 P PKPdf 10 52 11.1 +0.9
baz=308
CPCT Cooper Cave 139.40 42 ePKPdf PKPdf 10 52 10.7 +0.4
T52A Hallie 139.40 39 P PKPdf 10 52 10.8 +0.6
baz=309
249A Camden 139.41 49 P PKPdf 10 52 11.0 +0.6
baz=299
W51A Cleveland 139.41 43 P PKPdf 10 52 10.6 +0.3
baz=305
Y50A Piedmont 139.44 45 P PKPdf 10 52 10.9 +0.5
baz=303
Q54A Coxs Mills 139.47 35 P PKiKP 10 52 11.5 -1.1
baz=313
N56A West Decatur 139.48 31 P PKPdf 10 52 10.8 +0.5
baz=318
U52A Thorn Hill 139.60 40 P PKPdf 10 52 11.4 +0.8
baz=308
BINY Binghamton 139.62 28 P PKPdf 10 52 11.0 +0.5
baz=322
Z50A Ashland 139.64 46 ePKPdf PKPdf 10 52 10.7 0.0
Z50A Ashland 139.64 46 P PKPdf 10 52 11.0 +0.3
baz=302
LBNH Lisbon 139.65 22 P PKPdf 10 52 10.5 0.0
baz=329
349A Repton 139.65 49 P PKPdf 10 52 11.8 +1.0
baz=299
P55A Reedsville 139.68 34 P PKPdf 10 52 10.8 +0.1
baz=315
T53A Wise 139.76 39 P PKPdf 10 52 11.7 +0.7
baz=309
V52A Sevierville 139.78 41 ePKPdf PKPdf 10 52 11.9 +1.0
V52A Sevierville 139.78 41 P PKPdf 10 52 11.4 +0.4
baz=307
O56A Blue Knob Stat 139.81 32 ePKPdf PKPdf 10 52 11.3 +0.4
O56A Blue Knob Stat 139.81 32 P PKPdf 10 52 11.3 +0.4
baz=317
BRAL Brewton 139.85 50 P PKPdf 10 52 11.6 +0.4
baz=298
SSPA Standing Stone 139.89 31 ePKPdf PKPdf 10 52 11.2 +0.2
SSPA Standing Stone 139.89 31 P PKPdf 10 52 11.8 +0.8
baz=318
150A Eclectic 139.90 47 P PKPdf 10 52 11.5 +0.3
baz=301
Y51A Rockmart 139.90 45 P PKiKP 10 52 12.5 -1.2
baz=303
CCIG Comitan 139.95 74 ePKPdf PKPdf 10 52 12.9 +0.9
N57A Milroy 139.97 31 P PKPdf 10 52 11.7 +0.6
baz=319
S54A Dingess, Beckl 139.99 37 P PKiKP 10 52 12.5 -1.2
baz=311
W52A Murphy 140.00 42 ePKPdf PKPdf 10 52 11.7 +0.3
W52A Murphy 140.00 42 P PKPdf 10 52 12.4 +1.0
baz=306
250A Grady 140.04 48 P PKPdf 10 52 12.2 +0.7
baz=300
U53A Fall Branch 140.12 40 P PKiKP 10 52 13.0 -1.1
baz=309
350A Dozier 140.26 49 P PKPdf 10 52 12.6 +0.7
baz=300
T54A Tazewell 140.31 38 P PKPdf 10 52 12.6 +0.7
baz=310
X52A Dahlonega 140.31 43 P PKPdf 10 52 13.0 +1.0
baz=305
R55A Marlinton 140.36 35 P PKPdf 10 52 13.0 +1.1
baz=313
V53A Saluda 140.40 41 P PKPdf 10 52 13.2 +1.1
baz=308
151A Opelika 140.44 47 P PKPdf 10 52 12.9 +0.7
baz=302,SNR=6.2
W53A Cullowhee 140.47 42 P PKPdf 10 52 13.0 +0.6
baz=307
U54A Nelsons Funny 140.50 39 P PKPdf 10 52 13.1 +0.8
baz=310
251A Midway 140.61 47 P PKPdf 10 52 13.5 +0.9
baz=301
Y52A Lilburn 140.61 44 P PKPdf 10 52 13.0 +0.5
baz=304
N59A State Game Lan 140.73 29 P PKPdf 10 52 13.7 +1.2
baz=321
Z52A Williamson 140.74 45 P PKPdf 10 52 13.7 +0.9
baz=303
T55A Pulaski 140.75 37 P PKiKP 10 52 14.5 -0.9
baz=311
Q57A Strasburg 140.79 33 P PKPdf 10 52 13.3 +0.7
baz=316
GO03 Copiap 140.81 154 ePKPdf PKPdf 10 52 14.2 +1.0
152A Waverly Hall 140.81 46 ePKPdf PKPdf 10 52 13.4 +0.6
152A Waverly Hall 140.81 46 P PKPdf 10 52 13.8 +0.9
baz=302
BLA Blacksburg 140.91 37 ePKPdf PKPdf 10 52 12.3 -0.6
BLA Blacksburg 140.91 37 ePKIKP PKPdf 10 52 12.4 -0.6
Y53A Monroe 140.95 44 P PKPdf 10 52 14.2 +1.1
baz=305
O59A Robesonia 140.99 30 P PKiKP 10 52 14.6 -1.1
baz=320
252A Lumpkin 141.15 47 P PKPdf 10 52 14.1 +0.6
baz=302
W54A Cherokee Point 141.16 41 P PKPdf 10 52 14.6 +1.2
baz=308
R57A Stanardsville 141.25 34 P PKPdf 10 52 14.4 +0.9
baz=315
T56A Rocky Mt 141.26 37 P PKPdf 10 52 14.7 +1.1
baz=312
HRV Adam Dziewonsk 141.26 23 P PKPdf 10 52 14.6 +1.2
baz=328
352A Blakely 141.28 48 P PKPdf 10 52 15.0 +1.3
baz=301
GOGA Godfrey 141.28 44 ePKPdf PKPdf 10 52 14.9 +1.2
GOGA Godfrey 141.28 44 ePKIKP PKPdf 10 52 14.9 +1.2
GOGA Godfrey 141.28 44 P PKPdf 10 52 14.8 +1.2
baz=305
Z53A Monticello 141.28 44 P PKPdf 10 52 14.9 +1.2
baz=304
V55A Taylorsville 141.30 39 P PKPdf 10 52 14.9 +1.2
baz=310
O60A Telford 141.37 29 P PKPdf 10 52 14.8 +1.1
baz=321
U56A King 141.50 38 P PKPdf 10 52 15.1 +1.1
baz=311
PAL Palisades 141.52 27 P PKPdf 10 52 15.0 +1.1
baz=324
R58A Rapidan 141.54 34 P PKPdf 10 52 15.2 +1.2
baz=316
P60A Greenville 141.65 30 P PKiKP 10 52 15.9 -1.1
baz=321
552A Lynn Haven 141.67 50 P PKPdf 10 52 15.8 +1.4
baz=299
KMSC Kings Mountain 141.67 40 P PKPdf 10 52 15.7 +1.4
baz=309
T57A Hurt 141.74 36 P PKiKP 10 52 15.8 -1.5
baz=313
R58B Mineral 141.84 34 P PKiKP 10 52 16.6 -0.9
baz=316
CBN Corbin Frederi 141.95 33 P PKiKP 10 52 17.2 -0.5
baz=317
V57A Coltrane Farms 142.17 38 P PKiKP 10 52 17.5 -0.7
baz=312
T58A Grand View Acr 142.19 36 P PKiKP 10 52 17.3 -0.9
baz=314
X56A White Oak 142.27 41 P PKiKP 10 52 17.6 -0.8
baz=309
Z55A Blythe 142.30 43 P PKiKP 10 52 18.5 -0.1
baz=306
W57A Gilead 142.51 39 ePKPpre PKPpre 10 52 11.8
Y56A Pelion 142.52 42 P PKiKP 10 52 18.1 -0.9
baz=308
BIRD Birdtown, Kers 142.54 40 ePKPpre PKPpre 10 52 11.6
U58A Oxford 142.56 36 P PKiKP 10 52 18.4 -0.6
baz=314
V58A Windy Hill, Pi 142.63 38 P PKiKP 10 52 18.1 -1.1
baz=312
T59A Double "B" Far 142.73 35 ePKPdf PKPdf 10 52 13.7 -2.4
Z56A Williston 142.76 43 ePKPdf PKPdf 10 52 14.9 -1.4
Z56A Williston 142.76 43 P PKPdf 10 52 17.7 +1.4
baz=307
355A Pearson 142.85 46 P PKiKP 10 52 19.0 -0.7
baz=303
U59A Littleton 143.03 36 P PKiKP 10 52 19.3 -0.7
baz=315
W58A Raeford 143.07 39 P PKiKP 10 52 19.8 -0.3
baz=311
X58A Rowland 143.31 39 P PKPab 10 52 13.9 +0.6
baz=311
356A Blackshear 143.38 46 P PKPbc 10 52 14.5 -0.5
baz=304
157A Early Branch 143.39 43 P PKPbc 10 52 14.9 0.0
baz=307
555A McAlpin 143.42 48 ePKPdf PKPbc 10 52 16.1 +1.1
555A McAlpin 143.42 48 P PKPbc 10 52 14.7 -0.4
baz=302
W59A Clinton 143.46 38 P PKPbc 10 52 14.9 -0.2
baz=313

Y58A	Scranton	143.52	40	P	PKPbc	10 52 14.8	-0.4
	baz=310						
CNNC	Cliffs of the	143.74	37	P	PKPab	10 52 15.2	+0.2
	baz=313						
V60A	Jim Taylor Roa	143.75	36	P	PKPab	10 52 15.4	+0.3
	baz=315						
X59A	McDuffie Farm,	143.76	39	P	PKPab	10 52 15.5	+0.4
	baz=312						
Z58A	St. Stephen	143.78	41	P	PKPbc	10 52 15.7	-0.3
	baz=309						
456A	Hilliard	143.79	47	ePKPdf	PKPbc	10 52 16.3	+0.2
456A	Hilliard	143.79	47	P	PKPbc	10 52 16.3	+0.2
	baz=303						
U61A	Possum Corner	143.81	34	P	PKPbc	10 52 16.4	+0.4
	baz=316						
556A	Lake Butler	143.90	48	P	PKPbc	10 52 16.7	+0.3
	baz=302,SNR=13						
158A	Hollywood	143.90	42	P	PKPbc	10 52 16.6	+0.3
	baz=308						
W60A	Pink Hill	143.97	37	P	PKPbc	10 52 16.3	-0.3
	baz=314						
V61A	Roper	144.12	35	P	PKPab	10 52 16.7	+0.2
	baz=316						
656A	Willston	144.13	49	ePKPdf	PKPbc	10 52 17.7	+0.6
656A	Willston	144.13	49	P	PKPbc	10 52 17.1	-0.1
	baz=301,SNR=14						
X60A	Albert Glenn T	144.14	38	P	PKPab	10 52 16.5	0.0
	baz=313						
PB10	IPOC Station P	144.15	150	ePKPdf	PKPdf	10 52 18.8	-0.3
457A	Yulee	144.18	46	P	PKPbc	10 52 17.6	+0.3
	baz=304						
Z59A	Georgetown, SC	144.19	41	P	PKPbc	10 52 17.3	+0.1
	baz=310						
W61A	Ground Anchor	144.32	36	P	PKPab	10 52 17.3	0.0
	baz=315						
Y60A	Bolivia	144.37	39	ePKPdf	PKPbc	10 52 17.9	+0.1
Y60A	Bolivia	144.37	39	P	PKPab	10 52 17.4	0.0
	baz=312						
557A	Orange Park	144.38	47	P	PKPbc	10 52 18.1	+0.2
	baz=303,SNR=9.1						
657A	Interlachen	144.51	48	P	PKPab	10 52 18.1	-0.1
	baz=302,SNR=12						
V62A	Hyde County Ai	144.64	35	P	PKPab	10 52 18.1	-0.4
	baz=316						
757A	Oxford	144.70	49	P	PKPbc	10 52 19.0	+0.1
	baz=301,SNR=12						
CSGN	Cosiguina Volc	144.72	78	ePKPdf	PKPdf	10 52 20.8	+0.4
TGUH	Tegucigalpa,Un	144.88	76	ePKPbc	PKPdf	10 52 20.2	-0.2
857A	Zephyrhills	144.92	50	P	PKPdf	10 52 20.1	-0.1
	baz=300,SNR=24						
658A	Bunnell	145.05	48	ePKPbc	PKPbc	10 52 20.5	+0.4
658A	Bunnell	145.05	48	P	PKPab	10 52 20.3	+0.1
	baz=303						
ITAB	Concordia	145.32	180	eP	PKPab	10 52 22.7	+1.5
758A	Lake Helen	145.34	49	P	PKPab	10 52 21.1	-0.1
	baz=302,SNR=8.0						
PB04	IPOC Station P	145.34	150	ePKPdf	PKPab	10 52 23.0	+1.4
DWPF	Disney Wildern	145.60	50	ePKPdf	PKPbc	10 52 21.9	+0.2
DWPF	Disney Wildern	145.60	50	P	PKPbc	10 52 22.0	+0.2
	baz=301						
858A	St. Cloud	145.60	50	P	PKPab	10 52 22.2	0.0
	baz=301,SNR=11						
958A	Wauchula	145.62	51	P	PKPab	10 52 22.3	0.0
	baz=300,SNR=11						
LVC	Limon Verde	145.71	152	ePKPdf	PKiKP	10 52 25.1	-1.2
LVC	Limon Verde	145.71	152	PKPbc	PKPbc	10 52 24.7	+1.9
	comp=Z,54nm,0.7s,baz=251,slow=2.4,SNR=47						
LVC	Limon Verde	145.71	152	eP	PKPdf	10 52 21.5	-0.7
058A	Arcadia	145.84	52	P	PKPab	10 52 23.1	-0.1
	baz=299,SNR=18						
CPUP	Villa Florida	145.84	172	ePKPdf	PKPab	10 52 23.8	+0.6
CPUP				eSKPbc	SKiKP	10 55 52.9	+1.5
CPUP	Villa Florida	145.84	172	ePKP2	PKPab	10 52 23.8	+0.6
CPUP				e		10 55 52.9	
CPUP	Villa Florida	145.84	172	PKPbc	PKPbc	10 52 23.3	+0.7
	comp=Z,109nm,0.9s,baz=188,slow=2.2,SNR=158						
CPUP				SKPbc	SKiKP	10 55 52.1	+0.8
	comp=Z,15nm,1.1s,baz=297,slow=2.3,SNR=5.5						
CPUP	Villa Florida	145.84	172	eP	PKPab	10 52 23.1	0.0
ESTN	Estel	145.86	78	ePKPdf	PKPab	10 52 23.8	+0.1
859A	Kempfer Cattle	146.03	50	P	PKPab	10 52 23.6	-0.3
	baz=302,SNR=22						
959A	Okeechobee	146.32	50	P	PKPbc	10 52 24.4	+0.4
	baz=301,SNR=19						
059A	Moore Haven	146.40	52	ePKPdf	PKPbc	10 52 24.5	+0.3
059A	Moore Haven	146.40	52	P	PKPbc	10 52 24.5	+0.3
	baz=300,SNR=13						
059Z	Ave Maria	146.46	53	P	PKPab	10 52 25.4	-0.2
	baz=299,SNR=25						
PB01	IPOC Station P	146.75	149	ePKPdf	PKPdf	10 52 22.8	-0.9
PB01				ePKPbc	PKPbc	10 52 25.6	0.0
060A	Indiantown	146.97	51	P	PKPbc	10 52 26.3	+0.4
	baz=301						
TIJ01	Guaruva-PR	147.09	185	eP	PKPab	10 52 27.7	-0.5
061Z	Ochoppi	147.11	53	ePKPdf	PKPbc	10 52 25.7	-0.6
061Z	Ochoppi	147.11	53	P	PKPbc	10 52 27.1	+0.8
	baz=299,SNR=13						
ACON	Acoyapa	147.12	80	ePKPdf	PKPdf	10 52 22.4	-1.9
ACON				ePKPbc	PKPbc	10 52 27.5	+0.8
060Z	West Palm Beac	147.13	52	P	PKPbc	10 52 27.0	+0.7
	baz=300,SNR=8.9						
JTS	Las Juntas de	147.43	83	ePKPdf	PKPdf	10 52 25.2	+0.4
JTS				ePKPbc	PKiKP	10 52 28.7	-1.0
JTS	Las Juntas de	147.43	83	ePKIKP	PKPdf	10 52 25.3	+0.4
JTS				e		10 52 28.7	
062Z	Marathon	147.52	55	P	PKPbc	10 52 28.3	+0.8
	baz=297						
PB11	IPOC Station P	147.73	148	ePKPdf	PKPdf	10 52 24.4	-1.0
PB11				ePKPbc	PKPbc	10 52 27.0	-1.3
PTGB	Pitanga	147.83	180	eP	PKPbc	10 52 27.8	-0.7
ESPN	Las Esperanzas	147.95	79	ePKPdf	PKPdf	10 52 24.9	-0.8
ESPN				ePKPbc	PKPbc	10 52 30.2	+1.3
GO01	Chusmiza	148.05	148	ePKPdf	PKPdf	10 52 25.2	-1.2
GO01				ePKPbc	PKPbc	10 52 28.2	-1.4
GO01				ePKPab	PKiKP	10 52 31.3	-0.1
MNMC	Minye Minye	148.28	147	ePKPdf	PKPdf	10 52 27.2	+0.7
NNA	Nana	148.58	128	ePKPdf	PKPdf	10 52 27.1	+0.3
NNA				ePKPbc	PKPbc	10 52 32.1	+1.5
NNA	Nana	148.58	128	i PKIKP	PKPbc	10 52 28.9	-1.7
NNA	Nana	148.58	128	PKP	PKPdf	10 52 27.9	+1.0
	comp=Z,208nm,0.9s,baz=276,slow=2.4,SNR=6.2						
NNA				PKPbc	PKPbc	10 52 32.1	+1.5
	comp=Z,208nm,0.9s,baz=236,slow=7.3,SNR=40						
SPB	Sao Paulo	148.62	188	ePKPdf	PKPdf	10 52 25.8	-0.8
SPB				ePKPbc	PKPbc	10 52 32.0	+1.6
SPB	Sao Paulo	148.62	188	eP	PKPbc	10 52 30.8	+0.4
DUB01	Friburgo-RJ	148.96	198	eP	PKiKP	10 52 32.3	-0.4
CAM01	Campos-RJ	148.98	199	eP	PKiKP	10 52 32.2	-0.4
VAS01	Vassouras-RJ	149.08	196	eP	PKPbc	10 52 32.0	+0.4
FRTB	Fartura	149.10	185	eP	PKPbc	10 52 31.2	-0.5
FSCY	Frank Sound, G	149.47	65	ePKPdf	PKPdf	10 52 26.9	-1.1
FSCY				ePKPbc	PKPbc	10 52 33.6	+1.0
RCLB	Rio Claro- Sao	149.79	188	eP	PKPbc	10 52 32.7	-0.7
ATAH	Atahualpa	149.93	119	PKP	PKPdf	10 52 30.6	+1.1
	comp=Z,21nm,1.0s,baz=230,slow=2.3,SNR=13						
ATAH				PKPbc	PKPbc	10 52 36.8	+2.3
	comp=Z,170nm,0.9s,baz=278,slow=1.7,SNR=61						
BSCB	Bom Sucesso	150.64	194	eP	PKPbc	10 52 34.1	-1.4
PRVC	Isla de Provid	150.66	76	eP	PKPbc	10 52 35.1	-0.5
PRVC	Isla de Provid	150.66	76	eP	PKPbc	10 52 35.1	-0.5
RIB01	Linhares ES	150.84	203	eP	PKPbc	10 52 35.2	-0.8
BB19B	Bebedouro	151.25	187	eP	PKPbc	10 52 34.9	-2.1
LPAZ	La Paz	151.40	146	ePKPdf	PKPdf	10 52 33.5	+1.6
LPAZ				ePKPbc	PKPbc	10 52 39.9	+1.8
LPAZ	La Paz	151.40	146	PKP	PKPdf	10 52 33.1	+1.2
	comp=Z,20nm,1.2s,baz=46,slow=1.3,SNR=39						
LPAZ				PKPbc	PKPbc	10 52 40.3	+2.2
	comp=Z,57nm,0.4s,baz=254,slow=0.6,SNR=267						
LPAZ	La Paz	151.40	146	eP	PKPdf	10 52 32.7	+0.7
BSFB	Barra de Sao F	151.45	203	eP	PKPbc	10 52 36.1	-1.3
AQDB	Aquidauana	151.83	173	eP	PKPdf	10 52 33.3	+1.6
BCIP	Isla Barro Col	152.50	85	ePKPdf	PKPdf	10 52 32.6	-0.3
BCIP				ePKPab	PKPab	10 52 52.2	+1.6
BCIP	Isla Barro Col	152.50	85	eP	PKPbc	10 52 39.6	-0.2
BCIP	Isla Barro Col	152.50	85	ePKIKP	PKPdf	10 52 32.6	-0.3
BCIP	Isla Barro Col	152.50	85	eP	PKPbc	10 52 39.6	-0.2
OTAV	Otavalo	152.70	104	eP	PKPdf	10 52 35.8	+2.0
OTAV	Otavalo	152.70	104	eP	PKPdf	10 52 35.8	+2.0
OTAV	Otavalo	152.70	104	eP	PKPdf	10 52 33.5	-0.3
ITRB	Iturama	152.77	184	eP	PKPbc	10 52 36.8	-3.5
PMNB	Patos De Minas	153.39	192	eP	PKPbc	10 52 38.2	-3.7
GCUF	Volcan Galeras	154.03	103	eP	PKiKP	10 52 45.0	+1.1
GCUF	Volcan Galeras	154.03	103	eP	PKiKP	10 52 45.0	+1.1
BBAC	Balboa, Cauca	154.31	101	eP	PKPdf	10 52 36.6	+0.9
BBAC	Balboa, Cauca	154.31	101	eP	PKPdf	10 52 36.6	+0.9
MCI6	Montes Claros	154.39	198	eP	PKPbc	10 52 40.1	-3.9
MCI9	Montes Claros	154.49	198	eP	PKPbc	10 52 40.0	-4.1
CRUC	La Cruz	154.49	102	eP	PKPdf	10 52 37.2	+1.0
CRUC	La Cruz	154.49	102	eP	PKPdf	10 52 37.2	+1.0
MCI8	Montes Claros	154.54	198	eP	PKPbc	10 52 40.1	-4.2
SIV	San Ignacio	154.88	159	PKP	PKPdf	10 52 37.5	+1.2
	comp=Z,17nm,1.0s,baz=220,slow=1.8,SNR=52						
SIV				PKPbc	PKPbc	10 52 46.1	+1.1
	comp=Z,22nm,0.9s,baz=208,slow=1.9,SNR=7.2						
SIV				PKPab	PKPab	10 53 01.5	+1.0
	comp=Z,18nm,0.8s,baz=230,slow=5.3,SNR=13						
SOTA	Rioblanco	154.96	101	eP	PKPdf	10 52 37.6	+0.6
SOTA	Rioblanco	154.96	101	eP	PKPdf	10 52 37.6	+0.6
POPC	Popayan, Colom	154.99	100	eP	PKPdf	10 52 36.8	+0.1
POPC	Popayan, Colom	154.99	100	eP	PKPdf	10 52 36.8	+0.1
PCON	Cinco Dias	155.21	101	eP	PKPdf	10 52 38.1	+0.7
PCON	Cinco Dias	155.21	101	eP	PKPdf	10 52 38.1	+0.7
YOTC	Yotoco, Valle	155.59	97	eP	PKPdf	10 52 36.9	-0.5
YOTC	Yotoco, Valle	155.59	97	eP	PKPdf	10 52 36.9	-0.5
FLOC	Florencia	155.75	103	eP	PKPdf	10 52 38.4	+0.9
FLOC	Florencia	155.75	103	eP	PKPdf	10 52 38.4	+0.9
MARP	Paez Belalcaza	155.75	100	eP	PKPdf	10 52 38.5	+0.6
MARP	Paez Belalcaza	155.75	100	eP	PKPdf	10 52 38.5	+0.6
BDFB	Brasilia	156.51	190	ePKPdf	PKPdf	10 52 38.0	-0.5
BDFB				ePKPdf	PKPdf	10 52 39.0	+0.5
BDFB				ePKPab	PKPab	10 53 09.0	+1.5
BDFB				ePKPab	PKPab	10 53 09.0	+1.5
BDFB	Brasilia	156.51	190	ePKIKP	PKPdf	10 52 38.0	-0.5
BDFB				e		10 53 09.0	
BDFB	Brasilia	156.51	190	PKP	PKPdf	10 52 39.0	+0.5
	comp=Z,11nm,0.9s,baz=126,slow=2.8,SNR=9.4						
BDFB				PKPab	PKPab	10 53 09.0	+1.5
	comp=Z,22nm,1.0s,baz=190,slow=4.7,SNR=8.5						
RREF	El Recreo	156.71	95	eP	PKPdf	10 52 40.3	+0.8
RREF	El Recreo	156.71	95	eP	PKPdf	10 52 40.3	+0.8
GUY2C	Guyana, Caldas	156.74	95	eP	PKPdf	10 52 39.6	+0.2
GUY2C	Guyana, Caldas	156.74	95	eP	PKPdf	10 52 39.6	+0.2
UREC	San Jos de Ur	156.75	88	eP	PKPdf	10 52 38.2	-0.5
UREC	San Jos de Ur	156.75	88	eP	PKPdf	10 52 38.2	-0.5
NORC	Norcasia	157.26	94	eP	PKPdf	10 52 39.1	-0.3
NORC	Norcasia	157.26	94	eP	PKPdf	10 52 39.1	-0.3
ZARC	Zaragoza, Cauc	157.42	89	eP	PKPdf	10 52 39.6	0.0
ZARC	Zaragoza, Cauc	157.42	89	eP	PKPdf	10 52 39.6	0.0
ROSC	El Rosal	157.72	96	ePKPdf	PKPdf	10 52 39.7	-0.8
ROSC				ePKPab	PKPab	10 53 16.1	+2.6
ROSC	El Rosal	157.72	96	PKP	PKPdf	10 52 40.8	+0.3
	comp=Z,6.6nm,0.6s,baz=171,slow=3.0,SNR=10						
ROSC				PKPab	PKPab	10 53 16.1	+2.6
	comp=Z,30nm,0.8s,baz=125,slow=3.5,SNR=12						
SDDR	Presa de Saban	158.20	57	ePKPdf	PKPdf	10 52 40.4	-0.1
SDDR				ePKPab	PKPab	10 53 14.3	-0.6
CHIC	Chingaza	158.26	97	eP	PKPdf	10 52 41.4	+0.3
CHIC	Chingaza	158.26	97	eP	PKPdf	10 52 41.4	+0.3
CODC	Agustn Codazz	158.76	82	eP	PKPdf	10 52 41.0	-0.2
CODC	Agustn Codazz	158.76	82	eP	PKPdf	10 52 41.0	-0.2
OCAC	Ocana	158.95	87	eP	PKPdf	10 52 41.8	+0.1
OCAC	Ocana	158.95	87	eP	PKPdf	10 52 41.8	+0.1
BARC	Barichara	159.03	92	eP	PKPdf	10 52 41.8	0.0
BARC	Barichara	159.03	92	eP	PKPdf	10 52 41.8	0.0
RCBR	Riachuelo	159.03	231	eP	PKPdf	10 52 46.9	+5.2
GIRC	Giron, Santand	159.05	90	eP	PKPdf	10 52 42.2	+0.4
GIRC	Giron, Santand	159.05	90	eP	PKPdf	10 52 42.2	+0.4
RUSC	La Rusia	159.07	93	eP	PKPdf	10 52 42.0	-0.3
RUSC	La Rusia	159.07	93	eP	PKPdf	10 52 42.0	-0.3
CAPV	Capacho	159.95	88	eP	PKPdf	10 52 43.3	+0.4
CAPV	Capacho	159.95	88	eP	PKPdf	10 52 43.3	+0.4
URIC	Uribia, Colomb	159.96	77	eP	PKPdf	10 52 39.6	-3.0
URIC	Uribia, Colomb	159.96	77	eP	PKPdf	10 52 39.6	-3.0
SDV	Santo Domingo	161.59	85	ePKPdf	PKPdf	10 52 43.3	-1.4
SDV	Santo Domingo	161.59	85	eP	PKPdf	10 52 44.4	-0.2
SDV	Santo Domingo	161.59	85	eP	PKPdf	10 52 44.4	-0.2
SDV	Santo Domingo	161.59	85	eP	PKPdf	10 52 43.8	-0.8
OBIP	Obispado Ponce	162.48	52	ePKPdf	PKPdf	10 52 44.3	-0.9
OBIP				ePKPab	PKPab	10 53 32.7	-0.8
ICMP	Isla Caja de M	162.63	53	ePKPdf	PKPdf	10 52 44.7	-0.6
ICMP				ePKPab	PKPab	10 53 33.6	-0.5
ELOV	Elorza	162.72	91	eP	PKPdf	10 52 46.9	+1.4
ELOV	Elorza	162.72	91	eP	PKPdf	10 52 46.9	+1.4
SMTB	Santa Maria do	163.00	195	eP	PKPdf	10 52 49.5	+3.7
HUMP	Col San Antoni	163.01	51	ePKPdf	PKPdf	10 52 45.3	-0.3
HUMP				ePKPab	PKPab	10 53 35.5	-0.3
MTP	Monte Pirata	163.27	50	ePKPdf	PKPdf	10 52 44.4	-1.5
MTP				ePKPab	PKPab	10 53 36.9	0.0
NBMO	Morrinhos-CE	163.79	228	eP	PKPdf	10 52 51.6	+5.0
PTGA	Pitinga	168.55	136	ePKPdf	PKPdf	10 52 50.5	+0.1
PTGA				ePKPab	PKPab	10 54 00.7	+0.4
PTGA	Pitinga	168.55	136	PKP	PKPdf	10 52 50.4	+0.1
	comp=Z,15nm,1.2s,baz=328,slow=1.9,SNR=13						
PTGA				PKPab	PKPab	10 54 00.4	+0.1
	comp=Z,1.3nm,0.3s,baz=227,slow=5.5,SNR=6.5						
PTGA	Pitinga	168.55	136	eP	PKPdf	10 52 52.9	+2.6
FDF	Fort de France	168.65	51	ePKPdf	PKPdf	10 52 48.0	-2.3
FDF	Fort de France	168.65	51	ePKIKP	PKPdf	10 52 48.0	-2.3
MDP	Montagnes des	177.41	167	PKP	PKPdf	10 52 54.3	+0.5
	comp=Z,23nm,1.1s,baz=63,slow=3.7,SNR=3.7						

TEH 25 10:46:09.1, 33°.44N×55°.02E, h13km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YZKH	Yazd	1.11	199	ePg	Pb	10 46 28.6	-1.6
TNSJ	Nastanj	1.42	68	ePg	Pg	10 46 36.6	+0.1
TNSJ				IAMB	IAmb	10 47 06.1	
	comp=Z,0.0nm,0.4s						
TPRV	Parvadeh(Tabas	1.46	106	ePg	Pg	10 46 36.7	-0.4
TPRV				IAMB	IAmb	10 47 01.3	
	comp=Z,0.0nm,0.3s						
TKDS	Koohdasht(Taba	1.77	84	ePg	Pb	10 46 41.0	-0.4
TKDS				IAMB	IAmb	10 47 22.3	
	comp=Z,0.0nm,0.5s						
TABS	Tabas	1.77	83	ePg	Pb	10 46 42.2	+0.8
ISAD	Sadrabad	1.89	217	ePn	Pb	10 46 42.6	-1.1
ISAD				IAMB	IAmb	10 47 11.5	
	comp=Z,0.0nm,0.3s						
IBAF	Bafgh	1.90	166	ePn	Pb	10 46 43.4	-0.4
IBAF				IAMB	IAmb	10 47 12.3	
	comp=Z,0.0nm,0.6s						
NASN	Na'in	1.96	252	ePn	Pn	10 46 43.2	+0.8
IMEH	Mehriz	2.07	190	ePn	Pb	10 46 45.7	-1.0
IMEH				IAMB	IAmb	10 47 20.5	
	comp=Z,0.0nm,0.6s						
IANJ	Anjilo	2.22	336	ePn	Pb	10 46 47.7	-1.5
KRSH	Karshahi	2.46	283	ePn	Pn	10 46 51.1	+2.0
KRSH				IAMB	IAmb	10 47 30.7	
	comp=Z,0.0nm,0.4s						
SHRO	Shahrood	2.67	18	ePn	Pn	10 46 53.6	+1.6
IGAR	Gharneh	2.71	248	ePn	Pb	10 46 55.3	-2.3
IRAM	Ramesheh	2.76	235	ePn	Pn	10 46 54.9	+1.7
ISHM	Shahmirzad	2.76	329	ePn	Pn	10 46 55.2	+1.9
IKLH	Kolahrood	2.88	269	ePn	Pn	10 46 56.7	+1.8
IFIR	Firooz kooh	2.88	320	ePn	Pn	10 46 56.7	+1.7
IKIA	Kiasar	2.97	339	ePn	Pn	10 46 58.7	+2.5
IALA	Alasht	3.20	326	ePn	Pn	10 47 01.9	+2.5
IDMV	Damavand	3.26	312	ePn	Pn	10 47 02.0	+1.8
GHVR	GHOM	3.26	290	ePn	Pn	10 47 01.6	+1.5
KHGB	Koh Gabri	3.30	158	IAMB	IAmb	10 48 03.4	
	comp=Z,0.0nm,0.4s						
IKOO	Kooshah	3.50	106	ePn	Pn	10 47 05.1	+1.6
IKOO				IAMB	IAmb	10 48 11.2	
	comp=N,0.0nm,0.6s						
BSRN	Basiran	3.76	112	ePn	Pn	10 47 08.5	+1.5

IDC 25 10:55:18.2±1.8, 4°.59N×125°.80E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/48, mbtmp3.9/5, Error ellipse: s-maj=90.8km s-min=20.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.54	180	P	P	11 00 19.9	0.0
	1.9nm,0.9s,baz=2.9,slow=10,SNR=7.0						
ASAR	Alice Springs	29.18	165	P	P	11 01 21.6	0.0
	0.3nm,0.5s,baz=342,slow=7.7,SNR=8.0						
CMAR	Chiang Mai Arr	29.64	300	P	P	11 01 25.9	+0.1
	0.3nm,0.3s,baz=110,slow=7.8,SNR=4.4						
MKAR	Makanchi Array	56.33	325	P	P	11 05 01.4	+0.4
	1.1nm,0.4s,baz=120,slow=7.1,SNR=25						
KURBB	Kurchatov Arra	60.52	327	P	P	11 05 29.6	-0.5
	1.8nm,0.6s,baz=130,slow=6.2,SNR=16						

SFS ***25*** *11:29:00.0, 36°.08N×7°.61W, ML2.7, GOLFO D ECADIZ*
IGIL ***25*** *11:29:01.6, 35°.92N×7°.71W, h23km, ML3.2*
LDG ***25*** *11:29:02.4±0.2, 36°.04N×7°.61W, h10km, Ml3.8/9, Error ellipse: s-maj=4.1km s-min=2.6km az=36.0*
MDD ***25*** *11:29:02.4±0.8, 35°.98N×7°.68W, h27km±15km, mbLg3.3/61, Error ellipse: s-maj=13.8km s-min=3.4km az=28.0, PRXIMO*
INMG ***25*** *11:29:02.5±1.2, 35°.91N×7°.72W, h32km±4km, ML3.1, Error ellipse: s-maj=2.6km s-min=1.6km az=63.0*

ISC 25 11:29:00.7±1.4, 36°.02N±0°.06×7°.64W±0°.04, h35km, n121, σ2°11/237, 12C-23B, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	1.24	349	⇓iP	Pn	11 29 23.3	+1.7
PBDV				eS	Sn	11 29 38.8	+1.6
PBDV				A	A	11 29 43.1	
	119nm,0.2s						
PBDV	Barranco-do-Ve	1.24	349	P	Pn	11 29 23.3	+1.7
PBDV				S	Sn	11 29 38.8	+1.6
	119nm,0.2s						
CNIL	Conil	1.33	74	P	Pn	11 29 25.4	+2.6
CNIL				S	Sn	11 29 39.0	-0.3
CNIL	Conil	1.33	74	⇑eP	Pn	11 29 25.4	+2.6
CNIL				eS	Sn	11 29 39.0	-0.3
PVAQ	Vaqueiros	1.38	357	⇓iP	Pn	11 29 25.4	+1.9
PVAQ				eS	Sn	11 29 42.4	+1.8
PVAQ				A	A	11 29 44.7	
	191nm,0.3s						
PVAQ	Vaqueiros	1.38	357	P	Pn	11 29 25.4	+1.9
PVAQ				S	Sn	11 29 42.4	+1.8
	191nm,0.3s						
PFVI	Vila Bisbo	1.47	320	⇓eP	Pn	11 29 25.5	+0.9
PFVI				eS	Sn	11 29 43.4	+0.8
PFVI				A	A	11 29 52.4	
	65nm,0.4s						
PFVI	Vila Bisbo	1.47	320	⇓P	Pn	11 29 25.5	+0.9
	11nm,0.2s,SNR=18						
PFVI				S	Sn	11 29 43.5	+0.8
	93nm,0.2s,SNR=9.4						
EGRO	El Granado	1.52	5	⇓P	Pn	11 29 27.5	+2.2
	0.3nm,0.1s,SNR=18						
EGRO				S	Sn	11 29 45.6	+1.7
	205nm,0.2s,SNR=5.0						
MORF	Marmelete	1.52	328	eP	Pn	11 29 26.6	+1.1
MORF				eS	Sn	11 29 45.1	+1.1
MORF				AML	AML	11 29 46.3	
	comp=N,261nm,0.2s						
MORF	Marmelete	1.52	328	⇓iP	Pn	11 29 26.6	+1.1
MORF				eS	Sn	11 29 45.4	+1.4
MORF				A	A	11 29 52.9	
	comp=N,72nm,0.2s						
MORF	Marmelete	1.52	328	P	Pn	11 29 26.6	+1.1
MORF				S	Sn	11 29 45.1	+1.1
	comp=N,261nm,0.2s						
PCVE	Castro Verde	1.64	349	⇓iP	Pn	11 29 29.0	+1.9
PCVE				eS	Sn	11 29 48.9	+1.9
PCVE				A	A	11 29 50.1	
	comp=N,97nm,0.2s						
PCVE	Castro Verde	1.64	349	P	Pn	11 29 29.0	+1.9
PCVE				S	Sn	11 29 48.9	+1.9
	comp=N,97nm,0.2s						
ESPR	Espera	1.67	59	⇑P	Pn	11 29 29.6	+2.1
	comp=N,46nm,0.2s,SNR=18						
ESPR				S	Sn	11 29 49.7	+2.0
	comp=N,359nm,0.3s,SNR=5.0						
ALJ	Aljibe	1.69	72	⇑P	Pn	11 29 30.7	+3.0
ALJ				S	Sn	11 29 48.7	+0.6
ALJ	Aljibe	1.69	72	⇑iP	Pn	11 29 30.7	+3.0
ALJ				eS

comp=N,129nm,0.3s
PMAFR Mafra 3.21 336 ⇑P Pn 11 29 50.9 +2.3
comp=N,31nm,0.2s,SNR=18
PMAFR S Sn 11 30 26.4 +0.8
comp=N,166nm,0.4s,SNR=15
IFR Ifrane 3.24 140⇑iP Pn 11 29 49.0 -0.3
IFR eS Sn 11 30 21.1 -5.6
EADA Adamuz 3.25 48 P Pn 11 29 51.4 +2.1
comp=N,3.6nm,0.2s,SNR=111
EADA S Sn 11 30 26.5 -0.3
comp=N,37nm,0.1s,SNR=10
ELGU Los Guajares, 3.35 74 P Pn 11 29 51.5 +0.9
comp=N,6.9nm,0.1s,SNR=7.9
ELGU S Sn 11 30 30.5 +1.4
comp=N,40nm,0.2s,SNR=7.9
PMRV Marv??o 3.41 3⇓iP Pn 11 29 53.3 +1.9
PMRV eS Sn 11 30 31.7 +1.1
PMRV A A 11 30 35.0
comp=N,34nm,0.3s
PMRV Marv??o 3.41 3 P Pn 11 29 53.3 +1.9
PMRV S Sn 11 30 31.7 +1.1
comp=N,34nm,0.3s
EQUE Quentar 3.58 69 ⇑P Pn 11 29 56.4 +2.5
comp=N,0.1nm,0.3s,SNR=18
EQUE S Sn 11 30 36.7 +1.8
comp=N,7.1nm,0.1s,SNR=7.9
PTOM Tomar 3.64 351⇓eP Pn 11 29 56.6 +2.0
PTOM eS Sn 11 30 37.0 +0.7
PTOM A A 11 30 42.2
comp=N,35nm,0.5s
PTOM Tomar 3.64 351 P Pn 11 29 56.6 +2.0
PTOM S Sn 11 30 37.0 +0.7
comp=N,18nm,0.5s
EALB Alboran 3.74 90 P Pn 11 29 58.6 +2.7
comp=N,1.5nm,0.2s,SNR=7.9
EALB S Sn 11 30 38.0 -0.6
comp=N,9.9nm,0.2s,SNR=7.9
PCBR Castelo Branco 3.82 2 eP Pn 11 29 59.1 +2.1
PCBR eS Sn 11 30 41.8 +1.2
PCBR A A 11 30 43.5
comp=N,33nm,0.4s
PCBR Castelo Branco 3.82 2 P Pn 11 29 59.1 +2.1
PCBR S Sn 11 30 41.8 +1.2
comp=N,17nm,0.4s
EBER Berja 3.93 76 P Pn 11 30 00.0 +1.3
comp=N,3.9nm,0.3s,SNR=29
EBER S Sn 11 30 44.6 +0.9
comp=N,8.7nm,0.3s,SNR=7.9
GORA Gorafe 3.97 67 P Pn 11 30 01.0 +1.8
comp=N,0.8nm,0.3s,SNR=7.9
GORA S Sn 11 30 44.8 +0.3
comp=N,23nm,0.2s,SNR=7.9
EQES Quesada 4.07 63 ⇑P Pn 11 30 02.4 +1.8
comp=N,2.5nm,0.2s,SNR=18
EQES S Sn 11 30 47.9 +0.8
comp=N,25nm,0.2s,SNR=7.9
PCAS Casmilo, Conde 4.08 351 eP Pn 11 30 02.6 +2.0
PCAS eS Sn 11 30 48.2 +1.0
PCAS A A 11 31 01.6
comp=N,11nm,0.3s
PCAS Casmilo, Conde 4.08 351 P Pn 11 30 02.6 +2.0
PCAS S Sn 11 30 48.2 +1.0
comp=N,11nm,0.3s
EPLA Plasencia 4.22 16 P Pn 11 30 04.6 +2.0
comp=N,0.6nm,0.2s,SNR=16
EPLA S Sn 11 30 51.0 +0.3
comp=N,38nm,0.2s,SNR=18
COI Coimbra 4.23 352 eP Pn 11 30 04.7 +2.1
COI eS Sn 11 30 52.1 +1.4
COI Coimbra 4.23 352 P Pn 11 30 04.7 +2.1
COI S Sn 11 30 52.1 +1.4
MTE Manteigas 4.37 1 eP Pn 11 30 06.5 +1.8
MTE eS Sn 11 30 54.5 0.0
MTE A A 11 30 56.3
comp=N,40nm,0.3s
MTE Manteigas 4.37 1 P Pn 11 30 06.5 +1.8
MTE S Sn 11 30 54.5 0.0
comp=N,20nm,0.3s
PAB San Pablo 4.38 36 P Pn 11 30 07.1 +2.3
comp=N,0.9nm,0.2s,SNR=7.9
PAB S Sn 11 30 53.0 -1.7
comp=N,15nm,0.2s,SNR=7.9
ENIJ Nijar 4.48 76 P Pn 11 30 07.3 +1.2
comp=N,0.4nm,0.2s,SNR=7.9
ENIJ S Sn 11 30 58.5 +1.5
comp=N,9.7nm,0.3s,SNR=7.9
SESP Santiago Espad 4.58 61 P Pn 11 30 09.2 +1.6
comp=N,4.0nm,0.2s,SNR=7.9
SESP S Sn 11 30 59.8 0.0
comp=N,25nm,0.1s,SNR=7.9
ESDC Sonseca Array 4.67 37 P Pn 11 30 10.8 +2.1
comp=N,2.9nm,0.1s,baz=222,slow=13,SNR=17
ESDC S Sn 11 31 00.4 -1.3
comp=N,4.7nm,0.1s,baz=220,slow=24,SNR=6.6
PVIS Viseu 4.69 358 eP Pn 11 30 10.8 +1.7
PVIS eS Sn 11 31 02.1 -0.2
PVIS A A 11 31 04.0
comp=N,13nm,0.3s
PVIS Viseu 4.69 358 P Pn 11 30 10.8 +1.7
PVIS S Sn 11 31 02.1 -0.2
comp=N,6.7nm,0.3s
MVO Moncorvo 5.16 5 eP Pn 11 30 17.3 +1.8
MVO eS Sn 11 31 12.6 -1.2
MVO A A 11 31 16.0
comp=N,35nm,0.4s
MVO Moncorvo 5.16 5 P Pn 11 30 17.0 +1.5
comp=N,3.6nm,0.1s,SNR=26
MVO S Sn 11 31 12.8 -1.0
comp=N,40nm,0.2s,SNR=7.9
PTO Porto 5.17 352 eP Pn 11 30 17.3 +1.8
PTO eS Sn 11 31 12.9 -0.9
PTO Porto 5.17 352 P Pn 11 30 17.3 +1.8
PTO S Sn 11 31 12.9 -0.9
PVRL Vila Real 5.25 359 eP Pn 11 30 18.5 +1.8
PVRL eS Sn 11 31 14.7 -1.3
PVRL A A 11 31 17.9
comp=N,21nm,0.1s
PVRL Vila Real 5.25 359 P Pn 11 30 18.5 +1.8
PVRL S Sn 11 31 14.7 -1.3
comp=N,10nm,0.1s
POLO Lamas de Olo 5.35 359 eP Pn 11 30 19.9 +1.8
POLO eS Sn 11 31 17.9 -0.6
POLO A A 11 31 20.7
comp=N,11nm,0.3s
POLO Lamas de Olo 5.35 359 P Pn 11 30 19.9 +1.8
POLO S Sn 11 31 17.9 -0.6
comp=N,11nm,0.3s
GUD Guadarrama 5.37 30 P Pn 11 30 21.2 +2.8
comp=N,0.0nm,0.2s,SNR=17
GUD S Sn 11 31 18.3 -0.7
comp=N,14nm,0.3s,SNR=7.9
EMUR La Murta 5.44 69 P Pn 11 30 20.7 +1.4
comp=N,1.5nm,0.2s,SNR=9.4
EMUR S Sn 11 31 20.2 -0.5
comp=N,14nm,0.5s,SNR=7.9
UCM Universidad Co 5.51 38⇓iP Pn 11 30 23.1 +2.9
UCM eS Sn 11 31 20.5 -1.8
ETOB Tobarra 5.52 60 ⇑P Pn 11 30 21.7 +1.3
comp=N,13nm,0.2s,SNR=18
ETOB S Sn 11 31 21.3 -1.4
comp=N,13nm,0.1s,SNR=7.9
PCAB Cabril 5.69 357 eP Pn 11 30 24.6 +1.9
PCAB eS Sn 11 31 25.4 -1.4
PCAB A A 11 31 29.4
comp=N,8.3nm,0.1s
PCAB Cabril 5.69 357 P Pn 11 30 24.6 +1.9
PCAB S Sn 11 31 25.4 -1.4
comp=N,4.2nm,0.1s
PBRG Braganca 5.82 7 eP Pn 11 30 26.5 +2.0
PBRG eS Sn 11 31 28.1 -1.9
PBRG A A 11 31 31.5
comp=N,15nm,0.3s
PBRG Braganca 5.82 7 P Pn 11 30 26.5 +2.0
PBRG S Sn 11 31 28.1 -1.9
comp=N,7.5nm,0.3s
ELOB Lobios 5.85 357 P Pn 11 30 26.9 +1.9
comp=N,1.0nm,0.4s,SNR=22
ELOB S Sn 11 31 28.8 -2.0
comp=N,27nm,0.2s,SNR=7.9
ECAL Calabor 5.96 7 ⇓P Pn 11 30 28.5 +2.1
comp=N,3.1nm,0.3s,SNR=18
ECAL S Sn 11 31 31.7 -1.7
comp=N,28nm,0.3s,SNR=7.9
PGAV Gavieira, Arco 5.96 355 eP Pn 11 30 28.1 +1.6
PGAV eS Sn 11 31 32.1 -1.4
PGAV A A 11 31 34.9
comp=N,7.6nm,0.2s
PGAV Gavieira, Arco 5.96 355 P Pn 11 30 28.1 +1.6
PGAV S Sn 11 31 32.1 -1.4
comp=N,7.6nm,0.2s
EZAM Zamans 6.18 353 P Pn 11 30 31.2 +1.8
comp=N,2.1nm,0.1s,SNR=7.9
EZAM S Sn 11 31 36.8 -1.9
comp=N,6.3nm,0.3s,SNR=7.9
AFON Font Roja 6.24 63 P Pn 11 30 30.0 -0.4
comp=N,1.8nm,0.3s,SNR=30
ECHE Chera 6.37 54 P Pn 11 30 33.3 +1.1
comp=N,1.3nm,0.1s,SNR=7.9
ECHE S Sn 11 31 42.1 -1.5
comp=N,6.7nm,0.3s,SNR=7.9
ETOR Torete 6.50 41 ⇓P Pn 11 30 36.5 +2.7
comp=N,3.7nm,0.2s,SNR=18
ETOR S Sn 11 31 44.7 -2.0
comp=N,19nm,0.2s,SNR=7.9
EBEN2 Beniarda presa 6.50 64 P Pn 11 30 35.6 +1.8
comp=N,2.3nm,0.2s,SNR=7.9
EBEN2 S Sn 11 31 45.4 -1.4
SNR=7.9
EAGO Agolada(Pontev 6.78 357 P Pn 11 30 39.5 +1.8
comp=N,0.7nm,0.1s,SNR=7.9
EAGO S Sn 11 31 50.7 -3.0
comp=N,6.9nm,0.2s,SNR=7.9
EMOS Mosqueruela 7.12 50 P Pn 11 30 44.8 +2.3
comp=N,0.6nm,0.1s,SNR=7.9
EMOS S Sn 11 31 59.4 -2.8
comp=N,3.3nm,0.1s,SNR=7.9
EPON Pontenova 7.31 3 S Sn 11 32 04.0 -2.7
comp=N,1.1nm,0.2s,SNR=7.9
EARI Arriondas 7.51 14 P Pn 11 30 49.1 +1.4
comp=N,0.2nm,0.3s,SNR=7.9
EARI S Sn 11 32 07.0 -4.6
comp=N,1.6nm,0.3s,SNR=7.9
EIBI Ibiza 7.74 65 P Pn 11 30 51.5 +0.6
comp=N,3.2nm,0.2s,SNR=4.0
SJPF Ste Jean 8.64 33 ePn Pn 11 31 06.0 +2.8
SJPF eSn Sn 11 32 36.1 -3.3
comp=N,14nm,0.4s
SJPF Ste Jean 8.64 33 P Pn 11 31 06.0 +2.8
SJPF S Sn 11 32 36.1 -3.3
comp=N,7.1nm,0.4s
ETSF Etsaut 8.78 36 ePn Pn 11 31 07.6 +2.4
ETSF eSn Sn 11 32 40.1 -2.9
comp=N,4.1nm,0.2s
ETSF Etsaut 8.78 36 P Pn 11 31 07.6 +2.4
ETSF S Sn 11 32 40.1 -2.9
comp=N,2.0nm,0.2s
EPF Esparros 9.33 39 ePn Pn 11 31 15.1 +2.5
EPF eSn Sn 11 32 54.1 -2.2
comp=N,14nm,0.4s
EPF Esparros 9.33 39 P Pn 11 31 15.1 +2.5
EPF S Sn 11 32 54.1 -2.2
comp=N,6.8nm,0.4s
MTLF Montolieu 10.54 43 ePn Pn 11 31 30.0 +0.8
MTLF eSn Sn 11 33 22.0 -3.9
comp=N,1.6nm,0.4s
MTLF Montolieu 10.54 43 P Pn 11 31 30.0 +0.8
MTLF S Sn 11 33 22.0 -3.9
comp=N,0.8nm,0.4s
LFF La Frestale 10.95 33 ePn Pn 11 31 36.7 +1.9
LFF eSn Sn 11 33 31.2 -4.9
comp=N,6.5nm,0.5s
LFF La Frestale 10.95 33 P Pn 11 31 36.7 +1.9
LFF S Sn 11 33 31.2 -4.9
comp=N,3.2nm,0.5s
RJF Les Rejaudoux 11.58 34 ePn Pn 11 31 44.3 +0.8
RJF eSn Sn 11 33 45.9 -5.6
comp=N,1.4nm,0.3s
RJF Les Rejaudoux 11.58 34 P Pn 11 31 44.3 +0.8
RJF S Sn 11 33 45.9 -5.6
comp=N,0.7nm,0.3s
MFF Saint Martin d 11.97 26 ePn Pn 11 31 49.7 +0.9
MFF eSn Sn 11 33 55.5 -5.5
comp=N,1.3nm,0.3s
MFF Saint Martin d 11.97 26 P Pn 11 31 49.7 +0.9
MFF S Sn 11 33 55.5 -5.5
comp=N,0.6nm,0.3s
BGF Bois d'Agland 13.14 34 ePn Pn 11 32 05.4 +0.7
BGF eSn Sn 11 34 23.6 -5.9
comp=N,6.4nm,0.4s
BGF Bois d'Agland 13.14 34 P Pn 11 32 05.4 +0.7
BGF S Sn 11 34 23.6 -5.9
comp=N,3.2nm,0.4s

*LDG **25** 11:29:25.7±0.1, 43°.23N×10°.95E, h5km, Md2.6/1, Ml2.9/21,*
Error ellipse: s-maj=1.7km s-min=1.1km az=178.0
*PRU **25** 11:29:27.2±0.0, 43°.09N×11°.30E, h29km*
ROM 25 11:29:25.1±0.1, 43°.220N±0°.004×10°.981E±0°.007,
h6km, ML3.0/29, Error ellipse: s-maj=0.6km
s-min=0.2km az=261.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIF	**Trifonti**	**0.12**	**209**	*i* P	Pg	11 29 28.3	+0.7
TRIF				S	Sg	11 29 30.3	+0.9
FROS	**Frosini**	**0.13**	**94**	P	Pg	11 29 28.4	+0.6
FROS				S	Sg	11 29 30.3	+0.7
FROS				AML	AML		
FROS	comp=E,42750μm,0.6s			AML	AML		
FROS	comp=N,36250μm,0.8s			AML	AML		
FROS	comp=E,42750μm,0.6s			AML	AML		
FROS	comp=N,36250μm,0.8s			AML	AML		
FROS	comp=E,42750μm,0.6s			AML	AML		
FROS	comp=N,36250μm,0.7s			AML	AML		
FROS	comp=N,36250μm,0.7s			AML	AML		
FROS	comp=E,42750μm,0.6s						
FROS	**Frosini**	**0.13**	**94**	P	Pg	11 29 28.4	+0.6
FROS	**Frosini**	**0.13**	**94**	S	Sg	11 29 30.4	+0.8
CSNT	**Castellina Chi**	**0.34**	**42**	*i* P	Pg	11 29 32.2	+0.5
CSNT				S	Sg	11 29 37.0	+0.8
CASP	**Castiglione de**	**0.44**	**191**	P	Pg	11 29 34.2	+0.7
CASP				S	Sg	11 29 40.6	+1.4
ARCI	**Arcidosso**	**0.52**	**135**	P	Pg	11 29 35.7	+0.7
ARCI				S	Sb	11 29 43.4	-1.0
CRMI	**Carmignano**	**0.57**	**359**	P	Pg	11 29 36.6	+0.6
CRMI				AML	AML		
CRMI	comp=E,1315μm,1.1s			AML	AML		
CRMI	comp=N,1054μm,0.2s			AML	AML		
CRMI	comp=E,549μm,1.1s			AML	AML		
CRMI	comp=N,441μm,0.2s			AML	AML		
CRMI	comp=E,549μm,1.1s			AML	AML		
CRMI	comp=N,441μm,0.2s			AML	AML		
CRMI	comp=E,549μm,1.1s			AML	AML		
CRMI	comp=N,441μm,0.2s			AML	AML		
MCIV	**Monte Civitell**	**0.67**	**131**	P	Pg	11 29 38.6	+0.6
MCIV				AML	AML		
MCIV	comp=E,938μm,0.3s			AML	AML		
MCIV	comp=N,836μm,0.2s			AML	AML		
MCIV	comp=E,938μm,0.3s			AML	AML		
MCIV	comp=N,836μm,0.2s			AML	AML		
MCIV	comp=E,938μm,0.3s			AML	AML		
MCIV	comp=N,836μm,0.2s			AML	AML		
MCIV	comp=E,938μm,0.3s			AML	AML		
CAFI	**Castiglion Fio**	**0.73**	**81**	P	Pg	11 29 39.5	+0.4
CAFI				AML	AML		
CAFI	comp=E,564μm,1.6s			AML	AML		
CAFI	comp=N,528μm,1.0s			AML	AML		
RUFI	**Rufina**	**0.73**	**32**	P	Pg	11 29 39.4	+0.3
PTF	**Prato**	**0.74**	**5**	P	Pg	11 29 39.6	+0.2
PTF	**Prato**	**0.74**	**5**	P	Pg	11 29 39.6	+0.3
SACS	**San Casciano d**	**0.78**	**118**	P	Pb	11 29 40.5	-0.4
SACS	**San Casciano d**	**0.78**	**118**	P	Pb	11 29 40.6	-0.4
SACS	**San Casciano d**	**0.78**	**118**	P	Pb	11 29 41.7	+0.7
MAIM	**Mastiano**	**0.78**	**333**	P	Pg	11 29 40.2	+0.1
MAIM				S	Sg	11 29 49.5	-0.7
MAIM	**Mastiano**	**0.78**	**333**	P	Pg	11 29 40.2	+0.1
MAIM	**Mastiano**	**0.78**	**333**	P	Pg	11 29 40.2	+0.1
MAIM				AML	AML		
MAIM	comp=E,1196μm,1.2s			AML	AML		
MAIM	comp=N,912μm,0.6s			AML	AML		
MAIM	comp=E,1196μm,1.2s			AML	AML		
MAIM	comp=N,913μm,0.6s			AML	AML		
MAIM	comp=E,1196μm,1.2s			AML	AML		
MAIM	comp=N,912μm,0.6s			AML	AML		
MAIM	comp=N,912μm,0.6s			AML	AML		
MAIM	comp=E,1196μm,1.2s						
MAIM	**Mastiano**	**0.78**	**333**	S	Sg	11 29 51.0	+0.8
MAON	**Monte Argentar**	**0.80**	**172**	*i* P	Pb	11 29 41.5	+0.2
MAON				S	Sb	11 29 52.7	+0.3
MTCR	**Monte La Croce**	**0.81**	**1**	P	Pg	11 29 40.7	+0.1
MTCR	**Monte La Croce**	**0.81**	**1**	P	Pg	11 29 40.8	+0.2
MTCR				AML	AML		
MTCR	comp=E,1118μm,1.2s			AML	AML		
MTCR	comp=N,1405μm,0.4s			AML	AML		
MTCR	comp=E,1125μm,1.2s			AML	AML		
MTCR	comp=N,1410μm,0.4s			AML	AML		
MTCR	**Monte La Croce**	**0.81**	**1**	P	Pg	11 29 40.8	+0.2
MTCR	**Monte La Croce**	**0.81**	**1**	S	Sb	11 29 53.1	+0.3
CRE	**Caprese Michel**	**0.81**	**60**	P	Pb	11 29 41.6	-0.1
CRE	**Caprese Michel**	**0.81**	**60**	P	Pb	11 29 41.6	-0.1
CRE				S	Sb	11 29 52.6	-0.3
CRE	comp=E,1485μm,0.5s			AML	AML		
CRE	comp=N,2090μm,0.7s			AML	AML		
CRE	comp=E,1485μm,0.5s			AML	AML		
CRE	comp=N,2090μm,0.7s			AML	AML		
CRE	comp=E,1485μm,0.5s			AML	AML		
CRE	comp=N,2090μm,0.7s			AML	AML		
CRE	comp=E,1485μm,0.5s			AML	AML		
CRE	**Caprese Michel**	**0.81**	**60**	P	Pb	11 29 41.7	+0.1
CRE	**Caprese Michel**	**0.81**	**60**	S	Sb	11 29 52.6	-0.3
CRE	**Caprese Michel**	**0.81**	**60**	S	Sb	11 29 53.0	+0.1
ASQU	**Asqua**	**0.82**	**45**	P	Pb	11 29 41.5	-0.4
ASQU				S	Sb	11 29 53.0	-0.2
ASQU				AML	AML		
ASQU	comp=E,1630μm,0.3s			AML	AML		
ASQU	comp=N,1009μm,0.4s			AML	AML		
ASQU	comp=E,1630μm,0.3s			AML	AML		
ASQU	comp=N,1009μm,0.4s			AML	AML		
ASQU	comp=E,1630μm,0.3s			AML	AML		
ASQU	comp=N,1009μm,0.4s			AML	AML		
ASQU	**Asqua**	**0.82**	**45**	S	Sb	11 29 53.0	-0.3
POPM	**Popiglio**	**0.84**	**349**	P	Pg	11 29 41.5	+0.3
POPM				S	Sg	11 29 52.6	+0.4
POPM	**Popiglio**	**0.84**	**349**	P	Pg	11 29 41.6	+0.3
POPM				S	Sb	11 29 53.8	+0.1
POPM				AML	AML		
POPM	comp=E,1620μm,0.7s			AML	AML		
POPM	comp=N,1900μm,0.8s			AML	AML		
POPM	comp=E,1620μm,0.7s			AML	AML		
POPM	comp=N,1900μm,0.8s			AML	AML		
POPM	comp=E,1620μm,0.7s			AML	AML		
POPM	comp=N,1900μm,0.8s			AML	AML		
POPM	comp=N,1900μm,0.8s			AML	AML		
POPM	comp=E,1620μm,0.7s			AML	AML		
POPM	**Popiglio**	**0.84**	**349**	P	Pg	11 29 41.6	+0.3
POPM	**Popiglio**	**0.84**	**349**	S	Sb	11 29 53.7	0.0
SEI	**Scarperia**	**0.88**	**18**	P	Pg	11 29 42.3	+0.3
SEI				AML	AML		
SEI	comp=E,2025μm,0.4s			AML	AML		
SEI	comp=N,2875μm,0.4s			AML	AML		
SEI	comp=E,2030μm,0.4s			AML	AML		
SEI	comp=N,2875μm,0.4s			AML	AML		
SEI	comp=E,2030μm,0.4s			AML	AML		
SEI	comp=N,2870μm,0.4s			AML	AML		
SEI	comp=E,2030μm,0.4s			AML	AML		
SEI	comp=N,2870μm,0.4s			AML	AML		
SEI	**Scarperia**	**0.88**	**18**	P	Pg	11 29 42.3	+0.4
SEI	**Scarperia**	**0.88**	**18**	P	Pb	11 29 42.5	-0.2
CARD	**Cardoso**	**0.88**	**336**	P	Pg	11 29 42.0	0.0
CARD				S	Sg	11 29 53.1	-0.5
CARD	**Cardoso**	**0.88**	**336**	P	Pg	11 29 42.0	-0.1
CARD				AML	AML		
CARD	comp=E,1485μm,0.9s			AML	AML		
CARD	comp=N,1285μm,0.7s			AML	AML		
CARD	comp=E,1480μm,0.9s			AML	AML		
CARD	comp=N,1285μm,0.7s			AML	AML		
CARD	comp=E,1480μm,0.9s			AML	AML		
CARD	comp=N,1285μm,0.7s			AML	AML		
CARD	comp=E,1480μm,0.9s			AML	AML		
CARD	comp=N,1285μm,0.7s			AML	AML		
CARD	**Cardoso**	**0.88**	**336**	P	Pg	11 29 42.2	+0.1
MGAB	**Montegabbione**	**0.88**	**110**	P	Pg	11 29 41.9	-0.1
MGAB				AML	AML		
MGAB	comp=E,410μm,1.5s			AML	AML		
MGAB	comp=N,426μm,0.5s			AML	AML		
MGAB	comp=E,459μm,1.5s			AML	AML		
MGAB	comp=N,402μm,0.5s			AML	AML		
MGAB	comp=E,410μm,1.5s			AML	AML		
MGAB	comp=N,426μm,0.5s			AML	AML		
MGAB	comp=E,410μm,1.5s			AML	AML		
MGAB	comp=E,458μm,1.5s			AML	AML		
MGAB	comp=N,402μm,0.5s			AML	AML		
MGAB	comp=N,426μm,0.5s			AML	AML		
MGAB	comp=E,410μm,1.5s			AML	AML		
MGAB	comp=E,458μm,1.5s			AML	AML		
MGAB	comp=N,402μm,0.5s			AML	AML		
MGAB	**Montegabbione**	**0.88**	**110**	P	Pg	11 29 42.4	+0.4
BDI	**Bagni Di Lucca**	**0.89**	**342**	P	Pg	11 29 42.2	0.0
BDI	**Bagni Di Lucca**	**0.89**	**342**	P	Pg	11 29 42.3	+0.2
BDI				AML	AML		

	comp=E,904μm,1.3s					
BDI				AML	AML	
	comp=N,1014μm,0.4s					
BDI				AML	AML	
	comp=E,888μm,0.3s					
BDI				AML	AML	
	comp=N,1102μm,0.4s					
BDI				AML	AML	
	comp=E,904μm,1.3s					
BDI				AML	AML	
	comp=N,1014μm,0.4s					
BDI				AML	AML	
	comp=E,888μm,0.3s					
BDI				AML	AML	
	comp=N,1102μm,0.4s					
BDI				AML	AML	
	comp=N,1014μm,0.4s					
BDI				AML	AML	
	comp=E,888μm,0.3s					
BDI				AML	AML	
	comp=E,904μm,1.3s					
BDI				AML	AML	
	comp=N,1102μm,0.4s					
BDI	**Bagni Di Lucca**	**0.89**	**342**	P	Pg	11 29 42.4 +0.2
SSP9	**Sansepolcro**	**0.91**	**67**	P	Pb	11 29 43.3 0.0
SSP9	**Sansepolcro**	**0.91**	**67**	P	Pb	11 29 43.3 0.0
SSP9				AML	AML	
	comp=E,841μm,0.4s					
SSP9				AML	AML	
	comp=N,990μm,1.5s					
SSP9				AML	AML	
	comp=E,842μm,0.4s					
SSP9				AML	AML	
	comp=N,982μm,1.5s					
SSP9				AML	AML	
	comp=N,982μm,1.5s					
SSP9				AML	AML	
	comp=E,842μm,0.4s					
SSP9	**Sansepolcro**	**0.91**	**67**	P	Pb	11 29 43.3 +0.1
SFI	**Santa Sofia**	**0.93**	**42**	P	Pb	11 29 43.3 -0.3
SFI	**Santa Sofia**	**0.93**	**42**	P	Pb	11 29 43.3 -0.3
BADI	**Badiali**	**0.97**	**72**	P	Pb	11 29 44.3 0.0
BADI	**Badiali**	**0.97**	**72**	P	Pb	11 29 44.3 0.0
ATTE	**AVT- Monte Tez**	**1.00**	**91**	P	Pg	11 29 44.1 -0.3
ATTE				AML	AML	
	comp=E,592μm,1.6s					
ATTE				AML	AML	
	comp=N,443μm,0.7s					
ATTE				AML	AML	
	comp=E,592μm,1.6s					
ATTE				AML	AML	
	comp=N,443μm,0.7s					
ATTE				AML	AML	
	comp=N,443μm,0.7s					
ATTE				AML	AML	
	comp=E,592μm,1.6s					
ATTE	**AVT- Monte Tez**	**1.00**	**91**	P	Pg	11 29 44.2 -0.2
PARC	**Parchiule**	**1.01**	**64**	P	Pb	11 29 44.9 -0.1
PARC	**Parchiule**	**1.01**	**64**	P	Pb	11 29 45.1 +0.1
VLC	**Villacollemand**	**1.03**	**336**	P	Pg	11 29 45.1 +0.2
VLC				AML	AML	
	comp=E,604μm,0.7s					
VLC				AML	AML	
	comp=N,648μm,1.0s					
VLC				AML	AML	
	comp=E,590μm,0.8s					
VLC				AML	AML	
	comp=N,667μm,1.0s					
VLC				AML	AML	
	comp=E,605μm,0.7s					
VLC				AML	AML	
	comp=N,648μm,1.0s					
VLC				AML	AML	
	comp=E,590μm,0.8s					
VLC				AML	AML	
	comp=N,667μm,1.0s					
VLC				AML	AML	
	comp=E,590μm,0.8s					
VLC				AML	AML	
	comp=E,605μm,0.7s					
VLC				AML	AML	
	comp=N,648μm,1.0s					
VLC				AML	AML	
	comp=N,667μm,1.0s					
VLC	**Villacollemand**	**1.03**	**336**	P	Pg	11 29 45.1 +0.2
SARO	**Sassorosso**	**1.05**	**337**	P	Pg	11 29 45.4 +0.1
SARO	**Sassorosso**	**1.05**	**337**	P	Pg	11 29 45.4 +0.1
SARO				AML	AML	
	comp=E,683μm,0.5s					
SARO				AML	AML	
	comp=N,880μm,0.5s					
SARO				AML	AML	
	comp=E,683μm,0.5s					
SARO				AML	AML	
	comp=N,880μm,0.5s					
SARO				AML	AML	
	comp=E,683μm,0.5s					
SARO				AML	AML	
	comp=N,880μm,0.5s					
SARO	**Sassorosso**	**1.05**	**337**	P	Pb	11 29 45.8 0.0
MURB	**Monte Urbino**	**1.13**	**87**	P	Pb	11 29 46.9 -0.1
MURB	**Monte Urbino**	**1.13**	**87**	P	Pn	11 29 47.8 +0.3
ZCCA	**Zocca**	**1.13**	**360**	P	Pn	11 29 47.8 +0.3
ZCCA	**Zocca**	**1.13**	**360**	P	Pn	11 29 48.5 +1.0
PE3	**Peglio**	**1.20**	**66**	P	Pn	11 29 49.5 +1.1
PE3	**Peglio**	**1.20**	**66**	AML	AML	
	comp=E,743μm,0.5s					
PE3				AML	AML	
	comp=E,743μm,0.5s					
PE3				AML	AML	
	comp=N,942μm,0.8s					
PE3				AML	AML	
	comp=N,942μm,0.8s					
PE3				AML	AML	
	comp=N,942μm,0.8s					
PE3				AML	AML	
	comp=E,743μm,0.5s					
ATCC	**AVT- Casa Cast**	**1.21**	**91**	P	Pb	11 29 48.5 0.0
ATCC				AML	AML	
	comp=E,424μm,0.4s					
ATCC				AML	AML	
	comp=N,432μm,0.6s					
ATCC				AML	AML	
	comp=E,424μm,1.1s					
ATCC				AML	AML	
	comp=N,434μm,0.6s					
ATCC				AML	AML	
	comp=E,424μm,1.1s					
ATCC				AML	AML	
	comp=N,434μm,0.6s					
ATCC	**AVT- Casa Cast**	**1.21**	**91**	P	Pb	11 29 48.5 +0.1
ASSB	**Assisi San Ben**	**1.24**	**98**	P	Pg	11 29 48.3 -0.5
ASSB				AML	AML	
	comp=E,206μm,0.5s					
ASSB				AML	AML	
	comp=N,219μm,0.8s					
ASSB				AML	AML	
	comp=E,206μm,0.5s					
ASSB				AML	AML	
	comp=N,220μm,0.8s					
ASSB				AML	AML	
	comp=N,220μm,0.8s					
ASSB				AML	AML	
	comp=E,206μm,0.5s					
ASSB	**Assisi San Ben**	**1.24**	**98**	P	Pn	11 29 49.1 +0.1
SSFR	**Montelago di S**	**1.33**	**80**	P	Pn	11 29 49.8 -0.5
TOLF	**Tolfa**	**1.38**	**147**	P	Pn	11 29 50.0 -0.8
TOLF	**Tolfa**	**1.38**	**147**	P	Pg	11 29 52.5 +1.1
CESI	**CESI - Serrava**	**1.43**	**98**	P	Pn	11 29 51.5 -0.1
CESI				AML	AML	
	comp=E,38μm,0.4s					
CESI				AML	AML	
	comp=N,79μm,0.9s					
CESI				AML	AML	
	comp=E,38μm,0.4s					
CESI				AML	AML	
	comp=N,79μm,0.9s					
CESI				AML	AML	
	comp=E,38μm,0.4s					
CESI				AML	AML	
	comp=N,79μm,0.9s					
CESI	**CESI - Serrava**	**1.43**	**98**	P	Pn	11 29 51.6 +0.1
GRAM	**Graiana**	**1.43**	**333**	P	Pn	11 29 51.8 +0.1
GRAM				S	Sb	11 30 10.3 -0.5
GRAM	**Graiana**	**1.43**	**333**	P	Pn	11 29 51.7 0.0
GRAM				AML	AML	
	comp=E,1036μm,0.3s					
GRAM				AML	AML	
	comp=N,828μm,0.3s					
GRAM				AML	AML	
	comp=E,1036μm,0.3s					
GRAM				AML	AML	
	comp=N,828μm,0.3s					
GRAM				AML	AML	
	comp=E,1036μm,0.3s					
GRAM				AML	AML	
	comp=N,828μm,0.3s					
GRAM	**Graiana**	**1.43**	**333**	P	Pn	11 29 51.9 +0.2
MSSA	**Maissana**	**1.52**	**316**	P	Pn	11 29 52.5 -0.4
COR1	**Corinaldo**	**1.53**	**74**	S	Sg	11 30 20.0 +5.8
PGF	**Pioggiola**	**1.60**	**246**	*e*Pn	Pn	11 29 53.5 -0.5
	SNR=1.0					
PGF				*e*Sn	Sn	11 30 12.0 -3.1
	comp=N,30nm,0.3s					
PGF	**Pioggiola**	**1.60**	**246**	P	Pn	11 29 54.3 +0.3
CSP1	**Cessapalombo**	**1.63**	**94**	P	Pn	11 29 54.9 +0.4
LNSS	**Leonessa**	**1.63**	**111**	P	Pn	11 29 54.1 -0.3
LNSS				AML	AML	
	comp=E,176μm,0.4s					
LNSS				AML	AML	
	comp=N,147μm,0.3s					
LNSS				AML	AML	
	comp=E,176μm,0.4s					
LNSS				AML	AML	
	comp=N,147μm,0.3s					
LNSS				AML	AML	
	comp=N,147μm,0.3s					
LNSS				AML	AML	
	comp=E,176μm,0.4s					
LNSS	**Leonessa**	**1.63**	**111**	P	Pn	11 29 54.4 -0.1
PCP	**Piancastagn**	**2.20**	**308**	P	Pg	11 30 07.0 -0.3
VVLD	**Villa Vallelon**	**2.37**	**124**	P	Pb	11 30 08.4 +0.2
INTR	**Introdacqua**	**2.47**	**118**	P	Pn	11 30 06.8 +0.8
INTR	**Introdacqua**	**2.47**	**118**	AML	AML	
	comp=N,103μm,1.3s					
INTR				AML	AML	
	comp=E,70μm,0.6s					
INTR				AML	AML	
	comp=N,103μm,1.3s					
INTR				AML	AML	
	comp=E,70μm,0.6s					
SBF	**Sospel**	**2.66**	**285**	*e*Pn	Pn	11 30 07.3 -1.2
SBF				*e*Sn	Sn	11 30 37.1 -3.9
	comp=E,19nm,0.4s					
CGRP	**Cima Grappa**	**2.72**	**12**	P	Pn	11 30 09.3 -0.2
CGRP	**Cima Grappa**	**2.72**	**12**	AML	AML	
	comp=E,112μm,0.8s					
CGRP				AML	AML	
	comp=N,90μm,1.3s					
CGRP				AML	AML	
	comp=N,90μm,1.3s					
CGRP				AML	AML	
	comp=E,112μm,0.8s					
CTI	**Castel Tesino**	**2.87**	**9**	P	Pn	11 30 08.1 -3.3
POLC	**Polcenigo**	**3.01**	**21**	P	Pn	11 30 13.2 -0.1
POLC	**Polcenigo**	**3.01**	**21**	AML	AML	
	comp=N,160μm,0.4s					
POLC				AML	AML	
	comp=E,112μm,0.7s					
POLC				AML	AML	
	comp=E,112μm,0.7s					
POLC				AML	AML	
	comp=N,160μm,0.4s					
NVLJ	**Novalja**	**3.12**	**63**	*e*Pn	Pn	11 30 12.9 -1.8
NVLJ				Sn	Sn	11 30 46.1 -6.2
FRF	**La Foret Royal**	**3.18**	**278**	*e*Pn	Pn	11 30 14.7 -0.9
FRF				*e*Sn	Sn	11 30 49.7 -4.1
	comp=N,12nm,0.5s,SNR=1.0					
KOSI	**Kohlern**	**3.25**	**5**	P	Pn	11 30 17.3 +0.5
KOSI	**Kohlern**	**3.25**	**5**	AML	AML	
	comp=N,74μm,0.9s					
KOSI				AML	AML	
	comp=E,80μm,0.7s					
KOSI				AML	AML	
	comp=N,74μm,0.9s					
KOSI				AML	AML	
	comp=E,80μm,0.7s					
APPI	**Appiano**	**3.26**	**3**	P	Pn	11 30 17.7 +0.8
APPI	**Appiano**	**3.26**	**3**	AML	AML	
	comp=N,75μm,0.4s					
APPI				AML	AML	
	comp=E,77μm,0.6s					
APPI				AML	AML	
	comp=N,75μm,0.4s					
APPI				AML	AML	
	comp=E,77μm,0.6s					
LMR	**La Mourre**	**3.27**	**274**	*e*Pn	Pn	11 30 15.6 -1.2
LMR	**La Mourre**	**3.27**	**274**	*e*Pg	Pb	11 30 25.3 +1.9
	SNR=1.0					
LMR				*e*Sn	Sn	11 30 51.7 -4.3
	comp=E,3.5nm,0.2s					
STAL	**STALIGIAL**	**3.28**	**21**	P	Pn	11 30 16.8 -0.3
MBDF	**Montbardon**	**3.39**	**298**	*e*Pn	Pn	11 30 17.5 -1.2
MBDF				*e*Sn	Sn	11 30 55.1 -4.2
	comp=E,36nm,1.0s					
ABSI	**Aberstueckl**	**3.52**	**4**	P	Pn	11 30 21.3 +0.8
ABSI	**Aberstueckl**	**3.52**	**4**	AML	AML	
	comp=N,87μm,1.2s					
ABSI				AML	AML	
	comp=E,89μm,0.6s					
ABSI				AML	AML	
	comp=N,87μm,1.2s					
ABSI				AML	AML	
	comp=E,89μm,0.6s					
ABTA	**Abfaltersbach**	**3.69**	**17**	*e*Pn	Pn	11 30 23.1 +0.4
	comp=E,6.9nm,0.3s					
UDBI	**Udbina**	**3.70**	**68**	*e*Pn	Pn	11 30 22.5 -0.2
ROSI	**Rosskopf**	**3.72**	**5**	P	Pn	11 30 24.2 +1.0
ROSI	**Rosskopf**	**3.72**	**5**	AML	AML	
	comp=E,70μm,0.8s					
ROSI				AML	AML	
	comp=E,70μm,0.8s					
ROSI				AML	AML	
	comp=N,66μm,0.8s					
ROSI				AML	AML	
	comp=N,66μm,0.8s					
LPG	**La Plagne**	**3.79**	**308**	*e*P	Pn	11 30 26.3 +2.0
	SNR=1.0					
LPG				*e*Sn	Sn	11 31 04.8 -4.6
FETA	**Feichten**	**3.81**	**357**	*i* Pn	Pn	11 30 26.0 +1.6
	comp=N,2.5nm,0.3s					
LPL	**La Plagne**	**3.81**	**308**	*e*P	Pn	11 30 27.2 +2.7
LPL				*e*Sn	Sn	11 31 05.6 -4.2
VSL	**Villasalto**	**3.91**	**199**	P	Pn	11 30 26.4 +0.8
SMRF	**Simiane la Rot**	**4.00**	**283**	*e*Pn	Pn	11 30 25.8 -1.1
	SNR=1.0					
SMRF				*e*Sn	Sn	11 31 09.5 -4.6
	comp=N,9.2nm,0.3s					
SQTA	**Sankt Quirin**	**4.00**	**2**	*i* Pn	Pn	11 30 28.4 +1.4
	comp=N,20nm,0.3s,SNR=14					
ORIF	**Oris-en-Rattie**	**4.05**	**297**	*e*P	Pn	11 30 30.0 +2.3
ORIF				*e*Sn	Sn	11 31 10.7 -4.7
	comp=N,12nm,0.6s					
WTTA	**Wattenberg**	**4.07**	**6**	*i* Pn	Pn	11 30 29.3 +1.3
	comp=N,4.7nm,0.2s					
WTTA	**Wattenberg**	**4.07**	**6**	P	Pn	11 30 29.3 +1.3
MOTA	**Moosalm**	**4.13**	**1**	*i* Pn	Pn	11 30 29.5 +0.7
	comp=N,14nm,0.6s,SNR=13					
WATA	**Walderalm**	**4.14**	**6**	*i* Pn	Pn	11 30 29.9 +1.0
	comp=N,9.0nm,0.3s,SNR=15					
DAVA	**Damuels**	**4.14**	**350**	*i* Pn	Pn	11 30 31.5 +2.6
	comp=N,6.0nm,0.5s					
KBA	**Koelnbreinsper**	**4.21**	**23**	*e*Pn	Pn	11 30 30.6 +0.8
	comp=N,1.9nm,0.2s					
RETA	**Reutte**	**4.27**	**358**	*i* Pn	Pn	11 30 32.8 +2.1
	comp=N,7.9nm,0.3s					
SLCN	**Sala Consilina**	**4.48**	**128**	P	Pb	11 30 40.9 -3.3
VIVF	**Saint-Julien-l**	**4.83**	**292**	*e*P	Pn	11 30 40.6 +2.2
VIVF				*e*Sn	Sn	11 31 28.9 -5.8
	comp=N,0.9nm,0.2s					
CABF	**La Chapelle**	**4.86**	**316**	*e*P	Pn	11 30 39.6 +0.9
CABF				*e*Sn	Sn	11 31 29.7 -5.6
ARSA	**Arzberg**	**5.15**	**37**	*e*Pn	Pn	11 30 43.9 +1.2
	comp=N,2.3nm,0.3s					
MOA	**Molln**	**5.17**	**25**	*e*Pn	Pn	11 30 44.1 +1.0
	comp=N,0.9nm,0.2s					
LASF	**Ste Croix**	**5.24**	**282**	*e*Pn	Pn	11 30 42.6 -1.3
LASF				*e*Sn	Sn	11 31 38.9 -5.8
HINF	**Hinteralfeld**	**5.43**	**329**	*e*P	Pn	11 30 47.4 +0.8
HINF				*e*Sn	Sn	11 31 43.7 -5.8
	comp=N,2.8nm,0.4s					
CAR1	**CAROLEI**	**5.59**	**133**	P	Pb	11 31 06.7 +3.6
MMGO	**Monte Magaggia**	**5.76**	**164**	P	Pn	11 30 55.1 +4.1
HAU	**Haudompre**	**5.78**	**327**	*e*Pn	Pn	11 30 51.1 -0.3
HAU				*e*Sn	Sn	11 31 52.1 -6.0
	comp=N,3.5nm,0.3s					
CDF	**Champ du Feu**	**5.80**	**335**	*e*P	Pn	11 30 51.7 0.0
CDF				*e*Sn	Sn	11 31 52.9 -5.7
	comp=N,3.1nm,0.3s					
CONA	**Conrad Observa**	**5.82**	**34**	*e*Pn	Pn	11 30 52.9 +0.9
	comp=N,0.7nm,0.2s					
SMF	**Signal de Mont**	**6.12**	**307**	*e*P	Pn	11 30 58.3 +2.3
	SNR=1.0					
KHC	**Kasperske Hory**	**6.18**	**16**	*e*PN	Pn	11 30 56.0 -0.9
KHC				*e*PG	Pg	11 31 25.5 +2.1
KHC				*e*SN	Sn	11 32 04.8 -3.0
MTLF	**Montolieu**	**6.40**	**274**	*e*Pn	Pn	11 30 59.0 -0.8
MTLF				*e*Sn	Sn	11 32 05.9 -7.3
LOR	**Lormes**	**6.45**	**311**	*e*P	Pn	11 31 01.6 +1.0
	SNR=1.0					
LOR				*e*Sn	Sn	11 32 08.0 -6.5
	comp=N,1.7nm,0.5s					
PAGF	**Fort de Pagny**	**6.47**	**327**	*e*P	Pn	11 31 03.4 +2.5
PAGF				*e*Sn	Sn	11 32 08.4 -6.6
	comp=N,3.0nm,0.5s					
AVF	**Avril sur Loir**	**6.48**	**306**	*e*P	Pn	11 31 03.4 +2.5
SFTF	**Sexfontaines**	**6.49**	**322**	*e*P	Pn	11 31 03.7 +2.6
SFTF				*e*Sn	Sn	11 32 09.0 -6.4
	comp=N,2.0nm,0.4s					
SSF	**Saint Saulge**	**6.53**	**309**	*e*P	Pn	11 31 02.7 +1.0
	SNR=1.0					
SSF				*e*Sn	Sn	11 32 10.0 -6.5
	comp=N,0.8nm,0.3s					
CAF	**Calviac**	**6.65**	**288**	*e*Pn	Pn	11 31 03.3 0.0
CAF				*e*Sn	Sn	11 32 12.6 -6.7
	comp=N,0.8nm,0.2s					
BGF	**Bois d'Agland**	**6.67**	**303**	*e*P	Pn	11 31 06.2 +2.6
	SNR=1.0					
MEZF	**Maizieres J'vi**	**6.71**	**324**	*e*Sn	Sn	11 32 14.3 -6.5
	comp=N,4.6nm,0.5s					
BAIF	**Baives**	**8.27**	**328**	*e*P	Pn	11 31 28.5 +3.0
BAIF				*e*Sn	Sn	11 32 51.4 -7.8
	comp=N,0.6nm,0.3s					

TIF ***25*** *11:35:45.3, 42°.35N×43°.04E, h7km*
ISK ***25*** *11:35:45.9, 42°.36N×43°.05E, h7km, ML3.0/7*
NORS ***25*** *11:35:45.2±0.0, 42°.32N×43°.06E, h15km, MPVA3.7*
AZER ***25*** *11:35:45.0±1.8, 42°.06N×42°.44E, h40km±284km, ml3.0/5, Error ellipse: s-maj=543.5km s-min=16.2km az=286.0*
MOS ***25*** *11:35:46.6±1.4, 42°.33N×43°.06E, h7km, mb3.6/1, Error ellipse: s-maj=7.5km s-min=4.9km az=87.4*
DDA ***25*** *11:35:56.9, 41°.55N×43°.03E, h22km±4km, ML3.1*
ISC 25 11:35:46.4±1.0,**42°.31N**±0°.02×**43°.08E**±0°.02,**h2**km±8km,
n81,σ1§**18**/133,**6C-1D**,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKB	**Tkibuli**	**0.07**	**303**	P	**Pg**	**11 35 46.8**	**-1.1**
TKB				S	**Sg**	**11 35 48.0**	**-0.9**
TKB	**Tkibuli**	**0.07**	**303**	PG	**Pg**	**11 35 46.8**	**-1.1**
SRKG	**Sareki**	**0.20**	**86**	P	**Pg**	**11 35 48.2**	**-2.1**
SRKG				S	**Sg**	**11 35 52.2**	**-0.9**
ONI	**Oni**	**0.39**	**45**	PG	**Pg**	**11 35 53.9**	**-0.1**
ONI				SG	**Sg**	**11 35 59.4**	**+0.3**
ONI	**Oni**	**0.39**	**45**	P	**Pg**	**11 35 53.7**	**-0.3**
ONI				S	**Sg**	**11 36 00.3**	**+1.2**
ONI	**Oni**	**0.39**	**45**	*e*PG	**Pg**	**11 35 53.7**	**-0.3**
ONI				*e*S	**Sg**	**11 36 00.3**	**+1.2**
ONI	**Oni**	**0.39**	**45**	*e*Pg	**Pg**	**11 35 53.7**	**-0.3**
ONI				*e*Sg	**Sg**	**11 36 00.3**	**+1.2**
DIGR	**Digorskoe uzhe**	**0.69**	**32**	*i* PG	**Pg**	**11 35 59.4**	**-0.4**
DIGR				*e*S	**Sb**	**11 36 10.5**	**-1.0**
DIGR	**Digorskoe uzhe**	**0.69**	**32**	*e*Pg	**Pg**	**11 35 59.3**	**-0.4**
DIGR				*e*Sg	**Sb**	**11 36 09.7**	**-1.8**
ZEI	**Tsey**	**0.77**	**52**	*e*PG	**Pb**	**11 36 01.9**	**-0.8**
ZEI				*e*S	**Sb**	**11 36 13.9**	**+0.2**
ZEI	**Tsey**	**0.77**	**52**	*e*Pg	**Pb**	**11 36 01.9**	**-0.8**
ZEI				*e*Sg	**Sb**	**11 36 13.9**	**+0.2**
EPOS	**Posof**	**0.85**	**198**	*i* P	**Pb**	**11 36 03.9**	**0.0**
AKH	**Akhalkalaki**	**0.95**	**161**	PG	**Pb**	**11 36 05.8**	**+0.1**
AKH				SG	**Sn**	**11 36 19.8**	**-1.4**
AKH	**Akhalkalaki**	**0.95**	**161**	P	**Pb**	**11 36 05.4**	**-0.3**
AKH	**Akhalkalaki**	**0.95**	**161**	*e*PG	**Pb**	**11 36 05.4**	**-0.3**
AKH	**Akhalkalaki**	**0.95**	**161**	*e*Pg	**Pb**	**11 36 05.4**	**-0.3**
NEY	**Neytrino**	**0.97**	**345**	*i* Pg	**Pg**	**11 36 04.0**	**-1.1**
NEY				*e*Sg	**Sg**	**11 36 16.9**	**-0.8**
LACR	**Lac**	**1.04**	**60**	*e*PG	**Pg**	**11 36 06.4**	**+0.1**
LACR				*e*S	**Sn**	**11 36 22.5**	**-0.8**
LACR	**Lac**	**1.04**	**60**	*e*Pg	**Pg**	**11 36 06.4**	**+0.1**
LACR				*e*Sg	**Sn**	**11 36 22.5**	**-0.8**
KORR	**Kora**	**1.06**	**43**	*ce*PG	**Pn**	**11 36 07.5**	**-0.9**
KORR				*e*S	**Sb**	**11 36 21.4**	**-0.6**
KORR	**Kora**	**1.06**	**43**	*e*Pg	**Pb**	**11 36 07.0**	**-0.6**
KORR				*e*Sg	**Sn**	**11 36 23.3**	**-0.5**
LSNR	**Lesken**	**1.11**	**29**	*e*PG	**Pg**	**11 36 07.7**	**0.0**
LSNR				*e*S	**Sn**	**11 36 24.4**	**-0.6**
LSNR	**Lesken**	**1.11**	**29**	*e*Pg	**Pg**	**11 36 07.0**	**-0.7**
LSNR				*e*Sg	**Sn**	**11 36 24.1**	**-0.9**
BGD	**Bogdanovka**	**1.12**	**159**	P	**Pb**	**11 36 08.5**	**-0.1**
BGD				S	**Sn**	**11 36 25.1**	**-0.2**
BGD	**Bogdanovka**	**1.12**	**159**	PG	**Pb**	**11 36 08.4**	**-0.1**
ARNR	**Ardon**	**1.24**	**45**	*e*Pg	**Pg**	**11 36 11.3**	**+1.0**
ARNR				*e*Sg	**Sn**	**11 36 28.7**	**+0.6**
NCK	**Nalchik**	**1.24**	**18**	*ce*PG	**Pg**	**11 36 11.0**	**+0.8**
NCK	**Nalchik**	**1.24**	**18**	*e*Pg	**Pb**	**11 36 10.0**	**-0.6**
NCK				*e*Sg	**Sn**	**11 36 27.9**	**-0.3**
BATM	**Batumi**	**1.25**	**236**	PN	**Pn**	**11 36 09.9**	**-1.0**
BATM	**Batumi**	**1.25**	**236**	P	**Pn**	**11 36 09.5**	**-1.5**
BATM				S	**Sn**	**11 36 27.9**	**-0.4**
BATM	**Batumi**	**1.25**	**236**	PG	**Pn**	**11 36 09.4**	**-1.5**
STDR	**Stavd-Durt**	**1.28**	**34**	*e*PG	**Pg**	**11 36 10.9**	**-0.1**
STDR				*e*S	**Sn**	**11 36 29.3**	**+0.2**
STDR	**Stavd-Durt**	**1.28**	**34**	*e*Pg	**Pg**	**11 36 10.9**	**-0.1**
STDR				*e*Sg	**Sn**	**11 36 29.3**	**+0.2**
KZRT	**Kazreti**	**1.35**	**133**	P	**Pb**	**11 36 12.2**	**-0.3**
KZRT				S	**Sg**	**11 36 30.9**	**+1.1**
KZRT	**Kazreti**	**1.35**	**133**	PG	**Pb**	**11 36 12.1**	**-0.3**
TBLG	**Delisi**	**1.37**	**115**	PN	**Pb**	**11 36 12.4**	**-0.3**
TBLG				SN	**Sg**	**11 36 31.9**	**+1.6**
TBLG	**Delisi**	**1.37**	**115**	P	**Pb**	**11 36 12.1**	**-0.6**
TBLG				S	**Sg**	**11 36 31.7**	**+1.4**
TBLG	**Delisi**	**1.37**	**115**	*e*PG	**Pb**	**11 36 12.1**	**-0.6**
TBLG				*e*S	**Sg**	**11 36 31.7**	**+1.4**
TBLG	**Delisi**	**1.37**	**115**	*e*Pg	**Pb**	**11 36 12.1**	**-0.6**
TBLG				*e*Sg	**Sg**	**11 36 31.7**	**+1.4**
BCA	**Borcka**	**1.39**	**232**	PN	**Pn**	**11 36 12.2**	**-0.6**
BTNK	**Botanikuri**	**1.43**	**115**	P	**Pb**	**11 36 13.2**	**-0.6**
BTNK				S	**Sg**	**11 36 34.0**	**+1.7**
BTNK	**Botanikuri**	**1.43**	**115**	PG	**Pb**	**11 36 13.2**	**-0.6**
DBOC	**Borcka**	**1.43**	**228**	IAML_P			
	comp=Z,5μm,0.3s						
DBOC				*i* P	**Pb**	**11 36 13.2**	**-0.6**
DBOC				*i* S	**Sg**	**11 36 33.7**	**+1.4**
DOMR	**Dombai**	**1.45**	**313⇓**	*e*PG	**Pg**	**11 36 14.5**	**+0.3**
DOMR				*i* S	**Sg**	**11 36 36.3**	**+3.3**
DOMR	**Dombai**	**1.45**	**313**	*e*Pg	**Pn**	**11 36 12.5**	**-1.3**
DOMR				*e*Sg	**Sg**	**11 36 33.8**	**+0.7**
SHA1	**Shidzhatmaz**	**1.46**	**348⇑**	*i*PG	**Pb**	**11 36 13.5**	**-0.9**
SHA1				*i* S	**Sg**	**11 36 34.9**	**+1.6**
SHA1	**Shidzhatmaz**	**1.46**	**348**	*e*Pg	**Pb**	**11 36 13.6**	**-0.9**
SHA1				*e*Sg	**Sg**	**11 36 34.1**	**+0.8**
DAGI	**Agillar**	**1.51**	**216**	IAML_P			
	comp=Z,4μm,0.6s						
DAGI				*i* P	**Pb**	**11 36 14.8**	**-0.4**
KBTC	**Kuba-Taba**	**1.52**	**9**	*e*PG	**Pg**	**11 36 16.8**	**+1.2**
KBTC				*e*S	**Sg**	**11 36 38.5**	**+3.1**
KBTC	**Kuba-Taba**	**1.52**	**9**	*e*Pg	**Pg**	**11 36 16.6**	**+1.0**
KBTC				*e*Sg	**Sg**	**11 36 37.8**	**+2.4**
DBAD	**Bademkaya**	**1.66**	**219**	IAML_P			
	comp=Z,4μm,0.3s						
DBAD				*i* P	**Pb**	**11 36 17.2**	**-0.5**
DBAD				*i* S	**Sg**	**11 36 39.9**	**+0.3**
KIV	**Kislovodsk**	**1.67**	**350**	PN	**Pn**	**11 36 15.6**	**-1.1**
KIV	**Kislovodsk**	**1.67**	**350⇑**	*i*PN	**Pb**	**11 36 17.5**	**-0.4**
KIV				*i* S	**

SENK	Senkaya-Erzuru	1.83	198	PN	Pb	11 36 19.8	-1.0
DIGO	Kars	1.91	173	*i* P	Pb	11 36 22.4	+0.3
QZX	Qazax, Azerbai	2.13	125	P	Pb	11 36 24.4	-1.3
QZX				S	Sb	11 36 52.6	+0.1
GROC	Groznyy	2.19	65	*e*PN	Pn	11 36 22.7	-1.1
GROC				*e*		11 36 26.3	
GROC				*e*		11 36 56.7	
GROC				pmax	pmax		
	comp=Z,26nm,0.2s						
GROC				smax	smax		
	comp=E,55nm,0.8s						
DVE	Vedeno	2.34	73	*e*Pn	Pb	11 36 29.9	+0.6
DVE				*e*Sn	Sb	11 36 59.1	+0.4
BTLR	Botlikh	2.35	80	*e*Pn	Pn	11 36 21.0	-5.2
BTLR				*e*Sn	Sn	11 36 49.7	-5.9
LGD	Lagodekhi	2.40	100	P	Pb	11 36 30.8	+0.4
LGD				S	Sg	11 37 03.5	-0.2
LGD	Lagodekhi	2.40	100	*e*PN	Pb	11 36 30.8	+0.4
LGD				*e*S	Sg	11 37 03.4	-0.2
DDFL	Dedoflistskaro	2.43	110	P	Pn	11 36 28.1	+0.9
DDFL				S	Sb	11 36 59.5	-1.7
KOPR	Koprukoy-ERZUR	2.50	202	PN	Pn	11 36 29.5	+1.3
GNI	Garni	2.50	149	PN	Pn	11 36 29.1	+0.9
GNI	Garni	2.50	149*c*	*i*PN	Pg	11 36 33.3	-1.0
KRIK	Erzurum-spir	2.55	220	*i* P	Pb	11 36 33.9	+0.8
GDB	GEDABAY	2.56	127	P	Pb	11 36 31.1	-2.1
GDB				S	Sb	11 37 05.2	0.0
ZKTA	Zakatala	2.73	103	P	Pb	11 36 34.3	-1.7
ZKTA				S	Sb	11 37 11.4	+1.6
GUZR	Guzeripl'	2.74	309	*e*Pn	Pn	11 36 32.7	+1.2
GUZR				*e*Sn	Sn	11 37 05.5	+0.2
BAYT	Aydıntepe-Bayb	2.92	230	PN	Pn	11 36 34.4	+0.3
GANJ	Ganja	2.95	123	P	Pn	11 36 35.9	+1.6
GANJ				S	Sb	11 37 14.2	-2.1
SEKA	Sheki	3.27	108	P	Pb	11 36 42.7	-2.6
SEKA				S	Sb	11 37 27.4	+1.8
MAK	Makhachkala	3.33	77	*i* PN	Pn	11 36 41.2	+1.7
KIEV	Kiev	12.70	316	*i* P	Pn	11 38 49.2	+1.4
OBN	Obninsk	13.50	344‖	*e*P	Pn	11 38 59.8	+1.0
OBN				*e*S	Sn	11 41 28.2	-1.2
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,63nm,17.0s						
ARU	Arti	17.30	30	*i* P	P	11 39 50.2	-0.1
ARU				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	Borovoye	21.11	50	*i* P	P	11 40 32.9	+0.8
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.9s						

MEX 25 11:36:19.2±0.5, 14°.33N×92°.34W, h41km±20km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.58	8	*i* P	Pn	11 36 30.4	-0.7
THIG				*i* S	Sn	11 36 37.5	-2.0
PCIG		1.61	328	*e*P	Pn	11 36 43.8	-1.3
PCIG				*i* S	Sn	11 37 02.2	-2.5
CCIG	Comitan	1.95	6	*i* P	Pn	11 36 48.8	-1.2
CCIG				*i* S	Sn	11 37 11.0	-2.5
TGIG		2.55	343	*i* P	Pn	11 36 57.4	-0.7
TGIG				*i* S	Sn	11 37 26.5	-1.5
CMIG	Matias Romero	3.68	319	*e*P	Pn	11 37 12.2	-1.4
CMIG				*i* S	Sn	11 37 53.4	-2.4

*IDC **25** 11:50:52.8±1.8, 44°.20N×129°.97W, h0km, mb3.6/6, mb1 3.8/12, mb1mx3.7/36, mbtmp3.6/12, ML3.4/6, MS3.6/13, Ms1 3.6/13, ms1mx3.4/26, Error ellipse: s-maj=40.7km s-min=13.8km az=47.0*
*ISCJB **25** 11:50:54.9±0.3, 44°.51N±0°.03×129°.58W±0°.04, h13km, mb4.0/20, MS3.5/12, Error ellipse: s-maj=5.7km s-min=2.5km az=41.2*
*NEIC **25** 11:50:56.4±1.0, 44°.47N×129°.62W, h10km, mb4.1/59, Error ellipse: s-maj=26.6km s-min=16.9km az=232.0*
*ANF **25** 11:50:57.0±2.3, 44°.37N×129°.39W, ML3.6/9, Error ellipse: s-maj=26.3km s-min=8.1km az=85.0*
ISC 25 11:50:56.3±0.9, 44°.47N±0°.09×129°.63W±0°.09, h13km, n175, σ0°.92/162, mb4.1/20, MS3.6/12, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	4.16	111	*e*Pn	Pn	11 51 57.9	-1.7
I02D	Swisshome	4.17	93	P	Pn	11 51 58.7	-0.9
	baz=277,SNR=8.0						
I02D				S	Sn	11 52 47.9	-0.3
	baz=277						
COR	Corvallis	4.53	86	*e*Pn	Pn	11 52 04.3	-0.2
G03D	McMinnville, O	4.59	78	P	Pn	11 52 04.6	-0.7
	baz=263,SNR=6.0						
I03D	Drain, OR	4.59	98	P	Pn	11 52 04.4	-1.0
	baz=282,SNR=14						
K02D	Willamette Mer	4.68	110	S	Sn	11 53 01.1	+0.1
	baz=294						
H04D	Lebanon	4.93	87	P	Pn	11 52 09.6	-0.5
	baz=272,SNR=14						
F04D	Rainier, OR	4.94	69	P	Pn	11 52 10.4	+0.2
	baz=253						
NLWA	Neilton Lookou	4.97	52	*e*Pn	Pn	11 52 10.5	-0.1
HUMO	Hull Mountain	5.20	109	*e*Pn	Pn	11 52 13.4	-0.4
I04A	Tendick Farm,	5.24	95	P	Pn	11 52 14.0	-0.4
	baz=280,SNR=6.7						
H04A	Detroit Lake	5.32	85	*e*Pn	Pn	11 52 14.7	-0.8
E04D	Cinebar	5.38	65	P	Pn	11 52 17.1	+0.9
	baz=250,SNR=10						
D03D	Eldon	5.49	54	P	Pn	11 52 18.2	+0.5
	baz=238,SNR=11						
D04E	Lakebay	5.51	58	P	Pn	11 52 18.8	+0.9
	baz=243,SNR=10						
J04D	Umpqua Nationa	5.58	100	P	Pn	11 52 19.3	+0.2
	baz=285,SNR=7.3						
YBH	Yreka Blue Hor	5.76	116	*e*Pn	Pn	11 52 22.4	+0.9
YBH	Yreka Blue Hor	5.76	116	Pn	Pn	11 52 22.8	+1.2
	0.2nm,0.3s,baz=283,slow=9.9,SNR=5.5						
L04D	Klamath Falls	5.80	110	P	Pn	11 52 22.4	+0.3
	baz=295						
LON	Longmire	5.94	65	*e*Pn	Pn	11 52 24.1	+0.1
F05D	White Salmon	5.95	73	P	Pn	11 52 24.9	+0.8
	baz=252,SNR=12						
G05D	Wamic, OR	5.96	80	P	Pn	11 52 25.0	+0.7
	baz=265,SNR=5.6						
PGC	Sidney	5.97	43	*e*Pn	Pn	11 52 23.8	-0.5
D05A	Enumclaw	5.99	60	*e*Pn	Pn	11 52 25.3	+0.7
PINE	Pine Mountain	6.29	93	*e*Pn	Pn	11 52 28.9	-0.1
B05A	Bryant	6.45	51	P	Pn	11 52 31.5	+0.7
	baz=237,SNR=20						
LTY	Liberty	6.85	63	*e*Pn	Pn	11 52 35.5	-0.9
B06A	Marblemount	6.93	51	*e*Pn	Pn	11 52 37.5	+0.1
I07A	Izee	7.28	90	*e*Pn	Pn	11 52 42.8	+0.4
MOD	Modoc Plateau	7.29	107	*e*Pn	Pn	11 52 42.2	-0.4
HAWA	Hanford	7.36	71	*e*Pn	Pn	11 52 43.5	+0.1
BBB	Bella Bella	7.79	7	*e*Pn	Pn	11 52 49.6	+0.4
BBB	Bella Bella	7.79	7	Pn	Pn	11 52 52.2	+3.0
	0.2nm,0.3s,baz=193,slow=13,SNR=5.5						
BBB				LR	LR	11 54 49.9	
	comp=Z,71nm,19.1s,baz=169,slow=29						
D08A	Wollman Farm,	7.92	67	*e*Pn	Pn	11 52 51.0	-0.1
LLLB	Lillooet	8.07	38	*e*Pn	Pn	11 52 53.2	0.0
B08A	Colville Reser	8.11	58	*e*Pn	Pn	11 52 53.1	-0.6
J08A	Circle Bar Ran	8.13	94	*e*Pn	Pn	11 52 54.3	+0.2
WVOR	Wild Horse Val	8.26	100	*e*Pn	Pn	11 52 57.2	+1.4
C09A	Chrisman Ranch	8.56	63	*e*Pn	Pn	11 52 59.9	0.0
BMO	Blue Mountains	8.80	83	*e*Pn	Pn	11 53 03.4	+0.2
F10A	Beach Ranch, E	8.88	76	*e*Pn	Pn	11 53 05.8	+1.4
PAHR	Pah Rah Range	8.98	118	*e*Pn	Pn	11 53 06.8	+1.0
VCNR	Virginia City	9.06	121	*e*Pn	Pn	11 53 08.0	+1.0
NEW	Newport	9.44	62	P	Pn	11 53 11.4	-0.6
	baz=251						
NEW	Newport	9.44	62	Pn	Pn	11 53 11.0	-1.0
	0.2nm,0.3s,baz=244,slow=15,SNR=3.2						
CMB	Columbia Colle	9.47	130	*e*Pn	Pn	11 53 12.9	+0.5
YERR	Yerington	9.50	122	*e*Pn	Pn	11 53 13.9	+0.9
WAKR	Walker	9.69	124	*e*Pn	Pn	11 53 16.0	+0.4
PLID	Pearl Lake	9.72	82	*e*Pn	Pn	11 53 16.4	+0.5
KVN	Kaiserville	10.17	118	*e*Pn	Pn	11 53 22.9	+0.8
NV01	Mina Array Sit	10.42	121	*e*Pn	Pn	11 53 25.8	+0.2
NVAR	Mina Array Bea	10.42	121	Pn	Pn	11 53 25.8	+0.2
	0.1nm,0.3s,baz=299,slow=10,SNR=2.7						
MDPB	Devils Postpil	10.49	127	*e*Pn	Pn	11 53 27.6	+1.0
HLID	Hailey	11.00	89	*e*Pn	Pn	11 53 34.4	+0.9
CRAG	Craig	11.23	350	*e*Pn	Pn	11 53 38.3	+1.9
MSO	Missoula	11.24	72	*e*Pn	Pn	11 53 36.8	+0.2
MSO	Missoula	11.24	72	P	Pn	11 53 36.4	-0.2
	baz=264						
ELK	Elko	11.24	104	*e*Pn	Pn	11 53 37.2	+0.4
ELK	Elko	11.24	104	Pn	Pn	11 53 39.4	+2.5
	0.1nm,0.3s,baz=296,slow=13,SNR=7.7						
ELK				LR	LR	11 57 57.3	
	comp=Z,177nm,21.5s,baz=292,slow=37						
MCMT	McKenzie Canyo	11.96	82	*e*Pn	Pn	11 53 47.0	+0.4
WRAK	Wrangell Islan	12.09	353	*e*Pn	Pn	11 53 48.0	0.0
DLMT	Dillon	12.11	80	*e*Pn	Pn	11 53 49.6	+1.0
R11A	Troy Canyon, C	12.19	115	*e*Pn	Pn	11 53 50.2	+0.5
LRM	Limekiln Ridge	12.21	78	*e*Pn	Pn	11 53 52.2	+2.2
TPNV	Topopah Spring	12.62	122	*e*Pn	Pn	11 53 58.1	+2.5
BGU	Big Grassy Mou	12.72	100	*e*Pn	Pn	11 53 57.3	+0.4
BOZ	Bozeman (W)	12.79	79	*e*Pn	Pn	11 53 57.5	-0.3
QLMT	Earthquake Lak	12.97	82	*e*Pn	Pn	11 54 01.6	+1.2
YHB	Horse Butte	13.14	82	*e*Pn	Pn	11 54 04.6	+1.8
PSUT	Pine Spring	13.22	111	*e*Pn	Pn	11 54 05.2	+1.3
YMR	Madison River	13.31	83	*e*Pn	Pn	11 54 06.9	+1.8
YHH	Holmes Hill	13.38	82	*e*Pn	Pn	11 54 06.9	+0.8
FXWY	Fox Creek	13.41	87	*e*Pn	Pn	11 54 07.3	+0.9
IMW	Indian Meadow	13.43	86	*e*Pn	Pn	11 54 07.2	+0.4
GSC	Goldstone, Bar	13.43	129	*e*Pn	Pn	11 54 08.2	+1.5
YPP	Pitchstone Pla	13.47	84	*e*Pn	Pn	11 54 07.8	+0.5
SHPR	Sheep Range	13.57	121	*e*Pn	Pn	11 54 09.9	+1.3
SNOW	Snow King Moun	13.64	88	*e*Pn	Pn	11 54 10.7	+1.2
DLBC	Dease Lake	13.99	359	*e*Pn	Pn	11 54 15.8	+1.8
DLBC	Dease Lake	13.99	359	Pn	P	11 54 18.6	-3.5
	0.1nm,0.3s,baz=175,slow=11,SNR=2.8						
CCUT	Cedar City	14.08	114	*e*Pn	Pn	11 54 16.1	+0.5
MSU	Marysvale	14.36	108	*e*Pn	Pn	11 54 18.7	-0.8
LCMT	Little Creek M	14.47	115	*e*Pn	Pn	11 54 21.2	+0.3
RLMT	Red Lodge	14.48	80	*e*Pn	Pn	11 54 21.2	+0.3
PD31	Pinedale Array	14.64	90	*e*Pn	Pn	11 54 23.4	+0.2
PDAR	Pinedale Array	14.64	90	Pn	P	11 54 27.6	-2.0
	0.1nm,0.3s,baz=230,slow=15,SNR=3.2						
TMUT	Trail Mountain	14.66	104	*e*Pn	Pn	11 54 23.8	+0.2
KNB	Kanab	14.74	115	*e*Pn	Pn	11 54 25.1	+0.5
Q16A	Castle Valley	14.86	106	*e*Pn	Pn	11 54 24.9	-1.3
SRU	San Rafael Swe	15.22	104	*e*Pn	Pn	11 54 31.5	+0.5
	15nm,1.1s						
U15A	North Rim	15.43	115	*e*Pn	Pn	11 54 34.1	+0.1
	16nm,1.2s						
IKP	In-Ko-Pah, Jac	15.82	134	P	Pn	11 54 38.9	+0.1
	baz=322,SNR=5.7						
Y12C	Blythe	15.85	127	*e*Pn	Pn	11 54 39.3	+0.3
	27nm,1.5s						
O20A	White River Ci	16.40	98	*e*Pn	Pn	11 54 47.0	+0.7
	25nm,1.3s						
O20A	White River Ci	16.40	98	P	Pn	11 54 46.6	+0.4
	baz=292,SNR=5.4						
WHY	Whitehorse	16.52	351	*e*Pn	Pn	11 54 48.0	+0.5
	6.4nm,1.1s						
PV21	Cone Mtn., Par	16.54	104	*e*Pn	Pn	11 54 48.6	+0.5
	35nm,1.5s						
WUAZ	Wupatki	16.58	116	*e*Pn	Pn	11 54 49.5	+0.9
	35nm,1.5s						
Y14A	Wickenburg	16.60	124	*e*Pn	Pn	11 54 49.6	+0.8
	13nm,1.4s						
PV16	Nyswonger Mesa	16.70	104	*e*Pn	Pn	11 54 50.2	+0.1
	23nm,1.5s						
PV07	Paradox Valley	16.83	104	*e*Pn	Pn	11 54 52.1	+0.4
	29nm,1.7s						
PV01	Paradox Valley	17.02	105	*e*Pn	P	11 54 55.2	-0.9
	22nm,1.4s						
X16A	Lo Mia Camp, P	17.23	119	*e*Pn	Pn	11 54 57.1	+0.3
	6.6nm,1.4s						
MVCO	Mesa Verde	17.53	107	*e*Pn	Pn	11 55 00.9	+0.3
	19nm,1.5s						
W18A	Petrified Fore	17.88	115	*e*Pn	P	11 55 05.3	-0.2
	33nm,1.6s						
CTGM	Chitina Glacie	17.93	341	*e*Pn	P	11 55 05.8	+0.1
	15nm,1.2s						
X18A	Snowflake	18.11	117	*e*Pn	P	11 55 08.3	+0.3
	11nm,1.5s						
BALM	Baldy	18.23	340	*e*Pn	P	11 55 09.6	+0.5
	7.4nm,1.1s						
RSSD	Black Hills	18.31	82	*e*Pn	P	11 55 10.1	-0.1
	10.0nm,1.4s						
ISCO	Idaho Springs	18.39	96	*e*Pn	P	11 55 11.3	+0.1
	6.9nm,1.0s						
S22A	4UR Ranch, Cre	18.42	103	*e*P	P	11 55 12.2	+0.7
	13nm,1.6s						
TUC	Tucson	19.07	123	*e*P	P	11 55 18.7	+0.2
	5.8nm,1.4s						
SDCO	Great Sand Dun	19.35	102	*e*P	Pn	11 55 22.4	-0.4
	5.7nm,1.1s						
KDAK	Kodiak Island	19.49	321	*e*P	P	11 55 22.7	-0.1
	16nm,1.1s						
OHAK	Old Harbor	19.52	319	*e*P	P	11 55 23.4	+0.3
	30nm,1.3s						
LAZ	Ladron	20.02	112	*e*P	Pn	11 55 31.3	+0.6
YKA	Yellowknife Ar	20.05	21	P	Pn	11 55 30.2	-0.4
	2.1nm,1.0s,baz=211,slow=11,SNR=15						
YKA				LR	LR	12 03 49.7	
	comp=Z,8.5nm,20.4s,baz=211,slow=38						
YKB5	Yellowknife Ar	20.05	21	*e*P	Pn	11 55 30.2	-0.4
YKW3	Yellowknife Ar	20.11	20	*e*P	Pn	11 55 30.8	-0.5
	25nm,1.5s						
ANMO	Albuquerque	20.15	110	*e*P	P	11 55 30.2	-0.1
	5.8nm,1.3s						
ANMO	Albuquerque	20.15	110	P	Pn	11 55 32.0	-0.2
	1.6nm,0.9s,baz=312,slow=12,SNR=3.3						
SCM	Sheep Creek Mo	20.25	335	*e*P	P	11 55 31.8	+0.7
	54nm,1.7s						
LENM	Lemitar	20.27	113	*e*P	P	11 55 32.5	+0.8
KNK	Knik Glacier	20.28	333	*e*P	P	11 55 31.8	+0.4
	17nm,1.1s						
DAWY	Dawson	20.40	348	*e*P	P	11 55 33.5	+0.8
	5.2nm,1.3s						
T25A	Trinidad	20.40	102	*e*P	P	11 55 32.8	-0.3
	15nm,1.1s						
RC01	Rabbit Creek A	20.46	331	*e*P	P	11 55 34.2	+0.8
	9.2nm,1.0s						
BNM	Barren Site	20.50	112	*e*P	P	11 55 35.0	+0.7
FFC	Flin Flon	20.52	50	*e*P	P	11 55 34.3	+0.3
	20nm,1.3s						
SML	Sawmill	20.54	334	*e*P	P	11 55 34.3	+0.1
	42nm,1.3s						
PMR	Palmer	20.63	333	*e*P	P	11 55 34.9	-0.2
	12nm,1.1s						
319A	Douglas	20.63	122	*e*P	P	11 55 35.7	+0.1
	19nm,1.3s						
PAX	Paxson	20.66	339	*e*P	P	11 55 36.2	+0.7
	6.5nm,1.1s						
GHO	Glory Hole Cre	20.70	334	*e*P	P	11 55 35.9	-0.1
	20nm,1.2s						
DOT	Dot Lake	20.90	342	*e*P	P	11 55 37.9	-0.2
	5.5nm,1.1s						
RIDG	Independent Ri	21.16	341	*e*P	P	11 55 41.1	+0.2
	7.8nm,1.1s						
DHY	Denali Highway	21.25	337	*e*P	P	11 55 42.2	+0.3
	11nm,1.1s						
SPU	Mount Spurr	21.35	329	*e*P	P	11 55 43.4	+0.4
MCK	McKinley	22.20	337	*e*P	P	11 55 52.4	+0.4
	14nm,1.4s						
HDA	Harding Lake	22.22	340	*e*P	P	11 55 53.0	+0.7
	10nm,1.3s						
EPYK	Eagle Plains	22.29	352	*e*P	P	11 55 53.4	+0.4
	22nm,1.5s						
ILAR	Eielson Array	22.51	341	P	P	11 55 56.0	+0.7
	2.3nm,1.1s,baz=154,slow=8.3,SNR=17						
ILAR				LR	LR	12 03 12.5	
	comp=Z,228nm,21.4s,baz=158,slow=33						
ILB	Eielson Array	22.51	341	*e*P	P	11 55 55.9	+0.6
	9.8nm,1.4s						
WRH	Wood River Hil	22.56	339	*e*P	P	11 55 56.5	+0.7
	23nm,1.4s						
CCB	Clear Creek Bu	22.63	340	*e*P	P	11 55 56.6	0.0
	15nm,1.4s						
SVW2	Sparrevohn	22.63	326	*e*P	P	11 55 57.6	+0.9
	9.8nm,1.0s						
MNTX	Cornudas Mount	22.86	116	*e*P	P	11 55 59.4	+0.1
	8.6nm,1.6s						
MDM	Murphy Dome	22.99	340	*e*P	P	11 56 01.2	+0.8
	5.7nm,1.2s						
ULM	Lac du Bonnet	23.45	64	P	P	11 56 03.3	-1.8
	2.5nm,0.7s,baz=292,slow=8.1,SNR=3.5						
ULM				LR	LR	12 04 49.4	
	comp=Z,196nm,20.6s,baz=296,slow=35						
AGMN	Agassiz Nation	23.49	69	*e*P	P	11 56 06.5	+0.9
ECSD	EROS Data Cent	23.64	80	*e*P	P	11 56 07.3	+0.2
	9.3nm,1.2s						
MLY	Manley	23.70	338	*e*P	P	11 56 08.8	+1.2
	8.6nm,1.3s						
INK	Inuvik	23.98	356	*e*P	P	11 56 10.3	+0.2
	7.2nm,1.3s						
INK	Inuvik	23.98	356	P	P	11 56 10.2	+0.2
	1.7nm,0.8s,baz=119,slow=13,SNR=3.0						
INK				LR	LR	12 04 56.3	
	comp=Z,188nm,18.0s,baz=158,slow=35						
TX31	Lajitas Ar. Si	25.53	118	*e*P	P	11 56 25.2	+0.5
	6.5nm,1.4s						
TXAR	Lajitas Array	25.53	118	P	P	11 56 24.8	0.0
	0.8nm,0.9s,baz=302,slow=7.1,SNR=8.1						
TXAR				LR	LR	12 05 27.2	
	comp=Z,92nm,21.3s,baz=0.0,slow=34						
WMOK	Wichita Mounta	25.55	102	*e*P	P	11 56 25.5	+0.8
	22nm,1.4s						
WMOK	Wichita Mounta	25.55	102	P	P	11 56 25.1	+0.3
	baz=302,SNR=6.9						
LPIG	La Paz	25.72	136	LR	LR	12 04 29.8	
	comp=Z,119nm,19.2s,baz=315,slow=32						
TOLK	Toolik Lake Re	26.34	344	*e*P	P	11 56 32.5	+0.9
	6.1nm,1.1s						
SCHQ	Schefferville	40.64	52	LR	LR	12 15 24.0	
	comp=Z,172nm,20.5s,baz=297,slow=36						
H11N3	WAKE ISLAND Hy	57.62	266	T	T	13 02 48.5	
	baz=49,slow=75,SNR=1465						
H11N2	WAKE ISLAND Hy	57.62	266	T	T	13 02 58.9	
	baz=49,slow=75,SNR=630						
H11N1	WAKE ISLAND Hy	57.63	266	T	T	13 02 55.1	
	baz=49,slow=75,SNR=704						
H11S1	WAKE ISLAND Hy	58.56	265	T	T	13 03 59.1	
	baz=48,slow=75,SNR=145						
H11S2	WAKE ISLAND Hy	58.56	265	T	T	13 03 59.8	
	baz=48,slow=75,SNR=120						
H11S3	WAKE ISLAND Hy	58.58	265	T	T	13 04 00.8	
	baz=48,slow=75,SNR=95						
NRIK	Noril'sk	63.24	346	LR	LR	12 30 04.9	
	comp=Z,43nm,20.6s,baz=60,slow=37						
NOA	NORSAR Array B	70.14	19	LR	LR	12 30 49.0	
	comp=Z,26nm,21.2s,baz=260,slow=34						
SONA0	Songino Array	75.74	325	*e*P	P	12 02 39.9	-1.6
SONM	Songino Array	75.74	325	P	P	12 02 39.9	-1.6
	1.1nm,0.7s,baz=122,slow=1.9,SNR=4.5						
SONM				LR	LR	12 36 27.4	
	comp=Z,68nm,18.5s,baz=78,slow=36						
ZALV	Zalesovo Beam	77.63	340	LR	LR	12 39 14.1	
	comp=Z,24nm,18.5s,baz=76,slow=37						
HHC	Hu-ho-hao-te	78.86	317	*e*P	P	12 02 55.8	-3.4
MKAR	Makanchi Array	84.85	339	LR	LR	12 43 46.1	
	comp=Z,48nm,18.4s,baz=16,slow=37						
WMQ	Urumqi	86.01	334	*e*P	P	12 03 37.0	+0.6

*ISCJB **25** 11:54:43.8±0.5, 24°.93N±0°.03×121°.94E±0°.02, h93km±3km, Error ellipse: s-maj=4.8km s-min=3.2km az=162.4*
*JMA **25** 11:54:43.2±0.2, 24°.91N×121°.92E, h99km±3km, M2.1*
*TAP **25** 11:54:43.6, 24°.93N×121°.94E, h94km, ML3.0, B*
ISC 25 11:54:44.2±1.6, 24°.93N±0°.05×121°.94E±0°.03, h92km±7km, n64, σ0°.46/125, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.08	184	*e*P	Pn	11 54 56.7	-0.5
	baz=176						
EGS				*e*S	Sn	11 55 06.9	+0.2
	baz=176						
TWB1	Santiao Chiao	0.09	29⇓	*i* P	Pn	11 54 57.1	0.0
	baz=36						
TWB1				*i* S	Sn	11 55 06.6	-0.1
	baz=36						
TIPB	Shuangxi	0.11	293	P	Pn	11 54 57.0	-0.2
	baz=290						
TIPB				S	Sn	11 55 06.6	-0.3
	baz=290						
NTC	Toucheng	0.12	233	*e*P	Pn	11 54 56.8	-0.4
	baz=231						
NTC				*e*S	Sn	11 55 07.0	+0.2
	baz=231						
NWF	Wu-fen Shan	0.20	315	P	Pn	11 54 56.9	-0.6
	baz=313						
NWF				S	Sn	11 55 07.3	-0.2
	baz=313						
WFSB	Wu-fen Shan	0.20	315	*e*P	Pn	11 54 57.2	-0.3
	baz=313						
WFSB				*e*S	Sn	11 55 07.2	-0.1
	baz=313						
TWE	Neicheng	0.32	230	P	Pn	11 54 57.8	-0.2
	baz=227						
TWE				S	Sn	11 55 08.1	-0.1
	baz=227						
SLBB	Yuanshan	0.33	238	*e*P	Pn	11 54 58.5	+0.5
	baz=236						
SLBB				*e*S	Sn	11 55 09.2	+0.9
	baz=236						
TWA	Mucha	0.33	279	P	Pn	11 54 57.6	-0.4
	baz=277						
TWA				S	Sn	11 55 08.0	-0.3
	baz=277						
TWC	Suao	0.33	194	*i* P	Pn	11 54 57.6	-0.4
	baz=192						
TWC				*e*S	Sn	11 55 08.9	+0.6
	baz=192						
NHDH	Xindian Distri	0.38	275	*e*P	Pn	11 54 58.5	+0.3
	baz=274						
NHDH				*e*S	Sn	11 55 09.1	+0.3
	baz=274						
YM07	YM07	0.38	310	*e*P	Pn	11 54 57.8	-0.6
	baz

	baz=272						
NCUH				*e*S	**Sn**	**11 55 13.0**	**-0.1**
	baz=272						
NNS	**Nan Shan**	**0.71 227**		P	**Pn**	**11 55 01.2**	**+0.1**
	baz=225						
NNS				S	**Sn**	**11 55 13.8**	**+0.1**
	baz=225						
NNSB	**Datong**	**0.71 226**		*e*P	**Pn**	**11 55 01.0**	**-0.1**
	baz=225						
NNSB				*e*S	**Sn**	**11 55 13.8**	**0.0**
	baz=225						
NACB	**Ninganchiao**	**0.81 203**		*e*P	**Pn**	**11 55 01.0**	**-1.1**
	baz=202						
NACB				*e*S	**Sn**	**11 55 15.0**	**-0.4**
	baz=202						
ETLH	**Xiulin Townshi**	**0.83 210**		*e*P	**Pn**	**11 55 01.9**	**-0.4**
	baz=209						
ETLH				*e*S	**Sn**	**11 55 16.0**	**+0.1**
	baz=209						
SBCB	**Hsinchu**	**0.88 261**		*e*P	**Pn**	**11 55 02.4**	**-0.3**
	baz=260						
SBCB				*e*S	**Sn**	**11 55 17.3**	**+0.8**
	baz=260						
LIOB	**Emei**	**0.89 252**		*e*P	**Pn**	**11 55 02.5**	**-0.3**
	baz=251						
LIOB				*e*S	**Sn**	**11 55 16.5**	**-0.3**
	baz=251						
TWD	**Chiawan**	**0.90 200**		*e*P	**Pn**	**11 55 02.5**	**-0.5**
	baz=199						
TWD				*e*S	**Sn**	**11 55 17.2**	**+0.2**
	baz=199						
NSTT	**Nanjuang**	**0.90 251**		P	**Pn**	**11 55 02.6**	**-0.3**
	baz=250						
NSTT				S	**Sn**	**11 55 16.7**	**-0.3**
	baz=250						
TWT	**Tachien**	**0.97 226**		P	**Pn**	**11 55 04.5**	**+0.6**
	baz=226						
TWT				S	**Sn**	**11 55 19.1**	**+0.6**
	baz=226						
TDCB	**Techi**	**0.98 227**		*e*P	**Pn**	**11 55 04.5**	**+0.5**
	baz=226						
TDCB				*e*S	**Sn**	**11 55 18.1**	**-0.6**
	baz=226						
WHF	**Hehuan Shan**	**0.99 218**		P	**Pn**	**11 55 04.5**	**+0.1**
	baz=217						
WHF				S	**Sn**	**11 55 19.6**	**+0.1**
	baz=217						
JYNG	**Yonagunijimaku**	**1.03 117**		P	**Pn**	**11 55 04.0**	**-0.4**
JYNG				*e*S	**Sn**	**11 55 19.4**	**-0.1**
YOJ	**Yonaguni jima**	**1.08 115**		P	**Pn**	**11 55 04.6**	**-0.4**
CHGB	**Renai**	**1.11 219**		*e*P	**Pn**	**11 55 05.7**	**+0.2**
	baz=218						
CHGB				*e*S	**Sn**	**11 55 22.1**	**+0.5**
	baz=218						
WHP	**Taichung City**	**1.11 235**		*e*P	**Pn**	**11 55 05.6**	**+0.2**
	baz=234						
WHP				*e*S	**Sn**	**11 55 21.4**	**0.0**
	baz=234						
NMLH	**Miaoli**	**1.11 250**		*e*P	**Pn**	**11 55 05.4**	**0.0**
	baz=249						
NMLH				*e*S	**Sn**	**11 55 21.1**	**-0.2**
	baz=249						
NSY	**Sanyi**	**1.19 245**		*e*P	**Pn**	**11 55 06.0**	**-0.3**
	baz=244						
NSY				S	**Sn**	**11 55 22.9**	**+0.1**
	baz=244						
OWD	**Renai**	**1.19 216**		*e*P	**Pn**	**11 55 06.3**	**-0.1**
	baz=215						
OWD				*e*S	**Sn**	**11 55 22.9**	**-0.2**
	baz=215						
ESL	**Shilin**	**1.20 203**		P	**Pn**	**11 55 06.1**	**-0.3**
	baz=202						
ESL				*e*S	**Sn**	**11 55 23.4**	**+0.3**
	baz=202						
TWQ1	**Liyutan**	**1.21 242**		*e*P	**Pn**	**11 55 06.1**	**-0.4**
	baz=241						
TWQ1				*e*S	**Sn**	**11 55 23.2**	**-0.1**
	baz=241						
DPDB	**Guoxing**	**1.28 226**		*e*P	**Pn**	**11 55 07.4**	**0.0**
	baz=225						
DPDB				*e*S	**Sn**	**11 55 25.0**	**+0.1**
	baz=225						
EGFH	**Guangfu**	**1.34 201**		*e*P	**Pn**	**11 55 08.7**	**+0.6**
	baz=200						
EGFH				*e*S	**Sn**	**11 55 26.0**	**-0.1**
	baz=200						
VWDT	**VWDT**	**1.38 212**		*e*P	**Pn**	**11 55 09.6**	**+1.1**
	baz=211						
VWDT				*e*S	**Sn**	**11 55 27.6**	**+0.7**
	baz=211						
SMLT	**Sun Moon Lake**	**1.41 223**		P	**Pn**	**11 55 08.5**	**-0.5**
	baz=221						
SMLT				*e*S	**Sn**	**11 55 28.0**	**+0.3**
	baz=221						
TYC	**Yuchr**	**1.42 224**		*e*P	**Pn**	**11 55 08.8**	**-0.3**
	baz=223						
TYC				*e*S	**Sn**	**11 55 27.9**	**+0.1**
	baz=223						
SSLB	**Suanglung**	**1.45 219**		*e*P	**Pn**	**11 55 09.4**	**0.0**
	baz=218						
SSLB				*e*S	**Sn**	**11 55 28.8**	**+0.3**
	baz=218						
HGSD	**Ruisui**	**1.50 198**		*e*P	**Pn**	**11 55 10.4**	**+0.2**
	baz=198						
HGSD				*e*S	**Sn**	**11 55 30.2**	**+0.5**
	baz=198						
WNT	**Mingjian**	**1.55 228**		*e*P	**Pn**	**11 55 09.9**	**-0.8**
	baz=227						
WNT				*e*S	**Sn**	**11 55 30.7**	**0.0**
	baz=227						
WHYT	**Xinyi Township**	**1.58 219**		*e*P	**Pn**	**11 55 11.0**	**-0.1**
	baz=218						
WHYT				*e*S	**Sn**	**11 55 32.2**	**+0.8**
	baz=218						
TWF1	**Yuli**	**1.68 201**		*e*P	**Pn**	**11 55 11.9**	**-0.4**
	baz=200						
TWF1				*e*S	**Sn**	**11 55 31.8**	**-1.8**
	baz=200						
IRIF	**Iriomote-Funau**	**1.73 110**		P	**Pn**	**11 55 13.1**	**+0.1**
IRIF				*e*S	**Sn**	**11 55 34.6**	**-0.3**
ALS	**Alishan**	**1.75 216**		*e*P	**Pn**	**11 55 13.7**	**+0.1**
	baz=215						
ALS				*e*S	**Sn**	**11 55 35.6**	**-0.2**
	baz=215						
CHN5	**Tsauling**	**1.75 221**		*e*P	**Pn**	**11 55 12.9**	**-0.5**
	baz=220						
CHN5				*e*S	**Sn**	**11 55 35.9**	**+0.3**
	baz=220						
HATJ	**Hateruma jima**	**1.91 117**		*e*S	**Sn**	**11 55 38.5**	**-0.5**
JKRS	**Kuro-shima**	**2.01 110**		P	**Pn**	**11 55 17.9**	**+1.3**
JKRS				*e*S	**Sn**	**11 55 40.7**	**-0.5**
JIJ	**Ishigaki jima**	**2.08 105**		P	**Pn**	**11 55 17.8**	**+0.2**
JIJ				S	**Sn**	**11 55 41.9**	**-1.1**
JISG	**Ishigakijimahi**	**2.18 98**		*e*S	**Sn**	**11 55 46.5**	**+1.1**

ANF 25 11:57:14.5±1.4, 40°.66N×126°.60W, ML2.7/1, Error ellipse: s-maj=14.9km s-min=11.9km az=24.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
L02E	**Cave Junction**	**2.71**	**56**	P	Pn	11 57 58.9	-0.4
	baz=237,SNR=24						
L02E				S	Sn	11 58 33.3	+0.5
	baz=237						
M02C	**Callahan**	**2.93**	**74**	P	Pn	11 58 02.0	-0.4
	baz=257,SNR=6.8						
M02C				S	Sn	11 58 39.5	+1.2
	baz=257						
O02D	**Mt. Diablo Mer**	**2.95**	**98**	P	Pn	11 58 01.5	-1.2
	baz=281,SNR=10.0						
N02D	**Trinity Center**	**2.97**	**83**	S	Sn	11 58 39.9	+0.4
	baz=265						
K02D	**Willamette Mer**	**2.99**	**46**	P	Pn	11 58 02.6	-0.7
	baz=228,SNR=26						
L04D	**Klamath Falls**	**3.58**	**63**	P	Pn	11 58 12.6	+1.1
	baz=246,SNR=8.7						
M04C	**Macdoel**	**3.76**	**71**	P	Pn	11 58 14.8	+0.9
	baz=254						
J05D	**Fort Rock, OR**	**4.78**	**55**	P	Pn	11 58 28.6	+0.6
	baz=238						
E04D	**Cinebar**	**6.58**	**25**	P	Pn	11 58 58.6	+6.2
	baz=208						
D04E	**Lakebay**	**7.07**	**22**	P	Pn	11 59 02.8	+3.6
	baz=204,SNR=12						
D03D	**Eldon**	**7.32**	**19**	P	Pn	11 59 02.1	-0.5
	baz=201,SNR=7.5						

B05A	**Bryant**	**8.25**	**21**	P	Pn	11 59 15.7	+0.3
	baz=205,SNR=28						

*ISCJB **25** 11:57:37.4±1.8, 44°.3N±0°.1×130°.0W±0°.3, h10km, mb3.1/2, Error ellipse: s-maj=31.5km s-min=10.5km az=146.3*
*IDC **25** 11:57:37.4±2.7, 44°.24N×130°.01W, h0km, mb3.2/4, mb1 3.7/9, mb1mx3.5/35, mbtmp3.4/9, ML3.3/5, Error ellipse: s-maj=48.6km s-min=17.5km az=55.0*
ISC 25 11:57:38.4±2.4, 44°.2N±0°.2×130°.2W±0°.2, h10km, n16, σ0s92/9, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**8.09**	**9**	Pn	**Pn**	**11 59 35.4**	**-0.4**
	0.3nm,0.3s,baz=239,slow=20,SNR=4.2						
NEW	**Newport**	**9.93**	**61**	Pn	**Pn**	**12 00 01.5**	**+0.5**
	0.4nm,0.3s,baz=260,slow=14,SNR=4.2						
NVAR	**Mina Array Bea**	**10.66**	**119**	Pn	**Pn**	**12 00 11.1**	**-0.2**
	0.0nm,0.3s,baz=286,slow=13,SNR=5.1						
ELK	**Elko**	**11.59**	**102**	Pn	**Pn**	**12 00 24.3**	**+0.2**
	0.1nm,0.3s,baz=318,slow=10,SNR=4.7						
DLBC	**Dease Lake**	**14.23**	**0**	Pn	**Pn**	**12 01 00.4**	**+0.5**
	0.1nm,0.3s,baz=232,slow=12,SNR=2.2						
PDAR	**Pinedale Array**	**15.06**	**88**	Pn	**P**	**12 01 17.4**	**+0.6**
	0.1nm,0.3s,baz=274,slow=12,SNR=2.4						
YKA	**Yellowknife Ar**	**20.43**	**21**	P	**P**	**12 02 13.8**	**-1.7**
	0.7nm,0.9s,baz=216,slow=11,SNR=5.6						
ANMO	**Albuquerque**	**20.46**	**109**	P	Pn	12 02 16.1	-2.3
	1.3nm,0.9s,baz=312,slow=17,SNR=2.5						
ILAR	**Eielson Array**	**22.61**	**341**	P	**P**	**12 02 39.8**	**+0.9**
	1.0nm,1.0s,baz=157,slow=8.4,SNR=8.3						
TXAR	**Lajitas Array**	**25.79**	**116**	P	**P**	**12 03 09.2**	**-0.4**
	0.4nm,0.8s,baz=294,slow=8.7,SNR=6.9						
H11N3	**WAKE ISLAND Hy**	**57.19**	**266**	T	T	13 09 38.0	
	baz=49,slow=75,SNR=757						
H11N2	**WAKE ISLAND Hy**	**57.19**	**266**	T	T	13 09 36.2	
	baz=49,slow=75,SNR=408						
H11N1	**WAKE ISLAND Hy**	**57.20**	**266**	T	T	13 09 32.9	
	baz=49,slow=75,SNR=347						
H11S1	**WAKE ISLAND Hy**	**58.12**	**265**	T	T	13 10 44.2	
	baz=48,slow=75,SNR=61						
H11S2	**WAKE ISLAND Hy**	**58.13**	**265**	T	T	13 10 44.6	
	baz=48,slow=75,SNR=45						
H11S3	**WAKE ISLAND Hy**	**58.14**	**265**	T	T	13 10 45.4	
	baz=48,slow=75,SNR=33						

MEX 25 12:05:41.4±0.3, 16°.25N×98°.16W, h20km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**12**	*e*P	Pb	12 05 45.0	-1.8
PNIG				*i* S	Sb	12 05 47.9	-2.7
TLIG	**Tlapa**	**1.36**	**343**	*e*P	Pn	12 06 02.2	-3.3
TLIG				*i* S	Sn	12 06 18.4	-4.6
MEIG	**Mezcala**	**2.18**	**320**	*e*P	Pn	12 06 13.9	-2.6
MEIG				*i* S	Sn	12 06 39.8	-3.2

*DDA **25** 12:36:22.7, 38°.44N×39°.63E, h5km±2km, ML2.7*
*ISK **25** 12:36:22.7, 38°.48N×39°.66E, h5km, ML2.2/4*
*ISCJB **25** 12:36:23.8±0.6, 38°.50N±0°.05×39°.62E±0°.05, h9km, Error ellipse: s-maj=7.3km s-min=4.7km az=156.0*
ISC 25 12:36:23.0±0.9, 38°.46N±0°.04×39°.64E±0°.03, h9km, n14, σ0s67/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.27**	**252**	PG	**Pg**	**12 36 28.6**	**+0.1**
SVRC				SG	**Sb**	**12 36 33.9**	**-1.1**
HANI	**Diyarbakir_Han**	**0.60**	**94**	IAML_P			
	comp=Z,2μm,0.1s						
HANI				*i* P	**Pn**	**12 36 37.8**	**0.0**
TNCL	**Tunceli-Merkez**	**0.66**	**354**	IAML_P			
	comp=Z,502nm,0.1s						
TNCL				*i* P	**Pb**	**12 36 36.9**	**+0.1**
DIYA	**Diyarbakir**	**0.66**	**144**	*i* P	**Pn**	**12 36 37.9**	**-0.7**
URFA	**Urfa**	**1.21**	**213**	PN	**Pg**	**12 36 46.7**	**+0.6**
URFA				SN	**Sn**	**12 37 04.0**	**+1.4**
YEDI	**Yedisu-Bingol**	**1.21**	**36**	PN	**Pn**	**12 36 46.2**	**0.0**
YEDI				SN	**Sn**	**12 37 02.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.27**	**104**	PN	**Pg**	**12 36 47.4**	**+0.1**
AKCD	**Akcadag**	**1.36**	**264**	*i* P	**Pg**	**12 36 49.2**	**+0.1**
HEKM	**Malatya_Hekimh**	**1.38**	**288**	IAML_P			
	comp=Z,351nm,0.3s						
HEKM				*i* P	**Pg**	**12 36 49.3**	**-0.2**
BTMN	**Batman**	**1.41**	**113**	*i* P	**Pg**	**12 36 50.9**	**+0.9**
MARD	**Mardin**	**1.46**	**141**	*i* P	**Pg**	**12 36 51.0**	**0.0**
MARD				*i* S	**Sg**	**12 37 10.0**	**+0.1**
MUSM	**Mu-Merkez**	**1.49**	**79**	*i* P	**Pg**	**12 36 52.5**	**+0.9**
SRTM	**Siirt_Merkez**	**1.86**	**104**	*i* P	**Pb**	**12 36 56.4**	**-0.8**
GZT	**Gaziantep**	**1.98**	**237**	*i* P	**Pn**	**12 36 57.4**	**+0.6**

TRN 25 12:38:01.3, 19°.60N×62°.32W, h74km, MD3.9, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**1.70**	**205**	*e*P	Pn	12 38 29.7	+0.5
SMRT	**St. Maarten**	**1.70**	**205**	*e*	Sn	12 38 47.0	-3.2
SMRT				*e*S	Sn	12 38 50.1	-0.1
ANWB	**Willy Bob**	**1.99**	**165**	*e*P	Pn	12 38 34.1	+1.1
ANWB	**Willy Bob**	**1.99**	**165**	*e*	Sn	12 38 57.1	+0.1
ANWB				*e*S	Sn	12 38 59.1	+2.0
SKDB	**Saint Kitts 2**	**2.24**	**192**	*e*P	Pn	12 38 39.2	+2.9
SKDB				*e*S	Sn	12 39 05.8	+2.7
SKI	**Saint Kitts**	**2.29**	**190**	*e*P	Pn	12 38 38.3	+1.2
SKI	**Saint Kitts**	**2.29**	**190**	*e*	Sn	12 39 03.8	-0.6
SKI				*e*S	Sn	12 39 06.4	+2.0
SKOC	**St. Kitts, UWI**	**2.33**	**190**	*e*P	Pn	12 38 38.9	+1.4
NEV	**Hard Times**	**2.47**	**186**	*e*P	Pn	12 38 41.6	+2.2
NEV				*e*S	Sn	12 39 09.5	+1.0
NVDO	**Nevis, Disaste**	**2.49**	**187**	*e*P	Pn	12 38 42.0	+2.3
NVBH	**Bath Hotel, Ne**	**2.49**	**187**	*e*P	Pn	12 38 42.0	+2.3
NVBH				*e*S	Sn	12 39 11.4	+2.3
BPA	**Boggy Peak**	**2.58**	**170**	*e*P	Pn	12 38 43.2	+2.2
BPA				*e*S	Sn	12 39 12.0	+0.6
ABD	**La Joyeuse, An**	**3.21**	**166**	*e*P	Pn	12 38 51.6	+2.1
CBE	**Ff, Capester**	**3.58**	**169**	*e*P	Pn	12 38 56.3	+1.8
MAGL	**Barre de l'ile**	**3.77**	**165**	*e*P	Pn	12 38 58.9	+1.8
TDBA	**Terre de Bas,**	**3.79**	**170**	*e*P	Pn	12 38 59.4	+2.0
MDPV	**Dominica, Penn**	**4.05**	**168**	*e*P	Pn	12 39 03.0	+2.0
MDPV				*e*S	Sn	12 39 47.0	-0.1
DWS	**Wesley**	**4.13**	**166**	*e*P	Pn	12 39 04.3	+2.3
DWS				*e*S	Sn	12 39 49.1	+0.1
BBL	**Barber's Block**	**4.14**	**169**	*e*P	Pn	12 39 03.7	+1.5
BBL	**Barber's Block**	**4.14**	**169**	*e*S	Sn	12 39 49.5	+0.2
PCM	**Pelee Case Pet**	**4.88**	**167**	*e*P	Pn	12 39 13.6	+1.3
BAMF	**Morne Balai**	**4.89**	**167**	*e*P	Pn	12 39 14.1	+1.6
CXM	**Morne La Croix**	**4.89**	**167**	*e*P	Pn	12 39 13.9	+1.4
GBMF	**Grand Be**	**4.91**	**167**	*e*P	Pn	12 39 14.2	+1.5
ZAM	**Aeronautique**	**5.15**	**166**	*e*P	Pn	12 39 16.7	+0.7
LPMF	**Morne Lapointe**	**5.17**	**165**	*e*P	Pn	12 39 17.3	+1.1
TRMF	**Trois Ilets**	**5.18**	**166**	*e*P	Pn	12 39 17.6	+1.2
BIM	**Bigot**	**5.20**	**167**	*e*P	Pn	12 39 18.6	+1.9
MPOM	**Morne Pois Mar**	**5.32**	**165**	*e*P	Pn	12 39 19.4	+1.2

*MOS **25** 12:42:05.9±1.3, 42°.60N×145°.17E, h74km, mb4.2/2, Error ellipse: s-maj=20.9km s-min=8.6km az=79.2*
*ISCJB **25** 12:42:07.7±0.7, 42°.76N±0°.05×145°.17E±0°.06, h74km±5km, mb3.5/1, Error ellipse: s-maj=10.4km s-min=4.5km az=147.0*
*JMA **25** 12:42:08.3±0.1, 42°.76N×145°.16E, h71km±1km, M3.7*
JMA Felt I J1.
*SKHL **25** 12:42:08.7±0.3, 42°.73N×145°.21E, h78km±4km, mb4.0/6*
ISC 25 12:42:08.0±1.1, 42°.70N±0°.07×145°.19E±0°.05, h61km±8km, n33, σ1s11/54, 2C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.38**	**357**	P	**Pn**	**12 42 20.1**	**+1.2**
JAK	**Akkeshi**	**0.47**	**309**	P	**Pn**	**12 42 20.6**	**+0.9**
JAK				*e*S	**Sn**	**12 42 29.4**	**+1.2**
NEM2	**Nemuro 2**	**0.78**	**31**	P	**Pn**	**12 42 23.6**	**+0.4**
NEM2				*e*S	**Sn**	**12 42 34.5**	**+0.1**
JNK	**Nakash**	**0.95**	**339**	P	**Pn**	**12 42 25.2**	**-0.2**
JNK				*e*S	**Sn**	**12 42 37.7**	**-0.6**
JOB	**Onbets**	**1.02**	**282**	P	**Pn**	**12 42 27.0**	**+0.7**
JOB				*e*S	**Sn**	**12 42 40.6**	**+0.7**
GLVR	**Golovnino**	**1.06**	**13** ⇓	*i*PN	**Pn**	**12 42 27.3**	**+0.4**
GLVR				*i* S	**Sn**	**12 42 41.2**	**+0.3**
GLVR				pmax	pmax		
	comp=N,140nm,0.1s						
GLVR				pmax	pmax		
	comp=E,71nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,590nm,0.1s						
GLVR				smax	smax		
	comp=E,2μm,0.1s						
GLVR				smax	smax		
	comp=N,3μm,0.2s						
GLVR	**Golovnino**	**1.06**	**13**	*i* P	**Pn**	**12 42 27.0**	**+0.1**
GLVR				AMB	AMB	12 42 31.0	
	comp=N,140nm,0.4s						
GLVR				AMB	AMB	12 42 31.0	
	comp=N,70nm,0.4s						
GLVR				AMB	AMB	12 42 31.0	
	comp=N,60nm,0.4s						
GLVR				*i* S	**Sn**	**12 42 41.0**	**+0.1**
GLVR				A	A	12 42 43.0	
	comp=N,470nm,0.2s						
GLVR				A	A	12 42 43.0	
	comp=N,180nm,0.2s						
JAR	**Ashorobuto**	**1.20**	**300**	P	**Pn**	**12 42 29.0**	**+0.3**
JAR				*e*S	**Sn**	**12 42 44.1**	**-0.1**
JRA	**Rausu**	**1.24**	**358**	P	**Pn**	**12 42 29.4**	**+0.2**
JRA				*e*S	**Sn**	**12 42 44.8**	**-0.2**
JCH	**Churui**	**1.35**	**267**	P	**Pn**	**12 42 31.4**	**+0.7**
JCH				*e*S	**Sn**	**12 42 48.4**	**+0.7**
GRPR	**Tuman**	**1.36**	**18**	*d*PN	**Pn**	**12 42 31.0**	**+0.2**
GRPR				*i* S	**Sn**	**12 42 47.1**	**-0.8**
GRPR				pmax	pmax		
	comp=Z,179nm,0.3s						
GRPR				pmax	pmax		
	comp=N,66nm,0.1s						
GRPR				pmax	pmax		
	comp=E,106nm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.1s						
GRPR				smax	smax		
	comp=N,1μm,0.2s						
GRPR	**Tuman**	**1.36**	**18**	*i* P	**Pn**	**12 42 31.0**	**+0.2**
GRPR				AMB	AMB	12 42 32.0	
	comp=N,70nm,0.2s						
GRPR				AMB	AMB	12 42 32.0	
	comp=N,110nm,0.2s						
GRPR				AMB	AMB	12 42 32.0	
	comp=N,40nm,0.2s						
GRPR				*i* S	**Sn**	**12 42 47.0**	**-0.8**
GRPR				A	A	12 42 49.0	
	comp=N,310nm,0.2s						
GRPR				A	A	12 42 49.0	
	comp=N,230nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.42**	**20**	*d*PN	**Pn**	**12 42 31.9**	**+0.3**
YUK				*i* S	**Sn**	**12 42 49.5**	**+0.2**
YUK				pmax	pmax		
	comp=N,47nm,0.2s						
YUK				pmax	pmax		
	comp=Z,332nm,0.2s						
YUK				pmax	pmax		
	comp=E,127nm,0.1s						
YUK				smax	smax		
	comp=E,1μm,0.3s						
YUK				smax	smax		
	comp=N,435nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.42**	**20**	*i* P	**Pn**	**12 42 31.6**	**0.0**
YUK				AMB	AMB	12 42 32.1	
	comp=N,40nm,0.2s						
YUK				*i* S	**Sn**	**12 42 48.7**	**-0.6**
YUK				A	A	12 42 50.0	
	comp=N,660nm,0.3s						
YUK				A	A	12 42 50.0	
	comp=N,140nm,0.3s						
LAGR	**Lagunnoye**	**1.42**	**18**	*d*PN	**Pn**	**12 42 32.3**	**+0.7**
LAGR				*i* S	**Sn**	**12 42 48.9**	**-0.5**
LAGR				pmax	pmax		
	comp=N,97nm,0.1s						
LAGR				pmax	pmax		
	comp=E,34nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,285nm,0.1s						
LAGR				smax	smax		
	comp=N,623nm,0.2s						
LAGR				smax	smax		
	comp=E,1μm,0.2s						
LAGR	**Lagunnoye**	**1.42**	**18**	*i* P	**Pn**	**12 42 32.0**	**+0.4**
LAGR				AMB	AMB	12 42 33.0	
	comp=E,90nm,0.2s						
LAGR				AMB	AMB	12 42 33.0	
	comp=E,30nm,0.2s						
LAGR				*i* S	**Sn**	**12 42 48.0**	**-1.4**
LAGR				A	A	12 42 51.0	
	comp=E,620nm,0.4s						
LAGR				A	A	12 42 51.0	
	comp=E,140nm,0.4s						
JTKR	**Abashiri--Toko**	**1.58**	**324**	P	**Pn**	**12 42 34.3**	**+0.6**
JTKR				*e*S	**Sn**	**12 42 53.5**	**+0.4**
ERM	**Erimo**	**1.66**	**246**	*d*PN	**Pn**	**12 42 36.0**	**+1.2**
JNBK	**Urakawa-nobuka**	**1.85**	**258**	P	**Pn**	**12 42 37.5**	**+0.1**
JNBK				*e*S	**Sn**	**12 42 59.3**	**-0.5**
JMP	**Maruseppu**	**1.87**	**315**	P	**Pn**	**12 42 38.0**	**+0.3**
JMP				*e*S	**Sn**	**12 43 00.2**	**0.0**
KUR	**Kuril'sk**	**3.18**	**36** ⇑	*i*PN	**Pn**	**12 42 56.6**	**+1.0**
KUR				*i* S	**Sn**	**12 43 32.6**	**+0.3**
KUR				pmax	pmax		
	comp=Z,27nm,0.3s						
KUR				pmax	pmax		
	comp=N,6.0nm,0.2s						
KUR				pmax	pmax		
	comp=E,7.0nm,0.2s						
KUR				smax	smax		
	comp=E,86nm,0.5s						
KUR				smax	smax		
	comp=N,69nm,0.2s						
KUR	**Kuril'sk**	**3.18**	**36**	*i* P	**Pn**	**12 42 56.0**	**+0.4**
KUR				AMB	AMB	12 42 57.0	
	comp=N,60nm,0.4s						
KUR				AMB	AMB	12 42 57.0	
	comp=N,70nm,0.4s						
KUR				AMB	AMB	12 42 57.0	
	comp=N,30nm,0.4s						
KUR				*i* S	**Sn**	**12 43 32.0**	**-0.3**
KUR				A	A	12 43 33.6	
	comp=N,70nm,0.3s						
KUR				A	A	12 43 33.6	
	comp=N,130nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.59**	**339**	*i* PN	**Pn**	**12 43 16.3**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.59**	**339**	*e*P	**Pn**	**12 43 16.5**	**+1.7**
YSS				AMB	AMB	12 43 17.6	
	comp=N,7.0nm,0.3s						
MAJO	**Matsushiro**	**8.18**	**224**	*i* PN	**Pn**	**12 44 00.8**	**-3.2**
KLR	**Kul'dur**	**11.40**	**310**	*i* PN	**Pn**	**12 44 46.3**	**-1.6**
KLR	**Kul'dur**	**11.40**	**310**	*e*P	**Pn**	**12 44 46.3**	**-1.6**
MA2	**Magadan**	**17.24**	**10**	*e*P	**Pn**	**12 46 05.0**	**+0.6**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MA2	**Magadan**	**17.24**	**10**	*e*P	**Pn**	**12 46 05.0**	**+0.6**
BILL	**Bilibino**	**27.77**	**17** ⇑	*e*P	**P**	**12 47 51.1**	**+0.4**
BILL				*e*		12 48 42.3	
BILL				*e*S	**S**	**12 52 33.5**	**+4.7**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.4s						
BILL				MLR	MLR		

	baz=49								
ARSB				⇑*i*S		**Sg**		**12 56 58.4**	**+0.2**
	baz=49								
ARK	**Arkit**	**1.34**	**321**	⇑*i*P		**Pn**		**12 57 03.8**	**-0.7**
ARK	baz=20			⇑*i*S		**Sg**		**12 57 22.4**	**-0.4**
	baz=20								
ARLS	**Aral**	**1.44**	**40**	⇑*i*P		**Pn**		**12 57 05.1**	**-0.7**
ARLS	baz=38			⇑*i*S		**Sn**		**12 57 24.5**	**-0.3**
	baz=38								
AML	**Almayashu**	**1.44**	**18**	P		**Pn**		**12 57 05.8**	**-0.4**
	SNR=639								
AML	**Almayashu**	**1.44**	**18**	⇑*i*P		**Pn**		**12 57 05.7**	**-0.4**
AML	baz=17			⇑*i*S		**Sb**		**12 57 25.2**	**-0.1**
	baz=17								
DRK	**Karamyk**	**1.62**	**218**	⇑*i*P		**Pg**		**12 57 09.0**	**-1.6**
DRK	baz=19			⇑*i*S		**Sg**		**12 57 30.4**	**-1.2**
	baz=19								
UCH	**Uchtor**	**1.81**	**35**	P		**Pb**		**12 57 12.0**	**-1.1**
	SNR=238								
UCH	**Uchtor**	**1.81**	**35**	⇑*i*P		**Pb**		**12 57 11.8**	**-1.3**
UCH	baz=34			⇑*i*S		**Sb**		**12 57 36.3**	**+0.3**
	baz=34								
BTK	**Batken**	**1.88**	**249**	⇓*i*P		**Pb**		**12 57 13.4**	**-0.5**
BTK	baz=50			⇓*i*S		**Sg**		**12 57 38.1**	**-1.7**
	baz=50								
EKS2	**Erkin-Say**	**1.97**	**15**	P		**Pb**		**12 57 14.8**	**-0.7**
	SNR=6.0								
EKS2	**Erkin-Say**	**1.97**	**15**	⇑*i*P		**Pb**		**12 57 14.3**	**-1.2**
EKS2	baz=14			⇑*i*S		**Sb**		**12 57 40.8**	**+0.6**
	baz=14								
MRKS	**Merke**	**1.99**	**3**	Pg		**Pb**		**12 57 15.4**	**-0.4**
MRKS	202nm,0.4s			Lg		Lg		12 57 41.3	
	295nm,0.4s								
MRKS	**Merke**	**1.99**	**3**	*e*P		**Pb**		**12 57 15.4**	**-0.4**
MRKS	202nm,0.4s			*e*S		**Sb**		**12 57 41.3**	**+0.6**
	295nm,0.4s								
KZA	**Kyzart**	**2.09**	**50**	P		**Pb**		**12 57 16.2**	**-1.5**
	SNR=40								
KZA	**Kyzart**	**2.09**	**50**	⇓*i*P		**Pn**		**12 57 15.7**	**+0.7**
KZA	baz=49			⇓*i*S		**Sb**		**12 57 43.2**	**-0.7**
	baz=49								
AAK	**Ala-Archa**	**2.15**	**29**	P		**Pb**		**12 57 16.9**	**-1.7**
	SNR=53								
AAK	**Ala-Archa**	**2.15**	**29**	⇑Pg		**Pb**		**12 57 17.1**	**-1.6**
AAK	20nm,0.4s			Lg		Lg		12 57 45.8	
	79nm,0.4s								
AAK	**Ala-Archa**	**2.15**	**29**	⇑*i*P		**Pb**		**12 57 16.7**	**-1.9**
AAK	baz=28			⇑*i*S		**Sb**		**12 57 44.7**	**-0.7**
	baz=28								
NRN	**Naryn**	**2.29**	**72**	⇑*i*P		**Pn**		**12 57 17.7**	**0.0**
NRN	baz=71			⇑*i*S		**Sn**		**12 57 47.1**	**+0.9**
	baz=71								
FRU1	**Bishkek**	**2.35**	**29**	⇑*i*P		**Pn**		**12 57 19.3**	**+1.1**
FRU1	baz=28			⇑*i*S		**Sn**		**12 57 48.9**	**+1.7**
	baz=28								
KBK	**Karagaybulak**	**2.35**	**36**	P		**Pb**		**12 57 20.3**	**-1.7**
	SNR=22								
KBK	**Karagaybulak**	**2.35**	**36**	⇑*i*P		**Pn**		**12 57 19.5**	**+1.2**
KBK	baz=35			⇑*i*S		**Sb**		**12 57 49.6**	**-1.6**
	baz=35								
CHMS	**Chumysh**	**2.56**	**28**	P		**Pn**		**12 57 22.8**	**+1.7**
	SNR=8.8								
CHMS	**Chumysh**	**2.56**	**28**	⇓*i*P		**Pn**		**12 57 22.3**	**+1.2**
CHMS	baz=28			⇓*i*S		**Sn**		**12 57 54.4**	**+2.2**
	baz=28								
IUG	**Iuzhnay**	**2.69**	**302**	Pg		**Pb**		**12 57 27.5**	**-0.3**
IUG	35nm,0.2s			Lg		Lg		12 58 02.5	
	429nm,0.4s								
IUG	**Iuzhnay**	**2.69**	**302**	*e*P		**Pb**		**12 57 27.8**	**0.0**
IUG	35nm,0.2s			*e*S		**Sg**		**12 58 02.6**	**-3.3**
	429nm,0.4s								
USP	**Ospenovka**	**2.71**	**22**	P		**Pn**		**12 57 24.5**	**+1.3**
	SNR=5.2								
USP	**Ospenovka**	**2.71**	**22**	⇓*i*P		**Pn**		**12 57 24.4**	**+1.1**
USP	baz=22			⇓*i*S		**Sn**		**12 57 58.0**	**+1.8**
	baz=22								
BOOM	**Boomskoye usch**	**2.75**	**50**	⇓*i*P		**Pn**		**12 57 24.4**	**+0.6**
BOOM	baz=49			⇓*i*S		**Sn**		**12 57 58.3**	**+1.2**
	baz=49								
ULHL	**Ulahol**	**2.79**	**57**	P		**Pn**		**12 57 25.7**	**+1.3**
	SNR=12								
ULHL	**Ulahol**	**2.79**	**57**	⇑*i*P		**Pn**		**12 57 25.4**	**+1.0**
ULHL	baz=56			⇑*i*S		**Sn**		**12 57 59.4**	**+1.1**
	baz=56								
TKM2	**Tokmak 2**	**2.85**	**40**	P		**Pn**		**12 57 26.7**	**+1.4**
	SNR=16								
TKM2	**Tokmak 2**	**2.85**	**40**	⇑Pn		**Pn**		**12 57 26.7**	**+1.4**
TKM2	5.5nm,0.3s			⇓Lg		Lg		12 58 07.0	
	28nm,0.5s								
TKM2	**Tokmak 2**	**2.85**	**40**	⇓*e*P		**Pn**		**12 57 26.5**	**+1.2**
TKM2	baz=39			⇓*i*S		**Sn**		**12 58 00.7**	**+0.8**
	baz=39								
TAS	**Tashkent**	**2.94**	**282**	⇓*i*P		**Pn**		**12 57 27.3**	**+1.0**
TAS	baz=83			⇓*i*S		**Sn**		**12 58 03.4**	**+1.8**
	baz=83								
KK31	**Karatay Array**	**3.04**	**321**	⇑Pg		**Pb**		**12 57 34.0**	**+0.4**
	8.6nm,0.3s,baz=134,slow=12,SNR=5.6								
KK31				⇑Lg		Lg		12 58 13.0	
	11nm,0.3s,baz=134,slow=22,SNR=12								
CHM	**Chimkent**	**3.05**	**302**	*e*P		**Pg**		**12 57 36.1**	**-1.9**
CHM	134nm,0.2s			*e*S		**Sg**		**12 58 16.7**	**-0.8**
	591nm,0.3s								
KST	**Kastek**	**3.13**	**42**	Pg		**Pb**		**12 57 35.5**	**+0.2**
KST	11nm,0.2s			Lg		Lg		12 58 16.1	
	60nm,0.4s								
KST	**Kastek**	**3.13**	**42**	*e*P		**Pb**		**12 57 35.5**	**+0.2**
KST	11nm,0.2s			*e*S		**Sb**		**12 58 16.1**	**+2.5**
	60nm,0.4s								
DGS	**Degeres**	**3.18**	**38**	Pg		**Pb**		**12 57 36.9**	**+0.7**
DGS	31nm,0.4s			Lg		Lg		12 58 18.4	
	62nm,0.5s								
DGS	**Degeres**	**3.18**	**38**	*e*P		**Pb**		**12 57 36.9**	**+0.7**
DGS	31nm,0.4s			*e*S		**Sg**		**12 58 18.4**	**-3.3**
	62nm,0.5s								
KDJ	**Kajisay**	**3.36**	**65**	⇑*e*P		**Pn**		**12 57 33.2**	**+0.9**
KDJ	baz=64			⇑*i*S		**Sn**		**12 58 13.1**	**+0.8**
	baz=64								
IZV	**Izvestkoviy**	**3.47**	**48**	Pg		**Pb**		**12 57 41.4**	**+0.2**
IZV	14nm,0.5s			Lg		Lg		12 58 27.2	
	48nm,0.5s								
IZV	**Izvestkoviy**	**3.47**	**48**	*e*P		**Pb**		**12 57 42.0**	**+0.8**
IZV	14nm,0.5s			*e*S		**Sb**		**12 58 27.2**	**+3.7**
	48nm,0.5s								
TNSS	**Tian-Shan**	**3.67**	**50**	Pg		**Pb**		**12 57 44.9**	**+0.2**
TNSS	14nm,0.4s			Lg		Lg		12 58 32.7	
	46nm,0.7s								
TNSS	**Tian-Shan**	**3.67**	**50**	*e*P		**Pb**		**12 57 44.9**	**+0.2**
TNSS	14nm,0.4s			*e*S		**Sb**		**12 58 32.7**	**+3.4**
	46nm,0.7s								
AAA	**Alma-Ata**	**3.75**	**48**	Pg		**Pg**		**12 57 48.6**	**-2.9**
AAA	20nm,0.3s			Lg		Lg		12 58 38.2	
	59nm,0.4s								
KNDC	**Almaty**	**3.79**	**48**	⇑Lg		Lg		12 58 38.2	
	24nm,0.3s								
MDOK	**Medeo**	**3.80**	**50**	Pg		**Pg**		**12 57 51.2**	**-1.1**
MDOK	8.4nm,0.6s			⇓Lg		Lg		12 58 39.2	
	37nm,0.6s								
KOTS	**Kotyrbulak**	**3.88**	**49**	Pg		**Pb**		**12 57 49.3**	**+1.1**
KOTS	12nm,0.4s			Lg		Lg		12 58 39.8	
	51nm,0.5s								
KOTS	**Kotyrbulak**	**3.88**	**49**	*e*P		**Pb**		**12 57 49.3**	**+1.1**
KOTS	12nm,0.4s			*e*S		**Sg**		**12 58 39.8**	**-4.3**
	51nm,0.5s								
KTBS	**Karatobe**	**3.97**	**41**	Pg		**Pb**		**12 57 50.5**	**+0.8**
KTBS	8.6nm,0.5s			Lg		Lg		12 58 41.8	
	83nm,0.5s								
KTBS	**Karatobe**	**3.97**	**41**	*e*P		**Pb**		**12 57 50.5**	**+0.8**
KTBS	8.6nm,0.5s			*e*S		**Sb**		**12 58 41.8**	**+4.0**
	83nm,0.5s								
BTLS	**Baital**	**4.34**	**9**	Pg		**Pb**		**12 57 56.3**	**+0.5**
BTLS	5.5nm,0.5s			Lg		Lg		12 58 51.6	
	24nm,0.3s								
BTLS	**Baital**	**4.34**	**9**	*e*P		**Pb**		**12 57 56.3**	**+0.5**
BTLS	5.5nm,0.5s			*e*S		**Sb**		**12 58 51.6**	**+3.5**
	24nm,0.3s								
ARXS	**Arharly**	**4.91**	**44**	Pg		**Pb**		**12 58 07.5**	**+1.8**
ARXS	5.0nm,0.6s			Lg		Lg		12 59 10.8	
	30nm,0.7s								
ARXS	**Arharly**	**4.91**	**44**	*e*P		**Pb**		**12 58 07.5**	**+1.8**
ARXS	5.0nm,0.6s			*e*S		**Sb**		**12 59 10.8**	**+5.9**
	30nm,0.7s								
MNBS	**Baschi**	**5.14**	**48**	Pg		**Pb**		**12 58 12.5**	**+2.9**
MNBS	5.0nm,0.7s			Lg		Lg		12 59 19.3	
	16nm,0.3s								
MNBS	**Baschi**	**5.14**	**48**	*e*P		**Pb**		**12 58 12.5**	**+2.9**
MNBS	5.0nm,0.7s			*e*S		**Sg**		**12 59 19.3**	**-5.2**
	16nm,0.3s								
PDGK	**Podgornoye**	**5.41**	**60**	⇓Lg		Lg		12 59 26.5	
	18nm,0.8s								

MEX ***25*** *13:24:34.8±0.7, 14°.00N×91°.65W, h72km±20km, MD3.7*
SNET ***25*** *13:24:36.5±0.9, 14°.21N×91°.31W, h3km±11km, ML3.8*
UCR ***25*** *13:24:36.3±2.0, 13°.97N×91°.55W, h30km±22km, MD3.7, ML3.8*

ISC 25 13:24:35.1±2.4, 14°.1N±0°.1×91°.68W±0°.08, h33km±14km, n22, σ0s55/31, 2C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.89**	**65**	⇑*i*P	**Pb**	**13 24 52.6**	**+0.4**
THIG		**1.00**	**325**	*i* P	**Pn**	**13 24 53.2**	**+0.3**
THIG				*i* S	**Sn**	**13 25 07.5**	**+1.6**
PCG	**Pacaya**	**1.08**	**73**	*e*P	**Pb**	**13 24 55.2**	**-0.3**
IXG	**Ixpaco**	**1.20**	**85**	*e*P	**Pn**	**13 24 55.8**	**0.0**
NBG	**Las Nubes**	**1.39**	**68**	*e*P	**Pb**	**13 25 00.8**	**+0.1**
RTR	**El Retiro**	**1.98**	**95**	*e*P	**Pn**	**13 25 06.7**	**+0.2**
RTR	**El Retiro**	**1.98**	**95**	*e*P	**Pn**	**13 25 06.7**	**+0.2**
SBLS	**San Blas**	**2.01**	**96**	*e*P	**Pn**	**13 25 06.6**	**-0.4**
SBLS				*e*S	**Sn**	**13 25 30.9**	**-0.2**
SBLS	**San Blas**	**2.01**	**96**	*e*P	**Pn**	**13 25 06.6**	**-0.4**
SBLS				*e*S	**Sn**	**13 25 30.9**	**-0.2**
CEVE	**Cerro Verde**	**2.01**	**97**	*e*P	**Pn**	**13 25 07.8**	**+0.8**
CEVE				*e*S	**Sn**	**13 25 31.1**	**0.0**
CEVE				IAML		13 25 37.9	
	comp=Z,1μm,0.5s						
CEVE	**Cerro Verde**	**2.01**	**97**	*e*P	**Pn**	**13 25 07.8**	**+0.8**
CEVE				*e*S	**Sn**	**13 25 31.1**	**0.0**
CEVE				IAML		13 25 37.9	
	comp=Z,1μm,0.5s						
SNJE	**San Jose**	**2.02**	**96**	*e*P	**Pn**	**13 25 06.9**	**-0.2**
SNJE	**San Jose**	**2.02**	**96**	*e*P	**Pn**	**13 25 06.9**	**-0.2**
PCIG		**2.20**	**318**	*e*P	**Pn**	**13 25 09.5**	**+0.1**
PCIG				*e*S	**Sn**	**13 25 35.1**	**-0.4**
CCIG	**Comitan**	**2.24**	**349**	*e*P	**Pn**	**13 25 09.6**	**-0.5**
CCIG				*e*S	**Sn**	**13 25 36.6**	**-0.1**
MTO3	**Montecristo**	**2.27**	**82**	⇑*e*P	**Pn**	**13 25 10.1**	**-0.4**
MTO3	**Montecristo**	**2.27**	**82**	⇑*e*P	**Pn**	**13 25 10.1**	**-0.4**
LFU	**La Fuente**	**2.51**	**97**	*e*P	**Pn**	**13 25 13.7**	**0.0**
LFU	**La Fuente**	**2.51**	**97**	*e*P	**Pn**	**13 25 13.7**	**0.0**
LFRS	**El Faro**	**2.58**	**100**	*e*P	**Pn**	**13 25 14.9**	**+0.2**
TGIG		**3.03**	**333**	*i* P	**Pn**	**13 25 20.0**	**-0.8**
TGIG				*i* S	**Sn**	**13 25 57.1**	**+1.1**
CMIG	**Matias Romero**	**4.31**	**315**	*e*P	**Pn**	**13 25 37.5**	**-0.8**
CMIG				*i* S	**Sn**	**13 26 27.1**	**-0.4**

JMA 25 13:41:44.8, 36°.89N×139°.42E, h4km, M0.7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.18**	**228**	P	Pg	13 41 48.6	+0.2
JKT				S	Sg	13 41 51.1	+0.2
JAG	**Ashikaga**	**0.47**	**177**	P	Pg	13 41 53.9	+0.2
JHK	**Hiroka**	**0.48**	**318**	S	Sg	13 42 00.8	+0.5
JFY	**Yanaizu**	**0.56**	**24**	P	Pg	13 41 56.0	+0.4

NEIC ***25*** *13:41:46.0±1.7, 35°.00N×140°.97E, h84km±12km, mb4.4/8, Error ellipse: s-maj=22.6km s-min=12.3km az=122.0*
NIED ***25*** *13:42:00, 36°.50N×139°.80E, h110km, Mw4.0 Best double couple: M0 1.06000×10^15 NP1:φ=63.00000°, δ3.00000°, λ-91.00000°. NP2:φ=244.00000°, δ87.00000°, λ-90.00000°.*
ISCJB ***25*** *13:42:01.3±0.3, 36°.45N±0°.03×139°.78E±0°.05, h129km±2km, mb4.0/24, Error ellipse: s-maj=7.6km s-min=5.0km az=23.3*
IDC ***25*** *13:42:02.8±0.8, 36°.40N×139°.67E, h126km±7km, mb3.7/19, mb1 3.8/22, mb1mx3.7/49, mbtmp4.1/22, Error ellipse: s-maj=15.0km s-min=8.4km az=64.0*
JMA ***25*** *13:42:03.1±0.1, 36°.43N×139°.80E, h117km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=246.00000°, δ89.00000°, λ-84.00000°. NP2: φs=342.00000°, δ6.00000°, λ-175.00000°. Principal axes: T Plg44.0000°, Azm331.0000°; N Plg6.0000°, Azm66.0000°; P Plg45.0000°, Azm162.0000°;*
JMA Felt I J1.

ISC 25 13:42:02.5±0.7, 36°.52N±0°.05×139°.74E±0°.06, h122km±6km, n59, σ1s33/63, mb4.1/25, 3C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.25**	**248**	⇓P	**Pn**	**13 42 19.6**	**+0.1**
JKT	**Katashina**	**0.47**	**302**	⇓P	**Pn**	**13 42 21.3**	**+0.7**
JKT				S	**Sn**	**13 42 35.2**	**+1.0**
JRY	**Ryogami san**	**0.84**	**234**	⇑P	**Pn**	**13 42 23.7**	**+0.4**
JRY				S	**Sn**	**13 42 39.2**	**+0.2**
JFY	**Yanaizu**	**0.89**	**358**	⇓P	**Pn**	**13 42 24.7**	**+1.0**
JHK	**Hiroka**	**0.93**	**322**	⇓P	**Pn**	**13 42 25.1**	**+1.1**
JHK				S	**Sn**	**13 42 42.2**	**+1.9**
JFT	**Otama**	**1.10**	**25**	⇓P	**Pn**	**13 42 26.8**	**+1.1**
JFT				*e*S	**Sn**	**13 42 45.0**	**+1.6**
MJAR	**Matsushiro Arr**	**1.24**	**271**	P	**Pn**	**13 42 27.5**	**+0.3**
	9.4nm,0.3s,baz=90,slow=11,SNR=981						
MJAR				S	**Sn**	**13 42 45.4**	**-0.4**
	5.5nm,0.3s,baz=97,slow=9.9,SNR=11						
MJAR				LR	LR	13 43 02.1	
	comp=Z,77nm,18.2s,baz=80,slow=51						
MAJO	**Matsushiro**	**1.24**	**272**	*e*Pn	**Pn**	**13 42 27.9**	**+0.7**
MAT	**Matsushiro**	**1.24**	**272**	P	**Pn**	**13 42 27.8**	**+0.7**
MAT				S	**Sn**	**13 42 45.1**	**-0.7**
MAT	**Matsushiro**	**1.24**	**272**	P	**Pn**	**13 42 27.8**	**+0.7**
JFK	**Kawauchi**	**1.24**	**47**	⇓P	**Pn**	**13 42 27.7**	**+0.5**
JFK				S	**Sn**	**13 42 46.0**	**+0.1**
MJB9	**Matsu-Tunnel**	**1.24**	**272**	*e*Pn	**Pn**	**13 42 27.9**	**+0.7**
JNS	**Sasagawa**	**1.34**	**345**	⇓P	**Pn**	**13 42 29.3**	**+1.1**
JOD2	**Odawara 2**	**1.36**	**203**	⇑P	**Pn**	**13 42 27.6**	**-0.9**
JOD2				S	**Sn**	**13 42 46.6**	**-1.7**
JYN	**Shimob**	**1.41**	**224**	⇑P	**Pn**	**13 42 29.1**	**0.0**
JYN				S	**Sn**	**13 42 49.6**	**+0.3**
JFNN	**Fujinakano**	**1.58**	**213**	P	**Pn**	**13 42 31.1**	**+0.1**
JFNN				S	**Sn**	**13 42 52.1**	**-0.5**
JHJ	**Hachijo jima 2**	**3.39**	**179**	P	**Pn**	**13 42 53.1**	**-1.0**
	105nm,0.3s,baz=330,slow=17,SNR=101						
JHJ				S	**Sn**	**13 43 31.2**	**-2.7**
	123nm,0.3s,baz=81,slow=22,SNR=10						
ERM	**Erimo**	**6.09**	**25**	*e*Pn	**Pn**	**13 43 28.5**	**-1.6**
ASAJ	**Asahikawa**	**7.89**	**15**	P	**Pn**	**13 43 52.5**	**-1.9**
	1.6nm,0.3s,baz=217,slow=11,SNR=16						
ASAJ				S	**Sn**	**13 45 15.5**	**-6.6**
	1.4nm,0.3s,baz=37,slow=20,SNR=3.9						
KSRS	**Korea Array**	**9.50**	**279**	P	**Pn**	**13 44 17.0**	**+0.8**
	0.1nm,0.3s,baz=97,slow=14,SNR=14						
USA0B	**Ussuriysk Arra**	**9.68**	**325**	*e*Pn	**Pn**	**13 44 20.4**	**+1.8**
USRK	**Ussuriysk Ar.**	**9.68**	**325**	P	**Pn**	**13 44 20.3**	**+1.7**
	0.5nm,0.3s,baz=150,slow=10,SNR=19						
JOW	**Kunigami**	**13.72**	**228**	*e*Pn	Pn	13 44 54.4	-18
KLR	**Kul'dur**	**13.98**	**338**	P	**Pn**	**13 45 13.3**	**-1.9**
	0.5nm,0.3s,baz=176,slow=11,SNR=5.8						
PETK	**Petropavlovsk-**	**20.82**	**32**	P	**P**	**13 46 34.1**	**0.0**
	1.7nm,0.6s,baz=220,slow=6.7,SNR=4.9						
MA2	**Magadan**	**24.15**	**14**	*e*P	**P**	**13 47 05.8**	**-1.2**
	8.3nm,0.9s						
MA2	**Magadan**	**24.15**	**14**	P	**P**	**13 47 08.9**	**+1.9**
	5.0nm,0.6s,baz=208,slow=10,SNR=5.8						
SONM	**Songino Array**	**26.97**	**305**	P	**P**	**13 47 32.2**	**-0.6**
	5.6nm,0.6s,baz=102,slow=8.8,SNR=18						
H11N2	**WAKE ISLAND Hy**	**29.07**	**118**	T	T	14 18 16.9	
	baz=313,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**29.07**	**118**	T	T	14 18 15.4	
	baz=313,slow=75,SNR=46						
H11N3	**WAKE ISLAND Hy**	**29.09**	**118**	T	T	14 18 18.3	
	baz=313,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**29.74**	**120**	T	T	14 19 06.1	
	baz=314,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.74**	**120**	T	T	14 19 08.4	
	baz=314,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy**	**29.75**	**120**	T	T	14 19 06.8	
	baz=314,slow=76,SNR=22						
TIXI	**Tiksi**	**35.65**	**354**	*e*P	**P**	**13 48 48.0**	**-0.3**
	2.2nm,0.5s						
ZAA0	**Zalesovo Array**	**41.27**	**313**	*e*P	**P**	**13 49 35.8**	**+0.2**
	5.0nm,0.9s						
ZALV	**Zalesovo Beam**	**41.27**	**313**	P	**P**	**13 49 35.5**	**-0.1**
	4.9nm,0.9s,baz=87,slow=6.3,SNR=14						
MK31	**Makanchi Array**	**43.26**	**302**	*e*P	**P**	**13 49 52.3**	**+0.5**
	3.4nm,0.9s						
MKAR	**Makanchi Array**	**43.26**	**302**	P	**P**	**13 49 52.0**	**+0.2**
	2.9nm,0.8s,baz=92,slow=9.4,SNR=18						
MAKZ	**Makanchi**	**43.47**	**302**	*e*P	**P**	**13 49 54.0**	**+0.5**
	4.4nm,0.8s						
KURK	**Kurchatov**	**45.20**	**308**	*e*P	**P**	**13 50 07.2**	**+0.1**
	9.8nm,0.8s						
KURBB	**Kurchatov Arra**	**45.26**	**308**	P	**P**	**13 50 07.7**	**0.0**
	4.7nm,0.7s,baz=86,slow=8.2,SNR=26						
BVAR	**Borovoye Array**	**49.93**	**312**	P	**P**	**13 50 43.7**	**0.0**
	1.0nm,0.3s,baz=106,slow=7.7,SNR=6.8						
ILAR	**Eielson Array**	**50.64**	**32**	P	**P**	**13 50 49.5**	**+0.7**
	1.3nm,0.7s,baz=274,slow=5.9,SNR=14						
ARSB	**Arslanbob**	**51.01**	**297**	*e*P	**P**	**13 50 53.4**	**+1.2**
	5.5nm,0.8s						
INK	**Inuvik**	**55.45**	**27**	P	**P**	**13 51 25.0**	**+1.0**
	1.7nm,0.7s,baz=219,slow=6.5,SNR=2.6						
ARU	**Arti**	**55.86**	**318**	P	**P**	**13 51 26.7**	**-0.4**
	1.4nm,0.5s,baz=76,slow=5.1,SNR=7.1						
FITZ	**Fitzroy Crossi**	**55.93**	**196**	*e*P	P	13 51 07.6	-20
	3.7nm,0.9s						
AKTO	**Aktyubinsk**	**58.02**	**312**	P	**P**	**13 51 42.6**	**+0.2**
	1.4nm,0.7s,baz=108,slow=6.1,SNR=5.8						
ASAR	**Alice Springs**	**60.12**	**186**	P	**P**	**13 51 56.7**	**-0.4**
	1.0nm,0.7s,baz=19,slow=5.3,SNR=10.0						
YKA	**Yellowknife Ar**	**64.92**	**30**	P	**P**	**13 52 29.2**	**+0.6**
	0.6nm,0.7s,baz=304,slow=6.7,SNR=10						
STKA	**Stephens Creek**	**68.06**	**178**	P	**P**	**13 52 48.6**	**-0.2**
	0.8nm,0.4s,baz=357,slow=3.9,SNR=3.6						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**13 52 52.3**	**+0.2**
	2.9nm,0.9s,baz=72,slow=6.2,SNR=6.0						
KBZ	**Khabaz**	**70.21**	**310**	P	**P**	**13 53 02.4**	**+0.3**
	2.4nm,0.8s,baz=136,slow=12,SNR=3.7						
AKASG	**Malin Array Be**	**73.88**	**322**	P	**P**	**13 53 23.4**	**-0.5**
	0.6nm,0.3s,baz=48,slow=5.6,SNR=4.8						
NB2	**NORSAR Subarra**	**74.13**	**337**	P	**P**	**13 53 24.9**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.13**	**337**	P	**P**	**13 53 25.3**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=40,slow=5.8,SNR=7.2						
NVAR	**Mina Array Bea**	**76.37**	**52**	P	**P**	**13 53 40.3**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=308,slow=4.5,SNR=3.3						
CLL	**Collm**	**80.86**	**329**	*e*P	**P**	**13 54 01.0**	**-1.8**

IDC ***25*** *14:05:24.6±3.8, 17°.93S×178°.52W, h614km±45km, mb3.8/11, mb1 4.0/12, mb1mx3.7/31, mbtmp4.7/12, Error ellipse: s-maj=27.9km s-min=20.0km az=147.0*
ISCJB ***25*** *14:05:26.4±0.5, 18°.0S±0°.2×178°.67W±0°.08, h650km, mb4.2/44, Error ellipse: s-maj=21.5km s-min=7.0km az=161.9*
NEIC ***25*** *14:05:27.0±1.5, 17°.96S×178°.60W, h640km±18km, mb4.2/34, Error ellipse: s-maj=18.4km s-min=7.9km az=158.0*

ISC 25 14:05:27.1±0.8, 18°.1S±0°.2×178°.6W±0°.1, h650km, n158, σ0s72/156, mb4.2/44, 9C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.65**	**252**	*e*P	**P**	**14 08 30.0**	**-0.3**
DZM	**Mont Dzumac**	**14.65**	**252**	P	**P**	**14 08 28.3**	**-1.9**
	1.1nm,0.3s,baz=100,slow=22,SNR=19						
PMG	**Port Moresby**	**34.34**	**280**	P	**P**	**14 11 23.1**	**+0.1**
	47nm,0.8s,baz=61,slow=5.9,SNR=8.3						
MANU	**Manus Island**	**37.02**	**292**	*e*P	**P**	**14 11 45.5**	**+0.6**
	15nm,0.7s						
STKA	**Stephens Creek**	**38.44**	**241**	*e*P	**P**	**14 11 57.0**	**+0.8**
	3.8nm,1.0s						
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**14 11 56.6**	**+0.4**
	15nm,0.9s,baz=56,slow=6.6,SNR=20						
AS31	**Alice Springs**	**44.61**	**254**	*e*P	**P**	**14 12 44.7**	**+0.1**
	14nm,0.5s						
ASAR

baz=238
WAKR Walker 78.92 43 *e*P P 14 16 26.4 +0.7
8.4nm,0.9s
TIN Tinemaha, Big 78.93 45 P P 14 16 26.5 +0.9
baz=237
GSC Goldstone, Bar 78.98 47 P P 14 16 25.9 0.0
baz=239
BEKR Beckworth 79.09 42 *e*P P 14 16 27.1 +0.6
5.2nm,0.6s
BC3 Big Chuckawall 79.10 49 P P 14 16 26.4 -0.2
baz=240
HUMO Hull Mountain 79.10 38 *e*P P 14 16 27.4 +1.1
7.9nm,1.1s
PNTR Pine Nut 79.14 43 *e*P P 14 16 27.7 +0.9
13nm,0.8s
L04D Klamath Falls 79.26 39 P P 14 16 27.5 +0.2
baz=234,SNR=5.8
M04C Macdoel 79.28 40 P P 14 16 27.9 +0.5
baz=234
YERR Yerington 79.32 43 *e*P P 14 16 28.4 +0.7
16nm,1.1s
GMRC Granite Mounta 79.52 48 P P 14 16 29.0 +0.2
baz=239
FURC Furnace Creek, 79.55 46 P P 14 16 29.3 +0.6
baz=238
IRM Iron Mountain 79.57 49 P P 14 16 29.4 +0.4
baz=240
RYN Ryan 79.59 44 *e*P P 14 16 29.5 +0.3
5.3nm,1.0s
PAHR Pah Rah Range 79.62 42 *e*P P 14 16 29.7 +0.5
3.9nm,0.7s
NVAR Mina Array Bea 79.62 44 P P 14 16 29.6 +0.2
5.0nm,0.7s,baz=224,slow=9.0,SNR=39
Y12C Blythe 79.82 50 P P 14 16 30.8 +0.6
baz=240
J04D Umpqua Nationa 79.98 38 P P 14 16 31.7 +0.6
baz=234,SNR=7.7
KVN Kaiserville 80.10 43 *e*P P 14 16 32.1 +0.3
6.3nm,0.9s
I04A Tendick Farm, 80.13 38 P P 14 16 31.8 +0.1
baz=233
214A Organ Pipe Nat 80.21 52 P P 14 16 32.8 +0.5
baz=242
TPNV Topopah Spring 80.22 46 P P 14 16 32.4 -0.1
baz=239
J05D Fort Rock, OR 80.52 39 P P 14 16 34.6 +0.8
baz=234,SNR=19
H04A Detroit Lake 80.79 37 *e*P P 14 16 35.2 +0.2
8.9nm,0.6s
I05D Terrebonne, OR 81.08 38 P P 14 16 37.4 +0.8
baz=234
R11A Troy Canyon, C 81.39 45 *e*P P 14 16 38.9 +0.5
3.2nm,1.1s
R11A Troy Canyon, C 81.39 45 P P 14 16 38.5 0.0
baz=239
BMN Battle Mountai 81.41 43 *e*P P 14 16 39.2 +0.7
9.2nm,0.9s
G05D Wamic, OR 81.62 37 P P 14 16 39.9 +0.6
baz=234
E04D Cinebar 81.70 35 P P 14 16 40.5 +1.0
baz=233
TUC Tucson 81.90 52 *e*P P 14 16 42.4 +1.4
8.3nm,1.1s
TUC Tucson 81.90 52 P P 14 16 41.8 +0.8
baz=243
F05D White Salmon 81.92 36 P P 14 16 40.9 +0.2
baz=234
D03D Eldon 82.01 34 P P 14 16 42.0 +0.9
baz=232
J08A Circle Bar Ran 82.22 40 *e*P P 14 16 43.2 +0.8
13nm,1.1s
LCMT Little Creek M 82.33 47 *e*P P 14 16 44.1 +0.9
5.8nm,0.8s
319A Douglas 82.62 54 *e*P P 14 16 46.4 +1.7
12nm,0.9s
PSUT Pine Spring 82.66 46 *e*P P 14 16 45.5 +0.7
5.2nm,0.7s
WUAZ Wupatki 82.94 49 P P 14 16 47.2 +0.9
baz=242
B05A Bryant 82.99 34 P P 14 16 46.5 +0.6
baz=233
HLID Hailey 84.83 41 P P 14 16 56.1 +0.7
baz=239,SNR=12
NEW Newport 85.71 36 P P 14 16 59.4 +0.2
baz=237
MNTX Cornudas Mount 85.78 55 P P 14 17 00.3 +0.4
baz=246
COLA College 85.94 13 *e*P P 14 16 59.2 -0.7
6.1nm,0.7s
ILAR Eielson Array 86.06 13 P P 14 16 59.5 -1.0
2.4nm,0.4s,baz=220,slow=4.9,SNR=42
TXAR Lajitas Array 86.19 58 P P 14 17 03.3 +1.3
5.9nm,0.8s,baz=220,slow=6.1,SNR=79
TASM ASL Pad, Albuq 86.30 52 P P 14 17 03.2 +0.7
baz=245
TASM ASL Pad, Albuq 86.30 52 P P 14 17 02.3 -0.2
baz=245
ANMO Albuquerque 86.30 52 P P 14 17 02.7 +0.2
baz=245
ANMO Albuquerque 86.30 52 P P 14 17 02.4 -0.1
2.7nm,0.9s,baz=217,slow=6.0,SNR=7.3
TPAW Teton Pass 86.99 42 *e*P P 14 17 06.6 +0.9
4.1nm,0.8s
PRP Porcupine Dome 87.00 13 *e*P P 14 17 04.8 -0.3
2.0nm,0.6s
FXWY Fox Creek 87.01 42 *e*P P 14 17 06.4 +0.7
2.7nm,0.8s
S22A 4UR Ranch, Cre 87.21 49 P P 14 17 07.3 +0.4
baz=245
LOHW Long Hollow 87.27 42 *e*P P 14 17 07.7 +0.8
2.7nm,0.6s
FLWY Flagg Ranch 87.43 42 *e*P P 14 17 08.7 +1.1
5.7nm,0.8s
BW06 Boulder Array 87.55 43 P P 14 17 08.2 -0.1
baz=243,SNR=7.5
PDAR Pinedale Array 87.55 43 P P 14 17 08.3 0.0
3.2nm,0.6s,baz=220,slow=3.2,SNR=36
BOZ Bozeman (W) 87.57 40 P P 14 17 09.3 +1.1
baz=241
H17A Grant Village 87.65 42 P P 14 17 10.4 +1.6
baz=242,SNR=5.2
SDCO Great Sand Dun 88.16 49 P P 14 17 11.9 +0.6
baz=246
MSTX Muleshoe 88.69 54 P P 14 17 14.2 +0.6
baz=247
RLMT Red Lodge 88.82 41 P P 14 17 15.2 +1.1
baz=243
N23A Red Feather La 89.16 46 P P 14 17 16.7 +0.8
baz=245
ABTX Abilene, Hawle 90.62 56 P P 14 17 20.7 -1.8
baz=249
YKA Yellowknife Ar 94.52 25 P P 14 17 39.1 -0.4
0.6nm,0.5s,baz=242,slow=4.4,SNR=13
MKAR Makanchi Array 109.13 314 PKiKP **PKiKP** 14 22 44.8 -0.1
0.4nm,0.5s,baz=221,slow=1.8,SNR=5.5
ARCES ARCESS Array B 126.43 350 PKP **PKiKP** 14 23 17.7 -0.1
1.4nm,0.6s,baz=356,slow=3.6,SNR=5.8
FIA0 FINESS Array S 133.29 344 *e*PKPdf **PKPdf** 14 23 29.8 -0.6
FINES FINESS Array B 133.29 344 PKP **PKPdf** 14 23 29.8 -0.6
0.9nm,0.7s,baz=2.9,slow=2.8,SNR=7.3
NB200 NORSAR Array S 136.50 353 *e*PKPdf **PKiKP** 14 23 38.2 -0.2
NOA NORSAR Array B 136.50 353 PKP **PKiKP** 14 23 38.2 -0.2
0.4nm,0.5s,baz=13,slow=4.0,SNR=3.1
AKASG Malin Array Be 140.62 332 PKhKP PKPpre 14 23 41.9
0.2nm,0.3s,baz=40,slow=3.3,SNR=2.4
BURAR Bucovina Array 144.67 332 ⇑*i*P **PKiKP** 14 23 54.4 -1.3
BIZ Bicaz 144.76 330 ⇑*i*P **PKPab** 14 23 54.2 +0.7
BR101 Keskin Array S 144.78 315 *e*PKPdf PKPbc 14 23 52.6 -0.3
BR131 Keskin Array S 144.78 315 *e*PKPdf **PKPab** 14 23 54.0 0.0
BRTR Keskin Array B 144.78 315 PKP PKPbc 14 23 52.6 -0.3
2.6nm,0.9s,baz=116,slow=2.9,SNR=10.0
KOLS Kolonicke sedl 144.88 336 *e*PKP **PKPab** 14 23 54.0 +0.2
TRPA Tarpa 145.42 335 ⇑*i*P **PKPab** 14 23 55.4 -0.5
TLB Topalu 145.42 326 ||*i*P **PKPab** 14 23 55.8 -0.3
OKC Ostrava-Krasne 145.56 341 *e*PKP **PKPab** 14 23 55.9 -0.6
CLL Collm 145.57 347 ⇑*i*PKPbc **PKPab** 14 23 55.4 -1.0
comp=Z,15nm,0.7s
UPC Upice 145.59 343 *e*PKP **PKPab** 14 23 56.1 -0.5
DPC Dobruska-Polom 145.64 343 *e*PKP **PKPab** 14 23 56.4 -0.5
LANS Liptovska Anna 145.72 339 *e*PKP **PKPab** 14 23 57.0 -0.2
BRG Berggiesshubel 145.77 346 *e*PKP **PKPab** 14 23 56.0 -1.3
comp=Z,5.9nm,0.7s
MORC Moravsky Berou 145.80 341 ||*i*P **PKPab** 14 23 56.4 -1.1
MORC Moravsky Berou 145.80 341 *e*PKP **PKPab** 14 23 56.2 -1.3
DOPR Dopca 145.81 330 ⇑*i*P **PKPab** 14 23 56.9 -0.7
MLR Muntele Rosu 145.88 329 ||*i*P **PKiKP** 14 23 57.9 -0.4
PVCC Panska Ves 145.94 345 *e*PKP **PKPab** 14 23 57.0 -1.0

VOIR 146.36 329 ||*i*P **PKPbc** 14 23 57.7 +0.6
DRGR 146.40 333 ⇑*i*P **PKiKP** 14 23 58.2 -1.0
PRU Pruhonice 146.44 345 *e*PKP **PKiKP** 14 23 58.1 -1.0
PRU *e*x x 14 24 00.7
GOPC GO Pecny, Ondr 146.45 344 *e*PKP **PKiKP** 14 23 58.1 -1.1
VYHS Vyhne 146.50 339 *e*PKP **PKiKP** 14 23 58.5 -0.8
JAVC Velka Javorina 146.57 340 *e*PKP **PKiKP** 14 23 59.7 +0.2
KOLL Kolacno 146.57 339 *e*PKP **PKiKP** 14 23 58.7 -0.7
ARR Arges 146.61 330 ⇑*i*P **PKiKP** 14 23 59.0 -0.7
KRUC Moravsky 146.78 342 *e*PKP **PKiKP** 14 23 59.0 -0.8
KHC Kasperske Hory 147.48 345 *e*PKPbc **PKiKP** 14 24 00.9 -0.4
KHC Kasperske Hory 147.48 345 *e*PKP **PKiKP** 14 24 00.8 -0.5
KHC *e*x x 14 24 05.6
GEC2 GERESS Array S 147.71 345 *e*PKPbc **PKPbc** 14 24 01.6 +1.1
GERES GERESS Array B 147.71 345 PKPbc **PKPbc** 14 24 01.4 +0.9
comp=Z,4.7nm,0.7s,baz=22,slow=2.9,SNR=34
BZS Buzias 147.79 333 ⇑*i*P **PKiKP** 14 24 01.5 -0.5
CONA Conrad Observa 147.95 342 *i* PKiKP **PKiKP** 14 24 02.7 +0.3
comp=Z,4.0nm,0.7s
HERR Herculane 148.01 331 ||*i*P **PKiKP** 14 24 01.8 -0.7
MOA Molin 148.48 343 *e*PKiKP **PKiKP** 14 24 03.5 +0.1
comp=Z,3.5nm,0.9s
VTS Vitosha 149.30 328 ⇑*i*P **PKiKP** 14 24 05.3 -0.1
SOKA Soboth 149.32 342 *e*PKiKP **PKiKP** 14 24 05.2 -0.1
comp=Z,4.2nm,1.0s
KBA Koelnbreinsper 149.44 344 *e*PKPbc **PKiKP** 14 24 05.2 -0.4
comp=Z,4.5nm,1.0s
EZN Ezine 149.44 320 ||*i*P **PKiKP** 14 24 05.2 -0.4
WATA Walderalm 149.63 346 *i* PKPbc **PKiKP** 14 24 05.5 -0.4
comp=Z,3.4nm,0.5s
WTTA Wattenberg 149.68 346 *i* PKiKP **PKiKP** 14 24 06.6 +0.4
comp=Z,8.6nm,0.5s,SNR=7.7
MOTA Moosalm 149.72 347 *i* PKPbc **PKPbc** 14 24 05.3 -0.2
comp=Z,5.1nm,0.8s
MYKA Terra Mystica 149.77 343 *e*PKPbc **PKiKP** 14 24 05.9 -0.3
comp=Z,3.7nm,0.6s
SQTA Sankt Quirin 149.82 347 *e*PKiKP **PKiKP** 14 24 06.7 +0.3
comp=Z,7.5nm,0.8s,SNR=4.3
ABTA Abfaltersbach 149.96 345 *i* PKPbc **PKiKP** 14 24 06.4 -0.2
comp=Z,9.2nm,0.7s
DAVA Damuels 150.03 348 *e*PKiKP **PKiKP** 14 24 07.2 +0.4
comp=Z,8.9nm,1.0s
FETA Feichten 150.11 347 *i* PKiKP **PKiKP** 14 24 07.6 +0.6
comp=Z,5.6nm,0.7s,SNR=5.9
FUORN Ofenpass-Fuorn 150.59 348 *e*PKPbc **PKPbc** 14 24 09.2 +1.5
TORD Torodi Ar. Bea 175.12 183 PKP **PKPdf** 14 24 24.3 -0.6
comp=Z,0.7nm,0.8s,baz=243,slow=1.3,SNR=3.8
TOA1 Torodi Ar. Sit 175.12 183 *e*PKPdf **PKPdf** 14 24 24.3 -0.6

IDC ***25*** *14:12:36.4±5.8, 15°.14N×86°.95W, h0km, mb3.6/5, mb1 4.1/7, mb1mx3.8/36, mbtmp3.7/7, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=106.2km s-min=38.6km az=155.0*
UCR ***25*** *14:12:43.7±2.6, 15°.68N×87°.14W, h4km±26km, ML4.1*
SNET ***25*** *14:12:44.5±2.9, 15°.68N×87°.16W, h10km, ML4.2*
ISC 25 14:12:40.9±0.9,**15°.63N**±0°.05×**87°.22W**±0°.04,**h10**km,**n42,**
σ1°**39**/60,**mb3.7/4,Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**1.57**	**182**	*e*P	**Pb**	**14 13 09.7**	**-0.4**
TGUH	**Tegucigalpa,Un**	**1.57**	**182**	*e*P	**Pb**	**14 13 09.7**	**-0.4**
CAHU	**Cacacuatique**	**2.09**	**208**	*e*P	**Pg**	**14 13 19.8**	**-1.2**
CAHU	**Cacacuatique**	**2.09**	**208**	*e*P	**Pg**	**14 13 19.8**	**-1.2**
VICT	**Victoria**	**2.16**	**220**	*e*P	**Pb**	**14 13 19.9**	**-0.2**
VICT				*e*S	**Sg**	**14 13 50.1**	**-0.2**
VICT	**Victoria**	**2.16**	**220**	*e*P	**Pb**	**14 13 19.9**	**-0.2**
VICT				*e*S	**Sg**	**14 13 50.1**	**-0.2**
RCON	**San Juan de Ri**	**2.37**	**154**	*e*P	**Pb**	**14 13 22.9**	**-0.9**
RCON				*e*S	**Sb**	**14 13 54.2**	**+1.0**
LCND	**La Caada**	**2.40**	**196**	*e*P	**Pb**	**14 13 23.6**	**-0.7**
LCND				*e*S	**Sb**	**14 13 55.8**	**+1.9**
LCND	**La Caada**	**2.40**	**196**	*e*P	**Pb**	**14 13 23.6**	**-0.7**
LCND				*e*S	**Sb**	**14 13 55.8**	**+1.9**
PACA	**Pacayal**	**2.40**	**207**	*e*P	**Pb**	**14 13 24.9**	**+0.5**
PACA				*e*S	**Sb**	**14 13 56.4**	**+2.2**
PACA				IAML		14 14 04.3	
comp=Z,8μm,0.8s							
PACA	**Pacayal**	**2.40**	**207**	*e*P	**Pb**	**14 13 24.9**	**+0.5**
PACA				*e*S	**Sb**	**14 13 56.4**	**+2.2**
PACA				IAML		14 14 04.3	
comp=Z,8μm,0.8s							
MTO3	**Montecristo**	**2.41**	**240**	*e*P	**Pb**	**14 13 24.3**	**-0.2**
MTO3				*e*S	**Sb**	**14 13 56.0**	**+1.7**
MTO3				IAML		14 14 00.7	
comp=Z,431nm,0.5s							
MTO3	**Montecristo**	**2.41**	**240**	*e*P	**Pb**	**14 13 24.3**	**-0.2**
MTO3				*e*S	**Sb**	**14 13 56.0**	**+1.7**
MTO3				IAML		14 14 00.7	
comp=Z,431nm,0.5s							
CNCH	**Conchagua**	**2.42**	**194**	*e*P	**Pg**	**14 13 26.6**	**-0.7**
CNCH				*e*S	**Sb**	**14 13 56.6**	**+2.0**
CNCH	**Conchagua**	**2.42**	**194**	*e*P	**Pg**	**14 13 26.6**	**-0.7**
CNCH				*e*S	**Sb**	**14 13 56.6**	**+2.0**
VSM	**San Miguel**	**2.42**	**205**	*e*P	**Pb**	**14 13 24.7**	**0.0**
VSM				*e*P	**Pb**	**14 13 25.4**	**+0.7**
VSM	**San Miguel**	**2.42**	**205**	*e*P	**Pb**	**14 13 25.4**	**+0.7**
PAVA	**Las Pavas**	**2.53**	**221**	*e*P	**Pb**	**14 13 26.7**	**+0.1**
PAVA				*e*S	**Sg**	**14 14 01.3**	**-1.1**
PAVA				IAML		14 14 04.8	
comp=Z,1μm,0.4s							
PAVA	**Las Pavas**	**2.53**	**221**	*e*P	**Pb**	**14 13 26.7**	**+0.1**
PAVA				*e*S	**Sg**	**14 14 01.3**	**-1.1**
PAVA				IAML		14 14 04.8	
comp=Z,1μm,0.4s							
LBRS	**Las Brisas**	**2.58**	**223**	*e*P	**Pb**	**14 13 27.6**	**+0.2**
ESTN	**Estel**	**2.65**	**162**	*e*P	**Pb**	**14 13 27.4**	**-1.2**
ESTN				*e*S	**Sb**	**14 14 02.8**	**+1.6**
ESTN				IAML		14 14 03.9	
comp=N,2μm,0.4s							
ESTN	**Estel**	**2.65**	**162**	*e*P	**Pb**	**14 13 27.8**	**-0.7**
ESTN				*e*S	**Sb**	**14 14 03.1**	**+1.9**
CSGN	**Cosiguina Volc**	**2.66**	**187**	*e*P	**Pb**	**14 13 28.4**	**-0.3**
CSGN				IAML		14 14 10.2	
comp=N,7μm,0.4s							
LFRS	**El Faro**	**2.68**	**222**	*e*P	**Pb**	**14 13 29.1**	**+0.1**
SNET	**Serv Nac Est T**	**2.75**	**225**	*e*S	**Sg**	**14 14 07.9**	**-1.3**
BOQS	**Boqueron**	**2.75**	**227**	*e*P	**Pg**	**14 13 32.2**	**-1.4**
BOQS				*e*S	**Sg**	**14 14 09.4**	**+0.2**
SNJE	**San Jose**	**2.90**	**233**	*e*P	**Pb**	**14 13 33.5**	**+0.6**
SNJE	**San Jose**	**2.90**	**233**	*e*P	**Pb**	**14 13 33.5**	**+0.6**
CRIN	**San Cristobal**	**2.92**	**177**	*e*P	**Pb**	**14 13 31.6**	**-1.6**
CRIN				IAML		14 14 20.0	
comp=N,1μm,0.6s							
SBLS	**San Blas**	**2.93**	**233**	*e*P	**Pb**	**14 13 33.3**	**-0.1**
SBLS	**San Blas**	**2.93**	**233**	*e*P	**Pb**	**14 13 33.8**	**+0.4**
CEVE	**Cerro Verde**	**2.94**	**233**	*e*P	**Pb**	**14 13 34.6**	**+1.0**
CEVE				IAML		14 14 21.2	
comp=Z,685nm,0.6s							
CEVE	**Cerro Verde**	**2.94**	**233**	*e*P	**Pb**	**14 13 34.6**	**+1.0**
CEVE				IAML		14 14 21.2	
comp=Z,685nm,0.6s							
MATN	**Matagalpa**	**2.97**	**155**	*e*P	**Pb**	**14 13 32.5**	**-1.5**
MATN				*e*S	**Sb**	**14 14 10.9**	**+0.6**
APG	**El Apazote**	**3.19**	**259**	Pn	**Pn**	**14 13 31.2**	**-0.2**
comp=Z,14nm,0.3s,baz=86,slow=14,SNR=64							
APG				Sn	**Sb**	**14 14 16.3**	**-0.7**
comp=Z,11nm,0.3s,baz=128,slow=19,SNR=9.9							
CMIG	**Matias Romero**	**7.50**	**282**	Pn	**Pn**	**14 14 30.3**	**-0.2**
comp=Z,0.4nm,0.3s,baz=93,slow=11,SNR=3.0							
CMIG				Sn	**Sn**	**14 15 49.4**	**-6.2**
comp=Z,0.5nm,0.3s,baz=246,slow=20,SNR=4.1							
TXAR	**Lajitas Array**	**20.38**	**315**	P	Pn	14 17 21.6	+1.4
comp=Z,3.2nm,0.9s,baz=133,slow=8.9,SNR=15							
LPIG	**La Paz**	**23.27**	**295**	LR	LR	14 27 30.8	
comp=Z,64nm,21.6s,baz=333,slow=38							
PDAR	**Pinedale Array**	**33.13**	**329**	P	**P**	**14 19 19.6**	**+1.9**
comp=Z,0.2nm,0.5s,baz=113,slow=6.9,SNR=2.9							
NVAR	**Mina Array Bea**	**35.53**	**316**	P	**P**	**14 19 40.3**	**+1.9**
comp=Z,1.3nm,0.9s,baz=133,slow=6.6,SNR=6.7							
YKA	**Yellowknife Ar**	**50.62**	**344**	P	**P**	**14 21 40.3**	**+0.4**
comp=Z,0.8nm,0.7s,baz=137,slow=7.6,SNR=11							
ILAR	**Eielson Array**	**63.22**	**336**	P	**P**	**14 23 10.5**	**+1.2**
comp=Z,0.6nm,1.0s,baz=99,slow=5.6,SNR=4.0							

IDC ***25*** *14:13:08.6±0.5, 4°.82N×82°.57W, h0km, mb4.4/19, mb1 4.7/23, mb1mx4.5/34, mbtmp4.5/23, ML4.6/3, MS4.5/17, Ms1 4.5/17, ms1mx4.4/22, Error ellipse: s-maj=19.2km s-min=10.7km az=53.0*
ISCJB ***25*** *14:13:09.2±0.2, 4°.94N±0°.02×82°.46W±0°.02, h12km, mb4.5/44, MS4.5/22, Error ellipse: s-maj=3.9km s-min=2.6km az=136.2*
NEIC ***25*** *14:13:11.0±0.3, 4°.80N×82°.58W, h10km, mb4.7/35, Error ellipse: s-maj=7.4km s-min=5.0km az=57.0*
UCR ***25*** *14:13:11.1±1.9, 5°.01N×82°.70W, h16km±58km, mb4.7(NEIC)*
GCMT ***25*** *14:13:14.0±0.2, 4°.77N±0°.01×82°.67W±0°.01, h21km±1km, MW5.2/105, Moment Tensor Solution. s52,c64; s105,c181; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr0.02±.23; Mθθ0.37±.17; Mφφ-0.39±.22; Mrθ-0.28±.32; Mrφ9.17±.18; Mθφ0.68±.36; Best double couple: Mo9.20700×10^16 NP1:φs181.00000°, δ88.00000°, λ-176.00000°. NP2:φs91.00000°, δ86.00000°, λ-2.00000°. Principal axes: T 9.1750, Plg2.0000°, Azm316.0000°; N 0.0630, Plg85.0000°, Azm204.0000°; P -9.2390, Plg4.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 14:13:10.5±0.3,**4°.83N**±0°.04×**82°.59W**±0°.05,**h12**km,**n290,**
σ1°**91**/318,**mb4.5**/46,**MS4.6**/22,**3D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**3.58**	**2**	||*i*P	**Pn**	**14 14 03.1**	**-2.8**
DVD				*e*S	**Sn**	**14 14 45.1**	**-3.1**
AZU	**Azuero**	**3.73**	**38**	*e*Pg	**Pn**	**14 14 06.9**	**-1.1**
AZU				*e*P	Pb	14 14 07.5	-8.9
AZU				*e*Sg	**Sn**	**14 14 48.6**	**-3.3**
AZU	**Azuero**	**3.73**	**38**	*e*Pg	**Pn**	**14 14 06.9**	**-1.1**
AZU				*e*P	Pb	14 14 07.5	-8.9
AZU				*e*Sg	**Sn**	**14 14 48.6**	**-3.3**
AZU	**Azuero**	**3.73**	**38**	*e*P	**Pn**	**14 14 05.6**	**-2.5**
AZU				*e*S	**Sn**	**14 14 49.7**	**-2.2**
PTJ1	**Puerto Jimnez**	**3.75**	**349**	*e*P	**Pn**	**14 14 04.8**	**-3.4**
PTJ1				*e*S	**Sn**	**14 14 48.6**	**-3.6**
TBS2		**3.93**	**359**	*e*P	**Pn**	**14 14 09.4**	**-1.5**
BRU2	**Volcan**	**3.94**	**359**	||*e*P	**Pn**	**14 14 08.2**	**-2.7**
EDSV	**San Vito**	**3.98**	**355**	*e*P	**Pn**	**14 14 09.4**	**-2.1**
EDPN	**Palmar Norte**	**4.19**	**348**	*e*P	**Pn**	**14 14 11.2**	**-3.1**
EDBA	**Buenos Aires**	**4.35**	**351**	*e*P	**Pn**	**14 14 14.5**	**-2.2**
DRK0	**Durika**	**4.45**	**352**	*e*P	**Pn**	**14 14 15.6**	**-2.4**
EDLM	**Las Mercedes**	**4.53**	**347**	*e*P	**Pn**	**14 14 16.6**	**-2.4**
EDDO	**Dominical**	**4.57**	**344**	*e*P	**Pn**	**14 14 16.4**	**-3.1**
ZANG	**Zanguenga, Cho**	**4.91**	**33**	*e*P	**Pn**	**14 14 24.2**	**+0.1**
BCIP	**Isla Barro Col**	**5.10**	**32**	*e*Pn	**Pn**	**14 14 26.9**	**+0.1**
BCIP	**Isla Barro Col**	**5.10**	**32**	*e*P	**Pn**	**14 14 26.5**	**-0.3**
BCIP				*e*Sg	**Sn**	**14 15 21.2**	**-4.4**
BCIP	**Isla Barro Col**	**5.10**	**32**	*e*P	**Pn**	**14 14 26.5**	**-0.3**
BCIP				*e*Sg	**Sn**	**14 15 21.2**	**-4.4**
BCIP	**Isla Barro Col**	**5.10**	**32**	*e*P	**Pn**	**14 14 25.7**	**-1.1**
BCIP				*e*S	**Sn**	**14 15 22.1**	**-3.6**
UPA	**Univ. de Panam**	**5.12**	**36**	*e*P	**Pn**	**14 14 27.0**	**0.0**
UPA				*e*S	**Sn**	**14 15 24.1**	**-2.0**
SJS	**Escuela Geolog**	**5.28**	**344**	*e*P	**Pn**	**14 14 28.9**	**-0.4**
PTAC	**Punta Ardita,**	**5.28**	**64**	*e*Sg	**Sn**	**14 15 26.7**	**-3.5**
PTAC	**Punta Ardita,**	**5.28**	**64**	*e*Sg	**Sn**	**14 15 26.7**	**-3.5**
MALC	**Bahia Malaga**	**5.30**	**99**	*e*P	**Pn**	**14 14 30.0**	**+0.3**
MALC				*e*S	**Sn**	**14 15 26.6**	**-4.2**
MALC				*i*		14 15 34.9	
comp=Z,349nm,0.4s							
MALC	**Bahia Malaga**	**5.30**	**99**	*e*P	**Pn**	**14 14 30.0**	**+0.3**
MALC				*e*S	**Sn**	**14 15 26.6**	**-4.2**
MALC				*i*		14 15 34.9	
comp=Z,349nm,0.4s							
SOLC	**Bahia Solano**	**5.34**	**75**	*e*P	**Pn**	**14 14 28.8**	**-1.3**
SOLC				*e*S	**Sn**	**14 15 26.6**	**-5.0**
SOLC	**Bahia Solano**	**5.34**	**75**	*e*P	**Pn**	**14 14 28.8**	**-1.3**
SOLC				*e*S	**Sn**	**14 15 26.6**	**-5.0**
HDC	**Heredia**	**5.35**	**344**	*e*Pn	**Pn**	**14 14 28.5**	**-2.0**
HDC	**Heredia**	**5.35**	**344**	*e*P	**Pn**	**14 14 26.9**	**-3.5**
HDC				*e*S	**Sn**	**14 15 27.9**	**-4.2**
SRA1	**San Ramn**	**5.54**	**340**	*e*P	**Pn**	**14 14 29.4**	**-3.7**
UPD2	**Meteti**	**5.85**	**51**	*e*P	**Pn**	**14 14 39.9**	**+2.7**
JTS	**Las Juntas de**	**5.91**	**337**	Pn	**Pn**	**14 14 35.2**	**-2.7**
comp=Z,165nm,0.3s,baz=170,slow=16,SNR=79							
JTS				Sn	**Sn**	**14 15 41.8**	**-3.8**
comp=Z,109nm,0.3s,baz=107,slow=22,SNR=8.9							
JTS	**Las Juntas de**	**5.91**	**337**	||*e*P	**Pn**	**14 14 35.1**	**-2.9**
ARE1	**Arenal 1**	**5.97**	**339**	*e*P	**Pn**	**14 14 37.3**	**-1.7**
CEDE	**Laguna Cedeo**	**5.99**	**340**	*e*P	**Pn**	**14 14 37.5**	**-1.8**
OTAV	**Otavalo**	**6.16**	**138**	*e*Pn	**Pn**	**14 14 40.4**	**-1.4**
OTAV	**Otavalo**	**6.16**	**138**	*e*Pg	**Pn**	**14 14 41.9**	**0.0**
OTAV				*e*Sg	**Sn**	**14 15 51.7**	**-0.8**
OTAV	**Otavalo**	**6.16**	**138**	*e*Pg	**Pn**	**14 14 41.9**	**0.0**
OTAV				*e*Sg	**Sn**	**14 15 51.7**	**-0.8**
YOTC	**Yotoco, Valle**	**6.28**	**97**	*e*Pg	**Pn**	**14 14 43.6**	**+0.4**
YOTC				*e*Sg	**Sn**	**14 15 49.8**	**-5.3**
YOTC				*e*S	**Sn**	**14 15 50.9**	**-4.3**
YOTC				*i*		14 15 55.0	
comp=Z,187nm,0.4s							
YOTC	**Yotoco, Valle**	**6.28**	**97**	*e*Pg	**Pn**	**14 14 43.6**	**+0.4**
YOTC				*e*Sg	**Sn**	**14 15 49.8**	**-5.3**
YOTC				*e*S	**Sn**	**14 15 50.9**	**-4.3**
YOTC				*i*		14 15 55.0	
comp=Z,187nm,0.4s							
PLMC	**San Jos del P**	**6.29**	**89**	*e*Pg	**Pn**	**14 14 43.5**	**+0.3**
PLMC				*e*Sg	**Sn**	**14 15 50.8**	**-4.3**
PLMC	**San Jos del P**	**6.29**	**89**	*e*Pg	**Pn**	**14 14 43.5**	**+0.3**
PLMC				*e*Sg	**Sn**	**14 15 50.8**	**-4.3**
POPC	**Popayan, Colom**	**6.33**	**111**	*e*Pg	**Pn**	**14 14 44.0**	**+0.1**
POPC				*e*P	**Pn**	**14 14 45.2**	**+1.3**
POPC				*e*Sg	**Sn**	**14 15 53.2**	**-3.1**
POPC	**Popayan, Colom**	**6.33**	**111**	*e*Pg	**Pn**	**14 14 44.0**	**+0.1**
POPC				*e*P	**Pn**	**14 14 45.2**	**+1.3**
POPC				*e*Sg	**Sn**	**14 15 53.2**	**-3.1**
GCUF	**Volcan Galeras**	**6.35**	**124**	*e*Pg	**Pn**	**14 14 44.1**	**-0.3**
GCUF				*e*P	**Pn**	**14 14 45.6**	**+1.2**
GCUF				*e*S	**Sn**	**14 15 55.5**	**-1.6**
GCUF				*i*		14 16 04.7	
comp=Z,169nm,0.4s							
GCUF	**Volcan Galeras**	**6.35**	**124**	*e*Pg	**Pn**	**14 14 44.1**	**-0.3**
GCUF				*e*P	**Pn**	**14 14 45.6**	**+1.2**
GCUF				*e*S	**Sn**	**14 15 55.5**	**-1.6**
GCUF				*i*		14 16 04.7	
comp=Z,169nm,0.4s							
CPAS1	**Pasto**	**6.39**	**124**	*e*P	**Pn**	**14 14 45.4**	**+0.5**
CPAS1	**Pasto**	**6.39**	**124**	*e*P	**Pn**	**14 14 45.4**	**+0.5**
MESS	**Mesas**	**6

comp=Z,1μm,22.0s,baz=242,slow=36
ATAH Atahualpa 12.61 161 Pn **Pn 14 16 09.8 -0.4**
comp=Z,4.0nm,0.3s,baz=4.5,slow=5.0,SNR=20
ATAH LR LR 14 20 32.1
comp=Z,5μm,21.8s,baz=336,slow=35
APG El Apazote 12.73 323 Pn **Pn 14 16 12.8 +1.0**
comp=Z,1.1nm,0.3s,baz=144,slow=18,SNR=1.8
APG LR LR 14 20 28.0
comp=Z,2μm,20.6s,baz=132,slow=34
CMIG Matias Romero 17.13 316 P P 14 17 15.2 +3.5
comp=Z,4.0nm,0.3s,baz=132,slow=9.6,SNR=11
CMIG LR LR 14 22 32.6
comp=Z,2μm,21.5s,baz=126,slow=33
NNA Nana 17.66 161 *e*Pn **P 14 17 17.9 +0.3**
comp=Z,110nm,0.9s
NNA Nana 17.66 161 P **P 14 17 17.5 -0.1**
comp=Z,4.5nm,0.3s,baz=323,slow=11,SNR=18
NNA LR LR 14 23 33.5
comp=Z,694nm,21.0s,baz=322,slow=35
SDDR Presa de Saban 17.87 37 *e*Pn **P 14 17 21.7 +1.8**
comp=Z,44nm,0.8s
BANI BANI 18.01 41 *e*Pn **P 14 17 23.8 +2.2**
AOPR Arecibo Observ 20.49 48 *e*P Pn 14 17 50.2 -0.5
comp=Z,172nm,0.8s
SJG San Juan 20.80 49 P **P 14 17 52.7 +0.8**
comp=Z,32nm,0.3s,baz=246,slow=6.2,SNR=14
HUMP Col San Antoni 21.04 50 *e*P **P 14 17 55.9 +1.4**
comp=Z,46nm,0.8s
CBYP Canovanas 21.11 49 *e*P **P 14 17 56.3 +0.9**
comp=Z,67nm,1.0s
SVB Belmont 22.66 67 *e*P **P 14 18 13.5 +1.5**
comp=Z,126nm,0.9s
859A Kempfer Cattle 23.15 4 P **P 14 18 17.0 +0.1**
baz=184
PTGA Pitinga 23.27 103 *e*P **P 14 18 18.7 +0.4**
comp=Z,23nm,0.9s
PTGA Pitinga 23.27 103 P **P 14 18 17.6 -0.6**
comp=Z,9.9nm,0.9s,baz=301,slow=12,SNR=13
PTGA LR LR 14 26 53.9
comp=Z,804nm,21.6s,baz=282,slow=36
556A Lake Butler 25.03 0 P **P 14 18 35.4 +0.7**
baz=180
LPAZ La Paz 25.40 146 *e*P **P 14 18 39.8 +1.0**
comp=Z,37nm,1.0s
LPAZ La Paz 25.40 146 P **P 14 18 38.5 -0.2**
comp=Z,16nm,0.7s,baz=334,slow=9.4,SNR=56
LPAZ LR LR 14 29 41.7
comp=Z,2μm,19.6s,baz=304,slow=39
LNIG Linares 25.71 323 *e*P **P 14 18 41.8 +0.9**
comp=Z,24nm,0.9s
353A Camilla 26.42 357 P **P 14 18 48.2 +1.0**
baz=176
351A Pinckard 26.45 354 P **P 14 18 48.4 +0.9**
baz=173
357A Townsend 26.47 2 P **P 14 18 49.4 +1.8**
baz=182
MNMC Minye Minye 27.04 152 *e*P **P 14 18 54.5 +1.3**
comp=Z,145nm,1.0s
GO01 Chusmiza 27.69 152 *e*P **P 14 19 00.6 +1.3**
comp=Z,37nm,0.9s
SIV San Ignacio 29.69 135 P **P 14 19 16.7 0.0**
comp=Z,15nm,0.9s,baz=311,slow=9.7,SNR=40
SIV LR LR 14 31 31.7
comp=Z,3μm,18.0s,baz=320,slow=37
MDP Montagnes des 29.84 88 LR LR 14 31 27.7
comp=Z,696nm,21.2s,baz=266,slow=37
CPCT Cooper Cave 30.52 357 *e*P **P 14 19 23.7 -0.1**
comp=Z,48nm,1.1s
TXAR Lajitas Array 31.49 323 P **P 14 19 33.0 +0.4**
comp=Z,0.5nm,0.6s,baz=138,slow=10.0,SNR=3.6
TXAR LR LR 14 32 12.9
comp=Z,324nm,21.4s,baz=0.0,slow=36
U54A Nelsons Funny 31.54 1 P **P 14 19 33.1 +0.3**
baz=181
U55A TA2, Sparta 31.55 2 P **P 14 19 33.3 +0.4**
baz=183
U57A Blanch 31.59 5 P **P 14 19 34.3 +1.1**
baz=186
T52A Hallie 32.12 359 P **P 14 19 38.2 +0.3**
baz=179
T58A Grand View Acr 32.17 6 P **P 14 19 37.2 -1.1**
baz=188
GO02 Mina Guanaco 32.38 158 *e*P **P 14 19 41.7 +1.1**
comp=Z,54nm,1.0s
U40A Yellville 32.76 345 P **P 14 19 43.1 -0.4**
baz=161
S49A Springfield 32.89 356 P **P 14 19 44.3 -0.3**
baz=175
R54A Victor 33.22 2 P **P 14 19 47.3 -0.3**
baz=183
R51A Hillsboro 33.32 359 P **P 14 19 48.6 +0.3**
baz=178
R49A Shelbyville 33.38 356 P **P 14 19 48.7 -0.2**
baz=175
R47A Wooly Knot Far 33.50 354 P **P 14 19 50.0 +0.2**
baz=173
CCM Cathedral Cave 34.00 348 P **P 14 19 53.4 -0.8**
baz=164
Q51A Peebles 34.04 359 P **P 14 19 54.0 -0.7**
baz=179
Q55A Buckhannon 34.08 3 P **P 14 19 54.9 -0.1**
baz=184
MNTX Cornudas Mount 34.22 324 P **P 14 19 57.2 +0.9**
baz=137,SNR=7.4
P48A Milroy 34.56 356 P **P 14 20 00.6 +1.5**
baz=175
P43A Skaggs, Pawnee 35.21 351 P **P 14 20 05.0 +0.2**
baz=168
ACSO Alum Creek Sta 35.24 359 P **P 14 20 05.0 0.0**
baz=179
N48A Decatur 35.93 357 P **P 14 20 12.7 +1.8**
baz=176
N45A Kentland 36.13 354 P **P 14 20 13.9 +1.4**
baz=172
121A Cookes Peak, D 36.25 323 P **P 14 20 16.2 +2.2**
baz=134,SNR=6.6
319A Douglas 36.40 320 *e*P **P 14 20 17.7 +2.5**
comp=Z,7.8nm,0.9s
N59A State Game Lan 36.44 9 P **P 14 20 16.7 +1.4**
baz=191
AQDB Aquidauana 36.47 134 *e*P **P 14 20 15.4 -0.3**
M55A Ridgway 36.64 5 P **P 14 20 18.2 +1.3**
baz=186
LENM Lemitar 36.93 325 *e*P **P 14 20 21.9 +2.1**
LAZ Ladron 37.20 325 *e*P **P 14 20 22.8 +0.8**
ANMO Albuquerque 37.22 327 P **P 14 20 23.8 +1.6**
baz=138
ANMO Albuquerque 37.22 327 P **P 14 20 23.2 +1.0**
comp=Z,4.6nm,0.8s,baz=143,slow=8.9,SNR=14
TASM ASL Pad, Albuq 37.22 327 P **P 14 20 23.7 +1.5**
baz=138,SNR=13
TASM ASL Pad, Albuq 37.22 327 P **P 14 20 23.4 +1.2**
baz=138,SNR=13
C2SB Chapadao do Su 37.54 129 *e*P **P 14 20 25.4 +0.5**
L42A Oliver, Polo 37.55 351 P **P 14 20 26.1 +1.5**
baz=168
BINY Binghamton 37.67 8 P **P 14 20 26.6 +0.9**
baz=191
TUC Tucson 37.98 319 *e*P **P 14 20 29.4 +0.8**
comp=Z,6.8nm,0.9s
TUC Tucson 37.98 319 P **P 14 20 29.2 +0.6**
baz=130
J42A Columbus 38.76 352 P **P 14 20 36.8 +1.9**
baz=170
SDCO Great Sand Dun 38.86 331 P **P 14 20 37.3 +1.1**
baz=142,SNR=11
214A Organ Pipe Nat 39.10 317 P **P 14 20 38.6 +0.6**
baz=128
I43A Langenfeld Bro 39.20 354 P **P 14 20 37.1 -1.4**
baz=171
I42A Draeger Farm, 39.30 353 P **P 14 20 40.6 +1.2**
baz=170
CPUP Villa Florida 39.48 143 *e*P **P 14 20 39.9 -1.2**
comp=Z,16nm,1.1s
CPUP Villa Florida 39.48 143 P **P 14 20 40.2 -0.9**
comp=Z,8.8nm,0.9s,baz=337,slow=7.7,SNR=13
CPUP LR LR 14 38 11.6
comp=Z,804nm,18.6s,baz=318,slow=38
S22A 4UR Ranch, Cre 39.53 329 *e*P **P 14 20 42.4 +0.7**
comp=Z,6.6nm,1.0s
S22A 4UR Ranch, Cre 39.53 329 P **P 14 20 42.6 +0.9**
baz=140,SNR=7.3
H43A Windswept, Lux 39.74 354 P **P 14 20 41.3 -1.7**
baz=172
BDFB Brasilia 39.82 121 P **P 14 20 44.1 -0.1**
comp=Z,4.3nm,0.8s,baz=315,slow=10,SNR=4.8
BDFB LR LR 14 37 43.7
comp=Z,939nm,19.2s,baz=291,slow=37
MVCO Mesa Verde 40.00 327 *e*P **P 14 20 46.6 +0.9**
comp=Z,9.9nm,0.8s
MVCO Mesa Verde 40.00 327 P **P 14 20 44.2 -1.4**
baz=138,SNR=7.9
PLVO Plevna 40.34 6 P **P 14 20 46.9 -1.1**
baz=188
WUAZ Wupatki 40.46 323 P **P 14 20 50.1 +0.7**
baz=132,SNR=13
G43A Wallace 40.51 354 P **P 14 20 48.2 -1.1**
baz=172
G42A Mountain 40.57 354 P **P 14 20 48.6 -1.3**
baz=171
G55A Calabogie 40.59 6 P **P 14 20 49.0 -1.0**
baz=189
ECSD EROS Data Cent 40.67 344 P **P 14 20 49.6 -1.1**
baz=158
G40A Rib Lake 40.82 352 P **P 14 20 50.5 -1.5**
baz=168
F52A Sundridge 40.90 3 P **P 14 20 51.1 -1.5**
baz=185
PV12 Saucer Basin, 40.98 328 *e*P **P 14 20 55.4 +1.7**
comp=Z,12nm,0.7s
G38A Ridgeland 40.98 350 P **P 14 20 52.3 -1.1**
baz=166
G39A Holcombe 40.98 351 P **P 14 20 52.5 -0.8**
baz=167
F51A Arnstein 41.00 3 P **P 14 20 52.1 -1.3**
baz=184
F44A Big Bay de Noc 41.12 356 P **P 14 20 53.2 -1.1**
baz=174
F41A Three Lakes 41.14 353 P **P 14 20 53.4 -1.2**
baz=170
F40A Park Falls 41.45 352 P **P 14 20 55.7 -1.4**
baz=169
E47A Iron Bridge 41.47 359 P **P 14 20 55.5 -1.7**
baz=179
E48A Lockeyer 41.49 0 P **P 14 20 55.7 -1.7**
baz=181
E43A Lone Tree Farm 41.56 355 P **P 14 20 56.3 -1.7**
baz=173
F39A Loretta 41.56 351 P **P 14 20 56.3 -1.8**
baz=167
E51A G1948 Merrick 41.63 3 P **P 14 20 56.9 -1.7**
baz=185
E42A Champion 41.69 354 P **P 14 20 57.5 -1.6**
baz=172
E54A Lac Daplat, Po 41.70 6 P **P 14 20 57.6 -1.7**
baz=188
F38A Pierce - Schro 41.75 350 P **P 14 20 57.9 -1.8**
baz=166
PTGB Pitanga 41.77 136 *e*P **P 14 20 58.9 -1.2**
E41A Kenton 41.84 353 P **P 14 20 58.9 -1.4**
baz=170
BC3 Big Chuckawall 41.90 317 P **P 14 21 00.2 -1.0**
baz=126
E40A Wakefield 41.93 352 P **P 14 20 59.8 -1.3**
baz=169
E39A Mellen 41.96 352 P **P 14 21 00.2 -1.1**
baz=168
IRM Iron Mountain 41.99 318 P **P 14 21 00.0 -1.8**
baz=127
O20A White River Ci 42.06 330 *e*P **P 14 21 04.8 +2.3**
comp=Z,17nm,0.8s
D47A Chapleau 42.06 359 P **P 14 21 01.0 -1.2**
baz=179
D52A ZEK Kipawa Sen 42.14 4 P **P 14 21 02.0 -0.8**
baz=186
BB19B Bebedouro 42.17 129 *e*P **P 14 21 02.9 -0.6**
D48A Paudash Townsh 42.19 1 P **P 14 21 02.0 -1.2**
baz=181
D49A Beulah Townshi 42.29 1 P **P 14 21 02.7 -1.3**
baz=182
D53A Lac Vacive, Po 42.30 5 P **P 14 21 03.0 -1.1**
baz=187
PKCU Pink Cliffs 42.31 324 *e*P **P 14 21 05.3 +0.5**
comp=Z,22nm,1.1s
E38A The Farm, Brul 42.33 351 P **P 14 21 03.3 -1.1**
baz=167
D41A Chassel 42.38 354 P **P 14 21 03.7 -1.1**
baz=171
BELC Belle Mtn. Jos 42.47 317 P **P 14 21 03.9 -1.9**
baz=126,SNR=6.2
D54A Lac Fusel, La 42.47 6 P **P 14 21 05.2 -0.2**
baz=189
LCMT Little Creek M 42.58 323 *e*P **P 14 21 08.9 +2.2**
comp=Z,4.1nm,0.9s
Q16A Castle Valley 42.69 327 *e*P **P 14 21 09.6 +1.9**
comp=Z,3.3nm,0.9s
FRTB Fartura 42.70 132 *e*P **P 14 21 07.5 -0.2**
GMRC Granite Mounta 42.70 319 P **P 14 21 08.6 +0.8**
baz=127
JANB Januaria 42.77 118 *e*P **P 14 21 08.0 -0.4**
HEC Hector,Ludlow 43.18 318 P **P 14 21 12.5 +1.0**
baz=126
RSSD Black Hills 43.44 337 P **P 14 21 15.1 +1.4**
baz=148
GSC Goldstone, Bar 43.77 318 *e*P **P 14 21 18.1 +1.9**
comp=Z,5.8nm,0.9s
GSC Goldstone, Bar 43.77 318 P **P 14 21 17.0 +0.7**
baz=126
PSUT Pine Spring 43.95 324 *e*P **P 14 21 18.7 +0.9**
comp=Z,6.9nm,0.9s
TPNV Topopah Spring 44.39 321 *e*P **P 14 21 23.6 +2.2**
comp=Z,10nm,1.1s
TPNV Topopah Spring 44.39 321 P **P 14 21 22.4 +1.1**
baz=128
LRMC Laurel Mtn Rad 44.45 318 P **P 14 21 22.2 +0.3**
baz=125
DUG Dugway, Tooele 44.49 327 P **P 14 21 22.9 +0.8**
baz=134
FURC Furnace Creek, 44.49 320 P **P 14 21 23.7 +1.7**
baz=127
MPMC Manual Prospec 44.66 319 P **P 14 21 24.4 +0.8**
baz=126
BW06 Boulder Array 44.71 332 P **P 14 21 24.5 +0.6**
baz=140
PDAR Pinedale Array 44.71 332 P **P 14 21 23.6 -0.3**
comp=Z,1.5nm,0.8s,baz=128,slow=10,SNR=10
PDAR LR LR 14 42 10.3
comp=Z,505nm,19.4s,baz=149,slow=39
AGMN Agassiz Nation 44.77 347 P **P 14 21 25.1 +1.1**
baz=161
R11A Troy Canyon, C 44.86 323 P **P 14 21 25.7 +0.6**
baz=130,SNR=12
GRAC Grapevine Rang 45.13 320 P **P 14 21 28.1 +0.9**
baz=127
CWC Cottonwood Cre 45.27 319 P **P 14 21 29.2 +0.8**
baz=126
MDND Maddock 45.27 344 P **P 14 21 29.3 +1.3**
baz=156
GO06 Curarrehue 45.37 168 *e*P **P 14 21 27.9 -1.2**
comp=Z,12nm,1.0s
HVU Hansel Valley 45.59 328 *e*P **P 14 21 32.1 +1.3**
comp=Z,4.3nm,0.8s
PLTB Pedras Altas 45.68 145 *e*P **P 14 21 31.2 -0.3**
FXWY Fox Creek 46.07 331 *e*P **P 14 21 35.4 +0.7**
comp=Z,2.2nm,0.8s
RLMT Red Lodge 46.41 334 P **P 14 21 37.7 +0.4**
baz=142
NVAR Mina Array Bea 46.59 321 P **P 14 21 39.6 +0.8**
comp=Z,8.5nm,0.8s,baz=133,slow=7.2,SNR=50
NVAR LR LR 14 41 20.1
comp=Z,651nm,18.6s,baz=142,slow=36
ULM Lac du Bonnet 46.62 348 P **P 14 21 39.3 +0.7**
comp=Z,2.3nm,0.8s,baz=128,slow=6.2,SNR=3.7
PLCA Paso Flores 46.67 167 P **P 14 21 38.5 -0.8**
comp=Z,15nm,1.0s,baz=6.9,slow=8.9,SNR=17
DGMT Dagmar 47.23 340 P **P 14 21 44.4 +1.0**
baz=150
HLID Hailey 47.70 329 P **P 14 21 47.9 +0.5**
baz=135,SNR=7.9
BOZ Bozeman (W) 47.83 333 P **P 14 21 49.0 +0.6**
baz=139,SNR=12
EGMT Eagleton 48.91 336 P **P 14 21 57.3 +0.8**
baz=143
MSO Missoula 49.82 332 P **P 14 22 04.2 +0.7**
baz=137
O03E Paynes Creek 49.87 321 P **P 14 22 04.2 +0.2**
baz=125
O02D Mt. Diablo Mer 50.43 320 P **P 14 22 08.3 0.0**
baz=124
J05D Fort Rock, OR 51.28 324 P **P 14 22 14.6 -0.1**
baz=127
L04D Klamath Falls 51.28 323 P **P 14 22 14.6 -0.1**
baz=125
SCHQ Schefferville 51.45 12 P **P 14 22 14.8 -0.8**
comp=Z,14nm,1.0s,baz=193,slow=7.6,SNR=5.8
SCHQ LR LR 14 43 11.0
comp=Z,242nm,22.0s,baz=221,slow=35
J04D Umpqua Nationa 51.77 324 P **P 14 22 18.8 +0.4**
baz=126
I05D Terrebonne, OR 51.98 325 P **P 14 22 20.5 +0.8**
baz=128
I04A Tendick Farm, 52.27 324 P **P 14 22 22.0 +0.1**
baz=126
K02D Willamette Mer 52.38 322 P **P 14 22 22.2 -0.6**
baz=124
I03D Drain, OR 52.76 324 P **P 14 22 26.0 +0.5**
baz=125
H04D Lebanon 52.89 325 P **P 14 22 26.7 +0.2**
baz=126
B05A Bryant 54.83 329 P **P 14 22 41.7 +1.1**
baz=129
D03D Eldon 54.90 327 P **P 14 22 42.1 +1.0**
baz=128
YKA Yellowknife Ar 62.20 344 P **P 14 23 30.9 -0.7**
comp=Z,1.5nm,0.7s,baz=140,slow=6.5,SNR=18
YKA LR LR 14 52 22.8
comp=Z,19nm,18.4s,baz=144,slow=38
PPT2 Papeete2 69.73 249 *e*S **S 14 33 27.6 -2.8**
comp=Z,110nm,24.5s
PPT2 *e*LQ LQ 14 42 35.6
comp=Z,491nm,26.8s
PPT2 *e*LR LR 14 45 29.0
comp=Z,564nm,29.2s
TBI Tubuai 70.93 243 *e*S **S 14 33 37.9 -6.2**
comp=Z,224nm,35.0s
TBI *e*LQ LQ 14 43 05.1
comp=Z,484nm,33.5s
TBI *e*LR LR 14 46 07.5
comp=Z,1μm,27.5s,baz=76
MENT Mentasta 72.87 335 *e*P **P 14 24 40.2 +0.9**
comp=Z,3.0nm,0.6s
PAX Paxson 73.62 335 *e*P **P 14 24 44.8 +1.1**
comp=Z,3.8nm,1.1s
RIDG Independent Ri 73.66 336 *e*P **P 14 24 44.5 +0.6**
comp=Z,5.5nm,1.0s
SCM Sheep Creek Mo 74.01 333 *e*P **P 14 24 46.8 +0.7**
comp=Z,11nm,1.2s
KNK Knik Glacier 74.38 333 *e*P **P 14 24 49.3 +1.2**
comp=Z,5.7nm,0.8s
HDA Harding Lake 74.77 336 P **P 14 24 50.4 +0.1**
baz=111
ILAR Eielson Array 74.88 336 P **P 14 24 50.5 -0.5**
comp=Z,0.8nm,0.7s,baz=129,slow=4.7,SNR=10.0
ILAR LR LR 15 01 50.0
comp=Z,177nm,18.6s,baz=120,slow=39
ESDC Sonseca Array 78.18 51 P **P 14 25 10.2 0.0**
comp=Z,1.8nm,0.8s,baz=273,slow=6.0,SNR=6.7
TOA1 Torodi Ar. Sit 83.36 77 *e*P **P 14 25 39.8 +1.5**
TORD Torodi Ar. Bea 83.36 77 P **P 14 25 39.8 +1.4**
comp=Z,2.1nm,1.1s,baz=285,slow=5.7,SNR=6.8
NB200 NORSAR Array S 87.65 29 *e*P **P 14 25 58.6 -0.2**
NOA NORSAR Array B 87.65 29 P **P 14 25 58.6 -0.2**
comp=Z,1.7nm,1.0s,baz=277,slow=4.5,SNR=2.7
KEST Kesra 88.78 54 *e*P **P 14 26 04.2 -0.7**
comp=Z,6.3nm,0.6s
KEST Kesra 88.78 54 P **P 14 26 04.2 -0.7**
comp=Z,3.4nm,0.5s,baz=293,slow=2.8,SNR=9.5
VNA3 Neumayer Olymp 89.11 162 P P 14 26 11.5 +6.0
NKC Novy Kostel 89.54 40 AMS AMS 14 58 30.0
comp=Z,300nm,21.8s
VNA2 Neumayer-Watz 89.73 161 P P 14 26 14.1 +5.8
baz=283,slow=5.6
CLL Collm 89.76 39 *e*S **S 14 37 08.0 +7.3**
CLL *e*SS **SS 14 42 56.0 -1.2**
KHC Kasperske Hory 90.41 41 *e*P **P 14 26 15.2 +3.1**
KHC AMS AMS 14 58 20.0
comp=Z,200nm,19.7s
PVCC Panska Ves 90.85 39 AMS AMS 14 59 00.0
comp=Z,200nm,15.9s
PRU Pruhonice 90.91 40 AMS AMS 14 59 10.0
comp=Z,300nm,22.5s
GOPC GO Pecny, Ondr 91.08 40 AMS AMS 14 59 00.0
comp=Z,300nm,20.5s
SNAA Sanae 91.34 162 P P 14 26 23.4 +7.5
UPC Upice 91.76 39 AMS AMS 14 59 50.0
comp=Z,200nm,25.2s
DPC Dobruska-Polom 91.98 39 *e*P **P 14 26 23.3 +3.9**
DPC AMS AMS 14 59 30.0
comp=Z,200nm,18.5s
OKC Ostrava-Krasne 93.23 40 AMS AMS 15 00 50.0
comp=Z,200nm,25.3s
H11N3 WAKE ISLAND Hy 107.50 292 T T 16 27 46.9
baz=79,slow=75,SNR=28
H11N2 WAKE ISLAND Hy 107.51 292 T T 16 27 44.2
baz=79,slow=75,SNR=26
H11N1 WAKE ISLAND Hy 107.52 292 T T 16 27 50.5
baz=79,slow=75,SNR=31
ZAA1 Zalesovo Array 120.48 9 *e*PKPdf **PKiKP 14 32 02.2 0.0**
ZALV Zalesovo Beam 120.49 9 PKP **PKiKP 14 32 02.2 0.0**
comp=Z,0.4nm,0.3s,baz=300,slow=6.0,SNR=2.5
MK32 Makanchi Array 126.88 13 *e*PKPdf **PKPdf 14 32 14.0 -0.6**
MKAR Makanchi Array 126.88 13 PKP **PKPdf 14 32 14.0 -0.6**
comp=Z,0.5nm,0.7s,baz=348,slow=2.6,SNR=4.1
SONA0 Songino Array 126.96 352 *e*PKPdf **PKiKP 14 32 15.9 +0.5**
SONM Songino Array 126.96 352 PKP **PKiKP 14 32 15.9 +0.5**
comp=Z,0.4nm,0.5s,baz=343,slow=4.5,SNR=3.0
KSRS Korea Array 129.24 329 PKP **PKPdf 14 32 18.0 -1.4**
comp=Z,0.5nm,1.0s,baz=343,slow=1.6,SNR=2.8
WMQ Urumqi 130.78 9 *e*P **PKPdf 14 32 22.5 +0.3**
KSH Kashi 131.64 22 PKP **PKiKP 14 32 24.8 -0.2**
KSH sPKP 14 32 39.0
KSH PP **PP 14 34 48.8 +6.4**
KSH SKS **SKSdf 14 39 30.5 -5.3**
KSH SKKS **SKKSac 14 41 34.0 -6.1**
HHC Hu-ho-hao-te 132.72 345 *e*P **PKPdf 14 32 23.3 -2.7**
NJ2 Nanjing 138.02 332 *e*P **PKPdf 14 32 36.0 0.0**
LZH Lanzhou 138.85 352 *e*PKP **PKPdf 14 32 34.5 -3.1**
LZH sPKP 14 32 43.5
LZH SKKS 14 42 19.8
ASAR Alice Springs 140.17 238 PKP **PKPdf 14 32 40.4 +0.1**
comp=Z,0.9nm,0.8s,baz=108,slow=3.1,SNR=7.8
DANN Dangsing 144.48 21 *e*P PKPbc 14 32 46.6 +0.1
comp=Z,33nm,0.7s
KOLN Koldanda 144.95 22 *e*P **PKPdf 14 32 49.5 +0.7**
comp=Z,28nm,1.3s
KKN Kakani 145.52 19 *e*P **PKPab 14 32 50.2 +0.2**
comp=Z,52nm,0.8s
DMN Daman 145.63 20 *e*P **PKPab 14 32 50.9 +0.4**
comp=Z,43nm,0.9s
PKIN Phulchoki 145.75 19 *e*P **PKPab 14 32 50.9 0.0**
comp=Z,36nm,1.2s
PKI Pulchoki 145.76 19 *e*P **PKPab 14 32 51.0 -0.1**
comp=Z,54nm,1.3s
JIRN Jiri 145.93 18 *e*P **PKPbc 14 32 51.4 +0.1**
comp=Z,113nm,1.3s
RAMN Ramite 146.72 18 *e*P **PKiKP 14 32 55.8 -0.5**
comp=Z,34nm,1.1s
FITZ Fitzroy Crossi 149.42 242 PKPbc **PKPbc 14 33 00.0 -0.6**
comp=Z,5.2nm,1.0s,baz=76,slow=4.2,SNR=2.6
KMI Kunming 149.78 350 PKPbc **PKPdf 14 32 55.0 -1.9**
KMI pPKP pPKPbc 14 33 04.5 -0.3
KMI sPKP 14 33 08.5
CMAR Chiang Mai Arr 156.81 356 PKP **PKPdf 14 33 06.6 -0.3**
comp=Z,0.3nm,0.4s,baz=354,slow=1.8,SNR=2.7

ISCJB ***25*** *14:29:17.3±0.6, 5°.25S±0°.06×146°.8E±0°.1, h123km, mb3.8/11, Error ellipse: s-maj=21.0km s-min=8.6km az=173.1*

IDC ***25*** *14:29:19.7±1.9, 5°.34S×146°.65E, h133km±18km, mb3.6/11, mb1 3.7/12, mb1mx3.6/30, mbtmp4.0/12, Error ellipse: s-maj=24.5km s-min=11.7km az=98.0*

ISC 25 14:29:19.0±0.7, 5°.25S±0°.08×146°.6E±0°.2, h123km, n14, σ1°34/16, mb3.9/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.16**	**173**	P	**Pn**	**14 30 21.0**	**+0.2**
	25nm,0.3s,baz=345,slow=5.6,SNR=92						
PMG				S	**Sn**	**14 31 06.5**	**-2.3**
	23nm,0.3s,baz=21,slow=12,SNR=4.4						
CTA	**Charters Tower**	**14.75**	**181**	P	**P**	**14 32 47.6**	**+3.2**
	0.9nm,0.3s,baz=355,slow=14,SNR=13						
ASAR	**Alice Springs**	**22.02**	**213**	P	**P**	**14 34 04.3**	**+0.6**
	2.8nm,0.6s,baz=45,slow=8.7,SNR=40						
ASAR				S	**S**	**14 37 56.8**	**-2.0**
	0.8nm,0.7s,baz=33,slow=21,SNR=4.8						
FITZ	**Fitzroy Crossi**	**24.14**	**236**	P	**P**	**14 34 23.6**	**-0.1**
	4.8nm,0.4s,baz=40,slow=11,SNR=12						
DZM	**Mont Dzumac**	**25.45**	**133**	P	**P**	**14 34 35.3**	**-0.5**
	4.2nm,1.0s,baz=256,slow=19,SNR=2.3						
STKA	**Stephens Creek**	**26.90**	**189**	P	**P**	**14 34 48.8**	**+0.2**

1.0nm,0.6s,baz=345,slow=16,SNR=2.9
KSRS Korea Array 45.92 339 P **P 14 37 30.0 +0.6**
2.6nm,1.1s,baz=156,slow=9.5,SNR=11
SONM Songino Array 63.57 331 P **P 14 39 35.8 -0.8**
0.5nm,0.3s,baz=129,slow=8.2,SNR=4.9
VNDA Vanda 72.67 177 P **P 14 40 32.5 -0.4**
0.6nm,0.7s,baz=342,slow=5.9,SNR=5.4
MKAR Makanchi Array 76.68 320 P **P 14 40 57.0 +0.4**
0.2nm,0.5s,baz=99,slow=8.9,SNR=3.3
ZALV Zalesovo Beam 78.18 328 P **P 14 41 05.0 +0.3**
0.5nm,0.5s,baz=91,slow=6.2,SNR=2.5
NRIK Noril'sk 84.45 342 P **P 14 41 37.4 -0.1**
2.5nm,0.8s,baz=120,slow=7.3,SNR=5.9
ILAR Eielson Array 84.95 23 P **P 14 41 39.6 -0.5**
1.9nm,0.7s,baz=255,slow=5.0,SNR=21
TORD Torodi Ar. Bea 144.53 285 PKP **PKPab 14 48 39.5 -1.2**
0.8nm,0.9s,baz=52,slow=5.1,SNR=5.6

IDC 25 14:31:07.1±12.0,52°.02N×150°.41E,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.3/35,mbtmp3.5/3,Error ellipse: s-maj=379.4km s-min=120.7km az=99.0,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**33.72**	**43**	P	P	14 37 50.1	+0.5
0.5nm,0.7s,baz=278,slow=9.4,SNR=7.8							
YKA	**Yellowknife Ar**	**47.83**	**39**	P	P	14 39 44.9	-1.0
0.3nm,0.5s,baz=304,slow=7.3,SNR=5.2							
TXAR	**Lajitas Array**	**76.40**	**60**	P	P	14 42 58.6	+0.2
0.3nm,0.6s,baz=294,slow=4.8,SNR=4.9							

*ISCJB **25** 14:41:24.1±0.4, 16°.55S±0°.07×173°.26W±0°.06, h10km, mb4.3/24, MS3.6/2, Error ellipse: s-maj=10.0km s-min=8.3km az=6.1*
*IDC **25** 14:41:24.2±0.8, 16°.56S×173°.17W, h0km, mb4.3/13, mb1 4.5/15, mb1mx4.3/42, mbtmp4.4/15, ML3.7/2, MS3.8/1, Ms1 3.8/1, ms1mx3.1/26, Error ellipse: s-maj=28.2km s-min=17.8km az=134.0*
*NEIC **25** 14:41:25.8±0.4, 16°.60S×173°.22W, h10km, mb4.5/15, Error ellipse: s-maj=10.3km s-min=9.6km az=135.0*
ISC 25 14:41:25.7±0.4,16°.57S±0°.08×173°.21W±0°.07,h10km,n73, σ1§21/61,mb4.5/24,9C-4D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.00**	**129**	*e*Pn	**Pn**	**14 42 27.4**	**+0.3**
FUNA	**Funafuti**	**10.90**	**316**	*e*Pn	**Pn**	**14 44 00.9**	**-1.0**
RAO	**Raoul Island**	**13.34**	**198**	*e*Pn	**Pn**	**14 44 32.5**	**-2.7**
RAR	**Rarotonga**	**13.53**	**112**	*e*Pn	**Pn**	**14 44 37.0**	**-0.7**
RAR				*e*Sn	**Sn**	**14 47 11.3**	**+3.1**
RAR	**Rarotonga**	**13.53**	**112**	Pn	**Pn**	**14 44 35.2**	**-2.6**
6.0nm,0.3s,baz=276,slow=9.3,SNR=11							
RAR				Sn	Sn	14 46 57.4	-11
1.3nm,0.3s,baz=15,slow=16,SNR=2.7							
DZM	**Mont Dzumac**	**19.96**	**251**	*e*P	**Pn**	**14 46 04.7**	**+4.7**
28nm,0.9s							
DZM				*e*LR	LR	14 50 58.2	
comp=Z,448nm,24.7s							
DZM	**Mont Dzumac**	**19.96**	**251**	*e*P	**P**	**14 45 58.7**	**+0.4**
15nm,0.9s							
DZM	**Mont Dzumac**	**19.96**	**251**	Pn	**P**	**14 45 58.7**	**+0.4**
0.1nm,0.3s,baz=95,slow=19,SNR=3.6							
DZM				LR	LR	14 52 23.2	
comp=Z,291nm,21.6s,baz=50,slow=33							
PAE	**Paea**	**22.61**	**96**	*e*T	T	15 09 35.5	
3.9nm,0.4s							
PPT2	**Papeete2**	**22.61**	**96**	*e*LR	LR	14 51 54.0	
comp=Z,264nm,24.2s,baz=258							
PPT2	**Papeete2**	**22.61**	**96**	*e*T	T	15 09 37.5	
5.2nm,0.3s							
TIAR	**Tiarei**	**22.83**	**96**	*e*T	T	15 09 51.7	
3.0nm,0.4s							
TVO	**Taravao**	**22.92**	**97**	*e*T	T	15 09 59.2	
1.6nm,0.3s							
URZ	**Urewera**	**23.22**	**200**	*e*P	**P**	**14 46 35.0**	**+2.1**
34nm,0.9s							
URZ	**Urewera**	**23.22**	**200**	P	**P**	**14 46 33.4**	**+0.4**
19nm,0.9s,baz=53,slow=10,SNR=4.9							
TBI	**Tubuai**	**23.30**	**111**	*e*LR	LR	14 52 09.0	
comp=Z,337nm,27.2s,baz=277							
TBI	**Tubuai**	**23.30**	**111**	*e*T	T	15 10 33.4	
16nm,0.4s							
MEH	**Mehetia**	**24.05**	**97**	*e*T	T	15 11 23.4	
6.9nm,0.2s							
VAH	**Vaihoa**	**24.64**	**90**	*e*T	T	15 12 01.0	
7.3nm,0.3s							
TAOE	**Nuku Hiva Isla**	**33.11**	**81**	*e*T	T	15 22 30.7	
38nm,0.2s							
EIDS	**Eidsvold**	**34.39**	**249**	*e*P	**P**	**14 48 11.3**	**-2.0**
11nm,1.0s							
ARMA	**Armidale**	**34.91**	**240**	*e*P	**P**	**14 48 16.8**	**-1.1**
13nm,1.0s							
RKT	**Rikitea**	**36.47**	**107**	*e*T	T	15 27 03.3	
5.5nm,0.4s							
H11N3	**WAKE ISLAND Hy**	**41.02**	**331**	T	T	15 32 38.4	
baz=150,slow=76							
H11N1	**WAKE ISLAND Hy**	**41.02**	**331**	T	T	15 32 26.0	
baz=150,slow=76							
H11N2	**WAKE ISLAND Hy**	**41.03**	**331**	T	T	15 32 38.9	
baz=150,slow=76							
TOO	**Toolangi**	**41.88**	**232**	*e*P	**P**	**14 49 17.6**	**+1.2**
13nm,0.9s							
TOO				*e*PcP	**PcP**	**14 51 08.1**	**-4.0**
STKA	**Stephens Creek**	**43.62**	**241**	*e*P	**P**	**14 49 31.0**	**+0.5**
1.8nm,0.9s							
STKA	**Stephens Creek**	**43.62**	**241**	P	**P**	**14 49 30.1**	**-0.5**
8.7nm,0.9s,baz=91,slow=10,SNR=14							
BBOO	**Buckleboo**	**48.39**	**241**	*e*P	**P**	**14 50 08.7**	**+0.5**
8.6nm,0.9s							
AS31	**Alice Springs**	**49.93**	**253**	*e*P	**P**	**14 50 19.8**	**-0.4**
4.9nm,1.0s							
ASAR	**Alice Springs**	**49.93**	**253**	P	**P**	**14 50 19.4**	**-0.7**
16nm,0.8s,baz=88,slow=8.4,SNR=177							
MJAR	**Matsushiro Arr**	**69.95**	**320**	P	**P**	**14 52 37.8**	**+0.4**
0.6nm,0.7s,baz=160,slow=5.7,SNR=3.0							
MAJO	**Matsushiro**	**69.95**	**320**	*e*P	**P**	**14 52 37.8**	**+0.4**
ASAJ	**Asahikawa**	**72.63**	**328**	P	**P**	**14 52 53.8**	**+0.4**
7.7nm,0.8s,baz=172,slow=3.8,SNR=10							
PETK	**Petropavlovsk-**	**73.80**	**342**	P	**P**	**14 52 59.8**	**-0.4**
8.3nm,0.8s,baz=124,slow=7.5,SNR=14							
PEA1	**Petropavlovsk-**	**73.80**	**342**	*e*P	**P**	**14 52 59.8**	**-0.4**
NV01	**Mina Array Sit**	**75.08**	**42**	*e*P	**P**	**14 53 08.1**	**-0.1**
NVAR	**Mina Array Bea**	**75.08**	**42**	P	**P**	**14 53 08.1**	**-0.1**
1.7nm,0.8s,baz=231,slow=9.8,SNR=8.7							
KSRS	**Korea Array**	**77.12**	**316**	P	**P**	**14 53 20.5**	**+1.0**
0.3nm,0.6s,baz=116,slow=6.5,SNR=3.5							
KS15	**Wonju Array Si**	**77.14**	**316**	*e*P	**P**	**14 53 20.5**	**+0.8**
2.7nm,1.0s							
HLID	**Hailey**	**80.42**	**39**	*e*P	**P**	**14 53 38.4**	**+0.6**
2.5nm,1.1s							
HLID				*e*PcP	PcP	14 53 54.9	+10
BW06	**Boulder Array**	**83.01**	**42**	*e*P	**P**	**14 53 50.4**	**-1.2**
1.9nm,0.8s							
PD31	**Pinedale Array**	**83.01**	**42**	*e*P	**P**	**14 53 51.6**	**-0.1**
2.1nm,0.9s							
PDAR	**Pinedale Array**	**83.01**	**42**	P	**P**	**14 53 51.5**	**-0.1**
1.4nm,0.7s,baz=215,slow=3.8,SNR=14							
WRH	**Wood River Hil**	**83.06**	**11**	*e*P	**P**	**14 53 51.0**	**0.0**
4.1nm,0.9s							
CCB	**Clear Creek Bu**	**83.28**	**11**	*e*P	**P**	**14 53 51.6**	**-0.5**
2.8nm,0.7s							
MDM	**Murphy Dome**	**83.49**	**10**	*e*P	**P**	**14 53 53.3**	**0.0**
2.6nm,0.8s							
ILAR	**Eielson Array**	**83.55**	**11**	P	**P**	**14 53 53.0**	**-0.6**
0.8nm,0.7s,baz=229,slow=6.3,SNR=15							
SEY	**Seymchan**	**83.69**	**345**	P	**P**	**14 53 54.0**	**-0.4**
4.7nm,0.9s,baz=180,slow=6.1,SNR=9.6							
YKA	**Yellowknife Ar**	**91.09**	**23**	P	**P**	**14 54 30.1**	**-0.1**
0.6nm,0.9s,baz=238,slow=4.7,SNR=7.5							
CMAR	**Chiang Mai Arr**	**93.15**	**288**	P	**P**	**14 54 41.3**	**+0.5**
1.4nm,0.8s,baz=112,slow=2.6,SNR=9.1							
KMBO	**Kilima Mbogo**	**145.18**	**243**	PKPbc	**PKPdf**	**15 01 06.0**	**+1.1**
4.3nm,0.9s,baz=76,slow=5.4,SNR=8.3							
DPC	**Dobruska-Polom**	**145.44**	**349**	*e*PKP	**PKPab**	**15 01 04.7**	**+0.5**
BURAR	**Bucovina Array**	**145.52**	**338**	⇑*i*P	**PKPab**	**15 01 04.9**	**+0.3**
BIZ	**Bicaz**	**145.75**	**336**	⇑*i*P	**PKPbc**	**15 01 05.3**	**+0.3**
MORC	**Moravsky Berou**	**145.75**	**348**	*e*PKPdf	**PKPab**	**15 01 05.7**	**+0.4**
MORC	**Moravsky Berou**	**145.75**	**348**	⇑*i*P	**PKPdf**	**15 01 04.8**	**+0.2**
TESR	**Tescani**	**145.89**	**335**	⇑*i*P	**PKPbc**	**15 01 05.4**	**-0.1**
TRPA	**Tarpa**	**145.97**	**341**	⇑*i*P	**PKPbc**	**15 01 05.8**	**+0.2**
PRU	**Pruhonice**	**146.08**	**351**	*e*PKP	**PKPab**	**15 01 06.8**	**+0.3**
CFR	**Carcaliu**	**146.32**	**332**	⇑*i*P	**PKPab**	**15 01 07.5**	**0.0**
VRI	**Vrincioaia**	**146.38**	**335**	⇓*i*P	**PKPdf**	**15 01 06.2**	**+0.4**
TLB	**Topalu**	**146.82**	**332**	⇓*i*P	**PKPbc**	**15 01 08.4**	**+0.1**
MLR	**Muntele Rosu**	**147.00**	**335**	⇓*i*P	**PKPab**	**15 01 10.3**	**-0.1**
KHC	**Kasperske Hory**	**147.06**	**352**	*e*PKP	**PKPbc**	**15 01 09.5**	**+0.6**
DRGR		**147.10**	**340**	⇓*i*P	**PKPbc**	**15 01 09.7**	**+0.6**
BR101	**Keskin Array S**	**147.17**	**320**	*e*PKPbc	**PKPbc**	**15 01 09.9**	**+0.3**
BRTR	**Keskin Array B**	**147.17**	**320**	PKPbc	**PKPbc**	**15 01 09.9**	**+0.3**
3.8nm,0.8s,baz=101,slow=2.5,SNR=19							
GERES	**GERESS Array B**	**147.32**	**352**	PKPbc	**PKPbc**	**15 01 10.1**	**+0.3**
1.0nm,0.5s,baz=5.7,slow=2.7,SNR=4.2							
VOIR		**147.41**	**336**	⇑*i*P	**PKPab**	**15 01 11.7**	**-0.2**
ARR	**Arges**	**147.63**	**336**	⇑*i*P	**PKiKP**	**15 01 12.3**	**-0.4**
HERR	**Herculane**	**148.86**	**338**	⇑*i*P	**PKPab**	**15 01 17.4**	**-0.2**

DJA 25 14:51:00.8±0.7,7°S±9°×10°5E±°,h21km±8km,M4.2/7, mb5.0/2,MLv3.9/7,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.45**	**34**	P	Pn	14 51 11.3	-0.7
CGJI				S	Sn	14 51 18.8	-0.7
SBJI	**Serang**	**1.10**	**38**	P	Pn	14 51 21.0	0.0
SKJI	**Sukabumi**	**1.11**	**91**	P	Pb	14 51 21.4	+0.1
SKJI				S	Sn	14 51 36.2	+0.4
CBJI	**Citeko**	**1.51**	**68**	P	Pn	14 51 26.1	-0.5
LEM	**Lembang**	**2.17**	**86**	P	Pn	14 51 36.7	+0.9
LEM				S	Sn	14 52 02.6	+0.4
CISI	**Cisompet, Garu**	**2.42**	**104**	P	Pn	14 51 38.5	-0.7
PWJI	**Pagerwojo**	**6.39**	**100**	P	Pn	14 52 34.3	+0.5

*ISCJB **25** 14:52:40.0±0.3, 56°.61S±0°.04×147°.2E±0°.1, h10km, mb4.8/36, MS4.8/32, Error ellipse: s-maj=10.6km s-min=5.7km az=0.2*
*IDC **25** 14:52:39.8±0.5, 56°.61S×147°.23E, h0km, mb4.6/12, mb1 4.7/13, mb1mx4.6/21, mbtmp4.6/13, ML3.1/1, MS4.6/19, Ms1 4.6/19, ms1mx4.6/20, Error ellipse: s-maj=22.1km s-min=15.3km az=98.0*
*NEIC **25** 14:52:41.6±0.3, 56°.59S×147°.41E, h10km, mb4.8/22, Error ellipse: s-maj=10.7km s-min=6.9km az=82.0*
*BJI **25** 14:52:41.1±0.0, 56°.60S×147°.30E, h10km, mb5.2/17, mB5.6/10, Ms5.2/10, MS7 4.9/11*
*GCMT **25** 14:52:43.6±0.2, 56°.57S±0°.01×147°.06E±0°.03, h18km, MW5.3/81, Moment Tensor Solution. s27,c34; s81,c138; Duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.83±.05; $M_{\theta\theta}$0.92±.03; $M_{\phi\phi}$-0.08±.03; $M_{r\theta}$0.12±.05; $M_{\theta\phi}$-0.36±.02; $M_{r\phi}$0.23±.08; Best double couple: $M_0$0.97800×10^{17} NP1:ϕ_s270.00000°, δ49.00000°, λ-116.00000°. NP2:ϕ_s126.00000°, δ47.00000°, λ-63.00000°. Principal axes: T 1.0370, Plg1.0000°, Azm18.0000°; N -0.1160, Plg19.0000°, Azm287.0000°; P -0.9200, Plg71.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 14:52:41.6±0.3,56°.66S±0°.06×147°.42E±0°.08,h10km,n187, σ1§31/176,mb4.8/36,MS4.8/32,14C-4D,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.89**	**77**	*e*Pn	**Pn**	**14 54 20.9**	**-1.7**
MOO	**Moorlands**	**14.23**	**359**	P	**Pn**	**14 56 04.2**	**+1.2**
baz=14							
TOO	**Toolangi**	**19.14**	**355**	*e*P	**P**	**14 57 03.0**	**-1.8**
64nm,1.0s							
TOO	**Toolangi**	**19.14**	**355**	P	**Pn**	**14 57 05.0**	**-0.6**
baz=19,SNR=11							
MILA	**Mila**	**19.65**	**4**	P	**Pn**	**14 57 11.2**	**-0.5**
baz=20,SNR=3.4							
CASY	**Casey**	**19.76**	**226**	*e*P	**P**	**14 57 12.1**	**+0.8**
39nm,1.1s							
RPZ	**Rata Peaks**	**19.79**	**59**	P	**P**	**14 57 11.9**	**+0.1**
0.1nm,0.3s,baz=202,slow=19,SNR=2.3							
RPZ				LR	LR	15 03 21.6	
comp=Z,4μm,20.5s,baz=222,slow=32							
ARPS	**Mount Arapiles**	**20.25**	**347**	P	**P**	**14 57 15.2**	**-1.7**
baz=20,SNR=10.0							
CAN	**Canberra**	**21.37**	**4**	*e*P	**P**	**14 57 30.3**	**+1.3**
38nm,1.1s							
CNB	**Canberra Magne**	**21.39**	**4**	P	**P**	**14 57 30.0**	**+0.7**
baz=21,SNR=6.0							
VNDA	**Vanda**	**21.55**	**172**	*e*P	**P**	**14 57 31.1**	**+0.5**
3.8nm,1.0s							
VNDA	**Vanda**	**21.55**	**172**	P	**P**	**14 57 30.2**	**-0.4**
8.2nm,1.1s,baz=339,slow=12,SNR=25							
VNDA				LR	LR	15 05 07.9	
comp=Z,5μm,18.3s,baz=356,slow=35							
SBA	**Scott Base**	**22.31**	**169**	*e*P	**P**	**14 57 40.4**	**+1.7**
10nm,1.1s							
HTT	**Hallett**	**23.95**	**342**	P	**P**	**14 57 55.6**	**-0.2**
baz=24,SNR=7.0							
BBOO	**Buckleboo**	**25.11**	**337**	*e*P	**P**	**14 58 05.7**	**-0.6**
24nm,1.0s							
BBOO	**Buckleboo**	**25.11**	**337**	P	**P**	**14 58 05.8**	**-0.5**
baz=25,SNR=9.8							
STKA	**Stephens Creek**	**25.11**	**348**	*e*P	**P**	**14 58 06.8**	**+0.5**
14nm,1.0s							
STKA	**Stephens Creek**	**25.11**	**348**	P	**P**	**14 58 06.7**	**+0.4**
baz=25,SNR=38							
STKA	**Stephens Creek**	**25.11**	**348**	P	**P**	**14 58 05.8**	**-0.5**
36nm,0.8s,baz=159,slow=11,SNR=22							
STKA				LR	LR	15 06 07.1	
comp=Z,2μm,20.2s,baz=174,slow=32							
CMSA	**Cobar Meteorol**	**25.14**	**357**	P	**P**	**14 58 07.1**	**+0.4**
baz=25,SNR=13							
URZ	**Urewera**	**26.91**	**60**	P	**P**	**14 58 23.6**	**+1.1**
26nm,0.8s,baz=244,slow=8.6,SNR=3.8							
URZ				LR	LR	15 08 10.7	
comp=Z,1μm,20.5s,baz=208,slow=34							
FORT	**Forrest**	**29.20**	**324**	*e*P	**P**	**14 58 42.6**	**-0.5**
50nm,1.0s							
RMQ	**Roma**	**30.17**	**2**	P	**P**	**14 58 52.1**	**+0.4**
baz=30,SNR=7.6							
H01W1	**Cape Leeuwin H**	**31.32**	**300**	T	T	15 31 51.3	
baz=143,slow=75							
H01W2	**Cape Leeuwin H**	**31.32**	**300**	T	T	15 31 51.7	
baz=143,slow=75							
H01W3	**Cape Leeuwin H**	**31.33**	**300**	T	T	15 31 53.1	
baz=143,slow=75							
QSPA	**South Pole Qui**	**33.45**	**180**	*e*P	**P**	**14 59 21.4**	**+1.0**
7.1nm,1.1s							
ASAR	**Alice Springs**	**34.41**	**338**	P	**P**	**14 59 27.4**	**-1.6**
10nm,0.8s,baz=162,slow=8.5,SNR=64							
ASAR				PcP	**PcP**	**15 02 02.6**	**-1.7**
3.9nm,0.9s,baz=151,slow=2.5,SNR=9.0							
ASAR				LR	LR	15 11 54.7	
comp=Z,811nm,18.9s,baz=166,slow=34							
AS31	**Alice Springs**	**34.41**	**338**	*e*P	**P**	**14 59 28.3**	**-0.6**
4.0nm,0.8s							
WRKA	**Warakurna**	**34.50**	**328**	P	**P**	**14 59 28.8**	**-0.9**
baz=34,SNR=22							
MORW	**Morawa**	**35.34**	**308**	*e*P	**P**	**14 59 34.5**	**-2.4**
17nm,1.1s							
MORW	**Morawa**	**35.34**	**308**	P	**P**	**14 59 36.5**	**-0.4**
baz=35,SNR=4.5							
QIS	**Mount Isa**	**36.52**	**348**	P	**P**	**14 59 46.5**	**-0.5**
baz=36,SNR=14							
CTA	**Charters Tower**	**36.53**	**358**	P	**P**	**14 59 45.8**	**-1.3**
22nm,1.1s,baz=163,slow=10,SNR=4.8							
CTA				LR	LR	15 13 30.6	
comp=Z,4μm,18.9s,baz=174,slow=34							
CTAO	**Charters Tower**	**36.53**	**358**	*e*P	**P**	**14 59 44.4**	**-2.7**
21nm,1.1s							
DZM	**Mont Dzumac**	**37.28**	**30**	*e*S	**S**	**15 05 44.7**	**+3.8**
590nm,26.6s							
DZM				*e*LR	LR	15 10 01.7	
comp=Z,4μm,25.9s							
DZM	**Mont Dzumac**	**37.28**	**30**	*e*P	**P**	**14 59 53.1**	**-0.6**
16nm,1.0s							
DZM	**Mont Dzumac**	**37.28**	**30**	P	**P**	**14 59 52.9**	**-0.7**
7.3nm,0.8s,baz=195,slow=8.6,SNR=7.3							
DZM				LR	LR	15 12 15.2	
comp=Z,2μm,19.4s,baz=185,slow=32							
MAW	**Mawson**	**37.80**	**218**	*e*P	**P**	**14 59 55.9**	**-1.5**
2.1nm,1.1s							
MAW	**Mawson**	**37.80**	**218**	P	**P**	**14 59 57.3**	**-0.1**
4.4nm,0.9s,baz=125,slow=14,SNR=3.6							
MAW				LR	LR	15 14 53.9	
comp=Z,2μm,19.0s,baz=92,slow=35							
WRAB	**Tennant Creek**	**37.94**	**340**	*e*P	**P**	**14 59 55.3**	**-3.9**
30nm,0.8s							
PSA00	**Pilbara Seismi**	**40.50**	**318**	*e*P	**P**	**15 00 19.3**	**-1.2**
32nm,0.9s							
FITZ	**Fitzroy Crossi**	**41.83**	**328**	*e*P	**P**	**15 00 31.6**	**+0.2**
12nm,0.9s							
FITZ	**Fitzroy Crossi**	**41.83**	**328**	P	**P**	**15 00 31.2**	**-0.2**
baz=42,SNR=4.7							
FITZ	**Fitzroy Crossi**	**41.83**	**328**	P	**P**	**15 00 30.6**	**-0.8**
18nm,1.1s,baz=240,slow=23,SNR=6.7							
SYO	**Syowa Base**	**44.21**	**209**	⇓*e*P	**P**	**15 00 48.6**	**-1.5**
SYO	**Syowa Base**	**44.21**	**209**	⇓*e*X	**P**	**15 00 50.2**	**+0.1**
KDU	**Kakadu**	**45.36**	**339**	P	**P**	**15 00 59.5**	**-0.4**
baz=45,SNR=6.7							
PMG	**Port Moresby**	**47.14**	**360**	LR	LR	15 19 46.5	
comp=Z,2μm,18.1s,baz=189,slow=35							
HNR	**Honiara**	**48.12**	**17**	LR	LR	15 16 52.7	
comp=Z,598nm,21.8s,baz=193,slow=30							
SNAA	**Sanae**	**50.27**	**192**	P	**P**	**15 01 38.5**	**+1.0**
SNAA	**Sanae**	**50.27**	**192**	*e*P	**P**	**15 01 38.2**	**+0.8**
12nm,1.1s							
VNA3	**Neumayer Olymp**	**51.37**	**189**	P	**P**	**15 01 46.2**	**+0.5**
VNA2	**Neumayer--Watz**	**51.46**	**190**	P	**P**	**15 01 47.6**	**+1.3**
baz=150,slow=5.7							
VNA1	**Neumayer--Stat**	**51.81**	**190**	P	**P**	**15 01 50.1**	**+1.2**
RAR	**Rarotonga**	**52.31**	**70**	LR	LR	15 20 17.7	
comp=Z,424nm,20.5s,baz=236,slow=32							
SRBI	**Singaraja**	**54.61**	**320**	P	**P**	**15 02 10.7**	**+0.6**
12nm,0.7s							
FAKI	**Fak Fak**	**54.94**	**341**	*e*P	**P**	**15 02 13.1**	**+0.6**
25nm,0.9s							
FAKI	**Fak Fak**	**54.94**	**341**	P	**P**	**15 02 12.2**	**-0.3**
BKSI	**Bulukumba**	**55.57**	**326**	P	**P**	**15 02 16.5**	**-0.6**
7.4nm,0.7s,279nm							
SPSI	**Sidrap Palu**	**56.96**	**326**	P	**P**	**15 02 27.8**	**+0.8**
25nm,1.2s							
SANI	**Sanana**	**57.09**	**334**	P	**P**	**15 02 26.8**	**-1.1**
23nm,1.2s							
LUWI	**Luwuk**	**58.88**	**331**	*e*P	**P**	**15 02 40.2**	**-0.3**
31nm,0.9s							
LUWI	**Luwuk**	**58.88**	**331**	P	**P**	**15 02 40.3**	**-0.1**
50nm,1.2s,718nm							
APSI	**Ampana**	**59.31**	**330**	P	**P**	**15 02 47.7**	**+4.3**
MRSI	**Marisa**	**60.55**	**330**	P	**P**	**15 02 52.4**	**+0.4**
PPT2	**Papeete2**	**60.70**	**77**	*e*S	**S**	**15 11 11.5**	**+1.8**
257nm,26.0s							
PPT2				*e*LQ	LQ	15 18 22.8	
544nm,25.2s							
PPT2				*e*LR	LR	15 20 52.4	
comp=Z,567nm,22.5s,baz=213							
PPT	**Papeete**	**60.71**	**77**	LR	LR	15 23 09.9	
comp=Z,335nm,21.7s,baz=218,slow=30							
MPSI	**Mapaga**	**61.00**	**328**	P	**P**	**15 02 55.1**	**+0.1**
8.8nm,1.1s							
MTKI	**Muara Teweh, K**	**61.37**	**322**	P	**P**	**15 03 01.3**	**+3.7**
KSM	**Kuching**	**65.23**	**318**	*e*P	**P**	**15 03 23.4**	**+0.3**
20nm,1.1s							
GSI	**Gunungsitoli**	**70.29**	**306**	P	P	15 04 03.1	+8.0
KULM	**Kulim**	**72.52**	**310**	*e*P	**P**	**15 04 08.2**	**-0.3**
21nm,1.1s							
H08S2	**Diego Garcia H**	**75.37**	**278**	T	T	16 26 54.1	
baz=147,slow=76							
H08S1	**Diego Carcia H**	**75.38**	**278**	T	T	16 26 57.3	
baz=147,slow=76							
H08S3	**Diego Garcia H**	**75.39**	**278**	T	T	16 26 55.9	
baz=147,slow=76							
H08N1	**Diego Carcia H**	**77.26**	**278**	T	T	16 29 19.4	
baz=145,slow=76							
H08N3	**Diego Garcia H**	**77.27**	**278**	T	T	16 29 23.2	
baz=145,slow=76							
H08N2	**Diego Garcia H**	**77.28**	**278**	T	T	16 29 24.4	
baz=145,slow=76							
PLCA	**Paso Flores**	**77.81**	**151**	P	**P**	**15 04 38.7**	**-0.2**
2.8nm,0.9s,baz=216,slow=3.4,SNR=4.6							
PLCA				LR	LR	15 33 10.9	
comp=Z,217nm,18.6s,baz=214,slow=31							
BOSA	**Boshof**	**82.02**	**229**	P	**P**	**15 05 00.1**	**-1.8**
3.0nm,0.8s,baz=126,slow=6.6,SNR=2.9							
BOSA				LR	LR	15 36 13.4	
comp=Z,244nm,19.7s,baz=157,slow=32							
CMAR	**Chiang Mai Arr**	**85.12**	**315**	P	**P**	**15 05 16.7**	**-0.8**
5.0nm,1.1s,baz=175,slow=4.5,SNR=16							
CMAR				LR	LR	15 42 04.1	
comp=Z,209nm,19.9s,baz=160,slow=35							
CHTO	**Chiang Mai**	**85.44**	**315**	*e*P	**P**	**15 05 19.0**	**-0.2**
11nm,1.1s							
KMI	**Kunming**	**89.78**	**320**	P	**P**	**15 05 42.3**	**+2.2**
KMI				pP	pwP	15 05 45.5	-0.3
KMI				sP	sP	15 05 47.0	+3.4
KMI				S	**S**	**15 16 34.5**	**+2.6**
KMI				pmax	pmax		
comp=Z,20nm,0.6s							
KMI				pmax	pmax		
comp=Z,85nm,4.0s							
KMI				LR	LR		
comp=N,260nm,18.1s							
KMI				LR	LR		
comp=E,100nm,25.4s							
KMI				LR	LR		
comp=Z,370nm,18.1s							
JNU	**Nakatsue**	**90.53**	**346**	LR	LR	15 45 49.5	
comp=Z,202nm,18.8s,baz=

HUMO	Hull Mountain	124.03	63	*e*PKPdf	PKiKP	15 11 39.7	+0.2
LTX	Lajitas	124.24	88	*e*PKPdf	PKPdf	15 11 40.0	-0.1
TXAR	Lajitas Array	124.24	88	PKP	PKPdf	15 11 40.0	-0.1
	0.9nm,0.9s,baz=188,slow=4.1,SNR=8.7						
MOD	Modoc Plateau	124.83	65	*e*PKPdf	PKiKP	15 11 41.5	+0.2
MNTX	Cornudas Mount	125.11	84	*e*PKPdf	PKiKP	15 11 42.7	+0.7
TIXI	Tiksi	128.68	353	*e*PKPdf	PKPdf	15 11 46.9	-0.2
TORD	Torodi Ar. Bea	129.26	225	PKP	PKiKP	15 11 51.1	+0.3
	0.9nm,0.9s,baz=30,slow=1.6,SNR=3.9						
TOA1	Torodi Ar. Sit	129.27	225	*e*PKPdf	PKiKP	15 11 51.1	+0.3
PDAR	Pinedale Array	130.97	72	PKP	PKiKP	15 11 53.9	+0.2
	0.2nm,0.5s,baz=190,slow=4.6,SNR=2.6						
NRIK	Noril'sk	132.93	335	PKP	PKiKP	15 11 56.9	+0.5
	0.8nm,0.5s,baz=97,slow=8.1,SNR=4.6						
BR101	Keskin Array S	134.62	277	*e*PKPdf	PKPdf	15 11 58.9	-0.8
BRTR	Keskin Array B	134.62	277	PKP	PKPdf	15 11 58.8	-0.8
	0.5nm,0.7s,baz=114,slow=6.5,SNR=2.9						
WCI	Wyandotte Cave	140.46	94	*e*PKPdf	PKPdf	15 12 07.1	-3.1
YKA	Yellowknife Ar	140.72	47	PKhKP	PKPpre	15 12 03.9	
	0.5nm,0.7s,baz=238,slow=3.2,SNR=9.2						
JFWS	Jewell Farm	141.50	86	*e*PKPdf	PKPdf	15 12 10.7	-1.3
MLR	Muntele Rosu	142.69	278	⇑*i*P	PKPdf	15 12 09.5	-4.7
AKASG	Malin Array Be	144.03	287	PKhKP	PKPpre	15 12 12.9	
	4.5nm,0.7s,baz=104,slow=2.1,SNR=9.1						
BURAR	Bucovina Array	144.39	280	⇑*i*P	PKPdf	15 12 17.4	+0.4
ARCR	ARCALIA	144.54	279	⇑*i*P	PKPdf	15 12 16.7	-0.5
MDVR	Moldovita	144.56	274	⇑*i*P	PKPab	15 12 15.8	-0.1
KEST	Kesra	144.98	251	PKP	PKPdf	15 12 19.0	+0.6
	22nm,1.0s,baz=253,slow=1.3,SNR=7.3						
BZS	Buzias	145.14	275	⇑*i*P	PKPbc	15 12 16.9	-1.0
DRGR		145.26	278	⇑*i*P	PKPbc	15 12 17.9	-0.4
E43A	Lone Tree Farm	145.50	84	*e*PKPdf	PKPdf	15 12 18.4	-0.5
SIRR	Siria	145.52	276	⇑*i*P	PKPdf	15 12 18.7	-0.2
TRPA	Tarpa	146.15	279	⇓*i*P	PKPdf	15 12 20.2	+0.3
KOLS	Kolonicke sedl	146.76	280	*e*PKP	PKPab	15 12 23.9	-0.1
KWP	Kalwaria Pacla	146.91	282	*e*PKP	PKPbc	15 12 23.3	+0.2
PSZ	Piszkesteto	147.47	277	⇓*i*P	PKPdf	15 12 19.7	-2.5
IDID	Didziasalis	147.68	293	*e*P	PKPbc	15 12 24.0	-1.0
IDID				IAmb	IAmb	15 12 31.8	
	comp=Z,12nm,0.8s						
IIGN	Ignalina	147.96	293	*e*P	PKPbc	15 12 24.8	-0.9
IIGN				IAmb	IAmb	15 12 30.4	
	comp=Z,9.8nm,1.0s						
FCC	Fort Churchill	148.09	60	*e*PKPdf	PKPbc	15 12 24.8	-1.2
NIE	Niedzica	148.10	280	*e*PKP	PKiKP	15 12 27.3	-0.9
ISAL	Salakas	148.11	293	*e*P	PKPbc	15 12 24.8	-1.3
ISAL				IAmb	IAmb	15 12 30.7	
	comp=Z,18nm,1.0s						
IZAR	Zarasai	148.13	294	*e*P	PKPdf	15 12 22.4	-0.5
IZAR				IAmb	IAmb	15 12 30.7	
	comp=Z,13nm,0.9s						
VYHS	Vyhne	148.38	277	*e*PKP	PKPbc	15 12 27.1	-0.1
VYHS				*e*		15 12 29.9	
LANS	Liptovska Anna	148.41	279	*e*PKP	PKiKP	15 12 29.4	+0.6
LVZ	Lovozero	148.49	318	*e*PKPbc	PKPbc	15 12 28.1	+1.2
OJC	Ojcow	148.81	281	*e*PKP	PKPbc	15 12 28.3	+0.1
OJC	Ojcow	148.81	281	*e*PKPbc	PKPbc	15 12 28.4	+0.3
SUW	Suwalki	148.91	289	*e*PKP	PKPbc	15 12 28.0	-0.2
VSU	Vasula	149.02	299	*e*P	PKPbc	15 12 27.0	-1.4
VSU				IAmb	IAmb	15 12 32.2	
	comp=Z,75nm,1.1s						
MODS	Modra-Piesok	149.17	276	*e*PKP	PKPbc	15 12 28.0	-1.2
PABE	Paberze	149.18	292	*e*P	PKPbc	15 12 27.5	-1.4
PABE				IAmb	IAmb	15 12 32.2	
	comp=Z,45nm,1.1s						
JAVC	Velka Javorina	149.23	277	*e*PKP	PKPbc	15 12 29.7	+0.4
SOKA	Soboth	149.42	272	*e*P	PKPbc	15 12 30.0	+0.1
	comp=Z,20nm,1.2s						
ARSA	Arzberg	149.49	273	*ep*PKPdf	PKPbc	15 12 30.0	0.0
	comp=Z,18nm,1.2s						
OBKA	Obir	149.58	271	*e*PKiKP	PKiKP	15 12 31.9	+0.5
	comp=Z,8.4nm,1.4s						
CONA	Conrad Observa	149.69	274	*ep*PKPdf	PKPbc	15 12 30.0	-0.6
	comp=Z,6.5nm,1.5s						
MORC	Moravsky Berou	149.80	278	*e*PKPbc	PKPbc	15 12 30.5	-0.2
MORC	Moravsky Berou	149.80	278	⇑*i*P	PKPdf	15 12 25.3	-0.6
MORC	Moravsky Berou	149.80	278	*e*PKP	PKPbc	15 12 29.9	-0.8
KRUC	Moravsky	150.04	276	*e*PKP	PKPbc	15 12 30.9	-0.3
VRAC	Vranov	150.06	277	*e*PKP	PKPbc	15 12 30.4	-0.9
MYKA	Terra Mystica	150.16	270	*e*P	PKPbc	15 12 31.6	-0.1
	comp=Z,20nm,1.5s						
FIA1	FINESS Array S	150.36	304	*e*PKPbc	PKPbc	15 12 31.6	0.0
FINES	FINESS Array B	150.36	304	PKPbc	PKPbc	15 12 31.6	0.0
	comp=Z,15nm,0.9s,baz=22,slow=2.1,SNR=24						
MOA	Molln	150.53	273	*i* PKPbc	PKiKP	15 12 33.1	-0.1
	comp=Z,9.3nm,1.3s						
KBA	Koelnbreinsper	150.59	271	*e*P	PKPbc	15 12 32.1	-0.8
	comp=Z,13nm,1.4s						
TREC	Trest	150.66	276	⇑*e*PKP	PKPbc	15 12 33.0	+0.2
TREC				AMS	AMS	16 28 50.0	
	comp=Z,200nm,19.0s						
DPC	Dobruska-Polom	150.77	279	⇑*e*PKP	PKPbc	15 12 32.9	-0.1
DPC				AMS	AMS	16 29 50.0	
	comp=Z,300nm,21.9s						
ABTA	Abfaltersbach	150.85	270	*e*PKPbc	PKiKP	15 12 34.2	+0.2
	comp=Z,8.1nm,1.2s						
UPC	Upice	151.02	279	⇑*e*PKP	PKPbc	15 12 33.7	+0.2
UPC				AMS	AMS	16 30 00.0	
	comp=Z,200nm,18.0s						
GOPC	GO Pecny, Ondr	151.38	277	AMS	AMS	16 33 00.0	
	comp=Z,200nm,22.8s						
GEC2	GERESS Array S	151.40	274	*e*PKPbc	PKPbc	15 12 34.1	-0.5
GERES	GERESS Array B	151.40	274	PKPbc	PKPbc	15 12 33.6	-1.0
	comp=Z,5.0nm,1.0s,baz=130,slow=2.1,SNR=14						
PRU	Pruhonice	151.56	277	⇑*e*PKP	PKiKP	15 12 35.4	+0.2
PRU				AMS	AMS	16 29 20.0	
	comp=Z,200nm,22.7s						
KHC	Kasperske Hory	151.62	274	⇑*e*PKP	PKiKP	15 12 37.5	+2.0
KHC				*ep*PKP	PKPab	15 12 43.3	-0.5
KHC				AMS	AMS	16 31 50.0	
	comp=Z,200nm,24.2s						
WTTA	Wattenberg	151.64	270	*e*PKPbc	PKiKP	15 12 36.3	+0.6
	comp=Z,12nm,1.3s						
WATA	Walderalm	151.72	270	*e*PKPbc	PKPbc	15 12 35.3	-0.1
	comp=Z,11nm,1.1s						
VLDQ	Val d'Or	151.77	88	*e*PKPbc	PKPbc	15 12 35.9	+0.6
PVCC	Panska Ves	151.82	278	⇑*e*PKP	PKiKP	15 12 37.1	+1.4
PVCC				AMS	AMS	16 25 40.0	
	comp=Z,200nm,17.4s						
SQTA	Sankt Quirin	151.85	269	*e*P	PKPbc	15 12 35.3	-0.4
	comp=Z,11nm,0.8s						
FETA	Feichten	152.00	268	*e*P	PKPbc	15 12 35.2	-0.9
	comp=Z,11nm,1.0s						
FUORN	Ofenpass-Fuorn	152.02	267	*e*PKPbc	PKPbc	15 12 37.8	+1.5
ARCES	ARCESS Array B	152.02	320	PKPbc	PKPbc	15 12 34.4	-0.8
	comp=Z,8.1nm,0.9s,baz=87,slow=2.6,SNR=8.6						
RETA	Reutte	152.25	269	*e*PKPbc	PKiKP	15 12 37.4	+0.6
	comp=Z,7.8nm,1.2s						
BRG	Berggiesshubel	152.34	278	*e*PKP	PKPbc	15 12 35.9	-0.7
	comp=Z,5.9nm,1.2s						
BRG				*e*		15 12 46.7	
	comp=Z,5.3nm,0.9s						
DAVA	Damuels	152.62	268	*e*PKPbc	PKiKP	15 12 38.6	+0.9
	comp=Z,9.8nm,1.1s						
NKC	Novy Kostel	152.83	276	AMS	AMS	16 31 00.0	
	comp=Z,200nm,24.0s						
CLL	Collm	153.07	278	*e*PKPdf	PKPdf	15 12 32.0	+1.2
CLL				*i* PKPbc	PKiKP	15 12 39.1	+0.8
	comp=Z,8.0nm,1.2s						
CLL				*i* PKPab	PKPab	15 12 49.4	-0.4
	comp=Z,5.0nm,0.9s						
CLL				*i* pPKPab	pPKPab	15 12 52.6	+0.2
	comp=Z,12nm,1.2s						
CLL				*e*PP	PP	15 16 25.0	+1.1
CLL				LmV		16 37 00.0	
	comp=Z,100nm,20.0s						
BFO	Black Forest	154.08	269	*e*PKPab	PKPab	15 12 54.1	0.0
ESDC	Sonseca Array	154.72	240	PKPbc	PKPbc	15 12 42.4	+0.2
	comp=Z,0.5nm,0.6s,baz=307,slow=0.7,SNR=5.1						
ESDC				PKPab	PKPab	15 12 57.8	+0.7
	comp=Z,0.6nm,0.7s,baz=154,slow=1.5,SNR=6.4						
NB2	NORSAR Subarra	157.26	299	P	PKPab	15 13 06.1	-1.4
	comp=Z,13nm,1.4s,baz=98,slow=5.1						
NOA	NORSAR Array B	157.26	299	PKPab	PKPab	15 13 06.8	-0.7
	comp=Z,2.8nm,1.0s,baz=97,slow=4.5,SNR=4.4						

KRNET ***25*** *15:01:55.1±0.1, 40°.32N×80°.03E, mb2.8*
SOME ***25*** *15:01:57.1, 40°.72N×79°.87E, h25km*
NNC ***25*** *15:01:58.1±1.9, 40°.89N×79°.78E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=12.8km s-min=11.5km az=145.0*
ISC 25 15:01:56.0±3.6, 40°.7N±0°.1×79°.89E±0°.08, h2km±19km, n21, σ0°76/33, 8C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.86**	**303**	⇑*e*P	**Pb**	**15 02 30.5**	**-0.4**
	baz=11						
TARG				⇑*i*S	**Sg**	**15 02 56.3**	**+0.6**
	baz=11						
SHLS	**Shalkode**	**2.44**	**353**	Pg	**Pb**	**15 02 40.3**	**-0.4**
	16nm,0.2s						
SHLS				Lg	Lg	15 03 11.8	
	15nm,0.4s						
SHLS	**Shalkode**	**2.44**	**353**	*e*P	**Pb**	**15 02 40.3**	**-0.4**
	16nm,0.2s						
SHLS				*e*S	**Sb**	**15 03 11.8**	**+0.5**
	15nm,0.4s						
KDJ	**Kajisay**	**2.47**	**305**	⇑*e*P	**Pn**	**15 02 38.8**	**+1.4**
	baz=11						
KDJ				⇑*i*S	**Sb**	**15 03 10.9**	**-1.1**
	baz=11						
UZB	**Uzynbulak**	**2.50**	**345**	Pg	**Pb**	**15 02 40.8**	**-0.9**
	4.7nm,0.3s						
UZB				Lg	Lg	15 03 13.0	
	6.0nm,0.5s						
UZB	**Uzynbulak**	**2.50**	**345**	*e*P	**Pb**	**15 02 40.8**	**-0.9**
	4.7nm,0.3s						
UZB				*e*S	**Sb**	**15 03 12.5**	**-0.4**
	7.0nm,0.8s						
SATY	**Saty**	**2.57**	**335**	Pg	**Pb**	**15 02 42.6**	**-0.4**
	7.8nm,0.4s						
SATY				Lg	Lg	15 03 15.2	
	8.6nm,0.4s						
SATY	**Saty**	**2.57**	**335**	*e*P	**Pb**	**15 02 42.6**	**-0.4**
	7.8nm,0.4s						
SATY				*e*S	**Sb**	**15 03 15.2**	**+0.1**
	8.6nm,0.4s						
PDGK	**Podgornoye**	**2.61**	**354**	⇑Pg	**Pb**	**15 02 43.1**	**-0.5**
	3.4nm,0.3s						
PDGK				⇑Lg	Lg	15 03 15.8	
	5.1nm,0.5s						
PDGK	**Podgornoye**	**2.61**	**354**	⇓*i*P	**Pb**	**15 02 42.3**	**-1.3**
	baz=52						
PDGK				⇓*i*S	**Sb**	**15 03 16.2**	**+0.1**
	baz=52						
KTMS	**Ketmen**	**2.73**	**7**	Pg	**Pb**	**15 02 44.9**	**-0.8**
	4.8nm,0.3s						
KTMS				Lg	Lg	15 03 19.3	
	8.9nm,0.5s						
KTMS	**Ketmen**	**2.73**	**7**	*e*P	**Pb**	**15 02 44.9**	**-0.8**
	15nm,0.2s						
KTMS				*e*S	**Sb**	**15 03 19.3**	**-0.4**
	8.9nm,0.5s						
NRN	**Naryn**	**3.02**	**285**	⇑*e*P	**Pn**	**15 02 45.3**	**+0.2**
	baz=91						
NRN				⇑*i*S	**Sn**	**15 03 21.8**	**-0.2**
	baz=91						
MDOK	**Medeo**	**3.22**	**320**	Pg	**Pb**	**15 02 54.4**	**+0.4**
	1.5nm,0.4s						
MDOK				⇓Lg	Lg	15 03 34.1	
	2.7nm,0.6s						
KOTS	**Kotyrbulak**	**3.24**	**321**	Pg	**Pb**	**15 02 53.1**	**-1.3**
	2.6nm,0.2s						
KOTS				Lg	Lg	15 03 33.6	
	4.0nm,0.4s						
KOTS	**Kotyrbulak**	**3.24**	**321**	*e*P	**Pb**	**15 02 53.1**	**-1.3**
	2.6nm,0.2s						
KOTS				*e*S	**Sb**	**15 03 33.6**	**-0.8**
	4.0nm,0.4s						
MNBS	**Baschi**	**3.52**	**342**	Pg	**Pb**	**15 02 58.1**	**-1.0**
	2.1nm,0.5s						
MNBS				Lg	Lg	15 03 42.8	
	6.8nm,0.4s						
MNBS	**Baschi**	**3.52**	**342**	*e*P	**Pb**	**15 02 58.5**	**-0.6**
	2.1nm,0.5s						
MNBS				*e*S	**Sb**	**15 03 42.8**	**+0.5**
	6.8nm,0.4s						
DJR	**Jarkent**	**3.60**	**359**	Pg	**Pb**	**15 02 59.8**	**-0.5**
	2.4nm,0.3s						
DJR				Lg	Lg	15 03 45.9	
	2.6nm,0.4s						
DJR	**Jarkent**	**3.60**	**359**	*e*P	**Pb**	**15 02 59.8**	**-0.5**
	2.4nm,0.3s						
DJR				*e*S	**Sb**	**15 03 44.7**	**+0.2**
	2.6nm,0.4s						
KZA	**Kyzart**	**3.74**	**293**	⇓*e*P	**Pn**	**15 02 55.9**	**+0.9**
	baz=98						
KZA				⇓*i*S	**Sn**	**15 03 39.6**	**-0.2**
	baz=98						

IDC 25 15:13:34.2±24.0, 15°.29S×174°.10W, h389km±281km, mb3.1/6, mb1 3.4/6, mb1mx3.1/29, mbtmp3.8/6, MS3.7/1, Ms1 3.7/1, ms1mx3.4/5, Error ellipse: s-maj=165.8km s-min=34.2km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.16**	**197**	LR	LR	15 26 11.8	
	comp=Z,172nm,21.3s,baz=341,slow=31						
ASAR	**Alice Springs**	**49.50**	**252**	P	P	15 21 47.4	0.0
	2.9nm,0.6s,baz=87,slow=8.2,SNR=30						
NVAR	**Mina Array Bea**	**74.70**	**42**	P	P	15 24 32.0	-0.8
	0.7nm,0.8s,baz=221,slow=10,SNR=5.8						
ILAR	**Eielson Array**	**82.47**	**11**	P	P	15 25 14.1	+0.3
	0.4nm,0.8s,baz=206,slow=6.0,SNR=5.9						
PDAR	**Pinedale Array**	**82.63**	**42**	P	P	15 25 16.0	+0.6
	0.3nm,0.7s,baz=191,slow=4.4,SNR=2.9						
YKA	**Yellowknife Ar**	**90.26**	**24**	P	P	15 25 51.7	+0.3
	0.1nm,0.3s,baz=249,slow=4.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**91.94**	**288**	P	P	15 25 59.4	-0.8
	0.4nm,0.7s,baz=134,slow=5.2,SNR=3.3						

MEX 25 15:14:12.0±0.7, 16°.79N×99°.96W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.39**	**311**	*e*P	Pg	15 14 18.6	-1.0
CAIG				*e*S	Sg	15 14 25.4	+0.7
MEIG	**Mezcala**	**1.18**	**16**	*e*P	Pg	15 14 30.8	-3.7
MEIG				*e*S	Sg	15 14 46.2	-3.7
ARIG	**Puente Sto Nin**	**1.53**	**346**	*e*P	Pn	15 14 37.1	-2.9
ARIG				*i* S	Sn	15 14 55.5	-4.9
TLIG	**Tlapa**	**1.54**	**60**	*e*P	Pn	15 14 35.9	-4.3
TLIG				*i* S	Sn	15 14 55.9	-4.7
PLIG	**Platanillo**	**1.65**	**15**	*e*P	Pn	15 14 38.9	-2.9
PLIG				*e*S	Sn	15 14 58.8	-4.7
ZIIG	**Zihuatanejo**	**1.65**	**300**	*e*P	Pn	15 14 38.8	-2.9
ZIIG				*i* S	Sn	15 14 58.5	-4.8
PNIG	**Pinotepa**	**1.80**	**102**	*e*P	Pn	15 14 40.8	-2.9
PNIG				*i* S	Sn	15 15 02.2	-4.8

NNC 25 15:16:59.9±2.6, 52°.71N×87°.50E, h0km, mb3.5, mpv3.1, 6C-3D, Error ellipse: s-maj=22.5km s-min=16.0km az=13.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.87**	**254**	⇓Pn	Pn	15 18 27.8	-0.2
	0.6nm,0.4s						
KURK				⇑Sn	Sn	15 19 37.6	+1.7
	2.1nm,0.6s						
KURK				⇑Lg	Lg	15 20 08.4	
	3.7nm,0.6s						
KURBB	**Kurchatov Arra**	**5.96**	**253**	⇑Pn	Pn	15 18 29.0	-0.2
	1.2nm,0.6s						
KURBB				⇓Sn	Sn	15 19 38.3	+0.2
	4.2nm,0.6s						
KURBB				⇑Lg	Lg	15 20 11.5	
	7.6nm,0.6s						
MK31	**Makanchi Array**	**6.82**	**212**	⇓Pn	Pn	15 18 41.9	+0.7
	0.5nm,0.2s,baz=30,slow=13,SNR=91						
MK31				⇑Sn	Sn	15 20 00.8	+1.4
	1.1nm,0.6s,baz=38,slow=23,SNR=4.1						
MK31				⇑Lg	Lg	15 20 33.6	
	1.3nm,0.6s						

CRAAG ***25*** *15:20:23.4, 36°.36N×3°.43E, Ml2.8*
ISCJB ***25*** *15:20:24.4±0.8, 36°.37N±0°.08×3°.5E±0°.1, h26km±10km, Error ellipse: s-maj=15.4km s-min=12.4km az=157.0*
MDD ***25*** *15:20:25.4±0.5, 36°.34N×3°.47E, h7km±9km, mb3.6/5, Error ellipse: s-maj=7.3km s-min=5.2km az=75.0, PRXIMO*
ISC 25 15:20:24.3±1.5, 36°.36N±0°.05×3°.48E±0°.05, h19km±5km, n15, σ1°53/18, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADJB	**Djebel Djouab**	**0.20**	**190**	P	**Pg**	**15 20 28.8**	**-0.7**
ADJB	**Djebel Djouab**	**0.20**	**190**	P	**Pg**	**15 20 28.8**	**-0.7**
ABMS	**Boumerdes**	**0.40**	**0**	P	**Pb**	**15 20 33.0**	**+0.2**
ABMS	**Boumerdes**	**0.40**	**0**	P	**Pb**	**15 20 33.0**	**+0.2**
AKET	**Djebel Ketaf**	**0.45**	**133**	P	**Pb**	**15 20 33.9**	**+0.2**
AKET	**Djebel Ketaf**	**0.45**	**133**	P	**Pb**	**15 20 33.9**	**+0.2**
EMHD	**Djebel Mahouad**	**0.45**	**250**	P	**Pb**	**15 20 34.0**	**+0.2**
EMHD	**Djebel Mahouad**	**0.45**	**250**	P	**Pb**	**15 20 34.0**	**+0.2**
ABA	**Alger-Bouzarea**	**0.57**	**321**	P	**Pb**	**15 20 36.0**	**+0.4**
ABA	**Alger-Bouzarea**	**0.57**	**321**	P	**Pb**	**15 20 36.0**	**+0.4**
EIBI	**Ibiza**	**3.16**	**328**	P	**Pn**	**15 21 14.4**	**+1.4**
	16nm,1.1s,SNR=7.9						
EIBI				S	**Sn**	**15 21 48.1**	**-2.1**
	70nm,1.9s,SNR=7.9						
ETOS	**Mallorca**	**3.45**	**351**	P	**Pn**	**15 21 19.0**	**+2.1**
	3.7nm,0.7s,SNR=4.0						
ETOS				S	**Sn**	**15 21 54.7**	**-2.6**
	44nm,1.2s,SNR=7.9						
ETOB	**Tobarra**	**4.60**	**301**	P	**Pn**	**15 21 34.6**	**+1.7**
	3.4nm,0.8s,SNR=7.9						
EMOS	**Mosqueruela**	**5.07**	**323**	P	**Pn**	**15 21 41.3**	**+2.0**
	4.9nm,1.0s,SNR=7.9						
EMOS				S	**Sn**	**15 22 35.1**	**-2.3**
	SNR=7.9						
CFON	**Fontmartina**	**5.46**	**352**	P	**Pn**	**15 21 46.0**	**+1.3**
	1.5nm,0.4s,SNR=7.9						

MOS ***25*** *15:35:34.8±2.7, 51°.45N×96°.15E, h10km, mb3.9/4, Error ellipse: s-maj=19.5km s-min=12.6km az=179.2*
IDC ***25*** *15:35:49.2±5.0, 52°.48N×95°.18E, h34km±46km, mb3.5/3, mb1 3.3/8, mb1mx3.1/49, mbtmp3.3/8, ML2.7/5, Error ellipse: s-maj=46.7km s-min=20.5km az=25.0*
ISC 25 15:35:37.3±1.0, 51°.8N±0°.2×96°.32E±0°.06, h10km, n22, σ1°54/18, mb3.7/7, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**2.29**	**68**	*e*PN	**Pb**	**15 36 19.0**	**+0.2**
ORL				*e*		15 36 51.6	
ORL				pmax	pmax		
	comp=Z,45nm,0.3s						
ORL				smax	smax		
	comp=N,298nm,0.8s						
MOY	**Mondy**	**2.91**	**90**	*e*PN	**Pb**	**15 36 29.9**	**+0.6**
MOY				*e*		15 37 10.3	
MOY				pmax	pmax		
	comp=Z,106nm,0.7s						
MOY				smax	smax		
	comp=N,243nm,1.1s						
TLY	**Talaya**	**4.55**	**88**	*i* PN	**Pg**	**15 37 02.5**	**-2.0**
IRK	**Irkutsk**	**4.94**	**81**	*e*PN	**Pb**	**15 37 06.2**	**+2.4**
IRK				*e*		15 38 10.7	
IRK				pmax	pmax		
	comp=Z,270nm,0.1s						
IRK				smax	smax		
	comp=E,178nm,0.6s						
DGZ	**Jazzator, Alta**	**6.01**	**254**	*i* PN	**Pn**	**15 37 04.5**	**-1.8**
ZALV	**Zalesovo Beam**	**7.30**	**292**	Pn	**Pn**	**15 37 22.2**	**-1.8**
	comp=E,0.2nm,0.3s,baz=104,slow=12,SNR=2.6						
ZALV				Lg	Lg	15 39 13.8	
	comp=E,0.5nm,0.3s,baz=113,slow=25,SNR=4.8						
SONM	**Songino Array**	**7.61**	**117**	Pn	Pb	15 37 52.4	+3.1
	comp=E,0.5nm,0.3s,baz=310,slow=17,SNR=7.2						
SONM				Sn	Sb	15 39 26.7	+6.7
	comp=E,0.2nm,0.3s,baz=303,slow=29,SNR=2.6						
MKAR	**Makanchi Array**	**10.42**	**247**	Pn	Pn	15 38 11.8	+5.1
	comp=E,0.1nm,0.3s,baz=46,slow=15,SNR=3.2						
MKAR				Lg	Lg	15 40 57.5	
	comp=E,0.1nm,0.3s,baz=59,slow=28,SNR=3.7						
KURK	**Kurchatov**	**11.15**	**272**	*i* P	**Pn**	**15 38 15.9**	**-0.7**
KURBB	**Kurchatov Arra**	**11.22**	**271**	Pn	**Pn**	**15 38 17.1**	**-0.5**
	comp=E,0.0nm,0.3s,baz=73,slow=15,SNR=3.1						
KURBB				Lg	Lg	15 41 18.9	
	comp=E,0.0nm,0.3s,baz=83,slow=31,SNR=4.5						
BVAR	**Borovoye Array**	**15.86**	**285**	Pn	**Pn**	**15 39 17.0**	**-3.4**
	comp=E,0.1nm,0.3s,baz=99,slow=9.3,SNR=2.1						
BRVK	**Borovoye**	**15.92**	**285**	*i* P	**Pn**	**15 39 20.2**	**-1.0**
ARU	**Arti**	**22.43**	**297**	*i* P	**P**	**15 40 37.0**	**+1.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TIXI	**Tiksi**	**24.64**	**24**	*i* P	P	15 41 08.6	+11
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**33.54**	**83**	*e*P	P	15 42 26.4	+9.5
FINES	**FINESS Array B**	**38.01**	**313**	*e*P	**P**	**15 42 55.9**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**38.01**	**313**	P	**P**	**15 42 54.9**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=76,slow=10.0,SNR=8.4						
KIEV	**Kiev**	**40.69**	**296**	*i* P	**P**	**15 43 19.4**	**+1.8**
KIEV				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NB2	**NORSAR Subarra**	**44.76**	**

WFSB			S	Sb	15 37 56.0	-0.1
	baz=281					
EOS1	**EOS1**	**0.44 190**	P	Pb	15 37 50.6	-0.1
EOS1	baz=192		S	Sb	15 37 57.2	0.0
	baz=192					
TWC	**Suao**	**0.50 222**	P	Pg	15 37 51.1	+0.2
TWC	baz=217		S	Sg	15 37 58.1	+0.4
	baz=217					
TWE	**Neicheng**	**0.56 242**	*i* P	Pb	15 37 52.7	-0.1
TWE	baz=242		*e*S	Sb	15 38 01.2	+0.5
	baz=242					
YM07	**YM07**	**0.57 289**	*i* P	Pb	15 37 53.4	+0.4
YM07	baz=294		S	Sb	15 38 01.9	+0.8
	baz=294					
TWA	**Mucha**	**0.57 269**	P	Pb	15 37 53.6	+0.6
TWA	baz=269		S	Sb	15 38 01.5	+0.5
	baz=269					
SLBB	**Yuanshan**	**0.58 246**	*i* P	Pb	15 37 53.4	+0.4
SLBB	baz=247		*e*S	Sb	15 38 01.9	+0.7
	baz=247					
YM08	**YM08**	**0.60 290**	P	Pb	15 37 53.8	+0.3
YM08	baz=275		S	Sb	15 38 02.8	+0.9
	baz=275					
YM01	**YM01**	**0.61 285**	*i* P	Pb	15 37 54.1	+0.5
YM01	baz=285		S	Sb	15 38 02.9	+0.9
	baz=285					
YM11	**YM11**	**0.61 287**	P	Pb	15 37 54.0	+0.4
YM11	baz=273		*e*S	Sb	15 38 03.1	+1.0
	baz=273					
YM10	**YM10**	**0.62 286**	P	Pb	15 37 54.3	+0.6
YM10	baz=272		S	Sb	15 38 02.9	+0.6
	baz=272					
NHDH	**Xindian Distri**	**0.63 268**	*i* P	Pb	15 37 54.7	+0.8
NHDH	baz=268		S	Sb	15 38 02.8	+0.3
	baz=268					
TWY	**Chenhua**	**0.63 297**	*i* P	Pb	15 37 54.6	+0.7
TWY	baz=296		S	Sb	15 38 04.0	+1.4
	baz=296					
PCYT	**Pengchaiyu**	**0.65 348**	P	Pb	15 37 54.8	+0.5
PCYT	baz=348		S	Sn	15 38 05.7	-0.5
	baz=348					
TATO	**Taipei**	**0.66 269**	P	Pb	15 37 55.0	+0.6
TATO	baz=269		S	Sb	15 38 04.7	+1.2
	baz=269					
ANP	**Anpu**	**0.66 288**	*i* P	Pg	15 37 54.0	0.0
ANP	baz=274		S	Sb	15 38 04.2	+0.5
	baz=274					
NWLT	**Wulai**	**0.68 252**	*i* P	Pb	15 37 55.2	+0.4
NWLT	baz=253		S	Sb	15 38 03.8	-0.4
	baz=253					
ENTT	**Nioudou**	**0.68 240**	*i* P	Pb	15 37 54.7	-0.1
ENTT	baz=240		S	Sb	15 38 04.9	+0.6
	baz=240					
NANB	**Nanao**	**0.70 217**	*i* P	Pg	15 37 54.8	+0.1
NANB	baz=210		S	Sg	15 38 04.0	+0.1
	baz=210					
ENA	**Nanau**	**0.70 218**	*i* P	Pg	15 37 54.9	+0.2
ENA	baz=209		S	Sg	15 38 04.1	+0.1
	baz=209					
NTST	**Danshui**	**0.72 284**	*e*P	Pb	15 37 55.5	+0.1
TWS1	baz=284		*e*S	Sb	15 38 06.5	+0.8
	baz=279					
NDT	**Datong Townshi**	**0.74 239**	*i* P	Pb	15 37 56.0	+0.1
NDT	baz=250		*e*S	Sb	15 38 06.8	+0.9
	baz=250					
YHNB	**Yeheng**	**0.83 248**	P	Pb	15 37 57.4	+0.1
YHNB	baz=248		*e*S	Sg	15 38 08.1	+0.1
	baz=248					
NSK	**Sanguang**	**0.84 249**	P	Pb	15 37 57.8	+0.3
NSK	baz=263		*e*S	Sb	15 38 09.0	+0.3
	baz=263					
WLTB	**Daxi**	**0.89 262**	*e*P	Pg	15 37 57.6	-0.5
NCUH	baz=261		*e*S	Sn	15 38 00.2	+0.3
	baz=269					
NNS	**Nan Shan**	**0.94 235**	P	Pb	15 37 59.3	0.0
NNS	baz=235		S	Sb	15 38 12.4	+0.7
	baz=235					
NNSB	**Datong**	**0.94 234**	P	Pb	15 37 59.4	+0.2
NNSB	baz=235		S	Sb	15 38 12.5	+0.8
	baz=235					
NACB	**Ninganchiao**	**0.99 215**	P	Pb	15 37 59.4	-0.6
NACB	baz=206		S	Sb	15 38 12.9	0.0
	baz=206					
ETLH	**Xiulin Townshi**	**1.02 221**	P	Pb	15 38 00.8	+0.1
ETLH	baz=222		S	Sg	15 38 14.7	+0.4
	baz=222					
TWD	**Chiawan**	**1.06 212**	*e*P	Pb	15 38 01.4	+0.1
TWD	baz=205		S	Sg	15 38 15.6	+0.1
	baz=205					
LIOB	**Emei**	**1.14 253**	*i* P	Pb	15 38 02.5	-0.2
LIOB	baz=253		*e*S	Sn	15 38 18.7	+0.4
	baz=253					
NSTT	**Nanjuang**	**1.16 252**	*e*P	Pb	15 38 02.7	-0.3
NSTT	baz=252		*e*S	Sn	15 38 18.9	+0.2
	baz=252					
WHF	**Hehuan Shan**	**1.21 226**	P	Pn	15 38 04.0	0.0
WHF	baz=227		S	Sn	15 38 20.4	0.0
	baz=227					
CHGB	**Renai**	**1.32 226**	P	Pb	15 38 06.1	+0.2
CHGB	baz=219		*e*S	Sg	15 38 24.0	+0.2
	baz=219					
WHP	**Taichung City**	**1.35 239**	*e*P	Pg	15 38 07.8	+0.7
ESL	**Shilin**	**1.37 212**	P	Pn	15 38 05.6	-0.3
ESL	baz=228		*e*S	Sg	15 38 24.6	-0.6
	baz=228					
OWD	**Renai**	**1.40 223**	P	Pb	15 38 07.1	0.0
OWD	baz=225		S	Sg	15 38 26.5	+0.3
	baz=225					
EGFH	**Guangfu**	**1.50 209**	*e*P	Pn	15 38 08.0	+0.4
EGFH	baz=226		*e*S	Sn	15 38 27.2	+0.2
	baz=226					
VWDT	**VWDT**	**1.57 219**	*e*P	Pb	15 38 09.5	-0.4
VWDT	baz=228		*e*S	Sb	15 38 30.3	+0.5
	baz=228					
HGSD	**Ruisui**	**1.66 206**	*e*P	Pn	15 38 09.9	+0.1
HGSD	baz=188		*e*S	Sb	15 38 32.1	-0.1
	baz=188					
SSLB	**Suanglung**	**1.66 224**	*e*P	Pb	15 38 11.9	+0.4
SSLB	baz=226		*e*S	Sb	15 38 32.6	+0.3
	baz=226					
WHYT	**Xinyi Township**	**1.79 224**	*e*P	Pb	15 38 13.4	-0.3
WHYT	baz=225		*e*S	Sg	15 38 37.6	-1.0
	baz=225					
TWF1	**Yuli**	**1.83 207**	*e*P	Pn	15 38 11.4	-0.9
TWF1	baz=208		*e*S	Sn	15 38 35.2	-0.1
	baz=208					
YUS	**Yu-Shan**	**1.89 218**	*e*P	Pb	15 38 15.4	-0.2
YUS	baz=200		*e*S	Sb	15 38 39.0	-0.3
	baz=200					
ALS	**Alishan**	**1.95 222**	*e*P	Pb	15 38 16.9	+0.2
ALS	baz=208		*e*S	Sb	15 38 42.0	+0.9
	baz=208					
CHN4	**Tsaushan**	**2.20 223**	*e*P	Pb	15 38 19.4	-1.3
	baz=224					

IDC ***25*** *15:38:29.9±1.4, 8.°12S×111.°51E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/38, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=78.5km s-min=23.0km az=43.0*
ISCJB ***25*** *15:38:31.1±0.9, 9.°14S±0.°05×110.°53E±0.°05, h10km, mb3.6/3, Error ellipse: s-maj=8.2km s-min=6.5km az=40.6*
DJA ***25*** *15:38:34.5±1.4, 9.°S±3.°×11.°0E±.°, h17km±13km, M4.7/12, mb6.3/1, MLv3.9/12*
ISC 25 15:38:31.9±1.1, 9.°08S±0.°06×110.°55E±0.°05, h10km, n15, σ1°88/19, mb3.5/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.16**	**359**	P	**Pg**	**15 38 54.0**	**-0.2**
UGM				S	**Sg**	**15 39 08.3**	**-1.0**
YOGI	**Yogyakarta**	**1.28**	**349**	P	**Pb**	**15 38 55.7**	**-0.4**
YOGI				S	**Sg**	**15 39 12.5**	**-0.6**
WOJI	**Wonogiri, Jawa**	**1.29**	**17**	P	**Pn**	**15 38 55.8**	**-0.2**
WOJI				S	**Sb**	**15 39 12.6**	**-0.3**
PWJI	**Pagerwojo**	**1.62**	**50**	P	**Pn**	**15 39 00.9**	**+0.3**
PWJI				S	**Sn**	**15 39 21.2**	**-0.4**
NGJI	**Ngawi**	**1.92**	**28**	P	**Pb**	**15 39 08.1**	**+1.0**
SMRI	**Semarang**	**2.02**	**357**	P	**Pn**	**15 39 08.1**	**+2.0**
GRJI	**Gresik**	**2.88**	**42**	P	**Pn**	**15 39 18.8**	**+0.9**
GMJI	**Gumukmas**	**2.97**	**75**	P	**Pn**	**15 39 21.7**	**+2.5**
CISI	**Cisompet, Garu**	**3.10**	**299**	P	**Pn**	**15 39 19.9**	**-1.1**
JAGI	**Jajag, Banyuwa**	**3.61**	**81**	P	**Pn**	**15 39 30.5**	**+2.5**
LEM	**Lembang**	**3.66**	**307**	P	**Pn**	**15 39 28.5**	**-0.4**
LEM	**Lembang**	**3.66**	**307**	Pn	**Pn**	**15 39 33.5**	**+4.6**
	2.5nm,0.3s,baz=150,slow=20,SNR=2.7						
LEM				Sn	**Sn**	**15 40 15.1**	**+2.8**
	3.6nm,0.3s,baz=256,slow=16,SNR=4.3						
ASAR	**Alice Springs**	**26.63**	**126**	P	**P**	**15 44 08.9**	**-2.1**
	0.7nm,0.7s,baz=306,slow=9.6,SNR=7.3						
STKA	**Stephens Creek**	**36.65**	**133**	P	**P**	**15 45 37.8**	**-1.1**
	3.0nm,0.9s,baz=328,slow=16,SNR=3.9						
MKAR	**Makanchi Array**	**61.06**	**338**	P	P	15 48 42.1	-4.0
	0.1nm,0.3s,baz=152,slow=7.6,SNR=3.9						

IDC ***25*** *16:00:07.3±1.3, 16.°56S×178.°11E, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.9/26, mbtmp3.9/8, MS3.4/7, Ms1 3.4/7, ms1mx3.2/30, Error ellipse: s-maj=56.6km s-min=22.7km az=150.0*
ISCJB ***25*** *16:00:09.0±0.5, 16.°48S±0.°09×177.°9E±0.°1, h21km, mb4.3/19, MS3.5/5, Error ellipse: s-maj=15.8km s-min=9.8km az=37.5*
NEIC ***25*** *16:00:12.5±0.5, 16.°48S×177.°98E, h35km, mb4.7/13, Error ellipse: s-maj=17.3km s-min=10.3km az=121.0*
ISC 25 16:00:10.6±0.7, 16.°5S±0.°1×178.°0E±0.°1, h21km, n38, σ1°39/28, mb4.5/19, MS3.4/5, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUNA	**Funafuti**	**7.99**	**8**	*e*Pn	**Pn**	**16 02 05.3**	**-0.2**
DZM	**Mont Dzumac**	**12.25**	**241**	LR	LR	16 06 53.1	
	comp=Z,146nm,21.5s,baz=48,slow=33						
HNR	**Honiara**	**18.94**	**289**	LR	LR	16 10 52.3	
	comp=Z,42nm,18.5s,baz=34,slow=34						
URZ	**Urewera**	**21.71**	**182**	LR	LR	16 11 18.8	
	comp=Z,129nm,18.0s,baz=2.5,slow=31						
EIDS	**Eidsvold**	**26.62**	**246**	*e*P	**P**	**16 05 47.0**	**-0.8**
	15nm,1.1s						
OXZ	**Oxford**	**27.24**	**190**	*e*P	**P**	**16 05 52.7**	**-0.4**
	17nm,0.8s						
ARMA	**Armidale**	**27.81**	**235**	*e*P	**P**	**16 05 53.4**	**-5.2**
	12nm,1.1s						
FOZ	**Fox Glacier**	**27.85**	**193**	*e*P	**P**	**16 05 57.2**	**-1.4**
	68nm,1.1s						
PPT	**Papeete**	**30.99**	**97**	LR	LR	16 17 40.8	
	comp=Z,36nm,18.2s,baz=251,slow=34						
STKA	**Stephens Creek**	**36.38**	**238**	*e*P	**P**	**16 07 14.8**	**+1.2**
	1.0nm,1.1s						
STKA	**Stephens Creek**	**36.38**	**238**	P	**P**	**16 07 14.8**	**+1.2**
	1.8nm,0.7s,baz=48,slow=11,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**36.49**	**342**	T	T	16 45 44.2	
	baz=164						
H11S3	**WAKE ISLAND Hy**	**36.50**	**342**	T	T	16 45 48.1	
	baz=164						
H11S1	**WAKE ISLAND Hy**	**36.51**	**342**	T	T	16 45 48.8	
	baz=164						
WRAB	**Tennant Creek**	**41.53**	**258**	*e*P	**P**	**16 07 56.5**	**-0.4**
	16nm,1.0s						
AS31	**Alice Springs**	**41.91**	**253**	*e*P	**P**	**16 07 59.5**	**-0.5**
	1.0nm,0.8s						
ASAR	**Alice Springs**	**41.91**	**253**	P	**P**	**16 07 59.5**	**-0.5**
	2.6nm,0.9s,baz=85,slow=9.0,SNR=20						
POHA	**Pohakuloa**	**44.42**	**37**	*e*P	**P**	**16 08 19.3**	**-1.1**
	56nm,1.0s						
VNDA	**Vanda**	**61.60**	**184**	*e*P	**P**	**16 10 27.3**	**+1.2**
JOW	**Kunigami**	**64.69**	**311**	*e*P	**P**	**16 10 46.7**	**-0.6**
	21nm,0.9s						
MJAR	**Matsushiro Arr**	**64.76**	**325**	P	**P**	**16 10 49.1**	**+1.5**
	1.7nm,1.0s,baz=151,slow=6.3,SNR=5.2						
MAJO	**Matsushiro**	**64.76**	**325**	*e*P	**P**	**16 10 49.1**	**+1.5**
YOJ	**Yonaguni jima**	**67.33**	**306**	*e*P	**P**	**16 11 02.9**	**-1.5**
	44nm,0.9s						
RPN	**Rapa Nui**	**67.49**	**113**	LR	LR	16 32 13.6	
	comp=Z,58nm,22.0s,baz=284,slow=29						
KSRS	**Korea Array**	**71.39**	**320**	LR	LR	16 36 41.2	
	comp=Z,13nm,21.1s,baz=20,slow=31						
NV01	**Mina Array Sit**	**80.82**	**45**	*e*P	**P**	**16 12 23.9**	**+0.6**
NVAR	**Mina Array Bea**	**80.82**	**45**	P	**P**	**16 12 23.9**	**+0.6**
	1.3nm,0.9s,baz=227,slow=8.5,SNR=5.7						
U15A	**North Rim**	**84.16**	**49**	*e*P	**P**	**16 12 42.2**	**+1.4**
	3.2nm,1.0s						
CM31	**Chiang Mai Arr**	**85.18**	**291**	*e*P	**P**	**16 12 46.7**	**+0.7**
	6.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**85.18**	**291**	P	**P**	**16 12 46.7**	**+0.7**
	0.3nm,0.7s,baz=110,slow=3.9,SNR=3.2						
ILAR	**Eielson Array**	**85.32**	**14**	P	**P**	**16 12 44.8**	**-0.8**
	0.7nm,0.9s,baz=233,slow=6.1,SNR=6.3						
ILB	**Eielson Array**	**85.32**	**14**	*e*P	**P**	**16 12 44.8**	**-0.8**
	1.0nm,0.8s						
LTX	**Lajitas**	**88.16**	**59**	*e*P	**P**	**16 13 00.8**	**+0.3**
TXAR	**Lajitas Array**	**88.16**	**59**	P	**P**	**16 13 00.8**	**+0.3**
	0.7nm,1.0s,baz=232,slow=4.1,SNR=5.3						
PD31	**Pinedale Array**	**88.71**	**45**	*e*P	**P**	**16 13 02.7**	**-0.3**
	0.7nm,0.8s						
PDAR	**Pinedale Array**	**88.71**	**45**	P	**P**	**16 13 02.7**	**-0.3**
	0.2nm,0.3s,baz=232,slow=3.0,SNR=3.9						
INK	**Inuvik**	**91.45**	**16**	LR	LR	16 50 52.6	
	comp=Z,102nm,19.7s,baz=54,slow=33						
GERES	**GERESS Array B**	**145.27**	**342**	PKPbc	**PKPbc**	**16 19 46.9**	**+0.3**
	0.8nm,0.7s,baz=5.7,slow=3.0,SNR=5.0						

DDA ***25*** *16:02:08.6, 37.°31N×37.°11E, h2km±1km, ML2.9*
ISK ***25*** *16:02:08.9, 37.°33N×37.°14E, h5km, ML2.2/8*
ISCJB ***25*** *16:02:09.7±0.6, 37.°29N±0.°04×37.°11E±0.04, h6km±6km, Error ellipse: s-maj=7.1km s-min=4.9km az=34.1*
ISC 25 16:02:09.5±1.0, 37.°31N±0.°04×37.°14E±0.°03, h8km±8km, n16, σ0°37/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**157**	PG	**Pg**	**16 02 12.6**	**-0.1**
GAZ				SG	**Sg**	**16 02 15.5**	**+0.6**
HCB	**Kahramanmara**	**0.19**	**281**	IAML_P			
	comp=Z,16μm,0.2s						
HCB				*i* P	**Pg**	**16 02 13.2**	**-0.2**
KMRS	**Kahramanmaras**	**0.28**	**316**	PG	**Pg**	**16 02 14.7**	**-0.3**
KMRS				SG	**Sg**	**16 02 18.2**	**-0.5**
AYKD	**Aykdinkavak**	**0.29**	**292**	IAML_P			
	comp=Z,9μm,0.1s						
AYKD				*i* P	**Pg**	**16 02 15.6**	**+0.4**
AYKD				*i* S	**Sg**	**16 02 19.1**	**0.0**
GZT	**Gaziantep**	**0.34**	**82**	IAML_P			
	comp=Z,6μm,0.1s						
GZT				*i* P	**Pg**	**16 02 16.1**	**-0.1**
KAMA	**Osmaniye**	**0.40**	**252**	*i* P	**Pg**	**16 02 17.2**	**0.0**
ANDN	**Andirin**	**0.69**	**294**	IAML_P			
	comp=Z,2μm,0.1s						
ANDN				*i* P	**Pg**	**16 02 22.9**	**0.0**
KOZT	**Kozan**	**1.06**	**280**	PG	**Pb**	**16 02 29.8**	**-0.3**
KOZT				SG	**Sn**	**16 02 45.2**	**-0.4**
CEYT	**Ceyhan**	**1.15**	**255**	PN	**Pg**	**16 02 31.3**	**-0.3**
AKCD	**Akcadag**	**1.17**	**32**	*i* P	**Pn**	**16 02 32.4**	**+0.2**
AKCD				*i* S	**Sn**	**16 02 49.0**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.21**	**220**	PN	**Pb**	**16 02 32.4**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.25**	**109**	*i* P	**Pn**	**16 02 33.0**	**-0.3**
DARE	**Darende-Malaty**	**1.29**	**12**	PN	**Pg**	**16 02 34.1**	**-0.2**
YURE	**YUREGIR**	**1.30**	**249**	PN	**Pg**	**16 02 34.5**	**+0.1**
URFA	**Urfa**	**1.35**	**84**	PN	**Pb**	**16 02 34.8**	**-0.2**
BNN	**Bunyan**	**1.85**	**327**	PN	**Pn**	**16 02 42.2**	**+0.6**

ISK ***25*** *16:05:00.9, 37.°34N×37.°14E, h3km, ML3.5/16*
DDA ***25*** *16:05:01.1, 37.°29N×37.°13E, h8km±2km, ML3.9*
ISCJB ***25*** *16:05:02.3±0.5, 37.°29N±0.°02×37.°12E±0.°03, h6km±4km, Error ellipse: s-maj=3.7km s-min=3.7km az=27.6*
NSSC ***25*** *16:05:07.7±0.9, 37.°29N×36.°23E, h13km±999km, ML3.2*
ISC 25 16:05:01.8±0.9, 37.°27N±0.°02×37.°14E±0.°02, h11km±6km, n49, σ1°28/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.12**	**151**	PG	**Pg**	**16 05 05.1**	**+0.3**
GAZ				SG	**Sg**	**16 05 08.9**	**+2.0**
HCB	**Kahramanmara**	**0.20**	**291**	IAML_P			
	comp=Z,526μm,0.2s						
HCB				*i* P	**Pg**	**16 05 05.6**	**-0.5**
HCB				*i* S	**Sg**	**16 05 08.9**	**-0.1**
KMRS	**Kahramanmaras**	**0.30**	**320**	PG	**Pg**	**16 05 06.9**	**-1.0**
AYKD	**Aykdinkavak**	**0.30**	**298**	IAML_P			
	comp=Z,106μm,0.2s						
AYKD				*i* P	**Pg**	**16 05 07.4**	**-0.5**
AYKD				*i* S	**Sg**	**16 05 11.5**	**-0.5**
GZT	**Gaziantep**	**0.35**	**76**	IAML_P			
	comp=Z,70μm,0.1s						
GZT				*i* P	**Pg**	**16 05 09.4**	**+0.6**
KAMA	**Osmaniye**	**0.39**	**257**	*i* P	**Pg**	**16 05 09.8**	**+0.3**
ANDN	**Andirin**	**0.70**	**296**	IAML_P			
	comp=Z,16μm,0.2s						
ANDN				*i* P	**Pg**	**16 05 15.2**	**-0.2**
ATAB	**Bozova**	**0.94**	**78**	*i* P	**Pn**	**16 05 20.8**	**-0.2**
ELBS	**KAHRAMANMARAS1**	**1.05**	**360**	IAML_P			
	comp=Z,25μm,0.2s						
ELBS				*i* P	**Pg**	**16 05 21.2**	**-0.8**
ELBS				*i* S	**Sn**	**16 05 38.2**	**+0.9**
KOZT	**Kozan**	**1.07**	**282**	PG	**Pb**	**16 05 21.5**	**-0.8**
KOZT				SG	**Sn**	**16 05 36.9**	**-0.7**
SAIM	**ADANA**	**1.09**	**310**	IAML_P			
	comp=Z,25μm,0.3s						
SAIM				*i* P	**Pb**	**16 05 21.9**	**-1.0**
SAIM				*i* S	**Sn**	**16 05 38.3**	**-0.1**
CEYT	**Ceyhan**	**1.14**	**257**	PN	**Pg**	**16 05 23.9**	**+0.1**
CEYT				SN	**Sn**	**16 05 40.8**	**+1.4**
TAHT	**Tahtakopru-Hat**	**1.18**	**221**	PN	**Pg**	**16 05 24.7**	**+0.2**
TAHT				SN	**Sn**	**16 05 42.6**	**+2.3**
AKCD	**Akcadag**	**1.19**	**31**	IAML_P			
	comp=Z,14μm,0.2s						
AKCD				*i* P	**Pb**	**16 05 24.1**	**-0.5**
AKCD				*i* S	**Sn**	**16 05 41.5**	**+0.6**
SURC	**SANLIURFA_SURC**	**1.24**	**108**	IAML_P			
	comp=Z,5μm,0.1s						
SURC				*i* P	**Pn**	**16 05 25.1**	**-0.1**
SURC				*i* S	**Sg**	**16 05 42.8**	**+1.0**
YURE	**YUREGIR**	**1.29**	**250**	PN	**Pg**	**16 05 26.4**	**-0.1**
YURE	**YUREGIR**	**1.29**	**250**	*i* P	**Pg**	**16 05 26.8**	**+0.3**
DARE	**Darende-Malaty**	**1.32**	**12**	PN	**Pn**	**16 05 26.3**	**-0.1**
URFA	**Urfa**	**1.35**	**82**	PN	**Pn**	**16 05 26.6**	**-0.1**
AKO	**Adana**	**1.36**	**278**	IAML_P			
	comp=Z,4μm,0.3s						
AKO				*i* P	**Pb**	**16 05 27.1**	**-0.3**
CUGUR	**Gurin_SVAS**	**1.45**	**4**	*i* P	**Pg**	**16 05 30.4**	**+0.7**
SANL	**SANLIURFA_Merk**	**1.48**	**93**	IAML_P			
	comp=Z,7μm,0.2s						
SANL				*i* P	**Pn**	**16 05 28.2**	**-0.3**
YAYL	**Yayladag**	**1.49**	**214**	*i* P	**Pg**	**16 05 30.8**	**+0.4**
KRTD	**Karatas-Adana**	**1.54**	**244**	PN	**Pg**	**16 05 30.7**	**-0.7**
KRTS	**Karatas**	**1.58**	**244**	PN	**Pg**	**16 05 31.7**	**-0.4**
YAHY	**KAYSERI_Yahyal**	**1.63**	**301**	IAML_P			
	comp=Z,4μm,0.3s						
YAHY				*i* P	**Pb**	**16 05 31.7**	**-0.3**
KARA	**Karaisali**	**1.66**	**270**	PN	**Pb**	**16 05 32.8**	**+0.3**
HEKM	**Malatya_Hekimh**	**1.73**	**22**	IAML_P			
	comp=Z,6μm,0.3s						
HEKM				*i* P	**Pb**	**16 05 33.1**	**-0.6**
BNN	**Bunyan**	**1.88**	**327**	PN	**Pn**	**16 05 34.4**	**+0.4**
GULE	**Gulek**	**1.89**	**271**	*i* P	**Pn**	**16 05 34.1**	**-0.1**
DED	**Mersin**	**1.90**	**261**	*i* P	**Pn**	**16 05 34.6**	**+0.5**
GUNE	**Kayseri**	**2.02**	**324**	*i* P	**Pb**	**16 05 37.1**	**-1.5**
CUALT	**Altinyayla-SIV**	**2.02**	**351**	*i* P	**Pb**	**16 05 37.8**	**-0.8**
SVRC	**Sivrice-ELAZID**	**2.04**	**57**	PN	**Pn**	**16 05 36.0**	**-0.3**
CUKAN	**kangal_SIVAS**	**2.06**	**7**	*i* P	**Pb**	**16 05 39.1**	**-0.2**
MERS	**Mersin**	**2.13**	**260**	PN	**Pb**	**16 05 38.7**	**-1.8**
NIG	**Nigde**	**2.17**	**293**	PN	**Pn**	**16 05 39.1**	**+0.9**
CUSAR	**Sarkisla-SIVAS**	**2.25**	**342**	*i* P	**Pn**	**16 05 39.9**	**+0.7**
KEMA	**Kemaliye**	**2.26**	**28**	*i* P	**Pn**	**16 05 39.9**	**+0.7**
KERG	**Konya-Eregli**	**2.41**	**274**	*i* P	**Pn**	**16 05 42.9**	**+1.6**
DIYA	**Diyarbakir**	**2.45**	**74**	*i* P	**Pg**	**16 05 48.2**	**-0.7**
KIZK	**Mersin**	**2.53**	**253**	PN	**Pb**	**16 05 45.1**	**-2.1**
TNCL	**Tunceli-Merkez**	**2.64**	**45**	*i* P	**Pg**	**16 05 50.9**	**-1.5**
SVSK	**Karacayir**	**2.64**	**358**	PN	**Pn**	**16 05 45.8**	**+1.4**
YOZ	**Yozgat**	**2.76**	**329**	PN	**Pn**	**16 05 46.3**	**+0.1**
MARD	**Mardin**	**2.90**	**88**	*i* P	**Pn**	**16 05 48.8**	**+0.7**
QASN	**Qassioun**	**3.80**	**191**	*e*P	**Pb**	**16 06 06.0**	**-3.0**
QASN				*e*S	**Sn**	**16 06 47.6**	**+2.5**
QASN				AML	AML	16 07 06.9	
	comp=E,123nm,0.5s						
QASN				AML	AML	16 07 17.2	
	comp=N,265nm,0.5s						
TOTH	**TOTAH**	**3.95**	**189**	*e*P	**Pb**	**16 06 08.1**	**-3.4**
TOTH				*e*S	**Sn**	**16 06 51.9**	**+3.2**
TOTH				AML	AML	16 07 08.5	
	comp=N,111nm,0.6s						
TOTH				AML	AML	16 07 25.4	
	comp=E,76nm,0.7s						
BRBR	**Barbar**	**3.97**	**195**	*e*P	**Pb**	**16 06 08.0**	**-4.0**
BRBR				*e*S	**Sn**	**16 06 50.5**	**+0.8**
BRBR				AML	AML	16 07 20.1	
	comp=N,132nm,0.7s						
BRBR				AML	AML	16 07 21.3	
	comp=E,98nm,0.6s						

MEX 25 16:19:12.0±0.3, 14.°21N×92.°65W, h15km±25km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.59**	**340**	*e*P	Pn	16 19 36.1	-3.5
PCIG				*e*S	Sn	16 19 54.8	-5.0
CCIG	**Comitan**	**2.12**	**14**	*e*P	Pn	16 19 44.0	-3.1
CCIG				*e*S	Sn	16 20 08.7	-4.6
TGIG		**2.60**	**350**	*i* P	Pn	16 19 51.5	-2.0
TGIG				*i* S	Sn	16 20 20.3	-4.6
CMIG	**Matias Romero**	**3.58**	**323**	*i* P	Pn	16 20 03.7	-3.3
CMIG				*i* S	Sn	16 20 45.8	-3.4

ARO ***25*** *16:58:24.2, 9.°N±293.°×3.°9E±10.°0, h15km±99km, Ml3.5*
ISC 25 16:58:26.1±3.1, 9.°2N±0.°1×39.°4E±0.°1, h10km, n11, σ0°61/16, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKE	**Ethiopia-

ATD				*e*S	Sn	17 00 16.7	-0.7
TDD	**Tadjoura Ara**	**4.32**	**53**	*e*P	**Pn**	**16 59 32.6**	**+0.7**
ATA	**Atar**	**4.37**	**59**	*e*P	**Pn**	**16 59 33.1**	**+0.5**

*BJI **25** 17:05:15.5±0.0, 11°.10S×110°.60E, h5km, mb4.8/51, mB4.9/29, Ms4.5/18, Ms7 4.2/14*
*IDC **25** 17:05:16.4±0.6, 11°.03S×110°.75E, h0km, mb4.5/17, mb1 4.6/21, mb1mx4.5/30, mbtmp4.5/21, ML4.5/4, MS3.7/18, Ms1 3.7/18, ms1mx3.5/29, Error ellipse: s-maj=21.3km s-min=13.4km az=60.0*
*NEIC **25** 17:05:17.3±2.2, 11°.06S×110°.63E, h10km±3km, mb4.7/51, Error ellipse: s-maj=12.7km s-min=7.0km az=70.0*
*DJA **25** 17:05:18.0±0.6, 11°.S±2"×11°.0E±", h34km±7km, M5.0/34, mB5.3/11, mb4.9/34, MLv5.5/12, Mw(mB)4.7/11*
*ISCJB **25** 17:05:19.4±0.2, 11°.00S±0°.03×110°.72E±0°.03, h33km, mb4.9/71, MS3.8/20, Error ellipse: s-maj=4.5km s-min=3.5km az=141.6*
ISC 25 17:05:21.0±0.4, 11°.06S±0°.04×110°.74E±0°.05, h35km, n175, σ1.972/172, mb4.7/70, MS3.8/21, 1C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**3.13**	**356**	*e*Pn	**Pn**	**17 06 06.9**	**-1.1**
UGM				*e*Sn	**Sn**	**17 06 42.1**	**-2.1**
UGM	**Wanagama**	**3.13**	**356**	P	**Pn**	**17 06 07.0**	**-1.0**
UGM				S	**Sn**	**17 06 42.3**	**-1.9**
WOJI	**Wonogiri, Jawa**	**3.20**	**3**	P	**Pn**	**17 06 07.2**	**-1.7**
WOJI				S	**Sn**	**17 06 43.8**	**-2.1**
YOGI	**Yogyakarta**	**3.25**	**352**	P	**Pn**	**17 06 08.2**	**-1.4**
YOGI				S	**Sn**	**17 06 45.8**	**-1.3**
NGJI	**Ngawi**	**3.73**	**11**	P	**Pn**	**17 06 16.8**	**+0.6**
GMJI	**Gumukmas**	**3.84**	**44**	P	**Pn**	**17 06 18.7**	**+1.0**
SMRI	**Semarang**	**3.99**	**356**	*e*Pn	**Pn**	**17 06 19.8**	**0.0**
SMRI				*e*Sn	**Sn**	**17 07 04.8**	**-0.7**
SMRI	**Semarang**	**3.99**	**356**	P	**Pn**	**17 06 20.1**	**+0.3**
JAGI	**Jajag, Banyuwa**	**4.23**	**53**	*e*Pn	**Pn**	**17 06 23.9**	**+0.8**
JAGI				*e*Sn	**Sn**	**17 07 09.2**	**-2.2**
JAGI	**Jajag, Banyuwa**	**4.23**	**53**	P	**Pn**	**17 06 24.1**	**+1.0**
GRJI	**Gresik**	**4.46**	**23**	P	**Pn**	**17 06 25.6**	**-0.6**
CISI	**Cisompet, Garu**	**4.52**	**320**	*e*Pn	**Pn**	**17 06 23.4**	**-3.7**
CISI				*e*Sn	**Sn**	**17 07 12.2**	**-6.4**
CISI	**Cisompet, Garu**	**4.52**	**320**	P	**Pn**	**17 06 23.0**	**-4.1**
XMIS	**Christmas Isla**	**5.03**	**276**	*e*Pn	Pn	17 06 28.5	-5.6
XMIS				*e*Sn	Sn	17 07 18.1	-13
KMMI	**Kalianget**	**5.10**	**39**	P	**Pn**	**17 06 36.0**	**+1.0**
	84nm,0.8s,2μm0.9nm						
LEM	**Lembang**	**5.21**	**323**	P	**Pn**	**17 06 35.4**	**-1.3**
	1μm,1.1s,29nm						
LEM	**Lembang**	**5.21**	**323**	Pn	**Pn**	**17 06 35.7**	**-1.0**
	12nm,0.3s,baz=164,slow=14,SNR=8.5						
LEM				Sn	**Sn**	**17 07 33.8**	**-1.9**
	33nm,0.3s,baz=110,slow=20,SNR=6.8						
SRBI	**Singaraja**	**5.31**	**57**	P	**Pn**	**17 06 38.7**	**+0.8**
CGJI	**Cibinong**	**6.66**	**311**	P	**Pn**	**17 06 53.8**	**-2.7**
	121nm,0.5s,3μm1.4nm						
PLAI	**Plampang**	**7.28**	**73**	P	**Pn**	**17 07 05.4**	**+0.5**
	260nm,0.8s,3μm2.1nm						
TPI	**Tanjungpandan**	**8.80**	**339**	P	**Pn**	**17 07 24.1**	**-1.7**
	14nm,0.8s						
WSI	**Waingapu**	**9.50**	**83**	P	Pn	17 07 45.0	+10
MNAI	**Manna**	**10.19**	**310**	*e*Pn	**Pn**	**17 07 41.4**	**-3.5**
MNAI	**Manna**	**10.19**	**310**	P	**Pn**	**17 07 40.5**	**-4.4**
KAPI	**Kappang**	**10.75**	**57**	*e*Pn	**Pn**	**17 07 53.7**	**+1.1**
KAPI				*e*Sn	**Sn**	**17 09 46.0**	**-5.8**
KAPI	**Kappang**	**10.75**	**57**	Pn	**Pn**	**17 07 52.3**	**-0.3**
	3.6nm,0.3s,baz=206,slow=5.2,SNR=20						
KAPI				Sn	**Sn**	**17 09 46.0**	**-5.8**
	0.8nm,0.3s,baz=280,slow=21,SNR=2.2						
KAPI				LR	LR	17 12 49.9	
	comp=Z,257nm,18.5s,baz=217,slow=42						
BSSI	**Bau Bau, Buton**	**10.80**	**64**	P	**Pn**	**17 07 54.1**	**+0.8**
	105nm,0.8s,1μm						
BKSI	**Bulukumba**	**10.89**	**59**	P	**Pn**	**17 07 55.6**	**+1.1**
	32nm,0.5s,393nm						
BNSI	**Bone**	**11.39**	**55**	P	**Pn**	**17 08 03.9**	**+2.5**
	52nm,0.5s						
MMRI	**Maumere**	**11.58**	**79**	*e*Pn	**Pn**	**17 08 03.5**	**-0.5**
MMRI	**Maumere**	**11.58**	**79**	P	**Pn**	**17 08 03.3**	**-0.7**
	239nm,1.2s,4μm						
GIRL	**Giralia**	**12.00**	**164**	*e*Pn	**Pn**	**17 08 05.5**	**-4.1**
GIRL				*e*Sn	Sn	17 10 04.7	-18
TTSI	**Tana Toraja**	**12.02**	**49**	P	**P**	**17 08 19.3**	**-3.1**
SOEI	**Soe**	**13.37**	**86**	*e*Pn	**Pn**	**17 08 28.0**	**-0.5**
SOEI	**Soe**	**13.37**	**86**	P	**Pn**	**17 08 28.3**	**-0.2**
SBUM	**Sibu**	**13.50**	**6**	*e*Pn	**Pn**	**17 08 29.1**	**-1.1**
PSA00	**Pilbara Seismi**	**13.62**	**141**	*e*Pn	Pn	17 08 27.3	-4.5
PDSI	**Padang**	**14.35**	**314**	P	Pn	17 08 35.0	-6.8
MPSI	**Mapaga**	**14.53**	**39**	P	**Pn**	**17 08 44.4**	**+0.2**
APSI	**Ampana**	**14.80**	**48**	P	**Pn**	**17 08 47.9**	**0.0**
SISI	**Saibi**	**15.08**	**309**	P	Pn	17 08 44.0	-7.6
LUWI	**Luwuk**	**15.55**	**51**	*e*Pn	**Pn**	**17 08 59.2**	**+1.4**
	65nm,0.8s						
LUWI	**Luwuk**	**15.55**	**51**	P	**Pn**	**17 08 58.8**	**+1.0**
MRSI	**Marisa**	**15.98**	**45**	P	**Pn**	**17 09 03.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**16.02**	**118**	*e*Pn	**Pn**	**17 09 02.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**16.02**	**118**	Pn	**Pn**	**17 09 01.7**	**-2.2**
	2.0nm,0.3s,baz=317,slow=9.1,SNR=46						
FITZ				Sn	Sn	17 11 49.2	-11
	0.5nm,0.3s,baz=304,slow=4.9,SNR=1.7						
FITZ				LR	LR	17 14 44.4	
	comp=Z,391nm,20.9s,baz=298,slow=35						
KMSI	**Cibinong**	**17.51**	**50**	P	**P**	**17 09 23.9**	**+0.4**
GSI	**Gunungsitoli**	**17.95**	**312**	*e*Pn	Pn	17 09 20.4	-7.7
	106nm,1.6s						
GSI	**Gunungsitoli**	**17.95**	**312**	P	Pn	17 09 20.4	-7.6
PSI	**Prapat**	**18.11**	**319**	*e*Pn	**Pn**	**17 09 27.4**	**-2.6**
	13nm,1.2s						
PSI	**Prapat**	**18.11**	**319**	P	**Pn**	**17 09 28.1**	**-2.0**
	1.1nm,0.3s,baz=215,slow=18,SNR=3.1						
PSI				LR	LR	17 17 51.7	
	comp=Z,520nm,21.1s,baz=132,slow=42						
IPM	**Ipoh**	**18.21**	**327**	*e*Pn	**Pn**	**17 09 29.9**	**-1.4**
	16nm,1.1s						
MORW	**Morawa**	**18.59**	**165**	*e*P	**P**	**17 09 32.9**	**-2.4**
	27nm,0.8s						
KULM	**Kulim**	**19.09**	**328**	*e*P	**P**	**17 09 38.8**	**-2.1**
	17nm,1.2s						
MTN	**Manton Dam**	**20.03**	**97**	*e*P	**P**	**17 09 51.1**	**-0.1**
	50nm,1.0s						
BNDI	**Bandanaira**	**20.06**	**73**	P	Pn	17 10 07.1	+14
TNTI	**Ternate**	**20.28**	**56**	*e*P	**P**	**17 09 51.1**	**-2.8**
	36nm,1.2s						
KRAB	**Krabi**	**22.33**	**329**	P	**P**	**17 10 20.9**	**+4.9**
	137μm,0.8s						
NWAO	**Narrogin (SRO)**	**22.57**	**166**	*e*P	**P**	**17 10 16.3**	**-2.1**
	31nm,1.1s						
CTBH	**Cotabato--PC H**	**22.59**	**37⇑**	*i*P	**P**	**17 10 19.9**	**+1.2**
FAKI	**Fak Fak**	**22.81**	**71**	*e*P	**P**	**17 10 18.7**	**-2.4**
	40nm,1.0s						
DLV	**T Lat**	**22.96**	**354**	*e*P	**P**	**17 10 22.0**	**-0.8**
	24nm,1.0s						
DAV	**Davao City (W)**	**23.29**	**40**	LR	LR	17 21 47.4	
	comp=Z,182nm,19.0s,baz=193,slow=43						
WRAB	**Tennant Creek**	**24.38**	**114**	*e*P	**P**	**17 10 36.8**	**+0.6**
	17nm,0.7s						
FORT	**Forrest**	**25.36**	**143**	*e*P	**P**	**17 10 45.2**	**+0.3**
	46nm,0.9s						
ASAR	**Alice Springs**	**25.37**	**123**	P	**P**	**17 10 46.1**	**+1.0**
	35nm,0.8s,baz=297,slow=8.8,SNR=163						
ASAR				PcP	**PcP**	**17 14 18.8**	**+1.4**
	0.5nm,0.4s,baz=292,slow=1.9,SNR=3.1						
ASAR				S	S	17 15 32.2	+23
	1.8nm,0.8s,baz=302,slow=24,SNR=4.7						
ASAR				LR	LR	17 20 58.7	
	comp=Z,224nm,20.1s,baz=296,slow=37						
AS31	**Alice Springs**	**25.37**	**123**	*e*P	**P**	**17 10 45.8**	**+0.6**
	12nm,0.8s						
PHET	**Kaeng Krachan**	**26.24**	**335**	P	**P**	**17 10 56.7**	**+3.7**
	60μm,0.9s						
SRAK	**Srakaew**	**26.36**	**341**	P	**P**	**17 10 56.4**	**+2.3**
	102μm,0.8s						
TGY	**Tagaytay City**	**26.96**	**22**	LR	LR	17 24 04.6	
	comp=Z,89nm,18.0s,baz=270,slow=42						
KHON	**Khomkaen**	**28.32**	**344**	P	P	17 11 17.7	+6.0
PBKT	**Sadao Pong**	**29.10**	**340**	P	**P**	**17 11 21.3**	**+2.7**
	8.9nm,0.8s						
NONG	**Nongkai**	**29.89**	**345**	P	**P**	**17 11 26.7**	**+1.1**
	0.7nm,0.9s,161nm						
UTTA	**Uttaradit**	**30.34**	**341**	P	**P**	**17 11 31.4**	**+1.9**
	29μm,0.7s,225μm						
CM31	**Chiang Mai Arr**	**31.55**	**338**	*e*P	**P**	**17 11 38.0**	**-2.3**
	14nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.55**	**338**	P	**P**	**17 11 41.5**	**+1.2**
	7.3nm,0.8s,baz=174,slow=8.1,SNR=45						
CMAR				LR	LR	17 25 24.4	
	comp=Z,216nm,18.5s,baz=168,slow=38						
BBOO	**Buckleboo**	**31.78**	**137**	*e*P	**P**	**17 11 41.6**	**-0.7**
	81nm,1.9s						
CHTO	**Chiang Mai**	**31.88**	**338**	*e*P	**P**	**17 11 42.2**	**-1.0**
	7.4nm,1.0s						
SLVN	**Son La**	**32.88**	**348**	*e*P	**P**	**17 11 51.8**	**-0.2**
	6.6nm,0.8s						
PALK	**Pallekele**	**35.00**	**300**	*e*P	**P**	**17 12 09.6**	**-1.0**
	32nm,1.1s						
STKA	**Stephens Creek**	**35.20**	**131**	*e*P	**P**	**17 12 13.1**	**+1.1**
	3.5nm,1.0s						
STKA	**Stephens Creek**	**35.20**	**131**	P	**P**	**17 12 13.3**	**+1.2**
	8.1nm,0.9s,baz=303,slow=9.1,SNR=15						
STKA				LR	LR	17 28 16.4	
	comp=Z,176nm,19.0s,baz=300,slow=39						
CTAO	**Charters Tower**	**35.30**	**109**	*e*P	**P**	**17 12 14.9**	**+1.8**
	12nm,0.9s						
KMI	**Kunming**	**36.80**	**348**	P	**P**	**17 12 29.0**	**+3.0**
KMI				pP	pP	17 12 31.5	-3.1
KMI				sP	sP	17 12 32.8	-5.3
KMI				PP	**PnPn**	**17 13 53.0**	**+2.6**
KMI				S	**S**	**17 18 12.0**	**+3.9**
KMI				pmax	pmax		
	comp=Z,18nm,0.9s						
KMI				pmax	pmax		
	comp=Z,65nm,5.8s						
KMI				LR	LR		
	comp=N,140nm,18.0s						
KMI				LR	LR		
	comp=E,500nm,18.0s						
KMI				LR	LR		
	comp=Z,350nm,18.8s						
GYA	**Guiyang**	**37.50**	**354**	P	**P**	**17 12 33.0**	**+1.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
H08S2	**Diego Garcia H**	**37.87**	**272**	T	T	17 52 23.3	
	baz=99,slow=74						
H08S3	**Diego Garcia H**	**37.88**	**272**	T	T	17 52 31.9	
	baz=99,slow=74						
H08S1	**Diego Carcia H**	**37.89**	**272**	T	T	17 52 31.1	
	baz=99						
SHL	**Shillong**	**40.77**	**333**	*e*P	**P**	**17 13 02.0**	**+2.7**
ENH	**Enshi**	**41.11**	**358**	*e*P	**P**	**17 13 01.7**	**-0.1**
	13nm,0.8s						
WHN	**Wuhan**	**41.51**	**5 ⇓**	P	**P**	**17 13 06.3**	**+1.4**
CD2	**Chengdu**	**42.26**	**351**	P	**P**	**17 13 12.0**	**+0.8**
CD2				pmax	pmax		
	comp=Z,50nm,0.6s						
CAN	**Canberra**	**42.27**	**131**	*e*P	**P**	**17 13 12.3**	**+1.0**
	80nm,1.9s						
ARMA	**Armidale**	**42.52**	**123**	*e*P	**P**	**17 13 14.6**	**+1.1**
	53nm,1.5s						
NJ2	**Nanjing**	**43.56**	**10**	*e*P	**P**	**17 13 21.0**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
ODAN	**Odare**	**43.99**	**329**	*e*P	**P**	**17 13 25.8**	**+0.3**
	30nm,0.7s						
RAMN	**Ramite**	**44.46**	**329**	*e*P	**P**	**17 13 29.9**	**+0.6**
	19nm,0.8s						
LSA	**Lhasa**	**44.70**	**335**	*e*P	**P**	**17 13 32.0**	**+0.6**
	14nm,0.8s						
XAN	**Xi'an**	**44.88**	**358**	P	**P**	**17 13 32.5**	**+0.3**
XAN				pP	pP	17 13 36.3	-4.7
XAN				sP	sP	17 13 39.0	-5.5
XAN				S	**S**	**17 20 06.0**	**-1.8**
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
XAN				pmax	pmax		
	comp=Z,59nm,3.6s						
XAN				LR	LR		
	comp=N,140nm,16.3s						
XAN				LR	LR		
	comp=E,160nm,16.8s						
XAN				LR	LR		
	comp=Z,220nm,16.5s						
XAN	**Xi'an**	**44.88**	**358**	*e*P	**P**	**17 13 32.0**	**-0.3**
	24nm,0.8s						
JIRN	**Jiri**	**45.25**	**329**	*e*P	**P**	**17 13 36.2**	**+0.5**
	69nm,0.7s						
PKI	**Pulchoki**	**45.58**	**328**	*e*P	**P**	**17 13 38.3**	**0.0**
	14nm,0.7s						
PKIN	**Phulchoki**	**45.59**	**328**	*e*P	**P**	**17 13 38.3**	**0.0**
	11nm,0.8s						
KKN	**Kakani**	**45.82**	**328**	*e*P	**P**	**17 13 40.2**	**+0.1**
	21nm,0.8s						
KOLN	**Koldanda**	**46.70**	**326**	*e*P	**P**	**17 13 47.3**	**+0.3**
	20nm,0.6s						
DANN	**Dangsing**	**47.07**	**327**	*e*P	**P**	**17 13 50.1**	**+0.1**
	53nm,0.7s						
PYUN	**Piuthan**	**47.30**	**326**	*e*P	**P**	**17 13 51.6**	**0.0**
	32nm,0.8s						
LZH	**Lanzhou**	**47.34**	**352**	*e*P	P	17 13 56.8	+5.1
LZH				pP	pP	17 13 59.8	-0.7
LZH				sP	sP	17 14 02.3	-1.7
LZH				pmax	pmax		
	comp=Z,100nm,1.0s						
LZH				LR	LR		
	comp=N,230nm,16.5s						
LZH				LR	LR		
	comp=E,290nm,16.5s						
LZH				LR	LR		
	comp=Z,300nm,19.0s						
HNR	**Honiara**	**48.41**	**93**	LR	LR	17 35 26.7	
	comp=Z,73nm,18.3s,baz=278,slow=37						
KS15	**Wonju Array Si**	**50.85**	**18**	*e*P	**P**	**17 14 18.8**	**+0.4**
	9.3nm,0.8s						
KSRS	**Korea Array**	**50.88**	**18**	P	**P**	**17 14 19.1**	**+0.5**
	4.1nm,0.9s,baz=199,slow=8.6,SNR=17						
KSRS				LR	LR	17 38 07.0	
	comp=Z,36nm,19.4s,baz=224,slow=39						
BJI	**Beijing**	**51.09**	**5**	P	**P**	**17 14 20.0**	**-0.1**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA	**Gaotai**	**51.23**	**349**	*e*P	**P**	**17 14 22.5**	**+1.1**
GTA				pP	pP	17 14 27.0	-3.2
GTA				sP	sP	17 14 30.5	-3.2
GTA				S	**S**	**17 21 41.0**	**+3.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,77nm,5.5s						
GTA				LR	LR		
	comp=N,130nm,18.9s						
GTA				LR	LR		
	comp=E,160nm,24.0s						
GTA				LR	LR		
	comp=Z,170nm,19.2s						
HHC	**Hu-ho-hao-te**	**51.65**	**1**	*e*P	**P**	**17 14 26.5**	**+2.0**
HHC				pmax	pmax		
	comp=Z,64nm,1.0s						
HHC				pmax	pmax		
	comp=Z,210nm,5.6s						
HHC				LR	LR		
	comp=N,630nm,15.5s						
HHC				LR	LR		
	comp=E,530nm,14.6s						
HHC				LR	LR		
	comp=Z,690nm,15.5s						
MAJO	**Matsushiro**	**53.95**	**27**	*e*P	**P**	**17 14 39.7**	**-1.8**
	7.4nm,0.8s						
MAT	**Matsushiro**	**53.95**	**27**	P	**P**	**17 14 40.0**	**-1.4**
MJAR	**Matsushiro Arr**	**53.95**	**27**	P	**P**	**17 14 40.4**	**-1.0**
	7.2nm,0.8s,baz=205,slow=8.1,SNR=31						
MJAR				LR	LR	17 39 48.0	
	comp=Z,17nm,18.5s,baz=345,slow=38						
MJB9	**Matsu-Tunnel**	**53.95**	**27**	*e*P	**P**	**17 14 40.0**	**-1.5**
	7.6nm,0.9s						
NIL	**Nilore**	**57.00**	**323**	*e*P	**P**	**17 15 02.7**	**-0.8**
	10nm,0.6s						
USRK	**Ussuriysk Ar.**	**58.28**	**18**	P	**P**	**17 15 12.2**	**-0.1**
	5.8nm,0.8s,baz=219,slow=6.1,SNR=14						
WMQ	**Urumqi**	**58.51**	**341**	*e*P	**P**	**17 15 14.5**	**+0.6**
WMQ				LR	LR		
	comp=N,1μm,31.5s						
WMQ				LR	LR		
	comp=E,2μm,39.2s						
WMQ				LR	LR		
	comp=Z,320nm,39.1s						
SONM	**Songino Array**	**58.76**	**357**	P	**P**	**17 15 16.3**	**+0.7**
	2.8nm,0.5s,baz=176,slow=8.8,SNR=14						
SONM				LR	LR	17 42 22.5	
	comp=Z,70nm,20.9s,baz=210,slow=38						
KSH	**Kashi**	**59.80**	**329**	P	**P**	**17 15 21.0**	**-2.0**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KDJ	**Kajisay**	**61.24**	**332**	*e*P	**P**	**17 15 33.2**	**+0.4**
	8.7nm,0.9s						
NRN	**Naryn**	**61.25**	**331**	*e*P	**P**	**17 15 31.5**	**-1.7**
	4.8nm,1.0s						
KZA	**Kyzart**	**62.11**	**331**	P	**P**	**17 15 39.9**	**+0.9**
	SNR=6.5						
GAR	**Garm**	**62.43**	**325**	*e*P	**P**	**17 15 40.0**	**-0.8**
	11nm,0.7s						
TKM2	**Tokmak 2**	**62.59**	**332**	P	**P**	**17 15 42.7**	**+0.8**
	SNR=11						
KBK	**Karagaybulak**	**62.69**	**331**	P	**P**	**17 15 43.9**	**+1.3**
	SNR=5.7						
BTK	**Batken**	**62.89**	**326**	*e*P	**P**	**17 15 43.4**	**-0.5**
	7.4nm,0.7s						
AAK	**Ala-Archa**	**62.90**	**331**	*e*P	**P**	**17 15 44.1**	**+0.2**
	6.0nm,1.2s						
AML	**Almayashu**	**62.91**	**330**	P	**P**	**17 15 45.0**	**+0.7**
	SNR=8.1						
MK31	**Makanchi Array**	**62.96**	**338**	*e*P	**P**	**17 15 44.7**	**+0.6**
	2.9nm,0.8s						
MKAR	**Makanchi Array**	**62.96**	**338**	P	**P**	**17 15 44.7**	**+0.6**
	3.7nm,0.7s,baz=142,slow=7.8,SNR=42						
MKAR				LR	LR	17 46 53.9	
	comp=Z,37nm,19.9s,baz=160,slow=40						
TARA	**Tarawa**	**63.03**	**83**	*e*P	**P**	**17 15 47.0**	**+1.8**
	44nm,0.6s						
MAKZ	**Makanchi**	**63.09**	**338**	*e*P	**P**	**17 15 45.8**	**+0.9**
	5.2nm,1.3s						
EKS2	**Erkin-Say**	**63.26**	**330**	P	**P**	**17 15 47.4**	**+1.1**
	SNR=6.1						
YSS	**Yuzh-Sakhalins**	**64.44**	**24**	*e*P	**P**	**17 15 54.0**	**+0.2**
	22nm,1.0s						
MAW	**Mawson**	**64.64**	**198**	LR	LR	17 39 27.6	
	comp=Z,72nm,19.1s,baz=46,slow=32						
KK31	**Karatay Array**	**65.22**	**329**	*e*P	**P**	**17 15 58.7**	**-0.3**
	2.8nm,0.8s						
KKAR	**Karatay Array**	**65.22**	**329**	*e*P	**P**	**17 15 58.7**	**-0.3**
	2.8nm,0.8s						
KURK	**Kurchatov**	**67.58**	**339**	*e*P	**P**	**17 16 14.4**	**+0.6**
	8.6nm,0.7s						
ZAA0	**Zalesovo Array**	**68.40**	**344**	*e*P	**P**	**17 16 19.0**	**0.0**
	7.5nm,0.7s						
ZALV	**Zalesovo Beam**	**68.40**	**344**	P	**P**	**17 16 19.2**	**+0.2**
	7.0nm,0.5s,baz=158,slow=4.1,SNR=30						
ZALV				PP	**PP**	**17 18 50.7**	**+0.4**
	0.8nm,0.7s,baz=168,slow=7.4,SNR=2.8						
ZALV				LR	LR	17 47 34.3	
	comp=Z,39nm,19.8s,baz=86,slow=37						
GEYT	**Alibeck**	**69.23**	**318**	P	**P**	**17 16 25.6**	**+1.0**
	1.4nm,0.4s,baz=123,slow=5.5,SNR=6.2						
GEYT				LR	LR	17 50 52.7	
	comp=Z,35nm,18.8s,baz=200,slow=40						
VNDA	**Vanda**	**71.33**	**170**	*e*P	**P**	**17 16 36.9**	**+0.1**
	4.9nm,1.1s						
VNDA	**Vanda**	**71.33**	**170**	P	**P**	**17 16 37.3**	**+0.5**
	2.1nm,0.9s,baz=296,slow=6.5,SNR=12						
BRVK	**Borovoye**	**72.61**	**336**	*e*P	**P**	**17 16 44.8**	**+0.1**
	3.8nm,0.9s						
KMBO	**Kilima Mbogo**	**73.58**	**272**	LR	LR	17 43 03.7	
	comp=Z,70nm,20.9s,baz=95,slow=31						
ABKAR	**Akbulak array**	**74.78**	**328**	*e*P	**P**	**17 16 57.8**	**+0.2**
	7.6nm,0.8s						
PETK	**Petropavlovsk-**	**75.41**	**27**	P	**P**	**17 17 02.1**	**+1.1**
	3.0nm,0.8s,baz=234,slow=4.8,SNR=5.1						
PEA1	**Petropavlovsk-**	**75.41**	**27**	*e*P	**P**	**17 17 02.1**	**+1.0**
QSPA	**South Pole Qui**	**78.95**	**180**	*e*P	**P**	**17 17 21.9**	**+0.9**
	12nm,1.3s						
LSZ	**Lusaka**	**80.06**	**256**	*e*P	**P**	**17 17 29.2**	**+1.2**
	5.0nm,0.8s						
BOSA	**Boshof**	**80.87**	**243**	P	**P**	**17 17 32.8**	**+0.6**
	1.9nm,1.0s,baz=88,slow=18,SNR=3.1						
KBZ	**Khabaz**	**82.12**	**317**	P	**P**	**17 17 39.6**	**+1.5**
	3.4nm,0.8s,baz=110,slow=3.8,SNR=8.0						
TIXI	**Tiksi**	**83.41**	**6**	*e*P	**P**	**17 17 44.2**	**0.0**
	4.5nm,0.8s						
BR101	**Keskin Array S**	**87.27**	**311**	*e*P	**P**	**17 18 05.7**	**+1.2**
BR131	**Keskin Array S**	**87.27**	**311**	*e*P	**P**	**17 18 05.2**	**+0.7**
	2.8nm,0.8s						
BRTR	**Keskin Array B**	**87.27**	**311**	P	**P**	**17 18 05.7**	**+1.2**
	1.7nm,0.8s,baz=133,slow=6.7,SNR=12						
BRTR				LR	LR	18 00 50.2	
	comp=Z,15nm,18.5s,baz=98,slow=38						
AKASG	**Malin Array Be**	**93.15**	**321**	P	**P**	**17 18 31.0**	**-0.5**
	0.7nm,0.5s,baz=84,slow=4.6,SNR=3.1						
FINES	**FINESS Array B**	**97.08**	**331**	P	Pdif	17 18 50.3	+1.0
	2.3nm,0.9s,baz=131,slow=5.8,SNR=6.0						
YKB5	**Yellowknife Ar**	**119.28**	**22**	*e*PKPdf	**PKiKP**	**17 24 07.6**	**+1.3**
YKA	**Yellowknife Ar**	**119.28**	**22**	PKP	**PKiKP**	**17 24 07.6**	**+1.3**
	0.3nm,0.6s,baz=288,slow=1.5,SNR=5.1						
LTX	**Lajitas**	**143.14**	**55**	*e*PKPdf	**PKPdf**	**17 24 51.5**	**-0.6**
TXAR	**Lajitas Array**	**143.14**	**55**	PKP	**PKPdf**	**17 24 51.5**	**-0.6**
	0.4nm,0.7s,baz=245,slow=3.7,SNR=5.4						
WMOK	**Wichita Mounta**	**144.25**	**44**	*e*PKPdf	**PKPdf**	**17 24 54.1**	**+0.2**
JCT	**Junction City**	**145.70**	**51**	*e*PKPdf	**PKPab**	**17 24 58.5**	**+1.2**
BDFB	**Brasilia**	**146.15**	**219**	PKPbc	**PKPdf**	**17 24 58.4**	**+0.6**
	1.7nm,0.4s,baz=153,slow=3.8,SNR=4.0						
HHAR	**Hobbs**	**146.41**	**38**	*e*PKPdf	**PKPbc**	**17 24 58.9**	**0.0**
CCM	**Cathedral Cave**	**146.68**	**33**	*e*PKPdf	**PKPbc**	**17 25

KRSC 25 17:26:27.3±10.0, 54°.86N×155°.29E, h681km±10km, ML4.1, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	Ganaly	1.94	126	P	P	17 27 49.7	+0.8
ESO	Esso	2.22	60	P	P	17 27 50.8	+1.3
KOK	Koryaka	2.52	127	P	P	17 27 52.8	+1.8
AVH	Avacha	2.58	127	P	P	17 27 52.7	+1.4
SMAR	Somma	2.62	126	P	P	17 27 51.4	-0.2
SDLR	Sedlovina	2.65	125	P	P	17 27 52.3	+0.7
UGLR	Uglovaya	2.66	127	P	P	17 27 53.1	+1.5
RUS	Russkaya	3.10	140	P	P	17 27 54.7	+1.1
RUS				S	S	17 29 02.9	-1.0
SPN	Mys Shipunski	3.31	120	P	P	17 27 55.8	+1.2
SPN				S	S	17 29 04.9	-1.0
MKZ	Mys Kozlova	3.75	92	P	P	17 27 58.3	+1.3
MKZ				S	S	17 29 09.2	-1.2

NEIC ***25*** *17:26:42.2±1.0, 23°.63S×174°.93W, h10km±5km, mb4.8/5, Error ellipse: s-maj=20.4km s-min=12.2km az=64.0*
IDC ***25*** *17:26:42.1±1.3, 23°.52S×174°.96W, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/23, mbtmp4.0/9, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/21, Error ellipse: s-maj=55.5km s-min=25.6km az=163.0*

ISC 25 17:26:44.1±0.7, 23°.3S±0°.2×175°.0W±0°.1, h10km, n25, σ1§32/24, mb4.1/12, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.30	49	ePn	Pn	17 28 13.9	-3.2
NIUE				eSn	Sn	17 29 17.8	-12
RAR	Rarotonga	14.22	85	ePn	Pn	17 30 03.4	-2.3
RAR	Rarotonga	14.22	85	Pn	Pn	17 30 04.2	-1.5
	2.2nm,0.3s,baz=258,slow=9.3,SNR=5.4						
RAR				Sn	Sn	17 32 27.4	-16
	1.1nm,0.3s,baz=113,slow=23,SNR=1.8						
RAR				LR	LR	17 34 38.3	
	comp=Z,86nm,21.7s,baz=280,slow=33						
CTAO	Charters Tower	36.10	267	eP	P	17 33 45.0	-1.5
	37nm,1.6s						
AS31	Alice Springs	46.68	259	eP	P	17 35 11.4	-2.1
	1.7nm,1.4s						
ASAR	Alice Springs	46.69	259	P	P	17 35 12.1	-1.3
	0.3nm,0.4s,baz=93,slow=7.5,SNR=14						
ASAR				PcP	PcP	17 36 46.5	-0.7
	0.2nm,0.6s,baz=96,slow=4.8,SNR=2.6						
MJAR	Matsushiro Arr	74.12	322	P	P	17 38 21.6	+0.8
	0.6nm,0.7s,baz=174,slow=7.5,SNR=4.4						
MAJO	Matsushiro	74.12	322	eP	P	17 38 21.6	+0.8
YOJ	Yonaguni jima	76.63	304	eP	P	17 38 34.7	-0.7
	43nm,0.9s						
PMSA	Palmer Station	77.61	156	eP	P	17 38 36.7	-3.6
	115nm,1.4s						
PETK	Petropavlovsk-	79.70	344	P	P	17 38 51.9	+0.1
	2.8nm,0.8s,baz=96,slow=8.2,SNR=4.8						
PEA1	Petropavlovsk-	79.71	344	eP	P	17 38 51.9	+0.1
USRK	Ussuriysk Ar.	82.85	325	P	P	17 39 09.3	+0.6
	1.3nm,0.7s,baz=132,slow=2.1,SNR=4.0						
SNAA	Sanae	85.14	178	P	P	17 39 21.8	+1.6
VNA3	Neumayer Olymp	85.16	175	P	P	17 39 22.0	+1.7
VNA2	Neumayer--Watz	85.64	176	P	P	17 39 24.8	+2.1
VNA1	Neumayer--Stat	85.85	176	P	P	17 39 25.6	+2.0
LTX	Lajitas	86.23	56	eP	P	17 39 26.4	0.0
TXAR	Lajitas Array	86.23	56	P	P	17 39 26.4	0.0
	0.6nm,0.9s,baz=214,slow=6.2,SNR=4.8						
PDAR	Pinedale Array	89.10	42	P	P	17 39 40.7	+0.7
	0.3nm,0.6s,baz=219,slow=2.3,SNR=2.6						
ILAR	Eielson Array	90.43	12	P	P	17 39 45.8	+0.5
	0.5nm,1.0s,baz=198,slow=5.7,SNR=2.7						
CMAR	Chiang Mai Arr	93.68	288	P	P	17 40 01.6	+0.1
	2.4nm,0.9s,baz=143,slow=3.3,SNR=11						
AKASG	Malin Array Be	146.80	332	PKPbc	PKPbc	17 46 26.1	-0.2
	0.5nm,0.4s,baz=38,slow=4.2,SNR=4.0						
BRTR	Keskin Array B	150.79	311	PKPbc	PKPbc	17 46 37.5	+0.3
	0.8nm,0.8s,baz=100,slow=3.5,SNR=6.3						
CLL	Collm	151.36	350	i PKPbc	PKPbc	17 46 39.7	+1.8

ISCJB ***25*** *17:28:36.9±0.6, 13°.40S±0°.09×112°.22W±0°.10, h10km, mb4.6/52, MS4.2/18, Error ellipse: s-maj=14.9km s-min=10.9km az=145.6*
IDC ***25*** *17:28:36.9±1.2, 13°.41S×112°.10W, h0km, mb3.6/7, mb1 4.0/7, mb1mx3.9/17, mbtmp3.6/7, MS4.1/14, Ms1 4.1/14, ms1mx4.1/16, Error ellipse: s-maj=51.8km s-min=23.0km az=60.0*
NEIC ***25*** *17:28:38.8±2.0, 13°.48S×112°.26W, h14km±4km, mb4.7/49, Error ellipse: s-maj=20.3km s-min=19.0km az=195.0*
GCMT ***25*** *17:28:42.8±0.2, 13°.41S±0°.01×112°.16W±0°.01, h19km±1km, MW5.1/90, Moment Tensor Solution. s32,c36; s90,c133; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.92±.19; Mθθ2.05±.18; Mφφ~1.13±.18; Mrθ0.27±.36; Mθφ5.02±.15; Mφr~0.86±.37; Best double couple: M0=5.36200×10^16 NP1:φs9.00000°, δ83.00000°, λ-170.00000°. NP2: φs278.00000°, δ80.00000°, λ-7.00000°. Principal axes: T 5.7380, Plg3.0000°, Azm144.0000°; N -0.7530, Plg78.0000°, Azm42.0000°; P -4.9850, Plg12.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 17:28:38.1±0.7, 13°.5S±0°.1×112°.2W±0°.1, h10km, n88, σ0§88/68, mb4.7/52, MS4.2/18, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	Rikitea	23.60	243	eLR	LR	17 39 37.6	
	comp=Z,2μm,27.2s						
RKT	Rikitea	23.60	243	eT	T	17 58 15.8	
	3.7nm,0.3s						
TLIG	Tlapa	33.65	24	eP	P	17 35 18.7	-0.7
	42nm,1.9s						
OTAV	Otavalo	36.13	71	eP	P	17 35 42.2	+0.8
	9.1nm,1.4s						
PPT	Papeete	36.17	259	LR	LR	17 44 48.2	
	comp=Z,85nm,21.9s,baz=87,slow=27						
PPT2	Papeete2	36.17	259	eLQ	LQ	17 43 53.8	
	887nm,38.0s						
PPT2				eLR	LR	17 45 23.0	
	comp=Z,613nm,28.0s,baz=94						
TBI	Tubuai	36.57	249	eLQ	LQ	17 44 02.6	
	504nm,33.0s						
TBI				eLR	LR	17 45 41.2	
	comp=Z,1μm,26.8s,baz=81						
TBI	Tubuai	36.57	249	eT	T	18 14 28.5	
	4.3nm,0.3s						
ESTN	Estel	36.79	45	eP	P	17 35 48.5	+2.0
	118nm,1.9s						
ROSC	El Rosal	41.80	67	LR	LR	17 50 05.9	
	comp=Z,112nm,21.7s,baz=248,slow=31						
LPAZ	La Paz	42.66	99	eP	P	17 36 36.1	0.0
LPAZ				epP	P	17 36 36.6	+0.5
LPAZ	La Paz	42.66	99	P	P	17 36 34.9	-1.2
	1.3nm,0.7s,baz=265,slow=5.7,SNR=5.5						
LPAZ				LR	LR	17 50 15.4	
	comp=Z,342nm,20.8s,baz=257,slow=30						
LTX	Lajitas	43.34	11	eP	P	17 36 41.0	+0.4
TX31	Lajitas Ar. Si	43.34	11	eP	P	17 36 40.9	+0.2
	14nm,1.9s						
TXAR	Lajitas Array	43.34	11	P	P	17 36 41.0	+0.4
	0.5nm,1.0s,baz=181,slow=11,SNR=4.8						
TXAR				LR	LR	17 51 23.4	
	comp=Z,268nm,18.6s,baz=0.0,slow=32						
833A	Chaparral WMA,	43.35	17	eP	P	17 36 41.3	+0.6
	18nm,0.9s						
GO06	Curarrehue	44.26	134	eP	P	17 36 48.9	+0.7
	33nm,1.8s						
319A	Douglas	44.66	4	eP	P	17 36 52.9	+1.5
	7.4nm,1.1s						
FSCY	Frank Sound, G	44.67	44	eP	P	17 36 52.0	+0.6
	240nm,1.3s						
JCT	Junction City	45.29	15	eP	P	17 36 55.4	-0.8
	16nm,1.3s						
MNTX	Cornudas Mount	45.38	8	eP	P	17 36 56.3	-0.5
	5.3nm,1.2s						
PLCA	Paso Flores	45.38	135	eP	P	17 36 57.6	+0.6
	26nm,1.7s						
PLCA	Paso Flores	45.38	135	P	P	17 36 57.6	+0.6
	2.9nm,1.1s,baz=325,slow=6.7,SNR=4.0						
RAR	Rarotonga	45.89	253	eP	P	17 37 01.5	+0.4
	245nm,1.9s						
HKT	Hockley	45.96	20	eP	P	17 37 00.8	-0.6
	13nm,1.4s						
435B	Jarrell	46.19	18	eP	P	17 37 03.7	+0.4
	17nm,1.0s						
MTDJ	Mount Denham	46.50	48	eP	P	17 37 06.1	0.0
	58nm,1.4s						
SDV	Santo Domingo	46.89	64	eP	P	17 37 08.1	-1.3
	21nm,1.4s						
ABTX	Abilene, Hawle	47.38	14	eP	P	17 37 11.8	-0.8
	4.3nm,0.6s						
X16A	Lo Mia Camp, P	47.61	1	eP	P	17 37 14.8	+0.2
	4.7nm,1.3s						
MWC	Mount Wilson	47.74	353	eP	P	17 37 16.9	+1.3
	15nm,1.1s						
X18A	Snowflake	47.77	3	eP	P	17 37 14.8	-1.0
	5.0nm,1.1s						
LPM	Los Pinos Moun	47.80	6	eP	P	17 37 15.4	-0.6
LAZ	Ladron	47.84	6	eP	P	17 37 14.5	-1.9
MSTX	Muleshoe	48.02	11	eP	P	17 37 17.4	-0.2
	15nm,1.3s						
W13A	Hualapai Mount	48.31	358	eP	P	17 37 20.8	+0.7
	3.9nm,0.9s						
ANMO	Albuquerque	48.45	6	eP	P	17 37 21.4	+0.3
	8.4nm,1.8s						
GSC	Goldstone, Bar	48.68	355	eP	P	17 37 23.5	+0.7
	9.5nm,1.2s						
WUAZ	Wupatki	48.71	1	eP	P	17 37 23.1	+0.1
	12nm,1.4s						
WMOK	Wichita Mounta	49.60	15	eP	P	17 37 29.6	-0.1
	20nm,1.9s						
U15A	North Rim	49.61	360	eP	P	17 37 30.3	+0.2
	14nm,1.9s						
SHPR	Sheep Range	49.77	357	eP	P	17 37 30.6	-0.6
	11nm,1.2s						
KNB	Kanab	50.20	359	eP	P	17 37 33.6	-0.9
	19nm,2.0s						
LCMT	Little Creek M	50.20	359	eP	P	17 37 34.8	+0.4
	1.9nm,0.7s						
MVCO	Mesa Verde	50.52	4	eP	P	17 37 36.5	-0.4
	13nm,1.5s						
PKCU	Pink Cliffs	50.63	360	eP	P	17 37 37.7	-0.1
	39nm,1.8s						
CCUT	Cedar City	50.74	359	eP	P	17 37 39.5	+0.9
	4.2nm,1.2s						
656A	Willston	51.33	34	eP	P	17 37 42.7	-0.2
	68nm,1.1s						
TUL1	Leonard	51.50	17	eP	P	17 37 44.4	+0.3
	8.2nm,1.0s						
NV01	Mina Array Sit	51.92	354	eP	P	17 37 48.3	+0.9
NVAR	Mina Array Bea	51.92	354	P	P	17 37 48.3	+0.9
	1.0nm,0.6s,baz=165,slow=8.2,SNR=1.0						
NVAR				LR	LR	17 54 39.9	
	comp=Z,517nm,21.2s,baz=170,slow=30						
Q16A	Castle Valley	52.11	1	eP	P	17 37 50.5	+1.7
	7.8nm,1.4s						
SMCO	Snowmass	52.59	5	eP	P	17 37 54.2	+1.6
	10.0nm,1.6s						
CPUP	Villa Florida	52.85	113	LR	LR	17 56 02.8	
	comp=Z,399nm,21.0s,baz=275,slow=31						
NLU	North Lily Min	53.13	0	eP	P	17 37 57.0	+0.6
	4.6nm,1.0s						
PDAR	Pinedale Array	56.00	2	P	P	17 38 16.2	-0.9
	0.4nm,0.6s,baz=195,slow=6.5,SNR=3.7						
PDAR				LR	LR	17 58 38.3	
	comp=Z,288nm,18.5s,baz=194,slow=32						
BDFB	Brasilia	61.99	101	LR	LR	18 03 25.3	
	comp=Z,116nm,19.7s,baz=334,slow=34						
ULM	Lac du Bonnet	65.04	12	LR	LR	18 04 43.5	
	comp=Z,164nm,19.6s,baz=248,slow=33						
YKA	Yellowknife Ar	75.73	359	P	P	17 40 23.5	0.0
	0.1nm,0.3s,baz=186,slow=5.8,SNR=4.2						
YKA				LR	LR	18 10 47.0	
	comp=Z,42nm,18.1s,baz=183,slow=33						
YKB5	Yellowknife Ar	75.73	359	eP	P	17 40 23.6	0.0
WHY	Whitehorse	76.06	349	eP	P	17 40 19.7	-6.0
	7.8nm,1.5s						
VNDA	Vanda	76.07	193	LR	LR	18 06 57.7	
	comp=Z,132nm,21.9s,baz=98,slow=30						
DZM	Mont Dzumac	77.14	250	eLR	LR	18 04 24.5	
	comp=Z,198nm,21.9s						
SCHQ	Schefferville	78.08	25	LR	LR	18 13 31.5	
	comp=Z,280nm,20.7s,baz=268,slow=35						
PAX	Paxson	80.44	345	eP	P	17 40 49.8	-0.1
	13nm,2.0s						
DOT	Dot Lake	80.68	346	eP	P	17 40 50.1	-0.9
	7.6nm,1.6s						
EPYK	Eagle Plains	81.64	350	eP	P	17 40 56.2	+0.1
	15nm,1.5s						
RND	Reindeer	81.66	344	eP	P	17 40 57.7	+1.3
	17nm,1.9s						
ILAR	Eielson Array	82.29	346	P	P	17 41 00.0	+0.5
	0.2nm,0.6s,baz=143,slow=3.2,SNR=2.6						
ILAR				LR	LR	18 10 23.3	
	comp=Z,101nm,19.4s,baz=141,slow=30						
WRH	Wood River Hil	82.34	345	eP	P	17 40 59.3	-0.4
	7.0nm,1.2s						
MDM	Murphy Dome	82.77	345	eP	P	17 41 02.1	+0.1
	9.1nm,1.4s						
BPAW	Bear Paw Mtn.	82.79	344	eP	P	17 41 01.3	-0.9
	8.3nm,1.3s						
H11S2	WAKE ISLAND Hy	85.95	290	T	T	19 16 32.9	
	baz=106,slow=74,SNR=68						
H11S1	WAKE ISLAND Hy	85.96	290	T	T	19 16 33.8	
	baz=106,slow=74,SNR=32						
H11S3	WAKE ISLAND Hy	85.97	290	T	T	19 16 31.5	
	baz=106,slow=74,SNR=48						
H11N3	WAKE ISLAND Hy	86.09	291	T	T	19 16 28.9	
	baz=106,slow=74,SNR=11						
H11N2	WAKE ISLAND Hy	86.11	291	T	T	19 16 30.2	
	baz=106,slow=74,SNR=20						
H11N1	WAKE ISLAND Hy	86.11	291	T	T	19 16 49.1	
	baz=106,slow=74,SNR=5.6						
STKA	Stephens Creek	96.25	235	LR	LR	18 17 16.0	
	comp=Z,176nm,20.8s,baz=49,slow=30						
BR101	Keskin Array S	140.20	43	ePKPdf	PKPdf	17 48 07.7	-0.1
BRTR	Keskin Array B	140.20	43	PKP	PKPdf	17 48 07.7	-0.1
	0.8nm,0.9s,baz=308,slow=3.3,SNR=3.3						
MK32	Makanchi Array	144.60	343	ePKPdf	PKPab	17 48 13.7	0.0
MKAR	Makanchi Array	144.60	343	PKP	PKPab	17 48 13.7	0.0
	0.4nm,0.9s,baz=5.7,slow=2.9,SNR=3.1						
MAKZ	Makanchi	144.67	343	ePKPdf	PKPab	17 48 11.0	-3.0
KMBO	Kilima Mbogo	146.46	113	ePKPdf	PKPdf	17 48 18.5	-1.1
KMBO	Kilima Mbogo	146.46	113	PKPbc	PKPbc	17 48 19.8	-1.2
	0.6nm,0.4s,baz=218,slow=0.4,SNR=2.3						
CMAR	Chiang Mai Arr	149.64	284	PKPbc	PKPbc	17 48 29.5	+0.5
	0.4nm,0.7s,baz=84,slow=2.8,SNR=4.3						
GEYT	Alibeck	154.16	18	PKPbc	PKPbc	17 48 39.4	+0.6
	1.2nm,0.7s,baz=304,slow=3.1,SNR=2.5						

IDC ***25*** *17:42:01.9±6.9, 3°.05N×124°.39E, h300km±75km, mb2.9/4, mb1 3.1/4, mb1mx2.8/30, mbtmp3.6/4, Error ellipse: s-maj=50.6km s-min=17.8km az=84.0*
DJA ***25*** *17:42:12.9±0.6, 3°N±5°×12°4E±°, h246km±5km, M3.5/10, mb3.4/3, mB3.9/1, MLv3.5/10, Mw(mB)2.9/1*

ISC 25 17:42:03.0±0.9, 3°.1N±0°.1×124°.7E±0°.1, h300km, n14, σ2§63/15, mb3.2/4, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.00	56	P	Pn	17 42 51.2	+7.8
SGSI				S	S	17 43 22.2	+6.7
KMSI	Cibinong	2.63	196	P	Pn	17 42 53.5	-1.7
TNTI	Ternate	3.55	131	P	Pn	17 43 10.6	+6.2
MRSI	Marisa	3.80	226	P	Pn	17 43 09.3	+2.2
MRSI				S	S	17 43 50.5	-8.0
LUWI	Luwuk	4.56	205	P	Pn	17 43 16.9	+1.4
APSI	Ampana	5.03	217	P	Pn	17 43 22.4	+1.5
SANI	Sanana	5.30	166	P	Pn	17 43 25.6	+1.6
MPSI	Mapaga	5.53	240	P	Pn	17 43 28.4	+1.6
SPSI	Sidrap Palu	8.59	215	P	Pn	17 44 06.3	+2.4
BNSI	Bone	8.77	212	P	Pn	17 44 07.1	+1.1
FITZ	Fitzroy Crossi	21.11	178	P	P	17 46 22.9	-2.1
	4.4nm,1.2s,baz=348,slow=9.3,SNR=9.5						
ASAR	Alice Springs	28.10	162	P	P	17 47 27.6	-0.3
	0.5nm,1.1s,baz=340,slow=7.7,SNR=9.3						
ASAR				PcP	PcP	17 50 32.6	-1.4
	0.4nm,0.9s,baz=350,slow=2.4,SNR=2.6						
MJAR	Matsushiro Arr	35.52	19	P	P	17 48 32.1	0.0
	0.6nm,0.5s,baz=197,slow=9.9,SNR=4.8						
MKAR	Makanchi Array	56.91	326	P	P	17 51 15.8	-1.6
	0.2nm,0.3s,baz=118,slow=8.2,SNR=6.4						
MKAR				PcP	PcP	17 52 06.7	-2.4
	0.6nm,0.9s,baz=142,slow=5.4,SNR=2.2						

ISCJB ***25*** *17:48:19.9±1.0, 21°.80S±0°.04×68°.64W±0°.07, h122km±12km, Error ellipse: s-maj=10.8km s-min=7.2km az=177.8*
SJA ***25*** *17:48:19.2±0.6, 21°.82S×68°.56W, h113km±8km, ML2.0, MW2.5*
GUC ***25*** *17:48:20.4±0.6, 21°.77S×68°.77W, h123km±4km, ML2.9*

ISC 25 17:48:20.5±1.9, 21°.80S±0°.05×68°.62W±0°.06, h116km±16km, n16, σ0§57/29, 7C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.58	271	⇓iP	Pn	17 48 39.3	+0.5
PB09				eS	Sn	17 48 53.0	+0.5
PB09				IAML		17 48 55.3	
	comp=N,443nm,0.1s						
LVC	Limon Verde	0.85	199	eP	Pn	17 48 40.6	-0.6
LVC				eS	Sn	17 48 56.0	-0.8
PB03	IPOC Station P	1.08	257	eP	Pn	17 48 43.0	-0.2
PB03				eS	Sn	17 49 00.6	+0.2
PB03	IPOC Station P	1.08	257	⇑iP	Pn	17 48 43.2	0.0
PB03				eS	Sn	17 49 00.2	-0.2
PB03				IAML		17 49 01.3	
	comp=N,402nm,0.1s						
PB01	IPOC Station P	1.11	313	⇑iP	Pn	17 48 43.0	-0.4
PB01				eS	Sn	17 49 00.4	-0.4
PB01				IAML		17 49 02.7	
	comp=N,259nm,0.2s						
PB07	IPOC Station P	1.18	273	eP	Pn	17 48 44.1	-0.1
PB07				eS	Sn	17 49 02.9	+0.6
PB07	IPOC Station P	1.18	273	⇑iP	Pn	17 48 44.1	-0.1
PB07				eS	Sn	17 49 02.1	-0.2
PB07				IAML		17 49 02.7	
	comp=N,495nm,0.4s						
PB06	IPOC Station P	1.26	224	⇑iP	Pn	17 48 45.4	+0.2
PB06				eS	Sn	17 49 04.5	+0.7
PB06				IAML		17 49 05.3	
	comp=E,357nm,0.4s						
PB02	IPOC Station P	1.28	292	⇑iP	Pn	17 48 44.9	-0.4
PB02				eS	Sn	17 49 03.2	-0.9
PB04	IPOC Station P	1.52	249	⇑iP	Pn	17 48 47.8	-0.2
PB04				eS	Sn	17 49 08.2	-0.7
PB04				IAML		17 49 13.5	
	comp=E,186nm,0.2s						
PB15	IPOC Station P	1.61	209	⇓iP	Pn	17 48 49.6	+0.4
PB15				eS	Sn	17 49 12.4	+1.5
PB08	IPOC Station P	1.73	343	⇑iP	Pn	17 48 51.5	+0.7
PB08				eS	Sn	17 49 14.5	+0.6
PB05	IPOC Station P	1.80	234	eP	Pn	17 48 51.2	-0.2
PB05	IPOC Station P	1.80	234	⇓iP	Pn	17 48 51.3	-0.2
PB05				eS	Sn	17 49 14.8	-0.3
PB05				IAML		17 49 19.8	
	comp=E,78nm,0.2s						
YJA	Yavi	2.90	98	eP	Pn	17 49 05.2	-0.6
YJA				IAML		17 49 10.2	
	comp=Z,4.1nm,0.4s						
HJA	Humahuaca	3.28	116	eP	Pn	17 49 10.8	+0.1
HJA				IAML		17 49 13.8	
	comp=Z,3.6nm,0.4s						

NORS ***25*** *18:19:22.8±0.0, 41°.70N×46°.98E, h13km, MPVA3.3*
DRS ***25*** *18:19:23.3±0.0, 41°.53N×46°.70E, h17km, ML2.1/3*

ISC 25 18:19:20.4±1.4, 41°.49N±0°.05×46°.74E±0°.03, h4km±10km, n17, σ1§67/33, 1C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	Dedoflistskaro	0.47	265	P	Pg	18 19 27.4	-2.0
DDFL				S	Sg	18 19 33.5	-2.1
LGD	Lagodekhi	0.51	313	P	Pg	18 19 29.5	-0.7
LGD				S	Sg	18 19 34.7	-2.1
LGD	Lagodekhi	0.51	313	ePg	Pg	18 19 29.5	-0.7
LGD				eSg	Sg	18 19 34.7	-2.1
KMKR	Kumukh	0.70	22	ePg	Pb	18 19 34.8	-0.4
KMKR				i Sg	Sn	18 19 44.8	-3.8
AKT	Akhty	0.74	90	i Pg	Pg	18 19 36.0	+1.4
	25nm,0.2s						
AKT				⇓eSg	Sb	18 19 46.5	0.0
	99nm,0.5s						
GNBR	Gunib	0.92	10	ePg	Pg	18 19 38.0	0.0
	17nm,0.7s						
GNBR				⇑eSg	Sn	18 19 51.0	-2.7
	66nm,0.6s						
XNZR	Khunzakh	1.05	359	ePg	Pg	18 19 41.2	+0.6
XNZR				eSg	Sn	18 19 55.2	-2.1
UNCR	Uncukul	1.23	2	ePg	Pn	18 19 44.0	-0.4
UNCR				eSg	Sn	18 20 02.0	+0.6
BTLR	Botlikh	1.24	342	ePg	Pb	18 19 43.9	-0.5
	10.0nm,0.7s						
BTLR				⇓eSg	Sg	18 20 00.6	+0.4
	33nm,0.7s						
KRNR	Karanay	1.35	5	ePg	Pb	18 19 46.0	-0.2
KRNR				eSg	Sg	18 20 06.0	+2.4
BTNK	Botanikuri	1.47	278	P	Pn	18 19 46.4	-1.3
BTNK				S	Sn	18 20 06.6	-0.8
TBLG	Delisi	1.52	280	P	Pn	18 19 46.8	-1.5
TBLG				S	Sn	18 20 08.3	-0.3
DVE	Vedeno	1.54	343	ePg	Pn	18 19 49.0	+0.4
DVE				eSg	Sb	18 20 08.6	-0.8
GROC	Groznyy	1.85	338	ePg	Pg	18 19 56.6	+0.8
GROC				i Sg	Sg	18 20 20.0	+0.1
GUDG	Gudauri	1.95	301	P	Pn	18 19 55.5	+1.1
GUDG				S	Sb	18 20 22.0	+0.7
LACR	Lac	2.26	307	ePn	Pn	18 19 59.1	+0.5
LACR				eSn	Sn	18 20 29.1	+2.1
LSNR	Lesken	2.81	311	ePn	Pb	18 20 14.0	+2.9
LSNR				i Sn	Sb	18 20 49.0	+3.2

ISCJB ***25*** *18:19:33.2±1.0, 36°.85N±0°.03×141°.45E±0°.06, h16km±6km, mb3.6/10, Error ellipse: s-maj=8.0km s-min=5.3km az=19.0*
IDC ***25*** *18:19:33.2±0.9, 36°.89N×141°.29E, h0km, mb3.6/10, mb1 3.7/13, mb1mx3.6/47, mbtmp3.6/13, ML3.2/3, Error ellipse: s-maj=20.8km s-min=17.2km az=150.0*
JMA ***25*** *18:19:34.6±0.1, 36°.85N×141°.35E, h27km±1km, M4.0*
JMA Felt I J1.

ISC 25 18:19:34.8±1.5, 36°.84N±0°.04×141°.31E±0°.05, h13km±9km, n33, σ0§95/40, mb3.6/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.49	302	P	Pg	18 19 44.7	+0.3
ONAJ				S	Sb	18 19 52.3	0.0
JFK	Kawauchi	0.63	326	P	Pg	18 19 46.9	-0.2
JFK				S	Sg	18 19 55.5	+0.1
JHO	H

baz=313,slow=75,SNR=1162
H11N3 WAKE ISLAND Hy 28.14 120 T T 18 54 53.2
baz=313,slow=75,SNR=762
H11S1 WAKE ISLAND Hy 28.82 122 T T 18 55 45.5
baz=314,slow=75,SNR=237
H11S3 WAKE ISLAND Hy 28.82 122 T T 18 55 44.5
baz=314,slow=75,SNR=208
H11S2 WAKE ISLAND Hy 28.84 122 T T 18 55 43.9
baz=314,slow=75,SNR=173
ZALV Zalesovo Beam 41.98 313 P **P** **18 27 25.1 -0.3**
0.8nm,0.5s,baz=86,slow=6.2,SNR=4.1
MKAR Makanchi Array 44.15 302 P **P** **18 27 43.0 0.0**
0.7nm,0.5s,baz=90,slow=10.0,SNR=11
KURBB Kurchatov Arra 46.05 308 P **P** **18 27 58.1 +0.1**
baz=84,slow=7.9
ILAR Eielson Array 49.70 32 P **P** **18 28 26.2 +0.1**
0.8nm,0.7s,baz=275,slow=6.3,SNR=9.5
BVAR Borovoye Array 50.64 312 P **P** **18 28 32.8 -0.6**
0.2nm,0.4s,baz=68,slow=8.1,SNR=3.3
BVAR PcP **PcP** **18 29 51.2 +0.4**
0.3nm,0.5s,baz=67,slow=4.8,SNR=2.1
ASAR Alice Springs 60.59 188 P **P** **18 29 45.1 0.0**
0.2nm,0.7s,baz=13,slow=13,SNR=4.7
YKA Yellowknife Ar 64.01 30 P **P** **18 30 08.2 +0.6**
0.2nm,0.5s,baz=307,slow=5.2,SNR=3.2
FINES FINESS Array B 68.94 332 P **P** **18 30 39.0 -0.1**
1.6nm,0.9s,baz=50,slow=13,SNR=4.4
NOA NORSAR Array B 74.33 337 P **P** **18 31 11.5 -0.2**
0.4nm,0.6s,baz=40,slow=6.1,SNR=2.9
NVAR Mina Array Bea 75.17 53 P **P** **18 31 17.9 +0.7**
0.2nm,0.4s,baz=278,slow=6.3,SNR=1.9
LPAZ La Paz 146.86 60 PKPbc **PKPbc** **18 39 18.4 +0.4**
0.6nm,0.5s,baz=200,slow=3.4,SNR=3.6

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*KRSC **25** 18:41:17.2±10.0, 54°.58N×154°.33E, h672km±10km, ML4.1*
*ISCJB **25** 18:41:18.1±0.8, 54°.7N±0°.1×153°.8E±0°.2, h650km, mb2.8/7, Error ellipse: s-maj=15.3km s-min=13.0km az=149.5*
*IDC **25** 18:41:18.3±1.2, 54°.71N×152°.89E, h627km±15km, mb2.4/7, mb1 2.8/10, mb1mx2.5/36, mbtmp3.4/10, Error ellipse: s-maj=26.9km s-min=18.5km az=161.0*
ISC 25 18:41:18.9±0.9, 54°.6N±0°.1×153°.5E±0°.1, h650km, n23, σ2°89/26, mb2.9/7, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**2.75**	**108**	P	**P**	**18 42 40.9**	**-0.1**
PETK	**Petropavlovsk-**	**2.88**	**120**	P	**P**	**18 42 41.0**	**-0.6**
	0.5nm,0.3s,baz=40,slow=4.5,SNR=20						
KOK	**Koryaka**	**3.29**	**112**	P	**P**	**18 42 44.0**	**+0.2**
AVH	**Avacha**	**3.35**	**112**	P	**P**	**18 42 43.4**	**-0.8**
SMAR	**Somma**	**3.39**	**111**	P	**P**	**18 42 44.0**	**-0.5**
PET	**Petropavlovsk**	**3.42**	**116**	P	**P**	**18 42 43.4**	**-1.0**
UGLR	**Uglovaya**	**3.43**	**112**	P	**P**	**18 42 44.3**	**-0.3**
SDLR	**Sedlovina**	**3.43**	**111**	P	**P**	**18 42 43.8**	**-0.8**
DALK	**Dalny**	**3.47**	**115**	P	**P**	**18 42 43.6**	**-1.1**
MTVR	**Mutnovka**	**3.49**	**126**	S	**S**	**18 43 51.1**	**-4.3**
RUS	**Russkaya**	**3.68**	**124**	P	**P**	**18 42 44.0**	**-2.0**
SPN	**Mys Shipunski**	**4.13**	**109**	P	**P**	**18 42 46.6**	**-2.1**
SPN				S	**S**	**18 43 56.8**	**-5.4**
MKZ	**Mys Kozlova**	**4.77**	**87**	P	**P**	**18 42 50.3**	**-2.7**
MKZ				S	**S**	**18 44 04.6**	**-5.6**
MA2	**Magadan**	**5.21**	**344**	P	**P**	**18 42 52.8**	**-3.3**
	0.5nm,0.3s,baz=187,slow=17,SNR=4.4						
KBTR	**Krutoberegovo**	**5.53**	**69**	P	**P**	**18 42 56.8**	**-1.9**
KBTR				S	**S**	**18 44 15.3**	**-5.3**
SEY	**Seymchan**	**8.37**	**356**	P	**P**	**18 43 20.8**	**-2.2**
	0.4nm,0.3s,baz=182,slow=9.2,SNR=9.7						
ILAR	**Eielson Array**	**30.56**	**47**	P	**P**	**18 46 44.0**	**+1.7**
	0.6nm,0.7s,baz=281,slow=9.9,SNR=6.2						
MKAR	**Makanchi Array**	**43.99**	**290**	P	**P**	**18 48 28.9**	**-2.2**
	0.3nm,0.5s,baz=63,slow=6.8,SNR=7.1						
YKA	**Yellowknife Ar**	**44.63**	**41**	P	**P**	**18 48 37.2**	**+1.5**
	0.3nm,0.4s,baz=304,slow=7.1,SNR=4.0						
NVAR	**Mina Array Bea**	**58.79**	**67**	P	**P**	**18 50 21.2**	**+4.0**
	0.4nm,0.5s,baz=295,slow=8.8,SNR=2.9						
PDAR	**Pinedale Array**	**60.08**	**58**	P	**P**	**18 50 28.3**	**+2.6**
	0.2nm,0.4s,baz=353,slow=3.8,SNR=2.1						
TXAR	**Lajitas Array**	**73.50**	**63**	P	**P**	**18 51 51.0**	**+3.3**
	0.2nm,0.6s,baz=316,slow=2.5,SNR=4.4						
ASAR	**Alice Springs**	**79.76**	**198**	P	**P**	**18 52 22.4**	**+1.0**
	0.3nm,0.9s,baz=11,slow=5.1,SNR=4.2						

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*IDC **25** 18:43:01.9±2.8, 40°.13N×121°.27W, h0km, mb2.7/1, mb1 3.5/3, mb1mx3.3/36, mbtmp3.0/3, ML3.4/2, Error ellipse: s-maj=64.5km s-min=13.4km az=49.0*
*ISCJB **25** 18:43:02.9±0.2, 40°.19N±0°.02×121°.06W±0°.03, h10km, mb2.8/1, Error ellipse: s-maj=3.6km s-min=2.2km az=38.3*
*NCEDC **25** 18:43:03.0, 40°.18N×121°.05W, h8km, MW3.5(BRK)*
*NEIC **25** 18:43:03.0±0.0, 40°.18N×121°.05W, h8km, MW3.5(BRK), After NCEDC.*
NEIC Felt at Greenville, Quincy and Wendel.
*ANF **25** 18:43:04.4±2.2, 40°.36N×121°.21W, ML3.2/10, Error ellipse: s-maj=20.4km s-min=6.1km az=131.0*
ISC 25 18:43:02.8±0.7, 40°.20N±0°.02×121°.08W±0°.02, h10km, n75, σ1°79/90, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	**Paynes Creek**	**0.56**	**280**	P	**Pg**	**18 43 13.8**	**+0.1**
	baz=102,SNR=642						
O03E				S	**Sb**	**18 43 22.0**	**-0.9**
	baz=102						
BEKR	**Beckworth**	**0.64**	**121**	*e*Pg	**Pg**	18 43 14.6	-0.7
BEKR				*e*Sg	**Sg**	18 43 22.8	-1.0
ORV	**Oroville**	**0.72**	**207**	*e*Pg	**Pg**	18 43 15.8	-0.8
ORV				*e*Pn	Pn	18 43 24.6	+5.6
WDC	**Whiskeytown Da**	**1.18**	**289**	*e*Pg	**Pb**	18 43 23.9	-1.3
WDC				*e*Sg	**Sb**	18 43 40.1	-0.5
AFDM	**Forest Hills D**	**1.25**	**176**	*e*Pn	**Pn**	18 43 25.2	-1.2
AFDM				*e*Sg	**Sb**	18 43 40.9	-1.8
O02D	**Mt. Diablo Mer**	**1.31**	**270**	P	**Pn**	18 43 26.6	-0.7
	baz=90,SNR=38						
RUBR	**Rubicon Trail**	**1.35**	**148**	*e*Pn	**Pn**	18 43 27.5	-0.4
RUBR				*e*Sg	**Sb**	18 43 44.7	-1.0
PAHR	**Pah Rah Range**	**1.39**	**110**	*e*Pn	**Pb**	18 43 28.0	-1.0
PAHR				*e*Sn	**Sb**	18 43 45.9	-1.0
VCNR	**Virginia City**	**1.42**	**129**	*e*Pn	**Pb**	18 43 28.8	-0.7
VCNR				*e*Sn	**Sb**	18 43 46.8	-1.0
N02D	**Trinity Center**	**1.46**	**303**	P	**Pn**	18 43 28.8	-0.5
	baz=122,SNR=58						
PNTR	**Pine Nut**	**1.59**	**134**	*e*Pn	**Pb**	18 43 31.5	-0.9
M04C	**Macdoel**	**1.69**	**340**	P	**Pb**	18 43 33.7	-0.3
	baz=160,SNR=110						
M02C	**Callahan**	**1.80**	**312**	Pb	**Pb**	18 43 35.1	-0.8
	baz=131,SNR=54						
M02C				S	**Sn**	18 43 56.6	-0.3
	baz=131						
MOD	**Modoc Plateau**	**1.80**	**19**	*e*Pn	**Pb**	18 43 34.6	-1.3
YERR	**Yerington**	**1.87**	**130**	*e*Pn	**Pn**	18 43 35.2	+0.2
GDXM	**Geysers**	**1.92**	**224**	*e*Pn	**Pb**	18 43 36.8	-1.2
HOPS	**Hopland Field**	**1.95**	**233**	*e*Pn	**Pn**	18 43 36.6	+0.6
YBH	**Yreka Blue Hor**	**1.97**	**322**	*e*Pn	**Pb**	18 43 37.9	-0.9
KCPM	**Cahto Peak**	**1.99**	**256**	*e*Pn	**Pb**	18 43 38.2	-1.0
KMRM	**Mail Ridge**	**2.01**	**272**	*e*Pn	**Pb**	18 43 38.6	-0.9
WAKR	**Walker**	**2.12**	**142**	*e*Pn	**Pb**	18 43 39.5	-1.9
KHMM	**Horse Mountain**	**2.13**	**289**	*e*Pn	**Pb**	18 43 40.6	-1.0
L04D	**Klamath Falls**	**2.22**	**336**	Pb	**Pb**	18 43 42.1	-1.0
	baz=155,SNR=23						
CMB	**Columbia Colle**	**2.23**	**166**	*e*Pn	**Pn**	18 43 40.5	+0.7
JCC	**Jacoby Creek,**	**2.33**	**286**	*e*Pn	**Pb**	18 43 42.9	-2.0
K04D	**Chiloquin, OR**	**2.48**	**348**	Pb	**Pb**	18 43 46.5	-1.0
	baz=168,SNR=7.9						
MCCM	**Marconi Confer**	**2.48**	**215**	*e*Pn	**Pn**	18 43 44.3	+1.1
KRMB	**Red Mountain**	**2.52**	**303**	*e*Pn	**Pn**	18 43 45.4	+1.5
RYN	**Ryan**	**2.52**	**128**	*e*Pn	**Pn**	18 43 45.0	+1.0
K05A	**Summer Lake**	**2.53**	**3**	*e*Pn	**Pb**	18 43 47.3	-1.1
KVN	**Kaiserville**	**2.57**	**116**	*e*Pn	**Pn**	18 43 45.2	+0.6
L02E	**Cave Junction**	**2.73**	**317**	Pb	**Pb**	18 43 50.5	-1.2
	baz=135,SNR=8.9						
NVAR	**Mina Array Bea**	**2.78**	**128**	Pn	**Pn**	18 43 48.8	+1.2
	9.5nm,0.3s,baz=286,slow=13,SNR=200						
NVAR				Pg	**Pb**	18 43 52.8	0.0
	8.7nm,0.3s,baz=295,slow=15,SNR=21						
NVAR				Sn	**Sb**	18 44 24.1	-2.9
	5.8nm,0.3s,baz=349,slow=4.5,SNR=3.9						
NVAR				Lg	Lg	18 44 31.8	
	19nm,0.3s,baz=297,slow=11,SNR=7.6						
HUMO	**Hull Mountain**	**2.79**	**330**	*e*Pn	**Pb**	18 43 50.2	-2.6
NV11	**Mina Array Sit**	**2.87**	**127**	*e*Pn	**Pn**	18 43 49.9	+1.1
WVOR	**Wild Horse Val**	**2.89**	**39**	*e*Pn	**Pn**	18 43 49.9	+0.9
BMN	**Battle Mountai**	**2.96**	**84**	*e*Pn	**Pn**	18 43 49.2	-0.7
BMN				*e*Sn	**Sg**	**18 44 35.4**	**-2.5**
MDPB	**Devils Postpil**	**3.00**	**148**	*e*Pn	**Pn**	**18 43 51.5**	**+0.8**
MDPB				*e*Sn	**Sb**	**18 44 35.6**	**+2.4**
OMMB	**Old Mammoth Mi**	**3.05**	**147**	*e*Pn	**Pn**	**18 43 53.1**	**+1.8**
OMMB				*e*Sg	**Sb**	**18 44 36.8**	**+2.1**
J05D	**Fort Rock, OR**	**3.09**	**358**	Pb	**Pb**	**18 43 57.2**	**-0.7**
	baz=178,SNR=123						
J05D				Sg	**Sg**	**18 44 42.2**	**+0.3**
	baz=178						
J04D	**Umpqua Nationa**	**3.14**	**346**	Pb	**Pb**	**18 43 58.6**	**-0.1**
	baz=165,SNR=22						
SAO	**San Andreas Ge**	**3.44**	**185**	*e*Pn	**Pn**	**18 43 58.5**	**+2.0**
PINE	**Pine Mountain**	**3.59**	**2**	*e*Pn	**Pn**	**18 44 00.7**	**+1.9**
KEBM	**Edson Butte**	**3.62**	**319**	*e*Pn	**Pn**	**18 44 00.6**	**+1.6**
J08A	**Circle Bar Ran**	**3.71**	**31**	*e*Pn	**Pn**	**18 44 01.0**	**+0.8**
J08A				*e*Sg	**Sg**	**18 44 57.8**	**-4.1**
I07A	**Izee**	**4.05**	**16**	*e*Pn	**Pn**	**18 44 07.2**	**+2.2**
ELK	**Elko**	**4.49**	**81**	*e*Pn	**Pn**	**18 44 10.8**	**-0.3**
PAGB	**Antelope Grade**	**4.51**	**171**	*e*Pn	**Pn**	**18 44 15.2**	**+4.1**
H04A	**Detroit Lake**	**4.56**	**350**	*e*Pn	**Pn**	**18 44 15.6**	**+3.8**
R11A	**Troy Canyon, C**	**4.65**	**112**	*e*Pn	**Pn**	**18 44 14.1**	**+0.9**
R11A				*e*Sg	**Sg**	**18 45 27.4**	**-4.5**
DAC	**Darwin (Calif)**	**4.78**	**144**	*e*Pn	**Pn**	**18 44 17.1**	**+2.0**
DAC				*e*Sg	**Sg**	**18 45 33.2**	**-3.1**
ISA	**Isabella, Lake**	**4.97**	**155**	*e*Pn	**Pn**	**18 44 18.2**	**+0.6**
ISA				*e*Sg	**Sb**	**18 45 34.5**	**+4.6**
TPNV	**Topopah Spring**	**4.98**	**129**	*e*Pn	**Pn**	**18 44 19.1**	**+1.3**
G08A	**Pilot Rock**	**5.32**	**16**	*e*Pn	Pn	18 44 27.1	+4.6
BMO	**Blue Mountains**	**5.42**	**30**	*e*Pn	Pn	18 44 28.5	+4.8
PSUT	**Pine Spring**	**5.84**	**104**	*e*Pn	**Pn**	**18 44 30.8**	**+1.2**
SHPR	**Sheep Range**	**5.93**	**127**	*e*Pn	**Pn**	**18 44 32.9**	**+2.0**
GSC	**Goldstone, Bar**	**5.95**	**144**	*e*Pn	**Pn**	**18 44 33.6**	**+2.7**
HLID	**Hailey**	**6.00**	**54**	*e*Pn	**Pn**	**18 44 34.7**	**+2.9**
PLID	**Pearl Lake**	**6.16**	**36**	*e*Pn	**Pn**	**18 44 35.2**	**+1.2**
BGU	**Big Grassy Mou**	**6.17**	**81**	*e*Pn	**Pn**	**18 44 35.0**	**+0.9**
DUG	**Dugway, Tooele**	**6.33**	**87**	*e*Pn	**Pn**	**18 44 37.3**	**+1.0**
HVU	**Hansel Valley**	**6.48**	**73**	*e*Pn	**Pn**	**18 44 37.8**	**-0.5**
CCUT	**Cedar City**	**6.58**	**111**	*e*Pn	**Pn**	**18 44 39.9**	**+0.2**
SPUT	**South Promonto**	**6.65**	**78**	*e*Pn	**Pn**	**18 44 41.2**	**+0.5**
SZCU	**Shurtz Canyon**	**6.75**	**110**	*e*Pn	**Pn**	**18 44 42.2**	**+0.1**
TCRU	**Three Creeks R**	**6.87**	**101**	*e*Pn	**Pn**	**18 44 46.6**	**+2.8**
MSU	**Marysvale**	**7.10**	**101**	*e*Pn	**Pn**	**18 44 48.9**	**+1.9**
Q16A	**Castle Valley**	**7.76**	**96**	*e*Pn	**Pn**	**18 44 59.9**	**+3.9**
U15A	**North Rim**	**7.87**	**116**	*e*Pn	**Pn**	**18 45 00.6**	**+3.1**
SRU	**San Rafael Swe**	**8.22**	**94**	*e*Pn	Pn	18 45 06.9	+4.7
LTX	**Lajitas**	**17.91**	**122**	*e*Pn	**P**	**18 47 15.3**	**+2.5**
TXAR	**Lajitas Array**	**17.91**	**122**	P	**P**	**18 47 15.3**	**+2.5**
	0.0nm,0.3s,baz=294,slow=8.8,SNR=5.7						
YKA	**Yellowknife Ar**	**22.67**	**8**	P	**P**	**18 48 05.1**	**+1.1**
	0.2nm,0.5s,baz=186,slow=9.9,SNR=2.9						
YKB5	**Yellowknife Ar**	**22.67**	**8**	*e*P	**P**	**18 48 05.1**	**+1.1**

IDC 25 19:08:04.1±1.2, 50°.11N×115°.13W, h0km, mb1 3.4/3, mb1mx3.1/45, mbtmp3.0/3, ML3.4/3, Error ellipse: s-maj=19.9km s-min=7.4km az=116.0, British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEW	**Newport**	**2.26**	**216**	Pn	Pb	19 08 44.8	-1.1
	2.4nm,0.3s,baz=32,slow=7.8,SNR=36						
NEW				Lg	Lg	19 09 14.2	
	5.1nm,0.3s,baz=351,slow=20,SNR=12						
I56US	**NEWPORT FRAS**	**2.26**	**216**	*i*		19 22 54.3	
	baz=36,slow=328,SNR=10						
PDAR	**Pinedale Array**	**8.28**	**150**	Pn	Pn	19 10 06.9	+1.2
	0.1nm,0.3s,baz=346,slow=11,SNR=2.8						
YKA	**Yellowknife Ar**	**12.42**	**1**	Pn	Pn	19 10 58.4	-3.6
	0.2nm,0.3s,baz=178,slow=13,SNR=7.0						
YKA				Sn	Sn	19 13 10.3	-11
	0.1nm,0.3s,baz=217,slow=29,SNR=4.4						
YKA				Lg	Lg	19 14 27.0	
	0.0nm,0.3s,baz=176,slow=26,SNR=2.8						

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*IDC **25** 19:17:39.3±1.3, 55°.76S×26°.93W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, Error ellipse: s-maj=52.5km s-min=33.0km az=85.0*
ISC 25 19:17:41.5±1.1, 55°.7S±0°.2×27°.2W±0°.3, h10km, n14, σ1°82/6, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.17**	**158**	P	**P**	**19 21 45.1**	**+2.4**
VNA3	**Neumayer Olymp**	**17.37**	**161**	P	**P**	**19 21 44.9**	**0.0**
VNA2	**Neumayer--Watz**	**17.56**	**158**	P	P	19 21 50.6	+3.5
	baz=320,slow=13						
SNAA	**Sanae**	**19.11**	**156**	P	Pn	19 22 09.9	+4.9
VNDA	**Vanda**	**46.97**	**183**	P	**P**	**19 26 10.6**	**-1.3**
	0.8nm,0.8s,baz=187,slow=4.9,SNR=7.0						
H10S2	**ASCENSION HYDR**	**47.62**	**17**	T	T	20 17 43.5	
	baz=189,slow=75,SNR=22						
H10S3	**ASCENSION HYDR**	**47.63**	**17**	T	T	20 17 43.8	
	baz=189,slow=75,SNR=25						
H10S1	**ASCENSION HYDR**	**47.64**	**17**	T	T	20 17 45.1	
	baz=189,slow=75,SNR=26						
H10N1	**ASCENSION HYDR**	**48.74**	**17**	T	T	20 19 11.4	
	baz=189,slow=75,SNR=11						
H10N3	**ASCENSION HYDR**	**48.74**	**17**	T	T	20 19 08.9	
	baz=189,slow=75,SNR=25						
H10N2	**ASCENSION HYDR**	**48.76**	**17**	T	T	20 19 08.7	
	baz=189,slow=75,SNR=20						
LPAZ	**La Paz**	**50.14**	**305**	P	**P**	**19 26 38.7**	**+1.0**
	1.2nm,0.4s,baz=135,slow=5.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**72.72**	**30**	P	**P**	**19 29 09.3**	**-0.2**
	0.4nm,0.8s,baz=196,slow=5.1,SNR=4.4						
ILAR	**Eielson Array**	**149.84**	**312**	PKPbc	**PKPbc**	**19 37 29.1**	**-1.1**
	0.6nm,0.7s,baz=84,slow=1.5,SNR=8.6						

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*KRSC **25** 19:20:25.4±10.0, 53°.41N×162°.61E, h51km±10km, ML3.9*
*IDC **25** 19:20:26.4±0.7, 53°.66N×162°.26E, h0km, mb3.7/14, mb1 3.9/17, mb1mx3.7/44, mbtmp3.7/17, ML3.3/3, MS2.9/5, Ms1 2.9/5, ms1mx2.7/37, Error ellipse: s-maj=24.4km s-min=14.0km az=154.0*
ISC 25 19:20:25.6±2.7, 53°.46N±0°.05×162°.52E±0°.05, h1km±16km, n64, σ1°29/72, mb3.8/14, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.19**	**337**	*e*P	**Pb**	**19 20 48.0**	**-0.9**
MKZ				*e*S	**Sg**	**19 21 03.4**	**-0.4**
SPN	**Mys Shipunski**	**1.54**	**257**	*i* P	**Pn**	**19 20 53.1**	**-1.1**
SPN				*e*S	**Sn**	**19 21 11.7**	**-3.1**
KII	**Karymskiy**	**1.91**	**289**	*e*P	**Pn**	**19 20 58.2**	**-1.1**
NLC	**Nalytchevo**	**1.93**	**263**	*e*P	**Pn**	**19 20 58.7**	**-0.7**
NLC				*e*S	**Sn**	**19 21 21.5**	**-2.7**
KZV	**Kizimen**	**2.11**	**323**	*e*P	**Pn**	**19 21 01.7**	**-0.4**
KZV				*e*S	**Sn**	**19 21 27.1**	**-1.8**
TUMD	**Tumrok D**	**2.14**	**325**	*e*P	**Pn**	**19 21 01.5**	**-0.9**
SDLR	**Sedlovina**	**2.19**	**267**	*e*P	**Pn**	**19 21 02.8**	**-0.3**
UGLR	**Uglovaya**	**2.23**	**265**	*e*P	**Pn**	**19 21 03.8**	**+0.1**
SMAR	**Somma**	**2.24**	**266**	*e*P	**Pn**	**19 21 03.5**	**-0.4**
KRER	**Koryakskii**	**2.26**	**267**	*e*P	**Pn**	**19 21 04.3**	**0.0**
AVH	**Avacha**	**2.27**	**267**	*e*P	**Pn**	**19 21 04.5**	**+0.2**
AVH				*e*S	**Sn**	**19 21 32.5**	**-0.5**
TUMR	**Tumrok**	**2.29**	**324**	*e*P	**Pn**	**19 21 04.8**	**+0.2**
DALK	**Dalny**	**2.30**	**261**	*e*P	**Pn**	**19 21 04.2**	**-0.4**
DALK				*e*S	**Sn**	**19 21 32.0**	**-1.5**
KRX	**Arik**	**2.32**	**269**	*e*P	**Pn**	**19 21 04.8**	**-0.2**
KOK	**Koryaka**	**2.33**	**267**	*e*P	**Pn**	**19 21 05.0**	**-0.1**
RUS	**Russkaya**	**2.63**	**249**	*e*P	**Pn**	**19 21 09.0**	**-0.1**
RUS				*e*S	**Sn**	**19 21 39.1**	**-2.6**
BKI	**Bering**	**2.67**	**48**	*e*P	**Pn**	**19 21 08.7**	**-0.9**
BKI				*e*S	**Sn**	**19 21 38.4**	**-4.2**
BZGR	**Bezymyannyi-Gr**	**2.70**	**338**	*e*P	**Pn**	**19 21 10.5**	**+0.3**
GNL	**Ganaly**	**2.74**	**277**	*e*P	**Pn**	**19 21 11.4**	**+0.7**
BZMR	**Bezymyannaya**	**2.74**	**335**	*e*P	**Pn**	**19 21 11.6**	**+0.8**
KBTR	**Krutoberegovo**	**2.76**	**4**	*e*P	**Pn**	**19 21 09.6**	**-1.3**
BZWR	**Bezymyannyi-We**	**2.77**	**336**	*e*P	**Pn**	**19 21 12.9**	**+1.7**
KIRR	**Kirishev**	**2.80**	**334**	*e*P	**Pn**	**19 21 11.0**	**-0.6**
MTVR	**Mutnovka**	**2.80**	**251**	*e*P	**Pn**	**19 21 11.7**	**+0.1**
MTVR				*e*S	**Sn**	**19 21 44.0**	**-2.0**
KBG	**Krutoberegovo**	**2.80**	**2**	*e*P	**Pn**	**19 21 13.1**	**+1.7**
LGNR	**Loginova**	**2.83**	**339**	*e*P	**Pn**	**19 21 13.1**	**+1.0**
KPT	**Kopyto**	**2.84**	**333**	*e*P	**Pn**	**19 21 13.5**	**+1.4**
CIRR	**Tsirk**	**2.85**	**340**	*e*P	**Pn**	**19 21 13.3**	**+1.0**
PETK	**Petropavlovsk-**	**2.91**	**265**	Pn	**Pn**	**19 21 13.5**	**+0.4**
	11nm,0.3s,baz=86,slow=19,SNR=62						
PETK				Sn	**Sn**	**19 21 50.5**	**+1.8**
	6.4nm,0.3s,baz=82,slow=20,SNR=4.7						
PETK				LR	LR	19 22 30.7	
	comp=Z,170nm,19.3s,baz=146,slow=45						
KRSR	**Krestovskiy**	**2.98**	**339**	*e*P	**Pn**	**19 21 14.4**	**+0.3**
ASAK	**Asacha**	**3.00**	**251**	*e*P	**Pn**	**19 21 14.7**	**+0.5**
KOZ	**Kozyrevsk**	**3.02**	**331**	*e*P	**Pn**	**19 21 15.6**	**+1.1**
KLY	**Klyuchi**	**3.05**	**340**	*e*P	**Pn**	**19 21 14.9**	**0.0**
KDTR	**Khodutka, Kamc**	**3.17**	**240**	*e*P	**Pn**	**19 21 16.0**	**-0.5**
KDTR				*e*S	**Sn**	**19 21 52.2**	**-2.8**
SMKR	**Semkarok**	**3.18**	**349**	*e*P	**Pn**	**19 21 17.1**	**+0.3**
BDR	**Baidarnaya**	**3.20**	**347**	*e*P	**Pn**	**19 21 17.9**	**+0.8**
APC	**Apacha**	**3.27**	**263**	*e*P	**Pn**	**19 21 19.3**	**+1.4**
APC				*e*S	**Sn**	**19 21 57.1**	**-0.2**
SRDR	**Sredinnyy**	**3.29**	**332**	*e*P	**Pn**	**19 21 18.4**	**+0.2**
SRKR	**Sorokina**	**3.29**	**347**	*e*P	**Pn**	**19 21 19.2**	**+0.9**
ESO	**Esso**	**3.32**	**320**	*e*P	**Pn**	**19 21 19.1**	**+0.5**
PAU	**Pauzhetka**	**4.02**	**242**	*e*P	**Pn**	**19 21 28.7**	**+0.5**
SKR	**Severo-Kuril's**	**4.83**	**237**	*e*P	**Pn**	**19 21 39.1**	**-0.2**
SKR				*e*S	**Sn**	**19 22 33.3**	**-2.5**
MA2	**Magadan**	**8.92**	**318**	LR	LR	19 25 50.0	
	comp=Z,48nm,20.4s,baz=120,slow=37						
ASAJ	**Asahikawa**	**16.07**	**242**	Pn	**Pn**	**19 24 13.3**	**+0.7**
	0.2nm,0.3s,baz=61,slow=13,SNR=2.9						
ASAJ				LR	LR	19 30 42.7	
	comp=Z,59nm,18.1s,baz=354,slow=38						
KLR	**Kul'dur**	**19.59**	**270**	P	**P**	**19 24 54.1**	**-0.7**
	0.2nm,0.3s,baz=55,slow=12,SNR=2.6						
MJAR	**Matsushiro Arr**	**23.93**	**235**	P	**P**	**19 25 41.7**	**+0.7**
	1.3nm,0.5s,baz=30,slow=6.9,SNR=11						
ILAR	**Eielson Array**	**27.52**	**46**	P	**P**	**19 26 14.2**	**+1.0**
	0.4nm,0.8s,baz=256,slow=9.6,SNR=5.7						
KSRS	**Korea Array**	**28.71**	**250**	P	**P**	**19 26 25.6**	**+1.6**
	0.5nm,0.8s,baz=38,slow=8.0,SNR=3.0						
KSRS				LR	LR	19 38 46.7	
	comp=Z,24nm,19.2s,baz=304,slow=38						
H11N2	**WAKE ISLAND Hy**	**33.84**	**173**	T	T	20 03 17.5	
	baz=354						
H11N3	**WAKE ISLAND Hy**	**33.85**	**173**	T	T	20 03 14.1	
	baz=354						
H11N1	**WAKE ISLAND Hy**	**33.86**	**173**	T	T	20 03 21.6	
	baz=354						
ZALV	**Zalesovo Beam**	**43.79**	**303**	LR	LR	19 46 55.9	
	comp=Z,22nm,18.5s,baz=74,slow=36						
NVAR	**Mina Array Bea**	**54.24**	**72**	P	**P**	**19 29 55.4**	**+2.3**
	0.5nm,0.7s,baz=298,slow=8.8,SNR=3.3						
PDAR	**Pinedale Array**	**56.07**	**62**	P	**P**	**19 30 07.0**	**+0.9**
	0.2nm,0.5s,baz=311,slow=5.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**59.68**	**260**	P	**P**	**19 30 32.2**	**+0.6**
	0.9nm,0.6s,baz=27,slow=6.8,SNR=9.9						
FINES	**FINESS Array B**	**60.35**	**338**	P	**P**	**19 30 34.8**	**-0.7**
	1.1nm,0.5s,baz=29,slow=6.8,SNR=13						
NB2	**NORSAR Subarra**	**63.58**	**345**	P	**P**	**19 30 56.9**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=22,slow=6.5						
NOA	**NORSAR Array B**	**63.58**	**345**	P	**P**	**19 30 57.6**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=19,slow=6.7

NTC	**Toucheng**	**0.70 332**	P	**Pn**	**19 42 47.3**	**-0.1**
	baz=341					
NTC			*e*S	**Sn**	**19 42 57.7**	**+0.6**
	baz=341					
JYNG	**Yonagunijimaku**	**0.72 72**	P	**Pn**	**19 42 47.4**	**-0.2**
JYNG			S	**Sn**	**19 42 58.0**	**+0.5**
NDT	**Datong Townshi**	**0.72 301**	P	**Pn**	**19 42 47.2**	**-0.4**
	baz=294					
NDT			*e*S	**Sn**	**19 42 57.5**	**0.0**
	baz=294					
SLBB	**Yuanshan**	**0.73 316**	*e*P	**Pn**	**19 42 47.6**	**-0.1**
	baz=311					
SLBB			S	**Sn**	**19 42 58.2**	**+0.5**
	baz=311					
NNSB	**Datong**	**0.76 285**	P	**Pn**	**19 42 47.7**	**-0.6**
	baz=283					
NNSB			*e*S	**Sn**	**19 42 58.3**	**-0.4**
	baz=283					
NNS	**Nan Shan**	**0.78 286**	P	**Pn**	**19 42 47.8**	**-0.7**
	baz=284					
NNS			S	**Sn**	**19 42 59.0**	**0.0**
	baz=284					
YOJ	**Yonaguni jima**	**0.78 73**	*e*P	**Pn**	**19 42 48.1**	**-0.4**
	baz=74					
YOJ			*e*S	**Sn**	**19 42 59.7**	**+0.7**
	baz=74					
YOJ	**Yonaguni jima**	**0.78 73**	P	**Pn**	**19 42 48.2**	**-0.3**
YOJ			*e*S	**Sn**	**19 42 59.3**	**+0.3**
TWB1	**Santiao Chiao**	**0.80 347**	*e*P	**Pn**	**19 42 47.6**	**-1.1**
	baz=348					
ESL	**Shilin**	**0.81 239**	*e*P	**Pn**	**19 42 47.9**	**-1.0**
	baz=237					
ESL			S	**Sn**	**19 42 59.0**	**-0.7**
	baz=237					
TIPB	**Shuangxi**	**0.81 336**	*e*P	**Pn**	**19 42 48.3**	**-0.6**
	baz=343					
TIPB			S	**Sn**	**19 42 59.6**	**-0.2**
	baz=343					
NWLT	**Wulai**	**0.83 311**	P	**Pn**	**19 42 48.8**	**-0.4**
	baz=300					
NWLT			*e*S	**Sn**	**19 42 59.8**	**-0.5**
	baz=300					
WHF	**Hehuan Shan**	**0.85 264**	P	**Pn**	**19 42 49.0**	**-0.8**
	baz=253					
WHF			S	**Sn**	**19 43 00.9**	**-0.5**
	baz=253					
YHNB	**Yeheng**	**0.86 301**	P	**Pn**	**19 42 49.3**	**-0.4**
	baz=299					
YHNB			*e*S	**Sn**	**19 43 01.2**	**0.0**
	baz=299					
NSK	**Sanguang**	**0.88 300**	P	**Pn**	**19 42 49.4**	**-0.5**
	baz=299					
NSK			*e*S	**Sn**	**19 43 00.7**	**-0.9**
	baz=299					
EGFH	**Guangfu**	**0.90 231**	*e*P	**Pn**	**19 42 49.8**	**-0.3**
	baz=223					
EGFH			S	**Sn**	**19 43 01.8**	**0.0**
	baz=223					
WFSB	**Wu-fen Shan**	**0.92 336**	*e*P	**Pn**	**19 42 49.9**	**-0.5**
	baz=347					
WFSB			*e*S	**Sn**	**19 43 02.1**	**-0.2**
	baz=347					
TWT	**Tachien**	**0.93 272**	P	**Pn**	**19 42 50.9**	**+0.3**
	baz=269					
TWT			*e*S	**Sn**	**19 43 03.0**	**+0.2**
	baz=269					
TWA	**Mucha**	**0.93 324**	P	**Pn**	**19 42 50.3**	**-0.2**
	baz=323					
TWA			S	**Sn**	**19 43 03.1**	**+0.4**
	baz=323					
TDCB	**Techi**	**0.94 272**	*e*P	**Pn**	**19 42 50.5**	**-0.3**
	baz=270					
TDCB			S	**Sn**	**19 43 02.7**	**-0.5**
	baz=270					
CHGB	**Renai**	**0.94 260**	P	**Pn**	**19 42 50.5**	**-0.4**
	baz=249					
CHGB			*e*S	**Sn**	**19 43 03.2**	**-0.1**
	baz=249					
NHDH	**Xindian Distri**	**0.95 320**	P	**Pn**	**19 42 50.8**	**0.0**
	baz=329					
NHDH			*e*S	**Sn**	**19 43 03.6**	**+0.5**
	baz=329					
OWD	**Renai**	**0.97 254**	*e*P	**Pn**	**19 42 50.4**	**-0.8**
	baz=252					
OWD			S	**Sn**	**19 43 03.4**	**-0.4**
	baz=252					
TATO	**Taipei**	**0.98 319**	*e*P	**Pn**	**19 42 50.8**	**-0.4**
	baz=318					
TATO			*e*S	**Sn**	**19 43 04.7**	**+0.8**
	baz=318					
HGSD	**Ruisui**	**1.02 224**	*e*P	**Pn**	**19 42 50.9**	**-0.8**
	baz=218					
HGSD			*e*S	**Sn**	**19 43 04.7**	**-0.1**
	baz=218					
TAP	**Taipei**	**1.02 322**	*e*P	**Pn**	**19 42 51.6**	**-0.1**
	baz=322					
TAP			*e*S	**Sn**	**19 43 04.7**	**-0.1**
	baz=322					
WLTB	**Daxi**	**1.06 306**	P	**Pn**	**19 42 52.4**	**+0.2**
	baz=297					
WLTB			*e*S	**Sn**	**19 43 06.5**	**+0.7**
	baz=297					
VWDT	**VWDT**	**1.07 244**	P	**Pn**	**19 42 52.2**	**-0.2**
	baz=233					
VWDT			*e*S	**Sn**	**19 43 05.9**	**-0.2**
	baz=233					
YM01	**YM01**	**1.07 328**	*e*P	**Pn**	**19 42 51.8**	**-0.7**
	baz=339					
YM01			*e*S	**Sn**	**19 43 05.3**	**-0.9**
	baz=339					
YM07	**YM07**	**1.07 331**	*e*P	**Pn**	**19 42 51.7**	**-0.8**
	baz=342					
YM07			*e*S	**Sn**	**19 43 06.6**	**+0.3**
	baz=342					
YM10	**YM10**	**1.08 328**	*e*P	**Pn**	**19 42 51.9**	**-0.8**
	baz=339					
YM10			*e*S	**Sn**	**19 43 06.6**	**0.0**
	baz=339					
YM11	**YM11**	**1.09 329**	*e*P	**Pn**	**19 42 51.8**	**-1.0**
	baz=339					
YM11			*e*S	**Sn**	**19 43 06.1**	**-0.5**
	baz=339					
YM08	**YM08**	**1.10 330**	*e*P	**Pn**	**19 42 51.9**	**-0.9**
	baz=341					
YM08			*e*S	**Sn**	**19 43 05.2**	**-1.7**
	baz=341					
TWS1	**Kuangyinshan**	**1.12 321**	P	**Pn**	**19 42 53.0**	**-0.1**
	baz=330					
TWS1			S	**Sn**	**19 43 07.7**	**+0.5**
	baz=330					
WHP	**Taichung City**	**1.14 273**	*e*P	**Pn**	**19 42 54.0**	**+0.6**
	baz=265					
WHP			*e*S	**Sn**	**19 43 08.1**	**+0.2**
	baz=265					
LIOB	**Emei**	**1.15 291**	*e*P	**Pn**	**19 42 53.8**	**+0.3**
	baz=290					
LIOB			*e*S	**Sn**	**19 43 08.6**	**+0.5**
	baz=290					
NTST	**Danshui**	**1.15 324**	*e*P	**Pn**	**19 42 53.2**	**-0.3**
	baz=334					
NTST			*e*S	**Sn**	**19 43 08.5**	**+0.5**
	baz=334					
NSTT	**Nanjuang**	**1.16 290**	*e*P	**Pn**	**19 42 53.8**	**+0.2**
	baz=289					
NSTT			*e*S	**Sn**	**19 43 08.6**	**+0.4**
	baz=289					
TWY	**Chenhua**	**1.17 333**	*e*P	**Pn**	**19 42 54.2**	**+0.4**
	baz=343					
TWY			*e*S	**Sn**	**19 43 09.1**	**+0.5**
	baz=343					
DPDB	**Guoxing**	**1.17 261**	*e*P	**Pn**	**19 42 53.9**	**0.0**
	baz=254					
DPDB			*e*S	**Sn**	**19 43 09.0**	**+0.3**
	baz=254					
NCU	**National Centr**	**1.17 309**	P	**Pn**	**19 42 53.8**	**0.0**
	baz=308					
NCU			S	**Sn**	**19 43 09.2**	**+0.5**
	baz=308					
NCUH	**Zhongli**	**1.17 309**	P	**Pn**	**19 42 53.6**	**-0.3**
	baz=307					
NCUH			S	**Sn**	**19 43 09.4**	**+0.7**
	baz=307					
TWF1	**Yuli**	**1.20 223**	*e*P	**Pn**	**19 42 53.4**	**-0.9**
	baz=233					
TWF1			S	**Sn**	**19 43 08.9**	**-0.4**
	baz=233					
SSLB	**Suanglung**	**1.22 249**	*e*P	**Pn**	**19 42 54.2**	**-0.3**
	baz=247					
SSLB			*e*S	**Sn**	**19 43 08.8**	**-0.9**
	baz=247					
SMLT	**Sun Moon Lake**	**1.23 254**	*e*P	**Pn**	**19 42 54.4**	**-0.3**
	baz=245					
SMLT			S	**Sn**	**19 43 10.2**	**-0.1**
	baz=245					
SBCB	**Hsinchu**	**1.23 297**	*e*P	**Pn**	**19 42 54.8**	**+0.1**
	baz=308					
SBCB			*e*S	**Sn**	**19 43 10.7**	**+0.6**
	baz=308					
HSN	**Hsinchu**	**1.25 297**	*e*P	**Pn**	**19 42 54.0**	**-0.9**
	baz=298					
HSN			*e*S	**Sn**	**19 43 10.2**	**-0.4**
	baz=298					
TYC	**Yuchr**	**1.26 255**	*e*P	**Pn**	**19 42 54.9**	**-0.2**
	baz=247					
TYC			*e*S	**Sn**	**19 43 10.8**	**-0.1**
	baz=247					
TWQ1	**Liyutan**	**1.30 275**	*e*P	**Pn**	**19 42 56.1**	**+0.5**
	baz=274					
TWQ1			*e*S	**Sn**	**19 43 12.2**	**+0.4**
	baz=274					
NMLH	**Miaoli**	**1.31 284**	P	**Pn**	**19 42 56.1**	**+0.4**
	baz=282					
NMLH			S	**Sn**	**19 43 12.7**	**+0.6**
	baz=282					
NSY	**Sanyi**	**1.32 278**	*e*P	**Pn**	**19 42 56.6**	**+0.7**
	baz=277					
NSY			*e*S	**Sn**	**19 43 14.0**	**+1.8**
	baz=277					
WHYT	**Xinyi Township**	**1.34 247**	P	**Pn**	**19 42 56.5**	**+0.4**
	baz=246					
WHYT			*e*S	**Sn**	**19 43 12.9**	**+0.2**
	baz=246					
YUS	**Yu-Shan**	**1.35 237**	P	**Pn**	**19 42 56.8**	**0.0**
	baz=236					
YUS			S	**Sn**	**19 43 13.1**	**-0.7**
	baz=236					
CHKT	**Chengkung**	**1.36 214**	*e*P	**Pn**	**19 42 55.1**	**-1.2**
	baz=205					
CHKT			S	**Sn**	**19 43 10.7**	**-2.4**
	baz=205					
PTSB	**Yuanli**	**1.37 279**	*e*P	**Pn**	**19 42 56.9**	**+0.3**
	baz=278					
PTSB			*e*S	**Sn**	**19 43 14.0**	**+0.5**
	baz=278					
TCU	**Taichung**	**1.39 267**	*e*P	**Pn**	**19 42 57.6**	**+0.9**
	baz=278					
TCU			*e*S	**Sn**	**19 43 15.5**	**+1.6**
	baz=278					
PCYT	**Pengchaiyu**	**1.40 356**	*e*S	**Sn**	**19 43 13.7**	**-0.4**
	baz=345					
IRIF	**Iriomote-Funau**	**1.41 85**	P	**Pn**	**19 42 56.6**	**-0.4**
IRIF			S	**Sn**	**19 43 14.2**	**-0.2**
WDJ	**Dajia District**	**1.42 275**	P	**Pn**	**19 42 57.6**	**+0.4**
	baz=273					
WDJ			*e*S	**Sn**	**19 43 15.3**	**+0.6**
	baz=273					
WNT	**Mingjian**	**1.42 256**	P	**Pn**	**19 42 58.3**	**+1.1**
	baz=255					
WNT			*e*S	**Sn**	**19 43 16.5**	**+1.7**
	baz=255					
HATJ	**Hateruma jima**	**1.48 96**	P	**Pn**	**19 42 58.6**	**+0.5**
HATJ			*e*S	**Sn**	**19 43 16.4**	**+0.1**
ELDTW	**Lidau**	**1.50 226**	*e*P	**Pn**	**19 42 57.6**	**-0.8**
	baz=220					
ELDTW			*e*S	**Sn**	**19 43 15.2**	**-1.6**
	baz=220					
WCHH	**Zhanghua**	**1.50 265**	*e*P	**Pn**	**19 42 58.8**	**+0.5**
	baz=263					
WCHH			*e*S	**Sn**	**19 43 18.1**	**+1.4**
	baz=263					
CHN5	**Tsauling**	**1.52 246**	P	**Pn**	**19 42 59.3**	**+0.5**
	baz=236					
CHN5			*e*S	**Sn**	**19 43 18.8**	**+1.4**
	baz=236					
WGK	**Gukeng**	**1.59 250**	*e*P	**Pn**	**19 43 00.7**	**+1.2**
	baz=249					
WGK			*e*S	**Sn**	**19 43 21.5**	**+2.7**
	baz=249					
WDLH	**Douliu**	**1.61 251**	*e*P	**Pn**	**19 43 00.8**	**+1.0**
	baz=250					
WDLH			*e*S	**Sn**	**19 43 21.3**	**+2.0**
	baz=250					
JKRS	**Kuro-shima**	**1.66 89**	P	**Pn**	**19 43 00.7**	**+0.2**
JKRS			S	**Sn**	**19 43 21.2**	**+0.6**
STYT	**Tauyuan**	**1.69 231**	P	**Pn**	**19 43 01.1**	**0.0**
	baz=224					
STYT			*e*S	**Sn**	**19 43 21.5**	**0.0**
	baz=224					
TPUB	**Ta-pu**	**1.71 237**	*e*P	**Pn**	**19 43 02.3**	**+1.1**
	baz=231					
TPUB			*e*S	**Sn**	**19 43 22.6**	**+0.8**
	baz=231					
CHN4	**Tsaushan**	**1.71 239**	*e*P	**Pn**	**19 43 02.5**	**+1.3**
	baz=230					
CHN4			*e*S	**Sn**	**19 43 23.8**	**+2.0**
	baz=230					
RLNB	**Erlin**	**1.71 259**	*e*P	**Pn**	**19 43 01.7**	**+0.5**
	baz=258					
RLNB			*e*S	**Sn**	**19 43 22.9**	**+1.1**
	baz=258					
CHN2	**Minshiung**	**1.72 246**	*e*P	**Pn**	**19 43 03.0**	**+1.7**
	baz=237					
CHN2			*e*S	**Sn**	**19 43 24.2**	**+2.1**
	baz=237					
TWGBT	**Beinan**	**1.74 216**	*e*P	**Pn**	**19 43 00.3**	**-1.3**
	baz=216					
TWGBT			*e*S	**Sn**	**19 43 20.5**	**-2.1**
	baz=216					
TWG	**Pinlang**	**1.74 216**	P	**Pn**	**19 43 01.2**	**-0.4**
	baz=216					
TWG			*e*S	**Sn**	**19 43 21.0**	**-1.6**
	baz=216					
WTP	**Ta-pu**	**1.75 236**	*e*P	**Pn**	**19 43 02.9**	**+1.1**
	baz=235					
WTP			*e*S	**Sn**	**19 43 24.7**	**+1.8**
	baz=235					
TTN	**Taitung**	**1.76 213**	*e*S	**Sn**	**19 43 22.6**	**-0.4**
	baz=206					
CHY	**Chiayi**	**1.78 246**	*e*P	**Pn**	**19 43 03.3**	**+1.2**
	baz=236					
CHY			*e*S	**Sn**	**19 43 25.1**	**+1.7**
	baz=236					
JIJ	**Ishigaki jima**	**1.79 85**	P	**Pn**	**19 43 01.5**	**-0.7**
JIJ			S	**Sn**	**19 43 22.8**	**-0.9**
WTCT	**Ta-ch'eng**	**1.79 259**	P	**Pn**	**19 43 02.9**	**+0.7**
	baz=257					
WTCT			*e*S	**Sn**	**19 43 24.7**	**+1.0**
	baz=257					
TWK	**Hsinying**	**1.83 239**	*e*P	**Pn**	**19 43 03.8**	**+0.9**
	baz=238					
TWK			*e*S	**Sn**	**19 43 27.2**	**+2.3**
	baz=238					
CHN1	**Nanshi**	**1.85 236**	*e*P	**Pn**	**19 43 04.1**	**+1.0**
	baz=236					
CHN1			*e*S	**Sn**	**19 43 26.8**	**+1.5**
	baz=236					
SNST	**Tainan City**	**1.85 237**	P	**Pn**	**19 43 03.9**	**+0.7**
	baz=237					
SNST			S	**Sn**	**19 43 27.1**	**+1.8**
	baz=237					
SGST	**Jiashian**	**1.87 233**	*e*P	**Pn**	**19 43 04.5**	**+1.1**
	baz=232					
SGST			*e*S	**Sn**	**19 43 27.2**	**+1.5**
	baz=232					
SLGT	**Liugui**	**1.88 229**	P	**Pn**	**19 43 04.7**	**+1.1**
	baz=229					
SLGT			*e*S	**Sn**	**19 43 27.2**	**+1.2**
	baz=229					
WLGB	**Puzi**	**1.89 247**	*e*S	**Sn**	**19 43 28.2**	**+2.0**
	baz=235					
WSF	**Szhu**	**1.90 252**	P	**Pn**	**19 43 03.9**	**+0.1**
	baz=263					
WSF			*e*S	**Sn**	**19 43 28.1**	**+1.6**
	baz=263					
JISG	**Ishigakijimahi**	**1.96 79**	P	**Pn**	**19 43 03.9**	**-0.8**
JISG			S	**Sn**	**19 43 27.4**	**-0.7**
ECL	**Taimali**	**1.98 215**	*e*P	**Pn**	**19 43 03.7**	**-1.3**
	baz=215					
ECL			*e*S	**Sn**	**19 43 26.6**	**-2.0**
	baz=215					
CHN8	**Yiju**	**2.02 245**	P	**Pn**	**19 43 06.2**	**+0.8**
	baz=233					
CHN8			S	**Sn**	**19 43 31.7**	**+2.3**
	baz=233					
SSD	**Sandimen**	**2.06 224**	*e*P	**Pn**	**19 43 07.6**	**+1.6**
	baz=224					
SSD			*e*S	**Sn**	**19 43 31.9**	**+1.5**
	baz=224					
SCLT	**Jiali**	**2.11 241**	S	**Sn**	**19 43 34.2**	**+2.5**
	baz=240					
MASBT	**Mashibuluo**	**2.16 222**	P	**Pn**	**19 43 07.8**	**+0.4**
	baz=222					
MASBT			*e*S	**Sn**	**19 43 34.7**	**+1.8**
	baz=222					
LAY	**Lan-yu**	**2.26 195**	*e*P	**Pn**	**19 43 07.1**	**-1.7**
	baz=196					
LAY			*e*S	**Sn**	**19 43 32.6**	**-2.9**
	baz=196					
SSPT	**Xinbi**	**2.29 221**	*e*P	**Pn**	**19 43 10.5**	**+1.3**
	baz=221					
SSPT			*e*S	**Sn**	**19 43 37.9**	**+1.7**
	baz=221					
JTJ	**Tarama**	**2.32 79**	P	**Pn**	**19 43 09.7**	**+0.1**
JTJ			*e*S	**Sn**	**19 43 37.1**	**+0.1**
SCZT	**Fangliau**	**2.35 218**	*e*P	**Pn**	**19 43 11.1**	**+1.2**
	baz=209					
SCZT			*e*S	**Sn**	**19 43 38.7**	**+1.1**
	baz=209					
PNG	**Penghu**	**2.50 255**	*e*P	**Pn**	**19 43 12.8**	**+0.7**
	baz=255					
PNG			S	**Sn**	**19 43 41.6**	**+0.2**
	baz=255					
PHUB	**P'eng-hu**	**2.50 254**	*e*P	**Pn**	**19 43 10.6**	**-1.4**
	baz=254					
PHUB			*e*S	**Sn**	**19 43 40.5**	**-0.9**
	baz=254					
WDGT	**Dungji**	**2.51 248**	*e*P	**Pn**	**19 43 12.5**	**+0.2**
	baz=248					
WDGT			*e*S	**Sn**	**19 43 40.5**	**-1.2**
	baz=248					
HEN	**Hengchun**	**2.59 211**	*e*P	**Pn**	**19 43 13.5**	**+0.3**
	baz=212					
HEN			*e*S	**Sn**	**19 43 43.2**	**-0.3**
	baz=212					
TSEB	**Hengchuen, Pin**	**2.61 207**	*e*S	**Sn**	**19 43 44.4**	**+0.4**
	baz=209					
VWUC	**VWUC**	**2.61 287**	*e*P	**Pn**	**19 43 12.2**	**-1.4**
	baz=286					
TWKBT	**Hengchun**	**2.61 209**	*e*P	**Pn**	**19 43 14.0**	**+0.5**
	baz=204					
TWKBT			*e*S	**Sn**	**19 43 44.0**	**0.0**
	baz=204					
TWK1	**Hengchun**	**2.61 210**	*e*P	**Pn**	**19 43 13.7**	**+0.1**
	baz=204					
TWK1			*e*S	**Sn**	**19 43 43.4**	**-0.7**
	baz=204					
VCHM	**Qimei**	**2.73 249**	P	**Pn**	**19 43 14.8**	**-0.4**
	baz=249					
VCHM			S	**Sn**	**19 43 46.8**	**-0.2**
	baz=249					
JIRB	**Irabujima**	**2.78 77**	P	**Pn**	**19 43 16.1**	**+0.2**
JIRB			S	**Sn**	**19 43 48.7**	**+0.5**
MATB	**Ma-tsu**	**2.79 314**	*e*S	**Sn**	**19 43 46.5**	**-2.1**
	baz=311					
JIKM	**Ikemajima**	**2.87 75**	P	**Pn**	**19 43 17.1**	**0.0**
JIKM			S	**Sn**	**19 43 51.3**	**+1.0**
JMJ	**Miyako jima 2**	**2.88 78**	*e*P	**Pn**	**19 43 18.7**	**+1.4**
	baz=78					
JMJ			*e*S	**Sn**	**19 43 51.4**	**+0.6**
	baz=78					
JMJ2	**Miyako jima3**	**2.90 79**	P	**Pn**	**19 43 18.2**	**+0.6**
JMJ2			*e*S	**Sn**	**19 43 51.8**	**+0.6**
JOGS	**Gusukube**	**2.98 79**	P	**Pn**	**19 43 19.4**	**+0.8**
JOGS			S	**Sn**	**19 43 54.3**	**+1.3**
KNM	**Kinmen**	**3.43 274**	*e*P	**Pn**	**19 43 25.7**	**+0.8**
	baz=263					
KNMB	**Chin-men Tao**	**3.48 275**	*e*P	**Pn**	**19 43 24.3**	**-1.2**
	baz=272					
KNMB			*e*S	**Sn**	**19 44 02.6**	**-2.8**
	baz=272					

*IDC **25** 19:47:56.1±1.1,23°.02S×175°.35W,h0km,mb4.0/8, mb1 4.3/8,mb1mx4.0/22,mbtmp4.0/8,MS3.2/2,Ms1 3.2/2, ms1mx2.8/20,Error ellipse: s-maj=44.6km s-min=29.0km az=145.0*

*ISCJB **25** 19:48:00.1±0.9,23°.0S±0°.2×175°.4W±0°.2,h34km,mb4.0/8, MS3.1/2,Error ellipse: s-maj=36.8km s-min=23.8km az=142.3*

ISC 25 19:48:01.4±1.0,23°.0S±0°.3×175°.4W±0°.2,h34km,n15, σ0°37/10,mb4.0/8,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.58**	**86**	LR	LR	19 55 10.9	
	comp=Z,80nm,21.1s,baz=280,slow=30						
DZM	**Mont Dzumac**	**16.82**	**270**	*e*LR	LR	19 56 05.6	
	comp=Z,544nm,26.1s						
PPT2	**Papeete2**	**24.78**	**82**	*e*LR	LR	19 59 09.4	
	comp=Z,71nm,28.0s						
PPT	**Papeete**	**24.79**	**82**	LR	LR	20 02 07.3	
	comp=Z,59nm,18.1s,baz=182,slow=34						
ASAR	**Alice Springs**	**46.37**	**259**	P	**P**	**19 56 24.4**	**-0.4**
	0.5nm,0.8s,baz=94,slow=7.4,SNR=4.5						
MJAR	**Matsushiro Arr**	**73.66**	**323**	P	**P**	**19 59 31.9**	**+0.2**
	0.7nm,0.7s,baz=154,slow=5.6,SNR=4.2						
PETK	**Petropavlovsk-**	**79.32**	**344**	P	**P**	**20 00 03.0**	**-0.3**
	2.8nm,0.8s,baz=154,slow=7.2,SNR=5.1						
MAW	**Mawson**	**80.03**	**199**	P	**P**	**20 00 07.3**	**+0.2**
	2.4nm,0.8s,baz=112,slow=9.0,SNR=3.1						
NVAR	**Mina Array Bea**	**81.21**	**42**	P	**P**	**20 00 14.5**	**+0.3**
	2.3nm,0.9s,baz=226,slow=8.5,SNR=7.3						
TXAR	**Lajitas Array**	**86.39**	**56**	P	**P**	**20 00 40.2**	**-0.4**
	0.7nm,0.9s,baz=218,slow=7.4,SNR=6.3						
ILAR	**Eielson Array**	**90.23**	**12**	P	**P**	**20 00 58.2**	**+0.2**
	0.5nm,1.0s,baz=217,slow=7.6,SNR=4.8						
CMAR	**Chiang Mai Arr**	**93.23**	**289**	P	**P**	**20 01 13.5**	**+0.5**
	1.4nm,0.8s,baz=138,slow=3.4,SNR=9.0						
MKAR	**Makanchi Array**	**114.68**	**312**	PKP	PKPdf	20 06 37.6	-0.6
	0.2nm,0.6s,baz=72,slow=0.5,SNR=2.7						
AKASG	**Malin Array Be**	**146.37**	**331**	PKPbc	**PKPbc**	**20 07 38.5**	**-0.1**
	1.4nm,0.6s,baz=46,slow=4.1,SNR=5.0						
BRTR	**Keskin Array B**	**150.31**	**311**	PKPbc	**PKPbc**	**20 07 49.2**	**-0.3**
	1.3nm,0.8s,baz=124,slow=4.0,SNR=9.4						

IDC 25 19:55:28.0±3.4,13°29S×112°.11W,h0km,mb3.4/4, mb1 3.8/4,mb1mx3.6/22,mbtmp3.4/4,MS3.6/7,Ms1 3.6/7, ms1mx3.3/15,Error ellipse: s-maj=102.5km s-min=33.8km az=47.0,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**14.01**	**170**	LR	LR	20 02 36.8	
	comp=Z,301nm,20.3s,baz=2.0,slow=31						
LPIG	**La Paz**	**37.20**	**3**	LR	LR	20 13 53.1	
	comp=Z,64nm,19.0s,baz=198,slow=30						
LPAZ	**La Paz**	**42.56**	**100**	P	P	20 03 26.8	0.0
	0.6nm,0.5s,baz=273,slow=7.2,SNR=2.9						
LPAZ				LR	LR	20 16 52.7	
	comp=Z,76nm,21.9s,baz=306,slow=30						
TXAR	**Lajitas Array**	**43.15**	**11**	P	P	20 03 29.9	-0.8
	0.1nm,0.6s,baz=193,slow=7.4,SNR=2.2						
PLCA	**Paso Flores**	**45.40**	**135**	LR	LR	20 17 44.8	
	comp=Z,101nm,20.5s,baz=294,slow=29						
NVAR	**Mina Array Bea**	**51.77**	**354**	P	P	20 04 38.2	+0.4
	0.6nm,0.7s,baz=173,slow=11,SNR=4.1						
CPUP	**Villa Florida**	**52.79**	**113**	LR	LR	20 23 01.8	
	comp=Z,37nm,21.6s,baz=238,slow=31						
YBH	**Yreka Blue Hor**	**55.61**	**350**	LR	LR	20 23 01.5	
	comp=Z,85nm,20.8s,baz=164,slow=30						
PDAR	**Pinedale Array**	**55.83**	**2**	LR	LR	20 27 16.5	
	comp=Z,28nm,18.3s,baz=168,slow=34						
YKA	**Yellowknife Ar**	**75.56**	**359**	P	P	20 07 14.6	+0.4
	0.2nm,0.5s,baz=173,slow=5.0,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**86.01**	**290**	T	T	21 43 19.3	
	baz=106,slow=74,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**86.02**	**290**	T	T	21 43 27.0	
	baz=106,slow=74,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**86.03**	**290**	T	T	21 43 19.5	
	baz=106,slow=74,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**86.15**	**291**	T	T	21 43 37.8	
	baz=106						
H11N1	**WAKE ISLAND Hy**	**86.17**	**291**	T	T	21 43 28.6	
	baz=106						
H11N2	**WAKE ISLAND Hy**	**86.17**	**291**	T	T	21 43 32.8	
	baz=106						
MKAR	**Makanchi Array**	**144.48**	**343**	PKP	PKPbc	20 15 05.0	0.0
	0.6nm,0.8s,baz=48,slow=2.1,SNR=3.4						

IDC 25 20:53:20.3±1.5,13°.45N×120°.82E,h0km,mb3.3/3,

mb1 3.5/3, mb1mx3.2/38, mbtmp3.4/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/23, Error ellipse: s-maj=37.8km s-min=11.2km az=100.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.66**	**10**	Pg	Pg	20 53 33.2	+0.2
	144nm,0.3s,baz=210,slow=4.2,SNR=15						
TGY				Lg	Lg	20 53 42.6	
	363nm,0.3s,baz=190,slow=23,SNR=32						
DAV	**Davao City (W)**	**7.88**	**143**	LR	LR	20 58 45.2	
	comp=Z,44nm,20.5s,baz=355,slow=41						
CMAR	**Chiang Mai Arr**	**21.61**	**286**	P	P	20 58 13.6	+1.4
	0.7nm,0.8s,baz=109,slow=9.5,SNR=4.1						
SONM	**Songino Array**	**36.33**	**344**	P	P	21 00 24.3	-1.8
	0.2nm,0.4s,baz=157,slow=7.8,SNR=2.4						
ASAR	**Alice Springs**	**39.04**	**161**	P	P	21 00 49.4	+0.3
	0.4nm,0.6s,baz=339,slow=7.0,SNR=6.0						
GEYT	**Alibeck**	**60.38**	**306**	LR	LR	21 30 50.0	
	comp=Z,30nm,21.4s,baz=170,slow=37						

*IDC **25** 21:16:58.7±0.5, 24°.82N×125°.11E, h0km, mb4.2/27, mb1 4.3/28, mb1mx4.3/41, mbtmp4.3/28, ML4.1/1, MS3.5/21, Ms1 3.5/21, ms1mx3.4/37, Error ellipse: s-maj=16.5km s-min=12.1km az=84.0*

*NIED **25** 21:17:00, 24°.70N×125°.20E, h20km, Mw4.4 Best double couple: M0 4.85000×10^15 NP1:φs179.00000°, δ33.00000°, λ-34.00000°. NP2:φs299.00000°, δ72.00000°, λ-118.00000°.*

*BJI **25** 21:17:01.4±0.0, 24°.70N×125°.20E, h15km, mb4.3/32, mB4.5/25, Ms4.0/28, Ms7 3.9/28*

*ISCJB **25** 21:17:01.6±0.4, 24°.73N±0°.03×125°.21E±0°.02, h31km±2km, mb4.6/83, MS3.6/20, Error ellipse: s-maj=4.7km s-min=3.0km az=154.5*

*JMA **25** 21:17:02.3±0.1, 24°.73N×125°.16E, h27km±2km, M4.9*

JMA Felt III J1.

*NEIC **25** 21:17:03.4±1.4, 24°.68N×125°.19E, h33km±10km, mb4.7/51, Error ellipse: s-maj=7.2km s-min=4.0km az=143.0*

NEIC Recorded [3 JMA] on Miyako-jima.

ISC 25 21:17:03.0±0.5, 24°.74N±0°.04×125°.22E±0°.03, h29km±3km, n150, σ1§68/167, mb4.5/83, MS3.6/20, 8C-3D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRB	**Irabujima**	**0.10**	**334**	P	**Pn**	**21 17 06.8**	**-1.3**
JIRB				S	**Sn**	**21 17 10.0**	**-1.6**
JMJ2	**Miyako jima3**	**0.10**	**90**	P	**Pn**	**21 17 07.3**	**-0.8**
JMJ2				S	**Sb**	**21 17 11.2**	**-0.4**
JOGS	**Gusukube**	**0.17**	**84**	P	**Pn**	**21 17 08.3**	**-1.4**
JOGS				S	**Sn**	**21 17 12.9**	**+0.2**
JIKM	**Ikemajima**	**0.18**	**8**	P	**Pn**	**21 17 08.1**	**-1.8**
JIKM				S	**Sn**	**21 17 12.6**	**-0.3**
JTJ	**Tarama**	**0.48**	**258**	P	**Pb**	**21 17 11.2**	**-1.9**
JTJ				S	**Sb**	**21 17 17.8**	**-2.1**
JISG	**Ishigakijimahi**	**0.84**	**260**	P	**Pn**	**21 17 16.5**	**-2.4**
JISG				S	**Sn**	**21 17 27.3**	**-3.0**
JIJ	**Ishigaki jima**	**1.05**	**249**	P	**Pn**	**21 17 19.6**	**-2.2**
JIJ				S	**Sn**	**21 17 33.3**	**-2.2**
JKRS	**Kuro-shima**	**1.21**	**246**	P	**Pn**	**21 17 22.9**	**-1.1**
JKRS				S	**Sn**	**21 17 38.9**	**-0.6**
YOJ	**Yonaguni jima**	**2.03**	**263**	*e*Pn	**Pn**	**21 17 34.0**	**-1.3**
NACB	**Ninganchiao**	**3.35**	**261**	*e*Pn	**Pn**	**21 17 53.2**	**-0.2**
TATO	**Taipei**	**3.40**	**275**	*e*Pn	**Pn**	**21 17 54.1**	**0.0**
JOW	**Kunigami**	**3.45**	**52**	*e*Pn	**Pn**	**21 17 55.3**	**+0.4**
YHNB	**Yeheng**	**3.50**	**270**	*e*Pn	**Pn**	**21 17 56.1**	**+0.6**
SSLB	**Suanglung**	**4.01**	**257**	*e*Pn	**Pn**	**21 18 02.1**	**-0.4**
TWG	**Pinlang**	**4.25**	**244**	*e*Pn	**Pn**	**21 18 03.6**	**-2.3**
TPUB	**Ta-pu**	**4.43**	**252**	*e*Pn	**Pn**	**21 18 08.9**	**+0.5**
QZH	**Quanzhou**	**6.02**	**273**	*e*Pn	**Pn**	**21 18 32.0**	**+1.8**
QZH				Sn	**Sn**	**21 19 39.3**	**+1.1**
QZH				LR	LR		
	comp=N,430nm,13.8s						
QZH				LR	LR		
	comp=E,670nm,12.5s						
QZH				LR	LR		
	comp=Z,910nm,12.5s						
NJ2	**Nanjing**	**9.19**	**324**	*e*P	**Pn**	**21 19 14.0**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
JNU	**Nakatsue**	**9.71**	**29**	*e*Pn	**Pn**	**21 19 22.0**	**+1.2**
JNU	**Nakatsue**	**9.71**	**29**	Pn	**Pn**	**21 19 21.5**	**+0.7**
	1.4nm,0.3s,baz=204,slow=5.8,SNR=14						
JNU				LR	LR	21 23 22.3	
	comp=Z,276nm,19.1s,baz=189,slow=40						
TGY	**Tagaytay City**	**11.33**	**202**	Pn	**Pn**	**21 19 45.5**	**+2.4**
	24nm,0.3s,baz=344,slow=7.5,SNR=5.1						
TGY				Sn	**Sn**	**21 21 49.4**	**+0.7**
	27nm,0.3s,baz=349,slow=17,SNR=2.1						
TGY				LR	LR	21 24 19.9	
	comp=Z,191nm,18.6s,baz=342,slow=39						
KS15	**Wonju Array Si**	**12.86**	**10**	*e*Pn	**Pn**	**21 20 06.2**	**+2.3**
KSRS	**Korea Array**	**12.88**	**10**	Pn	**Pn**	**21 20 07.2**	**+3.0**
	0.2nm,0.3s,baz=191,slow=13,SNR=29						
KSRS				LR	LR	21 25 16.3	
	comp=Z,213nm,18.0s,baz=192,slow=39						
INU	**Inuyama**	**14.69**	**41**	*e*Pn	**Pn**	**21 20 28.4**	**-0.4**
ENH	**Enshi**	**15.00**	**295**	*e*Pn	**Pn**	**21 20 32.7**	**-0.5**
	15nm,1.3s						
JHJ	**Hachijo jima 2**	**15.23**	**53**	LR	LR	21 26 05.3	
	comp=Z,185nm,21.8s,baz=258,slow=36						
QIZ	**Qiongzhong**	**15.36**	**251**	P	**Pn**	**21 20 37.0**	**-0.8**
QIZ				S	**Sn**	**21 23 28.5**	**+1.4**
QIZ				LR	LR		
	comp=N,150nm,14.7s						
QIZ				LR	LR		
	comp=E,220nm,17.4s						
QIZ				LR	LR		
	comp=Z,330nm,20.6s						
MAJO	**Matsushiro**	**16.21**	**40**	*e*Pn	**Pn**	**21 20 50.2**	**+1.5**
	23nm,0.8s						
MAT	**Matsushiro**	**16.21**	**40**	P	**P**	**21 20 52.6**	**+1.0**
MJAR	**Matsushiro Arr**	**16.21**	**40**	Pn	**P**	**21 20 52.5**	**+0.9**
	0.9nm,0.3s,baz=221,slow=7.5,SNR=26						
MJAR				LR	LR	21 27 59.7	
	comp=Z,97nm,18.3s,baz=220,slow=41						
MJB9	**Matsu-Tunnel**	**16.21**	**40**	*e*Pn	**Pn**	**21 20 49.1**	**+0.4**
	24nm,0.8s						
XAN	**Xi'an**	**16.94**	**307**	P	**P**	**21 20 59.5**	**-0.3**
XAN				S	**Sn**	**21 24 03.8**	**-1.7**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
XAN				LR	LR		
	comp=N,220nm,14.4s						
XAN				LR	LR		
	comp=E,350nm,11.9s						
XAN				LR	LR		
	comp=Z,420nm,14.1s						
DAV	**Davao City (W)**	**17.57**	**179**	LR	LR	21 29 41.5	
	comp=Z,96nm,18.0s,baz=349,slow=43						
HHC	**Hu-ho-hao-te**	**19.70**	**328**	*e*P	**Pn**	**21 21 31.5**	**-0.3**
HHC				S	**S**	**21 25 07.5**	**-3.4**
HHC				pmax	pmax		
	comp=Z,76nm,0.9s						
HHC				pmax	pmax		
	comp=Z,230nm,3.9s						
HHC				LR	LR		
	comp=N,780nm,11.5s						
HHC				LR	LR		
	comp=Z,860nm,11.2s						
CD2	**Chengdu**	**19.94**	**293**	P	**Pn**	**21 21 33.8**	**-0.8**
CD2				sP	sP	21 21 46.0	+2.0
CD2				PP	**PnPn**	**21 21 58.0**	**+9.1**
CD2				S	**Sn**	**21 25 21.8**	**+3.8**
CD2				SS	**SnSn**	**21 25 38.8**	**+6.3**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,7.9s						
CD2				LR	LR		
	comp=E,430nm,13.7s						
CD2				LR	LR		
	comp=Z,570nm,11.4s						
USA0B	**Ussuriysk Arra**	**20.18**	**14**	*e*P	**P**	**21 21 35.8**	**+0.6**
	7.7nm,1.3s						
USRK	**Ussuriysk Ar.**	**20.18**	**14**	P	**P**	**21 21 34.8**	**-0.4**
	1.1nm,0.5s,baz=175,slow=7.3,SNR=4.4						
KMI	**Kunming**	**20.39**	**276**	P	Pn	21 21 40.3	+0.2
KMI				pP	pP	21 21 45.0	-0.6
KMI				sP	sP	21 21 47.8	-1.4
KMI				PP	P	21 22 00.3	+22
KMI				S	**S**	**21 25 21.8**	**-3.4**
KMI				sS	Sn	21 25 31.5	+2.3
KMI				SS	**SnSn**	**21 25 50.5**	**+6.6**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,28nm,3.1s						
KMI				LR	LR		
	comp=E,410nm,11.7s						
KMI				LR	LR		
	comp=Z,440nm,11.1s						
PANO	**Nakornpanom**	**20.66**	**253**	P	Pn	21 21 44.0	+0.9
	0.7nm,1.0s						
SKNT	**Sakolnakorn**	**21.28**	**253**	P	**P**	**21 21 52.4**	**+5.1**
LZH	**Lanzhou**	**21.58**	**307**	*e*P	**P**	**21 21 49.0**	**-1.6**
LZH				pP	pP	21 21 54.8	-3.4
LZH				sP	sP	21 21 58.3	-3.7
LZH				pmax	pmax		
	comp=Z,29nm,1.1s						
LZH				LR	LR		
	comp=N,400nm,14.6s						
LZH				LR	LR		
	comp=Z,580nm,14.9s						
NONG	**Nongkai**	**21.59**	**256**	P	**P**	**21 21 54.3**	**+3.7**
	0.6nm,1.1s						
GUMO	**Guam**	**21.59**	**117**	LR	LR	21 28 17.9	
	comp=Z,92nm,21.6s,baz=54,slow=31						
KHON	**Khomkaen**	**22.55**	**253**	P	**P**	**21 22 03.7**	**+2.7**
	25μm,0.8s						
ERM	**Erimo**	**22.75**	**36**	*e*P	**P**	**21 22 01.4**	**-1.5**
	39nm,0.8s						
CHAI	**Chaiyaphum**	**23.47**	**252**	P	**P**	**21 22 10.8**	**+0.4**
	44μm,0.8s,360μm						
TNTI	**Ternate**	**23.92**	**175**	P	**P**	**21 22 17.3**	**+2.7**
ASAJ	**Asahikawa**	**23.97**	**32**	P	**P**	**21 22 14.4**	**-0.5**
	4.6nm,0.3s,baz=221,slow=11,SNR=11						
PHRA	**Phrae**	**24.03**	**260**	P	**P**	**21 22 17.0**	**+1.3**
	2.1nm,1.1s,2μm						
PBKT	**Sadao Pong**	**24.08**	**255**	P	**P**	**21 22 17.3**	**+1.2**
	5.1nm,0.9s						
CMMT	**Chiang Mai**	**25.08**	**262**	P	**P**	**21 22 26.4**	**+1.1**
	3.7nm,0.7s						
CHTO	**Chiang Mai**	**25.08**	**262**	*e*P	**P**	**21 22 25.8**	**+0.5**
	7.4nm,1.0s						
CM31	**Chiang Mai Arr**	**25.20**	**261**	*e*P	**P**	**21 22 27.4**	**+1.1**
	9.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**25.20**	**261**	P	**P**	**21 22 24.7**	**-1.6**
	3.0nm,1.0s,baz=58,slow=8.3,SNR=12						
CMAR				PcP	**PcP**	**21 26 00.7**	**+0.9**
	0.7nm,0.8s,baz=64,slow=1.3,SNR=4.2						
CMAR				LR	LR	21 34 18.4	
	comp=Z,109nm,18.4s,baz=77,slow=41						
SBUM	**Sibu**	**25.47**	**212**	*e*P	**P**	**21 22 28.6**	**-0.2**
	17nm,1.7s						
GTA	**Gaotai**	**25.91**	**310**	*e*P	**P**	**21 22 32.5**	**-0.3**
GTA				pP	pP	21 22 37.3	-3.8
GTA				sP	sP	21 22 40.3	-4.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,150nm,5.5s						
GTA				LR	LR		
	comp=N,120nm,16.5s						
GTA				LR	LR		
	comp=E,170nm,13.4s						
GTA				LR	LR		
	comp=Z,230nm,15.5s						
SANI	**Sanana**	**26.64**	**178**	P	**P**	**21 22 41.1**	**+1.7**
SONM	**Songino Array**	**27.45**	**332**	P	**P**	**21 22 45.6**	**-1.0**
	0.9nm,0.5s,baz=152,slow=12,SNR=7.3						
SONM				PcP	**PcP**	**21 26 05.3**	**+0.7**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=2.7						
SONM				LR	LR	21 34 34.7	
	comp=Z,100nm,20.6s,baz=106,slow=39						
KAPI	**Kappang**	**30.05**	**191**	*e*P	**P**	**21 23 09.6**	**-0.2**
	6.7nm,1.0s						
KAPI	**Kappang**	**30.05**	**191**	P	**P**	**21 23 10.3**	**+0.5**
	6.1nm,1.0s,baz=238,slow=8.1,SNR=3.6						
KAPI				LR	LR	21 34 29.3	
	comp=Z,88nm,20.9s,baz=27,slow=35						
LEM	**Lembang**	**35.76**	**211**	P	**P**	**21 24 00.9**	**+1.0**
	16nm,0.7s,baz=343,slow=21,SNR=5.8						
WMQ	**Urumqi**	**35.99**	**311**	*e*P	**P**	**21 24 03.3**	**+1.8**
WMQ				LR	LR		
	comp=Z,320nm,24.1s						
PETK	**Petropavlovsk-**	**37.39**	**32**	P	**P**	**21 24 12.7**	**-0.6**
	1.9nm,0.5s,baz=168,slow=7.6,SNR=3.5						
PETK				LR	LR	21 39 44.2	
	comp=Z,98nm,19.1s,baz=267,slow=36						
PET	**Petropavlovsk**	**37.81**	**33**	*e*P	**P**	**21 24 17.0**	**+0.3**
	25nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**38.79**	**89**	T	T	22 05 30.8	
	baz=283,slow=74,SNR=9.0						
H11N2	**WAKE ISLAND Hy**	**38.79**	**89**	T	T	22 05 30.5	
	baz=283,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**38.81**	**89**	T	T	22 05 30.5	
	baz=283,slow=74,SNR=9.2						
MKAR	**Makanchi Array**	**40.55**	**314**	P	**P**	**21 24 38.5**	**-1.2**
	2.4nm,0.7s,baz=98,slow=10,SNR=19						
MKAR				PcP	**PcP**	**21 26 41.7**	**-0.1**
	0.6nm,0.7s,baz=86,slow=5.9,SNR=2.8						
MKAR				LR	LR	21 42 48.4	
	comp=Z,61nm,18.1s,baz=112,slow=38						
MAKZ	**Makanchi**	**40.76**	**314**	*e*P	**P**	**21 24 40.5**	**-1.0**
	4.4nm,1.0s						
ZAA0	**Zalesovo Array**	**41.84**	**325**	*e*P	**P**	**21 24 48.5**	**-1.8**
	2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**41.84**	**325**	P	**P**	**21 24 48.4**	**-1.8**
	2.1nm,0.5s,baz=115,slow=8.1,SNR=12						
ZALV				PcP	**PcP**	**21 26 45.6**	**-0.2**
	0.4nm,0.4s,baz=84,slow=1.3,SNR=2.3						
ZALV				LR	LR	21 43 26.2	
	comp=Z,32nm,19.2s,baz=70,slow=38						
SEY	**Seymchan**	**42.25**	**18**	P	**P**	**21 24 53.4**	**-0.1**
	2.0nm,0.7s,baz=215,slow=4.4,SNR=5.0						
KDJ	**Kajisay**	**43.08**	**306**	*e*P	**P**	**21 25 00.3**	**-0.5**
	6.8nm,0.9s						
KSH	**Kashi**	**43.70**	**302**	P	**P**	**21 25 07.5**	**+1.8**
KSH				pP	sP	21 25 19.3	+1.5
KSH				PP	**PcP**	**21 26 51.0**	**-1.5**
KSH				S	**S**	**21 31 33.5**	**-0.7**
KSH				pmax	pmax		
	comp=Z,82nm,4.9s						
KSH				LR	LR		
	comp=E,110nm,9.4s						
KSH				LR	LR		
	comp=Z,180nm,12.7s						
NRN	**Naryn**	**43.87**	**305**	*e*P	**P**	**21 25 06.8**	**-0.4**
	4.2nm,0.9s						
KURBB	**Kurchatov Arra**	**44.10**	**318**	P	**P**	**21 25 06.6**	**-2.0**
	2.0nm,0.7s,baz=112,slow=8.5,SNR=11						
KURBB				PcP	**PcP**	**21 26 52.9**	**-0.5**
	0.4nm,0.5s,baz=126,slow=3.5,SNR=4.2						
AAK	**Ala-Archa**	**45.12**	**306**	P	**P**	**21 25 16.0**	**-1.1**
	0.8nm,0.4s,baz=92,slow=8.1,SNR=4.6						
PSA00	**Pilbara Seismi**	**46.33**	**187**	*e*P	**P**	**21 25 25.4**	**-1.1**
	15nm,0.6s						
KK31	**Karatay Array**	**48.08**	**307**	*e*P	**P**	**21 25 39.8**	**-0.3**
	2.5nm,0.8s						
ASAR	**Alice Springs**	**48.85**	**169**	P	**P**	**21 25 46.3**	**+0.2**
	2.7nm,0.5s,baz=355,slow=13,SNR=38						
ASAR				PcP	**PcP**	**21 27 10.4**	**0.0**
	2.0nm,0.9s,baz=357,slow=2.8,SNR=5.7						
ASAR				LR	LR	21 45 46.0	
	comp=Z,43nm,20.8s,baz=60,slow=35						
KBL	**Kabul**	**49.25**	**295**	*e*P	**P**	**21 25 49.2**	**-0.3**
	5.8nm,1.0s						
NRIK	**Noril'sk**	**49.87**	**344**	P	**P**	**21 25 52.6**	**-0.7**
	1.5nm,0.5s,baz=166,slow=3.1,SNR=3.3						
NRIK				LR	LR	21 48 40.3	
	comp=Z,99nm,19.3s,baz=150,slow=38						
GSTR	**Great Sitkin T**	**51.77**	**42**	*e*P	**P**	**21 26 07.7**	**-0.3**
MORW	**Morawa**	**54.22**	**190**	*e*P	**P**	**21 26 26.0**	**-0.2**
	24nm,1.5s						
FORT	**Forrest**	**55.27**	**177**	*e*P	**P**	**21 26 32.8**	**-0.9**
	66nm,1.5s						
GAMB	**Gambell**	**56.23**	**28**	*e*P	**P**	**21 26 41.6**	**+1.4**
	4.7nm,1.0s						
GEYT	**Alibeck**	**57.69**	**300**	P	**P**	**21 26 51.5**	**+0.3**
	3.1nm,0.6s,baz=70,slow=1.7,SNR=8.6						
GYA0B	**ALIBECK ARRAY**	**57.69**	**300**	*e*P	**P**	**21 26 51.8**	**+0.6**
	5.6nm,0.8s						
NWAO	**Narrogin (SRO)**	**57.85**	**188**	*e*P	**P**	**21 26 52.0**	**-0.1**
	69nm,1.4s						
BBOO	**Bucklebooo**	**58.16**	**169**	*e*P	**P**	**21 26 53.2**	**-1.1**
	26nm,1.3s						
STKA	**Stephens Creek**	**58.44**	**164**	*e*P	**P**	**21 26 55.9**	**-0.3**
	1.9nm,0.8s						
STKA	**Stephens Creek**	**58.44**	**164**	P	**P**	**21 26 56.7**	**+0.5**
	7.5nm,0.7s,baz=341,slow=6.7,SNR=25						
FALS	**False Pass**	**59.50**	**39**	*e*P	**P**	**21 27 03.9**	**+0.6**
	455nm,1.8s						
DZM	**Mont Dzumac**	**61.39**	**136**	P	**P**	**21 27 17.4**	**+0.6**
	6.5nm,0.9s,baz=29,slow=20,SNR=3.3						
SII	**Sitkinak Islan**	**64.61**	**37**	*e*P	**P**	**21 27 36.9**	**-0.8**
	365nm,2.0s						
BPAW	**Bear Paw Mtn.**	**65.35**	**29**	*e*P	**P**	**21 27 43.3**	**+0.9**
	9.6nm,1.4s						
MLY	**Manley**	**65.36**	**28**	*e*P	**P**	**21 27 42.5**	**0.0**
	5.1nm,1.1s						
TOLK	**Toolik Lake Re**	**65.47**	**24**	*e*P	**P**	**21 27 45.3**	**+2.2**
	4.9nm,0.8s						
BRLK	**Bradley Lake**	**65.93**	**33**	*e*P	**P**	**21 27 46.2**	**0.0**
	14nm,1.2s						
RND	**Reindeer**	**66.38**	**29**	*e*P	**P**	**21 27 49.3**	**+0.3**
	9.4nm,0.9s						
WRH	**Wood River Hil**	**66.56**	**28**	*e*P	**P**	**21 27 51.2**	**+1.1**
	16nm,1.9s						
SEW	**Seward**	**66.59**	**33**	*e*P	**P**	**21 27 50.7**	**+0.4**
	11nm,1.2s						
CCB	**Clear Creek Bu**	**66.65**	**28**	*e*P	**P**	**21 27 52.3**	**+1.6**
	6.6nm,1.6s						
KNK	**Knik Glacier**	**66.86**	**31**	*e*P	**P**	**21 27 52.1**	**0.0**
	4.6nm,0.8s						
ILAR	**Eielson Array**	**67.02**	**28**	P	**P**	**21 27 53.1**	**+0.1**
	0.5nm,0.6s,baz=262,slow=5.1,SNR=6.6						
ILAR				LR	LR	21 58 01.4	
	comp=Z,25nm,18.7s,baz=144,slow=37						
DHY	**Denali Highway**	**67.09**	**30**	*e*P	**P**	**21 27 55.4**	**+1.7**
	18nm,1.9s						
GLI	**Glacier Island**	**67.61**	**32**	*e*P	**P**	**21 27 56.2**	**-0.6**
	6.8nm,1.0s						
PAX	**Paxson**	**67.96**	**30**	*e*P	**P**	**21 28 00.4**	**+1.2**
	13nm,1.7s						
KBZ	**Khabaz**	**67.99**	**309**	P	**P**	**21 27 59.2**	**-0.3**
	3.6nm,0.9s,baz=101,slow=5.2,SNR=6.1						
KBZ				LR	LR	22 02 23.1	
	comp=Z,37nm,18.6s,baz=54,slow=40						
RIDG	**Independent Ri**	**68.09**	**29**	*e*P	**P**	**21 28 01.2**	**+1.3**
	6.8nm,1.2s						
DOT	**Dot Lake**	**68.45**	**29**	*e*P	**P**	**21 28 02.4**	**+0.3**
	3.3nm,0.9s						
ARCES	**ARCESS Array B**	**70.39**	**338**	P	**P**	**21 28 14.1**	**+0.1**
	2.6nm,0.8s,baz=83,slow=7.4,SNR=3.6						
INK	**Inuvik**	**71.31**	**23**	*e*P	**P**	**21 28 20.7**	**+1.2**
	3.4nm,0.8s						
FINES	**FINESS Array B**	**72.81**	**330**	P	**P**	**21 28 28.0**	**-0.6**
	1.9nm,0.6s,baz=51,slow=5.2,SNR=14						
FINES				LR	LR	22 03 43.8	
	comp=Z,54nm,18.3s,baz=60,slow=39						
PUH	**Pauahi**	**72.98**	**76**	*e*P	**P**	**21 28 30.1**	**-0.4**
	62nm,0.8s						
WHY	**Whitehorse**	**73.43**	**30**	*e*P	**P**	**21 28 33.4**	**+0.9**
	5.6nm,1.3s						
AKASG	**Malin Array Be**	**74.88**	**319**	P	**P**	**21 28 39.9**	**-1.1**
	1.4nm,0.4s,baz=68,slow=5.9,SNR=5.2						
BR131	**Keskin Array S**	**75.78**	**307**	*e*P	**P**	**21 28 46.5**	**-0.1**
	10nm,1.1s						
BRTR	**Keskin Array B**	**75.78**	**307**	P	**P**	**21 28 46.4**	**-0.2**
	3.1nm,0.5s,baz=97,slow=4.2,SNR=30						
BRTR				LR	LR	22 04 07.4	
	comp=Z,12nm,20.4s,baz=90,slow=37						
CFR	**Carcaliu**	**77.59**	**314**	⇑*i*P	**P**	**21 28 55.8**	**-0.7**
XMAS	**Kiritimati**	**77.64**	**93**	*e*P	**P**	**21 28 55.1**	**-2.2**
	164nm,1.4s						
TESR	**Tescani**	**78.03**	**316**	⇑*i*P	**P**	**21 28 58.5**	**-0.5**
BIZ	**Bicaz**	**78.20**	**316**	⇑*i*P	**P**	**21 28 59.7**	**-0.2**
VRI	**Vrincioaia**	**78.23**	**315**	⇑*i*P	**P**	**21 29 01.3**	**+1.2**
PLOR	**Plostina**	**78.29**	**315**	⇓*i*P	**P**	**21 29 01.6**	**+1.1**
BURAR	**Bucovina Array**	**78.48**	**317**	⇑*i*P	**P**	**21 29 00.9**	**-0.7**
MLR	**Muntele Rosu**	**78.89**	**315**	*e*P	**P**	**21 29 03.4**	**-0.5**
	14nm,1.6s						
MLR	**Muntele Rosu**	**78.89**	**315**	⇑*i*P	**P**	**21 29 03.5**	**-0.4**
NC405	**NORSAR Array S**	**79.18**	**333**	*e*P	**P**	**21 29 05.0**	**0.0**
	44nm,1.5s						
NC303	**NORSAR Array S**	**79.26**	**333**	*e*P	**P**	**21 29 04.5**	**-0.9**
	58nm,1.6s						
NB2	**NORSAR Subarra**	**79.42**	**333**	P	**P**	**21 29 05.2**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=53,slow=5.9						
NOA	**NORSAR Array B**	**79.42**	**333**	P	**P**	**21 29 05.3**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=53,slow=5.5,SNR=5.6						
NOA				LR	LR	22 07 58.8	
	comp=Z,56nm,18.6s,baz=30,slow=39						
TRPA	**Tarpa**	**79.91**	**318**	⇑*i*P	**P**	**21 29 05.3**	**-3.9**
DRGR		**80.38**	**317**	⇑*i*P	**P**	**21 29 11.2**	**-0.7**
GZR	**Gura Zlata**	**80.95**	**316**	⇓*i*P	**P**	**21 29 13.9**	**-1.1**
YKA	**Yellowknife Ar**	**81.00**	**24**	P	**P**	**21 29 15.0**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=307,slow=5.1,SNR=16						
VTS	**Vitosha**	**81.87**	**313**	*e*P	**P**	**21 29 20.3**	**+0.3**
	comp=Z,7.4nm,0.8s						
VTS	**Vitosha**	**81.87**	**313**	⇓*i*P	**P**	**21 29 20.6**	**+0.6**
VYHS	**Vyhne**	**81.94**	**320**	*e*P	**P**	**21 29 20.3**	**+0.2**
SUMG	**Summit**	**82.30**	**355**	*e*P	**P**	**21 29 22.2**	**+0.3**
	comp=Z,17nm,1.3s						
SUMG	**Summit**	**82.30**	**355**	*i* P	**P**	**21 29 21.6**	**-0.4**
	comp=Z,32nm,1.0s						
BRG	**Berggiesshubel**	**83.52**	**324**	*e*P	**P**	**21 29 29.5**	**+1.3**
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**83.79**	**324**	*i* P	**P**	**21 29 29.9**	**+0.3**
	comp=Z,5.0nm,1.0s						
AGG	**Agios Georgios**	**84.09**	**310**	*e*P	**P**	**21 29 29.5**	**-1.9**
	comp=Z,9.8nm,0.9s						
GERES	**GERESS Array B**	**84.71**	**322**	P	**P**	**21 29 33.7**	**-0.8**
	comp=Z,1.2nm,0.8s,

0.9nm,0.6s,baz=182,slow=1.3,SNR=2.3
AKASG **Malin Array Be 142.39 331** PKhKP PKPpre 21 42 01.8
1.2nm,0.5s,baz=43,slow=4.7,SNR=6.9
BRTR **Keskin Array B 146.28 313** PKPbc **PKPdf 21 42 15.1 +1.1**
0.7nm,0.6s,baz=115,slow=3.4,SNR=5.7

MEX 25 21:32:22.0±0.6, 15°.15N×91°.83W, h179km±4km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.49**	**240**	*i* P	Pn	21 32 45.0	-1.6
THIG				*e*S	Sn	21 33 03.4	-2.2
CCIG	**Comitan**	**1.16**	**345**	*e*P	Pn	21 32 50.3	-0.8
CCIG				*e*S	Sn	21 33 11.3	-2.4
PCIG		**1.45**	**292**	*e*P	Pn	21 32 52.3	-1.1
PCIG				*e*S	Sn	21 33 15.7	-2.0
TGIG		**2.04**	**323**	*e*P	Pn	21 32 57.7	-1.8
TGIG				*e*S	Sn	21 33 26.4	-2.4
CMIG	**Matias Romero**	**3.51**	**304**	*e*P	Pn	21 33 16.1	-0.9
CMIG				*i* S	Sn	21 33 57.2	-2.7
HUIG	**Huatulco**	**4.17**	**279**	*e*P	Pn	21 33 23.7	-1.6
HUIG				*i* S	Sn	21 34 12.1	-2.8

*KRSC **25** 21:41:02.2±10.0, 53°.47N×153°.77E, h555km±10km, ML4.8*
*ISCJB **25** 21:41:03.7±0.1, 53°.59N±0°.03×153°.53E±0°.04,*
h542km±2km, mb4.2/121, Error ellipse: s-maj=5.2km
s-min=3.2km az=149.3
*MOS **25** 21:41:03.9±0.9, 53°.62N×153°.51E, h548km, mb4.2/31,*
Error ellipse: s-maj=10.2km s-min=6.1km az=90.1
*IDC **25** 21:41:04.7±0.5, 53°.61N×153°.43E, h539km±5km, mb3.6/29,*
mb1 3.7/35, mb1mx3.7/37, mbtmp4.5/35, Error ellipse:
s-maj=8.8km s-min=6.4km az=147.0
*NEIC **25** 21:41:04.3±0.3, 53°.56N×153°.43E, h537km±4km, mb4.2/70,*
Error ellipse: s-maj=5.8km s-min=3.3km az=154.0
ISC 25 21:41:04.3±0.4, 53°.57N±0°.05×153°.56E±0°.04, h541km±4km, h539km; pP-P, n279, σ1°.33/333, mb4.2/121, 21C-15D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.25**	**105**	P	**P**	**21 42 14.5**	**+0.2**
APC				*e*S	**S**	**21 43 11.6**	**+0.2**
PEA0B	**Petropavlovsk-**	**2.52**	**99**	*e*P	**P**	**21 42 16.0**	**+0.3**
PEA0B				*e*S	**S**	**21 43 15.0**	**+0.9**
PETK	**Petropavlovsk-**	**2.52**	**99**	P	**P**	**21 42 15.8**	**+0.1**
	14nm,0.3s,baz=313,slow=1.0,SNR=177						
PETK				S	**S**	**21 43 14.1**	**0.0**
	baz=22,slow=8.3,SNR=4.3						
GNL	**Ganaly**	**2.61**	**85**	*e*P	**P**	**21 42 17.0**	**+0.7**
GNL				*e*S	**S**	**21 43 14.2**	**-1.0**
ASAK	**Asacha**	**2.88**	**113**	P	**P**	**21 42 17.9**	**0.0**
ASAK				*e*S	**S**	**21 43 15.9**	**-2.0**
PAU	**Pauzhetka**	**2.89**	**135**	*i* P	**P**	**21 42 17.5**	**-0.4**
ALID	**Alaid**	**2.97**	**155**	P	**P**	**21 42 18.5**	**-0.1**
MTVR	**Mutnovka**	**3.00**	**109**	*i* P	**P**	**21 42 18.8**	**+0.1**
MTVR				*e*S	**S**	**21 43 18.7**	**-0.7**
KRX	**Arik**	**3.05**	**92**	*i* P	**P**	**21 42 19.2**	**+0.2**
KRX				*e*S	**S**	**21 43 18.5**	**-1.5**
KOK	**Koryaka**	**3.05**	**93**	*e*P	**P**	**21 42 19.4**	**+0.5**
KOK				*e*S	**S**	**21 43 19.8**	**-0.1**
PET	**Petropavlovsk**	**3.10**	**98**	*e*P	**P**	**21 42 19.1**	**0.0**
PET	**Petropavlovsk**	**3.10**	**98**	*e*P	**P**	**21 42 19.1**	**0.0**
AVH	**Avacha**	**3.11**	**94**	*e*P	**P**	**21 42 20.3**	**+1.0**
AVH				*e*S	**S**	**21 43 19.3**	**-1.3**
KRER	**Koryakskii**	**3.11**	**93**	*e*P	**P**	**21 42 19.8**	**+0.3**
KRER				*e*S	**S**	**21 43 19.7**	**-1.2**
SMAR	**Somma**	**3.15**	**93**	*i* P	**P**	**21 42 19.8**	**+0.1**
SMAR				*e*S	**S**	**21 43 19.4**	**-1.9**
DALK	**Dalny**	**3.16**	**98**	*e*P	**P**	**21 42 19.2**	**-0.3**
DALK				*e*S	**S**	**21 43 17.6**	**-3.3**
UGLR	**Uglovaya**	**3.17**	**94**	*e*P	**P**	**21 42 20.1**	**+0.4**
UGLR				*e*S	**S**	**21 43 19.9**	**-1.4**
SDLR	**Sedlovina**	**3.20**	**93**	*i* P	**P**	**21 42 20.0**	**+0.1**
SDLR				*e*S	**S**	**21 43 20.6**	**-1.1**
RUS	**Russkaya**	**3.20**	**109**	*i* P	**P**	**21 42 18.8**	**-1.0**
RUS				*e*S	**S**	**21 43 16.9**	**-4.5**
KDTR	**Khodutka, Kamc**	**3.27**	**121**	*e*P	**P**	**21 42 18.4**	**-1.8**
KDTR				*e*S	**S**	**21 43 16.4**	**-5.8**
SKR	**Severo-Kuril's**	**3.29**	**150**	*i* P	**P**	**21 42 19.4**	**-1.1**
SKR	**Severo-Kuril's**	**3.29**	**150**	*e*P	**P**	**21 42 19.4**	**-1.1**
SKR				*e*S	**S**	**21 43 14.6**	**-7.9**
SKR				pmax	pmax		
	comp=Z,315nm,0.3s						
SKR				smax	smax		
	comp=N,232nm,0.8s						
SKR				smax	smax		
	comp=E,158nm,0.6s						
NLC	**Nalytchevo**	**3.49**	**94**	*i* P	**P**	**21 42 20.5**	**-1.2**
NLC				*e*S	**S**	**21 43 21.6**	**-3.3**
KII	**Karymskiy**	**3.52**	**80**	*i* P	**P**	**21 42 23.6**	**+1.6**
ESO	**Esso**	**3.80**	**50**	*e*P	**P**	**21 42 25.0**	**+1.1**
SPN	**Mys Shipunski**	**3.90**	**94**	*i* P	**P**	**21 42 23.0**	**-1.7**
SPN				*e*S	**S**	**21 43 24.0**	**-6.4**
TUMR	**Tumrok**	**4.21**	**63**	*e*P	**P**	**21 42 27.6**	**+0.5**
TUMR				*e*S	**S**	**21 43 32.5**	**-2.4**
KZV	**Kizimen**	**4.23**	**66**	*i* P	**P**	**21 42 27.1**	**-0.2**
TUMD	**Tumrok D**	**4.32**	**65**	*e*P	**P**	**21 42 27.3**	**-0.6**
TUMD				*e*S	**S**	**21 43 35.4**	**-0.9**
KOZ	**Kozyrevsk**	**4.42**	**53**	*e*P	**P**	**21 42 29.3**	**+0.7**
SRDR	**Sredinnyy**	**4.49**	**50**	*i* P	**P**	**21 42 30.0**	**+0.8**
KPT	**Kopyto**	**4.54**	**55**	*e*P	**P**	**21 42 30.0**	**+0.3**
KIRR	**Kirishev**	**4.60**	**56**	*e*P	**P**	**21 42 30.2**	**0.0**
BZGR	**Bezymyannyi-Gr**	**4.77**	**57**	*e*P	**P**	**21 42 32.0**	**+0.4**
LGNR	**Loginova**	**4.83**	**56**	*i* P	**P**	**21 42 32.9**	**+0.6**
KRSR	**Krestovskiy**	**4.83**	**54**	*e*P	**P**	**21 42 31.7**	**-0.4**
CIRR	**Tsirk**	**4.87**	**56**	*e*P	**P**	**21 42 32.7**	**+0.2**
MKZ	**Mys Kozlova**	**4.91**	**75**	*i* P	**P**	**21 42 31.2**	**-1.5**
MKZ				*e*S	**S**	**21 43 38.3**	**-6.7**
KLY	**Klyuchi**	**4.92**	**53**	*e*P	**P**	**21 42 33.2**	**+0.5**
BDR	**Baidarnaya**	**5.32**	**53**	*e*P	**P**	**21 42 36.8**	**+0.5**
SRKR	**Sorokina**	**5.35**	**52**	*e*P	**P**	**21 42 36.3**	**-0.2**
SMKR	**Semkarok**	**5.45**	**53**	*i* P	**P**	**21 42 37.4**	**0.0**
KBG	**Krutoberegovo**	**5.92**	**59**	*e*P	**P**	**21 42 39.9**	**-1.6**
KBG				*e*S	**S**	**21 43 56.1**	**-5.1**
KBTR	**Krutoberegovo**	**5.96**	**60**	*e*P	**P**	**21 42 39.7**	**-2.2**
MA2	**Magadan**	**6.21**	**347**	*e*P	**P**	**21 42 44.5**	**+0.3**
MA2				*e*S	**S**	**21 44 05.9**	**-0.3**
MA2	**Magadan**	**6.21**	**347**	*ce*P	**P**	**21 42 45.4**	**+1.2**
MA2				pmax	pmax		
	comp=Z,37nm,2.5s						
MA2	**Magadan**	**6.21**	**347**	P	**P**	**21 42 44.7**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=141,slow=10,SNR=9.0						
MA2				S	**S**	**21 44 05.5**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=57,slow=23,SNR=8.7						
PALN	**Palana**	**6.58**	**30**	*i* P	**P**	**21 42 47.3**	**-0.3**
TYV	**Tymovskoe**	**7.23**	**252**	*e*P	**P**	**21 42 55.9**	**+1.9**
TYV				*e*S	**S**	**21 44 23.7**	**-0.3**
TYV				pmax	pmax		
	comp=Z,100nm,2.9s						
TYV				pmax	pmax		
	comp=Z,72nm,0.7s						
TYV				smax	smax		
	comp=E,16nm,1.4s						
TYV				smax	smax		
	comp=N,400nm,3.6s						
BKI	**Bering**	**7.43**	**72**	*e*P	**P**	**21 42 57.1**	**+1.2**
BKI				*e*S	**S**	**21 44 26.8**	**-0.7**
OSSR	**Ossora**	**7.75**	**39**	*i* P	**P**	**21 42 59.6**	**+0.6**
UGL	**Uglegorsk**	**8.49**	**243**	*e*P	**P**	**21 43 07.5**	**+0.9**
UGL				*e*S	S	21 44 36.6	-10
UGL				pmax	pmax		
	comp=Z,121nm,1.0s						
UGL				smax	smax		
	comp=N,82nm,1.1s						
KUR	**Kuril'sk**	**9.13**	**206**	P	**P**	**21 43 12.7**	**-0.5**
KUR				*e*S	**S**	**21 45 04.1**	**+5.1**
KUR				pmax	pmax		
	comp=Z,30nm,0.4s						
KUR				smax	smax		
	comp=N,71nm,0.4s						
KUR				smax	smax		
	comp=E,31nm,0.3s						
SEY	**Seymchan**	**9.41**	**357**	*ce*P	**P**	**21 43 17.4**	**+1.7**
SEY	**Seymchan**	**9.41**	**357**	P	**P**	**21 43 17.1**	**+1.4**
	comp=E,4.1nm,0.3s,baz=178,slow=9.8,SNR=62						
SEY				S	**S**	**21 45 04.2**	**+0.4**
	comp=E,0.1nm,0.3s,baz=220,slow=11,SNR=14						
YSS	**Yuzh-Sakhalins**	**9.57**	**231**	*e*P	**P**	**21 43 17.8**	**+0.1**
YSS	**Yuzh-Sakhalins**	**9.57**	**231**	⇑*i*P	**P**	**21 43 18.1**	**+0.5**
YSS				*e*S	**S**	**21 45 03.7**	**-3.5**
YSS				pmax	pmax		
	comp=Z,40nm,0.6s						
YSS				smax	smax		
	comp=E,30nm,2.2s						
YSS				smax	smax		
	comp=N,20nm,2.3s						
YSS				smax	smax		
	comp=E,300nm,5.4s						
TILK	**Tilichiki**	**9.71**	**40**	*i* P	**P**	**21 43 19.0**	**+0.2**
KMSK	**Kamenskaya**	**11.13**	**32**	*e*P	**P**	**21 43 34.5**	**+1.1**
ASAJ	**Asahikawa**	**11.89**	**222**	P	**P**	**21 43 40.4**	**-1.3**
	comp=E,2.1nm,0.3s,baz=19,slow=2.7,SNR=13						
SMY	**Shemya**	**12.36**	**86**	*e*P	**P**	**21 43 46.5**	**+0.2**
SMY	**Shemya**	**12.36**	**86**	*e*P	**P**	**21 43 46.5**	**+0.2**
ERM	**Erimo**	**13.49**	**215**	*e*P	**P**	**21 43 55.0**	**-3.3**
ERM	**Erimo**	**13.49**	**215**	*i* P	**P**	**21 43 59.2**	**+0.9**
TEY	**Ternei**	**13.95**	**239**	⇓*i*P	**P**	**21 44 03.2**	**+0.3**
TEY				pmax	pmax		
	comp=E,30nm,0.9s						
TEY				pmax	pmax		
	comp=N,30nm,0.8s						
TEY				pmax	pmax		
	comp=Z,70nm,0.7s						
KLR	**Kul'dur**	**14.27**	**261**	*c i*P	**P**	**21 44 05.9**	**-0.3**
KLR	**Kul'dur**	**14.27**	**261**	P	**P**	**21 44 06.1**	**-0.1**
	comp=Z,3.3nm,0.3s,baz=64,slow=9.9,SNR=109						
KLR				S	**S**	**21 46 37.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=179,slow=18,SNR=4.8						
YAK	**Yakutsk**	**15.21**	**313**	*d i*P	**P**	**21 44 14.1**	**-1.6**
YAK				*e*S	**S**	**21 46 49.8**	**-3.4**
YAK				pmax	pmax		
	comp=Z,503nm,0.9s						
YAK				pmax	pmax		
	comp=N,92nm,1.0s						
YAK				pmax	pmax		
	comp=E,319nm,1.2s						
YAK				smax	smax		
	comp=N,257nm,1.1s						
YAK				smax	smax		
	comp=E,558nm,1.6s						
BILL	**Bilibino**	**15.73**	**18**	*e*P	**P**	**21 44 20.7**	**-0.2**
	comp=E,12nm,1.5s						
BILL				*e*S	**S**	**21 47 03.7**	**+1.7**
BILL	**Bilibino**	**15.73**	**18**	*de*P	**P**	**21 44 21.2**	**+0.3**
BILL				*e*S	**S**	**21 47 02.0**	**-0.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s						
USA0B	**Ussuriysk Arra**	**16.95**	**245**	*e*P	**P**	**21 44 31.7**	**-1.1**
	comp=Z,9.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**16.95**	**245**	P	**P**	**21 44 32.1**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=50,slow=8.4,SNR=24						
USRK				S	**S**	**21 47 22.3**	**-0.7**
	baz=28,slow=33,SNR=3.0						
MDJ	**Mudanjiang**	**18.00**	**250**	P	**P**	**21 44 41.5**	**-1.0**
MDJ				S	**S**	**21 47 40.0**	**-0.2**
MDJ	**Mudanjiang**	**18.00**	**250**	ScS	ScS	21 55 11.0	-1.4
MDJ	**Mudanjiang**	**18.00**	**250**	*e*P	**P**	**21 44 42.0**	**-0.5**
	comp=Z,13nm,0.8s						
MJB9	**Matsu-Tunnel**	**20.11**	**218**	*e*P	**P**	**21 45 01.5**	**-0.4**
	comp=Z,24nm,0.6s						
MAJO	**Matsushiro**	**20.11**	**218**	*e*P	**P**	**21 45 01.5**	**-0.3**
	comp=Z,23nm,0.6s						
MAJO	**Matsushiro**	**20.11**	**218**	*e*P	**P**	**21 45 01.5**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,23nm,0.6s						
MAT	**Matsushiro**	**20.11**	**218**	P	**P**	**21 45 01.5**	**-0.3**
MJAR	**Matsushiro Arr**	**20.11**	**218**	P	**P**	**21 45 01.5**	**-0.4**
	comp=Z,9.7nm,0.6s,baz=7.4,slow=10,SNR=70						
TIXI	**Tiksi**	**21.10**	**338**	*e*P	**P**	**21 45 10.4**	**+0.3**
	comp=Z,33nm,0.7s						
TIXI	**Tiksi**	**21.10**	**338**	*de*P	**P**	**21 45 10.5**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,43nm,0.9s						
TIXI	**Tiksi**	**21.10**	**338**	P	**P**	**21 45 10.4**	**+0.3**
	comp=Z,30nm,0.6s,baz=135,slow=9.0,SNR=3.8						
TIXI				ScP	**ScP**	**21 51 37.7**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=97,slow=3.8,SNR=11						
JHJ	**Hachijo jima 2**	**22.69**	**211**	P	**P**	**21 45 26.1**	**+1.1**
	comp=Z,26nm,0.5s,baz=223,slow=21,SNR=2.3						
KSRS	**Korea Array**	**23.94**	**238**	P	**P**	**21 45 36.8**	**+0.8**
	comp=Z,24nm,0.8s,baz=37,slow=9.0,SNR=137						
KS15	**Wonju Array Si**	**23.97**	**238**	*e*P	**P**	**21 45 36.7**	**+0.3**
	comp=Z,27nm,0.8s						
TJN	**Taejon**	**25.06**	**237**	*ce*P	**P**	**21 45 47.5**	**+1.5**
JNU	**Nakatsue**	**26.06**	**227**	*e*P	**P**	**21 45 55.0**	**+0.1**
	comp=Z,32nm,1.3s						
JNU	**Nakatsue**	**26.06**	**227**	P	**P**	**21 45 55.1**	**+0.1**
	comp=Z,7.0nm,0.3s,baz=20,slow=4.1,SNR=36						
COLD	**Coldfoot**	**29.73**	**41**	*e*P	**P**	**21 46 28.1**	**+1.7**
	comp=Z,8.1nm,1.8s						
OHAK	**Old Harbor**	**29.76**	**61**	*e*P	**P**	**21 46 27.2**	**+0.4**
	comp=Z,24nm,1.2s						
TLY	**Talaya**	**29.86**	**287**	*e*P	**P**	**21 46 28.3**	**+0.5**
	comp=Z,3.0nm,0.8s						
TLY	**Talaya**	**29.86**	**287**	*ce*P	**P**	**21 46 30.0**	**+2.2**
TLY				pmax	pmax		
	comp=Z,11nm,1.7s						
SONM	**Songino Array**	**29.96**	**278**	P	**P**	**21 46 29.0**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=60,slow=8.0,SNR=5.9						
SONM				S	**S**	**21 50 48.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=76,slow=12,SNR=3.5						
SONM				ScP	**ScP**	**21 52 03.3**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=76,slow=1.7,SNR=13						
TOLK	**Toolik Lake Re**	**29.97**	**38**	*e*P	**P**	**21 46 29.8**	**+1.2**
	comp=Z,6.2nm,1.2s						
KDAK	**Kodiak Island**	**29.98**	**60**	*e*P	**P**	**21 46 29.3**	**+0.7**
	comp=Z,16nm,1.1s						
KDAK	**Kodiak Island**	**29.98**	**60**	*ce*P	**P**	**21 46 29.0**	**+0.4**
BWN	**Browne**	**30.24**	**47**	*e*P	**P**	**21 46 32.7**	**+1.9**
	comp=Z,12nm,0.8s						
BRLK	**Bradley Lake**	**30.34**	**56**	*e*P	**P**	**21 46 32.7**	**+0.9**
	comp=Z,8.7nm,1.2s						
MDM	**Murphy Dome**	**30.68**	**45**	*e*P	**P**	**21 46 36.0**	**+1.4**
	comp=Z,11nm,1.9s						
HHC	**Hu-ho-hao-te**	**30.77**	**263**	*e*P	**P**	**21 46 31.3**	**-4.5**
WRH	**Wood River Hil**	**30.79**	**46**	*e*P	**P**	**21 46 37.0**	**+1.5**
	comp=Z,7.7nm,1.2s						
CCB	**Clear Creek Bu**	**30.89**	**46**	*e*P	**P**	**21 46 37.8**	**+1.4**
	comp=Z,4.3nm,1.2s						
ILAR	**Eielson Array**	**31.27**	**45**	P	**P**	**21 46 40.7**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=262,slow=6.5,SNR=17						
ILAR				PcP	**PcP**	**21 49 16.0**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=298,slow=4.9,SNR=3.0						
ILB	**Eielson Array**	**31.27**	**45**	*e*P	**P**	**21 46 41.0**	**+1.3**
	comp=Z,2.7nm,1.0s						
DHY	**Denali Highway**	**31.32**	**49**	*e*P	**P**	**21 46 40.5**	**+0.2**
	comp=Z,12nm,1.7s						
PRP	**Porcupine Dome**	**31.74**	**44**	*e*P	**P**	**21 46 44.7**	**+0.9**
	comp=Z,7.9nm,1.0s						
KLU	**Klutina**	**32.32**	**51**	*e*P	**P**	**21 46 49.9**	**+1.2**
	comp=Z,3.7nm,1.1s						
RIDG	**Independent Ri**	**32.32**	**47**	*e*P	**P**	**21 46 48.8**	**+0.1**
	comp=Z,20nm,1.8s						
DOT	**Dot Lake**	**32.68**	**47**	*e*P	**P**	**21 46 51.7**	**0.0**
	comp=Z,10nm,1.8s						
NRIK	**Noril'sk**	**33.23**	**324**	P	**P**	**21 46 56.3**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=78,slow=16,SNR=9.5						
INK	**Inuvik**	**35.88**	**37**	*e*P	**P**	**21 47 18.9**	**+0.6**
	comp=Z,3.0nm,1.0s						
INK	**Inuvik**	**35.88**	**37**	P	**P**	**21 47 19.3**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=296,slow=9.2,SNR=13						
INK				PcP	**PcP**	**21 49 30.5**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=300,slow=2.9,SNR=3.7						
WHN	**Wuhan**	**36.43**	**247**	⇓P	**P**	**21 47 23.0**	**-0.4**
XAN	**Xi'an**	**36.91**	**256**	P	**P**	**21 47 26.5**	**-0.8**
WHY	**Whitehorse**	**37.67**	**50**	*e*P	**P**	**21 47 34.7**	**+1.4**
	comp=Z,16nm,2.0s						
LZH	**Lanzhou**	**38.46**	**263**	*e*P	**P**	**21 47 43.0**	**+2.9**
LZH				pP	PP	21 49 19.8	-5.5
LZH				sP	sP	21 50 20.0	+5.0
GTA	**Gaotai**	**38.67**	**271**	*e*P	**P**	**21 47 42.5**	**+0.8**
ZAA0	**Zalesovo Array**	**39.17**	**299**	*e*P	**P**	**21 47 44.9**	**-0.5**
	comp=Z,2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**39.17**	**299**	P	**P**	**21 47 44.8**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=65,slow=6.6,SNR=12						
ZALV				PcP	**PcP**	**21 49 40.3**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=76,slow=4.4,SNR=4.4						
ENH	**Enshi**	**39.35**	**252**	*e*P	**P**	**21 47 46.6**	**-0.7**
	comp=Z,19nm,0.4s						
NVS	**Novosibirsk**	**39.56**	**301**	*e*P	**P**	**21 47 48.0**	**-0.5**
DGZ	**Jazzator, Alta**	**39.90**	**292**	*i* P	**P**	**21 47 51.7**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CD2	**Chengdu**	**42.17**	**258**	P	**P**	**21 48 10.0**	**+0.3**
WMQ	**Urumqi**	**43.09**	**285**	*e*P	**P**	**21 48 17.0**	**+0.3**
KURK	**Kurchatov**	**44.10**	**298**	*e*P	**P**	**21 48 24.3**	**0.0**
	comp=Z,21nm,0.8s						
KURK	**Kurchatov**	**44.10**	**298**	*ce*P	**P**	**21 48 24.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,22nm,0.9s						
RES	**Resolute Bay**	**44.31**	**21**	*e*P	**P**	**21 48 26.2**	**+0.7**
	comp=Z,15nm,1.1s						
RES	**Resolute Bay**	**44.31**	**21**	*e*P	**P**	**21 48 26.2**	**+0.7**
RES				pmax	pmax		
	comp=Z,15nm,1.1s						
MKAR	**Makanchi Array**	**44.37**	**291**	P	**P**	**21 48 26.3**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=57,slow=7.3,SNR=35						
MKAR				PcP	**PcP**	**21 49 58.2**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=32,slow=1.8,SNR=1.8						
MKAR				ScP	**ScP**	**21 52 56.9**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=50,slow=3.8,SNR=3.4						
MAKZ	**Makanchi**	**44.54**	**292**	*e*P	**P**	**21 48 27.3**	**-0.5**
	comp=Z,3.2nm,0.8s						
MAKZ	**Makanchi**	**44.54**	**292**	*e*P	**P**	**21 48 27.3**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**45.41**	**41**	P	**P**	**21 48 34.9**	**+0.8**
	comp=Z,2.9nm,0.7s,baz=302,slow=7.3,SNR=18						
YKA				PcP	**PcP**	**21 50 01.9**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=311,slow=3.4,SNR=5.1						
YKA				pP	**pP**	**21 50 14.6**	**+1.8**
	comp=Z,0.6nm,1.0s,baz=306,slow=7.5,SNR=1.8						
YKA				ScP	**ScP**	**21 53 02.7**	**-0.1**
	comp=Z,0.4nm,1.0s,baz=299,slow=4.0,SNR=3.6						
BRVK	**Borovoye**	**46.99**	**305**	*e*P	**P**	**21 48 46.2**	**-0.2**
	comp=Z,9.7nm,0.8s						
BRVK	**Borovoye**	**46.99**	**305**	*ce*P	**P**	**21 48 46.2**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**47.12**	**254**	P	**P**	**21 48 48.3**	**+0.3**
SVE	**Sverdlovsk**	**49.17**	**313**	⇓*i*P	**P**	**21 49 03.1**	**+0.6**
SVE				pmax	pmax		
	comp=Z,32nm,0.8s						
SLVN	**Son La**	**49.44**	**249**	*e*P	**P**	**21 49 05.6**	**+0.6**
	comp=Z,7.4nm,0.8s						
DAG	**Danmarks Havn**	**49.83**	**358**	*i* P	**P**	**21 49 06.4**	**-0.7**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DAG	**Danmarks Havn**	**49.83**	**358**	*i* P	**P**	**21 49 06.4**	**-0.7**
	comp=Z,5.6nm,0.6s						
ARU	**Arti**	**50.32**	**314**	*e*P	**P**	**21 49 10.6**	**-0.3**
	comp=Z,38nm,1.1s						
ARU	**Arti**	**50.32**	**314**	*c i*P	**P**	**21 49 10.4**	**-0.5**
ARU						21 50 18.0	
ARU						21 51 12.1	
ARU				S	**S**	**21 55 43.0**	**-0.2**
ARU				SS	**SS**	**21 59 24.2**	**-1.1**
ARU				pmax	pmax		
	comp=Z,37nm,1.2s						
KULLO	**Kullorsuaq**	**50.48**	**10**	*i* P	**P**	**21 49 10.8**	**-1.0**
KULLO				pmax	pmax		
	comp=Z,12nm,0.8s						
KULLO	**Kullorsuaq**	**50.48**	**10**	*i* P	**P**	**21 49 10.8**	**-1.0**
	comp=Z,12nm,0.8s						
HUH	**Hualalai**	**51.28**	**111**	*e*P	**P**	**21 49 19.5**	**+0.7**
	comp=Z,225nm,1.5s						
AAK	**Ala-Archa**	**51.30**	**292**	*e*P	**P**	**21 49 18.7**	**+0.2**
	comp=Z,2.9nm,0.9s						
AAK	**Ala-Archa**	**51.30**	**292**	*ce*P	**P**	**21 49 18.7**	**+0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
POHA	**Pohakuloa**	**51.39**	**111**	*e*P	**P**	**21 49 20.8**	**+1.2**
	comp=Z,270nm,1.6s						
ARCES	**ARCESS Array B**	**51.53**	**339**	P	**P**	**21 49 19.0**	**-0.6**
ARCES	**ARCESS Array B**	**51.53**	**339**	P	**P**	**21 49 18.9**	**-0.6**
	comp=Z,4.6nm,0.7s,baz=37,slow=8.1,SNR=15						
KKO	**Keanakako`i**	**51.83**	**111**	*e*P	**P**	**21 49 22.6**	**+0.1**
	comp=Z,87nm,0.9s						
LTY	**Liberty**	**51.86**	**60**	*e*P	**P**	**21 49 21.4**	**-0.9**
	comp=Z,17nm,1.8s						
PRGR	**Permogore**	**51.86**	**325**	*e*P	**P**	**21 49 21.1**	**-0.9**
PRGR				pmax	pmax		
	comp=Z,16nm,0.9s						
TMCR	**Tamitsa**	**52.49**	**330**	*e*P	**P**	**21 49 25.9**	**-0.5**
TMCR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KSH	**Kashi**	**52.56**	**288**	P	**P**	**21 49 29.0**	**+1.4**
PAYA	**Payao**	**53.28**	**252**	P	**P**	**21 49 35.0**	**+2.2**
	comp=Z,16μm,0.7s						
PHRA	**Phrae**	**53.76**	**251**	P	**P**	**21 49 38.5**	**+2.3**
	comp=Z,1.2nm,1.7s,comp=Z,204nm						
SUMG	**Summit**	**53.87**	**4**	*e*P	**P**

NOA NORSAR Array B 61.88 340 P **P 21 50 30.2 -0.4**
comp=Z,3.7nm,0.7s,baz=24,slow=6.5,SNR=18
NBO00 NORSAR Array S 61.97 341 *e*P **P 21 50 31.4 +0.1**
comp=Z,66nm,1.7s
VSR Storozhevoye 62.02 320 *e*P **P 21 50 30.4 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.8s
NAO01 NORSAR Array S 62.12 340 *e*P **P 21 50 31.5 -0.7**
comp=Z,91nm,1.9s
RSSD Black Hills 62.31 53 *e*P **P 21 50 35.0 +1.0**
comp=Z,7.6nm,0.9s
RSSD Black Hills 62.31 53 *e*P **P 21 50 35.0 +1.0**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
LCMT Little Creek M 62.97 64 *e*P **P 21 50 39.6 +1.4**
comp=Z,7.9nm,0.9s
GEYT Alibeck 63.48 298 P **P 21 50 41.6 +0.3**
comp=Z,7.8nm,0.7s,baz=29,slow=3.4,SNR=19
GYA0B ALIBECK ARRAY 63.48 298 *e*P **P 21 50 41.7 +0.4**
comp=Z,8.1nm,0.8s
ECSD EROS Data Cent 66.03 48 *e*P **P 21 50 57.6 +0.3**
comp=Z,6.6nm,0.6s
AKASG Malin Array Be 66.08 325 P **P 21 50 56.4 -1.0**
comp=Z,3.1nm,0.4s,baz=31,slow=6.4,SNR=12
KIEV Kiev 66.09 325 *e*P **P 21 50 56.4 -1.1**
comp=Z,5.4nm,0.8s
KIEV Kiev 66.09 325 *e*P **P 21 50 56.4 -1.1**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 66.31 313 *e*P **P 21 50 59.6 +0.4**
comp=Z,4.3nm,0.8s
KIV Kislovodsk 66.31 313 *e*P **P 21 50 59.6 +0.4**
KIV pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 66.40 312 P **P 21 50 59.9 +0.4**
comp=Z,7.0nm,0.9s,baz=55,slow=2.3,SNR=14
SCHQ Schefferville 66.93 24 P **P 21 51 02.3 -0.4**
comp=Z,3.2nm,0.4s,baz=271,slow=14,SNR=3.8
ANN Anapa 67.87 316 *e*P **P 21 51 06.2 -2.3**
ANN *e**PP **pP 21 52 58.4 -0.4**
ANN *e*S **S 21 59 20.2 -3.9**
ANN *e*SS **SS 22 03 59.5 +0.9**
ANN pmax pmax
comp=Z,36nm,1.0s
KWP Kalwaria Pacla 69.14 328 *e*P **P 21 51 16.0 -0.2**
comp=Z,112nm,0.9s
KWP Kalwaria Pacla 69.14 328 *e*P **P 21 51 16.0 -0.2**
KWP pmax pmax
comp=Z,112nm,0.9s
OJC Ojcow 69.50 330 *e*P **P 21 51 17.9 -0.4**
comp=Z,10nm,1.2s
OJC Ojcow 69.50 330 *e*P **P 21 51 17.9 -0.4**
OJC pmax pmax
comp=Z,10.0nm,1.2s
VLDQ Val d'Or 69.86 34 *e*P **P 21 51 19.1 -1.3**
comp=Z,18nm,0.8s
KOLS Kolonicke sedl 69.89 328 *e*P **P 21 51 20.7 0.0**
KOLS Kolonicke sedl 69.89 328 *e*P **P 21 51 20.7 0.0**
BURAR Bucovina Array 70.08 326 ⇑*i*P **P 21 51 21.6 -0.3**
BIZ Bicaz 70.36 325 ⇓*i*P **P 21 51 23.3 -0.2**
DPC Dobruska-Polom 70.38 332 *e*P **P 21 51 23.5 -0.1**
DPC Dobruska-Polom 70.38 332 *e*P **P 21 51 23.5 -0.1**
CLL Collm 70.38 335 *e*P **P 21 51 23.3 -0.2**
comp=Z,4.4nm,0.7s
CLL Collm 70.38 335 ⇓*i*P **P 21 51 22.8 -0.7**
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 70.38 335 ⇓*i*P **P 21 51 22.8 -0.7**
comp=Z,5.0nm,0.7s
TRPA Tarpa 70.51 328 ⇓*i*P **P 21 51 24.5 +0.2**
TESR Tescani 70.54 324 ⇓*i*P **P 21 51 24.1 -0.5**
LANS Liptovska Anna 70.55 330 *e*P **P 21 51 25.5 +0.9**
LANS Liptovska Anna 70.55 330 *e*P **P 21 51 25.5 +0.9**
MORC Moravsky Berou 70.55 331 ⇑*i*P **P 21 51 24.8 +0.2**
MORC Moravsky Berou 70.55 331 *e*P **P 21 51 24.3 -0.3**
D53A Lac Vacive, Po 70.68 34 *e*P **P 21 51 26.7 +1.3**
comp=Z,73nm,1.9s
CFR Carcaliu 71.16 322 ⇑*i*P **P 21 51 27.8 -0.4**
PRU Pruhonice 71.19 333 *e*P **P 21 51 28.3 0.0**
PRU Pruhonice 71.19 333 *e*P **P 21 51 28.3 0.0**
VRAC Vranov 71.25 332 *e*P **P 21 51 28.7 0.0**
VYHS Vyhne 71.33 330 *e*P **P 21 51 29.4 +0.2**
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 71.33 330 *e*P **P 21 51 29.4 +0.2**
JAVC Velka Javorina 71.34 331 *e*P **P 21 51 30.2 +0.9**
KRUC Moravsky 71.52 332 *e*P **P 21 51 30.1 -0.2**
MLR Muntele Rosu 71.67 324 ⇑*i*P **P 21 51 31.9 +0.5**
TLB Topalu 71.70 322 ⇓*i*P **P 21 51 31.0 -0.4**
MODS Modra-Piesok 71.89 331 *e*P **P 21 51 32.3 -0.2**
MODS pmax pmax
comp=Z,5.0nm,0.9s
MODS Modra-Piesok 71.89 331 *e*P **P 21 51 32.3 -0.2**
VOIR 72.03 325 ⇑*i*P **P 21 51 33.6 +0.2**
KHC Kasperske Hory 72.23 334 *e*P **P 21 51 33.8 -0.6**
KHC Kasperske Hory 72.23 334 *e*P **P 21 51 33.8 -0.6**
ARR Arges 72.23 325 ⇓*i*P **P 21 51 35.2 +0.6**
SULR 72.27 323 ⇑*i*P **P 21 51 34.6 0.0**
GERES GERESS Array B 72.46 333 P **P 21 51 35.6 -0.3**
comp=Z,0.9nm,0.5s,baz=32,slow=5.4,SNR=11
ARSA Arzberg 73.41 332 *e*P **P 21 51 40.7 -0.6**
comp=Z,2.8nm,0.8s
N49A Columbus Grove 73.59 42 *e*P **P 21 51 42.1 -0.2**
comp=Z,23nm,1.4s
BRTR Keskin Array B 73.65 316 P **P 21 51 42.5 -0.3**
comp=Z,2.0nm,0.8s,baz=46,slow=3.6,SNR=12
J54A Appleton 73.67 37 *e*P **P 21 51 43.2 +0.5**
comp=Z,26nm,1.0s
TX31 Lajitas Ar. Si 73.97 62 *e*P **P 21 51 46.4 +1.5**
comp=Z,3.7nm,1.1s
TXAR Lajitas Array 73.97 62 P **P 21 51 46.2 +1.4**
comp=Z,1.2nm,0.5s,baz=299,slow=4.6,SNR=24
TXAR pP **pP 21 53 38.4 +0.4**
comp=Z,0.4nm,0.8s,baz=298,slow=2.5,SNR=3.6
SOKA Soboth 74.07 332 *e*P **P 21 51 45.1 0.0**
comp=Z,6.6nm,1.5s
KBA Koelnbreinsper 74.17 333 *e*P **P 21 51 45.9 +0.2**
comp=Z,11nm,0.9s
OBKA Obir 74.36 332 *e*P **P 21 51 47.0 +0.2**
comp=Z,9.0nm,1.5s
WATA Walderalm 74.41 334 *e*P **P 21 51 47.1 +0.1**
comp=Z,1.4nm,0.5s
WTTA Wattenberg 74.46 334 *i*P **P 21 51 47.2 -0.1**
comp=Z,6.6nm,1.1s
MYKA Terra Mystica 74.51 333 *e*P **P 21 51 46.9 -0.6**
comp=Z,7.2nm,1.3s
SQTA Sankt Quirin 74.61 334 *e*P **P 21 51 47.3 -0.8**
comp=Z,6.9nm,1.3s
ABTA Abfaltersbach 74.70 333 *i*P **P 21 51 48.7 +0.1**
comp=Z,6.7nm,1.2s
MIAR Mount Ida 74.82 52 *e*P **P 21 51 49.9 +0.5**
comp=Z,20nm,1.8s
MIAR Mount Ida 74.82 52 *e*P **P 21 51 49.9 +0.5**
MIAR pmax pmax
comp=Z,21nm,1.8s
FETA Feichten 74.92 335 *i*P **P 21 51 50.1 +0.2**
comp=Z,4.1nm,0.9s
W41B Gary Mavity, V 74.92 51 *e*P **P 21 51 50.1 +0.2**
comp=Z,6.6nm,0.8s
WCI Wyandotte Cave 75.00 45 *e*P **P 21 51 50.7 +0.4**
comp=Z,11nm,1.3s
WCI Wyandotte Cave 75.00 45 *e*P **P 21 51 50.7 +0.4**
WCI pmax pmax
comp=Z,11nm,1.3s
WRAB Tennant Creek 75.06 199 *ce*P **P 21 51 51.0 +0.3**
WRAB pmax pmax
comp=Z,8.0nm,1.0s
VTS Vitosha 75.13 324 ⇑*i*P **P 21 51 50.9 -0.3**
AS31 Alice Springs 78.78 198 *e*P **P 21 52 11.1 +0.1**
comp=Z,2.0nm,0.6s
ASAR Alice Springs 78.78 198 P **P 21 52 11.4 +0.4**
comp=Z,6.1nm,0.7s,baz=11,slow=5.4,SNR=70
ESDC Sonseca Array 85.12 343 P **P 21 52 42.5 -0.7**
comp=Z,1.0nm,0.6s,baz=2.0,slow=3.8,SNR=8.8
KEST Kesra 85.81 332 P **P 21 52 46.5 -0.1**
comp=Z,2.3nm,0.7s,baz=295,slow=1.7,SNR=6.9
CPUP Villa Florida 144.43 52 *e*PKPdf **PKPab 21 59 39.4 +0.1**
CPUP Villa Florida 144.43 52 PKP PKPbc 21 59 38.8 0.0
comp=Z,2.5nm,0.6s,baz=294,slow=4.3,SNR=9.0
PLCA Paso Flores 147.90 85 PKPbc **PKPbc 21 59 48.2 0.0**
comp=Z,2.4nm,0.8s,baz=144,slow=3.1,SNR=4.9

*ATH **25** 23:00:00.2, 35°.56N×27°.22E, h24km±1km, ML2.5/5, Error ellipse: s-maj=3.1km s-min=0.8km az=135.0*
*THE **25** 23:00:00.6, 35°.45N×27°.33E, h6km±2km, ML2.5/5, Error ellipse: s-maj=3.8km s-min=1.5km az=331.0*
*ISCJB **25** 23:00:01.7±0.6, 35°.57N±0°.05×27°.22E±0°.05, h19km±4km, Error ellipse: s-maj=9.1km s-min=4.0km az=142.7*
*DDA **25** 23:00:20.0, 36°.82N×27°.87E, h7km±3km, ML1.9*
ISC 25 23:00:00.9±1.1,**35°.52N**±0°.05×**27°.28E**±0°.04,**h18**km±4km,
n38, σ0**°73/54, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.10**	**287**	P	**Pg**	**23 00 04.3**	**-0.3**
KARP				S	**Sg**	**23 00 07.6**	**+0.4**
KARP	**Karpathos**	**0.10**	**287**	P	**Pg**	**23 00 04.4**	**-0.3**
KARP				S	**Sg**	**23 00 07.5**	**+0.4**
KARP				AML	AML	23 00 07.8	
	comp=N,12584μm,0.3s						
KARP				AML	AML	23 00 08.4	
	comp=E,9618μm,0.1s						
ZKR	**Zakros**	**0.96**	**246**	P	**Pb**	**23 00 17.8**	**-1.3**
ZKR				S	**Sb**	**23 00 32.0**	**+0.6**
ZKR	**Zakros**	**0.96**	**246**	P	**Pb**	**23 00 17.7**	**-1.4**
ZKR				S	**Sb**	**23 00 31.6**	**+0.2**
ZKR				AML	AML	23 00 32.6	
	comp=E,423μm,0.3s						
ZKR				AML	AML	23 00 35.8	
	comp=N,225μm,0.4s						
ARG	**Arkhangelos**	**0.98**	**44**	P	**Pb**	**23 00 19.2**	**-0.2**
ARG				S	**Sg**	**23 00 33.4**	**+0.6**
ARG	**Arkhangelos**	**0.98**	**44**	P	**Pb**	**23 00 19.1**	**-0.3**
ARG				S	**Sb**	**23 00 32.4**	**+0.4**
ARG				AML	AML	23 00 36.5	
	comp=N,190μm,0.2s						
ARG				AML	AML	23 00 37.0	
	comp=E,363μm,0.3s						
STIA	**Sitia Lasithi**	**1.02**	**252**	P	**Pb**	**23 00 19.0**	**-1.1**
STIA				S	**Sg**	**23 00 35.2**	**+1.0**
NISR	**Nisiros**	**1.10**	**354**	P	**Pb**	**23 00 21.0**	**-0.4**
DAT	**Datca**	**1.23**	**11**	*i* P	**Pn**	**23 00 24.1**	**+0.6**
DAT				*i* S	**Sb**	**23 00 39.0**	**-0.4**
NPS	**Neapolis**	**1.39**	**260**	P	**Pn**	**23 00 26.1**	**+0.6**
NPS	**Neapolis**	**1.39**	**260**	P	**Pn**	**23 00 25.6**	**+0.1**
NPS				S	**Sn**	**23 00 43.7**	**+0.3**
ANAF	**Anafi Island**	**1.48**	**305**	P	**Pn**	**23 00 26.9**	**+0.1**
ANAF				S	**Sn**	**23 00 46.6**	**+0.8**
ANAF	**Anafi Island**	**1.48**	**305**	P	**Pn**	**23 00 26.8**	**+0.1**
ANAF				S	**Sn**	**23 00 46.1**	**+0.3**
ANAF				AML	AML	23 00 51.4	
	comp=E,715μm,0.4s						
ANAF				AML	AML	23 00 52.2	
	comp=N,895μm,0.4s						
LAST	**Lasithi**	**1.52**	**257**	P	**Pn**	**23 00 28.1**	**+0.8**
LAST				S	**Sb**	**23 00 49.1**	**+1.6**
LAST	**Lasithi**	**1.52**	**257**	P	**Pn**	**23 00 28.0**	**+0.7**
LAST				S	**Sn**	**23 00 46.6**	**0.0**
BDRM	**Kayabasi**	**1.55**	**5**	*i* P	**Pn**	**23 00 28.4**	**+0.7**
BDRM				IAML_P			
	comp=Z,246nm,0.2s						
SANT	**Santorini**	**1.71**	**300**	P	**Pn**	**23 00 29.5**	**-0.4**
DALY	**Dalyan (Mula)**	**1.71**	**40**	*i* P	**Pb**	**23 00 32.7**	**+0.9**
DALY				IAML_P			
	comp=Z,119nm,0.1s						
THR8	**Santorini-Mono**	**1.71**	**302**	P	**Pn**	**23 00 30.3**	**+0.4**
TURN	**Turunc**	**1.73**	**38**	*i* P	**Pn**	**23 00 27.8**	**-2.3**
TURN				IAML_P			
	comp=Z,753nm,0.1s						
AMGA	**Amorgos Island**	**1.73**	**320**	P	**Pn**	**23 00 30.2**	**+0.1**
AMGA				S	**Sn**	**23 00 50.5**	**-1.3**
THR6	**Thira Island,**	**1.74**	**299**	P	**Pn**	**23 00 30.8**	**+0.5**
THR6	**Thira Island,**	**1.74**	**299**	P	**Pn**	**23 00 30.6**	**+0.2**
THR7	**Fira-Santorini**	**1.75**	**302**	P	**Pn**	**23 00 31.0**	**+0.5**
THT2	**Imerovigli**	**1.77**	**302**	P	**Pn**	**23 00 29.5**	**-1.1**
THR3	**Thira Island,**	**1.77**	**301**	P	**Pn**	**23 00 31.3**	**+0.6**
THR3	**Thira Island,**	**1.77**	**301**	P	**Pn**	**23 00 31.0**	**+0.3**
CMBO	**Columbo, Santo**	**1.79**	**303**	P	**Pn**	**23 00 31.4**	**+0.4**
FETY	**Fethiye**	**1.84**	**52**	*i* P	**Pb**	**23 00 34.5**	**+0.4**
IDI	**Anoyia**	**1.97**	**264**	P	**Pn**	**23 00 33.8**	**+0.3**
IOSP	**Ios island**	**2.01**	**307**	P	**Pn**	**23 00 33.8**	**-0.3**
IOSP				S	**Sn**	**23 00 57.8**	**-1.0**
SIVA	**Sivas**	**2.08**	**257**	P	**Pn**	**23 00 34.8**	**-0.2**
APE	**Apeiranthos**	**2.10**	**318**	P	**Pn**	**23 00 35.5**	**+0.3**
APE				S	**Sn**	**23 01 00.7**	**-0.3**
APE				AML	AML	23 01 02.2	
	comp=N,51μm,0.4s						
APE				AML	AML	23 01 02.5	
	comp=E,61μm,0.4s						
AYDN	**Tasoluk**	**2.19**	**12**	*i* P	**Pn**	**23 00 37.1**	**+0.5**
AYDN				IAML_P			
	comp=Z,376nm,0.2s						
SMG	**Samos**	**2.22**	**351**	P	**Pn**	**23 00 36.1**	**-0.8**
VAM	**Vamos**	**2.52**	**268**	P	**Pn**	**23 00 41.2**	**+0.2**
IMMV	**Iera Moni Meta**	**2.69**	**270**	P	**Pn**	**23 00 44.0**	**+0.5**
VLI	**Veliai**	**3.72**	**290**	P	**Pn**	**23 00 57.8**	**+0.3**

*ISCJB **25** 23:25:14.6±0.5, 39°.14N±0°.03×28°.08E±0°.04, h6km±6km, Error ellipse: s-maj=5.0km s-min=4.0km az=138.7*
*DDA **25** 23:25:14.0, 39°.14N×28°.07E, h7km±3km, ML2.5*
*ISK **25** 23:25:14.3, 39°.15N×28°.04E, h8km, ML2.0/9*
ISC 25 23:25:14.4±1.1,**39°.16N**±0°.03×**28°.06E**±0°.03,**h9**km±11km,
n19, σ0**°50/27, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.34**	**215**	*i* P	**Pg**	**23 25 21.2**	**0.0**
AKHS				IAML_P			
	comp=Z,2μm,0.1s						
AKS	**Akhisar**	**0.34**	**215**	PG	**Pg**	**23 25 21.2**	**+0.1**
AKS				SG	**Sg**	**23 25 25.9**	**+0.3**
STEP	**BALIKESIR_Sava**	**0.35**	**310**	*i* P	**Pg**	**23 25 21.4**	**+0.1**
STEP				*i* S	**Sb**	**23 25 27.4**	**-1.1**
STEP				IAML_P			
	comp=Z,1μm,0.1s						
BALB	**Balikesir**	**0.50**	**344**	PG	**Pb**	**23 25 24.9**	**-0.6**
BALB				SG	**Sb**	**23 25 32.3**	**-0.6**
DURS	**Dursunbey**	**0.55**	**36**	*i* P	**Pg**	**23 25 25.5**	**+0.4**
DURS				IAML_P			
	comp=Z,487nm,0.2s						
MANT	**Manisa**	**0.77**	**150**	*i* P	**Pb**	**23 25 29.9**	**-0.2**
MANT				*i* S	**Sg**	**23 25 39.1**	**-0.2**
MANT				IAML_P			
	comp=Z,604nm,0.1s						
ZEDA	**zmir-Bergama**	**0.79**	**256**	*i* P	**Pg**	**23 25 29.5**	**-0.2**
ZEDA				*i* S	**Sb**	**23 25 41.9**	**+0.8**
ZEDA				IAML_P			
	comp=Z,638nm,0.1s						
KULA	**Kula-Manisa**	**0.79**	**144**	PG	**Pb**	**23 25 29.8**	**-0.6**
USAK	**Uak-Merkez**	**0.87**	**120**	*i* P	**Pb**	**23 25 31.6**	**0.0**
USAK				*i* S	**Sg**	**23 25 42.0**	**-0.4**
USAK				IAML_P			
	comp=Z,891nm,0.1s						
GEDZ	**Gediz**	**1.05**	**96**	PG	**Pn**	**23 25 35.7**	**+0.2**
AYVA	**Ayvalik**	**1.08**	**279**	*i* P	**Pn**	**23 25 36.7**	**+1.0**
AYVA				IAML_P			
	comp=Z,183nm,0.1s						
GDZ	**Gediz**	**1.11**	**93**	*i* P	**Pn**	**23 25 36.0**	**-0.2**
GDZ				*i* S	**Sb**	**23 25 50.3**	**-0.1**
GDZ				IAML_P			
	comp=Z,239nm,0.1s						
TVSB	**Tavsanli**	**1.12**	**74**	PN	**Pn**	**23 25 37.3**	**+0.8**
TVSB				SN	**Sn**	**23 25 52.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.13**	**11**	PN	**Pn**	**23 25 36.4**	**-0.1**
EDC	**Edincik**	**1.20**	**353**	PN	**Pn**	**23 25 37.7**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.22**	**186**	PN	**Pn**	**23 25 37.8**	**+0.1**
ULDT	**Uludag**	**1.29**	**40**	*i* P	**Pg**	**23 25 39.7**	**+0.5**
ULDT				IAML_P			
	comp=Z,668nm,0.2s						
BAYC	**CANAKKALE_Bayr**	**1.31**	**297**	*i* P	**Pg**	**23 25 39.9**	**+0.3**
ARMT	**Armutlu**	**1.54**	**23**	PN	**Pb**	**23 25 42.9**	**-0.2**

*IDC **25** 23:25:55.2±1.4, 43°.01N×12°.92E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.4/29, mbtmp3.6/4, ML3.6/1, MS2.2/1, Ms1 2.2/1, ms1mx2.0/26, Error ellipse: s-maj=52.0km s-min=18.6km az=101.0*
*STR **25** 23:25:58.3±3.6, 43°.N±13°×1°.3E±3°.1, h10km, M3.6/7, mB4.1/1, mb3.7/7, MLv3.5/7, Mw(mB)3.1/1*
*ISCJB **25** 23:26:01.0±0.1, 43°.18N±0°.01×12°.93E±0°.01, h77km±1km, mb3.5/2, Error ellipse: s-maj=2.1km s-min=1.5km az=34.5*
*PDG **25** 23:26:01.2±0.5, 43°.17N×12°.84E, h70km±1km, ML3.9/10, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*LDG **25** 23:26:02.9±0.3, 43°.17N×12°.89E, h60km, Ml3.1/24, Error ellipse: s-maj=6.9km s-min=5.8km az=49.0*
*ROM **25** 23:26:02.4±0.1, 43°.087N±0°.004×12°.812E±0°.005, h63km, ML3.6/100, Error ellipse: s-maj=0.4km s-min=0.3km az=47.0*
*PRU **25** 23:26:04.7±0.0, 43°.60N×12°.85E, h0km*
*BEO **25** 23:26:04.4±0.7, 43°.12N×13°.25E, h15km, ML3.7/12*
ISC 25 23:26:01.7±0.8,**43°.15N**±0°.02×**12°.87E**±0°.03,**h70**km±4km,
n437, σ1**°90/512, 25C-7D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEF1	**Sefro**	**0.06**	**90**	P	**Pn**	**23 26 11.8**	**-0.1**
SEF1	**Sefro**	**0.06**	**90**	P	**Pn**	**23 26 11.8**	**-0.1**
SEF1				S	**Sn**	**23 26 19.4**	**0.0**
SEF1				AML	AML		
	comp=E,82750μm,1.6s						
SEF1				AML	AML		
	comp=N,62100μm,0.3s						
SEF1				AML	AML		
	comp=E,82750μm,1.6s						
SEF1				AML	AML		
	comp=N,62100μm,0.3s						
SEF1				AML	AML		
	comp=E,82750μm,1.6s						
SEF1				AML	AML		
	comp=N,62100μm,0.3s						
SEF1				AML	AML		
	comp=N,62100μm,0.3s						
SEF1				AML	AML		
	comp=E,82750μm,1.6s						
SEF1	**Sefro**	**0.06**	**90**	P	**Pn**	**23 26 11.9**	**-0.1**
SEF1	**Sefro**	**0.06**	**90**	S	**Sn**	**23 26 19.5**	**0.0**
PIO1	**Pioraco**	**0.09**	**69**	P	**Pn**	**23 26 11.9**	**-0.1**
PIO1	**Pioraco**	**0.09**	**69**	P	**Pn**	**23 26 11.9**	**-0.1**
PIO1				S	**Sn**	**23 26 19.4**	**-0.1**
PIO1				AML	AML		
	comp=E,23900μm,0.7s						
PIO1				AML	AML		
	comp=N,23250μm,1.3s						
PIO1				AML	AML		
	comp=E,23950μm,0.7s						
PIO1				AML	AML		
	comp=N,23250μm,1.3s						
PIO1				AML	AML		
	comp=E,23950μm,0.7s						
PIO1				AML	AML		
	comp=N,23250μm,1.3s						
PIO1	**Pioraco**	**0.09**	**69**	S	**Sn**	**23 26 19.6**	**+0.1**
SNTG	**Esanatoglia**	**0.12**	**25**	P	**Pn**	**23 26 12.1**	**0.0**
SNTG				AML	AML		
	comp=E,2750μm,0.5s						
SNTG				AML	AML		
	comp=N,4170μm,0.3s						
SNTG				AML	AML		
	comp=E,2750μm,0.5s						
SNTG				AML	AML		
	comp=N,4170μm,0.3s						
SNTG				AML	AML		
	comp=E,2750μm,0.5s						
SNTG				AML	AML		
	comp=N,4170μm,0.3s						
SNTG	**Esanatoglia**	**0.12**	**25**	P	**Pn**	**23 26 12.1**	**0.0**
SNTG	**Esanatoglia**	**0.12**	**25**	S	**Sn**	**23 26 19.9**	**+0.2**
CESI	**CESI - Serrava**	**0.14**	**170**	P	**Pn**	**23 26 11.6**	**-0.6**
CESI	**CESI - Serrava**	**0.14**	**170**	*e*P	**Pn**	**23 26 11.8**	**-0.5**
CESI				S	**Sn**	**23 26 19.5**	**-0.4**
CESI				AML	AML		
	comp=E,2285μm,0.8s						
CESI				AML	AML		
	comp=N,8580μm,0.3s						
CESI				AML	AML		
	comp=E,2285μm,0.8s						
CESI				AML	AML		
	comp=N,8580μm,0.3s						
CESI				AML	AML		
	comp=E,2285μm,0.8s						
CESI				AML	AML		
	comp=N,8580μm,0.3s						
CESI				AML	AML		
	comp=N,8580μm,0.3s						
CESI				AML	AML		
	comp=E,2285μm,0.8s						
CESI	**CESI - Serrava**	**0.14**	**170**	P	**Pn**	**23 26 11.8**	**-0.5**
CESI	**CESI - Serrava**	**0.14**	**170**	S	**Sn**	**23 26 19.4**	**-0.4**
MTL1	**Matelica**	**0.15**	**43**	P	**Pn**	**23 26 12.3**	**+0.2**
MTL1				AML	AML		
	comp=E,32550μm,1.2s						
MTL1				AML	AML		
	comp=N,55500μm,0.3s						
MTL1				AML	AML		
	comp=E,32550μm,1.2s						
MTL1				AML	AML		
	comp=N,55500μm,0.3s						
MTL1				AML	AML		
	comp=E,32500μm,1.2s						
MTL1				AML	AML		
	comp=N,55500μm,0.3s						
MTL1				AML	AML		
	comp=N,55500μm,0.3s						
MTL1				AML	AML		
	comp=E,32500μm,1.2s						
MTL1	**Matelica**	**0.15**	**43**	P	**Pn**	**23 26 12.4**	**+0.2**
MTL1	**Matelica**	**0.15**	**43**	S	**Sn**	**23 26 20.3**	**+0.5**
CRM1	**Catelraimondo**	**0.15**	**65**	P	**Pn**	**23 26 12.3**	**+0.2**
CRM1				S	**Sn**	**23 26 20.5**	**+0.8**
CRM1				AML	AML		
	comp=E,41700μm,0.4s						
CRM1				AML	AML		
	comp=N,53750μm,0.4s						
CRM1				AML	AML		
	comp=E,41750μm,0.4s						
CRM1				AML	AML		
	comp=N,53750μm,0.4s						
CRM1				AML	AML		
	comp=E,41750μm,0.4s						
CRM1				AML	AML		
	comp=N,53750μm,0.4s						
CRM1	**Catelraimondo**	**0.15**	**65**	S	**Sn**	**23 26 20.5**	**+0.8**
FOSV	**Fossato di Vic**	**0.17**	**332**	P	**Pn**	**23 26 12.5**	**+0.2**
FOSV				S	**Sn**	**23 26 20.1**	**+0.1**
FOSV				AML	AML		
	comp=E,7835μm,0.3s						
FOSV				AML	AML		
	comp=N,12300μm,1.1s						
FOSV				AML	AML		
	comp=E,7835μm,0.3s						
FOSV				AML	AML		
	comp=N,12300μm,1.1s						
FOSV				AML	AML		
	comp=E,7815μm,0.3s						
FOSV				AML	AML		
	comp=N,12350μm,1.1s						
FOSV				AML	AML		
	comp=N,12350μm,1.1s						
FOSV				AML	AML		
	comp=E,7815μm,0.3s						
FOSV	**Fossato di Vic**	**0.17**	**332**	S	**Sn**	**23 26 20.2**	**+0.3**
GAG1	**Gagliole**	**0.17**	**58**	P	**Pn**	**23 26 12.4**	**+0.2**
GAG1				S	**Sn**	**23 26 20.5**	**+0.6**
GAG1				AML	AML		
	comp=E,41000μm,0.6s						
GAG1				AML	AML		
	comp=N,52650μm,0.4s						
GAG1				AML	AML		
	comp=E,41000μm,0.6s						
GAG1				AML	AML		
	comp=N,52700μm,0.4s						
GAG1				AML	AML		
	comp=E,41000μm,0.6s						
GAG1				AML	AML		
	comp=N,52700μm,0.4s						
GAG1				AML	AML		
	comp=N,52700μm,0.4s						
GAG1				AML	AML		
	comp=E,41000μm,0.6s						
GAG1	**Gagliole**	**0.17**	**58**	P	**Pn**	**23 26 12.4**	**+0.2**
GAG1	**Gagliole**	**0.17**	**58**	S	**Sn**	**23 26 20.5**	**+0.6**
ATCC	**AVT- Casa Cast**	**0.17**	**283**	P	**Pn**	**23 26 12.2**	**-0.1**
ATCC				S	**Sn**	**23 26 19.4**	**-0.5**
ATCC				AML	AML		
	comp=E,13700μm,0.3s						
ATCC				AML	AML		
	comp=N,12350μm,0.3s						
ATCC				AML	AML		
	comp=E,13700μm,0.3s						
ATCC				AML	AML		

	comp=N,12350µm,0.3s				
ATCC			AML	AML	
	comp=N,12350µm,0.3s				
ATCC			AML	AML	
	comp=E,13700µm,0.3s				
ATCC	**AVT- Casa Cast**	**0.17 283**	P	**Pn**	**23 26 12.2 -0.1**
ATCC	**AVT- Casa Cast**	**0.17 283**	S	**Sn**	**23 26 19.5 -0.5**
ASSB	**Assisi San Ben**	**0.19 236**	P	**Pn**	**23 26 11.8 -0.6**
ASSB			S	**Sn**	**23 26 18.6 -1.5**
ASSB			AML	AML	
	comp=E,9780µm,0.3s				
ASSB			AML	AML	
	comp=N,7095µm,0.7s				
ASSB			AML	AML	
	comp=E,9780µm,0.3s				
ASSB			AML	AML	
	comp=N,7095µm,0.7s				
ASSB			AML	AML	
	comp=E,9780µm,0.3s				
ASSB			AML	AML	
	comp=N,7095µm,0.7s				
ASSB			AML	AML	
	comp=E,9780µm,0.3s				
ASSB			AML	AML	
	comp=N,7095µm,0.7s				
ASSB	**Assisi San Ben**	**0.19 236**	S	**Sn**	**23 26 18.7 -1.4**
FDMO	**Fiordimonte**	**0.19 125**	P	**Pn**	**23 26 12.4 0.0**
FDMO			S	**Sn**	**23 26 20.1 0.0**
FDMO			AML	AML	
	comp=E,20050µm,0.4s				
FDMO			AML	AML	
	comp=N,32350µm,0.3s				
FDMO			AML	AML	
	comp=E,20050µm,0.4s				
FDMO			AML	AML	
	comp=N,32350µm,0.3s				
FDMO			AML	AML	
	comp=N,32350µm,0.3s				
FDMO			AML	AML	
	comp=E,20050µm,0.4s				
FDMO	**Fiordimonte**	**0.19 125**	P	**Pn**	**23 26 12.4 0.0**
FDMO	**Fiordimonte**	**0.19 125**	S	**Sn**	**23 26 20.2 0.0**
FEMA	**Monte Fema**	**0.23 144**	P	**Pn**	**23 26 12.4 -0.2**
FEMA	**Monte Fema**	**0.23 144**	P	**Pn**	**23 26 12.4 -0.2**
FEMA			AML	AML	
	comp=E,22900µm,0.5s				
FEMA			AML	AML	
	comp=N,20200µm,1.3s				
FEMA			AML	AML	
	comp=E,22900µm,0.5s				
FEMA			AML	AML	
	comp=N,20150µm,1.3s				
FEMA			AML	AML	
	comp=E,22900µm,0.5s				
FEMA			AML	AML	
	comp=N,20150µm,1.3s				
FEMA	**Monte Fema**	**0.23 144**	P	**Pn**	**23 26 12.5 -0.2**
FEMA	**Monte Fema**	**0.23 144**	S	**Sn**	**23 26 20.9 +0.3**
EL6	**Elcito**	**0.25 43**	P	**Pn**	**23 26 12.9 +0.2**
EL6	**Elcito**	**0.25 43**	P	**Pn**	**23 26 13.1 +0.3**
EL6			S	**Sn**	**23 26 21.4 +0.7**
EL6			AML	AML	
	comp=E,27200µm,0.2s				
EL6			AML	AML	
	comp=N,38650µm,0.5s				
EL6			AML	AML	
	comp=E,27250µm,0.2s				
EL6			AML	AML	
	comp=N,38650µm,0.5s				
EL6			AML	AML	
	comp=N,38650µm,0.5s				
EL6			AML	AML	
	comp=E,27250µm,0.2s				
EL6	**Elcito**	**0.25 43**	S	**Sn**	**23 26 22.0 +1.2**
EL6	**Elcito**	**0.25 43**	S	**Sn**	**23 26 22.0 +1.2**
CSP1	**Cessapalombo**	**0.25 103**	P	**Pn**	**23 26 12.9 +0.1**
CSP1			S	**Sn**	**23 26 20.9 +0.1**
CSP1			AML	AML	
	comp=E,32950µm,0.3s				
CSP1			AML	AML	
	comp=N,32200µm,0.2s				
CSP1			AML	AML	
	comp=N,32200µm,0.2s				
CSP1			AML	AML	
	comp=E,32950µm,0.3s				
MURB	**Monte Urbino**	**0.28 295**	P	**Pn**	**23 26 13.1 +0.2**
SSFR	**Montelago di S**	**0.30 347**	P	**Pn**	**23 26 13.5 +0.5**
SSFR			AML	AML	
	comp=E,24250µm,0.6s				
SSFR			AML	AML	
	comp=N,23400µm,0.3s				
SSFR			AML	AML	
	comp=E,24250µm,0.6s				
SSFR			AML	AML	
	comp=N,23450µm,0.3s				
SSFR			AML	AML	
	comp=E,24250µm,0.6s				
SSFR			AML	AML	
	comp=N,23450µm,0.3s				
SSFR			AML	AML	
	comp=E,24250µm,0.6s				
SSFR			AML	AML	
	comp=N,23450µm,0.3s				
SSFR	**Montelago di S**	**0.30 347**	P	**Pn**	**23 26 13.5 +0.5**
ATFO	**Monte Foce - G**	**0.31 315**	P	**Pn**	**23 26 13.8 +0.7**
ATFO			AML	AML	
	comp=E,6885µm,0.6s				
ATFO			AML	AML	
	comp=N,7245µm,0.4s				
ATFO			AML	AML	
	comp=E,6885µm,0.6s				
ATFO			AML	AML	
	comp=N,7245µm,0.4s				
ATFO			AML	AML	
	comp=N,7245µm,0.4s				
ATFO			AML	AML	
	comp=E,6885µm,0.6s				
CING	**Cingoli**	**0.33 46**	P	**Pn**	**23 26 13.6 +0.4**
CING			AML	AML	
	comp=E,10180µm,0.8s				
CING			AML	AML	
	comp=N,5905µm,0.7s				
CING			AML	AML	
	comp=N,5905µm,0.7s				
CING			AML	AML	
	comp=E,10180µm,0.8s				
ARVD	**Arcevia**	**0.35 8**	P	**Pn**	**23 26 13.9 +0.5**
ARVD			S	**Sn**	**23 26 22.6 +0.8**
ARVD			AML	AML	
	comp=E,10900µm,1.2s				
ARVD			AML	AML	
	comp=N,13250µm,0.4s				
ARVD			AML	AML	
	comp=E,10900µm,1.2s				
ARVD			AML	AML	
	comp=N,13250µm,0.4s				
ARVD			AML	AML	
	comp=E,10900µm,1.2s				
ARVD			AML	AML	
	comp=N,13250µm,0.4s				
NRCA	**Norcia**	**0.36 150**	P	**Pn**	**23 26 13.1 -0.3**
NRCA	**Norcia**	**0.36 150**	P	**Pn**	**23 26 13.5 +0.1**
TRE1	**Treia**	**0.36 63**	P	**Pn**	**23 26 14.0 +0.6**
TRE1			AML	AML	
	comp=E,15050µm,0.4s				
TRE1			AML	AML	
	comp=N,11300µm,0.3s				
TRE1			AML	AML	
	comp=E,15050µm,0.4s				
TRE1			AML	AML	
	comp=N,11285µm,0.3s				
TRE1			AML	AML	
	comp=N,11285µm,0.3s				
TRE1			AML	AML	
	comp=E,15050µm,0.4s				
TRE1	**Treia**	**0.36 63**	P	**Pn**	**23 26 14.3 +0.9**
ATTE	**AVT- Monte Tez**	**0.38 278**	P	**Pn**	**23 26 13.5 -0.1**
ATTE			AML	AML	
	comp=E,4815µm,1.5s				
ATTE			AML	AML	
	comp=N,4525µm,0.3s				
ATTE			AML	AML	
	comp=E,4815µm,1.5s				
ATTE			AML	AML	
	comp=N,4525µm,0.3s				
ATTE			AML	AML	
	comp=N,4525µm,0.3s				
ATTE			AML	AML	
	comp=E,4815µm,1.5s				
FRON	**Frontone**	**0.39 344**	P	**Pn**	**23 26 14.2 +0.6**
FRON			AML	AML	
	comp=E,5445µm,0.5s				
FRON			AML	AML	
	comp=N,8480µm,0.4s				
FRON			AML	AML	
	comp=E,5445µm,0.5s				
FRON			AML	AML	
	comp=N,8480µm,0.4s				
MOMA	**Monte Martano**	**0.41 213**	P	**Pn**	**23 26 13.2 -0.6**
MOMA			AML	AML	
	comp=E,18600µm,0.2s				
MOMA			AML	AML	
	comp=N,18950µm,0.3s				
MOMA			AML	AML	
	comp=E,20500µm,0.2s				
MOMA			AML	AML	
	comp=N,18700µm,0.3s				
MOMA			AML	AML	
	comp=E,18600µm,0.2s				
MOMA			AML	AML	
	comp=N,18900µm,0.3s				
MOMA			AML	AML	
	comp=E,20500µm,0.2s				
MOMA			AML	AML	
	comp=N,18700µm,0.3s				
MOMA			AML	AML	
	comp=E,18600µm,0.2s				
MOMA			AML	AML	
	comp=N,18900µm,0.3s				
MOMA			AML	AML	
	comp=N,18700µm,0.3s				
MOMA			AML	AML	
	comp=E,20500µm,0.2s				
MOMA	**Monte Martano**	**0.41 213**	P	**Pn**	**23 26 13.2 -0.6**
MOMA	**Monte Martano**	**0.41 213**	P	**Pn**	**23 26 13.2 -0.6**
MOMA	**Monte Martano**	**0.41 213**	S	**Sn**	**23 26 21.2 -1.5**
ATVO	**AVT- Monte Val**	**0.41 305**	P	**Pn**	**23 26 12.9 -0.9**
ATVO	**AVT- Monte Val**	**0.41 305**	P	**Pn**	**23 26 14.1 +0.2**
ATVO			AML	AML	
	comp=E,4740µm,0.8s				
ATVO			AML	AML	
	comp=N,6215µm,0.5s				
ATVO			AML	AML	
	comp=E,4740µm,0.8s				
ATVO			AML	AML	
	comp=N,6215µm,0.5s				
MNTP	**Montappone**	**0.44 91**	P	**Pn**	**23 26 14.5 +0.6**
MNTP			AML	AML	
	comp=E,9785µm,1.0s				
MNTP			AML	AML	
	comp=N,9105µm,1.1s				
MNTP			AML	AML	
	comp=E,9795µm,1.0s				
MNTP			AML	AML	
	comp=N,9100µm,1.1s				
MNTP			AML	AML	
	comp=N,9100µm,1.1s				
MNTP			AML	AML	
	comp=E,9795µm,1.0s				
MNTP	**Montappone**	**0.44 91**	P	**Pn**	**23 26 14.6 +0.6**
ATPI	**Pietralunga -**	**0.46 312**	P	**Pn**	**23 26 14.8 +0.5**
ATPI			AML	AML	
	comp=E,3220µm,1.0s				
ATPI			AML	AML	
	comp=N,3790µm,1.1s				
ATPI			AML	AML	
	comp=E,3220µm,1.0s				
ATPI			AML	AML	
	comp=N,3790µm,1.1s				
ATPI			AML	AML	
	comp=E,3220µm,1.0s				
ATPI			AML	AML	
	comp=N,3790µm,1.1s				
ATMI	**Monte Miggiano**	**0.48 293**	P	**Pn**	**23 26 14.5 +0.1**
ATMI			AML	AML	
	comp=E,12500µm,0.3s				
ATMI			AML	AML	
	comp=N,8910µm,0.3s				
ATMI			AML	AML	
	comp=E,12500µm,0.3s				
ATMI			AML	AML	
	comp=N,8910µm,0.3s				
ATMI			AML	AML	
	comp=E,12500µm,0.3s				
ATMI			AML	AML	
	comp=N,8910µm,0.3s				
MPAG	**Monte Paganucc**	**0.49 351**	P	**Pn**	**23 26 15.2 +0.7**
MPAG			AML	AML	
	comp=E,4685µm,1.3s				
MPAG			AML	AML	
	comp=N,4125µm,1.3s				
MPAG			AML	AML	
	comp=E,4815µm,1.3s				
MPAG			AML	AML	
	comp=N,4190µm,1.3s				
MPAG			AML	AML	
	comp=E,4685µm,1.3s				
MPAG			AML	AML	
	comp=N,4120µm,1.3s				
MPAG			AML	AML	
	comp=E,4810µm,1.3s				
MPAG			AML	AML	
	comp=N,4190µm,1.3s				
MPAG			AML	AML	
	comp=E,4685µm,1.3s				
MPAG			AML	AML	
	comp=N,4120µm,1.3s				
MPAG			AML	AML	
	comp=N,4190µm,1.3s				
MPAG			AML	AML	
	comp=E,4810µm,1.3s				
COR1	**Corinaldo**	**0.49 11**	P	**Pn**	**23 26 15.7 +1.2**
COR1			AML	AML	
	comp=E,7360µm,0.6s				
COR1			AML	AML	
	comp=N,8130µm,0.9s				
COR1			AML	AML	
	comp=E,4060µm,0.6s				
COR1			AML	AML	
	comp=N,7250µm,0.4s				
COR1			AML	AML	
	comp=E,7360µm,0.6s				
COR1			AML	AML	
	comp=N,8130µm,0.9s				
COR1			AML	AML	
	comp=E,4045µm,0.6s				
COR1			AML	AML	
	comp=N,7240µm,0.4s				
COR1			AML	AML	
	comp=N,7240µm,0.4s				
COR1			AML	AML	
	comp=N,8130µm,0.9s				
COR1			AML	AML	
	comp=E,7360µm,0.6s				
COR1			AML	AML	
	comp=E,4045µm,0.6s				
NARO	**Abbazia di Nar**	**0.51 336**	P	**Pn**	**23 26 15.5 +0.8**
NARO			AML	AML	
	comp=E,3700µm,0.6s				
NARO			AML	AML	
	comp=N,3060µm,0.6s				
NARO			AML	AML	
	comp=N,3060µm,0.6s				
NARO			AML	AML	
	comp=E,3700µm,0.6s				
LNSS	**Leonessa**	**0.56 167**	P	**Pn**	**23 26 14.8 -0.5**
LNSS			AML	AML	
	comp=E,5445µm,0.2s				
LNSS			AML	AML	
	comp=N,5910µm,1.2s				
LNSS			AML	AML	
	comp=E,5445µm,0.2s				
LNSS			AML	AML	
	comp=N,5910µm,1.2s				
LNSS			AML	AML	
	comp=N,5910µm,1.2s				
LNSS			AML	AML	
	comp=E,5445µm,0.2s				
CDCA	**Citt' di Caste**	**0.56 304**	P	**Pn**	**23 26 15.2 +0.1**
CDCA	**Citt' di Caste**	**0.56 304**	P	**Pn**	**23 26 15.5 +0.4**
CDCA			AML	AML	
	comp=E,4620µm,0.6s				
CDCA			AML	AML	
	comp=N,8670µm,0.5s				
CDCA			AML	AML	
	comp=E,1910µm,1.0s				
CDCA			AML	AML	
	comp=N,2565µm,0.5s				
CDCA			AML	AML	
	comp=E,4615µm,0.6s				
CDCA			AML	AML	
	comp=N,8670µm,0.5s				
CDCA			AML	AML	
	comp=E,1920µm,1.0s				
CDCA			AML	AML	
	comp=N,2560µm,0.5s				
CDCA			AML	AML	
	comp=E,1920µm,1.0s				
CDCA			AML	AML	
	comp=E,4615µm,0.6s				
CDCA			AML	AML	
	comp=N,2560µm,0.5s				
CDCA			AML	AML	
	comp=N,8670µm,0.5s				
CESX	**Cesi**	**0.58 202**	P	**Pn**	**23 26 14.9 -0.4**
CESX			AML	AML	
	comp=E,8480µm,0.5s				
CESX			AML	AML	
	comp=N,18150µm,0.3s				
CESX			AML	AML	
	comp=E,8480µm,0.5s				
CESX			AML	AML	
	comp=N,18150µm,0.3s				
CESX			AML	AML	
	comp=N,18150µm,0.3s				
CESX			AML	AML	
	comp=E,8480µm,0.5s				
BADI	**Badiali**	**0.58 309**	P	**Pn**	**23 26 16.0 +0.6**
BADI	**Badiali**	**0.58 309**	P	**Pn**	**23 26 16.0 +0.6**
MGAB	**Montegabbione**	**0.60 247**	P	**Pn**	**23 26 15.7 +0.1**
MGAB			AML	AML	
	comp=E,5410µm,0.7s				
MGAB			AML	AML	
	comp=N,8455µm,1.6s				
MGAB			AML	AML	
	comp=E,6850µm,1.5s				
MGAB			AML	AML	
	comp=N,7775µm,0.6s				
MGAB			AML	AML	
	comp=N,7775µm,0.6s				
MGAB			AML	AML	
	comp=N,8455µm,1.6s				
MGAB			AML	AML	
	comp=E,6850µm,1.5s				
MGAB			AML	AML	
	comp=E,5410µm,0.7s				
PE3	**Peglio**	**0.61 334**	P	**Pn**	**23 26 17.1 +1.4**
PE3			AML	AML	
	comp=E,6805µm,0.5s				
PE3			AML	AML	
	comp=N,7665µm,0.5s				
PE3			AML	AML	
	comp=E,6805µm,0.5s				
PE3			AML	AML	
	comp=N,7660µm,0.5s				
PE3			AML	AML	
	comp=N,7660µm,0.5s				
PE3			AML	AML	
	comp=E,6805µm,0.5s				
PE3	**Peglio**	**0.61 334**	P	**Pn**	**23 26 17.1 +1.4**
SENI	**Senigallia**	**0.62 25**	P	**Pn**	**23 26 16.8 +1.1**
SENI	**Senigallia**	**0.62 25**	P	**Pn**	**23 26 16.9 +1.2**
SMA1	**SAN MARTINO**	**0.62 146**	P	**Pn**	**23 26 15.6 -0.3**
SMA1	**SAN MARTINO**	**0.62 146**	P	**Pn**	**23 26 16.0 +0.1**
OFFI	**Offida**	**0.63 109**	P	**Pn**	**23 26 17.0 +1.1**
OFFI	**Offida**	**0.63 109**	P	**Pn**	**23 26 17.0 +1.1**
CADA	**Capodarco di F**	**0.65 86**	P	**Pn**	**23 26 16.3 +0.2**
CADA	**Capodarco di F**	**0.65 86**	P	**Pn**	**23 26 17.2 +1.1**
CADA			AML	AML	
	comp=E,16150µm,0.4s				
CADA			AML	AML	
	comp=N,19950µm,0.4s				
CADA			AML	AML	
	comp=E,16150µm,0.4s				
CADA			AML	AML	
	comp=N,19950µm,0.4s				
CADA			AML	AML	
	comp=E,16150µm,0.4s				
CADA			AML	AML	
	comp=N,19950µm,0.4s				
PARC	**Parchiule**	**0.68 318**	P	**Pn**	**23 26 17.3 +0.8**
PARC	**Parchiule**	**0.68 318**	P	**Pn**	**23 26 17.7 +1.2**
CAFI	**Castiglion Fio**	**0.69 286**	P	**Pn**	**23 26 16.9 +0.4**
CAFI			AML	AML	
	comp=E,2495µm,0.2s				
CAFI			AML	AML	
	comp=N,2245µm,0.7s				
CAFI			AML	AML	
	comp=E,2495µm,0.2s				
CAFI			AML	AML	
	comp=N,2245µm,0.7s				
CAFI			AML	AML	
	comp=N,2245µm,0.7s				
CAFI			AML	AML	
	comp=E,2495µm,0.2s				
SSP9	**Sansepolcro**	**0.69 309**	P	**Pn**	**23 26 17.2 +0.7**
SSP9			AML	AML	
	comp=E,994µm,1.0s				
SSP9			AML	AML	
	comp=N,1200µm,1.6s				
SSP9	**Sansepolcro**	**0.69 309**	P	**Pn**	**23 26 17.2 +0.7**
CAMP	**Campotosto**	**0.73 147**	P	**Pn**	**23 26 17.4 +0.3**
TERO	**Teramo**	**0.75 134**	P	**Pn**	**23 26 17.7 +0.5**
TERO			AML	AML	
	comp=E,3175µm,0.5s				
TERO			AML	AML	
	comp=N,3435µm,0.6s				
TERO			AML	AML	
	comp=E,3180µm,0.5s				
TERO			AML	AML	
	comp=N,3435µm,0.6s				
TERO			AML	AML	
	comp=N,3435µm,0.6s				
TERO			AML	AML	
	comp=E,3180µm,0.5s				
SACS	**San Casciano d**	**0.77 247**	P	**Pn**	**23 26 17.4 0.0**
CPGN	**Carpegna, Ital**	**0.77 329**	P	**Pn**	**23 26 19.5 +1.9**
CPGN	**Carpegna, Ital**	**0.77 329**	P	**Pn**	**23 26 19.9 +2.4**
CPGN			AML	AML	
	comp=E,1840µm,0.7s				
CPGN			AML	AML	
	comp=N,1790µm,0.6s				
CPGN			AML	AML	
	comp=E,1840µm,0.7s				
CPGN			AML	AML	
	comp=N,1790µm,0.6s				
GUMA	**Gualdo di Mace**	**0.78 96**	P	**Pn**	**23 26 13.9 -3.8**
GUMA			S	**Sn**	**23 26 22.7 -6.7**
GUMA			AML	AML	
	comp=E,41500µm,0.3s				
GUMA			AML	AML	
	comp=N,31400µm,0.6s				
GUMA			AML	AML	
	comp=E,48700µm,0.5s				
GUMA			AML	AML	
	comp=N,43300µm,0.4s				
GUMA			AML	AML	
	comp=E,48700µm,0.5s				
GUMA			AML	AML	
	comp=N,31400µm,0.6s				
GUMA			AML	AML	
	comp=N,43300µm,0.4s				
GUMA			AML	AML	
	comp=E,41500µm,0.3s				
PESA	**Pesaro**	**0.79 358**	P	**Pn**	**23 26 18.8 +1.1**
PESA	**Pesaro**	**0.79 358**	P	**Pn**	**23 26 18.9 +1.1**
CRE	**Caprese Michel**	**0.82 306**	P	**Pn**	**23 26 18.4 +0.3**
CRE			AML	AML	
	comp=E,2640µm,0.3s				
CRE			AML	AML	
	comp=N,2570µm,0.4s				
CRE			AML	AML	
	comp=E,2640µm,0.3s				
CRE			AML	AML	
	comp=N,2570µm,0.4s				
TRTR	**Tortoreto Alta**	**0.84 113**	P	**Pn**	**23 26 19.6 +1.4**
AQU	**L'Aquila**	**0.88 154**	*e*Pg	**Pn**	**23 26 19.1 +0.2**
AQU	**L'Aquila**	**0.88 154**	P	**Pn**	**23 26 19.4 +0.6**
AQU			AML	AML	
	comp=E,1245µm,0.7s				
AQU			AML	AML	

	comp=N,1110µm,1.2s				
AQU			AML	AML	
	comp=E,1250µm,0.7s				
AQU			AML	AML	
	comp=N,1035µm,0.3s				
AQU			AML	AML	
	comp=E,1245µm,0.7s				
AQU			AML	AML	
	comp=N,1110µm,1.2s				
AQU			AML	AML	
	comp=N,1035µm,0.3s				
AQU			AML	AML	
	comp=E,1250µm,0.7s				
AQU	**L'Aquila**	**0.88 154**	P	**Pn**	**23 26 19.4 +0.6**
FIAM	**Fiamignano**	**0.90 168**	P	**Pn**	**23 26 18.8 -0.3**
FIAM			AML	AML	
	comp=E,1775µm,0.3s				
FIAM			AML	AML	
	comp=N,1655µm,1.1s				
SRES	**S.Oreste - Sor**	**0.95 196**	P	**Pn**	**23 26 19.2 -0.3**
SRES	**S.Oreste - Sor**	**0.95 196**	P	**Pn**	**23 26 19.3 -0.3**
SRES			AML	AML	
	comp=E,1605µm,0.2s				
SRES			AML	AML	
	comp=N,1445µm,0.3s				
SRES			AML	AML	
	comp=E,1605µm,0.2s				
SRES			AML	AML	
	comp=N,1445µm,0.3s				
SRES			AML	AML	
	comp=N,1445µm,0.3s				
SRES			AML	AML	
	comp=E,1605µm,0.2s				
MCIV	**Monte Civitell**	**0.95 248**	P	**Pn**	**23 26 19.5 -0.2**
MCIV			AML	AML	
	comp=E,1225µm,0.3s				
MCIV			AML	AML	
	comp=N,886µm,0.3s				
MCIV			AML	AML	
	comp=N,886µm,0.3s				
MCIV			AML	AML	
	comp=E,1225µm,0.3s				
MCIV	**Monte Civitell**	**0.95 248**	P	**Pn**	**23 26 19.6 -0.1**
ASQU	**Asqua**	**1.02 310**	P	**Pn**	**23 26 21.0 +0.5**
ASQU			AML	AML	
	comp=E,583µm,0.5s				
ASQU			AML	AML	
	comp=N,792µm,0.6s				
ASQU			AML	AML	
	comp=E,583µm,0.5s				
ASQU			AML	AML	
	comp=N,792µm,0.6s				
ASQU	**Asqua**	**1.02 310**	P	**Pn**	**23 26 21.1 +0.5**
FAGN	**Fagnano**	**1.02 149**	P	**Pn**	**23 26 21.6 +1.0**
FAGN	**Fagnano**	**1.02 149**	P	**Pn**	**23 26 21.6 +1.0**
FAGN			AML	AML	
	comp=E,4485µm,0.4s				
FAGN			AML	AML	
	comp=N,2960µm,0.4s				
FAGN			AML	AML	
	comp=N,2960µm,0.4s				
FAGN			AML	AML	
	comp=E,4485µm,0.4s				
SFI	**Santa Sofia**	**1.06 316**	P	**Pn**	**23 26 22.1 +1.1**
SFI	**Santa Sofia**	**1.06 316**	P	**Pn**	**23 26 22.1 +1.1**
MTCE	**Montecelio**	**1.13 185**	P	**Pn**	**23 26 21.4 -0.5**
MTCE	**Montecelio**	**1.13 185**	P	**Pn**	**23 26 21.5 -0.3**
MTCE	**Montecelio**	**1.13 185**	S	**Sn**	**23 26 36.0 -0.9**
PTQR	**Pietraquaria**	**1.19 161**	P	**Pn**	**23 26 23.4 +0.6**
PTQR			AML	AML	
	comp=E,492µm,0.3s				
PTQR			AML	AML	
	comp=N,396µm,1.0s				
PTQR			AML	AML	
	comp=N,396µm,1.0s				
PTQR			AML	AML	
	comp=E,492µm,0.3s				
PTQR	**Pietraquaria**	**1.19 161**	P	**Pn**	**23 26 23.4 +0.6**
CSNT	**Castellina Chi**	**1.20 286**	P	**Pn**	**23 26 23.4 +0.7**
CSNT			AML	AML	
	comp=E,1480µm,0.5s				
CSNT			AML	AML	
	comp=N,1054µm,0.5s				
CSNT			AML	AML	
	comp=N,1054µm,0.5s				
CSNT			AML	AML	
	comp=E,1480µm,0.5s				
CERT	**Cerreto**	**1.20 176**	P	**Pn**	**23 26 22.7 -0.1**
CERT			AML	AML	
	comp=E,1355µm,0.4s				
CERT			AML	AML	
	comp=N,1595µm,0.3s				
CERT			AML	AML	
	comp=E,1355µm,0.4s				
CERT			AML	AML	
	comp=N,1595µm,0.3s				
CERT	**Cerreto**	**1.20 176**	P	**Pn**	**23 26 22.8 -0.1**
RUFI	**Rufina**	**1.21 305**	P	**Pn**	**23 26 23.6 +0.7**
RUFI	**Rufina**	**1.21 305**	P	**Pn**	**23 26 23.6 +0.7**
FROS	**Frosini**	**1.25 273**	P	**Pn**	**23 26 24.0 +0.5**
FROS			AML	AML	
	comp=E,2020µm,0.4s				
FROS			AML	AML	
	comp=N,1560µm,0.3s				
FROS			AML	AML	
	comp=E,2020µm,0.4s				
FROS			AML	AML	
	comp=N,1560µm,0.3s				
TOLF	**Tolfa**	**1.26 211**	P	**Pn**	**23 26 23.2 -0.3**
TOLF	**Tolfa**	**1.26 211**	P	**Pn**	**23 26 23.4 -0.2**
RMP	**Rome, Mte Porz**	**1.34 185**	P	**Pn**	**23 26 24.6 0.0**
RMP			AML	AML	
	comp=E,2105µm,0.6s				
RMP			AML	AML	
	comp=N,2260µm,0.5s				
RMP			AML	AML	
	comp=E,2105µm,0.6s				
RMP			AML	AML	
	comp=N,2260µm,0.5s				
RMP	**Rome, Mte Porz**	**1.34 185**	P	**Pn**	**23 26 24.7 +0.1**
RMP	**Rome, Mte Porz**	**1.34 185**	S	**Sn**	**23 26 42.0 +0.2**
INTR	**Introdacqua**	**1.37 146**	P	**Pn**	**23 26 25.6 +0.6**
INTR			AML	AML	
INTR			AML	AML	
INTR			AML	AML	
	comp=E,555µm,0.9s				
INTR			AML	AML	
	comp=N,627µm,0.5s				
INTR			AML	AML	
INTR			AML	AML	
INTR			AML	AML	
	comp=E,555µm,0.9s				
INTR			AML	AML	
	comp=N,627µm,0.5s				
INTR	**Introdacqua**	**1.37 146**	P	**Pn**	**23 26 25.9 +0.8**
VVLD	**Villa Vallelon**	**1.39 156**	P	**Pn**	**23 26 25.9 +0.6**
VVLD	**Villa Vallelon**	**1.39 156**	P	**Pn**	**23 26 26.1 +0.7**
CAFR	**Castel Frentan**	**1.43 130**	P	**Pn**	**23 26 26.8 +1.2**
CAFR			AML	AML	
	comp=E,1275µm,1.6s				
CAFR			AML	AML	
	comp=N,1065µm,1.6s				
CAFR			AML	AML	
	comp=N,1065µm,1.6s				
CAFR			AML	AML	
	comp=E,1275µm,1.6s				
CAFR	**Castel Frentan**	**1.43 130**	P	**Pn**	**23 26 27.0 +1.3**
SEI	**Scarperia**	**1.43 310**	P	**Pn**	**23 26 27.1 +1.3**
SEI			AML	AML	
	comp=E,466µm,0.5s				
SEI			AML	AML	
	comp=N,960µm,0.5s				
SEI			AML	AML	
	comp=E,466µm,0.5s				
SEI			AML	AML	
	comp=N,960µm,0.5s				
TRIF	**Trifonti**	**1.44 269**	P	**Pn**	**23 26 26.4 +0.4**
TRIF	**Trifonti**	**1.44 269**	P	**Pn**	**23 26 26.6 +0.7**
TRIF	**Trifonti**	**1.44 269**	S	**Sn**	**23 26 44.0 -0.2**
LPEL	**Lama dei Pelig**	**1.47 138**	P	**Pn**	**23 26 26.9 +0.6**
LPEL			AML	AML	
	comp=E,472µm,0.3s				
LPEL			AML	AML	
	comp=N,366µm,1.3s				
LPEL			AML	AML	
	comp=E,472µm,0.3s				
LPEL			AML	AML	
	comp=N,366µm,1.3s				
LPEL	**Lama dei Pelig**	**1.47 138**	P	**Pn**	**23 26 26.9 +0.6**
CASP	**Castiglione de**	**1.51 257**	P	**Pn**	**23 26 26.7 -0.2**
CASP			AML	AML	
	comp=E,254µm,1.2s				
CASP			AML	AML	
	comp=N,356µm,1.3s				
CASP			AML	AML	
	comp=E,254µm,1.2s				
CASP			AML	AML	
	comp=N,356µm,1.3s				
CRMI	**Carmignano**	**1.53 296**	P	**Pn**	**23 26 28.0 +1.0**
CRMI			AML	AML	
	comp=E,256µm,0.3s				
CRMI			AML	AML	
	comp=N,291µm,0.4s				
CRMI			AML	AML	
	comp=E,108µm,0.3s				
CRMI			AML	AML	
	comp=N,122µm,0.4s				
CRMI			AML	AML	
	comp=N,291µm,0.4s				
CRMI			AML	AML	
	comp=N,122µm,0.4s				
CRMI			AML	AML	
	comp=E,256µm,0.3s				
CRMI			AML	AML	
	comp=E,108µm,0.3s				
CRMI	**Carmignano**	**1.53 296**	P	**Pn**	**23 26 28.1 +1.0**
POFI	**Posta Fibreno**	**1.56 156**	P	**Pn**	**23 26 27.7 +0.2**
POFI	**Posta Fibreno**	**1.56 156**	P	**Pn**	**23 26 28.5 +1.0**
GIUL	**Giuliano Di Ro**	**1.61 170**	P	**Pn**	**23 26 28.1 -0.1**
GIUL			AML	AML	
	comp=E,238µm,0.5s				
GIUL			AML	AML	
	comp=N,297µm,0.9s				
GIUL			AML	AML	
	comp=N,297µm,0.9s				
GIUL			AML	AML	
	comp=E,238µm,0.5s				
GIUL	**Giuliano Di Ro**	**1.61 170**	P	**Pn**	**23 26 28.4 +0.1**
MTCR	**Monte La Croce**	**1.62 304**	P	**Pn**	**23 26 28.9 +0.6**
MTCR			AML	AML	
	comp=E,390µm,0.9s				
MTCR			AML	AML	
	comp=N,330µm,0.5s				
MTCR			AML	AML	
	comp=N,330µm,0.5s				
MTCR			AML	AML	
	comp=E,390µm,0.9s				
MTCR	**Monte La Croce**	**1.62 304**	P	**Pn**	**23 26 29.6 +1.2**
RNI2	**Rionero Sannit**	**1.73 146**	P	**Pn**	**23 26 32.0 +2.2**
CERA	**Filignano**	**1.77 151**	P	**Pn**	**23 26 31.7 +1.4**
CERA	**Filignano**	**1.77 151**	AML	AML	
	comp=E,244µm,0.7s				
CERA			AML	AML	
	comp=N,296µm,1.1s				
CERA			AML	AML	
	comp=E,244µm,0.7s				
CERA			AML	AML	
	comp=N,296µm,1.1s				
POPM	**Popiglio**	**1.78 301**	P	**Pn**	**23 26 31.2 +0.8**
POPM			AML	AML	
	comp=E,252µm,1.0s				
POPM			AML	AML	
	comp=N,268µm,1.0s				
POPM			AML	AML	
	comp=E,252µm,1.0s				
POPM			AML	AML	
	comp=N,268µm,1.0s				
POPM	**Popiglio**	**1.78 301**	P	**Pn**	**23 26 31.3 +0.8**
FIU	**Minerbio Fiu**	**1.79 327**	P	**Pn**	**23 26 33.3 +2.7**
FIU	**Minerbio Fiu**	**1.79 327**	AML	AML	
	comp=E,464µm,1.3s				
FIU			AML	AML	
	comp=N,708µm,1.0s				
FIU			AML	AML	
	comp=N,708µm,1.0s				
FIU			AML	AML	
	comp=E,464µm,1.3s				
MIDA	**Miranda**	**1.82 145**	P	**Pn**	**23 26 33.6 +2.5**
BDI	**Bagni Di Lucca**	**1.89 300**	P	**Pn**	**23 26 32.4 +0.5**
BDI	**Bagni Di Lucca**	**1.89 300**	AML	AML	
	comp=N,227µm,0.6s				
BDI			AML	AML	
	comp=E,270µm,1.1s				
BDI			AML	AML	
	comp=E,284µm,0.5s				
BDI			AML	AML	
	comp=N,248µm,0.6s				
BDI			AML	AML	
	comp=E,270µm,1.1s				
BDI			AML	AML	
	comp=E,284µm,0.5s				
BDI			AML	AML	
	comp=N,227µm,0.6s				
BDI			AML	AML	
	comp=N,248µm,0.6s				
MAIM	**Mastiano**	**1.89 295**	P	**Pn**	**23 26 33.0 +1.1**
MAIM	**Mastiano**	**1.89 295**	AML	AML	
	comp=N,247µm,0.9s				
MAIM			AML	AML	
	comp=E,272µm,0.8s				
MAIM			AML	AML	
	comp=N,247µm,0.9s				
MAIM			AML	AML	
	comp=E,272µm,0.8s				
CARD	**Cardoso**	**1.94 298**	P	**Pn**	**23 26 33.8 +1.2**
CARD			S	**Sn**	**23 26 53.3 -2.8**
CARD	**Cardoso**	**1.94 298**	P	**Pn**	**23 26 33.8 +1.2**
CARD	**Cardoso**	**1.94 298**	AML	AML	
	comp=N,458µm,0.6s				
CARD			AML	AML	
	comp=E,333µm,1.1s				
CARD			AML	AML	
	comp=N,458µm,0.6s				
CARD			AML	AML	
	comp=E,333µm,1.1s				
VAGA	**Valle Agricola**	**2.00 149**	P	**Pn**	**23 26 35.6 +2.1**
NVLJ	**Novalja**	**2.02 45**	*e*Pn	**Pn**	**23 26 34.1 +0.5**
NVLJ			Sn	**Sn**	**23 26 56.7 -1.3**
RAVA	**Ravarino**	**2.05 322**	P	**Pn**	**23 26 36.9 +2.9**
VLC	**Villacollemand**	**2.07 300**	P	**Pn**	**23 26 35.1 +0.8**
VLC	**Villacollemand**	**2.07 300**	AML	AML	
	comp=E,116µm,1.4s				
VLC			AML	AML	
	comp=E,116µm,1.4s				
VLC			AML	AML	
	comp=N,109µm,1.2s				
VLC			AML	AML	
	comp=N,109µm,1.2s				
SARO	**Sassorosso**	**2.07 301**	P	**Pn**	**23 26 35.0 +0.6**
SARO	**Sassorosso**	**2.07 301**	AML	AML	
	comp=E,154µm,0.6s				
SARO			AML	AML	
	comp=E,154µm,0.6s				
SARO			AML	AML	
	comp=N,266µm,0.5s				
SARO			AML	AML	
	comp=N,266µm,0.5s				
SGG	**Gregorio Mates**	**2.08 147**	P	**Pn**	**23 26 37.6 +3.0**
CIGN	**Sant'Elia a Pi**	**2.12 134**	P	**Pn**	**23 26 35.8 +0.8**
SERM	**Sermide**	**2.18 329**	P	**Pn**	**23 26 37.1 +1.3**
CAVE	**Cavezzo**	**2.18 323**	P	**Pn**	**23 26 37.8 +2.0**
CAVE	**Cavezzo**	**2.18 323**	AML	AML	
	comp=E,296µm,1.4s				
CAVE			AML	AML	
	comp=E,296µm,1.4s				
CAVE			AML	AML	
	comp=N,310µm,0.7s				
CAVE			AML	AML	
	comp=N,310µm,0.7s				
ERBM	**Eremo**	**2.19 306**	P	**Pn**	**23 26 39.8 +3.8**
MELA	**Melanico ??? S**	**2.21 130**	P	**Pn**	**23 26 36.7 +0.6**
MELA	**Melanico ??? S**	**2.21 130**	AML	AML	
	comp=E,506µm,0.5s				
MELA			AML	AML	
	comp=N,570µm,0.3s				
MELA			AML	AML	
	comp=E,506µm,0.5s				
MELA			AML	AML	
	comp=N,570µm,0.3s				
NOVE	**Novellara**	**2.27 317**	P	**Pn**	**23 26 39.4 +2.5**
PLMA	**Palmaria, Port**	**2.37 293**	P	**Pn**	**23 26 39.8 +1.5**
TEOL	**Teolo**	**2.38 339**	P	**Pn**	**23 26 38.7 +0.3**
GRAM	**Graiana**	**2.44 304**	P	**Pn**	**23 26 42.3 +3.0**
PRMA	**PARMA**	**2.45 312**	P	**Pn**	**23 26 42.7 +3.2**
RIY	**Rijeka**	**2.47 27**	*e*Pn	**Pn**	**23 26 40.1 +0.4**
UDBI	**Udbina**	**2.51 56**	*i* Pn	**Pn**	**23 26 41.7 +1.5**
UDBI			Sn	**Sn**	**23 27 06.8 -3.0**
SKDS	**Skadanscina**	**2.54 18**	*i* Pn	**Pn**	**23 26 40.4 -0.2**
SKDS			*e*Sn	**Sn**	**23 27 09.2 -1.3**
SGRT	**San Giovanni R**	**2.54 122**	P	**Pn**	**23 26 41.1 +0.3**
SGRT	**San Giovanni R**	**2.54 122**	S	**Sn**	**23 27 09.0 -1.7**
KNDS	**Knezji Dol**	**2.62 24**	*i* Pn	**Pn**	**23 26 42.0 +0.3**
KNDS			*i* Sn	**Sn**	**23 27 12.2 -0.3**
MSAG	**Monte S. Angel**	**2.67 121**	P	**Pn**	**23 26 42.7 +0.2**
MSAG	**Monte S. Angel**	**2.67 121**	AML	AML	
	comp=E,347µm,1.4s				
MSAG			AML	AML	
	comp=N,677µm,0.8s				
MSAG			AML	AML	
	comp=N,677µm,0.8s				
MSAG			AML	AML	
	comp=E,347µm,1.4s				
MSSA	**Maissana**	**2.70 297**	P	**Pn**	**23 26 43.0 +0.2**
CEY	**Cerknica**	**2.82 23**	*e*Pn	**Pn**	**23 26 44.3 -0.2**
SMPL	**Sampolo**	**2.85 250**	P	**Pn**	**23 26 46.4 +1.5**
SABO	**M.te Sabotino**	**2.88 10**	P	**Pn**	**23 26 45.5 +0.2**
SABO	**M.te Sabotino**	**2.88 10**	AML	AML	
	comp=E,1350µm,0.5s				
SABO			AML	AML	
	comp=E,1350µm,0.5s				
SABO			AML	AML	
	comp=N,1555µm,0.3s				
SABO			AML	AML	
	comp=N,1555µm,0.3s				
POLC	**Polcenigo**	**2.89 355**	P	**Pn**	**23 26 45.9 +0.5**
POLC	**Polcenigo**	**2.89 355**	AML	AML	
	comp=N,1042µm,0.5s				
POLC			AML	AML	
	comp=E,588µm,0.6s				
POLC			AML	AML	
	comp=N,1042µm,0.5s				
POLC			AML	AML	
	comp=E,588µm,0.6s				
PGF	**Pioggiola**	**2.91 259**	*e*Pn	**Pn**	**23 26 47.1 +1.3**
	SNR=1.0				
PGF			*e*Sn	**Sn**	**23 27 20.6 +0.9**
	comp=E,20nm,0.3s				
PGF	**Pioggiola**	**2.91 259**	P	**Pn**	**23 26 47.2 +1.4**
PGF	**Pioggiola**	**2.91 259**	AML	AML	
	comp=E,160µm,1.6s				
PGF			AML	AML	
	comp=E,160µm,1.6s				
PGF			AML	AML	
	comp=N,119µm,1.6s				
PGF			AML	AML	
	comp=N,119µm,1.6s				
BOJS	**Bojanci**	**2.91 35**	P	**Pn**	**23 26 46.7 +1.0**
BOJS	**Bojanci**	**2.91 35**	AML	AML	
	comp=E,352µm,0.3s				
BOJS			AML	AML	
	comp=N,292µm,1.0s				
BOJS			AML	AML	
	comp=N,292µm,1.0s				
BOJS			AML	AML	
	comp=E,352µm,0.3s				
VOJS	**Vojsko**	**2.97 14**	*i* Pn	**Pn**	**23 26 46.5 -0.2**
CTI	**Castel Tesino**	**3.03 344**	P	**Pn**	**23 26 47.7 +0.2**
CTI	**Castel Tesino**	**3.03 344**	AML	AML	
	comp=N,646µm,0.7s				
CTI			AML	AML	
	comp=E,754µm,1.5s				
CTI			AML	AML	
	comp=E,754µm,1.5s				
CTI			AML	AML	
	comp=N,646µm,0.7s				
LEOD	**Capriano del C**	**3.04 320**	S	Sn	23 27 39.0 +16
MAGA	**Magasa**	**3.08 329**	P	**Pn**	**23 26 48.4 +0.3**
MAGA	**Magasa**	**3.08 329**	AML	AML	
	comp=N,841µm,1.4s				
MAGA			AML	AML	
	comp=E,550µm,0.6s				
MAGA			AML	AML	
	comp=N,841µm,1.4s				
MAGA			AML	AML	
	comp=E,550µm,0.6s				
CTL8	**Castelleone**	**3.09 315**	P	**Pn**	**23 26 50.6 +2.6**
CRNS	**Crni Vrh**	**3.10 18**	*i* Pn	**Pn**	**23 26 48.4 +0.1**
STAL	**STALIGIAL**	**3.12 358**	P	**Pn**	**23 26 48.5 0.0**
STAL	**STALIGIAL**	**3.12 358**	S	**Sn**	**23 27 24.0 -0.6**
VINO	**Villanova**	**3.12 5**	P	**Pn**	**23 26 48.6 0.0**
VINO	**Villanova**	**3.12 5**	S	**Sn**	**23 27 24.0 -0.8**
LJU	**Ljubljana**	**3.13 22**	*e*Pn	**Pn**	**23 26 49.3 +0.7**
LJU	**Ljubljana**	**3.13 22**	P	**Pn**	**23 26 49.4 +0.7**
LJU	**Ljubljana**	**3.13 22**	AML	AML	
	comp=E,1008µm,0.4s				
LJU			AML	AML	
	comp=E,1008µm,0.4s				
LJU			AML	AML	
	comp=N,1820µm,0.6s				
LJU			AML	AML	
	comp=N,1820µm,0.6s				
GEPF	**Gemona**	**3.13 3**	P	**Pn**	**23 26 48.8 +0.1**
GEPF	**Gemona**	**3.13 3**	S	**Sn**	**23 27 24.0 -0.9**
GEPF	**Gemona**	**3.13 3**	AML	AML	
	comp=E,898µm,0.2s				
GEPF			AML	AML	
	comp=E,898µm,0.2s				
GEPF			AML	AML	
	comp=N,490µm,0.4s				
GEPF			AML	AML	
	comp=N,490µm,0.4s				
PALZ	**Palazzo San Ge**	**3.18 133**	P	**Pn**	**23 26 49.9 +0.4**
AGOR	**Agordo**	**3.19 350**	P	**Pn**	**23 26 50.1 +0.5**
AGOR	**Agordo**	**3.19 350**	AML	AML	
	comp=E,170µm,0.3s				
AGOR			AML	AML	
	comp=N,152µm,1.2s				
AGOR			AML	AML	
	comp=E,170µm,0.3s				
AGOR			AML	AML	
	comp=N,152µm,1.2s				
CDRU	**Civita di Ruta**	**3.22 145**	P	**Pn**	**23 26 49.0 -1.0**
MRVN	**Minervino Murg**	**3.23 129**	P	**Pn**	**23 26 50.4 +0.2**
CRES	**Cresnjev**	**3.26 34**	*e*Pn	**Pn**	**23 26 51.1 +0.7**
PTCC	**Patocco-Chiusa**	**3.28 6**	P	**Pn**	**23 26 50.7 -0.1**
PDKS	**Podkum**	**3.29 27**	*i* Pn	**Pn**	**23 26 51.8 +0.9**
PDKS			*e*Sn	**Sn**	**23 27 28.1 -0.7**
MABI	**Malga Bissina**	**3.36 331**	P	**Pn**	**23 26 52.6 +0.7**
MABI	**Malga Bissina**	**3.36 331**	AML	AML	
	comp=N,304µm,0.7s				
MABI			AML	AML	
	comp=E,276µm,0.5s				
MABI			AML	AML	
	comp=N,304µm,0.7s				
MABI			AML	AML	
	comp=E,276µm,0.5s				
ACOM	**Acomizza, Ital**	**3.43 7**	P	**Pn**	**23 26 53.4 +0.4**
ACOM	**Acomizza, Ital**	**3.43 7**	AML	AML	
	comp=N,649µm,1.6s				
ACOM			AML	AML	
	comp=E,880µm,0.2s				
ACOM			AML	AML	
	comp=E,880µm,0.2s				
ACOM			AML	AML	
	comp=N,649µm,1.6s				
SLCN	**Sala Consilina**	**3.44 142**	P	**Pn**	**23 26 55.0 +2.0**
FVI	**Forni Avoltri**	**3.45 359**	P	**Pn**	**23 26 53.8 +0.7**
FVI	**Forni Avoltri**	**3.45 359**	AML	AML	
	comp=N,333µm,0.2s				
FVI			AML	AML	
	comp=E,292µm,0.2s				
FVI			AML	AML	
	comp=N,333µm,0.2s				
FVI			AML	AML	
	comp=E,292µm,0.2s				
KOSI	**Kohlern**	**3.48 343**	P	**Pn**	**23 26 54.5 +0.9**
KOSI	**Kohlern**	**3.48 343**	AML	AML	
	comp=N,368µm,0.3s				
KOSI			AML	AML	
	comp=E,205µm,0.2s				
KOSI			AML	AML	
	comp=N,368µm,0.3s				
KOSI			AML	AML	
	comp=E,205µm,0.2s				
BLY	**Banja Luka**	**3.50 61⇑**	*i*P	**Pn**	**23 26 55.8 +2.1**
BLY	**Banja Luka**	**3.50 61**	*e*Pn	**Pn**	**23 26 55.4 +1.7**
BLY	**Banja Luka**	**3.50 61**	P	**Pn**	**23 26 55.1 +1.4**
BLY	**Banja Luka**	**3.50 61**	AML	AML	

comp=E,406µm,0.3s
BLY AML AML
comp=E,406µm,0.3s
BLY AML AML
comp=N,216µm,0.7s
BLY AML AML
comp=N,216µm,0.7s
MYKA Terra Mystica 3.53 9 *i* Pn **Pn 23 26 54.9 +0.8**
comp=N,3.7nm,0.1s,SNR=8.3
MYKA *i* Sn **Sn 23 27 33.4 -1.3**
comp=N,23nm,0.2s
APPI Appiano 3.53 341 P **Pn 23 26 55.2 +1.0**
APPI Appiano 3.53 341 AML AML
comp=E,381µm,0.2s
APPI AML AML
comp=N,401µm,0.4s
APPI AML AML
comp=E,381µm,0.2s
APPI AML AML
comp=N,401µm,0.4s
STON Ston 3.55 93 *e*Pn **Pn 23 26 54.5 +0.1**
STON *e*Sn **Sn 23 27 33.2 -2.0**
STON Ston 3.55 93 *e*Pn **Pn 23 26 54.4 +0.1**
STON Ston 3.55 93 *e*Pn **Pn 23 26 54.5 +0.1**
STON Ston 3.55 93 P **Pn 23 26 54.7 +0.3**
STON Ston 3.55 93 AML AML
comp=N,209µm,0.8s
STON AML AML
comp=E,283µm,0.4s
STON AML AML
comp=N,209µm,0.8s
STON AML AML
comp=E,283µm,0.4s
OBKA Obir 3.57 19 *i* Pn **Pn 23 26 54.8 +0.1**
comp=E,3.1nm,0.2s
OBKA *i* Sn **Sn 23 27 36.1 +0.4**
comp=E,52nm,0.3s
AMUR Altamura 3.57 128 P **Pn 23 26 55.0 +0.3**
AMUR Altamura 3.57 128 S **Sn 23 27 33.0 -2.7**
AMUR Altamura 3.57 128 AML AML
comp=E,168µm,0.5s
AMUR AML AML
comp=E,168µm,0.5s
AMUR AML AML
comp=N,148µm,1.5s
AMUR AML AML
comp=N,148µm,1.5s
MTSN Montesano sull 3.60 142 S **Sn 23 27 38.0 +1.5**
ABTA Abfaltersbach 3.61 356 *i* Pn **Pn 23 26 56.4 +1.1**
comp=N,12nm,0.1s,SNR=9.0
ABTA *i* Sn **Sn 23 27 35.8 -1.0**
comp=N,25nm,0.3s
BAI Bari 3.61 123 *e*Pn **Pn 23 26 55.3 +0.1**
BAI Sn **Sn 23 27 32.6 -4.0**
BRES Bressanone 3.64 348 P **Pn 23 26 57.2 +1.3**
BRES AML AML
comp=E,464µm,0.2s
BRES AML AML
comp=N,502µm,0.2s
BRES AML AML
comp=E,464µm,0.2s
BRES AML AML
comp=N,502µm,0.2s
BRES Bressanone 3.64 348 P **Pn 23 26 57.2 +1.3**
SG1 Sgolgore (BA) 3.66 128 ⇑ *i*Pn **Pn 23 26 56.2 +0.3**
SG1 Sn **Sn 23 27 35.0 -2.8**
MIGL Miglionico 3.68 132 P **Pn 23 26 56.1 -0.1**
MIGL AML AML
comp=E,505µm,1.6s
MIGL AML AML
comp=N,521µm,1.5s
MIGL AML AML
comp=N,521µm,1.5s
MIGL AML AML
comp=E,505µm,1.6s
ABSI Aberstueckl 3.75 343 P **Pn 23 26 58.2 +0.9**
ABSI AML AML
comp=E,594µm,0.6s
ABSI AML AML
comp=N,668µm,0.8s
ABSI AML AML
comp=E,594µm,0.6s
ABSI AML AML
comp=N,668µm,0.8s
BRMO Bormio 3.77 333 P **Pn 23 26 59.2 +1.6**
BRMO AML AML
comp=E,57µm,0.4s
BRMO AML AML
comp=N,80µm,0.2s
BRMO AML AML
comp=E,57µm,0.4s
BRMO AML AML
comp=N,80µm,0.2s
MATE Matera 3.80 130 ⇓ *i*P **Pn 23 26 58.5 +0.7**
MATE Matera 3.80 130 S **Sn 23 27 38.9 -2.3**
MATE Matera 3.80 130 P **Pn 23 26 58.4 +0.7**
MOSI Grossmontoni 3.84 335 P **Pn 23 27 00.8 +2.3**
RISI Rein 3.84 352 P **Pn 23 27 00.0 +1.4**
RISI AML AML
comp=E,506µm,0.3s
RISI AML AML
comp=N,734µm,0.4s
RISI AML AML
comp=E,506µm,0.3s
RISI AML AML
comp=N,734µm,0.4s
BERNI Berninapass 3.84 329 P **Pn 23 26 60.0 +1.3**
BERNI AML AML
comp=E,60µm,0.3s
BERNI AML AML
comp=N,66µm,0.2s
BERNI AML AML
comp=N,66µm,0.2s
BERNI AML AML
comp=E,60µm,0.3s
CRAC Craco 3.85 135 P **Pn 23 26 59.5 +1.0**
SOKA Soboth 3.85 23 *i* Pn **Pn 23 26 59.2 +0.6**
comp=E,5.6nm,0.2s
SOKA *i* Sn **Sn 23 27 42.1 -0.5**
comp=E,22nm,0.3s
LTRZ Laterza 3.89 129 P **Pn 23 26 59.5 +0.4**
LTRZ Laterza 3.89 129 P **Pn 23 26 59.5 +0.4**
MUGIO Muggio 3.90 317 P **Pn 23 26 59.1 -0.1**
MUGIO AML AML
comp=E,82µm,0.4s
MUGIO AML AML
comp=N,73µm,0.7s
MUGIO AML AML
comp=N,73µm,0.7s
MUGIO AML AML
comp=E,82µm,0.4s
MUGIO Muggio 3.90 317 P **Pn 23 26 59.1 -0.1**
NOCI Noci 3.92 126 P **Pn 23 26 59.7 +0.3**
NOCI Noci 3.92 126 S **Sn 23 27 43.0 -1.1**
ROSI Rosskopf 3.92 345 P **Pn 23 27 01.1 +1.4**
ROSI Rosskopf 3.92 345 S **Sn 23 27 44.0 -0.5**
ROSI Rosskopf 3.92 345 AML AML
comp=N,445µm,0.8s
ROSI AML AML
comp=E,342µm,0.3s
ROSI AML AML
comp=N,445µm,0.8s
ROSI AML AML
comp=E,342µm,0.3s
FUORN Ofenpass-Fuorn 3.94 333 P **Pn 23 27 01.9 +2.0**
FUORN Ofenpass-Fuorn 3.94 333 P **Pn 23 27 01.9 +2.0**
KBA Koelnbreinsper 3.95 5 *i* Pn **Pn 23 27 01.0 +1.0**
comp=E,5.3nm,0.2s,SNR=10
KBA *e*Sn **Sn 23 27 44.0 -1.1**
comp=E,43nm,0.3s
VARE Varese 4.00 314 P **Pn 23 27 01.3 +0.7**
SBF Sospel 4.02 282 *e*Pn **Pn 23 27 02.2 +1.3**
SNR=1.0
SBF *e*Sn **Sn 23 27 45.0 -1.7**
comp=E,29nm,0.5s,SNR=1.0
TREB Trebinje 4.05 94 *e*Pn **Pn 23 27 01.5 +0.3**
TREB *e*Sn **Sn 23 27 45.7 -1.6**
TREB Trebinje 4.05 94 *e*Pn **Pn 23 27 01.3 +0.1**
MASS Massafra 4.06 127 ⇑ *i*Pn **Pn 23 27 01.7 +0.3**
FASA Fasano 4.07 123 ⇓ *i*Pn **Pn 23 27 01.6 +0.1**
FASA Sn **Sn 23 27 44.7 -3.3**
KOGS Kog 4.08 35 P **Pn 23 27 01.7 +0.1**
KOGS Kog 4.08 35 P **Pn 23 27 01.7 +0.1**
FETA Feichten 4.16 339 *i* Pn **Pn 23 27 04.3 +1.5**
comp=E,1.5nm,0.1s
FETA *e*Sn **Sn 23 27 48.7 -1.6**
comp=E,6.3nm,0.4s
BRY Bratogost 4.16 91 ⇑ *i*Pn **Pn 23 27 03.5 +0.6**
BRY *e*Sn **Sn 23 27 50.4 0.0**
TUE Stuetta 4.16 324 P **Pn 23 27 05.0 +2.1**
HCY Herceg Novi 4.20 98 ⇑ *i*Pn **Pn 23 27 04.1 +0.9**
HCY *e*Sn **Sn 23 27 51.0 0.0**
HCY Herceg Novi 4.20 98 *e*Pn **Pn 23 27 03.7 +0.5**
DAVOX Davos/Dischmat 4.21 331 P **Pn 23 27 05.8 +2.3**
WTTA Wattenberg 4.21 348 *i* Pn **Pn 23 27 05.2 +1.6**
comp=E,4.4nm,0.2s
WTTA *i* Sn **Sn 23 27 52.0 +0.5**
comp=E,39nm,0.3s
WTTA Wattenberg 4.21 348 P **Pn 23 27 05.4 +1.8**
SQTA Sankt Quirin 4.24 344 *i* Pn **Pn 23 27 05.8 +1.9**
comp=E,6.6nm,0.1s
SQTA *e*Sn **Sn 23 27 54.1 +1.9**
comp=E,44nm,0.3s
WATA Walderalm 4.29 348 *i* Pn **Pn 23 27 06.5 +1.9**
comp=E,11nm,0.2s,SNR=15
WATA *e*Sn **Sn 23 27 55.5 +2.1**
comp=E,26nm,0.2s
CET2 Cetraro 4.30 146 P **Pn 23 27 07.6 +3.0**
CET2 Cetraro 4.30 146 P **Pn 23 27 07.6 +3.0**
BEHE Becsehely 4.33 39 *e*Pn **Pn 23 27 05.1 0.0**
BHB Bricherasio 4.39 295 P **Pn 23 27 06.1 +0.3**
BHB AML AML
comp=E,38µm,1.3s
BHB AML AML
comp=N,30µm,1.5s
BHB AML AML
comp=N,30µm,1.5s
BHB AML AML
comp=E,38µm,1.3s
UPM Unac-Piva 4.41 87 ⇓ *i*Pn **Pn 23 27 07.1 +0.7**
UPM *e*Sn **Sn 23 27 56.4 -0.2**
FUSIO Fusio 4.46 319 P **Pn 23 27 07.3 +0.4**
FUSIO S **Sn 23 27 57.0 -0.7**
FUSIO AML AML
comp=E,67µm,1.6s
FUSIO AML AML
comp=N,45µm,1.6s
FUSIO AML AML
comp=E,67µm,1.6s
FUSIO AML AML
comp=N,45µm,1.6s
FUSIO Fusio 4.46 319 P **Pn 23 27 07.3 +0.4**
FUSIO Fusio 4.46 319 S **Sn 23 27 57.0 -0.7**
FUSIO Fusio 4.46 319 S **Sn 23 27 57.0 -0.7**
NKME Niksic 4.48 93 ⇑ *i*Pn **Pn 23 27 08.1 +0.9**
NKME *e*Sn **Sn 23 27 57.3 -0.7**
CEME Cevo 4.49 96 ⇑ *i*Pn **Pn 23 27 08.0 +0.7**
CEME *e*Sn **Sn 23 27 57.9 -0.3**
VSL Villasalto 4.50 217 P **Pn 23 27 09.5 +2.1**
VSL S **Sn 23 27 57.0 -1.4**
VSL Villasalto 4.50 217 S **Sn 23 27 57.0 -1.4**
VSL Villasalto 4.50 217 S **Sn 23 27 57.0 -1.4**
SATI Passo dei Sala 4.50 309 P **Pn 23 27 07.5 -0.1**
SATI AML AML
comp=E,37µm,0.5s
SATI AML AML
comp=N,33µm,1.5s
SATI AML AML
comp=E,37µm,0.5s
SATI AML AML
comp=N,33µm,1.5s
NKY Niksic 4.50 92 *e*Pn **Pn 23 27 08.1 +0.6**
NKY *e*Sn **Sn 23 27 58.5 -0.2**
ARSA Arzberg 4.51 24 *i* Pn **Pn 23 27 07.8 +0.2**
comp=N,8.5nm,0.3s,SNR=8.6
ARSA *i* Sn **Sn 23 27 56.0 -2.7**
comp=N,21nm,0.3s
ARSA Arzberg 4.51 24 P **Pn 23 27 07.9 +0.3**
ARSA S **Sn 23 27 56.0 -2.7**
ARSA AML AML
comp=E,132µm,0.4s
ARSA AML AML
comp=N,71µm,1.3s
ARSA AML AML
comp=E,132µm,0.4s
ARSA AML AML
comp=N,71µm,1.3s
ARSA Arzberg 4.51 24 S **Sn 23 27 56.0 -2.7**
ARSA Arzberg 4.51 24 S **Sn 23 27 56.0 -2.7**
HAPS Han Pijesak,BI 4.51 76 *e*Pn **Pn 23 27 08.4 +1.1**
BUM Brajici-Budva 4.52 99 ⇑ *i*Pn **Pn 23 27 08.4 +0.7**
BUM *e*Sn **Sn 23 27 58.6 -0.3**
MMK Mattmark 4.55 311 P **Pn 23 27 07.8 -0.4**
FRF La Foret Royal 4.56 277 *e*Pn **Pn 23 27 09.4 +1.2**
SNR=1.0
FRF *e*Sn **Sn 23 27 57.6 -2.2**
comp=N,8.9nm,0.3s,SNR=1.0
RETA Reutte 4.59 342 *i* Pn **Pn 23 27 11.0 +2.4**
comp=N,1.9nm,0.2s
RETA *i* Sn **Sn 23 28 00.8 +0.2**
comp=N,8.1nm,0.2s
PLONS Plons/SG 4.62 329 P **Pn 23 27 11.6 +2.5**
DAVA Damuels 4.65 334 *e*Pn **Pn 23 27 11.4 +1.9**
comp=N,2.8nm,0.3s
DAVA *e*Sn **Sn 23 28 01.0 -1.2**
comp=N,16nm,0.3s
LMR La Mourre 4.65 274 *e*Pn **Pn 23 27 10.5 +1.1**
SNR=1.0
LMR *e*Sn **Sn 23 28 00.7 -1.4**
comp=N,3.8nm,0.3s
MBDF Montbardon 4.68 292 *e*Pn **Pn 23 27 11.4 +1.4**
SNR=1.0
MBDF *e*Sn **Sn 23 28 00.1 -2.9**
comp=N,2.0nm,0.3s
PDG Podgorica 4.75 96 *e*Pn **Pn 23 27 11.7 +0.9**
PDG *e*Sn **Sn 23 28 01.8 -2.8**
PDG Podgorica 4.75 96 ⇑ *i*P **Pn 23 27 11.7 +0.9**
PDG Podgorica 4.75 96 S **Sn 23 28 02.3 -2.3**
PDG Podgorica 4.75 96 *e*Pn **Pn 23 27 11.4 +0.6**
PDG Podgorica 4.75 96 P **Pn 23 27 11.9 +1.1**
PDG AML AML
comp=E,144µm,0.2s
PDG AML AML
comp=N,193µm,1.4s
PDG AML AML
comp=E,144µm,0.2s
PDG AML AML
comp=N,193µm,1.4s
PDG Podgorica 4.75 96 P **Pn 23 27 11.9 +1.1**
TTG Podgorica 4.75 96 ⇑ *i*Pn **Pn 23 27 11.7 +0.9**
TTG *e*Sn **Sn 23 28 04.5 -0.1**
DRME Dracevica, Mon 4.75 99 ⇓ *i*Pn **Pn 23 27 11.7 +0.9**
DRME *e*Sn **Sn 23 28 04.5 -0.1**
DRME Dracevica, Mon 4.75 99 *e*Pn **Pn 23 27 11.6 +0.8**
PLE Pljevlja 4.77 86 ⇓ *i*Pn **Pn 23 27 12.0 +0.9**
PLE *e*Sn **Sn 23 28 05.1 0.0**
MOA Molln 4.80 11 *i* Pn **Pn 23 27 12.7 +1.1**
comp=N,4.4nm,0.1s,SNR=7.5
MOA *e*Sn **Sn 23 28 04.9 -1.0**
comp=N,25nm,0.2s
BBLS Lazići 4.81 79 *e*Pn **Pn 23 27 12.8 +1.2**
BBLS *e*Sn **Sn 23 28 03.6 -2.4**
BBLS Lazići 4.81 79 *e*Pn **Pn 23 27 12.9 +1.3**
ULC Ulcinj 4.86 102 ⇑ *i*Pn **Pn 23 27 13.1 +0.9**
ULC *e*Sn **Sn 23 28 07.1 0.0**
BNALP Bannalp 4.88 321 P **Pn 23 27 14.8 +2.1**
BNALP Bannalp 4.88 321 P **Pn 23 27 14.8 +2.1**
KOME Kolasin 4.88 91 ⇑ *i*Pn **Pn 23 27 14.2 +1.5**
KOME *e*Sn **Sn 23 28 07.7 -0.2**
LPG La Plagne 4.98 300 *e*Pn **Pn 23 27 14.0 -0.2**
SNR=1.0
LPG *e*Sn **Sn 23 28 06.6 -3.9**
comp=N,2.9nm,0.3s,SNR=1.0
LPL La Plagne 5.00 300 *e*Pn **Pn 23 27 14.4 0.0**
SNR=1.0
LPL *e*Sn **Sn 23 28 07.0 -3.9**
comp=N,5.3nm,0.3s
TEKS Tekeris 5.02 71 *e*Pn **Pn 23 27 15.3 +0.9**
TEKS *e*Sn **Sn 23 28 07.7 -3.4**
TEKS Tekeris 5.02 71 *e*Pn **Pn 23 27 15.3 +0.9**
MORH Mrgy, Hungar 5.13 51 *e*Pn **Pn 23 27 16.1 +0.1**
MORH Sn **Sn 23 28 11.0 -2.8**
RSL Roselend 5.14 302 P **Pn 23 27 18.1 +1.8**
IVA Berane 5.16 91 ⇑ *i*Pn **Pn 23 27 17.9 +1.5**
IVA *e*Sn **Sn 23 28 13.8 -0.8**
TIH Tihany 5.17 42 *e*Pn **Pn 23 27 18.0 +1.5**
TIH Sn **Sn 23 28 15.0 +0.2**
SJES Sjenica 5.19 86 *e*Pn **Pn 23 27 18.2 +1.2**
SJES *e*Sn **Sn 23 28 12.2 -3.4**
CONA Conrad Observa 5.22 23 *i* Pn **Pn 23 27 17.6 +0.3**
comp=N,5.4nm,0.3s
CONA *e*Sn **Sn 23 28 13.9 -2.3**
comp=N,34nm,0.4s
SOP Sopron 5.23 28 ⇑ *e*Pn **Pn 23 27 18.0 +0.7**
SOP Sn **Sn 23 28 14.0 -2.1**
DIVS Divibare 5.26 77 *e*Pn **Pn 23 27 18.9 +1.1**
DIVS *e*Sn **Sn 23 28 14.7 -2.4**
DIVS Divibare 5.26 77 *e*Pn **Pn 23 27 18.3 +0.5**
PUK Puka 5.30 100 P **Pn 23 27 19.8 +1.4**
IVAS Ivanjica 5.33 83 *e*Pn **Pn 23 27 19.0 +0.3**
IVAS *e*Sn **Sn 23 28 15.8 -2.9**
ORIF Oris-en-Rattie 5.34 292 *e*Pn **Pn 23 27 19.3 +0.3**
SNR=1.0
ORIF *e*Sn **Sn 23 28 15.5 -3.6**
comp=N,7.0nm,0.5s
ORIF Oris-en-Rattie 5.34 292 P **Pn 23 27 21.2 +2.3**
SMRF Simiane la Rot 5.37 281 *e*Pn **Pn 23 27 22.3 +3.1**
SMRF *e*Sn **Sn 23 28 17.2 -2.5**
FRGS Fruska Gora 5.38 66 *e*Pn **Pn 23 27 19.3 -0.1**
MMGO Monte Magaggia 5.48 179 P **Pn 23 27 25.2 +4.4**
TIR Tirane 5.49 107 *e*Pn **Pn 23 27 21.1 +0.1**
TIR *e*Sn **Sn 23 28 19.2 -3.6**
TIR Tirane 5.49 107 ⇓ *i*P **Pn 23 27 20.5 -0.5**
TIR Tirane 5.49 107 S **Sn 23 28 21.0 -1.8**
TIR Tirane 5.49 107 P **Pn 23 27 21.3 +0.3**
TRUS Trudelj 5.57 76 *e*Pn **Pn 23 27 22.7 +0.7**
TRUS *e*Sn **Sn 23 28 21.5 -3.1**
CSKK Cskako 5.68 40 *e*Pn **Pn 23 27 27.1 +3.6**
CSKK Sn **Sn 23 28 27.1 -0.1**
OGSM Saint Maurice 5.70 298 P **Pn 23 27 24.6 +0.8**
GERES GERESS Array B 5.73 6 Pn **Pn 23 27 23.8 -0.4**
comp=N,0.8nm,0.3s,baz=172,slow=13,SNR=29
GERES Sn **Sn 23 28 24.7 -3.9**
comp=N,7.0nm,0.3s,baz=191,slow=25,SNR=4.5
GERES LR LR 23 30 24.8
comp=N,23nm,21.9s,baz=286,slow=46
GRUS Gruza 5.75 80 *e*Pn **Pn 23 27 25.0 +0.5**
GRUS *e*Sn **Sn 23 28 25.5 -3.6**
ZST Bratislava 5.86 29 *e*P **Pn 23 27 25.4 -0.5**
ZST *e*S **Sn 23 28 26.2 -5.3**
CABF La Chapelle 5.93 308 *e*Pn **Pn 23 27 27.0 0.0**
SNR=1.0
CABF *e*Sn **Sn 23 28 28.9 -4.7**
comp=N,1.2nm,0.3s,SNR=1.0
KIZ Kirchzarten 5.93 326 P **Pn 23 27 26.8 -0.2**
LOMF Lomont 5.99 317 P **Pn 23 27 28.3 +0.6**
KHC Kasperske Hory 6.01 4 *e*PN **Pn 23 27 27.6 -0.4**
KHC *e*SN **Sn 23 28 30.6 -4.7**
CHMF Charmoille 6.01 315 P **Pn 23 27 28.2 +0.1**
SELS Selova 6.03 86 *e*Pn **Pn 23 27 28.7 +0.4**
SELS *e*Sn **Sn 23 28 33.0 -3.0**
SRO2 Moca 6.03 38 *e*S **Sn 23 28 30.8 -5.0**
MODS Modra-Piesok 6.07 29 *e*P **Pn 23 27 28.0 -0.8**
MODS *e*S **Sn 23 28 31.0 -5.8**
HINF Hinteralfeld 6.30 320 *e*Pn **Pn 23 27 31.0 -1.0**
SNR=1.0
HINF *e*Sn **Sn 23 28 36.4 -6.1**
comp=N,5.2nm,0.2s,SNR=1.0
KRUC Moravsky 6.40 21 *e*PN **Pn 23 27 33.6 +0.3**
KRUC *e*SN **Sn 23 28 41.2 -3.7**
TREC Trest 6.41 16 *e*PN **Pn 23 27 33.3 -0.2**
TREC *e*SN **Sn 23 28 41.1 -4.1**
ECH Echery 6.46 324 P **Pn 23 27 34.0 -0.1**
KUBS Kucevo 6.50 76 *e*Pn **Pn 23 27 34.4 -0.3**
CDF Champ du Feu 6.56 325 *e*Pn **Pn 23 27 35.4 -0.2**
SNR=1.0
CDF *e*Sn **Sn 23 28 42.1 -6.8**
comp=N,7.0nm,0.2s
MDVR Moldovita 6.59 73 ⇑ *i*P **Pn 23 27 36.7 +0.8**
LASF Ste Croix 6.61 281 *e*Pn **Pn 23 27 37.0 +0.8**
SNR=1.0
LASF *e*Sn **Sn 23 28 47.2 -2.9**
comp=N,0.8nm,0.2s
JAVC Velka Javorina 6.62 29 *e*PN **Pn 23 27 37.6 +1.3**
JAVC *e*SN **Sn 23 28 44.6 -5.7**
HAU Haudompre 6.67 319 *e*Pn **Pn 23 27 37.0 -0.1**
SNR=1.0
HAU *e*Sn **Sn 23 28 45.2 -6.4**
comp=N,14nm,0.2s,SNR=1.0
VRAC Vranov 6.68 21 ⇑ *i*P Pn 23 27 42.2 +5.0
VRAC Vranov 6.68 21 *e*PN **Pn 23 27 37.7 +0.5**
VRAC *e*SN **Sn 23 28 47.0 -4.8**
BZS Buzias 6.74 65 ⇑ *i*P **Pn 23 27 38.9 +1.0**
BZS Buzias 6.74 65 S **Sn 23 28 51.4 -1.7**
VYHS Vyhne 6.78 36 *e*P **Pn 23 27 39.8 +1.3**
VYHS *e*S **Sn 23 28 49.4 -4.8**
PSZ Piszkesteto 6.86 44 ⇑ *i*P **Pn 23 27 42.4 +2.7**
PSZ Piszkesteto 6.86 44 *e*Pn **Pn 23 27 42.0 +2.3**
PSZ Sn **Sn 23 28 52.1 -4.2**
GOPC GO Pecny, Ondr 6.90 10 *e*SN **Sn 23 28 52.3 -4.8**
PRU Pruhonice 6.94 9 *e*PN **Pn 23 27 40.6 -0.1**
PRU *e*SN **Sn 23 28 52.5 -5.6**
SIRR Siria 7.00 60 ⇑ *i*P **Pn 23 27 43.1 +1.6**
NKC Novy Kostel 7.09 358 *e*SN **Sn 23 28 55.5 -6.4**
HERR Herculane 7.10 73 ⇑ *i*P **Pn 23 27 43.6 +0.8**
HERR Herculane 7.10 73 S **Sn 23 28 59.7 -2.3**
ZAPS Zavoj 7.13 86 *e*Pn **Pn 23 27 44.3 +0.9**
SMF Signal de Mont 7.30 302 *e*Pn **Pn 23 27 45.0 -0.7**
SNR=1.0
SMF *e*Sn **Sn 23 29 01.8 -5.2**
comp=N,1.6nm,0.2s,SNR=1.0
PAGF Fort de Pagny 7.36 320 *e*Pn **Pn 23 27 46.0 -0.4**
PAGF *e*Sn **Sn 23 29 01.9 -6.4**
comp=N,1.4nm,0.2s
MORC Moravsky Berou 7.37 24 *e*PN **Pn 23 27 47.4 +0.8**
MORC *e*SN **Sn 23 29 02.7 -6.1**
GZR Gura Zlata 7.46 69 ⇑ *i*P **Pn 23 27 49.4 +1.6**
SFTF Sexfontaines 7.46 315 *e*Pn **Pn 23 27 47.3 -0.5**
baz=133
SFTF *e*Sn **Sn 23 29 04.5 -6.3**
comp=N,1.7nm,0.2s
LOR Lormes 7.58 306 *e*Pn **Pn 23 27 49.0 -0.5**
SNR=1.0
LOR *e*Sn **Sn 23 29 07.9 -5.9**
comp=N,3.6nm,0.3s,SNR=1.0
DPC Dobruska-Polom 7.58 17 *e*PN **Pn 23 27 49.8 +0.3**
DPC *e*SN **Sn 23 29 08.8 -5.1**
VTS Vitosha 7.63 90 ⇑ *i*P **Pn 23 27 50.9 +0.6**
VTS Vitosha 7.63 90 S **Sn 23 29 11.7 -3.6**
MEZF Maizieres J'vi 7.65 317 *e*Pn **Pn 23 27 49.5 -0.8**
baz=136,SNR=1.0
MEZF *e*Sn **Sn 23 29 08.8 -6.6**
comp=N,1.0nm,0.2s,SNR=1.0
AVF Avril sur Loir 7.67 302 *e*Pn **Pn 23 27 50.0 -0.6**
SNR=1.0
AVF *e*Sn **Sn 23 29 10.5 -5.4**
comp=N,0.4nm,0.2s,SNR=1.0
DEV Deva 7.67 66 ⇓ *i*P **Pn 23 27 53.6 +2.9**
SSF Saint Saulge 7.69 304 *e*Pn **Pn 23 27 50.4 -0.6**
SNR=1.0
SSF *e*Sn **Sn 23 29 10.8 -5.8**
comp=N,1.7nm,0.3s,SNR=1.0
BRG Berggiesshubel 7.76 5 SG **Sn 23 29 16.8 -1.5**
comp=N,4.8nm,0.5s
MTLF Montolieu 7.78 275 *e*Pn **Pn 23 27 54.0 +1.8**
SNR=1.0
DRGR 7.87 59 ⇑ *i*P **Pn 23 27 55.7 +2.2**
BGF Bois d'Agland 7.90 299 *e*Pn **Pn 23 27 53.5 -0.3**
SNR=1.0
BGF *e*Sn **Sn 23 29 16.2 -5.3**
comp=N,1.9nm,0.2s,SNR=1.0
CAF Calviac 7.99 287 *e*Pn **Pn 23 27 56.2 +1.1**
SNR=1.0
CLL Collm 8.17 1 *e*Pn **Pn 23 27 58.0 +0.6**
CLL *e*Pg 23 28 35.0
CLL *e*Sn **Sn 23 29 21.0 -7.0**
CLL *e*Sg 23 30 21.0
TCF Toulx Ste Croi 8.21 296 *e*Pn **Pn 23 27 58.4 +0.2**
SNR=1.0
TCF *e*Sn **Sn 23 29 24.3 -5.1**
comp=N,0.7nm,0.3s,SNR=1.0
HYF Humbligny 8.31 303 *e*Pn **Pn 23 27 59.2 -0.3**
KOLS Kolonicke sedl 8.73 45 *e*S **Sn 23 29 37.0 -4.9**
DOPR Dopca 9.37 68 ⇑ *i*P **Pn 23 28 16.2 +2.3**
BURAR Bucovina Array 9.77 59 ⇑ *i*P **Pn 23 28 22.8 +3.4**
FINES FINESS Array B 19.95 19 P **Pn 23 30 29.7 -0.4**
comp=N,1.4nm,0.7s,baz=191,slow=9.6,SNR=6.7
TORD Torodi Ar. Bea 31.41 201 P **P 23 32 16.9 +0.7**
comp=N,0.6nm,0.4s,baz=15,slow=8.9,SNR=12
MKAR Makanchi Array 47.79 60 P **P 23 34 34.5 +2.6**
comp=N,0.4nm,0.6s,baz=284,slow=7.4,SNR=6.4

*IDC **25** 23:41:04.6±2.3, 52°.33N×160°.76E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/38, mbtmp3.6/6, ML2.7/1, MS2.7/4, Ms1 2.7/4, ms1mx2.4/32, Error ellipse: s-maj=41.7km s-min=30.7km az=127.0*
*KRSC **25** 23:41:06.3±10.0, 52°.14N×160°.64E, h60km±10km, ML4.0*
ISC 25 23:41:04.8±2.5, 52°.13N±0°.06×160°.66E±0°.06, h5km±14km, n39, σ1§30/46, mb4.0/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.05**	**338**	*eP*	**Pb**	**23 41 25.6**	**+0.2**
SPN				*eS*	**Sg**	**23 41 38.1**	**-0.4**
NLC	**Nalytchevo**	**1.32**	**323**	*eP*	**Pn**	**23 41 29.9**	**+0.1**
NLC				*eS*	**Sg**	**23 41 46.2**	**-0.9**
RUS	**Russkaya**	**1.36**	**284**	*eP*	**Pn**	**23 41 30.5**	**+0.2**
RUS				*eS*	**Sg**	**23 41 46.7**	**-1.6**
DALK	**Dalny**	**1.48**	**309**	*eP*	**Pn**	**23 41 32.1**	**+0.2**
DALK				*eS*	**Sn**	**23 41 50.1**	**-1.5**
UGLR	**Uglovaya**	**1.56**	**315**	*eP*	**Pn**	**23 41 34.1**	**+0.9**
UGLR				*eS*	**Sn**	**23 41 53.7**	**-0.1**
MTVR	**Mutnovka**	**1.56**	**284**	*eP*	**Pn**	**23 41 33.9**	**+0.6**
MTVR				*eS*	**Sn**	**23 41 52.9**	**-1.1**
SDLR	**Sedlovina**	**1.58**	**318**	*eP*	**Pn**	**23 41 34.0**	**+0.5**
SMAR	**Somma**	**1.61**	**316**	*eP*	**Pn**	**23 41 34.5**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.63**	**260**	*eP*	**Pn**	**23 41 34.5**	**+0.5**
KDTR				*eS*	**Sn**	**23 41 54.2**	**-1.1**
AVH	**Avacha**	**1.64**	**315**	*eP*	**Pn**	**23 41 35.0**	**+0.8**
AVH				*eS*	**Sn**	**23 41 55.0**	**-0.7**
KRER	**Koryakskii**	**1.66**	**316**	*eP*	**Pn**	**23 41 35.4**	**+0.8**
KOK	**Koryaka**	**1.70**	**314**	*eP*	**Pn**	**23 41 36.0**	**+0.9**
ASAK	**Asacha**	**1.72**	**280**	*eP*	**Pn**	**23 41 36.4**	**+1.1**
KRX	**Arik**	**1.74**	**316**	*eP*	**Pn**	**23 41 36.5**	**+0.8**
KII	**Karymskiy**	**2.05**	**340**	*eP*	**Pn**	**23 41 40.9**	**+1.0**
PETK	**Petropavlovsk-**	**2.06**	**300**	Pn	**Pn**	**23 41 41.0**	**+1.0**
	13nm,0.3s,baz=108,slow=19,SNR=260						
PETK				Sn	**Sn**	**23 42 07.2**	**+1.2**
	27nm,0.3s,baz=102,slow=38,SNR=20						
PETK				LR	LR	23 42 38.0	
	comp=Z,157nm,18.1s,baz=84,slow=46						
GNL	**Ganaly**	**2.28**	**315**	*eP*	**Pn**	**23 41 44.8**	**+1.7**
APC	**Apacha**	**2.29**	**292**	*eP*	**Pn**	**23 41 44.5**	**+1.4**
APC				*eS*	**Sn**	**23 42 11.6**	**+0.1**
PAU	**Pauzhetka**	**2.48**	**256**	*eP*	**Pn**	**23 41 47.8**	**+2.1**
MKZ	**Mys Kozlova**	**2.52**	**14**	*eS*	**Sn**	**23 42 15.9**	**-1.4**
KZV	**Kizimen**	**3.00**	**356**	*eP*	**Pn**	**23 41 55.3**	**+2.2**
KZV				*eS*	**Sn**	**23 42 29.6**	**+0.1**
TUMD	**Tumrok D**	**3.09**	**357**	*eP*	**Pn**	**23 41 55.8**	**+1.7**
TUMD				*eS*	**Sn**	**23 42 30.0**	**-1.4**
TUMR	**Tumrok**	**3.18**	**355**	*eP*	**Pn**	**23 41 58.1**	**+2.6**
SKR	**Severo-Kuril's**	**3.19**	**245**	*eP*	**Pn**	**23 41 55.1**	**-0.4**
SKR				*eS*	**Sn**	**23 42 32.7**	**-1.1**
ALID	**Alaid**	**3.43**	**251**	*eP*	**Pn**	**23 42 00.3**	**+1.3**
LGNR	**Loginova**	**3.97**	**0**	*eP*	**Pn**	**23 42 07.7**	**+1.3**
KBTR	**Krutoberegovo**	**4.28**	**16**	*eP*	**Pn**	**23 42 11.2**	**+0.7**
BKI	**Bering**	**4.41**	**44**	*eS*	**Sn**	**23 43 01.4**	**-2.6**
MA2	**Magadan**	**9.30**	**327**	LR	LR	23 47 37.4	
	comp=Z,38nm,18.1s,baz=132,slow=43						
ASAJ	**Asahikawa**	**14.46**	**243**	LR	LR	23 49 32.4	
	comp=Z,32nm,20.1s,baz=327,slow=35						
MJAR	**Matsushiro Arr**	**22.24**	**234**	P	**P**	**23 46 05.2**	**+3.1**
	0.8nm,0.6s,baz=20,slow=12,SNR=4.4						
TIXI	**Tiksi**	**24.11**	**336**	P	**P**	**23 46 20.4**	**-0.4**
	1.4nm,0.3s,baz=142,slow=7.4,SNR=6.9						
KSRS	**Korea Array**	**27.19**	**250**	LR	LR	23 58 29.0	
	comp=Z,13nm,19.2s,baz=190,slow=38						
H11N2	**WAKE ISLAND Hy**	**32.70**	**169**	T	T	00 22 31.8	
	baz=352						
H11N3	**WAKE ISLAND Hy**	**32.71**	**169**	T	T	00 22 32.3	
	baz=352						
H11N1	**WAKE ISLAND Hy**	**32.71**	**169**	T	T	00 22 27.3	
	baz=352						
MKAR	**Makanchi Array**	**48.89**	**297**	P	**P**	**23 49 49.6**	**-1.6**
	0.2nm,0.6s,baz=42,slow=6.2,SNR=3.4						
FINES	**FINESS Array B**	**61.15**	**337**	P	**P**	**23 51 20.0**	**+0.5**
	0.9nm,0.4s,baz=34,slow=7.0,SNR=12						
AKASG	**Malin Array Be**	**69.62**	**329**	P	**P**	**23 52 14.0**	**-0.5**
	0.6nm,0.4s,baz=25,slow=7.0,SNR=2.5						

TRN 25 23:54:35.1, 13°.32N×60°.51W, h13km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.57**	**312**	*eP*	Pb	23 54 47.3	+0.3
MCLT				*eS*	Sb	23 54 56.6	+1.6
SVCV	**St. Vincent, C**	**0.62**	**266**	*eP*	Pb	23 54 47.9	+0.1
SVCV				*eS*	Sb	23 54 57.8	+1.3
SFAN	**Fancy Village**	**0.65**	**275**	*eP*	Pn	23 54 49.6	-0.4
SFAN				*eS*	Sb	23 54 58.5	+1.1
SLPA	**Patience**	**0.66**	**323**	*eP*	Pn	23 54 49.8	-0.4
SLPA				*eS*	Sn	23 54 59.8	-0.7
SSV	**Crater Summit**	**0.67**	**271**	*eP*	Pn	23 54 49.8	-0.5
SSV				*eS*	Sn	23 55 00.4	-0.4
SVV	**Soufriere Volc**	**0.69**	**270**	*eP*	Pb	23 54 49.5	+0.5
SVV				*eS*	Sn	23 55 00.2	-1.0
SLDE	**Delcer**	**0.72**	**312**	*eP*	Pb	23 54 50.0	+0.5
SLDE				*eS*	Sn	23 55 01.2	-0.7
SLB	**Belfond**	**0.72**	**314**	*eP*	Pn	23 54 50.6	-0.5
SLB				*eS*	Sn	23 55 00.9	-1.1
SVB	**Belmont**	**0.73**	**266**	*eP*	Pg	23 54 49.3	+0.1
SVB				*eS*	Sb	23 55 00.2	+0.7
FCV	**Fort Charlotte**	**0.74**	**257**	*eP*	Pg	23 54 49.4	-0.1
FCV				*eS*	Sb	23 55 00.4	+0.6
SLW	**Petit Monier**	**0.81**	**329**	*eS*	Sn	23 55 04.1	-0.1
SLBI	**Saint Lucia, B**	**0.83**	**327**	*eP*	Pg	23 54 50.4	-0.8
SLBI				*eS*	Sg	23 55 02.3	+0.2
BBGH	**Gun Hill**	**0.94**	**101**	*e*	Pb	23 54 51.9	-1.4
BBGH	**Gun Hill**	**0.94**	**101**	*eP*	Pn	23 54 54.1	+0.1
BBGH				*eS*	Sg	23 55 05.0	-0.6
BBSP	**Saint Philip**	**1.04**	**102**	*eP*	Pb	23 54 53.9	-1.1
BBSP				*eS*	Sb	23 55 08.7	+0.1
MPOM	**Morne Pois Mar**	**1.17**	**343**	*eP*	Pn	23 54 55.4	-1.7
MVM	**Montagne Vaucl**	**1.28**	**343**	*eP*	Pn	23 54 57.1	-1.7
BIM	**Bigot**	**1.31**	**335**	*eP*	Pn	23 54 58.1	-1.0
TRMF	**Trois Ilets**	**1.32**	**336**	*eP*	Pn	23 54 58.3	-0.9
LPMF	**Morne Lapointe**	**1.32**	**340**	*eP*	Pn	23 54 57.9	-1.4
ZAM	**Aeronautique**	**1.34**	**338**	*eP*	Pn	23 54 58.4	-1.2
GRSS	**Sisters**	**1.48**	**227**	*eP*	Pn	23 55 01.0	-0.4
GRSS				*eS*	Sn	23 55 19.5	-1.2
FDF	**Fort de France**	**1.54**	**336**	*eP*	Pn	23 55 02.1	-0.2
GRHS	**Sauteurs**	**1.55**	**226**	*eP*	Pn	23 55 01.7	-0.8
GRHS				*eS*	Sn	23 55 21.6	-0.9
PML	**Morne Lenard**	**1.59**	**336**	*eP*	Pn	23 55 03.0	-0.1
GBMF	**Grand Be**	**1.60**	**337**	*eP*	Pn	23 55 03.6	+0.4
BAMF	**Morne Balai**	**1.61**	**337**	*eP*	Pn	23 55 03.2	-0.1
CXM	**Morne La Croix**	**1.61**	**337**	*eP*	Pn	23 55 03.6	+0.2
GRGR	**Grenville**	**1.63**	**224**	*eP*	Pn	23 55 02.2	-1.3
PCM	**Pelee Case Pet**	**1.63**	**335**	*eP*	Pn	23 55 03.5	0.0
TOSP	**Speyside**	**2.01**	**181**	*eP*	Pn	23 55 08.3	-0.5
TOSP				*eS*	Sn	23 55 31.9	-1.9
DWS	**Wesley**	**2.37**	**341**	*eP*	Pn	23 55 12.2	-1.4
DWS				*eS*	Sn	23 55 41.2	-1.3
BBL	**Barber's Block**	**2.38**	**337**	*eP*	Pn	23 55 12.2	-1.7
BBL				*eS*	Sn	23 55 40.6	-2.4
TRN	**Trinidad (W)**	**2.80**	**198**	*eP*	Pn	23 55 19.7	+0.1
TRN				*eS*	Sn	23 55 52.5	-0.7
ABD	**La Joyeuse, An**	**3.27**	**343**	*eP*	Pn	23 55 25.9	-0.2

ROM 26 00:22:27.3±0.1, 43°.373N±0°.005×12°.521E±0°.007, h9km, ML1.1/2, Error ellipse: s-maj=0.6km s-min=0.5km az=238.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.04**	**100**	P	Pg	00 22 29.0	-0.1
ATFO				S	Sg	00 22 30.0	-0.4
ATFO				AML	AML		
	comp=E,457μm,0.2s						
ATFO				AML	AML		
	comp=N,714μm,0.2s						
ATFO				AML	AML		
	comp=N,714μm,0.2s						
ATFO				AML	AML		
	comp=E,457μm,0.2s						
ATFO	**Monte Foce - G**	**0.04**	**100**	P	Pg	00 22 29.0	-0.1
ATFO	**Monte Foce - G**	**0.04**	**100**	S	Sg	00 22 29.9	-0.5
ATVO	**AVT- Monte Val**	**0.08**	**276**	P	Pg	00 22 29.9	+0.3
ATVO				S	Sg	00 22 31.5	+0.3
ATVO				AML	AML		
	comp=E,132μm,1.0s						
ATVO				AML	AML		
	comp=N,158μm,0.1s						
ATVO				AML	AML		
	comp=N,158μm,0.1s						
ATVO				AML	AML		
	comp=E,132μm,1.0s						
ATVO	**AVT- Monte Val**	**0.08**	**276**	P	Pg	00 22 29.9	+0.3
ATVO	**AVT- Monte Val**	**0.08**	**276**	S	Sg	00 22 31.5	+0.3
MURB	**Monte Urbino**	**0.11**	**179**	P	Pg	00 22 30.6	+0.6
MURB	**Monte Urbino**	**0.11**	**179**	P	Pg	00 22 31.0	+1.0
ATPI	**Pietralunga -**	**0.12**	**312**	P	Pg	00 22 30.6	+0.5
ATPI	**Pietralunga -**	**0.12**	**312**	P	Pg	00 22 30.6	+0.5
ATPI				S	Sg	00 22 32.9	+0.9
ATPI	**Pietralunga -**	**0.12**	**312**	S	Sg	00 22 31.0	-1.0
ATPI	**Pietralunga -**	**0.12**	**312**	S	Sg	00 22 32.9	+0.9
ATMI	**Monte Miggiano**	**0.19**	**258**	S	Sg	00 22 35.0	+1.1
FOSV	**Fossato di Vic**	**0.19**	**114**	P	Pg	00 22 31.9	+0.6
FOSV				S	Sg	00 22 35.4	+1.4
FOSV	**Fossato di Vic**	**0.19**	**114**	S	Sg	00 22 35.3	+1.3
ATCC	**AVT- Casa Cast**	**0.21**	**155**	P	Pg	00 22 32.3	+0.8
ATCC				S	Sg	00 22 36.4	+2.0
ATCC	**AVT- Casa Cast**	**0.21**	**155**	S	Sg	00 22 36.5	+2.0
FRON	**Frontone**	**0.21**	**46**	P	Pg	00 22 32.2	+0.7
FRON	**Frontone**	**0.21**	**46**	P	Pg	00 22 32.3	+0.7
FRON				S	Sg	00 22 36.1	+1.6
FRON	**Frontone**	**0.21**	**46**	S	Sg	00 22 33.0	-1.5
FRON	**Frontone**	**0.21**	**46**	S	Sg	00 22 36.0	+1.5
ASSB	**Assisi San Ben**	**0.34**	**163**	P	Pg	00 22 34.6	+0.5
ASSB				S	Sb	00 22 40.4	-0.9
ASSB				AML	AML		
	comp=E,46μm,1.5s						
ASSB				AML	AML		
	comp=N,50μm,1.6s						
ASSB				AML	AML		
	comp=E,46μm,1.5s						
ASSB				AML	AML		
	comp=N,50μm,1.6s						
ASSB	**Assisi San Ben**	**0.34**	**163**	P	Pg	00 22 34.7	+0.5
CPGN	**Carpegna, Ital**	**0.45**	**341**	P	Pg	00 22 32.7	-3.5

*IDC **26** 00:22:36.2±1.7, 36°.24N×23°.30E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/29, mbtmp3.3/3, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.1/20, Error ellipse: s-maj=42.9km s-min=31.2km az=132.0*
*ATH **26** 00:22:36.4, 38°.16N×21°.18E, h24km±1km, ML2.8/24, Error ellipse: s-maj=1.0km s-min=0.6km az=339.0*
*ISCJB **26** 00:22:37.2±0.4, 38°.17N±0°.02×21°.15E±0°.02, h14km±3km, mb3.1/2, MS3.1/1, Error ellipse: s-maj=3.6km s-min=2.7km az=39.0*
*THE **26** 00:22:37.4, 38°.21N×21°.19E, h0km±2km, ML2.9/19, Error ellipse: s-maj=2.6km s-min=0.7km az=300.0*
ISC 26 00:22:37.4±0.9, 38°.17N±0°.02×21°.17E±0°.02, h23km±6km, n94, σ1§02/135, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.26**	**177**	P	**Pb**	**00 22 43.4**	**-0.1**
VTN				S	**Sb**	**00 22 48.6**	**+0.9**
VTN	**Vitineika**	**0.26**	**177**	P	**Pb**	**00 22 43.5**	**-0.1**
RLS	**Riolos of Patr**	**0.26**	**116**	P	**Pb**	**00 22 42.8**	**-0.8**
RLS				S	**Sb**	**00 22 47.5**	**-0.4**
RLS	**Riolos of Patr**	**0.26**	**116**	P	**Pb**	**00 22 42.8**	**-0.8**
RLS				S	**Sb**	**00 22 47.5**	**-0.4**
RLS				AML	AML	00 22 48.1	
	comp=N,13805μm,0.2s						
RLS				AML	AML	00 22 48.1	
	comp=E,10076μm,0.2s						
KFL	**Anninata**	**0.31**	**258**	P	**Pb**	**00 22 43.7**	**-0.7**
KFL				S	**Sb**	**00 22 49.6**	**+0.4**
KFL	**Anninata**	**0.31**	**258**	P	**Pb**	**00 22 43.7**	**-0.7**
KFL				S	**Sb**	**00 22 49.5**	**+0.4**
KFL				AML	AML	00 22 51.7	
	comp=N,6072μm,0.3s						
KFL				AML	AML	00 22 56.2	
	comp=E,10420μm,0.3s						
PDO	**Prodromos**	**0.42**	**1**	P	**Pb**	**00 22 45.7**	**-0.6**
PDO				S	**Sb**	**00 22 53.3**	**+1.0**
PDO				AML	AML	00 22 53.8	
	comp=N,10381μm,0.3s						
PDO				AML	AML	00 22 56.3	
	comp=E,6463μm,0.3s						
VLS	**Valsamata**	**0.46**	**271**	P	**Pb**	**00 22 45.6**	**-1.2**
VLS				S	**Sb**	**00 22 53.9**	**+0.7**
VLS	**Valsamata**	**0.46**	**271**	P	**Pb**	**00 22 45.8**	**-1.1**
VLS				S	**Sb**	**00 22 53.2**	**-0.1**
VLS				AML	AML	00 22 54.2	
	comp=N,5325μm,0.1s						
VLS				AML	AML	00 22 54.4	
	comp=E,4255μm,0.1s						
DRO	**Drossia**	**0.48**	**117**	P	**Pb**	**00 22 46.1**	**-1.1**
DRO				S	**Sn**	**00 22 55.8**	**-0.8**
DRO	**Drossia**	**0.48**	**117**	P	**Pb**	**00 22 46.1**	**-1.1**
DRO				S	**Sb**	**00 22 53.5**	**-0.4**
DRO				AML	AML	00 22 55.4	
	comp=E,7784μm,0.3s						
DRO				AML	AML	00 22 56.3	
	comp=N,7104μm,0.2s						
UPR	**University Cam**	**0.50**	**77**	P	**Pb**	**00 22 47.0**	**-0.5**
UPR				S	**Sb**	**00 22 54.7**	**+0.3**
PVO	**Paravola**	**0.52**	**32**	P	**Pb**	**00 22 47.3**	**-0.7**
PVO				S	**Sb**	**00 22 54.8**	**-0.3**
PVO	**Paravola**	**0.52**	**32**	P	**Pb**	**00 22 47.6**	**-0.4**
PVO				S	**Sb**	**00 22 54.8**	**-0.3**
PVO				AML	AML	00 22 57.7	
	comp=E,2666μm,0.3s						
PVO				AML	AML	00 22 57.7	
	comp=N,4252μm,0.3s						
FSK	**Fiskardo**	**0.56**	**301**	P	**Pb**	**00 22 47.7**	**-0.8**
FSK				S	**Sb**	**00 22 57.3**	**+1.2**
FSK	**Fiskardo**	**0.56**	**301**	P	**Pb**	**00 22 47.7**	**-0.8**
FSK				S	**Sb**	**00 22 55.5**	**-0.6**
MGNA	**Meganis**	**0.57**	**328**	P	**Pb**	**00 22 48.6**	**-0.1**
MGNA				S	**Sb**	**00 22 57.4**	**+1.0**
MGNA				AML	AML	00 23 02.9	
	comp=N,1100μm,0.3s						
MGNA				AML	AML	00 23 04.9	
	comp=E,1170μm,0.2s						
EVGI	**Lefkada island**	**0.60**	**318**	P	**Pb**	**00 22 48.4**	**-0.9**
EVGI	**Lefkada island**	**0.60**	**318**	P	**Pb**	**00 22 48.6**	**-0.7**
EFP	**Efpalio**	**0.63**	**66**	P	**Pb**	**00 22 48.6**	**-1.1**
EFP				S	**Sb**	**00 22 58.7**	**+0.5**
EFP	**Efpalio**	**0.63**	**66**	P	**Pb**	**00 22 48.7**	**-1.1**
EFP				S	**Sb**	**00 22 58.5**	**+0.3**
EFP				AML	AML	00 22 59.6	
	comp=E,3052μm,0.2s						
EFP				AML	AML	00 23 01.6	
	comp=N,1367μm,0.4s						
LAKA	**Lakka**	**0.64**	**84**	P	**Pb**	**00 22 48.7**	**-1.2**
LAKA				S	**Sb**	**00 22 58.7**	**+0.2**
LAKA	**Lakka**	**0.64**	**84**	P	**Pb**	**00 22 48.8**	**-1.2**
LAKA				S	**Sb**	**00 22 58.0**	**-0.5**
LAKA				AML	AML	00 22 59.4	
	comp=N,1988μm,0.4s						
LAKA				AML	AML	00 22 59.4	
	comp=E,2142μm,0.4s						
ANX	**Ano Chora**	**0.72**	**54**	P	**Pb**	**00 22 50.4**	**-1.0**
ANX				S	**Sb**	**00 23 01.7**	**+0.7**
ANX	**Ano Chora**	**0.72**	**54**	P	**Pb**	**00 22 50.3**	**-1.1**
ANX				S	**Sb**	**00 23 01.6**	**+0.7**
ANX				AML	AML	00 23 03.2	
	comp=N,2605μm,0.5s						
ANX				AML	AML	00 23 03.4	
	comp=E,2062μm,0.4s						
LKD2	**Lefkada island**	**0.73**	**327**	P	**Pb**	**00 22 50.6**	**-0.9**
LKD2	**Lefkada island**	**0.73**	**327**	P	**Pb**	**00 22 50.6**	**-0.9**
LKD2				AML	AML	00 23 07.8	
	comp=N,2334μm,0.3s						
LKD2				AML	AML	00 23 08.9	
	comp=E,2814μm,0.2s						
TRIZ	**Trizonia**	**0.73**	**75**	P	**Pb**	**00 22 50.2**	**-1.3**
TRIZ				S	**Sb**	**00 23 01.6**	**+0.5**
TRIZ	**Trizonia**	**0.73**	**75**	P	**Pb**	**00 22 50.3**	**-1.3**
TRIZ				S	**Sb**	**00 23 01.9**	**+0.8**
SERG	**Sergoula**	**0.74**	**71**	P	**Pb**	**00 22 50.3**	**-1.3**
SERG				S	**Sb**	**00 23 02.0**	**+0.8**
SERG	**Sergoula**	**0.74**	**71**	P	**Pb**	**00 22 50.3**	**-1.3**
SERG				S	**Sb**	**00 23 01.5**	**+0.2**
SERG				AML	AML	00 23 02.8	
	comp=N,3170μm,0.2s						
SERG				AML	AML	00 23 02.9	
	comp=E,3037μm,0.2s						
ALIK	**Aliki, Aigiali**	**0.75**	**83**	P	**Pb**	**00 22 50.6**	**-1.1**
ALIK				S	**Sn**	**00 23 03.2**	**+0.1**
TSLK	**Tsoukalades, L**	**0.77**	**328**	P	**Pb**	**00 22 51.2**	**-0.8**
TSLK	**Tsoukalades, L**	**0.77**	**328**	P	**Pb**	**00 22 51.3**	**-0.8**
AMT	**Artemida-Makis**	**0.77**	**146**	P	**Pb**	**00 22 50.7**	**-1.4**
AMT				S	**Sn**	**00 23 05.1**	**+1.3**
AMT	**Artemida-Makis**	**0.77**	**146**	P	**Pb**	**00 22 50.7**	**-1.4**
AMT				S	**Sb**	**00 23 02.6**	**+0.4**
AMT				AML	AML	00 23 08.7	
	comp=N,1153μm,0.4s						
AMT				AML	AML	00 23 10.7	
	comp=E,1248μm,0.4s						
KLV	**Kalavryta, Ach**	**0.78**	**99**	P	**Pb**	**00 22 50.9**	**-1.5**
KLV				S	**Sn**	**00 23 03.6**	**-0.6**
KLV	**Kalavryta, Ach**	**0.78**	**99**	P	**Pb**	**00 22 51.1**	**-1.2**
KLV				S	**Sb**	**00 23 03.0**	**+0.4**
KLV				AML	AML	00 23 04.8	
	comp=E,622μm,0.5s						
KLV				AML	AML	00 23 05.1	
	comp=N,645μm,0.2s						
KALE	**Kalithea**	**0.79**	**74**	P	**Pb**	**00 22 51.1**	**-1.5**
KALE				S	**Sb**	**00 23 03.6**	**+0.7**
KALE	**Kalithea**	**0.79**	**74**	P	**Pb**	**00 22 51.1**	**-1.5**
KALE				S	**Sb**	**00 23 03.2**	**+0.3**
KALE				AML	AML	00 23 08.0	
	comp=E,1178μm,0.3s						
KALE				AML	AML	00 23 09.9	
	comp=N,1255μm,0.3s						
EVR	**Evrytania**	**0.90**	**34**	P	**Pb**	**00 22 53.0**	**-1.3**
EVR	**Evrytania**	**0.90**	**34**	P	**Pb**	**00 22 53.3**	**-1.1**
EVR				S	**Sn**	**00 23 07.2**	**+0.1**
EVR				AML	AML	00 23 14.2	
	comp=N,823μm,0.4s						
EVR				AML	AML	00 23 15.3	
	comp=E,662μm,0.7s						
GUR	**Goura**	**0.95**	**104**	P	**Pb**	**00 22 53.8**	**-1.5**
GUR				S	**Sn**	**00 23 08.9**	**+0.4**
GUR	**Goura**	**0.95**	**104**	P	**Pb**	**00 22 53.9**	**-1.4**
GUR				S	**Sn**	**00 23 08.7**	**+0.3**
GUR				AML	AML	00 23 10.8	
	comp=N,2102μm,0.3s						
GUR				AML	AML	00 23 11.8	
	comp=E,2975μm,0.3s						
MES3	**Kyparissia**	**1.00**	**157**	P	**Pb**	**00 22 55.3**	**-0.8**
TRIP	**Tripoli**	**1.08**	**126**	P	**Pn**	**00 22 56.1**	**-1.2**
TRIP				S	**Sn**	**00 23 11.6**	**0.0**
TRIP				AML	AML	00 23 18.5	
	comp=E,476μm,0.4s						
TRIP				AML	AML	00 23 21.0	
	comp=N,387μm,0.4s						
DLFA	**Delphi**	**1.09**	**73**	P	**Pn**	**00 22 56.0**	**-1.2**
DSF	**Desfina**	**1.09**	**77**	P	**Pn**	**00 22 56.1**	**-1.3**
DSF	**Desfina**	**1.09**	**77**	P	**Pn**	**00 22 56.2**	**-1.2**
DSF				S	**Sn**	**00 23 12.1**	**+0.2**
DSF				AML	AML	00 23 16.0	
	comp=N,514μm,0.3s						
DSF				AML	AML	00 23 20.2	
	comp=E,523μm,0.4s						
ITM	**Ithomi**	**1.16**	**149**	P	**Pn**	**00 22 58.3**	**+0.1**
ITM	**Ithomi**	**1.16**	**149**	P	**Pn**	**00 22 57.9**	**-0.3**
ITM				AML	AML	00 23 20.9	
	comp=N,469μm,0.5s						
ITM				AML	AML	00 23 24.9	
	comp=E,440μm,0.4s						
AGG	**Agios Georgios**	**1.24**	**47**	P	**Pn**	**00 22 59.6**	**+0.2**
AGG	**Agios Georgios**	**1.24**	**47**	P	**Pn**	**00 22 59.6**	**+0.2**
VLX	**Vlachokerasia**	**1.25**	**130**	P	**Pb**	**00 23 00.6**	**+0.3**
VLX				S	**Sb**	**00 23 18.4**	**+2.4**
VLX	**Vlachokerasia**	**1.25**	**130**	P	**Pb**	**00 23 00.2**	**-0.1**
AXAR	**Agios Charalam**	**1.31**	**63**	P	**Pb**	**00 23 02.7**	**+1.4**
PYL	**PYLOS**	**1.35**	**160**	P	**Pn**	**00 23 00.9**	**0.0**
PROD	**Prodromos**	**1.36**	**86**	P	**Pn**	**00 23 01.7**	**+0.6**
PROD				AML	AML	00 23 24.5	
	comp=E,572μm,0.7s						
PROD				AML	AML	00 23 26.0	
	comp=N,468μm,0.5s						
MES2	**Methoni**	**1.41**	**162**	P	**Pn**	**00 23 01.8**	**+0.1**
LTK	**Loutraki**	**1.43**	**95**	P	**Pn**	**00 23 02.3**	**+0.4**
LOUT	**Loutraki**	**1.44**	**97**	P	**Pb**	**00 23 03.4**	**0.0**
IGT	**Igoumenitsa**	**1.51**	**335**	P	**Pn**	**00 23 03.8**	**+0.8**
LKR	**Lokris**	**1.51**	**71**	P	**Pn**	**00 23 03.7**	**+0.6**
LKR	**Lokris**	**1.51**	**71**	P	**Pn**	**00 23 03.8**	**+0.6**
LKR				AML	AML	00 23 27.7	
	comp=N,341μm,0.4s						
LKR				AML	AML	00 23 27.9	
	comp=E,219μm,0.3s						
THL	**Klokotos Trika**	**1.54**	**25**	P	**Pb**	**00 23 05.0**	**-0.2**
THL	**Klokotos Trika**	**1.54**	**25**	P	**Pb**	**00 23 04.6**	**-0.6**
ATAL	**Atalanti**	**1.54**	**70**	P	**Pn**	**00 23 04.1**	**+0.6**
ATAL				S	**Sb**	**00 23 27.9**	**+3.5**
ATAL	**Atalanti**	**1.54**	**70**	P	**Pn**	**00 23 04.0**	**+0.6**
ATAL				AML	AML	00 23 28.1	
	comp=E,154μm,0.4s						
ATAL				AML	AML	00 23 28.4	
	comp=N,236μm,0.6s						
EPID	**Epidavros**	**1.64**	**109**	P	**Pb**	**00 23 06.7**	**-0.3**
VIL2	**Platees**	**1.65**	**88**	P	**Pb**	**00 23 06.8**	**-0.4**
DYR	**Agios Nikonas**	**1.69**	**146**	P	**

KRUS	**Krusevo**	**0.31**	**12**	⇑*i*Pg	**Pg**	**00 23 49.3**	**-0.2**
KRUS				*i* Sg	**Sb**	**00 23 54.7**	**-0.9**
KRUS				*e*Lg	Lg	00 23 54.8	
	comp=N,2μm,0.2s						
KRUS				*e*Lg	Lg	00 23 54.9	
	comp=E,4μm,0.3s						
FNA	**Florina**	**0.33**	**151**	P	**Pg**	**00 23 48.9**	**-0.9**
FNA				S	**Sg**	**00 23 53.5**	**-0.7**
FNA	**Florina**	**0.33**	**151**	⇑*i*Pg	**Pg**	**00 23 48.9**	**-0.9**
FNA				*i* Sg	**Sg**	**00 23 53.6**	**-0.7**
FNA	**Florina**	**0.33**	**151**	P	**Pg**	**00 23 48.9**	**-0.9**
FNA				S	**Sg**	**00 23 53.5**	**-0.7**
FNA				AML	AML	00 23 53.9	
	comp=N,46605μm,0.2s						
FNA				AML	AML	00 23 54.0	
	comp=E,38957μm,0.2s						
NEST	**Nestorio**	**0.66**	**188**	P	**Pg**	**00 23 54.3**	**-1.7**
NEST				S	**Sg**	**00 24 04.0**	**-0.7**
NEST	**Nestorio**	**0.66**	**188**	P	**Pg**	**00 23 54.6**	**-1.4**
NEST				S	**Sg**	**00 24 04.0**	**-0.7**
NEST				AML	AML	00 24 06.4	
	comp=E,7062μm,0.6s						
NEST				AML	AML	00 24 07.0	
	comp=N,12796μm,0.4s						
PHP	**Peshkopia**	**0.82**	**319**	P	**Pg**	**00 23 57.1**	**-2.0**
PHP				S	**Sb**	**00 24 10.0**	**-0.5**
PENT	**Pentalofos**	**0.87**	**181**	P	**Pg**	**00 23 58.1**	**-1.9**
PENT				S	**Sb**	**00 24 12.1**	**+0.3**
PENT	**Pentalofos**	**0.87**	**181**	P	**Pg**	**00 23 58.3**	**-1.7**
PENT				S	**Sg**	**00 24 10.0**	**-1.4**
PENT				AML	AML	00 24 15.1	
	comp=N,2952μm,0.3s						
PENT				AML	AML	00 24 15.5	
	comp=E,4316μm,0.7s						
KZN	**Kozani**	**0.89**	**149**	P	**Pg**	**00 23 58.5**	**-1.8**
KZN				S	**Sb**	**00 24 13.6**	**+1.3**
KZN	**Kozani**	**0.89**	**149**	P	**Pg**	**00 23 58.6**	**-1.8**
KZN				S	**Sg**	**00 24 11.6**	**-0.3**
KZN				AML	AML	00 24 17.2	
	comp=N,5551μm,0.4s						
KZN				AML	AML	00 24 17.9	
	comp=E,4772μm,0.6s						
GRG	**Griva**	**0.94**	**96**	P	**Pg**	**00 24 00.2**	**-1.1**
GRG				S	**Sb**	**00 24 13.7**	**-0.1**
GRG	**Griva**	**0.94**	**96**	⇑*i*Pg	**Pg**	**00 24 00.2**	**-1.1**
GRG	**Griva**	**0.94**	**96**	P	**Pg**	**00 24 00.3**	**-1.0**
GRG				S	**Sg**	**00 24 12.8**	**-0.8**
GRG				AML	AML	00 24 18.1	
	comp=N,1610μm,0.5s						
GRG				AML	AML	00 24 18.6	
	comp=E,2212μm,0.6s						
TIR	**Tirane**	**1.02**	**286**	*e*Pg	**Pg**	**00 24 01.8**	**-1.0**
TIR				*e*Sg	**Sb**	**00 24 16.2**	**+0.1**
TIR	**Tirane**	**1.02**	**286**	P	**Pg**	**00 24 01.8**	**-1.0**
TIR				S	**Sb**	**00 24 16.8**	**+0.7**
TIR	**Tirane**	**1.02**	**286**	⇓*i*P	**Pg**	**00 24 02.3**	**-0.5**
TIR	**Tirane**	**1.02**	**286**	*i* Pg	**Pg**	**00 24 01.8**	**-1.0**
TIR	**Tirane**	**1.02**	**286**	P	**Pg**	**00 24 01.8**	**-1.0**
TIR				S	**Sb**	**00 24 16.0**	**0.0**
TIR				AML	AML	00 24 25.6	
	comp=N,2525μm,0.8s						
TIR				AML	AML	00 24 25.7	
	comp=E,2716μm,0.4s						
VAY	**Valandovo**	**1.09**	**76**	*e*Pg	**Pg**	**00 24 03.3**	**-0.8**
VAY				*e*Sg	**Sb**	**00 24 18.5**	**+0.5**
VAY	**Valandovo**	**1.09**	**76**	P	**Pg**	**00 24 03.1**	**-1.0**
VAY				S	**Sn**	**00 24 19.6**	**+0.5**
VAY	**Valandovo**	**1.09**	**76**	*i* Pg	**Pg**	**00 24 03.1**	**-1.0**
VAY				*i* Sg	**Sb**	**00 24 18.6**	**+0.6**
VAY				*e*Lg	Lg	00 24 22.9	
	comp=E,195nm,0.5s						
VAY				*e*Lg	Lg	00 24 23.1	
	comp=N,318nm,0.7s						
KPRO	**Kipourio**	**1.12**	**172**	P	**Pg**	**00 24 03.6**	**-1.1**
KPRO				S	**Sn**	**00 24 21.9**	**+1.9**
KPRO	**Kipourio**	**1.12**	**172**	P	**Pg**	**00 24 02.2**	**-2.5**
KPRO				AML	AML	00 24 24.8	
	comp=E,3601μm,0.4s						
KPRO				AML	AML	00 24 27.4	
	comp=N,1517μm,0.4s						
TPE	**Tepelena**	**1.17**	**229**	P	**Pg**	**00 24 03.9**	**-1.7**
MEV	**Metsovon**	**1.28**	**178**	P	**Pn**	**00 24 05.9**	**-1.1**
KNT	**Kendrikon**	**1.31**	**85**	P	**Pn**	**00 24 07.1**	**-0.1**
KNT				S	**Sg**	**00 24 25.1**	**-0.3**
KNT	**Kendrikon**	**1.31**	**85**	*i* Pg	**Pn**	**00 24 06.9**	**-0.3**
KNT	**Kendrikon**	**1.31**	**85**	P	**Pn**	**00 24 07.2**	**-0.1**
KNT				S	**Sg**	**00 24 25.0**	**-0.4**
KNT				AML	AML	00 24 32.7	
	comp=E,479μm,0.4s						
KNT				AML	AML	00 24 33.2	
	comp=N,560μm,0.5s						
LIT	**Litokhoron**	**1.40**	**133**	P	**Pn**	**00 24 08.2**	**-0.2**
LIT				S	**Sg**	**00 24 30.0**	**+1.9**
LIT	**Litokhoron**	**1.40**	**133**	P	**Pn**	**00 24 08.2**	**-0.2**
JAN	**Janina**	**1.43**	**190**	P	**Pn**	**00 24 08.0**	**-0.9**
JAN	**Janina**	**1.43**	**190**	P	**Pn**	**00 24 08.0**	**-0.9**
JAN				S	**Sn**	**00 24 28.6**	**+1.1**
JAN				AML	AML	00 24 37.5	
	comp=N,1108μm,0.7s						
JAN				AML	AML	00 24 40.8	
	comp=E,1469μm,0.4s						
THE	**Thessaloniki**	**1.43**	**107**	P	**Pn**	**00 24 08.7**	**-0.1**
THE	**Thessaloniki**	**1.43**	**107**	*i* Pg	**Pn**	**00 24 08.8**	**0.0**
THE	**Thessaloniki**	**1.43**	**107**	P	**Pn**	**00 24 08.1**	**-0.7**
THE				S	**Sb**	**00 24 27.6**	**-0.2**
THE				AML	AML	00 24 28.5	
	comp=E,276μm,0.5s						
THE				AML	AML	00 24 29.0	
	comp=N,472μm,0.6s						
SRN	**Sarande**	**1.48**	**217**	P	**Pn**	**00 24 10.1**	**+0.6**
SRN				S	**Sg**	**00 24 31.9**	**+1.0**
HORT	**Hortiatis**	**1.54**	**107**	P	**Pn**	**00 24 09.6**	**-0.8**
HORT				AML	AML	00 24 31.7	
	comp=N,473μm,0.6s						
HORT				AML	AML	00 24 38.1	
	comp=E,245μm,0.5s						
THL	**Klokotos Trika**	**1.64**	**156**	P	**Pn**	**00 24 11.5**	**-0.1**
THL	**Klokotos Trika**	**1.64**	**156**	P	**Pn**	**00 24 11.2**	**-0.4**
THL				S	**Sn**	**00 24 32.2**	**-0.4**
THL				AML	AML	00 24 34.1	
	comp=E,843μm,0.6s						
THL				AML	AML	00 24 44.8	
	comp=N,1029μm,0.6s						
KKB	**Krupnik**	**1.65**	**60**	*e*Pn	**Pb**	**00 24 12.7**	**-0.7**
KKB	**Krupnik**	**1.65**	**60**	P	**Pb**	**00 24 12.7**	**-0.7**
IGT	**Igoumenitsa**	**1.66**	**203**	P	**Pb**	**00 24 13.9**	**+0.3**
IGT				S	**Sg**	**00 24 37.6**	**+1.0**
IGT	**Igoumenitsa**	**1.66**	**203**	P	**Pb**	**00 24 13.2**	**-0.4**
IGT				S	**Sn**	**00 24 34.2**	**+1.0**
IGT				AML	AML	00 24 39.2	
	comp=N,1368μm,0.6s						
IGT				AML	AML	00 24 39.4	
	comp=E,1356μm,0.7s						
SOH	**Sokhos**	**1.68**	**98**	P	**Pn**	**00 24 12.6**	**+0.3**
SOH	**Sokhos**	**1.68**	**98**	P	**Pn**	**00 24 12.5**	**+0.2**
SOH				AML	AML	00 24 40.4	
	comp=N,403μm,0.5s						
SOH				AML	AML	00 24 44.1	
	comp=E,697μm,0.6s						
ULC	**Ulcinj**	**1.70**	**302**	⇓*i*Pn	**Pb**	**00 24 13.7**	**-0.6**
ULC				*e*Sn	**Sg**	**00 24 38.4**	**+0.6**
ULC	**Ulcinj**	**1.70**	**302**	*e*Pn	**Pb**	**00 24 13.9**	**-0.4**
KEK	**Kerkira**	**1.71**	**218**	P	**Pb**	**00 24 15.0**	**+0.6**
KEK	**Kerkira**	**1.71**	**218**	P	**Pn**	**00 24 13.5**	**+0.8**
KEK				S	**Sn**	**00 24 35.6**	**+1.1**
KEK				AML	AML	00 24 40.2	
	comp=E,700μm,0.3s						
KEK				AML	AML	00 24 46.2	
	comp=N,840μm,0.7s						
BOSS	**Bosilegrad**	**1.73**	**34**	*e*Pg	**Pn**	**00 24 13.8**	**+0.8**
BOSS				*e*Sg	**Sg**	**00 24 38.1**	**-0.8**
PVY	**Plav**	**1.77**	**330**	⇑*i*Pn	**Pb**	**00 24 15.6**	**0.0**
PVY				*e*Sn	**Sg**	**00 24 40.0**	**-0.2**
BARS	**Barje**	**1.81**	**15**	*e*Pg	**Pn**	**00 24 15.1**	**+1.0**
BARS	**Barje**	**1.81**	**15**	*e*Pn	Pg	00 24 31.0	+13
BARS				*e*Sg	**Sg**	**00 24 40.7**	**-0.8**
SRS	**Serrai**	**1.83**	**88**	P	**Pn**	**00 24 14.7**	**+0.3**
SRS	**Serrai**	**1.83**	**88**	*i* Pn	**Pn**	**00 24 14.5**	**+0.1**
SRS	**Serrai**	**1.83**	**88**	P	**Pn**	**00 24 14.6**	**+0.1**
DRME	**Dracevica, Mon**	**1.86**	**308**	*e*Pn	**Pb**	**00 24 17.5**	**+0.5**
PLG	**Polygyros**	**1.87**	**111**	P	**Pn**	**00 24 15.7**	**+0.8**
PLG	**Polygyros**	**1.87**	**111**	P	**Pn**	**00 24 15.5**	**+0.6**
PDG	**Podgorica**	**1.98**	**314**	*e*Pn	**Pb**	**00 24 18.4**	**-0.6**
PDG	**Podgorica**	**1.98**	**314**	⇑*i*P	**Pb**	**00 24 18.3**	**-0.7**
PDG	**Podgorica**	**1.98**	**314**	S	**Sb**	**00 24 42.6**	**-0.9**
PDG	**Podgorica**	**1.98**	**314**	*e*Pn	**Pb**	**00 24 19.1**	**+0.1**
PDG				*e*Sn	**Sg**	**00 24 47.2**	**+0.6**
PDG	**Podgorica**	**1.98**	**314**	*e*Pn	**Pb**	**00 24 18.7**	**-0.3**
TTG	**Podgorica**	**1.98**	**314**	⇑*i*Pn	**Pb**	**00 24 18.6**	**-0.4**
TTG				*e*Sn	**Sg**	**00 24 44.9**	**-1.7**
MMB	**Musomiste**	**2.00**	**74**	*e*Pn	**Pb**	**00 24 18.6**	**-0.8**
MMB	**Musomiste**	**2.00**	**74**	P	**Pb**	**00 24 18.4**	**-1.0**
BEY	**Berane**	**2.04**	**333**	*e*Pn	**Pb**	**00 24 18.9**	**-1.2**
IVA	**Berane**	**2.04**	**333**	⇓*i*Pn	**Pb**	**00 24 19.1**	**-1.0**
IVA				*e*Sn	**Sg**	**00 24 47.0**	**-1.7**
NVR	**Nevrokopi**	**2.05**	**81**	P	**Pn**	**00 24 18.9**	**+1.4**
NVR	**Nevrokopi**	**2.05**	**81**	P	**Pn**	**00 24 17.9**	**+0.4**
NVR				AML	AML	00 24 55.4	
	comp=N,185μm,1.3s						
NVR				AML	AML	00 24 58.2	
	comp=E,158μm,0.9s						
BUM	**Brajici-Budva**	**2.10**	**307**	⇓*i*Pn	**Pb**	**00 24 19.9**	**-1.3**
BUM				*e*Sn	**Sg**	**00 24 48.8**	**-1.9**
FYTO	**Fytoko, Volos**	**2.14**	**140**	P	**Pn**	**00 24 18.1**	**-0.5**
SELS	**Selova**	**2.15**	**359**	*e*Pn	**Pn**	**00 24 18.9**	**+0.1**
KOME	**Kolasin**	**2.17**	**326**	⇓*i*Pn	**Pb**	**00 24 21.1**	**-1.2**
KOME				*e*Sn	**Sb**	**00 24 49.8**	**+0.7**
VTS	**Vitosha**	**2.19**	**44**	*e*Pn	**Pn**	**00 24 20.4**	**+1.0**
VTS	**Vitosha**	**2.19**	**44**	P	**Pn**	**00 24 20.2**	**+0.8**
VTS	**Vitosha**	**2.19**	**44**	⇑*i*P	**Pn**	**00 24 22.9**	**+0.2**
VTS	**Vitosha**	**2.19**	**44**	P	**Pn**	**00 24 20.5**	**+1.0**
EVR	**Evrytania**	**2.20**	**167**	P	**Pn**	**00 24 21.1**	**+1.5**
EVR	**Evrytania**	**2.20**	**167**	P	**Pn**	**00 24 19.7**	**+0.2**
EVR				AML	AML	00 25 00.6	
	comp=N,458μm,0.6s						
EVR				AML	AML	00 25 06.6	
	comp=E,472μm,0.6s						
PAIG	**Paliouri**	**2.23**	**120**	P	**Pn**	**00 24 19.6**	**-0.3**
AGG	**Agios Georgios**	**2.23**	**156**	P	**Pn**	**00 24 20.2**	**+0.3**
AGG	**Agios Georgios**	**2.23**	**156**	P	**Pn**	**00 24 20.1**	**+0.3**
AGG				AML	AML	00 25 07.6	
	comp=E,476μm,1.1s						
AGG				AML	AML	00 25 10.9	
	comp=N,489μm,1.0s						
CEME	**Cevo**	**2.24**	**312**	⇓*i*Pn	**Pb**	**00 24 22.4**	**-1.1**
CEME				*e*Sn	**Sb**	**00 24 52.0**	**+0.8**
OUR	**Ouranopolis**	**2.26**	**108**	P	**Pn**	**00 24 20.3**	**+0.1**
TSLK	**Tsoukalades, L**	**2.27**	**190**	P	**Pn**	**00 24 20.6**	**+0.2**
XOR	**Xorichti**	**2.30**	**137**	P	**Pn**	**00 24 20.3**	**-0.5**
XOR	**Xorichti**	**2.30**	**137**	P	**Pn**	**00 24 20.0**	**-0.8**
LKD2	**Lefkada island**	**2.31**	**190**	P	**Pn**	**00 24 21.4**	**+0.4**
NEO	**Neokhori**	**2.36**	**137**	P	**Pn**	**00 24 21.2**	**-0.5**
NEO	**Neokhori**	**2.36**	**137**	P	**Pn**	**00 24 21.3**	**-0.3**
SJES	**Sjenica**	**2.37**	**338**	*e*Pn	**Pn**	**00 24 23.1**	**+1.3**
NKME	**Niksic**	**2.37**	**317**	*e*Pn	**Pb**	**00 24 26.1**	**+0.4**
NKY	**Niksic**	**2.38**	**318**	⇑*i*Pn	**Pb**	**00 24 24.3**	**-1.7**
NKY				*e*Sn	**Sb**	**00 24 55.4**	**+0.1**
HCY	**Herceg Novi**	**2.43**	**305**	⇓*i*Pn	**Pn**	**00 24 24.2**	**+1.6**
HCY				*e*Sn	**Sb**	**00 24 56.5**	**-0.1**
HCY	**Herceg Novi**	**2.43**	**305**	*e*Pn	**Pb**	**00 24 27.7**	**+1.0**
ZAPS	**Zavoj**	**2.46**	**26**	*e*Pn	**Pn**	**00 24 24.7**	**+1.7**
PVO	**Paravola**	**2.46**	**173**	P	**Pb**	**00 24 25.8**	**-1.5**
PVO	**Paravola**	**2.46**	**173**	P	**Pn**	**00 24 23.8**	**+0.7**
PDO	**Prodromos**	**2.47**	**180**	P	**Pn**	**00 24 24.6**	**+1.5**
EVGI	**Lefkada island**	**2.48**	**189**	P	**Pn**	**00 24 23.9**	**+0.7**
KAVA	**Kavala**	**2.53**	**91**	P	**Pn**	**00 24 23.9**	**-0.1**
ANX	**Ano Chora**	**2.54**	**167**	P	**Pn**	**00 24 25.7**	**+1.5**
ANX	**Ano Chora**	**2.54**	**167**	P	**Pn**	**00 24 24.8**	**+0.7**
BOVS	**Bovan**	**2.60**	**9**	*e*Pn	**Pn**	**00 24 25.6**	**+0.7**
IVAS	**Ivanjica**	**2.62**	**344**	*e*Pn	**Pn**	**00 24 25.4**	**+0.2**
PLE	**Pljevlja**	**2.62**	**330**	⇓*i*Pn	**Pn**	**00 24 26.8**	**+1.5**
PLE				*e*Sn	**Sb**	**00 25 00.5**	**-1.7**
FSK	**Fiskardo**	**2.65**	**190**	P	**Pn**	**00 24 26.1**	**+0.6**
TREB	**Trebinje**	**2.67**	**309**	*e*Pn	**Pn**	**00 24 28.3**	**+2.4**
TREB	**Trebinje**	**2.67**	**309**	*e*Pn	**Pn**	**00 24 28.1**	**+2.2**
BRY	**Bratogost**	**2.68**	**314**	⇑*i*Pn	**Pn**	**00 24 27.5**	**+1.3**
BRY				*e*Sn	**Sb**	**00 25 02.6**	**-1.4**
BRY	**Bratogost**	**2.68**	**314**	*e*Pn	**Pb**	**00 24 28.7**	**-2.4**
SMIA	**Simia**	**2.69**	**144**	P	**Pn**	**00 24 26.5**	**+0.3**
SMIA	**Simia**	**2.69**	**144**	P	**Pn**	**00 24 26.4**	**+0.2**
EFP	**Efpalio**	**2.70**	**168**	P	**Pn**	**00 24 27.6**	**+1.3**
EFP	**Efpalio**	**2.70**	**168**	P	**Pn**	**00 24 27.5**	**+1.2**
UPM	**Unac-Piva**	**2.72**	**323**	⇑*i*Pn	**Pn**	**00 24 28.6**	**+1.9**
UPM				*e*Sn	**Sb**	**00 25 02.9**	**-2.2**
UPM	**Unac-Piva**	**2.72**	**323**	*e*Pn	**Pb**	**00 24 30.5**	**-1.2**
SERG	**Sergoula**	**2.74**	**165**	P	**Pn**	**00 24 27.6**	**+0.7**
SERG	**Sergoula**	**2.74**	**165**	P	**Pn**	**00 24 27.3**	**+0.5**
ATAL	**Atalanti**	**2.77**	**148**	P	**Pn**	**00 24 29.3**	**+2.0**
ATAL	**Atalanti**	**2.77**	**148**	P	**Pn**	**00 24 27.6**	**+0.4**
KALE	**Kalithea**	**2.78**	**164**	P	**Pn**	**00 24 27.3**	**-0.1**
TRIZ	**Trizonia**	**2.79**	**165**	P	**Pn**	**00 24 27.8**	**+0.3**
LKR	**Lokris**	**2.80**	**149**	P	**Pn**	**00 24 27.8**	**+0.2**
GRUS	**Gruza**	**2.84**	**353**	*e*Pn	**Pn**	**00 24 29.1**	**+0.9**
DSF	**Desfina**	**2.85**	**158**	P	**Pn**	**00 24 28.6**	**+0.1**
ZAGS	**Zajecar**	**2.85**	**16**	*e*Pn	**Pn**	**00 24 29.2**	**+0.8**
LAKA	**Lakka**	**2.89**	**167**	P	**Pn**	**00 24 30.2**	**+1.2**
VLS	**Valsamata**	**2.92**	**189**	P	**Pn**	**00 24 29.3**	**-0.1**
MRKA	**Markates**	**3.00**	**141**	P	**Pn**	**00 24 30.4**	**-0.2**
BBLS	**Lazići**	**3.08**	**336**	*e*Pn	**Pn**	**00 24 33.0**	**+1.3**
BBLS	**Lazići**	**3.08**	**336**	*e*Pn	**Pn**	**00 24 32.8**	**+1.1**
PROD	**Prodromos**	**3.11**	**154**	P	**Pn**	**00 24 32.6**	**+0.7**
KLV	**Kalavryta, Ach**	**3.11**	**166**	P	**Pn**	**00 24 32.2**	**+0.2**
DRO	**Drossia**	**3.14**	**172**	P	**Pn**	**00 24 33.9**	**+1.5**
DIVS	**Divibare**	**3.15**	**344**	*e*Pn	**Pn**	**00 24 32.9**	**+0.3**
DIVS	**Divibare**	**3.15**	**344**	*e*Pn	**Pn**	**00 24 32.8**	**+0.2**
STON	**Ston**	**3.15**	**306**	*e*Pn	**Pn**	**00 24 34.1**	**+1.6**
STON	**Ston**	**3.15**	**306**	*e*Pn	**Pb**	**00 24 38.6**	**-0.4**
STON	**Ston**	**3.15**	**306**	*e*Pn	**Pb**	**00 24 37.2**	**-1.8**
TRUS	**Trudelj**	**3.20**	**350**	*e*Pn	**Pn**	**00 24 34.0**	**+0.8**
GUR	**Goura**	**3.26**	**163**	P	**Pn**	**00 24 34.8**	**+0.7**
VIL2	**Platees**	**3.28**	**150**	P	**Pn**	**00 24 35.3**	**+1.0**
RDO	**Rodhopi**	**3.30**	**87**	P	**Pn**	**00 24 34.8**	**+0.2**
LTK	**Loutraki**	**3.34**	**155**	P	**Pn**	**00 24 35.0**	**-0.2**
KUBS	**Kucevo**	**3.36**	**6**	*e*Pn	**Pn**	**00 24 35.0**	**-0.4**
MATE	**Matera**	**3.41**	**264**	⇑*i*P	**Pn**	**00 24 38.9**	**+2.9**
HAPS	**Han Pijesak,Bl**	**3.43**	**332**	*e*Pn	**Pn**	**00 24 37.3**	**+0.8**
HAPS	**Han Pijesak,Bl**	**3.43**	**332**	*e*Pn	**Pn**	**00 24 37.0**	**+0.5**
PUNG	**Punghina**	**3.46**	**21**	⇑*i*P	**Pn**	**00 24 38.4**	**+1.6**
PTL	**Penteli**	**3.67**	**144**	P	**Pn**	**00 24 39.2**	**-0.4**
TEKS	**Tekeris**	**3.68**	**341**	*e*Pn	**Pn**	**00 24 40.8**	**+1.0**
TEKS	**Tekeris**	**3.68**	**341**	*e*Pn	**Pn**	**00 24 41.0**	**+1.2**
ALN	**Alexandroupoli**	**3.70**	**91**	P	**Pn**	**00 24 40.3**	**+0.3**
MDVR	**Moldovita**	**3.73**	**6**	⇓*i*P	**Pn**	**00 24 42.8**	**+2.2**
SRE	**Strehaia**	**3.89**	**22**	⇓*i*P	**Pn**	**00 24 44.3**	**+1.6**
DID	**Didima**	**3.90**	**155**	P	**Pn**	**00 24 43.4**	**+0.6**
HERR	**Herculane**	**3.92**	**13**	⇑*i*P	**Pn**	**00 24 43.9**	**+0.8**
ITM	**Ithomi**	**3.93**	**171**	P	**Pn**	**00 24 44.8**	**+1.6**
PYL	**PYLOS**	**4.19**	**174**	P	**Pn**	**00 24 46.7**	**-0.1**
FRGS	**Fruska Gora**	**4.21**	**347**	*e*Pn	**Pn**	**00 24 47.3**	**+0.3**
FRGS	**Fruska Gora**	**4.21**	**347**	*e*Pn	**Pn**	**00 24 47.4**	**+0.4**
DOB	**Doboj**	**4.30**	**329**	*e*Pn	**Pn**	**00 24 45.5**	**-2.8**
GZR	**Gura Zlata**	**4.48**	**15**	⇓*i*P	**Pn**	**00 24 53.7**	**+2.9**
BZS	**Buzias**	**4.56**	**4**	*e*Pn	**Pn**	**00 24 51.3**	**-0.5**
BLY	**Banja Luka**	**4.70**	**323**	*e*Pn	**Pn**	**00 24 55.3**	**+1.5**
BLY	**Banja Luka**	**4.70**	**323**	⇓*i*P	**Pn**	**00 24 55.0**	**+1.2**
BLY	**Banja Luka**	**4.70**	**323**	*e*Pn	**Pn**	**00 24 54.7**	**+0.9**
LOT	**Lotru**	**4.77**	**23**	⇑*i*P	**Pn**	**00 24 55.8**	**+0.9**
ARR	**Arges**	**4.99**	**29**	⇑*i*P	**Pn**	**00 24 58.9**	**+1.1**
VOIR		**5.21**	**32**	⇑*i*P	**Pn**	**00 25 04.3**	**+3.5**
SIRR	**Siria**	**5.21**	**4**	⇑*i*P	**Pn**	**00 25 01.3**	**+0.5**
UDBI	**Udbina**	**5.27**	**313**	*i* Pn	**Pn**	**00 25 04.3**	**+2.6**
MORH	**Mrgy, Hungar**	**5.46**	**341**	*e*P	**Pn**	**00 25 03.1**	**-1.1**
MORH				Sn	**Sn**	**00 26 08.1**	**+1.2**
MLR	**Muntele Rosu**	**5.63**	**37**	⇑*i*P	**Pn**	**00 25 10.3**	**+3.6**
ICOR	**Ion Corvin**	**5.77**	**56**	⇑*i*P	**Pn**	**00 25 13.1**	**+4.7**
DOPR	**Dopca**	**5.78**	**31**	⇓*i*P	**Pn**	**00 25 12.0**	**+3.4**
NVLI	**Novalja**	**5.80**	**309**	*e*Pn	**Pn**	**00 25 09.9**	**+1.0**
DRGR		**5.83**	**11**	⇑*i*P	**Pn**	**00 25 12.2**	**+2.8**
PLOR	**Plostina**	**6.23**	**38**	⇑*i*P	**Pn**	**00 25 18.3**	**+3.5**
VRI	**Vrincioaia**	**6.27**	**38**	⇑*i*P	**Pn**	**00 25 19.1**	**+3.7**
CRES	**Cresnjev**	**6.32**	**321**	*e*Pn	**Pn**	**00 25 17.3**	**+1.3**
RIY	**Rijeka**	**6.48**	**313**	*e*Pn	**Pn**	**00 25 19.7**	**+1.5**
CFR	**Carcaliu**	**6.55**	**49**	⇓*i*P	**Pn**	**00 25 23.5**	**+4.4**
CSKK	**Cskako**	**6.63**	**343**	*e*P	**Pn**	**00 25 21.1**	**+0.8**
CSKK				Sn	**Sn**	**00 26 38.0**	**+2.3**
CEY	**Cerknica**	**6.77**	**316**	*e*Pn	**Pn**	**00 25 24.0**	**+1.7**
CEY	**Cerknica**	**6.77**	**316**	*e*Pn	**Pn**	**00 25 24.0**	**+1.7**
PSZ	**Piszkesteto**	**6.91**	**353**	⇑*i*P	**Pn**	**00 25 25.1**	**+0.9**
PSZ	**Piszkesteto**	**6.91**	**353**	*e*P	**Pn**	**00 25 25.0**	**+0.9**
PSZ				Sn	**Sn**	**00 26 45.1**	**+2.4**
SRO2	**Moca**	**6.98**	**344**	*e*SN	**Sn**	**00 26 43.7**	**-0.6**
SOKA	**Soboth**	**7.15**	**324**	*i* Pn	**Pn**	**00 25 29.2**	**+1.8**
	comp=N,0.4nm,0.2s						
ARSA	**Arzberg**	**7.39**	**329**	*e*Pn	**Pn**	**00 25 32.3**	**+1.5**
	comp=N,0.7nm,0.2s						
VYHS	**Vyhne**	**7.61**	**348**	*e*PN	**Pn**	**00 25 35.7**	**+2.0**
VYHS				*e*SN	**Sn**	**00 26 58.2**	**-1.6**
MODS	**Modra-Piesok**	**7.81**	**341**	*e*PN	**Pn**	**00 25 34.8**	**-1.7**
MODS				*e*SN	**Sn**	**00 27 04.8**	**0.0**
KOLS	**Kolonicke sedl**	**7.90**	**5**	*e*PN	**Pn**	**00 25 40.6**	**+2.8**
KBA	**Koelnbreinsper**	**8.23**	**319**	*e*Pn	**Pn**	**00 25 43.2**	**+0.8**
	comp=N,0.2nm,0.1s						
ABTA	**Abfaltersbach**	**8.44**	**315**	*i* Pn	**Pn**	**00 25 47.2**	**+2.0**
	comp=N,0.7nm,0.2s						
WTTA	**Wattenberg**	**9.23**	**315**	*i* Pn	**Pn**	**00 25 58.4**	**+2.2**
	comp=N,0.7nm,0.2s						
WATA	**Walderalm**	**9.31**	**316**	*e*Pn	**Pn**	**00 25 59.3**	**+2.2**
	comp=N,1.3nm,0.3s						
GERES	**GERESS Array B**	**9.40**	**328**	Pn	**Pn**	**00 26 02.5**	**+4.2**
	comp=N,0.2nm,0.3s,baz=153,slow=12,SNR=5.2						
SQTA	**Sankt Quirin**	**9.43**	**314**	*i* Pn	**Pn**	**00 26 00.9**	**+2.0**
	comp=N,1.2nm,0.3s						

*DSN **26** 00:28:29.8±2.1, 26°.77N×58°.53E, h10km, ML3.8/7, Error ellipse: s-maj=31.2km s-min=8.5km az=5.0*
*ISCJB **26** 00:28:36.8±0.5, 26°.76N±0°.03×57°.81E±0°.06, h10km, Error ellipse: s-maj=7.3km s-min=4.2km az=9.1*
*TEH **26** 00:28:37.5, 26°.82N×57°.79E, h18km, ML3.5*
ISC 26 00:28:36.4±1.1, 26°.66N±0°.04×57°.92E±0°.05, h10km, n39, σ1$74/38, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.02**	**187**	*e*Pg	**Pn**	**00 28 59.7**	**+2.9**
KHNJ	**Kahnooj**	**1.30**	**352**	*e*Pg	**Pn**	**00 28 58.4**	**-2.2**
KHNJ				*e*Sg	**Sb**	**00 29 14.7**	**-3.0**
NIAN	**Nian**	**1.32**	**313**	*e*Pg	**Pn**	**00 29 01.7**	**+0.8**
SHME	**Shamm**	**1.70**	**250**	*e*P	**Pb**	**00 29 07.5**	**-0.3**
	SNR=9.9						
SHME				S	**Sg**	**00 29 36.0**	**+4.8**
SHME	**Shamm**	**1.70**	**250**	*e*Pn	**Pb**	**00 29 07.5**	**-0.3**
GENO	**Geno**	**1.72**	**296**	IAMB	IAmb	00 29 45.8	
	comp=Z,0.0nm,0.3s					

KTMS	**Ketmen** 1.4nm,0.1s	**1.03**	**29**	P	**Pg**	**01 14 32.5**	**+0.4**
KTMS	11nm,0.2s			S	**Sb**	**01 14 46.4**	**-0.7**
KTMS	**Ketmen** 1.4nm,0.1s	**1.03**	**29**	*eP*	**Pg**	**01 14 32.5**	**+0.4**
KTMS	11nm,0.2s			*eS*	**Sb**	**01 14 46.4**	**-0.7**
SATY	**Saty** 8.3nm,0.2s	**1.07**	**299**	P	**Pn**	**01 14 34.2**	**-0.2**
SATY	18nm,0.1s			S	**Sn**	**01 14 49.5**	**-0.4**
SATY	**Saty** 8.3nm,0.2s	**1.07**	**299**	*eP*	**Pn**	**01 14 34.2**	**-0.2**
SATY	18nm,0.1s			*eS*	**Sn**	**01 14 49.5**	**-0.4**
KPKS	**Kokpek** baz=25	**1.18**	**322**	*eP*	**Pb**	**01 14 34.1**	**-1.3**
KPKS	baz=25			*eS*	**Sg**	**01 14 49.3**	**-0.8**
KPKS	**Kokpek** 5.8nm,0.1s	**1.18**	**322**	*eP*	**Pb**	**01 14 34.1**	**-1.3**
KPKS	7.6nm,0.3s			*eS*	**Sg**	**01 14 49.3**	**-0.8**
KURS	**Kuram** 2.9nm,0.6s	**1.46**	**311**	P	**Pb**	**01 14 39.7**	**-0.4**
KURS	5.3nm,0.4s			S	**Sg**	**01 14 58.8**	**-0.2**
KURS	**Kuram** baz=13	**1.46**	**311**	*eP*	**Pb**	**01 14 39.7**	**-0.4**
KURS	baz=13			*eS*	**Sg**	**01 14 58.8**	**-0.2**
KURS	**Kuram** 7.5nm,1.2s	**1.46**	**311**	*eP*	**Pb**	**01 14 39.7**	**-0.4**
KURS	2.9nm,0.2s			*eS*	**Sg**	**01 14 58.8**	**-0.2**
TARG	**Taragay, Kyrgy** baz=39	**1.61**	**240⇑**	*eP*	**Pn**	**01 14 41.2**	**-0.9**
TARG	baz=39		⇑	*iS*	**Sn**	**01 15 02.4**	**-1.3**
DJR	**Jarkent** 4.1nm,0.3s	**1.79**	**3**	P	**Pb**	**01 14 45.6**	**-0.3**
DJR	4.2nm,0.2s			S	**Sg**	**01 15 09.6**	**-0.2**
DJR	**Jarkent** 4.1nm,0.3s	**1.79**	**3**	*eP*	**Pb**	**01 14 45.6**	**-0.3**
DJR	4.2nm,0.2s			*eS*	**Sg**	**01 15 08.8**	**-1.0**
MNBS	**Baschi** 7.3nm,0.2s	**1.80**	**329**	P	**Pb**	**01 14 46.1**	**+0.2**
MNBS	15nm,0.1s			S	**Sg**	**01 15 09.8**	**-0.2**
MNBS	**Baschi** 7.3nm,0.2s	**1.80**	**329**	*eP*	**Pb**	**01 14 46.1**	**+0.2**
MNBS	15nm,0.1s			*eS*	**Sg**	**01 15 09.8**	**-0.2**
KDJ	**Kajisay** baz=58	**1.90**	**258⇑**	*eP*	**Pn**	**01 14 46.3**	**+0.5**
KDJ	baz=58		⇑	*eS*	**Sb**	**01 15 11.0**	**-0.9**
KOTS	**Kotyrbulak** 2.8nm,0.3s	**2.01**	**291**	Pg	**Pb**	**01 14 49.4**	**-0.2**
KOTS	16nm,0.5s			Lg	Lg	01 15 15.3	
KOTS	**Kotyrbulak** baz=92	**2.01**	**291**	*eP*	**Pb**	**01 14 49.4**	**-0.2**
KOTS	baz=92			*eS*	**Sb**	**01 15 15.3**	**+0.2**
KOTS	**Kotyrbulak** 2.8nm,0.3s	**2.01**	**291**	*eP*	**Pb**	**01 14 49.4**	**-0.2**
KOTS	16nm,0.5s			*eS*	**Sb**	**01 15 15.3**	**+0.2**
MDOK	**Medeo** 1.0nm,0.6s	**2.03**	**289**	Pn	**Pn**	**01 14 47.7**	**+0.1**
MDOK	4.2nm,0.4s			Sn	**Sb**	**01 15 15.5**	**-0.2**
MDOK	**Medeo** 1.6nm,0.2s	**2.03**	**289**	Pg	**Pb**	**01 14 49.3**	**-0.7**
MDOK	5.1nm,0.3s			Lg	Lg	01 15 15.8	
MDOK	**Medeo** baz=90	**2.03**	**289**	*eP*	**Pb**	**01 14 49.3**	**-0.7**
MDOK	baz=90			*eS*	**Sb**	**01 15 15.2**	**-0.5**
MDOK	**Medeo** 1.6nm,0.2s	**2.03**	**289**	*eP*	**Pb**	**01 14 49.3**	**-0.7**
MDOK	5.1nm,0.3s			*eS*	**Sb**	**01 15 15.3**	**-0.5**
TNSS	**Tian-Shan** 2.0nm,0.4s	**2.07**	**285**	Pg	**Pb**	**01 14 50.0**	**-0.8**
TNSS	4.2nm,0.3s			Lg	Lg	01 15 16.9	
TNSS	**Tian-Shan** baz=86	**2.07**	**285**	⇓ *iP*	**Pb**	**01 14 50.0**	**-0.8**
TNSS	baz=86			⇓ *eS*	**Sb**	**01 15 16.5**	**-0.6**
TNSS	**Tian-Shan** 2.0nm,0.4s	**2.07**	**285**	⇓ *iP*	**Pb**	**01 14 50.0**	**-0.8**
TNSS	4.1nm,0.2s			*eS*	**Sb**	**01 15 16.5**	**-0.6**
ARXS	**Arharly** 1.8nm,0.4s	**2.15**	**322**	Pg	**Pb**	**01 14 51.5**	**-0.4**
ARXS	7.8nm,0.3s			Lg	Lg	01 15 18.9	
ARXS	**Arharly** 1.8nm,0.4s	**2.15**	**322**	*eP*	**Pb**	**01 14 51.5**	**-0.4**
ARXS	7.8nm,0.3s			*eS*	**Sb**	**01 15 18.9**	**-0.1**
KTBS	**Karatobe** 1.2nm,0.3s	**2.48**	**299**	Pg	**Pb**	**01 14 57.3**	**-0.4**
KTBS	20nm,0.4s			Lg	Lg	01 15 28.8	
KTBS	**Karatobe** baz=99	**2.48**	**299**	*eP*	**Pb**	**01 14 57.3**	**-0.4**
KTBS	baz=99			*eS*	**Sb**	**01 15 28.8**	**+0.1**
KTBS	**Karatobe** 1.2nm,0.3s	**2.48**	**299**	*eP*	**Pb**	**01 14 57.3**	**-0.4**
KTBS	20nm,0.4s			*eS*	**Sb**	**01 15 28.8**	**+0.1**
ULHL	**Ulahol** baz=64	**2.56**	**265⇑**	*eP*	**Pn**	**01 14 56.0**	**+1.0**
ULHL	baz=64		⇑	*iS*	**Sn**	**01 15 27.1**	**+0.2**
BOOM	**Boomskoye usch** baz=70	**2.76**	**270**	⇑ *iP*	**Pn**	**01 14 59.2**	**+1.4**
BOOM	baz=70		⇑	*iS*	**Sn**	**01 15 32.7**	**+0.9**
KUU	**Kurty** 0.8nm,0.3s	**2.79**	**300**	Pg	**Pb**	**01 15 02.0**	**-0.8**
KUU	6.0nm,0.3s			Lg	Lg	01 15 37.0	
KUU	**Kurty** 0.8nm,0.3s	**2.79**	**300**	*eP*	**Pb**	**01 15 02.0**	**-0.8**
KUU	6.0nm,0.3s			*eS*	**Sb**	**01 15 37.0**	**-0.4**
DGS	**Degeres** 2.2nm,0.3s	**2.95**	**285**	*eP*	**Pb**	**01 15 05.2**	**-0.4**
DGS	11nm,0.6s			*eS*	**Sb**	**01 15 42.4**	**+0.1**
NRN	**Naryn** baz=49	**2.96**	**249**	⇑ *iP*	**Pn**	**01 15 02.2**	**+1.7**
NRN	baz=49		⇑	*iS*	**Sn**	**01 15 37.1**	**+0.3**
TKM2	**Tokmak 2** baz=79	**3.03**	**279**	⇑ *iP*	**Pn**	**01 15 03.0**	**+1.5**
TKM2	baz=79		⇑	*iS*	**Sn**	**01 15 39.4**	**+1.0**
KZA	**Kyzart** baz=63	**3.32**	**263**	⇑ *iP*	**Pn**	**01 15 06.9**	**+1.3**
KZA	baz=63		⇑	*iS*	**Sn**	**01 15 46.2**	**+0.4**

*ISCJB **26** 01:21:06.7±0.6,20°.17S±0°.03×69°.20W±0°.08,h119km±6km, mb3.5/1,Error ellipse: s-maj=13.2km s-min=4.5km az=175.5*
*SJA **26** 01:21:07.1±0.5,20°.19S×69°.15W,h105km±2km,ML2.6, MW3.4*
*GUC **26** 01:21:07.3±0.6,20°.15S×69°.09W,h108km±3km,ML3.6*
*IDC **26** 01:21:08.3±1.9,20°.24S×68°.77W,h120km±18km,mb3.4/2, mb1 3.3/6,mb1mx3.1/32,mbtmp3.6/6,Error ellipse: s-maj=42.7km s-min=15.8km az=102.0*
ISC 26 01:21:06.4±0.9,**20°.15S**±0°.03×**69°.10W**±0°.07,**h110**km±7km, **n29**,σ1§**26**/47,**6C**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.05**	**281**	*eP*	**Pn**	**01 21 22.6**	**+0.6**
PB08				*eS*	**Sn**	**01 21 34.1**	**+0.5**
PB08	**IPOC Station P**	**0.05**	**281**	⇑ *iP*	**Pn**	**01 21 22.5**	**+0.5**
PB08				*i S*	**Sn**	**01 21 33.8**	**+0.1**
PB08	comp=E,6μm,0.1s			IAML		01 21 34.5	
PB11	**IPOC Station P**	**0.65**	**307**	*eP*	**Pn**	**01 21 25.1**	**+0.6**
PB11				*eS*	**Sn**	**01 21 38.8**	**+0.7**
PB11	**IPOC Station P**	**0.65**	**307**	⇑ *iP*	**Pn**	**01 21 25.1**	**+0.6**
PB11				*eS*	**Sn**	**01 21 38.3**	**+0.1**
PB11	comp=N,5μm,0.5s			IAML		01 21 39.5	
PB01	**IPOC Station P**	**0.96**	**202**	⇑ *iP*	**Pn**	**01 21 28.1**	**+0.8**
PB01				*i S*	**Sn**	**01 21 43.6**	**+0.6**
PB01	comp=N,3μm,0.2s			IAML		01 21 45.0	
PSGC	**Pisagua**	**1.11**	**300**	⇑ *iP*	**Pn**	**01 21 29.4**	**+0.6**
PSGC				*i S*	**Sn**	**01 21 46.0**	**+0.3**
PSGC	comp=N,1μm,0.3s			IAML		01 21 47.7	
MNMCX	**Minye Minye**	**1.11**	**335**	*eP*	**Pn**	**01 21 30.6**	**+1.5**
MNMCX				*eS*	**Sn**	**01 21 47.9**	**+1.6**
PB02	**IPOC Station P**	**1.38**	**212**	*eP*	**Pn**	**01 21 32.9**	**+1.0**
PB02	**IPOC Station P**	**1.38**	**212**	⇑ *iP*	**Pn**	**01 21 32.7**	**+0.8**
PB02				*i S*	**Sn**	**01 21 52.2**	**+0.9**
PB02	comp=E,1μm,0.4s			IAML		01 21 53.4	
PB09	**IPOC Station P**	**1.64**	**185**	*eP*	**Pn**	**01 21 36.2**	**+1.1**
PB09				*eS*	**Sn**	**01 21 57.8**	**+0.9**
PB09	**IPOC Station P**	**1.64**	**185**	*eP*	**Pn**	**01 21 36.2**	**+1.1**
PB09				*i S*	**Sn**	**01 21 58.3**	**+1.3**
PB09	comp=E,300nm,0.4s			IAML		01 22 05.6	
PB07	**IPOC Station P**	**1.73**	**205**	*eP*	**Pn**	**01 21 37.0**	**+0.9**
PB07				*eS*	**Sn**	**01 21 58.9**	**0.0**
PB07	**IPOC Station P**	**1.73**	**205**	*eP*	**Pn**	**01 21 37.1**	**+0.9**
PB07				*i S*	**Sn**	**01 21 59.6**	**+0.7**
PB07	comp=E,570nm,0.4s			IAML		01 22 04.5	
PB16	**IPOC Station P**	**1.85**	**348**	*eP*	**Pn**	**01 21 40.0**	**+1.9**
PB16	**IPOC Station P**	**1.85**	**348**	*eP*	**Pn**	**01 21 39.6**	**+1.5**
PB16				*i S*	**Sn**	**01 22 04.2**	**+2.1**
PB12	**IPOC Station P**	**1.92**	**323**	*eP*	**Pn**	**01 21 39.0**	**+0.5**
PB12	**IPOC Station P**	**1.92**	**323**	⇑ *iP*	**Pn**	**01 21 38.9**	**+0.4**
PB12				*i S*	**Sn**	**01 22 01.8**	**-1.1**
PB03	**IPOC Station P**	**1.98**	**198**	*eP*	**Pn**	**01 21 40.2**	**+0.9**
PB03				*eS*	**Sn**	**01 22 04.8**	**+0.3**
PB03	**IPOC Station P**	**1.98**	**198**	*eP*	**Pn**	**01 21 40.0**	**+0.6**
PB03				*i S*	**Sn**	**01 22 04.3**	**-0.2**
PB03	comp=N,276nm,0.1s			IAML		01 22 08.8	
LVC	**Limon Verde**	**2.45**	**176**	*eP*	**Pn**	**01 21 47.0**	**+1.4**
LVC				*eS*	**Sn**	**01 22 16.5**	**+0.9**
LVC	comp=Z,36nm,0.1s			IAML		01 22 18.9	
LVC	**Limon Verde**	**2.45**	**176**	P	**Pn**	**01 21 46.9**	**+1.3**
	comp=Z,6.2nm,0.3s,baz=2.5,slow=14,SNR=26						
LVC				S	**Sn**	**01 22 16.6**	**+1.1**
	comp=Z,22nm,0.3s,baz=108,slow=19,SNR=20						
PB06	**IPOC Station P**	**2.58**	**190**	*eP*	**Pn**	**01 21 48.2**	**+1.1**
PB05	**IPOC Station P**	**2.88**	**201**	*eP*	**Pn**	**01 21 52.1**	**+1.2**
YJA	**Yavi**	**3.91**	**122**	*eP*	**Pn**	**01 22 07.5**	**+2.5**
YJA				IAML		01 22 11.3	
	comp=Z,5.0nm,0.7s						
LPAZ	**La Paz**	**3.95**	**14**	P	**Pn**	**01 22 08.4**	**+2.7**
	comp=Z,1.9nm,0.3s,baz=200,slow=9.1,SNR=53						
SIV	**San Ignacio**	**8.69**	**63**	P	**Pn**	**01 23 07.0**	**-2.3**
	comp=Z,0.7nm,0.3s,baz=262,slow=14,SNR=13						
CPUP	**Villa Florida**	**12.45**	**122**	P	**Pn**	**01 23 57.0**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=301,slow=14,SNR=3.3						
BDFB	**Brasilia**	**20.56**	**81**	P	**P**	**01 25 35.4**	**-1.2**
	comp=Z,1.8nm,0.5s,baz=254,slow=9.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**77.08**	**71**	P	**P**	**01 32 47.2**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=244,slow=5.4,SNR=13						

JMA 26 01:41:50.7±0.2,38°.44N×144°.40E,h46km,M3.8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.23**	**288**	P	Pn	01 42 26.5	+1.4
OFUJ				*eS*	Sn	01 42 53.0	+1.6
MIYJ	**Miyakonagasawa**	**2.31**	**300**	P	Pn	01 42 27.3	+1.1
MIYJ				S	Sn	01 42 54.8	+1.4
JIKH	**Ishinomakikobu**	**2.31**	**268**	P	Pn	01 42 27.4	+1.2
JIKH				S	Sn	01 42 54.4	+1.0
JKMT	**Kesennumamotoy**	**2.32**	**280**	P	Pn	01 42 27.7	+1.3
JKMT				S	Sn	01 42 55.2	+1.5
JMK	**Ichinoseki**	**2.54**	**283**	P	Pn	01 42 31.1	+1.7
JMK				*eS*	Sn	01 43 00.6	+1.5
JOM	**Ohasama**	**2.63**	**294**	P	Pn	01 42 32.4	+1.7
JOM				*eS*	Sn	01 43 03.0	+1.6
JANG	**Nango**	**2.95**	**312**	P	Pn	01 42 36.0	+0.9
JANG				*eS*	Sn	01 43 10.3	+1.0
JYK	**Kaneyama**	**3.20**	**280**	P	Pn	01 42 40.5	+2.1
JYK				*eS*	Sn	01 43 17.9	+2.6
JFT	**Otama**	**3.34**	**255**	P	Pn	01 42 42.4	+2.0
JFT				*eS*	Sn	01 43 20.5	+1.7
JOT	**Ohata**	**3.91**	**320**	P	Pn	01 42 49.3	+1.1
JOT				*eS*	Sn	01 43 32.4	-0.4
JCH	**Churui**	**4.24**	**350**	P	Pn	01 42 52.0	-0.8
JCH				*eS*	Sn	01 43 37.8	-3.2
JKB	**Kayabe**	**4.30**	**324**	P	Pn	01 42 55.5	+1.9
JKB				*eS*	Sn	01 43 42.6	+0.2
JRY	**Ryogami san**	**5.01**	**243**	P	Pn	01 43 04.4	+1.0
JRY				*eS*	Sn	01 44 00.1	+0.1
NEM2	**Nemuro 2**	**5.02**	**11**	*eS*	Sn	01 43 53.6	-6.6
JOSM	**Okushiri--Mats**	**5.24**	**316**	P	Pn	01 43 06.9	+0.5
MAT	**Matsushiro**	**5.28**	**251**	P	Pn	01 43 09.5	+2.5
JOD2	**Odawara 2**	**5.31**	**235**	*eS*	Sn	01 44 05.3	-2.0
JTKR	**Abashiri--Toko**	**5.54**	**356**	*eS*	Sn	01 44 08.5	-4.3

IDC 26 01:43:23.0±4.3,21°.95S×176°.32W,h262km±42km, mb3.3/2,mb1 3.6/5,mb1mx3.2/28,mbtmp4.3/5,Error ellipse: s-maj=30.7km s-min=21.0km az=141.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.41**	**90**	P	P	01 46 46.5	-0.2
	6.6nm,0.3s,baz=240,slow=14,SNR=7.6						
DZM	**Mont Dzumac**	**15.99**	**266**	P	Pn	01 46 54.3	-0.3
	0.4nm,0.3s,baz=124,slow=17,SNR=6.8						
URZ	**Urewera**	**17.21**	**198**	P	P	01 47 06.6	+0.4
	1.5nm,0.3s,baz=307,slow=10,SNR=6.8						
URZ				S	S	01 50 11.7	+0.1
	0.4nm,0.3s,baz=16,slow=17,SNR=3.8						
ASAR	**Alice Springs**	**45.73**	**258**	P	P	01 51 17.9	-0.8
	1.8nm,0.7s,baz=96,slow=7.2,SNR=21						
ASAR				PcP	PcP	01 52 52.0	+0.2
	0.5nm,0.6s,baz=98,slow=4.1,SNR=5.9						
ILAR	**Eielson Array**	**89.38**	**12**	P	P	01 55 48.5	-0.9
	0.3nm,0.7s,baz=210,slow=5.2,SNR=3.5						
AKASG	**Malin Array Be**	**145.03**	**331**	PKPbc	PKPbc	02 02 28.2	-0.6
	3.7nm,0.5s,baz=41,slow=4.3,SNR=13						
BRTR	**Keskin Array B**	**148.97**	**312**	PKPbc	PKPbc	02 02 40.3	0.0
	0.8nm,0.6s,baz=147,slow=3.4,SNR=7.1						

*KRNET **26** 01:45:30.3±0.1,39°.44N×73°.05E,mb3.3*
*NNC **26** 01:45:40.6±3.3,39°.99N×73°.19E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=27.7km s-min=15.0km az=177.0*
*SOME **26** 01:45:41.1,40°.10N×72°.60E,h15km*
ISC 26 01:45:37.8±2.2,**39°.86N**±0°.08×**73°.01E**±0°.04,**h2**km±12km, **n37**,σ1§**95**/65,**23C-12D**,**Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob** baz=58	**1.47**	**359**	⇓ *iP*	**Pn**	**01 46 05.4**	**0.0**
ARSB	baz=58			⇓ *iS*	**Sg**	**01 46 31.1**	**+6.1**
BTK	**Batken** baz=90	**1.70**	**278**	⇑ *iP*	Pn	01 46 04.0	-4.5
BTK	baz=90			⇑ *iS*	**Sn**	**01 46 29.6**	**-1.3**
ARK	**Arkit** baz=41	**2.10**	**338**	⇑ *iP*	**Pn**	**01 46 14.1**	**+0.1**
ARK	baz=41			⇑ *iS*	**Sg**	**01 46 45.9**	**+0.7**
ARLS	**Aral** baz=21	**2.24**	**26**	⇓ *iP*	**Pn**	**01 46 15.8**	**-0.2**
ARLS	baz=21			⇓ *iS*	**Sg**	**01 46 49.0**	**-0.6**
AML	**Almayashu** SNR=91	**2.33**	**13**	P	**Pn**	**01 46 18.3**	**+0.8**
AML	**Almayashu** baz=10.0	**2.33**	**13**	⇑ *iP*	**Pn**	**01 46 17.7**	**+0.2**
AML	baz=10.0			⇑ *iS*	**Sg**	**01 46 52.2**	**-0.5**
UCH	**Uchtor** SNR=13	**2.63**	**25**	P	**Pn**	**01 46 22.3**	**+0.7**
UCH	**Uchtor** baz=21	**2.63**	**25**	⇑ *eP*	**Pn**	**01 46 21.5**	**-0.1**
UCH	baz=21			⇑ *iS*	**Sg**	**01 46 58.9**	**-3.3**
NRN	**Naryn** baz=47	**2.77**	**54**	⇑ *iP*	**Pn**	**01 46 21.2**	**-2.2**
NRN	baz=47			⇑ *iS*	**Sb**	**01 46 58.3**	**-4.2**
KZA	**Kyzart** SNR=11	**2.79**	**37**	P	**Pn**	**01 46 24.8**	**+1.0**
KZA	**Kyzart** baz=32	**2.79**	**37**	⇓ *iP*	**Pn**	**01 46 23.1**	**-0.7**
KZA	baz=32			⇓ *iS*	**Sb**	**01 47 01.7**	**-1.7**
EKS2	**Erkin-Say** SNR=7.7	**2.86**	**11**	P	**Pb**	**01 46 27.0**	**-2.6**
EKS2	**Erkin-Say** baz=9.0	**2.86**	**11**	⇓ *eP*	**Pn**	**01 46 24.8**	**+0.3**
EKS2	baz=9.0			⇓ *iS*	**Sb**	**01 47 04.6**	**-0.5**
MRKS	**Merke** 21nm,0.3s	**2.89**	**3**	*eP*	**Pb**	**01 46 30.7**	**+0.6**
MRKS	29nm,0.3s			*eS*	**Sg**	**01 47 06.6**	**-4.0**
AAK	**Ala-Archa** SNR=12	**3.00**	**21**	P	**Pn**	**01 46 28.2**	**+1.8**
AAK	**Ala-Archa** 5.8nm,0.6s	**3.00**	**21**	⇑ Pn	**Pn**	**01 46 27.6**	**+1.2**
AAK	10nm,0.4s			⇑ Pg	**Pb**	**01 46 32.6**	**+0.6**
AAK	57nm,0.6s			⇓ Lg	Lg	01 47 10.2	
AAK	**Ala-Archa** baz=18	**3.00**	**21**	⇑ *iP*	**Pn**	**01 46 26.3**	**-0.1**
AAK	baz=18			⇑ *iS*	**Sb**	**01 47 07.4**	**-1.6**
KBK	**Karagaybulak** SNR=6.7	**3.15**	**27**	P	**Pn**	**01 46 30.6**	**+2.0**
KBK	**Karagaybulak** baz=23	**3.15**	**27**	⇑ *iP*	**Pn**	**01 46 28.3**	**-0.3**
KBK	baz=23			⇑ *iS*	**Sb**	**01 47 10.8**	**-2.8**
FRU1	**Bishkek** baz=19	**3.19**	**22**	⇑ *eP*	**Pn**	**01 46 29.1**	**+0.1**
FRU1	baz=19			⇑ *eS*	**Sb**	**01 47 11.9**	**-2.7**
TAS	**Tashkent** baz=5.0	**3.20**	**299**	⇑ *eP*	**Pn**	**01 46 27.3**	**-1.8**
TAS	baz=5.0			⇑ *eS*	**Sn**	**01 47 08.8**	**+1.1**
IUG	**Iuzhnay** 5.3nm,0.4s	**3.21**	**316**	*eP*	**Pn**	**01 46 32.6**	**+3.2**
IUG	65nm,0.3s			*eS*	**Sn**	**01 47 09.7**	**+1.4**
CHMS	**Chumysh** SNR=11	**3.40**	**22**	P	**Pn**	**01 46 33.3**	**+1.5**
ULHL	**Ulahol** SNR=7.3	**3.41**	**45**	P	**Pn**	**01 46 33.2**	**+1.0**
TKM2	**Tokmak 2** SNR=6.0	**3.63**	**32**	P	**Pn**	**01 46 36.4**	**+1.3**
TKM2	**Tokmak 2** 2.2nm,0.5s	**3.63**	**32**	⇑ Pn	**Pn**	**01 46 36.0**	**+0.9**
TKM2	3.5nm,0.5s			⇓ Pg	**Pb**	**01 46 43.4**	**+0.7**
TKM2	7.9nm,0.4s			⇑ Lg	Lg	01 47 30.5	
KK31	**Karatay Array** 0.8nm,0.3s,baz=139,slow=13,SNR=46	**3.75**	**331**	Pn	**Pn**	**01 46 36.9**	**+0.2**
KK31	6.1nm,0.7s,baz=141,slow=17,SNR=8.3			⇓ Pg	**Pb**	**01 46 46.1**	**+1.4**
KK31	9.2nm,0.3s,baz=143,slow=22,SNR=8.8			⇓ Sn	**Sn**	**01 47 25.7**	**+4.3**
KK31	3.3nm,0.3s,baz=147,slow=28			⇑ Lg	Lg	01 47 37.0	
KST	**Kastek** 8.4nm,0.5s	**3.88**	**34**	*eP*	**Pg**	**01 46 52.6**	**+0.4**
KST	24nm,0.6s			*eS*	**Sg**	**01 47 43.9**	**+1.5**
DGS	**Degeres** 14nm,0.5s	**3.97**	**31**	*eP*	**Pg**	**01 46 53.8**	**0.0**
DGS	23nm,0.7s			*eS*	**Sg**	**01 47 46.5**	**+1.3**
MTBS	**Maitube** 4.0nm,0.3s	**4.16**	**37**	*eP*	**Pg**	**01 46 58.0**	**+0.6**
MTBS	12nm,0.5s			*eS*	**Sg**	**01 47 53.0**	**+1.7**
TNSS	**Tian-Shan** 8.0nm,0.5s	**4.34**	**42**	*eP*	**Pg**	**01 47 02.0**	**+1.1**
TNSS	16nm,0.8s			*eS*	**Sg**	**01 48 00.4**	**+3.2**
MDOK	**Medeo** 4.0nm,0.6s	**4.48**	**41**	*eP*	**Pg**	**01 47 04.8**	**+1.1**
MDOK	11nm,0.6s			*eS*	**Sg**	**01 48 05.3**	**+3.5**
KOTS	**Kotyrbulak** 4.8nm,0.4s	**4.57**	**41**	*eP*	**Pg**	**01 47 05.7**	**+0.4**
KOTS	28nm,0.5s			*eS*	**Sg**	**01 48 06.8**	**+2.3**
KTBS	**Karatobe** 2.6nm,0.5s	**4.73**	**34**	*eP*	**Pg**	**01 47 07.8**	**-0.6**
KTBS	19nm,0.7s			*eS*	**Sg**	**01 48 09.9**	**+0.2**
KUU	**Kurty** 1.9nm,0.4s	**4.74**	**31**	*eP*	**Pg**	**01 47 07.8**	**-0.8**
KUU	22nm,0.6s			*eS*	**Sg**	**01 48 10.1**	**+0.2**
BTLS	**Baital** 4.0nm,0.9s	**5.24**	**8**	*eP*	**Pg**	**01 47 15.3**	**-2.8**
BTLS	5.4nm,0.5s			*eS*	**Sg**	**01 48 23.0**	**-3.0**
ARXS	**Arharly** 7.5nm,0.7s	**5.64**	**38**	*eP*	**Pg**	**01 47 25.3**	**-0.5**
ARXS	13nm,0.7s			*eS*	**Sg**	**01 48 40.1**	**+1.3**

UCR 26 01:51:22.5±2.5,8°.60N×82°.32W,h8km±5km,MD4.2,1C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.21**	**218**	⇓ *eP*	Pg	01 51 27.8	+1.1
DVD				*eS*	Sg	01 51 31.3	+1.8
TBS2		**0.38**	**300**	⇑ *eP*	Pg	01 51 30.1	+0.1
TBS2				*eS*	Sg	01 51 35.6	+0.5
BRU2	**Volcan**	**0.41**	**298**	⇓ *iP*	Pg	01 51 31.2	+0.6
BRU2				*eS*	Sb	01 51 37.4	-1.3
EDSV	**San Vito**	**0.68**	**289**	*eP*	Pg	01 51 34.8	-0.9
EDSV				*eS*	Sb	01 51 47.2	+0.8
PTJ1	**Puerto Jimnez**	**0.97**	**266**	⇓ *eP*	Pg	01 51 40.3	-0.9
PTJ1				*eS*	Sg	01 51 53.3	-0.5
EDBA	**Buenos Aires**	**1.09**	**301**	*eP*	Pg	01 51 42.9	-0.7
EDBA				*eS*	Sn	01 51 59.6	0.0
DRK0	**Durika**	**1.12**	**306**	*eS*	Sg	01 51 57.8	-1.0
EDPN	**Palmar Norte**	**1.18**	**288**	⇓ *iP*	Pg	01 51 43.5	-1.6
EDPN				*eS*	Sg	01 51 59.4	-1.1
EDLM	**Las Mercedes**	**1.42**	**298**	*eS*	Sb	01 52 06.5	-1.2
PNME	**Penonome**	**1.98**	**93**	*eP*	Pn	01 51 56.4	+0.1
PNME				*eS*	Sb	01 52 23.3	-0.3
AZU	**Azuero**	**2.18**	**111**	*eP*	Pn	01 51 59.6	+0.5
AZU				*eS*	Sn	01 52 26.6	+0.2
HDC	**Heredia**	**2.25**	**308**	*eP*	Pn	01 52 00.8	+0.6
HDC				*eS*	Sn	01 52 29.4	+1.1
BCIP	**Isla Barro Col**	**2.52**	**77**	*eP*	Pn	01 52 04.9	+1.1
BCIP				*eS*	Sn	01 52 34.1	-0.6
ARE1	**Arenal 1**	**3.00**	**308**	*eP*	Pn	01 52 11.7	+1.2
JTS	**Las Juntas de**	**3.09**	**303**	*eP*	Pn	01 52 12.9	+1.2

*NIED **26** 01:57:00,43°.30N×146°.80E,h38km,Mw3.5 Best double couple: M0=2.02000×10^14 NP1:φs164.00000°,δ26.00000°, λ18.00000°. NP2:φs58.00000°,δ82.00000°,λ115.00000°.*

*ISCJB **26** 01:57:16.3±1.2, 43°.38N±0°.05×146°.75E±0°.07, h25km±6km, Error ellipse: s-maj=10.4km s-min=6.5km az=142.2*
*JMA **26** 01:57:16.1±0.2, 43°.33N×146°.81E, h45km±3km, M3.5*
*SKHL **26** 01:57:17.2±0.6, 43°.30N×146°.74E, h41km±4km, mb3.9/4*
ISC 26 01:57:13.9±2.1, 43°.37N±0°.07×146°.81E±0°.07, h7km±11km, n15, σ0°77/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.78**	**270**	P	**Pn**	**01 57 30.8**	**-0.5**
NEM2				*e*S	**Sb**	**01 57 41.9**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**0.95**	**314**	*i* P	**Pn**	**01 57 33.9**	**+0.2**
YUK				AMB	AMB	01 57 34.0	
	10.0nm,0.2s						
YUK				AMB	AMB	01 57 34.0	
	50nm,0.2s						
YUK				*i* S	**Sb**	**01 57 46.0**	**+0.4**
YUK				A	A	01 57 46.0	
	400nm,0.2s						
YUK				A	A	01 57 46.0	
	260nm,0.2s						
GRPR	**Tuman**	**0.97**	**310**	*e*P	**Pb**	**01 57 33.0**	**-0.1**
GRPR				AMB	AMB	01 57 34.0	
	80nm,0.3s						
GRPR				AMB	AMB	01 57 34.0	
	60nm,0.3s						
GRPR				*i* S	**Sg**	**01 57 45.0**	**-0.2**
GRPR				A	A	01 57 47.0	
	990nm,0.4s						
GRPR				A	A	01 57 47.0	
	200nm,0.4s						
GLVR	**Golovnino**	**1.00**	**292**	*e*P	**Pb**	**01 57 34.0**	**+0.4**
GLVR				AMB	AMB	01 57 37.0	
	80nm,0.2s						
GLVR				AMB	AMB	01 57 37.0	
	120nm,0.2s						
GLVR				AMB	AMB	01 57 37.0	
	40nm,0.2s						
GLVR				*e*S	**Sb**	**01 57 47.0**	**-0.1**
GLVR				A	A	01 57 51.0	
	290nm,0.2s						
GLVR				A	A	01 57 51.0	
	360nm,0.2s						
LAGR	**Lagunnoye**	**1.01**	**313**	*e*P	**Pn**	**01 57 34.0**	**-0.5**
LAGR				AMB	AMB	01 57 36.0	
	50nm,0.3s						
LAGR				*i* S	**Sg**	**01 57 46.0**	**-0.3**
LAGR				A	A	01 57 48.0	
	520nm,0.2s						
LAGR				A	A	01 57 48.0	
	250nm,0.2s						
JKHN	**Kushirohamanak**	**1.24**	**257**	P	**Pg**	**01 57 37.6**	**0.0**
JRA	**Rausu**	**1.35**	**295**	P	**Pb**	**01 57 39.4**	**-0.1**
JRA				*e*S	**Sb**	**01 57 56.4**	**-0.5**
JNK	**Nakash**	**1.53**	**279**	P	**Pn**	**01 57 41.5**	**-0.2**
JNK				*e*S	**Sn**	**01 57 59.9**	**-2.1**
JAK	**Akkeshi**	**1.59**	**257**	P	**Pn**	**01 57 41.9**	**-0.6**
KUR	**Kuril'sk**	**2.01**	**22**	*e*P	**Pb**	**01 57 50.6**	**-0.2**
KUR				A	A	01 58 14.2	
	210nm,0.4s						
KUR				A	A	01 58 14.2	
	130nm,0.4s						
KUR				*e*S	**S**	**01 58 14.2**	**+0.5**
JTKR	**Abashiri--Toko**	**2.19**	**287**	P	**Pn**	**01 57 51.9**	**+1.2**
JTKR				*e*S	**Sn**	**01 58 18.7**	**+0.7**
JAR	**Ashorobuto**	**2.22**	**269**	P	**Pn**	**01 57 51.7**	**+0.6**
JAR				*e*S	**Sn**	**01 58 18.2**	**-0.6**
JOB	**Onbets**	**2.23**	**259**	P	**Pn**	**01 57 51.5**	**+0.3**
JOB				*e*S	**Sn**	**01 58 18.4**	**-0.6**
JMP	**Maruseppu**	**2.58**	**285**	P	**Pn**	**01 57 57.4**	**+1.3**
JCH	**Churui**	**2.64**	**254**	P	**Pn**	**01 57 57.4**	**+0.5**
JCH				*e*S	**Sn**	**01 58 28.5**	**-0.7**

*KRNET **26** 02:15:09.8±0.1, 43°.09N×76°.86E, h20km, mb3.4*
*NNC **26** 02:15:09.7±0.2, 43°.05N×76°.89E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=2.0km s-min=1.1km az=151.0*
*ISCJB **26** 02:15:10.2±0.3, 43°.09N±0°.02×76°.86E±0°.02, h4km±3km, Error ellipse: s-maj=3.3km s-min=2.0km az=160.9*
*SOME **26** 02:15:10.7, 43°.12N×76°.92E, h5km*
*KNET **26** 02:15:11.4±0.5, 43°.08N×76°.75E, h11km±2km, ml2.6, Error ellipse: s-maj=3.7km s-min=2.7km az=30.0*
ISC 26 02:15:09.2±0.8, 43°.10N±0°.02×76°.90E±0°.01, h14km±4km, n86, σ0°90/156, 47C-24D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.07**	**147**	P	**Pg**	**02 15 12.3**	**-0.2**
	3μm,0.1s						
TNSS				S	**Sg**	**02 15 14.0**	**-0.8**
	3μm,0.1s						
TNSS	**Tian-Shan**	**0.07**	**147**	*e*P	**Pg**	**02 15 12.3**	**-0.2**
	baz=30						
TNSS				*e*S	**Sg**	**02 15 13.9**	**-0.8**
	baz=30						
TNSS	**Tian-Shan**	**0.07**	**147**	*e*P	**Pg**	**02 15 12.3**	**-0.2**
	3μm,0.1s						
TNSS				*e*S	**Sg**	**02 15 13.9**	**-0.8**
	3μm,0.1s						
AAA	**Alma-Ata**	**0.12**	**7**	P	**Pb**	**02 15 13.3**	**0.0**
	2μm,0.1s						
AAA				S	**Sb**	**02 15 15.5**	**-0.4**
	4μm,0.1s						
MDOK	**Medeo**	**0.13**	**59**	⇓P	**Pg**	**02 15 13.1**	**+0.2**
	63nm,0.5s						
MDOK				⇑S	**Sg**	**02 15 15.1**	**-0.2**
	349nm,0.2s						
MDOK	**Medeo**	**0.13**	**59**	Pg	**Pb**	**02 15 13.3**	**-0.2**
	91nm,0.1s						
MDOK				Lg	Lg	02 15 15.3	
	2μm,0.3s						
MDOK	**Medeo**	**0.13**	**59**	*e*P	**Pb**	**02 15 13.3**	**-0.2**
	baz=61						
MDOK				⇑*i*S	**Sg**	**02 15 15.3**	**-0.1**
	baz=61						
MDOK	**Medeo**	**0.13**	**59**	*e*P	**Pb**	**02 15 13.3**	**-0.2**
	91nm,0.1s						
MDOK				⇑*i*S	**Sg**	**02 15 15.3**	**-0.1**
	2μm,0.3s						
KNDC	**Almaty**	**0.13**	**23**	⇓P	**Pb**	**02 15 13.5**	**0.0**
	544nm,0.4s						
KNDC				⇑S	**Sb**	**02 15 16.1**	**-0.3**
	723nm,0.2s						
KOTS	**Kotyrbulak**	**0.21**	**49**	P	**Pb**	**02 15 14.9**	**0.0**
	172nm,0.1s						
KOTS				S	**Sb**	**02 15 17.9**	**-0.9**
	938nm,0.4s						
KOTS	**Kotyrbulak**	**0.21**	**49**	*e*P	**Pb**	**02 15 14.9**	**0.0**
	baz=52						
KOTS				*e*S	**Sb**	**02 15 17.9**	**-0.9**
	baz=52						
KOTS	**Kotyrbulak**	**0.21**	**49**	*e*P	**Pb**	**02 15 14.9**	**0.0**
	172nm,0.1s						
KOTS				*e*S	**Sb**	**02 15 17.9**	**-0.9**
	938nm,0.4s						
MTBS	**Maitube**	**0.34**	**276**	P	**Pb**	**02 15 17.1**	**0.0**
	167nm,0.2s						
MTBS				S	**Sb**	**02 15 21.7**	**-0.7**
	406nm,0.2s						
MTBS	**Maitube**	**0.34**	**276**	*e*P	**Pb**	**02 15 17.1**	**0.0**
	baz=78						
MTBS				⇑*i*S	**Sb**	**02 15 21.8**	**-0.7**
	baz=78						
MTBS	**Maitube**	**0.34**	**276**	*e*P	**Pb**	**02 15 17.1**	**0.0**
	167nm,0.2s						
MTBS				⇑*i*S	**Sb**	**02 15 21.7**	**-0.7**
	406nm,0.2s						
KTBS	**Karatobe**	**0.64**	**346**	P	**Pb**	**02 15 22.2**	**+0.1**
	21nm,0.1s						
KTBS				S	**Sb**	**02 15 30.6**	**-0.3**
	442nm,0.2s						
KTBS	**Karatobe**	**0.64**	**346**	*e*P	**Pb**	**02 15 22.2**	**+0.1**
	21nm,0.1s						
KTBS				*e*S	**Sb**	**02 15 30.6**	**-0.3**
	442nm,0.2s						
KST	**Kastek**	**0.69**	**266**	P	**Pb**	**02 15 23.0**	**0.0**
	85nm,0.2s						
KST				S	**Sb**	**02 15 32.2**	**-0.1**
	201nm,0.5s						
KST	**Kastek**	**0.69**	**266**	*e*P	**Pb**	**02 15 23.0**	**0.0**
	baz=66						
KST				⇓*i*S	**Sb**	**02 15 32.2**	**-0.1**
	baz=66						
KST	**Kastek**	**0.69**	**266**	*e*P	**Pb**	**02 15 23.0**	**0.0**
	85nm,0.2s						
KST				⇓*i*S	**Sb**	**02 15 32.2**	**-0.1**
	201nm,0.5s						
DGS	**Degeres**	**0.83**	**281**	P	**Pg**	**02 15 25.8**	**+0.4**
	64nm,0.1s						
DGS				S	**Sb**	**02 15 36.7**	**0.0**
	104nm,0.1s						
DGS	**Degeres**	**0.83**	**281**	*e*P	**Pg**	**02 15 25.8**	**+0.4**
	baz=81						
DGS				*e*S	**Sb**	**02 15 36.7**	**0.0**
	baz=81						
DGS	**Degeres**	**0.83**	**281**	*e*P	**Pg**	**02 15 25.8**	**+0.4**
	64nm,0.1s						
DGS				*e*S	**Sb**	**02 15 36.7**	**0.0**
	104nm,0.1s						
KUU	**Kurty**	**0.89**	**333**	P	**Pg**	**02 15 26.7**	**+0.2**
	8.1nm,0.2s						
KUU				S	**Sg**	**02 15 38.2**	**-0.1**
	118nm,0.2s						
KUU	**Kurty**	**0.89**	**333**	*e*P	**Pg**	**02 15 26.7**	**+0.2**
	baz=35						
KUU				*e*S	**Sg**	**02 15 38.2**	**-0.1**
	baz=35						
KUU	**Kurty**	**0.89**	**333**	*e*P	**Pg**	**02 15 26.7**	**+0.2**
	8.1nm,0.2s						
KUU				*e*S	**Sg**	**02 15 38.2**	**-0.1**
	118nm,0.2s						
BOOM	**Boomskoye usch**	**0.93**	**230**	⇓*i*P	**Pg**	**02 15 27.2**	**+0.1**
	baz=29						
BOOM				⇓*i*S	**Sb**	**02 15 38.9**	**-0.5**
	baz=29						
TKM2	**Tokmak 2**	**0.97**	**260**	⇑P	**Pn**	**02 15 28.2**	**-0.4**
	17nm,0.1s,SNR=195						
TKM2				⇑S	**Sn**	**02 15 41.4**	**-0.8**
	151nm,0.1s						
TKM2	**Tokmak 2**	**0.97**	**260**	⇓P	**Pn**	**02 15 28.1**	**-0.4**
	5.5nm,0.3s						
TKM2				⇑S	**Sg**	**02 15 41.0**	**+0.4**
	111nm,0.6s						
TKM2	**Tokmak 2**	**0.97**	**260**	⇑*i*P	**Pg**	**02 15 27.9**	**0.0**
	baz=60						
TKM2				⇑*i*S	**Sb**	**02 15 40.0**	**-0.6**
	baz=60						
ULHL	**Ulahol**	**0.98**	**210**	P	**Pn**	**02 15 28.4**	**-0.2**
	53nm,0.2s,SNR=168						
ULHL	**Ulahol**	**0.98**	**210**	⇓*i*P	**Pg**	**02 15 28.1**	**0.0**
	baz=9.0						
ULHL				⇓*i*S	**Sb**	**02 15 40.5**	**-0.3**
	baz=9.0						
KDJ	**Kajisay**	**0.99**	**168**	⇑*i*P	**Pn**	**02 15 28.7**	**-0.1**
	baz=66						
KDJ				⇑*i*S	**Sn**	**02 15 42.0**	**-0.6**
	baz=66						
KURS	**Kuram**	**1.01**	**67**	P	**Pn**	**02 15 29.4**	**+0.4**
	5.7nm,0.2s						
KURS				S	**Sn**	**02 15 42.8**	**-0.2**
	19nm,0.3s						
KURS	**Kuram**	**1.01**	**67**	*e*P	**Pn**	**02 15 29.4**	**+0.4**
	baz=67						
KURS				⇓*e*S	**Sn**	**02 15 42.8**	**-0.2**
	baz=67						
KURS	**Kuram**	**1.01**	**67**	*e*P	**Pn**	**02 15 29.4**	**+0.4**
	5.7nm,0.2s						
KURS				⇓*e*S	**Sn**	**02 15 42.8**	**-0.2**
	19nm,0.3s						
SATY	**Saty**	**1.11**	**91**	P	**Pg**	**02 15 31.1**	**+0.6**
	26nm,0.2s						
SATY				S	**Sn**	**02 15 45.8**	**+0.3**
	192nm,0.1s						
SATY	**Saty**	**1.11**	**91**	*e*P	**Pg**	**02 15 31.1**	**+0.6**
	26nm,0.2s						
SATY				⇓*i*S	**Sn**	**02 15 45.8**	**+0.3**
	192nm,0.1s						
ARXS	**Arharly**	**1.31**	**31**	P	**Pg**	**02 15 34.4**	**+0.1**
	20nm,0.2s						
ARXS				S	**Sg**	**02 15 51.5**	**+0.1**
	146nm,0.3s						
ARXS	**Arharly**	**1.31**	**31**	*e*P	**Pg**	**02 15 34.4**	**+0.1**
	20nm,0.2s						
ARXS				*e*S	**Sg**	**02 15 51.5**	**+0.1**
	146nm,0.3s						
KPKS	**Kokpek**	**1.36**	**74**	*e*P	**Pg**	**02 15 35.5**	**+0.2**
	baz=74						
KPKS				*e*S	**Sg**	**02 15 53.4**	**+0.4**
	baz=74						
KPKS	**Kokpek**	**1.36**	**74**	*e*P	**Pg**	**02 15 35.5**	**+0.2**
	59nm,0.1s						
KPKS				*e*S	**Sg**	**02 15 53.4**	**+0.4**
	135nm,0.2s						
MNBS	**Baschi**	**1.47**	**48**	P	**Pg**	**02 15 37.8**	**+0.3**
	10nm,0.1s						
MNBS				S	**Sg**	**02 15 57.6**	**+1.0**
	82nm,0.2s						
MNBS	**Baschi**	**1.47**	**48**	*e*P	**Pg**	**02 15 37.8**	**+0.3**
	baz=53						
MNBS				*e*S	**Sg**	**02 15 57.6**	**+1.0**
	baz=53						
MNBS	**Baschi**	**1.47**	**48**	*e*P	**Pg**	**02 15 37.8**	**+0.3**
	10nm,0.1s						
MNBS				*e*S	**Sg**	**02 15 57.6**	**+1.0**
	82nm,0.2s						
KBK	**Karagaybulak**	**1.50**	**254**	⇑P	**Pg**	**02 15 37.9**	**-0.1**
	44nm,0.1s,SNR=25						
KBK				⇑S	**Sg**	**02 15 57.9**	**+0.5**
	116nm,0.3s						
KBK	**Karagaybulak**	**1.50**	**254**	⇑*i*P	**Pb**	**02 15 37.0**	**+0.2**
	baz=54						
KBK				⇑*i*S	**Sb**	**02 15 56.0**	**+0.2**
	baz=54						
TARG	**Taragay, Kyrgy**	**1.52**	**153**	⇑*i*P	**Pg**	**02 15 38.7**	**+0.2**
	baz=53						
TARG				⇑*i*S	**Sg**	**02 15 58.4**	**+0.1**
	baz=53						
UZB	**Uzynbulak**	**1.56**	**87**	P	**Pg**	**02 15 38.7**	**-0.4**
	13nm,0.2s						
UZB				S	**Sg**	**02 15 59.0**	**-0.4**
	54nm,0.2s						
UZB	**Uzynbulak**	**1.56**	**87**	*e*P	**Pg**	**02 15 38.7**	**-0.4**
	baz=87						
UZB				*e*S	**Sg**	**02 15 59.0**	**-0.4**
	baz=87						
UZB	**Uzynbulak**	**1.56**	**87**	*e*P	**Pg**	**02 15 38.7**	**-0.4**
	13nm,0.2s						
UZB				*e*S	**Sg**	**02 15 59.0**	**-0.4**
	54nm,0.2s						
CHMS	**Chumysh**	**1.57**	**267**	⇑P	**Pb**	**02 15 38.5**	**+0.4**
	41nm,0.3s,SNR=13						
CHMS				⇑S	**Sg**	**02 15 59.3**	**-0.6**
	29nm,0.1s						
CHMS	**Chumysh**	**1.57**	**267**	⇑*i*P	**Pb**	**02 15 38.5**	**+0.4**
	baz=67						
CHMS				⇑*i*S	**Sb**	**02 15 58.8**	**+0.9**
	baz=67						
KZA	**Kyzart**	**1.58**	**231**	⇑P	**Pg**	**02 15 39.7**	**+0.1**
	8.3nm,0.2s,SNR=20						
KZA				⇑S	**Sg**	**02 16 01.5**	**+1.3**
	21nm,0.2s						
KZA	**Kyzart**	**1.58**	**231**	⇑*i*P	**Pb**	**02 15 39.0**	**+0.5**
	baz=30						
KZA				⇑*i*S	**Sb**	**02 15 59.4**	**+0.9**
	baz=30						
FRU1	**Bishkek**	**1.69**	**261**	⇑*i*P	**Pb**	**02 15 40.2**	**+0.2**
	baz=61						
FRU1				⇑*i*S	**Sb**	**02 16 02.1**	**+1.0**
	baz=61						
USP	**Ospenovka**	**1.76**	**276**	⇑P	**Pb**	**02 15 41.9**	**+0.6**
	24nm,0.1s,SNR=18						
USP				⇓S	**Sg**	**02 16 05.0**	**-0.8**
	75nm,0.2s						
USP	**Ospenovka**	**1.76**	**276**	⇓*i*P	**Pb**	**02 15 41.7**	**+0.4**
	baz=77						
USP				⇓*i*S	**Sb**	**02 16 04.3**	**+1.1**
	baz=77						
NRN	**Naryn**	**1.79**	**202**	⇑*i*P	**Pb**	**02 15 42.7**	**+0.8**
	baz=2.0						
NRN				⇑*i*S	**Sg**	**02 16 06.1**	**-0.7**
	baz=2.0						
AAK	**Ala-Archa**	**1.82**	**256**	⇑P	**Pg**	**02 15 43.3**	**-0.8**
	9.7nm,0.2s,SNR=12						
AAK	**Ala-Archa**	**1.82**	**256**	⇓P	**Pb**	**02 15 43.1**	**+0.7**
	2.7nm,0.3s						
AAK				⇓S	**Sg**	**02 16 06.8**	**-1.0**
	26nm,0.7s						
AAK	**Ala-Archa**	**1.82**	**256**	⇓*i*P	**Pb**	**02 15 42.8**	**+0.4**
	baz=56						
AAK				⇓*i*S	**Sb**	**02 16 06.3**	**+1.2**
	baz=56						
SHLS	**Shalkode**	**1.88**	**87**	Pg	Pg	02 15 50.6	+5.3
	16nm,0.2s						
SHLS				Lg	Lg	02 16 19.3	
	78nm,0.4s						
SHLS	**Shalkode**	**1.88**	**87**	*e*P	Pg	02 15 50.6	+5.3
	16nm,0.2s						
SHLS				*e*S	Sg	02 16 19.3	+10
	78nm,0.4s						
PDGK	**Podgornoye**	**1.91**	**82**	P	**Pg**	**02 15 44.8**	**-1.1**
	3.3nm,0.2s						
PDGK				S	**Sg**	**02 16 09.6**	**-1.1**
	18nm,0.3s						
PDGK	**Podgornoye**	**1.91**	**82**	⇑P	**Pb**	**02 15 44.5**	**+0.6**
	5.3nm,0.5s						
PDGK				⇑S	**Sg**	**02 16 09.2**	**-1.5**
	19nm,0.4s						
PDGK	**Podgornoye**	**1.91**	**82**	⇑*i*P	**Pb**	**02 15 44.4**	**+0.5**
	baz=82						
PDGK				⇑*i*S	**Sg**	**02 16 10.2**	**-0.5**
	baz=82						
UCH	**Uchtor**	**1.96**	**245**	⇑P	**Pg**	**02 15 46.2**	**-0.6**
	6.5nm,0.2s,SNR=31						
UCH	**Uchtor**	**1.96**	**245**	⇑*i*P	**Pb**	**02 15 45.0**	**+0.1**
	baz=44						
UCH				⇑*i*S	**Sb**	**02 16 09.9**	**+0.6**
	baz=44						
TDK	**Taldyqorghan**	**2.20**	**29**	Pg	**Pb**	**02 15 49.6**	**+1.0**
	53nm,0.3s						
TDK				Lg	Lg	02 16 17.9	
	114nm,0.3s						
TDK	**Taldyqorghan**	**2.20**	**29**	*e*P	**Pb**	**02 15 49.6**	**+1.0**
	53nm,0.3s						
TDK				*e*S	**Sg**	**02 16 17.9**	**-1.8**
	114nm,0.3s						
ARLS	**Aral**	**2.27**	**238**	⇑*i*P	**Pb**	**02 15 48.5**	**-1.5**
	baz=38						
ARLS				⇑*i*S	**Sb**	**02 16 16.8**	**-1.1**
	baz=38						
EKS2	**Erkin-Say**	**2.33**	**260**	⇑P	**Pb**	**02 15 51.5**	**+0.4**
	9.3nm,0.1s,SNR=11						
EKS2	**Erkin-Say**	**2.33**	**260**	⇑*i*P	**Pb**	**02 15 49.8**	**-1.2**
	baz=60						
EKS2				⇑*i*S	**Sb**	**02 16 18.5**	**-1.3**
	baz=60						
DJR	**Jarkent**	**2.44**	**59**	Pg	**Pg**	**02 15 54.5**	**-1.4**
	9.1nm,0.2s						
DJR				Lg	Lg	02 16 25.9	
	32nm,0.4s						
DJR	**Jarkent**	**2.44**	**59**	*e*P	**Pg**	**02 15 54.5**	**-1.4**
	9.1nm,0.2s						
DJR				⇓*i*S	**Sg**	**02 16 25.9**	**-1.6**
	32nm,0.4s						
KTMS	**Ketmen**	**2.55**	**81**	Pg	**Pg**	**02 15 56.7**	**-1.4**
	6.9nm,0.2s						
KTMS				Lg	Lg	02 16 29.7	
	32nm,0.5s						
KTMS	**Ketmen**	**2.55**	**81**	*e*P	**Pg**	**02 15 56.7**	**-1.4**
	6.9nm,0.2s						
KTMS				*e*S	**Sg**	**02 16 29.7**	**-1.4**
	32nm,0.5s						
MRKS	**Merke**	**2.72**	**264**	Pg	**Pg**	**02 16 01.0**	**-0.3**
	9.4nm,0.2s						
MRKS				Lg	Lg	02 16 35.0	
	50nm,0.3s						
MRKS	**Merke**	**2.72**	**264**	*e*P	**Pg**	**02 15 59.6**	**-1.7**
	8.4nm,0.3s						
MRKS				*e*S	**Sg**	**02 16 34.4**	**-2.1**
	50nm,0.3s						
KAPS	**Kapalarasan**	**2.82**	**38**	Pg	**Pg**	**02 16 02.1**	**-1.0**
	7.9nm,0.3s						
KAPS				Lg	Lg	02 16 37.2	
	25nm,0.3s						
KAPS	**Kapalarasan**	**2.82**	**38**	*e*P	**Pg**	**02 16 01.1**	**-2.0**
	7.9nm,0.3s						
KAPS				*e*S	**Sg**	**02 16 37.1**	**-2.5**
	25nm,0.3s						
BTLS	**Baital**	**2.83**	**314**	*e*P	**Pb**	**02 16 01.1**	**+1.6**
	5.4nm,0.4s						
BTLS				*e*S	**Sg**	**02 16 37.1**	**-2.9**
	11nm,0.3s						
ARSB	**Arslanbob**	**3.40**	**240**	⇓*e*P	**Pn**	**02 16 04.8**	**+2.8**
	baz=40						
ARSB				⇓*i*S	**Sn**	**02 16 44.2**	**+2.0**
	baz=40						
KK31	**Karatay Array**	**4.67**	**272**	⇑Pg	**Pg**	**02 16 35.5**	**-3.2**
	0.4nm,0.2s,baz=86,slow=15,SNR=3.6						
KK31				⇑Lg	Lg	02 17 34.6	
	7.1nm,0.7s,baz=80,slow=30,SNR=9.1						
MK31	**Makanchi Array**	**5.32**	**44**	⇓Pn	**Pn**	**02 16 31.6**	**+3.3**
	0.2nm,0.3s,baz=224,slow=16,SNR=4.7						
MK31				⇓Lg	Lg	02 17 56.5	
	0.4nm,0.3s,baz=227,slow=29,SNR=5.4						

*SOF **26** 02:33:15.6, 41°.01N×21°.12E, h2km*
*SKO **26** 02:33:16.3, 41°.04N×21°.16E, h21km, M2.7, ML3.0*
*ATH **26** 02:33:16.6, 41°.06N×21°.20E, h18km, ML3.0/22, Error ellipse: s-maj=1.1km s-min=0.7km az=159.0*
*PDG **26** 02:33:17.8±0.7, 41°.18N×21°.18E, h5km±1km, ML3.2/8, Error ellipse: s-maj=0.8km s-min=1.1km az=0.0*
*THE **26** 02:33:17.4, 41°.06N×21°.17E, h0km±2km, ML3.1/12, Error ellipse: s-maj=2.1km s-min=0.7km az=357.0*
*BEO **26** 02:33:18.0±0.4, 41°.08N×21°.15E, h8km±2km, ML2.8/12*
*TIR **26** 02:33:33.1, 41°.10N×21°.37E, h3km, Md2.9/4*
*SIK **26** 02:33:37.9, 42°.18N×20°.69E, h0km, M1.9*
ISC 26 02:33:17.7±0.8, 41°.05N±0°.01×21°.18E±0°.01, h15km±5km, n201, σ1°13/262, 20C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.11**	**104**	P	**Pg**	**02 33 20.9**	**-0.2**
BIA				S	**Sg**	**02 33 23.5**	**+0.2**
BIA	**Bitola**	**0.11**	**104**	⇓*i*Pg	**Pg**	**02 33 21.1**	**-0.1**
BIA				*i* Sg	**Sg**	**02 33 23.6**	**+0.2**
BIA				*e*Lg	Lg	02 33 23.7	
	comp=N,3μm,0.2s						
BIA				*e*Lg	Lg	02 33 23.8	
	comp=E,8μm,0.2s						
OHR	**Ohrid**	**0.30**	**283**	⇑*i*Pg	**Pg**	**02 33 22.9**	**-1.1**
OHR				*i* Sg	**Sg**	**02 33 27.7**	**-0.6**
OHR				*e*Lg	Lg	02 33 27.8	
	comp=N,2μm,0.4s						
OHR				*e*Lg	Lg	02 33 28.4	
	comp=E,5μm,0.3s						
FNA	**Florina**	**0.30**	**151**	P	**Pg**	**02 33 23.4**	**-0.6**
FNA				S	**Sg**	**02 33 28.1**	**-0.2**
FNA	**Florina**	**0.30**	**151**	⇑*i*Pg	**Pg**	**02 33 23.4**	**-0.6**
FNA				*i* Sg	**Sg**	**02 33 28.2**	**-0.1**
FNA	**Florina**	**0.30**	**151**	P	**Pg**	**02 33 23.5**	**-0.6**
FNA				S	**Sg**	**02 33 28.2**	**-0.2**
FNA				AML	AML	02 33 28.5	
	comp=E,35677μm,0.3s						
FNA				AML	AML	02 33 29.4	
	comp=N,39661μm,0.2s						
KRUS	**Krusevo**	**0.33**	**9**	⇑*i*Pg	**Pg**	**02 33 23.9**	**-0.6**
KRUS				*i* Sg	**Sg**	**02 33 29.0**	**-0.2**
KRUS				*e*Lg	Lg	02 33 29.3	
	comp=N,835nm,0.3s						
KRUS				*e*Lg	Lg	02 33 29.4	
	comp=E,1μm,0.3s						
NEST	**Nestorio**	**0.64**	**189**	P	**Pg**	**02 33 29.1**	**-1.1**
NEST				S	**Sg**	**02 33 39.5**	**+0.8**
NEST	**Nestorio**	**0.64**	**189**	P	**Pg**	**02 33 29.1**	**-1.1**
NEST				S	**Sg**	**02 33 39.2**	**+0.5**
NEST				AML	AML	02 33 40.5	
	comp=E,6839μm,0.6s						
NEST				AML	AML	02 33 41.6	
	comp=N,8291μm,0.4s						
PHP	**Peshkopia**	**0.85**	**319**	P	**Pg**	**02 33 32.0**	**-2.2**
PHP				S	**Sb**	**02 33 45.4**	**0.0**
PHP	**Peshkopia**	**0.85**	**319**	*i* PG	**Pg**	**02 33 32.5**	**-1.7**
PHP				*i* SG	**Sb**	**02 33 45.5**	**0.0**
PENT	**Pentalofos**	**0.85**	**182**

comp=N,4231μm,0.4s
GRG Griva 0.93 95 P Pb 02 33 34.8 -0.7
GRG S Sn 02 33 49.2 -0.1
GRG Griva 0.93 95 *i* Pg Pb 02 33 34.7 -0.8
GRG Griva 0.93 95 P Pb 02 33 35.0 -0.5
GRG S Sg 02 33 46.3 -1.5
GRG AML AML 02 33 54.4
comp=E,1327μm,0.6s
GRG AML AML 02 34 02.4
comp=N,996μm,0.6s
KTI Kastanea 0.96 132 P Pb 02 33 36.0 -0.2
TIR Tirane 1.04 287 *e*Pg Pb 02 33 36.7 -0.6
TIR *e*Sg Sb 02 33 50.6 -0.2
TIR Tirane 1.04 287 P Pb 02 33 36.5 -0.8
TIR S Sn 02 33 52.5 +0.5
TIR Tirane 1.04 287 ⇓*i*P Pb 02 33 36.8 -0.6
TIR Tirane 1.04 287 *i* Pg Pb 02 33 36.5 -0.8
TIR Tirane 1.04 287 *i* PG Pb 02 33 37.6 +0.2
TIR *i* SG Sn 02 33 52.7 +0.7
TIR Tirane 1.04 287 P Pb 02 33 36.5 -0.8
TIR S Sb 02 33 50.6 -0.2
TIR AML AML 02 34 00.3
comp=E,1437μm,0.5s
TIR AML AML 02 34 00.6
comp=N,1255μm,0.3s
VAY Valandovo 1.08 75 *e*Pg Pb 02 33 37.5 -0.6
VAY *e*Sg Sn 02 33 53.6 +0.5
VAY Valandovo 1.08 75 P Pb 02 33 37.5 -0.6
VAY S Sn 02 33 53.3 +0.2
VAY Valandovo 1.08 75 ⇑*i*Pg Pb 02 33 37.6 -0.5
VAY *i* Sg Sg 02 33 52.7 0.0
VAY *e*Lg Lg 02 33 57.1
comp=N,138nm,0.5s
VAY *e*Lg Lg 02 33 57.4
comp=E,217nm,0.7s
KPRO Kipourio 1.10 173 P Pb 02 33 37.0 -1.5
KPRO S Sn 02 33 55.6 +2.1
KPRO Kipourio 1.10 173 P Pb 02 33 36.9 -1.5
KPRO AML AML 02 33 59.5
comp=E,2416μm,0.4s
KPRO AML AML 02 33 59.5
comp=N,1488μm,0.5s
TPE Tepelena 1.16 230 P Pn 02 33 37.8 -1.6
MEV Metsovon 1.26 178 P Pn 02 33 40.7 -0.2
MEV Metsovon 1.26 178 P Pn 02 33 40.5 -0.4
KNT Kendrikon 1.30 84 P Pn 02 33 41.7 +0.3
KNT Kendrikon 1.30 84 ⇑*i*Pg Pn 02 33 41.7 +0.3
KNT *e*Sg Sg 02 33 59.6 -0.1
KNT Kendrikon 1.30 84 P Pn 02 33 41.6 +0.3
KNT S Sb 02 33 58.9 +0.5
KNT AML AML 02 34 08.8
comp=N,356μm,0.5s
KNT AML AML 02 34 09.0
comp=E,215μm,0.5s
LIT Litokhoron 1.37 133 P Pn 02 33 43.0 +0.7
LIT S Sg 02 34 03.1 +1.2
LIT Litokhoron 1.37 133 P Pn 02 33 43.0 +0.7
PUK Puka 1.39 316 *i* PN Pg 02 33 45.4 +0.9
PUK *i* SN Sg 02 34 04.5 +1.9
JAN Janina 1.41 190 P Pn 02 33 43.0 +0.1
JAN S Sg 02 34 03.4 +0.2
JAN Janina 1.41 190 P Pn 02 33 42.7 -0.2
JAN S Sg 02 34 03.3 +0.1
JAN AML AML 02 34 12.0
comp=N,1130μm,0.4s
JAN AML AML 02 34 17.8
comp=E,918μm,0.6s
THE Thessaloniki 1.41 106 *i* Pg Pn 02 33 43.4 +0.5
THE Thessaloniki 1.41 106 P Pn 02 33 43.1 +0.2
THE AML AML 02 34 09.8
comp=E,106μm,0.7s
THE AML AML 02 34 10.3
comp=N,182μm,0.5s
SRN Sarande 1.47 218 P Pb 02 33 44.7 0.0
HORT Hortiatis 1.52 106 P Pn 02 33 44.8 +0.3
BCI Bajram Curri 1.56 328 *i* PN Pb 02 33 45.9 -0.4
BCI *i* SN Sg 02 34 09.6 +1.5
KASA Kassiopi 1.61 217 P Pb 02 33 47.2 +0.1
KASA S Sg 02 34 09.0 -0.6
KASA AML AML 02 34 15.6
comp=N,846μm,0.6s
KASA AML AML 02 34 16.4
comp=E,671μm,0.6s
THL Klokotos Trika 1.61 156 P Pn 02 33 46.0 +0.5
THL S Sb 02 34 08.3 +1.1
THL Klokotos Trika 1.61 156 P Pn 02 33 46.1 +0.5
THL AML AML 02 34 09.4
comp=N,721μm,0.7s
THL AML AML 02 34 15.6
comp=E,706μm,0.6s
IGT Igoumenitsa 1.65 204 P Pb 02 33 48.3 +0.6
IGT S Sg 02 34 10.3 -0.4
IGT Igoumenitsa 1.65 204 P Pb 02 33 48.0 +0.3
IGT AML AML 02 34 13.8
comp=N,955μm,0.7s
IGT AML AML 02 34 14.1
comp=E,880μm,0.5s
KKB Krupnik 1.65 60 *i* Pn Pn 02 33 47.2 +1.0
KKB *i* Sn Sg 02 34 10.9 +0.1
KKB Krupnik 1.65 60 P Pn 02 33 47.1 +1.0
LRSO Larissa Observ 1.66 146 P Pb 02 33 48.0 +0.1
SOH Sokhos 1.66 97 P Pn 02 33 47.1 +0.8
SOH Sokhos 1.66 97 *e*Pn Pb 02 33 48.0 0.0
SOH Sokhos 1.66 97 P Pn 02 33 46.3 0.0
KEK Kerkira 1.70 219 P Pb 02 33 48.6 0.0
KEK Kerkira 1.70 219 P Pb 02 33 48.3 -0.3
KEK S Sn 02 34 09.5 +1.2
KEK AML AML 02 34 20.7
comp=E,589μm,0.5s
KEK AML AML 02 34 20.9
comp=N,623μm,0.6s
ULC Ulcinj 1.72 303 ⇑*i*Pn Pb 02 33 48.6 -0.4
ULC *e*Sn Sg 02 34 12.9 -0.2
ULC Ulcinj 1.72 303 *e*Pn Pb 02 33 48.7 -0.4
BOSS Bosilegrad 1.74 33 *e*Pn Pn 02 33 48.5 +1.1
BOSS *e*Sg Sg 02 34 12.8 -1.0
PVY Plav 1.80 330 ⇑*i*Pn Pn 02 33 48.9 +0.6
PVY *e*Sn Sb 02 34 13.3 +0.5
BARS Barje 1.83 15 *e*Pg Pn 02 33 49.6 +1.0
BARS Barje 1.83 15 *e*Pn Pg 02 34 05.6 +13
BARS *e*Sg Sg 02 34 16.3 -0.3
PLG Polygyros 1.85 111 P Pn 02 33 50.3 +1.4
PLG Polygyros 1.85 111 P Pn 02 33 49.6 +0.7
PLG AML AML 02 34 21.6
comp=N,225μm,0.7s
PLG AML AML 02 34 24.7
comp=E,126μm,0.5s
DRME Dracevica, Mon 1.88 308 ⇑*i*Pn Pb 02 33 51.3 -0.5
DRME *e*Sn Sb 02 34 16.2 +1.1
DRME Dracevica, Mon 1.88 308 *e*Pn Pb 02 33 52.2 +0.4
MMB Musomiste 1.99 73 *e*Pn Pn 02 33 51.8 +0.9
MMB Musomiste 1.99 73 P Pn 02 33 52.0 +1.1
PDG Podgorica 2.00 314 *e*Pg Pb 02 33 53.4 -0.3
PDG *e*Sg Sg 02 34 20.7 -1.3
PDG Podgorica 2.00 314 ⇑*i*P Pn 02 33 51.7 +0.8
PDG Podgorica 2.00 314 *e*Pn Pb 02 33 53.5 -0.2
PDG *i* Sn Sg 02 34 21.8 -0.1
PDG Podgorica 2.00 314 *e*Pn Pb 02 33 53.1 -0.6
TTG Podgorica 2.00 314 ⇑*i*Pn Pb 02 33 52.6 -1.1
TTG *e*Sn Sb 02 34 18.9 +0.5
NVR Nevrokopi 2.04 81 P Pn 02 33 52.6 +1.0
NVR Nevrokopi 2.04 81 P Pn 02 33 52.4 +0.8
NVR AML AML 02 34 30.2
comp=N,133μm,1.1s
NVR AML AML 02 34 32.8
comp=E,122μm,0.6s
IVA Berane 2.06 333 ⇑*i*Pn Pn 02 33 52.3 +0.4
IVA *e*Sn Sb 02 34 20.4 0.0
FYTO Fytoko, Volos 2.12 140 P Pn 02 33 52.9 +0.4
FYTO AML AML 02 34 36.4
comp=E,551μm,1.0s
FYTO AML AML 02 34 36.9
comp=N,355μm,0.8s
BUM Brajici-Budva 2.12 307 ⇓*i*Pn Pn 02 33 54.3 +1.6
BUM *e*Sn Sb 02 34 22.5 +0.4
SELS Selova 2.17 359 *e*Pn Pb 02 33 54.0 +0.6
EVR Evrytania 2.18 167 P Pn 02 33 55.4 +1.9
EVR Evrytania 2.18 167 P Pn 02 33 55.0 +1.5
EVR AML AML 02 34 27.7
comp=N,310μm,0.7s
EVR AML AML 02 34 36.0
comp=E,322μm,0.5s
KOME Kolasin 2.19 326 *e*Pn Pg 02 33 59.1 -0.6

VTS Vitosha 2.20 44 *e*Pn Pn 02 33 54.6 +0.8
VTS *e*Sg Sg 02 34 26.7 -1.6
VTS Vitosha 2.20 44 P Pn 02 33 54.8 +1.0
VTS Vitosha 2.20 44 ⇓*i*P Pn 02 33 54.8 +1.0
VTS Vitosha 2.20 44 *e*Pn Pn 02 33 54.5 +0.7
VTS Vitosha 2.20 44 P Pn 02 33 54.6 +0.8
AGG Agios Georgios 2.21 156 P Pn 02 33 54.6 +0.8
AGG S Sn 02 34 22.6 +1.8
AGG Agios Georgios 2.21 156 P Pn 02 33 54.8 +1.0
AGG AML AML 02 34 30.3
comp=E,350μm,0.6s
AGG AML AML 02 34 30.4
comp=N,345μm,0.6s
PAIG Paliouri 2.21 120 P Pn 02 33 53.8 +0.1
OUR Ouranopolis 2.24 108 P Pn 02 33 54.9 +0.6
TSLK Tsoukalades, L 2.25 191 P Pb 02 33 56.9 -1.2
TSLK Tsoukalades, L 2.25 191 P Pn 02 33 56.8 +2.3
CEME Cevo 2.26 312 ⇓*i*Pn Pn 02 33 56.4 +1.8
CEME *e*Sn Sb 02 34 25.2 -0.9
XOR Xorichti 2.28 137 P Pn 02 33 55.2 +0.4
XOR Xorichti 2.28 137 P Pn 02 33 55.1 +0.3
LKD2 Lefkada island 2.29 190 P Pn 02 33 56.3 +1.4
NEO Neokhori 2.34 137 P Pn 02 33 56.2 +0.6
NEO Neokhori 2.34 137 P Pn 02 33 55.9 +0.3
NEO AML AML 02 34 40.9
comp=N,342μm,0.7s
NEO AML AML 02 34 44.7
comp=E,409μm,0.7s
SJES Sjenica 2.39 338 *e*Pn Pn 02 33 57.5 +1.1
NKME Niksic 2.39 317 *e*Pn Pb 02 34 00.7 +0.2
NKY Niksic 2.41 318 ⇑*i*Pn Pn 02 33 57.5 +0.9
NKY *e*Sn Sb 02 34 29.1 -1.2
PVO Paravola 2.44 174 P Pb 02 34 00.3 -1.0
PVO Paravola 2.44 174 P Pn 02 33 58.1 +1.1
PDO Prodromos 2.44 180 P Pn 02 33 58.8 +1.7
PDO AML AML 02 34 45.2
comp=N,394μm,0.7s
PDO AML AML 02 34 48.0
comp=E,302μm,0.8s
EVGI Lefkada island 2.46 190 P Pn 02 33 58.4 +1.2
EVGI Lefkada island 2.46 190 P Pn 02 33 58.3 +1.2
ZAPS Zavoj 2.47 25 *e*Pn Pn 02 33 59.1 +1.6
ANX Ano Chora 2.51 167 P Pn 02 33 59.8 +1.7
ANX S Sb 02 34 31.9 -1.5
ANX Ano Chora 2.51 167 P Pn 02 33 60.0 +1.9
ANX AML AML 02 34 38.2
comp=N,632μm,0.5s
ANX AML AML 02 34 40.0
comp=E,541μm,0.7s
BOVS Bovan 2.62 8 *e*Pn Pn 02 33 59.9 +0.5
FSK Fiskardo 2.63 191 P Pn 02 34 00.8 +1.3
IVAS Ivanjica 2.64 344 *e*Pn Pn 02 33 59.9 +0.1
PLE Pljevlja 2.64 330 ⇓*i*Pn Pn 02 34 00.3 +0.4
PLE *e*Sn Sn 02 34 34.0 +2.2
SMIA Simia 2.67 144 P Pn 02 34 02.1 +2.0
SMIA Simia 2.67 144 P Pn 02 34 01.2 +1.1
EFP Efpalio 2.67 168 P Pn 02 34 02.3 +2.1
EFP Efpalio 2.67 168 P Pn 02 34 02.2 +2.1
TREB Trebinje 2.69 309 *e*Pn Pn 02 34 02.0 +1.5
TREB Trebinje 2.69 309 *e*Pn Pn 02 34 02.6 +2.1
BRY Bratogost 2.71 314 ⇓*i*Pn Pn 02 34 01.9 +1.1
BRY *e*Sn Sn 02 34 35.9 +2.6
SERG Sergoula 2.71 165 P Pn 02 34 02.1 +1.3
SERG Sergoula 2.71 165 P Pn 02 34 01.9 +1.1
RZN Rozhen 2.74 75 P Pn 02 34 02.5 +1.3
UPM Unac-Piva 2.74 323 *e*Pn Pb 02 34 05.1 -1.4
ATAL Atalanti 2.74 148 P Pn 02 34 02.9 +1.7
ATAL Atalanti 2.74 148 P Pn 02 34 02.6 +1.4
KALE Kalithea 2.75 164 P Pn 02 34 02.2 +0.9
TRIZ Trizonia 2.76 165 P Pn 02 34 03.4 +2.0
TRIZ Trizonia 2.76 165 P Pn 02 34 02.7 +1.3
LKR Lokris 2.77 149 P Pn 02 34 02.6 +1.1
DSF Desfina 2.83 158 P Pn 02 34 02.9 +0.5
PLD Plovdiv 2.84 67 *e*Pn Pn 02 34 04.5 +2.0
GRUS Gruza 2.86 353 *e*Pn Pn 02 34 03.2 +0.4
LAKA Lakka 2.87 167 P Pn 02 34 05.1 +2.2
ZAGS Zajecar 2.87 15 *e*Pn Pn 02 34 03.7 +0.8
VLS Valsamata 2.90 189 P Pn 02 34 04.3 +0.9
MRKA Markates 2.98 141 P Pn 02 34 05.3 +0.9
PROD Prodromos 3.08 154 P Pn 02 34 06.8 +1.0
KLV Kalavryta, Ach 3.09 166 P Pn 02 34 06.5 +0.5
BBLS Lazići 3.11 336 *e*Pn Pn 02 34 07.2 +0.9
BBLS Lazići 3.11 336 *e*Pn Pg 02 34 16.2 -1.1
DRO Drossia 3.12 172 P Pn 02 34 08.9 +2.6
STON Ston 3.17 306 *e*Pn Pn 02 34 08.3 +1.3
STON Ston 3.17 306 *e*Pn Pn 02 34 07.5 +0.4
STON Sn Sn 02 34 48.0 +3.3
STON Ston 3.17 306 *e*Pn Pb 02 34 15.5 +1.8
DIVS Divibare 3.17 344 *e*Pn Pn 02 34 07.7 0.0
DIVS Divibare 3.17 344 *e*Pn Pn 02 34 07.1 -0.1
TRUS Trudelj 3.23 350 *e*Pn Pn 02 34 08.0 +0.2
GUR Goura 3.23 164 P Pn 02 34 09.2 +1.2
BAI Bari 3.25 272 *e*Pn Pn 02 34 08.1 0.0
BAI Sn Sn 02 34 44.3 -2.3
VIL2 Platees 3.26 150 P Pn 02 34 09.8 +1.6
LIA Limnos Island 3.26 109 P Pn 02 34 08.7 +0.5
LTK Loutraki 3.32 155 P Pn 02 34 10.0 +0.9
SG1 Sgolgore (BA) 3.42 268 *e*Pn Pn 02 34 10.7 +0.2
SG1 Sn Sn 02 34 52.0 +1.3
MATE Matera 3.42 265 ⇑*i*P Pn 02 34 11.0 +0.6
HAPS Han Pijesak,Bl 3.46 332 *e*Pn Pn 02 34 10.9 -0.2
HAPS Han Pijesak,Bl 3.46 332 *e*Pn Pn 02 34 11.9 +0.8
AMT Artemida-Makis 3.53 173 P Pn 02 34 14.1 +2.0
PTL Penteli 3.64 144 P Pn 02 34 14.2 +0.7
DION Dionisos Attik 3.65 143 P Pn 02 34 14.9 +1.3
ALN Alexandroupoli 3.69 91 P Pn 02 34 15.2 +1.1
TEKS Tekeris 3.71 341 *e*Pn Pn 02 34 14.8 +0.4
TEKS Tekeris 3.71 341 *e*Pn Pn 02 34 15.3 +0.9
MDVR Moldovita 3.75 6 ⇑*i*P Pn 02 34 15.4 +0.3
VLY Voula,Athens 3.77 147 P Pn 02 34 17.3 +1.9
DID Didima 3.88 155 P Pn 02 34 17.8 +1.0
ITM Ithomi 3.90 171 P Pn 02 34 19.7 +2.6
HERR Herculane 3.94 13 ⇑*i*P Pn 02 34 18.3 +0.7
KRND KRANIDI 3.96 157 P Pn 02 34 18.9 +0.9
PYL PYLOS 4.17 174 P Pn 02 34 21.2 +0.5
FRGS Fruska Gora 4.23 347 *e*Pn Pn 02 34 22.8 +1.2
FRGS Fruska Gora 4.23 347 *e*Pn Pn 02 34 21.0 -0.6
DYR Agios Nikonas 4.37 168 P Pn 02 34 26.2 +2.6
GZR Gura Zlata 4.50 14 ⇑*i*P Pn 02 34 25.6 +0.3
VLI Veliai 4.53 162 P Pn 02 34 27.5 +1.7
BZS Buzias 4.58 4 *e*Pn Pn 02 34 25.2 -1.2
BZS Buzias 4.58 4 ⇑*i*P Pn 02 34 25.8 -0.6
BLY Banja Luka 4.72 323 *e*Pn Pn 02 34 29.2 +0.8
BLY Banja Luka 4.72 323 *e*Pn Pn 02 34 29.4 +1.0
DEV Deva 5.00 14 ⇑*i*P Pn 02 34 33.5 +1.4
ARR Arges 5.00 29 ⇓*i*P Pn 02 34 33.4 +1.1
UDBI Udbina 5.29 313 *i* Pn Pn 02 34 38.7 +2.5
UDBI Sn Sn 02 35 38.7 +1.7
MORH Mrgy, Hungar 5.49 341 Sn Pn 02 34 38.0 -0.8
MORH Mrgy, Hungar 5.49 341 *e*Pn Pn 02 34 38.1 -0.8
MORH Sn Sn 02 35 38.1 -3.5
MLR Muntele Rosu 5.64 36 ⇑*i*P Pn 02 34 42.3 +1.2
NVLJ Novalja 5.82 309 *e*Pn Pn 02 34 44.4 +0.9
NVLJ Sn Sn 02 35 49.6 -0.3
TLB Topalu 6.16 53 ⇓*i*P Pn 02 34 49.5 +1.4
VRI Vrincioaia 6.28 38 ⇑*i*P Pn 02 34 50.6 +0.8
CRES Cresnjev 6.34 321 *e*Pn Pn 02 34 52.9 +2.3
LTVH Ltavrtes, Hu 6.36 4 *e*Pn Pn 02 34 51.0 +0.3
LTVH Sn Sn 02 36 02.1 -1.0
CSKK Cskako 6.66 343 Sn Sn 02 36 10.1 -0.3
CEY Cerknica 6.80 316 *e*Pn Pn 02 34 58.2 +1.3
PSZ Piszkesteto 6.93 353 ⇓*i*P Pn 02 34 59.1 +0.3
PSZ Piszkesteto 6.93 353 *e*Pn Pn 02 34 58.1 -0.7
PSZ Sn Sn 02 36 18.1 +0.7
BURAR Bucovina Array 7.17 22 ⇓*i*P Pn 02 35 03.3 +1.2
VYHS Vyhne 7.63 348 *e*PN Pn 02 35 10.9 +2.6
VYHS *e*SN Sn 02 36 33.2 -1.3
MODS Modra-Piesok 7.84 341 *e*PN Pn 02 35 09.9 -1.2

DDA **26** *02:39:20.8, 38°.32N×27°.19E, h7km±4km, ML3.6*
ISK **26** *02:39:20.9, 38°.31N×27°.17E, h9km, ML3.5/35*
ISCJB **26** *02:39:21.3±0.4, 38°.30N±0°.01×27°.14E±0°.02, h12km±3km, Error ellipse: s-maj=2.4km s-min=2.3km az=174.0*
ATH **26** *02:39:21.9, 38°.28N×27°.08E, h31km, ML3.3/16, Error ellipse: s-maj=1.3km s-min=0.7km az=239.0*
THE **26** *02:39:23.2, 38°.29N×27°.16E, h22km±4km, ML3.4/5, Error ellipse: s-maj=4.7km s-min=0.9km az=209.0*
ISC 26 02:39:21.1±1.1,**38°.32N**±0°.02×**27°.15E**±0°.02,**h10**km±9km,

n147,σ0987/170,3C-6D,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.44**	**276**	PG		**Pb**	**02 39 30.4**	**-0.5**
URLA				SG		**Sb**	**02 39 37.1**	**-0.4**
URLA	**Izmir**	**0.44**	**276**	IAML_P				
	comp=Z,104μm,0.1s							
URLA				*i* P		**Pb**	**02 39 31.0**	**+0.1**
ZEY	**zmir**	**0.51**	**261**	*i* P		**Pb**	**02 39 32.3**	**+0.1**
ZEY				*i* S		**Sb**	**02 39 40.0**	**+0.3**
KRBN	**Karaburun**	**0.54**	**301**	PG		**Pb**	**02 39 32.3**	**-0.4**
GCAM	**G?zelcaml?**	**0.62**	**174**	PG		**Pg**	**02 39 33.2**	**+0.1**
GCAM				SG		**Sg**	**02 39 41.9**	**+0.6**
GCAM	**G?zelcaml?**	**0.62**	**174**	*i* P		**Pg**	**02 39 33.6**	**+0.4**
GCAM				*i* S		**Sb**	**02 39 42.6**	**-0.1**
ZEDA	**zmir-Bergama**	**0.65**	**355**	IAML_P				
	comp=Z,33μm,0.3s							
ZEDA				*i* P		**Pb**	**02 39 34.2**	**-0.4**
SMG	**Samos**	**0.66**	**202**	P		**Pg**	**02 39 33.8**	**0.0**
SMG				S		**Sb**	**02 39 44.4**	**+0.6**
SMG	**Samos**	**0.66**	**202**	P		**Pg**	**02 39 33.9**	**+0.1**
SMG				S		**Sb**	**02 39 43.7**	**-0.1**
SMG				AML		AML	02 39 47.5	
	comp=N,14551μm,0.5s							
SMG				AML		AML	02 39 47.8	
	comp=E,6826μm,0.3s							
CESE	**eme**	**0.67**	**271**	PG		**Pb**	**02 39 34.7**	**-0.1**
CAND	**Candarli**	**0.69**	**337**	PG		**Pb**	**02 39 35.1**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**122**	PG		**Pg**	**02 39 34.6**	**+0.1**
GOMA	**Golmarmara-Man**	**0.72**	**57**	PG		**Pb**	**02 39 35.2**	**-0.5**
GOMA				SG		**Sb**	**02 39 45.3**	**-0.3**
AKHS	**Akhisar**	**0.77**	**43**	IAML_P				
	comp=Z,9μm,0.1s							
AKHS				*i* P		**Pb**	**02 39 36.2**	**-0.3**
AKHS				*i* S		**Sg**	**02 39 46.0**	**+0.1**
AKS	**Akhisar**	**0.77**	**43**	PG		**Pb**	**02 39 36.3**	**-0.2**
AKS				SG		**Sb**	**02 39 46.6**	**-0.3**
CHOS	**Chios island**	**0.86**	**275**	PG		**Pb**	**02 39 38.4**	**+0.3**
CHOS	**Chios island**	**0.86**	**275**	P		**Pb**	**02 39 38.5**	**+0.3**
CHOS				S		**Sb**	**02 39 51.0**	**+1.2**
CHOS	**Chios island**	**0.86**	**275**	P		**Pb**	**02 39 38.5**	**+0.3**
CHOS				S		**Sb**	**02 39 49.8**	**0.0**
CHOS				AML		AML	02 39 54.2	
	comp=E,4153μm,0.4s							
CHOS				AML		AML	02 39 54.3	
	comp=N,3916μm,0.4s							
AYDN	**Tasoluk**	**0.87**	**138**	IAML_P				
	comp=Z,13μm,0.3s							
AYDN				*i* P		**Pb**	**02 39 38.4**	**0.0**
AYDN				*i* S		**Sb**	**02 39 50.4**	**+0.3**
AYVA	**Ayvalik**	**1.05**	**340**	IAML_P				
	comp=Z,8μm,0.3s							
AYVA				*i* P		**Pn**	**02 39 41.8**	**-0.1**
AYVA				*i* S		**Sn**	**02 39 56.3**	**-0.3**
MANT	**Manisa**	**1.12**	**81**	IAML_P				
	comp=Z,16μm,0.2s							
MANT				*i* P		**Pn**	**02 39 42.8**	**-0.2**
MANT				*i* S		**Sg**	**02 39 56.7**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.15**	**23**	*i* P		**Pn**	**02 39 43.2**	**0.0**
STEP				*i* S		**Sn**	**02 39 59.3**	**+0.3**
PRK	**Paraskevi**	**1.15**	**324**	P		**Pn**	**02 39 44.4**	**+1.2**
PRK				S		**Sn**	**02 39 58.9**	**-0.1**
PRK	**Paraskevi**	**1.15**	**324**	P		**Pn**	**02 39 44.0**	**+0.7**
PRK				S		**Sn**	**02 39 59.4**	**+0.4**
PRK				AML		AML	02 40 02.8	
	comp=E,8812μm,0.6s							
PRK				AML		AML	02 40 03.1	
	comp=N,6293μm,0.7s							
KULA	**Kula-Manisa**	**1.20**	**80**	PN		**Pg**	**02 39 44.2**	**-0.1**
KULA	**Kula-Manisa**	**1.20**	**80**	P		**Pb**	**02 39 43.8**	**-0.2**
KULA				S		**Sb**	**02 39 58.6**	**-1.0**
BODT	**Bodrum**	**1.26**	**174**	PN		**Pg**	**02 39 45.2**	**-0.1**
BODT	**Bodrum**	**1.26**	**174**	P		**Pn**	**02 39 44.1**	**-0.6**
PSRA	**Psara**	**1.26**	**281**	P		**Pg**	**02 39 45.4**	**0.0**
PSRA				S		**Sb**	**02 40 00.9**	**-0.4**
PSRA				AML		AML	02 40 05.2	
	comp=N,1903μm,0.5s							
PSRA				AML		AML	02 40 05.9	
	comp=E,2024μm,0.3s							
BDRM	**Kayabasi**	**1.27**	**169**	IAML_P				
	comp=Z,9μm,0.3s							
BDRM				*i* P		**Pn**	**02 39 44.6**	**-0.3**
SIGR	**SIGRI**	**1.35**	**312**	PN		**Pg**	**02 39 46.8**	**-0.2**
SIGR	**SIGRI**	**1.35**	**312**	P		**Pb**	**02 39 46.5**	**+0.1**
SIGR				S		**Sb**	**02 40 03.6**	**-0.1**
SIGR	**SIGRI**	**1.35**	**312**	P		**Pb**	**02 39 46.2**	**-0.2**
SIGR				S		**Sn**	**02 40 04.0**	**+0.2**
SIGR				AML		AML	02 40 06.8	
	comp=E,2225μm,0.7s							
SIGR				AML		AML	02 40 09.7	
	comp=N,2017μm,0.6s							
GPNR	**Gulpinar-Canak**	**1.39**	**325**	PN		**Pg**	**02 39 47.3**	**-0.4**
BALB	**Balikesir**	**1.44**	**23**	PN		**Pb**	**02 39 47.9**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.50**	**342**	IAML_P				
	comp=Z,4μm,0.3s							
BAYC				*i* P		**Pn**	**02 39 48.0**	**0.0**
USAK	**Uak-Merkez**	**1.52**	**74**	IAML_P				
	comp=Z,7μm,0.2s							
USAK				*i* P		**Pn**	**02 39 48.6**	**+0.3**
DENT	**Denizli**	**1.59**	**110**	PN		**Pb**	**02 39 49.9**	**-0.7**
DAT	**Datca**	**1.62**	**168**	PN		**Pn**	**02 39 50.3**	**+0.5**
DAT	**Datca**	**1.62**	**168**	IAML_P				
	comp=Z,267nm,0.2s							
DAT				*i* P		**Pn**	**02 39 49.2**	**-0.6**
SMAA	**Simav-Kutahya**	**1.63**	**61**	PN		**Pb**	**02 39 50.7**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.64**	**121**	*i* P		**Pb**	**02 39 51.0**	**-0.4**
EZN	**Ezine**	**1.64**	**337**	PN		**Pb**	**02 39 50.8**	**-0.5**
EZN	**Ezine**	**1.64**	**337**	P		**Pn**	**02 39 50.1**	**+0.2**
EZN				S		**Sn**	**02 40 10.5**	**-0.5**
EZN	**Ezine**	**1.64**	**337**	⇓*i*P		**Pg**	**02 39 52.0**	**-0.5**
DURS	**Dursunbey**	**1.65**	**38**	IAML_P				
	comp=Z,2μm,0.2s							
DURS				*i* P		**Pn**	**02 39 50.0**	**-0.1**
NISR	**Nisiros**	**1.70**	**181**	P		**Pn**	**02 39 50.8**	**0.0**
BOZC	**Bozcaada**	**1.74**	**331**	PN		**Pb**	**02 39 52.3**	**-0.9**
BOZC	**Bozcaada**	**1.74**	**331**	IAML_P				
	comp=Z,725nm,0.3s							
BOZC				*i* P		**Pn**	**02 39 51.4**	**0.0**
TNSA	**Tinos**	**1.75**	**244**	P		**Pn**	**02 39 51.7**	**+0.2**
TNSA				S		**Sn**	**02 40 13.1**	**-0.7**
SHAP	**Saphane-Kutahy**	**1.77**	**66**	PN		**Pn**	**02 39 52.5**	**+0.7**
AMGA	**Amorgos Island**	**1.79**	**214**	P		**Pn**	**02 39 51.7**	**-0.2**
AMGA	**Amorgos Island**	**1.79**	**214**	P		**Pn**	**02 39 51.8**	**-0.2**
AMGA				AML		AML	02 40 22.8	
	comp=E,2193μm,0.4s							
AMGA				AML		AML	02 40 24.8	
	comp=N,1385μm,0.4s							
APE	**Apeiranthos**	**1.79**	**226**	PN		**Pn**	**02 39 52.8**	**+0.8**
APE	**Apeiranthos**	**1.79**	**226**	P		**Pn**	**02 39 52.2**	**+0.2**
APE	**Apeiranthos**	**1.79**	**226**	⇑*i*P		**Pb**	**02 39 53.2**	**-0.8**
APE	**Apeiranthos**	**1.79**	**226**	P		**Pn**	**02 39 51.3**	**-0.8**
APE				AML		AML	02 40 22.9	
	comp=N,586μm,0.3s							
APE				AML		AML	02 40 23.0	
	comp=E,558μm,0.4s							
TURN	**Turunc**	**1.85**	**141**	PN		**Pn**	**02 39 52.3**	**-0.5**
KHL	**Karahalli**	**1.87**	**89**	PN		**Pn**	**02 39 53.9**	**+0.7**
GEDZ	**Gediz**	**1.91**	**67**	PN		**Pn**	**02 39 54.6**	**+0.8**
DALY	**Dalyan (Mula)**	**1.92**	**141**	PN		**Pn**	**02 39 54.6**	**+0.9**
LPK	**Lapseki**	**2.07**	**352**	PN		**Pn**	**02 39 56.3**	**+0.4**
EDC	**Edincik**	**2.10**	**15**	PN		**Pn**	**02 39 57.4**	**+1.1**
SKY	**Skiros Island**	**2.11**	**286**	P		**Pn**	**02 39 57.0**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.14**	**346**	PN		**Pn**	**02 39 58.1**	**+1.3**
KCTX	**Karacabey (Bur**	**2.16**	**25**	PN		**Pn**	**02 39 58.0**	**+0.9**
IOSP	**Ios island**	**2.17**	**223**	P		**Pn**	**02 39 56.6**	**-0.7**
IOSP	**Ios island**	**2.17**	**223**	P		**Pn**	**02 39 57.3**	**+0.1**
IOSP				AML		AML	02 40 34.6	
	comp=N,1704μm,0.4s							
IOSP				AML		AML	02 40 36.0	
	comp=E,1991μm,0.6s							
LIA	**Limnos Island**	**2.20**	**317**	P		**Pn**	**02 39 58.1**	**+0.5**
LIA				S		**Sn**	**02 40 23.7**	**-1.1**

ARG				AML	AML	02 40 39.0	
	comp=E,515μm,0.7s						
ANAF	**Anafi Island**	**2.24 210**	P	**Pn**		**02 39 58.8**	**+0.5**
ANAF	**Anafi Island**	**2.24 210**	P	**Pn**		**02 39 58.0**	**-0.3**
ANAF				AML	AML	02 40 37.4	
	comp=E,2525μm,0.5s						
ANAF				AML	AML	02 40 40.3	
	comp=N,2761μm,0.4s						
FETY	**Fethiye**	**2.28 137**	PN	**Pn**		**02 39 59.7**	**+0.9**
FETY	**Fethiye**	**2.28 137**	P	**Pn**		**02 40 00.0**	**+1.2**
CMBO	**Columbo, Santo**	**2.31 218**	P	**Pn**		**02 39 59.7**	**+0.6**
CMBO				AML	AML	02 40 42.8	
	comp=N,1939μm,0.6s						
CMBO				AML	AML	02 40 44.0	
	comp=E,1882μm,0.4s						
THR3	**Thira Island,**	**2.36 217**	P	**Pn**		**02 40 00.8**	**+1.0**
SANT	**Santorini**	**2.36 215**	PN	**Pn**		**02 40 01.1**	**+1.2**
SANT	**Santorini**	**2.36 215**	⇓*i*P	**Pb**		**02 40 03.3**	**-0.5**
SANT	**Santorini**	**2.36 215**	P	**Pn**		**02 39 59.8**	**-0.1**
SANT				AML	AML	02 40 43.9	
	comp=N,176μm,0.3s						
SANT				AML	AML	02 40 43.9	
	comp=E,886μm,0.3s						
RKY	**Sarkoy-Tekirda**	**2.37 1**	PN	**Pn**		**02 40 01.2**	**+1.2**
ERIK	**Erikli-Kesan**	**2.40 348**	PN	**Pn**		**02 40 01.8**	**+1.4**
THR6	**Thira Island,**	**2.41 216**	P	**Pn**		**02 39 59.7**	**-0.8**
SERI	**Serifos**	**2.41 242**	P	**Pn**		**02 40 00.1**	**-0.4**
MDNY	**Mudanya-Bursa**	**2.45 33**	PN	**Pn**		**02 40 02.4**	**+1.3**
SMTH	**Samothraki Isl**	**2.49 330**	P	**Pn**		**02 40 02.5**	**+0.9**
SMTH	**Samothraki Isl**	**2.49 330**	P	**Pn**		**02 40 02.2**	**+0.6**
SMTH				AML	AML	02 40 42.6	
	comp=N,203μm,0.8s						
SMTH				AML	AML	02 40 44.8	
	comp=E,157μm,0.5s						
EREA	**Eretria**	**2.53 273**	P	**Pn**		**02 40 02.7**	**+0.4**
ENEZ	**Enez**	**2.54 343**	PN	**Pn**		**02 40 03.1**	**+0.9**
DION	**Dionisos Attik**	**2.54 266**	P	**Pn**		**02 40 02.9**	**+0.5**
DION	**Dionisos Attik**	**2.54 266**	P	**Pn**		**02 40 02.8**	**+0.4**
PTL	**Penteli**	**2.60 265**	P	**Pn**		**02 40 03.5**	**+0.3**
ATHU	**Athens Univers**	**2.67 263**	P	**Pn**		**02 40 04.6**	**+0.4**
MHLA	**Plaka, Milos I**	**2.68 235**	P	**Pn**		**02 40 04.0**	**-0.2**
MHLA				AML	AML	02 40 52.4	
	comp=N,451μm,0.7s						
MHLA				AML	AML	02 40 55.1	
	comp=E,357μm,0.5s						
VLY	**Voula,Athens**	**2.69 261**	P	**Pn**		**02 40 04.5**	**+0.2**
ISP	**Isparta**	**2.71 99**	P	**Pn**		**02 40 06.6**	**+1.9**
ALN	**Alexandroupoli**	**2.71 342**	PN	**Pn**		**02 40 05.8**	**+1.1**
ALN	**Alexandroupoli**	**2.71 342**	P	**Pn**		**02 40 05.6**	**+0.9**
ALN	**Alexandroupoli**	**2.71 342**	P	**Pn**		**02 40 06.3**	**+1.6**
MHLO	**Agia Marina, M**	**2.72 234**	P	**Pn**		**02 40 05.2**	**+0.3**
MHLO				AML	AML	02 40 55.2	
	comp=E,600μm,0.8s						
MHLO				AML	AML	02 40 56.8	
	comp=N,553μm,0.6s						
MRKA	**Markates**	**2.82 279**	P	**Pn**		**02 40 07.0**	**+0.8**
KSL	**Kastellorizon**	**2.91 137**	P	**Pn**		**02 40 09.3**	**+1.9**
THAS	**Thassos island**	**2.96 321**	P	**Pn**		**02 40 08.6**	**+0.5**
VIL2	**Platees**	**3.06 269**	P	**Pn**		**02 40 09.9**	**+0.4**
RDO	**Rodhopi**	**3.09 337**	P	**Pn**		**02 40 10.5**	**+0.7**
RDO	**Rodhopi**	**3.09 337**	P	**Pn**		**02 40 10.8**	**+1.0**
PAIG	**Paliouri**	**3.14 302**	P	**Pn**		**02 40 11.9**	**+1.3**
OUR	**Ouranopolis**	**3.18 310**	P	**Pn**		**02 40 12.0**	**+1.0**
DID	**Didima**	**3.20 257**	P	**Pn**		**02 40 11.5**	**+0.1**
DID	**Didima**	**3.20 257**	P	**Pn**		**02 40 11.5**	**+0.1**
NEO	**Neokhori**	**3.22 289**	P	**Pn**		**02 40 12.4**	**+0.6**
ATAL	**Atalanti**	**3.26 278**	P	**Pn**		**02 40 13.1**	**+0.9**
LKR	**Lokris**	**3.27 277**	P	**Pn**		**02 40 12.8**	**+0.4**
ZKR	**Zakros**	**3.28 193**	P	**Pn**		**02 40 13.3**	**+0.8**
KRND	**KRANIDI**	**3.30 255**	P	**Pn**		**02 40 12.6**	**-0.1**
LTK	**Loutraki**	**3.31 266**	P	**Pn**		**02 40 13.0**	**0.0**
PROD	**Prodromos**	**3.34 270**	P	**Pn**		**02 40 13.9**	**+0.5**
KAVA	**Kavala**	**3.36 324**	P	**Pn**		**02 40 14.4**	**+0.8**
SILT	**Sile**	**3.42 33**	⇑*i*P	**Pb**		**02 40 22.0**	**+0.2**
LAST	**Lasithi**	**3.42 204**	P	**Pn**		**02 40 14.9**	**+0.4**
PLG	**Polygyros**	**3.53 307**	P	**Pn**		**02 40 17.0**	**+1.1**
KDZ	**Kurdzhali**	**3.58 339**	P	**Pb**		**02 40 21.3**	**-3.2**
DSF	**Desfina**	**3.63 273**	P	**Pn**		**02 40 18.4**	**+1.0**
VLI	**Veliai**	**3.71 246**	P	**Pn**		**02 40 18.4**	**0.0**
GUR	**Goura**	**3.81 266**	P	**Pn**		**02 40 20.6**	**+0.7**
AGG	**Agios Georgios**	**3.84 282**	P	**Pn**		**02 40 21.6**	**+1.4**
RZN	**Rozhen**	**3.85 332**	P	**Pn**		**02 40 21.5**	**+1.0**
SOH	**Sokhos**	**3.85 312**	P	**Pn**		**02 40 22.0**	**+1.6**
HORT	**Hortiatis**	**3.87 307**	P	**Pn**		**02 40 22.0**	**+1.3**
SRS	**Serrai**	**3.92 317**	P	**Pn**		**02 40 22.3**	**+1.1**
DIM	**Dimitrovgrad**	**3.93 342**	P	**Pn**		**02 40 21.5**	**+0.1**
NVR	**Nevrokopi**	**3.95 321**	P	**Pn**		**02 40 22.8**	**+1.1**
LIT	**Litokhoron**	**4.03 298**	P	**Pn**		**02 40 23.4**	**+0.6**
ANX	**Ano Chora**	**4.11 275**	P	**Pn**		**02 40 25.0**	**+1.0**
MMB	**Musomiste**	**4.19 322**	P	**Pn**		**02 40 26.0**	**+0.9**
DRO	**Drossia**	**4.30 267**	P	**Pn**		**02 40 26.6**	**+0.1**
KNT	**Kendrikon**	**4.34 312**	P	**Pn**		**02 40 28.7**	**+1.7**
PVO	**Paravola**	**4.42 276**	P	**Pn**		**02 40 29.1**	**+0.9**
PYL	**PYLOS**	**4.52 253**	P	**Pn**		**02 40 30.1**	**+0.6**
PDO	**Prodromos**	**4.69 275**	P	**Pn**		**02 40 33.1**	**+1.2**
VTS	**Vitosha**	**5.23 326**	⇓*i*P	**Pn**		**02 40 40.5**	**+1.1**
MLR	**Muntele Rosu**	**7.22 353**	⇓*i*P	**Pn**		**02 41 11.1**	**+4.3**
VRI	**Vrincioaia**	**7.55 358**	⇑*i*P	**Pn**		**02 41 15.1**	**+4.0**
TESR	**Tescani**	**8.20 358**	⇓*i*P	Pn		02 41 25.1	+5.1
BZS	**Buzias**	**8.37 332**	⇓*i*P	**Pn**		**02 41 23.2**	**+0.8**

*ISCJB **26** 02:41:05.8±0.5, 54°.3N±0°.1×153°.3E±0°.1, h600km, Error ellipse: s-maj=14.0km s-min=9.3km az=20.5*
*IDC **26** 02:41:06.6±1.4, 54°.33N×153°.16E, h607km±15km, mb2.6/3, mb1 2.8/7, mb1mx2.4/38, mbtmp3.6/7, Error ellipse: s-maj=37.8km s-min=20.9km az=6.0*
*KRSC **26** 02:41:07.6±10.0, 54°.43N×153°.17E, h556km±10km, ML4.0*
ISC 26 02:41:05.4±0.8, 54°.2N±0°.1×153°.33E±0°.09, h600km, n20, σ1§93/24, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**2.77**	**98**	*e*P	**P**	**02 42 25.8**	**+2.5**
PETK	**Petropavlovsk-**	**2.81**	**111**	P	**P**	**02 42 25.6**	**+2.2**
	0.8nm,0.3s,baz=346,slow=2.4,SNR=25						
KOK	**Koryaka**	**3.27**	**103**	*e*P	**P**	**02 42 28.4**	**+2.3**
SMAR	**Somma**	**3.38**	**103**	*e*P	**P**	**02 42 28.4**	**+1.5**
UGLR	**Uglovaya**	**3.41**	**104**	*e*P	**P**	**02 42 29.0**	**+2.0**
SDLR	**Sedlovina**	**3.42**	**103**	*e*P	**P**	**02 42 28.7**	**+1.6**
PAU	**Pauzhetka**	**3.43**	**141**	*e*P	**P**	**02 42 28.7**	**+1.6**
RUS	**Russkaya**	**3.56**	**117**	*e*P	**P**	**02 42 29.2**	**+1.4**
RUS				*e*S	**S**	**02 43 34.0**	**-1.2**
ALID	**Alaid**	**3.58**	**157**	*e*P	**P**	**02 42 30.4**	**+2.2**
KDTR	**Khodutka, Kamc**	**3.72**	**128**	*e*P	**P**	**02 42 29.3**	**+0.5**
KDTR				*e*S	**S**	**02 43 34.1**	**-2.9**
SPN	**Mys Shipunski**	**4.12**	**102**	*e*P	**P**	**02 42 31.8**	**+0.2**
SPN				*e*S	**S**	**02 43 38.7**	**-3.4**
MKZ	**Mys Kozlova**	**4.93**	**82**	*e*S	**S**	**02 43 50.2**	**-2.7**
MA2	**Magadan**	**5.60**	**346**	P	**P**	**02 42 43.2**	**+0.4**
	1.0nm,0.3s,baz=103,slow=12,SNR=4.1						
KBTR	**Krutoberegovo**	**5.80**	**66**	*e*P	**P**	**02 42 43.6**	**-1.0**
BKI	**Bering**	**7.40**	**77**	*e*P	**P**	**02 43 01.6**	**+2.8**
BKI				*e*S	**S**	**02 44 33.2**	**+1.3**
SEY	**Seymchan**	**8.80**	**357**	P	**P**	**02 43 12.3**	**+0.3**
	0.3nm,0.3s,baz=174,slow=10,SNR=4.9						
KLR	**Kul'dur**	**14.24**	**258**	P	**P**	**02 44 07.2**	**+0.8**
	0.2nm,0.3s,baz=72,slow=7.8,SNR=4.7						
MKAR	**Makanchi Array**	**44.03**	**291**	P	**P**	**02 48 20.7**	**-0.4**
	0.8nm,0.5s,baz=50,slow=6.4,SNR=14						
FINES	**FINESS Array B**	**57.43**	**333**	P	**P**	**02 49 56.2**	**-1.3**
	0.9nm,0.9s,baz=50,slow=2.2,SNR=4.5						
TXAR	**Lajitas Array**	**73.81**	**62**	P	**P**	**02 51 41.0**	**+1.0**
	0.1nm,0.6s,baz=282,slow=4.2,SNR=2.8						

*ATH **26** 02:50:10.9, 41°.98N×21°.18E, h12km±2km, ML2.5/8, Error ellipse: s-maj=3.2km s-min=1.3km az=173.0*
*SKO **26** 02:50:11.0, 41°.96N×21°.16E, h15km, M2.5, ML2.8*
*THE **26** 02:50:12.3, 41°.94N×21°.15E, h2km±2km, ML2.5/4, Error ellipse: s-maj=2.8km s-min=1.1km az=211.0*
*PDG **26** 02:50:12.3±0.7, 41°.97N×21°.14E, h6km±1km, MD3.0/1, ML3.0/10, Error ellipse: s-maj=1.0km s-min=1.3km az=0.0*
*BEO **26** 02:50:13.0±0.2, 41°.95N×21°.19E, h14km±3km, ML2.6/7*
*SOF **26** 02:50:13.0, 41°.84N×21°.17E, h8km*
ISC 26 02:50:12.0±1.1, 41°.95N±0°.02×21°.17E±0°.02, h2km±10km, n125, σ0§87/161, 18C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRUS	**Krusevo**	**0.58**	**174**	⇑*i*Pg	**Pg**	**02 50 23.2**	**0.0**
KRUS				*i* Sg	**Sg**	**02 50 31.7**	**+1.0**
KRUS				*e*Lg	Lg	02 50 31.8	
	comp=N,300nm,0.3s						
KRUS				*e*Lg	Lg	02 50 31.9	
	comp=E,264nm,0.3s						
PHP	**Peshkopia**	**0.60**	**245**	P	**Pg**	**02 50 22.6**	**-1.0**
PHP				S	**Sg**	**02 50 31.0**	**-0.5**
OHR	**Ohrid**	**0.88**	**199**	⇑*i*Pg	**Pg**	**02 50 28.4**	**-0.5**
OHR				*i* Sg	**Sg**	**02 50 41.2**	**+0.9**
OHR				*e*Lg	Lg	02 50 43.1	
	comp=N,127nm,0.3s						
OHR				*e*Lg	Lg	02 50 43.1	
	comp=E,346nm,0.8s						
BIA	**Bitola**	**0.93**	**173**	P	**Pg**	**02 50 30.1**	**+0.2**
BIA				S	**Sb**	**02 50 43.4**	**-0.4**
BIA	**Bitola**	**0.93**	**173**	*i* Pg	**Pg**	**02 50 30.2**	**+0.2**
BIA				*i* Sg	**Sg**	**02 50 42.9**	**+0.9**
BIA				*e*Lg	Lg	02 50 43.4	
	comp=N,182nm,0.3s						
BIA				*e*Lg	Lg	02 50 43.5	
	comp=E,234nm,0.2s						
BARS	**Barje**	**0.99**	**29**	*e*Pg	**Pg**	**02 50 31.3**	**+0.3**
BARS				*e*Sg	**Sb**	**02 50 45.5**	**0.0**
PVY	**Plav**	**1.11**	**306**	⇑*i*Pg	**Pg**	**02 50 32.6**	**-0.7**
PVY				*i* Sg	**Sb**	**02 50 49.1**	**+0.1**
BOSS	**Bosilegrad**	**1.12**	**60**	*e*Pg	**Pg**	**02 50 33.4**	**0.0**
TIR	**Tirane**	**1.15**	**239**	*e*Pg	**Pg**	**02 50 33.7**	**-0.3**
TIR				*e*Sg	**Sn**	**02 50 51.0**	**-0.4**
TIR	**Tirane**	**1.15**	**239**	P	**Pg**	**02 50 33.2**	**-0.8**
TIR	**Tirane**	**1.15**	**239**	*i* Pg	**Pg**	**02 50 33.1**	**-0.8**
TIR	**Tirane**	**1.15**	**239**	P	**Pg**	**02 50 33.0**	**-1.0**
TIR				AML	AML	02 50 59.5	
	comp=E,483μm,0.5s						
TIR				AML	AML	02 51 00.2	
	comp=N,392μm,0.6s						
FNA	**Florina**	**1.17**	**172**	P	**Pg**	**02 50 33.8**	**-0.6**
FNA				S	**Sb**	**02 50 50.4**	**-0.3**
FNA	**Florina**	**1.17**	**172**	*i* Pg	**Pg**	**02 50 33.9**	**-0.6**
FNA				*i* Sg	**Sb**	**02 50 50.3**	**-0.4**
FNA	**Florina**	**1.17**	**172**	P	**Pg**	**02 50 33.9**	**-0.6**
FNA				S	**Sg**	**02 50 50.0**	**+0.4**
FNA				AML	AML	02 50 55.5	
	comp=E,1198μm,0.4s						
FNA				AML	AML	02 50 57.2	
	comp=N,1061μm,0.4s						
VAY	**Valandovo**	**1.22**	**120**	*e*Pg	**Pg**	**02 50 34.5**	**-0.9**
VAY				*e*Sg	**Sb**	**02 50 51.7**	**-0.3**
VAY	**Valandovo**	**1.22**	**120**	P	**Pg**	**02 50 34.3**	**-1.1**
VAY				S	**Sb**	**02 50 51.9**	**-0.1**
VAY	**Valandovo**	**1.22**	**120**	*i* Pg	**Pg**	**02 50 35.0**	**-0.4**
VAY				*i* Sg	**Sb**	**02 50 52.0**	**-0.1**
VAY				*e*Lg	Lg	02 50 53.3	
	comp=E,130nm,0.5s						
VAY				*e*Lg	Lg	02 50 53.3	
	comp=N,180nm,0.7s						
SELS	**Selova**	**1.27**	**358**	*e*Pg	**Pg**	**02 50 35.0**	**-1.4**
SELS				*e*Sg	**Sg**	**02 50 52.7**	**-0.2**
IVA	**Berane**	**1.32**	**315**	⇑*i*Pg	**Pn**	**02 50 36.5**	**-1.1**
IVA				*e*Sg	**Sn**	**02 50 56.2**	**+0.3**
GRG	**Griva**	**1.35**	**137**	P	**Pn**	**02 50 37.2**	**-0.8**
GRG				S	**Sn**	**02 50 56.7**	**+0.1**
GRG	**Griva**	**1.35**	**137**	*i* Pg	**Pn**	**02 50 37.2**	**-0.8**
GRG	**Griva**	**1.35**	**137**	P	**Pn**	**02 50 37.1**	**-0.8**
GRG				AML	AML	02 50 58.8	
	comp=N,332μm,0.4s						
GRG				AML	AML	02 51 00.6	
	comp=E,314μm,0.4s						
KKB	**Krupnik**	**1.43**	**93**	*i* Pg	**Pn**	**02 50 38.5**	**-0.5**
KKB	**Krupnik**	**1.43**	**93**	P	**Pg**	**02 50 40.2**	**+0.8**
ULC	**Ulcinj**	**1.44**	**271**	⇓*i*Pg	**Pn**	**02 50 38.8**	**-0.3**
ULC				*e*Sg	**Sg**	**02 51 00.9**	**+2.7**
ULC	**Ulcinj**	**1.44**	**271**	*e*Pg	**Pn**	**02 50 38.4**	**-0.7**
PDG	**Podgorica**	**1.50**	**289**	*e*Pg	**Pn**	**02 50 38.4**	**-1.6**
PDG				*e*Sg	**Sg**	**02 51 01.8**	**+1.5**
PDG	**Podgorica**	**1.50**	**289**	⇑*i*P	**Pn**	**02 50 38.7**	**-1.3**
PDG	**Podgorica**	**1.50**	**289**	S	**Sb**	**02 51 00.0**	**-0.2**
PDG	**Podgorica**	**1.50**	**289**	*e*Pn	**Pn**	**02 50 38.4**	**-1.6**
TTG	**Podgorica**	**1.50**	**289**	⇑*i*Pg	**Pn**	**02 50 38.2**	**-1.8**
TTG				*e*Sg	**Sg**	**02 51 02.7**	**+2.4**
KNT	**Kendrikon**	**1.52**	**121**	P	**Pn**	**02 50 39.8**	**-0.4**
KNT				S	**Sb**	**02 51 00.5**	**-0.1**
KNT	**Kendrikon**	**1.52**	**121**	*e*Pg	**Pn**	**02 50 40.2**	**+0.1**
KNT				*i* Sg	**Sg**	**02 51 01.3**	**+0.6**
KNT	**Kendrikon**	**1.52**	**121**	P	**Pn**	**02 50 39.5**	**-0.7**
KNT				S	**Sb**	**02 51 00.4**	**-0.1**
KNT				AML	AML	02 51 04.9	
	comp=E,123μm,0.4s						
KNT				AML	AML	02 51 06.2	
	comp=N,152μm,0.6s						
KOME	**Kolasin**	**1.52**	**307**	*e*Pg	**Pg**	**02 50 42.7**	**+1.5**
NEST	**Nestorio**	**1.53**	**183**	P	**Pn**	**02 50 40.4**	**-0.1**
NEST				AML	AML	02 51 06.8	
	comp=N,268μm,0.8s						
NEST				AML	AML	02 51 08.3	
	comp=E,330μm,0.7s						
SJES	**Sjenica**	**1.58**	**326**	*e*Pg	**Pb**	**02 50 41.9**	**-0.2**
SJES				*e*Sg	**Sg**	**02 51 04.1**	**+1.2**
VTS	**Vitosha**	**1.67**	**66**	*e*Pg	**Pn**	**02 50 42.5**	**0.0**
VTS				*e*Sg	**Sb**	**02 51 04.8**	**-0.4**
VTS	**Vitosha**	**1.67**	**66**	P	**Pn**	**02 50 42.5**	**0.0**
VTS				S	**Sn**	**02 51 03.9**	**-0.7**
VTS	**Vitosha**	**1.67**	**66**	⇓*i*P	**Pn**	**02 50 42.6**	**0.0**
VTS	**Vitosha**	**1.67**	**66**	S	**Sb**	**02 51 04.5**	**-0.7**
VTS	**Vitosha**	**1.67**	**66**	*e*Pn	**Pn**	**02 50 42.3**	**-0.2**
VTS				*i* Sg	**Sb**	**02 51 04.8**	**-0.4**
VTS	**Vitosha**	**1.67**	**66**	P	**Pb**	**02 50 43.5**	**-0.1**
KZN	**Kozani**	**1.70**	**164**	P	**Pn**	**02 50 43.1**	**+0.3**
KZN	**Kozani**	**1.70**	**164**	P	**Pb**	**02 50 43.4**	**-0.7**
KZN				AML	AML	02 51 12.7	
	comp=E,209μm,0.4s						
KZN				AML	AML	02 51 14.1	
	comp=N,122μm,0.5s						
ZAPS	**Zavoj**	**1.71**	**39**	*e*Pn	**Pb**	**02 50 43.5**	**-0.7**
BUM	**Brajici-Budva**	**1.73**	**283**	⇑*i*Pn	**Pn**	**02 50 43.1**	**-0.1**
BUM				*e*Sn	**Sg**	**02 51 08.7**	**+1.1**
BOVS	**Bovan**	**1.73**	**13**	*e*Pg	**Pb**	**02 50 44.2**	**-0.4**
BOVS				*e*Sg	**Sg**	**02 51 08.2**	**+0.5**
PENT	**Pentalofos**	**1.75**	**181**	P	**Pb**	**02 50 44.1**	**-0.4**
PENT	**Pentalofos**	**1.75**	**181**	P	**Pb**	**02 50 44.1**	**-0.8**
PENT				AML	AML	02 51 14.3	
	comp=N,173μm,0.7s						
PENT				AML	AML	02 51 14.4	
	comp=E,283μm,1.5s						
IVAS	**Ivanjica**	**1.79**	**336**	*e*Pn	**Pn**	**02 50 43.0**	**-1.1**
NKY	**Niksic**	**1.83**	**299**	⇓*i*Pn	**Pn**	**02 50 44.4**	**-0.2**
NKY				*e*Sn	**Sg**	**02 51 10.5**	**-0.4**
NKME	**Niksic**	**1.84**	**297**	*e*Pn	**Pg**	**02 50 48.2**	**+1.0**
THE	**Thessaloniki**	**1.89**	**134**	*e*Pn	**Pn**	**02 50 45.8**	**+0.6**
THE	**Thessaloniki**	**1.89**	**134**	P	**Pn**	**02 50 45.9**	**+0.6**
PLE	**Pljevlja**	**1.91**	**317**	⇓*i*Pn	**Pn**	**02 50 45.8**	**+0.1**
PLE				*e*Sn	**Sb**	**02 51 12.3**	**+0.3**
MMB	**Musomiste**	**1.95**	**100**	*e*Pn	**Pn**	**02 50 46.5**	**+0.4**
MMB	**Musomiste**	**1.95**	**100**	P	**Pb**	**02 50 48.5**	**+0.3**
GRUS	**Gruza**	**1.97**	**350**	*e*Pn	**Pn**	**02 50 46.6**	**+0.2**
HORT	**Hortiatis**	**1.98**	**132**	P	**Pn**	**02 50 46.8**	**+0.1**
SOH	**Sokhos**	**1.99**	**124**	P	**Pn**	**02 50 46.8**	**0.0**
SOH	**Sokhos**	**1.99**	**124**	*e*Pn	**Pn**	**02 50 46.9**	**+0.2**
SOH	**Sokhos**	**1.99**	**124**	P	**Pn**	**02 50 46.8**	**0.0**
KPRO	**Kipourio**	**2.00**	**176**	P	**Pb**	**02 50 47.9**	**-1.2**
KPRO	**Kipourio**	**2.00**	**176**	P	**Pn**	**02 50 46.6**	**-0.2**
SRS	**Serrai**	**2.00**	**114**	P	**Pn**	**02 50 46.6**	**-0.2**
SRS	**Serrai**	**2.00**	**114**	*i* Pn	**Pn**	**02 50 46.9**	**+0.1**
SRS	**Serrai**	**2.00**	**114**	P	**Pn**	**02 50 46.8**	**0.0**
HCY	**Herceg Novi**	**2.05**	**285**	⇑*i*Pn	**Pn**	**02 50 47.4**	**-0.2**
HCY				*e*Sn	**Sb**	**02 51 15.6**	**-0.4**
UPM	**Unac-Piva**	**2.09**	**308**	⇓*i*Pn	**Pn**	**02 50 48.4**	**+0.1**
UPM				*e*Sn	**Sb**	**02 51 16.4**	**-0.9**
LIT	**Litokhoron**	**2.10**	**151**	P	**Pn**	**02 50 48.5**	**+0.3**
LIT	**Litokhoron**	**2.10**	**151**	P	**Pn**	**02 50 48.4**	**+0.3**
NVR	**Nevrokopi**	**2.10**	**106**	P	**Pn**	**02 50 48.2**	**-0.1**
NVR	**Nevrokopi**	**2.10**	**106**	P	**Pn**	**02 50 48.0**	**-0.3**
NVR				AML	AML	02 51 26.3	
	comp=N,87μm,0.5s						
NVR				AML	AML	02 51 29.1	
	comp=E,79μm,0.8s						
BRY	**Bratogost**	**2.17**	**297**	⇓*i*Pn	**Pn**	**02 50 48.9**	**-0.4**
BRY				*e*Sn	**Sb**	**02 51 18.9**	**-0.6**
TREB	**Trebinje**	**2.23**	**291**	*e*Pn	**Pn**	**02 50 50.4**	**+0.4**
TREB	**Trebinje**	**2.23**	**291**	*e*Pn	**Pb**	**02 50 51.7**	**-1.3**
BBLS	**Lazići**	**2.32**	**327**	*e*Pn	**Pn**	**02 50 50.8**	**-0.5**
BBLS	**Lazići**	**2.32**	**327**	*e*Pn	**Pg**	**02 50 55.7**	**-0.7**
DIVS	**Divibare**	**2.32**	**338**	*e*Pn	**Pn**	**02 50 51.5**	**+0.2**
DIVS	**Divibare**	**2.32**	**338**	*e*Pn	**Pn**	**02 50 50.6**	**-0.7**
PLG	**Polygyros**	**2.33**	**132**	P	**Pn**	**02 50 51.6**	**+0.2**
PLG	**Polygyros**	**2.33**	**132**	P	**Pn**	**02 50 51.7**	**+0.3**
TRUS	**Trudelj**	**2.34**	**346**	*e*Pn	**Pn**	**02 50 51.7**	**+0.1**
KEK	**Kerkira**	**2.46**	**205**	P	**Pn**	**02 50 54.2**	**+0.9**
THL	**Klokotos Trika**	**2.46**	**165**	P	**Pn**	**02 50 53.7**	**+0.5**
THL				S	**Sn**	**02 51 23.9**	**0.0**
THL	**Klokotos Trika**	**2.46**	**165**	P	**Pn**	**02 50 53.5**	**+0.3**
KUBS	**Kucevo**	**2.49**	**8**	*e*Pn	**Pn**	**02 50 52.2**	**-1.4**
IGT	**Igoumenitsa**	**2.49**	**195**	P	**Pn**	**02 50 54.0**	**+0.3**
OUR	**Ouranopolis**	**2.67**	**126**	P	**Pn**	**02 50 55.8**	**-0.1**
KAVA	**Kavala**	**2.69**	**110**	P	**Pn**	**02 50 56.4**	**+0.2**
HAPS	**Han Pijesak,Bl**	**2.69**	**323**	*e*Pn	**Pn**	**02 50 56.5**	**+0.1**
HAPS	**Han Pijesak,Bl**	**2.69**	**323**	*e*Pn	**Pn**	**02 50 56.3**	**-0.1**
STON	**Ston**	**2.73**	**291**	*e*Pn	**Pn**	**02 50 58.2**	**+1.3**
STON	**Ston**	**2.73**	**291**	*e*Pn	**Pb**	**02 51 00.6**	**-1.0**
PAIG	**Paliouri**	**2.77**	**136**	P	**Pn**	**02 50 57.4**	**-0.1**
SCTE	**Santa Cesarea**	**2.77**	**228**	P	**Pn**	**02 50 57.8**	**+0.4**
MDVR	**Moldovita**	**2.86**	**8**	⇑*i*P	**Pn**	**02 51 00.4**	**+1.6**
TEKS	**Tekeris**	**2.87**	**336**	*e*Pn	**Pn**	**02 50 58.6**	**-0.2**
XOR	**Xorichti**	**3.00**	**149**	P	**Pn**	**02 51 01.0**	**+0.3**
HERR	**Herculane**	**3.07**	**17**	⇑*i*P	**Pn**	**02 51 01.1**	**-0.5**
NOCI	**Noci**	**3.30**	**251**	P	**Pn**	**02 51 04.8**	**+0.1**
FRGS	**Fruska Gora**	**3.36**	**343**	*e*Pn	**Pn**	**02 51 04.7**	**-0.9**
FRGS	**Fruska Gora**	**3.36**	**343**	*e*Pn	**Pn**	**02 51 02.4**	**-3.2**
RDO	**Rodhopi**	**3.37**	**102**	P	**Pn**	**02 51 05.9**	**+0.2**
ANX	**Ano Chora**	**3.40**	**170**	P	**Pn**	**02 51 07.7**	**+1.5**
GZR	**Gura Zlata**	**3.64**	**18**	⇑*i*P	**Pn**	**02 51 09.3**	**-0.1**
BZS	**Buzias**	**3.68**	**5**	*e*Pn	**Pn**	**02 51 08.0**	**-2.0**
BZS	**Buzias**	**3.68**	**5**	⇑*i*P	**Pn**	**02 51 10.0**	**0.0**
BZS	**Buzias**	**3.68**	**5**	S	**Sn**	**02 51 53.6**	**-0.4**
BLY	**Banja Luka**	**4.04**	**315**	*e*Pn	**Pn**	**02 51 15.1**	**+0.3**
BLY	**Banja Luka**	**4.04**	**315**	⇑*i*P	**Pn**	**02 51 14.6**	**-0.2**
BLY	**Banja Luka**	**4.04**	**315**	*e*Pn	**Pn**	**02 51 12.6**	**-2.2**
ARR	**Arges**	**4.24**	**35**	⇑*i*P	**Pn**	**02 51 18.1**	**+0.3**
TIP	**Timpagrande**	**4.35**	**232**	P	**Pn**	**02 51 19.7**	**+0.5**
VOIR		**4.48**	**38**	⇑*i*P	**Pn**	**02 51 21.7**	**+0.7**
VOIR		**4.48**	**38**	S	**Sn**	**02 52 14.3**	**+0.5**
MORH	**Mrgy, Hungar**	**4.64**	**338**	*e*P	**Pn**	**02 51 21.0**	**-2.1**
UDBI	**Udbina**	**4.72**	**305**	*e*Pn	**Pn**	**02 51 26.6**	**+2.4**
UDBI	

ASAR ScP **ScP** 03 13 12.5 +0.8
0.3nm,0.7s,baz=341,slow=1.6,SNR=4.4
SARN Sarigan 25.84 50 *e*P **P** 03 06 11.7 -0.9
52nm,1.2s
PANO Nakornpanom 26.41 310 P **P** 03 06 17.9 +0.2
0.5nm,0.9s
PSI Prapat 26.57 276 *e*P **P** 03 06 19.4 0.0
13nm,1.0s
PSI Prapat 26.57 276 P **P** 03 06 19.1 -0.3
11nm,0.9s,baz=115,slow=6.4,SNR=7.6
PSI LR LR 03 17 34.7
comp=Z,222nm,20.4s,baz=92,slow=38
CHAI Chaiyaphum 27.79 305 P **P** 03 06 32.3 +2.1
15μm,0.6s
GSI Gunungsitoli 27.83 272 *e*P **P** 03 06 30.6 0.0
56nm,1.3s
NONG Nongkai 28.07 310 P **P** 03 06 32.3 -0.3
0.4nm,0.8s
UTTA Uttaradit 29.93 307 P **P** 03 06 50.0 +0.9
NANT Nan 30.39 309 P **P** 03 06 53.7 +0.5
41μm,0.6s
PHRA Phrae 30.60 308 P **P** 03 06 55.7 +0.7
2.2nm,2.3s,246nm
FORT Forrest 31.06 176 *e*P **P** 03 06 58.7 -0.2
20nm,0.8s
CM31 Chiang Mai Arr 31.60 306 *e*P **P** 03 07 03.5 -0.4
8.9nm,1.0s
CM31 *e*PcP **PcP** 03 09 55.2 +0.4
CMAR Chiang Mai Arr 31.60 306 P **P** 03 07 03.5 -0.4
2.6nm,0.7s,baz=136,slow=8.3,SNR=12
CMAR PcP **PcP** 03 09 55.2 +0.4
0.9nm,0.3s,baz=219,slow=3.7,SNR=4.4
GYA Guiyang 31.61 327 *e*P **P** 03 07 04.8 +0.8
GYA pmax pmax
comp=Z,10.0nm,0.6s
CMMT Chiang Mai 31.79 307 P **P** 03 07 05.7 +0.2
9.4nm,1.2s
CHTO Chiang Mai 31.79 307 *e*P **P** 03 07 05.1 -0.5
12nm,0.9s
WHN Wuhan 31.81 342 P P 03 07 12.5 +7.0
NJ2 Nanjing 32.13 350 *e*P **P** 03 07 10.3 +2.0
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
KMI Kunming 32.96 320 P **P** 03 07 19.3 +3.4
KMI pmax pmax
comp=Z,12nm,0.6s
KMI LR LR
comp=N,140nm,18.8s
KMI LR LR
comp=E,120nm,17.7s
KMI LR LR
comp=Z,170nm,20.9s
STKA Stephens Creek 35.53 156 *e*P **P** 03 07 38.5 +0.7
6.6nm,1.6s
STKA Stephens Creek 35.53 156 P **P** 03 07 38.6 +0.8
2.7nm,0.4s,baz=332,slow=9.3,SNR=15
INU Inuyama 36.47 16 *e*P **P** 03 07 45.8 0.0
11nm,0.8s
CD2 Chengdu 36.68 328 *e*P **P** 03 07 47.5 -0.2
CD2 pmax pmax
comp=Z,30nm,0.5s
XAN Xi'an 36.90 337 *e*P **P** 03 07 47.9 -1.7
5.8nm,0.7s
KS15 Wonju Array Si 36.98 3 *e*P **P** 03 07 50.6 +0.5
14nm,1.0s
KS15 *e*PcP **PcP** 03 10 10.4 +0.6
KSAR Wonju Array Be 36.98 3 P **P** 03 07 50.7 +0.6
KSAR PcP **PcP** 03 10 10.4 +0.6
KSRS Korea Array 37.00 3 P **P** 03 07 50.7 +0.5
6.8nm,0.8s,baz=178,slow=10,SNR=35
KSRS PcP **PcP** 03 10 10.4 +0.6
0.8nm,0.5s,baz=184,slow=3.5,SNR=4.1
KSRS LR LR 03 24 31.8
comp=Z,36nm,19.4s,baz=193,slow=38
MAJO Matsushiro 37.92 17 *e*P **P** 03 07 57.3 -0.8
9.7nm,0.6s
MAT Matsushiro 37.92 17 P **P** 03 07 57.3 -0.8
MAT S **S** 03 13 40.0 -4.4
MJAR Matsushiro Arr 37.92 17 P **P** 03 07 57.6 -0.5
8.0nm,0.8s,baz=198,slow=9.4,SNR=35
MJAR LR LR 03 23 22.6
comp=Z,14nm,21.8s,baz=230,slow=36
MJB9 Matsu-Tunnel 37.93 17 *e*P **P** 03 07 57.6 -0.5
9.9nm,0.7s
BRDH Bariadhala 39.63 306 LR LR 03 26 47.8
comp=Z,93nm,18.2s,baz=152,slow=40
LZH Lanzhou 40.81 333 *e*P **P** 03 08 22.8 +0.5
LZH pP pP 03 08 40.3 +0.2
LZH sP sP 03 08 48.0 -0.6
LZH pmax pmax
comp=Z,18nm,1.0s
LZH LR LR
comp=N,100nm,13.0s
LZH LR LR
comp=E,140nm,14.4s
LZH LR LR
comp=Z,160nm,19.2s
HHC Hu-ho-hao-te 42.23 344 *e*P **P** 03 08 35.5 +1.7
HHC S **S** 03 14 52.5 +3.8
HHC pmax pmax
comp=Z,39nm,0.8s
HHC pmax pmax
comp=Z,96nm,4.7s
HHC LR LR
comp=N,320nm,11.6s
HHC LR LR
comp=E,220nm,13.0s
HHC LR LR
comp=Z,390nm,12.4s
CN2 Changchun 43.27 0 *e*P **P** 03 08 41.8 -0.2
CN2 pmax pmax
comp=Z,10.0nm,1.0s
LSA Lhasa 43.77 315 *e*P **P** 03 08 47.5 +0.7
USA0B Ussuriysk Arra 44.06 7 *e*P **P** 03 08 48.2 -0.2
8.4nm,0.9s
USRK Ussuriysk Ar. 44.06 7 P **P** 03 08 48.8 +0.5
6.4nm,0.7s,baz=190,slow=8.4,SNR=13
ODAN Odare 45.04 309 *e*P **P** 03 08 56.8 0.0
31nm,0.7s
PALK Pallekele 45.09 280 LR LR 03 28 32.8
comp=Z,93nm,19.1s,baz=117,slow=37
GTA Gaotai 45.37 332 *e*P **P** 03 08 58.5 -0.5
GTA pP pP 03 09 15.0 -2.1
GTA sP pwP 03 09 21.0 +0.8
GTA pmax pmax
comp=Z,9.0nm,1.1s
RAMN Ramite 45.70 309 *e*P **P** 03 09 01.5 -0.5
53nm,0.7s
JIRN Jiri 46.36 309 *e*P **P** 03 09 06.8 -0.6
46nm,0.5s
PKI Pulchoki 46.93 309 *e*P **P** 03 09 11.2 -0.5
14nm,0.5s
PKIN Phulchoki 46.94 309 *e*P **P** 03 09 11.1 -0.7
8.7nm,0.4s
KKN Kakani 47.13 309 *e*P **P** 03 09 12.8 -0.4
20nm,0.6s
DMN Daman 47.18 309 *e*P **P** 03 09 13.5 -0.1
26nm,0.8s
KOLN Koldanda 48.44 308 *e*P **P** 03 09 23.4 +0.1
47nm,0.7s
DANN Dangsing 48.58 309 *e*P **P** 03 09 24.3 -0.2
98nm,0.7s
PYUN Piuthan 49.07 308 *e*P **P** 03 09 28.3 +0.2
56nm,0.7s
SONA0 Songino Array 50.10 343 *e*P **P** 03 09 34.7 -0.8
SONA0 *e*PcP **PcP** 03 10 54.4 +0.3
SONM Songino Array 50.10 343 P **P** 03 09 34.7 -0.8
2.9nm,0.6s,baz=161,slow=8.4,SNR=17
SONM PcP **PcP** 03 10 54.4 +0.2
1.3nm,0.6s,baz=161,slow=3.5,SNR=5.1
SONM LR LR 03 31 59.6
comp=Z,62nm,21.1s,baz=118,slow=37
WMQ Urumqi 54.77 327 *e*P **P** 03 10 11.8 +1.7
WMQ pP pP 03 10 29.0 +0.4
WMQ pmax pmax
comp=Z,90nm,1.1s
WMQ pmax pmax
comp=Z,370nm,4.9s
WMQ LR LR
comp=N,1μm,37.1s
WMQ LR LR
comp=Z,490nm,26.5s
NIL Nilore 58.99 310 *e*P **P** 03 10 40.0 0.0
PETK Petropavlovsk- 59.05 22 P **P** 03 10 41.7 +1.6
8.2nm,0.8s,baz=176,slow=4.0,SNR=17
PETK LR LR 03 38 09.8
comp=Z,11nm,19.3s,baz=247,slow=38
PEA1 Petropavlovsk- 59.05 22 *e*P **P** 03 10 41.6 +1.6
KSH Kashi 59.54 317 P **P** 03 10 45.0 +1.1
KSH pP pP 03 11 01.0 -1.6
KSH S **S** 03 18 45.0 -3.1
KSH pmax pmax
comp=Z,7.0nm,0.5s
KSH pmax pmax
comp=Z,150nm,3.3s
KSH LR LR
comp=N,180nm,8.5s
KSH LR LR
comp=E,130nm,8.4s
KSH LR LR
comp=Z,200nm,10.0s
MK31 Makanchi Array 59.60 327 *e*P **P** 03 10 42.4 -1.6
7.2nm,0.9s
MK32 Makanchi Array 59.60 327 *e*P **P** 03 10 43.0 -1.1
MK32 *e*PcP **PcP** 03 11 30.3 -0.2
MKAR Makanchi Array 59.60 327 P **P** 03 10 43.0 -1.1
4.1nm,0.4s,baz=123,slow=7.6,SNR=59
MKAR PcP **PcP** 03 11 30.3 -0.2
3.7nm,0.7s,baz=108,slow=4.0,SNR=6.5
MKAR LR LR 03 38 12.8
comp=Z,52nm,18.7s,baz=122,slow=38
MAKZ Makanchi 59.78 327 *e*P **P** 03 10 44.6 -0.7
17nm,1.3s
KDJ Kajisay 60.02 320 *e*P **P** 03 10 47.4 +0.1
14nm,1.0s
NRN Naryn 60.44 319 *e*P **P** 03 10 49.8 -0.5
4.4nm,0.6s
AAK Ala-Archa 62.00 320 *e*P **P** 03 11 00.3 -0.3
8.6nm,1.3s
MA2 Magadan 62.29 14 *e*P **P** 03 11 02.0 +0.1
KBL Kabul 62.56 309 *e*P **P** 03 11 04.4 -0.1
14nm,0.7s
ZAA0 Zalesovo Array 63.01 334 *e*P **P** 03 11 06.7 -0.2
7.7nm,0.9s
ZALV Zalesovo Beam 63.01 334 P **P** 03 11 05.2 -1.6
7.9nm,0.6s,baz=128,slow=5.8,SNR=15
ZALV LR LR 03 38 50.0
comp=Z,34nm,21.0s,baz=67,slow=36
ZAA1 Zalesovo Array 63.01 334 *e*P **P** 03 11 05.2 -1.6
GAR Garm 63.27 314 *e*P **P** 03 11 08.3 -0.7
55nm,1.3s
KURK Kurchatov 63.90 329 *e*P **P** 03 11 11.6 -1.2
BRVK Borovoye 69.51 328 *e*P **P** 03 11 47.8 -0.6
3.4nm,0.6s
TIXI Tiksi 71.22 1 *e*P **P** 03 11 57.6 -0.9
6.7nm,0.5s
GEYT Alibeck 71.99 310 P **P** 03 12 03.1 -0.8
5.2nm,0.8s,baz=160,slow=4.7,SNR=6.3
GEYT LR LR 03 47 32.5
comp=Z,19nm,20.8s,baz=160,slow=39
NRIK Noril'sk 73.39 347 P **P** 03 12 11.4 0.0
13nm,0.6s,baz=126,slow=6.6,SNR=13
NRIK LR LR 03 50 51.5
comp=Z,24nm,18.1s,baz=114,slow=41
ABKAR Akbulak array 73.93 322 *e*P **P** 03 12 14.3 -0.8
4.3nm,0.8s
ARU Arti 77.08 328 *e*P **P** 03 12 32.0 -1.0
9.3nm,1.0s
GAMB Gambell 78.01 24 *e*P **P** 03 12 38.1 +0.2
21nm,1.8s
MAW Mawson 80.14 200 *e*P **P** 03 12 50.9 +1.4
6.1nm,2.0s
MAW Mawson 80.14 200 P **P** 03 12 50.9 +1.4
1.8nm,0.6s,baz=53,slow=5.1,SNR=6.0
VNDA Vanda 80.27 172 P **P** 03 12 50.8 +0.8
0.8nm,0.9s,baz=269,slow=8.1,SNR=5.1
AKH Akhalkalaki 83.69 311 ⇑ *i*P **P** 03 13 09.5 +0.5
KBZ Khabaz 84.33 314 P **P** 03 13 11.5 -0.4
2.3nm,0.7s,baz=79,slow=8.1,SNR=5.5
MLY Manley 87.09 25 *e*P **P** 03 13 25.4 +0.2
3.4nm,0.8s
RND Reindeer 87.78 27 *e*P **P** 03 13 27.8 -0.8
3.9nm,1.0s
KMBO Kilima Mbogo 88.15 269 *e*P **P** 03 13 31.2 -0.4
11nm,0.9s
KMBO Kilima Mbogo 88.15 269 P **P** 03 13 32.4 +0.7
10nm,0.9s,baz=53,slow=7.1,SNR=21
WRH Wood River Hil 88.18 26 *e*P **P** 03 13 30.8 +0.4
4.7nm,1.0s
GLI Glacier Island 88.48 29 *e*P **P** 03 13 32.0 +0.2
10nm,0.8s
HDA Harding Lake 88.67 26 *e*P **P** 03 13 32.4 -0.2
2.6nm,0.9s
ILAR Eielson Array 88.71 25 P **P** 03 13 32.2 -0.6
0.6nm,0.6s,baz=239,slow=5.4,SNR=16
ILB Eielson Array 88.71 25 *e*P **P** 03 13 32.2 -0.6
17nm,1.9s
PAX Paxson 89.30 27 *e*P **P** 03 13 36.0 +0.3
13nm,1.6s
RIDG Independent Ri 89.59 26 *e*P **P** 03 13 37.5 +0.4
3.6nm,0.7s
BR101 Keskin Array S 91.13 310 *e*P **P** 03 13 43.9 -1.1
BRTR Keskin Array B 91.13 310 P **P** 03 13 43.9 -1.1
1.3nm,0.7s,baz=125,slow=4.4,SNR=2.9
BRTR LR LR 03 59 36.2
comp=Z,14nm,21.4s,baz=96,slow=39
ARCES ARCESS Array B 93.14 340 P **P** 03 13 52.2 -1.2
6.3nm,0.9s,baz=86,slow=5.2,SNR=9.5
AKASG Malin Array Be 93.65 321 P **P** 03 13 54.8 -1.3
1.5nm,0.5s,baz=70,slow=4.8,SNR=6.1
AKBB Malin Array Si 93.65 321 *e*P **P** 03 13 55.9 -0.2
3.0nm,0.6s
KIEV Kiev 93.66 321 ⇑ *i*P **P** 03 13 54.5 -1.6
FIA0 FINESS Array S 94.16 332 *e*P **P** 03 13 56.7 -1.4
FINES FINESS Array B 94.16 332 P **P** 03 13 56.7 -1.4
2.2nm,0.7s,baz=97,slow=6.3,SNR=7.4
FINES LR LR 04 00 19.1
comp=Z,31nm,18.1s,baz=190,slow=38
BESE Bessie Mountai 94.80 31 *e*P **P** 03 14 01.5 +0.2
9.8nm,1.4s
CFR Carcaliu 94.88 315 ⇓ *i*P **P** 03 14 00.8 -1.0
TLB Topalu 95.00 315 ⇑ *i*P **P** 03 14 01.8 -0.6
BIZ Bicaz 96.10 317 ⇑ *i*P **P** 03 14 06.4 -1.0
BUR08 Bucovina Ar. S 96.62 318 *e*P **P** 03 14 09.6 -0.3
4.9nm,0.8s
TRPA Tarpa 98.31 319 ⇓ *i*P **P** 03 14 15.7 -1.6
KOLS Kolonicke sedl 98.35 320 *e*PDIF Pdif 03 14 17.5 0.0
BOSA Boshof 99.07 241 LR LR 04 00 38.8
comp=Z,28nm,18.2s,baz=107,slow=36
MDVR Moldovita 99.45 315 ⇑ *i*P **Pdif** 03 14 20.5 -2.1
VYHS Vyhne 100.67 320 *e*PDIF **Pdif** 03 14 27.1 -0.8
NB200 NORSAR Array S 101.19 333 *e*Pdif **Pdif** 03 14 28.4 -1.6
NOA NORSAR Array B 101.19 333 P **Pdif** 03 14 28.4 -1.6
0.5nm,0.7s,baz=69,slow=4.5,SNR=3.7
YKA Yellowknife Ar 103.11 24 Pdiff **Pdif** 03 14 38.2 -0.2
0.2nm,0.7s,baz=300,slow=5.2,SNR=4.1
YKB5 Yellowknife Ar 103.11 24 *e*Pdif **Pdif** 03 14 38.2 -0.2
ULM Lac du Bonnet 118.55 29 PKP **PKPdf** 03 19 27.2 0.0
1.6nm,0.5s,baz=208,slow=2.3,SNR=4.3
TORD Torodi Ar. Bea 122.62 286 PKP **PKPdf** 03 19 35.8 -0.2
1.3nm,0.7s,baz=90,slow=1.2,SNR=8.1
TOA1 Torodi Ar. Sit 122.62 286 *e*PKPdf **PKPdf** 03 19 35.8 -0.3
LTX Lajitas 124.70 53 *e*PKPdf **PKiKP** 03 19 41.0 +0.9
TXAR Lajitas Array 124.70 53 PKP **PKiKP** 03 19 41.0 +0.9
0.8nm,0.8s,baz=206,slow=2.4,SNR=8.7
JCT Junction City 127.25 50 *e*PKPdf **PKiKP** 03 19 45.6 +0.5
JTS Las Juntas de 148.02 70 PKPbc **PKPbc** 03 20 25.2 -0.8
5.3nm,0.8s,baz=330,slow=3.5,SNR=6.2
CPUP Villa Florida 154.03 174 PKPbc **PKPbc** 03 20 41.6 +1.9
0.9nm,0.8s,baz=90,slow=2.0,SNR=3.6

DJA 26 03:27:13.2±1.9, 8°S±20°×11°8E±4°5, h23km±69km, M3.5/5, MLv3.5/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.68**	**176**	P	Pn	03 27 27.0	-0.4
PLAI				S	Sn	03 27 36.9	-0.3
BSSI	**Bau Bau, Buton**	**3.39**	**54**	P	Pn	03 28 04.8	+0.1
BKSI	**Bulukumba**	**3.68**	**40**	P	Pn	03 28 08.8	+0.1

*ISCJB **26** 03:34:55.4±0.5, 41°.93N±0°.03×14°.44E±0°.04, h26km±6km, Error ellipse: s-maj=5.8km s-min=4.0km az=31.8*
*ROM **26** 03:34:55.2±0.1, 41°.924N±0°.006×14°.425E±0°.007, h24km±1km, ML2.5/7, Error ellipse: s-maj=0.8km s-min=0.1km az=220.0*

ISC 26 03:34:55.5±0.9, 41°.92N±0°.03×14°.41E±0°.02, h25km±7km, n40, σ1§06/47, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPEL	**Lama dei Pelig**	**0.21**	**308**	P	**Pb**	**03 35 01.0**	**-0.4**
LPEL				S	**Sb**	**03 35 05.2**	**-0.3**
LPEL				AML	AML		
	comp=E,4035μm,0.4s						
LPEL				AML	AML		
	comp=N,3880μm,0.2s						
LPEL				AML	AML		
	comp=E,4035μm,0.4s						
LPEL				AML	AML		
	comp=N,3880μm,0.2s						
LPEL				AML	AML		
	comp=E,4035μm,0.4s						
LPEL				AML	AML		
	comp=N,3880μm,0.2s						
RNI2	**Rionero Sannit**	**0.29**	**222**	P	**Pb**	**03 35 02.5**	**+0.1**
RNI2				AML	AML		
	comp=E,438μm,0.3s						
RNI2				AML	AML		
	comp=N,435μm,1.0s						
RNI2				AML	AML		
	comp=E,438μm,0.3s						
RNI2				AML	AML		
	comp=N,435μm,1.0s						
RNI2	**Rionero Sannit**	**0.29**	**222**	P	**Pb**	**03 35 02.6**	**+0.1**
MIDA	**Miranda**	**0.30**	**203**	P	**Pb**	**03 35 02.5**	**0.0**
MIDA				S	**Sb**	**03 35 08.0**	**+0.6**
MIDA				AML	AML		
	comp=E,1310μm,0.3s						
MIDA				AML	AML		
	comp=N,1540μm,1.1s						
MIDA				AML	AML		
	comp=E,1362μm,0.3s						
MIDA				AML	AML		
	comp=N,1510μm,0.4s						
MIDA				AML	AML		
	comp=E,1363μm,0.3s						
MIDA				AML	AML		
	comp=N,1510μm,0.4s						
MIDA				AML	AML		
	comp=E,1310μm,0.3s						
MIDA				AML	AML		
	comp=E,1362μm,0.3s						
MIDA				AML	AML		
	comp=N,1510μm,0.4s						
MIDA				AML	AML		
	comp=N,1540μm,1.1s						
MIDA	**Miranda**	**0.30**	**203**	S	**Sb**	**03 35 07.5**	**+0.1**
CAFR	**Castel Frentan**	**0.32**	**352**	P	**Pb**	**03 35 02.4**	**-0.4**
CAFR				S	**Sb**	**03 35 08.3**	**+0.6**
CAFR				AML	AML		
	comp=E,1950μm,0.1s						
CAFR				AML	AML		
	comp=N,1628μm,0.3s						
CAFR				AML	AML		
	comp=N,1628μm,0.3s						
CAFR				AML	AML		
	comp=E,1950μm,0.1s						
INTR	**Introdacqua**	**0.39**	**285**	P	**Pb**	**03 35 03.8**	**-0.2**
INTR				S	**Sb**	**03 35 10.4**	**+0.7**
INTR				AML	AML		
	comp=E,1445μm,0.3s						
INTR				AML	AML		
	comp=N,2110μm,0.3s						
INTR				AML	AML		
	comp=E,1445μm,0.3s						
INTR				AML	AML		
	comp=N,2110μm,0.3s						
INTR				AML	AML		
	comp=E,1445μm,0.3s						
INTR				AML	AML		
	comp=N,2110μm,0.3s						
INTR	**Introdacqua**	**0.39**	**285**	P	**Pb**	**03 35 03.8**	**-0.2**
INTR	**Introdacqua**	**0.39**	**285**	S	**Sb**	**03 35 10.6**	**+0.8**
BSSO	**Busso**	**0.39**	**159**	P	**Pb**	**03 35 04.2**	**+0.1**
BSSO	**Busso**	**0.39**	**159**	P	**Pb**	**03 35 04.4**	**+0.3**
CERA	**Filignano**	**0.43**	**223**	P	**Pb**	**03 35 04.4**	**-0.2**
CERA				AML	AML		
	comp=E,118μm,0.9s						
CERA				AML	AML		
	comp=N,157μm,0.4s						
CERA				AML	AML		
	comp=N,157μm,0.4s						
CERA				AML	AML		
	comp=E,118μm,0.9s						
CERA	**Filignano**	**0.43**	**223**	P	**Pb**	**03 35 04.5**	**-0.1**
CIGN	**Sant'Elia a Pi**	**0.45**	**125**	P	**Pb**	**03 35 02.9**	**-2.1**
CIGN	**Sant'Elia a Pi**	**0.45**	**125**	P	**Pb**	**03 35 04.6**	**-0.3**
CIGN	**Sant'Elia a Pi**	**0.45**	**125**	P	**Pb**	**03 35 04.6**	**-0.3**
CIGN				S	**Sb**	**03 35 11.5**	**+0.1**
VAGA	**Valle Agricola**	**0.52**	**195**	P	**Pb**	**03 35 05.9**	**-0.1**
VAGA	**Valle Agricola**	**0.52**	**195**	P	**Pb**	**03 35 06.0**	**-0.1**
SGG	**Gregorio Mates**	**0.53**	**182**	P	**Pb**	**03 35 06.4**	**+0.2**
GATE	**Gambatesa**	**0.55**	**137**	P	**Pn**	**03 35 07.0**	**-0.7**
POFI	**Posta Fibreno**	**0.56**	**249**	P	**Pb**	**03 35 06.5**	**-0.2**
POFI	**Posta Fibreno**	**0.56**	**249**	P	**Pb**	**03 35 06.7**	**-0.1**
POFI	**Posta Fibreno**	**0.56**	**249**	S	**Sn**	**03 35 15.6**	**-0.7**
POFI	**Posta Fibreno**	**0.56**	**249**	S	**Sn**	**03 35 16.0**	**-0.3**
SACR	**S. Croce Del S**	**0.56**	**157**	P	**Pb**	**03 35 06.5**	**-0.4**
MELA	**Melanico ??? S**	**0.58**	**111**	P	**Pb**	**03 35 06.0**	**-1.0**
MELA				S	**Sb**	**03 35 14.6**	**-0.2**
MELA				AML	AML		
	comp=E,360μm,1.2s						
MELA				AML	AML		
	comp=N,410μm,1.4s						
MELA				AML	AML		
	comp=E,360μm,1.2s						
MELA				AML	AML		
	comp=N,410μm,1.4s						
MELA	**Melanico ??? S**	**0.58**	**111**	P	**Pb**	**03 35 06.0**	**-1.0**
MELA	**Melanico ??? S**	**0.58**	**111**	S	**Sb**	**03 35 14.7**	**-0.1**
VVLD	**Villa Vallelon**	**0.59**	**266**	P	**Pb**	**03 35 06.9**	**-0.4**
VVLD	**Villa Vallelon**	**0.59**	**266**	S	**Sb**	**03 35 16.3**	**+1.0**
FAGN	**Fagnano**	**0.71**	**300**	P	**Pb**	**03 35 08.7**	**-0.5**
FAGN				AML	AML		
	comp=E,298μm,0.3s						
FAGN				AML	AML		
	comp=N,294μm,1.1s						
FAGN				AML	AML		
	comp=E,298μm,0.3s						
FAGN				AML	AML		
	comp=N,294μm,1.1s						
FAGN	**Fagnano**	**0.71**	**300**	S	**Sn**	**03 35 20.0**	**0.0**
TERO	**Teramo**	**0.93**	**320**	P	**Pb**	**03 35 12.0**	**-0.9**
TERO	**Teramo**	**0.93**	**320**	P	**Pb**	**03 35 12.4**	**-0.5**
MSAG	**Monte S. Angel**	**1.14**	**100**	P	**Pb**	**03 35 17.1**	**+0.5**
MSAG	**Monte S. Angel**	**1.14**	**100**	S	**Sn**	**03 35 35.0**	**+4.3**
MCIV	**Monte Civitell**	**2.20**	**294**	S	**Sb**	**03 36 04.0**	**+2.5**
SALB	**San Lorenzo Be**	**2.51**	**144**	S	**Sb**	**03 36 12.0**	**+1.6**
STON	**Ston**	**2.62**	**67**	*e*Pn	**Pn**	**03 35 35.0**	**-1.1**
STON				Sn	**Sn**	**03 36 08.1**	**+1.1**
IFIL	**Filicudi I Eol**	**3.35**	**178**	S	**Sb**	**03 36 32.0**	**-2.4**

*IDC **26** 03:40:46.7±2.0, 10°.10N×126°.87E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.5/36, mbtmp3.9/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/32, Error ellipse: s-maj=207.1km s-min=27.8km az=70.0*
*ISCJB **26** 03:40:47.4±1.0, 10°.27N±0°.06×126°.90E±0°.09, h10km, mb4.0/5, Error ellipse: s-maj=12.8km s-min=7.9km az=10.7*
*MAN **26** 03:40:50.7, 10°.21N×126°.60E, h3km, MS3.2*

ISC 26 03:40:48.9±1.2, 10°.22N±0°.06×126°.7E±0°.1, h10km, n10, σ1§45/12, mb4.0/5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.66**	**222**	*e*P	**Pn**	**03 41 18.7**	**+0.5**
BUTP				*e*S	**Sb**	**03 41 40.2**	**-0.5**
BESP	**Borongan**	**1.88**	**317**	*e*P	**Pn**	**03 41 21.8**	**+0.7**
PLP	**Palo**	**1.97**	**299**	‖ *e*P	**Pn**	**03 41 23.7**	**+1.2**
PLP				*e*S	**Sb**	**03 41 48.3**	**-1.3**
BUKP	**Musuan**	**2.86**	**216**	*e*P	**Pn**	**03 41 37.4**	**+2.8**
BUKP				*e*S	**Sb**	**03 42 13.7**	**-1.5**
KAPI	**Kappang**	**16.66**	**205**	LR	LR	03 52 52.0	
	comp=Z,50nm,18.1s,baz=162,slow=44						
ASAR	**Alice Springs**	**34.40**	**168**	P	**P**	**03 47 34.6**	**-2.0**
	0.4nm,0.8s,baz=351,slow=6.9,SNR=5.3						
MKAR	**Makanchi Array**	**52.35**	**323**	P	**P**	**03 50 01.9**	**+0.7**
	0.6nm,0.6s,baz=118,slow=7.6,SNR=6.5						
ZALV	**Zalesovo Beam**	**54.89**	**331**	P	**P**	**03 50 20.2**	**+0.6**
	0.7nm,0.5s,baz=120,slow=8.7,SNR=4.3						
ARCES	**ARCESS Array B**	**84.40**	**340**	P	**P**	**03 53 21.5**	**+0.2**
	2.8nm,0.9s,baz=84,slow=8.3,SNR=3.7						
FINES	**FINESS Array B**	**86.16**	**332**	P	**P**	**03 53 30.2**	**+0.1**

2.2nm,0.9s,baz=93,slow=5.6,SNR=8.0

IGQ 26 03:58:58.9±0.3,3°S±2°×8°0W±°,h5km,MLv4.3,
Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORR	**Playas El Morr**	**0.46**	**3**	P	Pg	03 59 08.3	+0.5
MORR				S	Sg	03 59 14.2	+0.4
APLA	**Playas - Guaya**	**0.46**	**357**	P	Pg	03 59 07.4	-0.5
APLA				S	Sg	03 59 13.8	-0.1
SALI	**Salinas**	**1.10**	**325**	P	Pg	03 59 19.6	-0.5
SALI				P	Pb	03 59 20.2	-0.3
SALI				S	Sb	03 59 35.0	-0.2
MILO	**Milagro-Astudi**	**1.15**	**45**	P	Pg	03 59 19.7	-1.3
MILO				S	Sg	03 59 36.0	+0.1
COHC	**Cochancay**	**1.28**	**60**	P	Pg	03 59 20.5	-2.9
COHC				S	Sg	03 59 37.3	-2.7
MCRA	**Macar, Loja**	**1.33**	**162**	P	Pn	03 59 21.6	-2.6
MCRA				S	Sg	03 59 39.0	-2.7
GONZ	**Gonzanam**	**1.49**	**139**	P	Pb	03 59 27.1	-0.2
GONZ				S	Sb	03 59 46.1	-0.6
BMAS	**Trigal station**	**2.46**	**50**	P	Pn	03 59 40.0	-0.2
ARRY	**Arrayan**	**2.48**	**50**	P	Pn	03 59 38.4	-1.9
BBIL	**Ulba Tungurahu**	**2.49**	**49**	P	Pn	03 59 40.4	-0.1
PAT1	**Patacocha**	**2.49**	**51**	P	Pn	03 59 39.9	-0.7
BPAT	**Tungurahua Vol**	**2.50**	**51**	P	Pn	03 59 39.6	-1.1
RETU	**Refugio**	**2.52**	**50**	P	Pn	03 59 41.7	+0.6
POND	**Pondoa**	**2.54**	**49**	P	Pn	03 59 39.9	-1.2
BULB	**Ulba Tungurahu**	**2.56**	**50**	P	Pn	03 59 41.4	-0.1
BRUN	**Tungurahua Vol**	**2.57**	**50**	P	Pn	03 59 41.3	-0.3
PIS1	**Pisayambo**	**2.83**	**44**	P	Pn	03 59 45.7	+0.3
PISA	**Pisayambo**	**2.83**	**44**	P	Pn	03 59 45.9	+0.6
ILLI	**Illinizas Sur**	**2.88**	**35**	P	Pn	03 59 45.3	-0.7
BMOR	**Cotopaxi Volca**	**3.03**	**39**	S	Sn	04 00 24.6	-0.4
BNAS	**Cotopaxi Volca**	**3.06**	**38**	P	Pn	03 59 49.0	+0.5
MAG1	**Magdalena**	**3.07**	**11**	P	Pn	03 59 47.2	-1.0
BREF	**Cotopaxi Volca**	**3.09**	**39**	P	Pn	03 59 50.8	+1.9
BTAM	**Cotopaxi Volca**	**3.11**	**39**	P	Pn	03 59 49.8	+0.6
BVC2	**Cotopaxi Volca**	**3.12**	**39**	P	Pn	03 59 49.8	+0.5
VC1	**Cotopaxi 1**	**3.13**	**39**	P	Pn	03 59 50.3	+0.8
COV1	**Cotopaxi Volc**	**3.15**	**40**	P	Pn	03 59 50.6	+0.6
PITA	**Cotopaxi Volc**	**3.18**	**37**	P	Pn	03 59 51.0	+0.9
NINA	**Atacazo Ninahu**	**3.21**	**33**	P	Pn	03 59 51.4	+0.8
ARDO	**Archidona, Ten**	**3.31**	**51**	P	Pn	03 59 51.1	-0.4
ANTM	**Antisana-La Mi**	**3.33**	**40**	P	Pn	03 59 52.7	+0.5
ANTG	**Antisana-Guama**	**3.33**	**39**	P	Pn	03 59 53.3	+1.0
ANTS	**Antisana-Sarah**	**3.39**	**40**	P	Pn	03 59 53.8	+0.7
TERV	**Terraza Guagua**	**3.40**	**31**	P	Pn	03 59 54.2	+1.0
ANTI	**Antisana**	**3.43**	**40**	P	Pn	03 59 54.3	+0.6
YANA	**Yana**	**3.46**	**31**	P	Pn	03 59 53.1	-0.9
PULU	**Pululahua**	**3.62**	**31**	P	Pn	03 59 56.2	+0.1
PAC1	**Pacto, Paraso**	**3.70**	**25**	P	Pn	03 59 55.1	-1.9
CUSE	**Cuicocha Este**	**3.91**	**30**	P	Pn	04 00 00.2	+0.1
CUSW	**Cuicocha Oeste**	**3.92**	**31**	P	Pn	04 00 01.0	+0.8
CUIC	**Cuicocha-Domo**	**3.93**	**31**	P	Pn	04 00 00.6	+0.3
IMBA	**Imbabura, San**	**3.99**	**33**	P	Pn	04 00 02.5	+1.2
URCU	**Urcuqui**	**4.10**	**31**	P	Pn	04 00 03.3	+0.6
LITE1	**Lita**	**4.36**	**27**	P	Pn	04 00 05.1	-0.9

KRSC 26 04:05:40.7±10.0,50°71N×157°98E,h88km±10km,ML3.6,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.06**	**316**	*e*P	Pn	04 06 00.7	-0.2
PAU				*e*S	Sn	04 06 15.2	-0.9
KDTR	**Khodutka, Kamc**	**1.11**	**3**	*e*P	Pn	04 06 03.0	+1.5
KDTR				*e*S	Sn	04 06 18.7	+1.6
RUS	**Russkaya**	**1.76**	**11**	*e*P	Pn	04 06 11.5	+1.8
RUS				*e*S	Sn	04 06 33.6	+1.9
MTVR	**Mutnovka**	**1.78**	**4**	*e*P	Pn	04 06 12.0	+1.9
MTVR				*e*S	Sn	04 06 34.6	+2.1
UGLR	**Uglovaya**	**2.56**	**11**	*e*P	Pn	04 06 23.1	+2.8
AVH	**Avacha**	**2.61**	**10**	*e*P	Pn	04 06 24.2	+3.3
NLC	**Nalytchevo**	**2.61**	**18**	*e*P	Pn	04 06 22.0	+1.2
NLC				*e*S	Sn	04 06 52.8	+1.1
SMAR	**Somma**	**2.61**	**11**	*e*P	Pn	04 06 24.1	+3.0
KOK	**Koryaka**	**2.62**	**9**	*e*P	Pn	04 06 24.5	+3.4
SDLR	**Sedlovina**	**2.64**	**12**	*e*P	Pn	04 06 23.8	+2.5
KRER	**Koryakskii**	**2.65**	**10**	*e*P	Pn	04 06 24.8	+3.3
KRER				*e*S	Sn	04 06 56.2	+3.3
KRX	**Arik**	**2.69**	**9**	*e*P	Pn	04 06 23.5	+1.4
SPN	**Mys Shipunski**	**2.71**	**27**	*e*P	Pn	04 06 25.4	+3.2
SPN				*e*S	Sn	04 06 57.3	+3.2
GNL	**Ganaly**	**2.99**	**360**	*e*P	Pn	04 06 28.5	+2.4
MKZ	**Mys Kozlova**	**4.48**	**29**	*e*P	Pn	04 06 48.3	+2.2
MKZ				*e*S	Sn	04 07 38.1	+1.2
KBTR	**Krutoberegovo**	**6.22**	**26**	*e*P	Pn	04 07 12.2	+2.4
BKI	**Bering**	**6.60**	**44**	*e*P	Pn	04 07 17.9	+3.0
BKI				*e*S	Sn	04 08 27.4	-1.2

*ISCJB **26** 04:18:18.8±1.2, 13°5N±0°2×90°89W±0°10, h86km±24km,*
Error ellipse: s-maj=29.0km s-min=6.9km az=30.4
*SNET **26** 04:18:19.8±1.7, 13°29N×90°74W, h17km±14km, ML3.4*
*MEX **26** 04:18:22.0±0.4, 13°56N×90°88W, h56km±44km, MD3.7*
ISC 26 04:18:20.1±2.3,13°5N±0°2×90°9W±0°1,h67km±48km,n12,
σ0°77/20,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**1.26**	**73**	*e*P	**Pn**	**04 18 41.5**	**-0.5**
RTR				*e*S	**Sn**	**04 19 00.1**	**+1.7**
CEVE	**Cerro Verde**	**1.26**	**76**	*e*P	**Pn**	**04 18 41.8**	**-0.4**
CEVE				*e*S	**Sn**	**04 18 59.2**	**+0.7**
CEVE				IAML		04 19 00.5	
	comp=Z,2μm,0.2s						
SBLS	**San Blas**	**1.27**	**76**	*e*P	**Pn**	**04 18 41.7**	**-0.5**
SBLS				*e*S	**Sn**	**04 18 59.4**	**+0.8**
SNJE	**San Jose**	**1.29**	**74**	*e*P	**Pn**	**04 18 41.8**	**-0.6**
SNJE				*e*S	**Sn**	**04 18 59.0**	**-0.1**
UDBS	**Soyapango**	**1.69**	**83**	*e*P	**Pn**	**04 18 47.3**	**-0.3**
LFU	**La Fuente**	**1.74**	**82**	*e*P	**Pn**	**04 18 47.6**	**-0.7**
PAVA	**Las Pavas**	**1.90**	**84**	*e*P	**Pn**	**04 18 50.0**	**-0.5**
THIG		**1.92**	**316**	*e*P	**Pn**	**04 18 50.6**	**0.0**
THIG				*i* S	**Sn**	**04 19 12.9**	**-1.0**
LCND	**La Caada**	**2.92**	**94**	*e*P	**Pn**	**04 19 04.0**	**-0.2**
CCIG	**Comitan**	**3.00**	**336**	*e*P	**Pn**	**04 19 05.8**	**+0.3**
CCIG				*i* S	**Sn**	**04 19 39.6**	**-0.8**
PCIG		**3.13**	**314**	*e*P	**Pn**	**04 19 07.8**	**+0.7**
PCIG				*i* S	**Sn**	**04 19 42.4**	**-0.9**
CMIG	**Matias Romero**	**5.24**	**313**	*e*P	**Pn**	**04 19 36.6**	**+0.6**
CMIG				*i* S	**Sn**	**04 20 35.5**	**+0.4**

*ISCJB **26** 04:28:32.4±0.3,3°80S±0°04×141°41E±0°05,h54km,*
mb4.2/20,MS3.0/6,Error ellipse: s-maj=7.1km
s-min=5.7km az=139.4
*DJA **26** 04:28:34.1±0.7,4°S±9°×14°1E±°,h47km±9km,M4.8/7,*
mb4.7/7,mB4.9/3,MLv5.0/2,Mw(mB)4.2/3
*NEIC **26** 04:28:36.7±0.8,3°85S×141°48E,h82km±8km,mb4.2/7,*
Error ellipse: s-maj=7.7km s-min=5.5km az=106.0
*IDC **26** 04:28:37.6±3.1,3°81S×141°54E,h88km±29km,mb3.9/17,*
mb1 4.0/18,mb1mx3.9/32,mbtmp4.2/18,MS3.1/7,
Ms1 3.1/7,ms1mx2.9/23,Error ellipse: s-maj=19.6km
s-min=9.7km az=87.0
ISC 26 04:28:33.9±0.5,3°82S±0°06×141°41E±0°06,h54km,n58,
σ1°44/51,mb4.1/20,MS3.0/6,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.74**	**315**	P	**Pn**	**04 29 00.3**	**-1.4**
GENI				S	**Sn**	**04 29 21.1**	**-1.7**
MANU	**Manus Island**	**6.21**	**74**	*e*Pn	**Pn**	**04 30 04.8**	**+1.8**
PMG	**Port Moresby**	**7.96**	**134**	*e*Pn	**Pn**	**04 30 29.5**	**+2.5**
PMG				*e*Sn	**Sn**	**04 31 53.7**	**-2.1**
PMG	**Port Moresby**	**7.96**	**134**	P	**Pn**	**04 30 29.0**	**+1.9**
	6.2nm,0.3s,baz=345,slow=4.3,SNR=20						
PMG				S	**Sn**	**04 31 53.7**	**-2.1**
	baz=90,slow=20,SNR=1.5						
FAKI	**Fak Fak**	**9.19**	**275**	P	**Pn**	**04 30 44.5**	**+0.6**
	31nm,1.1s						
SWI	**Sorong**	**10.56**	**286**	P	**Pn**	**04 31 03.6**	**+1.0**
RABL	**Rabaul**	**10.74**	**92**	*e*Pn	**Pn**	**04 31 06.5**	**+1.5**
MTN	**Manton Dam**	**13.55**	**228**	*e*Pn	**Pn**	**04 31 44.7**	**+1.3**
WRAB	**Tennant Creek**	**17.43**	**203**	*e*P	**Pn**	**04 32 33.5**	**+0.1**
	28nm,0.8s						
SOEI	**Soe**	**18.00**	**250**	P	**Pn**	**04 32 42.9**	**+2.3**
	91nm,0.8s						
HNR	**Honiara**	**19.23**	**108**	LR	LR	04 40 34.9	
	comp=Z,67nm,19.1s,baz=304,slow=38						
MRSI	**Marisa**	**19.92**	**282**	P	**P**	**04 33 01.8**	**+0.4**
	11nm,0.6s,1μm						
APSI	**Ampana**	**19.95**	**278**	P	**Pn**	**04 33 03.8**	**0.0**
FITZ	**Fitzroy Crossi**	**20.97**	**226**	P	Pn	04 33 14.7	-1.1
	4.2nm,0.5s,baz=55,slow=20,SNR=13						
FITZ				S	**S**	**04 36 57.2**	**-6.2**
	4.4nm,0.8s,baz=173,slow=18,SNR=3.2						
AS31	**Alice Springs**	**21.02**	**200**	*e*P	**P**	**04 33 13.8**	**+0.6**
	4.3nm,0.8s						
AS31				*e*S	**S**	**04 37 05.1**	**+0.7**
ASAR	**Alice Springs**	**21.02**	**200**	P	**P**	**04 33 13.8**	**+0.6**
	4.6nm,0.6s,baz=26,slow=9.0,SNR=42						
ASAR				S	**S**	**04 37 05.1**	**+0.7**
	2.5nm,0.8s,baz=15,slow=29,SNR=4.4						
ASAR				LR	LR	04 42 03.4	
	comp=Z,170nm,20.4s,baz=40,slow=38						
TTSI	**Tana Toraja**	**21.56**	**271**	P	P	04 33 28.2	+9.1
SPSI	**Sidrap Palu**	**21.59**	**269**	P	P	04 33 31.3	+12
STKA	**Stephens Creek**	**27.91**	**180**	*e*P	**P**	**04 34 20.4**	**+1.4**
	8.5nm,2.0s						
STKA	**Stephens Creek**	**27.91**	**180**	P	**P**	**04 34 20.4**	**+1.4**
	0.9nm,0.5s,baz=355,slow=10,SNR=3.4						
DZM	**Mont Dzumac**	**30.31**	**129**	*e*P	**P**	**04 34 39.8**	**-0.7**
	95nm,2.0s						
DZM	**Mont Dzumac**	**30.31**	**129**	P	**P**	**04 34 39.8**	**-0.7**
	8.2nm,1.0s,baz=180,slow=3.0,SNR=3.7						
H11S3	**WAKE ISLAND Hy**	**33.35**	**47**	T	T	05 09 42.0	
	baz=232,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**33.36**	**48**	T	T	05 09 49.8	
	baz=232,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**33.37**	**47**	T	T	05 09 43.3	
	baz=232,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**34.27**	**46**	T	T	05 10 50.2	
	baz=229,slow=76,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**34.29**	**46**	T	T	05 10 51.4	
	baz=229,slow=76,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**34.29**	**46**	T	T	05 10 50.7	
	baz=229,slow=76,SNR=3.2						
JNU	**Nakatsue**	**38.07**	**346**	LR	LR	04 50 20.0	
	comp=Z,21nm,19.3s,baz=186,slow=34						
KS15	**Wonju Array Si**	**42.94**	**344**	*e*P	**P**	**04 36 28.8**	**+1.2**
KSAR	**Wonju Array Be**	**42.94**	**344**	P	**P**	**04 36 28.8**	**+1.2**
KSRS	**Korea Array**	**42.94**	**344**	P	**P**	**04 36 28.8**	**+1.2**
	0.6nm,0.4s,baz=161,slow=8.0,SNR=5.2						
KSRS				LR	LR	04 52 49.8	
	comp=Z,8.3nm,21.1s,baz=165,slow=34						
URZ	**Urewera**	**47.26**	**141**	P	**P**	**04 37 02.0**	**+0.2**
	6.9nm,0.4s,baz=243,slow=6.7,SNR=8.7						
RPZ	**Rata Peaks**	**47.59**	**151**	P	**P**	**04 37 04.2**	**-0.1**
	14nm,0.8s,baz=338,slow=6.0,SNR=3.5						
ASAJ	**Asahikawa**	**47.73**	**1**	LR	LR	04 55 27.7	
	comp=Z,13nm,21.0s,baz=157,slow=34						
USRK	**Ussuriysk Ar.**	**48.55**	**351**	P	**P**	**04 37 12.0**	**+0.3**
	2.0nm,0.8s,baz=88,slow=8.6,SNR=5.1						
KLR	**Kul'dur**	**53.50**	**352**	LR	LR	04 57 57.8	
	comp=Z,18nm,21.5s,baz=294,slow=33						
PETK	**Petropavlovsk-**	**58.36**	**11**	P	**P**	**04 38 23.3**	**-0.2**
	5.1nm,1.0s,baz=190,slow=7.4,SNR=5.1						
PEA1	**Petropavlovsk-**	**58.37**	**11**	*e*P	**P**	**04 38 23.3**	**-0.2**
SONA0	**Songino Array**	**59.89**	**333**	*e*P	**P**	**04 38 34.6**	**+0.3**
SONM	**Songino Array**	**59.89**	**333**	P	**P**	**04 38 34.6**	**+0.3**
	0.6nm,0.7s,baz=152,slow=8.0,SNR=5.2						
MK32	**Makanchi Array**	**72.32**	**322**	*e*P	**P**	**04 39 54.5**	**+0.5**
MKAR	**Makanchi Array**	**72.32**	**322**	P	**P**	**04 39 54.5**	**+0.5**
	1.9nm,0.9s,baz=103,slow=7.6,SNR=12						
ZALV	**Zalesovo Beam**	**74.25**	**329**	P	**P**	**04 40 05.3**	**+0.2**
	0.5nm,0.4s,baz=142,slow=7.3,SNR=2.5						
ZALV				LR	LR	05 11 26.2	
	comp=Z,17nm,21.8s,baz=66,slow=35						
ZAA1	**Zalesovo Array**	**74.26**	**329**	*e*P	**P**	**04 40 05.3**	**+0.2**
VNDA	**Vanda**	**74.45**	**175**	*e*P	**P**	**04 40 05.9**	**0.0**
VNDA	**Vanda**	**74.45**	**175**	P	**P**	**04 40 06.2**	**+0.2**
	1.1nm,0.6s,baz=324,slow=6.8,SNR=17						
KURK	**Kurchatov**	**76.17**	**324**	*e*P	**P**	**04 40 16.4**	**+0.2**
	5.4nm,1.4s						
KURBB	**Kurchatov Arra**	**76.19**	**324**	P	**P**	**04 40 16.6**	**+0.3**
	1.0nm,0.9s,baz=112,slow=5.4,SNR=6.4						
BVAR	**Borovoye Array**	**81.76**	**325**	P	**P**	**04 40 46.4**	**-0.5**
	2.8nm,0.7s,baz=122,slow=5.4,SNR=6.6						
BRVK	**Borovoye**	**81.83**	**325**	*e*P	**P**	**04 40 47.3**	**+0.1**
	3.4nm,0.8s						
MAW	**Mawson**	**82.12**	**202**	*e*P	**P**	**04 40 48.6**	**+0.2**
	4.4nm,1.8s						
MAW	**Mawson**	**82.12**	**202**	P	**P**	**04 40 48.9**	**+0.5**
	1.6nm,1.0s,baz=90,slow=5.1,SNR=2.9						
ILAR	**Eielson Array**	**85.73**	**24**	P	**P**	**04 41 05.1**	**-1.8**
	0.8nm,0.6s,baz=267,slow=4.3,SNR=12						
ILB	**Eielson Array**	**85.73**	**24**	*e*P	**P**	**04 41 05.1**	**-1.8**
QSPA	**South Pole Qui**	**86.13**	**180**	*e*P	**P**	**04 41 08.1**	**-0.9**
	6.9nm,1.0s						
LPAZ	**La Paz**	**144.61**	**125**	PKP	**PKPab**	**04 48 04.4**	**-0.5**
	1.7nm,0.9s,baz=111,slow=2.8,SNR=7.0						
CPUP	**Vila Florida**	**144.96**	**150**	PKP	**PKPab**	**04 48 03.5**	**-1.6**
	1.0nm,0.8s,baz=178,slow=2.0,SNR=3.3						

*ISCJB **26** 04:37:11.5±0.8,21°2S±0°2×168°7E±0°1,h10km,mb4.0/7,*
MS3.4/1,Error ellipse: s-maj=29.0km s-min=8.3km
az=144.3
*IDC **26** 04:37:11.2±1.9,21°27S×168°77E,h0km,mb4.0/6,*
mb1 4.2/7,mb1mx3.9/33,mbtmp4.0/7,ML4.4/1,MS3.2/2,
Ms1 3.2/2,ms1mx2.7/24,Error ellipse: s-maj=85.9km
s-min=20.2km az=151.0
*NEIC **26** 04:37:12.8±1.9,21°28S×168°76E,h11km±10km,mb4.2/2,*
Error ellipse: s-maj=21.4km s-min=8.9km az=139.0
ISC 26 04:37:12.8±1.0,21°2S±0°2×168°7E±0°1,h10km,n30,
σ0°44/32,mb3.9/7,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.70**	**250**	*e*Pg	**Pg**	**04 37 26.7**	**+0.3**
PINNC	**Pines Island,**	**1.82**	**221**	*e*Pn	**Pn**	**04 37 44.0**	**-0.2**
OUENC	**Ouen Island, N**	**2.12**	**236**	*e*Pn	**Pn**	**04 37 48.0**	**-0.3**
DZM	**Mont Dzumac**	**2.29**	**248**	*e*Pn	**Pn**	**04 37 49.7**	**-1.0**
DZM				*e*Sn	**Sn**	**04 38 18.8**	**-0.3**
DZM	**Mont Dzumac**	**2.29**	**248**	Pn	**Pn**	**04 37 50.7**	**-0.1**
	104nm,0.3s,baz=122,slow=4.9,SNR=2230						
DZM				Sn	**Sn**	**04 38 18.8**	**-0.3**
	162nm,0.3s,baz=307,slow=23,SNR=9.1						
DZM				LR	LR	04 38 28.6	
	comp=Z,254nm,20.8s,baz=200,slow=34						
ONTNC	**Ouen Toro**	**2.38**	**243**	*e*Pn	**Pn**	**04 37 51.6**	**-0.2**
CTA	**Charters Tower**	**21.07**	**269**	P	**P**	**04 41 58.5**	**+1.2**
	4.8nm,0.8s,baz=95,slow=11,SNR=2.5						
STKA	**Stephens Creek**	**26.43**	**241**	*e*P	**P**	**04 42 50.2**	**+0.4**
	7.1nm,1.9s						
STKA	**Stephens Creek**	**26.43**	**241**	P	**P**	**04 42 50.2**	**+0.4**
	1.5nm,0.7s,baz=69,slow=8.6,SNR=3.0						
STKA				LR	LR	04 51 52.3	
	comp=Z,92nm,18.3s,baz=30,slow=33						
AS31	**Alice Springs**	**32.24**	**259**	*e*P	**P**	**04 43 41.1**	**-0.5**
	3.3nm,0.6s						
ASAR	**Alice Springs**	**32.24**	**259**	P	**P**	**04 43 41.1**	**-0.5**
	7.0nm,0.7s,baz=82,slow=9.0,SNR=54						
SONA0	**Songino Array**	**88.53**	**323**	*e*P	**P**	**04 50 05.5**	**-0.2**
SONM	**Songino Array**	**88.53**	**323**	P	**P**	**04 50 05.5**	**-0.2**
	0.4nm,0.7s,baz=114,slow=3.6,SNR=2.5						
NV01	**Mina Array Sit**	**90.47**	**49**	*e*P	**P**	**04 50 14.9**	**-0.2**
NVAR	**Mina Array Bea**	**90.47**	**49**	P	**P**	**04 50 14.9**	**-0.2**
	0.3nm,0.5s,baz=220,slow=8.3,SNR=3.4						
ILAR	**Eielson Array**	**92.27**	**17**	P	**P**	**04 50 22.3**	**-0.2**
	0.2nm,0.6s,baz=225,slow=5.0,SNR=4.7						
ILB	**Eielson Array**	**92.27**	**17**	*e*P	**P**	**04 50 22.3**	**-0.2**
CONA	**Conrad Observa**	**145.58**	**327**	*e*PKPab	**PKPab**	**04 56 52.5**	**+0.7**
	4.1nm,0.8s						
KHC	**Kasperske Hory**	**145.86**	**331**	*e*PKPdf	**PKPbc**	**04 56 52.3**	**0.0**
GERES	**GERESS Array B**	**146.00**	**330**	PKPbc	**PKPbc**	**04 56 53.4**	**+0.5**
	2.8nm,0.7s,baz=76,slow=5.6,SNR=11						
ARSA	**Arzberg**	**146.20**	**327**	*e*PKPab	**PKPbc**	**04 56 53.5**	**+0.1**
	6.3nm,1.6s						
MOA	**Molln**	**146.43**	**328**	*e*PKPab	**PKPbc**	**04 56 54.5**	**+0.4**
	5.4nm,1.4s						
ABTA	**Abfaltersbach**	**148.06**	**328**	*e*pPKPdf	**PKPbc**	**04 56 58.4**	**-0.4**
	5.3nm,1.0s						
WATA	**Walderalm**	**148.08**	**330**	*e*pPKPdf	**PKPbc**	**04 56 58.8**	**-0.1**
	0.7nm,0.5s						
WTTA	**Wattenberg**	**148.11**	**330**	*e*pPKPdf	**PKPbc**	**04 56 58.9**	**0.0**
	8.4nm,1.2s						
SQTA	**Sankt Quirin**	**148.34**	**330**	*i* P	**PKPbc**	**04 56 59.8**	**+0.3**
	6.1nm,0.9s						
RETA	**Reutte**	**148.34**	**331**	*i* pPKPdf	**PKPbc**	**04 56 59.5**	**0.0**
	5.3nm,1.1s						
FETA	**Feichten**	**148.71**	**330**	*i* P	**PKPbc**	**04 57 00.9**	**+0.4**
	4.7nm,0.9s						
DAVA	**Damuels**	**148.89**	**332**	*e*P	**PKPbc**	**04 57 01.3**	**+0.3**
	3.4nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**149.22**	**330**	*e*PKPbc	**PKPbc**	**04 57 02.1**	**+0.1**

*SJA **26** 05:18:09.8±0.6,32°43S×69°81W,h117km±5km,ML2.7,*
MW3.1
*ISCJB **26** 05:18:10.5±1.1,32°38S±0°05×69°91W±0°05,*
h108km±12km,Error ellipse: s-maj=8.6km s-min=6.1km
az=141.1
*GUC **26** 05:18:10.9±0.6,32°22S×69°92W,h18km±5km,ML3.0*
ISC 26 05:18:11.0±2.0,32°39S±0°05×69°91W±0°05,
h106km±18km,n15,σ0°73/24,4C,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.47**	**69**	*e*P	**Pn**	**05 18 27.8**	**+0.2**
ASAL	**Salagasta**	**0.93**	**103**	*e*P	**Pn**	**05 18 30.9**	**-0.3**
ASAL				*e*S	**Sn**	**05 18 46.8**	**+0.3**
ARCO	**CERRO ARCO**	**0.94**	**119**	*e*P	**Pn**	**05 18 31.2**	**-0.2**
ARCO				*e*S	**Sn**	**05 18 46.9**	**+0.2**
ARCO				IAML		05 18 50.6	
	comp=Z,355nm,0.3s						
FCH	**Farellones**	**0.99**	**199⇑**	*i* P	**Pn**	**05 18 32.0**	**-0.1**
FCH				*i* S	**Sn**	**05 18 48.3**	**+0.4**
FCH				IAML		05 18 49.4	
	comp=N,532nm,0.2s						
PEL	**Peldehue**	**0.99**	**221⇑**	*i* P	**Pn**	**05 18 31.4**	**-0.5**
PEL				*i* S	**Sn**	**05 18 46.8**	**-0.9**
PEL				IAML		05 18 48.4	
	comp=N,557nm,0.8s						
ROCH	**El Roble**	**1.09**	**238⇑**	*i* P	**Pn**	**05 18 32.8**	**-0.3**
ROCH				*i* S	**Sn**	**05 18 49.2**	**-0.6**
ROCH				IAML		05 18 53.2	
	comp=N,738nm,0.1s						
CLCH	**Cerro Calan**	**1.13**	**208**	*e*P	**Pn**	**05 18 33.0**	**-0.3**
CLCH				*i* S	**Sn**	**05 18 50.8**	**+0.5**
CLCH				IAML		05 18 52.3	
	comp=E,637nm,0.5s						
RTCV	**Cerro Valdivia**	**1.27**	**66**	*e*P	**Pn**	**05 18 34.8**	**-0.2**
RTCV				*e*S	**Sn**	**05 18 52.9**	**-0.2**
LMEL	**Las Melosas**	**1.47**	**190**	*e*P	**Pn**	**05 18 37.9**	**+0.5**
LMEL				*i* S	**Sn**	**05 18 59.6**	**+2.2**
LMEL				IAML		05 19 05.4	
	comp=N,376nm,0.1s						
AVIZ	**Vizcacheras**	**1.59**	**133**	*e*P	**Pn**	**05 18 38.1**	**-0.7**
AMOG	**MOGNA**	**1.89**	**40**	*e*P	**Pn**	**05 18 42.5**	**0.0**
ACCO	**Cerro Coronel**	**1.94**	**22**	*e*P	**Pn**	**05 18 44.3**	**+0.9**
ACAN	**Cantantal**	**2.31**	**88**	*e*P	**Pn**	**05 18 46.8**	**-1.0**
ACDV	**Cuesta del Vie**	**2.32**	**17**	*e*P	**Pn**	**05 18 48.9**	**+0.8**
ACDV				IAML		05 19 22.4	
	comp=Z,12nm,0.3s						
GO04	**Tololo Observa**	**2.34**	**341⇑**	*e*P	**Pn**	**05 18 48.4**	**-0.1**
GO04				*i* S	**Sn**	**05 19 16.3**	**-0.8**

*ISCJB **26** 05:23:39.4±0.5,55°12N±0°09×153°3E±0°1,h550km,*
mb3.2/11,Error ellipse: s-maj=12.3km s-min=7.9km
az=21.9
*IDC **26** 05:23:40.7±1.4,54°90N×153°32E,h566km±20km,*
mb2.7/11,mb1 2.8/12,mb1mx2.6/42,mbtmp3.6/12,Error
ellipse: s-maj=21.5km s-min=15.8km az=164.0
*KRSC **26** 05:23:42.1±10.0,55°05N×153°64E,h525km±10km,ML4.1*
ISC 26 05:23:39.6±0.8,54°9N±0°1×153°50E±0°09,h550km,n28,
σ1°92/31,mb3.2/11,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**2.88**	**114**	*e*P	**P**	**05 24 57.0**	**+3.0**
APC	**

	comp=Z,18μm,0.2s								
AYDN				*i* P		**Pg**	**05 30 23.1**	**+0.2**
AYDN				*i* S		**Sb**	**05 30 34.3**	**0.0**
CHOS	**Chios island**	**0.88**	**275**	PG		**Pb**	**05 30 23.2**	**-0.2**
CHOS	**Chios island**	**0.88**	**275**	P		**Pb**	**05 30 23.2**	**-0.2**
CHOS				S		**Sn**	**05 30 36.3**	**-0.7**
CHOS	**Chios island**	**0.88**	**275**	P		**Pb**	**05 30 23.2**	**-0.2**
CHOS				S		**Sg**	**05 30 35.3**	**+0.3**
CHOS				AML		AML	05 30 39.1	
	comp=N,1792μm,0.2s							
CHOS				AML		AML	05 30 39.9	
	comp=E,2166μm,0.3s							
DIDI	**Didim-Aydin**	**0.93**	**177**	PG		**Pb**	**05 30 23.7**	**-0.5**
AYVA	**Ayvalik**	**1.06**	**339**	IAML_P				
	comp=Z,3μm,0.2s							
AYVA				*i* P		**Pg**	**05 30 27.6**	**+0.7**
MANT	**Manisa**	**1.10**	**80**	*i* P		**Pn**	**05 30 27.3**	**-0.2**
MANT				*i* S		**Sg**	**05 30 41.5**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.15**	**22**	*i* P		**Pg**	**05 30 27.9**	**-0.5**
STEP				*i* S		**Sg**	**05 30 44.6**	**+1.1**
PRK	**Paraskevi**	**1.17**	**323**	P		**Pg**	**05 30 29.5**	**+0.6**
PRK				S		**Sg**	**05 30 44.6**	**+0.5**
PRK	**Paraskevi**	**1.17**	**323**	P		**Pg**	**05 30 28.7**	**-0.1**
PRK				S		**Sg**	**05 30 44.5**	**+0.4**
PRK				AML		AML	05 30 47.5	
	comp=E,6780μm,0.7s							
PRK				AML		AML	05 30 47.9	
	comp=N,4430μm,0.7s							
KULA	**Kula-Manisa**	**1.19**	**80**	PN		**Pb**	**05 30 28.6**	**-0.1**
KULA	**Kula-Manisa**	**1.19**	**80**	P		**Pb**	**05 30 28.5**	**-0.1**
KULA				S		**Sb**	**05 30 43.2**	**-0.7**
BODT	**Bodrum**	**1.25**	**175**	PN		**Pn**	**05 30 28.9**	**-0.5**
BODT	**Bodrum**	**1.25**	**175**	P		**Pn**	**05 30 29.4**	**0.0**
BODT				S		**Sg**	**05 30 47.5**	**+0.8**
BDRM	**Kayabasi**	**1.26**	**170**	IAML_P				
	comp=Z,9μm,0.3s							
BDRM				*i* P		**Pn**	**05 30 29.1**	**-0.4**
PSRA	**Psara**	**1.28**	**281**	P		**Pn**	**05 30 29.7**	**-0.1**
SIGR	**SIGRI**	**1.37**	**312**	PN		**Pn**	**05 30 30.6**	**-0.3**
SIGR	**SIGRI**	**1.37**	**312**	P		**Pn**	**05 30 31.0**	**0.0**
SIGR				S		**Sn**	**05 30 48.7**	**-0.1**
SIGR	**SIGRI**	**1.37**	**312**	P		**Pn**	**05 30 31.0**	**0.0**
SIGR				S		**Sb**	**05 30 48.8**	**-0.2**
SIGR				AML		AML	05 30 51.5	
	comp=E,1622μm,0.7s							
SIGR				AML		AML	05 30 51.6	
	comp=N,1087μm,0.6s							
BALB	**Balikesir**	**1.44**	**22**	PN		**Pn**	**05 30 31.7**	**-0.2**
USAK	**Uak-Merkez**	**1.50**	**74**	IAML_P				
	comp=Z,6μm,0.2s							
USAK				*i* P		**Pb**	**05 30 33.9**	**-0.1**
USAK				*i* S		**Sb**	**05 30 53.2**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**1.51**	**341**	IAML_P				
	comp=Z,2μm,0.3s							
BAYC				*i* P		**Pb**	**05 30 33.5**	**-0.6**
DATC	**Datca-Mugla**	**1.60**	**166**	PN		**Pn**	**05 30 34.4**	**+0.3**
DAT	**Datca**	**1.61**	**168**	PN		**Pn**	**05 30 33.8**	**-0.6**
DAT	**Datca**	**1.61**	**168**	IAML_P				
	comp=Z,347nm,0.1s							
DAT				*i* P		**Pn**	**05 30 34.0**	**-0.4**
DURS	**Dursunbey**	**1.64**	**38**	IAML_P				
	comp=Z,2μm,0.1s							
DURS				*i* P		**Pn**	**05 30 34.8**	**-0.1**
EZN	**Ezine**	**1.65**	**337**	PN		**Pn**	**05 30 34.5**	**-0.3**
EZN	**Ezine**	**1.65**	**337**	P		**Pn**	**05 30 33.3**	**-1.5**
EZN				S		**Sn**	**05 30 55.1**	**-0.7**
NISR	**Nisiros**	**1.70**	**181**	P		**Pn**	**05 30 35.6**	**+0.1**
SHAP	**Saphane-Kutahy**	**1.76**	**65**	PN		**Pn**	**05 30 36.7**	**+0.3**
BOZC	**Bozcaada**	**1.76**	**331**	PN		**Pn**	**05 30 36.1**	**-0.3**
BOZC	**Bozcaada**	**1.76**	**331**	*i* P		**Pn**	**05 30 36.9**	**+0.5**
BBRN	**Bozburun-Marma**	**1.77**	**156**	PN		**Pn**	**05 30 37.2**	**+0.7**
GONE	**Gonen-Balikesi**	**1.78**	**13**	PN		**Pn**	**05 30 36.4**	**-0.2**
MRSB	**Marmaris-Mugla**	**1.79**	**153**	PN		**Pn**	**05 30 36.9**	**+0.1**
AMGA	**Amorgos Island**	**1.79**	**215**	P		**Pn**	**05 30 35.9**	**-0.9**
AMGA	**Amorgos Island**	**1.79**	**215**	P		**Pn**	**05 30 36.8**	**0.0**
AMGA				AML		AML	05 31 07.5	
	comp=E,1803μm,0.4s							
AMGA				AML		AML	05 31 09.6	
	comp=N,1448μm,0.3s							
APE	**Apeiranthos**	**1.80**	**227**	PN		**Pn**	**05 30 36.6**	**-0.3**
APE	**Apeiranthos**	**1.80**	**227**	P		**Pn**	**05 30 36.0**	**-0.9**
APE				S		**Sn**	**05 30 59.9**	**+0.4**
APE	**Apeiranthos**	**1.80**	**227**	P		**Pn**	**05 30 36.2**	**-0.7**
APE				AML		AML	05 31 07.6	
	comp=N,455μm,0.4s							
APE				AML		AML	05 31 07.8	
	comp=E,512μm,0.2s							
KHAL	**Karahalli**	**1.83**	**87**	IAML_P				
	comp=Z,3μm,0.2s							
KHAL				*i* P		**Pg**	**05 30 41.1**	**-0.3**
TURN	**Turunc**	**1.83**	**141**	PN		**Pn**	**05 30 36.7**	**-0.6**
TURN	**Turunc**	**1.83**	**141**	*i* P		**Pn**	**05 30 36.6**	**-0.7**
KHL	**Karahalli**	**1.85**	**89**	PN		**Pn**	**05 30 38.1**	**+0.4**
DALY	**Dalyan (Mula)**	**1.90**	**141**	PN		**Pn**	**05 30 38.5**	**+0.2**
GDZ	**Gediz**	**1.97**	**66**	IAML_P				
	comp=Z,648nm,0.1s							
GDZ				*i* P		**Pg**	**05 30 44.0**	**-0.1**
LPK	**Lapseki**	**2.08**	**351**	PN		**Pn**	**05 30 40.6**	**-0.2**
EDC	**Edincik**	**2.10**	**15**	PN		**Pn**	**05 30 41.5**	**+0.4**
TVSB	**Tavsanli**	**2.12**	**57**	PN		**Pn**	**05 30 41.8**	**+0.4**
GELI	**Tayfur-Gelibol**	**2.15**	**346**	PN		**Pn**	**05 30 42.1**	**+0.3**
KCTX	**Karacabey (Bur**	**2.16**	**25**	PN		**Pn**	**05 30 41.6**	**-0.3**
IOSP	**Ios island**	**2.18**	**224**	P		**Pn**	**05 30 41.7**	**-0.4**
IOSP	**Ios island**	**2.18**	**224**	P		**Pn**	**05 30 41.5**	**-0.6**
IOSP				AML		AML	05 31 19.4	
	comp=N,1387μm,0.4s							
IOSP				AML		AML	05 31 20.8	
	comp=E,1712μm,0.6s							
ORLT	**Orhaneli**	**2.19**	**37**	PN		**Pn**	**05 30 42.6**	**+0.3**
LIA	**Limnos Island**	**2.21**	**316**	P		**Pn**	**05 30 42.8**	**+0.2**
LIA	**Limnos Island**	**2.21**	**316**	P		**Pn**	**05 30 42.9**	**+0.3**
LIA				AML		AML	05 31 19.6	
	comp=E,294μm,0.6s							
LIA				AML		AML	05 31 23.1	
	comp=N,327μm,0.5s							
ARG	**Arkhangelos**	**2.23**	**160**	P		**Pn**	**05 30 43.5**	**+0.7**
ANAF	**Anafi Island**	**2.25**	**210**	P		**Pn**	**05 30 42.7**	**-0.4**
ANAF	**Anafi Island**	**2.25**	**210**	P		**Pn**	**05 30 42.8**	**-0.3**
FETY	**Fethiye**	**2.26**	**137**	P		**Pn**	**05 30 44.9**	**+1.6**
CMBO	**Columbo, Santo**	**2.31**	**218**	P		**Pn**	**05 30 44.0**	**+0.1**
SANT	**Santorini**	**2.37**	**216**	P		**Pn**	**05 30 44.7**	**-0.1**
SMTH	**Samothraki Isl**	**2.50**	**330**	P		**Pn**	**05 30 47.3**	**+0.7**
EREA	**Eretria**	**2.55**	**273**	P		**Pn**	**05 30 47.5**	**+0.3**
DION	**Dionisos Attik**	**2.56**	**266**	P		**Pn**	**05 30 47.7**	**+0.3**
DION	**Dionisos Attik**	**2.56**	**266**	P		**Pn**	**05 30 47.6**	**+0.2**
MHLA	**Plaka, Milos I**	**2.69**	**235**	P		**Pn**	**05 30 49.6**	**+0.5**
ALN	**Alexandroupoli**	**2.73**	**342**	P		**Pn**	**05 30 49.9**	**+0.3**
MHLO	**Agia Marina, M**	**2.73**	**235**	P		**Pn**	**05 30 49.6**	**-0.2**
MRKA	**Markates**	**2.84**	**279**	P		**Pn**	**05 30 52.1**	**+0.9**
KSL	**Kastellorizon**	**2.89**	**138**	P		**Pn**	**05 30 52.5**	**+0.6**
VIL2	**Platees**	**3.07**	**269**	P		**Pn**	**05 30 54.7**	**+0.2**
RDO	**Rodhopi**	**3.10**	**337**	P		**Pn**	**05 30 55.7**	**+0.9**
KAVA	**Kavala**	**3.38**	**323**	P		**Pn**	**05 30 59.4**	**+0.8**
EDRB	**Edirne**	**3.55**	**355**	P		**Pn**	**05 31 00.8**	**-0.1**
VLI	**Veliai**	**3.72**	**246**	P		**Pn**	**05 31 03.9**	**+0.6**
ANX	**Ano Chora**	**4.13**	**276**	P		**Pn**	**05 31 10.5**	**+1.4**

*KRNET **26** 05:34:00.7±0.1,41°.01N×75°.20E,h15km,mb3.6*
*SOME **26** 05:34:01.2,41°.00N×75°.13E,h15km*
*NNC **26** 05:34:01.1±1.4,40°.94N×75°.22E,h0km,mb4.2,mpv3.9,*
Error ellipse: s-maj=10.5km s-min=6.7km az=173.0
ISC 26 05:33:56.6±1.4,40°.85N±0°.04×75°.23E±0°.02,h3km±12km, n75,σ1¶46/113,30C-22D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.83**	**45**	⇓*i*P	**Pn**	**05 34 14.2**	**-1.3**
NRN	baz=54			⇓*i*S	**Sb**	**05 34 24.3**	**-1.2**
ARLS	**Aral**	**1.22**	**326**	⇓*i*P	**Pg**	**05 34 20.6**	**+0.7**
ARLS	baz=23			⇓*i*S	**Sb**	**05 34 35.1**	**-1.5**
KZA	**Kyzart**	**1.23**	**1**	P	**Pg**	**05 34 20.7**	**+0.6**
KZA	SNR=52 **Kyzart**	**1.23**	**1**	⇑*i*P	**Pg**	**05 34 20.7**	**+0.6**
KZA	baz=2.0			⇑*i*S	**Sb**	**05 34 36.3**	**-0.8**
	baz=2.0						
UCH	**Uchtor**	**1.48**	**339**	P	**Pg**	**05 34 25.5**	**+0.6**
UCH	SNR=57 **Uchtor**	**1.48**	**339**	⇑*i*P	**Pg**	**05 34 25.4**	**+0.6**
UCH	baz=37			⇑*i*S	**Sb**	**05 34 44.3**	**0.0**
ULHL	**Ulahol**	**1.59**	**28**	P	**Pg**	**05 34 27.7**	**+0.7**
ULHL	SNR=35 **Ulahol**	**1.59**	**28**	⇑*e*P	**Pg**	**05 34 27.9**	**+0.9**
ULHL	baz=32			⇑*i*S	**Sb**	**05 34 47.4**	**0.0**
AML	**Almayashu**	**1.72**	**319**	P	**Pg**	**05 34 30.1**	**+0.6**
AML	SNR=168 **Almayashu**	**1.72**	**319**	⇓*e*P	**Pg**	**05 34 30.6**	**+1.0**
AML	baz=15			⇓*i*S	**Sg**	**05 34 52.5**	**+0.6**
BOOM	**Boomskoye usch**	**1.73**	**18**	⇓*i*P	**Pg**	**05 34 30.4**	**+0.8**
BOOM	baz=20			⇓*i*S	**Sg**	**05 34 51.8**	**-0.2**
ARSB	baz=20 **Arslanbob**	**1.76**	**286**	⇑*i*P	**Pg**	**05 34 32.3**	**+2.0**
ARSB	baz=81			⇑*i*S	**Sg**	**05 34 55.5**	**+2.4**
KBK	**Karagaybulak**	**1.82**	**354**	P	**Pg**	**05 34 31.8**	**+0.4**
KBK	SNR=50 **Karagaybulak**	**1.82**	**354**	⇓*i*P	**Pg**	**05 34 31.5**	**+0.1**
KBK	baz=54			⇓*i*S	**Sb**	**05 34 53.9**	**0.0**
AAK	**Ala-Archa**	**1.87**	**343**	P	**Pg**	**05 34 33.0**	**+0.6**
AAK	SNR=66 **Ala-Archa**	**1.87**	**343**	⇓Pn	**Pg**	**05 34 33.5**	**+1.2**
AAK	48nm,0.3s			⇑Sn	**Sg**	**05 34 59.7**	**+3.1**
AAK	**Ala-Archa**	**1.87**	**343**	⇓*i*P	**Pg**	**05 34 32.9**	**+0.5**
AAK	baz=42			⇓*i*S	**Sb**	**05 34 55.8**	**+0.5**
KDJ	**Kajisay**	**1.95**	**48**	⇑*i*P	**Pg**	**05 34 34.9**	**+1.0**
KDJ	baz=52			⇑*i*S	**Sg**	**05 35 00.9**	**+1.8**
FRU1	**Bishkek**	**2.01**	**347**	⇑*e*P	**Pg**	**05 34 35.0**	**-0.1**
FRU1	baz=47			⇑*i*S	**Sb**	**05 35 00.0**	**+0.7**
TKM2	**Tokmak 2**	**2.09**	**8**	P	**Pg**	**05 34 36.5**	**-0.2**
TKM2	SNR=38 **Tokmak 2**	**2.09**	**8**	⇓Pn	**Pg**	**05 34 37.2**	**+0.6**
TKM2	13nm,0.3s			⇑Sn	**Sg**	**05 35 04.9**	**+1.3**
TKM2	**Tokmak 2**	**2.09**	**8**	⇑*e*P	**Pg**	**05 34 36.4**	**-0.2**
TKM2	baz=9.0			⇑*i*S	**Sb**	**05 35 02.0**	**+0.3**
EKS2	**Erkin-Say**	**2.11**	**330**	P	**Pg**	**05 34 39.9**	**+2.9**
EKS2	SNR=40 **Erkin-Say**	**2.11**	**330**	⇑*e*P	**Pg**	**05 34 36.7**	**-0.3**
EKS2	baz=28			⇑*i*S	**Sb**	**05 35 03.0**	**+0.8**
CHMS	**Chumysh**	**2.18**	**351**	P	**Pg**	**05 34 38.2**	**-0.1**
CHMS	SNR=52 **Chumysh**	**2.18**	**351**	⇓*e*P	**Pb**	**05 34 37.3**	**+0.7**
CHMS	baz=51			⇓*i*S	**Sb**	**05 35 04.1**	**0.0**
KST	**Kastek**	**2.26**	**14**	Pg	**Pg**	**05 34 41.0**	**+1.2**
KST	48nm,0.4s			Lg	Lg	05 35 09.6	
KST	**Kastek**	**2.26**	**14**	⇑*i*P	**Pg**	**05 34 41.0**	**+1.2**
KST	40nm,0.4s			*e*S	**Sg**	**05 35 09.6**	**+0.4**
MRKS	**Merke**	**2.41**	**322**	Pg	**Pg**	**05 34 43.0**	**+0.2**
MRKS	79nm,0.4s			Lg	Lg	05 35 13.2	
MRKS	**Merke**	**2.41**	**322**	*e*P	**Pg**	**05 34 43.0**	**+0.2**
MRKS	79nm,0.4s			*e*S	**Sg**	**05 35 13.2**	**-0.9**
DGS	**Degeres**	**2.42**	**9**	Pg	**Pg**	**05 34 44.1**	**+1.0**
DGS	118nm,0.4s			Lg	Lg	05 35 14.7	
DGS	**Degeres**	**2.42**	**9**	*e*P	**Pg**	**05 34 44.0**	**+1.0**
DGS	118nm,0.4s			*e*S	**Sg**	**05 35 14.7**	**+0.2**
MTBS	**Maitube**	**2.45**	**21**	Pg	**Pg**	**05 34 44.1**	**+0.6**
MTBS	23nm,0.2s			Lg	Lg	05 35 14.8	
MTBS	**Maitube**	**2.45**	**21**	*e*P	**Pg**	**05 34 44.1**	**+0.6**
MTBS	23nm,0.2s			*e*S	**Sg**	**05 35 14.8**	**-0.4**
USP	**Ospenovka**	**2.48**	**348**	P	**Pg**	**05 34 43.7**	**-0.3**
USP	SNR=84 **Ospenovka**	**2.48**	**348**	⇑*i*P	**Pb**	**05 34 41.4**	**-0.3**
USP	baz=47			⇑*i*S	**Sb**	**05 35 11.3**	**-1.4**
TNSS	**Tian-Shan**	**2.54**	**30**	Pg	**Pg**	**05 34 45.7**	**+0.6**
TNSS	33nm,0.4s			Lg	Lg	05 35 17.7	
TNSS	**Tian-Shan**	**2.54**	**30**	⇑*i*P	**Pg**	**05 34 45.7**	**+0.6**
TNSS	33nm,0.4s			*e*S	**Sg**	**05 35 17.7**	**-0.4**
ARK	**Arkit**	**2.63**	**292**	⇓*i*P	**Pb**	**05 34 44.7**	**+0.2**
ARK	baz=89			⇓*i*S	**Sb**	**05 35 17.0**	**-0.3**
AAA	**Alma-Ata**	**2.67**	**28**	Pg	**Pg**	**05 34 48.5**	**+0.7**
AAA	67nm,0.3s			Lg	Lg	05 35 22.7	
MDOK	**Medeo**	**2.68**	**30**	⇑Pg	**Pg**	**05 34 47.9**	**-0.1**
MDOK	13nm,0.4s			⇑Lg	Lg	05 35 23.5	
MDOK	**Medeo**	**2.68**	**30**	Pg	**Pg**	**05 34 48.1**	**+0.2**
MDOK	22nm,0.5s			Lg	Lg	05 35 22.1	
MDOK	**Medeo**	**2.68**	**30**	⇓*i*P	**Pg**	**05 34 48.1**	**+0.2**
MDOK	22nm,0.5s			*e*S	**Sg**	**05 35 22.1**	**-0.6**
KNDC	**Almaty**	**2.70**	**28**	⇑Pg	**Pg**	**05 34 49.7**	**+1.4**
KNDC	35nm,0.5s			⇑Lg	Lg	05 35 23.7	
KOTS	**Kotyrbulak**	**2.77**	**30**	Pg	**Pg**	**05 34 50.5**	**+0.9**
KOTS	26nm,0.3s			Lg	Lg	05 35 25.7	
KOTS	**Kotyrbulak**	**2.77**	**30**	*e*P	**Pg**	**05 34 50.5**	**+0.9**
KOTS	26nm,0.3s			*e*S	**Sg**	**05 35 25.7**	**+0.3**
KTBS	**Karatobe**	**3.06**	**20**	Pg	**Pg**	**05 34 54.8**	**-0.3**
KTBS	13nm,0.4s			Lg	Lg	05 35 33.1	
KTBS	**Karatobe**	**3.06**	**20**	*e*P	**Pg**	**05 34 54.8**	**-0.3**
KTBS	13nm,0.4s			*e*S	**Sg**	**05 35 33.1**	**-1.7**
KUU	**Kurty**	**3.15**	**15**	Pg	**Pg**	**05 34 56.7**	**-0.3**
KUU	12nm,0.4s			Lg	Lg	05 35 36.2	
KUU	**Kurty**	**3.15**	**15**	*e*P	**Pg**	**05 34 56.7**	**-0.3**
KUU	12nm,0.4s			*e*S	**Sg**	**05 35 36.2**	**-1.5**
SATY	**Saty**	**3.24**	**46**	Pg	**Pg**	**05 34 59.3**	**+0.7**
SATY	20nm,0.4s			Lg	Lg	05 35 40.7	
SATY	**Saty**	**3.24**	**46**	*e*P	**Pg**	**05 34 59.3**	**+0.7**
SATY	20nm,0.4s			*e*S	**Sg**	**05 35 40.7**	**+0.1**
KURS	**Kuram**	**3.43**	**39**	Pg	**Pg**	**05 35 02.0**	**-0.2**
KURS	7.6nm,0.7s			Lg	Lg	05 35 45.4	
KURS	**Kuram**	**3.43**	**39**	*e*P	**Pg**	**05 35 02.0**	**-0.2**
KURS	7.6nm,0.7s			*e*S	**Sg**	**05 35 45.5**	**-1.2**
BTK	**Batken**	**3.45**	**258**	⇓*i*P	**Pb**	**05 34 58.1**	**-0.3**
BTK	baz=56			⇓*i*S	**Sb**	**05 35 39.0**	**-1.9**
UZB	**Uzynbulak**	**3.64**	**50**	Pg	**Pg**	**05 35 06.3**	**-0.1**
UZB	9.8nm,0.4s			Lg	Lg	05 35 53.1	
UZB	**Uzynbulak**	**3.64**	**50**	*e*P	**Pg**	**05 35 06.3**	**-0.1**
UZB	9.8nm,0.4s			*e*S	**Sg**	**05 35 53.1**	**-0.5**
KPKS	**Kokpek**	**3.67**	**43**	*e*P	**Pg**	**05 35 06.7**	**-0.1**
KPKS	25nm,0.4s			*e*S	**Sg**	**05 35 53.3**	**-1.0**
ARXS	**Arharly**	**3.87**	**29**	Pg	**Pg**	**05 35 09.7**	**-1.0**
ARXS	13nm,0.5s			Lg	Lg	05 35 58.5	
ARXS	**Arharly**	**3.87**	**29**	*e*P	**Pg**	**05 35 09.7**	**-1.0**
ARXS	13nm,0.5s			*e*S	**Sg**	**05 35 58.5**	**-2.4**
SHLS	**Shalkode**	**3.91**	**52**	Pg	Pg	05 35 16.6	+5.1
SHLS	15nm,0.4s			Lg	Lg	05 36 10.2	
SHLS	**Shalkode**	**3.91**	**52**	*e*P	Pg	05 35 16.6	+5.1
SHLS	15nm,0.4s			*e*S	**Sg**	**05 36 10.2**	**+8.0**
PDGK	**Podgornoye**	**4.03**	**51**	Pg	**Pg**	**05 35 13.1**	**-0.6**
PDGK	3.0nm,0.4s			Lg	Lg	05 36 04.5	
PDGK	**Podgornoye**	**4.03**	**51**	⇑Pg	**Pg**	**05 35 17.7**	**+4.0**
PDGK	4.4nm,0.6s			⇑Lg	Lg	05 36 12.2	
PDGK	**Podgornoye**	**4.03**	**51**	⇑*i*P	**Pb**	**05 35 04.1**	**-4.1**
PDGK	baz=52			⇑*i*S	**Sn**	**05 35 50.4**	**+3.3**
IUG	**Iuzhnay**	**4.11**	**290**	*e*P	**Pg**	**05 35 14.9**	**-0.4**
IUG	3.5nm,0.6s			*e*S	**Sg**	**05 36 07.3**	**-1.2**
KK31	**Karatay Array**	**4.17**	**304**	Pg	**Pg**	**05 35 14.3**	**-2.2**
KK31	1.6nm,0.3s,baz=128,slow=17,SNR=35			Lg	Lg	05 36 08.3	
BTLS	**Baital**	**4.28**	**349**	*e*P	**Pg**	**05 35 15.9**	**-2.6**
BTLS	12nm,0.5s			*e*S	**Sb**	**05 36 08.9**	**+4.5**
TDK	**Taldyqorghan**	**4.76**	**28**	Pg	**Pg**	**05 35 27.8**	**0.0**
TDK	52nm,0.2s			Lg	Lg	05 36 30.2	
TDK	**Taldyqorghan**	**4.76**	**28**	*e*P	**Pg**	**05 35 27.8**	**0.0**
TDK	42nm,0.2s			*e*S	**Sg**	**05 36 30.2**	**+0.7**
DJR	**Jarkent**	**4.84**	**43**	Pg	**Pg**	**05 35 29.6**	**+0.3**
DJR	6.4nm,0.4s			Lg	Lg	05 36 32.6	
DJR	**Jarkent**	**4.84**	**43**	*e*P	**Pg**	**05 35 29.6**	**+0.3**
DJR	5.9nm,0.6s			*e*S	**Sg**	**05 36 32.6**	**+0.4**
KAPS	**Kapalarasan**	**5.37**	**33**	Pg	**Pg**	**05 35 40.1**	**+0.7**
KAPS	6.0nm,0.4s			Lg	Lg	05 36 50.5	
KAPS	**Kapalarasan**	**5.37**	**33**	*e*P	**Pg**	**05 35 40.1**	**+0.7**
KAPS	6.0nm,0.4s			*e*S	**Sg**	**05 36 50.5**	**+1.6**
OTUK	**Ortayu**	**7.67**	**345**	⇓Lg	Lg	05 37 58.5	

*DDA **26** 05:37:09.4,38°.31N×27°.18E,h7km±3km,ML3.5*
*ATH **26** 05:37:09.9,38°.31N×27°.14E,h28km±1km,ML3.1/9, Error ellipse: s-maj=2.6km s-min=0.9km az=244.0*
*ISK **26** 05:37:09.2,38°.32N×27°.18E,h12km,ML3.4/30*
*ISCJB **26** 05:37:10.5±0.3,38°.30N±0°.02×27°.15E±0°.02,h19km±4km, Error ellipse: s-maj=2.9km s-min=2.7km az=24.2*
*THE **26** 05:37:10.9,38°.27N×27°.15E,h16km±3km,ML3.1/5, Error ellipse: s-maj=4.1km s-min=1.4km az=189.0*
ISC 26 05:37:09.8±0.9,38°.31N±0°.02×27°.18E±0°.02,h16km±9km, n87,σ0¶64/107,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.46**	**277**	PG	**Pg**	**05 37 18.7**	**-0.4**
URLA				SG	**Sg**	**05 37 25.6**	**+0.2**
URLA	**Izmir**	**0.46**	**277**	*i* P	**Pb**	**05 37 19.4**	**-0.2**
ZEY	**zmir**	**0.54**	**263**	*i* P	**Pb**	**05 37 21.0**	**+0.1**
KRBN	**Karaburun**	**0.57**	**300**	PG	**Pg**	**05 37 20.5**	**-0.6**
KRBN				SG	**Sg**	**05 37 28.8**	**+0.1**
GCAM	**G?zelcaml?**	**0.61**	**176**	PG	**Pg**	**05 37 21.8**	**0.0**
GCAM				SG	**Sg**	**05 37 30.2**	**+0.3**
GCAM	**G?zelcaml?**	**0.61**	**176**	*i* P	**Pb**	**05 37 22.4**	**+0.4**
SMG	**Samos**	**0.66**	**204**	P	**Pg**	**05 37 22.2**	**-0.5**
SMG				S	**Sg**	**05 37 31.5**	**+0.1**
SMG	**Samos**	**0.66**	**204**	P	**Pg**	**05 37 22.5**	**-0.2**
SMG				S	**Sb**	**05 37 32.6**	**+0.8**
SMG				AML	AML	05 37 35.7	
	comp=E,3441μm,0.3s						
SMG				AML	AML	05 37 35.8	
	comp=N,5591μm,0.4s						
ZEDA	**zmir-Bergama**	**0.66**	**353**	IAML_P			
	comp=Z,18μm,0.2s						
ZEDA				*i* P	**Pg**	**05 37 22.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.67**	**122**	PG	**Pg**	**05 37 23.1**	**+0.1**
CESE	**eme**	**0.69**	**272**	PG	**Pg**	**05 37 22.9**	**-0.5**
GOMA	**Golmarmara-Man**	**0.70**	**55**	PG	**Pg**	**05 37 23.3**	**-0.3**
GOMA				SG	**Sb**	**05 37 33.5**	**+0.3**
CAND	**Candarli**	**0.71**	**336**	PG	**Pg**	**05 37 23.1**	**-0.6**
AKS	**Akhisar**	**0.76**	**41**	PG	**Pb**	**05 37 23.9**	**-0.7**
AKHS	**Akhisar**	**0.76**	**41**	IAML_P			
	comp=Z,8μm,0.2s						
AKHS				*i* P	**Pb**	**05 37 24.4**	**-0.2**
AYDN	**Tasoluk**	**0.85**	**139**	IAML_P			
	comp=Z,10μm,0.2s						
AYDN				*i* P	**Pn**	**05 37 27.3**	**+0.1**
AYDN				*i* S	**Sg**	**05 37 38.2**	**+0.6**
CHOS	**Chios island**	**0.89**	**276**	PG	**Pb**	**05 37 26.8**	**-0.1**
CHOS	**Chios island**	**0.89**	**276**	P	**Pb**	**05 37 26.7**	**-0.1**
CHOS				S	**Sg**	**05 37 39.4**	**+0.6**
CHOS	**Chios island**	**0.89**	**276**	P	**Pb**	**05 37 26.8**	**-0.1**
CHOS				S	**Sg**	**05 37 38.9**	**+0.1**
CHOS				AML	AML	05 37 41.5	
	comp=E,2178μm,0.2s						
CHOS				AML	AML	05 37 42.2	
	comp=N,1108μm,0.2s						
DIDI	**Didim-Aydin**	**0.93**	**177**	PG	**Pb**	**05 37 27.4**	**-0.2**
AYVA	**Ayvalik**	**1.07**	**339**	IAML_P			
	comp=Z,4μm,0.3s						
AYVA				*i* P	**Pg**	**05 37 30.9**	**+0.3**
MANT	**Manisa**	**1.10**	**80**	*i* P	**Pg**	**05 37 31.5**	**+0.4**
MANT				*i* S	**Sg**	**05 37 45.5**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.15**	**21**	*i* P	**Pg**	**05 37 31.9**	**-0.2**
STEP				*i* S	**Sg**	**05 37 48.1**	**+1.1**
PRK	**Paraskevi**	**1.18**	**323**	P	**Pg**	**05 37 33.0**	**+0.5**
PRK				S	**Sg**	**05 37 48.0**	**+0.1**
PRK	**Paraskevi**	**1.18**	**323**	P	**Pg**	**05 37 32.2**	**-0.3**
PRK				S	**Sg**	**05 37 48.0**	**+0.1**
PRK				AML	AML	05 37 51.0	

comp=E,4556μm,0.6s
PRK AML AML 05 37 51.3
comp=N,2863μm,0.7s
KULA Kula-Manisa 1.18 79 PN **Pb 05 37 32.1 +0.2**
KULA Kula-Manisa 1.18 79 P **Pb 05 37 32.1 +0.2**
KULA S **Sb 05 37 46.9 -0.1**
BODT Bodrum 1.25 175 PN **Pn 05 37 32.6 -0.1**
BODT SN **Sg 05 37 50.7 +0.5**
BODT Bodrum 1.25 175 P **Pn 05 37 32.5 -0.1**
BDRM Kayabasi 1.26 170 IAML_P
comp=Z,5μm,0.2s
BDRM *i* P **Pb 05 37 33.3 +0.1**
PSRA Psara 1.29 281 P **Pb 05 37 34.1 +0.4**
SIGR SIGRI 1.37 312 PN **Pb 05 37 34.9 -0.2**
SIGR SN **Sg 05 37 53.5 -0.7**
SIGR SIGRI 1.37 312 P **Pn 05 37 34.6 +0.3**
SIGR S **Sn 05 37 51.1 -1.1**
SIGR SIGRI 1.37 312 P **Pn 05 37 34.3 0.0**
SIGR S **Sb 05 37 52.5 +0.1**
SIGR AML AML 05 37 55.0
comp=E,942μm,0.7s
SIGR AML AML 05 37 57.9
comp=N,877μm,0.6s
GPNR Gulpinar-Canak 1.41 325 PN **Pb 05 37 35.4 -0.3**
BALB Balikesir 1.44 22 PN **Pn 05 37 35.4 +0.2**
USAK Uak-Merkez 1.50 74 *i* P **Pg 05 37 38.5 -0.2**
USAK *i* S **Sg 05 37 57.3 -0.9**
BAYC CANAKKALE_Bayr 1.51 341 IAML_P
comp=Z,2μm,0.2s
BAYC *i* P **Pn 05 37 36.5 +0.2**
DENT Denizli 1.56 110 PN **Pb 05 37 37.9 -0.5**
DATC Datca-Mugla 1.59 166 PN **Pb 05 37 38.2 -0.6**
DAT Datca 1.61 168 PN **Pn 05 37 37.2 -0.4**
DAT Datca 1.61 168 *i* P **Pn 05 37 38.1 +0.4**
TAVA DENIZLI_Tavas 1.61 121 *i* P **Pb 05 37 39.9 +0.7**
DURS Dursunbey 1.64 38 *i* P **Pb 05 37 39.0 -0.8**
EZN Ezine 1.66 337 PN **Pn 05 37 38.8 +0.6**
NISR Nisiros 1.69 181 P **Pn 05 37 39.6 +0.9**
SHAP Saphane-Kutahy 1.75 65 PN **Pn 05 37 40.2 +0.6**
BOZC Bozcaada 1.77 331 PN **Pn 05 37 40.3 +0.6**
TNSA Tinos 1.77 245 P **Pn 05 37 40.7 +0.9**
BBRN Bozburun-Marma 1.77 156 PN **Pn 05 37 40.7 +0.9**
GONE Gonen-Balikesi 1.78 13 PN **Pn 05 37 40.4 +0.5**
AMGA Amorgos Island 1.79 215 P **Pn 05 37 39.3 -0.8**
AMGA S **Sn 05 38 01.9 -0.6**
AMGA Amorgos Island 1.79 215 P **Pb 05 37 41.2 -1.0**
AMGA AML AML 05 38 11.1
comp=E,1057μm,0.4s
AMGA AML AML 05 38 13.2
comp=N,908μm,0.3s
APE Apeiranthos 1.80 227 PN **Pn 05 37 40.9 +0.7**
APE Apeiranthos 1.80 227 P **Pn 05 37 39.8 -0.4**
APE Apeiranthos 1.80 227 P **Pn 05 37 40.9 +0.7**
APE AML AML 05 38 11.3
comp=E,347μm,0.2s
APE AML AML 05 38 11.4
comp=N,271μm,0.2s
KHAL Karahalli 1.82 87 *i* P **Pg 05 37 44.5 -0.3**
TURN Turunc 1.82 141 PN **Pn 05 37 40.4 -0.1**
DALY Dalyan (Mula) 1.89 141 PN **Pn 05 37 42.6 +1.1**
KNL Balıkesir 1.98 8 *i* P **Pg 05 37 47.3 -0.5**
LPK Lapseki 2.09 351 PN **Pn 05 37 44.9 +0.7**
EDC Edincik 2.10 14 PN **Pn 05 37 45.0 +0.6**
TVSB Tavsanli 2.12 57 PN **Pn 05 37 45.0 +0.4**
GELI Tayfur-Gelibol 2.16 346 PN **Pn 05 37 45.6 +0.5**
KCTX Karacabey (Bur 2.16 25 PN **Pn 05 37 45.5 +0.3**
IOSP Ios island 2.18 224 P **Pn 05 37 46.1 +0.7**
IOSP Ios island 2.18 224 P **Pn 05 37 45.9 +0.5**
IOSP AML AML 05 38 22.9
comp=N,833μm,0.4s
IOSP AML AML 05 38 24.3
comp=E,905μm,0.6s
ORLT Orhaneli 2.19 37 PN **Pn 05 37 46.7 +1.1**
ARG Arkhangelos 2.22 160 P **Pb 05 37 47.9 -1.7**
ARG AML AML 05 38 27.3
comp=N,202μm,0.5s
ARG AML AML 05 38 27.4
comp=E,247μm,0.6s
ANAF Anafi Island 2.25 210 P **Pn 05 37 46.4 +0.1**
ANAF Anafi Island 2.25 210 P **Pn 05 37 47.4 +1.0**
ANAF AML AML 05 38 26.9
comp=E,1150μm,0.3s
ANAF AML AML 05 38 28.6
comp=N,1124μm,0.5s
FETY Fethiye 2.25 137 P **Pb 05 37 48.4 -1.8**
CMBO Columbo, Santo 2.31 218 P **Pn 05 37 48.1 +0.9**
SMTH Samothraki Isl 2.51 330 P **Pn 05 37 51.2 +1.2**
EREA Eretria 2.56 274 P **Pn 05 37 51.0 +0.4**
DION Dionisos Attik 2.57 266 P **Pn 05 37 51.1 +0.3**
MHLA Plaka, Milos I 2.69 235 P **Pn 05 37 53.7 +1.3**
VLY Voula,Athens 2.71 261 P **Pn 05 37 53.5 +0.8**
ALN Alexandroupoli 2.73 342 P **Pn 05 37 53.6 +0.6**
ALN Alexandroupoli 2.73 342 P **Pn 05 37 53.9 +0.9**
MRKA Markates 2.84 279 P **Pn 05 37 55.3 +0.7**
KSL Kastellorizon 2.88 138 P **Pn 05 37 56.8 +1.7**
VIL2 Platees 3.08 269 P **Pn 05 37 58.2 +0.4**
RDO Rodhopi 3.10 336 P **Pn 05 37 59.0 +0.9**
ATAL Atalanti 3.28 278 P **Pn 05 38 01.4 +0.8**
LKR Lokris 3.30 277 P **Pn 05 38 01.3 +0.5**
KAVA Kavala 3.38 323 P **Pn 05 38 02.7 +0.8**

*IDC **26** 05:40:28.7±2.8, 22°.72N×94°.08E, h91km±33km, mb3.1/2, mb1 3.3/4, mb1mx2.9/56, mbtmp3.5/4, MS3.5/1, Ms1 3.5/1, ms1mx2.4/19, Error ellipse: s-maj=42.8km s-min=19.1km az=31.0*
*NDI **26** 05:40:29.9±2.3, 23°.17N×93°.83E, h18km±18km, ML2.9*
*ISCJB **26** 05:40:31.9±0.8, 23°.28N±0°.04×93°.61E±0°.05, h58km, mb3.4/2, MS3.4/1, Error ellipse: s-maj=7.4km s-min=4.7km az=31.5*
ISC 26 05:40:32.9±1.7,**23°.25N**±0°.06×**93°.66E**±0°.09,**h58**km,**n24,** σ1§57/36,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**0.98**	**219**	*e*P	**Pn**	**05 40 48.4**	**-2.3**
SAIH				*e*S	**Sn**	**05 41 03.3**	**-0.6**
SAIH				IAML		05 41 05.2	
comp=E,226nm,0.1s							
SAIH				IAML		05 41 05.7	
comp=N,209nm,0.3s							
BRDH	**Bariadhala**	**1.94**	**253**	P	**Pn**	**05 41 04.7**	**+1.1**
comp=N,14nm,0.3s,baz=252,slow=20,SNR=3.0							
BRDH				S	**Sn**	**05 41 31.9**	**+5.0**
comp=N,30nm,0.3s,baz=70,slow=23,SNR=33							
KOHI	**KOHIMA**	**2.49**	**9**	*e*P	**Pn**	**05 41 10.6**	**-0.7**
KOHI				*e*S	**Sn**	**05 41 41.7**	**+1.0**
SHL	**Shillong**	**2.82**	**325**	*e*P	**Pn**	**05 41 17.7**	**+1.9**
SHL				*e*S	**Sn**	**05 41 51.9**	**+3.3**
SHL				IAML		05 41 57.5	
comp=N,121nm,0.2s							
SHL				IAML		05 41 58.1	
comp=E,166nm,0.1s							
MOKO	**MOKOCHONG**	**3.16**	**14**	*e*P	**Pn**	**05 41 21.2**	**+0.9**
MOKO				*e*S	**Sn**	**05 41 57.3**	**+0.4**
MOKO				IAML		05 41 60.0	
comp=E,32nm,0.1s							
MOKO				IAML		05 42 00.2	
comp=N,18nm,0.1s							
GUWA	**GUWAHATI**	**3.43**	**329**	*e*P	**Pn**	**05 41 24.9**	**+0.9**
GUWA				*e*S	**Sn**	**05 42 04.7**	**+1.3**
GUWA				IAML		05 42 07.9	
comp=E,50nm,0.1s							
GUWA				IAML		05 42 08.2	
comp=N,29nm,0.1s							
TEZP	**TEZPUR**	**3.44**	**347**	*e*P	**Pn**	**05 41 24.3**	**+0.2**
TEZP				*e*S	**Sn**	**05 42 02.8**	**-0.8**
ITAN	**ITANAGAR**	**3.88**	**1**	*e*P	**Pn**	**05 41 28.8**	**-1.3**
ITAN				*e*S	**Sn**	**05 42 12.1**	**-2.3**
ZIRO	**ZIRO**	**4.26**	**2**	*e*P	**Pn**	**05 41 35.0**	**-0.5**
ZIRO				*e*S	**Sn**	**05 42 23.3**	**-0.8**
DHUB	**DHUBRI**	**4.33**	**310**	*e*P	**Pn**	**05 41 36.7**	**+0.5**
DHUB				*e*S	**Sn**	**05 42 25.4**	**+0.1**
ODAN	**Odare**	**6.72**	**304**	*e*Pn	**Pn**	**05 42 10.4**	**+1.1**
ODAN				*e*Sn	**Sn**	**05 43 25.4**	**+0.7**
comp=N,43nm,0.2s							
CMAR	**Chiang Mai Arr**	**6.87**	**133**	P	Pn	05 41 58.1	-13
comp=N,0.8nm,0.3s,baz=310,slow=14,SNR=4.6							
RAMN	**Ramite**	**7.38**	**301**	*e*Pn	**Pn**	**05 42 19.6**	**+1.3**
RAMN				*e*Sn	**Sn**	**05 43 39.3**	**-1.5**
comp=N,19nm,0.3s							
JIRN	**Jiri**	**8.05**	**305**	*e*Pn	**Pn**	**05 42 28.5**	**+0.9**
JIRN				*e*Sn	**Sn**	**05 43 58.3**	**+0.9**
comp=N,63nm,0.3s							
PKI	**Pulchoki**	**8.61**	**302**	*e*Pn	**Pn**	**05 42 35.6**	**+0.4**
PKIN	**Phulchoki**	**8.62**	**302**	*e*Pn	**Pn**	**05 42 36.0**	**+0.7**
KKN	**Kakani**	**8.81**	**303**	*e*Pn	**Pn**	**05 42 38.7**	**+0.8**
KKN				*e*Sn	**Sn**	**05 44 15.8**	**-0.1**
comp=N,16nm,0.2s							
DMN	**Daman**	**8.87**	**301**	*e*Pn	**Pn**	**05 42 39.2**	**+0.6**
KOLN	**Koldanda**	**10.14**	**298**	*e*Pn	**Pn**	**05 42 55.3**	**-0.7**
KOLN				*e*Sn	**Sn**	**05 44 45.6**	**-2.7**
comp=N,20nm,0.3s							
DANN	**Dangsing**	**10.26**	**302**	*e*Pn	**Pn**	**05 42 56.8**	**-1.0**
PYUN	**Piuthan**	**10.76**	**299**	*e*Pn	**Pn**	**05 43 03.6**	**-1.0**
MKAR	**Makanchi Array**	**25.21**	**341**	P	**P**	**05 45 51.6**	**-1.6**
comp=N,0.4nm,0.6s,baz=151,slow=8.3,SNR=4.3							
TGY	**Tagaytay City**	**27.36**	**105**	LR	LR	05 55 52.6	
comp=N,102nm,21.7s,baz=12,slow=34							
ASAR	**Alice Springs**	**60.85**	**137**	P	P	05 50 27.3	-12
comp=N,0.4nm,0.7s,baz=317,slow=6.4,SNR=5.5							

*KOLA **26** 05:45:32.9, 67°.64N×33°.91E, M1.9, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NAO **26** 05:45:33.4±1.2, 67°.70N×33°.77E, ML2.7*
*HEL **26** 05:45:33.6±0.7, 67°.81N×33°.75E, h0km, ML2.4, Explosion*
*IDC **26** 05:45:34.1±1.8, 67°.69N×33°.79E, h0km, mb1 3.4/5, mb1mx3.0/49, mbtmp3.4/5, ML2.8/5, Error ellipse: s-maj=20.7km s-min=9.1km az=81.0*
ISC 26 05:45:30.3±1.6,**67°.59N**±0°.04×**34°.14E**±0°.08,**h0**km,**n36,** σ1§32/60,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.28**	**266**	P	**Pg**	**05 45 36.6**	**+0.9**
APA				S	**Sg**	**05 45 39.3**	**0.0**
APZ9	**Apatity**	**0.28**	**266**	Pg	**Pg**	**05 45 36.6**	**+0.9**
APZ9				Lg	Lg	05 45 39.8	
APZ9				Rg	Rg	05 45 40.3	
APZ9	**Apatity**	**0.28**	**266**	Pg	**Pg**	**05 45 36.6**	**+0.9**
APZ9				Sg	**Sg**	**05 45 39.8**	**+0.4**
APZ9				Rg	Rg	05 45 40.3	
APA0	**Apatity Array**	**0.44**	**273**	Pg	**Pg**	**05 45 39.2**	**+0.5**
APA0				Lg	Lg	05 45 44.1	
APA0	**Apatity Array**	**0.44**	**273**	P	**Pg**	**05 45 39.2**	**+0.5**
APA0				S	**Sg**	**05 45 43.8**	**-0.6**
APA0	**Apatity Array**	**0.44**	**273**	Pg	**Pg**	**05 45 39.2**	**+0.5**
APA0				Sg	**Sg**	**05 45 44.1**	**-0.2**
VRF	**Varrio**	**1.74**	**277**	PG	**Pn**	**05 46 02.3**	**+0.6**
baz=88							
VRF				MSG		05 46 20.8	
comp=Z,39nm,0.2s							
VRF				SN	**Sn**	**05 46 23.5**	**-1.0**
MSF	**Maaselka**	**2.63**	**233**	PN	**Pb**	**05 46 16.9**	**-1.4**
MSF				SB	**Sb**	**05 46 52.0**	**+0.9**
SGF	**Sodankyl**	**2.93**	**271**	PN	**Pn**	**05 46 19.0**	**+0.9**
baz=78							
SGF				SG	**Sb**	**05 46 58.7**	**-0.9**
RNF	**Rovaniemi**	**3.33**	**257**	PN	**Pn**	**05 46 24.9**	**+1.4**
RNF				SN	**Sn**	**05 47 05.6**	**+2.0**
KEV	**Kevo**	**3.39**	**313**	Pn	**Pn**	**05 46 26.2**	**+1.8**
KEV				Sn	**Sn**	**05 47 04.8**	**-0.4**
KEV				Lg	Lg	05 47 14.5	
KEV	**Kevo**	**3.39**	**313**	Pn	**Pn**	**05 46 26.2**	**+1.8**
KEV				Sn	**Sn**	**05 47 04.8**	**-0.4**
KEV				Sg	**Sb**	**05 47 14.5**	**+1.6**
KEV	**Kevo**	**3.39**	**313**	PB	**Pn**	**05 46 26.1**	**+1.8**
baz=127							
KEV				SB	**Sn**	**05 47 05.4**	**+0.1**
KEV				MSG		05 47 05.6	
comp=Z,11nm,0.2s							
ARA0	**ARCESS Array S**	**3.72**	**306**	Pn	**Pn**	**05 46 29.9**	**+0.9**
baz=122,slow=16							
ARA0				Sn	**Sn**	**05 47 11.2**	**-2.2**
baz=123,slow=22							
ARA0				Lg	Lg	05 47 23.6	
baz=112,slow=37							
ARA0	**ARCESS Array S**	**3.72**	**306**	Pn	**Pn**	**05 46 29.9**	**+0.9**
baz=122,slow=16							
ARA0				Sn	**Sn**	**05 47 11.2**	**-2.2**
baz=123,slow=22							
ARA0				Sg	**Sb**	**05 47 23.6**	**+1.2**
baz=112,slow=37							
ARCES	**ARCESS Array B**	**3.72**	**306**	Pn	**Pn**	**05 46 29.9**	**+1.0**
comp=Z,4.1nm,0.3s,baz=121,slow=15,SNR=125							
ARCES				Pg	**Pb**	**05 46 38.2**	**+1.4**
comp=Z,2.3nm,0.3s,baz=121,slow=19,SNR=14							
ARCES				Sn	**Sn**	**05 47 12.2**	**-1.3**
comp=Z,3.1nm,0.3s,baz=117,slow=28,SNR=16							
ARCES				Lg	Lg	05 47 23.6	
comp=Z,7.4nm,0.3s,baz=121,slow=35,SNR=14							
ARE0	**ARCESS Array S**	**3.72**	**306**	PN	**Pn**	**05 46 29.9**	**+1.0**
baz=118							
HEF	**Hetta**	**4.03**	**287**	PN	**Pn**	**05 46 34.2**	**+1.1**
OUL	**Oulu**	**4.17**	**237**	PN	**Pn**	**05 46 38.2**	**+3.2**
baz=42							
OUL				SG	**Sg**	**05 47 43.2**	**-0.8**
KTK1	**Kautokeino**	**4.29**	**294**	*e*P	**Pn**	**05 46 35.1**	**-1.6**
KTK1				*e*S	**Sn**	**05 47 25.4**	**-2.1**
KTK1				IAML		05 47 45.4	
comp=Z,8.8nm,0.4s							
KIF	**Kilpisjarvi**	**5.15**	**292**	Pn	**Pn**	**05 46 49.0**	**+0.6**
KIF				Sn	**Sn**	**05 47 46.3**	**-2.2**
KIF	**Kilpisjarvi**	**5.15**	**292**	Pn	**Pn**	**05 46 49.0**	**+0.6**
KIF				Sn	**Sn**	**05 47 46.3**	**-2.2**
FIA0	**FINESS Array S**	**7.08**	**213**	Pn	**Pn**	**05 47 16.3**	**+1.3**
baz=20,slow=14							
FIA0				Sn	**Sn**	**05 48 35.5**	**-0.5**
baz=35,slow=22							
FIA0	**FINESS Array S**	**7.08**	**213**	Pn	**Pn**	**05 47 16.3**	**+1.3**
baz=20,slow=14							
FIA0				Sn	**Sn**	**05 48 35.5**	**-0.5**
baz=35,slow=22							
FINES	**FINESS Array B**	**7.08**	**213**	Pn	**Pn**	**05 47 16.1**	**+1.2**
comp=Z,0.2nm,0.3s,baz=28,slow=12,SNR=8.0							
FINES				Sn	**Sn**	**05 48 35.6**	**-0.3**
comp=Z,0.2nm,0.3s,baz=28,slow=24,SNR=3.3							
FINES				Lg	Lg	05 49 07.1	
comp=Z,0.6nm,0.3s,baz=34,slow=27,SNR=5.6							
HFS	**Hagfors**	**11.65**	**240**	Pn	**Pn**	**05 48 17.2**	**-0.4**
baz=41,slow=12							
HFS	**Hagfors**	**11.65**	**240**	Pn	**Pn**	**05 48 17.0**	**-0.6**
comp=Z,0.1nm,0.3s,baz=43,slow=13,SNR=3.7							
HFS	**Hagfors**	**11.65**	**240**	Pn	**Pn**	**05 48 17.2**	**-0.4**
baz=41,slow=12							
SPA0	**Spitsbergen Ar**	**11.76**	**342**	Pn	**Pn**	**05 48 17.1**	**-1.9**
baz=142,slow=18							
SPA0	**Spitsbergen Ar**	**11.76**	**342**	Pn	**Pn**	**05 48 17.1**	**-1.9**
baz=142,slow=18							
SPITS	**Spitsbergen Ar**	**11.76**	**342**	Pn	**Pn**	**05 48 16.8**	**-2.2**
baz=144,slow=18,SNR=3.5							
NB2	**NORSAR Subarra**	**11.85**	**247**	Pn	**Pn**	**05 48 19.3**	**-1.0**
NB2	**NORSAR Subarra**	**11.85**	**247**	Pn	**Pn**	**05 48 19.3**	**-1.0**
NOA	**NORSAR Array B**	**11.85**	**247**	Pn	**Pn**	**05 48 19.1**	**-1.3**
comp=Z,0.0nm,0.3s,baz=47,slow=12,SNR=3.6							
NRA0	**NORESS Array S**	**11.95**	**246**	Pn	**Pn**	**05 48 20.8**	**-0.8**
baz=62,slow=10							
NRA0	**NORESS Array S**	**11.95**	**246**	Pn	**Pn**	**05 48 20.8**	**-0.8**
baz=62,slow=10							

*TAP **26** 06:04:58.0, 24°.90N×122°.44E, h20km±1km, ML2.9, C*
*JMA **26** 06:04:57.9±0.1, 24°.83N×122°.42E, h0km, M2.4*
*ISCJB **26** 06:04:58.3±0.6, 24°.89N±0°.03×122°.43E±0°.02, h10km±3km, Error ellipse: s-maj=4.8km s-min=2.7km az=17.1*
ISC 26 06:04:57.9±1.0,**24°.87N**±0°.03×**122°.43E**±0°.02,**h11**km±10km, **n46,** σ0§36/74,**1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.42**	**221**	P	**Pb**	**06 05 07.5**	**+0.2**
baz=219							
EOS1				S	**Sb**	**06 05 13.9**	**+0.3**
baz=219							
TWB1	**Santiao Chiao**	**0.43**	**289**	P	**Pg**	**06 05 06.6**	**+0.3**
baz=285							
TWB1				S	**Sg**	**06 05 12.2**	**+0.2**
baz=285							
NTC	**Toucheng**	**0.55**	**269**	*e*P	**Pb**	**06 05 09.2**	**-0.3**
baz=266							
TIPB	**Shuangxi**	**0.56**	**281**	P	**Pb**	**06 05 09.4**	**-0.4**
baz=278							
TIPB				S	**Sb**	**06 05 17.1**	**-0.7**
baz=278							
TWC	**Suao**	**0.59**	**244**	P	**Pg**	**06 05 09.7**	**+0.3**
baz=249							
TWC				S	**Sg**	**06 05 17.8**	**+0.6**
baz=249							
JYNG	**Yonagunijimaku**	**0.62**	**131**	P	**Pg**	**06 05 10.1**	**0.0**
JYNG				S	**Sb**	**06 05 19.0**	**-0.6**
NWF	**Wu-fen Shan**	**0.62**	**289**	P	**Pb**	**06 05 10.8**	**-0.1**
baz=286							
NWF				S	**Sb**	**06 05 19.4**	**-0.3**
baz=286							
WFSB	**Wu-fen Shan**	**0.62**	**289**	P	**Pb**	**06 05 10.8**	**-0.1**
baz=286							
WFSB				S	**Sb**	**06 05 19.5**	**-0.1**
baz=286							
YOJ	**Yonaguni jima**	**0.66**	**127**	⇓P	**Pg**	**06 05 10.8**	**0.0**
baz=120							
YOJ				S	**Sg**	**06 05 19.8**	**+0.2**
baz=120							
YOJ	**Yonaguni jima**	**0.66**	**127**	P	**Pg**	**06 05 10.8**	**0.0**
YOJ				*e*S	**Sg**	**06 05 20.0**	**+0.5**
ENA	**Nanau**	**0.77**	**235**	P	**Pb**	**06 05 13.2**	**0.0**
baz=233							
ENA				*e*S	**Sb**	**06 05 23.2**	**-0.4**
baz=233							
YM07	**YM07**	**0.80**	**293**	P	**Pb**	**06 05 13.8**	**0.0**
baz=290							
YM07				*e*S	**Sg**	**06 05 23.8**	**0.0**
baz=290							
ENTT	**Nioudou**	**0.82**	**254**	*e*P	**Pb**	**06 05 14.2**	**+0.1**
baz=239							
ENTT				S	**Sb**	**06 05 25.0**	**-0.2**
baz=239							
PCYT	**Pengchaiyu**	**0.83**	**337**	P	**Pg**	**06 05 14.1**	**+0.1**
baz=330							
NHDH	**Xindian Distri**	**0.83**	**277**	*e*P	**Pb**	**06 05 14.2**	**-0.1**
baz=274							
NHDH				*e*S	**Sg**	**06 05 24.9**	**+0.1**
baz=274							
YM08	**YM08**	**0.83**	**293**	P	**Pb**	**06 05 14.4**	**+0.1**
baz=290							
YM08				S	**Sg**	**06 05 24.4**	**-0.3**
baz=290							
YM01	**YM01**	**0.83**	**290**	*e*P	**Pb**	**06 05 14.6**	**+0.2**
baz=287							
YM01				S	**Sb**	**06 05 25.4**	**-0.1**
baz=287							
YM10	**YM10**	**0.84**	**290**	*e*P	**Pg**	**06 05 14.2**	**0.0**
baz=288							
NWLT	**Wulai**	**0.85**	**264**	*e*P	**Pb**	**06 05 14.7**	**0.0**
baz=262							
NWLT				*e*S	**Sb**	**06 05 25.8**	**-0.3**
baz=262							
TAP	**Taipei**	**0.86**	**282**	*e*P	**Pg**	**06 05 14.3**	**-0.2**
baz=279							
TATO	**Taipei**	**0.86**	**277**	*e*P	**Pg**	**06 05 14.5**	**-0.1**
baz=275							
TATO				S	**Sg**	**06 05 25.8**	**0.0**
baz=275							
NDT	**Datong Townshi**	**0.88**	**253**	*e*P	**Pb**	**06 05 15.2**	**+0.1**
baz=239							
NDT				S	**Sb**	**06 05 26.9**	**0.0**
baz=239							
TWS1	**Kuangyinshan**	**0.95**	**284**	*e*P	**Pb**	**06 05 16.5**	**+0.1**
baz=282							
YHNB	**Yeheng**	**0.98**	**259**	*e*P	**Pg**	**06 05 16.5**	**-0.3**
baz=266							
YHNB				S	**Sb**	**06 05 29.9**	**-0.1**
baz=266							
NSK	**Sanguang**	**0.99**	**259**	P	**Pg**	**06 05 16.7**	**-0.4**
baz=266							
NSK				*e*S	**Sb**	**06 05 30.3**	**-0.1**
baz=266							
NACB	**Ninganchiao**	**1.03**	**228**	P	**Pg**	**06 05 17.5**	**-0.2**
baz=236							
NACB				S	**Sg**	**06 05 30.8**	**-0.3**
baz=236							
NNSB	**Datong**	**1.05**	**246**	P	**Pg**	**06 05 18.0**	**-0.1**
baz=234							
NNSB				*e*S	**Sb**	**06 05 32.2**	**+0.3**
baz=234							
NNS	**Nan Shan**	**1.05**	**246**	P	**Pg**	**06 05 18.2**	**-0.1**
baz=234							
NNS				*e*S	**Sg**	**06 05 31.5**	**-0.4**
baz=234							
WLTB	**Daxi**	**1.07**	**270**	*e*P	**Pg**	**06 05 17.9**	**-0.6**
baz=267							
ETLH	**Xiulin Townshi**	**1.09**	**233**	P	**Pb**	**06 05 18.8**	**0.0**
baz=231							
ETLH				*e*S	**Sb**	**06 05 33.6**	**+0.6**
baz=231							
WHF	**Hehuan Shan**	**1.28**	**236**	P	**Pn**	**06 05 22.2**	**+0.1**
baz=234							
IRIF	**Iriomote-Funau**	**1.29**	**114**	P	**Pn**	**06 05 22.2**	**+0.3**
IRIF				S	**Sg**	**06 05 39.7**	**0.0**
ESL	**Shilin**	**1.39**	**221**	*e*P	**Pn**	**06 05 23.2**	**-0.1**
baz=220							
CHGB	**Renai**	**1.40**	**235**	P	**Pb**	**06 05 24.4**	**+0.2**
baz=234							
CHGB				S	**Sn**	**06 05 42.5**	**+0.4**
baz=234							
OWD	**Renai**	**1.46**	**232**	P	**Pb**	**06 05 25.2**	**0.0**
baz=238							
OWD				*e*S	**Sb**	**06 05 44.3**	**+0.5**
baz=238							
WHP	**Taichung City**	**1.47**	**247**	*e*P	**Pg**	**06 05 26.2**	**-0.1**
baz=245							
HATJ	**Hateruma jima**	**1.49**	**122**	*e*S	**Sg**	**06 05 45.3**	**-0.6**
NMLH	**Miaoli**	**1.53**	**258**	*e*P	**Pn**	**06 05 25.1**	**-0.1**
baz=269							
JKRS	**Kuro-shima**	**1.57**	**113**	S	**Sg**	**06 05 48.0**	**-0.4**
VWDT	**VWDT**	**1.62**	**227**	*e*P	**Pn**	**06 05 26.7**	**+0.4**
baz=210							
VWDT				*e*S	**Sb**	**06 05 48.3**	**+0.1**
baz=210							
SMLT	**Sun Moon Lake**	**1.71**	**235**	*e*P	**Pg**	**06 05 30.1**	**-0.6**
baz=234							
TYC	**Yuchr**	**1.73**	**237**	*e*P	**Pb**	**06 05 28.9**	**-0.7**
baz=235							
WHYT	**Xinyi Township**	**1.85**	**231**	*e*P	**Pb**	**06 05 31.6**	**-0.2**
baz=217							
YUS	**Yu-Shan**	**1.93**	**225**	*e*P	**Pn**	**06 05 31.5**	**+0.4**
baz=224							
CHN5	**Tsauling**	**2.04**	**232**	*e*P	**Pn**	**06 05 33.2**	**+1.0**
baz=215							
CHN4	**Tsaushan**	**2.26**	**228**	*e*P	**Pb**	**06 05 37.5**	**-1.2**
baz=213							

*SOME **26** 06:08:05.2, 38°.90N×68°.55E, h15km*
*IDC **26** 06:08:13.1±0.3, 39°.85N×67°.38E, h0km, mb5.6/30, mb1 5.7/40, mb1mx5.7/42, mbtmp5.7/40, ML5.2/10, MS5.7/38, Ms1 5.7/38, ms1mx5.6/43, Error ellipse: s-maj=9.6km s-min=6.8km az=158.0*
*BJI **26** 06:08:13.3±0.0, 39°.97N×67°.39E, h20km, mb5.8/83, mB5.8/62, Ms6.2/93, Ms7 6.0/87*
*ISCJB **26** 06:08:13.3±0.4, 39°.91N±0°.01×67°.42E±0°.01, h11km±2km, mb6.1/595, MS5.9/708, Error ellipse: s-maj=2.2km s-min=1.3km az=8.5*
*NNC **26** 06:08:14.7±5.8, 40°.16N×67°.10E, h0km, mb6.3, mpv6.2, Error ellipse: s-maj=60.1km s-min=35.3km az=21.0*
*GCMT **26** 06:08:14.0±0.1, 39°.94N±0°.01×67°.26E±0°.01, h27km, MW5.8/128, Moment Tensor Solution. s118, c230; s128, c307; Duration: 1§9 Moment tensor: Scale 10^{17} Nm; M_{rr}4.84±.06; $M_{\theta\theta}$-1.57±.05; $M_{\phi\phi}$-3.28±.04; $M_{r\theta

plane solution: P waves. NP1:ϕ_s225.00000°, δ40.00000°, λ90.00000°. NP2:ϕ_s45.00000°, δ50.00000°, λ90.00000°. Principal axes: T Plg85.0000°, Azm315.0000°; N Plg0.0000°, Azm0.0000°; P Plg5.0000°, Azm135.0000°; Apparent Stress 0.87 MPa Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

NEIC *Felt [III] at Tashkent. Also felt at Navoiy and Zarafshon. Felt [IV] at Dushanbe, Tajikistan. Also felt at Ayni.*

MOS **26** *06:08:15.0±0.9, 39°.95N×67°.40E, h24km, mb6.3/113, MS5.9/127 Error ellipse: s-maj=3.4km s-min=3.4km az=120.0 Broadband fault plane solution: P waves. $M_0$2.10000×10^{18} NP1:ϕ_s57.00000°, δ60.00000°, λ114.00000°. NP2:ϕ_s196.00000°, δ37.00000°, λ55.00000°. Principal axes: T Plg66.0000°, Azm12.0000°; N Plg20.0000°, Azm225.0000°; P Plg12.0000°, Azm130.0000°;*

MOS *Fault plane solution: P-wave C231, D11 . Felt (V) at Dzhizak, Samarkand, (IV) at Tashkent, Almalyk, (III-IV) at Taraz, Shymkent, (III) at Gazli, (II) at Andizhan.*

NEIC **26** *06:08:17.0±0.0, 40°.01N×67°.46E, h25km, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}4.34; $M_{\theta\theta}$-2.35; $M_{\phi\phi}$-1.99; $M_{r\theta}$1.01; $M_{\phi\theta}$-2.36; $M_{\phi r}$-1.02; Best double couple: $M_0$4.70000×10^{17} NP1:ϕ_s64.00000°, δ48.00000°, λ114.00000°. NP2:ϕ_s211.00000°, δ47.00000°, λ66.00000°. Principal axes: T 4.7900, Plg72.0000°, Azm46.0000°; N -0.2500, Plg17.0000°, Azm227.0000°; P -4.5400, Plg0.0000°, Azm137.0000°;*

ISC 26 06:08:15.3±0.2, 39°.95N±0°.02×67°.44E±0°.02, h16km±1km, h16km:pP-P, n2640, σ1°.45/2751, mb6.2/618, MS5.9/745, 299C-32D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**1.86**	**133**	*e*P			Pn	06 08 29.8	-17
TAS	**Tashkent**	**1.97**	**45**	PN			**Pb**	**06 08 50.2**	**-0.7**
GAR	**Garm**	**2.42**	**112**	*e*Pn			**Pg**	**06 09 00.2**	**-1.6**
GAR				*e*Sn			**Sg**	**06 09 31.8**	**-1.5**
GAR	**Garm**	**2.42**	**112**	*e*PN			**Pg**	**06 09 00.2**	**-1.6**
GAR				*e*				06 09 31.8	
BTK	**Batken**	**2.60**	**87**	*e*Pn			**Pg**	**06 09 03.5**	**-1.7**
BTK	**Batken**	**2.60**	**87**	*e*PN			**Pg**	**06 09 03.5**	**-1.7**
CHM	**Chimkent**	**2.88**	**34**	*c i*PN			**Pn**	**06 09 02.9**	**+2.3**
CHM					pmax		pmax		
	comp=Z,5μm,0.3s								
CHM	**Chimkent**	**2.88**	**34**	⇑*i*P			**Pn**	**06 09 02.9**	**+2.3**
	comp=Z,5μm,0.3s								
CHM				*e*LR			LR	06 10 09.3	
	comp=Z,32μm,10.2s								
CHM	**Chimkent**	**2.88**	**34**	*e*P			**Pb**	**06 09 08.1**	**+1.8**
	comp=Z,17μm,0.3s								
CHM				*e*S			**Sg**	**06 09 51.9**	**+4.1**
	comp=Z,92μm,0.5s								
IUG	**Iuzhnay**	**2.94**	**41**	*c i*PN			**Pn**	**06 09 03.9**	**+2.3**
IUG					pmax		pmax		
	comp=Z,9μm,1.5s								
IUG	**Iuzhnay**	**2.94**	**41**	⇑*i*P			**Pn**	**06 09 03.9**	**+2.3**
	comp=Z,9μm,1.5s								
IUG				*e*LR			LR	06 10 13.2	
	comp=Z,16μm,9.2s								
IUG	**Iuzhnay**	**2.94**	**41**	*e*P			**Pb**	**06 09 08.5**	**+1.0**
	comp=Z,13μm,1.5s								
IUG				*e*S			**Sg**	**06 09 52.5**	**+2.6**
	comp=Z,130μm,1.2s								
JBG	**Jabagly**	**3.41**	**42**	*c i*PN			**Pn**	**06 09 09.3**	**+1.3**
KK31	**Karatay Array**	**3.91**	**35**	*e*Pn			**Pn**	**06 09 16.1**	**+1.3**
KK31	**Karatay Array**	**3.91**	**35**	Pn			**Pn**	**06 09 16.5**	**+1.8**
	comp=Z,3μm,0.6s,baz=225,slow=14,SNR=6750								
KK31				Pg			Pg	06 09 36.8	+6.7
	comp=Z,3μm,0.4s,baz=219,slow=19,SNR=9.1								
KK31				Lg			Lg	06 10 20.3	
	comp=Z,8μm,0.6s,baz=222,slow=26,SNR=4.9								
KK31	**Karatay Array**	**3.91**	**35**	PN			**Pn**	**06 09 16.5**	**+1.8**
KK31				*e*				06 09 36.8	
KK31					pmax		pmax		
	comp=Z,3μm,0.6s								
KK31					pmax		pmax		
	comp=Z,3μm,0.4s								
KKAR	**Karatay Array**	**3.91**	**35**	*e*Pn			**Pn**	**06 09 16.2**	**+1.5**
KKAR	**Karatay Array**	**3.91**	**35**	*e*PN			**Pn**	**06 09 16.2**	**+1.5**
DZA	**Taraz**	**4.15**	**44**	*e*PN			**Pn**	**06 09 20.1**	**+2.1**
DZA					pmax		pmax		
	comp=E,954nm,0.5s								
DZA	**Taraz**	**4.15**	**44**	*e*P			**Pn**	**06 09 20.2**	**+2.1**
	comp=E,954nm,0.5s								
DZA	**Taraz**	**4.15**	**44**	*e*P			**Pb**	**06 09 27.2**	**-0.8**
	comp=E,7μm,0.6s								
DZA				*e*S			**Sg**	**06 10 24.2**	**-4.4**
	comp=E,29μm,1.0s								
MRKS	**Merke**	**5.18**	**55**	*e*P			**Pb**	**06 09 42.5**	**-3.0**
	comp=E,6μm,0.9s								
MRKS				*e*S			**Sb**	**06 10 50.3**	**+2.8**
	comp=E,9μm,0.9s								
AML	**Almayashu**	**5.21**	**63**	P			**Pn**	**06 09 34.8**	**+1.8**
	SNR=888								
EKS2	**Erkin-Say**	**5.49**	**58**	P			**Pn**	**06 09 39.1**	**+2.5**
	SNR=642								
KBL	**Kabul**	**5.55**	**166**	*e*Pn			**Pn**	**06 09 40.0**	**+2.6**
KBL	**Kabul**	**5.55**	**166**	*e*PN			**Pn**	**06 09 40.1**	**+2.6**
UCH	**Uchtor**	**5.81**	**65**	P			**Pn**	**06 09 43.0**	**+1.7**
	SNR=517								
AAK	**Ala-Archa**	**5.96**	**61**	P			**Pn**	**06 09 45.3**	**+2.3**
	SNR=458								
AAK	**Ala-Archa**	**5.96**	**61**	*e*Pn			**Pn**	**06 09 45.6**	**+2.6**
AAK	**Ala-Archa**	**5.96**	**61**	⇑Pn			**Pn**	**06 09 45.0**	**+2.0**
	comp=E,3μm,0.8s								
AAK				Lg			Lg	06 11 22.8	
	comp=E,18μm,1.3s								
AAK	**Ala-Archa**	**5.96**	**61**	*i* P			**Pn**	**06 09 45.3**	**+2.3**
	SNR=900								
AAK	**Ala-Archa**	**5.96**	**61**	*c i*PN			**Pn**	**06 09 45.4**	**+2.3**
AAK					pmax		pmax		
	comp=Z,2μm,1.7s								
AAK	**Ala-Archa**	**5.96**	**61**	P			**Pn**	**06 09 45.5**	**+2.5**
	SNR=887								
AAK	**Ala-Archa**	**5.96**	**61**	Pn			**Pn**	**06 09 45.4**	**+2.3**
	comp=Z,86nm,0.3s,baz=234,slow=12,SNR=466								
AAK				Sn			**Sn**	**06 10 55.5**	**+4.5**
	comp=Z,203nm,0.3s,baz=181,slow=24,SNR=6.8								
AAK				LR			LR	06 12 17.6	
	comp=Z,67μm,18.5s,baz=254,slow=40								
FRU1	**Bishkek**	**6.12**	**60**	*e*Pn			**Pn**	**06 09 47.8**	**+2.6**
FRU1	**Bishkek**	**6.12**	**60**	*e*PN			**Pn**	**06 09 47.8**	**+2.6**
USP	**Ospenovka**	**6.25**	**56**	P			**Pn**	**06 09 48.5**	**+1.6**
	SNR=35								
KBK	**Karagaybulak**	**6.27**	**62**	P			**Pn**	**06 09 49.9**	**+2.6**
	SNR=823								
KZA	**Kyzart**	**6.28**	**68**	P			**Pn**	**06 09 49.8**	**+2.1**
	SNR=353								
CHMS	**Chumysh**	**6.28**	**59**	P			**Pn**	**06 09 49.3**	**+1.9**
	SNR=69								
NRN	**Naryn**	**6.68**	**74**	*e*Pn			**Pn**	**06 09 53.9**	**+0.9**
NRN				*e*Sn			**Sn**	**06 11 10.3**	**+1.4**
NRN	**Naryn**	**6.68**	**74**	*e*PN			**Pn**	**06 09 53.9**	**+0.9**
NRN				*e*				06 11 10.3	
TKM2	**Tokmak 2**	**6.81**	**62**	P			**Pn**	**06 09 56.5**	**+1.7**
	SNR=78								
TKM2	**Tokmak 2**	**6.81**	**62**	⇑Pn			**Pn**	**06 09 56.6**	**+1.7**
	comp=Z,803nm,1.1s								
TKM2				⇑Lg			Lg	06 11 48.6	
	comp=Z,15μm,1.4s								
TKM2	**Tokmak 2**	**6.81**	**62**	PN			**Pn**	**06 09 56.5**	**+1.7**
TKM2					pmax		pmax		
	comp=Z,803nm,1.1s								
BOOM	**Boomskoye usch**	**6.89**	**66**	*e*Pn			**Pn**	**06 09 58.1**	**+2.2**
BOOM	**Boomskoye usch**	**6.89**	**66**	*e*PN			**Pn**	**06 09 58.1**	**+2.2**
ULHL	**Ulahol**	**7.04**	**68**	P			**Pn**	**06 09 59.7**	**+1.8**
	SNR=32								
BTLS	**Baital**	**7.05**	**42**	*c i*PN			**Pn**	**06 09 59.2**	**+1.3**
BTLS					pmax		pmax		
	comp=Z,896nm,1.3s								
BTLS					MLR		MLR		
	comp=Z,20μm,9.0s								
BTLS	**Baital**	**7.05**	**42**	⇑*i*P			**Pn**	**06 09 59.3**	**+1.3**
	comp=Z,896nm,1.3s								
BTLS				*e*S			**Sn**	**06 11 16.9**	**-0.9**
	comp=Z,1μm,1.7s								
BTLS				*e*LR			LR	06 12 35.2	
	comp=Z,20μm,9.4s								
CEP	**Cherat**	**7.09**	**148**	P			**Pn**	**06 10 00.8**	**+2.3**
ASHT	**Ashkhabad**	**7.33**	**257**	P			**Pn**	**06 10 01.3**	**-0.5**
GEYT	**Alibeck**	**7.54**	**257**	Pn			**Pn**	**06 10 03.4**	**-1.3**
	comp=Z,101nm,0.3s,baz=86,slow=11,SNR=109								
GEYT				Sn			**Sn**	**06 11 25.9**	**-3.9**
	comp=Z,692nm,0.3s,baz=72,slow=23,SNR=7.0								
GEYT				LR			LR	06 13 47.8	
	comp=Z,107μm,18.4s,baz=60,slow=45								
GYA0B	**ALIBECK ARRAY**	**7.54**	**257**	*e*Pn			**Pn**	**06 10 02.8**	**-1.8**
KDJ	**Kajisay**	**7.68**	**70**	*e*Pn			**Pn**	**06 10 08.7**	**+2.0**
KDJ	**Kajisay**	**7.68**	**70**	*e*P			**Pn**	**06 10 08.7**	**+2.0**
KUU	**Kurty**	**7.72**	**56**	*c i*P			**Pn**	**06 10 07.9**	**+0.8**
KUU					pmax		pmax		
	comp=Z,272nm,1.2s								
KUU					MLR		MLR		
	comp=Z,39μm,10.0s								
KUU	**Kurty**	**7.72**	**56**	⇑*i*P			**Pn**	**06 10 07.9**	**+0.8**
	comp=Z,272nm,1.2s								
KUU				*e*LR			LR	06 13 03.5	
	comp=Z,39μm,9.8s								
AAA	**Alma-Ata**	**7.82**	**62**	*ce*P			**Pn**	**06 10 10.3**	**+1.9**
AAA					pmax		pmax		
	comp=Z,539nm,1.1s								
AAA					MLR		MLR		
	comp=Z,26μm,15.0s								
AAA	**Alma-Ata**	**7.82**	**62**	⇑*e*P			**Pn**	**06 10 10.3**	**+1.9**
	comp=Z,539nm,1.1s								
AAA				*e*LR			LR	06 13 09.0	
	comp=Z,26μm,14.5s								
CHCP	**Chirah Chowk**	**7.83**	**142**	P			**Pn**	**06 10 11.1**	**+2.5**
NIL	**Nilore**	**7.83**	**142**	*e*Pn			**Pn**	**06 10 10.8**	**+2.2**
NIL	**Nilore**	**7.83**	**142**	*e*P			**Pn**	**06 10 10.8**	**+2.2**
KNDC	**Almaty**	**7.85**	**62**	⇑Pn			**Pn**	**06 10 10.6**	**+1.7**
	comp=Z,2μm,0.8s								
MDOK	**Medeo**	**7.89**	**63**	⇓Pn			**Pn**	**06 10 11.1**	**+1.5**
	comp=Z,1μm,1.0s								
MDOK	**Medeo**	**7.89**	**63**	*i* P			**Pn**	**06 10 11.1**	**+1.5**
MDOK					pmax		pmax		
	comp=Z,5μm,1.2s								
MDOK					MLR		MLR		
	comp=Z,37μm,15.0s								
MDOK	**Medeo**	**7.89**	**63**	*i* P			**Pn**	**06 10 11.2**	**+1.6**
	comp=Z,5μm,1.2s								
MDOK				*e*LR			LR	06 13 06.8	
	comp=Z,37μm,15.2s								
THW	**Thamme Wali**	**7.94**	**153**	P			**Pn**	**06 10 11.1**	**+1.0**
TARG	**Taragay, Kyrgy**	**8.06**	**74**	*e*Pn			**Pn**	**06 10 13.5**	**+1.4**
SATY	**Saty**	**8.80**	**66**	*c i*P			**Pn**	**06 10 23.2**	**+1.2**
SATY					pmax		pmax		
	comp=Z,304nm,1.5s								
SATY					MLR		MLR		
	comp=Z,14μm,11.0s								
SATY	**Saty**	**8.80**	**66**	⇑*i*P			**Pn**	**06 10 23.2**	**+1.2**
	comp=Z,304nm,1.6s								
SATY				*e*LR			LR	06 14 02.7	
	comp=Z,14μm,10.9s								
OTUK	**Ortayu**	**9.01**	**21**	⇑Pn			**Pn**	**06 10 25.8**	**+1.1**
	comp=Z,719nm,0.9s								
OTUK	**Ortayu**	**9.01**	**21**	P			**Pn**	**06 10 25.8**	**+1.1**
OTUK					pmax		pmax		
	comp=Z,719nm,0.9s								
SARP	**Sargodha**	**9.06**	**150**	P			**Pn**	**06 10 25.8**	**+0.3**
KPKS	**Kokpek**	**9.12**	**64**	*c i*P			**Pn**	**06 10 26.9**	**+0.6**
KPKS					pmax		pmax		
	comp=Z,74nm,1.1s								
KPKS					MLR		MLR		
	comp=Z,22μm,14.0s								
KPKS	**Kokpek**	**9.12**	**64**	⇑*i*P			**Pn**	**06 10 27.0**	**+0.6**
	comp=Z,74nm,1.1s								
KPKS				*e*LR			LR	06 14 04.4	
	comp=Z,22μm,13.6s								
UZB	**Uzynbulak**	**9.26**	**66**	*c i*P			**Pn**	**06 10 29.2**	**+0.9**
UZB				*e*S			**Sn**	**06 12 15.9**	**+3.8**
UZB					pmax		pmax		
	comp=Z,59nm,1.2s								
UZB					smax		smax		
	comp=E,700nm,1.4s								
UZB					MLR		MLR		
	comp=Z,10μm,10.0s								
UZB	**Uzynbulak**	**9.26**	**66**	⇑*i*P			**Pn**	**06 10 29.2**	**+0.9**
	comp=Z,59nm,1.2s								
UZB				*e*S			**Sn**	**06 12 15.1**	**+3.0**
	comp=Z,700nm,1.4s								
UZB				*e*LR			LR	06 14 37.2	
	comp=Z,10μm,9.8s								
TDK	**Taldyqorghan**	**9.55**	**54**	*i* P			**Pn**	**06 10 32.9**	**+0.8**
TDK				*e*S			**Sn**	**06 12 23.9**	**+4.9**
TDK					pmax		pmax		
	comp=Z,743nm,1.6s								
TDK					smax		smax		
	comp=N,1μm,1.0s								
TDK					MLR		MLR		
	comp=Z,68μm,12.0s								
TDK	**Taldyqorghan**	**9.55**	**54**	*i* P			**Pn**	**06 10 33.0**	**+0.8**
	comp=Z,743nm,1.6s								
TDK				*e*S			**Sn**	**06 12 24.0**	**+4.9**
	comp=Z,1μm,1.0s								
TDK				*e*LR			LR	06 14 03.8	
	comp=Z,68μm,12.4s								
SHLS	**Shalkode**	**9.57**	**67**	*c i*P			Pn	06 10 37.6	+5.1
SHLS					pmax		pmax		
	comp=Z,329nm,1.6s								
SHLS					MLR		MLR		
	comp=Z,11μm,11.0s								
SHLS	**Shalkode**	**9.57**	**67**	⇑*i*P			Pn	06 10 37.6	+5.1
	comp=Z,329nm,1.6s								
SHLS				*e*LR			LR	06 15 03.6	
	comp=Z,11μm,11.1s								
PDGK	**Podgornoye**	**9.63**	**66**	⇑Pn			Pn	06 10 44.3	+11
	comp=Z,816nm,1.4s								
PDGK	**Podgornoye**	**9.63**	**66**	P			Pn	06 10 44.3	+11
PDGK					pmax		pmax		
	comp=Z,816nm,1.4s								
DHRM	**DHARAMSHALA**	**10.50**	**134**	*e*P			**Pn**	**06 10 45.7**	**+0.2**
DHRM				*e*S			**Sn**	**06 12 37.6**	**-5.4**
DHRM				IAML				06 13 32.5	
	comp=E,4μm,0.3s								
BRZS	**Berezniki**	**10.69**	**19**	*c i*P			**Pn**	**06 10 46.6**	**-1.2**
BRZS				*e*S			**Sn**	**06 12 43.9**	**-3.2**
BRZS					pmax		pmax		
	comp=Z,597nm,1.2s								
BRZS					MLR		MLR		
	comp=Z,43μm,5.0s								
BRZS	**Berezniki**	**10.69**	**19**	⇑*i*P			**Pn**	**06 10 46.6**	**-1.2**
	comp=Z,597nm,1.2s								
BRZS				*e*S			**Sn**	**06 12 43.9**	**-3.2**
BRZS				*e*LR			LR	06 13 53.9	
	comp=Z,43μm,5.0s								
AB31	**Akbulak array**	**10.72**	**333**	Pn			**Pn**	**06 10 46.0**	**-2.2**
	comp=Z,220nm,0.3s,baz=154,slow=14								
AB31				⇓Sn			**Sn**	**06 12 42.4**	**-5.4**
	comp=Z,482nm,0.5s,baz=158,slow=24,SNR=4.3								
AB31	**Akbulak array**	**10.72**	**333**	P			**Pn**	**06 10 46.0**	**-2.2**
AB31								06 12 42.4	
AB31					pmax		pmax		
	comp=Z,220nm,0.4s								
AB31					smax		smax		
	comp=N,482nm,0.5s								
ABKAR	**Akbulak array**	**10.72**	**333**	*e*Pn			**Pn**	**06 10 46.9**	**-1.2**
BHK	**Bhakra**	**11.21**	**137**	*ex*			**Pn**	**06 10 56.0**	**+1.0**
BHK				*e*S			**Sn**	**06 12 52.8**	**-7.2**
SMLA	**Simla**	**11.84**	**135**	*e*P			**Pn**	**06 11 03.1**	**-0.4**
SMLA				*e*S			Sn	06 13 05.9	-9.3
SMLA				IAML				06 14 39.6	
	comp=N,442μm,1.8s								
SMLA				IAML				06 14 40.3	
	comp=E,890nm,0.2s								
I31KZ	**AKTYUBINSK INF**	**12.37**	**331**	*i*				07 18 00.0	
	baz=142,slow=328,SNR=0.3								
AKTO	**Aktyubinsk**	**12.40**	**331**	Pn			**Pn**	**06 11 10.3**	**-0.8**
	comp=E,30nm,0.3s,baz=143,slow=15,SNR=444								
AKTO				Sn			**Sn**	**06 13 20.9**	**-8.0**
	comp=E,28nm,0.3s,baz=45,slow=19,SNR=3.4								
AKTO				LR			LR	06 16 31.8	
	comp=E,30μm,20.5s,baz=146,slow=40								
MAKZ	**Makanchi**	**12.60**	**52**	*e*Pn			**Pn**	**06 11 13.4**	**-0.4**
MAKZ	**Makanchi**	**12.60**	**52**	⇑Pn			**Pn**	**06 11 13.0**	**-0.8**
	comp=E,1μm,1.2s								
MAKZ	**Makanchi**	**12.60**	**52**	*e*P			**Pn**	**06 11 13.4**	**-0.4**
MK31	**Makanchi Array**	**12.78**	**53**	*e*Pn			**Pn**	**06 11 16.5**	**+0.2**
MK31	**Makanchi Array**	**12.78**	**53**	Pn			**Pn**	**06 11 16.0**	**-0.4**
	comp=E,809nm,1.1s,baz=242,slow=13,SNR=3313								
MK31				⇓Lg			Lg	06 14 52.5	
	comp=E,3μm,1.1s,baz=236,slow=30,SNR=4.0								
MK31	**Makanchi Array**	**12.78**	**53**	*i* P			**Pn**	**06 11 15.9**	**-0.4**
MK31					pmax		pmax		
	comp=Z,809nm,1.1s								
MK32	**Makanchi Array**	**12.78**	**53**	*e*Pn			**Pn**	**06 11 16.1**	**-0.2**
MKAR	**Makanchi Array**	**12.78**	**53**	*i* P			**Pn**	**06 11 16.0**	**-0.4**
MKAR					pmax		pmax		
	comp=Z,409nm,0.9s								
MKAR	**Makanchi Array**	**12.78**	**53**	Pn			**Pn**	**06 11 16.1**	**-0.2**
	comp=Z,9.5nm,0.3s,baz=241,slow=9.6,SNR=383								
MKAR				LR			LR	06 16 36.0	
	comp=Z,65μm,18.5s,baz=244,slow=39								
DDI	**Dehra Dun**	**12.94**	**135**	*e*P			**Pn**	**06 11 18.2**	**-0.5**
DDI				*e*S			**Sn**	**06 13 34.4**	**-8.0**
DDI				IAML				06 14 47.4	
	comp=E,627nm,1.1s								
KURBB	**Kurchatov Arra**	**13.21**	**32**	⇓Pn			**Pn**	**06 11 20.0**	**-2.1**
	comp=E,1μm,1.4s								
KURBB	**Kurchatov Arra**	**13.21**	**32**	Pn			**Pn**	**06 11 20.2**	**-1.9**
	comp=E,1.4nm,0.3s,baz=223,slow=13,SNR=194								
BVA0	**Borovoye Array**	**13.23**	**8**	Pn			**Pn**	**06 11 19.7**	**-2.9**
	comp=E,23nm,1.2s,baz=175,slow=12,SNR=2408								
BVA0				⇑Sn			**Sn**	**06 13 42.8**	**-6.5**
	comp=E,59nm,1.1s,baz=252,slow=26,SNR=6.1								
BVA0	**Borovoye Array**	**13.23**	**8**	*i* P			**Pn**	**06 11 19.6**	**-2.9**
BVA0								06 13 42.8	
BVA0					pmax		pmax		
	comp=Z,23nm,1.2s								
BVA0					smax		smax		
	comp=N,59nm,1.2s								
BVAR	**Borovoye Array**	**13.23**	**8**	Pn			**Pn**	**06 11 20.8**	**-1.7**
	comp=N,34nm,0.3s,baz=176,slow=15,SNR=227								
BVAR				Sn			**Sn**	**06 13 42.7**	**-6.5**
	comp=N,125nm,0.3s,baz=201,slow=20,SNR=7.7								
BVAR				LR			LR	06 17 05.9	
	comp=N,2μm,19.9s,baz=9.5,slow=40								
BRVK	**Borovoye**	**13.26**	**8**	*e*Pn			**Pn**	**06 11 20.2**	**-2.5**
BRVK	**Borovoye**	**13.26**	**8**	*c i*P			**Pn**	**06 11 20.0**	**-2.8**
BRVK	**Borovoye**	**13.26**	**8**	P			**Pn**	**06 11 20.4**	**-2.4**
	SNR=861								
KURK	**Kurchatov**	**13.32**	**32**	*e*Pn			**Pn**	**06 11 21.5**	**-2.1**
KURK	**Kurchatov**	**13.32**	**32**	*c i*P			**Pn**	**06 11 20.5**	**-3.1**
KURK					pmax		pmax		
	comp=Z,182nm,1.3s								
KURK	**Kurchatov**	**13.32**	**32**	P			**Pn**	**06 11 20.9**	**-2.7**
	SNR=454								
SEM	**Semipalatinsk**	**13.80**	**37**	*e*P			**Pn**	**06 11 27.2**	**-3.2**
SEM					pmax		pmax		
	comp=Z,204nm,1.8s								
SEM					MLR		MLR		
	comp=Z,12μm,10.0s								
SEM	**Semipalatinsk**	**13.80**	**37**	*e*P			**Pn**	**06 11 27.3**	**-3.2**
	comp=Z,204nm,1.8s								
SEM				*e*LR			LR	06 16 39.6	
	comp=Z,12μm,10.1s								
NDI	**New Delhi**	**13.83**	**141**	*e*P			**Pn**	**06 11 31.5**	**+0.7**
NDI				*ex*			x	06 13 53.5	
DRN	**Derbent**	**14.58**	**284**	*e*P			**Pn**	**06 11 39.8**	**-1.1**
ZSN	**Zaisan**	**14.65**	**54**	*d i*P			**Pn**	**06 11 41.2**	**-0.7**
ZSN					pmax		pmax		
	comp=Z,413nm,2.8s								
ZSN					MLR		MLR		
	comp=Z,11μm,10.0s								
ZSN	**Zaisan**	**14.65**	**54**	⇓*i*P			**Pn**	**06 11 41.2**	**-0.7**
	comp=Z,413nm,2.9s								
ZSN				*e*S			**S**	**06 14 39.9**	**-2.9**
	comp=Z,362nm,3.7s								
ZSN				*e*LR			LR	06 17 20.2	
	comp=Z,11μm,9.9s								
PTH	**Pithoragarh**	**14.75**	**131**	*e*P			**Pn**	**06 11 44.1**	**+0.6**
PTH				*ex*			x	06 14 15.9	
AKT	**Akhty**	**15.02**	**282**	*i* P			**Pn**	**06 11 44.9**	**-2.2**
AKT					pmax		pmax		
	comp=Z,215nm,0.6s								
MAK	**Makhachkala**	**15.24**	**288**	*d i*P			**Pn**	**06 11 46.8**	**-3.0**
MAK				*e*S			**Sn**	**06 14 32.8**	**-5.4**
MAK					pmax		pmax		
	comp=Z,1μm,1.6s								
MAK					MLR		MLR		
	comp=Z,99μm,15.0s								
WMQ	**Urumqi**	**15.57**	**69**	P			**Pn**	**06 11 54.3**	**0.0**
WMQ				pP			pP	06 12 01.5	-1.5
WMQ				sP			sP	06 12 06.3	+1.2
WMQ				PP			**PnPn**	**06 12 10.3**	**+7.9**
WMQ				S			**Sn**	**06 14 48.3**	**+1.9**
WMQ				sS			S	06 14 59.3	-2.5
WMQ				SS			**SnSn**	**06 15 07.0**	**+8.0**
WMQ				PcP			**PcP**	**06 16 57.8**	**+2.1**
WMQ					pmax		pmax		
	comp=Z,1μm,1.1s								
WMQ					pmax		pmax		
	comp=Z,14μm,4.3s								
WMQ				LR			LR		
	comp=Z,90μm,9.7s								
WMQ				LR			LR		
	comp=Z,99μm,8.7s								
WMQ				LR			LR		
	comp=Z,107μm,14.5s								
WMQ	**Urumqi**	**15.57**	**69**	*e*Pn			**Pn**	**06 11 54.2**	**0.0**
	comp=Z,322nm,0.9s								
WMQ	**Urumqi**	**15.57**	**69**	*e*P			**Pn**	**06 11 54.2**	**0.0**
WMQ					pmax		pmax		
	comp=Z,322nm,0.9s								
GANJ	**Ganja**	**16.12**	**279**	P			**Pn**	**06 12 01.1**	**-0.2**

DANN	Dangsing	17.76	126	eP		Pn	06 12 19.3 -2.9
TASB	TASBURUN-IGDIR	17.78	278	P		Pn	06 12 21.9 -0.3
HATD	Hatta, Dubai	17.82	216	i P		Pn	06 12 21.4 -1.4
	SNR=17						
ZEI	Tsey	17.88	287	eP		Pn	06 12 19.3 -4.2
ZEI				pmax	pmax		
	comp=Z,857nm,1.6s						
NAZ	Nazwa, Dubai	17.90	217	i P		Pn	06 12 22.3 -1.3
	SNR=55						
NAZ	Nazwa, Dubai	17.90	217	P		P	06 12 25.0 +0.8
	SNR=132						
NAZ				P		P	06 12 25.0 +0.8
	SNR=132						
IGDI	IGDIR	17.91	277	i P		P	06 12 24.4 -0.1
ASHO	Ashiyiah	17.98	216	i P		Pn	06 12 23.5 -1.1
	SNR=20						
KOLN	Koldanda	18.07	127	eP		Pn	06 12 23.0 -3.0
NCK	Nalchik	18.13	289c	i P		Pn	06 12 24.8 -1.6
NCK				MLR		MLR	
	comp=Z,76μm,17.0s						
FAQ	Al Faqa, Dubai	18.14	217	i P		Pn	06 12 25.2 -1.3
	SNR=54						
FAQ	Al Faqa, Dubai	18.14	217	P		P	06 12 27.0 +0.1
	SNR=56						
BGD	Bogdanovka	18.14	282	P		Pn	06 12 26.4 -0.3
CLDR	Caldiran	18.15	275	P		Pn	06 12 26.3 -0.6
CLDR	Caldiran	18.15	275	i P		P	06 12 29.3 +2.1
BIDO	Bidbid	18.17	208	P		Pn	06 12 27.0 -0.1
	SNR=29						
BIDO				P		Pn	06 12 27.0 -0.1
	SNR=29						
ONI	Oni	18.21	286	P		Pn	06 12 26.7 -0.7
AKH	Akhalkalaki	18.21	282	P		Pn	06 12 27.2 -0.4
AKH	Akhalkalaki	18.21	282	ePn		Pn	06 12 26.9 -0.6
	comp=Z,5μm,1.5s						
AKH	Akhalkalaki	18.21	282	⇑i P		Pn	06 12 27.2 -0.4
AKH	Akhalkalaki	18.21	282	eP		Pn	06 12 27.0 -0.6
AKH				pmax	pmax		
	comp=Z,5μm,1.5s						
SOHO	SOHO	18.25	213	P		Pn	06 12 28.0 0.0
	SNR=21						
WSAR	Wadi Sarin	18.25	207	P		P	06 12 28.6 +0.5
	SNR=12						
WSAR	Wadi Sarin	18.25	207	P		P	06 12 28.4 +0.3
	comp=Z,3.3nm,0.3s,baz=51,slow=4.6,SNR=24						
WSAR				LR		LR	06 19 29.8
	comp=Z,5μm,21.2s,baz=65,slow=37						
NVS	Novosibirsk	18.27	30	⇑i P		P	06 12 28.5 +0.4
NVS				e			06 15 54.9
ZAA0	Zalesovo Array	18.28	34	ePn		Pn	06 12 27.1 -1.1
	comp=Z,2μm,1.4s						
ZAA0	Zalesovo Array	18.28	34	⇓Pn		P	06 12 28.2 -0.1
	comp=Z,175nm,0.9s						
ZALV	Zalesovo Beam	18.28	34	P		P	06 12 28.3 0.0
	comp=Z,20nm,0.3s,baz=232,slow=7.3,SNR=290						
ZALV				LR		LR	06 19 58.5
	comp=Z,29μm,18.3s,baz=220,slow=38						
ZAA1	Zalesovo Array	18.29	34	ePn		P	06 12 28.3 0.0
ASUD	Al Ashush, Dub	18.36	217	i P		Pn	06 12 28.6 -0.7
	SNR=42						
ASUD	Al Ashush, Dub	18.36	217	P		P	06 12 31.0 +1.7
	SNR=44						
DIGO	Kars	18.38	279	i P		Pn	06 12 30.4 +0.6
HOQ	Hoqain	18.43	211	P		Pn	06 12 34.0 +3.8
	SNR=26						
VMUR	Van-Muradiye	18.44	275	i P		Pn	06 12 33.0 +2.6
GKN	Gorkha	18.55	125	eP		P	06 12 29.3 -2.3
	comp=Z,3μm,0.7s						
GKN	Gorkha	18.55	125	eP		P	06 12 29.7 -1.9
AJN	Ajban	18.58	218	i P		P	06 12 31.5 -0.2
	SNR=49						
AJN	Ajban	18.58	218	P		Pn	06 12 32.3 +0.4
	SNR=34						
KARS	Kars	18.59	280	eP		P	06 12 31.8 0.0
SMDO	Samad	18.62	208	P		Pn	06 12 34.0 +1.3
	SNR=26						
KBZ	Khabaz	18.65	290	P		P	06 12 31.6 -0.7
	comp=Z,4.8nm,0.3s,baz=94,slow=11,SNR=143						
KBZ				S		Sn	06 15 49.0 -12
	comp=Z,4.5nm,0.3s,baz=80,slow=19,SNR=2.6						
KBZ				LR		LR	06 21 47.8
	comp=Z,52μm,18.1s,baz=84,slow=44						
VANB	Van	18.66	274	P		Pn	06 12 33.8 +0.8
ALNE	Al Ain	18.66	215	i P		P	06 12 32.0 -0.6
	SNR=35						
BHPL	Bhopal	18.68	150	eP		P	06 12 31.8 -1.1
BHPL				IAmb		IAmb	06 12 42.0
	comp=Z,916nm,1.0s						
WBK	Wadi Bani Khal	18.72	205	P		Pn	06 12 38.0 +4.2
	SNR=14						
EPOS	Posof	18.78	283	i P		Pn	06 12 34.8 +0.3
AGRB	Hanur-Agry	18.79	277	P		Pn	06 12 35.8 +1.2
CUKT	Cukurca	18.81	269	P		Pn	06 12 35.5 +0.7
KVAR	Kislovodsk Arr	18.81	290	P		P	06 12 34.1 -0.2
	baz=73,slow=20,SNR=95						
KVAR				S		Sn	06 15 52.7 -12
	baz=210,slow=20,SNR=5.8						
KVAR				LR		LR	06 21 56.7
	comp=Z,34μm,18.2s,baz=276,slow=44						
KIV	Kislovodsk	18.82	290	P		P	06 12 32.9 -1.4
KIV	Kislovodsk	18.82	290	eP		P	06 12 32.8 -1.6
	comp=Z,897nm,1.0s						
KIV				eSn		Sn	06 15 52.7 -12
KIV	Kislovodsk	18.82	290	⇑i P		P	06 12 33.3 -1.0
KIV	Kislovodsk	18.82	290	i P		P	06 12 32.8 -1.4
	SNR=284						
KIV	Kislovodsk	18.82	290	eP		P	06 12 32.6 -1.7
KIV				e			06 16 03.7
KIV				pmax	pmax		
	comp=Z,3μm,1.0s						
KIV				MLR		MLR	
	comp=Z,68μm,14.0s						
KIV	Kislovodsk	18.82	290	P		P	06 12 32.9 -1.4
	SNR=348						
ARQ	Araqi	18.96	212	P		Pn	06 12 41.0 +4.4
	SNR=24						
JLN	Jalan Bani Buh	19.01	203	P		Pn	06 12 38.0 +0.7
	SNR=40						
KKN	Kakani	19.11	124	eP		P	06 12 36.7 -1.0
DMN	Daman	19.12	125	eP		P	06 12 36.5 -1.4
SENK	Senkaya-Erzuru	19.14	280	P		Pn	06 12 39.9 +1.0
MLAZ	Malazgirt-MUS	19.20	276	P		Pn	06 12 41.2 +1.6
BSY	Bisya	19.23	210	P		Pn	06 12 42.0 +2.2
	SNR=39						
JMDO	Jabal Madar	19.24	207	P		Pn	06 12 42.0 +2.1
	SNR=18						
PKIN	Phulchoki	19.33	124	eP		P	06 12 39.5 -0.7
PKI	Pulchoki	19.34	124	eP		P	06 12 39.6 -0.8
PKI	Pulchoki	19.34	124	eP		P	06 12 40.0 -0.4
	comp=Z,2μm,0.8s						
DAGI	Agillar	19.42	282	i P		Pn	06 12 43.1 +0.9
HOMI	Horasan	19.55	279	i P		Pn	06 12 45.2 +1.4
BATM	Batumi	19.55	283	P		Pn	06 12 44.0 +0.4
BATM	Batumi	19.55	283	⇑i P		Pn	06 12 43.9 +0.4
DDEM	Demirkent	19.56	281	i P		Pn	06 12 45.7 +1.8
DBOC	Borcka	19.59	282	i P		Pn	06 12 44.8 +0.8
DBAD	Bademkaya	19.59	281	i P		Pn	06 12 45.7 +1.4
KOPR	Koprukoy-ERZUR	19.59	278	P		Pn	06 12 45.8 +1.5
BCA	Borcka	19.61	283	P		Pn	06 12 44.9 +0.5
BCA	Borcka	19.61	283	⇑i P		Pn	06 12 44.6 +0.2
SIRT	Sirnak	19.64	271	P		Pn	06 12 44.7 -0.1
SIRT	Sirnak	19.64	271	eP		Pn	06 12 44.5 -0.3
	comp=Z,7μm,1.6s						
JIRN	Jiri	19.78	123	eP		P	06 12 45.5 +0.2
JBP	Jabalpur	19.82	144	eP		P	06 12 44.5 -0.7
JBP				AMB		AMB	06 12 52.0
	comp=Z,654nm,1.3s						
JBP				ex		x	06 16 11.9
AKDA	Akdag	19.95	279	i P		Pn	06 12 50.0 +1.5
VRTB	Varto-Mus	20.03	276	P		Pn	06 12 51.9 +2.4
MUSM	Mu-Merkez	20.07	275	i P		Pn	06 12 51.6 +1.6
KRIK	Erzurum-spir	20.25	280	i P		Pn	06 12 52.7 +0.6
BNGL	BINGOL	20.30	276	i P		Pn	06 12 54.8 +2.0
KARO	Karliova-Bingo	20.31	277	P		Pn	06 12 53.5 +0.6
ECAT	Cat-ERZURUM	20.32	278	i P		Pn	06 12 54.0 +1.1
SVAN	Silvan-Diyarba	20.43	273	P		Pn	06 12 53.8 -0.3
RAMN	Ramite	20.53	123	eP		P	06 12 54.1 +0.8
RAMN	Ramite	20.53	123	eP		Pn	06 12 54.8 -0.7
	comp=Z,1μm,0.8s						
MHTO	MHTO	20.56	206	P		P	06 12 54.0 +0.6
	SNR=80						
KOPT	Kop Dagi	20.62	279	i P		Pn	06 12 57.0 +0.5
MZR	Muzera	20.62	219	i P		P	06 12 54.3 +0.2
	SNR=74						
MZR	Muzera	20.62	219	P		P	06 12 55.1 +1.0
	SNR=73						
BNGB	Bingl	20.66	276	P		Pn	06 12 56.8 0.0
YEDI	Yedisu-Bingol	20.68	277	P		Pn	06 12 56.8 -0.3
BAYB	BAYBURT	20.77	280	i P		Pn	06 12 58.0 -0.2
BAYT	Aydıntepe-Bayb	20.84	280	P		Pn	06 12 58.5 -0.4
SOC	Sochi	20.95	289c	i P		P	06 12 57.9 +0.4
SOC				ePPP		PPP	06 13 21.0
SOC				eS		S	06 16 50.4 0.0
SOC				eSS		SnSn	06 17 10.0 -1.1
SOC				eSSS		SSS	06 17 22.7
SOC				pmax	pmax		
	comp=Z,6μm,1.3s						
SOC				MLR		MLR	
	comp=Z,223μm,18.0s						
KTUT	Trabzon	21.05	282	P		P	06 13 00.3 +1.7
KTUT	Trabzon	21.05	282	⇑i P		P	06 13 00.2 +1.7
ODAN	Odare	21.10	122	eP		P	06 13 01.3 +1.8
VRH	Novokhopyorsk	21.11	311	eP		P	06 12 58.5 -0.6
VRH				eS		S	06 16 48.5 -4.9
VRH				pmax	pmax		
	comp=Z,1μm,0.8s						
VRH				pmax	pmax		
	comp=Z,3μm,1.2s						
VRH				smax	smax		
	comp=E,4μm,2.0s						
VRH				MLR		MLR	
	comp=Z,69μm,13.0s						
NGP	Nagpur	21.20	149	eP		P	06 13 00.7 +0.3
NGP				IAmb		IAmb	06 13 07.0
	comp=Z,606nm,0.6s						
ERZN	Erzincan	21.28	278	P		P	06 13 03.0 +1.8
DQM	DQM	21.69	206	P		P	06 13 07.0 +1.4
	SNR=16						
DQM				P		P	06 13 07.0 +1.4
	SNR=16						
DQM				P		P	06 13 07.0 +1.4
	SNR=16						
SVRC	Sivrice-ELAZID	21.84	275	P		P	06 13 08.5 +1.3
KIRV	Kirov	21.92	334	P		P	06 13 07.8 +0.1
	comp=Z,434nm,0.7s,baz=137,slow=8.8,SNR=278						
KIRV				LR		LR	06 22 02.8
	comp=Z,20μm,20.9s,baz=145,slow=38						
LSA	Lhasa	21.93	110	P		P	06 13 10.8 +2.2
LSA				S		S	06 17 04.0 -6.6
LSA				pmax	pmax		
	comp=Z,600nm,1.3s						
LSA				LR		LR	
	comp=Z,30μm,8.8s						
LSA				LR		LR	
	comp=Z,64μm,8.8s						
LSA				LR		LR	
	comp=Z,124μm,10.7s						
LSA	Lhasa	21.93	110	eP		P	06 13 10.9 +2.3
	comp=Z,713nm,0.9s						
LSA	Lhasa	21.93	110	eP		P	06 13 10.9 +2.3
LSA				pmax	pmax		
	comp=Z,713nm,0.9s						
POO	Poona	22.05	164	eP		P	06 13 10.7 +1.2
POO				IAmb		IAmb	06 13 14.7
	comp=Z,402nm,1.1s						
BOK	Bokaro	22.40	130	eP		P	06 13 13.7 +0.5
BOK				IAmb		IAmb	06 13 15.2
	comp=Z,678nm,1.1s						
URFA	Urfa	22.43	273	P		P	06 13 14.8 +1.2
VORD	Divnogorie	22.47	309	eP		P	06 13 12.5 -1.2
VORD				eS		S	06 17 16.5 -3.1
VORD				pmax	pmax		
	comp=Z,1μm,1.3s						
VORD				pmax	pmax		
	comp=Z,2μm,1.4s						
VORD				smax	smax		
	comp=N,10μm,3.0s						
VORD				MLR		MLR	
	comp=Z,32μm,11.0s						
ANN	Anapa	22.62	292c	i P		P	06 13 15.0 -0.3
ANN				i PPP		PPP	06 13 43.8
ANN				i S		S	06 17 22.1 -0.3
ANN				eSS		SnSn	06 17 54.9 +3.0
ANN				pmax	pmax		
	comp=Z,2μm,1.3s						
ANN				MLR		MLR	
	comp=Z,33μm,15.0s						
VSR	Storozhevoye	22.62	309	eP		P	06 13 14.1 -1.2
VSR				eS		S	06 17 20.1 -2.3
VSR				pmax	pmax		
	comp=Z,2μm,1.5s						
VSR				pmax	pmax		
	comp=Z,3μm,1.5s						
VSR				smax	smax		
	comp=N,8μm,3.3s						
VSR				MLR	MLR		
	comp=Z,63μm,20.0s						
VORR	Voronezh	22.75	310	⇑i P		P	06 13 15.0 -1.7
VORR				pmax	pmax		
	comp=Z,2μm,1.8s						
RSDY	Resadiye-TOKAT	22.96	281	P		P	06 13 20.5 +1.4
DARE	Darende-Malaty	23.19	276	P		P	06 13 23.3 +1.9
LPSR	Galich'ya Gora	23.24	312	eP		P	06 13 21.1 -0.6
LPSR				e			06 13 22.8
LPSR				eS		S	06 17 31.2 -1.9
LPSR				pmax	pmax		
	comp=Z,2μm,0.9s						
LPSR				smax	smax		
	comp=N,5μm,2.0s						
LPSR				MLR	MLR		
	comp=Z,62μm,16.0s						
SVSK	Karacayir	23.29	280	P		P	06 13 24.1 +1.8
TOKT	Tokat	23.57	281	P		P	06 13 26.3 +1.1
GAZ	Gaziantep	23.74	273	P		P	06 13 28.6 +1.7
KVT	Kavak	23.83	283	P		P	06 13 28.9 +1.2
KMRS	Kahramanmaras	23.89	274	P		P	06 13 29.9 +1.6
SNOP	Sinop	24.34	285	P		P	06 13 32.9 +0.5
SNOP	Sinop	24.34	285	eP		P	06 13 32.6 +0.3
	comp=Z,3μm,1.5s						
DIKM	Dikmen	24.35	285	P		P	06 13 33.4 +1.0
DIKM	Dikmen	24.35	285	⇑i P		P	06 13 33.5 +1.0
BNN	Bunyan	24.37	278	P		P	06 13 33.1 +0.2
HYB	Hyderabad	24.44	154	i P		P	06 13 32.0 -1.4
HYB				e			06 14 20.0
HYB				eS		S	06 17 48.0 -4.8
HYB				LR	LR		
	comp=Z,18nm,12.0s						
HYB	Hyderabad	24.44	154	eP		P	06 13 33.0 -0.5
HYB				IAmb		IAmb	06 13 40.5
	comp=Z,339nm,1.1s						
YOZ	Yozgat	24.61	280	P		P	06 13 36.3 +1.3
DMTO	DMTO	24.66	210	P		P	06 13 39.0 +3.6
	SNR=7.0						
DMTO				P		P	06 13 39.0 +3.6
	SNR=7.0						
KOZT	Kozan	24.72	274	P		P	06 13 37.8 +1.9
TAHT	Tahtakopru-Hat	24.76	272	P		P	06 13 38.2 +1.9
GTA	Gaotai	24.86	81	P		P	06 13 38.0 +0.8
GTA				pP	pP		06 13 42.3 +0.2
GTA				sP	sP		06 13 45.5 +1.3
GTA				S	S		06 18 00.0 +0.4
GTA				sS	sS		06 18 09.5 +1.6
GTA				pmax	pmax		
	comp=Z,100nm,1.3s						
GTA				pmax	pmax		
	comp=Z,2μm,5.8s						
GTA				LR	LR		
	comp=Z,24μm,15.1s						
GTA				LR	LR		
	comp=Z,31μm,13.4s						
GTA				LR	LR		
	comp=Z,37μm,16.5s						
CEYT	Ceyhan	24.91	273	P		P	06 13 39.8 +2.2
SHL	Shillong	24.96	118	i P		P	06 13 39.0 +0.7
SHL				IAmb		IAmb	06 13 47.5
	comp=Z,5μm,1.6s						
SHL				eS		S	06 18 04.0 +2.4
SIM	Simferopol'	24.98	293c	i P		P	06 13 38.4 +0.3
SIM				i S		S	06 18 06.5 +5.3
SIM				eSS		SnSn	06 18 57.5 +7.8
SIM				pmax	pmax		
	comp=Z,921nm,1.1s						
SIM				MLR	MLR		
	comp=Z,4μm,13.8s						
GOA	Goa	25.00	165	eP		P	06 13 39.8 +1.3
GOA				IAmb		IAmb	06 13 41.6
	comp=Z,194nm,0.8s						
CORM	Corum	25.03	281	P		P	06 13 40.2 +1.4
YURE	YUREGIR	25.05	273	P		P	06 13 41.5 +2.6
BWNR	Bhubaneshwar	25.13	136	ex		P	06 13 35.7 -3.9
BWNR				IAmb		IAmb	06 13 43.8
	comp=Z,3μm,0.1s						
RBK	Rabkut	25.14	211	P		P	06 13 41.0 +1.2
	SNR=14						
MOS	Moscow	25.22	319	eP		P	06 13 38.7 -1.4
MOS				e			06 13 48.7
MOS				e			06 14 14.4
MOS				eS		S	06 18 01.3 -3.5
MOS				eSS		SnSn	06 18 54.8 -0.5
MOS				pmax	pmax		
	comp=Z,992nm,1.4s						
MOS				pmax	pmax		
	comp=N,265nm,1.2s						
MOS				pmax	pmax		
	comp=E,562nm,1.1s						
MOS				pmax	pmax		
	comp=Z,3μm,2.0s						
MOS				pmax	pmax		
	comp=E,4μm,4.0s						
MOS				pmax	pmax		
	comp=N,2μm,4.0s						
MOS				MLR	MLR		
	comp=Z,28μm,12.0s						
MOS				MLR	MLR		
	comp=E,23μm,11.0s						
SEVA	Sevastopol	25.30	292	⇑i P		P	06 13 41.4 +0.4
KRTS	Karatas	25.33	273	P		P	06 13 44.2 +2.9
KARA	Karaisali	25.37	274	P		P	06 13 43.7 +1.9
PRGR	Permogore	25.48	336	⇑i P		P	06 13 42.3 -0.1
PRGR				eS		S	06 18 06.3 -2.4
PRGR				pmax	pmax		
	comp=Z,872nm,1.5s						
OBN	Obninsk	25.50	317	eP		P	06 13 42.8 0.0
	comp=Z,2μm,1.6s						
OBN				LR	LR		
	comp=Z,5μm,21.0s						
OBN	Obninsk	25.50	317c	i P		P	06 13 42.7 0.0
OBN				i			06 14 19.5
OBN				pmax	pmax		
	comp=Z,2μm,1.5s						
OBN				MLR	MLR		
	comp=Z,19μm,16.0s						
OBN	Obninsk	25.50	317	P		P	06 13 42.9 +0.3
	comp=Z,25nm,0.3s,baz=100,slow=6.4,SNR=163						
OBN				LR	LR		06 26 24.6
	comp=Z,5μm,18.2s,baz=118,slow=43						
ILGA	Ilgaz	25.58	283	eP		P	06 13 45.1 +1.3
	comp=Z,2μm,1.4s						
ABTO	Aybut	25.64	213	P		P	06 13 47.0 +2.6
	SNR=23						
HWQ	Hawqa	25.66	267	eP		P	06 13 46.0 +1.5
CANT	Cankiri	25.72	282	P		P	06 13 46.1 +1.1
ASF	Jabal al Asfar	25.79	262	P		P	06 13 46.9 +1.2
	comp=Z,131nm,1.3s,baz=18,slow=2.6,SNR=55						
BR101	Keskin Array S	25.87	280	eP		P	06 13 47.1 +0.7
BR101				eScS		ScS	06 24 54.5 +11
BR101				e			06 26 11.7
BR131	Keskin Array S	25.87	280	eP		P	06 13 47.0 +0.6
	comp=Z,1μm,1.4s						
BR131	Keskin Array S	25.87	280	P		P	06 13 47.4 +1.0
	SNR=428						
BR131				P		P	06 13 47.4 +1.0
	SNR=428						
BR131				P		P	06 13 47.4 +1.0
	SNR=428						
BRTR	Keskin Array B	25.87	280	i P		P	06 13 47.2 +0.8
BRTR				pmax	pmax		
	comp=Z,66nm,0.6s						
BRTR	Keskin Array B	25.87	280	P		P	06 13 47.1 +0.8
	comp=Z,76nm,0.8s,baz=92,slow=6.2,SNR=386						
BRTR				PKiKP		PKiKP	06 24 54.5 -0.4
	comp=Z,2.3nm,0.9s,baz=69,slow=1.6,SNR=3.7						
BRTR				LR	LR		06 26 11.7
	comp=Z,7μm,18.3s,baz=128,slow=42						
MERS	Mersin	25.89	274	P		P	06 13 48.5 +1.9
YAYX	Yaylak	25.90	279	P		P	06 13 47.9 +1.2
MOY	Mondy	25.93	52	eP		P	06 13 48.6 +1.8
MOY				pmax	pmax		
	comp=Z,923nm,2.1s						
BHL	Bhannes	26.03	267	eP		P	06 13 49.5 +1.7
RCY	Rachaya	26.05	266	eP		P	06 13 50.0 +1.9
SERE	Sereflikochisa	26.09	279	P		P	06 13 49.7 +1.3
QRWL	Qaraoun	26.14	266	eP		P	06 13 50.8 +1.9
DQRL	Deir Qamar	26.17	266	eP		P	06 13 51.0 +1.8
SHBL	Chebaa	26.18	265	eP		P	06 13 51.1 +1.9
KURC	Kurucasile-Bar	26.19	286	P		P	06 13 49.9 +0.8
KIZK	Mersin	26.30	273	P		P	06 13 51.5 +1.3
SULT	Sultanhani-AKS	26.30	277	P		P	06 13 51.4 +1.1
AFSR	Afar-Bala (An	26.35	280	P		P	06 13 51.8 +1.0
SHMJ	Saham	26.41	264	P		P	06 13 56.5 +5.2
KULU	Kulu	26.49	279	P		P	06 13 52.8 +0.8
LOD	Lodumlu	26.50	281	P		P	06 13 53.4 +1.4
BR231	Keskin MP Arra	26.50	281	eP		P	06 13 53.0 +1.0
	comp=Z,2μm,1.4s						
SILI	Silifke-Mersin	26.50	273	P		P	06 13 53.3 +1.3
MMAI	Mount Meron Ar	26.57	265	P		P	06 13 54.0 +1.2
	comp=Z,7.0nm,0.5s,baz=56,slow=9.1,SNR=24						
MMAI				PcP		PcP	06 17 17.5 +0.6
	comp=Z,21nm,0.8s,baz=61,slow=6.9,SNR=3.8						
EREN	Erenkoy	26.58	271	P		P	06 13 54.1 +1.4
KEBE	Keben-Mersin	26.64	273	P		P	06 13 52.8 -0.5
CHBY	Cihanbeyli	26.69	278	P		P	06 13 52.8 -1.0
IKL	Isikli	26.73	273	P		P	06 13 54.8 +0.8
BRDH	Bariadhala	26.78	123	P		P	06 13 56.4 +1.8
	comp=Z,87nm,0.5s,baz=324,slow=5.2,SNR=5.0						
MMLI	Mount Malkishu	26.80	264	P		P	06 13 57.0 +2.2
TEVE	Tevekalti-Mers	26.85	273	P		P	06 13 56.5 +1.3
AKKU	Akkuyu-Mersin	26.85	273	P		P	06 13 56.0 +0.8
PHNC	Paralimni	26.87	270	P		P	06 13 56.0 +0.7
BERE	Bereket-Mersin	27.05	273	P		P	06 13 58.2 +1.1
ZAK	Zakamensk	27.09	55	eP		P	06 13 58.4 +1.1
ZAK				pmax	pmax		
	comp=Z,238nm,1.6s						
KLMR	Klimovskoe	27.10	330	⇑i P		P	06 13 56.7 -0.4
KLMR				pmax	pmax		
	comp=Z,593nm,1.4s						
LADK	Ladik-KONYA	27.18	278	P		P	06 13 59.3 +1.1
GHAJ	Ghor Haditha	27.19	262	P		P	06 14 00.1 +1.9
	comp=Z,202nm,1.7s						
TEKE	Tekeli-Mersin	27.19	273	P		P	06 13 58.8 +0.6
KONT	Konya--Tatoy	27.25	277	P		P	06 14 00.3 +1.5
LISJ	El Lisan	27.28	261	P		P	06 14 01.2 +2.2
JDRJ	Daraweish	27.38	260	P		P	06 14 01.8 +1.6
KIZT	Kizilcal	27.38	279	P		P	06 14 00.7 +0.6
CSS	Mathiatis	27.42	270	eP		P	06 14 00.4 +0.1
	comp=Z,138nm,1.4s						
CSS	Mathiatis	27.42	270	P		P	06 14 00.8 +0.5
MAMC	Mammari	27.44	271	P		P	06 14 01.2 +0.8
AUMIH	MIHALICIK	27.46	282	P		P	06 14 01.9 +1.1
AUSIV	SIVRIHISAR	27.51	281	P		P	06 14 02.2 +1.0
SVRH	Sivrihisar-ESK	27.52	281	P		P	06 14 02.3 +1.0
TLY	Talaya	27.54	53	eP		P	06 14 03.2 +1.9
	comp=Z,373nm,1.4s						
TLY				LR	LR		
	comp=Z,58μm,20.0s						
TLY	Talaya	27.54	53c	i P		P	06 14 02.8 +1.6
TLY				eS		S	06 18 46.8 +5.1
TLY				pmax	pmax		
	comp=Z,824nm,1.5s						
TLY	Talaya	27.54	53	P		P	06 14 03.5 +2.2
	SNR=153						
MDUB	Mudurnu	27.56	283	P		P	06 14 02.8 +1.2
MDUB	Mudurnu	27.56	283	eP		P	06 14 02.5 +0.8
	comp=Z,2μm,1.2s						
AMAZ	Amatzia	27.58	262

comp=Z,160nm,2.1s
EIL Elat 28.44 259 P **P 06 14 11.1 +1.6**
comp=Z,82nm,1.2s,baz=54,slow=4.3,SNR=40
EIL PcP **PcP 06 17 22.6 +1.3**
comp=Z,33nm,0.9s,baz=124,slow=3.6,SNR=3.9
EIL LR LR 06 28 04.8
comp=Z,14μm,18.8s,baz=70,slow=42
SHUT Suhut-Afyon 28.47 279 P **P 06 14 10.9 +1.1**
AUBOZ BOZOYUK 28.55 282 P **P 06 14 11.0 +0.6**
SILT Sile 28.60 285 P **P 06 14 11.3 +0.5**
SILT Sile 28.60 285⇑ *iP* **P 06 14 11.2 +0.5**
CAVI Cavuskoy 28.63 283 P **P 06 14 11.9 +0.8**
AKASG Malin Array Be 28.63 305 P **P 06 14 11.2 +0.2**
comp=Z,94nm,0.5s,baz=85,slow=7.8,SNR=397
AKASG LR LR 06 27 51.9
comp=Z,16μm,20.9s,baz=105,slow=41
AKBB Malin Array Si 28.63 305 *eP* **P 06 14 10.6 -0.3**
comp=Z,932nm,1.4s
AKBB Malin Array Si 28.63 305 *eP* **P 06 14 10.6 -0.3**
AKBB pmax pmax
comp=Z,932nm,1.4s
HRT Hereke 28.64 284 P **P 06 14 11.6 +0.4**
KIEV Kiev 28.64 305 *eP* **P 06 14 10.6 -0.4**
comp=Z,993nm,1.5s
KIEV Kiev 28.64 305 *i* P **P 06 14 10.8 -0.2**
SNR=232
KIEV Kiev 28.64 305*c iP* **P 06 14 10.6 -0.4**
KIEV pmax pmax
comp=Z,711nm,1.5s
KIEV MLR MLR
comp=Z,16μm,17.0s
ADVT Abdulvahap 28.66 283 P **P 06 14 12.1 +0.8**
KIS Kishinev 28.67 297⇑ *iP* **P 06 14 10.5 -0.8**
comp=Z,2μm,2.0s
KIS Kishinev 28.67 297 *e*PP PP 06 15 05.0 -11
KIS Kishinev 28.67 297 *e*PcP PcP 06 17 03.0 -19
KIS *e*S **S 06 18 56.0 -3.5**
KIS *e*LQ LQ 06 25 37.0
KIS LQR 06 27 16.0
comp=Z,11μm,16.5s
KIS LRM MLR 06 30 02.0
comp=Z,28μm,14.0s
KIS Kishinev 28.67 297⇑ *iP* **P 06 14 10.5 -0.8**
KIS *e* 06 15 05.0
KIS *e*S **S 06 18 56.0 -3.5**
KIS pmax pmax
comp=Z,2μm,2.0s
KIS pmax pmax
comp=Z,2μm,16.0s
ISP Isparta 28.68 278 P **P 06 14 12.4 +0.7**
ISP Isparta 28.68 278 *eP* **P 06 14 12.1 +0.4**
comp=Z,262nm,1.4s
ISP Isparta 28.68 278 P **P 06 14 12.0 +0.3**
ISP Isparta 28.68 278⇑ *iP* **P 06 14 12.4 +0.7**
ISP Isparta 28.68 278 *eP* **P 06 14 12.1 +0.4**
ISP pmax pmax
comp=Z,262nm,1.4s
BCK Bucak 28.73 277 P **P 06 14 11.9 -0.2**
LZH Lanzhou 28.81 86 *eP* **P 06 14 14.3 +1.4**
LZH pP sP 06 14 19.5 -0.4
LZH sP pP 06 14 22.3 +4.5
LZH PP **PP 06 15 09.8 -8.1**
LZH *e*S **S 06 19 03.3 +1.0**
LZH sS sS 06 19 12.3 +1.8
LZH pmax pmax
comp=Z,80nm,1.1s
LZH pmax pmax
comp=Z,2μm,6.2s
LZH LR LR
comp=Z,34μm,16.5s
LZH LR LR
comp=Z,34μm,14.9s
LZH LR LR
comp=Z,38μm,17.9s
ANTB Antalya 28.85 276 P **P 06 14 12.2 -0.8**
SONA0 Songino Array 28.91 61 *eP* **P 06 14 14.7 +1.1**
SONA0 *e*PcP **PcP 06 17 23.7 +1.3**
SONM Songino Array 28.91 61 P **P 06 14 14.7 +1.1**
comp=Z,64nm,0.8s,baz=273,slow=10.0,SNR=183
SONM PcP **PcP 06 17 23.7 +1.3**
comp=Z,26nm,0.8s,baz=237,slow=4.1,SNR=4.6
SONM LR LR 06 27 17.2
comp=Z,24μm,19.5s,baz=266,slow=40
EFOR EFORIE 28.94 291⇑ *iP* **P 06 14 15.0 +1.3**
KLYT Kilyos 29.02 285 P **P 06 14 15.5 +0.9**
KLYT Kilyos 29.02 285⇓ *iP* **P 06 14 15.4 +0.9**
BUY Buyukada 29.04 284 P **P 06 14 15.4 +0.7**
ISK Istanbul-Kandi 29.05 285 P **P 06 14 15.5 +0.8**
ISK Istanbul-Kandi 29.05 285 P **P 06 14 15.3 +0.6**
KAVV Kandilli-Istan 29.05 285 P **P 06 14 15.5 +0.8**
KORT Korkueli 29.05 276 P **P 06 14 15.2 +0.2**
MDRS Chennai 29.06 154 *eP* **P 06 14 15.4 +0.4**
MDRS IAmb IAmb 06 14 21.7
comp=Z,298nm,1.5s
LEOM Leova 29.07 296 P **P 06 14 15.3 +0.5**
LEOM Leova 29.07 296⇓ *iP* **P 06 14 15.4 +0.6**
TVSB Tavsanli 29.08 281 P **P 06 14 15.9 +0.7**
CFR Carcaliu 29.20 293⇑ *iP* **P 06 14 16.7 +0.6**
BGKT Bogazkoy 29.24 285 P **P 06 14 17.6 +1.2**
ARMT Armutlu 29.29 284 P **P 06 14 17.3 +0.4**
PSN Preselentsi 29.30 290 P **P 06 14 17.0 0.0**
MDNY Mudanya-Bursa 29.31 283 P **P 06 14 17.5 +0.4**
TLB Topalu 29.32 292⇑ *iP* **P 06 14 17.7 +0.6**
CTKS Kestanelik-??a 29.43 285 P **P 06 14 19.0 +0.9**
ELL Elmali 29.46 276 P **P 06 14 19.5 +0.9**
BIR Birlad 29.51 296⇓ *iP* **P 06 14 20.5 +1.8**
IAS Iasi 29.53 297⇑ *iP* **P 06 14 18.9 0.0**
ICOR Ion Corvin 29.53 291⇓ *iP* **P 06 14 20.2 +1.2**
SLVT Silivri 29.65 285 P **P 06 14 21.4 +1.4**
KCTX Karacabey (Bur 29.73 283 P **P 06 14 21.5 +0.7**
TMCR Tamitsa 29.73 334 *eP* **P 06 14 19.8 -0.7**
TMCR *e*S **S 06 19 18.6 +2.9**
TMCR pmax pmax
comp=Z,469nm,1.4s
PETR Petresti 29.81 295⇑ *iP* **P 06 14 23.4 +2.0**
AMRR Amara 29.82 292⇑ *iP* **P 06 14 23.0 +1.5**
AKAS Kas 29.86 275 P **P 06 14 21.6 -0.5**
KSL Kastellorizon 29.90 275 P **P 06 14 21.2 -1.1**
KULA Kula-Manisa 29.91 280 P **P 06 14 23.4 +0.9**
KULA Kula-Manisa 29.91 280 P **P 06 14 23.5 +0.9**
ODBI Odobesti 29.93 295⇓ *iP* **P 06 14 24.9 +2.4**
MANT Manisa 30.00 280 *eP* **P 06 14 23.9 +0.4**
comp=Z,1μm,1.5s
GRER 30.01 294⇑ *iP* **P 06 14 25.5 +2.3**
EDC Edincik 30.08 284 P **P 06 14 24.9 +1.0**
PHSR Pinarhisar 30.08 286 P **P 06 14 24.9 +1.0**
MICGM Minsk 30.09 312⇑ *iP* **P 06 14 24.0 +0.2**
MICGM ⇑*iP* **P 06 14 24.0 +0.2**
MICGM PM 06 14 25.0
comp=Z,1.3nm,2.0s
MICGM PM 06 14 25.0
comp=E,1.0nm,1.8s
MICGM PM 06 14 25.0
comp=Z,1.8nm,2.0s
MICGM PM 06 14 26.0
comp=N,0.8nm,1.8s
MICGM *e*PP PP 06 15 17.0 -15
MICGM *e*PPP PPP 06 15 40.0
MICGM *e*PcP **PcP 06 17 30.0 +4.9**
MICGM *e*S **S 06 19 18.0 -3.6**
MICGM *e*SS **SnSn 06 20 58.0 +3.8**
MICGM *e*SSS SSS 06 21 22.0
MICGM *e*LQ LQ 06 24 40.0
MICGM *e*LR LR 06 26 40.0
MICGM LRM MLR 06 28 38.0
comp=Z,83nm,20.0s
MICGM LRM MLR 06 28 38.0
comp=Z,115nm,20.0s
MICGM LRM MLR 06 28 38.0
comp=E,47nm,20.0s
MICGM LRM MLR 06 28 38.0
comp=E,54nm,20.0s
MNK Minsk 30.09 312⇑ *iP* **P 06 14 24.0 +0.2**
MNK *e* 06 15 17.0
MNK *e*PPP PPP 06 15 40.0
MNK *e* 06 17 30.0
MNK *e*S **S 06 19 18.0 -3.6**
MNK *e*SS **SnSn 06 20 58.0 +3.8**
MNK *e*SSS SSS 06 21 22.0
MNK pmax pmax
comp=Z,1μm,2.0s
MNK pmax pmax
comp=E,1μm,1.8s
MNK pmax pmax
comp=N,770nm,1.8s
MNK MLR MLR
comp=E,47μm,20.0s
MNK MLR MLR
comp=Z,83μm,20.0s
MNK MLR MLR
comp=E,54μm,20.0s
MNK MLR MLR
comp=Z,115μm,20.0s
FETY Fethiye 30.13 276 P **P 06 14 23.4 -1.0**
VRI Vrincioaia 30.15 295 P **P 06 14 26.0 +1.5**
VRI Vrincioaia 30.15 295⇑ *iP* **P 06 14 25.9 +1.5**
TESR Tescani 30.17 296⇑ *iP* **P 06 14 25.4 +0.7**
LEHL Lehliu 30.20 292⇑ *iP* **P 06 14 26.5 +1.6**
PLOR Plostina 30.20 295⇑ *iP* **P 06 14 26.7 +1.7**
BALB Balikesir 30.23 282 P **P 06 14 25.9 +0.7**
BALB Balikesir 30.23 282 *eP* **P 06 14 25.7 +0.5**
comp=Z,2μm,1.4s
ISR Istrita 30.33 293⇑ *iP* **P 06 14 28.4 +2.2**
DALY Dalyan (Mula) 30.40 277 P **P 06 14 26.1 -0.6**
TURN Turunc 30.42 277 P **P 06 14 29.2 +2.3**
PRAR RASCA 30.43 298⇓ *iP* **P 06 14 27.6 +0.6**
PUL Pulkovo 30.48 323*c eP* **P 06 14 28.0 +0.9**
PUL pmax pmax
comp=Z,732nm,1.0s
PUL MLR MLR
comp=Z,28μm,16.0s
PUL Pulkovo 30.48 323 *eP* **P 06 14 27.3 +0.1**
RKY Sarkoy-Tekirda 30.52 285 P **P 06 14 28.0 +0.2**
BIZ Bicaz 30.53 297⇓ *iP* **P 06 14 28.9 +1.1**
SULR 30.58 293⇑ *iP* **P 06 14 30.4 +2.2**
EDRB Edirne 30.62 287 P **P 06 14 29.3 +0.7**
EDRB Edirne 30.62 287 P **P 06 14 28.9 +0.3**
JMB Yambol 30.63 288 P **P 06 14 29.0 +0.3**
AYDB Zeytinkoy-Aydi 30.65 279 P **P 06 14 29.6 +0.5**
SECR 30.68 293⇓ *iP* **P 06 14 31.3 +2.2**
MLR Muntele Rosu 30.72 294 *eP* **P 06 14 31.7 +2.0**
comp=Z,3μm,1.6s
MLR Muntele Rosu 30.72 294⇑ *iP* **P 06 14 31.8 +2.1**
MLR Muntele Rosu 30.72 294 *eP* **P 06 14 31.7 +2.0**
MLR pmax pmax
comp=Z,3μm,1.6s
CD2 Chengdu 30.77 96⇑ *iP* **P 06 14 31.5 +1.4**
CD2 pP sP 06 14 37.3 +0.2
CD2 sP pP 06 14 40.8 +5.7
CD2 S **S 06 19 35.0 +2.2**
CD2 sS sS 06 19 44.5 +3.5
CD2 pmax pmax
comp=Z,530nm,0.9s
CD2 pmax pmax
comp=Z,2μm,5.3s
CD2 LR LR
comp=Z,32μm,14.2s
CD2 LR LR
comp=Z,39μm,12.7s
CD2 LR LR
comp=Z,48μm,13.7s
OZUR 30.79 295⇑ *iP* **P 06 14 31.4 +1.2**
NACGM Naroch 30.80 313 *eP* **P 06 14 29.0 -1.1**
NACGM *eP* **P 06 14 29.0 -1.1**
NACGM PM 06 14 31.0
comp=Z,0.3nm,1.0s
NACGM *e*PP PP 06 15 16.0 -24
NACGM *e*PPP PPP 06 16 14.0
NACGM *e*PcP PcP 06 17 36.0 +9.1
NACGM *e*S **S 06 19 36.0 +3.3**
NACGM *e*SS ScP 06 20 28.0 -41
NACGM *e*SSS SSS 06 20 56.0
NACGM *e*LQ LQ 06 22 46.0
NACGM *e*LR LR 06 25 44.0
NACGM LRM MLR 06 29 08.0
comp=Z,86nm,19.0s
SGRR Singureni 30.83 292⇑ *iP* **P 06 14 31.9 +1.5**
LPK Lapseki 30.90 284 P **P 06 14 31.8 +0.7**
IDID Didziasalis 30.91 313 *eP* **P 06 14 31.3 +0.2**
IDID IAmb IAmb 06 14 33.8
comp=Z,154nm,1.4s
SZH Strazhica 30.98 290 P **P 06 14 31.0 -0.8**
ARG Arkhangelos 30.99 276 P **P 06 14 32.3 +0.3**
ARG Arkhangelos 30.99 276 P **P 06 14 31.8 -0.2**
ERIK Erikli-Kesan 31.02 285 P **P 06 14 33.7 +1.6**
DOPR Dopca 31.08 295⇓ *iP* **P 06 14 34.1 +1.4**
BURAR Bucovina Array 31.11 298⇑ *iP* **P 06 14 33.8 +0.7**
BUR08 Bucovina Ar. S 31.12 298 *eP* **P 06 14 33.6 +0.4**
comp=Z,190nm,1.1s
IIGN Ignalina 31.21 313 *eP* **P 06 14 34.2 +0.5**
IIGN IAmb IAmb 06 14 35.1
comp=Z,162nm,1.5s
DAT Datca 31.25 277 P **P 06 14 34.2 -0.2**
IZAR Zarasai 31.28 314 *eP* **P 06 14 34.5 +0.1**
IZAR IAmb IAmb 06 14 37.2
comp=Z,206nm,1.5s
ISAL Salakas 31.31 314 *eP* **P 06 14 34.7 +0.1**
ISAL IAmb IAmb 06 14 36.0
comp=Z,129nm,1.5s
ALN Alexandroupoli 31.32 285 *eP* **P 06 14 34.8 0.0**
comp=Z,151nm,1.4s
ALN Alexandroupoli 31.32 285 *eP* **P 06 14 34.8 0.0**
ALN pmax pmax
comp=Z,151nm,1.4s
NRIK Noril'sk 31.34 14 P **P 06 14 35.8 +1.1**
comp=Z,229nm,1.0s,baz=214,slow=7.8,SNR=296
NRIK LR LR 06 29 15.6
comp=Z,28μm,18.1s,baz=208,slow=40
EZN Ezine 31.35 283 P **P 06 14 36.2 +1.1**
EZN Ezine 31.35 283 P **P 06 14 36.1 +1.0**
EZN Ezine 31.35 283⇑ *iP* **P 06 14 36.2 +1.1**
BODT Bodrum 31.35 278 P **P 06 14 35.4 +0.2**
BODT Bodrum 31.35 278 P **P 06 14 34.9 -0.3**
VOIR 31.36 294⇓ *iP* **P 06 14 36.3 +1.1**
PVL Pavlikeni 31.42 290 P **P 06 14 37.0 +1.3**
GOLR 31.48 293⇓ *iP* **P 06 14 37.8 +1.6**
HUMR Humele 31.50 292⇑ *iP* **P 06 14 37.6 +1.2**
URLA Izmir 31.52 280 P **P 06 14 37.1 +0.5**
PRK Paraskevi 31.53 282 P **P 06 14 38.0 +1.3**
BOZC Bozcaada 31.55 283 P **P 06 14 37.8 +1.0**
ARR Arges 31.65 294⇑ *iP* **P 06 14 39.2 +1.4**
ARCR ARCALIA 31.72 297⇑ *iP* **P 06 14 40.2 +1.9**
VSU Vasula 31.74 319*c iP* **P 06 14 38.3 -0.1**
VSU pmax pmax
comp=Z,1μm,1.0s
VSU MLR MLR
comp=Z,36μm,16.0s
VSU Vasula 31.74 319 *eP* **P 06 14 38.2 -0.1**
VSU IAmb IAmb 06 14 39.4
comp=Z,1μm,1.3s
SMTH Samothraki Isl 31.79 285 P **P 06 14 40.0 +1.0**
SIGR SIGRI 31.85 282 P **P 06 14 39.9 +0.4**
LVV L'vov 31.89 303 *eP* **P 06 14 40.2 +0.4**
LVV *e* 06 17 31.1
LVV *e*S **S 06 19 49.4 -0.5**
LVV MLR MLR
comp=E,11μm,16.0s
LVV MLR MLR
comp=Z,12μm,16.0s
LVV MLR MLR
comp=N,6μm,14.0s
CHOS Chios island 31.92 281 P **P 06 14 41.0 +0.8**
CHOS Chios island 31.92 281 P **P 06 14 40.8 +0.6**
MNCY Minicoy 31.94 169 *eP* **P 06 14 40.8 +0.3**
VLAD Vladila 31.98 292⇑ *iP* **P 06 14 42.0 +1.4**
PLD Plovdiv 32.07 288 P **P 06 14 42.3 +0.9**
LIA Limnos Island 32.18 284 P **P 06 14 43.1 +0.7**
LOT Lotru 32.25 294 P **P 06 14 44.3 +1.2**
LOT Lotru 32.25 294⇑ *iP* **P 06 14 44.3 +1.2**
CJR Cluj-Napoca 32.26 297⇑ *iP* **P 06 14 44.8 +1.7**
BTO Baotou 32.27 75 *eP* **P 06 14 42.5 -0.8**
BTO S S 06 19 47.0 -9.1
BMR Baia Mare 32.27 299⇓ *iP* **P 06 14 44.6 +1.5**
DAMY Dhamar 32.35 225 *eP* **P 06 14 46.1 +1.7**
comp=N,218nm,1.4s
DAMY LR LR
comp=Z,10μm,21.0s
KAVA Kavala 32.43 286 P **P 06 14 44.9 +0.3**
TRD Trivandrum 32.45 162 *eP* **P 06 14 45.1 +0.2**
AMGA Amorgos Island 32.50 278 P **P 06 14 44.9 -0.4**
PABE Paberze 32.50 313 *eP* **P 06 14 45.1 +0.1**
PABE IAmb IAmb 06 14 46.3
comp=Z,638nm,1.5s
APE Apeiranthos 32.70 279 P **P 06 14 47.7 +0.6**
APE Apeiranthos 32.70 279 P **P 06 14 47.2 +0.1**
APE Apeiranthos 32.70 279⇑ *iP* **P 06 14 47.6 +0.5**
APE Apeiranthos 32.70 279*c iP* **P 06 14 47.4 +0.3**
APE pmax pmax
comp=Z,431nm,1.5s
SUW Suwalki 32.73 310 *eP* **P 06 14 46.9 -0.1**
SUW LMZ LR 06 29 42.3
comp=Z,30μm,19.6s
SUW Suwalki 32.73 310 *eP* **P 06 14 46.7 -0.3**
comp=Z,891nm,1.5s
SUW LR LR
comp=Z,38μm,19.0s
SUW Suwalki 32.73 310 *eP* **P 06 14 46.7 -0.3**
SUW pmax pmax
comp=Z,891nm,1.5s
SUW MLR MLR
comp=Z,38μm,19.0s
ANAF Anafi Island 32.74 277 P **P 06 14 46.5 -0.9**
KWP Kalwaria Pacla 32.75 302 *eP* **P 06 14 48.0 +0.7**
KWP LMZ LR 06 30 45.2
comp=Z,34μm,18.2s
KWP Kalwaria Pacla 32.75 302 *eP* **P 06 14 48.0 +0.7**
comp=Z,18μm,1.5s
KWP LR LR
comp=Z,210μm,19.0s
KWP Kalwaria Pacla 32.75 302 *eP* **P 06 14 48.0 +0.7**
KWP MLR MLR
comp=Z,34μm,18.2s
DEV Deva 32.81 295⇓ *iP* **P 06 14 49.7 +1.8**
ZKR Zakros 32.83 275 P **P 06 14 49.1 +0.9**
ZKR Zakros 32.83 275 P **P 06 14 48.3 +0.1**
DRGR 32.86 297⇑ *iP* **P 06 14 49.8 +1.4**
MMB Musomiste 32.88 287 P **P 06 14 48.0 -0.6**
TRPA Tarpa 32.90 299⇑ *iP* **P 06 14 49.8 +1.2**
TRPA Tarpa 32.90 299⇑ *iP* **P 06 14 49.1 +0.5**
TRPA *e*PP **PnPn 06 15 59.1 +1.7**
TRPA *e*SS **S 06 20 09.1 +3.5**
TRPA *i* S **SS 06 22 29.0 +1.9**
GZR Gura Zlata 32.95 294⇑ *iP* **P 06 14 49.9 +0.7**
OUR Ouranopolis 32.97 285 P **P 06 14 50.1 +0.8**
OUR Ouranopolis 32.97 285 P **P 06 14 49.5 +0.2**
SANT Santorini 32.98 277 *eP* **P 06 14 48.1 -1.4**
SANT LR LR
comp=Z,10μm,20.0s
PUNG Punghina 32.99 292⇑ *iP* **P 06 14 50.2 +0.8**
KMI Kunming 32.99 106 P **P 06 14 50.5 +0.6**
KMI pP sP 06 14 56.8 -0.1
KMI sP pP 06 14 59.3 +4.4
KMI PP **PnPn 06 15 59.3 +0.2**
KMI S **S 06 20 07.5 -0.4**
KMI sS sS 06 20 17.8 +1.5
KMI SS **SnSn 06 22 05.0 -0.8**
KMI pmax pmax
comp=Z,95nm,1.5s
KMI pmax pmax
comp=Z,740nm,3.5s
KMI LR LR
comp=Z,4μm,17.0s
KMI LR LR
comp=Z,9μm,15.9s
KMI LR LR
comp=Z,11μm,18.1s
KMI Kunming 32.99 106 *eP* **P 06 14 50.5 +0.6**
comp=Z,233nm,1.1s
KMI LR LR
comp=Z,12μm,22.0s
KMI Kunming 32.99 106 *eP* **P 06 14 50.5 +0.6**
KMI pmax pmax
comp=Z,233nm,1.1s
KMI MLR MLR
comp=Z,12μm,22.0s
IOSP Ios island 32.99 278 P **P 06 14 49.3 -0.3**
UZH Uzhgorod 33.04 300*d iP* **P 06 14 48.8 -1.0**
UZH *e* 06 14 58.5
UZH *e* 06 16 02.5
UZH *e*S **S 06 20 02.9 -4.9**
UZH *e*SSS SSS 06 22 28.5
UZH MLR MLR
comp=N,1μm,15.0s
UZH MLR MLR
comp=E,4μm,15.0s
UZH MLR MLR
comp=Z,2μm,15.0s
VTS Vitosha 33.04 289 *eP* **P 06 14 51.4 +1.3**
comp=Z,403nm,1.4s
VTS Vitosha 33.04 289 P **P 06 14 51.5 +1.4**
VTS Vitosha 33.04 289⇑ *iP* **P 06 14 51.5 +1.4**
VTS Vitosha 33.04 289 P **P 06 14 51.0 +0.9**
KOLS Kolonicke sedl 33.05 301 *eP* **P 06 14 50.5 +0.6**
KOLS *e* 06 22 13.2
KOLS pmax pmax
comp=Z,252nm,1.3s
KOLS MLR MLR
comp=Z,18μm,17.2s
KOLS Kolonicke sedl 33.05 301 *eP* **P 06 14 50.5 +0.6**
KOLS *e*PP **PP 06 16 09.2 +4.7**
KOLS *e*S S 06 20 20.3 +12
KOLS *e* 06 22 13.2
KOLS *e*L L 06 30 57.5
FIA0 FINESS Array S 33.05 324 *eP* **P 06 14 50.3 +0.5**
FIA0 FINESS Array S 33.05 324 *eP* **P 06 14 50.3 +0.5**
FIA1 FINESS Array S 33.05 324 *eP* **P 06 14 50.1 +0.3**
comp=Z,1μm,1.4s
FINES FINESS Array B 33.05 324 P **P 06 14 50.3 +0.5**
comp=Z,106nm,0.5s,baz=119,slow=8.0,SNR=594
FINES LR LR 06 28 29.7
comp=Z,18μm,19.2s,baz=106,slow=37
SRS Serrai 33.08 287 P **P 06 14 51.0 +0.7**
LVZ Lovozero 33.22 338 *eP* **P 06 14 51.1 -0.1**
comp=Z,495nm,1.3s
LVZ LR LR
comp=Z,9μm,20.0s
LVZ Lovozero 33.22 338*c iP* **P 06 14 50.9 -0.3**
LVZ pmax pmax
comp=Z,500nm,1.7s
HERR Herculane 33.27 294⇓ *iP* **P 06 14 52.6 +0.7**
PAIG Paliouri 33.30 284 P **P 06 14 52.4 +0.2**
KKB Krupnik 33.30 288 P **P 06 14 53.0 +0.8**
SOH Sokhos 33.33 286 P **P 06 14 53.0 +0.5**
HHC Hu-ho-hao-te 33.35 74 *eP* **P 06 14 54.0 +1.2**
HHC pP sP 06 14 59.0 -0.8
HHC PP **PnPn 06 16 03.8 +0.4**
HHC PcP **PcP 06 17 35.5 +1.2**
HHC S **S 06 20 11.8 -1.3**
HHC ScP **ScP 06 21 17.8 -0.3**
HHC pmax pmax
comp=Z,410nm,0.8s
HHC pmax pmax
comp=Z,1μm,4.3s
HHC LR LR
comp=Z,12μm,11.3s
HHC LR LR
comp=Z,13μm,11.5s
HHC LR LR
comp=Z,14μm,13.5s
PLG Polygyros 33.36 285 P **P 06 14 53.4 +0.6**
LTVH Ltavrtes, Hu 33.37 298⇑ *iP* **P 06 14 54.1 +1.3**
LTVH *e*PP **PnPn 06 15 59.1 -4.3**
LTVH *e*SS **S 06 20 19.1 +6.2**
LTVH *i* S SS 06 22 11.0 -26
APA Apatity 33.38 337⇓ *iP* **P 06 14 51.7 -0.8**
APA pmax pmax
comp=Z,62nm,1.1s
APA MLR MLR
comp=Z,52μm,11.0s
LAST Lasithi 33.38 275 P **P 06 14 53.4 +0.4**
XAN Xi'an 33.43 87 P **P 06 14 54.0 +0.5**
XAN pP sP 06 15 04.3 +3.8
XAN S **S 06 20 12.0 -2.3**
XAN pmax pmax
comp=Z,100nm,1.4s
XAN pmax pmax
comp=Z,800nm,3.6s
XAN LR LR
comp=Z,25μm,14.1s
XAN LR LR
comp=Z,12μm,14.5s
XAN LR LR
comp=Z,17μm,13.7s
XAN Xi'an 33.43 87 *eP* **P 06 14 53.7 +0.3**
comp=Z,124nm,0.9s
XAN LR LR
comp=Z,20μm,19.0s
XAN Xi'an 33.43 87 *eP* **P 06 14 53.7 +0.3**
XAN pmax pmax
comp=Z,124nm,0.9s
XAN MLR MLR

comp=Z,20µm,19.0s
EREA Eretria 33.51 282 P P 06 14 54.5 +0.4
HORT Hortiatis 33.56 286 P P 06 14 55.1 +0.5
HORT Hortiatis 33.56 286 P P 06 14 54.8 +0.2
KNT Kendrikon 33.58 287 P P 06 14 55.5 +0.8
KNT Kendrikon 33.58 287 P P 06 14 55.4 +0.8
DION Dionisos Attik 33.61 281 P P 06 14 55.1 +0.1
SIRR Siria 33.63 296⇩ iP P 06 14 56.8 +1.7
THE Thessaloniki 33.66 286 P P 06 14 55.4 +0.1
PTL Penteli 33.67 281 P P 06 14 56.0 +0.5
CIT Chita 33.68 53 eP P 06 14 56.3 +0.8
CIT e 06 20 15.4
CIT pmax pmax
comp=Z,1µm,1.5s
MRKA Markates 33.69 282 P P 06 14 56.0 +0.4
PBUR Paburg 33.72 314 eP P 06 14 55.3 -0.3
PBUR IAmb IAmb 06 14 57.8
comp=Z,160nm,0.7s
BZS Buzias 33.74 295⇧ iP P 06 14 57.5 +1.6
ATHU Athens Univers 33.75 281 P P 06 14 56.9 +0.7
MDVR Moldovita 33.78 293⇧ iP P 06 14 57.5 +1.1
VLY Voula,Athens 33.78 281 P P 06 14 56.6 +0.2
IDI Anoyia 33.78 276 P P 06 14 54.2 -2.4
VAY Valandovo 33.79 287 P P 06 14 57.2 +0.7
VAY Valandovo 33.79 287 i P P 06 14 57.2 +0.7
NEO Neokhori 33.80 283 P P 06 14 56.6 0.0
ATH Athens Observa 33.80 281 P P 06 14 57.5 +0.9
XOR Xorichti 33.80 284 P P 06 14 56.8 +0.1
SLIT Slitere, Latvi 33.82 317 eP P 06 14 55.6 -0.9
SLIT IAmb IAmb 06 14 56.9
comp=Z,2µm,1.3s
SMIA Simia 33.92 283 P P 06 14 57.8 +0.1
SIVA Sivas 33.94 275 P P 06 14 58.4 +0.6
FYTO Fytoko, Volos 33.98 284 P P 06 14 58.6 +0.5
GRG Griva 34.00 287 P P 06 14 58.7 +0.4
BEL Belsk 34.00 306 eP P 06 14 58.6 +0.4
BEL LMZ LR 06 30 47.4
comp=Z,35µm,17.1s
BEL Belsk 34.00 306 eP P 06 14 58.6 +0.4
BEL MLR MLR
comp=Z,35µm,17.1s
VILL Villia 34.05 281 P P 06 14 58.3 -0.5
BANR Banloc 34.10 295⇩ iP P 06 15 01.2 +2.1
ATAL Atalanti 34.12 282 P P 06 14 59.0 -0.3
LIT Litokhoron 34.14 285 eP P 06 14 59.1 -0.4
comp=Z,389nm,1.7s
LIT Litokhoron 34.14 285 P P 06 14 59.0 -0.5
LIT Litokhoron 34.14 285 eP P 06 14 59.1 -0.4
LIT pmax pmax
comp=Z,389nm,1.7s
LKR Lokris 34.15 282 P P 06 14 59.4 -0.2
KECS Kecovo 34.25 300 eP P 06 15 01.9 +1.5
KECS pmax pmax
comp=Z,290nm,1.3s
KECS Kecovo 34.25 300 eP P 06 15 01.9 +1.5
VAM Vamos 34.27 276 P P 06 14 59.9 -0.8
DID Didima 34.31 280 P P 06 14 59.6 -1.4
NIE Niedzica 34.32 302 eP P 06 15 02.3 +1.3
NIE LMZ LR 06 32 17.0
comp=Z,29µm,16.8s
NIE Niedzica 34.32 302 eP P 06 15 02.3 +1.3
NIE MLR MLR
comp=Z,29µm,16.8s
CHTO Chiang Mai 34.33 119 eP P 06 15 01.0 -0.3
comp=Z,124nm,0.9s
CHTO LR LR
comp=Z,8µm,20.0s
CHTO Chiang Mai 34.33 119 eP P 06 15 01.0 -0.3
CHTO pmax pmax
comp=Z,124nm,0.9s
CHTO MLR MLR
comp=Z,8µm,20.0s
CHTO Chiang Mai 34.33 119 P P 06 15 01.4 0.0
SNR=39
CHTO P P 06 15 01.4 0.0
SNR=39
CMMT Chiang Mai 34.33 119 P P 06 15 01.7 +0.3
comp=Z,81nm,1.7s,comp=Z,1µm
LOUT Loutraki 34.36 281 P P 06 15 00.8 -0.6
AXAR Agios Charalam 34.37 283 P P 06 15 03.9 +2.4
KRND KRANIDI 34.41 280 P P 06 15 00.5 -1.4
IMMV Iera Moni Meta 34.42 277 P P 06 15 01.8 -0.2
IMMV Iera Moni Meta 34.42 277 P P 06 15 01.1 -0.9
AGG Agios Georgios 34.54 283 P P 06 15 03.3 +0.2
AGG Agios Georgios 34.54 283 eP P 06 15 02.9 -0.2
comp=Z,516nm,1.7s
AGG Agios Georgios 34.54 283 P P 06 15 02.8 -0.2
AGG Agios Georgios 34.54 283 eP P 06 15 02.9 -0.2
AGG pmax pmax
comp=Z,516nm,1.7s
GVD Gavdhos 34.56 276 P P 06 15 03.1 -0.1
GVD Gavdhos 34.56 276 P P 06 15 02.7 -0.5
DSF Desfina 34.57 282 P P 06 15 02.2 -1.1
CM31 Chiang Mai Arr 34.58 119 eP P 06 15 03.8 +0.3
comp=Z,431nm,1.2s
CM31 ePcP PcP 06 17 39.2 +1.2
CM31 Chiang Mai Arr 34.58 119 P P 06 15 06.3 +2.8
SNR=61
CM31 P P 06 15 06.3 +2.8
SNR=61
CMAR Chiang Mai Arr 34.58 119 P P 06 15 03.5 0.0
comp=Z,55nm,1.1s,baz=303,slow=7.1,SNR=65
CMAR PcP PcP 06 17 39.2 +1.2
comp=Z,52nm,1.0s,baz=300,slow=4.8,SNR=8.3
CMAR LR LR 06 32 52.3
comp=Z,8µm,18.8s,baz=315,slow=43
PAYA Payao 34.58 117 P P 06 15 04.4 +0.9
comp=Z,445µm,1.0s
BOD Bodaibo 34.60 43 eP P 06 15 03.9 +0.6
KZN Kozani 34.62 286 P P 06 15 03.8 0.0
OJC Ojcow 34.62 303 eP P 06 15 03.9 +0.3
OJC LMZ LR 06 31 22.5
comp=Z,14µm,19.9s
OJC Ojcow 34.62 303 eP P 06 15 03.9 +0.3
comp=Z,684nm,1.3s
OJC epP sP 06 15 13.1 +2.3
OJC Ojcow 34.62 303 eP P 06 15 03.9 +0.3
OJC MLR MLR
comp=Z,14µm,19.9s
THL Klokotos Trika 34.63 284 P P 06 15 03.4 -0.4
PALK Pallekele 34.64 156 eP P 06 15 04.2 +0.1
comp=Z,79nm,1.1s
PALK LR LR
comp=Z,31µm,18.0s
PALK Pallekele 34.64 156 eP P 06 15 04.2 +0.1
PALK pmax pmax
comp=Z,79nm,1.1s
PALK MLR MLR
comp=Z,31µm,18.0s
PSZ Piszkesteto 34.68 299 eP P 06 15 05.3 +1.1
comp=Z,486nm,1.4s
PSZ LR LR
comp=Z,7µm,18.0s
PSZ Piszkesteto 34.68 299⇧ iP P 06 15 05.3 +1.1
PSZ Piszkesteto 34.68 299⇧ iP P 06 15 05.0 +0.8
PSZ ePP PnPn 06 16 19.0 -0.9
PSZ eSS S 06 20 39.1 +5.7
PSZ i S SS 06 22 24.1 -40
KRUS Krusevo 34.75 288 i P P 06 15 05.7 +0.8
BIA Bitola 34.77 287 i P P 06 15 02.8 -2.3
VLI Veliai 34.78 279 P P 06 15 03.1 -2.0
FNA Florina 34.79 287 eP P 06 15 05.5 +0.3
comp=Z,506nm,0.5s
FNA Florina 34.79 287 eP P 06 15 05.5 +0.3
FNA pmax pmax
comp=Z,506nm,0.5s
DGPR DIGLIPUR 34.84 133 eP P 06 15 06.4 +0.6
DGPR IAmb IAmb 06 15 13.7
comp=Z,488nm,0.8s
TIY Taiyuan 34.85 79 eP P 06 15 06.8 +1.1
TIY pP sP 06 15 12.5 -0.2
TIY PP PP 06 16 27.3 +2.6
TIY S S 06 20 36.5 +0.4
TIY sS sS 06 20 44.5 0.0
TIY pmax pmax
comp=Z,150nm,1.1s
TIY LR LR
comp=Z,9µm,7.2s
TIY LR LR
comp=Z,5µm,8.4s
TIY LR LR
comp=Z,17µm,16.3s
GUR Goura 34.85 281 P P 06 15 04.8 -1.0
KYTH Kithira 34.85 278 P P 06 15 04.7 -1.1

KALE Kalithea 34.87 282 P P 06 15 05.0 -0.9
LANS Liptovska Anna 34.88 301 eP P 06 15 07.4 +1.5
LANS Liptovska Anna 34.88 301 eP P 06 15 07.4 +1.5
KTHR Kythira 34.89 278 P P 06 15 04.9 -1.1
SERG Sergoula 34.92 282 P P 06 15 05.4 -0.9
TRIZ Trizonia 34.92 282 P P 06 15 05.3 -1.0
KLV Kalavryta, Ach 34.96 282 P P 06 15 05.5 -1.2
EVR Evrytania 34.96 283 P P 06 15 06.6 -0.2
ANX Ano Chora 34.97 283 P P 06 15 06.6 -0.2
LAMP Lampang 35.00 118 P P 06 15 07.9 +0.8
comp=Z,911µm,0.9s
VLX Vlachokerasia 35.00 281 P P 06 15 05.4 -1.7
EFP Efpalio 35.03 282 P P 06 15 06.3 -0.9
LAKA Lakka 35.03 282 P P 06 15 06.6 -0.7
DIVS Divibare 35.10 293⇧ iP P 06 15 08.6 +0.7
OHR Ohrid 35.14 287 i P P 06 15 04.8 -3.5
GYA Guiyang 35.19 100⇧ iP P 06 15 09.5 +0.6
GYA pP sP 06 15 18.8 +2.9
GYA PcP PcP 06 17 40.8 +0.9
GYA S S 06 20 40.0 -1.7
GYA SS SnSn 06 22 57.3 -1.6
GYA ScS ScS 06 25 26.0 -3.1
GYA pmax pmax
comp=Z,170nm,1.3s
GYA pmax pmax
comp=Z,480nm,4.6s
GYA LR LR
comp=Z,12µm,13.7s
GYA LR LR
comp=Z,12µm,13.7s
GYA LR LR
comp=Z,13µm,10.9s
PVO Paravola 35.26 283 P P 06 15 09.7 +0.5
DRO Drossia 35.32 282 P P 06 15 08.8 -1.0
VYHS Vyhne 35.34 300 eP P 06 15 10.8 +1.0
VYHS pmax pmax
comp=Z,292nm,1.7s
VYHS Vyhne 35.34 300 eP P 06 15 10.8 +1.0
VYHS ePP PnPn 06 16 26.6 -1.5
VYHS eS S 06 20 43.1 -0.3
VYHS eL L 06 33 24.3
TEKS Tekeris 35.35 294⇧ iP P 06 15 11.2 +1.2
ITM Ithomi 35.40 280 P P 06 15 09.2 -1.3
ITM Ithomi 35.40 280 eP P 06 15 09.1 -1.3
comp=Z,256nm,1.6s
ITM LR LR
comp=Z,4µm,19.0s
ITM Ithomi 35.40 280 P P 06 15 08.8 -1.7
IVA Berane 35.41 291⇧ iP P 06 15 11.9 +1.4
PVY Plav 35.42 290⇧ iP P 06 15 11.5 +0.8
PHRA Phrae 35.42 118 P P 06 15 11.4 +0.7
comp=Z,43nm,0.9s,comp=Z,556m
ENH Enshi 35.45 92 eP P 06 15 11.8 +0.8
ENH epP sP 06 15 17.1 -0.9
ENH LR LR
comp=Z,12µm,20.0s
JAN Janina 35.47 285 P P 06 15 11.4 +0.3
RLS Riolos of Patr 35.47 282 P P 06 15 10.4 -0.6
BBLS Lazići 35.56 292⇧ iP P 06 15 12.6 +0.8
PYL PYLOS 35.63 280 P P 06 15 10.2 -2.2
RAC Raciborz 35.66 303 eP P 06 15 13.3 +0.8
RAC eS S 06 20 51.0 +2.8
RAC MLR MLR
comp=Z,17µm,17.5s
PLE Pljevlja 35.68 291⇧ iP P 06 15 13.6 +0.7
KOME Kolasin 35.68 291⇧ iP P 06 15 14.1 +1.2
ATD Arta Tunnel 35.70 224 eP P 06 15 14.9 +1.7
comp=Z,263nm,1.3s
ATD LR LR
comp=Z,7µm,21.0s
OKC Ostrava-Krasne 35.70 303 eP P 06 15 13.3 +0.4
OKC e 06 15 21.0
OKC MLR MLR
comp=Z,14µm,15.4s
OKC Ostrava-Krasne 35.70 303 eP P 06 15 13.3 +0.4
OKC epP sP 06 15 21.0 +1.0
OKC eS S 06 21 04.5 +16
OKC AMS AMS 06 32 50.0
comp=Z,14µm,15.4s
SRO2 Moca 35.70 299 eP P 06 15 14.2 +1.3
SRO2 Moca 35.70 299 eP P 06 15 14.2 +1.3
MORH Mrgy, Hungar 35.72 297⇧ iP P 06 15 12.1 -0.9
MORH ePP PP 06 16 35.0 +0.9
MORH eSS S 06 20 51.1 +1.9
MORH i S SS 06 23 25.1 +0.5
SRO Srobarova 35.75 299 eP P 06 15 15.5 +2.2
SRO Srobarova 35.75 299 eP P 06 15 15.5 +2.2
CSKK Cskako 35.84 299 ePP PP 06 16 34.0 -1.4
HAPS Han Pijesak,Bl 35.84 293⇧ iP P 06 15 13.7 -0.6
LKD2 Lefkada island 35.86 284 P P 06 15 13.6 -0.8
IGT Igoumenitsa 35.89 285 P P 06 15 14.1 -0.5
EVGI Lefkada island 35.91 283 P P 06 15 13.6 -1.2
TPE Tepelena 35.92 286 P P 06 15 14.2 -0.7
PDG Podgorica 35.96 290⇧ iP P 06 15 15.5 +0.4
PDG Podgorica 35.96 290 eP P 06 15 15.5 +0.4
TTG Podgorica 35.96 290⇧ iP P 06 15 15.6 +0.4
TTG Podgorica 35.96 290 eP P 06 15 14.4 -0.7
comp=Z,288nm,1.2s
TTG Podgorica 35.96 290 eP P 06 15 14.4 -0.7
TTG pmax pmax
comp=Z,288nm,1.2s
KFL Anninata 35.97 282 P P 06 15 14.2 -1.1
PBA Port Blair 35.98 135 eP P 06 15 16.8 +1.2
FSK Fiskardo 36.03 283 P P 06 15 14.4 -1.4
SRN Sarande 36.04 286 P P 06 15 14.8 -1.1
UPM Unac-Piva 36.05 291⇧ iP P 06 15 16.3 +0.1
UPM Unac-Piva 36.05 291⇧ iP P 06 15 17.2 +1.0
DRME Dracevica, Mon 36.07 290⇧ iP P 06 15 16.5 +0.4
DRME Dracevica, Mon 36.07 290 eP P 06 15 16.5 +0.4
NKY Niksic 36.07 291⇧ iP P 06 15 16.9 +0.7
ULC Ulcinj 36.07 289⇧ iP P 06 15 16.2 0.0
JAVC Velka Javorina 36.08 301⇧ iP P 06 15 17.9 +1.7
VLS Valsamata 36.09 283 P P 06 15 15.1 -1.3
MORC Moravsky Berou 36.10 303 eP P 06 15 16.8 +0.5
comp=Z,410nm,1.4s
MORC epP sP 06 15 23.7 +0.2
MORC LR LR
comp=Z,16µm,18.0s
MORC Moravsky Berou 36.10 303⇧ iP P 06 15 17.1 +0.8
MORC Moravsky Berou 36.10 303 eP P 06 15 16.8 +0.5
MORC e*PP sP 06 15 23.7 +0.2
MORC pmax pmax
comp=Z,410nm,1.4s
MORC MLR MLR
comp=Z,16µm,18.0s
MORC Moravsky Berou 36.10 303⇧ iP P 06 15 16.9 +0.6
NKME Niksic 36.10 291⇧ iP P 06 15 17.0 +0.5
SLVN Son La 36.13 110 eP P 06 15 18.2 +1.3
SLVN epP sP 06 15 23.5 -0.4
SLVN LR LR
comp=Z,19µm,22.0s
UMPA Umpang Tak 36.13 122 P P 06 15 20.0 +3.1
comp=Z,391µm,1.2s
TIH Tihany 36.14 298 i P P 06 15 17.1 +0.4
TIH ePP PnPn 06 16 38.0 +0.1
TIH i S SS 06 23 31.0 -2.1
UTTA Uttaradit 36.16 118 P P 06 15 18.0 +0.9
comp=Z,715µm,0.9s
CEME Cevo 36.18 290⇧ iP P 06 15 17.7 +0.6
GKP Gorka Klasztor 36.20 309 eP P 06 15 17.6 +0.5
GKP LMZ LR 06 32 49.3
comp=Z,53µm,16.1s
GKP Gorka Klasztor 36.20 309 eP P 06 15 17.6 +0.5
GKP MLR MLR
comp=Z,53µm,16.1s
KEK Kerkira 36.24 285 P P 06 15 16.2 -1.4
BUM Brajici-Budva 36.25 290⇧ iP P 06 15 17.9 +0.1
DOB Doboj 36.33 294 eP P 06 15 18.6 +0.3
BRY Bratogost 36.37 291⇧ iP P 06 15 19.3 +0.4
BRY Bratogost 36.37 291 eP P 06 15 19.6 +0.7
MODS Modra-Piesok 36.39 300 eP P 06 15 18.8 0.0
MODS pmax pmax
comp=Z,399nm,1.6s
MODS Modra-Piesok 36.39 300 eP P 06 15 18.8 0.0
MODS ePP PP 06 16 35.1 -6.4
MODS eS S 06 20 58.5 -0.9
MODS eL L 06 33 57.4
HCY Herceg Novi 36.51 290⇧ iP P 06 15 20.5 +0.6
HCY Herceg Novi 36.51 290 eP P 06 15 15.8 -4.1
ZST Bratislava 36.52 300 eP P 06 15 19.9 0.0
ZST e 06 16 37.6
ZST eS S 06 21 04.5 +3.1

ZST Bratislava 36.52 300 eP P 06 15 19.9 0.0
ZST ePP PP 06 16 37.6 -5.3
ZST eS S 06 21 04.5 +3.1
TREB Trebinje 36.55 291⇧ iP P 06 15 20.3 +0.1
KEV Kevo 36.56 338 eP P 06 15 19.9 0.0
comp=Z,236nm,1.2s
KEV LR LR
comp=Z,44µm,20.0s
KEV Kevo 36.56 338 eP P 06 15 19.9 0.0
KEV pmax pmax
comp=Z,236nm,1.2s
KEV MLR MLR
comp=Z,44µm,20.0s
KRLC Kraliky 36.57 303 eP P 06 15 21.0 +0.6
KRLC e 06 15 28.0
KRLC MLR MLR
comp=Z,3µm,14.1s
KRLC Kraliky 36.57 303 eP P 06 15 21.0 +0.6
KRLC epP sP 06 15 28.0 +0.5
KRLC AMS AMS 06 32 10.0
comp=Z,3µm,14.1s
VRAC Vranov 36.75 302⇧ iP P 06 15 22.9 +1.0
VRAC Vranov 36.75 302⇧ iP P 06 15 22.8 +0.9
KSP Ksiaz 36.83 305 eP P 06 15 23.1 +0.6
KSP LMZ LR 06 33 41.6
comp=Z,26µm,15.8s
KSP Ksiaz 36.83 305 eP P 06 15 23.1 +0.6
KSP MLR MLR
comp=Z,26µm,15.8s
DPC Dobruska-Polom 36.84 304 eP P 06 15 23.7 +1.0
DPC e 06 15 32.1
DPC MLR MLR
comp=Z,20µm,13.6s
DPC Dobruska-Polom 36.84 304 eP P 06 15 23.7 +1.0
DPC epP sP 06 15 32.1 +2.2
DPC eS S 06 21 17.8 +11
DPC AMS AMS 06 33 40.0
comp=Z,20µm,13.6s
ARCES ARCESS Array B 36.88 337 P P 06 15 23.2 +0.5
comp=Z,92nm,0.7s,baz=121,slow=5.4,SNR=198
ARCES LR LR 06 32 15.6
comp=Z,10µm,18.0s,baz=124,slow=39
ARE0 ARCESS Array S 36.88 337 eP P 06 15 23.1 +0.3
comp=Z,26nm,1.3s
ARE0 LR LR
comp=Z,500nm,19.0s
ARE0 ARCESS Array S 36.88 337 eP P 06 15 23.2 +0.5
ARE0 eS S 06 21 07.2 +0.7
KRUC Moravsky 36.90 302⇧ iP P 06 15 24.2 +1.1
SOP Sopron 36.94 299⇧ iP P 06 15 24.0 +0.5
SOP ePP PP 06 16 48.0 +0.5
SOP i S SS 06 23 52.1 +2.7
BEHE Becsehely 36.96 297⇧ iP P 06 15 24.6 +0.9
BEHE Becsehely 36.96 297⇧ iP P 06 15 24.1 +0.4
BEHE ePP PP 06 16 50.1 +2.3
BJT Baijiatuau 36.96 74 eP P 06 15 24.6 +0.9
comp=Z,71nm,1.0s
BJT epP sP 06 15 29.7 -1.1
BJT LR LR
comp=Z,18µm,18.0s
BJT Baijiatuau 36.96 74 eP P 06 15 24.6 +0.9
BJT e*PP sP 06 15 29.7 -1.1
BJT pmax pmax
comp=Z,71nm,1.0s
BJT MLR MLR
comp=Z,18µm,18.0s
BLY Banja Luka 36.97 294 eP P 06 15 24.3 +0.6
BLY epP sP 06 15 31.9 +1.0
BLY Banja Luka 36.97 294⇧ iP P 06 15 24.6 +0.9
BLY Banja Luka 36.97 294⇧ iP P 06 15 24.4 +0.6
STON Ston 36.98 291 P P 06 15 23.8 -0.1
STON Ston 36.98 291 eP P 06 15 23.8 -0.1
UPC Upice 37.03 304 eP P 06 15 25.0 +0.8
UPC e 06 15 31.1
UPC MLR MLR
comp=Z,26µm,13.3s
UPC Upice 37.03 304 eP P 06 15 25.0 +0.8
UPC epP sP 06 15 31.1 -0.3
UPC eS ScP 06 21 24.4 -6.7
UPC AMS AMS 06 33 40.0
comp=Z,26µm,13.3s
PBKT Sadao Pong 37.27 119 P P 06 15 27.6 +1.1
comp=Z,171nm,1.6s,comp=Z,3µm
KOGS Kog 37.32 297 i P P 06 15 27.2 +0.5
KTK1 Kautokeino 37.33 336 eP P 06 15 26.6 0.0
KTK1 IVmB_BB 06 15 27.6
comp=Z,3µm,1.1s
KTK1 ePP PnPn 06 16 51.9 -0.2
KTK1 eS S 06 21 13.8 +0.6
KTK1 IVMs_BB IVMs_BB 06 31 28.6
comp=Z,15µm,15.8s
CONA Conrad Observa 37.38 300 i P P 06 15 28.3 +1.0
comp=Z,583nm,1.3s,SNR=212
CONA eP PP 06 16 51.6 -0.8
comp=Z,205nm,1.5s
TREC Trest 37.47 302 eP P 06 15 29.2 +1.2
TREC e 06 15 35.3
TREC MLR MLR
comp=Z,19µm,14.8s
TREC Trest 37.47 302 eP P 06 15 29.2 +1.2
TREC epP sP 06 15 35.3 +0.1
TREC eS ScP 06 21 32.3 -0.5
TREC AMS AMS 06 34 20.0
comp=Z,19µm,14.8s
BSD Bornholm Skovb 37.61 312⇧ iP P 06 15 28.3 -0.7
BSD i 06 15 35.9
BSD MLR MLR
comp=Z,39µm,15.0s
BSD Bornholm Skovb 37.61 312⇧ iP P 06 15 28.3 -0.7
BSD i 06 15 35.9
ZAG Zagreb 37.61 296⇧ iP P 06 15 29.9 +0.8
SRDT SRDT 37.67 124 P P 06 15 31.6 +1.6
comp=Z,234nm,1.7s,comp=Z,3µm
ARSA Arzberg 37.70 299 i P P 06 15 30.5 +0.5
comp=Z,166nm,1.4s,SNR=49
ARSA eP PP 06 16 56.7 +0.8
comp=Z,103nm,1.6s
HIA Hailar 37.71 58 eP P 06 15 31.2 +1.1
comp=Z,242nm,1.0s
HIA epP sP 06 15 36.7 -0.4
HIA LR LR
comp=Z,16µm,20.0s
HIA Hailar 37.71 58c iP P 06 15 31.1 +1.1
HIA pmax pmax
comp=Z,2µm,1.0s
HIA MLR MLR
comp=Z,82µm,18.0s
NONG Nongkai 37.73 115 P P 06 15 30.8 +0.4
comp=Z,9.1nm,1.0s,comp=Z,95nm
FASA Fasano 37.74 288 eP P 06 15 29.8 -0.5
DESE Dese 37.82 228 i P P 06 15 28.7 -2.9
DESE i S S 06 21 26.7 +4.4
DESE Dese 37.82 228 i P P 06 15 28.7 -2.9
DESE i S S 06 21 26.7 +4.4
GOPC GO Pecny, Ondr 37.87 303 eP P 06 15 31.7 +0.4
GOPC e 06 15 39.0
GOPC MLR MLR
comp=Z,21µm,17.1s
GOPC GO Pecny, Ondr 37.87 303 eP P 06 15 31.7 +0.4
GOPC epP sP 06 15 39.0 +0.5
GOPC eS ScP 06 21 37.2 +3.0
GOPC AMS AMS 06 34 10.0
comp=Z,21µm,17.1s
TAR1 Taranto 37.87 288 eP P 06 15 30.3 -1.1
MASS Massafra 37.94 288 eP P 06 15 30.0 -2.0
PVCC Panska Ves 37.95 304 eP P 06 15 32.6 +0.6
PVCC MLR MLR
comp=Z,24µm,13.8s
PVCC Panska Ves 37.95 304 eP P 06 15 32.6 +0.6
PVCC AMS AMS 06 34 10.0
comp=Z,24µm,13.8s
CRES Cresnjev 37.97 296⇧ iP P 06 15 32.7 +0.4
HAMF Hammerfest 37.99 338 eP P 06 15 32.9 +0.9
HAMF IVmB_BB 06 15 33.3
comp=Z,7µm,1.6s
HAMF eS S 06 21 24.1 +0.9
HAMF IVMs_BB IVMs_BB 06 28 38.6
comp=Z,17µm,5.7s
UDBI Udbina 38.00 294 P P 06 15 32.9 +0.2
BAI Bari 38.01 289 eP P 06 15 32.7 +0.1
PRU Pruhonice 38.02 303 eP P 06 15 33.1 +0.5
PRU e 06 15 40.5
PRU MLR MLR
comp=Z,20µm,16.7s

PRU	**Pruhonice**	**38.02 303**	*e*P		**P**	**06 15 33.1 +0.5**
PRU			*e*pP		**sP**	**06 15 40.5 +0.8**
PRU			*e*S		**ScP**	**06 21 37.5 +2.7**
PRU			AMS		AMS	06 34 10.0
	comp=Z,20μm,16.7s					
PERS	**Pernice**	**38.07 298**	*i* P		**P**	**06 15 33.7 +0.6**
PERS			*e*			06 15 41.9
SOKA	**Soboth**	**38.12 298**	*i* P		**P**	**06 15 34.2 +0.6**
	comp=Z,389nm,1.4s,SNR=101					
SOKA			*e*P		**PP**	**06 17 02.6 +2.1**
	comp=Z,132nm,1.6s					
BOJS	**Bojanci**	**38.17 296**	*i* P		**P**	**06 15 34.8 +0.9**
BOJS			*i*			06 15 43.1
SG1	**Sgolgore (BA)**	**38.22 288**	*e*P		**P**	**06 15 34.7 +0.2**
RUE	**Ruedersdorf**	**38.31 307**	*e*P		**P**	**06 15 35.0 0.0**
BRG	**Berggiesshubel**	**38.32 305**⇑	*i*P		**P**	**06 15 36.0 +0.9**
	comp=Z,299nm,1.0s					
BRG			PP		**PP**	**06 17 02.0 -0.6**
BRG			*i*			06 17 07.8
	comp=Z,397nm,1.7s					
BRG			S		**S**	**06 21 30.0 +1.3**
BRG			SS		**SnSn**	**06 24 05.0 -8.7**
BRG			*e*PKPPKP			06 49 42.6
	comp=Z,23nm,2.2s					
BRG	**Berggiesshubel**	**38.32 305**⇑	*i*P		**P**	**06 15 36.0 +0.9**
BRG			*i*			06 17 07.8
BRG			S		**S**	**06 21 30.0 +1.3**
BRG			SS		**SnSn**	**06 24 05.0 -8.7**
BRG			pmax		pmax	
	comp=Z,299nm,1.0s					
BRG			pmax		pmax	
	comp=Z,397nm,1.7s					
BRG			MLR		MLR	
	comp=N,6μm,11.9s					
BRG			MLR		MLR	
	comp=E,19μm,14.3s					
BRG			MLR		MLR	
	comp=Z,30μm,15.0s					
VISS	**Visnje**	**38.40 297**	*i* P		**P**	**06 15 36.7 +0.8**
VISS			*i*			06 15 45.0
CHAI	**Chaiyaphum**	**38.43 119**	P		**P**	**06 15 37.3 +0.9**
	comp=Z,465μm,1.2s					
MOA	**Molln**	**38.45 300**	*i* P		**P**	**06 15 36.7 +0.3**
	comp=Z,241nm,1.4s,SNR=105					
MOA			*e*P		**PP**	**06 17 05.5 +1.3**
	comp=Z,155nm,1.4s					
OBKA	**Obir**	**38.47 298**	*i* P		**P**	**06 15 37.6 +1.0**
	comp=Z,290nm,1.4s,SNR=44					
OBKA			P		**PP**	**06 17 06.9 +2.4**
	comp=Z,103nm,1.6s					
RGN	**Rugen**	**38.52 311**	*e*P		**P**	**06 15 37.6 +0.8**
	comp=Z,1μm,1.2s					
RGN			LR		LR	
	comp=Z,36μm,20.0s					
LJU	**Ljubljana**	**38.57 297**⇑	*i*P		**P**	**06 15 38.1 +0.8**
TIP	**Timpagrande**	**38.64 286**	*e*P		**P**	**06 15 37.1 -1.0**
	comp=Z,242nm,1.5s					
TIP	**Timpagrande**	**38.64 286**	P		**P**	**06 15 37.2 -0.9**
TIP	**Timpagrande**	**38.64 286**⇑	*i*P		**P**	**06 15 38.4 +0.3**
GEC2	**GERESS Array S**	**38.69 302**	*e*P		**P**	**06 15 38.8 +0.4**
	comp=Z,472nm,1.5s					
GEC2			*e*PcP		**PcP**	**06 17 51.0 +1.0**
GEC2			LR		LR	
	comp=Z,11μm,21.0s					
GEC2	**GERESS Array S**	**38.69 302**	*e*P		**P**	**06 15 38.8 +0.4**
GEC2			*e*			06 17 51.1
GEC2			pmax		pmax	
	comp=Z,472nm,1.5s					
GEC2			MLR		MLR	
	comp=Z,11μm,21.0s					
GERES	**GERESS Array B**	**38.69 302**	P		**P**	**06 15 38.9 +0.4**
	comp=Z,21nm,0.6s,baz=79,slow=6.9,SNR=98					
GERES			PP		**PP**	**06 17 06.9 0.0**
	comp=Z,27nm,1.0s,baz=69,slow=8.5,SNR=3.5					
GERES			PcP		**PcP**	**06 17 51.0 +1.0**
	comp=Z,21nm,0.9s,baz=92,slow=4.3,SNR=3.6					
GERES			LR		LR	06 35 31.8
	comp=Z,9μm,18.0s,baz=78,slow=42					
KHON	**Khomkaen**	**38.69 117**	P		**P**	**06 15 39.7 +1.1**
	comp=Z,766μm,1.1s					
KHC	**Kasperske Hory**	**38.73 302**	*e*P		**P**	**06 15 39.1 +0.5**
	comp=Z,206nm,1.5s					
KHC			LR		LR	
	comp=Z,4μm,20.0s					
KHC	**Kasperske Hory**	**38.73 302**	*e*P		**P**	**06 15 39.3 +0.6**
KHC			*e*			06 15 46.1
KHC			*e*S		**S**	**06 21 36.4 +1.3**
KHC			MLR		MLR	
	comp=Z,21μm,16.6s					
KHC	**Kasperske Hory**	**38.73 302**	*e*P		**P**	**06 15 39.3 +0.6**
KHC			*e*pP		**sP**	**06 15 46.1 +0.3**
KHC			*e*S		**S**	**06 21 36.4 +1.3**
KHC			AMS		AMS	06 34 50.0
	comp=Z,21μm,16.6s					
RIY	**Rijeka**	**38.74 296**⇑	*i*P		**P**	**06 15 38.7 0.0**
CLL	**Collm**	**38.87 306**	*e*P		**P**	**06 15 39.8 0.0**
	comp=Z,413nm,1.4s					
CLL			LR		LR	
	comp=Z,26μm,18.0s					
CLL	**Collm**	**38.87 306**⇑	*i*P		**P**	**06 15 40.0 +0.3**
CLL			*i* *SP		**sP**	**06 15 48.2 +1.3**
CLL			*i*			06 17 48.9
CLL			*e*S		**S**	**06 21 39.0 +2.0**
CLL			pmax		pmax	
	comp=Z,345nm,1.3s					
CLL			MLR		MLR	
	comp=Z,26μm,18.4s					
CLL	**Collm**	**38.87 306**⇑	*i*P		**P**	**06 15 40.0 +0.3**
	comp=Z,345nm,1.3s					
CLL			*e*pP		**pP**	**06 15 45.0 +0.2**
CLL			*i* sP		**sP**	**06 15 48.2 +1.3**
CLL			*e*PP		**PP**	**06 17 06.0 -2.7**
CLL			*e*pPP			06 17 13.0
CLL			*e*PPP		PPP	06 17 29.0
CLL			*e*			06 17 45.0
CLL			*i* PcP		**PcP**	**06 17 48.9 -1.5**
	comp=Z,607nm,2.2s					
CLL			*e*S		**S**	**06 21 39.0 +2.0**
CLL			*e*SS		**SS**	**06 24 18.0 -10**
CLL			Lm		MLR	06 34 00.0
	comp=Z,26μm,18.4s					
TIA	**Tai'an**	**38.89 79**	P		**P**	**06 15 41.0 +0.9**
TIA			pP		**sP**	**06 15 46.8 -0.3**
TIA			sP		**pP**	**06 15 49.0 +3.9**
TIA			PP		**PP**	**06 17 09.3 +0.2**
TIA			S		**S**	**06 21 39.0 +1.4**
TIA			sS		**sS**	**06 21 48.0 +2.1**
TIA			pmax		pmax	
	comp=Z,120nm,1.3s					
TIA			pmax		pmax	
	comp=Z,1μm,4.5s					
TIA			LR		LR	
	comp=Z,12μm,14.3s					
TIA			LR		LR	
	comp=Z,12μm,15.5s					
TIA			LR		LR	
	comp=Z,15μm,16.1s					
JAVS	**Javornik**	**38.92 297**	*e*P		**P**	**06 15 40.6 +0.3**
JAVS			*i*			06 15 48.7
TRO	**Tromso**	**38.98 335**	*e*P		**P**	**06 15 40.4 0.0**
TRO			IVmB_BB			06 15 41.3
	comp=Z,4μm,1.7s					
TRO			*e*PP		**PP**	**06 17 09.8 +0.3**
TRO			*e*S		**S**	**06 21 38.5 +0.4**
TRO			IVMs_BB		IVMs_BB	06 32 28.5
	comp=Z,13μm,15.3s					
ANKE	**Ethiopia-Afar**	**39.00 227**	*i* P		**P**	**06 15 42.5 +0.8**
ANKE			*i* S		S	06 21 51.5 +11
ANKE	**Ethiopia-Afar**	**39.00 227**	*i* P		**P**	**06 15 42.5 +0.8**
ANKE			*i* S		S	06 21 51.5 +11
COP	**Copenhagen**	**39.03 313**⇑	*i*P		**P**	**06 15 41.9 +0.9**
COP			*i*			06 15 49.5
COP			pmax		pmax	
	comp=Z,340nm,1.2s					
COP			MLR		MLR	
	comp=Z,20μm,18.0s					
COP	**Copenhagen**	**39.03 313**⇑	*i*P		**P**	**06 15 41.9 +0.9**
	comp=Z,340nm,1.2s					
COP			*i*			06 15 49.5
SKNT	**Sakolnakorn**	**39.05 115**	P		**P**	**06 15 41.7 +0.1**
	comp=Z,1μm,1.2s,comp=Z,11μm					
WHN	**Wuhan**	**39.06 89**⇑	*i*P		**P**	**06 15 42.5 +0.9**
WHN			pP		**sP**	**06 15 48.0 -0.6**
WHN			PP		**PnPn**	**06 17 19.5 +5.9**
WHN			S		**S**	**06 21 34.5 -5.8**
WHN			PcS		**PcS**	**06 21 41.5 +0.4**
WHN			pmax		pmax	
	comp=Z,460nm,1.1s					
WHN			pmax		pmax	
	comp=Z,2μm,10.3s					
WHN			LR		LR	
	comp=Z,4μm,8.2s					
WHN			LR		LR	
	comp=Z,27μm,14.0s					
WHN			LR		LR	
	comp=Z,37μm,17.6s					
MYKA	**Terra Mystica**	**39.07 298**	*i* P		**P**	**06 15 42.2 +0.6**
	comp=Z,196nm,1.3s,SNR=32					
MYKA			P		**PP**	**06 17 13.7 +2.7**
	comp=Z,142nm,1.9s					
PHET	**Kaeng Krachan**	**39.08 125**	P		**P**	**06 15 43.8 +2.0**
	comp=Z,598μm,0.9s					
KBA	**Koelnbreinsper**	**39.19 299**	*i* P		**P**	**06 15 43.1 +0.4**
	comp=Z,341nm,1.1s,SNR=96					
KBA			*e*P		**PP**	**06 17 15.0 +2.5**
	comp=Z,208nm,1.5s					
NKC	**Novy Kostel**	**39.33 304**	*e*P		**P**	**06 15 44.1 +0.5**
NKC			*e*			06 15 53.0
NKC			MLR		MLR	
	comp=Z,24μm,15.2s					
NKC	**Novy Kostel**	**39.33 304**	*e*P		**P**	**06 15 44.1 +0.5**
NKC			*e*pP		**sP**	**06 15 53.0 +2.2**
NKC			AMS		AMS	06 35 00.0
	comp=Z,24μm,15.2s					
PANO	**Nakornpanom**	**39.37 114**	P		**P**	**06 15 44.7 +0.4**
	comp=Z,16nm,1.2s,comp=Z,163nm					
MOR8	**Moi Rana**	**39.43 329**	*e*P		**P**	**06 15 43.9 -0.3**
MOR8			IVmB_BB			06 15 44.7
	comp=Z,8μm,1.4s					
MOR8			*e*S		**S**	**06 21 44.3 -0.8**
MOR8			IVMs_BB		IVMs_BB	06 29 11.5
	comp=Z,10μm,4.4s					
CEL	**Celeste**	**39.58 285**	*e*P		**P**	**06 15 45.8 0.0**
	comp=Z,837nm,1.6s					
STEI	**Steigen**	**39.63 332**	*e*P		**P**	**06 15 46.2 +0.4**
STEI			IVmB_BB			06 15 46.9
	comp=Z,5μm,2.6s					
STEI			*e*PP		**PP**	**06 17 17.1 +0.5**
STEI			*e*S		**S**	**06 21 48.7 +0.8**
STEI			*e*SS		**SnSn**	**06 24 44.2 -0.5**
STEI			IVMs_BB		IVMs_BB	06 33 10.6
	comp=Z,13μm,9.8s					
NC405	**NORSAR Array S**	**39.70 321**	*e*P		**P**	**06 15 46.4 -0.2**
	comp=Z,2μm,1.4s					
NC602	**NORSAR Array S**	**39.75 320**	*e*P		**P**	**06 15 46.5 -0.4**
	comp=Z,875nm,1.4s					
NC602	**NORSAR Array S**	**39.75 320**	*e*P		**P**	**06 15 46.6 -0.4**
NC602			*e*S		**S**	**06 21 49.1 -0.9**
CIMA	**Civitanova Mar**	**39.75 293**	P		P	06 15 53.3 +6.2
ABTA	**Abfaltersbach**	**39.81 298**	*i* P		**P**	**06 15 47.4 -0.3**
	comp=Z,89nm,1.3s,SNR=41					
ABTA			*e*P		**PP**	**06 17 21.4 +2.3**
	comp=Z,234nm,2.3s					
NC303	**NORSAR Array S**	**39.88 321**	*e*P		**P**	**06 15 48.1 0.0**
	comp=Z,1μm,1.3s					
NB201	**NORSAR Array S**	**39.90 321**	*e*P		**P**	**06 15 47.9 -0.3**
	comp=Z,2μm,1.5s					
NB201			*e*pP		**sP**	**06 15 55.8 +0.3**
NB2	**NORSAR Subarra**	**39.94 321**	P		**P**	**06 15 48.1 -0.5**
	comp=Z,1μm,1.7s,baz=95,slow=8.6					
NB2	**NORSAR Subarra**	**39.94 321**	P		**P**	**06 15 48.1 -0.5**
	baz=95,slow=8.6					
NB200	**NORSAR Array S**	**39.94 321**	*e*P		**P**	**06 15 48.5 -0.1**
NOA	**NORSAR Array B**	**39.94 321**	P		**P**	**06 15 48.5 -0.1**
	comp=Z,18nm,0.4s,baz=91,slow=7.6,SNR=281					
NOA			LR		LR	06 33 20.8
	comp=Z,16μm,21.3s,baz=95,slow=38					
KONS	**Konsvik**	**40.03 330**	*e*P		**P**	**06 15 49.6 +0.5**
KONS			IVmBBB			06 15 50.4
	comp=Z,5μm,1.4s					
KONS			*e*S		**S**	**06 21 54.5 +0.6**
STOK	**Stokkvaagen**	**40.03 329**	*e*P		**P**	**06 15 49.9 +0.7**
NAO01	**NORSAR Array S**	**40.08 321**	*e*P		**P**	**06 15 48.9 -0.8**
	comp=Z,988nm,1.4s					
NAO01			*e*pP		**sP**	**06 15 56.1 -0.8**
NSS	**Namsos**	**40.08 326**	*e*P		**P**	**06 15 49.4 -0.2**
NSS			IVmB_BB			06 15 50.3
	comp=Z,3μm,3.0s					
NSS			*e*PP		**PP**	**06 17 21.6 0.0**
NSS			*e*S		**S**	**06 21 55.4 +0.6**
NSS			IVMs_BB		IVMs_BB	06 32 57.1
	comp=Z,11μm,12.8s					
OSL	**Oslo**	**40.09 319**	*e*P		**P**	**06 15 50.2 +0.5**
NBO00	**NORSAR Array S**	**40.15 321**	*e*P		**P**	**06 15 49.9 -0.4**
	comp=Z,918nm,1.3s					
FURI	**Furi**	**40.17 227**	PFAKE			06 16 00.0 +8.8
FURI			LR		LR	
	comp=Z,14μm,19.0s					
NC204	**NORSAR Array S**	**40.18 321**	*e*P		**P**	**06 15 50.5 -0.1**
	comp=Z,906nm,1.2s					
NC204			*e*pP		**sP**	**06 15 57.7 -0.1**
AQU	**L'Aquila**	**40.19 292**	*e*P		**P**	**06 15 50.9 0.0**
	comp=Z,207nm,1.1s					
AQU			LR		LR	
	comp=Z,7μm,21.0s					
AQU	**L'Aquila**	**40.19 292**	*e*P		**P**	**06 15 50.9 0.0**
AQU			pmax		pmax	
	comp=Z,207nm,1.1s					
AQU			MLR		MLR	
	comp=Z,7μm,21.0s					
AQU	**L'Aquila**	**40.19 292**⇑	*i*P		**P**	**06 15 51.5 +0.6**
GRA1	**Grafenberg Arr**	**40.19 303**	*e*P		**P**	**06 15 51.9 +1.2**
	comp=Z,717nm,1.4s					
GRA1			LR		LR	
	comp=Z,15μm,18.0s					
GRF	**Grafenberg Arr**	**40.19 303**	*e*P		**P**	**06 15 51.9 +1.2**
GRF			pmax		pmax	
	comp=Z,717nm,1.4s					
GRF			MLR		MLR	
	comp=Z,15μm,18.0s					
GRFO	**Grafenberg**	**40.19 303**	*e*P		**P**	**06 15 52.1 +1.4**
	comp=Z,653nm,1.4s					
GRFO			LR		LR	
	comp=Z,17μm,18.0s					
GRFO	**Grafenberg**	**40.19 303**	*e*P		**P**	**06 15 52.1 +1.4**
GRFO			pmax		pmax	
	comp=Z,653nm,1.4s					
GRFO			MLR		MLR	
	comp=Z,17μm,18.0s					
FDMO	**Fiordimonte**	**40.23 293**	P		**P**	**06 15 52.0 +0.8**
LOF	**Lofoten**	**40.30 332**	*e*P		**P**	**06 15 50.9 -0.4**
LOF			IVmB_BB			06 15 51.9
	comp=Z,3μm,1.4s					
LOF			*e*PP		**PP**	**06 17 24.3 +0.3**
LOF			*e*S		**S**	**06 21 58.5 +0.6**
LOF			IVMs_BB		IVMs_BB	06 32 59.9
	comp=Z,10μm,12.5s					
WTTA	**Wattenberg**	**40.31 299**	*i* P		**P**	**06 15 51.8 -0.2**
	comp=Z,350nm,1.4s,SNR=91					
WTTA			*e*P		**PP**	**06 17 26.3 +1.7**
	comp=Z,424nm,1.9s					
WATA	**Walderalm**	**40.33 300**	*i* P		**P**	**06 15 51.5 -0.6**
	comp=Z,237nm,1.3s,SNR=64					
WATA			*e*P		**PP**	**06 17 25.9 +1.1**
	comp=Z,106nm,1.1s					
FOSV	**Fossato di Vic**	**40.40 293**	P		**P**	**06 15 53.0 +0.4**
SQTA	**Sankt Quirin**	**40.60 299**	*i* P		**P**	**06 15 54.0 -0.4**
	comp=Z,260nm,1.2s,SNR=79					
SQTA			*e*P		**PP**	**06 17 29.2 +1.4**
	comp=Z,356nm,1.5s					
TBLU	**Trondheim**	**40.63 324**	*e*P		**P**	**06 15 54.2 -0.1**
TBLU			IVmBBB			06 15 55.0
	comp=Z,4μm,1.8s					
TBLU			*e*S		**S**	**06 22 02.6 -0.5**
TBLU			*e*SS		**SS**	**06 25 02.9 -0.1**
TBLU			IVMs_BB		IVMs_BB	06 33 15.9
	comp=Z,17μm,17.2s					
KONO	**Kongsberg**	**40.64 319**	*e*P		**P**	**06 15 54.2 -0.1**
	comp=Z,244nm,1.2s					
KONO			LR		LR	
	comp=Z,24μm,20.0s					
KONO	**Kongsberg**	**40.64 319***c*	*i*P		**P**	**06 15 54.1 -0.3**
KONO			pmax		pmax	
	comp=Z,349nm,1.7s					
KONO			MLR		MLR	
	comp=Z,19μm,16.0s					
KONO	**Kongsberg**	**40.64 319**	*e*P		**P**	**06 15 54.3 -0.1**
KONO			IAmb		IAmb	06 15 55.6
	comp=Z,248nm,1.2s					
KONO			*e*PP		**PP**	**06 17 27.4 -0.5**
KONO			*e*S		**S**	**06 22 03.6 +0.3**
KONO			IVMs_BB		IVMs_BB	06 33 24.7
	comp=Z,17μm,13.0s					
MOTA	**Moosalm**	**40.65 300**	*i* P		**P**	**06 15 53.1 -1.7**
	comp=Z,144nm,1.0s,SNR=70					
MUD	**Monsted U'grnd**	**40.85 314**⇑	*i*P		**P**	**06 15 56.8 +0.8**
MUD			pmax		pmax	
	comp=Z,470nm,1.3s					
MUD			MLR		MLR	
	comp=Z,34μm,14.0s					
MUD	**Monsted U'grnd**	**40.85 314**⇑	*i*P		**P**	**06 15 56.8 +0.8**
	comp=Z,468nm,1.3s					
RETA	**Reutte**	**40.85 300**	*i* P		**P**	**06 15 56.1 -0.2**
	comp=Z,180nm,1.5s,SNR=50					
RETA			*e*P		**PP**	**06 17 31.4 +1.0**
	comp=Z,204nm,1.6s					
CAFI	**Castiglion Fio**	**40.95 293**	P		**P**	**06 15 58.0 +0.8**
FETA	**Feichten**	**40.96 299**	*i* P		**P**	**06 15 56.9 -0.5**
	comp=Z,198nm,1.2s,SNR=91					
FETA			*e*P		**PP**	**06 17 32.3 +0.6**
	comp=Z,201nm,1.5s					
HOPEN	**Hopen**	**40.98 346**	*e*P		**P**	**06 15 57.4 +0.4**
HOPEN			IVmB_BB			06 15 59.2
	comp=Z,7μm,1.6s					
HOPEN			*e*PP		**PP**	**06 17 31.8 +0.5**
HOPEN			*e*SS		SS	06 25 10.9 +1.2
HOPEN			IVMs_BB		IVMs_BB	06 34 49.9
	comp=Z,11μm,11.5s					
DOMB	**Dombas**	**41.05 322**	*e*P		**P**	**06 15 58.4 +0.6**
DOMB			IVmB_BB			06 15 58.8
	comp=Z,4μm,1.7s					
DOMB			*e*PP		**PP**	**06 17 32.1 -0.2**
DOMB			*e*S		**S**	**06 22 09.5 0.0**
DOMB			*e*SS		**SS**	**06 25 08.5 -3.0**
DOMB			IVMs_BB		IVMs_BB	06 33 18.0
	comp=Z,18μm,10.7s					
BJO	**Bjornoya**	**41.09 342**	*e*P		**P**	**06 15 58.4 +0.5**
BJO			IVmB_BB			06 15 59.1
	comp=Z,6μm,1.6s					
BJO			*e*PP		**PP**	**06 17 33.8 +1.3**
BJO			*e*S		**S**	**06 22 10.4 +0.7**
BJO			IVMs_BB		IVMs_BB	06 34 11.2
	comp=Z,11μm,16.2s					
HOMB	**Homborsund**	**41.18 317**	*e*P		**P**	**06 15 59.0 +0.3**
HOMB			IVmBBB			06 15 59.7
	comp=Z,4μm,1.7s					
HOMB			*e*PP		**PP**	**06 17 32.4 -1.3**
HOMB			*e*S		**S**	**06 22 11.7 +0.4**
HOMB			IVMs_BB		IVMs_BB	06 35 56.9
	comp=Z,21μm,14.5s					
DL2	**Dalian**	**41.33 73**⇑	*i*P		**P**	**06 16 01.0 +0.8**
DL2			PP		**PP**	**06 17 34.5 -1.1**
DL2			S		**S**	**06 22 14.5 +0.5**
DL2			SS		**SS**	**06 25 13.8 -3.7**
DL2			pmax		pmax	
	comp=Z,110nm,1.3s					
DL2			pmax		pmax	
	comp=Z,790nm,4.9s					
DL2			LR		LR	
	comp=Z,8μm,15.5s					
DL2			LR		LR	
	comp=Z,9μm,15.9s					
DL2			LR		LR	
	comp=Z,14μm,17.3s					
SKAR	**Skarslia**	**41.33 320**	*e*P		**P**	**06 16 00.7 +0.6**
SKAR			IVmBBB			06 16 02.0
	comp=Z,3μm,1.5s					
SKAR			*e*PP		**PP**	**06 17 35.2 -0.2**
SKAR			*e*S		**S**	**06 22 14.9 +1.2**
SKAR			IVMs_BB		IVMs_BB	06 33 51.0
	comp=Z,14μm,11.0s					
FUORN	**Ofenpass-Fuorn**	**41.36 299**	*e*P		**P**	**06 16 00.3 -0.4**
	comp=Z,304nm,1.4s					
DAVA	**Damuels**	**41.48 300**	*i* P		**P**	**06 16 01.4 -0.2**
	comp=Z,378nm,1.2s,SNR=136					
DAVA			*e*P		**PP**	**06 17 37.9 +0.6**
	comp=Z,295nm,1.6s					
STU	**Stuttgart**	**41.64 302**	*e*P		**P**	**06 16 03.3 +0.5**
	comp=Z,306nm,1.4s					
STU	**Stuttgart**	**41.64 302**	*e*P		**P**	**06 16 03.3 +0.5**
STU			pmax		pmax	
	comp=Z,306nm,1.4s					
CLTB	**Caltabellotta**	**41.80 285**	*e*P		**P**	**06 16 03.0 -1.3**
	comp=Z,284nm,1.4s					
MOL	**Molde**	**41.80 323**	*e*P		**P**	**06 16 04.3 +0.5**
MOL			IVmB_BB			06 16 05.3
	comp=Z,4μm,2.5s					
MOL			IVmBBB			06 16 12.6
	comp=Z,3μm,3.7s					
MOL			*e*PP		**PP**	**06 17 39.2 -1.1**
MOL			*e*S		**S**	**06 22 21.3 +0.9**
MOL			IVMs_BB		IVMs_BB	06 33 58.1
	comp=Z,16μm,12.1s					
SNY	**Shenyang**	**41.84 69** ⇑	P		**P**	**06 16 04.5 +0.1**
SNY			S		**S**	**06 22 21.8 +0.3**
SNY			pmax		pmax	
	comp=Z,99nm,1.9s					
SNY			pmax		pmax	
	comp=Z,1μm,8.9s					
SNY			LR		LR	
	comp=Z,12μm,19.6s					
SNY			LR		LR	
	comp=Z,22μm,19.6s					
SNY			LR		LR	
	comp=Z,32μm,21.1s					
VLC	**Villacollemand**	**41.84 295**	*e*P		**P**	**06 16 04.7 +0.3**
	comp=Z,552nm,1.4s					
NJ2	**Nanjing**	**41.85 84**⇑	*i*P		**P**	**06 16 05.3 +0.7**
NJ2			pP		**sP**	**06 16 11.8 +0.1**
NJ2			sP		**pP**	**06 16 14.3 +4.6**
NJ2			PP		**PnPn**	**06 17 48.3 +1.9**
NJ2			S		**S**	**06 22 22.3 +0.4**
NJ2			pmax		pmax	
	comp=Z,110nm,1.1s					
NJ2			pmax		pmax	
	comp=Z,760nm,6.5s					
NJ2			LR		LR	
	comp=Z,7μm,8.7s					
NJ2			LR		LR	
	comp=Z,13μm,16.3s					
NJ2			LR		LR	
	comp=Z,17μm,19.5s					
SNART	**Snartemo**	**41.87 317**	*e*P		**P**	**06 16 04.8 +0.4**
SNART			*e*PP		**PP**	**06 17 41.1 +0.1**
QIZ	**Qiongzhong**	**41.91 107**	P		**P**	**06 16 06.0 +0.8**
QIZ			sP		**pP**	**06 16 10.5 +0.3**
QIZ			PP		**PnPn**	**06 17 48.8 +1.5**
QIZ			S		**S**	**06 22 22.5 -0.4**
QIZ			pmax		pmax	
	comp=Z,98nm,1.4s					
QIZ			LR		LR	
	comp=Z,6μm,12.3s					
QIZ			LR		LR	
	comp=Z,5μm,15.7s					
QIZ			LR		LR	
	comp=Z,9μm,14.1s					
QIZ	**Qiongzhong**	**41.91 107**	*e*P		**P**	**06 16 04.9 -0.3**
	comp=Z,293nm,1.1s					
ZEA	**Zeya**	**41.92 50***c*	*e*P		**P**	**06 16 06.7 +1.8**
ZEA			*e*			06 17 45.0
ZEA			*e*			06 17 58.0
ZEA			*e*S		**S**	**06 22 21.0 -1.4**
ZEA			pmax		pmax	
	comp=N,110nm,1.2s					
ZEA			pmax		pmax	
	comp=E,260nm,1.4s					
ZEA			pmax		pmax	
	comp=Z,550nm,1.4s					
ZEA			pmax		pmax	
	comp=Z,2μm,9.0s					
ZEA			pmax		pmax	
	comp=E,700nm,10.0s					
ZEA			pmax		pmax	
	comp=E,700nm,8.0s					
ZEA			pmax		pmax	
	comp=Z,900nm,8.0s					
ZEA			smax		smax	
	comp=N,1μm,12.0s					
ZEA			smax		smax	
	comp=E,2μm,12.0s					
ZEA			MLR		MLR	
	comp=E,17μm,13.0s					
ZEA			MLR		MLR	
	comp=Z,30μm,13.0s					
ZEA			MLR		MLR	
	comp=N,10μm,12.0s					
TUE	**Stuetta**	**42.01 299**	*e*P		**P**	**06 16 05.4 -0.6**

comp=N,317nm,1.6s
AKN Aaknes 42.03 322 *e*P P 06 16 06.2 +0.4
AKN IVmB_BB 06 16 07.3
comp=Z,2μm,1.6s
AKN *e*PP **PP 06 17 43.1 +0.2**
AKN *e*S **S 06 22 24.2 +0.2**
AKN IVMs_BB IVMs_BB 06 33 50.9
comp=Z,19μm,11.5s
GZH Guangzhou 42.10 99 P **P 06 16 05.3 -1.5**
GZH S **S 06 22 21.5 -4.3**
GZH ScS **ScS 06 26 05.5 -3.4**
GZH LR LR
comp=Z,8μm,12.8s
GZH LR LR
comp=Z,13μm,12.0s
ODD1 Odda 42.15 319 *e*P P 06 16 07.0 +0.2
ODD1 IVmBBB 06 16 08.8
comp=Z,5μm,1.5s
PKDT Phuket 42.21 131 P **P 06 16 09.0 +1.3**
comp=Z,267nm,1.4s,comp=Z,3μm
BLS5 Blasjo 42.24 318 *e*P P 06 16 08.4 +0.9
BLS5 IVmB_BB 06 16 09.2
comp=Z,4μm,1.8s
BLS5 *e*PP **PP 06 17 44.9 -0.3**
BLS5 *e*S **S 06 22 27.4 +0.3**
BLS5 IVMs_BB IVMs_BB 06 34 24.5
comp=Z,13μm,11.8s
BFO Black Forest 42.29 302 *e*P P 06 16 08.2 +0.1
comp=Z,205nm,1.3s
BFO Black Forest 42.29 302 *i*P P 06 16 08.2 +0.1
HYA Hoyanger 42.38 321 *e*P P 06 16 09.7 +1.1
HYA IVmB_BB 06 16 09.9
comp=Z,3μm,1.7s
HYA *e*PP **PP 06 17 46.6 0.0**
HYA *e*SS SS 06 25 39.4 +1.8
CN2 Changchun 42.61 65⇑*i*P P 06 16 11.0 +0.3
CN2 *e*pP sP 06 16 17.3 -0.4
CN2 *e*PP **PP 06 17 52.8 +3.4**
CN2 PcP **PcP 06 18 02.8 +0.1**
CN2 ScP **ScP 06 21 51.8 -1.0**
CN2 *e*S **S 06 22 32.0 -0.8**
CN2 *e*SS **SS 06 25 38.5 -4.2**
CN2 pmax pmax
comp=Z,80nm,1.2s
CN2 pmax pmax
comp=Z,1μm,9.0s
CN2 LR LR
comp=Z,13μm,13.0s
CN2 LR LR
comp=Z,6μm,13.0s
CN2 LR LR
comp=Z,16μm,13.0s
WTSB Winterswijk 42.63 307 *e*P P 06 16 11.2 +0.5
comp=Z,2μm,2.0s
WTSB *e*pP **sP 06 16 19.2 +1.2**
WTSB *e*PP **PP 06 17 48.9 -0.6**
BER Bergen 42.80 320 *e*P P 06 16 12.4 +0.4
BER IVmB_BB 06 16 13.2
comp=Z,3μm,1.7s
BER *e*PP **PP 06 17 51.3 +0.2**
BER *e*S **S 06 22 34.6 -0.6**
BER *e*SS **SS 06 25 47.6 +1.7**
BER IVMs_BB IVMs_BB 06 34 47.1
comp=Z,17μm,9.7s
KMY Karmoy 42.87 318 *e*P P 06 16 12.7 +0.2
KMY IVmBBB 06 16 14.1
comp=Z,3μm,1.0s
KMY IVmB_BB 06 16 14.1
comp=Z,3μm,1.4s
KMY *e*PP **PP 06 17 51.9 +0.1**
KMY *e*S **S 06 22 36.5 +0.3**
KMY IVMs_BB IVMs_BB 06 31 24.9
comp=Z,7μm,5.1s
ASK Askoy 42.87 320 *e*P P 06 16 12.9 +0.4
YAK Yakutsk 42.88 38*c*i*P P 06 16 12.6 0.0
YAK *e* 06 17 50.1
YAK *e*S **S 06 22 32.3 -4.0**
YAK *e**SS **sS 06 22 46.0 +1.4**
YAK *e*SS **SS 06 25 40.7 -6.7**
YAK *e* 06 26 04.9
YAK pmax pmax
comp=N,241nm,1.0s
YAK pmax pmax
comp=E,2μm,1.1s
YAK pmax pmax
comp=Z,890nm,1.3s
YAK pmax pmax
comp=N,645nm,1.3s
YAK pmax pmax
comp=E,470nm,1.4s
YAK smax smax
comp=N,2μm,2.0s
YAK smax smax
comp=E,2μm,2.0s
YAK MLR MLR
comp=Z,102μm,14.0s
YAK MLR MLR
comp=N,28μm,15.0s
YAK MLR MLR
comp=E,87μm,16.0s
TRTT Trang 43.05 129 P **P 06 16 15.2 +0.7**
comp=E,250nm,1.5s,comp=E,3μm
SUE Sulen 43.08 321 *e*P P 06 16 13.7 -0.5
SUE IVmBBB 06 16 15.3
comp=Z,3μm,1.6s
SUE *e*PP **PP 06 17 54.4 +0.4**
SUE *e*S **S 06 22 39.8 +0.6**
SUE *e*SS **SS 06 25 53.0 +1.8**
SUE IVMs_BB IVMs_BB 06 34 46.8
comp=Z,10μm,15.8s
ECH Echery 43.08 302 *e*P P 06 16 14.4 -0.1
comp=Z,92nm,1.3s
ECH Echery 43.08 302 *e*P P 06 16 14.4 -0.1
ECH pmax pmax
comp=Z,92nm,1.3s
HSPB Hornsund (broa 43.09 345 *e*P P 06 16 15.3 +1.2
HSPB MLR MLR
comp=Z,94μm,16.8s
HSPB Hornsund (broa 43.09 345 *e*P P 06 16 14.9 +0.8
HSPB IVmB_BB 06 16 16.0
comp=Z,5μm,1.6s
HSPB *e*PP **PP 06 17 54.4 +0.5**
HSPB *e*S **S 06 22 41.0 +1.9**
HSPB IVMs_BB IVMs_BB 06 36 01.0
comp=Z,7μm,12.8s
HKPS Hong Kong Po S 43.17 100 *e*P P 06 16 16.5 +1.1
HKPS *e*pP **sP 06 16 21.9 -0.6**
HKPS LR LR
comp=Z,16μm,18.0s
HKC Hong Kong Obse 43.18 100⇑P P 06 16 17.0 +1.5
MEM Membach 43.35 305⇑P P 06 16 17.1 +0.5
comp=Z,126nm,1.6s
HGN Heimansgroeve 43.37 306 *e*P P 06 16 16.9 +0.2
comp=Z,712nm,2.2s
HGN *e*pP **sP 06 16 25.0 +1.1**
HGN *e*PP **PP 06 17 57.1 -0.3**
HGN *e*S S 06 23 05.3 +21
SENIN Lac Senin/Sane 43.41 299 *e*P P 06 16 16.6 -0.7
comp=Z,408nm,1.4s
SENIN LR LR
comp=Z,8μm,20.0s
WLF Walferdange 43.44 304 *e*P P 06 16 18.1 +0.8
comp=Z,2μm,1.3s
WLF LR LR
comp=Z,50μm,18.0s
WLF Walferdange 43.44 304 *e*P P 06 16 18.1 +0.8
WLF pmax pmax
comp=Z,2μm,1.3s
WLF MLR MLR
comp=Z,50μm,18.0s
WLF Walferdange 43.44 304⇓P P 06 16 18.1 +0.8
comp=Z,231nm,1.7s
WLF ⇑PP **PP 06 17 58.7 +0.5**
SPA0 Spitsbergen Ar 43.49 347 *e*P P 06 16 18.3 +0.9
comp=Z,677nm,1.3s
SPA0 Spitsbergen Ar 43.49 347 *e*P P 06 16 18.0 +0.6
SPA0 *e*PP **PP 06 17 59.2 +0.8**
BEBN Eben Emael 43.52 306⇑P P 06 16 18.3 +0.4
BEBN ⇑PP **PP 06 17 58.1 -0.9**
LHMI Lhok Sumawe 43.60 135 P **P 06 16 19.9 +0.9**
comp=Z,242nm,0.6s
TIXI Tiksi 43.69 24 *e*P P 06 16 19.2 +0.2
comp=Z,420nm,1.0s
TIXI LR LR
comp=Z,15μm,20.0s
TIXI Tiksi 43.69 24*c*i*P P 06 16 19.2 +0.2
TIXI pmax pmax
comp=Z,539nm,1.1s
TIXI MLR MLR
comp=Z,11μm,20.0s
BCLA Clavier 43.83 305⇑P P 06 16 20.7 +0.3
comp=Z,54nm,1.6s
BCLA ⇑PP **PP 06 18 06.3 +4.1**
SSE Sheshan 44.06 84 P **P 06 16 24.0 +1.5**
SSE S **S 06 22 55.5 +1.2**
SSE pmax pmax
comp=Z,77nm,1.1s
SSE pmax pmax
comp=Z,490nm,8.0s
SSE LR LR
comp=Z,3μm,16.9s
SSE Sheshan 44.06 84 *e*P P 06 16 23.1 +0.6
comp=Z,214nm,1.1s
SSE *e*pP **sP 06 16 28.7 -0.9**
SSE LR LR
comp=Z,14μm,19.0s
SKLT Songkhla 44.13 129 P **P 06 16 23.9 +0.7**
comp=Z,145nm,1.2s,comp=Z,2μm
BNI Bardonecchia 44.16 297 *e*P P 06 16 23.4 0.0
comp=Z,614nm,1.5s
BNI LR LR
comp=Z,7μm,20.0s
BNI Bardonecchia 44.16 297 *e*P P 06 16 23.4 0.0
BNI pmax pmax
comp=Z,614nm,1.5s
BNI MLR MLR
comp=Z,7μm,20.0s
DOU Dourbes 44.34 305⇑P P 06 16 24.9 +0.4
comp=Z,107nm,2.3s
DOU ⇑PP **PP 06 18 06.8 -1.0**
UCC Uccle 44.34 306 *e*P P 06 16 24.6 +0.1
comp=Z,109nm,1.2s
UCC LR LR
comp=Z,15μm,20.0s
UCC Uccle 44.34 306 *e*P P 06 16 24.6 +0.1
UCC pmax pmax
comp=Z,109nm,1.2s
UCC MLR MLR
comp=Z,15μm,20.0s
UCC Uccle 44.34 306⇑P P 06 16 24.6 +0.1
UCC ⇓PP **PP 06 18 09.2 +1.4**
SNF Seneffe 44.45 306⇑P P 06 16 25.7 +0.3
comp=Z,148nm,1.9s
SNF ⇑PP **PP 06 18 09.9 +1.0**
KBS Kingsbay 44.63 347 *e*P P 06 16 27.2 +0.8
comp=Z,679nm,1.2s
KBS LR LR
comp=Z,16μm,20.0s
KBS Kingsbay 44.63 347*c*i*P P 06 16 27.2 +0.8
KBS pmax pmax
comp=Z,3μm,1.2s
KBS Kingsbay 44.63 347 *e*P P 06 16 27.3 +0.8
KBS IVmB_BB 06 16 28.2
comp=Z,6μm,1.5s
KBS *e*PP **PP 06 18 11.1 +0.7**
KBS *e*S **S 06 23 02.9 +1.4**
KBS *e*SS **ScS 06 26 24.4 +1.4**
KBS IVMs_BB IVMs_BB 06 37 10.3
comp=Z,8μm,12.4s
QZH Quanzhou 45.09 93⇑*i*P P 06 16 31.5 +0.6
QZH PP **PP 06 18 18.5 +2.2**
QZH S **S 06 23 08.3 -1.2**
QZH pmax pmax
comp=Z,59nm,0.9s
QZH pmax pmax
comp=Z,600nm,3.2s
QZH LR LR
comp=Z,8μm,14.7s
QZH LR LR
comp=Z,9μm,15.0s
QZH LR LR
comp=Z,11μm,15.6s
KNMB Chin-men Tao 45.20 94 *e*P P 06 16 31.7 0.0
KNMB *e*pP **pP 06 16 36.9 +0.2**
KNMB LR LR
comp=Z,11μm,19.0s
MDJ Mudanjiang 45.24 63 P **P 06 16 32.3 +0.5**
MDJ ScP **ScP 06 22 00.5 -3.1**
MDJ S **S 06 23 08.3 -3.0**
MDJ ScS **ScS 06 26 22.5 -5.5**
MDJ pmax pmax
comp=Z,89nm,1.7s
MDJ LR LR
comp=Z,14μm,15.3s
MDJ LR LR
comp=Z,15μm,17.5s
MDJ LR LR
comp=Z,22μm,17.2s
MDJ Mudanjiang 45.24 63 *e*P P 06 16 32.3 +0.5
comp=Z,83nm,0.8s
MDJ LR LR
comp=Z,17μm,18.0s
KEST Kesra 45.38 284 *e*P P 06 16 33.8 +0.7
comp=Z,725nm,1.3s
KEST *e*pP **sP 06 16 39.5 -0.8**
KEST Kesra 45.38 284 P **P 06 16 33.9 +0.7**
comp=Z,232nm,1.0s,baz=45,slow=5.3,SNR=113
KLR Kul'dur 45.46 56*c*i*P P 06 16 34.4 +0.9
KLR pmax pmax
comp=Z,343nm,1.0s
KLR MLR MLR
comp=Z,21μm,17.0s
SSB Saint Sauveur 45.55 298 *e*P P 06 16 34.5 +0.1
comp=Z,372nm,1.3s
SSB Saint Sauveur 45.55 298 *e*P P 06 16 34.5 +0.1
SSB pmax pmax
comp=Z,372nm,1.3s
KULM Kulim 45.65 130 *e*P P 06 16 35.1 -0.3
comp=Z,232nm,1.6s
KULM Kulim 45.65 130 P **P 06 16 36.0 +0.7**
DLV T Lat 45.67 116 *e*P P 06 16 36.4 +0.7
DLV *e*pP **sP 06 16 41.9 -0.8**
MSEY Mahe Island 45.75 197 *e*P P 06 16 36.3 +0.2
comp=Z,188nm,1.1s
MSEY LR LR
comp=Z,6μm,21.0s
MSEY Mahe Island 45.75 197 *e*P P 06 16 36.3 +0.2
MSEY pmax pmax
comp=Z,188nm,1.1s
MSEY MLR MLR
comp=Z,6μm,21.0s
MSEY Mahe Island 45.75 197 P **P 06 16 37.8 +1.7**
SNR=5.2
MSEY P **P 06 16 37.8 +1.7**
SNR=5.2
LRW Lerwick 46.05 320⇑*i*P P 06 16 37.8 -0.2
LRW IAmb IAmb 06 16 39.2
comp=Z,477nm,1.3s
LRW IAMs_20 IAMs_20 06 37 02.3
comp=Z,31μm,15.3s
WACR West Acre 46.23 309⇑*i*P P 06 16 39.1 -0.3
WACR IAmb IAmb 06 16 40.8
comp=Z,1μm,1.3s
WACR IAMs_20 IAMs_20 06 40 24.2
comp=Z,24μm,14.7s
ELSH Elham, Standar 46.26 307⇑*i*P P 06 16 40.3 +0.5
ELSH IAmb IAmb 06 16 41.4
comp=Z,1μm,1.3s
ELSH IAMs_20 IAMs_20 06 39 24.9
comp=Z,21μm,17.8s
CLF Chambon-Foret 46.31 303 *e*P P 06 16 39.8 -0.4
comp=Z,563nm,1.4s
CLF LR LR
comp=Z,14μm,19.0s
CMAH Djebel Manchou 46.45 286 P **P 06 16 41.7 +0.1**
KS15 Wonju Array Si 46.45 73 *e*P P 06 16 41.5 +0.1
comp=Z,218nm,1.3s
KS15 *e*PcP **PcP 06 18 15.8 -0.2**
KS15 *e*ScP **ScP 06 22 09.1 +0.4**
KSRS Korea Array 46.48 73 P **P 06 16 42.1 +0.5**
comp=Z,86nm,0.9s,baz=283,slow=6.5,SNR=187
KSRS PcP **PcP 06 18 16.2 +0.2**
comp=Z,41nm,0.9s,baz=292,slow=3.1,SNR=7.1
KSRS ScP **ScP 06 22 06.9 -1.9**
comp=Z,24nm,1.3s,baz=293,slow=3.9,SNR=5.7
KSRS LR LR 06 38 13.5
comp=Z,8μm,18.2s,baz=292,slow=39
TJN Taejon 46.48 74*c*i*P P 06 16 41.0 -0.7
IPM Ipoh 46.52 131 *e*P P 06 16 41.6 -0.6
comp=Z,291nm,0.6s
ABSA Djebel Ababsia 46.55 286 P **P 06 16 43.1 +0.7**
LMK Market Rasen 46.64 310⇑*i*P P 06 16 42.8 +0.1
LMK IAmb IAmb 06 16 44.1
comp=Z,655nm,1.4s
LMK IAMs_20 IAMs_20 06 41 09.5
comp=Z,22μm,13.8s
PSI Prapat 46.70 134 *e*P P 06 16 42.9 -0.8
PSI *e*pP **pP 06 16 48.5 -0.4**
PSI LR LR
comp=Z,7μm,21.0s
PSI Prapat 46.70 134 *e*P P 06 16 42.9 -0.8
PSI *e**PP **pP 06 16 48.5 -0.4**
PSI MLR MLR
comp=Z,7μm,21.0s
GDLE Glaisdale, N Y 46.73 312⇑*e*P P 06 16 42.8 -0.5
GDLE IAmb IAmb 06 16 44.8
comp=Z,525nm,1.3s
GDLE IAMs_20 IAMs_20 06 40 06.9
comp=Z,21μm,14.2s
CAEH 'Ain El Ouahch 46.81 286 P **P 06 16 45.1 +0.8**
HMNX Herstmonceux 46.82 307⇑*i*P P 06 16 44.2 +0.1
HMNX IAmb IAmb 06 16 45.5
comp=Z,596nm,1.4s
MSHR Mys Shultsa 46.96 65*c*i*P P 06 16 46.4 +1.1
USA0B Ussuriysk Arra 47.01 63 *e*P P 06 16 45.7 0.0
comp=Z,238nm,1.1s
USA0B LR LR
comp=Z,15μm,20.0s
USRK Ussuriysk Ar. 47.01 63 P **P 06 16 46.7 +1.0**
comp=Z,116nm,1.1s,baz=270,slow=6.6,SNR=70
USRK LR LR 06 38 43.5
comp=Z,14μm,18.2s,baz=277,slow=39
CKFL Kef-Lekhel 47.06 286 P **P 06 16 46.3 -0.1**
DRUM Mains of Drumt 47.19 315⇑*i*P P 06 16 46.8 -0.1
DRUM IAmb IAmb 06 16 48.2
comp=Z,356nm,1.2s
GSI Gunungsitoli 47.23 137 *e*P P 06 16 47.9 +0.2
GSI *e*pP **pP 06 16 53.1 +0.2**
GSI Gunungsitoli 47.23 137 P **P 06 16 48.6 +0.9**
comp=Z,568nm,1.6s
CASM Ain Smara 47.28 286 P **P 06 16 47.8 -0.3**
HPK Haverah Park 47.29 311⇑*i*P P 06 16 47.8 +0.1
HPK IAmb IAmb 06 16 49.0
comp=Z,764nm,1.3s
HPK IAMs_20 IAMs_20 06 40 33.3
comp=Z,15μm,13.2s
EDMD Edmundbyers 47.30 313⇑*i*P P 06 16 47.6 -0.2
EDMD IAmb IAmb 06 16 49.2
comp=Z,618nm,1.3s
EDMD IAMs_20 IAMs_20 06 38 39.0
comp=Z,17μm,22.2s
TATO Taipei 47.30 91 PFAKE 06 17 00.0 +12
TATO LR LR
comp=Z,11μm,21.0s
DGAR Diego Garcia 47.35 173 PFAKE 06 17 00.0 +11
DGAR LR LR
comp=Z,9μm,19.0s
CWF Charnwood Fore 47.37 310⇑*i*P P 06 16 47.9 -0.5
CWF IAmb IAmb 06 16 49.4
comp=Z,284nm,1.3s
CWF IAMs_20 IAMs_20 06 39 40.6
comp=Z,23μm,16.9s
YHNB Yeheng 47.38 92 *e*P P 06 16 50.2 +1.2
comp=Z,203nm,1.1s
YHNB LR LR
comp=Z,13μm,20.0s
ESY Stoneypath 47.45 314⇑*i*P P 06 16 48.7 -0.3
LBWR Ladybower, Pea 47.47 311⇑*i*P P 06 16 48.6 -0.6
LBWR IAmb IAmb 06 16 50.4
comp=Z,436nm,1.3s
LBWR IAMs_20 IAMs_20 06 39 21.1
comp=Z,19μm,18.8s
MAHO Mahon 47.51 291⇑*i*P P 06 16 47.4 -2.2
MAHO S **S 06 23 42.7 -1.0**
SSLB Suanglung 47.53 93 *e*P P 06 16 51.0 +0.9
comp=Z,198nm,0.9s
SSLB LR LR
comp=Z,12μm,18.0s
EDU Dundee 47.55 315⇑*i*P P 06 16 49.3 -0.4
TPUB Ta-pu 47.55 94 *e*P P 06 16 51.2 +1.0
TPUB *e*pP **sP 06 16 56.6 -0.7**
TPUB LR LR
comp=Z,7μm,19.0s
DFRA Djebel Bou Aff 47.62 287 P **P 06 16 50.8 0.0**
WOL Wolverton 47.66 308⇑*i*P P 06 16 50.8 +0.1
WOL IAmb IAmb 06 16 52.1
comp=Z,1μm,1.6s
WOL IAMs_20 IAMs_20 06 40 07.4
comp=Z,22μm,16.1s
BIGH Upper Bighouse 47.67 318⇑*i*P P 06 16 50.4 -0.2
BIGH IAmb IAmb 06 16 52.1
comp=Z,322nm,1.1s
BIGH IAMs_20 IAMs_20 06 38 20.0
comp=Z,36μm,13.5s
EBL Broad Law 47.71 314⇑*e*P P 06 16 51.0 -0.1
EDI Edinburgh 47.76 314⇑*i*P P 06 16 51.0 -0.4
EDI IAmb IAmb 06 16 52.6
comp=Z,345nm,1.3s
EDI IAMs_20 IAMs_20 06 40 29.0
comp=Z,28μm,17.8s
NACB Ninganchiao 47.81 92 *e*P P 06 16 53.4 +1.2
comp=Z,504nm,1.5s
NACB LR LR
comp=Z,12μm,20.0s
STNC Stoke 47.82 310⇑*i*P P 06 16 52.0 +0.1
STNC IAmb IAmb 06 16 53.5
comp=Z,824nm,1.4s
STNC IAMs_20 IAMs_20 06 39 42.8
comp=Z,22μm,20.2s
EBH Black Hill 47.87 315⇑*i*P P 06 16 51.9 -0.4
ESK Eskdalemuir 47.90 313 *e*P P 06 16 51.9 -0.6
comp=Z,452nm,1.3s
ESK LR LR
comp=Z,19μm,20.0s
ESK Eskdalemuir 47.90 313⇑*i*P P 06 16 52.2 -0.3
ESK IAmb IAmb 06 16 53.6
comp=Z,426nm,1.3s
ESK IAMs_20 IAMs_20 06 39 28.1
comp=Z,92μm,15.9s
ESK Eskdalemuir 47.90 313 *e*P P 06 16 51.9 -0.6
ESK pmax pmax
comp=Z,452nm,1.3s
ESK MLR MLR
comp=Z,19μm,20.0s
EAU Auchinoon 47.92 314⇑*i*P P 06 16 52.4 -0.3
ELO Logie Almond 47.94 315⇑*i*P P 06 16 52.2 -0.6
BHH Howats Hill 47.95 313⇓*e*P P 06 16 52.6 -0.3
SWN1 Swindon 47.96 308⇑*i*P P 06 16 52.9 -0.1
SWN1 IAmb IAmb 06 16 54.5
comp=Z,1μm,1.3s
SWN1 IAMs_20 IAMs_20 06 41 43.2
comp=Z,24μm,15.7s
GRNR Gornyy 48.00 53 *e*P P 06 16 59.9 +6.5
GRNR pmax pmax
comp=Z,180nm,1.0s
KESW Keswick, Cumbr 48.00 312⇑*i*P P 06 16 53.5 +0.2
KESW IAmb IAmb 06 16 54.8
comp=Z,1μm,1.3s
KESW IAMs_20 IAMs_20 06 40 05.6
comp=Z,19μm,14.4s
BBO1 Bothel 48.05 313⇑*i*P P 06 16 53.6 0.0
SET Setif 48.11 286 P **P 06 16 55.0 +0.4**
STRD Stroud 48.12 309⇑*i*P P 06 16 53.8 -0.4
STRD IAmb IAmb 06 16 57.9
comp=Z,887nm,1.7s
STRD IAMs_20 IAMs_20 06 41 47.6
comp=Z,27μm,15.7s
INVG Invergeldie, C 48.13 315⇑*i*P P 06 16 53.8 -0.4
INVG IAmb IAmb 06 16 55.2
comp=Z,272nm,1.3s
INVG IAMs_20 IAMs_20 06 40 48.4
comp=Z,25μm,16.1s
TWG Pinlang 48.15 94 *e*P P 06 16 57.2 +2.3
comp=Z,2μm,1.0s
TWG LR LR
comp=Z,18μm,20.0s
JMIC Jan Mayen 48.28 335 *e*P P 06 16 55.4 +0.1
BATH Bath 48.30 308⇑*i*P P 06 16 55.2 -0.4
BATH IAmb IAmb 06 16 56.7
comp=Z,774nm,1.6s
BATH IAMs_20 IAMs_20 06 42 10.5
comp=Z,22μm,14.6s
EAB Aberfoyle 48.34 315⇑*i*P P 06 16 55.4 -0.5
RSC Scourie 48.35 318 *e*P P 06 16 55.8 -0.1
HLM1 Long Mynd 48.36 310⇑*i*P P 06 16 54.9 -1.2
HLM1 IAmb IAmb 06 16 56.3
comp=Z,274nm,1.3s

HLM1 IAMs_20 IAMs_20 06 40 10.0
comp=Z,26μm,17.0s
OLDB Oldbury-Upon-S 48.38 308⇑ *i*P P 06 16 55.7 -0.5
OLDB IAmb IAmb 06 16 57.2
comp=Z,543nm,1.3s
OLDB IAMs_20 IAMs_20 06 42 04.4
comp=Z,26μm,15.7s
FOEL Foel Wylfa 48.45 310⇑ *i*P P 06 16 56.1 -0.7
FOEL IAmb IAmb 06 16 58.2
comp=Z,642nm,1.6s
FOEL IAMs_20 IAMs_20 06 40 13.3
comp=Z,24μm,15.7s
MONM Monmouth 48.48 309⇑ *i*P P 06 16 56.6 -0.4
MONM IAmb IAmb 06 16 58.0
comp=Z,871nm,1.4s
MONM IAMs_20 IAMs_20 06 41 59.2
comp=Z,25μm,16.2s
PGBU Glenifferbraes 48.50 314⇑ *i*P P 06 16 57.1 0.0
PGBU IAmb IAmb 06 16 58.5
comp=Z,524nm,1.2s
PGBU IAMs_20 IAMs_20 06 40 51.4
comp=Z,32μm,17.6s
MCH1 Michaelchurch 48.56 309⇑ *i*P P 06 16 57.4 -0.2
MCH1 IAmb IAmb 06 16 58.7
comp=Z,1μm,1.4s
MCH1 IAMs_20 IAMs_20 06 40 44.6
comp=Z,17μm,13.2s
KAC Achnashellach 48.58 317⇑ *i*P P 06 16 57.4 -0.3
JQE Queens East 48.73 305⇑ *e*P P 06 16 58.2 -0.7
LLW Llanuwychllyn 48.74 310⇑ *i*P P 06 16 59.0 0.0
YOJ Yonaguni jima 48.75 91 PFAKE 06 17 10.0 +11
YOJ LR LR
comp=Z,12μm,20.0s
RRR Rubha Reidh 48.78 317 *e*P P 06 16 58.6 -0.5
KPL Plockton 48.80 316⇑ *i*P P 06 16 59.1 -0.3
KPL IAmb IAmb 06 17 00.5
comp=Z,396nm,1.1s
KPL IAMs_20 IAMs_20 06 39 16.3
comp=Z,22μm,15.8s
JSA Saint Aubin 48.82 305⇑ *i*P P 06 16 59.0 -0.6
JSA IAMs_20 IAMs_20 06 41 47.6
comp=Z,13μm,15.3s
JVM Valle D.L. Mar 48.83 305 *e*P P 06 16 58.7 -1.0
GAL1 Galloway 48.84 313⇑ *i*P P 06 16 59.6 -0.1
GAL1 IAmb IAmb 06 17 01.1
comp=Z,191nm,1.4s
GAL1 IAMs_20 IAMs_20 06 39 57.7
comp=Z,10μm,16.3s
LAWE Loch Awe, Argy 48.90 315⇑ *i*P P 06 16 59.7 -0.5
LAWE IAmb IAmb 06 17 01.5
comp=Z,632nm,1.4s
LAWE IAMs_20 IAMs_20 06 40 53.1
comp=Z,27μm,15.9s
IOMK Kirk Michael 48.91 312⇑ *i*P P 06 17 00.3 +0.1
IOMK IAmb IAmb 06 17 01.8
comp=Z,1μm,1.4s
IOMK IAMs_20 IAMs_20 06 41 11.1
comp=Z,30μm,17.1s
WME Myndd Eilian 48.97 311⇑ *e*P P 06 17 00.6 -0.1
WIM Isle of Man 48.99 312⇑ *i*P P 06 17 01.0 0.0
WLF1 Llynfaes 49.05 311⇑ *i*P P 06 17 01.2 -0.1
WLF1 IAmb IAmb 06 17 02.7
comp=Z,715nm,1.4s
WLF1 IAMs_20 IAMs_20 06 42 18.8
comp=Z,37μm,14.8s
WPS Cemaes, Angles 49.08 311⇑ *i*P P 06 17 01.5 -0.1
WPS IAmb IAmb 06 17 02.9
comp=Z,359nm,1.5s
WPS IAMs_20 IAMs_20 06 42 51.1
comp=Z,17μm,14.7s
YRC Rhoscolyn 49.16 311⇑ *i*P P 06 17 01.8 -0.4
RRH Rhenigidale 49.22 317⇑ *e*P P 06 17 02.0 -0.6
KMBO Kilima Mbogo 49.32 222 *e*P P 06 17 04.9 +0.8
KMBO *e*pP P 06 17 05.1 +1.0
KMBO LR LR
comp=Z,8μm,18.0s
KMBO Kilima Mbogo 49.32 222 *i* P P 06 17 05.3 +1.2
SNR=53
KMBO Kilima Mbogo 49.32 222 *e*P P 06 17 04.9 +0.8
KMBO MLR MLR
comp=Z,8μm,18.0s
KMBO Kilima Mbogo 49.32 222 P P 06 17 05.6 +1.5
SNR=74
KMBO Kilima Mbogo 49.32 222 P P 06 17 04.8 +0.7
comp=Z,55nm,1.1s,baz=20,slow=8.4,SNR=81
KMBO LR LR 06 40 51.8
comp=Z,8μm,18.2s,baz=11,slow=40
CLGH Cloghs, Cushen 49.57 314⇑ *i*P P 06 17 04.6 -0.8
CLGH IAmb IAmb 06 17 06.6
comp=Z,422nm,1.4s
CLGH IAMs_20 IAMs_20 06 42 51.6
comp=Z,24μm,15.0s
NAI Nairobi 49.67 222 *e*P P 06 17 08.2 +1.4
comp=Z,346nm,1.5s
NAI LR LR
comp=Z,5μm,18.0s
NAI Nairobi 49.67 222 *e*P P 06 17 08.2 +1.4
NAI pmax pmax
comp=Z,346nm,1.5s
NAI MLR MLR
comp=Z,5μm,18.0s
GMM Mts of Mourne 49.70 312⇑ *e*P P 06 17 05.8 -0.5
HTL Hartland 49.73 308⇑ *i*P P 06 17 06.2 -0.4
HTL IAmb IAmb 06 17 07.5
comp=Z,248nm,1.3s
HTL IAMs_20 IAMs_20 06 42 56.8
comp=Z,28μm,15.5s
TEY Ternei 49.84 60⇑ *i*P P 06 17 07.3 -0.2
TEY *e*S S 06 24 15.6 -1.0
TEY pmax pmax
comp=E,600nm,3.9s
TEY pmax pmax
comp=Z,1μm,2.6s
TEY pmax pmax
comp=E,110nm,1.4s
TEY pmax pmax
comp=N,60nm,1.2s
TEY smax smax
comp=N,50nm,1.8s
TEY MLR MLR
comp=E,9μm,13.0s
TEY MLR MLR
comp=N,5μm,16.0s
TEY MLR MLR
comp=Z,14μm,16.0s
NKL Nikolayevsk 49.91 49 *i* P P 06 17 08.0 +0.1
BKNI Bangkinang 49.92 134 *e*P P 06 17 07.4 -1.0
BKNI *e*pP pP 06 17 12.8 -0.8
BKNI LR LR
comp=Z,5μm,20.0s
BKNI Bangkinang 49.92 134 P P 06 17 08.7 +0.3
comp=Z,778nm,1.0s,comp=Z,7μm
BBP Basco 50.18 96 *e*P P 06 17 11.2 +0.8
DSB Dublin 50.21 311 *e*P P 06 17 10.2 0.0
comp=Z,170nm,1.1s
SISI Saibi 50.25 137 P P 06 17 11.8 +0.9
comp=Z,292nm,1.0s,comp=Z,4μm
MYKOM Kota Tinggi 50.34 130 *e*P P 06 17 12.0 +0.4
MYKOM *e*pP pP 06 17 17.4 +0.6
MYKOM Kota Tinggi 50.34 130 P P 06 17 12.0 +0.4
CCA1 Carnmenellis 50.42 307⇑ *i*P P 06 17 11.3 -0.5
CCA1 IAmb IAmb 06 17 12.7
comp=Z,411nm,1.3s
CCA1 IAMs_20 IAMs_20 06 41 34.0
comp=Z,20μm,18.6s
JNU Nakatsue 50.49 77 *e*P P 06 17 13.1 +0.5
comp=Z,496nm,1.1s
JNU *e*pP sP 06 17 18.9 -0.9
JNU LR LR
comp=Z,9μm,18.0s
DAG Danmarks Havn 50.62 343⇑ *i*P P 06 17 13.4 +0.4
DAG pmax pmax
comp=Z,570nm,1.1s
DAG MLR MLR
comp=Z,5μm,16.0s
DAG Danmarks Havn 50.62 343⇑ *i*P P 06 17 13.4 +0.4
comp=Z,449nm,1.1s
PDSI Padang 50.63 135 P P 06 17 13.4 -0.4
comp=Z,490nm,0.8s
ABRA Dolores 50.87 100 *e*P P 06 17 16.4 +0.7
EBNR Beni Rached 50.92 288 P P 06 17 15.5 -0.4
BOLP Bolinao 51.05 102 *e*P P 06 17 18.5 +1.5
ECHA Ech Chlef 51.10 288 P P 06 17 17.1 0.0
APYP Conner 51.15 99 *e*P P 06 17 18.5 +0.8
EANR 'Ain N'Sour 51.38 288 P P 06 17 19.0 -0.4
SCZP Santa Cruz 51.42 102 *e*P P 06 17 21.2 +1.4

TPRI Tanjung Pinang 51.44 130 P P 06 17 20.6 +0.7
comp=Z,776nm,1.5s,comp=Z,28μm
SGCP Mt. Cagua 51.53 98 *e*P P 06 17 21.6 +1.0
JOW Kunigami 51.55 85 *e*P P 06 17 21.2 +0.5
comp=Z,89nm,0.6s
OKGL Djebel Kef Gue 51.67 288 P P 06 17 23.0 +1.5
TYV Tymovskoe 51.76 51 *e*P P 06 17 23.6 +1.7
TYV *e*S S 06 24 47.2 +4.3
TYV pmax pmax
comp=Z,2μm,2.4s
TYV pmax pmax
comp=Z,334nm,1.5s
TYV smax smax
comp=N,2μm,5.5s
TYV smax smax
comp=E,29nm,1.1s
TYV MLR MLR
comp=Z,13μm,12.0s
OJGS Djebel Guires 51.83 288 P P 06 17 22.0 -0.8
PPSI Pulau Pagai 51.94 137 P P 06 17 24.5 +0.9
comp=Z,554nm,1.5s,comp=Z,7μm
OJBR Djebel Berber 52.09 288 P P 06 17 26.0 +1.3
CAUP Cauayan 52.14 100 *e*P P 06 17 26.4 +1.2
CART Cartagena 52.20 291 *e*P P 06 17 25.1 -0.3
comp=Z,423nm,1.4s
CART *e*pP pP 06 17 31.0 +0.4
CART LR LR
comp=Z,3μm,21.0s
CART Cartagena 52.20 291⇑ *i*P P 06 17 22.0 -3.4
CART S S 06 24 48.4 -1.0
MBAR Mbarara 52.44 229 *e*P P 06 17 27.9 +0.4
comp=Z,250nm,1.4s
MBAR LR LR
comp=Z,6μm,19.0s
MBAR Mbarara 52.44 229 *e*P P 06 17 27.9 +0.4
MBAR pmax pmax
comp=Z,250nm,1.4s
MBAR MLR MLR
comp=Z,6μm,19.0s
MBAR Mbarara 52.44 229 LR LR 06 43 19.4
comp=Z,6μm,19.1s,baz=44,slow=40
ODJA Bouhanifia 52.56 288 P P 06 17 30.0 +1.8
UCM Universidad Co 52.66 295⇑ *i*P P 06 17 28.5 -0.3
UCM S S 06 24 55.0 -0.7
USTO Oran 52.68 288 P P 06 17 32.0 +3.1
BALP Baler 52.69 101 *e*P P 06 17 30.2 +1.0
SCO Scoresbysund 52.76 335 *e*P P 06 17 29.7 +0.7
comp=Z,165nm,1.3s
SCO LR LR
comp=Z,6μm,18.0s
SCO Scoresbysund 52.76 335 *e*P P 06 17 29.7 +0.7
SCO pmax pmax
comp=Z,165nm,1.3s
SCO MLR MLR
comp=Z,6μm,18.0s
SCO Scoresbysund 52.76 335 *i* P P 06 17 30.0 +1.0
comp=Z,164nm,1.3s
LUBP Lubang 52.96 104 *e*P P 06 17 31.8 +0.6
JMBI JAMBI 52.99 132 P P 06 17 32.3 +0.9
comp=Z,784nm,1.1s,comp=Z,12μm
SEY Seymchan 53.15 35*c* *i*P P 06 17 32.6 +0.6
YSS Yuzh-Sakhalins 53.17 56 *e*P P 06 17 33.2 +0.8
comp=Z,973nm,1.2s
YSS LR LR
comp=Z,14μm,18.0s
YSS Yuzh-Sakhalins 53.17 56*a* *i*P P 06 17 33.0 +0.6
YSS *i* *SP sP 06 17 39.0 -0.6
YSS *e* 06 19 40.1
YSS *i* S S 06 25 02.8 +0.4
YSS *e*PS PKiKP 06 25 10.6 -7.1
YSS pmax pmax
comp=Z,2μm,1.7s
YSS pmax pmax
comp=N,300nm,2.5s
YSS pmax pmax
comp=E,1μm,2.5s
YSS pmax pmax
comp=Z,540nm,1.3s
YSS pmax pmax
comp=N,30nm,1.2s
YSS pmax pmax
comp=E,160nm,1.3s
YSS pmax pmax
comp=Z,700nm,15.5s
YSS pmax pmax
comp=N,200nm,18.0s
YSS pmax pmax
comp=E,400nm,16.0s
YSS smax smax
comp=N,2μm,4.3s
YSS smax smax
comp=E,1μm,6.3s
YSS MLR MLR
comp=Z,20μm,17.0s
YSS MLR MLR
comp=N,11μm,13.0s
YSS MLR MLR
comp=E,26μm,14.0s
MA2 Magadan 53.42 39 *e*P P 06 17 34.3 +0.2
comp=E,179nm,1.2s
MA2 LR LR
comp=Z,10μm,20.0s
MA2 Magadan 53.42 39*c* *i*P P 06 17 34.1 0.0
MA2 pmax pmax
comp=Z,249nm,1.7s
MA2 MLR MLR
comp=Z,7μm,14.0s
ESDC Sonseca Array 53.42 294 P P 06 17 34.2 -0.2
comp=Z,11nm,0.4s,baz=60,slow=7.8,SNR=124
ESDC LR LR 06 46 05.1
comp=Z,3μm,18.4s,baz=75,slow=42
ESLA Sonseca Array 53.42 294 *e*P P 06 17 34.3 -0.2
comp=Z,225nm,1.5s
POLP Polillo Island 53.60 102 *e*P P 06 17 37.4 +1.5
PAB San Pablo 53.74 294 *e*P P 06 17 36.8 -0.1
comp=Z,218nm,1.5s
PAB San Pablo 53.74 294 *e*P P 06 17 36.8 -0.1
PAB pmax pmax
comp=Z,218nm,1.5s
ENPP El Nido 53.99 107 *e*P P 06 17 39.5 +0.8
INU Inuyama 54.01 71 *e*P P 06 17 38.0 -0.8
comp=Z,262nm,1.0s
INU LR LR
comp=Z,5μm,20.0s
BUSP Coron 54.04 106 *e*P P 06 17 39.9 +0.7
BORG Borgarnes 54.21 328 *e*P P 06 17 42.6 +2.9
comp=Z,188nm,1.2s
BORG LR LR
comp=Z,6μm,18.0s
BOAC Boac 54.33 103 *e*P P 06 17 41.5 +0.3
MJB9 Matsu-Tunnel 54.33 69 *e*P P 06 17 40.8 -0.3
comp=Z,255nm,1.1s
MJB9 LR LR
comp=Z,7μm,20.0s
MAJO Matsushiro 54.34 69 *e*P P 06 17 41.0 -0.2
comp=Z,249nm,1.1s
MAJO LR LR
comp=Z,7μm,20.0s
MAJO Matsushiro 54.34 69*c* *i*P P 06 17 40.5 -0.6
MAJO MLR MLR
comp=Z,6μm,19.0s
MAT Matsushiro 54.34 69 P P 06 17 40.4 -0.7
MAT S S 06 25 18.9 +0.4
MJAR Matsushiro Arr 54.34 69 P P 06 17 41.0 -0.2
MJAR Matsushiro Arr 54.34 69 P P 06 17 41.0 -0.2
comp=Z,143nm,1.0s,baz=290,slow=9.4,SNR=199
MJAR LR LR 06 42 02.6
comp=Z,6μm,19.9s,baz=295,slow=37
BATP Bataraza 54.42 111 *e*P P 06 17 42.3 +0.4
SJMP San Jose 54.42 105 *e*P P 06 17 42.8 +0.9
PBRG Braganca 54.45 298⇑ *i*P P 06 17 42.0 +0.1
comp=Z,128nm,2.0s
TAM Tamanrasset 54.52 271 *e*P P 06 17 42.7 -0.1
comp=Z,73nm,1.5s
TAM Tamanrasset 54.52 271 *e*P P 06 17 42.7 -0.1
TAM pmax pmax
comp=Z,73nm,1.5s
KSM Kuching 54.58 123 *e*P P 06 17 44.1 +0.9
comp=Z,811nm,1.4s
KSM LR LR
comp=Z,3μm,19.0s
KSM Kuching 54.58 123 P P 06 17 44.0 +0.9
MELI Melilla 54.61 289⇑ *i*P P 06 17 41.8 -1.3
MELI S S 06 25 34.3 +12
PMBI Palembang 54.69 132 P P 06 17 45.7 +1.8
comp=Z,500nm,0.5s

MNAI Manna 54.86 135 *e*P P 06 17 44.0 -1.1
MNAI *e*pP pP 06 17 49.8 -0.5
MNAI Manna 54.86 135 P P 06 17 44.8 -0.3
comp=Z,638nm,1.4s,comp=Z,9μm
PPBI Pangkal Pinang 54.86 130 P P 06 17 44.9 -0.2
MVO Moncorvo 54.91 297⇑ *i*P P 06 17 45.3 0.0
comp=Z,160nm,1.7s
MVO *e*S S 06 25 27.4 +1.1
MVO *e*SS SS 06 29 28.4 +19
MVO Moncorvo 54.91 297 *e*LR LR 06 41 37.4
comp=Z,3μm,20.0s
EMAL Malaga-Limoner 55.02 291⇑ *i*P P 06 17 43.8 -2.2
EMAL S S 06 25 33.4 +5.7
AUQP San Andres 55.03 103 *e*P P 06 17 48.2 +1.9
SBUM Sibu 55.09 121 *e*P P 06 17 48.1 +1.3
comp=Z,108nm,1.1s
SBUM LR LR
comp=Z,2μm,21.0s
SBUM Sibu 55.09 121 P P 06 17 48.0 +1.2
OTRP Odiongan 55.16 104 *e*P P 06 17 47.2 0.0
PVRL Vila Real 55.33 298⇑ *i*P P 06 17 48.3 -0.1
comp=Z,130nm,1.8s
PVRL *e*pP sP 06 17 54.9 -0.7
POLO Lamas de Olo 55.34 298⇑ *i*P P 06 17 48.3 -0.2
comp=Z,48nm,2.1s
PCAB Cabril 55.36 298⇑ *i*P P 06 17 48.9 +0.4
comp=Z,283nm,1.5s
PCAB *e*pP sP 06 17 55.3 -0.5
CUYO Cuyo Island 55.39 106 *e*P P 06 17 50.0 +1.0
ERM Erimo 55.40 61 *e*P P 06 17 48.4 -0.4
comp=Z,507nm,1.5s
ERM LR LR
comp=Z,14μm,19.0s
ERM Erimo 55.40 61*c* *i*P P 06 17 48.7 0.0
ERM pmax pmax
comp=Z,438nm,1.7s
ERM MLR MLR
comp=Z,12μm,18.0s
PGAV Gavieira, Arco 55.41 299⇑ *i*P P 06 17 49.3 +0.3
comp=Z,234nm,1.8s
PGAV *e*S S 06 25 35.3 +2.2
PGAV *e*SS SS 06 29 41.7 +24
PGAV Gavieira, Arco 55.41 299 *e*LR LR 06 43 47.1
comp=Z,3μm,16.0s
MTE Manteigas 55.59 297⇑ *i*P P 06 17 50.7 +0.4
comp=Z,269nm,1.8s
MTE *e*S S 06 25 35.0 -0.4
MTE *e*SS SS 06 29 27.6 +7.5
MTE Manteigas 55.59 297 *e*LR LR 06 42 12.2
comp=Z,4μm,20.0s
MTE Manteigas 55.59 297 *e*P P 06 17 49.5 -0.8
comp=Z,195nm,1.5s
MTE LR LR
comp=Z,5μm,19.0s
LIJA Lijar 55.65 292 *e*P P 06 17 49.5 -1.3
LIJA Lijar 55.65 292 *e*P P 06 17 49.5 -1.3
PVLZ Peæn de 55.66 290⇑ *i*P P 06 17 48.7 -2.0
PVLZ S S 06 25 43.8 +7.6
PVIS Viseu 55.70 297⇑ *i*P P 06 17 51.1 +0.1
comp=Z,204nm,1.9s
PCBR Castelo Branco 55.79 296 *e*P P 06 17 52.1 +0.5
comp=Z,191nm,1.8s
PMRV Marv??o 55.92 296⇑ *i*P P 06 17 52.6 +0.1
comp=Z,217nm,1.9s
PMRV *e*pP sP 06 17 59.2 -0.6
PMRV *e*S S 06 25 40.0 +0.3
PMRV Marv??o 55.92 296 *e*LR LR 06 44 16.9
comp=Z,4μm,16.0s
PVCP Virac 55.97 101 *e*P P 06 18 01.7 +8.5
TPI Tanjungpandan 56.24 129 P P 06 17 55.3 +0.3
comp=Z,408nm,1.8s,comp=Z,6μm
COI Coimbra 56.27 297⇑ *i*P P 06 17 55.6 +0.6
comp=Z,242nm,1.1s
COI Coimbra 56.27 297 *e*P P 06 17 55.2 +0.2
comp=Z,269nm,1.3s
COI Coimbra 56.27 297 *e*P P 06 17 55.3 +0.2
COI pmax pmax
comp=Z,269nm,1.3s
YUK Yuzh-Kuril'sk 56.34 58*c* *i*P P 06 17 46.1 -9.3
YUK *e* 06 18 47.9
YUK *e*PPP PPP 06 21 15.0
YUK *e*S S 06 25 37.7 -7.4
YUK *e* 06 27 36.1
YUK *e*SS SS 06 29 29.5 -2.0
YUK pmax pmax
comp=E,262nm,1.1s
YUK pmax pmax
comp=Z,1μm,1.1s
YUK pmax pmax
comp=N,299nm,0.8s
YUK MLR MLR
comp=Z,9μm,16.0s
YUK MLR MLR
comp=E,8μm,14.0s
YUK MLR MLR
comp=N,10μm,15.0s
PCAS Casmilo, Conde 56.40 297⇑ *i*P P 06 17 55.9 -0.1
comp=N,191nm,2.2s
SFS San Fernando 56.43 292 PFAKE 06 18 10.0 +14
SFS LR LR
comp=Z,3μm,20.0s
SFS San Fernando 56.43 292⇑ *i*P P 06 17 54.2 -2.0
SFS S S 06 25 56.4 +10
PTOM Tomar 56.54 296⇑ *i*P P 06 17 57.3 +0.4
comp=Z,246nm,1.9s
PMTG Montargil 56.66 295⇑ *i*P P 06 17 57.6 -0.2
comp=Z,129nm,1.6s
GUIM Jordan 56.70 105 *e*P P 06 17 58.5 +0.2
BILL Bilibino 56.76 26 *e*P P 06 17 58.9 +0.8
comp=Z,472nm,1.2s
BILL LR LR
comp=Z,12μm,19.0s
BILL Bilibino 56.76 26*c* *i*P P 06 17 58.8 +0.8
BILL *e* 06 20 10.8
BILL *e*S S 06 25 55.6 +5.6
BILL *e*SS SS 06 29 45.2 +8.0
BILL pmax pmax
comp=Z,526nm,1.3s
BILL MLR MLR
comp=Z,11μm,18.0s
SUMG Summit 56.88 340 *e*P P 06 18 00.1 +0.8
comp=Z,702nm,1.3s
SUMG LR LR
comp=Z,4μm,21.0s
SUMG Summit 56.88 340⇑ *i*P P 06 18 00.4 +1.1
SUMG pmax pmax
comp=Z,2μm,1.3s
SUMG MLR MLR
comp=Z,10μm,14.0s
SUMG Summit 56.88 340⇑ *i*P P 06 18 00.4 +1.1
comp=Z,2μm,1.3s
PBEJ Beja 56.88 294⇑ *i*P P 06 18 00.5 +1.1
comp=Z,188nm,2.0s
PBEJ *e*pP sP 06 18 06.2 -0.5
CNP Catarman 57.04 102 *e*P P 06 18 01.6 +0.9
IFR Ifrane 57.05 288⇑ *i*P P 06 17 59.5 -1.4
IFR S S 06 25 53.8 -1.3
PVAQ Vaqueiros 57.06 293⇑ *i*P P 06 18 00.7 0.0
comp=Z,239nm,2.0s
PVAQ *e*S S 06 25 54.5 -0.4
PVAQ Vaqueiros 57.06 293 *e*LR LR 06 41 57.3
comp=Z,5μm,18.0s
PVAQ Vaqueiros 57.06 293 *e*P P 06 18 00.3 -0.4
comp=Z,217nm,1.3s
JHJ2 Mitsune 57.11 72 PFAKE 06 18 10.0 +8.9
JHJ2 LR LR
comp=Z,6μm,18.0s
KUR Kuril'sk 57.12 56*c*e*P P 06 18 00.3 -0.6
KUR *i* 06 18 54.7
KUR *e* 06 20 15.7
KUR *e*PPP PPP 06 21 34.3
KUR *i* S S 06 25 53.8 -1.9
KUR *e* 06 27 46.1
KUR pmax pmax
comp=E,91nm,1.3s
KUR pmax pmax
comp=Z,512nm,1.3s
KUR pmax pmax
comp=N,70nm,1.1s
KUR pmax pmax
comp=Z,1μm,6.8s
KUR MLR MLR
comp=E,11μm,16.0s
KUR MLR MLR
comp=Z,16μm,16.0s

KUR MLR MLR
comp=N,12μm,15.0s
PCVE Castro Verde 57.18 294⇑ iP P 06 18 01.7 +0.2
comp=N,142nm,1.9s
MESJ Messejana 57.22 294 eP **P 06 18 02.1 +0.3**
MESJ ePP **PP 06 20 09.1 +0.6**
MESJ eS **S 06 25 57.5 +0.7**
MESJ AMS AMS 06 49 24.1
comp=Z,5μm,17.4s
MESJ Messejana 57.22 294⇑ iP P 06 18 02.0 +0.3
comp=Z,154nm,1.7s
MESJ epP **sP 06 18 07.8 -1.2**
MESJ Messejana 57.22 294 eP **P 06 18 02.1 +0.3**
MESJ e 06 20 09.1
MESJ eS **S 06 25 57.5 +0.7**
PBDV Barranco-do-Ve 57.29 293⇑ iP P 06 18 02.7 +0.4
comp=Z,316nm,1.7s
PNCL Nicolau / Gran 57.30 295⇑ iP P 06 18 02.9 +0.5
comp=Z,182nm,2.0s
PMAFR Mafra 57.44 296⇑ iP P 06 18 03.2 -0.2
comp=Z,237nm,1.8s
LIS Lisbon 57.46 295 eP **P 06 18 03.9 +0.4**
LIS eS **S 06 26 00.6 +0.6**
LIS AMS AMS 06 51 13.0
comp=E,4μm,20.1s
LIS Lisbon 57.46 295 eP **P 06 18 04.2 +0.8**
comp=E,300nm,2.4s
LIS Lisbon 57.46 295 eP **P 06 18 03.8 +0.4**
LIS eS **S 06 26 00.6 +0.6**
PTEO Sao Teotonio 57.71 294⇑ iP P 06 18 05.5 +0.3
comp=E,240nm,1.4s
MORF Marmelete 57.77 294 eP **P 06 18 06.0 +0.3**
MORF eS **S 06 26 04.7 +0.4**
MORF AMS AMS 06 49 35.5
comp=Z,5μm,22.4s
MORF Marmelete 57.77 294⇑ iP P 06 18 05.6 -0.1
comp=Z,166nm,1.8s
MORF Marmelete 57.77 294 eP **P 06 18 06.0 +0.3**
MORF eS **S 06 26 04.6 +0.4**
PFVI Vila Bisbo 57.97 294⇑ iP P 06 18 07.3 +0.2
comp=Z,269nm,1.8s
PFVI Vila Bisbo 57.97 294 eP **P 06 18 06.4 -0.7**
comp=Z,111nm,1.2s
PFVI LR LR
comp=Z,5μm,20.0s
RTC Rabat Centre 58.08 290 PFAKE 06 18 20.0 +12
RTC LR LR
comp=Z,5μm,21.0s
PLP Palo 58.14 103⇑ eP **P 06 18 07.4 -1.1**
BESP Borongan 58.20 102 eP P 06 18 16.7 +7.8
CGJI Cibinong 58.23 134 P **P 06 18 05.6 -3.5**
IPIL Ipil 58.56 108 eP **P 06 18 12.7 +1.2**
COCO West Island 58.62 146 PFAKE 06 18 20.0 +8.3
COCO LR LR
comp=Z,6μm,21.0s
COCO West Island 58.62 146 i P **P 06 18 14.4 +2.7**
PBKI Pangkalan Bun 58.65 125 P **P 06 18 12.9 +0.8**
comp=Z,1μm,1.2s,comp=Z,13μm
MSLP Maasin 58.71 104 eP **P 06 18 13.3 +0.8**
AVE Averroes 58.82 289⇑ iP P 06 18 11.3 -1.8
AVE S **S 06 26 17.3 -0.6**
SKJI Sukabumi 59.03 133 P **P 06 18 15.5 +0.8**
comp=Z,313nm,0.6s,comp=Z,4μm
PAGZ Pagadian 59.12 107 eP **P 06 18 15.1 -0.3**
MTKI Muara Teweh, K 59.39 121 P **P 06 18 18.4 +1.2**
comp=Z,238nm,1.4s,comp=Z,7μm
PEA1 Petropavlovsk- 59.46 44 eP **P 06 18 16.9 -0.2**
PEA0B Petropavlovsk- 59.46 44 eP **P 06 18 16.5 -0.7**
comp=Z,255nm,1.3s
PEA0B LR LR
comp=Z,9μm,21.0s
PETK Petropavlovsk- 59.46 44 P **P 06 18 17.0 -0.2**
PETK Petropavlovsk- 59.46 44 P **P 06 18 16.9 -0.2**
comp=Z,95nm,1.1s,baz=292,slow=0.8,SNR=55
PETK LR LR 06 45 14.1
comp=Z,8μm,18.5s,baz=303,slow=37
LEM Lembang 59.49 132 P **P 06 18 18.8 +0.8**
SKR Severo-Kuril's 59.69 47 eP **P 06 18 16.9 -1.9**
SKR e 06 20 28.6
SKR ePPP PPP 06 22 00.4
SKR eS **S 06 26 26.2 -2.4**
SKR pmax pmax
comp=Z,195nm,1.4s
SKR pmax pmax
comp=Z,1μm,12.0s
SKR MLR MLR
comp=Z,8μm,13.0s
PET Petropavlovsk 60.01 44 eP **P 06 18 19.3 -1.6**
comp=Z,204nm,1.2s
PET LR LR
comp=Z,7μm,18.0s
PET Petropavlovsk 60.01 44α i P **P 06 18 19.0 -2.0**
PET eS **S 06 26 26.0 -6.7**
PET pmax pmax
comp=Z,165nm,1.2s
PET pmax pmax
comp=Z,700nm,13.1s
PET pmax pmax
comp=Z,600nm,9.1s
PET MLR MLR
comp=Z,9μm,16.0s
PET MLR MLR
comp=Z,8μm,16.0s
BUTP Butuan 60.04 104 eP **P 06 18 22.3 +0.6**
KULLO Kullorsuaq 60.05 345⇑ iP P 06 18 21.2 +0.3
KULLO pmax pmax
comp=Z,370nm,1.1s
KULLO MLR MLR
comp=Z,13μm,18.0s
KULLO Kullorsuaq 60.05 345⇑ iP P 06 18 21.2 +0.3
comp=Z,366nm,1.1s
ANGG Ammassalik, Gr 60.08 332 eP **P 06 18 21.4 +0.2**
comp=Z,394nm,1.2s
CTBH Cotabato--PC H 60.17 107⇑ iP P 06 18 23.5 +0.9
CISI Cisompet, Garu 60.20 132 eP **P 06 18 22.2 -0.5**
comp=Z,854nm,1.5s
CISI LR LR
comp=Z,3μm,18.0s
CISI Cisompet, Garu 60.20 132 P **P 06 18 22.8 0.0**
comp=Z,342nm,0.8s,comp=Z,3μm
BUKP Musuan 60.34 106 eP **P 06 18 25.2 +1.4**
SMKI Samarinda 60.56 119 P **P 06 18 25.9 +0.7**
MRIV Mauritius Mete 60.65 191 eP **P 06 18 25.8 +0.2**
MRIV LR LR
comp=Z,1μm,22.0s
SKMP Bagumbayan, Su 60.86 107 eP **P 06 18 27.6 +0.3**
SGKI Sangatta, Kali 60.89 118 P **P 06 18 30.6 +3.1**
BKB Balikpapan 60.95 120 P **P 06 18 28.0 +0.1**
comp=Z,407nm,1.1s,comp=Z,6μm
DAV Davao City (W) 61.26 106 PFAKE 06 18 40.0 +10
DAV LR LR
comp=Z,6μm,20.0s
DAV Davao City (W) 61.26 106⇑ iP P 06 18 29.9 -0.1
SMRI Semarang 61.31 129 eP **P 06 18 29.6 -0.7**
SMRI epP **pP 06 18 35.1 -0.4**
SMRI Semarang 61.31 129 P **P 06 18 30.2 -0.1**
comp=Z,200nm,0.9s
XMIS Christmas Isla 61.42 136 eP **P 06 18 29.1 -1.8**
comp=Z,614nm,1.2s
ABPO Ambohimpanom 61.62 202 eP **P 06 18 32.8 +0.4**
comp=Z,151nm,1.1s
ABPO LR LR
comp=Z,3μm,20.0s
ABPO Ambohimpanom 61.62 202 eP **P 06 18 32.8 +0.4**
ABPO pmax pmax
comp=Z,151nm,1.1s
ABPO MLR MLR
comp=Z,3μm,20.0s
RER Riviere de l'E 61.76 192 eP **P 06 18 33.4 +0.2**
comp=Z,114nm,1.1s
MPSI Mapaga 61.83 116 P **P 06 18 34.6 +0.8**
comp=Z,321nm,1.1s,comp=Z,3μm
MATI Mati 61.84 106 eP **P 06 18 33.5 -0.4**
DDMP Don Marcelino, 62.00 107 eP **P 06 18 32.9 -2.1**
NGJI Ngawi 62.18 129 P **P 06 18 36.5 +0.4**
comp=Z,400nm,1.3s
ILULI Ilulissat 62.20 339 eP **P 06 18 35.9 +0.3**
comp=Z,662nm,1.3s
ILULI LR LR
comp=Z,6μm,18.0s
ILULI Ilulissat 62.20 339⇑ iP P 06 18 36.1 +0.5
ILULI pmax pmax
comp=Z,350nm,1.0s
ILULI MLR MLR
comp=Z,7μm,16.0s

ILULI Ilulissat 62.20 339⇑ iP P 06 18 36.1 +0.5
comp=Z,351nm,1.0s
WOJI Wonogiri, Jawa 62.23 130 P **P 06 18 35.1 -1.3**
comp=Z,79nm,1.2s
GRJI Gresik 62.43 128 P P 06 18 44.8 +7.0
TOB2 Torodi Ar. Sit 63.10 265 PFAKE 06 18 50.0 +7.6
TOB2 LR LR
comp=Z,8μm,22.0s
TOA1 Torodi Ar. Sit 63.11 265 eP **P 06 18 41.8 -0.6**
TOA1 ⇑e 06 47 43.6
TOA0 Torodi Ar. Sit 63.11 265 eP **P 06 18 41.2 -1.2**
comp=Z,339nm,1.4s
TOA0 Torodi Ar. Sit 63.11 265 P **P 06 18 42.5 +0.1**
SNR=44
TORD Torodi Ar. Bea 63.11 265 P **P 06 18 41.8 -0.6**
comp=Z,68nm,1.0s,baz=57,slow=5.5,SNR=204
TORD PKPPKP **P'P'df 06 47 43.6 +0.6**
comp=Z,4.4nm,1.0s,baz=200,slow=4.3,SNR=6.4
MRSI Marisa 63.15 114 P **P 06 18 42.9 +0.2**
comp=Z,520nm,1.1s,comp=Z,5μm
KMMI Kalianget 63.45 126 P **P 06 18 44.9 +0.3**
comp=Z,204nm,0.9s
SFJD Kangerlussuaq 63.51 337 eP **P 06 18 44.1 -0.2**
comp=Z,384nm,1.2s
SFJD LR LR
comp=Z,6μm,21.0s
SFJD Kangerlussuaq 63.51 337⇑ iP P 06 18 44.4 +0.1
SFJD pmax pmax
comp=Z,310nm,1.2s
SFJD MLR MLR
comp=Z,5μm,18.0s
SFJD Kangerlussuaq 63.51 337⇑ iP P 06 18 44.4 +0.1
comp=Z,306nm,1.2s
APSI Ampana 63.94 115 P **P 06 18 47.9 0.0**
comp=Z,558nm,1.2s,comp=Z,5μm
GMJI Gumukmas 64.09 128 P **P 06 18 47.6 -1.2**
comp=Z,197nm,2.0s
TTSI Tana Toraja 64.23 119 P **P 06 18 49.5 -0.3**
comp=Z,287nm,1.5s,comp=Z,3μm
KMSI Cibinong 64.52 112 P **P 06 18 52.5 +0.8**
comp=Z,412nm,1.1s,comp=Z,4μm
JAGI Jajag, Banyuwa 64.67 127 eP **P 06 18 50.7 -1.9**
JAGI epP **pP 06 18 56.3 -1.6**
JAGI Jajag, Banyuwa 64.67 127 P **P 06 18 51.2 -1.4**
comp=Z,272nm,1.5s,comp=Z,4μm
LUWI Luwuk 64.81 115 eP **P 06 18 51.9 -1.7**
LUWI epP **pP 06 18 57.2 -1.6**
LUWI Luwuk 64.81 115 P **P 06 18 53.7 +0.1**
comp=Z,212nm,1.0s,comp=Z,6μm
SPSI Sidrap Palu 64.87 119 P **P 06 18 53.3 -0.6**
comp=Z,110nm,1.8s,comp=Z,2μm
RES Resolute Bay 65.04 355 eP **P 06 18 54.8 +0.6**
comp=Z,146nm,1.3s
RES LR LR
comp=Z,8μm,20.0s
RES Resolute Bay 65.04 355 eP **P 06 18 54.8 +0.6**
RES pmax pmax
comp=Z,146nm,1.3s
RES MLR MLR
comp=Z,8μm,20.0s
PMPST Porto Santo, M 65.32 293⇑ iP P 06 18 56.4 -0.4
comp=Z,334nm,1.4s
PMPST epP **sP 06 19 03.3 -0.8**
PMPS Porto Santo 65.34 293 eP **P 06 18 57.5 +0.7**
comp=Z,373nm,1.7s
BNSI Bone 65.42 119 P **P 06 18 57.0 -0.5**
comp=Z,187nm,1.5s,comp=Z,2μm
NRS Narsarsuaq 65.51 331 eP **P 06 18 57.4 0.0**
comp=Z,356nm,1.1s
NRS LR LR
comp=Z,6μm,19.0s
NRS Narsarsuaq 65.51 331⇑ iP P 06 18 57.7 +0.3
NRS pmax pmax
comp=Z,360nm,1.1s
NRS MLR MLR
comp=Z,7μm,17.0s
NRS Narsarsuaq 65.51 331⇑ iP P 06 18 57.7 +0.3
comp=Z,358nm,1.1s
KAPI Kappang 65.63 120 eP **P 06 18 57.7 -1.2**
KAPI epP **pP 06 19 03.6 -0.6**
KAPI Kappang 65.63 120 eP **P 06 18 57.7 -1.2**
KAPI e*PP **pP 06 19 03.6 -0.6**
KAPI Kappang 65.63 120 P **P 06 18 58.1 -0.8**
SNR=33
KAPI P **P 06 18 58.1 -0.8**
SNR=33
RDOG Red Dog Mine 65.90 18 PFAKE 06 19 10.0 +10
RDOG LR LR
comp=Z,8μm,18.0s
PMAR Madeira 65.93 293 eP **P 06 19 00.7 -0.2**
comp=Z,750nm,1.6s
FUL Funchal 65.95 293 eP **P 06 19 01.6 +0.8**
comp=Z,434nm,1.9s
FUL epP **sP 06 19 07.4 -0.8**
LSZ Lusaka 65.98 222 eP **P 06 19 01.3 +0.1**
LSZ epP **pP 06 19 06.6 +0.1**
LSZ LR LR
comp=Z,3μm,18.0s
LSZ Lusaka 65.98 222 eP **P 06 19 01.3 +0.1**
LSZ e*PP **pP 06 19 06.6 +0.1**
LSZ MLR MLR
comp=Z,3μm,18.0s
LSZ Lusaka 65.98 222 P **P 06 19 01.8 +0.6**
SNR=42
PMOZ Porto Moniz, M 66.07 293⇑ iP P 06 19 02.0 +0.3
comp=Z,298nm,1.5s
PMOZ eS **S 06 27 52.9 +3.4**
PMOZ Porto Moniz, M 66.07 293 eLR LR 06 46 20.5
comp=Z,2μm,18.0s
BKSI Bulukumba 66.10 120 P **P 06 19 01.5 -0.4**
comp=Z,246nm,1.2s,comp=Z,3μm
IVI Ivigtut 66.50 332 eP **P 06 19 03.4 -0.4**
comp=Z,458nm,1.4s
IVI LR LR
comp=Z,4μm,20.0s
GAMB Gambell 66.56 25 eP **P 06 19 04.6 +0.4**
comp=Z,228nm,1.1s
GAMB epP **sP 06 19 10.6 -0.8**
GAMB LR LR
comp=Z,6μm,19.0s
KDI Kendari 66.80 117 P **P 06 19 07.2 +0.8**
comp=Z,214nm,1.3s,comp=Z,3μm
TNTI Ternate 66.82 110 eP **P 06 19 06.5 -0.1**
comp=Z,1μm,1.3s
TNTI Ternate 66.82 110 P **P 06 19 07.0 +0.5**
comp=Z,826nm,1.2s,comp=Z,10μm
BSSI Bau Bau, Buton 66.96 120 P **P 06 19 07.1 -0.3**
comp=Z,380nm,1.3s,comp=Z,5μm
PLAI Plampang 67.21 124 P **P 06 19 07.0 -2.0**
comp=Z,335nm,1.4s,comp=Z,5μm
SANI Sana 67.78 113 P **P 06 19 12.3 -0.4**
comp=Z,456nm,1.1s,comp=Z,5μm
ANM Nome 67.90 22 eP **P 06 19 13.8 +1.1**
comp=Z,247nm,1.0s
ANM LR LR
comp=Z,4μm,22.0s
SMY Shemya 68.06 39 eP **P 06 19 13.3 -0.6**
comp=Z,360nm,1.2s
SMY LR LR
comp=Z,5μm,19.0s
SMY Shemya 68.06 39 eP **P 06 19 13.3 -0.6**
SMY pmax pmax
comp=Z,360nm,1.2s
SMY MLR MLR
comp=Z,5μm,19.0s
TOLK Toolik Lake Re 68.27 14 eP **P 06 19 16.1 +1.1**
comp=Z,888nm,1.1s
TOLK LR LR
comp=Z,8μm,19.0s
TOLK Toolik Lake Re 68.27 14 P **P 06 19 16.4 +1.3**
baz=330
BART Pico Bartolome 68.75 302 eP **P 06 19 19.8 +1.2**
comp=Z,287nm,1.3s
CMLA Cha da Macela 68.99 302 eP **P 06 19 21.0 +1.0**
comp=Z,207nm,1.4s
CMLA Cha da Macela 68.99 302 PFAKE 06 19 30.0 +10
CMLA LR LR
comp=Z,4μm,19.0s
CMLA Cha da Macela 68.99 302 i P **P 06 19 21.4 +1.4**
PSMN Pico do Norte, 69.12 301 eP **P 06 19 21.3 +0.5**
comp=Z,305nm,1.7s
PSMA Santa Maria 69.17 301 eP **P 06 19 22.3 +1.2**
comp=Z,365nm,1.8s
COLD Coldfoot 69.38 15 eP **P 06 19 22.9 +1.0**
comp=Z,357nm,1.0s
COLD LR LR
comp=Z,6μm,21.0s

WSI Waingapu 69.46 123 P P 06 19 30.9 +7.9
PSCM Serra do Cume 69.48 304 eP **P 06 19 24.2 +1.2**
comp=Z,222nm,1.4s
ADH Angra Heroismo 69.58 304 eP **P 06 19 24.6 +1.0**
comp=Z,247nm,1.8s
PGRA Graciosa 69.84 304 eP **P 06 19 26.2 +1.0**
comp=Z,547nm,1.7s
MMRI Maumere 69.96 121 eP **P 06 19 23.3 -2.8**
MMRI ePcP **pP 06 19 29.7 -1.7**
MMRI Maumere 69.96 121 P **P 06 19 24.6 -1.5**
comp=Z,219nm,1.3s,comp=Z,4μm
PMAN Manadas 70.14 304 eP **P 06 19 28.2 +1.1**
comp=Z,440nm,1.8s
ROSA Rosais 70.19 304 eP **P 06 19 28.4 +1.0**
comp=Z,344nm,1.9s
ROSA Rosais 70.19 304 eP **P 06 19 26.9 -0.4**
comp=Z,398nm,1.5s
ROSA LR LR
comp=Z,6μm,20.0s
MATP Matopo 70.19 219 i P **P 06 19 27.7 +0.2**
MATP Matopo 70.19 219 i P **P 06 19 27.7 +0.2**
PPNO Prainha do Nor 70.35 304 eP **P 06 19 29.6 +1.2**
PICO Pico 70.43 304 eP **P 06 19 30.1 +1.2**
comp=Z,308nm,1.4s
PCAN Candelaria 70.49 304 eP **P 06 19 30.4 +1.2**
comp=Z,283nm,1.7s
PCED Cedros 70.53 304 eP **P 06 19 30.5 +1.0**
comp=Z,392nm,1.7s
HOR Horta 70.55 304 eP **P 06 19 30.6 +1.1**
comp=Z,437nm,1.9s
SARN Sarigan 70.64 84 eP **P 06 19 30.4 0.0**
comp=Z,77nm,1.0s
SARN LR LR
comp=Z,2μm,20.0s
SWI Sorong 70.76 108 P **P 06 19 31.7 +0.6**
comp=Z,446nm,1.4s,comp=Z,5μm
ANA2 Anatahan 70.80 85 eP **P 06 19 32.1 +0.7**
comp=Z,305nm,1.1s
FYU Fort Yukon 70.89 13 eP **P 06 19 32.7 +1.5**
comp=Z,831nm,1.2s
FYU LR LR
comp=Z,7μm,19.0s
INK Inuvik 70.92 8 eP **P 06 19 32.1 +0.9**
comp=Z,844nm,1.1s
INK LR LR
comp=Z,8μm,20.0s
INK Inuvik 70.92 8 eP **P 06 19 32.2 +0.9**
INK pmax pmax
comp=Z,844nm,1.1s
INK MLR MLR
comp=Z,8μm,20.0s
MLY Manley 71.18 16 eP **P 06 19 33.6 +0.6**
comp=Z,311nm,1.1s
MLY LR LR
comp=Z,6μm,18.0s
H07S1 FLORES T-PHASE 71.66 306 eP **P 06 19 36.6 +0.3**
MDM Murphy Dome 71.76 15 eP **P 06 19 37.4 +0.9**
comp=Z,801nm,1.4s
MDM LR LR
comp=Z,8μm,21.0s
POKR Poker Plat Res 71.78 15 P **P 06 19 37.9 +1.4**
baz=333
PRP Porcupine Dome 71.78 14 eP **P 06 19 37.9 +1.2**
comp=Z,616nm,1.6s
PRP LR LR
comp=Z,6μm,19.0s
SPIA Saint Paul Isl 71.78 29 PFAKE 06 19 50.0 +13
SPIA LR LR
comp=Z,6μm,20.0s
GUMO Guam 71.82 87 PFAKE 06 19 50.0 +12
GUMO LR LR
comp=Z,2μm,22.0s
TCOL CIGO, UAF Yank 71.91 15 P **P 06 19 38.1 +0.8**
baz=332
COLA College 71.91 15 eP **P 06 19 38.1 +0.9**
comp=Z,792nm,1.1s
COLA ePcP **sP 06 19 43.8 -0.8**
COLA LR LR
comp=Z,7μm,21.0s
COLA College 71.91 15c i P **P 06 19 38.2 +0.9**
COLA pmax pmax
comp=Z,800nm,1.2s
BPAW Bear Paw Mtn. 71.94 17 eP **P 06 19 37.9 +0.3**
comp=Z,260nm,1.0s
BPAW ePcP **pP 06 19 43.5 +0.6**
BPAW LR LR
comp=Z,6μm,20.0s
CCB Clear Creek Bu 72.12 15 eP **P 06 19 38.7 +0.1**
comp=Z,696nm,1.5s
CCB LR LR
comp=Z,7μm,21.0s
SOEI Soe 72.13 120 eP **P 06 19 37.8 -1.6**
SOEI ePcP **pP 06 19 43.2 -1.6**
SOEI Soe 72.13 120 P **P 06 19 38.9 -0.6**
comp=Z,591nm,1.2s,comp=Z,5μm
DBIC Dimbokro 72.18 264 eP **P 06 19 38.7 -1.0**
comp=Z,358nm,1.4s
DBIC ePcP **pP 06 19 44.8 -0.3**
DBIC Dimbokro 72.18 264 eP **P 06 19 38.7 -1.0**
DBIC e 06 19 44.8
DBIC pmax pmax
comp=Z,358nm,1.4s
DBIC Dimbokro 72.18 264 P **P 06 19 38.8 -1.0**
comp=Z,43nm,0.6s,baz=28,slow=7.2,SNR=60
DBIC LR LR 06 55 54.7
comp=Z,5μm,19.3s,baz=32,slow=40
ILAR Eielson Array 72.20 15 P **P 06 19 39.1 +0.1**
comp=Z,134nm,1.0s,baz=325,slow=4.2,SNR=404
ILAR LR LR 06 56 14.4
comp=Z,7μm,18.5s,baz=332,slow=40
ILB Eielson Array 72.20 15 eP **P 06 19 39.2 +0.1**
comp=Z,349nm,1.2s
ILB ePcP **pP 06 19 45.1 +0.7**
BWN Browne 72.20 16 eP **P 06 19 39.7 +0.6**
comp=Z,820nm,1.2s
BWN LR LR
comp=Z,6μm,18.0s
WRH Wood River Hil 72.22 15 eP **P 06 19 39.0 -0.2**
comp=Z,248nm,1.5s
WRH LR LR
comp=Z,6μm,21.0s
KIC Kosan Boka 72.29 263 eP **P 06 19 38.0 -2.4**
comp=Z,1μm,1.3s
BNDI Bandanaira 72.29 112 P **P 06 19 41.2 +0.9**
comp=Z,840nm,1.3s,comp=Z,11μm
TIC Toumodi 72.32 264 eP **P 06 19 40.1 -0.5**
EPYK Eagle Plains 72.39 10 eP **P 06 19 40.6 +0.3**
comp=Z,465nm,1.3s
EPYK LR LR
comp=Z,3μm,20.0s
EPYK Eagle Plains 72.39 10 P **P 06 19 40.7 +0.5**
baz=341
EPYK S **S 06 29 02.0 -0.9**
baz=341
HDA Harding Lake 72.51 15 eP **P 06 19 40.5 -0.5**
comp=Z,248nm,1.2s
HDA LR LR
comp=Z,8μm,22.0s
HDA Harding Lake 72.51 15 P **P 06 19 40.6 -0.3**
baz=333
LIC Lamto 72.59 263 eP **P 06 19 40.2 -2.0**
comp=Z,633nm,1.2s
MCK McKinley 72.70 16 eP **P 06 19 41.6 -0.5**
comp=Z,162nm,1.2s
MCK LR LR
comp=Z,6μm,19.0s
MCK McKinley 72.70 16 eP **P 06 19 41.6 -0.5**
MCK pmax pmax
comp=Z,162nm,1.2s
MCK MLR MLR
comp=Z,6μm,19.0s
FAKI Fak Fak 72.88 109 eP **P 06 19 43.7 -0.1**
FAKI ePcP **pP 06 19 49.4 +0.2**
FAKI Fak Fak 72.88 109 P **P 06 19 44.7 +0.8**
comp=Z,562nm,1.3s,comp=Z,6μm
ADK Adak 72.91 36 PFAKE 06 20 00.0 +17
ADK LR LR
comp=Z,7μm,19.0s
RND Reindeer 73.01 16 PFAKE 06 20 00.0 +16
RND LR LR
comp=Z,6μm,20.0s
EGAK Eagle 73.22 12 PFAKE 06 20 00.0 +15
EGAK LR LR
comp=Z,6μm,19.0s
SVW2 Sparrevohn 73.38 20 eP **P 06 19 47.2 +1.0**
comp=Z,181nm,1.0s
SVW2 LR LR

comp=Z,5µm,20.0s
SCRK Sand Creek 73.46 14 *e*P **P 06 19 47.5 +0.8**
comp=Z,463nm,1.2s
SCRK LR LR

comp=Z,6µm,19.0s
RIDG Independent Ri 73.52 14 *e*P **P 06 19 47.0 0.0**
comp=Z,578nm,1.4s
RIDG LR LR

comp=Z,8µm,19.0s
DHY Denali Highway 73.61 16 *e*P **P 06 19 47.9 +0.2**
comp=Z,550nm,1.4s
DHY LR LR

comp=Z,6µm,19.0s
DOT Dot Lake 73.75 14 *e*P **P 06 19 48.9 +0.6**
comp=Z,204nm,1.1s
DOT LR LR

comp=Z,7µm,19.0s
ATKA Atka Island 73.78 34 PFAKE 06 20 00.0 +11
ATKA LR LR

comp=Z,3µm,18.0s
PAX Paxson 74.09 15 *e*P **P 06 19 50.6 +0.2**
comp=Z,338nm,1.1s
PAX LR LR

comp=Z,8µm,21.0s
PAX Paxson 74.09 15 *e*P **P 06 19 50.7 +0.2**
PAX pmax pmax
comp=Z,339nm,1.1s
PAX MLR MLR

comp=Z,8µm,21.0s
DAWY Dawson 74.17 12 *e*P **P 06 19 51.5 +0.7**
comp=Z,538nm,1.2s
DAWY LR LR

comp=Z,5µm,20.0s
SPU Mount Spurr 74.21 19 *e*P **P 06 19 50.9 -0.2**
SUA Susitna One 74.29 18 *e*P **P 06 19 51.8 +0.2**
comp=Z,446nm,1.3s
SUA LR LR

comp=Z,7µm,21.0s
GHO Glory Hole Cre 74.44 17 *e*P **P 06 19 52.7 +0.3**
comp=Z,372nm,1.0s
GHO LR LR

comp=Z,6µm,18.0s
KMPI Kaimana, Papua 74.44 108 P **P 06 19 55.0 +2.0**
comp=Z,560nm,1.9s
MENT Mentasta 74.46 14 *e*P **P 06 19 53.2 +0.7**
comp=Z,231nm,1.5s
MENT LR LR

comp=Z,7µm,20.0s
SML Sawmill 74.53 17 *e*P **P 06 19 53.4 +0.4**
comp=Z,458nm,1.0s
SML LR LR

comp=Z,6µm,20.0s
PMR Palmer 74.55 17 *e*P **P 06 19 52.9 0.0**
comp=Z,285nm,1.0s
PMR LR LR

comp=Z,6µm,18.0s
PMR Palmer 74.55 17 *e*P **P 06 19 52.9 0.0**
PMR pmax pmax
comp=Z,285nm,1.0s
PMR MLR MLR

comp=Z,6µm,18.0s
RSO Redoubt South 74.66 19 *e*P **P 06 19 54.1 +0.2**
HARP HAARP 74.67 15 *e*P **P 06 19 55.0 +1.3**
comp=Z,1µm,1.1s
HARP LR LR

comp=Z,5µm,22.0s
SCM Sheep Creek Mo 74.73 16 *e*P **P 06 19 54.5 +0.4**
comp=Z,278nm,0.9s
SCM LR LR

comp=Z,5µm,19.0s
SCM Sheep Creek Mo 74.73 16 *e*P **P 06 19 54.5 +0.4**
SCM pmax pmax
comp=Z,278nm,0.9s
SCM MLR MLR

comp=Z,5µm,19.0s
RC01 Rabbit Creek A 74.85 18 *e*P **P 06 19 54.9 +0.2**
comp=Z,407nm,1.0s
RC01 *e*pP **pP 06 20 00.6 +0.5**
RC01 LR LR

comp=Z,6µm,21.0s
KNK Knik Glacier 74.86 17 *e*P **P 06 19 55.5 +0.7**
comp=Z,688nm,1.1s
KNK *e*pP **sP 06 20 01.3 -0.8**
KNK LR LR

comp=Z,6µm,18.0s
TSUM Tsumeb 74.97 228 *i* P **P 06 19 56.8 +0.8**
TSUM Tsumeb 74.97 228 *e*P **P 06 19 56.4 +0.4**
TSUM *e*pP **pP 06 20 02.1 +0.6**
TSUM LR LR

comp=Z,6µm,18.0s
TSUM Tsumeb 74.97 228 *i* P **P 06 19 56.8 +0.8**
KLU Klutina 75.34 16 PFAKE 06 20 10.0 +12
KLU LR LR

comp=Z,7µm,18.0s
NIKH Nikolski High 75.44 31 PFAKE 06 20 10.0 +12
NIKH LR LR

comp=Z,5µm,21.0s
LBTB Lobatse 75.48 219 *e*P **P 06 19 59.1 +0.2**
LBTB *e*pP **pP 06 20 04.8 +0.5**
LBTB Lobatse 75.48 219 *e*P **P 06 19 59.1 +0.2**
LBTB *e**PP **pP 06 20 04.8 +0.5**
GLI Glacier Island 75.64 17 *e*P **P 06 19 59.7 +0.4**
comp=Z,305nm,1.0s
GLI LR LR

comp=Z,6µm,18.0s
HOM Homer 75.64 19 PFAKE 06 20 10.0 +11
HOM LR LR

comp=Z,7µm,18.0s
SAUI Saumlaki 75.69 113 *e*P **P 06 20 00.5 +0.3**
comp=Z,1µm,1.0s
SAUI Saumlaki 75.69 113 P **P 06 20 01.0 +0.8**
comp=Z,2µm,1.1s,comp=Z,19µm
UNV Unalaska Valle 75.70 30 *e*P **P 06 19 58.5 -1.1**
comp=Z,119nm,1.0s
UNV LR LR

comp=Z,7µm,20.0s
DIV Divide 75.70 16 *e*P **P 06 20 00.5 +0.8**
comp=Z,273nm,1.0s
DIV LR LR

comp=Z,7µm,20.0s
BRLK Bradley Lake 75.73 19 *e*P **P 06 19 59.5 -0.4**
comp=Z,232nm,0.8s
BRLK LR LR

comp=Z,8µm,19.0s
AKUT Akutan 75.75 29 PFAKE 06 20 10.0 +10
AKUT LR LR

comp=Z,4µm,20.0s
SEW Seward 75.79 18 *e*P **P 06 20 00.1 +0.1**
comp=Z,429nm,1.2s
SEW *e*pP **sP 06 20 06.2 -1.2**
SEW LR LR

comp=Z,8µm,20.0s
GIRL Giralia 76.03 136 *e*P **P 06 20 02.7 +0.8**
GIRL *e*pP **sP 06 20 08.4 -0.8**
FALS False Pass 76.04 28 PFAKE 06 20 10.0 +8.4
FALS LR LR

comp=Z,7µm,19.0s
BMRM Bremner River 76.09 15 PFAKE 06 20 10.0 +8.1
BMRM LR LR

comp=Z,100nm,19.0s
EYAK Cordova Ski Ar 76.23 16 *e*P **P 06 20 03.6 +1.0**
comp=Z,277nm,1.0s
EYAK LR LR

comp=Z,10µm,18.0s
BALM Baldy 76.47 14 *e*P **P 06 20 05.1 +1.0**
comp=Z,288nm,1.1s
BALM LR LR

comp=Z,6µm,20.0s
BALM Baldy 76.47 14 *e*P **P 06 20 05.1 +1.0**
BALM pmax pmax
comp=Z,288nm,1.1s
BALM MLR MLR

comp=Z,6µm,20.0s
CHGN Chignik 76.55 24 *e*P **P 06 20 04.5 0.0**
comp=Z,152nm,1.2s
SDPT Sand Point 76.66 26 PFAKE 06 20 20.0 +15
SDPT LR LR

comp=Z,9µm,18.0s
CTGM Chitina Glacie 76.73 14 *e*P **P 06 20 06.7 +1.1**
comp=Z,430nm,1.1s
CTGM LR LR

comp=Z,8µm,21.0s
HMT Hamilton 76.73 16 *e*P **P 06 20 06.7 +1.2**
comp=Z,184nm,1.0s
HMT LR LR

comp=Z,5µm,19.0s
KDAK Kodiak Island 77.02 21 *e*P **P 06 20 07.5 +0.3**
comp=Z,325nm,1.0s
KDAK LR LR

comp=Z,4µm,19.0s
KDAK Kodiak Island 77.02 21 *i* P **P 06 20 07.4 +0.3**
MID Middleton Isla 77.11 17 *e*P **P 06 20 08.1 +0.5**
comp=Z,284nm,1.0s
MID LR LR

comp=Z,6µm,21.0s
MID Middleton Isla 77.11 17 *e*P **P 06 20 08.1 +0.5**
MID pmax pmax
comp=Z,284nm,1.0s
MID MLR MLR

comp=Z,6µm,21.0s
OHAK Old Harbor 77.30 21 *e*P **P 06 20 09.4 +0.7**
comp=Z,402nm,1.0s
OHAK LR LR

comp=Z,5µm,19.0s
SII Sitkinak Islan 77.62 22 *e*P **P 06 20 11.6 +1.0**
comp=Z,595nm,1.0s
SII LR LR

comp=Z,8µm,19.0s
PCA Pinnacle 77.73 14 *e*P **P 06 20 12.3 +1.1**
comp=Z,368nm,1.1s
PCA LR LR

comp=Z,6µm,20.0s
SCHQ Schefferville 77.81 335 *e*P **P 06 20 11.6 -0.1**
comp=Z,4.7nm,0.7s
SCHQ LR LR

comp=Z,3µm,19.0s
SCHQ Schefferville 77.81 335 P **P 06 20 11.8 +0.1**
comp=Z,93nm,0.9s,baz=38,slow=6.1,SNR=37
SCHQ LR LR 06 53 51.8

comp=Z,3µm,21.3s,baz=33,slow=35
YKW3 Yellowknife Ar 77.82 1 *e*P **P 06 20 12.1 +0.5**
comp=Z,635nm,1.1s
YKW3 *e*pP **pP 06 20 17.4 +0.5**
YKW3 LR LR

comp=Z,6µm,19.0s
YKA Yellowknife Ar 77.89 1 P **P 06 20 12.3 +0.4**
comp=Z,347nm,0.9s,baz=354,slow=5.9,SNR=890
YKA PKKPbc **PKKPbc 06 39 11.6 -0.8**
comp=Z,0.9nm,0.9s,baz=166,slow=2.7,SNR=6.6
YKA LR LR 06 59 08.4

comp=Z,625nm,18.7s,baz=2.5,slow=39
YKB5 Yellowknife Ar 77.89 1 *e*P **P 06 20 12.3 +0.4**
YKB5 *e*PKKPbc **PKKPbc 06 39 11.6 -0.8**
MBWA Marble Bar 77.92 131 PFAKE 06 20 20.0 +7.4
MBWA LR LR

comp=Z,2µm,19.0s
MBWA Marble Bar 77.92 131 P **P 06 20 13.3 +0.7**
SNR=11
MBWA P **P 06 20 13.3 +0.7**
SNR=11
BCPM Bancas Point 77.98 14 PFAKE 06 20 20.0 +7.5
BCPM LR LR

comp=Z,7µm,21.0s
WHY Whitehorse 78.09 11 *e*P **P 06 20 13.3 +0.1**
comp=Z,181nm,1.0s
WHY *e*pP **sP 06 20 19.4 -1.2**
WHY LR LR

comp=Z,4µm,19.0s
PSAD1 Pilbara Seismi 78.20 131 PFAKE 06 20 30.0 +16
PSAD1 LR LR

comp=Z,3µm,21.0s
PSAC1 Pilbara Seismi 78.25 131 PFAKE 06 20 30.0 +16
PSAC1 LR LR

comp=Z,3µm,20.0s
PSAB1 Pilbara Seismi 78.29 131 PFAKE 06 20 30.0 +15
PSAB1 LR LR

comp=Z,3µm,19.0s
PSAA2 Pilbara Seismi 78.30 131 PFAKE 06 20 30.0 +15
PSAA2 LR LR

comp=Z,3µm,20.0s
PSAB2 Pilbara Seismi 78.30 131 PFAKE 06 20 30.0 +15
PSAB2 LR LR

comp=Z,3µm,21.0s
PSAA1 Pilbara Seismi 78.30 131 PFAKE 06 20 30.0 +15
PSAA1 LR LR

comp=Z,3µm,21.0s
PSA00 Pilbara Seismi 78.31 131 *e*P **P 06 20 14.4 -0.4**
PSA00 *e*pP **pP 06 20 19.9 -0.2**
PSA00 LR LR

comp=Z,3µm,20.0s
PSAA3 Pilbara Seismi 78.32 131 PFAKE 06 20 30.0 +15
PSAA3 LR LR

comp=Z,3µm,22.0s
PSAD3 Pilbara Seismi 78.32 131 PFAKE 06 20 30.0 +15
PSAD3 LR LR

comp=Z,3µm,21.0s
PSAB3 Pilbara Seismi 78.33 131 PFAKE 06 20 30.0 +15
PSAB3 LR LR

comp=Z,3µm,21.0s
PSAC2 Pilbara Seismi 78.33 131 PFAKE 06 20 30.0 +15
PSAC2 LR LR

comp=Z,3µm,21.0s
PSAC3 Pilbara Seismi 78.33 131 PFAKE 06 20 30.0 +15
PSAC3 LR LR

comp=Z,3µm,21.0s
GENI Genyem 78.51 103 P **P 06 20 16.9 +0.8**
comp=Z,687nm,1.7s,comp=Z,9µm
BOSA Boshof 78.69 217 *e*P **P 06 20 16.4 -0.4**
BOSA *e*pP **pP 06 20 22.0 -0.2**
BOSA Boshof 78.69 217 *e*P **P 06 20 16.4 -0.4**
BOSA *e**PP **pP 06 20 22.0 -0.2**
BOSA Boshof 78.69 217 P **P 06 20 16.5 -0.4**
comp=Z,43nm,0.8s,baz=23,slow=4.8,SNR=48
BOSA PKKPbc **PKKPbc 06 39 12.4 +0.3**
comp=Z,1.6nm,0.6s,baz=159,slow=6.4,SNR=5.2
BOSA LR LR 06 55 48.9

comp=Z,3µm,22.0s,baz=26,slow=36
MTN Manton Dam 78.99 117 *e*P **P 06 20 17.6 -1.1**
MTN *es*P **pP 06 20 23.4 -0.6**
SKAG Skagway 79.17 12 *e*P **P 06 20 20.4 +1.4**
comp=Z,447nm,1.3s
SKAG LR LR

comp=Z,3µm,21.0s
BESE Bessie Mountai 80.09 12 *e*P **P 06 20 25.6 +1.5**
comp=Z,355nm,1.2s
BESE LR LR

comp=Z,3µm,20.0s
JIS Juneau Island 80.45 11 *e*P **P 06 20 27.4 +1.5**
comp=Z,290nm,1.2s
JIS LR LR

comp=Z,3µm,20.0s
FCC Fort Churchill 80.45 350 *e*P **P 06 20 26.5 +0.6**
comp=Z,498nm,1.1s
FCC LR LR

comp=Z,7µm,19.0s
FCC Fort Churchill 80.45 350 *e*P **P 06 20 26.5 +0.6**
FCC pmax pmax
comp=Z,498nm,1.1s
FCC MLR MLR

comp=Z,7µm,19.0s
DLBC Dease Lake 80.89 9 *e*P **P 06 20 29.7 +1.2**
comp=Z,195nm,1.0s
DLBC LR LR

comp=Z,4µm,20.0s
SIT Sitka 81.47 12 *e*P **P 06 20 33.0 +1.6**
comp=Z,147nm,1.0s
SIT Sitka 81.47 12 *e*P **P 06 20 33.0 +1.6**
SIT pmax pmax
comp=Z,147nm,1.0s
MORW Morawa 82.19 138 *e*P **P 06 20 35.0 -0.5**
comp=Z,336nm,1.2s
MORW LR LR

comp=Z,4µm,19.0s
WRAK Wrangell Islan 82.54 11 *e*P **P 06 20 38.4 +1.3**
comp=Z,226nm,1.0s
WRAK LR LR

comp=Z,3µm,22.0s
GBN Guysborough 83.48 327 *e*P **P 06 20 43.0 +0.9**
comp=Z,602nm,1.2s
GBN LR LR

comp=Z,4µm,19.0s
MANU Manus Island 83.59 98 *e*P **P 06 20 43.7 +0.5**
comp=Z,310nm,1.3s
MANU LR LR

comp=Z,2µm,22.0s
SUR Sutherland 83.92 218 *e*P **P 06 20 45.0 +0.4**
comp=Z,297nm,1.6s
SUR LR LR

comp=Z,4µm,20.0s
CHGQ Chibougamau 84.42 336 P **P 06 20 47.4 +0.5**
baz=28,SNR=68
LMN Caledonia Moun 84.48 329 *e*P **P 06 20 47.7 +0.4**
comp=Z,326nm,1.3s
LMN LR LR

comp=Z,4µm,19.0s
WAKE Wake Island 84.63 69 *e*P **P 06 20 48.1 -0.3**
comp=Z,1µm,1.4s
WAKE LR LR

comp=Z,2µm,21.0s
HAL Halifax 84.97 327 *e*P **P 06 20 49.6 -0.1**
comp=Z,424nm,1.2s
HAL LR LR

comp=Z,3µm,18.0s
HAL Halifax 84.97 327 *e*P **P 06 20 49.6 -0.1**
HAL pmax pmax
comp=Z,424nm,1.2s
HAL MLR MLR

comp=Z,3µm,18.0s
PQI Presque Isle 85.04 331 *e*P **P 06 20 50.8 +0.7**
comp=Z,388nm,1.2s
PQI LR LR

comp=Z,4µm,20.0s
FFC Flin Flon 85.26 354 *e*P **P 06 20 51.5 +0.4**
comp=Z,642nm,1.2s
FFC LR LR

comp=Z,4µm,18.0s
FFC Flin Flon 85.26 354 *i* P **P 06 20 51.3 +0.3**
MATQ Matagami 85.52 338 P **P 06 20 53.1 +0.7**
baz=26,SNR=148
DIB Dawson Inlet, 85.64 12 *e*P **P 06 20 53.5 +0.7**
comp=Z,69nm,1.4s
DIB LR LR

comp=Z,4µm,19.0s
GGN Saint George 85.89 329 *e*P **P 06 20 54.7 +0.4**
comp=Z,267nm,1.4s
NWAO Narrogin (SRO) 85.91 140 *e*P **P 06 20 53.4 -1.0**
comp=Z,303nm,1.4s
NWAO LR LR

comp=Z,2µm,20.0s
NWAO Narrogin (SRO) 85.91 140 *e*P **P 06 20 53.4 -1.0**
NWAO pmax pmax
comp=Z,303nm,1.4s
NWAO MLR MLR

comp=Z,2µm,20.0s
LSQQ Lebel-sur-Quev 85.96 337 P **P 06 20 55.4 +0.8**
baz=27
LATQ La Tuque 86.11 334 P **P 06 20 56.3 +0.9**
baz=30,SNR=27
WRAB Tennant Creek 86.17 120 *c i*P **P 06 20 55.2 -0.8**
WRAB pmax pmax
comp=Z,220nm,1.0s
PATS Pohnpei 86.33 84 *e*P **P 06 20 57.4 +0.4**
comp=Z,169nm,1.1s
EMMW East Machias 86.47 330 *e*P **P 06 20 57.2 0.0**
comp=Z,281nm,1.3s
EMMW LR LR

comp=Z,3µm,20.0s
PKME Peaks-Kenny Pk 86.70 331 *e*P **P 06 20 59.0 +0.7**
comp=Z,370nm,1.3s
PKME LR LR

comp=Z,3µm,19.0s
PKME Peaks-Kenny Pk 86.70 331 P **P 06 20 59.4 +1.1**
baz=32,SNR=13
VLDQ Val d'Or 86.95 337 *e*P **P 06 21 00.2 +0.8**
comp=Z,761nm,1.3s
VLDQ LR LR

comp=Z,4µm,19.0s
BBB Bella Bella 87.25 10 *e*P **P 06 21 01.2 +0.4**
comp=Z,62nm,1.1s
BBB LR LR

comp=Z,2µm,20.0s
WVL Waterville 87.43 331 *e*P **P 06 21 02.7 +0.9**
comp=Z,132nm,1.2s
WVL LR LR

comp=Z,4µm,18.0s
D54A Lac Fusel, La 87.56 336 P **P 06 21 03.1 +0.6**
baz=27,SNR=44
MOQ Mont Orford 87.73 333 *e*P **P 06 21 04.2 +0.7**
SHEL Horse Pasture 87.75 247 *e*P **P 06 21 03.8 0.0**
comp=Z,475nm,1.5s
SHEL Horse Pasture 87.75 247 *e*P **P 06 21 03.8 0.0**
SHEL pmax pmax
comp=Z,475nm,1.5s
D53A Lac Vacive, Po 87.95 337 *e*P **P 06 21 04.9 +0.6**
comp=Z,408nm,1.3s
D53A LR LR

comp=Z,4µm,19.0s
D53A Lac Vacive, Po 87.95 337 P **P 06 21 05.0 +0.6**
baz=26,SNR=57
PMG Port Moresby 88.20 104 *e*P **P 06 21 05.5 -0.5**
PMG *e*pP **pP 06 21 11.0 -0.4**
PMG Port Moresby 88.20 104 ⇓ *i*P **P 06 21 06.2 +0.3**
PMG pmax pmax
comp=Z,600nm,1.2s
COEN Coen 88.25 110 *e*P **P 06 21 05.8 -0.3**
COEN *e*pP **pP 06 21 11.2 -0.4**
D52A ZEK Kipawa Sen 88.25 337 P **P 06 21 06.4 +0.7**
baz=26,SNR=72
ALFO Alfred 88.35 335 P **P 06 21 06.9 +0.7**
baz=28,SNR=21
E54A Lac Daplat, Po 88.37 336 P **P 06 21 06.9 +0.5**
baz=26,SNR=30
AS31 Alice Springs 88.50 123 *e*P **P 06 21 06.7 -0.5**
AS31 *e*pP **pP 06 21 12.9 +0.2**
AS31 *e*PKiKP **PKiKP 06 26 07.5 -0.5**
AS31 *e*PKKPdf **PKKPbc 06 38 49.8 +1.3**
ASAR Alice Springs 88.50 123 P **P 06 21 06.7 -0.6**
comp=Z,40nm,0.8s,baz=318,slow=4.9,SNR=211
ASAR PKiKP **PKiKP 06 26 07.5 -0.5**
comp=Z,2.4nm,0.8s,baz=335,slow=1.3,SNR=4.4
ASAR PKKPbc **PKKPbc 06 38 49.8 +1.3**
comp=Z,3.0nm,0.8s,baz=127,slow=2.9,SNR=17
ASAR PKPPKP **P'P'df 06 46 57.1 +2.6**
comp=Z,1.7nm,1.0s,baz=134,slow=3.8,SNR=5.4
ASAR LR LR 07 07 41.3

comp=Z,1µm,18.2s,baz=300,slow=40
LBNH Lisbon 88.55 332 *e*P **P 06 21 07.0 -0.2**
comp=Z,201nm,1.6s
LBNH LR LR

comp=Z,3µm,18.0s
LBNH Lisbon 88.55 332 *e*P **P 06 21 07.0 -0.2**
LBNH pmax pmax
comp=Z,201nm,1.6s
LBNH MLR MLR

comp=Z,3µm,18.0s
LBNH Lisbon 88.55 332 P **P 06 21 08.1 +0.9**
baz=30
E53A Dumoine, Ponti 88.57 337 P **P 06 21 07.9 +0.7**
baz=26,SNR=39
FRNY Flat Rock 88.61 333 *e*P **P 06 21 07.7 +0.1**
comp=Z,122nm,1.5s
FRNY LR LR

comp=Z,3µm,20.0s
RABL Rabaul 88.62 97 *e*P **P 06 21 07.9 -0.1**
comp=Z,183nm,1.2s
F55A Otter Lake 88.64 336 P **P 06 21 07.8 +0.2**
baz=27,SNR=6.1
ORIO Orleans, Innes 88.71 335 P **P 06 21 08.3 +0.3**
baz=28,SNR=11
ORHO Orleans, Herit 88.72 335 P **P 06 21 08.2 +0.2**
baz=28
VT1 Waterbury 88.76 333 PFAKE 06 21 20.0 +12
VT1 LR LR

comp=Z,4µm,20.0s
D49A Beulah Townshi 88.82 339 P **P 06 21 09.0 +0.5**
baz=24,SNR=14
E52A Mattawa 88.95 337 P **P 06 21 09.4 +0.4**
baz=25,SNR=30
E51A G1948 Merrick 88.97 338 P **P 06 21 09.7 +0.5**
baz=25,SNR=64
ULM Lac du Bonnet 88.99 349 *e*P **P 06 21 08.8 -0.4**
comp=Z,457nm,1.1s
ULM LR LR

comp=Z,5µm,19.0s
ULM Lac du Bonnet 88.99 349 *e*P **P 06 21 08.8 -0.4**
ULM pmax pmax
comp=Z,457nm,1.1s
ULM MLR MLR

comp=Z,5µm,19.0s
ULM Lac du Bonnet 88.99 349 P **P 06 21 09.0 -0.2**
comp=Z,205nm,0.9s,baz=11,slow=4.8,SNR=185
ULM LR LR 07 03 35.5

comp=Z,4µm,19.8s,baz=9.5,slow=37
D48A Paudash Townsh 89.03 340 P **P 06 21 09.8 +0.3**
baz=23,SNR=49
ALGO Algonquin Park 89.06 337 P **P 06 21 10.1 +0.5**
baz=26,SNR=27
PEMO Pembroke 89.07 336 P **P 06 21 10.0 +0.4**
baz=26,SNR=22
FFD Franklin Falls 89.11 332 PFAKE 06 21 20.0 +10
FFD LR LR

comp=Z,3µm,19.0s
HNH Hanover 89.14 332 PFAKE 06 21 20.0 +10
HNH LR LR
comp=Z,3µm,21.0s
LONY Lake Ozonia 89.14 334 *eP* **P 06 21 10.4 +0.4**
LONY LR LR
comp=Z,3µm,19.0s
LONY Lake Ozonia 89.14 334 P **P 06 21 10.7 +0.7**
baz=28,SNR=18
G55A Calabogie 89.28 336 P **P 06 21 11.1 +0.5**
baz=27,SNR=11
E50A Wahnapitae 89.42 339 P **P 06 21 12.1 +0.8**
baz=24,SNR=76
LLLB Lillooet 89.45 6 *eP* **P 06 21 12.5 +1.1**
comp=Z,175nm,1.1s
D47A Chapleau 89.48 340 P **P 06 21 12.4 +0.8**
baz=22,SNR=103
PLVO Plevna 89.58 336 *eP* **P 06 21 11.9 -0.1**
PLVO LR LR
comp=Z,6µm,22.0s
PLVO Plevna 89.58 336 P **P 06 21 12.6 +0.6**
baz=26,SNR=18
NCB Newcomb 89.59 333 PFAKE 06 21 20.0 +7.8
NCB LR LR
comp=Z,2µm,20.0s
F52A Sundridge 89.59 337 P **P 06 21 12.9 +0.9**
baz=25,SNR=45
F51A Arnstein 89.64 338 P **P 06 21 13.1 +0.8**
baz=24,SNR=39
H56A Elgin 89.72 335 P **P 06 21 13.4 +0.7**
baz=27,SNR=22
E48A Lockeyer 89.76 340 P **P 06 21 13.5 +0.6**
baz=23,SNR=94
BANO Bancroft 89.87 336 P **P 06 21 13.7 +0.3**
baz=26,SNR=14
D46A Sault St. Mari 89.87 341 P **P 06 21 14.1 +0.7**
baz=22,SNR=212
HRV Adam Dziewonsk 89.91 331 PFAKE 06 21 20.0 +6.4
HRV LR LR
comp=Z,3µm,20.0s
HRV Adam Dziewonsk 89.91 331 P **P 06 21 12.9 -0.7**
baz=30
ACCN Adirondack Com 89.91 333 *eP* **P 06 21 14.3 +0.6**
ACCN LR LR
comp=Z,3µm,21.0s
BCX Boston College 89.91 331 PFAKE 06 21 20.0 +6.4
BCX LR LR
comp=Z,4µm,18.0s
WES Weston 89.92 331 PFAKE 06 21 20.0 +6.3
WES LR LR
comp=Z,3µm,20.0s
BUKO Buck Lake 89.93 337 P **P 06 21 14.2 +0.5**
baz=25,SNR=26
G53A Haliburton 89.99 337 P **P 06 21 14.5 +0.5**
baz=25,SNR=31
H55A Tweed 90.06 336 P **P 06 21 14.9 +0.6**
baz=26,SNR=9.9
FORT Forrest 90.06 131 *eP* **P 06 21 13.7 -0.6**
FORT *eP*P **pP 06 21 19.9 +0.2**
FORT LR LR
comp=Z,4µm,22.0s
C40A Isle Royale Na 90.08 344 *eP* **P 06 21 14.3 0.0**
comp=Z,466nm,1.1s
C40A LR LR
comp=Z,6µm,19.0s
C40A Isle Royale Na 90.08 344 P **P 06 21 14.3 0.0**
baz=18,SNR=88
E47A Iron Bridge 90.08 340 P **P 06 21 15.0 +0.7**
baz=22,SNR=75
DELO Deloro Mine 90.22 336 P **P 06 21 15.6 +0.5**
baz=26,SNR=18
KLBO Killbear Provi 90.25 338 P **P 06 21 15.7 +0.5**
baz=24,SNR=28
F49A Sandfield 90.39 339 P **P 06 21 16.5 +0.7**
baz=23,SNR=40
QUA2 Belchertown 90.40 331 *eP* **P 06 21 16.0 +0.1**
comp=Z,137nm,1.3s
QUA2 LR LR
comp=Z,3µm,19.0s
BRYW Bryant College 90.41 331 *eP* **P 06 21 15.8 -0.2**
comp=Z,95nm,1.1s
BRYW LR LR
comp=Z,4µm,19.0s
E46A Sault Ste Mari 90.43 341 *eP* **P 06 21 16.3 +0.4**
comp=Z,717nm,1.3s
E46A LR LR
comp=Z,5µm,20.0s
E46A Sault Ste Mari 90.43 341 P **P 06 21 16.4 +0.4**
baz=21,SNR=154
SADO Sadowa 90.47 337 *eP* **P 06 21 16.1 -0.1**
comp=Z,117nm,1.3s
TRY Troy 90.48 332 *eP* **P 06 21 16.9 +0.7**
comp=Z,100nm,1.3s
TRY LR LR
comp=Z,5µm,18.0s
F48A Evansville 90.49 340 P **P 06 21 16.7 +0.4**
baz=23,SNR=56
EYMN Ely 90.50 346 *eP* **P 06 21 16.4 +0.1**
comp=Z,411nm,1.1s
EYMN LR LR
comp=Z,8µm,18.0s
EYMN Ely 90.50 346 P **P 06 21 16.5 +0.2**
baz=16,SNR=96
I55A Frankford 90.51 336 P **P 06 21 16.6 +0.2**
baz=26,SNR=10
PECO Prince Edward 90.55 335 P **P 06 21 17.1 +0.5**
baz=27,SNR=10.0
E44A Grand Marais A 90.59 342 *eP* **P 06 21 17.1 +0.4**
comp=Z,546nm,1.1s
E44A LR LR
comp=Z,7µm,19.0s
E44A Grand Marais A 90.59 342 P **P 06 21 17.5 +0.7**
baz=20,SNR=61
E45A Wooded Hills, 90.65 341 P **P 06 21 17.5 +0.5**
baz=21,SNR=55
TOBO Tobermory, Bru 90.74 339 P **P 06 21 17.9 +0.5**
baz=23,SNR=13
D41A Chassel 90.77 344 *eP* **P 06 21 17.6 +0.1**
comp=Z,416nm,1.1s
D41A LR LR
comp=Z,7µm,21.0s
D41A Chassel 90.77 344 P **P 06 21 18.0 +0.5**
baz=18,SNR=64
H52A Wyevale 90.80 337 P **P 06 21 18.1 +0.3**
baz=24,SNR=26
AGMN Agassiz Nation 90.89 349 *eP* **P 06 21 18.3 +0.2**
comp=Z,492nm,1.2s
AGMN LR LR
comp=Z,4µm,18.0s
AGMN Agassiz Nation 90.89 349 P **P 06 21 18.5 +0.4**
baz=13,SNR=223
WLVO Wesleyville 91.00 336 P **P 06 21 18.9 +0.2**
baz=26,SNR=9.4
E43A Lone Tree Farm 91.07 343 *eP* **P 06 21 18.8 -0.2**
comp=Z,261nm,1.1s
E43A LR LR
comp=Z,6µm,18.0s
E43A Lone Tree Farm 91.07 343 P **P 06 21 19.0 +0.1**
baz=19,SNR=112
F46A Macinaw City C 91.09 341 P **P 06 21 19.2 +0.1**
baz=21,SNR=31
DRCO St. Marys Ceme 91.14 336 P **P 06 21 19.9 +0.6**
baz=25,SNR=15
DRWO Darlington Wes 91.15 336 P **P 06 21 19.9 +0.6**
baz=25,SNR=20
PKRO Pickering 91.17 337 P **P 06 21 19.7 +0.2**
baz=25,SNR=22
E42A Champion 91.22 343 P **P 06 21 19.9 +0.2**
baz=19,SNR=104
BMRO Meriville Lake 91.23 338 P **P 06 21 20.7 +0.9**
baz=24,SNR=55
A04D Lummi Island 91.25 7 P **P 06 21 20.7 +1.0**
baz=352,SNR=69
PGC Sidney 91.25 7 *eP* **P 06 21 20.6 +0.9**
comp=Z,194nm,1.1s
KSCT Kent School, K 91.30 332 *eP* **P 06 21 20.3 +0.2**
comp=Z,68nm,1.2s
KSCT LR LR
comp=Z,3µm,20.0s
F44A Big Bay de Noc 91.31 342 P **P 06 21 20.4 +0.3**
baz=20,SNR=120
F45A CMU Biological 91.37 341 P **P 06 21 20.7 +0.3**
baz=20,SNR=63
J55A Hilton 91.41 335 *eP* **P 06 21 20.4 -0.1**
comp=Z,123nm,1.1s
J55A LR LR
comp=Z,5µm,22.0s
J55A Hilton 91.41 335 P **P 06 21 20.8 +0.2**
baz=26,SNR=7.5
I52A Shelburne 91.41 337 P **P 06 21 21.1 +0.4**
baz=24,SNR=30
E41A Kenton 91.42 344 P **P 06 21 20.5 -0.1**
baz=18,SNR=158
G47A Hillman 91.42 340 P **P 06 21 21.0 +0.4**
baz=22,SNR=67
YLE Yale 91.45 331 PFAKE 06 21 30.0 +9.2
YLE LR LR
comp=Z,3µm,20.0s
I53A Kortright Cn E 91.46 337 P **P 06 21 21.2 +0.4**
baz=25,SNR=12
G46A Petoskey 91.55 341 P **P 06 21 21.1 -0.1**
baz=21,SNR=25
B06A Marblemount 91.56 6 *eP* **P 06 21 21.4 +0.2**
comp=Z,141nm,1.0s
B06A LR LR
comp=Z,4µm,20.0s
TORO Toronto--Lesli 91.57 337 P **P 06 21 21.7 +0.4**
baz=25
BRCO Bruce Peninsul 91.62 338 P **P 06 21 22.4 +0.9**
baz=23,SNR=14
F43A Flat Rock, Esc 91.62 343 P **P 06 21 21.9 +0.4**
baz=19,SNR=201
E40A Wakefield 91.63 345 P **P 06 21 22.0 +0.4**
baz=17,SNR=174
DGMT Dagmar 91.65 354 *eP* **P 06 21 22.7 +1.0**
comp=Z,509nm,1.4s
DGMT LR LR
comp=Z,4µm,21.0s
DGMT Dagmar 91.65 354 P **P 06 21 23.0 +1.4**
baz=6.5,SNR=39
BWLO Walkerton 91.65 338 P **P 06 21 22.5 +0.8**
baz=25,SNR=48
J54A Appleton 91.66 336 *eP* **P 06 21 22.0 +0.3**
comp=Z,166nm,1.3s
J54A LR LR
comp=Z,5µm,21.0s
J54A Appleton 91.66 336 P **P 06 21 22.3 +0.5**
baz=25,SNR=7.4
MEDO Medina 91.70 336 *eP* **P 06 21 22.1 +0.1**
comp=Z,82nm,1.0s
MEDO LR LR
comp=Z,5µm,22.0s
MEDO Medina 91.70 336 P **P 06 21 22.2 +0.2**
baz=26,SNR=5.4
H48A Harrisville 91.72 340 *eP* **P 06 21 22.3 +0.3**
comp=Z,249nm,1.1s
H48A LR LR
comp=Z,6µm,18.0s
H48A Harrisville 91.72 340 P **P 06 21 22.4 +0.4**
baz=22,SNR=29
BINY Binghamton 91.76 334 *eP* **P 06 21 22.3 0.0**
comp=Z,47nm,1.1s
BINY LR LR
comp=Z,3µm,20.0s
BINY Binghamton 91.76 334 P **P 06 21 22.4 +0.2**
baz=27
B05A Bryant 91.76 6 P **P 06 21 22.9 +0.8**
baz=353,SNR=124
ACTO Acton 91.80 337 P **P 06 21 23.1 +0.6**
baz=24,SNR=17
COWI Conover 91.80 344 *eP* **P 06 21 22.3 -0.1**
comp=Z,294nm,1.1s
COWI LR LR
comp=Z,7µm,21.0s
E38A The Farm, Brul 91.81 346 *eP* **P 06 21 22.0 -0.4**
comp=Z,313nm,1.1s
E38A LR LR
comp=Z,6µm,18.0s
E38A The Farm, Brul 91.81 346 P **P 06 21 22.4 0.0**
baz=16,SNR=51
MDND Maddock 91.83 351 *eP* **P 06 21 22.8 +0.4**
comp=Z,673nm,1.3s
MDND LR LR
comp=Z,6µm,19.0s
MDND Maddock 91.83 351 P **P 06 21 23.1 +0.6**
baz=10.0,SNR=16
E39A Mellen 91.83 345 P **P 06 21 22.7 +0.2**
baz=17,SNR=131
B08A Colville Reser 91.87 5 *eP* **P 06 21 23.3 +0.6**
comp=Z,166nm,1.1s
B08A LR LR
comp=Z,3µm,21.0s
STCO Saint Catharin 91.89 336 P **P 06 21 23.2 +0.4**
baz=25,SNR=6.2
BASO Ashfield 91.89 338 P **P 06 21 23.8 +0.9**
baz=23,SNR=57
I51A Listowel 91.90 338 P **P 06 21 23.3 +0.4**
baz=24,SNR=40
F42A Maple Grove Fa 91.91 343 P **P 06 21 23.2 +0.3**
baz=19,SNR=38
MMNY Mt. Morris Dam 91.92 335 *eP* **P 06 21 22.8 -0.2**
comp=Z,184nm,1.3s
MMNY LR LR
comp=Z,4µm,22.0s
GLMI Grayling 91.94 341 *eP* **P 06 21 23.3 +0.3**
comp=Z,355nm,1.1s
GLMI LR LR
comp=Z,7µm,18.0s
GLMI Grayling 91.94 341 P **P 06 21 23.5 +0.4**
baz=21,SNR=30
K55A Perry 91.97 335 P **P 06 21 23.4 +0.1**
baz=26,SNR=14
G45A Suttons Bay 92.00 341 *eP* **P 06 21 23.3 0.0**
comp=Z,367nm,1.2s
G45A LR LR
comp=Z,7µm,20.0s
G45A Suttons Bay 92.00 341 P **P 06 21 23.5 +0.2**
baz=20,SNR=63
H47A Mio 92.05 340 P **P 06 21 23.8 +0.3**
baz=21,SNR=31
NEW Newport 92.07 3 *eP* **P 06 21 24.3 +0.6**
comp=Z,157nm,1.2s
NEW LR LR
comp=Z,6µm,20.0s
NEW Newport 92.07 3 *eP* **P 06 21 24.3 +0.6**
NEW pmax pmax
comp=Z,157nm,1.2s
NEW MLR MLR
comp=Z,6µm,20.0s
NEW Newport 92.07 3 P **P 06 21 24.4 +0.7**
baz=357,SNR=85
PAL Palisades 92.08 332 PFAKE 06 21 30.0 +6.3
PAL LR LR
comp=Z,4µm,19.0s
PAL Palisades 92.08 332 P **P 06 21 23.5 -0.2**
baz=29
F41A Three Lakes 92.14 344 *eP* **P 06 21 24.0 0.0**
comp=Z,470nm,1.1s
F41A LR LR
comp=Z,7µm,20.0s
F41A Three Lakes 92.14 344 P **P 06 21 24.2 +0.2**
baz=18,SNR=260
F40A Park Falls 92.18 345 P **P 06 21 23.9 -0.2**
baz=17,SNR=61
C06D Leavenworth 92.20 6 P **P 06 21 24.9 +0.7**
baz=354,SNR=6.4
TYNO Tyneside 92.21 337 P **P 06 21 24.6 +0.4**
baz=25,SNR=15
J52A Paris 92.26 337 P **P 06 21 25.0 +0.5**
baz=24,SNR=26
ODNJ Ogdensburg 92.26 332 *eP* **P 06 21 24.4 -0.2**
comp=Z,38nm,1.2s
ODNJ LR LR
comp=Z,3µm,18.0s
K54A Basiliko Farm, 92.28 336 P **P 06 21 24.7 0.0**
baz=25,SNR=16
G43A Wallace 92.28 343 *eP* **P 06 21 24.9 +0.3**
comp=Z,277nm,1.0s
G43A LR LR
comp=Z,6µm,21.0s
G43A Wallace 92.28 343 P **P 06 21 24.9 +0.3**
baz=19,SNR=148
I49A Point Hope 92.29 339 *eP* **P 06 21 24.6 0.0**
comp=Z,332nm,1.1s
I49A LR LR
comp=Z,4µm,19.0s
I49A Point Hope 92.29 339 P **P 06 21 24.8 +0.2**
baz=22,SNR=29
I48A Sherman Twp 92.30 340 P **P 06 21 25.2 +0.5**
baz=22,SNR=27
F39A Loretta 92.34 345 P **P 06 21 25.1 +0.2**
baz=16,SNR=88
H46A Fife Lake 92.36 341 P **P 06 21 25.3 +0.3**
baz=21,SNR=46
EGMT Eagleton 92.37 358 *eP* **P 06 21 25.4 +0.3**
comp=Z,357nm,1.5s
EGMT LR LR
comp=Z,7µm,18.0s
EGMT Eagleton 92.37 358 P **P 06 21 25.7 +0.6**
baz=2.2,SNR=83
D03D Eldon 92.39 7 P **P 06 21 26.8 +1.8**
baz=352,SNR=49
NLWA Neilton Lookou 92.46 8 *eP* **P 06 21 26.8 +1.3**
comp=Z,167nm,1.1s
NLWA LR LR
comp=Z,5µm,22.0s
G42A Mountain 92.46 343 *eP* **P 06 21 25.6 +0.2**
comp=Z,350nm,1.2s
G42A LR LR
comp=Z,7µm,21.0s
G42A Mountain 92.46 343 P **P 06 21 25.7 +0.3**
baz=18,SNR=117
C09A Chrisman Ranch 92.48 4 *eP* **P 06 21 26.2 +0.7**
comp=Z,148nm,1.0s
C09A LR LR
comp=Z,4µm,19.0s
F38A Pierce - Schro 92.49 346 P **P 06 21 26.2 +0.6**
baz=16,SNR=98
H45A Beulah 92.49 341 P **P 06 21 26.1 +0.5**
baz=20,SNR=27
L55A Hinsdale 92.58 335 P **P 06 21 26.1 0.0**
baz=26,SNR=22
BRNJ Basking Ridge 92.60 332 PFAKE 06 21 40.0 +14
BRNJ LR LR
comp=Z,4µm,18.0s
I47A Gladwin 92.67 340 *eP* **P 06 21 26.8 +0.4**
comp=Z,307nm,1.3s
I47A LR LR
comp=Z,4µm,20.0s
I47A Gladwin 92.67 340 P **P 06 21 26.8 +0.4**
baz=21,SNR=25
K52A Tillsonburg 92.75 337 P **P 06 21 26.7 -0.1**
baz=24,SNR=15
D04E Lakebay 92.78 7 P **P 06 21 28.8 +2.0**
baz=352,SNR=20
L54A Sinclairville 92.82 336 P **P 06 21 27.0 -0.2**
baz=25,SNR=8.2
G40A Rib Lake 92.82 344 *eP* **P 06 21 27.3 +0.2**
comp=Z,323nm,1.1s
G40A LR LR
comp=Z,4µm,19.0s
G40A Rib Lake 92.82 344 P **P 06 21 27.5 +0.4**
baz=17,SNR=155
N59A State Game Lan 92.82 333 PFAKE 06 21 40.0 +13
N59A LR LR
comp=Z,4µm,19.0s
D05A Enumclaw 92.84 6 *eP* **P 06 21 28.6 +1.4**
comp=Z,262nm,1.2s
D05A LR LR
comp=Z,3µm,20.0s
F37A Hinrichs Farm, 92.85 346 P **P 06 21 27.7 +0.4**
baz=15,SNR=44
LTY Liberty 92.87 6 *eP* **P 06 21 27.3 -0.1**
comp=Z,120nm,1.5s
LTY LR LR
comp=Z,4µm,19.0s
J49A Marlette 92.91 339 P **P 06 21 27.7 +0.2**
baz=22,SNR=16
LUPA Lehigh Univers 92.96 333 PFAKE 06 21 40.0 +12
LUPA LR LR
comp=Z,300nm,19.0s
I46A Reed City 92.98 341 P **P 06 21 28.2 +0.3**
baz=21,SNR=36
G39A Holcombe 93.00 345 P **P 06 21 27.9 -0.1**
baz=16,SNR=49
K51A Iona Station 93.03 338 P **P 06 21 28.3 +0.2**
baz=23,SNR=13
H43A Windswept, Lux 93.05 343 *eP* **P 06 21 28.2 0.0**
comp=Z,193nm,1.1s
H43A LR LR
comp=Z,5µm,21.0s
H43A Windswept, Lux 93.05 343 P **P 06 21 28.4 +0.3**
baz=19,SNR=54
I45A Fountain 93.09 341 *eP* **P 06 21 28.7 +0.4**
comp=Z,432nm,1.2s
I45A LR LR
comp=Z,6µm,20.0s
I45A Fountain 93.09 341 P **P 06 21 28.7 +0.4**
baz=20,SNR=28
ERPA Erie 93.13 336 *eP* **P 06 21 28.4 -0.2**
comp=Z,174nm,1.2s
ERPA LR LR
comp=Z,4µm,19.0s
ERPA Erie 93.13 336 P **P 06 21 28.6 +0.1**
baz=24,SNR=7.3
M56A Emporium 93.13 335 P **P 06 21 28.4 -0.2**
baz=26,SNR=9.1
OBSR Observation Ro 93.14 6 *eP* **P 06 21 30.1 +1.3**
J48A Bridge Port 93.14 339 *eP* **P 06 21 28.1 -0.6**
comp=Z,233nm,1.1s
J48A LR LR
comp=Z,5µm,19.0s
J48A Bridge Port 93.14 339 P **P 06 21 29.0 +0.4**
baz=22,SNR=37
H42A Shiocton 93.18 343 *eP* **P 06 21 29.0 +0.2**
comp=Z,288nm,1.1s
H42A LR LR
comp=Z,6µm,22.0s
H42A Shiocton 93.18 343 P **P 06 21 29.1 +0.3**
baz=18,SNR=49
D08A Wollman Farm, 93.19 4 *eP* **P 06 21 29.5 +0.7**
comp=Z,143nm,1.0s
D08A LR LR
comp=Z,3µm,20.0s
O60A Telford 93.22 332 P **P 06 21 28.6 -0.4**
baz=28
G38A Ridgeland 93.24 345 P **P 06 21 29.0 -0.1**
baz=16,SNR=61
LON Longmire 93.29 6 *eP* **P 06 21 29.9 +0.6**
comp=Z,72nm,0.9s
LON LR LR
comp=Z,4µm,20.0s
LON Longmire 93.29 6 *eP* **P 06 21 29.9 +0.6**
LON pmax pmax
comp=Z,72nm,0.9s
LON MLR MLR
comp=Z,4µm,20.0s
K50A Casco 93.31 338 *eP* **P 06 21 29.5 +0.2**
comp=Z,373nm,1.3s
K50A LR LR
comp=Z,5µm,20.0s
K50A Casco 93.31 338 P **P 06 21 29.7 +0.3**
baz=23,SNR=23
H41A Junction City 93.33 344 *eP* **P 06 21 29.4 -0.1**
comp=Z,234nm,1.3s
H41A LR LR
comp=Z,7µm,20.0s
H41A Junction City 93.33 344 P **P 06 21 29.6 +0.2**
baz=18,SNR=30
M55A Ridgway 93.33 335 P **P 06 21 29.6 +0.1**
baz=25,SNR=9.6
L53A Girard 93.36 336 P **P 06 21 29.8 +0.1**
baz=24,SNR=5.4
SPMN Marine on St. 93.37 346 *eP* **P 06 21 29.6 -0.1**
comp=Z,112nm,1.0s
SPMN LR LR
comp=Z,8µm,18.0s
SPMN Marine on St. 93.37 346 P **P 06 21 29.8 +0.2**
baz=15,SNR=36
E04D Cinebar 93.41 7 P **P 06 21 31.0 +1.3**
baz=352,SNR=37
H40A Chili 93.48 344 P **P 06 21 30.6 +0.5**
baz=17,SNR=71
J47A Sunmer 93.48 340 *eP* **P 06 21 30.4 +0.3**
comp=Z,302nm,1.2s
J47A LR LR
comp=Z,4µm,18.0s
J47A Sunmer 93.48 340 P **P 06 21 30.8 +0.6**
baz=21,SNR=34
O59A Robesonia 93.50 333 P **P 06 21 30.1 -0.3**
baz=27
K49A Clarkson 93.53 339 P **P 06 21 30.5 0.0**
baz=22,SNR=26
LAO LASA Array 93.56 356 *eP* **P 06 21 32.0 +1.4**
comp=Z,261nm,1.1s
LAO LR LR
comp=Z,8µm,19.0s
LAO LASA Array 93.56 356 P **P 06 21 32.2 +1.7**
baz=5.0,SNR=72
N57A Milroy 93.58 334 P **P 06 21 30.8 +0.1**
baz=26,SNR=7.7

M54A	Oil Creek Stat	93.58	336	eP	P	06 21 30.4	-0.3
	comp=Z,167nm,1.3s						
M54A				LR	LR		
	comp=Z,4µm,20.0s						
M54A	Oil Creek Stat	93.58	336	P	P	06 21 30.7	0.0
	baz=25,SNR=13						
PSUB	Penn St. - Bra	93.58	332	PFAKE		06 21 40.0	+9.3
PSUB				LR	LR		
	comp=Z,3µm,18.0s						
J46A	Howard City	93.59	341	P	P	06 21 30.9	+0.2
	baz=20,SNR=15						
MSO	Missoula	93.59	1	eP	P	06 21 30.9	+0.1
	comp=Z,162nm,1.4s						
MSO				LR	LR		
	comp=Z,3µm,19.0s						
MSO	Missoula	93.59	1	P	P	06 21 31.2	+0.4
	baz=359,SNR=57						
H39A	Augusta	93.60	345	P	P	06 21 31.3	+0.6
	baz=16,SNR=55						
ALLY	Alegheny Colle	93.61	336	eP	P	06 21 30.6	-0.2
	comp=Z,102nm,1.2s						
ALLY				LR	LR		
	comp=Z,5µm,19.0s						
N56A	West Decatur	93.68	335	P	P	06 21 31.0	-0.2
	baz=26,SNR=9.5						
I43A	Langenfeld Bro	93.69	343	P	P	06 21 31.4	+0.3
	baz=19,SNR=47						
J45A	Montague	93.69	341	eP	P	06 21 31.3	+0.2
	comp=Z,284nm,1.1s						
J45A				LR	LR		
	comp=Z,6µm,18.0s						
J45A	Montague	93.69	341	P	P	06 21 31.5	+0.4
	baz=20,SNR=10.0						
K48A	Perry	93.69	339	P	P	06 21 31.5	+0.3
	baz=22,SNR=33						
HRY	Holter Researc	93.72	359	eP	P	06 21 32.2	+0.8
E08A	Dider Farm, El	93.75	4	eP	P	06 21 32.2	+0.9
	comp=Z,163nm,1.1s						
E08A				LR	LR		
	comp=Z,4µm,19.0s						
P60A	Greenville	93.75	332	P	P	06 21 30.8	-0.6
	baz=28						
PAGS	Pennsylvania G	93.77	333	PFAKE		06 21 40.0	+8.5
PAGS				LR	LR		
	comp=Z,5µm,19.0s						
E09A	Wood Farm, Sta	93.77	4	eP	P	06 21 32.3	+0.9
	comp=Z,169nm,1.1s						
E09A				LR	LR		
	comp=Z,4µm,19.0s						
SSPA	Standing Stone	93.80	334	eP	P	06 21 31.5	-0.2
	comp=Z,61nm,1.1s						
SSPA				LR	LR		
	comp=Z,3µm,21.0s						
SSPA	Standing Stone	93.80	334	P	P	06 21 31.5	-0.2
	baz=26						
H38A	Maiden Rock	93.80	346	P	P	06 21 32.0	+0.3
	baz=16,SNR=42						
HAWA	Hanford	93.81	5	eP	P	06 21 32.4	+0.7
	comp=Z,105nm,1.5s						
HAWA				LR	LR		
	comp=Z,4µm,19.0s						
MVL	Millersville	93.84	333	eP	P	06 21 32.0	+0.1
	comp=Z,22nm,1.0s						
F04D	Rainier, OR	93.84	7	P	P	06 21 33.3	+1.5
	baz=352						
I42A	Draeger Farm,	93.86	343	eP	P	06 21 31.2	-0.6
	comp=Z,173nm,1.1s						
I42A				LR	LR		
	comp=Z,7µm,21.0s						
I42A	Draeger Farm,	93.86	343	P	P	06 21 32.2	+0.3
	baz=18,SNR=55						
I41A	Arkdale	93.90	344	eP	P	06 21 32.4	+0.3
	comp=Z,289nm,1.1s						
I41A				LR	LR		
	comp=Z,6µm,19.0s						
I41A	Arkdale	93.90	344	P	P	06 21 32.5	+0.3
	baz=17,SNR=59						
M53A	WI Miller and	93.96	337	P	P	06 21 32.1	-0.3
	baz=24						
N55A	Marion Center	94.03	335	eP	P	06 21 32.1	-0.7
	comp=Z,48nm,1.0s						
N55A				LR	LR		
	comp=Z,4µm,20.0s						
N55A	Marion Center	94.03	335	P	P	06 21 32.5	-0.3
	baz=25,SNR=9.6						
AAM	Ann Arbor	94.03	339	eP	P	06 21 32.7	0.0
	comp=Z,100nm,1.1s						
AAM				LR	LR		
	comp=Z,5µm,18.0s						
AAM	Ann Arbor	94.03	339	eP	P	06 21 32.7	0.0
AAM				pmax	pmax		
	comp=Z,100nm,1.1s						
AAM				MLR	MLR		
	comp=Z,5µm,18.0s						
AAM	Ann Arbor	94.03	339	P	P	06 21 32.7	0.0
	baz=22,SNR=12						
L50A	Kingsville	94.04	338	P	P	06 21 32.9	+0.1
	baz=22,SNR=12						
K47A	Vermontville	94.05	340	P	P	06 21 33.0	+0.2
	baz=21,SNR=20						
M52A	Chesterland	94.07	337	eP	P	06 21 32.9	-0.1
	comp=Z,123nm,1.1s						
M52A				LR	LR		
	comp=Z,4µm,18.0s						
M52A	Chesterland	94.07	337	P	P	06 21 32.9	-0.1
	baz=24,SNR=7.7						
F05D	White Salmon	94.18	6	P	P	06 21 34.5	+1.2
	baz=353,SNR=14						
N54A	Moraine State	94.18	336	eP	P	06 21 33.0	-0.5
	comp=Z,64nm,1.2s						
N54A				LR	LR		
	comp=Z,5µm,19.0s						
N54A	Moraine State	94.18	336	P	P	06 21 33.4	0.0
	baz=24,SNR=7.3						
P59A	Jarrettsville	94.21	333	P	P	06 21 33.4	-0.2
	baz=27,SNR=5.4						
I40A	Norwalk	94.22	344	P	P	06 21 34.1	+0.5
	baz=17,SNR=82						
J43A	Natural Harves	94.23	343	P	P	06 21 33.7	+0.1
	baz=18,SNR=31						
K46A	Dorr	94.24	341	P	P	06 21 33.6	-0.1
	baz=20,SNR=19						
L49A	Milan	94.24	339	P	P	06 21 33.7	0.0
	baz=22,SNR=12						
PLIO	Pelee Island,	94.25	338	P	P	06 21 33.7	0.0
	baz=23,SNR=12						
F07A	Phinny Hill Vi	94.28	5	eP	P	06 21 35.1	+1.3
	comp=Z,130nm,1.0s						
F07A				LR	LR		
	comp=Z,5µm,19.0s						
O56A	Blue Knob Stat	94.35	335	eP	P	06 21 33.9	-0.4
	comp=Z,77nm,1.3s						
O56A				LR	LR		
	comp=Z,3µm,22.0s						
O56A	Blue Knob Stat	94.35	335	P	P	06 21 34.1	-0.2
	baz=26,SNR=9.2						
F10A	Beach Ranch, E	94.36	3	eP	P	06 21 35.0	+0.7
	comp=Z,111nm,1.4s						
F10A				LR	LR		
	comp=Z,5µm,20.0s						
I39A	Houston	94.44	345	eP	P	06 21 34.5	-0.1
	comp=Z,194nm,1.1s						
I39A				LR	LR		
	comp=Z,5µm,18.0s						
I39A	Houston	94.44	345	P	P	06 21 34.4	-0.1
	baz=16,SNR=48						
J42A	Columbus	94.45	343	P	P	06 21 34.7	+0.1
	baz=18,SNR=79						
CTAO	Charters Tower	94.49	112	eP	P	06 21 34.9	-0.2
	comp=Z,179nm,1.6s						
CTAO				LR	LR		
	comp=Z,1µm,21.0s						
CTAO	Charters Tower	94.49	112	eP	P	06 21 34.9	-0.2
CTAO				pmax	pmax		
	comp=Z,179nm,1.6s						
CTAO				MLR	MLR		
	comp=Z,1µm,21.0s						
M51A	Elyria	94.51	338	P	P	06 21 34.8	-0.1
	baz=23						
SDMD	Soldier's Deli	94.53	333	eP	P	06 21 34.7	-0.3
	comp=Z,22nm,1.3s						
SDMD				LR	LR		
	comp=Z,2µm,20.0s						
L48A	N Adams	94.58	339	P	P	06 21 35.1	-0.2
	baz=21,SNR=22						
N53A	Lisbon	94.59	336	eP	P	06 21 35.1	-0.2
	comp=Z,64nm,1.1s						
N53A				LR	LR		
	comp=Z,5µm,18.0s						
N53A	Lisbon	94.59	336	P	P	06 21 35.0	-0.3
	baz=24,SNR=9.8						
J41A	Loganville	94.60	344	P	P	06 21 35.5	+0.2
	baz=17,SNR=126						
GCMT	Greycliff	94.60	358	eP	P	06 21 36.8	+1.3
O55A	Ligonier	94.65	335	P	P	06 21 35.2	-0.4
	baz=25,SNR=9.6						
G03D	McMinnville, O	94.68	8	P	P	06 21 37.3	+1.7
	baz=352,SNR=12						
M50A	Fremont	94.69	338	eP	P	06 21 35.5	-0.3
	comp=Z,59nm,1.0s						
M50A				LR	LR		
	comp=Z,4µm,18.0s						
M50A	Fremont	94.69	338	P	P	06 21 35.4	-0.3
	baz=22						
J40A	Soldiers Grove	94.72	344	P	P	06 21 36.0	+0.2
	baz=17,SNR=51						
L47A	Sherwood	94.76	340	P	P	06 21 36.0	-0.1
	baz=21,SNR=43						
G05D	Wamic, OR	94.83	6	P	P	06 21 37.6	+1.2
	baz=353						
BOZ	Bozeman (W)	94.83	359	eP	P	06 21 37.0	+0.5
	comp=Z,124nm,1.2s						
BOZ				LR	LR		
	comp=Z,6µm,20.0s						
BOZ	Bozeman (W)	94.83	359	eP	P	06 21 37.1	+0.5
BOZ				pmax	pmax		
	comp=Z,124nm,1.2s						
BOZ				MLR	MLR		
	comp=Z,6µm,20.0s						
BOZ	Bozeman (W)	94.83	359	P	P	06 21 37.4	+0.9
	baz=0.8,SNR=117						
N52A	McGinn's Farm,	94.84	337	P	P	06 21 36.3	-0.2
	baz=23,SNR=12						
K43A	Burlington	94.85	342	eP	P	06 21 36.5	0.0
	comp=Z,236nm,1.0s						
K43A				LR	LR		
	comp=Z,6µm,21.0s						
K43A	Burlington	94.85	342	P	P	06 21 36.6	+0.2
	baz=18,SNR=53						
G06A	Carlson Farm,	94.89	6	eP	P	06 21 37.4	+0.8
	comp=Z,77nm,1.2s						
G06A				LR	LR		
	comp=Z,3µm,19.0s						
M49A	Liberty Center	94.89	339	P	P	06 21 36.5	-0.2
	baz=22,SNR=13						
N51A	Ashland	94.95	338	eP	P	06 21 36.5	-0.5
	comp=Z,99nm,1.1s						
N51A				LR	LR		
	comp=Z,5µm,20.0s						
N51A	Ashland	94.95	338	P	P	06 21 36.6	-0.4
	baz=23,SNR=7.5						
G08A	Pilot Rock	94.95	5	eP	P	06 21 37.6	+0.5
	comp=Z,43nm,1.5s						
G08A				LR	LR		
	comp=Z,4µm,19.0s						
Q59A	Harwood	94.96	333	P	P	06 21 36.7	-0.3
	baz=27						
J39A	Decorah	94.98	345	P	P	06 21 36.8	-0.2
	baz=16,SNR=64						
L46A	Eue Claire	95.00	341	eP	P	06 21 36.9	-0.3
	comp=Z,147nm,1.2s						
L46A				LR	LR		
	comp=Z,5µm,20.0s						
L46A	Eue Claire	95.00	341	P	P	06 21 37.2	+0.1
	baz=20,SNR=16						
K42A	Prairie Point,	95.01	343	P	P	06 21 37.0	-0.2
	baz=18,SNR=37						
O54A	Avella	95.01	336	P	P	06 21 37.1	-0.2
	baz=24,SNR=20						
DLMT	Dillon	95.07	0	eP	P	06 21 38.2	+0.6
	comp=Z,218nm,1.3s						
DLMT				LR	LR		
	comp=Z,5µm,20.0s						
JFWS	Jewell Farm	95.08	344	eP	P	06 21 37.3	-0.2
	comp=Z,190nm,0.9s						
JFWS				LR	LR		
	comp=Z,6µm,20.0s						
JFWS	Jewell Farm	95.08	344	eP	P	06 21 37.3	-0.2
JFWS				pmax	pmax		
	comp=Z,190nm,0.9s						
JFWS				MLR	MLR		
	comp=Z,6µm,20.0s						
JFWS	Jewell Farm	95.08	344	P	P	06 21 37.5	-0.1
	baz=17,SNR=68						
M48A	Edgerton	95.08	339	eP	P	06 21 37.4	-0.2
	comp=Z,119nm,1.1s						
M48A				LR	LR		
	comp=Z,7µm,19.0s						
M48A	Edgerton	95.08	339	P	P	06 21 37.3	-0.2
	baz=21						
SUSD	Miller	95.10	350	P	P	06 21 37.7	+0.1
	baz=10						
O53A	New Philadelph	95.21	336	P	P	06 21 38.2	0.0
	baz=24,SNR=21						
L44A	Lake County Fo	95.25	342	P	P	06 21 38.4	+0.1
	baz=19,SNR=10						
RLMT	Red Lodge	95.26	358	eP	P	06 21 39.4	+0.8
	comp=Z,167nm,1.3s						
RLMT				LR	LR		
	comp=Z,6µm,19.0s						
RLMT	Red Lodge	95.26	358	P	P	06 21 39.9	+1.3
	baz=2.6,SNR=73						
PLID	Pearl Lake	95.29	2	eP	P	06 21 38.3	-0.5
	comp=Z,85nm,1.0s						
COR	Corvallis	95.29	8	eP	P	06 21 39.4	+1.0
	comp=Z,185nm,1.1s						
COR				LR	LR		
	comp=Z,4µm,19.0s						
H04A	Detroit Lake	95.30	7	eP	P	06 21 39.1	+0.5
	comp=Z,71nm,1.3s						
H04A				LR	LR		
	comp=Z,4µm,22.0s						
N50A	Nevada	95.31	338	P	P	06 21 38.3	-0.3
	baz=22,SNR=17						
MCWV	Mont Chateau	95.32	335	eP	P	06 21 38.5	-0.2
	comp=Z,55nm,1.1s						
MCWV				LR	LR		
	comp=Z,2µm,22.0s						
MCWV	Mont Chateau	95.32	335	P	P	06 21 38.7	0.0
	baz=25,SNR=20						
Q57A	Strasburg	95.41	334	P	P	06 21 38.8	-0.3
	baz=26,SNR=9.8						
H04D	Lebanon	95.41	7	P	P	06 21 40.2	+1.2
	baz=352,SNR=14						
L43A	Garden Prairie	95.44	342	P	P	06 21 39.2	0.0
	baz=18,SNR=34						
M47A	Crownell	95.44	340	P	P	06 21 39.1	-0.1
	baz=20,SNR=21						
P55A	Reedsville	95.45	335	P	P	06 21 39.0	-0.4
	baz=25						
R60A	Leonardtown, M	95.46	332	P	P	06 21 39.1	-0.2
	baz=27						
N49A	Columbus Grove	95.46	339	eP	P	06 21 38.7	-0.6
	comp=Z,95nm,1.1s						
N49A				LR	LR		
	comp=Z,4µm,21.0s						
N49A	Columbus Grove	95.46	339	P	P	06 21 38.9	-0.4
	baz=22,SNR=18						
ECSD	EROS Data Cent	95.46	348	eP	P	06 21 39.5	+0.2
	comp=Z,299nm,1.1s						
ECSD				LR	LR		
	comp=Z,4µm,21.0s						
ECSD	EROS Data Cent	95.46	348	P	P	06 21 39.7	+0.4
	baz=12,SNR=189						
BMO	Blue Mountains	95.47	3	eP	P	06 21 39.1	-0.3
	comp=Z,32nm,1.2s						
BMO				LR	LR		
	comp=Z,5µm,20.0s						
BMO	Blue Mountains	95.47	3	eP	P	06 21 39.1	-0.3
BMO				pmax	pmax		
	comp=Z,32nm,1.2s						
BMO				MLR	MLR		
	comp=Z,5µm,20.0s						
K40A	Colesburg	95.47	344	P	P	06 21 39.4	0.0
	baz=16,SNR=36						
BBSR	BB Station	95.49	321	PFAKE		06 21 50.0	+10
BBSR				LR	LR		
	comp=Z,2µm,19.0s						
O52A	Adamsville	95.52	337	eP	P	06 21 39.1	-0.5
	comp=Z,78nm,1.2s						
O52A				LR	LR		
	comp=Z,5µm,18.0s						
O52A	Adamsville	95.52	337	P	P	06 21 39.2	-0.5
	baz=23,SNR=12						
P54A	Burton	95.57	336	P	P	06 21 40.1	+0.2
	baz=24						
M46A	Old House Fiel	95.59	340	eP	P	06 21 39.8	0.0
	comp=Z,198nm,1.3s						
M46A				LR	LR		
	comp=Z,5µm,20.0s						
M46A	Old House Fiel	95.59	340	P	P	06 21 39.8	0.0
	baz=20,SNR=8.0						
QLMT	Earthquake Lak	95.59	359	eP	P	06 21 41.5	+1.3
MCMT	McKenzie Canyo	95.60	0	eP	P	06 21 40.7	+0.5
K39A	Oelwein	95.62	345	P	P	06 21 39.3	-0.7
	baz=16,SNR=46						
YHH	Holmes Hill	95.63	359	eP	P	06 21 41.2	+0.8
	comp=Z,49nm,1.2s						
YHB	Horse Butte	95.67	359	eP	P	06 21 41.3	+0.8
	comp=Z,78nm,1.2s						
YNR	Norris Junctio	95.70	359	eP	P	06 21 42.2	+1.6
	comp=Z,53nm,1.3s						
I02D	Swisshome	95.71	8	P	P	06 21 41.5	+1.1
	baz=351						
R59A	King George, V	95.71	333	P	P	06 21 39.9	-0.6
	baz=27						
I05D	Terrebonne, OR	95.72	6	P	P	06 21 41.6	+1.1
	baz=353,SNR=16						
N48A	Decatur	95.75	339	P	P	06 21 40.3	-0.3
	baz=21,SNR=14						
YMR	Madison River	95.75	359	eP	P	06 21 41.1	+0.2
	comp=Z,47nm,1.1s						
ACSO	Alum Creek Sta	95.76	338	eP	P	06 21 40.2	-0.5
	comp=Z,80nm,1.1s						
ACSO				LR	LR		
	comp=Z,4µm,18.0s						
ACSO	Alum Creek Sta	95.76	338	P	P	06 21 40.3	-0.3
	baz=22,SNR=12						
CBN	Corbin Frederi	95.80	333	PFAKE		06 21 50.0	+9.1
CBN				LR	LR		
	comp=Z,3µm,20.0s						
CBN	Corbin Frederi	95.80	333	P	P	06 21 40.2	-0.6
	baz=26						
L42A	Oliver, Polo	95.82	343	eP	P	06 21 40.8	-0.1
	comp=Z,241nm,1.1s						
L42A				LR	LR		
	comp=Z,7µm,20.0s						
L42A	Oliver, Polo	95.82	343	P	P	06 21 40.8	-0.1
	baz=18,SNR=44						
M45A	Boilermakers S	95.83	341	P	P	06 21 41.0	0.0
	baz=19,SNR=10						
LKWY	Lake	95.84	358	eP	P	06 21 43.4	+2.1
	comp=Z,93nm,1.1s						
LKWY				LR	LR		
	comp=Z,9µm,19.0s						
N47A	Urbana	95.91	340	P	P	06 21 40.7	-0.6
	baz=20,SNR=17						
R58A	Rapidan	95.93	333	P	P	06 21 41.0	-0.5
	baz=26,SNR=5.8						
RSSD	Black Hills	95.96	354	eP	P	06 21 42.4	+0.6
	comp=Z,152nm,1.1s						
RSSD				LR	LR		
	comp=Z,4µm,18.0s						
RSSD	Black Hills	95.96	354	eP	P	06 21 42.4	+0.6
RSSD				pmax	pmax		
	comp=Z,152nm,1.1s						
RSSD				MLR	MLR		
	comp=Z,4µm,18.0s						
RSSD	Black Hills	95.96	354	P	P	06 21 42.6	+0.8
	baz=6.7						
P53A	Whipple	95.96	336	eP	P	06 21 41.5	-0.1
	comp=Z,141nm,1.2s						
P53A				LR	LR		
	comp=Z,6µm,19.0s						
P53A	Whipple	95.96	336	P	P	06 21 41.6	-0.1
	baz=24,SNR=28						
YFT	Old Faithful	95.97	359	eP	P	06 21 44.2	+2.4
	comp=Z,107nm,1.4s						
Q55A	Buckhannon	96.00	335	P	P	06 21 41.6	-0.3
	baz=24,SNR=9.9						
H17A	Grant Village	96.02	359	eP	P	06 21 44.6	+2.5
	comp=Z,120nm,1.3s						
H17A				LR	LR		
	comp=Z,5µm,19.0s						
H17A	Grant Village	96.02	359	P	P	06 21 44.7	+2.5
	baz=1.6,SNR=62						
O50A	Cable	96.02	338	P	P	06 21 41.5	-0.4
	baz=22,SNR=22						
M44A	Midewin, Midew	96.03	342	eP	P	06 21 41.9	0.0
	comp=Z,270nm,1.2s						
M44A				LR	LR		
	comp=Z,5µm,20.0s						
M44A	Midewin, Midew	96.03	342	P	P	06 21 42.0	+0.2
	baz=19,SNR=19						
P52A	Corning	96.06	337	P	P	06 21 41.4	-0.7
	baz=23,SNR=20						
L40A	Anamosa	96.10	344	eP	P	06 21 41.9	-0.3
	comp=Z,133nm,1.3s						
L40A				LR	LR		
	comp=Z,5µm,19.0s						
L40A	Anamosa	96.10	344	P	P	06 21 41.9	-0.3
	baz=16,SNR=23						
R57A	Stanardsville	96.11	334	P	P	06 21 42.0	-0.3
	baz=26,SNR=5.2						
I07A	Izee	96.12	5	eP	P	06 21 43.6	+1.2
	comp=Z,86nm,1.2s						
I07A				LR	LR		
	comp=Z,5µm,20.0s						
YPP	Pitchstone Pla	96.15	359	eP	P	06 21 44.9	+2.2
	comp=Z,138nm,1.5s						
I04A	Tendick Farm,	96.17	7	P	P	06 21 43.0	+0.5
	baz=352,SNR=13						
S59A	Mechanicsville	96.17	333	P	P	06 21 42.1	-0.4
	baz=26						
I03D	Drain, OR	96.17	8	P	P	06 21 43.9	+1.5
	baz=352,SNR=12						
N46A	Monticello	96.17	341	P	P	06 21 42.3	-0.2
	baz=20,SNR=22						
O49A	Covington	96.19	339	eP	P	06 21 41.9	-0.7
	comp=Z,101nm,1.1s						
O49A				LR	LR		
	comp=Z,4µm,18.0s						
O49A	Covington	96.19	339	P	P	06 21 42.0	-0.6
	baz=22,SNR=22						
R58B	Mineral	96.19	333	eP	P	06 21 42.1	-0.5
	comp=Z,47nm,1.4s						
R58B				LR	LR		
	comp=Z,4µm,18.0s						
R58B	Mineral	96.19	333	P	P	06 21 42.4	-0.2
	baz=26,SNR=6.2						
M43A	Waltham Townsh	96.20	342	P	P	06 21 42.8	+0.1
	baz=18,SNR=29						
L39A	Vinton	96.20	345	P	P	06 21 42.2	-0.4
	baz=16,SNR=28						
Q54A	Coxs Mills	96.25	336	eP	P	06 21 42.5	-0.5
	comp=Z,44nm,1.0s						
Q54A				LR	LR		
	comp=Z,6µm,18.0s						
Q54A	Coxs Mills	96.25	336	P	P	06 21 42.4	-0.5
	baz=24,SNR=12						
BBOO	Buckleboo	96.25	128	eP	P	06 21 42.3	-0.5
	comp=Z,46nm,1.3s						
PINE	Pine Mountain	96.30	6	eP	P	06 21 44.6	+1.3
	comp=Z,126nm,1.4s						
PINE				LR	LR		
	comp=Z,3µm,20.0s						
FLWY	Flagg Ranch	96.33	359	eP	P	06 21 45.2	+1.7
	comp=Z,172nm,1.4s						
FLWY				LR	LR		
	comp=Z,6µm,19.0s						
O48A	Farmland	96.35	339	P	P	06 21 42.7	-0.6
	baz=21,SNR=33						
N45A	Kentland	96.41	341	P	P	06 21 43.7	+0.1
	baz=19,SNR=7.4						
P51A	Williamsport	96.47	337	eP	P	06 21 43.0	-0.9
	comp=Z,49nm,1.2s						
P51A				LR	LR		
	comp=Z,4µm,20.0s						
P51A	Williamsport	96.47	337	P	P	06 21 42.9	-1.0
	baz=22,SNR=8.0						
T60A	Surry	96.52	332	PFAKE		06 22 00.0	+16
T60A				LR	LR		
	comp=Z,3µm,20.0s						
T60A	Surry	96.52	332	P	P	06 21 43.6	-0.6
	baz=27						
IMW	Indian Meadow	96.52	359	eP	P	06 21 46.0	+1.6
	comp=Z,140nm,1.4s						
IMW				LR	LR		
	comp=Z,5µm,19.0s						
S58A	Poland Farm, P	96.56	333	eP	P	06 21 44.5	+0.1
	comp=Z,66nm,1.5s						
S58A				LR	LR		
	comp=Z,4µm,18.0s						
S58A	Poland Farm, P	96.56	333	P	P	06 21 43.7	-0.6

baz=26,SNR=5.4
P50A Jamestown 96.57 338 P **P** 06 21 43.5 -0.9
baz=22,SNR=16
Q53A Leroy 96.58 336 P **P** 06 21 44.3 -0.1
baz=24,SNR=23
N44A Piper City 96.61 342 P **P** 06 21 44.7 +0.2
baz=19,SNR=21
M41A Milan 96.61 343 P **P** 06 21 44.1 -0.4
baz=17,SNR=19
J01E Myrtle Point 96.63 8 P **P** 06 21 45.6 +1.0
baz=351
O47A Sheridan 96.64 340 P **P** 06 21 44.0 -0.7
baz=20,SNR=15
SCIA State Center 96.65 346 eP **P** 06 21 44.9 +0.2
SCIA comp=Z,131nm,1.0s LR LR
comp=Z,8µm,18.0s
SCIA State Center 96.65 346 P **P** 06 21 44.8 +0.2
baz=15
R55A Marlinton 96.66 335 eP **P** 06 21 44.4 -0.5
R55A comp=Z,46nm,1.2s LR LR
comp=Z,4µm,18.0s
R55A Marlinton 96.66 335 P **P** 06 21 44.6 -0.3
baz=24
MOOW Moose Ponds 96.67 359 eP **P** 06 21 46.1 +1.1
MOOW comp=Z,48nm,1.3s LR LR
comp=Z,6µm,20.0s
Q52A Bidwell 96.72 337 P **P** 06 21 44.5 -0.5
baz=23,SNR=16
N43A Stutzman Famil 96.72 342 P **P** 06 21 45.3 +0.3
baz=18,SNR=16
J04D Umpqua Nationa 96.74 7 P **P** 06 21 46.3 +1.0
baz=353,SNR=23
S57A Dark Hollow, R 96.74 334 PFAKE 06 22 00.0 +15
S57A LR LR
comp=Z,5µm,19.0s
S57A Dark Hollow, R 96.74 334 P **P** 06 21 45.2 0.0
baz=25
SFIN Lafayette 96.75 341 eP **P** 06 21 44.9 -0.2
SFIN comp=Z,68nm,1.3s LR LR
comp=Z,6µm,20.0s
SFIN Lafayette 96.75 341 P **P** 06 21 44.9 -0.2
baz=20,SNR=11
J05D Fort Rock, OR 96.78 6 P **P** 06 21 46.8 +1.3
baz=353,SNR=37
FXWY Fox Creek 96.78 359 eP **P** 06 21 46.8 +1.2
comp=Z,52nm,1.4s
LOHW Long Hollow 96.80 359 eP **P** 06 21 46.9 +1.3
LOHW comp=Z,80nm,1.5s LR LR
comp=Z,5µm,18.0s
HLID Hailey 96.85 1 eP **P** 06 21 46.3 +0.5
HLID comp=Z,61nm,1.2s LR LR
comp=Z,4µm,22.0s
HLID Hailey 96.85 1 P **P** 06 21 46.5 +0.7
baz=359,SNR=68
KEBM Edson Butte 96.87 9 PFAKE 06 22 00.0 +14
KEBM LR LR
comp=Z,4µm,19.0s
P49A Miami Univ. Ec 96.90 339 P **P** 06 21 45.2 -0.7
baz=21
J08A Circle Bar Ran 96.90 4 eP **P** 06 21 46.7 +0.7
J08A comp=Z,72nm,1.1s LR LR
comp=Z,3µm,19.0s
TPAW Teton Pass 96.93 359 eP **P** 06 21 47.6 +1.3
TPAW comp=Z,65nm,1.4s LR LR
comp=Z,5µm,20.0s
SNOW Snow King Moun 96.95 359 eP **P** 06 21 46.1 -0.3
SNOW comp=Z,37nm,1.1s LR LR
comp=Z,6µm,19.0s
T59A Double "B" Far 96.96 332 eP **P** 06 21 46.2 0.0
T59A comp=Z,43nm,1.6s LR LR
comp=Z,3µm,20.0s
T59A Double "B" Far 96.96 332 P **P** 06 21 45.8 -0.4
baz=26
Q51A Peebles 96.98 337 eP **P** 06 21 45.4 -0.8
Q51A comp=Z,59nm,1.1s LR LR
comp=Z,5µm,18.0s
Q51A Peebles 96.98 337 P **P** 06 21 45.6 -0.6
baz=22,SNR=12
S56A Natural Bridge 97.02 334 P **P** 06 21 46.3 -0.1
baz=25,SNR=5.1
O45A Potomac 97.03 341 P **P** 06 21 46.3 -0.1
baz=19,SNR=6.2
R54A Victor 97.03 335 P **P** 06 21 46.2 -0.3
baz=24,SNR=7.6
REDW Red Top Meadow 97.06 359 eP Pdif 06 21 47.1 +0.2
REDW comp=Z,76nm,1.4s LR LR
comp=Z,6µm,19.0s
HDIL Hopedale 97.11 342 eP **P** 06 21 46.7 0.0
HDIL comp=Z,180nm,1.2s LR LR
comp=Z,7µm,20.0s
HDIL Hopedale 97.11 342 P **P** 06 21 46.8 0.0
baz=18,SNR=22
K02D Willamette Mer 97.12 8 P Pdif 06 21 48.0 +1.0
baz=352,SNR=6.1
U61A Possum Corner 97.13 331 eP **P** 06 21 46.8 -0.2
U61A comp=Z,116nm,1.4s LR LR
comp=Z,3µm,20.0s
U61A Possum Corner 97.13 331 P Pdif 06 21 48.2 +1.2
baz=27
P48A Milroy 97.17 339 P **P** 06 21 46.5 -0.6
baz=21,SNR=22
R53A Hurricane 97.20 336 eP **P** 06 21 47.1 -0.2
R53A comp=Z,94nm,1.1s LR LR
comp=Z,6µm,19.0s
R53A Hurricane 97.20 336 P **P** 06 21 47.3 0.0
baz=23,SNR=13
S55A Lewisburg 97.25 335 P **P** 06 21 47.1 -0.4
baz=24,SNR=13
U60A Pendleton 97.27 332 P **P** 06 21 46.9 -0.6
baz=27
HUMO Hull Mountain 97.29 8 eP Pdif 06 21 48.6 +0.9
HUMO comp=Z,90nm,1.4s LR LR
comp=Z,3µm,22.0s
O44A Mansfield 97.30 342 P Pdif 06 21 47.9 +0.2
baz=18,SNR=13
N40A Mertquake, Sal 97.31 344 P Pdif 06 21 47.7 0.0
baz=16,SNR=24
N41A Harden Midland 97.32 344 eP **P** 06 21 47.5 -0.2
N41A comp=Z,118nm,1.1s LR LR
comp=Z,6µm,20.0s
N41A Harden Midland 97.32 344 P **P** 06 21 47.3 -0.4
baz=17,SNR=5.4
T58A Grand View Acr 97.33 333 P **P** 06 21 47.8 0.0
baz=26,SNR=9.4
K05A Summer Lake 97.36 6 eP Pdif 06 21 49.5 +1.2
K05A comp=Z,126nm,1.4s LR LR
comp=Z,3µm,22.0s
P47A Martinsville 97.37 340 P **P** 06 21 47.4 -0.6
baz=20,SNR=10
K04D Chiloquin, OR 97.39 7 P Pdif 06 21 49.0 +0.7
baz=353
R52A Catlettsburg 97.41 337 P **P** 06 21 47.7 -0.5
baz=23,SNR=7.9
Q49A Aurora 97.44 339 P **P** 06 21 47.6 -0.7
baz=21,SNR=18
S54A Dingess, Beckl 97.48 336 P **P** 06 21 48.3 -0.3
baz=24,SNR=8.4
P46A Rosedale 97.49 341 P **P** 06 21 48.2 -0.3
baz=19,SNR=17
T57A Hurt 97.53 334 eP **P** 06 21 47.9 -0.9
T57A comp=Z,66nm,1.4s LR LR
comp=Z,4µm,21.0s
T57A Hurt 97.53 334 P Pdif 06 21 48.9 +0.1
baz=25,SNR=9.2
K22A Casper 97.60 356 eP **P** 06 21 49.1 -0.1
K22A comp=Z,71nm,1.3s LR LR
comp=Z,9µm,18.0s
K22A Casper 97.60 356 P **P** 06 21 49.1 -0.1
baz=4.8,SNR=18
U59A Littleton 97.60 332 eP Pdif 06 21 49.3 +0.2
comp=Z,40nm,1.6s
U59A LR LR
comp=Z,4µm,19.0s
U59A Littleton 97.60 332 P **P** 06 21 48.2 -0.9
baz=26
BW06 Boulder Array 97.62 358 eP Pdif 06 21 49.7 +0.2
comp=Z,28nm,1.2s
BW06 LR LR
comp=Z,5µm,21.0s
BW06 Boulder Array 97.62 358 P Pdif 06 21 49.8 +0.4
baz=2.4,SNR=25
PD31 Pinedale Array 97.62 358 eP Pdif 06 21 49.5 +0.1
comp=Z,26nm,1.2s
PD31 ePKKPbc **PKKPbc** 06 38 23.5 -1.3
PD31 eP'P'df **P'P'df** 06 46 40.0 -5.9
PDAR Pinedale Array 97.62 358 P Pdif 06 21 50.0 +0.6
comp=Z,10nm,0.9s,baz=29,slow=3.4,SNR=62
PDAR PKKPbc **PKKPbc** 06 38 23.5 -1.3
comp=Z,0.9nm,0.8s,baz=151,slow=3.4,SNR=6.2
PDAR PKPPKP **P'P'df** 06 46 40.0 -5.9
comp=Z,0.2nm,0.3s,baz=159,slow=4.6,SNR=6.3
PDAR LR LR 07 10 29.6
comp=Z,3µm,18.7s,baz=10,slow=38
V62A Hyde County Ai 97.63 331 PFAKE 06 22 00.0 +11
V62A LR LR
comp=Z,6µm,18.0s
V62A Hyde County Ai 97.63 331 P **P** 06 21 48.1 -1.1
baz=28
AHID Auburn Hatcher 97.66 359 eP Pdif 06 21 50.1 +0.6
comp=Z,47nm,1.1s
AHID LR LR
comp=Z,6µm,19.0s
L02E Cave Junction 97.66 8 P Pdif 06 21 50.5 +1.2
baz=352
V61A Roper 97.66 331 PFAKE 06 22 00.0 +11
V61A LR LR
comp=Z,4µm,18.0s
V61A Roper 97.66 331 P Pdif 06 21 49.4 0.0
baz=27
P45A Graceland, Par 97.71 341 eP Pdif 06 21 49.6 0.0
comp=Z,66nm,1.3s
P45A LR LR
comp=Z,5µm,18.0s
P45A Graceland, Par 97.71 341 P Pdif 06 21 49.6 0.0
baz=19,SNR=9.2
R51A Hillsboro 97.72 337 P **P** 06 21 49.0 -0.6
baz=22,SNR=5.1
BLA Blacksburg 97.73 335 eP **P** 06 21 49.2 -0.4
comp=Z,38nm,1.3s
BLA LR LR
comp=Z,4µm,19.0s
BLA Blacksburg 97.73 335 eP **P** 06 21 49.3 -0.4
BLA pmax pmax
comp=Z,38nm,1.3s
BLA MLR MLR
comp=Z,4µm,19.0s
BLA Blacksburg 97.73 335 P **P** 06 21 49.5 -0.2
baz=24
BLO Bloomington 97.73 340 eP **P** 06 21 49.6 0.0
comp=Z,42nm,1.3s
BLO LR LR
comp=Z,7µm,18.0s
BLO Bloomington 97.73 340 eP **P** 06 21 49.6 0.0
BLO pmax pmax
comp=Z,42nm,1.3s
BLO MLR MLR
comp=Z,7µm,18.0s
L04D Klamath Falls 97.74 7 P Pdif 06 21 50.2 +0.3
baz=353,SNR=12
Q48A North Vernon 97.75 339 P **P** 06 21 49.1 -0.6
baz=20,SNR=7.1
T56A Rocky Mt 97.77 334 P **P** 06 21 49.8 -0.1
baz=25,SNR=6.3
WVOR Wild Horse Val 97.81 5 eP Pdif 06 21 50.8 +0.6
comp=Z,92nm,1.4s
WVOR LR LR
comp=Z,4µm,20.0s
WVOR Wild Horse Val 97.81 5 eP Pdif 06 21 50.8 +0.7
WVOR pmax pmax
comp=Z,92nm,1.4s
WVOR MLR MLR
comp=Z,4µm,20.0s
U58A Oxford 97.83 333 P **P** 06 21 49.6 -0.5
baz=26
S53A Williamson 97.85 336 P **P** 06 21 49.7 -0.5
baz=23,SNR=9.2
Q47A Bedord North L 97.93 340 P **P** 06 21 49.8 -0.7
baz=20,SNR=17
T55A Pulaski 97.94 335 P **P** 06 21 50.1 -0.5
baz=24,SNR=5.7
V60A Jim Taylor Roa 97.94 332 eP **P** 06 21 50.3 -0.2
comp=Z,33nm,1.1s
V60A LR LR
comp=Z,4µm,18.0s
V60A Jim Taylor Roa 97.94 332 P **P** 06 21 50.3 -0.2
baz=27
R50A Paris 97.95 338 P **P** 06 21 50.1 -0.6
baz=22,SNR=9.3
BGNE Belgrade 97.97 349 eP Pdif 06 21 51.4 +0.7
comp=Z,376nm,1.3s
BGNE LR LR
comp=Z,4µm,19.0s
BGNE Belgrade 97.97 349 P Pdif 06 21 51.4 +0.6
baz=11,SNR=12
P43A Skaggs, Pawnee 98.04 342 P **P** 06 21 50.9 -0.1
baz=18,SNR=14
U57A Blanch 98.07 333 P **P** 06 21 51.1 -0.1
baz=25,SNR=7.8
Q46A CEJHS Indians, 98.09 340 P **P** 06 21 50.7 -0.5
baz=19
S52A Salyersville 98.14 337 P **P** 06 21 51.0 -0.5
baz=22,SNR=6.1
YBH Yreka Blue Hor 98.18 8 eP **P** 06 21 51.5 -0.2
comp=Z,9.9nm,1.0s
YBH LR LR
comp=Z,3µm,21.0s
YBH Yreka Blue Hor 98.18 8 eP **P** 06 21 51.5 -0.2
YBH pmax pmax
comp=Z,10.0nm,1.0s
YBH MLR MLR
comp=Z,3µm,21.0s
R49A Shelbyville 98.19 339 P **P** 06 21 50.8 -0.9
baz=21,SNR=11
M04C Macdoel 98.21 7 P Pdif 06 21 52.3 +0.4
baz=353,SNR=14
MOD Modoc Plateau 98.23 6 eP Pdif 06 21 52.8 +0.8
comp=Z,67nm,1.3s
MOD LR LR
comp=Z,3µm,20.0s
T54A Tazewell 98.24 335 P **P** 06 21 51.8 -0.3
baz=24,SNR=15
R48A Northridge Ran 98.28 339 P **P** 06 21 51.6 -0.5
baz=20
V59A Middlesex 98.29 332 P **P** 06 21 52.0 -0.2
baz=26
S51A Beattyville 98.33 337 eP **P** 06 21 51.2 -1.2
comp=Z,39nm,1.1s
S51A LR LR
comp=Z,7µm,20.0s
S51A Beattyville 98.33 337 P **P** 06 21 52.0 -0.4
baz=22,SNR=9.4
Q45A Warren Harvey, 98.41 341 P Pdif 06 21 52.9 +0.2
baz=19,SNR=17
M02C Callahan 98.50 8 P Pdif 06 21 54.2 +1.1
baz=352,SNR=10
U56A King 98.50 334 P Pdif 06 21 53.4 +0.2
baz=24,SNR=5.0
S50A Richmond 98.54 338 P **P** 06 21 52.6 -0.7
baz=22,SNR=7.9
OLIL Olney 98.55 341 eP **P** 06 21 53.1 -0.2
comp=Z,84nm,1.4s
OLIL LR LR
comp=Z,5µm,20.0s
R47A Wooly Knot Far 98.56 340 P **P** 06 21 52.8 -0.5
baz=20,SNR=13
WCI Wyandotte Cave 98.56 339 eP **P** 06 21 52.6 -0.7
comp=Z,40nm,1.2s
WCI LR LR
comp=Z,6µm,19.0s
WCI Wyandotte Cave 98.56 339 eP **P** 06 21 52.6 -0.7
WCI pmax pmax
comp=Z,40nm,1.2s
WCI MLR MLR
comp=Z,6µm,19.0s
WCI Wyandotte Cave 98.56 339 P **P** 06 21 52.9 -0.4
baz=20
V58A Windy Hill, Pi 98.57 333 P Pdif 06 21 53.7 +0.2
baz=25
U55A TA2, Sparta 98.58 335 P **P** 06 21 53.4 -0.2
baz=24,SNR=9.9
RWWY Rawlins 98.60 356 eP Pdif 06 21 54.3 +0.4
comp=Z,115nm,1.4s
RWWY LR LR
comp=Z,6µm,20.0s
T53A Wise 98.62 336 P **P** 06 21 53.6 -0.1
baz=23,SNR=11
CNNC Cliffs of the 98.63 332 eP Pdif 06 21 54.0 +0.3
comp=Z,20nm,1.0s
CNNC LR LR
comp=Z,4µm,20.0s
CNNC Cliffs of the 98.63 332 P **P** 06 21 53.7 0.0
baz=26
T52A Hallie 98.64 336 eP **P** 06 21 53.6 -0.2
comp=Z,35nm,1.1s
T52A LR LR
comp=Z,6µm,19.0s
T52A Hallie 98.64 336 P Pdif 06 21 53.9 +0.1
baz=23,SNR=6.2
HVU Hansel Valley 98.65 0 eP Pdif 06 21 54.8 +0.9
comp=Z,98nm,1.3s
HVU Hansel Valley 98.65 0 eP Pdif 06 21 54.8 +0.9
HVU pmax pmax
comp=Z,98nm,1.3s
S49A Springfield 98.69 338 Pdiff **P** 06 21 53.1 -0.9
baz=21
V57A Coltrane Farms 98.72 334 Pdiff **P** 06 21 53.3 -0.8
baz=25
U54A Nelsons Funny 98.81 335 eP **P** 06 21 54.1 -0.5
comp=Z,55nm,1.1s
U54A LR LR
comp=Z,4µm,20.0s
U54A Nelsons Funny 98.81 335 Pdiff **P** 06 21 54.3 -0.3
baz=23
HWUT Hardware Ranch 98.82 359 eP Pdif 06 21 56.0 +1.2
comp=Z,79nm,1.2s
HWUT LR LR
comp=Z,5µm,19.0s
PHWY Pilot Hill 98.87 355 eP Pdif 06 21 55.5 +0.4
comp=Z,61nm,1.2s
PHWY LR LR
comp=Z,4µm,19.0s
R46A Gibon Southern 98.89 340 Pdiff **P** 06 21 54.3 -0.5
baz=19
W59A Clinton 98.90 332 Pdiff **P** 06 21 54.7 -0.2
baz=26
KHMM Horse Mountain 98.92 9 PFAKE 06 22 10.0 +15
KHMM LR LR
comp=Z,4µm,18.0s
OGNE Ogallala 98.92 352 eP Pdif 06 21 55.2 +0.2
comp=Z,118nm,1.3s
OGNE LR LR
comp=Z,5µm,19.0s
OGNE Ogallala 98.92 352 Pdiff Pdif 06 21 55.3 +0.3
baz=8.2
N02D Trinity Center 98.93 8 Pdiff Pdif 06 21 55.7 +0.6
baz=352
JCC Jacoby Creek, 98.94 9 PFAKE 06 22 10.0 +15
JCC LR LR
comp=Z,3µm,18.0s
Q42A Golden Eagle 98.97 343 Pdiff **P** 06 21 55.1 0.0
baz=17
R45A Skylar, Fairfi 99.01 341 Pdiff **Pdif** 06 21 55.2 -0.2
baz=19
S48A Wiedeman Farm, 99.03 339 Pdiff **Pdif** 06 21 54.8 -0.7
baz=20
V56A Mocksville 99.03 334 eP **Pdif** 06 21 55.1 -0.4
comp=Z,43nm,1.3s
V56A LR LR
comp=Z,5µm,22.0s
V56A Mocksville 99.03 334 Pdiff **Pdif** 06 21 55.3 -0.2
baz=24
T51A Gray 99.06 337 Pdiff **Pdif** 06 21 55.3 -0.4
baz=22
STKA Stephens Creek 99.07 124 LR LR 07 14 38.0
comp=Z,1µm,19.0s,baz=295,slow=40
SLM Saint Louis 99.16 342 eP **Pdif** 06 21 55.6 -0.4
comp=Z,54nm,1.0s
SLM LR LR
comp=Z,6µm,20.0s
SLM Saint Louis 99.16 342 eP **Pdif** 06 21 55.6 -0.4
SLM pmax pmax
comp=Z,54nm,1.0s
SLM MLR MLR
comp=Z,6µm,20.0s
USIN University of 99.17 340 eP **Pdif** 06 21 55.9 -0.2
comp=Z,122nm,1.4s
USIN LR LR
comp=Z,6µm,22.0s
U53A Fall Branch 99.20 336 Pdiff **Pdif** 06 21 55.9 -0.5
baz=23
V55A Taylorsville 99.23 335 Pdiff **Pdif** 06 21 56.2 -0.2
baz=24
T50A Nancy 99.28 338 Pdiff **Pdif** 06 21 55.9 -0.6
baz=21
TCUT Toone Canyon 99.31 359 eP **Pdif** 06 21 58.1 +1.2
comp=Z,128nm,1.4s
S47A Hartford 99.31 340 Pdiff **Pdif** 06 21 56.1 -0.6
baz=20
N23A Red Feather La 99.31 355 eP **Pdif** 06 21 57.6 +0.6
comp=Z,63nm,1.4s
N23A LR LR
comp=Z,7µm,18.0s
N23A Red Feather La 99.31 355 Pdiff **Pdif** 06 21 57.7 +0.6
baz=5.2
TZTN Tazewell 99.33 337 eP **Pdif** 06 21 56.6 -0.3
comp=Z,61nm,1.5s
TZTN LR LR
comp=Z,4µm,19.0s
TZTN Tazewell 99.33 337 Pdiff **Pdif** 06 21 56.8 0.0
baz=22
WDC Whiskeytown Da 99.33 8 eP **Pdif** 06 21 57.1 +0.3
comp=Z,7.1nm,1.0s
WDC LR LR
comp=Z,4µm,21.0s
WDC Whiskeytown Da 99.33 8 eP **Pdif** 06 21 57.1 +0.3
WDC pmax pmax
comp=Z,7.0nm,1.0s
WDC MLR MLR
comp=Z,4µm,21.0s
T49A Edmonton 99.40 338 eP **Pdif** 06 21 56.1 -1.1
comp=Z,38nm,1.1s
T49A LR LR
comp=Z,4µm,20.0s
T49A Edmonton 99.40 338 Pdiff **Pdif** 06 21 56.3 -0.8
baz=21
U52A Thorn Hill 99.42 336 Pdiff **Pdif** 06 21 57.0 -0.2
baz=22
S46A Don Dixon Farm 99.44 340 Pdiff **Pdif** 06 21 56.9 -0.4
baz=19
W57A Gilead 99.45 333 eP **Pdif** 06 21 57.3 -0.1
comp=Z,26nm,1.3s
W57A LR LR
comp=Z,3µm,18.0s
W57A Gilead 99.45 333 Pdiff **Pdif** 06 21 57.5 +0.1
baz=25
X59A McDuffie Farm, 99.49 332 Pdiff **Pdif** 06 21 57.4 -0.2
baz=26
BGU Big Grassy Mou 99.50 0 eP **Pdif** 06 21 57.9 +0.2
comp=Z,87nm,1.6s
V54A Nebo 99.54 335 Pdiff **Pdif** 06 21 57.4 -0.4
baz=23
KMRM Mail Ridge 99.56 9 PFAKE 06 22 10.0 +12
KMRM LR LR
comp=Z,3µm,20.0s
U51A La Follette 99.63 337 Pdiff **Pdif** 06 21 57.9 -0.3
baz=22
T48A Bowling Green 99.63 339 Pdiff **Pdif** 06 21 57.6 -0.6
baz=20
ELK Elko 99.65 2 ePdif **Pdif** 06 21 59.8 +1.3
comp=Z,92nm,1.5s
ELK LR LR
comp=Z,4µm,21.0s
W56A Indian Trail 99.67 334 Pdiff **Pdif** 06 21 58.1 -0.3
baz=24
O03E Paynes Creek 99.69 7 Pdiff **Pdif** 06 21 58.5 0.0
baz=353
O02D Mt. Diablo Mer 99.71 8 Pdiff **Pdif** 06 21 59.3 +0.7
baz=352
CTU Camp Tracy 99.73 359 ePdif **Pdif** 06 22 00.0 +1.2
comp=Z,74nm,1.5s
X58A Rowland 99.77 333 PFAKE 06 22 10.0 +11
X58A LR LR
comp=Z,4µm,18.0s
X58A Rowland 99.77 333 Pdiff **Pdif** 06 21 58.8 0.0

baz=25
SIUC Southern Illin 99.80 341 PFAKE 06 22 10.0 +11
SIUC LR LR
comp=Z,6μm,18.0s
S44A Carbondale 99.82 341 Pdiff **Pdif 06 21 59.1 +0.1**
baz=18
FVM French Village 99.83 342 *e*Pdif **Pdif 06 21 58.9 -0.2**
comp=Z,57nm,1.3s
FVM LR LR
comp=Z,6μm,20.0s
FVM French Village 99.83 342 *e*P **Pdif 06 21 58.9 -0.2**
FVM pmax pmax
comp=Z,57nm,1.3s
FVM MLR MLR
comp=Z,6μm,20.0s
U50A Jamestown 99.84 338 Pdiff **Pdif 06 21 58.9 -0.3**
baz=21
Y60A Bolivia 99.86 332 PFAKE 06 22 10.0 +11
Y60A LR LR
comp=Z,4μm,18.0s
BMN Battle Mountai 99.89 4 PFAKE 06 22 10.0 +11
BMN LR LR
comp=Z,4μm,20.0s
V53A Saluda 99.91 336 *e*Pdif **Pdif 06 21 59.0 -0.5**
comp=Z,34nm,1.2s
V53A LR LR
comp=Z,4μm,18.0s
V53A Saluda 99.91 336 Pdiff **Pdif 06 21 59.4 -0.1**
baz=23
KMSC Kings Mountain 99.92 334 *e*Pdif **Pdif 06 22 00.0 +0.5**
comp=Z,38nm,1.2s
KMSC LR LR
comp=Z,4μm,19.0s
KMSC Kings Mountain 99.92 334 Pdiff **Pdif 06 21 59.5 0.0**
baz=24
T47A Sharon Grove 99.94 340 *e*Pdif **Pdif 06 21 59.2 -0.4**
comp=Z,57nm,1.1s
T47A LR LR
comp=Z,6μm,20.0s
T47A Sharon Grove 99.94 340 Pdiff **Pdif 06 21 59.3 -0.3**
baz=20
CCM Cathedral Cave 99.94 343 *e*Pdif **Pdif 06 21 59.2 -0.3**
comp=Z,46nm,1.1s
CCM LR LR
comp=Z,6μm,19.0s
CCM Cathedral Cave 99.94 343 *e*P **Pdif 06 21 59.2 -0.3**
CCM pmax pmax
comp=Z,46nm,1.1s
CCM MLR MLR
comp=Z,6μm,19.0s
CCM Cathedral Cave 99.94 343 Pdiff **Pdif 06 21 59.4 -0.1**
baz=16
KSU1 Kansas State U 99.98 347 PFAKE 06 22 10.0 +10
KSU1 LR LR
comp=Z,4μm,19.0s
KSU1 Kansas State U 99.98 347 Pdiff **Pdif 06 22 00.1 +0.4**
baz=12
V52A Sevierville 100.00 336 *e*Pdif **Pdif 06 21 59.3 -0.6**
comp=Z,31nm,1.1s
V52A LR LR
comp=Z,5μm,22.0s
V52A Sevierville 100.00 336 Pdiff **Pdif 06 21 59.5 -0.3**
baz=22
U49A Red Boiling Sp 100.02 338 Pdiff **Pdif 06 21 59.2 -0.7**
baz=21
BIRD Birdtown, Kers 100.08 334 PFAKE 06 22 10.0 +10
BIRD LR LR
comp=Z,3μm,19.0s
T46A Princeton 100.10 340 Pdiff **Pdif 06 22 00.2 0.0**
baz=19
KCPM Cahto Peak 100.11 9 PFAKE 06 22 10.0 +10
KCPM LR LR
comp=Z,3μm,18.0s
X57A Johnson Farm, 100.11 333 Pdiff **Pdif 06 22 00.3 0.0**
baz=25
O20A White River Ci 100.20 357 *e*Pdif **Pdif 06 22 01.9 +1.1**
O20A LR LR
comp=Z,5μm,18.0s
O20A White River Ci 100.20 357 Pdiff **Pdif 06 22 02.1 +1.2**
baz=3.5
U48A Cassie Pea, Po 100.23 339 Pdiff **Pdif 06 22 00.2 -0.7**
baz=20
DUG Dugway, Tooele 100.23 0 *e*Pdif **Pdif 06 22 02.4 +1.4**
DUG LR LR
comp=Z,3μm,21.0s
DUG Dugway, Tooele 100.23 0 Pdiff **Pdif 06 22 02.5 +1.5**
baz=360
BEKR Beckworth 100.24 6 PFAKE 06 22 10.0 +8.9
BEKR LR LR
comp=Z,3μm,18.0s
W54A Cherokee Point 100.25 335 Pdiff **Pdif 06 22 01.0 0.0**
baz=23
V51A Loudon 100.26 337 *e*Pdif **Pdif 06 22 00.6 -0.4**
V51A LR LR
comp=Z,5μm,19.0s
V51A Loudon 100.26 337 Pdiff **Pdif 06 22 00.7 -0.4**
baz=22
T45A Paducah 100.31 341 PFAKE 06 22 10.0 +8.8
T45A LR LR
comp=Z,5μm,20.0s
T45A Paducah 100.31 341 Pdiff **Pdif 06 22 01.2 0.0**
baz=18
PAULI Pauline 100.37 335 *e*Pdif **Pdif 06 22 01.5 0.0**
PAULI LR LR
comp=Z,4μm,18.0s
ISCO Idaho Springs 100.38 355 *e*Pdif **Pdif 06 22 02.2 +0.3**
ISCO LR LR
comp=Z,5μm,20.0s
ISCO Idaho Springs 100.38 355 *e*P **Pdif 06 22 02.2 +0.3**
ISCO MLR MLR
comp=Z,5μm,20.0s
ISCO Idaho Springs 100.38 355 Pdiff **Pdif 06 22 02.4 +0.5**
baz=5.5
X56A White Oak 100.41 334 Pdiff **Pdif 06 22 01.6 0.0**
baz=24
MPU Maple Canyon 100.41 359 *e*Pdif **Pdif 06 22 02.4 +0.5**
ORV Oroville 100.45 7 PFAKE 06 22 10.0 +8.2
ORV LR LR
comp=Z,4μm,21.0s
Y58A Scranton 100.47 333 PFAKE 06 22 10.0 +8.1
Y58A LR LR
comp=Z,4μm,18.0s
Y58A Scranton 100.47 333 Pdiff **Pdif 06 22 01.8 -0.1**
baz=25
NLU North Lily Min 100.47 360 *e*Pdif **Pdif 06 22 02.1 -0.1**
PAHR Pah Rah Range 100.48 5 *e*Pdif **Pdif 06 22 02.4 +0.3**
PAHR LR LR
comp=Z,3μm,18.0s
W53A Cullowhee 100.48 336 Pdiff **Pdif 06 22 01.6 -0.5**
baz=23
U47A Clarksville 100.50 340 Pdiff **Pdif 06 22 01.5 -0.5**
baz=20
CLTN Cedars of Leba 100.57 339 *e*Pdif **Pdif 06 22 01.8 -0.5**
CLTN LR LR
comp=Z,2μm,20.0s
BG3 Lake Jocassee 100.57 336 *e*Pdif **Pdif 06 22 01.8 -0.6**
BG3 LR LR
comp=Z,4μm,19.0s
V50A Pikevile 100.61 338 Pdiff **Pdif 06 22 02.0 -0.5**
baz=21
Y57A Sumter 100.62 333 PFAKE 06 22 10.0 +7.4
Y57A LR LR
comp=Z,3μm,18.0s
Y57A Sumter 100.62 333 Pdiff **Pdif 06 22 02.7 +0.1**
baz=25
X55A Gracelyn & Ava 100.63 334 Pdiff **Pdif 06 22 02.8 +0.2**
baz=24
CPCT Cooper Cave 100.64 337 *e*Pdif **Pdif 06 22 02.1 -0.5**
CPCT LR LR
comp=Z,5μm,19.0s
JSC Jenkinsville 100.68 334 PFAKE 06 22 10.0 +7.1
JSC LR LR
comp=Z,5μm,22.0s
CBKS Cedar Bluff 100.74 350 PFAKE 06 22 10.0 +6.9
CBKS LR LR
comp=Z,5μm,18.0s
CBKS Cedar Bluff 100.74 350 Pdiff **Pdif 06 22 03.6 +0.4**
baz=10
V49A McMinnville 100.75 338 Pdiff **Pdif 06 22 02.5 -0.7**
baz=21
W52A Murphy 100.79 336 PFAKE 06 22 10.0 +6.6
W52A LR LR
comp=Z,5μm,19.0s
W52A Murphy 100.79 336 Pdiff **Pdif 06 22 02.6 -0.8**
baz=22
X54A Belton 100.80 335 Pdiff **Pdif 06 22 03.4 0.0**
baz=23

U46A Springville 100.81 340 Pdiff **Pdif 06 22 03.3 -0.1**
baz=19
HOPS Hopland Field 100.85 8 PFAKE 06 22 10.0 +6.5
HOPS LR LR
comp=Z,2μm,20.0s
VCNR Virginia City 100.87 6 PFAKE 06 22 20.0 +16
VCNR LR LR
comp=Z,5μm,20.0s
KSCO Kaye Shedlock' 100.89 352 PFAKE 06 22 20.0 +16
KSCO LR LR
comp=Z,4μm,21.0s
KSCO Kaye Shedlock' 100.89 352 Pdiff **Pdif 06 22 04.0 +0.1**
baz=7.8
PARMO Parma 100.92 341 PFAKE 06 22 20.0 +16
PARMO LR LR
comp=Z,6μm,18.0s
WVT Waverly 100.94 340 *e*Pdif **Pdif 06 22 03.5 -0.5**
WVT LR LR
comp=Z,7μm,18.0s
WVT Waverly 100.94 340 *e*P **Pdif 06 22 03.5 -0.5**
WVT MLR MLR
comp=Z,7μm,18.0s
WVT Waverly 100.94 340 Pdiff **Pdif 06 22 03.4 -0.6**
baz=19
PBMO Poplar Bluff 100.98 342 *e*Pdif **Pdif 06 22 04.2 +0.1**
PBMO LR LR
comp=Z,6μm,21.0s
W51A Cleveland 100.98 337 Pdiff **Pdif 06 22 03.5 -0.7**
baz=21
V48A Smith Brothers 101.03 339 *e*Pdif **Pdif 06 22 04.2 -0.3**
V48A LR LR
comp=Z,5μm,20.0s
V48A Smith Brothers 101.03 339 Pdiff **Pdif 06 22 03.6 -0.8**
baz=20
Z58A St. Stephen 101.04 333 Pdiff **Pdif 06 22 04.9 +0.5**
baz=25
HODGE Hodges 101.05 335 *e*Pdif **Pdif 06 22 04.7 +0.1**
HODGE LR LR
comp=Z,3μm,18.0s
GDXM Geysers 101.06 8 PFAKE 06 22 20.0 +15
GDXM LR LR
comp=Z,4μm,18.0s
RUBR Rubicon Trail 101.07 6 PFAKE 06 22 20.0 +15
RUBR LR LR
comp=Z,4μm,20.0s
PNTR Pine Nut 101.08 6 *e*Pdif **Pdif 06 22 06.2 +1.3**
PNTR LR LR
comp=Z,5μm,20.0s
SMCO Snowmass 101.08 356 *e*Pdif **Pdif 06 22 06.3 +1.2**
SMCO LR LR
comp=Z,8μm,19.0s
AFDM Forest Hills D 101.10 7 *e*Pdif **Pdif 06 22 05.2 +0.4**
AFDM LR LR
comp=Z,4μm,19.0s
W50A Signal Mountai 101.11 338 *e*Pdif **Pdif 06 22 04.6 -0.2**
W50A LR LR
comp=Z,4μm,20.0s
W50A Signal Mountai 101.11 338 Pdiff **Pdif 06 22 04.1 -0.7**
baz=21
Y56A Pelion 101.14 334 Pdiff **Pdif 06 22 05.1 +0.2**
baz=24
X53A Estanollee 101.14 336 Pdiff **Pdif 06 22 04.7 -0.2**
baz=22
V47A Nunnelly 101.14 339 Pdiff **Pdif 06 22 04.2 -0.7**
baz=19
PVMO Portageville 101.15 341 PFAKE 06 22 20.0 +15
PVMO LR LR
comp=Z,5μm,20.0s
Q24A Divide 101.17 354 PFAKE 06 22 20.0 +15
Q24A LR LR
comp=Z,2μm,20.0s
Q24A Divide 101.17 354 Pdiff **Pdif 06 22 05.6 +0.2**
baz=5.9
GLAT Glass 101.18 341 PFAKE 06 22 20.0 +15
GLAT LR LR
comp=Z,5μm,20.0s
Y55A Saluda 101.19 334 Pdiff **Pdif 06 22 05.4 +0.2**
baz=24
YERR Yerington 101.20 5 PFAKE 06 22 20.0 +15
YERR LR LR
comp=Z,4μm,20.0s
KVN Kaiserville 101.21 4 *e*Pdif **Pdif 06 22 06.1 +0.6**
KVN LR LR
comp=Z,4μm,18.0s
KVN Kaiserville 101.21 4 *e*P **Pdif 06 22 06.1 +0.6**
KVN MLR MLR
comp=Z,4μm,18.0s
X52A Dahlonega 101.23 336 Pdiff **Pdif 06 22 05.0 -0.4**
baz=22
SWET Sewanee 101.27 338 PFAKE 06 22 20.0 +14
SWET LR LR
comp=Z,4μm,19.0s
EIDS Eidsvold 101.28 114 PFAKE 06 22 20.0 +15
EIDS LR LR
comp=Z,1μm,20.0s
SRU San Rafael Swe 101.30 358 *e*Pdif **Pdif 06 22 06.5 +0.7**
SRU San Rafael Swe 101.30 358 *e*P **Pdif 06 22 06.5 +0.7**
V46A Holladay 101.33 340 Pdiff **Pdif 06 22 05.4 -0.3**
baz=19
NHSC New Hope 101.37 333 PFAKE 06 22 20.0 +14
NHSC LR LR
comp=Z,4μm,21.0s
NHSC New Hope 101.37 333 Pdiff **Pdif 06 22 05.8 -0.2**
baz=25
W49A Belvidere 101.46 338 Pdiff **Pdif 06 22 05.5 -0.9**
baz=20
Q16A Castle Valley 101.50 359 *e*Pdif **Pdif 06 22 08.0 +1.3**
Y54A Tignall 101.53 335 Pdiff **Pdif 06 22 05.8 -0.9**
baz=23
HALT Halls 101.54 341 PFAKE 06 22 20.0 +13
HALT LR LR
comp=Z,4μm,20.0s
X51A Calhoun 101.56 337 PFAKE 06 22 20.0 +13
X51A LR LR
comp=Z,4μm,22.0s
X51A Calhoun 101.56 337 Pdiff **Pdif 06 22 06.2 -0.6**
baz=21
Z56A Williston 101.58 334 PFAKE 06 22 20.0 +13
Z56A LR LR
comp=Z,4μm,18.0s
Z56A Williston 101.58 334 Pdiff **Pdif 06 22 06.7 -0.2**
baz=24
RYN Ryan 101.61 5 PFAKE 06 22 20.0 +13
RYN LR LR
comp=Z,4μm,18.0s
W48A Pulaski 101.63 339 Pdiff **Pdif 06 22 06.2 -0.9**
baz=20
GNAR Gosnell 101.65 341 PFAKE 06 22 20.0 +13
GNAR LR LR
comp=Z,6μm,19.0s
WAKR Walker 101.67 6 PFAKE 06 22 20.0 +13
WAKR LR LR
comp=Z,3μm,20.0s
W47A Westpoint 101.70 339 Pdiff **Pdif 06 22 07.0 -0.5**
baz=19
MCCM Marconi Confer 101.71 8 PFAKE 06 22 20.0 +13
MCCM LR LR
comp=Z,2μm,19.0s
158A Hollywood 101.71 333 Pdiff **Pdif 06 22 07.6 +0.1**
baz=25
U41A Viola 101.74 343 Pdiff **Pdif 06 22 07.5 0.0**
baz=16
PV21 Cone Mtn., Par 101.80 357 PFAKE 06 22 20.0 +12
PV21 LR LR
comp=Z,5μm,21.0s
PV22 Blue Mesa, Par 101.81 357 *e*Pdif **Pdif 06 22 09.2 +1.1**
PV22 LR LR
comp=Z,4μm,18.0s
NV01 Mina Array Sit 101.82 5 *e*Pdif **Pdif 06 22 09.9 +1.8**
NV01 *e*PKKPbc **PKKPbc 06 38 13.8 +0.9**
NV01 *e*P'P'df **P'P'df 06 46 31.8 -6.0**
NVAR Mina Array Bea 101.82 5 P **Pdif 06 22 09.9 +1.7**
comp=Z,5.9nm,0.9s,baz=9.6,slow=3.2,SNR=20
NVAR PKPPKP **PKKPbc 06 38 13.8 +0.9**
comp=Z,1.5nm,0.8s,baz=188,slow=5.3,SNR=6.1
NVAR PKPPKP **P'P'df 06 46 31.8 -6.0**
comp=Z,4.0nm,1.1s,baz=168,slow=2.9,SNR=11
NV11 Mina Array Sit 101.83 4 *e*Pdif **Pdif 06 22 09.2 +1.1**
NV11 LR LR
comp=Z,200nm,20.0s
Y53A Monroe 101.83 336 Pdiff **Pdif 06 22 07.5 -0.5**
baz=22
PSUT Pine Spring 101.89 1 *e*Pdif **Pdif 06 22 09.6 +1.1**
X50B Fort Payne 101.90 338 Pdiff **Pdif 06 22 07.8 -0.5**
baz=21
PV07 Paradox Valley 101.91 357 PFAKE 06 22 20.0 +11

PV07 LR LR
comp=Z,4μm,18.0s
MSU Marysvale 101.91 360 *e*Pdif **Pdif 06 22 11.1 +2.5**
U40A Yellville 101.93 344 Pdiff **Pdif 06 22 08.2 -0.2**
baz=15
Z55A Blythe 101.94 334 Pdiff **Pdif 06 22 08.6 +0.1**
baz=23
PV04 Paradox Valley 101.96 357 PFAKE 06 22 20.0 +11
PV04 LR LR
comp=Z,5μm,22.0s
Y52A Lilburn 101.97 336 *e*Pdif **Pdif 06 22 08.3 -0.3**
Y52A LR LR
comp=Z,5μm,19.0s
Y52A Lilburn 101.97 336 Pdiff **Pdif 06 22 08.6 0.0**
baz=22
PV10 Paradox Valley 101.98 357 PFAKE 06 22 20.0 +11
PV10 LR LR
comp=Z,5μm,20.0s
PV20 West Nyswonger 102.02 357 *e*Pdif **Pdif 06 22 10.1 +1.1**
PV20 LR LR
comp=Z,4μm,21.0s
W46A Michie 102.03 340 Pdiff **Pdif 06 22 08.2 -0.6**
baz=19
R11A Troy Canyon, C 102.03 2 *e*Pdif **Pdif 06 22 09.9 +0.9**
R11A LR LR
comp=Z,4μm,20.0s
R11A Troy Canyon, C 102.03 2 Pdiff **Pdif 06 22 09.8 +0.7**
baz=358
PV16 Nyswonger Mesa 102.04 357 PFAKE 06 22 20.0 +11
PV16 LR LR
comp=Z,4μm,22.0s
X49A Woodville 102.04 338 Pdiff **Pdif 06 22 08.3 -0.7**
baz=20
PV19 Morning Glory 102.05 357 PFAKE 06 22 20.0 +11
PV19 LR LR
comp=Z,4μm,21.0s
PV11 David Mesa, Pa 102.05 357 PFAKE 06 22 20.0 +11
PV11 LR LR
comp=Z,6μm,22.0s
CMB Columbia Colle 102.06 6 *e*Pdif **Pdif 06 22 09.0 0.0**
CMB LR LR
comp=Z,4μm,19.0s
PLAL Pickwick Lake 102.09 340 *e*Pdif **Pdif 06 22 08.6 -0.5**
PLAL LR LR
comp=Z,5μm,19.0s
PV18 Skein Mesa, Pa 102.11 357 *e*Pdif **Pdif 06 22 10.6 +1.1**
PV18 LR LR
comp=Z,4μm,22.0s
PV02 Paradox Valley 102.14 357 PFAKE 06 22 20.0 +10
PV02 LR LR
comp=Z,3μm,19.0s
Z54A Sparta 102.16 335 Pdiff **Pdif 06 22 09.3 -0.2**
baz=23
PV13 Radium Mtn., P 102.19 357 PFAKE 06 22 20.0 +10
PV13 LR LR
comp=Z,4μm,20.0s
GOGA Godfrey 102.20 335 *e*Pdif **Pdif 06 22 08.4 -1.3**
GOGA LR LR
comp=Z,6μm,19.0s
GOGA Godfrey 102.20 335 *e*P **Pdif 06 22 08.4 -1.3**
GOGA MLR MLR
comp=Z,6μm,19.0s
GOGA Godfrey 102.20 335 Pdiff **Pdif 06 22 09.5 -0.1**
baz=22
HBAR Harrisburg 102.20 342 PFAKE 06 22 20.0 +10
HBAR LR LR
comp=Z,7μm,18.0s
PV01 Paradox Valley 102.21 357 PFAKE 06 22 20.0 +10
PV01 LR LR
comp=Z,3μm,20.0s
HHAR Hobbs 102.23 345 PFAKE 06 22 20.0 +10
HHAR LR LR
comp=Z,4μm,19.0s
Y51A Rockmart 102.24 337 Pdiff **Pdif 06 22 09.3 -0.6**
baz=21
PV05 Paradox Valley 102.28 357 PFAKE 06 22 20.0 +10
PV05 LR LR
comp=Z,4μm,19.0s
X48A Hartselle 102.31 339 *e*Pdif **Pdif 06 22 09.1 -1.0**
X48A LR LR
comp=Z,5μm,18.0s
X48A Hartselle 102.31 339 Pdiff **Pdif 06 22 09.1 -1.0**
baz=20
Z53A Monticello 102.35 335 Pdiff **Pdif 06 22 10.0 -0.3**
baz=22
SDCO Great Sand Dun 102.41 354 *e*Pdif **Pdif 06 22 11.0 +0.1**
SDCO LR LR
comp=Z,4μm,22.0s
SDCO Great Sand Dun 102.41 354 Pdiff **Pdif 06 22 11.2 +0.3**
baz=5.6
MET Memphis--Engin 102.44 341 PFAKE 06 22 20.0 +9.3
MET LR LR
comp=Z,5μm,19.0s
Y50A Piedmont 102.45 337 Pdiff **Pdif 06 22 10.0 -0.8**
baz=21
X47A Russelville 102.47 339 Pdiff **Pdif 06 22 09.9 -0.9**
baz=19
S22A 4UR Ranch, Cre 102.50 355 *e*Pdif **Pdif 06 22 11.8 +0.4**
S22A LR LR
comp=Z,7μm,19.0s
S22A 4UR Ranch, Cre 102.50 355 Pdiff **Pdif 06 22 10.0 -1.3**
baz=4.6
MDPB Devils Postpil 102.56 5 PFAKE 06 22 20.0 +8.5
MDPB LR LR
comp=Z,3μm,20.0s
MLAC Mammoth, Mammo 102.58 5 Pdiff **Pdif 06 22 11.8 +0.2**
baz=355
OMMB Old Mammoth Mi 102.59 5 PFAKE 06 22 20.0 +8.3
OMMB LR LR
comp=Z,3μm,19.0s
155A Kite 102.60 334 Pdiff **Pdif 06 22 11.4 0.0**
baz=23
X46A Boomeville 102.62 340 Pdiff **Pdif 06 22 10.9 -0.6**
baz=19
Y49A Blount Mountai 102.68 338 *e*Pdif **Pdif 06 22 11.5 -0.3**
Y49A LR LR
comp=Z,4μm,19.0s
Y49A Blount Mountai 102.68 338 Pdiff **Pdif 06 22 11.2 -0.6**
baz=20
257A Skidaway Islan 102.70 333 PFAKE 06 22 20.0 +8.1
257A LR LR
comp=Z,4μm,19.0s
257A Skidaway Islan 102.70 333 Pdiff **Pdif 06 22 11.7 -0.2**
baz=24
Z52A Williamson 102.70 336 Pdiff **Pdif 06 22 11.6 -0.3**
baz=22
154A Montrose 102.82 335 PFAKE 06 22 20.0 +7.6
154A LR LR
comp=Z,3μm,20.0s
154A Montrose 102.82 335 Pdiff **Pdif 06 22 12.2 -0.2**
baz=23
Z51A Franklin 102.82 337 Pdiff **Pdif 06 22 12.2 -0.3**
baz=21
WHAR Wooly Hollow 102.83 343 *e*Pdif **Pdif 06 22 12.9 +0.4**
WHAR LR LR
comp=Z,4μm,20.0s
Y48A Jasper 102.84 339 Pdiff **Pdif 06 22 11.6 -0.9**
baz=20
CCUT Cedar City 102.87 1 *e*Pdif **Pdif 06 22 14.2 +1.3**
OXF Oxford 102.88 341 *e*Pdif **Pdif 06 22 12.5 -0.1**
OXF LR LR
comp=Z,4μm,19.0s
OXF Oxford 102.88 341 *e*P **Pdif 06 22 12.5 -0.1**
OXF MLR MLR
comp=Z,4μm,19.0s
OXF Oxford 102.88 341 Pdiff **Pdif 06 22 12.3 -0.4**
baz=18
T25A Trinidad 102.92 353 PFAKE 06 22 20.0 +6.9
T25A LR LR
comp=Z,5μm,20.0s
T25A Trinidad 102.92 353 Pdiff **Pdif 06 22 13.3 +0.2**
baz=6.5
W41B Gary Mavity, V 102.93 343 *e*Pdif **Pdif 06 22 12.8 -0.1**
W41B LR LR
comp=Z,5μm,21.0s
W41B Gary Mavity, V 102.93 343 Pdiff **Pdif 06 22 12.6 -0.3**
baz=16
TUL1 Leonard 102.95 346 *e*Pdif **Pdif 06 22 13.1 +0.2**
TUL1 LR LR
comp=Z,8μm,18.0s
TUL1 Leonard 102.95 346 Pdiff **Pdif 06 22 13.0 +0.1**
baz=13
PKCU Pink Cliffs 102.98 360 *e*Pdif **Pdif 06 22 15.4 +1.9**
256A Glennville 102.99 334 Pdiff **Pdif 06 22 12.9 -0.3**
baz=24
U32A Winter Ranch, 103.02 349 PFAKE 06 22 20.0 +6.7

U32A LR LR
comp=Z,4µm,18.0s
Z50A Ashland 103.10 337 *e*Pdif **Pdif 06 22 12.7 -1.0**
Z50A LR LR
comp=Z,4µm,20.0s
Z50A Ashland 103.10 337 Pdiff **Pdif 06 22 13.3 -0.5**
baz=21
MVCO Mesa Verde 103.12 357 *e*Pdif **Pdif 06 22 14.7 +0.6**
MVCO LR LR
comp=Z,3µm,21.0s
MVCO Mesa Verde 103.12 357 Pdiff **Pdif 06 22 12.9 -1.2**
baz=3.3
SAO San Andreas Ge 103.22 7 PFAKE 06 22 30.0 +16
SAO LR LR
comp=Z,4µm,20.0s
255A Hazlehurst 103.24 334 PFAKE 06 22 30.0 +16
255A LR LR
comp=Z,4µm,20.0s
255A Hazlehurst 103.24 334 Pdiff **Pdif 06 22 14.3 0.0**
baz=23
X43A Marvell 103.24 342 PFAKE 06 22 30.0 +16
X43A LR LR
comp=Z,7µm,19.0s
X43A Marvell 103.24 342 Pdiff **Pdif 06 22 14.2 0.0**
baz=17
W39A Magazine 103.24 344 *e*Pdif **Pdif 06 22 13.9 -0.4**
W39A LR LR
comp=Z,5µm,19.0s
W39A Magazine 103.24 344 Pdiff **Pdif 06 22 14.1 -0.1**
baz=15
152A Waverly Hall 103.28 336 PFAKE 06 22 30.0 +16
152A LR LR
comp=Z,3µm,20.0s
UALR University of 103.34 343 *e*Pdif **Pdif 06 22 14.3 -0.4**
UALR LR LR
comp=Z,6µm,22.0s
Z49A Columbiana 103.34 338 Pdiff **Pdif 06 22 13.9 -0.8**
baz=20
TPNV Topopah Spring 103.40 3 *e*Pdif **Pdif 06 22 15.5 +0.3**
TPNV LR LR
comp=Z,4µm,22.0s
TPNV Topopah Spring 103.40 3 *e*P **Pdif 06 22 15.5 +0.3**
TPNV MLR MLR
comp=Z,4µm,22.0s
TPNV Topopah Spring 103.40 3 Pdiff **Pdif 06 22 14.7 -0.4**
baz=357
KNB Kanab 103.41 0 *e*Pdif **Pdif 06 22 14.4 -0.8**
KNB Kanab 103.41 0 *e*P **Pdif 06 22 14.4 -0.8**
254A Abbeville 103.49 335 Pdiff **Pdif 06 22 15.2 -0.2**
baz=23
151A Opelika 103.60 337 Pdiff **Pdif 06 22 15.3 -0.6**
baz=21
LRAL Lakeview Retre 103.62 338 *e*Pdif **Pdif 06 22 14.7 -1.3**
LRAL LR LR
comp=Z,6µm,18.0s
LRAL Lakeview Retre 103.62 338 Pdiff **Pdif 06 22 15.4 -0.6**
baz=20
253A Americus 103.66 335 PFAKE 06 22 30.0 +14
253A LR LR
comp=Z,5µm,20.0s
253A Americus 103.66 335 Pdiff **Pdif 06 22 16.1 0.0**
baz=22
X40A Basin Creek Fa 103.72 343 *e*Pdif **Pdif 06 22 16.3 -0.1**
X40A LR LR
comp=Z,5µm,22.0s
X40A Basin Creek Fa 103.72 343 Pdiff **Pdif 06 22 16.2 -0.2**
baz=16
150A Eclectic 103.73 337 Pdiff **Pdif 06 22 16.1 -0.4**
baz=21
MIAR Mount Ida 103.83 344 *e*Pdif **Pdif 06 22 17.3 +0.4**
MIAR LR LR
comp=Z,4µm,20.0s
MIAR Mount Ida 103.83 344 *e*P **Pdif 06 22 17.3 +0.4**
MIAR MLR MLR
comp=Z,4µm,20.0s
MIAR Mount Ida 103.83 344 Pdiff **Pdif 06 22 16.5 -0.4**
baz=15
SHPR Sheep Range 103.88 2 *e*Pdif **Pdif 06 22 18.7 +1.4**
SHPR LR LR
comp=Z,5µm,20.0s
355A Pearson 103.90 334 Pdiff **Pdif 06 22 16.9 -0.3**
baz=23
252A Lumpkin 103.91 336 Pdiff **Pdif 06 22 16.7 -0.6**
baz=22
RCBR Riachuelo 103.94 274 PFAKE 06 22 30.0 +12
RCBR LR LR
comp=Z,20µm,18.0s
149A Jones 103.97 338 Pdiff **Pdif 06 22 17.1 -0.5**
baz=20
U15A North Rim 104.00 360 *e*Pdif **Pdif 06 22 18.9 +1.0**
U15A LR LR
comp=Z,5µm,19.0s
DAC Darwin (Calif) 104.00 4 PFAKE 06 22 30.0 +12
DAC LR LR
comp=Z,4µm,22.0s
251A Midway 104.03 336 Pdiff **Pdif 06 22 17.6 -0.3**
baz=21
CCAR Cane Creek 104.03 342 *e*Pdif **Pdif 06 22 18.5 +0.7**
CCAR LR LR
comp=Z,7µm,21.0s
TIGA Tifton 104.06 335 PFAKE 06 22 30.0 +12
TIGA LR LR
comp=Z,3µm,19.0s
457A Yulee 104.11 333 Pdiff **Pdif 06 22 18.3 +0.1**
baz=24
148A Greensboro 104.15 338 Pdiff **Pdif 06 22 17.8 -0.5**
baz=20
X37A Clayton 104.15 345 *e*Pdif **Pdif 06 22 17.7 -0.6**
X37A LR LR
comp=Z,10µm,19.0s
456A Hilliard 104.18 333 PFAKE 06 22 30.0 +12
456A LR LR
comp=Z,4µm,19.0s
456A Hilliard 104.18 333 Pdiff **Pdif 06 22 18.4 -0.1**
baz=24
147A Livingston 104.32 339 PFAKE 06 22 30.0 +11
147A LR LR
comp=Z,6177µm,21.0s
147A Livingston 104.32 339 Pdiff **Pdif 06 22 18.2 -0.8**
baz=19
PAGB Antelope Grade 104.36 6 PFAKE 06 22 30.0 +11
PAGB LR LR
comp=Z,2µm,20.0s
250A Grady 104.40 337 PFAKE 06 22 30.0 +11
250A LR LR
comp=Z,4µm,21.0s
250A Grady 104.40 337 Pdiff **Pdif 06 22 19.0 -0.4**
baz=21
352A Blakely 104.45 336 PFAKE 06 22 30.0 +10
352A LR LR
comp=Z,4µm,19.0s
455A Stateville 104.51 334 Pdiff **Pdif 06 22 19.3 -0.7**
baz=23
WLAR White Oak Lake 104.55 343 PFAKE 06 22 30.0 +10
WLAR LR LR
comp=Z,6µm,18.0s
ISA Isabella, Lake 104.56 5 PFAKE 06 22 30.0 +10
ISA LR LR
comp=Z,2µm,19.0s
ISA Isabella, Lake 104.56 5 Pdiff **Pdif 06 22 20.8 +0.5**
baz=355
WMOK Wichita Mounta 104.60 348 *e*Pdif **Pdif 06 22 20.9 +0.5**
WMOK LR LR
comp=Z,3µm,18.0s
WMOK Wichita Mounta 104.60 348 *e*P **Pdif 06 22 20.9 +0.5**
WMOK MLR MLR
comp=Z,3µm,18.0s
WMOK Wichita Mounta 104.60 348 Pdiff **Pdif 06 22 20.8 +0.5**
baz=11
249A Camden 104.65 338 Pdiff **Pdif 06 22 20.8 +0.2**
baz=20
ARMA Armidale 104.78 117 PFAKE 06 22 30.0 +8.9
ARMA LR LR
comp=Z,3µm,22.0s
NBPA Parau_RN 104.82 275 *e*P PKiKP 06 26 46.4 +10
453A Whigham 104.83 335 PFAKE 06 22 30.0 +8.6
453A LR LR
comp=Z,4µm,18.0s
AMTX Amarillo 104.86 351 *e*Pdif **Pdif 06 22 22.1 +0.5**
AMTX LR LR
comp=Z,6µm,18.0s
AMTX Amarillo 104.86 351 Pdiff **Pdif 06 22 21.5 -0.1**
baz=8.7
WUAZ Wupatki 104.90 359 *e*Pdif **Pdif 06 22 21.7 -0.1**
WUAZ LR LR
comp=Z,4µm,20.0s
WUAZ Wupatki 104.90 359 Pdiff **Pdif 06 22 22.9 +1.0**
baz=1.0
Z41A Richland Creek 104.90 343 PFAKE 06 22 30.0 +8.4
Z41A LR LR
comp=Z,6µm,19.0s
GSC Goldstone, Bar 105.02 4 PFAKE 06 26 50.0 +13
GSC LR LR
comp=Z,4µm,18.0s
555A McAlpin 105.06 334 PFAKE 06 26 50.0 +13
555A LR LR
comp=Z,4µm,19.0s
658A Bunnell 105.10 332 PFAKE 06 26 50.0 +13
658A LR LR
comp=Z,4µm,19.0s
349A Repton 105.25 338 Pdiff **Pdif 06 22 24.0 +0.7**
baz=20
W18A Petrified Fore 105.26 358 PFAKE 06 26 50.0 +12
W18A LR LR
comp=Z,3µm,21.0s
W18A Petrified Fore 105.26 358 Pdiff **Pdif 06 22 24.8 +1.3**
baz=2.3
ANMO Albuquerque 105.26 355 *e*Pdif **Pdif 06 22 24.6 +1.1**
ANMO LR LR
comp=Z,6µm,18.0s
ANMO Albuquerque 105.26 355 *de*P **Pdif 06 22 24.3 +0.8**
ANMO pmax pmax
comp=Z,30nm,1.6s
ANMO Albuquerque 105.26 355 Pdiff **Pdif 06 22 25.1 +1.6**
baz=4.9
TASM ASL Pad, Albuq 105.26 355 Pdiff **Pdif 06 22 25.2 +1.6**
baz=4.9
TASM ASL Pad, Albuq 105.26 355 Pdiff **Pdif 06 22 25.2 +1.6**
baz=4.9
LDFC Landfair 105.31 2 PFAKE 06 26 50.0 +12
LDFC LR LR
comp=Z,4µm,22.0s
W13A Hualapai Mount 105.31 1 PFAKE 06 26 50.0 +12
W13A LR LR
comp=Z,3µm,21.0s
VBMS Vicksburg 105.34 341 PFAKE 06 26 50.0 +13
VBMS LR LR
comp=Z,5µm,20.0s
BRAL Brewton 105.38 337 PFAKE 06 26 50.0 +12
BRAL LR LR
comp=Z,4µm,18.0s
451A Vernon 105.51 336 PFAKE 06 26 50.0 +12
451A LR LR
comp=Z,4µm,21.0s
OSI Osito Audit: C 105.59 5 PFAKE 06 26 50.0 +12
OSI LR LR
comp=Z,3µm,19.0s
656A Willston 105.60 333 PFAKE 06 26 50.0 +12
656A LR LR
comp=Z,5µm,18.0s
ANWB Willy Bob 105.69 310 PFAKE 06 26 50.0 +12
ANWB LR LR
comp=Z,1µm,20.0s
X18A Snowflake 105.85 358 *e*Pdif **Pdif 06 22 27.5 +1.3**
X18A LR LR
comp=Z,4µm,21.0s
MSTX Muleshoe 105.89 352 *e*Pdif **Pdif 06 22 27.4 +1.1**
MSTX LR LR
comp=Z,4µm,18.0s
X16A Lo Mia Camp, P 105.99 359 PFAKE 06 26 50.0 +11
X16A LR LR
comp=Z,5µm,20.0s
MWC Mount Wilson 106.02 5 PFAKE 06 26 50.0 +11
MWC LR LR
comp=Z,3µm,18.0s
BNM Barren Site 106.06 355 *e*Pdif **Pdif 06 22 29.1 +1.9**
PASC Pasadena Art C 106.06 5 PFAKE 06 26 50.0 +11
PASC LR LR
comp=Z,2µm,20.0s
Y22D IRIS PASSCAL I 106.16 355 PFAKE 06 26 50.0 +11
Y22D LR LR
comp=Z,12µm,18.0s
DWPF Disney Wildern 106.35 332 PFAKE 06 26 50.0 +11
DWPF LR LR
comp=Z,3µm,18.0s
Y14A Wickenburg 106.48 0 PFAKE 06 26 50.0 +10
Y14A LR LR
comp=Z,3µm,20.0s
SKI Saint Kitts 106.52 310 PFAKE 06 26 50.0 +10
SKI LR LR
comp=Z,1µm,20.0s
SEUS St. Eustatius 106.53 311 PFAKE 06 26 50.0 +10
SEUS LR LR
comp=Z,2µm,19.0s
Y12C Blythe 106.64 2 PFAKE 06 26 50.0 +10
Y12C LR LR
comp=Z,3µm,20.0s
PFO Pinyon Flats O 106.72 3 PFAKE 06 26 50.0 +10
PFO LR LR
comp=Z,5µm,22.0s
NATX Nacogdoches 106.75 344 *e*Pdif **Pdif 06 22 30.8 +0.9**
NATX LR LR
comp=Z,6µm,18.0s
ABTX Abilene, Hawle 106.81 349 PFAKE 06 26 50.0 +10
ABTX LR LR
comp=Z,4µm,18.0s
060A Indiantown 106.92 330 PFAKE 06 26 50.0 +9.5
060A LR LR
comp=Z,3µm,22.0s
957A Wimauma 107.04 332 PFAKE 06 26 50.0 +9.3
957A LR LR
comp=Z,3µm,18.0s
WHTX Lake Whitney, 107.06 347 *e*Pdif **Pdif 06 22 31.7 +0.4**
WHTX LR LR
comp=Z,6µm,22.0s
CUPR Culebra, Puert 107.20 313 PFAKE 06 26 50.0 +8.8
CUPR LR LR
comp=Z,2µm,22.0s
059A Moore Haven 107.28 331 PFAKE 06 26 50.0 +8.8
059A LR LR
comp=Z,3µm,20.0s
MAW Mawson 107.28 182 *e*Pdif **Pdif 06 22 32.1 +1.1**
MAW *e*PKKPbc **PKKPbc 06 37 57.7 +0.3**
MAW LR LR
comp=Z,500nm,19.0s
MAW Mawson 107.28 182 *e*P **Pdif 06 22 32.2 +1.1**
MAW MLR MLR
comp=Z,500nm,19.0s
MAW Mawson 107.28 182 Pdiff **Pdif 06 22 34.1 +3.0**
comp=Z,3.8nm,0.8s,baz=81,slow=7.8,SNR=4.4
MAW PKKPbc **PKKPbc 06 37 57.7 +0.3**
comp=Z,8.3nm,0.9s,baz=197,slow=2.7,SNR=8.4
GLA Glamis 107.33 2 PFAKE 06 26 50.0 +8.8
GLA LR LR
comp=Z,3µm,18.0s
CPE Camp Elliot 107.40 4 PFAKE 06 26 50.0 +8.7
CPE LR LR
comp=Z,3µm,19.0s
MTP Monte Pirata 107.52 313 PFAKE 06 26 50.0 +8.2
MTP LR LR
comp=Z,1µm,20.0s
CBYP Canovanas 107.55 313 PFAKE 06 26 50.0 +8.0
CBYP LR LR
comp=Z,2µm,22.0s
FDF Fort de France 107.59 307 PFAKE 06 26 50.0 +7.9
FDF LR LR
comp=Z,2µm,20.0s
BAR Barrett 107.63 4 PFAKE 06 26 50.0 +8.2
BAR LR LR
comp=Z,4µm,22.0s
113A Mohawk Valley, 107.64 1 PFAKE 06 26 50.0 +8.3
113A LR LR
comp=Z,3µm,19.0s
HUMP Col San Antoni 107.65 313 PFAKE 06 26 50.0 +7.9
HUMP LR LR
comp=Z,2µm,18.0s
GRTK Grand Turk 107.67 320 PFAKE 06 26 50.0 +8.0
GRTK LR LR
comp=Z,3µm,21.0s
EMPR Esperanza - Ma 107.76 314 PFAKE 06 26 50.0 +7.8
EMPR LR LR
comp=Z,3µm,22.0s
SJG San Juan 107.84 314 PFAKE 06 26 50.0 +7.6
SJG LR LR
comp=Z,2µm,20.0s
AOPR Arecibo Observ 107.99 314 PFAKE 06 26 50.0 +7.3
AOPR LR LR
comp=Z,1µm,19.0s
TUC Tucson 108.08 358 PFAKE 06 26 50.0 +7.3
TUC LR LR
comp=Z,4µm,19.0s
AGP Aguadilla 108.15 315 PFAKE 06 26 50.0 +7.0
AGP LR LR
comp=Z,4µm,20.0s
061Z Ochoppi 108.18 330 PFAKE 06 26 50.0 +7.1
061Z LR LR
comp=Z,3µm,18.0s
ICMP Isla Caja de M 108.24 314 PFAKE 06 26 50.0 +6.9
ICMP LR LR
comp=Z,1µm,18.0s
435B Jarrell 108.26 346 PFAKE 06 26 50.0 +7.0
435B LR LR
comp=Z,6µm,22.0s
MPR Mayaguez 108.31 315 PFAKE 06 26 50.0 +6.7
MPR LR LR
comp=Z,3µm,21.0s
MNTX Cornudas Mount 108.40 354 *e*Pdif **Pdif 06 22 37.7 +0.4**
MNTX LR LR
comp=Z,5µm,18.0s
EPT El Paso 108.42 355 PFAKE 06 27 00.0 +17
EPT LR LR
comp=Z,5µm,18.0s
CRPR Cabo Rojo, PR 108.46 314 PFAKE 06 26 50.0 +6.4
CRPR LR LR
comp=Z,3µm,22.0s
HKT Hockley 108.74 345 PFAKE 06 27 00.0 +16
HKT LR LR
comp=Z,9µm,18.0s
UWB Uwekahuna B 108.76 43 PFAKE 06 27 00.0 +16
UWB LR LR
comp=Z,3µm,20.0s
OBL Observatory Le 108.77 43 PFAKE 06 27 00.0 +16
OBL LR LR
comp=Z,4µm,22.0s
HATHI Halema'uma'u T 108.77 43 PFAKE 06 27 00.0 +16
HATHI LR LR
comp=Z,2µm,20.0s
SVB Belmont 108.78 307 PFAKE 06 27 00.0 +16
SVB LR LR
comp=Z,2µm,21.0s
BYL Byron's Ledge 108.78 43 PFAKE 06 27 00.0 +16
BYL LR LR
comp=Z,3µm,20.0s
KKO Keanakako`i 108.79 43 PFAKE 06 27 00.0 +16
KKO LR LR
comp=Z,2µm,20.0s
STCH Steam Cracks 108.87 42 PFAKE 06 27 00.0 +16
STCH LR LR
comp=Z,3µm,22.0s
NPOC North of Pu'u 108.88 42 PFAKE 06 27 00.0 +16
NPOC LR LR
comp=Z,4µm,22.0s
JCUZ Jacuzzi 108.89 42 PFAKE 06 27 00.0 +16
JCUZ LR LR
comp=Z,2µm,18.0s
JCT Junction City 108.93 348 *e*Pdif **Pdif 06 22 39.8 +0.1**
JCT LR LR
comp=Z,4µm,18.0s
JCT Junction City 108.93 348 *e*P **Pdif 06 22 39.8 +0.1**
JCT MLR MLR
comp=Z,4µm,18.0s
319A Douglas 108.97 357 PFAKE 06 27 00.0 +16
319A LR LR
comp=Z,4µm,22.0s
SDD Santo Domingo 109.60 317 PFAKE 06 27 00.0 +14
SDD LR LR
comp=Z,3µm,20.0s
SDDR Presa de Saban 109.87 318 PFAKE 06 27 00.0 +14
SDDR LR LR
comp=Z,4µm,21.0s
GRGR Grenville 109.91 306 PFAKE 06 27 00.0 +14
GRGR LR LR
comp=Z,2µm,21.0s
DZM Mont Dzumac 110.52 102 *e*PP **PP 06 27 22.4 -1.2**
comp=Z,210nm,25.2s
DZM *e*SP SP 06 36 49.3 -2.5
comp=Z,626nm,30.1s
DZM Mont Dzumac 110.52 102 *e*LR LR 06 59 35.0
comp=Z,4µm,25.1s
DZM Mont Dzumac 110.52 102 *e*PKiKP **PKiKP 06 26 47.1 -0.3**
DZM LR LR
comp=Z,2µm,21.0s
DZM Mont Dzumac 110.52 102 PKiKP **PKiKP 06 26 47.1 -0.3**
comp=Z,3.9nm,0.8s,baz=231,slow=6.5,SNR=4.5
LTX Lajitas 110.58 352 *e*Pdif **Pdif 06 22 48.9 +1.7**
LTX *e*PKiKP **PKiKP 06 26 47.3 -0.2**
LTX *e*PKKPbc **PKKPbc 06 37 45.8 -0.1**
LTX Lajitas 110.58 352 *e*P **Pdif 06 22 48.9 +1.7**
LTX / 06 26 47.3
TXAR Lajitas Array 110.58 352 Pdiff **Pdif 06 22 48.9 +1.7**
comp=Z,2.4nm,1.0s,baz=42,slow=2.0,SNR=17
TXAR PKiKP **PKiKP 06 26 47.3 -0.2**
comp=Z,2.1nm,0.8s,baz=108,slow=0.5,SNR=6.2
TXAR PKKPbc **PKKPbc 06 37 45.8 -0.1**
comp=Z,1.6nm,0.8s,baz=189,slow=4.4,SNR=14
SYO Syowa Base 110.59 190 ‖ *i*P **PKiKP 06 26 45.0 -0.9**
GTBY Guantanamo Bay 110.94 322 PFAKE 06 27 00.0 +12
GTBY LR LR
comp=Z,2µm,21.0s
CASY Casey 110.97 163 PFAKE 06 27 00.0 +13
CASY LR LR
comp=Z,3µm,20.0s
833A Chaparral WMA, 110.98 348 PFAKE 06 27 00.0 +12
833A LR LR
comp=Z,4µm,22.0s
KVTX Kingsville 111.47 346 PFAKE 06 27 00.0 +11
KVTX LR LR
comp=Z,6µm,18.0s
MTDJ Mount Denham 113.54 323 PFAKE 06 27 00.0 +6.7
MTDJ LR LR
comp=Z,2µm,20.0s
LNIG Linares 114.34 347 PFAKE 06 27 10.0 +15
LNIG LR LR
comp=Z,4µm,22.0s
MYIG Mrida 115.77 336 PFAKE 06 27 10.0 +13
MYIG LR LR
comp=Z,5µm,20.0s
SLBS Sierra La Lagu 116.65 357 PFAKE 06 27 10.0 +11
SLBS LR LR
comp=Z,4µm,21.0s
MCI8 Montes Claros 116.78 270 *e*P **PKiKP 06 27 05.9 +6.5**
ZAIG Zacatecas 116.91 350 *e*PKPdf **PKiKP 06 27 01.0 +1.0**
ZAIG *e*PP **PP 06 28 07.4 -0.1**
SDV Santo Domingo 117.84 312 *e*PKPdf **PKPdf 06 27 00.9 -0.9**
SDV *e*PP **PP 06 28 13.2 -1.4**
SDV LR LR
comp=Z,2µm,21.0s
PTGA Pitinga 118.36 295 *e*PKPdf **PKPdf 06 27 01.6 -0.9**
PTGA LR LR
comp=Z,2µm,20.0s
BDFB Brasilia 119.32 274 *e*PKPdf **PKPdf 06 27 04.1 -0.3**
BDFB *e*PKKPbc **PKKPbc 06 37 16.3 +0.8**
BDFB LR LR
comp=Z,3µm,21.0s
BDFB Brasilia 119.32 274 *e*PKIKP **PKPdf 06 27 04.1 -0.3**
BDFB MLR MLR
comp=Z,3µm,21.0s
BDFB Brasilia 119.32 274 PKP **PKPdf 06 27 04.1 -0.3**
comp=Z,1.6nm,0.5s,baz=5.6,slow=11,SNR=4.3
BDFB PKKPbc **PKKPbc 06 37 16.3 +0.8**
comp=Z,5.5nm,1.1s,baz=155,slow=4.2,SNR=5.9
CAPV Capacho 119.62 313 *e*P **PKPdf 06 27 03.7 -1.6**
CAPV Capacho 119.62 313 *e*P **PKPdf 06 27 03.7 -1.6**
MOIG Morelia 119.74 348 PFAKE 06 27 20.0 +15
MOIG LR LR
comp=Z,5µm,18.0s
OCAC Ocana 119.88 314 *e*P **PKiKP 06 27 06.0 +0.2**
OCAC Ocana 119.88 314 *e*P **PKiKP 06 27 06.0 +0.2**
TAMC Tame, Arauca 120.49 311 *e*P **PKPdf 06 27 06.6 -0.1**
TAMC Tame, Arauca 120.49 311 *e*P **PKPdf 06 27 06.6 -0.1**
CCIG Comitan 120.91 337 *e*PKPdf **PKPdf 06 27 06.7 -0.9**
CCIG LR LR
comp=Z,4µm,21.0s
BRRC Barranca, Sant 121.03 313 *e*P **PKPdf 06 27 07.3 -0.4**
BRRC Barranca, Sant 121.03 313 *e*P **PKPdf 06 27 07.3 -0.4**
TLIG Tlapa 121.31 344 *e*PKPdf **PKiKP 06 27 08.5 0.0**
TLIG LR LR
comp=Z,3µm,22.0s
TGUH Tegucigalpa,Un 121.34 331 *e*PKPdf **PKiKP 06 27 08.7 +0.3**
TGUH LR LR
comp=Z,2µm,20.0s
TGUH Tegucigalpa,Un 121.34 331 *e*P **PKPdf 06 27 07.9 -0.3**
TGUH Tegucigalpa,Un 121.34 331 *e*P **PKPdf 06 27 07.9 -0.3**
SNAA Sanae 121.64 200 PKPdf **PKPdf 06 27 06.8 -0.4**
SNAA Sanae 121.64 200 *e*PKPdf **PKPdf 06 27 06.0 -1.2**
SNAA *e*PKKPbc **PKKPbc 06 37 07.3 -0.5**

SNAA				LR	LR		
	comp=Z,1μm,20.0s						
SNAA	**Sanae**	**121.64 200**	*c*	PKIKP	**PKPdf**	**06 27 06.2**	**-1.0**
SNAA	**Sanae**	**121.64 200**		PKP	**PKPdf**	**06 27 07.0**	**-0.2**
	comp=Z,19nm,1.1s,baz=49,slow=1.7,SNR=36						
SNAA				PKKPbc	**PKKPbc**	**06 37 07.3**	**-0.5**
	comp=Z,5.3nm,1.0s,baz=222,slow=4.3,SNR=7.9						
RUSC	**La Rusia**	**121.67 312**	*e*	P	**PKPdf**	**06 27 06.6**	**-3.0**
RUSC	**La Rusia**	**121.67 312**	*e*	P	**PKPdf**	**06 27 06.6**	**-3.0**
ESPN	**Las Esperanzas**	**121.85 327**	*e*	PKPdf	**PKPdf**	**06 27 08.9**	**-0.3**
ESPN				LR	LR		
	comp=Z,2μm,20.0s						
ESTN	**Estel**	**121.87 330**	*e*	PKPdf	**PKPdf**	**06 27 08.8**	**-0.6**
ESTN				LR	LR		
	comp=Z,3μm,22.0s						
PTBC	**PUERTO BERRIO1**	**21.91 314**	*e*	P	**PKPdf**	**06 27 08.6**	**-0.9**
PTBC	**PUERTO BERRIO1**	**21.91 314**	*e*	P	**PKPdf**	**06 27 08.6**	**-0.9**
CLDB	**Colider**	**122.25 284**	*e*	P	PKiKP	06 27 20.0	+10
CLDB	**Colider**	**122.25 284**	*e*	P	**PKPdf**	**06 27 10.0**	**0.0**
ACON	**Acoyapa**	**122.42 328**	*e*	PKPdf	**PKPdf**	**06 27 10.3**	**0.0**
ACON				LR	LR		
	comp=Z,3μm,20.0s						
CSGN	**Cosiguina Volc**	**122.44 331**		PFAKE		06 27 20.0	+9.3
CSGN				LR	LR		
	comp=Z,300nm,22.0s						
BCIP	**Isla Barro Col**	**122.50 321**	*e*	PKPdf	**PKPdf**	**06 27 09.9**	**-0.6**
BCIP				LR	LR		
	comp=Z,2μm,22.0s						
BCIP	**Isla Barro Col**	**122.50 321**	*e*	PKIKP	**PKPdf**	**06 27 09.9**	**-0.6**
BCIP				MLR	MLR		
	comp=Z,2μm,22.0s						
VNA2	**Neumayer--Watz**	**122.54 202**		PKPdf	**PKiKP**	**06 27 09.2**	**+0.2**
	baz=44,slow=3.9						
VNA1	**Neumayer--Stat**	**122.66 203**		PKPdf	**PKiKP**	**06 27 09.6**	**+0.4**
HELC	**Santa Helena**	**122.79 315**	*e*	P	**PKiKP**	**06 27 11.9**	**+0.1**
HELC	**Santa Helena**	**122.79 315**	*e*	P	**PKiKP**	**06 27 11.9**	**+0.1**
RCLB	**Rio Claro- Sao**	**122.87 267**	*e*	P	**PKiKP**	**06 27 13.0**	**+1.8**
RCLB	**Rio Claro- Sao**	**122.87 267**	*e*	P	**PKiKP**	**06 27 11.4**	**+0.2**
BB19B	**Bebedouro**	**122.88 269**	*e*	P	**PKiKP**	**06 27 15.0**	**+3.7**
BB19B	**Bebedouro**	**122.88 269**	*e*	P	**PKiKP**	**06 27 11.4**	**+0.2**
NORC	**Norcasia**	**122.95 314**	*e*	P	**PKPdf**	**06 27 08.6**	**-2.9**
NORC	**Norcasia**	**122.95 314**	*e*	P	**PKPdf**	**06 27 08.6**	**-2.9**
CTAB	**Cerro Tablazo,**	**123.03 312**	*e*	P	**PKiKP**	**06 27 13.9**	**+1.6**
CTAB	**Cerro Tablazo,**	**123.03 312**	*e*	P	**PKiKP**	**06 27 13.9**	**+1.6**
CHIC	**Chingaza**	**123.07 312**	*e*	P	**PKPdf**	**06 27 12.0**	**-0.2**
CHIC	**Chingaza**	**123.07 312**	*e*	P	**PKPdf**	**06 27 12.0**	**-0.2**
ROSC	**El Rosal**	**123.23 312**	*e*	PKPdf	**PKiKP**	**06 27 12.6**	**0.0**
ROSC				LR	LR		
	comp=Z,2μm,22.0s						
ROSC	**El Rosal**	**123.23 312**		PKP	**PKiKP**	**06 27 12.9**	**+0.2**
	comp=Z,50nm,0.9s,baz=137,slow=3.5,SNR=42						
VNA3	**Neumayer Olymp**	**123.34 202**		PKPdf	**PKiKP**	**06 27 10.6**	**0.0**
SPB	**Sao Paulo**	**123.44 266**	*e*	PKPdf	**PKPdf**	**06 27 11.9**	**-0.1**
SPB				LR	LR		
	comp=Z,2μm,18.0s						
SPB	**Sao Paulo**	**123.44 266**	*e*	P	**PKiKP**	**06 27 13.3**	**+1.1**
SPB	**Sao Paulo**	**123.44 266**	*e*	P	**PKPdf**	**06 27 11.1**	**-0.9**
GUY2C	**Guyana, Caldas**	**123.50 314**	*e*	P	**PKPdf**	**06 27 12.6**	**-0.5**
GUY2C	**Guyana, Caldas**	**123.50 314**	*e*	P	**PKPdf**	**06 27 12.6**	**-0.5**
ITRB	**Iturama**	**123.51 272**	*e*	P	**PKiKP**	**06 27 16.9**	**+4.4**
ITRB	**Iturama**	**123.51 272**	*e*	P	**PKPdf**	**06 27 12.3**	**0.0**
HDC	**Heredia**	**123.74 326**		PFAKE		06 27 20.0	+6.7
HDC				LR	LR		
	comp=Z,2μm,21.0s						
JTS	**Las Juntas de**	**123.84 327**		PFAKE		06 27 20.0	+6.6
JTS				LR	LR		
	comp=Z,2μm,20.0s						
GUVC	**San Jose del G**	**124.10 309**	*e*	P	**PKPdf**	**06 27 13.2**	**-0.4**
GUVC	**San Jose del G**	**124.10 309**	*e*	P	**PKPdf**	**06 27 13.2**	**-0.4**
PRAC	**Prado**	**124.47 312**	*e*	P	**PKiKP**	**06 27 14.6**	**-0.1**
PRAC	**Prado**	**124.47 312**	*e*	P	**PKiKP**	**06 27 14.6**	**-0.1**
RPZ	**Rata Peaks**	**124.87 121**	*e*	PKPdf	**PKPdf**	**06 27 14.1**	**0.0**
RPZ	**Rata Peaks**	**124.87 121**		PKP	**PKiKP**	**06 27 14.4**	**0.0**
	comp=Z,60nm,1.0s,baz=156,slow=5.7,SNR=5.3						
FRTB	**Fartura**	**124.94 267**	*e*	P	**PKiKP**	**06 27 17.8**	**+2.5**
FRTB	**Fartura**	**124.94 267**	*e*	P	**PKiKP**	**06 27 15.1**	**-0.2**
YOTC	**Yotoco, Valle**	**125.07 314**	*e*	P	**PKPdf**	**06 27 14.6**	**-1.0**
YOTC	**Yotoco, Valle**	**125.07 314**	*e*	P	**PKPdf**	**06 27 14.6**	**-1.0**
OXZ	**Oxford**	**125.36 120**		PFAKE		06 27 30.0	+15
OXZ				LR	LR		
	comp=Z,1μm,18.0s						
TIJ01	**Guaruva-PR**	**125.58 265**	*e*	P	**PKiKP**	**06 27 17.3**	**+0.8**
TIJ01	**Guaruva-PR**	**125.58 265**	*e*	P	**PKPdf**	**06 27 16.0**	**-0.2**
POPC	**Popayan, Colom**	**126.44 313**	*e*	P	**PKPdf**	**06 27 17.2**	**-1.2**
POPC	**Popayan, Colom**	**126.44 313**	*e*	P	**PKPdf**	**06 27 17.2**	**-1.2**
PCON	**Cinco Dias**	**126.46 313**	*e*	P	**PKiKP**	**06 27 20.5**	**+1.2**
PCON	**Cinco Dias**	**126.46 313**	*e*	P	**PKiKP**	**06 27 20.5**	**+1.2**
FLOC	**Florencia**	**126.65 312**	*e*	P	**PKiKP**	**06 27 19.3**	**+0.3**
FLOC	**Florencia**	**126.65 312**	*e*	P	**PKiKP**	**06 27 19.3**	**+0.3**
URZ	**Urewera**	**126.74 112**		PKP	**PKPdf**	**06 27 16.2**	**-1.6**
	comp=Z,37nm,1.0s,baz=254,slow=4.2,SNR=7.1						
BBAC	**Balboa, Cauca**	**127.19 314**	*e*	P	**PKPdf**	**06 27 17.9**	**-1.9**
BBAC	**Balboa, Cauca**	**127.19 314**	*e*	P	**PKPdf**	**06 27 17.9**	**-1.9**
PTLC	**Puerto Leguiza**	**127.28 310**	*e*	P	**PKPdf**	**06 27 15.9**	**-3.8**
PTLC	**Puerto Leguiza**	**127.28 310**	*e*	P	**PKPdf**	**06 27 15.9**	**-3.8**
TER01	**Tubaro-SC**	**127.33 262**	*e*	P	**PKPdf**	**06 27 18.1**	**-1.3**
TER01	**Tubaro-SC**	**127.33 262**	*e*	P	**PKiKP**	**06 27 20.0**	**+0.2**
PTGB	**Pitanga**	**127.61 268**	*e*	P	**PKiKP**	**06 27 21.5**	**+0.9**
PTGB	**Pitanga**	**127.61 268**	*e*	P	**PKPdf**	**06 27 20.0**	**0.0**
GCUF	**Volcan Galeras**	**127.90 313**	*e*	P	**PKiKP**	**06 27 21.9**	**-0.2**
GCUF	**Volcan Galeras**	**127.90 313**	*e*	P	**PKiKP**	**06 27 21.9**	**-0.2**
AQDB	**Aquidauana**	**128.05 274**	*e*	P	**PKiKP**	**06 27 22.3**	**+0.8**
ITAB	**Concordia**	**128.97 265**	*e*	P	**PKPdf**	**06 27 22.3**	**-0.1**
ITAB	**Concordia**	**128.97 265**	*e*	P	**PKPdf**	**06 27 22.7**	**+0.2**
CNLB	**Canela**	**129.03 262**	*e*	P	**PKPdf**	**06 27 22.4**	**-0.2**
OTAV	**Otavalo**	**129.33 314**		PFAKE		06 27 40.0	+15
OTAV				LR	LR		
	comp=Z,900nm,21.0s						
OTAV	**Otavalo**	**129.33 314**	*e*	P	**PKPdf**	**06 27 24.5**	**+0.3**
OTAV	**Otavalo**	**129.33 314**	*e*	P	**PKPdf**	**06 27 24.5**	**+0.3**
OTAV	**Otavalo**	**129.33 314**	*e*	P	**PKPdf**	**06 27 23.8**	**-0.3**
VNDA	**Vanda**	**129.58 164**	*e*	PKPdf	**PKPdf**	**06 27 22.1**	**0.0**
VNDA	**Vanda**	**129.58 164**		PKP	**PKPdf**	**06 27 21.9**	**-0.2**
	comp=Z,12nm,1.1s,baz=290,slow=5.5,SNR=22						
QSPA	**South Pole Qui**	**129.75 180**	*e*	PKPdf	**PKPdf**	**06 27 22.6**	**-0.1**
QSPA				LR	LR		
	comp=Z,2μm,20.0s						
SBA	**Scott Base**	**130.65 164**	*e*	PKPdf	**PKiKP**	**06 27 25.1**	**+0.1**
SBA				LR	LR		
	comp=Z,2μm,19.0s						
SBA	**Scott Base**	**130.65 164**	*e*	PKIKP	**PKiKP**	**06 27 25.1**	**+0.1**
SBA				MLR	MLR		
	comp=Z,2μm,19.0s						
CPUP	**Villa Florida**	**132.50 269**	*e*	PKPdf	**PKPdf**	**06 27 27.9**	**-1.2**
CPUP			*e*	PP	**PP**	**06 29 52.4**	**-0.7**
CPUP	**Villa Florida**	**132.50 269**	*e*	PKIKP	**PKPdf**	**06 27 27.9**	**-1.2**
CPUP			*e*			06 29 52.4	
CPUP	**Villa Florida**	**132.50 269**		PKP	**PKPdf**	**06 27 28.8**	**-0.4**
	comp=Z,38nm,0.9s,baz=52,slow=2.1,SNR=49						
CPUP				PP	**PP**	**06 29 52.4**	**-0.7**
	comp=Z,7.4nm,0.9s,baz=66,slow=6.0,SNR=3.7						
CPUP	**Villa Florida**	**132.50 269**	*e*	P	**PKPdf**	**06 27 29.2**	**+0.1**
LPAZ	**La Paz**	**134.87 288**	*e*	PKPdf	**PKPdf**	**06 27 34.2**	**-0.5**
LPAZ	**La Paz**	**134.87 288**	*e*	PKIKP	**PKPdf**	**06 27 34.2**	**-0.5**
LPAZ	**La Paz**	**134.87 288**		PKP	**PKPdf**	**06 27 34.5**	**-0.1**
	comp=Z,18nm,0.9s,baz=32,slow=4.0,SNR=39						
LPAZ	**La Paz**	**134.87 288**	*e*	P	**PKPdf**	**06 27 34.1**	**-0.5**
PAYG	**Puerto Ayora**	**135.95 327**		PFAKE		06 27 50.0	+12
PAYG				LR	LR		
	comp=Z,2μm,21.0s						
YJA	**Yavi**	**136.51 280**	*i*	P	PKPdf	06 27 29.1	-8.3
HJA	**Humahuaca**	**137.02 278**	*i*	P	**PKPdf**	**06 27 38.5**	**+0.2**
AZAP	**Zapla**	**137.32 277**	*i*	P	**PKPdf**	**06 27 32.9**	**-5.7**
MNMC	**Minye Minye**	**137.75 287**	*e*	PKPdf	**PKPdf**	**06 27 40.1**	**+0.5**
GO01	**Chusmiza**	**137.78 286**	*e*	PKPdf	**PKPdf**	**06 27 37.1**	**-2.7**
NNA	**Nana**	**137.96 301**	*e*	PKPdf	**PKPdf**	**06 27 40.5**	**+0.7**
NNA	**Nana**	**137.96 301**	*e*	PKIKP	**PKPdf**	**06 27 40.5**	**+0.7**
PB08	**IPOC Station P**	**138.04 285**	*i*	P	**PKPdf**	**06 27 39.7**	**-0.5**
PB11	**IPOC Station P**	**138.18 286**	*e*	PKPdf	**PKPdf**	**06 27 40.0**	**-0.1**
PB11				LR	LR		
	comp=Z,2μm,20.0s						
PB11	**IPOC Station P**	**138.18 286**	*i*	P	**PKPdf**	**06 27 39.4**	**-0.8**
PB01	**IPOC Station P**	**138.84 284**	*e*	PKPdf	**PKPdf**	**06 27 40.5**	**-0.7**
PB01				LR	LR		
	comp=Z,2μm,20.0s						
AHML	**Horco Molle**	**138.88 274**	*i*	P	**PKPdf**	**06 27 37.3**	**-3.8**
LVC	**Limon Verde**	**139.33 282**	*e*	PKPdf	**PKPdf**	**06 27 41.1**	**-1.3**
LVC	**Limon Verde**	**139.33 282**	*i*	P	**PKPdf**	**06 27 41.6**	**-0.9**
LVC	**Limon Verde**	**139.33 282**	*e*	PKIKP	**PKPdf**	**06 27 41.1**	**-1.3**
LVC	**Limon Verde**	**139.33 282**	*e*	P	**PKPdf**	**06 27 39.5**	**-2.9**
LVC	**Limon Verde**	**139.33 282**	*e*	P	**PKPdf**	**06 27 41.3**	**-1.1**
PB04	**IPOC Station P**	**140.09 283**	*e*	PKPdf	**PKPdf**	**06 27 43.2**	**-0.4**
PMOR	**Pomariorio Ree**	**140.41 61**	*e*	PKIKP	**PKPdf**	**06 27 45.2**	**+1.1**
	comp=Z,128nm,1.2s						
VAH	**Vaihoa**	**140.75 61**	*e*	PKIKP	**PKPdf**	**06 27 45.6**	**+0.9**
	comp=Z,66nm,1.2s						
PPT	**Papeete**	**141.03 66**		PKP	**PKiKP**	**06 27 46.9**	**-0.9**
	comp=Z,84nm,1.1s,baz=225,slow=20,SNR=3.4						
PPT2	**Papeete2**	**141.04 66**	*e*	PKIKP	**PKPdf**	**06 27 45.7**	**+0.4**
	comp=Z,161nm,1.3s						
PPT2	**Papeete2**	**141.04 66**	*e*	LR	LR	07 13 42.3	
	comp=Z,3μm,24.2s						
TRQA	**Tornquist**	**141.07 256**	*e*	PKPdf	**PKPdf**	**06 27 45.4**	**+0.7**
TRQA				LR	LR		
	comp=Z,2μm,19.0s						
TRQA	**Tornquist**	**141.07 256**	*e*	PKIKP	**PKPdf**	**06 27 45.4**	**+0.7**
TRQA				MLR	MLR		
	comp=Z,2μm,19.0s						
TRQA	**Tornquist**	**141.07 256**	*e*	P	**PKPdf**	**06 27 44.3**	**-0.4**
TIAR	**Tiarei**	**141.18 66**	*e*	PKIKP	**PKPdf**	**06 27 46.5**	**+1.0**
	comp=Z,23nm,1.2s						
GO02	**Mina Guanaco**	**141.27 279**	*e*	PKPdf	**PKPdf**	**06 27 46.9**	**+1.0**
TVO	**Taravao**	**141.40 66**	*e*	PKIKP	**PKiKP**	**06 27 47.4**	**-1.3**
	comp=Z,32nm,1.3s						
MRA	**San Martin**	**141.81 266**	*i*	P	**PKPdf**	**06 27 38.8**	**-7.6**
MRA			*i*	P	**PKPdf**	**06 27 38.8**	**-7.6**
VCA	**Vinchina**	**142.05 273**	*i*	P	**PKPdf**	**06 27 41.6**	**-5.4**
ACAN	**Cantantal**	**142.88 267**	*i*	P	**PKPdf**	**06 27 43.1**	**-5.0**
GO03	**Copiap**	**143.04 276**	*e*	PKPdf	**PKPdf**	**06 27 48.9**	**+0.3**
GO03	**Copiap**	**143.04 276**	*i*	P	PKPab	06 27 44.3	+0.4
AMOG	**MOGNA**	**143.30 270**	*i*	P	PKPab	06 27 44.4	-0.5
CFA	**Coronel Fontan**	**143.40 269**	*i*	P	PKPab	06 27 41.9	-3.3
ACDV	**Cuesta del Vie**	**143.43 272**	*i*	P	PKPab	06 27 45.9	+0.4
RTLL	**Cerro Villicun**	**143.46 270**	*i*	P	PKPab	06 27 44.4	-1.1
RTLL			*i*	P	PKPbc	06 27 47.5	+1.0
RTLL			*i*	P	**PKPdf**	**06 27 48.1**	**-1.1**
ACCO	**Cerro Coronel**	**143.58 271**	*i*	P	PKPab	06 27 45.7	-0.6
AROD	**Rodeo**	**143.70 272**	*i*	P	PKPab	06 27 46.2	-0.6
RTCV	**Cerro Valdivia**	**143.74 269**	*i*	P	PKPab	06 27 45.0	-1.6
LCO	**Las Campanas**	**144.10 275**		PFAKE		06 28 00.0	+5.8
LCO				LR	LR		
	comp=Z,2μm,21.0s						
LCO	**Las Campanas**	**144.10 275**	*i*	P	**PKPab**	**06 27 46.5**	**-1.7**
ASAL	**Salagasta**	**144.27 268**	*i*	P	**PKPab**	**06 27 48.0**	**-0.6**
AVIZ	**Vizcacheras**	**144.38 266**	*i*	P	**PKPab**	**06 27 48.8**	**-0.2**
UTNM	**Universidad Te**	**144.41 267**	*i*	P	**PKPab**	**06 27 48.7**	**-0.3**
ARCO	**CERRO ARCO**	**144.45 268**	*i*	P	**PKPab**	**06 27 48.2**	**-1.2**
AAGR	**Agrelo**	**144.47 267**	*i*	P	**PKPab**	**06 27 48.4**	**-0.9**
AUSP	**Uspallata**	**144.54 269**	*i*	P	**PKPab**	**06 27 48.7**	**-1.2**
GO04	**Tololo Observa**	**144.72 273**		PFAKE		06 28 00.0	+4.5
GO04				LR	LR		
	comp=Z,2μm,19.0s						
GO04	**Tololo Observa**	**144.72 273**	*i*	P	**PKPab**	**06 27 49.3**	**-1.2**
TBI	**Tubuai**	**144.79 73**	*e*	PKIKP	PKPbc	06 27 51.0	+0.3
	comp=Z,1μm,1.1s						
TBI	**Tubuai**	**144.79 73**	*e*	LR	LR	07 15 27.0	
	comp=Z,2μm,24.8s						
EDS3	**Malargue**	**145.91 263**	*i*	P	**PKPdf**	**06 27 52.1**	**-1.3**
PEL	**Peldehue**	**145.92 268**	*e*	PKPdf	**PKPdf**	**06 27 53.4**	**0.0**
PEL	**Peldehue**	**145.92 268**	*i*	P	**PKPdf**	**06 27 52.8**	**-0.7**
PEL	**Peldehue**	**145.92 268**	*e*	PKP2	**PKPdf**	**06 27 53.4**	**0.0**
ROC1	**El Roble**	**146.10 269**	*e*	PKPdf	**PKPdf**	**06 27 53.8**	**-0.2**
ROC1	**El Roble**	**146.10 269**	*i*	P	**PKPdf**	**06 27 52.8**	**-1.2**
ROC1			*i*	P	**PKPdf**	**06 27 52.8**	**-1.2**
ROC1			*i*	P	**PKPdf**	**06 27 52.8**	**-1.2**
GO05	**Huala**	**147.58 266**	*e*	PKPdf	**PKPdf**	**06 27 56.3**	**+0.2**
GO05				LR	LR		
	comp=Z,1μm,19.0s						
GO05	**Huala**	**147.58 266**	*i*	P	**PKPdf**	**06 27 55.2**	**-0.9**
PLCA	**Paso Flores**	**148.19 255**	*e*	PKPdf	**PKPdf**	**06 27 57.0**	**0.0**
PLCA			*e*	PKPbc	**PKPbc**	**06 28 00.3**	**-0.1**
PLCA	**Paso Flores**	**148.19 255**	*e*	PKIKP	**PKPdf**	**06 27 57.0**	**0.0**
PLCA			*e*			06 28 00.3	
PLCA	**Paso Flores**	**148.19 255**		PKPbc	**PKPbc**	**06 27 58.2**	**-2.1**
	comp=Z,172nm,1.0s,baz=98,slow=0.9,SNR=27						
PLCA	**Paso Flores**	**148.19 255**	*e*	P	**PKPdf**	**06 27 57.5**	**+0.5**
GO06	**Curarrehue**	**148.61 257**	*e*	PKPdf	**PKPdf**	**06 27 57.9**	**+0.1**
GO06			*e*	PKPbc	**PKPbc**	**06 28 00.9**	**-0.6**
GO06				LR	LR		
	comp=Z,2μm,21.0s						
GO10	**Punta Arenas**	**149.01 231**	*e*	PKPdf	**PKPdf**	**06 27 59.0**	**+1.1**
GO10			*e*	PKPbc	**PKPbc**	**06 28 03.0**	**+1.0**
GO09	**Cerro Castillo**	**150.03 234**	*e*	PKPdf	**PKPdf**	**06 27 59.6**	**+0.1**
GO09			*e*	PKPbc	**PKPbc**	**06 28 04.7**	**+0.2**
GO07	**Milladeo Hill,**	**150.88 251**	*e*	PKPdf	**PKPdf**	**06 28 00.7**	**-0.4**
GO07			*e*	PKPbc	**PKPbc**	**06 28 12.3**	**+5.6**

ATH 26 06:13:14.9, 38.30N×23.41E, h13km±5km, ML1.3/2, Error ellipse: s-maj=6.0km s-min=1.0km az=213.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIL2	**Platees**	**0.14**	**231**	P	Pg	06 13 18.2	-0.2
VIL2				S	Sg	06 13 20.9	0.0
VIL2				AML	AML	06 13 21.5	
	comp=E,223μm,0.3s						
VIL2				AML	AML	06 13 21.9	
	comp=N,158μm,0.2s						
MRKA	**Markates**	**0.43**	**19**	P	Pg	06 13 23.2	-0.3
MRKA				S	Sg	06 13 29.9	+0.7
EREA	**Eretria**	**0.43**	**74**	P	Pg	06 13 23.4	0.0
EREA				S	Sg	06 13 29.8	+0.6
LOUT	**Loutraki**	**0.46**	**228**	P	Pb	06 13 24.7	-0.2
LOUT				S	Sb	06 13 31.6	-0.1
DION	**Dionisos Attik**	**0.47**	**118**	P	Pg	06 13 24.4	+0.2
DION				S	Sg	06 13 30.9	+0.4
LKR	**Lokris**	**0.47**	**318**	P	Pg	06 13 23.9	-0.3
LKR				S	Sb	06 13 31.6	-0.4
LKR				AML	AML	06 13 32.2	
	comp=N,131μm,0.2s						
LKR				AML	AML	06 13 33.1	
	comp=E,131μm,0.2s						
ATAL	**Atalanti**	**0.49**	**322**	P	Pg	06 13 24.3	-0.4
ATAL				S	Sb	06 13 32.3	-0.4
VLY	**Voula,Athens**	**0.54**	**145**	P	Pg	06 13 25.2	-0.3
VLY				S	Sg	06 13 33.2	+0.4

*ANF **26** 06:25:48.8±1.3, 40.19N×121.18W, ML2.4/5, Error ellipse: s-maj=10.0km s-min=5.1km az=168.0*
*NCEDC **26** 06:25:49.2, 40.20N×121.09W, h6km, MD2.8*
*NEIC **26** 06:25:49.2±0.0, 40.20N×121.09W, h6km, MD2.8(NCEDC), After NCEDC.*
*ISCJB **26** 06:25:50.1±0.5, 40.17N±0.05×121.18W±0.05, h7km, Error ellipse: s-maj=8.0km s-min=3.8km az=35.8*

ISC 26 06:25:48.3±0.8, 40.14N±0.04×121.21W±0.04, h7km, n22, σ1.9 39/26, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	**Paynes Creek**	**0.48**	**289**	S	**Sb**	**06 26 06.5**	**0.0**
	baz=101						
WDC	**Whiskeytown Da**	**1.11**	**294**	*e*Pg	**Pg**	**06 26 06.6**	**-3.0**
AFDM	**Forest Hills D**	**1.20**	**171**	*e*Pn	**Pg**	**06 26 09.2**	**-2.1**
O02D	**Mt. Diablo Mer**	**1.21**	**272**	P	**Pn**	**06 26 12.4**	**+0.6**
	baz=89,SNR=22						
O02D				S	**Sn**	**06 26 29.0**	**+0.5**
	baz=89						
RUBR	**Rubicon Trail**	**1.36**	**143**	*e*Pn	**Pg**	**06 26 15.7**	**+1.4**
N02D	**Trinity Center**	**1.41**	**307**	P	**Pn**	**06 26 14.9**	**+0.4**
	baz=122,SNR=12						
N02D				S	**Sg**	**06 26 34.9**	**+1.1**
	baz=122						
VCNR	**Virginia City**	**1.47**	**124**	*e*Pn	**Pb**	**06 26 16.7**	**+0.7**
PAHR	**Pah Rah Range**	**1.47**	**106**	*e*Pn	**Pn**	**06 26 15.4**	**0.0**
PNTR	**Pine Nut**	**1.62**	**130**	*e*Pn	**Pb**	**06 26 19.8**	**+1.1**
M04C	**Macdoel**	**1.71**	**344**	P	**Pb**	**06 26 19.7**	**-0.5**
	baz=160						
M04C				S	**Sg**	**06 26 42.9**	**-0.5**
	baz=160						
M02C	**Callahan**	**1.77**	**316**	P	**Pn**	**06 26 20.5**	**+1.0**
	baz=132						
M02C				Sb	**Sg**	**06 26 46.8**	**+1.6**
	baz=132						
YERR	**Yerington**	**1.91**	**126**	*e*Pn	**Pb**	**06 26 23.2**	**-0.3**
YBH	**Yreka Blue Hor**	**1.96**	**325**	*e*Pn	**Pg**	**06 26 26.9**	**+1.1**
WAKR	**Walker**	**2.13**	**139**	*e*Pn	**Pb**	**06 26 28.3**	**+0.9**
CMB	**Columbia Colle**	**2.19**	**163**	*e*Pn	**Pb**	**06 26 27.9**	**-0.5**
L04D	**Klamath Falls**	**2.24**	**339**	P	**Pn**	**06 26 27.3**	**+1.4**
	baz=156						
K05A	**Summer Lake**	**2.60**	**5**	*e*Pn	**Pb**	**06 26 36.7**	**+1.4**
KVN	**Kaiserville**	**2.64**	**113**	*e*Pn	**Pb**	**06 26 35.4**	**-0.6**
WVOR	**Wild Horse Val**	**3.00**	**39**	*e*Pn	**Pb**	**06 26 42.6**	**+0.3**
OMMB	**Old Mammoth Mi**	**3.05**	**145**	*e*Pn	**Pg**	**06 26 46.2**	**-0.6**
J05D	**Fort Rock, OR**	**3.15**	**360**	Pb	**Pb**	**06 26 43.3**	**-1.4**
	baz=178						
J08A	**Circle Bar Ran**	**3.81**	**32**	*e*Sg	**Sg**	**06 27 47.3**	**-3.5**

*ISCJB **26** 06:39:26.9±0.6, 37.31N±0.03×37.13E±0.03, h6km±4km, Error ellipse: s-maj=5.6km s-min=4.0km az=174.2*
*ISK **26** 06:39:26.3, 37.32N×37.14E, h6km, ML2.3/8*
*DDA **26** 06:39:26.1, 37.31N×37.12E, h5km±1km, ML3.2*

ISC 26 06:39:26.5±1.0, 37.31N±0.03×37.14E±0.02, h8km±8km, n22, σ0.8 64/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**157**	PG	**Pg**	**06 39 29.9**	**+0.2**
HCB	**Kahramanmara**	**0.18**	**280**	IAML_P			
	comp=Z,31μm,0.2s						
HCB				*i* P	**Pg**	**06 39 30.0**	**-0.3**
HCB				*i* S	**Sg**	**06 39 33.2**	**+0.3**
KMRS	**Kahramanmaras**	**0.27**	**316**	PG	**Pg**	**06 39 31.7**	**-0.2**
AYKD	**Aykdinkavak**	**0.28**	**292**	IAML_P			
	comp=Z,14μm,0.1s						
AYKD				*i* P	**Pg**	**06 39 32.4**	**+0.2**
AYKD				*i* S	**Sg**	**06 39 36.5**	**+0.5**
GZT	**Gaziantep**	**0.34**	**82**	IAML_P			
	comp=Z,6μm,0.1s						
GZT				*i* P	**Pb**	**06 39 34.1**	**-0.9**
GZT				*i* S	**Sb**	**06 39 39.6**	**-1.1**
KAMA	**Osmaniye**	**0.39**	**252**	*i* P	**Pg**	**06 39 34.1**	**-0.1**
KAMA				*i* S	**Sb**	**06 39 40.4**	**-1.6**
KUZU	**Kuzuini**	**0.54**	**185**	IAML_P			
	comp=Z,8μm,0.1s						
KUZU				*i* P	**Pb**	**06 39 38.6**	**+0.4**
KUZU				*i* S	**Sb**	**06 39 45.0**	**-1.2**
ANDN	**Andirin**	**0.69**	**293**	IAML_P			
	comp=Z,2μm,0.2s						
ANDN				*i* P	**Pg**	**06 39 39.4**	**-0.3**
ATAB	**Bozova**	**0.94**	**80**	*i* P	**Pb**	**06 39 44.9**	**-0.1**
ELBS	**KAHRAMANMARAS**	**1.01**	**360**	IAML_P			
	comp=Z,1μm,0.1s						
ELBS				*i* P	**Pb**	**06 39 46.4**	**0.0**
KOZT	**Kozan**	**1.06**	**280**	PG	**Pb**	**06 39 46.8**	**-0.3**
KOZT				SG	**Sn**	**06 40 02.4**	**-0.2**
CEYT	**Ceyhan**	**1.15**	**255**	PN	**Pn**	**06 39 48.8**	**-0.1**
CEYT				SN	**Sn**	**06 40 05.3**	**+0.5**
AKCD	**Akcadag**	**1.16**	**32**	IAML_P			
	comp=Z,3μm

Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.04**	**130**	P	Pg	07 02 13.4	-1.5
KMSI				S	Sb	07 02 29.4	+0.7
MRSI	**Marisa**	**1.46**	**238**	P	Pb	07 02 21.9	-0.1
MRSI				S	Sn	07 02 40.4	0.0
LUWI	**Luwuk**	**2.31**	**190**	P	Pn	07 02 33.5	+0.5
APSI	**Ampana**	**2.64**	**216**	P	Pn	07 02 37.5	+0.1
MPSI	**Mapaga**	**3.41**	**255**	P	Pn	07 02 47.8	-0.2

DJA 26 07:02:41.1±1.8, 3°S±3°×13°0E±°, h21km±15km, M3.8/4, MLv3.8/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.74**	**180**	P	Pn	07 03 10.8	+0.7
BNDI				S	Sb	07 03 33.0	-0.8
SWI	**Sorong**	**2.33**	**35**	P	Pn	07 03 18.7	+0.5
SWI				S	Sn	07 03 47.7	+1.6
FAKI	**Fak Fak**	**2.34**	**94**	P	Pn	07 03 18.4	0.0
FAKI				S	Sn	07 03 46.5	0.0
SANI	**Sanana**	**3.98**	**280**	P	Pn	07 03 39.6	-1.4

DJA 26 07:03:27.9±0.3, 1°N±3°×12°3E±°, h10km, M4.3/12, mb4.5/5, MLv4.2/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.06**	**143**	P	Pg	07 03 48.4	0.0
KMSI				S	Sb	07 04 02.5	+0.1
MRSI	**Marisa**	**1.69**	**236**	P	Pn	07 03 56.2	-1.3
MRSI				S	Sn	07 04 15.6	-3.6
LUWI	**Luwuk**	**2.52**	**193**	P	Pn	07 04 09.0	+0.1
APSI	**Ampana**	**2.88**	**216**	P	Pn	07 04 14.2	+0.4
SGSI	**Sangihe**	**3.13**	**44**	S	Sn	07 04 55.7	+0.9
MPSI	**Mapaga**	**3.61**	**253**	P	Pn	07 04 24.2	+0.3
KDI	**Kendari**	**5.40**	**188**	P	Pn	07 04 48.6	0.0
TTSI	**Tana Toraja** 54nm,0.6s,0.2nm	**5.67**	**218**	P	Pn	07 04 52.6	+0.3
SPSI	**Sidrap Palu** 14nm,1.0s	**6.44**	**214**	P	Pn	07 05 02.9	+0.1
BNSI	**Bone** 27nm,0.8s	**6.63**	**209**	P	Pn	07 05 06.5	+1.0
BKB	**Balikpapan**	**6.97**	**248**	P	Pn	07 05 09.1	-1.1

MEX 26 07:05:55.4±0.9, 14°35N×92°52W, h8km±155km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.60**	**24**	*e*P	Pg	07 06 06.8	-0.3
THIG				*i* S	Sg	07 06 13.9	-1.2
CCIG	**Comitan**	**1.96**	**11**	*e*P	Pn	07 06 26.1	-2.9
CCIG				*i* S	Sn	07 06 50.0	-3.9
TGIG		**2.48**	**346**	*e*P	Pn	07 06 32.4	-3.9
TGIG				*i* S	Sn	07 07 02.4	-4.3

*ISK **26** 07:28:58.9, 39°33N×40°84E, h15km, ML2.0/2*
*ISCJB **26** 07:28:59.7±1.0, 39°33N±0°05×40°83E±0°05, h11km±9km, Error ellipse: s-maj=8.6km s-min=6.7km az=19.4*
*DDA **26** 07:28:59.3, 39°31N×40°84E, h7km±3km, ML2.5*
ISC 26 07:28:59.4±1.1, 39°32N±0°04×40°83E±0°04, h13km±10km, n8, σ0°34/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARO	**Karliova-Bingo**	**0.17**	**92**	PG	**Pg**	**07 29 03.3**	**-0.3**
KARO				SG	**Sg**	**07 29 06.6**	**+0.2**
YEDI	**Yedisu-Bingol**	**0.25**	**299**	PG	**Pg**	**07 29 04.7**	**-0.2**
YEDI				SG	**Sg**	**07 29 08.9**	**+0.3**
ECAT	**Cat-ERZURUM**	**0.31**	**21**	*i* P	**Pg**	**07 29 05.8**	**-0.2**
BNGB	**Bingl**	**0.34**	**200**	PG	**Pg**	**07 29 06.6**	**+0.1**
BNGB				SG	**Sb**	**07 29 12.2**	**-0.7**
BGOL	**Bingol** comp=Z,778nm,0.1s	**0.35**	**201**	IAML_P			
BGOL				*i* P	**Pg**	**07 29 06.4**	**-0.2**
BNGL	**BINGOL**	**0.44**	**145**	*i* P	**Pb**	**07 29 09.3**	**+0.1**
KOPT	**Kop Dagi** comp=Z,391nm,0.2s	**0.75**	**340**	IAML_P			
KOPT				*i* P	**Pb**	**07 29 14.7**	**+0.2**
MUSM	**Mu-Merkez** comp=Z,972nm,0.2s	**0.79**	**138**	IAML_P			
MUSM				*i* P	**Pg**	**07 29 14.7**	**-0.1**
MUSM				*i* S	**Sb**	**07 29 26.1**	**+0.3**

TEH 26 07:46:35.7, 26°83N×58°02E, h17km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**1.14**	**346**	*e*Pg	Pb	07 46 57.1	+0.1
JSK1	**Jask**	**1.21**	**191**	*e*Pg	Pg	07 46 58.8	-0.3
NIAN	**Nian**	**1.28**	**305**	*e*Pg	Pg	07 47 01.1	+0.7
NIAN				IAMB	IAmb	07 47 32.3	
GENO	**Geno** comp=Z,0.0nm,0.5s	**1.74**	**289**	*e*Pg	Pb	07 47 07.1	-0.2
SHME	**Shamm**	**1.86**	**246**	*e*Pn	Pb	07 47 09.0	-0.2
MSFE	**Esma-Masafi**	**2.23**	**229**	*e*Pn	Pb	07 47 13.8	-1.7
HATD	**Hatta, Dubai**	**2.63**	**221**	*e*Pn	Pn	07 47 18.5	+1.2
ASHO	**Ashiyiah**	**2.78**	**220**	*e*Pn	Pn	07 47 19.5	+0.1
NAZ	**Nazwa, Dubai**	**2.81**	**230**	*e*Pn	Pn	07 47 22.2	+2.4
FAQ	**Al Faqa, Dubai**	**3.02**	**227**	*e*Pn	Pb	07 47 26.5	-2.5
NGRK	**Negar Kerman**	**3.02**	**338**	*e*Pn	Pb	07 47 28.1	-1.2
NGRK				IAMB	IAmb	07 48 16.5	
CHMN	**Cheshme madani** comp=Z,0.0nm,0.7s	**3.04**	**352**	*e*Pn	Pb	07 47 29.8	+0.1
CHMN				IAMB	IAmb	07 47 37.5	
ASUD	**Al Ashush, Dub** comp=Z,0.0nm,0.5s	**3.28**	**228**	*e*Pn	Pn	07 47 27.2	+1.0
HOQ	**Hoqain**	**3.30**	**191**	*e*Pn	Pn	07 47 25.7	-0.9
TVBK	**TV Kerman** comp=Z,0.0nm,0.5s	**3.33**	**341**	IAMB	IAmb	07 47 45.8	
KHGB	**Koh Gabri** comp=Z,0.0nm,0.8s	**3.78**	**339**	IAMB	IAmb	07 48 51.3	
IKAZ	**Kazeroun**	**6.19**	**300**	*e*Pn	Pn	07 48 08.1	+1.5

*DRS **26** 07:58:41.5±0.0, 42°14N×46°39E, h14km, ML2.1/2*
*NORS **26** 07:58:42.1±0.0, 42°51N×46°71E, h45km, MPVA3.4*
*ISCJB **26** 07:58:45.0±0.5, 42°42N±0°04×46°59E±0°04, h32km±4km, Error ellipse: s-maj=6.7km s-min=4.7km az=37.2*
ISC 26 07:58:44.1±1.0, 42°39N±0°03×46°60E±0°03, h31km±9km, n12, σ1°48/24, 2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XNZR	**Khunzakh**	**0.17**	**28**	*e*Pg	**Pb**	**07 58 50.3**	**-0.2**
XNZR				*e*Sg	**Sn**	**07 58 56.8**	**+2.1**
GNBR	**Gunib** 90nm,0.1s	**0.27**	**90**	*i* Pg	**Pn**	**07 58 51.1**	**-0.9**
GNBR	359nm,0.2s			⇓*e*Sg	**Sn**	**07 58 57.9**	**+0.8**
UNCR	**Uncukul**	**0.35**	**24**	*e*Pg	**Pn**	**07 58 53.0**	**-0.1**
UNCR				*e*Sg	**Sn**	**07 59 01.0**	**+1.9**
ARKR	**Arakani**	**0.36**	**54**	*e*Pg	**Pb**	**07 58 51.0**	**-1.6**
ARKR				*e*Sg	**Sn**	**07 58 58.5**	**-0.8**
BTLR	**Botlikh** 16nm,0.1s	**0.39**	**315**	*i* Pg	**Pb**	**07 58 52.5**	**-0.5**
BTLR	48nm,0.2s			⇓*e*Sg	**Sn**	**07 59 00.7**	**+0.6**
KMKR	**Kumukh**	**0.45**	**125**	*e*Pg	**Pb**	**07 58 53.0**	**-1.0**
KMKR	163nm,0.2s			*e*Sg	**Sn**	**07 59 03.0**	**+1.2**
LGD	**Lagodekhi**	**0.62**	**206**	P	**Pn**	**07 58 56.4**	**-0.3**
LGD				S	**Sn**	**07 59 08.2**	**+2.7**
DVE	**Vedeno**	**0.66**	**329**	*e*Pg	**Pb**	**07 58 55.6**	**-1.8**
DVE				*e*Sg	**Sb**	**07 59 07.2**	**+0.8**
DDFL	**Dedoflistskaro**	**1.01**	**201**	P	**Pn**	**07 58 59.3**	**-2.9**
DDFL				S	**Sb**	**07 59 17.8**	**+1.7**
DRN	**Derbent** 18nm,0.5s	**1.34**	**105**	*e*Pg	**Pb**	**07 59 07.8**	**-0.8**
DRN	23nm,0.5s			*e*Sg	**Sb**	**07 59 27.1**	**+1.9**
KMGR	**Komgaron**	**1.44**	**298**	*e*Pg	**Pn**	**07 59 08.1**	**0.0**
KMGR				*e*Sg	**Sb**	**07 59 28.1**	**-0.2**
LACR	**Lac**	**1.75**	**285**	*e*Pg	**Pn**	**07 59 11.8**	**-0.6**
LACR				*e*Sg	**Sn**	**07 59 34.8**	**+1.0**

*IDC **26** 08:03:20.5±0.5, 36°05S×100°04W, h0km, mb4.8/24, mb1 4.9/24, mb1mx4.8/36, mbtmp4.7/24, MS4.3/21, Ms1 4.2/21, ms1mx4.1/32, Error ellipse: s-maj=15.7km s-min=13.4km az=53.0*
*ISCJB **26** 08:03:21.5±0.2, 35°97S±0°04×99°84W±0°05, h14km, mb4.8/222, MS4.3/24, Error ellipse: s-maj=7.3km s-min=4.2km az=38.9*
*MOS **26** 08:03:21.2±0.9, 35°98S×99°97W, h10km, mb5.1/37, Error ellipse: s-maj=13.7km s-min=8.1km az=91.7*
*NEIC **26** 08:03:22.5±0.9, 36°03S×99°85W, h10km±2km, mb5.0/222, Error ellipse: s-maj=20.4km s-min=15.3km az=92.0*
*GCMT **26** 08:03:23.5±0.3, 36°25S±0°02×99°82W±0°02, h14km±1km, MW5.0/82, Moment Tensor Solution. s36,c46; s82,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.39±.25; $M_{\theta\theta}$1.04±.15; $M_{\phi\phi}$2.35±.16; $M_{r\theta}$1.13±.38; $M_{\theta\phi}$-2.67±.11; $M_{\phi r}$0.09±.29; Best double couple: $M_0$4.13100×10^{16} NP1:ϕs304.00000°, δ52.00000°, λ-114.00000°. NP2: ϕs161.00000°, δ44.00000°, λ-62.00000°. Principal axes: T 4.4950, Plg5.0000°, Azm51.0000°; N -0.7290, Plg19.0000°, Azm319.0000°; P -3.7660, Plg70.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 08:03:22.5±0.3, 36°05S±0°07×100°03W±0°08, h14km, n793, σ0°74/783, mb4.9/222, MS4.3/24, 9C-9D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui** comp=Z,815nm,20.2s,baz=125,slow=30	**11.91**	**316**	LR	LR	08 09 15.8	
GO07	**Milladeo Hill,** 158nm,1.1s	**21.46**	**117**	*e*P	**P**	**08 08 10.9**	**+0.5**
GO06	**Curarrehue** 40nm,1.1s	**22.79**	**108**	*e*P	**P**	**08 08 24.8**	**-0.1**
GO05	**Huala** 49nm,1.2s	**22.86**	**96**	*e*P	**P**	**08 08 24.8**	**-0.7**
PLCA	**Paso Flores** 55nm,1.2s	**23.52**	**110**	*e*P	**P**	**08 08 31.6**	**-0.6**
PLCA	**Paso Flores**	**23.52**	**110**	*e*P	**P**	**08 08 31.6**	**-0.6**
PLCA	comp=Z,55nm,1.2s			pmax	pmax		
PLCA	**Paso Flores** comp=Z,19nm,0.9s,baz=293,slow=10,SNR=20	**23.52**	**110**	P	**P**	**08 08 33.0**	**+0.8**
PLCA	comp=Z,696nm,18.9s,baz=298,slow=30			LR	LR	08 15 18.8	
PLCA	**Paso Flores**	**23.52**	**110**	*e*P	**P**	**08 08 32.0**	**-0.1**
ROC1	**El Roble**	**24.06**	**91**	*e*P	**P**	**08 08 37.0**	**-0.7**
PEL	**Peldehue** comp=Z,21nm,1.0s	**24.29**	**92**	*e*P	**P**	**08 08 39.5**	**0.0**
PEL	**Peldehue** comp=Z,21nm,1.0s	**24.29**	**92**	*e*P	**P**	**08 08 39.5**	**0.0**
PEL				pmax	pmax		
GO09	**Cerro Castillo** comp=Z,77nm,1.1s	**24.96**	**136**	*e*P	**P**	**08 08 44.1**	**-1.3**
GO04	**Tololo Observa** comp=Z,54nm,0.9s	**25.12**	**85**	*e*P	**P**	**08 08 48.0**	**+0.7**
LCO	**Las Campanas** comp=Z,45nm,1.0s	**25.64**	**83**	*e*P	**P**	**08 08 52.1**	**+0.1**
LCO	**Las Campanas**	**25.64**	**83**	*e*P	**P**	**08 08 52.1**	**+0.1**
LCO	comp=Z,45nm,1.0s			pmax	pmax		
LCO	**Las Campanas**	**25.64**	**83**	*e*P	**P**	**08 08 52.5**	**+0.4**
GO03	**Copiap** comp=Z,12nm,0.8s	**26.60**	**80**	*e*P	**P**	**08 08 59.5**	**-1.1**
CFA	**Coronel Fontan** comp=Z,23nm,1.0s,baz=259,slow=8.8,SNR=19	**26.71**	**90**	P	**P**	**08 09 01.6**	**+0.1**
CFA	comp=Z,728nm,19.0s,baz=269,slow=31			LR	LR	08 17 00.7	
GO02	**Mina Guanaco** comp=Z,22nm,1.1s	**28.25**	**76**	*e*P	**P**	**08 09 14.8**	**-0.8**
PB10	**IPOC Station P** comp=Z,25nm,1.1s	**28.35**	**72**	*e*P	**P**	**08 09 17.2**	**+1.1**
USHA	**Ushuaia** comp=Z,33nm,0.9s,baz=298,slow=8.5,SNR=12	**28.69**	**141**	P	**P**	**08 09 19.9**	**+1.0**
PB04	**IPOC Station P** comp=Z,18nm,1.0s	**29.31**	**70**	*e*P	**P**	**08 09 24.6**	**-0.4**
LVC	**Limon Verde** comp=Z,22nm,1.1s	**30.11**	**72**	*e*P	**P**	**08 09 31.3**	**-0.9**
LVC	**Limon Verde** comp=Z,9.2nm,0.9s,baz=233,slow=9.5,SNR=7.5	**30.11**	**72**	P	**P**	**08 09 33.1**	**+0.9**
LVC	comp=Z,553nm,18.3s,baz=260,slow=30			LR	LR	08 18 27.9	
LVC	**Limon Verde**	**30.11**	**72**	*e*P	**P**	**08 09 33.3**	**+1.1**
TRQA	**Tornquist** comp=Z,19nm,1.2s	**30.30**	**105**	*e*P	**P**	**08 09 34.3**	**+1.0**
TRQA	**Tornquist** comp=Z,19nm,1.2s	**30.30**	**105**	*e*P	**P**	**08 09 34.3**	**+1.0**
TRQA				pmax	pmax		
PB01	**IPOC Station P** comp=Z,30nm,1.4s	**30.55**	**69**	*e*P	**P**	**08 09 35.7**	**-0.1**
PB11	**IPOC Station P** comp=Z,29nm,1.2s	**31.19**	**67**	*e*P	**P**	**08 09 40.5**	**-1.1**
GO01	**Chusmiza** comp=Z,14nm,1.2s	**31.59**	**67**	*e*P	**P**	**08 09 45.7**	**+0.2**
MNMC	**Minye Minye** comp=Z,62nm,1.2s	**31.62**	**66**	*e*P	**P**	**08 09 46.8**	**+1.3**
NNA	**Nana** comp=Z,325nm,18.5s,baz=219,slow=31	**31.81**	**47**	LR	LR	08 19 57.3	
RKT	**Rikitea** comp=Z,2.2nm,0.3s	**32.83**	**283**	*e*T	T	08 44 13.9	
LPAZ	**La Paz** comp=Z,32nm,1.1s	**34.51**	**64**	*e*P	**P**	**08 10 12.9**	**+1.8**
LPAZ	**La Paz** comp=Z,19nm,1.0s,baz=218,slow=8.4,SNR=44	**34.51**	**64**	P	**P**	**08 10 12.6**	**+1.5**
LPAZ	comp=Z,398nm,20.1s,baz=204,slow=30			LR	LR	08 20 50.2	
LPAZ	**La Paz**	**34.51**	**64**	*e*P	**P**	**08 10 12.3**	**+1.3**
ATAH	**Atahualpa** comp=Z,17nm,0.8s,baz=230,slow=15,SNR=6.6	**34.93**	**40**	P	**P**	**08 10 16.5**	**+2.0**
ATAH	comp=Z,678nm,21.2s,baz=214,slow=30			LR	LR	08 20 56.4	
PMSA	**Palmer Station** comp=Z,348nm,18.4s,baz=278,slow=30	**35.87**	**155**	LR	LR	08 21 13.2	
CPUP	**Villa Florida** comp=Z,19nm,1.3s	**37.54**	**87**	*e*P	**P**	**08 10 35.2**	**-1.1**
CPUP	**Villa Florida** comp=Z,5.2nm,1.0s,baz=243,slow=7.2,SNR=7.8	**37.54**	**87**	P	**P**	**08 10 35.6**	**-0.6**
CPUP	comp=Z,320nm,20.1s,baz=272,slow=33			LR	LR	08 23 53.2	
CPUP	**Villa Florida**	**37.54**	**87**	*e*P	**P**	**08 10 35.7**	**-0.5**
SIV	**San Ignacio** comp=Z,479nm,21.9s,baz=247,slow=32	**39.96**	**70**	LR	LR	08 24 39.1	
OTAV	**Otavalo** comp=Z,14nm,1.0s	**41.30**	**34**	*e*P	**P**	**08 11 08.0**	**-0.3**
OTAV	**Otavalo** comp=Z,14nm,1.0s	**41.30**	**34**	*e*P	**P**	**08 11 08.0**	**-0.3**
OTAV				pmax	pmax		
OTAV	**Otavalo**	**41.30**	**34**	*e*P	**P**	**08 11 09.2**	**+1.0**
ITAB	**Concordia**	**41.37**	**92**	*e*P	**P**	**08 11 07.7**	**-0.6**
CNLB	**Canela**	**41.58**	**95**	*e*P	**P**	**08 11 10.0**	**0.0**
AQDB	**Aquidauana**	**41.65**	**80**	*e*P	**P**	**08 11 09.5**	**-1.1**
PTGB	**Pitanga**	**42.51**	**88**	*e*P	**P**	**08 11 18.6**	**+0.8**
TBI	**Tubuai** comp=Z,660nm,29.2s,baz=117	**44.33**	**273**	*e*LR	LR	08 23 45.7	
TBI	**Tubuai** comp=Z,8.7nm,0.3s	**44.33**	**273**	*e*T	T	08 58 34.4	
C2SB	**Chapadao do Su**	**44.83**	**80**	*e*P	**P**	**08 11 36.1**	**-0.2**
TAOE	**Nuku Hiva Isla** comp=Z,377nm,25.9s	**45.41**	**297**	*e*LR	LR	08 24 17.6	
MEH	**Mehetia** comp=Z,24nm,0.2s	**45.99**	**280**	*e*T	T	09 00 40.6	
ITRB	**Iturama**	**46.33**	**83**	*e*P	**P**	**08 11 48.4**	**+0.1**
SPB	**Sao Paulo**	**46.78**	**90**	*e*P	**P**	**08 11 52.0**	**+0.3**
BB19B	**Bebedouro**	**47.12**	**86**	*e*P	**P**	**08 11 53.9**	**-0.5**
CLDB	**Colider**	**47.14**	**69**	*e*P	**P**	**08 11 54.6**	**+0.1**
TIAR	**Tiarei** comp=Z,3.5nm,0.2s	**47.19**	**280**	*e*T	T	09 02 09.8	
RCLB	**Rio Claro- Sao**	**47.26**	**88**	*e*P	**P**	**08 11 54.9**	**-0.6**
ROSC	**El Rosal** comp=Z,14nm,1.2s	**47.27**	**36**	*e*P	**P**	**08 11 57.6**	**+1.6**
ROSC	**El Rosal** comp=Z,2.4nm,0.3s,baz=149,slow=18,SNR=6.2	**47.27**	**36**	P	**P**	**08 11 57.8**	**+1.8**
ROSC	comp=Z,305nm,18.7s,baz=192,slow=34			LR	LR	08 29 52.2	
PPT2	**Papeete2** comp=Z,552nm,24.8s,baz=122	**47.35**	**279**	*e*LR	LR	08 25 12.2	
PPT	**Papeete** comp=Z,313nm,21.2s,baz=138,slow=29	**47.36**	**279**	LR	LR	08 26 14.1	
JTS	**Las Juntas de** comp=Z,27nm,1.0s	**48.23**	**20**	*e*P	**P**	**08 12 04.2**	**+1.2**
JTS	**Las Juntas de**	**48.23**	**20**	⇑*i*P	**P**	**08 12 03.1**	**+0.2**
JTS	comp=Z,17nm,1.1s			pmax	pmax		
JTS	**Las Juntas de** comp=Z,454nm,19.7s,baz=258,slow=30	**48.23**	**20**	LR	LR	08 27 14.8	
ACON	**Acoyapa** comp=Z,17nm,0.8s	**49.77**	**19**	*e*P	**P**	**08 12 15.0**	**+0.3**
PMNB	**Patos De Minas**	**50.09**	**84**	*e*P	**P**	**08 12 17.2**	**-0.2**
ESPN	**Las Esperanzas** comp=Z,48nm,1.1s	**50.23**	**20**	*e*P	**P**	**08 12 18.1**	**-0.1**
BDFB	**Brasilia** comp=Z,19nm,1.2s	**50.39**	**80**	*e*P	**P**	**08 12 19.1**	**-0.6**
BDFB	**Brasilia** comp=Z,9.3nm,0.9s,baz=259,slow=5.9,SNR=11	**50.39**	**80**	P	**P**	**08 12 19.3**	**-0.4**
BDFB				LR	LR	08 31 45.6	
ESTN	**Estel** comp=Z,27nm,1.0s	**50.56**	**17**	*e*P	**P**	**08 12 20.4**	**-0.4**
PTGA	**Pitinga** comp=Z,15nm,1.1s	**51.12**	**56**	*e*P	**P**	**08 12 23.8**	**-1.3**
PTGA	**Pitinga** comp=Z,7.4nm,0.9s,baz=221,slow=10	**51.12**	**56**	P	**P**	**08 12 23.8**	**-1.3**
PTGA	**Pitinga**	**51.12**	**56**	*e*P	**P**	**08 12 24.2**	**-0.9**
APG	**El Apazote** comp=Z,213nm,18.5s,baz=139,slow=29	**51.57**	**12**	LR	LR	08 28 04.7	
SDV	**Santo Domingo**	**52.57**	**38**	*e*P	**P**	**08 12 35.4**	**-0.6**
CCIG	**Comitan** comp=Z,24nm,1.3s	**52.58**	**10**	*e*P	**P**	**08 12 36.0**	**+0.1**
MCI6	**Montes Claros**	**53.06**	**84**	*e*P	**P**	**08 12 39.9**	**+0.3**
JANB	**Januaria**	**53.68**	**82**	*e*P	**P**	**08 12 44.5**	**+0.3**
QSPA	**South Pole Qui** comp=Z,25nm,1.0s	**54.17**	**180**	*e*P	**P**	**08 12 48.0**	**+0.9**
SBA	**Scott Base** comp=Z,17nm,1.1s	**55.74**	**195**	*e*P	**P**	**08 12 59.3**	**+1.1**
SBA	**Scott Base** comp=Z,17nm,1.1s	**55.74**	**195**	*e*P	**P**	**08 12 59.3**	**+1.1**
SBA				pmax	pmax		
VNA3	**Neumayer Olymp**	**56.45**	**157**	P	**P**	**08 13 03.5**	**+0.1**
VNDA	**Vanda** comp=Z,13nm,1.2s	**56.84**	**195**	*e*P	**P**	**08 13 07.0**	**+1.0**
VNDA	**Vanda** comp=Z,6.9nm,1.1s,baz=103,slow=6.4,SNR=18	**56.84**	**195**	P	**P**	**08 13 07.5**	**+1.5**
VNA1	**Neumayer--Stat**	**57.04**	**157**	P	**P**	**08 13 07.7**	**+0.2**
VNA2	**Neumayer--Watz** baz=263,slow=6.3	**57.25**	**157**	P	**P**	**08 13 09.1**	**+0.1**
SNAA	**Sanae**	**58.42**	**158**	P	**P**	**08 13 17.0**	**-0.3**
SNAA	**Sanae** comp=Z,32nm,1.1s	**58.42**	**158**	*e*P	**P**	**08 13 16.3**	**-1.0**
SNAA	**Sanae**	**58.42**	**158**	*d i*P	**P**	**08 13 17.1**	**-0.2**
MDP	**Montagnes des** comp=Z,16nm,0.9s,baz=257,slow=4.5,SNR=4.6	**60.34**	**58**	P	**P**	**08 13 30.4**	**-0.9**
833A	**Chaparral WMA,** baz=180	**64.03**	**1**	P	**P**	**08 13 55.7**	**+0.1**
TXAR	**Lajitas Array** comp=Z,4.2nm,0.9s,baz=179,slow=8.7,SNR=30	**65.12**	**356**	P	**P**	**08 14 03.6**	**+0.8**
TXAR	comp=Z,124nm,19.6s,baz=0.0,slow=31			LR	LR	08 37 11.8	
TX31	**Lajitas Ar. Si** comp=Z,9.3nm,1.0s	**65.12**	**356**	*e*P	**P**	**08 14 03.7**	**+0.8**
RCBR	**Riachuelo**	**65.74**	**79**	*e*P	**P**	**08 14 07.0**	**-0.2**
JCT	**Junction City** comp=Z,8.9nm,0.9s	**66.17**	**0**	*e*P	**P**	**08 14 10.1**	**+0.5**
JCT	**Junction City** comp=Z,9.0nm,0.9s	**66.17**	**0**	*e*P	**P**	**08 14 10.1**	**+0.5**
JCT				pmax	pmax		
JCT	**Junction City** baz=180	**66.17**	**0**	P	**P**	**08 14 09.5**	**0.0**
435B	**Jarrell** baz=182	**66.52**	**2**	P	**P**	**08 14 12.4**	**+0.7**
758A	**Lake Helen** baz=196	**67.05**	**18**	P	**P**	**08 14 15.1**	**0.0**
655A	**Horseshoe Beac** baz=194	**67.09**	**16**	P	**P**	**08 14 16.1**	**+0.8**
MNTX	**Cornudas Mount** comp=Z,4.8nm,0.9s	**67.58**	**355**	*e*P	**P**	**08 14 17.5**	**-0.9**
MNTX	**Cornudas Mount** baz=175	**67.58**	**355**	P	**P**	**08 14 18.7**	**+0.2**
319A	**Douglas** comp=Z,18nm,0.9s	**67.63**	**351**	*e*P	**P**	**08 14 19.7**	**+0.8**
NATX	**Nacogdoches** comp=Z,27nm,1.0s	**67.64**	**5**	*e*P	**P**	**08 14 19.0**	**+0.2**
NATX	**Nacogdoches** baz=184	**67.64**	**5**	P	**P**	**08 14 20.0**	**+1.2**
WHTX	**Lake Whitney,** comp=Z,12nm,0.9s	**67.72**	**2**	*e*P	**P**	**08 14 19.8**	**+0.5**
WHTX	**Lake Whitney,** baz=182	**67.72**	**2**	P	**P**	**08 14 19.8**	**+0.5**
555A	**McAlpin** baz=195	**67.74**	**16**	P	**P**	**08 14 19.0**	**-0.5**
452A	**Marianna** baz=193	**67.99**	**14**	P	**P**	**08 14 20.7**	**-0.3**
349A	**Repton** baz=191	**68.12**	**12**	P	**P**	**08 14 22.2**	**+0.4**
453A	**Whigham** baz=194	**68.16**	**15**	P	**P**	**08 14 22.5**	**+0.4**
ABTX	**Abilene, Hawle** baz=180	**68.31**	**0**	P	**P**	**08 14 23.4**	**+0.4**
351A	**Pinckard** baz=192	**68.32**	**13**	P	**P**	**08 14 23.5**	**+0.4**
455A	**Stateville** baz=195	**68.33**	**16**	P	**P**	**08 14 23.6**	**+0.5**
350A	**Dozier** baz=192	**68.33**	**13**	P	**P**	**08 14 23.4**	**+0.2**
121A	**Cookes Peak, D** baz=173	**68.61**	**353**	P	**P**	**08 14 25.4**	**+0.3**
352A	**Blakely** comp=Z,16nm,1.0s	**68.65**	**14**	*e*P	**P**	**08 14 25.6**	**+0.4**
352A	**Blakely** baz=193	**68.65**	**14**	P	**P**	**08 14 25.3**	**+0.2**
353A	**Camilla** baz=194	**68.66**	**14**	P	**P**	**08 14 25.2**	**0.0**
214A	**Organ Pipe Nat** baz=169	**68.70**	**348**	P	**P**	**08 14 26.1**	**+0.6**
249A	**Camden** baz=191	**68.74**	**12**	P	**P**	**08 14 26.3**	**+0.6**
TUC	**Tucson** comp=Z,10nm,1.0s	**68.74**	**350**	*e*P	**P**	**08 14 25.5**	**-0.4**
TUC	**Tucson** comp=Z,10.0nm,1.0s	**68.74**	**350**	*e*P	**P**	**08 14 25.5**	**-0.4**
TUC				pmax	pmax		
TUC	**Tucson** baz=171	**68.74**	**350**	P	**P**	**08 14 26.6**	**+0.8**
TIGA	**Tifton** baz=194	**68.88**	**15**	P	**P**	**08 14 26.9**	**+0.3**
250A	**Grady** baz=192	**68.89**	**13**	P	**P**	**08 14 26.9**	**+0.2**
251A	**Midway** baz=192	**69.15**	**13**	P	**P**	**08 14 28.6**	**+0.3**
252A	**Lumpkin** baz=193	**69.19**	**14**	P	**P**	**08 14 28.5**	**0.0**
Z41A	**Richland Creek** baz=186	**69.28**	**6**	P	**P**	**08 14 29.3**	**+0.3**
148A	**Greensboro** baz=191	**69.32**	**11**	P	**P**	**08 14 29.6**	**+0.3**
357A	**Townsend** baz=196	**69.33**	**17**	P	**P**	**08 14 29.2**	**-0.2**
253A	**Americus** comp=Z,17nm,0.9s	**69.37**	**14**	*e*P	**P**	**08 14 29.6**	**0.0**
253A	**Americus** baz=194	**69.37**	**14**	P	**P**	**08 14 29.5**	**-0.2**
149A	**Jones** baz=191	**69.40**	**12**	P	**P**	**08 14 29.9**	**0.0**
254A	**Abbeville** baz=194	**69.43**	**15**	P	**P**	**08 14 29.8**	**-0.2**
150A	**Eclectic** baz=192	**69.54**	**13**	P	**P**	**08 14 30.7**	**0.0**
255A	**Hazlehurst** baz=195	**69.59**	**16**	P	**P**

comp=Z,24nm,1.1s
Z49A **Columbiana** 70.03 12 P P 08 14 33.5 -0.2
baz=191
154A **Montrose** 70.12 15 P P 08 14 34.2 -0.1
baz=194
Z50A **Ashland** 70.19 13 P P 08 14 34.6 -0.1
baz=192
155A **Kite** 70.26 16 P P 08 14 34.8 -0.3
baz=195
MONP2 **Monument Peak** 70.28 345 P P 08 14 36.3 +0.9
baz=166
Z52A **Williamson** 70.41 14 P P 08 14 36.0 0.0
baz=193
WMOK **Wichita Mounta** 70.43 1 P P 08 14 35.7 -0.4
baz=181
MIAR **Mount Ida** 70.49 6 *e*P P 08 14 36.9 +0.5
comp=Z,6.5nm,0.9s
MIAR **Mount Ida** 70.49 6 *e*P P 08 14 36.9 +0.5
MIAR pmax pmax
comp=Z,6.0nm,0.9s
MIAR **Mount Ida** 70.49 6 P P 08 14 36.4 0.0
baz=185
AMTX **Amarillo** 70.58 359 *e*P P 08 14 37.5 +0.4
comp=Z,17nm,0.9s
AMTX **Amarillo** 70.58 359 P P 08 14 37.5 +0.4
baz=178
Y48A **Jasper** 70.63 11 P P 08 14 37.3 0.0
baz=191
Y14A **Wickenburg** 70.67 349 *e*P P 08 14 38.5 +0.8
comp=Z,9.5nm,0.9s
Y12C **Blythe** 70.75 347 *e*P P 08 14 39.0 +0.9
comp=Z,17nm,0.9s
Y12C **Blythe** 70.75 347 P P 08 14 38.6 +0.6
baz=168
GOGA **Godfrey** 70.81 15 P P 08 14 38.2 -0.2
baz=194
X18A **Snowflake** 70.82 351 *e*P P 08 14 39.8 +1.0
comp=Z,18nm,1.0s
BC3 **Big Chuckawall** 70.82 346 P P 08 14 39.2 +0.5
baz=167
ANMO **Albuquerque** 70.88 354 *e*P P 08 14 39.7 +0.6
comp=Z,7.1nm,1.1s
ANMO **Albuquerque** 70.88 354 ⇓ *i*P P 08 14 39.3 +0.2
ANMO **Albuquerque** 70.88 354 P P 08 14 39.2 +0.1
baz=174
ANMO **Albuquerque** 70.88 354 P P 08 14 39.7 +0.6
comp=Z,2.7nm,0.8s,baz=171,slow=8.2,SNR=11
TASM **ASL Pad, Albuq** 70.88 354 P P 08 14 39.5 +0.4
baz=174
TASM **ASL Pad, Albuq** 70.88 354 P P 08 14 39.4 +0.3
baz=174
X16A **Lo Mia Camp, P** 70.91 350 *e*P P 08 14 40.0 +0.8
comp=Z,9.0nm,1.1s
Z55A **Blythe** 70.91 16 P P 08 14 39.2 +0.2
baz=195
Y51A **Rockmart** 70.97 13 P P 08 14 39.1 -0.3
baz=193
PFO **Pinyon Flats O** 70.98 346 *e*P P 08 14 40.8 +1.2
comp=Z,10nm,1.1s
PFO **Pinyon Flats O** 70.98 346 P P 08 14 39.7 +0.1
baz=166
PFO **Pinyon Flats O** 70.98 346 P P 08 14 40.5 +0.9
comp=Z,4.9nm,1.0s,baz=122,slow=5.6,SNR=5.9
X46A **Booneville** 71.05 10 P P 08 14 39.7 -0.1
baz=190
SYO **Syowa Base** 71.09 166 ⇑ *e*P P 08 14 38.4 -1.4
X47A **Russelville** 71.11 11 P P 08 14 39.9 -0.4
baz=190
W39A **Magazine** 71.12 5 *e*P P 08 14 40.9 +0.7
comp=Z,9.7nm,0.9s
W39A **Magazine** 71.12 5 P P 08 14 41.1 +0.8
baz=185
MURC **Murrieta** 71.12 345 P P 08 14 41.0 +0.6
baz=165
Y52A **Lilburn** 71.13 14 P P 08 14 40.3 -0.1
baz=193
X48A **Hartselle** 71.17 11 P P 08 14 40.8 +0.2
baz=191
CIS **Catalina Islan** 71.20 344 P P 08 14 41.3 +0.4
baz=164
PDMCI **Parker Dam,Lak** 71.22 348 P P 08 14 41.5 +0.6
baz=168
Y53A **Monroe** 71.22 14 P P 08 14 41.1 +0.2
baz=194
W41B **Gary Mavity, V** 71.22 7 *e*P P 08 14 41.3 +0.4
comp=Z,13nm,1.0s
W41B **Gary Mavity, V** 71.22 7 P P 08 14 41.1 +0.2
baz=186
IRM **Iron Mountain** 71.25 347 P P 08 14 42.0 +0.9
baz=167,SNR=5.9
BELC **Belle Mtn. Jos** 71.27 346 P P 08 14 42.1 +0.7
baz=166
SNCC **San Nicolas Is** 71.31 343 P P 08 14 41.9 +0.5
baz=163
WHAR **Wooly Hollow** 71.34 7 *e*P P 08 14 41.9 +0.4
comp=Z,15nm,1.2s
Y54A **Tignall** 71.41 15 P P 08 14 41.8 -0.3
baz=195
X50B **Fort Payne** 71.42 13 P P 08 14 41.8 -0.3
baz=192
Y56A **Pelion** 71.65 16 P P 08 14 43.3 -0.2
baz=196
Y55A **Saluda** 71.66 16 P P 08 14 43.4 -0.2
baz=195
TUL1 **Leonard** 71.70 4 *e*P P 08 14 43.5 -0.3
comp=Z,8.4nm,1.0s
TUL1 **Leonard** 71.70 4 P P 08 14 43.8 +0.1
baz=183
BFSC **Mount Baldy Ra** 71.83 345 P P 08 14 46.1 +1.3
baz=165
W48A **Pulaski** 71.86 11 P P 08 14 45.0 +0.2
baz=191
W47A **Westpoint** 71.87 11 P P 08 14 44.7 -0.1
baz=190
X53A **Estanollee** 71.90 14 P P 08 14 45.3 +0.3
baz=194
W13A **Hualapai Mount** 71.95 348 *e*P P 08 14 46.6 +1.1
comp=Z,5.2nm,1.0s
W49A **Belvidere** 71.95 12 P P 08 14 44.9 -0.4
baz=192
GMRC **Granite Mounta** 71.96 347 P P 08 14 46.5 +1.0
baz=167,SNR=8.1
WUAZ **Wupatki** 71.98 350 *e*P P 08 14 45.7 0.0
comp=Z,12nm,1.1s
WUAZ **Wupatki** 71.98 350 P P 08 14 45.9 +0.2
baz=170
SWET **Sewanee** 72.11 12 *e*P P 08 14 46.3 +0.1
comp=Z,9.7nm,1.1s
HEC **Hector,Ludlow** 72.13 346 P P 08 14 46.8 +0.3
baz=166
X54A **Belton** 72.14 15 P P 08 14 46.2 -0.3
baz=195
LDFC **Landfair** 72.14 347 *e*P P 08 14 48.6 +2.0
comp=Z,29nm,0.8s
Y58A **Scranton** 72.14 18 P P 08 14 47.0 +0.6
baz=197
HHAR **Hobbs** 72.18 5 *e*P P 08 14 47.1 +0.4
comp=Z,13nm,1.1s
W50A **Signal Mountai** 72.20 13 P P 08 14 46.0 -0.8
baz=192
X55A **Gracelyn & Ava** 72.22 16 P P 08 14 46.4 -0.5
baz=195
V46A **Holladay** 72.34 10 P P 08 14 46.9 -0.7
baz=190
U40A **Yellville** 72.34 6 P P 08 14 47.9 +0.2
baz=186
X56A **White Oak** 72.38 16 P P 08 14 47.8 -0.1
baz=196
V47A **Nunnelly** 72.45 11 P P 08 14 48.2 -0.1
baz=190
BG3 **Lake Jocassee** 72.45 15 *e*P P 08 14 48.1 -0.2
comp=Z,31nm,1.5s
V48A **Smith Brothers** 72.47 11 P P 08 14 49.0 +0.5
baz=191
PAULI **Pauline** 72.52 16 *e*P P 08 14 49.2 +0.5
comp=Z,43nm,1.6s
X57A **Johnson Farm,** 72.57 17 P P 08 14 49.2 +0.1
baz=197
TUQ **Turquoise Moun** 72.64 346 P P 08 14 50.2 +0.6
baz=166,SNR=12
V49A **McMinnville** 72.65 12 P P 08 14 49.1 -0.4
baz=192
GSC **Goldstone, Bar** 72.69 346 *e*P P 08 14 50.7 +0.9
comp=Z,9.4nm,0.9s
GSC **Goldstone, Bar** 72.69 346 *e*P P 08 14 50.7 +0.9
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC **Goldstone, Bar** 72.69 346 P P 08 14 50.6 +0.9
baz=166,SNR=6.0
V50A **Pikevile** 72.69 13 P P 08 14 49.3 -0.4
baz=192
W54A **Cherokee Point** 72.70 15 P P 08 14 50.0 +0.2
baz=195
WVT **Waverly** 72.70 10 P P 08 14 49.0 -0.8
baz=190
T25A **Trinidad** 72.93 356 *e*P P 08 14 52.2 +0.8
comp=Z,20nm,1.6s
KMSC **Kings Mountain** 72.94 16 P P 08 14 51.6 +0.4
baz=196
PKM **Mcpherson Peak** 72.94 343 P P 08 14 52.2 +0.7
baz=163
V51A **Loudon** 72.96 13 P P 08 14 51.4 +0.2
baz=193
PBMO **Poplar Bluff** 73.00 8 *e*P P 08 14 51.4 -0.2
comp=Z,12nm,1.3s
U15A **North Rim** 73.00 350 *e*P P 08 14 52.6 +0.7
comp=Z,8.9nm,1.0s
X59A **McDuffie Farm,** 73.05 18 P P 08 14 51.2 -0.6
baz=198
U47A **Clarksville** 73.09 11 P P 08 14 51.5 -0.5
baz=191
V53A **Saluda** 73.13 15 P P 08 14 51.7 -0.6
baz=194
SHOC **Shoshone, Teco** 73.16 346 P P 08 14 52.5 0.0
baz=166
X60A **Albert Glenn T** 73.21 19 P P 08 14 51.7 -1.1
baz=198,SNR=5.1
W57A **Gilead** 73.25 17 P P 08 14 52.3 -0.7
baz=197
MVCO **Mesa Verde** 73.31 353 *e*P P 08 14 54.2 +0.6
comp=Z,13nm,0.9s
MVCO **Mesa Verde** 73.31 353 P P 08 14 53.8 +0.1
baz=173
W58A **Raeford** 73.31 18 P P 08 14 53.2 -0.2
baz=197,SNR=5.4
ISA **Isabella, Lake** 73.38 344 *e*P P 08 14 55.0 +1.1
comp=Z,9.4nm,0.9s
ISA **Isabella, Lake** 73.38 344 *e*P P 08 14 55.0 +1.1
ISA pmax pmax
comp=Z,9.0nm,0.9s
ISA **Isabella, Lake** 73.38 344 P P 08 14 55.3 +1.4
baz=164
U49A **Red Boiling Sp** 73.40 12 P P 08 14 53.4 -0.5
baz=192
V54A **Nebo** 73.41 15 P P 08 14 53.7 -0.3
baz=195
U50A **Jamestown** 73.46 13 P P 08 14 54.2 -0.1
baz=193
SHPR **Sheep Range** 73.54 347 *e*P P 08 14 56.1 +1.2
comp=Z,9.4nm,1.0s
MPMC **Manual Prospec** 73.55 345 P P 08 14 55.9 +0.8
baz=165,SNR=7.5
U51A **La Follette** 73.58 13 P P 08 14 55.2 +0.2
baz=193
T46A **Princeton** 73.59 10 P P 08 14 55.8 +0.8
baz=190
SDCO **Great Sand Dun** 73.60 355 *e*P P 08 14 56.1 +0.7
comp=Z,5.4nm,1.1s
SDCO **Great Sand Dun** 73.60 355 P P 08 14 56.1 +0.7
baz=175
V55A **Taylorsville** 73.64 16 P P 08 14 55.5 +0.2
baz=195
W59A **Clinton** 73.65 18 P P 08 14 55.4 0.0
baz=198
KNB **Kanab** 73.66 349 *e*P P 08 14 56.6 +1.0
comp=Z,10nm,1.1s
KNB **Kanab** 73.66 349 *e*P P 08 14 56.6 +1.0
KNB pmax pmax
comp=Z,10.0nm,1.1s
S22A **4UR Ranch, Cre** 73.69 354 *e*P P 08 14 56.9 +0.9
comp=Z,9.1nm,0.9s
S22A **4UR Ranch, Cre** 73.69 354 P P 08 14 56.4 +0.4
baz=174
LCMT **Little Creek M** 73.72 349 *e*P P 08 14 56.6 +0.6
comp=Z,4.9nm,1.1s
U52A **Thorn Hill** 73.72 14 P P 08 14 56.0 +0.2
baz=194
W60A **Pink Hill** 73.73 19 P P 08 14 55.5 -0.3
baz=198
DAC **Darwin (Calif)** 73.79 345 *e*P P 08 14 57.6 +1.2
comp=Z,9.2nm,1.2s
DAC **Darwin (Calif)** 73.79 345 *e*P P 08 14 57.6 +1.2
DAC pmax pmax
comp=Z,9.0nm,1.2s
FURC **Furnace Creek,** 73.82 346 P P 08 14 57.3 +1.0
baz=166
T48A **Bowling Green** 73.88 11 P P 08 14 56.7 0.0
baz=191,SNR=6.5
V57A **Coltrane Farms** 74.01 17 P P 08 14 58.0 +0.5
baz=197
T49A **Edmonton** 74.02 12 P P 08 14 57.7 +0.2
baz=192
CWC **Cottonwood Cre** 74.05 345 P P 08 14 59.1 +1.2
baz=165
T50A **Nancy** 74.05 13 P P 08 14 57.6 -0.2
baz=193
V58A **Windy Hill, Pi** 74.08 18 P P 08 14 57.7 -0.2
baz=197
U54A **Nelsons Funny** 74.16 15 P P 08 14 58.4 0.0
baz=195
TPNV **Topopah Spring** 74.17 347 *e*P P 08 14 60.0 +1.3
comp=Z,11nm,0.9s
TPNV **Topopah Spring** 74.17 347 *e*P P 08 15 00.0 +1.3
TPNV pmax pmax
comp=Z,11nm,0.9s
TPNV **Topopah Spring** 74.17 347 P P 08 14 59.5 +0.8
baz=166,SNR=9.4
CCM **Cathedral Cave** 74.18 7 *e*P P 08 14 58.7 +0.3
comp=Z,17nm,0.9s
CCM **Cathedral Cave** 74.18 7 P P 08 14 58.9 +0.5
baz=187
FVM **French Village** 74.19 8 *e*P P 08 14 58.5 0.0
comp=Z,25nm,1.4s
FVM **French Village** 74.19 8 *e*P P 08 14 58.5 0.0
FVM pmax pmax
comp=Z,25nm,1.4s
VOG **Valley Oaks Go** 74.22 344 P P 08 14 58.6 -0.1
baz=164
PV01 **Paradox Valley** 74.23 353 *e*P P 08 14 59.5 +0.5
comp=Z,8.2nm,1.0s
CCUT **Cedar City** 74.26 349 *e*P P 08 15 00.2 +0.9
comp=Z,11nm,0.9s
SZCU **Shurtz Canyon** 74.27 349 *e*P P 08 14 59.6 +0.4
comp=Z,8.2nm,0.7s
V59A **Middlesex** 74.27 18 P P 08 14 59.1 +0.1
baz=198
S47A **Hartford** 74.28 11 P P 08 14 58.6 -0.4
baz=191
PV13 **Radium Mtn., P** 74.28 353 *e*P P 08 14 58.7 -0.6
comp=Z,24nm,1.6s
U56A **King** 74.31 16 P P 08 14 58.5 -0.7
baz=196
PV02 **Paradox Valley** 74.32 353 *e*P P 08 15 00.4 +0.9
comp=Z,18nm,1.2s
PV03 **Paradox Valley** 74.38 353 *e*P P 08 15 00.5 +0.6
comp=Z,13nm,1.2s
PV17 **East Wray Mesa** 74.42 353 *e*P P 08 15 01.0 +0.9
comp=Z,6.7nm,0.8s
PV11 **David Mesa, Pa** 74.43 353 *e*P P 08 15 00.9 +0.8
comp=Z,28nm,1.6s
PV12 **Saucer Basin,** 74.44 353 *e*P P 08 15 00.2 -0.1
comp=Z,16nm,1.0s
PV16 **Nyswonger Mesa** 74.44 353 *e*P P 08 15 01.0 +0.8
comp=Z,10.0nm,1.2s
T53A **Wise** 74.45 14 P P 08 14 59.2 -1.0
baz=194
PV20 **West Nyswonger** 74.48 353 *e*P P 08 15 00.9 +0.5
comp=Z,17nm,1.6s
T52A **Hallie** 74.48 14 P P 08 15 00.6 +0.3
baz=194
PV14 **Lion Creek, Pa** 74.52 353 *e*P P 08 15 01.2 +0.5
comp=Z,14nm,1.2s
V60A **Jim Taylor Roa** 74.52 19 P P 08 15 00.6 +0.1
baz=199
PV04 **Paradox Valley** 74.52 353 *e*P P 08 15 01.5 +0.8
comp=Z,12nm,1.0s
PV23 **Carpenter Ridg** 74.59 353 *e*P P 08 15 02.3 +1.1
comp=Z,14nm,1.1s
PV09 **Paradox Valley** 74.65 353 *e*P P 08 15 02.4 +0.8
PV22 **Blue Mesa, Par** 74.65 353 *e*P P 08 15 02.4 +0.9
comp=Z,8.9nm,1.0s
PV21 **Cone Mtn., Par** 74.70 353 *e*P P 08 15 02.6 +0.9
comp=Z,11nm,1.1s
T54A **Tazewell** 74.73 15 P P 08 15 01.9 +0.1
baz=195
R45A **Skylar, Fairfi** 74.76 10 P P 08 15 01.6 -0.1
baz=190
S50A **Richmond** 74.77 13 P P 08 15 01.6 -0.3
baz=193
U58A **Oxford** 74.79 18 P P 08 15 01.8 -0.2
baz=198
KSU1 **Kansas State U** 74.84 3 P P 08 15 02.7 +0.4
baz=183
U59A **Littleton** 74.94 18 P P 08 15 02.8 -0.1
baz=198
T55A **Pulaski** 74.95 16 P P 08 15 02.9 -0.1
baz=196
WCI **Wyandotte Cave** 74.99 11 P P 08 15 03.0 -0.1
baz=191
R47A **Wooly Knot Far** 75.02 11 P P 08 15 03.2 -0.1
baz=191
S52A **Salyersville** 75.02 14 P P 08 15 02.9 -0.4
baz=194
MSU **Marysvale** 75.03 350 *e*P P 08 15 05.0 +1.3
MSU **Marysvale** 75.03 350 *e*P P 08 15 05.0 +1.3
T56A **Rocky Mt** 75.04 16 P P 08 15 03.5 +0.1
baz=196
BLA **Blacksburg** 75.12 16 P P 08 15 03.7 -0.3
baz=196
SMCO **Snowmass** 75.13 354 *e*P P 08 15 05.3 +0.9
comp=Z,8.9nm,1.0s
TCRU **Three Creeks R** 75.17 350 *e*P P 08 15 05.7 +1.2
comp=Z,12nm,1.1s
T57A **Hurt** 75.19 17 P P 08 15 03.9 -0.4
baz=197
S53A **Williamson** 75.21 15 P P 08 15 03.8 -0.7
baz=195
U60A **Pendleton** 75.22 19 P P 08 15 04.1 -0.3
baz=199
OLIL **Olney** 75.22 10 *e*P P 08 15 04.8 +0.4
comp=Z,13nm,0.8s
Q16A **Castle Valley** 75.30 351 *e*P P 08 15 05.9 +0.7
comp=Z,31nm,1.5s
PSUT **Pine Spring** 75.30 349 *e*P P 08 15 06.3 +1.1
comp=Z,7.2nm,1.0s
R50A **Paris** 75.37 13 P P 08 15 05.0 -0.4
baz=193
Q45A **Warren Harvey,** 75.37 10 P P 08 15 04.8 -0.5
baz=190,SNR=6.3
R11A **Troy Canyon, C** 75.41 347 *e*P P 08 15 07.1 +1.3
comp=Z,18nm,1.6s
R11A **Troy Canyon, C** 75.41 347 P P 08 15 07.0 +1.2
baz=167,SNR=12
SRU **San Rafael Swe** 75.41 352 *e*P P 08 15 06.2 +0.4
comp=Z,7.0nm,1.0s
SRU **San Rafael Swe** 75.41 352 *e*P P 08 15 06.2 +0.4
SRU pmax pmax
comp=Z,7.0nm,1.0s
S54A **Dingess, Beckl** 75.50 15 P P 08 15 06.1 -0.1
baz=195
R51A **Hillsboro** 75.53 13 P P 08 15 06.4 +0.2
baz=194
T59A **Double "B" Far** 75.59 18 P P 08 15 06.6 0.0
baz=198
S55A **Lewisburg** 75.64 16 P P 08 15 06.9 -0.1
baz=196
ISCO **Idaho Springs** 75.65 356 *e*P P 08 15 07.2 -0.1
comp=Z,2.7nm,0.8s
ISCO **Idaho Springs** 75.65 356 *e*P P 08 15 07.2 -0.1
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO **Idaho Springs** 75.65 356 P P 08 15 07.4 +0.2
baz=175
TMUT **Trail Mountain** 75.68 351 *e*P P 08 15 07.9 +0.4
comp=Z,7.7nm,0.8s
Q48A **North Vernon** 75.76 11 P P 08 15 07.1 -0.4
baz=192
S56A **Natural Bridge** 75.77 17 P P 08 15 07.4 -0.2
baz=197
P17A **Butcher Ranch,** 75.79 351 *e*P P 08 15 08.4 +0.5
comp=Z,5.5nm,0.9s
MAW **Mawson** 75.86 173 *e*P P 08 15 07.8 -0.1
comp=Z,6.0nm,1.1s
MAW **Mawson** 75.86 173 *e*P P 08 15 07.8 -0.1
MAW pmax pmax
comp=Z,6.0nm,1.1s
MAW **Mawson** 75.86 173 P P 08 15 07.6 -0.3
comp=Z,18nm,1.0s,baz=198,slow=7.3,SNR=18
R53A **Hurricane** 75.87 15 P P 08 15 07.5 -0.7
baz=195
R54A **Victor** 75.93 15 P P 08 15 08.9 +0.3
baz=196
P43A **Skaggs, Pawnee** 75.94 8 P P 08 15 08.6 +0.1
baz=189
Q50A **Georgetown** 75.98 13 P P 08 15 08.3 -0.5
baz=193
NV11 **Mina Array Sit** 75.98 345 *e*P P 08 15 09.9 +0.9
comp=Z,1.0nm,1.0s
S57A **Dark Hollow, R** 75.99 17 P P 08 15 08.7 -0.2
baz=197
NVAR **Mina Array Bea** 76.01 345 P P 08 15 10.7 +1.4
comp=Z,12nm,0.9s,baz=180,slow=7.5,SNR=48
P45A **Graceland, Par** 76.05 10 P P 08 15 08.9 -0.3
baz=190
S58A **Poland Farm, P** 76.07 18 P P 08 15 08.8 -0.5
baz=198
CMB **Columbia Colle** 76.08 344 *e*P P 08 15 10.3 +0.8
comp=Z,7.5nm,1.0s
CMB **Columbia Colle** 76.08 344 *e*P P 08 15 10.3 +0.8
CMB pmax pmax
comp=Z,7.0nm,1.0s
O20A **White River Ci** 76.18 354 *e*P P 08 15 11.0 +0.9
comp=Z,8.2nm,1.1s
O20A **White River Ci** 76.18 354 P P 08 15 11.1 +0.9
baz=173
P46A **Rosedale** 76.21 10 P P 08 15 10.2 +0.1
baz=190
R55A **Marlinton** 76.22 16 P P 08 15 09.8 -0.4
baz=196
P47A **Martinsville** 76.22 11 P P 08 15 10.2 0.0
baz=191
RYN **Ryan** 76.25 345 *e*P P 08 15 11.8 +1.3
comp=Z,10nm,1.1s
Q51A **Peebles** 76.27 13 P P 08 15 10.9 +0.4
baz=194
WAKR **Walker** 76.32 344 *e*P P 08 15 11.4 +0.4
comp=Z,22nm,1.6s
P48A **Milroy** 76.33 12 P P 08 15 10.9 +0.1
baz=192
Q52A **Bidwell** 76.42 14 P P 08 15 11.3 +0.1
baz=194
NLU **North Lily Min** 76.44 351 *e*P P 08 15 13.2 +1.5
comp=Z,7.7nm,1.1s
R58B **Mineral** 76.44 18 P P 08 15 11.5 +0.1
baz=198
KVN **Kaiserville** 76.57 346 *e*P P 08 15 13.3 +0.9
comp=Z,11nm,1.1s
KVN **Kaiserville** 76.57 346 *e*P P 08 15 13.3 +0.9
KVN pmax pmax
comp=Z,11nm,1.1s
R57A **Stanardsville** 76.60 17 P P 08 15 12.4 +0.1
baz=198
OGNE **Ogallala** 76.64 358 *e*P P 08 15 13.8 +1.2
comp=Z,23nm,1.1s
OGNE **Ogallala** 76.64 358 P P 08 15 13.5 +0.9
baz=178
R58A **Rapidan** 76.73 18 P P 08 15 12.8 -0.3
baz=198
Q54A **Coxs Mills** 76.73 15 P P 08 15 12.8 -0.3
baz=196
YERR **Yerington** 76.74 345 *e*P P 08 15 13.9 +0.6
comp=Z,9.9nm,1.0s
P50A **Jamestown** 76.75 13 P P 08 15 12.9 -0.3
baz=193
N23A **Red Feather La** 76.76 355 *e*P P 08 15 14.9 +1.4
comp=Z,20nm,1.6s
N23A **Red Feather La** 76.76 355 P P 08 15 14.5 +1.0
baz=175
P51A **Williamsport** 76.77 13 P P 08 15 13.4 +0.2
baz=194
DUG **Dugway, Tooele** 76.78 350 *e*P P 08 15 14.6 +1.1
comp=Z,15nm,1.4s
DUG **Dugway, Tooele** 76.78 350 *e*P P 08 15 14.6 +1.1
DUG pmax pmax
comp=Z,15nm,1.4s
DUG **Dugway, Tooele** 76.78 350 P P 08 15 14.2 +0.8
baz=169
N41A **Harden Midland** 76.84 7 *e*P P 08 15 13.5 -0.1
comp=Z,14nm,1.0s
R59A **King George, V** 76.86 18 P P 08 15 14.2 +0.4
baz=199
HDIL **Hopedale** 76.86 8 *e*P P 08 15 14.2 +0.4
comp=Z,22nm,1.2s
HDIL **Hopedale** 76.86 8 P P 08 15 14.5 +0.7

	baz=189						
Q55A	Buckhannon	76.91	16	P		P	08 15 14.3 +0.2
	baz=196						
PNTR	Pine Nut	76.92	344	eP		P	08 15 16.0 +1.6
	comp=Z,11nm,1.0s						
N40A	Mertquake, Sal	76.95	7	P		P	08 15 14.3 +0.1
	baz=187,SNR=5.8						
O47A	Sheridan	76.97	11	P		P	08 15 14.0 -0.4
	baz=191						
SFIN	Lafayette	76.98	10	P		P	08 15 14.0 -0.4
	baz=190						
JLU	Jordanelle	76.99	351	eP		P	08 15 15.8 +0.9
	comp=Z,5.8nm,1.2s						
AFDM	Forest Hills D	77.09	343	eP		P	08 15 15.9 +0.8
	comp=Z,16nm,1.2s						
P52A	Corning	77.09	14	P		P	08 15 14.9 -0.2
	baz=195,SNR=5.2						
P53A	Whipple	77.10	15	P		P	08 15 15.4 +0.3
	baz=195						
O48A	Farmland	77.15	12	P		P	08 15 14.9 -0.6
	baz=192						
O49A	Covington	77.22	12	P		P	08 15 15.6 -0.2
	baz=193						
N44A	Piper City	77.25	9	P		P	08 15 16.3 +0.4
	baz=190						
N43A	Stutzman Famil	77.26	8	P		P	08 15 16.1 +0.2
	baz=189,SNR=6.2						
O50A	Cable	77.31	13	P		P	08 15 16.3 0.0
	baz=193						
Q57A	Strasburg	77.33	17	P		P	08 15 16.7 +0.3
	baz=198						
N45A	Kentland	77.38	10	P		P	08 15 16.6 0.0
	baz=190						
P54A	Burton	77.40	15	P		P	08 15 16.4 -0.4
	baz=196						
PAHR	Pah Rah Range	77.46	345	eP		P	08 15 18.8 +1.5
	comp=Z,11nm,1.1s						
ACSO	Alum Creek Sta	77.51	13	eP		P	08 15 17.4 0.0
	comp=Z,22nm,1.3s						
ACSO	Alum Creek Sta	77.51	13	P		P	08 15 17.3 -0.1
	baz=194						
BGU	Big Grassy Mou	77.52	350	eP		P	08 15 18.5 +0.8
	comp=Z,19nm,1.5s						
N46A	Monticello	77.53	10	P		P	08 15 17.5 0.0
	baz=191						
O52A	Adamsville	77.62	14	eP		P	08 15 18.3 +0.3
	comp=Z,22nm,0.9s						
O52A	Adamsville	77.62	14	P		P	08 15 17.7 -0.3
	baz=195,SNR=5.4						
HOPS	Hopland Field	77.64	342	eP		P	08 15 19.7 +1.5
	comp=Z,44nm,1.2s						
ELK	Elko	77.69	348	eP		P	08 15 19.4 +0.7
	comp=Z,12nm,1.3s						
ELK	Elko	77.69	348	eP		P	08 15 19.4 +0.7
ELK				pmax		pmax	
	comp=Z,12nm,1.3s						
N48A	Decatur	77.76	12	P		P	08 15 18.5 -0.3
	baz=192						
M43A	Waltham Townsh	77.77	8	P		P	08 15 19.5 +0.7
	baz=189						
BEKR	Beckworth	77.83	344	eP		P	08 15 20.7 +1.3
	comp=Z,8.8nm,1.1s						
M44A	Midewin, Midew	77.84	9	P		P	08 15 19.6 +0.4
	baz=190						
O53A	New Philadelph	77.87	15	P		P	08 15 19.6 +0.2
	baz=195						
N49A	Columbus Grove	77.97	12	P		P	08 15 20.0 +0.1
	baz=193						
N50A	Nevada	78.00	13	P		P	08 15 20.6 +0.4
	baz=194						
L39A	Vinton	78.14	6	P		P	08 15 21.3 +0.4
	baz=186						
L40A	Anamosa	78.15	7	eP		P	08 15 20.7 -0.2
	comp=Z,17nm,1.1s						
L40A	Anamosa	78.15	7	P		P	08 15 21.2 +0.3
	baz=187						
O55A	Ligonier	78.24	16	P		P	08 15 20.8 -0.7
	baz=197						
L42A	Oliver, Polo	78.25	8	eP		P	08 15 21.3 -0.2
	comp=Z,14nm,1.1s						
L42A	Oliver, Polo	78.25	8	P		P	08 15 21.6 +0.1
	baz=188						
N51A	Ashland	78.29	14	eP		P	08 15 21.1 -0.6
	comp=Z,40nm,1.1s						
N51A	Ashland	78.29	14	P		P	08 15 21.5 -0.3
	baz=194						
N52A	McGinn's Farm,	78.32	14	P		P	08 15 21.5 -0.4
	baz=195						
P59A	Jarrettsville	78.36	18	P		P	08 15 21.3 -0.9
	baz=199						
M48A	Edgerton	78.42	12	P		P	08 15 21.8 -0.7
	baz=192						
O56A	Blue Knob Stat	78.47	17	eP		P	08 15 22.4 -0.4
	comp=Z,26nm,1.0s						
O56A	Blue Knob Stat	78.47	17	P		P	08 15 22.8 0.0
	baz=197						
N53A	Lisbon	78.48	15	P		P	08 15 23.0 +0.1
	baz=196						
L43A	Garden Prairie	78.54	9	P		P	08 15 23.3 +0.2
	baz=189						
M49A	Liberty Center	78.54	12	P		P	08 15 22.6 -0.4
	baz=193						
K22A	Casper	78.55	355	eP		P	08 15 22.2 -1.2
	comp=Z,48nm,1.6s						
K22A	Casper	78.55	355	P		P	08 15 24.1 +0.7
	baz=174,SNR=7.1						
O03E	Paynes Creek	78.56	343	P		P	08 15 24.1 +0.7
	baz=162						
O57A	Amberson	78.63	17	P		P	08 15 23.5 -0.2
	baz=196						
M50A	Fremont	78.63	13	eP		P	08 15 23.7 +0.1
	comp=Z,29nm,0.9s						
M50A	Fremont	78.63	13	P		P	08 15 23.9 +0.3
	baz=194						
L44A	Lake County Fo	78.64	9	P		P	08 15 23.9 +0.3
	baz=190						
O02D	Mt. Diablo Mer	78.69	342	P		P	08 15 24.6 +0.5
	baz=161						
L46A	Eue Claire	78.69	10	P		P	08 15 23.8 -0.2
	baz=191						
M51A	Elyria	78.72	14	P		P	08 15 23.5 -0.6
	baz=194						
K39A	Oelwein	78.73	6	P		P	08 15 24.5 +0.4
	baz=187						
K40A	Colesburg	78.79	7	P		P	08 15 24.9 +0.5
	baz=187						
N54A	Moraine State	78.81	15	eP		P	08 15 24.1 -0.5
	comp=Z,27nm,1.2s						
N54A	Moraine State	78.81	15	P		P	08 15 24.4 -0.2
	baz=196						
L47A	Sherwood	78.82	11	P		P	08 15 24.8 +0.1
	baz=192						
N55A	Marion Center	78.86	16	P		P	08 15 24.9 -0.1
	baz=197						
L48A	N Adams	78.92	12	P		P	08 15 25.3 +0.1
	baz=193						
BW06	Boulder Array	78.92	353	eP		P	08 15 25.2 -0.3
	comp=Z,12nm,1.0s						
BW06	Boulder Array	78.92	353	P		P	08 15 25.7 +0.2
	baz=172,SNR=17						
PD31	Pinedale Array	78.92	353	eP		P	08 15 25.8 +0.3
	comp=Z,12nm,1.0s						
PDAR	Pinedale Array	78.92	353	P		P	08 15 25.8 +0.3
	comp=Z,5.3nm,0.8s,baz=164,slow=6.0,SNR=40						
KMRM	Mail Ridge	78.96	342	eP		P	08 15 27.1 +1.5
	comp=Z,33nm,0.9s						
SSPA	Standing Stone	78.98	17	P		P	08 15 24.9 -0.6
	baz=198						
WDC	Whiskeytown Da	79.01	343	eP		P	08 15 26.3 +0.6
	comp=Z,15nm,1.0s						
WDC	Whiskeytown Da	79.01	343	eP		P	08 15 26.3 +0.6
WDC				pmax		pmax	
	comp=Z,15nm,1.0s						
PLIO	Pelee Island,	79.05	13	P		P	08 15 25.5 -0.3
	baz=194						
K42A	Prairie Point,	79.05	8	P		P	08 15 26.2 +0.3
	baz=189						
O59A	Robesonia	79.09	18	P		P	08 15 25.7 -0.4
	baz=199						
JFWS	Jewell Farm	79.09	7	eP		P	08 15 26.6 +0.5
	comp=Z,11nm,0.9s						
JFWS	Jewell Farm	79.09	7	eP		P	08 15 26.6 +0.5
JFWS				pmax		pmax	
	comp=Z,11nm,0.9s						
JFWS	Jewell Farm	79.09	7	P		P	08 15 25.9 -0.2
	baz=188						
K43A	Burlington	79.10	9	eP		P	08 15 26.2 +0.1
	comp=Z,46nm,1.5s						
K43A	Burlington	79.10	9	P		P	08 15 25.9 -0.2
	baz=189						
N56A	West Decatur	79.15	17	P		P	08 15 25.6 -0.9
	baz=198						
L49A	Milan	79.19	12	P		P	08 15 26.2 -0.4
	baz=193						
O60A	Telford	79.30	19	P		P	08 15 26.4 -0.9
	baz=200						
J39A	Decorah	79.37	6	P		P	08 15 28.0 +0.4
	baz=187						
AAM	Ann Arbor	79.40	12	eP		P	08 15 27.9 +0.1
	comp=Z,24nm,0.8s						
AAM	Ann Arbor	79.40	12	eP		P	08 15 27.9 +0.1
AAM				pmax		pmax	
	comp=Z,24nm,0.8s						
AAM	Ann Arbor	79.40	12	P		P	08 15 27.8 +0.1
	baz=193,SNR=5.1						
M54A	Oil Creek Stat	79.41	15	P		P	08 15 27.7 -0.1
	baz=196						
N02D	Trinity Center	79.42	343	P		P	08 15 28.9 +0.8
	baz=161,SNR=8.5						
K46A	Dorr	79.43	11	P		P	08 15 28.1 +0.2
	baz=192						
ECSD	EROS Data Cent	79.47	3	P		P	08 15 28.7 +0.6
	baz=183,SNR=9.7						
K47A	Vermontville	79.53	11	P		P	08 15 28.7 +0.1
	baz=192						
J41A	Loganville	79.56	7	P		P	08 15 29.5 +0.8
	baz=188						
M55A	Ridgway	79.57	16	P		P	08 15 28.6 -0.2
	baz=197						
KHMM	Horse Mountain	79.58	342	eP		P	08 15 29.7 +0.7
	comp=Z,22nm,1.2s						
J42A	Columbus	79.61	8	P		P	08 15 29.7 +0.8
	baz=189						
REDW	Red Top Meadow	79.65	352	eP		P	08 15 28.4 -1.0
	comp=Z,22nm,1.3s						
SNOW	Snow King Moun	79.73	352	eP		P	08 15 30.5 +0.6
	comp=Z,13nm,1.1s						
J43A	Natural Harves	79.76	9	P		P	08 15 30.7 +1.0
	baz=189						
MOD	Modoc Plateau	79.76	345	eP		P	08 15 30.6 +0.6
	comp=Z,12nm,1.0s						
TPAW	Teton Pass	79.78	352	eP		P	08 15 30.8 +0.6
	comp=Z,21nm,1.1s						
K48A	Perry	79.81	12	P		P	08 15 30.7 +0.7
	baz=193						
M02C	Callahan	79.86	343	P		P	08 15 31.5 +1.0
	baz=161,SNR=10.0						
LOHW	Long Hollow	79.86	352	eP		P	08 15 30.7 +0.1
	comp=Z,17nm,1.4s						
RSSD	Black Hills	79.87	357	eP		P	08 15 31.2 +0.6
	comp=Z,23nm,1.4s						
RSSD	Black Hills	79.87	357	eP		P	08 15 31.2 +0.6
RSSD				pmax		pmax	
	comp=Z,23nm,1.4s						
RSSD	Black Hills	79.87	357	P		P	08 15 31.7 +1.0
	baz=177						
I39A	Houston	79.90	6	eP		P	08 15 31.0 +0.5
	comp=Z,49nm,1.3s						
I39A	Houston	79.90	6	P		P	08 15 31.5 +1.1
	baz=187						
K49A	Clarkson	79.90	12	P		P	08 15 31.3 +0.8
	baz=193						
WVOR	Wild Horse Val	79.94	346	eP		P	08 15 31.7 +0.8
	comp=Z,9.2nm,1.1s						
WVOR	Wild Horse Val	79.94	346	eP		P	08 15 31.7 +0.8
WVOR				pmax		pmax	
	comp=Z,9.0nm,1.1s						
FXWY	Fox Creek	79.94	352	eP		P	08 15 31.6 +0.6
	comp=Z,14nm,1.1s						
M04C	Macdoel	79.99	344	P		P	08 15 32.1 +0.9
	baz=162,SNR=12						
MOOW	Moose Ponds	80.02	352	eP		P	08 15 31.5 +0.1
	comp=Z,7.6nm,1.4s						
I40A	Norwalk	80.02	7	P		P	08 15 31.8 +0.7
	baz=188						
K50A	Casco	80.04	13	P		P	08 15 31.7 +0.5
	baz=194						
DZM	Mont Dzumac	80.06	250	eLR		LR	08 40 05.7
	comp=Z,461nm,29.4s						
YBH	Yreka Blue Hor	80.14	343	eP		P	08 15 32.5 +0.5
	comp=Z,7.4nm,0.8s						
YBH	Yreka Blue Hor	80.14	343	P		P	08 15 32.2 +0.2
	comp=Z,5.7nm,0.8s,baz=117,slow=4.4,SNR=17						
IMW	Indian Meadow	80.18	352	eP		P	08 15 32.9 +0.5
	comp=Z,13nm,1.2s						
I42A	Draeger Farm,	80.20	8	eP		P	08 15 31.5 -0.6
	comp=Z,17nm,1.1s						
I42A	Draeger Farm,	80.20	8	P		P	08 15 32.5 +0.5
	baz=189						
I41A	Arkdale	80.26	7	eP		P	08 15 32.9 +0.5
	comp=Z,20nm,0.9s						
I41A	Arkdale	80.26	7	P		P	08 15 32.8 +0.4
	baz=188						
I43A	Langenfeld Bro	80.28	9	P		P	08 15 32.8 +0.3
	baz=190,SNR=5.1						
HLID	Hailey	80.31	349	eP		P	08 15 33.9 +1.0
	comp=Z,25nm,1.0s						
HLID	Hailey	80.31	349	P		P	08 15 34.1 +1.1
	baz=168,SNR=37						
L55A	Hinsdale	80.32	16	P		P	08 15 32.9 0.0
	baz=197						
FLWY	Flagg Ranch	80.34	352	eP		P	08 15 34.0 +0.9
	comp=Z,33nm,1.3s						
J48A	Bridge Port	80.34	12	P		P	08 15 33.1 +0.2
	baz=193						
L04D	Klamath Falls	80.51	343	P		P	08 15 35.0 +1.0
	baz=162						
J49A	Marlette	80.52	12	P		P	08 15 33.3 -0.5
	baz=194						
YPP	Pitchstone Pla	80.54	352	eP		P	08 15 34.1 -0.2
	comp=Z,7.7nm,1.3s						
H17A	Grant Village	80.64	352	eP		P	08 15 35.4 +0.6
	comp=Z,4.9nm,0.9s						
H38A	Maiden Rock	80.65	6	P		P	08 15 35.4 +0.8
	baz=186						
K05A	Summer Lake	80.68	345	eP		P	08 15 36.5 +1.5
	comp=Z,27nm,1.2s						
I46A	Reed City	80.71	11	P		P	08 15 35.2 +0.4
	baz=192						
YFT	Old Faithful	80.72	352	eP		P	08 15 37.4 +2.2
	comp=Z,7.9nm,1.0s						
H39A	Augusta	80.74	6	P		P	08 15 35.7 +0.7
	baz=187,SNR=7.9						
H40A	Chili	80.77	7	P		P	08 15 35.5 +0.4
	baz=188,SNR=10						
K04D	Chiloquin, OR	80.77	344	P		P	08 15 36.5 +1.1
	baz=162						
LKWY	Lake	80.78	353	eP		P	08 15 35.0 -0.6
	comp=Z,9.9nm,1.1s						
LKWY	Lake	80.78	353	eP		P	08 15 35.0 -0.6
LKWY				pmax		pmax	
	comp=Z,10.0nm,1.1s						
J08A	Circle Bar Ran	80.80	346	eP		P	08 15 36.4 +0.9
	comp=Z,14nm,0.9s						
H41A	Junction City	80.84	7	eP		P	08 15 34.9 -0.6
	comp=Z,29nm,1.3s						
H41A	Junction City	80.84	7	P		P	08 15 36.1 +0.6
	baz=188						
TYNO	Tyneside	80.88	15	P		P	08 15 36.2 +0.4
	baz=196						
J52A	Paris	80.90	14	P		P	08 15 35.2 -0.6
	baz=196						
H43A	Windswept, Lux	80.91	9	eP		P	08 15 36.5 +0.6
	comp=Z,14nm,0.9s						
H43A	Windswept, Lux	80.91	9	P		P	08 15 36.1 +0.3
	baz=190,SNR=6.4						
BINY	Binghamton	80.92	18	P		P	08 15 35.5 -0.6
	baz=199						
I47A	Gladwin	80.93	11	P		P	08 15 36.4 +0.4
	baz=192						
YMR	Madison River	80.95	352	eP		P	08 15 37.3 +0.9
	comp=Z,31nm,1.6s						
HUMO	Hull Mountain	81.03	343	eP		P	08 15 37.7 +1.1
	comp=Z,6.4nm,0.8s						
YHH	Holmes Hill	81.05	352	eP		P	08 15 38.3 +1.2
	comp=Z,15nm,1.2s						
SPMN	Marine on St.	81.16	5	eP		P	08 15 37.6 +0.4
	comp=Z,24nm,0.9s						
SPMN	Marine on St.	81.16	5	P		P	08 15 37.5 +0.3
	baz=186,SNR=8.0						
QLMT	Earthquake Lak	81.16	352	eP		P	08 15 39.4 +1.9
G38A	Ridgeland	81.18	6	P		P	08 15 37.3 0.0
	baz=186,SNR=5.6						
RLMT	Red Lodge	81.22	353	eP		P	08 15 38.1 +0.2
	comp=Z,14nm,1.0s						
RLMT	Red Lodge	81.22	353	P		P	08 15 38.4 +0.6
	baz=172,SNR=13						
K02D	Willamette Mer	81.28	343	P		P	08 15 38.8 +0.8
	baz=161						
J05D	Fort Rock, OR	81.29	344	P		P	08 15 39.5 +1.4
	baz=163,SNR=12						
H45A	Beulah	81.29	10	P		P	08 15 38.0 +0.1
	baz=191						
H46A	Fife Lake	81.33	11	P		P	08 15 37.9 -0.2
	baz=192						
MCMT	McKenzie Canyo	81.33	351	eP		P	08 15 39.8 +1.3
I51A	Listowel	81.33	14	P		P	08 15 37.9 -0.3
	baz=195						
G39A	Holcombe	81.35	6	P		P	08 15 38.4 +0.1
	baz=187,SNR=7.5						
BASO	Ashfield	81.41	13	P		P	08 15 38.8 +0.2
	baz=195						
G40A	Rib Lake	81.42	7	eP		P	08 15 39.7 +1.1
	comp=Z,32nm,1.0s						
G40A	Rib Lake	81.42	7	P		P	08 15 38.9 +0.3
	baz=188,SNR=20						
J04D	Umpqua Nationa	81.44	344	P		P	08 15 40.0 +1.0
	baz=162						
G42A	Mountain	81.59	8	eP		P	08 15 40.0 +0.5
	comp=Z,17nm,1.4s						
G42A	Mountain	81.59	8	P		P	08 15 40.3 +0.8
	baz=189						
F37A	Hinrichs Farm,	81.67	5	P		P	08 15 41.0 +1.1
	baz=186						
BRCO	Bruce Peninsul	81.68	13	P		P	08 15 40.2 +0.2
	baz=195						
I07A	Izee	81.69	346	eP		P	08 15 41.6 +1.4
	comp=Z,14nm,1.0s						
G43A	Wallace	81.69	9	eP		P	08 15 40.4 +0.4
	comp=Z,17nm,1.4s						
G43A	Wallace	81.69	9	P		P	08 15 40.5 +0.4
	baz=190						
PINE	Pine Mountain	81.71	345	eP		P	08 15 41.5 +1.1
	comp=Z,24nm,0.9s						
G45A	Suttons Bay	81.75	10	P		P	08 15 40.7 +0.4
	baz=192						
I52A	Shelburne	81.75	14	P		P	08 15 40.3 -0.1
	baz=196						
DLMT	Dillon	81.83	351	eP		P	08 15 42.0 +1.0
	comp=Z,5.5nm,1.1s						
DRWO	Darlington Wes	81.87	15	P		P	08 15 40.8 -0.2
	baz=197						
BOZ	Bozeman (W)	81.94	352	eP		P	08 15 42.5 +1.0
	comp=Z,11nm,1.0s						
BOZ	Bozeman (W)	81.94	352	P		P	08 15 42.6 +1.0
	baz=170,SNR=13						
F38A	Pierce - Schro	81.96	6	P		P	08 15 41.9 +0.4
	baz=186,SNR=8.4						
F39A	Loretta	82.00	6	P		P	08 15 42.2 +0.6
	baz=187,SNR=10						
F41A	Three Lakes	82.00	8	eP		P	08 15 41.9 +0.2
	comp=Z,13nm,1.1s						
F41A	Three Lakes	82.00	8	P		P	08 15 42.2 +0.5
	baz=189,SNR=6.0						
BMO	Blue Mountains	82.03	348	eP		P	08 15 42.4 +0.4
	comp=Z,8.8nm,1.5s						
BMO	Blue Mountains	82.03	348	eP		P	08 15 42.4 +0.4
BMO				pmax		pmax	
	comp=Z,9.0nm,1.5s						
I04A	Tendick Farm,	82.03	344	P		P	08 15 42.9 +1.0
	baz=162						
PLID	Pearl Lake	82.04	349	eP		P	08 15 42.6 +0.4
	comp=Z,17nm,1.0s						
BMRO	Meriville Lake	82.06	13	P		P	08 15 42.6 +0.7
	baz=195						
F40A	Park Falls	82.08	7	P		P	08 15 42.8 +0.7
	baz=188,SNR=8.1						
G46A	Petoskey	82.14	11	P		P	08 15 43.1 +0.7
	baz=192						
G47A	Hillman	82.16	11	P		P	08 15 42.7 +0.2
	baz=193						
I05D	Terrebonne, OR	82.31	345	P		P	08 15 44.7 +1.3
	baz=163,SNR=6.1						
F43A	Flat Rock, Esc	82.32	9	P		P	08 15 43.9 +0.5
	baz=190						
COWI	Conover	82.36	8	eP		P	08 15 44.2 +0.6
	comp=Z,26nm,1.4s						
H52A	Wyevale	82.36	14	P		P	08 15 42.7 -0.9
	baz=196						
F45A	CMU Biological	82.40	10	P		P	08 15 43.7 0.0
	baz=192						
I55A	Frankford	82.42	16	P		P	08 15 43.4 -0.4
	baz=198						
E39A	Mellen	82.49	7	P		P	08 15 44.9 +0.7
	baz=188						
LAO	LASA Array	82.55	356	eP		P	08 15 45.1 +0.6
	comp=Z,28nm,1.0s						
LAO	LASA Array	82.55	356	P		P	08 15 45.6 +1.1
	baz=175,SNR=7.8						
F44A	Big Bay de Noc	82.56	10	P		P	08 15 45.1 +0.6
	baz=191,SNR=5.2						
E40A	Wakefield	82.62	7	P		P	08 15 45.5 +0.7
	baz=188,SNR=9.0						
E38A	The Farm, Brul	82.63	6	eP		P	08 15 44.8 -0.1
	comp=Z,29nm,1.5s						
SADO	Sadowa	82.64	15	P		P	08 15 44.0 -1.0
	comp=Z,7.3nm,0.8s,baz=257,slow=2.5,SNR=5.2						
SADO				LR		LR	08 49 29.3
	comp=Z,129nm,19.2s,baz=185,slow=34						
E41A	Kenton	82.74	8	P		P	08 15 45.6 +0.2
	baz=189,SNR=8.8						
G08A	Pilot Rock	82.75	347	eP		P	08 15 46.3 +0.6
	comp=Z,7.1nm,0.9s						
H04D	Lebanon	82.80	344	P		P	08 15 46.3 +0.5
	baz=162						
E42A	Champion	82.82	8	P		P	08 15 46.2 +0.3
	baz=190						
H04A	Detroit Lake	82.83	344	eP		P	08 15 46.1 +0.1
	comp=Z,16nm,1.1s						
E43A	Lone Tree Farm	82.88	9	eP		P	08 15 46.9 +0.7
	comp=Z,7.7nm,1.0s						
E43A	Lone Tree Farm	82.88	9	P		P	08 15 46.1 -0.2
	baz=190						
KLBO	Killbear Provi	82.98	14	P		P	08 15 46.3 -0.5
	baz=196						
F48A	Evansville	83.00	12	P		P	08 15 46.1 -0.7
	baz=194						
F49A	Sandfield	83.04	13	P		P	08 15 46.2 -0.8
	baz=194						
HRY	Holter Researc	83.06	352	eP		P	08 15 48.1 +0.8
G53A	Haliburton	83.08	15	P		P	08 15 46.7 -0.6
	baz=197						
F10A	Beach Ranch, E	83.11	348	eP		P	08 15 48.0 +0.4
	comp=Z,12nm,0.9s						
H56A	Elgin	83.11	17	P		P	08 15 46.7 -0.7
	baz=199						
BANO	Bancroft	83.13	16	P		P	08 15 47.2 -0.4
	baz=198						
BUKO	Buck Lake	83.23	14	P		P	08 15 47.7 -0.3
	baz=196						
E46A	Sault Ste Mari	83.25	11	P		P	08 15 48.1 0.0
	baz=193						
PLVO	Plevna	83.34	16	P		P	08 15 48.4 -0.3
	baz=198						
D41A	Chassel	83.37	8	eP		P	08 15 49.1 +0.4
	comp=Z,58nm,1.3s						
D41A	Chassel	83.37	8	P		P	08 15 49.5 +0.8
	baz=189,SNR=7.4						
MSO	Missoula	83.44	350	eP		P	08 15 50.0 +0.7
	comp=Z,13nm,1.1s						
MSO	Missoula	83.44	350	P		P	08 15 50.4 +1.1
	baz=169,SNR=9.9						
E47A	Iron Bridge	83.50	12	P		P	08 15 49.8 +0.5
	baz=193						
LONY	Lake Ozonia	83.54	18	P		P	08 15 49.3 -0.3
	baz=200						
G03D	McMinnville, O	83.57	344	P		P	08 15 49.2 -0.6
	baz=161						
F51A	Arnstein	83.59	14	P		P	08 15 49.0 -0.9
	baz=196						
G55A	Calabogie	83.62	16	P		P	08 15 49.5 -0.6
	baz=199						
E48A	Lockeyer	83.71	12	P		P	08 15 50.1 -0.4
	baz=194						
D46A	Sault St. Mari	83.80	11	P		P	08 15 50.7 -0.2
	baz=193						
F05D	White Salmon	83.82	345	P		P	08 15 52.3 +1.2
	baz=163						
PEMO	Pembroke	83.91	16	P		P	08 15 51.2 -0.3
	baz=198						
E50A	Wahnapitae	83.91	13	P		P	08 15 51.2 -0.3
	baz=195						
HAWA	Hanford	83.92	347	eP		P	08 15 52.9 +1.3
	comp=Z,20nm,1.0s						

E08A	Dider Farm, El	83.93	347	eP		P	08 15 51.0	-0.6
	comp=Z,24nm,1.4s							
EYMN	Ely	83.97	6	eP		P	08 15 51.8	+0.1
	comp=Z,24nm,1.0s							
EYMN	Ely	83.97	6	P		P	08 15 51.9	+0.1
	baz=187,SNR=8.0							
ALGO	Algonquin Park	84.00	15	P		P	08 15 51.2	-0.8
	baz=198							
AGMN	Agassiz Nation	84.05	3	eP		P	08 15 52.4	+0.2
	comp=Z,16nm,0.9s							
AGMN	Agassiz Nation	84.05	3	P		P	08 15 52.8	+0.6
	baz=183,SNR=9.6							
ORIO	Orleans, Innes	84.09	17	P		P	08 15 51.7	-0.7
	baz=200							
D47A	Chapleau	84.11	12	P		P	08 15 53.0	+0.4
	baz=194							
EGMT	Eagleton	84.15	353	eP		P	08 15 53.7	+0.9
	comp=Z,18nm,1.1s							
EGMT	Eagleton	84.15	353	P		P	08 15 53.9	+1.1
	baz=172,SNR=9.9							
C40A	Isle Royale Na	84.15	7	eP		P	08 15 52.2	-0.5
	comp=Z,16nm,1.3s							
C40A	Isle Royale Na	84.15	7	P		P	08 15 53.4	+0.7
	baz=189							
DGMT	Dagmar	84.22	357	eP		P	08 15 54.3	+1.2
	comp=Z,21nm,1.0s							
DGMT	Dagmar	84.22	357	P		P	08 15 54.5	+1.3
	baz=176							
ALFO	Alfred	84.41	17	P		P	08 15 54.0	0.0
	baz=200							
D48A	Paudash Townsh	84.44	12	P		P	08 15 53.8	-0.4
	baz=195							
D08A	Wollman Farm,	84.45	347	eP		P	08 15 54.9	+0.6
	comp=Z,17nm,1.3s							
E53A	Dumoine, Ponti	84.48	15	P		P	08 15 53.8	-0.6
	baz=198							
D49A	Beulah Townshi	84.62	13	P		P	08 15 54.5	-0.6
	baz=195							
E54A	Lac Daplat, Po	84.64	16	P		P	08 15 54.6	-0.6
	baz=198							
E04D	Cinebar	84.69	345	P		P	08 15 56.7	+1.2
	baz=162							
LON	Longmire	84.72	345	eP		P	08 15 56.4	+0.7
	comp=Z,8.8nm,0.9s							
LON	Longmire	84.72	345	eP		P	08 15 56.4	+0.7
LON				pmax	pmax			
	comp=Z,9.0nm,0.9s							
D52A	ZEK Kipawa Sen	84.90	15	P		P	08 15 56.0	-0.5
	baz=197							
LTY	Liberty	84.97	346	eP		P	08 15 57.6	+0.6
	comp=Z,6.8nm,1.0s							
C09A	Chrisman Ranch	85.05	348	eP		P	08 15 58.4	+1.1
	comp=Z,19nm,1.1s							
D53A	Lac Vacive, Po	85.14	15	eP		P	08 15 56.9	-0.9
	comp=Z,33nm,1.4s							
D53A	Lac Vacive, Po	85.14	15	P		P	08 15 57.0	-0.7
	baz=198							
D05A	Enumclaw	85.17	345	eP		P	08 15 58.2	+0.4
	comp=Z,23nm,1.0s							
NEW	Newport	85.31	349	eP		P	08 15 59.5	+0.8
	comp=Z,20nm,1.0s							
NEW	Newport	85.31	349	P		P	08 15 59.3	+0.7
	baz=166,SNR=13							
NEW	Newport	85.31	349	P		P	08 15 59.4	+0.8
	comp=Z,13nm,0.9s,baz=152,slow=5.2,SNR=19							
NEW				LR		LR	08 48 09.2	
	comp=Z,70nm,18.4s,baz=168,slow=32							
D54A	Lac Fusel, La	85.44	16	P		P	08 15 58.3	-1.0
	baz=199							
D03D	Eldon	85.73	345	P		P	08 16 01.6	+1.0
	baz=161							
NLWA	Neilton Lookou	85.77	344	eP		P	08 16 02.0	+1.1
	comp=Z,17nm,1.1s							
ULM	Lac du Bonnet	86.00	3	eP		P	08 16 02.1	+0.2
	comp=Z,16nm,1.0s							
ULM	Lac du Bonnet	86.00	3	eP		P	08 16 02.1	+0.2
ULM				pmax	pmax			
	comp=Z,16nm,1.0s							
ULM	Lac du Bonnet	86.00	3	P		P	08 16 01.7	-0.2
	comp=Z,5.4nm,0.7s,baz=184,slow=6.2,SNR=9.2							
B05A	Bryant	86.22	345	P		P	08 16 03.7	+0.6
	baz=162							
LATQ	La Tuque	86.57	18	P		P	08 16 04.3	-0.4
	baz=202							
A04D	Lummi Island	86.78	345	P		P	08 16 06.7	+1.0
	baz=162							
LSQQ	Lebel-sur-Quev	87.17	15	P		P	08 16 07.6	-0.2
	baz=198							
MATQ	Matagami	87.71	14	P		P	08 16 09.3	-1.0
	baz=198							
FFC	Flin Flon	90.42	359	eP		P	08 16 21.9	-1.0
	comp=Z,6.1nm,1.1s							
FFC	Flin Flon	90.42	359	ceP		P	08 16 23.1	+0.2
FFC				pmax	pmax			
	comp=Z,24nm,1.7s							
STKA	Stephens Creek	91.14	228	LR		LR	08 48 41.3	
	comp=Z,140nm,21.8s,baz=181,slow=30							
FCC	Fort Churchill	94.58	3	eP		P	08 16 42.1	+0.1
	comp=Z,16nm,1.2s							
FCC	Fort Churchill	94.58	3	eP		P	08 16 42.1	+0.1
FCC				pmax	pmax			
	comp=Z,16nm,1.2s							
SCHQ	Schefferville	94.90	19	LR		LR	08 55 03.0	
	comp=Z,172nm,19.4s,baz=22,slow=33							
DLBC	Dease Lake	97.42	345	P		P	08 16 55.2	+0.1
	comp=Z,1.7nm,0.9s,baz=188,slow=3.3,SNR=3.7							
DBIC	Dimbokro	98.06	88	LR		LR	08 57 50.7	
	comp=Z,111nm,18.3s,baz=211,slow=33							
YKA	Yellowknife Ar	98.90	353	P		P	08 17 01.2	-0.3
	comp=Z,1.6nm,0.9s,baz=163,slow=4.3,SNR=22							
YKW3	Yellowknife Ar	98.97	353	eP		P	08 17 02.2	+0.4
	comp=Z,5.6nm,1.2s							
H01W1	Cape Leeuwin H	102.56	208	T		T	10 12 24.9	
	baz=151,slow=76,SNR=28							
H01W2	Cape Leeuwin H	102.56	208	T		T	10 12 25.2	
	baz=151,slow=76,SNR=30							
H01W3	Cape Leeuwin H	102.58	208	T		T	10 12 26.1	
	baz=151,slow=76,SNR=28							
OHAK	Old Harbor	103.17	333	ePdif		Pdif	08 17 19.6	-1.0
KEST	Kesra	124.01	68	ePKPdf		PKPdf	08 22 19.7	-0.7
KEST	Kesra	124.01	68	PKP		PKPdf	08 22 19.6	-0.8
	comp=Z,4.6nm,0.8s,baz=220,slow=2.6,SNR=6.1							
BILL	Bilibino	124.23	333	i PKIKP		PKPdf	08 22 19.1	-0.6
BILL				i			08 24 07.6	
BILL				pmax	pmax			
	comp=Z,6.0nm,2.7s							
DAVA	Damuels	128.10	54	ePKPdf		PKPdf	08 22 28.4	+0.4
	comp=Z,5.5nm,1.1s							
FETA	Feichten	128.59	55	ePKPdf		PKPdf	08 22 29.2	+0.3
	comp=Z,7.2nm,0.9s							
RETA	Reutte	128.73	54	ePKPdf		PKPdf	08 22 28.9	-0.1
	comp=Z,12nm,1.5s							
SQTA	Sankt Quirin	128.96	55	ePKPdf		PKPdf	08 22 28.5	-1.1
	comp=Z,9.1nm,1.2s							
WATA	Walderalm	129.23	55	i PKPdf		PKPdf	08 22 29.7	-0.4
	comp=Z,3.6nm,0.8s							
WTTA	Wattenberg	129.25	55	ePKPdf		PKPdf	08 22 29.8	-0.4
	comp=Z,7.9nm,1.2s							
SEY	Seymchan	129.27	326	⇓ i PKIKP		PKPdf	08 22 29.8	+0.3
SEY	Seymchan	129.27	326	PKP		PKPdf	08 22 29.3	-0.2
	comp=Z,2.4nm,0.8s,baz=94,slow=9.7,SNR=4.9							
KONO	Kongsberg	130.01	39	⇓ ePKIKP		PKiKP	08 22 31.6	-0.2
NOA	NORSAR Array B	130.90	37	PKP		PKPdf	08 22 32.6	-0.1
	comp=Z,0.8nm,0.8s,baz=280,slow=1.9,SNR=3.3							
CLL	Collm	130.93	50	i PKIKP		PKPdf	08 22 32.4	-0.6
CLL				pmax	pmax			
	comp=Z,25nm,1.9s							
CLL	Collm	130.93	50	i PKPdf		PKPdf	08 22 32.4	-0.6
	comp=Z,25nm,1.9s							
GERES	GERESS Array B	130.94	53	PKP		PKPdf	08 22 32.7	-0.5
	comp=Z,1.4nm,0.8s,baz=224,slow=6.9,SNR=6.9							
ARSA	Arzberg	131.84	56	ePKPdf		PKPdf	08 22 35.4	+0.5
	comp=Z,2.8nm,0.7s							
MAJO	Matsushiro	133.70	289	⇓ ePKIKP		PKPdf	08 22 39.3	+0.6
VYHS	Vyhne	134.24	54	ePKIKP		PKPdf	08 22 40.0	+0.6
VYHS	Vyhne	134.24	54	ePKP		PKPdf	08 22 40.0	+0.6
TIXI	Tiksi	136.42	340	ePKPdf		PKPdf	08 22 41.2	-1.5
TIXI	Tiksi	136.42	340	⇑ i PKIKP		PKPdf	08 22 41.7	-1.0
FINES	FINESS Array B	138.01	35	PKP		PKPdf	08 22 45.7	-0.2
	comp=Z,3.8nm,1.0s,baz=230,slow=4.7,SNR=4.0							
BUR08	Bucovina Ar. S	138.39	56	ePKPdf		PKiKP	08 22 48.8	-0.5
ATD	Arta Tunnel	138.56	117	ePKPdf		PKiKP	08 22 49.9	-0.7
VSU	Vasula	138.88	40	⇑ ePKIKP		PKPdf	08 22 44.5	-3.1
LVZ	Lovozero	139.28	24	⇑ i PKIKP		PKiKP	08 22 51.0	+0.6
KLR	Kul'dur	140.45	306	⇑ i PKIKP		PKPdf	08 22 50.6	-0.2
KLR	Kul'dur	140.45	306	PKP		PKPdf	08 22 50.8	0.0
	comp=Z,4.6nm,1.0s,baz=34,slow=3.4,SNR=6.2							
KIEV	Kiev	141.09	52	ePKPdf		PKPdf	08 22 52.8	+0.9
KIEV	Kiev	141.09	52	⇓ ePKIKP		PKPdf	08 22 51.7	-0.1
AKASG	Malin Array Be	141.10	52	PKP		PKPdf	08 22 53.0	+1.2
	comp=Z,1.7nm,0.6s,baz=269,slow=2.6,SNR=7.9							
AKBB	Malin Array Si	141.10	52	ePKPdf		PKPdf	08 22 52.6	+0.7
AKBB	Malin Array Si	141.10	52	ePKIKP		PKPdf	08 22 52.6	+0.7
KSRS	Korea Array	141.88	287	PKhKP		PKPpre	08 22 48.8	
	comp=Z,1.5nm,0.8s,baz=153,slow=3.3,SNR=4.3							
BRTR	Keskin Array B	143.56	70	PKhKP		PKPpre	08 22 53.9	
	comp=Z,4.1nm,1.0s,baz=198,slow=3.6,SNR=15							
KULM	Kulim	143.97	217	ePKPdf		PKPab	08 22 56.0	+0.6
KLMR	Klimovskoe	144.36	33	ePKHKP		PKPbc	08 22 52.4	-3.4
KLMR				pmax	pmax			
	comp=Z,78nm,1.5s							
SIM	Simferopol'	144.42	61	d i PKIKP		PKPab	08 22 56.1	-0.1
SIM				e			08 22 59.0	
SIM				pmax	pmax			
	comp=Z,17nm,1.0s							
CN2	Changchun	144.64	297	ePKP		PKPab	08 22 56.5	-0.6
DLV	T Lat	144.82	234	ePKPdf		PKPab	08 22 59.3	+0.6
OBN	Obninsk	144.86	43	ePKPdf		PKPab	08 22 57.2	-0.2
OBN	Obninsk	144.86	43	d i PKIKP		PKPab	08 22 57.0	-0.5
OBN				e			08 26 18.4	
OBN				e			08 30 01.1	
OBN				pmax	pmax			
	comp=Z,109nm,1.0s							
MOS	Moscow	145.28	42	ePKP2		PKPbc	08 22 57.6	-1.2
MOS				pmax	pmax			
	comp=Z,97nm,1.2s							
NRIK	Noril'sk	146.39	355	PKPbc		PKPbc	08 23 01.5	-0.4
	comp=Z,7.1nm,0.8s,baz=42,slow=2.6,SNR=17							
PRGR	Permogore	146.54	29	ePKIKP		PKPdf	08 23 00.6	-0.4
PRGR				pmax	pmax			
	comp=Z,21nm,0.4s							
ANN	Anapa	146.78	61	i PKP2		PKPbc	08 23 03.2	-0.6
ANN				e			08 30 08.5	
ANN				pmax	pmax			
	comp=Z,71nm,1.0s							
LPSR	Galich'ya Gora	146.83	47	ePKP2		PKPdf	08 23 02.7	+0.9
LPSR				pmax	pmax			
	comp=Z,40nm,0.9s							
VSR	Storozhevoye	147.28	49	ePKP2		PKPbc	08 23 03.9	-1.1
VSR				pmax	pmax			
	comp=Z,50nm,1.4s							
VORD	Divnogorie	147.40	50	ePKP2		PKPbc	08 23 04.2	-1.1
VORD				pmax	pmax			
	comp=Z,10.0nm,1.0s							
NJ2	Nanjing	147.68	274	ePKPbc		PKPdf	08 23 04.8	+0.9
HIA	Hailar	148.29	307	⇑ ePKIKP		PKPdf	08 23 05.1	+0.7
SOC	Sochi	148.42	64	i PKP2		PKPbc	08 23 07.3	-1.0
SOC				pmax	pmax			
	comp=Z,332nm,0.8s							
VRH	Novokhopyorsk	148.85	49	ePKP2		PKPbc	08 23 07.9	-1.2
VRH				pmax	pmax			
	comp=Z,40nm,0.8s							
TIA	Tai'an	150.11	281	PKPbc		PKPbc	08 23 12.5	-0.3
KIV	Kislovodsk	150.56	63	ePKPbc		PKPbc	08 23 13.9	+0.1
KIV	Kislovodsk	150.56	63	ePKIKP		PKPdf	08 23 06.9	-1.4
KIV				pmax	pmax			
	comp=Z,79nm,1.1s							
KBZ	Khabaz	150.72	63	PKPbc		PKPbc	08 23 14.2	+0.2
	comp=Z,30nm,0.9s,baz=241,slow=1.6,SNR=36							
KARS	Kars	150.84	70	ePKPdf		PKPdf	08 23 09.7	+0.7
KARS				ePKPbc		PKPbc	08 23 15.6	+1.0
KARS	Kars	150.84	70	ePKIKP		PKPdf	08 23 09.7	+0.7
KARS				e			08 23 15.6	
WHN	Wuhan	150.84	269	PKPbc		PKPbc	08 23 14.5	-0.2
NCK	Nalchik	151.24	64	⇑ i PKIKP		PKiKP	08 23 15.7	-0.1
ZEI	Tsey	151.49	65	i PKIKP		PKPbc	08 23 13.7	-2.4
ZEI				pmax	pmax			
	comp=Z,31nm,1.0s							
GNI	Garni	152.09	71	ePKPdf		PKPdf	08 23 11.4	+0.5
GNI				ePKPbc		PKPbc	08 23 17.4	-0.1
GNI				ePKPab		sPKPab	08 23 33.0	+1.0
GNI	Garni	152.09	71	ePKIKP		PKPdf	08 23 11.4	+0.5
GNI				e			08 23 17.4	
HHC	Hu-ho-hao-te	154.88	291	ePKPbc		PKPdf	08 23 14.5	-0.3
ARU	Arti	155.00	29	dePKIKP		PKPdf	08 23 16.8	+2.5
CMAR	Chiang Mai Arr	155.76	229	PKPab		PKPab	08 23 43.7	+0.8
	comp=Z,5.2nm,0.9s,baz=161,slow=2.7,SNR=16							
XAN	Xi'an	156.25	274	P		PKPab	08 23 45.0	+0.2
XAN				pP		sPKPab	08 23 51.8	+2.1
SONM	Songino Array	157.21	309	PKP		PKPdf	08 23 17.1	-0.5
	comp=Z,0.2nm,0.3s,baz=0.0,slow=2.0,SNR=3.7							
SONM				PKPbc		PKPbc	08 23 27.5	
	comp=Z,1.0nm,0.8s,baz=114,slow=1.9,SNR=4.4							
SONM				PKPab		PKPab	08 23 48.2	-0.4
	comp=Z,1.0nm,0.8s,baz=100,slow=2.9,SNR=5.1							
ZAK	Zakamensk	157.90	318	ePKP2		PKPab	08 23 50.9	-0.6
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
CD2	Chengdu	159.53	262	PKP		PKPdf	08 23 21.5	+0.6
ABKAR	Akbulak array	160.30	42	ePKPdf		PKPdf	08 23 20.5	-0.6
ABKAR				ePKPab		PKPab	08 24 01.8	0.0
LZH	Lanzhou	160.71	277	ePKP		PKPdf	08 23 17.0	-5.2
LZH				pPKP		pPKPdf	08 23 26.0	+0.1
LZH				sPKP			08 23 29.3	
LZH				PKPab		PKPab	08 24 02.8	-1.5
BRVK	Borovoye	161.67	19	ePKPdf		PKPdf	08 23 22.4	0.0
BRVK				ePKPab		PKPab	08 24 07.9	+0.3
BRVK	Borovoye	161.67	19	ePKIKP		PKPdf	08 23 22.4	0.0
BRVK				e			08 24 07.9	
ZALV	Zalesovo Beam	161.78	351	PKP		PKPdf	08 23 20.6	-1.9
	comp=Z,3.1nm,0.9s,baz=338,slow=1.6,SNR=5.8							
ZALV				PKPab		PKPab	08 24 07.5	-0.5
	comp=Z,5.2nm,1.0s,baz=19,slow=6.3,SNR=5.0							
GEYT	Alibeck	162.44	77	PKP		PKPdf	08 23 24.5	+0.7
	comp=Z,1.6nm,0.3s,baz=251,slow=4.5,SNR=8.6							
GTA	Gaotai	163.95	288	ePKP		PKPdf	08 23 27.5	+2.2
GTA				LR		LR		
	comp=Z,140nm,23.4s							
KURK	Kurchatov	165.30	3	ePKPab		PKPab	08 24 23.9	+0.4
KURK	Kurchatov	165.30	3	PKIKP		PKPdf	08 23 24.4	-1.5
KURBB	Kurchatov Arra	165.39	4	PKP		PKPdf	08 23 24.4	-1.6
	comp=Z,1.2nm,0.9s,baz=358,slow=1.7,SNR=7.5							
KURBB				PKPab		PKPab	08 24 24.4	+0.5
	comp=Z,5.3nm,0.9s,baz=342,slow=5.2,SNR=23							
MK31	Makanchi Array	169.12	352	ePKPdf		PKPdf	08 23 27.1	-1.8
MK31				ePKPab		PKPab	08 24 40.1	-0.4
MK31	Makanchi Array	169.12	352	ePKIKP		PKPdf	08 23 27.1	-1.8
MK31				e			08 24 40.1	
MKAR	Makanchi Array	169.12	352	PKP		PKPdf	08 23 26.8	-2.1
	comp=Z,1.1nm,0.9s,baz=293,slow=1.5,SNR=5.9							
MKAR				PKPab		PKPab	08 24 40.0	-0.5
	comp=Z,2.8nm,0.9s,baz=3.4,slow=4.1,SNR=8.8							
MKAR				PP		PP	08 28 28.6	-1.0
	comp=Z,1.4nm,0.9s,baz=24,slow=4.5,SNR=6.1							
WMQ	Urumqi	170.23	325	ePKP		PKPdf	08 23 30.8	+1.1
WMQ				LR		LR		
	comp=Z,430nm,23.7s							
NRN	Naryn	173.79	29	ePKPdf		PKPdf	08 23 31.3	-0.5
NRN				ePKPab		PKPab	08 25 02.5	+0.6
NRN	Naryn	173.79	29	ePKIKP		PKPdf	08 23 31.3	-0.5
KSH	Kashi	175.31	41	PKP		PKPdf	08 23 31.0	-1.1
KSH				PP		PP	08 29 03.8	+2.9
KSH				SKKS			08 35 44.0	

*ISCJB **26** 08:03:23.9±0.3, 40.°16N±0.°03×121.°12W±0.°04, h7km, Error ellipse: s-maj=4.8km s-min=3.3km az=43.0*
*NCEDC **26** 08:03:23.9, 40.°14N×121.°09W*
*ANF **26** 08:03:24.6±1.8, 40.°19N×121.°17W, h16km±5km, ML3.2/9, Error ellipse: s-maj=15.5km s-min=5.4km az=131.0*
*NEIC **26** 08:03:24.1±0.0, 40.°15N×121.°08W, h7km, MD3.2(NCEDC), After NCEDC.*
NEIC Felt at Chico, Greenville, Magali and Portola.

ISC 26 08:03:23.9±0.9, 40.°15N±0.°03×121.°13W±0.°03, h7km, n36, σ1$01/38, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	Paynes Creek	0.54	286	P	Pg	08 03 34.6	+0.3
	baz=106,SNR=1000						
O03E				S	Sg	08 03 41.5	+0.2
	baz=106						
BEKR	Beckworth	0.65	115	ePg	Pg	08 03 35.8	-0.7
ORV	Oroville	0.66	206	ePg	Pg	08 03 36.3	-0.2
WDC	Whiskeytown Da	1.16	292	ePg	Pg	08 03 45.1	-1.1
AFDM	Forest Hills D	1.21	174	ePg	Pg	08 03 46.3	-0.7
O02D	Mt. Diablo Mer	1.27	272	P	Pn	08 03 47.3	-0.9
	baz=91,SNR=60						
RUBR	Rubicon Trail	1.33	145	ePn	Pb	08 03 49.0	-0.2
PAHR	Pah Rah Range	1.41	108	ePn	Pn	08 03 49.7	-0.4
VCNR	Virginia City	1.42	126	ePn	Pn	08 03 50.0	-0.3
N02D	Trinity Center	1.46	305	P	Pn	08 03 49.8	-0.9
	baz=124,SNR=58						
PNTR	Pine Nut	1.58	131	ePn	Pb	08 03 53.1	-0.6
M04C	Macdoel	1.72	342	Pb	Pb	08 03 55.8	-0.1
	baz=161,SNR=38						
M02C	Callahan	1.81	314	Pb	Pb	08 03 56.4	-0.9
	baz=133,SNR=72						
GDXM	Geysers	1.86	225	ePn	Pn	08 03 57.0	+0.7
MOD	Modoc Plateau	1.86	19	ePn	Pb	08 03 57.6	-0.7
YERR	Yerington	1.86	128	ePn	Pn	08 03 57.4	-1.0
HOPS	Hopland Field	1.90	233	ePn	Pn	08 03 57.2	+0.5
KCPM	Cahto Peak	1.94	257	ePn	Pb	08 03 59.1	-0.6
KMRM	Mail Ridge	1.98	273	ePn	Pb	08 04 00.2	-0.1
YBH	Yreka Blue Hor	1.99	323	ePn	Pb	08 04 00.1	-0.4
WAKR	Walker	2.10	141	ePn	Pb	08 04 01.1	-1.3
KHMM	Horse Mountain	2.12	291	ePn	Pb	08 04 01.9	-0.7
CMB	Columbia Colle	2.19	165	ePn	Pn	08 04 01.2	+0.5
L04D	Klamath Falls	2.25	337	Pb	Pb	08 04 04.6	-0.4
	baz=156						
JCC	Jacoby Creek,	2.31	288	ePn	Pn	08 04 04.0	+1.6
K04D	Chiloquin, OR	2.52	349	Pb	Pb	08 04 08.9	-0.6
	baz=168						
RYN	Ryan	2.52	126	ePn	Pn	08 04 06.8	+1.4
K05A	Summer Lake	2.58	4	ePn	Pb	08 04 10.0	-0.6
KVN	Kaiserville	2.58	114	ePn	Pn	08 04 06.4	+0.1
L02E	Cave Junction	2.74	318	Pb	Pb	08 04 12.1	-1.2
	baz=136						
NV11	Mina Array Sit	2.87	126	ePn	Pn	08 04 11.5	+1.3
WVOR	Wild Horse Val	2.96	39	ePn	Pn	08 04 11.2	-0.2
MDPB	Devils Postpil	2.98	147	ePn	Pn	08 04 11.6	-0.1
BMN	Battle Mountai	3.00	83	ePn	Pn	08 04 11.6	-0.4
J05D	Fort Rock, OR	3.13	359	Pb	Pb	08 04 18.9	-1.1
	baz=178,SNR=12						
J05D				Sg	Sg	08 05 07.3	+2.7
	baz=178						
R11A	Troy Canyon, C	4.66	111	ePn	Pn	08 04 37.6	+2.8

*NEIC **26** 08:03:30.5±0.0, 40.°16N×121.°07W, h6km, ML3.3(NCEDC), After NCEDC.*

NCEDC 26 08:03:30.5, 40.°16N×121.°07W, h6km, ML3.3, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEKR	Beckworth	0.61	118	ePg	Pg	08 03 42.0	-0.4
BEKR				eSg	Sg	08 03 50.5	+0.1
ORV	Oroville	0.69	209	ePg	Pg	08 03 43.8	0.0
WDC	Whiskeytown Da	1.20	291	ePg	Pg	08 03 53.0	-0.7
WDC				eSg	Sg	08 04 08.9	-0.4
AFDM	Forest Hills D	1.21	177	ePg	Pg	08 03 52.4	-1.3
AFDM				eSg	Sg	08 04 08.1	-1.3
RUBR	Rubicon Trail	1.31	147	ePn	Pn	08 03 55.5	-0.2
RUBR				eSg	Sg	08 04 12.4	-0.2
PAHR	Pah Rah Range	1.37	109	ePn	Pn	08 03 55.9	-0.5
PAHR				eSn	Sn	08 04 15.1	+0.1
VCNR	Virginia City	1.39	128	ePn	Pn	08 03 56.4	-0.4
VCNR				eSn	Sb	08 04 14.7	-0.4
PNTR	Pine Nut	1.56	133	ePn	Pn	08 03 58.5	-0.5
YERR	Yerington	1.83	129	ePn	Pn	08 04 02.5	-0.3
MOD	Modoc Plateau	1.84	18	ePn	Pn	08 04 03.3	+0.4
HOPS	Hopland Field	1.94	234	ePn	Pn	08 04 03.9	-0.1
KCPM	Cahto Peak	1.99	257	ePn	Pn	08 04 04.9	0.0
KMRM	Mail Ridge	2.02	273	ePn	Pn	08 04 05.0	-0.3
CMB	Columbia Colle	2.18	166	ePn	Pn	08 04 07.1	-0.4
MCCM	Marconi Confer	2.46	216	ePn	Pn	08 04 11.1	-0.1
HUMO	Hull Mountain	2.83	330	ePn	Pn	08 04 14.4	-2.0
NV11	Mina Array Sit	2.84	126	ePn	Pn	08 04 16.2	-0.4
WVOR	Wild Horse Val	2.92	38	ePn	Pn	08 04 16.6	-1.1
BMN	Battle Mountai	2.95	83	ePn	Pn	08 04 17.0	-1.2
OMMB	Old Mammoth Mi	3.01	147	ePn	Pn	08 04 19.5	+0.4
SAO	San Andreas Ge	3.40	185	ePn	Pn	08 04 23.9	-0.3
PINE	Pine Mountain	3.63	1	ePn	Pn	08 04 25.9	-1.6
DAC	Darwin (Calif)	4.74	144	ePg	Pb	08 04 53.9	-0.3
TPNV	Topopah Spring	4.95	129	ePn	Pn	08 04 44.7	-1.0
PSUT	Pine Spring	5.82	104	ePg	Pb	08 05 11.0	-1.6
SHPR	Sheep Range	5.90	126	ePn	Pn	08 04 56.2	-2.5
HLID	Hailey	6.02	53	ePg	Pb	08 05 13.7	-2.2
HLID				eLg	Lg	08 06 43.5	
SZCU	Shurtz Canyon	6.73	110	ePn	Pn

mb4.1/20, MS4.0/1, Error ellipse: s-maj=14.7km s-min=10.7km az=150.1
*IDC **26** 08:12:49.4±0.7, 36°.06S×99°.75W, h0km, mb4.1/14, mb1 4.4/14, mb1mx4.2/35, mbtmp4.1/14, MS3.8/2, Ms1 3.8/2, ms1mx3.2/26, Error ellipse: s-maj=21.1km s-min=18.5km az=28.0*
*NEIC **26** 08:12:51.3±0.6, 36°.06S×99°.74W, h10km, mb4.2/10, Error ellipse: s-maj=17.3km s-min=13.4km az=210.0*
ISC 26 08:12:51.1±0.7, 36°.2S±0°.1×99°.8W±0°.1, h10km, n41, σ1§24/34, mb4.3/19, 1D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**12.16**	**315**	LR	LR	08 19 02.2	
	comp=Z,234nm,22.0s,baz=203,slow=31						
PLCA	**Paso Flores**	**23.26**	**110**	P	**P**	**08 18 00.0**	**+1.2**
	7.7nm,0.9s,baz=291,slow=9.6,SNR=13						
GO04	**Tololo Observa**	**24.91**	**84**	*eP*	**P**	**08 18 15.4**	**+0.8**
	23nm,1.1s						
CFA	**Coronel Fontan**	**26.49**	**89**	P	**P**	**08 18 28.9**	**+0.2**
	5.9nm,0.9s,baz=259,slow=10,SNR=16						
MNMC	**Minye Minye**	**31.48**	**65**	*eP*	**P**	**08 19 13.5**	**+0.1**
	9.6nm,1.0s						
LPAZ	**La Paz**	**34.37**	**63**	*eP*	**P**	**08 19 40.0**	**+0.9**
	4.4nm,0.9s						
LPAZ	**La Paz**	**34.37**	**63**	P	**P**	**08 19 40.1**	**+1.0**
	2.9nm,0.8s,baz=221,slow=11,SNR=11						
ATAH	**Atahualpa**	**34.89**	**39**	P	**P**	**08 19 47.0**	**+3.6**
	8.6nm,0.8s,baz=176,slow=15,SNR=6.2						
ATAH				LR	LR	08 30 24.1	
	comp=Z,278nm,19.9s,baz=188,slow=30						
CPUP	**Villa Florida**	**37.32**	**87**	*eP*	**P**	**08 20 02.9**	**-0.7**
	5.8nm,1.3s						
CPUP	**Villa Florida**	**37.32**	**87**	P	**P**	**08 20 02.6**	**-1.1**
	1.7nm,0.9s,baz=269,slow=9.7,SNR=3.4						
SIV	**San Ignacio**	**39.79**	**70**	P	**P**	**08 20 23.9**	**-0.6**
	4.7nm,0.7s,baz=252,slow=7.4,SNR=38						
BDFB	**Brasilia**	**50.20**	**80**	P	**P**	**08 21 45.1**	**-2.4**
	3.0nm,0.8s,baz=259,slow=5.2,SNR=4.6						
VNA3	**Neumayer Olymp**	**56.24**	**157**	P	**P**	**08 22 30.5**	**-0.6**
VNDA	**Vanda**	**56.77**	**195**	*eP*	**P**	**08 22 36.9**	**+2.2**
VNDA	**Vanda**	**56.77**	**195**	P	**P**	**08 22 36.8**	**+2.0**
	1.3nm,1.0s,baz=97,slow=7.8,SNR=5.8						
VNA1	**Neumayer--Stat**	**56.83**	**157**	P	**P**	**08 22 34.9**	**-0.3**
VNA2	**Neumayer--Watz**	**57.04**	**157**	P	**P**	**08 22 36.3**	**-0.5**
	baz=257,slow=7.5						
SNAA	**Sanae**	**58.22**	**158**	P	**P**	**08 22 44.5**	**-0.6**
LTX	**Lajitas**	**65.27**	**356**	*eP*	**P**	**08 23 32.8**	**-0.3**
TXAR	**Lajitas Array**	**65.27**	**356**	P	**P**	**08 23 32.8**	**-0.3**
	0.8nm,0.9s,baz=168,slow=6.4,SNR=5.2						
SYO	**Syowa Base**	**70.91**	**166**	‖*eP*	P	08 24 02.0	-5.9
MAW	**Mawson**	**75.70**	**173**	*eP*	**P**	**08 24 35.6**	**-0.6**
	1.0nm,0.9s						
MAW	**Mawson**	**75.70**	**173**	P	**P**	**08 24 35.2**	**-1.0**
	2.8nm,0.9s,baz=244,slow=6.5,SNR=4.9						
NV11	**Mina Array Sit**	**76.17**	**345**	*eP*	**P**	**08 24 39.0**	**-0.3**
	0.6nm,1.5s						
NV01	**Mina Array Sit**	**76.19**	**345**	*eP*	**P**	**08 24 38.6**	**-1.0**
NVAR	**Mina Array Bea**	**76.19**	**345**	P	**P**	**08 24 38.6**	**-1.0**
	2.0nm,0.8s,baz=175,slow=7.0,SNR=14						
PD31	**Pinedale Array**	**79.08**	**353**	*eP*	**P**	**08 24 53.8**	**-1.8**
	2.5nm,1.1s						
PDAR	**Pinedale Array**	**79.08**	**353**	P	**P**	**08 24 54.4**	**-1.2**
	0.7nm,0.4s,baz=161,slow=6.0,SNR=6.7						
YBH	**Yreka Blue Hor**	**80.34**	**343**	P	**P**	**08 25 02.0**	**-0.3**
	1.0nm,0.6s,baz=236,slow=3.6,SNR=3.7						
HLID	**Hailey**	**80.48**	**349**	*eP*	**P**	**08 25 03.0**	**-0.1**
	3.9nm,1.1s						
H17A	**Grant Village**	**80.80**	**352**	*eP*	**P**	**08 25 04.6**	**-0.3**
	1.9nm,1.0s						
NEW	**Newport**	**85.49**	**348**	P	**P**	**08 25 27.6**	**-1.1**
	3.0nm,1.0s,baz=178,slow=7.9,SNR=3.6						
YKA	**Yellowknife Ar**	**99.06**	**353**	P	**Pdif**	**08 26 32.0**	**+0.5**
	0.1nm,0.4s,baz=170,slow=2.1,SNR=3.8						
YKB5	**Yellowknife Ar**	**99.06**	**353**	*eP*	**Pdif**	**08 26 32.0**	**+0.5**
H01W1	**Cape Leeuwin H**	**102.55**	**208**	T	T	10 21 57.4	
	baz=151,slow=76,SNR=27						
H01W2	**Cape Leeuwin H**	**102.55**	**208**	T	T	10 21 57.6	
	baz=151,slow=76,SNR=28						
H01W3	**Cape Leeuwin H**	**102.56**	**208**	T	T	10 21 58.6	
	baz=151,slow=76,SNR=23						
BR101	**Keskin Array S**	**143.40**	**70**	*e*PKPpre	PKPpre	08 32 20.1	
BRTR	**Keskin Array B**	**143.40**	**70**	PKhKP	PKPpre	08 32 20.1	
	0.6nm,0.8s,baz=270,slow=4.3,SNR=2.9						
KBZ	**Khabaz**	**150.59**	**64**	PKPbc	**PKPbc**	**08 32 41.3**	**-1.6**
	4.5nm,0.8s,baz=225,slow=0.7,SNR=7.6						
CMAR	**Chiang Mai Arr**	**155.84**	**228**	PKPab	**PKPab**	**08 33 13.1**	**+0.6**
	0.8nm,0.5s,baz=139,slow=4.3,SNR=3.2						

*ISCJB **26** 08:29:23.8±0.9, 17°.9N±0°.1×147°.2E±0°.2, h50km, mb3.4/6, MS3.9/1, Error ellipse: s-maj=29.3km s-min=14.3km az=11.6*
*IDC **26** 08:29:27.6±4.5, 17°.82N×147°.14E, h75km±44km, mb3.2/7, mb1 3.5/8, mb1mx3.3/44, mbtmp3.6/8, ML3.7/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/16, Error ellipse: s-maj=35.8km s-min=22.4km az=85.0*
ISC 26 08:29:25.3±0.9, 17°.9N±0°.1×147°.2E±0°.2, h50km, n8, σ1§61/8, mb3.4/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.83**	**208**	P	**Pn**	**08 30 36.0**	**+0.6**
	3.6nm,0.3s,baz=54,slow=19,SNR=1.5						
MJAR	**Matsushiro Arr**	**20.22**	**339**	P	**P**	**08 33 58.0**	**+1.9**
	2.2nm,0.8s,baz=171,slow=9.6,SNR=8.3						
KSRS	**Korea Array**	**25.84**	**323**	P	**P**	**08 34 53.2**	**+1.2**
	0.9nm,0.7s,baz=142,slow=8.8,SNR=5.4						
ASAR	**Alice Springs**	**43.29**	**198**	P	**P**	**08 37 21.9**	**-0.4**
	0.7nm,0.8s,baz=22,slow=8.3,SNR=6.0						
ASAR				LR	LR	08 55 32.7	
	comp=Z,150nm,20.3s,baz=132,slow=36						
MKAR	**Makanchi Array**	**60.07**	**314**	P	**P**	**08 39 25.5**	**-1.8**
	0.2nm,0.6s,baz=118,slow=6.0,SNR=2.2						
ILAR	**Eielson Array**	**63.74**	**26**	P	**P**	**08 39 50.0**	**-1.7**
	0.7nm,0.9s,baz=252,slow=5.3,SNR=6.1						
YKA	**Yellowknife Ar**	**78.03**	**28**	P	**P**	**08 41 19.1**	**+0.8**
	0.1nm,0.4s,baz=303,slow=6.1,SNR=3.2						
NVAR	**Mina Array Bea**	**82.50**	**52**	P	**P**	**08 41 44.1**	**+1.0**
	0.2nm,0.5s,baz=281,slow=5.9,SNR=3.7						

*ISCJB **26** 08:41:53.8±0.4, 53°.54N±0°.08×153°.9E±0°.1, h509km±6km, mb3.3/11, Error ellipse: s-maj=15.5km s-min=8.9km az=43.4*
*MOS **26** 08:41:53.3±0.8, 53°.40N×154°.22E, h534km, mb4.0/1, Error ellipse: s-maj=14.5km s-min=11.2km az=69.0*
*IDC **26** 08:41:54.9±1.1, 53°.54N×153°.73E, h509km±15km, mb2.9/12, mb1 3.0/15, mb1mx2.8/47, mbtmp3.8/15, Error ellipse: s-maj=19.3km s-min=11.7km az=125.0*
*KRSC **26** 08:41:54.6±10.0, 53°.41N×154°.24E, h511km±10km, ML4.4*
ISC 26 08:41:54.2±0.6, 53°.43N±0°.09×154°.05E±0°.09, h506km±8km, n73, σ1§76/91, mb3.4/11, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.94**	**104**	*eP*	**P**	**08 43 00.8**	**+1.4**
APC	**Apacha**	**1.94**	**104**	P	**P**	**08 43 00.8**	**+1.4**
PETK	**Petropavlovsk-**	**2.21**	**97**	P	**P**	**08 43 02.3**	**+1.4**
	4.9nm,0.3s,baz=256,slow=12,SNR=131						
GNL	**Ganaly**	**2.34**	**82**	*eP*	**P**	**08 43 03.3**	**+1.7**
GNL				*e*S	**S**	**08 43 58.1**	**+1.5**
GNL	**Ganaly**	**2.34**	**82**	P	**P**	**08 43 03.3**	**+1.7**
GNL				S	**S**	**08 43 58.1**	**+1.5**
ASAK	**Asacha**	**2.56**	**113**	*eP*	**P**	**08 43 04.9**	**+2.0**
ASAK	**Asacha**	**2.56**	**113**	P	**P**	**08 43 04.9**	**+2.0**
PAU	**Pauzhetka**	**2.59**	**138**	*eP*	**P**	**08 43 04.4**	**+1.4**
PAU	**Pauzhetka**	**2.59**	**138**	P	**P**	**08 43 04.4**	**+1.4**
MTVR	**Mutnovka**	**2.67**	**109**	*eP*	**P**	**08 43 06.3**	**+2.6**
MTVR	**Mutnovka**	**2.67**	**109**	P	**P**	**08 43 06.3**	**+2.6**
ALID	**Alaid**	**2.72**	**160**	*eP*	**P**	**08 43 05.8**	**+1.7**
ALID	**Alaid**	**2.72**	**160**	P	**P**	**08 43 05.8**	**+1.7**
KOK	**Koryaka**	**2.75**	**91**	*eP*	**P**	**08 43 06.1**	**+2.1**
KOK	**Koryaka**	**2.75**	**91**	P	**P**	**08 43 06.1**	**+2.1**
KRX	**Arik**	**2.75**	**90**	*eP*	**P**	**08 43 06.2**	**+2.1**
KRX	**Arik**	**2.75**	**90**	P	**P**	**08 43 06.2**	**+2.1**
PET	**Petropavlovsk**	**2.80**	**96**	P	**P**	**08 43 06.1**	**+1.9**
AVH	**Avacha**	**2.81**	**91**	*eP*	**P**	**08 43 07.0**	**+2.6**
AVH	**Avacha**	**2.81**	**91**	P	**P**	**08 43 07.0**	**+2.6**
KRER	**Koryakskii**	**2.82**	**91**	*eP*	**P**	**08 43 06.6**	**+2.0**
KRER	**Koryakskii**	**2.82**	**91**	P	**P**	**08 43 06.6**	**+2.0**
SMAR	**Somma**	**2.85**	**91**	*eP*	**P**	**08 43 06.6**	**+1.8**
SMAR	**Somma**	**2.85**	**91**	P	**P**	**08 43 06.6**	**+1.8**
DALK	**Dalny**	**2.85**	**96**	*eP*	**P**	**08 43 05.4**	**+0.9**
DALK				*e*S	**S**	**08 44 02.1**	**+0.1**
DALK	**Dalny**	**2.85**	**96**	P	**P**	**08 43 05.4**	**+0.9**
DALK				S	**S**	**08 44 02.1**	**+0.1**
UGLR	**Uglovaya**	**2.87**	**92**	*eP*	**P**	**08 43 06.8**	**+2.0**
UGLR				*e*S	**S**	**08 44 03.0**	**+0.5**
UGLR	**Uglovaya**	**2.87**	**92**	P	**P**	**08 43 06.8**	**+2.0**
UGLR				S	**S**	**08 44 03.0**	**+0.5**
RUS	**Russkaya**	**2.88**	**108**	*eP*	**P**	**08 43 05.1**	**+0.4**
RUS				*e*S	**S**	**08 44 01.3**	**-1.0**
RUS	**Russkaya**	**2.88**	**108**	P	**P**	**08 43 05.1**	**+0.4**
RUS				S	**S**	**08 44 01.3**	**-1.0**
SDLR	**Sedlovina**	**2.90**	**91**	*eP*	**P**	**08 43 06.7**	**+1.7**
SDLR	**Sedlovina**	**2.90**	**91**	P	**P**	**08 43 06.7**	**+1.7**
KDTR	**Khodutka, Kamc**	**2.94**	**122**	*eP*	**P**	**08 43 04.4**	**-0.8**
KDTR				*e*S	**S**	**08 44 00.2**	**-2.8**
KDTR	**Khodutka, Kamc**	**2.94**	**122**	P	**P**	**08 43 04.4**	**-0.8**
KDTR				S	**S**	**08 44 00.2**	**-2.8**
SKR	**Severo-Kuril's**	**3.03**	**154**	*eP*	**P**	**08 43 06.5**	**+0.7**
SKR	**Severo-Kuril's**	**3.03**	**154**	P	**P**	**08 43 06.5**	**+0.7**
NLC	**Nalytchevo**	**3.19**	**92**	*eP*	**P**	**08 43 06.2**	**-0.6**
NLC	**Nalytchevo**	**3.19**	**92**	P	**P**	**08 43 06.2**	**-0.6**
KII	**Karymskiy**	**3.27**	**77**	*eP*	**P**	**08 43 09.6**	**+2.2**
KII	**Karymskiy**	**3.27**	**77**	P	**P**	**08 43 09.6**	**+2.2**
SPN	**Mys Shipunski**	**3.60**	**93**	*eP*	**P**	**08 43 09.6**	**-0.2**
SPN				*e*S	**S**	**08 44 07.7**	**-3.8**
SPN	**Mys Shipunski**	**3.60**	**93**	P	**P**	**08 43 09.6**	**-0.2**
SPN				S	**S**	**08 44 07.7**	**-3.8**
ESO	**Esso**	**3.68**	**45**	*eP*	**P**	**08 43 11.5**	**+1.2**
ESO	**Esso**	**3.68**	**45**	P	**P**	**08 43 11.5**	**+1.2**
TUMR	**Tumrok**	**4.02**	**60**	*eP*	**P**	**08 43 14.8**	**+1.7**
TUMR	**Tumrok**	**4.02**	**60**	P	**P**	**08 43 14.5**	**+1.4**
KZV	**Kizimen**	**4.03**	**63**	*eP*	**P**	**08 43 14.3**	**+1.0**
KZV	**Kizimen**	**4.03**	**63**	P	**P**	**08 43 14.3**	**+1.0**
TUMD	**Tumrok D**	**4.12**	**62**	*eP*	**P**	**08 43 14.5**	**+0.7**
SRDR	**Sredinnyy**	**4.37**	**46**	*eP*	**P**	**08 43 17.1**	**+1.2**
SRDR	**Sredinnyy**	**4.37**	**46**	P	**P**	**08 43 17.1**	**+1.2**
MKZ	**Mys Kozlova**	**4.67**	**73**	*eP*	**P**	**08 43 18.0**	**-0.4**
MKZ				*e*S	**S**	**08 44 23.5**	**-3.8**
MKZ	**Mys Kozlova**	**4.67**	**73**	P	**P**	**08 43 18.0**	**-0.4**
MKZ				S	**S**	**08 44 23.5**	**-3.8**
LGNR	**Loginova**	**4.68**	**53**	*eP*	**P**	**08 43 20.2**	**+1.4**
LGNR	**Loginova**	**4.68**	**53**	P	**P**	**08 43 20.2**	**+1.4**
KBTR	**Krutoberegovo**	**5.79**	**58**	*eP*	**P**	**08 43 27.8**	**-0.7**
KBTR				*e*S	**S**	**08 44 43.0**	**-2.8**
KBTR	**Krutoberegovo**	**5.79**	**58**	P	**P**	**08 43 27.8**	**-0.7**
KBTR				S	**S**	**08 44 43.0**	**-2.8**
BKI	**Bering**	**7.20**	**71**	*eP*	**P**	**08 43 44.6**	**+2.3**
BKI				*e*S	**S**	**08 45 13.1**	**+2.0**
BKI	**Bering**	**7.20**	**71**	P	**P**	**08 43 44.6**	**+2.3**
BKI				S	**S**	**08 45 13.1**	**+2.0**
SEY	**Seymchan**	**9.58**	**355**	P	**P**	**08 44 07.1**	**+0.3**
	0.8nm,0.3s,baz=168,slow=10,SNR=16						
KLR	**Kul'dur**	**14.54**	**262**	P	**P**	**08 44 58.8**	**-0.5**
	0.6nm,0.3s,baz=72,slow=9.7,SNR=14						
MJAR	**Matsushiro Arr**	**20.18**	**220**	P	**P**	**08 45 53.7**	**-0.4**
	3.2nm,0.7s,baz=12,slow=9.7,SNR=13						
TIXI	**Tiksi**	**21.34**	**338**	P	**P**	**08 46 03.1**	**-0.9**
	4.0nm,0.6s,baz=126,slow=8.9,SNR=11						
KSRS	**Korea Array**	**24.11**	**239**	P	**P**	**08 46 30.4**	**+1.1**
	1.4nm,0.8s,baz=45,slow=6.8,SNR=4.6						
INK	**Inuvik**	**35.82**	**37**	P	**P**	**08 48 10.8**	**+0.9**
	0.5nm,0.3s,baz=293,slow=11,SNR=6.7						
RES	**Resolute Bay**	**44.34**	**21**	P	**P**	**08 49 18.5**	**+0.4**
	0.5nm,0.4s,baz=303,slow=4.4,SNR=6.0						
MKAR	**Makanchi Array**	**44.70**	**292**	P	**P**	**08 49 20.2**	**-1.1**
	0.4nm,0.4s,baz=50,slow=5.5,SNR=6.1						
YKA	**Yellowknife Ar**	**45.33**	**41**	P	**P**	**08 49 26.9**	**+1.1**
	0.3nm,0.5s,baz=301,slow=7.3,SNR=3.8						
ARCES	**ARCESS Array B**	**51.77**	**340**	P	**P**	**08 50 12.2**	**-1.5**
	2.0nm,1.0s,baz=41,slow=9.7,SNR=3.6						
FINES	**FINESS Array B**	**58.29**	**334**	P	**P**	**08 50 57.8**	**-1.6**
	2.0nm,0.9s,baz=54,slow=7.1,SNR=3.8						
FRB	**Frobisher Bay**	**58.56**	**21**	P	**P**	**08 50 59.6**	**-1.5**
	1.6nm,0.8s,baz=306,slow=8.7,SNR=4.0						
TXAR	**Lajitas Array**	**73.78**	**63**	P	**P**	**08 52 38.5**	**+1.9**
	0.1nm,0.3s,baz=288,slow=3.7,SNR=1.7						
ASAR	**Alice Springs**	**78.73**	**199**	P	**P**	**08 53 04.7**	**+1.0**
	0.3nm,0.5s,baz=15,slow=4.7,SNR=5.5						

*KRNET **26** 08:58:54.8±0.1, 40°.55N×80°.28E, mb3.0*
*NNC **26** 08:59:03.9±3.7, 41°.23N×79°.95E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=26.7km s-min=24.2km az=29.0*
ISC 26 08:59:01.2±2.7, 41°.0N±0°.1×79°.94E±0°.08, h10km, n17, σ1§34/24, 13C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.75**	**294**	⇑*iP*	**Pn**	**08 59 31.1**	**-0.9**
	baz=3.0						
TARG				⇑*iS*	**Sg**	**08 59 57.8**	**+0.3**
	baz=3.0						
UZB	**Uzynbulak**	**2.22**	**342**	Pg	**Pb**	**08 59 40.8**	**-0.7**
	5.9nm,0.2s						
UZB				Lg	Lg	09 00 10.8	
	13nm,0.3s						
PDGK	**Podgornoye**	**2.32**	**352**	Pg	**Pb**	**08 59 42.6**	**-0.6**
	2.9nm,0.2s						
PDGK				Lg	Lg	09 00 13.9	
	12nm,0.4s						
PDGK	**Podgornoye**	**2.32**	**352**	⇑*iP*	**Pn**	**08 59 39.8**	**+0.3**
	baz=48						
PDGK				⇑*iS*	**Sg**	**09 00 12.9**	**-2.8**
	baz=48						
SATY	**Saty**	**2.32**	**331**	Pg	**Pb**	**08 59 42.8**	**-0.4**
	8.4nm,0.4s						
SATY				Lg	Lg	09 00 14.4	
	24nm,0.5s						
KDJ	**Kajisay**	**2.34**	**299**	⇑*eP*	**Pn**	**08 59 39.7**	**-0.2**
	baz=5.0						
KDJ				⇑*iS*	**Sb**	**09 00 12.2**	**-0.4**
	baz=5.0						
KURS	**Kuram**	**2.78**	**332**	Pg	**Pb**	**08 59 50.1**	**-0.9**
	12nm,1.0s						
KURS				Lg	Lg	09 00 26.5	
	15nm,0.7s						
TNSS	**Tian-Shan**	**3.00**	**313**	Pg	**Pb**	**08 59 55.1**	**+0.2**
	5.8nm,0.3s						
TNSS				Lg	Lg	09 00 35.4	
	9.1nm,0.5s						
NRN	**Naryn**	**3.00**	**279**	⇑*iP*	**Pn**	**08 59 47.2**	**-1.8**
	baz=86						
NRN				⇑*eS*	**Sn**	**09 00 25.7**	**+0.5**
	baz=86						
ULHL	**Ulahol**	**3.02**	**295**	⇑*iP*	**Pn**	**08 59 49.0**	**-0.3**
	baz=0.0						
ULHL				⇑*iS*	**Sn**	**09 00 28.3**	**+2.6**
	baz=0.0						
MDOK	**Medeo**	**3.03**	**316**	⇑Pn	**Pb**	**08 59 53.6**	**-1.6**
	1.6nm,0.4s						
MDOK				⇓Lg	Lg	09 00 35.6	
	6.0nm,0.7s						
MDOK	**Medeo**	**3.03**	**316**	Pg	**Pb**	**08 59 55.8**	**+0.6**
	3.4nm,0.5s						
MDOK				Lg	Lg	09 00 36.6	
	11nm,0.5s						
DJR	**Jarkent**	**3.30**	**358**	Pg	**Pb**	**08 59 59.9**	**+0.1**
	2.0nm,0.3s						
DJR				Lg	Lg	09 00 43.4	
	3.8nm,0.3s						
BOOM	**Boomskoye usch**	**3.33**	**297**	⇑*iP*	**Pn**	**08 59 53.2**	**-0.2**
	baz=2.0						
BOOM				⇑*iS*	**Sn**	**09 00 35.7**	**+2.6**
	baz=2.0						
KTBS	**Karatobe**	**3.60**	**319**	Pg	**Pb**	**09 00 05.8**	**+0.8**
	1.5nm,0.5s						
KTBS				Lg	Lg	09 00 53.7	
	9.2nm,0.5s						
KZA	**Kyzart**	**3.67**	**288**	⇓*iP*	**Pn**	**08 59 57.5**	**-0.9**
	baz=94						
KZA				⇓*iS*	**Sn**	**09 00 43.9**	**+2.0**
	baz=94						
MK31	**Makanchi Array**	**6.00**	**16**	Pn	**Pn**	**09 00 31.1**	**+1.0**
	0.2nm,0.2s,baz=202,slow=14,SNR=30						
MK31				⇓Lg	Lg	09 01 44.1	
	0.3nm,0.4s,baz=204,slow=32,SNR=5.2						

JMA 26 09:31:58.6, 38°.27N×141°.81E, h56km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.27**	**279**	P	Pn	09 32 08.2	+0.1
JIKH				S	Sn	09 32 15.0	+0.1
JIO	**Ouri**	**0.41**	**297**	P	Pn	09 32 09.4	+0.1
JIO				S	Sn	09 32 17.0	+0.1
JKMT	**Kesennumamotoy**	**0.60**	**334**	P	Pn	09 32 11.6	+0.2
JKMT				S	Sn	09 32 20.7	0.0
JOFO	**Osakifurukawao**	**0.78**	**295**	P	Pn	09 32 14.0	+0.4
JOFO				S	Sn	09 32 25.8	+1.2
OFUJ	**Ofunato**	**0.82**	**352**	P	Pn	09 32 14.1	0.0
OFUJ				S	Sn	09 32 25.3	-0.2
JMK	**Ichinoseki**	**0.82**	**326**	P	Pn	09 32 14.5	+0.3
JMK				S	Sn	09 32 25.9	+0.3
JMM	**Marumori**	**0.90**	**244**	P	Pn	09 32 14.8	-0.3
JMM				S	Sn	09 32 26.9	-0.4
JOU	**Okura**	**0.91**	**276**	P	Pn	09 32 15.5	+0.2
JOU				S	Sn	09 32 27.9	+0.3
JFK	**Kawauchi**	**1.17**	**220**	P	Pn	09 32 18.5	-0.3
JFK				S	Sn	09 32 33.2	-0.5
JOM	**Ohasama**	**1.27**	**342**	P	Pn	09 32 20.4	+0.3
JOM				S	Sn	09 32 36.7	+0.6
JYK	**Kaneyama**	**1.31**	**300**	P	Pn	09 32 20.9	+0.3
JYS	**Shirataka**	**1.37**	**268**	P	Pn	09 32 21.9	+0.4
JYS				*e*S	Sn	09 32 39.6	+0.9
JFT	**Otama**	**1.39**	**238**	P	Pn	09 32 22.2	+0.5
JFT				S	Sn	09 32 39.4	+0.4
JRG	**Rokugo**	**1.45**	**321**	P	Pn	09 32 23.1	+0.6
JYA	**Atsumi**	**1.68**	**282**	P	Pn	09 32 26.1	+0.5
MAT	**Matsushiro**	**3.35**	**240**	P	Pn	09 32 50.4	+2.0
MAT				S	Sn	09 33 33.1	+6.1

*ISCJB **26** 09:47:56.6±0.9, 7°.98S±0°.07×75°.38W±0°.07, h10km, mb3.4/2, Error ellipse: s-maj=11.8km s-min=8.4km az=136.0*
*IDC **26** 09:47:56.7±1.4, 7°.95S×75°.44W, h0km, mb3.4/2, mb1 3.7/6, mb1mx3.5/30, mbtmp3.5/6, ML3.3/4, MS2.7/3, Ms1 2.7/3, ms1mx2.5/25, Error ellipse: s-maj=32.2km s-min=22.4km az=57.0*
ISC 26 09:47:57.5±1.0, 7°.93S±0°.09×75°.4W±0°.1, h10km, n7, σ0§99/8, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.12**	**285**	Pn	**Pn**	**09 48 46.3**	**-0.8**
	12nm,0.3s,baz=13,slow=3.8,SNR=68						
ATAH				Sn	**Sn**	**09 49 24.8**	**+0.1**
	5.8nm,0.3s,baz=283,slow=17,SNR=3.0						
ATAH				LR	LR	09 50 00.7	
	comp=Z,39nm,18.2s,baz=303,slow=41						
NNA	**Nana**	**4.29**	**200**	Pn	**Pn**	**09 49 04.1**	**+1.1**
	1.1nm,0.3s,baz=7.2,slow=8.3,SNR=7.2						
NNA				Sn	**Sn**	**09 49 52.0**	**-1.1**
	4.3nm,0.3s,baz=312,slow=22,SNR=2.3						
NNA				Lg	Lg	09 50 07.3	
	5.7nm,0.3s,baz=239,slow=19,SNR=2.9						
NNA				LR	LR	09 50 56.3	
	comp=Z,158nm,21.6s,baz=342,slow=42						
LPAZ	**La Paz**	**10.90**	**140**	Pn	**Pn**	**09 50 33.8**	**-0.4**
	0.1nm,0.3s,baz=320,slow=6.0,SNR=2.1						
LPAZ				Lg	Lg	09 53 50.5	
	0.1nm,0.3s,baz=4.3,slow=22,SNR=2.7						
SIV	**San Ignacio**	**16.10**	**121**	Pn	**P**	**09 51 46.6**	**-0.9**
	0.1nm,0.3s,baz=299,slow=12,SNR=7.5						
SIV				Lg	Lg	09 56 38.6	
	0.1nm,0.3s,baz=40,slow=21,SNR=4.6						
SDV	**Santo Domingo**	**17.36**	**16**	LR	LR	09 59 26.3	
	comp=Z,56nm,19.2s,baz=81,slow=40						
TXAR	**Lajitas Array**	**46.00**	**325**	P	**P**	**09 56 21.9**	**+0.5**
	0.5nm,0.7s,baz=146,slow=8.4,SNR=7.4						
YKA	**Yellowknife Ar**	**76.42**	**342**	P	**P**	**09 59 47.7**	**+0.7**
	0.3nm,0.7s,baz=143,slow=6.1,SNR=6.5						

MEX 26 10:12:04.4±0.4, 14°.40N×93°.02W, h16km±24km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.31**	**351**	*eP*	Pn	10 12 24.3	-3.7
PCIG				*i*S	Sn	10 12 39.7	-5.6
CCIG	**Comitan**	**2.06**	**24**	*eP*	Pn	10 12 34.6	-3.9
CCIG				*i*S	Sn	10 12 59.3	-4.6
TGIG		**2.37**	**358**	*eP*	Pn	10 12 39.9	-2.8
TGIG				*i*S	Sn	10 13 07.2	-4.2

	baz=77						
UCH	**Uchtor**	**2.70**	**69**	⇑*i*P	**Pb**	**11 05 41.6**	**-1.9**
	baz=70						
UCH				⇑*i*S	**Sb**	**11 06 17.8**	**+1.0**
	baz=70						
KZA	**Kyzart**	**3.19**	**75**	⇑*i*P	**Pb**	**11 05 48.8**	**-3.0**
	baz=75						
KZA				⇑*i*S	**Sb**	**11 06 30.6**	**-0.3**
	baz=75						

ATH 26 11:10:49.7, 36°.65N×25°.60E, h15km±7km, ML1.5/3, Error ellipse: s-maj=7.4km s-min=1.0km az=227.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IOSP	**Ios island**	**0.26**	**286**	P	Pg	11 10 55.7	+0.3
IOSP				S	Sg	11 10 59.3	+0.1
IOSP				AML	AML	11 10 59.8	
	comp=E,209μm,0.2s						
IOSP				AML	AML	11 11 00.1	
	comp=N,275μm,0.2s						
AMGA	**Amorgos Island**	**0.29**	**52**	P	Pg	11 10 56.0	+0.1
AMGA				S	Sg	11 11 00.2	0.0
AMGA				AML	AML	11 11 00.4	
	comp=E,112μm,0.2s						
AMGA				AML	AML	11 11 01.1	
	comp=N,177μm,0.1s						
SANT	**Santorini**	**0.30**	**203**	P	Pg	11 10 56.1	0.0
ANAF	**Anafi Island**	**0.32**	**155**	P	Pg	11 10 56.2	-0.3
ANAF				S	Sg	11 11 01.4	+0.4
ANAF				AML	AML	11 11 01.9	
	comp=N,426μm,0.2s						
ANAF				AML	AML	11 11 02.0	
	comp=E,424μm,0.2s						
APE	**Apeiranthos**	**0.42**	**352**	P	Pg	11 10 58.2	-0.1
APE				S	Sg	11 11 04.4	+0.4
BALY	**Balya**	**3.47**	**27**	*i* S	Sn	11 12 25.4	+1.3
BALY				*i* S	Sg	11 12 37.9	-3.2
DURS	**Dursunbey**	**3.71**	**37**	*i* P	Sn	11 12 28.3	-1.9
DURS				*i* S	Sb	11 12 41.5	+1.5

*ISCJB **26** 11:15:09.6±1.0, 32°.71S±0°.05×70°.14W±0°.06, h108km±9km, Error ellipse: s-maj=9.0km s-min=6.7km az=37.6*
*GUC **26** 11:15:09.6±0.3, 32°.59S×70°.05W, h79km±5km, ML3.1*
*SJA **26** 11:15:10.7±0.4, 32°.69S×69°.91W, h110km±3km, ML2.8, MW3.2*
ISC 26 11:15:10.1±2.1, **32°.72S**±0°.06×**70°.14W**±0°.05, **h105**km±17km, **n17**, σ0°.**78**/27, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.62**	**192**	*e*P	**Pn**	**11 15 27.4**	**-0.4**
FCH				*e*S	**Sn**	**11 15 41.0**	**+0.1**
FCH				IAML		11 15 43.2	
	comp=E,998nm,0.2s						
PEL	**Peldehue**	**0.62**	**227**	*e*P	**Pn**	**11 15 26.9**	**-0.6**
PEL				*e*S	**Sn**	**11 15 39.7**	**-0.8**
PEL				IAML		11 15 41.3	
	comp=N,945nm,0.4s						
CLCH	**Cerro Calan**	**0.75**	**206**	*e*P	**Pn**	**11 15 28.3**	**-0.3**
CLCH				*e*S	**Sn**	**11 15 42.8**	**+0.3**
CLCH				IAML		11 15 44.7	
	comp=E,725nm,0.6s						
ROCH	**El Roble**	**0.78**	**251**	*e*P	**Pn**	**11 15 28.8**	**-0.2**
ROCH				*e*S	**Sn**	**11 15 43.3**	**+0.2**
AUSP	**Uspallata**	**0.81**	**52**	*e*P	**Pn**	**11 15 29.8**	**+0.4**
AUSP				*e*S	**Sn**	**11 15 44.1**	**+0.4**
FSR	**Penalolen**	**0.82**	**203**	*e*P	**Pn**	**11 15 29.1**	**-0.1**
FSR				*e*S	**Sn**	**11 15 44.0**	**+0.4**
ANTU	**Antumapu**	**0.94**	**206**	*e*P	**Pn**	**11 15 30.7**	**+0.3**
ANTU				*e*S	**Sn**	**11 15 46.8**	**+1.1**
ANTU				IAML		11 15 47.5	
	comp=N,718nm,0.2s						
ARCO	**CERRO ARCO**	**1.02**	**97**	*e*P	**Pn**	**11 15 31.2**	**-0.1**
ARCO				*e*S	**Sn**	**11 15 46.5**	**-0.8**
ARCO				IAML		11 15 49.2	
	comp=Z,273nm,0.3s						
ASAL	**Salagasta**	**1.11**	**84**	*e*P	**Pn**	**11 15 32.0**	**-0.2**
LMEL	**Las Melosas**	**1.12**	**183**	*e*P	**Pn**	**11 15 32.2**	**-0.3**
LMEL				*e*S	**Sn**	**11 15 50.5**	**+1.2**
LMEL				IAML		11 15 54.1	
	comp=N,472nm,0.2s						
RTCV	**Cerro Valdivia**	**1.60**	**58**	*e*P	**Pn**	**11 15 37.8**	**-0.2**
RTLL	**Cerro Villicun**	**1.98**	**46**	*e*P	**Pn**	**11 15 42.6**	**-0.1**
ACCO	**Cerro Coronel**	**2.32**	**24**	*e*P	**Pn**	**11 15 48.4**	**+1.1**
ACAN	**Cantantal**	**2.53**	**81**	*e*P	**Pn**	**11 15 48.9**	**-0.9**
GO04	**Tololo Observa**	**2.60**	**347**	*e*P	**Pn**	**11 15 49.9**	**-1.1**
GO04				*e*S	**Sn**	**11 16 21.0**	**-1.4**
AROD	**Rodeo**	**2.61**	**13**	*e*P	**Pn**	**11 15 52.7**	**+1.6**
ACDV	**Cuesta del Vie**	**2.69**	**19**	*e*P	**Pn**	**11 15 53.0**	**+1.0**
ACDV				IAML		11 16 30.5	
	comp=Z,22nm,0.4s						

*IDC **26** 11:17:17.5±1.4, 51°.90N×160°.68E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.5/48, mbtmp3.8/6, ML2.7/1, MS2.9/4, Ms1 2.9/4, ms1mx2.6/38, Error ellipse: s-maj=31.5km s-min=27.4km az=28.0*
*NEIC **26** 11:17:21.6±2.8, 52°.04N×160°.68E, h21km±6km, mb4.3/11, Error ellipse: s-maj=18.5km s-min=10.2km az=190.0*
*KRSC **26** 11:17:21.1±10.0, 52°.30N×160°.90E, h53km±10km, ML3.9*
ISC 26 11:17:21.7±0.7, **52°.25N**±0°.05×**160°.84E**±0°.05, **h21**km±4km, **n63**, σ1°**54**/76, **mb4.1**/14, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.99**	**330**	*e*P	**Pb**	**11 17 39.0**	**-1.1**
SPN				*e*S	**Sb**	**11 17 51.1**	**-1.6**
NLC	**Nalytchevo**	**1.30**	**316**	*e*P	**Pn**	**11 17 44.2**	**-0.4**
NLC				*e*S	**Sn**	**11 18 00.1**	**-1.2**
RUS	**Russkaya**	**1.44**	**278**	*e*P	**Pb**	**11 17 47.2**	**-0.6**
RUS				*e*S	**Sn**	**11 18 04.6**	**-0.3**
DALK	**Dalny**	**1.50**	**302**	*e*P	**Pn**	**11 17 47.5**	**+0.2**
DALK				*e*S	**Sn**	**11 18 05.7**	**-0.5**
PET	**Petropavlovsk**	**1.54**	**301**	*e*Pn	**Pn**	**11 17 48.1**	**+0.1**
PET				*e*Sn	**Sb**	**11 18 10.5**	**+1.8**
PET	**Petropavlovsk**	**1.54**	**301**	*i* P	**Pn**	**11 17 48.5**	**+0.5**
UGLR	**Uglovaya**	**1.56**	**309**	*e*P	**Pn**	**11 17 48.8**	**+0.5**
SDLR	**Sedlovina**	**1.58**	**312**	*e*P	**Pn**	**11 17 48.7**	**+0.1**
SMAR	**Somma**	**1.60**	**310**	*e*P	**Pn**	**11 17 49.4**	**+0.3**
AVH	**Avacha**	**1.64**	**309**	*e*P	**Pn**	**11 17 50.0**	**+0.6**
AVH				*e*S	**Sn**	**11 18 09.9**	**+0.1**
MTVR	**Mutnovka**	**1.65**	**279**	*e*P	**Pb**	**11 17 50.5**	**-0.9**
MTVR				*e*S	**Sb**	**11 18 10.7**	**-1.1**
KRER	**Koryakskii**	**1.66**	**311**	*e*P	**Pb**	**11 17 50.4**	**-1.2**
KOK	**Koryaka**	**1.70**	**309**	*e*P	**Pn**	**11 17 50.9**	**+0.6**
KRX	**Arik**	**1.74**	**311**	*e*P	**Pn**	**11 17 49.2**	**-1.6**
KDTR	**Khodutka, Kamc**	**1.77**	**257**	*e*P	**Pn**	**11 17 51.8**	**+0.8**
KDTR				*e*S	**Sn**	**11 18 12.7**	**-0.1**
ASAK	**Asacha**	**1.81**	**275**	*e*P	**Pb**	**11 17 53.2**	**-1.0**
KII	**Karymskiy**	**1.98**	**335**	*e*P	**Pn**	**11 17 54.7**	**+0.6**
PEA0B	**Petropavlovsk-**	**2.10**	**295**	*e*Pn	**Pn**	**11 17 56.6**	**+0.9**
PEA0B				*e*Sn	**Sb**	**11 18 28.1**	**+3.4**
PETK	**Petropavlovsk-**	**2.10**	**295**	Pn	**Pn**	**11 17 56.5**	**+0.9**
	12nm,0.3s,baz=106,slow=19,SNR=116						
PETK				Sn	**Sb**	**11 18 25.6**	**+0.9**
	18nm,0.3s,baz=210,slow=17,SNR=7.4						
PEA1	**Petropavlovsk-**	**2.10**	**296**	*e*Pn	**Pn**	**11 17 56.5**	**+0.9**
PEA1				*e*Sn	**Sb**	**11 18 25.6**	**+0.8**
GNL	**Ganaly**	**2.28**	**311**	*e*P	**Pn**	**11 17 59.7**	**+1.5**
GNL				*e*S	**Sn**	**11 18 26.5**	**+0.9**
APC	**Apacha**	**2.35**	**288**	*e*P	**Pn**	**11 18 00.6**	**+1.6**
APC				*e*S	**Sn**	**11 18 27.8**	**+0.6**
MKZ	**Mys Kozlova**	**2.37**	**13**	*e*P	**Pn**	**11 17 59.6**	**+0.2**
MKZ				*e*S	**Sn**	**11 18 26.4**	**-1.4**
PAU	**Pauzhetka**	**2.62**	**254**	*e*P	**Pn**	**11 18 05.1**	**+2.3**
PAU				*e*S	**Sn**	**11 18 36.4**	**+2.5**
KZV	**Kizimen**	**2.89**	**354**	*e*P	**Pn**	**11 18 07.5**	**+0.9**
KZV				*e*S	**Sn**	**11 18 40.3**	**-0.5**
TUMD	**Tumrok D**	**2.97**	**355**	*e*P	**Pn**	**11 18 08.5**	**+0.8**
TUMD				*e*S	**Sn**	**11 18 42.0**	**-0.7**
TUMR	**Tumrok**	**3.07**	**353**	*e*P	**Pn**	**11 18 11.5**	**+2.4**
SKR	**Severo-Kuril's**	**3.34**	**244**	*e*P	**Pn**	**11 18 14.0**	**+1.3**
SKR				*e*S	**Sn**	**11 18 52.9**	**+1.1**
LGNR	**Loginova**	**3.84**	**359**	*e*P	**Pn**	**11 18 19.7**	**-0.2**
ESO	**Esso**	**3.90**	**342**	*e*P	**Pn**	**11 18 21.7**	**+1.4**
SRDR	**Sredinnyy**	**4.13**	**351**	*e*P	**Pn**	**11 18 24.6**	**+1.0**
KBTR	**Krutoberegovo**	**4.13**	**15**	*e*P	**Pn**	**11 18 25.5**	**+1.9**
BKI	**Bering**	**4.25**	**44**	*e*P	**Pn**	**11 18 26.1**	**+1.0**
BKI				*e*S	**Sn**	**11 19 10.9**	**-3.1**
BDR	**Baidarnaya**	**4.33**	**3**	*e*P	**Pn**	**11 18 28.2**	**+1.8**
SMKR	**Semkarok**	**4.36**	**5**	*e*P	**Pn**	**11 18 27.4**	**+0.7**
SRKR	**Sorokina**	**4.42**	**2**	*e*P	**Pn**	**11 18 28.8**	**+1.2**
SMY	**Shemya**	**8.11**	**81**	*e*Pn	**Pn**	**11 19 21.8**	**+3.7**
SMY				*e*Sn	**Sn**	**11 20 49.1**	**+0.1**
MA2	**Magadan**	**9.26**	**326**	LR	LR	11 23 33.3	
	comp=Z,22nm,19.7s,baz=126,slow=40						
ASAJ	**Asahikawa**	**14.61**	**243**	LR	LR	11 26 23.9	
	comp=Z,19nm,20.7s,baz=64,slow=38						
ERM	**Erimo**	**15.76**	**236**	*e*Pn	**Pn**	**11 21 00.4**	**-1.8**
	36nm,1.4s						
ANM	**Nome**	**21.25**	**41**	*e*P	**P**	**11 22 11.4**	**+5.3**
	1.8nm,0.6s						
MJB9	**Matsu-Tunnel**	**22.40**	**234**	*e*P	**P**	**11 22 17.7**	**-1.0**
	13nm,1.5s						
MAJO	**Matsushiro**	**22.40**	**234**	*e*P	**P**	**11 22 17.5**	**-1.2**
	11nm,1.4s						
CHGN	**Chignik**	**23.88**	**64**	*e*P	**P**	**11 22 32.5**	**-1.0**
	108nm,1.4s						
WRH	**Wood River Hil**	**28.57**	**45**	*e*P	**P**	**11 23 17.5**	**+1.7**
	3.2nm,1.4s						
ILAR	**Eielson Array**	**29.10**	**44**	P	**P**	**11 23 23.0**	**+2.5**
	0.3nm,0.6s,baz=269,slow=9.0,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**32.80**	**169**	T	T	11 59 44.2	
	baz=353,slow=76,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**32.81**	**169**	T	T	11 59 45.9	
	baz=353,slow=76,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	**32.81**	**169**	T	T	11 59 40.4	
	baz=353,slow=76,SNR=3.0						
SPA0	**Spitsbergen Ar**	**48.05**	**351**	*e*P	**P**	**11 26 00.3**	**+1.5**
	26nm,1.5s						
KURK	**Kurchatov**	**48.57**	**303**	*e*P	**P**	**11 26 02.5**	**-0.7**
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**48.67**	**303**	P	**P**	**11 26 03.3**	**-0.7**
	0.6nm,0.3s,baz=58,slow=7.6,SNR=3.3						
MK31	**Makanchi Array**	**48.94**	**297**	*e*P	**P**	**11 26 05.5**	**-0.6**
	1.2nm,1.2s						
MK32	**Makanchi Array**	**48.94**	**297**	*e*P	**P**	**11 26 04.9**	**-1.2**
MKAR	**Makanchi Array**	**48.94**	**297**	P	**P**	**11 26 04.9**	**-1.2**
	0.3nm,0.5s,baz=57,slow=6.1,SNR=5.9						
HRY	**Holter Researc**	**53.70**	**59**	*e*P	**P**	**11 26 43.0**	**+1.1**
KEV	**Kevo**	**53.76**	**342**	*e*P	**P**	**11 26 44.9**	**+3.0**
	17nm,1.4s						
FIA0	**FINESS Array S**	**61.08**	**337**	*e*P	**P**	**11 27 33.6**	**+0.1**
FINES	**FINESS Array B**	**61.08**	**337**	P	**P**	**11 27 33.6**	**+0.1**
	0.7nm,0.6s,baz=35,slow=7.5,SNR=5.2						
KBZ	**Khabaz**	**70.47**	**317**	LR	LR	12 04 10.9	
	comp=Z,23nm,18.4s,baz=204,slow=40						
FITZ	**Fitzroy Crossi**	**76.45**	**214**	*e*P	**P**	**11 29 07.8**	**-1.9**
	8.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**76.45**	**214**	P	**P**	**11 29 07.2**	**-2.4**
	3.4nm,0.8s,baz=354,slow=9.2,SNR=3.2						
BRTR	**Keskin Array B**	**77.57**	**321**	LR	LR	12 09 21.5	
	comp=Z,16nm,18.6s,baz=261,slow=40						

*DDA **26** 11:19:08.2, 38°.77N×30°.16E, h9km±2km, ML2.6*
*ISCJB **26** 11:19:09.5±0.5, 38°.76N±0°.03×30°.19E±0°.03, h10km±4km, Error ellipse: s-maj=4.6km s-min=4.3km az=137.7*
*ISK **26** 11:19:09.0, 38°.73N×30°.16E, h17km, ML2.0/10*
ISC 26 11:19:08.9±0.9, **38°.76N**±0°.03×**30°.19E**±0°.03, **h13**km±7km, **n20**, σ0°**59**/31, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFYO	**Afyonkarahisar**	**0.09**	**71**	*i* P	**Pg**	**11 19 12.2**	**+0.3**
AFYO				*i* S	**Sg**	**11 19 13.6**	**-0.5**
SHUT	**Suhut-Afyon**	**0.35**	**126**	PG	**Pb**	**11 19 17.1**	**0.0**
SHUT				SG	**Sb**	**11 19 22.2**	**-0.4**
KZIL	**AFYON_Kizioren**	**0.50**	**184**	IAML_P			
	comp=Z,1μm,0.1s						
KZIL				*i* P	**Pg**	**11 19 18.1**	**-0.7**
KZIL				*i* S	**Sb**	**11 19 26.8**	**-0.1**
AUKIR	**Kırka- Seyitga**	**0.58**	**27**	*i* P	**Pg**	**11 19 20.6**	**+0.2**
AUKIR				*i* S	**Sg**	**11 19 28.4**	**+0.2**
BOLV	**Bolvadin**	**0.60**	**94**	IAML_P			
	comp=Z,1μm,0.2s						
BOLV				*i* P	**Pb**	**11 19 21.6**	**+0.3**
BOLV				*i* S	**Sb**	**11 19 30.6**	**+0.9**
GDZ	**Gediz**	**0.64**	**301**	*i* P	**Pn**	**11 19 23.4**	**-0.5**
GDZ				*i* S	**Sb**	**11 19 30.7**	**-0.4**
KHAL	**Karahalli**	**0.67**	**235**	IAML_P			
	comp=Z,853nm,0.1s						
KHAL				*i* P	**Pb**	**11 19 22.6**	**+0.1**
KHAL				*i* S	**Sb**	**11 19 30.8**	**-0.9**
TVSB	**Tavsanli**	**0.89**	**321**	PG	**Pn**	**11 19 27.0**	**-0.3**
TVSB				SG	**Sn**	**11 19 39.9**	**-0.3**
CIFT	**Cifteler, Eski**	**0.91**	**48**	PG	**Pn**	**11 19 27.9**	**+0.4**
BORA	**Eskisehir**	**1.14**	**10**	PN	**Pb**	**11 19 30.1**	**-0.5**
BORA	**Eskisehir**	**1.14**	**10**	IAML_P			
	comp=Z,638nm,0.2s						
BORA				*i* P	**Pg**	**11 19 30.9**	**0.0**
BORA				*i* S	**Sb**	**11 19 45.5**	**+0.1**
KULA	**Kula-Manisa**	**1.22**	**259**	PN	**Pb**	**11 19 31.4**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.25**	**56**	PN	**Pg**	**11 19 33.0**	**+0.1**
AUSIV	**SIVRIHISAR**	**1.25**	**57**	PN	**Pg**	**11 19 32.9**	**-0.2**
MANT	**Manisa**	**1.30**	**259**	IAML_P			
	comp=Z,610nm,0.2s						
MANT				*i* P	**Pg**	**11 19 35.9**	**+1.8**
MANT				*i* S	**Sg**	**11 19 51.8**	**+0.8**
SRCK	**Saricakaya, Es**	**1.33**	**15**	PN	**Pb**	**11 19 33.6**	**-0.1**
SRCK	**Saricakaya, Es**	**1.33**	**15**	*i* P	**Pg**	**11 19 34.8**	**+0.4**
SRCK				*i* S	**Sg**	**11 19 52.4**	**+0.7**
KIZT	**Kizilcal**	**1.33**	**84**	PN	**Pb**	**11 19 34.0**	**+0.2**
AUMIH	**MIHALICIK**	**1.50**	**42**	PN	**Pb**	**11 19 36.3**	**-0.4**
GULT	**Gulveren**	**1.69**	**8**	PN	**Pb**	**11 19 39.2**	**-0.8**

*BJI **26** 11:19:52.5±0.0, 2°.77S×100°.38E, h44km, mb4.9/43, mB4.9/29, Ms4.3/23, Ms7 4.1/21*
*ISCJB **26** 11:19:58.7±0.2, 1°.93S±0°.03×100°.13E±0°.03, h34km, mb4.8/83, MS3.7/27, Error ellipse: s-maj=6.0km s-min=3.5km az=42.2*
*KLM **26** 11:20:01.0, 1°.99S×99°.91E, h40km, mb4.5*
*IDC **26** 11:20:01.4±0.5, 1°.91S×100°.20E, h45km±3km, mb4.4/31, mb1 4.5/33, mb1mx4.4/46, mbtmp4.7/33, MS3.5/23, Ms1 3.5/23, ms1mx3.4/42, Error ellipse: s-maj=16.4km s-min=8.3km az=46.0*
*DJA **26** 11:20:02.3±0.2, 2°.S±2°.×10°0E±°, h42km±4km, M4.8/15, mb4.8/15, mB5.3/8, MLv4.9/15, Mw(mB)4.8/8*
*NEIC **26** 11:20:02.3±2.0, 1°.88S×100°.15E, h52km±5km, mb4.8/59, Error ellipse: s-maj=17.1km s-min=10.8km az=49.0*
NEIC Felt [III] at Padangpanjang.
ISC 26 11:20:00.6±0.3, **1°.88S**±0°.04×**100°.11E**±0°.05, **h34**km, **n436**, σ1°**19**/446, **mb4.9**/83, **MS3.6**/28, **5C-4D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.88**	**186**	P	**Pb**	**11 20 17.9**	**+0.4**
PPSI				S	**Sb**	**11 20 32.6**	**+3.6**
PDSI	**Padang**	**1.03**	**20**	P	**Pn**	**11 20 19.3**	**+0.7**
PDSI				S	**Sn**	**11 20 31.6**	**-0.3**
SISI	**Saibi**	**1.16**	**298**	P	**Pb**	**11 20 22.8**	**+0.7**
SISI				S	**Sb**	**11 20 37.6**	**+0.8**
BKNI	**Bangkinang**	**2.38**	**23**	*e*Pn	**Pn**	**11 20 39.5**	**+2.2**
BKNI	**Bangkinang**	**2.38**	**23**	P	**Pn**	**11 20 39.7**	**+2.4**
JMBI	**JAMBI**	**3.54**	**86**	P	**Pn**	**11 20 57.5**	**+4.3**
MNAI	**Manna**	**3.76**	**131**	*e*Pn	**Pn**	**11 20 58.2**	**+2.0**
MNAI				*e*Sn	**Sn**	**11 21 41.1**	**+1.7**
MNAI	**Manna**	**3.76**	**131**	P	**Pn**	**11 20 58.6**	**+2.3**
MNAI				S	**Sn**	**11 21 40.1**	**+0.6**
GSI	**Gunungsitoli**	**4.05**	**321**	*e*Pn	**Pn**	**11 21 00.7**	**+0.5**
GSI	**Gunungsitoli**	**4.05**	**321**	P	**Pn**	**11 21 01.2**	**+1.0**
DSRI	**Dabo**	**4.68**	**73**	P	**Pn**	**11 21 11.1**	**+2.2**
PSI	**Prapat**	**4.80**	**346**	*e*Pn	**Pn**	**11 21 10.3**	**-0.4**
PSI	**Prapat**	**4.80**	**346**	P	**Pn**	**11 21 10.7**	**0.0**
	9.1nm,0.3s,baz=176,slow=4.3,SNR=28						
PSI				LR	LR	11 23 20.9	
	comp=Z,1μm,20.1s,baz=166,slow=42						
TPRI	**Tanjung Pinang**	**5.22**	**58**	P	**Pn**	**11 21 17.6**	**+1.3**
MYKOM	**Kota Tinggi**	**5.23**	**46**	*e*Pn	**Pn**	**11 21 18.0**	**+1.6**
MYKOM	**Kota Tinggi**	**5.23**	**46**	P	**Pn**	**11 21 19.0**	**+2.6**
TPTI		**5.88**	**330**	P	**Pn**	**11 21 26.9**	**+1.5**
	75nm,0.6s,1μm0.4nm						
PPBI	**Pangkal Pinang**	**6.03**	**93**	P	**Pn**	**11 21 29.0**	**+1.5**
IPM	**Ipoh**	**6.38**	**8**	*e*Pn	**Pn**	**11 21 36.1**	**+3.7**
IPM	**Ipoh**	**6.38**	**8**	P	**Pn**	**11 21 37.0**	**+4.7**
KULM	**Kulim**	**7.14**	**4**	*e*Pn	**Pn**	**11 21 45.0**	**+2.2**
KULM	**Kulim**	**7.14**	**4**	P	**Pn**	**11 21 45.0**	**+2.2**
CGJI	**Cibinong**	**7.29**	**130**	P	**Pn**	**11 21 44.5**	**-0.2**
	62nm,0.5s,2μm0.4nm						
TPI	**Tanjungpandan**	**7.59**	**97**	P	**Pn**	**11 21 49.6**	**+0.7**
	19nm,1.3s,1μm0.1nm						
LEM	**Lembang**	**8.96**	**123**	LR	LR	11 26 13.3	
	comp=Z,315nm,18.8s,baz=246,slow=42						
CISI	**Cisompet, Garu**	**9.53**	**127**	*e*Pn	**Pn**	**11 22 14.2**	**-1.4**
CISI	**Cisompet, Garu**	**9.53**	**127**	P	**Pn**	**11 22 14.5**	**-1.0**
	74nm,0.6s,2μm						
TRTT	**Trang**	**9.66**	**358**	P	**Pn**	**11 22 21.6**	**+4.3**
	50nm,0.8s						
KRAB	**Krabi**	**10.08**	**355**	P	Pn	11 22 29.8	+6.8
	152μm,0.8s						
UGM	**Wanagama**	**11.98**	**120**	*e*Pn	**Pn**	**11 22 49.8**	**+0.7**
SBUM	**Sibu**	**12.85**	**70**	*e*Pn	**Pn**	**11 23 05.0**	**+4.0**
SBUM	**Sibu**	**12.85**	**70**	P	Pn	11 23 06.0	+5.0
JAGI	**Jajag, Banyuwa**	**15.44**	**116**	*e*Pn	**Pn**	**11 23 33.9**	**-2.1**
	28nm,0.8s						
PANO	**Nakornpanom**	**19.42**	**13**	P	**Pn**	**11 24 29.0**	**+3.5**
	0.3nm,0.9s						
UTTA	**Uttaradit**	**19.51**	**1**	P	**Pn**	**11 24 28.2**	**+1.7**
KAPI	**Kappang**	**19.86**	**100**	*e*P	**P**	**11 24 29.4**	**+0.4**
	18nm,0.7s						
KAPI	**Kappang**	**19.86**	**100**	P	**P**	**11 24 29.4**	**+0.4**
	1.6nm,0.3s,baz=296,slow=9.5,SNR=4.5						
MPSI	**Mapaga**	**19.91**	**84**	P	**P**	**11 24 30.6**	**+1.0**
BNSI	**Bone**	**20.13**	**98**	P	**P**	**11 24 33.0**	**+1.1**
CM31	**Chiang Mai Arr**	**20.24**	**357**	*e*P	**P**	**11 24 32.6**	**-0.5**
	17nm,1.0s						
CMAR	**Chiang Mai Arr**	**20.24**	**357**	P	**P**	**11 24 32.2**	**-0.9**
	9.8nm,0.6s,baz=186,slow=10.0,SNR=41						
CMAR				PcP	**PcP**	**11 28 47.1**	**+0.6**
	1.3nm,0.7s,baz=219,slow=3.6,SNR=5.4						
CMAR				LR	LR	11 32 46.2	
	comp=Z,181nm,18.6s,baz=186,slow=38						
PHRA	**Phrae**	**20.25**	**0**	P	**P**	**11 24 34.0**	**+0.8**
	2.3nm,0.8s						
BKSI	**Bulukumba**	**20.27**	**100**	P	**P**	**11 24 34.4**	**+1.0**
LAMP	**Lampang**	**20.28**	**359**	P	Pn	11 24 37.9	+2.3
	19μm,0.7s						
CMMT	**Chiang Mai**	**20.60**	**357**	P	Pn	11 24 40.2	+0.9
	5.5nm,1.0s						
CHTO	**Chiang Mai**	**20.60**	**357**	*e*P	**P**	**11 24 37.2**	**+0.3**
	5.7nm,0.8s						
PALK	**Pallekele**	**21.39**	**295**	LR	LR	11 33 40.0	
	comp=Z,75nm,18.5s,baz=115,slow=38						
MRSI	**Marisa**	**21.96**	**84**	P	**P**	**11 24 51.5**	**-0.2**
LUWI	**Luwuk**	**22.68**	**88**	*e*P	**P**	**11 24 59.1**	**-0.2**
	44nm,0.8s						
LUWI	**Luwuk**	**22.68**	**88**	P	P	11 25 17.0	+18
QIZ	**Qiongzhong**	**22.88**	**24**	P	**P**	**11 25 02.0**	**+0.6**
QIZ				S	**S**	**11 29 11.8**	**+2.8**
QIZ				pmax	pmax		
	comp=Z,30nm,0.9s						
QIZ				LR	LR		
	comp=N,170nm,23.0s						
QIZ				LR	LR		
	comp=E,190nm,11.3s						
QIZ				LR	LR		
	comp=Z,180nm,16.7s						
QIZ	**Qiongzhong**	**22.88**	**24**	*e*P	**P**	**11 25 00.9**	**-0.4**
	26nm,0.8s						
SLVN	**Son La**	**23.37**	**9**	*e*P	**P**	**11 25 06.2**	**-0.2**
	8.0nm,0.7s						
KMI	**Kunming**	**26.97**	**5**	P	**P**	**11 25 40.5**	**+1.0**
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
KMI				LR	LR		
	comp=N,230nm,17.7s						
KMI				LR	LR		
	comp=E,140nm,22.9s						
KMI				LR	LR		
	comp=Z,220nm,21.4s						
H08S2	**Diego Garcia H**	**28.09**	**257**	T	T	11 54 28.1	
	baz=80,slow=75,SNR=503						
H08S3	**Diego Garcia H**	**28.10**	**257**	T	T	11 54 32.9	
	baz=80,slow=75,SNR=514						
H08S1	**Diego Garcia H**	**28.11**	**257**	T	T	11 54 38.5	
	baz=80,slow=75,SNR=566						
GYA	**Guiyang**	**28.88**	**12**	⇓*i*P	**P**	**11 25 55.5**	**-0.9**
GYA				sP	sP	11 26 12.5	+2.8
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.9s						
GYA				LR	LR		
	comp=N,170nm,19.9s						
GYA				LR	LR		
	comp=E,120n

comp=Z,80nm,1.0s
HHC pmax pmax
comp=Z,280nm,4.5s
HHC LR LR
comp=N,630nm,14.5s
HHC LR LR
comp=E,640nm,15.1s
HHC LR LR
comp=Z,790nm,14.0s
JNU Nakatsue 45.34 37 *e*P **P 11 28 15.5 -0.2**
25nm,1.0s
JNU Nakatsue 45.34 37 P **P 11 28 15.4 -0.2**
24nm,0.9s,baz=283,slow=3.2,SNR=12
BBOO Buckleboo 45.66 136 *e*P **P 11 28 18.3 +0.1**
8.5nm,1.1s
KSH Kashi 46.77 334 P **P 11 28 26.3 -0.7**
KSH sP pwP 11 28 40.5 +1.6
KSH PP **PP 11 30 14.5 -2.9**
KSH S **S 11 35 10.5 -4.5**
KSH pmax pmax
comp=Z,12nm,0.8s
KSH pmax pmax
comp=Z,120nm,4.9s
KSH LR LR
comp=N,190nm,6.2s
KSH LR LR
comp=E,190nm,6.4s
KSH LR LR
comp=Z,250nm,6.0s
KS15 Wonju Array Si 46.84 31 *e*P **P 11 28 27.4 +0.1**
3.3nm,0.8s
WMQ Urumqi 46.84 348 *e*P **P 11 28 29.0 +1.7**
WMQ pP pwP 11 28 40.5 +1.3
WMQ sP sP 11 28 45.5 +4.7
WMQ pmax pmax
comp=Z,420nm,4.9s
WMQ LR LR
comp=N,470nm,16.9s
WMQ LR LR
comp=Z,1μm,20.1s
KSRS Korea Array 46.87 31 P **P 11 28 26.9 -0.6**
3.1nm,0.9s,baz=226,slow=8.8,SNR=18
KSRS LR LR 11 48 00.5
comp=Z,32nm,21.1s,baz=202,slow=36
NRN Naryn 48.36 336 *e*P **P 11 28 40.0 +0.6**
19nm,0.9s
KDJ Kajisay 48.48 337 *e*P **P 11 28 41.3 +1.1**
28nm,0.9s
GAR Garm 49.05 329 *e*P **P 11 28 43.8 -0.8**
12nm,0.8s
STKA Stephens Creek 49.15 132 *e*P **P 11 28 44.7 -0.7**
1.9nm,0.6s
STKA Stephens Creek 49.15 132 P **P 11 28 45.1 -0.3**
6.7nm,0.5s,baz=311,slow=7.0,SNR=30
STKA pP **pwP 11 28 57.7 +0.5**
8.6nm,0.6s,baz=297,slow=7.9,SNR=9.8
STKA LR LR 11 49 59.0
comp=Z,57nm,21.7s,baz=217,slow=37
KZA Kyzart 49.20 336 P **P 11 28 47.0 +0.9**
SNR=12
BOOM Boomskoye usch 49.27 336 *e*P **P 11 28 46.6 +0.4**
17nm,0.8s
BTK Batken 49.60 330 *e*P **P 11 28 48.9 +0.2**
8.0nm,0.6s
UCH Uchtor 49.63 335 P **P 11 28 50.5 +1.1**
SNR=15
TKM2 Tokmak 2 49.77 336 P **P 11 28 51.1 +1.0**
SNR=44
KBK Karagaybulak 49.81 336 P **P 11 28 51.7 +1.3**
SNR=13
SONA0 Songino Array 49.82 6 *e*P **P 11 28 50.3 0.0**
SONA0 *e*PcP **PcP 11 30 10.5 -0.2**
SONM Songino Array 49.82 6 P **P 11 28 50.3 0.0**
7.2nm,0.5s,baz=189,slow=9.4,SNR=48
SONM PcP **PcP 11 30 10.5 -0.2**
2.0nm,0.6s,baz=183,slow=4.8,SNR=2.0
SONM LR LR 11 52 53.3
comp=Z,103nm,18.7s,baz=234,slow=40
AML Almayashu 49.90 334 P **P 11 28 52.5 +1.1**
SNR=24
AAK Ala-Archa 49.98 335 P **P 11 28 53.0 +1.3**
SNR=7.2
AAK Ala-Archa 49.98 335 *e*P **P 11 28 52.0 +0.4**
7.1nm,0.7s
AAK Ala-Archa 49.98 335 P **P 11 28 52.8 +1.2**
8.4nm,0.8s,baz=160,slow=3.9,SNR=21
CHMS Chumysh 50.17 336 P **P 11 28 53.7 +0.7**
SNR=8.9
EKS2 Erkin-Say 50.30 335 P **P 11 28 55.5 +1.4**
SNR=37
USP Ospenovka 50.50 336 P **P 11 28 56.4 +0.9**
SNR=14
CN2 Changchun 50.84 24 *e*P **P 11 28 57.3 -0.6**
CN2 *e*pP pP 11 29 09.5 +1.9
CN2 pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 50.94 344 *e*P **P 11 28 58.7 0.0**
23nm,0.8s
MK32 Makanchi Array 50.94 344 *e*P **P 11 28 59.1 +0.4**
MKAR Makanchi Array 50.94 344 P **P 11 28 59.1 +0.3**
30nm,0.7s,baz=147,slow=8.2,SNR=294
MKAR pP **pwP 11 29 11.2 +0.5**
8.8nm,0.4s,baz=159,slow=9.0,SNR=6.8
MKAR LR LR 11 54 20.2
comp=Z,52nm,18.7s,baz=174,slow=40
MAKZ Makanchi 51.04 344 *e*P **P 11 28 59.1 -0.3**
16nm,0.8s
JHJ Hachijo jima 2 51.11 44 LR LR 11 52 37.0
comp=Z,13nm,18.6s,baz=341,slow=38
KK31 Karatay Array 52.10 333 *e*P **P 11 29 07.6 +0.2**
4.3nm,0.9s
KKAR Karatay Array 52.10 333 *e*P **P 11 29 07.7 +0.3**
4.3nm,0.9s
MAJO Matsushiro 52.12 39 *e*P **P 11 29 06.3 -1.4**
4.9nm,0.6s
MAT Matsushiro 52.12 39 P **P 11 29 06.4 -1.3**
MAT S **S 11 36 26.0 -3.7**
MJB9 Matsu-Tunnel 52.12 39 *e*P **P 11 29 06.5 -1.2**
5.2nm,0.6s
MJAR Matsushiro Arr 52.12 39 P **P 11 29 06.7 -1.0**
3.3nm,0.5s,baz=213,slow=7.7,SNR=17
MJAR LR LR 11 52 57.3
comp=Z,28nm,18.5s,baz=185,slow=38
TLY Talaya 53.45 3 *e*P **P 11 29 16.9 -0.3**
5.0nm,0.9s
USA0B Ussuriysk Arra 54.00 28 *e*P **P 11 29 21.4 0.0**
17nm,0.8s
USRK Ussuriysk Ar. 54.00 28 P **P 11 29 21.2 -0.2**
16nm,0.6s,baz=226,slow=4.8,SNR=35
USRK LR LR 11 54 52.2
comp=Z,47nm,19.1s,baz=299,slow=39
EIDS Eidsvold 54.32 120 *e*P **P 11 29 23.9 -0.2**
8.1nm,0.9s
GEYT Alibeck 55.42 320 P **P 11 29 31.8 -0.1**
5.2nm,0.8s,baz=147,slow=8.3,SNR=11
GEYT LR LR 11 55 22.2
comp=Z,41nm,19.8s,baz=55,slow=38
GYA0B ALIBECK ARRAY 55.42 320 *e*P **P 11 29 32.1 +0.2**
6.5nm,0.8s
KURBB Kurchatov Arra 55.47 343 P **P 11 29 31.8 -0.1**
14nm,0.8s,baz=161,slow=6.8,SNR=86
KURBB pP **pwP 11 29 44.2 +0.3**
7.4nm,0.7s,baz=163,slow=7.1,SNR=3.1
KURK Kurchatov 55.52 344 *e*P **P 11 29 32.2 -0.1**
30nm,0.9s
CAN Canberra 56.21 132 *e*P **P 11 29 38.2 +0.5**
5.4nm,0.9s
ZAA0 Zalesovo Array 57.07 349 *e*P **P 11 29 43.0 -0.3**
38nm,0.9s
ZALV Zalesovo Beam 57.07 349 P **P 11 29 42.9 -0.4**
33nm,0.7s,baz=175,slow=5.4,SNR=98
ZALV pP **pwP 11 29 55.8 +0.5**
7.2nm,0.5s,baz=178,slow=6.2,SNR=3.7
ZALV LR LR 11 56 34.7
comp=Z,46nm,21.0s,baz=220,slow=38
ZAA1 Zalesovo Array 57.08 349 *e*P **P 11 29 42.9 -0.4**
KLR Kul'dur 57.78 24 P **P 11 29 48.0 -0.3**
3.0nm,0.4s,baz=232,slow=5.9,SNR=22
KLR LR LR 11 56 38.6
comp=Z,68nm,18.9s,baz=184,slow=38
ERM Erimo 58.50 37 *e*P **P 11 29 53.7 +0.2**
9.8nm,0.9s
ASAJ Asahikawa 59.46 34 P **P 11 29 60.0 -0.2**
4.6nm,0.4s,baz=252,slow=8.3,SNR=16
ASAJ pP **pP 11 30 09.7 -0.4**
6.1nm,0.7s,baz=252,slow=19,SNR=4.0
BVAR Borovoye Array 60.11 340 P **P 11 30 03.7 -0.8**
12nm,0.6s,baz=142,slow=8.4,SNR=57
BVAR pP **pwP 11 30 16.5 -0.1**
7.7nm,0.7s,baz=147,slow=6.3,SNR=8.2
BRVK Borovoye 60.17 340 *e*P **P 11 30 03.8 -1.1**
10nm,0.5s
YSS Yuzh-Sakhalins 61.33 32 *e*P **P 11 30 11.4 -1.5**
31nm,1.1s
ABKAR Akbulak array 61.59 331 *e*P **P 11 30 13.8 -0.8**
23nm,0.8s
KMBO Kilima Mbogo 62.83 270 LR LR 11 54 34.6
comp=Z,34nm,18.7s,baz=95,slow=33
AKTO Aktyubinsk 63.30 331 P **P 11 30 25.2 -0.9**
2.9nm,0.4s,baz=117,slow=7.0,SNR=13
ARU Arti 67.14 336 *e*P **P 11 30 49.9 -0.9**
14nm,1.0s
OUENC Ouen Island, N 67.81 113 *e*P **P 11 30 55.9 +0.2**
26nm,1.1s
KBZ Khabaz 68.29 319 P **P 11 30 58.6 +0.4**
11nm,0.8s,baz=115,slow=4.7,SNR=24
KBZ pP **pwP 11 31 11.5 +1.0**
7.6nm,0.7s,baz=118,slow=7.4,SNR=7.2
ASF Jabal al Asfar 68.61 306 P **P 11 31 00.8 +0.2**
1.2nm,0.4s,baz=68,slow=7.3,SNR=4.3
MMAI Mount Meron Ar 70.05 306 P **P 11 31 10.6 +1.0**
0.9nm,0.3s,baz=106,slow=9.2,SNR=5.4
MAW Mawson 70.42 194 LR LR 11 55 31.5
comp=Z,73nm,20.5s,baz=54,slow=30
NRIK Noril'sk 71.59 355 LR LR 12 06 09.9
comp=Z,61nm,19.6s,baz=122,slow=39
PEA0B Petropavlovsk- 72.73 32 *e*P **P 11 31 25.3 +0.1**
16nm,1.1s
PETK Petropavlovsk- 72.73 32 P **P 11 31 24.6 -0.6**
3.8nm,0.8s,baz=223,slow=2.0,SNR=7.3
PETK LR LR 12 04 19.1
comp=Z,18nm,18.4s,baz=220,slow=37
PEA1 Petropavlovsk- 72.73 32 *e*P **P 11 31 24.6 -0.6**
MA2 Magadan 72.88 24 *e*P **P 11 31 26.0 0.0**
12nm,0.9s
BR101 Keskin Array S 73.32 312 *e*P **P 11 31 28.4 -0.8**
BR131 Keskin Array S 73.32 312 *e*P **P 11 31 27.9 -1.3**
3.9nm,0.8s
BRTR Keskin Array B 73.32 312 P **P 11 31 28.4 -0.8**
3.3nm,0.8s,baz=132,slow=7.4,SNR=23
BRTR pP **pP 11 31 40.5 +1.2**
1.4nm,0.6s,baz=147,slow=9.6,SNR=5.0
TIXI Tiksi 75.72 9 *e*P **P 11 31 40.7 -1.6**
7.5nm,0.6s
TIXI Tiksi 75.72 9 P **P 11 31 41.0 -1.3**
9.4nm,0.4s,baz=190,slow=4.4,SNR=33
BOSA Boshof 75.81 241 LR LR 12 00 45.1
comp=Z,45nm,18.0s,baz=28,slow=32
KARP Karpathos 77.28 307 *e*P **P 11 31 52.6 +0.7**
29nm,0.8s
BKZ Black Stump Fm 78.27 129 *e*P **P 11 31 57.0 -0.3**
20nm,1.1s
AKASG Malin Array Be 79.45 322 P **P 11 32 02.5 -1.0**
1.3nm,0.6s,baz=82,slow=6.0,SNR=4.7
VRI Vrincioaia 79.84 317⇑ *i*P **P 11 32 06.5 +0.7**
MLR Muntele Rosu 80.29 317 *e*P **P 11 32 07.5 -0.9**
7.0nm,1.0s
MLR Muntele Rosu 80.29 317⇑ *i*P **P 11 32 08.9 +0.5**
VOIR 80.89 316⇓ *i*P **P 11 32 11.3 -0.2**
BURAR Bucovina Array 81.24 319⇑ *i*P **P 11 32 14.5 +1.1**
BUR08 Bucovina Ar. S 81.26 319 *e*P **P 11 32 14.5 +1.0**
4.9nm,0.6s
VTS Vitosha 81.63 313 *e*P **P 11 32 15.4 -0.2**
5.4nm,0.9s
VTS Vitosha 81.63 313⇓ *i*P **P 11 32 15.9 +0.3**
DRGR 82.75 317⇑ *i*P **P 11 32 22.4 +1.1**
BZS Buzias 83.29 316⇑ *i*P **P 11 32 24.3 +0.3**
KOLS Kolonicke sedl 83.43 320 *e*P **P 11 32 26.2 +1.5**
SUW Suwalki 83.85 325 *e*P **P 11 32 26.5 -0.2**
26nm,0.9s
FIA0 FINESS Array S 84.06 332 *e*P **P 11 32 27.7 +0.1**
FINES FINESS Array B 84.06 332 P **P 11 32 27.7 +0.1**
2.5nm,0.5s,baz=109,slow=5.4,SNR=20
FINES pP **pwP 11 32 41.2 +1.1**
4.6nm,0.8s,baz=98,slow=2.9,SNR=4.2
ARCES ARCESS Array B 86.40 340 P **P 11 32 39.3 +0.1**
5.6nm,0.7s,baz=101,slow=5.9,SNR=25
ARCES LR LR 12 17 17.6
comp=Z,25nm,18.2s,baz=98,slow=40
MORC Moravsky Berou 86.61 320⇓ *i*P **P 11 32 41.8 +1.1**
DPC Dobruska-Polom 87.46 320 *e*P **P 11 32 45.8 +1.0**
DPC *ex* x 11 33 01.9
GERES GERESS Array B 89.03 319 P **P 11 32 52.9 +0.5**
0.6nm,0.5s,baz=90,slow=3.3,SNR=3.5
NB200 NORSAR Array S 91.09 331 *e*P **P 11 33 00.4 -1.2**
NOA NORSAR Array B 91.09 331 P **P 11 33 00.4 -1.2**
0.8nm,0.7s,baz=92,slow=4.9,SNR=4.0
NOA pP **pP 11 33 11.9 0.0**
0.2nm,0.5s,baz=151,slow=8.3,SNR=1.5
NOA LR LR 12 18 21.6
comp=Z,16nm,19.8s,baz=95,slow=38
KEST Kesra 91.70 306 *e*P **P 11 33 06.1 +1.0**
10nm,0.9s
KEST Kesra 91.70 306 P **P 11 33 06.4 +1.3**
7.5nm,0.8s,baz=43,slow=0.9,SNR=8.4
TORD Torodi Ar. Bea 98.61 283 P **P 11 33 37.6 +0.7**
0.6nm,1.0s,baz=111,slow=7.9,SNR=2.7
TOA1 Torodi Ar. Sit 98.62 283 *e*P **P 11 33 37.6 +0.6**
TOLK Toolik Lake Re 99.06 20 P **Pdif 11 33 38.3 +0.4**
baz=288
YKA Yellowknife Ar 114.23 17 PKP **PKiKP 11 38 34.6 -1.6**
0.4nm,0.7s,baz=322,slow=2.9,SNR=5.0
YKB5 Yellowknife Ar 114.23 17 *e*PKiKP **PKiKP 11 38 34.6 -1.6**
A04D Lummi Island 120.66 32 P **PKPdf 11 38 48.0 -1.0**
baz=308
B05A Bryant 121.26 32 P **PKPdf 11 38 49.8 -0.5**
baz=308
D04E Lakebay 121.57 33 P **PKPdf 11 38 49.9 -0.9**
baz=307
FCC Fort Churchill 122.19 9 *e*PKPdf **PKPdf 11 38 51.0 -0.7**
NEW Newport 123.78 29 P **PKPdf 11 38 54.5 -0.7**
baz=313
I05D Terrebonne, OR 124.08 35 P **PKPdf 11 38 55.6 -0.3**
baz=307
HUMO Hull Mountain 124.13 38 *e*PKPdf **PKPdf 11 38 56.6 +0.6**
J04D Umpqua Nationa 124.28 36 P **PKPdf 11 38 55.8 -0.7**
baz=306
FFC Flin Flon 124.32 15 *e*PKPdf **PKPdf 11 38 55.3 -0.7**
L04D Klamath Falls 124.75 38 P **PKPdf 11 38 56.7 -0.7**
baz=305
J05D Fort Rock, OR 124.77 36 P **PKPdf 11 38 57.2 -0.2**
baz=307
F10A Beach Ranch, E 125.28 31 *e*PKPdf **PKPdf 11 38 58.1 -0.1**
M04C Macdoel 125.28 38 P **PKPdf 11 38 58.3 -0.1**
baz=305
K05A Summer Lake 125.30 36 *e*PKPdf **PKPdf 11 38 59.2 +0.7**
J08A Circle Bar Ran 126.31 34 *e*PKPdf **PKPdf 11 39 01.2 +1.0**
MSO Missoula 126.32 28 *e*PKPdf **PKPdf 11 39 00.1 -0.1**
MSO Missoula 126.32 28 P **PKPdf 11 38 59.5 -0.7**
baz=316
PLID Pearl Lake 126.52 31 *e*PKPdf **PKPdf 11 39 01.0 +0.3**
EGMT Eagleton 127.30 25 P **PKPdf 11 39 01.7 -0.3**
baz=321
DLMT Dillon 128.03 29 *e*PKPdf **PKPdf 11 39 04.0 +0.5**
BOZ Bozeman (W) 128.32 28 *e*PKPdf **PKPdf 11 39 04.2 +0.1**
BOZ Bozeman (W) 128.32 28 P **PKPdf 11 39 03.9 -0.2**
baz=318
HLID Hailey 128.39 32 *e*PKPdf **PKPdf 11 39 05.5 +1.1**
HLID Hailey 128.39 32 P **PKPdf 11 39 04.5 +0.1**
baz=314
NV01 Mina Array Sit 129.44 39 *e*PKPdf **PKPdf 11 39 06.8 +0.3**
NVAR Mina Array Bea 129.44 39 PKP **PKPdf 11 39 06.8 +0.3**
0.7nm,0.7s,baz=294,slow=2.9,SNR=4.7
ELK Elko 129.84 35 *e*PKPdf **PKPdf 11 39 08.5 +1.2**
ULM Lac du Bonnet 129.93 13 *e*PKPdf **PKPdf 11 39 06.5 -0.3**
ULM Lac du Bonnet 129.93 13 PKP **PKPdf 11 39 06.0 -0.8**
0.9nm,0.5s,baz=276,slow=4.2,SNR=3.6
SNOW Snow King Moun 130.32 29 *e*PKPdf **PKPdf 11 39 09.3 +1.1**
REDW Red Top Meadow 130.35 29 *e*PKPdf **PKPdf 11 39 08.7 +0.6**
MDND Maddock 131.14 18 P **PKPdf 11 39 08.1 -1.1**
baz=333
PDAR Pinedale Array 131.42 29 PKP **PKPdf 11 39 09.4 -0.7**
0.6nm,0.6s,baz=182,slow=2.5,SNR=5.2
DUG Dugway, Tooele 131.58 34 P **PKPdf 11 39 09.2 -1.2**
baz=314
CHGQ Chibougamau 131.92 355 P **PKPdf 11 39 10.5 -0.1**
baz=7.3
MATQ Matagami 132.26 358 P **PKPdf 11 39 10.8 -0.5**
baz=3.0
RSSD Black Hills 132.80 24 P **PKPdf 11 39 12.1 -0.6**
baz=326
EYMN Ely 133.03 11 P **PKPdf 11 39 12.8 +0.1**
baz=344
C40A Isle Royale Na 133.45 9 P **PKPdf 11 39 13.7 +0.2**
baz=347
D41A Chassel 134.37 8 P **PKPdf 11 39 15.4 +0.1**
baz=348
E39A Mellen 134.71 10 P **PKPdf 11 39 15.4 -0.6**
baz=345
E40A Wakefield 134.76 10 P **PKPdf 11 39 16.3 +0.2**
baz=346
D49A Beulah Townshi 134.77 1 P **PKPdf 11 39 16.2 +0.2**
baz=358
D48A Paudash Townsh 134.86 2 P **PKPdf 11 39 16.1 -0.1**
baz=357
E41A Kenton 134.89 9 P **PKPdf 11 39 15.9 -0.4**
baz=347
D47A Chapleau 134.92 3 P **PKPdf 11 39 16.0 -0.4**
baz=355
D53A Lac Vacive, Po 134.94 358 P **PKPdf 11 39 16.1 -0.3**
baz=3.0
D52A ZEK Kipawa Sen 135.07 359 P **PKPdf 11 39 16.0 -0.6**
baz=2.0
F40A Park Falls 135.23 10 P **PKPdf 11 39 17.0 +0.1**
baz=345
E43A Lone Tree Farm 135.25 7 P **PKPdf 11 39 16.9 0.0**
baz=350
E46A Sault Ste Mari 135.53 4 P **PKPdf 11 39 17.7 +0.2**
baz=354
E48A Lockeyer 135.54 2 P **PKPdf 11 39 17.6 +0.1**
baz=357
F41A Three Lakes 135.58 9 P **PKPdf 11 39 17.7 0.0**
baz=347
F44A Big Bay de Noc 135.72 7 P **PKPdf 11 39 18.4 +0.5**
baz=351
ECSD EROS Data Cent 135.75 17 *e*PKPdf **PKPdf 11 39 17.9 -0.1**
ECSD EROS Data Cent 135.75 17 P **PKPdf 11 39 18.1 +0.1**
baz=336
G40A Rib Lake 135.85 10 P **PKPdf 11 39 18.5 +0.4**
baz=345
F46A Macinaw City C 136.08 5 P **PKPdf 11 39 19.1 +0.6**
baz=353
F45A CMU Biological 136.10 6 P **PKPdf 11 39 19.5 +1.0**
baz=352
H39A Augusta 136.21 12 P **PKPdf 11 39 19.2 +0.4**
baz=343
ALFO Alfred 136.21 355 P **PKPdf 11 39 19.0 +0.3**
baz=7.2
F49A Sandfield 136.26 2 P **PKPdf 11 39 19.5 +0.6**
baz=357
G43A Wallace 136.26 8 P **PKPdf 11 39 19.0 +0.2**
baz=349
PEMO Pembroke 136.32 357 P **PKPdf 11 39 19.6 +0.6**
baz=3.8
G47A Hillman 136.75 4 P **PKPdf 11 39 20.0 +0.2**
baz=354
G53A Haliburton 136.92 359 P **PKPdf 11 39 20.4 +0.3**
baz=1.8
I39A Houston 136.95 12 P **PKPdf 11 39 20.3 +0.1**
baz=343
I55A Frankford 137.80 358 P **PKPdf 11 39 22.0 +0.3**
baz=3.2
J42A Columbus 137.93 10 P **PKPdf 11 39 22.1 +0.1**
baz=346
L39A Vinton 138.49 14 P **PKPdf 11 39 23.5 +0.4**
baz=342
J48A Bridge Port 138.62 4 P **PKPdf 11 39 24.1 +0.8**
baz=354
K43A Burlington 138.66 9 P **PKPdf 11 39 24.2 +0.8**
baz=347
J55A Hilton 138.75 358 P **PKPdf 11 39 24.0 +0.5**
baz=3.1
TASM ASL Pad, Albuq 138.85 34 P **PKPdf 11 39 24.6 +0.3**
baz=317
TASM ASL Pad, Albuq 138.85 34 P **PKPdf 11 39 24.5 +0.2**
baz=317
ANMO Albuquerque 138.85 34 P **PKPdf 11 39 24.7 +0.5**
baz=317
HRV Adam Dziewonsk 138.87 351 P **PKPdf 11 39 24.4 +0.7**
baz=13
BINY Binghamton 139.71 356 P **PKPdf 11 39 25.4 0.0**
baz=6.0
L54A Sinclairville 139.82 359 P **PKPdf 11 39 26.3 +0.7**
baz=0.8
L55A Hinsdale 139.86 358 P **PKPdf 11 39 26.1 +0.5**
baz=2.2
L50A Kingsville 139.93 3 P **PKPdf 11 39 26.8 +1.1**
baz=355
N46A Monticello 140.67 8 P **PKPdf 11 39 28.4 +1.3**
baz=349
N59A State Game Lan 140.96 355 P **PKPdf 11 39 28.8 +1.1**
baz=6.5
N51A Ashland 141.08 3 P **PKPdf 11 39 29.0 +1.1**
baz=356
N50A Nevada 141.18 4 P **PKPdf 11 39 27.7 -0.3**
baz=355
O53A New Philadelph 141.79 2 P **PKPdf 11 39 29.9 +0.8**
baz=358
O57A Amberson 141.79 357 P **PKPdf 11 39 30.0 +0.9**
baz=3.6
MNTX Cornudas Mount 141.82 36 P **PKPdf 11 39 30.4 +0.9**
baz=316
Q42A Golden Eagle 141.88 13 P **PKPdf 11 39 30.3 +1.0**
baz=343
P48A Milroy 142.26 7 P **PKPdf 11 39 31.2 +1.2**
baz=351
P52A Corning 142.37 3 P **PKPdf 11 39 31.7 +1.5**
baz=356
P54A Burton 142.45 1 P **PKPdf 11 39 31.6 +1.3**
baz=359
CCM Cathedral Cave 142.52 15 P **PKPdf 11 39 31.4 +0.9**
baz=341
TUL1 Leonard 143.07 22 P **PKPdf 11 39 33.7 +2.2**
baz=333
R47A Wooly Knot Far 143.25 9 P **PKPdf 11 39 33.9 +2.1**
baz=349
U40A Yellville 143.66 18 P **PKPdf 11 39 34.8 +2.3**
baz=338
R54A Victor 143.86 1 P **PKPdf 11 39 34.8 +1.9**
baz=358
S47A Hartford 143.88 9 P **PKPdf 11 39 35.2 +2.2**
baz=348
BDFB Brasilia 143.99 240 PKP **PKPab 11 39 31.8 +0.7**
1.5nm,0.4s,baz=176,slow=5.1,SNR=3.0
S50A Richmond 144.13 6 P **PKPdf 11 39 35.4 +2.0**
baz=352
S54A Dingess, Beckl 144.23 2 P **PKPab 11 39 30.8 -0.6**
baz=358
T46A Princeton 144.24 11 P **PKPab 11 39 31.3 -0.1**
baz=346
S51A Beattyville 144.25 5 P **PKPab 11 39 30.7 -0.7**
baz=354
S52A Salyersville 144.25 4 P **PKPab 11 39 30.6 -0.8**
baz=354
S55A Lewisburg 144.28 1 P **PKPab 11 39 31.3 -0.2**
baz=359
S57A Dark Hollow, R 144.28 359 P **PKPab 11 39 31.2 -0.3**
baz=1.5
S56A Natural Bridge 144.38 360 P **PKPab 11 39 31.5 -0.4**
baz=0.5
S58A Poland Farm, P 144.40 357 P **PKPab 11 39 31.6 -0.3**
baz=3.1
W39A Magazine 144.42 20 P **PKPab 11 39 32.0 -0.1**
baz=336
T48A Bowling Green 144.44 9 P **PKPab 11 39 32.0 -0.1**
baz=349
CPUP Villa Florida 144.48 216 PKP **PKPab 11 39 33.4 +0.8**
4.5nm,0.7s,baz=137,slow=3.7,SNR=14
CPUP pPKP **pPKPdf 11 39 47.5 +2.6**
4.2nm,0.6s,baz=163,slow=2.7,SNR=7.1
LTX Lajitas 144.54 37 *e*PKPdf **PKPab 11 39 33.0 +0.1**
TX31 Lajitas Ar. Si 144.54 37 *e*PKPdf **PKPab 11 39 32.8 0.0**
TXAR Lajitas Array 144.54 37 PKP **PKPab 11 39 33.0 +0.1**
8.6nm,0.8s,baz=261,slow=1.0,SNR=115
TXAR pPKP **pPKPdf 11 39 46.7 +1.6**
2.0nm,0.5s,baz=13,slow=1.0,SNR=6.5
T49A Edmonton 144.56 8 P **PKPab 11 39 30.6 -1.9**
baz=350
T50A Nancy 144.74 7 P **PKPab 11 39 31.5 -1.6**
baz=351
WHAR Wooly Hollow 144.82 18 *e*PKPdf **PKPab 11 39 32.8 -0.7**
T52A Hallie 144.83 4 P **PKPab 11 39 32.4 -1.1**
baz=355,SNR=5.8
BLA Blacksburg 144.84 1 P **PKPab 11 39 32.1 -1.5**
baz=359
U46A Springville 144.85 12 P **PKPab 11 39 32.5 -1.1**
baz=346
T51A Gray 144.89 6 P **PKPab 11 39 32.5 -1.3**
baz=353,SNR=13
HPIG 144.91 42 *e*PKPdf **PKPab 11 39 33.3 -1.1**
T55A Pulaski 144.93 1 P **PKPab 11 39 33.0 -1.0**
baz=358
U47A Clarksville 144.94 10 P **PKPab 11 39 32.9 -1.0**

	baz=347							
W41B	Gary Mavity, V	144.94	18	P	PKPab	11 39 32.9	-1.1	
	baz=338,SNR=6.3							
T54A	Tazewell	144.96	2	P	PKPab	11 39 33.0	-1.1	
	baz=357,SNR=5.9							
T53A	Wise	144.99	4	P	PKPab	11 39 33.1	-1.1	
	baz=355,SNR=6.8							
U48A	Cassie Pea, Po	145.00	9	P	PKPab	11 39 32.9	-1.2	
	baz=348,SNR=7.5							
T59A	Double "B" Far	145.01	357	P	PKPbc	11 39 33.3	-0.9	
	baz=4.0							
T56A	Rocky Mt	145.02	0	P	PKPbc	11 39 33.0	-1.3	
	baz=360,SNR=7.0							
T57A	Hurt	145.05	359	ePKPbc	PKPbc	11 39 33.7	-0.6	
T57A	Hurt	145.05	359	P	PKPbc	11 39 33.3	-1.0	
	baz=1.0							
T58A	Grand View Acr	145.09	358	P	PKPbc	11 39 33.7	-0.7	
	baz=2.3							
MIAR	Mount Ida	145.09	20	P	PKPbc	11 39 33.8	-0.7	
	baz=336,SNR=30							
U49A	Red Boiling Sp	145.11	8	P	PKPbc	11 39 33.2	-1.3	
	baz=350,SNR=8.0							
WVT	Waverly	145.14	11	ePKPbc	PKPbc	11 39 33.6	-0.9	
WVT	Waverly	145.14	11	P	PKPbc	11 39 33.7	-0.9	
	baz=346							
U50A	Jamestown	145.33	7	P	PKPbc	11 39 34.0	-1.2	
	baz=351,SNR=22							
TZTN	Tazewell	145.34	5	P	PKPbc	11 39 34.3	-1.0	
	baz=354,SNR=10							
X40A	Basin Creek Fa	145.39	19	P	PKPbc	11 39 34.7	-0.8	
	baz=337,SNR=9.7							
V46A	Holladay	145.40	12	P	PKPbc	11 39 34.3	-1.1	
	baz=345,SNR=12							
CLTN	Cedars of Leba	145.44	9	ePKPdf	PKPbc	11 39 34.2	-1.4	
U51A	La Follette	145.46	6	P	PKPbc	11 39 34.6	-1.1	
	baz=353							
U54A	Nelsons Funny	145.49	3	P	PKPdf	11 39 34.5	-1.3	
	baz=356							
U60A	Pendleton	145.49	356	P	PKPdf	11 39 34.9	-0.8	
	baz=4.7							
V47A	Nunnelly	145.49	11	P	PKPdf	11 39 34.7	-1.0	
	baz=346							
U52A	Thorn Hill	145.51	5	P	PKPdf	11 39 34.8	-1.0	
	baz=354,SNR=6.1							
U55A	TA2, Sparta	145.53	2	P	PKPdf	11 39 34.9	-1.0	
	baz=358,SNR=8.7							
U53A	Fall Branch	145.60	4	P	PKPdf	11 39 34.9	-1.1	
	baz=355							
U57A	Blanch	145.62	359	P	PKPdf	11 39 35.2	-0.7	
	baz=0.9,SNR=8.1							
U58A	Oxford	145.63	358	P	PKPdf	11 39 35.5	-0.5	
	baz=2.3,SNR=5.8							
U56A	King	145.70	1	P	PKPdf	11 39 35.4	-0.7	
	baz=359							
V48A	Smith Brothers	145.70	10	P	PKPdf	11 39 35.3	-0.9	
	baz=348,SNR=8.9							
V49A	McMinnville	145.83	9	P	PKPdf	11 39 35.3	-1.0	
	baz=349,SNR=6.0							
JCT	Junction City	145.87	32	ePKPdf	PKPdf	11 39 36.5	-0.1	
JCT	Junction City	145.87	32	P	PKPdf	11 39 36.6	0.0	
	baz=323,SNR=8.9							
X43A	Marvell	145.95	16	P	PKPdf	11 39 36.6	0.0	
	baz=340							
W46A	Michie	145.99	12	P	PKPdf	11 39 36.1	-0.5	
	baz=345							
V51A	Loudon	146.00	6	P	PKPdf	11 39 36.3	-0.3	
	baz=352							
V50A	Pikevile	146.03	8	P	PKPdf	11 39 36.0	-0.6	
	baz=351,SNR=6.2							
W47A	Westpoint	146.03	11	P	PKPdf	11 39 36.3	-0.4	
	baz=346,SNR=11							
V57A	Coltrane Farms	146.16	360	P	PKPdf	11 39 36.8	-0.1	
	baz=0.1							
V55A	Taylorsville	146.18	2	P	PKPdf	11 39 36.8	-0.1	
	baz=358							
V54A	Nebo	146.22	3	P	PKPdf	11 39 37.0	0.0	
	baz=356							
V56A	Mocksville	146.24	1	P	PKPdf	11 39 37.4	+0.3	
	baz=359							
V58A	Windy Hill, Pi	146.25	359	P	PKPdf	11 39 37.2	+0.2	
	baz=1.3							
V59A	Middlesex	146.25	358	P	PKPdf	11 39 37.5	+0.5	
	baz=2.9							
W48A	Pulaski	146.27	10	P	PKPdf	11 39 36.8	-0.3	
	baz=347,SNR=8.5							
V53A	Saluda	146.27	4	P	PKPdf	11 39 37.1	-0.1	
	baz=355,SNR=8.4							
CPCT	Cooper Cave	146.32	7	ePKPdf	PKPdf	11 39 37.0	-0.2	
OXF	Oxford	146.34	14	P	PKPdf	11 39 37.2	-0.1	
	baz=343							
W49A	Belvidere	146.40	9	P	PKPdf	11 39 37.2	-0.1	
	baz=348,SNR=13							
W50A	Signal Mountai	146.47	8	P	PKPdf	11 39 37.2	-0.3	
	baz=350							
X46A	Booneville	146.50	13	P	PKPdf	11 39 37.6	+0.1	
	baz=344							
Z41A	Richland Creek	146.52	20	P	PKPdf	11 39 37.8	+0.2	
	baz=336							
W51A	Cleveland	146.58	7	P	PKPdf	11 39 37.8	+0.2	
	baz=351							
X47A	Russelville	146.69	12	P	PKPdf	11 39 38.3	+0.4	
	baz=345							
W53A	Cullowhee	146.74	5	P	PKPdf	11 39 38.3	+0.2	
	baz=354,SNR=7.6							
W52A	Murphy	146.74	6	P	PKPdf	11 39 38.3	+0.3	
	baz=353							
KMSC	Kings Mountain	146.88	2	P	PKPdf	11 39 38.4	+0.3	
	baz=357,SNR=6.4							
W54A	Cherokee Point	146.90	3	P	PKPdf	11 39 38.8	+0.6	
	baz=356							
W57A	Gilead	146.90	0	ePKPdf	PKPdf	11 39 39.0	+0.8	
W57A	Gilead	146.90	0	P	PKPdf	11 39 38.5	+0.3	
	baz=360							
W56A	Indian Trail	146.91	1	P	PKPdf	11 39 38.9	+0.8	
	baz=359							
X48A	Hartselle	146.92	11	ePKPdf	PKPdf	11 39 38.2	0.0	
X48A	Hartselle	146.92	11	P	PKPdf	11 39 38.6	+0.4	
	baz=347,SNR=10.0							
W60A	Pink Hill	146.93	357	P	PKPdf	11 39 38.7	+0.5	
	baz=3.9							
X49A	Woodville	146.99	10	P	PKPdf	11 39 39.2	+0.8	
	baz=348,SNR=13							
W58A	Raeford	147.02	359	P	PKPdf	11 39 39.1	+0.8	
	baz=1.1							
X50B	Fort Payne	147.15	9	P	PKPdf	11 39 39.7	+1.1	
	baz=349							
X51A	Calhoun	147.15	8	P	PKPdf	11 39 39.8	+1.2	
	baz=351							
NATX	Nacogdoches	147.18	24	P	PKPdf	11 39 40.2	+1.5	
	baz=332							
PAULI	Pauline	147.18	3	ePKPbc	PKPbc	11 39 39.7	-1.1	
X52A	Dahlonega	147.23	6	P	PKPdf	11 39 40.2	+1.4	
	baz=353,SNR=5.7							
X53A	Estanollee	147.39	5	P	PKPdf	11 39 40.7	+1.7	
	baz=354,SNR=6.5							
BIRD	Birdtown, Kers	147.40	1	ePKPbc	PKPbc	11 39 40.5	-0.9	
Y48A	Jasper	147.41	11	P	PKPdf	11 39 40.5	+1.5	
	baz=346							
X54A	Belton	147.42	4	P	PKPdf	11 39 40.5	+1.4	
	baz=355,SNR=7.0							
X60A	Albert Glenn T	147.42	357	P	PKPdf	11 39 41.0	+2.0	
	baz=3.5							
X58A	Rowland	147.49	359	P	PKPdf	11 39 41.0	+1.9	
	baz=0.9							
X55A	Gracelyn & Ava	147.54	3	P	PKPdf	11 39 40.7	+1.4	
	baz=357,SNR=5.8							
X56A	White Oak	147.54	2	P	PKPdf	11 39 41.0	+1.8	
	baz=358							
X57A	Johnson Farm,	147.58	0	P	PKPdf	11 39 41.2	+1.9	
	baz=360							
Y49A	Blount Mountai	147.61	10	ePKPbc	PKPbc	11 39 40.6	-1.5	
Y49A	Blount Mountai	147.61	10	P	PKPdf	11 39 40.9	+1.5	
	baz=348,SNR=10							
Y51A	Rockmart	147.78	8	P	PKPdf	11 39 41.4	+1.7	
	baz=350							
Y52A	Lilburn	147.94	7	ePKPbc	PKPbc	11 39 42.2	-0.8	
Y52A	Lilburn	147.94	7	P	PKPdf	11 39 42.3	+2.3	
	baz=352,SNR=5.7							
Y53A	Monroe	148.00	6	P	PKPdf	11 39 42.1	+2.1	
	baz=353,SNR=5.9							
Y57A	Sumter	148.03	1	P	PKPdf	11 39 42.5	+2.4	
	baz=359							
Y55A	Saluda	148.06	3	P	PKPdf	11 39 42.4	+2.3	
	baz=356							
Y54A	Tignall	148.08	4	P	PKPdf	11 39 42.6	+2.4	
	baz=355,SNR=5.6							
Y58A	Scranton	148.14	360	P	PKPdf	11 39 42.3	+2.1	
	baz=0.3							
Z49A	Columbiana	148.23	11	P	PKPdf	11 39 42.8	+2.4	
	baz=347							
Z50A	Ashland	148.28	10	P	PKPdf	11 39 42.8	+2.3	
	baz=348							
LRAL	Lakeview Retre	148.30	11	ePKPbc	PKPbc	11 39 42.9	-1.0	
LRAL	Lakeview Retre	148.30	11	P	PKPdf	11 39 42.7	+2.2	
	baz=346							
GOGA	Godfrey	148.46	6	P	PKPbc	11 39 43.6	-0.6	
	baz=353							
148A	Greensboro	148.56	12	P	PKPdf	11 39 43.6	+2.7	
	baz=345							
Z52A	Williamson	148.57	7	P	PKPbc	11 39 44.1	-0.6	
	baz=351,SNR=8.3							
Z53A	Monticello	148.57	6	P	PKPbc	11 39 44.0	-0.7	
	baz=353							
Z54A	Sparta	148.69	5	P	PKPbc	11 39 44.4	-0.5	
	baz=354							
Z58A	St. Stephen	148.71	360	P	PKPbc	11 39 44.3	-0.7	
	baz=0.1							
Z57A	Bowman	148.74	1	P	PKPbc	11 39 44.5	-0.5	
	baz=358							
149A	Jones	148.76	11	P	PKPbc	11 39 44.5	-0.6	
	baz=347							
150A	Eclectic	148.90	10	P	PKPbc	11 39 45.1	-0.4	
	baz=348							
NHSC	New Hope	148.94	0	P	PKPbc	11 39 45.2	-0.3	
	baz=359							
151A	Opelika	149.09	9	P	PKPbc	11 39 45.5	-0.5	
	baz=349							
154A	Montrose	149.28	5	P	PKPbc	11 39 45.8	-0.7	
	baz=354							
249A	Camden	149.30	12	P	PKPbc	11 39 45.9	-0.5	
	baz=346							
155A	Kite	149.33	4	P	PKPbc	11 39 46.3	-0.2	
	baz=355							
250A	Grady	149.47	11	P	PKPbc	11 39 46.5	-0.4	
	baz=347							
251A	Midway	149.50	9	P	PKPbc	11 39 46.7	-0.3	
	baz=349,SNR=9.4							
252A	Lumpkin	149.70	8	P	PKPbc	11 39 47.1	-0.4	
	baz=350,SNR=6.0							
253A	Americus	149.72	7	P	PKPbc	11 39 47.4	-0.1	
	baz=352							
349A	Repton	149.89	13	P	PKPbc	11 39 48.1	+0.2	
	baz=345							
254A	Abbeville	149.92	6	P	PKPbc	11 39 47.9	-0.1	
	baz=353							
350A	Dozier	150.00	11	P	PKPbc	11 39 48.0	-0.2	
	baz=347							
255A	Hazlehurst	150.02	4	P	PKPbc	11 39 48.0	-0.2	
	baz=355							
352A	Blakely	150.18	9	ePKPbc	PKPbc	11 39 47.5	-1.1	
352A	Blakely	150.18	9	P	PKPbc	11 39 48.3	-0.3	
	baz=350							
351A	Pinckard	150.27	10	P	PKPbc	11 39 48.6	-0.2	
	baz=348							
LNIG	Linares	150.33	38	ePKPbc	PKPbc	11 39 48.0	-1.2	
353A	Camilla	150.41	8	P	PKPbc	11 39 49.1	-0.1	
	baz=351							
449A	Pace	150.45	13	P	PKPbc	11 39 49.5	+0.1	
	baz=345							
452A	Marianna	150.76	9	P	PKPbc	11 39 49.9	-0.2	
	baz=349							
455A	Stateville	151.14	6	P	PKPbc	11 39 50.7	-0.3	
	baz=353							
456A	Hilliard	151.24	4	P	PKPbc	11 39 51.4	+0.3	
	baz=356							
555A	McAlpin	151.76	6	P	PKPbc	11 39 52.4	-0.1	
	baz=353							
557A	Orange Park	151.97	3	P	PKPbc	11 39 52.6	-0.3	
	baz=356							
959A	Okeechobee	154.49	2	P	PKPbc	11 39 57.9	-0.6	
	baz=358							

*ISCJB **26** 11:29:05.9±0.9, 33°.94N±0°.09×136°.91E±0°.07, h367km±7km, mb2.6/2, Error ellipse: s-maj=13.8km s-min=8.9km az=167.3*
*JMA **26** 11:29:05.6±0.3, 33°.88N×136°.91E, h371km±3km, M2.7*
*IDC **26** 11:29:06.8±1.2, 34°.09N×137°.15E, h380km±9km, mb2.6/2, mb1 2.9/5, mb1mx2.6/48, mbtmp3.5/5, Error ellipse: s-maj=24.6km s-min=17.2km az=48.0*

ISC 26 11:29:05.6±1.1, 33°.93N±0°.09×136°.91E±0°.06, h370km±8km, n24, σ1°11/32, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	TONANKAI O.B.S	0.22	153	P	Pn	11 29 52.2	+0.9
JIE	Ise	0.49	340	P	Pn	11 29 52.6	+0.7
JIE				S	S	11 30 28.2	-1.0
TK02	Tokai 2	0.71	89	P	Pn	11 29 53.3	+1.1
JTNC	Tanabenakahech	1.08	264	P	Pn	11 29 53.8	0.0
JTNC				eS	S	11 30 31.0	-1.5
JWY	Kouya	1.13	285	P	Pn	11 29 54.5	+0.5
JYTA	Yamagatataniai	1.66	355	P	Pn	11 29 57.5	+1.0
JWT	Wachi	1.83	318	P	Pn	11 29 58.3	+0.8
JWT				S	S	11 30 38.2	-1.2
JAI	Aioi	2.05	267	P	Pn	11 29 59.1	+0.1
JYN	Shimob	2.06	40	P	Pn	11 30 00.0	+0.9
JOD2	Odawara 2	2.24	53	P	Pn	11 30 01.3	+1.0
JKG	Kaga	2.39	349	P	Pn	11 30 02.2	+0.9
JMN	Monobe	2.53	266	P	Pn	11 30 02.9	+0.3
JHJ	Hachijo jima 2	2.54	108	P	Pn	11 30 03.4	+0.8
	9.6nm,0.3s,baz=330,slow=18,SNR=7.0						
JHJ				S	S	11 30 50.4	+1.9
	3.4nm,0.3s,baz=354,slow=19,SNR=1.8						
JRY	Ryogami san	2.65	38	P	Pn	11 30 04.6	+1.2
MJAR	Matsushiro Arr	2.81	22	P	Pn	11 30 05.5	+0.7
	0.4nm,0.3s,baz=198,slow=9.7,SNR=33						
MJAR				S	S	11 30 52.5	0.0
	baz=202,slow=21,SNR=3.4						
MAT	Matsushiro	2.81	22	P	Pn	11 30 05.4	+0.7
MAT				S	S	11 30 51.7	-0.8
MAT	Matsushiro	2.81	22	P	Pn	11 30 05.7	+1.0
MAT				eS	S	11 30 52.3	-0.2
JAG	Ashikaga	3.25	39	P	Pn	11 30 08.3	-0.2
JHS	Saijyo	3.31	290	P	Pn	11 30 10.1	+1.0
BSO1	Boso 1	3.45	77	P	Pn	11 30 08.8	-0.9
BSO1				eS	S	11 30 59.8	-1.9
JTO	Tosashimizu	3.60	254	P	Pn	11 30 11.9	+0.1
KSRS	Korea Array	8.11	298	P	Pn	11 31 03.2	+2.0
	0.5nm,0.3s,baz=113,slow=12,SNR=17						
MKAR	Makanchi Array	42.74	304	P	P	11 36 29.1	+1.3
	0.2nm,0.4s,baz=99,slow=8.9,SNR=3.3						
ILAR	Eielson Array	54.06	31	P	P	11 37 51.1	-1.8
	0.3nm,0.8s,baz=294,slow=6.8,SNR=3.5						

*IDC **26** 11:33:21.5±5.6, 7°.29S×128°.71E, h89km±61km, mb3.6/6, mb1 3.9/8, mb1mx3.6/27, mbtmp4.1/8, ML4.3/2, Error ellipse: s-maj=59.2km s-min=23.3km az=71.0*
*ISCJB **26** 11:33:25.7±0.3, 7°.36S±0°.04×128°.51E±0°.05, h151km, mb4.2/19, Error ellipse: s-maj=6.5km s-min=5.3km az=12.0*
*NEIC **26** 11:33:27.6±2.9, 7°.38S×128°.53E, h156km±10km, mb4.3/19, Error ellipse: s-maj=15.7km s-min=10.5km az=100.0*

ISC 26 11:33:27.0±0.5, 7°.44S±0°.05×128°.55E±0°.05, h151km, n36, σ2°.02/43, mb4.2/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.77	101	ePn	Pn	11 34 13.3	+1.8
SAUI				eSn	Sn	11 34 49.2	+3.3
SOEI	Soe	4.82	241	ePn	Pn	11 34 39.3	+1.1
SOEI				eSn	Sn	11 35 32.9	-0.8
FAKI	Fak Fak	5.81	40	ePn	Pn	11 34 50.7	-0.5
FAKI				eSn	Sn	11 35 53.5	-3.6
MTN	Manton Dam	5.94	155	ePn	Pn	11 34 53.1	+0.2
MTN				eSn	Sn	11 35 56.5	-3.6
FITZ	Fitzroy Crossi	10.96	195	P	Pn	11 35 57.2	-2.5
	1.2nm,0.3s,baz=25,slow=9.1,SNR=39						
FITZ				S	Sn	11 37 52.1	-8.9
	3.7nm,0.3s,baz=67,slow=11,SNR=4.9						
WRAB	Tennant Creek	13.63	156	eP	P	11 36 38.7	+0.7
COEN	Coen	15.75	115	ePn	P	11 37 03.1	+1.5
	23nm,1.1s						
PSA00	Pilbara Seismi	16.37	210	eP	Pn	11 37 08.9	+0.6
	13nm,0.6s						
AS31	Alice Springs	16.93	163	eP	Pn	11 37 16.4	+1.3
	5.5nm,0.6s						
ASAR	Alice Springs	16.93	163	P	Pn	11 37 15.9	+0.8
	2.1nm,0.3s,baz=337,slow=10,SNR=189						
ASAR				S	S	11 40 16.6	-6.7
	0.8nm,0.3s,baz=344,slow=24,SNR=6.0						
SBUM	Sibu	19.03	300	eP	Pn	11 37 40.9	+1.0
	1.1nm,0.8s						
KSM	Kuching	20.24	295	eP	P	11 37 53.3	+2.7
	9.2nm,0.7s						
FORT	Forrest	23.22	181	eP	P	11 38 21.5	+0.8
	56nm,1.5s						
MORW	Morawa	24.53	207	eP	P	11 38 34.3	+1.7
	9.9nm,0.6s						
BBOO	Buckleboo	26.19	166	eP	P	11 38 48.3	+0.8
	30nm,1.5s						
STKA	Stephens Creek	27.18	155	eP	P	11 38 57.4	+0.9
	2.4nm,1.4s						
STKA	Stephens Creek	27.18	155	P	P	11 38 57.2	+0.7
	4.5nm,0.6s,baz=329,slow=10,SNR=14						
NWAO	Narrogin (SRO)	27.45	201	eP	P	11 38 59.2	+0.3
	11nm,1.1s						
ANA2	Anatahan	29.10	36	eP	P	11 39 15.5	+1.9
	68nm,0.5s						
CAN	Canberra	33.49	149	eP	P	11 39 54.7	+2.6
	14nm,1.2s						
TOO	Toolangi	33.70	155	eP	P	11 39 56.5	+2.6
	26nm,1.5s						
KSRS	Korea Array	44.67	359	P	P	11 41 25.2	+0.6
	0.5nm,0.6s,baz=179,slow=9.2,SNR=4.2						
MJAR	Matsushiro Arr	44.68	11	P	P	11 41 22.7	-2.1
	1.2nm,0.8s,baz=191,slow=10,SNR=4.1						
MAJO	Matsushiro	44.68	11	eP	P	11 41 22.7	-2.1
SONA0	Songino Array	58.42	343	eP	P	11 43 07.4	+0.6
SONM	Songino Array	58.42	343	P	P	11 43 07.4	+0.6
	0.8nm,0.7s,baz=160,slow=6.4,SNR=5.6						
PETK	Petropavlovsk-	65.20	19	P	P	11 43 51.8	-0.1
	2.3nm,0.8s,baz=198,slow=7.8,SNR=5.2						
PEA1	Petropavlovsk-	65.20	19	eP	P	11 43 51.8	-0.2
MK32	Makanchi Array	67.82	328	eP	P	11 44 09.4	+0.7
MK32				ePcP	PcP	11 44 31.7	-2.6
MKAR	Makanchi Array	67.82	328	P	P	11 44 09.4	+0.7
	0.5nm,0.6s,baz=120,slow=8.1,SNR=3.6						
MKAR				pP	PcP	11 44 31.7	-2.6
	0.7nm,0.6s,baz=130,slow=7.1,SNR=4.8						
AAK	Ala-Archa	69.96	321	eP	P	11 44 20.4	-1.8
	2.6nm,0.6s						
KURK	Kurchatov	72.15	329	eP	P	11 44 35.0	-0.1
	1.3nm,0.9s						
VNDA	Vanda	72.19	173	eP	P	11 44 35.0	+0.2
	3.3nm,1.5s						
UWE	Uwekahuna	79.55	69	eP	P	11 45 15.7	-2.2
	130nm,1.2s						
ABKAR	Akbulak array	81.97	322	eP	P	11 45 29.1	-0.8
	1.2nm,1.1s						
QSPA	South Pole Qui	82.54	180	eP	P	11 45 33.0	+0.2
	3.3nm,1.2s						

*SJA **26** 11:40:30.9±0.6, 22°.34S×65°.97W, h291km±5km, ML2.9, MW3.0*
*ISCJB **26** 11:40:33.5±0.6, 22°.41S±0°.04×66°.19W±0°.04, h271km±6km, Error ellipse: s-maj=7.0km s-min=5.3km az=149.5*
*GUC **26** 11:40:33.8±0.3, 22°.28S×66°.31W, h290km±13km, ML4.4*
*NEIC **26** 11:40:34.4±1.4, 22°.41S×66°.41W, h292km±32km, mb4.1/1, ML4.3(GUC), Error ellipse: s-maj=38.8km s-min=17.2km az=97.0*

ISC 26 11:40:33.5±1.3, 22°.42S±0°.05×66°.17W±0°.05, h270km±11km, n39, σ1°14/66, 4C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.05	138	eP	Pn	11 41 11.8	+0.4
HJA				IAML		11 41 12.2	
	comp=Z,82nm,0.3s						
HJA				eS	S	11 41 41.1	-0.2
AZAP	Zapla	2.06	151	eP	Pn	11 41 17.6	-0.8
AZAP				IAML		11 41 19.0	
	comp=Z,9.5nm,0.5s						
AZAP				eS	S	11 41 52.7	-1.3
LVC	Limon Verde	2.54	265	ePn	Pn	11 41 23.8	+0.8
LVC				eS	S	11 42 03.4	+1.2
LVC	Limon Verde	2.54	265	eP	Pn	11 41 24.0	+1.0
LVC				IAML		11 41 24.6	
	comp=Z,29nm,0.2s						
PB09	IPOC Station P	2.92	282	eP	Pn	11 41 27.7	+1.2
PB09				eS	S	11 42 09.2	+0.5
PB09	IPOC Station P	2.92	282	eP	Pn	11 41 27.1	+0.6
PB09				i S	S	11 42 07.6	-1.0
PB15	IPOC Station P	3.15	255	eP	Pn	11 41 30.4	+1.4
PB15				eS	S	11 42 14.0	+1.0
PB15	IPOC Station P	3.15	255	eP	Pn	11 41 30.3	+1.4
PB15				i S	S	11 42 13.6	+0.5
PB06	IPOC Station P	3.16	264	eP	Pn	11 41 30.1	+1.1
PB06	IPOC Station P	3.16	264	eP	Pn	11 41 30.2	+1.2
PB06				eS	S	11 42 12.6	-0.6
PB06				IAML		11 42 17.4	
	comp=N,125nm,0.1s						
PB03	IPOC Station P	3.34	276	eP	Pn	11 41 31.9	+0.9
PB03				eS	S	11 42 16.8	+0.1
PB03	IPOC Station P	3.34	276⇑	eP	Pn	11 41 31.5	+0.4
PB03				i S	S	11 42 15.4	-1.3
PB03				IAML		11 42 17.1	
	comp=N,273nm,0.2s						
PB01	IPOC Station P	3.37	293	ePn	Pn	11 41 31.8	+0.5
PB01				eS	S	11 42 16.2	-1.1
PB01	IPOC Station P	3.37	293⇑	iP	Pn	11 41 31.8	+0.5
PB01				i S	S	11 42 15.3	-2.0
PB01				IAML		11 42 17.6	
	comp=N,295nm,0.2s						
PB07	IPOC Station P	3.52	281	eP	Pn	11 41 33.9	+0.9
PB07	IPOC Station P	3.52	281	eP	Pn	11 41 33.6	+0.7
PB07				i S	S	11 42 18.8	-1.5
PB07				IAML		11 42 20.5	
	comp=N,250nm,0.2s						
PB08	IPOC Station P	3.59	309⇑	iP	Pn	11 41 34.6	+0.6
PB08				i S	S	11 42 20.7	-1.4
PB08				IAML		11 42 23.3	
	comp=N,102nm,0.2s						
PB02	IPOC Station P	3.63	287	eP	Pn	11 41 34.9	+0.8
PB02	IPOC Station P	3.63	287	eP	Pn	11 41 34.3	+0.1
PB02				i S	S	11 42 20.4	-2.0
PB02				IAML		11 42 22.2	
	comp=E,390nm,0.2s						
PB04	IPOC Station P	3.68	271	ePn	Pn	11 41 35.2	+0.4
PB04				eS	S	11 42 22.3	-1.3
PB04	IPOC Station P	3.68	271	eP	Pn	11 41 35.7	+0.9
PB04	IPOC Station P	3.68	271	eP	Pn	11 41 35.5	+0.7
PB04				i S	S	11 42 22.6	-1.0
PB04				IAML		11 42 25.7	
	comp=E,132nm,0.5s						
PB05	IPOC Station P	3.75	263	eP	Pn	11 41 36.4	+0.9
PB05	IPOC Station P	3.75	263

SKR				*e*S		Sn	11 43 16.9 +2.3
KDTR	**Khodutka, Kamc**	**4.13**	**30**	*e*S		Sn	11 43 55.3 +2.7
UGLR	**Uglovaya**	**5.57**	**26**	*e*P		Pn	11 43 29.2 +3.9
KOK	**Koryaka**	**5.59**	**25**	*e*P		Pn	11 43 28.2 +2.7
AVH	**Avacha**	**5.60**	**25**	*e*P		Pn	11 43 29.6 +4.0
SDLR	**Sedlovina**	**5.65**	**26**	*e*P		Pn	11 43 28.3 +1.9

MEX 26 12:00:54.7±0.6, 16°.70N×95°.36W, h72km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.60**	**50**	*i* P		Pn	12 01 06.9 -1.8
CMIG				*e*S		Sn	12 01 17.6 -1.4
HUIG	**Huatulco**	**1.18**	**218**	*i* P		Pn	12 01 14.1 -1.5
HUIG				*e*S		Sn	12 01 29.1 -2.0
PANG	**Puerto Angel**	**1.48**	**226**	*i* P		Pn	12 01 18.2 -1.4
PANG				*i* S		Sn	12 01 36.8 -1.4
TGIG		**2.15**	**88**	*e*P		Pn	12 01 26.2 -2.2
TGIG				*i* S		Sn	12 01 52.2 -1.9
PCIG		**2.28**	**115**	*e*P		Pn	12 01 28.9 -1.3
PCIG				*e*S		Sn	12 01 56.4 -1.0

KRNET ***26*** *12:05:05.9±0.1, 41°.58N×70°.38E, h12km, mb2.7*
NNC ***26*** *12:05:13.1±5.0, 41°.23N×71°.13E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=40.3km s-min=16.9km az=17.0*

ISC 26 12:05:06.5±1.5, 41°.54N±0°.08×70°.36E±0°.07, h6km±17km, n12, σ0=92/20, 11C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.84**	**256**	⇓*e*P		**Pg**	**12 05 21.9 -0.6**
	baz=53						
TAS				⇓*i*S		**Sg**	**12 05 33.8 +0.4**
	baz=53						
ARK	**Arkit**	**1.23**	**77**	⇑*i*P		**Pb**	**12 05 28.3 -1.8**
	baz=80						
ARK				⇑*i*S		**Sb**	**12 05 44.5 -1.8**
	baz=80						
BTK	**Batken**	**1.52**	**167**	⇑*e*P		**Pb**	**12 05 35.0 -0.2**
	baz=68						
BTK				⇑*i*S		**Sb**	**12 05 55.2 +0.4**
	baz=68						
KK31	**Karatay Array**	**1.56**	**4**	Pn		Pg	12 05 46.8 +10
	3.3nm,0.3s,baz=154,slow=13,SNR=78						
KK31				⇑Sn		Sg	12 06 13.0 +16
	5.6nm,0.5s,baz=154,slow=23,SNR=22						
MRKS	**Merke**	**2.44**	**60**	Pg		**Pg**	**12 05 53.6 +0.2**
	3.4nm,0.4s						
MRKS				Lg		Lg	12 06 22.7
	6.0nm,0.4s						
AML	**Almayashu**	**2.56**	**76**	⇓*i*P		**Pn**	**12 05 49.3 +0.4**
	baz=76						
AML				⇓*i*S		**Sn**	**12 06 20.6 +0.1**
	baz=76						
EKS2	**Erkin-Say**	**2.78**	**65**	⇑*i*P		**Pn**	**12 05 52.0 +0.4**
	baz=66						
EKS2				⇑*i*S		**Sn**	**12 06 25.3 -0.2**
	baz=66						
ARLS	**Aral**	**2.98**	**83**	⇑*i*P		**Pn**	**12 05 55.2 +0.7**
	baz=83						
ARLS				⇑*i*S		**Sn**	**12 06 31.3 +0.6**
	baz=83						
UCH	**Uchtor**	**3.17**	**76**	⇑*e*P		**Pn**	**12 05 57.8 +0.4**
	baz=77						
UCH				⇑*i*S		**Sn**	**12 06 35.6 -0.2**
	baz=77						
AAK	**Ala-Archa**	**3.26**	**69**	⇓*e*P		**Pn**	**12 05 58.9 +0.5**
	baz=70						
AAK				⇓*i*S		**Sn**	**12 06 37.3 -0.3**
	baz=70						
KZA	**Kyzart**	**3.69**	**80**	⇓*e*P		**Pn**	**12 06 05.0 +0.5**
	baz=81						
KZA				⇓*i*S		**Sn**	**12 06 47.8 -0.7**
	baz=81						
DGS	**Degeres**	**4.35**	**65**	Pg		**Pb**	**12 06 25.3 +1.8**
	1.3nm,0.6s						
DGS				Lg		Lg	12 07 16.7
	1.3nm,0.5s						

BJI ***26*** *12:25:07.8±0.0, 2°.32S×116°.27E, h15km, mb4.7/34, mB4.9/22, Ms4.6/25, Ms7 4.4/23*
IDC ***26*** *12:25:10.0±0.5, 1°.99S×115°.93E, h0km, mb4.4/21, mb1 4.5/24, mb1mx4.4/37, mbtmp4.4/24, ML3.8/3, MS4.2/31, Ms1 4.2/31, ms1mx4.2/40, Error ellipse: s-maj=17.1km s-min=11.6km az=62.0*
ISCJB ***26*** *12:25:10.5±0.2, 1°.97S±0°.03×115°.90E±0°.03, h10km, mb4.7/73, MS4.3/36, Error ellipse: s-maj=5.1km s-min=3.2km az=35.3*
DJA ***26*** *12:25:12.8±0.2, 2°.S±2°×11°.6E±°, h10km, M4.9/19, mB5.3/15, mb4.8/19, MLv5.3/18, Mw(mB)4.7/15, Mwp5.2/1*
GCMT ***26*** *12:25:13.8±0.2, 1°.82S±0°.02×115°.93E±0°.01, h12km, MW5.0/99, Moment Tensor Solution. s43,c59; s99,c142; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.19±.08; Mθθ=0.90±.07; Mφφ=-3.29±.08; Mrθ=2.23±.34; Mφθ=0.86±.07; Mφr=1.18±.27; Best double couple; M0=4.56100×10^16 NP1:φs=323.00000°, δ60.00000°, λ73.00000°. NP2: φs=174.00000°, δ34.00000°, λ117.00000°. Principal axes: T 5.1080, Plg70.0000°, Azm196.0000°; N -1.0880, Plg15.0000°, Azm331.0000°; P -4.0140, Plg14.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***26*** *12:25:15.8±0.5, 1°.96S×115°.87E, h36km±5km, mb4.7/43 Error ellipse: s-maj=6.6km s-min=4.1km az=212.0*
NEIC Felt [II] in Tabalong and at Tanahgrogot. Also felt at Samarinda.
KLM ***26*** *12:25:22.0, 1°.59S×115°.84E, h30km, mb5.1*

ISC 26 12:25:12.2±0.3, 1°.99S±0°.03×115°.89E±0°.04, h10km, n165, σ1=93/162, mb4.7/73, MS4.3/36, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKB	**Balikpapan**	**1.24**	**54**	P		**Pg**	**12 25 36.9 +0.9**
KBKI	**Kotabaru**	**1.33**	**168**	P		**Pn**	**12 25 36.9 +0.1**
MTKI	**Muara Teweh, K**	**1.44**	**316**	P		**Pn**	**12 25 35.9 -2.4**
MTKI				S		**Sb**	**12 25 57.8 +0.3**
SMKI	**Samarinda**	**2.02**	**41**	P		**Pn**	**12 25 47.0 +0.7**
SMKI				S		**Sg**	**12 26 15.4 -1.8**
SGKI	**Sangatta, Kali**	**2.24**	**50**	P		Pg	12 26 00.8 +5.6
TTSI	**Tana Toraja**	**4.06**	**105**	P		**Pn**	**12 26 16.0 +1.6**
PBKI	**Pangkalan Bun**	**4.28**	**260**	P		**Pn**	**12 26 21.4 +4.0**
SPSI	**Sidrap Palu**	**4.34**	**117**	P		**Pn**	**12 26 16.9 -1.4**
MPSI	**Mapaga**	**4.62**	**60**	P		**Pn**	**12 26 20.5 -1.7**
BNSI	**Bone**	**4.84**	**120**	P		**Pn**	**12 26 26.9 +1.7**
KAPI	**Kappang**	**4.89**	**128**	*e*Pn		**Pn**	**12 26 26.6 +0.8**
KAPI				*e*Lg		Lg	12 27 43.9
KAPI	**Kappang**	**4.89**	**128**	Pn		**Pn**	**12 26 25.9 +0.2**
	12nm,0.3s,baz=312,slow=9.2,SNR=12						
KAPI				Lg		Lg	12 27 43.9
	3.9nm,0.3s,baz=265,slow=21,SNR=3.6						
BKSI	**Bulukumba**	**5.37**	**128**	P		**Pn**	**12 26 32.4 +0.1**
	233nm,1.1s,2μm1.2nm						
KMMI	**Kalianget**	**5.38**	**201**	P		**Pn**	**12 26 35.0 +2.4**
SBUM	**Sibu**	**5.74**	**320**	*e*Pn		**Pn**	**12 26 36.2 -1.3**
APSI	**Ampana**	**5.86**	**80**	P		**Pn**	**12 26 39.4 +0.3**
GRJI	**Gresik**	**5.96**	**215**	P		**Pn**	**12 26 55.0 -1.2**
BSSI	**Bau Bau, Buton**	**6.17**	**132**	P		**Pn**	**12 26 43.3 -0.1**
	102nm,1.4s,6μm3.2nm						
MRSI	**Marisa**	**6.53**	**68**	P		**Pn**	**12 26 47.1 -1.2**
KSM	**Kuching**	**6.56**	**302**	*e*Pn		**Pn**	**12 26 47.3 -1.5**
JAGI	**Jajag, Banyuwa**	**6.67**	**195**	*e*Pn		**Pn**	**12 26 52.3 +2.0**
JAGI	**Jajag, Banyuwa**	**6.67**	**195**	P		**Pn**	**12 26 54.9 +4.6**
NGJI	**Ngawi**	**6.93**	**219**	P		**Pg**	**12 27 24.1 -0.9**
LUWI	**Luwuk**	**6.94**	**82**	*e*Pn		**Pn**	**12 26 54.8 +0.8**
LUWI	**Luwuk**	**6.94**	**82**	P		**Pn**	**12 26 53.9 -0.1**
	302nm,1.0s,4μm2.9nm						
KDI	**Kendari**	**7.00**	**106**	P		**Pn**	**12 26 54.6 -0.2**
	38nm,1.1s,2μm0.7nm						
BBSI	**Bau Bau**	**7.52**	**118**	P		**Pn**	**12 27 06.4 +4.5**
KMSI	**Cibinong**	**8.48**	**73**	P		**Pn**	**12 27 17.2 +2.0**
LEM	**Lembang**	**9.54**	**240**	Pg		Pn	12 28 05.1 +35
	2.2nm,0.3s,baz=358,slow=15,SNR=3.8						
LEM				Lg		Lg	12 30 19.2
	3.7nm,0.3s,baz=310,slow=15,SNR=4.7						
LEM				LR		LR	12 31 30.2
	comp=Z,8μm,20.1s,baz=74,slow=40						
PPBI	**Pangkal Pinang**	**9.75**	**269**	P		**Pn**	**12 27 33.9 +1.3**
SOEI	**Soe**	**11.35**	**133**	*e*Pn		**Pn**	**12 27 58.2 +3.6**
SOEI	**Soe**	**11.35**	**133**	P		**Pn**	**12 27 54.3 -0.4**
	146nm,2.7s,4μm						
TNTI	**Ternate**	**11.80**	**77**	*e*Pn		**Pn**	**12 28 03.0 +2.3**
MYKOM	**Kota Tinggi**	**12.61**	**287**	*e*Pn		**Pn**	**12 28 14.1 +2.3**
DAV	**Davao City (W)**	**13.21**	**47**	LR		LR	12 34 34.5
	comp=Z,2μm,18.6s,baz=226,slow=43						
BKNI	**Bangkinang**	**15.03**	**279**	*e*P		**P**	**12 28 51.0 +0.8**
SWI	**Sorong**	**15.40**	**86**	P		**Pn**	**12 28 51.0 +1.2**
PDSI	**Padang**	**15.46**	**274**	P		**Pn**	**12 28 51.6 +1.0**
IPM	**Ipoh**	**16.18**	**293**	*e*Pn		**Pn**	**12 29 01.7 +1.8**
	73nm,1.3s						
IPM	**Ipoh**	**16.18**	**293**	P		**P**	**12 29 04.0 +0.9**
FAKI	**Fak Fak**	**16.37**	**94**	*e*Pn		**Pn**	**12 29 03.8 +1.5**
	54nm,1.1s						
FAKI	**Fak Fak**	**16.37**	**94**	P		**Pn**	**12 29 02.1 -0.2**
TGY	**Tagaytay City**	**16.75**	**17**	Pn		**P**	**12 29 09.0 -0.4**
	22nm,0.3s,baz=15,slow=7.8,SNR=3.4						
TGY				LR		LR	12 36 25.8
	comp=Z,990nm,20.1s,baz=167,slow=40						
KULM	**Kulim**	**16.85**	**295**	*e*Pn		**Pn**	**12 29 08.0 -0.5**
	98nm,1.4s						
KULM	**Kulim**	**16.85**	**295**	P		**P**	**12 29 11.0 +0.5**
PSI	**Prapat**	**17.62**	**286**	*e*P		**Pn**	**12 29 18.8 +0.7**
	126nm,1.3s						
PSI	**Prapat**	**17.62**	**286**	P		**Pn**	**12 29 18.6 +0.5**
	0.6nm,0.3s,baz=104,slow=9.8,SNR=19						
PSI				Lg		Lg	12 34 25.3
	baz=189,slow=20,SNR=5.8						
PSI				LR		LR	12 35 54.1
	comp=Z,2μm,21.0s,baz=111,slow=36						
MTN	**Manton Dam**	**18.55**	**126**	*e*P		**Pn**	**12 29 31.8 +2.3**
	66nm,1.4s						
GSI	**Gunungsitoli**	**18.60**	**280**	*e*P		**P**	**12 29 30.1 +0.3**
	118nm,1.5s						
FITZ	**Fitzroy Crossi**	**18.65**	**150**	*e*P		**P**	**12 29 29.8 -0.5**
FITZ	**Fitzroy Crossi**	**18.65**	**150**	P		**P**	**12 29 30.1 -0.2**
	0.1nm,0.3s,baz=336,slow=15,SNR=2.6						
FITZ				LR		LR	12 37 12.0
	comp=Z,492nm,20.8s,baz=326,slow=39						
KRAB	**Krabi**	**19.49**	**302**	P		**Pn**	**12 29 47.7 +6.8**
QIZ	**Qiongzhong**	**21.72**	**344**	P		**P**	**12 30 03.8 +0.1**
QIZ				S		**S**	**12 34 06.8 +2.6**
QIZ				LR		LR	
	comp=N,470nm,19.1s						
QIZ				LR		LR	
	comp=E,380nm,13.2s						
QIZ				LR		LR	
	comp=Z,470nm,18.6s						
PANO	**Nakornpanom**	**22.03**	**330**	P		P	12 30 15.1 +8.0
	0.6nm,1.7s						
SKNT	**Sakolnakorn**	**22.21**	**328**	P		**P**	**12 30 13.0 +4.0**
	32nm,1.4s						
KHON	**Khomkaen**	**22.32**	**325**	P		**P**	**12 30 16.9 +6.7**
	45μm,1.1s						
CHAI	**Chaiyaphum**	**22.47**	**323**	P		**P**	**12 30 13.7 +1.9**
	35μm,0.9s,495μm						
PBKT	**Sadao Pong**	**23.60**	**322**	P		**P**	**12 30 29.8 +6.4**
	5.5nm,1.6s,538nm						
UTTA	**Uttaradit**	**24.76**	**323**	P		**P**	**12 30 37.7 +3.5**
	41μm,0.9s						
WRAB	**Tennant Creek**	**25.37**	**136**	*e*P		**P**	**12 30 39.0 -0.8**
	36nm,1.0s						
PHRA	**Phrae**	**25.54**	**324**	P		**P**	**12 30 48.2 +7.0**
	0.9nm,0.9s						
LAMP	**Lampang**	**25.91**	**323**	P		**P**	**12 30 49.5 +4.8**
	30μm,0.9s,292μm						
CM31	**Chiang Mai Arr**	**26.29**	**321**	*e*P		**P**	**12 30 49.1 +1.0**
	12nm,1.0s						
CMAR	**Chiang Mai Arr**	**26.29**	**321**	P		**P**	**12 30 49.1 +1.0**
	6.0nm,0.9s,baz=147,slow=7.3,SNR=20						
CMAR				LR		LR	12 42 40.2
	comp=Z,738nm,18.0s,baz=141,slow=40						
CMMT	**Chiang Mai**	**26.55**	**322**	P		**P**	**12 30 57.6 +7.1**
	3.3nm,1.7s,200nm						
CHTO	**Chiang Mai**	**26.55**	**322**	*e*P		**P**	**12 30 51.5 +1.0**
	7.8nm,1.1s						
QZH	**Quanzhou**	**26.90**	**5**	P		**P**	**12 30 55.8 +2.3**
QZH				S		**S**	**12 35 34.0 +3.6**
QZH				LR		LR	
	comp=N,460nm,19.4s						
QZH				LR		LR	
	comp=E,250nm,11.4s						
QZH				LR		LR	
	comp=Z,620nm,18.0s						
AS31	**Alice Springs**	**27.73**	**142**	*e*P		**P**	**12 30 59.8 -1.3**
	2.2nm,1.0s						
ASAR	**Alice Springs**	**27.73**	**142**	P		**P**	**12 31 00.2 -0.8**
	2.6nm,1.0s,baz=318,slow=8.1,SNR=13						
ASAR				LR		LR	12 42 40.3
	comp=Z,478nm,20.5s,baz=326,slow=38						
KMI	**Kunming**	**29.82**	**335**	P		**P**	**12 31 21.0 +1.2**
KMI				sP		sP	12 31 28.3 +4.1
KMI				S		**S**	**12 36 17.5 +0.7**
KMI				pmax		pmax	
	comp=Z,13nm,0.8s						
KMI				pmax		pmax	
	comp=Z,64nm,3.8s						
KMI				LR		LR	
	comp=N,700nm,14.3s						
KMI				LR		LR	
	comp=E,280nm,17.0s						
KMI				LR		LR	
	comp=Z,550nm,14.3s						
PMG	**Port Moresby**	**31.95**	**105**	LR		LR	12 47 44.0
	comp=Z,323nm,18.7s,baz=245,slow=42						
WHN	**Wuhan**	**32.38**	**358**	P		**P**	**12 31 43.5 +1.4**
WHN				S		**S**	**12 36 55.3 -1.1**
WHN				pmax		pmax	
	comp=Z,200nm,2.3s						
WHN				LR		LR	
	comp=N,1μm,15.5s						
WHN				LR		LR	
	comp=E,600nm,18.3s						
WHN				LR		LR	
	comp=Z,1μm,18.4s						
ENH	**Enshi**	**32.66**	**350**	*e*P		**P**	**12 31 45.3 +0.7**
	12nm,1.1s						
NJ2	**Nanjing**	**33.97**	**5**	*e*P		**P**	**12 31 57.0 +1.0**
NJ2				pmax		pmax	
	comp=Z,5.0nm,0.5s						
CD2	**Chengdu**	**34.70**	**341**	*e*P		**P**	**12 32 03.3 +0.9**
CD2				S		**S**	**12 37 31.3 -1.2**
CD2				pmax		pmax	
	comp=Z,10.0nm,0.5s						
CD2				pmax		pmax	
	comp=Z,220nm,7.3s						
CD2				LR		LR	
	comp=N,1μm,11.2s						
CD2				LR		LR	
	comp=E,1μm,13.5s						
CD2				LR		LR	
	comp=Z,1μm,12.0s						
BBOO	**Buckleboo**	**36.04**	**150**	*e*P		**P**	**12 32 14.0 +0.1**
	67nm,1.3s						
RABL	**Rabaul**	**36.28**	**94**	*e*P		**P**	**12 32 17.2 +0.9**
	9.6nm,0.7s						
STKA	**Stephens Creek**	**38.35**	**144**	*e*P		**P**	**12 32 33.4 -0.2**
	3.3nm,0.9s						
STKA	**Stephens Creek**	**38.35**	**144**	P		**P**	**12 32 33.2 -0.3**
	7.4nm,1.0s,baz=298,slow=8.3,SNR=7.6						
STKA				LR		LR	12 48 40.3
	comp=Z,287nm,20.1s,baz=320,slow=37						
LSA	**Lhasa**	**39.40**	**325**	*e*P		**P**	**12 32 41.9 -1.0**
	14nm,1.0s						
LZH	**Lanzhou**	**39.51**	**345**	*e*P		**P**	**12 32 42.8 -0.6**
LZH				pP		pP	12 32 45.8 -0.7
LZH				pmax		pmax	
	comp=Z,19nm,1.1s						
LZH				LR		LR	
	comp=N,450nm,14.1s						
LZH				LR		LR	
	comp=E,340nm,13.8s						
LZH				LR		LR	
	comp=Z,590nm,15.4s						
RAMN	**Ramite**	**40.31**	**318**	*e*P		**P**	**12 32 48.3 -2.0**
	60nm,1.3s						
KSRS	**Korea Array**	**40.80**	**15**	P		**P**	**12 32 54.5 +0.7**
	0.5nm,0.8s,baz=188,slow=10,SNR=4.7						
KSRS				LR		LR	12 52 35.3
	comp=Z,150nm,19.2s,baz=198,slow=40						
JIRN	**Jiri**	**41.05**	**318**	*e*P		**P**	**12 32 56.8 +0.3**
	95nm,1.0s						
PKI	**Pulchoki**	**41.52**	**317**	*e*P		**P**	**12 32 59.3 -1.0**
	34nm,1.1s						
PKIN	**Phulchoki**	**41.53**	**317**	*e*P		**P**	**12 32 59.9 -0.5**
	15nm,0.9s						
DMN	**Daman**	**41.75**	**317**	*e*P		**P**	**12 33 01.8 -0.4**
	51nm,1.1s						
GKN	**Gorkha**	**42.32**	**317**	*e*P		**P**	**12 33 06.7 0.0**
	84nm,1.1s						
BTO	**Baotou**	**42.73**	**353**	*e*P		P	12 33 15.5 +5.8
BTO				S		**S**	**12 39 31.0 -2.5**
HHC	**Hu-ho-hao-te**	**42.82**	**355**	*e*P		**P**	**12 33 11.0 +0.6**
HHC				S		**S**	**12 39 38.0 +3.2**
HHC				SS		**SS**	**12 42 47.0 +0.9**
HHC				pmax		pmax	
	comp=Z,66nm,0.9s						
HHC				pmax		pmax	
	comp=Z,100nm,5.3s						
HHC				LR		LR	
	comp=N,660nm,13.8s						
HHC				LR		LR	
	comp=E,590nm,13.1s						
HHC				LR		LR	
	comp=Z,670nm,14.2s						
KOLN	**Koldanda**	**42.89**	**316**	*e*P		**P**	**12 33 10.8 -0.6**
	34nm,0.9s						
DANN	**Dangsing**	**43.14**	**317**	*e*P		**P**	**12 33 14.2 +0.7**
	62nm,1.0s						
PYUN	**Piuthan**	**43.52**	**316**	*e*P		**P**	**12 33 16.2 -0.2**
	93nm,1.0s						
MAJO	**Matsushiro**	**43.60**	**26**	*e*P		**P**	**12 33 15.5 -1.2**
	11nm,1.4s						
MAT	**Matsushiro**	**43.60**	**26**	P		**P**	**12 33 14.4 -2.4**
MAT				S		**S**	**12 39 40.8 -5.5**
MJAR	**Matsushiro Arr**	**43.60**	**26**	P		**P**	**12 33 14.7 -2.0**
	2.9nm,0.9s,baz=198,slow=9.0,SNR=9.6						
MJAR				LR		LR	12 50 32.8
	comp=Z,621nm,20.7s,baz=210,slow=35						
MJB9	**Matsu-Tunnel**	**43.60**	**26**	*e*P		**P**	**12 33 16.0 -0.8**
	12nm,1.4s						
GTA	**Gaotai**	**43.77**	**342**	*e*P		**P**	**12 33 18.3 +0.1**
GTA				pP		sP	12 33 22.5 -0.1
GTA				sP		pP	12 33 26.3 +5.0
GTA				pmax		pmax	
	comp=Z,2.0nm,1.4s						
HNR	**Honiara**	**44.42**	**101**	*e*P		**P**	**12 33 24.7 +1.1**
	49nm,1.0s						
USRK	**Ussuriysk Ar.**	**48.19**	**16**	LR		LR	12 54 33.1
	comp=Z,156nm,21.2s,baz=182,slow=37						
SONA0	**Songino Array**	**50.31**	**352**	*e*P		**P**	**12 34 09.0 -0.2**
SONM	**Songino Array**	**50.31**	**352**	P		**P**	**12 34 09.0 -0.2**
	2.0nm,0.8s,baz=173,slow=9.1,SNR=12						
SONM				LR		LR	12 57 58.1
	comp=Z,299nm,20.0s,baz=166,slow=39						
ASAJ	**Asahikawa**	**51.75**	**24**	LR		LR	12 56 56.7
	comp=Z,234nm,20.7s,baz=183,slow=37						
WMQ	**Urumqi**	**52.14**	**334**	*e*P		**P**	**12 34 24.0 +1.1**
WMQ				LR		LR	
	comp=N,810nm,14.5s						
WMQ				LR		LR	
	comp=E,1μm,16.9s						
WMQ				LR		LR	
	comp=Z,2μm,19.3s						
DZM	**Mont Dzumac**	**52.99**	**116**	*e*LR		LR	12 49 41.0
	comp=Z,725nm,28.4s						
NIL	**Nilore**	**53.54**	**315**	*e*P		**P**	**12 34 32.6 -0.8**
	11nm,1.0s						
KSH	**Kashi**	**55.17**	**323**	P		**P**	**12 34 48.0 +2.7**
KSH				pmax		pmax	
	comp=Z,10.0nm,0.3s						
KDJ	**Kajisay**	**56.15**	**326**	*e*P		**P**	**12 34 52.7 +0.4**
	5.8nm,1.0s						
MK31	**Makanchi Array**	**56.85**	**333**	*e*P		**P**	**12 34 57.0 -0.1**
	4.3nm,0.9s						
MK32	**Makanchi Array**	**56.85**	**333**	*e*P		**P**	**12 34 56.9 -0.1**
MKAR	**Makanchi Array**	**56.85**	**333**	P		**P**	**12 34 56.9 -0.1**
	2.5nm,0.6s,baz=142,slow=7.7,SNR=16						
MKAR				LR		LR	13 02 16.9
	comp=Z,167nm,19.8s,baz=137,slow=39						
KBL	**Kabul**	**56.99**	**314**	*e*P		**P**	**12 34 57.1 -1.4**
	8.4nm,0.8s						
MAKZ	**Makanchi**	**57.00**	**333**	*e*P		**P**	**12 34 57.6 -0.5**
	3.6nm,1.1s						
AAK	**Ala-Archa**	**58.00**	**325**	*e*P		**P**	**12 35 05.7 +0.3**
	5.2nm,1.0s						
GAR	**Garm**	**58.43**	**319**	*e*P		**P**	**12 35 08.8 +0.3**
	31nm,1.3s						
BTK	**Batken**	**58.69**	**321**	*e*P		**P**	**12 35 09.7 -0.5**
	12nm,1.4s						
KKAR	**Karatay Array**	**60.62**	**323**	*e*P		**P**	**12 35 23.1 -0.2**
	2.5nm,0.9s						
KURK	**Kurchatov**	**61.38**	**334**	*e*P		**P**	**12 35 27.4 -0.9**
	4.8nm,0.9s						
ZAA0	**Zalesovo Array**	**61.43**	**340**	*e*P		**P**	**12 35 27.9 -0.8**
	7.2nm,1.1s						
ZALV	**Zalesovo Beam**	**61.43**	**340**	P		**P**	**12 35 27.7 -0.9**
	1.3nm,0.4s,baz=123,slow=5.5,SNR=6.8						
ZAA1	**Zalesovo Array**	**61.44**	**340**	*e*P		**P**	**12 35 27.7 -1.0**
PEA0B	**Petropavlovsk-**	**65.06**	**26**	*e*P		**P**	**12 35 53.1 +0.4**
	26nm,1.1s						
PETK	**Petropavlovsk-**	**65.06**	**26**	P		**P**	**12 35 52.3 -0.4**
	8.7nm,0.9s,baz=220,slow=1.2,SNR=8.7						
PETK				LR		LR	13 02 02.0
	comp=Z,267nm,21.8s,baz=215,slow=34						
PEA1	**Petropavlovsk-**	**65.07**	**26**	*e*P		**P**	**12 35 52.3 -0.4**
GEYT	**Alibeck**	**66.40**	**313**	P		**P**	**12 36 02.4 +0.7**
	8.4nm,1.0s,baz=129,slow=4.0,SNR=12						
BRVK	**Borovoye**	**66.77**	**332**	*e*P		**P**	**12 36 02.7 -1.0**
	6.6nm,1.0s						
OPO	**Ambohidratompo**	**69.19**	**251**	P		**P**	**12 36 19.9 +0.1**
	4.8nm,0.9s,baz=93,slow=17,SNR=4.5						
OPO				LR		LR	13 01 00.8
	comp=Z,78nm,21.6s,baz=242,slow=31						
ABKAR	**Akbulak array**	**70.09**	**325**	*e*P		**P**	**12 36 24.2 -0.4**
	5.7nm,0.8s						
SEY	**Seymchan**	**70.31**	**17**	P		**P**	**12 36 24.1 -1.6**
	1.2nm,0.4s,baz=208,slow=11,SNR=2.9						
NRIK	**Noril'sk**	**73.74**	**350**	P		**P**	**12 36 45.6 -0.5**
	1.7nm,0.5s,baz=164,slow=6.9,SNR=5.8						
NRIK				LR		LR	13 14 18.8
	comp=Z,119nm,18.8s,baz=170,slow=40						
TIXI	**Tiksi**	**73.99**	**4**	*e*P		**P**	**12 36 45.8 -1.8**
	18nm,1.4s						
ARU	**Arti**	**74.27**	**331**	*e*P		**P**	**12 36 49.9 +0.4**
	12nm,1.1s						
MAW	**Mawson**	**74.80**	**198**	*e*P		**P**	**12 36 50.4 -1.9**
	4.1nm,1.4s						
MAW	**Mawson**	**74.80**	**198**	P		**P**	**12 36 50.9 -1.4**
	3.8nm,0.9s,baz=112,slow=19,SNR=2.9						
MAW				LR		LR	13 07 10.6
	comp=Z,104nm,18.8s,baz=44,slow=34						
**KIWB

BOSA Boshof 89.62 242 LR LR 13 14 10.1
comp=Z,249nm,19.1s,baz=43,slow=33
FIA0 FINESS Array S 91.64 331 *e*P **P 12 38 18.9 -0.5**
FINES FINESS Array B 91.64 331 P **P 12 38 18.9 -0.5**
5.8nm,1.1s,baz=114,slow=9.2,SNR=4.6
FINES LR LR 13 24 13.4
comp=Z,219nm,19.7s,baz=49,slow=39
BUR08 Bucovina Ar. S 91.92 317 *e*P **P 12 38 21.0 -0.2**
3.4nm,1.2s
ARCES ARCESS Array B 91.98 339 LR LR 13 25 45.2
comp=Z,154nm,18.9s,baz=94,slow=40
PPT2 Papeete2 93.73 108 *e*LR LR 13 08 33.0
comp=Z,199nm,29.5s
PPT Papeete 93.73 108 LR LR 13 19 25.5
comp=Z,60nm,19.6s,baz=276,slow=35
KOLS Kolonicke sedl 93.87 319 *e*P **P 12 38 31.5 +1.5**
ILAR Eielson Array 94.88 25 LR LR 13 22 03.7
comp=Z,87nm,20.8s,baz=306,slow=36
NOA NORSAR Array B 98.82 332 P **P 12 38 50.8 -1.5**
1.6nm,1.1s,baz=77,slow=4.1,SNR=2.3
NOA LR LR 13 28 23.8
comp=Z,112nm,18.3s,baz=90,slow=38
GERES GERESS Array B 99.51 319 LR LR 13 31 22.3
comp=Z,121nm,18.6s,baz=20,slow=40
LTX Lajitas 133.60 50 *e*PKPdf **PKPdf 12 44 29.4 -0.5**
TXAR Lajitas Array 133.60 50 PKP **PKPdf 12 44 29.4 -0.5**
0.3nm,0.9s,baz=259,slow=1.8,SNR=2.9
Y58A Scranton 145.07 23 *e*PKPbc **PKPbc 12 44 50.4 +0.6**
CPUP Villa Florida 151.09 193 PKPbc **PKPbc 12 45 06.2 -0.2**
0.8nm,0.4s,baz=240,slow=20,SNR=2.6

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*ISCJB **26** 12:40:59.1±0.2,54°.93N±0°.04×153°.09E±0°.04,h600km, mb4.0/127, Error ellipse: s-maj=4.7km s-min=2.8km az=176.3*
*MOS **26** 12:40:59.2±0.8,54°.82N×153°.17E,h611km,mb4.1/33, Error ellipse: s-maj=7.9km s-min=6.6km az=86.6*
*KRSC **26** 12:40:59.4±10.0,54°.76N×153°.66E,h618km±10km,ML4.4*
*NEIC **26** 12:41:00.3±1.5,54°.88N×153°.13E,h601km±8km, mb4.0/114, Error ellipse: s-maj=24.7km s-min=14.9km az=187.0*
*IDC **26** 12:41:01.1±0.8,54°.87N×153°.09E,h620km±11km, mb3.2/23,mb1 3.3/29,mb1mx3.2/52,mbtmp4.2/29, Error ellipse: s-maj=12.3km s-min=8.0km az=165.0*

ISC 26 12:40:59.6±0.4,54°.84N±0°.06×153°.27E±0°.05,h600km, n289,σ1$38/312,mb4.0/127,10C-7D,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**2.97**	**111**	*i* P		**P**	**P**	**12 42 20.7**	**+2.0**
GNL	**Ganaly**	**2.97**	**111**	P		**P**	**P**	**12 42 20.7**	**+2.0**
APC	**Apacha**	**2.99**	**128**	*e*P		**P**	**P**	**12 42 20.2**	**+1.5**
APC	**Apacha**	**2.99**	**128**	P		**P**	**P**	**12 42 20.2**	**+1.5**
PEA0B	**Petropavlovsk-**	**3.13**	**122**	*e*P		**P**	**P**	**12 42 19.9**	**+0.4**
PETK	**Petropavlovsk-**	**3.13**	**122**	P		**P**	**P**	**12 42 21.3**	**+1.7**
17nm,0.3s,baz=28,slow=5.3,SNR=348									
ESO	**Esso**	**3.28**	**68**	*e*P		**P**	**P**	**12 42 22.5**	**+2.2**
ESO	**Esso**	**3.28**	**68**	P		**P**	**P**	**12 42 22.5**	**+2.2**
KRX	**Arik**	**3.49**	**113**	*e*P		**P**	**P**	**12 42 23.7**	**+1.9**
KRX	**Arik**	**3.49**	**113**	P		**P**	**P**	**12 42 23.7**	**+1.9**
KOK	**Koryaka**	**3.52**	**114**	*e*P		**P**	**P**	**12 42 23.7**	**+1.8**
KOK	**Koryaka**	**3.52**	**114**	P		**P**	**P**	**12 42 23.7**	**+1.8**
KRER	**Koryakskii**	**3.57**	**113**	*e*P		**P**	**P**	**12 42 24.2**	**+1.8**
KRER	**Koryakskii**	**3.57**	**113**	P		**P**	**P**	**12 42 24.2**	**+1.8**
AVH	**Avacha**	**3.58**	**114**	*e*P		**P**	**P**	**12 42 24.0**	**+1.7**
AVH	**Avacha**	**3.58**	**114**	P		**P**	**P**	**12 42 24.0**	**+1.7**
SMAR	**Somma**	**3.62**	**114**	*e*P		**P**	**P**	**12 42 24.1**	**+1.4**
SMAR	**Somma**	**3.62**	**114**	P		**P**	**P**	**12 42 24.1**	**+1.4**
SDLR	**Sedlovina**	**3.66**	**113**	*e*P		**P**	**P**	**12 42 23.8**	**+1.0**
SDLR				*e*S		**S**	**S**	**12 43 31.0**	**+0.2**
SDLR	**Sedlovina**	**3.66**	**113**	P		**P**	**P**	**12 42 23.8**	**+1.0**
SDLR				S		**S**	**S**	**12 43 31.0**	**+0.2**
UGLR	**Uglovaya**	**3.66**	**114**	*e*P		**P**	**P**	**12 42 24.0**	**+1.2**
UGLR	**Uglovaya**	**3.66**	**114**	P		**P**	**P**	**12 42 24.0**	**+1.2**
PET	**Petropavlovsk**	**3.66**	**118**	*e*P		**P**	**P**	**12 42 23.1**	**+0.4**
PET				*e*S		**S**	**S**	**12 43 32.3**	**+1.7**
PET	**Petropavlovsk**	**3.66**	**118**	*i* P		**P**	**P**	**12 42 23.8**	**+1.1**
PET	**Petropavlovsk**	**3.66**	**118**	*e*P		**P**	**P**	**12 42 23.4**	**+0.7**
PET				pmax		pmax	pmax		
comp=Z,57nm,0.4s									
ASAK	**Asacha**	**3.69**	**130**	*e*P		**P**	**P**	**12 42 24.1**	**+1.0**
ASAK	**Asacha**	**3.69**	**130**	P		**P**	**P**	**12 42 24.1**	**+1.0**
KII	**Karymskiy**	**3.69**	**100**	*e*P		**P**	**P**	**12 42 24.4**	**+1.4**
KII	**Karymskiy**	**3.69**	**100**	P		**P**	**P**	**12 42 24.4**	**+1.4**
DALK	**Dalny**	**3.71**	**117**	*e*P		**P**	**P**	**12 42 23.4**	**+0.4**
DALK	**Dalny**	**3.71**	**117**	P		**P**	**P**	**12 42 23.4**	**+0.4**
MTVR	**Mutnovka**	**3.75**	**127**	*e*P		**P**	**P**	**12 42 25.2**	**+1.7**
MTVR				*e*S		**S**	**S**	**12 43 32.2**	**+0.1**
MTVR	**Mutnovka**	**3.75**	**127**	P		**P**	**P**	**12 42 25.2**	**+1.7**
MTVR				S		**S**	**S**	**12 43 32.2**	**+0.1**
RUS	**Russkaya**	**3.94**	**126**	*e*P		**P**	**P**	**12 42 24.4**	**-0.2**
RUS				*e*S		**S**	**S**	**12 43 32.1**	**-1.9**
RUS	**Russkaya**	**3.94**	**126**	P		**P**	**P**	**12 42 24.4**	**-0.2**
RUS				S		**S**	**S**	**12 43 32.1**	**-1.9**
SRDR	**Sredinnyy**	**3.95**	**65**	*e*P		**P**	**P**	**12 42 25.7**	**+1.1**
SRDR	**Sredinnyy**	**3.95**	**65**	P		**P**	**P**	**12 42 25.7**	**+1.1**
NLC	**Nalytchevo**	**3.95**	**113**	*e*P		**P**	**P**	**12 42 25.2**	**+0.6**
NLC				*e*S		**S**	**S**	**12 43 33.5**	**-0.6**
NLC	**Nalytchevo**	**3.95**	**113**	P		**P**	**P**	**12 42 25.2**	**+0.6**
NLC				S		**S**	**S**	**12 43 33.5**	**-0.6**
TUMR	**Tumrok**	**3.98**	**81**	*e*P		**P**	**P**	**12 42 26.6**	**+1.7**
TUMR	**Tumrok**	**3.98**	**81**	P		**P**	**P**	**12 42 26.6**	**+1.7**
PAU	**Pauzhetka**	**3.99**	**146**	*e*P		**P**	**P**	**12 42 25.6**	**+0.6**
PAU	**Pauzhetka**	**3.99**	**146**	P		**P**	**P**	**12 42 25.6**	**+0.6**
KZV	**Kizimen**	**4.05**	**83**	*e*P		**P**	**P**	**12 42 26.5**	**+1.0**
KZV	**Kizimen**	**4.05**	**83**	P		**P**	**P**	**12 42 26.5**	**+1.0**
TUMD	**Tumrok D**	**4.12**	**82**	*e*P		**P**	**P**	**12 42 26.6**	**+0.8**
KDTR	**Khodutka, Kamc**	**4.18**	**135**	*e*P		**P**	**P**	**12 42 25.3**	**-1.0**
KDTR				*e*S		**S**	**S**	**12 43 33.9**	**-3.2**
KDTR	**Khodutka, Kamc**	**4.18**	**135**	P		**P**	**P**	**12 42 25.3**	**-1.0**
KDTR				S		**S**	**S**	**12 43 33.9**	**-3.2**
ALID	**Alaid**	**4.21**	**160**	*e*P		**P**	**P**	**12 42 27.6**	**+0.9**
ALID	**Alaid**	**4.21**	**160**	P		**P**	**P**	**12 42 27.6**	**+0.9**
SPN	**Mys Shipunski**	**4.35**	**111**	*e*P		**P**	**P**	**12 42 26.8**	**-0.7**
SPN				*e*S		**S**	**S**	**12 43 36.2**	**-3.1**
SPN	**Mys Shipunski**	**4.35**	**111**	P		**P**	**P**	**12 42 26.8**	**-0.7**
SPN				S		**S**	**S**	**12 43 36.2**	**-3.1**
LGNR	**Loginova**	**4.40**	**71**	*e*P		**P**	**P**	**12 42 29.7**	**+1.6**
LGNR	**Loginova**	**4.40**	**71**	P		**P**	**P**	**12 42 29.7**	**+1.6**
SKR	**Severo-Kuril's**	**4.50**	**156**	*e*P		**P**	**P**	**12 42 28.1**	**-0.6**
SKR				pmax		pmax	pmax		
comp=Z,38nm,0.4s									
BDR	**Baidarnaya**	**4.81**	**66**	*e*P		**P**	**P**	**12 42 32.8**	**+1.9**
BDR	**Baidarnaya**	**4.81**	**66**	P		**P**	**P**	**12 42 32.8**	**+1.9**
SRKR	**Sorokina**	**4.82**	**65**	*e*P		**P**	**P**	**12 42 32.5**	**+1.6**
SRKR	**Sorokina**	**4.82**	**65**	P		**P**	**P**	**12 42 32.5**	**+1.6**
MKZ	**Mys Kozlova**	**4.91**	**90**	*e*P		**P**	**P**	**12 42 29.9**	**-1.7**
MKZ				*e*S		**S**	**S**	**12 43 42.7**	**-4.3**
MKZ	**Mys Kozlova**	**4.91**	**90**	P		**P**	**P**	**12 42 29.9**	**-1.7**
MKZ				S		**S**	**S**	**12 43 42.7**	**-4.3**
MA2	**Magadan**	**4.94**	**345**	*e*P		**P**	**P**	**12 42 33.7**	**+2.0**
MA2	**Magadan**	**4.94**	**345**	*c i*P		**P**	**P**	**12 42 34.1**	**+2.4**
MA2	**Magadan**	**4.94**	**345**	P		**P**	**P**	**12 42 34.2**	**+2.5**
comp=Z,2.7nm,0.3s,baz=152,slow=8.2,SNR=36									
SMKR	**Semkarok**	**4.95**	**66**	*e*P		**P**	**P**	**12 42 34.7**	**+2.7**
SMKR	**Semkarok**	**4.95**	**66**	P		**P**	**P**	**12 42 34.7**	**+2.7**
KBG	**Krutoberegovo**	**5.54**	**71**	*e*P		**P**	**P**	**12 42 36.2**	**-0.4**
KBG				*e*S		**S**	**S**	**12 43 52.6**	**-3.6**
KBG	**Krutoberegovo**	**5.54**	**71**	P		**P**	**P**	**12 42 36.2**	**-0.4**
KBG				S		**S**	**S**	**12 43 52.6**	**-3.6**
KBTR	**Krutoberegovo**	**5.59**	**72**	*e*P		**P**	**P**	**12 42 36.2**	**-0.9**
KBTR				*e*S		**S**	**S**	**12 43 53.2**	**-3.8**
KBTR	**Krutoberegovo**	**5.59**	**72**	P		**P**	**P**	**12 42 36.2**	**-0.9**
KBTR				S		**S**	**S**	**12 43 53.2**	**-3.8**
PALN	**Palana**	**5.62**	**38**	*e*P		**P**	**P**	**12 42 37.9**	**+0.7**
PALN	**Palana**	**5.62**	**38**	P		**P**	**P**	**12 42 37.9**	**+0.7**
OSSR	**Ossora**	**6.93**	**46**	*e*P		**P**	**P**	**12 42 50.1**	**+1.5**
OSSR	**Ossora**	**6.93**	**46**	P		**P**	**P**	**12 42 50.1**	**+1.5**
BKI	**Bering**	**7.31**	**82**	*e*P		**P**	**P**	**12 42 54.0**	**+1.8**
BKI				*e*S		**S**	**S**	**12 44 22.8**	**-1.9**
BKI	**Bering**	**7.31**	**82**	P		**P**	**P**	**12 42 54.0**	**+1.8**
BKI				S		**S**	**S**	**12 44 22.8**	**-1.9**
TYV	**Tymovskoe**	**7.56**	**243**	*e*P		**P**	**P**	**12 42 56.6**	**+1.9**
TYV				*e*S		**S**	**S**	**12 44 27.6**	**-1.4**
TYV				pmax		pmax	pmax		
comp=Z,22nm,0.8s									
TYV				smax		smax	smax		
comp=N,11nm,1.5s									
NKL	**Nikolayevsk**	**7.61**	**262**	*e*P		**P**	**P**	**12 42 56.0**	**+0.9**
NKL				pmax		pmax	pmax		
comp=Z,21nm,0.7s									
SEY	**Seymchan**	**8.13**	**357**	P		**P**	**P**	**12 43 02.2**	**+2.4**
comp=Z,1.4nm,0.3s,baz=165,slow=9.8,SNR=27									
YSS	**Yuzh-Sakhalins**	**10.31**	**224**	*e*P		**P**	**P**	**12 43 24.3**	**+3.0**
YSS				pmax		pmax	pmax		
comp=Z,10.0nm,1.2s									
SMY	**Shemya**	**12.49**	**91**	*e*P		**P**	**P**	**12 43 44.6**	**+1.5**
SMY	**Shemya**	**12.49**	**91**	*e*P		**P**	**P**	**12 43 44.6**	**+1.5**
YAK	**Yakutsk**	**14.24**	**310**	*e*P		**P**	**P**	**12 43 59.7**	**-0.7**
YAK				*e*				12 46 27.7	
YAK				pmax		pmax	pmax		
comp=Z,100nm,0.8s									
YAK				pmax		pmax	pmax		
comp=N,10.0nm,0.8s									
YAK				pmax		pmax	pmax		
comp=E,12nm,0.8s									
KLR	**Kul'dur**	**14.36**	**256**	*c e*P		**P**	**P**	**12 44 01.5**	**-0.3**
KLR	**Kul'dur**	**14.36**	**256**	P		**P**	**P**	**12 44 01.4**	**-0.4**
comp=E,0.6nm,0.3s,baz=68,slow=9.0,SNR=20									
ZEA	**Zeya**	**15.21**	**277**	*e*P		**P**	**P**	**12 44 09.8**	**+0.3**
ZEA				pmax		pmax	pmax		
comp=Z,12nm,1.0s									
USRK	**Ussuriysk Ar.**	**17.37**	**241**	P		**P**	**P**	**12 44 28.1**	**-1.2**
comp=Z,0.2nm,0.3s,baz=67,slow=11,SNR=4.0									
MSHR	**Mys Shultsa**	**18.96**	**239**	*e*P		**P**	**P**	**12 44 43.7**	**-0.2**
TIXI	**Tiksi**	**19.86**	**337**	*e*P		**P**	**P**	**12 44 51.7**	**+0.2**
comp=Z,4.5nm,0.8s									
TIXI	**Tiksi**	**19.86**	**337**	*e*P		**P**	**P**	**12 44 52.2**	**+0.7**
TIXI				pmax		pmax	pmax		
comp=Z,16nm,2.5s									
TIXI	**Tiksi**	**19.86**	**337**	P		**P**	**P**	**12 44 51.9**	**+0.5**
comp=Z,0.6nm,0.3s,baz=130,slow=8.4,SNR=12									
MJAR	**Matashiro Arr**	**21.02**	**216**	P		**P**	**P**	**12 45 02.5**	**0.0**
comp=Z,0.9nm,0.8s,baz=348,slow=10.0,SNR=4.0									
HIA	**Hailar**	**21.22**	**269**	*e*P		**P**	**P**	**12 45 01.5**	**-2.6**
HIA				pmax		pmax	pmax		
comp=Z,21nm,1.0s									
KSRS	**Korea Array**	**24.50**	**235**	P		**P**	**P**	**12 45 33.5**	**+0.2**
comp=Z,1.6nm,0.7s,baz=31,slow=8.6,SNR=8.8									
RSO	**Redoubt South**	**28.70**	**57**	*e*P		**P**	**P**	**12 46 12.8**	**+2.8**
MLY	**Manley**	**28.85**	**47**	*e*P		**P**	**P**	**12 46 12.1**	**+1.1**
comp=Z,1.2nm,0.8s									
BPAW	**Bear Paw Mtn.**	**28.86**	**49**	*e*P		**P**	**P**	**12 46 12.3**	**+1.3**
comp=Z,3.0nm,0.4s									
SPU	**Mount Spurr**	**28.88**	**55**	*e*P		**P**	**P**	**12 46 12.3**	**+1.0**
TOLK	**Toolik Lake Re**	**29.08**	**39**	*e*P		**P**	**P**	**12 46 14.2**	**+1.2**
comp=Z,2.1nm,0.8s									
ULN	**Ulaanbaatar**	**29.24**	**276**	*e*P		**P**	**P**	**12 46 15.4**	**+0.6**
ULN				pmax		pmax	pmax		
comp=Z,2.0nm,0.8s									
OHAK	**Old Harbor**	**29.32**	**63**	*e*P		**P**	**P**	**12 46 15.0**	**-0.1**
comp=Z,26nm,1.2s									
TLY	**Talaya**	**29.36**	**285**	*e*P		**P**	**P**	**12 46 17.6**	**+2.0**
comp=Z,3.9nm,0.9s									
TLY	**Talaya**	**29.36**	**285**	*e*P		**P**	**P**	**12 46 15.9**	**+0.4**
BWN	**Browne**	**29.50**	**48**	*e*P		**P**	**P**	**12 46 18.7**	**+2.1**
comp=Z,12nm,0.7s									
KDAK	**Kodiak Island**	**29.51**	**62**	*e*P		**P**	**P**	**12 46 17.0**	**+0.4**
comp=Z,24nm,1.4s									
KDAK	**Kodiak Island**	**29.51**	**62**	*i* P		**P**	**P**	**12 46 16.6**	**0.0**
SONM	**Songino Array**	**29.64**	**276**	P		**P**	**P**	**12 46 18.4**	**+0.3**
comp=Z,1.1nm,0.4s,baz=48,slow=8.2,SNR=12									
BRLK	**Bradley Lake**	**29.78**	**57**	*e*P		**P**	**P**	**12 46 19.1**	**0.0**
comp=Z,24nm,1.4s									
MCK	**McKinley**	**29.81**	**49**	*e*P		**P**	**P**	**12 46 20.2**	**+1.0**
comp=Z,4.8nm,0.5s									
MCK	**McKinley**	**29.81**	**49**	*e*P		**P**	**P**	**12 46 20.2**	**+1.0**
MCK				pmax		pmax	pmax		
comp=Z,5.0nm,0.5s									
RND	**Reindeer**	**29.90**	**50**	*e*P		**P**	**P**	**12 46 20.4**	**+0.4**
comp=Z,5.5nm,0.4s									
RND	**Reindeer**	**29.90**	**50**	*e*P		**P**	**P**	**12 46 20.5**	**+0.4**
RND				pmax		pmax	pmax		
comp=Z,6.0nm,0.4s									
MDM	**Murphy Dome**	**29.91**	**47**	*e*P		**P**	**P**	**12 46 20.2**	**0.0**
comp=Z,2.2nm,0.6s									
RC01	**Rabbit Creek A**	**30.00**	**55**	*e*P		**P**	**P**	**12 46 21.2**	**+0.3**
comp=Z,8.5nm,1.3s									
WRH	**Wood River Hil**	**30.05**	**48**	*e*P		**P**	**P**	**12 46 22.3**	**+1.0**
comp=Z,8.5nm,0.7s									
COLA	**College**	**30.09**	**47**	*e*P		**P**	**P**	**12 46 23.0**	**+1.5**
comp=Z,6.9nm,1.0s									
COLA	**College**	**30.09**	**47**	*c i*P		**P**	**P**	**12 46 22.5**	**+1.0**
COLA				pmax		pmax	pmax		
comp=Z,6.0nm,1.0s									
CCB	**Clear Creek Bu**	**30.14**	**47**	*e*P		**P**	**P**	**12 46 23.2**	**+1.2**
comp=Z,4.9nm,1.2s									
PMR	**Palmer**	**30.16**	**53**	*e*P		**P**	**P**	**12 46 22.8**	**+0.6**
comp=Z,2.6nm,0.9s									
PMR	**Palmer**	**30.16**	**53**	*e*P		**P**	**P**	**12 46 22.8**	**+0.6**
PMR				pmax		pmax	pmax		
comp=Z,3.0nm,0.9s									
GHO	**Glory Hole Cre**	**30.21**	**53**	*e*P		**P**	**P**	**12 46 23.8**	**+1.0**
comp=Z,12nm,1.4s									
SML	**Sawmill**	**30.48**	**53**	*e*P		**P**	**P**	**12 46 26.1**	**+1.1**
comp=Z,9.8nm,0.6s									
SML	**Sawmill**	**30.48**	**53**	*e*P		**P**	**P**	**12 46 26.1**	**+1.1**
SML				pmax		pmax	pmax		
comp=Z,10.0nm,0.6s									
ILAR	**Eielson Array**	**30.51**	**47**	P		**P**	**P**	**12 46 26.0**	**+0.8**
ILAR	**Eielson Array**	**30.51**	**47**	P		**P**	**P**	**12 46 25.9**	**+0.8**
comp=Z,2.0nm,0.6s,baz=276,slow=10,SNR=34									
ILAR				ScP		**ScP**	**P**	12 51 46.6	-4.0
comp=Z,0.5nm,0.8s,baz=284,slow=3.6,SNR=4.4									
ILB	**Eielson Array**	**30.51**	**47**	*e*P		**P**	**P**	**12 46 25.7**	**+0.5**
comp=Z,2.7nm,0.5s									
KNK	**Knik Glacier**	**30.52**	**54**	*e*P		**P**	**P**	**12 46 26.5**	**+1.2**
comp=Z,13nm,0.7s									
HDA	**Harding Lake**	**30.55**	**48**	*e*P		**P**	**P**	**12 46 26.1**	**+0.6**
comp=Z,3.9nm,0.5s									
DHY	**Denali Highway**	**30.63**	**50**	*e*P		**P**	**P**	**12 46 27.0**	**+0.6**
comp=Z,4.5nm,0.4s									
HHC	**Hu-ho-hao-te**	**30.79**	**260**	*e*P		**P**	**P**	**12 46 26.8**	**-1.2**
SCM	**Sheep Creek Mo**	**30.93**	**53**	*e*P		**P**	**P**	**12 46 30.0**	**+1.1**
comp=Z,5.8nm,0.4s									
SCM	**Sheep Creek Mo**	**30.93**	**53**	*e*P		**P**	**P**	**12 46 30.0**	**+1.1**
SCM				pmax		pmax	pmax		
comp=Z,6.0nm,0.4s									
PRP	**Porcupine Dome**	**30.95**	**45**	*e*P		**P**	**P**	**12 46 30.4**	**+1.3**
comp=Z,7.1nm,0.8s									
GLI	**Glacier Island**	**31.30**	**54**	*e*P		**P**	**P**	**12 46 32.8**	**+0.9**
comp=Z,4.1nm,1.1s									
RIDG	**Independent Ri**	**31.59**	**48**	*e*P		**P**	**P**	**12 46 34.6**	**+0.2**
comp=Z,4.2nm,0.6s									
KLU	**Klutina**	**31.67**	**53**	*e*P		**P**	**P**	**12 46 36.2**	**+1.0**
comp=Z,3.9nm,0.7s									
HARP	**HAARP**	**31.78**	**51**	*e*P		**P**	**P**	**12 46 37.1**	**+1.1**
comp=Z,16nm,0.6s									
DOT	**Dot Lake**	**31.95**	**49**	*e*P		**P**	**P**	**12 46 37.3**	**-0.1**
comp=Z,2.8nm,0.6s									
MENT	**Mentasta**	**32.28**	**50**	*e*P		**P**	**P**	**12 46 41.6**	**+1.4**
comp=Z,2.0nm,0.7s									
EGAK	**Eagle**	**32.91**	**46**	*e*P		**P**	**P**	**12 46 46.1**	**+0.6**
comp=Z,5.1nm,0.8s									
TGL	**Tana Glacier**	**33.33**	**53**	*e*P		**P**	**P**	**12 46 50.6**	**+1.5**
comp=Z,4.9nm,0.9s									
BALM	**Baldy**	**33.46**	**53**	*e*P		**P**	**P**	**12 46 51.6**	**+1.4**
comp=Z,4.7nm,0.6s									
BALM	**Baldy**	**33.46**	**53**	*e*P		**P**	**P**	**12 46 51.7**	**+1.4**
BALM				pmax		pmax	pmax		
comp=Z,5.0nm,0.6s									
DAWY	**Dawson**	**33.84**	**47**	*e*P		**P**	**P**	**12 46 54.4**	**+1.1**
comp=Z,4.1nm,1.5s									
CTGM	**Chitina Glacie**	**33.95**	**53**	*e*P		**P**	**P**	**12 46 56.1**	**+1.7**
comp=Z,6.9nm,0.6s									
EPYK	**Eagle Plains**	**34.29**	**42**	*e*P		**P**	**P**	**12 46 58.4**	**+1.4**
comp=Z,4.6nm,1.1s									
INK	**Inuvik**	**34.98**	**38**	*e*P		**P**	**P**	**12 47 03.8**	**+1.2**
comp=Z,2.3nm,0.7s									
INK	**Inuvik**	**34.98**	**38**	*e*P		**P**	**P**	**12 47 03.8**	**+1.2**
INK				pmax		pmax	pmax		
comp=Z,2.0nm,0.7s									
INK	**Inuvik**	**34.98**	**38**	P		**P**	**P**	**12 47 03.6**	**+1.0**
comp=Z,1.8nm,0.3s,baz=292,slow=9.8,SNR=12									
WHN	**Wuhan**	**36.80**	**245**	P		P	P	12 47 25.8	+7.7
WHY	**Whitehorse**	**37.00**	**51**	*e*P		**P**	**P**	**12 47 21.2**	**+1.7**
comp=Z,6.4nm,1.4s									
BESE	**Bessie Mountai**	**37.90**	**54**	*e*P		**P**	**P**	**12 47 28.5**	**+1.7**
comp=Z,8.0nm,1.5s									
JIS	**Juneau Island**	**38.26**	**54**	*e*P		**P**	**P**	**12 47 31.9**	**+2.3**
comp=Z,4.5nm,1.2s									
SIT	**Sitka**	**38.37**	**57**	*e*P		**P**	**P**	**12 47 33.0**	**+2.5**
comp=Z,5.5nm,1.0s									
SIT	**Sitka**	**38.37**	**57**	*e*P		**P**	**P**	**12 47 33.0**	**+2.5**
SIT				pmax		pmax	pmax		
comp=Z,6.0nm,1.0s									
ZALV	**Zalesovo Beam**	**38.42**	**298**	P		**P**	**P**	**12 47 30.2**	**-0.7**
comp=Z,1.9nm,0.3s,baz=46,slow=5.8,SNR=6.7									
LZH	**Lanzhou**	**38.45**	**262**	*e*P		**P**	**P**	**12 47 32.0**	**+0.3**
LZH				pP		pP	pP	12 49 12.0	-0.6
LZH				sP		sP	sP	12 50 12.3	-8.1
NVS	**Novosibirsk**	**38.77**	**300**	*e*P		**P**	**P**	**12 47 33.5**	**-0.3**
NVS				pmax		pmax	pmax		
comp=Z,12nm,0.7s									
NVS				pmax		pmax	pmax		
comp=N,2.0nm,0.7s									
NVS				pmax		pmax	pmax		
comp=E,6.0nm,0.5s									
DGZ	**Jazzator, Alta**	**39.28**	**291**	*d i*P		**P**	**P**	**12 47 38.8**	**+0.7**
DGZ				pmax		pmax	pmax		
comp=Z,3.0nm,0.6s									
WRAK	**Wrangell Islan**	**40.12**	**56**	*e*P		**P**	**P**	**12 47 47.5**	**+3.0**
comp=Z,7.5nm,1.4s									
DLBC	**Dease Lake**	**40.20**	**52**	*e*P		**P**	**P**	**12 47 48.1**	**+2.8**
comp=Z,1.7nm,0.6s									
DIB	**Dawson Inlet,**	**41.75**	**60**	*e*P		**P**	**P**	**12 47 59.2**	**+1.8**
comp=Z,12nm,1.4s									
WMQ	**Urumqi**	**42.61**	**283**	*e*P		**P**	**P**	**12 48 05.5**	**+1.1**
KURK	**Kurchatov**	**43.37**	**297**	*e*P		**P**	**P**	**12 48 09.6**	**-0.4**
comp=Z,20nm,0.3s									
KURK	**Kurchatov**	**43.37**	**297**	*d i*P		**P**	**P**	**12 48 09.6**	**-0.4**
KURK				pmax		pmax	pmax		
comp=Z,4.0nm,0.3s									
MK31	**Makanchi Array**	**43.77**	**290**	*e*P		**P**	**P**	**12 48 12.4**	**-0.8**
comp=Z,3.3nm,0.6s									
MK31	**Makanchi Array**	**43.77**	**290**	*e*P		**P**	**P**	**12 48 12.4**	**-0.8**
MK31				pmax		pmax	pmax		
comp=Z,3.0nm,0.6s									
MKAR	**Makanchi Array**	**43.77**	**290**	P		**P**	**P**	**12 48 12.7**	**-0.6**
comp=Z,4.6nm,0.5s,baz=58,slow=7.5,SNR=29									
MAKZ	**Makanchi**	**43.93**	**290**	*e*P		**P**	**P**	**12 48 13.8**	**-0.6**
comp=Z,4.6nm,0.4s									
MAKZ	**Makanchi**	**43.93**	**290**	*e*P		**P**	**P**	**12 48 13.8**	**-0.6**
MAKZ				pmax		pmax	pmax		
comp=Z,5.0nm,0.4s									
YKW3	**Yellowknife Ar**	**44.52**	**41**	*e*P		**P**	**P**	**12 48 19.7**	**+1.0**
comp=Z,1.3nm,0.5s									
YKA	**Yellowknife Ar**	**44.56**	**41**	P		**P**	**P**	**12 48 19.3**	**+0.3**
comp=Z,1.3nm,0.6s,baz=306,slow=7.1,SNR=20									
YKA				ScP		**ScP**	**P**	12 52 41.2	-2.7
comp=Z,0.2nm,0.6s,baz=309,slow=4.1,SNR=3.8									

YERR	Yerington	57.94	67	*e*P	P	12 49 57.2	+1.3
	comp=Z,5.0nm,0.7s						
CMB	Columbia Colle	58.02	68	*e*P	P	12 49 57.4	+1.2
	comp=Z,2.1nm,0.6s						
CMB	Columbia Colle	58.02	68	*e*P	P	12 49 57.4	+1.2
CMB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WAKR	Walker	58.18	67	*e*P	P	12 49 59.1	+1.6
	comp=Z,2.2nm,0.7s						
FXWY	Fox Creek	58.72	58	*e*P	P	12 50 02.6	+1.5
	comp=Z,1.8nm,0.7s						
NVAR	Mina Array Bea	58.84	67	P	P	12 50 03.1	+1.1
	comp=Z,2.7nm,0.7s,baz=305,slow=6.4,SNR=21						
NV11	Mina Array Sit	58.92	66	*e*P	P	12 50 03.4	+1.0
	comp=Z,0.1nm,0.7s						
BW06	Boulder Array	60.09	57	*e*P	P	12 50 10.6	+0.4
	comp=Z,1.8nm,0.5s						
PDAR	Pinedale Array	60.09	57	P	P	12 50 10.8	+0.6
	comp=Z,1.4nm,0.5s,baz=3.4,slow=2.2,SNR=16						
NC405	NORSAR Array S	60.46	340	*e*P	P	12 50 11.7	-0.3
	comp=Z,20nm,1.2s						
NB201	NORSAR Array S	60.60	340	*e*P	P	12 50 12.5	-0.5
	comp=Z,38nm,1.5s						
NB2	NORSAR Subarra	60.62	340	P	P	12 50 12.3	-0.8
	comp=Z,1.0nm,0.5s,baz=24,slow=6.5						
NOA	NORSAR Array B	60.62	340	P	P	12 50 12.4	-0.8
	comp=Z,1.9nm,0.6s,baz=25,slow=6.6,SNR=8.4						
HFS	Hagfors	60.94	338	P	P	12 50 14.3	-0.9
	comp=Z,1.2nm,0.4s,baz=72,slow=4.8,SNR=8.9						
TPNV	Topopah Spring	61.03	66	*e*P	P	12 50 17.4	+1.0
	comp=Z,4.6nm,0.5s						
TPNV	Topopah Spring	61.03	66	*e*P	P	12 50 17.4	+1.0
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PSUT	Pine Spring	61.10	63	*e*P	P	12 50 17.8	+0.9
	comp=Z,1.8nm,0.6s						
GSC	Goldstone, Bar	61.97	68	*e*P	P	12 50 24.6	+2.2
	comp=Z,2.9nm,0.6s						
GSC	Goldstone, Bar	61.97	68	*e*P	P	12 50 24.6	+2.2
GSC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CCUT	Cedar City	62.09	64	*e*P	P	12 50 24.2	+0.9
	comp=Z,1.4nm,0.9s						
GEYT	Alibeck	62.73	298	P	P	12 50 26.9	-0.3
	comp=Z,2.3nm,0.5s,baz=333,slow=0.3,SNR=6.9						
PV21	Cone Mtn., Par	63.56	60	*e*P	P	12 50 33.3	+0.6
	comp=Z,3.4nm,0.7s						
SMCO	Snowmass	64.08	58	*e*P	P	12 50 36.8	+0.5
	comp=Z,1.6nm,0.6s						
PV01	Paradox Valley	64.09	60	*e*P	P	12 50 36.6	+0.5
	comp=Z,3.8nm,1.5s						
AKASG	Malin Array Be	64.94	324	P	P	12 50 39.5	-1.4
	comp=Z,1.6nm,0.3s,baz=32,slow=6.8,SNR=5.4						
KIEV	Kiev	64.95	324⇑	*e*P	P	12 50 39.5	-1.5
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ECSD	EROS Data Cent	65.31	49	*e*P	P	12 50 43.0	-0.4
	comp=Z,3.4nm,0.9s						
NCK	Nalchik	65.31	311⇓	*e*P	P	12 50 43.7	+0.3
NCK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KBZ	Khabaz	65.43	312	P	P	12 50 42.4	-1.6
	comp=Z,1.8nm,0.7s,baz=315,slow=2.9,SNR=3.4						
X16A	Lo Mia Camp, P	65.49	65	*e*P	P	12 50 46.0	+1.2
	comp=Z,1.9nm,0.7s						
GNI	Garni	67.48	308⇑	*e*P	P	12 50 57.7	+0.7
GNI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ANMO	Albuquerque	67.64	61⇓	*e*P	P	12 50 58.7	+0.6
ANMO				pmax	pmax		
	comp=Z,11nm,4.2s						
KWP	Kalwaria Pacla	67.97	328	*e*P	P	12 50 59.8	+0.2
KWP	Kalwaria Pacla	67.97	328	*e*P	P	12 50 59.8	+0.2
EKA	Eskdalemuir Ar	68.50	346	P	P	12 51 01.9	-0.8
	comp=Z,0.5nm,0.3s,baz=19,slow=5.3,SNR=12						
KOLS	Kolonicke sedl	68.72	328	*e*P	P	12 51 03.7	-0.4
KOLS	Kolonicke sedl	68.72	328	*e*P	P	12 51 03.7	-0.4
VYHS	Vyhne	70.14	330	*e*P	P	12 51 12.5	-0.1
VYHS	Vyhne	70.14	330	*e*P	P	12 51 12.5	-0.1
MNTX	Cornudas Mount	70.76	62	*e*P	P	12 51 17.3	+0.8
	comp=Z,1.4nm,0.7s						
WMOK	Wichita Mounta	71.58	56	*e*P	P	12 51 21.3	0.0
	comp=Z,2.5nm,0.6s						
WMOK	Wichita Mounta	71.58	56	*e*P	P	12 51 21.3	0.0
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TXAR	Lajitas Array	73.53	62	P	P	12 51 33.1	+0.5
	comp=Z,1.9nm,0.6s,baz=296,slow=4.8,SNR=34						
ALLY	Alegheny Colle	73.64	39	*e*P	P	12 51 32.1	-0.9
	comp=Z,17nm,1.1s						
WHAR	Wooly Hollow	74.14	51	*e*P	P	12 51 35.4	-0.4
	comp=Z,7.9nm,1.1s						
W41B	Gary Mavity, V	74.25	51	*e*P	P	12 51 36.1	-0.3
	comp=Z,2.2nm,0.6s						
WVT	Waverly	75.37	47	*e*P	P	12 51 42.3	-0.4
	comp=Z,1.8nm,0.5s						
WVT	Waverly	75.37	47	*e*P	P	12 51 42.3	-0.4
WVT				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VLC	Villacollemand	76.45	333	*e*P	P	12 51 48.7	+0.2
	comp=Z,31nm,1.4s						
TZTN	Tazewell	76.78	44	*e*P	P	12 51 49.9	-0.5
	comp=Z,6.3nm,1.0s						
V52A	Sevierville	77.37	44	*e*P	P	12 51 53.1	-0.5
	comp=Z,5.3nm,1.4s						
253A	Americus	80.43	47	*e*P	P	12 52 09.9	+0.1
	comp=Z,28nm,1.5s						
SHEL	Horse Pasture	137.94	329	*e*PKPdf	PKiKP	12 59 19.4	+0.2
SHEL	Horse Pasture	137.94	329	*e*PKIKP	PKiKP	12 59 19.4	+0.2
CPUP	Villa Florida	143.77	51	PKP	PKPbc	12 59 25.5	-0.9
	comp=Z,1.7nm,0.7s,baz=310,slow=2.5,SNR=4.7						
QSPA	South Pole Qui	144.58	180	*e*PKPdf	PKPdf	12 59 28.8	-1.5
GO06	Curarrehue	146.64	82	*e*PKPbc	PKPbc	12 59 36.5	+2.0
PLCA	Paso Flores	147.93	82	PKP2	PKPbc	12 59 37.0	-0.7
PLCA	Paso Flores	147.93	82	PKPbc	PKPbc	12 59 37.0	-0.7
	comp=Z,1.3nm,0.7s,baz=350,slow=1.7,SNR=4.8						

*ISCJB **26** 12:42:34.9±1.1, 23°.2S±0°.3×179°.9W±0°.2, h600km, mb3.9/14, Error ellipse: s-maj=34.9km s-min=15.2km az=157.8*

*IDC **26** 12:42:34.3±4.1, 23°.15S×179°.83W, h581km±45km, mb3.4/14, mb1 3.6/15, mb1mx3.4/32, mbtmp4.4/15, Error ellipse: s-maj=31.3km s-min=23.8km az=140.0*

ISC 26 12:42:34.9±1.1, 23°.3S±0°.3×179°.8W±0°.1, h600km, n31, σ1°.28/30, mb3.8/14, 4C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.79	273	P	P	12 45 22.4	+0.7
	0.5nm,0.3s,baz=80,slow=20,SNR=7.7						
PMG	Port Moresby	34.51	288	P	P	12 48 33.6	-1.3
	29nm,0.7s,baz=95,slow=4.8,SNR=7.8						
STKA	Stephens Creek	35.15	247	P	P	12 48 40.5	+0.5
	7.7nm,0.6s,baz=95,slow=11,SNR=26						
ASAR	Alice Springs	42.35	260	P	P	12 49 37.8	-0.3
	13nm,0.6s,baz=94,slow=8.1,SNR=103						
MJAR	Matsushiro Arr	71.52	325	P	P	12 52 55.6	-0.8
	2.0nm,0.8s,baz=163,slow=5.8,SNR=6.6						
ASAJ	Asahikawa	75.43	333	P	P	12 53 19.2	+1.0
	4.2nm,0.7s,baz=229,slow=10,SNR=3.5						
KSRS	Korea Array	77.92	320	P	P	12 53 32.5	+0.4
	1.1nm,0.7s,baz=128,slow=4.6,SNR=5.8						
PETK	Petropavlovsk-	78.56	346	P	P	12 53 34.7	-0.4
	3.0nm,0.7s,baz=114,slow=7.6,SNR=6.9						
USRK	Ussuriysk Ar.	80.38	327	P	P	12 53 46.0	+1.2
	1.0nm,0.5s,baz=113,slow=3.7,SNR=4.2						
KLR	Kul'dur	84.11	330	P	P	12 54 04.9	+1.4
	0.6nm,0.4s,baz=259,slow=16,SNR=2.8						
NVAR	Mina Array Bea	84.17	44	P	P	12 54 05.1	+0.8
	0.4nm,0.6s,baz=235,slow=5.2,SNR=3.9						
SEY	Seymchan	88.73	348	P	P	12 54 24.7	-0.4
	1.6nm,0.5s,baz=255,slow=11,SNR=4.7						
CMAR	Chiang Mai Arr	89.52	290	P	P	12 54 31.9	+2.1
	2.2nm,0.8s,baz=128,slow=2.9,SNR=11						
TXAR	Lajitas Array	89.93	58	P	P	12 54 33.3	+1.7
	0.7nm,0.8s,baz=216,slow=6.1,SNR=7.5						
PDAR	Pinedale Array	92.11	44	P	P	12 54 41.2	-0.2
	0.1nm,0.4s,baz=189,slow=4.6,SNR=2.6						
MKAR	Makanchi Array	111.90	313	PKiKP	PKiKP	13 00 02.4	-0.3
	0.0nm,34.9s,baz=52,slow=3.6,SNR=3.7						
ARCES	ARCESS Array B	131.34	348	PKP	PKiKP	13 00 39.4	-0.8
	1.4nm,0.7s,baz=325,slow=7.4,SNR=4.1						
FINES	FINESS Array B	137.94	342	PKP	PKiKP	13 00 52.5	-1.3
	0.8nm,0.4s,baz=38,slow=1.1,SNR=7.2						
NB2	NORSAR Subarra	141.52	351	PKP	PKPdf	13 00 53.4	-4.8
	comp=Z,0.4nm,0.5s,baz=13,slow=3.2						
NOA	NORSAR Array B	141.52	351	PKhKP	PKPpre	13 00 53.7	
	comp=Z,0.5nm,0.5s,baz=16,slow=4.7,SNR=3.9						
HFS	Hagfors	142.00	349	PKhKP	PKPpre	13 00 55.1	
	comp=Z,3.8nm,0.3s,baz=67,slow=3.9,SNR=44						
AKASG	Malin Array Be	144.58	328	PKP	PKPab	13 01 03.6	-1.3
	comp=Z,3.0nm,0.4s,baz=41,slow=4.4,SNR=10						
BRTR	Keskin Array B	147.38	308	PKPbc	PKPbc	13 01 12.7	+0.1
	comp=Z,1.2nm,0.6s,baz=148,slow=4.8,SNR=7.7						
EKA	Eskdalemuir Ar	147.90	4	PKPbc	PKPbc	13 01 13.2	+0.1
	comp=Z,0.4nm,0.4s,baz=345,slow=3.2,SNR=5.9						
TESR	Tescani	148.55	324⇑	*i*P	PKPbc	13 01 14.3	-0.8
TLB	Topalu	148.89	320⇑	*i*P	PKiKP	13 01 16.4	-0.4
CLL	Collm	150.34	344	*i* PKPbc	PKiKP	13 01 19.7	+0.1
	comp=Z,6.0nm,0.8s						
CLL				*i* PKPab	PKPab	13 01 28.1	-0.2
	comp=Z,4.0nm,0.8s						
CLL				LmV		13 36 00.0	
	comp=Z,100nm,19.2s						
ARR	Arges	150.36	324⇑	*i*P	PKiKP	13 01 20.8	+0.8
DRGR		150.40	328⇓	*i*P	PKiKP	13 01 19.8	-0.2
BRG	Berggiesshubel	150.48	342	*e*PKP	PKiKP	13 01 20.2	+0.3
	comp=Z,4.3nm,0.5s						
HERR	Herculane	151.86	325⇑	*i*P	PKiKP	13 01 22.8	-0.2

IDC 26 12:50:13.7±2.8, 52°.18N×171°.90E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.3/47, mbtmp3.2/4, ML2.2/1, Error ellipse: s-maj=81.9km s-min=35.1km az=175.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	8.69	282	Pn	Pn	12 52 20.5	0.0
	0.1nm,0.3s,baz=94,slow=20,SNR=4.1						
PETK				Sn	Sn	12 53 52.0	-7.1
	0.2nm,0.3s,baz=93,slow=16,SNR=6.0						
ILAR	Eielson Array	24.43	43	P	P	12 55 32.1	-1.6
	0.3nm,0.6s,baz=254,slow=7.5,SNR=6.2						
H11N2	WAKE ISLAND Hy	32.62	189	T	T	13 32 23.4	
	baz=5.4,slow=76,SNR=38						
H11N3	WAKE ISLAND Hy	32.64	189	T	T	13 32 24.4	
	baz=5.4,slow=76,SNR=34						
H11N1	WAKE ISLAND Hy	32.64	189	T	T	13 32 24.7	
	baz=5.4,slow=76,SNR=34						
H11S1	WAKE ISLAND Hy	33.85	189	T	T	13 33 55.6	
	baz=5.5,slow=76,SNR=36						
H11S3	WAKE ISLAND Hy	33.87	189	T	T	13 33 56.8	
	baz=5.5,slow=76,SNR=27						
H11S2	WAKE ISLAND Hy	33.87	189	T	T	13 33 58.8	
	baz=5.5,slow=76,SNR=32						
YKA	Yellowknife Ar	38.82	45	P	P	12 57 41.0	+1.2
	0.2nm,0.3s,baz=289,slow=7.7,SNR=5.2						
TXAR	Lajitas Array	64.14	75	P	P	13 00 49.9	0.0
	0.1nm,0.5s,baz=303,slow=5.0,SNR=2.9						

*ISCJB **26** 13:01:56.7±0.3, 30°.26N±0°.04×102°.99E±0°.03, h10km, mb3.9/17, MS3.3/2, Error ellipse: s-maj=6.2km s-min=3.8km az=158.9*

*BJI **26** 13:01:59.8±0.0, 30°.26N×102°.97E, h17km, mb4.2/5, mB4.3/2, ML4.2/23, Ms4.1/17, Ms7 4.1/16*

*NEIC **26** 13:02:01.6±2.6, 30°.19N×102°.99E, h33km±20km, Error ellipse: s-maj=10.2km s-min=7.6km az=173.0*

NEIC Felt [III] at Chengdu. Also felt at Chongqing.

*IDC **26** 13:02:01.9±3.1, 30°.22N×103°.00E, h32km±24km, mb3.9/17, mb1 3.9/19, mb1mx3.8/52, mbtmp4.0/19, ML3.4/2, MS3.2/4, Ms1 3.3/4, ms1mx2.9/39, Error ellipse: s-maj=23.3km s-min=15.0km az=180.0*

ISC 26 13:01:59.1±0.5, 30°.30N±0°.04×103°.09E±0°.04, h10km, n46, σ2°.58/58, mb4.0/17, 2C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.84	43⇑	*i*Pg	Pg	13 02 16.3	+0.9
CD2				Sg	Sg	13 02 29.8	+3.4
CD2				smax	smax		
	comp=N,8μm,0.6s						
CD2				smax	smax		
	comp=E,10μm,0.7s						
GYA	Guiyang	4.96	140⇑	*i*Pn	Pn	13 03 13.5	-0.3
GYA				Pg	Pb	13 03 24.5	-1.6
GYA				Sn	Sn	13 04 15.8	+4.6
GYA				Sg	Sb	13 04 28.8	+3.0
GYA				smax	smax		
	comp=N,400nm,0.9s						
GYA				smax	smax		
	comp=E,450nm,0.6s						
GYA				LR	LR		
	comp=N,650nm,7.5s						
GYA				LR	LR		
	comp=E,490nm,5.5s						
GYA				LR	LR		
	comp=Z,1μm,9.5s						
KMI	Kunming	5.16	183	Pn	Pn	13 03 18.5	+1.8
KMI				Sn	Sn	13 04 17.0	+0.5
KMI				smax	smax		
	comp=N,280nm,1.0s						
KMI				smax	smax		
	comp=E,250nm,0.8s						
KMI				LR	LR		
	comp=N,830nm,7.3s						
KMI				LR	LR		
	comp=E,2μm,9.1s						
KMI				LR	LR		
	comp=Z,420nm,8.3s						
ENH	Enshi	5.54	89	*e*Pn	Pn	13 03 22.5	+0.9
ENH				*e*Sn	Sn	13 04 26.6	+1.2
LZH	Lanzhou	5.81	6	*e*Pn	Pg	13 03 52.5	+2.1
LZH				Pg	Pb	13 04 13.8	+33
LZH				Sn	Sb	13 04 49.3	-1.0
LZH				Sg	Sg	13 05 05.0	-0.6
XAN	Xi'an	6.20	51	Pn	Pn	13 03 29.5	-1.2
XAN				Pg	Pg	13 03 56.5	-1.3
XAN				Sn	Sn	13 04 42.0	+0.4
XAN				Sg	Sg	13 05 14.0	-4.0
XAN				smax	smax		
	comp=N,480nm,0.9s						
XAN				smax	smax		
	comp=E,530nm,0.8s						
WHN	Wuhan	9.73	86⇓	*i*P	Pn	13 04 20.0	+0.9
WHN				S	Sn	13 06 08.3	-0.2
WHN				LR	LR		
	comp=N,1μm,10.2s						
WHN				LR	LR		
	comp=E,2μm,8.3s						
WHN				LR	LR		
	comp=Z,2μm,11.1s						
PAYA	Payao	11.27	196	P	Pn	13 04 49.3	+8.9
	28μm,0.9s						
CMAR	Chiang Mai Arr	12.38	199	Pn	Pn	13 04 54.0	-1.5
	0.0nm,0.3s,baz=16,slow=13,SNR=4.1						
CMAR				Lg	Lg	13 08 34.0	
	0.2nm,0.3s,baz=54,slow=17,SNR=5.6						
CMAR				LR	LR	13 10 01.8	
	comp=Z,74nm,19.9s,baz=165,slow=39						
BRDH	Bariadhala	12.75	236	LR	LR	13 09 59.7	
	comp=Z,78nm,21.8s,baz=74,slow=38						
TIA	Tai'an	13.14	60	P	Pn	13 05 06.5	+0.7
PBKT	Sadao Pong	13.80	189	P	P	13 05 28.6	+5.2
	4.1nm,0.7s						
KHON	Khomkaen	13.90	181	P	P	13 05 33.2	+8.7
	39μm,0.6s						
ODAN	Odare	14.21	260	*e*P	Pn	13 05 18.8	-1.9
	30nm,0.6s						
RAMN	Ramite	14.86	261	*e*P	Pn	13 05 27.4	-2.2
	56nm,0.9s						
JIRN	Jiri	15.02	264	*e*P	Pn	13 05 30.0	-1.9
	157nm,1.1s						
PKI	Pulchoki	15.71	264	*e*P	Pn	13 05 38.4	-2.6
	78nm,0.8s						
PKIN	Phulchoki	15.72	264	*e*P	Pn	13 05 38.4	-2.6
	41nm,0.7s						
KKN	Kakani	15.77	265	*e*P	Pn	13 05 39.0	-2.6
	47nm,0.7s						
DMN	Daman	15.97	265	*e*P	Pn	13 05 41.4	-2.7
	32nm,0.8s						
DANN	Dangsing	16.97	268	*e*P	Pn	13 05 53.5	-3.4
	56nm,0.7s						
KOLN	Koldanda	17.23	266	*e*P	Pn	13 05 56.8	-3.3
	15nm,0.7s						
PYUN	Piuthan	17.68	268	*e*P	Pn	13 06 02.3	-3.5
	28nm,0.8s						
SONM	Songino Array	17.70	7	P	Pn	13 06 07.1	+1.4
	0.3nm,0.3s,baz=181,slow=12,SNR=9.9						
WMQ	Urumqi	18.21	322	*e*P	Pn	13 06 12.0	0.0
WMQ				LR	LR		
	comp=N,670nm,9.9s						
WMQ				LR	LR		
	comp=E,430nm,11.1s						
WMQ				LR	LR		
	comp=Z,570nm,11.1s						
KSAR	Wonju Array Be	21.75	64	P	P	13 06 51.8	+1.0
KSRS	Korea Array	21.78	64	P	P	13 06 51.8	+0.7
	15nm,0.9s,baz=248,slow=9.7,SNR=36						
KSRS				LR	LR	13 16 21.9	
	comp=Z,99nm,18.9s,baz=238,slow=39						
MKAR	Makanchi Array	23.04	321	P	P	13 07 04.4	0.0
	5.6nm,0.7s,baz=123,slow=11,SNR=20						
MKAR				ScP	ScP	13 14 28.0	-3.7
	0.8nm,0.8s,baz=107,slow=4.8,SNR=6.4						
JNU	Nakatsue	23.79	76	P	P	13 07 12.3	+0.2
	16nm,1.0s,baz=321,slow=5.3,SNR=4.1						
KSH	Kashi	23.99	300	P	P	13 07 17.3	+3.3
KSH				pP	sP	13 07 22.5	+3.7
KSH				PP	PnPn	13 07 52.5	+10
KSH				S	S	13 11 31.0	0.0
KSH				SS	SnSn	13 12 19.0	+8.1
KSH				LR	LR		
	comp=N,250nm,7.8s						
KSH				LR	LR		
	comp=E,240nm,6.3s						
KSH				LR	LR		
	comp=Z,230nm,6.2s						
AAK	Ala-Archa	25.95	306	P	P	13 07 33.3	+1.4
	1.0nm,0.3s,baz=121,slow=5.9,SNR=2.1						
USRK	Ussuriysk Ar.	26.70	51	P	P	13 07 38.7	+0.3
	1.0nm,0.6s,baz=256,slow=5.8,SNR=3.3						
ZALV	Zalesovo Beam	27.08	336	P	P	13 07 41.6	-0.2
	1.6nm,0.7s,baz=138,slow=9.1,SNR=4.7						
KURBB	Kurchatov Arra	27.37	325	P	P	13 07 43.6	-0.8
	1.1nm,0.5s,baz=132,slow=9.7,SNR=8.2						
KLR	Kul'dur	28.77	41	P	P	13 07 58.1	+1.2
	1.4nm,0.7s,baz=259,slow=9.1,SNR=5.8						
MJAR	Matsushiro Arr	29.86	69	P	P	13 08 06.8	0.0
	1.1nm,0.9s,baz=267,slow=11,SNR=4.8						
MJAR				LR	LR	13 20 23.0	
	comp=Z,75nm,18.9s,baz=285,slow=37						
GEYT	Alibeck	37.71	294	P	P	13 09 14.6	-0.3
	2.5nm,0.9s,baz=96,slow=9.1,SNR=4.6						
TIXI	Tiksi	43.71	11	P	P	13 10 03.4	-0.6
	1.3nm,0.4s,baz=197,slow=1.8,SNR=4.3						
BRTR	Keskin Array B	56.38	300	P	P	13 11 39.0	-1.8
	0.5nm,0.7s,baz=83,slow=6.0,SNR=3.4						
AKASG	Malin Array Be	57.30	313	P	P	13 11 45.1	-1.9
	0.5nm,0.3s,baz=67,slow=7.8,SNR=2.8						
ARCES	ARCESS Array B	57.63	336	P	P	13 11 49.9	+0.9
	2.4nm,0.9s,baz=83,slow=7.4,SNR=3.4						
FINES	FINESS Array B	57.75	326	P	P	13 11 48.4	-1.5
	2.7nm,1.0s,baz=112,slow=6.4,SNR=4.6						
ILAR	Eielson Array	70.94	25	P	P	13 13 17.4	+1.1
	0.6nm,0.7s,baz=293,slow=5.8,SNR=7.5						
YKA	Yellowknife Ar	82.71	17	P	P	13 14 22.4	-0.3
	0.9nm,0.6s,baz=330,slow=5.2,SNR=5.0						
TXAR	Lajitas Array	115.45	26	PKP	PKiKP	13 20 40.7	-1.1
	0.2nm,0.5s,baz=20,slow=3.0,SNR=3.0						
ROSC	El Rosal	144.97	355	PKPbc	PKPbc	13 21 36.0	-1.1
	3.9nm,0.4s,baz=144,slow=16,SNR=3.7						

*BJI **26** 13:04:28.1±0.0, 3°.91S×138°.55E, h79km, mb4.6/17, mB4.8/10, Ms4.7/4, Ms7 4.6/5*

*ISCJB **26** 13:04:30.5±0.6, 3°.42S±0°.04×138°.47E±0°.03, h70km±6km, mb5.0/37, Error ellipse: s-maj=6.7km s-min=5.2km az=8.5*

*NEIC **26** 13:04:32.4±0.3, 3°.40S×138°.44E, h76km±3km, mb4.7/23, Error ellipse: s-maj=5.1km s-min=4.1km az=211.0*

NEIC Felt [IV] at Wamena.

*DJA **26** 13:04:32.1±0.3, 3°.5S±4°×13°.8E±°, h52km±7km, M4.9/17, mB5.2/10, mb5.0/17, MLv5.3/4, Mw(mB)4.6/10*

*IDC **26** 13:04:33.1±0.7, 3°.38S×138°.40E, h77km±6km, mb4.1/12, mb1 4.3/16, mb1mx4.0/32, mbtmp4.5/16, MS3.4/12, Ms1 3.4/12, ms1mx3.1/29, Error ellipse: s-maj=18.6km s-min=11.3km az=67.0*

ISC 26 13:04:32.6±0.6, 3°.46S±0°.05×138°.50E±0°.04, h74km±5km, h75km:pP-P, n97, σ1°.76/103, mb4.6/38, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.87	63	P	Pn	13 05 01.2	-1.5
GENI				S	Sn	13 05 23.3	-2.2
KMPI	Kaimana, Papua	4.79	267	P	Pn	13 05 42.6	+0.3
FAKI	Fak Fak	6.27	275	*e*Pn	Pn	13 06 00.6	-1.9
FAKI	Fak Fak	6.27	275	P	Pn	13 06 00.5	-1.9
	100nm,0.6s,1μm0.4nm						
FAKI				S	Sn	13 07 11.4	-1.3
	100nm,0.6s,1μm0.4nm						
SWI	Sorong	7.68	289	P	Pn	13 06 20.5	-1.3
MANU	Manus Island	8.96	81	*e*Pn	Pn	13 06 40.1	+0.7
PMG	Port Moresby	10.43	125	*e*Pn	Pn	13 07 00.3	+0.9
PMG				*e*Sn	Sn	13 08 52.7	-1.9
PMG	Port Moresby	10.43	125	P	Pn	13 07 02.5	+3.1
	4.0nm,0.3s,baz=353,slow=4.3,SNR=13						
PMG				S	Sn	13 08 52.7	-1.9
	0.3nm,0.3s,baz=204,slow=20,SNR=2.6						
PMG				LR	LR	13 11 39.4	
	comp=Z,183nm,19.4s,baz=295,slow=40						
COEN	Coen	11.40	156	*e*Pn	Pn	13 07 13.1	+0.4
MTN	Manton Dam	11.83	218	*e*Pn	Pn	13 07 18.0	-0.5
TNTI	Ternate	11.90	290	*e*Pn	Pn	13 07 18.8	-0.6
TNTI	Ternate	11.90	290	P	Pn	13 07 20.1	+0.7
	63nm,0.9s						
SANI	Sanana	12.58	276	P	Pn	13 07 25.8	-2.9
RABL	Rabaul	13.65	93	*e*Pn	Pn	13 07 42.4	-0.6
SOEI	Soe	15.46	245	*e*Pn	Pn	13 08 05.3	-1.2
	142nm,1.0s						
SOEI	Soe

MORW	Morawa	33.22	218	eP	P	13 11 02.4	-0.3
	22nm,1.1s						
JHJ	Hachijo jima 2	36.40	2	LR	LR	13 24 15.0	
	comp=Z,54nm,19.9s,baz=252,slow=32						
PANO	Nakornpanom	39.23	303	P	P	13 11 53.9	-0.1
	0.5nm,1.0s,30nm						
SKNT	Sakolnakorn	39.68	302	P	P	13 11 57.0	-0.8
	38nm,0.8s						
MJAR	Matsushiro Arr	39.80	360	pP	pP	13 12 15.5	-1.0
	1.4nm,0.7s,baz=176,slow=9.0,SNR=5.0						
MAJO	Matsushiro	39.80	360	epP	pP	13 12 15.5	-1.0
PSI	Prapat	40.04	278	eP	P	13 11 59.5	-1.6
	11nm,0.8s						
PSI	Prapat	40.04	278	P	P	13 11 59.7	-1.3
	9.2nm,0.7s,baz=91,slow=4.8,SNR=6.0						
KHON	Khomkaen	40.38	300	P	P	13 12 03.3	-0.3
	39μm,1.1s						
CHAI	Chaiyaphum	40.92	299	P	P	13 12 07.2	-0.9
	41μm,0.8s						
KSRS	Korea Array	41.88	347	LR	LR	13 27 18.7	
	comp=Z,33nm,19.3s,baz=192,slow=33						
UTTA	Uttaradit	42.95	301	P	P	13 12 24.2	-0.3
	26μm,0.9s						
NANT	Nan	43.29	302	P	P	13 12 27.7	+0.4
	19μm,1.0s,450μm						
PHRA	Phrae	43.55	301	P	P	13 12 29.3	-0.1
	3.1nm,0.8s						
LAMP	Lampang	44.07	301	P	P	13 12 35.1	+1.5
	25μm,0.9s						
PAYA	Payao	44.24	302	P	P	13 12 34.4	-0.6
	43μm,0.8s,450μm						
CM31	Chiang Mai Arr	44.63	301	eP	P	13 12 36.9	-1.2
	27nm,1.3s						
CMAR	Chiang Mai Arr	44.63	301	P	P	13 12 37.8	-0.4
	7.7nm,0.8s,baz=120,slow=6.5,SNR=37						
CMAR				pP	pP	13 12 56.8	+0.3
	2.2nm,0.7s,baz=120,slow=6.1,SNR=4.0						
CMAR				LR	LR	13 30 44.4	
	comp=Z,28nm,21.9s,baz=135,slow=35						
CMMT	Chiang Mai	44.78	301	P	P	13 12 39.2	-0.1
	6.3nm,1.0s						
CHTO	Chiang Mai	44.78	301	eP	P	13 12 37.6	-1.7
	12nm,1.1s						
CD2	Chengdu	47.60	318	eP	P	13 13 00.0	-1.3
CN2	Changchun	48.49	347	eP	P	13 13 10.0	+2.1
HHC	Hu-ho-hao-te	50.51	334	eP	P	13 13 25.0	+1.6
HHC				S	S	13 20 34.0	+2.0
HHC				SS	SS	13 24 01.8	-5.3
HHC				pmax	pmax		
	comp=Z,60nm,1.0s						
HHC				pmax	pmax		
	comp=Z,210nm,4.9s						
HHC				LR	LR		
	comp=N,700nm,14.2s						
HHC				LR	LR		
	comp=E,710nm,15.0s						
HHC				LR	LR		
	comp=Z,710nm,14.6s						
KLR	Kul'dur	52.80	354	P	P	13 13 39.9	-0.3
	0.8nm,0.7s,baz=174,slow=18,SNR=3.2						
GTA	Gaotai	55.55	324	eP	P	13 14 00.3	-0.3
GTA				pP	pP	13 14 20.0	+0.5
GTA				sP	sP	13 14 28.0	+0.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONA0	Songino Array	58.31	335	eP	P	13 14 18.8	-1.2
SONM	Songino Array	58.31	335	P	P	13 14 18.8	-1.1
	0.3nm,0.4s,baz=112,slow=6.4,SNR=1.8						
SONM				LR	LR	13 39 01.8	
	comp=Z,30nm,20.8s,baz=128,slow=36						
WMQ	Urumqi	65.47	322	eP	P	13 15 09.0	+1.0
WMQ				LR	LR		
	comp=N,880nm,24.9s						
WMQ				LR	LR		
	comp=Z,460nm,21.9s						
CASY	Casey	65.70	192	eP	P	13 15 08.9	0.0
	12nm,1.3s						
MK31	Makanchi Array	70.25	323	eP	P	13 15 37.0	-0.9
	3.6nm,0.8s						
MKAR	Makanchi Array	70.25	323	P	P	13 15 37.8	-0.2
	4.5nm,0.7s,baz=117,slow=8.0,SNR=38						
MKAR				pP	pP	13 15 57.4	-0.1
	2.4nm,0.6s,baz=111,slow=7.5,SNR=7.5						
MAKZ	Makanchi	70.45	323	eP	P	13 15 38.2	-0.9
	7.1nm,0.8s						
KSH	Kashi	71.45	314	P	P	13 15 48.3	+2.8
KSH				pP	pP	13 16 08.5	+3.2
KSH				PP	PP	13 18 30.0	+5.1
KSH				S	S	13 24 57.8	-0.6
KSH				sS	sS	13 25 34.5	+2.5
KSH				pmax	pmax		
	comp=Z,140nm,6.3s						
KSH				LR	LR		
	comp=Z,160nm,9.6s						
ZALV	Zalesovo Beam	72.48	330	P	P	13 15 50.0	-1.1
	0.6nm,0.4s,baz=96,slow=7.2,SNR=2.8						
ZALV				pP	pP	13 16 11.8	+1.0
	1.6nm,0.8s,baz=158,slow=1.6,SNR=2.5						
ZAA1	Zalesovo Array	72.48	330	epP	pP	13 16 11.8	+0.9
KURK	Kurchatov	74.21	325	eP	P	13 16 00.3	-1.0
	4.4nm,1.1s						
KURBB	Kurchatov Arra	74.22	325	P	P	13 16 00.6	-0.9
	1.7nm,0.9s,baz=116,slow=5.7,SNR=8.7						
KURBB				pP	pP	13 16 20.1	-1.1
	2.4nm,1.1s,baz=115,slow=5.0,SNR=3.8						
VNDA	Vanda	75.06	175	eP	P	13 16 05.9	0.0
	5.0nm,0.9s						
VNDA	Vanda	75.06	175	P	P	13 16 06.1	+0.2
	2.9nm,0.5s,baz=328,slow=6.4,SNR=27						
VNDA				LR	LR	13 49 07.2	
	comp=Z,55nm,18.3s,baz=348,slow=36						
SBA	Scott Base	75.83	174	eP	P	13 16 11.3	+1.1
	4.2nm,0.9s						
BRVK	Borovoye	79.88	325	eP	P	13 16 32.5	-0.7
	5.5nm,0.8s						
NRIK	Noril'sk	80.38	344	P	P	13 16 35.6	+0.1
	1.4nm,0.3s,baz=151,slow=14,SNR=2.8						
NRIK				LR	LR	13 54 23.8	
	comp=Z,12nm,19.3s,baz=71,slow=37						
MAW	Mawson	81.35	202	eP	P	13 16 41.0	+0.3
	1.6nm,0.9s						
MAW	Mawson	81.35	202	P	P	13 16 41.3	+0.5
	5.7nm,0.8s,baz=74,slow=3.6,SNR=9.7						
ABKAR	Akbulak array	85.16	320	eP	P	13 16 59.5	-1.2
ABKAR				epP	pP	13 17 19.9	-1.1
CCB	Clear Creek Bu	86.19	24	epP	pP	13 17 30.7	+4.9
QSPA	South Pole Qui	86.49	180	eP	P	13 17 07.0	-0.1
	11nm,0.7s						
ILAR	Eielson Array	86.60	24	P	P	13 17 07.6	+0.1
	0.6nm,0.7s,baz=258,slow=4.3,SNR=6.7						
VYHS	Vyhne	111.93	321	ePDIF	Pdif	13 19 04.7	+2.0
PB11	IPOC Station P	143.97	131	ePKPdf	PKPbc	13 23 59.6	+0.9
GO01	Chusmiza	144.37	131	ePKPdf	PKPdf	13 24 01.5	-0.4
MNMC	Minye Minye	144.39	130	ePKPdf	PKPdf	13 24 01.1	-0.5
CPUP	Villa Florida	146.66	154	PKPbc	PKPbc	13 24 06.5	-0.1
	2.1nm,0.9s,baz=235,slow=8.2,SNR=2.8						
LPAZ	La Paz	147.16	127	ePKPbc	PKPbc	13 24 09.9	+0.9
LPAZ	La Paz	147.16	127	PKPbc	PKPbc	13 24 10.2	+1.1
	6.0nm,0.8s,baz=222,slow=1.7,SNR=29						

NIED ***26*** *13:16:00, 39.°60N×140.°50E, h5km, Mw3.7 Best double couple: M0 3.37000×10^14 NP1:*ϕ_s*91.00000°,* δ*70.00000°,* λ*-21.00000°. NP2:*ϕ_s*188.00000°,* δ*71.00000°,* λ*-159.00000°.*

ISCJB ***26*** *13:16:35.8±0.5, 39.°58N±0.°03×140.°56E±0.°04, h13km±3km, mb3.5/1, Error ellipse: s-maj=4.9km s-min=4.4km az=136.5*

JMA ***26*** *13:16:35.7, 39.°59N×140.°52E, h7km±1km, M3.8 Broadband fault plane solution: P waves. NP1:* ϕ_s*190.00000°,* δ*87.00000°,* λ*158.00000°. NP2:* ϕ_s*282.00000°,* δ*68.00000°,* λ*4.00000°. Principal axes: T Plg18.0000°, Azm144.0000°; N Plg68.0000°, Azm2.0000°; P Plg13.0000°, Azm238.0000°;*

JMA Felt III J1.

IDC ***26*** *13:16:36.2±1.8, 39.°51N×140.°55E, h0km, mb3.4/1, mb1 3.5/6, mb1mx3.3/35, mbtmp3.5/6, ML3.1/5 Error ellipse: s-maj=33.9km s-min=22.6km az=97.0*

ISC 26 13:16:36.4±1.1, 39.°57N±0.°03×140.°56E±0.°03, h4km±9km, n20, σ**1§43/24, 4C-3D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRG	Rokugo	0.18	162	⇑P	Pg	13 16 40.1	+0.2
JRG				S	Sg	13 16 43.6	+1.3
JYW	Yuwa	0.28	265	⇓P	Pg	13 16 41.1	-0.6
JYW				S	Sg	13 16 45.6	+0.3
JSZI	Iwateshizukuis	0.35	60	⇓P	Pg	13 16 43.2	0.0
JSZI				S	Sg	13 16 48.7	+1.0
JOM	Ohasama	0.57	99	⇑P	Pg	13 16 47.0	-0.4
JOM				S	Sg	13 16 55.0	+0.2
JAH	Hinai	0.62	5	⇑P	Pg	13 16 47.4	-1.0
JAH				S	Sg	13 16 55.5	-1.0
JYK	Kaneyama	0.67	194	⇓P	Pg	13 16 48.3	-0.9
JYK				S	Sb	13 16 57.4	-2.8
JMK	Ichinoseki	0.80	140	⇑P	Pg	13 16 51.0	-0.7
JMK				S	Sb	13 17 01.8	-2.2
MAT	Matsushiro	3.54	212	P	Pn	13 17 32.5	+0.2
MAT				S	Sn	13 18 14.3	-0.3
MJAR	Matsushiro Arr	3.54	212	Pn	Pn	13 17 32.6	+0.4
	0.5nm,0.3s,baz=20,slow=14,SNR=32						
MJAR				Sn	Sn	13 18 14.7	+0.1
	0.4nm,0.3s,baz=76,slow=16,SNR=6.4						
ASAJ	Asahikawa	4.79	18	Pn	Pn	13 17 51.8	+2.4
	0.9nm,0.3s,baz=254,slow=18,SNR=7.4						
USRK	Ussuriysk Ar.	7.89	309	Pn	Pn	13 18 30.6	-1.4
	1.5nm,0.3s,baz=114,slow=15,SNR=15						
KSRS	Korea Array	10.13	262	Pn	Pn	13 19 05.0	+2.4
	0.7nm,0.3s,baz=72,slow=14,SNR=10						
KSRS				Sn	Sn	13 20 59.1	+2.5
	0.7nm,0.3s,baz=69,slow=24,SNR=9.1						
KLR	Kul'dur	11.53	330	Pn	Pn	13 19 23.0	+1.3
	0.1nm,0.3s,baz=146,slow=18,SNR=2.9						
H11N2	WAKE ISLAND Hy	30.06	123	T	T	13 53 23.4	
	baz=318,slow=75,SNR=195						
H11N1	WAKE ISLAND Hy	30.07	123	T	T	13 53 24.7	
	baz=318,slow=75,SNR=212						
H11N3	WAKE ISLAND Hy	30.08	123	T	T	13 53 27.4	
	baz=318,slow=75,SNR=163						
H11S1	WAKE ISLAND Hy	30.83	125	T	T	13 54 23.7	
	baz=319,slow=76,SNR=22						
H11S3	WAKE ISLAND Hy	30.84	125	T	T	13 54 19.7	
	baz=319,slow=76,SNR=35						
H11S2	WAKE ISLAND Hy	30.85	125	T	T	13 54 26.4	
	baz=319,slow=76,SNR=24						
ASAR	Alice Springs	63.21	187	P	P	13 27 05.4	-0.5
	0.3nm,0.8s,baz=7.8,slow=8.5,SNR=5.4						

MEX 26 13:34:22.1±0.6, 16.°33N×98.°26W, h11km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.15	64	eP	Pg	13 34 24.9	-0.7
PNIG				eS	Sg	13 34 27.4	-0.5
TLIG	Tlapa	1.26	347	eP	Pn	13 34 42.1	-3.7
TLIG				eS	Sb	13 34 57.4	-5.0

IDC ***26*** *13:38:07.3±3.1, 26.°72N×125.°73E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/29, mbtmp3.6/4, Error ellipse: s-maj=191.9km s-min=26.6km az=65.0*

JMA ***26*** *13:38:19.8±0.2, 27.°05N×126.°59E, h135km±4km, M3.5*

ISC 26 13:38:19.8±1.0, 27.°11N±0.°10×126.°55E±0.°08, h129km±11km, n20, σ**1§14/34, mb3.6/4, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.81	165	P	Pn	13 38 41.1	+0.1
JKE				S	Sn	13 38 57.4	+0.4
JAGN	Aguni-jima	0.81	130	P	Pn	13 38 41.3	+0.3
JAGN				S	Sn	13 38 57.0	+0.1
JIH	Iheya	1.27	93	P	Pn	13 38 46.0	+0.7
JIH				eS	Sn	13 39 05.3	+0.6
JNTH	Nagotoyohara	1.44	114	P	Pn	13 38 47.5	+0.3
JNTH				S	Sn	13 39 06.3	-1.8
JJT3	Tamagusuku3	1.47	131	P	Pn	13 38 48.1	+0.6
JJT3				eS	Sn	13 39 08.8	+0.3
JOW	Kunigami	1.57	100	P	Pn	13 38 48.8	+0.2
JOW				S	Sn	13 39 08.8	-1.8
JYRO	Yoronjima	1.70	92	P	Pn	13 38 50.3	+0.2
JYRO				S	Sn	13 39 11.3	-2.0
JOKE	Okinoerabujima	1.82	82	P	Pn	13 38 51.7	+0.1
JOKE				S	Sn	13 39 14.4	-1.4
JTK	Tokunoshima	2.24	72	P	Pn	13 38 56.9	+0.2
JTK				eS	Sn	13 39 22.7	-2.3
JIKM	Ikemajima	2.47	209	P	Pn	13 38 59.4	-0.2
JIKM				eS	Sn	13 39 29.1	-1.1
JOGS	Gusukube	2.55	204	P	Pn	13 39 00.6	-0.1
JOGS				eS	Sn	13 39 32.1	0.0
JIRB	Irabujima	2.58	209	P	Pn	13 39 00.3	-0.8
JIRB				eS	Sn	13 39 30.9	-1.9
JAMN	Amaminishikomi	2.59	64	P	Pn	13 39 01.2	+0.1
JMJ2	Miyako jima3	2.60	205	P	Pn	13 39 01.0	-0.3
JMJ2				eS	Sn	13 39 31.8	-1.3
JTJ	Tarama	2.97	214	P	Pn	13 39 05.3	-0.7
JAM	Amami Oshima	3.00	64	P	Pn	13 39 06.3	-0.1
JAM				S	Sn	13 39 40.7	-1.7
SONM	Songino Array	26.01	328	P	P	13 43 43.5	+2.8
	0.6nm,0.4s,baz=140,slow=8.8,SNR=4.2						
MKAR	Makanchi Array	39.83	312	P	P	13 45 40.1	-0.3
	0.7nm,0.5s,baz=96,slow=12,SNR=11						
ZALV	Zalesovo Beam	40.64	323	P	P	13 45 46.1	-0.8
	0.9nm,0.4s,baz=121,slow=7.8,SNR=3.5						
ASAR	Alice Springs	50.98	171	P	P	13 47 08.8	+0.5
	0.2nm,0.7s,baz=359,slow=15,SNR=4.9						

ROM 26 13:39:23.1±0.3, 42.°99N±0.°02×13.°29E±0.°01, h27km±2km, Md1.3/3, Error ellipse: s-maj=1.6km s-min=0.8km az=354.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSP1	Cessapalombo	0.12	328	P	Pb	13 39 28.2	-0.1
CSP1				S	Sb	13 39 31.8	+0.1
CSP1				END			
CSP1				END			
CSP1	Cessapalombo	0.12	328	P	Pb	13 39 28.2	0.0
FDMO	Fiordimonte	0.15	287	P	Pb	13 39 28.4	-0.1
FDMO	Fiordimonte	0.15	287	P	Pb	13 39 28.4	-0.1
FDMO				S	Sb	13 39 32.2	+0.1
FDMO				AML	AML		
	comp=E,47μm,0.2s						
FDMO				AML	AML		
	comp=N,44μm,0.4s						
FDMO				AML	AML		
	comp=E,47μm,0.2s						
FDMO				AML	AML		
	comp=N,44μm,0.4s						
FDMO				AML	AML		
	comp=E,47μm,0.2s						
FDMO				AML	AML		
	comp=N,44μm,0.4s						
FDMO				END			
FDMO				END			
NRCA	Norcia	0.20	219	P	Pb	13 39 28.9	-0.1
NRCA	Norcia	0.20	219	P	Pb	13 39 28.9	-0.1
NRCA				END			
NRCA	Norcia	0.20	219	P	Pb	13 39 28.9	-0.1
NRCA	Norcia	0.20	219	S	Sb	13 39 33.3	+0.2
CESI	CESI - Serrava	0.28	273	P	Pb	13 39 30.1	+0.1
CESI	CESI - Serrava	0.28	273	P	Pb	13 39 30.2	+0.1
CESI				S	Sb	13 39 35.6	+0.8
CESI	CESI - Serrava	0.28	273	P	Pb	13 39 30.2	+0.2
CESI	CESI - Serrava	0.28	273	S	Sb	13 39 35.6	+0.8
CADA	Capodarco di F	0.40	59	P	Pb	13 39 29.0	-2.7
LNSS	Leonessa	0.43	205	P	Pb	13 39 32.4	+0.1
TERO	Teramo	0.43	148	P	Pb	13 39 32.5	+0.2
GUMA	Gualdo di Mace	0.48	81	P	Pb	13 39 28.1	-5.0
GUMA				S	Sb	13 39 31.8	-8.0
PE3	Peglio	0.91	321	S	Sn	13 40 03.0	+11
PTQR	Pietraquaria	0.97	175	P	Pn	13 39 35.8	-5.3
CAFI	Castiglion Fio	1.03	290	S	Sn	13 39 54.0	-1.3
MCIV	Monte Civitell	1.21	260	S	Sb	13 40 09.0	+8.6
CARD	Cardoso	2.29	298	P	Pb	13 40 06.3	+2.6
CARD	Cardoso	2.29	298	AML	AML		
	comp=E,210μm,1.1s						
CARD				AML	AML		
	comp=N,227μm,0.9s						
CARD				AML	AML		
	comp=N,227μm,0.9s						
CARD				AML	AML		
	comp=E,210μm,1.1s						
CAVE	Cavezzo	2.50	319	P	Pb	13 40 11.3	+4.1
CAVE	Cavezzo	2.50	319	AML	AML		
	comp=N,1760μm,0.1s						
CAVE				AML	AML		
	comp=E,2515μm,0.1s						
CAVE				AML	AML		
	comp=N,1760μm,0.1s						
CAVE				AML	AML		
	comp=E,2515μm,0.1s						
CDRU	Civita di Ruta	2.92	148	S	Sb	13 40 49.0	-0.7
STON	Ston	3.24	91	P	Pn	13 40 11.4	-0.7
STON	Ston	3.24	91	S	Sb	13 40 59.0	+0.2
MGRO	Montegrosso	4.12	287	P	Pb	13 40 36.4	+1.4
MUGIO	Muggio	4.22	315	S	Sn	13 41 20.0	+5.9

ISCJB ***26*** *13:58:04.5±1.1, 25.°83N±0.°09×141.°5E±0.°2, h200km, mb3.3/2, Error ellipse: s-maj=19.5km s-min=11.7km az=168.7*

JMA ***26*** *13:58:05.9±0.2, 25.°73N×140.°69E, h118km, M4.1*

IDC ***26*** *13:58:06.2±4.0, 26.°11N×142.°40E, h239km±35km, mb3.2/2, mb1 3.1/5, mb1mx2.8/35, mbtmp3.8/5, Error ellipse: s-maj=115.3km s-min=24.0km az=82.0*

ISC 26 13:58:05.2±1.2, 25.°9N±0.°1×141.°6E±0.°2, h200km, n12, σ**1§66/15, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	0.95	36	P	Pn	13 58 34.7	+0.1
JHH2				S	Sn	13 58 56.9	-0.7
CBIJ	Chichi jima	1.36	24	P	Pn	13 58 38.6	+0.9
CBIJ				S	Sn	13 59 03.4	+0.4
JHJ	Hachijo jima 2	7.40	348	P	Pn	13 59 52.3	+1.7
	4.1nm,0.3s,baz=318,slow=23,SNR=9.2						
JHJ				S	Sn	14 01 12.6	-1.8
	3.6nm,0.3s,baz=53,slow=11,SNR=3.1						
BSO3	Boso 3	8.96	354	P	Pn	14 00 11.5	+0.9
BSO4	Boso 4	9.16	354	P	Pn	14 00 15.5	+2.1
JHU	Hanno	10.15	349	P	Pn	14 00 26.8	+0.5
JAG	Ashikaga	10.69	351	P	Pn	14 00 32.4	-0.8
JHO	Hitachi	10.76	356	P	Pn	14 00 34.3	+0.2
MJAR	Matsushiro Arr	11.03	346	P	Pn	14 00 37.0	-0.7
	0.1nm,0.3s,baz=162,slow=9.4,SNR=6.3						
KSRS	Korea Array	16.36	318	P	P	14 01 46.4	+3.4
	0.1nm,0.3s,baz=140,slow=11,SNR=6.3						
ASAR	Alice Springs	49.78	189	P	P	14 06 37.4	-0.3
	0.1nm,0.3s,baz=5.5,slow=5.2,SNR=5.7						
NRIK	Noril'sk	53.60	339	P	P	14 07 02.6	-2.7
	2.4nm,0.5s,baz=100,slow=4.7,SNR=4.8						

ISK ***26*** *14:03:14.7, 40.°89N×30.°45E, h11km, ML2.2/16*

ISCJB ***26*** *14:03:15.3±0.5, 40.°87N±0.°03×30.°44E±0.°03, h11km±4km, Error ellipse: s-maj=6.3km s-min=3.7km az=29.3*

DDA ***26*** *14:03:15.0, 40.°86N×30.°42E, h7km±2km, ML3.0*

ISC 26 14:03:15.5±1.0, 40.°87N±0.°04×30.°45E±0.°03, h16km±8km, n23, σ**0§40/31, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNC	Sapanca-Adapaz	0.21	209	PG	Pg	14 03 20.4	0.0
SPNC				SG	Sg	14 03 23.9	+0.2
KAND	Kocaeli-Kandir	0.29	320	IAML_P			
	comp=Z,2μm,0.1s						
KAND				i P	Pb	14 03 22.9	+0.5
KAND				i S	Sb	14 03 26.7	-0.3
SAHE	Sakarya_HENDEK	0.31	93	IAML_P			
	comp=Z,2μm,0.1s						
SAHE				i P	Pb	14 03 22.5	-0.2
SAHE				i S	Sb	14 03 26.7	-0.8
GULT	Gulveren	0.44	173	PG	Pg	14 03 24.2	-0.2
GULT				SG	Sb	14 03 30.8	-0.5
BTAS	Taskesti	0.52	125	IAML_P			
	comp=Z,3μm,0.1s						
BTAS				i P	Pb	14 03 26.0	-0.2
BTAS				i S	Sg	14 03 32.6	-0.1
HRT	Hereke	0.59	266	PG	Pb	14 03 27.0	-0.5
HRT				SG	Sb	14 03 35.4	-0.2
SILT	Sile	0.67	295	PG	Pb	14 03 28.3	-0.5
SILT				SG	Sb	14 03 37.8	0.0
MDUB	Mudurnu	0.70	125	PG	Pg	14 03 28.9	-0.3
YIGI	Dzce	0.77	83	i P	Pb	14 03 30.9	+0.5
CAVI	Cavuskoy	0.81	215	PG	Pb	14 03 31.1	-0.1
SRCK	Saricakaya, Es	0.84	170	PG	Pb	14 03 31.5	-0.2
BORA	Eskisehir	0.99	180	PG	Pb	14 03 34.4	+0.1
BORA	Eskisehir	0.99	180	i P	Pb	14 03 34.4	+0.1
BUY	Buyukada	1.01	269	IAML_P			
	comp=Z,2μm,0.3s						
BUY				i P	Pb	14 03 34.5	-0.1
BUY				i S	Sn	14 03 48.5	-0.2
KAVV	Kandilli-Istan	1.07	281	PG	Pb	14 03 35.3	-0.2
ISK	Istanbul-Kandi	1.07	281	PG	Pb	14 03 35.3	-0.3
KLYT	Kilyos	1.13	290	PN	Pn	14 03 36.7	+0.1
ARMT	Armutlu	1.24	256	PN	Pb	14 03 38.4	-0.1
AUMIH	MIHALICIK	1.28	141	PN	Pb	14 03 39.3	+0.1
BGKT	Bogazkoy	1.30	284	PN	Pn	14 03 39.2	+0.2
CTKS	Kestanelik-??a	1.51	285	PN	Pn	14 03 42.4	+0.6
TVSB	Tavsanli	1.61	208	PN	Pn	14 03 44.1	+0.8
KCTX	Karacabey (Bur	1.70	250	PN	Pn	14 03 45.4	+0.9

TAP 26 14:05:09.4, 24.°36N×121.°43E, h9km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	Datong	0.08	330	eP	Pg	14 05 11.6	-0.2
	baz=329						
NNSB				eS	Sg	14 05 12.9	-0.5
	baz=329						
NNS	Nan Shan	0.09	329	eP	Pg	14 05 11.7	-0.3
	baz=332						
NNS				S	Sg	14 05 13.5	-0.3
	baz=332						
ETLH	Xiulin Townshi	0.16	161	eP	Pg	14 05 13.2	+0.2
	baz=161						
ETLH				eS	Sg	14 05 15.6	+0.2
	baz=161						
NACB	Ninganchiao	0.24	140	eP	Pg	14 05 14.2	-0.1
	baz=140						
NDT	Datong Townshi	0.25	18	eP	Pg	14 05 14.7	+0.1
	baz=18						
WHF	Hehuan Shan	0.26	214	P	Pg	14 05 14.8	0.0
	baz=212						
ENA	Nanau	0.30	77	eP	Pg	14 05 15.3	0.0
	baz=77						
NANB	Nanao	0.30	77	eP	Pg	14 05 15.1	-0.4
	baz=77						
ENTT	Nioudou	0.31	25	eP	Pg	14 05 15.5	0.0
	baz=26						
YHNB	Yeheng	0.31	352	eP	Pg	14 05 16.0	+0.4
	baz=351						
TWD	Chiawan	0.32	151	eP	Pg	14 05 15.9	+0.1
	baz=149						
CHGB	Renai	0.38	217	eP	Pg	14 05 16.6	-0.3
	baz=217						
NWLT	Wulai	0.42	10	eP	Pg	14 05 17.4	-0.3
	baz=9.0						
TWE	Neicheng	0.42	32	eP	Pb	14 05 18.9	-0.1
	baz=33						
SLBB	Yuanshan	0.44	26	eP	Pg	14 05 18.5	+0.6

baz=211
WHF eS Sb 14 05 23.3 0.0
baz=211
WHF Hehuan Shan 0.26 213 S Pg 14 05 18.3 0.0
baz=212
ENA Nanau 0.30 78 eS Sb 14 05 25.2 +1.4
baz=78
ENTT Nioudou 0.30 25 eS Sb 14 05 24.5 +0.5
baz=26
NANB Nanao 0.30 78 eS Sb 14 05 24.9 +0.8
baz=78
YHNB Yeheng 0.30 352 eP Pb 14 05 19.9 +0.4
baz=351
YHNB Yeheng 0.30 352 eS Pb 14 05 19.9 +0.5
baz=351
NSK Sanguang 0.31 349 eS Sb 14 05 25.2 +0.7
baz=350
TWD Chiawan 0.33 151 eS Sb 14 05 25.5 +0.8
baz=149
CHGB Renai 0.38 217 eP Pb 14 05 21.8 +1.1
baz=216
NWLT Wulai 0.42 10 eS Sb 14 05 27.7 +0.4
baz=10.0
TWE Neicheng 0.42 32 eP Pn 14 05 22.9 -0.7
baz=34
SLBB Yuanshan 0.43 27 eP Pn 14 05 23.5 -0.4
baz=26
TWC Suao 0.46 58 eS Sb 14 05 29.9 +1.4
baz=58
LIOB Emei 0.46 307 eS Sn 14 05 30.9 -1.3
baz=307
OWD Renai 0.47 209 eP Pb 14 05 22.9 +0.7
baz=208
DPDB Guoxing 0.56 234 eP Pg 14 05 23.4 0.0
baz=233
EOS1 EOS1 0.67 74 eS Sg 14 05 32.2 -2.0
baz=74

GUC 26 14:08:14.4±0.6, 22°.01S×68°.61W, h139km±4km, ML3.6, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.63**	**290**	⇑ *i* P	Pn	14 08 35.0	-0.4
PB09				eS	Sn	14 08 51.3	-0.2
PB03	**IPOC Station P**	**1.06**	**268**	⇑ *i* P	Pn	14 08 38.6	-0.3
PB03				eS	Sn	14 08 56.7	-0.8
PB03				IAML		14 08 59.1	
	comp=E,1μm,0.1s						
PB06	**IPOC Station P**	**1.13**	**232**	⇑ *i* P	Pn	14 08 39.2	-0.3
PB06				eS	Sn	14 08 57.8	-0.9
PB06				IAML		14 08 59.4	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**1.22**	**283**	⇑ *i* P	Pn	14 08 40.4	0.0
PB07				eS	Sn	14 08 59.7	-0.6
PB07				IAML		14 09 01.3	
	comp=N,1μm,0.2s						
PB01	**IPOC Station P**	**1.27**	**319**	eP	Pn	14 08 40.3	-0.5
PB01				eS	Sn	14 09 00.3	-0.6
PB01				IAML		14 09 02.7	
	comp=E,556nm,0.1s						
PB02	**IPOC Station P**	**1.38**	**300**	⇑ *i* P	Pn	14 08 41.8	-0.3
PB02				eS	Sn	14 09 02.3	-0.7
PB02				IAML		14 09 04.5	
	comp=N,835nm,0.2s						
PB15	**IPOC Station P**	**1.43**	**214**	⇑ *i* P	Pn	14 08 42.6	-0.1
PB15				eS	Sn	14 09 03.9	-0.4
PB04	**IPOC Station P**	**1.46**	**257**	⇓ *i* P	Pn	14 08 42.9	0.0
PB04				eS	Sn	14 09 04.2	-0.5
PB04				IAML		14 09 06.2	
	comp=N,772nm,0.1s						
PB05	**IPOC Station P**	**1.70**	**240**	*i* P	Pn	14 08 45.4	-0.1
PB05				eS	Sn	14 09 08.5	-0.8
PB08	**IPOC Station P**	**1.93**	**345**	⇓ *i* P	Pn	14 08 48.9	+0.4
PB08				eS	Sn	14 09 14.6	0.0

KRSC 26 14:20:12.4±10.0, 50°.54N×157°.54E, h50km±10km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.92**	**280**	*i* P	Pn	14 20 29.5	+0.6
SKR				eS	Sn	14 20 41.2	+0.1
PAU	**Pauzhetka**	**1.04**	**334**	eP	Pn	14 20 32.5	+1.9
PAU				eS	Sn	14 20 46.8	+2.8
ALID	**Alaid**	**1.31**	**285**	eP	Pn	14 20 35.6	+1.2
ALID				eS	Sn	14 20 51.5	+0.7
KDTR	**Khodutka, Kamc**	**1.32**	**15**	eP	Pn	14 20 35.8	+1.4
KDTR				eS	Sn	14 20 51.9	+1.1
ASAK	**Asacha**	**1.86**	**7**	eP	Pn	14 20 44.2	+2.3
MTVR	**Mutnovka**	**1.99**	**11**	eP	Pn	14 20 46.7	+3.0
MTVR				eS	Sn	14 21 10.5	+3.0
RUS	**Russkaya**	**1.99**	**17**	eP	Pn	14 20 46.1	+2.5
RUS				eS	Sn	14 21 09.2	+1.9
APC	**Apacha**	**2.40**	**354**	eP	Pn	14 20 52.2	+3.0
DALK	**Dalny**	**2.61**	**16**	eP	Pn	14 20 54.5	+2.5
DALK				eS	Sn	14 21 24.3	+1.9
UGLR	**Uglovaya**	**2.79**	**16**	eP	Pn	14 20 58.3	+3.7
AVH	**Avacha**	**2.83**	**15**	eP	Pn	14 20 59.2	+4.1
SMAR	**Somma**	**2.84**	**15**	eP	Pn	14 20 58.8	+3.4
KOK	**Koryaka**	**2.84**	**13**	eP	Pn	14 20 59.3	+4.0
SDLR	**Sedlovina**	**2.87**	**16**	eP	Pn	14 20 58.2	+2.5
KRER	**Koryakskii**	**2.87**	**15**	eP	Pn	14 20 59.1	+3.3
KRX	**Arik**	**2.91**	**13**	eP	Pn	14 21 00.3	+4.0
SPN	**Mys Shipunski**	**2.99**	**30**	eP	Pn	14 21 00.6	+3.4
SPN				eS	Sn	14 21 34.8	+3.0
GNL	**Ganaly**	**3.17**	**4**	eP	Pn	14 21 04.3	+4.5
KII	**Karymskiy**	**3.69**	**18**	eP	Pn	14 21 09.7	+2.7
MKZ	**Mys Kozlova**	**4.77**	**31**	eP	Pn	14 21 24.1	+2.5
KBTR	**Krutoberegovo**	**6.50**	**27**	eP	Pn	14 21 48.3	+3.0

MEX 26 15:13:10.8±0.8, 14°.99N×93°.96W, h18km±999km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.01**	**45**	eP	Pb	15 13 26.3	-3.5
PCIG				eS	Sb	15 13 38.2	-4.5
TGIG		**1.95**	**24**	eP	Pn	15 13 40.4	-2.8
TGIG				*i* S	Sn	15 14 03.8	-3.5
CCIG	**Comitan**	**2.18**	**54**	*i* P	Pn	15 13 44.0	-2.4
CCIG				*i* S	Sn	15 14 09.5	-3.5
CMIG	**Matias Romero**	**2.27**	**337**	*i* P	Pn	15 13 44.7	-2.9
CMIG				eS	Sn	15 14 10.2	-4.8

NIED ***26*** *15:26:00, 37°.90N×142°.50E, h29km, Mw3.6 Best double couple: M₀2.64000×10¹⁴ NP1:φ₀=213.00000°, δ18.00000°, λ-82.00000°. NP2:φ₀=24.00000°, δ72.00000°, λ-93.00000°.*
IDC ***26*** *15:26:43.0±3.3, 37°.82N×143°.15E, h0km, mb3.6/4, mb1 3.6/8, mb1mx3.4/39, mbtmp3.6/8, ML2.8/4, MS2.7/4, Ms1 2.7/4, ms1mx2.4/46, Error ellipse: s-maj=59.1km s-min=25.8km az=116.0*
JMA ***26*** *15:26:50.4±0.2, 37°.94N×142°.46E, h35km±2km, M3.6*
ISC 26 15:26:47.6±3.7, 37°.93N±0°.05×142°.54E±0°.08, h10km±23km, n33, σ1°.76/33, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.93**	**294**	P	**Pn**	**15 27 06.2**	**-0.6**
JIO	**Ouri**	**1.08**	**299**	P	**Pn**	**15 27 08.5**	**-0.3**
JIO				eS	**Sb**	**15 27 21.5**	**-1.0**
JKMT	**Kesennumamotoy**	**1.22**	**317**	P	**Pn**	**15 27 10.7**	**0.0**
JKMT				S	**Sn**	**15 27 25.2**	**-2.0**
OFUJ	**Ofunato**	**1.34**	**329**	P	**Pn**	**15 27 12.4**	**0.0**
JMM	**Marumori**	**1.39**	**268**	P	**Pn**	**15 27 12.8**	**-0.3**
JMM				eS	**Sn**	**15 27 29.0**	**-2.4**
JFK	**Kawauchi**	**1.44**	**247**	P	**Pn**	**15 27 13.5**	**-0.3**
JMK	**Ichinoseki**	**1.46**	**315**	P	**Pn**	**15 27 14.3**	**+0.3**
JOU	**Okura**	**1.54**	**287**	P	**Pn**	**15 27 15.9**	**+0.6**
JFT	**Otama**	**1.80**	**257**	P	**Pn**	**15 27 20.2**	**+1.5**
JFT				eS	**Sn**	**15 27 40.7**	**-0.9**
JOM	**Ohasama**	**1.82**	**328**	P	**Pn**	**15 27 20.0**	**+0.9**
JYS	**Shirataka**	**1.98**	**279**	P	**Pn**	**15 27 22.6**	**+1.4**
JYS				eS	**Sn**	**15 27 45.5**	**-0.6**
JYK	**Kaneyama**	**1.98**	**301**	P	**Pn**	**15 27 22.3**	**+1.1**
JRG	**Rokugo**	**2.09**	**315**	P	**Pn**	**15 27 24.8**	**+2.0**
JANG	**Nango**	**2.57**	**342**	P	**Pb**	**15 27 32.2**	**-1.6**
JAW	**Awa shima**	**2.65**	**282**	P	**Pn**	**15 27 32.2**	**+1.8**
MJAR	**Matsushiro Arr**	**3.73**	**249**	Pn	**Pn**	**15 27 48.3**	**+3.0**
	baz=51,SNR=4.0						
VNA2	**Neumayer--Watz**	**50.65**	**205**	P	**P**	**15 51 26.8**	**+0.2**
	baz=102,slow=7.6						
VNA1	**Neumayer--Stat**	**51.01**	**205**	P	**P**	**15 51 30.0**	**+0.7**
VNA3	**Neumayer Olymp**	**51.26**	**204**	P	**P**	**15 51 31.5**	**+0.4**
QIS	**Mount Isa**	**51.55**	**83**	P	**P**	**15 51 34.0**	**0.0**
	baz=52,SNR=11						
QIS	**Mount Isa**	**51.55**	**83**	P	**P**	**15 51 34.0**	**0.0**
	baz=52,SNR=11						
KDU	**Kakadu**	**51.65**	**70**	P	**P**	**15 51 33.8**	**-1.0**
	baz=52,SNR=3.2						
KDU	**Kakadu**	**51.65**	**70**	P	**P**	**15 51 35.0**	**+0.2**
	baz=52,SNR=3.2						
LSZ	**Lusaka**	**54.48**	**283**	eP	**P**	**15 51 56.1**	**+0.3**
	18nm,1.5s						
ARMA	**Armidale**	**54.66**	**101**	P	**P**	**15 51 57.9**	**+0.9**
	baz=55						
SANI	**Sanana**	**55.39**	**55**	P	**P**	**15 52 01.9**	**-0.3**
CTA	**Charters Tower**	**56.72**	**87**	P	**P**	**15 52 11.5**	**-0.3**
	11nm,0.8s,baz=244,slow=3.8,SNR=8.4						
CHAI	**Chaiyaphum**	**60.72**	**20**	P	**P**	**15 52 42.0**	**+2.6**
	29μm,0.8s						
PBKT	**Sadao Pong**	**61.11**	**19**	P	**P**	**15 52 43.1**	**+1.1**
	15nm,0.8s						
UTTA	**Uttaradit**	**62.14**	**18**	P	P	15 52 53.8	+4.8
	12μm,0.8s						
SKNT	**Sakolnakorn**	**62.28**	**22**	P	**P**	**15 52 53.0**	**+3.0**
CM31	**Chiang Mai Arr**	**62.48**	**16**	eP	**P**	**15 52 51.8**	**+0.5**
	14nm,0.9s						
CMAR	**Chiang Mai Arr**	**62.48**	**16**	P	**P**	**15 52 51.5**	**+0.3**
	7.8nm,0.8s,baz=208,slow=6.6,SNR=24						
CMAR				LR	LR	16 15 31.8	
	comp=Z,110nm,21.7s,baz=218,slow=32						
PHRA	**Phrae**	**62.80**	**18**	P	**P**	**15 52 56.4**	**+3.0**
	1.1nm,0.9s						
CMMT	**Chiang Mai**	**62.82**	**16**	P	**P**	**15 52 56.0**	**+2.4**
	2.3nm,1.0s						
ODAN	**Odare**	**69.30**	**4**	eP	**P**	**15 53 35.2**	**-0.2**
	24nm,0.7s						
RAMN	**Ramite**	**69.36**	**3**	eP	**P**	**15 53 35.3**	**-0.4**
	10nm,0.6s						
PKI	**Pulchoki**	**69.94**	**2**	eP	**P**	**15 53 39.1**	**-0.3**
	29nm,1.2s						
PKIN	**Phulchoki**	**69.95**	**2**	eP	**P**	**15 53 38.7**	**-0.7**
	30nm,1.3s						
DMN	**Daman**	**69.97**	**1**	eP	**P**	**15 53 38.8**	**-0.7**
	27nm,0.8s						
KOLN	**Koldanda**	**70.12**	**0**	eP	**P**	**15 53 39.5**	**-0.8**
	20nm,1.0s						
KKN	**Kakani**	**70.16**	**2**	eP	**P**	**15 53 40.4**	**-0.2**
	24nm,0.8s						
DZM	**Mont Dzumac**	**70.28**	**102**	eLR	LR	16 14 54.8	
	comp=Z,236nm,23.1s						
PYUN	**Piuthan**	**70.45**	**359**	eP	**P**	**15 53 41.8**	**-0.6**
	47nm,1.0s						
DANN	**Dangsing**	**70.70**	**0**	eP	**P**	**15 53 43.2**	**-0.8**
	47nm,0.8s						
LSA	**Lhasa**	**72.38**	**7**	eP	**P**	**15 53 54.1**	**-0.2**
	7.7nm,0.9s						
KBL	**Kabul**	**78.01**	**348**	eP	**P**	**15 54 26.6**	**+0.3**
	27nm,1.0s						
XAN	**Xi'an**	**79.82**	**21**	eP	**P**	**15 54 35.0**	**-1.1**
	7.2nm,0.9s						
GAR	**Garm**	**82.21**	**350**	eP	**P**	**15 54 48.1**	**-0.6**
	28nm,1.2s						
BTK	**Batken**	**83.18**	**350**	eP	**P**	**15 54 53.7**	**-0.1**
	20nm,1.5s						
GEYT	**Alibeck**	**83.53**	**340**	P	**P**	**15 54 55.6**	**0.0**
	4.3nm,0.9s,baz=187,slow=11,SNR=9.1						
GYA0B	**ALIBECK ARRAY**	**83.53**	**340**	eP	**P**	**15 54 55.9**	**+0.4**
	150nm,0.8s						
AAK	**Ala-Archa**	**85.35**	**353**	eP	**P**	**15 55 04.5**	**-0.3**
	4.1nm,0.9s						
AAK	**Ala-Archa**	**85.35**	**353**	LR	LR	16 29 27.0	
	comp=Z,294nm,19.6s,baz=188,slow=33						
KK31	**Karatay Array**	**86.22**	**350**	eP	**P**	**15 55 08.7**	**-0.3**
	21nm,1.6s						
KKAR	**Karatay Array**	**86.22**	**350**	eP	**P**	**15 55 08.8**	**-0.2**
	21nm,1.6s						
JNU	**Nakatsue**	**87.02**	**38**	LR	LR	16 34 38.9	
	comp=Z,19nm,18.3s,baz=177,slow=36						
MK31	**Makanchi Array**	**89.12**	**359**	eP	**P**	**15 55 22.3**	**-0.5**
	6.9nm,1.5s						
MK32	**Makanchi Array**	**89.12**	**359**	eP	**P**	**15 55 22.4**	**-0.4**
MKAR	**Makanchi Array**	**89.12**	**359**	P	**P**	**15 55 22.4**	**-0.4**
	1.4nm,0.9s,baz=155,slow=6.0,SNR=9.1						
MKAR				LR	LR	16 34 35.7	
	comp=Z,108nm,18.1s,baz=254,slow=35						
MAKZ	**Makanchi**	**89.14**	**359**	eP	**P**	**15 55 22.3**	**-0.6**
	15nm,1.8s						
KSAR	**Wonju Array Be**	**89.38**	**34**	P	**P**	**15 55 25.0**	**+0.8**
KSRS	**Korea Array**	**89.41**	**34**	P	**P**	**15 55 25.0**	**+0.7**
	0.8nm,0.7s,baz=221,slow=4.3,SNR=4.5						
SONA0	**Songino Array**	**92.38**	**15**	eP	**P**	**15 55 37.7**	**-0.4**
SONM	**Songino Array**	**92.38**	**15**	P	**P**	**15 55 37.7**	**-0.4**
	1.0nm,0.8s,baz=184,slow=5.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**92.94**	**285**	P	**P**	**15 55 41.6**	**+0.2**
	0.8nm,0.7s,baz=121,slow=5.6,SNR=4.3						
TORD				LR	LR	16 36 32.1	
	comp=Z,127nm,18.1s,baz=340,slow=35						
TOA1	**Torodi Ar. Sit**	**92.95**	**285**	eP	**P**	**15 55 41.6**	**+0.2**
MAJO	**Matsushiro**	**93.26**	**41**	eP	**P**	**15 55 42.9**	**+0.6**
MJAR	**Matsushiro Arr**	**93.26**	**41**	P	**P**	**15 55 42.9**	**+0.6**
	0.6nm,0.8s,baz=225,slow=9.7,SNR=3.1						
KBZ	**Khabaz**	**93.45**	**332**	P	**P**	**15 55 43.8**	**+0.9**
	2.3nm,0.8s,baz=240,slow=2.6,SNR=4.4						
KBZ				LR	LR	16 33 15.8	
	comp=Z,68nm,20.6s,baz=184,slow=33						
BR101	**Keskin Array S**	**93.68**	**324**	eP	**P**	**15 55 43.8**	**-0.6**
BRTR	**Keskin Array B**	**93.68**	**324**	P	**P**	**15 55 43.8**	**-0.6**
	1.1nm,0.9s,baz=167,slow=6.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**96.28**	**1**	P	**P**	**15 55 54.1**	**-1.5**
	0.5nm,0.3s,baz=188,slow=17,SNR=3.0						
ZAA1	**Zalesovo Array**	**96.28**	**1**	eP	**P**	**15 55 54.1**	**-1.6**
PPT2	**Papeete2**	**102.63**	**129**	eLR	LR	16 29 44.5	
	comp=Z,83nm,28.0s						
RKT	**Rikitea**	**105.48**	**143**	eT	T	17 54 43.8	
	6.9nm,0.2s						
TOLK	**Toolik Lake Re**	**142.25**	**29**	ePKPdf	**PKiKP**	**16 02 01.1**	**-1.1**
BPAW	**Bear Paw Mtn.**	**142.63**	**36**	ePKPpre	PKPpre	16 01 54.4	
WRH	**Wood River Hil**	**143.81**	**35**	ePKPdf	**PKPdf**	**16 02 01.9**	**-0.1**
ILAR	**Eielson Array**	**144.25**	**34**	PKP	**PKPdf**	**16 02 01.9**	**-0.8**
	2.3nm,0.7s,baz=289,slow=3.2,SNR=12						
ILB	**Eielson Array**	**144.25**	**34**	ePKPdf	**PKPdf**	**16 02 02.0**	**-0.8**
DHY	**Denali Highway**	**144.39**	**37**	ePKPdf	PKPbc	16 02 02.2	+0.4
EYAK	**Cordova Ski Ar**	**145.57**	**42**	ePKPdf	**PKPab**	**16 02 05.9**	**+0.3**
DOT	**Dot Lake**	**145.72**	**36**	ePKPdf	**PKPab**	**16 02 07.1**	**+0.8**
EPYK	**Eagle Plains**	**147.67**	**29**	ePKPbc	**PKPbc**	**16 02 12.0**	**+0.6**
INK	**Inuvik**	**147.76**	**25**	ePKPbc	**PKPbc**	**16 02 11.8**	**+0.3**
INK	**Inuvik**	**147.76**	**25**	PKPbc	**PKPbc**	**16 02 11.6**	**+0.1**
	6.3nm,0.7s,baz=323,slow=5.8,SNR=17						
RES	**Resolute Bay**	**147.91**	**359**	ePKPbc	**PKPbc**	**16 02 12.4**	**+0.7**
WHY	**Whitehorse**	**150.74**	**39**	ePKPab	**PKPab**	**16 02 26.3**	**-0.2**
YKA	**Yellowknife Ar**	**157.46**	**22**	PKPab	**PKPab**	**16 02 53.3**	**-1.4**
	0.7nm,0.8s,baz=334,slow=3.1,SNR=3.8						
YKB5	**Yellowknife Ar**	**157.46**	**22**	ePKPab	**PKPab**	**16 02 53.4**	**-1.4**
NV01	**Mina Array Sit**	**162.85**	**97**	ePKPab	**PKPab**	**16 03 19.6**	**+0.2**
NVAR	**Mina Array Bea**	**162.85**	**97**	PKPab	**PKPab**	**16 03 19.6**	**+0.2**
	1.2nm,0.7s,baz=238,slow=7.0,SNR=7.4						
LTX	**Lajitas**	**165.44**	**154**	ePKPab	**PKPab**	**16 03 30.8**	**+0.2**
TXAR	**Lajitas Array**	**165.44**	**154**	PKPab	**PKPab**	**16 03 30.8**	**+0.2**
	0.2nm,0.7s,baz=206,slow=8.0,SNR=3.1						
PDAR	**Pinedale Array**	**170.33**	**85**	PKPab	**PKPab**	**16 03 51.8**	**-0.5**
	0.2nm,0.5s,baz=189,slow=4.5,SNR=3.0						
ULM	**Lac du Bonnet**	**172.44**	**357**	PKPab	**PKPab**	**16 03 59.4**	**-1.5**
	2.8nm,0.7s,baz=16,slow=7.4,SNR=3.0						

MEX 26 15:44:20.3±0.5, 16°.53N×98°.48W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**112**	eP	Pg	15 44 27.1	-0.3
PNIG				*i* S	Sg	15 44 32.1	-0.2
TLIG	**Tlapa**	**1.03**	**356**	eP	Pg	15 44 37.1	-2.9
TLIG				eS	Sg	15 44 50.7	-2.7
CAIG	**El Cayaco**	**1.78**	**287**	*i* P	Pn	15 44 48.4	-3.4
CAIG				*i* S	Sn	15 45 10.4	-4.5

SNET ***26*** *15:49:24.9±0.6, 13°.36N×90°.25W, h23km±7km, ML3.6*
UCR ***26*** *15:49:25.0±1.3, 13°.45N×90°.34W, h35km±4km, MD3.2, ML3.6*
ISC 26 15:49:23.6±2.7, 13°.4N±0°.1×90°.36W±0°.07, h26km±13km, n22, σ0°.42/36, 3C-4D, Near coast of Guatemala

ISCJB ***26*** *15:42:26.1±0.3, 42°.71S±0°.05×83°.62E±0°.07, h10km, mb4.8/43, MS4.2/14, Error ellipse: s-maj=7.9km s-min=7.4km az=140.5*
IDC ***26*** *15:42:26.2±0.5, 42°.68S×83°.58E, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.3/34, mbtmp4.3/17, MS4.2/12, Ms1 4.2/12, ms1mx4.0/21, Error ellipse: s-maj=19.1km s-min=17.1km az=98.0*
NEIC ***26*** *15:42:27.6±0.2, 42°.68S×83°.63E, h10km, mb4.9/22, Error ellipse: s-maj=7.2km s-min=6.5km az=81.0*
GCMT ***26*** *15:42:31.6±0.3, 42°.56S±0°.02×83°.74E±0°.02, h12km, MW5.0/90, Moment Tensor Solution. s25,c31; s90,c128; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.41±.10; Mθθ=3.09±.09; Mφφ=-2.68±.09; Mrθ=0.17±.28; Mφθ=-0.27±.09; Mφr=2.29±.28; Best double couple: M₀=3.60900×10¹⁶ NP1:φ₀=232.00000°, δ=69.00000°, λ=-155.00000°. NP2: φ₀=133.00000°, δ=67.00000°, λ=-23.00000°. Principal axes: T 3.1040, Plg1.0000°, Azm2.0000°; N 1.0130, Plg58.0000°, Azm270.0000°; P -4.1140, Plg32.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 15:42:27.8±0.4, 42°.70S±0°.08×83°.58E±0°.09, h10km, n122, σ0°.84/107, mb4.7/43, MS4.3/14, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**24.96**	**82**	T	T	16 13 32.4	
	baz=242,slow=74,SNR=632						
H01W3	**Cape Leeuwin H**	**24.97**	**82**	T	T	16 13 33.1	
	baz=242,slow=74,SNR=811						
H01W1	**Cape Leeuwin H**	**24.97**	**82**	T	T	16 13 34.6	
	baz=242,slow=74,SNR=583						
MAW	**Mawson**	**27.33**	**197**	eP	**P**	**15 48 11.2**	**-1.2**
	3.3nm,1.1s						
MAW	**Mawson**	**27.33**	**197**	P	**P**	**15 48 12.2**	**-0.2**
	baz=27						
MAW	**Mawson**	**27.33**	**197**	P	**P**	**15 48 12.0**	**-0.3**
	6.9nm,1.0s,baz=39,slow=15,SNR=7.1						
MAW				LR	LR	15 56 31.9	
	comp=Z,416nm,21.1s,baz=32,slow=31						
MUN	**Mundaring**	**27.91**	**78**	P	**P**	**15 48 19.0**	**+1.1**
	baz=28						
BLDU	**Ballidu**	**29.00**	**76**	P	**P**	**15 48 27.7**	**0.0**
	baz=29						
MORW	**Morawa**	**29.41**	**73**	P	**P**	**15 48 31.9**	**+0.6**
	baz=30,SNR=3.7						
KMBL	**Kambalda**	**32.35**	**82**	P	**P**	**15 48 57.1**	**-0.2**
	baz=32						
H08S2	**Diego Garcia H**	**36.26**	**341**	T	T	16 27 46.0	
	baz=166,slow=76,SNR=379						
H08S1	**Diego Carcia H**	**36.26**	**341**	T	T	16 27 42.6	
	baz=166,slow=76,SNR=314						
H08S3	**Diego Garcia H**	**36.27**	**341**	T	T	16 27 47.5	
	baz=166,slow=76,SNR=481						
PSA00	**Pilbara Seismi**	**36.85**	**67**	eP	**P**	**15 49 34.8**	**-1.4**
	24nm,1.0s						
WRKA	**Warakurna**	**40.58**	**79**	P	**P**	**15 50 07.8**	**+0.3**
	baz=41,SNR=17						
WRKA	**Warakurna**	**40.58**	**79**	P	**P**	**15 50 07.8**	**+0.3**
	baz=41,SNR=17						
LEM	**Lembang**	**41.55**	**38**	P	P	15 50 22.1	+6.4
	22nm,0.9s,baz=166,slow=16,SNR=5.1						
PWJI	**Pagerwojo**	**42.53**	**44**	P	**P**	**15 50 24.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**43.18**	**69**	eP	**P**	**15 50 28.1**	**-0.8**
	11nm,1.1s						
FITZ	**Fitzroy Crossi**	**43.18**	**69**	P	**P**	**15 50 28.0**	**-0.8**
	baz=43,SNR=4.4						
FITZ	**Fitzroy Crossi**	**43.18**	**69**	LR	LR	16 06 04.8	
	comp=Z,270nm,20.4s,baz=240,slow=33						
HTT	**Hallett**	**43.86**	**97**	P	**P**	**15 50 34.3**	**0.0**
	baz=44,SNR=4.0						
HTT	**Hallett**	**43.86**	**97**	P	**P**	**15 50 34.3**	**0.0**
	baz=44,SNR=4.0						
ASAR	**Alice Springs**	**45.48**	**82**	P	**P**	**15 50 46.9**	**-0.4**
	12nm,0.9s,baz=228,slow=6.4,SNR=101						
ASAR				PcP	**PcP**	**15 52 27.5**	**+1.4**
	1.5nm,0.7s,baz=227,slow=2.7,SNR=5.2						
ASAR				LR	LR	16 07 29.0	
	comp=Z,743nm,21.0s,baz=246,slow=33						
AS31	**Alice Springs**	**45.48**	**82**	eP	**P**	**15 50 46.2**	**-1.1**
	3.6nm,0.8s						
VNDA	**Vanda**	**46.20**	**163**	eP	**P**	**15 50 52.3**	**+0.1**
VNDA	**Vanda**	**46.20**	**163**	P	**P**	**15 50 52.1**	**-0.2**
	2.7nm,0.9s,baz=279,slow=7.3,SNR=19						
VNDA				LR	LR	16 08 31.7	
	comp=Z,472nm,20.0s,baz=274,slow=34						
STKA	**Stephens Creek**	**46.58**	**97**	eP	**P**	**15 50 55.6**	**-0.3**
	9.5nm,2.0s						
STKA	**Stephens Creek**	**46.58**	**97**	P	**P**	**15 50 55.8**	**-0.1**
	baz=47,SNR=5.6						
STKA	**Stephens Creek**	**46.58**	**97**	P	**P**	**15 50 55.6**	**-0.3**
	3.6nm,0.8s,baz=255,slow=6.3,SNR=11						
STKA				LR	LR	16 07 48.9	
	comp=Z,384nm,18.6s,baz=216,slow=33						
KNRA	**Kununurra**	**47.00**	**69**	P	**P**	**15 50 59.4**	**+0.2**
	baz=47,SNR=4.0						
KNRA	**Kununurra**	**47.00**	**69**	P	**P**	**15 50 59.5**	**+0.2**
	baz=47,SNR=4.0						
SBA	**Scott Base**	**47.24**	**163**	eP	**P**	**15 51 00.5**	**+0.2**
	6.3nm,0.9s						
QSPA	**South Pole Qui**	**47.46**	**180**	eP	**P**	**15 51 02.4**	**0.0**
	22nm,0.8s						
WRAB	**Tennant Creek**	**48.12**	**78**	eP	**P**	**15 51 06.8**	**-1.1**
	26nm,0.9s						
BOSA	**Boshof**	**48.52**	**267**	P	**P**	**15 51 11.7**	**+0.6**
	4.6nm,1.0s,baz=108,slow=11,SNR=3.1						
BOSA				LR	LR	16 07 12.4	
	comp=Z,373nm,21.4s,baz=126,slow=31						
SNAA	**Sanae**	**49.04**	**205**	P	**P**	**15 51

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.81**	**353**	*eP*	**Pb**	**15 49 39.3**	**+0.2**
IXG				*eS*	**Sb**	**15 49 50.0**	**+0.3**
CEVE	**Cerro Verde**	**0.85**	**57**	*eP*	**Pb**	**15 49 39.8**	**0.0**
CEVE				*eS*	**Sn**	**15 49 52.1**	**+0.3**
CEVE				IAML		15 49 53.8	
	comp=Z,4μm,0.2s						
CEVE	**Cerro Verde**	**0.85**	**57**	*eP*	**Pb**	**15 49 39.8**	**0.0**
CEVE				*eS*	**Sn**	**15 49 52.1**	**+0.3**
CEVE				IAML		15 49 53.8	
	comp=Z,4μm,0.2s						
SBLS	**San Blas**	**0.85**	**57**	*eP*	**Pb**	**15 49 39.9**	**-0.1**
SBLS				*eS*	**Sn**	**15 49 51.6**	**-0.3**
SBLS	**San Blas**	**0.85**	**57**	*eP*	**Pb**	**15 49 39.9**	**-0.1**
SBLS				*eS*	**Sn**	**15 49 51.6**	**-0.3**
RTR	**El Retiro**	**0.87**	**53⇓**	*eP*	**Pn**	**15 49 40.2**	**-0.1**
RTR				*eS*	**Sn**	**15 49 52.3**	**+0.1**
RTR	**El Retiro**	**0.87**	**53⇓**	*eP*	**Pn**	**15 49 40.2**	**-0.1**
RTR				*eS*	**Sn**	**15 49 52.3**	**+0.1**
SNJE	**San Jose**	**0.88**	**56⇓**	*eP*	**Pn**	**15 49 40.3**	**-0.3**
SNJE	**San Jose**	**0.88**	**56⇓**	*eP*	**Pn**	**15 49 40.3**	**-0.3**
UNIC	**Santa Ana**	**0.99**	**51⇑**	*eP*	**Pn**	**15 49 41.6**	**-0.3**
UNIC				*eS*	**Sb**	**15 49 54.6**	**-0.3**
UNIC				IAML		15 49 55.8	
	comp=Z,485nm,0.3s						
UNIC	**Santa Ana**	**0.99**	**51⇑**	*eP*	**Pn**	**15 49 41.6**	**-0.3**
UNIC				*eS*	**Sb**	**15 49 54.6**	**-0.3**
UNIC				IAML		15 49 55.8	
	comp=Z,485nm,0.3s						
PCG	**Pacaya**	**1.05**	**347**	*eP*	**Pn**	**15 49 43.3**	**+0.5**
PCG				*eS*	**Sn**	**15 49 56.1**	**-0.7**
BOQS	**Boqueron**	**1.11**	**71⇑**	*eP*	**Pn**	**15 49 43.9**	**+0.3**
BOQS				*eS*	**Sb**	**15 49 58.5**	**0.0**
SNET	**Serv Nac Est T**	**1.14**	**74**	*eP*	**Pn**	**15 49 43.9**	**0.0**
SNET				IAML		15 50 02.0	
	comp=Z,2μm,0.2s						
SNET	**Serv Nac Est T**	**1.14**	**74**	*eP*	**Pn**	**15 49 43.9**	**0.0**
SNET				IAML		15 50 02.0	
	comp=Z,2μm,0.2s						
UEES	**San Salvador**	**1.14**	**72**	*eP*	**Pn**	**15 49 44.1**	**+0.1**
UEES				IAML		15 50 01.2	
	comp=Z,2μm,0.2s						
UEES	**San Salvador**	**1.14**	**72**	*eP*	**Pn**	**15 49 44.1**	**+0.1**
UEES				IAML		15 50 01.2	
	comp=Z,2μm,0.2s						
FUG	**Fuego 3**	**1.17**	**336**	*eP*	**Pn**	**15 49 44.3**	**-0.2**
FUG				*eS*	**Sn**	**15 49 58.4**	**-1.3**
NBG	**Las Nubes**	**1.21**	**0**	*eP*	**Pn**	**15 49 46.1**	**+1.0**
NBG				*eS*	**Sn**	**15 50 01.5**	**+0.6**
LFU	**La Fuente**	**1.27**	**72**	*eP*	**Pn**	**15 49 46.1**	**+0.5**
LFU	**La Fuente**	**1.27**	**72**	*eP*	**Pn**	**15 49 46.1**	**+0.5**
LFRS	**El Faro**	**1.29**	**78**	*eP*	**Pn**	**15 49 46.4**	**+0.5**
LFRS				*eS*	**Sb**	**15 50 03.3**	**-0.1**

ISCJB ***26*** *15:52:35.1±0.7, 4°.55S±0°.08×151°.5E±0°.1, h250km, mb3.6/10, Error ellipse: s-maj=17.7km s-min=10.0km az=25.3*

IDC ***26*** *15:52:37.6±2.0, 4°.61S×151°.45E, h257km±17km, mb3.4/10, mb1 3.5/12, mb1mx3.3/34, mbtmp4.1/12, Error ellipse: s-maj=20.5km s-min=12.7km az=104.0*

ISC 26 15:52:36.7±0.9, 4°.6S±0°.1×151°.5E±0°.1, h250km, n13, σ0=90/15, mb3.9/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.43**	**222**	P	**Pn**	**15 54 08.8**	**-1.4**
	2.8nm,0.3s,baz=35,slow=10,SNR=11						
PMG				S	**S**	**15 55 25.4**	**+0.3**
	1.7nm,0.3s,baz=63,slow=22,SNR=2.8						
CTA	**Charters Tower**	**16.22**	**198**	P	**Pn**	**15 56 11.8**	**+0.3**
	0.9nm,0.3s,baz=13,slow=11,SNR=13						
DZM	**Mont Dzumac**	**22.62**	**142**	P	**P**	**15 57 16.6**	**0.0**
	4.8nm,1.0s,baz=27,slow=15,SNR=1.6						
ASAR	**Alice Springs**	**25.44**	**220**	P	**P**	**15 57 42.7**	**+0.6**
	1.9nm,0.4s,baz=55,slow=9.1,SNR=94						
ASAR				S	**S**	**16 01 48.9**	**-1.3**
	0.4nm,0.7s,baz=43,slow=14,SNR=2.9						
FITZ	**Fitzroy Crossi**	**28.62**	**240**	P	**P**	**15 58 10.5**	**+0.2**
	2.0nm,0.5s,baz=57,slow=6.3,SNR=15						
STKA	**Stephens Creek**	**28.68**	**198**	P	**P**	**15 58 11.3**	**+0.5**
	2.4nm,0.6s,baz=18,slow=8.8,SNR=12						
CMAR	**Chiang Mai Arr**	**56.61**	**296**	P	**P**	**16 01 55.2**	**+1.0**
	0.1nm,0.3s,baz=125,slow=8.0,SNR=5.2						
SONM	**Songino Array**	**65.46**	**328**	P	**P**	**16 02 54.0**	**+0.7**
	0.9nm,0.5s,baz=164,slow=6.2,SNR=4.4						
VNDA	**Vanda**	**73.08**	**178**	P	**P**	**16 03 40.0**	**+0.8**
	0.4nm,0.6s,baz=343,slow=8.1,SNR=4.4						
MKAR	**Makanchi Array**	**79.32**	**319**	P	**P**	**16 04 15.0**	**+0.2**
	0.9nm,0.7s,baz=99,slow=6.6,SNR=9.3						
ZALV	**Zalesovo Beam**	**80.26**	**327**	P	**P**	**16 04 18.6**	**-1.0**
	1.5nm,0.5s,baz=112,slow=7.1,SNR=6.0						
ILAR	**Eielson Array**	**82.47**	**22**	P	**P**	**16 04 29.8**	**-1.2**
	0.3nm,0.8s,baz=260,slow=4.7,SNR=1.8						
TORD	**Torodi Ar. Bea**	**149.00**	**288**	PKPbc	**PKPbc**	**16 11 55.7**	**-0.6**
	1.2nm,0.3s,baz=93,slow=2.7,SNR=5.4						

MAN 26 15:59:45.7, 4°.98N×125°.42E, h153km, mb4.7, ML3.6, MS3.5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.15**	**15**	*eP*	Pn	16 00 13.7	+1.5
DDMP				*eS*	Sn	16 00 33.7	+1.3
SKMP	**Bagumbayan, Su**	**1.76**	**330**	*eP*	Pn	16 00 20.9	+2.6
SKMP				*eS*	Sn	16 00 44.1	+0.8
MATI	**Mati**	**2.12**	**23**	*eP*	Pn	16 00 23.5	+1.0
MATI				*eS*	Sn	16 00 54.5	+3.7

IDC ***26*** *16:00:53.9±0.4, 36°.74N×5°.25E, h0km, mb4.7/42, mb1 4.8/49, mb1mx4.8/54, mbtmp4.7/49, ML4.7/7, MS4.0/34, Ms1 4.0/34, ms1mx3.9/47, Error ellipse: s-maj=10.8km s-min=9.4km az=146.0*

MOS ***26*** *16:00:53.3±1.0, 36°.71N×5°.23E, h10km, mb5.2/79, MS4.1/22, Error ellipse: s-maj=5.4km s-min=2.7km az=69.3*

CRAAG ***26*** *16:00:53.5, 36°.74N×5°.26E, Ml5.0*

BJI ***26*** *16:00:54.0±0.0, 37°.21N×5°.32E, h6km, mb5.1/48, mB5.1/33, Ms4.8/20, Ms7 4.6/18*

NEIC ***26*** *16:00:55.1±0.1, 36°.74N×5°.18E, h10km, mb5.0/274, Error ellipse: s-maj=2.2km s-min=1.6km az=177.0*

NEIC Felt at Algiers.

ISCJB ***26*** *16:00:56.2±0.4, 36°.86N±0°.01×5°.151E±0°.009, h24km±2km, mb5.0/333, MS4.2/45, Error ellipse: s-maj=2.1km s-min=1.2km az=4.5*

GCMT ***26*** *16:00:56.1±0.3, 36°.66N±0°.02×5°.17E±0°.03, h20km±1km, MW4.9/69, Moment Tensor Solution. s21,c23; s69,c104; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.62±.19; Mθθ -2.31±.13; Mφφ 0.69±.11; Mrθ -1.10±.20; Mrφ -1.49±.08; Mθφ -1.41±.25; Best double couple: M0 3.03000×10^16 NP1: φs 221.00000°, δ69.00000°, λ58.00000°. NP2: φs 101.00000°, δ38.00000°, λ144.00000°. Principal axes: T 2.6400, Plg54.0000°, Azm90.0000°; N 0.7810, Plg30.0000°, Azm234.0000°; P -3.4200, Plg18.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MED_RC ***26*** *16:00:56.0±0.3, 36°.71N×5°.19E, h10km, MW4.7/13, Moment Tensor Solution. Mantle waves: s13,c24; Duration: 1s3 Moment tensor: Scale 10^16 Nm; Mrr 0.52±.10; Mθθ -1.15±.06; Mφφ 0.63±.09; Mrθ -0.53±.17; Mθφ -0.94±.07; Mφr -0.80±.20; Best double couple: M0 1.63000×10^16 NP1: φs 209.00000°, δ79.00000°, λ42.00000°. NP2: φs 110.00000°, δ49.00000°, λ166.00000°. Principal axes: T 1.4300, Plg37.0000°, Azm78.0000°; N 0.4100, Plg47.0000°, Azm221.0000°; P -1.8400, Plg20.0000°, Azm333.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

MDD ***26*** *16:00:56.8±0.8, 36°.73N×5°.32E, h10km, gKm, mb5.0/52 Error ellipse: s-maj=5.5km s-min=4.0km az=155.0, PRXIMO*

INMG ***26*** *16:00:57.0±2.0, 36°.71N×5°.21E, h11km±16km, ML3.9, Error ellipse: s-maj=18.2km s-min=4.1km az=108.0*

LDG ***26*** *16:00:57.1±0.2, 36°.69N×5°.36E, h10km, Ml4.9/45, Error ellipse: s-maj=5.3km s-min=2.6km az=138.0*

IGIL ***26*** *16:00:58.0, 36°.78N×5°.37E, h0km*

ISC 26 16:00:56.3±0.7, 36°.74N±0°.03×5°.25E±0°.03, h17km±4km, n1493, σ1972/1667, mb5.0/339, MS4.2/45, 54C-43D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.54**	**111**	P	**Pg**	**16 01 06.7**	**-0.5**
DFRA	**Djebel Bou Aff**	**0.54**	**111**	P	**Pg**	**16 01 06.7**	**-0.5**
SET	**Setif**	**0.56**	**167**	P	**Pg**	**16 01 06.0**	**-1.4**
SET	**Setif**	**0.56**	**167**	P	**Pg**	**16 01 06.0**	**-1.4**
CKHR	**Kef el Ahmar**	**0.76**	**164**	P	**Pg**	**16 01 09.9**	**-1.2**
CKHR	**Kef el Ahmar**	**0.76**	**164**	P	**Pg**	**16 01 09.9**	**-1.2**
CASM	**Ain Smara**	**1.11**	**115**	P	**Pb**	**16 01 16.2**	**-0.9**
CASM	**Ain Smara**	**1.11**	**115**	P	**Pb**	**16 01 16.2**	**-0.9**
CTEI	**Djebel Teioual**	**1.16**	**126**	P	Pb	16 01 09.0	-8.9
CTEI	**Djebel Teioual**	**1.16**	**126**	P	Pb	16 01 09.0	-8.9
CKFL	**Kef-Lekhel**	**1.23**	**106**	P	**Pn**	**16 01 18.0**	**-0.8**
CKFL	**Kef-Lekhel**	**1.23**	**106**	P	**Pn**	**16 01 18.0**	**-0.8**
CAEH	**'Ain El Ouahch**	**1.29**	**88**	P	**Pn**	**16 01 18.2**	**-1.3**
CAEH	**'Ain El Ouahch**	**1.29**	**88**	P	**Pn**	**16 01 18.2**	**-1.3**
AKET	**Djebel Ketaf**	**1.30**	**238**	P	**Pb**	**16 01 21.0**	**+0.6**
AKET	**Djebel Ketaf**	**1.30**	**238**	P	**Pb**	**16 01 21.0**	**+0.6**
ADJB	**Djebel Djouab**	**1.57**	**249**	P	**Pb**	**16 01 25.6**	**+0.6**
ADJB	**Djebel Djouab**	**1.57**	**249**	P	**Pb**	**16 01 25.6**	**+0.6**
CMAH	**Djebel Manchou**	**1.75**	**93**	P	**Pn**	**16 01 25.0**	**-0.9**
CMAH	**Djebel Manchou**	**1.75**	**93**	P	**Pn**	**16 01 25.0**	**-0.9**
ABSA	**Djebel Ababsia**	**1.86**	**104**	P	**Pn**	**16 01 26.5**	**-0.9**
CABS	**Djebel Ababsia**	**1.86**	**104**	P	**Pn**	**16 01 26.5**	**-0.9**
EBNR	**Beni Rached**	**3.03**	**263**	P	**Pn**	**16 01 43.0**	**-0.5**
ECHA	**Ech Chlef**	**3.19**	**260**	P	**Pn**	**16 01 46.0**	**+0.5**
ECHF	**Ech Chlef**	**3.20**	**261**	P	**Pn**	**16 01 46.0**	**+0.2**
MAHO	**Mahon**	**3.24**	**347**	P	**Pn**	**16 01 45.9**	**-0.4**
MAHO				S	**Sn**	**16 02 21.1**	**-3.3**
MAHO	**Mahon**	**3.24**	**347**	*eP*	**Pn**	**16 01 45.9**	**-0.4**
MAHO				*i* S	**Sn**	**16 02 21.1**	**-3.3**
MAHO				*e*Cod		16 04 31.2	
EANR	**'Ain N'Sour**	**3.44**	**258**	P	**Pn**	**16 01 48.0**	**-1.1**
EANR	**'Ain N'Sour**	**3.44**	**258**	P	**Pn**	**16 01 48.0**	**-1.1**
KEST	**Kesra**	**3.46**	**106**	Pn	**Pn**	**16 01 49.6**	**+0.2**
	174nm,0.3s,baz=248,slow=4.5,SNR=555						
KEST				Sn	**Sn**	**16 02 32.1**	**+2.0**
	65nm,0.3s,baz=39,slow=22,SNR=4.4						
KEST				LR	LR	16 02 45.4	
	comp=Z,710nm,20.4s,baz=29,slow=32						
ETOS	**Mallorca**	**3.58**	**328**	⇓P	**Pn**	**16 01 51.4**	**+0.5**
	587nm,0.6s,SNR=18						
ETOS				S	**Sn**	**16 02 31.6**	**-1.2**
	682nm,0.5s,SNR=6.8						
EIBI	**Ibiza**	**3.84**	**308**	⇓P	**Pn**	**16 01 55.6**	**+1.1**
	320nm,0.4s,SNR=18						
EIBI				S	**Sn**	**16 02 38.0**	**-1.3**
	72nm,0.5s,SNR=7.9						
EBEN2	**Beniarda presa**	**4.72**	**296**	P	**Pn**	**16 02 07.3**	**+0.6**
	62nm,0.2s,SNR=7.9						
EBEN2				S	**Sn**	**16 02 59.8**	**-1.3**
	102nm,0.2s,SNR=7.9						
ETRV	**Los Montesinos**	**4.95**	**287**	⇓P	**Pn**	**16 02 10.0**	**+0.1**
	45nm,0.2s,SNR=18						
ETRV				S	**Sn**	**16 03 05.3**	**-1.4**
	76nm,0.2s,SNR=7.9						
AFON	**Font Roja**	**4.97**	**294**	⇓P	**Pn**	**16 02 10.9**	**+0.6**
	46nm,0.4s,SNR=18						
AFON				S	**Sn**	**16 03 06.7**	**-0.7**
	186nm,0.6s,SNR=7.9						
CART	**Cartagena**	**5.06**	**281**	*e*Pn	**Pn**	**16 02 10.3**	**-1.1**
CART	**Cartagena**	**5.06**	**281**	P	**Pn**	**16 02 11.7**	**+0.4**
CART				S	**Sn**	**16 03 06.7**	**-2.7**
CART	**Cartagena**	**5.06**	**281**	*e*P	**Pn**	**16 02 11.7**	**+0.4**
CART				*e*S	**Sn**	**16 03 06.7**	**-2.7**
EMUR	**La Murta**	**5.29**	**284**	P	**Pn**	**16 02 15.2**	**+0.7**
	68nm,0.3s,SNR=68						
EMUR				S	**Sn**	**16 03 12.5**	**-2.6**
	159nm,0.5s,SNR=7.9						
CFON	**Fontmartina**	**5.47**	**337**	P	**Pn**	**16 02 17.0**	**0.0**
	41nm,0.2s,SNR=93						
CFON				S	**Sn**	**16 03 15.1**	**-4.4**
	150nm,0.3s,SNR=7.9						
EBR	**Ebro Roquetas**	**5.51**	**319**	P	**Pn**	**16 02 18.2**	**+0.7**
	96nm,0.1s,SNR=7.9						
EBR				S	**Sn**	**16 03 17.4**	**-3.0**
	213nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.63**	**326**	⇓P	**Pn**	**16 02 19.5**	**+0.3**
	29nm,0.2s,SNR=18						
EPOB				S	**Sn**	**16 03 18.7**	**-4.8**
	97nm,0.3s,SNR=7.9						
ECHE	**Chera**	**5.66**	**302**	⇓P	**Pn**	**16 02 21.0**	**+1.3**
	15nm,3.1s,SNR=18						
ECHE				S	**Sn**	**16 03 23.0**	**-1.3**
	3.6nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.69**	**319**	P	**Pn**	**16 02 20.9**	**+0.9**
	11nm,0.2s,SNR=16						
ERTA				S	**Sn**	**16 03 23.2**	**-1.7**
	86nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**5.71**	**291**	⇓P	**Pn**	**16 02 21.4**	**+1.1**
	45nm,0.3s,SNR=18						
ETOB				S	**Sn**	**16 03 23.8**	**-1.7**
	177nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**5.76**	**311**	P	**Pn**	**16 02 21.9**	**+0.8**
	38nm,0.3s,SNR=98						
EMOS				S	**Sn**	**16 03 23.2**	**-3.6**
	62nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**5.91**	**332**	⇓P	**Pn**	**16 02 24.2**	**+1.1**
	30nm,0.3s,SNR=18						
EMIR				S	**Sn**	**16 03 27.8**	**-2.7**
	58nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**5.98**	**343**	P	**Pn**	**16 02 23.8**	**-0.2**
	42nm,0.3s,SNR=76						
EJON				S	**Sn**	**16 03 28.6**	**-3.5**
	19nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**5.98**	**274**	P	**Pn**	**16 02 23.7**	**-0.3**
	16nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**16 03 29.1**	**-3.0**
	193nm,0.4s,SNR=7.9						
SJAF	**Saint Jean de**	**6.02**	**343**	P	**Pn**	**16 02 24.1**	**-0.4**
	9.6nm,0.3s,SNR=7.9						
SJAF				S	**Sn**	**16 03 29.7**	**-3.3**
	90nm,0.6s,SNR=7.9						
CLLI	**Llivia**	**6.26**	**337**	P	**Pn**	**16 02 27.8**	**-0.1**
	14nm,0.2s,SNR=74						
CLLI				S	**Sn**	**16 03 36.1**	**-3.0**
	29nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**6.35**	**285**	P	**Pn**	**16 02 29.6**	**+0.3**
	219nm,0.6s,SNR=7.9						
SESP				S	**Sn**	**16 03 40.2**	**-1.2**
	279nm,0.6s,SNR=7.9						
CLTB	**Caltabellotta**	**6.42**	**80**	*e*Pn	**Pn**	**16 02 29.4**	**-0.7**
CSOR	**Sort**	**6.46**	**332**	⇓P	**Pn**	**16 02 32.4**	**+1.7**
	16nm,0.2s,SNR=18						
CSOR				S	**Sn**	**16 03 39.9**	**-4.1**
	323nm,0.8s,SNR=7.9						
PGF	**Pioggiola**	**6.48**	**25**	*e*Pn	**Pn**	**16 02 29.4**	**-1.5**
PGF				*e*Sn	**Sn**	**16 03 38.2**	**-6.3**
	2μm,0.6s						
PGF	**Pioggiola**	**6.48**	**25**	P	**Pn**	**16 02 29.4**	**-1.5**
PGF				S	**Sn**	**16 03 38.2**	**-6.3**
	1μm,0.6s						
EBER	**Berja**	**6.53**	**274**	P	**Pn**	**16 02 31.6**	**-0.1**
	35nm,0.3s,SNR=61						
EBER				S	**Sn**	**16 03 42.2**	**-3.7**
	214nm,0.6s,SNR=7.9						
LMR	**La Mourre**	**6.65**	**8**	*e*Pn	**Pn**	**16 02 32.5**	**-0.7**
LMR				*e*Sn	**Sn**	**16 03 43.4**	**-5.2**
	459nm,0.4s						
LMR	**La Mourre**	**6.65**	**8**	P	**Pn**	**16 02 32.5**	**-0.7**
LMR				S	**Sn**	**16 03 43.4**	**-5.2**
	230nm,0.4s						
ESAC	**San Caprasio**	**6.66**	**320**	P	**Pn**	**16 02 34.7**	**+1.3**
	90nm,0.3s,SNR=7.9						
ESAC				S	**Sn**	**16 03 45.1**	**-3.8**
	185nm,0.3s,SNR=7.9						
GORA	**Gorafe**	**6.67**	**279**	P	**Pn**	**16 02 35.3**	**+1.9**
	4.2nm,0.2s,SNR=7.9						
GORA				S	**Sn**	**16 03 47.1**	**-1.9**
	91nm,0.4s,SNR=7.9						
EQES	**Quesada**	**6.72**	**282**	⇓P	**Pn**	**16 02 35.9**	**+1.7**
	139nm,0.4s,SNR=18						
EQES				S	**Sn**	**16 03 49.8**	**-0.6**
	145nm,0.6s,SNR=7.9						
EALB	**Alboran**	**6.73**	**266**	P	**Pn**	**16 02 33.6**	**-0.7**
	8.3nm,0.2s,SNR=16						
EALB				S	**Sn**	**16 03 47.9**	**-2.7**
	101nm,0.4s,SNR=7.9						
MELI	**Melilla**	**6.79**	**260**	S	**Sn**	**16 03 49.3**	**-2.6**
	SNR=7.9						
MELI	**Melilla**	**6.79**	**260**	*e*S	**Sn**	**16 03 49.2**	**-2.6**
EMEL	**Melilla**	**6.80**	**260**	S	**Sn**	**16 03 49.6**	**-2.7**
	15nm,0.3s,SNR=7.9						
FRF	**La Foret Royal**	**6.89**	**9**	*e*Pn	**Pn**	**16 02 35.6**	**-0.9**
FRF				*e*Sn	**Sn**	**16 03 49.8**	**-4.7**
	689nm,0.4s						
FRF	**La Foret Royal**	**6.89**	**9**	*e*Pn	**Pn**	**16 02 35.6**	**-0.9**
FRF				*e*Sn	**Sn**	**16 03 49.8**	**-4.7**
FRF	**La Foret Royal**	**6.89**	**9**	*e*P	**Pn**	**16 02 35.6**	**-0.9**
FRF				*e*		16 03 49.8	
FRF	**La Foret Royal**	**6.89**	**9**	P	**Pn**	**16 02 35.6**	**-0.9**
FRF				S	**Sn**	**16 03 49.8**	**-4.7**
	345nm,0.4s						
EQUE	**Quentar**	**6.97**	**276**	P	**Pn**	**16 02 38.9**	**+1.2**
	38nm,0.3s,SNR=28						
EQUE				S	**Sn**	**16 03 54.8**	**-1.8**
	58nm,0.5s,SNR=7.9						
MTLF	**Montolieu**	**6.99**	**342**	*e*Pn	**Pn**	**16 02 38.0**	**+0.2**
MTLF				*e*Sn	**Sn**	**16 03 53.4**	**-3.4**
	162nm,0.5s						
MTLF	**Montolieu**	**6.99**	**342**	P	**Pn**	**16 02 38.0**	**+0.2**
MTLF				S	**Sn**	**16 03 53.4**	**-3.4**
	81nm,0.5s						
ETOR	**Torete**	**7.01**	**308**	P	**Pn**	**16 02 40.6**	**+2.4**
	4.2nm,0.2s,SNR=25						
ETOR				S	**Sn**	**16 03 53.4**	**-4.1**
	0.9nm,0.1s,SNR=7.9						
ECHI	**Chisagues Biel**	**7.08**	**328**	P	**Pn**	**16 02 40.0**	**+0.8**
	9.6nm,0.2s,SNR=7.9						
ECHI				S	**Sn**	**16 03 56.0**	**-3.3**
	5.1nm,0.4s,SNR=7.9						
ELGU	**Los Guajares,**	**7.12**	**274**	P	**Pn**	**16 02 39.3**	**-0.5**
	24nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**16 03 57.6**	**-2.7**
	198nm,0.4s,SNR=7.9						
SMRF	**Simiane la Rot**	**7.23**	**2**	*e*Pn	**Pn**	**16 02 41.7**	**+0.6**
SMRF				*e*Sn	**Sn**	**16 04 00.8**	**-2.0**
	334nm,0.5s						
SMRF	**Simiane la Rot**	**7.23**	**2**	P	**Pn**	**16 02 41.7**	**+0.6**
SMRF				S	**Sn**	**16 04 00.8**	**-2.0**
	334nm,0.5s						
SBF	**Sospel**	**7.30**	**13**	*e*Pn	**Pn**	**16 02 41.0**	**-1.2**
SBF				*e*Sn	**Sn**	**16 03 58.6**	**-6.1**
	753nm,0.5s						
SBF	**Sospel**	**7.30**	**13**	P	**Pn**	**16 02 41.0**	**-1.2**
SBF				S	**Sn**	**16 03 58.6**	**-6.1**
	376nm,0.5s						
EPF	**Esparros**	**7.32**	**331**	*e*Pn	**Pn**	**16 02 44.8**	**+2.3**
EPF				*e*Sn	**Sn**	**16 04 02.7**	**-2.5**
	258nm,0.5s						
EPF	**Esparros**	**7.32**	**331**	*e*Pn	**Pn**	**16 02 44.8**	**+2.3**
EPF	**Esparros**	**7.32**	**331**	*e*P	**Pn**	**16 02 44.8**	**+2.3**
EPF	**Esparros**	**7.32**	**331**	P	**Pn**	**16 02 44.8**	**+2.3**
EPF				S	**Sn**	**16 04 02.7**	**-2.5**
	129nm,0.5s						
VAE	**Valguarnera**	**7.36**	**82**	Pn	**Pn**	**16 02 44.5**	**+1.5**
	4.8nm,0.3s,baz=95,slow=9.9,SNR=11						
VAE				Sn	**Sn**	**16 04 09.8**	**+3.7**
	baz=221,slow=19,SNR=1.1						
VAE				LR	LR	16 06 02.5	
	comp=Z,1μm,19.4s,baz=226,slow=42						
LASF	**Ste Croix**	**7.40**	**352**	*e*Pn	**Pn**	**16 02 42.7**	**-0.8**
LASF				*e*Sn	**Sn**	**16 04 02.8**	**-4.2**
	129nm,0.4s						
LASF	**Ste Croix**	**7.40**	**352**	P	**Pn**	**16 02 42.7**	**-0.8**
LASF				S	**Sn**	**16 04 02.8**	**-4.2**
	65nm,0.4s						
EGOR	**Sierra Gorda,**	**7.50**	**276**	P	**Pn**	**16 02 46.4**	**+1.4**
	242nm,0.8s,SNR=7.9						
EGOR				S	**Sn**	**16 04 08.0**	**-1.8**
	26nm,0.5s,SNR=7.9						
WDD	**Wied Dalam**	**7.55**	**94**	*e*Pn	**Pn**	**16 02 45.2**	**-0.2**
UCM	**Universidad Co**	**7.55**	**301**	*e*P	**Pn**	**16 02 47.3**	**+1.8**
UCM				*e*S	**Sn**	**16 04 12.9**	**+2.2**
ETSF	**Etsaut**	**7.60**	**326**	*e*Pn	**Pn**	**16 02 48.1**	**+1.9**
ETSF				*e*Sn	**Sn**	**16 04 09.6**	**-2.3**
	144nm,0.6s						
ETSF	**Etsaut**	**7.60**	**326**	*e*Pn	**Pn**	**16 02 48.1**	**+1.9**
ETSF				*e*Sn	**Sn**	**16 04 09.6**	**-2.3**
ETSF	**Etsaut**	**7.60**	**326**	*e*P	**Pn**	**16 02 48.1**	**+1.9**
ETSF				*e*		16 04 09.6	
ETSF	**Etsaut**	**7.60**	**326**	P	**Pn**	**16 02 48.1**	**+1.9**
ETSF				S	**Sn**	**16 04 09.6**	**-2.3**
	72nm,0.6s						
EMAL	**Malaga-Limoner**	**7.77**	**273**	*e*P	**Pn**	**16 02 47.5**	**-1.0**
EMAL				*e*S	**Sn**	**16 04 09.4**	**-6.6**
ATE	**Arette**	**7.81**	**326**	P	**Pn**	**16 02 50.3**	**+1.2**
	49nm,0.4s,SNR=7.9						
ATE				S	**Sn**	**16 04 13.9**	**-3.1**
	75nm,0.5s,SNR=7.9						
ESDC	**Sonseca Array**	**7.82**	**295**	P	**Pn**	**16 02 50.0**	**+0.7**
	18nm,0.3s,baz=105,slow=14,SNR=57						
ESDC				S	**Sn**	**16 04 17.1**	**-0.3**
	baz=109,slow=25,SNR=7.9		

CAF S Sn 16 04 30.9 -3.7
36nm,0.5s
LIJA Lijar 8.54 274 P Pn 16 03 00.2 +1.0
LIJA S Sn 16 04 39.0 +3.7
LIJA Lijar 8.54 274 eP Pn 16 03 00.2 +1.0
LIJA eS Sn 16 04 39.0 +3.7
SSB Saint Sauveur 8.54 357 ePn Pn 16 02 58.2 -0.9
SSB Saint Sauveur 8.54 357 eP Pn 16 02 58.3 -0.9
ECAB El Cabril 8.59 282 P Pn 16 02 59.8 0.0
16nm,0.4s,SNR=44
ECAB S Sn 16 04 32.8 -3.5
6.9nm,0.4s,SNR=7.9
CEL Celeste 8.60 77 ePn Pn 16 03 00.8 +0.9
ECEU Ceuta 8.62 268 P Pn 16 02 59.1 -1.0
1.3nm,0.2s,SNR=7.8
ECEU S Sn 16 04 31.6 -5.4
3.2nm,0.2s,SNR=7.9
EJIF Jimena Fronter 8.62 271 P Pn 16 03 01.5 +1.2
3.0nm,0.2s,SNR=7.9
EJIF S Sn 16 04 34.0 -3.2
0.6nm,0.2s,SNR=7.9
ALJ Aljibe 8.76 272 P Pn 16 03 07.0 +4.8
ALJ Aljibe 8.76 272 eP Pn 16 03 07.0 +4.8
LPG La Plagne 8.82 7 ePn Pn 16 03 04.6 +1.4
LPG eSn Sn 16 04 39.7 -2.6
286nm,0.6s
LPG La Plagne 8.82 7 P Pn 16 03 04.6 +1.4
LPG S Sn 16 04 39.7 -2.6
143nm,0.6s
LPL La Plagne 8.84 7 ePn Pn 16 03 04.8 +1.5
LPL eSn Sn 16 04 39.5 -3.1
317nm,0.6s
LPL La Plagne 8.84 7 ePn Pn 16 03 04.8 +1.5
LPL La Plagne 8.84 7 eP Pn 16 03 04.8 +1.5
LPL La Plagne 8.84 7 P Pn 16 03 04.8 +1.5
LPL S Sn 16 04 39.5 -3.1
158nm,0.6s
LFF La Frestale 8.87 339 ePn Pn 16 03 05.0 +1.4
LFF eSn Sn 16 04 36.2 -6.9
103nm,0.7s
LFF La Frestale 8.87 339 P Pn 16 03 05.0 +1.4
LFF S Sn 16 04 36.2 -6.9
52nm,0.7s
ESPR Espera 8.91 274 P Pn 16 03 05.2 +1.0
1.9nm,0.2s,SNR=18
ESPR S Sn 16 04 44.5 +0.4
SNR=7.9
MDT Midelt 9.00 247 Pn Pn 16 03 05.5 -0.1
1.4nm,0.3s,baz=82,slow=10,SNR=24
MDT Lg Lg 16 05 43.3
0.8nm,0.3s,baz=250,slow=18,SNR=1.9
RJF Les Rejaudoux 9.00 343 ePn Pn 16 03 06.0 +0.6
RJF eSn Sn 16 04 39.6 -6.8
90nm,0.8s
RJF Les Rejaudoux 9.00 343 P Pn 16 03 06.0 +0.6
RJF S Sn 16 04 39.6 -6.8
45nm,0.8s
IFR Ifrane 9.09 252 eP Pn 16 03 08.4 +1.7
IFR eS Sn 16 04 45.8 -2.9
CNIL Conil 9.10 271 P Pn 16 03 08.0 +1.2
CNIL Conil 9.10 271 eP Pn 16 03 08.0 +1.2
SFS San Fernando 9.21 272 ePn Pn 16 03 08.3 0.0
SFS San Fernando 9.21 272 eP Pn 16 03 08.3 0.0
ELAN Lanestosa 9.29 317 P Pn 16 03 10.5 +1.1
1.4nm,0.3s,SNR=7.9
ELAN S Sn 16 04 50.6 -2.8
SNR=7.9
TIP Timpagrande 9.41 72 ePn Pn 16 03 12.3 +1.2
EPLA Plasencia 9.49 294 P Pn 16 03 13.3 +1.1
0.0nm,0.4s,SNR=14
EPLA S Sn 16 04 54.6 -3.8
SNR=7.9
EMIN Mina Concepcio 9.56 280 P Pn 16 03 13.8 +0.7
24nm,0.6s,SNR=7.9
EMIN S Sn 16 04 56.6 -3.5
SNR=7.9
SENIN Lac Senin/Sane 9.73 8 ePn Pn 16 03 16.5 +0.9
TCF Toulx Ste Croi 9.80 348 ePn Pn 16 03 17.5 +1.1
TCF eSn Sn 16 05 04.1 -2.0
38nm,0.5s
TCF Toulx Ste Croi 9.80 348 P Pn 16 03 17.5 +1.1
TCF S Sn 16 05 04.1 -2.0
19nm,0.5s
CABF La Chapelle 9.88 3 ePn Pn 16 03 17.7 +0.2
CABF eSn Sn 16 05 00.3 -7.7
111nm,0.8s
CABF La Chapelle 9.88 3 P Pn 16 03 17.7 +0.2
CABF S Sn 16 05 00.3 -7.7
55nm,0.8s
EBAD Badajoz 9.92 285 P Pn 16 03 17.8 -0.2
0.3nm,0.1s,SNR=7.9
EBAD S Sn 16 05 02.4 -6.5
SNR=7.9
SMF Signal de Mont 9.95 354 ePn Pn 16 03 18.4 0.0
SMF eSn Sn 16 05 05.8 -3.8
73nm,0.7s
SMF Signal de Mont 9.95 354 P Pn 16 03 18.4 0.0
SMF S Sn 16 05 05.8 -3.8
37nm,0.7s
BGF Bois d'Agland 9.97 350 ePn Pn 16 03 19.0 +0.3
BGF eSn Sn 16 05 07.8 -2.3
68nm,0.5s
BGF Bois d'Agland 9.97 350 P Pn 16 03 19.0 +0.3
BGF S Sn 16 05 07.8 -2.3
34nm,0.5s
AVF Avril sur Loir 10.14 353 ePn Pn 16 03 20.3 -0.7
AVF eSn Sn 16 05 12.1 -2.1
39nm,0.7s
AVF Avril sur Loir 10.14 353 P Pn 16 03 20.3 -0.7
AVF S Sn 16 05 12.1 -2.1
20nm,0.7s
TUE Stuetta 10.19 16 ePn Pn 16 03 22.3 +0.4
EGRO El Granado 10.20 278 P Pn 16 03 21.5 -0.3
38nm,0.7s,SNR=7.9
EGRO S Sn 16 05 10.8 -4.9
SNR=7.9
PMRV Marv??o 10.32 289 ePn Pn 16 03 24.4 +0.9
PMRV A A 16 05 59.2
16nm,0.5s
PMRV Marv??o 10.32 289 P Pn 16 03 24.4 +0.9
EARI Arriondas 10.35 312 P Pn 16 03 25.7 +1.8
1.5nm,0.2s,SNR=7.9
PVAQ Vaqueiros 10.38 278 ePn Pn 16 03 24.5 +0.1
PVAQ eSn Sn 16 05 15.9 -4.4
PVAQ A A 16 05 18.9
12nm,0.5s
PVAQ Vaqueiros 10.38 278 ePn Pn 16 03 23.7 -0.7
PVAQ Vaqueiros 10.38 278 P Pn 16 03 24.5 +0.1
PVAQ S Sn 16 05 15.9 -4.4
12nm,0.5s
SSF Saint Saulge 10.39 353 ePn Pn 16 03 25.1 +0.7
SSF eSn Sn 16 05 12.5 -7.9
53nm,0.7s
SSF Saint Saulge 10.39 353 ePn Pn 16 03 25.1 +0.7
SSF Saint Saulge 10.39 353 eP Pn 16 03 25.1 +0.7
SSF Saint Saulge 10.39 353 P Pn 16 03 25.1 +0.7
SSF S Sn 16 05 12.5 -7.9
26nm,0.7s
PCBR Castelo Branco 10.47 291 ePn Pn 16 03 26.8 +1.3
PCBR Castelo Branco 10.47 291 P Pn 16 03 26.8 +1.3
PBEJ Beja 10.52 281 ePn Pn 16 03 28.4 +2.2
PBEJ eSn Sn 16 05 20.9 -2.6
PBEJ Beja 10.52 281 P Pn 16 03 28.4 +2.2
PBEJ S Sn 16 05 20.9 -2.6
MVO Moncorvo 10.53 299 ePn Pn 16 03 27.5 +1.1
MVO eSn Sn 16 05 21.3 -2.6
MVO Moncorvo 10.53 299 P Pn 16 03 26.7 +0.2
3.0nm,0.2s,SNR=7.9
FUORN Ofenpass-Fuorn 10.55 19 ePn Pn 16 03 28.4 +1.5
PBDV Barranco-do-Ve 10.55 277 ePn Pn 16 03 27.4 +0.7
PBDV eSn Sn 16 05 20.1 -4.5
PBDV Barranco-do-Ve 10.55 277 P Pn 16 03 27.4 +0.7
PBDV S Sn 16 05 20.1 -4.5
LOR Lormes 10.57 355 ePn Pn 16 03 26.9 0.0
LOR eSn Sn 16 05 18.8 -6.0
60nm,0.8s,baz=175
LOR Lormes 10.57 355 P Pn 16 03 26.9 0.0
LOR S Sn 16 05 18.8 -6.0
30nm,0.8s
PBRG Braganca 10.58 302 ePn Pn 16 03 28.4 +1.4
PBRG Braganca 10.58 302 P Pn 16 03 28.4 +1.4
DAVOX Davos/Dischmat 10.61 18 Pn Pn 16 03 29.3 +1.7
2.1nm,0.3s,baz=185,slow=13,SNR=21
DAVOX Sn Sn 16 05 20.4 -5.6
1.4nm,0.3s,baz=150,slow=20,SNR=2.9

DAVOX LR LR 16 07 12.0
comp=Z,764nm,18.4s,baz=244,slow=36
ECAL Calabor 10.63 303 P Pn 16 03 28.7 +0.9
62nm,0.5s,SNR=7.9
PCVE Castro Verde 10.64 279 ePn Pn 16 03 29.0 +1.1
PCVE eSn Sn 16 05 22.8 -3.8
PCVE Castro Verde 10.64 279 P Pn 16 03 29.0 +1.1
PCVE S Sn 16 05 22.8 -3.8
MFF Saint Martin d 10.64 339 ePn Pn 16 03 30.3 +2.5
MFF eSn Sn 16 05 22.6 -3.9
70nm,0.9s
MFF Saint Martin d 10.64 339 P Pn 16 03 30.3 +2.5
MFF S Sn 16 05 22.6 -3.9
35nm,0.9s
MTE Manteigas 10.66 294 ePn Pn 16 03 29.2 +1.0
MTE Manteigas 10.66 294 ePn Pn 16 03 28.1 -0.1
MTE Manteigas 10.66 294 P Pn 16 03 29.2 +1.0
EVO Evora 10.67 284 ePn Pn 16 03 29.9 +1.6
EVO Evora 10.67 284 P Pn 16 03 30.8 +2.6
EVO S Sn 16 05 20.6 -6.6
EVO Evora 10.67 284 eP Pn 16 03 30.8 +2.6
EVO eS Sn 16 05 20.6 -6.6
HYF Humbligny 10.69 350 ePn Pn 16 03 31.9 +3.3
HYF eSn Sn 16 05 26.1 -1.7
HYF Humbligny 10.69 350 P Pn 16 03 31.9 +3.3
HYF S Sn 16 05 26.1 -1.7
MESJ Messejana 10.79 280 eP Pn 16 03 29.5 -0.4
MESJ Messejana 10.79 280 ePn Pn 16 03 30.7 +0.8
MESJ eSn Sn 16 05 27.8 -2.4
MESJ Messejana 10.79 280 P Pn 16 03 29.5 -0.4
MESJ S Sn 16 05 27.8 -2.4
PMTG Montargil 10.90 286 ePn Pn 16 03 32.7 +1.3
PMTG eSn Sn 16 05 30.2 -2.7
PMTG Montargil 10.90 286 P Pn 16 03 32.7 +1.3
PMTG S Sn 16 05 30.2 -2.7
PVIS Viseu 11.00 295 ePn Pn 16 03 33.4 +0.5
PVIS Viseu 11.00 295 P Pn 16 03 33.4 +0.5
PNCL Nicolau / Gran 11.04 281 ePn Pn 16 03 34.9 +1.5
PNCL eSn Sn 16 05 34.5 -1.9
PNCL Nicolau / Gran 11.04 281 P Pn 16 03 34.9 +1.5
PNCL S Sn 16 05 34.5 -1.9
FETA Feichten 11.05 20 ePn Pn 16 03 35.2 +1.6
33nm,0.9s,SNR=11
FETA eSn Sn 16 05 33.4 -3.4
21nm,0.6s
PVRL Vila Real 11.05 298 ePn Pn 16 03 35.5 +1.9
PVRL Vila Real 11.05 298 P Pn 16 03 35.5 +1.9
DAVA Damuels 11.08 17 ePn Pn 16 03 36.2 +2.2
15nm,0.8s
DAVA eSn Sn 16 05 33.5 -4.0
36nm,0.6s
MORF Marmelete 11.13 277 eSn Sn 16 05 36.1 -2.5
MORF Marmelete 11.13 277 S Sn 16 05 36.1 -2.5
PTOM Tomar 11.13 289 ePn Pn 16 03 35.6 +1.1
PTOM Tomar 11.13 289 P Pn 16 03 35.6 +1.1
HINF Hinteralfeld 11.13 6 ePn Pn 16 03 33.7 -0.9
HINF eSn Sn 16 05 30.2 -8.4
30nm,0.4s
HINF Hinteralfeld 11.13 6 P Pn 16 03 33.7 -0.9
HINF S Sn 16 05 30.2 -8.4
15nm,0.4s
POLO Lamas de Olo 11.14 298 ePn Pn 16 03 36.2 +1.4
POLO Lamas de Olo 11.14 298 P Pn 16 03 36.2 +1.4
PTEO Sao Teotonio 11.18 278 ePn Pn 16 03 36.4 +1.1
PTEO eSn Sn 16 05 35.9 -4.0
PTEO Sao Teotonio 11.18 278 P Pn 16 03 36.4 +1.1
PTEO S Sn 16 05 35.9 -4.0
COI Coimbra 11.25 292 ePn Pn 16 03 36.0 -0.2
PFVI Vila Bisbo 11.27 276 ePn Pn 16 03 36.4 -0.1
PCAS Casmilo, Conde 11.28 291 ePn Pn 16 03 38.0 +1.3
PCAS Casmilo, Conde 11.28 291 P Pn 16 03 38.0 +1.3
JAVS Javornik 11.28 33 i Pn Pn 16 03 43.0 +6.3
HAU Haudompre 11.28 4 ePn Pn 16 03 35.8 -0.9
HAU eSn Sn 16 05 35.3 -7.0
145nm,0.6s
HAU Haudompre 11.28 4 ePn Pn 16 03 35.8 -0.9
HAU eSn Sn 16 05 35.3 -7.0
HAU Haudompre 11.28 4 eP Pn 16 03 35.8 -0.9
HAU Haudompre 11.28 4 P Pn 16 03 35.8 -0.9
HAU S Sn 16 05 35.3 -7.0
72nm,0.6s
SQTA Sankt Quirin 11.36 21 i Pn Pn 16 03 41.3 +3.4
50nm,1.5s,SNR=12
SQTA eSn Sn 16 05 42.9 -1.6
31nm,0.6s
ABTA Abfaltersbach 11.37 26 i Pn Pn 16 03 40.5 +2.6
57nm,1.4s,SNR=19
ABTA eSn Sn 16 05 41.6 -2.8
35nm,0.6s
PCAB Cabril 11.42 300 ePn Pn 16 03 40.0 +1.4
PCAB Cabril 11.42 300 P Pn 16 03 40.0 +1.4
MOTA Moosalm 11.45 20 ePn Pn 16 03 41.4 +2.3
21nm,0.7s,SNR=28
SFTF Sexfontaines 11.46 359 ePn Pn 16 03 39.1 +0.1
baz=155
SFTF eSn Sn 16 05 38.1 -8.4
56nm,0.6s,baz=181
SFTF Sexfontaines 11.46 359 ePn Pn 16 03 39.1 +0.1
SFTF eSn Sn 16 05 38.1 -8.4
SFTF Sexfontaines 11.46 359 P Pn 16 03 39.1 +0.1
SFTF S Sn 16 05 38.1 -8.4
56nm,0.6s
RETA Reutte 11.48 19 ePn Pn 16 03 41.8 +2.3
25nm,1.5s
RETA Sn Sn 16 05 44.7 -2.6
16nm,0.6s
ELOB Lobios 11.51 300 P Pn 16 03 39.8 0.0
23nm,0.6s,SNR=7.9
WTTA Wattenberg 11.53 22 ePn Pn 16 03 42.8 +2.6
13nm,0.6s,SNR=6.1
WTTA eSn Sn 16 05 43.7 -4.9
33nm,0.6s
BOJS Bojanci 11.54 38 ePn Pn 16 03 41.6 +1.4
EPON Pontenova 11.55 309 P Pn 16 03 42.2 +1.9
1.4nm,0.2s,SNR=7.9
ECH Echery 11.55 6 ePn Pn 16 03 39.2 -1.1
ECH Echery 11.55 6 eP Pn 16 03 39.2 -1.1
VISS Visnje 11.57 36 i Pn Pn 16 03 41.8 +1.3
WATA Walderalm 11.58 22 ePn Pn 16 03 42.7 +1.9
7.9nm,0.5s,SNR=5.7
WATA eSn Sn 16 05 46.6 -3.1
14nm,0.6s
PGAV Gavieira, Arco 11.69 301 ePn Pn 16 03 44.0 +1.7
PGAV Gavieira, Arco 11.69 301 P Pn 16 03 44.0 +1.7
MYKA Terra Mystica 11.69 30 Pn Pn 16 03 45.3 +2.9
53nm,1.6s
MEZF Maizieres J'vi 11.75 359 ePn Pn 16 03 44.3 +1.3
baz=180
MEZF eSn Sn 16 05 44.9 -8.8
50nm,0.6s
MEZF Maizieres J'vi 11.75 359 ePn Pn 16 03 44.3 +1.3
MEZF Maizieres J'vi 11.75 359 P Pn 16 03 44.3 +1.3
MEZF S Sn 16 05 44.9 -8.8
50nm,0.6s
CDF Champ du Feu 11.76 7 ePn Pn 16 03 42.2 -1.0
CDF eSn Sn 16 05 46.0 -8.0
70nm,0.6s
CDF Champ du Feu 11.76 7 P Pn 16 03 42.2 -1.0
CDF S Sn 16 05 46.0 -8.0
35nm,0.6s
BFO Black Forest 11.80 10 ePn Pn 16 03 42.4 -1.3
BFO Black Forest 11.80 10 eP Pn 16 03 42.4 -1.3
PAGF Fort de Pagny 11.81 2 ePn Pn 16 03 44.0 +0.2
baz=181
PAGF eSn Sn 16 05 45.7 -9.5
58nm,0.5s,baz=180
EAGO Agolada(Pontev 11.91 305 P Pn 16 03 46.4 +1.1
13nm,0.5s,SNR=7.9
KBA Koelnbreinsper 11.95 28 ePn Pn 16 03 48.5 +2.6
35nm,1.0s,SNR=14
KBA eSn Sn 16 05 56.7 -2.1
7.5nm,0.5s
OBKA Obir 11.97 33 Pn Pn 16 03 47.9 +1.7
38nm,0.8s
PDG Podgorica 12.20 58 ⇑iP Pn 16 03 50.1 +0.9
TTG Podgorica 12.20 58 ePn Pn 16 03 49.3 +0.1
TTG Podgorica 12.20 58 eP Pn 16 03 49.3 +0.1
TIR Tirane 12.26 64 ePn Pn 16 03 50.0 0.0
TIR Tirane 12.26 64 eP Pn 16 03 50.0 0.0
SOKA Soboth 12.32 33 ePn Pn 16 03 52.9 +2.1
26nm,1.0s
PERS Pernice 12.32 34 i Pn Pn 16 03 53.2 +2.3
STU Stuttgart 12.36 12 ePn Pn 16 03 51.1 -0.3
STU Stuttgart 12.36 12 eP Pn 16 03 51.1 -0.3

GRR Gorron 12.47 341 ePn Pn 16 03 53.8 +0.9
GRR eSn Sn 16 06 07.4 -3.9
63nm,1.0s
GRR Gorron 12.47 341 ePn Pn 16 03 53.8 +0.9
GRR Gorron 12.47 341 eP Pn 16 03 53.8 +0.9
GRR Gorron 12.47 341 P Pn 16 03 53.8 +0.9
GRR S Sn 16 06 07.4 -3.9
31nm,1.0s
LDF La Druitiere 12.48 343 ePn Pn 16 03 53.2 +0.2
LDF eSn Sn 16 06 08.0 -3.5
33nm,0.8s
FLN La Foliniere 12.72 343 ePn Pn 16 03 56.8 +0.5
baz=160
FLN eSn Sn 16 06 08.1 -9.3
36nm,0.9s
FLN La Foliniere 12.72 343 ePn Pn 16 03 56.8 +0.5
FLN eSn Sn 16 06 08.1 -9.3
FLN La Foliniere 12.72 343 eP Pn 16 03 56.8 +0.5
FLN La Foliniere 12.72 343 P Pn 16 03 56.8 +0.5
FLN S Sn 16 06 08.1 -9.3
18nm,0.9s
QUIF Quistinic 12.77 334 ePn Pn 16 03 59.2 +2.2
QUIF eSn Sn 16 06 12.2 -6.5
40nm,0.9s
QUIF Quistinic 12.77 334 P Pn 16 03 59.2 +2.2
QUIF S Sn 16 06 12.2 -6.5
20nm,0.9s
SGMF Saint Gilles 12.85 336 ePn Pn 16 03 59.4 +1.3
SGMF eSn Sn 16 06 13.7 -7.0
145nm,1.4s
SGMF Saint Gilles 12.85 336 P Pn 16 03 59.4 +1.3
SGMF S Sn 16 06 13.7 -7.0
72nm,1.4s
WLF Walferdange 12.93 3 ePn Pn 16 03 59.1 0.0
WLF Walferdange 12.93 3 eP Pn 16 03 59.1 0.0
WLF Walferdange 12.93 3 ⇓iP Pn 16 04 00.3 +1.2
MOA Molln 12.94 28 i Pn Pn 16 04 01.0 +1.7
12nm,0.7s,SNR=9.8
ARSA Arzberg 12.97 33 ePn Pn 16 04 00.9 +1.2
21nm,0.8s,SNR=12
BEHE Becsehely 12.98 38⇓ePn P 16 04 10.1 -0.2
KPRO Kipourio 13.05 71 P Pn 16 04 03.0 +2.1
DRO Drossia 13.16 80 P P 16 04 15.4 +3.1
ROSF Rostrenen 13.17 334 ePn Pn 16 04 03.5 +1.1
ROSF Rostrenen 13.17 334 P Pn 16 04 03.5 +1.1
FNA Florina 13.22 67 ePn Pn 16 04 03.7 +0.6
FNA Florina 13.22 67 P Pn 16 04 05.0 +1.9
FNA Florina 13.22 67 eP Pn 16 04 03.7 +0.6
EVR Evrytania 13.27 76 P Pn 16 04 06.0 +2.0
EVR Evrytania 13.27 76 P Pn 16 04 06.0 +2.0
EFP Efpalio 13.32 78 P Pn 16 04 04.1 -0.4
BAIF Baives 13.33 357 ePn Pn 16 04 04.9 +0.3
BAIF eSn Sn 16 06 22.5 -10
9.7nm,0.5s
BAIF Baives 13.33 357 P Pn 16 04 04.9 +0.3
BAIF S Sn 16 06 22.5 -10
4.8nm,0.5s
ANX Ano Chora 13.34 77 P Pn 16 04 07.1 +2.2
ITM Ithomi 13.35 83 ePn Pn 16 04 06.0 +1.0
ITM Ithomi 13.35 83 P Pn 16 04 05.3 +0.4
DOU Dourbes 13.36 358 ⇓iP Pn 16 04 05.1 +0.2
comp=Z,42nm,0.8s
GIVF Givet 13.36 359 ePn Pn 16 04 05.3 +0.4
GIVF eSn Sn 16 06 25.2 -7.7
comp=Z,31nm,0.7s
GIVF Givet 13.36 359 ePn Pn 16 04 05.3 +0.4
GIVF Givet 13.36 359 eP Pn 16 04 05.3 +0.4
GIVF Givet 13.36 359 P Pn 16 04 05.3 +0.4
GIVF S Sn 16 06 25.2 -7.7
comp=Z,16nm,0.7s
LAKA Lakka 13.37 79 P P 16 04 14.7 0.0
KZN Kozani 13.42 70 P Pn 16 04 09.5 +3.6
KZN Kozani 13.42 70 P Pn 16 04 09.5 +3.6
THL Klokotos Trika 13.49 73 P Pn 16 04 09.1 +2.2
KALE Kalithea 13.50 78 P Pn 16 04 09.9 +2.8
KLV Kalavryta, Ach 13.51 79 P Pn 16 04 11.2 +4.1
KLV Kalavryta, Ach 13.51 79 P Pn 16 04 11.2 +4.1
GEC2 GERESS Array S 13.58 24 ePn Pn 16 04 07.7 -0.4
GEC2 GERESS Array S 13.58 24 eP Pn 16 04 07.7 -0.4
GERES GERESS Array B 13.58 24 Pn Pn 16 04 07.4 -0.7
comp=Z,0.8nm,0.3s,baz=204,slow=12,SNR=10
GERES Sn Sn 16 06 33.4 -5.2
comp=Z,0.8nm,0.3s,baz=218,slow=28,SNR=5.3
GERES LR LR 16 09 17.8
comp=Z,552nm,19.0s,baz=223,slow=37
CONA Conrad Observa 13.64 32 i Pn Pn 16 04 09.9 +1.0
comp=Z,29nm,1.4s,SNR=16
GRFO Grafenberg 13.65 17 ePn Pn 16 04 08.7 -0.2
GRFO Grafenberg 13.65 17 eP Pn 16 04 08.7 -0.2
GRA1 Grafenberg Arr 13.65 17 ePn Pn 16 04 08.7 -0.2
GRF Grafenberg Arr 13.65 17 eP Pn 16 04 08.7 -0.2
GUR Goura 13.66 80 P P 16 04 14.9 -3.1
BCLA Clavier 13.67 0 ⇑iP Pn 16 04 09.9 +0.7
AGG Agios Georgios 13.69 75 ePn Pn 16 04 09.6 0.0
SOP Sopron 13.76 34 ePn Pn 16 04 15.1 +4.6
SNF Seneffe 13.78 357 ⇑iP Pn 16 04 10.4 -0.3
comp=Z,73nm,0.6s
MORH Mrgy, Hungar 13.78 42 ePn Pn 16 04 11.1 +0.4
KHC Kasperske Hory 13.79 24 ePn Pn 16 04 10.4 -0.5
KHC Kasperske Hory 13.79 24 eP Pn 16 04 11.8 +0.9
KHC MLR MLR
comp=Z,2µm,13.1s
KHC Kasperske Hory 13.79 24 eP Pn 16 04 11.8 +0.9
KHC eS Sn 16 06 36.3 -7.3
KHC AMS AMS 16 10 10.0
comp=Z,2µm,13.1s
MEM Membach 13.87 2 ⇓iP Pn 16 04 12.0 0.0
TAM Tamanrasset 13.91 179 ePn Pn 16 04 09.1 -3.7
TAM Tamanrasset 13.91 179 eP Pn 16 04 09.1 -3.7
AXAR Agios Charalam 13.93 76 P P 16 04 17.3 -3.6
GRG Griva 14.01 67 P Pn 16 04 14.7 +0.7
GRG Griva 14.01 67 P Pn 16 04 14.7 +0.7
GRG Griva 14.01 67 P Pn 16 04 14.7 +0.7
LKR Lokris 14.19 77 P Pn 16 04 19.6 +3.3
LKR Lokris 14.19 77 P Pn 16 04 19.6 +3.3
FYTO Fytoko, Volos 14.19 74 P Pn 16 04 19.8 +3.4
VLI Veliai 14.19 85 P Pn 16 04 19.9 +3.5
ATAL Atalanti 14.21 77 P Pn 16 04 20.5 +3.9
KTHR Kythira 14.29 87 P P 16 04 22.6 -2.4
CSKK Cskako 14.33 38 ePn Pn 16 04 21.0 +2.7
SMIA Simia 14.36 76 P Pn 16 04 21.8 +3.0
DID Didima 14.38 82 P Pn 16 04 19.8 +0.8
XOR Xorichti 14.38 74 P P 16 04 23.0 -2.9
XOR Xorichti 14.38 74 P P 16 04 23.0 -2.9
ZST Bratislava 14.38 34 eP P 16 04 27.8 +1.9
ZST Bratislava 14.38 34 eP P 16 04 27.8 +1.9
NKC Novy Kostel 14.45 19 eP Pn 16 04 21.0 +1.1
NKC MLR MLR
comp=Z,1µm,15.0s
NKC Novy Kostel 14.45 19 eP Pn 16 04 21.0 +1.1
NKC AMS AMS 16 10 00.0
comp=Z,1µm,15.0s
TREC Trest 14.59 28 AMS AMS 16 11 10.0
comp=Z,1µm,13.3s
MODS Modra-Piesok 14.59 33 eP P 16 04 30.3 +2.1
MODS Modra-Piesok 14.59 33 eP P 16 04 30.3 +2.1
PLG Polygyros 14.69 70 P Pn 16 04 24.7 +1.4
PLG Polygyros 14.69 70 P Pn 16 04 24.7 +1.4
PLG Polygyros 14.69 70 P Pn 16 04 24.7 +1.4
SOH Sokhos 14.70 68 P Pn 16 04 25.4 +2.1
SOH Sokhos 14.70 68 P Pn 16 04 25.4 +2.1
SOH Sokhos 14.70 68 P Pn 16 04 25.4 +2.1
KKB Krupnik 14.72 64 eP Pn 16 04 24.9 +1.3
KRUC Moravsky 14.75 30 ePN Pn 16 04 24.8 +0.8
KRUC Moravsky 14.75 30 eP P 16 04 32.0 +2.0
MDVR Moldovita 14.82 52 ⇑iP Pn 16 04 26.7 +1.7
PRU Pruhonice 14.85 24 eP Pn 16 04 25.7 +0.4
PRU MLR MLR
comp=Z,1µm,13.9s
PRU Pruhonice 14.85 24 eP Pn 16 04 25.7 +0.4
PRU AMS AMS 16 10 50.0
comp=Z,1µm,13.9s
PTL Penteli 14.86 79 P Pn 16 04 26.5 +0.9
GOPC GO Pecny, Ondr 14.86 25 eP Pn 16 04 26.2 +0.7
GOPC MLR MLR
comp=Z,1µm,14.4s
GOPC GO Pecny, Ondr 14.86 25 eP Pn 16 04 26.2 +0.7
GOPC AMS AMS 16 10 50.0
comp=Z,1µm,14.4s
DION Dionisos Attik 14.91 79 P Pn 16 04 26.9 +0.6
SRS Serrai 14.93 67 P Pn 16 04 26.9 +0.5
SRS Serrai 14.93 67 P Pn 16 04 26.9 +0.5
SRS Serrai 14.93 67 P Pn 16 04 26.9 +0.5

VRAC Vranov 15.03 30⇑ *i*P Pn 16 04 30.0 +2.3
VRAC Vranov 15.03 30 *e*PN Pn 16 04 28.2 +0.5
VRAC Vranov 15.03 30 *e*P P 16 04 35.4 +2.4
VTS Vitosha 15.03 62 *e*Pn Pn 16 04 27.6 -0.4
comp=Z,31nm,1.0s
VTS Vitosha 15.03 62 P Pn 16 04 30.1 +2.1
VTS Vitosha 15.03 62⇑ *i*P Pn 16 04 30.0 +2.1
VTS Vitosha 15.03 62 *e*P Pn 16 04 27.6 -0.4
VTS pmax pmax
comp=Z,31nm,1.0s
VTS Vitosha 15.03 62 *e*P Pn 16 04 28.7 +0.7
MMB Musomiste 15.12 66 *e*P Pn 16 04 30.4 +1.3
BZS Buzias 15.16 49⇓ *i*P Pn 16 04 30.9 +1.4
NVR Nevrokopi 15.17 67 P Pn 16 04 30.9 +1.2
NVR Nevrokopi 15.17 67 P Pn 16 04 30.9 +1.2
HERR Herculane 15.31 53⇑ *i*P Pn 16 04 32.6 +1.1
PVCC Panska Ves 15.32 23 *e*P Pn 16 04 33.5 +1.9
PVCC MLR MLR
comp=Z,900nm,17.8s
PVCC Panska Ves 15.32 23 *e*P Pn 16 04 33.5 +1.9
PVCC AMS AMS 16 10 00.0
comp=Z,900nm,17.8s
VYHS Vyhne 15.40 36 *e*P Pn 16 04 34.7 +2.1
VYHS Vyhne 15.40 36 *e*PN Pn 16 04 34.7 +2.1
VYHS Vyhne 15.40 36 *e*P P 16 04 39.2 +2.1
GVD Gavdhos 15.41 91 P Pn 16 04 33.5 +0.7
BRG Berggiesshubel 15.44 21 *e*P Pn 16 04 35.1 +2.0
comp=Z,15nm,1.3s
BRG Berggiesshubel 15.44 21 *e*P Pn 16 04 35.1 +2.0
BRG pmax pmax
comp=Z,15nm,1.3s
PSZ Piszkesteto 15.53 39 *e*Pn Pn 16 04 34.5 +0.1
comp=Z,63nm,0.9s
PSZ Piszkesteto 15.53 39⇑ *i*P P 16 04 41.0 +2.3
PSZ Piszkesteto 15.53 39 *e*P Pn 16 04 34.5 +0.1
PSZ pmax pmax
comp=Z,63nm,0.9s
PSZ Piszkesteto 15.53 39 *e*Pn P 16 04 37.0 -1.7
PSZ Piszkesteto 15.53 39⇑ *i*P P 16 04 40.1 +1.4
CLL Collm 15.58 18 *e*Pn Pn 16 04 34.8 -0.1
comp=Z,14nm,0.7s
CLL Collm 15.58 18 *e*P Pn 16 04 36.0 +1.1
CLL pmax pmax
comp=Z,21nm,1.5s
CLL Collm 15.58 18 *e*P Pn 16 04 36.0 +1.1
comp=Z,21nm,1.5s
CLL *i* sP P 16 04 40.8 +1.7
comp=Z,19nm,0.9s
CLL *i* PP sP 16 04 44.7 -1.1
CLL *i* sPPP 16 04 53.6
CLL *e*S Sn 16 07 30.0 +3.0
CLL LmH 16 09 00.0
comp=N,600nm,20.3s
CLL LmH 16 09 00.0
comp=E,1μm,18.5s
CLL Lmax 16 13 00.0
KRLC Kraliky 15.71 28 *e*P Pn 16 04 38.6 +1.8
KRLC Kraliky 15.71 28 *e*P Pn 16 04 38.6 +1.8
DPC Dobruska-Polom 15.77 27 *e*P Pn 16 04 38.8 +1.4
DPC MLR MLR
comp=Z,800nm,16.9s
DPC Dobruska-Polom 15.77 27 *e*P Pn 16 04 38.8 +1.4
DPC AMS AMS 16 10 50.0
comp=Z,800nm,16.9s
GZR Gura Zlata 15.77 51⇑ *i*P Pn 16 04 38.9 +1.4
MORC Moravsky Berou 15.78 31 *e*Pn Pn 16 04 38.5 +0.9
comp=Z,66nm,1.1s
MORC Moravsky Berou 15.78 31⇓ *i*P P 16 04 40.3 -1.1
MORC Moravsky Berou 15.78 31 *e*P Pn 16 04 38.5 +0.9
MORC pmax pmax
comp=Z,66nm,1.1s
MORC Moravsky Berou 15.78 31 *e*P Pn 16 04 39.7 +2.1
UPC Upice 15.79 26 *e*P Pn 16 04 38.1 +0.4
UPC MLR MLR
comp=Z,700nm,12.0s
UPC Upice 15.79 26 *e*P Pn 16 04 38.1 +0.4
UPC AMS AMS 16 12 10.0
comp=Z,700nm,12.0s
RZN Rozhen 15.87 66 *e*P Pn 16 04 37.2 -1.7
PLD Plovdiv 15.95 64 *e*P Pn 16 04 41.0 +1.2
SIVA Sivas 15.95 90 P P 16 04 45.1 +1.7
SIVA Sivas 15.95 90 P P 16 04 45.1 +1.7
IDI Anoyia 15.96 89 P Pn 16 04 41.0 +0.9
IDI Anoyia 15.96 89 Pn Pn 16 04 42.1 +2.0
comp=Z,4.3nm,0.3s,baz=288,slow=14,SNR=19
IDI LR LR 16 12 15.4
comp=Z,369nm,19.2s,baz=265,slow=43
IOSP Ios island 16.07 84 P Pn 16 04 42.4 +1.0
DEV Deva 16.07 50⇓ *i*P Pn 16 04 43.3 +1.9
OKC Ostrava-Krasne 16.07 31 *e*P Pn 16 04 43.3 +1.9
OKC MLR MLR
comp=Z,800nm,17.6s
OKC Ostrava-Krasne 16.07 31 *e*P Pn 16 04 43.3 +1.9
OKC AMS AMS 16 10 40.0
comp=Z,800nm,17.6s
KSTL Kastelli Herak 16.11 89 P P 16 04 47.2 +2.1
LANS Liptovska Anna 16.16 35 *e*P P 16 04 48.9 +3.3
LANS Liptovska Anna 16.16 35 *e*P P 16 04 48.9 +3.3
KSP Ksiaz 16.16 26 *e*P P 16 04 48.0 +2.4
KSP Ksiaz 16.16 26 *e*P P 16 04 48.1 +2.4
KECS Kecovo 16.20 39 *e*P P 16 04 49.1 +3.1
KECS Kecovo 16.20 39 *e*P P 16 04 49.1 +3.1
APE Apeiranthos 16.23 83 *e*Pn Pn 16 04 44.6 +1.1
APE Apeiranthos 16.23 83 P Pn 16 04 44.6 +1.1
APE Apeiranthos 16.23 83⇓ *i*P Pn 16 04 45.2 +1.7
APE Apeiranthos 16.23 83⇓ *e*P Pn 16 04 44.8 +1.3
SANT Santorini 16.25 85 *e*Pn Pn 16 04 44.1 +0.4
comp=Z,206nm,1.2s
SANT Santorini 16.25 85⇑ *i*P P 16 04 45.7 -1.0
LTVH Ltavrtes, Hu 16.27 44 *e*Pn P 16 04 46.0 -0.8
RAC Raciborz 16.28 31 *e*P P 16 04 47.2 +0.3
RAC MLR MLR
comp=Z,1μm,19.7s
KDZ Kurdzhali 16.38 66 *e*P P 16 04 48.8 +0.7
RDO Rodhopi 16.38 68 *e*Pn Pn 16 04 45.1 -0.2
RDO Rodhopi 16.38 68 P Pn 16 04 45.1 -0.2
DRGR 16.41 47⇓ *i*P P 16 04 48.0 -0.5
LOT Lotru 16.42 52⇓ *i*P P 16 04 47.8 -0.8
LAST Lasithi 16.46 89 P Pn 16 04 48.0 +1.5
ANAF Anafi Island 16.50 85 P P 16 04 50.0 +0.5
NPS Neapolis 16.55 89 P Pn 16 04 48.2 +0.7
NPS Neapolis 16.55 89 P Pn 16 04 48.2 +0.7
NPS Neapolis 16.55 89 P Pn 16 04 48.2 +0.7
ALN Alexandroupoli 16.72 69 *e*Pn Pn 16 04 49.5 -0.2
comp=Z,49nm,1.0s
ALN Alexandroupoli 16.72 69 P Pn 16 04 46.2 -3.5
ALN Alexandroupoli 16.72 69 *e*P Pn 16 04 49.5 -0.2
ALN pmax pmax
comp=Z,49nm,1.0s
NIE Niedzica 16.73 36 *e*P P 16 04 52.6 +0.6
NIE Niedzica 16.73 36 *e*P P 16 04 52.6 +0.6
ENEZ Enez 16.78 70 *e*P Pn 16 04 50.3 -0.1
EZN Ezine 16.83 73 *e*P Pn 16 04 50.8 -0.2
RUE Ruedersdorf 16.84 18 *e*P P 16 04 54.0 +0.9
RUE IAmb IAmb 16 04 57.9
comp=Z,131nm,1.3s
CJR Cluj-Napoca 16.90 48⇑ *i*P P 16 04 54.2 +0.3
ARR Arges 16.94 53⇑ *i*P Pn 16 04 53.8 +1.4
STIA Sitia Lasithi 16.94 89 P P 16 04 57.5 +3.1
GELI Tayfur-Gelibol 16.99 71 *e*P Pn 16 04 53.8 +0.8
URLA Izmir 17.00 78 *e*P P 16 04 55.5 +0.4
ERIK Erikli-Kesan 17.05 70 *e*P Pn 16 04 53.9 +0.2
TRPA Tarpa 17.05 43⇑ *i*P P 16 04 56.3 +0.8
TRPA Tarpa 17.05 43 *e*Pn Pn 16 04 55.0 +1.3
ZKR Zakros 17.06 89 P P 16 04 55.5 -0.2
OJC Ojcow 17.07 33 *e*P Pn 16 04 55.0 +1.0
OJC Ojcow 17.07 33 *e*Pn Pn 16 04 54.6 +0.6
comp=Z,124nm,1.7s
OJC Ojcow 17.07 33 *e*P Pn 16 04 54.6 +0.6
OJC pmax pmax
comp=Z,125nm,1.7s
MTUR Matau 17.16 54⇑ *i*P P 16 04 58.2 +1.4
LPK Lapseki 17.20 71 *e*P Pn 16 04 55.1 -0.6
UZH Uzhgorod 17.22 41*c* *i*P Pn 16 04 56.9 +1.1
UZH *e*S Sn 16 08 06.3 -0.6
UZH MLR MLR
comp=N,300nm,13.0s
UZH MLR MLR
comp=E,200nm,13.0s
UZH MLR MLR
comp=Z,100nm,13.0s
SMG Samos 17.22 80 P P 16 04 57.5 +0.1
SMG Samos 17.22 80 P P 16 04 57.5 +0.1

VOIR 17.24 54⇓ *i*P P 16 04 58.1 +0.5
BMR Baia Mare 17.33 45⇑ *i*P P 16 04 59.2 +0.6
EDRB Edirne 17.39 66 *e*P P 16 04 59.2 0.0
EDRB Edirne 17.39 66 P P 16 04 59.1 -0.1
EDRB Edirne 17.39 66 P P 16 04 59.1 -0.1
JMB Yambol 17.39 64 *e*P P 16 04 59.4 +0.2
KOLS Kolonicke sedl 17.39 40 *e*P P 16 05 01.3 +2.0
KOLS Kolonicke sedl 17.39 40 *e*P P 16 05 01.3 +2.0
ARCR ARCALIA 17.53 48⇑ *i*P P 16 05 01.8 +1.0
GCAM G?zelcaml? 17.54 80 *e*P Pn 16 04 59.9 +0.1
BODT Bodrum 17.65 82 *e*P P 16 05 02.5 +0.3
BODT Bodrum 17.65 82 P P 16 05 02.2 0.0
DOPR Dopca 17.67 52⇓ *i*P P 16 05 02.4 +0.1
KARP Karpathos 17.74 87 *e*Pn Pn 16 05 02.5 +0.1
comp=Z,140nm,0.8s
KARP Karpathos 17.74 87 P P 16 05 03.4 +0.2
SECR 17.75 56⇓ *i*P P 16 05 04.3 +1.0
MLR Muntele Rosu 17.84 54 *e*Pn P 16 05 04.5 +0.1
comp=Z,73nm,1.0s
MLR Muntele Rosu 17.84 54⇓ *i*P P 16 05 05.9 +1.6
MLR Muntele Rosu 17.84 54 *e*P P 16 05 04.5 +0.1
MLR pmax pmax
comp=Z,73nm,1.0s
MLR Muntele Rosu 17.84 54 P P 16 05 05.5 +1.1
comp=Z,0.6nm,0.3s,baz=247,slow=5.0,SNR=65
MLR LR LR 16 12 35.4
comp=Z,910nm,18.8s,baz=272,slow=39
DAT Datca 17.90 83 *e*P Pn 16 05 05.1 +0.6
PHSR Pinarhisar 17.93 67 *e*P P 16 05 05.6 +0.4
PHSR Pinarhisar 17.93 67⇑ *i*P P 16 05 06.7 +1.5
OZUR 17.97 52⇑ *i*P P 16 05 07.1 +1.4
BALB Balikesir 18.02 74 *e*P P 16 05 06.4 +0.2
BALB Balikesir 18.02 74 *e*Pn Pn 16 05 05.8 0.0
comp=Z,255nm,1.0s
AYDB Zeytinkoy-Aydi 18.04 79 *e*P P 16 05 06.9 +0.3
KWP Kalwaria Pacla 18.05 39 *e*P P 16 05 10.1 +3.6
KWP Kalwaria Pacla 18.05 39 *e*Pn P 16 05 07.7 +1.2
comp=Z,966nm,1.3s
KWP Kalwaria Pacla 18.05 39 *e*P P 16 05 07.7 +1.2
KWP pmax pmax
comp=Z,966nm,1.3s
ISR Istrita 18.10 56⇓ *i*P P 16 05 09.0 +1.9
BURAR Bucovina Array 18.30 47⇓ *i*P P 16 05 11.5 +2.1
BUR08 Bucovina Ar. S 18.31 47 *e*Pn Pn 16 05 09.3 -0.2
comp=Z,36nm,1.4s
BISRR Bisoca 18.36 55⇑ *i*P P 16 05 11.1 +1.1
SLVT Silivri 18.39 69 *e*P Pn 16 05 12.7 +2.4
ARG Arkhangelos 18.40 85 P P 16 05 08.0 -2.5
KCTX Karacabey (Bur 18.41 72 *e*P P 16 05 10.8 +0.2
PLOR Plostina 18.43 54⇑ *i*P Pn 16 05 12.0 +1.1
AMRR Amara 18.47 58⇓ *i*P Pn 16 05 13.0 +1.8
VRI Vrincioaia 18.49 54⇑ *i*P Pn 16 05 12.5 +1.0
GKP Gorka Klasztor 18.53 23 *e*P Pn 16 05 15.2 +3.3
GKP Gorka Klasztor 18.53 23 *e*P Pn 16 05 15.2 +3.3
BIZ Bicaz 18.53 50⇑ *i*P Pn 16 05 14.0 +2.0
MANT Manisa 18.54 78 *e*P P 16 05 12.4 +0.2
comp=Z,213nm,0.9s
CTKS Kestanelik-??a 18.61 69 *e*P Pn 16 05 14.7 +1.7
KULA Kula-Manisa 18.62 77 *e*P Pn 16 05 15.6 +2.3
KULA Kula-Manisa 18.62 77 P Pn 16 05 15.9 +2.6
KULA Kula-Manisa 18.62 77 P Pn 16 05 15.9 +2.6
ICOR Ion Corvin 18.65 60⇓ *i*P Pn 16 05 15.2 +1.8
BEL Belsk 18.68 31 *e*P Pn 16 05 16.2 +2.4
BEL Belsk 18.68 31 *e*P Pn 16 05 16.2 +2.4
TESR Tescani 18.69 52⇑ *i*P Pn 16 05 15.3 +1.4
DALY Dalyan (Mula) 18.75 83 *e*P Pn 16 05 17.6 +2.9
PETR Petresti 18.76 55⇑ *i*P Pn 16 05 15.4 +0.6
PRAR RASCA 18.79 49⇑ *i*P Pn 16 05 16.2 +1.0
BGKT Bogazkoy 18.80 69 *e*P Pn 16 05 16.9 +1.5
ARMT Armutlu 18.82 71 *e*P Pn 16 05 16.6 +1.0
LVV L'vov 18.85 40 *e*P Pn 16 05 17.6 +1.8
LVV *e*S Sn 16 08 45.0 -1.2
LVV MLR MLR
comp=N,1μm,12.0s
LVV MLR MLR
comp=E,800nm,12.0s
LVV MLR MLR
comp=Z,900nm,12.0s
TLB Topalu 18.94 59⇓ *i*P Pn 16 05 17.6 +0.6
ISK Istanbul-Kandi 19.01 70 *e*P Pn 16 05 18.7 +0.8
KAVV Kandilli-Istan 19.01 70 *e*P Pn 16 05 18.9 +1.0
KLYT Kilyos 19.02 69 *e*P Pn 16 05 19.2 +1.3
KLYT Kilyos 19.02 69⇑ *i*P Pn 16 05 19.1 +1.2
BUY Buyukada 19.04 70 *e*P Pn 16 05 19.1 +0.9
MFTR Murfatlar 19.09 60⇑ *i*P Pn 16 05 19.9 +1.0
CFR Carcaliu 19.18 57⇑ *i*P Pn 16 05 19.9 0.0
BIR Birlad 19.22 53⇓ *i*P Pn 16 05 21.7 +1.4
TVSB Tavsanli 19.23 75 *e*P Pn 16 05 22.2 +1.5
HRT Hereke 19.45 70 *e*P Pn 16 05 23.4 +0.2
ESK Eskdalemuir 19.45 345 *e*P P 16 05 22.2 +0.4
comp=Z,14nm,0.8s
ESK Eskdalemuir 19.45 345 *e*P P 16 05 22.2 +0.4
ESK pmax pmax
comp=Z,14nm,0.8s
SILT Sile 19.46 69 *e*P Pn 16 05 23.9 +0.7
SILT Sile 19.46 69⇓ *i*P Pn 16 05 23.9 +0.7
EKA Eskdalemuir Ar 19.46 345 P Pn 16 05 24.6 +1.4
baz=158,slow=11,SNR=14
EKA LR LR 16 12 57.1
comp=Z,489nm,18.2s,baz=195,slow=37
ADVT Abdulvahap 19.48 72 *e*P Pn 16 05 24.7 +1.2
BSD Bornholm Skovb 19.53 17 *i* P Pn 16 05 24.5 +0.5
BSD pmax pmax
comp=Z,57nm,0.8s
BSD Bornholm Skovb 19.53 17 *i* P Pn 16 05 24.5 +0.5
comp=Z,57nm,0.8s
CAVI Cavuskoy 19.55 72 *e*P Pn 16 05 25.1 +0.7
TLCR 19.64 57⇓ *i*P P 16 05 25.0 +1.0
AUBOZ BOZOYUK 19.68 73 *i* P Pn 16 05 27.0 +1.0
LEOM Leova 19.69 53⇑ *i*P P 16 05 25.4 +0.9
MUD Monsted U'grnd 19.89 6 *i* P Pn 16 05 28.3 0.0
MUD pmax pmax
comp=Z,47nm,1.1s
MUD Monsted U'grnd 19.89 6 *i* P Pn 16 05 28.3 0.0
comp=Z,47nm,1.1s
AUKIR Kırka- Seyitga 20.07 75 *i* P Pn 16 05 32.0 +1.4
GULT Gulveren 20.07 72 *e*P Pn 16 05 30.8 +0.2
KORT Korkueli 20.07 82 *e*P Pn 16 05 33.2 +2.5
SHUT Suhut-Afyon 20.10 77 *e*P Pn 16 05 31.8 +0.7
SRCK Saricakaya, Es 20.14 73 *e*P Pn 16 05 31.3 -0.1
BCK Bucak 20.21 80 *e*P Pn 16 05 33.3 +1.0
KIS Kishinev 20.25 52⇑ *i*P P 16 05 30.0 -0.6
comp=Z,400nm,1.3s
KIS Kishinev 20.25 52 *e*PP Pn 16 05 51.0 +18
KIS *e*S **S 16 09 12.0 -5.0**
KIS LRM MLR 16 14 37.0
comp=Z,900nm,14.0s
CIFT Cifteler, Eski 20.48 75 *e*P Pn 16 05 35.3 -0.1
MDUB Mudurnu 20.59 72 *e*P Pn 16 05 36.5 -0.3
MDUB Mudurnu 20.59 72 *e*P P 16 05 35.0 +0.5
comp=Z,302nm,1.0s
AUMIH MIHALICIK 20.80 73 *i* P Pn 16 05 39.6 +0.4
SVRH Sivrihisar-ESK 20.83 75 *e*P Pn 16 05 39.0 -0.6
KIZT Kizilcal 21.13 76 *e*P P 16 05 42.1 +1.8
SUW Suwalki 21.27 30 *e*P P 16 05 42.0 +0.5
SUW Suwalki 21.27 30 *e*P P 16 05 41.9 +0.4
comp=Z,179nm,1.0s
SUW Suwalki 21.27 30 *e*P P 16 05 41.9 +0.4
SUW pmax pmax
comp=Z,179nm,1.0s
LADK Ladik-KONYA 21.55 78 *e*P P 16 05 46.9 +2.1
KONT Konya--Tatoy 21.57 79 *e*P P 16 05 46.5 +1.6
HOMB Homborsund 21.64 5 *e*P P 16 05 45.9 +0.4
SNART Snartemo 21.64 3 *e*P P 16 05 46.1 +0.5
LOD Lodumlu 21.78 73 *e*P P 16 05 49.8 +2.5
BR231 Keskin MP Arra 21.79 73 *e*P P 16 05 47.7 +0.3
comp=Z,60nm,1.0s
KULU Kulu 21.99 76 *e*P P 16 05 50.9 +1.3
AFSR Afar-Bala (An 22.03 74 *e*P P 16 05 51.9 +1.9
KIEV Kiev 22.10 43 *e*P P 16 05 49.8 -0.8
comp=Z,191nm,1.2s
KIEV Kiev 22.10 43 *i* P P 16 05 50.0 -0.5
SNR=92
KIEV Kiev 22.10 43*c* *i*P P 16 05 49.7 -0.8
KIEV pmax pmax
comp=Z,190nm,1.2s
AKASG Malin Array Be 22.12 43 P P 16 05 49.9 -0.8
comp=Z,81nm,0.9s,baz=244,slow=10,SNR=84
AKASG PcP **PcP 16 09 47.8 +0.3**
comp=Z,0.6nm,0.4s,baz=319,slow=0.7,SNR=4.3
AKASG LR LR 16 14 59.2
comp=Z,327nm,18.7s,baz=235,slow=38
AKBB Malin Array Si 22.12 43 *e*P P 16 05 49.8 -0.9
comp=Z,199nm,1.2s
AKBB *e*PcP **PcP 16 09 47.8 +0.3**
AKBB Malin Array Si 22.12 43 *e*P P 16 05 49.8 -0.9
AKBB *e* 16 09 47.8
AKBB pmax pmax
comp=Z,199nm,1.2s
PBUR Paburg 22.35 25 *e*P P 16 05 53.3 +0.3
PBUR IAmb IAmb 16 05 54.6
comp=Z,201nm,1.0s
TEKE Tekeli-Mersin 22.40 83 *e*P P 16 05 53.8 0.0
LEF Lefka 22.42 86 *e*P P 16 05 58.7 +4.7
SULT Sultanhani-AKS 22.45 78 *e*P P 16 05 56.8 +2.3
BR101 Keskin Array S 22.46 74 *e*P P 16 05 55.5 +0.8
BR101 *e*PcP **PcP 16 09 49.4 +0.7**
BR131 Keskin Array S 22.46 74 *e*P P 16 05 54.9 +0.3
comp=Z,46nm,0.7s
BR131 Keskin Array S 22.46 74 P P 16 05 55.9 +1.2
SNR=36
BRTR Keskin Array B 22.46 74 P P 16 05 55.5 +0.8
comp=Z,45nm,0.7s,baz=266,slow=9.1,SNR=227
BRTR PcP **PcP 16 09 49.4 +0.7**
comp=Z,2.5nm,1.0s,baz=228,slow=1.7,SNR=4.7
KMY Karmoy 22.48 360 *e*P P 16 05 54.6 +0.1
ILGA Ilgaz 22.52 70 *e*P P 16 05 54.7 -0.7
comp=Z,32nm,0.7s
PABE Paberze 22.68 28 *e*P P 16 05 56.1 -0.5
PABE IAmb IAmb 16 05 57.8
comp=Z,143nm,0.8s
BLS5 Blasjo 22.71 2 *e*P P 16 05 57.2 +0.3
AKK1 Akkuyu-Mersin 22.74 83 *e*P P 16 06 05.0 +7.6
AKKU Akkuyu-Mersin 22.74 83 *e*P P 16 05 59.1 +1.6
CSS Mathiatis 22.80 86 *e*P P 16 05 58.8 +0.6
comp=Z,89nm,1.1s
KEBE Keben-Mersin 22.83 82 *e*P P 16 06 00.8 +2.3
IKL Isikli 22.84 83 *e*P P 16 05 59.8 +1.3
SEVA Sevastopol 22.85 61⇑ *i*P P 16 05 58.6 0.0
KONO Kongsberg 23.09 6 *e*P P 16 05 59.5 -1.4
comp=Z,39nm,1.3s
KONO Kongsberg 23.09 6⇑ *e*P P 16 06 01.0 +0.1
KONO pmax pmax
comp=Z,50nm,1.7s
KONO Kongsberg 23.09 6 *e*P P 16 06 01.4 +0.5
KIZK Mersin 23.16 82 *e*P P 16 06 03.3 +1.5
ODD1 Odda 23.20 2 *e*P P 16 06 02.3 +0.2
SIM Simferopol' 23.23 60*c* *i*P P 16 06 02.0 -0.5
SIM *e*S **S 16 10 09.8 -3.9**
SIM pmax pmax
comp=Z,24nm,0.9s
SIM MLR MLR
comp=Z,106nm,15.0s
NACGM Naroch 23.39 32 *e* P 16 06 04.0 0.0
NACGM *e*LQ LQ 16 10 17.0
NACGM *e*LR LR 16 16 22.0
MERS Mersin 23.40 81 *e*P P 16 06 05.0 +0.7
IIGN Ignalina 23.46 31 *e*P P 16 06 04.4 -0.2
IIGN IAmb IAmb 16 06 06.2
comp=Z,38nm,1.0s
OSL Oslo 23.48 7 *e*P P 16 06 05.0 +0.3
ISAL Salakas 23.58 30 *e*P P 16 06 05.1 -0.6
ISAL IAmb IAmb 16 06 07.2
comp=Z,53nm,0.9s
MICGM Minsk 23.61 34⇓ *e*P P 16 06 05.0 -1.2
MICGM PM 16 06 06.0
comp=Z,2.2nm,0.5s
MICGM *e*LR LR 16 15 20.0
MNK Minsk 23.61 34⇓ *e*P P 16 06 05.0 -1.2
MNK pmax pmax
comp=Z,2μm,0.5s
IDID Didziasalis 23.65 31 *e*P P 16 06 06.1 -0.5
IDID IAmb IAmb 16 06 08.8
comp=Z,36nm,1.0s
DIKM Dikmen 23.70 69⇓ *i*P P 16 06 08.8 +1.7
TOA1 Torodi Ar. Sit 23.71 189 *e*P P 16 06 06.0 -1.3
TOA1 *e*PcP **PcP 16 09 52.0 +0.7**
TOA0 Torodi Ar. Sit 23.71 189 *e*P P 16 06 06.0 -1.3
comp=Z,40nm,0.8s
TORD Torodi Ar. Bea 23.71 189 P P 16 06 06.1 -1.3
comp=Z,24nm,0.7s,baz=354,slow=12,SNR=57
TORD PcP **PcP 16 09 52.1 +0.7**
comp=Z,1.6nm,1.0s,baz=348,slow=2.6,SNR=4.3
TORD Lg Lg 16 13 34.9
comp=Z,18nm,1.2s,baz=18,slow=29,SNR=5.0
TORD LR LR 16 16 14.7
comp=Z,585nm,20.4s,baz=350,slow=39
IZAR Zarasai 23.75 30 *e*P P 16 06 07.2 -0.2
IZAR IAmb IAmb 16 06 09.0
comp=Z,22nm,0.9s
KARA Karaisali 23.77 80 *e*P P 16 06 08.8 +1.0
HFS Hagfors 24.03 10 P P 16 06 10.2 +0.1
comp=Z,18nm,0.8s,baz=191,slow=14,SNR=17
HFS LR LR 16 15 28.7
comp=Z,234nm,19.0s,baz=200,slow=36
SKAR Skarslia 24.04 4 *e*P P 16 06 10.5 +0.3
BNN Bunyan 24.22 76 *e*P P 16 06 13.4 +1.2
KVT Kavak 24.29 70 *e*P P 16 06 13.6 +0.9
SUE Sulen 24.34 359 *e*P P 16 06 13.0 +0.2
NC602 NORSAR Array S 24.34 8 *e*P P 16 06 12.7 -0.3
comp=Z,83nm,1.0s
NC602 NORSAR Array S 24.34 8 *e*P P 16 06 14.2 +1.2
NAO01 NORSAR Array S 24.39 7 *e*P P 16 06 13.1 -0.2
comp=Z,109nm,1.3s
NBO00 NORSAR Array S 24.56 6 *e*P P 16 06 15.6 +0.7
comp=Z,65nm,1.1s
NB2 NORSAR Subarra 24.61 7 P P 16 06 15.9 +0.5
comp=Z,95nm,2.0s,baz=188,slow=10
NB2 NORSAR Subarra 24.61 7 P P 16 06 15.9 +0.5
baz=188,slow=10
NB200 NORSAR Array S 24.61 7 *e*P P 16 06 16.1 +0.7
NB200 *e*PcP **PcP 16 09 52.3 -0.3**
NOA NORSAR Array B 24.61 7 P P 16 06 16.1 +0.7
comp=Z,10nm,0.8s,baz=190,slow=9.4,SNR=24
NOA PcP **PcP 16 09 52.3 -0.3**
comp=Z,1.8nm,0.8s,baz=189,slow=1.9,SNR=4.1
NOA LR LR 16 16 04.8
comp=Z,604nm,19.4s,baz=190,slow=37
NB201 NORSAR Array S 24.63 7 *e*P P 16 06 16.1 +0.6
comp=Z,98nm,1.1s
TOKT Tokat 24.68 72 *e*P P 16 06 17.4 +1.2
NC405 NORSAR Array S 24.73 8 *e*P P 16 06 16.6 +0.1
comp=Z,63nm,1.1s
NC204 NORSAR Array S 24.80 6 *e*P P 16 06 17.7 +0.6
comp=Z,84nm,1.6s
NC303 NORSAR Array S 24.81 7 *e*P P 16 06 17.4 +0.3
comp=Z,93nm,1.3s
MMAI Mount Meron Ar 24.97 90 P P 16 06 20.2 +1.2
comp=Z,44nm,0.7s,baz=284,slow=8.5,SNR=38
SVSK Karacayir 25.04 73 *e*P P 16 06 20.4 +1.0
KMRS Kahramanmaras 25.19 79 *e*P P 16 06 18.6 -2.3
DOMB Dombas 25.43 4 *e*P P 16 06 24.6 +1.7
AKN Aaknes 25.48 2 *e*P P 16 06 23.6 +0.4
DARE Darende-Malaty 25.52 76 *e*P P 16 06 25.3 +1.3
ANN Anapa 25.54 62*c* *i*P P 16 06 22.8 -1.1
ANN *e* 16 06 55.1
ANN *e*S **S 16 10 49.6 -1.1**
ANN pmax pmax
comp=Z,226nm,1.5s
ANN MLR MLR
comp=Z,267nm,12.0s
GHAJ Ghor Haditha 25.65 93 P P 16 06 27.1 +2.1
comp=Z,35nm,0.9s
EIL Elat 25.77 97 P P 16 06 26.6 +0.4
comp=Z,79nm,1.0s
EIL Elat 25.77 97 P P 16 06 27.6 +1.4
comp=Z,58nm,0.9s,baz=323,slow=6.3,SNR=27
EIL LR LR 16 18 56.7
comp=Z,160nm,18.5s,baz=261,slow=42
AQBJ Aqaba 25.82 97 P P 16 06 28.7 +2.0
MOL Molde 25.89 2 *e*P P 16 06 27.2 +0.2
VSU Vasula 25.89 26*c* *i*P P 16 06 27.0 0.0
VSU pmax pmax
comp=Z,159nm,0.7s
VSU Vasula 25.89 26 *e*P P 16 06 26.6 -0.4
VSU IAmb IAmb 16 06 29.6
comp=Z,143nm,0.8s
JDRJ Daraweish 25.93 94 P P 16 06 30.8 +3.0
ASF Jabal al Asfar 26.42 91 P P 16 06 34.7 +2.5
comp=Z,23nm,1.0s,baz=227,slow=3.0,SNR=20
SOC Sochi 27.07 65 *e*P P 16 06 38.8 +1.0
SOC pmax pmax
comp=Z,274nm,0.9s
FIA0 FINESS Array S 27.98 21 *e*P P 16 06 45.9 +0.2
FIA0 *e*PcP **PcP 16 10 00.1 -0.3**
FIA0 FINESS Array S 27.98 21 *e*P P 16 06 45.9 +0.2
FIA0 *e* 16 10 00.1
FINES FINESS Array B 27.98 21 P P 16 06 45.9 +0.2

comp=Z,10nm,0.8s,baz=215,slow=7.2,SNR=31
FINES PcP **PcP** **16 10 00.1 -0.3**
comp=Z,5.7nm,0.8s,baz=111,slow=4.3,SNR=6.7
FINES LR LR 16 18 57.7
comp=Z,217nm,18.1s,baz=208,slow=39
FIA1 FINESS Array S 27.98 21 *e*P **P** **16 06 45.5 -0.3**
comp=Z,38nm,1.1s
VSR Storozhevoye 28.08 48 *e*P **P** **16 06 45.1 -1.6**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR MLR MLR
comp=Z,600nm,16.0s
VORD Divnogorie 28.08 49 *e*P **P** **16 06 45.7 -1.0**
VORD pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 28.14 39 *e*P **P** **16 06 47.0 -0.3**
comp=Z,76nm,0.8s
OBN Obninsk 28.14 39*c i*P **P** **16 06 47.2 -0.1**
OBN *e* 16 06 50.0
OBN *e* 16 07 35.4
OBN *e*SS **SnSn** **16 12 49.5 +2.0**
OBN pmax pmax
comp=Z,103nm,1.0s
OBN MLR MLR
comp=Z,241nm,13.0s
OBN Obninsk 28.14 39 P **P** **16 06 47.1 -0.1**
comp=Z,17nm,0.8s,baz=196,slow=1.4,SNR=24
LPSR Galich'ya Gora 28.39 45 *e*P **P** **16 06 48.7 -0.8**
LPSR pmax pmax
comp=Z,60nm,0.8s
LPSR MLR MLR
comp=Z,630nm,18.0s
MOS Moscow 28.97 39 *e*P **P** **16 06 53.5 -1.1**
MOS *e* 16 07 46.3
MOS pmax pmax
comp=Z,83nm,0.8s
MOS MLR MLR
comp=Z,600nm,12.0s
KIV Kislovodsk 29.24 64 *e*P **P** **16 06 53.0 -4.3**
comp=Z,8.2nm,0.9s
KIV Kislovodsk 29.24 64 *e*P **P** **16 06 57.4 +0.1**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,230nm,15.0s
KVAR Kislovodsk Arr 29.24 64 P P 16 06 53.0 -4.4
comp=Z,4.7nm,0.6s,baz=270,slow=2.0,SNR=3.1
KBZ Khabaz 29.39 64 P **P** **16 06 59.1 +0.7**
comp=Z,4.6nm,0.6s,baz=273,slow=6.0,SNR=13
KBZ PcP **PcP** **16 10 05.2 +1.0**
comp=Z,4.3nm,0.8s,baz=74,slow=4.2,SNR=4.2
KBZ LR LR 16 20 25.5
comp=Z,92nm,19.7s,baz=276,slow=40
SIRT Sirnak 29.54 77 *e*P **P** **16 06 60.0 0.0**
comp=Z,62nm,1.1s
VRH Novokhopyorsk 29.61 49 *e*P **P** **16 06 59.9 -0.5**
VRH pmax pmax
comp=Z,110nm,0.7s
VRH MLR MLR
comp=Z,440nm,17.0s
NCK Nalchik 29.89 65⇑ *i*P **P** **16 07 04.0 +1.0**
NCK pmax pmax
comp=Z,5.0nm,0.2s
MOR8 Moi Rana 29.95 7 *e*P **P** **16 07 04.1 +0.9**
ZEI Tsey 30.13 66 *e*P **P** **16 07 06.7 +1.4**
ZEI pmax pmax
comp=Z,11nm,0.9s
GNI Garni 30.94 71⇑ *e*P **P** **16 07 13.0 +0.5**
GNI pmax pmax
comp=Z,142nm,1.7s
GNI Garni 30.94 71 P **P** **16 07 12.9 +0.4**
comp=Z,8.5nm,0.8s,baz=223,slow=19,SNR=2.1
DBIC Dimbokro 31.33 200 P **P** **16 07 17.3 +1.6**
comp=Z,11nm,0.9s,baz=1.6,slow=9.2,SNR=6.6
DBIC LR LR 16 19 08.9
comp=Z,460nm,18.7s,baz=1.5,slow=35
TIC Toumodi 31.39 200 *e*PKP1 **P** **16 07 17.7 +1.3**
KIC Kosan Boka 31.59 199 *e*PKP1 **P** **16 07 17.7 -0.4**
comp=Z,84nm,1.2s
STEI Steigen 31.74 7 *e*P **P** **16 07 19.9 +0.9**
LOF Lofoten 31.78 6 *e*P **P** **16 07 19.7 +0.4**
LIC Lamto 31.80 200 *e*PKP1 **P** **16 07 18.6 -1.3**
comp=Z,51nm,0.7s
BORG Borgarnes 32.20 339 LR LR 16 19 22.8
comp=Z,340nm,20.0s,baz=133,slow=34
KLMR Klimovskoe 32.40 31 *e*P **P** **16 07 23.7 -1.1**
KLMR pmax pmax
comp=Z,70nm,0.8s
MAK Makhachkala 32.76 66 *e*P **P** **16 07 28.2 0.0**
MAK *e*S **S** **16 12 46.7 +2.5**
MAK pmax pmax
comp=Z,136nm,0.9s
MAK MLR MLR
comp=Z,254nm,15.0s
TMCR Tamitsa 33.77 25 *e*P **P** **16 07 36.3 -0.4**
TMCR pmax pmax
comp=Z,32nm,0.9s
TRO Tromso 33.78 9 *e*P **P** **16 07 37.4 +0.7**
KTK1 Kautokeino 33.81 12 *e*P **P** **16 07 37.3 +0.3**
ARCES ARCESS Array B 34.65 12 P **P** **16 07 44.5 +0.2**
comp=Z,6.9nm,0.7s,baz=196,slow=7.2,SNR=28
ARCES PcP **PcP** **16 10 17.9 -0.3**
comp=Z,4.4nm,0.6s,baz=196,slow=3.1,SNR=13
ARCES LR LR 16 23 26.6
comp=Z,191nm,18.9s,baz=242,slow=39
ARE0 ARCESS Array S 34.65 12 *e*P **P** **16 07 44.4 +0.1**
APA Apatity 34.73 19‖ *i*P **P** **16 07 45.2 +0.2**
APA pmax pmax
comp=Z,17nm,0.8s
APA MLR MLR
comp=Z,500nm,11.0s
JMIC Jan Mayen 35.07 352 LR LR 16 22 21.4
comp=Z,202nm,18.2s,baz=70,slow=37
HAMF Hammerfest 35.35 11 *e*P **P** **16 07 50.8 +0.5**
PRGR Permogore 35.36 32 *e*P P 16 07 45.1 -5.4
PRGR *e* 16 10 14.9
PRGR pmax pmax
comp=Z,61nm,0.8s
KIRV Kirov 35.98 38 P **P** **16 07 55.7 -0.1**
comp=Z,147nm,0.7s,baz=264,slow=3.7,SNR=61
AKTO Aktyubinsk 39.76 53 P **P** **16 08 27.4 -0.6**
comp=Z,9.0nm,0.8s,baz=264,slow=8.1,SNR=22
AKTO PcP **PcP** **16 10 35.0 +1.0**
comp=Z,2.4nm,0.7s,baz=331,slow=8.4,SNR=3.7
ARU Arti 40.37 43 *e*P **P** **16 08 32.9 +0.1**
comp=Z,143nm,0.8s
ARU Arti 40.37 43*c i*P **P** **16 08 33.0 +0.1**
ARU 16 10 05.1
ARU 16 10 36.0
ARU S **S** **16 14 42.5 +2.5**
ARU SS **SS** **16 17 34.4 -4.3**
ARU pmax pmax
comp=Z,154nm,0.8s
ARU MLR MLR
comp=Z,546nm,16.0s
ARU Arti 40.37 43 P **P** **16 08 33.1 +0.3**
comp=Z,59nm,0.8s,baz=262,slow=5.8,SNR=166
AB31 Akbulak array 41.05 55 *i*P **P** **16 08 37.3 -1.3**
AB31 pmax pmax
comp=Z,11nm,0.9s
ABKAR Akbulak array 41.05 55 *e*P **P** **16 08 37.9 -0.7**
comp=Z,13nm,0.9s
ABKAR *e*PcP **PcP** **16 10 38.4 +0.2**
DAG Danmarks Havn 41.52 352 *i*P **P** **16 08 43.3 +1.2**
DAG pmax pmax
comp=Z,27nm,1.3s
DAG Danmarks Havn 41.52 352 *i*P **P** **16 08 43.3 +1.2**
comp=Z,14nm,1.3s
SVE Sverdlovsk 41.55 43*de*P **P** **16 08 43.3 +0.7**
SVE pmax pmax
comp=Z,190nm,0.8s
SVE MLR MLR
comp=Z,544nm,18.0s
GEYT Alibeck 41.58 72 P **P** **16 08 42.4 -0.8**
comp=Z,3.5nm,0.7s,baz=250,slow=7.7,SNR=9.1
GEYT PcP **PcP** **16 10 40.8 +0.6**
comp=Z,2.2nm,0.8s,baz=343,slow=4.5,SNR=2.6
SPA0 Spitsbergen Ar 41.81 3 *e*P **P** **16 08 45.8 +1.3**
comp=Z,53nm,1.7s
SPITS Spitsbergen Ar 41.81 3 P **P** **16 08 45.5 +1.0**
comp=Z,13nm,1.0s,baz=172,slow=6.4,SNR=6.5
SPITS PcP **PcP** **16 10 40.8 +0.6**
comp=Z,0.5nm,0.4s,baz=174,slow=4.2,SNR=4.8
SUMG Summit 42.02 342 *e*P **P** **16 08 47.6 +0.9**
comp=Z,25nm,0.9s
SUMG Summit 42.02 342⇑ *i*P **P** **16 08 48.4 +1.7**
SUMG pmax pmax
comp=Z,62nm,0.9s
SUMG Summit 42.02 342⇑ *i*P **P** **16 08 48.4 +1.7**
comp=Z,62nm,0.9s
SFJD Kangerlussuaq 43.54 332 *e*P **P** **16 08 58.9 +0.3**
comp=Z,19nm,0.8s
SFJD Kangerlussuaq 43.54 332 *e*P **P** **16 08 58.9 +0.3**
SFJD pmax pmax
comp=Z,19nm,0.8s
SFJD Kangerlussuaq 43.54 332 *i*P **P** **16 08 59.1 +0.5**
comp=Z,20nm,0.8s
MBAR Mbarara 44.05 142 *e*P **P** **16 09 02.4 -1.1**
comp=Z,11nm,1.0s
MBAR Mbarara 44.05 142 *e*P **P** **16 09 02.4 -1.1**
MBAR pmax pmax
comp=Z,11nm,1.0s
ASUD Al Ashush, Dub 44.28 91 P **P** **16 09 06.0 +0.9**
SHME Shamm 44.28 89 *i*P **P** **16 09 04.8 -0.4**
SNR=17
NAZ Nazwa, Dubai 44.38 91 *i*P **P** **16 09 06.5 +0.6**
SNR=20
NAZ P **P** **16 09 06.7 +0.7**
NAZ Nazwa, Dubai 44.38 91 P **P** **16 09 07.0 +1.0**
SNR=9.2
FAQ Al Faqa, Dubai 44.44 91 *i*P **P** **16 09 06.7 +0.3**
SNR=12
FAQ Al Faqa, Dubai 44.44 91 P **P** **16 09 07.0 +0.6**
SNR=5.2
MSFE Esma-Masafi 44.61 90 *i*P **P** **16 09 08.0 +0.2**
SNR=21
HATD Hatta, Dubai 44.83 90 *i*P **P** **16 09 09.8 +0.3**
SNR=36
HATD Hatta, Dubai 44.83 90 P **P** **16 09 10.0 +0.4**
SNR=20
ASHO Ashiyiah 44.84 91 *i*P **P** **16 09 09.7 +0.1**
SNR=32
ASHO Ashiyiah 44.84 91 P **P** **16 09 09.8 +0.1**
SNR=11
ALNE Al Ain 44.89 92 *i*P **P** **16 09 10.4 +0.4**
SNR=11
SOHO SOHO 45.48 91 P **P** **16 09 15.0 +0.3**
SNR=21
BSY Bisya 46.69 92 P **P** **16 09 28.0 +3.7**
SNR=8.0
BIDO Bidbid 47.05 91 P **P** **16 09 28.0 +0.9**
SNR=9.1
BRVK Borovoye 47.19 48 *e*P **P** **16 09 27.8 0.0**
comp=Z,62nm,1.1s
BRVK Borovoye 47.19 48*c i*P **P** **16 09 28.3 +0.5**
BRVK pmax pmax
comp=Z,50nm,1.0s
BRVK Borovoye 47.19 48 P **P** **16 09 28.8 +1.0**
SNR=28
SMDO Samad 47.21 91 P **P** **16 09 30.0 +1.5**
SNR=5.4
BVAR Borovoye Array 47.26 48 P **P** **16 09 28.9 +0.6**
comp=Z,7.3nm,0.6s,baz=285,slow=5.7,SNR=42
JMDO Jabal Madar 47.60 92 P **P** **16 09 34.0 +2.7**
SNR=5.3
KMBO Kilima Mbogo 47.98 134 *e*P **P** **16 09 34.5 -0.1**
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 47.98 134 *i*P **P** **16 09 35.7 +1.1**
SNR=6.9
KMBO Kilima Mbogo 47.98 134 *e*P **P** **16 09 34.5 -0.1**
KMBO pmax pmax
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 47.98 134 P **P** **16 09 35.9 +1.3**
comp=Z,8.3nm,0.9s,baz=334,slow=6.6,SNR=14
KMBO LR LR 16 31 46.8
comp=Z,263nm,18.7s,baz=304,slow=39
MHTO MHTO 48.19 94 P **P** **16 09 36.4 +0.5**
SNR=12
KK31 Karatay Array 49.33 61 *e*P **P** **16 09 43.7 -0.8**
comp=Z,9.4nm,0.9s
KK31 Karatay Array 49.33 61 *e*P **P** **16 09 43.7 -0.8**
KK31 pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 49.33 61 *e*P **P** **16 09 43.5 -0.9**
comp=Z,9.4nm,0.9s
KKAR Karatay Array 49.33 61 *e*P **P** **16 09 43.5 -0.9**
KKAR pmax pmax
comp=Z,9.0nm,0.9s
GAR Garm 50.42 66 *e*P **P** **16 09 52.7 -0.3**
comp=Z,92nm,1.6s
BTK Batken 50.45 65 *e*P **P** **16 09 52.2 -0.9**
BTK Batken 50.45 65 *e*P **P** **16 09 52.2 -0.9**
SCHQ Schefferville 51.04 315 *e*P **P** **16 09 57.3 0.0**
comp=Z,36nm,1.0s
SCHQ Schefferville 51.04 315 P **P** **16 09 57.2 0.0**
comp=Z,20nm,0.8s,baz=74,slow=8.9,SNR=11
SCHQ LR LR 16 30 50.2
comp=Z,96nm,18.1s,baz=100,slow=35
ARSB Arslanbob 51.61 63 *e*P **P** **16 10 01.4 -0.5**
comp=Z,52nm,1.8s
EKS2 Erkin-Say 51.75 61 P **P** **16 10 03.4 +0.5**
SNR=25
AML Almayashu 51.86 62 P **P** **16 10 04.1 0.0**
SNR=5.1
LMN Caledonia Moun 51.86 303 *e*P **P** **16 10 03.2 -0.3**
comp=Z,51nm,1.0s
USP Ospenovka 52.07 60 P **P** **16 10 04.8 -0.4**
SNR=5.1
AAK Ala-Archa 52.26 61 P **P** **16 10 06.9 +0.2**
SNR=10.0
AAK Ala-Archa 52.26 61 *e*P **P** **16 10 06.5 -0.3**
comp=Z,11nm,0.9s
AAK Ala-Archa 52.26 61 *i*P **P** **16 10 07.0 +0.2**
SNR=12
AAK Ala-Archa 52.26 61*c i*P **P** **16 10 06.8 0.0**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 52.26 61 P **P** **16 10 07.3 +0.5**
SNR=5.6
AAK P **P** **16 10 07.3 +0.5**
SNR=5.6
FRU1 Bishkek 52.30 61 *e*P **P** **16 10 06.9 -0.1**
comp=Z,45nm,0.8s
FRU1 Bishkek 52.30 61 *e*P **P** **16 10 06.9 -0.1**
FRU1 pmax pmax
comp=Z,45nm,0.8s
CHMS Chumysh 52.33 60 P **P** **16 10 07.4 +0.3**
SNR=13
UCH Uchtor 52.41 61 P **P** **16 10 08.5 +0.3**
SNR=22
KBK Karagaybulak 52.58 61 P **P** **16 10 09.3 +0.3**
SNR=8.7
KURK Kurchatov 52.70 50 *e*P **P** **16 10 09.4 -0.3**
comp=Z,42nm,0.9s
KURK Kurchatov 52.70 50*c i*P **P** **16 10 09.6 -0.1**
KURK pmax pmax
comp=Z,84nm,1.7s
KURK Kurchatov 52.70 50 P **P** **16 10 10.4 +0.7**
SNR=24
TKM2 Tokmak 2 52.94 60 P **P** **16 10 11.7 -0.1**
SNR=6.2
KZA Kyzart 52.97 61 P **P** **16 10 13.1 +0.8**
SNR=33
NRIK Noril'sk 53.48 26 P **P** **16 10 16.7 +1.5**
comp=Z,7.2nm,0.7s,baz=268,slow=5.2,SNR=25
NRN Naryn 53.72 62 *e*P **P** **16 10 17.4 -0.3**
comp=Z,9.3nm,0.8s
NRN Naryn 53.72 62 *e*P **P** **16 10 17.4 -0.3**
NRN pmax pmax
comp=Z,9.0nm,0.8s
PQI Presque Isle 53.76 305 *e*P **P** **16 10 18.0 +0.6**
comp=Z,50nm,1.0s
KDJ Kajisay 54.31 61 *e*P **P** **16 10 22.2 +0.4**
comp=Z,27nm,0.9s
KDJ Kajisay 54.31 61 *e*P **P** **16 10 22.2 +0.4**
KDJ pmax pmax
comp=Z,27nm,0.9s
KSH Kashi 54.37 64 P **P** **16 10 21.8 -0.4**
KSH sP sP 16 10 29.0 -0.2
KSH PP **PP** **16 12 25.3 +1.2**
KSH S **S** **16 17 56.0 -3.7**
KSH SS **SKiKP** **16 21 37.3 +5.4**
KSH pmax pmax
comp=Z,57nm,0.7s
KSH pmax pmax
comp=Z,230nm,4.5s
KSH LR LR
comp=Z,180nm,10.0s
KSH LR LR
comp=Z,230nm,9.0s
KSH LR LR
comp=Z,370nm,12.2s
NVS Novosibirsk 54.37 44 *e*P **P** **16 10 22.9 +1.1**
NVS pmax pmax
comp=Z,71nm,0.9s
NVS pmax pmax
comp=E,22nm,0.8s
NIL Nilore 54.59 72 *e*P **P** **16 10 23.9 +0.1**
comp=E,82nm,1.7s
NIL Nilore 54.59 72 *e*P **P** **16 10 23.9 +0.1**
NIL pmax pmax
comp=Z,82nm,1.7s
TARG Taragay, Kyrgy 54.88 61 *e*P **P** **16 10 26.6 +0.2**
comp=Z,36nm,0.7s
ZAA1 Zalesovo Array 55.50 45 *e*P **P** **16 10 30.2 +0.2**
ZAA0 Zalesovo Array 55.50 45 *e*P **P** **16 10 30.0 -0.1**
comp=Z,31nm,0.7s
ZALV Zalesovo Beam 55.50 45 P **P** **16 10 30.2 +0.2**
comp=Z,31nm,0.6s,baz=280,slow=8.4,SNR=119
ZALV PP **PP** **16 12 33.5 -0.2**
comp=Z,5.5nm,0.9s,baz=294,slow=11,SNR=4.4
MAKZ Makanchi 55.98 54 *e*P **P** **16 10 33.3 -0.3**
comp=Z,28nm,1.0s
MAKZ Makanchi 55.98 54 P **P** **16 10 32.8 -0.8**
MAKZ pmax pmax
comp=Z,24nm,1.0s
LSZ Lusaka 56.09 153 *e*P **P** **16 10 33.1 -1.6**
comp=Z,7.6nm,1.0s
LSZ Lusaka 56.09 153 *e*P **P** **16 10 33.1 -1.6**
LSZ pmax pmax
comp=Z,8.0nm,1.0s
MK31 Makanchi Array 56.18 54 *e*P **P** **16 10 34.8 -0.3**
comp=Z,24nm,0.8s
MK31 Makanchi Array 56.18 54 *i*P **P** **16 10 34.4 -0.7**
MK31 pmax pmax
comp=Z,37nm,0.8s
MK32 Makanchi Array 56.18 54 *e*P **P** **16 10 35.1 0.0**
MKAR Makanchi Array 56.18 54 P **P** **16 10 35.1 0.0**
comp=Z,24nm,0.6s,baz=285,slow=6.0,SNR=300
CHGQ Chibougamau 56.77 311 P **P** **16 10 38.7 -0.5**
baz=71
TSUM Tsumeb 56.85 166 *e*P **P** **16 10 39.9 -0.2**
comp=Z,19nm,1.4s
RES Resolute Bay 57.55 342 *e*P **P** **16 10 44.9 +0.7**
comp=Z,9.3nm,1.1s
RES Resolute Bay 57.55 342 *e*P **P** **16 10 44.9 +0.7**
RES pmax pmax
comp=Z,9.0nm,1.1s
DGZ Jazzator, Alta 58.40 49*c i*P **P** **16 10 51.4 +0.5**
DGZ pmax pmax
comp=Z,12nm,0.7s
ALFO Alfred 58.60 306 P **P** **16 10 52.5 +0.4**
baz=68
LSQQ Lebel-sur-Quev 58.66 310 P **P** **16 10 52.6 +0.1**
baz=69
LONY Lake Ozonia 58.79 305 P **P** **16 10 53.4 0.0**
baz=68
MATQ Matagami 58.81 311 P **P** **16 10 53.9 +0.4**
baz=69
ORIO Orleans, Innes 59.08 306 P **P** **16 10 56.0 +0.6**
baz=68
E54A Lac Daplat, Po 59.78 307 P **P** **16 11 00.1 -0.2**
baz=67
D53A Lac Vacive, Po 59.85 308 *e*P **P** **16 11 01.0 +0.2**
comp=Z,30nm,1.1s
D53A Lac Vacive, Po 59.85 308 P **P** **16 11 01.1 +0.4**
baz=67
H56A Elgin 59.90 305 P **P** **16 11 01.5 +0.4**
baz=67
G55A Calabogie 59.94 306 P **P** **16 11 02.0 +0.6**
baz=67
E53A Dumoine, Ponti 60.10 308 P **P** **16 11 03.1 +0.6**
baz=67
PEMO Pembroke 60.11 307 P **P** **16 11 02.4 -0.2**
baz=67
PLVO Plevna 60.26 306 P **P** **16 11 03.8 +0.3**
baz=66
D52A ZEK Kipawa Sen 60.34 308 P **P** **16 11 04.0 -0.1**
baz=67
ALGO Algonquin Park 60.52 307 P **P** **16 11 05.3 -0.1**
baz=66
E52A Mattawa 60.77 308 P **P** **16 11 07.1 +0.1**
baz=66
BANO Bancroft 60.82 306 P **P** **16 11 07.2 -0.2**
baz=66
WMQ Urumqi 60.83 55 *e*P **P** **16 11 08.8 +1.2**
WMQ sP sP 16 11 16.5 +1.9
WMQ pmax pmax
comp=Z,84nm,1.3s
WMQ pmax pmax
comp=Z,440nm,4.3s
WMQ LR LR
comp=Z,1μm,15.7s
WMQ LR LR
comp=Z,1μm,13.9s
WMQ LR LR
comp=Z,640nm,18.5s
N59A State Game Lan 61.07 301 P **P** **16 11 09.1 -0.2**
baz=65
G53A Haliburton 61.22 307 P **P** **16 11 09.8 -0.3**
baz=66
F51A Arnstein 61.72 308 P **P** **16 11 14.1 +0.6**
baz=65
E50A Wahnapitae 62.03 309 P **P** **16 11 15.9 +0.4**
baz=65
D49A Beulah Townshi 62.06 310 P **P** **16 11 16.0 +0.3**
baz=65
K54A Basiliko Farm, 62.33 304 P **P** **16 11 17.8 +0.1**
baz=64
L55A Hinsdale 62.34 303 P **P** **16 11 17.6 -0.2**
baz=64
N57A Milroy 62.36 302 P **P** **16 11 17.7 -0.2**
baz=64
D48A Paudash Townsh 62.38 310 P **P** **16 11 18.5 +0.6**
baz=65
M56A Emporium 62.48 303 P **P** **16 11 17.5 -1.2**
baz=64
Q59A Harwood 62.58 299 P **P** **16 11 18.0 -1.3**
baz=64
SSPA Standing Stone 62.65 302 *e*P **P** **16 11 19.7 -0.1**
comp=Z,26nm,1.3s
SSPA Standing Stone 62.65 302 P **P** **16 11 20.5 +0.7**
baz=64
I52A Shelburne 62.67 306 P **P** **16 11 20.1 +0.1**
baz=64
R60A Leonardtown, M 62.79 299 P **P** **16 11 20.6 -0.2**
baz=63
M55A Ridgway 62.88 303 P **P** **16 11 21.3 0.0**
baz=64
E48A Lockeyer 62.90 309 P **P** **16 11 21.4 0.0**
baz=64
S60A Water View 63.09 298 P **P** **16 11 21.4 -1.4**
baz=63
BMRO Meriville Lake 63.12 307 P **P** **16 11 22.1 -0.8**
baz=64
F49A Sandfield 63.13 308 P **P** **16 11 22.4 -0.5**
baz=64
R59A King George, V 63.20 299 P **P** **16 11 23.3 -0.2**
baz=63
D47A Chapleau 63.23 310 P **P** **16 11 23.0 -0.5**
baz=64
O56A Blue Knob Stat 63.27 302 P **P** **16 11 24.5 +0.5**
baz=63
BWLO Walkerton 63.28 306 P **P** **16 11 24.4 +0.5**
baz=64
N55A Marion Center 63.33 302 P **P** **16 11 24.8 +0.4**
baz=63
M54A Oil Creek Stat 63.46 303 P **P** **16 11 25.7 +0.4**
baz=63
F48A Evansville 63.47 309 P **P** **16 11 25.5 +0.4**
baz=64
V62A Hyde County Ai 63.58 296 P **P** **16 11 27.5 +1.5**
baz=62
E47A Iron Bridge 63.60 310 P **P** **16 11 26.2 +0.2**
baz=64
L53A Girard 63.66 304 P **P** **16 11 26.5 0.0**
baz=63
BASO Ashfield 63.66 306 P **P** **16 11 26.6 +0.2**
baz=64
Q57A Strasburg 63.72 300 P **P** **16 11 26.2 -0.8**
baz=63
R58A Rapidan 63.77 299 P **P** **16 11 28.3 +1.0**
baz=63
O55A Ligonier 63.80 302 P **P** **16 11 28.2 +0.7**
baz=63
R58B Mineral 63.84 299 P **P** **16 11 28.4 +0.7**
baz=63
FCC Fort Churchill 63.87 325 *e*P **P** **16 11 27.8 +0.3**
comp=Z,20nm,0.8s
FCC Fort Churchill 63.87 325 *e*P **P** **16 11 27.8 +0.3**
FCC pmax pmax

comp=Z,20nm,0.8s
D46A **Sault St. Mari** 63.87 310 P P 16 11 28.9 +1.1
baz=63
N54A **Moraine State** 63.93 303 P P 16 11 28.1 -0.2
baz=63
U60A **Pendleton** 64.02 297 P P 16 11 30.2 +1.3
baz=62
T59A **Double "B" Far** 64.07 298 P P 16 11 30.3 +1.1
baz=62
R57A **Stanardsville** 64.14 300 P P 16 11 30.2 +0.5
baz=62
M53A **WI Miller and** 64.17 304 P P 16 11 30.2 +0.3
baz=63
E46A **Sault Ste Mari** 64.27 310 eP P 16 11 29.7 -0.8
comp=Z,26nm,1.4s
E46A **Sault Ste Mari** 64.27 310 P P 16 11 30.6 +0.2
baz=63
LBTB **Lobatse** 64.36 160 eP P 16 11 30.6 -0.6
comp=Z,16nm,0.9s
LBTB **Lobatse** 64.36 160 eP P 16 11 30.6 -0.6
LBTB pmax pmax
comp=Z,16nm,0.9s
MCWV **Mont Chateau** 64.43 301 P P 16 11 32.3 +0.7
baz=62
P55A **Reedsville** 64.48 301 P P 16 11 32.6 +0.6
baz=62
U59A **Littleton** 64.53 297 eP P 16 11 32.2 0.0
comp=Z,13nm,0.9s
U59A **Littleton** 64.53 297 P P 16 11 31.4 -0.9
baz=62,SNR=5.4
G47A **Hillman** 64.54 308 P P 16 11 32.8 +0.6
baz=63
O54A **Avella** 64.55 302 P P 16 11 33.1 +0.7
baz=62
PYUN **Piuthan** 64.55 73 eP P 16 11 32.6 -0.2
comp=Z,198nm,1.1s
N53A **Lisbon** 64.57 303 P P 16 11 33.2 +0.7
baz=62
M52A **Chesterland** 64.58 304 P P 16 11 32.2 -0.4
baz=62
T58A **Grand View Acr** 64.77 298 P P 16 11 34.6 +0.7
baz=62
P54A **Burton** 64.89 302 P P 16 11 34.9 +0.3
baz=62
I48A **Sherman Twp** 64.89 307 P P 16 11 33.8 -0.7
baz=62
Q55A **Buckhannon** 64.89 301 P P 16 11 35.0 +0.3
baz=62
TIXI **Tiksi** 64.91 17 eP P 16 11 34.8 +0.7
comp=Z,29nm,1.3s
TIXI **Tiksi** 64.91 17c iP P 16 11 35.1 +1.0
TIXI pmax pmax
comp=Z,35nm,1.7s
DANN **Dangsing** 65.02 72 eP P 16 11 35.7 -0.3
comp=Z,171nm,1.3s
U58A **Oxford** 65.04 298 P P 16 11 36.0 +0.4
baz=62
O53A **New Philadelph** 65.08 303 P P 16 11 36.2 +0.3
baz=62
V59A **Middlesex** 65.12 297 P P 16 11 36.9 +0.8
baz=62
N52A **McGinn's Farm,** 65.14 303 P P 16 11 36.6 +0.3
baz=62
S56A **Natural Bridge** 65.16 299 P P 16 11 36.7 +0.3
baz=62
KOLN **Koldanda** 65.18 73 eP P 16 11 36.1 -0.8
comp=Z,36nm,1.0s
T57A **Hurt** 65.26 299 eP P 16 11 37.6 +0.6
T57A **Hurt** 65.26 299 P P 16 11 38.1 +1.1
baz=62
L50A **Kingsville** 65.31 305 P P 16 11 37.8 +0.5
baz=62
PLIO **Pelee Island,** 65.33 305 P P 16 11 37.8 +0.4
baz=62
Q54A **Coxs Mills** 65.42 301 eP P 16 11 37.9 -0.1
comp=Z,68nm,1.4s
Q54A **Coxs Mills** 65.42 301 P P 16 11 38.8 +0.7
baz=62
MOY **Mondy** 65.42 43 eP P 16 11 39.1 +1.1
MOY pmax pmax
comp=Z,20nm,2.1s
I47A **Gladwin** 65.48 308 P P 16 11 39.1 +0.8
baz=62
N51A **Ashland** 65.55 304 P P 16 11 39.2 +0.3
baz=62
P53A **Whipple** 65.56 302 P P 16 11 38.6 -0.4
baz=62
U57A **Blanch** 65.58 298 P P 16 11 37.8 -1.4
baz=61,SNR=5.5
H46A **Fife Lake** 65.68 308 P P 16 11 39.3 -0.4
baz=62
V58A **Windy Hill, Pi** 65.73 297 P P 16 11 40.5 +0.4
baz=61
F44A **Big Bay de Noc** 65.76 310 P P 16 11 40.4 +0.3
baz=62
S55A **Lewisburg** 65.76 300 P P 16 11 40.8 +0.4
baz=61
T56A **Rocky Mt** 65.79 299 P P 16 11 40.8 +0.3
baz=61
R54A **Victor** 65.91 301 P P 16 11 41.2 -0.1
baz=61
E43A **Lone Tree Farm** 65.92 311 eP P 16 11 40.9 -0.2
comp=Z,27nm,1.4s
E43A **Lone Tree Farm** 65.92 311 P P 16 11 40.1 -1.1
baz=62,SNR=6.5
Q53A **Leroy** 65.95 301 P P 16 11 41.5 0.0
baz=61
BLA **Blacksburg** 65.97 299 P P 16 11 42.2 +0.5
baz=61
P52A **Corning** 66.00 302 P P 16 11 42.6 +0.8
baz=61
V57A **Coltrane Farms** 66.16 298 P P 16 11 43.2 +0.4
baz=61
W58A **Raeford** 66.19 297 P P 16 11 43.9 +0.8
baz=61
T55A **Pulaski** 66.28 299 P P 16 11 44.3 +0.7
baz=61
ACSO **Alum Creek Sta** 66.28 303 eP P 16 11 43.2 -0.4
comp=Z,82nm,1.8s
ACSO **Alum Creek Sta** 66.28 303 P P 16 11 44.3 +0.7
baz=61
F43A **Flat Rock, Esc** 66.28 310 P P 16 11 43.8 +0.3
baz=61
S54A **Dingess, Beckl** 66.31 300 P P 16 11 42.7 -1.2
baz=61
U56A **King** 66.37 299 P P 16 11 44.9 +0.7
baz=61
Q52A **Bidwell** 66.41 302 P P 16 11 44.8 +0.4
baz=61
DMN **Daman** 66.42 72 eP P 16 11 44.6 -0.4
comp=Z,182nm,1.3s
L48A **N Adams** 66.42 306 P P 16 11 44.4 0.0
baz=61
E42A **Champion** 66.45 311 P P 16 11 44.9 +0.4
baz=61
KKN **Kakani** 66.46 72 eP P 16 11 44.5 -0.7
comp=Z,31nm,0.6s
C40A **Isle Royale Na** 66.47 313 P P 16 11 44.6 0.0
baz=61
X58A **Rowland** 66.49 296 P P 16 11 45.0 0.0
baz=61
R53A **Hurricane** 66.50 301 P P 16 11 45.4 +0.3
baz=61
D41A **Chassel** 66.53 312 eP P 16 11 44.5 -0.6
comp=Z,27nm,1.3s
D41A **Chassel** 66.53 312 P P 16 11 45.5 +0.4
baz=61
HYB **Hyderabad** 66.58 85 iP P 16 11 45.0 -0.8
PKIN **Phulchoki** 66.65 72 eP P 16 11 45.4 -1.1
comp=Z,67nm,1.3s
PKI **Pulchoki** 66.67 72 eP P 16 11 45.5 -1.2
comp=Z,125nm,1.5s
W57A **Gilead** 66.67 297 P P 16 11 46.5 +0.4
baz=61
V56A **Mocksville** 66.71 298 P P 16 11 46.5 +0.1
baz=61
N49A **Columbus Grove** 66.75 304 eP P 16 11 46.1 -0.4
comp=Z,20nm,1.1s
N49A **Columbus Grove** 66.75 304 P P 16 11 45.8 -0.8
baz=61
O50A **Cable** 66.75 303 P P 16 11 47.0 +0.3
baz=61
U55A **TA2, Sparta** 66.76 299 P P 16 11 46.7 -0.1
baz=61
TLY **Talaya** 66.85 42c iP P 16 11 48.1 +1.0
G43A **Wallace** 66.88 310 eP P 16 11 46.9 -0.4
comp=Z,14nm,1.1s
G43A **Wallace** 66.88 310 P P 16 11 47.7 +0.4
baz=61
S53A **Williamson** 66.94 301 P P 16 11 47.8 -0.1
baz=61
R52A **Catlettsburg** 66.97 301 P P 16 11 48.8 +0.7
baz=61
Y58A **Scranton** 67.05 296 P P 16 11 49.0 +0.5
baz=60
E41A **Kenton** 67.07 312 P P 16 11 48.1 -0.4
baz=60
W56A **Indian Trail** 67.10 297 P P 16 11 48.8 -0.1
baz=60
Q51A **Peebles** 67.11 302 eP P 16 11 48.7 -0.3
comp=Z,13nm,0.9s
Q51A **Peebles** 67.11 302 P P 16 11 49.6 +0.7
baz=61
P50A **Jamestown** 67.14 303 P P 16 11 48.6 -0.4
baz=61
V55A **Taylorsville** 67.19 298 P P 16 11 49.5 0.0
baz=60
O49A **Covington** 67.21 304 eP P 16 11 49.4 -0.1
comp=Z,11nm,0.9s
O49A **Covington** 67.21 304 P P 16 11 49.1 -0.4
baz=60
JIRN **Jiri** 67.22 72 eP P 16 11 50.2 0.0
BIRD **Birdtown, Kers** 67.25 297 eP P 16 11 50.1 +0.2
comp=Z,24nm,1.5s
U54A **Nelsons Funny** 67.29 299 eP P 16 11 49.4 -0.8
comp=Z,14nm,0.9s
U54A **Nelsons Funny** 67.29 299 P P 16 11 49.7 -0.5
baz=60
ZAK **Zakamensk** 67.31 43 eP P 16 11 49.2 -0.9
ZAK pmax pmax
comp=Z,9.0nm,1.5s
ZAK pmax pmax
comp=Z,3.0nm,1.7s
N48A **Decatur** 67.34 305 P P 16 11 51.4 +1.1
baz=60
G42A **Mountain** 67.34 310 eP P 16 11 48.9 -1.3
comp=Z,22nm,1.3s
G42A **Mountain** 67.34 310 P P 16 11 51.4 +1.1
baz=60
COWI **Conover** 67.35 311 eP P 16 11 49.6 -0.7
comp=Z,19nm,1.2s
Z58A **St. Stephen** 67.44 295 P P 16 11 51.5 +0.5
baz=60
F41A **Three Lakes** 67.51 311 eP P 16 11 50.6 -0.7
comp=Z,17nm,1.2s
F41A **Three Lakes** 67.51 311 P P 16 11 51.4 0.0
baz=60
T53A **Wise** 67.56 300 P P 16 11 52.1 +0.3
baz=60
S52A **Salyersville** 67.59 301 P P 16 11 51.1 -0.9
baz=60,SNR=5.7
KMSC **Kings Mountain** 67.63 298 P P 16 11 53.4 +1.1
baz=60
Q50A **Georgetown** 67.63 302 P P 16 11 52.9 +0.7
baz=60
R51A **Hillsboro** 67.63 302 P P 16 11 52.9 +0.7
baz=60
E40A **Wakefield** 67.64 312 P P 16 11 50.9 -1.2
baz=60,SNR=7.8
BOSA **Boshof** 67.68 161 eP P 16 11 51.6 -0.9
comp=Z,13nm,1.0s
BOSA **Boshof** 67.68 161 eP P 16 11 51.6 -0.9
BOSA pmax pmax
comp=Z,13nm,1.0s
BOSA **Boshof** 67.68 161 P P 16 11 51.8 -0.8
comp=Z,7.0nm,0.8s,baz=1.2,slow=6.7,SNR=9.2
BOSA LR LR 16 41 40.4
comp=Z,264nm,19.6s,baz=349,slow=36
X56A **White Oak** 67.74 297 P P 16 11 53.7 +0.8
baz=60
V54A **Nebo** 67.75 299 P P 16 11 53.3 +0.3
baz=60
N47A **Urbana** 67.77 305 P P 16 11 53.8 +0.7
baz=60
T52A **Hallie** 67.81 300 P P 16 11 53.0 -0.4
baz=60
NHSC **New Hope** 67.82 295 P P 16 11 53.1 -0.3
baz=60
EYMN **Ely** 67.82 314 eP P 16 11 53.0 -0.3
comp=Z,18nm,1.0s
EYMN **Ely** 67.82 314 P P 16 11 52.9 -0.3
baz=60
I43A **Langenfeld Bro** 67.85 309 P P 16 11 53.1 -0.4
baz=60
RAMN **Ramite** 67.89 72 eP P 16 11 53.4 -0.9
comp=Z,141nm,1.4s
U53A **Fall Branch** 67.90 299 P P 16 11 52.8 -1.2
baz=60,SNR=8.2
S51A **Beattyville** 67.97 301 P P 16 11 54.3 0.0
baz=60
F40A **Park Falls** 68.03 311 P P 16 11 55.0 +0.4
baz=60
E39A **Mellen** 68.06 312 P P 16 11 54.6 -0.2
baz=60,SNR=6.3
Z57A **Bowman** 68.10 296 P P 16 11 55.6 +0.4
baz=60
PAULI **Pauline** 68.13 298 eP P 16 11 55.3 -0.1
comp=Z,14nm,1.1s
R50A **Paris** 68.15 302 P P 16 11 55.8 +0.4
baz=60
X55A **Gracelyn & Ava** 68.18 297 P P 16 11 56.0 +0.3
baz=60,SNR=7.0
W54A **Cherokee Point** 68.26 298 P P 16 11 56.5 +0.2
baz=60
J43A **Natural Harves** 68.27 308 P P 16 11 56.9 +0.7
baz=60
H41A **Junction City** 68.41 310 eP P 16 11 56.8 -0.2
comp=Z,28nm,1.4s
H41A **Junction City** 68.41 310 P P 16 11 57.4 +0.4
baz=59
V53A **Saluda** 68.41 299 eP P 16 11 57.3 +0.1
comp=Z,15nm,0.9s
V53A **Saluda** 68.41 299 P P 16 11 57.4 +0.1
baz=60,SNR=8.9
G40A **Rib Lake** 68.41 311 eP P 16 11 56.4 -0.6
comp=Z,8.1nm,1.0s
G40A **Rib Lake** 68.41 311 P P 16 11 57.4 +0.4
baz=59
U52A **Thorn Hill** 68.44 300 P P 16 11 57.2 -0.1
baz=60
N46A **Monticello** 68.44 305 P P 16 11 58.0 +0.7
baz=60
TZTN **Tazewell** 68.49 300 P P 16 11 58.0 +0.3
baz=60
S50A **Richmond** 68.50 301 P P 16 11 57.7 0.0
baz=60
F39A **Loretta** 68.52 312 P P 16 11 57.3 -0.4
baz=59
E38A **The Farm, Brul** 68.54 313 eP P 16 11 57.7 -0.1
comp=Z,13nm,0.9s
T51A **Gray** 68.55 301 P P 16 11 57.8 -0.2
baz=60
K43A **Burlington** 68.56 308 P P 16 11 58.3 +0.4
baz=59
Y55A **Saluda** 68.61 297 P P 16 11 58.4 0.0
baz=59
157A **Early Branch** 68.63 295 P P 16 11 59.3 +0.8
baz=59
X54A **Belton** 68.67 298 P P 16 11 59.5 +0.7
baz=59
R49A **Shelbyville** 68.72 302 P P 16 11 59.4 +0.4
baz=60
Q48A **North Vernon** 68.77 303 P P 16 11 59.3 0.0
baz=59
BG3 **Lake Jocassee** 68.84 298 eP P 16 11 59.5 -0.4
comp=Z,25nm,1.5s
H40A **Chili** 68.86 310 P P 16 11 59.8 0.0
baz=59
U51A **La Follette** 68.89 300 P P 16 12 00.2 0.0
baz=59,SNR=8.9
W53A **Cullowhee** 68.91 299 P P 16 12 00.6 +0.2
baz=59
G39A **Holcombe** 68.99 311 P P 16 12 00.2 -0.4
baz=59
S49A **Springfield** 69.05 302 P P 16 12 01.0 -0.1
baz=59
F38A **Pierce - Schro** 69.07 312 P P 16 12 00.7 -0.4
baz=58
ULM **Lac du Bonnet** 69.07 318 eP P 16 12 00.7 -0.3
comp=Z,34nm,1.2s
ULM **Lac du Bonnet** 69.07 318 eP P 16 12 00.7 -0.3
ULM pmax pmax
comp=Z,34nm,1.2s
ULM **Lac du Bonnet** 69.07 318 P P 16 12 01.2 +0.2
comp=Z,13nm,0.9s,baz=41,slow=8.0,SNR=13
ULM LR LR 16 39 38.1
comp=Z,83nm,19.0s,baz=70,slow=34
T50A **Nancy** 69.14 301 P P 16 12 02.4 +0.7
baz=59
Y54A **Tignall** 69.24 297 P P 16 12 02.7 +0.4
baz=59,SNR=12
J41A **Loganville** 69.28 309 P P 16 12 02.8 +0.4
baz=59
X53A **Estanollee** 69.35 298 P P 16 12 03.4 +0.4
baz=59
H39A **Augusta** 69.38 311 P P 16 12 03.4 +0.4
baz=58
V51A **Loudon** 69.42 300 eP P 16 12 02.7 -0.7
comp=Z,10nm,0.9s
V51A **Loudon** 69.42 300 P P 16 12 03.2 -0.2
baz=59,SNR=5.1
U50A **Jamestown** 69.45 301 P P 16 12 04.0 +0.3
baz=59
W52A **Murphy** 69.49 299 P P 16 12 03.6 -0.3
baz=59
WCI **Wyandotte Cave** 69.51 303 eP P 16 12 02.8 -1.1
comp=Z,8.1nm,0.9s
WCI **Wyandotte Cave** 69.51 303 eP P 16 12 02.8 -1.1
WCI pmax pmax
comp=Z,8.0nm,0.9s
WCI **Wyandotte Cave** 69.51 303 P P 16 12 02.8 -1.1
baz=59
T49A **Edmonton** 69.57 301 eP P 16 12 03.3 -1.0
comp=Z,14nm,1.4s
T49A **Edmonton** 69.57 301 P P 16 12 04.0 -0.3
baz=59
R47A **Wooly Knot Far** 69.63 303 P P 16 12 02.8 -1.9
baz=59
S48A **Wiedeman Farm,** 69.64 302 P P 16 12 03.3 -1.5
baz=59
Z54A **Sparta** 69.67 297 P P 16 12 04.9 -0.1
baz=59,SNR=6.9
FFC **Flin Flon** 69.68 324 eP P 16 12 04.0 -0.7
comp=Z,17nm,1.2s
FFC **Flin Flon** 69.68 324 eP P 16 12 04.0 -0.7
FFC pmax pmax
comp=Z,17nm,1.2s
X52A **Dahlonega** 69.72 298 P P 16 12 05.4 +0.1
baz=59,SNR=6.3
155A **Kite** 69.72 296 P P 16 12 06.1 +0.8
baz=59,SNR=7.1
CPCT **Cooper Cave** 69.72 299 eP P 16 12 05.0 -0.3
comp=Z,12nm,1.2s
L42A **Oliver, Polo** 69.77 308 P P 16 12 04.7 -0.7
baz=58
P45A **Graceland, Par** 69.81 305 eP P 16 12 05.2 -0.6
comp=Z,13nm,1.0s
P45A **Graceland, Par** 69.81 305 P P 16 12 05.3 -0.4
baz=59
Y53A **Monroe** 69.88 298 P P 16 12 06.0 -0.3
baz=59,SNR=6.2
LSA **Lhasa** 69.91 68 eP P 16 12 06.4 -0.7
comp=Z,17nm,0.9s
LSA **Lhasa** 69.91 68 P P 16 12 07.6 +0.5
LSA **Lhasa** 69.91 68 eP P 16 12 06.4 -0.7
LSA pmax pmax
comp=Z,17nm,0.9s
I39A **Houston** 69.96 310 P P 16 12 05.8 -0.8
baz=58
YKW3 **Yellowknife Ar** 69.96 335 eP P 16 12 06.0 -0.3
comp=Z,24nm,1.0s
YKA **Yellowknife Ar** 70.01 335 P P 16 12 07.2 +0.7
comp=Z,16nm,0.8s,baz=49,slow=6.2,SNR=151
YKA LR LR 16 41 46.1
comp=Z,32nm,18.5s,baz=42,slow=35
YKB5 **Yellowknife Ar** 70.01 335 eP P 16 12 07.2 +0.7
N43A **Stutzman Famil** 70.01 307 P P 16 12 06.2 -0.7
baz=58
V50A **Pikevile** 70.01 300 P P 16 12 06.3 -0.8
baz=59
GOGA **Godfrey** 70.03 297 eP P 16 12 07.6 +0.4
comp=Z,12nm,1.1s
GOGA **Godfrey** 70.03 297 P P 16 12 07.6 +0.4
baz=59
W51A **Cleveland** 70.04 299 P P 16 12 07.2 0.0
baz=59
U49A **Red Boiling Sp** 70.05 301 P P 16 12 08.4 +1.1
baz=59
255A **Hazlehurst** 70.09 295 P P 16 12 08.0 +0.4
baz=58
AGMN **Agassiz Nation** 70.12 316 eP P 16 12 07.1 -0.4
comp=Z,13nm,1.1s
AGMN **Agassiz Nation** 70.12 316 P P 16 12 07.9 +0.4
baz=57
T48A **Bowling Green** 70.16 302 P P 16 12 07.9 0.0
baz=58
Z53A **Monticello** 70.17 297 P P 16 12 08.1 0.0
baz=58,SNR=5.8
154A **Montrose** 70.19 296 P P 16 12 08.6 +0.4
baz=58
Y52A **Lilburn** 70.22 298 eP P 16 12 07.4 -1.0
comp=Z,38nm,1.5s
Y52A **Lilburn** 70.22 298 P P 16 12 08.7 +0.4
baz=58
HDIL **Hopedale** 70.29 306 P P 16 12 07.9 -0.7
baz=58
K40A **Colesburg** 70.33 309 P P 16 12 08.1 -0.8
baz=58
BSFB **Barra de Sao F** 70.34 226 eP P 16 12 12.8 +3.7
J39A **Decorah** 70.34 310 P P 16 12 07.9 -1.1
baz=58
SONA0 **Songino Array** 70.39 45 eP P 16 12 09.4 0.0
SONM **Songino Array** 70.39 45 P P 16 12 09.4 0.0
comp=Z,2.1nm,0.6s,baz=295,slow=6.5,SNR=20
W50A **Signal Mountai** 70.40 300 eP P 16 12 09.4 -0.1
comp=Z,20nm,1.4s
W50A **Signal Mountai** 70.40 300 P P 16 12 09.8 +0.3
baz=58
Q45A **Warren Harvey,** 70.41 304 P P 16 12 08.7 -0.7
baz=58
OLIL **Olney** 70.46 304 eP P 16 12 08.8 -0.9
comp=Z,16nm,0.9s
MCI8 **Montes Claros** 70.51 230 eP P 16 12 12.5 +2.2
MCI9 **Montes Claros** 70.52 230 eP P 16 12 12.7 +2.4
V49A **McMinnville** 70.52 300 P P 16 12 09.4 -0.8
baz=58
U48A **Cassie Pea, Po** 70.57 301 P P 16 12 10.5 0.0
baz=58
MCI6 **Montes Claros** 70.60 230 eP P 16 12 13.1 +2.3
CLTN **Cedars of Leba** 70.64 301 eP P 16 12 10.4 -0.5
comp=Z,4.9nm,0.9s
M41A **Milan** 70.66 307 P P 16 12 11.3 +0.4
baz=58
355A **Pearson** 70.66 295 P P 16 12 11.5 +0.4
baz=58
254A **Abbeville** 70.67 296 P P 16 12 11.5 +0.4
baz=58
T47A **Sharon Grove** 70.70 302 eP P 16 12 10.4 -0.8
comp=Z,28nm,1.0s
T47A **Sharon Grove** 70.70 302 P P 16 12 10.8 -0.4
baz=58,SNR=13
L40A **Anamosa** 70.72 308 P P 16 12 10.9 -0.4
baz=58
ULN **Ulaanbaatar** 70.75 44 iP P 16 12 12.2 +0.6
ULN pmax pmax
comp=Z,8.0nm,1.7s
S46A **Don Dixon Farm** 70.75 303 P P 16 12 11.6 0.0
baz=58
PTGA **Pitinga** 70.78 254 eP P 16 12 11.7 -0.4
comp=Z,19nm,1.4s
PTGA **Pitinga** 70.78 254 eP P 16 12 13.9 +1.9
R45A **Skylar, Fairfi** 70.81 304 P P 16 12 11.9 0.0
baz=58
Z52A **Williamson** 70.82 297 P P 16 12 12.6 +0.5
baz=58
INK **Inuvik** 70.83 345 eP P 16 12 11.4 -0.1
comp=Z,8.4nm,0.9s
INK **Inuvik** 70.83 345 eP P 16 12 11.4 -0.1
INK pmax pmax
comp=Z,8.0nm,0.9s
GTA **Gaotai** 70.91 55 eP P 16 12 13.3 +0.6
GTA pP pP 16 12 17.5 -0.4
GTA sP sP 16 12 21.0 +1.3
GTA pmax pmax
comp=Z,23nm,0.8s
Y51A **Rockmart** 70.91 298 P P 16 12 13.0 +0.3
baz=58
859A **Kempfer Cattle** 70.95 291 P P 16 12 13.4 +0.5
baz=58
X50B **Fort Payne** 71.03 299 P P 16 12 13.3 0.0
baz=58
556A **Lake Butler** 71.04 294 P P 16 12 13.4 0.0
baz=58
W49A **Belvidere** 71.11 300 P P 16 12 14.1 +0.4

baz=58
U47A Clarksville 71.12 302 P P 16 12 13.3 -0.5
baz=58,SNR=6.3
V48A Smith Brothers 71.17 301 *e*P P 16 12 12.8 -1.3
comp=Z,7.9nm,0.9s
V48A Smith Brothers 71.17 301 P P 16 12 13.3 -0.8
baz=58,SNR=5.8
L39A Vinton 71.18 309 P P 16 12 13.3 -0.8
baz=57
253A Americus 71.21 296 *e*P P 16 12 14.2 -0.2
comp=Z,47nm,1.1s
253A Americus 71.21 296 P P 16 12 14.8 +0.4
baz=58
N41A Harden Midland 71.21 307 *e*P P 16 12 11.9 -2.4
comp=Z,17nm,0.9s
N41A Harden Midland 71.21 307 P P 16 12 13.4 -0.9
baz=58
T46A Princeton 71.21 302 P P 16 12 13.7 -0.7
baz=58,SNR=7.0
Z51A Franklin 71.30 298 P P 16 12 14.6 -0.4
baz=58
152A Waverly Hall 71.31 297 *e*P P 16 12 12.9 -2.1
comp=Z,40nm,0.2s
Y50A Piedmont 71.39 299 P P 16 12 15.9 +0.4
baz=58
X49A Woodville 71.47 299 P P 16 12 15.2 -0.8
baz=58,SNR=5.2
454A Quitman 71.56 295 P P 16 12 16.6 0.0
baz=58
W48A Pulaski 71.56 300 P P 16 12 16.1 -0.4
baz=58
N40A Mertquake, Sal 71.58 307 P P 16 12 16.2 -0.4
baz=57
353A Camilla 71.65 296 P P 16 12 16.8 -0.3
baz=58
WVT Waverly 71.65 302 *e*P P 16 12 15.8 -1.2
comp=Z,6.0nm,1.0s
WVT Waverly 71.65 302 *e*P P 16 12 15.9 -1.2
WVT pmax pmax
comp=Z,6.0nm,1.0s
WVT Waverly 71.65 302 P P 16 12 16.3 -0.7
baz=58
ALF01 Guarapari-ES 71.67 225 *e*P P 16 12 21.1 +3.9
S44A Carbondale 71.78 304 P P 16 12 16.7 -1.1
baz=57
Z50A Ashland 71.86 298 P P 16 12 18.3 0.0
baz=58
YAK Yakutsk 71.87 24 *e*P P 16 12 17.8 0.0
YAK pmax pmax
comp=Z,74nm,0.8s
YAK pmax pmax
comp=N,26nm,1.0s
YAK pmax pmax
comp=E,25nm,0.9s
YAK MLR MLR
comp=Z,445nm,15.0s
YAK MLR MLR
comp=N,547nm,15.0s
YAK MLR MLR
comp=E,728nm,15.0s
Y49A Blount Mountai 71.88 299 *e*P P 16 12 17.6 -0.9
comp=E,10nm,1.0s
Y49A Blount Mountai 71.88 299 P P 16 12 18.5 0.0
baz=58
554A Perry 71.94 294 P P 16 12 19.6 +0.8
baz=58
X48A Hartselle 72.01 300 *e*P P 16 12 18.2 -1.0
comp=E,13nm,1.0s
X48A Hartselle 72.01 300 P P 16 12 18.8 -0.4
baz=58,SNR=6.0
V46A Holladay 72.03 301 P P 16 12 18.0 -1.3
baz=57,SNR=7.1
251A Midway 72.11 297 P P 16 12 19.9 0.0
baz=58
150A Eclectic 72.28 298 P P 16 12 21.2 +0.4
baz=57
Z49A Columbiana 72.32 298 P P 16 12 21.5 +0.4
baz=57
BDFB Brasilia 72.34 234 *e*P P 16 12 19.6 -1.9
comp=E,8.3nm,0.9s
BDFB Brasilia 72.34 234 *e*P P 16 12 19.6 -1.9
BDFB pmax pmax
comp=Z,8.0nm,0.9s
BDFB Brasilia 72.34 234 P P 16 12 22.2 +0.7
comp=Z,5.3nm,0.8s,baz=78,slow=5.3,SNR=8.1
BDFB LR LR 16 41 24.3
comp=Z,211nm,21.3s,baz=60,slow=34
Y48A Jasper 72.38 299 P P 16 12 20.8 -0.7
baz=57,SNR=5.3
FVM French Village 72.40 304 *e*P P 16 12 20.7 -0.8
comp=Z,15nm,1.1s
FVM French Village 72.40 304 *e*P P 16 12 20.7 -0.8
FVM pmax pmax
comp=Z,15nm,1.1s
PLAL Pickwick Lake 72.44 301 *e*P P 16 12 20.7 -1.0
comp=Z,20nm,1.0s
X47A Russelville 72.54 300 P P 16 12 21.5 -0.9
baz=57,SNR=9.8
LRAL Lakeview Retre 72.74 298 *e*P P 16 12 22.7 -0.8
comp=Z,8.0nm,0.8s
LRAL Lakeview Retre 72.74 298 P P 16 12 23.0 -0.5
baz=57,SNR=6.7
250A Grady 72.79 297 P P 16 12 23.5 -0.4
baz=57
149A Jones 72.83 298 P P 16 12 23.4 -0.7
baz=57
CCM Cathedral Cave 72.91 305 *e*P P 16 12 23.0 -1.5
comp=Z,15nm,1.1s
CCM Cathedral Cave 72.91 305 *e*P P 16 12 23.0 -1.5
CCM pmax pmax
comp=Z,15nm,1.1s
CCM Cathedral Cave 72.91 305 P P 16 12 23.7 -0.8
baz=56
X46A Booneville 73.02 301 P P 16 12 24.5 -0.7
baz=57
PBMO Poplar Bluff 73.06 303 *e*P P 16 12 24.3 -1.1
comp=Z,18nm,1.0s
ECSD EROS Data Cent 73.10 312 *e*P P 16 12 25.1 -0.5
comp=Z,40nm,1.8s
ECSD EROS Data Cent 73.10 312 P P 16 12 25.8 +0.2
baz=55
EPYK Eagle Plains 73.14 345 *e*P P 16 12 25.5 +0.1
comp=Z,16nm,1.1s
EPYK Eagle Plains 73.14 345 P P 16 12 25.8 +0.4
baz=31,SNR=9.8
TOLK Toolik Lake Re 73.26 351 *e*P P 16 12 27.6 +1.5
comp=Z,25nm,0.9s
TOLK Toolik Lake Re 73.26 351 P P 16 12 27.6 +1.5
baz=21,SNR=34
SDV Santo Domingo 73.44 269 *e*P P 16 12 26.6 -1.6
comp=Z,19nm,1.3s
SDV Santo Domingo 73.44 269 *e*P P 16 12 30.3 +2.1
OXF Oxford 73.61 301 *e*P P 16 12 27.1 -1.6
comp=Z,48nm,0.9s
OXF Oxford 73.61 301 *e*P P 16 12 27.1 -1.6
OXF pmax pmax
comp=Z,48nm,0.9s
OXF Oxford 73.61 301 P P 16 12 27.4 -1.3
baz=56,SNR=10
CLDB Colider 74.31 243 *e*P P 16 12 34.2 +1.2
BSCB Bom Sucesso 74.33 228 *e*P P 16 12 37.3 +4.2
DGMT Dagmar 74.53 319 P P 16 12 34.0 +0.1
baz=52
FYU Fort Yukon 74.55 348 *e*P P 16 12 35.2 +1.6
comp=Z,74nm,1.4s
BILL Bilibino 74.56 7 *e*P P 16 12 33.9 +0.3
comp=Z,16nm,1.4s
BILL Bilibino 74.56 7⇑ *e*P P 16 12 34.4 +0.7
BILL pmax pmax
comp=Z,15nm,1.7s
BILL MLR MLR
comp=Z,91nm,18.0s
X43A Marvell 74.62 302 P P 16 12 35.5 +0.8
baz=56
COLD Coldfoot 74.68 350 *e*P P 16 12 34.8 +0.4
comp=Z,12nm,0.9s
U40A Yellville 74.92 304 P P 16 12 36.0 -0.3
baz=55,SNR=6.3
WHAR Wooly Hollow 75.14 303 *e*P P 16 12 37.1 -0.5
comp=Z,16nm,0.9s
W41B Gary Mavity, V 75.18 303 *e*P P 16 12 37.2 -0.6
comp=Z,12nm,0.8s
W41B Gary Mavity, V 75.18 303 P P 16 12 37.2 -0.6
baz=55,SNR=9.9
BGNE Belgrade 75.38 311 P P 16 12 38.1 -0.8
baz=54
LZH Lanzhou 75.40 56 *e*P P 16 12 40.8 +1.5
LZH pP pP 16 12 43.8 -0.8
LZH sP sP 16 12 46.3 -0.1
LZH pmax pmax
comp=Z,31nm,1.0s
LZH LR LR
comp=Z,130nm,14.1s
LZH LR LR
comp=Z,190nm,16.3s
LZH LR LR
comp=Z,150nm,17.1s
EGAK Eagle 75.43 346 *e*P P 16 12 38.5 -0.2
comp=Z,8.8nm,0.4s
PRP Porcupine Dome 75.56 348 *e*P P 16 12 40.0 +0.3
comp=Z,12nm,0.9s
ESAR Angra dos Reis 75.69 226 *e*P P 16 12 43.0 +2.3
DAWY Dawson 75.70 345 *e*P P 16 12 40.4 0.0
comp=Z,19nm,0.9s
KSU1 Kansas State U 75.78 308 P P 16 12 41.2 0.0
baz=54
X40A Basin Creek Fa 75.97 303 *e*P P 16 12 40.8 -1.6
comp=Z,11nm,0.8s
X40A Basin Creek Fa 75.97 303 P P 16 12 42.1 -0.3
baz=55,SNR=12
W39A Magazine 76.20 304 *e*P P 16 12 43.3 -0.4
comp=Z,22nm,0.9s
W39A Magazine 76.20 304 P P 16 12 43.7 0.0
baz=55,SNR=12
POKR Poker Plat Res 76.24 348 P P 16 12 45.8 +2.4
baz=22
MIAR Mount Ida 76.44 303 *e*P P 16 12 44.9 -0.1
comp=Z,11nm,0.8s
MIAR Mount Ida 76.44 303 *e*P P 16 12 44.9 -0.1
MIAR pmax pmax
comp=Z,11nm,0.8s
MIAR Mount Ida 76.44 303 P P 16 12 45.2 +0.1
baz=55,SNR=10
ILAR Eielson Array 76.48 348 P P 16 12 45.9 +1.1
comp=Z,2.9nm,0.8s,baz=7.4,slow=5.5,SNR=28
ILAR LR LR 16 49 23.1
comp=Z,96nm,19.6s,baz=9.5,slow=38
ILB Eielson Array 76.48 348 *e*P P 16 12 45.0 +0.3
comp=Z,8.8nm,1.1s
MDM Murphy Dome 76.52 349 *e*P P 16 12 45.1 +0.1
comp=Z,11nm,1.3s
COLA College 76.54 349⇑ *i*P P 16 12 47.1 +2.1
COLA pmax pmax
comp=Z,6.0nm,0.8s
Z41A Richland Creek 76.65 301 *e*P P 16 12 46.1 -0.1
comp=Z,40nm,1.4s
Z41A Richland Creek 76.65 301 P P 16 12 46.7 +0.4
baz=55
BB19B Bebedouro 76.67 231 *e*P P 16 12 49.1 +2.7
LAO LASA Array 76.72 319 *e*P P 16 12 46.4 -0.1
comp=Z,19nm,0.9s
LAO LASA Array 76.72 319 P P 16 12 46.8 +0.3
baz=50
CCB Clear Creek Bu 76.74 348 *e*P P 16 12 46.7 +0.5
comp=Z,7.1nm,1.2s
HDA Harding Lake 76.82 348 *e*P P 16 12 47.1 +0.5
comp=Z,20nm,0.8s
HDA Harding Lake 76.82 348 P P 16 12 47.2 +0.5
baz=23
MLY Manley 76.83 350 *e*P P 16 12 47.4 +0.6
comp=Z,8.6nm,1.0s
ZEA Zeya 76.92 31 *e*P P 16 12 47.8 +0.4
ZEA pmax pmax
comp=Z,24nm,1.6s
WRH Wood River Hil 76.95 348 *e*P P 16 12 48.0 +0.6
comp=Z,14nm,1.1s
DOT Dot Lake 77.01 346 *e*P P 16 12 48.9 +1.1
comp=Z,15nm,0.8s
RIDG Independent Ri 77.07 347 *e*P P 16 12 49.5 +1.3
comp=Z,34nm,1.3s
RCLB Rio Claro- Sao 77.07 229 *e*P P 16 12 51.2 +2.5
TUL1 Leonard 77.12 305 *e*P P 16 12 48.5 -0.3
comp=Z,15nm,0.8s
TUL1 Leonard 77.12 305 P P 16 12 48.9 0.0
baz=54
RSSD Black Hills 77.16 316 *e*P P 16 12 49.4 +0.2
comp=Z,9.3nm,1.0s
RSSD Black Hills 77.16 316 *e*P P 16 12 49.4 +0.2
RSSD pmax pmax
comp=Z,9.0nm,1.0s
RSSD Black Hills 77.16 316 P P 16 12 49.7 +0.5
baz=51
SEY Seymchan 77.23 15 ‖ *i*P P 16 12 49.7 +0.7
SEY Seymchan 77.23 15 P P 16 12 50.1 +1.1
comp=Z,4.3nm,0.5s,baz=1.2,slow=3.8,SNR=19
HHC Hu-ho-hao-te 77.47 48 *e*P P 16 12 51.0 +0.1
HHC pmax pmax
comp=Z,54nm,1.1s
HHC pmax pmax
comp=Z,210nm,6.7s
HHC LR LR
comp=Z,360nm,17.8s
HHC LR LR
comp=Z,560nm,16.6s
HHC LR LR
comp=Z,430nm,16.0s
MENT Mentasta 77.59 346 *e*P P 16 12 52.2 +1.1
comp=Z,4.8nm,0.8s
WHY Whitehorse 77.60 341 *e*P P 16 12 51.7 +0.4
comp=Z,8.1nm,0.9s
X37A Clayton 77.61 304 *e*P P 16 12 51.9 +0.2
comp=Z,20nm,0.8s
EGMT Eagleton 77.67 321 *e*P P 16 12 51.8 -0.1
comp=Z,24nm,1.0s
EGMT Eagleton 77.67 321 P P 16 12 52.5 +0.6
baz=48
BPAW Bear Paw Mtn. 77.74 350 *e*P P 16 12 51.8 -0.1
comp=Z,6.0nm,1.0s
MCK McKinley 77.78 349 *e*P P 16 12 51.9 -0.2
comp=Z,22nm,1.4s
MCK McKinley 77.78 349 *e*P P 16 12 51.9 -0.2
MCK pmax pmax
comp=Z,22nm,1.4s
PAX Paxson 77.89 347 *e*P P 16 12 53.2 +0.4
comp=Z,6.6nm,1.2s
PAX Paxson 77.89 347 *e*P P 16 12 53.2 +0.4
PAX pmax pmax
comp=Z,7.0nm,1.2s
CBKS Cedar Bluff 77.90 309 P P 16 12 53.9 +0.7
baz=52
DLBC Dease Lake 78.09 338 *e*P P 16 12 55.1 +1.2
comp=Z,11nm,0.9s
DHY Denali Highway 78.13 348 *e*P P 16 12 55.0 +0.7
comp=Z,34nm,0.8s
CD2 Chengdu 78.33 60 P P 16 12 56.8 +1.0
CD2 pmax pmax
comp=Z,60nm,0.5s
ANM Nome 78.75 356 *e*P P 16 12 57.9 +0.5
comp=Z,5.5nm,0.8s
ANM Nome 78.75 356 *e*P P 16 12 57.9 +0.5
ANM pmax pmax
comp=Z,6.0nm,0.8s
CTGM Chitina Glacie 78.88 344 *e*P P 16 12 58.0 -0.3
comp=Z,8.9nm,0.8s
U32A Winter Ranch, 78.92 307 *e*P P 16 12 59.3 +0.4
comp=Z,51nm,0.8s
BALM Baldy 79.03 345 *e*P P 16 12 59.4 +0.2
comp=Z,16nm,0.9s
BALM Baldy 79.03 345 *e*P P 16 12 59.4 +0.2
BALM pmax pmax
comp=Z,16nm,0.9s
GCMT Greycliff 79.12 320 *e*P P 16 13 00.6 +0.7
SCM Sheep Creek Mo 79.28 347 *e*P P 16 13 01.4 +0.9
comp=Z,18nm,0.7s
SCM Sheep Creek Mo 79.28 347 *e*P P 16 13 01.4 +0.9
SCM pmax pmax
comp=Z,18nm,0.7s
RLMT Red Lodge 79.36 319 *e*P P 16 13 00.6 -0.7
comp=Z,10.0nm,1.3s
RLMT Red Lodge 79.36 319 P P 16 13 01.8 +0.4
baz=48
BESE Bessie Mountai 79.36 340 *e*P P 16 13 00.3 -0.7
comp=Z,9.1nm,1.1s
TGL Tana Glacier 79.39 345 *e*P P 16 13 00.9 -0.2
comp=Z,13nm,0.9s
SML Sawmill 79.48 348 *e*P P 16 13 01.6 +0.2
comp=Z,12nm,0.9s
SML Sawmill 79.48 348 *e*P P 16 13 01.7 +0.2
SML pmax pmax
comp=Z,12nm,0.9s
JIS Juneau Island 79.49 340 *e*P P 16 13 01.7 +0.2
comp=Z,12nm,1.1s
K22A Casper 79.50 316 *e*P P 16 13 01.9 -0.3
comp=Z,14nm,1.0s
K22A Casper 79.50 316 P P 16 13 02.4 +0.2
baz=49,SNR=6.6
HRY Holter Researc 79.59 321 *e*P P 16 13 01.9 -0.7
GHO Glory Hole Cre 79.61 348 *e*P P 16 13 00.8 -1.4
comp=Z,7.6nm,0.9s
DIV Divide 79.64 346 *e*P P 16 13 02.4 0.0
comp=Z,11nm,0.9s
PHWY Pilot Hill 79.77 314 *e*P P 16 13 03.4 -0.4
comp=Z,21nm,0.9s
WMOK Wichita Mounta 79.77 306 *e*P P 16 13 03.2 -0.4
comp=Z,13nm,1.0s
WMOK Wichita Mounta 79.77 306 P P 16 13 04.1 +0.5
baz=52,SNR=15
GAMB Gambell 79.79 359 *e*P P 16 13 03.2 +0.2
comp=Z,15nm,1.1s
PMR Palmer 79.82 348 *e*P P 16 13 01.9 -1.3
comp=Z,8.3nm,1.0s
PMR Palmer 79.82 348 *e*P P 16 13 01.9 -1.3
PMR pmax pmax
comp=Z,8.0nm,1.0s
KNK Knik Glacier 79.87 348 *e*P P 16 13 03.7 +0.1
comp=Z,18nm,0.9s
MA2 Magadan 79.88 17 *e*P P 16 13 03.9 +0.2
comp=Z,37nm,0.9s
MA2 Magadan 79.88 17 *c i*P P 16 13 04.9 +1.3
MA2 pmax pmax
comp=Z,39nm,1.0s
MA2 Magadan 79.88 17 P P 16 13 04.6 +0.9
comp=Z,28nm,0.8s,baz=1.9,slow=6.1,SNR=25
GLI Glacier Island 80.12 347 *e*P P 16 13 05.5 +0.6
comp=Z,10nm,0.9s
EYAK Cordova Ski Ar 80.17 346 *e*P P 16 13 06.2 +1.0
comp=Z,16nm,0.9s
SUA Susitna One 80.20 349 *e*P P 16 13 06.3 +0.8
comp=Z,26nm,0.7s
BOZ Bozeman (W) 80.26 321 *e*P P 16 13 06.6 +0.4
comp=Z,14nm,1.3s
BOZ Bozeman (W) 80.26 321 *e*P P 16 13 06.6 +0.4
BOZ pmax pmax
comp=Z,14nm,1.3s
BOZ Bozeman (W) 80.26 321 P P 16 13 06.8 +0.6
baz=47,SNR=15
N23A Red Feather La 80.31 314 *e*P P 16 13 06.6 -0.1
comp=Z,12nm,1.1s
N23A Red Feather La 80.31 314 P P 16 13 07.1 +0.4
baz=49,SNR=6.4
RC01 Rabbit Creek A 80.39 348 *e*P P 16 13 06.9 +0.5
comp=Z,7.6nm,0.7s
YHH Holmes Hill 80.41 320 *e*P P 16 13 06.8 -0.4
comp=Z,3.8nm,0.9s
H17A Grant Village 80.53 319 P P 16 13 08.4 +0.6
baz=47,SNR=7.2
MSO Missoula 80.56 323 *e*P P 16 13 07.6 -0.1
comp=Z,18nm,1.8s
MSO Missoula 80.56 323 P P 16 13 08.3 +0.6
baz=45
SPU Mount Spurr 80.67 349 *e*P P 16 13 07.1 -0.9
HKT Hockley 80.68 300 *e*P P 16 13 09.1 +0.7
comp=Z,32nm,1.6s
HKT Hockley 80.68 300 *e*P P 16 13 09.1 +0.7
HKT pmax pmax
comp=Z,32nm,1.6s
FLWY Flagg Ranch 80.81 319 *e*P P 16 13 09.7 +0.4
comp=Z,19nm,1.5s
ISCO Idaho Springs 80.83 313 *e*P P 16 13 09.1 -0.4
comp=Z,10nm,1.0s
ISCO Idaho Springs 80.83 313 *e*P P 16 13 09.1 -0.4
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO Idaho Springs 80.83 313 P P 16 13 10.2 +0.6
baz=49,SNR=12
AQDB Aquidauana 80.88 236 *e*P P 16 13 12.7 +3.2
DLMT Dillon 80.91 321 *e*P P 16 13 09.7 0.0
comp=Z,19nm,1.5s
KMI Kunming 80.99 66 P P 16 13 10.3 -0.2
KMI pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 81.04 325 *e*P P 16 13 09.5 -0.7
comp=Z,9.8nm,1.0s
NEW Newport 81.04 325 *e*P P 16 13 09.5 -0.7
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 81.04 325 P P 16 13 10.6 +0.4
baz=43,SNR=5.5
MOOW Moose Ponds 81.06 319 *e*P P 16 13 10.3 -0.3
comp=Z,6.6nm,1.0s
IMW Indian Meadow 81.06 319 *e*P P 16 13 10.5 -0.2
comp=Z,6.3nm,0.8s
LOHW Long Hollow 81.08 319 *e*P P 16 13 10.5 -0.2
comp=Z,6.9nm,1.1s
BW06 Boulder Array 81.09 317 *e*P P 16 13 10.2 -0.6
comp=Z,16nm,1.4s
BW06 Boulder Array 81.09 317 P P 16 13 11.1 +0.2
baz=48,SNR=15
PD31 Pinedale Array 81.09 317 *e*P P 16 13 10.1 -0.7
comp=Z,15nm,1.4s
PDAR Pinedale Array 81.09 317 P P 16 13 11.0 +0.2
comp=Z,4.3nm,0.8s,baz=58,slow=5.6,SNR=33
PDAR LR LR 16 48 05.2
comp=Z,94nm,18.5s,baz=50,slow=35
Q24A Divide 81.09 312 *e*P P 16 13 11.2 +0.2
comp=Z,12nm,1.3s
Q24A Divide 81.09 312 P P 16 13 11.7 +0.7
baz=50
SNOW Snow King Moun 81.26 319 *e*P P 16 13 11.0 -0.7
comp=Z,9.5nm,0.9s
SEW Seward 81.27 347 *e*P P 16 13 11.2 +0.2
comp=Z,16nm,0.9s
FXWY Fox Creek 81.29 319 *e*P P 16 13 12.2 +0.4
comp=Z,8.9nm,1.0s
TPAW Teton Pass 81.35 319 *e*P P 16 13 13.1 +0.9
comp=Z,11nm,0.9s
LLLB Lillooet 81.36 329 *e*P P 16 13 11.4 -0.5
comp=Z,12nm,1.3s
REDW Red Top Meadow 81.38 319 *e*P P 16 13 12.8 +0.5
comp=Z,12nm,1.0s
MCMT McKenzie Canyo 81.41 321 *e*P P 16 13 13.7 +1.2
RSO Redoubt South 81.47 349 *e*P P 16 13 12.2 -0.2
PTGB Pitanga 81.56 231 *e*P P 16 13 15.5 +2.4
ABTX Abilene, Hawle 81.64 304 *e*P P 16 13 13.1 -0.5
comp=Z,16nm,1.0s
ABTX Abilene, Hawle 81.64 304 P P 16 13 13.6 -0.1
baz=52
T25A Trinidad 81.83 311 P P 16 13 15.6 +0.8
baz=50
CHTO Chiang Mai 81.84 73 *e*P P 16 13 14.4 -0.5
comp=Z,25nm,1.3s
CHTO Chiang Mai 81.84 73 *e*P P 16 13 14.4 -0.5
CHTO pmax pmax
comp=Z,25nm,1.3s
CHTO Chiang Mai 81.84 73 P P 16 13 15.6 +0.8
SNR=5.6
C09A Chrisman Ranch 81.90 325 *e*P P 16 13 14.6 -0.1
comp=Z,9.2nm,1.0s
B08A Colville Reser 81.97 326 *e*P P 16 13 14.1 -1.0
comp=Z,7.6nm,1.0s
SMCO Snowmass 82.03 313 *e*P P 16 13 16.5 +0.5
comp=Z,11nm,1.3s
CM31 Chiang Mai Arr 82.05 73 *e*P P 16 13 15.9 -0.1
comp=Z,16nm,0.9s
CMAR Chiang Mai Arr 82.05 73 P P 16 13 16.1 +0.2
comp=Z,7.8nm,0.7s,baz=305,slow=6.8,SNR=55
CMAR LR LR 16 54 29.3
comp=Z,33nm,18.6s,baz=265,slow=39
SDCO Great Sand Dun 82.09 312 *e*P P 16 13 16.0 -0.3
comp=Z,8.0nm,1.1s
SDCO Great Sand Dun 82.09 312 P P 16 13 16.7 +0.4
baz=49,SNR=7.5
O20A White River Ci 82.13 315 *e*P P 16 13 16.4 +0.1
comp=Z,6.6nm,0.9s
O20A White River Ci 82.13 315 P P 16 13 16.6 +0.3
baz=48,SNR=6.8
KLR Kul'dur 82.15 32 P P 16 13 15.8 -0.2
comp=Z,1.0nm,0.6s,baz=322,slow=5.1,SNR=3.3
TER01 Tubaro-SC 82.61 226 *e*P P 16 13 21.3 +2.8
ENH Enshi 82.66 58 *e*P P 16 13 18.1 -0.8
comp=Z,11nm,0.8s
D08A Wollman Farm, 82.75 325 *e*P P 16 13 18.5 -0.6
comp=Z,17nm,1.4s
F10A Beach Ranch, E 82.75 324 *e*P P 16 13 19.1 -0.2
comp=Z,26nm,1.3s
E09A Wood Farm, Sta 82.79 324 *e*P P 16 13 18.5 -0.9
comp=Z,16nm,1.1s
MSTX Muleshoe 82.83 307 P P 16 13 20.1 +0.2
baz=50
S22A 4UR Ranch, Cre 82.89 312 *e*P P 16 13 20.2 -0.3
comp=Z,17nm,1.5s
S22A 4UR Ranch, Cre 82.89 312 P P 16 13 21.1 +0.7
baz=48

HWUT	Hardware Ranch	82.97	318	eP	P	16 13 20.7	0.0
	comp=Z,38nm,1.9s						
GYA	Guiyang	83.02	62	P	P	16 13 20.5	-0.6
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
JCT	Junction City	83.08	303	eP	P	16 13 21.1	-0.1
	comp=Z,16nm,1.3s						
JCT	Junction City	83.08	303	eP	P	16 13 21.1	-0.1
JCT				pmax	pmax		
	comp=Z,16nm,1.3s						
JCT	Junction City	83.08	303	P	P	16 13 22.2	+1.0
	baz=51						
HLID	Hailey	83.10	320	eP	P	16 13 21.9	+0.7
	comp=Z,18nm,1.8s						
HLID	Hailey	83.10	320	P	P	16 13 22.3	+1.0
	baz=45,SNR=8.2						
CN2	Changchun	83.21	39	eP	P	16 13 20.5	-1.0
CN2				eS	S	16 23 37.3	-3.7
CN2				LR	LR		
	comp=Z,350nm,20.0s						
CN2				LR	LR		
	comp=Z,460nm,20.0s						
CN2				LR	LR		
	comp=Z,250nm,20.0s						
B05A	Bryant	83.25	328	P	P	16 13 22.8	+1.1
	baz=40						
ITAB	Concordia	83.43	229	eP	P	16 13 25.2	+2.4
PV07	Paradox Valley	83.50	314	eP	P	16 13 23.3	-0.1
	comp=Z,19nm,1.4s						
HVU	Hansel Valley	83.50	318	eP	P	16 13 23.7	+0.3
	comp=Z,7.1nm,1.0s						
PV22	Blue Mesa, Par	83.51	314	eP	P	16 13 23.9	+0.4
	comp=Z,22nm,1.3s						
PGC	Sidney	83.52	329	eP	P	16 13 23.5	+0.5
	comp=Z,13nm,0.9s						
JLU	Jordanelle	83.61	317	eP	P	16 13 24.0	0.0
	comp=Z,6.1nm,1.0s						
BMO	Blue Mountains	83.61	323	eP	P	16 13 23.6	-0.1
	comp=Z,43nm,1.5s						
BMO	Blue Mountains	83.61	323	eP	P	16 13 23.6	-0.1
BMO				pmax	pmax		
	comp=Z,43nm,1.5s						
PV01	Paradox Valley	83.66	313	eP	P	16 13 24.5	+0.2
	comp=Z,6.1nm,1.1s						
PV12	Saucer Basin,	83.67	314	eP	P	16 13 23.9	-0.4
	comp=Z,30nm,1.3s						
PV04	Paradox Valley	83.68	314	eP	P	16 13 24.9	+0.5
	comp=Z,30nm,1.4s						
PV23	Carpenter Ridg	83.70	314	eP	P	16 13 25.1	+0.5
	comp=Z,30nm,1.5s						
PV02	Paradox Valley	83.70	314	eP	P	16 13 25.0	+0.5
	comp=Z,13nm,1.2s						
PV11	David Mesa, Pa	83.72	314	eP	P	16 13 25.2	+0.6
	comp=Z,61nm,1.5s						
PV03	Paradox Valley	83.74	314	eP	P	16 13 25.1	+0.4
	comp=Z,13nm,1.1s						
PV16	Nyswonger Mesa	83.74	314	eP	P	16 13 24.8	+0.1
	comp=Z,33nm,1.4s						
PV20	West Nyswonger	83.75	314	eP	P	16 13 24.8	+0.1
	comp=Z,17nm,1.2s						
PV14	Lion Creek, Pa	83.76	314	eP	P	16 13 24.9	+0.1
	comp=Z,18nm,1.2s						
PV10	Paradox Valley	83.77	314	eP	P	16 13 25.4	+0.5
	comp=Z,24nm,1.1s						
PV18	Skein Mesa, Pa	83.78	314	eP	P	16 13 25.1	+0.2
	comp=Z,11nm,0.9s						
PV17	East Wray Mesa	83.78	314	eP	P	16 13 24.4	-0.5
	comp=Z,13nm,0.9s						
PV13	Radium Mtn., P	83.78	314	eP	P	16 13 25.2	+0.2
	comp=Z,14nm,1.1s						
KDAK	Kodiak Island	84.00	348	i P	P	16 13 26.8	+1.5
PV05	Paradox Valley	84.00	314	eP	P	16 13 25.7	-0.3
	comp=Z,15nm,1.2s						
G08A	Pilot Rock	84.08	324	eP	P	16 13 25.5	-0.7
	comp=Z,13nm,1.8s						
MPU	Maple Canyon	84.11	316	eP	P	16 13 25.7	-0.9
	comp=Z,8.1nm,1.2s						
SRU	San Rafael Swe	84.11	315	eP	P	16 13 26.3	-0.3
	comp=Z,18nm,1.1s						
SRU	San Rafael Swe	84.11	315	eP	P	16 13 26.3	-0.3
SRU				pmax	pmax		
	comp=Z,18nm,1.1s						
D03D	Eldon	84.23	328	P	P	16 13 27.3	+0.6
	baz=39,SNR=7.4						
MVCO	Mesa Verde	84.23	313	eP	P	16 13 28.0	+0.7
	comp=Z,13nm,1.0s						
MVCO	Mesa Verde	84.23	313	P	P	16 13 27.3	0.0
	baz=48						
BGU	Big Grassy Mou	84.24	318	eP	P	16 13 27.4	+0.2
	comp=Z,13nm,1.2s						
LON	Longmire	84.28	327	eP	P	16 13 27.1	0.0
	comp=Z,13nm,0.8s						
LON	Longmire	84.28	327	eP	P	16 13 27.1	0.0
LON				pmax	pmax		
	comp=Z,13nm,0.8s						
D04E	Lakebay	84.37	327	P	P	16 13 27.8	+0.4
	baz=40						
TMUT	Trail Mountain	84.37	316	eP	P	16 13 27.4	-0.6
	comp=Z,10nm,1.0s						
NLU	North Lily Min	84.40	317	eP	P	16 13 26.9	-1.1
	comp=Z,8.2nm,1.1s						
ANMO	Albuquerque	84.51	310	eP	P	16 13 28.3	-0.4
	comp=Z,6.6nm,1.1s						
ANMO	Albuquerque	84.51	310⇑	eP	P	16 13 29.7	+1.0
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ANMO	Albuquerque	84.51	310	P	P	16 13 29.9	+1.2
	baz=48						
TASM	ASL Pad, Albuq	84.52	310	P	P	16 13 29.4	+0.7
	baz=48,SNR=6.7						
TASM	ASL Pad, Albuq	84.52	310	P	P	16 13 29.3	+0.6
	baz=48,SNR=6.4						
Q16A	Castle Valley	84.61	315	eP	P	16 13 29.2	+0.1
	comp=Z,14nm,1.1s						
DUG	Dugway, Tooele	84.64	317	eP	P	16 13 28.9	-0.2
	comp=Z,9.2nm,1.3s						
DUG	Dugway, Tooele	84.64	317	eP	P	16 13 28.9	-0.2
DUG				pmax	pmax		
	comp=Z,9.0nm,1.3s						
DUG	Dugway, Tooele	84.64	317	P	P	16 13 29.5	+0.3
	baz=45,SNR=5.6						
E04D	Cinebar	84.76	327	P	P	16 13 29.8	+0.3
	baz=40						
OTAV	Otavalo	84.80	266	eP	P	16 13 29.4	-1.3
	comp=Z,31nm,1.8s						
OTAV	Otavalo	84.80	266	eP	P	16 13 29.4	-1.3
OTAV				pmax	pmax		
	comp=Z,31nm,1.8s						
OTAV	Otavalo	84.80	266	eP	P	16 13 32.7	+2.0
G06A	Carlson Farm,	84.90	325	eP	P	16 13 30.2	0.0
	comp=Z,32nm,1.7s						
BNM	Barren Site	85.14	309	eP	P	16 13 32.0	+0.1
J08A	Circle Bar Ran	85.28	323	eP	P	16 13 32.2	-0.1
	comp=Z,11nm,1.4s						
LAZ	Ladron	85.29	310	eP	P	16 13 32.2	-0.4
LENM	Lemitar	85.35	310	eP	P	16 13 31.7	-1.2
MSU	Marysvale	85.46	316	eP	P	16 13 32.9	-0.5
MSU	Marysvale	85.46	316	eP	P	16 13 32.9	-0.5
ELK	Elko	85.55	319	eP	P	16 13 33.3	-0.5
	comp=Z,15nm,1.3s						
ELK	Elko	85.55	319	eP	P	16 13 33.3	-0.5
ELK				pmax	pmax		
	comp=Z,15nm,1.3s						
WHN	Wuhan	85.73	55	P	P	16 13 37.5	+2.9
MTPU	Mount Pierson	85.79	315	eP	P	16 13 34.5	-0.7
	comp=Z,14nm,1.1s						
PHET	Kaeng Krachan	85.85	77	P	P	16 13 40.3	+4.9
CHAI	Chaiyaphum	85.90	73	P	P	16 13 36.1	+0.5
MNTX	Cornudas Mount	85.97	307	eP	P	16 13 35.2	-0.6
	comp=Z,13nm,1.6s						
MNTX	Cornudas Mount	85.97	307	P	P	16 13 36.1	+0.3
	baz=49						
CPUP	Villa Florida	86.03	233	eP	P	16 13 35.5	-0.4
	comp=Z,26nm,1.4s						
CPUP	Villa Florida	86.03	233	eP	P	16 13 35.5	-0.4
CPUP				pmax	pmax		
	comp=Z,26nm,1.4s						
CPUP	Villa Florida	86.03	233	P	P	16 13 37.3	+1.4
	comp=Z,5.0nm,1.0s,baz=63,slow=6.4,SNR=8.2						
CPUP				LR	LR	16 50 19.1	
	comp=Z,223nm,20.3s,baz=46,slow=34						
CPUP	Villa Florida	86.03	233	eP	P	16 13 37.4	+1.6
WVOR	Wild Horse Val	86.05	322	eP	P	16 13 35.6	-0.5
	comp=Z,10nm,1.3s						
WVOR	Wild Horse Val	86.05	322	eP	P	16 13 35.6	-0.5
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
USRK	Ussuriysk Ar.	86.09	35	P	P	16 13 35.9	-0.2
	comp=Z,1.2nm,0.5s,baz=269,slow=6.0,SNR=5.3						
G03D	McMinnville, O	86.11	326	P	P	16 13 36.5	+0.3
	baz=39						
KHON	Khomkaen	86.28	73	P	P	16 13 39.0	+1.5
LNIG	Linares	86.32	298	eP	P	16 13 36.5	-1.1
	comp=Z,14nm,0.9s						
PSUT	Pine Spring	86.38	317	eP	P	16 13 38.1	+0.2
	comp=Z,7.4nm,1.1s						
LTX	Lajitas	86.39	304	eP	P	16 13 39.2	+1.2
LTX	Lajitas	86.39	304	eP	P	16 13 39.2	+1.2
TX31	Lajitas Ar. Si	86.39	304	eP	P	16 13 38.3	+0.3
	comp=Z,6.5nm,1.1s						
TXAR	Lajitas Array	86.39	304	P	P	16 13 39.2	+1.2
	comp=Z,2.1nm,0.8s,baz=79,slow=5.5,SNR=24						
TXAR				LR	LR	16 52 46.3	
	comp=Z,78nm,18.0s,baz=0.0,slow=36						
SZCU	Shurtz Canyon	86.61	316	eP	P	16 13 38.2	-1.0
	comp=Z,6.9nm,1.1s						
J05D	Fort Rock, OR	86.66	324	P	P	16 13 39.3	+0.1
	baz=40						
SKNT	Sakolnakorn	86.78	71	P	P	16 13 40.6	+0.6
CCUT	Cedar City	86.80	316	eP	P	16 13 39.0	-1.1
	comp=Z,3.7nm,1.0s						
LPAZ	La Paz	86.87	247	P	P	16 13 40.2	-0.8
	comp=Z,0.9nm,0.6s,baz=57,slow=6.8,SNR=4.9						
LPAZ				LR	LR	16 52 07.9	
	comp=Z,69nm,19.2s,baz=118,slow=35						
121A	Cookes Peak, D	86.94	309	P	P	16 13 40.8	+0.1
	baz=48						
WUAZ	Wupatki	87.08	313	P	P	16 13 42.6	+1.2
	baz=46						
PANO	Nakornpanom	87.16	71	P	P	16 13 42.6	+0.8
PEA1	Petropavlovsk-	87.36	16	eP	P	16 13 41.4	-0.8
PETK	Petropavlovsk-	87.37	16	P	P	16 13 41.4	-0.9
	comp=Z,1.7nm,0.8s,baz=68,slow=8.5,SNR=3.7						
PETK				LR	LR	16 57 55.4	
	comp=Z,105nm,18.5s,baz=325,slow=39						
R11A	Troy Canyon, C	87.46	317	eP	P	16 13 41.8	-1.4
	comp=Z,6.9nm,1.4s						
R11A	Troy Canyon, C	87.46	317	P	P	16 13 43.2	0.0
	baz=44						
NJ2	Nanjing	87.62	51	eP	P	16 13 43.5	-0.3
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
PET	Petropavlovsk	87.66	16⇓	eP	P	16 13 42.6	-0.9
PET				pmax	pmax		
	comp=Z,20nm,1.7s						
X16A	Lo Mia Camp, P	87.89	312	eP	P	16 13 43.6	-1.6
	comp=Z,7.0nm,1.4s						
M04C	Macdoel	88.10	323	P	P	16 13 46.6	+0.5
	baz=40						
K02D	Willamette Mer	88.25	325	P	P	16 13 47.3	+0.5
	baz=39						
L02E	Cave Junction	88.64	325	P	P	16 13 49.1	+0.6
	baz=39						
RYN	Ryan	88.82	319	eP	P	16 13 48.2	-1.4
	comp=Z,3.3nm,0.9s						
NV01	Mina Array Sit	88.85	319	eP	P	16 13 50.5	+0.7
NVAR	Mina Array Bea	88.85	319	P	P	16 13 50.5	+0.7
	comp=Z,1.1nm,0.7s,baz=62,slow=3.6,SNR=10						
YERR	Yerington	88.93	320	eP	P	16 13 49.6	-0.6
	comp=Z,7.0nm,0.8s						
TUC	Tucson	88.95	310	eP	P	16 13 50.1	-0.1
	comp=Z,5.5nm,1.0s						
TUC	Tucson	88.95	310	P	P	16 13 50.6	+0.4
	baz=46						
KS15	Wonju Array Si	89.09	42	eP	P	16 13 49.8	-0.9
	comp=Z,44nm,1.8s						
KS15				ePP	PP	16 17 18.9	-1.1
KSAR	Wonju Array Be	89.09	42	P	P	16 13 49.8	-0.9
KSAR				PP	PP	16 17 18.9	-1.1
KSAR	Wonju Array Be	89.09	42	P	P	16 13 49.8	-0.9
KSAR						16 17 18.9	
KSRS	Korea Array	89.11	42	P	P	16 13 49.8	-0.9
	comp=Z,1.4nm,0.8s,baz=322,slow=4.4,SNR=7.1						
KSRS				PP	PP	16 17 18.9	-1.2
	comp=Z,2.0nm,0.8s,baz=323,slow=7.4,SNR=9.1						
KSRS				LR	LR	16 58 02.5	
	comp=Z,111nm,18.6s,baz=316,slow=38						
WAKR	Walker	89.39	320	eP	P	16 13 52.2	-0.1
	comp=Z,16nm,1.5s						
GMRC	Granite Mounta	90.08	315	P	P	16 13 55.6	+0.1
	baz=44						
Y12C	Blythe	90.17	314	P	P	16 13 57.2	+1.4
	baz=44						
IRM	Iron Mountain	90.23	314	P	P	16 13 56.7	+0.6
	baz=44						
BC3	Big Chuckawall	90.77	314	P	P	16 13 57.7	-1.0
	baz=44						
GLA	Glamis	90.84	313	P	P	16 14 00.3	+1.3
	baz=44						
GSI	Gunungsitoli	91.10	88	eP	P	16 13 60.0	-0.4
	comp=Z,34nm,0.7s						
GSI	Gunungsitoli	91.10	88	P	P	16 14 02.1	+1.7
KULM	Kulim	91.19	83	eP	P	16 14 01.5	+0.7
	comp=Z,32nm,0.8s						
PSI	Prapat	91.29	86	eP	P	16 14 00.3	-1.1
	comp=Z,22nm,0.9s						
PSI	Prapat	91.29	86	eP	P	16 14 00.3	-1.1
PSI				pmax	pmax		
	comp=Z,22nm,0.9s						
LVC	Limon Verde	91.44	243	eP	P	16 14 04.0	+1.9
MONP2	Monument Peak	91.88	314	P	P	16 14 03.3	-0.8
	baz=43						
IPM	Ipoh	91.97	83	eP	P	16 14 04.2	-0.3
	comp=Z,11nm,1.2s						
MAJO	Matsushiro	95.03	36	eP	P	16 14 17.8	-0.4
MAJO	Matsushiro	95.03	36	eP	P	16 14 17.8	-0.4
MJAR	Matsshiro Arr	95.03	36	P	P	16 14 17.8	-0.4
	comp=Z,0.8nm,0.9s,baz=327,slow=3.6,SNR=3.4						
MJAR				PP	PP	16 18 09.9	+3.1
	comp=Z,0.8nm,0.9s,baz=301,slow=9.7,SNR=4.0						
MJAR				LR	LR	17 01 15.1	
	comp=Z,140nm,18.1s,baz=335,slow=38						
QSPA	South Pole Qui	126.61	180	ePKPdf	PKPdf	16 19 57.8	+0.2
WRAB	Tennant Creek	132.73	84	i PKIKP	PKPdf	16 20 10.8	+0.2
ASAR	Alice Springs	134.25	88	PKP	PKPdf	16 20 13.2	-0.2
	comp=Z,5.5nm,0.9s,baz=333,slow=1.6,SNR=23						
ASAR				SKPbc	SKPbc	16 23 41.7	-0.4
	comp=Z,0.6nm,0.8s,baz=311,slow=3.4,SNR=4.2						
AS31	Alice Springs	134.25	88	ePKPdf	PKPdf	16 20 12.8	-0.7
VNDA	Vanda	137.88	173	PKhKP	PKPpre	16 20 11.3	
	comp=Z,0.6nm,1.0s,baz=194,slow=1.3,SNR=2.7						
VNDA				PKP	PKPdf	16 20 18.1	-0.5
	comp=Z,1.2nm,1.0s,baz=274,slow=4.5,SNR=5.1						
STKA	Stephens Creek	143.85	95	ePKPpre	PKPpre	16 20 27.6	
STKA	Stephens Creek	143.85	95	ePKIKP	PKPab	16 20 27.7	0.0
STKA	Stephens Creek	143.85	95	PKhKP	PKPpre	16 20 28.0	
	comp=Z,11nm,1.0s,baz=325,slow=4.6,SNR=12						
TOO	Toolangi	148.47	104	ePKPdf	PKPdf	16 20 38.1	-0.2
TOO				ePKPbc	PKPbc	16 20 42.6	+0.7
TOO	Toolangi	148.47	104	ePKIKP	PKPdf	16 20 38.1	-0.2
TOO				e		16 20 42.6	
CAN	Canberra	150.76	98	ePKPbc	PKPbc	16 20 47.5	-0.1
CAN	Canberra	150.76	98	ePKIKP	PKPbc	16 20 47.5	-0.1
ARMA	Armidale	151.39	87	ePKPbc	PKiKP	16 20 50.3	+0.5

TAP ***26*** *16:18:31.7, 24°.62N×122°.32E, h11km, ML2.8, C*
JMA ***26*** *16:18:33.0±0.1, 24°.56N×122°.25E, h40km±4km, M2.1*
ISC 26 16:18:31.7±0.9**, 24°.61N**±0°.02×**122°.34E**±0°.02**, h13**km±7km**,**
n76, σ0**.67**/132**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.20	252	P	Pg	16 18 36.4	+0.2
	baz=248						
EOS1				S	Sg	16 18 39.8	+0.6
	baz=248						
EGS		0.44	302	i P	Pg	16 18 40.3	-0.1
	baz=293						
EGS				i S	Sb	16 18 47.8	+0.1
	baz=293						
TWC	Suao	0.45	270	P	Pg	16 18 39.8	-0.8
	baz=261						
TWC				eS	Sg	16 18 46.5	-0.1
	baz=261						
TWB1	Santiao Chiao	0.51	321	eP	Pg	16 18 42.0	+0.2
	baz=323						
TWB1				S	Sg	16 18 49.0	+0.4
	baz=323						
NTC	Toucheng	0.52	298	eP	Pg	16 18 41.8	-0.2
	baz=297						
NTC				eS	Sb	16 18 50.2	0.0
	baz=297						
NANB	Nanao	0.57	251	eP	Pg	16 18 42.3	-0.6
	baz=256						
NANB				eS	Sg	16 18 50.5	+0.1
	baz=256						
ENA	Nanau	0.57	252	P	Pg	16 18 42.2	-0.7
	baz=256						
ENA				S	Sg	16 18 50.9	+0.3
	baz=256						
JYNG	Yonagunijimaku	0.57	106	P	Pn	16 18 45.3	-0.3
JYNG				S	Sn	16 18 55.2	+0.3
TIPB	Shuangxi	0.59	308	eP	Pg	16 18 42.8	-0.5
	baz=300						
TIPB				eS	Sb	16 18 51.6	-0.5
	baz=300						
TWE	Neicheng	0.62	280	P	Pg	16 18 43.2	-0.6
	baz=279						
TWE				eS	Sg	16 18 52.2	+0.1
	baz=279						
YOJ	Yonaguni jima	0.63	103	eP	Pn	16 18 46.7	+0.3
	baz=104						
YOJ				eS	Sn	16 18 56.9	+0.7
	baz=104						
YOJ	Yonaguni jima	0.63	103	P	Pn	16 18 46.3	0.0
YOJ				S	Sn	16 18 56.9	+0.7
SLBB	Yuanshan	0.66	283	P	Pg	16 18 44.1	-0.4
	baz=282						
SLBB				eS	Sb	16 18 53.6	-0.4
	baz=282						
ENTT	Nioudou	0.70	273	eP	Pg	16 18 45.5	0.0
	baz=262						
ENTT				S	Sg	16 18 54.7	0.0
	baz=262						
NDT	Datong Townshi	0.75	270	eP	Pg	16 18 45.6	-0.7
	baz=268						
NDT				eS	Sg	16 18 56.0	-0.2
	baz=268						
NWLT	Wulai	0.78	282	eP	Pg	16 18 46.3	-0.5
	baz=282						
NWLT				eS	Sb	16 18 57.4	-0.1
	baz=282						
TWA	Mucha	0.78	298	eP	Pb	16 18 47.0	-0.1
	baz=290						
TWA				S	Sb	16 18 58.0	+0.4
	baz=290						
NACB	Ninganchiao	0.81	237	eP	Pg	16 18 46.7	-0.6
	baz=236						
NHDH	Xindian Distri	0.82	296	eP	Pb	16 18 48.1	+0.4
	baz=296						
TWD	Chiawan	0.86	232	P	Pn	16 18 49.0	-0.4
	baz=239						
TWD				eS	Sn	16 19 02.0	+0.2
	baz=239						
YM07	YM07	0.86	311	P	Pn	16 18 49.2	-0.3
	baz=311						
YM07				eS	Sn	16 19 01.0	-1.0
	baz=311						
ETLH	Xiulin Townshi	0.88	243	eP	Pg	16 18 47.8	-1.0
	baz=251						
ETLH				eS	Sb	16 19 00.9	+0.4
	baz=251						
YHNB	Yeheng	0.88	274	eP	Pg	16 18 48.2	-0.6
	baz=273						
YHNB				eS	Sg	16 18 59.6	-0.6
	baz=273						
YM01	YM01	0.88	308	eP	Pn	16 18 49.3	-0.5
	baz=308						
YM01				eS	Sn	16 19 01.5	-0.9
	baz=308						
YM11	YM11	0.89	309	eP	Pn	16 18 50.0	+0.1
	baz=302						
NNSB	Datong	0.89	258	eP	Pg	16 18 47.9	-1.0
	baz=257						
NNSB				eS	Sg	16 18 59.5	-1.2
	baz=257						
YM08	YM08	0.89	310	eP	Pn	16 18 49.5	-0.4
	baz=310						
YM08				eS	Sn	16 19 01.8	-0.9
	baz=310						
YM10	YM10	0.89	308	eP	Pn	16 18 50.3	+0.4
	baz=308						
YM10				eS	Sn	16 19 02.2	-0.6
	baz=308						
NSK	Sanguang	0.89	274	P	Pg	16 18 48.8	-0.3
	baz=273						
NSK				eS	Sg	16 18 59.1	-1.7
	baz=273						
NNS	Nan Shan	0.90	259	P	Pg	16 18 48.2	-0.9
	baz=257						
NNS				eS	Sg	16 19 00.4	-0.4
	baz=257						
ANP	Anpu	0.94	308	eP	Pb	16 18 49.8	-0.1
	baz=300						
TWY	Chenhua	0.94	315	eP	Pn	16 18 51.2	+0.6
	baz=315						
TWY				S	Sn	16 19 04.0	+0.1
	baz=315						
TWS1	Kuangyinshan	0.97	300	eP	Pn	16 18 51.2	+0.3
	baz=292						
TWS1				eS	Sg	16 19 03.5	+0.4
	baz=292						
NTST	Danshui	0.98	305	eP	Pn	16 18 51.4	+0.3
	baz=304						
NTST				eS	Sn	16 19 04.8	0.0
	baz=304						
WLTB	Daxi	1.02	284	eP	Pg	16 18 51.4	+0.1
	baz=291						
WLTB				eS	Sn	16 19 05.5	-0.3
	baz=291						
PCYT	Pengchaiyu	1.04	347	eS	Sg	16 19 05.5	0.0
	baz=358						
WHF	Hehuan Shan	1.08	245	eP	Pb	16 18 52.3	-0.2
	baz=244						
NCU	National Centr	1.11	289	eS	Sn	16 19 09.7	+1.7
	baz=288						
NCUH	Zhongli	1.11	289	eP	Pg	16 18 53.1	0.0
	baz=288						
NCUH				eS	Sn	16 19 09.3	+1.3
	baz=288						
TDCB	Techi	1.13	252	eP	Pb	16 18 52.7	-0.5
	baz=251						
ESL	Shilin	1.15	226	eP	Pb	16 18 53.4	+0.1
	baz=213						
ESL				eS	Sn	16 19 09.7	+0.8
	baz=213						
CHGB	Renai	1.20	243	eP	Pn	16 18 53.2	-1.0
	baz=250						
CHGB				eS	Sb	16 19 10.1	+0.3
	baz=250						
LIOB	Emei	1.20	272	eP	Pg	16 18 55.8	+0.8
	baz=262						
LIOB				eS	Sg	16 19 11.5	+0.9
	baz=262						
NSTT	Nanjuang	1.22	271	P	Pg	16 18 55.6	+0.5
	baz=260						
NSTT				eS	Sg	16 19 11.3	+0.3
	baz=260						
SBCB	Hsinchu	1.24	279	eP	Pg	16 18 56.2	+0.5
	baz=267						
SBCB				eS	Sg	16 19 13.2	+1.3
	baz=267						
OWD	Renai	1.25	239	eP	Pg	16 18 55.6	-0.1
	baz=244						
OWD				eS	Sg	16 19 13.0	+1.0
	baz=244						
EGFH	Guangfu	1.25	222	eP	Pb	16 18 55.4	+0.2
	baz=201						
EGFH				eS	Sg	16 19 13.0	+0.8
	baz=201						
IRIF	Iriomote-Funau	1.30	102	P	Pg	16 18 56.5	-0.2
WHP	Taichung City	1.31	256	eP	Pg	16 18 58.5	+1.6
	baz=254						
WHP				eS	Sb	16 19 12.1	-0.9
	baz=254						
VWDT	VWDT	1.39	232	eP	Pb	16 18 57.6	+0.2
	baz=236						
VWDT				eS	Sg	16 19 17.7	+1.3
	baz=236						
HGSD	Ruisui	1.39	217	eP	Pn	16 18 56.9	+0.1
	baz=202						
DPDB	Guoxing	1.41	246	eP	Pb	16 18 58.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=219						
NSY	**Sanyi**	**1.45**	**263**	*e*P	**Pg**	**16 19 00.2**	**+0.6**
	baz=274						
NSY				*e*S	**Sg**	**16 19 19.6**	**+1.1**
	baz=274						
TWQ1	**Liyutan**	**1.45**	**260**	*e*S	**Sg**	**16 19 18.6**	**+0.2**
	baz=258						
SMLT	**Sun Moon Lake**	**1.50**	**241**	*e*P	**Pb**	**16 18 59.8**	**+0.4**
	baz=249						
SSLB	**Suanglung**	**1.51**	**237**	*e*P	**Pb**	**16 18 59.3**	**-0.3**
	baz=242						
SSLB				*e*S	**Sg**	**16 19 20.1**	**-0.2**
	baz=242						
TYC	**Yuchr**	**1.52**	**243**	*e*P	**Pg**	**16 19 00.7**	**-0.3**
	baz=247						
TYC				*e*S	**Sg**	**16 19 20.3**	**-0.5**
	baz=247						
JKRS	**Kuro-shima**	**1.57**	**103**	P	**Pb**	**16 19 00.9**	**+0.3**
JKRS				S	**Sb**	**16 19 20.4**	**+0.1**
TWF1	**Yuli**	**1.57**	**217**	*e*P	**Pn**	**16 18 59.6**	**+0.3**
	baz=202						
WHYT	**Xinyi Township**	**1.63**	**236**	*e*P	**Pg**	**16 19 02.7**	**-0.4**
	baz=240						
WHYT				*e*S	**Sg**	**16 19 24.1**	**-0.2**
	baz=240						
JIJ	**Ishigaki jima**	**1.66**	**98**	P	**Pb**	**16 19 01.7**	**-0.5**
JIJ				*e*S	**Sb**	**16 19 22.8**	**-0.2**
WNT	**Mingjian**	**1.68**	**245**	*e*P	**Pg**	**16 19 03.7**	**-0.3**
	baz=222						
WNT				*e*S	**Sg**	**16 19 27.4**	**+1.7**
	baz=222						
YUS	**Yu-Shan**	**1.69**	**229**	*e*P	**Pb**	**16 19 02.9**	**0.0**
	baz=228						
CHKT	**Chengkung**	**1.75**	**211**	*e*S	**Sn**	**16 19 23.2**	**-0.6**
	baz=193						
ALS	**Alishan**	**1.78**	**232**	*e*P	**Pb**	**16 19 04.9**	**+0.5**
	baz=213						
ALS				*e*S	**Sg**	**16 19 28.9**	**-0.1**
	baz=213						
JISG	**Ishigakijimahi**	**1.80**	**90**	P	**Pb**	**16 19 03.6**	**-0.8**
CHN5	**Tsauling**	**1.82**	**237**	*e*P	**Pb**	**16 19 05.3**	**+0.4**
	baz=219						
CHN4	**Tsaushan**	**2.03**	**232**	*e*P	**Pb**	**16 19 08.1**	**-0.4**
	baz=213						
CHN4				*e*S	**Sb**	**16 19 35.1**	**+1.5**
	baz=213						
TWK	**Hsinying**	**2.16**	**232**	*e*P	**Pb**	**16 19 10.2**	**-0.4**
	baz=214						
TWK				*e*S	**Sb**	**16 19 37.5**	**+0.1**
	baz=214						
SNST	**Tainan City**	**2.18**	**231**	*e*S	**Sb**	**16 19 39.5**	**+1.6**
	baz=228						
CHN1	**Nanshi**	**2.18**	**230**	*e*P	**Pb**	**16 19 09.5**	**-1.5**
	baz=212						
CHN1				*e*S	**Sb**	**16 19 38.2**	**+0.2**
	baz=212						
SLGT	**Liugui**	**2.23**	**224**	*e*P	**Pb**	**16 19 11.0**	**-1.0**
	baz=222						
SLGT				*e*S	**Sb**	**16 19 39.9**	**+0.3**
	baz=222						
MASBT	**Mashibuluo**	**2.53**	**219**	*e*P	**Pb**	**16 19 15.2**	**-1.8**
	baz=207						
EAST	**Anshuo**	**2.60**	**212**	*e*P	**Pn**	**16 19 13.5**	**0.0**
	baz=197						
EAST				*e*S	**Sn**	**16 19 44.6**	**-0.5**
	baz=197						

*KRNET **26** 16:27:45.8±0.1, 40.°84N×69.°14E, mb3.6*
*NNC **26** 16:27:49.8±10.0, 40.°42N×69.°70E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=78.2km s-min=60.8km az=17.0*
*SOME **26** 16:28:06.5, 41.°33N×70.°02E, h15km*
ISC 26 16:27:49.8±1.4, 40.°90N±0.°04×69.°40E±0.°05, h10km, n38, σ2§60/59, 14C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.44**	**349**	⇓*i*P	**Pg**	**16 27 55.4**	**-3.0**
	baz=14						
TAS				⇓*i*S	**Sg**	**16 28 03.0**	**-1.2**
	baz=14						
IUG	**Iuzhnay**	**1.34**	**21**	*e*P	Pg	16 28 22.0	+6.6
	25nm,0.2s						
IUG				*e*S	**Sg**	**16 28 33.1**	**+0.4**
	370nm,0.3s						
BTK	**Batken**	**1.37**	**127**	⇓*i*P	**Pn**	**16 28 13.4**	**-1.7**
	baz=21						
BTK				⇓*i*S	**Sg**	**16 28 33.4**	**-0.5**
	baz=21						
ARK	**Arkit**	**2.13**	**64**	⇑*i*P	**Pn**	**16 28 26.1**	**+0.6**
	baz=65						
ARK				⇑*i*S	**Sb**	**16 28 55.3**	**+0.2**
	baz=65						
DRK	**Karamyk**	**2.32**	**127**	⇑*i*P	**Pn**	**16 28 28.2**	**-0.1**
	baz=23						
DRK				⇑*i*S	**Sb**	**16 28 58.8**	**-2.0**
	baz=23						
KK31	**Karatay Array**	**2.35**	**20**	Pn	**Pn**	**16 28 27.7**	**-0.9**
	0.2nm,0.3s,baz=200,slow=10,SNR=90						
KK31				Lg	Lg	16 29 03.4	
	120nm,0.7s,baz=201,slow=15,SNR=15						
DZA	**Taraz**	**2.46**	**35**	Pg	Pg	16 28 42.1	+5.1
	53nm,0.1s						
DZA				Lg	Lg	16 29 08.5	
	308nm,0.4s						
DZA	**Taraz**	**2.46**	**35**	*e*P	Pg	16 28 42.1	+5.1
	53nm,0.1s						
DZA				*e*S	**Sg**	**16 29 08.5**	**-0.3**
	308nm,0.4s						
ARSB	**Arslanbob**	**2.74**	**80**	⇑*i*P	**Pn**	**16 28 33.7**	**-0.3**
	baz=79						
ARSB				⇑*i*S	**Sb**	**16 29 09.9**	**-2.8**
	baz=79						
MRKS	**Merke**	**3.41**	**56**	Pg	**Pg**	**16 28 52.3**	**-2.7**
	8.1nm,0.5s						
MRKS				Lg	Lg	16 29 26.7	
	23nm,0.4s						
MRKS	**Merke**	**3.41**	**56**	*e*P	**Pg**	**16 28 57.3**	**+2.2**
	14nm,0.4s						
MRKS				*e*S	**Sb**	**16 29 34.6**	**+2.9**
	45nm,0.5s						
AML	**Almayashu**	**3.45**	**68**	⇑*e*P	**Pn**	**16 28 44.0**	**0.0**
	baz=68						
AML				⇑*i*S	**Sn**	**16 29 27.4**	**+2.2**
	baz=68						
EKS2	**Erkin-Say**	**3.72**	**60**	⇓*i*P	**Pn**	**16 28 47.8**	**+0.4**
	baz=61						
EKS2				⇓*i*S	**Sn**	**16 29 33.2**	**+1.9**
	baz=61						
ARLS	**Aral**	**3.83**	**74**	⇑*i*P	**Pn**	**16 28 49.9**	**+1.0**
	baz=74						
ARLS				⇑*i*S	**Sn**	**16 29 36.4**	**+2.3**
	baz=74						
UCH	**Uchtor**	**4.06**	**69**	⇑*i*P	**Pn**	**16 28 52.5**	**+0.1**
	baz=69						
UCH				⇑*i*S	**Sn**	**16 29 42.0**	**+1.8**
	baz=69						
AAK	**Ala-Archa**	**4.19**	**64**	Pg	**Pb**	**16 29 05.6**	**+2.0**
	3.5nm,0.3s						
AAK				⇓Lg	Lg	16 30 01.6	
	9.7nm,0.7s						
KZA	**Kyzart**	**4.55**	**73**	⇓*i*P	**Pn**	**16 28 59.1**	**0.0**
	baz=73						
KZA				⇓*i*S	**Sn**	**16 29 53.9**	**+1.7**
	baz=73						
TKM2	**Tokmak 2**	**5.05**	**64**	⇑Pg	**Pb**	**16 29 21.2**	**+2.9**
	1.7nm,0.4s						
TKM2				⇓Lg	Lg	16 30 28.8	
	55nm,0.6s						
DGS	**Degeres**	**5.29**	**62**	Pg	**Pg**	**16 29 32.2**	**+1.1**
	7.0nm,0.5s						
DGS				Lg	Lg	16 30 34.8	
	26nm,0.9s						
DGS	**Degeres**	**5.29**	**62**	*e*P	**Pg**	**16 29 32.2**	**+1.1**
	7.0nm,0.5s						
DGS				*e*S	**Sg**	**16 30 34.8**	**-4.8**
	44nm,0.8s						
BTLS	**Baital**	**5.36**	**38**	*e*P	**Pg**	**16 29 34.3**	**+1.8**
	4.0nm,0.8s						
BTLS				*e*S	**Sg**	**16 30 37.1**	**-4.8**
	20nm,0.5s						
MTBS	**Maitube**	**5.69**	**65**	*e*P	**Pg**	**16 29 41.0**	**+2.2**
	3.3nm,0.5s						
MTBS				*e*S	**Sg**	**16 30 48.7**	**-3.8**
	14nm,0.7s						
KUU	**Kurty**	**5.95**	**57**	Pg	**Pg**	**16 29 42.2**	**-1.4**
	2.6nm,0.6s						
KUU				Lg	Lg	16 30 53.0	
	6.3nm,0.6s						
KUU	**Kurty**	**5.95**	**57**	*e*P	**Pg**	**16 29 45.1**	**+1.5**
	2.1nm,0.6s						
KUU				*e*S	**Sg**	**16 30 55.6**	**-5.1**
	26nm,0.9s						
TNSS	**Tian-Shan**	**6.02**	**67**	Pg	**Pg**	**16 29 46.2**	**+1.1**
	4.8nm,0.6s						
TNSS				Lg	Lg	16 30 59.4	
	8.3nm,0.7s						
TNSS	**Tian-Shan**	**6.02**	**67**	*e*P	**Pg**	**16 29 47.0**	**+1.9**
	3.7nm,0.5s						
TNSS				*e*S	**Sg**	**16 30 59.6**	**-3.4**
	15nm,0.6s						
KTBS	**Karatobe**	**6.09**	**60**	Pg	**Pg**	**16 29 47.5**	**+1.1**
	2.6nm,0.7s						
KTBS				Lg	Lg	16 31 00.8	
	22nm,0.7s						
KTBS	**Karatobe**	**6.09**	**60**	*e*P	**Pg**	**16 29 48.1**	**+1.7**
	2.9nm,0.5s						
KTBS				*e*S	**Sg**	**16 31 01.2**	**-4.0**
	27nm,0.6s						
MDOK	**Medeo**	**6.13**	**66**	Pg	Pg	16 29 42.2	-5.0
	4.6nm,0.8s						
MDOK				Lg	Lg	16 31 00.9	
	21nm,1.2s						
MDOK	**Medeo**	**6.13**	**66**	*e*P	**Pg**	**16 29 48.6**	**+1.5**
	3.5nm,0.9s						
MDOK				*e*S	**Sg**	**16 31 01.8**	**-4.8**
	12nm,0.9s						
KOTS	**Kotyrbulak**	**6.20**	**65**	Pg	**Pg**	**16 29 47.6**	**-0.9**
	2.1nm,0.5s						
KOTS				Lg	Lg	16 31 01.1	
	7.6nm,0.8s						
KOTS	**Kotyrbulak**	**6.20**	**65**	*e*P	**Pg**	**16 29 51.4**	**+3.0**
	1.2nm,0.3s						
KOTS				*e*S	**Sg**	**16 31 07.0**	**-1.7**
	12nm,0.5s						
ARXS	**Arharly**	**7.05**	**59**	Pg	**Pg**	**16 30 05.0**	**+0.3**
	2.2nm,0.7s						
ARXS				Lg	Lg	16 31 31.3	
	13nm,0.8s						
ARXS	**Arharly**	**7.05**	**59**	*e*P	**Pg**	**16 30 04.9**	**+0.1**
	2.2nm,0.7s						
ARXS				*e*S	**Sg**	**16 31 29.4**	**-6.6**
	14nm,0.5s						
SATY	**Saty**	**7.05**	**69**	*e*P	**Pg**	**16 30 06.2**	**+1.5**
	9.0nm,2.1s						
SATY				*e*S	**Sg**	**16 31 32.1**	**-4.0**
	7.6nm,0.8s						
KPKS	**Kokpek**	**7.36**	**67**	*e*P	**Pg**	**16 30 10.4**	**-0.3**
	4.4nm,0.7s						
KPKS				*e*S	**Sg**	**16 31 39.3**	**-6.6**
	14nm,0.4s						
UZB	**Uzynbulak**	**7.51**	**69**	*e*P	**Pg**	**16 30 14.8**	**+1.2**
	2.7nm,0.6s						
UZB				*e*S	**Sg**	**16 31 46.8**	**-4.0**
	6.4nm,1.0s						
OTUK	**Ortayu**	**7.64**	**15**	⇑Pn	**Pn**	**16 29 41.6**	**+0.5**
	1.3nm,0.4s						
OTUK				⇓Lg	Lg	16 31 47.9	
	4.7nm,0.9s						

*IDC **26** 16:43:45.7±3.4, 39.°32N×74.°49E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/29, mbtmp3.6/3, ML2.6/1, Error ellipse: s-maj=90.7km s-min=25.0km az=141.0*
*SOME **26** 16:43:49.8, 39.°75N×74.°17E, h15km*
*KRNET **26** 16:43:51.2±0.1, 39.°72N×74.°36E, mb3.7*
*NNC **26** 16:43:59.7±2.9, 40.°22N×74.°40E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=23.4km s-min=12.8km az=169.0*
ISC 26 16:43:48.5±1.5, 39.°69N±0.°05×74.°42E±0.°03, h0km±10km, n63, σ1§40/93, mb3.7/3, 24C-19D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.96**	**326**	⇑*i*P	**Pg**	**16 44 26.9**	**+0.7**
	baz=27						
ARSB				⇑*i*S	**Sg**	**16 44 53.2**	**+1.6**
	baz=27						
DRK	**Karamyk**	**2.04**	**265**	⇓*i*P	**Pg**	**16 44 28.2**	**+0.6**
	baz=64						
DRK				⇓*i*S	**Sg**	**16 44 55.1**	**+1.1**
	baz=64						
NRN	**Naryn**	**2.11**	**34**	⇑*i*P	**Pg**	**16 44 30.1**	**+1.1**
	baz=35						
NRN				⇑*i*S	**Sg**	**16 44 58.1**	**+1.7**
	baz=35						
ARLS	**Aral**	**2.17**	**358**	⇑*i*P	**Pg**	**16 44 30.2**	**+0.2**
	baz=59						
ARLS				⇑*i*S	**Sg**	**16 44 59.1**	**+1.0**
	baz=59						
KZA	**Kyzart**	**2.46**	**14**	P	**Pg**	**16 44 35.3**	**-0.4**
	SNR=45						
KZA	**Kyzart**	**2.46**	**14**	⇑*i*P	**Pb**	**16 44 34.8**	**+0.9**
	baz=16						
KZA				⇑*i*S	**Sb**	**16 45 06.6**	**+1.7**
	baz=16						
AML	**Almayashu**	**2.50**	**347**	P	**Pg**	**16 44 35.4**	**-1.0**
	SNR=64						
AML	**Almayashu**	**2.50**	**347**	⇓*i*P	**Pb**	**16 44 34.8**	**+0.3**
	baz=48						
AML				⇓*i*S	**Sb**	**16 45 06.7**	**+0.8**
	baz=48						
UCH	**Uchtor**	**2.53**	**2**	P	**Pg**	**16 44 36.3**	**-0.8**
	SNR=190						
UCH	**Uchtor**	**2.53**	**2**	⇑*i*P	**Pb**	**16 44 35.8**	**+0.7**
	baz=3.0						
UCH				⇑*i*S	**Sb**	**16 45 08.1**	**+1.1**
	baz=3.0						
BTK	**Batken**	**2.80**	**279**	⇑*e*P	**Pb**	**16 44 38.4**	**-1.0**
	baz=78						
BTK				⇑*i*S	**Sb**	**16 45 13.0**	**-1.2**
	baz=78						
ARK	**Arkit**	**2.81**	**319**	⇑*i*P	**Pb**	**16 44 38.4**	**-1.3**
	baz=20						
ARK				⇑*i*S	**Sb**	**16 45 13.0**	**-1.7**
	baz=20						
ULHL	**Ulahol**	**2.90**	**28**	P	**Pg**	**16 44 43.0**	**-1.0**
	SNR=10						
ULHL	**Ulahol**	**2.90**	**28**	⇑*i*P	**Pb**	**16 44 41.2**	**0.0**
	baz=29						
ULHL				⇑*i*S	**Sb**	**16 45 17.3**	**+0.1**
	baz=29						
AAK	**Ala-Archa**	**2.94**	**1**	P	**Pb**	**16 44 42.1**	**+0.2**
	SNR=104						
AAK	**Ala-Archa**	**2.94**	**1**	⇑Pn	**Pb**	**16 44 42.5**	**+0.6**
	48nm,0.5s						
AAK				⇓Lg	Lg	16 45 19.3	
	53nm,0.6s						
AAK	**Ala-Archa**	**2.94**	**1**	⇓*i*P	**Pb**	**16 44 41.1**	**-0.8**
	baz=2.0						
AAK				⇓*i*S	**Sb**	**16 45 17.3**	**-1.2**
	baz=2.0						
KBK	**Karagaybulak**	**2.99**	**7**	P	**Pb**	**16 44 42.8**	**+0.1**
	SNR=50						
KBK	**Karagaybulak**	**2.99**	**7**	⇑*e*P	**Pb**	**16 44 41.7**	**-1.0**
	baz=8.0						
KBK				⇑*i*S	**Sb**	**16 45 18.5**	**-1.3**
	baz=8.0						
EKS2	**Erkin-Say**	**3.00**	**351**	P	**Pb**	**16 44 42.8**	**-0.1**
	SNR=25						
EKS2	**Erkin-Say**	**3.00**	**351**	⇓*e*P	**Pb**	**16 44 42.2**	**-0.8**
	baz=52						
EKS2				⇓*i*S	**Sb**	**16 45 19.1**	**-1.1**
	baz=52						
BOOM	**Boomskoye usch**	**3.02**	**22**	⇓*i*P	**Pb**	**16 44 42.7**	**-0.5**
	baz=23						
BOOM				⇓*i*S	**Sb**	**16 45 20.1**	**-0.6**
	baz=23						
MRKS	**Merke**	**3.18**	**344**	Pg	**Pg**	**16 44 47.9**	**-1.5**
	16nm,0.5s						
MRKS				Lg	Lg	16 45 27.0	
	41nm,0.4s						
MRKS	**Merke**	**3.18**	**344**	*e*P	**Pb**	**16 44 45.8**	**-0.1**
	9.7nm,0.3s						
MRKS				*e*S	**Sb**	**16 45 26.4**	**+1.1**
	41nm,0.5s						
KDJ	**Kajisay**	**3.21**	**40**	⇓*i*P	**Pb**	**16 44 45.6**	**-0.8**
	baz=41						
KDJ				⇓*i*S	**Sb**	**16 45 25.0**	**-1.1**
	baz=41						
CHMS	**Chumysh**	**3.31**	**4**	P	**Pb**	**16 44 47.0**	**-1.1**
	SNR=20						
CHMS	**Chumysh**	**3.31**	**4**	⇑*i*P	**Pb**	**16 44 46.0**	**-2.1**
	baz=5.0						
CHMS				⇑*i*S	**Sb**	**16 45 26.2**	**-2.8**
	baz=5.0						
TKM2	**Tokmak 2**	**3.34**	**15**	P	**Pb**	**16 44 47.7**	**-1.1**
	SNR=23						
TKM2	**Tokmak 2**	**3.34**	**15**	⇓Pn	**Pb**	**16 44 47.7**	**-1.1**
	7.1nm,0.4s						
TKM2				⇓Lg	Lg	16 45 29.6	
	86nm,0.9s						
TKM2	**Tokmak 2**	**3.34**	**15**	⇓*i*P	**Pb**	**16 44 47.3**	**-1.5**
	baz=16						
TKM2				⇓*i*S	**Sb**	**16 45 27.6**	**-2.5**
	baz=16						
USP	**Ospenovka**	**3.57**	**1**	P	**Pb**	**16 44 50.5**	**-2.0**
	SNR=6.1						
DGS	**Degeres**	**3.69**	**16**	Lg	Lg	16 45 39.1	
	42nm,0.6s						
DGS	**Degeres**	**3.69**	**16**	*e*P	**Pg**	**16 44 57.5**	**-1.7**
	15nm,0.7s						
DGS				*e*S	**Sg**	**16 45 46.3**	**-0.6**
	76nm,0.7s						
MTBS	**Maitube**	**3.75**	**23**	Pg	**Pb**	**16 44 57.1**	**+1.5**
	11nm,0.8s						
MTBS				Lg	Lg	16 45 42.2	
	31nm,0.6s						
MTBS	**Maitube**	**3.75**	**23**	*e*P	**Pg**	**16 44 59.4**	**-1.0**
	11nm,0.8s						
MTBS				*e*S	**Sg**	**16 45 49.9**	**+0.9**
	23nm,0.6s						
TNSS	**Tian-Shan**	**3.84**	**29**	Pg	**Pg**	**16 45 02.2**	**+0.1**
	21nm,0.6s						
TNSS				Lg	Lg	16 45 50.9	
	28nm,0.9s						
TNSS	**Tian-Shan**	**3.84**	**29**	*e*P	**Pg**	**16 45 01.7**	**-0.4**
	27nm,0.5s						
TNSS				*e*S	**Sg**	**16 45 53.9**	**+2.0**
	46nm,0.6s						
MDOK	**Medeo**	**3.99**	**29**	⇑Pg	**Pg**	**16 45 04.0**	**-1.0**
	9.7nm,0.5s						
MDOK				Lg	Lg	16 45 56.5	
	42nm,0.9s						
MDOK	**Medeo**	**3.99**	**29**	Pg	**Pg**	**16 45 04.4**	**-0.6**
	10nm,0.5s						
MDOK				Lg	Lg	16 45 54.9	
	19nm,1.1s						
MDOK	**Medeo**	**3.99**	**29**	*e*P	**Pg**	**16 45 03.0**	**-2.0**
	10nm,0.5s						
MDOK				*e*S	**Sg**	**16 45 55.5**	**-1.2**
	36nm,0.8s						
KOTS	**Kotyrbulak**	**4.07**	**29**	Pg	**Pg**	**16 45 08.0**	**+1.4**
	12nm,0.6s						
KOTS				Lg	Lg	16 46 00.9	
	68nm,0.8s						
KOTS	**Kotyrbulak**	**4.07**	**29**	*e*P	**Pg**	**16 45 05.7**	**-0.9**
	11nm,0.6s						
KOTS				*e*S	**Sg**	**16 46 00.4**	**+1.0**
	66nm,0.6s						
KTBS	**Karatobe**	**4.36**	**22**	Pg	**Pg**	**16 45 13.1**	**+1.1**
	7.5nm,0.7s						
KTBS				Lg	Lg	16 46 09.6	
	52nm,0.6s						
KTBS	**Karatobe**	**4.36**	**22**	*e*P	**Pg**	**16 45 11.0**	**-1.0**
	5.9nm,0.5s						
KTBS				*e*S	**Sg**	**16 46 09.4**	**+1.0**
	52nm,0.7s						
KUU	**Kurty**	**4.43**	**18**	Pg	**Pg**	**16 45 13.5**	**0.0**
	4.7nm,0.6s						
KUU				Lg	Lg	16 46 10.3	
	27nm,0.9s						
KUU	**Kurty**	**4.43**	**18**	*e*P	**Pg**	**16 45 10.8**	**-2.7**
	5.0nm,0.5s						
KUU				*e*S	**Sg**	**16 46 09.1**	**-1.9**
	41nm,0.6s						
KK31	**Karatay Array**	**4.50**	**320**	Pn	**Pn**	**16 45 01.2**	**+3.2**
	1.3nm,0.4s,baz=128,slow=13,SNR=41						
KK31				Pg	**Pg**	**16 45 11.5**	**-3.3**
	7.3nm,0.6s,baz=130,slow=16,SNR=13						
KK31				⇓Sn	**Sn**	**16 45 52.3**	**+1.4**
	3.9nm,0.4s,baz=125,slow=26						
KK31				⇑Lg	Lg	16 46 10.9	
	8.6nm,0.5s,baz=124,slow=30						
SATY	**Saty**	**4.50**	**40**	Pg	**Pg**	**16 45 15.8**	**+0.9**
	20nm,0.8s						
SATY				Lg	Lg	16 46 14.1	
	29nm,1.0s						
SATY	**Saty**	**4.50**	**40**	*e*P	**Pg**	**16 45 13.2**	**-1.6**
	8.7nm,0.6s						
SATY				*e*S	**Sg**	**16 46 13.2**	**0.0**
	52nm,0.8s						
KURS	**Kuram**	**4.72**	**35**	Pg	**Pb**	**16 45 11.6**	**-0.5**
	5.6nm,1.1s						
KURS				Lg	Lg	16 46 07.0	
	3.7nm,0.9s						
KURS	**Kuram**	**4.72**	**35**	*e*P	**Pg**	**16 45 18.0**	**-0.9**
	6.5nm,0.7s						
KURS				*e*S	**Sg**	**16 46 21.4**	**+1.3**
	16nm,1.1s						
UZB	**Uzynbulak**	**4.88**	**44**	Pg	**Pg**	**16 45 21.7**	**-0.4**
	5.3nm,0.8s						
UZB				Lg	Lg	16 46 24.3	
	8.5nm,0.8s						
UZB	**Uzynbulak**	**4.88**	**44**	*e*P	**Pg**	**16 45 19.8**	**-2.3**
	1.8nm,0.5s						
UZB				*e*S	**Sg**	**16 46 24.4**	**-1.0**
	16nm,1.0s						
KPKS	**Kokpek**	**4.94**	**39**	*e*P	**Pg**	**16 45 21.3**	**-1.9**
	7.2nm,0.4s						
KPKS				*e*S	**Sg**	**16 46 27.1**	**-0.1**
	89nm,0.5s						
ARXS	**Arharly**	**5.18**	**28**	Lg	Lg	16 46 33.9	
	15nm,0.8s						
ARXS	**Arharly**	**5.18**	**28**	*e*P	**Pg**	**16 45 25.1**	**-2.6**
	4.3nm,0.6s						
ARXS				*e*S	**Sg**	**16 46 33.8**	**-1.1**
	25nm,0.8s						
PDGK	**Podgornoye**	**5.26**	**45**	Pg	**Pg**	**16 45 28.5**	**-0.8**
	2.2nm,0.6s						
PDGK				Lg	Lg	16 46 35.9	
	15nm,1.0s						
PDGK	**Podgornoye**	**5.26**	**45**	⇓Pg	**Pg**	**16 45 27.4**	**-1.9**
	15nm,0.9s						
PDGK				⇑Lg	Lg	16 46 34.6	
	45nm,0.9s						
DJR	**Jarkent**	**6.12**	**39**	P	**Pn**	**16 45 23.3**	**+3.1**
	1.7nm,0.6s						
MKAR	**Makanchi Array**	**9.12**	**36**	Pn	**Pn**	**16 46 03.5**	**+2.1**
	0.1nm,0.3s,baz=220,slow=13,SNR=1.7						
MKAR				Pg		16 46 31.9	
	0.1nm,0.3s,baz=224,slow=16,SNR=4.1						
MKAR				Lg	Lg	16 48 42.7	
	0.1nm,0.3s,baz=214,slow=26,SNR=5.0						
FINES	**FINESS Array B**	**36.46**	**323**	P	**P**	**16 50 54.5**	**-0.2**
	1.3nm,0.8s,baz=120,slow=8.2,SNR=1.9						
TORD	**Torodi Ar. Bea**	**68.47**	**269**	P	**P**	**16 54 50.1**	**-2.6**
	0.2nm,0.4s,baz=43,slow=5.0,SNR=2.8						
YKA	**Yellowknife Ar**	**77.90**	**4**	P	**P**	**16 55 47.3**	**-0.4**
	0.3nm,0.6s,baz=345,slow=5.5,SNR=4.9						

*ISCJB **26** 16:52:00.5±0.6, 36.°82N±0.°07×5.°15E±0.°09, h10km, Error ellipse: s-maj=13.4km s-min=5.4km az=43.3*
*CRAAG **26** 16:52:00.4, 36.°60N×5.°23E, Ml2.5*
*MDD **26** 16:52:01.6±0.7, 36.°74N×5.°17E, h0km, mb3.6/2, Error ellipse: s-maj=10.3km s-min=6.4km az=35.0, PRXIMO*
ISC 26 16:52:00.9±1.0, 36.°75N±0.°06×5.°16E±0.°05, h10km, n14, σ1§01/16, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.58**	**160**	P	**Pg**	**16 52 11.0**	**-1.2**
SET	**Setif**	**0.58**	**160**	P	**Pg**	**16 52 11.0**	**-1.2**
DFRA	**Djebel Bou Aff**	**0.61**	**109**	P	**Pg**	**16 52 11.6**	**-1.2**
DFRA	**Djebel Bou Aff**	**0.61**	**109**	P	**Pg**	**16 52 11.6**	**-1.2**
CKHR	**Kef el Ahmar**	**0.79**	**158**	P	**Pb**	**16 52 17.1**	**+0.4**
CKHR	**Kef el

*ISCJB **26** 17:13:25.9±1.0,29°.57S±0°.05×72°.18W±0°.07,h10km, mb3.9/1,MS3.5/1,Error ellipse: s-maj=9.3km s-min=6.3km az=166.2*
*IDC **26** 17:13:26.9±2.2,29°.43S×72°.00W,h0km,mb4.0/1, mb1 3.7/6,mb1mx3.6/27,mbtmp3.7/6,ML3.4/5,MS3.0/2, Ms1 3.1/2,ms1mx2.6/27,Error ellipse: s-maj=49.0km s-min=29.6km az=62.0*
*SJA **26** 17:13:28.1±0.7,29°.63S×71°.94W,h10km,ML3.7,MW3.6*
*GUC **26** 17:13:28.0±0.5,29°.67S×71°.92W,h41km±5km,ML3.8*

ISC 26 17:13:27.4±1.2,29°.62S±0°.06×71°.95W±0°.08,h10km,n22, σ1§93/29,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.68**	**115**	*e*P	**Pb**	**17 13 41.3**	**-0.1**
LSCH				*i* S	**Sb**	**17 13 50.8**	**0.0**
GO04	**Tololo Observa**	**1.14**	**119**	*e*P	**Pg**	**17 13 48.9**	**-0.5**
GO04	**Tololo Observa**	**1.14**	**119**	||*i*P	**Pg**	**17 13 48.9**	**-0.5**
GO04				*i* S	**Sn**	**17 14 05.0**	**-0.6**
GO04				IAML		17 14 09.1	
	comp=N,6μm,0.4s						
LCO	**Las Campanas**	**1.25**	**61**	*e*P	**Pn**	**17 13 51.5**	**+0.2**
LCO				*e*S	**Sn**	**17 14 09.4**	**+1.1**
LCO	**Las Campanas**	**1.25**	**61**	||*i*P	**Pn**	**17 13 51.5**	**+0.2**
LCO				*i* S	**Sn**	**17 14 09.0**	**+0.7**
LCO				IAML		17 14 17.3	
	comp=N,2μm,0.5s						
AROD	**Rodeo**	**2.22**	**105**	*e*P	**Pb**	**17 14 07.7**	**-0.2**
AROD				*e*S	**Sg**	**17 14 37.3**	**-1.6**
ACDV	**Cuesta del Vie**	**2.52**	**103**	*e*P	**Pb**	**17 14 11.9**	**-1.0**
ACDV				*e*S	**Sb**	**17 14 44.0**	**0.0**
ACDV				IAML		17 14 53.3	
	comp=Z,222nm,0.5s						
GO03	**Copiap**	**2.52**	**37**	||*i*P	**Pn**	**17 14 09.3**	**+0.7**
GO03				*i* S	**Sn**	**17 14 41.2**	**+1.7**
GO03				IAML		17 14 57.9	
	comp=E,408nm,0.5s						
ACCO	**Cerro Coronel**	**2.68**	**112**	*e*P	**Pb**	**17 14 14.3**	**-1.4**
VCA	**Vinchina**	**3.39**	**76**	*e*P	**Pn**	**17 14 24.4**	**+3.7**
VCA				IAML		17 14 33.3	
	comp=Z,317nm,0.5s						
PEL	**Peldehue**	**3.67**	**163**	*e*P	**Pn**	**17 14 24.1**	**-0.3**
PEL				IAML		17 15 26.5	
	comp=E,150nm,0.8s						
RTCV	**Cerro Valdivia**	**3.69**	**128**	*e*P	**Pn**	**17 14 28.0**	**+3.4**
CFA	**Coronel Fontan**	**3.76**	**123**	Pn	**Pn**	**17 14 28.9**	**+3.4**
	comp=E,5.1nm,0.3s,baz=305,slow=14,SNR=19						
CFA				Sn	**Sb**	**17 15 14.8**	**-4.9**
	comp=E,5.7nm,0.3s,baz=264,slow=7.0,SNR=3.9						
CFA				Lg	Lg	17 15 24.1	
	comp=E,10.0nm,0.3s,baz=225,slow=20,SNR=6.0						
CFA				LR	LR	17 15 49.8	
	comp=E,95nm,20.9s,baz=317,slow=37						
ARCO	**CERRO ARCO**	**4.12**	**142**	*e*P	**Pn**	**17 14 34.7**	**+4.1**
LVC	**Limon Verde**	**7.50**	**22**	Pn	**Pn**	**17 15 14.9**	**-2.3**
	comp=E,0.4nm,0.3s,baz=201,slow=8.6,SNR=3.6						
LVC				Lg	Lg	17 17 07.8	
	comp=E,0.8nm,0.3s,baz=272,slow=6.0,SNR=4.1						
CPUP	**Villa Florida**	**13.33**	**79**	Pn	**Pn**	**17 16 37.3**	**+0.5**
	comp=E,0.1nm,0.3s,baz=277,slow=16,SNR=2.8						
LPAZ	**La Paz**	**13.73**	**16**	Pn	**Pn**	**17 16 41.4**	**-1.4**
	comp=E,0.1nm,0.3s,baz=180,slow=10,SNR=2.0						
SIV	**San Ignacio**	**16.86**	**39**	Pn	**Pn**	**17 17 24.4**	**+0.7**
	comp=E,0.2nm,0.3s,baz=238,slow=12,SNR=9.2						
PDAR	**Pinedale Array**	**79.91**	**333**	LR	LR	18 00 30.0	
	comp=E,21nm,18.2s,baz=90,slow=35						
TORD	**Torodi Ar. Bea**	**82.67**	**70**	P	**P**	**17 25 51.7**	**+0.1**
	comp=E,1.1nm,0.9s,baz=242,slow=3.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**150.42**	**28**	PKPbc	**PKPbc**	**17 33 19.4**	**+0.6**
	comp=E,4.0nm,0.7s,baz=291,slow=3.5,SNR=16						
MKAR	**Makanchi Array**	**153.66**	**42**	PKPab	**PKPab**	**17 33 39.4**	**+0.4**
	comp=E,0.4nm,0.7s,baz=344,slow=2.1,SNR=3.6						

*TAP **26** 17:25:51.8,23°.98N×122°.43E,h20km,ML2.9,D*
*JMA **26** 17:25:51.8±0.2,24°.02N×122°.40E,h10km±4km,M2.3*
*ISCJB **26** 17:25:52.2±0.4,23°.99N±0°.02×122°.40E±0°.02,h23km±3km, Error ellipse: s-maj=3.7km s-min=2.3km az=154.9*

ISC 26 17:25:50.8±1.1,23°.99N±0°.03×122°.39E±0°.02,h10km±9km, n50,σ0§44/99,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.61**	**337**	P	**Pb**	**17 26 03.7**	**+0.1**
	baz=334						
EOS1				S	**Sb**	**17 26 12.3**	**0.0**
	baz=334						
JYNG	**Yonagunijimaku**	**0.68**	**47**	P	**Pb**	**17 26 04.7**	**-0.2**
JYNG				*e*S	**Sg**	**17 26 13.1**	**+0.1**
ENLB	**Shoufeng**	**0.73**	**264**	*e*P	**Pb**	**17 26 06.1**	**+0.4**
	baz=264						
ENLB				*e*S	**Sb**	**17 26 16.2**	**+0.5**
	baz=264						
NANB	**Nanao**	**0.73**	**307**	P	**Pb**	**17 26 05.6**	**-0.1**
	baz=305						
NANB				*e*S	**Sg**	**17 26 15.2**	**+0.5**
	baz=305						
YOJ	**Yonaguni jima**	**0.73**	**50**	P	**Pb**	**17 26 05.3**	**-0.4**
	baz=47						
YOJ				S	**Sg**	**17 26 14.7**	**0.0**
	baz=47						
YOJ	**Yonaguni jima**	**0.73**	**50**	P	**Pb**	**17 26 05.6**	**-0.1**
YOJ				S	**Sg**	**17 26 14.7**	**0.0**
TWD	**Chiawan**	**0.74**	**277**	P	**Pb**	**17 26 06.0**	**+0.3**
	baz=277						
TWD				*e*S	**Sb**	**17 26 16.0**	**+0.1**
	baz=277						
ENA	**Nanau**	**0.74**	**306**	P	**Pb**	**17 26 05.9**	**0.0**
	baz=305						
ENA				S	**Sb**	**17 26 15.8**	**-0.2**
	baz=305						
NACB	**Ninganchiao**	**0.75**	**284**	P	**Pb**	**17 26 06.2**	**+0.2**
	baz=284						
NACB				*e*S	**Sb**	**17 26 16.8**	**+0.3**
	baz=284						
TWC	**Suao**	**0.79**	**321**	*e*P	**Pg**	**17 26 06.3**	**+0.1**
	baz=320						
TWC				*e*S	**Sg**	**17 26 15.4**	**-1.2**
	baz=320						
ETLH	**Xiulin Townshi**	**0.86**	**285**	P	**Pb**	**17 26 08.2**	**+0.2**
	baz=284						
ETLH				*e*S	**Sb**	**17 26 20.0**	**+0.4**
	baz=284						
ESL	**Shilin**	**0.90**	**259**	P	**Pg**	**17 26 07.9**	**-0.2**
	baz=259						
ESL				*e*S	**Sg**	**17 26 19.6**	**-0.2**
	baz=259						
EGFH	**Guangfu**	**0.94**	**250**	P	**Pb**	**17 26 09.5**	**+0.3**
	baz=251						
EGFH				*e*S	**Sb**	**17 26 22.7**	**+0.9**
	baz=251						
TWE	**Neicheng**	**0.99**	**318**	P	**Pb**	**17 26 10.1**	**0.0**
	baz=317						
TWE				*e*S	**Sb**	**17 26 23.5**	**+0.4**
	baz=317						
ENTT	**Nioudou**	**1.00**	**311**	P	**Pb**	**17 26 10.5**	**+0.3**
	baz=310						
ENTT				*e*S	**Sb**	**17 26 23.8**	**+0.4**
	baz=310						
NDT	**Datong Townshi**	**1.01**	**307**	P	**Pn**	**17 26 11.1**	**0.0**
	baz=306						
NDT				*e*S	**Sb**	**17 26 24.4**	**+0.5**
	baz=306						
HGSD	**Ruisui**	**1.02**	**241**	*e*P	**Pn**	**17 26 11.1**	**-0.1**
	baz=242						
HGSD				*e*S	**Sb**	**17 26 25.0**	**+1.0**
	baz=242						
NNSB	**Datong**	**1.02**	**296**	P	**Pb**	**17 26 11.0**	**+0.2**
	baz=295						
NNSB				*e*S	**Sb**	**17 26 24.7**	**+0.4**
	baz=295						
NNS	**Nan Shan**	**1.04**	**296**	P	**Pb**	**17 26 11.3**	**+0.4**
	baz=295						
NNS				*e*S	**Sg**	**17 26 24.8**	**+0.5**
	baz=295						
WHF	**Hehuan Shan**	**1.04**	**279**	P	**Pg**	**17 26 11.1**	**+0.1**
	baz=278						
WHF				*e*S	**Sg**	**17 26 25.2**	**+0.6**
	baz=278						
EHY	**Hungye**	**1.09**	**244**	*e*P	**Pg**	**17 26 11.3**	**-0.5**
	baz=244						
EHY				*e*S	**Sb**	**17 26 26.8**	**+0.6**
	baz=244						
CHGB	**Renai**	**1.12**	**274**	P	**Pg**	**17 26 12.3**	**-0.1**
	baz=273						
CHGB				*e*S	**Sg**	**17 26 27.3**	**+0.4**
	baz=273						
NWLT	**Wulai**	**1.13**	**314**	P	**Pn**	**17 26 13.1**	**+0.3**
	baz=313						
NWLT				*e*S	**Sg**	**17 26 27.7**	**+0.4**
	baz=313						
YHNB	**Yeheng**	**1.15**	**306**	P	**Pn**	**17 26 13.5**	**+0.3**
	baz=305						
YHNB				*e*S	**Sg**	**17 26 28.1**	**+0.2**
	baz=305						
NSK	**Sanguang**	**1.17**	**306**	P	**Pb**	**17 26 13.4**	**+0.2**
	baz=305						
NSK				*e*S	**Sg**	**17 26 28.3**	**-0.2**
	baz=305						
VWDT	**VWDT**	**1.17**	**259**	P	**Pg**	**17 26 12.9**	**-0.4**
	baz=259						
VWDT				*e*S	**Sg**	**17 26 28.7**	**+0.2**
	baz=259						
TWF1	**Yuli**	**1.19**	**238**	P	**Pg**	**17 26 12.8**	**-0.8**
	baz=238						
TWF1				*e*S	**Sb**	**17 26 29.3**	**+0.4**
	baz=238						
TWA	**Mucha**	**1.23**	**323**	*e*P	**Pn**	**17 26 14.1**	**-0.1**
	baz=322						
TWA				*e*S	**Sg**	**17 26 30.2**	**-0.4**
	baz=322						
NHDH	**Xindian Distri**	**1.25**	**321**	*e*P	**Pn**	**17 26 14.5**	**0.0**
	baz=319						
NHDH				*e*S	**Sb**	**17 26 30.8**	**0.0**
	baz=319						
IRIF	**Iriomote-Funau**	**1.27**	**74**	P	**Pg**	**17 26 15.2**	**0.0**
IRIF				S	**Sn**	**17 26 31.8**	**+0.1**
CHKT	**Chengkung**	**1.29**	**227**	*e*P	**Pb**	**17 26 15.3**	**0.0**
	baz=227						
CHKT				S	**Sb**	**17 26 31.3**	**-0.6**
	baz=227						
SSLB	**Suanglung**	**1.33**	**262**	P	**Pn**	**17 26 15.6**	**0.0**
	baz=261						
SSLB				*e*S	**Sb**	**17 26 32.7**	**-0.4**
	baz=261						
SMLT	**Sun Moon Lake**	**1.37**	**266**	P	**Pn**	**17 26 16.2**	**+0.1**
	baz=265						
SMLT				*e*S	**Sb**	**17 26 33.4**	**-0.9**
	baz=265						
YM01	**YM01**	**1.38**	**327**	*e*P	**Pn**	**17 26 16.3**	**+0.1**
	baz=326						
YM01				*e*S	**Sb**	**17 26 33.9**	**-0.5**
	baz=326						
YM11	**YM11**	**1.39**	**328**	*e*P	**Pn**	**17 26 16.5**	**+0.1**
	baz=326						
YM11				*e*S	**Sb**	**17 26 34.4**	**-0.5**
	baz=326						
YUS	**Yu-Shan**	**1.41**	**250**	P	**Pn**	**17 26 16.6**	**-0.4**
	baz=249						
YUS				*e*S	**Sb**	**17 26 34.9**	**-1.0**
	baz=249						
WHYT	**Xinyi Township**	**1.44**	**259**	*e*P	**Pn**	**17 26 17.2**	**+0.1**
	baz=258						
WHYT				*e*S	**Sn**	**17 26 35.4**	**-0.7**
	baz=258						
ELDTW	**Lidau**	**1.49**	**238**	P	**Pn**	**17 26 18.2**	**+0.3**
	baz=238						
ELDTW				*e*S	**Sn**	**17 26 36.9**	**-0.6**
	baz=238						
JKRS	**Kuro-shima**	**1.50**	**80**	P	**Pg**	**17 26 19.9**	**+0.3**
JKRS				S	**Sg**	**17 26 38.2**	**-0.8**
CHN5	**Tsauling**	**1.62**	**256**	*e*P	**Pn**	**17 26 19.7**	**+0.2**
	baz=256						
CHN5				*e*S	**Sn**	**17 26 39.9**	**-0.7**
	baz=256						
JIJ	**Ishigaki jima**	**1.64**	**76**	P	**Pn**	**17 26 20.1**	**+0.3**
JIJ				*e*S	**Sn**	**17 26 41.1**	**+0.2**
TWGBT	**Beinan**	**1.68**	**226**	P	**Pn**	**17 26 20.6**	**+0.3**
	baz=226						
TWGBT				*e*S	**Sn**	**17 26 41.8**	**-0.1**
	baz=226						
TWG	**Pinlang**	**1.68**	**227**	P	**Pn**	**17 26 20.6**	**+0.2**
	baz=226						
TWG				*e*S	**Sn**	**17 26 41.8**	**-0.2**
	baz=226						
CHN4	**Tsaushan**	**1.77**	**249**	*e*P	**Pn**	**17 26 21.9**	**+0.4**
	baz=249						
CHN4				*e*S	**Sn**	**17 26 43.6**	**-0.5**
	baz=249						
JISG	**Ishigakijimahi**	**1.85**	**71**	P	**Pn**	**17 26 22.9**	**+0.3**
JISG				*e*S	**Sn**	**17 26 45.0**	**-1.1**
CHN1	**Nanshi**	**1.89**	**245**	*e*P	**Pn**	**17 26 23.7**	**+0.5**
	baz=245						
CHN1				*e*S	**Sn**	**17 26 46.7**	**-0.5**
	baz=245						
ECL	**Taimali**	**1.92**	**224**	*e*P	**Pn**	**17 26 24.2**	**+0.7**
	baz=224						
ECL				*e*S	**Sn**	**17 26 47.6**	**-0.1**
	baz=224						
SSD	**Sandimen**	**2.04**	**233**	*e*P	**Pn**	**17 26 25.9**	**+0.6**
	baz=233						
SSD				*e*S	**Sn**	**17 26 50.5**	**-0.3**
	baz=233						
MASBT	**Mashibuluo**	**2.12**	**230**	P	**Pn**	**17 26 26.8**	**+0.4**
	baz=230						
MASBT				*e*S	**Sn**	**17 26 52.7**	**-0.1**
	baz=230						
JTJ	**Tarama**	**2.20**	**72**	*e*S	**Sn**	**17 26 55.9**	**+1.1**

*ISCJB **26** 17:26:53.0±0.5,5°.34S±0°.07×154°.31E±0°.07,h150km, mb3.7/12,Error ellipse: s-maj=10.3km s-min=9.2km az=141.7*
*IDC **26** 17:26:55.3±2.5,5°.36S×154°.29E,h155km±25km,mb3.5/11, mb1 3.6/14,mb1mx3.5/24,mbtmp4.0/14,Error ellipse: s-maj=23.2km s-min=14.9km az=111.0*

ISC 26 17:26:54.6±0.6,5°.38S±0°.08×154°.33E±0°.08,h150km,n19, σ1§38/18,mb3.8/12,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.87**	**126**	P	**Pn**	**17 28 34.5**	**+1.5**
	5.1nm,0.3s,baz=323,slow=18,SNR=4.5						
HNR				S	**Sn**	**17 29 47.2**	**-2.9**
	3.9nm,0.3s,baz=216,slow=14,SNR=1.8						
PMG	**Port Moresby**	**8.16**	**240**	P	**Pn**	**17 28 50.9**	**+0.7**
	23nm,0.3s,baz=47,slow=8.9,SNR=44						
PMG				S	**Sn**	**17 30 18.6**	**-2.5**
	4.9nm,0.3s,baz=120,slow=14,SNR=3.6						
CTA	**Charters Tower**	**16.59**	**208**	P	**Pn**	**17 30 40.8**	**+2.0**
	0.4nm,0.3s,baz=33,slow=13,SNR=5.1						
WRA	**Warramunga Arr**	**24.24**	**232**	P	**P**	**17 31 57.6**	**-0.3**
	13nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**26.67**	**27**	T	T	18 00 00.7	
	baz=210,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**26.68**	**27**	T	T	18 00 00.7	
	baz=210,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**26.69**	**27**	T	T	18 00 00.7	
	baz=210,slow=74,SNR=11						
ASAR	**Alice Springs**	**26.79**	**225**	P	**P**	**17 32 20.4**	**-0.4**
	1.2nm,0.5s,baz=56,slow=9.2,SNR=52						
STKA	**Stephens Creek**	**28.93**	**203**	P	**P**	**17 32 39.9**	**+0.1**
	1.0nm,0.4s,baz=27,slow=15,SNR=3.7						
MJAR	**Matsushiro Arr**	**44.35**	**341**	P	**P**	**17 34 48.6**	**-1.4**
	0.3nm,0.4s,baz=187,slow=9.9,SNR=4.3						
KSRS	**Korea Array**	**49.21**	**332**	P	**P**	**17 35 26.6**	**-1.2**
	0.7nm,0.6s,baz=139,slow=7.3,SNR=6.0						
PETK	**Petropavlovsk-**	**58.34**	**2**	P	**P**	**17 36 33.8**	**0.0**
	0.8nm,0.5s,baz=145,slow=5.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**59.50**	**295**	P	**P**	**17 36 43.5**	**+1.0**
	0.4nm,0.8s,baz=114,slow=5.8,SNR=3.1						
SONM	**Songino Array**	**67.63**	**327**	P	**P**	**17 37 36.3**	**+0.8**
	1.1nm,0.5s,baz=143,slow=5.5,SNR=6.1						
MKAR	**Makanchi Array**	**81.77**	**319**	P	**P**	**17 38 56.8**	**+0.1**
	0.4nm,0.6s,baz=96,slow=7.6,SNR=4.9						
ILAR	**Eielson Array**	**82.13**	**22**	P	**P**	**17 38 58.6**	**+0.4**
	0.6nm,0.5s,baz=243,slow=5.4,SNR=13						
ZALV	**Zalesovo Beam**	**82.48**	**326**	P	**P**	**17 38 59.1**	**-1.2**
	0.9nm,0.5s,baz=112,slow=5.9,SNR=3.6						
MAW	**Mawson**	**85.62**	**203**	P	**P**	**17 39 16.1**	**+0.1**
	1.6nm,0.5s,baz=59,slow=9.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**151.94**	**288**	PKPbc	**PKPbc**	**17 46 32.7**	**-0.3**
	0.4nm,0.5s,baz=112,slow=0.8,SNR=3.1						

*ATH **26** 17:37:44.6,41°.02N×21°.18E,h16km±3km,ML2.6/3,Error ellipse: s-maj=5.5km s-min=1.4km az=131.0*
*BEO **26** 17:37:45.0±0.7,40°.99N×21°.16E,h5km±3km,ML2.2/7*

ISC 26 17:37:44.7±1.1,41°.02N±0°.03×21°.20E±0°.03,h9km±11km, n29,σ0§76/37,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.27**	**151**	P	**Pg**	**17 37 50.7**	**+0.6**
FNA				S	**Sb**	**17 37 55.2**	**-1.3**
FNA				AML	AML	17 37 55.4	
	comp=E,6726μm,0.2s						
FNA				AML	AML	17 37 56.5	
	comp=N,9699μm,0.2s						
NEST	**Nestorio**	**0.61**	**191**	P	**Pg**	**17 37 56.2**	**-0.4**
NEST				S	**Sg**	**17 38 05.1**	**+0.4**
NEST				AML	AML	17 38 08.8	
	comp=N,1515μm,0.4s						
NEST				AML	AML	17 38 09.1	
	comp=E,1030μm,0.3s						
PENT	**Pentalofos**	**0.82**	**183**	P	**Pg**	**17 38 00.3**	**-0.3**
PENT				S	**Sg**	**17 38 11.4**	**+0.1**
PENT				AML	AML	17 38 15.7	
	comp=N,264μm,0.3s						
PENT				AML	AML	17 38 16.6	
	comp=E,414μm,0.4s						
KZN	**Kozani**	**0.83**	**148**	P	**Pg**	**17 38 00.9**	**+0.2**
GRG	**Griva**	**0.91**	**94**	P	**Pg**	**17 38 02.0**	**-0.2**
TIR	**Tirane**	**1.06**	**288**	*e*Pg	**Pg**	**17 38 04.3**	**-0.8**
TIR				*e*Sg	**Sg**	**17 38 18.8**	**-0.1**
KPRO	**Kipourio**	**1.07**	**173**	P	**Pg**	**17 38 04.7**	**-0.6**
VAY	**Valandovo**	**1.08**	**73**	*e*Pg	**Pb**	**17 38 05.2**	**-0.3**
VAY				*e*Sg	**Sn**	**17 38 20.7**	**-0.4**
KNT	**Kendrikon**	**1.29**	**83**	P	**Pn**	**17 38 08.8**	**-0.2**
LIT	**Litokhoron**	**1.34**	**133**	P	**Pb**	**17 38 10.3**	**+0.2**
THL	**Klokotos Trika**	**1.58**	**157**	P	**Pb**	**17 38 13.8**	**-0.3**
IGT	**Igoumenitsa**	**1.63**	**204**	P	**Pb**	**17 38 15.0**	**+0.1**
KEK	**Kerkira**	**1.69**	**220**	P	**Pb**	**17 38 15.8**	**-0.2**
BOSS	**Bosilegrad**	**1.76**	**33**	*e*Pn	**Pn**	**17 38 15.5**	**0.0**
BARS	**Barje**	**1.85**	**14**	*e*Pn	**Pn**	**17 38 16.9**	**+0.1**
BARS				*e*Sn	**Sb**	**17 38 42.1**	**-0.1**
DRME	**Dracevica, Mon**	**1.91**	**308**	*e*Pn	**Pb**	**17 38 19.6**	**-0.2**
PDG	**Podgorica**	**2.03**	**315**	*e*Pn	**Pn**	**17 38 19.0**	**-0.1**
PDG				*e*Sg	**Sg**	**17 38 49.5**	**-0.4**
PDG	**Podgorica**	**2.03**	**315**	*e*Pn	**Pn**	**17 38 19.0**	**-0.1**
SELS	**Selova**	**2.20**	**358**	*e*Pn	**Pb**	**17 38 23.6**	**-1.1**
VTS	**Vitosha**	**2.21**	**43**	*e*Pg	**Pb**	**17 38 25.0**	**+0.1**
VTS				*e*Sn	**Sn**	**17 38 50.3**	**+1.1**
SJES	**Sjenica**	**2.42**	**338**	*e*Pn	**Pn**	**17 38 25.6**	**+1.0**
ZAPS	**Zavoj**	**2.49**	**25**	*e*Pn	**Pn**	**17 38 27.5**	**+1.9**
IVAS	**Ivanjica**	**2.67**	**343**	*e*Pn	**Pn**	**17 38 28.1**	**0.0**
TREB	**Trebinje**	**2.72**	**309**	*e*Pn	**Pn**	**17 38 30.0**	**+1.3**
TREB	**Trebinje**	**2.72**	**309**	*e*Pn	**Pb**	**17 38 33.6**	**0.0**
BRY	**Bratogost**	**2.74**	**314**	*e*Pn	**Pn**	**17 38 31.1**	**+2.1**
UPM	**Unac-Piva**	**2.77**	**323**	*e*Pn	**Pb**	**17 38 35.6**	**+1.0**
GRUS	**Gruza**	**2.89**	**353**	*e*Pn	**Pn**	**17 38 31.3**	**+0.3**
DIVS	**Divibare**	**3.21**	**344**	*e*Pn	**Pn**	**17 38 34.8**	**-0.6**

*IDC **26** 17:38:52.7±2.0,27°.65N×85°.74E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.3/29,mbtmp3.6/5,ML3.7/1,MS2.9/1, Ms1 2.9/1,ms1mx2.3/30,Error ellipse: s-maj=71.2km s-min=26.3km az=68.0*

ISC 26 17:38:54.7±1.8,27°.7N±0°.2×85°.4E±0°.2,h10km,n7,σ2§35/7, mb3.6/4,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**6.22**	**108**	*e*P	**Pn**	**17 40 30.0**	**+3.3**
SHL				*e*S	**Sb**	**17 41 56.0**	**-1.7**
MKAR	**Makanchi Array**	**19.22**	**354**	P	**P**	**17 43 18.9**	**0.0**
	0.2nm,0.3s,baz=174,slow=11,SNR=8.6						
SONM	**Songino Array**	**25.94**	**34**	P	**P**	**17 44 25.5**	**-1.8**
	0.8nm,0.7s,baz=222,slow=8.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**26.23**	**359**	P	**P**	**17 44 29.9**	**+0.3**
	0.5nm,0.3s,baz=177,slow=9.3,SNR=3.9						
ARCES	**ARCESS Array B**	**53.88**	**338**	P	**P**	**17 48 18.6**	**+0.8**
	1.5nm,0.8s,baz=108,slow=8.6,SNR=3.8						
GUMO	**Guam**	**56.95**	**91**	LR	LR	18 12 56.5	
	comp=Z,11nm,19.3s,baz=168,slow=36						
ASAR	**Alice Springs**	**69.29**	**133**	P	**P**	**17 50 00.3**	**-2.1**
	0.2nm,0.6s,baz=320,slow=6.2,SNR=3.4						

*ISK **26** 17:42:09.8,37°.39N×27°.01E,h16km,ML2.2/5*
*DDA **26** 17:42:11.1,37°.40N×27°.09E,h7km±2km,ML2.7*

ISC 26 17:42:10.5±1.5,37°.39N±0°.04×27°.07E±0°.07,h13km±12km, n10,σ0§46/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.34**	**23**	PG	**Pb**	**17 42 17.9**	**-0.4**
GCAM				SG	**Sb**	**17 42 23.9**	**+0.4**
GCAM	**G?zelcaml?**	**0.34**	**23**	IAML_P			
	comp=Z,3μm,0.1s						
GCAM				*i* P	**Pb**	**17 42 18.5**	**+0.2**
BODT	**Bodrum**	**0.38**	**149**	PG	**Pg**	**17 42 18.2**	**0.0**
BODT				SG	**Sb**	**17 42 24.7**	**-0.2**
BDRM	**Kayabasi**	**0.44**	**137**	*i* P	**Pb**	**17 42 20.4**	**+0.3**
AYDN	**Tasoluk**	**0.70**	**67**	IAML_P			
	comp=Z,549nm,0.1s						
AYDN				*i* P	**Pb**	**17 42 24.6**	**0.0**
DAT	**Datca**	**0.78**	**148**	PG	**Pg**	**17 42 25.6**	**0.0**
DAT				SG	**Sb**	**17 42 37.3**	**+0.9**
DAT	**Datca**	**0.78**	**148**	*i* P	**Pn**	**17 42 26.8**	**-0.4**
DAT				*i* S	**Sn**	**17 42 38.4**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**49**	PG	**Pb**	**17 42 27.5**	**+0.2**
AYDB				SG	**Sn**	**17 42 40.4**	**-0.4**
ZEY	**zmir**	**0.96**	**332**	IAML_P			
	comp=Z,2μm,0.2s						
ZEY				*i* P	**Pn**	**17 42 29.4**	**-0.2**
ZEY				*i* S	**Sn**	**17 42 43.8**	**+0.8**
URLA	**Izmir**	**1.04**	**339**	PG	**Pb**	**17 42 30.0**	**-0.3**

MEX 26 17:48:51.2±0.5,14°.56N×93°.15W,h5km,MD3.7,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.92**	**68**	*e*P	Pg	17 49 06.9	-2.1
THIG				*i* S	Sg	17 49 19.9	-1.1
PCIG		**1.14**	**357**	*e*P	Pg	17 49 10.2	-2.9
PCIG				*e*S	Sg	17 49 24.2	-3.7
CCIG	**Comitan**	**1.97**	**30**	*e*P	Pn	17 49 22.3	-3.2
CCIG				*i* S	S

LAO	LASA Array	2.95 348	ePn	Pn	18 06 18.7	+1.3
N23A	Red Feather La	2.96 189	ePn	Pn	18 06 18.6	+0.9
N23A			eSn	Sb	18 06 59.2	-0.5
RLMT	Red Lodge	3.12 296	ePn	Pn	18 06 21.3	+1.3
PD31	Pinedale Array	3.28 253	ePn	Pn	18 06 22.9	+0.9
PDAR	Pinedale Array	3.28 253	Pn	Pn	18 06 22.7	+0.6
	5.2nm,0.3s,baz=71,slow=16,SNR=54					
PDAR			Lg	Lg	18 07 06.8	
	9.7nm,0.3s,baz=73,slow=35,SNR=10					
BW06	Boulder Array	3.28 253	ePn	Pn	18 06 23.3	+1.2
BW06			eSn	Sb	18 07 07.9	-1.0
GCMT	Greycliff	3.68 304	ePn	Pn	18 06 29.2	+1.7
LKWY	Lake	3.74 283	ePn	Pn	18 06 29.0	+0.5
OGNE	Ogallala	3.75 139	ePn	Pn	18 06 29.7	+1.2
LOHW	Long Hollow	3.85 269	ePn	Pn	18 06 31.6	+1.7
FLWY	Flagg Ranch	3.91 276	ePn	Pn	18 06 32.6	+1.9
MOOW	Moose Ponds	3.94 271	ePn	Pn	18 06 33.6	+2.4
ISCO	Idaho Springs	4.02 183	ePn	Pn	18 06 33.3	+1.0
IMW	Indian Meadow	4.08 273	ePn	Pn	18 06 35.7	+2.6
YHH	Holmes Hill	4.10 286	ePn	Pn	18 06 34.7	+1.3
FXWY	Fox Creek	4.15 270	ePn	Pn	18 06 35.6	+1.5
YHB	Horse Butte	4.33 285	ePn	Pn	18 06 37.7	+1.1
AHID	Auburn Hatcher	4.36 258	ePn	Pn	18 06 38.5	+1.5
DGMT	Dagmar	4.72 9	ePn	Pn	18 06 44.5	+2.9
HWUT	Hardware Ranch	5.12 247	ePn	Pn	18 06 49.2	+1.9
KSCO	Kaye Shedlock'	5.20 156	ePn	Pn	18 06 48.9	+0.5
EGMT	Eagleton	5.23 325	ePn	Pn	18 06 49.7	+0.9
HRY	Holter Researc	5.44 304	ePn	Pn	18 06 52.6	+0.9
SPUT	South Promonto	5.84 247	ePn	Pn	18 06 58.3	+1.1
PV22	Blue Mesa, Par	5.89 208	ePn	Pn	18 06 58.9	+0.9
PV07	Paradox Valley	5.94 206	ePn	Pn	18 06 59.8	+1.2
P17A	Butcher Ranch,	5.95 225	ePn	Pn	18 06 59.2	+0.5
PV09	Paradox Valley	6.05 210	ePn	Pn	18 06 59.7	-0.4
MPU	Maple Canyon	6.06 233	ePn	Pn	18 07 00.1	-0.1
ECSD	EROS Data Cent	6.29 88	ePn	Pn	18 07 04.7	+1.4
Q16A	Castle Valley	6.59 224	ePn	Pn	18 07 07.6	+0.1
ELK	Elko	7.98 251	Pn	Pn	18 07 27.7	+1.1
	0.4nm,0.3s,baz=71,slow=7.9,SNR=6.1					
ULM	Lac du Bonnet	9.10 42	ePn	Pn	18 07 42.1	+0.5
ULM	Lac du Bonnet	9.10 42	Pn	Pn	18 07 42.0	+0.3
	1.5nm,0.3s,baz=235,slow=12,SNR=12					
NV01	Mina Array Sit	11.18 246	ePn	Pn	18 08 10.6	+0.2
NVAR	Mina Array Bea	11.18 246	Pn	Pn	18 08 10.6	+0.2
	0.1nm,0.3s,baz=47,slow=13,SNR=3.7					
YBH	Yreka Blue Hor	12.96 267	Pn	Pn	18 08 36.1	+1.5
	0.1nm,0.3s,baz=96,slow=18,SNR=1.8					
YKA	Yellowknife Ar	19.49 347	P	P	18 09 57.6	+0.2
	0.1nm,0.3s,baz=162,slow=13,SNR=7.3					
YKB5	Yellowknife Ar	19.49 347	eP	P	18 09 57.6	+0.2
ARCES	ARCESS Array B	61.35 18	P	P	18 15 44.4	-1.8
	2.1nm,0.9s,baz=316,slow=6.4,SNR=3.5					
ZAA1	Zalesovo Array	82.22 354	eP	P	18 17 51.0	-0.9
ZALV	Zalesovo Beam	82.23 354	P	P	18 17 51.0	-0.9
	0.6nm,0.5s,baz=46,slow=4.2,SNR=3.3					
MK32	Makanchi Array	89.53 355	eP	P	18 18 27.4	-0.9
MKAR	Makanchi Array	89.53 355	P	P	18 18 27.4	-0.9
	0.5nm,0.7s,baz=9.5,slow=3.7,SNR=4.9					

*ISCJB **26** 18:06:23.4±0.9, 6°.5S±0°.1×155°.7E±0°.1, h250km, mb3.8/7, Error ellipse: s-maj=19.9km s-min=15.2km az=159.8*
*IDC **26** 18:06:27.8±3.6, 6°.52S×155°.61E, h280km±37km, mb3.5/7, mb1 3.6/10, mb1mx3.3/36, mbtmp4.2/10, Error ellipse: s-maj=23.7km s-min=15.4km az=57.0*

ISC 26 18:06:24.9±1.0, 6°.4S±0°.1×155°.7E±0°.2, h250km, n14, σ1§04/11, mb3.9/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.97	250	P	Pn	18 08 31.7	+1.2
	1.4nm,0.3s,baz=13,slow=3.7,SNR=5.8						
CTA	Charters Tower	16.38	213	P	P	18 09 59.9	-0.2
	0.3nm,0.3s,baz=48,slow=8.9,SNR=3.9						
DZM	Mont Dzumac	18.69	147	P	P	18 10 27.2	+2.0
	0.5nm,0.3s,baz=287,slow=11,SNR=3.7						
WRA	Warramunga Arr	24.71	235	P	P	18 11 23.3	-0.5
	2.5nm,0.3s						
H11S3	WAKE ISLAND Hy	27.04	23	T	T	18 40 29.1	
	baz=202,slow=74,SNR=5.0						
H11S2	WAKE ISLAND Hy	27.04	23	T	T	18 40 31.4	
	baz=202,slow=74,SNR=4.5						
H11S1	WAKE ISLAND Hy	27.05	23	T	T	18 40 28.7	
	baz=202,SNR=2.9						
ASAR	Alice Springs	27.07	228	P	P	18 11 43.9	-1.0
	1.0nm,0.3s,baz=58,slow=9.2,SNR=43						
STKA	Stephens Creek	28.54	206	P	P	18 11 56.7	-1.0
	1.8nm,0.8s,baz=28,slow=13,SNR=4.5						
URZ	Urewera	37.15	152	P	P	18 13 11.4	-0.6
	7.8nm,1.0s,baz=16,slow=7.4,SNR=2.3						
KSRS	Korea Array	50.78	331	P	P	18 14 59.8	-0.1
	1.0nm,0.8s,baz=150,slow=8.1,SNR=3.7						
CMAR	Chiang Mai Arr	61.19	295	P	P	18 16 14.3	+0.4
	0.6nm,0.7s,baz=118,slow=5.7,SNR=5.4						
SONM	Songino Array	69.25	327	P	P	18 17 05.1	-0.1
	1.8nm,0.5s,baz=144,slow=8.1,SNR=10						
TORD	Torodi Ar. Bea	153.55	287	PKPbc	PKPbc	18 25 54.5	-0.4
	0.2nm,0.4s,baz=59,slow=2.4,SNR=3.5						

*BJI **26** 18:13:59.4±0.0, 23°.76S×176°.49W, h129km, mb4.8/8, mB5.0/7*
*ISCJB **26** 18:14:00.5±1.6, 23°.23S±0°.06×177°.16W±0°.07, h108km±15km, mb4.6/42, Error ellipse: s-maj=12.1km s-min=9.0km az=135.5*
*NEIC **26** 18:14:03.4±1.6, 23°.36S×176°.96W, h133km±15km, mb4.6/31, Error ellipse: s-maj=13.7km s-min=8.1km az=142.0*
*IDC **26** 18:14:08.1±3.3, 23°.14S×177°.14W, h163km±28km, mb3.8/13, mb1 4.0/13, mb1mx3.9/22, mbtmp4.3/13, Error ellipse: s-maj=17.7km s-min=15.6km az=133.0*

ISC 26 18:14:03.5±1.4, 23°.25S±0°.08×176°.93W±0°.07, h132km±12km, n95, σ1§59/106, mb4.7/42, 9C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.74	59	ePn	Pn	18 15 54.5	+0.9
NIUE				eSn	Sn	18 17 16.1	-3.6
DZM	Mont Dzumac	15.39	271	eP	P	18 17 36.5	+1.0
	23nm,0.7s						
DZM	Mont Dzumac	15.39	271	P	P	18 17 39.9	+4.4
	1.3nm,0.3s,baz=80,slow=18,SNR=13						
URZ	Urewera	15.81	197	ePn	Pn	18 17 38.7	+0.1
	18nm,1.1s						
URZ	Urewera	15.81	197	P	Pn	18 17 38.4	-0.2
	1.8nm,0.3s,baz=315,slow=5.7,SNR=9.0						
URZ				S	Sn	18 20 19.8	-14
	0.7nm,0.3s,baz=31,slow=19,SNR=3.4						
BKZ	Black Stump Fm	16.82	198	ePn	P	18 17 48.4	-2.7
	9.1nm,1.0s						
KHZ	Kahutara	20.70	200	eP	P	18 18 31.3	-1.8
	23nm,1.2s						
LTZ	Lake Taylor	21.44	202	eP	P	18 18 40.4	-0.8
	35nm,1.2s						
RPZ	Rata Peaks	22.69	203	P	P	18 18 55.4	+1.6
	14nm,1.0s,baz=24,slow=4.0,SNR=5.0						
FOZ	Fox Glacier	23.00	205	eP	P	18 18 56.8	+0.1
	48nm,1.1s						
WHZ	Wether Hill Ro	25.70	205	eP	P	18 19 17.9	-3.4
WHZ				ePcP	PcP	18 22 45.0	-3.0
HNR	Honiara	26.04	298	P	P	18 19 25.2	+0.6
	26nm,0.5s,baz=157,slow=4.9,SNR=7.1						
ARMA	Armidale	28.89	249	eP	P	18 19 49.3	-0.7
	6.3nm,1.0s						
EIDS	Eidsvold	29.20	259	eP	P	18 19 52.1	-0.6
	12nm,1.1s						
CAN	Canberra	31.90	240	eP	P	18 20 16.1	-0.4
	17nm,1.1s						
CTA	Charters Tower	34.30	268	P	P	18 20 38.9	+1.5
	44nm,0.4s,baz=91,slow=10,SNR=182						
CTAO	Charters Tower	34.30	268	eP	P	18 20 39.0	+1.5
	48nm,0.5s						
CTAO				ePcP	PcP	18 23 08.0	-2.8
TOO	Toolangi	35.17	237	eP	P	18 20 44.3	-0.5
	14nm,1.1s						
PMG	Port Moresby	36.99	286	P	P	18 21 00.0	-0.4
	35nm,1.0s,baz=171,slow=8.7,SNR=4.2						
STKA	Stephens Creek	37.58	248	eP	P	18 21 05.9	+0.7
	0.9nm,1.1s						
STKA	Stephens Creek	37.58	248	P	P	18 21 05.4	+0.2
	2.4nm,0.3s,baz=93,slow=8.8,SNR=21						
COEN	Coen	38.82	277	eP	P	18 21 16.3	+0.5
	7.6nm,0.7s						

BBOO	Buckleboo	42.29	246	eP	P	18 21 43.7	-0.5
	6.4nm,0.7s						
BBOO				ePcP	PcP	18 23 35.0	-0.6
PTCN	Pitcairn Islan	42.60	102	eP	P	18 21 46.1	-0.7
	236nm,0.9s						
AS31	Alice Springs	44.92	259	eP	P	18 22 02.2	-3.2
	2.9nm,0.9s						
AS31				ePcP	PcP	18 23 44.6	-0.1
ASAR	Alice Springs	44.92	259	P	P	18 22 05.0	-0.3
	6.2nm,0.7s,baz=100,slow=7.2,SNR=82						
ASAR				PcP	PcP	18 23 44.6	-0.1
	1.1nm,0.6s,baz=113,slow=4.0,SNR=4.7						
ASAR				ScP	ScP	18 27 22.3	-2.6
	0.3nm,0.8s,baz=102,slow=4.1,SNR=3.0						
WRAB	Tennant Creek	45.26	265	eP	P	18 22 03.1	-4.9
	16nm,0.8s						
WRA	Warramunga Arr	45.27	264	P	P	18 22 07.9	-0.2
	15nm,0.6s						
FORT	Forrest	49.17	249	eP	P	18 22 37.3	-0.9
	33nm,0.6s						
MTN	Manton Dam	50.23	272	eP	P	18 22 45.5	-0.9
	12nm,0.6s						
FITZ	Fitzroy Crossi	53.69	264	eP	P	18 23 12.0	0.0
	12nm,0.7s						
FITZ				ePcP	PcP	18 24 12.4	-4.2
VNDA	Vanda	55.27	185	eP	P	18 23 25.6	+3.1
	0.6nm,0.8s						
VNDA	Vanda	55.27	185	P	P	18 23 24.4	+1.8
	0.4nm,0.8s,baz=25,slow=7.5,SNR=4.6						
SOEI	Soe	57.61	273	eP	P	18 23 41.8	+1.6
	55nm,0.9s						
PSA00	Pilbara Seismi	58.05	258	eP	P	18 23 42.3	-0.8
	4.5nm,0.6s						
MORW	Morawa	59.74	249	eP	P	18 23 54.0	-0.6
	6.9nm,0.6s						
MMRI	Maumere	59.88	273	eP	P	18 23 53.7	-2.1
	33nm,1.0s						
CASY	Casey	61.92	206	eP	P	18 24 08.6	-0.1
	3.4nm,0.7s						
QSPA	South Pole Qui	66.83	180	eP	P	18 24 43.7	+2.9
	2.8nm,0.7s						
MJAR	Matsushiro Arr	73.00	324	P	P	18 25 17.4	-1.4
	1.4nm,0.9s,baz=160,slow=6.7,SNR=5.7						
MAJO	Matsushiro	73.01	324	eP	P	18 25 17.4	-1.4
PETK	Petropavlovsk-	79.17	345	P	P	18 25 52.9	-0.4
	1.9nm,0.8s,baz=138,slow=11,SNR=3.5						
PEA1	Petropavlovsk-	79.18	345	eP	P	18 25 52.9	-0.4
KS15	Wonju Array Si	79.61	318	eP	P	18 25 55.8	-0.3
	3.7nm,1.1s						
SRIG	Santa Rosalia	80.17	55	eP	P	18 25 57.1	-2.2
	18nm,0.9s						
NV01	Mina Array Sit	82.35	43	eP	P	18 26 13.6	+2.7
NVAR	Mina Array Bea	82.35	43	P	P	18 26 13.6	+2.7
	0.7nm,0.6s,baz=225,slow=7.6,SNR=5.4						
NJ2	Nanjing	82.39	310	eP	P	18 26 11.0	+0.1
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
IPM	Ipoh	84.47	277	eP	P	18 26 21.4	-0.7
	8.8nm,0.7s						
CN2	Changchun	85.07	322	eP	P	18 26 27.5	+3.2
SNAA	Sanae	85.24	178	P	P	18 26 26.1	+1.2
VNA3	Neumayer Olymp	85.34	176	P	P	18 26 26.6	+1.2
VNA2	Neumayer--Watz	85.79	177	P	P	18 26 29.2	+1.6
	baz=234,slow=2.0						
LTX	Lajitas	87.71	57	eP	P	18 26 39.7	+2.1
TXAR	Lajitas Array	87.71	57	P	P	18 26 39.7	+2.1
	0.7nm,0.8s,baz=209,slow=7.3,SNR=10						
PD31	Pinedale Array	90.28	43	eP	P	18 26 51.1	+1.5
	0.8nm,0.9s						
PDAR	Pinedale Array	90.28	43	P	P	18 26 51.1	+1.5
	0.7nm,1.0s,baz=224,slow=4.1,SNR=3.9						
ILAR	Eielson Array	90.77	12	P	P	18 26 51.3	+0.3
	0.6nm,0.7s,baz=226,slow=5.8,SNR=6.7						
ILB	Eielson Array	90.77	12	eP	P	18 26 51.3	+0.3
	1.4nm,0.9s						
CM31	Chiang Mai Arr	91.96	289	eP	P	18 26 57.7	0.0
	4.9nm,0.9s						
CMAR	Chiang Mai Arr	91.96	289	P	P	18 26 57.7	0.0
	1.6nm,0.8s,baz=120,slow=3.2,SNR=8.2						
HHC	Hu-ho-hao-te	91.97	314	eP	P	18 26 59.3	+2.0
HHC				pmax	pmax		
	comp=Z,56nm,1.2s						
HHC				pmax	pmax		
	comp=Z,180nm,7.3s						
CHTO	Chiang Mai	92.10	289	eP	P	18 26 58.3	+0.1
	3.5nm,0.7s						
CD2	Chengdu	93.10	302	eP	P	18 27 04.0	+1.3
ZALV	Zalesovo Beam	113.24	320	PKiKP	PKiKP	18 32 24.8	-0.3
	0.3nm,0.3s,baz=63,slow=0.3,SNR=2.4						
MKAR	Makanchi Array	113.79	312	PKiKP	PKiKP	18 32 25.8	-0.6
	0.3nm,0.4s,baz=185,slow=1.1,SNR=5.8						
KSH	Kashi	117.25	304	PKP	PKPdf	18 32 29.3	-4.1
GEYT	Alibeck	131.07	301	PKP	PKPdf	18 32 59.7	-0.1
	1.1nm,0.6s,baz=43,slow=3.0,SNR=3.2						
ARCES	ARCESS Array B	131.79	350	PKP	PKPdf	18 33 00.2	0.0
	1.3nm,0.7s,baz=28,slow=2.9,SNR=11						
FIA0	FINESS Array S	138.68	343	ePKPdf	PKPdf	18 33 12.4	-0.8
FINES	FINESS Array B	138.68	343	PKhKP	PKPpre	18 33 02.4	
	0.3nm,0.4s,baz=116,slow=4.4,SNR=4.0						
FINES				PKP	PKPdf	18 33 12.4	-0.8
	0.6nm,0.7s,baz=45,slow=3.0,SNR=4.6						
AKASG	Malin Array Be	145.89	330	PKPbc	PKPbc	18 33 26.6	-0.6
	3.8nm,0.4s,baz=44,slow=4.5,SNR=11						
AKBB	Malin Array Si	145.89	330	ePKPdf	PKPbc	18 33 27.0	-0.2
KIEV	Kiev	145.90	330	ePKPdf	PKPdf	18 33 26.8	+0.4
ILGA	Ilgaz	148.79	312	ePKPdf	PKPdf	18 33 29.8	-2.0
BR101	Keskin Array S	149.39	310	ePKPbc	PKPbc	18 33 37.2	0.0
BR131	Keskin Array S	149.39	310	ePKPbc	PKPbc	18 33 37.5	+0.2
BRTR	Keskin Array B	149.39	310	PKPbc	PKPbc	18 33 37.2	0.0
	3.1nm,0.7s,baz=139,slow=4.9,SNR=22						
KWP	Kalwaria Pacla	149.48	335	ePKPbc	PKPbc	18 33 37.8	+0.8
CFR	Carcaliu	150.08	323	⇑iP	PKPbc	18 33 36.8	-1.7
TLB	Topalu	150.50	322	⇑iP	PKPbc	18 33 39.1	-0.4
TRPA	Tarpa	150.73	333	⇑iP	PKPbc	18 33 40.5	-0.1
CLL	Collm	150.95	347	⇓iPKPbc	PKiKP	18 33 41.2	+0.3
	comp=Z,6.0nm,0.8s						
CLL				i		18 33 43.3	
CLL				iPKPab	PKPab	18 33 48.1	-0.1
UPC	Upice	150.98	343	ePKPAB	PKPab	18 33 48.5	+0.1
DPC	Dobruska-Polom	151.04	342	⇑ePKP	PKiKP	18 33 42.1	+0.9
DPC				ePKPAB	PKPab	18 33 47.2	-1.5
BRG	Berggiesshubel	151.16	346	ePKP	PKiKP	18 33 41.9	+0.5
	comp=Z,6.2nm,0.6s						
PVCC	Panska Ves	151.33	345	⇑ePKP	PKiKP	18 33 42.5	+0.7
DRGR		151.69	331	⇑iP	PKPbc	18 33 42.5	+0.2
VYHS	Vyhne	151.87	337	ePKP	PKiKP	18 33 43.1	+0.1
VYHS				e		18 33 52.7	
KHC	Kasperske Hory	152.87	345	⇑ePKP	PKiKP	18 33 45.5	+0.5
KHC				ex	x	18 33 50.0	
BZS	Buzias	153.08	330	⇑iP	PKiKP	18 33 47.6	+2.1
GERES	GERESS Array B	153.10	344	PKPbc	PKPbc	18 33 45.9	+0.5
	comp=Z,0.4nm,0.6s,baz=349,slow=4.2,SNR=2.0						
HERR	Herculane	153.25	328	⇑iP	PKiKP	18 33 49.2	+3.3
TORD	Torodi Ar. Bea	169.87	172	PKP	PKPdf	18 33 56.5	+0.4
	comp=Z,0.7nm,1.0s,baz=240,slow=1.2,SNR=2.9						
TORD				PKPab	PKPab	18 35 12.5	+1.4
	comp=Z,0.5nm,0.8s,baz=162,slow=3.8,SNR=2.8						
TOA1	Torodi Ar. Sit	169.87	172	ePKPdf	PKPdf	18 33 56.5	+0.4
TOA1				ePKPab	PKPab	18 35 12.5	+1.4

*IDC **26** 19:05:55.4±3.6, 52°.15N×160°.72E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.2/41, mbtmp3.5/4, ML2.3/1, Error ellipse: s-maj=66.2km s-min=42.4km az=178.0*
*KRSC **26** 19:05:58.9±10.0, 52°.12N×160°.60E, h56km±10km, ML3.8*
*ISCJB **26** 19:06:00.5±0.8, 52°.11N±0°.05×160°.58E±0°.07, h48km±10km, mb3.7/3, Error ellipse: s-maj=9.6km s-min=4.9km az=140.8*

ISC 26 19:06:00.9±1.7, 52°.09N±0°.06×160°.62E±0°.06, h37km±2km, n38, σ1§12/48, mb3.8/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.07	341	iP	Pn	19 06 18.1	-1.3
SPN				eS	Sn	19 06 31.0	-2.0
NLC	Nalytchevo	1.33	325	eP	Pn	19 06 22.6	-0.3
NLC				eS	Sn	19 06 38.9	-0.5
RUS	Russkaya	1.34	286	eP	Pn	19 06 22.4	-0.6
RUS				eS	Sn	19 06 38.4	-1.1
DALK	Dalny	1.48	310	eP	Pn	19 06 24.5	-0.4
DALK				eS	Sn	19 06 42.5	-0.5
PET	Petropavlovsk	1.52	309	iP	Pn	19 06 25.7	+0.2
MTVR	Mutnovka	1.55	286	eP	Pn	19 06 26.0	0.0
MTVR				eS	Sn	19 06 44.7	-0.2
UGLR	Uglovaya	1.57	316	eP	Pn	19 06 26.6	+0.4
SDLR	Sedlovina	1.59	319	eP	Pn	19 06 26.5	-0.1
KDTR	Khodutka, Kamc	1.60	261	eP	Pn	19 06 26.3	-0.2
KDTR				eS	Sn	19 06 45.2	-0.6
SMAR	Somma	1.61	318	eP	Pn	19 06 27.0	0.0
AVH	Avacha	1.64	317	eP	Pn	19 06 27.6	+0.3
AVH				eS	Sn	19 06 47.7	+0.5
KRER	Koryakskii	1.67	318	eP	Pn	19 06 27.7	0.0
ASAK	Asacha	1.70	281	eP	Pn	19 06 28.2	+0.2
KOK	Koryaka	1.71	316	eP	Pn	19 06 28.5	+0.4
KRX	Arik	1.75	318	eP	Pn	19 06 28.0	-0.8
PETK	Petropavlovsk-	2.05	301	Pn	Pn	19 06 32.9	+0.1
	5.3nm,0.3s,baz=112,slow=18,SNR=74						
PETK				Sn	Sn	19 06 57.6	+0.5
	7.8nm,0.3s,baz=105,slow=15,SNR=6.2						
APC	Apacha	2.27	293	eP	Pn	19 06 36.9	+1.1
APC				eS	Sn	19 07 03.0	+0.4
GNL	Ganaly	2.29	316	eP	Pn	19 06 37.2	+1.1
PAU	Pauzhetka	2.44	257	eP	Pn	19 06 39.1	+0.9
MKZ	Mys Kozlova	2.56	15	eP	Pn	19 06 39.6	-0.2
MKZ				eS	Sn	19 07 08.9	-0.7
KZV	Kizimen	3.04	356	eP	Pn	19 06 48.4	+1.9
TUMD	Tumrok D	3.12	358	eP	Pn	19 06 48.0	+0.5
TUMD				eS	Sn	19 07 23.1	-0.5
SKR	Severo-Kuril's	3.15	245	eP	Pn	19 06 48.5	+0.6
SKR				eS	Sn	19 07 24.6	+0.4
TUMR	Tumrok	3.21	355	eP	Pn	19 06 50.0	+1.1
ESO	Esso	4.01	344	eP	Pn	19 07 02.0	+2.3
SRDR	Sredinnyy	4.27	353	eP	Pn	19 07 05.6	+2.3
KBTR	Krutoberegovo	4.33	17	eP	Pn	19 07 04.8	+0.8
KBG	Krutoberegovo	4.35	16	eP	Pn	19 07 05.3	+1.0
BKI	Bering	4.46	43	eP	Pn	19 07 06.8	+1.0
BKI				eS	Sn	19 07 54.4	-2.0
BDR	Baidarnaya	4.50	4	eP	Pn	19 07 08.5	+2.0
SMKR	Semkarok	4.53	6	eP	Pn	19 07 09.7	+2.8
SRKR	Sorokina	4.59	4	eP	Pn	19 07 09.9	+2.2
TIXI	Tiksi	24.13	336	P	P	19 11 12.0	-0.8
	0.9nm,0.3s,baz=135,slow=6.9,SNR=3.6						
H11N2	WAKE ISLAND Hy	32.66	169	T	T	19 47 06.6	
	baz=353,slow=76,SNR=6.4						
H11N3	WAKE ISLAND Hy	32.68	169	T	T	19 47 08.4	
	baz=353,slow=76,SNR=4.6						
H11N1	WAKE ISLAND Hy	32.68	169	T	T	19 47 09.0	
	baz=353,slow=76,SNR=6.4						
MKAR	Makanchi Array	48.89	297	P	P	19 14 41.8	-0.9
	0.2nm,0.5s,baz=57,slow=6.7,SNR=3.1						
FINES	FINESS Array B	61.17	337	P	P	19 16 11.3	+0.3
	0.7nm,0.7s,baz=32,slow=9.0,SNR=6.5						

*IDC **26** 19:18:14.9±0.9, 52°.23N×160°.60E, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.7/46, mbtmp3.8/15, ML3.6/2, MS3.2/8, Ms1 3.2/8, ms1mx2.9/27, Error ellipse: s-maj=21.4km s-min=18.3km az=132.0*
*NEIC **26** 19:18:16.6±0.6, 51°.91N×160°.92E, h35km, mb4.1/10, Error ellipse: s-maj=13.4km s-min=7.7km az=169.0*
*KRSC **26** 19:18:17.1±10.0, 52°.13N×160°.63E, h55km±10km, ML4.3*
*MOS **26** 19:18:19.7±0.8, 52°.17N×160°.50E, h50km, mb4.2/11, Error ellipse: s-maj=7.9km s-min=4.1km az=99.1*

ISC 26 19:18:17.9±2.1, 52°.11N±0°.04×160°.61E±0°.04, h26km±15km, n147, σ1§58/167, mb4.0/28, MS3.2/7, 6C-6D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.05	340	iP	Pn	19 18 36.3	-0.6
SPN				eS	Sn	19 18 49.4	-1.4
SPN	Mys Shipunski	1.05	340	PN	Pn	19 18 36.3	-0.6
SPN				S	Sn	19 18 49.4	-1.4
NLC	Nalytchevo	1.31	324	eP	Pn	19 18 41.0	+0.5
NLC				eS	Sn	19 18 57.1	-0.1
NLC	Nalytchevo	1.31	324	PN	Pn	19 18 41.0	+0.5
NLC				S	Sn	19 18 57.1	-0.1
RUS	Russkaya	1.33	285	eP	Pn	19 18 41.1	+0.3
RUS				eS	Sn	19 18 57.4	-0.2
RUS	Russkaya	1.33	285	PN	Pn	19 18 41.1	+0.3
RUS				S	Sn	19 18 57.4	-0.2
DALK	Dalny	1.46	310	eP	Pn	19 18 42.5	-0.1
DALK				eS	Sn	19 18 59.6	-1.2
DALK	Dalny	1.46	310	PN	Pn	19 18 42.5	-0.1
DALK				S	Sn	19 18 59.6	-1.2
PET	Petropavlovsk	1.51	308	ePn	Pn	19 18 43.5	+0.4
PET	Petropavlovsk	1.51	308	iP	Pn	19 18 43.9	+0.7
PET	Petropavlovsk	1.51	308	PN	Pn	19 18 43.6	+0.4
PET				S	Sn	19 19 01.7	-0.2
MTVR	Mutnovka	1.54	285	eP	Pn	19

ESO	**Esso**	**3.98**	**344**	PN	**Pn**	**19 19 19.7**	**+2.5**
CIRR	**Tsirk**	**4.01**	**1**	*e*P	**Pn**	**19 19 19.4**	**+1.6**
CIRR	**Tsirk**	**4.01**	**1**	PN	**Pn**	**19 19 19.4**	**+1.6**
KRSR	**Krestovskiy**	**4.11**	**360**	*e*P	**Pn**	**19 19 21.5**	**+2.4**
KRSR	**Krestovskiy**	**4.11**	**360**	PN	**Pn**	**19 19 21.5**	**+2.4**
KLY	**Klyuchi**	**4.21**	**0**	*e*P	**Pn**	**19 19 22.6**	**+2.3**
KLY	**Klyuchi**	**4.21**	**0**	PN	**Pn**	**19 19 22.6**	**+2.3**
SRDR	**Sredinnyy**	**4.25**	**353**	*e*P	**Pn**	**19 19 23.2**	**+2.3**
SRDR	**Sredinnyy**	**4.25**	**353**	PN	**Pn**	**19 19 23.2**	**+2.3**
KBTR	**Krutoberegovo**	**4.30**	**17**	*e*P	**Pn**	**19 19 23.1**	**+1.5**
KBTR				*e*S	**Sn**	**19 20 13.1**	**+2.2**
KBTR	**Krutoberegovo**	**4.30**	**17**	PN	**Pn**	**19 19 23.1**	**+1.5**
KBTR				S	**Sn**	**19 20 13.1**	**+2.2**
KBG	**Krutoberegovo**	**4.33**	**16**	*e*P	**Pn**	**19 19 24.5**	**+2.6**
KBG	**Krutoberegovo**	**4.33**	**16**	PN	**Pn**	**19 19 24.5**	**+2.6**
BKI	**Bering**	**4.44**	**44**	*e*P	**Pn**	**19 19 24.3**	**+0.8**
BKI				*e*S	**Sn**	**19 20 11.7**	**-2.6**
BKI	**Bering**	**4.44**	**44**	PN	**Pn**	**19 19 24.3**	**+0.8**
BDR	**Baidarnaya**	**4.48**	**4**	*e*P	**Pn**	**19 19 27.0**	**+2.9**
BDR	**Baidarnaya**	**4.48**	**4**	PN	**Pn**	**19 19 27.0**	**+2.9**
SMKR	**Semkarok**	**4.51**	**6**	*e*P	**Pn**	**19 19 27.0**	**+2.5**
SMKR	**Semkarok**	**4.51**	**6**	PN	**Pn**	**19 19 27.0**	**+2.5**
SRKR	**Sorokina**	**4.56**	**4**	*e*P	**Pn**	**19 19 27.2**	**+2.0**
SRKR	**Sorokina**	**4.56**	**4**	PN	**Pn**	**19 19 27.2**	**+2.0**
SMY	**Shemya**	**8.27**	**80**	*e*Pn	Pn	19 20 09.5	-6.5
SMY	**Shemya**	**8.27**	**80**	*e*PN	Pn	19 20 09.5	-6.5
YSS	**Yuzh-Sakhalins**	**12.69**	**253**	*e*PN	**Pn**	**19 21 16.1**	**-0.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GSTR	**Great Sitkin T**	**14.33**	**81**	*e*Pn	Pn	19 21 33.8	-5.0
ASAJ	**Asahikawa**	**14.42**	**243**	Pn	**Pn**	**19 21 39.8**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=63,slow=20,SNR=4.5						
ASAJ				LR	LR	19 27 51.2	
	comp=Z,45nm,18.7s,baz=346,slow=40						
BILL	**Bilibino**	**16.21**	**8**	*e*Pn	**Pn**	**19 22 03.2**	**-0.3**
	comp=Z,3.9nm,0.7s						
BILL	**Bilibino**	**16.21**	**8⇑**	*e*P	**P**	**19 22 09.0**	**+2.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KLR	**Kul'dur**	**18.47**	**272⇑**	*e*P	**Pn**	**19 22 32.0**	**+0.3**
KLR				pmax	pmax		
	comp=Z,11nm,2.3s						
KLR	**Kul'dur**	**18.47**	**272**	P	**Pn**	**19 22 32.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=5.1						
NIKH	**Nikolski High**	**18.53**	**75**	*e*P	**P**	**19 22 29.2**	**-3.0**
	comp=Z,95nm,1.2s						
YAK	**Yakutsk**	**19.33**	**313**	*e*P	**P**	**19 22 38.1**	**-2.8**
YAK				pmax	pmax		
	comp=Z,73nm,0.8s						
				pmax	pmax		
YAK							
	comp=N,18nm,0.9s						
				pmax	pmax		
YAK							
	comp=E,22nm,0.9s						
VLA	**Vladivostok**	**21.23**	**256⇓**	*e*P	**P**	**19 23 00.9**	**-0.7**
MJA0	**Matsu Arr-Jizo**	**22.19**	**234**	*e*P	**P**	**19 23 15.4**	**+3.4**
MJA0				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MJB9	**Matsu-Tunnel**	**22.21**	**234**	*e*P	**P**	**19 23 10.4**	**-1.8**
	comp=Z,3.9nm,0.8s						
MAJO	**Matsushiro**	**22.21**	**234**	*e*P	**P**	**19 23 10.3**	**-1.8**
	comp=Z,3.8nm,0.8s						
MAJO	**Matsushiro**	**22.21**	**234⇓**	*i*P	**P**	**19 23 15.0**	**+2.8**
MAJO				pmax	pmax		
	comp=Z,10.0nm,1.5s						
MJAR	**Matsushiro Arr**	**22.21**	**234**	P	**P**	**19 23 14.1**	**+2.0**
	comp=Z,3.0nm,1.0s,baz=17,slow=9.3,SNR=11						
MJAR				LR	LR	19 32 01.7	
	comp=Z,41nm,20.9s,baz=90,slow=37						
CHGN	**Chignik**	**24.06**	**64**	*e*P	**P**	**19 23 30.1**	**-0.6**
	comp=Z,63nm,0.8s						
TIXI	**Tiksi**	**24.11**	**336**	*e*P	**P**	**19 23 30.5**	**-0.4**
	comp=Z,3.7nm,0.7s						
TIXI	**Tiksi**	**24.11**	**336⇑**	*i*P	**P**	**19 23 29.9**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	**Tiksi**	**24.11**	**336**	P	**P**	**19 23 30.1**	**-0.9**
	comp=Z,3.7nm,0.7s,baz=126,slow=9.0,SNR=14						
KSRS	**Korea Array**	**27.16**	**250**	P	**P**	**19 24 00.6**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=47,slow=9.5,SNR=3.1						
KSRS				LR	LR	19 35 37.6	
	comp=Z,37nm,18.2s,baz=8.5,slow=38						
KS15	**Wonju Array Si**	**27.19**	**250**	*e*P	**P**	**19 23 56.3**	**-2.9**
	comp=Z,5.7nm,1.0s						
BRLK	**Bradley Lake**	**27.66**	**55**	*e*P	**P**	**19 23 59.5**	**-3.7**
	comp=Z,4.7nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**32.69**	**169**	T	T	19 59 31.1	
	baz=352,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**32.70**	**169**	T	T	19 59 31.1	
	baz=352,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**32.70**	**169**	T	T	19 59 30.0	
	baz=352,slow=76,SNR=36						
H11S1	**WAKE ISLAND Hy**	**33.87**	**170**	T	T	20 01 43.5	
	baz=354						
H11S3	**WAKE ISLAND Hy**	**33.88**	**170**	T	T	20 01 40.7	
	baz=354						
H11S2	**WAKE ISLAND Hy**	**33.89**	**170**	T	T	20 01 41.8	
	baz=354						
SONM	**Songino Array**	**34.45**	**285**	LR	LR	19 40 14.3	
	comp=Z,82nm,18.4s,baz=72,slow=38						
INK	**Inuvik**	**34.46**	**37**	*e*P	**P**	**19 25 04.9**	**+2.0**
	comp=Z,0.5nm,1.1s						
INK	**Inuvik**	**34.46**	**37**	*e*P	**P**	**19 25 04.9**	**+2.0**
INK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
NRIK	**Noril'sk**	**36.90**	**326**	LR	LR	19 41 48.8	
	comp=Z,40nm,21.9s,baz=51,slow=38						
WHN	**Wuhan**	**40.02**	**256**	*e*P	**P**	**19 25 46.5**	**-3.9**
ZAA1	**Zalesovo Array**	**43.58**	**304**	*e*P	**P**	**19 26 18.2**	**-1.1**
ZALV	**Zalesovo Beam**	**43.58**	**304**	P	**P**	**19 26 18.2**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=76,slow=6.1,SNR=2.9						
DGZ	**Jazzator, Alta**	**44.39**	**297**	*d i*P	**P**	**19 26 26.0**	**-0.1**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**48.53**	**303⇓**	*e*P	**P**	**19 26 57.3**	**-1.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MK32	**Makanchi Array**	**48.87**	**297**	*e*P	**P**	**19 27 00.1**	**-1.0**
MKAR	**Makanchi Array**	**48.87**	**297**	P	**P**	**19 27 00.1**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=54,slow=7.8,SNR=7.8						
BRVK	**Borovoye**	**51.28**	**309**	*e*P	**P**	**19 27 18.8**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**54.32**	**342**	P	**P**	**19 27 41.1**	**-0.3**
	comp=Z,3.6nm,1.0s,baz=43,slow=9.0,SNR=3.7						
ARU	**Arti**	**54.34**	**318**	*d i*P	**P**	**19 27 41.6**	**-0.1**
ARU				S	**S**	**19 35 14.8**	**-2.9**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.5s						
AAK	**Ala-Archa**	**55.80**	**297⇑**	*e*P	**P**	**19 27 53.1**	**+0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KSH	**Kashi**	**57.08**	**293**	P	**P**	**19 28 02.0**	**+0.2**
CM31	**Chiang Mai Arr**	**58.30**	**259**	*e*P	**P**	**19 28 07.9**	**-2.5**
	comp=Z,5.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**58.30**	**259**	P	**P**	**19 28 11.8**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=29,slow=7.3,SNR=7.0						
CMAR				LR	LR	19 58 46.3	
	comp=Z,41nm,18.0s,baz=220,slow=42						
ULM	**Lac du Bonnet**	**59.27**	**47**	LR	LR	19 55 31.0	
	comp=Z,20nm,18.1s,baz=59,slow=38						
FIA0	**FINESS Array S**	**61.15**	**337**	*e*P	**P**	**19 28 30.6**	**+1.2**
FIA0	**FINESS Array S**	**61.15**	**337**	*e*P	**P**	**19 28 30.6**	**+1.2**
FINES	**FINESS Array B**	**61.15**	**337**	P	**P**	**19 28 30.6**	**+1.2**
	comp=Z,2.5nm,0.4s,baz=36,slow=8.3,SNR=30						
VSU	**Vasula**	**63.58**	**335⇓**	*e*P	**P**	**19 28 46.7**	**+1.0**
VSU				pmax	pmax		
	comp=Z,67nm,1.8s						
NB2	**NORSAR Subarra**	**64.57**	**344**	P	**P**	**19 28 52.9**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=20,slow=6.9						
NB200	**NORSAR Array S**	**64.57**	**344**	*e*P	**P**	**19 28 52.6**	**+0.3**
NOA	**NORSAR Array B**	**64.57**	**344**	P	**P**	**19 28 52.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=21,slow=6.7,SNR=5.1						
NOA				LR	LR	19 59 24.9	
	comp=Z,6.6nm,19.2s,baz=180,slow=38						
AKASG	**Malin Array Be**	**69.62**	**329**	P	**P**	**19 29 25.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=27,slow=6.3,SNR=2.9						
AKBB	**Malin Array Si**	**69.62**	**329**	*e*P	**P**	**19 29 25.0**	**+0.6**
	comp=Z,2.6nm,1.1s						
AKBB	**Malin Array Si**	**69.62**	**329**	*e*P	**P**	**19 29 25.0**	**+0.6**
AKBB				pmax	pmax		
	comp=Z,3.0nm,1.1s						
LTX	**Lajitas**	**70.73**	**67**	*e*P	**P**	**19 29 33.3**	**+1.6**
LTX	**Lajitas**	**70.73**	**67**	*e*P	**P**	**19 29 33.3**	**+1.6**
TXAR	**Lajitas Array**	**70.73**	**67**	P	**P**	**19 29 33.3**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=335,slow=4.0,SNR=2.1						

CLL	**Collm**	**73.39**	**339**	*i* P	**P**	**19 29 48.9**	**+1.8**
CLL				pmax	pmax		
	comp=Z,5.0nm,1.3s						
CLL	**Collm**	**73.39**	**339**	*i* P	**P**	**19 29 48.9**	**+1.8**
BR101	**Keskin Array S**	**77.58**	**321**	*e*P	**P**	**19 30 11.6**	**0.0**
BRTR	**Keskin Array B**	**77.58**	**321**	*e*P	**P**	**19 30 15.1**	**+3.5**
BRTR	**Keskin Array B**	**77.58**	**321**	P	**P**	**19 30 11.6**	**0.0**
	comp=Z,0.6nm,0.9s,baz=25,slow=4.8,SNR=3.6						
ASAR	**Alice Springs**	**79.00**	**205**	P	**P**	**19 30 20.4**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=18,slow=5.2,SNR=3.3						

IDC 26 19:21:25.4±1.8, 2°.00N×127°.62E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/32, mbtmp3.8/5, Error ellipse: s-maj=109.6km s-min=24.0km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.07**	**185**	P	P	19 26 00.5	0.0
	1.7nm,0.7s,baz=7,4,slow=9.3,SNR=5.6						
WRA	**Warramunga Arr**	**22.79**	**163**	P	P	19 26 30.7	+1.0
	2.8nm,0.6s,baz=346,slow=12,SNR=24						
ASAR	**Alice Springs**	**26.24**	**167**	P	P	19 27 02.2	-0.1
	0.6nm,0.6s,baz=350,slow=7.4,SNR=13						
STKA	**Stephens Creek**	**36.21**	**160**	P	P	19 28 29.6	-0.5
	1.2nm,0.4s,baz=349,slow=9.2,SNR=6.1						
MKAR	**Makanchi Array**	**59.47**	**325**	P	P	19 31 30.1	-0.2
	0.6nm,0.8s,baz=120,slow=7.7,SNR=5.3						

*ISCJB **26** 19:36:14.1±0.4, 17°.13N±0°.05×96°.69W±0°.03, h81km±9km, mb4.1/2, Error ellipse: s-maj=8.2km s-min=4.0km az=22.3*
*NEIC **26** 19:36:16.9±0.0, 17°.13N×96°.70W, h68km, mb4.2/4, MD4.1(MEX), After MEX.*
*MEX **26** 19:36:16.9±0.6, 17°.13N×96°.70W, h68km±4km, MD4.1*
ISC 26 19:36:14.9±0.9, 17°.14N±0°.04×96°.69W±0°.03, h71km±15km, n28, σ0s98/47, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPIG	**Tehuac#an**	**1.43**	**334**	*e*Pn	**Pn**	**19 36 40.3**	**+1.2**
TPIG				*e*Sn	**Sn**	**19 36 56.9**	**-0.5**
TPIG	**Tehuac#an**	**1.43**	**334**	*e*P	**Pn**	**19 36 40.3**	**+1.2**
TPIG				*i* S	**Sn**	**19 36 56.9**	**-0.5**
HUIG	**Huatulco**	**1.47**	**158**	*e*Pn	**Pn**	**19 36 40.7**	**+1.2**
HUIG				*e*Sn	**Sn**	**19 36 57.9**	**-0.1**
HUIG	**Huatulco**	**1.47**	**158**	*e*P	**Pn**	**19 36 40.7**	**+1.2**
HUIG				*i* S	**Sn**	**19 36 57.9**	**-0.1**
PNIG	**Pinotepa**	**1.56**	**242**	*e*Pn	**Pn**	**19 36 40.6**	**-0.1**
PNIG				*e*Sn	**Sn**	**19 36 60.0**	**-0.3**
PNIG	**Pinotepa**	**1.56**	**242**	*e*P	**Pn**	**19 36 40.6**	**-0.1**
PNIG				*i* S	**Sn**	**19 36 60.0**	**-0.3**
CMIG	**Matias Romero**	**1.73**	**91**	*e*Pn	**Pn**	**19 36 43.3**	**+0.3**
CMIG				*e*Sn	**Sn**	**19 37 05.0**	**+0.7**
CMIG	**Matias Romero**	**1.73**	**91**	*e*P	**Pn**	**19 36 43.3**	**+0.3**
CMIG				*i* S	**Sn**	**19 37 05.0**	**+0.7**
TLIG	**Tlapa**	**1.84**	**284**	*e*Pn	**Pn**	**19 36 45.3**	**+0.7**
TLIG				*e*Sn	**Sn**	**19 37 06.8**	**-0.2**
TLIG	**Tlapa**	**1.84**	**284**	*e*P	**Pn**	**19 36 45.3**	**+0.7**
TLIG				*i* S	**Sn**	**19 37 06.8**	**-0.2**
LVIG	**Laguna Verde**	**2.59**	**6**	*e*Pn	**Pn**	**19 36 54.3**	**-0.2**
YAIG	**Yautepec**	**2.84**	**308**	*e*Pn	**Pn**	**19 36 59.7**	**+1.6**
YAIG				*e*Sn	**Sn**	**19 37 31.7**	**+0.4**
YAIG	**Yautepec**	**2.84**	**308**	*e*P	**Pn**	**19 36 59.7**	**+1.6**
YAIG				*i* S	**Sn**	**19 37 31.7**	**+0.4**
PLIG	**Platanillo**	**2.96**	**295**	*e*Pn	**Pn**	**19 37 00.5**	**+0.9**
PLIG				*e*Sn	**Sn**	**19 37 34.0**	**-0.1**
PLIG	**Platanillo**	**2.96**	**295**	*i* P	**Pn**	**19 37 00.5**	**+0.9**
PLIG				*i* S	**Sn**	**19 37 34.0**	**-0.1**
CAIG	**El Cayaco**	**3.42**	**269**	*e*Pn	**Pn**	**19 37 06.4**	**+0.5**
CAIG				*e*Sn	**Sn**	**19 37 44.7**	**-0.5**
CAIG	**El Cayaco**	**3.42**	**269**	*e*P	**Pn**	**19 37 06.4**	**+0.5**
CAIG				*i* S	**Sn**	**19 37 44.7**	**-0.5**
PCIG		**3.62**	**113**	*e*Pn	**Pn**	**19 37 09.4**	**+0.8**
PCIG				*e*Sn	**Sn**	**19 37 50.5**	**+0.2**
PCIG		**3.62**	**113**	*i* P	**Pn**	**19 37 09.4**	**+0.8**
PCIG				*i* S	**Sn**	**19 37 50.5**	**+0.2**
ARIG	**Puente Sto Nin**	**3.67**	**289**	*e*P	**Pn**	**19 37 11.2**	**+1.9**
ARIG				*e*S	**Sn**	**19 37 50.9**	**-0.4**
CCIG	**Comitan**	**4.45**	**100**	*e*Pn	**Pn**	**19 37 18.9**	**-1.2**
TEIG	**Tepich**	**8.55**	**68**	*e*Pn	**Pn**	**19 38 16.4**	**+0.5**
CSGN	**Cosiguina Volc**	**9.74**	**114**	*e*Pn	**Pn**	**19 38 33.2**	**+0.8**
ACON	**Acoyapa**	**12.28**	**113**	*e*Pn	**Pn**	**19 39 07.4**	**+0.5**
ESPN	**Las Esperanzas**	**12.96**	**111**	*e*Pn	**Pn**	**19 39 16.5**	**+0.4**
BRAL	**Brewton**	**16.50**	**30**	*e*Pn	**Pn**	**19 39 58.5**	**-3.4**
	15nm,0.8s						
SDCO	**Great Sand Dun**	**21.95**	**341**	*e*P	**P**	**19 41 01.8**	**-1.2**
	1.8nm,0.9s						
BEKR	**Beckworth**	**30.57**	**323**	*e*P	**P**	**19 42 24.1**	**+2.0**
	11nm,0.7s						

KRSC 26 19:46:02.9±10.0, 56°.16N×161°.15E, h190km±10km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.34**	**229**	*e*P	Pn	19 46 29.0	+0.6
BZGR				*e*S	Sn	19 46 50.0	+2.0
KBG	**Krutoberegovo**	**0.87**	**83**	*e*P	Pn	19 46 31.6	+0.9
KBG				*e*S	Sn	19 46 53.2	+1.1
KBTR	**Krutoberegovo**	**0.93**	**86**	*e*P	Pn	19 46 32.0	+0.9
KBTR				*e*S	Sn	19 46 52.9	0.0
TUMR	**Tumrok**	**1.05**	**213**	*e*P	Pn	19 46 33.4	+1.3
TUMD	**Tumrok D**	**1.05**	**204**	*e*P	Pn	19 46 33.0	+1.0
KZV	**Kizimen**	**1.16**	**205**	*e*P	Pn	19 46 33.9	+0.9
MKZ	**Mys Kozlova**	**1.64**	**168**	*e*P	Pn	19 46 38.6	+1.6
MKZ				*e*S	Sn	19 47 05.5	+2.1
BKI	**Bering**	**2.89**	**107**	*e*S	Sn	19 47 31.3	+3.4
GNL	**Ganaly**	**3.09**	**218**	*e*P	Pn	19 46 55.0	+1.8
SPN	**Mys Shipunski**	**3.14**	**193**	*e*P	Pn	19 46 53.4	-0.3
SPN				*e*S	Sn	19 47 31.8	-1.5
SDLR	**Sedlovina**	**3.17**	**205**	*e*P	Pn	19 46 56.3	+2.1
SMAR	**Somma**	**3.21**	**206**	*e*P	Pn	19 46 56.5	+1.8
UGLR	**Uglovaya**	**3.25**	**205**	*e*P	Pn	19 46 57.8	+2.7

*ATH **26** 19:50:21.9, 41°.28N×20°.18E, h13km±3km, ML3.0/5, Error ellipse: s-maj=6.1km s-min=1.1km az=21.0*
*BEO **26** 19:50:22.9±0.6, 41°.14N×20°.04E, h3km±2km, ML2.8/13*
*TIR **26** 19:50:22.4, 41°.24N×20°.11E, h10km, Md3.0/5*
*PDG **26** 19:50:23.5±0.7, 41°.25N×20°.03E, h9km±1km, ML3.2/12, Error ellipse: s-maj=0.7km s-min=1.2km az=0.0*
*THE **26** 19:50:23.4, 41°.22N×20°.12E, h0km±2km, ML2.9/11, Error ellipse: s-maj=2.5km s-min=1.0km az=344.0*
ISC 26 19:50:22.9±0.9, 41°.19N±0°.01×20°.09E±0°.02, h7km±8km, n133, σ1s43/185, 16C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.23**	**312**	*e*Pg	**Pg**	**19 50 27.2**	**-0.3**
TIR				*e*Sg	**Sg**	**19 50 31.6**	**+1.0**
TIR	**Tirane**	**0.23**	**312**	P	**Pg**	**19 50 27.2**	**-0.3**
TIR				S	**Sg**	**19 50 31.6**	**+1.0**
TIR	**Tirane**	**0.23**	**312⇑**	*i*P	**Pg**	**19 50 27.0**	**-0.5**
TIR				S	**Sg**	**19 50 31.5**	**+1.0**
TIR	**Tirane**	**0.23**	**312**	*i* PG	**Pg**	**19 50 27.2**	**-0.3**
TIR				*i* SG	**Sg**	**19 50 32.2**	**+1.6**
TIR	**Tirane**	**0.23**	**312**	P	**Pg**	**19 50 27.2**	**-0.3**
TIR				S	**Sg**	**19 50 31.1**	**+0.5**
TIR				AML	AML	19 50 34.1	
	comp=N,24542μm,0.3s						
TIR				AML	AML	19 50 35.3	
	comp=E,19181μm,0.3s						
PHP	**Peshkopia**	**0.56**	**28**	P	**Pg**	**19 50 32.9**	**-0.8**
PHP				S	**Sg**	**19 50 42.2**	**+1.3**
PHP	**Peshkopia**	**0.56**	**28**	*i* PG	**Pg**	**19 50 32.9**	**-0.8**
PHP				*i* SG	**Sb**	**19 50 42.9**	**-0.3**
VLO	**Vlora**	**0.85**	**212**	P	**Pb**	**19 50 39.3**	**-0.7**
VLO				S	**Sn**	**19 50 53.6**	**-0.4**
VLO	**Vlora**	**0.85**	**212**	*i* PG	**Pn**	**19 50 40.9**	**-0.4**
VLO				*i* SG	**Sn**	**19 50 55.2**	**+1.2**
BIA	**Bitola**	**0.95**	**100**	P	**Pg**	**19 50 40.2**	**-0.9**
BIA				S	**Sb**	**19 50 54.8**	**+0.4**
ULC	**Ulcinj**	**1.00**	**321**	*i*Pg	**Pg**	**19 50 40.1**	**-2.0**
ULC				*e*Sg	**Sb**	**19 50 55.8**	**-0.1**
FNA	**Florina**	**1.05**	**112**	P	**Pg**	**19 50 41.3**	**-1.9**
FNA				S	**Sb**	**19 50 57.5**	**0.0**
FNA	**Florina**	**1.05**	**112**	P	**Pg**	**19 50 41.2**	**-1.9**
FNA				S	**Sg**	**19 50 56.2**	**-0.6**
FNA				AML	AML	19 50 58.3	
	comp=N,1727μm,0.4s						
FNA				AML	AML	19 51 01.7	
	comp=E,1680μm,0.3s						
NEST	**Nestorio**	**1.06**	**137**	P	**Pg**	**19 50 41.9**	**-1.4**
NEST				S	**Sn**	**19 50 59.5**	**+0.1**
NEST	**Nestorio**	**1.06**	**137**	P	**Pg**	**19 50 41.5**	**-1.8**
BCI	**Bajram Curri**	**1.17**	**359**	*i* PN	**Pb**	**19 50 44.5**	**-0.9**
BCI				*i* SN	**Sn**	**19 51 02.8**	**+0.8**
DRME	**Dracevica, Mon**	**1.20**	**326⇑**	*i*Pg	**Pn**	**19 50 44.3**	**-1.8**
DRME				*e*Sg	**Sn**	**19 51 02.4**	**-0.3**
DRME	**Dracevica, Mon**	**1.20**	**326**	*e*Pn	**Pn**	**19 50 44.0**	**-2.1**
SRN	**Sarande**	**1.31**	**183**	P	**Pg**	**19 50 47.6**	**-0.5**
SRN				S	**Sg**	**19 51 08.2**	**+3.1**
SRN	**Sarande**	**1.31**	**183**	*i* PN	**Pg**	**19 50 47.9**	**-0.2**
SRN				*i* SN	**Sg**	**19 51 08.8**	**+3.7**
PDG	**Podgorica**	**1.38**	**333**	*e*Pg	**Pn**	**19 50 48.0**	**-0.6**
PDG				*e*Sn	**Sg**	**19 51 08.9**	**+1.5**
PDG	**Podgorica**	**1.38**	**333⇑**	*i*P	**Pn**	**19 50 47.6**	**-1.0**
PDG	**Podgorica**	**1.38**	**333**	S	**Sg**	**19 51 07.7**	**+0.3**
PDG	**Podgorica**	**1.38**	**333**	*e*Pn	**Pn**	**19 50 47.1**	**-1.5**
TTG	**Podgorica**	**1.38**	**333⇑**	*i*Pg	**Pn**	**19 50 47.3**	**-1.3**
TTG				*e*Sg	**Sg**	**19 51 08.6**	**+1.2**
PVY	**Plav**	**1.40**	**356⇓**	*i*Pg	**Pn**	**19 50 47.9**	**-1.1**
PVY				*e*Sg	**Sg**	**19 51 09.6**	**+1.6**
BUM	**Brajici-Budva**	**1.42**	**321⇓**	*i*Pg	**Pn**	**19 50 48.8**	**-0.4**
BUM				*e*Sg	**Sg**	**19 51 09.9**	**+1.2**
KEK	**Kerkira**	**1.50**	**189**	P	**Pg**	**19 50 51.5**	**-0.1**
KEK				S	**Sg**	**19 51 12.9**	**+1.9**
KEK	**Kerkira**	**1.50**	**189**	P	**Pg**	**19 50 51.2**	**-0.4**
KZN	**Kozani**	**1.55**	**124**	P	**Pb**	**19 50 51.7**	**-0.3**
KZN				S	**Sg**	**19 51 13.9**	**+1.1**
KZN	**Kozani**	**1.55**	**124**	P	**Pb**	**19 50 51.7**	**-0.3**
KZN				S	**Sg**	**19 51 12.7**	**-0.1**
KZN				AML	AML	19 51 14.9	
	comp=E,464μm,0.4s						
KZN				AML	AML	19 51 23.8	
	comp=N,497μm,0.6s						
KPRO	**Kipourio**	**1.57**	**142**	P	**Pg**	**19 50 52.4**	**-0.6**
KPRO				S	**Sg**	**19 51 14.4**	**+1.0**
KPRO	**Kipourio**	**1.57**	**142**	P	**Pg**	**19 50 52.2**	**-0.8**
KPRO				S	**Sg**	**19 51 15.5**	**+2.1**
KPRO				AML	AML	19 51 24.3	
	comp=E,617μm,0.5s						
KPRO				AML	AML	19 51 27.1	
	comp=N,565μm,0.6s						
CEME	**Cevo**	**1.61**	**327**	*e*Pg	**Pg**	**19 50 54.0**	**+0.2**
JAN	**Janina**	**1.64**	**159**	P	**Pg**	**19 50 53.3**	**-1.1**
JAN	**Janina**	**1.64**	**159**	P	**Pb**	**19 50 53.0**	**-0.5**
JAN				S	**Sg**	**19 51 17.7**	**+2.0**
MEV	**Metsovon**	**1.65**	**148**	P	**Pg**	**19 50 54.1**	**-0.5**
IGT	**Igoumenitsa**	**1.67**	**174**	P	**Pb**	**19 50 53.0**	**-0.9**
IGT				S	**Sg**	**19 51 17.5**	**+1.0**
IGT	**Igoumenitsa**	**1.67**	**174**	P	**Pb**	**19 50 52.8**	**-1.1**
IGT				S	**Sg**	**19 51 17.1**	**+0.5**
IGT				AML	AML	19 51 21.0	
	comp=N,704μm,0.5s						
IGT				AML	AML	19 51 24.5	
	comp=E,761μm,0.8s						
IVA	**Berane**	**1.68**	**355⇓**	*i*Pn	**Pb**	**19 50 53.2**	**-1.0**
IVA				*e*Sn	**Sg**	**19 51 17.5**	**+0.5**
KOME	**Kolasin**	**1.71**	**346**	*e*Pn	**Pb**	**19 50 54.0**	**-0.7**
KOME				*e*Sn	**Sg**	**19 51 17.6

CSKK	Cskako	6.31 349	ePn	Pn	19 52 00.0	+3.8
CSKK			Sn	Sn	19 53 16.0	+7.5
SOKA	Soboth	6.59 328	ePn	Pn	19 52 00.5	+0.3
	comp=E,0.3nm,0.2s					
OBKA	Obir	6.65 325	i Pn	Pn	19 52 02.1	+1.0
	comp=E,0.8nm,0.3s					
PSZ	Piszkesteto	6.72 359	ePn	Pn	19 52 03.0	+1.0
PSZ			Sn	Sn	19 53 21.0	+2.1
ARSA	Arzberg	6.89 333	ePn	Pn	19 52 05.5	+1.3
	comp=E,1.1nm,0.3s					
TRPA	Tarpa	7.15 13	ePn	Pn	19 52 07.1	-0.7
VYHS	Vyhne	7.35 353	ePN	Pn	19 52 13.6	+3.0
VYHS			eSN	Sn	19 53 26.9	-7.4
ABTA	Abfaltersbach	7.79 318	i Pn	Pn	19 52 17.0	+0.3
	comp=E,1.0nm,0.2s					
MOA	Molln	7.85 330	ePn	Pn	19 52 18.4	+1.0
	comp=E,1.0nm,0.2s					
KOLS	Kolonicke sedl	7.89 11	ePN	Pn	19 52 21.1	+3.1
WTTA	Wattenberg	8.58 318	i Pn	Pn	19 52 28.4	+0.8
	comp=E,0.6nm,0.1s					
WATA	Walderalm	8.66 318	i Pn	Pn	19 52 29.7	+1.1
	comp=E,2.6nm,0.3s					
SQTA	Sankt Quirin	8.77 316	i Pn	Pn	19 52 30.5	+0.3
	comp=E,3.3nm,0.3s					

*DSN **26** 20:05:21.1±2.9,26°.90N×58°.13E, h14km, ML3.5/7, Error ellipse: s-maj=45.8km s-min=12.0km az=176.0*
*ISCJB **26** 20:05:24.7±0.5,26°.70N±0°.04×57°.73E±0°.06, h10km, Error ellipse: s-maj=7.8km s-min=5.5km az=11.4*
*TEH **26** 20:05:24.9,26°.67N×57°.81E, h16km, ML3.4*
ISC 26 20:05:22.9±1.0,**26°.74N**±0°.04×**57°.96E**±0°.04,**h10**km,**n31,**
σ1°**55**/31,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	Jask	1.11 189		ePg	Pg	20 05 44.7	+0.4
NIAN	Nian	1.29 309		ePg	Pg	20 05 48.6	+0.9
NIAN				IAMB	IAmb	20 06 14.2	
	comp=Z,0.0nm,0.3s						
GENO	Geno	1.72 293		ePg	Pb	20 05 54.5	-0.3
GENO				IAMB	IAmb	20 05 58.6	
	comp=Z,0.0nm,0.3s						
SHME	Shamm	1.77 247		eP	Pn	20 05 54.0	+0.4
	SNR=12						
SHME				S	Sg	20 06 19.5	-0.3
SHME	Shamm	1.77 247		ePn	Pb	20 05 55.2	-0.3
MSFE	Esma-Masafi	2.12 230		eP	Pn	20 05 58.3	-0.2
	SNR=11						
MSFE	Esma-Masafi	2.12 230		ePn	Pn	20 05 58.7	+0.2
HATD	Hatta, Dubai	2.52 221		P	Pn	20 06 05.1	+1.1
HATD	Hatta, Dubai	2.52 221		ePn	Pn	20 06 05.6	+1.6
CHBR	Chabahar	2.54 116		ePn	Pb	20 06 08.5	-0.1
ASHO	Ashiyiah	2.67 220		eP	Pn	20 06 06.1	0.0
	SNR=8.5						
ASHO	Ashiyiah	2.67 220		ePn	Pn	20 06 05.5	-0.6
NAZ	Nazwa, Dubai	2.71 230		P	Pn	20 06 08.4	+1.9
NAZ	Nazwa, Dubai	2.71 230		ePn	Pn	20 06 08.3	+1.8
FAQ	Al Faqa, Dubai	2.92 228		i P	Pn	20 06 10.6	+1.2
	SNR=9.9						
FAQ	Al Faqa, Dubai	2.92 228		ePn	Pn	20 06 10.2	+0.8
NGRK	Negar Kerman	3.09 340		ePn	Pb	20 06 16.4	-1.8
NGRK				IAMB	IAmb	20 06 28.4	
	comp=Z,0.0nm,0.3s						
CHMN	Cheshme madani	3.13 353		ePn	Pb	20 06 19.5	+0.6
ASUD	Al Ashush, Dub	3.17 229		P	Pn	20 06 12.8	-0.1
HOQ	Hoqain	3.20 191		ePn	Pn	20 06 11.8	-1.5
KRBR	Kerman	3.40 342		ePn	Pn	20 06 17.7	+1.4
TVBK	TV Kerman	3.40 342		ePn	Pb	20 06 22.0	-1.5
TVBK				IAMB	IAmb	20 07 21.7	
	comp=Z,0.0nm,0.5s						
SZD1	Zahaedan-tmp	3.75 43		ePn	Pb	20 06 29.0	-0.4
ZHSF	Zahedan	3.79 40		ePn	Pb	20 06 25.8	-4.2
KHGB	Koh Gabri	3.85 341		ePn	Pb	20 06 27.8	-3.3
KHGB				IAMB	IAmb	20 07 40.9	
	comp=Z,0.0nm,0.9s						
GHIR	Ghir-Karzin	4.67 290		ePn	Pn	20 06 33.2	-0.5
BSRN	Basiran	5.30 11		ePn	Pn	20 06 45.5	+3.1
ITEG	Tejag	6.17 6		ePn	Pn	20 07 00.5	+6.2
IKAZ	Kazeroun	6.18 301		ePn	Pn	20 06 54.3	-0.4
IRAM	Ramesheh	7.01 317		ePn	Pn	20 07 07.6	+1.7
KLNJ	Kolanjah	7.01 309		ePn	Pn	20 07 06.8	+0.7

*ISCJB **26** 20:08:18.5±0.5,36°.90N±0°.04×5°.20E±0°.05, h10km, Error ellipse: s-maj=7.1km s-min=4.1km az=43.1*
*CRAAG **26** 20:08:18.5,36°.65N×5°.21E, Ml2.9*
*MDD **26** 20:08:19.7±0.5,36°.79N×5°.22E, h0km, mb3.7/2, Error ellipse: s-maj=7.0km s-min=4.6km az=51.0, PRXIMO*
*LDG **26** 20:08:23.7±0.3,37°.02N×5°.12E, h2km, Ml3.0/5, Error ellipse: s-maj=6.0km s-min=3.9km az=160.0*
ISC 26 20:08:18.1±1.0,**36°.81N**±0°.04×**5°.25E**±0°.03,**h10**km,**n40,**
σ2°**27**/55,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	Setif	0.62 168		P	Pg	20 08 30.0	-0.3
SET	Setif	0.62 168		P	Pg	20 08 30.0	-0.3
CKHR	Kef el Ahmar	0.82 165		P	Pg	20 08 33.9	-0.1
CKHR	Kef el Ahmar	0.82 165		P	Pg	20 08 33.9	-0.1
CASM	Ain Smara	1.15 118		P	Pg	20 08 42.4	+2.3
CASM	Ain Smara	1.15 118		P	Pg	20 08 42.4	+2.3
CTEI	Djebel Teioual	1.20 128		P	Pn	20 08 42.0	+0.9
CTEI	Djebel Teioual	1.20 128		P	Pn	20 08 42.0	+0.9
CKFL	Kef-Lekhel	1.26 109		P	Pg	20 08 44.0	+1.7
CKFL	Kef-Lekhel	1.26 109		P	Pg	20 08 44.0	+1.7
CAEH	'Ain El Ouahch	1.29 91		P	Pn	20 08 43.4	+1.2
CAEH				P	Pg	20 08 44.7	+1.8
CAEH	'Ain El Ouahch	1.29 91		P	Pn	20 08 43.4	+1.2
AKET	Djebel Ketaf	1.34 236		P	Pg	20 08 44.9	+1.0
AKET	Djebel Ketaf	1.34 236		P	Pg	20 08 44.9	+1.0
CMAH	Djebel Manchou	1.76 95		P	Pn	20 08 49.0	+0.3
CMAH	Djebel Manchou	1.76 95		P	Pn	20 08 49.0	+0.3
ETOS	Mallorca	3.52 328		P	Pn	20 09 15.0	+2.1
	1.2nm,0.1s,SNR=7.9						
ETOS				S	Sn	20 09 54.9	+0.4
	1.2nm,0.2s,SNR=7.9						
EIBI	Ibiza	3.79 307		P	Pn	20 09 18.5	+1.8
	1.5nm,0.1s,SNR=7.9						
EIBI				S	Sn	20 10 00.9	-0.5
	1.0nm,0.2s,SNR=7.9						
CFON	Fontmartina	5.40 337		P	Pn	20 09 41.1	+2.2
	0.5nm,0.2s,SNR=7.9						
CFON				S	Sn	20 10 39.7	-1.4
	2.0nm,0.3s,SNR=7.9						
EPOB	Poblet	5.57 326		P	Pn	20 09 43.3	+2.1
	0.5nm,0.1s,SNR=7.9						
EPOB				S	Sn	20 10 41.9	-3.4
	0.3nm,0.2s,SNR=7.9						
ETOB	Tobarra	5.69 291		P	Pn	20 09 44.2	+1.4
	0.4nm,0.2s,SNR=7.9						
ETOB				S	Sn	20 10 47.0	-1.1
	0.5nm,0.5s,SNR=7.9						
PGF	Pioggiola	6.42 26		ePn	Pn	20 09 55.3	+2.5
PGF				eSn	Sn	20 11 03.0	-3.2
	2.8nm,0.2s						
PGF	Pioggiola	6.42 26		P	Pn	20 09 55.3	+2.5
PGF				S	Sn	20 11 03.0	-3.2
	1.4nm,0.2s						
LMR	La Mourre	6.58 8		ePn	Pn	20 09 56.3	+1.3
LMR				eSn	Sn	20 11 06.1	-4.0
	0.7nm,0.2s						
LMR	La Mourre	6.58 8		P	Pn	20 09 56.3	+1.3
LMR				S	Sn	20 11 06.1	-4.0
	0.3nm,0.2s						
EQES	Quesada	6.70 281		P	Pn	20 09 60.0	+3.3
	0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	20 11 10.3	-2.9
	0.1nm,0.2s,SNR=7.9						
FRF	La Foret Royal	6.83 9		ePn	Pn	20 09 59.5	+1.2
FRF				eSn	Sn	20 11 11.4	-4.6
	1.8nm,0.3s						
FRF	La Foret Royal	6.83 9		P	Pn	20 09 59.5	+1.2
FRF				S	Sn	20 11 11.4	-4.6
	0.9nm,0.3s						
MTLF	Montolieu	6.92 341		ePn	Pn	20 10 00.7	+1.1
MTLF	Montolieu	6.92 341		P	Pn	20 10 00.7	+1.1
SMRF	Simiane la Rot	7.16 2		ePn	Pn	20 10 05.2	+2.3
SMRF	Simiane la Rot	7.16 2		P	Pn	20 10 05.2	+2.3
EPF	Esparros	7.26 330		ePn	Pn	20 10 05.4	+1.0
EPF	Esparros	7.26 330		P	Pn	20 10 05.4	+1.0
LASF	Ste Croix	7.33 352		ePn	Pn	20 10 06.1	+0.8
LASF				eSn	Sn	20 11 23.5	-5.0
	0.9nm,0.3s						
LASF	Ste Croix	7.33 352		P	Pn	20 10 06.1	+0.8
LASF				S	Sn	20 11 23.5	-5.0
	0.4nm,0.3s						
LPG	La Plagne	8.75 7		ePn	Pn	20 10 26.5	+1.5
LPG	La Plagne	8.75 7		P	Pn	20 10 26.5	+1.5
LPL	La Plagne	8.77 7		ePn	Pn	20 10 26.5	+1.4
LPL	La Plagne	8.77 7		P	Pn	20 10 26.5	+1.4

*ISCJB **26** 20:14:56.7±0.4,36°.99N±0°.03×5°.29E±0°.04, h10km, Error ellipse: s-maj=4.9km s-min=3.4km az=40.9*
*CRAAG **26** 20:14:56.4,36°.62N×5°.22E, Ml3.1*
*MDD **26** 20:14:58.3±1.1,36°.71N×5°.24E, h4km±12km, mb4.0/16, Error ellipse: s-maj=8.9km s-min=5.4km az=178.0, PRXIMO*
*LDG **26** 20:15:00.3±0.4,36°.84N×5°.32E, h10km, Ml3.2/9, Error ellipse: s-maj=8.6km s-min=4.6km az=146.0*
ISC 26 20:14:56.2±0.8,**36°.84N**±0°.04×**5°.24E**±0°.04,**h10**km,**n67,**
σ2°**58**/95,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	Djebel Bou Aff	0.59 119		P	Pb	20 15 08.6	0.0
DFRA	Djebel Bou Aff	0.59 119		P	Pb	20 15 08.6	0.0
SET	Setif	0.65 168		P	Pg	20 15 07.0	-1.7
SET	Setif	0.65 168		P	Pg	20 15 07.0	-1.7
CKHR	Kef el Ahmar	0.85 165		P	Pg	20 15 11.8	-0.7
CKHR	Kef el Ahmar	0.85 165		P	Pg	20 15 11.8	-0.7
CASM	Ain Smara	1.16 119		P	Pn	20 15 19.5	+1.0
CASM	Ain Smara	1.16 119		P	Pn	20 15 19.5	+1.0
CTEI	Djebel Teioual	1.22 129		P	Pb	20 15 18.0	-1.3
CTEI	Djebel Teioual	1.22 129		P	Pb	20 15 18.0	-1.3
CKFL	Kef-Lekhel	1.27 110		P	Pg	20 15 22.3	+1.8
CKFL	Kef-Lekhel	1.27 110		P	Pg	20 15 22.3	+1.8
CAEH	'Ain El Ouahch	1.29 92		P	Pg	20 15 22.7	+1.7
CAEH	'Ain El Ouahch	1.29 92		P	Pg	20 15 22.7	+1.7
AKET	Djebel Ketaf	1.35 235		P	Pn	20 15 21.8	+0.6
AKET	Djebel Ketaf	1.35 235		P	Pn	20 15 21.8	+0.6
CMAH	Djebel Manchou	1.76 96		P	Pn	20 15 27.4	+0.6
CMAH	Djebel Manchou	1.76 96		P	Pn	20 15 27.4	+0.6
ABSA	Djebel Ababsia	1.89 107		P	Pn	20 15 28.2	-0.4
CABS	Djebel Ababsia	1.89 107		P	Pn	20 15 28.2	-0.4
ETOS	Mallorca	3.49 328		P	Pn	20 15 53.4	+2.8
	2.7nm,0.2s,SNR=14						
ETOS				S	Sn	20 16 33.6	+1.6
	3.7nm,0.3s,SNR=7.9						
EIBI	Ibiza	3.78 307		P	Pn	20 15 57.6	+3.1
	5.3nm,0.2s,SNR=13						
EIBI				S	Sn	20 16 40.9	+1.9
	1.0nm,0.3s,SNR=7.9						
EBEN2	Beniarda presa	4.68 295		P	Pn	20 16 10.3	+3.5
	1.2nm,0.1s,SNR=7.9						
AFON	Font Roja	4.93 293		P	Pn	20 16 13.8	+3.4
	2.3nm,0.4s,SNR=7.9						
EMUR	La Murta	5.26 283		P	Pn	20 16 16.7	+1.8
	2.2nm,0.3s,SNR=4.8						
EMUR				S	Sn	20 17 15.1	-0.5
	0.4nm,0.3s,SNR=7.9						
CFON	Fontmartina	5.38 337		P	Pn	20 16 18.8	+2.2
	1.1nm,0.1s,SNR=5.5						
CFON				S	Sn	20 17 18.2	-0.4
	2.8nm,0.4s						
EPOB	Poblet	5.55 326		P	Pn	20 16 21.7	+2.8
	1.6nm,0.3s,SNR=7.9						
EPOB				S	Sn	20 17 21.6	-1.2
	0.7nm,0.3s,SNR=7.9						
ECHE	Chera	5.61 301		P	Pn	20 16 22.8	+3.1
	3.6nm,0.5s,SNR=7.9						
ERTA	Horta de San J	5.62 319		P	Pn	20 16 23.1	+3.3
	1.6nm,0.4s,SNR=4.0						
ETOB	Tobarra	5.67 291		P	Pn	20 16 23.8	+3.2
	1.5nm,0.2s,SNR=8.5						
ETOB				S	Sn	20 17 24.9	-1.0
	0.3nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	5.69 310		P	Pn	20 16 24.1	+3.1
	1.3nm,0.2s,SNR=7.9						
EMOS				S	Sn	20 17 26.8	+0.3
	0.1nm,0.3s,SNR=7.9						
EMIR	Miracle	5.83 332		P	Pn	20 16 26.5	+3.8
	2.3nm,0.2s,SNR=5.9						
EMIR				S	Sn	20 17 29.7	0.0
	3.6nm,0.5s,SNR=6.9						
CLLI	Llivia	6.17 337		P	Pn	20 16 31.5	+4.0
	0.6nm,0.3s,SNR=7.9						
CLLI				S	Sn	20 17 37.5	-0.7
	0.2nm,0.5s,SNR=7.9						
SESP	Santiago Espad	6.32 284		P	Pn	20 16 32.0	+2.4
	1.5nm,0.2s,SNR=7.9						
CSOR	Sort	6.38 331		P	Pn	20 16 34.4	+4.1
	1.0nm,0.2s,SNR=8.9						
CSOR				S	Sn	20 17 44.1	+0.9
	0.0nm,0.4s						
PGF	Pioggiola	6.40 26		ePn	Pn	20 16 32.5	+1.9
PGF				eSn	Sn	20 17 39.8	-3.9
	6.7nm,0.2s						
PGF	Pioggiola	6.40 26		P	Pn	20 16 32.5	+1.9
PGF				S	Sn	20 17 39.8	-3.9
	3.3nm,0.2s						
EBER	Berja	6.52 273		P	Pn	20 16 34.7	+2.4
	1.5nm,0.5s,SNR=7.9						
EBER				S	Sn	20 17 45.5	-1.3
	4.6nm,0.6s,SNR=7.9						
LMR	La Mourre	6.56 8		ePn	Pn	20 16 34.5	+1.8
LMR				eSn	Sn	20 17 45.2	-2.4
	2.7nm,0.2s						
LMR	La Mourre	6.56 8		P	Pn	20 16 34.5	+1.8
LMR				S	Sn	20 17 45.2	-2.4
	1.4nm,0.2s						
EQES	Quesada	6.69 281		P	Pn	20 16 37.9	+3.3
	1.5nm,0.5s,SNR=7.9						
EQES				S	Sn	20 17 53.6	+2.6
	0.2nm,0.3s,SNR=7.9						
FRF	La Foret Royal	6.80 9		ePn	Pn	20 16 38.1	+2.1
FRF				eSn	Sn	20 17 51.5	-2.0
	4.9nm,0.3s						
FRF	La Foret Royal	6.80 9		P	Pn	20 16 38.1	+2.1
FRF				S	Sn	20 17 51.5	-2.0
	2.5nm,0.3s						
MTLF	Montolieu	6.90 341		ePn	Pn	20 16 37.4	+0.1
MTLF				eSn	Sn	20 17 53.2	-2.7
	0.9nm,0.3s						
MTLF	Montolieu	6.90 341		P	Pn	20 16 37.4	+0.1
MTLF				S	Sn	20 17 53.2	-2.7
	0.4nm,0.3s						
SMRF	Simiane la Rot	7.14 2		ePn	Pn	20 16 42.3	+1.7
SMRF				eSn	Sn	20 17 57.4	-4.4
	1.1nm,0.3s						
SMRF	Simiane la Rot	7.14 2		P	Pn	20 16 42.3	+1.7
SMRF				S	Sn	20 17 57.4	-4.4
	1.1nm,0.3s						
SBF	Sospel	7.22 13		ePn	Pn	20 16 43.9	+2.1
SBF				eSn	Sn	20 18 00.1	-3.7
	10nm,0.3s						
SBF	Sospel	7.22 13		P	Pn	20 16 43.9	+2.1
SBF				S	Sn	20 18 00.1	-3.7
	5.2nm,0.3s						
EPF	Esparros	7.24 330		ePn	Pn	20 16 46.5	+4.4
EPF				eSn	Sn	20 18 00.1	-4.3
EPF	Esparros	7.24 330		P	Pn	20 16 46.5	+4.4
EPF				S	Sn	20 18 00.1	-4.3
LASF	Ste Croix	7.31 352		eSn	Sn	20 18 03.0	-3.0
	0.8nm,0.3s						
LASF	Ste Croix	7.31 352		S	Sn	20 18 03.0	-3.0
	0.4nm,0.3s						
ETSF	Etsaut	7.52 325		ePn	Pn	20 16 51.2	+5.3
ETSF	Etsaut	7.52 325		P	Pn	20 16 51.2	+5.3
SJPF	Ste Jean	7.99 324		ePn	Pn	20 16 51.9	-0.5
SJPF	Ste Jean	7.99 324		P	Pn	20 16 51.9	-0.5
LPG	La Plagne	8.73 7		ePn	Pn	20 17 04.2	+1.5
LPG	La Plagne	8.73 7		P	Pn	20 17 04.2	+1.5
LPL	La Plagne	8.75 7		ePn	Pn	20 17 04.4	+1.5
LPL	La Plagne	8.75 7		P	Pn	20 17 04.4	+1.5
LFF	La Frestale	8.78 339		ePn	Pn	20 17 03.6	+0.5
LFF	La Frestale	8.78 339		P	Pn	20 17 03.6	+0.5
RJF	Les Rejaudoux	8.91 343		ePn	Pn	20 17 05.2	+0.2
RJF				eSn	Sn	20 18 40.2	-5.2
RJF	Les Rejaudoux	8.91 343		P	Pn	20 17 05.2	+0.2
RJF				S	Sn	20 18 40.2	-5.2
BGF	Bois d'Agland	9.88 350		ePn	Pn	20 17 18.5	+0.3
BGF				eSn	Sn	20 19 03.0	-6.1
BGF	Bois d'Agland	9.88 350		P	Pn	20 17 18.5	+0.3
BGF				S	Sn	20 19 03.0	-6.1

*IDC **26** 20:25:50.7±1.0,21°.43S×66°.46W, h217km±10km, mb3.4/5, mb1 3.6/11, mb1mx3.4/30, mbtmp4.0/11, Error ellipse: s-maj=17.8km s-min=10.4km az=100.0*
*ISCJB **26** 20:25:53.4±0.6,21°.36S±0°.04×66°.91W±0°.09, h247km±7km, mb3.5/5, Error ellipse: s-maj=13.0km s-min=6.5km az=179.8*
*GUC **26** 20:25:54.3±0.6,21°.33S×67°.05W, h264km±8km, ML4.3*
ISC 26 20:25:52.5±0.8,**21°.38S**±0°.05×**66°.76W**±0°.09,**h237**km±9km,
n29,σ1°**83**/46,**mb3.8**/5,**6C-7D,Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.34 238		P	Pn	20 26 38.2	+0.6
	7.1nm,0.3s,baz=44,slow=9.8,SNR=88						
LVC				S	S	20 27 12.7	-0.3
	16nm,0.3s,baz=240,slow=20,SNR=25						
PB09	IPOC Station P	2.34 259		i P	Pn	20 26 38.5	+1.0
PB09				eS	S	20 27 12.6	-0.2
PB08	IPOC Station P	2.56 298		⇓i P	Pn	20 26 40.8	+0.9
PB08				eS	S	20 27 17.1	+0.1
PB08				IAML		20 27 24.7	
	comp=E,227nm,0.2s						
PB01	IPOC Station P	2.56 277		⇑i P	Pn	20 26 40.4	+0.7
PB01				eS	S	20 27 15.7	-1.0
PB01				IAML		20 27 17.5	
	comp=N,679nm,0.3s						
GO01	Chusmiza	2.85 306		⇑i P	Pn	20 26 43.9	+0.8
GO01				eS	S	20 27 22.0	-0.8
GO01				IAML		20 27 32.2	
	comp=N,862nm,0.1s						
PB03	IPOC Station P	2.86 256		⇓i P	Pn	20 26 43.7	+0.9
PB03				eS	S	20 27 21.3	-1.1
PB03				IAML		20 27 22.1	
	comp=N,516nm,0.3s						
PB06	IPOC Station P	2.92 243		⇑i P	Pn	20 26 44.6	+1.0
PB06				eS	S	20 27 23.4	-0.3
PB06				IAML		20 27 27.7	
	comp=N,200nm,0.3s						
PB02	IPOC Station P	2.92 271		⇓i P	Pn	20 26 44.2	+0.7
PB02				eS	S	20 27 22.2	-1.4
PB07	IPOC Station P	2.93 263		⇑i P	Pn	20 26 44.5	+0.9
PB07				eS	S	20 27 22.5	-1.3
PB07				IAML		20 27 25.7	
	comp=N,531nm,0.7s						
PB15	IPOC Station P	3.10 234		⇑i P	Pn	20 26 47.1	+1.6
PB15				eS	S	20 27 28.0	+0.7
PB11	IPOC Station P	3.15 300		⇓i P	Pn	20 26 46.2	+0.1
PB11				eS	S	20 27 27.2	-1.2
PB11				IAML		20 27 29.9	
	comp=N,751nm,0.1s						
PB04	IPOC Station P	3.29 253		⇓i P	Pn	20 26 48.3	+0.6
PB04				eS	S	20 27 29.6	-1.5
PB04				IAML		20 27 30.9	
	comp=N,223nm,0.2s						
PB04				IAML		20 27 37.3	
	comp=E,215nm,0.2s						
MNMC	Minye Minye	3.48 310		⇓i P	Pn	20 26 50.5	+0.6
MNMC				eS	S	20 27 34.0	-1.2
PB05	IPOC Station P	3.51 245		⇑i P	Pn	20 26 50.9	+0.7
PB05				eS	S	20 27 33.7	-1.8
PB05				IAML		20 27 40.2	
	comp=E,132nm,0.4s						
PSGC	Pisagua	3.62 299		⇓i P	Pn	20 26 51.0	-0.4
PSGC				eS	S	20 27 35.0	-2.8
PSGC				IAML		20 27 37.1	
	comp=N,236nm,0.2s						
LPAZ	La Paz	5.23 345		P	Pn	20 27 11.9	+0.5
	comp=N,2.9nm,0.3s,baz=178,slow=6.2,SNR=46						
LPAZ				S	S	20 28 12.2	-1.9
	comp=N,0.7nm,0.3s,baz=310,slow=16,SNR=18						
SIV	San Ignacio	7.60 46		P	Pn	20 27 37.8	-3.0
	comp=N,10nm,0.3s,baz=244,slow=13,SNR=250						
CPUP	Villa Florida	9.94 122		P	Pn	20 28 13.2	+2.8
	comp=N,0.4nm,0.3s,baz=303,slow=11,SNR=8.0						
CFA	Coronel Fontan	10.27 187		P	Pn	20 28 13.1	-1.5
	comp=N,1.2nm,0.3s,baz=24,slow=12,SNR=26						
CFA				S	S	20 30 01.6	-8.2
	comp=N,2.2nm,0.3s,baz=178,slow=15,SNR=12						
ATAH	Atahualpa	18.08 320		P	Pn	20 29 50.9	+0.6
	comp=N,0.3nm,0.3s,baz=144,slow=19,SNR=2.5						
PLCA	Paso Flores	19.56 189		P	P	20 30 03.5	+0.9
	comp=N,0.1nm,0.3s,baz=9.0,slow=10,SNR=4.7						
MDP	Montagnes des	29.74 29		P	P	20 31 36.4	-0.7
	comp=N,4.0nm,0.9s,baz=242,slow=17,SNR=2.8						
TXAR	Lajitas Array	61.70 323		P	P	20 35 46.6	+0.7
	comp=N,0.2nm,0.5s,baz=150,slow=8.6,SNR=4.2						
PDAR	Pinedale Array	75.03 329		P	P	20 37 09.7	+1.4
	comp=N,0.2nm,0.4s,baz=105,slow=7.0,SNR=3.7						
TORD	Torodi Ar. Bea	75.44 69		P	P	20 37 09.1	-1.8
	comp=N,0.9nm,0.5s,baz=264,slow=4.9,SNR=14						
YKA	Yellowknife Ar	91.75 340		P	P	20 38 33.7	+1.0
	comp=N,0.6nm,0.5s,baz=128,slow=4.5,SNR=12						
LANS	Liptovska Anna	103.48 42		ePDIF	Pdif	20 39 23.7	-2.3
KOLS	Kolonicke sedl	105.20 43		ePDIF	Pdif	20 39 32.0	-1.6
MKAR	Makanchi Array	144.35 37		PKP	PKPdf	20 45 00.2	-0.1
	comp=N,0.8nm,0.6s,baz=314,slow=3.8,SNR=9.0						

*CRAAG **26** 20:39:49.6,36°.78N×5°.19E, Ml3.1*
*ISCJB **26** 20:39:51.7±0.4,37°.08N±0°.03×5°.35E±0°.03, h10km, mb2.8/1, MS2.1/1, Error ellipse: s-maj=4.7km s-min=3.0km az=44.7*
*IDC **26** 20:39:52.3±2.8,36°.76N×5°.37E, h0km, mb2.9/1, mb1 3.0/3, mb1mx2.8/46, mbtmp2.9/3, ML3.2/2, MS2.2/1, Ms1 2.2/1, ms1mx1.8/21, Error ellipse: s-maj=57.5km s-min=28.2km az=15.0*
*MDD **26** 20:39:52.9±1.1,36°.76N×5°.27E, h6km±14km, mb3.9/8, Error ellipse: s-maj=10.0km s-min=6.5km az=5.0, PRXIMO*
*LDG **26** 20:39:55.6±0.3,36°.97N×5°.33E, h2km, Ml3.1/12, Error ellipse: s-maj=6.6km s-min=3.7km az=147.0*
ISC 26 20:39:51.3±0.8,**36°.86N**±0°.04×**5°.31E**±0°.04,**h10**km,**n62,**
σ2°**54**/95,**Northern Algeria**

| Code |

0.4nm,0.2s,SNR=7.9
EMOS S **Sn** **20 42 21.1 -1.2**
0.4nm,0.3s,SNR=7.9
EMIR Miracle 5.84 331 P **Pn** **20 41 21.1 +3.1**
2.3nm,0.2s,SNR=8.9
EMIR S **Sn** **20 42 22.6 -2.3**
64nm,4.1s,SNR=7.1
SJAF Saint Jean de 5.92 342 P **Pn** **20 41 21.5 +2.4**
0.9nm,0.3s,SNR=7.9
SJAF S **Sn** **20 42 24.8 -2.2**
4.2nm,0.6s,SNR=7.9
CLLI Llivia 6.17 336 P **Pn** **20 41 25.2 +2.5**
0.4nm,0.1s,SNR=7.9
CLLI S **Sn** **20 42 31.5 -1.8**
0.2nm,0.4s,SNR=7.9
PGF Pioggiola 6.35 25 *e*Pn **Pn** **20 41 26.4 +1.4**
PGF *e*Sn **Sn** **20 42 35.0 -2.7**
5.6nm,0.2s
PGF Pioggiola 6.35 25 P **Pn** **20 41 26.4 +1.4**
PGF S **Sn** **20 42 35.0 -2.7**
2.8nm,0.2s
SESP Santiago Espad 6.37 284 P **Pn** **20 41 28.6 +3.1**
1.4nm,0.2s,SNR=7.9
CSOR Sort 6.38 331 P **Pn** **20 41 29.4 +3.9**
0.9nm,0.2s,SNR=7.2
CSOR S **Sn** **20 42 37.1 -1.3**
0.4nm,0.4s,SNR=7.9
LMR La Mourre 6.53 8 *e*Pn **Pn** **20 41 28.6 +1.2**
LMR *e*Sn **Sn** **20 42 37.8 -4.1**
2.1nm,0.2s
LMR La Mourre 6.53 8 P **Pn** **20 41 28.6 +1.2**
LMR S **Sn** **20 42 37.8 -4.1**
1.1nm,0.2s
EBER Berja 6.58 273 P **Pn** **20 41 30.4 +2.1**
1.1nm,0.3s,SNR=7.9
EBER S **Sn** **20 42 41.3 -2.1**
0.4nm,0.4s,SNR=7.9
EQES Quesada 6.75 281 P **Pn** **20 41 34.0 +3.5**
1.7nm,0.4s,SNR=8.4
EQES S **Sn** **20 42 47.4 -0.1**
5.8nm,2.3s,SNR=7.9
FRF La Foret Royal 6.77 8 *e*Pn **Pn** **20 41 32.0 +1.3**
FRF *e*Sn **Sn** **20 42 43.7 -4.1**
2.1nm,0.2s
FRF La Foret Royal 6.77 8 P **Pn** **20 41 32.0 +1.3**
FRF S **Sn** **20 42 43.7 -4.1**
1.1nm,0.2s
MTLF Montolieu 6.89 341 *e*Pn **Pn** **20 41 33.2 +0.8**
MTLF *e*Sn **Sn** **20 42 46.0 -4.9**
0.3nm,0.2s
MTLF Montolieu 6.89 341 P **Pn** **20 41 33.2 +0.8**
MTLF S **Sn** **20 42 46.0 -4.9**
0.2nm,0.2s
SMRF Simiane la Rot 7.11 2 *e*Pn **Pn** **20 41 36.6 +1.2**
SMRF *e*Sn **Sn** **20 42 51.5 -4.8**
0.5nm,0.3s
SMRF Simiane la Rot 7.11 2 P **Pn** **20 41 36.6 +1.2**
SMRF S **Sn** **20 42 51.5 -4.8**
0.5nm,0.3s
SBF Sospel 7.18 12 *e*Pn **Pn** **20 41 37.8 +1.4**
SBF *e*Sn **Sn** **20 42 54.2 -3.8**
4.1nm,0.3s
SBF Sospel 7.18 12 P **Pn** **20 41 37.8 +1.4**
SBF S **Sn** **20 42 54.2 -3.8**
2.0nm,0.3s
EPF Esparros 7.25 330 *e*Pn **Pn** **20 41 37.9 +0.6**
EPF *e*Sn **Sn** **20 42 55.5 -4.2**
1.3nm,0.4s
EPF Esparros 7.25 330 P **Pn** **20 41 37.9 +0.6**
EPF S **Sn** **20 42 55.5 -4.2**
0.6nm,0.4s
LASF Ste Croix 7.29 352 *e*Pn **Pn** **20 41 39.7 +1.8**
LASF *e*Sn **Sn** **20 42 56.1 -4.6**
1.0nm,0.3s
LASF Ste Croix 7.29 352 P **Pn** **20 41 39.7 +1.8**
LASF S **Sn** **20 42 56.1 -4.6**
0.0nm,0.3s
ESDC Sonseca Array 7.82 294 Pn **Pn** **20 41 48.7 +3.6**
0.2nm,0.3s,baz=106,slow=14,SNR=2.3
MBDF Montbardon 7.93 8 *e*Pn **Pn** **20 41 47.6 +0.8**
MBDF *e*Sn **Sn** **20 43 12.8 -3.9**
3.5nm,0.3s
MBDF Montbardon 7.93 8 P **Pn** **20 41 47.6 +0.8**
MBDF S **Sn** **20 43 12.8 -3.9**
1.8nm,0.3s
VIVF Saint-Julien-l 8.00 357 *e*Pn **Pn** **20 41 45.1 -2.5**
VIVF Saint-Julien-l 8.00 357 P **Pn** **20 41 45.1 -2.5**
ORIF Oris-en-Rattie 8.06 3 *e*Pn **Pn** **20 41 48.2 -0.3**
ORIF *e*Sn **Sn** **20 43 16.1 -3.6**
1.5nm,0.3s
ORIF Oris-en-Rattie 8.06 3 P **Pn** **20 41 48.2 -0.3**
ORIF S **Sn** **20 43 16.1 -3.6**
0.8nm,0.3s
LPG La Plagne 8.70 7 *e*Pn **Pn** **20 41 57.4 0.0**
LPG La Plagne 8.70 7 P **Pn** **20 41 57.4 0.0**
LPL La Plagne 8.71 7 *e*Pn **Pn** **20 41 59.0 +1.4**
LPL La Plagne 8.71 7 P **Pn** **20 41 59.0 +1.4**
TORD Torodi Ar. Bea 23.84 189 P **P** **20 45 06.2 +1.5**
0.4nm,1.0s,baz=1.8,slow=11,SNR=1.7
OBN Obninsk 28.02 39 LR LR 20 58 42.4
comp=Z,4.7nm,19.7s,baz=359,slow=40

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*ISCJB **26** 20:40:43.4±2.0, 10°.54N±0°.03×126°.77E±0°.05, h29km±14km, mb4.0/20, MS3.0/1, Error ellipse: s-maj=7.7km s-min=5.1km az=163.2*
*MAN **26** 20:40:44.7, 10°.60N×126°.71E, h43km, MS4.1*
*NEIC **26** 20:40:46.1±0.5, 10°.49N×126°.88E, h35km, mb4.1/10, Error ellipse: s-maj=18.2km s-min=9.4km az=75.0*
*IDC **26** 20:40:47.5±0.7, 10°.46N×126°.83E, h48km±6km, mb3.8/14, mb1 3.9/14, mb1mx3.6/51, mbtmp4.0/14, MS2.9/3, Ms1 2.9/3, ms1mx2.5/31, Error ellipse: s-maj=31.5km s-min=12.7km az=69.0*
ISC 26 20:40:47.1±0.6, 10°.52N±0°.04×126°.68E±0°.08, h45km±4km, n49, σ1°36/64, mb4.2/20, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.63**	**311**	*e*P	**Pn**	**20 41 11.3**	**-2.0**
BESP				*e*S	**Sn**	**20 41 34.7**	**+1.6**
PLP	**Palo**	**1.79**	**291**	‖*e*P	**Pn**	**20 41 14.8**	**-0.8**
PLP				*e*S	**Sn**	**20 41 36.7**	**-0.5**
BUTP	**Butuan**	**1.86**	**214**	*e*P	**Pn**	**20 41 13.5**	**-3.1**
BUTP				*e*S	**Sn**	**20 41 38.7**	**-0.3**
LLP	**Lapu-Lapu**	**2.68**	**266**	*e*P	**Pn**	**20 41 27.0**	**-0.8**
LLP				*e*S	**Sn**	**20 41 59.0**	**-0.1**
CNP	**Cataman**	**2.80**	**315**	*e*P	**Pn**	**20 41 27.5**	**-1.9**
CNP				*e*S	**Sn**	**20 41 59.9**	**-2.0**
CGP	**Cagayan de Oro**	**2.84**	**224**	‖*e*P	**Pn**	**20 41 30.6**	**+0.6**
CGP				*e*S	**Sn**	**20 42 01.9**	**-1.1**
BUKP	**Musuan**	**3.08**	**212**	*e*P	**Pn**	**20 41 33.4**	**+0.1**
BUKP				*e*S	**Sn**	**20 42 04.8**	**-4.1**
MATI	**Mati**	**3.58**	**187**	*e*P	**Pn**	**20 41 40.9**	**+0.8**
MATI				*e*S	**Sn**	**20 42 23.1**	**+2.0**
PVCP	**Virac**	**3.93**	**321**	*e*P	**Pn**	**20 41 42.3**	**-2.7**
PVCP				*e*S	**Sn**	**20 42 28.2**	**-1.7**
IPIL	**Ipil**	**4.88**	**237**	*e*P	**Pn**	**20 41 58.5**	**+0.4**
IPIL				*e*S	Sn	20 42 35.8	-18
TNTI	**Ternate**	**9.71**	**176**	*e*Pn	**Pn**	**20 43 03.4**	**-0.9**
KAPI	**Kappang**	**16.91**	**204**	LR	LR	20 52 38.8	
	comp=Z,27nm,18.2s,baz=120,slow=42						
GUMO	**Guam**	**18.04**	**78**	LR	LR	20 52 05.8	
	comp=Z,28nm,18.3s,baz=124,slow=38						
KSM	**Kuching**	**18.59**	**242**	*e*P	**Pn**	**20 45 02.9**	**+1.6**
	9.8nm,0.7s						
MAJO	**Matsushiro**	**27.93**	**20**	*e*P	**P**	**20 46 33.2**	**0.0**
MJAR	**Matsushiro Arr**	**27.93**	**20**	P	**P**	**20 46 33.2**	**0.0**
	0.8nm,0.7s,baz=194,slow=9.2,SNR=4.7						
CM31	**Chiang Mai Arr**	**27.96**	**290**	*e*P	**P**	**20 46 33.6**	**-0.1**
	4.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**27.96**	**290**	P	**P**	**20 46 33.6**	**-0.1**
	0.4nm,0.6s,baz=95,slow=7.0,SNR=4.3						
XAN	**Xi'an**	**28.51**	**328**	*e*PcP	**PcP**	**20 49 51.9**	**+2.4**
WR1	**Warramunga Arr**	**31.20**	**166**	*e*P	**P**	**20 47 00.6**	**-1.7**
WRA	**Warramunga Arr**	**31.20**	**166**	P	**P**	**20 47 00.6**	**-1.7**
	1.0nm,0.7s,baz=350,slow=9.3,SNR=4.6						
AS31	**Alice Springs**	**34.70**	**168**	*e*P	**P**	**20 47 31.4**	**-1.5**
	0.7nm,0.7s						
AS31				*e*PcP	**PcP**	**20 50 05.5**	**-0.7**
ASAR	**Alice Springs**	**34.70**	**168**	P	**P**	**20 47 31.4**	**-1.5**
	0.4nm,0.3s,baz=352,slow=7.3,SNR=16						
ASAR				PcP	**PcP**	**20 50 05.5**	**-0.7**
	0.5nm,0.8s,baz=345,slow=2.7,SNR=6.2						
STKA	**Stephens Creek**	**44.51**	**162**	*e*P	**P**	**20 48 53.7**	**-0.6**
	0.4nm,0.4s						
STKA	**Stephens Creek**	**44.51**	**162**	P	**P**	**20 48 53.7**	**-0.6**
	1.4nm,0.3s,baz=348,slow=7.1,SNR=13						
PETK	**Petropavlovsk-**	**49.24**	**24**	LR	LR	21 11 29.5	
	comp=Z,16nm,18.7s,baz=227,slow=37						
MK31	**Makanchi Array**	**52.08**	**322**	*e*P	**P**	**20 49 54.1**	**+1.5**
	1.6nm,0.7s						
MK32	**Makanchi Array**	**52.08**	**322**	*e*P	**P**	**20 49 53.5**	**+0.9**
MK32				*e*PcP	**PcP**	**20 51 05.2**	**+0.9**
MKAR	**Makanchi Array**	**52.08**	**322**	P	**P**	**20 49 53.5**	**+0.9**
	2.1nm,0.7s,baz=118,slow=8.3,SNR=24						
MKAR				pP	**sP**	**20 50 07.1**	**+0.8**
	1.1nm,0.7s,baz=112,slow=9.0,SNR=4.7						
MKAR				PcP	**PcP**	**20 51 05.2**	**+0.9**
	0.4nm,0.5s,baz=100,slow=7.6,SNR=3.4						
MAKZ	**Makanchi**	**52.27**	**322**	*e*P	**P**	**20 49 55.7**	**+1.7**
	3.6nm,1.0s						
ZALV	**Zalesovo Beam**	**54.60**	**331**	P	**P**	**20 50 11.9**	**+0.9**
	0.8nm,0.7s,baz=97,slow=6.1,SNR=4.9						
ZALV				pP	**sP**	**20 50 25.4**	**+0.3**
	1.4nm,0.6s,baz=111,slow=7.3,SNR=4.9						
ZAA1	**Zalesovo Array**	**54.61**	**331**	*e*P	**P**	**20 50 11.9**	**+0.9**
KURK	**Kurchatov**	**56.09**	**325**	*e*P	**P**	**20 50 23.1**	**+1.4**
	5.1nm,0.8s						
KURBB	**Kurchatov Arra**	**56.10**	**325**	P	**P**	**20 50 23.0**	**+1.2**
	3.0nm,0.6s,baz=126,slow=6.9,SNR=32						
KURBB				pP	**sP**	**20 50 36.5**	**+0.9**
	2.4nm,0.5s,baz=125,slow=7.0,SNR=9.8						
BVAR	**Borovoye Array**	**61.69**	**325**	P	**P**	**20 51 01.8**	**+1.2**
	1.1nm,0.8s,baz=116,slow=10,SNR=7.1						
BVAR				pP	**sP**	**20 51 15.1**	**+0.6**
	1.3nm,0.8s,baz=120,slow=8.8,SNR=4.7						
BRVK	**Borovoye**	**61.76**	**325**	*e*P	**P**	**20 51 02.3**	**+1.3**
	2.7nm,0.9s						
ILAR	**Eielson Array**	**79.04**	**26**	P	**P**	**20 52 45.2**	**-1.1**
	0.2nm,0.6s,baz=234,slow=7.7,SNR=3.0						
ILB	**Eielson Array**	**79.04**	**26**	*e*P	**P**	**20 52 45.2**	**-1.1**
	1.0nm,0.8s						
ARCES	**ARCESS Array B**	**84.10**	**340**	P	**P**	**20 53 13.6**	**+0.6**
	2.6nm,0.7s,baz=80,slow=6.4,SNR=8.4						
FIA0	**FINESS Array S**	**85.86**	**332**	*e*P	**P**	**20 53 22.7**	**+0.8**
FINES	**FINESS Array B**	**85.86**	**332**	P	**P**	**20 53 22.7**	**+0.8**
	1.0nm,0.6s,baz=66,slow=4.7,SNR=16						
FINES				pP	**sP**	**20 53 36.1**	**-0.1**
	0.9nm,0.5s,baz=72,slow=4.1,SNR=2.5						
VNDA	**Vanda**	**90.13**	**173**	*e*P	**P**	**20 53 42.6**	**+0.7**
	1.4nm,0.7s						
VNDA	**Vanda**	**90.13**	**173**	P	**P**	**20 53 42.1**	**+0.2**
	1.3nm,0.5s,baz=314,slow=6.3,SNR=18						
HFS	**Hagfors**	**92.02**	**333**	P	**P**	**20 53 52.4**	**+1.3**
	0.6nm,0.5s,baz=144,slow=5.4,SNR=4.5						
LTX	**Lajitas**	**117.35**	**49**	*e*PKPdf	**PKPdf**	**20 59 27.6**	**-1.0**
TXAR	**Lajitas Array**	**117.35**	**49**	PKP	**PKPdf**	**20 59 27.6**	**-1.0**
	0.3nm,0.5s,baz=307,slow=4.9,SNR=7.3						
TORD	**Torodi Ar. Bea**	**120.55**	**292**	PKP	**PKPdf**	**20 59 33.6**	**-1.3**
	0.3nm,0.4s,baz=59,slow=1.9,SNR=12						
TOA1	**Torodi Ar. Sit**	**120.55**	**292**	*e*PKPdf	**PKPdf**	**20 59 33.6**	**-1.4**
PLCA	**Paso Flores**	**146.27**	**156**	PKPbc	**PKPbc**	**21 00 24.3**	**+1.0**
	1.7nm,0.7s,baz=311,slow=2.3,SNR=7.3						

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*SJA **26** 20:48:49.3±0.3, 28°.62S×71°.31W, h14km±22km, ML3.0, MW2.9*
*GUC **26** 20:48:51.0±0.6, 28°.48S×70°.90W, h57km±4km, ML3.6*
ISC 26 20:48:47.8±3.8, 28°.36S±0°.07×71°.3W±0°.1, h10km±29km, n13, σ1°13/18, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.84**	**141**	‖*i*P	**Pb**	**20 49 05.2**	**+0.5**
LCO				*i*S	**Sb**	**20 49 15.3**	**-0.9**
GO03	**Copiap**	**1.22**	**51**	‖*i*P	**Pb**	**20 49 11.2**	**+0.1**
GO03				*i*S	**Sb**	**20 49 26.0**	**-0.9**
GO03				IAML		20 49 27.8	
	comp=N,2μm,0.6s						
LSCH	**La Serena**	**1.54**	**178**	*e*P	**Pn**	**20 49 16.3**	**+0.8**
LSCH				*i*S	**Sn**	**20 49 35.1**	**-0.5**
LSCH				IAML		20 49 40.8	
	comp=E,650nm,0.2s						
GO04	**Tololo Observa**	**1.86**	**166**	↑*i*P	**Pn**	**20 49 20.7**	**+0.6**
GO04				*i*S	**Sn**	**20 49 42.8**	**-1.0**
GO04				IAML		20 49 46.3	
	comp=E,3μm,0.4s						
AROD	**Rodeo**	**2.41**	**139**	*e*P	**Pn**	**20 49 28.9**	**+1.2**
AROD				*e*S	**Sn**	**20 49 58.1**	**+0.6**
ACDV	**Cuesta del Vie**	**2.63**	**134**	*e*P	**Pn**	**20 49 31.7**	**+1.1**
ACDV				IAML		20 50 09.9	
	comp=Z,75nm,0.4s						
VCA	**Vinchina**	**2.75**	**99**	*e*P	**Pb**	**20 49 35.5**	**-1.8**
ACCO	**Cerro Coronel**	**2.96**	**139**	*e*P	**Pn**	**20 49 36.6**	**+1.3**
ARCO	**CERRO ARCO**	**4.91**	**156**	*e*P	**Pn**	**20 50 03.2**	**+1.3**
FCH	**Farellones**	**5.03**	**170**	*e*P	**Pn**	**20 50 04.1**	**+0.4**
CLCH	**Cerro Calan**	**5.06**	**173**	*e*P	**Pn**	**20 50 04.2**	**+0.2**
ACAN	**Cantantal**	**5.28**	**139**	*e*P	**Pn**	**20 50 08.8**	**+1.9**
LMEL	**Las Melosas**	**5.55**	**170**	*e*P	**Pn**	**20 50 11.1**	**+0.4**

MEX 26 21:15:26.0±0.7, 14°.31N×91°.45W, h101km±10km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.99**	**307**	*i*P	Pn	21 15 46.0	-0.5
THIG				*e*S	Sn	21 16 00.1	-1.7
PCIG		**2.21**	**309**	*e*P	Pn	21 16 00.4	-0.9
PCIG				*e*S	Sn	21 16 26.6	-1.7

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*IDC **26** 21:32:34.6±6.0, 24°.68S×179°.68E, h557km±60km, mb3.1/5, mb1 3.3/6, mb1mx3.1/20, mbtmp4.2/6, Error ellipse: s-maj=53.7km s-min=22.1km az=60.0*
ISC 26 21:32:29.4±1.2, 24°.45±0°.1×180.0W±0°.2, h505km, n35, σ2°33/32, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.22**	**160**	P	**P**	**21 34 00.2**	**+1.6**
GLKZ				S	**S**	**21 35 12.5**	**+1.0**
DZM	**Mont Dzumac**	**12.68**	**278**	P	**P**	**21 35 18.3**	**+3.0**
	2.0nm,0.3s,baz=73,slow=17,SNR=18						
MXZ	**Matakaoa Point**	**13.24**	**186**	P	P	21 35 25.0	+4.1
MKAZ	**Moumakai**	**13.36**	**197**	P	P	21 35 27.2	+5.0
WMGZ	**Waiomatatini S**	**13.48**	**185**	P	**P**	**21 35 21.9**	**-1.6**
PKGZ	**Pakihiroa**	**13.58**	**187**	P	**P**	**21 35 25.4**	**+0.8**
RUGZ	**Raukumara Rang**	**13.71**	**188**	P	**P**	**21 35 26.8**	**+0.8**
PUZ	**Puketiti**	**13.75**	**186**	P	P	21 35 29.8	+3.5
TOZ	**Tahuroa Road**	**13.87**	**195**	P	P	21 35 30.8	+3.3
URZ	**Urewera**	**14.07**	**189**	P	**P**	**21 35 26.1**	**-3.5**
	0.9nm,0.3s,baz=348,slow=15,SNR=1.7						
URZ	**Urewera**	**14.07**	**189**	P	**P**	**21 35 28.8**	**-0.9**
MWZ	**Matawai**	**14.09**	**188**	P	**P**	**21 35 30.3**	**+0.5**
MTHZ	**Maungataniwha**	**14.69**	**190**	P	**P**	**21 35 38.1**	**+1.9**
MRHZ	**Matea Rd**	**14.75**	**191**	P	**P**	**21 35 37.6**	**+0.8**
NMHZ	**Naumai**	**14.94**	**190**	P	**P**	**21 35 41.2**	**+2.4**
BKZ	**Black Stump Fm**	**15.06**	**191**	P	**P**	**21 35 38.5**	**-1.6**
OGWZ	**Otaki Gorge**	**16.90**	**193**	P	**P**	**21 35 55.8**	**-3.3**
MSWZ	**Moikau Station**	**17.46**	**192**	P	**P**	**21 36 00.5**	**-3.9**
TCW	**Tory Channel**	**17.47**	**195**	P	**P**	**21 36 00.3**	**-4.2**
QRZ	**Quartz Range**	**17.57**	**199**	P	**P**	**21 36 03.6**	**-1.8**
PLWZ	**Palliser**	**17.61**	**192**	P	**P**	**21 36 01.5**	**-4.4**
NNZ	**Nelson**	**17.70**	**197**	P	**P**	**21 36 04.0**	**-2.6**
THZ	**Tophouse**	**18.33**	**197**	P	**P**	**21 36 10.6**	**-1.8**
KHZ	**Kahutara**	**18.79**	**195**	P	**P**	**21 36 13.9**	**-2.6**
LTZ	**Lake Taylor**	**19.45**	**197**	P	**P**	**21 36 19.7**	**-3.0**
INZ	**Inchbonnie**	**19.63**	**199**	P	**P**	**21 36 22.7**	**-1.5**
OXZ	**Oxford**	**20.02**	**197**	P	**P**	**21 36 24.6**	**-3.2**
RPZ	**Rata Peaks**	**20.66**	**199**	P	**P**	**21 36 31.9**	**-1.7**
	5.1nm,0.4s,baz=304,slow=1.9,SNR=6.6						
ASAR	**Alice Springs**	**41.97**	**261**	P	**P**	**21 39 35.0**	**-0.9**
	0.6nm,0.5s,baz=92,slow=6.3,SNR=13						
WRA	**Warramunga Arr**	**42.38**	**267**	P	**P**	**21 39 38.0**	**-1.2**
	4.1nm,0.4s,baz=91,slow=8.8,SNR=7.2						
VNDA	**Vanda**	**53.92**	**185**	P	**P**	**21 41 03.9**	**-0.6**
	0.3nm,0.7s,baz=17,slow=6.5,SNR=5.4						
USRK	**Ussuriysk Ar.**	**81.15**	**327**	P	**P**	**21 43 53.0**	**+1.3**
	0.6nm,0.5s,baz=220,slow=5.7,SNR=4.2						
FINES	**FINESS Array B**	**138.88**	**341**	PKP	**PKiKP**	**21 50 58.4**	**-1.3**
	1.1nm,0.9s,baz=307,slow=4.9,SNR=1.5						
AKASG	**Malin Array Be**	**145.36**	**327**	PKPbc	**PKPbc**	**21 51 09.0**	**-1.3**
	0.4nm,0.3s,baz=44,slow=4.1,SNR=2.5						
BRTR	**Keskin Array B**	**147.86**	**307**	PKPbc	**PKPbc**	**21 51 17.1**	**-0.6**
	0.5nm,0.7s,baz=142,slow=4.2,SNR=3.9						

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*SKO **26** 22:13:04.1, 41°.04N×21°.16E, h15km, MS2.2, ML2.6*
*ATH **26** 22:13:04.1, 41°.05N×21°.19E, h15km±1km, ML2.6/6, Error ellipse: s-maj=2.3km s-min=1.4km az=147.0*
*THE **26** 22:13:05.1, 41°.07N×21°.19E, h0km±3km, ML2.5/11, Error ellipse: s-maj=3.3km s-min=1.1km az=6.0*
*BEO **26** 22:13:05.4±0.5, 41°.05N×21°.15E, h8km±2km, ML2.4/11*
*SIK **26** 22:13:24.6, 42°.17N×20°.63E, h0km, M1.4*
ISC 26 22:13:05.4±0.8, 41°.05N±0°.02×21°.17E±0°.02, h10km±6km, n85, σ0°95/115, 5C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.12**	**105**	P	**Pg**	**22 13 08.3**	**0.0**
BIA				S	**Sg**	**22 13 10.9**	**+0.6**
BIA	**Bitola**	**0.12**	**105**	*i* Pg	**Pg**	**22 13 08.3**	**0.0**
BIA				*i* Sg	**Sg**	**22 13 10.9**	**+0.6**
BIA				*e*Lg	Lg	22 13 11.1	
	comp=N,704nm,0.2s						
BIA				*e*Lg	Lg	22 13 11.2	
	comp=E,2μm,0.2s						
OHR	**Ohrid**	**0.29**	**282**	*i* Pg	**Pg**	**22 13 10.1**	**-1.1**
OHR				*e*Lg	Lg	22 13 14.9	
	comp=N,2μm,0.4s						
OHR				*i* Sg	**Sg**	**22 13 15.1**	**+0.1**
OHR				*e*Lg	Lg	22 13 15.2	
	comp=E,2μm,0.6s						
FNA	**Florina**	**0.31**	**150**	P	**Pg**	**22 13 10.7**	**-0.8**
FNA				S	**Sg**	**22 13 15.2**	**-0.5**
FNA	**Florina**	**0.31**	**150**	↑*i* Pg	**Pg**	**22 13 10.7**	**-0.8**
FNA				*i* Sg	**Sg**	**22 13 15.6**	**-0.1**
FNA	**Florina**	**0.31**	**150**	P	**Pg**	**22 13 10.8**	**-0.8**
FNA				S	**Sg**	**22 13 15.1**	**-0.7**
FNA				AML	AML	22 13 15.8	
	comp=E,6761μm,0.2s						
FNA				AML	AML	22 13 16.9	
	comp=N,5323μm,0.2s						
KRUS	**Krusevo**	**0.32**	**11**	*i* Pg	**Pg**	**22 13 11.1**	**-0.7**
KRUS				*i* Sg	**Sg**	**22 13 16.6**	**+0.4**
KRUS				*e*Lg	Lg	22 13 16.8	
	comp=E,717nm,0.2s						
KRUS				*e*Lg	Lg	22 13 16.8	
	comp=N,447nm,0.2s						
NEST	**Nestorio**	**0.64**	**188**	P	**Pg**	**22 13 16.4**	**-1.4**
NEST				S	**Sg**	**22 13 26.2**	**0.0**
NEST	**Nestorio**	**0.64**	**188**	P	**Pg**	**22 13 16.3**	**-1.4**
NEST				S	**Sg**	**22 13 25.9**	**-0.4**
NEST				AML	AML	22 13 28.2	
	comp=E,1583μm,0.3s						
NEST				AML	AML	22 13 28.8	
	comp=N,2682μm,0.4s						
PHP	**Peshkopia**	**0.84**	**319**	P	**Pg**	**22 13 20.8**	**-0.7**
PHP				S	**Sb**	**22 13 32.7**	**-0.7**
PENT	**Pentalofos**	**0.85**	**182**	P	**Pg**	**22 13 20.3**	**-1.6**
KZN	**Kozani**	**0.87**	**148**	P	**Pg**	**22 13 22.1**	**-0.1**
KZN	**Kozani**	**0.87**	**148**	P	**Pg**	**22 13 20.5**	**-1.7**
KZN				AML	AML	22 13 37.9	
	comp=E,938μm,0.6s						
KZN				AML	AML	22 13 39.0	
	comp=N,898μm,0.5s						
GRG	**Griva**	**0.94**	**95**	P	**Pg**	**22 13 22.2**	**-1.2**
GRG				S	**Sg**	**22 13 34.8**	**-0.8**
GRG	**Griva**	**0.94**	**95**	*i* Pg	**Pg**	**22 13 22.1**	**-1.2**
GRG				*i* Sg	**Sg**	**22 13 35.9**	**+0.3**
GRG	**Griva**	**0.94**	**95**	P	**Pg**	**22 13 22.2**	**-1.2**
GRG				AML	AML	22 13 40.0	
	comp=N,377μm,0.6s						
GRG				AML	AML	22 13 40.4	
	comp=E,539μm,0.5s						
KTI	**Kastanea**	**0.98**	**132**	P	**Pg**	**22 13 23.2**	**-0.9**
TIR	**Tirane**	**1.03**	**287**	*e*Pg	**Pg**	**22 13 23.8**	**-1.4**
TIR				*e*Sg	**Sb**	**22 13 38.7**	**-0.1**
TIR	**Tirane**	**1.03**	**287**	P	**Pg**	**22 13 24.4**	**-0.7**
TIR				S	**Sb**	**22 13 39.3**	**+0.4**
TIR	**Tirane**	**1.03**	**287**	‖*i* P	**Pg**	**22 13 23.7**	**-1.4**
TIR				S	**Sb**	**22 13 39.2**	**+0.4**
TIR	**Tirane**	**1.03**	**287**	*i* Pg	**Pg**	**22 13 23.7**	**-1.4**
TIR	**Tirane**	**1.03**	**287**	P	**Pg**	**22 13 23.7**	**-1.4**
VAY	**Valandovo**	**1.09**	**75**	*e*Pg	**Pg**	**22 13 26.1**	**-0.2**
VAY				*e*Sg	**Sg**	**22 13 40.5**	**0.0**
VAY	**Valandovo**	**1.09**	**75**	P	**Pg**	**22 13 26.2**	**-0.1**
VAY				S	**Sn**	**22 13 42.6**	**+0.7**
VAY	**Valandovo**	**1.09**	**75**	*i* Pg	**Pg**	**22 13 25.6**	**-0.7**
VAY				*i* Sg	**Sg**	**22 13 40.3**	**-0.2**
VAY				*e*Lg	Lg	22 13 42.5	
	comp=E,48nm,0.6s						
VAY				*e*Lg	Lg	22 13 45.0	
	comp=N,98nm,0.7s						
KPRO	**Kipourio**	**1.11**	**172**	P	**Pn**	**22 13 26.9**	**-0.1**
KPRO				S	**Sn**	**22 13 43.8**	**+1.4**
KPRO	**Kipourio**	**1.11**	**172**	P	**Pg**	**22 13 25.0**	**-1.6**
TPE	**Tepelena**	**1.16**	**230**	P	**Pn**	**22 13 28.2**	**+0.5**
TPE				S	**Sn**	**22 13 44.7**	**+1.0**
MEV	**Metsovon**	**1.27**	**178**	P	**Pn**	**22 13 27.8**	**-1.5**
KNT	**Kendrikon**	**1.31**	**85**	P	**Pn**	**22 13 29.0**	**-0.8**
KNT				S	**Sb**	**22 13 46.5**	**-0.5**
KNT	**Kendrikon**	**1.31**	**85**	*i* Pg	**Pn**	**22 13 29.4**	**-0.4**
KNT				*i* Sg	**Sb**	**22 13 46.8**	**-0.3**
KNT	**Kendrikon**	**1.31**	**85**	P	**Pn**	**22 13 28.1**	**-1.7**
LIT	**Litokhoron**	**1.38**	**133**	P	**Pb**	**22 13 31.4**	**0.0**
LIT				S	**Sg**	**22 13 51.3**	**+1.4**
LIT	**Litokhoron**	**1.38**	**133**	P	**Pn**	**22 13 29.8**	**-1.0**
JAN	**Janina**	**1.42**	**190**	P	**Pn**	**22 13 30.4**	**-0.8**
JAN				S	**Sg**	**22 13 53.4**	**+2.6**

HAPS	Han Pijesak,BI	3.45	332	*e*Pn		Pn	22 14 01.5	+2.2
MDVR	Moldovita	3.75	6	⇑*i*P		Pn	22 14 03.2	-0.2
BZS	Buzias	4.58	4	*e*Pn		Pn	22 14 14.6	0.0
BZS	Buzias	4.58	4	⇑*i*P		Pn	22 14 13.1	-1.5
VYHS	Vyhne	7.62	348	*e*PN		Pn	22 14 58.5	+2.0
VYHS				*e*SN		Sn	22 16 25.2	+2.2

IDC ***26*** *22:13:20.5±5.2, 35°.50N×70°.03E, h71km±35km, mb3.3/6, mb1 3.4/11, mb1mx3.1/47, mbtmp3.6/11, ML3.5/5, Error ellipse: s-maj=61.5km s-min=23.7km az=145.0*
ISCJB ***26*** *22:13:23.5±0.6, 35°.90N±0°.07×69°.90E±0°.09, h100km, mb3.4/5, Error ellipse: s-maj=12.4km s-min=7.3km az=41.0*
NNC ***26*** *22:13:23.8±10.0, 37°.57N×70°.66E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=72.0km s-min=46.1km az=179.0*

ISC 26 22:13:24.3±0.8, 35°.86N±0°.09×70°.02E±0°.08, h100km, n21, σ1§78/21, mb3.2/5, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	7.24	3	Pg	Pn	22 15 06.0	-1.4
	0.8nm,0.3s,baz=177,slow=13,SNR=13						
KK31				⇑Lg	Lg	22 16 17.1	
	8.1nm,0.8s,baz=181,slow=19,SNR=9.5						
AAK	Ala-Archa	7.60	26	⇓Pg	Pn	22 15 11.5	-1.0
	1.4nm,0.5s						
AAK				⇑Lg	Lg	22 16 33.1	
	6.5nm,0.4s						
AAK	Ala-Archa	7.60	26	P	Pn	22 15 12.7	+0.2
	0.8nm,0.3s,baz=196,slow=3.2,SNR=8.5						
AAK				S	Sn	22 16 33.5	-3.6
	1.2nm,0.3s,baz=138,slow=24,SNR=15						
TKM2	Tokmak 2	8.26	30	⇑Pg	Pn	22 15 20.3	-1.3
	1.5nm,0.5s						
TKM2				⇑Lg	Lg	22 16 50.1	
	2.4nm,0.6s						
GEYT	Alibeck	9.75	286	P	Pn	22 15 38.9	-2.7
	0.6nm,0.3s,baz=122,slow=11,SNR=12						
GEYT				S	Sn	22 17 18.2	-11
	0.4nm,0.3s,baz=98,slow=18,SNR=2.9						
PYUN	Piuthan	13.45	121	*e*P	Pn	22 16 30.6	-0.7
	8.5nm,0.4s						
MKAR	Makanchi Array	14.27	36	P	P	22 16 47.5	+1.7
	0.1nm,0.3s,baz=209,slow=9.7,SNR=5.8						
KKN	Kakani	15.25	118	*e*P	P	22 16 55.9	-1.2
PKIN	Phulchoki	15.46	118	*e*P	P	22 16 58.3	-1.1
	15nm,0.5s						
PKI	Pulchoki	15.47	118	*e*P	P	22 16 58.5	-1.2
	18nm,0.6s						
KURBB	Kurchatov Arra	15.99	20	P	P	22 17 06.8	+2.0
	0.0nm,0.3s,baz=210,slow=11,SNR=5.4						
JIRN	Jiri	15.99	116	*e*P	P	22 17 05.8	+0.4
	20nm,0.5s						
RAMN	Ramite	16.70	118	*e*P	P	22 17 15.0	+1.9
	12nm,0.5s						
AKTO	Aktyubinsk	16.96	333	P	P	22 17 17.7	+2.1
	0.3nm,0.3s,baz=48,slow=1.8,SNR=3.7						
AKTO				S	Sn	22 20 08.9	-15
	0.1nm,0.3s,baz=0.6,slow=12,SNR=1.9						
BVAR	Borovoye Array	17.16	1	P	P	22 17 20.1	+2.3
	0.4nm,0.3s,baz=176,slow=8.8,SNR=12						
ZALV	Zalesovo Beam	20.83	25	P	Pn	22 17 59.4	-1.6
	1.3nm,0.5s,baz=221,slow=11,SNR=7.1						
BRTR	Keskin Array B	28.88	289	P	P	22 19 14.3	+0.7
	0.3nm,0.8s,baz=80,slow=8.9,SNR=3.3						
FINES	FINESS Array B	37.58	327	P	P	22 20 30.7	+2.0
	0.8nm,0.7s,baz=127,slow=16,SNR=3.7						
ARCES	ARCESS Array B	41.43	338	P	P	22 21 02.0	+1.4
	1.9nm,0.9s,baz=131,slow=9.7,SNR=3.3						
NOA	NORSAR Array B	44.41	323	P	P	22 21 24.9	+0.1
	0.2nm,0.6s,baz=96,slow=7.7,SNR=2.5						
TORD	Torodi Ar. Bea	64.91	268	P	P	22 23 52.8	-0.6
	0.2nm,0.6s,baz=49,slow=6.3,SNR=3.0						

IDC 26 22:29:09.6±8.2, 30°.52S×178°.20W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/24, mbtmp3.9/2, Error ellipse: s-maj=353.3km s-min=56.6km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.93	267	P	P	22 37 09.8	-0.6
	0.6nm,0.5s,baz=102,slow=7.8,SNR=6.6						
WRA	Warramunga Arr	43.93	272	P	P	22 37 18.7	+0.3
	1.5nm,0.5s,baz=109,slow=8.6,SNR=2.9						
FINES	FINESS Array B	145.19	340	PKPbc	PKPbc	22 48 47.4	-0.6
	1.5nm,0.7s,baz=64,slow=4.4,SNR=11						

DSN ***26*** *22:45:27.9±3.2, 26°.83N×58°.25E, h14km, ML4.1/8, Error ellipse: s-maj=47.8km s-min=13.1km az=0.0*
IDC ***26*** *22:45:30.5±1.2, 26°.54N×57°.90E, h0km, mb3.5/9, mb1 3.6/11, mb1mx3.4/49, mbtmp3.6/11, ML3.4/2, MS3.0/8, Ms1 3.0/8, ms1mx2.6/38, Error ellipse: s-maj=24.2km s-min=19.4km az=117.0*
ISCJB ***26*** *22:45:31.9±0.4, 26°.73N±0°.03×57°.77E±0°.05, h10km, mb3.4/7, MS3.1/6, Error ellipse: s-maj=6.4km s-min=4.3km az=14.2*
TEH ***26*** *22:45:32.4, 26°.68N×57°.79E, h17km, ML3.9*

ISC 26 22:45:32.5±0.7, 26°.64N±0°.04×57°.93E±0°.04, h10km, n63, σ1§47/61, mb3.5/7, MS3.3/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	Jask	1.01	188	*e*Pg	Pg	22 45 52.0	+0.1
NIAN	Nian	1.34	313	*e*Pg	Pn	22 45 55.9	-1.3
NIAN				IAMB	IAmb	22 46 25.6	
	comp=Z,0.0nm,0.4s						
SHME	Shamm	1.71	250	*e*P	Pn	22 46 01.8	-0.6
	SNR=53						
SHME				S	Sg	22 46 28.0	+0.4
SHME	Shamm	1.71	250	*e*Pn	Pn	22 46 02.6	+0.2
GENO	Geno	1.74	296	*e*Pg	Pn	22 46 01.9	-1.0
GENO				IAMB	IAmb	22 46 31.8	
	comp=Z,0.0nm,0.4s						
MSFE	Esma-Masafi	2.04	232	*e*P	Pn	22 46 04.7	-2.3
	SNR=21						
MSFE	Esma-Masafi	2.04	232	*e*Pn	Pn	22 46 05.1	-1.9
UMQ	Umm Al-Quwin	2.33	242	*e*Pn	Pn	22 46 11.9	+1.1
HATD	Hatta, Dubai	2.43	222	*e*P	Pn	22 46 11.5	-0.8
	SNR=11						
HATD	Hatta, Dubai	2.43	222	*e*Pn	Pn	22 46 11.5	-0.8
CHBR	Chabahar	2.52	114	*e*Pn	Pb	22 46 17.7	-0.1
ASHO	Ashiyiah	2.58	221	*e*P	Pn	22 46 12.7	-1.7
	SNR=30						
ASHO	Ashiyiah	2.58	221	P	Pb	22 46 18.7	-0.2
	SNR=13						
ASHO	Ashiyiah	2.58	221	*e*Pn	Pn	22 46 13.6	-0.8
NAZ	Nazwa, Dubai	2.63	232	P	Pn	22 46 14.5	-0.5
NAZ	Nazwa, Dubai	2.63	232	P	Pb	22 46 20.0	+0.3
	SNR=12						
NAZ	Nazwa, Dubai	2.63	232	*e*Pn	Pn	22 46 15.8	+0.8
SOHO	SOHO	2.80	207	P	Pg	22 46 28.1	+1.9
	SNR=6.9						
FAQ	Al Faqa, Dubai	2.83	229	P	Pn	22 46 18.4	+0.6
FAQ	Al Faqa, Dubai	2.83	229	P	Pg	22 46 29.0	+2.2
	SNR=5.3						
FAQ	Al Faqa, Dubai	2.83	229	*e*Pn	Pn	22 46 18.7	+0.9
ASUD	Al Ashush, Dub	3.09	230	*i* P	Pn	22 46 22.1	+0.8
	SNR=20						
ASUD	Al Ashush, Dub	3.09	230	*e*Pn	Pn	22 46 22.1	+0.8
HOQ	Hoqain	3.10	191	P	Pn	22 46 24.0	+2.5
	SNR=9.4						
HOQ	Hoqain	3.10	191	*e*Pn	Pn	22 46 18.7	-2.8
BIDO	Bidbid	3.11	177	*e*Pn	Pn	22 46 18.8	-2.9
NGRK	Negar Kerman	3.17	341	*e*Pn	Pn	22 46 22.2	-0.6
NGRK				IAMB	IAmb	22 47 10.9	
	comp=Z,0.0nm,0.4s						
CHMN	Cheshme madani	3.22	354	*e*Pn	Pn	22 46 23.7	+0.2
CHMN				IAMB	IAmb	22 47 22.3	
	comp=Z,0.0nm,1.0s						
ALNE	Al Ain	3.25	218	*i* P	Pn	22 46 23.1	-0.3
	SNR=9.1						
ALNE	Al Ain	3.25	218	*e*Pn	Pn	22 46 23.2	-0.3
WSAR	Wadi Sarin	3.45	169	Pn	Pn	22 46 24.7	-1.5
	comp=Z,9.4nm,0.3s,baz=352,slow=5.7,SNR=101						
WSAR				Sn	Sn	22 47 04.1	-3.1
	comp=Z,13nm,0.3s,baz=33,slow=21,SNR=13						
KRBR	Kerman	3.48	343	*e*Pn	Pn	22 46 26.9	-0.1
TVBK	TV Kerman	3.49	343	*e*Pn	Pn	22 46 27.7	+0.6
TVBK				IAMB	IAmb	22 47 28.6	
	comp=Z,0.0nm,0.5s						

ARQ	Araqi	3.53	202	P	Pb	22 46 36.0	+0.9
	SNR=9.2						
SMDO	Samad	3.57	178	P	Pn	22 46 31.0	+3.0
	SNR=9.2						
SZD1	Zahaedan-tmp	3.84	42	*e*Pn	Pn	22 46 31.2	-0.6
ZHSF	Zahedan	3.88	40	*e*Pn	Pn	22 46 34.5	+2.2
KHGB	Koh Gabri	3.93	341	*e*Pn	Pn	22 46 33.8	+0.7
BSY	Bisya	3.94	190	P	Pb	22 46 39.1	-2.9
	SNR=8.6						
LMD1	Lamerd	4.31	280	*e*Pn	Pn	22 46 36.6	-1.5
GHIR	Ghir-Karzin	4.69	292	*e*Pn	Pn	22 46 43.1	-0.3
IBAF	Bafgh	5.35	338	*e*Pn	Pn	22 46 52.2	-0.3
IMEH	Mehriz	5.55	329	*e*Pn	Pn	22 46 53.3	-2.1
IKOO	Kooshah	5.84	9	*e*Pn	Pn	22 46 57.8	-1.5
IKAZ	Kazeroun	6.22	302	*e*Pn	Pn	22 47 01.7	-2.9
ITEG	Tejag	6.27	6	*e*Pn	Pn	22 47 04.0	-1.2
ISAD	Sadrabad	6.43	326	*e*Pn	Pn	22 47 06.6	-0.9
KLNJ	Kolanjah	7.06	310	*e*Pn	Pn	22 47 14.5	-1.7
IRAM	Ramesheh	7.07	318	*e*Pn	Pn	22 47 14.2	-2.1
GEYT	Alibeck	11.26	1	Pn	Pn	22 48 15.9	+2.5
	comp=Z,0.1nm,0.3s,baz=139,slow=7.5,SNR=1.9						
GEYT				LR	LR	22 53 49.2	
	comp=Z,14nm,18.9s,baz=205,slow=44						
GNI	Garni	17.37	324	LR	LR	22 57 58.4	
	comp=Z,24nm,21.4s,baz=102,slow=43						
MMAI	Mount Meron Ar	20.53	293	P	P	22 50 10.4	-0.7
	comp=Z,0.5nm,0.4s,baz=101,slow=15,SNR=2.5						
MMAI				LR	LR	22 59 14.9	
	comp=Z,31nm,18.8s,baz=55,slow=40						
AAK	Ala-Archa	20.92	36	P	P	22 50 15.9	+0.5
	comp=Z,1.9nm,0.6s,baz=205,slow=7.2,SNR=8.2						
AAK				LR	LR	22 59 51.4	
	comp=Z,24nm,20.2s,baz=187,slow=41						
AKTO	Aktyubinsk	23.76	0	P	P	22 50 45.2	+0.3
	comp=Z,1.4nm,0.5s,baz=164,slow=13,SNR=5.2						
BRTR	Keskin Array B	24.07	309	P	P	22 50 47.1	-1.1
	comp=Z,1.1nm,0.8s,baz=131,slow=8.7,SNR=9.1						
MKAR	Makanchi Array	27.84	37	P	P	22 51 22.8	+0.8
	comp=Z,0.4nm,0.7s,baz=226,slow=10.0,SNR=5.2						
BVAR	Borovoye Array	27.95	16	P	P	22 51 22.7	-0.3
	comp=Z,0.6nm,0.7s,baz=178,slow=9.5,SNR=3.4						
BVAR				LR	LR	23 02 25.9	
	comp=Z,61nm,20.9s,baz=353,slow=36						
FINES	FINESS Array B	40.85	337	P	P	22 53 14.9	+0.8
	comp=Z,0.6nm,0.6s,baz=139,slow=9.1,SNR=6.0						
ESDC	Sonseca Array	52.48	301	P	P	22 54 45.9	+0.2
	comp=Z,0.2nm,0.5s,baz=75,slow=6.6,SNR=1.8						
TORD	Torodi Ar. Bea	54.17	267	P	P	22 54 58.1	-0.3
	comp=Z,0.8nm,0.5s,baz=62,slow=7.5,SNR=14						
MATP	Matopo	54.81	214	LR	LR	23 19 43.2	
	comp=Z,29nm,20.3s,baz=307,slow=38						
KSRS	Korea Array	59.08	61	LR	LR	23 24 12.3	
	comp=Z,28nm,19.5s,baz=169,slow=39						
MA2	Magadan	68.81	33	LR	LR	23 31 27.0	
	comp=Z,23nm,18.5s,baz=134,slow=40						

IDC ***26*** *23:08:49.5±8.9, 9°.77N×90°.49W, h0km, mb3.2/4, mb1 3.6/4, mb1mx3.4/25, mbtmp3.2/4, Error ellipse: s-maj=306.0km s-min=106.9km az=40.0*
SNET ***26*** *23:09:10.9±1.1, 12°.19N×89°.03W, h15km, ML3.0*

ISC 26 23:09:06.4±2.3, 11°.8N±0°.2×89°.1W±0°.1, h41km, n7, σ1§46/8, mb3.4/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	La Caada	1.92	37	*e*P	Pn	23 09 37.4	+0.8
LCND				*e*S	Sn	23 09 59.3	-0.2
LCND				IAML		23 10 03.2	
	comp=Z,212nm,0.4s						
SBLS	San Blas	2.12	346	*e*P	Pn	23 09 41.3	+1.7
VICT	Victoria	2.21	11	*e*P	Pn	23 09 41.7	+0.9
VICT				*e*S	Sn	23 10 06.2	-0.9
TXAR	Lajitas Array	22.13	324	P	P	23 13 56.5	-2.3
	comp=Z,0.2nm,0.8s,baz=142,slow=10,SNR=2.5						
YKA	Yellowknife Ar	53.85	346	P	P	23 18 25.3	+0.2
	comp=Z,0.2nm,0.5s,baz=143,slow=7.9,SNR=4.4						
INK	Inuvik	63.38	343	P	P	23 19 31.5	+0.2
	comp=Z,0.4nm,0.5s,baz=108,slow=5.5,SNR=3.9						
ILAR	Eielson Array	66.00	337	P	P	23 19 45.2	-3.3
	comp=Z,0.3nm,0.8s,baz=94,slow=5.7,SNR=3.1						

ISCJB ***26*** *23:11:57.8±0.8, 10°.05S±0°.2×66°.6E±0°.1, h10km, mb4.0/12, MS3.4/7, Error ellipse: s-maj=25.6km s-min=13.3km az=150.0*
IDC ***26*** *23:11:57.9±0.8, 10°.05S×66°.56E, h0km, mb4.0/13, mb1 4.2/13, mb1mx3.9/41, mbtmp4.0/13, MS3.4/7, Ms1 3.5/7, ms1mx3.1/41, Error ellipse: s-maj=29.1km s-min=16.5km az=154.0*

ISC 26 23:11:59.3±0.9, 10°.1S±0°.2×66°.6E±0°.1, h10km, n29, σ0§88/16, mb4.0/12, MS3.5/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	Diego Garcia H	5.76	50	T	T	23 19 15.6	
	baz=228,slow=75						
H08N1	Diego Carcia H	5.78	50	T	T	23 19 21.7	
	baz=228,slow=75						
H08N2	Diego Garcia H	5.78	50	T	T	23 19 20.1	
	baz=228,slow=75						
H08S1	Diego Carcia H	6.34	68	T	T	23 19 58.8	
	baz=245,slow=76,SNR=1011						
H08S3	Diego Garcia H	6.36	68	T	T	23 19 58.3	
	baz=245,slow=76,SNR=1008						
H08S2	Diego Garcia H	6.36	68	T	T	23 20 01.3	
	baz=245,slow=76,SNR=1125						
OPO	Ambohidratompo	20.55	244	P	Pn	23 16 39.7	-0.9
	2.6nm,0.8s,baz=69,slow=9.4,SNR=2.3						
OPO				LR	LR	23 22 21.8	
	comp=Z,94nm,20.2s,baz=164,slow=30						
PALK	Pallekele	22.28	40	LR	LR	23 23 28.0	
	comp=Z,38nm,20.7s,baz=41,slow=31						
LSZ	Lusaka	37.74	258	P	P	23 19 16.5	+0.6
	1.5nm,0.3s,baz=94,slow=6.6,SNR=8.2						
MATP	Matopo	38.03	250	P	P	23 19 18.6	+0.3
	2.2nm,0.8s,baz=102,slow=5.6,SNR=4.8						
CMAR	Chiang Mai Arr	42.74	49	P	P	23 19 58.0	+0.9
	1.7nm,0.6s,baz=247,slow=10.0,SNR=9.3						
CMAR				LR	LR	23 37 42.1	
	comp=Z,44nm,18.2s,baz=222,slow=36						
BOSA	Boshof	42.82	239	LR	LR	23 36 35.0	
	comp=Z,59nm,18.3s,baz=56,slow=34						
H01W3	Cape Leeuwin H	49.83	127	T	T	00 13 59.0	
	baz=288,slow=74,SNR=222						
H01W2	Cape Leeuwin H	49.83	127	T	T	00 14 01.1	
	baz=288,slow=74,SNR=195						
H01W1	Cape Leeuwin H	49.84	127	T	T	00 14 01.1	
	baz=288,slow=74,SNR=225						
BRTR	Keskin Array B	58.21	330	P	P	23 21 54.0	0.0
	0.7nm,0.8s,baz=160,slow=7.6,SNR=4.6						
MKAR	Makanchi Array	58.35	13	P	P	23 21 54.4	-0.3
	0.9nm,0.6s,baz=205,slow=7.9,SNR=11						
ASAR	Alice Springs	65.35	111	P	P	23 22 41.8	-0.6
	0.8nm,0.8s,baz=270,slow=6.3,SNR=4.9						
ASAR				LR	LR	23 48 05.0	
	comp=Z,56nm,19.7s,baz=280,slow=33						
ZALV	Zalesovo Beam	65.65	12	P	P	23 22 42.9	-0.7
	1.6nm,0.5s,baz=216,slow=6.7,SNR=11						
SONM	Songino Array	67.62	28	P	P	23 22 57.8	+1.3
	1.5nm,0.6s,baz=223,slow=6.3,SNR=12						
TORD	Torodi Ar. Bea	68.39	288	P	P	23 23 02.1	+0.3
	0.7nm,1.0s,baz=120,slow=4.5,SNR=3.8						
TORD				LR	LR	23 52 25.6	
	comp=Z,38nm,18.4s,baz=335,slow=36						
AKASG	Malin Array Be	68.68	336	P	P	23 23 01.6	-1.2
	1.2nm,0.5s,baz=138,slow=6.5,SNR=3.6						
DBIC	Dimbokro	73.03	280	LR	LR	23 52 56.1	
	comp=Z,37nm,20.9s,baz=106,slow=34						
MJAR	Matsushiro Arr	81.59	51	P	P	23 24 17.9	+0.1
	3.4nm,0.8s,baz=232,slow=5.9,SNR=9.8						
ESDC	Sonseca Array	81.79	313	P	P	23 24 19.2	+0.4
	0.9nm,0.8s,baz=105,slow=4.6,SNR=5.7						
YKA	Yellowknife Ar	127.69	1	PKP	PKPdf	23 31 04.5	-0.1
	0.2nm,0.5s,baz=358,slow=3.1,SNR=4.0						
PDAR	Pinedale Array	147.28	355	PKPbc	PKPbc	23 31 41.6	-2.0
	0.9nm,0.9s,baz=318,slow=2.0,SNR=3.8						
NVAR	Mina Array Bea	151.45	8	PKPbc	PKPbc	23 31 54.5	+0.2
	1.7nm,0.8s,baz=247,slow=2.1,SNR=5.1						
TXAR	Lajitas Array	158.78	336	PKPab	PKPab	23 32 33.6	-0.1
	1.0nm,0.8s,baz=54,slow=2.9,SNR=10						

KRSC 26 23:25:26.4±10.0, 52°.39N×160°.87E, h41km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.88	324	*e*P	Pn	23 25 42.1	-0.2
SPN				*e*S	Sn	23 25 53.6	-0.2
NLC	Nalytchevo	1.21	311	*e*P	Pn	23 25 47.7	+0.9
NLC				*e*S	Sn	23 26 03.4	+1.4
DALK	Dalny	1.44	297	*e*P	Pn	23 25 51.3	+1.4
DALK				*e*S	Sn	23 26 09.4	+1.8
RUS	Russkaya	1.44	273	*e*P	Pn	23 25 51.5	+1.5
RUS				*e*S	Sn	23 26 09.6	+1.9
UGLR	Uglovaya	1.49	304	*e*P	Pn	23 25 52.7	+2.0
UGLR				*e*S	Sn	23 26 11.8	+2.8
SDLR	Sedlovina	1.50	307	*e*P	Pn	23 25 52.7	+1.8
SMAR	Somma	1.53	306	*e*P	Pn	23 25 53.5	+2.1
AVH	Avacha	1.56	305	*e*P	Pn	23 25 54.0	+2.3
AVH				*e*S	Sn	23 26 13.0	+2.2
KRER	Koryakskii	1.58	306	*e*P	Pn	23 25 53.9	+1.8
KOK	Koryaka	1.63	305	*e*P	Pn	23 25 55.1	+2.4
MTVR	Mutnovka	1.65	274	*e*P	Pn	23 25 54.8	+1.9
MTVR				*e*S	Sn	23 26 15.8	+2.8
KRX	Arik	1.66	307	*e*P	Pn	23 25 55.3	+2.2
KDTR	Khodutka, Kamc	1.82	252	*e*P	Pn	23 25 56.5	+1.4
KDTR				*e*S	Sn	23 26 17.6	+0.7
ASAK	Asacha	1.82	271	*e*P	Pn	23 25 57.5	+2.2
GNL	Ganaly	2.20	308	*e*P	Pn	23 26 03.7	+3.2
GNL				*e*S	Sn	23 26 30.9	+4.4
MKZ	Mys Kozlova	2.23	13	*e*S	Sn	23 26 29.1	+2.0
APC	Apacha	2.32	285	*e*P	Pn	23 26 04.7	+2.6
KZV	Kizimen	2.75	353	*e*P	Pn	23 26 12.8	+4.7
TUMD	Tumrok D	2.83	355	*e*P	Pn	23 26 12.7	+3.6
TUMD				*e*S	Sn	23 26 46.2	+4.2
TUMR	Tumrok	2.93	352	*e*P	Pn	23 26 14.1	+3.6
KBTR	Krutoberegovo	3.99	16	*e*P	Pn	23 26 27.6	+2.6

KRNET ***26*** *23:37:09.8±0.1, 39°.97N×71°.47E, h14km, mb3.0*
ISCJB ***26*** *23:37:11.1±0.6, 39°.90N±0°.03×71°.45E±0°.04, h10km, Error ellipse: s-maj=5.0km s-min=4.1km az=167.7*

ISC 26 23:37:10.9±0.9, 39°.95N±0°.04×71°.50E±0°.04, h10km, n19, σ2§61/35, 20C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.52	154	⇑*i*P	Pg	23 37 20.8	-0.3
	baz=52						
DRK				⇑*i*S	Sb	23 37 29.0	-1.1
	baz=52						
BTK	Batken	0.54	282	⇑*i*P	Pg	23 37 19.9	-1.4
	baz=80						
BTK				⇑*i*S	Sb	23 37 27.6	-2.7
	baz=80						
ARSB	Arslanbob	1.77	39	⇑*i*P	Pb	23 37 42.9	-0.7
	baz=40						
ARSB				⇑*i*S	Sg	23 38 07.2	-0.7
	baz=40						
TAS	Tashkent	2.18	310	⇑*i*P	Pb	23 37 49.5	-0.9
	baz=10.0						
TAS				⇑*i*S	Sb	23 38 16.5	-0.9
	baz=10.0						
AML	Almayashu	2.74	37	⇑*i*P	Pb	23 37 57.5	-2.6
	baz=37						
AML				⇑*i*S	Sb	23 38 32.6	-1.3
	baz=37						
ARLS	Aral	2.86	47	⇓*i*P	Pb	23 37 58.7	-3.5
	baz=48						
ARLS				⇓*i*S	Sb	23 38 34.7	-2.6
	baz=48						
EKS2	Erkin-Say	3.20	32	⇑*i*P	Pb	23 38 03.9	-4.0
	baz=32						
EKS2				⇑*e*S	Sb	23 38 43.2	-3.8
	baz=32						
UCH	Uchtor	3.22	44	⇓*i*P	Pn	23 38 03.4	+1.6
	baz=45						
UCH				⇓*i*S	Sb	23 38 43.7	-4.0
	baz=45						
KK31	Karatay Array	3.24	347	⇓Pg	Pg	23 38 13.4	+0.5
	1.8nm,0.4s,baz=175,slow=16,SNR=15						
KK31				Lg	Lg	23 38 51.5	
	13nm,0.5s,baz=175,slow=30,SNR=10						
AAK	Ala-Archa	3.50	39	⇓*i*P	Pn	23 38 07.8	+2.3
	baz=40						
AAK				⇓*i*S	Sn	23 38 50.2	+3.1
	baz=40						
KZA	Kyzart	3.54	52	⇑*i*P	Pn	23 38 08.4	+2.1
	baz=52						
KZA				⇑*i*S	Sn	23 38 51.6	+3.2
	baz=52						
FRU1	Bishkek	3.70	38	⇓*e*P	Pn	23 38 10.5	+2.4
	baz=39						
FRU1				⇓*i*S	Sn	23 38 55.2	+3.4
	baz=39						
NRN	Naryn	3.73	65	⇑*i*P	Pn	23 38 10.1	+1.4
	baz=66						
NRN				⇑*i*S	Sn	23 38 54.3	+1.5
	baz=66						
KBK	Karagaybulak	3.75	43	⇑*i*P	Pn	23 38 11.1	+2.2
	baz=43						
KBK				⇑*i*S	Sn	23 38 56.3	+3.2
	baz=43						
CHMS	Chumysh	3.90	38	⇓*e*P	Pn	23 38 13.4	+2.5
	baz=38						
CHMS				⇓*i*S	Sn	23 39 00.2	+3.5
	baz=38						
USP	Ospenovka	4.00	33	P	Pn	23 38 14.6	+2.3
	SNR=16						
USP	Ospenovka	4.00	33	⇓*e*P	Pn	23

AAK ⇓S Sg 23 40 14.7 +0.2
385nm,0.6s
AAK Ala-Archa 1.77 8 *d* iPN Pg 23 39 50.9 -0.6
AAK pmax pmax
comp=Z,1μm,1.7s
AAK Ala-Archa 1.77 8⇑ *i*P Pg 23 39 51.0 -0.6
baz=8.0
AAK ⇑ *i*S Sg 23 40 15.4 +0.9
baz=8.0
AAK Ala-Archa 1.77 8 Pg Pg 23 39 51.0 -0.6
comp=Z,93nm,0.3s,baz=152,slow=4.7,SNR=115
AAK Lg Lg 23 40 15.0
comp=Z,104nm,0.3s,baz=323,slow=21,SNR=6.1
EKS2 Erkin-Say 1.79 351 P Pg 23 39 51.2 -0.8
SNR=269
EKS2 Erkin-Say 1.79 351⇓ *i*P Pg 23 39 51.3 -0.8
baz=52
EKS2 ⇓ *i*S Sg 23 40 16.2 +0.8
baz=52
KBK Karagaybulak 1.87 18 P Pg 23 39 52.9 -0.5
SNR=370
KBK Karagaybulak 1.87 18⇑ *i*P Pg 23 39 52.8 -0.6
baz=18
KBK ⇑ *i*S Sg 23 40 18.4 +0.7
baz=18
ARK Arkit 1.88 300⇓ *i*P Pb 23 39 52.1 +0.2
baz=0.0
ARK ⇓ *e*S Sg 23 40 17.2 -0.9
baz=0.0
FRU1 Bishkek 1.96 10⇑ *e*P Pg 23 39 54.2 -0.9
baz=10.0
FRU1 ⇑ *i*S Sg 23 40 21.1 +0.6
baz=10.0
KSH Kashi 1.96 134 Pn Pg 23 39 55.0 -0.1
KSH Sn Sg 23 40 22.3 +1.8
KSH smax smax
comp=Z,1μm,0.7s
KSH smax smax
comp=Z,1μm,0.7s
MRKS Merke 1.98 340 *e*P Pg 23 39 54.8 -0.8
comp=Z,1μm,0.4s
MRKS *e*S Sg 23 40 21.2 0.0
comp=Z,1μm,0.5s
ULHL Ulahol 2.08 48⇑ *i*P Pg 23 39 55.8 -1.7
baz=48
ULHL ⇑ *i*S Sg 23 40 23.8 -0.6
baz=48
BOOM Boomskoye usch 2.09 39⇓ *e*P Pg 23 39 55.9 -1.8
baz=39
BOOM ⇓ *e*S Sg 23 40 24.1 -0.7
baz=39
CHMS Chumysh 2.16 12⇓ *i*P Pg 23 39 56.9 -2.1
baz=12
CHMS ⇓ *i*S Sg 23 40 26.1 -0.9
baz=12
DRK Karamyk 2.28 233⇑ *i*P Pb 23 39 58.0 -0.9
baz=33
DRK ⇑ *i*S Sb 23 40 27.5 +0.3
baz=33
TKM2 Tokmak 2 2.30 28⇓Pg Pg 23 40 00.7 -1.1
comp=Z,111nm,0.4s
TKM2 ⇑Lg Lg 23 40 30.8
comp=Z,345nm,0.6s
TKM2 Tokmak 2 2.30 28 *i* PN Pg 23 40 00.6 -1.1
TKM2 pmax pmax
comp=Z,111nm,0.4s
TKM2 Tokmak 2 2.30 28⇓ *i*P Pb 23 39 59.1 -0.1
baz=27
TKM2 ⇓ *i*S Sg 23 40 29.6 -2.0
baz=27
USP Ospenovka 2.39 6⇑ *i*P Pb 23 40 00.2 -0.5
baz=6.0
USP ⇑ *i*S Sg 23 40 31.7 -2.8
baz=6.0
KDJ Kajisay 2.59 60⇓ *i*P Pb 23 40 02.6 -1.6
baz=60
KDJ ⇓ *i*S Sb 23 40 35.6 -0.5
baz=60
DGS Degeres 2.65 27 Pg Pg 23 40 07.5 -0.8
comp=Z,409nm,0.5s
DGS Lg Lg 23 40 43.9
comp=Z,2μm,0.8s
DGS Degeres 2.65 27 *e*P Pg 23 40 07.5 -0.8
comp=Z,169nm,0.5s
DGS *e*S Sg 23 40 43.0 +0.4
comp=Z,2μm,0.8s
BTK Batken 2.67 253⇑ *e*P Pb 23 40 03.0 -2.4
baz=54
BTK ⇑ *i*S Sb 23 40 36.8 -1.4
baz=54
MTBS Maitube 2.81 36 *e*P Pg 23 40 10.3 -1.3
comp=Z,105nm,0.4s
MTBS *e*S Sg 23 40 47.8 -0.2
comp=Z,1μm,0.7s
IZV Izvestkoviy 2.83 40 Pg Pg 23 40 10.2 -1.6
comp=Z,381nm,0.5s
IZV Lg Lg 23 40 48.0
comp=Z,1μm,0.5s
IZV Izvestkoviy 2.83 40 *e*P Pg 23 40 10.2 -1.6
comp=Z,381nm,0.5s
IZV *e*S Sg 23 40 47.8 -0.7
comp=Z,1μm,0.5s
DZA Taraz 2.90 315 *e*P Pg 23 40 11.4 -1.9
comp=Z,230nm,0.6s
DZA *e*S Sg 23 40 49.5 -1.4
comp=Z,1μm,0.7s
TNSS Tian-Shan 3.00 43 *e*P Pg 23 40 13.3 -1.8
comp=Z,377nm,0.6s
TNSS *e*S Sg 23 40 53.1 -0.8
comp=Z,1μm,0.5s
AAA Alma-Ata 3.10 41 *e*PN Pg 23 40 14.6 -2.5
AAA *e*S Sg 23 40 57.0 -0.3
AAA pmax pmax
comp=Z,204nm,0.4s
AAA smax smax
comp=N,2μm,0.6s
KNDC Almaty 3.13 41⇑Pg Pg 23 40 16.4 -1.3
comp=N,318nm,0.5s
KNDC ⇑Lg Lg 23 40 58.8
comp=N,1μm,0.8s
MDOK Medeo 3.14 43⇑Pg Pg 23 40 14.7 -3.1
comp=N,155nm,0.6s
MDOK ⇓Lg Lg 23 40 57.2
comp=N,624nm,0.8s
MDOK Medeo 3.14 43 *e*P Pg 23 40 16.1 -1.6
comp=N,174nm,0.6s
MDOK *e*S Sg 23 40 57.7 -0.7
comp=N,796nm,0.5s
KOTS Kotyrbulak 3.22 42 P Pg 23 40 17.4 -1.9
KOTS Kotyrbulak 3.22 42 *e*P Pg 23 40 17.9 -1.4
comp=N,217nm,0.5s
KOTS *e*S Sg 23 41 01.2 +0.1
comp=N,2μm,0.5s
IUG Iuzhnay 3.34 294 *e*P Pb 23 40 18.7 +1.9
comp=N,82nm,0.9s
IUG *e*S Sg 23 41 02.1 -2.7
comp=N,2μm,0.7s
KTBS Karatobe 3.39 33 Pg Pg 23 40 19.7 -2.9
comp=N,100nm,0.5s
KTBS Lg Lg 23 41 05.1
comp=N,1μm,0.5s
KTBS Karatobe 3.39 33 *e*P Pg 23 40 19.7 -2.9
comp=N,29nm,0.3s
KTBS *e*S Sg 23 41 04.4 -2.2
comp=N,1μm,0.5s
KUU Kurty 3.42 28 *e*P Pg 23 40 20.6 -2.4
comp=N,74nm,0.4s
KUU *e*S Sg 23 41 05.4 -1.9
comp=N,1μm,0.6s
KK31 Karatay Array 3.50 310 Pn Pn 23 40 14.3 +2.4
comp=N,14nm,0.3s,baz=135,slow=12,SNR=133
KK31 ⇑Pg Pg 23 40 22.5 -2.1
comp=N,19nm,0.3s,baz=130,slow=16,SNR=7.3
KK31 ⇑Lg Lg 23 41 06.9
comp=N,106nm,0.3s,baz=132,slow=28,SNR=9.8
KK31 Karatay Array 3.50 310 *i* PN Pn 23 40 14.3 +2.4
KK31 pmax pmax
comp=Z,14nm,0.3s
CHM Chimkent 3.69 294 *e*P Pg 23 40 26.0 -2.4
comp=Z,58nm,0.3s
CHM *e*S Sg 23 41 14.6 -1.7
comp=Z,2μm,0.5s
TAS Tashkent 3.70 278⇑ *e*P Pn 23 40 17.3 +2.7
baz=79
TAS ⇑ *i*S Sn 23 41 01.6 +3.4
baz=79
SATY Saty 3.85 54 *e*P Pg 23 40 28.9 -2.4
comp=Z,178nm,0.8s
SATY *e*S Sg 23 41 19.8 -1.3
comp=Z,521nm,0.8s
KURS Kuram 3.96 48 *e*P Pg 23 40 30.8 -2.7
comp=Z,122nm,0.7s
KURS *e*S Sg 23 41 22.8 -2.0
comp=Z,348nm,0.9s
BTLS Baital 4.15 359 *e*P Pg 23 40 33.7 -3.4
comp=Z,42nm,0.7s
BTLS *e*S Sg 23 41 27.7 -3.2
comp=Z,136nm,0.8s
KPKS Kokpek 4.24 51 *e*P Pg 23 40 35.0 -3.9
comp=Z,114nm,1.2s
KPKS *e*S Sg 23 41 30.0 -3.8
comp=Z,555nm,0.7s
UZB Uzynbulak 4.28 57 *e*P Pg 23 40 35.4 -4.2
comp=Z,48nm,0.4s
UZB *e*S Sg 23 41 31.0 -3.9
comp=Z,200nm,0.7s
ARXS Arharly 4.29 38 *e*P Pg 23 40 35.5 -4.4
comp=Z,55nm,0.6s
ARXS *e*S Sg 23 41 31.3 -4.2
comp=Z,518nm,0.6s
MNBS Baschi 4.48 43 *e*P Pg 23 40 40.3 -3.1
comp=Z,18nm,0.6s
MNBS *e*S Sg 23 41 39.8 -1.7
comp=Z,448nm,0.6s
SHLS Shalkode 4.56 58 *e*P Pg 23 40 45.1 +0.2
comp=Z,64nm,0.8s
SHLS *e*S Sg 23 41 47.7 +3.6
comp=Z,336nm,0.7s
PDGK Podgornoye 4.66 57⇓Pn Pn 23 40 31.2 +3.2
comp=Z,17nm,0.8s
PDGK ⇑Pg Pg 23 40 43.8 -3.1
comp=Z,86nm,0.6s
PDGK ⇓Lg Lg 23 41 42.1
comp=Z,202nm,0.8s
PDGK Podgornoye 4.66 57 *i* PN Pn 23 40 31.2 +3.2
PDGK pmax pmax
comp=Z,17nm,0.8s
PDGK Podgornoye 4.66 57⇓ *e*P Pn 23 40 31.1 +3.1
baz=56
PDGK ⇓ *i*S Sn 23 41 25.8 +3.7
baz=56
TDK Taldygorghan 5.17 36 *e*P Pg 23 40 52.6 -3.9
comp=Z,68nm,0.5s
TDK *e*S Sg 23 42 00.5 -2.9
comp=Z,1μm,1.0s
KTMS Ketmen 5.27 59 *e*P Pg 23 40 54.3 -4.2
comp=Z,7.7nm,0.4s
KTMS *e*S Sg 23 42 03.7 -3.1
comp=Z,145nm,0.6s
DJR Jarkent 5.40 49 *e*P Pg 23 40 56.0 -5.0
comp=Z,68nm,0.8s
DJR *e*S Sg 23 42 06.0 -4.9
comp=Z,209nm,1.0s
KAPS Kapalarasan 5.82 39 *e*P Pb 23 41 02.4 +3.4
comp=Z,11nm,0.5s
KAPS *e*S Sg 23 42 17.1 -7.2
comp=Z,116nm,1.0s
CHCP Chirah Chowk 7.25 186 P Pn 23 41 06.7 +3.3
OTUK Ortayu 7.47 351⇑Pn Pn 23 41 08.9 +2.5
comp=Z,6.9nm,0.7s
OTUK ⇑Pg Pg 23 41 35.8 -4.8
comp=Z,10nm,0.6s
OTUK ⇑Lg Lg 23 43 11.7
comp=Z,104nm,0.7s
OTUK Ortayu 7.47 351 *i* P Pn 23 41 08.9 +2.5
OTUK pmax pmax
comp=Z,7.0nm,0.7s
MAKZ Makanchi 8.19 41⇑Pn Pn 23 41 20.7 +4.5
comp=Z,3.0nm,0.8s
MAKZ ⇑Lg Lg 23 43 34.0
comp=Z,27nm,0.8s
THW Thamme Wali 8.30 194 P Pn 23 41 21.4 +3.5
MK31 Makanchi Array 8.33 42⇓Pn Pn 23 41 17.9 -0.3
comp=Z,4.5nm,0.5s
MK31 ⇓Lg Lg 23 43 37.9
comp=Z,12nm,0.6s
MKAR Makanchi Array 8.33 42 Pn Pn 23 41 21.1 +2.8
comp=Z,0.1nm,0.3s,baz=230,slow=12,SNR=6.0
MKAR Sn Sn 23 42 57.4 +5.1
comp=Z,0.3nm,0.3s,baz=247,slow=18,SNR=1.0
MKAR Lg Lg 23 43 41.2
comp=Z,1.9nm,0.3s,baz=230,slow=28,SNR=6.2
MKAR LR LR 23 44 16.3
comp=Z,87nm,18.7s,baz=228,slow=36
DHRM DHARAMSHALA 8.79 168 *e*P Pn 23 41 25.8 +1.0
DHRM *e*S Sn 23 43 02.1 -1.7
DHRM IAML 23 43 12.9
comp=N,65nm,0.4s
DHRM IAML 23 43 13.0
comp=E,80nm,1.0s
SMLA Simla 10.04 165 *e*P Pn 23 41 44.3 +2.7
SMLA *e*S Sn 23 43 25.6 -8.5
SMLA IAML 23 43 41.2
comp=E,37nm,0.8s
SMLA IAML 23 43 41.3
comp=N,28nm,0.4s
KURBB Kurchatov Arra 10.21 16⇓Pn Pn 23 41 51.2 +7.4
comp=N,4.0nm,0.5s
KURBB ⇓Lg Lg 23 44 41.5
comp=N,224nm,1.4s
KURBB Kurchatov Arra 10.21 16 Pn Pn 23 41 44.1 +0.3
comp=N,0.0nm,0.3s,baz=200,slow=13,SNR=4.5
KURBB Sn Sn 23 43 31.8 -6.4
comp=N,0.1nm,0.3s,baz=198,slow=27,SNR=4.1
KURBB Lg Lg 23 44 36.7
comp=N,0.5nm,0.3s,baz=201,slow=29,SNR=12
KURK Kurchatov 10.31 16⇓ *e*P Pn 23 41 49.2 +3.9
BVAR Borovoye Array 12.41 349 Pn Pn 23 42 14.3 +0.3
comp=N,0.7nm,0.3s,baz=161,slow=14,SNR=23
BVAR Sn Sn 23 44 18.8 -13
comp=N,0.6nm,0.3s,baz=180,slow=19,SNR=2.9
BVAR Lg Lg 23 45 47.8
comp=N,0.2nm,0.3s,baz=150,slow=32,SNR=3.7
BRVK Borovoye 12.46 349⇑ *i*P Pn 23 42 14.7 +0.1
GEYT Alibeck 12.74 262 Pn Pn 23 42 16.1 -2.6
comp=N,0.3nm,0.3s,baz=96,slow=11,SNR=7.5
GEYT Sn Sn 23 44 32.5 -7.9
comp=N,0.4nm,0.3s,baz=94,slow=12,SNR=1.9
GEYT LR LR 23 48 26.2
comp=N,42nm,18.9s,baz=105,slow=44
DGZ Jazzator, Alta 12.83 42 *e*P Pn 23 42 25.9 +6.0
DGZ pmax pmax
comp=Z,1.0nm,1.0s
AB31 Akbulak array 13.05 315⇑ *e*P Pn 23 42 22.6 -0.1
AB31 pmax pmax
comp=Z,4.0nm,0.7s
PYUN Piuthan 14.68 148 *e*P Pn 23 42 43.7 -1.6
comp=Z,13nm,0.5s
AKTO Aktyubinsk 14.75 316 Pn Pn 23 42 45.3 -0.6
comp=Z,0.3nm,0.3s,baz=117,slow=14,SNR=5.5
AKTO Lg Lg 23 46 58.9
comp=Z,0.1nm,0.3s,baz=229,slow=14,SNR=2.4
DANN Dangsing 14.79 145 *e*P Pn 23 42 43.6 -3.2
comp=Z,11nm,0.5s
ZALV Zalesovo Beam 14.91 25 Pn P 23 42 50.2 -3.5
comp=Z,0.2nm,0.3s,baz=225,slow=11,SNR=5.2
ZALV Sn S 23 45 42.5 -8.5
comp=Z,0.1nm,0.3s,baz=76,slow=12,SNR=1.8
ZALV Lg Lg 23 47 08.1
comp=Z,0.2nm,0.3s,baz=204,slow=24,SNR=2.9
NVS Novosibirsk 15.21 20 *e*P P 23 42 58.9 +1.8
KOLN Koldanda 15.22 146 *e*P Pn 23 42 50.4 -2.2
comp=Z,10nm,0.6s
PKIN Phulchoki 16.19 142 *e*P Pn 23 43 02.2 -3.0
comp=Z,13nm,0.6s
PKI Pulchoki 16.20 142 *e*P Pn 23 43 02.1 -3.3
comp=Z,15nm,0.7s
JIRN Jiri 16.50 139 *e*P Pn 23 43 05.7 -3.6
comp=Z,32nm,0.9s
ODAN Odare 17.76 138 *e*P Pn 23 43 22.4 -2.6
comp=Z,40nm,0.7s
SVE Sverdlovsk 18.20 336 *e*P P 23 43 32.2 +2.0
ARU Arti 18.58 332 *d i*P Pn 23 43 36.1 +1.6
ARU S S 23 47 05.7 -0.1
ARU pmax pmax
comp=Z,6.0nm,1.2s
ARU Arti 18.58 332 P Pn 23 43 35.5 +0.9
comp=Z,0.0nm,0.3s,baz=115,slow=7.4,SNR=5.7
ARU Lg Lg 23 49 03.4
comp=Z,0.0nm,0.3s,baz=107,slow=20,SNR=2.1
ARU LR LR 23 51 17.3
comp=Z,141nm,20.8s,baz=172,slow=39
WSAR Wadi Sarin 21.91 221 LR LR 23 54 47.9
comp=Z,50nm,20.8s,baz=76,slow=43
GNI Garni 22.32 278 *ce*P P 23 44 16.9 +1.6
GNI pmax pmax
comp=Z,50nm,1.2s
GNI Garni 22.32 278 P P 23 44 17.0 +1.8
comp=Z,8.8nm,0.8s,baz=257,slow=11,SNR=3.3
GNI LR LR 23 54 12.1
comp=Z,31nm,19.9s,baz=68,slow=40
ZAK Zakamensk 22.35 55 *e*P P 23 44 14.8 -0.6
ZAK pmax pmax
comp=Z,5.0nm,1.3s
NCK Nalchik 22.73 287⇑ *e*P P 23 44 19.1 -0.2
NCK pmax pmax
comp=Z,7.0nm,0.7s
KBZ Khabaz 23.21 287 P P 23 44 27.0 +2.6
comp=Z,2.9nm,0.9s,baz=178,slow=3.2,SNR=5.6
KBZ LR LR 23 54 08.0
comp=Z,74nm,20.6s,baz=80,slow=39
KVAR Kislovodsk Arr 23.35 288 LR LR 23 54 36.0
comp=Z,91nm,20.3s,baz=237,slow=40
KIV Kislovodsk 23.35 288 *e*P P 23 44 26.5 +0.6
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,96nm,15.0s
BRDH Bariadhala 23.39 136 LR LR 23 54 01.7
comp=Z,76nm,18.6s,baz=117,slow=38
KIRV Kirov 23.63 327 LR LR 23 53 59.0
comp=Z,43nm,21.9s,baz=139,slow=37
SONM Songino Array 23.95 62 P P 23 44 34.2 +2.4
comp=Z,1.4nm,0.8s,baz=272,slow=9.2,SNR=8.7
ULN Ulaanbaatar 24.40 62 *ce*P P 23 44 39.9 +4.0
ULN pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 30.72 281 P P 23 45 33.6 +1.0
comp=Z,0.6nm,0.7s,baz=93,slow=7.4,SNR=5.8
AKASG Malin Array Be 32.37 303 LR LR 23 59 53.8
comp=Z,55nm,21.4s,baz=20,slow=38
KIEV Kiev 32.38 303 *i* P P 23 45 48.3 +1.4
KIEV pmax pmax
comp=Z,17nm,4.0s
FINES FINESS Array B 35.38 322 P P 23 46 13.0 +0.2
FINES FINESS Array B 35.38 322 P P 23 46 13.0 +0.2
comp=Z,1.3nm,0.8s,baz=148,slow=11,SNR=9.1
FINES LR LR 00 01 09.8
comp=Z,28nm,18.4s,baz=133,slow=37
KOLS Kolonicke sedl 36.98 300 *e*P P 23 46 30.9 +4.2
KOLS Kolonicke sedl 36.98 300 *e*P P 23 46 30.9 +4.2
ARCES ARCESS Array B 38.13 335 *e*P P 23 46 38.0 +1.8
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 38.13 335 P P 23 46 36.8 +0.6
comp=Z,1.9nm,0.6s,baz=105,slow=9.4,SNR=8.2
ARCES LR LR 00 03 26.8
comp=Z,41nm,20.8s,baz=245,slow=38
VYHS Vyhne 39.30 300 *e*P P 23 46 47.7 +1.5
VYHS Vyhne 39.30 300 *e*P P 23 46 47.7 +1.5
TIXI Tiksi 40.78 23⇑ *e*P P 23 47 04.1 +5.9
TIXI Tiksi 40.78 23 P P 23 47 02.1 +3.9
comp=Z,1.2nm,0.3s,baz=279,slow=5.6,SNR=5.2
KSRS Korea Array 41.29 77 LR LR 00 04 21.5
comp=Z,25nm,20.6s,baz=170,slow=36
USRK Ussuriysk Ar. 41.99 66 LR LR 00 05 53.9
comp=Z,53nm,19.5s,baz=190,slow=38
NB2 NORSAR Subarra 42.48 320 P P 23 47 15.6 +3.3
comp=Z,0.7nm,0.7s,baz=90,slow=8.6
NOA NORSAR Array B 42.48 320 P P 23 47 11.8 -0.5
comp=Z,0.8nm,0.9s,baz=90,slow=8.1,SNR=3.0
NOA LR LR 00 05 24.7
comp=Z,16nm,18.3s,baz=70,slow=37
GERES GERESS Array B 42.56 302 LR LR 00 06 23.9
comp=Z,30nm,18.8s,baz=298,slow=38
KMBO Kilima Mbogo 53.59 228 *ce*P P 23 48 39.5 +0.5
KMBO pmax pmax
comp=Z,1.0nm,0.6s
ESDC Sonseca Array 57.64 297 P P 23 49 07.2 -0.6
comp=Z,0.4nm,0.6s,baz=59,slow=7.1,SNR=3.7
TORD Torodi Ar. Bea 68.28 269 P P 23 50 17.8 -0.9
comp=Z,0.7nm,0.6s,baz=30,slow=6.6,SNR=9.0
INK Inuvik 69.17 11 P P 23 50 24.9 +1.5
comp=Z,1.0nm,0.8s,baz=317,slow=4.6,SNR=2.3
ILAR Eielson Array 69.88 17 P P 23 50 29.1 +1.2
comp=Z,0.7nm,0.8s,baz=307,slow=4.6,SNR=6.6
YKA Yellowknife Ar 76.73 4 P P 23 51 09.0 +0.8
comp=Z,0.5nm,0.7s,baz=345,slow=5.8,SNR=7.1

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*ISCJB **26** 23:41:17.7±0.5, 24°.90N±0°.03×122°.45E±0°.02, h9km±3km,*
Error ellipse: s-maj=5.4km s-min=3.0km az=28.1
*JMA **26** 23:41:17.7±0.3, 24°.86N×122°.43E, h1km±3km, M2.7*
*TAP **26** 23:41:18.2, 24°.90N×122°.38E, h14km, ML2.9, C*
ISC 26 23:41:17.9±1.0, **24°.87N**±0°.03×**122°.42E**±0°.02, **h12**km±10km,
n44, σ0°**40**/70, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.41**	**289**	*i* P	**Pg**	**23 41 26.3**	**+0.1**
	baz=287						
TWB1				*i* S	**Sg**	**23 41 31.9**	**+0.3**
	baz=287						
EOS1	**EOS1**	**0.42**	**219**	P	**Pb**	**23 41 27.2**	**-0.1**
	baz=226						
EOS1				S	**Sb**	**23 41 34.1**	**+0.7**
	baz=226						
EGS		**0.44**	**267**	P	**Pb**	**23 41 27.1**	**-0.6**
	baz=252						
EGS				S	**Sb**	**23 41 33.6**	**-0.7**
	baz=252						
NTC	**Toucheng**	**0.54**	**268**	P	**Pb**	**23 41 29.1**	**-0.2**
	baz=265						
TIPB	**Shuangxi**	**0.55**	**281**	P	**Pb**	**23 41 29.3**	**-0.2**
	baz=278						
TIPB				S	**Sb**	**23 41 36.8**	**-0.5**
	baz=278						
TWC	**Suao**	**0.58**	**243**	P	**Pg**	**23 41 29.4**	**+0.2**
	baz=239						
NWF	**Wu-fen Shan**	**0.61**	**289**	P	**Pb**	**23 41 30.4**	**-0.2**
	baz=287						
NWF				S	**Sb**	**23 41 39.2**	**0.0**
	baz=287						
WFSB	**Wu-fen Shan**	**0.61**	**289**	P	**Pb**	**23 41 30.4**	**-0.2**
	baz=287						
WFSB				S	**Sb**	**23 41 39.4**	**+0.3**
	baz=287						
JYNG	**Yonagunijimaku**	**0.64**	**131**	P	**Pg**	**23 41 30.1**	**-0.2**
JYNG				S	**Sg**	**23 41 38.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.68**	**127**	*e*P	**Pg**	**23 41 30.9**	**-0.2**
	baz=117						
YOJ				*e*S	**Sg**	**23 41 39.7**	**-0.3**
	baz=117						
YOJ	**Yonaguni jima**	**0.68**	**127**	P	**Pg**	**23 41 30.7**	**-0.4**
YOJ				S	**Sg**	**23 41 39.6**	**-0.3**
TWE	**Neicheng**	**0.70**	**258**	P	**Pg**	**23 41 31.6**	**+0.1**
	baz=245						
TWE				*e*S	**Sg**	**23 41 41.0**	**+0.4**
	baz=245						
SLBB	**Yuanshan**	**0.72**	**261**	*e*P	**Pb**	**23 41 32.5**	**0.0**
	baz=258						
ENA	**Nanau**	**0.76**	**234**	P	**Pg**	**23 41 32.9**	**+0.3**
	baz=231						
TWA	**Mucha**	**0.77**	**278**	*e*P	**Pg**	**23 41 32.9**	**+0.1**
	baz=276						
TWA				S	**Sb**	**23 41 43.6**	**0.0**
	baz=276						
YM07	**YM07**	**0.78**	**293**	P	**Pb**	**23 41 33.5**	**-0.1**
	baz=291						
YM07				*e*S	**Sb**	**23 41 43.7**	**-0.5**
	baz=291						
ENTT	**Nioudou**	**0.81**	**254**	*e*P	**Pb**	**23 41 34.3**	**+0.3**
	baz=250						
ENTT				*e*S	**Sb**	**23 41 46.1**	**+1.2**
	baz=250						
YM08	**YM08**	**0.81**	**293**	*e*P	**Pg**	**23 41 33.7**	**0.0**
	baz=277						
YM08				*e*S	**Sg**	**23 41 44.5**	**+0.1**
	baz=277						
NHDH	**Xindian Distri**	**0.82**	**277**	P	**Pb**	**23 41 33.8**	**-0.2**
	baz=274						
NHDH				*e*S	**Sb**	**23 41 44.7**	**-0.4**
	baz=274						
PCYT	**Pengchaiyu**	**0.82**	**337**	P	**Pb**	**23 41 34.1**	**0.0**
	baz=321						
YM01	**YM01**	**0.82**	**290**	*e*P	**Pb**	**23 41 33.9**	**-0.3**
	baz=288						
YM01				*e*S	**Sb**	**23 41 45.2**	**0.0**
	baz=288						
YM11	**YM11**	**0.82**	**291**	*e*P	**Pb**	**23 41 33.9**	**-0.3**
	baz=290						
YM10	**YM10**	**0.83**	**290**	*e*P	**Pb**	**23 41 34.2**	**-0.1**

	baz=289						
NWLT	**Wulai**	**0.84 264**	P		**Pb**	**23 41 34.3**	**-0.2**
	baz=261						
NWLT			*e*S		**Sb**	**23 41 45.6**	**-0.1**
	baz=261						
TWY	**Chenhua**	**0.84 299**	*e*P		**Pb**	**23 41 34.3**	**-0.2**
	baz=285						
TWY			*e*S		**Sb**	**23 41 45.9**	**0.0**
	baz=285						
TATO	**Taipei**	**0.85 277**	*e*P		**Pg**	**23 41 34.2**	**-0.1**
	baz=275						
TATO			*e*S		**Sb**	**23 41 46.0**	**-0.1**
	baz=275						
NDT	**Datong Townshi**	**0.87 252**	*e*P		**Pb**	**23 41 34.9**	**-0.1**
	baz=249						
NDT			*e*S		**Sn**	**23 41 48.0**	**-0.6**
	baz=249						
YHNB	**Yeheng**	**0.97 258**	P		**Pg**	**23 41 36.5**	**-0.1**
	baz=265						
YHNB			*e*S		**Sb**	**23 41 50.2**	**+0.7**
	baz=265						
NSK	**Sanguang**	**0.98 259**	P		**Pg**	**23 41 36.8**	**-0.1**
	baz=266						
NSK			*e*S		**Sb**	**23 41 50.7**	**+0.7**
	baz=266						
NACB	**Ninganchiao**	**1.02 227**	P		**Pg**	**23 41 37.0**	**-0.7**
	baz=224						
NACB			S		**Sg**	**23 41 50.3**	**-0.7**
	baz=224						
NNSB	**Datong**	**1.04 245**	P		**Pg**	**23 41 37.6**	**-0.4**
	baz=231						
NNSB			*e*S		**Sb**	**23 41 52.1**	**+0.5**
	baz=231						
NNS	**Nan Shan**	**1.04 246**	*e*P		**Pn**	**23 41 39.0**	**+0.5**
	baz=243						
ETLH	**Xiulin Townshi**	**1.08 232**	*e*P		**Pg**	**23 41 38.6**	**-0.2**
	baz=230						
TWD	**Chiawan**	**1.09 224**	*e*P		**Pg**	**23 41 38.8**	**-0.1**
	baz=231						
WHF	**Hehuan Shan**	**1.28 236**	*e*P		**Pg**	**23 41 42.0**	**-0.5**
	baz=233						
WHF			*e*S		**Sg**	**23 41 58.4**	**-0.8**
	baz=233						
IRIF	**Iriomote-Funau**	**1.31 114**	P		**Pn**	**23 41 42.7**	**+0.6**
CHGB	**Renai**	**1.39 235**	*e*P		**Pn**	**23 41 43.6**	**+0.2**
	baz=232						
CHGB			*e*S		**Sg**	**23 42 03.5**	**+0.7**
	baz=232						
OWD	**Renai**	**1.46 231**	*e*P		**Pn**	**23 41 44.9**	**+0.6**
	baz=229						
WHP	**Taichung City**	**1.47 246**	*e*P		**Pg**	**23 41 45.8**	**-0.3**
	baz=245						
HATJ	**Hateruma jima**	**1.50 122**	P		**Pb**	**23 41 46.0**	**+0.2**
DPDB	**Guoxing**	**1.60 239**	*e*P		**Pb**	**23 41 47.3**	**-0.1**
	baz=237						
VWDT	**VWDT**	**1.61 227**	*e*P		**Pn**	**23 41 46.6**	**+0.4**
	baz=225						
HGSD	**Ruisui**	**1.65 214**	*e*P		**Pn**	**23 41 46.6**	**-0.1**
	baz=198						
SMLT	**Sun Moon Lake**	**1.70 235**	*e*P		**Pb**	**23 41 49.0**	**-0.2**
	baz=219						

NIED ***26*** *23:41:00,24.°90N×122.°50E,h5km,Mw4.3 Best double couple: M₀3.67000×10¹⁵ NP1:φ=69.00000°,δ41.00000°, λ-111.00000°. NP2:φ=277.00000°,δ52.00000°, λ-73.00000°.*

ISCJB ***26*** *23:41:48.0±0.6,24.°94N±0.°02×122.°51E±0.°02,h15km±4km, mb3.9/13,MS3.6/12,Error ellipse: s-maj=3.4km s-min=2.2km az=16.3*

TAP ***26*** *23:41:49.2,24.°90N×122.°39E,h15km,ML4.5,C*

JMA ***26*** *23:41:49.1±0.1,24.°89N×122.°48E,h40km±2km,M3.9*

IDC ***26*** *23:42:02.0±4.5,24.°88N×122.°39E,h138km±43km, mb3.4/13,mb1 3.5/15,mb1mx3.3/50,mbtmp3.8/15, MS3.6/16,Ms1 3.6/16,ms1mx3.4/34,Error ellipse: s-maj=21.5km s-min=14.3km az=72.0*

ISC 26 23:41:47.9±1.1,24.°90N±0.°02×122.°47E±0.°02,h12km±7km, n137,σ1§01/176,mb3.8/13,MS3.5/12,9C-17D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45 285**		⇑*i*P	**Pb**	**23 41 57.4**	**-0.4**
	baz=286						
TWB1				*i*S	**Sg**	**23 42 03.0**	**+0.2**
	baz=286						
EOS1	**EOS1**	**0.46 222**		⇑P	**Pb**	**23 41 58.3**	**+0.3**
	baz=226						
EOS1				S	**Sb**	**23 42 05.2**	**+0.4**
	baz=226						
EGS		**0.49 264**		⇑*i*P	**Pb**	**23 41 58.1**	**-0.3**
	baz=252						
EGS				S	**Sg**	**23 42 04.0**	**0.0**
	baz=252						
NTC	**Toucheng**	**0.58 266**		P	**Pb**	**23 41 59.9**	**-0.1**
	baz=275						
NTC				S	**Sb**	**23 42 08.2**	**-0.1**
	baz=275						
TIPB	**Shuangxi**	**0.59 278**		⇑P	**Pb**	**23 41 59.9**	**-0.3**
	baz=277						
TIPB				S	**Sg**	**23 42 07.5**	**+0.3**
	baz=277						
JYNG	**Yonagunijimaku**	**0.62 135**		P	**Pb**	**23 42 01.2**	**+0.5**
JYNG				*e*S	**Sb**	**23 42 09.8**	**+0.4**
TWC	**Suao**	**0.63 243**		⇑*i*P	**Pg**	**23 42 00.1**	**-0.1**
	baz=238						
TWC				*e*S	**Sg**	**23 42 08.5**	**0.0**
	baz=238						
NWF	**Wu-fen Shan**	**0.65 286**		⇑*i*P	**Pb**	**23 42 01.5**	**+0.3**
	baz=287						
NWF				S	**Sb**	**23 42 10.4**	**+0.1**
	baz=287						
WFSB	**Wu-fen Shan**	**0.65 286**		⇑P	**Pb**	**23 42 01.5**	**+0.3**
	baz=287						
WFSB				S	**Sb**	**23 42 10.2**	**0.0**
	baz=287						
YOJ	**Yonaguni jima**	**0.66 131**		⇓P	**Pb**	**23 42 01.7**	**+0.3**
	baz=117						
YOJ	**Yonaguni jima**	**0.66 131**		P	**Pb**	**23 42 01.6**	**+0.3**
YOJ				*e*S	**Sb**	**23 42 11.0**	**+0.6**
ILA	**Ilan**	**0.67 259**		P	**Pb**	**23 42 02.0**	**+0.5**
	baz=247						
ILA				S	**Sb**	**23 42 11.8**	**+1.0**
	baz=247						
TWE	**Neicheng**	**0.75 257**		⇑*i*P	**Pg**	**23 42 02.4**	**0.0**
	baz=245						
TWE				S	**Sg**	**23 42 12.5**	**+0.3**
	baz=245						
SLBB	**Yuanshan**	**0.77 260**		P	**Pb**	**23 42 03.6**	**+0.3**
	baz=249						
SLBB				S	**Sb**	**23 42 13.9**	**+0.1**
	baz=249						
TWA	**Mucha**	**0.81 276**		⇓*i*P	**Pb**	**23 42 04.2**	**+0.3**
	baz=276						
TWA				S	**Sb**	**23 42 14.9**	**+0.1**
	baz=276						
ENA	**Nanau**	**0.81 235**		P	**Pg**	**23 42 03.6**	**+0.1**
	baz=230						
ENA				*e*S	**Sb**	**23 42 15.1**	**+0.2**
	baz=230						
PCYT	**Pengchaiyu**	**0.81 334**		P	**Pb**	**23 42 03.9**	**-0.2**
	baz=331						
YM07	**YM07**	**0.82 290**		⇑*i*P	**Pn**	**23 42 04.4**	**-0.9**
	baz=291						
YM07				S	**Sg**	**23 42 14.3**	**-0.1**
	baz=291						
YM08	**YM08**	**0.85 290**		P	**Pb**	**23 42 04.5**	**-0.1**
	baz=277						
YM08				S	**Sb**	**23 42 15.4**	**-0.6**
	baz=277						
YM01	**YM01**	**0.85 287**		⇓P	**Pb**	**23 42 04.9**	**+0.2**
	baz=288						
YM01				S	**Sb**	**23 42 15.8**	**-0.4**
	baz=288						
YM11	**YM11**	**0.85 289**		P	**Pb**	**23 42 04.9**	**+0.1**
	baz=289						
YM11				S	**Sb**	**23 42 16.7**	**+0.5**
	baz=289						
ENTT	**Nioudou**	**0.86 253**		P	**Pg**	**23 42 04.4**	**-0.1**
	baz=251						
NHDH	**Xindian Distri**	**0.86 275**		⇓P	**Pb**	**23 42 04.8**	**+0.1**
	baz=274						
NHDH				S	**Sb**	**23 42 16.1**	**-0.1**
	baz=274						
YM10	**YM10**	**0.86 288**		P	**Pn**	**23 42 05.2**	**-0.7**
	baz=288						
YM10				S	**Sb**	**23 42 16.6**	**+0.1**
	baz=288						
TWY	**Chenhua**	**0.87 296**		P	**Pn**	**23 42 05.5**	**-0.5**
	baz=283						
TWY				S	**Sb**	**23 42 16.9**	**+0.1**
	baz=283						
NWLT	**Wulai**	**0.89 263**		P	**Pb**	**23 42 05.1**	**-0.1**
	baz=261						
NWLT				S	**Sg**	**23 42 16.3**	**-0.3**
	baz=261						
TATO	**Taipei**	**0.89 275**		⇓P	**Pb**	**23 42 05.6**	**+0.2**
	baz=275						
TATO				S	**Sg**	**23 42 16.4**	**-0.4**
	baz=275						
ANP	**Anpu**	**0.91 289**		P	**Pn**	**23 42 05.9**	**-0.7**
	baz=277						
ANP				S	**Sg**	**23 42 16.7**	**-0.6**
	baz=277						
NDT	**Datong Townshi**	**0.92 252**		P	**Pb**	**23 42 05.7**	**-0.1**
	baz=249						
NDT				S	**Sb**	**23 42 18.3**	**+0.4**
	baz=249						
NTST	**Danshui**	**0.96 286**		*e*P	**Pn**	**23 42 07.6**	**+0.3**
	baz=287						
TWS1	**Kuangyinshan**	**0.97 282**		*e*P	**Pn**	**23 42 07.3**	**-0.2**
	baz=282						
TWS1				S	**Sn**	**23 42 20.1**	**-1.2**
	baz=282						
YHNB	**Yeheng**	**1.02 258**		⇓P	**Pg**	**23 42 07.5**	**-0.1**
	baz=265						
YHNB				S	**Sb**	**23 42 20.4**	**-0.6**
	baz=265						
NSK	**Sanguang**	**1.03 258**		P	**Pb**	**23 42 07.6**	**-0.2**
	baz=265						
NSK				S	**Sb**	**23 42 20.6**	**-0.8**
	baz=265						
NACB	**Ninganchiao**	**1.07 228**		⇓P	**Pb**	**23 42 07.7**	**-0.7**
	baz=224						
NACB				S	**Sb**	**23 42 21.4**	**-0.9**
	baz=224						
NNSB	**Datong**	**1.09 245**		⇓P	**Pb**	**23 42 08.5**	**-0.3**
	baz=231						
NNSB				S	**Sb**	**23 42 22.6**	**-0.5**
	baz=231						
NNS	**Nan Shan**	**1.09 246**		⇓P	**Pb**	**23 42 08.6**	**-0.3**
	baz=231						
NNS				S	**Sb**	**23 42 23.1**	**-0.1**
	baz=231						
WLTB	**Daxi**	**1.10 268**		*e*P	**Pg**	**23 42 09.3**	**+0.1**
	baz=267						
ETLH	**Xiulin Townshi**	**1.13 233**		P	**Pb**	**23 42 09.4**	**-0.1**
	baz=230						
ETLH				S	**Sg**	**23 42 24.4**	**0.0**
	baz=230						
TWD	**Chiawan**	**1.14 225**		*e*P	**Pb**	**23 42 09.1**	**-0.4**
	baz=229						
TWD				S	**Sb**	**23 42 23.9**	**-0.3**
	baz=229						
NCU	**National Centr**	**1.17 274**		*e*P	**Pg**	**23 42 11.7**	**+1.3**
	baz=273						
NCUH	**Zhongli**	**1.17 274**		*e*P	**Pb**	**23 42 08.9**	**-1.1**
	baz=273						
HWA	**Hwalien**	**1.21 221**		*e*P	**Pb**	**23 42 10.9**	**+0.2**
	baz=217						
ENLB	**Shoufeng**	**1.26 219**		P	**Pg**	**23 42 12.1**	**-0.1**
	baz=215						
IRIF	**Iriomote-Funau**	**1.28 116**		P	**Pn**	**23 42 10.4**	**-1.2**
WHF	**Hehuan Shan**	**1.33 236**		P	**Pb**	**23 42 12.8**	**-0.2**
	baz=233						
WHF				*e*S	**Sb**	**23 42 29.7**	**-0.5**
	baz=233						
LIOB	**Emei**	**1.34 260**		*e*P	**Pn**	**23 42 12.4**	**-0.1**
	baz=258						
SBCB	**Hsinchu**	**1.35 266**		*e*P	**Pb**	**23 42 13.0**	**-0.2**
	baz=265						
TDCB	**Techi**	**1.35 242**		⇓P	**Pb**	**23 42 13.2**	**-0.2**
	baz=230						
TDCB				S	**Sb**	**23 42 30.5**	**-0.1**
	baz=230						
NSTT	**Nanjuang**	**1.36 259**		⇓P	**Pn**	**23 42 12.7**	**-0.1**
	baz=257						
NSTT				*e*S	**Sg**	**23 42 31.4**	**-0.4**
	baz=257						
HSN	**Hsinchu**	**1.36 266**		*e*P	**Pn**	**23 42 12.1**	**-0.7**
	baz=266						
ESL	**Shilin**	**1.43 221**		*e*P	**Pn**	**23 42 13.5**	**-0.3**
	baz=218						
ESL				*e*S	**Sg**	**23 42 34.8**	**+0.8**
	baz=218						
CHGB	**Renai**	**1.44 235**		P	**Pg**	**23 42 15.4**	**-0.3**
	baz=232						
CHGB				*e*S	**Sn**	**23 42 32.4**	**-0.7**
	baz=232						
HATJ	**Hateruma jima**	**1.48 124**		P	**Pn**	**23 42 13.8**	**-0.6**
HATJ				*e*S	**Sn**	**23 42 32.0**	**-1.6**
OWD	**Renai**	**1.50 232**		*e*P	**Pb**	**23 42 16.2**	**+0.3**
	baz=229						
OWD				*e*S	**Sg**	**23 42 36.2**	**-0.2**
	baz=229						
WHP	**Taichung City**	**1.52 246**		P	**Pb**	**23 42 16.1**	**+0.1**
	baz=244						
WHP				*e*S	**Sg**	**23 42 37.2**	**+0.4**
	baz=244						
EGFH	**Guangfu**	**1.55 218**		*e*P	**Pn**	**23 42 14.7**	**-0.7**
	baz=198						
JKRS	**Kuro-shima**	**1.55 115**		P	**Pn**	**23 42 14.7**	**-0.6**
JKRS				*e*S	**Sn**	**23 42 34.9**	**-0.5**
NMLH	**Miaoli**	**1.57 257**		*e*P	**Pg**	**23 42 18.0**	**0.0**
	baz=270						
JIJ	**Ishigaki jima**	**1.61 109**		P	**Pn**	**23 42 16.2**	**0.0**
JIJ				*e*S	**Sn**	**23 42 35.9**	**-1.1**
NSY	**Sanyi**	**1.62 253**		*e*P	**Pg**	**23 42 18.6**	**-0.5**
	baz=267						
TWQ1	**Liyutan**	**1.64 251**		*e*P	**Pb**	**23 42 18.1**	**0.0**
	baz=265						
DPDB	**Guoxing**	**1.65 239**		⇓P	**Pb**	**23 42 18.5**	**+0.2**
	baz=236						
DPDB				*e*S	**Sb**	**23 42 39.3**	**+0.3**
	baz=236						
VWDT	**VWDT**	**1.66 227**		⇓P	**Pb**	**23 42 17.9**	**-0.5**
	baz=207						
PTSB	**Yuanli**	**1.67 255**		*e*P	**Pb**	**23 42 18.8**	**+0.2**
	baz=268						
HGSD	**Ruisui**	**1.69 215**		⇓P	**Pn**	**23 42 17.0**	**-0.3**
	baz=197						
EHY	**Hungye**	**1.73 217**		*e*P	**Pn**	**23 42 17.5**	**-0.4**
	baz=215						
SMLT	**Sun Moon Lake**	**1.75 235**		⇓P	**Pb**	**23 42 19.9**	**-0.1**
	baz=219						
WDJ	**Dajia District**	**1.75 252**		*e*P	**Pb**	**23 42 19.5**	**-0.5**
	baz=251						
SSLB	**Suanglung**	**1.77 232**		⇓P	**Pb**	**23 42 19.5**	**-0.9**
	baz=240						
SSLB				*e*S	**Sb**	**23 42 43.2**	**+0.8**
	baz=240						
TCU	**Taichung**	**1.79 246**		*e*P	**Pg**	**23 42 22.0**	**-0.3**
	baz=242						
TWF1	**Yuli**	**1.87 215**		*e*P	**Pn**	**23 42 18.7**	**-1.1**
	baz=212						
WHYT	**Xinyi Township**	**1.90 231**		*e*P	**Pb**	**23 42 22.1**	**-0.4**
	baz=239						
WHYT				*e*S	**Sg**	**23 42 47.9**	**-1.0**
	baz=239						
WNT	**Mingjian**	**1.92 238**		*e*P	**Pb**	**23 42 22.9**	**+0.1**
	baz=255						
WCHH	**Zhanghua**	**1.92 245**		*e*P	**Pb**	**23 42 23.7**	**+0.9**
	baz=244						
YUS	**Yu-Shan**	**1.97 225**		⇓*e*P	**Pn**	**23 42 22.1**	**+0.5**
	baz=223						
CHKT	**Chengkung**	**2.05 210**		*e*P	**Pn**	**23 42 22.5**	**+0.2**
	baz=192						
CHN5	**Tsauling**	**2.08 232**		*e*P	**Pb**	**23 42 25.1**	**-0.6**
	baz=230						
WGK	**Gukeng**	**2.12 236**		*e*P	**Pb**	**23 42 26.3**	**+0.1**
	baz=251						
WDLH	**Douliu**	**2.13 236**		*e*P	**Pb**	**23 42 25.7**	**-0.8**
	baz=251						
ELDTW	**Lidau**	**2.15 218**		*e*P	**Pn**	**23 42 23.9**	**0.0**
	baz=202						
CHN2	**Minshiung**	**2.27 234**		*e*P	**Pb**	**23 42 27.6**	**-1.2**
	baz=249						
CHN4	**Tsaushan**	**2.30 228**		*e*P	**Pb**	**23 42 27.9**	**-1.6**
	baz=210						
CHY	**Chiayi**	**2.33 234**		*e*P	**Pn**	**23 42 27.9**	**+1.8**
	baz=249						
STYT	**Tauyuan**	**2.33 223**		*e*P	**Pn**	**23 42 27.0**	**+0.8**
	baz=204						
WTP	**Ta-pu**	**2.36 226**		*e*P	**Pn**	**23 42 28.0**	**+1.5**
	baz=208						
TWGBT	**Beinan**	**2.43 212**		*e*P	**Pn**	**23 42 25.7**	**-1.8**
	baz=210						
TWG	**Pinlang**	**2.43 212**		*e*P	**Pn**	**23 42 27.4**	**-0.1**
	baz=210						
TWK	**Hsinying**	**2.43 229**		P	**Pn**	**23 42 29.4**	**+1.8**
	baz=211						
TWK				*e*S	**Sb**	**23 43 00.9**	**-0.6**
	baz=211						
SNST	**Tainan City**	**2.46 228**		*e*P	**Pb**	**23 42 30.0**	**-2.0**
	baz=210						
CHN1	**Nanshi**	**2.46 227**		*e*P	**Pn**	**23 42 29.7**	**+1.8**
	baz=225						
SGST	**Jiashian**	**2.50 224**		*e*P	**Pn**	**23 42 29.9**	**+1.5**
	baz=206						
SLGT	**Liugui**	**2.52 222**		*e*P	**Pn**	**23 42 30.6**	**+1.8**
	baz=220						
JMJ	**Miyako jima 2**	**2.57 91**		*e*P	**Pb**	**23 42 33.6**	**-0.4**
	baz=91						
MATB	**Ma-tsu**	**2.60 299**		*e*P	**Pn**	**23 42 29.6**	**-0.3**
	baz=298						
SSD	**Sandimen**	**2.72 219**		*e*P	**Pn**	**23 42 33.4**	**+1.9**
	baz=202						
VWUC	**VWUC**	**2.74 273**		*e*P	**Pn**	**23 42 30.9**	**-0.9**
	baz=271						
MASBT	**Mashibuluo**	**2.83 217**		*e*P	**Pn**	**23 42 35.0**	**+2.0**
	baz=202						
MASBT				*e*S	**Sn**	**23 43 09.4**	**+2.4**
	baz=202						
EAST	**Anshuo**	**2.91 211**		*e*P	**Pn**	**23 42 34.7**	**+0.6**
	baz=209						
LAY	**Lan-yu**	**2.96 197**		*e*P	**Pn**	**23 42 33.7**	**-1.1**
	baz=194						
SSPT	**Xinbi**	**2.97 216**		*e*P	**Pb**	**23 42 37.9**	**-2.8**
	baz=215						
PNG	**Penghu**	**2.97 244**		*e*P	**Pn**	**23 42 35.0**	**+0.1**
	baz=243						
PHUB	**P'eng-hu**	**2.98 243**		*e*P	**Pn**	**23 42 35.2**	**+0.2**
	baz=242						
SCZT	**Fangliau**	**3.03 214**		*e*P	**Pn**	**23 42 37.9**	**+2.2**
	baz=199						
WDGT	**Dungji**	**3.04 238**		*e*P	**Pn**	**23 42 36.6**	**+0.8**
	baz=238						
WLCH	**Liuqiu**	**3.18 218**		*e*P	**Pb**	**23 42 41.3**	**-3.0**
	baz=216						
TWP	**Hsiaoliuchiu**	**3.19 218**		*e*P	**Pb**	**23 42 42.4**	**-2.1**
	baz=216						
VCHM	**Qimei**	**3.25 239**		*e*P	**Pn**	**23 42 39.5**	**+0.8**
	baz=239						
TSEB	**Hengchuen, Pin**	**3.31 206**		*e*P	**Pn**	**23 42 42.5**	**+2.9**
	baz=205						
TWK1	**Hengchun**	**3.31 208**		*e*P	**Pn**	**23 42 39.5**	**-0.1**
	baz=196						
TWKBT	**Hengchun**	**3.31 208**		*e*P	**Pn**	**23 42 40.0**	**+0.4**
	baz=196						
KNMB	**Chin-men Tao**	**3.74 264**		*e*P	**Pn**	**23 42 44.9**	**-0.6**
	baz=263						
TGY	**Tagaytay City**	**10.83 188**		LR	LR	23 48 34.0	
	comp=Z,201nm,21.7s,baz=352,slow=36						
JNU	**Nakatsue**	**11.01 40**		LR	LR	23 49 55.0	
	comp=Z,110nm,20.0s,baz=210,slow=43						
KSRS	**Korea Array**	**13.36 19**		P	**P**	**23 45 06.8**	**-0.2**
	0.2nm,0.3s,baz=208,slow=13,SNR=3.4						
KSRS				LR	LR	23 50 56.0	
	comp=Z,297nm,18.6s,baz=204,slow=40						
MJAR	**Matsushiro Arr**	**17.80 46**		P	**P**	**23 46 02.8**	**+6.4**
	0.1nm,0.3s,baz=138,slow=8.0,SNR=4.2						
MJAR				LR	LR	23 53 32.5	
	comp=Z,62nm,19.0s,baz=235,slow=39						
USRK	**Ussuriysk Ar.**	**20.77 20**		P	Pn	23 46 32.0	+1.0
	1.9nm,0.7s,baz=205,slow=13,SNR=2.2						
USRK				LR	LR	23 54 42.0	
	comp=Z,66nm,18.5s,baz=194,slow=36						
CMAR	**Chiang Mai Arr**	**22.76 258**		P	**P**	**23 46 51.7**	**+1.3**
	0.5nm,0.3s,baz=68,slow=9.9,SNR=6.3						
CMAR				LR	LR	23 55 15.6	
	comp=Z,79nm,19.2s,baz=60,slow=35						
ASAJ	**Asahikawa**	**25.24 36**		LR	LR	23 57 34.5	
	comp=Z,127nm,18.8s,baz=209,slow=37						
KLR	**Kul'dur**	**25.36 14**		LR	LR	23 57 55.1	
	comp=Z,147nm,19.6s,baz=222,slow=38						
SONM	**Songino Array**	**26.19 335**		P	**P**	**23 47 23.8**	**+1.3**
	1.2nm,0.7s,baz=152,slow=9.6,SNR=7.3						
SONM				LR	LR	23 58 06.2	
	comp=Z,145nm,20.1s,baz=144,slow=37						
PETK	**Petropavlovsk-**	**38.63 34**		LR	LR	00 05 26.2	
	comp=Z,53nm,18.3s,baz=241,slow=36						
MKAR	**Makanchi Array**	**38.66 315**		P	**P**	**23 49 12.0**	**+0.6**
	3.0nm,0.8s,baz=101,slow=10,SNR=9.5						
ZALV	**Zalesovo Beam**	**40.30 326**		P	**P**	**23 49 24.9**	**0.0**
	1.0nm,0.5s,baz=128,slow=9.4,SNR=2.6						
ZALV				LR	LR	00 07 20.3	
	comp=Z,122nm,18.8s,baz=70,slow=38						
KURBB	**Kurchatov Arra**	**42.33 319**		P	**P**	**23 49 41.4**	**-0.3**
	0.6nm,0.6s,baz=111,slow=9.7,SNR=3.5						
WRA	**Warramunga Arr**	**46.04 164**		P	**P**	**23 50 11.2**	**-0.5**
	129nm,0.3s,baz=343,slow=11,SNR=1.4						
TIXI	**Tiksi**	**46.93 3**		P	**P**	**23 50 16.4**	**-1.7**
	0.9nm,0.2s,baz=168,slow=6.7,SNR=5.8						
BVAR	**Borovoye Array**	**47.87 320**		P	**P**	**23 50 25.5**	**-0.2**
	1.3nm,0.5s,baz=107,slow=8.9,SNR=5.8						
NRIK	**Noril'sk**	**49.03 344**		LR	LR	00 13 04.8	
	comp=Z,63nm,20.6s,baz=98,slow=38						
ASAR	**Alice Springs**	**49.53 166**		P	**P**	**23 50 39.1**	**+0.4**
	0.4nm,0.5s,baz=350,slow=13,SNR=6.4						
GEYT	**Alibeck**	**55.45 300**		LR	LR	00 19 51.5	
	comp=Z,45nm,18.2s,baz=160,slow=41						
FINES	**FINESS Array B**	**71.42 330**		P	**P**	**23 53 07.4**	**-0.5**
	1.7nm,1.0s,baz=88,slow=4.6,SNR=4.3						
FINES				LR	LR	00 27 09.0	
	comp=Z,91nm,18.9s,baz=59,slow=38						
ASF	**Jabal al Asfar**	**73.66 298**		LR	LR	00 31 34.4	
	comp=Z,125nm,20.8s,baz=210,slow=40						
BRTR	**Keskin Array B**	**73.69 307**		P	**P**	**23 53 21.4**	**-0.6**
	0.4nm,0.9s,baz=106,slow=11,SNR=3.0						
NB2	**NORSAR Subarra**	**78.14 332**		P	P	23 53 40.8	-6.1
	comp=Z,2.0nm,1.1s,baz=60,slow=5.6						
NB2	**NORSAR Subarra**	**78.14 332**		P	**P**	**23 53 50.0**	**+3.1**
	comp=Z,0.5nm,0.6s,baz=60,slow=5.6						
NOA	**NORSAR Array B**	**78.14 332**		P	**P**	**23 53 45.3**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=54,slow=5.5,SNR=2.5						
NOA				LR	LR	00 31 57.8	
	comp=Z,56nm,18.0s,baz=75,slow=38						
YKA	**Yellowknife Ar**	**81.86 23**		P	**P**	**23 54 06.1**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.8,SNR=4.9						

ISCJB ***26*** *23:53:46.9±1.4,46.°2S±0.°1×13.°6W±0.°4,h10km,mb3.8/6, MS3.5/6,Error ellipse: s-maj=40.7km s-min=19.4km az=5.3*

IDC ***26*** *23:53:46.4±1.1,46.°22S×13.°75W,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.7/23,mbtmp3.9/6,MS3.5/6,Ms1 3.5/6, ms1mx3.3/19,Error ellipse: s-maj=36.5km s-min=24.0km az=92.0*

ISC 26 23:53:47.8±1.2,46.°2S±0.°2×13.°8W±0.°3,h10km,n16, σ1§14/8,mb4.0/6,MS3.5/6,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**26.03 172**		P	**P**	**23 59 22.2**	**+1.4**
	2.8nm,0.8s,baz=338,slow=12,SNR=8.0						
BOSA	**Boshof**	**35.20 74**		LR	LR	00 12 05.4	
	comp=Z,179nm,20.3s,baz=245,slow=31						
H10S2	**ASCENSION HYDR**	**37.16 359**		T	T	00 40 37.0	
	baz=179,slow=74,SNR=6.4						
H10S3	**

ESDC	Sonseca Array	85.98	8	P	P	00 06 28.4 +0.6
	0.2nm,0.6s,baz=178,slow=4.1,SNR=3.1					
YKA	Yellowknife Ar	134.29	320	PKP	PKPdf	00 13 03.9 -0.7
	0.4nm,0.7s,baz=102,slow=2.0,SNR=6.2					
ILAR	Eielson Array	148.63	323	PKPbc	PKPbc	00 13 32.9 -1.0
	1.2nm,0.7s,baz=5.8,slow=1.4,SNR=8.3					

*IDC **27** 00:06:09.9±0.4, 9°.21S×107°.64E, h0km, mb4.7/26, mb1 4.8/27, mb1mx4.7/36, mbtmp4.7/27, ML3.7/1, MS4.0/22, Ms1 4.0/22, ms1mx3.9/33, Error ellipse: s-maj=16.1km s-min=11.5km az=68.0*

*BJI **27** 00:06:09.5±0.0, 9°.30S×107°.40E, h9km, mb5.2/63, mB5.2/40, Ms4.9/53, Ms7 4.7/49*

*NEIC **27** 00:06:10.9±1.5, 9°.33S×107°.44E, h9km±3km, mb4.9/49, Error ellipse: s-maj=12.1km s-min=10.3km az=112.0*

*ISCJB **27** 00:06:11.6±0.2, 9°.34S±0°.03×107°.55E±0°.02, h23km, mb5.1/105, MS4.4/38, Error ellipse: s-maj=4.4km s-min=3.2km az=22.4*

*DJA **27** 00:06:12.0±0.6, 10°.S±5°.×10°.7E±°, h41km±6km, M4.8/20, mB5.3/19, mb5.1/20, MLv5.2/14, Mw(mB)4.7/19*

*MOS **27** 00:06:12.3±1.0, 9°.11S×107°.64E, h25km, mb5.4/43, Error ellipse: s-maj=10.1km s-min=5.9km az=105.6*

*GCMT **27** 00:06:13.9±0.5, 9°.92S±0°.03×107°.35E±0°.05, h29km±1km, MW4.8/56, Moment Tensor Solution. s24,c27; s56,c73; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.19±.20; Mθθ-1.88±.12; Mφφ-0.31±.17; Mrθ1.00±.13; Mφφ0.30±.11; Mθφ-0.57±.24; Best double couple: M0 2.35700×10^16 NP1:φs109.00000°, δ59.00000°, λ98.00000°. NP2: φs274.00000°, δ32.00000°, λ77.00000°. Principal axes: T 2.5070, Plg74.0000°, Azm40.0000°; N -0.3040, Plg7.0000°, Azm285.0000°; P -2.2070, Plg14.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 00:06:13.1±0.3, 9°.38S±0°.04×107°.46E±0°.04, h23km, n585, σ1§15/605, mb5.1/105, MS4.3/38, 28C-9D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	1.84	11	ePn	Pn	00 06 41.7	-1.7
CISI	Cisompet, Garu	1.84	11	P	Pn	00 06 43.0	-0.4
XMIS	Christmas Isla	2.10	238	ePn	Pn	00 06 44.8	-2.1
SKJI	Sukabumi	2.52	339	P	Pn	00 06 52.4	-0.3
SKJI				S	Sb	00 07 25.4	-2.9
LEM	Lembang	2.54	3	P	Pn	00 06 54.1	+1.0
LEM	Lembang	2.54	3	Pn	Pn	00 06 54.4	+1.3
	136nm,0.3s,baz=211,slow=2.1,SNR=217						
LEM				Sn	Sb	00 07 27.6	-1.3
	150nm,0.3s,baz=344,slow=21,SNR=20						
YOGI	Yogyakarta	3.20	61	P	Pn	00 07 00.9	-1.2
CGJI	Cibinong	3.26	327	P	Pn	00 07 02.4	-0.4
CGJI				S	Sn	00 07 40.3	-0.6
UGM	Wanagama	3.36	65	ePn	Pn	00 07 02.7	-1.5
UGM	Wanagama	3.36	65	P	Pn	00 07 03.1	-1.1
UGM				S	Sn	00 07 43.9	+0.5
SBJI	Serang	3.49	338	P	Pn	00 07 06.6	+0.5
SMRI	Semarang	3.74	52	ePn	Pn	00 07 09.7	+0.1
SMRI	Semarang	3.74	52	P	Pn	00 07 10.8	+1.2
WOJI	Wonogiri, Jawa	3.75	66	P	Pn	00 07 08.0	-1.6
PWJI	Pagerwojo	4.50	73	P	Pn	00 07 19.3	-0.6
GRJI	Gresik	5.53	64	P	Pn	00 07 35.0	+0.8
GMJI	Gumukmas	6.01	80	P	Pn	00 07 41.0	+0.3
TPI	Tanjungpandan	6.58	2	P	Pn	00 07 48.6	+0.1
JAGI	Jajag, Banyuwa	6.67	83	ePn	Pn	00 07 49.3	-0.5
JAGI	Jajag, Banyuwa	6.67	83	P	Pn	00 07 48.9	-0.9
MNAI	Manna	6.70	318	ePn	Pn	00 07 47.7	-2.5
SRBI	Singaraja	7.77	81	P	Pn	00 08 04.4	-0.5
PLAI	Plampang	10.20	88	P	Pn	00 08 36.1	-2.1
COCO	West Island	10.81	254	ePn	Pn	00 08 45.4	-1.2
COCO	West Island	10.81	254	eP	Pn	00 08 45.4	-1.2
KAPI	Kappang	12.94	71	ePn	Pn	00 09 15.9	+0.2
KAPI	Kappang	12.94	71	eP	Pn	00 09 15.9	+0.2
KAPI	Kappang	12.94	71	P	Pn	00 09 16.8	+1.1
	SNR=8.0						
KAPI	Kappang	12.94	71	Pn	Pn	00 09 16.5	+0.8
	0.6nm,0.3s,baz=243,slow=9.5,SNR=14						
KAPI				LR	LR	00 15 22.7	
	comp=Z,725nm,19.2s,baz=238,slow=44						
BKSI	Bulukumba	13.18	73	P	Pn	00 09 18.9	-0.2
BSSI	Bau Bau, Buton	13.30	77	P	Pn	00 09 19.3	-1.4
SPSI	Sidrap Palu	13.35	67	P	Pn	00 09 20.9	-0.4
BNSI	Bone	13.49	69	P	Pn	00 09 21.4	-1.8
TTSI	Tana Toraja	13.79	64	P	Pn	00 09 27.4	0.0
GSI	Gunungsitoli	14.48	317	ePn	Pn	00 09 35.1	-1.7
MMRI	Maumere	14.61	88	P	P	00 09 50.5	+5.7
PSI	Prapat	14.79	324	ePn	Pn	00 09 38.0	-3.1
PSI	Prapat	14.79	324	eP	Pn	00 09 38.0	-3.1
PSI	Prapat	14.79	324	Pn	Pn	00 09 39.6	-1.5
	0.3nm,0.3s,baz=124,slow=12,SNR=4.0						
PCI	Palu	14.91	56	P	Pn	00 09 40.8	-1.9
MPSI	Mapaga	15.70	53	P	Pn	00 09 52.2	-0.8
APSI	Ampana	16.43	60	P	Pn	00 10 02.1	-0.3
SOEI	Soe	16.58	93	ePn	Pn	00 10 01.8	-2.6
	254nm,1.1s						
SOEI				eS	S	00 13 21.6	+2.4
SOEI	Soe	16.58	93	P	P	00 10 06.8	0.0
PSA00	Pilbara Seismi	17.00	137	ePn	Pn	00 10 08.6	-0.9
	52nm,0.9s						
LUWI	Luwuk	17.34	62	ePn	Pn	00 10 13.3	-0.5
	140nm,1.0s						
LUWI	Luwuk	17.34	62	P	P	00 10 16.3	+1.2
MRSI	Marisa	17.42	57	P	Pn	00 10 13.1	-1.8
SKLT	Songkhla	17.79	337	P	P	00 10 22.0	+1.9
	14nm,0.9s						
LHMI	Lhok Sumawe	17.90	324	ePn	Pn	00 10 18.5	-2.3
	94nm,1.0s						
TRTT	Trang	18.77	335	P	Pn	00 10 34.3	+2.9
	19nm,1.1s						
KRAB	Krabi	19.32	335	P	Pn	00 10 37.4	-0.7
	253μm,0.8s						
FITZ	Fitzroy Crossi	19.66	118	eP	P	00 10 40.2	-0.3
	19nm,0.9s						
FITZ	Fitzroy Crossi	19.66	118	P	P	00 10 39.5	-1.0
	baz=20,SNR=6.7						
FITZ	Fitzroy Crossi	19.66	118	Pn	Pn	00 10 42.3	+0.3
	0.2nm,0.3s,baz=290,slow=4.1,SNR=12						
FITZ				S	S	00 14 02.1	-19
	0.1nm,0.3s,baz=142,slow=19,SNR=3.3						
FITZ				LR	LR	00 16 45.6	
	comp=Z,464nm,20.5s,baz=309,slow=32						
SANI	Sanana	19.80	70	P	P	00 10 40.1	-2.1
MORW	Morawa	21.18	159	eP	P	00 10 57.2	+0.2
	48nm,1.3s						
MORW	Morawa	21.18	159	P	P	00 10 57.7	+0.7
	baz=21,SNR=8.4						
DLV	T Lat	21.20	3	eP	P	00 10 55.5	-2.0
	58nm,1.0s						
KNRA	Kununurra	21.70	109	P	P	00 11 04.3	+1.6
	baz=22,SNR=10						
TNTI	Ternate	22.24	64	eP	P	00 11 07.7	-0.8
	102nm,0.9s						
TNTI	Ternate	22.24	64	P	P	00 11 06.7	-1.8
MTN	Manton Dam	23.48	101	P	P	00 11 22.5	+1.1
	baz=24,SNR=5.0						
SRAK	Srakaew	23.85	347	P	P	00 11 25.4	+0.5
	112μm,0.7s						
DAV	Davao City (W)	24.34	48	P	P	00 11 30.8	+1.3
	SNR=5.4						
DAV	Davao City (W)	24.34	48	P	P	00 11 30.3	+0.8
	222nm,0.4s,baz=169,slow=2.2,SNR=7.4						
KDU	Kakadu	24.76	100	P	P	00 11 33.4	+0.1
	baz=25,SNR=4.0						
WRKA	Warakurna	25.21	131	P	P	00 11 37.0	-0.4
	baz=25,SNR=6.4						
FAKI	Fak Fak	25.45	77	eP	P	00 11 38.2	-1.5
	40nm,1.1s						
KHON	Khomkaen	25.96	350	P	P	00 11 46.2	+2.1
SKNT	Sakolnakorn	26.41	352	P	P	00 11 49.2	+1.0
	21nm,1.1s						
PANO	Nakornpanom	26.50	354	P	P	00 11 49.7	+0.7
	0.8nm,1.0s,92nm						
TGY	Tagaytay City	26.88	30	P	P	00 11 52.0	-0.6
	79nm,0.3s,baz=110,slow=12,SNR=4.1						
TGY				LR	LR	00 23 39.0	
	comp=Z,370nm,18.1s,baz=12,slow=39						
WRA	Warramunga Arr	28.00	115	P	P	00 12 02.9	+0.3
	20nm,0.3s,baz=200,slow=30,SNR=2.2						
WRAB	Tennant Creek	28.00	115⇑	eP	P	00 12 02.7	+0.1
WRAB				pmax	pmax		
	comp=Z,18nm,1.3s						
QIZ	Qiongzhong	28.32	5	P	P	00 12 08.3	+2.9
QIZ				S	S	00 16 58.3	+7.6
QIZ				LR	LR		
	comp=Z,900nm,14.2s						
QIZ				LR	LR		
	comp=Z,850nm,15.9s						
QIZ				LR	LR		
	comp=Z,700nm,13.2s						
PHRA	Phrae	28.60	346	P	P	00 12 09.0	+1.1
	comp=Z,4.3nm,1.6s						
CM31	Chiang Mai Arr	28.91	343	P	P	00 12 11.3	+0.8
	SNR=7.5						
CMAR	Chiang Mai Arr	28.91	343	P	P	00 12 10.2	-0.3
	comp=Z,11nm,0.9s,baz=178,slow=8.5,SNR=44						
CMAR				LR	LR	00 25 56.8	
	comp=Z,478nm,18.4s,baz=182,slow=41						
ASAR	Alice Springs	28.98	123	P	P	00 12 12.1	+0.7
	comp=Z,2.3nm,0.7s,baz=303,slow=8.5,SNR=19						
ASAR				PcP	PcP	00 15 21.6	+1.6
	comp=Z,1.7nm,0.8s,baz=322,slow=2.0,SNR=5.9						
ASAR				ScP	ScP	00 19 01.9	+1.7
	comp=Z,1.5nm,0.9s,baz=328,slow=3.3,SNR=5.2						
ASAR				LR	LR	00 24 25.2	
	comp=Z,378nm,19.6s,baz=296,slow=38						
CHTO	Chiang Mai	29.24	343	eP	P	00 12 11.8	-1.8
	comp=Z,33nm,1.1s						
CHTO	Chiang Mai	29.24	343	eP	P	00 12 11.8	-1.8
CHTO				pmax	pmax		
	comp=Z,33nm,1.1s						
CHTO	Chiang Mai	29.24	343	P	P	00 12 14.1	+0.5
	SNR=8.8						
PAYA	Payao	29.52	345	P	P	00 12 17.2	+1.2
	comp=Z,65μm,1.0s						
SLVN	Son La	30.72	353	eP	P	00 12 26.0	-0.7
	comp=Z,19nm,1.0s						
KMI	Kunming	34.60	352	P	P	00 13 02.3	+1.5
KMI				pP	sP	00 13 07.3	-1.8
KMI				sP	pwP	00 13 09.0	-2.2
KMI				S	S	00 18 32.3	+3.2
KMI				pmax	pmax		
	comp=Z,34nm,1.2s						
KMI				pmax	pmax		
	comp=Z,210nm,4.7s						
KMI				LR	LR		
	comp=Z,1μm,13.5s						
KMI				LR	LR		
	comp=Z,1μm,13.9s						
KMI				LR	LR		
	comp=Z,2μm,13.5s						
H08S2	Diego Garcia H	34.62	270	T	T	00 49 46.1	
	baz=96,slow=75,SNR=46						
H08S3	Diego Garcia H	34.63	270	T	T	00 49 35.8	
	baz=96,slow=75,SNR=59						
H08S1	Diego Carcia H	34.64	270	T	T	00 49 33.7	
	baz=96,slow=75,SNR=32						
BRDH	Bariadhala	35.42	334	LR	LR	00 28 48.9	
	comp=Z,454nm,18.0s,baz=102,slow=38						
GYA	Guiyang	35.63	359⇑	iP	P	00 13 09.8	+0.3
GYA				PP	PP	00 14 33.0	+2.3
GYA				S	S	00 18 44.3	-0.4
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,3.5s						
GYA				LR	LR		
	comp=Z,460nm,13.4s						
GYA				LR	LR		
	comp=Z,670nm,14.9s						
GYA				LR	LR		
	comp=Z,690nm,14.3s						
QZH	Quanzhou	35.79	17	eP	P	00 13 13.5	+2.7
QZH				S	S	00 18 53.5	+6.5
QZH				LR	LR		
	comp=Z,570nm,12.8s						
QZH				LR	LR		
	comp=Z,440nm,10.9s						
QZH				LR	LR		
	comp=Z,410nm,13.7s						
YOJ	Yonaguni jima	36.90	24	eP	P	00 13 18.1	-2.0
	comp=Z,100nm,0.9s						
YOJ	Yonaguni jima	36.90	24	eP	P	00 13 18.2	-2.0
YOJ				pmax	pmax		
	comp=Z,100nm,0.9s						
SHL	Shillong	37.90	337	eP	P	00 13 30.0	+1.0
STKA	Stephens Creek	38.74	130	eP	P	00 13 35.6	-0.3
	comp=Z,5.2nm,1.0s						
STKA	Stephens Creek	38.74	130	P	P	00 13 36.5	+0.6
	baz=39,SNR=11						
STKA	Stephens Creek	38.74	130	eP	P	00 13 35.6	-0.3
STKA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STKA	Stephens Creek	38.74	130	P	P	00 13 36.4	+0.6
	comp=Z,9.7nm,0.8s,baz=305,slow=6.7,SNR=14						
HYB	Hyderabad	39.05	313	iP	P	00 13 40.0	+1.4
CD2	Chengdu	40.21	355	P	P	00 13 48.3	+0.2
CD2				S	S	00 19 59.5	+5.6
CD2				pmax	pmax		
	comp=Z,60nm,0.7s						
CD2				pmax	pmax		
	comp=Z,240nm,6.7s						
CD2				LR	LR		
	comp=Z,2μm,18.6s						
CD2				LR	LR		
	comp=Z,2μm,17.7s						
CD2				LR	LR		
	comp=Z,2μm,19.1s						
WHN	Wuhan	40.24	9	P	P	00 13 48.8	+0.6
WHN				sP	sP	00 13 56.5	-0.1
WHN				S	S	00 19 56.5	+2.3
WHN				pmax	pmax		
	comp=Z,54nm,1.0s						
WHN				LR	LR		
	comp=Z,710nm,11.8s						
WHN				LR	LR		
	comp=Z,1μm,11.9s						
WHN				LR	LR		
	comp=Z,2μm,16.2s						
ODAN	Odare	40.95	332	eP	P	00 13 55.3	+0.8
	comp=Z,221nm,1.1s						
JOW	Kunigami	41.27	29	eP	P	00 13 54.7	-2.2
	comp=Z,38nm,1.1s						
RAMN	Ramite	41.40	331	eP	P	00 13 59.1	+0.9
	comp=Z,180nm,1.3s						
CMSA	Cobar Meteorol	41.74	127	P	P	00 14 01.0	+0.2
	baz=42,SNR=6.0						
LSA	Lhasa	41.91	339	iP	P	00 14 03.6	+1.1
	SNR=14						
JIRN	Jiri	42.19	331	eP	P	00 14 05.8	+1.0
	comp=Z,271nm,1.0s						
PKI	Pulchoki	42.49	330	eP	P	00 14 07.5	+0.3
	comp=Z,89nm,1.2s						
PKIN	Phulchoki	42.50	330	eP	P	00 14 07.5	+0.3
	comp=Z,49nm,1.0s						
NJ2	Nanjing	42.61	14⇑	iP	P	00 14 08.0	+0.3
NJ2				pmax	pmax		
	comp=Z,73nm,0.9s						
DMN	Daman	42.67	330	eP	P	00 14 09.0	+0.4
	comp=Z,124nm,0.9s						
KKN	Kakani	42.73	330	eP	P	00 14 09.6	+0.5
	comp=Z,112nm,1.0s						
XAN	Xi'an	43.20	2	P	P	00 14 12.0	-0.5
XAN				pP	pwP	00 14 23.8	+0.7
XAN				S	S	00 20 36.5	-1.6
XAN				pmax	pmax		
	comp=Z,73nm,1.1s						
XAN				pmax	pmax		
	comp=Z,160nm,3.7s						
XAN				LR	LR		
	comp=Z,690nm,16.3s						
XAN				LR	LR		
	comp=Z,490nm,15.3s						
XAN				LR	LR		
	comp=Z,840nm,14.3s						
GKN	Gorkha	43.23	330	eP	P	00 14 13.5	+0.5
	comp=Z,370nm,1.5s						
KOLN	Koldanda	43.56	329	eP	P	00 14 16.4	+0.7
	comp=Z,100nm,0.8s						
DANN	Dangsing	43.95	329	eP	P	00 14 19.4	+0.4
	comp=Z,126nm,0.8s						
PYUN	Piuthan	44.14	328	eP	P	00 14 20.4	0.0
	comp=Z,114nm,1.0s						
LZH	Lanzhou	45.34	356	eP	P	00 14 30.3	+0.5
LZH				pP	pP	00 14 33.5	-2.3
LZH				sP	sP	00 14 35.5	-2.7
LZH				eS	S	00 21 12.8	+3.3
LZH				pmax	pmax		
	comp=Z,82nm,1.0s						
LZH				pmax	pmax		
	comp=Z,300nm,5.2s						
LZH				LR	LR		
	comp=Z,1μm,14.4s						
LZH				LR	LR		
	comp=Z,2μm,13.3s						
LZH				LR	LR		
	comp=Z,2μm,15.5s						
TIA	Tai'an	46.25	11	P	P	00 14 36.0	-0.7
TIA				pmax	pmax		
	comp=Z,47nm,0.9s						
TIY	Taiyuan	47.07	5	eP	P	00 14 43.3	+0.1
TIY				pP	sP	00 14 51.8	+0.1
TIY				S	S	00 21 35.8	+1.7
TIY				pmax	pmax		
	comp=Z,67nm,0.9s						
TIY				LR	LR		
	comp=Z,700nm,13.4s						
TIY				LR	LR		
	comp=Z,520nm,12.5s						
TIY				LR	LR		
	comp=Z,500nm,18.6s						
GTA	Gaotai	49.05	352	eP	P	00 14 59.5	+0.9
GTA				pP	sP	00 15 06.5	-0.6
GTA				sP	pwP	00 15 10.0	+0.8
GTA				pmax	pmax		
	comp=Z,44nm,1.3s						
GTA				pmax	pmax		
	comp=Z,170nm,6.2s						
GTA				LR	LR		
	comp=Z,600nm,16.5s						
GTA				LR	LR		
	comp=Z,700nm,19.6s						
GTA				LR	LR		
	comp=Z,530nm,18.6s						
TJN	Taejon	49.21	21⇓	eP	P	00 14 59.1	-0.6
BTO	Baotou	49.78	3	eP	P	00 15 04.8	+0.6
BTO				S	S	00 22 10.8	-1.6
BJI	Beijing	49.82	9	P	P	00 15 04.0	-0.3
BJI				S	S	00 22 17.5	+4.8
BJI				pmax	pmax		
	comp=Z,14nm,1.3s						
BJI				LR	LR		
	comp=Z,290nm,16.5s						
BJI				LR	LR		
	comp=Z,170nm,16.5s						
HHC	Hu-ho-hao-te	50.12	4	eP	P	00 15 06.8	+0.1
HHC				sP	sP	00 15 15.5	+0.3
HHC				S	S	00 22 20.0	+3.0
HHC				ScS	ScS	00 24 57.3	+0.5
HHC				pmax	pmax		
	comp=Z,67nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,5.4s						
HHC				LR	LR		
	comp=Z,1μm,15.6s						
HHC				LR	LR		
	comp=Z,530nm,16.1s						
HHC				LR	LR		
	comp=Z,1μm,15.2s						
KSRS	Korea Array	50.37	21	LR	LR	00 38 24.6	
	comp=Z,106nm,18.2s,baz=232,slow=39						
MSEY	Mahe Island	51.77	271	P	P	00 15 21.1	+1.5
NIL	Nilore	53.74	324	eP	P	00 15 33.4	-0.3
	comp=Z,18nm,0.9s						
NIL	Nilore	53.74	324	eP	P	00 15 33.4	-0.3
NIL				pmax	pmax		
	comp=Z,18nm,0.9s						
MAJO	Matsushiro	54.05	31	eP	P	00 15 33.8	-2.2
	comp=Z,9.1nm,0.9s						
MAJO	Matsushiro	54.05	31	cePP	P	00 15 32.8	-3.1
MAJO				pmax	pmax		
	comp=Z,30nm,2.2s						
MAT	Matsushiro	54.05	31	P	P	00 15 32.7	-3.2
MAT				S	S	00 23 10.0	-1.0
MJAR	Matsushiro Arr	54.05	31	P	P	00 15 33.1	-2.8
	comp=Z,5.4nm,0.7s,baz=209,slow=8.0,SNR=18						
MJAR				LR	LR	00 39 33.1	
	comp=Z,159nm,19.6s,baz=220,slow=37						
WMQ	Urumqi	55.91	343	eP	P	00 15 50.5	+1.2
WMQ				sP	pwP	00 15 59.5	-0.4
WMQ				S	S	00 23 36.0	+0.2
WMQ				pmax	pmax		
	comp=Z,100nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,300nm,3.7s						
WMQ				LR	LR		
	comp=Z,960nm,22.5s						
WMQ				LR	LR		
	comp=Z,350nm,24.7s						
WMQ				LR	LR		
	comp=Z,860nm,24.7s						
KSH	Kashi	56.75	331	P	P	00 15 54.5	-1.0
KSH				pP	pP	00 15 57.0	-4.7
KSH				PP	PP	00 18 02.3	+0.4
KSH				S	S	00 23 42.0	-5.2
KSH				pmax	pmax		
	comp=Z,18nm,1.2s						
KSH				LR	LR		
	comp=Z,300nm,13.0s						
KSH				LR	LR		
	comp=Z,290nm,11.4s						
KSH				LR	LR		
	comp=Z,340nm,9.3s						
KBL	Kabul	56.85	322	eP	P	00 15 56.2	-0.2
	comp=Z,12nm,1.1s						
KBL	Kabul	56.85	322	eP	P	00 15 56.2	-0.2
KBL				pmax	pmax		
	comp=Z,12nm,1.1s						
CASY	Casey	56.86	179	eP	P	00 15 55.6	-0.1
	comp=Z,9.8nm,1.2s						
SONM	Songino Array	56.96	359	P	P	00 15 57.1	+0.3
	comp=Z,13nm,0.7s,baz=170,slow=7.8,SNR=60						
SONM				LR	LR	00 43 16.5	
	comp=Z,227nm,18.2s,baz=216,slow=39						
ULN	Ulaanbaatar	56.99	360	eP	P	00 15 57.1	0.0
	comp=Z,21nm,0.7s						
ULN	Ulaanbaatar	56.99	360	ciP	P	00 15 57.0	0.0
ULN				pmax	pmax		
	comp=Z,22nm,0.7s						
ULN	Ulaanbaatar	56.99	360	P	P	00 15 57.4	+0.4
	SNR=15						
WSAR	Wadi Sarin	57.72	305	P	P	00 16 04.2	+1.6
	comp=Z,3.0nm,0.7s,baz=146,slow=10,SNR=5.3						
WSAR				LR	LR	00 40 53.3	
	comp=Z,264nm,19.3s,baz=135,slow=36						
USRK	Ussuriysk Ar.	57.77	21	P	P	00 16 01.0	-1.4
	comp=Z,3.4nm,0.6s,baz=197,slow=5.8,SNR=9.8						
DZM	Mont Dzumac	57.85	110	eLR	LR	00 33 05.7	
	comp=Z,361nm,22.9s						
KDJ	Kajisay	58.28	334	eP	P	00 16 06.2	-0.1
	comp=Z,37nm,1.1s						
KDJ	Kajisay	58.28	334	eP	P	00 16 06.2	-0.1
KDJ				pmax	pmax		
	comp=Z,37nm,1.1s						
GAR	Garm	59.24	327	eP	P	00 16 11.2	-1.7
	comp=Z,27nm,1.1s						
GAR	Garm	59.24	327	eP	P	00 16 11.2	-1.7
GAR				pmax	pmax		
	comp=Z,27nm,1.1s						
ZAK	Zakamensk	59.62	357	eP	P	00 16 14.4	-0.9
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
AAK	Ala-Archa	59.89	332	eP	P	00 16 17.1	-0.3
	comp=Z,11nm,1.3s						
AAK	Ala-Archa	59.89	332	P	P	00 16 17.5	+0.2
AAK	Ala-Archa	59.89	332	cePP	P	00 16 17.6	+0.2
AAK				pmax	pmax		
	comp=Z,12nm,1.7s						
AAK	Ala-Archa	59.89	332	P	P	00 16 17.5	+0.2
	comp=Z,1.4nm,0.4s,baz=166,slow=5.6,SNR=4.0						
MK31	Makanchi Array	60.26	340	eP	P	00 16 19.6	0.0
	comp=Z,22nm,0.9s						
MK31	Makanchi Array	60.26	340	eP	P	00 16 19.7	0.0
MK31				pmax	pmax		
	comp=Z,22nm,0.9s						
MKAR	Makanchi Array	60.26	340	P	P	00 16 19.6	-0.1
	comp=Z,24nm,0.9s,baz=141,slow=6.2,SNR=106						
MKAR				LR	LR	00 45 21.2	
	comp=Z,81nm,19.1s,baz=146,slow=39						
MAKZ	Makanchi	60.38	340	eP	P	00 16 20.4	-0.1
	comp=Z,25nm,1.1s						
MAKZ	Makanchi	60.38	340	P	P	00 16 18.0	-2.5
MAKZ				pmax	pmax		
	comp=Z,23nm,1.2s						
ASHO	Ashiyiah	60.48	305	iP	P	00 16 22.3	+0.6

SNR=6.7
HATD Hatta, Dubai 60.48 305 P **P 00 16 22.7 +1.1**
FAQ Al Faqa, Dubai 60.88 305 *i* P **P 00 16 24.7 +0.3**
SNR=8.7
TLY Talaya 60.90 357 *e*P **P 00 16 23.2 -0.7**
comp=Z,5.6nm,0.9s
TLY Talaya 60.90 357*c i*P **P 00 16 24.3 +0.4**
MOY Mondy 61.05 355 *e*P **P 00 16 25.7 +0.6**
MOY pmax pmax
comp=Z,38nm,2.1s
DGZ Jazzator, Alta 61.39 345*c i*P **P 00 16 27.8 +0.3**
DGZ pmax pmax
comp=Z,70nm,0.8s
ASAJ Asahikawa 62.03 28 P **P 00 16 30.7 -1.0**
comp=Z,4.4nm,0.3s,baz=212,slow=17,SNR=4.2
KLR Kul'dur 62.13 18*c i*P **P 00 16 30.7 -1.5**
KLR pmax pmax
comp=Z,29nm,2.0s
KLR Kul'dur 62.13 18 P **P 00 16 30.8 -1.5**
comp=Z,6.8nm,0.8s,baz=236,slow=4.4,SNR=32
YSS Yuzh-Sakhalins 64.29 26⇑*e*P **P 00 16 45.6 -1.0**
YSS *e* 00 16 57.8
YSS *e*S **S 00 25 22.7 -0.4**
YSS pmax pmax
comp=Z,40nm,1.1s
KURBB Kurchatov Arra 64.83 340 P **P 00 16 49.4 -0.7**
comp=Z,14nm,0.8s,baz=157,slow=5.5,SNR=14
KURK Kurchatov 64.88 340 *e*P **P 00 16 49.8 -0.6**
KURK *e*pP **P 00 16 50.6 +0.3**
KURK Kurchatov 64.88 340*c i*P **P 00 16 50.3 -0.1**
KURK pmax pmax
comp=Z,52nm,1.3s
KURK Kurchatov 64.88 340 P **P 00 16 50.9 +0.5**
SNR=26
KURK P **P 00 16 50.9 +0.5**
SNR=26
ZEA Zeya 65.07 13 *e*P **P 00 16 51.2 -0.4**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA pmax pmax
comp=Z,200nm,7.0s
MAW Mawson 65.24 197 *e*P **P 00 16 52.2 -0.4**
comp=Z,10nm,1.8s
MAW Mawson 65.24 197 P **P 00 16 53.6 +1.0**
baz=65,SNR=11
MAW Mawson 65.24 197 *e*P **P 00 16 52.2 -0.4**
MAW pmax pmax
comp=Z,10.0nm,1.8s
MAW Mawson 65.24 197 P **P 00 16 53.5 +1.0**
comp=Z,6.3nm,0.7s,baz=56,slow=6.0,SNR=21
MAW LR LR 00 42 06.1
comp=Z,56nm,19.5s,baz=46,slow=33
GEYT Alibeck 65.84 319 P **P 00 16 57.5 +0.5**
comp=Z,8.2nm,0.9s,baz=152,slow=6.7,SNR=17
GEYT LR LR 00 50 17.3
comp=Z,137nm,18.9s,baz=95,slow=40
GYA0B ALIBECK ARRAY 65.84 319 *e*P **P 00 16 56.9 -0.1**
comp=Z,14nm,0.9s
ZAA0 Zalesovo Array 65.93 346 *e*P **P 00 16 56.2 -1.0**
ZAA0 *e*pP **P 00 16 56.6 -0.5**
ZALV Zalesovo Beam 65.93 346 P **P 00 16 56.8 -0.4**
comp=Z,18nm,1.1s,baz=141,slow=3.5,SNR=28
ZALV LR LR 00 48 34.1
comp=Z,177nm,18.5s,baz=224,slow=39
NVS Novosibirsk 67.14 345 *e*P **P 00 17 04.6 -0.2**
NVS pmax pmax
comp=Z,19nm,1.5s
NVS pmax pmax
comp=N,12nm,1.4s
BOD Bodaibo 67.17 4 *e*P **P 00 17 02.5 -2.5**
BOD pmax pmax
comp=Z,24nm,1.2s
ATD Arta Tunnel 67.51 287 P **P 00 17 10.3 +2.2**
comp=Z,1.0nm,0.4s,baz=225,slow=17,SNR=3.6
NKL Nikolayevsk 68.40 21 *e*P **P 00 17 12.2 -0.6**
NKL pmax pmax
comp=Z,34nm,1.0s
BRVK Borovoye 69.79 337 *e*P **P 00 17 21.0 -0.4**
comp=Z,21nm,0.9s
BRVK Borovoye 69.79 337*c i*P **P 00 17 21.6 +0.1**
BRVK pmax pmax
comp=Z,12nm,1.1s
BRVK Borovoye 69.79 337 P **P 00 17 22.0 +0.6**
SNR=15
BRVK P **P 00 17 22.0 +0.6**
SNR=15
KMBO Kilima Mbogo 70.29 272 P **P 00 17 28.8 +3.0**
comp=Z,1.1nm,0.4s,baz=41,slow=5.3,SNR=4.5
AB31 Akbulak array 71.68 329 *i* P **P 00 17 32.6 -0.5**
AB31 pmax pmax
comp=Z,45nm,1.1s
SKR Severo-Kuril's 73.15 30⇓*e*P **P 00 17 40.8 -1.0**
YAK Yakutsk 73.26 11 *e*P **P 00 17 41.3 -0.9**
YAK *e**PP **pP 00 17 48.6 +0.1**
YAK *e* 00 17 57.2
YAK *e*S **S 00 27 09.4 +0.3**
YAK *e* 00 27 55.8
YAK pmax pmax
comp=Z,405nm,1.1s
YAK pmax pmax
comp=N,117nm,1.1s
YAK pmax pmax
comp=E,374nm,3.8s
YAK pmax pmax
comp=Z,81nm,1.1s
YAK pmax pmax
comp=N,95nm,1.5s
YAK pmax pmax
comp=E,49nm,1.5s
YAK smax smax
comp=N,490nm,3.3s
YAK smax smax
comp=E,374nm,3.8s
AKTO Aktyubinsk 73.39 330 P **P 00 17 42.3 -1.0**
AKTO pmax pmax
comp=Z,29nm,1.5s
VNDA Vanda 73.56 169 *e*P **P 00 17 44.2 +0.3**
comp=Z,21nm,1.8s
VNDA Vanda 73.56 169 *e*P **P 00 17 44.2 +0.3**
VNDA pmax pmax
comp=Z,21nm,1.8s
VNDA Vanda 73.56 169 P **P 00 17 44.6 +0.7**
comp=Z,2.5nm,0.9s,baz=304,slow=5.2,SNR=10
SBA Scott Base 74.64 169 *e*P **P 00 17 51.6 +1.5**
comp=Z,27nm,1.8s
SBA Scott Base 74.64 169 *e*P **P 00 17 51.6 +1.5**
SBA pmax pmax
comp=Z,27nm,1.8s
PEA0B Petropavlovsk- 75.44 29 *e*P **P 00 17 55.1 +0.1**
comp=Z,64nm,1.3s
PEA0B Petropavlovsk- 75.44 29 *e*P **P 00 17 55.2 +0.1**
PEA0B pmax pmax
comp=Z,64nm,1.3s
PETK Petropavlovsk- 75.44 29 P **P 00 17 53.8 -1.3**
comp=Z,16nm,0.8s,baz=211,slow=2.6,SNR=14
PETK LR LR 00 53 50.8
comp=Z,45nm,19.9s,baz=243,slow=38
PET Petropavlovsk 75.84 29 *e*P **P 00 17 57.0 -0.4**
comp=Z,73nm,1.3s
PET Petropavlovsk 75.84 29 *e*P **P 00 17 57.0 -0.4**
PET pmax pmax
comp=Z,73nm,1.3s
GNI Garni 75.95 315⇓*e*P **P 00 18 00.4 +1.8**
GNI pmax pmax
comp=Z,171nm,2.5s
SVE Sverdlovsk 76.35 336⇓*e*P **P 00 18 00.8 +0.6**
SVE pmax pmax
comp=Z,25nm,1.1s
SIRT Sirnak 76.51 312 *e*P **P 00 18 01.9 +0.2**
comp=Z,32nm,1.1s
GROC Groznyy 76.58 319 *e*P **P 00 17 59.8 -2.0**
GROC *e* 00 18 09.4
GROC pmax pmax
comp=Z,49nm,1.3s
MA2 Magadan 76.93 21 *e*P **P 00 18 03.5 +0.1**
comp=Z,35nm,1.0s
MA2 Magadan 76.93 21*c i*P **P 00 18 03.5 +0.1**
MA2 pmax pmax
comp=Z,37nm,1.0s
MA2 Magadan 76.93 21 P **P 00 18 03.2 -0.2**
comp=Z,28nm,0.9s,baz=183,slow=5.3,SNR=14
ARU Arti 76.95 335 *e*P **P 00 18 03.8 +0.1**
comp=Z,48nm,1.6s
ARU Arti 76.95 335*c i*P **P 00 18 03.7 +0.1**
ARU 00 20 51.2
ARU S **S 00 27 52.5 +2.2**

ARU SS **SS 00 32 40.0 -7.6**
ARU pmax pmax
comp=Z,16nm,1.1s
ARU MLR MLR
comp=Z,204nm,20.0s
KARS Kars 77.31 315 *e*P **P 00 18 06.9 +0.7**
comp=Z,73nm,1.0s
KARS Kars 77.31 315 *e*P **P 00 18 06.9 +0.7**
KARS pmax pmax
comp=Z,73nm,1.0s
ZEI Tsey 77.65 318 *e*P **P 00 18 08.0 -0.1**
ZEI pmax pmax
comp=Z,12nm,0.7s
NCK Nalchik 78.15 318⇓*i*P **P 00 18 11.8 +1.1**
NCK pmax pmax
comp=Z,10.0nm,0.6s
KBZ Khabaz 78.71 318 P **P 00 18 14.9 +1.2**
comp=Z,12nm,1.0s,baz=173,slow=6.0,SNR=21
BOSA Boshof 78.77 243 LR LR 00 50 25.5
comp=Z,111nm,18.0s,baz=95,slow=34
KIV Kislovodsk 78.94 318 *e*P **P 00 18 16.2 +1.1**
comp=Z,11nm,1.0s
KIV Kislovodsk 78.94 318⇑*i*P **P 00 18 15.2 +0.1**
KIV Kislovodsk 78.94 318 P **P 00 18 16.2 +1.1**
KIV Kislovodsk 78.94 318 *e*P **P 00 18 15.6 +0.5**
KIV pmax pmax
comp=Z,36nm,1.1s
NRIK Noril'sk 79.75 353 P **P 00 18 17.7 -1.1**
comp=Z,10nm,1.1s,baz=189,slow=4.3,SNR=9.9
SEY Seymchan 79.88 19⇑*e*P **P 00 18 19.8 +0.2**
SEY Seymchan 79.88 19 P **P 00 18 20.1 +0.5**
comp=Z,8.7nm,0.7s,baz=220,slow=4.7,SNR=18
TIXI Tiksi 82.09 7 *e*P **P 00 18 30.2 -1.0**
comp=Z,19nm,0.9s
TIXI Tiksi 82.09 7*c e*P **P 00 18 30.5 -0.8**
TIXI pmax pmax
comp=Z,24nm,1.0s
VRH Novokhopyorsk 82.57 325 *e*P **P 00 18 33.8 -0.4**
VRH pmax pmax
comp=Z,40nm,1.0s
BR131 Keskin Array S 83.74 312 P **P 00 18 41.7 +1.0**
SNR=6.0
BR131 P **P 00 18 41.7 +1.0**
SNR=6.0
BRTR Keskin Array B 83.74 312 *i* P **P 00 18 41.2 +0.4**
BRTR pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 83.74 312 P **P 00 18 40.9 +0.1**
comp=Z,6.7nm,1.0s,baz=130,slow=5.5,SNR=31
BRTR LR LR 00 59 36.0
comp=Z,88nm,19.3s,baz=98,slow=38
VSR Storozhevoye 84.05 324 *e*P **P 00 18 41.7 -0.1**
VSR pmax pmax
comp=Z,30nm,1.2s
BZK Bozkurt 84.16 314⇑*i*P **P 00 18 44.5 +1.9**
LPSR Galich'ya Gora 84.72 325 *e*P **P 00 18 45.5 +0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SIM Simferopol' 85.02 317*c e*P **P 00 18 48.1 +1.2**
SIM *i* 00 18 57.0
SIM *e*S **S 00 29 14.5 -0.4**
SIM pmax pmax
comp=Z,27nm,1.4s
PRGR Permogore 85.40 335 *e*P **P 00 18 47.5 -0.9**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
MOS Moscow 86.62 328 *e*P **P 00 18 53.7 -0.9**
OBN Obninsk 86.95 327 *e*P **P 00 18 56.0 -0.2**
comp=Z,32nm,0.9s
OBN Obninsk 86.95 327⇓*i*P **P 00 18 57.0 +0.8**
OBN Obninsk 86.95 327*c e*P **P 00 18 56.5 +0.3**
OBN *e* 00 22 19.1
OBN *e*PPP PPP 00 24 13.4
OBN pmax pmax
comp=Z,42nm,1.0s
OBN MLR MLR
comp=Z,113nm,21.0s
SNAA Sanae 87.41 197 P **P 00 18 59.8 +1.4**
SNAA Sanae 87.41 197 *e*P **P 00 18 59.5 +1.2**
comp=Z,14nm,1.3s
SNAA Sanae 87.41 197⇑*e*P **P 00 19 00.1 +1.7**
BILL Bilibino 87.58 19 *e*P **P 00 18 58.7 -0.2**
comp=Z,5.8nm,0.9s
BILL Bilibino 87.58 19 *e*P **P 00 18 58.5 -0.5**
BILL *e* 00 19 06.5
BILL *e* 00 22 22.6
BILL *e*PPP PPP 00 24 17.4
BILL pmax pmax
comp=Z,15nm,2.5s
KLMR Klimovskoe 87.69 333⇓*i*P **P 00 19 00.2 +0.5**
KLMR pmax pmax
comp=Z,41nm,1.1s
VNA2 Neumayer--Watz 89.06 197 P **P 00 19 07.9 +1.8**
CFR Carcaliu 89.15 316⇑*i*P **P 00 19 08.0 +1.1**
LEOM Leova 89.39 317⇑*i*P **P 00 19 09.9 +1.9**
VNA1 Neumayer--Stat 89.44 197 P **P 00 19 08.9 +1.1**
VNA3 Neumayer Olymp 89.57 197 P **P 00 19 10.2 +1.6**
TMCR Tamitsa 89.63 336 *e*P **P 00 19 08.7 0.0**
TMCR pmax pmax
comp=Z,29nm,1.3s
AKASG Malin Array Be 89.83 321 P **P 00 19 09.3 -0.6**
comp=Z,0.5nm,0.3s,baz=82,slow=5.6,SNR=6.3
AKASG LR LR 01 03 48.9
comp=Z,52nm,21.8s,baz=50,slow=38
VRI Vrincioaia 90.27 316⇓*i*P **P 00 19 13.5 +1.3**
PLOR Plostina 90.32 316⇑*i*P **P 00 19 13.6 +1.1**
TESR Tescani 90.47 317⇑*i*P **P 00 19 13.4 +0.3**
MLR Muntele Rosu 90.72 316 *e*P **P 00 19 14.5 0.0**
comp=Z,23nm,1.4s
MLR Muntele Rosu 90.72 316⇑*i*P **P 00 19 15.7 +1.2**
MLR Muntele Rosu 90.72 316 *e*P **P 00 19 14.5 0.0**
MLR pmax pmax
comp=Z,23nm,1.4s
BURAR Bucovina Array 91.67 318⇑*i*P **P 00 19 20.2 +1.4**
BUR08 Bucovina Ar. S 91.68 318 *e*P **P 00 19 19.3 +0.4**
comp=Z,9.3nm,1.4s
IDID Didziasalis 92.40 326 *e*P **P 00 19 21.2 -0.6**
IIGN Ignalina 92.69 326 *e*P **P 00 19 22.7 -0.5**
IZAR Zarasai 92.77 326 *e*P **P 00 19 23.1 -0.4**
BZS Buzias 93.73 315⇑*i*P **P 00 19 28.8 +0.6**
KOLS Kolonicke sedl 93.85 319 *e*P **P 00 19 30.1 +1.4**
KOLS Kolonicke sedl 93.85 319 *e*P **P 00 19 30.1 +1.4**
FINES FINESS Array B 94.07 332 P **P 00 19 29.4 +0.1**
comp=Z,4.2nm,1.0s,baz=130,slow=2.2,SNR=5.5
FINES LR LR 01 08 28.4
comp=Z,95nm,18.6s,baz=100,slow=40
ARCES ARCESS Array B 95.91 340 LR LR 01 10 23.2
comp=Z,104nm,18.0s,baz=136,slow=40
PPT2 Papeete2 99.35 110 *e*LR LR 00 52 23.7
comp=Z,200nm,24.5s
PPT Papeete 99.36 110 LR LR 01 05 34.3
comp=Z,31nm,18.2s,baz=259,slow=36
GERES GERESS Array B 99.45 318 LR LR 01 14 16.0
comp=Z,51nm,18.2s,baz=88,slow=41
TOLK Toolik Lake Re 103.40 22 P **Pdif 00 20 11.9 +0.6**
baz=279
POKR Poker Plat Res 104.80 25 P **Pdif 00 20 18.3 +0.8**
baz=280
YKA Yellowknife Ar 118.91 21 PKP **PKPdf 00 24 58.6 -0.8**
comp=Z,0.5nm,0.8s,baz=308,slow=1.9,SNR=6.7
B05A Bryant 123.24 37 P **PKiKP 00 25 08.0 -0.4**
baz=296
M02C Callahan 125.50 45 P **PKiKP 00 25 13.1 -0.2**
baz=291
L04D Klamath Falls 125.58 44 P **PKiKP 00 25 13.2 -0.3**
baz=292
J05D Fort Rock, OR 125.89 43 P **PKiKP 00 25 14.6 +0.5**
baz=294
O02D Mt. Diablo Mer 125.98 47 P **PKiKP 00 25 14.2 -0.1**
baz=290
MSO Missoula 128.75 36 *e*PKPdf **PKiKP 00 25 20.6 +0.9**
MSO Missoula 128.75 36 P **PKiKP 00 25 19.3 -0.4**
baz=303
ISA Isabella, Lake 130.75 51 P **PKiKP 00 25 23.1 -0.8**
baz=291
MPMC Manual Prospec 131.35 50 P **PKiKP 00 25 24.5 -0.9**
baz=292
EDW2 Edwards Air Fo 131.39 51 P **PKPdf 00 25 24.2 -0.1**
baz=290
BELC Belle Mtn. Jos 133.25 52 P **PKiKP 00 25 28.5 -0.7**
baz=291
MONP2 Monument Peak 133.30 53 P **PKiKP 00 25 28.6 -0.8**
baz=290
RSSD Black Hills 135.91 33 P **PKiKP 00 25 33.5 -0.8**
baz=312
C40A Isle Royale Na 139.10 17 P **PKiKP 00 25 39.0 -1.4**

baz=335
OGNE Ogallala 139.14 35 P **PKPdf 00 25 39.2 +0.6**
baz=312
TASM ASL Pad, Albuq 139.90 45 P **PKPdf 00 25 40.9 +0.5**
baz=301
TASM ASL Pad, Albuq 139.90 45 P **PKPdf 00 25 40.9 +0.5**
baz=301
ANMO Albuquerque 139.91 45⇓*i*PKIKP **PKiKP 00 25 45.2 +2.5**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
E39A Mellen 140.04 19 P **PKiKP 00 25 41.0 -1.5**
baz=332
D41A Chassel 140.04 17 P **PKiKP 00 25 41.4 -1.0**
baz=335
G40A Rib Lake 141.13 20 P **PKPdf 00 25 42.8 +0.8**
baz=332
D46A Sault St. Mari 141.35 13 P **PKiKP 00 25 44.2 -0.9**
baz=342
D47A Chapleau 141.39 12 P **PKiKP 00 25 44.9 -0.2**
baz=343
G43A Wallace 141.94 17 P **PKiKP 00 25 46.3 0.0**
baz=335
E48A Lockeyer 142.12 11 P **PKiKP 00 25 45.9 -0.8**
baz=344
D53A Lac Vacive, Po 142.17 6 P **PKiKP 00 25 46.9 +0.1**
baz=352
MNTX Cornudas Mount 142.31 49 *e*PKPdf **PKiKP 00 25 46.2 -1.3**
I48A Sherman Twp 143.99 14 P PKPbc 00 25 45.1 +0.2
baz=341
L42A Oliver, Polo 144.17 22 P **PKPdf 00 25 46.1 -1.4**
baz=330
BANO Bancroft 144.18 7 P PKPbc 00 25 45.4 -0.1
baz=351
PLVO Plevna 144.25 6 P **PKPdf 00 25 46.5 -1.0**
baz=352
J46A Howard City 144.27 16 P **PKPdf 00 25 46.7 -0.9**
baz=338
L43A Garden Prairie 144.35 21 P **PKPdf 00 25 46.7 -1.0**
baz=332
N40A Mertquake, Sal 144.37 25 P **PKPdf 00 25 47.2 -0.6**
baz=327
M41A Milan 144.38 24 P **PKPdf 00 25 47.2 -0.6**
baz=329
I49A Point Hope 144.42 13 P PKPbc 00 25 46.5 +0.3
baz=342
BWLO Walkerton 144.59 11 P **PKPdf 00 25 47.5 -0.7**
baz=345
BASO Ashfield 144.59 11 P PKPbc 00 25 46.7 -0.1
baz=344
J47A Sunmer 144.60 16 P **PKPdf 00 25 47.4 -0.8**
baz=339,SNR=5.9
L44A Lake County Fo 144.64 20 P **PKPdf 00 25 47.6 -0.7**
baz=333
DELO Deloro Mine 144.71 6 P **PKPdf 00 25 47.5 -0.8**
baz=351
H55A Tweed 144.72 6 P **PKPdf 00 25 47.8 -0.5**
baz=352
TX31 Lajitas Ar. Si 144.73 51 *e*PKPdf **PKPdf 00 25 49.4 +0.5**
TXAR Lajitas Array 144.73 51 PKP **PKPdf 00 25 49.3 +0.4**
comp=Z,7.7nm,1.0s,baz=290,slow=1.2,SNR=40
H56A Elgin 144.76 5 P PKPbc 00 25 47.0 -0.2
baz=354
I52A Shelburne 144.80 10 P PKPbc 00 25 47.4 -0.1
baz=347
J48A Bridge Port 144.81 14 P **PKPdf 00 25 47.6 -0.9**
baz=342,SNR=8.1
N41A Harden Midland 144.82 24 P **PKPdf 00 25 47.7 -0.9**
baz=328
LONY Lake Ozonia 144.84 3 P PKPbc 00 25 47.5 -0.1
baz=357
K46A Dorr 144.84 17 P **PKPdf 00 25 47.8 -0.7**
baz=337
J49A Marlette 144.90 13 P **PKPdf 00 25 48.1 -0.5**
baz=342,SNR=7.7
I51A Listowel 144.91 11 P **PKPdf 00 25 48.0 -0.7**
baz=345
M43A Waltham Townsh 144.93 22 P **PKPdf 00 25 48.4 -0.4**
baz=331
I55A Frankford 145.00 6 P **PKPdf 00 25 48.4 -0.4**
baz=351
WMOK Wichita Mounta 145.16 40 P **PKPdf 00 25 49.3 -0.1**
baz=310
K48A Perry 145.19 15 P **PKPdf 00 25 49.0 -0.2**
baz=340,SNR=9.2
WLVO Wesleyville 145.21 7 P **PKPdf 00 25 49.0 -0.2**
baz=350
DRCO St. Marys Ceme 145.21 8 P **PKPdf 00 25 49.1 0.0**
baz=349
DRWO Darlington Wes 145.21 8 P **PKPdf 00 25 49.1 0.0**
baz=349
BDFB Brasilia 145.25 225 PKPbc **PKPbc 00 25 51.3 +1.4**
comp=Z,5.7nm,1.0s,baz=141,slow=1.4,SNR=5.9
LBNH Lisbon 145.26 359 P **PKPdf 00 25 49.2 -0.1**
baz=1.1
ACTO Acton 145.27 10 P **PKPdf 00 25 49.0 -0.3**
baz=347
N43A Stutzman Famil 145.28 22 P **PKPdf 00 25 49.2 -0.2**
baz=330
M44A Midewin, Midew 145.29 21 P **PKPdf 00 25 49.5 +0.1**
baz=333
L46A Eue Claire 145.31 18 P **PKPdf 00 25 49.4 0.0**
baz=336
PECO Prince Edward 145.35 6 P **PKPdf 00 25 49.6 +0.2**
baz=352
K49A Clarkson 145.37 14 P **PKPdf 00 25 49.3 -0.2**
baz=341
GO02 Mina Guanaco 145.55 185 *e*PKPdf **PKPab 00 25 51.6 +0.5**
J52A Paris 145.56 10 P **PKPab 00 25 50.0 -0.1**
baz=346
HDIL Hopedale 145.56 23 P **PKPab 00 25 50.1 -0.1**
baz=330
M45A Boilermakers S 145.56 20 P **PKPab 00 25 50.0 -0.3**
baz=334
K50A Casco 145.57 13 P **PKPab 00 25 50.0 -0.2**
baz=342
L47A Sherwood 145.66 17 P **PKPab 00 25 50.5 -0.1**
baz=338,SNR=6.9
AAM Ann Arbor 145.78 15 P **PKPab 00 25 50.9 -0.1**
baz=340
N44A Piper City 145.79 21 P **PKPab 00 25 50.6 -0.5**
baz=332
STCO Saint Catharin 145.80 9 P **PKPab 00 25 51.2 +0.2**
baz=348
TYNO Tyneside 145.80 10 P **PKPab 00 25 50.8 -0.3**
baz=347
J54A Appleton 145.81 8 P **PKPab 00 25 50.8 -0.3**
baz=349
M46A Old House Fiel 145.84 19 P **PKPab 00 25 51.1 -0.2**
baz=335
K51A Iona Station 145.86 12 P **PKPab 00 25 50.9 -0.4**
baz=344
ABTX Abilene, Hawle 145.90 43 P **PKPab 00 25 52.1 +0.3**
baz=307
L48A N Adams 145.91 16 P **PKPab 00 25 51.2 -0.3**
baz=339,SNR=10
J55A Hilton 145.93 7 P **PKPab 00 25 51.1 -0.4**
baz=351
L49A Milan 145.93 15 P **PKPab 00 25 51.2 -0.3**
baz=340,SNR=5.4
MEDO Medina 145.94 8 P **PKPab 00 25 51.1 -0.5**
baz=350
N45A Kentland 145.96 20 P **PKPab 00 25 52.2 +0.5**
baz=333
K52A Tillsonburg 145.96 11 P **PKPab 00 25 51.7 +0.1**
baz=346
M47A Cromwell 146.11 18 P **PKPab 00 25 52.0 -0.3**
baz=336
TUL1 Leonard 146.15 35 P **PKPab 00 25 52.0 -0.6**
baz=316
N46A Monticello 146.18 20 P **PKPab 00 25 52.1 -0.4**
baz=334,SNR=7.3
L50A Kingsville 146.23 14 P **PKPab 00 25 52.2 -0.5**
baz=342
O44A Mansfield 146.23 22 P **PKPbc 00 25 51.9 -0.2**
baz=331
M48A Edgerton 146.26 17 P **PKPbc 00 25 51.8 -0.3**
baz=338
P43A Skaggs, Pawnee 146.26 24 P **PKPab 00 25 52.6 -0.3**
baz=329
O45A Potomac 146.41 21 P **PKPab 00 25 52.7 -0.7**
baz=332
K55A Perry 146.42 7 P **PKPab 00 25 52.7 -0.8**
baz=350
Q42A Golden Eagle 146.46 26 P **PKPab 00 25 53.3 -0.4**
baz=327
K54A Basiliko Farm, 146.46 8 P **PKPab 00 25 52.9 -0.7**
baz=349
M49A Liberty Center 146.47 16 P **PKPab 00 25 53.3 -0.4**

	baz=339						
SFIN	Lafayette	146.52	20	P	PKPab	00 25 53.0	-0.8
	baz=333						
N47A	Urbana	146.52	18	P	PKPab	00 25 52.9	-1.0
	baz=336,SNR=6.5						
PLIO	Pelee Island,	146.55	14	P	PKPab	00 25 53.3	-0.6
	baz=342						
L54A	Sinclairville	146.73	9	P	PKPbc	00 25 53.1	-0.4
	baz=348						
ERPA	Erie	146.73	10	P	PKPab	00 25 53.8	-0.8
	baz=347						
N48A	Decatur	146.75	17	P	PKPbc	00 25 53.6	0.0
	baz=337,SNR=6.4						
M50A	Fremont	146.78	14	P	PKPab	00 25 53.9	-0.9
	baz=341						
CCM	Cathedral Cave	146.84	28	*e*PKPdf	PKPab	00 25 54.1	-1.1
CCM	Cathedral Cave	146.84	28	*e*PKP2	PKPab	00 25 54.1	-1.1
CCM	Cathedral Cave	146.84	28	P	PKPab	00 25 54.3	-0.9
	baz=325						
L53A	Girard	146.84	11	P	PKPab	00 25 54.3	-0.8
	baz=346						
L55A	Hinsdale	146.91	8	P	PKPab	00 25 54.4	-1.0
	baz=349						
N49A	Columbus Grove	146.93	16	P	PKPbc	00 25 53.9	-0.2
	baz=339,SNR=6.1						
O47A	Sheridan	146.96	19	P	PKPbc	00 25 54.1	-0.1
	baz=335						
HRV	Adam Dziewonsk	146.99	359	P	PKPbc	00 25 54.0	-0.2
	baz=1.8						
JCT	Junction City	147.03	47	P	PKPab	00 25 55.3	-1.0
	baz=304,SNR=14						
M52A	Chesterland	147.03	12	P	PKPab	00 25 54.6	-1.2
	baz=344						
P45A	Graceland, Par	147.04	22	P	PKPab	00 25 55.6	-0.3
	baz=332						
M51A	Elyria	147.05	13	P	PKPab	00 25 55.3	-0.6
	baz=342						
P46A	Rosedale	147.16	21	P	PKPab	00 25 55.9	-0.5
	baz=333						
BINY	Binghamton	147.16	5	P	PKPab	00 25 55.9	-0.5
	baz=354						
O48A	Farmland	147.26	18	P	PKPab	00 25 55.8	-0.9
	baz=337						
M53A	Wl Miller and	147.26	11	P	PKPab	00 25 55.8	-0.9
	baz=345						
N50A	Nevada	147.34	15	P	PKPbc	00 25 55.6	+0.4
	baz=340,SNR=6.3						
M54A	Oil Creek Stat	147.38	10	P	PKPab	00 25 56.3	-1.0
	baz=347						
N51A	Ashland	147.40	14	P	PKPab	00 25 56.4	-0.9
	baz=342						
U40A	Yellville	147.41	31	P	PKPab	00 25 56.3	-1.3
	baz=321						
Q45A	Warren Harvey,	147.44	23	P	PKPab	00 25 56.2	-1.4
	baz=331						
M55A	Ridgway	147.56	9	P	PKPab	00 25 56.7	-1.3
	baz=349						
O49A	Covington	147.57	17	P	PKPab	00 25 56.7	-1.3
	baz=338						
P47A	Martinsville	147.60	20	P	PKPab	00 25 57.4	-0.7
	baz=334						
M56A	Emporium	147.63	8	P	PKiKP	00 25 57.0	-1.2
	baz=350						
WHTX	Lake Whitney,	147.75	42	P	PKiKP	00 25 57.7	-1.0
	baz=309						
W39A	Magazine	147.79	34	P	PKiKP	00 25 57.6	-1.1
	baz=318						
O50A	Cable	147.81	16	P	PKPbc	00 25 56.9	+0.3
	baz=339						
N53A	Lisbon	147.84	12	P	PKiKP	00 25 57.7	-0.9
	baz=345						
N54A	Moraine State	147.85	11	P	PKiKP	00 25 57.4	-1.3
	baz=346						
ACSO	Alum Creek Sta	147.89	15	P	PKiKP	00 25 57.8	-0.9
	baz=340						
P48A	Milroy	147.90	19	P	PKiKP	00 25 57.6	-1.2
	baz=336						
R45A	Skylar, Fairfi	147.91	24	P	PKiKP	00 25 57.6	-1.2
	baz=330						
S44A	Carbondale	148.02	26	P	PKiKP	00 25 58.0	-1.0
	baz=328						
Q47A	Bedord North L	148.04	21	P	PKiKP	00 25 58.0	-1.0
	baz=334,SNR=5.6						
P49A	Miami Univ. Ec	148.06	18	P	PKiKP	00 25 58.2	-0.9
	baz=337						
N56A	West Decatur	148.17	8	P	PKiKP	00 25 58.3	-1.0
	baz=349						
N55A	Marion Center	148.20	9	P	PKiKP	00 25 58.5	-0.9
	baz=348						
P50A	Jamestown	148.26	17	P	PKiKP	00 25 58.6	-0.9
	baz=339,SNR=8.2						
R46A	Gibon Southern	148.28	23	P	PKiKP	00 25 58.9	-0.7
	baz=331						
Q48A	North Vernon	148.28	20	P	PKiKP	00 25 59.1	-0.4
	baz=335,SNR=8.1						
O52A	Adamsville	148.28	14	P	PKiKP	00 25 59.1	-0.4
	baz=342						
O53A	New Philadelph	148.30	13	P	PKiKP	00 25 58.9	-0.7
	baz=344						
MIAR	Mount Ida	148.39	34	P	PKiKP	00 25 58.9	-1.0
	baz=318,SNR=24						
N57A	Milroy	148.43	7	P	PKPbc	00 25 58.4	+0.2
	baz=351						
N59A	State Game Lan	148.46	5	P	PKiKP	00 25 58.7	-1.2
	baz=354						
PAL	Palisades	148.47	2	P	PKiKP	00 25 58.7	-1.2
	baz=358						
Q49A	Aurora	148.49	19	P	PKiKP	00 25 59.2	-0.8
	baz=336,SNR=5.5						
833A	Chaparral WMA,	148.49	50	P	PKiKP	00 25 59.4	-0.9
	baz=302						
SSPA	Standing Stone	148.51	8	*e*PKPbc	PKPbc	00 25 58.5	+0.1
SSPA	Standing Stone	148.51	8	P	PKiKP	00 25 59.0	-1.0
	baz=350						
O54A	Avella	148.54	12	P	PKiKP	00 25 59.2	-0.9
	baz=345						
R47A	Wooly Knot Far	148.57	21	P	PKiKP	00 25 59.3	-0.9
	baz=333						
P51A	Williamsport	148.58	16	P	PKPbc	00 25 58.9	+0.3
	baz=340						
W41B	Gary Mavity, V	148.63	32	P	PKiKP	00 25 59.7	-0.6
	baz=320						
S46A	Don Dixon Farm	148.66	24	P	PKiKP	00 25 59.7	-0.6
	baz=330						
P52A	Corning	148.67	14	P	PKiKP	00 25 59.6	-0.7
	baz=342						
O55A	Ligonier	148.71	10	P	PKiKP	00 26 00.7	+0.2
	baz=347						
R48A	Northridge Ran	148.71	20	P	PKiKP	00 26 00.2	-0.3
	baz=334						
WCI	Wyandotte Cave	148.72	21	*e*PKPbc	PKiKP	00 25 59.3	-1.2
WCI	Wyandotte Cave	148.72	21	*e*PKP2	PKiKP	00 25 59.3	-1.2
WCI	Wyandotte Cave	148.72	21	P	PKiKP	00 26 00.2	-0.3
	baz=333						
O56A	Blue Knob Stat	148.77	9	P	PKiKP	00 26 00.6	0.0
	baz=349						
X40A	Basin Creek Fa	148.84	34	P	PKiKP	00 26 00.4	-0.4
	baz=319						
Q50A	Georgetown	148.91	17	P	PKiKP	00 26 01.3	+0.4
	baz=338						
Q51A	Peebles	148.93	16	P	PKiKP	00 26 00.9	0.0
	baz=339						
O57A	Amberson	148.96	8	P	PKiKP	00 26 01.0	0.0
	baz=350						
P53A	Whipple	148.99	13	P	PKiKP	00 26 01.0	0.0
	baz=343						
O59A	Robesonia	149.02	5	P	PKiKP	00 26 01.1	0.0
	baz=353						
R49A	Shelbyville	149.04	20	P	PKiKP	00 26 01.0	-0.1
	baz=335,SNR=6.0						
S47A	Hartford	149.06	23	P	PKiKP	00 26 01.0	-0.2
	baz=332						
P54A	Burton	149.07	12	P	PKiKP	00 26 01.0	-0.2
	baz=345						
O60A	Telford	149.08	4	P	PKiKP	00 26 01.0	-0.1
	baz=355						
T46A	Princeton	149.14	24	P	PKiKP	00 26 01.0	-0.4
	baz=330						
MCWV	Mont Chateau	149.15	11	P	PKiKP	00 26 01.1	-0.3
	baz=346						
Q52A	Bidwell	149.27	15	P	PKiKP	00 26 01.2	-0.5
	baz=341						
P55A	Reedsville	149.29	11	P	PKiKP	00 26 01.5	-0.2
	baz=346						
S48A	Wiedeman Farm,	149.31	21	P	PKiKP	00 26 01.5	-0.3
	baz=333						
R50A	Paris	149.32	18	P	PKiKP	00 26 01.6	-0.1
	baz=337						
S49A	Springfield	149.46	20	P	PKiKP	00 26 02.3	+0.2
	baz=335						
T47A	Sharon Grove	149.51	23	P	PKiKP	00 26 02.4	+0.2
	baz=331						
R51A	Hillsboro	149.53	17	P	PKiKP	00 26 02.5	+0.3
	baz=338						
P60A	Greenville	149.56	5	P	PKiKP	00 26 02.5	+0.3
	baz=354						
Q54A	Coxs Mills	149.59	13	P	PKPbc	00 26 01.2	0.0
	baz=344						
T48A	Bowling Green	149.67	22	P	PKiKP	00 26 02.2	-0.3
	baz=332						
P59A	Jarrettsville	149.69	6	P	PKiKP	00 26 02.4	-0.1
	baz=352						
Q55A	Buckhannon	149.74	12	P	PKiKP	00 26 02.1	-0.5
	baz=345						
R52A	Catlettsburg	149.76	16	P	PKiKP	00 26 02.2	-0.5
	baz=340						
S50A	Richmond	149.85	19	P	PKiKP	00 26 02.7	-0.2
	baz=336						
U47A	Clarksville	149.91	24	P	PKiKP	00 26 02.4	-0.6
	baz=330						
R53A	Hurricane	149.95	15	P	PKiKP	00 26 02.5	-0.6
	baz=341						
WVT	Waverly	149.95	25	*e*PKPbc	PKiKP	00 26 02.6	-0.5
WVT	Waverly	149.95	25	*e*PKP2	PKiKP	00 26 02.6	-0.5
WVT	Waverly	149.95	25	P	PKiKP	00 26 02.6	-0.5
	baz=329						
T49A	Edmonton	149.99	21	P	PKiKP	00 26 02.6	-0.5
	baz=334						
Q57A	Strasburg	150.00	9	P	PKiKP	00 26 02.6	-0.5
	baz=348						
V46A	Holladay	150.11	26	P	PKPbc	00 26 02.4	-0.1
	baz=328						
S51A	Beattyville	150.14	18	P	PKiKP	00 26 03.2	-0.2
	baz=338						
U48A	Cassie Pea, Po	150.14	23	P	PKiKP	00 26 03.4	-0.1
	baz=332						
S52A	Salyersville	150.26	17	P	PKiKP	00 26 03.5	-0.2
	baz=339						
T50A	Nancy	150.31	20	P	PKiKP	00 26 03.5	-0.3
	baz=335						
R54A	Victor	150.33	14	P	PKiKP	00 26 03.5	-0.4
	baz=343						
V47A	Nunnelly	150.34	25	P	PKiKP	00 26 03.6	-0.4
	baz=329						
U49A	Red Boiling Sp	150.43	22	P	PKiKP	00 26 04.0	0.0
	baz=333						
S53A	Williamson	150.52	16	P	PKiKP	00 26 03.8	-0.5
	baz=341						
OXF	Oxford	150.59	29	P	PKiKP	00 26 03.7	-0.7
	baz=324,SNR=5.4						
S54A	Dingess, Beckl	150.61	14	P	PKiKP	00 26 04.5	0.0
	baz=342						
T51A	Gray	150.65	19	P	PKiKP	00 26 04.6	+0.1
	baz=337						
R57A	Stanardsville	150.70	10	P	PKiKP	00 26 04.8	+0.2
	baz=348						
R58A	Rapidan	150.78	9	P	PKiKP	00 26 05.1	+0.4
	baz=349						
W47A	Westpoint	150.80	26	P	PKiKP	00 26 04.6	-0.3
	baz=328						
T52A	Hallie	150.81	17	P	PKiKP	00 26 05.2	+0.3
	baz=339						
S55A	Lewisburg	150.83	13	P	PKiKP	00 26 05.2	+0.3
	baz=344						
U50A	Jamestown	150.85	21	P	PKiKP	00 26 05.1	+0.1
	baz=335						
PB11	IPOC Station P	150.91	186	*e*PKPdf	PKPdf	00 25 57.5	-2.0
V49A	McMinnville	151.04	23	P	PKiKP	00 26 04.6	-0.7
	baz=332						
S56A	Natural Bridge	151.12	12	P	PKiKP	00 26 04.8	-0.7
	baz=346						
S57A	Dark Hollow, R	151.15	11	P	PKiKP	00 26 05.2	-0.3
	baz=347						
TZTN	Tazewell	151.16	19	P	PKiKP	00 26 05.8	+0.2
	baz=337						
U51A	La Follette	151.16	19	P	PKiKP	00 26 05.7	+0.1
	baz=336						
W48A	Pulaski	151.18	25	P	PKPbc	00 26 04.6	-0.5
	baz=330						
T54A	Tazewell	151.25	15	P	PKPbc	00 26 05.0	-0.3
	baz=341						
X47A	Russelville	151.30	27	P	PKiKP	00 26 05.6	-0.3
	baz=327						
U52A	Thorn Hill	151.36	18	P	PKiKP	00 26 06.6	+0.5
	baz=337						
BLA	Blacksburg	151.38	13	P	PKiKP	00 26 06.9	+0.9
	baz=344						
V50A	Pikevile	151.43	22	P	PKiKP	00 26 05.6	-0.6
	baz=334						
S58A	Poland Farm, P	151.45	9	P	PKiKP	00 26 06.2	+0.1
	baz=349						
W49A	Belvidere	151.47	24	P	PKiKP	00 26 05.9	-0.4
	baz=331						
MNMC	Minye Minye	151.53	186	*e*PKPbc	PKPbc	00 26 04.9	-1.8
V51A	Loudon	151.57	20	P	PKiKP	00 26 06.0	-0.4
	baz=335						
U53A	Fall Branch	151.62	17	P	PKiKP	00 26 06.6	0.0
	baz=339						
T56A	Rocky Mt	151.64	13	P	PKiKP	00 26 06.1	-0.5
	baz=344						
X48A	Hartselle	151.72	26	P	PKiKP	00 26 06.5	-0.3
	baz=329						
W50A	Signal Mountai	151.77	23	P	PKiKP	00 26 06.9	-0.1
	baz=333						
V52A	Sevierville	151.79	19	P	PKiKP	00 26 06.9	0.0
	baz=337						
T57A	Hurt	151.83	11	P	PKiKP	00 26 07.5	+0.6
	baz=346						
U55A	TA2, Sparta	151.91	15	P	PKiKP	00 26 07.5	+0.3
	baz=342						
X49A	Woodville	151.97	25	P	PKiKP	00 26 07.6	+0.3
	baz=330						
W51A	Cleveland	152.01	22	P	PKiKP	00 26 07.6	+0.2
	baz=334						
T58A	Grand View Acr	152.02	10	P	PKiKP	00 26 07.6	+0.2
	baz=347						
T60A	Surry	152.10	7	P	PKiKP	00 26 07.1	-0.3
	baz=351						
Y48A	Jasper	152.12	27	P	PKiKP	00 26 07.5	-0.1
	baz=328						
T59A	Double "B" Far	152.15	9	P	PKiKP	00 26 07.8	+0.2
	baz=350						
V53A	Saluda	152.20	18	P	PKiKP	00 26 07.8	0.0
	baz=338						
X50B	Fort Payne	152.28	24	P	PKiKP	00 26 08.0	0.0
	baz=331						
V54A	Nebo	152.35	17	P	PKiKP	00 26 08.2	+0.1
	baz=340						
W52A	Murphy	152.36	20	P	PKPbc	00 26 07.5	-0.3
	baz=335						
V55A	Taylorsville	152.48	15	P	PKiKP	00 26 08.4	0.0
	baz=341						
Y49A	Blount Mountai	152.49	26	P	PKiKP	00 26 08.7	+0.2
	baz=329						
X51A	Calhoun	152.50	22	P	PKiKP	00 26 08.7	+0.3
	baz=333						
W53A	Cullowhee	152.55	19	P	PKiKP	00 26 08.9	+0.3
	baz=337						
U58A	Oxford	152.55	11	P	PKiKP	00 26 08.8	+0.4
	baz=347						
Y50A	Piedmont	152.75	25	P	PKiKP	00 26 09.0	+0.1
	baz=331						
X52A	Dahlonega	152.82	21	P	PKPab	00 26 19.2	-0.5
	baz=335						
W54A	Cherokee Point	152.93	18	P	PKPab	00 26 19.7	-0.4
	baz=339						
LRAL	Lakeview Retre	152.93	27	P	PKPab	00 26 19.7	-0.5
	baz=327						
148A	Greensboro	152.99	29	P	PKPab	00 26 19.6	-0.8
	baz=326						
Z49A	Columbiana	153.01	27	P	PKPab	00 26 20.6	+0.1
	baz=328						
Y51A	Rockmart	153.01	23	P	PKPab	00 26 20.2	-0.3
	baz=332						
V58A	Windy Hill, Pi	153.03	12	P	PKPab	00 26 19.6	-0.8
	baz=346						
X53A	Estanollee	153.11	20	P	PKPab	00 26 20.0	-0.9
	baz=336						
KMSC	Kings Mountain	153.12	16	P	PKPab	00 26 20.8	-0.1
	baz=341						
Z50A	Ashland	153.22	26	P	PKPab	00 26 20.5	-0.9
	baz=330						
V59A	Middlesex	153.22	10	P	PKPab	00 26 20.4	-0.9
	baz=348						
W56A	Indian Trail	153.32	15	P	PKPab	00 26 21.2	-0.5
	baz=342						
X54A	Belton	153.37	18	P	PKPab	00 26 21.2	-0.8
	baz=338						
V60A	Jim Taylor Roa	153.38	9	P	PKPab	00 26 21.8	-0.1
	baz=350						
149A	Jones	153.39	28	P	PKPab	00 26 21.1	-1.0
	baz=327						
Y52A	Lilburn	153.42	22	P	PKPab	00 26 21.8	-0.4
	baz=334						
V61A	Roper	153.45	7	P	PKPab	00 26 22.2	0.0
	baz=351						
W57A	Gilead	153.45	14	P	PKPab	00 26 22.1	-0.2
	baz=344						
Y53A	Monroe	153.60	21	P	PKPab	00 26 23.0	0.0
	baz=335						
X55A	Gracelyn & Ava	153.66	17	P	PKPab	00 26 22.7	-0.5
	baz=340						
150A	Eclectic	153.73	26	P	PKPab	00 26 23.4	-0.1
	baz=329						
W58A	Raeford	153.75	12	P	PKPab	00 26 23.0	-0.6
	baz=345						
249A	Camden	153.76	29	P	PKPab	00 26 22.3	-1.4
	baz=326						
X56A	White Oak	153.81	16	P	PKPab	00 26 23.4	-0.4
	baz=341						
Z52A	Williamson	153.89	23	P	PKPab	00 26 24.0	-0.2
	baz=333						
Y54A	Tignall	153.90	19	P	PKPab	00 26 24.2	0.0
	baz=337						
GOGA	Godfrey	154.04	21	P	PKPab	00 26 24.4	-0.4
	baz=335						
Y55A	Saluda	154.09	18	P	PKPab	00 26 24.6	-0.4
	baz=339						
LPAZ	La Paz	154.13	190	PKPbc	PKPbc	00 26 12.5	-0.5
	comp=Z,0.3nm,0.4s,baz=207,slow=4.5,SNR=2.8						
LPAZ				PKPab	PKPab	00 26 27.0	+0.7
	comp=Z,1.9nm,0.7s,baz=167,slow=6.9,SNR=6.2						
250A	Grady	154.15	28	P	PKPab	00 26 25.4	0.0
	baz=328						
152A	Waverly Hall	154.23	24	P	PKPab	00 26 25.7	0.0
	baz=332						
Z54A	Sparta	154.42	20	P	PKPab	00 26 26.0	-0.5
	baz=336						
251A	Midway	154.44	26	P	PKPab	00 26 26.0	-0.6
	baz=330						
Z56A	Williston	154.81	18	P	PKPab	00 26 28.5	+0.4
	baz=339						
154A	Montrose	154.89	21	P	PKPab	00 26 28.9	+0.4
	baz=335						
351A	Pinckard	155.05	27	P	PKPab	00 26 30.2	+1.0
	baz=328						
155A	Kite	155.11	20	P	PKPab	00 26 30.2	+0.8
	baz=336						
352A	Blakely	155.17	26	P	PKPab	00 26 30.6	+0.9
	baz=330						
254A	Abbeville	155.42	22	P	PKPab	00 26 30.6	-0.2
	baz=334						
353A	Camilla	155.59	25	P	PKPab	00 26 31.8	+0.3
	baz=331						
255A	Hazlehurst	155.74	21	P	PKPab	00 26 32.0	-0.1
	baz=336						
TIGA	Tifton	155.76	24	P	PKPab	00 26 32.8	+0.6
	baz=333						
257A	Skidaway Islan	156.17	18	P	PKPab	00 26 33.3	-0.7
	baz=339						
454A	Quitman	156.38	24	P	PKPab	00 26 34.7	-0.2
	baz=332						
655A	Horseshoe Beac	157.59	25	P	PKPab	00 26 39.8	-0.3
	baz=331						
656A	Willston	158.01	24	P	PKPab	00 26 41.2	-0.7
	baz=333						
857A	Zephyrhills	159.11	25	P	PKPab	00 26 43.8	-2.9
	baz=332						
058A	Arcadia	160.35	25	P	PKPab	00 26 51.9	-0.3
	baz=332						

*ISCJB **27** 00:06:57.6±0.4, 59°.75N±0°.03×153°.43W±0°.07, h135km±3km, mb4.0/1, Error ellipse: s-maj=6.1km s-min=4.7km az=25.9*
*NEIC **27** 00:06:59.9±0.0, 59°.78N×153°.49W, h128km, ML3.3(AEIC), After AEIC.*
*IDC **27** 00:07:02.8±7.2, 60°.19N×153°.33W, h142km±62km, mb3.7/1, mb1 3.6/4, mb1mx3. 1/47, mbtmp3.9/4, MS2.9/1, Ms1 2.9/1, ms1mx2.2/34, Error ellipse: s-maj=62.4km s-min=30.2km az=39.0*

ISC 27 00:06:57.5±0.9, 59°.77N±0°.04×153°.41W±0°.05, h139km±6km, n61, σ1°.41/71, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	Iliamna Low So	0.26	43	*e*Pn	Pn	00 07 17.3	+0.7
ILS				*e*Sn	Sn	00 07 30.7	-0.5
AUL	Augustine Lava	0.39	182	*e*Pn	Pn	00 07 17.7	+0.7
AUL				*e*Sn	Sn	00 07 31.7	-0.1
AUW	Augustine West	0.40	184	*e*Pn	Pn	00 07 17.8	+0.7
AUH	Augustine H	0.41	182	*e*Pn	Pn	00 07 17.9	+0.6
RDSO	Redoubt South	0.76	26	*e*Pn	Pn	00 07 19.9	+0.6
RDSO				*e*Sn	Sn	00 07 35.6	-0.5
RSO	Redoubt South	0.77	25	*e*Pn	Pn	00 07 20.2	+0.7
RDJH	Redoubt Jeurge	0.88	20	*e*Pn	Pn	00 07 21.1	+0.8
RDJH				*e*Sn	Sn	00 07 37.2	-0.4
HOM	Homer	0.90	96	*e*Pn	Pn	00 07 22.0	+1.7
FONW	Fourpeaked Sta	0.97	196	*e*Pn	Pn	00 07 21.7	+0.6
BRLK	Bradley Lake	1.28	89	*e*Pn	Pn	00 07 24.8	+1.0
BRLK				*e*Sn	Sn	00 07 43.5	-0.5
SPWE	Spurr West	1.56	15	*e*Pn	Pn	00 07 28.6	+1.7
SPU	Mount Spurr	1.57	25	*e*Pn	Pn	00 07 27.9	+1.0
BGL	Barrier Glacie	1.58	18	*e*Pn	Pn	00 07 28.8	+1.6
SVW2	Sparrevohn	1.71	322	*e*Pn	Pn	00 07 29.1	+0.6
SVW2				*e*Sn	Sn	00 07 51.0	-1.3
SLKM	Skilak Lake	1.76	64	*e*Pn	Pn	00 07 30.2	+1.1
KELA	Mount Kelaz	1.80	223	*e*Pn	Pn	00 07 30.5	+0.8
SEW	Seward	2.02	79	*e*Pn	Pn	00 07 33.1	+1.0
KDAK	Kodiak Island	2.04	167	*e*Pn	Pn	00 07 32.5	+0.1
KDAK				*e*Sn	Sn	00 07 58.0	-1.1
FIB	Fire Island	2.13	48	*e*Pn	Pn	00 07 35.5	+2.2
FIB				*e*Sn	Sn	00 08 03.6	+2.6
RC01	Rabbit Creek A	2.25	52	*e*Pn	Pn	00 07 36.0	+1.1
RC01				*e*Sn	Sn	00 08 03.9	+0.2
OHAK	Old Harbor	2.56	178	*e*Pn	Pn	00 07 38.6	-0.2
PMR	Palmer	2.79	47	*e*Pn	Pn	00 07 42.1	+0.6
KNK	Knik Glacier	2.95	54	*e*Pn	Pn	00 07 44.3	+0.7
GHO	Glory Hole Cre	2.98	46	*e*Pn	Pn	00 07 44.5	+0.3
SML	Sawmill	3.22	48	*e*Pn	Pn	00 07 47.6	+0.3
SII	Sitkinak Islan	3.25	188	*e*Sn	Sn	00 08 25.3	-1.0
GLI	Glacier Island	3.33	68	*e*Pn	Pn	00 07 49.8	+1.2
TT01	Tatalina	3.39	339	*e*Pn	Pn	00 07 50.0	+0.7
MID	Middleton Isla	3.61	92	*e*Pn	Pn	00 07 53.6	+1.4
JPK	Jack Peak	3.62	66	*e*Pn	Pn	00 07 53.8	+1.4
EYAK	Cordova Ski Ar	3.91	75	*e*Pn	Pn	00 07 57.5	+1.4
DIV	Divide	4.02	67	*e*Pn	Pn	00 07 59.3	+1.6
KLU	Klutina	4.07	62	*e*Pn	Pn	00 07 59.0	+0.6
RND	Reindeer	4.25	29	*e*Pn	Pn	00 08 01.5	+0.8
DHY	Denali Highway	4.40	39	*e*Pn	Pn	00 08 03.5	+0.7
BPAW	Bear Paw Mtn.	4.49	14	*e*Pn	Pn	00 08 04.9	+1.1
VNHG	Veniaminof 1	4.69	223	*e*Pn	Pn	00 08 08.2	+1.6
NICHA	Nichawak Mount	4.76	80	*e*Pn	Pn	00 08 09.2	+1.8
PAX	Paxson	4.99	47	*e*Pn	Pn	00 08 11.6	+1.1
MCARA	McCarthy VSAT	5.37	68	*e*Pn	Pn	00 08 17.2	+1.7
MLY	Manley	5.42	12	*e*Pn	Pn	00 08 17.5	+1.2
BALM	Baldy	5.63	72	*e*Pn	Pn	00 08 20.8	+1.7
MENT	Mentasta	5.64	52	*e*Pn	Pn	00 08 21.4	+2.3
RIDG	Independent Ri	5.69	42	*e*Pn	Pn	00 08 21.2	+1.3
MDM	Murphy Dome	5.74	23

0.1nm,0.3s,baz=279,slow=11,SNR=8.4
YKB5 Yellowknife Ar 18.74 65 *e*P **Pn 00 11 07.8 +0.6**
NEW Newport 23.90 103 LR LR 00 20 55.2
comp=Z,23nm,18.3s,baz=27,slow=35
ZAA1 Zalesovo Array 57.43 323 *e*P **P 00 16 33.7 +2.7**
ZALV Zalesovo Beam 57.43 323 P **P 00 16 33.7 +2.6**
1.1nm,0.5s,baz=30,slow=8.1,SNR=5.2

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*DDA **27** 00:42:01.9, 38.°93N×27.°69E, h5km±1km, ML2.6*
*ISCJB **27** 00:42:02.4±0.5, 38.°89N±0.°03×27.°68E±0.°04, h6km±5km, Error ellipse: s-maj=5.4km s-min=4.9km az=137.8*
*ISK **27** 00:42:02.0, 38.°89N×27.°70E, h6km, ML2.0/8*
ISC 27 00:42:02.2±0.9, 38.°91N±0.°03×27.°69E±0.°03, h10km±7km, n21, σ0.°49/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.10**	**108**	PG	**Pg**	**00 42 04.3**	**-0.5**
AKS				SG	**Sg**	**00 42 06.5**	**-0.2**
AKHS	**Akhisar**	**0.10**	**108**	IAML_P			
	comp=Z,21μm,0.1s						
AKHS				*i* P	**Pg**	**00 42 05.0**	**+0.2**
AKHS				*i* S	**Sg**	**00 42 07.2**	**+0.5**
STEP	**BALIKESIR_Sava**	**0.47**	**3**	IAML_P			
	comp=Z,1μm,0.1s						
STEP				*i* P	**Pb**	**00 42 11.9**	**-0.7**
ZEDA	**zmir-Bergama**	**0.48**	**277**	IAML_P			
	comp=Z,1μm,0.1s						
ZEDA				*i* P	**Pg**	**00 42 12.0**	**+0.4**
ZEDA				*i* S	**Sb**	**00 42 19.3**	**-0.7**
BALB	**Balikesir**	**0.74**	**11**	PG	**Pb**	**00 42 17.3**	**+0.1**
BALB				SG	**Sb**	**00 42 28.3**	**+0.8**
MANT	**Manisa**	**0.80**	**121**	IAML_P			
	comp=Z,851nm,0.1s						
MANT				*i* P	**Pb**	**00 42 18.4**	**+0.1**
BALY	**Balya**	**0.83**	**356**	IAML_P			
	comp=Z,2μm,0.2s						
BALY				*i* P	**Pb**	**00 42 18.5**	**-0.2**
BALY				*i* S	**Sb**	**00 42 29.9**	**-0.2**
KULA	**Kula-Manisa**	**0.85**	**117**	PG	**Pb**	**00 42 18.9**	**-0.3**
AYVA	**Ayvalik**	**0.87**	**297**	*i* P	**Pb**	**00 42 19.7**	**+0.3**
DURS	**Dursunbey**	**0.92**	**41**	IAML_P			
	comp=Z,427nm,0.1s						
DURS				*i* P	**Pg**	**00 42 19.2**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**0.97**	**171**	PG	**Pg**	**00 42 20.9**	**-0.1**
AYDB				SG	**Sb**	**00 42 33.9**	**-0.4**
URLA	**Izmir**	**1.02**	**238**	PG	**Pb**	**00 42 22.0**	**0.0**
USAK	**Uak-Merkez**	**1.05**	**100**	IAML_P			
	comp=Z,435nm,0.1s						
USAK				*i* P	**Pb**	**00 42 22.6**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.22**	**313**	IAML_P			
	comp=Z,290nm,0.1s						
BAYC				*i* P	**Pn**	**00 42 25.6**	**+0.4**
BAYC				*i* S	**Sg**	**00 42 41.0**	**-0.3**
AYDN	**Tasoluk**	**1.26**	**173**	IAML_P			
	comp=Z,659nm,0.2s						
AYDN				*i* P	**Pg**	**00 42 25.1**	**-1.3**
GCAM	**G?zelcaml?**	**1.26**	**197**	PN	**Pg**	**00 42 26.7**	**+0.3**
GEDZ	**Gediz**	**1.35**	**84**	PN	**Pg**	**00 42 28.1**	**0.0**
GDZ	**Gediz**	**1.41**	**82**	*i* P	**Pg**	**00 42 28.9**	**-0.3**
KCTX	**Karacabey (Bur**	**1.45**	**21**	PN	**Pn**	**00 42 28.7**	**+0.2**
TVSB	**Tavsanli**	**1.48**	**68**	PN	**Pb**	**00 42 30.0**	**+0.2**
KHAL	**Karahalli**	**1.51**	**110**	*i* P	**Pg**	**00 42 31.9**	**+0.7**

DJA 27 00:44:11.5±0.5, 1.°S±4.°×12.°4E±.°, h10km, M3.9/7, MLv3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.12**	**250**	P	Pb	00 44 32.0	-1.0
LUWI				S	Sb	00 44 47.5	-0.2
KMSI	**Cibinong**	**1.23**	**7**	P	Pn	00 44 33.7	-1.1
KMSI				S	Sb	00 44 50.9	-0.1
APSI	**Ampana**	**2.19**	**263**	P	Pn	00 44 48.3	+0.2
APSI				S	Sn	00 45 16.0	+0.7
MRSI	**Marisa**	**2.20**	**301**	P	Pn	00 44 49.5	+1.4
SANI	**Sanana**	**2.56**	**123**	P	Pn	00 44 53.3	+0.2
MPSI	**Mapaga**	**4.05**	**284**	P	Pn	00 45 17.2	+3.5

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*ISCJB **27** 00:58:19.5±0.6, 24.°87N±0.°02×122.°45E±0.°02, h10km±3km, Error ellipse: s-maj=4.4km s-min=3.2km az=35.6*
*JMA **27** 00:58:19.8±0.1, 24.°89N×122.°47E, h26km, M2.0*
*TAP **27** 00:58:20.0, 24.°87N×122.°38E, h12km±1km, ML2.7, C*
ISC 27 00:58:19.5±1.2, 24.°88N±0.°03×122.°44E±0.°03, h18km±3km, n34, σ0.°28/67, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.43**	**288**	*e*P	**Pg**	**00 58 28.3**	**0.0**
	baz=291						
TWB1				S	**Sg**	**00 58 34.2**	**-0.1**
	baz=291						
EOS1	**EOS1**	**0.43**	**221**	*e*P	**Pg**	**00 58 28.6**	**+0.2**
	baz=215						
EOS1				*e*S	**Sb**	**00 58 35.7**	**+0.9**
	baz=215						
EGS		**0.47**	**266**	P	**Pg**	**00 58 28.7**	**-0.2**
	baz=265						
EGS				S	**Sg**	**00 58 35.3**	**0.0**
	baz=265						
NTC	**Toucheng**	**0.56**	**268**	P	**Pb**	**00 58 30.0**	**-0.6**
	baz=268						
NTC				*e*S	**Sb**	**00 58 38.0**	**-0.2**
	baz=268						
TIPB	**Shuangxi**	**0.57**	**280**	P	**Pb**	**00 58 30.8**	**-0.1**
	baz=281						
TIPB				S	**Sg**	**00 58 39.0**	**+0.5**
	baz=281						
TWC	**Suao**	**0.60**	**244**	*i* P	**Pb**	**00 58 31.0**	**-0.4**
	baz=241						
TWC				S	**Sg**	**00 58 40.0**	**+0.4**
	baz=241						
JYNG	**Yonaguni jima**	**0.62**	**133**	P	**Pb**	**00 58 31.6**	**-0.2**
JYNG				S	**Sb**	**00 58 40.3**	**+0.2**
NWF	**Wu-fen Shan**	**0.63**	**288**	P	**Pg**	**00 58 32.2**	**+0.1**
	baz=290						
NWF				S	**Sg**	**00 58 41.0**	**+0.5**
	baz=290						
WFSB	**Wu-fen Shan**	**0.63**	**288**	*e*P	**Pg**	**00 58 32.1**	**+0.1**
	baz=290						
WFSB				*e*S	**Sg**	**00 58 40.9**	**+0.5**
	baz=290						
ILA	**Ilan**	**0.64**	**260**	*e*P	**Pb**	**00 58 31.8**	**-0.3**
	baz=259						
ILA				S	**Sb**	**00 58 40.2**	**-0.4**
	baz=259						
YOJ	**Yonaguni jima**	**0.66**	**129**	*e*P	**Pb**	**00 58 32.4**	**0.0**
	baz=125						
YOJ				*e*S	**Sb**	**00 58 41.2**	**0.0**
	baz=125						
YOJ	**Yonaguni jima**	**0.66**	**129**	P	**Pb**	**00 58 32.2**	**-0.3**
YOJ				*e*S	**Sb**	**00 58 41.0**	**-0.3**
TWE	**Neicheng**	**0.72**	**258**	P	**Pb**	**00 58 33.2**	**-0.3**
	baz=256						
TWE				S	**Sg**	**00 58 43.3**	**0.0**
	baz=256						
ENA	**Nanau**	**0.78**	**235**	P	**Pb**	**00 58 34.6**	**+0.1**
	baz=232						
ENA				S	**Sb**	**00 58 44.9**	**+0.2**
	baz=232						
TWA	**Mucha**	**0.79**	**278**	S	**Sg**	**00 58 45.6**	**+0.2**
	baz=278						
YM07	**YM07**	**0.80**	**292**	P	**Pg**	**00 58 35.4**	**+0.1**
	baz=293						
YM07				S	**Sg**	**00 58 46.0**	**+0.1**
	baz=293						
PCYT	**Pengchaiyu**	**0.82**	**336**	P	**Pb**	**00 58 35.5**	**+0.3**
	baz=340						
PCYT				*e*S	**Sn**	**00 58 47.7**	**-0.1**
	baz=340						
ENTT	**Nioudou**	**0.83**	**254**	P	**Pg**	**00 58 35.8**	**+0.1**
	baz=252						
ENTT				S	**Sg**	**00 58 46.7**	**-0.1**
	baz=252						
YM08	**YM08**	**0.83**	**292**	P	**Pg**	**00 58 35.9**	**+0.1**
	baz=293						
YM08				S	**Sb**	**00 58 46.3**	**+0.1**
	baz=293						
YM01	**YM01**	**0.83**	**289**	P	**Pg**	**00 58 35.9**	**0.0**
	baz=290						
YM01				S	**Sg**	**00 58 46.8**	**-0.1**
	baz=290						
YM10	**YM10**	**0.85**	**289**	P	**Pn**	**00 58 36.5**	**0.0**
	baz=290						
YM10				S	**Sg**	**00 58 47.6**	**+0.3**
	baz=290						
NWLT	**Wulai**	**0.86**	**264**	*e*P	**Pn**	**00 58 36.6**	**0.0**
	baz=263						
NWLT				*e*S	**Sg**	**00 58 47.6**	**0.0**
	baz=263						
TWY	**Chenhua**	**0.86**	**298**	*e*P	**Pb**	**00 58 35.9**	**+0.1**
	baz=299						
TWY				S	**Sg**	**00 58 47.6**	**-0.1**
	baz=299						
NDT	**Datong Townshi**	**0.89**	**252**	*e*P	**Pb**	**00 58 36.7**	**+0.4**
	baz=251						
NDT				*e*S	**Sg**	**00 58 48.8**	**+0.2**
	baz=251						
ANP	**Anpu**	**0.89**	**290**	*e*P	**Pg**	**00 58 36.9**	**0.0**
	baz=291						
ANP				*e*S	**Sg**	**00 58 48.5**	**-0.3**
	baz=291						
YHNB	**Yeheng**	**0.99**	**258**	*e*P	**Pb**	**00 58 38.4**	**+0.2**
	baz=257						
YHNB				*e*S	**Sb**	**00 58 50.9**	**0.0**
	baz=257						
NSK	**Sanguang**	**1.01**	**259**	*e*P	**Pb**	**00 58 37.7**	**-0.7**
	baz=257						
NSK				*e*S	**Sb**	**00 58 51.5**	**+0.2**
	baz=257						
NACB	**Ninganchiao**	**1.04**	**228**	*e*P	**Pb**	**00 58 39.1**	**+0.1**
	baz=225						
NACB				*e*S	**Sb**	**00 58 52.5**	**+0.2**
	baz=225						
NNSB	**Datong**	**1.06**	**245**	*e*P	**Pb**	**00 58 39.4**	**-0.1**
	baz=244						
NNSB				*e*S	**Sn**	**00 58 53.7**	**-0.2**
	baz=244						
ETLH	**Xiulin Townshi**	**1.10**	**233**	*e*P	**Pb**	**00 58 40.0**	**0.0**
	baz=231						
ETLH				*e*S	**Sn**	**00 58 55.1**	**+0.3**
	baz=231						
WHF	**Hehuan Shan**	**1.30**	**236**	P	**Pb**	**00 58 43.6**	**0.0**
	baz=234						
WHF				*e*S	**Sn**	**00 59 00.5**	**+0.3**
	baz=234						
CHGB	**Renai**	**1.41**	**235**	*e*P	**Pb**	**00 58 45.5**	**+0.1**
	baz=233						
CHGB				*e*S	**Sn**	**00 59 02.4**	**-0.3**
	baz=233						
OWD	**Renai**	**1.48**	**232**	*e*P	**Pb**	**00 58 46.3**	**-0.2**
	baz=230						
OWD				*e*S	**Sb**	**00 59 05.0**	**+0.1**
	baz=230						
VWDT	**VWDT**	**1.63**	**227**	*e*P	**Pb**	**00 58 48.6**	**-0.4**
	baz=225						
VWDT				*e*S	**Sb**	**00 59 09.1**	**-0.2**
	baz=225						

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*IDC **27** 01:11:06.0±0.5, 5.°88S×101.°62E, h0km, mb4.3/23, mb1 4.4/25, mb1mx4.4/32, mbtmp4.3/25, ML4.3/2, MS3.2/5, Ms1 3.2/5, ms1mx2.8/30, Error ellipse: s-maj=17.6km s-min=11.6km az=58.0*
*ISCJB **27** 01:11:08.7±0.3, 5.°94S±0.°04×101.°66E±0.°04, h33km, mb4.6/46, MS4.8/2, Error ellipse: s-maj=7.1km s-min=4.9km az=36.4*
*DJA **27** 01:11:08.3±1.3, 6.°S±4.°×10.°2E±.°, h15km±11km, M5.0/8, mb5.2/5, mB5.7/3, MLv4.9/8, Mw(mB)5.3/3*
*BJI **27** 01:11:09.5±0.0, 5.°90S×101.°70E, h20km, mb4.8/20, mB5.0/12, Ms4.8/5, Ms7 4.5/2*
*NEIC **27** 01:11:10.0±2.3, 5.°88S×101.°66E, h30km±4km, mb4.5/19, Error ellipse: s-maj=14.2km s-min=11.5km az=83.0*
ISC 27 01:11:11.1±0.4, 5.°85S±0.°05×101.°72E±0.°06, h35km, n109, σ1.°72/108, mb4.5/46, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.92**	**40**	*e*Pn	**Pn**	**01 11 41.1**	**-0.3**
MNAI	**Manna**	**1.92**	**40**	P	**Pn**	**01 11 40.8**	**-0.6**
KLSI		**3.21**	**69**	P	**Pn**	**01 11 59.7**	**+0.6**
PPSI	**Pulau Pagai**	**3.51**	**331**	P	**Pn**	**01 12 03.4**	**+0.2**
CGJI	**Cibinong**	**4.02**	**101**	P	**Pn**	**01 12 09.1**	**-1.1**
CGJI				S	**Sn**	**01 12 49.7**	**-6.4**
PDSI	**Padang**	**5.07**	**346**	P	**Pn**	**01 12 23.3**	**-1.4**
PDSI				S	**Sn**	**01 13 17.8**	**-4.2**
CBJI	**Citeko**	**5.13**	**97**	P	**Pn**	**01 12 26.7**	**+1.2**
SISI	**Saibi**	**5.21**	**330**	P	**Pn**	**01 12 26.3**	**-0.3**
SISI				S	**Sn**	**01 13 22.5**	**-2.9**
LEM	**Lembang**	**5.94**	**100**	P	**Pn**	**01 12 38.8**	**+2.0**
LEM	**Lembang**	**5.94**	**100**	Pn	**Pn**	**01 12 38.2**	**+1.4**
	14nm,0.3s,baz=265,slow=11,SNR=6.4						
LEM				Sn	**Sn**	**01 13 41.4**	**-2.3**
	4.8nm,0.3s,baz=165,slow=20,SNR=1.2						
LEM				LR	LR	01 15 02.2	
	comp=Z,202nm,18.6s,baz=242,slow=39						
XMIS	**Christmas Isla**	**6.02**	**140**	*e*Pn	Pn	01 12 31.5	-6.3
XMIS				*e*Sn	Sn	01 13 32.7	-13
BKNI	**Bangkinang**	**6.17**	**354**	*e*Pn	**Pn**	**01 12 38.6**	**-1.3**
CISI	**Cisompet, Garu**	**6.28**	**106**	*e*Pn	**Pn**	**01 12 40.0**	**-1.5**
CISI				*e*Sn	Sn	01 13 40.0	-12
CISI	**Cisompet, Garu**	**6.28**	**106**	P	**Pn**	**01 12 39.6**	**-1.8**
COCO	**West Island**	**7.94**	**217**	*e*Pn	**Pn**	**01 13 02.4**	**-1.6**
GSI	**Gunungsitoli**	**8.22**	**330**	*e*Pn	**Pn**	**01 13 08.1**	**0.0**
GSI	**Gunungsitoli**	**8.22**	**330**	P	**Pn**	**01 13 07.5**	**-0.6**
UGM	**Wanagama**	**8.97**	**104**	*e*Pn	**Pn**	**01 13 18.4**	**0.0**
UGM	**Wanagama**	**8.97**	**104**	P	**Pn**	**01 13 17.3**	**-1.1**
PSI	**Prapat**	**9.04**	**342**	Pn	**Pn**	**01 13 15.8**	**-3.5**
	1.8nm,0.3s,baz=157,slow=23,SNR=5.3						
PSI				Sn	**Sn**	**01 14 51.6**	**-8.4**
	0.4nm,0.3s,baz=318,slow=18,SNR=1.3						
SBUM	**Sibu**	**13.34**	**52**	*e*Pn	**Pn**	**01 14 20.4**	**+2.3**
KAPI	**Kappang**	**17.97**	**88**	LR	LR	01 23 36.1	
	comp=Z,62nm,18.3s,baz=271,slow=42						
CHAI	**Chaiyaphum**	**21.61**	**1**	P	**P**	**01 16 01.6**	**+3.3**
	23μm,1.1s						
KHON	**Khomkaen**	**22.07**	**3**	P	**P**	**01 16 05.7**	**+2.5**
	81μm,1.0s						
PBKT	**Sadao Pong**	**22.29**	**358**	P	**P**	**01 16 06.8**	**+1.3**
	6.2nm,1.1s						
UTTA	**Uttaradit**	**23.47**	**357**	P	**P**	**01 16 19.7**	**+2.0**
	18μm,0.8s						
NONG	**Nongkai**	**23.80**	**3**	P	**P**	**01 16 21.5**	**+0.6**
	0.3nm,0.8s,62nm						
PHRA	**Phrae**	**24.24**	**357**	P	**P**	**01 16 28.1**	**+3.2**
	1.3nm,1.0s,533nm						
CMAR	**Chiang Mai Arr**	**24.31**	**354**	P	**P**	**01 16 26.0**	**+0.4**
	9.5nm,0.9s,baz=184,slow=8.5,SNR=18						
CMAR				LR	LR	01 25 21.5	
	comp=Z,61nm,18.2s,baz=196,slow=35						
PALK	**Pallekele**	**24.70**	**302**	LR	LR	01 24 52.3	
	comp=Z,62nm,19.1s,baz=114,slow=34						
FITZ	**Fitzroy Crossi**	**26.33**	**120**	*e*P	**P**	**01 16 42.6**	**-1.4**
	7.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**26.33**	**120**	P	**P**	**01 16 44.3**	**+0.3**
	3.7nm,0.8s,baz=274,slow=13,SNR=3.8						
FITZ				LR	LR	01 26 53.3	
	comp=Z,29nm,21.7s,baz=328,slow=36						
H08S2	**Diego Garcia H**	**29.08**	**265**	T	T	01 48 01.6	
	baz=87,slow=75,SNR=78						
H08S3	**Diego Garcia H**	**29.09**	**265**	T	T	01 48 14.6	
	baz=87,slow=75,SNR=112						
H08S1	**Diego Carcia H**	**29.10**	**265**	T	T	01 48 03.9	
	baz=87,slow=75,SNR=54						
KMI	**Kunming**	**30.80**	**2**	P	**P**	**01 17 28.5**	**+4.5**
KMI				pmax	pmax		
	comp=Z,17nm,0.5s						
H01W3	**Cape Leeuwin H**	**31.08**	**160**	T	T	01 50 19.4	
	baz=338,slow=76,SNR=31						
H01W2	**Cape Leeuwin H**	**31.10**	**160**	T	T	01 50 17.7	
	baz=338,slow=76,SNR=33						
H01W1	**Cape Leeuwin H**	**31.10**	**160**	T	T	01 50 27.2	
	baz=338,slow=76,SNR=30						
WRA	**Warramunga Arr**	**34.65**	**117**	P	**P**	**01 17 57.5**	**0.0**
	4.5nm,0.8s,baz=290,slow=12,SNR=14						
WR1	**Warramunga Arr**	**34.65**	**117**	*e*P	**P**	**01 17 57.5**	**0.0**
ASAR	**Alice Springs**	**35.66**	**123**	P	**P**	**01 18 06.4**	**+0.1**
	1.9nm,0.6s,baz=302,slow=7.8,SNR=17						
ASAR				PcP	**PcP**	**01 20 34.6**	**+0.2**
	0.5nm,0.5s,baz=305,slow=3.3,SNR=3.2						
CD2	**Chengdu**	**36.60**	**3**	*e*P	**P**	**01 18 16.0**	**+1.8**
WHN	**Wuhan**	**38.16**	**18**	P	P	01 18 41.3	+14
XAN	**Xi'an**	**40.25**	**9**	P	**P**	**01 18 45.5**	**+0.7**
XAN				pP	pP	01 18 55.0	+1.0
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NJ2	**Nanjing**	**41.08**	**22**	*e*P	**P**	**01 18 53.5**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
LZH	**Lanzhou**	**41.76**	**3**	*e*P	P	01 19 06.5	+9.2
LZH				pP	pwP	01 19 13.5	+2.5
LZH				sP	sP	01 19 16.5	+6.1
STKA	**Stephens Creek**	**45.35**	**130**	*e*P	**P**	**01 19 27.1**	**+1.0**
	1.6nm,0.6s						
STKA	**Stephens Creek**	**45.35**	**130**	P	**P**	**01 19 26.6**	**+0.4**
	7.5nm,0.7s,baz=305,slow=7.3,SNR=21						
STKA				PcP	**PcP**	**01 21 05.3**	**0.0**
	0.8nm,0.4s,baz=325,slow=2.3,SNR=3.0						
HHC	**Hu-ho-hao-te**	**47.34**	**10**	*e*P	**P**	**01 19 45.5**	**+3.8**
HHC				S	**S**	**01 26 33.5**	**+0.2**
HHC				pmax	pmax		
	comp=Z,65nm,1.0s						
HHC				pmax	pmax		
	comp=Z,220nm,5.1s						
HHC				LR	LR		
	comp=N,920nm,15.6s						
HHC				LR	LR		
	comp=E,530nm,14.1s						
HHC				LR	LR		
	comp=Z,1μm,15.2s						
KS15	**Wonju Array Si**	**49.50**	**27**	*e*P	**P**	**01 19 58.9**	**+0.6**
KSRS	**Korea Array**	**49.53**	**28**	P	**P**	**01 19 59.8**	**+1.3**
	1.1nm,0.7s,baz=225,slow=6.7,SNR=4.7						
KSH	**Kashi**	**51.03**	**334**	P	**P**	**01 20 09.5**	**-0.5**
KSH				pmax	pmax		
	comp=Z,13nm,0.8s						
WMQ	**Urumqi**	**51.04**	**347**	*e*P	**P**	**01 20 11.8**	**+1.9**
WMQ				pP	pP	01 20 19.8	+0.4
WMQ				sP	pwP	01 20 24.3	+0.7
WMQ				LR	LR		
	comp=N,570nm,39.1s						
WMQ				LR	LR		
	comp=E,1μm,38.8s						
SONA0	**Songino Array**	**53.61**	**4**	*e*P	**P**	**01 20 29.1**	**0.0**
SONA0				*e*PcP	**PcP**	**01 21 36.1**	**+0.9**
SONM	**Songino Array**	**53.61**	**4**	P	**P**	**01 20 29.1**	**0.0**
	5.0nm,0.9s,baz=184,slow=6.8,SNR=21						
SONM				PcP	**PcP**	**01 21 36.1**	**+0.9**
	0.7nm,0.6s,baz=192,slow=4.1,SNR=2.0						
ARSB	**Arslanbob**	**53.81**	**333**	*e*P	**P**	**01 20 29.8**	**-0.9**
	13nm,1.1s						
MAJO	**Matsushiro**	**54.26**	**36**	*e*P	**P**	**01 20 34.1**	**+0.3**
MJAR	**Matsushiro Arr**	**54.26**	**36**	P	**P**	**01 20 34.1**	**+0.3**
	0.6nm,0.3s,baz=222,slow=7.4,SNR=3.0						
MK31	**Makanchi Array**	**55.18**	**344**	*e*P	**P**	**01 20 40.4**	**+0.1**
	3.8nm,0.8s						
MKAR	**Makanchi Array**	**55.18**	**344**	P	**P**	**01 20 41.1**	**+0.8**
	6.3nm,0.8s,baz=149,slow=8.9,SNR=41						
MAKZ	**Makanchi**	**55.28**	**344**	*e*P	**P**	**01 20 41.0**	**-0.1**
	2.7nm,1.0s						
USRK	**Ussuriysk Ar.**	**56.79**	**26**	P	**P**	**01 20 52.1**	**+0.2**
	3.2nm,0.6s,baz=210,slow=6.7,SNR=7.6						
GEYT	**Alibeck**	**59.49**	**321**	P	**P**	**01 21 10.9**	**-0.1**
	1.8nm,0.6s,baz=161,slow=6.0,SNR=7.5						
GYA0B	**ALIBECK ARRAY**	**59.49**	**321**	*e*P	**P**	**01 21 10.4**	**-0.5**
	3.7nm,0.8s						
KURK	**Kurchatov**	**59.76**	**343**	*e*P	**P**	**01 21 12.2**	**-0.3**
	5.8nm,0.8s						
ZAA0	**Zalesovo Array**	**61.25**	**349**	*e*P	**P**	**01 21 21.7**	**-0.8**
	8.9nm,0.9s						
ZALV	**Zalesovo Beam**	**61.25**	**349**	P	**P**	**01 21 23.2**	**+0.6**
	7.7nm,0.7s,baz=182,slow=4.9,SNR=24						
BRVK	**Borovoye**	**64.43**	**340**	*e*P	**P**	**01 21 42.7**	**-1.1**
	3.4nm,0.6s						
KMBO	**Kilima Mbogo**	**64.49**	**272**	*e*P	**P**	**01 21 44.3**	**-1.0**
	2.7nm,1.1s						
KMBO	**Kilima Mbogo**	**64.49**	**272**	P	**P**	**01 21 44.3**	**-1.0**
	1.3nm,0.8s,baz=69,slow=7.3,SNR=2.7						
ABKAR	**Akbulak array**	**65.82**	**331**	*e*P	**P**	**01 21 52.5**	**-0.3**
	6.0nm,0.8s						
MAW	**Mawson**	**67.02**	**195**	*e*P	**P**	**01 22 00.5**	**+0.3**
	1.0nm,1.1s						
MAW	**Mawson**	**67.02**	**195**	P	**P**	**01 22 00.5**	**+0.3**
	1.9nm,0.8s,baz=342,slow=5.5,SNR=4.2						
ARU	**Arti**	**71.40**	**336**	*e*P	**P**	**01 22 27.9**	**+0.4**
	4.4nm,0.7s						
KBZ	**Khabaz**	**72.33**	**319**	P	**P**	**01 22 33.7**	**+0.3**
	2.9nm,0.9s,baz=88,slow=7.9,SNR=5.7						
BOSA	**Boshof**	**75.35**	**242**	P	**P**	**01 22 51.5**	**-0.2**
	2.2nm,0.8s,baz=96,slow=6.6,SNR=4.4						
NRIK	**Noril'sk**	**75.66**	**355**	P	**P**	**01 22 51.7**	**-0.7**
	2.7nm,0.7s,baz=208,slow=5.6,SNR=4.2						
BR131	**Keskin Array S**	**77.18**	**313**	*e*P	**P**	**01 23 01.1**	**-0.7**
	2.5nm,0.8s						
BRTR	**Keskin Array B**	**77.18**	**313**	P	**P**	**01 23 01.9**	**+0.1**
	1.9nm,0.9s,baz=131,slow=7.4,SNR=14						
VNDA	**Vanda**	**78.08**	**169**	*e*P	**P**	**01 23 06.7**	**+0.7**
	3.1nm,0.9s						
VNDA	**Vanda**	**78.08**	**169**	P	**P**	**01 23 06.3**	**+0.4**
	2.3nm,0.7s,baz=312,slow=5.2,SNR=20						
SANT	**Santorini**	**82.48**	**308**	*e*P	**P**	**01 23 27.5**	**-2.9**
	30nm,1.1s						
AKASG	**Malin Array Be**	**83.56**	**322**	P	**P**	**01 23 34.5**	**-1.1**
	0.5nm,0.4s,baz=82,slow=4.4,SNR=4.0						
BUR08	**Bucovina Ar. S**	**85.29**	**319**	*e*P	**P**	**01 23 43.1**	**-1.5**
	4.3nm,1.1s						
KOLS	**Kolonicke sedl**	**87.48**	**320**	*e*P	**P**	**01 23 57.2**	**+2.0**
FINES	**FINESS Array B**	**88.30**	**332**	P	**P**	**01 23 59.5**	**+0.7**
	2.0nm,0.6s,baz=104,slow=5.4,SNR=17						
TTG	**Podgorica**	**88.37**	**313**	*e*P	**P**	**01 23 57.8**	**-1.7**
	17nm,1.1s						
VYHS	**Vyhne**	**89.64**	**319**	*e*P	**P**	**01 24 06.7**	**+1.3**
ARCES	**ARCESS Array B**	**90.66**	**340**	P	**P**	**01 24 10.0**	**+0.3**
	2.9nm,0.9s,baz=152,slow=5.5,SNR=5.4						
GERES	**GERESS Array B**	**93.06**	**319**	P	**P**	**01 24 22.0**	**+0.6**
	0.2nm,0.4s,baz=96,slow=6.5,SNR=4.0						
YKA	**Yellowknife Ar**	**117.50**	**18**	PKP	**PKPdf**	**01 29 52.8**	**-0.1**
	0.2nm,0.6s,baz=302,slow=1.7,SNR=5.4						
YKB5	**Yellowknife Ar**	**117.50**	**18**	*e*PKPdf	**PKPdf**	**01 29 52.9**	**-0.1**
NV01	**Mina Array Sit**	**131.38**	**42**	*e*PKPdf	**PKiKP**	**01 30 21.8**	**+0.3**
NVAR	**Mina Array Bea**	**131.38**	**42**	PKP	**PKiKP**	**01 30 21.8**	**+0.3**
	0.4nm

HNR				S		Sn	01 51 05.0 +4.7
	10nm,0.3s,baz=176,slow=12,SNR=2.1						
HNR				LR		LR	01 51 58.4
	comp=Z,257nm,20.3s,baz=258,slow=38						
PMG	**Port Moresby**	**8.66**	**252**	P		**Pn**	**01 50 49.2 -0.7**
	3.8nm,0.3s,baz=98,slow=9.5,SNR=4.1						
PMG				S		**Sn**	**01 52 30.1 +4.2**
	2.8nm,0.3s,baz=305,slow=18,SNR=2.7						
PMG				LR		LR	01 53 45.5
	comp=Z,138nm,19.4s,baz=356,slow=34						
WRA	**Warramunga Arr**	**24.36**	**235**	P		**P**	**01 53 55.4 -0.8**
	1.5nm,0.4s,baz=64,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**26.70**	**229**	P		**P**	**01 54 15.9 -1.6**
	0.4nm,0.4s,baz=61,slow=9.0,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**27.41**	**24**	T		T	02 22 44.8
	baz=202,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy**	**27.41**	**24**	T		T	02 22 44.4
	baz=202,slow=76,SNR=53						
H11S1	**WAKE ISLAND Hy**	**27.43**	**24**	T		T	02 22 44.0
	baz=202,slow=76,SNR=29						
STKA	**Stephens Creek**	**28.17**	**206**	P		**P**	**01 54 28.5 -1.8**
	1.2nm,0.6s,baz=40,slow=12,SNR=2.3						
STKA				LR		LR	02 05 05.8
	comp=Z,70nm,19.5s,baz=22,slow=35						
H11N1	**WAKE ISLAND Hy**	**28.59**	**23**	T		T	02 24 10.3
	baz=204,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.60**	**23**	T		T	02 24 12.0
	baz=204,slow=74						
H11N2	**WAKE ISLAND Hy**	**28.61**	**23**	T		T	02 24 36.8
	baz=204						
KSRS	**Korea Array**	**50.96**	**332**	LR		LR	02 14 48.9
	comp=Z,4.1nm,21.5s,baz=15,slow=30						
USRK	**Ussuriysk Ar.**	**54.98**	**339**	P		**P**	**01 58 08.9 +0.8**
	1.1nm,0.6s,baz=168,slow=8.4,SNR=3.2						
PETK	**Petropavlovsk-**	**59.66**	**2**	P		**P**	**01 58 42.3 +1.4**
	6.9nm,1.1s,baz=152,slow=6.5,SNR=3.3						
PETK				LR		LR	02 21 10.6
	comp=Z,12nm,21.7s,baz=93,slow=32						
CMAR	**Chiang Mai Arr**	**61.13**	**295**	P		**P**	**01 58 52.4 +0.8**
	1.2nm,0.4s,baz=119,slow=5.4,SNR=10						
SONM	**Songino Array**	**69.40**	**327**	P		**P**	**01 59 45.7 +1.1**
	1.5nm,0.8s,baz=133,slow=5.6,SNR=8.5						
ILAR	**Eielson Array**	**82.97**	**21**	P		**P**	**02 01 00.2 -0.8**
	0.4nm,0.5s,baz=248,slow=4.8,SNR=5.0						
MKAR	**Makanchi Array**	**83.55**	**319**	P		**P**	**02 01 04.2 -0.2**
	0.7nm,0.8s,baz=103,slow=5.4,SNR=5.7						
YKA	**Yellowknife Ar**	**95.89**	**28**	P		**P**	**02 02 02.3 -0.1**
	0.2nm,0.6s,baz=270,slow=4.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**153.44**	**286**	PKPbc		**PKPbc**	**02 08 34.4 -0.7**
	0.3nm,0.5s,baz=83,slow=1.8,SNR=9.4						
TORD				PKPab		**PKPab**	**02 08 46.4 -1.3**
	0.6nm,0.7s,baz=52,slow=3.8,SNR=5.5						
DBIC	**Dimbokro**	**160.48**	**271**	PKP		**PKPdf**	**02 08 35.0 -1.4**
	2.9nm,0.9s,baz=58,slow=2.1,SNR=3.0						
DBIC				PKPab		**PKPab**	**02 09 16.6 -1.4**
	5.8nm,1.0s,baz=68,slow=5.4,SNR=2.8						

*ISCJB **27** 01:53:49.5±0.4,24°.88N±0°.02×122°.44E±0°.02, h6km±2km,*
Error ellipse: s-maj=3.4km s-min=2.2km az=23.3
*JMA **27** 01:53:49.2±0.3,24°.84N×122°.42E, h1km±.3km, M3.2*
*TAP **27** 01:53:50.2,24°.88N×122°.36E, h7km, ML3.4, C*
ISC 27 01:53:49.5±1.1,24°.87N±0°.03×122°.43E±0°.02, h8km±9km, n67, σ0s53/121, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.42**	**289**	*i* P		**Pg**	**01 53 58.0 +0.3**
	baz=291						
TWB1				*i* S		**Sg**	**01 54 03.5 +0.3**
	baz=291						
EOS1	**EOS1**	**0.42**	**220**	*e*P		**Pb**	**01 53 58.9 -0.3**
	baz=212						
EOS1				*e*S		**Sb**	**01 54 06.0 +0.3**
	baz=212						
EGS		**0.45**	**267**	*i* P		**Pb**	**01 53 58.9 -0.9**
	baz=264						
EGS				S		**Sg**	**01 54 05.0 +0.8**
	baz=264						
NTC	**Toucheng**	**0.54**	**268**	*e*P		**Pg**	**01 54 00.3 +0.3**
	baz=267						
NTC				*e*S		**Sb**	**01 54 08.2 -1.1**
	baz=267						
TIPB	**Shuangxi**	**0.56**	**280**	P		**Pb**	**01 54 00.8 -0.8**
	baz=281						
TIPB				S		**Sb**	**01 54 08.8 -0.9**
	baz=281						
TWC	**Suao**	**0.59**	**244**	P		**Pg**	**01 54 01.0 +0.1**
	baz=239						
TWC				S		**Sb**	**01 54 10.0 -0.5**
	baz=239						
NWF	**Wu-fen Shan**	**0.62**	**289**	*i* P		**Pb**	**01 54 02.2 -0.4**
	baz=290						
NWF				*i* S		**Sb**	**01 54 11.2 -0.4**
	baz=290						
WFSB	**Wu-fen Shan**	**0.62**	**289**	*e*P		**Pb**	**01 54 02.2 -0.4**
	baz=290						
WFSB				*e*S		**Sb**	**01 54 11.0 -0.4**
	baz=290						
JYNG	**Yonagunijimaku**	**0.63**	**132**	P		**Pg**	**01 54 01.6 -0.1**
JYNG				S		**Sg**	**01 54 10.3 +0.4**
YOJ	**Yonaguni jima**	**0.67**	**128**	*e*P		**Pg**	**01 54 02.0 -0.4**
	baz=124						
YOJ				*e*S		**Sg**	**01 54 11.3 +0.1**
	baz=124						
YOJ	**Yonaguni jima**	**0.67**	**128**	P		**Pg**	**01 54 02.0 -0.4**
YOJ				S		**Sg**	**01 54 10.9 -0.2**
TWE	**Neicheng**	**0.71**	**258**	P		**Pb**	**01 54 03.5 -0.6**
	baz=255						
TWE				*i* S		**Sb**	**01 54 13.2 -0.7**
	baz=255						
SLBB	**Yuanshan**	**0.73**	**261**	*e*P		**Pb**	**01 54 04.3 -0.2**
	baz=259						
SLBB				*e*S		**Sb**	**01 54 14.2 -0.5**
	baz=259						
ENA	**Nanau**	**0.77**	**235**	P		**Pb**	**01 54 04.7 -0.4**
	baz=230						
ENA				S		**Sb**	**01 54 14.9 -0.8**
	baz=230						
TWA	**Mucha**	**0.77**	**278**	P		**Pb**	**01 54 05.6 +0.3**
	baz=278						
TWA				*i* S		**Sb**	**01 54 15.7 -0.2**
	baz=278						
YM07	**YM07**	**0.79**	**293**	P		**Pb**	**01 54 05.3 -0.3**
	baz=293						
YM07				S		**Sb**	**01 54 16.0 -0.5**
	baz=293						
ENTT	**Nioudou**	**0.82**	**254**	P		**Pb**	**01 54 05.7 -0.3**
	baz=251						
ENTT				S		**Sb**	**01 54 17.0 -0.2**
	baz=251						
PCYT	**Pengchaiyu**	**0.82**	**337**	*e*P		**Pg**	**01 54 04.8 -0.5**
	baz=341						
PCYT				*e*S		**Sb**	**01 54 17.3 +0.1**
	baz=341						
YM08	**YM08**	**0.82**	**293**	*e*P		**Pg**	**01 54 05.5 +0.2**
	baz=293						
YM08				*e*S		**Sg**	**01 54 16.3 +0.3**
	baz=293						
NHDH	**Xindian Distri**	**0.82**	**276**	*e*P		**Pb**	**01 54 05.8 -0.3**
	baz=276						
NHDH				*e*S		**Sb**	**01 54 16.9 -0.5**
	baz=276						
YM01	**YM01**	**0.82**	**289**	P		**Pg**	**01 54 05.4 +0.1**
	baz=290						
YM01				*e*S		**Sb**	**01 54 17.0 -0.4**
	baz=290						
YM11	**YM11**	**0.83**	**291**	*e*P		**Pb**	**01 54 06.2 0.0**
	baz=292						
YM10	**YM10**	**0.83**	**290**	P		**Pb**	**01 54 06.0 -0.4**
	baz=290						
YM10				*e*S		**Sb**	**01 54 18.0 +0.2**
	baz=290						
NWLT	**Wulai**	**0.85**	**264**	*e*P		**Pb**	**01 54 06.1 -0.4**
	baz=262						
NWLT				*e*S		**Sb**	**01 54 17.8 -0.3**
	baz=262						
TWY	**Chenhua**	**0.85**	**298**	*i* P		**Pb**	**01 54 06.7 +0.2**
	baz=300						
TWY				*i* S		**Sb**	**01 54 17.7 -0.4**
	baz=300						
TAP	**Taipei**	**0.85**	**281**	*e*P		**Pb**	**01 54 06.5 -0.1**
	baz=281						
TAP				S		**Sb**	**01 54 18.1 -0.1**
	baz=281						
TATO	**Taipei**	**0.86**	**277**	*e*P		**Pg**	**01 54 05.9 -0.1**
	baz=276						
TATO				*e*S		**Sg**	**01 54 17.3 +0.1**
	baz=276						
NDT	**Datong Townshi**	**0.87**	**252**	P		**Pb**	**01 54 07.1 +0.1**
	baz=250						
NDT				S		**Sb**	**01 54 19.8 +0.9**
	baz=250						
ANP	**Anpu**	**0.88**	**291**	*e*P		**Pb**	**01 54 07.1 0.0**
	baz=292						
ANP				*e*S		**Sb**	**01 54 18.9 -0.2**
	baz=292						
NTST	**Danshui**	**0.93**	**288**	*e*P		**Pb**	**01 54 08.3 +0.3**
	baz=289						
NTST				*e*S		**Sb**	**01 54 20.6 +0.1**
	baz=289						
TWS1	**Kuangyinshan**	**0.94**	**284**	*e*P		**Pb**	**01 54 07.9 -0.2**
	baz=284						
TWS1				S		**Sb**	**01 54 21.0 +0.2**
	baz=284						
YHNB	**Yeheng**	**0.98**	**258**	*e*P		**Pb**	**01 54 08.3 -0.4**
	baz=256						
YHNB				*e*S		**Sb**	**01 54 21.6 -0.3**
	baz=256						
NSK	**Sanguang**	**0.99**	**259**	P		**Pb**	**01 54 08.9 0.0**
	baz=257						
NSK				S		**Sb**	**01 54 22.9 +0.6**
	baz=257						
NACB	**Ninganchiao**	**1.03**	**228**	*e*P		**Pg**	**01 54 08.3 -0.9**
	baz=224						
NACB				*e*S		**Sg**	**01 54 22.1 -0.5**
	baz=224						
NNSB	**Datong**	**1.05**	**245**	*e*P		**Pg**	**01 54 09.3 -0.4**
	baz=243						
NNSB				*e*S		**Sb**	**01 54 23.4 -0.6**
	baz=243						
NNS	**Nan Shan**	**1.05**	**246**	P		**Pg**	**01 54 09.6 -0.1**
	baz=243						
NNS				*i* S		**Sb**	**01 54 24.2 +0.2**
	baz=243						
ETLH	**Xiulin Townshi**	**1.09**	**233**	*e*P		**Pg**	**01 54 10.3 -0.1**
	baz=230						
ETLH				*e*S		**Sb**	**01 54 25.4 +0.4**
	baz=230						
TWD	**Chiawan**	**1.09**	**224**	P		**Pb**	**01 54 10.7 0.0**
	baz=220						
TWD				S		**Sb**	**01 54 24.8 -0.3**
	baz=220						
ENLB	**Shoufeng**	**1.22**	**218**	*e*P		**Pn**	**01 54 13.8 +0.9**
	baz=215						
ENLB				*e*S		**Sn**	**01 54 30.6 +0.9**
	baz=215						
WHF	**Hehuan Shan**	**1.28**	**236**	P		**Pg**	**01 54 13.9 -0.2**
	baz=233						
WHF				S		**Sb**	**01 54 30.9 -0.1**
	baz=233						
TWT	**Tachien**	**1.30**	**242**	*e*P		**Pg**	**01 54 13.9 -0.5**
	baz=240						
TWT				S		**Sn**	**01 54 31.6 -0.2**
	baz=240						
IRIF	**Iriomote-Funau**	**1.30**	**114**	P		**Pn**	**01 54 13.6 -0.4**
IRIF				*e*S		**Sg**	**01 54 30.9 -0.5**
LIOB	**Emei**	**1.30**	**260**	*e*P		**Pn**	**01 54 13.4 -0.7**
	baz=259						
TDCB	**Techi**	**1.31**	**242**	*e*P		**Pn**	**01 54 14.1 -0.1**
	baz=240						
TDCB				*e*S		**Sn**	**01 54 32.2 +0.1**
	baz=240						
NSTT	**Nanjuang**	**1.32**	**260**	*e*P		**Pb**	**01 54 14.4 -0.1**
	baz=258						
NSTT				*e*S		**Sn**	**01 54 31.9 -0.1**
	baz=258						
ESL	**Shilin**	**1.39**	**221**	P		**Pg**	**01 54 16.1 -0.1**
	baz=218						
ESL				*e*S		**Sn**	**01 54 34.0 +0.1**
	baz=218						
CHGB	**Renai**	**1.40**	**235**	*e*P		**Pn**	**01 54 15.6 0.0**
	baz=232						
CHGB				*e*S		**Sn**	**01 54 34.5 +0.1**
	baz=232						
OWD	**Renai**	**1.46**	**232**	*e*P		**Pn**	**01 54 16.3 0.0**
	baz=229						
OWD				*e*S		**Sb**	**01 54 35.6 -0.3**
	baz=229						
WHP	**Taichung City**	**1.47**	**247**	*e*P		**Pg**	**01 54 18.2 +0.5**
	baz=245						
WHP				*e*S		**Sn**	**01 54 35.2 -0.8**
	baz=245						
HATJ	**Hateruma jima**	**1.50**	**123**	P		**Pb**	**01 54 17.8 +0.3**
HATJ				S		**Sb**	**01 54 37.1 +0.4**
EGFH	**Guangfu**	**1.51**	**217**	*e*P		**Pb**	**01 54 17.6 -0.1**
	baz=215						
EGFH				*e*S		**Sb**	**01 54 37.0 0.0**
	baz=215						
DPDB	**Guoxing**	**1.60**	**239**	*e*P		**Pb**	**01 54 19.2 -0.2**
	baz=237						
DPDB				*e*S		**Sb**	**01 54 39.5 -0.4**
	baz=237						
VWDT	**VWDT**	**1.62**	**227**	*e*P		**Pn**	**01 54 18.8 +0.4**
	baz=224						
JIJ	**Ishigaki jima**	**1.64**	**108**	*e*S		**Sb**	**01 54 41.4 +0.5**
HGSD	**Ruisui**	**1.65**	**214**	*e*P		**Pn**	**01 54 19.0 +0.2**
	baz=211						
SMLT	**Sun Moon Lake**	**1.71**	**235**	*e*P		**Pb**	**01 54 21.0 -0.2**
	baz=233						
SSLB	**Suanglung**	**1.73**	**232**	*e*P		**Pg**	**01 54 22.2 -0.4**
	baz=229						
SSLB				*e*S		**Sb**	**01 54 42.8 -0.5**
	baz=229						
TYC	**Yuchr**	**1.73**	**236**	*e*P		**Pb**	**01 54 21.5 0.0**
	baz=234						
TYC				*e*S		**Sn**	**01 54 42.4 +0.3**
	baz=234						
TWF1	**Yuli**	**1.83**	**215**	*e*P		**Pn**	**01 54 19.8 -1.6**
	baz=212						
WHYT	**Xinyi Township**	**1.85**	**231**	*e*P		**Pb**	**01 54 22.9 -0.8**
	baz=229						
WHYT				*e*S		**Sn**	**01 54 45.8 +0.5**
	baz=229						
YUS	**Yu-Shan**	**1.93**	**225**	*e*P		**Pn**	**01 54 22.9 -0.2**
	baz=222						
ALS	**Alishan**	**2.01**	**228**	*e*P		**Pn**	**01 54 25.1 +1.1**
	baz=225						
CHN5	**Tsauling**	**2.04**	**232**	*e*P		**Pn**	**01 54 25.1 +0.8**
	baz=230						
CHN4	**Tsaushan**	**2.26**	**228**	*e*P		**Pn**	**01 54 28.5 +1.3**
	baz=226						
CHN4				*e*S		**Sn**	**01 54 56.0 +0.7**
	baz=226						
WTP	**Ta-pu**	**2.32**	**226**	*e*P		**Pn**	**01 54 29.5 +1.5**
	baz=224						
TWK	**Hsinying**	**2.39**	**228**	*e*P		**Pn**	**01 54 30.0 +1.0**
	baz=226						
CHN1	**Nanshi**	**2.42**	**226**	*e*P		**Pn**	**01 54 31.2 +1.8**
	baz=224						

JMA 27 02:15:58.3±0.2,38°.36N×144°.65E, h48km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.44**	**288**	P		Pn	02 16 37.0 +1.4
JIKH	**Ishinomakikobu**	**2.50**	**270**	P		Pn	02 16 37.6 +1.1
JIKH				S		Sn	02 17 07.0 +1.2
MIYJ	**Miyakonagasawa**	**2.52**	**300**	P		Pn	02 16 37.8 +1.1
JKMT	**Kesennumamotoy**	**2.53**	**281**	P		Pn	02 16 38.2 +1.3
JKMT				S		Sn	02 17 07.6 +1.2
JMK	**Ichinoseki**	**2.75**	**283**	P		Pn	02 16 41.6 +1.7
JOM	**Ohasama**	**2.84**	**294**	P		Pn	02 16 42.8 +1.6
JOM				S		Sn	02 17 15.4 +1.2
JANG	**Nango**	**3.15**	**311**	P		Pn	02 16 46.2 +0.8
JYK	**Kaneyama**	**3.41**	**281**	P		Pn	02 16 51.2 +2.3
JFT	**Otama**	**3.51**	**257**	P		Pn	02 16 52.7 +2.3
JFT				S		Sn	02 17 32.9 +2.2
JOT	**Ohata**	**4.10**	**319**	P		Pn	02 17 00.0 +1.6
JCH	**Churui**	**4.36**	**347**	P		Pn	02 17 01.2 -0.8
JCH				S		Sn	02 17 48.8 -2.7
JKB	**Kayabe**	**4.48**	**323**	P		Pn	02 17 05.2 +1.6
JRY	**Ryogami san**	**5.15**	**245**	P		Pn	02 17 14.2 +1.3
JRY				S		Sn	02 18 10.2 -0.8
JOSM	**Okushiri--Mats**	**5.43**	**315**	P		Pn	02 17 18.2 +1.5
JTKR	**Abashiri--Toko**	**5.63**	**355**	P		Pn	02 17 18.6 -0.8
JTKR				S		Sn	02 18 18.2 -4.6

*KRNET **27** 02:17:35.8±0.1,41°.24N×71°.56E, h11km, mb3.4*
*SOME **27** 02:17:36.7,41°.15N×71°.60E, h10km*
*NNC **27** 02:17:42.4±2.2,41°.48N×71°.65E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=21.1km s-min=9.8km az=7.0
ISC 27 02:17:35.6±1.1,41°.22N±0°.03×71°.67E±0°.03, h8km±12km, n43, σ1s18/66, 13C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.99**	**84**	⇑*i*P		**Pn**	**02 17 56.1 +0.1**
	baz=85						
ARSB				⇑*i*S		**Sn**	**02 18 11.8 +1.5**
	baz=85						
BTK	**Batken**	**1.33**	**210**	⇓*i*P		**Pg**	**02 18 00.6 -0.5**
	baz=6.0						
BTK				⇓*i*S		**Sg**	**02 18 19.3 +0.9**
	baz=6.0						
IUG	**Iuzhnay**	**1.54**	**308**	*e*P		**Pg**	**02 18 05.5 +0.4**
	52nm,0.2s						
IUG				*e*S		**Sg**	**02 18 26.2 +1.1**
	157nm,0.3s						
DZA	**Taraz**	**1.69**	**351**	*e*P		**Pg**	**02 18 07.5 -0.6**
	133nm,0.1s						
DZA				*e*S		**Sg**	**02 18 29.5 -0.5**
	346nm,0.2s						
DRK	**Karamyk**	**1.74**	**177**	⇓*i*P		**Pg**	**02 18 08.6 -0.4**
	baz=74						
DRK				⇓*i*S		**Sg**	**02 18 32.9 +1.3**
	baz=74						
AML	**Almayashu**	**1.77**	**58**	P		**Pg**	**02 18 10.6 +1.1**
	SNR=84						
AML	**Almayashu**	**1.77**	**58**	⇓*i*P		**Pg**	**02 18 10.6 +1.1**
	baz=60						
AML				⇓*i*S		**Sg**	**02 18 35.5 +3.0**
	baz=60						
CHM	**Chimkent**	**1.90**	**306**	*e*P		**Pg**	**02 18 11.9 -0.1**
	122nm,0.2s						
CHM				*e*S		**Sg**	**02 18 37.6 +1.0**
	347nm,0.3s						
MRKS	**Merke**	**1.92**	**37**	Pg		**Pg**	**02 18 13.4 +1.1**
	57nm,0.1s						
MRKS				Lg		Lg	02 18 39.2
	69nm,0.3s						
MRKS	**Merke**	**1.92**	**37**	*e*P		**Pg**	**02 18 13.4 +1.1**
	57nm,0.1s						
MRKS				*e*S		**Sg**	**02 18 39.2 +2.0**
	69nm,0.3s						
KK31	**Karatay Array**	**2.07**	**336**	⇑Pn		**Pg**	**02 18 14.3 -1.1**
	4.4nm,0.3s,baz=159,slow=13,SNR=30						
KK31				⇑Lg		Lg	02 18 41.8
	22nm,0.3s,baz=154,slow=29,SNR=19						
ARLS	**Aral**	**2.09**	**71**	⇓*i*P		**Pg**	**02 18 15.8 +0.1**
	baz=72						
ARLS				⇓*i*S		**Sg**	**02 18 44.4 +1.6**
	baz=72						
EKS2	**Erkin-Say**	**2.13**	**47**	P		**Pg**	**02 18 17.6 +1.2**
	SNR=38						
EKS2	**Erkin-Say**	**2.13**	**47**	⇑*i*P		**Pg**	**02 18 15.8 -0.7**
	baz=49						
EKS2				⇑*i*S		**Sg**	**02 18 44.4 +0.3**
	baz=49						
UCH	**Uchtor**	**2.35**	**64**	P		**Pg**	**02 18 21.8 +1.0**
	SNR=34						
UCH	**Uchtor**	**2.35**	**64**	⇑*i*P		**Pg**	**02 18 19.4 -1.4**
	baz=65						
UCH				⇑*i*S		**Sg**	**02 18 51.2 -0.1**
	baz=65						
AAK	**Ala-Archa**	**2.54**	**55**	P		**Pg**	**02 18 24.6 +0.4**
	SNR=66						
AAK	**Ala-Archa**	**2.54**	**55**	⇑Pn		**Pg**	**02 18 24.5 +0.2**
	31nm,0.5s						
AAK				⇓Lg		Lg	02 18 58.5
	9.9nm,0.4s						
AAK	**Ala-Archa**	**2.54**	**55**	⇑*i*P		**Pb**	**02 18 21.9 +0.4**
	baz=56						
AAK				⇑*i*S		**Sb**	**02 18 54.7 +1.7**
	baz=56						
KZA	**Kyzart**	**2.81**	**71**	P		**Pg**	**02 18 29.8 +0.2**
	SNR=21						
KZA	**Kyzart**	**2.81**	**71**	⇓*i*P		**Pb**	**02 18 26.2 -0.2**
	baz=72						
KZA				⇓*i*S		**Sb**	**02 19 02.5 +1.3**
	baz=72						
KBK	**Karagaybulak**	**2.83**	**58**	P		**Pg**	**02 18 30.2 +0.3**
	SNR=28						
KBK	**Karagaybulak**	**2.83**	**58**	⇓*i*P		**Pb**	**02 18 25.8 -0.8**
	baz=60						
KBK				⇓*i*S		**Sb**	**02 19 02.0 +0.5**
	baz=60						
CHMS	**Chumysh**	**2.90**	**51**	P		**Pg**	**02 18 31.3 +0.1**
	SNR=28						
CHMS	**Chumysh**	**2.90**	**51**	⇓*i*P		**Pb**	**02 18 26.4 -1.2**
	baz=52						
CHMS				⇓*i*S		**Sb**	**02 19 03.0 -0.3**
	baz=52						
USP	**Ospenovka**	**2.93**	**45**	P		**Pg**	**02 18 31.0 -0.8**
	SNR=11						
NRN	**Naryn**	**3.27**	**85**	⇑*i*P		**Pb**	**02 18 31.9 -2.2**
	baz=85						
NRN				⇑*i*S		**Sb**	**02 19 13.0 -1.1**
	baz=85						
TKM2	**Tokmak 2**	**3.38**	**59**	P		**Pg**	**02 18 40.1 -0.3**
	SNR=9.6						
TKM2	**Tokmak 2**	**3.38**	**59**	⇓Pn		**Pg**	**02 18 38.4 -2.0**
	2.6nm,0.3s						
TKM2				⇓Lg		Lg	02 19 27.9
	8.9nm,0.6s						
DGS	**Degeres**	**3.65**	**55**	Pg		**Pg**	**02 18 44.7 -0.9**
	20nm,0.5s						
DGS				Lg		Lg	02 19 32.8
	30nm,0.6s						
DGS	**Degeres**	**3.65**	**55**	*e*P		**Pg**	**02 18 44.9 -0.7**
	20nm,0.5s						
DGS				*e*S		**Sg**	**02 19 33.6 +0.6**
	30nm,0.6s						
MTBS	**Maitube**	**4.02**	**60**	*e*P		**Pg**	**02 18 51.3 -1.3**
	6.0nm,0.3s						
MTBS				*e*S		**Sg**	**02 19 44.5 -0.1**
	7.2nm,0.5s						
IZV	**Izvestkoviy**	**4.10**	**62**	Pg		**Pg**	**02 18 53.4 -0.7**
	5.5nm,0.3s						
IZV				Lg		Lg	02 19 47.8
	8.9nm,0.6s						
IZV	**Izvestkoviy**	**4.10**	**62**	*e*P		**Pg**	**02 18 53.2 -0.9**
	5.5nm,0.3s						
IZV				*e*S		**Sg**	**02 19 47.8 +0.6**
	8.9nm,0.6s						
TNSS	**Tian-Shan**	**4.32**	**63**	Pg		**Pg**	**02 18 57.5 -0.9**
	5.9nm,0.4s						
TNSS				Lg		Lg	02 19 54.8
	7.3nm,0.4s						
TNSS	**Tian-Shan**	**4.32**	**63**	*e*P		**Pg**	**02 18 57.5 -0.9**
	5.9nm,0.4s						
TNSS				*e*S		**Sg**	**02 19 54.8 +0.3**
	7.3nm,0.4s						
KUU	**Kurty**	**4.36**	**51**	Pg		**Pg**	**02 18 57.2 -2.0**
	1.9nm,0.2s						
KUU				Lg		Lg	02 19 54.2
	14nm,0.5s						
KUU	**Kurty**	**4.36**	**51**	*e*P		**Pg**	**02 18 57.2 -2.0**
	1.9nm,0.2s						
KUU				*e*S		**Sg**	**02 19 54.2 -1.4**
	14nm,0.5s						
MDOK	**Medeo**	**4.44**	**62**	⇓Pg		**Pg**	**02 19 02.3 +1.6**
	4.2nm,0.4s						
MDOK				⇓Lg		Lg	02 20 01.6
	8.4nm,0.6s						
MDOK	**Medeo**	**4.44**	**62**	Pg		**Pg**	**02 18 59.4 -1.3**
	7.0nm,0.4s						
MDOK				Lg		Lg	02 19 58.0
	5.8nm,0.5s						
MDOK	**Medeo**	**4.44**	**62**	*e*P		**Pg**	**02 18 59.4 -1.3**
	7.0nm,0.4s						
MDOK				*e*S		**Sg**	**02 19 58.0 -0.2**
	5.8nm,0.5s						
KTBS	**Karatobe**	**4.46**	**54**	Pg		**Pg**	**02 18 59.1 -2.1**
	6.3nm,0.3s						
KTBS				Lg

Ms1 3.8/15,ms1mx3.7/22,Error ellipse: s-maj=16.3km s-min=13.8km az=165.0
NEIC ***27*** *02:30:27.6±1.5,46°.05S×13°.63W,h10km±1km,mb4.5/12, Error ellipse: s-maj=22.4km s-min=17.3km az=45.0*
BJI ***27*** *02:30:32.0±0.0,46°.50S×14°.30W,h10km,mB5.4/1, Ms5.3/2,Ms7 5.1/1*

ISC 27 02:30:28.4±0.4,46°.11S±0°.09×13°.78W±0°.09,h10km,n61, σ1°.81/60,mb4.1/24,MS3.8/16,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**24.76**	**176**	P	**P**	**02 35 52.1**	**+2.4**
VNA2	**Neumayer--Watz**	**25.08**	**175**	P	**P**	**02 35 52.4**	**-0.2**
	baz=343,slow=11						
VNA3	**Neumayer Olymp**	**25.29**	**177**	P	**P**	**02 35 55.7**	**+1.2**
SNAA	**Sanae**	**26.16**	**172**	P	**P**	**02 36 05.4**	**+2.8**
SNAA	**Sanae**	**26.16**	**172**	*eP*	**P**	**02 36 00.7**	**-1.8**
	3.6nm,0.9s						
SNAA	**Sanae**	**26.16**	**172**	P	**P**	**02 36 01.2**	**-1.4**
	3.4nm,0.9s,baz=352,slow=8.5,SNR=11						
SNAA				LR	LR	02 43 38.7	
	comp=Z,113nm,20.2s,baz=4.5,slow=30						
USHA	**Ushuaia**	**35.04**	**235**	P	**P**	**02 37 19.2**	**-1.8**
	7.4nm,0.9s,baz=78,slow=14,SNR=2.0						
BOSA	**Boshof**	**35.18**	**74**	P	**P**	**02 37 22.1**	**-0.5**
	2.6nm,1.0s,baz=208,slow=15,SNR=2.3						
BOSA				LR	LR	02 48 55.8	
	comp=Z,498nm,19.8s,baz=215,slow=32						
H10S2	**ASCENSION HYDR**	**37.02**	**359**	T	T	03 17 18.8	
	baz=179,slow=75,SNR=4.9						
H10S3	**ASCENSION HYDR**	**37.03**	**359**	T	T	03 17 19.5	
	baz=179,slow=75,SNR=6.7						
H10S1	**ASCENSION HYDR**	**37.04**	**359**	T	T	03 17 16.2	
	baz=179,slow=75,SNR=5.8						
TSUM	**Tsumeb**	**37.22**	**54**	P	**P**	**02 37 38.2**	**-1.9**
	3.2nm,0.9s,baz=232,slow=11,SNR=3.7						
CPUP	**Villa Florida**	**39.70**	**285**	P	**P**	**02 38 01.1**	**+0.3**
	1.3nm,0.7s,baz=141,slow=6.4,SNR=4.4						
CPUP				PcP	**PcP**	**02 40 06.6**	**-0.7**
	0.9nm,0.7s,baz=220,slow=6.0,SNR=3.7						
CPUP				LR	LR	02 50 11.3	
	comp=Z,122nm,21.6s,baz=138,slow=30						
PLCA	**Paso Flores**	**40.84**	**256**	P	**P**	**02 38 10.2**	**0.0**
	1.6nm,1.0s,baz=117,slow=18,SNR=2.2						
PLCA				PcP	**PcP**	**02 40 10.6**	**-0.3**
	0.9nm,0.7s,baz=216,slow=11,SNR=2.1						
PLCA				LR	LR	02 51 14.1	
	comp=Z,150nm,20.8s,baz=147,slow=30						
BDFB	**Brasilia**	**41.71**	**305**	P	**P**	**02 38 17.8**	**+0.3**
	1.7nm,0.6s,baz=134,slow=4.9,SNR=4.6						
BDFB				LR	LR	02 52 40.6	
	comp=Z,161nm,19.4s,baz=131,slow=32						
MATP	**Matopo**	**42.94**	**68**	P	**P**	**02 38 25.3**	**-2.3**
	1.0nm,0.6s,baz=224,slow=13,SNR=2.8						
MAW	**Mawson**	**43.52**	**147**	*eP*	**P**	**02 38 30.0**	**-1.6**
MAW	**Mawson**	**43.52**	**147**	P	**P**	**02 38 28.8**	**-2.8**
	2.0nm,0.6s,baz=265,slow=8.7,SNR=10.0						
MAW				PcP	**PcP**	**02 40 19.0**	**-0.2**
	0.9nm,0.6s,baz=70,slow=16,SNR=1.8						
MAW				LR	LR	02 53 38.4	
	comp=Z,53nm,20.6s,baz=90,slow=32						
CFA	**Coronel Fontan**	**43.98**	**269**	P	**P**	**02 38 35.4**	**-0.4**
	1.9nm,0.8s,baz=132,slow=7.7,SNR=6.9						
CFA				PcP	**PcP**	**02 40 21.3**	**-0.1**
	1.2nm,0.7s,baz=12,slow=1.9,SNR=3.7						
QSPA	**South Pole Qui**	**44.15**	**180**	*eP*	**P**	**02 38 35.5**	**-1.4**
	5.2nm,1.0s						
GO04	**Tololo Observa**	**46.60**	**269**	*eP*	**P**	**02 38 55.9**	**-0.9**
	9.1nm,0.8s						
LCO	**Las Campanas**	**47.22**	**271**	*eP*	**P**	**02 39 01.8**	**0.0**
	8.4nm,0.8s						
GO02	**Mina Guanaco**	**48.85**	**275**	*eP*	**P**	**02 39 14.3**	**-0.1**
	18nm,0.7s						
PB11	**IPOC Station P**	**52.49**	**281**	*eP*	**P**	**02 39 40.9**	**-0.8**
	11nm,1.0s						
DBIC	**Dimbokro**	**53.14**	**11**	P	**P**	**02 39 44.5**	**-1.8**
	3.3nm,0.8s,baz=210,slow=8.1,SNR=3.2						
DBIC				LR	LR	02 56 56.5	
	comp=Z,74nm,20.4s,baz=146,slow=30						
LPAZ	**La Paz**	**53.87**	**285**	P	**P**	**02 39 52.0**	**-0.6**
	0.7nm,0.7s,baz=145,slow=5.4,SNR=3.9						
LPAZ				LR	LR	03 03 25.9	
	comp=Z,61nm,18.1s,baz=70,slow=37						
SBA	**Scott Base**	**56.31**	**180**	*eP*	**P**	**02 40 10.1**	**+1.5**
	6.9nm,1.1s						
VNDA	**Vanda**	**56.62**	**179**	*eP*	**P**	**02 40 11.2**	**+0.5**
	1.6nm,1.0s						
VNDA	**Vanda**	**56.62**	**179**	P	**P**	**02 40 11.3**	**+0.5**
	2.5nm,1.1s,baz=220,slow=9.4,SNR=8.7						
VNDA				LR	LR	03 03 07.3	
	comp=Z,65nm,18.2s,baz=166,slow=35						
TORD	**Torodi Ar. Bea**	**60.61**	**17**	P	**P**	**02 40 38.7**	**-0.5**
	2.1nm,1.1s,baz=168,slow=7.6,SNR=6.0						
TORD				LR	LR	03 01 17.6	
	comp=Z,80nm,21.9s,baz=175,slow=30						
KMBO	**Kilima Mbogo**	**63.16**	**61**	LR	LR	03 05 29.1	
	comp=Z,129nm,20.4s,baz=255,slow=33						
OTAV	**Otavalo**	**72.87**	**289**	*eP*	**P**	**02 41 58.4**	**+0.2**
	2.6nm,1.0s						
ROSC	**El Rosal**	**73.70**	**295**	*eP*	**P**	**02 42 03.2**	**+0.2**
	4.4nm,1.1s						
ROSC	**El Rosal**	**73.70**	**295**	P	**P**	**02 42 03.2**	**+0.2**
	1.2nm,0.3s,baz=120,slow=20,SNR=2.9						
ROSC				LR	LR	03 11 58.9	
	comp=Z,54nm,21.7s,baz=78,slow=34						
KEST	**Kesra**	**84.09**	**19**	*eP*	**P**	**02 42 59.3**	**+0.2**
	9.8nm,1.1s						
KEST	**Kesra**	**84.09**	**19**	P	**P**	**02 42 59.3**	**+0.2**
	2.3nm,0.9s,baz=266,slow=12,SNR=2.5						
JTS	**Las Juntas de**	**84.64**	**291**	LR	LR	03 20 10.0	
	comp=Z,35nm,19.2s,baz=184,slow=35						
ESDC	**Sonseca Array**	**85.85**	**8**	P	**P**	**02 43 07.2**	**-0.6**
	0.3nm,0.3s,baz=183,slow=6.7,SNR=7.9						
APG	**El Apazote**	**91.72**	**290**	LR	LR	03 22 43.0	
	comp=Z,56nm,20.9s,baz=195,slow=34						
CMIG	**Matias Romero**	**96.11**	**288**	LR	LR	03 26 29.4	
	comp=Z,34nm,18.6s,baz=107,slow=35						
KSH	**Kashi**	**116.93**	**60**	PKP	**PKiKP**	**02 49 18.3**	**+5.3**
KSH				PP	PP	02 50 32.5	+10
KSH				SKS	**SKSdf**	**02 56 28.8**	**+3.9**
KSH				SKKS	**SKKSac**	**02 57 25.8**	**+2.9**
KSH				LR	LR		
	comp=E,160nm,7.6s						
PD31	**Pinedale Array**	**122.52**	**300**	*e*PKPdf	**PKPdf**	**02 49 22.6**	**-1.2**
PDAR	**Pinedale Array**	**122.52**	**300**	PKP	**PKPdf**	**02 49 22.6**	**-1.2**
	0.4nm,0.6s,baz=116,slow=3.4,SNR=3.5						
KURBB	**Kurchatov Arra**	**124.86**	**51**	PKP	**PKPdf**	**02 49 26.6**	**-1.0**
	1.0nm,0.7s,baz=246,slow=2.3,SNR=6.3						
MK32	**Makanchi Array**	**124.92**	**56**	*e*PKPdf	**PKPdf**	**02 49 27.1**	**-0.8**
MKAR	**Makanchi Array**	**124.92**	**56**	PKP	**PKPdf**	**02 49 27.1**	**-0.8**
	0.2nm,0.5s,baz=228,slow=1.7,SNR=2.7						
NV01	**Mina Array Sit**	**125.57**	**291**	*e*PKPdf	**PKiKP**	**02 49 30.8**	**+0.7**
NVAR	**Mina Array Bea**	**125.57**	**291**	PKP	**PKiKP**	**02 49 30.8**	**+0.7**
	0.7nm,0.6s,baz=131,slow=2.5,SNR=3.2						
WMQ	**Urumqi**	**126.57**	**62**	*e*PKP	**PKiKP**	**02 49 36.8**	**+5.1**
CD2	**Chengdu**	**130.06**	**85**	PKP	**PKiKP**	**02 49 43.0**	**+3.9**
YKA	**Yellowknife Ar**	**134.18**	**321**	PKP	**PKPdf**	**02 49 44.7**	**-0.2**
	0.5nm,0.7s,baz=111,slow=2.2,SNR=8.7						
YKB5	**Yellowknife Ar**	**134.18**	**321**	*e*PKPdf	**PKPdf**	**02 49 44.7**	**-0.2**
SONA0	**Songino Array**	**140.03**	**65**	*e*PKPdf	**PKPdf**	**02 49 56.0**	**-0.5**
SONM	**Songino Array**	**140.03**	**65**	PKP	**PKPdf**	**02 49 56.0**	**-0.5**
	0.7nm,0.7s,baz=279,slow=2.9,SNR=5.4						
HHC	**Hu-ho-hao-te**	**140.65**	**77**	*e*PKP	**PKiKP**	**02 50 03.0**	**+2.6**
HHC				LR	LR		
	comp=N,320nm,19.6s						
HHC				LR	LR		
	comp=Z,300nm,20.2s						
NJ2	**Nanjing**	**141.21**	**94**	*e*PKP	**PKiKP**	**02 50 05.8**	**+4.2**
ILAR	**Eielson Array**	**148.52**	**323**	PKPbc	**PKPbc**	**02 50 13.1**	**-1.0**
	2.3nm,0.7s,baz=355,slow=1.2,SNR=28						
KS15	**Wonju Array Si**	**150.36**	**93**	*e*PKPbc	**PKPbc**	**02 50 18.4**	**-1.1**
KSRS	**Korea Array**	**150.40**	**93**	PKPbc	**PKPbc**	**02 50 18.5**	**-1.1**
	0.6nm,0.5s,baz=245,slow=29,SNR=6.4						
MAJO	**Matsushiro**	**156.99**	**105**	*e*PKPab	**PKPab**	**02 50 52.7**	**-1.4**
MJAR	**Matsushiro Arr**	**156.99**	**105**	PKPab	**PKPab**	**02 50 52.7**	**-1.4**
	1.0nm,0.5s,baz=242,slow=2.6,SNR=3.0						

NNC ***27*** *02:48:59.4±1.1,42°.09N×81°.06E,h0km,mb3.5,mpv3.4, Error ellipse: s-maj=7.6km s-min=5.8km az=158.0*
SOME ***27*** *02:48:59.1,42°.07N×81°.05E,h10km*

ISC 27 02:49:01.6±2.3,42°.14N±0°.08×80°.90E±0°.06,h7km±12km, n35,σ1°.75/59,6C-8D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.36**	**343**	P	**Pn**	**02 49 26.0**	**-1.2**
	58nm,0.3s						
KTMS				S	**Sg**	**02 49 46.1**	**+0.6**
	184nm,0.2s						
KTMS	**Ketmen**	**1.36**	**343**	*e*P	**Pb**	**02 49 26.9**	**-0.7**
	58nm,0.3s						
KTMS				*e*S	**Sg**	**02 49 46.8**	**+1.4**
	184nm,0.2s						
SHLS	**Shalkode**	**1.47**	**314**	P	**Pn**	**02 49 25.6**	**-3.1**
	114nm,0.1s						
SHLS				S	**Sn**	**02 49 44.5**	**-3.8**
	283nm,0.3s						
SHLS	**Shalkode**	**1.47**	**314**	*e*P	**Pn**	**02 49 25.5**	**-3.1**
	114nm,0.1s						
SHLS				*e*S	**Sn**	**02 49 44.4**	**-3.8**
	283nm,0.3s						
PDGK	**Podgornoye**	**1.57**	**319**	P	**Pn**	**02 49 29.9**	**-0.2**
	8.0nm,0.1s						
PDGK				S	**Sb**	**02 49 52.2**	**+0.8**
	16nm,0.3s						
PDGK	**Podgornoye**	**1.57**	**319**	⇓P	**Pn**	**02 49 29.9**	**-0.2**
	5.5nm,0.3s						
PDGK				⇓S	**Sg**	**02 49 54.0**	**+1.8**
	28nm,0.5s						
UZB	**Uzynbulak**	**1.71**	**307**	P	**Pb**	**02 49 33.2**	**-0.3**
	11nm,0.2s						
UZB				S	**Sg**	**02 49 58.0**	**+1.5**
	42nm,0.4s						
UZB	**Uzynbulak**	**1.71**	**307**	*e*P	**Pb**	**02 49 33.6**	**+0.1**
	11nm,0.2s						
UZB				*e*S	**Sg**	**02 49 58.6**	**+2.1**
	42nm,0.4s						
SATY	**Saty**	**2.05**	**297**	Pg	**Pb**	**02 49 38.7**	**-0.7**
	22nm,0.3s						
SATY				Lg	Lg	02 50 07.2	
	42nm,0.1s						
SATY	**Saty**	**2.05**	**297**	*e*P	**Pb**	**02 49 38.9**	**-0.4**
	22nm,0.3s						
KPKS	**Kokpek**	**2.10**	**310**	*e*P	**Pb**	**02 49 40.2**	**+0.1**
	15nm,0.2s						
KPKS				*e*S	**Sg**	**02 50 09.8**	**+0.9**
	166nm,0.4s						
DJR	**Jarkent**	**2.33**	**340**	Pg	**Pb**	**02 49 43.6**	**-0.5**
	3.7nm,0.2s						
DJR				Lg	Lg	02 50 15.7	
	21nm,0.4s						
DJR	**Jarkent**	**2.33**	**340**	*e*P	**Pb**	**02 49 42.6**	**-1.5**
	3.7nm,0.2s						
DJR				*e*S	**Sb**	**02 50 14.8**	**+1.6**
	21nm,0.4s						
KURS	**Kuram**	**2.42**	**305**	*e*P	**Pb**	**02 49 45.9**	**+0.4**
	4.6nm,0.7s						
KURS				*e*S	**Sg**	**02 50 19.4**	**+0.3**
	18nm,0.6s						
MNBS	**Baschi**	**2.66**	**317**	Pg	**Pb**	**02 49 48.9**	**-0.8**
	3.1nm,0.2s						
MNBS				Lg	Lg	02 50 25.1	
	39nm,0.3s						
MNBS	**Baschi**	**2.66**	**317**	*e*P	**Pb**	**02 49 48.9**	**-0.8**
	3.1nm,0.2s						
MNBS				*e*S	**Sb**	**02 50 25.1**	**+2.5**
	39nm,0.3s						
MDOK	**Medeo**	**3.02**	**291**	⇑Pg	**Pg**	**02 49 57.7**	**-1.7**
	2.8nm,0.4s						
MDOK				Lg	Lg	02 50 40.1	
	8.1nm,0.6s						
MDOK	**Medeo**	**3.02**	**291**	Pg	**Pb**	**02 49 56.6**	**+0.9**
	3.8nm,0.3s						
MDOK				Lg	Lg	02 50 37.9	
	9.8nm,0.5s						
MDOK	**Medeo**	**3.02**	**291**	*e*P	**Pb**	**02 49 56.6**	**+0.9**
	3.8nm,0.3s						
MDOK				*e*S	**Sg**	**02 50 37.9**	**-0.6**
	9.8nm,0.5s						
TNSS	**Tian-Shan**	**3.05**	**288**	Pg	**Pb**	**02 49 57.1**	**+0.6**
	1.8nm,0.3s						
TNSS				Lg	Lg	02 50 38.9	
	10nm,0.2s						
TNSS	**Tian-Shan**	**3.05**	**288**	*e*P	**Pb**	**02 49 57.1**	**+0.6**
	1.8nm,0.3s						
TNSS				*e*S	**Sg**	**02 50 38.9**	**-0.7**
	10nm,0.2s						
ARXS	**Arharly**	**3.05**	**314**	*e*P	**Pb**	**02 49 56.2**	**-0.2**
	4.7nm,0.7s						
ARXS				*e*S	**Sb**	**02 50 38.1**	**+4.2**
	24nm,0.6s						
IZV	**Izvestkoviy**	**3.29**	**287**	Pg	**Pb**	**02 49 60.0**	**-0.4**
	1.6nm,0.1s						
IZV				Lg	Lg	02 50 44.0	
	17nm,0.6s						
IZV	**Izvestkoviy**	**3.29**	**287**	*e*P	**Pb**	**02 49 60.0**	**-0.4**
	1.6nm,0.1s						
IZV				*e*S	**Sb**	**02 50 44.0**	**+3.3**
	17nm,0.6s						
KAPS	**Kapalarasan**	**3.33**	**341**	*e*P	**Pb**	**02 50 00.2**	**-0.9**
	3.1nm,0.5s						
KAPS				*e*S	**Sb**	**02 50 43.1**	**+1.2**
	8.2nm,0.4s						
MTBS	**Maitube**	**3.44**	**288**	*e*P	**Pb**	**02 50 04.2**	**+1.2**
	5.2nm,0.3s						
MTBS				*e*S	**Sg**	**02 50 50.2**	**-1.9**
	8.5nm,0.3s						
KTBS	**Karatobe**	**3.47**	**298**	*e*P	**Pb**	**02 50 04.4**	**+1.0**
	2.4nm,0.3s						
KTBS				*e*S	**Sg**	**02 50 51.4**	**-1.7**
	24nm,0.4s						
KUU	**Kurty**	**3.77**	**299**	Pg	**Pb**	**02 50 09.1**	**+0.6**
	2.4nm,0.7s						
KUU				Lg	Lg	02 50 59.4	
	7.5nm,0.5s						
KUU	**Kurty**	**3.77**	**299**	*e*P	**Pb**	**02 50 09.1**	**+0.6**
	2.4nm,0.7s						
KUU				*e*S	**Sb**	**02 50 59.4**	**+4.9**
	7.5nm,0.5s						
DGS	**Degeres**	**3.93**	**288**	Pg	**Pb**	**02 50 12.7**	**+1.4**
	3.7nm,0.5s						
DGS				Lg	Lg	02 51 05.4	
	9.0nm,0.6s						
DGS	**Degeres**	**3.93**	**288**	*e*P	**Pb**	**02 50 12.7**	**+1.4**
	3.7nm,0.5s						
DGS				*e*S	**Sg**	**02 51 05.4**	**-2.5**
	9.0nm,0.6s						
TKM2	**Tokmak 2**	**3.99**	**283**	⇓Pn	**Pn**	**02 50 04.4**	**+1.0**
	1.1nm,0.6s						
TKM2				⇓Pg	**Pg**	**02 50 18.2**	**+0.1**
	3.4nm,1.0s						
TKM2				⇑Lg	Lg	02 51 10.8	
	3.4nm,0.5s						
MAKZ	**Makanchi**	**4.73**	**9**	⇑Pn	**Pn**	**02 50 12.0**	**-1.4**
	0.7nm,0.2s						
MAKZ				⇑Sn	**Sn**	**02 51 10.7**	**+2.2**
	1.6nm,0.5s						
MAKZ				⇑Lg	Lg	02 51 30.0	
	2.1nm,0.6s						
MK31	**Makanchi Array**	**4.76**	**12**	⇓Pn	**Pn**	**02 50 12.6**	**-1.2**
	0.3nm,0.2s,baz=194,slow=12,SNR=21						
MK31				⇓Pg	**Pb**	**02 50 26.3**	**+1.0**
	0.3nm,0.3s						
MK31				⇑Sn	**Sn**	**02 51 09.9**	**+0.7**
	1.4nm,0.5s,baz=184,slow=26,SNR=5.7						
MK31				⇓Lg	Lg	02 51 30.0	
	2.3nm,0.6s,baz=190,slow=27,SNR=4.8						
AAK	**Ala-Archa**	**4.77**	**278**	⇓Lg	Lg	02 51 36.9	
	4.8nm,0.8s						

WEL 27 03:21:13.2,39°.S±1°.×17°.5E±°.,h7km±1km,ML3.6/25,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.13**	**138**	P	Pg	03 21 16.7	+0.7
PKVZ				S	Sg	03 21 19.2	+1.3
TWVZ	**Taurewa**	**0.20**	**52**	P	Pg	03 21 18.4	+1.1
TWVZ				S	Sg	03 21 21.7	+1.8
FWVZ	**Far West T-bar**	**0.26**	**104**	P	Pg	03 21 19.2	+0.9
FWVZ				S	Sg	03 21 23.0	+1.3
MTVZ	**Mangateitei**	**0.26**	**136**	P	Pg	03 21 18.8	+0.4
MTVZ				S	Sg	03 21 22.7	+0.7
DRZ	**Dome Shelter**	**0.27**	**108**	P	Pg	03 21 19.5	+1.0
NGZ	**Ngauruhoe**	**0.29**	**86**	P	Pb	03 21 19.9	-0.8
NGZ				S	Sg	03 21 24.0	+1.3
WTVZ	**West Tongariro**	**0.29**	**74**	P	Pb	03 21 19.9	-0.9
WHVZ	**Whangaehu Hut**	**0.29**	**108**	P	Pg	03 21 19.6	+0.6
KRVZ	**Karewarewa**	**0.33**	**73**	P	Pb	03 21 20.7	-0.9
KRVZ				S	Sg	03 21 25.5	+1.4
TUVZ	**Tukino**	**0.33**	**103**	P	Pb	03 21 20.8	-0.8
VRZ	**Vera Road**	**0.38**	**281**	P	Pg	03 21 21.3	+0.8
KATZ	**Kakaramea**	**0.42**	**59**	P	Pb	03 21 22.4	-0.6
MOVZ	**Moawhango**	**0.46**	**118**	P	Pg	03 21 22.4	+0.4
RATZ	**Rangitukua**	**0.53**	**52**	P	Pb	03 21 24.5	-0.4
RITZ	**Rihia Road**	**0.53**	**66**	P	Pb	03 21 24.5	-0.4
WAZ	**Wanganui**	**0.59**	**199**	P	Pg	03 21 24.7	+0.1
WATZ	**Wairara**	**0.62**	**39**	P	Pb	03 21 26.0	-0.4
LREZ	**Lake Rotokare**	**0.70**	**247**	P	Pg	03 21 27.0	+0.4
BHHZ	**Black Hill Sta**	**0.71**	**115**	P	Pg	03 21 27.1	+0.3
HATZ	**Hinemaiaia**	**0.73**	**66**	P	Pb	03 21 28.5	+0.2
HIZ	**Hauiti**	**0.74**	**336**	P	Pb	03 21 28.3	-0.2
KUTZ	**Kaahu Road**	**0.84**	**33**	P	Pg	03 21 29.7	+0.4
TLZ	**Tolley Road**	**0.90**	**15**	P	Pg	03 21 30.3	-0.1
KWHZ	**Kaweka Forest**	**0.95**	**104**	P	Pb	03 21 32.3	+0.3
KHEZ	**Kahui Hut**	**0.95**	**264**	P	Pb	03 21 32.1	+0.1
PKE	**Pukeiti**	**0.97**	**270**	P	Pn	03 21 33.6	+0.3
BKZ	**Black Stump Fm**	**0.98**	**89**	P	Pb	03 21 32.4	-0.1
KRHZ	**Kereru**	**0.99**	**117**	P	Pb	03 21 32.7	0.0
MRHZ	**Matea Rd**	**0.99**	**69**	P	Pb	03 21 32.6	-0.1
WPRZ	**Whakapapatarin**	**0.99**	**47**	P	Pb	03 21 33.1	+0.4
TSZ	**Takapari Road**	**1.03**	**147**	P	Pg	03 21 33.1	+0.2
PNHZ	**Pukenui**	**1.04**	**134**	P	Pb	03 21 33.3	-0.2
ALRZ	**Allen Road**	**1.07**	**54**	P	Pn	03 21 34.4	-0.3
GRRZ	**Galatos Road**	**1.09**	**39**	P	Pb	03 21 34.6	+0.2
HRRZ	**Handcock Road**	**1.15**	**46**	P	Pn	03 21 36.1	+0.4
MCHZ	**McNeill Hill**	**1.16**	**103**	P	Pn	03 21 37.3	+1.4
HSRZ	**Hossack Road**	**1.18**	**42**	P	Pn	03 21 36.9	+0.7
UTU	**Utuhina**	**1.26**	**37**	P	Pg	03 21 37.8	+0.4
POWZ	**Post Office Ro**	**1.27**	**161**	P	Pn	03 21 37.3	0.0
WPHZ	**Waipukurau**	**1.27**	**133**	P	Pg	03 21 38.4	+0.7
RRRZ	**Republican Roa**	**1.32**	**50**	P	Pg	03 21 38.6	+0.2
DVHZ	**Dannevirke**	**1.32**	**147**	P	Pg	03 21 38.8	+0.4
NGRZ	**Ngongotaha**	**1.32**	**35**	P	Pg	03 21 38.8	+0.3
ARHZ	**Aropaoanui**	**1.37**	**93**	P	Pg	03 21 40.9	+1.5
MUGZ	**Murupara**	**1.40**	**60**	P	Pg	03 21 39.9	-0.1
KAHZ	**Kahuranaki**	**1.41**	**116**	P	Pg	03 21 41.5	+1.4
KARZ	**Kaharoa**	**1.41**	**34**	P	Pg	03 21 40.2	-0.1
KMRZ	**Kaimai**	**1.46**	**23**	P	Pb	03 21 40.7	0.0
RAHZ	**Arahi**	**1.47**	**80**	P	Pg	03 21 42.1	+0.8
PRWZ	**Pori Road**	**1.47**	**158**	P	Pg	03 21 41.8	+0.4
TOZ	**Tahuroa Road**	**1.48**	**8**	P	Pn	03 21 39.7	-0.5
MRZ	**Mangatainoka R**	**1.49**	**170**	P	Pb	03 21 41.1	0.0
CKHZ	**Cape Kidnapper**	**1.50**	**109**	P	Pg	03 21 43.2	+1.2
PXZ	**Pawanui**	**1.51**	**124**	P	Pg	03 21 42.9	+0.8
PRHZ	**Porangahau**	**1.52**	**135**	P	Pg	03 21 42.7	+0.4
ANWZ	**Angora Road**	**1.58**	**143**	P	Pg	03 21 43.5	-0.1
OGWZ	**Otaki Gorge**	**1.62**	**182**	P	Pb	03 21 42.8	-0.6
TIWZ	**Tintock**	**1.66**	**163**	P	Pb	03 21 44.3	+0.2
TGRZ	**Tauranga**	**1.67**	**29**	P	Pg	03 21 45.1	-0.1
BFZ	**Birch Farm**	**1.68**	**153**	P	Pb	03 21 44.9	+0.5
KIW	**Kapiti Island**	**1.68**	**188**	P	Pn	03 21 43.1	0.0
OPRZ	**Ohinepanea**	**1.70**	**38**	P	Pb	03 21 44.8	0.0
HOWZ	**Holdsworth Sta**	**1.71**	**173**	P	Pb	03 21 45.2	+0.2
CPWZ	**Castlepoint**	**1.87**	**157**	P	Pg	03 21 48.3	-0.6
DUWZ	**D'Urville Isla**	**1.90**	**212**	P	Pn	03 21 46.4	+0.4
CAW	**Cannon Point**	**1.92**	**184**	P	Pb	03 21 47.9	-0.6
MTW	**Mount Morrison**	**1.97**	**174**	P	Pb	03 21 48.4	-1.1
TMWZ	**Te Maipa**	**1.98**	**165**	P	Pn	03 21 48.3	+1.2
MWZ	**Matawai**	**1.99**	**65**	P	Pb	03 21 49.4	-0.3
MKAZ	**Moumakai**	**2.09**	**358**	P	Pn	03 21 48.4	-0.2
TCW	**Tory Channel**	**2.14**	**200**	P	Pn	03 21 49.8	+0.4
AWAZ	**Awhitu Peninsu**	**2.18**	**347**	P	Pn	03 21 50.3	+0.5
PAWZ	**Paruwai Farm**	**2.19**	**176**	P	Pb	03 21 52.6	-0.6
MSWZ	**Moikau Station**	**2.22**	**180**	P	Pb	03 21 52.7	-0.9
WTAZ	**Waiatarua**	**2.32**	**347**	P	Pn	03 21 53.1	+1.3
PLWZ	**Palliser**	**2.37**	**180**	P	Pn	03 21 53.8	+1.2
NNZ	**Nelson**	**2.47**	**215**	P	Pn	03 21 55.3	+1.4
KUZ	**Kuautunu**	**2.48**	**9**	P	Pb	03 21 58.2	+0.2
QRZ	**Quartz Range**	**2.64**	**231**	P	Pn	03 21 56.0	-0.2
BSWZ	**Blackbirch Sta**	**2.72**	**202**	P	Pb	03 22 00.0	-2.2
WMGZ	**Waiomatatini S**	**2.85**	**62**	P	Pn	03 22 01.0	+2.0
THZ	**Tophouse**	**3.12**	**214**	P	Pn	03 22 04.4	+1.6
KHZ	**Kahutara**	**3.47**	**201**	P	Pn	03 22 08.3	+0.7

UCR ***27*** *03:21:22.8±1.3,16°.30N×92°.13W,h1km±70km,MD3.9, m

baz=177
252A Lumpkin 17.77 21 P Pn 03 25 20.9 +0.1
baz=203
150A Eclectic 17.93 17 P Pn 03 25 22.8 +0.1
baz=199,SNR=10
151A Opelika 18.07 19 P Pn 03 25 24.1 -0.1
baz=201,SNR=14
LRAL Lakeview Retre 18.09 14 eP Pn 03 25 24.9 +0.4
12nm,1.1s
LRAL Lakeview Retre 18.09 14 P Pn 03 25 24.5 0.0
baz=196,SNR=8.6
WLAR White Oak Lake 18.16 357 eP Pn 03 25 25.6 +0.2
9.5nm,0.8s
254A Abbeville 18.26 25 P Pn 03 25 26.1 -0.5
baz=208
Z49A Columbiana 18.36 15 P Pn 03 25 27.3 -0.3
baz=197,SNR=7.8
152A Waverly Hall 18.39 20 P Pn 03 25 27.4 -0.7
baz=203,SNR=8.6
ABTX Abilene, Hawle 18.41 339 P Pn 03 25 28.0 -0.3
baz=156
Z50A Ashland 18.57 16 eP Pn 03 25 29.8 -0.4
14nm,0.5s
Z50A Ashland 18.57 16 P Pn 03 25 29.4 -0.8
baz=199,SNR=5.7
153A Fort Valley 18.68 22 P P 03 25 30.2 +1.4
baz=205
256A Glennville 18.89 28 P P 03 25 32.3 +1.3
baz=212
Y48A Jasper 18.90 13 P P 03 25 32.5 +1.4
baz=194,SNR=7.1
154A Montrose 18.93 24 P P 03 25 32.7 +1.3
baz=207
Z52A Williamson 18.97 20 P P 03 25 33.5 +1.6
baz=203,SNR=5.6
Y49A Blount Mountai 19.02 15 eP P 03 25 33.9 +1.5
10.0nm,0.9s
Y49A Blount Mountai 19.02 15 P P 03 25 33.7 +1.3
baz=197
MIAR Mount Ida 19.04 356 eP P 03 25 33.9 +1.2
2.6nm,0.8s
MIAR Mount Ida 19.04 356 P P 03 25 34.5 +1.8
baz=175
155A Kite 19.19 25 P P 03 25 35.6 +1.4
baz=209,SNR=6.4
Y50A Piedmont 19.22 16 P P 03 25 36.0 +1.4
baz=198
X46A Booneville 19.27 9 P P 03 25 36.7 +1.7
baz=190
Z53A Monticello 19.34 22 P P 03 25 37.1 +1.2
baz=205,SNR=7.0
X47A Russelville 19.35 11 P P 03 25 37.1 +1.1
baz=192
Y51A Rockmart 19.42 18 P P 03 25 37.8 +1.0
baz=200,SNR=7.6
X48A Hartselle 19.44 13 eP P 03 25 38.3 +1.4
11nm,0.8s
X48A Hartselle 19.44 13 P P 03 25 37.9 +1.0
baz=194,SNR=8.3
GOGA Godfrey 19.50 22 eP P 03 25 39.2 +1.7
7.6nm,0.9s
GOGA Godfrey 19.50 22 P P 03 25 38.7 +1.1
baz=205
Z54A Sparta 19.58 24 P P 03 25 39.5 +1.0
baz=207,SNR=6.7
W41B Gary Mavity, V 19.62 360 P Pn 03 25 41.2 -1.4
baz=179
X49A Woodville 19.66 14 P P 03 25 40.4 +1.0
baz=196
Y52A Lilburn 19.70 20 P P 03 25 41.1 +1.3
baz=203,SNR=7.1
X50B Fort Payne 19.79 16 P P 03 25 41.8 +1.2
baz=198,SNR=12
Y53A Monroe 19.86 21 P P 03 25 42.5 +1.1
baz=204,SNR=7.8
W46A Michie 19.87 9 P P 03 25 42.2 +0.7
baz=190
X51A Calhoun 20.10 18 P P 03 25 44.7 +0.7
baz=200
WMOK Wichita Mounta 20.11 344 eP P 03 25 45.2 +1.0
2.9nm,0.8s
W47A Westpoint 20.11 11 P P 03 25 44.7 +0.6
baz=192,SNR=6.1
W48A Pulaski 20.13 12 P P 03 25 45.2 +0.9
baz=194,SNR=6.8
SDDR Presa de Saban 20.18 77 eP P 03 25 45.0 -0.1
13nm,0.8s
Y54A Tignall 20.19 23 P P 03 25 46.9 +1.9
baz=207
MNTX Cornudas Mount 20.20 325 eP P 03 25 47.1 +1.9
3.0nm,0.7s
MNTX Cornudas Mount 20.20 325 P P 03 25 46.9 +1.8
baz=140,SNR=6.7
W49A Belvidere 20.26 14 P P 03 25 46.7 +1.0
baz=196,SNR=11
X52A Dahlonega 20.44 20 P P 03 25 48.8 +1.2
baz=203,SNR=7.2
X53A Estanollee 20.54 21 P P 03 25 49.5 +0.8
baz=204,SNR=5.6
V46A Holladay 20.56 9 P P 03 25 48.7 -0.2
baz=191,SNR=12
W50A Signal Mountai 20.57 16 P P 03 25 49.7 +0.6
baz=198,SNR=6.1
Y55A Saluda 20.58 25 P P 03 25 49.4 +0.2
baz=209
HODGE Hodges 20.68 24 eP P 03 25 51.7 +1.5
4.6nm,0.7s
V47A Nunnelly 20.69 11 P P 03 25 50.3 +0.1
baz=192,SNR=7.0
W51A Cleveland 20.69 17 P P 03 25 50.9 +0.6
baz=200,SNR=5.4
V48A Smith Brothers 20.73 12 P P 03 25 51.1 +0.4
baz=194,SNR=10
MSTX Muleshoe 20.79 334 P P 03 25 52.7 +1.2
baz=150
U40A Yellville 20.82 358 P P 03 25 52.6 +1.0
baz=178
W52A Murphy 20.88 19 P P 03 25 53.2 +0.9
baz=202
X54A Belton 20.92 23 P P 03 25 53.5 +0.7
baz=207
WVT Waverly 20.93 10 eP P 03 25 52.7 -0.1
6.8nm,0.5s
WVT Waverly 20.93 10 P P 03 25 53.5 +0.7
baz=191
V49A McMinnville 20.96 14 P P 03 25 53.3 +0.1
baz=196,SNR=7.0
V50A Pikevile 21.07 16 P P 03 25 54.9 +0.5
baz=199
U46A Springville 21.10 9 P P 03 25 54.8 +0.2
baz=190,SNR=9.1
X55A Gracelyn & Ava 21.14 25 P P 03 25 55.8 +0.8
baz=209
CLTN Cedars of Leba 21.18 13 eP P 03 25 56.1 +0.7
6.5nm,0.7s
W53A Cullowhee 21.20 21 P P 03 25 55.8 0.0
baz=204
PBMO Poplar Bluff 21.28 4 eP P 03 25 57.0 +0.6
16nm,0.4s
U47A Clarksville 21.32 11 P P 03 25 57.0 +0.1
baz=192,SNR=5.2
V51A Loudon 21.41 17 P P 03 25 57.3 -0.5
baz=200
X56A White Oak 21.41 26 P P 03 25 57.9 +0.1
baz=210
W54A Cherokee Point 21.47 23 P P 03 25 58.9 +0.4
baz=207,SNR=5.5
U48A Cassie Pea, Po 21.54 12 P P 03 25 59.3 +0.2
baz=194,SNR=7.0
V52A Sevierville 21.67 19 P P 03 26 01.3 +0.7
baz=202,SNR=6.3
U49A Red Boiling Sp 21.70 14 P P 03 26 01.0 +0.1
baz=196,SNR=12
T46A Princeton 21.81 9 P P 03 26 01.7 -0.2
baz=191,SNR=5.3
U50A Jamestown 21.84 16 P P 03 26 02.2 -0.1
baz=199,SNR=14
KMSC Kings Mountain 21.84 24 P P 03 26 03.0 +0.7
baz=209,SNR=7.0
T47A Sharon Grove 21.89 11 P P 03 26 02.3 -0.4
baz=193,SNR=8.8
SDV Santo Domingo 21.97 105 P P 03 26 02.6 -1.3
1.4nm,0.4s,baz=303,slow=6.3,SNR=3.2
U51A La Follette 22.04 18 P P 03 26 04.8 +0.5
baz=201,SNR=16
T48A Bowling Green 22.14 12 P P 03 26 04.9 -0.3
baz=194
W56A Indian Trail 22.14 26 P P 03 26 05.6 +0.4
baz=210,SNR=5.2

V54A Nebo 22.17 22 P P 03 26 05.0 -0.5
baz=206,SNR=5.4
U52A Thorn Hill 22.25 19 P P 03 26 06.0 -0.2
baz=202
S44A Carbondale 22.28 6 P P 03 26 07.0 +0.6
baz=187,SNR=7.9
T49A Edmonton 22.33 14 P P 03 26 07.2 +0.3
baz=196,SNR=7.7
TZTN Tazewell 22.33 18 P P 03 26 07.5 +0.5
baz=202
W57A Gilead 22.41 27 eP P 03 26 08.1 +0.4
6.0nm,0.8s
W57A Gilead 22.41 27 P P 03 26 07.8 +0.2
baz=212
T50A Nancy 22.42 15 P P 03 26 07.6 -0.1
baz=198,SNR=9.8
S46A Don Dixon Farm 22.47 9 P P 03 26 08.2 0.0
baz=191,SNR=5.2
U53A Fall Branch 22.48 20 P P 03 26 08.5 +0.2
baz=204,SNR=8.6
CCM Cathedral Cave 22.51 2 eP P 03 26 08.0 -0.5
2.8nm,0.7s
CCM Cathedral Cave 22.51 2 P P 03 26 09.2 +0.6
baz=182
V55A Taylorsville 22.51 24 P P 03 26 09.3 +0.7
baz=208,SNR=7.9
S47A Hartford 22.52 11 P P 03 26 08.9 +0.2
baz=193
T51A Gray 22.61 17 P P 03 26 09.4 0.0
baz=200,SNR=12
W58A Raeford 22.64 28 P P 03 26 09.6 -0.2
baz=214
S48A Wiedeman Farm, 22.74 12 P P 03 26 10.4 -0.3
baz=195,SNR=5.8
USIN University of 22.75 9 eP P 03 26 11.8 +1.1
22nm,1.0s
V56A Mocksville 22.76 25 P P 03 26 10.8 0.0
baz=210,SNR=8.3
U54A Nelsons Funny 22.88 22 P P 03 26 12.5 +0.4
baz=206,SNR=7.2
R45A Skylar, Fairfi 22.98 8 P P 03 26 13.3 +0.5
baz=189,SNR=5.6
T52A Hallie 23.02 19 P P 03 26 13.8 +0.6
baz=203,SNR=5.8
S49A Springfield 23.03 14 P P 03 26 13.7 +0.4
baz=197,SNR=7.1
V57A Coltrane Farms 23.13 26 P P 03 26 14.8 +0.6
baz=211,SNR=13
U55A TA2, Sparta 23.15 23 P P 03 26 15.2 +0.8
baz=208,SNR=7.6
S50A Richmond 23.15 16 P P 03 26 15.2 +0.8
baz=199,SNR=6.4
WCI Wyandotte Cave 23.25 12 eP P 03 26 16.0 +0.8
30nm,0.8s
WCI Wyandotte Cave 23.25 12 P P 03 26 15.9 +0.7
baz=194
R47A Wooly Knot Far 23.27 11 P P 03 26 16.0 +0.7
baz=193,SNR=5.1
U56A King 23.27 25 P P 03 26 16.2 +0.7
baz=209,SNR=6.7
S51A Beattyville 23.33 17 P P 03 26 16.4 +0.4
baz=201
V58A Windy Hill, Pi 23.34 27 P P 03 26 16.3 +0.2
baz=213,SNR=8.0
T54A Tazewell 23.45 22 P P 03 26 17.1 0.0
baz=206
R48A Northridge Ran 23.50 12 P P 03 26 17.9 +0.5
baz=195,SNR=6.5
S52A Salyersville 23.52 18 P P 03 26 18.5 +0.8
baz=202
R49A Shelbyville 23.54 14 P P 03 26 18.0 +0.1
baz=197,SNR=7.7
Q45A Warren Harvey, 23.59 8 P P 03 26 19.1 +0.8
baz=189
V59A Middlesex 23.71 29 P P 03 26 19.8 +0.3
baz=215
R50A Paris 23.74 15 P P 03 26 20.6 +0.9
baz=199
U57A Blanch 23.78 26 P P 03 26 20.7 +0.6
baz=212,SNR=7.9
T55A Pulaski 23.79 23 P P 03 26 20.4 +0.2
baz=208
S53A Williamson 23.82 20 P P 03 26 20.9 +0.4
baz=204
Q47A Bedord North L 23.91 11 P P 03 26 22.1 +0.9
baz=193
R51A Hillsboro 23.95 17 P P 03 26 22.1 +0.4
baz=200
T56A Rocky Mt 24.00 24 P P 03 26 22.4 +0.3
baz=209
BLA Blacksburg 24.01 23 P P 03 26 22.6 +0.4
baz=208
Q48A North Vernon 24.03 12 P P 03 26 22.6 +0.2
baz=195,SNR=5.5
S54A Dingess, Beckl 24.21 21 P P 03 26 24.1 0.0
baz=206
P45A Graceland, Par 24.27 8 P P 03 26 24.8 +0.3
baz=190
Q49A Aurora 24.29 14 P P 03 26 24.9 +0.2
baz=197
T57A Hurt 24.29 26 P P 03 26 25.2 +0.4
baz=211
Q50A Georgetown 24.36 16 P P 03 26 25.7 +0.4
baz=199
U59A Littleton 24.40 29 P P 03 26 25.7 0.0
baz=215
P46A Rosedale 24.44 9 P P 03 26 26.1 +0.1
baz=191
P47A Martinsville 24.47 11 P P 03 26 26.5 +0.2
baz=193
R53A Hurricane 24.47 20 P P 03 26 26.9 +0.5
baz=204
S55A Lewisburg 24.47 23 P P 03 26 26.7 +0.2
baz=208
T58A Grand View Acr 24.56 27 P P 03 26 27.4 +0.3
baz=213
P48A Milroy 24.61 12 P P 03 26 27.7 +0.1
baz=195
R54A Victor 24.66 21 P P 03 26 28.3 +0.2
baz=206
Q51A Peebles 24.70 16 P P 03 26 28.9 +0.5
baz=200
S56A Natural Bridge 24.75 24 P P 03 26 29.2 +0.2
baz=210
U60A Pendleton 24.80 30 P P 03 26 28.9 -0.4
baz=216
P49A Miami Univ. Ec 24.83 14 P P 03 26 29.9 +0.3
baz=197
Q52A Bidwell 24.95 18 P P 03 26 30.9 +0.2
baz=203
O45A Potomac 24.98 8 P P 03 26 31.6 +0.7
baz=190
T59A Double "B" Far 25.02 28 eP P 03 26 31.4 +0.2
7.7nm,0.8s
T59A Double "B" Far 25.02 28 P P 03 26 31.5 +0.2
baz=215
S57A Dark Hollow, R 25.07 25 P P 03 26 32.5 +0.7
baz=211
Q53A Leroy 25.09 20 P P 03 26 32.8 +0.9
baz=204
P50A Jamestown 25.12 15 P P 03 26 32.8 +0.5
baz=199
SFIN Lafayette 25.20 9 P P 03 26 33.0 +0.1
baz=191
O47A Sheridan 25.21 11 P P 03 26 32.9 -0.1
baz=193
S58A Poland Farm, P 25.32 27 P P 03 26 34.0 -0.1
baz=213
O48A Farmland 25.43 12 P P 03 26 35.2 +0.2
baz=195
Q54A Coxs Mills 25.43 21 P P 03 26 35.4 +0.3
baz=206
N44A Piper City 25.47 7 P P 03 26 35.8 +0.5
baz=189
N45A Kentland 25.60 8 P P 03 26 37.1 +0.6
baz=190
P52A Corning 25.61 18 P P 03 26 36.6 0.0
baz=202
R58B Mineral 25.69 27 P P 03 26 38.0 +0.7
baz=213
R57A Stanardsville 25.70 25 P P 03 26 37.6 +0.2
baz=211
P53A Whipple 25.70 19 eP P 03 26 39.1 +1.6
6.4nm,1.1s
P53A Whipple 25.70 19 P P 03 26 37.8 +0.3
baz=204
Q55A Buckhannon 25.71 22 P P 03 26 38.7 +1.1
baz=207

R58A Rapidan 25.92 26 P P 03 26 39.0 -0.4
baz=212
N47A Urbana 25.93 11 P P 03 26 39.3 -0.1
baz=194
N48A Decatur 26.04 12 P P 03 26 40.4 -0.1
baz=195,SNR=6.8
P54A Burton 26.11 21 P P 03 26 41.4 +0.3
baz=206
O52A Adamsville 26.14 18 P P 03 26 41.7 +0.3
baz=203
P55A Reedsville 26.25 22 P P 03 26 43.2 +0.8
baz=207
Q57A Strasburg 26.38 25 P P 03 26 43.9 +0.4
baz=211
O53A New Philadelph 26.45 19 P P 03 26 44.4 +0.2
baz=204
O54A Avella 26.66 20 P P 03 26 46.1 0.0
baz=206,SNR=5.6
N52A McGinn's Farm, 26.83 18 P P 03 26 47.1 -0.4
baz=202
M49A Liberty Center 26.85 14 P P 03 26 47.4 -0.3
baz=197
O55A Ligonier 27.06 22 P P 03 26 49.6 0.0
baz=208
N53A Lisbon 27.08 19 P P 03 26 49.9 +0.1
baz=204
L48A N Adams 27.20 13 P P 03 26 51.1 +0.2
baz=196
O56A Blue Knob Stat 27.38 23 P P 03 26 52.9 +0.3
baz=209
N54A Moraine State 27.49 20 P P 03 26 53.7 +0.2
baz=206
N55A Marion Center 27.68 22 P P 03 26 55.1 -0.1
baz=208
P59A Jarrettsville 27.69 27 P P 03 26 55.3 +0.1
baz=214
O57A Amberson 27.69 24 P P 03 26 55.5 +0.3
baz=211
M53A WI Miller and 27.70 19 P P 03 26 55.8 +0.4
baz=204
SSPA Standing Stone 27.96 23 P P 03 26 57.8 +0.2
baz=210
M55A Ridgway 28.36 21 P P 03 27 01.4 +0.2
baz=208
M56A Emporium 28.59 22 P P 03 27 03.2 +0.1
baz=209
I46A Reed City 28.94 10 P P 03 27 06.3 +0.1
baz=193
L55A Hinsdale 29.11 21 P P 03 27 07.8 0.0
baz=208
K54A Basiliko Farm, 29.40 20 P P 03 27 10.0 -0.4
baz=207
J52A Paris 29.41 17 P P 03 27 10.1 -0.3
baz=203
TYNO Tyneside 29.46 18 P P 03 27 10.6 -0.2
baz=204
BASO Ashfield 29.81 15 P P 03 27 13.5 -0.4
baz=200
BINY Binghamton 30.04 24 P P 03 27 16.3 +0.3
baz=212
MPMC Manual Prospec 30.55 317 P P 03 27 23.3 +2.5
baz=126
F45A CMU Biological 30.63 9 P P 03 27 20.7 -0.4
baz=192
F44A Big Bay de Noc 30.78 8 P P 03 27 23.3 +0.8
baz=190
PDAR Pinedale Array 31.06 335 P P 03 27 25.9 +0.7
0.2nm,0.4s,baz=143,slow=11,SNR=2.4
PECO Prince Edward 31.15 21 P P 03 27 25.4 -0.3
baz=209
I55A Frankford 31.16 20 P P 03 27 25.7 -0.1
baz=207
DELO Delora Mine 31.45 20 P P 03 27 27.7 -0.6
baz=207
G53A Haliburton 31.68 18 P P 03 27 30.0 -0.3
baz=205
F52A Sundridge 32.08 17 P P 03 27 33.4 -0.4
baz=203
PLVO Plevna 32.09 20 P P 03 27 33.4 -0.5
baz=208
NVAR Mina Array Bea 32.49 320 P P 03 27 40.7 +2.9
1.8nm,0.6s,baz=135,slow=8.4,SNR=5.2
NVAR pP pP 03 28 21.8 +3.9
0.9nm,0.7s,baz=121,slow=8.5,SNR=1.8
LONY Lake Ozonia 32.63 23 P P 03 27 38.6 0.0
baz=212
E51A G1948 Merrick 32.72 16 P P 03 27 39.3 0.0
baz=203
ORIO Orleans, Innes 32.99 22 P P 03 27 41.5 -0.2
baz=210
D52A ZEK Kipawa Sen 33.42 17 P P 03 27 45.0 -0.4
baz=204
D53A Lac Vacive, Po 33.72 18 P P 03 27 47.9 -0.1
baz=205
D54A Lac Fusel, La 34.10 19 P P 03 27 51.0 -0.3
baz=207
LATQ La Tuque 35.63 23 P P 03 28 04.5 +0.1
baz=213
J08A Circle Bar Ran 35.77 326 eP P 03 28 08.5 +2.8
LPAZ La Paz 39.44 142 P P 03 28 37.5 +0.2
0.7nm,0.5s,baz=325,slow=4.0,SNR=10.0
YKA Yellowknife Ar 49.59 347 P P 03 29 56.4 +0.1
2.0nm,0.5s,baz=149,slow=7.3,SNR=55
YKA pP pP 03 30 41.0 +1.2
0.7nm,0.7s,baz=147,slow=7.7,SNR=5.5
YKA sP sP 03 31 00.9 -0.8
0.5nm,0.7s,baz=147,slow=7.4,SNR=3.9
CPUP Villa Florida 53.56 140 P P 03 30 24.9 -1.4
1.2nm,0.7s,baz=335,slow=9.8,SNR=4.4
INK Inuvik 59.01 343 P P 03 31 03.6 -0.5
0.7nm,0.7s,baz=105,slow=9.2,SNR=4.3
ESDC Sonseca Array 78.89 52 P P 03 33 05.8 -1.5
0.4nm,0.5s,baz=288,slow=5.8,SNR=6.7
ARCES ARCESS Array B 84.78 18 P P 03 33 36.4 -0.9
1.9nm,0.8s,baz=298,slow=5.2,SNR=4.4
FINES FINESS Array B 89.22 25 P P 03 33 56.9 -1.9
0.9nm,0.8s,baz=354,slow=9.6,SNR=4.9

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*IDC **27** 03:27:39.8±1.6,2°.09N×96°.17E,h0km,mb3.9/7,mb1 3.9/9, mb1mx3.6/54,mbtmp3.9/9,ML3.7/2,MS3.4/1,Ms1 3.4/1, ms1mx2.6/38,Error ellipse: s-maj=51.6km s-min=18.7km az=53.0*

*ISCJB **27** 03:27:42.0±0.8,2°.09N±0°.06×96°.23E±0°.06,h28km, mb3.9/7,MS3.2/1,Error ellipse: s-maj=10.5km s-min=7.7km az=42.1*

*DJA **27** 03:27:42.8±1.7,2°N±4°×9°6E±1°2,h10km,M3.2/3, MLv3.2/3*

ISC 27 03:27:43.8±1.2,2°.09N±0°.08×96°.3E±0°.1,h28km,n18, σ0.973/14,mb3.9/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.48**	**38**	P	**Pn**	**03 28 07.7**	**-0.8**
TPTI				S	**Sn**	**03 28 27.0**	**+0.1**
GSI	**Gunungsitoli**	**1.51**	**121**	P	**Pn**	**03 28 07.9**	**-1.2**
GSI				S	**Sn**	**03 28 28.0**	**+0.1**
PSI	**Prapat**	**2.74**	**75**	Pn	**Pn**	**03 28 26.9**	**+0.8**
PSI	2.9nm,0.3s,baz=222,slow=5.0,SNR=8.6			Sn	**Sn**	**03 28 57.6**	**-0.8**
	2.3nm,0.3s,baz=146,slow=16,SNR=5.1						
CMAR	**Chiang Mai Arr**	**16.48**	**9**	Pn	**Pn**	**03 31 33.6**	**+0.4**
	0.2nm,0.3s,baz=196,slow=12,SNR=7.8						
H08S2	**Diego Garcia H**	**25.62**	**248**	T	T	03 59 53.5	
	baz=68,slow=76,SNR=404						
H08S3	**Diego Garcia H**	**25.62**	**248**	T	T	03 59 44.9	
	baz=68,slow=76,SNR=317						
H08S1	**Diego Carcia H**	**25.64**	**248**	T	T	03 59 51.5	
	baz=68,slow=76,SNR=296						
TGY	**Tagaytay City**	**27.14**	**63**	LR	LR	03 45 08.2	
	comp=Z,74nm,20.5s,baz=350,slow=38						
H01W3	**Cape Leeuwin H**	**40.41**	**157**	T	T	04 18 31.6	
	baz=333,slow=76,SNR=33						
H01W2	**Cape Leeuwin H**	**40.42**	**157**	T	T	04 18 29.6	
	baz=333,slow=76,SNR=43						
H01W1	**Cape Leeuwin H**	**40.43**	**157**	T	T	04 18 37.5	
	baz=333,slow=76,SNR=36						
WRA	**Warramunga Arr**	**43.28**	**122**	P	**P**	**03 35 43.9**	**+0.5**
	0.6nm,0.6s,baz=291,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**44.66**	**127**	P	**P**	**03 35 55.6**	**+1.1**
	0.3nm,0.4s,baz=301,slow=7.9,SNR=3.2						
MKAR	**Makanchi Array**	**46.17**	**347**	P	**P**	**03 36 06.1**	**+0.1**
	2.0nm,0.7s,baz=163,slow=8.0,SNR=17						
SONM	**Songino Array**	**46.41**	**9**	P	**P**	**03 36 07.2**	**-0.8**
	0.5nm,0.4s,baz=205,slow=8.7,SNR=4.3						
KURBB	**Kurchatov Arra**	**50.64**	**345**	P	**P**	**03 36 40.9**	**+0.4**
	0.8nm,0.6s,baz=165,slow=6.8,SNR=6.2						

ZALV	**Zalesovo Beam**	**52.55**	**351**	P	**P**	**03 36 54.5**	**0.0**
	3.3nm,0.4s,baz=188,slow=7.5,SNR=9.2						
BVAR	**Borovoye Array**	**55.12**	**341**	P	**P**	**03 37 13.5**	**+0.1**
	0.7nm,0.4s,baz=140,slow=12,SNR=5.0						

*SAR **27** 03:28:53.1±0.8, 41°.96N×19°.72E, h7km±3km, ML2.5/7*
*TIR **27** 03:28:54.6, 42°.10N×19°.59E, h20km, Md2.9/4*
*ISCJB **27** 03:28:55.6±0.3, 42°.10N±0°.02×19°.61E±0°.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=40.4*
*PDG **27** 03:28:55.7±0.3, 42°.08N×19°.62E, h8km±1km, MD2.6/2, ML2.5/10, Error ellipse: s-maj=0.5km s-min=0.5km az=90.0*
*BEO **27** 03:28:56.6±0.3, 42°.10N×19°.60E, h13km±2km, ML2.2/10*

ISC 27 03:28:55.9±0.9, **42°.10N**±0°.02×**19°.60E**±0°.02, **h13**km±7km, **n68**, σ0°.92/105, **12C-8D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.23**	**103**	*i* PG	**Pg**	**03 29 00.4**	**-0.5**
PUK				*i* SG	**Sg**	**03 29 04.3**	**+0.1**
ULC	**Ulcinj**	**0.29**	**243**	⇑*i* PG	**Pg**	**03 29 01.4**	**-0.6**
ULC				*e*Sg	**Sg**	**03 29 06.4**	**+0.4**
DRME	**Dracevica, Mon**	**0.32**	**287**	⇑*i* PG	**Pg**	**03 29 02.1**	**-0.3**
DRME				*e*Sg	**Sb**	**03 29 07.9**	**-0.7**
DRME	**Dracevica, Mon**	**0.32**	**287**	*e*Pg	**Pg**	**03 29 02.1**	**-0.3**
DRME				*e*Sg	**Sb**	**03 29 08.1**	**-0.5**
PDG	**Podgorica**	**0.42**	**323**	*e*Pg	**Pg**	**03 29 04.1**	**-0.2**
PDG				*e*Sg	**Sb**	**03 29 11.5**	**0.0**
PDG	**Podgorica**	**0.42**	**323**	⇑*i* P	**Pg**	**03 29 04.4**	**+0.2**
PDG	**Podgorica**	**0.42**	**323**	S	**Sb**	**03 29 12.0**	**+0.6**
PDG	**Podgorica**	**0.42**	**323**	*e*Pg	**Pg**	**03 29 04.0**	**-0.2**
PDG				*e*Sg	**Sb**	**03 29 11.8**	**+0.3**
TTG	**Podgorica**	**0.42**	**323**	⇓*i* Pg	**Pg**	**03 29 04.1**	**-0.2**
TTG				*e*Sg	**Sb**	**03 29 11.4**	**0.0**
BCI	**Bajram Curri**	**0.44**	**52**	*i* PG	**Pg**	**03 29 03.9**	**-0.8**
BCI				*i* SG	**Sb**	**03 29 11.8**	**-0.4**
BUM	**Brajici-Budva**	**0.56**	**292**	⇑*i* Pg	**Pg**	**03 29 06.4**	**-0.5**
BUM				*e*Sg	**Sb**	**03 29 15.7**	**+0.1**
PVY	**Plav**	**0.57**	**28**	⇑*i* Pg	**Pg**	**03 29 06.4**	**-0.7**
PVY				*e*Sg	**Sb**	**03 29 15.7**	**-0.2**
CEME	**Cevo**	**0.68**	**312**	⇑*i* Pg	**Pg**	**03 29 08.8**	**-0.3**
CEME				*e*Sg	**Sb**	**03 29 19.6**	**+0.7**
PHP	**Peshkopia**	**0.75**	**123**	*i* PG	**Pg**	**03 29 09.3**	**-1.3**
PHP				*i* SG	**Sb**	**03 29 20.9**	**-0.2**
KOME	**Kolasin**	**0.76**	**356**	⇓*i* Pg	**Pg**	**03 29 10.2**	**-0.4**
KOME				*e*Sg	**Sb**	**03 29 22.4**	**+1.1**
TIR	**Tirane**	**0.77**	**165**	*e*Pg	**Pg**	**03 29 10.8**	**-0.1**
TIR				*e*Sg	**Sb**	**03 29 22.0**	**+0.3**
TIR	**Tirane**	**0.77**	**165**	⇓*i* P	**Pg**	**03 29 10.8**	**-0.1**
TIR	**Tirane**	**0.77**	**165**	S	**Sb**	**03 29 22.3**	**+0.6**
TIR	**Tirane**	**0.77**	**165**	*i* PG	**Pg**	**03 29 10.4**	**-0.5**
TIR				*i* SG	**Sb**	**03 29 22.2**	**+0.5**
IVA	**Berane**	**0.81**	**16**	*e*Pg	**Pg**	**03 29 10.7**	**-0.9**
IVA				*e*Sg	**Sn**	**03 29 23.9**	**-1.1**
NKME	**Niksic**	**0.82**	**325**	⇑*i* Pg	**Pg**	**03 29 10.9**	**-0.9**
NKME				*e*Sg	**Sn**	**03 29 24.6**	**-0.7**
NKY	**Niksic**	**0.84**	**328**	⇓*i* Pg	**Pg**	**03 29 11.9**	**-0.4**
NKY				*e*Sg	**Sn**	**03 29 25.4**	**-0.6**
HCY	**Herceg Novi**	**0.89**	**294**	⇓*i* Pg	**Pg**	**03 29 11.8**	**-1.3**
HCY				*e*Sg	**Sn**	**03 29 26.7**	**-0.2**
HCY	**Herceg Novi**	**0.89**	**294**	*e*Pg	**Pg**	**03 29 12.0**	**-1.1**
HCY				*e*Sg	**Sn**	**03 29 26.3**	**-0.6**
TREB	**Trebinje**	**1.11**	**304**	*e*Pg	**Pg**	**03 29 17.8**	**+0.5**
TREB				*e*Sg	**Sn**	**03 29 32.3**	**-0.1**
TREB	**Trebinje**	**1.11**	**304**	*e*Pg	**Pb**	**03 29 15.7**	**-1.3**
TREB				*e*Sg	**Sn**	**03 29 33.5**	**+1.1**
BRY	**Bratogost**	**1.12**	**316**	⇑*i* Pg	**Pb**	**03 29 16.4**	**-0.8**
BRY				*e*Sg	**Sn**	**03 29 34.9**	**+2.0**
BRY	**Bratogost**	**1.12**	**316**	*e*Pg	**Pb**	**03 29 16.5**	**-0.8**
BRY				*e*Sg	**Sn**	**03 29 34.5**	**+1.6**
SJES	**Sjenica**	**1.20**	**13**	*e*Pg	**Pn**	**03 29 18.4**	**-0.1**
SJES				*e*Sg	**Sn**	**03 29 34.7**	**0.0**
UPM	**Unac-Piva**	**1.22**	**336**	⇓*i* Pg	**Pn**	**03 29 18.5**	**-0.4**
UPM				*e*Sg	**Sg**	**03 29 37.9**	**+2.6**
UPM	**Unac-Piva**	**1.22**	**336**	*e*Pg	**Pn**	**03 29 17.7**	**-1.2**
UPM				*e*Sg	**Sg**	**03 29 37.5**	**+2.2**
PLE	**Pljevlja**	**1.24**	**353**	⇑*i* Pg	**Pn**	**03 29 19.2**	**+0.1**
PLE				*e*Sg	**Sg**	**03 29 38.3**	**+2.3**
OHR	**Ohrid**	**1.33**	**137**	*i* Pn	**Pg**	**03 29 21.6**	**0.0**
KRUS	**Krusevo**	**1.44**	**120**	*i* Pn	**Pn**	**03 29 21.7**	**0.0**
KRUS				*i* Sn	**Sg**	**03 29 42.0**	**-0.1**
IVAS	**Ivanjica**	**1.54**	**15**	*e*Pn	**Pn**	**03 29 23.3**	**+0.2**
SELS	**Selova**	**1.59**	**45**	*e*Pg	**Pb**	**03 29 24.8**	**-0.4**
STON	**Ston**	**1.60**	**300**	*e*Pn	**Pn**	**03 29 24.0**	**+0.1**
STON				*e*Sg	**Sg**	**03 29 47.1**	**-0.4**
STON	**Ston**	**1.60**	**300**	*i* Pn	**Pn**	**03 29 23.8**	**-0.1**
STON	**Ston**	**1.60**	**300**	*e*Pn	**Sb**	**03 29 23.4**	**-0.3**
STON				*e*Sn	**Sb**	**03 29 46.0**	**+0.5**
BIA	**Bitola**	**1.69**	**129**	*i* Pn	**Pb**	**03 29 26.8**	**-0.1**
BIA				*i* Sn	**Sg**	**03 29 50.6**	**+0.5**
BBLS	**Lazići**	**1.77**	**356**	*e*Sg	**Sg**	**03 29 52.2**	**-0.8**
BBLS	**Lazići**	**1.77**	**356**	*e*Pn	**Pn**	**03 29 25.6**	**-0.8**
BBLS				*e*Sn	**Sb**	**03 29 51.0**	**+0.4**
BARS	**Barje**	**1.79**	**66**	*e*Pn	**Pn**	**03 29 26.3**	**-0.3**
BARS				*e*Sg	**Sg**	**03 29 53.8**	**+0.2**
GRUS	**Gruza**	**1.97**	**24**	*e*Pn	**Pn**	**03 29 29.7**	**+0.7**
DIVS	**Divibare**	**2.02**	**8**	*e*Pn	**Pn**	**03 29 30.4**	**+0.6**
DIVS	**Divibare**	**2.02**	**8**	*e*Pn	**Pn**	**03 29 29.4**	**-0.4**
DIVS				*e*Sn	**Sn**	**03 29 55.8**	**+0.8**
HAPS	**Han Pijesak,BI**	**2.04**	**347**	*e*Pn	**Pn**	**03 29 30.7**	**+0.6**
HAPS	**Han Pijesak,BI**	**2.04**	**347**	*e*Pn	**Pn**	**03 29 30.2**	**+0.1**
HAPS				*e*Sn	**Sb**	**03 29 57.1**	**-1.3**
TRUS	**Trudelj**	**2.21**	**15**	*e*Pn	**Pn**	**03 29 33.1**	**+0.8**
VAY	**Valandovo**	**2.36**	**108**	*e*Pn	**Pn**	**03 29 35.6**	**+1.3**
ZAPS	**Zavoj**	**2.53**	**61**	*e*Pn	**Pn**	**03 29 37.9**	**+1.1**
VTS	**Vitosha**	**2.75**	**78**	*e*Pn	**Pn**	**03 29 40.1**	**+0.3**
VTS	**Vitosha**	**2.75**	**78**	⇓*i* P	**Pn**	**03 29 40.1**	**+0.3**
VTS	**Vitosha**	**2.75**	**78**	S	**Sn**	**03 30 12.9**	**-0.1**
MDVR	**Moldovita**	**3.10**	**29**	⇑*i* P	**Pn**	**03 29 45.1**	**+0.6**
MDVR	**Moldovita**	**3.10**	**29**	S	**Sn**	**03 30 22.6**	**+1.2**
HERR	**Herculane**	**3.46**	**35**	⇓*i* P	**Pn**	**03 29 50.4**	**+0.9**
UDBI	**Udbina**	**3.70**	**312**	*e*Pn	**Pn**	**03 29 54.9**	**+1.9**
BZS	**Buzias**	**3.81**	**22**	*e*Pn	**Pn**	**03 29 54.4**	**+0.1**
BZS	**Buzias**	**3.81**	**22**	⇑*i* P	**Pn**	**03 29 55.0**	**+0.7**
BZS	**Buzias**	**3.81**	**22**	S	**Sn**	**03 30 37.4**	**-1.6**
GZR	**Gura Zlata**	**4.02**	**34**	⇑*i* P	**Pn**	**03 29 58.3**	**+1.0**
GZR	**Gura Zlata**	**4.02**	**34**	S	**Sn**	**03 30 45.6**	**+1.3**
NVLJ	**Novalja**	**4.24**	**307**	*i* Pn	**Pn**	**03 30 00.3**	**+0.2**
NVLJ				Sn	**Sn**	**03 30 49.0**	**-0.4**
VYHS	**Vyhne**	**6.42**	**355**	*e*PN	**Pn**	**03 30 32.4**	**+2.2**
VYHS				*e*		03 30 53.2	
VYHS	**Vyhne**	**6.42**	**355**	*e*SN	**Sn**	**03 31 41.2**	**-2.1**
MODS	**Modra-Piesok**	**6.49**	**346**	*e*PN	**Pn**	**03 30 31.9**	**+0.8**
MODS				*e*		03 30 52.9	
MODS	**Modra-Piesok**	**6.49**	**346**	*e*SN	**Sn**	**03 31 42.0**	**-2.9**

NNC 27 03:29:39.2±1.0, **43°.77N×87°.93E, h0**km, **mb3.7, mpv3.2, 5C-8D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.00**	**309**	⇓Pn	Pn	03 30 56.0	+0.5
	0.8nm,0.3s,baz=125,slow=13,SNR=49						
MK31				⇓Sn	Sn	03 31 55.3	+1.4
	1.4nm,0.5s,baz=124,slow=25,SNR=5.8						
MK31				⇓Lg	Lg	03 32 19.6	
	1.3nm,0.4s						
MAKZ	**Makanchi**	**5.18**	**308**	⇓Pn	Pn	03 30 58.8	+0.8
	1.6nm,0.3s						
MAKZ				⇑Sn	Sn	03 31 60.0	+1.5
	2.0nm,0.5s						
MAKZ				⇑Lg	Lg	03 32 22.7	
	1.1nm,0.4s						
PDGK	**Podgornoye**	**6.15**	**269**	⇑Pn	Pn	03 31 12.2	+0.7
	2.1nm,0.8s						
PDGK				⇑Sn	Sn	03 32 23.3	+0.8
	2.0nm,0.5s						
PDGK				⇑Lg	Lg	03 32 52.2	
	2.3nm,0.6s						
KURBB	**Kurchatov Arra**	**9.37**	**320**	⇓Pn	Pn	03 31 54.6	-0.8
	0.7nm,0.5s						
KURBB				⇓Sn	Sn	03 33 42.8	+1.4
	2.4nm,0.7s						
KURK	**Kurchatov**	**9.39**	**321**	⇓Pn	Pn	03 31 53.4	-2.3
	3.5nm,1.4s						
KURK				⇓Sn	Sn	03 33 42.4	+0.4
	0.7nm,0.5s						

*IDC **27** 03:35:25.9±1.4, 5°.87S×130°.56E, h0km, mb4.3/4, mb1 4.6/7, mb1mx4.1/40, mbtmp4.4/7, ML4.4/3, Error ellipse: s-maj=69.4km s-min=19.8km az=70.0*
*ISCJB **27** 03:35:36.6±0.4, 6°.15S±0°.03×130°.62E±0°.05, h124km, mb4.3/7, Error ellipse: s-maj=7.0km s-min=4.9km az=178.2*
*NEIC **27** 03:35:38.5±2.8, 6°.07S×130°.41E, h120km±9km, mb4.3/12, Error ellipse: s-maj=17.9km s-min=12.6km az=59.0*

ISC 27 03:35:37.7±0.6, **6°.24S**±0°.05×**130°.64E**±0°.06, **h124**km, **n32**, σ3°.08/40, **mb4.5/7, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.85**	**159**	*e*Pn	Pn	03 36 14.8	+5.2
SAUI				*e*Sn	**Sn**	**03 36 40.3**	**+6.4**
FAKI	**Fak Fak**	**3.67**	**26**	*e*Pn	**Pn**	**03 36 33.1**	**0.0**
FAKI				*e*Sn	**Sn**	**03 37 13.1**	**-2.8**
MTN	**Manton Dam**	**6.58**	**176**	*e*Pn	**Pn**	**03 37 13.0**	**+0.9**
SOEI	**Soe**	**7.21**	**241**	*e*Pn	**Pn**	**03 37 21.4**	**+0.7**
SOEI				*e*Sn	**Sn**	**03 38 43.4**	**+2.2**
TNTI	**Ternate**	**7.69**	**335**	*e*Pn	**Pn**	**03 37 25.0**	**-2.1**
FITZ	**Fitzroy Crossi**	**12.75**	**202**	*e*Pn	**Pn**	**03 38 34.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**12.75**	**202**	Pn	**Pn**	**03 38 33.1**	**-1.6**
	3.4nm,0.3s,baz=27,slow=11,SNR=40						
FITZ				Sn	**Sn**	**03 40 48.0**	**-7.3**
	1.9nm,0.3s,baz=237,slow=21,SNR=5.9						
WRAB	**Tennant Creek**	**14.08**	**165**	*e*Pn	**Pn**	**03 38 53.4**	**+1.5**
WRAB				*e*Sn	**Sn**	**03 41 21.9**	**-5.4**
WRA	**Warramunga Arr**	**14.09**	**166**	Pn	**Pn**	**03 38 52.2**	**+0.3**
	1.1nm,0.3s,baz=343,slow=13,SNR=41						
WRA				Sn	**Sn**	**03 41 21.5**	**-6.0**
	3.5nm,0.3s,baz=339,slow=22,SNR=7.6						
WB2	**Warramunga Arr**	**14.09**	**165**	*e*Pn	**Pn**	**03 38 53.4**	**+1.4**
WC3	**Warramunga Arr**	**14.11**	**165**	*e*Pn	**Pn**	**03 38 54.1**	**+1.8**
COEN	**Coen**	**14.53**	**123**	*e*Pn	**P**	**03 39 02.6**	**+2.0**
COEN				*e*Sn	**Sn**	**03 41 34.6**	**-3.6**
AS31	**Alice Springs**	**17.61**	**170**	*e*P	**Pn**	**03 39 39.7**	**+4.2**
	5.0nm,0.8s						
AS31				*e*S	**S**	**03 42 46.1**	**-5.4**
ASAR	**Alice Springs**	**17.61**	**170**	P	**Pn**	**03 39 39.1**	**+3.6**
	1.7nm,0.3s,baz=350,slow=11,SNR=80						
ASAR				S	**S**	**03 42 46.1**	**-5.4**
	0.7nm,0.3s,baz=350,slow=27,SNR=8.6						
PSAD1	**Pilbara Seismi**	**18.39**	**214**	*e*P	**P**	**03 39 44.2**	**+1.0**
	9.4nm,0.6s						
PSAC2	**Pilbara Seismi**	**18.43**	**213**	*e*P	**P**	**03 39 44.7**	**+0.9**
	20nm,1.1s						
PSAB2	**Pilbara Seismi**	**18.45**	**213**	*e*P	**Pn**	**03 39 46.0**	**+0.5**
	10nm,0.7s						
PSAC1	**Pilbara Seismi**	**18.46**	**214**	*e*P	**Pn**	**03 39 46.5**	**+0.9**
	15nm,0.9s						
PSAA2	**Pilbara Seismi**	**18.46**	**213**	*e*P	**Pn**	**03 39 46.2**	**+0.5**
	20nm,1.1s						
SMRI	**Semarang**	**20.07**	**267**	*e*P	**P**	**03 39 59.4**	**-2.2**
	40nm,0.7s						
SBUM	**Sibu**	**20.31**	**295**	*e*P	**P**	**03 40 02.0**	**-2.2**
	3.0nm,0.9s						
GIRL	**Giralia**	**22.72**	**222**	*e*P	**P**	**03 40 28.7**	**-0.6**
	70nm,1.0s						
FORT	**Forrest**	**24.53**	**185**	*e*P	**P**	**03 40 48.0**	**+2.2**
	19nm,0.6s						
BBOO	**Buckleboo**	**26.91**	**170**	*e*P	**P**	**03 41 10.1**	**+2.8**
	12nm,1.1s						
STKA	**Stephens Creek**	**27.48**	**159**	*e*P	**P**	**03 41 15.7**	**+3.3**
	0.5nm,0.8s						
STKA	**Stephens Creek**	**27.48**	**159**	P	**P**	**03 41 16.6**	**+4.1**
	3.1nm,1.0s,baz=347,slow=14,SNR=4.0						
CMAR	**Chiang Mai Arr**	**39.74**	**309**	P	**P**	**03 42 58.0**	**-0.5**
	3.3nm,0.4s,baz=134,slow=6.9,SNR=12						
SONA0	**Songino Array**	**57.93**	**341**	*e*P	**P**	**03 45 18.1**	**+1.0**
SONM	**Songino Array**	**57.93**	**341**	P	**P**	**03 45 18.1**	**+1.0**
	1.0nm,0.7s,baz=161,slow=6.0,SNR=4.6						
MK32	**Makanchi Array**	**67.94**	**326**	*e*P	**P**	**03 46 24.1**	**+0.8**
MKAR	**Makanchi Array**	**67.94**	**326**	P	**P**	**03 46 24.1**	**+0.8**
	4.9nm,0.6s,baz=112,slow=8.1,SNR=8.1						
PV12	**Saucer Basin,**	**117.67**	**50**	*e*PKPdf	**PKPdf**	**03 54 10.1**	**+0.1**

IDC 27 03:35:59.5±2.8, **4°.85S**×**151°.60E, h0**km, **mb4.0**/2, **mb1 4.2**/3, **mb1mx3.7**/38, **mbtmp4.1**/3, **ML1.7/1, Error ellipse: s-maj=226.8km s-min=25.4km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.32**	**224**	Pn	Pn	03 37 35.0	+1.0
	1.0nm,0.3s,baz=41,slow=11,SNR=3.1						
PMG				Sn	Sn	03 38 46.8	-0.1
	2.5nm,0.3s,baz=197,slow=6.4,SNR=3.9						
ASAR	**Alice Springs**	**25.32**	**221**	P	P	03 41 27.9	-0.3
	2.1nm,0.7s,baz=52,slow=8.8,SNR=6.5						
ILAR	**Eielson Array**	**82.66**	**22**	P	P	03 48 24.5	-0.1
	0.8nm,0.7s,baz=247,slow=5.3,SNR=10						
TORD	**Torodi Ar. Bea**	**149.19**	**288**	PKPbc	PKPbc	03 55 50.8	-0.4
	0.6nm,0.8s,baz=65,slow=2.8,SNR=10						

*BJI **27** 03:36:27.8±0.0, 14°.78N×53°.37E, h6km, mb5.1/25, mB5.3/50, Ms5.4/61, Ms7 5.3/59*
*MOS **27** 03:36:28.9±1.1, 14°.63N×53°.80E, h10km, mb5.4/56, MS5.2/49, Error ellipse: s-maj=6.2km s-min=3.5km az=104.1*
*ISCJB **27** 03:36:28.7±0.1, 14°.66N±0°.02×53°.89E±0°.02, h5km, mb5.2/193, MS5.4/672, Error ellipse: s-maj=2.9km s-min=2.4km az=9.9*
*IDC **27** 03:36:28.6±0.4, 14°.62N×53°.81E, h0km, mb4.6/45, mb1 4.6/46, mb1mx4.6/51, mbtmp4.6/46, ML4.1/1, MS5.3/40, Ms1 5.3/40, ms1mx5.3/41, Error ellipse: s-maj=10.6km s-min=9.5km az=109.0*
*DSN **27** 03:36:29.9±0.6, 14°.55N×53°.79E, h10km, mb5.6/7, ML4.6/1, Error ellipse: s-maj=13.5km s-min=7.4km az=102.0*
*NEIC **27** 03:36:30.1±2.4, 14°.55N×53°.89E, h10km±3km, mb5.4/108, MS5.5/640, MW5.9, MW5.9, Error ellipse: s-maj=12.9km s-min=9.1km az=164.0, Moment Tensor Solution. s68 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.37; $M_{\theta\theta}$5.78; $M_{\phi\phi}$-5.41; $M_{r\theta}$0.71; $M_{r\phi}$5.09; $M_{\theta\phi}$0.20; Best double couple: $M_0$7.60000×10^{17} NP1:ϕ_s24.00000°, δ86.00000°, λ177.00000°. NP2:ϕ_s114.00000°, δ87.00000°, λ4.00000°. Principal axes: T 7.8100, Plg5.0000°, Azm339.0000°; N -0.4400, Plg85.0000°, Azm153.0000°; P -7.3700, Plg1.0000°, Azm249.0000°;*
*GCMT **27** 03:36:31.1±0.1, 14°.53N±0°.01×53°.70E±0°.01, h18km, MW5.9/127, Moment Tensor Solution. s125, c253; s127, c393; Duration: 2s2 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.09±.01; $M_{\theta\theta}$0.71±.01; $M_{\phi\phi}$-0.61±.01; $M_{r\theta}$0.27±.02; $M_{\theta\phi}$0.60±.01; $M_{r\phi}$0.04±.02; Best double couple: $M_0$0.93100×10^{18} NP1:ϕ_s114.00000°, δ84.00000°, λ13.00000°. NP2:ϕ_s23.00000°, δ77.00000°, λ174.00000°. Principal axes: T 1.0060, Plg14.0000°, Azm339.0000°; N -0.1510, Plg75.0000°, Azm139.0000°; P -0.8550, Plg5.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **27** 03:36:31.0±0.0, 14°.49N×53°.94E, h11km Best double couple: NP1:ϕ_s107.00000°, δ87.00000°, λ19.00000°. NP2:ϕ_s16.00000°, δ71.00000°, λ177.00000°. Principal axes: T 1.1100, Plg15.0000°, Azm333.0000°; N -0.2100, Plg70.0000°, Azm114.0000°; P -0.9000, Plg11.0000°, Azm240.0000°;*
*OMAN **27** 03:36:32.4±0.1, 14°.82N×53°.88E, h10km, mb5.9/8, ml4.8/5, ms5.6/10, Mwp5.8/12 Error ellipse: s-maj=5.4km s-min=2.9km az=292.0*

ISC 27 03:36:29.7±0.9, **14°.65N**±0°.03×**53°.82E**±0°.03, **h3**km±5km, **n1321**, σ2°.43/868, **mb5.2**/201, **MS5.5**/680, **47C-44D, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**2.73**	**350**	P	**Pn**	**03 37 12.2**	**-2.3**
	SNR=14						
ABTO				S	**Sn**	**03 37 47.3**	**-0.9**
RBK	**Rabkut**	**2.86**	**7**	P	**Pn**	**03 37 12.6**	**-3.7**
RBK				S	**Sn**	**03 37 48.9**	**-2.4**
DMTO	**DMTO**	**3.24**	**19**	P	**Pn**	**03 37 17.5**	**-3.9**
DMTO				P	**Pn**	**03 37 17.5**	**-3.9**
DMTO				S	**Sn**	**03 37 56.6**	**-3.9**
DMTO				S	**Sn**	**03 37 56.6**	**-3.9**
WHFO	**Wadi Hawf**	**3.25**	**359**	P	**Pn**	**03 37 18.1**	**-3.6**
	SNR=10						
WHFO				S	**Sn**	**03 37 59.4**	**-1.5**
DQM	**DQM**	**6.34**	**34**	P	**Pn**	**03 38 00.7**	**-3.4**
	SNR=7.5						
DQM				S	**Sn**	**03 39 14.0**	**-3.1**
MHTO	**MHTO**	**7.44**	**32**	P	**Pn**	**03 38 18.9**	**-0.3**
	SNR=6.8						
MHTO				P	**Pn**	**03 38 18.9**	**-0.3**
	SNR=6.8						
MHTO				S	**Sn**	**03 39 40.4**	**-3.8**
MHTO				S	**Sn**	**03 39 40.4**	**-3.8**
MZR	**Muzera**	**8.31**	**358**	*i* P	**Pn**	**03 38 32.3**	**+1.1**
	SNR=7.1						
MZR	**Muzera**	**8.31**	**358**	P	**Pn**	**03 38 33.1**	**+1.8**
	SNR=10.0						
BSY	**Bisya**	**8.66**	**21**	P	**Pn**	**03 38 36.7**	**+0.6**
	SNR=5.3						
ARQ	**Araqi**	**9.01**	**16**	P	**Pn**	**03 38 42.6**	**+1.8**
DAMY	**Dhamar**	**9.12**	**271**	*e*Pn	**Pn**	**03 38 43.5**	**+0.9**
DAMY				*e*Sn	**Sn**	**03 40 31.5**	**+5.4**
SMDO	**Samad**	**9.27**	**25**	P	**Pn**	**03 38 45.4**	**+0.9**
	SNR=12						
SMDO				S	**Sn**	**03 40 26.4**	**-3.0**
WBK	**Wadi Bani Khal**	**9.30**	**31**	P	**Pn**	**03 38 46.2**	**+1.4**
WBK				S	**Sn**	**03 40 29.1**	**-0.9**
HOQ	**Hoqain**	**9.48**	**20**	P	**Pn**	**03 38 48.0**	**+0.8**
HOQ				S	**Sn**	**03 40 32.7**	**-1.6**
ALNE	**Al Ain**	**9.53**	**11**	P	**Pn**	**03 38 48.9**	**+0.9**
WSAR	**Wadi Sarin**	**9.68**	**27**	P	**Pn**	**03 38 50.0**	**0.0**
WSAR				S	**Sn**	**03 40 35.4**	**-3.9**
WSAR	**Wadi Sarin**	**9.68**	**27**	Pn	**Pn**	**03 38 49.7**	**-0.2**
	1.6nm,0.3s,baz=258,slow=10,SNR=10						
WSAR				Sn	Sn	03 40 30.1	-9.2
	0.9nm,0.3s,baz=225,slow=19,SNR=0.8						
WSAR				LR	LR	03 42 15.2	
	comp=Z,7μm,18.1s,baz=232,slow=36						
BIDO	**Bidbid**	**9.72**	**24**	P	**Pn**	**03 38 52.1**	**+1.6**
	SNR=8.9						
BIDO				P	**Pn**	**03 38 52.1**	**+1.6**
	SNR=8.9						
BIDO				S	**Sn**	**03 40 38.1**	**-2.1**
BIDO				S	**Sn**	**03 40 38.1**	**-2.1**
AJN	**Ajban**	**9.92**	**6**	P	**Pn**	**03 38 55.0**	**+1.7**
ASUD	**Al Ashush, Dub**	**10.03**	**8**	P	**Pn**	**03 38 55.3**	**+0.6**
ASUD	**Al Ashush, Dub**	**10.03**	**8**	P	**Pn**	**03 38 56.5**	**+1.8**
	SNR=5.3						
FAQ	**Al Faqa, Dubai**	**10.18**	**9**	P	**Pn**	**03 38 57.2**	**+0.4**
ASHO	**Ashiyiah**	**10.20**	**12**	*i* P	**Pn**	**03 38 57.4**	**+0.2**
	SNR=6.2						
ASHO	**Ashiyiah**	**10.20**	**12**	P	**Pn**	**03 38 57.9**	**+0.7**
	SNR=7.2						
HATD	**Hatta, Dubai**	**10.35**	**12**	*i* P	**Pn**	**03 39 00.6**	**+1.4**
	SNR=6.2						
HATD	**Hatta, Dubai**	**10.35**	**12**	P	**Pn**	**03 39 00.6**	**+1.4**
	SNR=6.4						
NAZ	**Nazwa, Dubai**	**10.43**	**9**	*i* P	**Pn**	**03 39 02.4**	**+2.1**
	SNR=6.4						
NAZ	**Nazwa, Dubai**	**10.43**	**9**	P	**Pn**	**03 39 02.4**	**+2.1**
	SNR=6.4						
MSFE	**Esma-Masafi**	**10.88**	**11**	*i* P	**Pn**	**03 39 07.1**	**+0.7**
	SNR=11						
ATD	**Arta Tunnel**	**11.13**	**255**	*e*Pn	**Pn**	**03 39 12.6**	**+2.8**
ATD				*e*Sn	**Sn**	**03 41 13.0**	**-1.9**
ATD	**Arta Tunnel**	**11.13**	**255**	Pn	**Pn**	**03 39 13.1**	**+3.2**
	34nm,0.3s,baz=64,slow=9.0,SNR=94						
ATD				LR	LR	03 42 30.5	
	comp=Z,72μm,18.4s,baz=76,slow=33						
DESE	**Dese**	**14.26**	**257**	*i* P	**Pn**	**03 39 55.8**	**+2.8**
DESE				*i* S	**S**	**03 42 56.3**	**+3.2**
DESE	**Dese**	**14.26**	**257**	*i* P	**Pn**	**03 39 55.8**	**+2.8**
DESE				*i* S	**S**	**03 42 56.3**	**+3.2**
ANKE	**Ethiopia-Afar**	**14.65**	**252**	*i* P	**Pn**	**03 39 56.7**	**-1.7**
ANKE				*i* S	**S**	**03 42 53.5**	**-7.6**
ANKE	**Ethiopia-Afar**	**14.65**	**252**	*i* P	**Pn**	**03 39 56.7**	**-1

KBL pmax pmax
comp=Z,40nm,1.0s
KBL MLR MLR
comp=Z,3μm,19.0s
AMAZ Amatzia 24.11 317 P **P 03 41 48.4 +1.6**
comp=Z,173nm,1.1s
CUKT Cukurca 24.27 340 *e*P **P 03 41 49.3 +1.0**
SARP Sargodha 24.34 42 P **P 03 41 49.8 +0.9**
THW Thamme Wali 24.34 39 P **P 03 41 50.0 +1.1**
SHMJ Saham 24.37 321 P **P 03 41 52.4 +3.3**
comp=Z,307nm,0.8s
MMAI Mount Meron Ar 24.78 321 P **P 03 41 53.0 0.0**
comp=Z,31nm,0.8s,baz=130,slow=9.9,SNR=26
MMAI LR LR 03 51 39.6
comp=Z,14μm,19.9s,baz=140,slow=37
SHBL Chebaa 24.81 322 *e*P **P 03 41 54.7 +1.4**
NGP Nagpur 24.85 71 *e*P **P 03 41 53.0 -0.6**
RCY Rachaya 24.86 322 *e*P **P 03 41 54.3 +0.6**
SIRT Sirnak 24.90 338 *e*P **P 03 41 55.4 +1.4**
SIRT Sirnak 24.90 338 *e*P **P 03 41 55.6 +1.5**
comp=Z,571nm,1.2s
SIRT LR LR
comp=Z,31μm,22.0s
DQRL Deir Qamar 25.16 322 *e*P **P 03 41 57.9 +1.5**
BHL Bhannes 25.25 323 *e*P **P 03 41 59.3 +2.1**
VANB Van 25.57 341 *e*P **P 03 42 02.4 +2.3**
MDRS Chennai 25.71 90 *e*P **P 03 41 58.7 -2.7**
MDRS IAMs_20 IAMs_20 03 50 55.5
NIL Nilore 25.84 40 *e*P **P 03 42 05.6 +3.1**
comp=Z,62nm,1.1s
NIL LR LR
comp=Z,2μm,20.0s
NIL Nilore 25.84 40 *e*P **P 03 42 05.6 +3.1**
NIL pmax pmax
comp=Z,62nm,1.1s
NIL MLR MLR
comp=Z,2μm,20.0s
CLDR Caldiran 25.91 342 *e*P **P 03 42 05.1 +1.8**
SVAN Silvan-Diyarba 25.94 337 *e*P **P 03 42 05.9 +2.5**
URFA Urfa 26.32 332 *e*P **P 03 42 12.1 +5.2**
MLAZ Malazgirt-MUS 26.34 340 *e*P **P 03 42 12.4 +5.3**
AGRB Hanur-Agry 26.59 341 *e*P **P 03 42 12.1 +2.7**
GNI Garni 26.62 344 *e*P **P 03 42 12.2 +2.6**
comp=Z,620nm,1.9s
GNI LR LR
comp=Z,6μm,21.0s
GNI Garni 26.62 344 *i*P **P 03 42 11.4 +1.8**
SNR=11
GNI Garni 26.62 344 *c i*P **P 03 42 11.1 +1.5**
GNI pmax pmax
comp=Z,751nm,1.7s
GNI Garni 26.62 344 P **P 03 42 12.0 +2.4**
SNR=11
GNI P **P 03 42 12.0 +2.4**
SNR=11
GNI Garni 26.62 344 P **P 03 42 09.9 +0.3**
comp=Z,36nm,0.8s,baz=159,slow=2.1,SNR=5.6
GNI LR LR 03 54 47.1
comp=Z,6μm,20.9s,baz=174,slow=41
VRTB Varto-Mus 26.73 338 *e*P **P 03 42 14.9 +4.3**
TAHT Tahtakopru-Hat 26.77 327 *e*P P 03 42 18.5 +7.7
GAZ Gaziantep 26.86 330 *e*P **P 03 42 15.6 +3.8**
BNGB Bingl 26.87 337 *e*P **P 03 42 14.6 +2.8**
SVRC Sivrice-ELAZID 26.89 334 *e*P **P 03 42 12.1 0.0**
H08N2 Diego Garcia H 26.92 140 T T 04 09 51.9
baz=320
H08N3 Diego Garcia H 26.93 140 T T 04 09 54.8
baz=320
H08N1 Diego Carcia H 26.94 140 T T 04 09 53.6
baz=320
SMLA Simla 26.96 49 *e*P **P 03 42 13.0 +0.4**
SMLA IAmb IAmb 03 42 38.2
comp=Z,114nm,1.7s
DHRM DHARAMSHALA 26.97 46 *e*P **P 03 42 12.5 -0.5**
DHRM IAmb IAmb 03 42 31.1
comp=Z,64nm,0.2s
DDI Dehra Dun 27.20 51 *e*P **P 03 42 13.3 -1.6**
DDI IAmb IAmb 03 42 14.7
comp=Z,1μm,0.0s
EREN Erenkoy 27.26 323 *e*P **P 03 42 18.3 +3.0**
KMRS Kahramanmaras 27.27 330 *e*P **P 03 42 21.8 +6.4**
YEDI Yedisu-Bingol 27.31 337 *e*P **P 03 42 22.4 +6.5**
KOPR Koprukoy-ERZUR 27.33 340 *e*P **P 03 42 21.6 +5.5**
KRTS Karatas 27.34 326 *e*P **P 03 42 22.9 +6.9**
CSS Mathiatis 27.37 321 *e*P **P 03 42 15.1 -1.1**
comp=Z,67nm,1.4s
CSS LR LR
comp=Z,16μm,21.0s
PALK Pallekele 27.37 103 *e*P **P 03 42 15.4 -1.1**
comp=Z,22nm,0.9s
PALK LR LR
comp=Z,7μm,22.0s
PALK Pallekele 27.37 103 *e*P **P 03 42 15.5 -1.1**
PALK pmax pmax
comp=Z,22nm,0.9s
PALK MLR MLR
comp=Z,7μm,22.0s
PALK Pallekele 27.37 103 P **P 03 42 20.8 +4.2**
comp=Z,8.4nm,0.8s,baz=296,slow=11,SNR=2.3
PALK LR LR 03 50 45.6
comp=Z,7μm,21.0s,baz=291,slow=31
YURE YUREGIR 27.40 327 *e*P P 03 42 24.2 +7.7
MBAR Mbarara 27.41 238 *e*P **P 03 42 16.8 -0.2**
comp=Z,29nm,1.2s
MBAR LR LR
comp=Z,12μm,19.0s
MBAR Mbarara 27.41 238 P **P 03 42 16.8 -0.2**
comp=Z,5.4nm,0.2s,baz=60,slow=8.0,SNR=8.4
MBAR LR LR 03 53 01.9
comp=Z,11μm,20.0s,baz=70,slow=36
CEYT Ceyhan 27.47 327 *e*P P 03 42 24.4 +7.2
CHGR Chuyangaron 27.48 27 *e*P **P 03 42 18.7 +1.3**
comp=Z,470nm,1.7s
CHGR LR LR
comp=Z,14μm,22.0s
KARS Kars 27.52 342 *e*P **P 03 42 21.0 +3.2**
SENK Senkaya-Erzuru 27.69 341 *e*P **P 03 42 24.6 +5.3**
LEF Lefka 27.74 321 *e*P **P 03 42 25.7 +6.1**
KOZT Kozan 27.79 328 *e*P **P 03 42 22.1 +2.1**
DARE Darende-Malaty 27.85 332 *e*P **P 03 42 26.9 +6.2**
KIZK Mersin 27.95 325 *e*P **P 03 42 24.2 +2.8**
SILI Silifke-Mersin 27.99 324 *e*P **P 03 42 27.5 +5.7**
MERS Mersin 28.02 326 *e*P **P 03 42 24.0 +1.8**
KARA Karaisali 28.03 327 *e*P **P 03 42 25.2 +3.1**
IKL Isikli 28.04 324 *e*P **P 03 42 23.2 +1.0**
KEBE Keben-Mersin 28.17 324 *e*P P 03 42 28.1 +4.6
GAR Garm 28.28 28 *e*P **P 03 42 25.6 +1.1**
comp=Z,36nm,1.0s
GAR LR LR
comp=Z,10μm,22.0s
GAR Garm 28.28 28 *e*P **P 03 42 25.6 +1.1**
GAR pmax pmax
comp=Z,36nm,1.0s
GAR MLR MLR
comp=Z,10μm,22.0s
TEKE Tekeli-Mersin 28.30 323 *e*P **P 03 42 24.4 -0.2**
DGAR Diego Garcia 28.67 139 PFAKE 03 42 40.0 +12
DGAR LR LR
comp=Z,23μm,20.0s
BCA Borcka 28.72 341 *e*P **P 03 42 30.1 +1.8**
MAK Makhachkala 28.73 350 *e*P **P 03 42 23.7 -4.6**
MAK *e* 03 43 15.1
MAK *e*SS **S 03 47 11.6 -6.6**
MAK *e*SS **SnSn 03 48 41.8 +3.2**
MAK pmax pmax
comp=Z,157nm,0.9s
MAK MLR MLR
comp=Z,4μm,14.0s
BNN Bunyan 28.85 330 *e*P **P 03 42 31.8 +2.2**
H08S3 Diego Garcia H 28.86 139 T T 04 12 26.0
baz=319
H08S1 Diego Carcia H 28.86 139 T T 04 12 27.5
baz=319
H08S2 Diego Garcia H 28.88 139 T T 04 12 26.4
baz=319
KTUT Trabzon 28.95 338 *e*P **P 03 42 33.6 +3.3**
SVSK Karacayir 29.17 333 *e*P **P 03 42 34.6 +2.4**
GROC Groznyy 29.27 348 *e*P **P 03 42 31.2 -1.9**
GROC *e* 03 43 23.9
GROC *e* 03 45 38.8
GROC pmax pmax
comp=Z,68nm,1.6s
ZEI Tsey 29.31 345 *e*P **P 03 42 32.0 -1.7**
ZEI pmax pmax
comp=Z,47nm,1.0s

BTK Batken 29.36 27 *e*P **P 03 42 35.5 +1.4**
comp=Z,51nm,1.0s
BTK LR LR
comp=Z,3μm,21.0s
BTK Batken 29.36 27 *e*P **P 03 42 35.5 +1.4**
BTK pmax pmax
comp=Z,51nm,1.0s
BTK MLR MLR
comp=Z,3μm,21.0s
RSDY Resadiye-TOKAT 29.42 334 *e*P P 03 42 40.0 +5.5
SULT Sultanhani-AKS 29.54 326 *e*P **P 03 42 36.7 +1.0**
TOKT Tokat 29.70 333 *e*P **P 03 42 40.9 +3.9**
YOZ Yozgat 29.72 330 *e*P **P 03 42 39.5 +2.2**
KONT Konya--Tatoy 29.99 325 *e*P P 03 42 45.7 +6.1
SERE Sereflikochisa 30.07 327 *e*P **P 03 42 43.7 +3.3**
CHBY Cihanbeyli 30.16 326 *e*P **P 03 42 44.7 +3.5**
LADK Ladik-KONYA 30.17 325 *e*P **P 03 42 43.4 +2.1**
PYUN Piuthan 30.19 59 *e*P **P 03 42 43.6 +1.9**
comp=Z,157nm,1.0s
KULU Kulu 30.43 327 *e*P **P 03 42 46.9 +3.3**
KBZ Khabaz 30.45 344 P **P 03 42 42.9 -0.6**
comp=Z,8.2nm,0.9s,baz=168,slow=9.5,SNR=11
KBZ LR LR 03 57 10.6
comp=Z,10μm,21.9s,baz=155,slow=41
CORM Corum 30.47 330 *e*P **P 03 42 45.7 +1.8**
AKAS Kas 30.50 319 *e*P P 03 42 49.7 +5.4
KORT Korkueli 30.52 321 *e*P **P 03 42 47.4 +2.9**
KVT Kavak 30.53 333 *e*P **P 03 42 46.2 +1.8**
KOLN Koldanda 30.59 60 *e*P **P 03 42 46.7 +1.5**
comp=Z,55nm,1.0s
BR131 Keskin Array S 30.61 329 P **P 03 42 46.5 +1.3**
SNR=12
BRTR Keskin Array B 30.61 329 *i*P **P 03 42 46.5 +1.3**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 30.61 329 P **P 03 42 44.4 -0.8**
comp=Z,4.6nm,0.8s,baz=150,slow=9.5,SNR=26
BRTR LR LR 03 56 33.2
comp=Z,6μm,18.4s,baz=122,slow=39
ELL Elmali 30.63 320 *e*P **P 03 42 47.5 +2.1**
BCK Bucak 30.68 322 *e*P P 03 42 54.7 +8.9
AFSR Afar-Bala (An 30.69 328 *e*P P 03 42 52.4 +6.5
KIV Kislovodsk 30.71 344 *e*P **P 03 42 47.9 +1.9**
comp=Z,66nm,1.3s
KIV LR LR
comp=Z,8μm,21.0s
KIV Kislovodsk 30.71 344⇑ *i*P **P 03 42 47.2 +1.2**
KIV Kislovodsk 30.71 344 *i*P **P 03 42 48.0 +1.9**
SNR=18
KIV Kislovodsk 30.71 344 *e*P **P 03 42 47.2 +1.2**
KIV *e* 03 43 46.9
KIV *e* 03 47 51.0
KIV pmax pmax
comp=Z,115nm,1.1s
KIV MLR MLR
comp=Z,16μm,15.0s
KIV Kislovodsk 30.71 344 P **P 03 42 47.1 +1.2**
SNR=9.3
KIV P **P 03 42 47.1 +1.2**
SNR=9.3
DANN Dangsing 30.91 59 *e*P **P 03 42 49.7 +1.5**
comp=Z,134nm,0.8s
KIZT Kizilcal 30.92 325 *e*P **P 03 42 49.6 +1.7**
ISP Isparta 30.96 323 *e*P **P 03 42 48.8 +0.5**
comp=Z,201nm,2.0s
ISP LR LR
comp=Z,7μm,22.0s
ISP Isparta 30.96 323 P **P 03 42 48.2 -0.1**
ISP Isparta 30.96 323 *e*P **P 03 42 48.8 +0.5**
ISP pmax pmax
comp=Z,201nm,2.0s
ISP MLR MLR
comp=Z,7μm,22.0s
FETY Fethiye 31.08 319 *e*P **P 03 42 51.4 +2.2**
FETY Fethiye 31.08 319 P **P 03 42 49.8 +0.6**
LOD Lodumlu 31.18 328 *e*P **P 03 42 52.1 +1.9**
SOC Sochi 31.26 340 *e*P **P 03 42 50.6 -0.1**
SOC *e* 03 43 48.8
SOC *e*S **S 03 47 56.2 -1.7**
SOC *e*SS **SnSn 03 49 36.6 -3.6**
SOC pmax pmax
comp=Z,172nm,0.8s
SOC MLR MLR
comp=Z,35μm,15.0s
CANT Cankiri 31.29 330 *e*P P 03 42 56.7 +5.6
DIKM Dikmen 31.34 333⇓ *i*P **P 03 42 54.5 +3.0**
SHUT Suhut-Afyon 31.44 324 *e*P **P 03 42 54.5 +2.0**
DALY Dalyan (Mula) 31.46 319 *e*P **P 03 42 54.2 +1.6**
KSH Kashi 31.49 34 P **P 03 42 50.5 -2.5**
KSH sP pwP 03 42 57.5 +1.2
KSH PP **PnPn 03 43 49.8 -6.0**
KSH S **S 03 47 54.3 -7.7**
KSH SS **SnSn 03 49 38.8 -7.4**
KSH pmax pmax
comp=Z,44nm,0.8s
KSH pmax pmax
comp=Z,300nm,6.5s
KSH LR LR
comp=Z,2μm,13.3s
KSH LR LR
comp=Z,3μm,16.9s
KSH LR LR
comp=Z,3μm,14.0s
SVRH Sivrihisar-ESK 31.52 326 *e*P **P 03 42 54.9 +1.8**
TURN Turunc 31.53 319 *e*P P 03 42 57.9 +4.8
ILGA Ilgaz 31.58 330 PFAKE 03 43 10.0 +16
ILGA LR LR
comp=Z,13μm,18.0s
SNOP Sinop 31.66 333 *e*P **P 03 42 55.9 +1.6**
SNOP Sinop 31.66 333 *e*P **P 03 42 54.6 +0.4**
comp=Z,124nm,2.0s
SNOP LR LR
comp=Z,14μm,19.0s
KARP Karpathos 31.69 316 *e*P **P 03 42 55.6 +0.9**
comp=Z,162nm,1.0s
CIFT Cifteler, Eski 31.71 325 *e*P **P 03 42 57.7 +2.9**
KK31 Karatay Array 31.77 24 *e*P **P 03 42 55.0 -0.3**
comp=Z,18nm,1.3s
KK31 Karatay Array 31.77 24 *i*P **P 03 42 55.6 +0.3**
KK31 pmax pmax
comp=Z,19nm,1.3s
KKAR Karatay Array 31.77 24 *e*P **P 03 42 54.4 -0.9**
comp=Z,18nm,1.3s
KKAR Karatay Array 31.77 24 *e*P **P 03 42 54.4 -0.9**
KKAR pmax pmax
comp=Z,18nm,1.3s
KKN Kakani 32.01 61 *e*P **P 03 42 59.0 +1.2**
comp=Z,82nm,0.9s
PKIN Phulchoki 32.04 61 *e*P **P 03 42 59.6 +1.5**
comp=Z,23nm,0.6s
PKI Pulchoki 32.05 61 *e*P **P 03 42 59.1 +0.8**
comp=Z,109nm,1.4s
DAT Datca 32.10 318 *e*P **P 03 42 59.7 +1.4**
ZKR Zakros 32.10 314 P **P 03 42 59.5 +1.3**
BZK Bozkurt 32.16 332 *e*P P 03 43 03.4 +4.8
MDUB Mudurnu 32.42 327 *e*P P 03 43 07.6 +6.5
MDUB Mudurnu 32.42 327 *e*P **P 03 43 00.8 -0.4**
comp=Z,54nm,0.8s
MDUB LR LR
comp=Z,39μm,20.0s
SRCK Saricakaya, Es 32.43 326 *e*P **P 03 43 03.6 +2.6**
BODT Bodrum 32.47 318 *e*P **P 03 43 03.8 +2.4**
BODT Bodrum 32.47 318 P **P 03 43 02.1 +0.7**
KULA Kula-Manisa 32.52 322 *e*P **P 03 43 03.4 +1.4**
KULA Kula-Manisa 32.52 322 P **P 03 43 02.7 +0.7**
MANT Manisa 32.57 322 PFAKE 03 43 10.0 +7.4
MANT LR LR
comp=Z,24μm,22.0s
NPS Neapolis 32.60 314 P **P 03 43 03.1 +0.5**
AYDB Zeytinkoy-Aydi 32.64 320 *e*P **P 03 43 04.9 +1.9**
LAST Lasithi 32.64 314 P **P 03 43 04.6 +1.6**
KURC Kurucasile-Bar 32.66 330 *e*P **P 03 43 05.5 +2.5**
TVSB Tavsanli 32.67 324 *e*P **P 03 43 05.1 +1.8**
JIRN Jiri 32.74 61 *e*P **P 03 43 05.3 +0.9**
comp=Z,133nm,1.1s
GULT Gulveren 32.76 326 *e*P P 03 43 10.8 +6.7
GCAM G?zelcaml? 32.90 319 *e*P P 03 43 10.2 +5.0
RAMN Ramite 32.90 63 *e*P **P 03 43 06.4 +0.8**
comp=Z,26nm,0.8s
NRN Naryn 32.90 32 *e*P **P 03 43 05.8 +0.2**
comp=Z,8.4nm,1.0s
NRN LR LR
comp=Z,4μm,18.0s
NRN Naryn 32.90 32 *e*P **P 03 43 05.8 +0.2**
NRN pmax pmax
comp=Z,8.0nm,1.0s
NRN MLR MLR
comp=Z,4μm,18.0s
CAVI Cavuskoy 32.97 325 *e*P P 03 43 11.4 +5.6
SPNC Sapanca-Adapaz 33.05 326 *e*P **P 03 43 09.5 +3.0**
ANAF Anafi Island 33.08 316 P **P 03 43 10.5 +3.7**
AAK Ala-Archa 33.09 29 *e*P **P 03 43 09.6 +2.6**
comp=Z,18nm,1.1s
AAK LR LR
comp=Z,2μm,21.0s
AAK Ala-Archa 33.09 29⇓ *e*P **P 03 43 09.5 +2.6**
AAK pmax pmax
comp=Z,16nm,1.9s
ANN Anapa 33.11 338 *e*P **P 03 43 06.9 0.0**
ANN *e* 03 44 14.8
ANN *e*S **S 03 48 30.3 +3.6**
ANN pmax pmax
comp=Z,23nm,0.7s
ANN MLR MLR
comp=N,2μm,11.0s
ANN MLR MLR
comp=Z,3μm,11.0s
AMGA Amorgos Island 33.26 317 P P 03 43 02.6 -5.8
FRU1 Bishkek 33.28 28 *e*P **P 03 43 08.0 -0.6**
comp=Z,67nm,0.3s
FRU1 LR LR
comp=Z,2μm,21.0s
FRU1 Bishkek 33.28 28 *e*P **P 03 43 08.0 -0.6**
FRU1 pmax pmax
comp=Z,67nm,0.3s
FRU1 MLR MLR
comp=Z,2μm,21.0s
SANT Santorini 33.30 316 PFAKE 03 43 20.0 +11
SANT LR LR
comp=Z,3μm,19.0s
SANT Santorini 33.30 316⇑ *i*P P 03 43 17.7 +9.0
HRT Hereke 33.49 326 *e*P **P 03 43 13.0 +2.6**
ODAN Odare 33.56 63 *e*P **P 03 43 12.8 +1.4**
comp=Z,132nm,1.4s
APE Apeiranthos 33.63 317 P **P 03 43 10.7 -1.0**
APE Apeiranthos 33.63 317⇑ *i*P **P 03 43 12.5 +0.9**
APE Apeiranthos 33.63 317 *c e*P **P 03 43 12.6 +0.9**
APE pmax pmax
comp=Z,41nm,1.0s
OPO Ambohidratompo 33.65 191 P **P 03 43 11.5 -0.6**
comp=Z,8.5nm,0.8s,baz=14,slow=8.9,SNR=10
VAM Vamos 33.66 313 P **P 03 43 13.3 +1.4**
BOOM Boomskoye usch 33.66 30 PFAKE 03 43 20.0 +8.0
BOOM LR LR
comp=Z,3μm,21.0s
URLA Izmir 33.70 320 *e*P P 03 43 21.7 +10
BALB Balikesir 33.71 323 *e*P **P 03 43 14.1 +1.8**
BALB Balikesir 33.71 323 *e*P **P 03 43 13.9 +1.7**
comp=Z,176nm,1.3s
BALB LR LR
comp=Z,22μm,21.0s
ARMT Armutlu 33.76 325 *e*P **P 03 43 13.8 +1.1**
IMMV Iera Moni Meta 33.84 313 P **P 03 43 15.5 +2.1**
KCTX Karacabey (Bur 33.85 324 *e*P P 03 43 18.5 +5.0
ISK Istanbul-Kandi 33.99 326 *e*P P 03 43 20.4 +5.7
KDJ Kajisay 34.01 32 PFAKE 03 43 30.0 +15
KDJ LR LR
comp=Z,3μm,18.0s
TARG Taragay, Kyrgy 34.05 33 PFAKE 03 43 30.0 +14
TARG LR LR
comp=Z,2μm,18.0s
ABPO Ambohimpanom 34.08 191 *e*P **P 03 43 15.6 -0.2**
comp=Z,197nm,1.4s
ABPO LR LR
comp=Z,11μm,20.0s
ABPO Ambohimpanom 34.08 191 *e*P **P 03 43 15.6 -0.2**
ABPO pmax pmax
comp=Z,197nm,1.4s
ABPO MLR MLR
comp=Z,11μm,20.0s
EDC Edincik 34.18 323 *e*P P 03 43 21.7 +5.3
BGKT Bogazkoy 34.23 325 *e*P **P 03 43 19.8 +3.1**
CTKS Kestanelik-??a 34.42 325 *e*P P 03 43 22.9 +4.6
SIM Simferopol' 34.51 335 *c e*P **P 03 43 20.4 +1.3**
SIM *i*S **S 03 48 56.1 +7.7**
SIM *e*SS **SS 03 51 21.0 +3.2**
SIM pmax pmax
comp=Z,152nm,1.8s
ANKY Antikythira Is 34.52 313 P **P 03 43 20.3 +0.9**
AAA Alma-Ata 34.67 30 *e*P P 03 43 33.2 +13
AAA *e*S **S 03 48 59.0 +7.8**
AAA pmax pmax
comp=Z,200nm,3.9s
AAA smax smax
comp=N,800nm,14.6s
AAA MLR MLR
comp=Z,1μm,17.0s
LPK Lapseki 34.84 323 *e*P **P 03 43 24.9 +2.8**
AB31 Akbulak array 34.87 7 *e*P **P 03 43 20.5 -1.7**
AB31 pmax pmax
comp=Z,65nm,1.1s
ABKAR Akbulak array 34.87 7 *e*P **P 03 43 21.9 -0.2**
comp=Z,56nm,1.0s
MRIV Mauritius Mete 34.92 174 *e*P **P 03 43 21.0 -1.8**
comp=Z,46nm,0.9s
MRIV LR LR
comp=Z,4μm,20.0s
KTHR Kythira 34.93 314 P **P 03 43 24.8 +1.9**
BOZC Bozcaada 34.93 321 *e*P **P 03 43 26.1 +3.2**
ERIK Erikli-Kesan 35.18 323 *e*P **P 03 43 27.3 +2.4**
VLI Veliai 35.20 314 P **P 03 43 22.1 -3.1**
PHSR Pinarhisar 35.23 325⇑ *i*P **P 03 43 28.1 +2.7**
DION Dionisos Attik 35.25 317 P **P 03 43 21.1 -4.5**
DID Didima 35.41 316 P **P 03 43 25.9 -1.1**
ALN Alexandroupoli 35.60 323 PFAKE 03 43 40.0 +11
ALN LR LR
comp=Z,1μm,19.0s
RER Riviere de l'E 35.64 177 *e*P **P 03 43 27.3 -1.8**
comp=Z,109nm,1.1s
RER LR LR
comp=Z,7μm,19.0s
EDRB Edirne 35.81 324 *e*P **P 03 43 33.4 +3.1**
EDRB Edirne 35.81 324 P **P 03 43 31.5 +1.2**
AKTO Aktyubinsk 35.85 5 P **P 03 43 28.4 -2.2**
AKTO pmax pmax
comp=Z,29nm,0.7s
VLX Vlachokerasia 35.92 315 P P 03 43 26.6 -4.9
RDO Rodhopi 36.05 323 P **P 03 43 28.4 -4.0**
PDGK Podgornoye 36.06 32 P **P 03 43 31.2 -1.5**
PDGK pmax pmax
comp=Z,19nm,0.9s
ITM Ithomi 36.13 314 *e*P **P 03 43 33.7 +0.5**
comp=Z,46nm,1.0s
ITM LR LR
comp=Z,5μm,21.0s
ITM Ithomi 36.13 314 P **P 03 43 35.9 +2.6**
ATAL Atalanti 36.18 317 P P 03 43 25.2 -8.4
GUR Goura 36.23 316 P **P 03 43 32.9 -1.3**
PSN Preselentsi 36.28 328 *e*P **P 03 43 35.6 +1.2**
DSF Desfina 36.36 317 P **P 03 43 38.4 +3.2**
KLV Kalavryta, Ach 36.42 316 P P 03 43 30.9 -4.8
PAIG Paliouri 36.45 319 P P 03 43 30.6 -5.3
AXAR Agios Charalam 36.46 317 P **P 03 43 38.7 +2.7**
OUR Ouranopolis 36.50 320 P **P 03 43 39.6 +3.3**
KALE Kalithea 36.61 316 P **P 03 43 35.8 -1.5**
LAKA Lakka 36.64 316 P **P 03 43 33.0 -4.6**
TRIZ Trizonia 36.64 316 P **P 03 43 39.8 +2.3**
DRO Drossia 36.67 315 P **P 03 43 37.3 -0.5**
EFP Efpalio 36.78 316 P **P 03 43 37.5 -1.2**
AGG Agios Georgios 36.82 317 *e*P **P 03 43 38.8 -0.3**
comp=Z,271nm,2.0s
AGG LR LR
comp=Z,5μm,19.0s
AGG Agios Georgios 36.82 317 P P 03 43 31.9 -7.2
AGG Agios Georgios 36.82 317 *e*P **P 03 43 38.8 -0.3**
AGG pmax pmax
comp=Z,271nm,2.0s
AGG MLR MLR
comp=Z,5μm,19.0s
OTUK Ortayu 36.83 21 P **P 03 43 40.3 +1.2**
OTUK pmax pmax
comp=Z,73nm,1.0s
ANX Ano Chora 36.86 316 P **P 03 43 42.5 +3.0**
RZN Rozhen 36.87 323 *e*P **P 03 43 42.3 +2.6**
RLS Riolos of Patr 36.89 315 P **P 03 43 39.3 -0.4**
TLB Topalu 37.00 329⇓ *i*P **P 03 43 41.7 +1.2**
TLB Topalu 37.00 329⇓ P **P 03 43 41.7 +1.2**
PVO Paravola 37.14 316 P **P 03 43 40.4 -1.4**
SRS Serrai 37.20 321 P **P 03 43 40.9 -1.4**

SHL Shillong 37.24 67 *e*P **P 03 43 42.0 -1.0**
SHL IAMs_20 IAMs_20 03 56 05.8
comp=Z,6μm,23.1s
CFR Carcaliu 37.38 330⇑*i*P **P 03 43 45.1 +1.4**
CFR Carcaliu 37.38 330⇑P **P 03 43 45.1 +1.4**
MMB Musomiste 37.40 322 *e*P **P 03 43 45.0 +1.0**
LSA Lhasa 37.49 60 PFAKE 03 44 00.0 +15
LSA LR LR
comp=Z,3μm,21.0s
LSA Lhasa 37.49 60 P **P 03 43 45.3 -0.1**
KNT Kendrikon 37.65 321 P **P 03 43 47.2 +1.1**
VRH Novokhopyorsk 37.74 348 *e*P **P 03 43 46.8 +0.1**
VRH *e*S **S 03 49 35.6 -2.1**
VRH pmax pmax
comp=Z,70nm,0.8s
VRH smax smax
comp=N,1μm,12.9s
VRH MLR MLR
comp=Z,5μm,17.0s
VAY Valandovo 37.94 321 *i*P **P 03 43 49.2 +0.7**
KPRO Kipourio 37.95 318 P P 03 43 53.7 +5.0
KKB Krupnik 37.95 322 *e*P **P 03 43 47.6 -1.0**
DGPR DIGLIPUR 37.97 87 *e*P **P 03 43 49.6 +0.6**
DGPR IAMs_20 IAMs_20 03 57 21.4
comp=Z,7μm,23.1s
VORD Divnogorie 38.08 345 *e*P **P 03 43 49.3 -0.2**
VORD pmax pmax
comp=Z,20nm,0.8s
ISR Istrita 38.13 328⇓*i*P **P 03 43 52.5 +2.4**
ISR Istrita 38.13 328⇓P **P 03 43 52.5 +2.4**
VTS Vitosha 38.31 323 PFAKE 03 44 00.0 +8.2
VTS LR LR
comp=Z,4μm,22.0s
VTS Vitosha 38.31 323 P **P 03 43 49.9 -1.9**
VTS Vitosha 38.31 323⇓*i*P **P 03 43 53.1 +1.3**
VTS Vitosha 38.31 323⇓P **P 03 43 53.1 +1.3**
VTS Vitosha 38.31 323 *e*P **P 03 43 52.8 +1.0**
VSR Storozhevoye 38.34 345 *e*P **P 03 43 51.1 -0.6**
VSR *e*S **S 03 49 40.3 -6.5**
VSR pmax pmax
comp=Z,20nm,0.6s
VSR smax smax
comp=N,740nm,9.4s
VSR MLR MLR
comp=Z,9μm,28.0s
BISRR Bisoca 38.35 329⇑*i*P **P 03 43 55.0 +3.0**
FNA Florina 38.39 319 PFAKE 03 44 00.0 +7.6
FNA LR LR
comp=Z,4μm,22.0s
KIS Kishinev 38.40 332 *e*P **P 03 43 52.0 -0.3**
comp=Z,180nm,1.4s
KIS Kishinev 38.40 332 *e*PP PP 03 45 20.0 -0.1
comp=Z,1μm,17.0s
KIS Kishinev 38.40 332 *e*PcP **PcP 03 46 08.0 +2.2**
KIS *e*S **S 03 49 44.0 -3.9**
KIS *e*SS **SnSn 03 52 19.0 -14**
KIS *e*LQ LQ 03 58 40.0
KIS *e*LR LR 04 00 40.0
comp=Z,4μm,15.0s
KIS Kishinev 38.40 332 *e*P **P 03 43 52.0 -0.3**
KIS *e* 03 43 59.0
KIS *e* 03 45 20.0
KIS *e* 03 46 08.0
KIS *e*S **S 03 49 44.0 -3.9**
KIS *e*SS **SnSn 03 52 19.0 -14**
KIS pmax pmax
comp=Z,180nm,1.4s
KIS pmax pmax
comp=Z,1μm,17.0s
KIS MLR MLR
comp=Z,4μm,15.0s
VRI Vrincioaia 38.56 329⇑*i*P **P 03 43 56.1 +2.4**
VRI Vrincioaia 38.56 329⇑P **P 03 43 56.1 +2.4**
PLOR Plostina 38.59 329⇓*i*P **P 03 43 57.6 +3.6**
PLOR Plostina 38.59 329⇓P **P 03 43 57.6 +3.6**
MLR Muntele Rosu 38.69 328 PFAKE 03 44 10.0 +15
MLR LR LR
comp=Z,8μm,22.0s
MLR Muntele Rosu 38.69 328⇑*i*P **P 03 43 58.2 +3.2**
MLR Muntele Rosu 38.69 328⇑P **P 03 43 58.2 +3.2**
SRN Sarande 38.80 317 P P 03 44 01.5 +5.7
KEK Kerkira 38.85 317 P **P 03 44 00.3 +4.1**
OHR Ohrid 38.93 319 *i*P P 03 44 03.1 +6.2
TPE Tepelena 39.01 317 P **P 03 43 59.6 +2.1**
TESR Tescani 39.06 330⇓*i*P **P 03 43 59.3 +1.4**
LSZ Lusaka 39.06 221 *i*P **P 03 43 58.6 +0.2**
LSZ Lusaka 39.06 221 PFAKE 03 44 10.0 +12
LSZ LR LR
comp=Z,10μm,20.0s
LSZ Lusaka 39.06 221 P **P 03 43 59.2 +0.8**
SNR=22
LSZ P **P 03 43 59.2 +0.8**
SNR=22
LSZ Lusaka 39.06 221 *i*P **P 03 43 58.6 +0.2**
LSZ Lusaka 39.06 221 P **P 03 43 57.8 -0.5**
comp=Z,4.9nm,0.6s,baz=76,slow=5.3,SNR=13
VOIR 39.12 328⇓*i*P **P 03 43 59.7 +1.2**
VOIR 39.12 328⇓P **P 03 43 59.7 +1.2**
OZUR 39.19 329⇓*i*P **P 03 44 00.1 +1.1**
ARR Arges 39.29 327⇓*i*P **P 03 44 01.3 +1.4**
DOPR Dopca 39.30 328⇓*i*P **P 03 44 00.7 +0.7**
PUNG Punghina 39.51 325⇓*i*P **P 03 44 02.7 +1.1**
BIZ Bicaz 39.63 330⇓*i*P **P 03 44 04.3 +1.7**
TIR Tirane 39.65 319 PFAKE 03 44 10.0 +7.1
TIR LR LR
comp=Z,4μm,22.0s
LPSR Galich'ya Gora 39.67 346 *e*P **P 03 44 02.3 -0.6**
LPSR *e* 03 45 33.9
LPSR *e*S **S 03 50 05.1 -1.7**
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR smax smax
comp=N,1μm,11.8s
LPSR MLR MLR
comp=Z,6μm,24.0s
MAKZ Makanchi 39.75 30 *e*P **P 03 44 04.0 +0.3**
comp=Z,34nm,1.4s
MAKZ LR LR
comp=Z,2μm,21.0s
MAKZ Makanchi 39.75 30 *e*P **P 03 44 04.0 +0.3**
MAKZ pmax pmax
comp=Z,34nm,1.4s
MAKZ MLR MLR
comp=Z,2μm,21.0s
LOT Lotru 39.80 327⇓*i*P **P 03 44 05.0 +0.8**
PRAR RASCA 39.87 331⇑*i*P **P 03 44 06.1 +1.5**
MK31 Makanchi Array 39.90 31 *e*P **P 03 44 05.5 +0.6**
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 39.90 31 *i*P **P 03 44 05.6 +0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 39.90 31 P **P 03 44 04.0 -0.9**
comp=Z,2.3nm,0.7s,baz=212,slow=8.5,SNR=18
MKAR LR LR 04 02 44.2
comp=Z,3μm,21.5s,baz=226,slow=40
HERR Herculane 40.17 325⇑*i*P **P 03 44 09.9 +2.7**
GZR Gura Zlata 40.30 326⇑*i*P **P 03 44 09.7 +1.4**
GZR Gura Zlata 40.30 326⇑P **P 03 44 09.7 +1.4**
BVAR Borovoye Array 40.48 15 P **P 03 44 10.1 +0.5**
comp=Z,17nm,0.7s,baz=194,slow=5.5,SNR=51
BRVK Borovoye 40.48 15 *e*P **P 03 44 10.0 +0.4**
comp=Z,51nm,0.8s
BRVK LR LR
comp=Z,3μm,21.0s
BRVK Borovoye 40.48 15*ce*P **P 03 44 09.9 +0.3**
BRVK pmax pmax
comp=Z,22nm,0.8s
BRVK Borovoye 40.48 15 P **P 03 44 10.7 +1.1**
SNR=12
BRVK P **P 03 44 10.7 +1.1**
SNR=12
MDVR Moldovita 40.51 324⇑*i*P **P 03 44 09.9 -0.1**
BURAR Bucovina Array 40.53 330⇑*i*P **P 03 44 12.4 +2.2**
BURAR Bucovina Array 40.53 330⇑P **P 03 44 12.4 +2.2**
ARCR ARCALIA 40.59 329⇓*i*P **P 03 44 12.1 +1.5**
TTG Podgorica 40.62 320 PFAKE 03 44 20.0 +9.1
TTG LR LR
comp=Z,4μm,19.0s
TIP Timpagrande 40.67 314⇓*i*P **P 03 44 14.3 +2.8**
CJR Cluj-Napoca 40.72 328⇓*i*P **P 03 44 12.6 +0.8**
CJR Cluj-Napoca 40.72 328⇓P **P 03 44 12.6 +0.8**
CEL Celeste 40.88 312 PFAKE 03 44 30.0 +17
CEL LR LR
comp=Z,4μm,19.0s
WDD Wied Dalam 40.96 308 PFAKE 03 44 30.0 +16
WDD LR LR
comp=Z,7μm,20.0s
WMQ Urumqi 40.97 38 *e*P **P 03 44 14.0 +0.1**
WMQ sP pwP 03 44 22.5 +5.3
WMQ PP **PP 03 45 50.5 +2.2**
WMQ S **S 03 50 29.8 +3.1**
WMQ sS sS 03 50 37.8 +11
WMQ SS **SS 03 53 20.3 -8.0**
WMQ pmax pmax
comp=Z,120nm,0.6s
WMQ pmax pmax
comp=Z,960nm,4.1s
WMQ LR LR
comp=Z,18μm,29.3s
WMQ LR LR
comp=Z,13μm,33.9s
WMQ LR LR
comp=Z,13μm,32.5s
BZS Buzias 41.07 325⇓*i*P **P 03 44 15.2 +0.6**
BZS Buzias 41.07 325⇓P **P 03 44 15.2 +0.6**
KURBB Kurchatov Arra 41.08 24 P **P 03 44 14.2 -0.4**
comp=Z,5.4nm,0.9s,baz=221,slow=8.4,SNR=23
AKASG Malin Array Be 41.09 336 *i*P **P 03 44 14.6 -0.1**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG Malin Array Be 41.09 336 P **P 03 44 14.2 -0.5**
comp=Z,9.5nm,0.6s,baz=133,slow=7.8,SNR=23
AKASG PP **PP 03 45 50.3 +1.0**
comp=Z,7.4nm,0.9s,baz=140,slow=10.0,SNR=4.5
AKASG LR LR 04 05 13.6
comp=Z,3μm,18.6s,baz=150,slow=42
AKBB Malin Array Si 41.09 336 PFAKE 03 44 30.0 +15
AKBB LR LR
comp=Z,3μm,20.0s
KIEV Kiev 41.09 336 *e*P **P 03 44 14.1 -0.6**
comp=Z,128nm,1.8s
KIEV LR LR
comp=Z,3μm,20.0s
KIEV Kiev 41.09 336⇓*i*P **P 03 44 15.3 +0.6**
KIEV Kiev 41.09 336 *i*P **P 03 44 14.9 +0.2**
SNR=16
KIEV Kiev 41.09 336⇓P **P 03 44 15.3 +0.6**
KURK Kurchatov 41.19 24 *e*P **P 03 44 16.1 +0.7**
comp=Z,21nm,0.8s
KURK Kurchatov 41.19 24*c i*P **P 03 44 15.7 +0.3**
KURK pmax pmax
comp=Z,13nm,1.3s
KURK Kurchatov 41.19 24 P **P 03 44 16.3 +0.8**
SNR=12
KURK P **P 03 44 16.3 +0.8**
SNR=12
DRGR 41.23 327⇑*i*P **P 03 44 15.7 -0.3**
DRGR 41.23 327⇑P **P 03 44 15.7 -0.3**
MATE Matera 41.38 316⇓*i*P **P 03 44 18.9 +1.8**
BMR Baia Mare 41.42 329⇓*i*P **P 03 44 19.2 +1.8**
BMR Baia Mare 41.42 329⇓P **P 03 44 19.2 +1.8**
SIRR Siria 41.45 326⇑*i*P **P 03 44 18.9 +1.1**
ARU Arti 41.85 4 *e*P **P 03 44 20.9 +0.1**
comp=Z,25nm,1.0s
ARU LR LR
comp=Z,3μm,20.0s
ARU Arti 41.85 4*c i*P **P 03 44 21.0 +0.1**
ARU 03 45 59.8
ARU 03 46 16.9
ARU S **S 03 50 40.0 +0.7**
ARU SS **SS 03 53 45.4 +0.1**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU MLR MLR
comp=Z,3μm,20.0s
LTVH Ltavrtes, Hu 42.04 328 *e*P **P 03 44 26.0 +3.5**
LTVH *e*PP PP 03 46 08.0 +8.3
LTVH *e*S **S 03 50 45.0 +2.8**
TRPA Tarpa 42.20 329⇓*i*P **P 03 44 23.9 +0.1**
TRPA Tarpa 42.20 329 *e*P **P 03 44 24.1 +0.3**
TRPA *e*PP PP 03 46 09.0 +7.6
TRPA *e*S **S 03 50 46.1 +1.5**
SVE Sverdlovsk 42.41 6 *e*P **P 03 44 25.6 +0.2**
SVE *e*S **S 03 50 48.7 +1.2**
SVE pmax pmax
comp=Z,38nm,1.9s
SVE MLR MLR
comp=Z,3μm,23.0s
BLWY Bulawayo 42.54 216 *i*P **P 03 44 30.1 +3.1**
BLWY Bulawayo 42.54 216 *i*P **P 03 44 30.1 +3.1**
OBN Obninsk 42.54 345 PFAKE 03 44 40.0 +14
OBN LR LR
comp=Z,6μm,21.0s
OBN Obninsk 42.54 345*c i*P **P 03 44 26.7 +0.3**
OBN *e* 03 46 12.3
OBN *e* 03 46 17.2
OBN *e*PPP PPP 03 46 36.7
OBN pmax pmax
comp=Z,23nm,0.6s
CLTB Caltabellotta 42.56 310 PFAKE 03 44 40.0 +13
CLTB LR LR
comp=Z,3μm,20.0s
LVV L'vov 42.64 332 *e*P **P 03 44 27.5 +0.1**
LVV *e* 03 46 12.2
LVV *e* 03 46 38.1
LVV *e*S **S 03 50 48.6 -2.5**
LVV *e* 03 54 38.1
LVV MLR MLR
comp=N,2μm,18.0s
LVV MLR MLR
comp=Z,3μm,18.0s
LVV MLR MLR
comp=E,3μm,17.0s
UZH Uzhgorod 42.66 329 *e*P **P 03 44 27.0 -0.5**
UZH *e* 03 44 33.0
UZH *e* 03 46 10.5
UZH *e*S **S 03 50 51.0 -0.3**
UZH MLR MLR
comp=N,500nm,19.0s
UZH MLR MLR
comp=E,700nm,19.0s
UZH MLR MLR
comp=Z,600nm,19.0s
MATP Matopo 42.83 216 *i*P **P 03 44 29.4 0.0**
MATP Matopo 42.83 216 *i*P **P 03 44 29.4 0.0**
MATP Matopo 42.83 216 P **P 03 44 27.9 -1.5**
comp=Z,21nm,0.7s,baz=30,slow=9.1,SNR=19
MOS Moscow 42.86 347 *e*P **P 03 44 28.7 -0.3**
MOS *e* 03 44 35.2
MOS *e* 03 46 12.2
MOS *e*S **S 03 50 55.8 +1.7**
MOS pmax pmax
comp=Z,54nm,0.8s
MOS MLR MLR
comp=N,5μm,22.0s
MOS MLR MLR
comp=Z,5μm,22.0s
KOLS Kolonicke sedl 42.87 330 *e*P **P 03 44 30.8 +1.5**
KOLS pmax pmax
comp=Z,326nm,2.9s
KOLS Kolonicke sedl 42.87 330 *e*P **P 03 44 30.8 +1.5**
KOLS *e*PP **PP 03 46 11.9 +3.3**
KOLS *e*S **S 03 50 58.0 +3.5**
KOLS *e*L L 04 01 13.2
MORH Mrgy, Hungar 43.09 324 *e*P **P 03 44 30.1 -1.0**
MORH *e*PP **PP 03 46 13.1 +2.0**
MORH *e*S **S 03 50 59.1 +1.3**
BLY Banja Luka 43.13 322 PFAKE 03 44 40.0 +8.6
BLY LR LR
comp=Z,4μm,22.0s
BLY Banja Luka 43.13 322⇓*i*P **P 03 44 31.7 +0.3**
KWP Kalwaria Pacla 43.13 331 *e*P **P 03 44 31.8 +0.5**
KWP *e*S **S 03 50 59.4 +1.1**
KWP LMZ LR 03 58 29.0
KWP Kalwaria Pacla 43.13 331 PFAKE 03 44 40.0 +8.6
KWP LR LR
comp=Z,35μm,18.0s
KWP Kalwaria Pacla 43.13 331 *e*P **P 03 44 31.8 +0.5**
KWP *e*S **S 03 50 59.4 +1.1**
CHTO Chiang Mai 43.33 78 PFAKE 03 44 40.0 +6.6
CHTO LR LR
comp=Z,2μm,21.0s
CMMT Chiang Mai 43.34 78 P P 03 44 40.8 +7.3
comp=Z,12nm,2.0s,comp=Z,361nm
CMAR Chiang Mai Arr 43.34 79 *i*P **P 03 44 33.7 +0.2**
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 43.34 79 P **P 03 44 33.0 -0.6**
comp=Z,2.5nm,0.6s,baz=277,slow=9.3,SNR=12
CMAR LR LR 04 03 05.0
comp=Z,1μm,19.4s,baz=282,slow=37
UMPA Umpang Tak 43.39 82 P P 03 44 42.2 +8.3
comp=Z,83μm,0.8s
PSZ Piszkesteto 43.43 327 PFAKE 03 44 50.0 +16
PSZ LR LR
comp=Z,5μm,21.0s
PSZ Piszkesteto 43.43 327⇑*i*P **P 03 44 34.5 +0.6**
PSZ Piszkesteto 43.43 327⇑P **P 03 44 34.5 +0.6**
KECS Kecovo 43.47 328 *e*P **P 03 44 35.2 +1.1**
KECS pmax pmax
comp=Z,41nm,0.9s
KECS Kecovo 43.47 328 *e*P **P 03 44 35.2 +1.1**
MSNA Messina 43.54 213 *i*P **P 03 44 37.5 +2.5**
MSNA Messina 43.54 213 *i*P **P 03 44 37.5 +2.5**
TIH Tihany 43.91 325 *e*P **P 03 44 40.1 +2.4**
TIH *e*PP **PcP 03 46 22.0 -1.8**
TIH *e*S **S 03 51 17.1 +7.3**
CSKK Cskako 43.98 325 *e*P **P 03 44 39.1 +0.9**
CSKK *e*S **S 03 51 11.0 +0.3**
LAMP Lampang 43.99 78 P P 03 44 43.7 +4.9
comp=Z,61μm,0.9s
SRO2 Moca 44.14 326 *e*P **P 03 44 39.8 +0.3**
SRO2 Moca 44.14 326 *e*P **P 03 44 39.8 +0.3**
NIE Niedzica 44.16 329 *e*P **P 03 44 39.5 -0.3**
NIE *e*S **S 03 51 14.8 +1.3**
NIE Niedzica 44.16 329 *e*P **P 03 44 39.5 -0.3**
NIE *e*S **S 03 51 14.8 +1.3**
PAYA Payao 44.19 77 P P 03 44 47.1 +6.7
comp=Z,38μm,0.7s,comp=Z,495μm
TPTI 44.22 101 P P 03 44 48.8 +8.2
BEHE Becsehely 44.30 323 *e*P P 03 44 47.0 +6.2
BEHE *e*PP **PcP 03 46 32.0 +6.9**
VYHS Vyhne 44.34 327 *e*P **P 03 44 41.3 +0.2**
VYHS Vyhne 44.34 327 *e*P **P 03 44 41.3 +0.2**
VYHS *e*PP **PcP 03 46 29.4 +4.1**
VYHS *e*S **S 03 51 20.1 +4.0**
VYHS *e*L L 04 00 48.3
AQU L'Aquila 44.36 317 PFAKE 03 44 50.0 +8.6
AQU LR LR
comp=Z,2μm,21.0s
DGZ Jazzator, Alta 44.40 31⇓*e*P **P 03 44 42.7 +1.0**
DGZ pmax pmax
comp=Z,7.0nm,2.0s
LANS Liptovska Anna 44.42 328 *e*P **P 03 44 42.6 +0.8**
LANS Liptovska Anna 44.42 328 *e*P **P 03 44 42.6 +0.8**
PHRA Phrae 44.56 78 P P 03 44 48.0 +4.7
comp=Z,5.4nm,2.0s,comp=Z,675nm
KOGS Kog 44.60 323 *i*P **P 03 44 43.7 +0.6**
KOGS *e*S **S 03 51 21.3 +1.5**
MICGM Minsk 44.61 339 *e*P **P 03 44 42.0 -1.2**
MICGM *e*PP **PcP 03 46 25.0 -1.0**
MICGM *e*PPP PPP 03 47 18.0
MICGM *e*S **S 03 51 20.0 +0.2**
MICGM *e*SS **ScS 03 54 44.0 +2.0**
MICGM *e*LR LR 03 59 12.0
MICGM LRM MLR 04 03 24.0
comp=Z,4.6nm,24.0s
MICGM LRM MLR 04 03 24.0
comp=E,13nm,18.0s
MNK Minsk 44.61 339 *e*P **P 03 44 42.0 -1.2**
MNK *e* 03 46 25.0
MNK *e*S **S 03 51 20.0 +0.2**
MNK *e*SS **ScS 03 54 44.0 +2.0**
MNK MLR MLR
comp=Z,5μm,24.0s
MNK MLR MLR
comp=E,13μm,18.0s
BOJS Bojanci 44.69 321 *e*P **P 03 44 44.3 +0.3**
BOJS *e*S **S 03 51 24.4 +3.2**
BOJS *e*SS ScS 03 54 55.6 +13
KRAB Krabi 44.88 93 P **P 03 44 49.3 +3.4**
comp=E,199μm,0.7s
UTTA Uttaradit 44.90 79 P P 03 44 51.1 +5.1
comp=E,44μm,1.0s,comp=E,472μm
KEST Kesra 44.92 306 PFAKE 03 45 00.0 +14
KEST LR LR
comp=Z,13μm,19.0s
KEST Kesra 44.92 306 P **P 03 44 45.7 -0.3**
comp=Z,21nm,0.9s,baz=350,slow=1.9,SNR=24
KEST LR LR 04 04 15.8
comp=Z,12μm,18.5s,baz=58,slow=37
OJC Ojcow 44.93 329 *e*P **P 03 44 44.7 -1.1**
OJC *e*PP **PP 03 46 33.3 +2.7**
OJC *e*S **S 03 51 31.3 +6.8**
OJC Ojcow 44.93 329 *e*P **P 03 44 44.7 -1.1**
OJC *e* 03 46 33.3
OJC *e*S **S 03 51 31.3 +6.8**
NANT Nan 44.99 78 P P 03 44 54.8 +8.0
comp=Z,30μm,0.8s
ZST Bratislava 45.09 326 *e*P **P 03 44 46.6 -0.5**
ZST *e* 03 46 35.3
ZST *e*S **S 03 51 28.2 +1.2**
ZST Bratislava 45.09 326 *e*P **P 03 44 46.6 -0.5**
ZST *e*PP **PP 03 46 35.3 +2.9**
ZST *e*S **S 03 51 28.2 +1.2**
MODS Modra-Piesok 45.10 326 *e*P **P 03 44 46.5 -0.7**
MODS pmax pmax
comp=Z,59nm,1.3s
MODS Modra-Piesok 45.10 326 *e*P **P 03 44 46.5 -0.7**
MODS *e*PP **PP 03 46 30.5 -2.0**
MODS *e*S **S 03 51 28.8 +1.6**
MODS *e*L L 04 00 53.5
SOP Sopron 45.10 325 *e*P **P 03 44 44.0 -3.2**
SOP *e*PP **PP 03 46 34.1 +1.5**
SOP *e*S **S 03 51 26.1 -1.1**
GSI Gunungsitoli 45.21 103 *e*P **P 03 44 46.3 -2.2**
comp=Z,71nm,1.0s
GSI LR LR
comp=Z,4μm,21.0s
GSI Gunungsitoli 45.21 103 P P 03 45 02.6 +14
NACGM Naroch 45.32 338 *e*P **P 03 44 49.0 +0.2**
NACGM *e*PP **PcP 03 46 27.0 -1.4**
NACGM *e*PPP PPP 03 47 26.0
NACGM *e*S **S 03 51 31.0 +1.0**
NACGM *e*LQ LQ 04 00 02.0
NACGM *e*LR LR 04 01 40.0
NACGM LRM MLR 04 04 10.0
comp=Z,4.3nm,27.0s
VNDS Vrh nad Dolski 45.33 322 *i*P **P 03 44 49.7 +0.6**
PBKT Sadao Pong 45.38 81 P **P 03 44 51.3 +1.5**
comp=Z,23nm,1.6s,comp=Z,519nm
SOKA Soboth 45.43 323 *e*P **P 03 44 50.3 +0.3**
comp=Z,28nm,1.6s
TRTT Trang 45.44 93 P **P 03 44 53.3 +3.0**
comp=Z,62nm,1.5s
ARSA Arzberg 45.45 324 *e*P **P 03 44 50.7 +0.7**
comp=Z,21nm,0.8s,SNR=8.9
OKC Ostrava-Krasne 45.52 328 *e*P **P 03 44 50.2 -0.3**
OKC *e*S **S 03 51 28.6 -4.5**
OKC MLR MLR
comp=Z,3μm,18.7s
OKC Ostrava-Krasne 45.52 328 *e*P **P 03 44 50.2 -0.3**
OKC *e*S **S 03 51 28.6 -4.5**
OKC AMS AMS 04 06 10.0
comp=Z,3μm,18.7s
BEL Belsk 45.52 332 *e*P **P 03 44 51.6 +1.1**
BEL LMZ LR 04 04 10.5
comp=Z,4μm,25.0s
BEL Belsk 45.52 332 *e*P **P 03 44 51.6 +1.1**
BEL MLR MLR
comp=Z,4μm,25.0s
OBKA Obir 45.63 322 *e*P **P 03 44 50.4 -1.1**
comp=Z,40nm,1.4s
CONA Conrad Observa 45.63 325 *e*P **P 03 44 50.7 -0.8**
comp=Z,23nm,0.8s,SNR=14
RAC Raciborz 45.65 328 *e*P **P 03 44 52.3 +0.8**
RAC MLR MLR
comp=Z,5μm,18.4s
IDID Didziasalis 45.66 339 *e*P **P 03 44 52.2 +0.8**
IDID IAmb IAmb 03 45 13.1
comp=Z,32nm,1.1s
MORC Moravsky Berou 45.79 328 PFAKE 03 45 00.0 +7.3
MORC LR LR
comp=Z,4μm,18.0s
MORC Moravsky Berou 45.79 328⇑*i*P **P 03 44 51.5 -1.2**
MORC Moravsky Berou 45.79 328⇑P **P 03 44 51.6 -1.2**
MORC Moravsky Berou 45.79 328 *e*P **P 03 44 50.3 -2.4**
IIGN Ignalina 45.87 338 *e*P **P 03 44 54.1 +0.9**
IIGN IAmb IAmb 03 45 17.5
comp=Z,34nm,1.1s

KRUC	Moravsky	45.98	326	eP	P	03 44 53.8 -0.3
PSI	Prapat	46.01	100	P	P	03 44 54.8 -0.3
	comp=Z,6.1nm,0.8s,baz=199,slow=4.1,SNR=5.5					
VRAC	Vranov	46.01	327	⇑iP	P	03 44 54.9 +0.5
VRAC	Vranov	46.01	327	⇑P	P	03 44 54.9 +0.5
VRAC	Vranov	46.01	327	eP	P	03 44 54.4 0.0
SUW	Suwalki	46.02	335	eP	P	03 44 53.7 -0.6
SUW				ePP	PP	03 46 48.5 +6.4
SUW				eS	S	03 51 48.4 +8.3
SUW				LMZ	LR	04 06 11.4
	comp=Z,5μm,23.4s					
SUW	Suwalki	46.02	335	PFAKE		03 45 10.0 +16
SUW				LR	LR	
	comp=Z,4μm,22.0s					
SUW	Suwalki	46.02	335	eP	P	03 44 53.7 -0.6
SUW				e		03 46 48.5
SUW				eS	S	03 51 48.4 +8.3
SUW				MLR	MLR	
	comp=Z,5μm,23.4s					
ISAL	Salakas	46.08	339	eP	P	03 44 55.5 +0.7
ISAL				IAmb	IAmb	03 45 16.3
	comp=Z,19nm,1.0s					
ZALV	Zalesovo Beam	46.12	25	P	P	03 44 54.6 -0.6
	comp=Z,6.9nm,0.7s,baz=235,slow=8.0,SNR=19					
ZALV				LR	LR	04 06 28.4
	comp=Z,1μm,20.1s,baz=216,slow=39					
NVS	Novosibirsk	46.16	23	eP	P	03 44 55.9 +0.5
NVS				pmax	pmax	
	comp=Z,75nm,1.0s					
NVS				pmax	pmax	
	comp=N,56nm,1.4s					
MYKA	Terra Mystica	46.23	322	eP	P	03 44 56.1 -0.1
	comp=N,53nm,1.1s,SNR=7.5					
TAM	Tamanrasset	46.28	288	PFAKE		03 45 10.0 +13
TAM				LR	LR	
	comp=Z,9μm,18.0s					
MOA	Molln	46.49	324	eP	P	03 44 56.3 -1.9
	comp=Z,32nm,1.0s,SNR=9.7					
TREC	Trest	46.60	326	eP	P	03 44 58.6 -0.5
TREC				eS	S	03 51 49.1 +0.4
TREC				MLR	MLR	
	comp=Z,3μm,19.5s					
TREC	Trest	46.60	326	eP	P	03 44 58.6 -0.5
TREC				eS	S	03 51 49.1 +0.4
TREC				AMS	AMS	04 07 40.0
	comp=Z,3μm,19.5s					
KBA	Koelnbreinsper	46.63	322	P	P	03 44 58.3 -1.2
	comp=Z,61nm,1.4s					
DPC	Dobruska-Polom	46.77	328	eP	P	03 44 59.1 -1.3
DPC				eS	S	03 51 50.5 -0.6
DPC				MLR	MLR	
	comp=Z,3μm,17.6s					
DPC	Dobruska-Polom	46.77	328	eP	P	03 44 59.1 -1.3
DPC				eS	S	03 51 50.5 -0.6
DPC				AMS	AMS	04 07 50.0
	comp=Z,3μm,17.6s					
PABE	Paberze	46.82	337	eP	P	03 45 01.5 +0.9
PABE				IAmb	IAmb	03 45 17.4
	comp=Z,66nm,1.1s					
KMI	Kunming	46.95	69	P	P	03 45 12.5 +10
KMI				pP	pwP	03 45 15.3 +10
KMI				sP	sP	03 45 16.8 +14
KMI				PP	PP	03 46 55.5 +2.8
KMI				S	S	03 51 55.0 +0.2
KMI				SS	ScS	03 55 06.5 +7.7
KMI	Kunming	46.95	69	PFAKE		03 45 10.0 +7.6
KMI				LR	LR	
	comp=Z,5μm,21.0s					
ABTA	Abfaltersbach	46.96	322	eP	P	03 45 02.2 +0.2
	comp=Z,40nm,1.4s					
KULM	Kulim	46.97	96	eP	P	03 45 02.2 -0.3
	comp=Z,21nm,0.9s					
KULM				LR	LR	
	comp=Z,4μm,19.0s					
KULM	Kulim	46.97	96	P	P	03 45 06.0 +3.6
UPC	Upice	47.02	328	eP	P	03 45 01.1 -1.2
UPC				MLR	MLR	
	comp=Z,4μm,19.5s					
UPC	Upice	47.02	328	eP	P	03 45 01.1 -1.2
UPC				AMS	AMS	04 07 40.0
	comp=Z,4μm,19.5s					
KSP	Ksiaz	47.07	328	eP	P	03 45 02.9 +0.2
KSP				eS	S	03 51 56.9 +1.5
KSP	Ksiaz	47.07	328	eP	P	03 45 02.9 +0.2
KSP				eS	S	03 51 56.9 +1.5
VLC	Villacollemand	47.12	318	PFAKE		03 45 20.0 +17
VLC				LR	LR	
	comp=Z,3μm,20.0s					
GTA	Gaotai	47.17	49	eP	P	03 45 07.0 +3.2
GTA				pP	pwP	03 45 11.3 +4.2
GTA				sP	sP	03 45 14.5 +10
GTA				S	S	03 52 04.8 +7.4
GTA				SS	SS	03 55 23.8 -0.7
GTA				pmax	pmax	
	comp=Z,340nm,5.8s					
GTA				LR	LR	
	comp=Z,2μm,19.6s					
GTA				LR	LR	
	comp=Z,3μm,22.7s					
GTA				LR	LR	
	comp=Z,7μm,24.0s					
PRGR	Permogore	47.29	355	eP	P	03 45 02.5 -1.6
PRGR				e		03 46 54.8
PRGR				pmax	pmax	
	comp=Z,14nm,0.8s					
KLMR	Klimovskoe	47.29	351	eP	P	03 45 00.7 -3.5
KLMR				pmax	pmax	
	comp=Z,36nm,1.1s					
GOPC	GO Pecny, Ondr	47.33	326	eP	P	03 45 04.4 -0.3
GOPC				eS	S	03 51 58.8 -0.2
GOPC				MLR	MLR	
	comp=Z,3μm,18.0s					
GOPC	GO Pecny, Ondr	47.33	326	eP	P	03 45 04.4 -0.3
GOPC				eS	S	03 51 58.8 -0.2
GOPC				AMS	AMS	04 08 20.0
	comp=Z,3μm,18.0s					
GERES	GERESS Array B	47.34	325	P	P	03 45 03.1 -1.8
	comp=Z,5.0nm,0.7s,baz=120,slow=7.9,SNR=17					
GERES				LR	LR	04 08 38.0
	comp=Z,2μm,19.5s,baz=134,slow=41					
PRU	Pruhonice	47.50	326	eP	P	03 45 05.5 -0.5
PRU				e		03 45 12.4
PRU				MLR	MLR	
	comp=Z,3μm,18.4s					
PRU	Pruhonice	47.50	326	eP	P	03 45 05.5 -0.5
PRU				ex	x	03 45 12.4
PRU				eS	S	03 51 50.0 -11
PRU				AMS	AMS	04 08 20.0
	comp=Z,3μm,18.4s					
IPM	Ipoh	47.54	97	PFAKE		03 45 20.0 +13
IPM				LR	LR	
	comp=Z,4μm,18.0s					
KHC	Kasperske Hory	47.56	325	PFAKE		03 45 20.0 +13
KHC				LR	LR	
	comp=Z,2μm,22.0s					
KHC	Kasperske Hory	47.56	325	eP	P	03 45 04.9 -1.7
KHC				eS	S	03 52 01.4 -1.0
KHC				MLR	MLR	
	comp=Z,4μm,20.8s					
KHC	Kasperske Hory	47.56	325	eP	P	03 45 04.9 -1.7
KHC				ex	x	03 45 17.5
KHC				eS	S	03 52 01.4 -1.0
KHC				AMS	AMS	04 05 40.0
	comp=Z,4μm,20.8s					
WTTA	Wattenberg	47.74	322	eP	P	03 45 06.5 -1.7
	comp=Z,58nm,1.2s,SNR=5.4					
PVCC	Panska Ves	47.79	327	eP	P	03 45 08.5 +0.3
PVCC				e		03 45 15.0
PVCC				MLR	MLR	
	comp=Z,3μm,18.9s					
PVCC	Panska Ves	47.79	327	eP	P	03 45 08.5 +0.3
PVCC				ex	x	03 45 15.0
PVCC				AMS	AMS	04 07 00.0
	comp=Z,3μm,18.9s					
WATA	Walderalm	47.81	322	eP	P	03 45 07.5 -1.2
	comp=Z,13nm,0.9s					
SLVN	Son La	47.94	74	eP	P	03 45 10.2 +0.2
	comp=Z,25nm,1.1s					
SLVN				LR	LR	
	comp=Z,2μm,18.0s					
SQTA	Sankt Quirin	47.97	322	eP	P	03 45 07.8 -2.1
	comp=Z,41nm,1.0s,SNR=8.4					
PBUR	Paburg	47.98	336	eP	P	03 45 07.9 -1.7
MOTA	Moosalm	48.09	322	eP	P	03 45 07.8 -3.1
	comp=Z,13nm,0.6s,SNR=7.7					

GKP	Gorka Klasztor	48.10	331	eP	P	03 45 09.6 -1.0
GKP				ePP	PP	03 47 05.3 +2.6
GKP				eS	S	03 52 09.9 0.0
GKP	Gorka Klasztor	48.10	331	eP	P	03 45 09.6 -1.0
GKP				e		03 47 05.3
GKP				eS	S	03 52 09.9 0.0
FETA	Feichten	48.17	321	eP	P	03 45 11.0 -0.5
	comp=Z,30nm,1.3s					
VSU	Vasula	48.18	341	⇓eP	P	03 45 12.6 +1.5
VSU				pmax	pmax	
	comp=Z,25nm,0.8s					
VSU	Vasula	48.18	341	eP	P	03 45 10.9 -0.2
VSU				IAmb	IAmb	03 45 42.3
	comp=Z,72nm,0.8s					
SKNT	Sakolnakorn	48.22	80	P	P	03 45 17.5 +5.4
	comp=Z,36nm,1.0s					
FUORN	Ofenpass-Fuorn	48.27	320	PFAKE		03 45 20.0 +7.6
FUORN				LR	LR	
	comp=Z,2μm,22.0s					
BRG	Berggiesshubel	48.31	327	eP	P	03 45 11.9 -0.4
	comp=Z,5.5nm,0.8s					
BRG				PP	PP	03 47 07.0 +2.3
BRG				S	S	03 52 15.0 +2.1
BRG				SS	SS	03 55 44.0 +1.7
BRG	Berggiesshubel	48.31	327	eP	P	03 45 11.9 -0.4
BRG						03 47 07.0
BRG				S	S	03 52 15.0 +2.1
BRG				pmax	pmax	
	comp=Z,6.0nm,0.8s					
BRG				MLR	MLR	
	comp=N,3μm,24.5s					
BRG				MLR	MLR	
	comp=E,3μm,19.2s					
BRG				MLR	MLR	
	comp=Z,3μm,21.0s					
RETA	Reutte	48.37	322	eP	P	03 45 10.7 -2.2
	comp=Z,47nm,1.7s,SNR=5.6					
CD2	Chengdu	48.41	62	⇓P	P	03 45 13.8 +0.4
CD2				sP	pwP	03 45 18.8 +2.1
CD2				PP	PP	03 47 08.5 +2.5
CD2				S	S	03 52 12.5 -2.5
CD2				sS	sS	03 52 27.5 +12
CD2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
CD2				pmax	pmax	
	comp=Z,430nm,6.9s					
CD2				LR	LR	
	comp=Z,4μm,18.6s					
CD2				LR	LR	
	comp=Z,5μm,26.0s					
CD2				LR	LR	
	comp=Z,5μm,26.0s					
NKC	Novy Kostel	48.76	326	eP	P	03 45 14.3 -1.6
NKC				eS	S	03 52 12.9 -6.5
NKC				MLR	MLR	
	comp=Z,3μm,16.3s					
NKC	Novy Kostel	48.76	326	eP	P	03 45 14.3 -1.6
NKC				eS	S	03 52 12.9 -6.5
NKC				AMS	AMS	04 09 20.0
	comp=Z,3μm,16.3s					
TUE	Stuetta	48.77	320	PFAKE		03 45 30.0 +14
TUE				LR	LR	
	comp=Z,4μm,22.0s					
DAVA	Damuels	48.80	321	eP	P	03 45 13.4 -3.0
	comp=Z,48nm,1.1s					
PANO	Nakornpanom	48.81	80	P	P	03 45 20.6 +4.0
	comp=Z,1.0nm,1.0s					
TSUM	Tsumeb	49.03	228	iP	P	03 45 19.0 +0.6
TSUM	Tsumeb	49.03	228	eP	P	03 45 16.7 -1.7
	comp=Z,79nm,1.6s					
TSUM				LR	LR	
	comp=Z,14μm,18.0s					
TSUM	Tsumeb	49.03	228	iP	P	03 45 19.0 +0.6
CLL	Collm	49.04	327	PFAKE		03 45 30.0 +12
CLL				LR	LR	
	comp=Z,3μm,22.0s					
CLL	Collm	49.04	327	⇓iP	P	03 45 18.1 +0.2
CLL				i		03 45 23.2
CLL				eS	S	03 52 20.0 -3.3
CLL				pmax	pmax	
	comp=Z,22nm,3.0s					
CLL	Collm	49.04	327	⇓iP	P	03 45 18.1 +0.2
	comp=Z,78nm,2.3s					
CLL				iPmax		03 45 23.2
	comp=Z,390nm,3.0s					
CLL				ePmax		03 45 26.0
CLL				i		03 45 34.7
CLL				ePP	PP	03 47 13.0 +1.6
CLL				ePPP	PPP	03 48 02.0
CLL				eS	S	03 52 20.0 -3.3
	comp=N,1μm,24.5s					
CLL				eS	S	03 52 20.0 -3.3
	comp=E,3μm,27.8s					
CLL				eS	S	03 52 20.0 -3.3
	comp=Z,1μm,21.7s					
CLL				eSS	SS	03 56 06.0 +12
CLL				e(SSSS)		03 57 36.0
CLL				Lmax		04 10 00.0
CLL				Lm	MLR	06 21 00.0
	comp=Z,200nm,21.5s					
GRA1	Grafenberg Arr	49.17	324	PFAKE		03 45 30.0 +11
GRA1				LR	LR	
	comp=Z,3μm,22.0s					
GRFO	Grafenberg	49.17	324	eP	P	03 45 18.2 -0.7
	comp=Z,136nm,1.8s					
GRFO				ePcP	PcP	03 46 39.4 -2.8
GRFO				LR	LR	
	comp=Z,2μm,22.0s					
GRFO	Grafenberg	49.17	324	eP	P	03 45 18.2 -0.7
GRFO				e		03 46 39.4
GRFO				pmax	pmax	
	comp=Z,136nm,1.8s					
GRFO				MLR	MLR	
	comp=Z,2μm,22.0s					
RUE	Ruedersdorf	49.30	329	eP	P	03 45 20.1 +0.3
RUE				IAmb	IAmb	03 45 28.1
	comp=Z,94nm,1.6s					
LZH	Lanzhou	49.38	55	eP	P	03 45 22.0 +1.0
LZH				pP	pwP	03 45 25.0 +0.7
LZH				sP	sP	03 45 27.0 +5.7
LZH				eS	S	03 52 29.3 +0.5
LZH				sS	sS	03 52 38.0 +8.7
LZH				pmax	pmax	
	comp=Z,310nm,5.7s					
LZH				LR	LR	
	comp=Z,2μm,16.0s					
LZH				LR	LR	
	comp=Z,2μm,19.0s					
LZH				LR	LR	
	comp=Z,4μm,20.9s					
STU	Stuttgart	49.89	323	PFAKE		03 45 40.0 +16
STU				LR	LR	
	comp=Z,3μm,20.0s					
BNI	Bardonecchia	49.91	317	PFAKE		03 45 40.0 +15
BNI				LR	LR	
	comp=Z,1μm,19.0s					
MAHO	Mahon	49.93	310	iP	P	03 45 20.6 -4.3
MAHO				iS	S	03 52 36.5 +0.5
SENIN	Lac Senin/Sane	50.02	319	eP	P	03 45 26.4 +0.6
	comp=Z,36nm,1.0s					
SENIN				LR	LR	
	comp=Z,3μm,21.0s					
BFO	Black Forest	50.21	322	eP	P	03 45 26.5 -0.4
	comp=Z,30nm,1.0s					
BFO				LR	LR	
	comp=Z,2μm,19.0s					
BFO	Black Forest	50.21	322	eP	P	03 45 26.5 -0.4
BFO				pmax	pmax	
	comp=Z,30nm,1.0s					
BFO				MLR	MLR	
	comp=Z,2μm,19.0s					
BSD	Bornholm Skovb	50.32	332	eP	P	03 45 27.3 -0.3
BSD				pmax	pmax	
	comp=Z,42nm,1.0s					
BSD	Bornholm Skovb	50.32	332	iP	P	03 45 27.3 -0.3
	comp=Z,42nm,1.0s					
TOC2	Torodi Ar. Sit	50.50	275	PFAKE		03 45 40.0 +10
TOC2				LR	LR	
	comp=Z,6μm,18.0s					
TOC3	Torodi Ar. Sit	50.50	275	PFAKE		03 45 40.0 +10
TOC3				LR	LR	
	comp=Z,6μm,18.0s					
TOB2	Torodi Ar. Sit	50.51	275	PFAKE		03 45 40.0 +10
TOB2				LR	LR	
	comp=Z,14μm,19.0s					

TOC1	Torodi Ar. Sit	50.52	275	PFAKE		03 45 40.0 +10
TOC1				LR	LR	
	comp=Z,6μm,21.0s					
TOB3	Torodi Ar. Sit	50.52	275	PFAKE		03 45 40.0 +10
TOB3				LR	LR	
	comp=Z,7μm,18.0s					
TOA2	Torodi Ar. Sit	50.52	275	PFAKE		03 45 40.0 +10
TOA2				LR	LR	
	comp=Z,7μm,18.0s					
TOA0	Torodi Ar. Sit	50.53	275	eP	P	03 45 31.2 +1.5
	comp=Z,89nm,1.1s					
TOA0				LR	LR	
	comp=Z,6μm,18.0s					
TOA0	Torodi Ar. Sit	50.53	275	P	P	03 45 31.9 +2.1
	SNR=20					
TOC4	Torodi Ar. Sit	50.53	275	PFAKE		03 45 40.0 +10
TOC4				LR	LR	
	comp=Z,7μm,18.0s					
TORD	Torodi Ar. Bea	50.53	275	P	P	03 45 29.1 -0.7
	comp=Z,7.2nm,0.9s,baz=86,slow=4.8,SNR=12					
TORD				LR	LR	04 06 10.6
	comp=Z,5μm,19.8s,baz=20,slow=35					
TOA1	Torodi Ar. Sit	50.53	275	eP	P	03 45 29.1 -0.7
TOA1				LR	LR	
	comp=Z,5μm,20.0s					
TOA3	Torodi Ar. Sit	50.53	275	PFAKE		03 45 40.0 +10
TOA3				LR	LR	
	comp=Z,7μm,18.0s					
TOB4	Torodi Ar. Sit	50.54	275	PFAKE		03 45 40.0 +10
TOB4				LR	LR	
	comp=Z,4μm,19.0s					
TOB5	Torodi Ar. Sit	50.54	275	PFAKE		03 45 40.0 +10
TOB5				LR	LR	
	comp=Z,8μm,18.0s					
TOC7	Torodi Ar. Sit	50.54	275	PFAKE		03 45 40.0 +10
TOC7				LR	LR	
	comp=Z,5μm,19.0s					
TOC5	Torodi Ar. Sit	50.55	275	PFAKE		03 45 40.0 +10
TOC5				LR	LR	
	comp=Z,8μm,18.0s					
GYA	Guiyang	50.55	68	⇑iP	P	03 45 29.3 -0.7
GYA				ScP	ScP	03 50 42.8 -2.3
GYA				pmax	pmax	
	comp=Z,180nm,5.4s					
GYA				LR	LR	
	comp=Z,1μm,19.3s					
GYA				LR	LR	
	comp=Z,3μm,22.4s					
GYA				LR	LR	
	comp=Z,3μm,22.4s					
TMCR	Tamitsa	50.65	351	eP	P	03 45 28.8 -1.1
TMCR				pmax	pmax	
	comp=Z,28nm,0.8s					
RGN	Rugen	50.72	331	PFAKE		03 45 40.0 +9.4
RGN				LR	LR	
	comp=Z,5μm,19.0s					
FINES	FINESS Array B	50.80	343	P	P	03 45 30.0 -1.1
FINES	FINESS Array B	50.80	343	P	P	03 45 30.0 -1.1
	comp=Z,8.8nm,0.7s,baz=146,slow=12,SNR=32					
FINES				LR	LR	04 09 39.7
	comp=Z,2μm,21.9s,baz=159,slow=39					
ECH	Echery	50.86	321	PFAKE		03 45 40.0 +8.1
ECH				LR	LR	
	comp=Z,2μm,20.0s					
MYKOM	Kota Tinggi	51.01	100	PFAKE		03 45 40.0 +6.6
MYKOM				LR	LR	
	comp=Z,3μm,21.0s					
MYKOM	Kota Tinggi	51.01	100	P	P	03 45 37.0 +3.6
BOSA	Boshof	51.12	213	eP	P	03 45 33.1 -1.0
	comp=Z,332nm,1.9s					
BOSA	Boshof	51.12	213	eP	P	03 45 33.1 -1.0
BOSA				pmax	pmax	
	comp=Z,332nm,1.9s					
BOSA	Boshof	51.12	213	P	P	03 45 32.4 -1.7
	comp=Z,6.7nm,0.6s,baz=31,slow=10,SNR=8.6					
BOSA				LR	LR	04 07 59.3
	comp=Z,5μm,18.2s,baz=38,slow=37					
SSB	Saint Sauveur	51.40	317	eP	P	03 45 36.6 +0.6
	comp=Z,46nm,1.1s					
SSB				LR	LR	
	comp=Z,2μm,19.0s					
SSB	Saint Sauveur	51.40	317	eP	P	03 45 36.6 +0.6
SSB				pmax	pmax	
	comp=Z,46nm,1.1s					
SSB				MLR	MLR	
	comp=Z,2μm,19.0s					
WLF	Walferdange	52.08	322	PFAKE		03 45 50.0 +9.1
WLF				LR	LR	
	comp=Z,9μm,21.0s					
WLF	Walferdange	52.08	322	⇑P	P	03 45 40.9 0.0
MEM	Membach	52.56	324	⇑P	P	03 45 49.5 +5.0
MOY	Mondy	52.67	35	eP	P	03 45 46.4 +1.0
MOY				pmax	pmax	
	comp=Z,26nm,2.7s					
BCLA	Clavier	52.89	323	⇑P	P	03 45 46.7 -0.2
	comp=Z,26nm,1.6s					
XAN	Xi'an	53.14	58	PFAKE		03 46 00.0 +11
XAN				LR	LR	
	comp=Z,1μm,18.0s					
DOU	Dourbes	53.17	322	⇓P	P	03 45 49.3 +0.3
DLV	T Lat	53.17	86	PFAKE		03 46 00.0 +10
DLV				LR	LR	
	comp=Z,3μm,20.0s					
ENH	Enshi	53.25	63	PFAKE		03 46 00.0 +10
ENH				LR	LR	
	comp=Z,2μm,20.0s					
ZAK	Zakamensk	53.43	37	eP	P	03 45 50.8 -0.2
ZAK				pmax	pmax	
	comp=Z,12nm,2.0s					
CART	Cartagena	53.44	306	PFAKE		03 46 00.0 +8.9
CART				LR	LR	
	comp=Z,4μm,19.0s					
CART	Cartagena	53.44	306	iP	P	03 45 53.0 +1.8
CART				iS	S	03 53 27.7 +3.3
SNF	Seneffe	53.52	323	⇑P	P	03 45 51.5 -0.1
UCC	Uccle	53.59	323	PFAKE		03 46 00.0 +7.9
UCC				LR	LR	
	comp=Z,3μm,22.0s					
QIZ	Qiongzhong	53.62	77	P	P	03 45 52.8 0.0
QIZ				PP	PP	03 47 58.5 +5.0
QIZ				S	S	03 53 26.0 -1.5
QIZ				ScS	ScS	03 55 37.8 -6.1
QIZ				SS	SS	03 57 07.5 -0.5
QIZ				LR	LR	
	comp=Z,1μm,23.5s					
QIZ				LR	LR	
	comp=Z,1μm,32.4s					
QIZ				LR	LR	
	comp=Z,2μm,36.3s					
QIZ	Qiongzhong	53.62	77	PFAKE		03 46 00.0 +7.2
QIZ				LR	LR	
	comp=Z,2μm,19.0s					
MUD	Monsted U'grnd	53.74	331	eP	P	03 45 53.3 +0.3
MUD				pmax	pmax	
	comp=Z,98nm,1.7s					
MUD	Monsted U'grnd	53.74	331	iP	P	03 45 53.3 +0.3
	comp=Z,98nm,1.7s					
CLF	Chambon-Foret	53.82	319	PFAKE		03 46 10.0 +16
CLF				LR	LR	
	comp=Z,2μm,20.0s					
TLY	Talaya	54.17	36	PFAKE		03 46 10.0 +14
TLY				LR	LR	
	comp=Z,2μm,22.0s					
TLY	Talaya	54.17	36	eP	P	03 46 12.4 +16
TLY				eS	S	03 53 40.1 +6.1
TLY				pmax	pmax	
	comp=Z,68nm,1.9s					
TLY				MLR	MLR	
	comp=Z,5μm,27.0s					
SONA0	Songino Array	54.41	41	eP	P	03 45 57.9 -0.3
SONM	Songino Array	54.41	41	P	P	03 45 57.9 -0.3
	comp=Z,4.3nm,0.8s,baz=244,slow=6.4,SNR=22					
SONM				LR	LR	04 12 23.0
	comp=Z,1μm,18.8s,baz=254,slow=40					
APA	Apatity	54.53	351	⇑iP	P	03 46 06.4 +7.7
APA				pmax	pmax	
	comp=Z,10.0nm,0.7s					
LVZ	Lovozero	54.65	351	PFAKE		03 46 10.0 +10
LVZ				LR	LR	
	comp=Z,3μm,21.0s					
ULN	Ulaanbaatar	54.84	41	eP	P	03 46 02.9 +1.5
	comp=Z,23nm,1.0s					
ULN				LR	LR	
	comp=Z,2μm,22.0s					
ULN	Ulaanbaatar	54.84	41	⇓eP	P	03 46 03.9 +2.5
ULN				pmax	pmax	

comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 54.84 41 P **P 03 46 04.6 +3.2**
SNR=8.3
ULN P **P 03 46 04.6 +3.2**
SNR=8.3
ULN P **P 03 46 04.6 +3.2**
SNR=8.3
HOMB Homborsund 55.03 333 *e*P **P 03 46 02.5 +0.1**
BTO Baotou 55.05 51 *e*P P 03 46 11.3 +8.3
NC602 NORSAR Array S 55.19 336 *e*P **P 03 46 02.5 -1.1**
KONO Kongsberg 55.33 334 *e*P **P 03 46 06.1 +1.6**
comp=Z,74nm,1.7s
KONO LR LR
comp=Z,3μm,18.0s
KONO Kongsberg 55.33 334⇑ *e*P **P 03 46 05.8 +1.2**
KONO Kongsberg 55.33 334 *e*P **P 03 46 04.8 +0.2**
NB2 NORSAR Subarra 55.51 336 P **P 03 46 04.6 -1.3**
comp=Z,120nm,2.5s,baz=127,slow=7.4
NB2 NORSAR Subarra 55.51 336 P **P 03 46 04.6 -1.3**
baz=127,slow=7.4
NOA NORSAR Array B 55.51 336 P **P 03 46 05.2 -0.7**
comp=Z,3.7nm,0.8s,baz=121,slow=7.7,SNR=18
NOA LR LR 04 12 46.8
comp=Z,3μm,21.9s,baz=130,slow=39
CGJI Cibinong 55.61 109 P P 03 46 17.3 +10
UCM Universidad Co 55.64 309 *i* P **P 03 46 08.7 +1.5**
UCM *i* S **S 03 53 55.4 +1.3**
PVLZ Peæn de 55.74 303 *i* P **P 03 46 09.2 +1.3**
PVLZ *i* S **S 03 54 00.4 +4.9**
EMAL Malaga-Limoner 56.02 305 *i* P **P 03 46 10.8 +0.9**
EMAL *i* S **S 03 53 59.9 +0.6**
ESDC Sonseca Array 56.07 308 P **P 03 46 10.2 -0.2**
comp=Z,4.8nm,0.8s,baz=89,slow=6.6,SNR=20
ESDC LR LR 04 11 27.2
comp=Z,2μm,18.2s,baz=120,slow=37
ESLA Sonseca Array 56.07 308 PFAKE 03 46 20.0 +10
ESLA LR LR
comp=Z,3μm,20.0s
HHC Hu-ho-hao-te 56.25 50 *e*P **P 03 46 12.3 +0.6**
HHC PP PP 03 48 25.5 +8.6
HHC S **S 03 54 02.5 +0.1**
HHC ScS **ScS 03 55 56.8 -5.4**
HHC SS **SS 03 57 46.3 -2.6**
HHC pmax pmax
comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,160nm,5.9s
HHC LR LR
comp=Z,1μm,16.9s
HHC LR LR
comp=Z,3μm,15.6s
HHC LR LR
comp=Z,3μm,16.2s
IFR Ifrane 56.27 301 *i* P **P 03 46 14.1 +2.1**
IFR *i* S **S 03 54 08.6 +5.5**
PAB San Pablo 56.35 308 *e*P **P 03 46 14.2 +1.9**
comp=Z,44nm,1.3s
PAB LR LR
comp=Z,3μm,19.0s
PAB San Pablo 56.35 308 *e*P **P 03 46 14.2 +1.9**
PAB pmax pmax
comp=Z,44nm,1.3s
PAB MLR MLR
comp=Z,3μm,19.0s
SUR Sutherland 56.44 214 *e*P **P 03 46 13.2 +0.1**
comp=Z,212nm,1.7s
SUR LR LR
comp=Z,4μm,18.0s
TIY Taiyuan 56.44 54 *e*P P 03 46 22.0 +9.0
TIY PcP PcP 03 47 22.0 +12
TIY S **S 03 54 13.0 +8.0**
SKAR Skarslia 56.45 335 *e*P **P 03 46 12.6 0.0**
BLS5 Blasjo 56.55 333 *e*P **P 03 46 13.7 +0.3**
CBJI Citeko 56.60 108 P P 03 46 33.1 +19
ODD1 Odda 56.73 334 *e*P **P 03 46 14.8 +0.1**
DOMB Dombas 56.93 337 *e*P **P 03 46 15.7 -0.3**
TBLU Trondheim 57.21 338 *e*P **P 03 46 18.2 +0.3**
KSM Kuching 57.28 98 PFAKE 03 46 30.0 +11
KSM LR LR
comp=Z,2μm,20.0s
SFS San Fernando 57.41 304 PFAKE 03 46 30.0 +10
SFS LR LR
comp=Z,4μm,21.0s
HKPS Hong Kong Po S 57.41 73 PFAKE 03 46 30.0 +10
HKPS LR LR
comp=Z,2μm,19.0s
NSS Namsos 57.43 340 *e*P **P 03 46 19.7 +0.3**
LEM Lembang 57.46 108 P **P 03 46 20.9 +0.3**
comp=Z,12nm,0.4s,baz=211,slow=6.3,SNR=4.1
WHN Wuhan 57.46 63 P P 03 46 26.5 +6.2
WHN S **S 03 54 17.8 -0.7**
WHN SS **SS 03 58 08.0 -0.2**
WHN LR LR
comp=Z,2μm,15.3s
WHN LR LR
comp=Z,4μm,15.9s
WHN LR LR
comp=Z,6μm,18.3s
BER Bergen 57.53 334 *e*P **P 03 46 20.3 +0.1**
KEV Kevo 57.57 349 *e*P **P 03 46 19.9 -0.4**
comp=Z,134nm,1.7s
KEV LR LR
comp=Z,3μm,22.0s
KEV Kevo 57.57 349 *e*P **P 03 46 19.9 -0.4**
KEV pmax pmax
comp=Z,134nm,1.7s
KEV MLR MLR
comp=Z,3μm,22.0s
ARCES ARCESS Array B 57.66 349 P **P 03 46 20.3 -0.7**
comp=Z,4.7nm,0.6s,baz=144,slow=6.9,SNR=23
ARCES LR LR 04 14 21.8
comp=Z,4μm,21.4s,baz=148,slow=39
ARE0 ARCESS Array S 57.66 349 PFAKE 03 46 30.0 +9.0
ARE0 LR LR
comp=Z,200nm,22.0s
ARE0 ARCESS Array S 57.66 349 *e*P **P 03 46 19.6 -1.5**
KTK1 Kautokeino 57.68 347 *e*P **P 03 46 21.3 +0.1**
RTC Rabat Centre 57.74 301 PFAKE 03 46 30.0 +7.8
RTC LR LR
comp=Z,24μm,18.0s
MOR8 Moi Rana 57.75 342 *e*P **P 03 46 21.9 +0.2**
AKN Aaknes 57.81 336 *e*P **P 03 46 22.5 +0.3**
CISI Cisompet, Garu 57.91 109 P **P 03 46 26.3 +2.6**
JCJI Jatiwangi 57.93 107 P P 03 46 40.7 +17
KIC Kosan Boka 58.03 268 *e*P **P 03 46 25.4 +0.9**
comp=Z,454nm,1.8s
DBIC Dimbokro 58.07 269 *e*P **P 03 46 24.1 -0.7**
comp=Z,85nm,1.3s
DBIC Dimbokro 58.07 269 *e*P **P 03 46 24.1 -0.7**
DBIC pmax pmax
comp=Z,85nm,1.3s
DBIC Dimbokro 58.07 269 P **P 03 46 24.5 -0.3**
comp=Z,7.5nm,0.7s,baz=63,slow=8.2,SNR=8.4
DBIC LR LR 04 11 29.1
comp=Z,4μm,18.1s,baz=56,slow=36
SUE Sulen 58.12 334 *e*P **P 03 46 24.1 -0.2**
AVE Averroes 58.16 300 *i* P **P 03 46 24.0 -1.2**
AVE *i* S **S 03 54 30.0 +2.4**
TIC Toumodi 58.23 269 *e*P **P 03 46 26.9 +0.9**
LIC Lamto 58.34 268 *e*P **P 03 46 27.6 +0.9**
comp=Z,336nm,1.8s
KONS Konsvik 58.36 342 *e*P **P 03 46 26.1 +0.2**
PBRG Braganca 58.49 310 *e*P **P 03 46 31.8 +4.4**
PBRG *e*S **S 03 54 33.0 +1.2**
PBRG A A 04 11 10.7
comp=Z,3μm,20.0s
MVO Moncorvo 58.61 309 *e*P **P 03 46 29.6 +1.3**
MVO *e*S **S 03 54 36.5 +3.1**
MVO *e*SS **SS 03 58 26.3 +0.3**
MVO *e*LR LR 04 06 04.0
comp=Z,3μm,18.0s
NRIK Noril'sk 58.62 13 P **P 03 46 27.8 0.0**
comp=Z,4.1nm,0.5s,baz=221,slow=4.1,SNR=5.7
NRIK LR LR 04 15 56.2
comp=Z,2μm,18.8s,baz=220,slow=40
PMRV Marv??o 58.66 307 *e*P **P 03 46 32.6 +4.0**
PMRV *e*S **S 03 54 39.3 +5.3**
PMRV Marv??o 58.66 307 *e*LR LR 04 05 09.7
comp=Z,2μm,18.0s
PVAQ Vaqueiros 58.71 305 *e*P **P 03 46 28.1 -0.8**
PVAQ *e*S **S 03 54 33.3 -1.3**
PVAQ Vaqueiros 58.71 305 *e*LR LR 04 06 16.6
comp=Z,3μm,18.0s
PVAQ Vaqueiros 58.71 305 PFAKE 03 46 40.0 +11
PVAQ LR LR
comp=Z,3μm,18.0s
STEI Steigen 58.76 344 *e*P **P 03 46 27.6 -1.0**
PCBR Castelo Branco 58.78 308 *e*P P 03 46 36.2 +6.8
SBUM Sibu 58.85 96 *e*P **P 03 46 29.3 -0.9**
comp=Z,26nm,1.6s
SBUM LR LR
comp=Z,2μm,20.0s
SBUM Sibu 58.85 96 P **P 03 46 34.0 +3.8**
PBDV Barranco-do-Ve 58.86 305 *e*P **P 03 46 28.9 -1.1**
PBDV *e*S **S 03 54 36.8 +0.1**
PBDV A A 04 12 42.8
comp=Z,3μm,20.0s
MTE Manteigas 58.90 308 *e*P **P 03 46 30.0 -0.3**
MTE *e*S **S 03 54 39.3 +2.2**
MTE *e*SS SS 03 58 42.9 +12
MTE *e*LR LR 04 04 00.4
comp=Z,2μm,18.0s
MTE Manteigas 58.90 308 PFAKE 03 46 40.0 +10
MTE LR LR
comp=Z,2μm,20.0s
HAMF Hammerfest 58.93 349 *e*P **P 03 46 29.9 +0.1**
PCVE Castro Verde 58.98 305 *e*P **P 03 46 33.5 +2.7**
PCVE *e*S **S 03 54 38.7 +0.5**
PCVE *e*SS SS 03 58 47.1 +15
PCVE A A 04 13 31.2
comp=Z,3μm,20.0s
TRO Tromso 59.11 347 *e*P **P 03 46 29.8 -1.3**
MESJ Messejana 59.14 305 *e*P **P 03 46 32.5 +0.5**
MESJ *e*S **S 03 54 41.1 +0.8**
MESJ AMS AMS 04 09 56.1
comp=N,4μm,24.9s
MESJ Messejana 59.14 305 *e*P **P 03 46 34.4 +2.5**
comp=N,48nm,1.5s
MESJ Messejana 59.14 305 *e*P **P 03 46 32.4 +0.5**
MESJ *e*S **S 03 54 41.0 +0.8**
POLO Lamas de Olo 59.21 310 *e*P **P 03 46 32.1 -0.4**
comp=N,34nm,1.6s
POLO *e*S **S 03 54 43.6 +2.4**
POLO *e*SS SS 03 58 47.5 +12
POLO A A 04 13 43.3
comp=N,1μm,18.0s
PMTG Montargil 59.27 307 *e*P **P 03 46 31.4 -1.4**
comp=N,47nm,2.4s
PMTG *e*S **S 03 54 42.3 +0.5**
PMTG *e*SS SS 03 58 57.9 +22
PMTG A A 04 11 20.8
comp=N,1μm,20.0s
PNCL Nicolau / Gran 59.41 306 *e*P **P 03 46 37.8 +4.0**
PNCL *e*S **S 03 54 43.9 +0.2**
PNCL *e*SS **SS 03 58 39.1 +0.6**
PNCL A A 04 14 17.6
comp=N,3μm,18.0s
MORF Marmelete 59.44 305 *e*P **P 03 46 34.7 +0.6**
MORF *e*S **S 03 54 45.0 +0.7**
MORF AMS AMS 04 09 53.6
comp=N,4μm,20.9s
MORF Marmelete 59.44 305 *e*P **P 03 46 34.2 +0.1**
MORF *e*S **S 03 54 46.5 +2.3**
MORF *e*SS **SS 03 58 45.0 +5.9**
MORF A A 04 11 06.5
comp=N,2μm,20.0s
MORF Marmelete 59.44 305 *e*P **P 03 46 34.6 +0.6**
MORF *e*S **S 03 54 44.9 +0.7**
ESK Eskdalemuir 59.51 326 *e*P **P 03 46 33.5 -0.7**
comp=N,16nm,0.8s
ESK LR LR
comp=Z,2μm,21.0s
ESK Eskdalemuir 59.51 326 *e*P **P 03 46 33.5 -0.7**
ESK pmax pmax
comp=Z,17nm,0.8s
ESK MLR MLR
comp=Z,2μm,21.0s
COI Coimbra 59.53 308 PFAKE 03 46 50.0 +15
COI LR LR
comp=Z,2μm,20.0s
PFVI Vila Bisbo 59.56 305 *e*P P 03 46 39.7 +4.8
PFVI *e*S **S 03 54 44.3 -1.4**
PFVI *e*SS **SS 03 58 39.1 -1.9**
PFVI A A 04 11 08.5
comp=Z,3μm,22.0s
PFVI Vila Bisbo 59.56 305 PFAKE 03 46 50.0 +15
PFVI LR LR
comp=Z,4μm,22.0s
PCAS Casmilo, Conde 59.58 308 *e*P **P 03 46 34.4 -0.6**
PCAS *e*S **S 03 54 48.9 +3.0**
PCAS *e*SS **SS 03 58 42.8 +1.6**
PCAS A A 04 14 45.2
comp=Z,2μm,18.0s
BJT Baijiatuau 59.61 52 PFAKE 03 46 50.0 +15
BJT LR LR
comp=Z,2μm,19.0s
BJI Beijing 59.62 52 P **P 03 46 38.0 +2.9**
BJI S **S 03 54 46.3 0.0**
BJI LR LR
comp=Z,590nm,20.5s
BJI LR LR
comp=Z,620nm,19.9s
BJI LR LR
comp=Z,1μm,30.5s
PGAV Gavieira, Arco 59.64 310 *e*P **P 03 46 35.9 +0.4**
PGAV *e*S **S 03 54 48.4 +1.6**
PGAV *e*SS SS 03 58 54.6 +12
PGAV Gavieira, Arco 59.64 310 *e*LR LR 04 09 21.6
comp=Z,2μm,16.0s
LIS Lisbon 59.95 306 *e*P **P 03 46 38.0 +0.5**
LIS AMS AMS 04 10 18.0
comp=N,6μm,23.1s
LIS Lisbon 59.95 306 *e*P **P 03 46 37.9 +0.5**
PMAFR Mafra 60.08 307 *e*P **P 03 46 38.6 +0.2**
PMAFR *e*S **S 03 54 52.0 -0.3**
PMAFR *e*SS **SS 03 58 49.0 0.0**
PMAFR A A 04 13 30.3
comp=N,2μm,20.0s
UGM Wanagama 60.53 108 P P 03 46 56.6 +15
DSB Dublin 60.66 323 PFAKE 03 46 50.0 +8.0
DSB LR LR
comp=Z,2μm,21.0s
KNMB Chin-men Tao 61.17 70 PFAKE 03 47 00.0 +14
KNMB LR LR
comp=Z,800nm,21.0s
QZH Quanzhou 61.33 69 *e*P P 03 46 53.0 +5.9
QZH S **S 03 55 09.0 +0.4**
QZH LR LR
comp=Z,1μm,20.4s
QZH LR LR
comp=Z,870nm,19.4s
QZH LR LR
comp=Z,2μm,29.8s
NJ2 Nanjing 61.34 61 *e*P **P 03 46 48.0 +0.9**
BOD Bodaibo 61.98 32 *e*P **P 03 46 50.2 -0.7**
BOD pmax pmax
comp=Z,24nm,2.0s
SSE Sheshan 63.34 62 PFAKE 03 47 10.0 +9.5
SSE LR LR
comp=Z,2μm,20.0s
HIA Hailar 63.35 42 PFAKE 03 47 10.0 +10
HIA LR LR
comp=Z,900nm,20.0s
SSLB Suanglung 63.56 71 PFAKE 03 47 10.0 +7.9
SSLB LR LR
comp=Z,800nm,21.0s
TWG Pinlang 63.76 72 PFAKE 03 47 10.0 +6.6
TWG LR LR
comp=Z,5μm,19.0s
ENPP El Nido 63.85 85 *e*P P 03 47 11.2 +7.1
YHNB Yeheng 63.87 69 PFAKE 03 47 20.0 +16
YHNB LR LR
comp=Z,1μm,19.0s
TATO Taipei 63.94 69 PFAKE 03 47 20.0 +15
TATO LR LR
comp=Z,2μm,20.0s
NACB Ninganchiao 64.11 70 PFAKE 03 47 20.0 +14
NACB LR LR
comp=Z,1μm,21.0s
LUBP Lubang 64.19 82 *e*P P 03 47 13.3 +7.0
SJMP San Jose 65.25 83 *e*P P 03 47 19.9 +6.6
YOJ Yonaguni jima 65.37 70 PFAKE 03 47 30.0 +16
YOJ LR LR
comp=Z,900nm,19.0s
CUYO Cuyo Island 65.45 85 *e*P P 03 47 24.7 +10
SPA0 Spitsbergen Ar 66.15 352 *e*P P 03 47 24.2 +6.2
PMOZ Porto Moniz, M 66.37 300 *e*P **P 03 47 24.9 +4.5**
PMOZ *e*S S 03 56 22.3 +11
PMOZ *e*SS **SS 04 00 35.5 +7.7**
PMOZ Porto Moniz, M 66.37 300 *e*LR LR 04 11 50.9
comp=Z,4μm,18.0s
CN2 Changchun 66.78 48 *e*P **P 03 47 22.5 -0.2**
CN2 *e*pP pwP 03 47 27.3 +1.3
CN2 *e*S **S 03 56 13.0 -2.8**
CN2 *e*SS **SS 04 00 32.5 -1.0**
CN2 LR LR
comp=Z,970nm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
MPSI Mapaga 66.81 96 P **P 03 47 25.0 +1.7**
GUIM Jordan 67.01 85 *e*P **P 03 47 25.9 +1.3**
KBS Kingsbay 67.30 352 PFAKE 03 47 40.0 +15
KBS LR LR
comp=Z,2μm,20.0s
KBS Kingsbay 67.30 352 *e*P **P 03 47 25.4 +0.1**
IPIL Ipil 67.58 88 *e*P P 03 47 48.3 +20
KAPI Kappang 68.20 102 P **P 03 47 34.8 +2.7**
SNR=7.7
KAPI Kappang 68.20 102 P **P 03 47 31.4 -0.7**
comp=Z,15nm,1.0s,baz=248,slow=6.8,SNR=5.4
BNSI Bone 68.35 101 P P 03 47 38.2 +5.1
PAGZ Pagadian 68.35 87 *e*P **P 03 47 34.1 +1.0**
ZEA Zeya 68.52 38 *e*P P 03 47 41.0 +7.5
ZEA *e*S **S 03 56 38.0 +1.7**
ZEA pmax pmax
comp=Z,200nm,5.0s
ZEA pmax pmax
comp=Z,80nm,1.8s
ZEA smax smax
comp=N,600nm,13.0s
ZEA MLR MLR
comp=Z,2μm,16.0s
ZEA MLR MLR
comp=E,1μm,18.0s
ZEA MLR MLR
comp=N,600nm,16.0s
CNP Catarman 68.64 82 *e*P P 03 47 44.7 +10
KS15 Wonju Array Si 68.68 55 *e*P **P 03 47 33.5 -1.2**
comp=N,111nm,1.9s
KSRS Korea Array 68.71 55 P **P 03 47 33.5 -1.4**
comp=N,2.8nm,0.6s,baz=268,slow=6.7,SNR=11
KSRS LR LR 04 19 32.7
comp=N,740nm,20.1s,baz=271,slow=38
MRSI Marisa 68.73 95 P **P 03 47 38.6 +3.1**
CTBH Cotabato--PC H 69.33 88⇓ *i*P **P 03 47 39.9 +0.7**
MDJ Mudanjiang 69.77 48 P P 03 47 50.0 +8.6
SKMP Bagumbayan, Su 69.77 88 *e*P P 03 47 49.7 +7.8
JOW Kunigami 69.84 66 PFAKE 03 47 50.0 +7.8
JOW LR LR
comp=Z,900nm,21.0s
LUWI Luwuk 69.94 97 PFAKE 03 47 50.0 +7.0
LUWI LR LR
comp=Z,1μm,19.0s
BUKP Musuan 69.97 87 *e*P P 03 47 52.1 +8.9
YAK Yakutsk 70.54 29 *e*P **P 03 47 47.2 +1.4**
YAK *e* 03 48 02.7
YAK *e* 03 50 18.5
YAK *e*S **S 03 56 56.3 -3.5**
YAK *e**SS **SKSac 03 57 45.5 -2.9**
YAK *e*SS **SS 04 01 35.9 +5.3**
YAK pmax pmax
comp=Z,111nm,0.8s
YAK pmax pmax
comp=N,22nm,0.9s
YAK pmax pmax
comp=E,47nm,1.1s
YAK pmax pmax
comp=Z,732nm,3.9s
YAK pmax pmax
comp=N,301nm,4.4s
YAK pmax pmax
comp=E,368nm,3.8s
YAK smax smax
comp=N,172nm,2.5s
YAK smax smax
comp=E,227nm,2.3s
YAK MLR MLR
comp=Z,11μm,26.0s
YAK MLR MLR
comp=N,4μm,26.0s
YAK MLR MLR
comp=E,21nm,25.0s
DAV Davao City (W) 70.65 88 PFAKE 03 48 00.0 +13
DAV LR LR
comp=Z,1μm,19.0s
DAV Davao City (W) 70.65 88⇑ *i*P **P 03 47 50.4 +3.0**
MSHR Mys Shultsa 70.97 50⇓ *e*P **P 03 47 49.9 +1.2**
DDMP Don Marcelino, 71.00 89 *e*P P 03 47 55.6 +6.2
KLR Kul'dur 71.19 43⇑ *e*P **P 03 47 49.5 -0.5**
KLR pmax pmax
comp=Z,14nm,2.7s
JNU Nakatsue 71.43 60 *e*P **P 03 47 50.0 -1.7**
comp=Z,58nm,1.2s
JNU Nakatsue 71.43 60 P **P 03 47 51.7 -0.1**
comp=Z,10.0nm,1.0s,baz=347,slow=5.2,SNR=2.3
TIXI Tiksi 71.49 19 *e*P **P 03 47 50.0 -1.3**
comp=Z,83nm,1.9s
TIXI Tiksi 71.49 19⇑ *i*P **P 03 47 53.3 +2.0**
TIXI pmax pmax
comp=Z,9.0nm,1.5s
USA0B Ussuriysk Arra 71.50 48 PFAKE 03 48 00.0 +8.0
USA0B LR LR
comp=Z,1μm,20.0s
USRK Ussuriysk Ar. 71.50 48 P **P 03 47 51.3 -0.7**
comp=Z,1.4nm,0.7s,baz=267,slow=5.6,SNR=3.0
USRK LR LR 04 20 26.3
comp=Z,1μm,21.2s,baz=278,slow=37
SCO Scoresbysund 71.54 340 PFAKE 03 48 00.0 +8.4
SCO LR LR
comp=Z,1μm,20.0s
MMRI Maumere 71.67 104 PFAKE 03 48 00.0 +6.5
MMRI LR LR
comp=Z,1μm,22.0s
DAG Danmarks Havn 71.84 347 *e*P **P 03 47 52.5 -0.9**
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 71.84 347 *i* P **P 03 47 52.5 -0.9**
comp=Z,5.8nm,0.7s
CMLA Cha da Macela 72.83 305 PFAKE 03 48 10.0 +10
CMLA LR LR
comp=Z,1μm,19.0s
SANI Sanana 73.31 97 P P 03 48 10.6 +7.3
TNTI Ternate 73.89 93 PFAKE 03 48 20.0 +13
TNTI LR LR
comp=Z,300nm,21.0s
TNTI Ternate 73.89 93 P **P 03 48 10.8 +4.1**
SOEI Soe 73.92 105 PFAKE 03 48 20.0 +13
SOEI LR LR
comp=Z,2μm,20.0s
PSA00 Pilbara Seismi 74.09 118 *e*P **P 03 48 05.5 -2.2**
comp=Z,90nm,1.3s
MORW Morawa 74.14 126 *e*P **P 03 48 06.5 -1.3**
comp=Z,52nm,1.3s
MORW Morawa 74.14 126 P **P 03 48 06.5 -1.3**
baz=74,SNR=5.0
GRNR Gornyy 74.14 41 *e*P P 03 48 25.9 +18
GRNR pmax pmax
comp=Z,21nm,1.0s
SACV Santiago Islan 74.44 282 PFAKE 03 48 20.0 +10
SACV LR LR
comp=Z,3μm,21.0s
TEY Ternei 74.73 47⇑ *e*P **P 03 48 08.7 -2.3**
TEY pmax pmax
comp=Z,20nm,0.7s
H01W3 Cape Leeuwin H 75.47 132 T T 05 10 29.9
baz=302
H01W2 Cape Leeuwin H 75.47 132 T T 05 10 30.5
baz=302
H01W1 Cape Leeuwin H 75.49 132 T T 05 10 31.2
INU Inuyama 76.21 57 PFAKE 03 48 30.0 +10
INU LR LR
comp=Z,900nm,21.0s
NWAO Narrogin (SRO) 76.81 129 *e*P **P 03 48 21.2 -1.9**
comp=Z,30nm,0.9s
NWAO LR LR
comp=Z,1μm,20.0s
NWAO Narrogin (SRO) 76.81 129 P **P 03 48 23.1 0.0**
baz=77,SNR=5.6
NWAO Narrogin (SRO) 76.81 129 *e*P **P 03 48 21.2 -1.9**
NWAO pmax pmax
comp=Z,30nm,0.9s
NWAO MLR MLR

comp=Z,1μm,20.0s
SUMG Summit 76.81 342 *e*P **P 03 48 22.4 -0.5**
comp=Z,82nm,1.5s
SUMG LR LR
comp=Z,2μm,19.0s
SUMG Summit 76.81 342 *e*P **P 03 48 22.4 -0.5**
SUMG pmax pmax
comp=Z,82nm,1.5s
SUMG MLR MLR
comp=Z,2μm,19.0s
SUMG Summit 76.81 342 *i* P **P 03 48 19.7 -3.3**
MJB9 Matsu-Tunnel 76.98 55 PFAKE 03 48 40.0 +16
MJB9 LR LR
comp=Z,1μm,20.0s
MAJO Matsushiro 76.99 55 *e*P **P 03 48 24.1 0.0**
MAJO LR LR
comp=Z,1μm,20.0s
MAJO Matsushiro 76.99 55⇑ *e*P **P 03 48 25.3 +1.1**
MAJO pmax pmax
comp=Z,6.0nm,1.0s
MAT Matsushiro 76.99 55 P P 03 48 32.0 +7.8
MAT S **S 03 58 12.0 -1.6**
MJAR Matsushiro Arr 76.99 55 P **P 03 48 24.1 0.0**
comp=Z,0.7nm,0.5s,baz=277,slow=4.2,SNR=3.0
FITZ Fitzroy Crossi 77.90 112 *e*P **P 03 48 27.7 -1.8**
comp=Z,45nm,0.9s
FITZ Fitzroy Crossi 77.90 112 P **P 03 48 29.6 +0.1**
baz=78,SNR=9.2
YSS Yuzh-Sakhalins 78.73 44 PFAKE 03 48 40.0 +6.4
YSS LR LR
comp=Z,600nm,22.0s
YSS Yuzh-Sakhalins 78.73 44 *e*P P 03 48 39.0 +5.4
YSS *e**SP **PcP 03 48 44.0 +1.5**
YSS *e*S **S 03 58 40.2 +8.2**
YSS *e* 03 58 50.0
YSS *e*PS **PnS 03 59 11.0 -1.6**
YSS *e*SS **SS 04 03 35.0 -0.8**
YSS MLR MLR
comp=N,600nm,17.0s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS MLR MLR
comp=E,1μm,14.0s
ASAJ Asahikawa 79.09 47 LR LR 04 25 17.7
comp=E,1μm,20.3s,baz=342,slow=37
ERM Erimo 79.87 49 PFAKE 03 48 50.0 +10
ERM LR LR
comp=Z,1μm,22.0s
KNRA Kununurra 79.94 109 P **P 03 48 43.2 +2.4**
baz=80,SNR=3.6
SEY Seymchan 80.94 27⇓ *e*P **P 03 48 47.2 +1.9**
SEY Seymchan 80.94 27 LR LR 04 28 49.4
comp=Z,2μm,21.2s,baz=292,slow=39
MA2 Magadan 80.98 31 *de*P **P 03 48 45.5 -0.1**
YUK Yuzh-Kuril'sk 81.42 47 *e*P **P 03 48 48.0 -0.2**
YUK *e* 03 48 53.7
YUK *e* 03 51 58.2
YUK *e*S **S 03 59 00.3 -0.1**
YUK *e*SSS SSS 04 07 43.6
YUK pmax pmax
comp=Z,255nm,0.9s
SFJD Kangerlussuaq 82.17 337 PFAKE 03 49 00.0 +8.3
SFJD LR LR
comp=Z,1μm,21.0s
SFJD Kangerlussuaq 82.17 337 *e*P **P 03 48 48.3 -3.4**
SFJD Kangerlussuaq 82.17 337 LR LR 04 29 34.2
comp=Z,746nm,18.4s,baz=62,slow=39
SFJD Kangerlussuaq 82.17 337 *i* P **P 03 48 48.3 -3.4**
MAW Mawson 82.29 177 *e*P **P 03 48 51.5 -0.6**
comp=Z,6.9nm,0.8s
MAW Mawson 82.29 177 P **P 03 48 51.6 -0.5**
baz=82,SNR=19
MAW Mawson 82.29 177 *e*P **P 03 48 51.5 -0.6**
MAW pmax pmax
comp=Z,7.0nm,0.8s
MAW Mawson 82.29 177 P **P 03 48 51.3 -0.8**
comp=Z,2.6nm,0.9s,baz=57,slow=6.0,SNR=6.2
MAW LR LR 04 17 33.3
comp=Z,3μm,21.0s,baz=346,slow=30
KDU Kakadu 82.48 105 P **P 03 48 57.8 +3.6**
baz=82,SNR=8.6
KUR Kuril'sk 82.56 45 P **P 03 48 54.0 -0.2**
KUR S **S 03 59 12.5 +0.4**
KUR MLR MLR
comp=Z,932nm,17.0s
KUR MLR MLR
comp=E,514nm,13.0s
WRKA Warakurna 82.58 118 P **P 03 48 53.5 -1.1**
baz=82,SNR=15
FORT Forrest 84.36 124 PFAKE 03 49 10.0 +6.3
FORT LR LR
comp=Z,2μm,21.0s
BILL Bilibino 84.62 20 *ce*P **P 03 49 07.2 +2.9**
BILL *e* 03 49 10.5
BILL *e* 03 49 14.4
BILL *e* 03 52 17.2
BILL *e*PPP PPP 03 54 15.4
BILL pmax pmax
comp=Z,8.0nm,1.6s
WRA Warramunga Arr 86.29 112 P **P 03 49 12.7 -0.9**
comp=Z,2.8nm,0.5s,baz=289,slow=5.2,SNR=7.3
WRAB Tennant Creek 86.30 112 *e*P **P 03 49 09.7 -3.9**
comp=Z,26nm,0.7s
WRAB Tennant Creek 86.30 112 *de*P **P 03 49 14.0 +0.4**
WRAB pmax pmax
comp=Z,24nm,1.7s
PETK Petropavlovsk- 86.53 36 LR LR 04 34 00.3
comp=Z,691nm,18.1s,baz=290,slow=40
ASAR Alice Springs 87.00 115 P **P 03 49 15.5 -1.5**
comp=Z,3.9nm,0.7s,baz=291,slow=4.6,SNR=14
ASAR LR LR 04 23 21.7
comp=Z,625nm,19.5s,baz=293,slow=32
PET Petropavlovsk 87.10 36 PFAKE 03 49 30.0 +13
PET LR LR
comp=Z,1μm,22.0s
PET Petropavlovsk 87.10 36 *e*P **P 03 49 18.9 +2.0**
PET *e*S **S 03 59 48.8 -8.1**
PET *e*SSS SSS 04 09 14.7
PET pmax pmax
comp=Z,100nm,7.6s
GUMO Guam 87.63 77 PFAKE 03 49 30.0 +10
GUMO LR LR
comp=Z,700nm,21.0s
RES Resolute Bay 88.71 352 *e*P **P 03 49 23.4 -0.8**
comp=Z,14nm,1.4s
RES LR LR
comp=Z,1μm,20.0s
RES Resolute Bay 88.71 352 *e*P **P 03 49 23.4 -0.8**
RES pmax pmax
comp=Z,14nm,1.4s
RES MLR MLR
comp=Z,1μm,20.0s
RES Resolute Bay 88.71 352 P **P 03 49 24.6 +0.4**
comp=Z,1.0nm,0.9s,baz=37,slow=5.1,SNR=1.6
RES LR LR 04 35 31.3
comp=Z,858nm,19.1s,baz=28,slow=40
FRB Frobisher Bay 90.30 338 P **P 03 49 30.4 -1.4**
comp=Z,2.5nm,0.6s,baz=50,slow=5.4,SNR=10
CASY Casey 90.86 160 PFAKE 03 49 40.0 +5.8
CASY LR LR
comp=Z,4μm,22.0s
RCBR Riachuelo 91.18 264 PFAKE 03 49 50.0 +13
RCBR LR LR
comp=Z,2μm,19.0s
QIS Mount Isa 91.21 111 P P 03 49 42.9 +5.9
baz=91,SNR=4.3
BBOO Buckleboo 91.46 123 PFAKE 03 49 50.0 +12
BBOO LR LR
comp=Z,2μm,20.0s
RDOG Red Dog Mine 93.37 13 PFAKE 03 50 00.0 +14
RDOG LR LR
comp=Z,1μm,22.0s
SNAA Sanae 94.02 195 P **P 03 49 51.5 +2.7**
SNAA Sanae 94.02 195 *e*P **P 03 49 48.6 -0.2**
comp=Z,5.0nm,1.2s
SNAA LR LR
comp=Z,2μm,22.0s
SNAA Sanae 94.02 195 P **P 03 49 48.6 -0.2**
comp=Z,1.9nm,1.1s,baz=22,slow=6.3,SNR=2.6
GAMB Gambell 94.37 19 PFAKE 03 50 00.0 +9.4
GAMB LR LR
comp=Z,1μm,22.0s
SCHQ Schefferville 94.61 330 LR LR 04 35 31.6
comp=Z,806nm,20.1s,baz=72,slow=37
VNA2 Neumayer--Watz 94.83 197 P **P 03 49 55.7 +3.3**
TOLK Toolik Lake Re 95.25 8 PFAKE 03 50 10.0 +15
TOLK LR LR
comp=Z,700nm,22.0s
ANM Nome 95.58 16 PFAKE 03 50 10.0 +14
ANM LR LR
comp=Z,700nm,22.0s
SMY Shemya 95.58 32 PFAKE 03 50 10.0 +14
SMY LR LR
comp=Z,1μm,22.0s
VNA3 Neumayer Olymp 95.63 197 P **P 03 49 54.6 -1.5**
STKA Stephens Creek 95.75 121 *e*P **P 03 49 56.1 -1.5**
comp=Z,4.1nm,1.5s
STKA Stephens Creek 95.75 121 P **P 03 49 58.2 +0.6**
comp=Z,1.5nm,0.8s,baz=270,slow=6.1,SNR=1.9
STKA LR LR 04 30 35.2
comp=Z,1μm,18.8s,baz=278,slow=34
INK Inuvik 97.10 3 *e*P **P 03 50 02.1 -0.9**
comp=Z,22nm,1.8s
INK LR LR
comp=Z,1μm,22.0s
INK Inuvik 97.10 3 P **P 03 50 02.1 -0.9**
comp=Z,1.3nm,1.1s,baz=333,slow=4.5,SNR=2.3
INK LR LR 04 38 32.2
comp=Z,321nm,21.8s,baz=358,slow=38
CTAO Charters Tower 97.15 109 PFAKE 03 50 10.0 +5.7
CTAO LR LR
comp=Z,1μm,20.0s
FYU Fort Yukon 97.79 8 PFAKE 03 50 20.0 +14
FYU LR LR
comp=Z,900nm,22.0s
LMN Caledonia Moun 98.30 322 PFAKE 03 50 20.0 +11
LMN LR LR
comp=Z,1μm,22.0s
PRP Porcupine Dome 98.75 8 PFAKE 03 50 20.0 +9.3
PRP LR LR
comp=Z,600nm,20.0s
EPYK Eagle Plains 98.83 4 PFAKE 03 50 20.0 +9.1
EPYK LR LR
comp=Z,500nm,20.0s
MDM Murphy Dome 98.88 9 PFAKE 03 50 20.0 +8.9
MDM LR LR
comp=Z,1μm,22.0s
COLA College 99.02 9 PFAKE 03 50 20.0 +8.3
COLA LR LR
comp=Z,1μm,21.0s
BPAW Bear Paw Mtn. 99.21 11 PFAKE 03 50 20.0 +7.4
BPAW LR LR
comp=Z,700nm,20.0s
CCB Clear Creek Bu 99.24 9 PFAKE 03 50 20.0 +7.3
CCB LR LR
comp=Z,900nm,20.0s
ILAR Eielson Array 99.26 9 P **Pdif 03 50 12.6 -0.2**
comp=Z,0.1nm,0.6s,baz=332,slow=5.1,SNR=2.3
ILAR PKKP **PKKPdf 04 06 40.7 -1.4**
comp=Z,0.9nm,0.9s,baz=194,slow=3.7,SNR=5.9
ILAR LR LR 04 40 06.8
comp=Z,377nm,19.8s,baz=331,slow=38
WRH Wood River Hil 99.36 9 PFAKE 03 50 20.0 +6.8
WRH LR LR
comp=Z,1μm,21.0s
BWN Browne 99.41 10 PFAKE 03 50 20.0 +6.5
BWN LR LR
comp=Z,500nm,21.0s
HDA Harding Lake 99.59 9 PFAKE 03 50 30.0 +16
HDA LR LR
comp=Z,600nm,20.0s
PQI Presque Isle 99.75 324 PFAKE 03 50 30.0 +15
PQI LR LR
comp=Z,2μm,21.0s
GGN Saint George 99.90 322 PFAKE 03 50 30.0 +14
GGN LR LR
comp=Z,2μm,20.0s
MCK McKinley 99.91 10 PFAKE 03 50 30.0 +14
MCK LR LR
comp=Z,700nm,19.0s
EGAK Eagle 99.99 6 PFAKE 03 50 30.0 +14
EGAK LR LR
comp=Z,600nm,22.0s
TOO Toolangi 100.08 126 PFAKE 03 50 30.0 +13
TOO LR LR
comp=Z,2μm,20.0s
RND Reindeer 100.23 10 PFAKE 03 50 30.0 +13
RND LR LR
comp=Z,900nm,22.0s
EMMW East Machias 100.49 322 PFAKE 03 50 30.0 +11
EMMW LR LR
comp=Z,1μm,21.0s
RIDG Independent Ri 100.53 8 PFAKE 03 50 30.0 +11
RIDG LR LR
comp=Z,1μm,22.0s
DOT Dot Lake 100.73 8 PFAKE 03 50 30.0 +11
DOT LR LR
comp=Z,900nm,22.0s
DHY Denali Highway 100.78 10 PFAKE 03 50 30.0 +10
DHY LR LR
comp=Z,900nm,22.0s
PAX Paxson 101.18 9 PFAKE 03 50 30.0 +8.5
PAX LR LR
comp=Z,700nm,21.0s
PKME Peaks-Kenny Pk 101.27 323 PFAKE 03 50 30.0 +7.9
PKME LR LR
comp=Z,2μm,21.0s
MENT Mentasta 101.46 8 PFAKE 03 50 30.0 +7.4
MENT LR LR
comp=Z,900nm,21.0s
HARP HAARP 101.76 9 PFAKE 03 50 30.0 +6.0
HARP LR LR
comp=Z,900nm,22.0s
PMR Palmer 101.86 11 PFAKE 03 50 40.0 +16
PMR LR LR
comp=Z,600nm,21.0s
WVL Waterville 101.88 322 PFAKE 03 50 40.0 +15
WVL LR LR
comp=Z,2μm,20.0s
SCM Sheep Creek Mo 101.95 10 PFAKE 03 50 40.0 +15
SCM LR LR
comp=Z,600nm,21.0s
FCC Fort Churchill 102.29 344 PFAKE 03 50 40.0 +14
FCC LR LR
comp=Z,1μm,22.0s
CAN Canberra 102.48 123 PFAKE 03 50 40.0 +12
CAN LR LR
comp=Z,1μm,19.0s
KLU Klutina 102.51 10 PFAKE 03 50 40.0 +13
KLU LR LR
comp=Z,800nm,21.0s
YKA Yellowknife Ar 102.57 355 P **Pdif 03 50 26.3 -1.2**
comp=Z,0.3nm,0.8s,baz=5.7,slow=4.9,SNR=2.9
YKA PKKP **PKKPdf 04 06 33.7 -2.2**
comp=Z,0.3nm,0.5s,baz=185,slow=2.5,SNR=4.9
EIDS Eidsvold 102.58 113 PFAKE 03 50 40.0 +12
EIDS LR LR
comp=Z,1μm,20.0s
DIV Divide 102.87 10 PFAKE 03 50 40.0 +11
DIV LR LR
comp=Z,900nm,22.0s
GLI Glacier Island 102.89 10 PFAKE 03 50 40.0 +11
GLI LR LR
comp=Z,700nm,21.0s
HOM Homer 103.13 13 PFAKE 03 50 40.0 +10
HOM LR LR
comp=Z,1μm,21.0s
SEW Seward 103.17 12 PFAKE 03 50 40.0 +10
SEW LR LR
comp=Z,800nm,22.0s
BRLK Bradley Lake 103.19 13 PFAKE 03 50 40.0 +10
BRLK LR LR
comp=Z,900nm,19.0s
LBNH Lisbon 103.39 323 PFAKE 03 50 40.0 +8.4
LBNH LR LR
comp=Z,1μm,21.0s
EYAK Cordova Ski Ar 103.43 10 PFAKE 03 50 40.0 +8.6
EYAK LR LR
comp=Z,1μm,21.0s
BALM Baldy 103.47 8 PFAKE 03 50 40.0 +8.2
BALM LR LR
comp=Z,1μm,22.0s
CTGM Chitina Glacie 103.67 8 PFAKE 03 50 40.0 +7.3
CTGM LR LR
comp=Z,800nm,22.0s
FFD Franklin Falls 103.69 322 PFAKE 03 50 40.0 +7.1
FFD LR LR
comp=Z,2μm,20.0s
VT1 Waterbury 103.82 324 PFAKE 03 50 40.0 +6.5
VT1 LR LR
comp=Z,1μm,20.0s
HMT Hamilton 103.87 9 PFAKE 03 50 40.0 +6.6
HMT LR LR
comp=Z,800nm,22.0s
ARMA Armidale 103.90 118 PFAKE 03 50 40.0 +5.8
ARMA LR LR
comp=Z,2μm,19.0s
HNH Hanover 103.92 323 PFAKE 03 50 40.0 +6.1
HNH LR LR
comp=Z,1μm,20.0s
VLDQ Val d'Or 103.96 329 PFAKE 03 50 50.0 +16
VLDQ LR LR
comp=Z,800nm,21.0s
BCX Boston College 104.05 321 PFAKE 03 50 50.0 +15
BCX LR LR
comp=Z,1μm,20.0s
WES Weston 104.12 321 PFAKE 03 50 50.0 +15
WES LR LR
comp=Z,1μm,19.0s
HRV Adam Dziewonsk 104.19 322 PFAKE 03 50 50.0 +15
HRV LR LR
comp=Z,1μm,20.0s
BRYW Bryant College 104.52 321 PFAKE 03 50 50.0 +13
BRYW LR LR
comp=Z,1μm,22.0s
QSPA South Pole Qui 104.56 180 PFAKE 03 50 50.0 +14
QSPA LR LR
comp=Z,4μm,19.0s
WHY Whitehorse 104.62 4 PFAKE 03 50 50.0 +13
WHY LR LR
comp=Z,800nm,21.0s
PCA Pinnacle 104.65 7 PFAKE 03 50 50.0 +13
PCA LR LR
comp=Z,700nm,21.0s
LONY Lake Ozonia 104.68 325 PFAKE 03 50 50.0 +13
LONY LR LR
comp=Z,1μm,20.0s
D53A Lac Vacive, Po 104.77 328 PFAKE 03 50 50.0 +12
D53A LR LR
comp=Z,2μm,22.0s
QUA2 Belchertown 104.80 322 PFAKE 03 50 50.0 +12
QUA2 LR LR
comp=Z,1μm,20.0s
NCB Newcomb 104.88 324 PFAKE 03 55 00.0 +6.6
NCB LR LR
comp=Z,700nm,21.0s
ACCN Adirondack Com 104.92 323 PFAKE 03 55 00.0 +6.5
ACCN LR LR
comp=Z,1μm,19.0s
TRY Troy 105.31 323 PFAKE 03 55 10.0 +16
TRY LR LR
comp=Z,2μm,22.0s
YLE Yale 105.72 321 PFAKE 03 55 10.0 +15
YLE LR LR
comp=Z,1μm,22.0s
SKAG Skagway 105.78 5 PFAKE 03 55 10.0 +15
SKAG LR LR
comp=Z,600nm,21.0s
PLVO Plevna 105.78 326 PFAKE 03 55 10.0 +15
PLVO LR LR
comp=Z,1μm,19.0s
WAKE Wake Island 105.80 65 PFAKE 03 55 10.0 +14
WAKE LR LR
comp=Z,600nm,21.0s
SPB Sao Paulo 105.86 249 PFAKE 03 55 10.0 +14
SPB LR LR
comp=Z,2μm,20.0s
PAL Palisades 106.49 321 PFAKE 03 55 10.0 +14
PAL LR LR
comp=Z,1μm,22.0s
BESE Bessie Mountai 106.69 5 PFAKE 03 55 10.0 +14
BESE LR LR
comp=Z,400nm,20.0s
ODNJ Ogdensburg 106.87 322 PFAKE 03 55 10.0 +13
ODNJ LR LR
comp=Z,1μm,21.0s
BINY Binghamton 106.99 323 PFAKE 03 55 10.0 +13
BINY LR LR
comp=Z,1μm,22.0s
SADO Sadowa 107.06 327 PFAKE 03 55 10.0 +13
SADO LR LR
comp=Z,1μm,19.0s
BRNJ Basking Ridge 107.09 321 PFAKE 03 55 10.0 +12
BRNJ LR LR
comp=Z,1μm,22.0s
DLBC Dease Lake 107.11 2 PFAKE 03 55 10.0 +13
DLBC LR LR
comp=Z,900nm,20.0s
J55A Hilton 107.34 325 PFAKE 03 55 10.0 +12
J55A LR LR
comp=Z,1μm,21.0s
LUPA Lehigh Univers 107.62 322 PFAKE 03 55 10.0 +11
LUPA LR LR
comp=Z,100nm,22.0s
N59A State Game Lan 107.66 322 PFAKE 03 55 10.0 +11
N59A LR LR
comp=Z,1μm,22.0s
MMNY Mt. Morris Dam 107.74 325 PFAKE 03 55 10.0 +11
MMNY LR LR
comp=Z,1μm,20.0s
MEDO Medina 107.76 325 PFAKE 03 55 10.0 +11
MEDO LR LR
comp=Z,1μm,21.0s
J54A Appleton 107.79 326 PFAKE 03 55 10.0 +11
J54A LR LR
comp=Z,1μm,21.0s
HNR Honiara 107.83 95 PFAKE 03 55 10.0 +10
HNR LR LR
comp=Z,600nm,18.0s
FFC Flin Flon 107.90 346 PFAKE 03 55 10.0 +11
FFC LR LR
comp=Z,1μm,22.0s
PSUB Penn St. - Bra 108.08 321 PFAKE 03 55 10.0 +11
PSUB LR LR
comp=Z,1μm,22.0s
E46A Sault Ste Mari 108.52 331 PFAKE 03 55 10.0 +10
E46A LR LR
comp=Z,1μm,22.0s
MVL Millersville 108.58 322 PFAKE 03 55 10.0 +10
MVL LR LR
comp=Z,1μm,20.0s
PAGS Pennsylvania G 108.66 322 PFAKE 03 55 10.0 +10
PAGS LR LR
comp=Z,1μm,21.0s
ANWB Willy Bob 108.84 295 PFAKE 03 55 10.0 +8.6
ANWB LR LR
comp=Z,2μm,21.0s
SBA Scott Base 109.00 168 PFAKE 03 55 10.0 +10
SBA LR LR
comp=Z,2μm,18.0s
WRAK Wrangell Islan 109.01 4 PFAKE 03 55 10.0 +9.3
WRAK LR LR
comp=Z,700nm,21.0s
SSPA Standing Stone 109.08 323 PFAKE 03 55 10.0 +8.7
SSPA LR LR
comp=Z,800nm,21.0s
E44A Grand Marais A 109.09 332 PFAKE 03 55 10.0 +8.9
E44A LR LR
comp=Z,1μm,21.0s
SDMD Soldier's Deli 109.24 322 PFAKE 03 55 10.0 +8.4
SDMD LR LR
comp=Z,500nm,20.0s
H48A Harrisville 109.25 329 PFAKE 03 55 10.0 +8.5
H48A LR LR
comp=Z,1μm,21.0s
ERPA Erie 109.30 325 PFAKE 03 55 10.0 +8.3
ERPA LR LR
comp=Z,1μm,20.0s
FDF Fort de France 109.37 292 PFAKE 03 55 10.0 +7.5
FDF LR LR
comp=Z,1μm,20.0s
C40A Isle Royale Na 109.50 335 PFAKE 03 55 10.0 +8.1
C40A LR LR
comp=Z,1μm,20.0s
M54A Oil Creek Stat 109.53 325 PFAKE 03 55 10.0 +7.8
M54A LR LR
comp=Z,1μm,21.0s
I49A Point Hope 109.55 328 PFAKE 03 55 10.0 +7.9
I49A LR LR
comp=Z,2μm,20.0s
N55A Marion Center 109.62 324 PFAKE 03 55 10.0 +7.6
N55A LR LR
comp=Z,2μm,22.0s
ALLY Alegheny Colle 109.70 325 PFAKE 03 55 10.0 +7.5
ALLY LR LR
comp=Z,1μm,21.0s
O56A Blue Knob Stat 109.72 323 PFAKE 03 55 10.0 +7.4

O56A LR LR
comp=Z,900nm,22.0s
E43A Lone Tree Farm 109.76 332 PFAKE 03 55 10.0 +7.6
E43A LR LR
comp=Z,1μm,20.0s
GLMI Grayling 109.80 330 PFAKE 03 55 10.0 +7.5
GLMI LR LR
comp=Z,1μm,21.0s
SMRT St. Maarten 109.82 296 PFAKE 03 55 10.0 +6.7
SMRT LR LR
comp=Z,2μm,22.0s
D41A Chassel 109.92 334 PFAKE 03 55 10.0 +7.3
D41A LR LR
comp=Z,900nm,21.0s
SEUS St. Eustatius 109.96 295 PFAKE 03 55 10.0 +6.5
SEUS LR LR
comp=Z,2μm,20.0s
N54A Moraine State 110.08 324 PFAKE 03 55 10.0 +6.8
N54A LR LR
comp=Z,1μm,21.0s
G45A Suttons Bay 110.14 331 PFAKE 03 55 10.0 +6.8
G45A LR LR
comp=Z,1μm,21.0s
K50A Casco 110.26 327 PFAKE 03 55 10.0 +6.6
K50A LR LR
comp=Z,1μm,22.0s
CBN Corbin Frederi 110.33 321 PFAKE 03 55 10.0 +6.3
CBN LR LR
comp=Z,1μm,22.0s
I47A Gladwin 110.33 329 PFAKE 03 55 10.0 +6.4
I47A LR LR
comp=Z,2μm,21.0s
EYMN Ely 110.43 336 PFAKE 03 55 10.0 +6.4
EYMN LR LR
comp=Z,1μm,21.0s
M52A Chesterland 110.44 326 PFAKE 03 55 10.0 +6.1
M52A LR LR
comp=Z,1μm,21.0s
J48A Bridge Port 110.49 328 PFAKE 03 55 10.0 +6.1
J48A LR LR
comp=Z,1μm,21.0s
T60A Surry 110.59 320 PFAKE 03 55 20.0 +16
T60A LR LR
comp=Z,1μm,20.0s
N53A Lisbon 110.66 325 PFAKE 03 55 20.0 +16
N53A LR LR
comp=Z,1μm,22.0s
R58B Mineral 110.79 321 PFAKE 03 55 20.0 +15
R58B LR LR
comp=Z,900nm,22.0s
MCWV Mont Chateau 110.86 323 PFAKE 03 55 20.0 +15
MCWV LR LR
comp=Z,500nm,21.0s
U61A Possum Corner 110.91 319 PFAKE 03 55 20.0 +15
U61A LR LR
comp=Z,1μm,21.0s
COWI Conover 110.92 333 PFAKE 03 55 20.0 +15
COWI LR LR
comp=Z,800nm,20.0s
G43A Wallace 110.92 332 PFAKE 03 55 20.0 +15
G43A LR LR
comp=Z,1μm,21.0s
J47A Sunmer 111.06 329 PFAKE 03 55 20.0 +15
J47A LR LR
comp=Z,2μm,22.0s
V62A Hyde County Ai 111.06 318 PFAKE 03 55 20.0 +15
V62A LR LR
comp=Z,1μm,20.0s
S58A Poland Farm, P 111.11 321 PFAKE 03 55 20.0 +15
S58A LR LR
comp=Z,900nm,20.0s
AAM Ann Arbor 111.14 327 PFAKE 03 55 20.0 +15
AAM LR LR
comp=Z,1μm,22.0s
I45A Fountain 111.16 330 PFAKE 03 55 20.0 +15
I45A LR LR
comp=Z,1μm,20.0s
F41A Three Lakes 111.18 333 PFAKE 03 55 20.0 +15
F41A LR LR
comp=Z,800nm,20.0s
T59A Double "B" Far 111.21 320 PFAKE 03 55 20.0 +15
T59A LR LR
comp=Z,900nm,19.0s
G42A Mountain 111.27 332 PFAKE 03 55 20.0 +15
G42A LR LR
comp=Z,1μm,20.0s
V61A Roper 111.32 318 PFAKE 03 55 20.0 +14
V61A LR LR
comp=Z,1μm,21.0s
N51A Ashland 111.43 326 PFAKE 03 55 20.0 +14
N51A LR LR
comp=Z,1μm,22.0s
M50A Fremont 111.45 326 PFAKE 03 55 20.0 +14
M50A LR LR
comp=Z,1μm,22.0s
E38A The Farm, Brul 111.53 335 PFAKE 03 55 20.0 +14
E38A LR LR
comp=Z,1μm,20.0s
H43A Windswept, Lux 111.56 331 PFAKE 03 55 20.0 +14
H43A LR LR
comp=Z,1μm,21.0s
S57A Dark Hollow, R 111.57 321 PFAKE 03 55 20.0 +14
S57A LR LR
comp=Z,900nm,20.0s
CUPR Culebra, Puert 111.64 297 PFAKE 03 55 20.0 +13
CUPR LR LR
comp=Z,2μm,20.0s
O52A Adamsville 111.68 325 PFAKE 03 55 20.0 +14
O52A LR LR
comp=Z,1μm,22.0s
J45A Montague 111.69 330 PFAKE 03 55 20.0 +14
J45A LR LR
comp=Z,1μm,20.0s
U59A Littleton 111.75 319 PFAKE 03 55 20.0 +14
U59A LR LR
comp=Z,1μm,21.0s
AGMN Agassiz Nation 111.77 339 PFAKE 03 55 20.0 +14
AGMN LR LR
comp=Z,1μm,21.0s
V60A Jim Taylor Roa 111.78 319 PFAKE 03 55 20.0 +14
V60A LR LR
comp=Z,1μm,20.0s
P53A Whipple 111.86 324 PFAKE 03 55 20.0 +13
P53A LR LR
comp=Z,900nm,20.0s
Q54A Coxs Mills 111.88 323 PFAKE 03 55 20.0 +13
Q54A LR LR
comp=Z,1μm,22.0s
H42A Shiocton 111.88 332 PFAKE 03 55 20.0 +14
H42A LR LR
comp=Z,1μm,19.0s
R55A Marlinton 111.93 322 PFAKE 03 55 20.0 +13
R55A LR LR
comp=Z,1μm,22.0s
MTP Monte Pirata 111.95 297 PFAKE 03 55 20.0 +13
MTP LR LR
comp=Z,2μm,20.0s
G40A Rib Lake 112.03 333 PFAKE 03 55 20.0 +13
G40A LR LR
comp=Z,800nm,21.0s
HUMP Col San Antoni 112.19 297 PFAKE 03 55 20.0 +12
HUMP LR LR
comp=Z,2μm,20.0s
ACSO Alum Creek Sta 112.24 326 PFAKE 03 55 20.0 +13
ACSO LR LR
comp=Z,1μm,22.0s
T57A Hurt 112.24 321 PFAKE 03 55 20.0 +13
T57A LR LR
comp=Z,1μm,19.0s
M48A Edgerton 112.28 327 PFAKE 03 55 20.0 +13
M48A LR LR
comp=Z,2μm,22.0s
H41A Junction City 112.30 333 PFAKE 03 55 20.0 +13
H41A LR LR
comp=Z,1μm,19.0s
N49A Columbus Grove 112.40 327 PFAKE 03 55 20.0 +12
N49A LR LR
comp=Z,900nm,19.0s
SJG San Juan 112.47 297 PFAKE 03 55 20.0 +12
SJG LR LR
comp=Z,2μm,22.0s
CNNC Cliffs of the 112.50 319 PFAKE 03 55 20.0 +12
CNNC LR LR
comp=Z,1μm,21.0s
I42A Draeger Farm, 112.53 332 PFAKE 03 55 20.0 +12
I42A LR LR
comp=Z,1μm,20.0s
L46A Eue Claire 112.70 329 PFAKE 03 55 20.0 +12
L46A LR LR
comp=Z,1μm,21.0s
P51A Williamsport 112.80 325 PFAKE 03 55 20.0 +12
P51A LR LR
comp=Z,1μm,20.0s
I41A Arkdale 112.84 332 PFAKE 03 55 20.0 +12
I41A LR LR
comp=Z,1μm,20.0s
ICMP Isla Caja de M 112.89 297 PFAKE 03 55 20.0 +11
ICMP LR LR
comp=Z,2μm,18.0s
OBIP Obispado Ponce 112.89 297 PFAKE 03 55 20.0 +11
OBIP LR LR
comp=Z,2μm,21.0s
R53A Hurricane 112.97 323 PFAKE 03 55 20.0 +11
R53A LR LR
comp=Z,800nm,20.0s
O49A Covington 113.00 326 PFAKE 03 55 20.0 +11
O49A LR LR
comp=Z,2μm,22.0s
SPMN Marine on St. 113.16 335 PFAKE 03 55 20.0 +11
SPMN LR LR
comp=Z,1μm,20.0s
PTGA Pitinga 113.17 276 PFAKE 03 55 20.0 +10
PTGA LR LR
comp=Z,2μm,20.0s
K43A Burlington 113.17 331 PFAKE 03 55 20.0 +11
K43A LR LR
comp=Z,1μm,20.0s
M46A Old House Fiel 113.17 328 PFAKE 03 55 20.0 +11
M46A LR LR
comp=Z,1μm,20.0s
Q51A Peebles 113.28 325 PFAKE 03 55 20.0 +11
Q51A LR LR
comp=Z,1μm,21.0s
CRPR Cabo Rojo, PR 113.34 297 PFAKE 03 55 20.0 +10
CRPR LR LR
comp=Z,2μm,21.0s
MDND Maddock 113.41 341 PFAKE 03 55 20.0 +11
MDND LR LR
comp=Z,1μm,21.0s
BBB Bella Bella 113.42 1 PFAKE 03 55 20.0 +11
BBB LR LR
comp=Z,1μm,21.0s
Y60A Bolivia 113.48 318 PFAKE 03 55 20.0 +10
Y60A LR LR
comp=Z,1μm,21.0s
I39A Houston 113.73 333 PFAKE 03 55 20.0 +10
I39A LR LR
comp=Z,1μm,21.0s
V56A Mocksville 113.78 321 PFAKE 03 55 20.0 +10
V56A LR LR
comp=Z,800nm,22.0s
X58A Rowland 113.86 319 PFAKE 03 55 20.0 +9.5
X58A LR LR
comp=Z,1μm,22.0s
W57A Gilead 113.89 320 PFAKE 03 55 20.0 +9.4
W57A LR LR
comp=Z,1μm,21.0s
JFWS Jewell Farm 113.90 332 PFAKE 03 55 20.0 +10
JFWS LR LR
comp=Z,1μm,20.0s
M44A Midewin, Midew 114.03 329 PFAKE 03 55 20.0 +9.3
M44A LR LR
comp=Z,1μm,22.0s
U54A Nelsons Funny 114.11 322 PFAKE 03 55 20.0 +8.9
U54A LR LR
comp=Z,800nm,22.0s
DGMT Dagmar 114.19 344 PFAKE 03 55 20.0 +9.2
DGMT LR LR
comp=Z,1μm,21.0s
SFIN Lafayette 114.31 328 PFAKE 03 55 20.0 +8.8
SFIN LR LR
comp=Z,2μm,21.0s
L42A Oliver, Polo 114.34 331 PFAKE 03 55 20.0 +8.7
L42A LR LR
comp=Z,900nm,21.0s
S51A Beattyville 114.38 324 PFAKE 03 55 20.0 +8.5
S51A LR LR
comp=Z,800nm,20.0s
T52A Hallie 114.40 323 PFAKE 03 55 20.0 +8.5
T52A LR LR
comp=Z,1μm,21.0s
Y58A Scranton 114.48 318 PFAKE 03 55 20.0 +8.3
Y58A LR LR
comp=Z,800nm,20.0s
BIRD Birdtown, Kers 114.51 320 PFAKE 03 55 20.0 +8.2
BIRD LR LR
comp=Z,2μm,22.0s
KMSC Kings Mountain 114.73 320 PFAKE 03 55 20.0 +7.8
KMSC LR LR
comp=Z,1μm,20.0s
Y57A Sumter 114.87 319 PFAKE 03 55 20.0 +7.5
Y57A LR LR
comp=Z,900nm,21.0s
BLO Bloomington 114.90 327 PFAKE 03 55 20.0 +7.6
BLO LR LR
comp=Z,1μm,22.0s
LLLB Lillooet 114.91 357 PFAKE 03 55 20.0 +7.8
LLLB LR LR
comp=Z,1μm,20.0s
L40A Anamosa 115.02 332 PFAKE 03 55 20.0 +7.5
L40A LR LR
comp=Z,900nm,21.0s
TZTN Tazewell 115.11 323 PFAKE 03 55 20.0 +7.1
TZTN LR LR
comp=Z,900nm,20.0s
GRTK Grand Turk 115.13 303 PFAKE 03 55 20.0 +6.7
GRTK LR LR
comp=Z,2μm,21.0s
PAULI Pauline 115.24 321 PFAKE 03 55 20.0 +6.8
PAULI LR LR
comp=Z,1μm,21.0s
JSC Jenkinsville 115.25 320 PFAKE 03 55 20.0 +6.8
JSC LR LR
comp=Z,1μm,22.0s
V53A Saluda 115.28 322 PFAKE 03 55 20.0 +6.7
V53A LR LR
comp=Z,800nm,20.0s
P45A Graceland, Par 115.28 328 PFAKE 03 55 20.0 +6.9
P45A LR LR
comp=Z,2μm,22.0s
HDIL Hopedale 115.28 330 PFAKE 03 55 20.0 +6.9
HDIL LR LR
comp=Z,1μm,22.0s
NHSC New Hope 115.32 318 PFAKE 03 55 20.0 +6.7
NHSC LR LR
comp=Z,1μm,21.0s
WCI Wyandotte Cave 115.47 326 PFAKE 03 55 20.0 +6.5
WCI LR LR
comp=Z,2μm,22.0s
SDD Santo Domingo 115.53 299 PFAKE 03 55 30.0 +16
SDD LR LR
comp=Z,1μm,20.0s
V52A Sevierville 115.62 322 PFAKE 03 55 20.0 +6.1
V52A LR LR
comp=Z,900nm,20.0s
BG3 Lake Jocassee 115.80 321 PFAKE 03 55 30.0 +16
BG3 LR LR
comp=Z,900nm,20.0s
T49A Edmonton 115.86 325 PFAKE 03 55 30.0 +16
T49A LR LR
comp=Z,1μm,22.0s
EGMT Eagleton 115.91 348 PFAKE 03 55 30.0 +16
EGMT LR LR
comp=Z,1μm,21.0s
N41A Harden Midland 115.91 331 PFAKE 03 55 30.0 +16
N41A LR LR
comp=Z,2μm,21.0s
ECSD EROS Data Cent 115.92 337 PFAKE 03 55 30.0 +16
ECSD LR LR
comp=Z,1μm,20.0s
Z56A Williston 115.94 319 PFAKE 03 55 30.0 +15
Z56A LR LR
comp=Z,900nm,22.0s
SCIA State Center 116.03 333 PFAKE 03 55 30.0 +15
SCIA LR LR
comp=Z,900nm,20.0s
OLIL Olney 116.05 328 PFAKE 03 55 30.0 +15
OLIL LR LR
comp=Z,1μm,22.0s
DZM Mont Dzumac 116.06 108 *e*PS PS 04 06 02.2 +0.4
comp=Z,220nm,25.6s
DZM Mont Dzumac 116.06 108 *e*LR LR 04 30 21.4
comp=Z,2μm,22.6s
V51A Loudon 116.09 323 PFAKE 03 55 30.0 +15
V51A LR LR
comp=Z,900nm,21.0s
W52A Murphy 116.33 322 PFAKE 03 55 30.0 +15
W52A LR LR
comp=Z,1μm,21.0s
USIN University of 116.40 327 PFAKE 03 55 30.0 +15
USIN LR LR
comp=Z,1μm,21.0s
CPCT Cooper Cave 116.44 323 PFAKE 03 55 30.0 +15
CPCT LR LR
comp=Z,700nm,20.0s
SDDR Presa de Saban 116.45 300 PFAKE 03 55 30.0 +14
SDDR LR LR
comp=Z,1μm,21.0s
257A Skidaway Islan 116.59 318 PFAKE 03 55 30.0 +14
257A LR LR
comp=Z,1μm,22.0s
T47A Sharon Grove 116.81 326 PFAKE 03 55 30.0 +14
T47A LR LR
comp=Z,700nm,20.0s
NEW Newport 116.85 353 PFAKE 03 55 30.0 +14
NEW LR LR
comp=Z,1μm,20.0s
NEW Newport 116.85 353 PKP **PKPdf 03 55 15.5 -0.5**
comp=Z,3.3nm,0.9s,baz=320,slow=16,SNR=1.8
B06A Marblemount 116.98 356 PFAKE 03 55 30.0 +14
B06A LR LR
comp=Z,1μm,21.0s
B08A Colville Reser 116.98 355 PFAKE 03 55 30.0 +14
B08A LR LR
comp=Z,800nm,20.0s
W50A Signal Mountai 117.08 323 PFAKE 03 55 30.0 +13
W50A LR LR
comp=Z,1μm,22.0s
GOGA Godfrey 117.20 320 PFAKE 03 55 30.0 +13
GOGA LR LR
comp=Z,1μm,22.0s
X51A Calhoun 117.25 322 PFAKE 03 55 30.0 +13
X51A LR LR
comp=Z,900nm,20.0s
Y52A Lilburn 117.25 321 PFAKE 03 55 30.0 +13
Y52A LR LR
comp=Z,1μm,21.0s
SWET Sewanee 117.42 323 PFAKE 03 55 30.0 +13
SWET LR LR
comp=Z,1μm,20.0s
C09A Chrisman Ranch 117.43 354 PFAKE 03 55 30.0 +13
C09A LR LR
comp=Z,2μm,22.0s
154A Montrose 117.51 319 PFAKE 03 55 30.0 +12
154A LR LR
comp=Z,1μm,22.0s
V48A Smith Brothers 117.56 324 PFAKE 03 55 30.0 +12
V48A LR LR
comp=Z,800nm,21.0s
255A Hazlehurst 117.56 318 PFAKE 03 55 30.0 +12
255A LR LR
comp=Z,1μm,21.0s
T45A Paducah 117.62 327 PFAKE 03 55 30.0 +12
T45A LR LR
comp=Z,1μm,22.0s
FVM French Village 117.81 329 PFAKE 03 55 30.0 +12
FVM LR LR
comp=Z,2μm,22.0s
MSO Missoula 117.82 351 PFAKE 03 55 30.0 +12
MSO LR LR
comp=Z,2μm,21.0s
WVT Waverly 117.83 325 PFAKE 03 55 30.0 +12
WVT LR LR
comp=Z,2μm,22.0s
456A Hilliard 118.04 317 PFAKE 03 55 30.0 +11
456A LR LR
comp=Z,1μm,20.0s
RSSD Black Hills 118.12 342 PFAKE 03 55 30.0 +11
RSSD LR LR
comp=Z,1μm,21.0s
CCM Cathedral Cave 118.17 329 PFAKE 03 55 30.0 +11
CCM LR LR
comp=Z,1μm,19.0s
LTY Liberty 118.18 356 PFAKE 03 55 30.0 +11
LTY LR LR
comp=Z,900nm,20.0s
NLWA Neilton Lookou 118.21 358 PFAKE 03 55 30.0 +11
NLWA LR LR
comp=Z,1μm,21.0s
D08A Wollman Farm, 118.23 354 PFAKE 03 55 30.0 +11
D08A LR LR
comp=Z,2μm,22.0s
D05A Enumclaw 118.33 357 PFAKE 03 55 30.0 +11
D05A LR LR
comp=Z,1μm,21.0s
658A Bunnell 118.36 316 PFAKE 03 55 30.0 +11
658A LR LR
comp=Z,1μm,22.0s
PARMO Parma 118.47 327 PFAKE 03 55 30.0 +11
PARMO LR LR
comp=Z,1μm,20.0s
152A Waverly Hall 118.47 321 PFAKE 03 55 30.0 +10
152A LR LR
comp=Z,1μm,21.0s
BGNE Belgrade 118.49 336 PFAKE 03 55 30.0 +11
BGNE LR LR
comp=Z,1μm,19.0s
253A Americus 118.52 320 PFAKE 03 55 30.0 +10
253A LR LR
comp=Z,900nm,21.0s
GLAT Glass 118.52 326 PFAKE 03 55 30.0 +11
GLAT LR LR
comp=Z,2μm,22.0s
RLMT Red Lodge 118.56 346 PFAKE 03 55 30.0 +10
RLMT LR LR
comp=Z,2μm,21.0s
TIGA Tifton 118.59 319 PFAKE 03 55 30.0 +10
TIGA LR LR
comp=Z,1μm,21.0s
BOZ Bozeman (W) 118.61 348 PFAKE 03 55 30.0 +10
BOZ LR LR
comp=Z,900nm,19.0s
X48A Hartselle 118.61 324 PFAKE 03 55 30.0 +10
X48A LR LR
comp=Z,1μm,21.0s
PVMO Portageville 118.63 327 PFAKE 03 55 30.0 +10
PVMO LR LR
comp=Z,2μm,20.0s
Y49A Blount Mountai 118.66 323 PFAKE 03 55 30.0 +10
Y49A LR LR
comp=Z,2μm,22.0s
E09A Wood Farm, Sta 118.69 354 PFAKE 03 55 30.0 +10
E09A LR LR
comp=Z,1μm,19.0s
PBMO Poplar Bluff 118.74 328 PFAKE 03 55 30.0 +10
PBMO LR LR
comp=Z,1μm,21.0s
LON Longmire 118.76 357 PFAKE 03 55 30.0 +10
LON LR LR
comp=Z,1μm,20.0s
Z50A Ashland 118.80 322 PFAKE 03 55 30.0 +10
Z50A LR LR
comp=Z,900nm,22.0s
E08A Dider Farm, El 118.81 354 PFAKE 03 55 30.0 +10
E08A LR LR
comp=Z,1μm,21.0s
HALT Halls 118.82 326 PFAKE 03 55 30.0 +10
HALT LR LR
comp=Z,1μm,21.0s
HAWA Hanford 118.95 355 PFAKE 03 55 30.0 +10
HAWA LR LR
comp=Z,1μm,22.0s
DLMT Dillon 119.01 349 PFAKE 03 55 30.0 +10
DLMT LR LR
comp=Z,900nm,20.0s
555A McAlpin 119.05 317 PFAKE 03 55 30.0 +9.3
555A LR LR
comp=Z,1μm,20.0s
F10A Beach Ranch, E 119.12 353 PFAKE 03 55 30.0 +9.5
F10A LR LR
comp=Z,800nm,21.0s
GNAR Gosnell 119.14 327 PFAKE 03 55 30.0 +9.3
GNAR LR LR
comp=Z,2μm,21.0s
GTBY Guantanamo Bay 119.14 303 PFAKE 03 55 30.0 +8.9

GTBY LR LR
comp=Z,2μm,22.0s
060A Indiantown 119.21 313 PFAKE LR LR 03 55 30.0 +8.9
060A
comp=Z,1μm,22.0s
656A Willston 119.25 316 PFAKE LR LR 03 55 30.0 +8.9
656A
comp=Z,1μm,21.0s
DWPF Disney Wildern 119.30 315 PFAKE LR LR 03 55 30.0 +8.8
DWPF
comp=Z,1μm,22.0s
352A Blakely 119.41 320 PFAKE LR LR 03 55 30.0 +8.7
352A
comp=Z,1μm,20.0s
453A Whigham 119.45 319 PFAKE LR LR 03 55 30.0 +8.6
453A
comp=Z,1μm,21.0s
F07A Phinny Hill Vi 119.47 355 PFAKE LR LR 03 55 30.0 +8.9
F07A
comp=Z,2μm,21.0s
H17A Grant Village 119.54 347 PFAKE LR LR 03 55 30.0 +8.4
H17A
comp=Z,2μm,22.0s
LRAL Lakeview Retre 119.59 322 PFAKE LR LR 03 55 30.0 +8.3
LRAL
comp=Z,1μm,22.0s
YPP Pitchstone Pla 119.71 347 *e*PKPdf **PKPdf 03 55 21.2 -0.8**
MET Memphis--Engin 119.73 326 PFAKE LR LR 03 55 30.0 +8.1
MET
comp=Z,1μm,22.0s
HBAR Harrisburg 119.79 327 PFAKE LR LR 03 55 30.0 +8.0
HBAR
comp=Z,2μm,21.0s
059A Moore Haven 119.80 313 PFAKE LR LR 03 55 30.0 +7.8
059A
comp=Z,900nm,20.0s
KSU1 Kansas State U 119.81 334 PFAKE LR LR 03 55 30.0 +8.1
KSU1
comp=Z,1μm,18.0s
FLWY Flagg Ranch 119.86 347 PFAKE LR LR 03 55 30.0 +7.8
FLWY
comp=Z,1μm,22.0s
250A Grady 119.89 321 PFAKE LR LR 03 55 30.0 +7.7
250A
comp=Z,900nm,19.0s
OXF Oxford 119.90 325 PFAKE LR LR 03 55 30.0 +7.8
OXF
comp=Z,900nm,22.0s
G08A Pilot Rock 119.99 354 PFAKE LR LR 03 55 30.0 +7.7
G08A
comp=Z,1μm,20.0s
IMW Indian Meadow 120.09 347 PFAKE LR LR 03 55 30.0 +7.2
IMW
comp=Z,1μm,22.0s
957A Wimauma 120.13 315 PFAKE LR LR 03 55 30.0 +7.2
957A
comp=Z,1μm,20.0s
SDV Santo Domingo 120.16 290 PFAKE LR LR 03 55 30.0 +6.5
SDV
comp=Z,900nm,20.0s
K22A Casper 120.18 343 PFAKE LR LR 03 55 30.0 +7.2
K22A
comp=Z,1μm,20.0s
G06A Carlson Farm, 120.19 355 PFAKE LR LR 03 55 30.0 +7.4
G06A
comp=Z,1μm,22.0s
MOOW Moose Ponds 120.19 347 PFAKE LR LR 03 55 30.0 +7.1
MOOW
comp=Z,1μm,22.0s
BMO Blue Mountains 120.23 353 PFAKE LR LR 03 55 30.0 +7.3
BMO
comp=Z,1μm,21.0s
LOHW Long Hollow 120.29 347 PFAKE LR LR 03 55 30.0 +6.9
LOHW
comp=Z,1μm,21.0s
061Z Ochoppi 120.30 312 PFAKE LR LR 03 55 30.0 +6.8
061Z
comp=Z,1μm,19.0s
OGNE Ogallala 120.33 339 PFAKE LR LR 03 55 30.0 +7.0
OGNE
comp=Z,1μm,20.0s
OXZ Oxford 120.39 132 PFAKE LR LR 03 55 30.0 +7.2
OXZ
comp=Z,2μm,20.0s
SNOW Snow King Moun 120.47 347 PFAKE LR LR 03 55 30.0 +6.5
SNOW
comp=Z,2μm,21.0s
TPAW Teton Pass 120.48 347 PFAKE LR LR 03 55 30.0 +6.5
TPAW
comp=Z,2μm,22.0s
451A Vernon 120.51 320 PFAKE LR LR 03 55 30.0 +6.5
451A
comp=Z,1μm,20.0s
REDW Red Top Meadow 120.59 347 PFAKE LR LR 03 55 30.0 +6.3
REDW
comp=Z,2μm,21.0s
147A Livingston 120.60 323 PFAKE LR LR 03 55 30.0 +6.4
147A
comp=Z,78μm,21.0s
X43A Marvell 120.69 326 PFAKE LR LR 03 55 30.0 +6.2
X43A
comp=Z,1μm,20.0s
H04A Detroit Lake 120.84 357 PFAKE LR LR 03 55 30.0 +6.2
H04A
comp=Z,1μm,21.0s
WHAR Wooly Hollow 120.84 328 PFAKE LR LR 03 55 30.0 +5.9
WHAR
comp=Z,1μm,20.0s
BW06 Boulder Array 120.86 346 PFAKE LR LR 03 55 30.0 +5.8
BW06
comp=Z,1μm,22.0s
PDAR Pinedale Array 120.86 346 PKP **PKPdf 03 55 23.4 -0.7**
comp=Z,0.2nm,0.6s,baz=40,slow=1.5,SNR=2.9
HHAR Hobbs 120.89 330 PFAKE LR LR 03 55 30.0 +5.8
HHAR
comp=Z,1μm,21.0s
W41B Gary Mavity, V 120.91 328 PFAKE LR LR 03 55 30.0 +5.8
W41B
comp=Z,900nm,22.0s
BRAL Brewton 120.94 321 PFAKE LR LR 03 55 40.0 +16
BRAL
comp=Z,800nm,20.0s
COR Corvallis 120.99 358 PFAKE LR LR 03 55 30.0 +5.9
COR
comp=Z,1μm,21.0s
HLID Hailey 121.08 350 PFAKE LR LR 03 55 40.0 +15
HLID
comp=Z,1μm,21.0s
PHWY Pilot Hill 121.12 342 PFAKE LR LR 03 55 40.0 +15
PHWY
comp=Z,900nm,20.0s
AHID Auburn Hatcher 121.21 347 PFAKE LR LR 03 55 40.0 +15
AHID
comp=Z,1μm,22.0s
I07A Izee 121.23 354 PFAKE LR LR 03 55 40.0 +15
I07A
comp=Z,1μm,22.0s
RWWY Rawlins 121.27 343 PFAKE LR LR 03 55 40.0 +15
RWWY
comp=Z,2μm,20.0s
UALR University of 121.27 328 PFAKE LR LR 03 55 40.0 +15
UALR
comp=Z,1μm,21.0s
CBKS Cedar Bluff 121.34 336 PFAKE LR LR 03 55 40.0 +15
CBKS
comp=Z,2μm,22.0s
CCAR Cane Creek 121.63 326 PFAKE LR LR 03 55 40.0 +14
CCAR
comp=Z,2μm,21.0s
N23A Red Feather La 121.64 342 PFAKE LR LR 03 55 40.0 +14
N23A
comp=Z,1μm,20.0s
PINE Pine Mountain 121.65 356 PFAKE LR LR 03 55 40.0 +14
PINE
comp=Z,1μm,21.0s
W39A Magazine 121.67 329 PFAKE LR LR 03 55 40.0 +14
W39A
comp=Z,1μm,20.0s
X40A Basin Creek Fa 121.75 328 PFAKE LR LR 03 55 40.0 +14
X40A
comp=Z,1μm,22.0s
J08A Circle Bar Ran 121.85 353 PFAKE LR LR 03 55 40.0 +14
J08A
comp=Z,800nm,18.0s
TUL1 Leonard 122.07 331 PFAKE LR LR 03 55 40.0 +14
TUL1
comp=Z,1μm,20.0s
MIAR Mount Ida 122.08 328 PFAKE LR LR 03 55 40.0 +13
MIAR
comp=Z,1μm,22.0s
VBMS Vicksburg 122.22 324 PFAKE LR LR 03 55 40.0 +13
VBMS
comp=Z,900nm,20.0s
KSCO Kaye Shedlock' 122.25 338 PFAKE LR LR 03 55 40.0 +13
KSCO
comp=Z,2μm,22.0s
HWUT Hardware Ranch 122.42 347 PFAKE LR LR 03 55 40.0 +13
HWUT
comp=Z,1μm,21.0s
WLAR White Oak Lake 122.51 327 PFAKE LR LR 03 55 40.0 +13
WLAR
comp=Z,2μm,21.0s
ISCO Idaho Springs 122.54 341 PFAKE LR LR 03 55 40.0 +12
ISCO
comp=Z,2μm,19.0s
Z41A Richland Creek 122.68 327 PFAKE LR LR 03 55 40.0 +12
Z41A
comp=Z,2μm,21.0s
K05A Summer Lake 122.70 355 PFAKE LR LR 03 55 40.0 +12
K05A
comp=Z,1μm,22.0s
WVOR Wild Horse Val 122.78 353 PFAKE LR LR 03 55 40.0 +12
WVOR
comp=Z,1μm,21.0s
X37A Clayton 122.94 330 PFAKE LR LR 03 55 40.0 +12
X37A
comp=Z,1μm,20.0s
HUMO Hull Mountain 122.95 357 PFAKE LR LR 03 55 40.0 +12
HUMO
comp=Z,1μm,21.0s
O20A White River Ci 123.00 344 PFAKE LR LR 03 55 40.0 +12
O20A
comp=Z,1μm,21.0s
U32A Winter Ranch, 123.12 334 PFAKE LR LR 03 55 40.0 +11
U32A
comp=Z,2μm,22.0s
Q24A Divide 123.15 340 PFAKE LR LR 03 55 40.0 +11
Q24A
comp=Z,1μm,21.0s
MOD Modoc Plateau 123.47 355 PFAKE LR LR 03 55 40.0 +11
MOD
comp=Z,700nm,20.0s
SMCO Snowmass 123.52 342 PFAKE LR LR 03 55 40.0 +10
SMCO
comp=Z,1μm,20.0s
YBH Yreka Blue Hor 123.81 357 PFAKE LR LR 03 55 40.0 +10
YBH
comp=Z,1μm,22.0s
ELK Elko 123.96 350 PFAKE LR LR 03 55 40.0 +10
ELK
comp=Z,1μm,21.0s
DUG Dugway, Tooele 124.04 348 PFAKE LR LR 03 55 40.0 +10
DUG
comp=Z,1μm,20.0s
LPAZ La Paz 124.19 260 PKP **PKPdf 03 55 29.4 -2.1**
comp=Z,0.7nm,0.8s,baz=90,slow=6.1,SNR=2.8
SDCO Great Sand Dun 124.38 340 PFAKE LR LR 03 55 40.0 +8.6
SDCO
comp=Z,1μm,22.0s
WMOK Wichita Mounta 124.41 333 PFAKE LR LR 03 55 40.0 +8.8
WMOK
comp=Z,1μm,20.0s
T25A Trinidad 124.55 339 PFAKE LR LR 03 55 40.0 +8.4
T25A
comp=Z,1μm,21.0s
BMN Battle Mountai 124.57 352 PFAKE LR LR 03 55 40.0 +8.5
BMN
comp=Z,1μm,22.0s
PV22 Blue Mesa, Par 124.64 343 PFAKE LR LR 03 55 40.0 +8.2
PV22
comp=Z,700nm,21.0s
PV21 Cone Mtn., Par 124.67 344 PFAKE LR LR 03 55 40.0 +8.1
PV21
comp=Z,1μm,21.0s
KHMM Horse Mountain 124.71 358 PFAKE LR LR 03 55 40.0 +8.2
KHMM
comp=Z,1μm,21.0s
JCC Jacoby Creek, 124.78 358 PFAKE LR LR 03 55 40.0 +8.4
JCC
comp=Z,900nm,20.0s
S22A 4UR Ranch, Cre 124.80 341 PFAKE LR LR 03 55 40.0 +7.8
S22A
comp=Z,2μm,21.0s
PV04 Paradox Valley 124.81 343 PFAKE LR LR 03 55 40.0 +7.9
PV04
comp=Z,1μm,20.0s
NATX Nacogdoches 124.83 327 PFAKE LR LR 03 55 40.0 +8.0
NATX
comp=Z,1μm,21.0s
PV12 Saucer Basin, 124.85 343 PFAKE LR LR 03 55 40.0 +7.8
PV12
comp=Z,2μm,20.0s
PV14 Lion Creek, Pa 124.86 344 PFAKE LR LR 03 55 40.0 +7.8
PV14
comp=Z,2μm,22.0s
PV11 David Mesa, Pa 124.88 343 PFAKE LR LR 03 55 40.0 +7.8
PV11
comp=Z,1μm,22.0s
PV19 Morning Glory 124.91 344 PFAKE LR LR 03 55 40.0 +7.7
PV19
comp=Z,1μm,20.0s
PV17 East Wray Mesa 124.93 343 PFAKE LR LR 03 55 40.0 +7.7
PV17
comp=Z,2μm,21.0s
PV18 Skein Mesa, Pa 124.94 343 PFAKE LR LR 03 55 40.0 +7.6
PV18
comp=Z,1μm,22.0s
WDC Whiskeytown Da 124.95 357 PFAKE LR LR 03 55 40.0 +8.0
WDC
comp=Z,700nm,20.0s
PV01 Paradox Valley 124.95 343 PFAKE LR LR 03 55 40.0 +7.6
PV01
comp=Z,900nm,18.0s
URZ Urewera 124.98 127 PFAKE LR LR 03 55 40.0 +8.0
URZ
comp=Z,1μm,19.0s
PV13 Radium Mtn., P 125.00 343 PFAKE LR LR 03 55 40.0 +7.5
PV13
comp=Z,1μm,22.0s
PLCA Paso Flores 125.35 230 PKP **PKPdf 03 55 31.9 -0.6**
comp=Z,1.6nm,1.0s,baz=188,slow=11,SNR=2.9
BEKR Beckworth 125.50 354 PFAKE LR LR 03 55 40.0 +6.6
BEKR
comp=Z,1μm,21.0s
AMTX Amarillo 125.52 335 PFAKE LR LR 03 55 40.0 +6.5
AMTX
comp=Z,1μm,22.0s
GO01 Chusmiza 125.52 256 PFAKE LR LR 03 55 40.0 +5.7
GO01
comp=Z,2μm,20.0s
PAHR Pah Rah Range 125.56 354 *e*Pdif **Pdif 03 52 11.7 +1.2**
PAHR LR LR
comp=Z,1μm,20.0s
MVCO Mesa Verde 125.79 343 PFAKE LR LR 03 55 40.0 +5.9
MVCO
comp=Z,900nm,21.0s
MNMC Minye Minye 125.86 257 PFAKE LR LR 03 55 50.0 +15
MNMC
comp=Z,2μm,20.0s
PB01 IPOC Station P 125.88 254 PFAKE LR LR 03 55 40.0 +5.5
PB01
comp=Z,1μm,21.0s
KCPM Cahto Peak 125.89 358 PFAKE LR LR 03 55 40.0 +5.9
KCPM
comp=Z,1μm,20.0s
ORV Oroville 125.90 356 PFAKE LR LR 03 55 40.0 +6.0
ORV
comp=Z,800nm,21.0s
PB11 IPOC Station P 125.96 256 PFAKE LR LR 03 55 50.0 +15
PB11
comp=Z,2μm,22.0s
VCNR Virginia City 125.99 354 PFAKE LR LR 03 55 40.0 +5.6
VCNR
comp=Z,1μm,21.0s
KVN Kaiserville 126.05 352 PFAKE LR LR 03 55 50.0 +15
KVN
comp=Z,1μm,20.0s
WHTX Lake Whitney, 126.06 330 PFAKE LR LR 03 55 50.0 +16
WHTX
comp=Z,1μm,20.0s
PNTR Pine Nut 126.19 354 PFAKE LR LR 03 55 50.0 +15
PNTR
comp=Z,1μm,20.0s
YERR Yerington 126.25 353 PFAKE LR LR 03 55 50.0 +15
YERR
comp=Z,1μm,21.0s
GO06 Curarrehue 126.27 231 PFAKE LR LR 03 55 50.0 +15
GO06
comp=Z,2μm,21.0s
RUBR Rubicon Trail 126.28 354 PFAKE LR LR 03 55 50.0 +15
RUBR
comp=Z,1μm,22.0s
R11A Troy Canyon, C 126.35 350 PFAKE LR LR 03 55 50.0 +15
R11A
comp=Z,900nm,19.0s
AFDM Forest Hills D 126.46 355 PFAKE LR LR 03 55 50.0 +15
AFDM
comp=Z,700nm,21.0s
RYN Ryan 126.52 353 PFAKE LR LR 03 55 50.0 +15
RYN
comp=Z,1μm,20.0s
PB04 IPOC Station P 126.56 253 PFAKE LR LR 03 55 50.0 +14
PB04
comp=Z,2μm,20.0s
HOPS Hopland Field 126.56 357 PFAKE LR LR 03 55 50.0 +15
HOPS
comp=Z,2μm,20.0s
ABTX Abilene, Hawle 126.57 332 PFAKE LR LR 03 55 50.0 +14
ABTX
comp=Z,1μm,20.0s
PEL Peldehue 126.64 240 PFAKE LR LR 03 55 50.0 +14
PEL
comp=Z,2μm,21.0s
GO03 Copiap 126.64 246 PFAKE LR LR 03 55 50.0 +14
GO03
comp=Z,2μm,19.0s
GDXM Geysers 126.73 357 PFAKE LR LR 03 55 50.0 +14
GDXM
comp=Z,1μm,22.0s
WAKR Walker 126.75 353 PFAKE LR LR 03 55 50.0 +14
WAKR
comp=Z,1μm,20.0s
MSTX Muleshoe 126.75 336 PFAKE LR LR 03 55 50.0 +14
MSTX
comp=Z,1μm,20.0s
HKT Hockley 126.87 327 PFAKE LR LR 03 55 50.0 +14
HKT
comp=Z,2μm,22.0s
PB10 IPOC Station P 126.96 251 PFAKE LR LR 03 55 50.0 +14
PB10
comp=Z,2μm,20.0s
GO04 Tololo Observa 127.00 243 PFAKE LR LR 03 55 50.0 +13
GO04
comp=Z,2μm,21.0s
435B Jarrell 127.11 329 PFAKE LR LR 03 55 50.0 +13
435B
comp=Z,1μm,22.0s
ANMO Albuquerque 127.24 340 PFAKE LR LR 03 55 50.0 +13
ANMO
comp=Z,800nm,18.0s
MCCM Marconi Confer 127.39 357 PFAKE LR LR 03 55 50.0 +13
MCCM
comp=Z,600nm,20.0s
GO05 Huala 127.42 237 PFAKE LR LR 03 55 50.0 +13
GO05
comp=Z,2μm,20.0s
U15A North Rim 127.53 346 PFAKE LR LR 03 55 50.0 +12
U15A
comp=Z,900nm,20.0s
MDPB Devils Postpil 127.57 353 PFAKE LR LR 03 55 50.0 +12
MDPB
comp=Z,1μm,21.0s
TPNV Topopah Spring 127.83 350 PFAKE LR LR 03 55 50.0 +12
TPNV
comp=Z,900nm,20.0s
SHPR Sheep Range 128.07 349 PFAKE LR LR 03 55 50.0 +11
SHPR
comp=Z,1μm,21.0s
W18A Petrified Fore 128.10 343 PFAKE LR LR 03 55 50.0 +11
W18A
comp=Z,1μm,19.0s
WUAZ Wupatki 128.17 345 PFAKE LR LR 03 55 50.0 +11
WUAZ
comp=Z,1μm,22.0s
Y22D IRIS PASSCAL I 128.19 340 PFAKE LR LR 03 55 50.0 +11
Y22D
comp=Z,1μm,22.0s
JCT Junction City 128.44 331 PFAKE LR LR 03 55 50.0 +11
JCT
comp=Z,1μm,21.0s
SAO San Andreas Ge 128.67 355 PFAKE LR LR 03 55 50.0 +10
SAO
comp=Z,1μm,22.0s
X18A Snowflake 128.71 343 PFAKE LR LR 03 55 50.0 +10
X18A
comp=Z,800nm,18.0s
TEIG Tepich 129.11 312 PFAKE LR LR 03 55 50.0 +9.2
TEIG
comp=Z,1μm,22.0s
W13A Hualapai Mount 129.16 347 PFAKE LR LR 03 55 50.0 +9.1
W13A
comp=Z,900nm,18.0s
X16A Lo Mia Camp, P 129.23 344 PFAKE LR LR 03 55 50.0 +9.0
X16A
comp=Z,1μm,20.0s
ISA Isabella, Lake 129.43 352 PFAKE LR LR 03 55 50.0 +8.8
ISA
comp=Z,1μm,22.0s
LDFC Landfair 129.44 348 PFAKE LR LR 03 55 50.0 +8.7
LDFC
comp=Z,700nm,20.0s
GSC Goldstone, Bar 129.53 350 PFAKE LR LR 03 55 50.0 +8.5
GSC
comp=Z,1μm,21.0s
PAGB Antelope Grade 129.58 354 PFAKE LR LR 03 55 50.0 +8.5
PAGB
comp=Z,900nm,20.0s
MYIG Mrida 129.67 314 PFAKE LR LR 03 55 50.0 +8.1
MYIG
comp=Z,1μm,20.0s
MNTX Cornudas Mount 129.78 337 PFAKE LR LR 03 55 50.0 +8.0
MNTX
comp=Z,1μm,22.0s
833A Chaparral WMA, 130.02 329 PFAKE LR LR 03 55 50.0 +7.5
833A
comp=Z,1μm,20.0s
Y14A Wickenburg 130.08 346 PFAKE LR LR 03 55 50.0 +7.4
Y14A
comp=Z,1μm,20.0s
OSI Osito Audit: C 130.50 352 PFAKE LR LR 03 55 50.0 +6.6
OSI
comp=Z,1μm,21.0s
OTAV Otavalo 130.54 283 PFAKE LR LR 03 55 50.0 +5.5
OTAV
comp=Z,1μm,22.0s
Y12C Blythe 130.60 347 PFAKE LR LR 03 55 50.0 +6.5
Y12C
comp=Z,1μm,20.0s
ESPN Las Esperanzas 130.68 301 PFAKE LR LR 03 55 50.0 +5.9
ESPN
comp=Z,1μm,18.0s
MWC Mount Wilson 130.79 351 PFAKE LR LR 03 55 50.0 +5.9
MWC
comp=Z,1μm,20.0s
PASC Pasadena Art C 130.86 351 PFAKE LR LR 03 55 50.0 +5.9
PASC
comp=Z,1μm,20.0s
TUC Tucson 131.03 343 PFAKE LR LR 03 55 50.0 +5.4
TUC
comp=Z,1μm,18.0s
PFO Pinyon Flats O 131.12 349 PFAKE LR LR 03 55 50.0 +5.2
PFO
comp=Z,900nm,21.0s
TXAR Lajitas Array 131.16 334 PKP **PKPdf 03 55 42.7 -1.3**
comp=Z,0.2nm,0.6s,baz=29,slow=2.1,SNR=4.5
GLA Glamis 131.34 347 PFAKE LR LR 03 56 00.0 +15
GLA
comp=Z,1μm,19.0s
319A Douglas 131.44 341 PFAKE LR LR 03 56 00.0 +15
319A
comp=Z,1μm,20.0s
ACON Acoyapa 131.52 301 PFAKE LR LR 03 56 00.0 +14
ACON
comp=Z,2μm,22.0s
ESTN Estel 131.89 303 PFAKE 03 56 00.0 +13

ESTN				LR	LR		
	comp=Z,1μm,22.0s						
NNA	**Nana**	**131.98**	**267**	PFAKE		03 56 00.0	+13
NNA				LR	LR		
	comp=Z,2μm,21.0s						
BAR	**Barrett**	**132.06**	**349**	PFAKE		03 56 00.0	+13
BAR				LR	LR		
	comp=Z,900nm,19.0s						
TGUH	**Tegucigalpa,Un**	**132.08**	**305**	PFAKE		03 56 00.0	+13
TGUH				LR	LR		
	comp=Z,800nm,20.0s						
CSGN	**Cosiguina Volc**	**132.92**	**304**	PFAKE		03 56 00.0	+11
CSGN				LR	LR		
	comp=Z,600nm,20.0s						
CCIG	**Comitan**	**134.44**	**311**	PFAKE		03 56 00.0	+8.1
CCIG				LR	LR		
	comp=Z,1μm,20.0s						
OBL	**Observatory Le**	**135.66**	**41**	PFAKE		03 56 00.0	+5.7
OBL				LR	LR		
	comp=Z,2μm,22.0s						
HATHI	**Halema'uma'u T**	**135.67**	**41**	PFAKE		03 56 00.0	+5.7
HATHI				LR	LR		
	comp=Z,2μm,22.0s						
SDHHI	**Sand Hill**	**135.67**	**41**	PFAKE		03 56 00.0	+5.7
SDHHI				LR	LR		
	comp=Z,1μm,22.0s						
BYL	**Byron's Ledge**	**135.68**	**41**	PFAKE		03 56 00.0	+5.7
BYL				LR	LR		
	comp=Z,1μm,20.0s						
NPOC	**North of Pu'u**	**135.78**	**41**	PFAKE		03 56 00.0	+5.5
NPOC				LR	LR		
	comp=Z,3μm,21.0s						
JCUZ	**Jacuzzi**	**135.80**	**41**	PFAKE		03 56 00.0	+5.5
JCUZ				LR	LR		
	comp=Z,2μm,21.0s						
SRIG	**Santa Rosalia**	**136.14**	**342**	PFAKE		03 56 00.0	+5.1
SRIG				LR	LR		
	comp=Z,1μm,20.0s						
TBI	**Tubuai**	**156.38**	**115**	*e*SS	SS	04 20 20.8	-4.1
	comp=Z,1μm,30.5s						
TBI	**Tubuai**	**156.38**	**115**	*e*LR	LR	04 48 52.8	
	comp=Z,1μm,33.5s						
PPT2	**Papeete2**	**157.34**	**101**	*e*SS	SS	04 20 32.4	-3.7
	comp=Z,719nm,33.5s						
PPT2	**Papeete2**	**157.34**	**101**	*e*LR	LR	04 49 30.2	
	comp=Z,2μm,31.8s						
RKT	**Rikitea**	**168.17**	**137**	*e*LR	LR	04 54 33.2	
	comp=Z,2μm,32.5s						

*IDC **27** 03:50:54.8±0.5, 55.°47N×134.°88W, h0km, mb4.3/32, mb1 4.4/39, mb1mx4.4/46, mbtmp4.3/39, ML3.7/7, MS3.8/4, Ms1 3.8/4, ms1mx3.3/41, Error ellipse: s-maj=10.3km s-min=8.4km az=50.0*

*NEIC **27** 03:50:54.8±0.0, 55.°52N×135.°01W, h16km, mb4.4/41, ML4.5(AEIC), MW4.8(OTT), After AEIC.*

NEIC Felt at Craig, Juneau, Metlakatla, Petersburg and Sitka.

*AEIC **27** 03:50:54.8, 55.°52N×135.°01W, h16km, ML4.5, MB4.4(NEIC), MW4.8(OTT)*

*ISCJB **27** 03:50:54.6±0.1, 55.°53N±0.°02×134.°96W±0.°04, h10km, mb4.4/69, MS4.8/2, Error ellipse: s-maj=3.8km s-min=1.6km az=141.8*

*PGC **27** 03:50:55.8±4.8, 55.°48N×134.°74W, h10km, mb4.5, Md4.9, ML4.7/13, Mw4.8, 178km Sse of Sitka, Ak Southeastern Alaska*

*MOS **27** 03:50:55.5±0.9, 55.°51N×134.°94W, h14km, mb4.7/16, MS4.2/6, Error ellipse: s-maj=15.9km s-min=6.3km az=103.5*

ISC 27 03:50:56.5±0.3, 55.°52N±0.°03×134.°85W±0.°04, h10km, n587, σ1§40/606, mb4.5/69, 10C-6D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIT	**Sitka**	**1.56**	**350**	*e*Pn	**Pn**	**03 51 20.9**	**-3.2**
SIT				*e*Sn	Sn	03 51 35.1	-9.3
WRAK	**Wrangell Islan**	**1.67**	**56**	*e*Pn	**Pn**	**03 51 24.5**	**-1.2**
NDB	**Naden**	**1.92**	**144**	*e*Pn	**Pn**	**03 51 27.1**	**-2.1**
NDB	**Naden**	**1.92**	**144**	Pn	**Pn**	**03 51 26.9**	**-2.4**
NDB				Sn	**Sn**	**03 51 51.1**	**-2.3**
MASB	**Masset**	**2.23**	**132**	Pn	**Pn**	**03 51 31.7**	**-1.7**
DIB	**Dawson Inlet,**	**2.71**	**148**	*e*Pn	**Pn**	**03 51 37.5**	**-2.4**
DIB				*e*Sn	**Sn**	**03 52 09.0**	**-3.7**
DIB	**Dawson Inlet,**	**2.71**	**148**	Pn	**Pn**	**03 51 37.4**	**-2.6**
DIB				Sn	**Sn**	**03 52 08.9**	**-3.9**
JIS	**Juneau Island**	**2.77**	**5**	*e*Pn	**Pn**	**03 51 38.9**	**-1.9**
JIS				*e*Sn	**Sn**	**03 52 15.1**	**+0.8**
MOBC	**Moresby Island**	**2.92**	**144**	Pn	**Pn**	**03 51 40.1**	**-2.9**
MOBC				Sn	**Sn**	**03 52 14.9**	**-3.2**
MOBC				Sg	**Sb**	**03 52 25.3**	**+1.0**
HG1B	**Mitchell Dam**	**3.04**	**147**	Pn	**Pn**	**03 51 42.8**	**-1.8**
HG1B				Sn	**Sn**	**03 52 19.0**	**-2.1**
HG1B				Sg	**Sb**	**03 52 28.4**	**+0.5**
BESE	**Bessie Mountai**	**3.06**	**360**	*e*Pn	**Pn**	**03 51 43.0**	**-1.9**
BESE	**Bessie Mountai**	**3.06**	**360**	Pn	**Pn**	**03 51 43.2**	**-1.7**
BESE				Sn	**Sn**	**03 52 20.0**	**-1.7**
BNB	**Barry Inlet**	**3.47**	**147**	*e*Pn	**Pn**	**03 51 48.8**	**-1.8**
BNB	**Barry Inlet**	**3.47**	**147**	Pn	**Pn**	**03 51 48.5**	**-2.1**
BNB				Sg	**Sb**	**03 52 42.0**	**+1.7**
HG3B	**Hotspring**	**3.57**	**144**	Pn	**Pn**	**03 51 48.7**	**-3.1**
HG3B				Sn	**Sn**	**03 52 30.4**	**-3.6**
HG3B				Sg	**Sb**	**03 52 43.9**	**+1.0**
HG4B	**Hotspring**	**3.89**	**145**	Pn	**Pn**	**03 51 53.5**	**-2.7**
HG4B				Sg	**Sb**	**03 52 53.8**	**+1.6**
DLBC	**Dease Lake**	**3.94**	**40**	*e*Pn	**Pn**	**03 51 56.5**	**-0.4**
DLBC				*e*Sn	**Sn**	**03 52 37.6**	**-5.5**
DLBC	**Dease Lake**	**3.94**	**40**	Pn	**Pn**	**03 51 56.5**	**-0.4**
	3.1nm,0.3s,baz=219,slow=13,SNR=97						
DLBC				Pg	**Pb**	**03 52 05.4**	**-0.5**
	14nm,0.3s,baz=217,slow=14,SNR=39						
DLBC				Sn	**Sn**	**03 52 40.9**	**-2.2**
	23nm,0.3s,baz=219,slow=8.9,SNR=4.9						
DLBC				Lg	Lg	03 52 58.8	
	146nm,0.3s,baz=136,slow=24,SNR=14						
DLBC	**Dease Lake**	**3.94**	**40**	Pn	**Pn**	**03 51 56.0**	**-0.9**
DLBC				Sg	**Sg**	**03 52 59.9**	**-2.8**
SKAG	**Skagway**	**3.96**	**356**	*e*Pn	**Pn**	**03 51 56.7**	**-0.4**
PLBC	**Pleasant Camp**	**4.03**	**349**	*e*Pn	**Pn**	**03 51 56.8**	**-1.3**
PLBC	**Pleasant Camp**	**4.03**	**349**	Pn	**Pn**	**03 51 56.5**	**-1.6**
PLBC				Sg	**Sg**	**03 53 00.6**	**-5.1**
PNL	**Peninsula**	**4.82**	**331**	*e*Pn	**Pn**	**03 52 06.8**	**-2.2**
PNL	**Peninsula**	**4.82**	**331**	Pn	**Pn**	**03 52 06.9**	**-2.2**
BCPM	**Bancas Point**	**5.13**	**332**	*e*Pn	**Pn**	**03 52 11.6**	**-1.6**
BCPM				*e*Pn	**Pn**	**03 52 11.9**	**-1.3**
WHY	**Whitehorse**	**5.15**	**360**	*e*Pn	**Pn**	**03 52 12.9**	**-0.8**
WHY	**Whitehorse**	**5.15**	**360**	Pn	**Pn**	**03 52 12.4**	**-1.2**
BBB	**Bella Bella**	**5.20**	**127**	*e*Pn	**Pn**	**03 52 12.5**	**-1.8**
BBB				*e*Sn	**Sn**	**03 53 11.1**	**-3.1**
BBB	**Bella Bella**	**5.20**	**127**	Pn	**Pn**	**03 52 12.4**	**-1.8**
	8.9nm,0.3s,baz=309,slow=13,SNR=90						
BBB				Sn	**Sn**	**03 53 11.6**	**-2.7**
	19nm,0.3s,baz=115,slow=20,SNR=11						
BBB				Lg	Lg	03 53 37.0	
	28nm,0.3s,baz=242,slow=18,SNR=5.3						
BBB				LR	LR	03 54 13.9	
	comp=Z,653nm,18.9s,baz=1.0,slow=38						
BBB	**Bella Bella**	**5.20**	**127**	Pn	**Pn**	**03 52 12.2**	**-2.0**
BBB				Sn	**Sn**	**03 53 08.1**	**-6.1**
YUK7	**Dusty Glacier**	**5.32**	**342**	*e*Pn	**Pn**	**03 52 14.2**	**-1.8**
YUK7	**Dusty Glacier**	**5.32**	**342**	Pn	**Pn**	**03 52 14.9**	**-1.1**
PCA	**Pinnacle**	**5.42**	**330**	*e*Pn	**Pn**	**03 52 16.6**	**-0.7**
PCA	**Pinnacle**	**5.42**	**330**	Pn	**Pn**	**03 52 16.6**	**-0.7**
PCA				Sn	**Sn**	**03 53 15.1**	**-4.6**
HYT	**Haines Junctio**	**5.50**	**346**	Pn	**Pn**	**03 52 17.7**	**-0.7**
SAMH	**Samovar Hills**	**5.60**	**328**	Pn	**Pn**	**03 52 19.1**	**-0.7**
CHX	**Chaix Hills**	**5.65**	**326**	*e*Pn	**Pn**	**03 52 19.0**	**-1.5**
YUK6	**Outpost Mounta**	**5.74**	**343**	*e*Pn	**Pn**	**03 52 19.8**	**-2.1**
YUK6	**Outpost Mounta**	**5.74**	**343**	Pn	**Pn**	**03 52 21.0**	**-0.9**
YUK5	**Granite Creek**	**5.84**	**345**	Pn	**Pn**	**03 52 22.7**	**-0.5**
RKAV	**Rock Avalanche**	**5.91**	**327**	Pn	**Pn**	**03 52 23.7**	**-0.4**
MESA	**MESA**	**6.01**	**324**	Pn	**Pn**	**03 52 24.0**	**-1.6**
YUK4	**Talbot Arm**	**6.17**	**343**	*e*Pn	**Pn**	**03 52 28.2**	**+0.6**
YUK4	**Talbot Arm**	**6.17**	**343**	Pn	**Pn**	**03 52 28.3**	**+0.6**
CTGM	**Chitina Glacie**	**6.44**	**331**	Pn	**Pn**	**03 52 31.1**	**-0.2**
CTGM				Sn	**Sn**	**03 53 39.9**	**-5.0**
PHC	**Port Hardy**	**6.57**	**134**	Pn	**Pn**	**03 52 30.8**	**-2.3**
KIAG	**Kiagna River**	**6.71**	**327**	Pn	**Pn**	**03 52 34.8**	**-0.3**
PACB	**Port Alice, BC**	**6.76**	**136**	Pn	**Pn**	**03 52 33.4**	**-2.1**
BALM	**Baldy**	**6.79**	**328**	*e*Pn	**Pn**	**03 52 36.1**	**-0.1**
BALM	**Baldy**	**6.79**	**328**	Pn	**Pn**	**03 52 35.9**	**-0.3**
UBRB	**Upper Baezaeko**	**6.84**	**108**	Pn	**Pn**	**03 52 37.3**	**+0.4**
BPBC	**Brooks Peninsu**	**6.87**	**139**	Pn	**Pn**	**03 52 35.5**	**-1.8**
MAYB	**Maynard**	**6.91**	**135**	Pn	**Pn**	**03 52 35.4**	**-2.4**
YUK3	**Moose Creek**	**6.92**	**337**	Pn	**Pn**	**03 52 36.8**	**-1.2**
TLCB	**Telegraph Cove**	**6.94**	**133**	Pn	**Pn**	**03 52 36.5**	**-1.5**
PTPK	**Patty Peak**	**6.95**	**328**	Pn	**Pn**	**03 52 38.2**	**-0.2**
HMT	**Hamilton**	**6.95**	**318**	*e*Pn	**Pn**	**03 52 34.9**	**-3.4**
HMT				*e*Sn	**Sn**	**03 53 50.3**	**-7.1**
YUK2	**White River**	**7.01**	**336**	Pn	**Pn**	**03 52 39.4**	**+0.2**
FNBB	**Fort Nelson**	**7.26**	**57**	Pn	**Pn**	**03 52 43.8**	**+1.3**
YUK1	**Sand Pete Hill**	**7.27**	**338**	Pn	**Pn**	**03 52 43.3**	**+0.6**
EDB	**Eliza Dome**	**7.35**	**137**	Pn	**Pn**	**03 52 42.9**	**-0.9**
BVCY	**Beaver Creek**	**7.57**	**338**	Pn	**Pn**	**03 52 46.7**	**-0.1**
EYAK	**Cordova Ski Ar**	**7.67**	**316**	*e*Pn	**Pn**	**03 52 47.5**	**-0.5**
NTKA	**Nootka**	**7.77**	**136**	Pn	**Pn**	**03 52 49.0**	**-0.5**
GDR	**Gold River**	**7.86**	**133**	Pn	**Pn**	**03 52 50.9**	**+0.2**
CBB	**Campbell River**	**7.95**	**130**	Pn	**Pn**	**03 52 52.3**	**+0.3**
DIV	**Divide**	**8.03**	**319**	*e*Pn	**Pn**	**03 52 52.4**	**-0.8**
DIV	**Divide**	**8.03**	**319**	Pn	**Pn**	**03 52 52.3**	**-0.8**
BTB	**Buttle Lake**	**8.31**	**133**	Pn	**Pn**	**03 52 56.7**	**-0.4**
KLU	**Klutina**	**8.32**	**320**	*e*Pn	**Pn**	**03 52 54.8**	**-2.4**
HARP	**HAARP**	**8.71**	**327**	Pn	**Pn**	**03 53 02.4**	**+0.1**
DAWY	**Dawson**	**8.87**	**347**	*e*Pn	**Pn**	**03 53 01.3**	**-3.2**
DAWY	**Dawson**	**8.87**	**347**	Pn	**Pn**	**03 53 05.8**	**+1.3**
B928	**Bamfield**	**8.96**	**134**	Pn	**Pn**	**03 53 06.1**	**+0.3**
WSLR	**Whistler**	**9.01**	**122**	Pn	**Pn**	**03 53 08.8**	**+2.2**
MGB	**Mount Grey**	**9.02**	**132**	Pn	**Pn**	**03 53 07.8**	**+1.1**
SEW	**Seward**	**9.04**	**306**	*e*Pn	**Pn**	**03 53 03.5**	**-3.3**
NLLB	**Nanaimo Lost L**	**9.15**	**129**	Pn	**Pn**	**03 53 10.2**	**+1.7**
LLLB	**Lillooet**	**9.22**	**117**	*e*Pn	**Pn**	**03 53 11.1**	**+1.6**
LLLB	**Lillooet**	**9.22**	**117**	Pn	**Pn**	**03 53 10.4**	**+0.9**
PAX	**Paxson**	**9.23**	**328**	Pn	**Pn**	**03 53 10.1**	**+0.6**
KNK	**Knik Glacier**	**9.25**	**315**	*e*Pn	**Pn**	**03 53 08.2**	**-1.5**
YOUB	**Youbou, Lake C**	**9.28**	**131**	Pn	**Pn**	**03 53 11.4**	**+1.2**
DOT	**Dot Lake**	**9.38**	**334**	*e*Pn	**Pn**	**03 53 11.7**	**+0.1**
DOT				*e*Sn	Sn	03 54 44.3	-13
DOT	**Dot Lake**	**9.38**	**334**	Pn	**Pn**	**03 53 11.9**	**+0.3**
PFB	**Port Renfrew**	**9.46**	**133**	Pn	**Pn**	**03 53 12.9**	**+0.2**
SLKM	**Skilak Lake**	**9.55**	**308**	*e*Pn	**Pn**	**03 53 10.3**	**-3.6**
BRLK	**Bradley Lake**	**9.58**	**303**	*e*Pn	**Pn**	**03 53 10.2**	**-4.2**
RC01	**Rabbit Creek A**	**9.61**	**312**	*e*Pn	**Pn**	**03 53 13.9**	**-0.7**
GHO	**Glory Hole Cre**	**9.63**	**316**	*e*Pn	**Pn**	**03 53 11.6**	**-3.5**
RIDG	**Independent Ri**	**9.66**	**333**	*e*Pn	**Pn**	**03 53 17.4**	**+2.1**
LZB	**Mount Lazard**	**9.69**	**131**	Pn	**Pn**	**03 53 17.8**	**+2.0**
PGC	**Sidney**	**9.82**	**130**	Pn	**Pn**	**03 53 18.8**	**+1.3**
SNB	**Saturna Island**	**9.85**	**128**	Pn	**Pn**	**03 53 21.0**	**+3.0**
KDAK	**Kodiak Island**	**10.02**	**290**	*e*Pn	**Pn**	**03 53 15.9**	**-4.4**
VGZ	**Gonzales**	**10.05**	**130**	Pn	**Pn**	**03 53 23.6**	**+2.8**
MCW	**Mount Constitu**	**10.07**	**128**	Pn	**Pn**	**03 53 23.1**	**+2.1**
A04D	**Lummi Island**	**10.10**	**127**	P	**Pn**	**03 53 23.9**	**+2.6**
	baz=317,SNR=11						
VDB	**Vedder Mountai**	**10.15**	**125**	Pn	**Pn**	**03 53 24.4**	**+2.3**
MBW	**Mount Baker**	**10.42**	**125**	Pn	**Pn**	**03 53 29.3**	**+3.3**
BLN	**Blyn Mountain**	**10.52**	**131**	Pn	**Pn**	**03 53 29.7**	**+2.5**
RSO	**Redoubt South**	**10.70**	**305**	*e*Pn	**Pn**	**03 53 27.2**	**-2.5**
B05A	**Bryant**	**10.71**	**127**	P	**Pn**	**03 53 32.2**	**+2.4**
	baz=317,SNR=15						
HDA	**Harding Lake**	**10.76**	**331**	P	**Pn**	**03 53 30.3**	**0.0**
	baz=141						
SLEB	**Sale Mountain**	**10.90**	**107**	Pn	**Pn**	**03 53 34.1**	**+1.6**
EPYK	**Eagle Plains**	**10.92**	**356**	*e*Pn	**Pn**	**03 53 32.5**	**-0.1**
EPYK	**Eagle Plains**	**10.92**	**356**	P	**Pn**	**03 53 32.5**	**-0.1**
	baz=175,SNR=8.2						
ILAR	**Eielson Array**	**11.02**	**332**	Pn	**Pn**	**03 53 33.8**	**-0.2**
	0.7nm,0.3s,baz=155,slow=13,SNR=71						
ILAR				Lg	Lg	03 56 53.4	
	0.1nm,0.3s,baz=114,slow=28,SNR=5.3						
ILAR				LR	LR	03 58 01.2	
	comp=Z,696nm,18.0s,baz=151,slow=38						
PRP	**Porcupine Dome**	**11.30**	**337**	*e*Pn	Pn	03 53 32.2	-5.7
BWN	**Browne**	**11.34**	**326**	*e*Pn	Pn	03 53 32.5	-5.8
COLA	**College**	**11.36**	**331**	*e*P	**Pn**	**03 53 38.7**	**+0.1**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TCOL	**CIGO, UAF Yank**	**11.37**	**331**	P	**Pn**	**03 53 39.4**	**+0.8**
	baz=140						
POKR	**Poker Plat Res**	**11.44**	**332**	P	**Pn**	**03 53 40.2**	**+0.6**
	baz=142						
D05A	**Enumclaw**	**11.57**	**131**	*e*Pn	**Pn**	**03 53 41.8**	**+0.2**
E04D	**Cinebar**	**11.83**	**134**	P	**Pn**	**03 53 45.2**	**+0.2**
	baz=324						
FMW	**Mount Fremont**	**11.91**	**131**	Pn	**Pn**	**03 53 48.5**	**+2.2**
B08A	**Colville Reser**	**11.95**	**120**	*e*Pn	**Pn**	**03 53 46.3**	**-0.4**
LON	**Longmire**	**11.99**	**132**	Pn	**Pn**	**03 53 49.6**	**+2.3**
LTY	**Liberty**	**12.10**	**127**	*e*Pn	**Pn**	**03 53 52.3**	**+1.4**
LTY	**Liberty**	**12.10**	**127**	Pn	**Pn**	**03 53 52.2**	**+3.4**
YKA	**Yellowknife Ar**	**12.51**	**48**	Pn	**Pn**	**03 53 52.8**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=242,slow=12,SNR=68						
YKA				Lg	Lg	03 57 25.9	
	comp=Z,0.1nm,0.3s,baz=246,slow=29,SNR=3.4						
YKB5	**Yellowknife Ar**	**12.51**	**48**	*e*Pn	**Pn**	**03 53 52.8**	**-1.5**
YKW3	**Yellowknife Ar**	**12.53**	**48**	*e*Pn	**Pn**	**03 53 54.7**	**+0.1**
YKW3	**Yellowknife Ar**	**12.53**	**48**	Pn	**Pn**	**03 53 55.1**	**+0.5**
G03D	**McMinnville, O**	**12.68**	**140**	P	**Pn**	**03 53 57.8**	**+1.1**
	baz=328						
INK	**Inuvik**	**12.85**	**2**	*e*Pn	**Pn**	**03 53 58.8**	**0.0**
INK	**Inuvik**	**12.85**	**2**	Pn	**Pn**	**03 54 00.1**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=167,slow=13,SNR=13						
INK				Sn	**Sn**	**03 56 27.6**	**+6.0**
	comp=Z,0.4nm,0.3s,baz=61,slow=19,SNR=11						
INK				Lg	Lg	03 57 35.2	
	baz=134,slow=11,SNR=3.3						
INK	**Inuvik**	**12.85**	**2**	Pn	**Pn**	**03 53 59.3**	**+0.5**
NEW	**Newport**	**13.11**	**116**	P	**Pn**	**03 54 04.2**	**+1.6**
	baz=310,SNR=18						
NEW	**Newport**	**13.11**	**116**	Pn	**Pn**	**03 54 05.9**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=319,slow=14,SNR=14						
NEW				Lg	Lg	03 57 39.9	
	comp=Z,0.2nm,0.3s,baz=190,slow=22,SNR=1.3						
NEW				LR	LR	03 59 14.0	
	comp=Z,507nm,18.2s,baz=301,slow=38						
HAWA	**Hanford**	**13.27**	**127**	*e*Pn	**Pn**	**03 54 05.5**	**+0.8**
E08A	**Dider Farm, El**	**13.41**	**126**	*e*Pn	**Pn**	**03 54 07.2**	**+0.6**
H04D	**Lebanon**	**13.46**	**140**	P	**Pn**	**03 54 07.7**	**+0.3**
	baz=329						
H04A	**Detroit Lake**	**13.53**	**138**	*e*Pn	**Pn**	**03 54 07.7**	**-0.6**
G06A	**Carlson Farm,**	**13.69**	**133**	*e*Pn	**Pn**	**03 54 10.2**	**-0.3**
COLD	**Coldfoot**	**13.79**	**334**	*e*Pn	**Pn**	**03 54 11.0**	**-0.8**
COLD	**Coldfoot**	**13.79**	**334**	Pn	**Pn**	**03 54 13.3**	**+1.5**
E09A	**Wood Farm, Sta**	**13.82**	**124**	*e*Pn	**Pn**	**03 54 13.4**	**+1.2**
I05D	**Terrebonne, OR**	**14.15**	**137**	P	**Pn**	**03 54 17.3**	**+0.5**
	baz=327						
I04A	**Tendick Farm,**	**14.21**	**141**	P	**Pn**	**03 54 18.3**	**+0.7**
	baz=330,SNR=7.6						
G08A	**Pilot Rock**	**14.37**	**129**	*e*Pn	**Pn**	**03 54 19.1**	**-0.8**
TOLK	**Toolik Lake Re**	**14.79**	**339**	P	**Pn**	**03 54 27.1**	**+1.7**
	baz=146						
J04D	**Umpqua Nationa**	**14.80**	**141**	P	**Pn**	**03 54 26.6**	**+0.8**
	baz=330,SNR=6.9						
YBMT	**Yellow Bay**	**14.98**	**112**	Pn	**P**	**03 54 32.4**	**-1.4**
FBMT	**Ferry Basin**	**15.06**	**114**	Pn	**P**	**03 54 33.2**	**-1.4**
J05D	**Fort Rock, OR**	**15.08**	**139**	P	**Pn**	**03 54 30.8**	**+1.2**
	baz=329,SNR=18						
SWMT	**Swartz Lake**	**15.21**	**113**	Pn	**P**	**03 54 34.5**	**-1.8**
L02E	**Cave Junction**	**15.26**	**147**	P	**Pn**	**03 54 32.9**	**+1.1**
	baz=335						
KUKN	**Kugluktuk,NWT**	**15.38**	**29**	Pn	**Pn**	**03 54 34.1**	**+0.9**
L04D	**Klamath Falls**	**15.63**	**143**	P	**Pn**	**03 54 38.0**	**+1.2**
	baz=332,SNR=9.9						
MSO	**Missoula**	**15.68**	**115**	P	**Pn**	**03 54 38.9**	**+1.5**
	baz=311,SNR=20						
YBH	**Yreka Blue Hor**	**15.93**	**145**	Pn	**Pn**	**03 54 40.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=355,slow=8.1,SNR=2.0						
YBH				LR	LR	03 59 53.0	
	comp=Z,220nm,19.0s,baz=311,slow=34						
M04C	**Macdoel**	**16.18**	**143**	P	**Pn**	**03 54 44.9**	**+1.1**
	baz=332,SNR=6.0						
M02C	**Callahan**	**16.19**	**146**	P	**Pn**	**03 54 45.1**	**+1.1**
	baz=335						
N02D	**Trinity Center**	**16.61**	**146**	P	**Pn**	**03 54 49.3**	**-0.1**
	baz=335						
WVOR	**Wild Horse Val**	**16.82**	**134**	*e*Pn	**Pn**	**03 54 50.0**	**-2.0**
	comp=Z,6.3nm,1.0s						
EGMT	**Eagleton**	**17.18**	**105**	P	**Pn**	**03 54 56.6**	**+0.2**
	baz=305,SNR=12						
O02D	**Mt. Diablo Mer**	**17.32**	**147**	P	**Pn**	**03 54 58.8**	**+0.6**
	baz=336						
O03E	**Paynes Creek**	**17.52**	**145**	P	**P**	**03 55 01.8**	**-0.1**
	baz=335						
ANM	**Nome**	**17.55**	**313**	*e*Pn	**P**	**03 55 03.3**	**+1.4**
	comp=Z,24nm,1.2s						
BOZ	**Bozeman (W)**	**17.70**	**114**	P	**P**	**03 55 04.1**	**+0.2**
	baz=312,SNR=15						
HLID	**Hailey**	**17.78**	**124**	P	**P**	**03 55 05.7**	**+0.9**
	baz=319,SNR=47						
RDOG	**Red Dog Mine**	**18.03**	**325**	*e*Pn	**P**	**03 55 09.1**	**+1.9**
	comp=Z,23nm,0.9s						
FFC	**Flin Flon**	**18.72**	**79**	*e*P	**Pn**	**03 55 16.2**	**+1.0**
	comp=Z,13nm,0.7s						
FFC	**Flin Flon**	**18.72**	**79**	*i* P	**Pn**	**03 55 16.6**	**+1.3**
YFT	**Old Faithful**	**18.90**	**116**	*e*P	**Pn**	**03 55 21.8**	**+4.0**
	comp=Z,12nm,0.9s						
LKWY	**Lake**	**19.04**	**115**	*e*PKPdf	**Pn**	**03 55 21.3**	**+1.8**
LKWY				LR	LR		
	comp=Z,3μm,22.0s						
LKWY	**Lake**	**19.04**	**115**	*e*P	**Pn**	**03 55 21.3**	**+1.8**
LKWY				MLR	MLR		
	comp=Z,3μm,22.0s						
H17A	**Grant Village**	**19.07**	**116**	P	**Pn**	**03 55 21.0**	**+1.1**
	baz=314,SNR=16						
RLMT	**Red Lodge**	**19.25**	**112**	P	**Pn**	**03 55 22.5**	**+0.5**
	baz=312,SNR=22						
ELK	**Elko**	**19.64**	**131**	P	**P**	**03 55 26.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=318,slow=12,SNR=11						
REDW	**Red Top Meadow**	**19.67**	**118**	*e*P	**Pn**	**03 55 28.4**	**+1.5**
	comp=Z,16nm,1.1s						
LAO	**LASA Array**	**19.91**	**104**	P	**Pn**	**03 55 29.9**	**+0.3**
	baz=307,SNR=6.8						
HVU	**Hansel Valley**	**19.92**	**124**	*e*P	**Pn**	**03 55 29.9**	**-0.1**
	comp=Z,9.4nm,1.1s						
AHID	**Auburn Hatcher**	**19.98**	**120**	*e*P	Pn	03 55 30.7	0.0
	comp=Z,11nm,0.9s						
CMB	**Columbia Colle**	**20.03**	**145**	*e*PKPpre	Pn	03 55 31.3	+0.1
CMB				LR	LR		
	comp=Z,1μm,22.0s						
CMB	**Columbia Colle**	**20.03**	**145**	*e*P	Pn	03 55 31.3	+0.2
CMB				MLR	MLR		
	comp=Z,1μm,22.0s						
GAMB	**Gambell**	**20.10**	**309**	*e*P	Pn	03 55 30.5	-1.2
RYN	**Ryan**	**20.14**	**140**	*e*P	**P**	**03 55 31.7**	**+0.9**
	comp=Z,13nm,1.2s						
NVAR	**Mina Array Bea**	**20.40**	**140**	P	Pn	03 55 34.9	-0.8
	comp=Z,8.5nm,1.0s,baz=315,slow=10,SNR=13						
NVAR				PcP	**PcP**	**03 59 46.4**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=282,slow=1.8,SNR=2.3						
SPUT	**South Promonto**	**20.44**	**125**	*e*P	**P**	**03 55 32.2**	**-1.8**
	comp=Z,8.7nm,1.0s						
BGU	**Big Grassy Mou**	**20.48**	**126**	*e*P	**P**	**03 55 32.1**	**-2.3**
	comp=Z,4.6nm,1.0s						
BW06	**Boulder Array**	**20.75**	**117**	*e*P	**P**	**03 55 32.7**	**-4.7**
	comp=Z,23nm,1.0s						
BW06	**Boulder Array**	**20.75**	**117**	P	**P**	**03 55 38.7**	**+1.3**
	baz=317,SNR=15						
PD31	**Pinedale Array**	**20.75**	**117**	*e*P	**P**	**03 55 33.6**	**-3.7**
	comp=Z,22nm,1.0s						
PDAR	**Pinedale Array**	**20.75**	**117**	P	**P**	**03 55 37.3**	**0.0**
	comp=Z,31nm,1.1s,baz=322,slow=8.5,SNR=22

baz=318
ECSD EROS Data Cent 27.07 100 eP P 03 56 38.5 -0.5
comp=Z,8.7nm,0.9s
ECSD EROS Data Cent 27.07 100 P P 03 56 40.0 +1.0
baz=309
EYMN Ely 27.51 88 P P 03 56 42.6 -0.2
baz=302
214A Organ Pipe Nat 28.20 138 P P 03 56 49.2 +0.1
baz=333,SNR=5.7
TASM ASL Pad, Albuq 28.36 125 P P 03 56 51.0 +0.3
baz=325
TASM ASL Pad, Albuq 28.36 125 P P 03 56 51.2 +0.5
baz=325
ANMO Albuquerque 28.36 125 eP P 03 56 47.4 -3.3
comp=Z,1.2nm,0.8s
ANMO Albuquerque 28.36 125 P P 03 56 51.3 +0.6
baz=325
ANMO Albuquerque 28.36 125 P P 03 56 51.2 +0.5
comp=Z,1.2nm,0.9s,baz=309,slow=6.5,SNR=4.1
F38A Pierce - Schro 28.40 91 P P 03 56 51.4 +0.6
baz=306
TUC Tucson 28.69 134 eP P 03 56 50.8 -2.8
comp=Z,4.4nm,1.0s
TUC Tucson 28.69 134 P P 03 56 54.0 +0.4
baz=331
CBKS Cedar Bluff 28.73 111 P P 03 56 54.0 +0.2
baz=317
C40A Isle Royale Na 28.86 86 P P 03 56 55.2 +0.4
baz=303
EUNU Eureka 28.88 16 P P 03 56 56.0 +1.3
G39A Holcombe 29.20 92 P P 03 56 58.1 +0.2
baz=306
BILL Bilibino 29.22 319 eP P 03 56 58.6 +0.7
BILL pmax pmax
comp=Z,4.0nm,1.8s
H39A Augusta 29.50 93 P P 03 57 01.3 +0.8
baz=307
G40A Rib Lake 29.76 91 P P 03 57 03.9 +1.0
baz=306
E41A Kenton 29.77 88 P P 03 57 03.4 +0.5
baz=305
121A Cookes Peak, D 29.77 129 P P 03 57 03.4 +0.1
baz=329
I39A Houston 29.87 95 P P 03 57 04.3 +0.5
baz=308
H40A Chili 30.04 92 P P 03 57 06.6 +1.2
baz=307
J39A Decorah 30.09 96 P P 03 57 06.3 +0.6
baz=309
319A Douglas 30.12 133 eP P 03 57 05.7 -0.7
comp=Z,16nm,1.1s
KSU1 Kansas State U 30.20 107 P P 03 57 07.2 +0.3
baz=316
I40A Norwalk 30.36 94 P P 03 57 09.0 +0.9
baz=308
E42A Champion 30.38 87 P P 03 57 09.4 +1.0
baz=305
K39A Oelwein 30.39 97 P P 03 57 09.7 +1.2
baz=310
J40A Soldiers Grove 30.60 95 P P 03 57 10.9 +0.7
baz=309
AMTX Amarillo 30.72 118 P P 03 57 12.7 +1.2
baz=322
G42A Mountain 30.78 90 P P 03 57 12.4 +0.6
baz=306
K40A Colesburg 30.81 96 P P 03 57 13.0 +0.8
baz=310
MSTX Muleshoe 30.91 121 P P 03 57 14.0 +0.7
baz=324
E43A Lone Tree Farm 30.94 87 P P 03 57 13.3 +0.1
baz=305
F43A Flat Rock, Esc 31.15 88 P P 03 57 15.3 +0.2
baz=306
G43A Wallace 31.20 89 P P 03 57 15.6 +0.1
baz=306
I42A Draeger Farm, 31.33 92 P P 03 57 17.9 +1.2
baz=308
E44A Grand Marais A 31.41 86 P P 03 57 18.6 +1.2
baz=305
F44A Big Bay de Noc 31.49 87 P P 03 57 18.8 +0.7
baz=306
MNTX Cornudas Mount 31.55 127 P P 03 57 19.8 +1.0
baz=328
E45A Wooded Hills, 31.98 86 P P 03 57 22.8 +0.4
baz=305
L42A Oliver, Polo 32.10 96 P P 03 57 24.0 +0.5
baz=311
F45A CMU Biological 32.18 87 P P 03 57 24.8 +0.7
baz=306
N41A Harden Midland 32.28 99 P P 03 57 25.4 +0.3
baz=312
WMOK Wichita Mounta 32.31 115 P P 03 57 25.9 +0.4
baz=321,SNR=7.1
D46A Sault St. Mari 32.32 84 P P 03 57 25.5 +0.1
baz=305
E46A Sault Ste Mari 32.47 85 P P 03 57 27.0 +0.3
baz=305
G45A Suttons Bay 32.48 88 P P 03 57 27.4 +0.6
baz=307
F46A Macinaw City C 32.55 86 P P 03 57 27.8 +0.4
baz=306
D47A Chapleau 32.75 83 P P 03 57 30.4 +1.2
baz=304
I45A Fountain 32.76 90 P P 03 57 30.3 +1.1
baz=308
TUL1 Leonard 32.99 110 P P 03 57 31.6 +0.3
baz=319
E47A Iron Bridge 33.00 84 P P 03 57 32.4 +1.1
baz=305
FRB Frobisher Bay 33.03 48 P P 03 57 31.9 +0.5
comp=Z,3.1nm,0.6s,baz=288,slow=8.8,SNR=15
FRB Frobisher Bay 33.03 48 P P 03 57 31.7 +0.4
H46A Fife Lake 33.04 88 P P 03 57 32.5 +0.8
baz=308
GLMI Grayling 33.20 87 P P 03 57 34.8 +1.7
baz=307
D48A Paudash Townsh 33.42 82 P P 03 57 35.8 +0.8
baz=304,SNR=7.8
G47A Hillman 33.42 86 P P 03 57 35.6 +0.6
baz=307
ABTX Abilene, Hawle 33.55 118 P P 03 57 36.5 +0.2
baz=324
H47A Mio 33.57 87 P P 03 57 36.9 +0.6
baz=307
E48A Lockeyer 33.61 83 P P 03 57 37.3 +0.6
baz=305,SNR=6.7
Q42A Golden Eagle 33.69 101 P P 03 57 37.7 +0.3
baz=314
F48A Evansville 33.74 84 P P 03 57 38.3 +0.6
baz=306
K46A Dorr 33.86 91 P P 03 57 38.9 0.0
baz=310
CCM Cathedral Cave 33.90 103 eP P 03 57 38.5 -0.7
comp=Z,9.6nm,1.1s
CCM eP cP cP 04 00 12.5 -5.0
CCM Cathedral Cave 33.90 103 P P 03 57 39.5 +0.3
baz=315
L46A Eue Claire 34.00 93 P P 03 57 40.7 +0.6
baz=310
F49A Sandfield 34.10 84 P P 03 57 41.7 +0.8
baz=306
I48A Sherman Twp 34.11 88 P P 03 57 41.7 +0.7
baz=308
U40A Yellville 34.24 106 P P 03 57 41.7 -0.5
baz=318
MATQ Matagami 34.32 75 P P 03 57 43.1 +0.2
baz=302
TXAR Lajitas Array 34.34 127 P P 03 57 44.2 +0.9
comp=Z,3.9nm,0.8s,baz=325,slow=7.1,SNR=20
TXAR P cP cP 04 00 19.2 +0.1
comp=Z,0.8nm,0.7s,baz=53,slow=0.4,SNR=6.4
W39A Magazine 34.60 109 P P 03 57 45.6 +0.3
baz=319
L47A Sherwood 34.65 92 P P 03 57 46.4 +0.7
baz=310
TOBO Tobermory, Bru 34.71 84 P P 03 57 47.1 +0.9
baz=307
K48A Perry 34.73 90 P P 03 57 47.3 +0.9
baz=310
I49A Point Hope 34.76 87 P P 03 57 47.3 +0.7
baz=308
D51A Lot 18 Range I 34.83 80 P P 03 57 48.1 +0.9
baz=305
P45A Graceland, Par 34.84 97 P P 03 57 47.5 +0.1
baz=313
J49A Marlette 34.94 88 P P 03 57 49.1 +0.9
baz=309
Q45A Warren Harvey, 35.04 98 P P 03 57 49.0 -0.1
baz=314
LSQQ Lebel-sur-Quev 35.06 76 P P 03 57 49.4 +0.2
baz=303
E51A G1948 Merrick 35.09 81 P P 03 57 50.1 +0.6
baz=306,SNR=5.7
L48A N Adams 35.10 91 P P 03 57 49.9 +0.2
baz=310
WHTX Lake Whitney, 35.16 116 P P 03 57 50.7 +0.6
baz=323
MIAR Mount Ida 35.20 109 P P 03 57 50.6 +0.1
baz=320,SNR=6.6
F51A Arnstein 35.20 82 P P 03 57 51.8 +1.3
baz=306
JCT Junction City 35.21 121 P P 03 57 51.0 +0.3
baz=326
S44A Carbondale 35.26 101 P P 03 57 51.0 -0.1
baz=315
BMRO Merriville Lake 35.27 85 P P 03 57 52.0 +1.0
baz=308
AAM Ann Arbor 35.32 90 P P 03 57 52.8 +1.4
baz=310
VLDQ Val d'Or 35.32 78 eP P 03 57 48.5 -2.9
comp=Z,12nm,1.0s
BASO Ashfield 35.37 86 P P 03 57 52.6 +0.7
baz=308,SNR=7.7
KLBO Killbear Provi 35.38 83 P P 03 57 53.6 +1.7
baz=307,SNR=5.2
L49A Milan 35.38 90 P P 03 57 52.9 +0.9
baz=310
R45A Skylar, Fairfi 35.39 99 P P 03 57 52.6 +0.5
baz=315
D52A ZEK Kipawa Sen 35.44 80 P P 03 57 53.8 +1.3
baz=305
W41B Gary Mavity, V 35.45 107 P P 03 57 53.8 +1.2
baz=318
BWLO Walkerton 35.60 86 P P 03 57 55.2 +1.3
baz=308
F52A Sundridge 35.62 82 P P 03 57 55.3 +1.3
baz=306
X40A Basin Creek Fa 35.65 108 P P 03 57 55.0 +0.6
baz=319
M49A Liberty Center 35.67 91 P P 03 57 54.6 +0.1
baz=311
P47A Martinsville 35.70 96 P P 03 57 54.8 +0.1
baz=313
E52A Mattawa 35.70 81 P P 03 57 55.5 +0.8
baz=306
D53A Lac Vacive, Po 35.77 79 P P 03 57 56.7 +1.3
baz=305,SNR=5.2
BUKO Buck Lake 35.78 83 P P 03 57 56.3 +0.9
baz=307,SNR=7.9
O48A Farmland 35.81 94 P P 03 57 55.4 -0.3
baz=312
I51A Listowel 35.86 86 P P 03 57 57.4 +1.2
baz=308
R46A Gibon Southern 35.88 99 P P 03 57 57.1 +0.8
baz=315
N49A Columbus Grove 35.92 92 P P 03 57 56.9 +0.3
baz=312
Q47A Bedord North L 35.98 97 P P 03 57 57.7 +0.4
baz=314
CHGQ Chibougamau 36.03 73 P P 03 57 57.7 +0.2
baz=303
SEY Seymchan 36.05 312⇓ eP P 03 57 59.3 +1.8
SEY Seymchan 36.05 312 P P 03 57 58.1 +0.6
comp=Z,3.1nm,1.0s,baz=39,slow=7.4,SNR=3.8
435B Jarrell 36.06 118 P P 03 57 58.6 +0.7
baz=324
E53A Dumoine, Ponti 36.20 80 P P 03 58 00.3 +1.3
baz=306
ALGO Algonquin Park 36.24 81 P P 03 57 59.9 +0.6
baz=306
D54A Lac Fusel, La 36.31 78 P P 03 58 00.9 +0.9
baz=305
SADO Sadowa 36.34 83 P P 03 58 00.4 +0.2
comp=Z,4.7nm,0.6s,baz=299,slow=5.5,SNR=3.5
R47A Wooly Knot Far 36.37 98 P P 03 58 01.0 +0.4
baz=314
G53A Haliburton 36.41 82 P P 03 58 01.8 +1.0
baz=307
E54A Lac Daplat, Po 36.44 80 P P 03 58 01.9 +0.8
baz=306
T46A Princeton 36.49 100 P P 03 58 02.8 +1.3
baz=316
J52A Paris 36.53 86 P P 03 58 03.1 +1.3
baz=309
ACTO Acton 36.53 86 P P 03 58 03.1 +1.3
baz=309
WCI Wyandotte Cave 36.55 98 P P 03 58 02.1 +0.1
baz=314
Z41A Richland Creek 36.60 110 P P 03 58 03.1 +0.6
baz=320
N50A Nevada 36.60 92 P P 03 58 02.9 +0.4
baz=312
O50A Cable 36.75 93 P P 03 58 04.6 +0.8
baz=312
M51A Elyria 36.78 90 P P 03 58 05.3 +1.3
baz=311
PEMO Pembroke 36.85 81 P P 03 58 06.0 +1.4
baz=307
BANO Bancroft 36.87 82 P P 03 58 06.1 +1.4
baz=308
PKRO Pickering 36.87 84 P P 03 58 06.3 +1.5
baz=308
N51A Ashland 36.95 91 P P 03 58 06.4 +1.0
baz=312
TYNO Tyneside 36.96 86 P P 03 58 06.8 +1.3
baz=309
T47A Sharon Grove 36.97 100 P P 03 58 05.7 +0.1
baz=316
P50A Jamestown 37.01 94 P P 03 58 05.8 -0.2
baz=313
S48A Wiedeman Farm, 37.08 98 P P 03 58 06.8 +0.2
baz=315
M52A Chesterland 37.12 89 P P 03 58 07.5 +0.6
baz=311
DRWO Darlington Wes 37.12 84 P P 03 58 08.0 +1.2
baz=309
WVT Waverly 37.18 101 P P 03 58 08.5 +1.0
baz=317
833A Chaparral WMA, 37.19 122 P P 03 58 08.5 +0.9
baz=327
WLVO Wesleyville 37.28 84 P P 03 58 09.2 +1.1
baz=309
T48A Bowling Green 37.28 99 P P 03 58 08.6 +0.3
baz=316
STCO Saint Catharin 37.29 85 P P 03 58 09.2 +1.0
baz=309
PLVO Plevna 37.34 81 P P 03 58 08.6 -0.1
baz=308
DELO Deloro Mine 37.35 83 P P 03 58 09.3 +0.5
baz=308
G55A Calabogie 37.41 81 P P 03 58 09.9 +0.6
baz=308
N52A McGinn's Farm, 37.41 90 P P 03 58 09.1 -0.2
baz=312
SCHQ Scheffer ville 37.43 62 P P 03 58 09.4 0.0
comp=Z,7.8nm,0.7s,baz=274,slow=15,SNR=2.6
L53A Girard 37.47 88 P P 03 58 10.9 +1.0
baz=310
OXF Oxford 37.49 105 P P 03 58 10.1 0.0
baz=318
I55A Frankford 37.50 83 P P 03 58 10.6 +0.5
baz=308
J54A Appleton 37.55 85 P P 03 58 10.9 +0.4
baz=309
M53A WI Miller and 37.57 89 P P 03 58 11.2 +0.5
baz=311
H55A Tweed 37.57 82 P P 03 58 11.5 +0.8
baz=308
W46A Michie 37.60 103 P P 03 58 11.6 +0.6
baz=318
HKT Hockley 37.62 116⇑ iP P 03 58 10.4 -0.7
HKT pmax pmax
comp=Z,10.0nm,1.4s
U48A Cassie Pea, Po 37.63 100 P P 03 58 11.9 +0.7
baz=316
MEDO Medina 37.72 85 P P 03 58 12.7 +0.7
baz=309
T49A Edmonton 37.77 98 P P 03 58 12.5 +0.1
baz=315
O52A Adamsville 37.79 91 P P 03 58 12.8 +0.3
baz=312
L54A Sinclairville 37.83 87 P P 03 58 13.5 +0.6
baz=310
N53A Lisbon 37.89 90 P P 03 58 13.8 +0.4
baz=312
X46A Booneville 37.91 104 P P 03 58 14.5 +0.8
baz=318
K54A Basiliko Farm, 37.94 86 P P 03 58 14.4 +0.6
baz=310
W47A Westpoint 37.95 102 P P 03 58 14.1 +0.1
baz=317
ORIO Orleans, Innes 37.96 80 P P 03 58 14.9 +1.0
baz=307
J55A Hilton 38.02 84 P P 03 58 14.6 +0.2
baz=309
PEA1 Petropavlovsk- 38.02 295 eP P 03 58 14.4 -0.1
PETK Petropavlovsk- 38.03 295 P P 03 58 14.4 -0.1
comp=Z,1.7nm,0.7s,baz=67,slow=8.5,SNR=2.8
O53A New Philadelph 38.05 91 P P 03 58 14.7 -0.1
baz=312,SNR=5.1
U49A Red Boiling Sp 38.05 99 P P 03 58 15.0 +0.2
baz=316
PECO Prince Edward 38.06 83 P P 03 58 15.0 +0.2
baz=309
H56A Elgin 38.07 81 P P 03 58 15.7 +0.8
baz=308
M54A Oil Creek Stat 38.10 88 P P 03 58 15.9 +0.7
baz=311
MA2 Magadan 38.19 308⇓ eP P 03 58 17.0 +1.3
MA2 pmax pmax
comp=Z,12nm,1.1s
ALFO Alfred 38.21 79 P P 03 58 16.0 0.0
baz=307
K55A Perry 38.22 85 P P 03 58 16.4 +0.2
baz=310
T50A Nancy 38.22 98 P P 03 58 16.5 +0.3
baz=315
N54A Moraine State 38.27 89 P P 03 58 16.9 +0.2
baz=312
LATQ La Tuque 38.33 75 P P 03 58 18.0 +1.0
baz=306
L55A Hinsdale 38.36 86 P P 03 58 17.8 +0.4
baz=310
W48A Pulaski 38.40 102 P P 03 58 18.2 +0.4
baz=317
P53A Whipple 38.46 92 P P 03 58 19.3 +1.1
baz=313
V49A McMinnville 38.52 100 P P 03 58 19.4 +0.6
baz=317
O54A Avella 38.57 90 P P 03 58 19.5 +0.4
baz=312,SNR=5.0
M55A Ridgway 38.64 87 P P 03 58 20.4 +0.7
baz=311
U50A Jamestown 38.65 98 P P 03 58 20.4 +0.5
baz=316
T51A Gray 38.76 97 P P 03 58 20.7 -0.1
baz=315
W49A Belvidere 38.79 101 P P 03 58 20.7 -0.4
baz=317
Q53A Leroy 38.81 93 P P 03 58 20.9 -0.3
baz=313
X48A Hartselle 38.84 103 P P 03 58 21.3 -0.2
baz=318
P54A Burton 38.90 91 P P 03 58 22.3 +0.3
baz=313
M56A Emporium 38.96 87 P P 03 58 23.2 +0.8
baz=311
N55A Marion Center 38.96 88 P P 03 58 23.0 +0.5
baz=312
LONY Lake Ozonia 38.99 80 P P 03 58 23.1 +0.4
baz=308
Q54A Coxs Mills 39.12 92 P P 03 58 24.0 +0.3
baz=313
Y48A Jasper 39.17 103 P P 03 58 24.8 +0.6
baz=318
X49A Woodville 39.20 102 P P 03 58 25.0 +0.6
baz=318
T52A Hallie 39.20 96 P P 03 58 24.1 -0.4
baz=315
MCWV Mont Chateau 39.23 90 P P 03 58 25.2 +0.6
baz=313
W50A Signal Mountai 39.26 100 P P 03 58 25.2 +0.1
baz=317
N56A West Decatur 39.27 88 P P 03 58 25.4 +0.4
baz=312
P55A Reedsville 39.34 90 P P 03 58 26.4 +0.8
baz=313
U52A Thorn Hill 39.49 97 P P 03 58 28.1 +1.2
baz=316
Q55A Buckhannon 39.54 91 P P 03 58 27.5 +0.2
baz=313
O56A Blue Knob Stat 39.54 88 P P 03 58 28.2 +0.9
baz=312
R54A Victor 39.59 93 P P 03 58 28.7 +1.0
baz=314
W51A Cleveland 39.60 100 P P 03 58 28.0 +0.2
baz=317
X50B Fort Payne 39.61 101 P P 03 58 27.7 -0.3
baz=318
Y49A Blount Mountai 39.64 103 P P 03 58 27.8 -0.4
baz=318
S54A Dingess, Beckl 39.67 94 P P 03 58 28.4 0.0
baz=314
BINY Binghamton 39.74 84 P P 03 58 29.7 +0.7
baz=310
V52A Sevierville 39.76 98 P P 03 58 29.0 -0.2
baz=316
N57A Milroy 39.80 87 P P 03 58 29.8 +0.4
baz=312
X51A Calhoun 39.98 100 eP P 03 58 27.8 -3.2
comp=Z,9.1nm,0.8s
X51A Calhoun 39.98 100 P P 03 58 30.7 -0.3
baz=317,SNR=5.1
Z49A Columbiana 40.06 103 P P 03 58 31.7 0.0
baz=319
SUMG Summit 40.07 28 eP P 03 58 29.8 -1.9
comp=Z,9.1nm,0.8s
SUMG Summit 40.07 28 iP P 03 58 33.3 +1.6
SUMG pmax pmax
comp=Z,47nm,1.2s
SUMG Summit 40.07 28 iP P 03 58 33.3 +1.6
comp=Z,47nm,1.2s
O57A Amberson 40.11 88 P P 03 58 32.3 +0.3
baz=312
S55A Lewisburg 40.15 93 P P 03 58 33.2 +0.8
baz=314
Z50A Ashland 40.36 103 P P 03 58 34.7 +0.5
baz=319
149A Jones 40.37 104 P P 03 58 34.8 +0.6
baz=319
Q57A Strasburg 40.46 90 P P 03 58 35.3 +0.3
baz=313
TIXI Tiksi 40.49 331⇓ eP P 03 58 35.3 +0.5
TIXI pmax pmax
comp=Z,5.0nm,2.3s
BLA Blacksburg 40.59 93 eP P 03 58 35.0 -1.1
comp=Z,17nm,1.1s
BLA Blacksburg 40.59 93 P P 03 58 36.6 +0.5
baz=315
249A Camden 40.66 105 P P 03 58 37.3 +0.7
baz=320
N59A State Game Lan 40.70 86 P P 03 58 37.5 +0.6
baz=312
U55A TA2, Sparta 40.73 95 P P 03 58 37.9 +0.6
baz=315
S56A Natural Bridge 40.74 92 P P 03 58 37.9 +0.6
baz=314
150A Eclectic 40.79 103 P P 03 58 38.4 +0.7
baz=319
O59A Robesonia 40.87 87 P P 03 58 38.8 +0.5
baz=312
T56A Rocky Mt 40.93 93 P P 03 58 39.3 +0.5
baz=315
S57A Dark Hollow, R 41.03 92 P P 03 58 40.1 +0.5
baz=314
V55A Taylorsville 41.10 96 P P 03 58 40.7 +0.5
baz=316
W54A Cherokee Point 41.10 97 P P 03 58 40.6 +0.4
baz=317
P59A Jarrettsville 41.20 88 P P 03 58 40.9 -0.1
baz=313
R58A Rapidan 41.20 90 P P 03 58 41.0 0.0
baz=314
U56A King 41.22 94 P P 03 58 41.4 +0.2
baz=316
Z52A Williamson 41.24 101 P P 03 58 42.1 +0.7
baz=318
O60A Telford 41.30 86 P P 03 58 42.4 +0.6
baz=312
T57A Hurt 41.40 93 P P 03 58 43.4 +0.7
baz=315
P60A Greenville 41.52 87 P P 03 58 43.8 +0.2
baz=313
GOGA Godfrey 41.61 100 eP P 03 58 42.4 -2.0

comp=Z,2.2nm,0.9s
GOGA Godfrey 41.61 100 P **P 03 58 44.4 0.0**
baz=318
Z53A Monticello 41.65 100 P **P 03 58 46.0 +1.2**
baz=318
S58A Poland Farm, P 41.65 91 P **P 03 58 44.8 +0.1**
baz=314
Y54A Tignall 41.71 99 P **P 03 58 45.5 +0.2**
baz=318
U57A Blanch 41.75 93 P **P 03 58 46.4 +0.8**
baz=315
T58A Grand View Acr 41.84 92 P **P 03 58 46.3 0.0**
baz=315
V57A Coltrane Farms 41.89 94 P **P 03 58 47.3 +0.6**
baz=316
252A Lumpkin 41.96 103 P **P 03 58 47.5 +0.2**
baz=319
W56A Indian Trail 41.97 96 P **P 03 58 47.5 +0.2**
baz=316
DAG Danmarks Havn 42.04 18 *i* P **P 03 58 48.1 +0.7**
DAG *i* 03 58 52.4
DAG pmax pmax
comp=Z,3.0nm,0.6s
DAG Danmarks Havn 42.04 18 *i* P **P 03 58 48.1 +0.7**
DAG comp=Z,5.0nm,0.6s *i* 03 58 52.4
Z54A Sparta 42.09 100 P **P 03 58 48.7 +0.3**
baz=318
Y55A Saluda 42.12 98 P **P 03 58 48.9 +0.3**
baz=318
U58A Oxford 42.22 93 P **P 03 58 49.9 +0.5**
baz=315
V58A Windy Hill, Pi 42.33 94 P **P 03 58 50.4 +0.2**
baz=316
T59A Double "B" Far 42.38 91 P **P 03 58 50.9 +0.3**
baz=315
452A Marianna 42.59 104 P **P 03 58 52.8 +0.4**
baz=320
U59A Littleton 42.68 92 P **P 03 58 54.1 +0.9**
baz=315
155A Kite 42.76 100 P **P 03 58 53.9 +0.1**
baz=318
254A Abbeville 42.80 101 P **P 03 58 54.4 +0.2**
baz=319
W58A Raeford 42.82 95 P **P 03 58 54.6 +0.4**
baz=316
V59A Middlesex 42.85 93 P **P 03 58 55.0 +0.5**
baz=316
U60A Pendleton 42.96 92 P **P 03 58 56.0 +0.6**
baz=315
Y58A Scranton 43.38 96 P **P 03 58 59.4 +0.5**
baz=317
Z58A St. Stephen 43.72 97 P **P 03 59 02.4 +0.9**
baz=318
W61A Ground Anchor 43.98 93 P **P 03 59 03.9 +0.3**
baz=316
554A Perry 44.00 104 P **P 03 59 04.2 +0.4**
baz=320
YSS Yuzh-Sakhalins 49.40 297 *eP* **P 03 59 46.2 +0.3**
YSS *e* 03 59 49.1
ASAJ Asahikawa 51.41 294 P **P 04 00 01.2 0.0**
comp=Z,2.0nm,0.3s,baz=104,slow=8.3,SNR=2.5
NRIK Noril'sk 51.68 342 P **P 04 00 02.7 -0.2**
comp=Z,2.7nm,0.6s,baz=64,slow=7.5,SNR=3.4
KLR Kul'dur 53.20 305⇑ *eP* **P 04 00 14.6 +0.2**
KLR pmax pmax
comp=Z,5.0nm,0.9s
BOD Bodaibo 54.19 322 *eP* P 04 00 14.5 -7.0
BOD pmax pmax
comp=Z,9.0nm,1.4s
ARCES ARCESS Array B 54.43 8 P **P 04 00 23.0 -0.2**
ARCES ARCESS Array B 54.43 8 P **P 04 00 23.0 -0.2**
comp=Z,7.3nm,1.2s,baz=354,slow=9.8,SNR=4.5
H11N2 WAKE ISLAND Hy 56.09 255 T T 05 01 14.9
baz=35,slow=76,SNR=2226
H11N3 WAKE ISLAND Hy 56.09 255 T T 05 01 15.8
baz=35,slow=76,SNR=3526
H11N1 WAKE ISLAND Hy 56.11 255 T T 05 01 16.8
baz=35,slow=76,SNR=2161
H11S1 WAKE ISLAND Hy 57.19 254 T T 05 02 40.5
baz=34,slow=76,SNR=1327
H11S2 WAKE ISLAND Hy 57.20 254 T T 05 02 43.3
baz=34,slow=76,SNR=901
H11S3 WAKE ISLAND Hy 57.21 254 T T 05 02 44.8
baz=34,slow=76,SNR=1982
HIA Hailar 58.50 312⇓ *eP* **P 04 00 52.8 +0.4**
HIA pmax pmax
comp=Z,23nm,0.5s
MAJO Matsushiro 59.20 291 *eP* **P 04 00 57.2 -0.3**
MAT Matsushiro 59.20 291 P **P 04 00 57.2 -0.3**
MJAR Matsushiro Arr 59.20 291 P **P 04 00 57.2 -0.3**
comp=Z,1.1nm,0.5s,baz=23,slow=7.3,SNR=3.6
NC303 NORSAR Array S 60.58 18 *eP* **P 04 01 04.9 -1.7**
comp=Z,17nm,0.9s
NB2 NORSAR Subarra 60.73 18 P **P 04 01 07.8 +0.2**
comp=Z,4.2nm,0.7s,baz=340,slow=7.4
NOA NORSAR Array B 60.73 18 P **P 04 01 07.9 +0.2**
comp=Z,1.8nm,0.8s,baz=339,slow=6.9,SNR=7.4
FINES FINESS Array B 62.41 10 P **P 04 01 18.9 0.0**
comp=Z,1.9nm,0.9s,baz=59,slow=16,SNR=4.3
PRGR Permogore 63.18 360 *eP* **P 04 01 23.8 -0.2**
PRGR pmax pmax
comp=Z,5.0nm,0.4s
KSRS Korea Array 63.82 298 P **P 04 01 29.1 +0.5**
comp=Z,2.1nm,0.8s,baz=31,slow=7.4,SNR=4.9
ULN Ulaanbaatar 64.67 319⇓ *eP* **P 04 01 35.2 +0.9**
ULN pmax pmax
comp=Z,5.0nm,2.0s
SONA0 Songino Array 64.94 319 *eP* **P 04 01 36.6 +0.7**
SONM Songino Array 64.94 319 P **P 04 01 36.7 +0.7**
comp=Z,0.6nm,0.5s,baz=56,slow=9.1,SNR=5.5
ZALV Zalesovo Beam 66.12 336 P **P 04 01 42.9 -0.4**
comp=Z,2.4nm,0.6s,baz=9.6,slow=6.5,SNR=7.5
ARU Arti 67.87 352 *c i* P **P 04 01 53.9 -0.5**
ARU S **S 04 10 53.1 +0.7**
ARU pmax pmax
comp=Z,12nm,1.5s
HHC Hu-ho-hao-te 68.69 312 *eP* **P 04 02 00.5 +0.5**
DGZ Jazzator, Alta 69.36 332 *ceP* **P 04 02 04.3 +0.2**
DGZ pmax pmax
comp=Z,4.0nm,1.5s
OBN Obninsk 69.50 5 *eP* **P 04 02 04.7 +0.2**
OBN pmax pmax
comp=Z,32nm,1.7s
ROSC El Rosal 69.65 112 P **P 04 02 06.3 -0.2**
comp=Z,2.0nm,0.4s,baz=274,slow=19,SNR=2.6
BRVK Borovoye 69.81 344⇑ *eP* **P 04 02 06.4 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 70.52 338 *eP* **P 04 02 09.2 -1.7**
comp=Z,5.2nm,0.7s
KURK Kurchatov 70.52 338⇑ *iP* **P 04 02 10.3 -0.6**
KURK pmax pmax
comp=Z,13nm,1.7s
DPC Dobruska-Polom 71.79 19 *eP* **P 04 02 19.7 +1.0**
DPC Dobruska-Polom 71.79 19 *eP* **P 04 02 19.7 +1.0**
KHC Kasperske Hory 72.42 21 *eP* **P 04 02 21.1 -1.4**
comp=Z,2.0nm,1.0s
KHC Kasperske Hory 72.42 21 *eP* **P 04 02 22.9 +0.4**
KHC Kasperske Hory 72.42 21 *eP* **P 04 02 22.9 +0.4**
NJ2 Nanjing 72.61 301 *eP* **P 04 02 24.8 +1.0**
GERES GERESS Array B 72.72 21 P **P 04 02 25.0 +0.7**
comp=Z,1.1nm,0.6s,baz=336,slow=2.9,SNR=3.6
AKASG Malin Array Be 73.31 10 *ceP* **P 04 02 27.0 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 73.31 10 P **P 04 02 27.2 -0.5**
comp=Z,1.5nm,0.6s,baz=1.1,slow=5.0,SNR=5.1
KIEV Kiev 73.32 11⇓ *iP* **P 04 02 26.8 -0.9**
KIEV pmax pmax
comp=Z,9.0nm,1.6s
MKAR Makanchi Array 73.37 334 P **P 04 02 27.7 -0.4**
comp=Z,4.0nm,0.7s,baz=46,slow=5.8,SNR=36
MAKZ Makanchi 73.43 335 *eP* **P 04 02 28.3 -0.2**
comp=Z,8.8nm,0.8s
WMQ Urumqi 74.67 330 *eP* **P 04 02 39.5 +3.6**
WMQ sP PcP 04 02 47.0 -3.1
ABKAR Akbulak array 74.86 350 *eP* **P 04 02 36.3 -0.4**
comp=Z,6.0nm,1.0s
WHN Wuhan 76.01 304 P **P 04 02 43.5 -0.1**
WHN pP **PcP 04 02 57.5 +1.5**
ESDC Sonseca Array 76.36 37 P **P 04 02 46.2 +0.6**
comp=Z,2.6nm,0.7s,baz=327,slow=5.4,SNR=24
AAK Ala-Archa 79.08 338⇑ *eP* **P 04 03 01.2 +0.3**
AAK pmax pmax
comp=Z,6.0nm,1.2s
KIV Kislovodsk 80.87 2 *eP* **P 04 03 11.6 +1.2**
KIV pmax pmax
comp=Z,22nm,0.9s
KBZ Khabaz 81.10 2 P **P 04 03 12.1 +0.6**
comp=Z,2.6nm,0.7s,baz=5.8,slow=3.6,SNR=5.4
KSH Kashi 81.75 336 P **P 04 03 18.0 +2.8**
KEST Kesra 84.09 29 P **P 04 03 27.9 +0.6**
comp=Z,3.5nm,0.9s,baz=1.9,slow=7.9,SNR=4.7
BR131 Keskin Array S 84.61 9 *eP* **P 04 03 26.8 -3.2**
comp=Z,4.4nm,1.1s
BRTR Keskin Array B 84.61 9 *ceP* **P 04 03 30.2 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 84.61 9 P **P 04 03 29.8 -0.2**
comp=Z,1.8nm,0.9s,baz=336,slow=2.7,SNR=7.6
KMI Kunming 85.93 310 P **P 04 03 39.5 +2.6**
GEYT Alibeck 86.25 350 P **P 04 03 37.5 -0.6**
comp=Z,1.3nm,0.3s,baz=352,slow=5.8,SNR=2.5
LPAZ La Paz 90.77 118 *eP* **P 04 03 57.9 -2.5**
LPAZ La Paz 90.77 118 P **P 04 03 59.0 -1.4**
LPAZ La Paz 90.77 118 P **P 04 03 59.0 -1.4**
comp=Z,0.9nm,0.8s,baz=278,slow=7.1,SNR=3.1
LPAZ LR LR 04 48 09.0
comp=Z,1μm,19.5s,baz=79,slow=38
CMAR Chiang Mai Arr 93.44 310 P **P 04 04 12.1 0.0**
comp=Z,1.1nm,0.4s,baz=13,slow=5.4,SNR=5.4
KMBO Kilima Mbogo 125.39 10 PKP **PKiKP 04 09 58.4 0.0**
comp=Z,0.5nm,0.3s,baz=85,slow=4.1,SNR=4.1
BOSA Boshof 149.54 36 PKPbc **PKPbc 04 10 45.3 -0.4**
comp=Z,2.9nm,0.9s,baz=11,slow=5.2,SNR=2.8

MEX 27 03:55:29.7±0.5, 14°.36N×91°.86W, h62km±7km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.87**	**316**	*i* P	Pn	03 55 58.4	-1.0
PCIG				*i* S	Sn	03 56 19.8	-2.2
CCIG	**Comitan**	**1.93**	**352**	*i* P	Pn	03 55 59.1	-1.3
CCIG				*e*S	Sn	03 56 21.8	-1.9
TGIG		**2.69**	**333**	*i* P	Pn	03 56 09.4	-1.3
TGIG				*i* S	Sn	03 56 41.2	-1.0
CMIG	**Matias Romero**	**3.98**	**313**	*i* P	Pn	03 56 26.8	-1.4
CMIG				*i* S	Sn	03 57 11.7	-2.0

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*ISCJB **27** 04:08:33.7±0.4, 22°.94S±0°.03×68°.82W±0°.05, h112km±4km, mb3.6/5, Error ellipse: s-maj=7.5km s-min=5.4km az=0.8*
*IDC **27** 04:08:33.0±0.8, 23°.00S×68°.73W, h94km±6km, mb3.4/6, mb1 3.5/9, mb1mx3.4/30, mbtmp3.7/9, Error ellipse: s-maj=26.5km s-min=18.3km az=69.0*
*SJA **27** 04:08:34.0±0.5, 22°.93S×68°.84W, h101km±3km, ML3.3*
*GUC **27** 04:08:34.3±0.5, 22°.93S×68°.85W, h103km±3km, ML3.9*
ISC 27 04:08:33.9±0.7, 22°.92S±0°.04×68°.74W±0°.05, h102km±6km, n37, σ1§57/56, mb3.7/5, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.34**	**333**	*eP*	Pn	04 08 49.5	+0.1
LVC				*e*S	Sn	04 09 01.8	+0.9
LVC	**Limon Verde**	**0.34**	**333**	P	Pn	04 08 49.5	+0.1
390nm,0.3s,baz=134,slow=5.3,SNR=5415							
LVC				S	Sn	04 09 00.7	-0.2
672nm,0.3s,baz=232,slow=23,SNR=152							
PB15	**IPOC Station P**	**0.73**	**247**	*eP*	Pn	04 08 52.2	+0.2
PB15				*e*S	Sn	04 09 05.4	-0.2
PB15	**IPOC Station P**	**0.73**	**247⇑**	*iP*	Pn	04 08 52.2	+0.2
PB15				*i* S	Sn	04 09 05.5	0.0
PB06	**IPOC Station P**	**0.80**	**285**	*eP*	Pn	04 08 52.7	+0.2
PB06	**IPOC Station P**	**0.80**	**285**	*eP*	Pn	04 08 52.7	+0.2
PB06				*e*S	Sn	04 09 06.4	-0.1
PB06				IAML		04 09 07.4	
comp=E,5μm,0.3s							
PB09	**IPOC Station P**	**1.21**	**337**	*eP*	Pn	04 08 58.0	+1.0
PB09				*e*S	Sn	04 09 15.6	+1.2
PB09				IAML		04 09 17.0	
comp=E,3μm,0.3s							
PB03	**IPOC Station P**	**1.27**	**313**	*eP*	Pn	04 08 58.1	+0.4
PB03	**IPOC Station P**	**1.27**	**313**	*eP*	Pn	04 08 58.0	+0.2
PB03				*e*S	Sn	04 09 15.9	+0.2
PB03				IAML		04 09 16.6	
comp=E,2μm,0.1s							
PB05	**IPOC Station P**	**1.35**	**272**	*eP*	Pn	04 08 58.4	-0.2
PB05	**IPOC Station P**	**1.35**	**272**	*eP*	Pn	04 08 58.3	-0.2
PB05				*e*S	Sn	04 09 16.7	-0.5
PB04	**IPOC Station P**	**1.43**	**294**	*eP*	Pn	04 08 59.6	+0.1
PB04	**IPOC Station P**	**1.43**	**294**	*eP*	Pn	04 08 59.5	+0.1
PB04				*e*S	Sn	04 09 18.8	-0.1
PB04				IAML		04 09 23.9	
comp=N,2μm,0.3s							
PB07	**IPOC Station P**	**1.59**	**318**	*eP*	Pn	04 09 02.2	+0.6
PB07	**IPOC Station P**	**1.59**	**318**	*eP*	Pn	04 09 02.3	+0.8
PB07				*e*S	Sn	04 09 23.2	+0.7
PB07				IAML		04 09 23.3	
comp=E,2μm,0.4s							
PB10	**IPOC Station P**	**1.77**	**250**	*eP*	Pn	04 09 03.6	0.0
PB10				*e*S	Sn	04 09 25.8	-0.5
PB02	**IPOC Station P**	**1.92**	**326**	*eP*	Pn	04 09 06.2	+0.6
PB02	**IPOC Station P**	**1.92**	**326**	*eP*	Pn	04 09 06.3	+0.7
PB02				*e*S	Sn	04 09 30.2	+0.5
PB02				IAML		04 09 33.3	
comp=E,1μm,0.5s							
PB01	**IPOC Station P**	**1.99**	**339⇑**	*iP*	Pn	04 09 07.3	+0.8
PB01				*e*S	Sn	04 09 32.4	+1.0
PB01				IAML		04 09 33.5	
comp=E,974nm,0.2s							
PB14	**IPOC Station P**	**2.28**	**222**	*eP*	Pn	04 09 11.0	+0.5
PB14				*i* S	Sn	04 09 38.9	+0.4
PB14				IAML		04 09 45.7	
comp=N,811nm,0.6s							
PB08	**IPOC Station P**	**2.79**	**352**	*eP*	Pn	04 09 18.3	+1.0
PB08				*i* S	Sn	04 09 44.4	-6.2
YJA	**Yavi**	**3.07**	**77**	*eP*	Pn	04 09 24.8	+3.7
HJA	**Humahuaca**	**3.08**	**96**	*eP*	Pn	04 09 24.3	+3.1
HJA				IAML		04 09 25.4	
comp=Z,46nm,0.7s							
PB11	**IPOC Station P**	**3.25**	**345**	*eP*	Pn	04 09 24.9	+1.7
PB11				*i* S	Sn	04 10 03.2	+1.9
PB11				IAML		04 10 29.9	
comp=N,314nm,0.6s							
PSGC	**Pisagua**	**3.55**	**338**	*eP*	Pn	04 09 26.1	-1.0
PSGC				*i* S	Sn	04 10 09.0	+0.7
PSGC				IAML		04 10 33.4	
comp=E,157nm,0.1s							
AZAP	**Zapla**	**3.61**	**112**	*eP*	Pn	04 09 30.9	+2.8
AZAP				IAML		04 09 32.1	
comp=Z,74nm,0.5s							
LPAZ	**La Paz**	**6.62**	**5**	P	Pn	04 10 10.9	+1.7
comp=Z,0.1nm,0.3s,baz=194,slow=8.3,SNR=9.7							
CFA	**Coronel Fontan**	**8.66**	**177**	P	Pn	04 10 34.0	-2.5
comp=Z,1.5nm,0.3s,baz=348,slow=11,SNR=26							
CFA				S	Sn	04 12 04.1	-8.3
comp=Z,0.3nm,0.3s,baz=272,slow=18,SNR=2.3							
SIV	**San Ignacio**	**9.99**	**48**	P	Pn	04 10 52.2	-2.3
comp=Z,1.4nm,0.3s,baz=239,slow=8.3,SNR=44							
SIV				S	Sn	04 12 39.8	-5.0
comp=Z,0.3nm,0.3s,baz=182,slow=19,SNR=4.2							
CPUP	**Villa Florida**	**10.92**	**110**	P	Pn	04 11 06.9	-0.2
comp=Z,0.1nm,0.3s,baz=302,slow=13,SNR=7.1							
BDFB	**Brasilia**	**20.85**	**73**	P	P	04 13 07.5	-0.3
comp=Z,1.0nm,0.5s,baz=236,slow=9.3,SNR=4.2							
PTGA	**Pitinga**	**23.65**	**22**	P	P	04 13 36.0	-0.1
comp=Z,1.1nm,0.3s,baz=123,slow=17,SNR=3.1							
PDAR	**Pinedale Array**	**75.41**	**330**	P	P	04 20 07.3	+0.6
comp=Z,0.2nm,0.5s,baz=168,slow=4.6,SNR=2.6							
TORD	**Torodi Ar. Bea**	**77.69**	**70**	P	P	04 20 19.9	0.0
comp=Z,0.6nm,0.5s,baz=251,slow=5.3,SNR=15							
TORD				pP	pP	04 20 47.0	-0.1
comp=Z,0.5nm,0.6s,baz=253,slow=5.9,SNR=3.1							
MAW	**Mawson**	**82.93**	**163**	P	P	04 20 46.5	-0.6
comp=Z,0.9nm,0.7s,baz=197,slow=11,SNR=3.2							
YKA	**Yellowknife Ar**	**92.57**	**341**	P	P	04 21 34.0	+0.7
comp=Z,0.2nm,0.5s,baz=134,slow=4.5,SNR=4.9							
MKAR	**Makanchi Array**	**146.67**	**37**	PKPbc	**PKPbc**	**04 28 03.7**	**-0.1**
comp=Z,0.2nm,0.5s,baz=277,slow=1.2,SNR=3.1							

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*IDC **27** 04:15:29.8±2.3, 15°.12N×53°.68E, h0km, mb3.9/20, mb1 3.9/22, mb1mx3.8/65, mbtmp3.9/22, ML3.4/2, Error ellipse: s-maj=47.8km s-min=18.4km az=159.0*
*ISCJB **27** 04:15:30.7±1.0, 15°.3N±0°.1×53°.58E±0°.09, h10km, mb4.0/33, Error ellipse: s-maj=19.9km s-min=7.6km az=150.1*
*NEIC **27** 04:15:31.8±1.9, 15°.24N×53°.62E, h10km±3km, mb4.3/10, Error ellipse: s-maj=22.6km s-min=4.1km az=123.0*
ISC 27 04:15:32.0±1.5, 15°.2N±0°.2×53°.6E±0°.1, h10km, n49, σ1§04/44, mb4.1/33, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.27**	**30**	Pn	**Pn**	**04 17 46.8**	**+0.9**
0.1nm,0.3s,baz=262,slow=12,SNR=2.9							
WSAR				Sn	**Sn**	**04 19 29.8**	**-0.6**
0.7nm,0.3s,baz=32,slow=21,SNR=5.4							
ATD	**Arta Tunnel**	**11.10**	**252**	*e*Pn	**Pn**	**04 18 10.8**	**-0.2**
ATD	**Arta Tunnel**	**11.10**	**252**	Pn	**Pn**	**04 18 11.4**	**+0.5**
0.9nm,0.3s,baz=316,slow=22,SNR=5.9							
ASF	**Jabal al Asfar**	**22.72**	**321**	P	**P**	**04 20 36.5**	**+2.2**
1.1nm,0.4s,baz=137,slow=11,SNR=2.4							
GEYT	**Alibeck**	**22.96**	**9**	P	**P**	**04 20 38.4**	**+1.7**
1.5nm,0.2s,baz=182,slow=12,SNR=3.5							
KBL	**Kabul**	**23.73**	**33**	*eP*	**P**	**04 20 44.2**	**-0.5**
4.4nm,0.7s							
MMAI	**Mount Meron Ar**	**24.21**	**320**	P	**P**	**04 20 51.2**	**+2.1**
0.7nm,0.3s,baz=87,slow=30,SNR=3.1							
SIRT	**Sirnak**	**24.30**	**338**	*eP*	**P**	**04 20 47.6**	**-2.2**
28nm,0.6s							
GNI	**Garni**	**26.01**	**344**	*eP*	**P**	**04 21 04.6**	**-0.8**
10nm,0.9s							
CSS	**Mathiatis**	**26.79**	**321**	*eP*	**P**	**04 21 11.0**	**-1.5**
4.9nm,0.6s							
CHGR	**Chuyangaron**	**27.06**	**27**	*eP*	**P**	**04 21 13.5**	**-1.3**
4.3nm,0.6s							
H08N2	**Diego Garcia H**	**27.49**	**140**	T	T	04 48 51.1	
baz=320,slow=76,SNR=178							
H08N3	**Diego Garcia H**	**27.50**	**140**	T	T	04 48 52.5	
baz=320,slow=76,SNR=167							
H08N1	**Diego Garcia H**	**27.51**	**140**	T	T	04 48 52.8	
baz=320,slow=76,SNR=183							
BR101	**Keskin Array S**	**30.02**	**328**	*eP*	**P**	**04 21 41.7**	**+0.5**
BRTR	**Keskin Array B**	**30.02**	**328**	P	**P**	**04 21 41.7**	**+0.5**
0.7nm,0.9s,baz=140,slow=11,SNR=3.3							
IDI	**Anoyia**	**32.57**	**313**	P	**P**	**04 22 05.0**	**+1.2**
2.8nm,0.8s,baz=126,slow=14,SNR=2.8							
ABKAR	**Akbulak array**	**34.33**	**7**	*eP*	**P**	**04 22 19.1**	**+0.3**
4.1nm,0.9s							
AKTO	**Aktyubinsk**	**35.30**	**5**	P	**P**	**04 22 27.4**	**+0.3**
3.7nm,0.7s,baz=196,slow=8.2,SNR=18							
MK31	**Makanchi Array**	**39.51**	**31**	*eP*	**P**	**04 23 03.0**	**0.0**
1.0nm,0.6s							
MK32	**Makanchi Array**	**39.51**	**31**	*eP*	**P**	**04 23 02.6**	**-0.3**
MKAR	**Makanchi Array**	**39.51**	**31**	P	**P**	**04 23 02.6**	**-0.3**
0.5nm,0.6s,baz=216,slow=9.0,SNR=7.4							
BVAR	**Borovoye Array**	**39.98**	**16**	P	**P**	**04 23 06.5**	**-0.2**
1.7nm,0.7s,baz=201,slow=6.3,SNR=8.9							
AKASG	**Malin Array Be**	**40.48**	**336**	P	**P**	**04 23 10.9**	**-0.1**
0.5nm,0.5s,baz=144,slow=6.7,SNR=2.9							
AKBB	**Malin Array Si**	**40.48**	**336**	*eP*	**P**	**04 23 10.9**	**-0.1**
1.4nm,0.6s							
KURBB	**Kurchatov Arra**	**40.64**	**24**	P	**P**	**04 23 11.1**	**-1.1**
0.6nm,0.7s,baz=226,slow=7.8,SNR=4.5							
KEST	**Kesra**	**44.42**	**306**	*eP*	**P**	**04 23 43.3**	**-0.1**
4.8nm,0.9s							
KEST	**Kesra**	**44.42**	**306**	P	**P**	**04 23 43.3**	**-0.1**
2.9nm,0.8s,baz=85,slow=9.6,SNR=2.5							
ARSA	**Arzberg**	**44.87**	**323**	*eP*	**P**	**04 23 47.2**	**+0.5**
3.7nm,0.6s							
CONA	**Conrad Observa**	**45.05**	**324**	*i* P	**P**	**04 23 48.4**	**+0.3**
6.0nm,1.1s							
ZALV	**Zalesovo Beam**	**45.69**	**25**	P	**P**	**04 23 51.8**	**-1.2**
0.7nm,0.4s,baz=239,slow=7.8,SNR=2.6							
ZAA1	**Zalesovo Array**	**45.69**	**25**	*eP*	**P**	**04 23 51.8**	**-1.2**
MOA	**Molln**	**45.91**	**324**	*eP*	**P**	**04 23 55.1**	**+0.2**
4.5nm,0.8s							
GERES	**GERESS Array B**	**46.75**	**324**	P	**P**	**04 24 01.1**	**-0.5**
0.9nm,0.7s,baz=116,slow=9.1,SNR=4.3							
SQTA	**Sankt Quirin**	**47.40**	**321**	*eP*	**P**	**04 24 05.3**	**-1.4**
5.5nm,0.9s							
MOTA	**Moosalm**	**47.52**	**321**	*i* P	**P**	**04 24 05.3**	**-2.4**
5.6nm,0.7s							
DAVOX	**Davos/Dischmat**	**48.01**	**320**	P	**P**	**04 24 11.0**	**-0.5**
3.3nm,0.8s,baz=127,slow=12,SNR=4.0							
FIA0	**FINESS Array S**	**50.19**	**343**	*eP*	**P**	**04 24 27.0**	**-0.8**
FINES	**FINESS Array B**	**50.19**	**343**	P	**P**	**04 24 27.0**	**-0.8**
1.1nm,0.6s,baz=156,slow=9.8,SNR=7.2							
TORD	**Torodi Ar. Bea**	**50.28**	**275**	P	**P**	**04 24 29.8**	**+0.6**
0.7nm,0.9s,baz=90,slow=7.1,SNR=3.8							
TOA1	**Torodi Ar. Sit**	**50.28**	**275**	*eP*	**P**	**04 24 29.8**	**+0.6**
HFS	**Hagfors**	**53.38**	**336**	P	**P**	**04 24 50.8**	**-0.8**
1.1nm,0.5s,baz=134,slow=6.4,SNR=5.9							
SONA0	**Songino Array**	**54.11**	**41**	*eP*	**P**	**04 24 58.5**	**+1.1**
SONM	**Songino Array**	**54.11**	**41**	P	**P**	**04 24 58.5**	**+1.1**
0.3nm,0.5s,baz=232,slow=7.1,SNR=2.8							
ESDC	**Sonseca Array**	**55.56**	**308**	P	**P**	**04 25 06.7**	**-1.2**
0.2nm,0.5s,baz=82,slow=6.0,SNR=3.2							
ARCES	**ARCESS Array B**	**57.05**	**349**	P	**P**	**04 25 17.8**	**-0.2**
2.6nm,1.0s,baz=141,slow=7.8,SNR=3.9							
H01W3	**Cape Leeuwin H**	**76.01**	**132**	T	T	05 49 30.0	
baz=301,slow=75,SNR=20							
H01W2	**Cape Leeuwin H**	**76.01**	**132**	T	T	05 49 32.8	
baz=301,slow=75,SNR=23							
H01W1	**Cape Leeuwin H**	**76.01**	**132**	T	T	05 49 33.2	
baz=301,slow=75,SNR=20							

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*ISCJB **27** 05:09:54.5±0.5, 21°.78S±0°.03×68°.55W±0°.07, h130km±5km, mb3.7/5, Error ellipse: s-maj=10.7km s-min=5.7km az=4.3*
*SJA **27** 05:09:54.2±0.8, 21°.81S×68°.20W, h108km±8km, mb3.6/6, mb1 3.6/10, mb1mx3.4/26, mbtmp3.9/10, Error ellipse: s-maj=18.4km s-min=11.9km az=112.0*
*GUC **27** 05:09:55.3±0.5, 21°.76S×68°.56W, h128km±4km, ML3.6*
ISC 27 05:09:54.6±0.7, 21°.80S±0°.05×68°.43W±0°.06, h118km±7km, n35, σ1§33/57, mb3.8/5, 9C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.76**	**270**	*eP*	**Pn**	**05 10 14.9**	**+0.4**
PB09				*e*S	**Sn**	**05 10 29.9**	**+0.5**
PB09	**IPOC Station P**	**0.76**	**270⇑**	*iP*	**Pn**	**05 10 14.8**	**+0.4**
PB09				*i* S	**Sn**	**05 10 29.4**	**+0.1**
PB09				IAML		05 10 31.9	
comp=E,1μm,0.4s							
LVC	**Limon Verde**	**0.93**	**209**	*eP*	**Pn**	**05 10 17.0**	**+0.9**
LVC				*e*S	**Sn**	**05 10 33.7**	**+1.3**
LVC	**Limon Verde**	**0.93**	**209**	P	**Pn**	**05 10 16.8**	**+0.7**
comp=E,211nm,0.3s,baz=19,slow=6.4,SNR=2703							
LVC				S	**Sn**	**05 10 33.1**	**+0.7**
comp=E,85nm,0.3s,baz=226,slow=18,SNR=6.8							
PB01	**IPOC Station P**	**1.24**	**307⇑**	*iP*	**Pn**	**05 10 18.6**	**-0.4**
PB01				*i* S	**Sn**	**05 10 36.7**	**-0.9**
PB01				IAML		05 10 38.3	
comp=N,3μm,0.1s							
PB03	**IPOC Station P**	**1.26**	**258**	*eP*	**Pn**	**05 10 19.3**	**0.0**
PB03				*e*S	**Sn**	**05 10 37.9**	**-0.2**
PB03	**IPOC Station P**	**1.26**	**258⇑**	*iP*	**Pn**	**05 10 19.3**	**0.0**
PB03				*i* S	**Sn**	**05 10 37.3**	**-0.7**
PB03				IAML		05 10 39.1	
comp=N,1μm,0.2s							
PB07	**IPOC Station P**	**1.36**	**273**	*eP*	**Pn**	**05 10 20.4**	**-0.1**
PB07				*e*S	**Sn**	**05 10 39.5**	**-0.6**
PB07	**IPOC Station P**	**1.36**	**273⇑**	*iP*	**Pn**	**05 10 20.1**	**-0.4**
PB07				*i* S	**Sn**	**

comp=E,593nm,0.2s
PB05 IPOC Station P 1.95 237 *e*P **Pn 05 10 27.3 -0.2**
PB05 IPOC Station P 1.95 237⇑*i*P **Pn 05 10 27.3 -0.2**
PB05 *i* S **Sn 05 10 52.2 -0.4**
PB05 IAML 05 10 59.2
comp=N,335nm,0.4s
PB11 IPOC Station P 2.33 330 *e*P **Pn 05 10 31.7 -0.6**
PB11 *e*S **Sn 05 10 59.8 -1.3**
PB11 IPOC Station P 2.33 330⇓*e*P **Pn 05 10 31.7 -0.6**
PB11 *i* S **Sn 05 10 59.5 -1.7**
PB10 IPOC Station P 2.60 229⇑*e*P **Pn 05 10 35.3 -0.3**
PB10 IAML 05 11 17.0
comp=E,183nm,0.4s
YJA Yavi 2.73 98 *e*P **Pn 05 10 40.7 +3.1**
YJA IAML 05 10 44.8
comp=Z,12nm,0.7s
LPAZ La Paz 5.49 3 P **Pn 05 11 15.8 +1.1**
comp=Z,1.3nm,0.3s,baz=175,slow=4.7,SNR=46
LPAZ S **Sn 05 12 18.2 +1.2**
comp=Z,0.2nm,0.3s,baz=270,slow=10,SNR=2.1
SIV San Ignacio 9.04 52 P **Pn 05 11 59.6 -2.6**
comp=Z,3.3nm,0.3s,baz=246,slow=12,SNR=84
SIV S **Sn 05 13 39.4 -2.9**
comp=Z,0.0nm,0.3s,baz=158,slow=23,SNR=1.6
CFA Coronel Fontan 9.77 179 P **Pn 05 12 10.4 -1.6**
comp=Z,0.4nm,0.3s,baz=343,slow=13,SNR=4.0
CFA S **Sn 05 13 54.6 -5.2**
comp=Z,0.3nm,0.3s,baz=145,slow=18,SNR=3.0
CPUP Villa Florida 11.10 116 P **Pn 05 12 27.5 -2.3**
comp=Z,0.1nm,0.3s,baz=292,slow=16,SNR=2.2
BDFB Brasilia 20.27 76 P **P 05 14 19.4 -1.6**
comp=Z,1.5nm,0.5s,baz=238,slow=11,SNR=4.7
PTGA Pitinga 22.50 23 P **P 05 14 43.2 -1.3**
comp=Z,2.8nm,0.5s,baz=189,slow=16,SNR=4.4
DBIC Dimbokro 68.39 73 P **P 05 20 44.3 +0.3**
comp=Z,4.2nm,0.9s,baz=215,slow=7.3,SNR=5.5
PDAR Pinedale Array 74.59 330 P **P 05 21 22.7 +1.8**
comp=Z,0.1nm,0.4s,baz=186,slow=7.3,SNR=2.8
TORD Torodi Ar. Bea 77.03 70 P **P 05 21 35.8 +0.7**
comp=Z,0.9nm,0.5s,baz=253,slow=5.3,SNR=19
YKA Yellowknife Ar 91.62 340 P **P 05 22 48.4 +0.7**
comp=Z,0.5nm,0.7s,baz=134,slow=4.4,SNR=10.0
MKAR Makanchi Array 145.61 37 PKPbc **PKPbc 05 29 21.1 +1.7**
comp=Z,0.2nm,0.6s,baz=315,slow=4.9,SNR=3.3

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*VAO **27** 05:21:01.8±0.4,35°.86S×70°.76W,h10km,mb5.0*
*ISCJB **27** 05:21:05.6±0.3,36°.05S±0°.02×71°.25W±0°.04,h109km±2km, mb4.7/86, Error ellipse: s-maj=5.3km s-min=3.2km az=14.4*
*NEIC **27** 05:21:06.0±0.0,36°.07S×71°.46W,h120km,mb4.8/170, ML5.0(GUC),After GUC.*
NEIC Felt [IV] at Cauquenes, Constitucion, Linares, Longavi, Maule, Parral, Pelarco, Pencahue and San Javier; [III] at Pichilemu and Talca; [II] at Concepcion, Curico and San Carlos.
*SJA **27** 05:21:06.8±0.9,35°.90S×71°.28W,h33km,ML4.4,MW4.1*
*GUC **27** 05:21:06.1±0.7,36°.07S×71°.46W,h120km±6km,ML5.0*
*IDC **27** 05:21:07.4±1.9,36°.02S×71°.04W,h104km±16km,mb4.4/20, mb1 4.4/26,mb1mx4.4/32,mbtmp4.7/26,Error ellipse: s-maj=16.3km s-min=9.8km az=85.0*

ISC 27 05:21:06.2±0.7,36°.06S±0°.03×71°.30W±0°.05,h106km±6km, n673,σ1§41/692,mb4.7/85,1C-6D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.83**	**229**	*e*P		**Pn**		**05 21 25.6**	**+0.2**
CCHI	**Chillan**	**0.83**	**229**	⇓*i*P		**Pn**		**05 21 25.6**	**+0.2**
CCHI				*i* S		**Sn**		**05 21 39.7**	**-0.1**
CCHI				IAML				05 21 50.6	
comp=E,61μm,0.5s									
GO05	**Huala**	**1.17**	**334**	*e*Pn		**Pn**		**05 21 29.4**	**+0.4**
GO05	**Huala**	**1.17**	**334**	*e*P		**Pn**		**05 21 29.0**	**0.0**
GO05	**Huala**	**1.17**	**334**⇓*e*P			**Pn**		**05 21 29.4**	**+0.4**
GO05				*i* S		**Sn**		**05 21 46.6**	**+0.5**
GO05				IAML				05 21 58.0	
comp=N,41μm,0.9s									
EDS3	**Malargue**	**1.57**	**80**	*e*P		**Pn**		**05 21 35.2**	**+1.4**
CANA	**Caviahue**	**1.83**	**174**	*e*P		**Pn**		**05 21 38.4**	**+1.3**
AGCH	**Angol**	**2.07**	**212**	*e*P		**Pn**		**05 21 39.3**	**-0.7**
AGCH				*i* S		**Sn**		**05 22 04.4**	**-1.3**
LMEL	**Las Melosas**	**2.38**	**22**⇓*e*P			**Pn**		**05 21 45.5**	**+1.3**
LMEL				*i* S		**Sn**		**05 22 15.2**	**+2.0**
LMEL				IAML				05 22 29.5	
comp=N,3μm,0.4s									
ANTU	**Antumapu**	**2.54**	**13**	*e*P		**Pn**		**05 21 47.1**	**+1.0**
ANTU				*i* S		**Sn**		**05 22 18.4**	**+1.6**
CLCH	**Cerro Calan**	**2.73**	**14**⇓*i*P			**Pn**		**05 21 49.1**	**+0.5**
CLCH				⇓*i*S		**Sn**		**05 22 21.9**	**+0.7**
CLCH				IAML				05 22 36.9	
comp=N,7μm,0.7s									
FCH	**Farellones**	**2.85**	**17**	*e*P		**Pn**		**05 21 50.8**	**+0.4**
FCH				*e*S		**Sn**		**05 22 26.6**	**+2.2**
FCH				IAML				05 22 31.2	
comp=N,2μm,0.5s									
PEL	**Peldehue**	**2.95**	**10**	*e*Pn		**Pn**		**05 21 52.0**	**+0.4**
PEL	**Peldehue**	**2.95**	**10**	*e*P		**Pn**		**05 21 52.0**	**+0.4**
PEL				*e*S		**Sn**		**05 22 26.3**	**-0.2**
PEL	**Peldehue**	**2.95**	**10**⇓*i*P			**Pn**		**05 21 51.9**	**+0.4**
PEL				*i* S		**Sn**		**05 22 26.2**	**-0.2**
PEL				IAML				05 22 38.7	
comp=N,4μm,0.6s									
ROC1	**El Roble**	**3.08**	**4**	*e*Pn		**Pn**		**05 21 53.7**	**+0.2**
ROC1				*e*Sn		**Sn**		**05 22 27.3**	**-2.6**
ROC1	**El Roble**	**3.08**	**4**	*e*P		**Pn**		**05 21 53.6**	**+0.2**
ROC1				*e*S		**Sn**		**05 22 28.6**	**-1.3**
ROCH	**El Roble**	**3.09**	**4**	*e*P		**Pn**		**05 21 53.6**	**+0.1**
ROCH				*i* S		**Sn**		**05 22 30.4**	**+0.5**
ROCH				IAML				05 22 33.3	
comp=N,5μm,0.4s									
AVIZ	**Vizcacheras**	**3.45**	**42**	*e*P		**Pn**		**05 22 00.1**	**+1.9**
GO06	**Curarrehue**	**3.52**	**182**	*e*Pn		**Pn**		**05 21 59.5**	**+0.3**
GO06	**Curarrehue**	**3.52**	**182**	*e*P		**Pn**		**05 21 59.4**	**+0.3**
GO06				*i* S		**Sn**		**05 22 36.3**	**-3.8**
AAGR	**Agrelo**	**3.60**	**35**	*e*P		**Pn**		**05 22 01.6**	**+1.4**
UTNM	**Universidad Te**	**3.75**	**33**	*e*P		**Pn**		**05 22 03.5**	**+1.3**
ARCO	**CERRO ARCO**	**3.76**	**32**	*e*P		**Pn**		**05 22 03.4**	**+1.0**
ARCO				*e*S		**Sn**		**05 22 43.3**	**-2.6**
ARCO				IAML				05 23 13.0	
comp=Z,253nm,0.5s									
ASAL	**Salagasta**	**4.02**	**31**	*e*P		**Pn**		**05 22 06.9**	**+1.1**
AUSP	**Uspallata**	**4.14**	**23**	*e*P		**Pn**		**05 22 08.5**	**+0.8**
AUSP				*e*S		**Sn**		**05 22 47.6**	**-7.7**
PLCA	**Paso Flores**	**4.70**	**173**	*e*P		**Pn**		**05 22 16.8**	**+1.8**
PLCA	**Paso Flores**	**4.70**	**173**	P		**Pn**		**05 22 15.8**	**+0.8**
comp=Z,4.5nm,0.3s,baz=98,slow=12,SNR=130									
PLCA	**Paso Flores**	**4.70**	**173**	*e*P		**Pn**		**05 22 14.8**	**-0.2**
RTCV	**Cerro Valdivia**	**4.77**	**29**	*e*P		**Pn**		**05 22 16.0**	**0.0**
ZON	**Zonda**	**5.00**	**27**	*e*P		**Pn**		**05 22 19.1**	**0.0**
ZON				IAML				05 22 20.3	
comp=Z,91nm,0.2s									
ZON				*e*S		Sn		05 23 40.3	+25
SJA	**San Juan**	**5.06**	**28**	*e*P		**Pn**		**05 22 20.4**	**+0.5**
SJA				IAML				05 22 29.9	
comp=Z,152nm,0.3s									
ACAN	**Cantantal**	**5.09**	**43**	*e*P		**Pn**		**05 22 20.8**	**+0.6**
CFA	**Coronel Fontan**	**5.12**	**31**	*e*P		**Pn**		**05 22 20.3**	**-0.4**
CFA	**Coronel Fontan**	**5.12**	**31**	P		**Pn**		**05 22 20.2**	**-0.4**
comp=Z,73nm,0.3s,baz=213,slow=13,SNR=709									
CFA				S		**Sn**		**05 23 17.8**	**-0.8**
comp=Z,35nm,0.3s,baz=77,slow=12,SNR=4.3									
RTLL	**Cerro Villicun**	**5.27**	**27**	*e*P		**Pn**		**05 22 22.3**	**-0.5**
AMOG	**MOGNA**	**5.62**	**25**	*e*P		**Pn**		**05 22 27.0**	**-0.5**
ACCO	**Cerro Coronel**	**5.77**	**20**	*e*P		**Pn**		**05 22 28.9**	**-0.8**
ACCO				*e*S		**Sn**		**05 23 33.9**	**-0.9**
MRA	**San Martin**	**5.88**	**53**	*e*P		**Pn**		**05 22 31.7**	**+0.7**
GO04	**Tololo Observa**	**5.89**	**4**	*e*Pn		**Pn**		**05 22 30.2**	**-1.1**
GO04	**Tololo Observa**	**5.89**	**4**	*e*P		**Pn**		**05 22 30.4**	**-0.8**
AROD	**Rodeo**	**6.07**	**15**	*e*P		**Pn**		**05 22 34.0**	**+0.1**
ACDV	**Cuesta del Vie**	**6.15**	**18**	*e*P		**Pn**		**05 22 34.2**	**-0.5**
LCO	**Las Campanas**	**7.05**	**4**	*e*Pn		**Pn**		**05 22 45.6**	**-1.5**
LCO				*e*Sn		**Sn**		**05 24 03.3**	**-2.5**
LCO	**Las Campanas**	**7.05**	**4**	*e*P		**Pn**		**05 22 45.5**	**-1.5**
LCO	**Las Campanas**	**7.05**	**4**	*e*P		**Pn**		**05 22 42.4**	**-4.7**
GO07	**Milladeo Hill,**	**7.28**	**194**	*e*Pn		**Pn**		**05 22 46.8**	**-3.0**
TCA	**Tanti**	**7.30**	**52**	*e*P		**Pn**		**05 22 49.6**	**-0.7**
TRQA	**Tornquist**	**7.71**	**108**	*e*Pn		**Pn**		**05 22 56.2**	**+0.4**
VCA	**Vinchina**	**7.76**	**21**	*e*P		**Pn**		**05 22 55.0**	**-1.5**
VCA				IAML				05 24 35.9	
comp=Z,157nm,0.7s									
GO03	**Copiap**	**8.49**	**6**	*e*Pn		**Pn**		**05 23 04.3**	**-2.2**
GO03	**Copiap**	**8.49**	**6**	*e*P		**Pn**		**05 23 04.2**	**-2.2**
CYA	**Choya**	**8.91**	**33**	*e*P		Pn		05 23 07.2	-4.9
CYA				IAML				05 23 19.9	
comp=Z,53nm,0.3s									
AHML	**Horco Molle**	**10.55**	**30**	*e*P		Pn		05 23 28.6	-5.8
FSA	**Cafayete**	**10.91**	**26**	*e*P		**Pn**		**05 23 35.4**	**-4.0**
GO02	**Mina Guanaco**	**10.96**	**8**	*e*Pn		**Pn**		**05 23 36.4**	**-3.8**
PB10	**IPOC Station P**	**12.52**	**3**	*e*Pn		**Pn**		**05 23 57.7**	**-3.0**
AZAP	**Zapla**	**12.96**	**26**	*e*P		**Pn**		**05 24 02.2**	**-4.5**
LVC	**Limon Verde**	**13.56**	**9**	P		**Pn**		**05 24 14.1**	**-0.5**
comp=Z,2.2nm,0.3s,baz=219,slow=6.8,SNR=34									
LVC	**Limon Verde**	**13.56**	**9**	*e*P		**Pn**		**05 24 11.5**	**-3.2**
PB04	**IPOC Station P**	**13.71**	**4**	*e*Pn		**Pn**		**05 24 15.3**	**-1.1**
PB01	**IPOC Station P**	**15.05**	**7**	*e*Pn		**Pn**		**05 24 32.5**	**-0.9**
comp=Z,68nm,0.8s									
GO09	**Cerro Castillo**	**15.22**	**182**	*e*Pn		**Pn**		**05 24 35.5**	**+0.1**
comp=Z,41nm,0.8s									
CPUP	**Villa Florida**	**15.38**	**55**	*e*Pn		**P**		**05 24 38.9**	**-0.8**
comp=Z,12nm,0.8s									
CPUP	**Villa Florida**	**15.38**	**55**	P		**Pn**		**05 24 36.3**	**-1.1**
comp=Z,0.7nm,0.3s,baz=235,slow=12,SNR=17									
PB11	**IPOC Station P**	**16.30**	**6**	*e*Pn		**Pn**		**05 24 48.7**	**-0.4**
comp=Z,66nm,0.9s									
GO01	**Chsmiza**	**16.43**	**7**	*e*Pn		**Pn**		**05 24 50.8**	**-0.3**
comp=Z,29nm,0.9s									
MNMC	**Minye Minye**	**16.93**	**6**	*e*P		**Pn**		**05 24 56.9**	**0.0**
comp=Z,48nm,0.8s									
GO10	**Punta Arenas**	**17.09**	**179**	*e*P		**Pn**		**05 24 57.9**	**-0.5**
comp=Z,39nm,0.7s									
EFI	**East Falkland**	**18.25**	**153**	*e*P		**P**		**05 25 10.3**	**-0.9**
comp=Z,34nm,0.9s									
CNLB	**Canela**	**18.46**	**74**	*e*P		**P**		**05 25 12.7**	**-1.2**
ITAB	**Concordia**	**18.52**	**67**	*e*P		**P**		**05 25 11.6**	**-2.7**
USHA	**Ushuaia**	**18.88**	**175**	P		**Pn**		**05 25 20.4**	**+0.6**
comp=Z,1.4nm,0.3s,baz=356,slow=9.4,SNR=18									
LPAZ	**La Paz**	**19.89**	**9**	*e*P		**P**		**05 25 28.5**	**-1.5**
comp=Z,37nm,0.9s									
LPAZ	**La Paz**	**19.89**	**9**	P		**Pn**		**05 25 32.1**	**-0.5**
comp=Z,1.3nm,0.3s,baz=166,slow=7.1,SNR=82									
LPAZ	**La Paz**	**19.89**	**9**	*e*P		**P**		**05 25 30.9**	**+0.8**
PTGB	**Pitanga**	**20.04**	**61**	*e*P		**P**		**05 25 30.6**	**-0.4**
TER01	**Tubaro-SC**	**20.16**	**74**	*e*P		**P**		**05 25 31.6**	**-0.6**
AQDB	**Aquidauana**	**20.69**	**46**	*e*P		**P**		**05 25 37.2**	**-0.7**
SIV	**San Ignacio**	**21.97**	**27**	P		**P**		**05 25 50.9**	**-0.7**
comp=Z,30nm,0.6s,baz=199,slow=7.8,SNR=163									
FRTB	**Fartura**	**22.68**	**62**	*e*P		**P**		**05 25 59.0**	**+0.1**
C2SB	**Chapadao do Su**	**23.70**	**48**	*e*P		**P**		**05 26 09.4**	**+0.9**
SPB	**Sao Paulo**	**24.07**	**65**	*e*P		**P**		**05 26 10.8**	**-1.0**
comp=Z,30nm,0.8s									
SPB	**Sao Paulo**	**24.07**	**65**	*e*P		**P**		**05 26 12.1**	**+0.3**
NNA	**Nana**	**24.48**	**347**	*e*P		**P**		**05 26 15.2**	**-0.4**
comp=Z,28nm,0.8s									
NNA	**Nana**	**24.48**	**347**	P		**P**		**05 26 16.5**	**+0.9**
comp=Z,20nm,0.8s,baz=178,slow=9.9,SNR=9.1									
ITRB	**Iturama**	**24.58**	**54**	*e*P		**P**		**05 26 16.8**	**+0.4**
BB19B	**Bebedouro**	**24.88**	**59**	*e*P		**P**		**05 26 19.9**	**+0.7**
BSCB	**Bom Sucesso**	**27.60**	**64**	*e*P		**P**		**05 26 43.3**	**-0.4**
BDFB	**Brasilia**	**29.06**	**52**	P		**P**		**05 26 55.6**	**-1.2**
comp=Z,4.8nm,0.4s,baz=201,slow=8.3,SNR=18									
PTLC	**Puerto Leguiza**	**36.19**	**354**	*e*P		**P**		**05 27 58.5**	**-0.3**
PTLC	**Puerto Leguiza**	**36.19**	**354**	*e*P		**P**		**05 27 58.5**	**-0.3**
PTGA	**Pitinga**	**36.69**	**19**	*e*P		**P**		**05 28 02.7**	**-0.3**
comp=Z,31nm,0.6s									
OTAV	**Otavalo**	**36.72**	**348**	*e*P		**P**		**05 28 00.1**	**-3.7**
comp=Z,7.5nm,1.1s									
OTAV	**Otavalo**	**36.72**	**348**	*e*P		**P**		**05 28 06.1**	**+2.3**
PCON	**Cinco Dias**	**38.48**	**352**	*e*P		**P**		**05 28 22.4**	**+3.6**
PCON	**Cinco Dias**	**38.48**	**352**	*e*P		**P**		**05 28 22.4**	**+3.6**
POPC	**Popayan, Colom**	**38.73**	**351**	*e*P		**P**		**05 28 21.1**	**+0.6**
POPC	**Popayan, Colom**	**38.73**	**351**	*e*P		**P**		**05 28 21.1**	**+0.6**
PRAC	**Prado**	**39.71**	**354**	*e*P		**P**		**05 28 31.0**	**+2.7**
PRAC	**Prado**	**39.71**	**354**	*e*P		**P**		**05 28 31.0**	**+2.7**
VILC	**Villavicencio,**	**40.02**	**356**	*e*P		**P**		**05 28 32.4**	**+1.3**
VILC	**Villavicencio,**	**40.02**	**356**	*e*P		**P**		**05 28 32.4**	**+1.3**
YOTC	**Yotoco, Valle**	**40.11**	**352**	*e*P		**P**		**05 28 33.0**	**+1.2**
YOTC	**Yotoco, Valle**	**40.11**	**352**	*e*P		**P**		**05 28 33.0**	**+1.2**
ROSC	**El Rosal**	**40.78**	**355**	P		**P**		**05 28 39.8**	**+2.2**
comp=Z,11nm,0.5s,baz=140,slow=3.7,SNR=11									
GUY2C	**Guyana, Caldas**	**41.24**	**354**	*e*P		**P**		**05 28 43.7**	**+2.2**
GUY2C	**Guyana, Caldas**	**41.24**	**354**	*e*P		**P**		**05 28 43.7**	**+2.2**
NORC	**Norcasia**	**41.54**	**355**	*e*P		**P**		**05 28 44.3**	**+0.9**
NORC	**Norcasia**	**41.54**	**355**	*e*P		**P**		**05 28 44.3**	**+0.9**
RUSC	**La Rusia**	**41.76**	**357**	*e*P		**P**		**05 28 46.3**	**+0.6**
RUSC	**La Rusia**	**41.76**	**357**	*e*P		**P**		**05 28 46.3**	**+0.6**
HELC	**Santa Helena**	**42.21**	**354**	*e*P		**P**		**05 28 49.6**	**+0.4**
HELC	**Santa Helena**	**42.21**	**354**	*e*P		**P**		**05 28 49.6**	**+0.4**
TAMC	**Tame, Arauca**	**42.27**	**359**	*e*P		**P**		**05 28 49.6**	**+0.3**
TAMC	**Tame, Arauca**	**42.27**	**359**	*e*P		**P**		**05 28 49.6**	**+0.3**
PTBC	**PUERTO BERRIO,**	**42.48**	**355**	*e*P		**P**		**05 28 48.3**	**-2.7**
PTBC	**PUERTO BERRIO,**	**42.48**	**355**	*e*P		**P**		**05 28 48.3**	**-2.7**
SOCV	**Socops**	**44.11**	**1**	*e*P		**P**		**05 29 03.6**	**-0.5**
SOCV	**Socops**	**44.11**	**1**	*e*P		**P**		**05 29 03.6**	**-0.5**
MDP	**Montagnes des**	**44.53**	**27**	P		**P**		**05 29 07.7**	**+0.3**
comp=Z,36nm,0.7s,baz=210,slow=8.3,SNR=27									
SMLC	**San Martn de**	**44.70**	**356**	*e*P		**P**		**05 29 06.9**	**-1.8**
SMLC	**San Martn de**	**44.70**	**356**	*e*P		**P**		**05 29 06.9**	**-1.8**
SDV	**Santo Domingo**	**44.71**	**1**	*e*P		**P**		**05 29 07.6**	**-1.5**
comp=Z,16nm,1.0s									
SDV	**Santo Domingo**	**44.71**	**1**	*e*P		**P**		**05 29 08.9**	**-0.2**
SDV	**Santo Domingo**	**44.71**	**1**	*e*P		**P**		**05 29 08.9**	**-0.2**
SDV	**Santo Domingo**	**44.71**	**1**	P		**P**		**05 29 08.9**	**-0.2**
comp=Z,9.4nm,0.9s,baz=198,slow=3.2,SNR=11									
VNA3	**Neumayer Olymp**	**47.23**	**157**	P		**P**		**05 29 29.9**	**+1.8**
VNA1	**Neumayer--Stat**	**47.55**	**156**	P		P		05 29 35.7	+5.2
JTS	**Las Juntas de**	**47.87**	**342**	*e*P		**P**		**05 29 30.9**	**-2.7**
comp=Z,6.3nm,0.9s									
JTS	**Las Juntas de**	**47.87**	**342**	P		**P**		**05 29 35.2**	**+1.6**
comp=Z,3.1nm,0.6s,baz=5.2,slow=22,SNR=3.7									
VNA2	**Neumayer--Watz**	**47.88**	**157**	P		**P**		**05 29 34.4**	**+1.3**
baz=288,slow=8.8									
SNAA	**Sanae**	**49.45**	**157**	P		**P**		**05 29 46.3**	**+1.2**
SNAA	**Sanae**	**49.45**	**157**	*e*P		**P**		**05 29 46.4**	**+1.2**
comp=Z,17nm,1.1s									
SNAA	**Sanae**	**49.45**	**157**	P		**P**		**05 29 46.3**	**+1.2**
comp=Z,6.6nm,0.9s,baz=266,slow=6.5,SNR=18									
SVB	**Belmont**	**49.97**	**13**	*e*P		**P**		**05 29 50.3**	**+0.7**
comp=Z,63nm,1.0s									
PTCN	**Pitcairn Islan**	**51.12**	**265**	*e*P		**P**		**05 29 56.5**	**-1.9**
comp=Z,240nm,0.5s									
TGUH	**Tegucigalpa,Un**	**52.08**	**340**	*e*P		**P**		**05 30 02.5**	**-2.9**
APG	**El Apazote**	**53.93**	**337**	P		**P**		**05 30 21.1**	**+1.9**
comp=Z,8.9nm,0.7s,baz=315,slow=17,SNR=9.7									
OBIP	**Obispado Ponce**	**53.99**	**6**	*e*P		**P**		**05 30 18.8**	**-0.5**
comp=Z,15nm,0.8s									
BANI	**BANI**	**54.16**	**1**	*e*P		**P**		**05 30 20.8**	**+0.1**
QSPA	**South Pole Qui**	**54.18**	**180**	*e*P		**P**		**05 30 21.2**	**+0.7**
comp=Z,10nm,0.8s									
VNDA	**Vanda**	**62.20**	**191**	P		**P**		**05 31 18.8**	**+2.9**
comp=Z,0.7nm,0.8s,baz=134,slow=3.2,SNR=5.3									
SYO	**Syowa Base**	**63.73**	**158**⇑*e*X			P		05 31 31.6	+5.5
657A	**Interlachen**	**66.05**	**350**	P		**P**		**05 31 41.9**	**+0.3**
baz=171									
555A	**McAlpin**	**66.74**	**349**	P		**P**		**05 31 46.5**	**+0.6**
baz=170									
454A	**Quitman**	**67.42**	**349**	P		**P**		**05 31 50.7**	**+0.5**
baz=169									
356A	**Blackshear**	**67.80**	**350**	P		**P**		**05 31 53.0**	**+0.4**
baz=170									
TIGA	**Tifton**	**68.13**	**349**	P		**P**		**05 31 54.8**	**+0.1**
baz=169									
353A	**Camilla**	**68.14**	**348**	P		**P**		**05 31 55.3**	**+0.6**
baz=169									
351A	**Pinckard**	**68.31**	**347**	P		**P**		**05 31 55.5**	**-0.3**
baz=168									
352A	**Blakely**	**68.39**	**347**	P		**P**		**05 31 56.4**	**+0.1**
baz=168									
256A	**Glennville**	**68.41**	**350**	P		**P**		**05 31 56.5**	**+0.1**
baz=171									
255A	**Hazlehurst**	**68.44**	**350**	P		**P**		**05 31 57.0**	**+0.4**
baz=170									
BRAL	**Brewton**	**68.49**	**346**	P		**P**		**05 31 57.6**	**+0.7**
baz=166									
254A	**Abbeville**	**68.58**	**349**	P		**P**		**05 31 58.3**	**+0.8**
baz=170									
350A	**Dozier**	**68.59**	**346**	P		**P**		**05 31 58.3**	**+0.7**
baz=167									
253A	**Americus**	**68.83**	**348**	P		**P**		**05 31 59.0**	**0.0**
baz=169									
252A	**Lumpkin**	**68.86**	**348**	P		**P**		**05 31 59.4**	**+0.1**
baz=168									
251A	**Midway**	**69.08**	**347**	P		**P**		**05 32 00.5**	**-0.1**
baz=168									
155A	**Kite**	**69.12**	**350**	P		**P**		**05 32 01.2**	**+0.4**
baz=170									
250A	**Grady**	**69.12**	**346**	P		**P**		**05 32 01.2**	**+0.3**
baz=167									
154A	**Montrose**	**69.20**	**349**	P		**P**		**05 32 01.7**	**+0.4**
baz=170									
249A	**Camden**	**69.29**	**346**	P		**P**		**05 32 02.9**	**+1.0**
baz=166									
833A	**Chaparral WMA,**	**69.29**	**334**	*e*P		**P**		**05 32 03.5**	**+1.5**
833A	**Chaparral WMA,**	**69.29**	**334**	P		**P**		**05 32 04.0**	**+2.0**
baz=156									
NHSC	**New Hope**	**69.31**	**352**	P		**P**		**05 32 03.2**	**+1.2**
baz=172									
Z59A	**Georgetown, SC**	**69.34**	**353**	P		**P**		**05 32 03.4**	**+1.2**
baz=173									
153A	**Fort Valley**	**69.35**	**349**	P		**P**		**05 32 02.5**	**+0.3**
baz=169									
151A	**Opelika**	**69.48**	**347**	P		**P**		**05 32 03.4**	**+0.4**
baz=168									
Z58A	**St. Stephen**	**69.49**	**352**	P		**P**		**05 32 03.9**	**+0.8**
baz=173									
152A	**Waverly Hall**	**69.52**	**348**	P		**P**		**05 32 04.1**	**+0.8**
baz=168									
Z57A	**Bowman**	**69.56**	**352**	P		**P**		**05 32 04.0**	**+0.5**
baz=172									
Z55A	**Blythe**	**69.66**	**350**	P		**P**		**05 32 05.0**	**+0.9**
baz=171									
Z56A	**Williston**	**69.67**	**351**	P		**P**		**05 32 05.1**	**+1.0**
baz=171									
150A	**Eclectic**	**69.69**	**347**	P		**P**		**05 32 04.8**	**+0.5**
baz=167,SNR=5.1									
Z54A	**Sparta**	**69.78**	**350**	P		**P**		**05 32 05.0**	**+0.2**
baz=170,SNR=5.7									
149A	**Jones**	**69.83**	**346**	P		**P**		**05 32 06.0**	**+0.8**
baz=167									
Z53A	**Monticello**	**69.93**	**349**	P		**P**		**05 32 06.0**	**+0.2**
baz=169,SNR=5.8									
Z52A	**Williamson**	**69.97**	**348**	P		**P**		**05 32 06.5**	**+0.4**
baz=169,SNR=5.9									
Y60A	**Bolivia**	**70.00**	**354**	P		**P**		**05 32 06.9**	**+0.7**
baz=174									
148A	**Greensboro**	**70.03**	**345**	P		**P**		**05 32 07.3**	**+0.9**
baz=166									
GOGA	**Godfrey**	**70.04**	**349**	P		**P**		**05 32 06.9**	**+0.4**
baz=170,SNR=7.0									
Y58A	**Scranton**	**70.04**	**353**	P		**P**		**05 32 07.0**	**+0.6**
baz=173									
Y57A	**Sumter**	**70.23**	**352**	P		**P**		**05 32 08.0**	**+0.4**
baz=172									
VBMS	**Vicksburg**	**70.27**	**343**	P		**P**		**05 32 08.9**	**+1.0**
baz=164									
LRAL	**Lakeview Retre**	**70.29**	**346**	P		**P**		**05 32 08.6**	**+0.6**
baz=167,SNR=5.6									
Z50A	**Ashland**	**70.30**	**347**	P		**P**		**05 32 08.6**	**+0.5**
baz=168,SNR=10.0									
Y55A	**Saluda**	**70.33**	**351**	P	

OXF	Oxford baz=165	72.22 344	P	P	05 32 20.0 +0.5
U59A	Littleton baz=174	72.30 355	P	P	05 32 21.2 +1.2
W48A	Pulaski baz=167,SNR=18	72.32 347	P	P	05 32 21.1 +0.9
WLAR	White Oak Lake comp=Z,28nm,1.0s	72.32 341	eP	P	05 32 16.0 -4.2
U60A	Pendleton baz=175	72.37 355	P	P	05 32 21.4 +1.0
U58A	Oxford baz=174	72.40 354	P	P	05 32 21.3 +0.7
V52A	Sevierville baz=170,SNR=5.3	72.45 350	P	P	05 32 21.0 +0.1
U57A	Blanch baz=173	72.51 353	P	P	05 32 21.8 +0.6
V50A	Pikeville baz=168,SNR=8.6	72.51 348	P	P	05 32 22.0 +0.7
V51A	Loudon baz=169	72.52 349	P	P	05 32 21.7 +0.3
U56A	King baz=172	72.53 352	P	P	05 32 22.2 +0.8
W47A	Westpoint baz=166,SNR=16	72.55 346	P	P	05 32 22.3 +0.8
W46A	Michie baz=166	72.60 345	P	P	05 32 22.4 +0.6
V49A	McMinnville baz=168,SNR=9.8	72.74 348	P	P	05 32 23.1 +0.4
U55A	TA2, Sparta baz=172	72.76 352	P	P	05 32 23.1 +0.2
U53A	Fall Branch baz=170,SNR=5.6	72.82 350	P	P	05 32 23.2 +0.1
U54A	Nelsons Funny baz=171,SNR=7.1	72.87 351	P	P	05 32 23.9 +0.4
V48A	Smith Brothers baz=167,SNR=30	72.88 347	P	P	05 32 24.2 +0.7
T59A	Double "B" Far baz=175	72.89 355	P	P	05 32 24.6 +1.1
T58A	Grand View Acr baz=174	72.95 354	P	P	05 32 24.8 +0.9
U52A	Thorn Hill baz=170	72.95 350	P	P	05 32 24.3 +0.4
T60A	Surry baz=175	73.01 355	P	P	05 32 25.1 +1.0
X40A	Basin Creek Fa baz=162	73.01 342	P	P	05 32 25.4 +1.1
U51A	La Follette baz=169,SNR=5.4	73.03 349	P	P	05 32 24.8 +0.4
T57A	Hurt baz=173	73.06 353	P	P	05 32 25.1 +0.6
V47A	Nunnelly baz=166,SNR=27	73.10 346	P	P	05 32 25.2 +0.5
TZTN	Tazewell baz=170	73.13 350	P	P	05 32 25.4 +0.4
T56A	Rocky Mt baz=173,SNR=5.4	73.17 353	P	P	05 32 26.0 +0.8
V46A	Holladay baz=166,SNR=16	73.19 346	P	P	05 32 25.6 +0.3
U50A	Jamestown baz=169,SNR=5.1	73.20 349	P	P	05 32 25.4 0.0
MIAR	Mount Ida baz=161	73.25 341	P	P	05 32 26.7 +1.0
ABTX	Abilene, Hawle comp=Z,19nm,0.9s	73.30 335	eP	P	05 32 23.5 -2.5
ABTX	Abilene, Hawle baz=156	73.30 335	P	P	05 32 27.3 +1.2
T55A	Pulaski baz=172	73.34 352	P	P	05 32 27.4 +1.2
T54A	Tazewell baz=171,SNR=5.3	73.38 351	P	P	05 32 26.6 +0.2
BLA	Blacksburg baz=172	73.39 352	P	P	05 32 27.2 +0.6
T53A	Wise baz=170	73.42 351	P	P	05 32 26.9 +0.1
U49A	Red Boiling Sp baz=168,SNR=5.8	73.45 348	P	P	05 32 27.1 +0.3
WVT	Waverly comp=Z,33nm,0.8s	73.45 346	eP	P	05 32 27.2 +0.4
WVT	Waverly baz=166	73.45 346	P	P	05 32 27.4 +0.5
W41B	Gary Mavity, V baz=162	73.51 342	P	P	05 32 28.0 +0.8
S58A	Poland Farm, P baz=174	73.57 354	P	P	05 32 28.8 +1.3
U48A	Cassie Pea, Po baz=167	73.58 347	P	P	05 32 28.1 +0.5
T51A	Gray baz=169,SNR=8.9	73.60 349	P	P	05 32 27.9 +0.2
T52A	Hallie baz=170	73.60 350	P	P	05 32 27.9 +0.2
WHAR	Wooly Hollow comp=Z,16nm,1.1s	73.63 342	eP	P	05 32 25.1 -2.8
U47A	Clarksville baz=167,SNR=8.4	73.65 347	P	P	05 32 28.4 +0.4
U46A	Springville baz=166,SNR=8.3	73.74 346	P	P	05 32 28.9 +0.4
S56A	Natural Bridge baz=173	73.77 353	P	P	05 32 29.7 +1.0
T50A	Nancy baz=169	73.79 349	P	P	05 32 28.7 -0.1
S57A	Dark Hollow, R baz=174	73.79 354	P	P	05 32 29.5 +0.7
R58B	Mineral baz=174	73.91 355	P	P	05 32 30.7 +1.3
W39A	Magazine baz=161,SNR=11	73.92 341	P	P	05 32 31.0 +1.4
S55A	Lewisburg baz=172	73.96 352	P	P	05 32 30.6 +0.7
T49A	Edmonton baz=168,SNR=8.3	73.99 348	P	P	05 32 30.1 +0.1
S53A	Williamson baz=171	74.06 351	P	P	05 32 30.8 +0.4
S54A	Dingess, Beckl baz=172	74.07 352	P	P	05 32 30.8 +0.3
R59A	King George, V baz=175	74.09 355	P	P	05 32 31.4 +1.0
CBN	Corbin Frederi baz=175	74.11 355	P	P	05 32 31.3 +0.7
R60A	Leonardtown, M baz=176	74.12 356	P	P	05 32 31.9 +1.3
T48A	Bowling Green baz=167,SNR=5.5	74.14 348	P	P	05 32 31.0 +0.1
T47A	Sharon Grove baz=167,SNR=5.4	74.15 347	P	P	05 32 30.9 0.0
S52A	Salyersville baz=170,SNR=6.8	74.18 350	P	P	05 32 31.4 +0.4
S51A	Beattyville baz=170,SNR=9.5	74.21 350	P	P	05 32 31.8 +0.5
R58A	Rapidan baz=174	74.25 355	P	P	05 32 32.4 +0.9
R57A	Stanardsville baz=174,SNR=5.6	74.29 354	P	P	05 32 32.7 +1.0
T46A	Princeton baz=166,SNR=6.2	74.35 346	P	P	05 32 32.2 +0.2
S50A	Richmond baz=169,SNR=7.7	74.37 349	P	P	05 32 32.6 +0.4
R54A	Victor baz=172	74.41 352	P	P	05 32 32.9 +0.4
R55A	Marlinton	74.42 353	eP	P	05 32 29.8 -2.7
R55A	Marlinton baz=173	74.42 353	P	P	05 32 33.5 +0.9
MNTX	Cornudas Mount	74.60 330	eP	P	05 32 30.3 -3.3
MNTX	Cornudas Mount baz=152,SNR=12	74.60 330	P	P	05 32 34.1 +0.4
S49A	Springfield baz=168	74.61 349	P	P	05 32 34.2 +0.7
S48A	Wiedeman Farm, baz=168,SNR=9.8	74.61 348	P	P	05 32 33.2 -0.4
R53A	Hurricane baz=171	74.67 351	P	P	05 32 33.9 0.0
S47A	Hartford baz=167	74.69 347	P	P	05 32 33.7 -0.4
R52A	Catlettsburg baz=170	74.77 351	P	P	05 32 34.7 +0.2
U40A	Yellville baz=162,SNR=11	74.78 342	P	P	05 32 35.2 +0.6
R51A	Hillsboro baz=170,SNR=5.1	74.86 350	P	P	05 32 35.4 +0.4
LIC	Lamto comp=Z,59nm,0.7s	74.87 71	eP	P	05 32 36.2 +0.6
S46A	Don Dixon Farm baz=166	74.94 347	P	P	05 32 35.4 0.0
R50A	Paris baz=169	74.95 349	P	P	05 32 35.5 0.0
WMOK	Wichita Mounta baz=157	74.95 337	P	P	05 32 35.3 -0.4
Q57A	Strasburg baz=174	75.01 354	P	P	05 32 37.3 +1.5
R49A	Shelbyville baz=168	75.09 349	P	P	05 32 36.6 +0.3
Q55A	Buckhannon baz=173	75.12 353	P	P	05 32 37.5 +1.0
TIC	Toumodi	75.14 70	eP	P	05 32 37.9 +0.7
Q53A	Leroy baz=171	75.14 352	P	P	05 32 37.9 +1.3
TUL1	Leonard baz=160,SNR=7.8	75.14 340	P	P	05 32 37.3 +0.6
KIC	Kosan Boka comp=Z,74nm,0.6s	75.17 71	eP	P	05 32 38.1 +0.7
Q54A	Coxs Mills baz=172	75.19 352	P	P	05 32 36.6 -0.2
WCI	Wyandotte Cave comp=Z,7.0nm,0.9s	75.21 348	eP	P	05 32 37.1 +0.1
WCI	Wyandotte Cave baz=168	75.21 348	P	P	05 32 37.0 0.0
S44A	Carbondale baz=165	75.25 345	P	P	05 32 37.5 +0.3
DBIC	Dimbokro	75.28 70	eP	P	05 32 38.9 +0.9
DBIC	Dimbokro comp=Z,13nm,0.6s,baz=199,slow=6.0,SNR=30	75.28 70	P	P	05 32 38.6 +0.6
R48A	Northridge Ran baz=168	75.31 348	P	P	05 32 37.6 +0.1
R47A	Wooly Knot Far baz=167	75.32 348	P	P	05 32 38.0 +0.5
Q52A	Bidwell baz=171	75.34 351	P	P	05 32 38.0 +0.4
R46A	Gibon Southern baz=166,SNR=5.9	75.41 347	P	P	05 32 37.8 -0.3
P59A	Jarrettsville baz=176	75.45 356	P	P	05 32 39.3 +1.0
Q51A	Peebles baz=170	75.54 350	P	P	05 32 39.4 +0.6
P60A	Greenville baz=176	75.61 357	P	P	05 32 40.8 +1.7
P55A	Reedsville baz=173	75.61 353	P	P	05 32 40.3 +1.0
MSTX	Muleshoe comp=Z,12nm,0.9s	75.62 333	eP	P	05 32 36.7 -2.9
MSTX	Muleshoe baz=154	75.62 333	P	P	05 32 40.9 +1.3
R45A	Skylar, Fairfi baz=166	75.63 346	P	P	05 32 39.3 -0.1
Q49A	Aurora baz=169	75.74 349	P	P	05 32 40.4 +0.3
P53A	Whipple baz=172	75.75 352	P	P	05 32 40.9 +0.8
Q48A	North Vernon baz=168,SNR=5.7	75.80 348	P	P	05 32 40.3 -0.1
P51A	Williamsport baz=170	75.95 351	P	P	05 32 41.5 +0.4
P52A	Corning baz=171,SNR=5.2	75.98 351	P	P	05 32 41.7 +0.3
CCM	Cathedral Cave comp=Z,29nm,0.8s	76.02 344	eP	P	05 32 39.3 -2.3
CCM	Cathedral Cave baz=164	76.02 344	P	P	05 32 42.5 +0.9
OLIL	Olney comp=Z,16nm,1.1s	76.03 347	eP	P	05 32 41.7 +0.1
AMTX	Amarillo baz=155	76.05 335	P	P	05 32 43.7 +1.7
O60A	Telford baz=177	76.10 357	P	P	05 32 43.1 +1.1
O57A	Amberson baz=175	76.12 355	P	P	05 32 43.5 +1.4
O59A	Robesonia baz=176	76.13 356	P	P	05 32 43.9 +1.7
P50A	Jamestown baz=170	76.17 350	P	P	05 32 42.9 +0.5
Q45A	Warren Harvey, baz=166	76.19 347	P	P	05 32 42.7 +0.1
P49A	Miami Univ. Ec baz=169	76.23 349	P	P	05 32 43.0 +0.2
O56A	Blue Knob Stat baz=174	76.25 354	P	P	05 32 43.8 +0.9
O55A	Ligonier baz=173	76.25 354	P	P	05 32 43.6 +0.7
P48A	Milroy baz=168,SNR=6.6	76.27 349	P	P	05 32 42.8 -0.2
121A	Cookes Peak, D baz=150	76.31 329	P	P	05 32 45.7 +2.1
O52A	Adamsville baz=171	76.42 352	P	P	05 32 44.3 +0.5
P47A	Martinsville baz=168	76.43 348	P	P	05 32 43.8 -0.1
O53A	New Philadelph baz=172	76.48 352	P	P	05 32 44.9 +0.7
SSPA	Standing Stone baz=174	76.56 355	P	P	05 32 45.5 +0.8
N57A	Milroy baz=175	76.66 355	P	P	05 32 46.0 +0.8
ACSO	Alum Creek Sta baz=170	76.68 351	P	P	05 32 45.6 +0.4
O50A	Cable baz=170	76.68 350	P	P	05 32 45.5 +0.2
Q42A	Golden Eagle baz=164	76.69 345	P	P	05 32 46.2 +0.9
N59A	State Game Lan baz=176	76.71 357	P	P	05 32 46.9 +1.4
P46A	Rosedale baz=167	76.72 347	P	P	05 32 45.4 -0.1
N55A	Marion Center baz=174	76.79 354	P	P	05 32 47.4 +1.5
O49A	Covington baz=169	76.82 350	P	P	05 32 46.3 +0.2
N56A	West Decatur baz=174	76.87 355	P	P	05 32 46.9 +0.5
N53A	Lisbon comp=Z,17nm,1.1s	76.99 353	eP	P	05 32 47.9 +0.9
N53A	Lisbon baz=172	76.99 353	P	P	05 32 48.2 +1.2
O48A	Farmland baz=168	77.01 349	P	P	05 32 47.4 +0.2
N54A	Moraine State baz=173	77.06 353	P	P	05 32 47.8 +0.4
N52A	McGinn's Farm, baz=171	77.09 352	P	P	05 32 48.5 +0.9
O47A	Sheridan baz=168	77.15 348	P	P	05 32 47.6 -0.3
P43A	Skaggs, Pawnee baz=165	77.18 346	P	P	05 32 48.6 +0.6
N50A	Nevada baz=170	77.23 351	P	P	05 32 48.8 +0.5
N51A	Ashland baz=171	77.28 351	P	P	05 32 49.2 +0.6
TUC	Tucson comp=Z,5.7nm,1.0s	77.42 327	eP	P	05 32 51.4 +1.6
TUC	Tucson baz=148	77.42 327	P	P	05 32 51.8 +2.0
M56A	Emporium baz=174	77.43 355	P	P	05 32 50.6 +1.1
M55A	Ridgway baz=174	77.46 354	P	P	05 32 50.7 +1.0
O44A	Mansfield baz=166	77.47 347	P	P	05 32 49.4 -0.3
N49A	Columbus Grove baz=169	77.52 350	P	P	05 32 50.1 +0.1
M54A	Oil Creek Stat baz=173	77.57 354	P	P	05 32 51.2 +0.9
N48A	Decatur baz=169	77.58 349	P	P	05 32 51.0 +0.7
M53A	WI Miller and baz=172	77.60 353	P	P	05 32 51.3 +0.8
M51A	Elyria baz=171	77.66 352	P	P	05 32 51.2 +0.5
N47A	Urbana baz=168	77.70 349	P	P	05 32 51.0 0.0
M52A	Chesterland baz=172	77.78 352	P	P	05 32 52.4 +1.0
ANMO	Albuquerque comp=Z,7.1nm,1.1s	77.88 331	eP	P	05 32 51.8 -0.6
ANMO	Albuquerque baz=152	77.88 331	P	P	05 32 54.2 +1.8
TASM	ASL Pad, Albuq baz=152,SNR=6.6	77.88 331	P	P	05 32 54.2 +1.8
TASM	ASL Pad, Albuq baz=152,SNR=7.0	77.88 331	P	P	05 32 54.2 +1.8
N46A	Monticello baz=167	77.88 348	P	P	05 32 53.1 +1.2
BINY	Binghamton baz=176	78.00 356	P	P	05 32 54.6 +1.9
HDIL	Hopedale baz=165	78.02 346	P	P	05 32 53.4 +0.7
M49A	Liberty Center baz=170	78.03 350	P	P	05 32 53.2 +0.4
N44A	Piper City baz=166	78.03 347	P	P	05 32 53.3 +0.5
214A	Organ Pipe Nat baz=147	78.05 325	P	P	05 32 55.2 +2.1
L55A	Hinsdale baz=174	78.14 355	P	P	05 32 54.8 +1.4
HRV	Adam Dziewonsk baz=180	78.19 360	P	P	05 32 55.8 +2.1
L54A	Sinclairville baz=173	78.26 354	P	P	05 32 55.2 +1.2
KSU1	Kansas State U baz=159	78.36 340	P	P	05 32 55.1 +0.4
N43A	Stutzman Famil baz=165	78.36 346	P	P	05 32 55.2 +0.6
N41A	Harden Midland	78.48 345	eP	P	05 32 52.8 -2.5
N41A	Harden Midland baz=164	78.48 345	P	P	05 32 55.9 +0.7
L48A	N Adams baz=169	78.56 350	P	P	05 32 55.5 -0.2
K54A	Basilika Farm, baz=174	78.59 354	P	P	05 32 56.9 +1.0
BOSA	Boshof comp=Z,15nm,0.8s	78.59 117	eP	P	05 32 56.0 -0.6
BOSA	Boshof comp=Z,3.2nm,0.4s,baz=226,slow=3.1,SNR=12	78.59 117	P	P	05 32 57.3 +0.7
K55A	Perry baz=174	78.66 355	P	P	05 32 56.8 +0.6
L47A	Sherwood baz=169	78.70 349	P	P	05 32 56.7 +0.2
M43A	Waltham Townsh baz=166	78.80 347	P	P	05 32 56.9 -0.1
N40A	Mertquake, Sal baz=163	78.81 344	P	P	05 32 57.1 +0.1
K52A	Tillsonburg baz=172	78.94 353	P	P	05 32 58.3 +0.6
T25A	Trinidad baz=153,SNR=13	79.05 334	P	P	05 33 00.3 +1.5
M41A	Milan baz=164	79.06 345	P	P	05 32 58.6 +0.2
K50A	Casco baz=171	79.14 352	P	P	05 32 58.6 -0.2
TYNO	Tyneside baz=173	79.17 354	P	P	05 32 59.4 +0.4
J55A	Hilton baz=175	79.17 355	P	P	05 32 59.4 +0.4
STCO	Saint Catharin baz=174	79.22 354	P	P	05 33 00.2 +1.0
K47A	Vermontville baz=169	79.35 350	P	P	05 33 00.5 +0.5
K48A	Perry baz=170	79.36 350	P	P	05 33 00.2 +0.1
J52A	Paris baz=172	79.37 353	P	P	05 32 59.9 -0.2
L43A	Garden Prairie baz=166	79.49 347	P	P	05 33 00.3 -0.5
L42A	Oliver, Polo baz=165	79.49 346	P	P	05 33 01.3 +0.5
X16A	Lo Mia Camp, P comp=Z,12nm,1.1s	79.49 327	eP	P	05 33 02.6 +1.4
PECO	Prince Edward baz=175	79.79 356	P	P	05 33 03.1 +0.8
Y14A	Wickenburg comp=Z,5.0nm,0.9s	79.79 326	eP	P	05 33 03.7 +1.0
J48A	Bridge Port baz=171	79.80 351	P	P	05 33 02.6 +0.2
DRWO	Darlington Wes baz=174	79.84 355	P	P	05 33 03.7 +1.1
L40A	Anamosa baz=164	79.86 345	P	P	05 33 03.5 +0.8
WLVO	Wesleyville baz=174	79.87 355	P	P	05 33 03.5 +0.8
K43A	Burlington baz=166	79.92 347	P	P	05 33 03.9 +0.8
LBNH	Lisbon baz=179	79.93 360	P	P	05 33 04.7 +1.6
PKRO	Pickering baz=174	79.96 354	P	P	05 33 04.2 +1.0
I51A	Listowel baz=172	79.98 353	P	P	05 33 04.2 +0.8
SDCO	Great Sand Dun baz=152,SNR=11	79.98 333	P	P	05 33 05.7 +1.8
L39A	Vinton baz=163	80.08 345	P	P	05 33 04.0 +0.1
KSCO	Kaye Shedlock' baz=155	80.11 336	P	P	05 33 05.7 +1.3
I55A	Frankford baz=175	80.11 355	P	P	05 33 04.7 +0.6
K42A	Prairie Point, baz=165	80.18 347	P	P	05 33 05.1 +0.7
BWLO	Walkerton baz=172	80.30 353	P	P	05 33 05.3 +0.3
I49A	Point Hope baz=170	80.31 352	P	P	05 33 05.4 +0.3
Y12C	Blythe baz=146	80.34 325	P	P	05 33 07.4 +1.9
LONY	Lake Ozonia baz=177	80.36 358	P	P	05 33 06.8 +1.4
WUAZ	Wupatki baz=148	80.39 328	P	P	05 33 07.1 +1.1
H56A	Elgin baz=176,SNR=5.2	80.40 356	P	P	05 33 06.5 +0.9
DELO	Deloro Mine baz=175	80.41 355	P	P	05 33 06.4 +0.7
H55A	Tweed baz=175	80.41 356	P	P	05 33 06.1 +0.4
K40A	Colesburg baz=164	80.45 345	P	P	05 33 06.2 +0.3
BRCO	Bruce Peninsul baz=172	80.46 353	P	P	05 33 06.2 +0.3
S22A	4UR Ranch, Cre comp=Z,4.8nm,0.8s	80.47 332	eP	P	05 33 04.6 -2.0
S22A	4UR Ranch, Cre baz=152,SNR=6.9	80.47 332	P	P	05 33 08.0 +1.5
JFWS	Jewell Farm comp=Z,8.7nm,0.8s	80.48 346	eP	P	05 33 04.7 -1.4
JFWS	Jewell Farm baz=164	80.48 346	P	P	05 33 06.3 +0.2
FRNY	Flat Rock comp=Z,13nm,0.8s	80.55 358	eP	P	05 33 04.2 -2.1
J43A	Natural Harves baz=166	80.59 347	P	P	05 33 07.0 +0.3
I47A	Gladwin baz=169	80.60 350	P	P	05 33 07.5 +0.8
K39A	Oelwein baz=163	80.61 345	P	P	05 33 07.4 +0.6
J42A	Columbus baz=165	80.66 347	P	P	05 33 07.8 +0.8
MVCO	Mesa Verde comp=Z,8.4nm,0.9s	80.66 331	eP	P	05 33 04.8 -2.7
MVCO	Mesa Verde baz=150	80.66 331	P	P	05 33 09.4 +2.0
I46A	Reed City baz=168	80.66 350	P	P	05 33 07.4 +0.3
BC3	Big Chuckawall baz=145	80.70 324	P	P	05 33 10.0 +2.4
BMRO	Meriville Lake baz=172	80.78 353	P	P	05 33 08.5 +0.8
J41A	Loganville baz=165	80.87 346	P	P	05 33 08.7 +0.5
109C	Camp Elliot, M baz=144	80.88 322	P	P	05 33 10.8 +2.4
PLVO	Plevna baz=175	80.89 356	P	P	05 33 09.4 +1.2
LBTB	Lobatse comp=Z,6.5nm,0.4s	80.90 114	eP	P	05 33 06.6 -2.5
GGN	Saint George comp=Z,20nm,0.8s	80.90 3	eP	P	05 33 06.5 -1.7
BANO	Bancroft baz=175	80.93 355	P	P	05 33 09.6 +1.2
Q24A	Divide baz=153	80.93 334	P	P	05 33 10.6 +1.6
PKME	Peaks-Kenny Pk comp=Z,29nm,1.0s	80.97 1	eP	P	05 33 05.9 -2.7
PKME	Peaks-Kenny Pk baz=182	80.97 1	P	P	05 33 09.6 +1.0
I43A	Langenfeld Bro baz=166	81.03 348	P	P	05 33 09.8 +0.8
J40A	Soldiers Grove baz=164,SNR=7.5	81.04 346	P	P	05 33 09.4 +0.3
G53A	Haliburton baz=174	81.08 355	P	P	05 33 10.3 +1.1
G55A	Calabogie baz=176	81.09 356	P	P	05 33 10.2 +1.0
H48A	Harrisville baz=170	81.12 351	P	P	05 33 10.5 +1.1
W13A	Hualapai Mount comp=Z,3.7nm,0.8s	81.16 326	eP	P	05 33 07.1 -3.1
I42A	Draeger Farm, comp=Z,6.9nm,0.9s	81.17 347	eP	P	05 33 07.6 -2.1
I42A	Draeger Farm,	81.17 347	P	P	05 33 10.5 +0.8

	baz=166					
J39A	Decorah	81.18	345	P	P	05 33 10.4 +0.6
	baz=163					
BELC	Belle Mtn. Jos	81.24	324	P	P	05 33 12.4 +1.9
	baz=145					
ALFO	Alfred	81.38	357	P	P	05 33 11.6 +0.9
	baz=177					
TOBO	Tobermory, Bru	81.44	353	P	P	05 33 12.2 +1.1
	baz=172					
KLBO	Killbear Provi	81.44	354	P	P	05 33 11.9 +0.8
	baz=173					
BUKO	Buck Lake	81.46	354	P	P	05 33 12.1 +0.9
	baz=173					
PV01	Paradox Valley	81.48	331	eP	P	05 33 08.3 -3.6
	comp=Z,7.0nm,0.9s					
I40A	Norwalk	81.49	346	P	P	05 33 11.8 +0.4
	baz=164					
I41A	Arkdale	81.51	347	P	P	05 33 11.9 +0.4
	baz=165					
H43A	Windswept, Lux	81.54	348	P	P	05 33 12.4 +0.8
	baz=167					
PEMO	Pembroke	81.54	356	P	P	05 33 12.3 +0.7
	baz=175					
I39A	Houston	81.64	345	P	P	05 33 12.6 +0.4
	baz=164					
F55A	Otter Lake	81.65	356	P	P	05 33 13.1 +1.0
	baz=176					
G47A	Hillman	81.65	351	P	P	05 33 13.6 +1.4
	baz=170					
PV03	Paradox Valley	81.70	331	eP	P	05 33 09.9 -3.0
	comp=Z,4.6nm,1.0s					
H42A	Shiocton	81.70	348	P	P	05 33 13.4 +0.9
	baz=166					
PV18	Skein Mesa, Pa	81.71	331	eP	P	05 33 10.1 -2.9
	comp=Z,8.0nm,0.8s					
PV12	Saucer Basin,	81.73	331	eP	P	05 33 09.7 -3.4
	comp=Z,5.0nm,0.8s					
SMCO	Snowmass	81.78	333	eP	P	05 33 10.5 -3.1
	comp=Z,7.7nm,0.8s					
F52A	Sundridge	81.80	354	P	P	05 33 13.8 +0.8
	baz=173					
ISCO	Idaho Springs	81.84	334	eP	P	05 33 10.3 -3.5
	comp=Z,4.3nm,0.8s					
ISCO	Idaho Springs	81.84	334	P	P	05 33 15.7 +1.9
	baz=153					
ALGO	Algonquin Park	81.87	355	P	P	05 33 14.1 +0.7
	baz=174,SNR=6.0					
G46A	Petoskey	81.93	350	P	P	05 33 14.4 +0.7
	baz=169					
F51A	Arnstein	81.98	354	P	P	05 33 14.4 +0.5
	baz=173					
F49A	Sandfield	82.02	352	P	P	05 33 14.4 +0.3
	baz=171					
SNZO	South Karori	82.12	224	eP	P	05 33 12.5 -2.6
	comp=Z,64nm,1.0s					
FMP	Fort Macarthur	82.13	322	P	P	05 33 15.2 +0.2
	baz=143					
F48A	Evansville	82.15	352	P	P	05 33 15.3 +0.5
	baz=171,SNR=5.4					
H40A	Chili	82.15	346	P	P	05 33 16.0 +1.1
	baz=164					
E52A	Mattawa	82.24	355	P	P	05 33 16.2 +0.9
	baz=174					
BFSC	Mount Baldy Ra	82.24	323	P	P	05 33 17.8 +2.1
	baz=144					
E53A	Dumoine, Ponti	82.26	356	P	P	05 33 16.3 +0.9
	baz=175					
KNB	Kanab	82.28	328	eP	P	05 33 13.4 -2.6
	comp=Z,6.9nm,0.9s					
G43A	Wallace	82.29	348	P	P	05 33 16.2 +0.7
	baz=167					
E54A	Lac Daplat, Po	82.29	356	P	P	05 33 16.0 +0.5
	baz=175					
F46A	Macinaw City C	82.36	351	P	P	05 33 16.4 +0.5
	baz=169					
F45A	CMU Biological	82.38	350	P	P	05 33 16.3 +0.4
	baz=168					
TUQ	Turquoise Moun	82.38	325	P	P	05 33 18.7 +2.2
	baz=145					
G42A	Mountain	82.40	348	eP	P	05 33 14.1 -2.0
	comp=Z,16nm,1.1s					
G42A	Mountain	82.40	348	P	P	05 33 17.0 +0.9
	baz=166					
RPZ	Rata Peaks	82.48	220	P	P	05 33 18.0 +1.1
	comp=Z,23nm,1.1s,baz=125,slow=17,SNR=2.4					
E50A	Wahnapitae	82.55	353	P	P	05 33 17.5 +0.6
	baz=172					
E51A	G1948 Merrick	82.55	354	P	P	05 33 17.6 +0.7
	baz=173					
ECSD	EROS Data Cent	82.69	342	P	P	05 33 18.6 +0.9
	baz=160,SNR=10					
G40A	Rib Lake	82.74	347	P	P	05 33 19.1 +1.2
	baz=165					
E48A	Lockeyer	82.75	352	P	P	05 33 18.6 +0.7
	baz=171					
F43A	Flat Rock, Esc	82.77	349	P	P	05 33 18.6 +0.6
	baz=167					
F44A	Big Bay de Noc	82.79	349	P	P	05 33 18.7 +0.6
	baz=168,SNR=7.0					
E47A	Iron Bridge	82.84	352	P	P	05 33 18.9 +0.5
	baz=170					
F42A	Maple Grove Fa	82.85	348	P	P	05 33 19.8 +1.3
	baz=166					
E46A	Sault Ste Mari	82.88	351	P	P	05 33 19.2 +0.5
	baz=169,SNR=11					
SHPR	Sheep Range	82.90	326	eP	P	05 33 17.9 -1.3
	comp=Z,3.2nm,0.8s					
D52A	ZEK Kipawa Sen	82.91	355	P	P	05 33 19.9 +1.1
	baz=174					
EDW2	Edwards Air Fo	82.92	323	P	P	05 33 20.5 +1.3
	baz=144					
N23A	Red Feather La	82.93	334	eP	P	05 33 17.0 -2.3
	comp=Z,5.5nm,0.8s					
N23A	Red Feather La	82.93	334	P	P	05 33 21.2 +1.9
	baz=152					
G39A	Holcombe	82.94	346	P	P	05 33 20.0 +1.1
	baz=164					
D53A	Lac Vacive, Po	82.96	356	eP	P	05 33 16.8 -2.2
	comp=Z,14nm,0.9s					
D53A	Lac Vacive, Po	82.96	356	P	P	05 33 19.9 +0.9
	baz=175					
G38A	Ridgeland	82.97	346	P	P	05 33 19.7 +0.6
	baz=163					
CCUT	Cedar City	82.97	328	eP	P	05 33 16.7 -2.9
	comp=Z,7.5nm,1.0s					
D54A	Lac Fusel, La	82.98	356	P	P	05 33 19.8 +0.7
	baz=176					
E45A	Wooded Hills,	82.99	350	P	P	05 33 20.3 +1.1
	baz=169					
F41A	Three Lakes	83.00	348	P	P	05 33 20.2 +1.0
	baz=166					
LATQ	La Tuque	83.08	359	P	P	05 33 21.4 +1.9
	baz=179					
O20A	White River Ci	83.09	332	eP	P	05 33 17.6 -2.6
	comp=Z,5.7nm,0.8s					
O20A	White River Ci	83.09	332	P	P	05 33 22.3 +2.1
	baz=151					
SRU	San Rafael Swe	83.10	330	eP	P	05 33 16.6 -3.6
	comp=Z,9.1nm,0.8s					
SPMN	Marine on St.	83.22	345	P	P	05 33 21.0 +0.6
	baz=163					
E43A	Lone Tree Farm	83.27	349	eP	P	05 33 17.9 -2.7
	comp=Z,17nm,0.9s					
E43A	Lone Tree Farm	83.27	349	P	P	05 33 21.5 +0.9
	baz=167,SNR=8.0					
MSU	Marysvale	83.27	329	eP	P	05 33 17.9 -3.2
E44A	Grand Marais A	83.35	350	P	P	05 33 21.8 +0.8
	baz=168					
F40A	Park Falls	83.35	347	P	P	05 33 21.7 +0.7
	baz=165,SNR=6.0					
D46A	Sault St. Mari	83.36	351	P	P	05 33 21.7 +0.6
	baz=170					
D48A	Paudash Townsh	83.39	353	P	P	05 33 21.7 +0.4
	baz=171					
D47A	Chapleau	83.42	352	P	P	05 33 21.7 +0.3
	baz=170					
D49A	Beulah Townshi	83.45	353	P	P	05 33 22.1 +0.6
	baz=172,SNR=5.6					
E42A	Champion	83.47	349	P	P	05 33 22.5 +0.8
	baz=166					
F39A	Loretta	83.50	346	P	P	05 33 22.4 +0.6
	baz=164,SNR=5.5					
FURC	Furnace Creek,	83.66	325	P	P	05 33 24.6 +1.8
	baz=144					
E41A	Kenton	83.67	348	P	P	05 33 23.4 +0.7
	baz=166					
F38A	Pierce - Schro	83.73	346	P	P	05 33 23.5 +0.5
	baz=163,SNR=5.3					
TPNV	Topopah Spring	83.76	325	P	P	05 33 26.0 +2.4
	baz=145					
ISA	Isabella, Lake	83.78	323	P	P	05 33 25.8 +2.1
	baz=143					
E40A	Wakefield	83.82	347	P	P	05 33 24.4 +0.9
	baz=165					
PKM	Mcpherson Peak	83.83	322	P	P	05 33 26.9 +2.9
	baz=142					
E39A	Mellen	83.87	347	P	P	05 33 24.2 +0.5
	baz=164					
PSUT	Pine Spring	84.00	328	eP	P	05 33 22.0 -2.8
	comp=Z,6.4nm,0.9s					
RWWY	Rawlins	84.08	334	eP	P	05 33 21.9 -3.3
	comp=Z,8.6nm,0.6s					
D41A	Chassel	84.19	348	eP	P	05 33 23.6 -1.6
	comp=Z,22nm,0.9s					
D41A	Chassel	84.19	348	P	P	05 33 26.7 +1.4
	baz=166					
E38A	The Farm, Brul	84.28	346	P	P	05 33 27.0 +1.2
	baz=164					
GRAC	Grapevine Rang	84.32	325	P	P	05 33 28.7 +2.4
	baz=144					
TORD	Torodi Ar. Bea	84.35	69	P	P	05 33 25.8 -1.1
	comp=Z,3.7nm,0.8s,baz=288,slow=6.3,SNR=26					
TOA1	Torodi Ar. Sit	84.35	69	eP	P	05 33 25.8 -1.1
R11A	Troy Canyon, C	84.61	327	P	P	05 33 30.4 +2.6
	baz=145					
K22A	Casper	84.68	335	P	P	05 33 29.6 +1.5
	baz=152					
JLU	Jordanelle	84.74	330	eP	P	05 33 26.7 -1.9
	comp=Z,6.0nm,0.7s					
LSQQ	Lebel-sur-Quev	84.89	356	P	P	05 33 29.7 +0.9
	baz=175					
DUG	Dugway, Tooele	84.95	329	eP	P	05 33 27.8 -1.7
	comp=Z,5.5nm,0.9s					
DUG	Dugway, Tooele	84.95	329	P	P	05 33 31.5 +2.0
	baz=147					
TCUT	Toone Canyon	85.16	331	eP	P	05 33 27.3 -3.4
	comp=Z,9.2nm,0.8s					
RSSD	Black Hills	85.17	337	eP	P	05 33 29.5 -1.0
	comp=Z,12nm,0.9s					
RSSD	Black Hills	85.17	337	P	P	05 33 31.7 +1.2
	baz=154					
MLAC	Mammoth, Mammo	85.53	324	P	P	05 33 35.0 +2.4
	baz=143					
OMMB	Old Mammoth Mi	85.59	324	eP	P	05 33 32.5 -0.5
	comp=Z,5.4nm,1.0s					
MATQ	Matagami	85.63	356	P	P	05 33 33.1 +0.7
	baz=175					
CHGQ	Chibougamau	85.64	358	P	P	05 33 33.5 +1.0
	baz=178					
HWUT	Hardware Ranch	85.64	331	eP	P	05 33 30.4 -2.5
	comp=Z,6.1nm,0.8s					
BW06	Boulder Array	85.87	333	eP	P	05 33 35.9 +1.8
	comp=Z,4.8nm,0.9s					
BW06	Boulder Array	85.87	333	P	P	05 33 35.4 +1.3
	baz=150					
PDAR	Pinedale Array	85.87	333	P	P	05 33 34.9 +0.8
	comp=Z,1.0nm,0.6s,baz=155,slow=4.9,SNR=9.2					
NV01	Mina Array Sit	85.92	325	eP	P	05 33 36.6 +2.2
NVAR	Mina Array Bea	85.92	325	P	P	05 33 36.6 +2.2
	comp=Z,2.2nm,0.7s,baz=155,slow=5.9,SNR=12					
KVN	Kaiserville	86.32	325	eP	P	05 33 32.7 -3.7
	comp=Z,6.9nm,1.0s					
ELK	Elko	86.43	328	eP	P	05 33 34.1 -2.9
	comp=Z,4.3nm,0.9s					
AGMN	Agassiz Nation	86.80	344	P	P	05 33 39.2 +1.0
	baz=160					
MDND	Maddock	87.28	341	P	P	05 33 42.0 +1.4
	baz=157					
RLMT	Red Lodge	87.80	334	P	P	05 33 44.9 +1.5
	baz=150					
HLID	Hailey	88.42	330	P	P	05 33 48.4 +2.0
	baz=146					
ULM	Lac du Bonnet	88.64	345	P	P	05 33 47.6 +0.7
	comp=Z,13nm,0.6s,baz=167,slow=4.0,SNR=33					
O03E	Paynes Creek	89.05	324	P	P	05 33 50.1 +0.8
	baz=141					
BOZ	Bozeman (W)	89.06	333	P	P	05 33 50.8 +1.5
	baz=148					
DGMT	Dagmar	89.12	339	P	P	05 33 51.0 +1.7
	baz=154					
EGMT	Eagleton	90.48	335	P	P	05 33 57.0 +1.2
	baz=150					
I07A	Izee	90.98	327	eP	P	05 33 55.4 -2.8
	comp=Z,4.1nm,0.9s					
J05D	Fort Rock, OR	91.12	326	P	P	05 34 01.1 +2.2
	baz=142					
PINE	Pine Mountain	91.39	326	eP	P	05 33 57.9 -2.3
	comp=Z,6.6nm,0.8s					
K02D	Willamette Mer	91.79	324	P	P	05 34 03.6 +1.6
	baz=140					
I04A	Tendick Farm,	92.05	326	P	P	05 34 05.0 +2.0
	baz=141					
ESDC	Sonseca Array	97.57	46	P	Pdif	05 34 28.9 +0.5
	comp=Z,0.2nm,0.5s,baz=231,slow=6.1,SNR=3.3					
YKA	Yellowknife Ar	104.20	341	Pdiff	Pdif	05 34 57.7 +0.4
	comp=Z,0.4nm,0.7s,baz=141,slow=4.8,SNR=7.1					
YKB5	Yellowknife Ar	104.20	341	ePdif	Pdif	05 34 57.7 +0.4
AS31	Alice Springs	116.00	206	ePKPdf	PKPdf	05 39 37.2 +0.1
ASAR	Alice Springs	116.00	206	PKP	PKPdf	05 39 37.2 +0.1
	comp=Z,4.4nm,0.6s,baz=132,slow=2.6,SNR=3.9					
BR101	Keskin Array S	122.29	62	ePKPdf	PKiKP	05 39 49.0 +0.1
BRTR	Keskin Array B	122.29	62	PKP	PKiKP	05 39 49.0 +0.1
	comp=Z,0.9nm,0.7s,baz=258,slow=2.3,SNR=4.5					
AKASG	Malin Array Be	123.12	48	PKP	PKPdf	05 39 49.6 -0.1
	comp=Z,1.0nm,0.4s,baz=270,slow=2.4,SNR=7.7					
AKBB	Malin Array Si	123.12	48	ePKPdf	PKPdf	05 39 49.3 -0.5
FIA0	FINESS Array S	124.33	35	ePKPdf	PKiKP	05 39 52.4 +0.3
FINES	FINESS Array B	124.33	35	PKP	PKiKP	05 39 52.4 +0.3
	comp=Z,1.4nm,0.7s,baz=48,slow=2.8,SNR=4.9					
SPA0	Spitsbergen Ar	124.52	14	ePKPdf	PKPdf	05 39 51.0 -0.8
SPITS	Spitsbergen Ar	124.52	14	PKP	PKiKP	05 39 52.5 +0.5
	comp=Z,9.1nm,1.0s,baz=198,slow=5.2,SNR=3.2					
ARCES	ARCESS Array B	125.62	25	PKP	PKiKP	05 39 55.0 +0.6
	comp=Z,1.5nm,0.7s,baz=255,slow=2.4,SNR=7.0					
ARU	Arti	140.88	43	PKP	PKiKP	05 40 24.8 -0.9
	comp=Z,1.1nm,0.3s,baz=273,slow=8.8,SNR=3.8					
AKTO	Aktyubinsk	141.16	52	PKP	PKPdf	05 40 24.7 +1.0
	comp=Z,0.8nm,0.3s,baz=297,slow=2.3,SNR=4.9					
SEY	Seymchan	142.11	329	PKhKP	PKPpre	05 40 19.9
	comp=Z,0.7nm,0.3s,baz=118,slow=4.3,SNR=4.2					
ABKAR	Akbulak array	142.44	54	ePKPdf	PKPdf	05 40 22.4 -3.6
TIXI	Tiksi	142.82	350	PKhKP	PKPpre	05 40 21.9
	comp=Z,1.1nm,0.5s,baz=4.9,slow=1.7,SNR=5.0					
MA2	Magadan	144.16	324	PKP	PKPdf	05 40 28.6 -0.1
	comp=Z,4.1nm,0.3s,baz=77,slow=6.8,SNR=4.3					
PSI	Prapat	145.69	162	ePKPdf	PKPdf	05 40 28.6 -4.3
BVAR	Borovoye Array	148.33	46	PKPbc	PKPbc	05 40 40.9 +1.4
	comp=Z,4.4nm,0.7s,baz=297,slow=4.8,SNR=17					
NIL	Nilore	150.91	84	ePKPdf	PKPdf	05 40 37.0 -3.7
NIL				ePKPbc	PKPbc	05 40 43.8 -2.8
AAK	Ala-Archa	152.87	65	ePKPdf	PKPdf	05 40 40.7 -2.9
AAK				ePKPbc	PKPbc	05 40 48.5 -2.4
AAK				ePKPab	PKPab	05 41 00.8 -1.6
AAK	Ala-Archa	152.87	65	PKPbc	PKPbc	05 40 52.5 +1.6
	comp=Z,9.2nm,0.8s,baz=191,slow=2.6,SNR=22					
KURBB	Kurchatov Arra	153.89	47	PKPbc	PKPbc	05 40 53.8 +1.2
	comp=Z,5.0nm,0.9s,baz=296,slow=2.9,SNR=25					
KURK	Kurchatov	153.91	46	ePKPbc	PKPbc	05 40 50.5 -2.1
KURK				ePKPab	PKPab	05 41 03.3 -3.1
KSH	Kashi	153.99	72	PKPbc	PKPdf	05 40 45.5 +0.2
KSH				sPKP		05 41 22.5
KSH				PP	PP	05 44 42.5 -0.3
KSH				SKS	SKSdf	05 47 37.8 -4.7
KSH				SKKS	SKKSac	05 51 20.5 -1.9
KSH				LR	LR	
	comp=Z,500nm,11.2s					
KSH				LR	LR	
	comp=Z,350nm,7.8s					
ZAA1	Zalesovo Array	155.59	35	ePKPdif	PKPbc	05 40 56.7
ZALV	Zalesovo Beam	155.59	35	PKPbc	PKPbc	05 40 56.7
	comp=Z,5.7nm,0.8s,baz=235,slow=5.2,SNR=4.4					
MK32	Makanchi Array	157.58	53	ePKPdf	PKPdf	05 40 50.3 +0.6
MK32				ePKPab	PKPab	05 41 22.9 +0.6
MKAR	Makanchi Array	157.58	53	PKP	PKPdf	05 40 50.3 +0.6
	comp=Z,0.6nm,0.7s,baz=325,slow=1.5,SNR=6.6					
MKAR				PKPab	PKPab	05 41 22.9 +0.6
	comp=Z,2.8nm,0.8s,baz=280,slow=4.1,SNR=11					
WMQ	Urumqi	162.15	58	ePKP	PKPdf	05 40 55.8 +0.8
SONA0	Songino Array	168.11	8	ePKPab	PKPab	05 42 09.8 +1.5
SONM	Songino Array	168.11	8	PKPab	PKPab	05 42 09.8 +1.5
	comp=Z,1.7nm,0.8s,baz=341,slow=4.0,SNR=6.0					
NJ2	Nanjing	170.68	248	ePKP	PKPdf	05 41 02.3 +0.5
WHN	Wuhan	172.75	222	PKP	PKPdf	05 41 06.3 +3.5
HHC	Hu-ho-hao-te	174.72	336	ePKP	PKPdf	05 41 03.8 +0.4
HHC				SS	SS	06 07 47.3 +4.5
HHC				LR	LR	
	comp=Z,220nm,20.6s					
HHC				LR	LR	
	comp=Z,130nm,21.1s					
HHC				LR	LR	
	comp=Z,200nm,21.2s					
LZH	Lanzhou	176.06	88	ePKP	PKPdf	05 41 06.5 +2.5
LZH				pPKP	pPKPdf	05 41 32.8 -0.6
LZH				sPKP		05 41 42.5
LZH				PKPab	PKPab	05 42 48.5 +4.1

*ISCJB **27** 05:21:15.0±0.5, 36°.06S±0°.05×71°.2W±0°.1, h100km, mb4.7/16, Error ellipse: s-maj=14.9km s-min=7.0km az=12.0*

*IDC **27** 05:21:17.2±2.0, 36°.02S×71°.05W, h106km±17km, mb4.6/15, mb1 4.7/20, mb1mx4.5/31, mbtmp5.0/20, Error ellipse: s-maj=18.4km s-min=10.5km az=85.0*

ISC 27 05:21:16.3±0.5, 36°.04S±0°.06×71°.1W±0°.1, h100km, n45, σ0s86/45, mb4.8/16, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.71	175	P	Pn	05 22 25.4	+0.3
	5.0nm,0.3s,baz=6.5,slow=15,SNR=20						
CFA	Coronel Fontan	5.03	29	P	Pn	05 22 30.2	+0.8
	79nm,0.3s,baz=215,slow=16,SNR=22						
CFA				S	Sn	05 23 28.4	+2.1
	29nm,0.3s,baz=106,slow=22,SNR=5.9						
LVC	Limon Verde	13.52	9	P	Pn	05 24 23.9	-0.5
	5.7nm,0.3s,baz=219,slow=7.8,SNR=20						
CPUP	Villa Florida	15.24	54	P	P	05 24 47.9	-0.8
	0.7nm,0.3s,baz=215,slow=8.8,SNR=17						
USHA	Ushuaia	18.89	175	P	P	05 25 30.2	+1.6
	2.7nm,0.3s,baz=348,slow=9.5,SNR=21						
SIV	San Ignacio	21.88	27	P	P	05 26 01.8	+0.6
	47nm,0.6s,baz=214,slow=10,SNR=32						
NNA	Nana	24.50	346	P	P	05 26 26.4	0.0
	26nm,0.8s,baz=194,slow=8.5,SNR=9.0						
BDFB	Brasilia	28.93	51	P	P	05 27 05.3	-0.9
	10nm,0.5s,baz=222,slow=4.6,SNR=15						
MDP	Montagnes des	44.44	27	P	P	05 29 17.1	-0.3
	52nm,0.6s,baz=204,slow=9.8,SNR=24						
SDV	Santo Domingo	44.69	1	P	P	05 29 18.6	-1.0
	12nm,0.8s,baz=261,slow=13,SNR=9.4						
SNAA	Sanae	49.41	157	P	P	05 29 55.5	-0.1
	11nm,0.9s,baz=270,slow=6.7,SNR=15						
APG	El Apazote	53.97	337	P	P	05 30 30.8	+0.6
	11nm,0.7s,baz=344,slow=18,SNR=8.6						
VNDA	Vanda	62.26	191	P	P	05 31 28.9	+1.9
	0.8nm,0.7s,baz=152,slow=4.5,SNR=6.0						
833A	Chaparral WMA,	69.34	333	ePcP	P	05 32 13.9	+0.9
MAW	Mawson	71.01	163	P	P	05 32 22.0	-0.7
	8.0nm,0.9s,baz=228,slow=8.7,SNR=13						
MAW	Mawson	71.01	163	ePcP	P	05 32 21.2	-1.6
TXAR	Lajitas Array	71.88	330	P	P	05 32 29.1	+0.5
	5.3nm,0.7s,baz=148,slow=6.5,SNR=12						
R55A	Marlinton	74.42	353	ePcP	P	05 32 43.7	+0.4
MNTX	Cornudas Mount	74.66	330	ePcP	P	05 32 44.0	-0.8
DBIC	Dimbokro	75.13	70	P	P	05 32 48.2	+0.4
	31nm,0.6s,baz=200,slow=6.1,SNR=33						
DBIC	Dimbokro	75.13	70	ePcP	P	05 32 48.2	+0.4
BOSA	Boshof	78.46	117	P	P	05 33 06.6	0.0
	13nm,0.6s,baz=232,slow=4.0,SNR=17						
N41A	Harden Midland	78.50	345	ePcP	P	05 33 01.6	-4.6
TORD	Torodi Ar. Bea	84.20	69	P	P	05 33 36.4	-0.4
	10nm,0.8s,baz=204,slow=3.3,SNR=29						
TOA1	Torodi Ar. Sit	84.20	69	ePcP	P	05 33 36.4	-0.4
PDAR	Pinedale Array	85.92	333	P	P	05 33 44.8	-0.3
	1.7nm,0.6s,baz=151,slow=3.4,SNR=11						
NV01	Mina Array Sit	85.99	325	ePcP	P	05 33 46.5	+1.0
NVAR	Mina Array Bea	85.99	325	P	P	05 33 46.5	+1.0
	3.1nm,0.8s,baz=151,slow=5.4,SNR=12						
ULM	Lac du Bonnet	88.66	344	P	P	05 33 57.2	-0.6
	16nm,0.5s,baz=174,slow=3.3,SNR=24						
YKA	Yellowknife Ar	104.23	341	Pdiff	Pdif	05 35 07.3	-0.9
	0.3nm,0.5s,baz=142,slow=4.6,SNR=7.5						
ASAR	Alice Springs	116.08	206	PKP	PKPdf	05 39 46.6	-1.5
	0.6nm,0.7s,baz=170,slow=1.7,SNR=5.5						
BRTR	Keskin Array B	122.14	62	PKP	PKPdf	05 39 58.4	-0.9
	1.5nm,0.7s,baz=183,slow=3.6,SNR=8.1						
AKASG	Malin Array Be	122.99	48	PKP	PKPdf	05 39 59.1	-1.2
	3.3nm,0.6s,baz=266,slow=2.6,SNR=10						
FINES	FINESS Array B	124.22	35	PKP	PKPdf	05 40 00.9	-1.4
	1.5nm,0.6s,baz=326,slow=0.7,SNR=6.6						
SPITS	Spitsbergen Ar	124.46	14	PKP	PKPdf	05 40 02.0	-0.4
	8.1nm,0.9s,baz=189,slow=5.0,SNR=4.2						
ARCES	ARCESS Array B	125.53	25	PKP	PKPdf	05 40 04.5	-0.2
	2.8nm,0.7s,baz=262,slow=3.6,SNR=10						
AKTO	Aktyubinsk	141.02	52	PKP	PKPdf	05 40 34.6	+0.3
	2.2nm,0.5s,baz=262,slow=4.1,SNR=6.9						
SEY	Seymchan	142.17	329	PKhKP	PKPpre	05 40 29.6	
	1.5nm,0.4s,baz=94,slow=2.2,SNR=4.9						
MA2	Magadan	144.23	324	PKP	PKPab	05 40 38.0	+0.3
	6.7nm,0.5s,baz=108,slow=6.0,SNR=5.2						
BVAR	Borovoye Array	148.20	46	PKPbc	PKPbc	05 40 50.5	+0.5
	9.2nm,0.7s,baz=316,slow=4.1,SNR=16						
AAK	Ala-Archa	152.72	65	PKPbc	PKPbc	05 41 02.1	+0.7
	18nm,0.8s,baz=194,slow=2.9,SNR=24						
KURBB	Kurchatov Arra	153.77	47	PKPbc	PKPbc	05 41 03.4	+0.3
	5.8nm,0.6s,baz=296,slow=3.1,SNR=20						
KURBB				PKPab	PKPab	05 41 16.6	+0.2
	6.5nm,0.8s,baz=286,slow=4.9,SNR=18						
ZALV	Zalesovo Beam	155.49	36	PKPbc	PKPbc	05 41 06.6	
	3.7nm,0.4s,baz=322,slow=4.5,SNR=5.8						
MKAR	Makanchi Array	157.44	53	PKP	PKPdf	05 41 00.1	-0.2
	1.4nm,0.7s,baz=334,slow=0.5,SNR=10						
MKAR				PKPab	PKPab	05 41 32.2	-0.2
	6.4nm,0.8s,baz=289,slow=3.7,SNR=17						
SONM	Songino Array	168.07	8	PKPab	PKPab	05 42 19.4	+0.5
	2.6nm,0.8s,baz=335,slow=4.4,SNR=8.9						

*ISCJB **27** 05:53:21.4±0.4, 0°.96N±0°.04×126°.39E±0°.04, h39km, mb4.3/22, Error ellipse: s-maj=6.7km s-min=5.6km az=136.5*

*DJA **27** 05:53:23.1±0.3, 1°.N±4°.×12°.6E±°, h10km, M4.0/7, mb4.0/1, MLv3.9/7*

*NEIC **27**

	1.9nm,0.8s						
ASAR	**Alice Springs**	25.40	164	P		**P**	05 58 48.0 +0.2
	1.9nm,0.4s,baz=341,slow=9.8,SNR=25						
FORT	**Forrest**	31.47	177	*eP*		**P**	05 59 42.7 +0.8
	28nm,1.2s						
BBOO	**Buckleboo**	34.66	166	*eP*		**P**	06 00 09.6 -0.1
	18nm,1.3s						
NWAO	**Narrogin (SRO)**	34.69	194	*eP*		**P**	06 00 09.9 -0.1
	26nm,1.5s						
STKA	**Stephens Creek**	35.54	158	*eP*		**P**	06 00 17.2 -0.2
	2.6nm,1.5s						
STKA	**Stephens Creek**	35.54	158	P		**P**	06 00 18.1 +0.7
	2.2nm,0.6s,baz=325,slow=11,SNR=5.3						
KLR	**Kul'dur**	48.43	5	P		**P**	06 02 01.5 -0.7
	0.4nm,0.3s,baz=196,slow=8.7,SNR=3.7						
MK31	**Makanchi Array**	59.80	326	*eP*		**P**	06 03 23.7 -1.5
	1.2nm,0.6s						
MK32	**Makanchi Array**	59.80	326	*eP*		**P**	06 03 23.6 -1.6
MK32				*e*PcP		**PcP**	06 04 10.5 -1.1
MKAR	**Makanchi Array**	59.80	326	P		**P**	06 03 23.6 -1.6
	1.1nm,0.4s,baz=120,slow=7.0,SNR=14						
MKAR				PcP		**PcP**	06 04 10.5 -1.1
	1.0nm,0.9s,baz=134,slow=4.2,SNR=2.4						
MAKZ	**Makanchi**	59.98	326	*eP*		**P**	06 03 25.6 -0.8
	5.5nm,1.5s						
BKZ	**Black Stump Fm**	60.63	137	*eP*		**P**	06 03 30.7 -0.4
	26nm,1.5s						
MA2	**Magadan**	61.56	14	P		**P**	06 03 35.1 -1.8
	3.2nm,0.4s,baz=93,slow=17,SNR=2.5						
ZALV	**Zalesovo Beam**	63.05	334	P		**P**	06 03 45.5 -1.5
	0.9nm,0.3s,baz=116,slow=7.8,SNR=2.9						
ZAA1	**Zalesovo Array**	63.05	334	*eP*		**P**	06 03 45.5 -1.5
KURBB	**Kurchatov Arra**	64.04	328	P		**P**	06 03 52.3 -1.3
	1.4nm,0.5s,baz=128,slow=6.3,SNR=18						
KURK	**Kurchatov**	64.05	328	*eP*		**P**	06 03 52.2 -1.4
	3.0nm,0.5s						
BVAR	**Borovoye Array**	69.61	328	P		**P**	06 04 28.1 -1.0
	0.8nm,0.6s,baz=137,slow=5.3,SNR=4.9						
BRVK	**Borovoye**	69.68	328	*eP*		**P**	06 04 29.4 0.0
	3.0nm,0.9s						
VNDA	**Vanda**	80.60	173	*eP*		**P**	06 05 31.6 -0.3
VNDA	**Vanda**	80.60	173	P		**P**	06 05 31.4 -0.5
	0.9nm,0.9s,baz=310,slow=4.2,SNR=5.3						

NNC 27 06:19:56.1±4.2, 53°.81N×85°.72E, $h0^{km}$, mb3.8, mpv2.9, 8C-3D, Error ellipse: s-maj=40.5km s-min=17.2km az=34.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.55**	**286**	⇑P	Pg	06 20 06.9	+0.3
	0.5nm,0.3s						
ZAA0				⇓S	Sg	06 20 14.5	+0.8
	23nm,1.4s						
KURK	**Kurchatov**	**5.34**	**237**	⇑Pn	Pn	06 21 19.7	+2.7
	2.5nm,0.5s						
KURK				⇑Sn	Sn	06 22 20.0	+0.8
	1.9nm,0.8s						
KURK				⇓Lg	Lg	06 22 45.4	
	9.7nm,1.1s						
KURBB	**Kurchatov Arra**	**5.45**	**237**	⇑Pn	Pn	06 21 20.0	+1.6
	5.1nm,0.5s						
KURBB				⇑Sn	Sn	06 22 20.0	-1.7
	3.8nm,0.5s						
KURBB				⇓Lg	Lg	06 22 48.9	
	15nm,0.9s						
MK31	**Makanchi Array**	**7.35**	**199**	⇑Pn	Pn	06 21 44.5	-0.2
	0.4nm,0.3s,baz=30,slow=14,SNR=13						
MK31				⇑Sn	Sn	06 23 11.9	+3.2
	0.3nm,0.4s,baz=27,slow=12,SNR=3.5						
MK31				⇑Lg	Lg	06 23 50.9	
	3.5nm,0.8s,baz=30,slow=30,SNR=5.1						

*ISCJB **27** 06:41:24.0±0.5, 67°.60N±0°.03×143°.20E±0°.09, $h10^{km}$, mb3.6/9, MS3.3/3, Error ellipse: s-maj=5.3km s-min=3.2km az=154.3*
*YARS **27** 06:41:24.9, 67°.57N×143°.23E, $h10^{km}$*
*IDC **27** 06:41:30.2±0.8, 67°.57N×142°.83E, $h0^{km}$, mb3.7/9, mb1 3.9/12, mb1mx3.7/50, mbtmp3.7/12, ML2.6/2, MS3.3/3, Ms1 3.3/3, ms1mx2.7/39, Error ellipse: s-maj=20.8km s-min=14.8km az=8.0*

ISC 27 06:41:29.0±0.5, 67°.56N±0°.03×143°.28E±0°.04, $h10^{km}$, n21, σ2°.25/62, mb3.7/9, MS3.2/3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBGR	**Belaya Gora**	**1.47**	**47**	*e*Pg	Pn	06 41 51.2	-4.3
YBGR				*e*Pg	Pn	06 41 51.2	-4.3
YBGR				*e*Pg	Pn	06 41 51.2	-4.3
	253nm,0.2s						
YBGR				*e*Sg	**Sn**	06 42 13.2	-1.5
YBGR				*e*Sg	**Sn**	06 42 13.2	-1.5
	1μm,0.4s						
YBGR				*e*Sg	**Sn**	06 42 13.2	-1.5
	2μm,0.5s						
DEPR	**Deputatskiy**	**2.22**	**327**	*e*Pg	**Pn**	06 42 06.0	+0.1
DEPR				*e*Pg	**Pn**	06 42 06.0	+0.1
DEPR				*e*Pg	**Pn**	06 42 06.0	+0.1
	97nm,0.4s						
DEPR				*e*Sg	**Sb**	06 42 37.7	+1.0
	365nm,0.4s						
DEPR				*e*Sg	**Sb**	06 42 37.7	+1.0
	252nm,0.4s						
DEPR				*e*Sg	**Sb**	06 42 37.7	+1.0
UNR	**Ust'-Nera**	**3.01**	**180**	*e*Pg	**Pb**	06 42 20.3	-2.3
UNR				*e*Pg	**Pb**	06 42 20.3	-2.3
	51nm,1.0s						
UNR				*e*Pg	**Pb**	06 42 20.3	-2.3
UNR				*e*Sn	**Sn**	06 42 50.4	-2.3
UNR				*e*Sn	**Sn**	06 42 50.4	-2.3
UNR				*e*Sn	**Sn**	06 42 50.4	-2.3
UNR				*e*Sg	**Sg**	06 43 03.8	-1.6
UNR				*e*Sg	**Sg**	06 43 03.8	-1.6
	256nm,0.7s						
UNR				*e*Sg	**Sg**	06 43 03.8	-1.6
	275nm,0.8s						
BTGS	**Batagay**	**3.31**	**276**	*e*Pg	**Pb**	06 42 25.3	-2.3
	89nm,0.8s						
BTGS				*e*Pg	**Pb**	06 42 25.3	-2.3
BTGS				*e*Pg	**Pb**	06 42 25.3	-2.3
BTGS				*e*Sg	**Sg**	06 43 13.5	-1.5
	232nm,0.4s						
BTGS				*e*Sg	**Sg**	06 43 13.5	-1.5
BTGS				*e*Sg	**Sg**	06 43 13.5	-1.5
	786nm,1.2s						
ATKR	**Artyk**	**3.48**	**166**	*e*Pn	**Pn**	06 42 20.6	-2.6
ATKR				*e*Pn	**Pn**	06 42 20.6	-2.6
ATKR				*e*Pn	**Pn**	06 42 20.6	-2.6
ATKR				*e*Pg	**Pb**	06 42 29.3	-1.4
ATKR				*e*Pg	**Pb**	06 42 29.3	-1.4
ATKR				*e*Pg	**Pb**	06 42 29.3	-1.4
	98nm,0.6s						
ATKR				*e*Sn	**Sn**	06 43 03.3	-1.1
ATKR				*e*Sn	**Sn**	06 43 03.3	-1.1
ATKR				*e*Sn	**Sn**	06 43 03.3	-1.1
ATKR				*i* Lg	Lg	06 43 16.6	
ATKR				*e*Sg	**Sg**	06 43 21.0	+0.3
	2μm,0.6s						
ATKR				*e*Sg	**Sg**	06 43 21.0	+0.3
ATKR				*e*Sg	**Sg**	06 43 21.0	+0.3
	1μm,1.1s						
ATKR				*i* Rg	Rg	06 43 35.1	
SEY	**Seymchan**	**6.01**	**136**	Pn	**Pn**	06 43 02.5	+4.6
	0.5nm,0.3s,baz=310,slow=15,SNR=9.7						
SEY				Sn	**Sn**	06 44 07.8	+1.1
	0.7nm,0.3s,baz=306,slow=19,SNR=2.4						
SEY				Lg	Lg	06 44 44.9	
	2.1nm,0.3s,baz=32,slow=20,SNR=4.0						
TIXI	**Tiksi**	**6.48**	**316**	*e*Pn	**Pn**	06 43 00.2	-4.0
TIXI				*e*Pn	**Pn**	06 43 00.2	-4.0
TIXI				*e*Pn	**Pb**	06 43 00.2	-4.0
TIXI				*e*Pg	**Pb**	06 43 22.0	+0.4
TIXI				*e*Pg	**Pb**	06 43 22.0	+0.4
	4.8nm,0.2s						
TIXI				*e*Pg	**Pb**	06 43 22.0	+0.4
TIXI				*e*Sn	**Sn**	06 44 16.3	-1.8
TIXI				*e*Sn	**Sn**	06 44 16.3	-1.8
TIXI				*e*Sn	**Sn**	06 44 16.3	-1.8
TIXI				*i* Lg	Lg	06 44 50.1	
TIXI				*e*Sg	**Sg**	06 44 58.4	+1.7
TIXI				*e*Sg	**Sg**	06 44 58.4	+1.7
	86nm,1.6s						
TIXI				*e*Sg	**Sg**	06 44 58.4	+1.7
	48nm,0.8s						
TIXI				*i* Rg	Rg	06 45 24.3	
TIXI	**Tiksi**	**6.48**	**316**	Pn	**Pn**	06 43 05.4	+1.2
	2.5nm,0.3s,baz=127,slow=15,SNR=29						
TIXI				Sn	**Sn**	06 44 12.6	-5.5
	2.8nm,0.3s,baz=159,slow=21,SNR=5.8						
TIXI				Lg	Lg	06 44 43.3	
	4.9nm,0.3s,baz=39,slow=19,SNR=4.5						
PETK	**Petropavlovsk-**	**16.09**	**147**	Pn	**P**	06 45 17.2	-1.1
	0.0nm,0.3s,baz=317,slow=9.8,SNR=2.3						
KLR	**Kul'dur**	**19.29**	**203**	P	**Pn**	06 45 59.6	+5.0
	0.1nm,0.3s,baz=18,slow=6.4,SNR=3.2						
KLR				Lg	Lg	06 51 37.8	
	0.1nm,0.3s,baz=294,slow=21,SNR=2.7						
USRK	**Ussuriysk Ar.**	**24.18**	**200**	P	**P**	06 46 47.1	+2.0
	0.9nm,0.6s,baz=15,slow=12,SNR=4.5						
ILAR	**Eielson Array**	**27.00**	**62**	P	**P**	06 47 14.3	+3.8
	2.5nm,0.8s,baz=299,slow=8.2,SNR=28						
SONM	**Songino Array**	**27.22**	**242**	LR	LR	06 58 45.4	
	comp=Z,62nm,18.6s,baz=312,slow=38						
KURBB	**Kurchatov Arra**	**35.30**	**274**	P	**P**	06 48 25.2	+1.6
	0.4nm,0.6s,baz=43,slow=8.5,SNR=4.5						
BVAR	**Borovoye Array**	**36.47**	**284**	P	**P**	06 48 35.7	+2.0
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**36.98**	**267**	P	**P**	06 48 38.7	+0.6
	0.9nm,0.7s,baz=36,slow=7.1,SNR=8.8						
YKA	**Yellowknife Ar**	**38.70**	**47**	P	**P**	06 48 55.4	+3.0
	0.4nm,0.8s,baz=322,slow=7.9,SNR=6.5						
FINES	**FINESS Array B**	**43.49**	**322**	P	**P**	06 49 32.8	+1.0
	0.9nm,0.5s,baz=28,slow=9.3,SNR=5.6						
FINES				LR	LR	07 11 27.5	
	comp=Z,23nm,18.4s,baz=43,slow=41						
PDAR	**Pinedale Array**	**57.23**	**57**	P	**P**	06 51 19.7	+3.5
	0.5nm,0.7s,baz=46,slow=4.3,SNR=5.4						
NVAR	**Mina Array Bea**	**58.17**	**66**	P	P	06 51 28.3	+5.4
	0.3nm,0.6s,baz=320,slow=8.5,SNR=4.1						
HNR	**Honiara**	**77.73**	**163**	LR	LR	07 24 10.1	
	comp=Z,26nm,20.5s,baz=186,slow=33						

*ISCJB **27** 06:41:59.0±0.3, 15°.17S±0°.06×173°.97W±0°.07, $h10^{km}$, mb4.3/26, MS3.1/1, Error ellipse: s-maj=10.3km s-min=8.1km az=29.7*
*NEIC **27** 06:42:00.4±1.6, 15°.17S×173°.92W, $h10^{km}$, mb4.4/20, Error ellipse: s-maj=18.2km s-min=17.0km az=190.0*
*IDC **27** 06:42:09.0±11.0, 15°.24S×173°.88W, $h75^{km}$±97km, mb3.8/13, mb1 4.0/13, mb1mx3.8/37, mbtmp4.1/13, MS3.3/1, Ms1 3.3/1, ms1mx2.7/20, Error ellipse: s-maj=28.0km s-min=21.2km az=117.0*

ISC 27 06:42:00.6±0.5, 15°.12S±0°.07×174°.01W±0°.09, $h10^{km}$, n51, σ1°.18/51, mb4.3/26, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.54**	**136**	*e*Pn	**Pn**	06 43 22.1	-1.1
NIUE				*e*Sn	Sn	06 44 14.8	-.12
FUNA	**Funafuti**	**9.33**	**314**	*e*Pn	**Pn**	06 44 16.8	+1.5
FUNA				*e*Sn	**Sn**	06 45 56.4	-4.0
PINNC	**Pines Island,**	**19.06**	**244**	*e*P	**P**	06 46 21.4	-1.7
	27nm,1.0s						
URZ	**Urewera**	**24.35**	**197**	*e*P	**P**	06 47 19.7	+1.0
	8.4nm,0.8s						
URZ	**Urewera**	**24.35**	**197**	P	**P**	06 47 19.7	+1.0
	2.7nm,0.3s,baz=230,slow=3.0,SNR=6.4						
URZ				S	**S**	06 51 39.0	+1.0
	5.5nm,0.8s,baz=36,slow=19,SNR=2.3						
BKZ	**Black Stump Fm**	**25.37**	**197**	*e*P	**P**	06 47 27.0	-1.0
	5.4nm,0.9s						
HNR	**Honiara**	**26.05**	**280**	LR	LR	06 56 43.5	
	comp=Z,57nm,18.8s,baz=104,slow=33						
KHZ	**Kahutara**	**29.24**	**199**	*e*P	**P**	06 48 04.1	+1.5
ARMA	**Armidale**	**34.99**	**238**	*e*P	**P**	06 48 53.6	+0.2
	4.4nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**38.42**	**330**	T	T	07 30 23.9	
	baz=146,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**38.44**	**330**	T	T	07 30 21.4	
	baz=146,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**38.44**	**330**	T	T	07 30 25.1	
	baz=146,slow=76,SNR=12						
STKA	**Stephens Creek**	**43.67**	**240**	*e*P	**P**	06 50 07.1	+1.3
	1.2nm,1.0s						
STKA	**Stephens Creek**	**43.67**	**240**	P	**P**	06 50 06.8	+1.0
	2.9nm,0.6s,baz=85,slow=9.5,SNR=6.2						
BBOO	**Buckleboo**	**48.45**	**239**	*e*P	**P**	06 50 43.9	+0.4
WB2	**Warramunga Arr**	**49.33**	**257**	*e*P	**P**	06 50 51.4	+1.1
	3.2nm,0.9s						
WR1	**Warramunga Arr**	**49.34**	**257**	*e*P	**P**	06 50 51.4	+1.0
WRA	**Warramunga Arr**	**49.34**	**257**	P	**P**	06 50 51.4	+1.0
	1.9nm,0.6s,baz=88,slow=7.6,SNR=13						
AS31	**Alice Springs**	**49.64**	**252**	*e*P	**P**	06 50 53.5	+0.7
	2.6nm,1.0s						
ASAR	**Alice Springs**	**49.64**	**252**	P	**P**	06 50 53.5	+0.7
	7.4nm,0.7s,baz=85,slow=8.1,SNR=69						
ANA2	**Anatahan**	**50.58**	**307**	*e*P	**P**	06 50 59.7	-0.2
	58nm,0.6s						
FORT	**Forrest**	**55.02**	**243**	*e*P	**P**	06 51 32.2	-0.4
	21nm,0.9s						
SBA	**Scott Base**	**63.48**	**184**	*e*P	**P**	06 52 30.2	-0.1
	1.7nm,1.0s						
VNDA	**Vanda**	**63.60**	**186**	P	**P**	06 52 30.9	-0.2
	0.8nm,0.9s,baz=359,slow=5.0,SNR=6.7						
VNDA				PcP	**PcP**	06 53 06.7	-0.8
	0.6nm,0.7s,baz=14,slow=4.1,SNR=4.1						
PETK	**Petropavlovsk-**	**72.18**	**343**	P	**P**	06 53 27.4	+1.9
	3.1nm,0.7s,baz=126,slow=10.0,SNR=4.1						
PEA1	**Petropavlovsk-**	**72.19**	**343**	*e*P	**P**	06 53 27.4	+1.9
NV01	**Mina Array Sit**	**74.51**	**42**	*e*P	**P**	06 53 39.6	-0.2
NVAR	**Mina Array Bea**	**74.51**	**42**	P	**P**	06 53 39.6	-0.2
	1.1nm,0.7s,baz=227,slow=8.8,SNR=6.5						
QSPA	**South Pole Qui**	**74.92**	**180**	*e*P	**P**	06 53 40.9	-0.8
	4.4nm,0.9s						
CISI	**Cisompet, Garu**	**76.70**	**266**	*e*P	**P**	06 53 53.1	+0.4
	26nm,1.1s						
GHO	**Glory Hole Cre**	**79.17**	**12**	*e*P	**P**	06 54 05.8	+0.4
	5.9nm,1.0s						
SCM	**Sheep Creek Mo**	**79.55**	**13**	*e*P	**P**	06 54 07.8	+0.3
	5.2nm,1.1s						
LTX	**Lajitas**	**80.94**	**56**	*e*P	**P**	06 54 16.8	+1.0
TXAR	**Lajitas Array**	**80.94**	**56**	P	**P**	06 54 16.8	+1.0
	0.3nm,0.9s,baz=253,slow=9.2,SNR=3.3						
WRH	**Wood River Hil**	**81.79**	**11**	*e*P	**P**	06 54 15.9	-3.3
WRH				*e*PcP	**sP**	06 54 23.5	+0.9
MLY	**Manley**	**81.84**	**10**	*e*P	**P**	06 54 19.8	+0.2
	1.6nm,0.4s						
SEY	**Seymchan**	**82.10**	**345**	P	**P**	06 54 22.0	+1.1
	1.0nm,0.4s,baz=195,slow=5.0,SNR=3.9						
ILB	**Eielson Array**	**82.28**	**11**	*e*P	**P**	06 54 21.2	-0.7
	2.9nm,0.4s						
PD31	**Pinedale Array**	**82.45**	**42**	*e*P	**P**	06 54 22.5	-1.0
	1.2nm,0.9s						
PDAR	**Pinedale Array**	**82.45**	**42**	P	**P**	06 54 22.5	-1.0
	0.7nm,0.8s,baz=224,slow=6.2,SNR=4.8						
HRY	**Holter Researc**	**82.98**	**38**	*e*P	**P**	06 54 25.6	-0.5
MAW	**Mawson**	**87.87**	**199**	*e*P	**P**	06 54 48.9	-1.1
	0.5nm,1.0s						
MAW	**Mawson**	**87.87**	**199**	P	**P**	06 54 49.0	-1.1
	2.2nm,0.9s,baz=137,slow=10.0,SNR=5.0						
INK	**Inuvik**	**88.14**	**14**	*e*P	**P**	06 54 50.8	-0.3
	0.4nm,1.0s						
INK	**Inuvik**	**88.14**	**14**	P	**P**	06 54 50.5	-0.5
	0.4nm,0.6s,baz=214,slow=3.6,SNR=3.2						
YKA	**Yellowknife Ar**	**90.07**	**24**	P	**P**	06 54 59.9	-0.3
	0.4nm,0.8s,baz=245,slow=4.7,SNR=5.2						
YKB5	**Yellowknife Ar**	**90.07**	**24**	*e*P	**P**	06 54 59.9	-0.3
ARCES	**ARCESS Array B**	**124.25**	**352**	PKP	**PKPdf**	07 00 58.1	-1.0
	3.9nm,1.0s,baz=72,slow=4.0,SNR=4.7						
BR101	**Keskin Array S**	**145.57**	**321**	*e*PKPdf	**PKPbc**	07 01 40.0	+0.2
BRTR	**Keskin Array B**	**145.57**	**321**	PKPbc	**PKPbc**	07 01 40.0	+0.2
	2.3nm,0.9s,baz=116,slow=2.9,SNR=9.2						
GERES	**GERESS Array B**	**145.77**	**351**	PKPbc	**PKPbc**	07 01 39.5	-0.5
	0.5nm,0.6s,baz=20,slow=3.1,SNR=3.6						

*SOME **27** 06:42:35.4, 45°.75N×82°.27E, $h10^{km}$*
*NNC **27** 06:42:36.6±2.2, 45°.86N×82°.14E, $h0^{km}$, mb3.6, mpv3.0, Error ellipse: s-maj=17.7km s-min=9.8km az=116.0*

ISC 27 06:42:34.8±2.8, 45°.83N±0°.05×82°.3E±0°.1, $h4^{km}$±22km, n13, σ1°.29/21, 1C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.96**	**359**	⇓P	**Pn**	06 42 55.5	+0.2
	0.8nm,0.3s,baz=181,slow=17,SNR=74						
MK31				⇑S	**Sb**	06 43 07.2	-0.2
	0.6nm,0.3s,baz=184,slow=25,SNR=5.8						
MAKZ	**Makanchi**	**1.00**	**347**	⇓P	**Pn**	06 42 56.8	+1.0
	1.3nm,0.2s						
MAKZ				⇓S	**Sg**	06 43 07.7	+0.6
	6.8nm,0.6s						
KAPS	**Kapalarasan**	**2.14**	**256**	Pg	**Pn**	06 43 12.7	+1.3
	5.6nm,0.2s						
KAPS				Lg	Lg	06 43 39.6	
	7.2nm,0.4s						
KAPS	**Kapalarasan**	**2.14**	**256**	*e*P	**Pn**	06 43 12.8	+1.3
	5.6nm,0.2s						
KAPS				*e*S	**Sb**	06 43 40.1	-1.0
	7.2nm,0.4s						
DJR	**Jarkent**	**2.33**	**231**	Pg	**Pn**	06 43 15.8	+1.8
	5.3nm,0.2s						
DJR				Lg	Lg	06 43 45.6	
	2.4nm,0.4s						
DJR	**Jarkent**	**2.33**	**231**	*e*P	**Pn**	06 43 15.9	+1.9
	5.3nm,0.2s						
DJR				*e*S	**Sb**	06 43 45.2	-1.3
	2.1nm,0.2s						
KTMS	**Ketmen**	**2.76**	**211**	Pg	**Pn**	06 43 22.2	+2.2
	2.1nm,0.2s						
KTMS				Lg	Lg	06 43 56.2	
	7.5nm,0.4s						
KTMS	**Ketmen**	**2.76**	**211**	*e*P	**Pb**	06 43 23.6	-1.2
	2.1nm,0.2s						
KTMS				*e*S	**Sb**	06 43 57.7	-1.3
	7.5nm,0.4s						
MNBS	**Baschi**	**3.28**	**239**	Pg	**Pb**	06 43 32.8	-0.8
	0.6nm,0.0s						
MNBS				Lg	Lg	06 44 14.1	
	9.7nm,0.2s						
MNBS	**Baschi**	**3.28**	**239**	*e*P	**Pb**	06 43 32.8	-0.8
	0.6nm,0.0s						
MNBS				*e*S	**Sb**	06 44 14.1	+0.2
	9.7nm,0.2s						
SHLS	**Shalkode**	**3.36**	**218**	Pg	**Pn**	06 43 29.4	+1.2
	4.8nm,0.2s						
SHLS				Lg	Lg	06 44 08.2	
	10nm,0.2s						
SHLS	**Shalkode**	**3.36**	**218**	*e*P	**Pn**	06 43 29.4	+1.2
	4.8nm,0.2s						
SHLS				*e*S	**Sn**	06 44 08.2	-0.4
	10nm,0.2s						
UZB	**Uzynbulak**	**3.56**	**222**	*e*P	**Pb**	06 43 37.6	-1.0
	1.0nm,0.2s						
UZB				*e*S	**Sb**	06 44 21.8	-0.4
	2.3nm,0.4s						

*ISCJB **27** 06:48:34.6±0.6, 39°.50N±0°.03×141°.96E±0°.07, $h62^{km}$±3km, mb3.6/6, Error ellipse: s-maj=9.4km s-min=4.4km az=6.9*
*JMA **27** 06:48:35.1, 39°.49N×141°.93E, $h60^{km}$±1km, M3.6 Broadband fault plane solution: P waves. NP1: ϕ_1=4.00000°, $\delta_1$64.00000°, $\lambda_1$57.00000°. NP2: $\phi_2$239.00000°, $\delta_2$41.00000°, $\lambda_2$137.00000°. Principal axes: T Plg58.0000°, Azm228.0000°; N Plg29.0000°, Azm20.0000°; P Plg13.0000°, Azm117.0000°;*
JMA Felt I J1.
*IDC **27** 06:48:40.2±2.0, 39°.39N×141°.79E, $h105^{km}$±16km, mb3.3/6, mb1 3.4/10, mb1mx3.2/44, mbtmp3.7/10 Error ellipse: s-maj=26.8km s-min=11.7km az=112.0*

ISC 27 06:48:35.5±1.0, 39°.48N±0°.03×142°.01E±0°.08, $h58^{km}$±6km, n31, σ1°.90/40, mb3.5/6, 4C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.18**	**303**	⇑P	**Pn**	06 48 44.4	-0.2
MIYJ				S	**Sn**	06 48 50.8	-0.4
JTH	**Tanohata**	**0.47**	**346**	⇑P	**Pn**	06 48 46.5	-0.5
JTH				S	**Sn**	06 48 54.6	-0.8
OFUJ	**Ofunato**	**0.48**	**214**	⇑P	**Pn**	06 48 46.7	-0.4
OFUJ				S	**Sn**	06 48 54.9	-0.6
JOM	**Ohasama**	**0.56**	**270**	⇓P	**Pn**	06 48 47.1	-0.8
JOM				S	**Sn**	06 48 55.9	-1.1
JKZ	**Kuzumaki**	**0.73**	**314**	⇓P	**Pn**	06 48 49.2	-0.8
JKZ				S	**Sn**	06 48 59.2	-1.5
JKMT	**Kesennumamotoy**	**0.79**	**212**	P	**Pn**	06 48 50.2	-0.5
JKMT				S	**Sn**	06 49 01.0	-0.8
JMK	**Ichinoseki**	**0.81**	**230**	⇓P	**Pn**	06 48 50.2	-0.8
JMK				S	**Sn**	06 49 01.4	-1.0
JANG	**Nango**	**0.97**	**337**	⇓P	**Pn**	06 48 52.0	-1.1
JANG				*e*S	**Sn**	06 49 04.5	-1.6
JRG	**Rokugo**	**1.07**	**266**	⇓P	**Pn**	06 48 53.2	-1.2
JRG				*e*S	**Sn**	06 49 06.8	-1.6
JIO	**Ouri**	**1.15**	**207**	⇑P	**Pn**	06 48 54.8	-0.6
JIO				S	**Sn**	06 49 09.1	-1.0
JAH	**Hinai**	**1.28**	**304**	⇓P	**Pn**	06 48 56.3	-0.8
JAH				S	**Sn**	06 49 12.4	-0.9
JYK	**Kaneyama**	**1.40**	**247**	⇓P	**Pn**	06 48 58.0	-0.8
JYK				S	**Sn**	06 49 15.3	-1.0
JTM	**Tenmabayashi**	**1.49**	**331**	P	**Pn**	06 48 59.4	-0.6
JTM				S	**Sn**	06 49 17.4	-1.1
MJAR	**Matsushiro Arr**	**4.20**	**227**	P	**Pn**	06 49 39.0	+2.0
	0.3nm,0.3s,baz=28,slow=11,SNR=33						
MJAR				S	**Sn**	06 50 26.2	+1.4
	0.1nm,0.3s,baz=302,slow=25,SNR=2.2						
MAT	**Matsushiro**	**4.20

JIE	Ise	6.87	333	P	P	06 54 39.4	+1.4
JHU	Hanno	7.60	353	P	P	06 54 45.8	0.0
JRY	Ryogami san	7.81	351	P	P	06 54 48.9	+0.8
JAG	Ashikaga	8.15	354	P	P	06 54 52.0	+0.3
JHO	Hitachi	8.30	1	P	P	06 54 54.9	+1.6
JFK	Kawauchi	9.06	2	P	P	06 55 04.3	+2.7

*KRNET **27** 06:55:42.8±0.1, 40°.22N×77°.41E, h19km, mb3.3*
*NNC **27** 06:55:43.3±2.2, 40°.27N×77°.42E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=14.8km s-min=10.4km az=164.0
*SOME **27** 06:55:44.3, 40°.32N×77°.43E, h5km*

ISC 27 06:55:47.1±1.8, 40°.34N±0°.09×77°.41E±0°.04, h10km, n48, σ1058/71, 15C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=11	**1.42**	**12**	⇓*iP*	**Pn**	**06 56 11.8**	**-1.6**
TARG				⇓*iS*	**Sg**	**06 56 33.2**	**+0.4**
NRN	**Naryn** baz=18	**1.53**	**316**	⇑*iP*	**Pn**	**06 56 13.4**	**-1.4**
NRN				⇑*iS*	**Sg**	**06 56 35.7**	**-0.6**
KDJ	**Kajisay** baz=55	**1.80**	**355**	⇑*iP*	**Pb**	**06 56 18.5**	**-1.7**
KDJ				⇑*iS*	**Sg**	**06 56 44.3**	**-0.6**
ULHL	**Ulahol** SNR=19	**2.10**	**336**	P	**Pb**	**06 56 24.0**	**-1.4**
ULHL	**Ulahol** baz=37	**2.10**	**336**	⇑*iP*	**Pn**	**06 56 22.9**	**+0.4**
ULHL				⇑*iS*	**Sb**	**06 56 52.0**	**+0.5**
KZA	**Kyzart** SNR=28	**2.38**	**317**	P	**Pb**	**06 56 28.9**	**-1.4**
KZA	**Kyzart** baz=19	**2.38**	**317**	⇑*iP*	**Pn**	**06 56 26.7**	**+0.1**
KZA				⇑*iS*	**Sb**	**06 56 58.9**	**-1.0**
BOOM	**Boomskoye usch** baz=35	**2.42**	**333**	⇑*iP*	**Pn**	**06 56 27.2**	**+0.4**
BOOM				⇑*iS*	**Sb**	**06 56 59.6**	**-1.1**
TNSS	**Tian-Shan** 54nm,0.6s	**2.72**	**353**	Pg	**Pb**	**06 56 35.6**	**-0.4**
TNSS				Lg	Lg	06 57 11.9	
TNSS	**Tian-Shan** 54nm,0.6s	**2.72**	**353**	*e*P	**Pb**	**06 56 35.6**	**-0.4**
TNSS				*e*S	**Sg**	**06 57 11.9**	**-2.5**
IZV	**Izvestkoviy** 8.9nm,0.5s	**2.76**	**348**	Pg	**Pb**	**06 56 35.5**	**-1.1**
IZV				Lg	Lg	06 57 12.3	
IZV	**Izvestkoviy** 22nm,0.7s	**2.76**	**348**	*e*P	**Pb**	**06 56 35.6**	**-1.1**
IZV				*e*S	**Sb**	**06 57 12.3**	**+1.7**
ARLS	**Aral** baz=6.0	**2.78**	**304**	⇑*iP*	**Pn**	**06 56 31.6**	**-0.3**
ARLS				⇑*iS*	**Sn**	**06 57 07.4**	**+1.8**
SATY	**Saty** 28nm,1.1s	**2.82**	**15**	Pg	**Pb**	**06 56 36.7**	**-0.9**
SATY				Lg	Lg	06 57 13.8	
SATY	**Saty** 28nm,1.1s	**2.82**	**15**	*e*P	**Pb**	**06 56 36.7**	**-0.9**
SATY				*e*S	**Sb**	**06 57 13.8**	**+1.6**
MDOK	**Medeo** 36nm,0.9s	**2.83**	**355**	Pg	**Pb**	**06 56 37.5**	**-0.5**
MDOK				⇑Lg	Lg	06 57 17.3	
MDOK	**Medeo** 44nm,0.5s	**2.83**	**355**	Pg	**Pb**	**06 56 37.4**	**-0.5**
MDOK				Lg	Lg	06 57 15.0	
MDOK	**Medeo** 56nm,0.4s	**2.83**	**355**	*e*P	**Pb**	**06 56 37.4**	**-0.5**
MDOK				*e*S	**Sb**	**06 57 15.0**	**+2.3**
UCH	**Uchtor** SNR=8.3	**2.88**	**312**	P	**Pn**	**06 56 34.7**	**+1.1**
KOTS	**Kotyrbulak** 12nm,0.4s	**2.90**	**356**	Pg	**Pb**	**06 56 38.3**	**-0.7**
KOTS				Lg	Lg	06 57 16.2	
KOTS	**Kotyrbulak** 12nm,0.4s	**2.90**	**356**	*e*P	**Pb**	**06 56 38.3**	**-0.7**
KOTS				*e*S	**Sb**	**06 57 16.2**	**+1.6**
TKM2	**Tokmak 2** SNR=14	**2.91**	**333**	P	**Pb**	**06 56 38.3**	**-1.0**
TKM2	**Tokmak 2** 9.3nm,0.6s	**2.91**	**333**	⇓Pg	**Pb**	**06 56 37.7**	**-1.6**
TKM2				⇓Lg	Lg	06 57 19.1	
KBK	**Karagaybulak** SNR=12	**2.96**	**322**	P	**Pb**	**06 56 39.2**	**-0.9**
UZB	**Uzynbulak** 6.2nm,0.5s	**3.05**	**23**	Pg	**Pb**	**06 56 40.3**	**-1.3**
UZB				Lg	Lg	06 57 20.0	
UZB	**Uzynbulak** 6.4nm,0.6s	**3.05**	**23**	*e*P	**Pb**	**06 56 39.9**	**-1.7**
UZB				*e*S	**Sb**	**06 57 19.5**	**+0.6**
DGS	**Degeres** 13nm,0.4s	**3.15**	**338**	Pg	**Pb**	**06 56 42.1**	**-1.1**
DGS				Lg	Lg	06 57 22.8	
DGS	**Degeres** 13nm,0.4s	**3.15**	**338**	*e*P	**Pb**	**06 56 42.1**	**-1.1**
DGS				*e*S	**Sb**	**06 57 22.8**	**+1.1**
AAK	**Ala-Archa** 9.9nm,0.8s	**3.17**	**317**	⇑Pg	**Pb**	**06 56 40.6**	**-3.0**
AAK				Lg	Lg	06 57 26.4	
KURS	**Kuram** 8.3nm,0.5s	**3.19**	**10**	Pg	**Pb**	**06 56 43.7**	**-0.2**
KURS				Lg	Lg	06 57 25.6	
KURS	**Kuram** 8.3nm,0.5s	**3.19**	**10**	*e*P	**Pb**	**06 56 43.8**	**-0.2**
KURS				*e*S	**Sb**	**06 57 25.6**	**+2.6**
SHLS	**Shalkode** 16nm,0.6s	**3.21**	**28**	*e*P	**Pg**	**06 56 47.0**	**-1.5**
SHLS				*e*S	**Sg**	**06 57 31.2**	**+1.1**
AML	**Almayashu** SNR=13	**3.32**	**304**	P	**Pn**	**06 56 40.1**	**+0.6**
PDGK	**Podgornoye** 6.8nm,0.7s	**3.37**	**27**	⇓Pg	**Pb**	**06 56 42.8**	**-4.1**
PDGK				⇓Lg	Lg	06 57 32.9	
PDGK	**Podgornoye** 38nm,0.8s	**3.37**	**27**	⇓*iP*	**Pn**	**06 56 39.9**	**0.0**
PDGK				⇓*iS*	**Sn**	**06 57 21.8**	**+1.9**
KTBS	**Karatobe** 9.6nm,0.5s	**3.41**	**351**	Pg	**Pb**	**06 56 47.7**	**+0.1**
KTBS				Lg	Lg	06 57 32.4	
KTBS	**Karatobe** 24nm,0.5s	**3.41**	**351**	*e*P	**Pb**	**06 56 47.7**	**+0.1**
KTBS				*e*S	**Sb**	**06 57 32.4**	**+3.2**
KUU	**Kurty** 6.0nm,0.8s	**3.64**	**348**	Pg	**Pb**	**06 56 51.4**	**-0.1**
KUU				Lg	Lg	06 57 38.8	
KUU	**Kurty** 24nm,0.9s	**3.64**	**348**	*e*P	**Pb**	**06 56 51.4**	**-0.1**
KUU				*e*S	**Sb**	**06 57 38.8**	**+3.1**
USP	**Ospenovka** SNR=12	**3.64**	**324**	P	**Sg**	**06 57 41.0**	**-3.1**
KTMS	**Ketmen** 2.5nm,0.2s	**3.80**	**34**	Pg	**Pb**	**06 56 54.1**	**-0.3**
KTMS				Lg	Lg	06 57 43.8	
KTMS	**Ketmen** 10nm,0.5s	**3.80**	**34**	*e*P	**Pb**	**06 56 54.1**	**-0.3**
KTMS				*e*S	**Sb**	**06 57 42.9**	**+2.4**
MNBS	**Baschi** 10nm,0.5s	**3.81**	**11**	*e*P	**Pb**	**06 56 55.9**	**+1.5**
MNBS				*e*S	**Sg**	**06 57 47.0**	**-2.4**
ARXS	**Arharly** 22nm,0.5s	**3.88**	**4**	Pg	**Pb**	**06 56 55.6**	**-0.1**
ARXS				Lg	Lg	06 57 45.9	
ARXS	**Arharly** 21nm,0.6s	**3.88**	**4**	*e*P	**Pb**	**06 56 55.6**	**-0.1**
ARXS				*e*S	**Sb**	**06 57 45.9**	**+3.1**
MRKS	**Merke** 21nm,0.6s	**3.95**	**309**	Pg	**Pb**	**06 56 57.2**	**+0.3**
MRKS				Lg	Lg	06 57 48.9	
MRKS	**Merke** 4.9nm,0.7s	**3.95**	**309**	*e*P	**Pb**	**06 56 57.2**	**+0.3**
MRKS				*e*S	**Sb**	**06 57 48.9**	**+4.0**
KK31	**Karatay Array** 4.9nm,0.7s	**5.85**	**300**	⇑Pg	**Pb**	**06 57 30.3**	**+1.0**
KK31				⇓Lg	Lg	06 58 51.1	

*ISCJB **27** 06:57:20.9±0.9, 52°.49N±0°.04×168°.12W±0°.03, h29km±6km, mb4.4/64, MS3.4/16, Error ellipse: s-maj=7.0km s-min=2.6km az=163.0*
*NEIC **27** 06:57:20.6±0.0, 52°.42N×168°.08W, h9km, mb4.4/78, ML3.7(AEIC), After AEIC.*
*IDC **27** 06:57:20.3±3.3, 52°.58N×168°.15W, h12km±19km, mb4.2/24, mb1 4.4/25, mb1mx4.2/40, mbtmp4.3/25, ML3.6/1, MS3.4/16, Ms1 3.4/16, ms1mx3.2/36, Error ellipse: s-maj=19.9km s-min=11.5km az=179.0*

ISC 27 06:57:20.4±1.9, 52°.49N±0°.06×168°.12W±0°.04, h13km±11km, n186, σ0°95/197, mb4.4/64, MS3.4/16, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.66**	**317**	*e*Pg	**Pn**	**06 57 34.9**	**-0.4**
NIKH				*e*Sg	**Sb**	**06 57 43.3**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**0.89**	**3**	*e*Pg	**Pn**	**06 57 39.1**	**+0.4**
OKER	**Okmok East Rim**	**0.96**	**2**	*e*Pg	**Pn**	**06 57 40.1**	**+0.5**
OKWE	**Okmok W'ng Wal**	**0.98**	**356**	*e*Pg	**Pn**	**06 57 40.3**	**+0.4**
OKAK	**Okmok**	**1.10**	**352**	*e*Pg	**Pb**	**06 57 39.5**	**-1.7**
MSW	**Makushin Switc**	**1.64**	**29**	*e*Pn	**Pn**	**06 57 49.5**	**+0.7**
MSW				*e*Sn	**Sg**	**06 58 12.4**	**-0.5**
MCIR	**Makushin Cirqu**	**1.64**	**26**	*e*Pn	**Pn**	**06 57 50.5**	**+0.1**
UNV	**Unalaska Valle**	**1.67**	**35**	*e*Pn	**Pn**	**06 57 49.6**	**+0.4**
UNV				*e*Sn	**Sb**	**06 58 11.8**	**+0.1**
AKMO	**Akutan Morgan**	**2.04**	**37**	*e*Pn	**Pn**	**06 57 55.2**	**+0.9**
AKMO				*e*Sn	**Sb**	**06 58 21.7**	**-0.8**
AKRB	**Akutan Reef Bi**	**2.05**	**36**	*e*Pn	**Pb**	**06 57 56.2**	**-1.2**
ZRO	**Akutan Zero**	**2.05**	**38**	*e*Pn	**Pn**	**06 57 55.8**	**+1.2**
AHB	**Akutan Harbor**	**2.13**	**39**	*e*Pn	**Pn**	**06 57 56.2**	**+0.6**
AKUT	**Akutan**	**2.17**	**40**	*e*Pn	**Pn**	**06 57 56.9**	**+0.8**
AKUT				*e*Sn	**Sn**	**06 58 24.1**	**+1.4**
AKSA	**Akutan Strait**	**2.19**	**40**	*e*Pn	**Pn**	**06 57 56.7**	**+0.2**
WESP	**Westdahl Peak**	**2.85**	**44**	*e*Pn	**Pn**	**06 58 06.7**	**+1.1**
FALS	**False Pass**	**3.66**	**48**	*e*Pn	**Pn**	**06 58 17.0**	**+0.4**
FALS				*e*Sn	**Sn**	**06 59 01.1**	**+1.5**
KOFP	**Korovin Flat P**	**3.67**	**269**	*e*Pn	**Pn**	**06 58 18.1**	**+1.3**
KOKL	**Mount Kliuchef**	**3.73**	**270**	*e*Pn	**Pn**	**06 58 19.1**	**+1.4**
ATKA	**Atka Island**	**3.74**	**268**	*e*Pn	**Pn**	**06 58 18.7**	**+1.0**
ATKA				*e*Sn	**Sn**	**06 59 02.6**	**+1.1**
KOWE	**Korovin West**	**3.76**	**270**	*e*Pn	**Pn**	**06 58 18.9**	**+1.0**
SPIA	**Saint Paul Isl**	**4.85**	**346**	*e*Pn	**Pn**	**06 58 36.1**	**+3.1**
GSTR	**Great Sitkin T**	**4.89**	**268**	*e*Pn	**Pn**	**06 58 34.3**	**+0.8**
GSTR				*e*Sn	**Sn**	**06 59 30.6**	**+0.6**
GSMY	**Great Sitkin M**	**4.90**	**268**	*e*Pn	**Pn**	**06 58 34.5**	**+0.9**
GSTD	**Great Sitkin T**	**4.95**	**268**	*e*Pn	**Pn**	**06 58 35.3**	**+0.9**
ETKA	**Kagalaska Isla**	**5.14**	**266**	*e*Pn	**Pn**	**06 58 37.8**	**+0.9**
ADK	**Adak**	**5.31**	**267**	*e*Pn	**Pn**	**06 58 40.2**	**+1.0**
ADK				*e*Sn	**Sn**	**06 59 40.4**	**+0.3**
SDPT	**Sand Point**	**5.34**	**55**	*e*Pn	**Pn**	**06 58 40.8**	**+1.1**
SDPT				*e*Sn	**Sn**	**06 59 42.0**	**+0.9**
KIRH	**Kanaga Island**	**5.55**	**267**	*e*Pn	**Pn**	**06 58 44.0**	**+1.4**
KIWB	**Kanaga Island**	**5.60**	**267**	*e*Pn	**Pn**	**06 58 44.6**	**+1.4**
KIWB				*e*Sn	**Sn**	**06 59 48.0**	**+0.7**
KIMD	**Kanaga Island**	**5.67**	**266**	*e*Pn	**Pn**	**06 58 45.2**	**+1.1**
CHGN	**Chignik**	**6.83**	**52**	*e*Pn	**Pn**	**06 59 00.2**	**+0.1**
OHAK	**Old Harbor**	**9.77**	**55**	*e*Pn	**Pn**	**06 59 39.6**	**-0.8**
KDAK	**Kodiak Island**	**10.34**	**53**	*e*Pn	**Pn**	**06 59 47.0**	**-1.2**
GAMB	**Gambell**	**11.47**	**352**	*e*Pn	**Pn**	**07 00 05.4**	**+1.8**
RSO	**Redoubt South**	**11.63**	**41**	*e*Pn	**Pn**	**07 00 06.8**	**+0.7**
SEW	**Seward**	**12.83**	**46**	*e*Pn	**Pn**	**07 00 21.1**	**-1.1**
SUA	**Susitna One**	**13.02**	**40**	*e*Pn	**Pn**	**07 00 24.7**	**-0.2**
RC01	**Rabbit Creek A**	**13.21**	**42**	*e*Pn	**Pn**	**07 00 26.2**	**-1.2**
PMR	**Palmer**	**13.73**	**41**	*e*Pn	**Pn**	**07 00 34.5**	**+0.1**
KNK	**Knik Glacier**	**13.90**	**42**	*e*Pn	**Pn**	**07 00 36.8**	**-0.1**
GHO	**Glory Hole Cre**	**13.91**	**41**	*e*Pn	**Pn**	**07 00 36.5**	**-0.5**
MID	**Middleton Isla**	**13.99**	**52**	*e*Pn	**Pn**	**07 00 37.5**	**-0.5**
SML	**Sawmill**	**14.16**	**41**	*e*Pn	**Pn**	**07 00 40.2**	**-0.2**
GLI	**Glacier Island**	**14.22**	**46**	*e*Pn	**Pn**	**07 00 40.3**	**-1.0**
SCM	**Sheep Creek Mo**	**14.58**	**42**	*e*Pn	**Pn**	**07 00 45.5**	**-0.7**
BPAW	**Bear Paw Mtn.**	**14.64**	**31**	*e*Pn	**Pn**	**07 00 49.5**	**+2.6**
EYAK	**Cordova Ski Ar**	**14.68**	**48**	*e*Pn	**Pn**	**07 00 45.8**	**-1.7**
RND	**Reindeer**	**14.89**	**35**	*e*Pn	**Pn**	**07 00 50.5**	**+0.1**
DIV	**Divide**	**14.91**	**46**	*e*Pn	**Pn**	**07 00 49.5**	**-1.2**
KLU	**Klutina** 25nm,1.0s	**15.01**	**44**	*e*Pn	**Pn**	**07 00 49.8**	**-2.2**
DHY	**Denali Highway** 9.2nm,0.8s	**15.24**	**38**	*e*Pn	**Pn**	**07 00 53.8**	**-1.3**
MLY	**Manley** 35nm,0.8s	**15.39**	**29**	*e*Pn	**Pn**	**07 00 58.6**	**+1.7**
HARP	**HAARP** 41nm,0.9s	**15.76**	**42**	*e*Pn	**Pn**	**07 01 01.6**	**-0.2**
WRH	**Wood River Hil** 4.7nm,0.8s	**15.83**	**33**	*e*Pn	**Pn**	**07 01 01.4**	**-1.2**
PAX	**Paxson** 4.9nm,0.7s	**15.91**	**40**	*e*Pn	**Pn**	**07 01 03.2**	**-0.5**
CCB	**Clear Creek Bu** 12nm,1.2s	**16.04**	**33**	*e*Pn	**Pn**	**07 01 04.4**	**-0.9**
TGL	**Tana Glacier** 42nm,0.9s	**16.10**	**49**	*e*Pn	**Pn**	**07 01 06.1**	**-0.1**
MDM	**Murphy Dome** 13nm,0.9s	**16.10**	**31**	*e*Pn	**Pn**	**07 01 06.4**	**+0.2**
COLA	**College** 18nm,0.8s	**16.17**	**32**	*e*Pn	**Pn**	**07 01 07.4**	**+0.5**
HDA	**Harding Lake** 6.6nm,0.9s	**16.18**	**34**	*e*Pn	**Pn**	**07 01 07.5**	**+0.4**
BALM	**Baldy** 12nm,0.8s	**16.41**	**48**	*e*Pn	**Pn**	**07 01 09.9**	**-0.3**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=234,slow=12,SNR=28	**16.42**	**33**	Pn	**Pn**	**07 01 08.1**	**-2.1**
ILB	**Eielson Array** 6.1nm,1.0s	**16.42**	**33**	*e*Pn	**Pn**	**07 01 09.3**	**-0.9**
RIDG	**Independent Ri** 7.6nm,0.7s	**16.56**	**38**	*e*Pn	**Pn**	**07 01 12.5**	**+0.5**
MENT	**Mentasta** 10nm,0.9s	**16.59**	**41**	*e*Pn	**Pn**	**07 01 12.3**	**-0.2**
DOT	**Dot Lake** 3.7nm,0.6s	**16.80**	**39**	*e*Pn	**Pn**	**07 01 15.4**	**+0.3**
CTGM	**Chitina Glacie** 29nm,0.7s	**16.86**	**49**	*e*Pn	**Pn**	**07 01 16.1**	**+0.2**
COLD	**Coldfoot** 9.9nm,1.1s	**17.18**	**24**	*e*Pn	**P**	**07 01 21.1**	**-0.3**
BCPM	**Bancas Point** 45nm,1.2s	**17.40**	**53**	*e*Pn	**Pn**	**07 01 22.7**	**+0.2**
FYU	**Fort Yukon** 19nm,1.1s	**18.09**	**30**	*e*Pn	**Pn**	**07 01 30.6**	**-0.4**
TOLK	**Toolik Lake Re** 5.7nm,0.8s	**18.44**	**22**	*e*P	**Pn**	**07 01 36.1**	**+0.8**
EGAK	**Eagle** 8.9nm,0.8s	**18.47**	**38**	*e*P	**P**	**07 01 35.8**	**+0.2**
DAWY	**Dawson** 15nm,1.0s	**18.83**	**41**	*e*P	**P**	**07 01 39.8**	**+0.1**
SIT	**Sitka** 6.3nm,0.8s	**19.34**	**63**	*e*P	**P**	**07 01 44.8**	**-0.3**
SKAG	**Skagway** 20nm,0.8s	**19.47**	**56**	*e*P	**P**	**07 01 47.4**	**+0.9**
BESE	**Bessie Mountai** 17nm,0.8s	**19.63**	**59**	*e*P	**P**	**07 01 49.1**	**+0.7**
BILL	**Bilibino** 9.2nm,1.1s	**19.85**	**331**	*e*P	**Pn**	**07 01 52.0**	**-0.2**
WHY	**Whitehorse** 21nm,0.8s	**19.86**	**53**	*e*P	**Pn**	**07 01 53.1**	**+0.6**
JIS	**Juneau Island** 15nm,1.0s	**19.87**	**60**	*e*P	**P**	**07 01 51.9**	**+1.0**
PET	**Petropavlovsk** 36nm,1.0s	**20.02**	**285**	*e*P	**P**	**07 01 53.0**	**+0.4**
PEA1	**Petropavlovsk-**	**20.57**	**285**	*e*P	**P**	**07 01 58.5**	**0.0**
PEA0B	**Petropavlovsk-** 19nm,1.0s	**20.57**	**285**	*e*P	**P**	**07 01 58.7**	**+0.2**
PETK	**Petropavlovsk-** 12nm,0.6s,baz=83,slow=14,SNR=34	**20.57**	**285**	P	**P**	**07 01 58.5**	**-0.1**
PETK	comp=Z,73nm,19.5s,baz=89,slow=39			LR	LR	07 10 47.2	
EPYK	**Eagle Plains** 30nm,0.6s	**20.85**	**36**	*e*P	**P**	**07 02 00.4**	**-1.1**
INK	**Inuvik** 12nm,0.8s	**22.82**	**33**	*e*P	**P**	**07 02 20.8**	**-1.7**
INK	**Inuvik** 8.0nm,0.7s,baz=221,slow=8.9,SNR=31	**22.82**	**33**	P	**P**	**07 02 20.9**	**-1.7**
INK	comp=Z,154nm,18.9s,baz=245,slow=39			LR	LR	07 12 09.7	
SEY	**Seymchan** 4.4nm,0.6s,baz=99,slow=9.8,SNR=15	**23.15**	**312**	P	**P**	**07 02 25.7**	**-0.3**
MA2	**Magadan** 2.8nm,0.4s,baz=81,slow=17,SNR=2.5	**23.71**	**304**	P	**P**	**07 02 31.2**	**-0.5**
MA2	comp=Z,77nm,18.1s,baz=110,slow=37			LR	LR	07 11 47.9	
YKA	**Yellowknife Ar** 0.5nm,0.5s,baz=274,slow=9.1,SNR=10	**29.58**	**49**	P	**P**	**07 03 25.1**	**+0.6**
YKA	0.6nm,0.7s,baz=291,slow=1.7,SNR=6.8			PcP	**PcP**	**07 06 28.2**	**-0.7**
YKA	0.3nm,0.9s,baz=271,slow=3.4,SNR=3.8			ScP	**ScP**	**07 10 09.2**	**-0.9**
YKA	comp=Z,13nm,18.9s,baz=276,slow=41			LR	LR	07 17 24.6	
YKB5	**Yellowknife Ar**	**29.58**	**49**	*e*P	**P**	**07 03 25.1**	**+0.6**
YKB5				*e*PcP	**PcP**	**07 06 28.2**	**-0.7**
YKB5				*e*ScP	**ScP**	**07 10 09.2**	**-0.9**
MOD	**Modoc Plateau** 2.6nm,0.8s	**33.59**	**89**	*e*P	**P**	**07 04 01.7**	**+1.5**
PAHR	**Pah Rah Range** 4.6nm,0.9s	**35.45**	**91**	*e*P	**P**	**07 04 16.3**	**0.0**
PNTR	**Pine Nut** 6.6nm,0.7s	**35.70**	**92**	*e*P	**P**	**07 04 19.9**	**+1.4**
WAKR	**Walker** 3.3nm,0.8s	**36.16**	**93**	*e*P	**P**	**07 04 23.3**	**+0.8**
MCMT	**McKenzie Canyo**	**36.50**	**79**	*e*P	**P**	**07 04 25.6**	**+0.3**
EGMT	**Eagleton** 9.2nm,1.1s	**36.70**	**73**	*e*P	**P**	**07 04 27.2**	**+0.4**
NV01	**Mina Array Sit**	**36.90**	**92**	*e*P	**P**	**07 04 29.6**	**+0.8**
NV01				*e*PcP	**PcP**	**07 06 50.9**	**+0.8**
NVAR	**Mina Array Bea** 1.0nm,0.7s,baz=300,slow=8.4,SNR=7.5	**36.90**	**92**	P	**P**	**07 04 29.6**	**+0.8**
NVAR	0.2nm,0.5s,baz=312,slow=4.7,SNR=2.3			PcP	**PcP**	**07 06 50.9**	**+0.8**
MDPB	**Devils Postpil** 3.4nm,0.9s	**36.93**	**94**	*e*P	**P**	**07 04 29.2**	**+0.1**
YHH	**Holmes Hill** 4.4nm,1.1s	**37.72**	**78**	*e*P	**P**	**07 04 35.8**	**+0.1**
H11N2	**WAKE ISLAND Hy** baz=24,slow=75,SNR=77	**38.03**	**220**	T	T	07 45 23.9	
H11N3	**WAKE ISLAND Hy** baz=24,slow=75,SNR=82	**38.04**	**220**	T	T	07 45 24.5	
H11N1	**WAKE ISLAND Hy** baz=24,slow=75,SNR=64	**38.05**	**220**	T	T	07 45 26.4	
H11S1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=89	**39.22**	**220**	T	T	07 46 43.7	
H11S2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=22	**39.23**	**220**	T	T	07 46 47.3	
H11S3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=88	**39.24**	**220**	T	T	07 46 44.5	
USRK	**Ussuriysk Ar.** comp=Z,40nm,20.6s,baz=132,slow=39	**39.62**	**283**	LR	LR	07 22 55.2	
PD31	**Pinedale Array** 2.4nm,0.9s	**39.63**	**80**	*e*P	**P**	**07 04 52.3**	**+0.6**
PDAR	**Pinedale Array** 1.3nm,0.7s,baz=303,slow=4.5,SNR=14	**39.63**	**80**	P	**P**	**07 04 52.0**	**+0.3**
PASC	**Pasadena Art C** 6.5nm,0.9s	**39.76**	**97**	*e*P	**P**	**07 04 53.5**	**+0.9**
MJAR	**Matsushiro Arr** 1.4nm,0.3s,baz=44,slow=7.1,SNR=5.4	**40.47**	**269**	P	**P**	**07 04 58.3**	**-0.2**
MJAR	comp=Z,44nm,21.0s,baz=50,slow=36			LR	LR	07 21 20.0	
MAJO	**Matsushiro**	**40.47**	**269**	*e*P	**P**	**07 04 58.3**	**-0.2**
MJB9	**Matsu-Tunnel** 7.5nm,0.8s	**40.47**	**269**	*e*P	**P**	**07 04 59.3**	**+0.8**
O20A	**White River Ci** 9.3nm,1.0s	**41.98**	**82**	*e*P	**P**	**07 05 11.3**	**+0.1**
Y12C	**Blythe** 3.4nm,0.6s	**42.27**	**95**	*e*P	**P**	**07 05 14.0**	**+0.7**
PV22	**Blue Mesa, Par** 4.4nm,0.9s	**42.65**	**85**	*e*P	**P**	**07 05 16.3**	**-0.3**
PV04	**Paradox Valley** 4.4nm,0.9s	**42.66**	**85**	*e*P	**P**	**07 05 17.6**	**+0.9**
PV11	**David Mesa, Pa** 5.7nm,0.6s	**42.74**	**85**	*e*P	**P**	**07 05 18.7**	**+1.3**
PV03	**Paradox Valley** 4.3nm,1.0s	**42.79**	**85**	*e*P	**P**	**07 05 17.9**	**+0.2**
PV13	**Radium Mtn., P** 8.3nm,0.9s	**42.86**	**85**	*e*P	**P**	**07 05 18.4**	**0.0**
PV01	**Paradox Valley** 3.9nm,0.8s	**43.03**	**85**	*e*P	**P**	**07 05 19.7**	**0.0**
ULM	**Lac du Bonnet** 0.8nm,0.4s,baz=265,slow=11,SNR=2.9	**43.41**	**63**	P	**P**	**07 05 21.7**	**-0.7**
SDCO	**Great Sand Dun** 2.5nm,1.1s	**45.15**	**83**	*e*P	**P**	**07 05 37.1**	**+0.4**
KSRS	**Korea Array** 4.5nm,0.8s,baz=54,slow=7.5,SNR=9.8	**46.15**	**277**	P	**P**	**07 05 44.5**	**+0.2**
KSRS	1.4nm,0.8s,baz=55,slow=5.1,SNR=3.5			ScP	**ScP**	**07 11 13.0**	**+0.3**
KSRS	comp=Z,23nm,19.6s,baz=48,slow=34			LR	LR	07 23 33.2	
KS15	**Wonju Array Si** 8.2nm,1.0s	**46.18**	**277**	*e*P	**P**	**07 05 45.2**	**+0.6**
T25A	**Trinidad** 5.3nm,1.0s	**46.20**	**83**	*e*P	**P**	**07 05 46.4**	**+1.4**
NRIK	**Noril'sk** comp=Z,71nm,18.8s,baz=62,slow=40	**46.68**	**332**	LR	LR	07 28 05.8	
MNTX	**Cornudas Mount** 3.0nm,0.8s	**49.27**	**89**	*e*P	**P**	**07 06 09.1**	**+0.5**
SUMG	**Summit** 10nm,0.9s	**50.44**	**18**	*e*P	**P**	**07 06 17.6**	**+0.2**
SUMG	**Summit** 26nm,0.9s	**50.44**	**18**	*i*P	**P**	**07 06 17.2**	**-0.2**
E43A	**Lone Tree Farm** 4.1nm,0.8s	**50.48**	**62**	*e*P	**P**	**07 06 16.9**	**-0.7**
SONA0	**Songino Array**	**51.89**	**301**	*e*P	**P**	**07 06 28.3**	**-0.1**
SONM	**Songino Array** 0.9nm,0.4s,baz=64,slow=6.8,SNR=5.7	**51.89**	**301**	P	**P**	**07 06 28.3**	**-0.1**
LTX	**Lajitas**	**51.98**	**90**	*e*P	**P**	**07 06 29.1**	**-0.1**
LTX				*e*PcP	**PcP**	**07 07 41.6**	**+0.1**
TX31	**Lajitas Ar. Si** 4.8nm,0.9s	**51.98**	**90**	*e*P	**P**	**07 06 29.1**	**0.0**
TXAR	**Lajitas Array** 2.0nm,0.6s,baz=297,slow=5.4,SNR=30	**51.98**	**90**	P	**P**	**07 06 29.1**	**-0.1**
TXAR	0.3nm,0.7s,baz=308,slow=4.5,SNR=1.9			PcP	**PcP**	**07 07 41.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**53.59**	**292**	*e*P	**P**	**07 06 42.3**	**+1.3**
NJ2	**Nanjing**	**55.29**	**279**	*e*P	**P**	**07 06 53.3**	**0.0**
ZALV	**Zalesovo Beam** comp=Z,62nm,19.9s,baz=70,slow=37	**57.85**	**318**	LR	LR	07 33 19.2	
ARCES	**ARCESS Array B** 3.3nm,0.9s,baz=6.5,slow=8.5,SNR=5.8	**57.88**	**354**	P	**P**	**07 07 10.1**	**-1.0**
ARCES	4.8nm,0.9s,baz=9.8,slow=5.9,SNR=4.9			PcP	**PcP**	**07 08 03.5**	**+0.1**
WHN	**Wuhan**	**59.07**	**281**	P	**P**	**07 07 16.0**	**-4.0**
XAN	**Xi'an**	**59.79**	**288**	P	**P**	**07 07 24.5**	**-0.6**
XAN				pP	pwP	07 07 32.5	-0.1
LZH

11nm,1.0s
NB201 NORSAR Array S 66.81 0 *eP* **P 07 08 11.0 -0.1**
15nm,0.8s
NB2 NORSAR Subarra 66.82 0 P **P 07 08 10.3 -0.9**
comp=Z,1.4nm,0.6s,baz=358,slow=6.2
NB200 NORSAR Array S 66.82 0 *eP* **P 07 08 10.6 -0.6**
NOA NORSAR Array B 66.82 0 P **P 07 08 10.6 -0.6**
comp=Z,3.3nm,0.8s,baz=360,slow=6.2,SNR=12
NOA LR LR 07 35 57.2
comp=Z,14nm,21.9s,baz=335,slow=35
KMI Kunming 69.98 285 P **P 07 08 32.0 +0.3**
BOOM Boomskoye usch 70.45 315 *eP* **P 07 08 33.6 -0.7**
comp=Z,6.1nm,1.0s
ABKAR Akbulak array 70.73 329 *eP* **P 07 08 35.2 -0.4**
comp=Z,6.8nm,0.8s
AAK Ala-Archa 70.94 316 *eP* **P 07 08 37.1 -0.3**
comp=Z,3.3nm,0.6s
PPT Papeete 71.60 161 LR LR 07 32 16.9
comp=Z,44nm,21.1s,baz=38,slow=29
KK31 Karatay Array 72.20 319 *eP* **P 07 08 44.1 -0.6**
comp=Z,4.6nm,0.8s
KKAR Karatay Array 72.20 319 *eP* **P 07 08 44.0 -0.7**
comp=Z,4.6nm,0.8s
KSH Kashi 72.85 313 P **P 07 08 52.0 +3.2**
BTK Batken 74.63 317 *eP* **P 07 08 58.8 -0.3**
comp=Z,6.5nm,0.8s
GAR Garm 75.73 317 *eP* **P 07 09 05.4 -0.2**
comp=Z,15nm,0.9s
AKASG Malin Array Be 76.14 349 P **P 07 09 06.5 -1.0**
comp=Z,4.2nm,0.7s,baz=18,slow=6.0,SNR=5.7
AKASG LR LR 07 46 57.7
comp=Z,31nm,19.8s,baz=260,slow=39
AKBB Malin Array Si 76.14 349 *eP* **P 07 09 06.2 -1.3**
comp=Z,5.7nm,0.8s
CHGR Chuyangaron 76.50 317 *eP* **P 07 09 10.2 +0.4**
comp=Z,16nm,0.7s
CMAR Chiang Mai Arr 77.33 284 P **P 07 09 14.9 +0.2**
comp=Z,2.5nm,0.6s,baz=25,slow=6.1,SNR=12
LANS Liptovska Anna 78.53 355 *eP* **P 07 09 22.3 +1.3**
GEC2 GERESS Array S 79.03 359 *eP* **P 07 09 24.0 +0.2**
GERES GERESS Array B 79.03 359 P **P 07 09 24.0 +0.2**
comp=Z,1.0nm,0.8s,baz=28,slow=6.0,SNR=6.1
VYHS Vyhne 79.22 355 *eP* **P 07 09 24.9 +0.2**
MODS Modra-Piesok 79.41 356 *eP* **P 07 09 25.6 -0.2**
KBZ Khabaz 80.49 338 P **P 07 09 32.1 +0.4**
comp=Z,4.6nm,1.0s,baz=255,slow=1.6,SNR=7.2
GEYT Alibeck 81.38 325 P **P 07 09 36.8 +0.3**
comp=Z,7.0nm,0.8s,baz=328,slow=5.3,SNR=11
BNI Bardonecchia 82.73 4 *eP* **P 07 09 43.6 0.0**
comp=Z,4.2nm,0.7s
HUMP Col San Antoni 83.03 69 *eP* **P 07 09 46.6 +1.2**
comp=Z,20nm,1.1s
BR101 Keskin Array S 86.23 343 *eP* **P 07 10 02.1 +0.5**
BR131 Keskin Array S 86.23 343 *eP* **P 07 10 02.5 +0.9**
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 86.23 343 P **P 07 10 02.1 +0.5**
comp=Z,3.9nm,1.0s,baz=58,slow=3.1,SNR=13
BRTR LR LR 07 52 35.7
comp=Z,10.0nm,21.1s,baz=321,slow=38
ESDC Sonseca Array 87.18 12 P **P 07 10 05.9 -0.1**
comp=Z,2.1nm,0.7s,baz=347,slow=4.2,SNR=11
ESDC LR LR 07 51 49.8
comp=Z,18nm,18.3s,baz=270,slow=38
AS31 Alice Springs 91.06 231 *eP* **P 07 10 23.6 -0.8**
comp=Z,1.0nm,1.0s
ASAR Alice Springs 91.06 231 P **P 07 10 23.4 -0.9**
comp=Z,1.2nm,0.7s,baz=33,slow=4.6,SNR=12
MAW Mawson 151.45 219 PKPbc **PKPbc 07 17 11.8 -0.5**

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*IDC **27** 07:10:01.5±5.0, 17°.21S×176°.33W, h0km, mb4.3/6, mb1 4.4/6, mb1mx3.9/28, mbtmp4.3/6, Error ellipse: s-maj=107.0km s-min=31.7km az=49.0*
*ISCJB **27** 07:10:04.3±0.7, 17°.68S±0°.10×176°.61W±0°.10, h10km, mb4.3/17, Error ellipse: s-maj=14.4km s-min=12.8km az=29.9*
*NEIC **27** 07:10:05.7±1.7, 17°.63S×176°.60W, h10km, mb4.4/12, Error ellipse: s-maj=24.9km s-min=19.5km az=334.0*
ISC 27 07:10:05.6±0.8, **17°.65**±0°.1×**176°.55W**±0°.09, **h10**km, **n26**, σ§**10**/26, **mb4.5**/17, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.46**	**104**	*e*Pn	**Pn**	**07 11 39.1**	**-1.7**
RAO	**Raoul Island**	**11.64**	**186**	*e*Pn	**Pn**	**07 12 51.5**	**-0.3**
MARNC	**Mare, Loyalty**	**15.03**	**253**	*e*Pn	**Pn**	**07 13 38.0**	**-0.2**
URZ	**Urewera**	**21.29**	**194**	P	**P**	**07 14 54.2**	**+1.8**
9.8nm,0.9s,baz=350,slow=6.1,SNR=4.3							
BKZ	**Black Stump Fm**	**22.30**	**194**	*e*P	**P**	**07 15 04.2**	**+1.0**
THZ	**Tophouse**	**25.69**	**198**	*e*P	**P**	**07 15 35.6**	**-0.4**
17nm,1.1s							
WHZ	**Wether Hill Ro**	**30.99**	**201**	*e*P	**P**	**07 16 24.1**	**+0.9**
ARMA	**Armidale**	**31.61**	**240**	*e*P	**P**	**07 16 30.9**	**+1.9**
4.1nm,0.6s							
PMG	**Port Moresby**	**36.16**	**278**	P	**P**	**07 17 06.8**	**-1.7**
6.6nm,0.3s,baz=281,slow=10,SNR=2.7							
TOO	**Toolangi**	**38.72**	**231**	*e*P	**P**	**07 17 29.9**	**-0.2**
4.0nm,0.9s							
STKA	**Stephens Creek**	**40.31**	**241**	*e*P	**P**	**07 17 42.9**	**-0.5**
1.9nm,1.1s							
STKA	**Stephens Creek**	**40.31**	**241**	P	**P**	**07 17 43.7**	**+0.3**
2.2nm,0.4s,baz=89,slow=8.9,SNR=8.1							
BBOO	**Buckleboo**	**45.09**	**241**	*e*P	**P**	**07 18 21.4**	**-0.8**
WB2	**Warramunga Arr**	**46.41**	**259**	*e*P	**P**	**07 18 31.0**	**-1.8**
1.0nm,0.8s							
WRAB	**Tennant Creek**	**46.41**	**259**	*e*P	**P**	**07 18 32.1**	**-0.7**
7.1nm,0.6s							
WR1	**Warramunga Arr**	**46.42**	**259**	*e*P	**P**	**07 18 33.0**	**+0.1**
WRA	**Warramunga Arr**	**46.42**	**259**	P	**P**	**07 18 33.0**	**+0.1**
1.0nm,0.5s,baz=88,slow=8.4,SNR=12							
AS31	**Alice Springs**	**46.57**	**254**	*e*P	**P**	**07 18 34.1**	**+0.1**
1.2nm,0.6s							
ASAR	**Alice Springs**	**46.57**	**254**	P	**P**	**07 18 34.1**	**0.0**
2.2nm,0.4s,baz=89,slow=8.7,SNR=37							
FORT	**Forrest**	**51.72**	**244**	*e*P	**P**	**07 19 12.1**	**-1.3**
12nm,0.6s							
SBA	**Scott Base**	**60.81**	**184**	*e*P	**P**	**07 20 18.5**	**+1.0**
1.1nm,0.6s							
VNDA	**Vanda**	**60.88**	**185**	*e*P	**P**	**07 20 16.9**	**-1.1**
VNDA	**Vanda**	**60.88**	**185**	P	**P**	**07 20 18.4**	**+0.4**
0.4nm,0.5s,baz=1.4,slow=6.6,SNR=7.9							
QSPA	**South Pole Qui**	**72.42**	**180**	*e*P	**P**	**07 21 32.1**	**+0.1**
3.2nm,0.8s							
SCM	**Sheep Creek Mo**	**82.53**	**14**	*e*P	**P**	**07 22 30.2**	**+1.8**
8.6nm,1.0s							
PV13	**Radium Mtn., P**	**84.28**	**47**	*e*P	**P**	**07 22 39.0**	**+0.8**
3.5nm,0.9s							

MEX 27 07:26:42.7±0.8, **16°.44N×98°.62W, h15**km±20km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.47**	**96**	*e*P	Pg	07 26 50.7	-1.4
PNIG				*e*S	Sg	07 26 56.9	-1.6
TLIG	**Tlapa**	**1.12**	**2**	*e*P	Pb	07 26 59.9	-3.9
TLIG				*i* S	Sb	07 27 13.6	-4.7

WEL 27 07:36:40.9±1.6, **36°S**±14°×**17°8E**±1°3, **h184**km±14km, **ML4.6**/5, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.80**	**180**	P	Pn	07 37 16.5	+0.4
MXZ				S	Sn	07 37 42.7	-0.8
HAZ	**Te Kaha**	**2.04**	**192**	P	Pn	07 37 18.9	+0.3
WMGZ	**Waiomatatini S**	**2.06**	**178**	P	Pn	07 37 19.5	+0.7
WMGZ				S	Sn	07 37 49.8	+1.3
PKGZ	**Pakihiroa**	**2.13**	**185**	P	Pn	07 37 20.1	+0.4
RUGZ	**Raukumara Rang**	**2.26**	**193**	P	Pn	07 37 20.7	-0.5
PUZ	**Puketiti**	**2.31**	**181**	P	Pn	07 37 21.9	+0.2
PUZ				S	Sn	07 37 52.8	-0.6
KUZ	**Kuaotunu**	**2.32**	**244**	P	Pn	07 37 21.4	-0.4
GRZ	**Great Barrier**	**2.37**	**257**	P	Pn	07 37 21.6	-0.7
TWGZ	**Tauwhareparae**	**2.42**	**186**	P	Pn	07 37 23.6	+0.6
TWGZ				S	Sn	07 37 56.4	+0.5
OPRZ	**Ohinepanea**	**2.51**	**214**	P	Pn	07 37 24.4	+0.5
MARZ	**Manawahe**	**2.58**	**210**	P	Pn	07 37 25.7	+0.9
MWZ	**Matawai**	**2.64**	**194**	P	Pn	07 37 25.5	0.0
URZ	**Urewera**	**2.67**	**201**	P	Pn	07 37 25.5	-0.3
TKGZ	**Te Karaka**	**2.70**	**188**	P	Pn	07 37 26.0	-0.1
CNGZ	**Carnagh Statio**	**2.72**	**182**	P	Pn	07 37 26.7	+0.4

KARZ	**Kaharoa**	**2.80**	**216**	P	Pn	07 37 28.9	+1.5
RAGZ	**Rawiri**	**2.82**	**195**	P	Pn	07 37 27.9	+0.3
MKAZ	**Moumakai**	**2.88**	**241**	P	Pn	07 37 28.1	-0.1
RRRZ	**Republican Roa**	**2.95**	**209**	P	Pn	07 37 29.7	+0.6
RIGZ	**Rimuhau**	**2.97**	**188**	P	Pn	07 37 29.0	-0.4
MUGZ	**Murupara**	**2.98**	**204**	P	Pn	07 37 29.2	-0.3
ETAZ	**East Tamaki Re**	**2.98**	**246**	P	Pn	07 37 29.8	+0.3
TOZ	**Tahuroa Road**	**3.00**	**228**	P	Pn	07 37 30.2	+0.5
HRRZ	**Handcock Road**	**3.09**	**211**	P	Pn	07 37 31.4	+0.5
PRRZ	**Plateau Road**	**3.13**	**209**	P	Pn	07 37 31.3	-0.1
PRGZ	**Paritu Road**	**3.17**	**186**	P	Pn	07 37 31.5	-0.3
ALRZ	**Allen Road**	**3.21**	**209**	P	Pn	07 37 32.2	-0.1
WCZ	**Waipu Caves**	**3.23**	**266**	P	Pn	07 37 31.9	-0.6
KNZ	**Kokohu**	**3.29**	**189**	P	Pn	07 37 32.3	-1.0
RAHZ	**Arahi**	**3.30**	**197**	P	Pn	07 37 32.8	-0.6
MTHZ	**Maungataniwha**	**3.30**	**200**	P	Pn	07 37 32.7	-0.8
KUTZ	**Kaahu Road**	**3.37**	**215**	P	Pn	07 37 35.3	+1.0
MHGZ	**Mahia Peninsul**	**3.40**	**185**	P	Pn	07 37 34.1	-0.5
WHHZ	**Waihua**	**3.42**	**194**	P	Pn	07 37 34.0	-0.8
NMHZ	**Naumai**	**3.54**	**199**	P	Pn	07 37 35.9	-0.5
ARHZ	**Aropaoanui**	**3.65**	**196**	P	Pn	07 37 36.7	-1.0
BKZ	**Black Stump Fm**	**3.69**	**203**	P	Pn	07 37 37.4	-0.9
MCHZ	**McNeill Hill**	**3.90**	**199**	P	Pn	07 37 40.0	-0.7
HIZ	**Hauiti**	**3.90**	**224**	P	Pn	07 37 42.9	+2.1
CKHZ	**Cape Kidnapper**	**4.01**	**194**	P	Pn	07 37 40.4	-1.8
FWVZ	**Far West T-bar**	**4.12**	**211**	P	Pn	07 37 42.9	-1.0
BHHZ	**Black Hill Sta**	**4.13**	**205**	P	Pn	07 37 41.7	-2.1
MOVZ	**Moawhango**	**4.17**	**208**	P	Pn	07 37 42.5	-1.8
KRHZ	**Kereru**	**4.17**	**201**	P	Pn	07 37 42.4	-1.9
KAHZ	**Kahuranaki**	**4.18**	**195**	P	Pn	07 37 42.9	-1.6
PKVZ	**Pokaka**	**4.24**	**213**	P	Pn	07 37 44.5	-0.8
PXZ	**Pawanui**	**4.41**	**195**	P	Pn	07 37 44.7	-2.7
PNHZ	**Pukenui**	**4.47**	**201**	P	Pn	07 37 45.4	-2.8
WPHZ	**Waipukurau**	**4.54**	**199**	P	Pn	07 37 47.0	-2.1
TSZ	**Taiapari Road**	**4.68**	**203**	P	Pn	07 37 47.6	-3.1
PRHZ	**Porangahau**	**4.69**	**196**	P	Pn	07 37 48.3	-2.6
WAZ	**Wanganui**	**4.78**	**213**	P	Pn	07 37 50.6	-1.5
ANWZ	**Angora Road**	**4.91**	**197**	P	Pn	07 37 50.5	-3.2
POWZ	**Post Office Ro**	**5.04**	**203**	P	Pn	07 37 52.8	-2.6
PRWZ	**Pori Road**	**5.13**	**200**	P	Pn	07 37 54.4	-2.2
BFZ	**Birch Farm**	**5.17**	**198**	P	Pn	07 37 54.1	-3.1

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*DDA **27** 07:45:20.5, 40°.05N×38°.72E, h17km±1km, ML3.5*
*ISK **27** 07:45:20.1, 40°.12N×38°.74E, h6km, ML2.9/10*
*ISCJB **27** 07:45:21.3±0.8, 40°.09N±0°.03×38°.74E±0°.03, h9km±6km, Error ellipse: s-maj=5.0km s-min=3.5km az=157.9*
ISC 27 07:45:21.0±1.0, **40°.06N**±0°.03×**38°.75E**±0°.02, **h17**km±10km, **n28**, σ§**60**/40, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.40**	**77**	*i* P	**Pb**	**07 45 30.1**	**+0.4**
KELT				*i* S	**Sb**	**07 45 35.7**	**+0.2**
REFA	**Refahiye_ERZN**	**0.66**	**179**	*i* P	Pg	07 45 25.0	-9.0
REFA				*i* S	Sg	07 45 27.9	-15
CUZAR	**Zara_SIVAS**	**0.78**	**258**	*i* P	**Pg**	**07 45 35.9**	**-0.2**
CUZAR				*i* S	**Sb**	**07 45 46.6**	**+0.3**
EUZM	**Uzumlu**	**0.81**	**116**	IAML_P			
comp=Z,16μm,0.1s							
EUZM				*i* P	**Pn**	**07 45 37.4**	**-0.3**
KEMA	**Kemaliye**	**0.81**	**194**	*i* P	**Pb**	**07 45 36.3**	**-0.4**
KEMA				*i* S	**Sn**	**07 45 48.9**	**-0.6**
ERZN	**Erzincan**	**0.88**	**122**	PG	**Pn**	**07 45 38.4**	**-0.3**
ERZN				SG	**Sn**	**07 45 51.6**	**+0.4**
BAYT	**Aydıntepe-Bayb**	**1.11**	**72**	PN	**Pn**	**07 45 41.6**	**-0.4**
BAYT				SN	**Sg**	**07 45 57.4**	**+0.2**
TNCL	**Tunceli-Merkez**	**1.12**	**147**	IAML_P			
comp=Z,2μm,0.2s							
TNCL				*i* P	**Pg**	**07 45 42.7**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.14**	**288**	PN	**Pn**	**07 45 41.9**	**-0.4**
RSDY				SN	**Sg**	**07 45 57.9**	**-0.2**
ORDU	**Ordu-Boztepe**	**1.16**	**324**	*i* P	**Pg**	**07 45 43.7**	**+0.3**
ORDU				*i* S	**Sg**	**07 45 59.6**	**+1.1**
BAYB	**BAYBURT**	**1.17**	**80**	*i* P	**Pg**	**07 45 43.1**	**-0.5**
BAYB				*i* S	**Sn**	**07 45 57.8**	**-0.6**
MACK	**Trabzon**	**1.17**	**41**	*i* P	**Pg**	**07 45 43.5**	**-0.2**
KTUT	**Trabzon**	**1.21**	**39**	PN	**Pb**	**07 45 42.9**	**-0.5**
KTUT				SN	**Sg**	**07 45 59.8**	**-0.3**
CUKAN	**kangal_SIVAS**	**1.24**	**234**	*i* P	**Pn**	**07 45 43.4**	**-0.3**
HEKM	**Malatya_Hekimh**	**1.33**	**208**	IAML_P			
comp=Z,3μm,0.2s							
HEKM				*i* P	**Pg**	**07 45 46.4**	**-0.3**
HEKM				*i* S	**Sg**	**07 46 04.9**	**+0.9**
KOPT	**Kop Dagi**	**1.34**	**91**	IAML_P			
comp=Z,4μm,0.2s							
KOPT				*i* P	**Pg**	**07 45 46.8**	**-0.1**
SVSK	**Karacayir**	**1.36**	**265**	PN	**Pb**	**07 45 46.1**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.51**	**114**	PN	**Pb**	**07 45 49.0**	**+0.3**
ELZG	**Elazig**	**1.57**	**173**	*i* P	**Pb**	**07 45 50.1**	**+0.4**
ELZG				*i* S	**Sg**	**07 46 11.9**	**+0.2**
KRIK	**Erzurum-spir**	**1.69**	**80**	*i* P	**Pg**	**07 45 52.4**	**-1.1**
KRIK				*i* S	**Sg**	**07 46 14.9**	**-0.5**
TOKT	**Tokat**	**1.71**	**279**	PN	**Pb**	**07 45 51.0**	**-1.0**
CUALT	**Altinyayla-SIV**	**1.73**	**244**	*i* P	**Pb**	**07 45 52.8**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.73**	**165**	PN	**Pb**	**07 45 52.5**	**+0.1**
DARE	**Darende-Malaty**	**1.78**	**214**	PN	**Pb**	**07 45 52.9**	**-0.4**
BNGB	**Bingl**	**1.83**	**125**	PN	**Pb**	**07 45 53.9**	**-0.2**
CUSAR	**Sarkisla-SIVAS**	**2.04**	**253**	*i* P	**Pb**	**07 45 57.5**	**-0.2**
DBAD	**Bademkaya**	**2.44**	**66**	*i* P	**Pb**	**07 46 03.9**	**-0.6**
DBAD				*i* S	**Sb**	**07 46 36.1**	**+1.9**
BCA	**Borcka**	**2.58**	**57**	PN	**Pn**	**07 46 03.1**	**+1.1**

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*ASRS **27** 07:52:22.2, 53°.64N×87°.93E, M3.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*ISCJB **27** 07:52:25.1±0.8, 53°.52N±0°.04×87°.67E±0°.09, h0km, mb3.7/1, MS2.8/1, Error ellipse: s-maj=7.7km s-min=6.2km az=1.4*
*IDC **27** 07:52:26.3±1.5, 53°.55N×87°.89E, h0km, mb3.6/1, mb1 3.9/8, mb1mx3.6/44, mbtmp3.9/8, ML3.5/6, MS2.9/1, Ms1 3.0/1, ms1mx2.1/47, Error ellipse: s-maj=14.1km s-min=12.1km az=58.0*
*NNC **27** 07:52:30.9±1.0, 53°.50N×87°.27E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=8.0km s-min=3.6km az=57.0, Suspected Mining explosion.*
ISC 27 07:52:26.4±1.0, **53°.63N**±0°.08×**87°.62E**±0°.07, **h0**km, **n18**, σ§**09**/26, **6C-10D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**282**	*i*		08 04 18.1	
baz=101,slow=339,SNR=12							
ZAA0	**Zalesovo Array**	**1.69**	**282**	⇓P	**Pb**	**07 52 58.6**	**+0.2**
10nm,0.6s							
ZAA0				⇓S	**Sn**	**07 53 19.5**	**0.0**
24nm,0.7s							
ZALV	**Zalesovo Beam**	**1.69**	**282**	Pn	**Pg**	**07 52 58.7**	**-0.1**
21nm,0.3s,baz=101,slow=16,SNR=133							
ZALV				Lg	Lg	07 53 25.5	
39nm,0.3s,baz=102,slow=26,SNR=13							
ZALV				LR	LR	07 53 58.2	
comp=Z,46nm,20.7s,baz=70,slow=49							
KURK	**Kurchatov**	**6.26**	**246**	⇑Pn	**Pn**	**07 54 01.6**	**+1.8**
11nm,0.7s							
KURK				⇓Sn	**Sn**	**07 55 12.4**	**+0.5**
8.3nm,0.5s							
KURK				⇓Lg	Lg	07 55 42.3	
91nm,0.9s							
KURBB	**Kurchatov Arra**	**6.35**	**245**	⇓Pn	**Pn**	**07 54 03.0**	**+1.9**
24nm,0.5s							
KURBB				⇓Sn	**Sn**	**07 55 14.8**	**+0.5**
46nm,0.6s							
KURBB				⇓Lg	Lg	07 55 43.2	
58nm,0.7s							
KURBB	**Kurchatov Arra**	**6.35**	**245**	Pn	**Pn**	**07 54 03.2**	**+2.1**
1.4nm,0.3s,baz=62,slow=14,SNR=107							
KURBB				Sn	**Sn**	**07 55 15.7**	**+1.4**
0.5nm,0.3s,baz=67,slow=24,SNR=5.9							
KURBB				Lg	Lg	07 55 50.8	
0.6nm,0.3s,baz=65,slow=32,SNR=5.5							
MK31	**Makanchi Array**	**7.64**	**209**	⇑Pn	**Pn**	**07 54 20.4**	**+1.5**
0.7nm,0.2s,baz=28,slow=13,SNR=98							
MK31				⇑Sn	**Sn**	**07 55 46.2**	**0.0**
8.5nm,0.7s,baz=46,slow=14,SNR=5.8							
MK31				⇓Lg	Lg	07 56 27.3	
16nm,0.7s,baz=32,slow=29,SNR=8.3							
MKAR	**Makanchi Array**	**7.64**	**209**	Pn	**Pn**	**07 54 20.5**	**+1.6**
1.4nm,0.3s,baz=27,slow=13,SNR=89							
MKAR				Sn	**Sn**	**07 55 46.6**	**+0.5**
1.0nm,0.3s,baz=32,slow=19,SNR=7.3							
MKAR				Lg	Lg	07 56 27.6	
1.1nm,0.3s,baz=31,slow=29,SNR=10							
MAKZ	**Makanchi**	**7.72**	**210**	⇑Pn	**Pn**	**07 54 21.5**	**+1.5**
2.9nm,0.6s							
MAKZ				⇑Sn	**Sn**	**07 55 47.9**	**-0.2**
14nm,1.1s							
MAKZ				⇓Lg	Lg	07 56 28.2	
21nm,1.1s							
BVAR	**Borovoye Array**	**10.33**	**274**	Pn	**Pn**	**07 54 57.4**	**+1.7**
1.6nm,0.3s,baz=72,slow=16,SNR=20							
BVAR				Sn	**Sn**	**07 56 50.9**	**-1.1**
1.6nm,0.3s,baz=70,slow=26,SNR=8.1							
BRVK	**Borovoye**	**10.38**	**274**	⇑Pn	**Pn**	**07 54 60.0**	**+3.6**
4.2nm,0.8s							
BRVK				⇓Sn	**Sn**	**07 56 53.9**	**+0.5**
8.5nm,0.7s							
SONM	**Songino Array**	**13.21**	**108**	Pn	**Pn**	**07 55 34.0**	**-1.2**
0.0nm,0.3s,baz=300,slow=12,SNR=3.1							
SONM				Lg	Lg	07 59 17.6	
0.3nm,0.3s,baz=297,slow=26,SNR=5.1							
AAK	**Ala-Archa**	**14.03**	**224**	Sn	**Sn**	**07 58 16.3**	**-6.6**
0.1nm,0.3s,baz=95,slow=20,SNR=2.0							
AAK				Lg	Lg	07 59 55.3	
0.5nm,0.3s,baz=71,slow=21,SNR=7.8							
NRIK	**Noril'sk**	**15.77**	**360**	Pn	**Pn**	**07 56 09.8**	**+0.3**
0.2nm,0.3s,baz=153,slow=14,SNR=2.4							
ARU	**Arti**	**16.84**	**291**	P	**P**	**07 56 25.1**	**-0.3**
0.0nm,0.3s,baz=107,slow=18,SNR=3.6							
ARU				S	**Sn**	**07 59 26.5**	**-4.1**
0.0nm,0.3s,baz=305,slow=18,SNR=2.9							
AKTO	**Aktyubinsk**	**18.43**	**272**	P	**Pn**	**07 56 43.8**	**+0.8**
0.2nm,0.3s,baz=72,slow=9.6,SNR=3.6							
FINES	**FINESS Array B**	**32.77**	**309**	P	**P**	**07 59 00.9**	**+0.3**
0.8nm,0.8s,baz=69,slow=9.1,SNR=2.3							
NOA	**NORSAR Array B**	**39.66**	**312**	LR	LR	08 18 33.1	
comp=Z,13nm,18.1s,baz=240,slow=39							

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*ISK **27** 07:56:03.3, 38°.89N×24°.70E, h5km, ML3.2/17*
*DDA **27** 07:56:04.0, 38°.93N×24°.96E, h9km±7km, ML3.1*
*ATH **27** 07:56:04.7, 38°.85N×24°.83E, h21km±3km, ML3.2/8, Error ellipse: s-maj=3.1km s-min=1.1km az=192.0*
*ISCJB **27** 07:56:05.5±0.4, 38°.86N±0°.02×24°.79E±0°.02, h22km±4km, Error ellipse: s-maj=4.1km s-min=3.0km az=164.0*
*THE **27** 07:56:05.0, 38°.86N×24°.83E, h16km, ML3.0/7, Error ellipse: s-maj=0.9km s-min=0.5km az=186.0*
ISC 27 07:56:05.3±1.0, **38°.87N**±0°.03×**24°.78E**±0°.02, **h19**km±2km, **n58**, σ§**82**/81, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	**0.18**	**272**	P	**Pg**	**07 56 09.8**	**-0.2**
SKY				S	**Sg**	**07 56 13.6**	**+0.3**
SKY	**Skiros Island**	**0.18**	**272**	P	**Pg**	**07 56 09.9**	**-0.1**
SKY				S	**Sg**	**07 56 13.5**	**+0.3**
SKY				AML	AML	07 56 13.9	
comp=E,32667μm,0.4s							
SKY				AML	AML	07 56 14.2	
comp=N,35615μm,0.4s							
PSRA	**Psara**	**0.70**	**118**	P	**Pb**	**07 56 17.9**	**-0.9**
PSRA				S	**Sb**	**07 56 26.6**	**-1.4**
PSRA				AML	AML	07 56 30.2	
comp=N,8468μm,0.6s							
PSRA				AML	AML	07 56 30.5	
comp=E,8115μm,0.2s							
ALNA	**Alonissos**	**0.76**	**291**	P	**Pn**	**07 56 20.5**	**-0.5**
ALNA				S	**Sn**	**07 56 32.2**	**+0.3**
ALNA				AML	AML	07 56 35.0	
comp=E,2382μm,0.6s							
ALNA				AML	AML	07 56 37.2	
comp=N,3743μm,0.5s							
SIGR	**SIGRI**	**0.91**	**68**	PG	**Pb**	**07 56 21.6**	**-0.8**
SIGR				SG	**Sn**	**07 56 35.7**	**+0.2**
SIGR	**SIGRI**	**0.91**	**68**	P	**Pb**	**07 56 21.2**	**-1.2**
SIGR				S	**Sb**	**07 56 33.6**	**-0.4**
SIGR	**SIGRI**	**0.91**	**68**	P	**Pb**	**07 56 21.4**	**-0.9**
SIGR				S	**Sb**	**07 56 34.4**	**+0.3**
SIGR				AML	AML	07 56 35.5	
comp=E,1593μm,0.4s							
SIGR				AML	AML	07 56 35.8	
comp=N,2640μm,0.5s							
MRKA	**Markates**	**0.94**	**260**	P	**Pb**	**07 56 22.9**	**-0.2**
MRKA				S	**Sn**	**07 56 36.5**	**-0.1**
MRKA	**Markates**	**0.94**	**260**	P	**Pg**	**07 56 24.2**	**+0.5**
MRKA				S	**Sn**	**07 56 37.8**	**+1.2**
MRKA				AML	AML	07 56 39.9	
comp=E,3361μm,0.5s							
MRKA				AML	AML	07 56 40.0	
comp=N,5604μm,0.9s							
DION	**Dionisos Attik**	**1.03**	**220**	P	**Pb**	**07 56 23.9**	**-0.7**
DION	**Dionisos Attik**	**1.03**	**220**	P	**Pb**	**07 56 24.1**	**-0.5**
DION				S	**Sg**	**07 56 39.2**	**+0.2**
DION				AML	AML	07 56 42.2	
comp=N,1838μm,0.3s							
DION				AML	AML	07 56 42.6	
comp=E,2916μm,0.4s							
LIA	**Limnos Island**	**1.07**	**17**	P	**Pb**	**07 56 24.5**	**-0.7**
LIA				S	**Sn**	**07 56 39.8**	**+0.2**
LIA	**Limnos Island**

RKY	Sarkoy-Tekirda	2.59	45	PN	Pn	07 56 46.9	+0.7
SART	Tekirdag	2.59	45	*i* P	Pn	07 56 44.7	-1.6
AYDB	Zeytinkoy-Aydi	2.62	110	PN	Pn	07 56 48.3	+1.6
BODT	Bodrum	2.70	131	PN	Pn	07 56 47.1	-0.6
AYDN	Tasoluk	2.73	115	IAML_P			
	comp=Z,458nm,0.3s						
AYDN				*i* P	Pb	07 56 54.0	+0.5
DURS	Dursunbey	2.96	75	IAML_P			
	comp=Z,142nm,0.1s						
DURS				*i* P	Pn	07 56 51.9	+0.6
KULA	Kula-Manisa	3.06	96	PN	Pn	07 56 54.2	+1.5
KCTX	Karacabey (Bur	3.10	62	PN	Pn	07 56 54.2	+1.0

*ISCJB **27** 07:58:20.4±0.3, 34°.07N±0°.03×96°.68W±0°.03, h10km, Error ellipse: s-maj=4.0km s-min=3.6km az=9.0*
*TUL **27** 07:58:20.4, 34°.08N×96°.59W, h7km, ML3.2*
*NEIC **27** 07:58:20.4±0.0, 34°.08N×96°.59W, h7km, ML3.2(TUL), After TUL.*
NEIC Felt at Madill and Spencer. Also felt at Sachse, Texas.
*ANF **27** 07:58:21.4±0.7, 34°.12N×96°.59W, h4km±4km, ML3.7/8, Error ellipse: s-maj=2.2km s-min=1.7km az=154.0*

ISC 27 07:58:19.8±0.8, 34°.09N±0°.02×96°.61W±0°.02, h10km, n42, σ1§90/76, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X37A	Clayton	1.14	63	*e*Pn	Pn	07 58 43.2	+1.4
X37A				*e*Sg	Sb	07 58 56.7	+0.3
OK001	Jones High Sch	1.58	339	*e*Pn	Pn	07 58 49.0	+1.1
OK001				*e*Sn	Sn	07 59 08.6	+0.2
OK009	Oakdale Elemen	1.64	336	*e*Pn	Pn	07 58 47.1	-1.5
OK009				*e*Sn	Sn	07 59 10.4	+0.7
OK005	Luther M Schoo	1.64	343	*e*Pn	Pn	07 58 49.4	+0.8
OK005				*e*Sn	Sb	07 59 10.7	+1.8
WMOK	Wichita Mounta	1.91	291	*e*Pn	Pb	07 58 55.1	+0.3
WMOK				*e*Sn	Sg	07 59 21.9	+0.7
WMOK	Wichita Mounta	1.91	291	P	Pb	07 58 54.8	0.0
	baz=108						
WMOK				S	Sb	07 59 20.1	+1.4
	baz=108						
TUL1	Leonard	1.94	20	*e*Pn	Pb	07 58 54.8	-0.5
TUL1				*e*Sn	Sg	07 59 22.4	+0.3
TUL1	Leonard	1.94	20	P	Pn	07 58 54.7	+1.8
	baz=200						
TUL1				S	Sb	07 59 20.5	+1.0
	baz=200						
WHTX	Lake Whitney,	2.21	199	*e*Pn	Pb	07 58 58.8	-0.9
WHTX				*e*Sn	Sg	07 59 31.1	+0.4
WHTX	Lake Whitney,	2.21	199	P	Pb	07 58 59.8	+0.1
	baz=19						
WHTX				S	Sb	07 59 28.3	+1.1
	baz=19						
MIAR	Mount Ida	2.55	79	*e*Pn	Pb	07 59 05.2	-0.5
MIAR				*e*Sn	Sg	07 59 41.3	-0.4
MIAR	Mount Ida	2.55	79	Pb	Pb	07 59 07.0	+1.4
	baz=261						
MIAR				Sb	Sg	07 59 41.0	-0.7
	baz=261						
W39A	Magazine	2.58	64	*e*Pn	Pb	07 59 04.7	-1.4
W39A				*e*Sn	Sg	07 59 41.2	-1.4
W39A	Magazine	2.58	64	Sb	Sg	07 59 41.9	-0.7
	baz=246						
NATX	Nacogdoches	2.84	144	*e*Pn	Pn	07 59 05.8	+0.7
NATX				*e*Sn	Sb	07 59 47.1	+1.7
NATX	Nacogdoches	2.84	144	S	Sb	07 59 43.6	-1.8
	baz=326						
ABTX	Abilene, Hawle	2.93	241	*e*Pn	Pn	07 59 06.6	+0.2
ABTX				*e*Sn	Sg	07 59 52.9	-1.0
WLAR	White Oak Lake	2.93	97	*e*Pn	Pb	07 59 10.0	-2.2
WLAR				*e*Sn	Sg	07 59 53.1	-0.9
U32A	Winter Ranch,	3.01	320	*e*Pn	Pn	07 59 08.8	+1.1
U32A				*e*Sg	Sg	07 59 56.3	-0.3
HHAR	Hobbs	3.09	44	*e*Pn	Pn	07 59 11.7	+3.0
HHAR				*e*Sg	Sg	07 59 59.3	+0.2
X40A	Basin Creek Fa	3.15	82	*e*Pn	Pn	07 59 12.8	+3.3
X40A				*e*Sg	Sg	08 00 00.5	-0.4
Z41A	Richland Creek	3.28	104	*e*Pn	Pn	07 59 12.3	+1.2
Z41A				*e*Sg	Sg	08 00 03.3	-1.8
Z41A	Richland Creek	3.28	104	P	Pn	07 59 14.0	+2.8
	baz=286						
Z41A				S	Sn	07 59 53.8	+3.6
	baz=286						
435B	Jarrell	3.40	194	*e*Pn	Pn	07 59 13.3	+0.5
435B				*e*Sg	Sg	08 00 08.6	-0.3
435B	Jarrell	3.40	194	S	Sb	07 59 58.0	-3.4
	baz=14						
UALR	University of	3.59	78	*e*Pn	Pn	07 59 16.8	+1.3
UALR				*e*Sg	Sg	08 00 13.4	-1.7
W41B	Gary Mavity, V	3.75	72	*e*Pn	Pn	07 59 21.3	+3.5
W41B				*e*Sg	Sg	08 00 18.3	-2.0
WHAR	Wooly Hollow	3.75	70	*e*Pn	Pn	07 59 20.9	+3.2
WHAR				*e*Sg	Sg	08 00 18.3	-2.1
CCAR	Cane Creek	4.02	91	*e*Pn	Pn	07 59 22.5	+1.1
CCAR				*e*Sg	Sg	08 00 27.9	-1.0
HKT	Hockley	4.17	171	*e*Pn	Pn	07 59 24.2	+0.8
HKT				*e*Sg	Sg	08 00 32.5	-1.4
AMTX	Amarillo	4.27	282	*e*Pn	Pn	07 59 26.5	+1.6
AMTX				*e*Sg	Sg	08 00 35.8	-1.0
JCT	Junction City	4.50	218	*e*Pn	Pn	07 59 30.0	+1.9
JCT				*e*Sg	Sg	08 00 44.2	-0.1
MSTX	Muleshoe	5.12	270	*e*Pn	Pn	07 59 38.1	+1.4
MSTX				*e*Sg	Sg	08 01 00.5	-3.8
CBKS	Cedar Bluff	5.35	333	*e*Pn	Pn	07 59 41.0	+1.3
CBKS				*e*Sg	Sg	08 01 06.4	-5.2
VBMS	Vicksburg	5.43	108	*e*Pn	Pn	07 59 39.0	-1.8
PBMO	Poplar Bluff	5.71	60	*e*Pn	Pn	07 59 47.9	+3.2
PBMO				*e*Sg	Sg	08 01 20.6	-2.6
CCM	Cathedral Cave	5.88	46	*e*Pn	Pn	07 59 46.0	-0.9
CCM				*e*Sg	Sg	08 01 24.8	-3.6
PARMO	Parma	6.16	63	*e*Pn	Pn	07 59 54.0	+3.2
PARMO				*e*Sg	Sg	08 01 32.8	-4.8
SIUC	Southern Illin	7.00	57	*e*Pn	Pn	08 00 00.8	-1.6
PLAL	Pickwick Lake	7.10	80	*e*Pn	Pn	08 00 02.6	-1.1
TX31	Lajitas Ar. Si	7.66	234	*e*Pn	Pn	08 00 12.0	+0.5
MNTX	Cornudas Mount	7.75	255	*e*Pn	Pn	08 00 13.0	+0.3

*IDC **27** 08:08:43.5±1.4, 54°.46N×167°.34E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.0/47, mbtmp4.0/15, ML3.2/1, MS3.3/6, Ms1 3.3/6, ms1mx2.8/35, Error ellipse: s-maj=39.6km s-min=15.4km az=173.0*
*ISCJB **27** 08:08:44.6±0.3, 54°.19N±0°.05×167°.39E±0°.03, h24km, mb4.2/52, MS3.5/4, Error ellipse: s-maj=6.7km s-min=2.3km az=165.9*
*NEIC **27** 08:08:45.7±0.4, 54°.54N×167°.37E, h10km, mb4.3/41, Error ellipse: s-maj=13.0km s-min=4.7km az=170.0*
*KRSC **27** 08:08:47.1±10.0, 54°.24N×167°.20E, h64km±10km, ML4.7*
*MOS **27** 08:08:48.0±0.8, 54°.28N×167°.35E, h53km, mb4.5/11, Error ellipse: s-maj=7.1km s-min=5.9km az=128.2*

ISC 27 08:08:46.5±0.6, 54°.26N±0°.06×167°.36E±0°.04, h24km, n167, σ1§77/177, mb4.2/52, MS3.5/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.24	320	*e*P	Pn	08 09 07.8	-0.5
BKI				*e*S	Sb	08 09 24.4	-0.3
BKI	Bering	1.24	320	PN	Pn	08 09 07.8	-0.5
BKI				S	Sb	08 09 24.4	-0.3
KBTR	Krutoberegovo	3.25	309	*e*P	Pn	08 09 36.7	+0.8
KBTR	Krutoberegovo	3.25	309	PN	Pn	08 09 36.7	+0.8
MKZ	Mys Kozlova	3.30	277	*e*P	Pn	08 09 37.9	+1.3
MKZ				*e*S	Sn	08 10 14.0	-1.0
MKZ	Mys Kozlova	3.30	277	PN	Pn	08 09 37.9	+1.3
MKZ				S	Sn	08 10 14.0	-1.0
KBG	Krutoberegovo	3.33	309	*e*P	Pn	08 09 39.3	+2.4
KBG	Krutoberegovo	3.33	309	PN	Pn	08 09 39.3	+2.4
SMKR	Semkarok	4.08	307	*e*P	Pn	08 09 50.7	+3.3
SMKR	Semkarok	4.08	307	PN	Pn	08 09 50.7	+3.3
TUMD	Tumrok D	4.14	286	*e*P	Pn	08 09 49.9	+1.7
KZV	Kizimen	4.19	285	*e*P	Pn	08 09 50.8	+1.9
KZV				*e*S	Sn	08 10 37.9	+0.8
KZV	Kizimen	4.19	285	PN	Pn	08 09 50.8	+1.9
KZV				S	Sn	08 10 37.9	+0.8
BDR	Baidarnaya	4.20	306	*e*P	Pn	08 09 53.4	+4.4
BDR	Baidarnaya	4.20	306	PN	Pn	08 09 53.4	+4.4
SRKR	Sorokina	4.26	307	*e*P	Pn	08 09 54.7	+4.9
SRKR	Sorokina	4.26	307	PN	Pn	08 09 54.7	+4.9
TUMR	Tumrok	4.30	287	*e*P	Pn	08 09 53.6	+3.2
TUMR	Tumrok	4.30	287	PN	Pn	08 09 49.9	-0.5
SMY	Shemya	4.31	108	*e*Pn	Pn	08 09 53.5	+3.1
SMY	Shemya	4.31	108	*e*P	Pn	08 09 54.1	+3.7
SMY				*e*S	Sn	08 10 43.6	+3.7
SMY	Shemya	4.31	108	*e*PN	Pn	08 09 53.5	+3.1
KRSR	Krestovskiy	4.35	299	*e*P	Pn	08 09 54.3	+3.2
KRSR	Krestovskiy	4.35	299	PN	Pn	08 09 54.3	+3.2
SRDR	Sredinnyy	4.83	298	*e*P	Pn	08 10 00.9	+3.3
SRDR	Sredinnyy	4.83	298	PN	Pn	08 10 00.9	+3.3
NLC	Nalytchevo	4.88	260	*e*P	Pn	08 10 00.5	+2.2
NLC				*e*S	Sn	08 10 53.1	-0.9
NLC	Nalytchevo	4.88	260	PN	Pn	08 10 00.5	+2.2
SDLR	Sedlovina	5.12	262	*e*P	Pn	08 10 03.6	+1.9
SDLR				*e*S	Sn	08 10 59.7	-0.4
SDLR	Sedlovina	5.12	262	PN	Pn	08 10 03.6	+1.9
SMAR	Somma	5.17	262	*e*P	Pn	08 10 04.4	+1.9
SMAR				*e*S	Sn	08 11 02.1	+0.6
SMAR	Somma	5.17	262	PN	Pn	08 10 04.4	+1.9
SMAR				S	Sn	08 11 02.1	+0.6
UGLR	Uglovaya	5.17	262	*e*P	Pn	08 10 04.6	+2.2
UGLR				*e*S	Sn	08 11 01.0	-0.4
UGLR	Uglovaya	5.17	262	PN	Pn	08 10 04.6	+2.2
KRER	Koryakskii	5.19	263	*e*P	Pn	08 10 05.1	+2.3
KRER				*e*S	Sn	08 11 01.8	-0.2
KRER	Koryakskii	5.19	263	PN	Pn	08 10 05.1	+2.3
AVH	Avacha	5.21	262	*e*P	Pn	08 10 05.0	+2.1
AVH				*e*S	Sn	08 11 03.3	+1.1
AVH	Avacha	5.21	262	PN	Pn	08 10 05.0	+2.1
AVH				S	Sn	08 11 03.3	+1.1
KRX	Arik	5.24	264	*e*P	Pn	08 10 05.3	+1.9
KRX				*e*S	Sn	08 11 03.0	0.0
KRX	Arik	5.24	264	PN	Pn	08 10 05.3	+1.9
ESO	Esso	5.24	292	*e*P	Pn	08 10 05.4	+2.1
ESO	Esso	5.24	292	PN	Pn	08 10 05.4	+2.1
KOK	Koryaka	5.26	263	*i* P	Pn	08 10 05.9	+2.3
KOK				*e*S	Sn	08 11 03.3	-0.2
KOK	Koryaka	5.26	263	PN	Pn	08 10 05.9	+2.3
DALK	Dalny	5.26	260	*e*P	Pn	08 10 05.5	+2.0
DALK				*e*S	Sn	08 11 02.9	-0.5
DALK	Dalny	5.26	260	PN	Pn	08 10 05.5	+2.0
PET	Petropavlovsk	5.33	260	*e*Pn	Pn	08 10 07.6	+3.2
PET				*e*Sn	Sn	08 11 05.9	+1.0
PET	Petropavlovsk	5.33	260	*e*PN	Pn	08 10 07.8	+3.4
OSSR	Ossora	5.53	336	*e*P	Pn	08 10 08.7	+1.5
OSSR	Ossora	5.53	336	PN	Pn	08 10 08.7	+1.5
GNL	Ganaly	5.59	268	*i* P	Pn	08 10 11.1	+3.0
GNL	Ganaly	5.59	268	PN	Pn	08 10 11.1	+3.0
RUS	Russkaya	5.61	255	*e*S	Sn	08 11 10.5	-1.3
KRMR	Karymshinskiy	5.69	259	*e*P	Pn	08 10 12.1	+2.8
KRMR				*e*S	Sn	08 11 12.7	-1.1
KRMR	Karymshinskiy	5.69	259	PN	Pn	08 10 12.1	+2.8
MTVR	Mutnovka	5.77	256	*e*P	Pn	08 10 13.4	+2.7
MTVR				*e*S	Sn	08 11 14.7	-1.5
MTVR	Mutnovka	5.77	256	PN	Pn	08 10 13.4	+2.7
PEA1	Petropavlovsk-	5.85	263	*e*Pn	Pn	08 10 13.2	+1.5
PEA1				*e*Sn	Sn	08 11 19.0	+1.1
PEA0B	Petropavlovsk-	5.86	263	*e*Pn	Pn	08 10 15.5	+3.9
PETK	Petropavlovsk-	5.86	263	Pn	Pn	08 10 13.2	+1.5
	3.4nm,0.3s,baz=79,slow=18,SNR=36						
PETK				Sn	Sn	08 11 19.0	+1.0
	8.9nm,0.3s,baz=292,slow=13,SNR=10						
PETK				LR	LR	08 12 45.3	
	comp=Z,51nm,18.3s,baz=111,slow=41						
ASAK	Asacha	5.97	255	*e*P	Pn	08 10 15.9	+2.5
ASAK	Asacha	5.97	255	PN	Pn	08 10 15.9	+2.5
KDTR	Khodutka, Kamc	6.11	250	*e*S	Sn	08 11 21.6	-2.7
TILK	Tilichiki	6.24	354	*e*P	Pn	08 10 19.1	+2.3
TILK	Tilichiki	6.24	354	PN	Pn	08 10 19.1	+2.3
PALN	Palana	6.32	323	*e*P	Pn	08 10 22.0	+4.0
PALN	Palana	6.32	323	PN	Pn	08 10 22.0	+4.0
SKR	Severo-Kuril's	7.74	247	*e*S	Sn	08 12 00.7	-3.6
SKR	Severo-Kuril's	7.74	247	*e*PN	Pn	08 10 42.9	+5.4
SKR				pmax	pmax		
	comp=Z,55nm,1.0s						
KMSK	Kamenskaya	8.25	356	*e*P	Pn	08 10 47.2	+2.7
KMSK	Kamenskaya	8.25	356	PN	Pn	08 10 47.2	+2.7
MA2	Magadan	10.50	307	LR	LR	08 15 32.9	
	comp=Z,16nm,18.2s,baz=130,slow=40						
SEY	Seynchan	11.65	324	Pn	Pn	08 11 33.4	+2.4
	comp=Z,0.2nm,0.3s,baz=144,slow=12,SNR=4.3						
BILL	Bilibino	13.84	358	*e*P	P	08 12 05.5	-3.4
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GAMB	Gambell	14.32	40	*e*Pn	Pn	08 12 08.1	+0.8
KDAK	Kodiak Island	22.43	65	*e*P	P	08 13 43.9	+0.8
	comp=Z,49nm,1.4s						
KDAK	Kodiak Island	22.43	65	*e*P	P	08 13 43.9	+0.8
KDAK				pmax	pmax		
	comp=Z,49nm,1.4s						
KLR	Kul'dur	22.45	272	P	P	08 13 43.9	+0.5
	comp=Z,1.6nm,0.5s,baz=60,slow=11,SNR=5.1						
BPAW	Bear Paw Mtn.	23.07	48	*e*P	P	08 13 51.7	+1.9
	comp=Z,3.0nm,1.1s						
SUA	Susitna One	23.07	55	*e*P	P	08 13 49.6	-0.4
	comp=Z,6.0nm,1.1s						
RND	Reindeer	23.97	50	*e*P	P	08 13 58.3	-0.4
	comp=Z,7.1nm,1.5s						
RND	Reindeer	23.97	50	*e*P	P	08 13 58.3	-0.4
RND				pmax	pmax		
	comp=Z,7.0nm,1.5s						
TIXI	Tiksi	24.00	331	*e*P	P	08 13 58.9	+0.2
	comp=Z,10nm,0.7s						
TIXI	Tiksi	24.00	331	P	P	08 13 58.3	-0.5
	comp=Z,9.4nm,0.7s,baz=114,slow=9.8,SNR=18						
SML	Sawmill	24.21	54	*e*P	P	08 13 59.0	-1.9
	comp=Z,7.5nm,1.0s						
SML	Sawmill	24.21	54	*e*P	P	08 13 59.0	-1.9
SML				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MDM	Murphy Dome	24.33	46	*e*P	P	08 14 01.5	-0.5
	comp=Z,2.4nm,0.8s						
WRH	Wood River Hil	24.36	47	*e*P	P	08 14 01.9	-0.3
	comp=Z,2.6nm,0.8s						
TOLK	Toolik Lake Re	24.42	37	*e*P	P	08 14 01.4	-1.4
	comp=Z,12nm,0.8s						
COLA	College	24.49	47	*e*P	P	08 14 03.2	-0.1
	comp=Z,7.4nm,0.8s						
COLA	College	24.49	47	*e*P	P	08 14 03.2	-0.1
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CCB	Clear Creek Bu	24.49	47	*e*P	P	08 14 02.8	-0.5
	comp=Z,4.4nm,0.9s						
DHY	Denali Highway	24.63	51	*e*P	P	08 14 03.5	-1.3
	comp=Z,3.2nm,1.0s						
SCM	Sheep Creek Mo	24.69	54	*e*P	P	08 14 04.7	-0.6
	comp=Z,7.7nm,1.1s						
SCM	Sheep Creek Mo	24.69	54	*e*P	P	08 14 04.7	-0.6
SCM				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ILAR	Eielson Array	24.89	47	P	P	08 14 06.1	-0.9
	comp=Z,2.6nm,0.6s,baz=253,slow=7.4,SNR=30						
ILB	Eielson Array	24.89	47	*e*P	P	08 14 06.0	-1.0
	comp=Z,3.8nm,0.8s						
KLU	Klutina	25.38	55	*e*P	P	08 14 10.3	-1.2
	comp=Z,4.1nm,1.2s						
FYU	Fort Yukon	25.71	43	*e*P	P	08 14 14.8	+0.4
	comp=Z,12nm,0.7s						
DOT	Dot Lake	26.11	49	*e*P	P	08 14 16.9	-1.2
	comp=Z,3.7nm,0.7s						
EGAK	Eagle	27.34	47	*e*P	P	08 14 27.4	-1.8
	comp=Z,5.5nm,0.9s						
DAWY	Dawson	28.16	48	*e*P	P	08 14 36.8	+0.3
	comp=Z,5.2nm,1.3s						
EPYK	Eagle Plains	29.12	43	*e*P	P	08 14 44.7	-0.3
	comp=Z,6.0nm,0.8s						
INK	Inuvik	30.26	39	*e*P	P	08 14 55.1	+0.1
	comp=Z,4.3nm,1.4s						
INK	Inuvik	30.26	39	P	P	08 14 54.7	-0.3
	comp=Z,1.2nm,0.5s,baz=288,slow=5.4,SNR=12						
H11N2	WAKE ISLAND Hy	34.47	181	T	T	08 52 30.1	
	baz=0.8,slow=76,SNR=522						
H11N3	WAKE ISLAND Hy	34.48	181	T	T	08 52 31.6	
	baz=0.8,slow=76,SNR=454						
H11N1	WAKE ISLAND Hy	34.49	181	T	T	08 52 33.4	
	baz=0.8,slow=76,SNR=520						
H11S1	WAKE ISLAND Hy	35.69	181	T	T	08 54 04.4	
	baz=0.4,slow=76,SNR=151						
H11S3	WAKE ISLAND Hy	35.70	181	T	T	08 54 05.1	
	baz=0.4,slow=76,SNR=44						
H11S2	WAKE ISLAND Hy	35.71	181	T	T	08 54 05.4	
	baz=0.4,slow=76,SNR=218						
NRIK	Noril'sk	37.44	325	LR	LR	08 32 08.6	
	comp=Z,42nm,18.7s,baz=50,slow=38						
SONA0	Songino Array	37.79	286	*e*P	P	08 16 00.8	+0.2
SONM	Songino Array	37.79	286	P	P	08 16 00.8	+0.2
	comp=Z,2.0nm,0.6s,baz=61,slow=7.2,SNR=8.0						
YKA	Yellowknife Ar	39.31	46	P	P	08 16 12.7	-0.3
	comp=Z,0.5nm,0.5s,baz=294,slow=8.2,SNR=8.8						
YKB5	Yellowknife Ar	39.31	46	*e*P	P	08 16 12.7	-0.3
HRY	Holter Researc	49.30	64	*e*P	P	08 17 32.0	-1.3
BMN	Battle Mountai	50.52	73	*e*P	P	08 17 42.1	-0.5
BMN	Battle Mountai	50.52	73	*e*P	P	08 17 42.1	-0.5
KURK	Kurchatov	50.70	305	*e*P	P	08 17 43.8	+0.2
	comp=Z,5.7nm,1.0s						
KURK	Kurchatov	50.70	305	*e*P	P	08 17 43.8	+0.2
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MK31	Makanchi Array	51.46	299	*e*P	P	08 17 48.5	-1.0
	comp=Z,1.0nm,1.1s						
MK31	Makanchi Array	51.46	299	*e*P	P	08 17 48.5	-1.0
MK31				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MK32	Makanchi Array	51.46	299	*e*P	P	08 17 48.3	-1.1
MKAR	Makanchi Array	51.46	299	P	P	08 17 48.3	-1.1
	comp=Z,0.5nm,0.6s,baz=46,slow=5.2,SNR=6.6						
MKAR				LR	LR	08 40 47.7	
	comp=Z,32nm,19.4s,baz=109,slow=38						
BRVK	Borovoye	52.98	311	*e*P	P	08 18 00.8	+0.2
	comp=Z,4.1nm,0.8s						
BRVK	Borovoye	52.98	311	*e*P	P	08 18 00.8	+0.2
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PD31	Pinedale Array	53.14	66	*e*P	P	08 18 02.7	+0.5
	comp=Z,1.6nm,1.1s						
PDAR	Pinedale Array	53.14	66	P	P	08 18 02.1	-0.1
	comp=Z,0.4nm,0.5s,baz=263,slow=1.4,SNR=4.1						
TCUT	Toone Canyon	53.27	69	*e*P	P	08 18 03.5	+0.3
	comp=Z,5.8nm,1.0s						
ARCES	ARCESS Array B	53.43	344	P	P	08 18 02.7	-1.0
	comp=Z,1.9nm,0.7s,baz=23,slow=10,SNR=4.3						
SRU	San Rafael Swe	55.15	70	*e*P	P	08 18 18.6	+1.6
	comp=Z,2.2nm,0.6s						
ARU	Arti	55.36	320	*e*P	P	08 18 18.2	+0.3
	comp=Z,7.1nm,0.9s						
ARU	Arti	55.36	320	*e*P	P	08 18 18.3	+0.3
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PV19	Morning Glory	56.57	70	*e*P	P	08 18 28.4	+1.3
	comp=Z,5.7nm,1.3s						
SMCO	Snowmass	57.05	67	*e*P	P	08 18 29.9	-0.8
	comp=Z,3.3nm,0.8s						
EYMN	Ely	58.45	51	*e*P	P	08 18 39.9	0.0
	comp=Z,3.9nm,0.9s						
KK31	Karatay Array	59.99	303	*e*P	P	08 18 50.8	+0.1
	comp=Z,1.8nm,0.8s						
KK31	Karatay Array	59.99	303	*e*P	P	08 18 50.8	+0.1
KK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	Karatay Array	59.99	303	*e*P	P	08 18 50.7	0.0
	comp=Z,1.8nm,0.8s						
KKAR	Karatay Array	59.99	303	*e*P	P	08 18 50.7	0.0
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ABKAR	Akbulak array	60.21	314	*e*P	P	08 18 52.1	0.0
	comp=Z,4.1nm,1.4s						
FIA0	FINESS Array S	60.64	340	*e*P	P	08 18 54.6	-0.2
FIA0	FINESS Array S	60.64	340	*e*P	P	08 18 54.6	-0.2
FINES	FINESS Array B	60.64	340	P	P	08 18 54.6	-0.2
	comp=Z,1.6nm,0.7s,baz=52,slow=12,SNR=5.8						
GAR	Garm	63.16	300	*e*P	P	08 19 12.3	+0.1
	comp=Z,7.0nm,0.6s						
GAR	Garm	63.16	300	*e*P	P	08 19 12.3	+0.1
GAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
G45A	Suttons Bay	63.28	49	*e*P	P	08 19 11.2	-1.6
	comp=Z,13nm,0.7s						
U32A	Winter Ranch,	63.37	64	*e*P	P	08 19 15.4	+1.8
	comp=Z,21nm,0.8s						
NB201	NORSAR Array S	63.47	347	*e*P	P	08 19 13.6	-0.3
	comp=Z,12nm,0.9s						
NB2	NORSAR Subarra	63.49	347	P	P	08 19 14.0	0.0
	comp=Z,0.4nm,0.4s,baz=16,slow=6.9						
NB200	NORSAR Array S	63.49	347	*e*P	P	08 19 13.6	-0.4
NOA	NORSAR Array B	63.49	347	P	P	08 19 13.6	-0.4
	comp=Z,1.2nm,0.7s,baz=16,slow=6.8,SNR=5.2						
HDIL	Hopedale	65.08	55	*e*P	P	08 19 24.4	-0.3
	comp=Z,6.0nm,0.8s						
NIL	Nilore	65.69	294	*e*P	P	08 19 29.9	+1.1
	comp=Z,6.6nm,0.9s						
NIL	Nilore	65.69	294	*e*P	P	08 19 29.9	+1.1
NIL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LTX	Lajitas	66.18	73	*e*P	P	08 19 32.9	+0.8
LTX	Lajitas	66.18	73	*e*P	P	08 19 32.9	+0.8
TX31	Lajitas Ar. Si

*SOME **27** 08:27:51.6, 44°.37N×82°.93E, h10km*

ISC 27 08:27:53.0±2.5, 44°.32N±0°.09×83°.0E±0°.1, h17km, n7, σ1⁹44/11, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.32**	**272**	*eP*	**Pb**	**08 28 32.8**	**-1.7**
	2.7nm,0.3s						
DJR				*eS*	**Sb**	**08 29 02.9**	**+0.1**
	4.4nm,0.4s						
MK31	**Makanchi Array**	**2.53**	**349**	⇑Pg	**Pb**	**08 28 37.3**	**-0.6**
	0.8nm,0.5s,baz=165,slow=17,SNR=14						
MK31				⇑Lg	Lg	08 29 09.9	
	3.7nm,0.6s,baz=165,slow=28,SNR=8.1						
MAKZ	**Makanchi**	**2.60**	**344**	⇑Pg	**Pb**	**08 28 38.0**	**-1.1**
	0.5nm,0.3s						
MAKZ				⇓Lg	Lg	08 29 10.7	
	0.8nm,0.5s						
PDGK	**Podgornoye**	**2.74**	**250**	⇑Pg	**Pb**	**08 28 39.3**	**-2.3**
	1.5nm,0.9s						
PDGK				⇑Lg	Lg	08 29 14.9	
	3.2nm,0.6s						
KAPS	**Kapalarasan**	**2.78**	**292**	*eP*	**Pb**	**08 28 41.2**	**-1.1**
	0.9nm,0.3s						
KAPS				*eS*	**Sb**	**08 29 16.8**	**+0.7**
	2.2nm,0.4s						
SHLS	**Shalkode**	**2.83**	**247**	*eP*	**Pn**	**08 28 38.4**	**+0.9**
	4.8nm,0.2s						
SHLS				*eS*	**Sn**	**08 29 11.9**	**+0.6**
	8.3nm,0.3s						
UZB	**Uzynbulak**	**3.13**	**249**	*eP*	**Pb**	**08 28 47.5**	**-0.7**
	0.5nm,0.1s						
UZB				*eS*	**Sb**	**08 29 28.0**	**+1.8**
	2.0nm,0.3s						

KRSC 27 08:28:34.0±10.0, 52°.02N×160°.77E, h42km±10km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.17**	**337**	*eP*	Pn	08 28 55.0	+1.1
SPN				*eS*	Sn	08 29 10.0	+1.3
NLC	**Nalytchevo**	**1.45**	**324**	*eP*	Pn	08 28 59.7	+2.1
NLC				*eS*	Sn	08 29 18.3	+3.0
RUS	**Russkaya**	**1.45**	**287**	*eP*	Pn	08 28 58.8	+1.1
RUS				*eS*	Sn	08 29 16.2	+0.7
DALK	**Dalny**	**1.60**	**310**	*eP*	Pn	08 29 01.2	+1.5
DALK				*eS*	Sn	08 29 20.7	+1.6
MTVR	**Mutnovka**	**1.66**	**287**	*eP*	Pn	08 29 02.5	+1.8
MTVR				*eS*	Sn	08 29 22.0	+1.2
KDTR	**Khodutka, Kamc**	**1.68**	**264**	*eP*	Pn	08 29 02.7	+1.8
UGLR	**Uglovaya**	**1.68**	**316**	*eP*	Pn	08 29 03.3	+2.3
UGLR				*eS*	Sn	08 29 24.3	+2.9
SDLR	**Sedlovina**	**1.71**	**318**	*eP*	Pn	08 29 03.2	+1.9
SDLR				*eS*	Sn	08 29 24.4	+2.4
SMAR	**Somma**	**1.73**	**317**	*eP*	Pn	08 29 03.8	+2.1
AVH	**Avacha**	**1.76**	**316**	*eP*	Pn	08 29 04.2	+2.2
AVH				*eS*	Sn	08 29 26.3	+3.1
KRER	**Koryakskii**	**1.78**	**317**	*eP*	Pn	08 29 05.1	+2.7
KRER				*eS*	Sn	08 29 27.5	+3.6
ASAK	**Asacha**	**1.81**	**283**	*eP*	Pn	08 29 04.9	+2.3
KRMR	**Karymshinskiy**	**1.81**	**298**	*eP*	Pn	08 29 04.3	+1.7
KOK	**Koryaka**	**1.82**	**315**	*eP*	Pn	08 29 05.2	+2.3
KRX	**Arik**	**1.86**	**317**	*eP*	Pn	08 29 05.9	+2.4
GNL	**Ganaly**	**2.40**	**315**	*eP*	Pn	08 29 14.0	+3.2
MKZ	**Mys Kozlova**	**2.60**	**12**	*eP*	Pn	08 29 16.5	+3.0
MKZ				*eS*	Sn	08 29 46.1	+2.2
KBTR	**Krutoberegovo**	**4.37**	**15**	P	Pn	08 29 41.9	+4.2

IDC 27 08:39:09.8±3.0, 31°.84S×177°.89W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/31, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=72.4km s-min=36.2km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.60**	**211**	Pn	Pn	08 41 00.8	-1.1
	0.3nm,0.3s,baz=60,slow=20,SNR=5.3						
URZ				Sn	Sn	08 42 29.8	+1.0
	1.9nm,0.3s,baz=278,slow=22,SNR=7.0						
ASAR	**Alice Springs**	**43.15**	**268**	P	P	08 47 13.1	+0.7
	0.6nm,0.6s,baz=103,slow=8.2,SNR=4.9						
WRA	**Warramunga Arr**	**44.26**	**274**	P	P	08 47 20.9	-0.6
	1.3nm,0.6s,baz=106,slow=8.5,SNR=3.1						
FINES	**FINESS Array B**	**146.52**	**339**	PKPbc	PKPdf	08 58 51.5	+0.6
	1.3nm,0.6s,baz=50,slow=3.0,SNR=8.2						

*ISCJB **27** 08:42:10.0±0.6, 9°.36S±0°.05×120°.04E±0°.07, h61km, mb4.2/4, Error ellipse: s-maj=11.2km s-min=5.7km az=147.8*

*IDC **27** 08:42:10.7±4.6, 9°.41S×119°.73E, h65km±43km, mb3.6/2, mb1 3.8/7, mb1mx3.5/36, mbtmp3.9/7, ML3.8/4, Error ellipse: s-maj=86.1km s-min=18.3km az=61.0*

*NEIC **27** 08:42:12.4±0.8, 9°.33S×120°.08E, h76km±12km, mb4.2/5, Error ellipse: s-maj=15.5km s-min=7.8km az=218.0*

*DJA **27** 08:42:14.6±0.8, 9°S±5°×12°0E±°, h68km±9km, M3.8/6, MLv3.8/6*

ISC 27 08:42:10.8±0.8, 9°.36S±0°.06×120°.11E±0°.07, h61km, n23, σ2⁹12/26, mb4.0/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.36**	**149**	P	Pn	08 42 28.3	+6.7
WSI				S	Sn	08 42 39.5	+10
MMRI	**Maumere**	**2.22**	**71**	*ePn*	**Pn**	**08 42 47.8**	**+2.4**
PLAI	**Plampang**	**2.36**	**283**	P	Pn	08 42 54.2	+6.9
PLAI				S	Sn	08 43 24.1	+8.9
BSSI	**Bau Bau, Buton**	**3.21**	**7**	P	**Pn**	**08 42 59.7**	**+0.8**
BATI	**Baumata**	**3.60**	**104**	P	**Pn**	**08 43 07.7**	**+3.4**
BATI				S	**Sn**	**08 43 42.2**	**-3.5**
BKSI	**Bulukumba**	**4.01**	**0**	P	**Pn**	**08 43 11.4**	**+1.6**
SOEI	**Soe**	**4.12**	**96**	*ePn*	**Pn**	**08 43 12.6**	**+1.2**
KAPI	**Kappang**	**4.33**	**355**	P	**Pn**	**08 43 16.0**	**+1.9**
	4.5nm,0.3s,baz=209,slow=5.3,SNR=18						
KAPI				S	**Sn**	**08 44 01.9**	**-1.4**
	7.2nm,0.3s,baz=254,slow=22,SNR=7.9						
JAGI	**Jajag, Banyuwa**	**5.95**	**278**	*ePn*	**Pn**	**08 43 37.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**10.22**	**149**	*ePn*	**Pn**	**08 44 36.2**	**+1.5**
FITZ				*eSn*	**Sn**	**08 46 24.4**	**-3.4**
FITZ	**Fitzroy Crossi**	**10.22**	**149**	P	**Pn**	**08 44 36.6**	**+1.9**
	0.2nm,0.3s,baz=306,slow=9.4,SNR=8.4						
FITZ				S	**Sn**	**08 46 24.6**	**-3.2**
	1.7nm,0.3s,baz=189,slow=15,SNR=14						
MTN	**Manton Dam**	**11.36**	**109**	*ePn*	**Pn**	**08 44 51.0**	**+0.5**
WRA	**Warramunga Arr**	**17.31**	**129**	P	**Pn**	**08 46 10.0**	**+1.4**
	0.5nm,0.3s,baz=300,slow=12,SNR=18						
WRA				S	Sn	08 49 08.7	-12
	0.3nm,0.3s,baz=310,slow=21,SNR=4.5						
WR1	**Warramunga Arr**	**17.32**	**129**	*ePn*	**Pn**	**08 46 10.0**	**+1.4**
WR1				*eSn*	Sn	08 49 08.7	-12
WRAB	**Tennant Creek**	**17.32**	**129**	*ePn*	**P**	**08 46 10.2**	**+1.0**
	28nm,1.8s						
WB2	**Warramunga Arr**	**17.32**	**129**	*ePn*	**Pn**	**08 46 09.0**	**+0.3**
	42nm,1.9s						
ASAR	**Alice Springs**	**19.40**	**139**	P	**Pn**	**08 46 34.8**	**+1.0**
	0.3nm,0.3s,baz=316,slow=10,SNR=30						
ASAR				S	**S**	**08 50 05.1**	**-3.4**
	0.1nm,0.3s,baz=307,slow=22,SNR=4.8						
PSI	**Prapat**	**24.32**	**299**	*eP*	**P**	**08 47 22.5**	**-0.7**
	9.5nm,1.0s						
BBOO	**Buckleboo**	**27.60**	**150**	*eP*	**P**	**08 47 54.0**	**+1.5**
	76nm,1.9s						
STKA	**Stephens Creek**	**29.99**	**141**	*eP*	**P**	**08 48 15.7**	**+2.0**
	2.7nm,1.4s						
STKA	**Stephens Creek**	**29.99**	**141**	P	**P**	**08 48 15.6**	**+1.8**
	1.0nm,0.4s,baz=321,slow=10.0,SNR=6.3						
MK32	**Makanchi Array**	**65.27**	**332**	*eP*	**P**	**08 52 44.4**	**-1.9**
MKAR	**Makanchi Array**	**65.27**	**332**	P	**P**	**08 52 44.4**	**-1.9**
	0.3nm,0.4s,baz=153,slow=7.4,SNR=3.7						

*VAO **27** 09:01:42.4±0.4, 24°.54S×70°.01W, h10km, mb4.9*

*ISCJB **27** 09:01:45.9±0.3, 24°.60S±0°.02×70°.08W±0°.03, h70km±2km, mb4.6/44, Error ellipse: s-maj=5.0km s-min=3.1km az=163.9*

*NEIC **27** 09:01:47.0±2.2, 24°.57S×70°.14W, h55km±4km, mb4.8/142, ML5.0(GUC), Error ellipse: s-maj=14.3km s-min=7.7km az=68.0*

NEIC Felt [III] at Calama, Sierra Gorda and Taltal.

*IDC **27** 09:01:47.3±0.4, 24°.70S×69°.97W, h56km±3km, mb4.3/13, mb1 4.4/18, mb1mx4.3/25, mbtmp4.5/18, MS3.5/7, Ms1 3.5/7, ms1mx3.3/25, Error ellipse: s-maj=13.4km s-min=7.8km az=110.0*

*GUC **27** 09:01:47.3±0.6, 24°.59S×70°.17W, h60km±5km, ML5.0*

*BJI **27** 09:01:48.0±0.0, 24°.50S×70°.20W, h52km, mB5.2/2, Ms5.2/2, Ms7 5.0/1*

ISC 27 09:01:46.8±0.3, 24°.59S±0°.03×70°.11W±0°.05, h53km±2km, h53km:pP-P, n543, σ1⁹10/585, mb4.7/45, 7C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.27**	**262**	⇑*iP*	**Pn**	**09 01 57.0**	**+0.6**
PB14				*i S*	**Sn**	**09 02 04.1**	**+0.9**
GO02	**Mina Guanaco**	**0.74**	**141**	*ePn*	**Pn**	**09 02 02.3**	**+0.8**
GO02				*eSn*	**Sn**	**09 02 13.7**	**+1.4**
PB10	**IPOC Station P**	**1.14**	**339**	*ePn*	**Pn**	**09 02 07.0**	**+0.5**
PB10				*eSn*	**Sn**	**09 02 19.5**	**-1.7**
PB10	**IPOC Station P**	**1.14**	**339**	⇓*iP*	**Pn**	**09 02 07.0**	**+0.5**
PB10				*i S*	**Sn**	**09 02 21.9**	**+0.7**
PB15	**IPOC Station P**	**1.49**	**23**	⇓*iP*	**Pn**	**09 02 13.2**	**+1.7**
PB15				*i S*	**Sn**	**09 02 32.4**	**+2.4**
PB05	**IPOC Station P**	**1.73**	**357**	⇑*iP*	**Pn**	**09 02 15.0**	**+0.3**
PB05				*i S*	**Sn**	**09 02 36.9**	**+1.2**
PB05				IAML		09 02 44.7	
	comp=E,11μm,0.5s						
PB06	**IPOC Station P**	**1.94**	**15**	⇑*iP*	**Pn**	**09 02 18.5**	**+1.0**
PB06				*i S*	**Sn**	**09 02 42.6**	**+1.8**
PB06				IAML		09 02 48.6	
	comp=N,18μm,0.7s						
PB04	**IPOC Station P**	**2.24**	**359**	*ePn*	**Pn**	**09 02 21.9**	**+0.1**
PB04	**IPOC Station P**	**2.24**	**359**	⇑*iP*	**Pn**	**09 02 21.9**	**+0.1**
PB04				*eS*	**Sn**	**09 02 50.3**	**+2.0**
PB04				IAML		09 02 57.4	
	comp=E,17μm,0.2s						
LVC	**Limon Verde**	**2.25**	**29**	*ePn*	**Pn**	**09 02 24.1**	**+2.0**
LVC				*eSn*	**Sn**	**09 02 52.1**	**+3.3**
LVC	**Limon Verde**	**2.25**	**29**	*eP*	**Pn**	**09 02 23.8**	**+1.8**
LVC				*eS*	**Sn**	**09 02 51.3**	**+2.4**
LVC	**Limon Verde**	**2.25**	**29**	P	**Pn**	**09 02 23.1**	**+1.1**
	comp=E,396nm,0.3s,baz=210,slow=8.7,SNR=1472						
LVC				S	**Sn**	**09 02 52.2**	**+3.3**
	comp=E,5μm,0.3s,baz=81,slow=12,SNR=21						
LVC				LR	LR	09 03 24.0	
	comp=E,2μm,20.8s,baz=210,slow=42						
PB03	**IPOC Station P**	**2.55**	**7**	⇑*iP*	**Pn**	**09 02 25.8**	**-0.1**
PB03				*eS*	**Sn**	**09 02 56.1**	**+0.4**
PB03				IAML		09 03 02.0	
	comp=N,8μm,0.4s						
PB07	**IPOC Station P**	**2.85**	**4**	⇑*iP*	**Pn**	**09 02 30.0**	**-0.1**
PB07				*eS*	**Sn**	**09 03 05.3**	**+2.0**
PB07				IAML		09 03 18.9	
	comp=E,7μm,1.3s						
PB09	**IPOC Station P**	**2.89**	**16**	⇑*iP*	**Pn**	**09 02 31.4**	**+0.8**
PB09				*i S*	**Sn**	**09 03 05.7**	**+1.5**
GO03	**Copiap**	**3.00**	**182**	*ePn*	**Pn**	**09 02 32.6**	**+0.7**
PB02	**IPOC Station P**	**3.26**	**3**	*eP*	**Pn**	**09 02 35.1**	**-0.5**
PB02				*eS*	**Sn**	**09 03 14.4**	**+1.3**
PB01	**IPOC Station P**	**3.57**	**9**	*ePn*	**Pn**	**09 02 39.8**	**-0.1**
LCO	**Las Campanas**	**4.44**	**187**	*ePn*	**Pn**	**09 02 51.5**	**-0.4**
LCO	**Las Campanas**	**4.44**	**187**	*eP*	**Pn**	**09 02 51.5**	**-0.4**
PB11	**IPOC Station P**	**4.82**	**5**	*ePn*	**Pn**	**09 02 55.7**	**-1.4**
GO01	**Chusmiza**	**4.97**	**10**	*ePn*	**Pn**	**09 02 59.3**	**0.0**
MNMC	**Minye Minye**	**5.45**	**5**	*ePn*	**Pn**	**09 03 04.6**	**-1.2**
MNMC				*eSn*	**Sn**	**09 04 09.2**	**+1.8**
GO04	**Tololo Observa**	**5.60**	**186**	*ePn*	**Pn**	**09 03 06.8**	**-0.9**
CFA	**Coronel Fontan**	**7.18**	**167**	P	**Pn**	**09 03 29.1**	**-0.2**
	comp=E,4.4nm,0.3s,baz=345,slow=13,SNR=31						
CFA				S	**Sn**	**09 04 56.6**	**+7.1**
	comp=E,5.1nm,0.3s,baz=142,slow=13,SNR=19						
CFA				LR	LR	09 06 38.3	
	comp=E,321nm,21.4s,baz=340,slow=41						
ROC1	**El Roble**	**8.40**	**185**	*ePn*	**Pn**	**09 03 45.2**	**-0.9**
LPAZ	**La Paz**	**8.46**	**13**	*ePn*	**Pn**	**09 03 48.3**	**+0.9**
LPAZ	**La Paz**	**8.46**	**13**	P	**Pn**	**09 03 47.8**	**+0.4**
	comp=E,4.1nm,0.3s,baz=199,slow=6.6,SNR=154						
PEL	**Peldehue**	**8.54**	**183**	*ePn*	**Pn**	**09 03 46.6**	**-1.3**
CPUP	**Villa Florida**	**11.68**	**101**	P	**Pn**	**09 04 28.4**	**-2.3**
	comp=E,0.2nm,0.3s,baz=262,slow=11,SNR=7.8						
CPUP				LR	LR	09 09 30.5	
	comp=E,326nm,18.6s,baz=288,slow=40						
CPUP	**Villa Florida**	**11.68**	**101**	*eP*	**Pn**	**09 04 28.2**	**-2.6**
SIV	**San Ignacio**	**12.04**	**46**	P	**Pn**	**09 04 32.2**	**-3.5**
	comp=E,12nm,0.3s,baz=246,slow=11,SNR=142						
SIV				S	Sn	09 06 39.2	-9.4
	comp=E,1.2nm,0.3s,baz=231,slow=14,SNR=3.9						
AQDB	**Aquidauana**	**13.93**	**76**	*eP*	**Pn**	**09 04 60.0**	**-1.5**
NNA	**Nana**	**14.06**	**332**	S	**Sn**	**09 07 38.8**	**+0.7**
	comp=E,1.4nm,0.3s,baz=232,slow=18,SNR=3.7						
NNA				LR	LR	09 09 54.7	
	comp=E,82nm,21.8s,baz=166,slow=34						
TRQA	**Tornquist**	**15.11**	**155**	*ePn*	**Pn**	**09 05 15.9**	**-1.1**
	comp=E,24nm,0.9s						
TRQA	**Tornquist**	**15.11**	**155**	*eP*	**Pn**	**09 05 15.0**	**-1.9**
PLCA	**Paso Flores**	**16.11**	**181**	P	**Pn**	**09 05 29.5**	**-0.3**
	comp=E,0.0nm,0.3s,baz=137,slow=17,SNR=2.1						
PLCA				LR	LR	09 11 45.0	
	comp=E,295nm,20.7s,baz=22,slow=37						
ITAB	**Concordia**	**16.39**	**103**	*eP*	**Pn**	**09 05 31.6**	**-1.7**
PTGB	**Pitanga**	**16.41**	**94**	*eP*	**Pn**	**09 05 31.6**	**-2.1**
C2SB	**Chapadao do Su**	**17.06**	**74**	*eP*	**Pn**	**09 05 40.9**	**-0.8**
CNLB	**Canela**	**17.80**	**110**	*eP*	**Pn**	**09 05 48.7**	**-2.1**
FRTB	**Fartura**	**18.82**	**90**	*eP*	**P**	**09 06 02.0**	**-0.2**
ITRB	**Iturama**	**18.92**	**79**	*eP*	**P**	**09 06 02.8**	**-0.6**
TIJ01	**Guaruva-PR**	**19.15**	**97**	*eP*	**P**	**09 06 05.7**	**-0.3**
TER01	**Tubaro-SC**	**19.17**	**106**	*eP*	**Pn**	**09 06 07.2**	**-0.3**
CLDB	**Colider**	**19.26**	**47**	*eP*	**P**	**09 06 05.6**	**-1.5**
BB19B	**Bebedouro**	**20.19**	**84**	*eP*	**P**	**09 06 16.9**	**-0.4**
SPB	**Sao Paulo**	**20.72**	**92**	*eP*	**P**	**09 06 24.3**	**+1.3**
	comp=E,46nm,0.9s						
BDFB	**Brasilia**	**22.55**	**71**	*eP*	**P**	**09 06 39.6**	**-3.2**
	comp=E,37nm,0.8s						
BDFB				*eP*	**P**	**09 06 40.3**	**-2.5**
BDFB	**Brasilia**	**22.55**	**71**	P	**P**	**09 06 40.3**	**-2.5**
	comp=E,28nm,0.5s,baz=237,slow=12,SNR=31						
BDFB				LR	LR	09 16 37.7	
	comp=E,126nm,19.0s,baz=351,slow=40						
ESAR	**Angra dos Reis**	**23.53**	**91**	*eP*	**P**	**09 06 52.1**	**-0.3**
BSCB	**Bom Sucesso**	**23.62**	**86**	*eP*	**P**	**09 06 52.2**	**-1.2**
PTLC	**Puerto Leguiza**	**25.03**	**349**	*eP*	**P**	**09 07 03.3**	**-2.8**
PTLC	**Puerto Leguiza**	**25.03**	**349**	*eP*	**P**	**09 07 03.3**	**-2.8**
PTGA	**Pitinga**	**25.67**	**24**	*eP*	**P**	**09 07 11.4**	**-0.5**
	comp=E,15nm,0.9s						
PTGA	**Pitinga**	**25.67**	**24**	P	**P**	**09 07 10.6**	**-1.3**
	comp=E,12nm,0.4s,baz=317,slow=22,SNR=28						
PTGA	**Pitinga**	**25.67**	**24**	*eP*	**P**	**09 07 11.7**	**-0.2**
MCI6	**Montes Claros**	**25.68**	**77**	*eP*	**P**	**09 07 11.0**	**-1.2**
MCI8	**Montes Claros**	**25.71**	**77**	*eP*	**P**	**09 07 11.2**	**-1.2**
MCI9	**Montes Claros**	**25.72**	**77**	*eP*	**P**	**09 07 11.3**	**-1.2**
OTAV	**Otavalo**	**25.97**	**341**	*eP*	**P**	**09 07 14.8**	**-0.4**
	comp=E,2.5nm,0.9s						
OTAV	**Otavalo**	**25.97**	**341**	*eP*	**P**	**09 07 16.2**	**+1.1**
CAM01	**Campos-RJ**	**26.27**	**90**	*eP*	**P**	**09 07 16.2**	**-1.2**
FLOC	**Florencia**	**26.56**	**348**	*eP*	**P**	**09 07 21.9**	**+1.9**
FLOC	**Florencia**	**26.56**	**348**	*eP*	**P**	**09 07 21.9**	**+1.9**
SOTA	**Rioblanco**	**27.30**	**346**	*eP*	**P**	**09 07 29.8**	**+2.6**
SOTA	**Rioblanco**	**27.30**	**346**	*eP*	**P**	**09 07 29.8**	**+2.6**
BBAC	**Balboa, Cauca**	**27.34**	**344**	*eP*	**P**	**09 07 29.2**	**+2.0**
BBAC	**Balboa, Cauca**	**27.34**	**344**	*eP*	**P**	**09 07 29.2**	**+2.0**
SJMB	**Sao Joao De Ma**	**27.48**	**83**	*eP*	**P**	**09 07 27.3**	**-1.0**
POPC	**Popayan, Colom**	**27.71**	**346**	*eP*	**P**	**09 07 31.8**	**+1.3**
POPC	**Popayan, Colom**	**27.71**	**346**	*eP*	**P**	**09 07 31.8**	**+1.3**
BSFB	**Barra de Sao F**	**27.75**	**84**	*eP*	**P**	**09 07 29.6**	**-1.1**
YOTC	**Yotoco, Valle**	**29.04**	**347**	*eP*	**P**	**09 07 41.2**	**-1.1**
YOTC	**Yotoco, Valle**	**29.04**	**347**	*eP*	**P**	**09 07 41.2**	**-1.1**
ROSC	**El Rosal**	**29.54**	**351**	*eP*	**P**	**09 07 44.9**	**-2.0**
	comp=E,6.7nm,0.8s						
ROSC	**El Rosal**	**29.54**	**351**	P	**P**	**09 07 48.2**	**+1.3**
	comp=E,4.0nm,0.4s,baz=129,slow=17,SNR=4.3						
ROSC				LR	LR	09 19 56.2	
	comp=E,58nm,21.3s,baz=39,slow=37						
GUY2C	**Guyana, Caldas**	**30.07**	**350**	*eP*	**P**	**09 07 51.1**	**-0.7**
GUY2C	**Guyana, Caldas**	**30.07**	**350**	*eP*	**P**	**09 07 51.1**	**-0.7**
NORC	**Norcasia**	**30.32**	**351**	*eP*	**P**	**09 07 53.8**	**+0.2**
NORC	**Norcasia**	**30.32**	**351**	*eP*	**P**	**09 07 53.8**	**+0.2**
RUSC	**La Rusia**	**30.43**	**354**	*eP*	**P**	**09 07 54.4**	**-0.6**
RUSC	**La Rusia**	**30.43**	**354**	*eP*	**P**	**09 07 54.4**	**-0.6**
HELC	**Santa Helena**	**31.04**	**350**	*eP*	**P**	**09 07 58.4**	**-1.8**
HELC	**Santa Helena**	**31.04**	**350**	*eP*	**P**	**09 07 58.4**	**-1.8**
PTBC	**PUERTO BERRIO,**	**31.23**	**352**	*eP*	**P**	**09 07 58.4**	**-3.1**
PTBC	**PUERTO BERRIO,**	**31.23**	**352**	*eP*	**P**	**09 07 58.4**	**-3.1**
SOLC	**Bahia Solano**	**31.44**	**346**	*eP*	**P**	**09 08 04.4**	**+1.1**
SOLC	**Bahia Solano**	**31.44**	**346**	*eP*	**P**	**09 08 04.4**	**+1.1**
SDV	**Santo Domingo**	**33.27**	**359**	*eP*	**P**	**09 08 18.3**	**-1.3**
SDV	**Santo Domingo**	**33.27**	**359**	*eP*	**P**	**09 08 18.3**	**-1.3**
SMLC	**San Martn de**	**33.41**	**353**	*eP*	**P**	**09 08 18.3**	**-2.2**
SMLC	**San Martn de**	**33.41**	**353**	*eP*	**P**	**09 08 18.3**	**-2.2**
NBPA	**Parau_RN**	**36.78**	**65**	*eP*	**P**	**09 08 49.2**	**-0.5**
RCBR	**Riachuelo**	**37.74**	**66**	*eP*	**P**	**09 08 57.8**	**-0.1**
	comp=E,32nm,0.8s						
RCBR	**Riachuelo**	**37.74**	**66**	*eP*	**P**	**09 08 58.1**	**+0.2**
PMSA	**Palmer Station**	**40.38**	**176**	*eP*	**P**	**09 09 20.1**	**+0.9**
353A	**Camilla**	**57.23**	**346**	P	**P**	**09 11 28.1**	**-0.6**
	baz=165						
351A	**Pinckard**	**57.49**	**344**	P	**P**	**09 11 28.5**	**-2.1**
	baz=163						
352A	**Blakely**	**57.52**	**345**	P	**P**	**09 11 29.9**	**-0.9**
	baz=164						
VNA3	**Neumayer Olymp**	**57.53**	**161**	P	**P**	**09 11 30.9**	**+0.4**
254A	**Abbeville**	**57.61**	**347**	P	**P**	**09 11 30.8**	**-0.6**
	baz=166						
BRAL	**Brewton**	**57.76**	**343**	P	**P**	**09 11 32.0**	**-0.5**
	baz=162						
349A	**Repton**	**57.97**	**343**	P	**P**	**09 11 33.4**	**-0.5**
	baz=162						
252A	**Lumpkin**	**57.98**	**345**	P	**P**	**09 11 33.6**	**-0.4**
	baz=164						
155A	**Kite**	**58.10**	**348**	P	**P**	**09 11 33.9**	**-0.8**
	baz=167						
VNA2	**Neumayer--Watz**	**58.13**	**160**	P	**P**	**09 11 34.6**	**-0.1**
	baz=290,slow=6.9						
NHSC	**New Hope**	**58.17**	**350**	P	**P**	**09 11 34.7**	**-0.5**
	baz=169						
154A	**Montrose**	**58.22**	**347**	*eP*	**P**	**09 11 35.5**	**-0.2**
154A				*epP*	**pP**	**09 11 51.4**	**+0.6**
154A	**Montrose**	**58.22**	**347**	P	**P**	**09 11 35.3**	**-0.3**
	baz=166						
251A	**Midway**	**58.23**	**345**	P	**P**	**09 11 34.9**	**-0.8**
	baz=164,SNR=5.8						
250A	**Grady**	**58.33**	**344**	P	**P**	**09 11 35.2**	**-1.2**
	baz=163						
Z58A	**St. Stephen**	**58.34**	**350**	P	**P**	**09 11 36.2**	**-0.3**
	baz=170						
153A	**Fort Valley**	**58.40**	**346**	P	**P**	**09 11 35.8**	**-1.1**
	baz=165						
Z57A	**Bowman**	**58.44**	**350**	P	**P**	**09 11 36.9**	**-0.3**
	baz=169						
249A	**Camden**	**58.55**	**343**	P	**P**	**09 11 37.0**	**-0.9**
	baz=162						
152A	**Waverly Hall**	**58.62**	**346**	*eP*	**P**	**09 11 38.0**	**-0.4**
152A				*epP*	**pP**	**09 11 53.5**	**-0.2**
152A	**Waverly Hall**	**58.62**	**346**	P	**P**	**09 11 38.0**	**-0.4**
	baz=164						
151A	**Opelika**	**58.62**	**345**	P	**P**	**09 11 37.3**	**-1.2**
	baz=164						
H06E1	**SOCORRO T-PHAS**	**58.65**	**314**	T	T	10 14 51.5	
	SNR=14						
Z54A	**Sparta**	**58.77**	**348**	P	**P**	**09 11 38.1**	**-1.4**
	baz=166						
Y60A	**Bolivia**	**58.77**	**352**	P	**P**	**09 11 39.3**	**-0.2**
	baz=172						
150A	**Eclectic**	**58.87**	**344**	P	**P**	**09 11 39.5**	**-0.7**
	baz=163,SNR=5.4						
Y58A	**Scranton**	**58.88**	**351**	P	**P**	**09 11 39.4**	**-0.8**
	baz=170						
Z53A	**Monticello**	**58.96**	**347**	P	**P**	**09 11 39.9**	**-0.9**
	baz=166						
Z52A	**Williamson**	**59.05**	**346**	P	**P**	**09 11 40.7**	**-0.8**
	baz=165,SNR=5.7						
149A	**Jones**	**59.05**	**344**	P	**P**	**09 11 40.5**	**-0.9**
	baz=162						
GOGA	**Godfrey**	**59.06**	**347**	P	**P**	**09 11 40.4**	**-1.1**
	baz=166						
Y57A	**Sumter**	**59.09**	**350**	P	**P**	**09 11 41.9**	**+0.3**
	baz=169						
Y55A	**Saluda**	**59.26**	**349**	P

baz=162
U58A Oxford 61.17 352 P P 09 11 56.2 +0.3
baz=171
W50A Signal Mountai 61.18 346 P P 09 11 55.6 -0.4
baz=164,SNR=6.5
CPCT Cooper Cave 61.25 347 eP P 09 11 56.3 -0.2
CPCT epP pP 09 12 11.4 -0.3
U57A Blanch 61.31 352 P P 09 11 56.8 0.0
baz=170,SNR=5.9
W49A Belvidere 61.32 345 P P 09 11 56.2 -0.8
baz=163
U56A King 61.38 351 P P 09 11 57.4 +0.1
baz=169
X46A Booneville 61.38 343 P P 09 11 56.0 -1.3
baz=161
V52A Sevierville 61.44 348 P P 09 11 57.1 -0.7
baz=166,SNR=6.7
Z41A Richland Creek 61.45 338 P P 09 11 57.3 -0.5
baz=157
W48A Pulaski 61.50 344 P P 09 11 57.1 -1.0
baz=163,SNR=5.6
V51A Loudon 61.55 347 P P 09 11 57.7 -0.8
baz=165
OXF Oxford 61.56 342 P P 09 11 57.5 -1.1
baz=160
V50A Pikevile 61.59 346 P P 09 11 58.3 -0.4
baz=165,SNR=11
T59A Double "B" Far 61.63 353 P P 09 11 58.8 -0.1
baz=172
U55A TA2, Sparta 61.63 350 P P 09 11 57.7 -1.4
baz=169
PLAL Pickwick Lake 61.64 343 eP P 09 11 58.0 -1.1
PLAL epP pP 09 12 12.9 -1.5
JCT Junction City 61.71 331 P P 09 12 00.3 +0.5
baz=149,SNR=7.5
T58A Grand View Acr 61.72 352 P P 09 11 59.7 +0.2
baz=171,SNR=5.7
U53A Fall Branch 61.76 349 P P 09 11 58.8 -1.1
baz=167
U54A Nelsons Funny 61.77 349 P P 09 11 59.3 -0.8
baz=168
W47A Westpoint 61.77 344 P P 09 11 58.6 -1.4
baz=162,SNR=6.4
V49A McMinnville 61.86 345 P P 09 11 59.6 -1.0
baz=164,SNR=12
T57A Hurt 61.86 352 P P 09 12 00.8 +0.3
baz=171
W46A Michie 61.87 343 P P 09 11 59.7 -0.9
baz=161
T56A Rocky Mt 61.99 351 P P 09 12 01.7 +0.3
baz=170
U51A La Follette 62.04 347 P P 09 12 01.2 -0.6
baz=166
V48A Smith Brothers 62.05 345 P P 09 12 01.2 -0.6
baz=163,SNR=6.9
TZTN Tazewell 62.11 348 P P 09 12 01.2 -1.1
baz=166
T55A Pulaski 62.19 350 P P 09 12 03.0 +0.2
baz=169,SNR=5.7
BLA Blacksburg 62.23 351 P P 09 12 03.0 0.0
baz=170
U50A Jamestown 62.25 347 P P 09 12 02.4 -0.8
baz=165,SNR=6.6
T54A Tazewell 62.26 350 P P 09 12 02.7 -0.6
baz=168
CLTN Cedars of Leba 62.27 345 eP P 09 12 02.9 -0.4
CLTN epP pP 09 12 18.1 -0.5
V47A Nunnelly 62.30 344 P P 09 12 02.4 -1.1
baz=162
S58A Poland Farm, P 62.32 353 P P 09 12 03.4 -0.1
baz=172
T53A Wise 62.35 349 P P 09 12 03.0 -0.8
baz=167
S59A Mechanicsville 62.38 354 P P 09 12 04.3 +0.3
baz=173
V46A Holladay 62.43 344 P P 09 12 03.2 -1.1
baz=162
U49A Red Boiling Sp 62.55 346 P P 09 12 04.6 -0.6
baz=164
T52A Hallie 62.55 348 P P 09 12 04.4 -0.8
baz=167
TXAR Lajitas Array 62.56 327 P P 09 12 06.3 +0.8
comp=E,0.6nm,0.7s,baz=150,slow=8.0,SNR=9.2
TXAR pP pP 09 12 21.5 +0.7
comp=E,1.8nm,0.8s,baz=150,slow=7.6,SNR=13
S56A Natural Bridge 62.57 352 P P 09 12 05.2 -0.1
baz=170
S57A Dark Hollow, R 62.57 352 P P 09 12 05.0 -0.3
baz=171
X40A Basin Creek Fa 62.59 339 P P 09 12 04.7 -0.7
baz=157
T51A Gray 62.60 348 P P 09 12 04.7 -0.8
baz=166
R58B Mineral 62.65 353 P P 09 12 05.2 -0.6
baz=172,SNR=5.2
WVT Waverly 62.67 344 eP P 09 12 02.4 -3.6
comp=E,14nm,0.8s
WVT Waverly 62.67 344 P P 09 12 05.1 -0.8
baz=162
U48A Cassie Pea, Po 62.72 345 P P 09 12 05.4 -0.9
baz=163
S55A Lewisburg 62.79 351 P P 09 12 06.7 -0.1
baz=169
U47A Clarksville 62.83 344 P P 09 12 06.2 -0.8
baz=162,SNR=5.5
T50A Nancy 62.83 347 P P 09 12 06.1 -0.9
baz=165
MIAR Mount Ida 62.89 338 eP P 09 12 07.5 0.0
MIAR epP pP 09 12 22.9 +0.1
MIAR Mount Ida 62.89 338 P P 09 12 07.5 0.0
baz=156,SNR=6.0
S54A Dingess, Beckl 62.94 350 P P 09 12 07.3 -0.5
baz=169
S53A Williamson 62.96 349 P P 09 12 07.1 -0.8
baz=168
U46A Springville 62.97 344 P P 09 12 07.0 -1.0
baz=162
W41B Gary Mavity, V 63.03 340 P P 09 12 08.1 -0.3
baz=158,SNR=6.0
R57A Stanardsville 63.05 353 P P 09 12 08.9 +0.4
baz=172,SNR=6.3
T49A Edmonton 63.06 346 P P 09 12 07.8 -0.7
baz=164,SNR=7.8
S52A Salyersville 63.12 348 P P 09 12 08.2 -0.8
baz=167
S51A Beattyville 63.18 348 P P 09 12 08.8 -0.5
baz=166
R55A Marlinton 63.24 351 P P 09 12 10.0 +0.2
baz=170
T48A Bowling Green 63.26 345 P P 09 12 09.0 -0.8
baz=164
R54A Victor 63.27 350 P P 09 12 09.2 -0.7
baz=169
T47A Sharon Grove 63.30 345 P P 09 12 09.4 -0.8
baz=163,SNR=7.6
S50A Richmond 63.38 347 P P 09 12 10.0 -0.6
baz=166,SNR=5.1
ABTX Abilene, Hawle 63.49 332 P P 09 12 11.9 +0.4
baz=150
T46A Princeton 63.55 344 P P 09 12 11.0 -0.7
baz=162,SNR=8.4
W39A Magazine 63.55 338 P P 09 12 12.0 +0.2
baz=156
R53A Hurricane 63.56 350 P P 09 12 10.6 -1.2
baz=168
S49A Springfield 63.66 347 P P 09 12 10.9 -1.5
baz=165
S48A Wiedeman Farm, 63.70 346 P P 09 12 11.4 -1.4
baz=164,SNR=5.0
Q57A Strasburg 63.76 353 P P 09 12 13.8 +0.6
baz=172,SNR=6.4
R51A Hillsboro 63.82 348 P P 09 12 12.5 -1.0
baz=166
S47A Hartford 63.83 345 P P 09 12 12.3 -1.3
baz=163,SNR=7.5
Q55A Buckhannon 63.93 351 P P 09 12 14.6 +0.3
baz=170
R50A Paris 63.94 348 P P 09 12 13.6 -0.8
baz=166
Q53A Leroy 64.01 350 P P 09 12 13.8 -1.0
baz=168
Q54A Coxs Mills 64.03 351 P P 09 12 14.2 -0.7
baz=169
S46A Don Dixon Farm 64.11 345 P P 09 12 14.3 -1.2
baz=162
R49A Shelbyville 64.12 347 P P 09 12 14.8 -0.8
baz=165
P59A Jarrettsville 64.14 355 P P 09 12 15.5 -0.1
baz=174
Q52A Bidwell 64.23 349 P P 09 12 15.3 -1.0
baz=168
WCI Wyandotte Cave 64.30 346 eP P 09 12 15.6 -1.1
comp=E,12nm,0.8s
WCI Wyandotte Cave 64.30 346 P P 09 12 15.4 -1.3
baz=164
U40A Yellville 64.31 340 P P 09 12 16.4 -0.4
baz=157,SNR=9.6
R48A Northridge Ran 64.38 346 P P 09 12 15.9 -1.3
baz=164
R47A Wooly Knot Far 64.42 346 P P 09 12 15.6 -1.8
baz=164
Q50A Georgetown 64.42 348 P P 09 12 16.1 -1.3
baz=166
Q51A Peebles 64.48 349 P P 09 12 17.1 -0.7
baz=167
S44A Carbondale 64.51 343 P P 09 12 17.2 -0.8
baz=161
SIUC Southern Illin 64.52 343 eP P 09 12 17.4 -0.8
comp=E,13nm,0.8s
MCWV Mont Chateau 64.55 352 P P 09 12 17.6 -0.7
baz=170
R46A Gibon Southern 64.57 345 P P 09 12 16.9 -1.6
baz=163
P54A Burton 64.58 351 P P 09 12 17.9 -0.7
baz=170
P53A Whipple 64.61 350 P P 09 12 17.7 -0.9
baz=169
Q49A Aurora 64.75 347 P P 09 12 18.5 -1.1
baz=165
O60A Telford 64.76 356 P P 09 12 20.3 +0.7
baz=175
R45A Skylar, Fairfi 64.83 344 P P 09 12 19.1 -1.1
baz=162,SNR=6.9
Q48A North Vernon 64.86 347 P P 09 12 19.3 -1.0
baz=164
P52A Corning 64.87 350 P P 09 12 19.4 -1.0
baz=168
P51A Williamsport 64.87 349 P P 09 12 18.9 -1.5
baz=167
TUL1 Leonard 64.89 337 P P 09 12 20.0 -0.5
baz=154
WMOK Wichita Mounta 64.97 334 P P 09 12 21.0 -0.1
baz=151
O56A Blue Knob Stat 65.00 353 P P 09 12 21.1 -0.2
baz=172
Q47A Bedord North L 65.01 346 P P 09 12 19.8 -1.5
baz=164
O55A Ligonier 65.03 352 P P 09 12 21.2 -0.2
baz=171
P50A Jamestown 65.13 348 P P 09 12 21.1 -1.0
baz=166
O54A Avella 65.14 351 P P 09 12 22.2 +0.1
baz=170
SSPA Standing Stone 65.29 353 P P 09 12 24.0 +0.9
baz=172
O52A Adamsville 65.29 350 P P 09 12 22.7 -0.4
baz=168
P48A Milroy 65.30 347 P P 09 12 21.4 -1.8
baz=165
O53A New Philadelph 65.33 351 P P 09 12 23.2 -0.2
baz=169
MNTX Cornudas Mount 65.34 327 eP P 09 12 23.2 -0.4
MNTX epP pP 09 12 39.1 +0.1
MNTX Cornudas Mount 65.34 327 P P 09 12 23.9 +0.2
baz=145,SNR=5.1
Q45A Warren Harvey, 65.37 345 P P 09 12 22.5 -1.1
baz=162,SNR=5.3
N57A Milroy 65.37 354 P P 09 12 23.8 +0.1
baz=173
CCM Cathedral Cave 65.40 342 eP P 09 12 23.4 -0.4
CCM epP pP 09 12 38.8 -0.4
CCM Cathedral Cave 65.40 342 P P 09 12 23.5 -0.4
baz=159
P47A Martinsville 65.50 346 P P 09 12 23.0 -1.5
baz=164
N55A Marion Center 65.55 353 P P 09 12 25.1 +0.3
baz=171,SNR=6.1
ACSO Alum Creek Sta 65.59 349 eP P 09 12 24.0 -1.0
comp=E,14nm,0.9s
ACSO epP pP 09 12 40.3 -0.1
ACSO Alum Creek Sta 65.59 349 P P 09 12 24.1 -1.0
baz=167
N56A West Decatur 65.61 353 P P 09 12 25.3 +0.1
baz=172
O50A Cable 65.62 349 P P 09 12 24.2 -1.0
baz=167
QSPA South Pole Qui 65.62 180 eP P 09 12 25.9 +0.8
comp=E,15nm,0.8s
O49A Covington 65.79 348 P P 09 12 25.3 -1.0
baz=166
N54A Moraine State 65.86 352 P P 09 12 26.8 +0.1
baz=170
P45A Graceland, Par 65.88 345 P P 09 12 25.8 -1.0
baz=162
MSTX Muleshoe 66.00 331 P P 09 12 27.9 -0.1
baz=148,SNR=6.4
Q42A Golden Eagle 66.00 343 P P 09 12 26.9 -0.8
baz=160
O48A Farmland 66.02 347 P P 09 12 26.4 -1.3
baz=165
N50A Nevada 66.14 349 P P 09 12 27.3 -1.3
baz=167
M56A Emporium 66.16 353 P P 09 12 28.3 -0.4
baz=172
O47A Sheridan 66.20 347 P P 09 12 27.5 -1.5
baz=164
M55A Ridgway 66.21 353 P P 09 12 28.8 -0.2
baz=172
AMTX Amarillo 66.29 332 P P 09 12 29.5 -0.3
baz=149
M54A Oil Creek Stat 66.35 352 P P 09 12 29.5 -0.4
baz=171
M53A WI Miller and 66.42 351 P P 09 12 30.4 +0.1
baz=170
P43A Skaggs, Pawnee 66.42 344 P P 09 12 29.3 -1.1
baz=161
N49A Columbus Grove 66.47 348 P P 09 12 29.8 -0.8
baz=166,SNR=5.1
SFIN Lafayette 66.54 346 P P 09 12 28.8 -2.3
baz=163
O45A Potomac 66.56 345 P P 09 12 29.7 -1.5
baz=163
N48A Decatur 66.57 348 P P 09 12 30.8 -0.5
baz=165
M52A Chesterland 66.61 351 P P 09 12 30.3 -1.3
baz=169
O44A Mansfield 66.64 345 P P 09 12 31.0 -0.8
baz=162
L55A Hinsdale 66.88 353 P P 09 12 31.8 -1.4
baz=172
M49A Liberty Center 66.97 349 P P 09 12 32.4 -1.4
baz=166
ERPA Erie 66.99 352 P P 09 12 33.8 -0.1
baz=170
L54A Sinclairville 67.03 353 P P 09 12 33.1 -1.1
baz=171
121A Cookes Peak, D 67.22 326 P P 09 12 35.1 -0.8
baz=143
K54A Basiliko Farm, 67.33 353 P P 09 12 36.0 -0.1
baz=172
K55A Perry 67.38 354 P P 09 12 36.2 -0.2
baz=172
L48A N Adams 67.51 348 P P 09 12 36.2 -1.1
baz=166
L49A Milan 67.55 349 P P 09 12 36.4 -1.0
baz=167
N43A Stutzman Famil 67.56 344 P P 09 12 36.5 -1.0
baz=161
L47A Sherwood 67.68 348 P P 09 12 37.3 -1.1
baz=165
N41A Harden Midland 67.77 343 P P 09 12 38.1 -0.7
baz=160
M43A Waltham Townsh 67.97 345 P P 09 12 39.4 -0.8
baz=162
N40A Mertquake, Sal 68.13 343 P P 09 12 40.3 -0.8
baz=159
J52A Paris 68.16 352 P P 09 12 40.6 -0.7
baz=170,SNR=5.3
TAOE Nuku Hiva Isla 68.26 270 eLR LR 09 33 28.0
comp=E,61nm,26.8s
K48A Perry 68.29 349 P P 09 12 41.2 -0.9
baz=166
M41A Milan 68.31 344 P P 09 12 41.2 -1.1
baz=160
K47A Vermontville 68.32 348 P P 09 12 41.1 -1.2
baz=166
LAZ Ladron 68.39 328 eP P 09 12 43.2 0.0
ANMO Albuquerque 68.50 328 eP P 09 12 43.5 -0.4
comp=E,4.4nm,0.8s
ANMO Albuquerque 68.50 328 P P 09 12 45.4 +1.5
baz=145
TASM ASL Pad, Albuq 68.51 328 P P 09 12 45.3 +1.4
baz=145,SNR=5.6
TASM ASL Pad, Albuq 68.51 328 P P 09 12 45.3 +1.4
baz=145,SNR=5.3
WLVO Wesleyville 68.60 354 P P 09 12 44.5 +0.5
baz=172
TUC Tucson 68.62 324 eP P 09 12 46.0 +1.4
TUC epP pP 09 13 01.7 +1.6
TUC Tucson 68.62 324 P P 09 12 46.0 +1.4
baz=141
L43A Garden Prairie 68.63 345 P P 09 12 43.4 -0.9
baz=162
J49A Marlette 68.66 350 P P 09 12 43.8 -0.7
baz=167
PKRO Pickering 68.71 353 P P 09 12 44.3 -0.3
baz=171
J48A Bridge Port 68.71 349 P P 09 12 43.6 -1.1
baz=168
I51A Listowel 68.79 352 P P 09 12 44.8 -0.4
baz=169
I55A Frankford 68.82 354 P P 09 12 44.9 -0.5
baz=173
J47A Sunmer 68.83 349 P P 09 12 44.3 -1.2
baz=166
CBKS Cedar Bluff 68.90 336 P P 09 12 44.2 -1.9
baz=151
K43A Burlington 69.03 346 P P 09 12 45.5 -1.3
baz=162
BASO Ashfield 69.08 351 P P 09 12 46.6 -0.4
baz=169
DELO Deloro Mine 69.11 354 P P 09 12 45.8 -1.3
baz=173
BWLO Walkerton 69.11 352 P P 09 12 46.8 -0.4
baz=169
L40A Anamosa 69.13 343 P P 09 12 46.8 -0.5
baz=160
I49A Point Hope 69.18 350 P P 09 12 47.2 -0.4
baz=168
K42A Prairie Point, 69.34 345 P P 09 12 47.6 -1.0
baz=161
T25A Trinidad 69.38 331 eP P 09 12 48.4 -0.9
comp=E,8.5nm,0.9s
T25A Trinidad 69.38 331 P P 09 12 49.3 0.0
baz=147
L39A Vinton 69.39 343 P P 09 12 48.4 -0.6
baz=159
H52A Wyevale 69.47 353 P P 09 12 48.5 -0.9
baz=171
PKME Peaks-Kenny Pk 69.52 1 P P 09 12 48.9 -0.8
baz=181
I47A Gladwin 69.53 349 P P 09 12 47.9 -2.0
baz=166
I48A Sherman Twp 69.56 350 P P 09 12 48.6 -1.4
baz=167
BMRO Meriville Lake 69.59 352 P P 09 12 48.0 -2.2
baz=169
JFWS Jewell Farm 69.68 344 eP P 09 12 50.2 -0.5
comp=E,11nm,0.9s
JFWS Jewell Farm 69.68 344 P P 09 12 50.2 -0.5
baz=161
J43A Natural Harves 69.70 346 P P 09 12 50.1 -0.7
baz=162
K40A Colesburg 69.70 344 P P 09 12 50.1 -0.8
baz=160
J42A Columbus 69.80 345 P P 09 12 51.2 -0.2
baz=162
G53A Haliburton 69.81 354 P P 09 12 51.4 -0.1
baz=172
K39A Oelwein 69.91 343 P P 09 12 53.2 +1.1
baz=159,SNR=5.3
H46A Fife Lake 70.16 349 P P 09 12 52.6 -1.1
baz=166,SNR=5.3
BUKO Buck Lake 70.20 353 P P 09 12 53.8 -0.1
baz=171,SNR=5.8
KSCO Kaye Shedlock' 70.20 334 P P 09 12 55.0 +0.8
baz=149
KLBO Killbear Provi 70.21 352 P P 09 12 53.6 -0.3
baz=170
J40A Soldiers Grove 70.26 344 P P 09 12 53.8 -0.5
baz=160
I42A Draeger Farm, 70.29 346 eP P 09 12 54.0 -0.4
comp=E,8.8nm,1.0s
I42A Draeger Farm, 70.29 346 P P 09 12 53.7 -0.7
baz=162
LIC Lamto 70.32 73 eP P 09 12 55.4 +0.1
comp=E,54nm,1.1s
SDCO Great Sand Dun 70.36 331 P P 09 12 56.2 +0.8
baz=146,SNR=8.5
J39A Decorah 70.45 343 P P 09 12 54.6 -0.8
baz=159
TIC Toumodi 70.53 73 eP P 09 12 55.9 -0.7
F52A Sundridge 70.54 353 P P 09 12 55.6 -0.4
baz=171
G47A Hillman 70.55 350 P P 09 12 55.3 -0.6
baz=167
ALGO Algonquin Park 70.57 354 P P 09 12 55.6 -0.6
baz=172
BGNE Belgrade 70.62 338 P P 09 12 56.9 +0.3
baz=153
KIC Kosan Boka 70.63 73 eP P 09 12 56.9 -0.4
comp=E,61nm,0.9s
DBIC Dimbokro 70.68 73 eP P 09 12 57.3 -0.2
comp=E,22nm,1.0s
DBIC Dimbokro 70.68 73 P P 09 12 57.3 -0.2
comp=E,12nm,0.8s,baz=231,slow=5.1,SNR=9.2
DBIC pP pP 09 13 13.3 +0.4
comp=E,9.3nm,0.7s,baz=218,slow=5.8,SNR=4.8
DBIC sP sP 09 13 19.1 -0.1
comp=E,26nm,0.8s,baz=217,slow=5.6,SNR=10
F51A Arnstein 70.74 353 P P 09 12 56.3 -0.9
baz=171
H42A Shiocton 70.80 346 P P 09 12 56.6 -1.0
baz=162
F49A Sandfield 70.85 351 P P 09 12 56.8 -1.0
baz=169
I39A Houston 70.89 344 P P 09 12 57.3 -0.8
baz=160
E53A Dumoine, Ponti 70.96 354 P P 09 12 58.4 -0.1
baz=173
S22A 4UR Ranch, Cre 70.96 330 P P 09 12 59.8 +0.7
baz=145
E54A Lac Daplat, Po 70.97 355 P P 09 12 59.0 +0.5
baz=173
F48A Evansville 71.00 351 P P 09 12 58.1 -0.6
baz=168
Q24A Divide 71.22 332 P P 09 13 01.0 +0.3
baz=147
E51A G1948 Merrick 71.29 353 P P 09 13 00.4 -0.1
baz=171
MVCO Mesa Verde 71.31 328 P P 09 13 01.9 +0.8
baz=144,SNR=6.0
F45A CMU Biological 71.33 349 P P 09 13 00.0 -0.7
baz=165
E50A Wahnapitae 71.33 352 P P 09 13 00.6 -0.1
baz=170
H40A Chili 71.33 345 P P 09 13 00.8 0.0
baz=161
G43A Wallace 71.33 347 P P 09 13 00.3 -0.4
baz=163
WUAZ Wupatki 71.40 325 P P 09 13 03.4 +1.7
baz=141
G42A Mountain 71.47 346 P P 09 13 01.7 0.0
baz=162
E48A Lockeyer 71.57 351 P P 09 13 01.3 -0.9
baz=168
D52A ZEK Kipawa Sen 71.62 354 P P 09 13 02.3 -0.2
baz=172
D54A Lac Fusel, La 71.65 355 P P 09 13 02.3 -0.3
baz=174
D53A Lac Vacive, Po 71.66 355 P P 09 13 02.9 +0.2
baz=173
E47A Iron Bridge 71.70 350 P P 09 13 02.6 -0.4
baz=168
Y12C Blythe 71.76 322 eP P 09 13 01.9 -1.7
comp=E,3.7nm,0.9s
Y12C epP PcP 09 13 21.3 -1.0
F44A Big Bay de Noc 71.77 348 P P 09 13 02.7 -0.7
baz=164
F43A Flat Rock, Esc 71.78 348 P P 09 13 02.7 -0.7
baz=164
E46A Sault Ste Mari 71.78 350 P P 09 13 02.6 -0.8
baz=166
E45A Wooded Hills, 71.92 349 P P 09 13 03.3 -0.9

baz=166
F41A Three Lakes 72.09 346 P **P** 09 13 05.4 0.0
baz=162
ISCO Idaho Springs 72.11 332 P **P** 09 13 06.2 +0.2
baz=146
G39A Holcombe 72.14 345 P **P** 09 13 04.9 -0.8
baz=160
G38A Ridgeland 72.20 344 P **P** 09 13 05.2 -0.8
baz=159
D48A Paudash Townsh 72.20 352 P **P** 09 13 05.3 -0.6
baz=169
ECSD EROS Data Cent 72.21 340 P **P** 09 13 05.8 -0.3
baz=155,SNR=6.3
D46A Sault St. Mari 72.25 350 P **P** 09 13 05.2 -1.0
baz=167
D47A Chapleau 72.27 351 P **P** 09 13 05.4 -0.9
baz=168,SNR=5.6
E43A Lone Tree Farm 72.27 348 P **P** 09 13 05.7 -0.7
baz=164
F40A Park Falls 72.49 345 P **P** 09 13 07.2 -0.5
baz=161,SNR=6.6
SPMN Marine on St. 72.49 343 *e*P **P** 09 13 06.8 -0.9
comp=E,10.0nm,1.0s
SPMN Marine on St. 72.49 343 P **P** 09 13 07.2 -0.5
baz=158
E42A Champion 72.50 347 P **P** 09 13 07.3 -0.5
baz=163
PV22 Blue Mesa, Par 72.50 329 *e*P **P** 09 13 08.9 +0.7
PV22 *e*pP **PcP** 09 13 25.6 -0.1
U15A North Rim 72.58 325 *e*P **P** 09 13 10.6 +1.8
U15A *e*pP **PcP** 09 13 26.7 +0.5
F39A Loretta 72.67 345 P **P** 09 13 08.3 -0.5
baz=160
E41A Kenton 72.75 346 P **P** 09 13 08.8 -0.4
baz=162
F37A Hinrichs Farm, 72.91 344 P **P** 09 13 09.8 -0.4
baz=159
E40A Wakefield 72.94 346 P **P** 09 13 10.2 -0.1
baz=161
F38A Pierce - Schro 72.94 344 P **P** 09 13 10.6 +0.3
baz=159
E39A Mellen 73.02 345 P **P** 09 13 10.3 -0.5
baz=161
N23A Red Feather La 73.16 332 P **P** 09 13 13.4 +1.2
baz=146
D41A Chassel 73.23 347 *e*P **P** 09 13 12.0 -0.1
comp=E,23nm,0.8s
D41A *e*pP **PcP** 09 13 28.0 -0.3
D41A Chassel 73.23 347 P **P** 09 13 12.0 -0.1
baz=163,SNR=7.1
O20A White River Ci 73.54 330 P **P** 09 13 15.6 +1.3
baz=144,SNR=6.3
PPT2 Papeete2 73.56 258 *e*LR LR 09 35 58.5
comp=E,271nm,30.0s
LSQQ Lebel-sur-Quev 73.56 355 P **P** 09 13 13.4 -0.6
baz=174
VNDA Vanda 73.63 190 *e*P **P** 09 13 15.5 +1.3
VNDA Vanda 73.63 190 P **P** 09 13 13.3 -0.8
comp=E,1.7nm,1.1s,baz=163,slow=4.7,SNR=6.5
VNDA pP **pP** 09 13 31.3 +1.4
comp=E,2.5nm,1.0s,baz=143,slow=4.0,SNR=8.8
FMP Fort Macarthur 73.90 320 P **P** 09 13 17.2 +1.0
baz=135
Q16A Castle Valley 73.94 328 *e*P **P** 09 13 18.5 +1.8
comp=E,4.4nm,0.9s
SYO Syowa Base 74.02 159‖ *e*P **P** 09 13 13.8 -2.7
SYO Syowa Base 74.02 159‖ *e*pP pP 09 13 30.0 -2.2
GSC Goldstone, Bar 74.18 322 P **P** 09 13 18.2 +0.2
baz=137
CHGQ Chibougamau 74.26 357 P **P** 09 13 16.7 -1.3
baz=176
MATQ Matagami 74.31 355 P **P** 09 13 17.7 -0.6
baz=173
EYMN Ely 74.72 345 P **P** 09 13 19.7 -1.0
baz=160
K22A Casper 74.86 333 P **P** 09 13 22.9 +1.0
baz=146
MPU Maple Canyon 75.02 328 *e*P **P** 09 13 24.2 +1.2
comp=E,6.1nm,1.0s
TPNV Topopah Spring 75.07 323 P **P** 09 13 24.1 +0.9
baz=137
RSSD Black Hills 75.11 335 *e*P **P** 09 13 24.8 +1.4
comp=E,5.5nm,0.8s
RSSD Black Hills 75.11 335 P **P** 09 13 24.4 +1.0
baz=148
ISA Isabella, Lake 75.38 321 *e*P **P** 09 13 23.9 -1.1
comp=E,22nm,0.2s
PKM Mcpherson Peak 75.62 320 P **P** 09 13 27.4 +0.9
baz=134
DUG Dugway, Tooele 75.73 328 P **P** 09 13 27.5 +0.5
baz=141
R11A Troy Canyon, C 75.74 325 P **P** 09 13 28.0 +0.9
baz=138
AGMN Agassiz Nation 76.14 343 P **P** 09 13 29.1 +0.2
baz=156
PDAR Pinedale Array 76.25 331 P **P** 09 13 30.1 +0.2
comp=E,0.8nm,0.8s,baz=134,slow=8.6,SNR=6.3
PDAR pP **pP** 09 13 46.2 +0.5
comp=E,0.9nm,0.7s,baz=116,slow=3.4,SNR=4.9
MDND Maddock 76.83 340 P **P** 09 13 32.6 -0.1
baz=153
OMMB Old Mammoth Mi 77.06 322 *e*P **P** 09 13 35.0 +0.2
OMMB *e*pP **pP** 09 13 52.6 +2.0
NVAR Mina Array Bea 77.26 323 P **P** 09 13 36.2 +0.5
comp=E,0.9nm,0.8s,baz=161,slow=4.3,SNR=5.7
NVAR pP **pP** 09 13 52.6 +1.1
comp=E,1.5nm,0.8s,baz=153,slow=6.7,SNR=6.8
SNOW Snow King Moun 77.33 331 *e*P **P** 09 13 36.2 +0.2
comp=E,6.3nm,0.8s
ELK Elko 77.35 327 *e*P **P** 09 13 36.0 -0.2
comp=E,5.0nm,1.0s
TPAW Teton Pass 77.44 331 *e*P **P** 09 13 35.7 -1.0
TPAW *e*pP **pP** 09 13 54.3 +1.8
FLWY Flagg Ranch 77.80 331 *e*P **P** 09 13 40.3 +1.7
comp=E,13nm,0.9s
ULM Lac du Bonnet 77.93 343 P **P** 09 13 38.6 -0.3
comp=E,2.6nm,0.5s,baz=152,slow=5.1,SNR=8.2
H17A Grant Village 77.99 332 P **P** 09 13 41.5 +1.8
baz=143
RLMT Red Lodge 78.02 333 P **P** 09 13 40.4 +0.6
baz=144
LAO LASA Array 78.10 336 P **P** 09 13 40.4 +0.4
baz=147
YFT Old Faithful 78.15 331 *e*P **P** 09 13 42.7 +2.1
comp=E,4.9nm,0.8s
DGMT Dagmar 78.88 338 P **P** 09 13 45.2 +1.0
baz=149
HLID Hailey 79.08 329 P **P** 09 13 46.9 +1.3
baz=140
BOZ Bozeman (W) 79.40 332 P **P** 09 13 47.9 +0.6
baz=142
TOA0 Torodi Ar. Sit 79.43 70 *e*P **P** 09 13 47.7 -0.2
comp=E,20nm,0.7s
TOA1 Torodi Ar. Sit 79.43 70 *e*P **P** 09 13 45.9 -2.1
TORD Torodi Ar. Bea 79.43 70 P **P** 09 13 45.9 -2.1
comp=E,14nm,0.6s,baz=272,slow=4.1,SNR=64
TORD pP **pP** 09 14 03.3 -0.4
comp=E,5.7nm,0.6s,baz=262,slow=5.2,SNR=5.7
TORD sP **sP** 09 14 08.9 -0.9
comp=E,14nm,0.6s,baz=249,slow=5.1,SNR=9.7
DLMT Dillon 79.64 331 *e*pP pP 09 14 06.0 +1.5
comp=E,8.6nm,1.1s
TSUM Tsumeb 80.22 107 *e*P **P** 09 13 53.0 +0.6
comp=E,12nm,0.8s
O03E Paynes Creek 80.50 323 P **P** 09 13 53.4 +0.1
baz=134
EGMT Eagleton 80.57 334 P **P** 09 13 54.0 +0.6
baz=144
PLID Pearl Lake 80.98 329 *e*P **P** 09 13 56.6 +0.7
PLID *e*pP **pP** 09 14 12.6 +0.7
MSO Missoula 81.37 331 P **P** 09 13 59.2 +1.4
baz=140
MAW Mawson 81.70 164 *e*P **P** 09 14 00.2 +1.0
comp=E,2.3nm,0.9s
MAW Mawson 81.70 164 P **P** 09 13 59.1 -0.1
comp=E,8.3nm,0.9s,baz=234,slow=7.2,SNR=13
F10A Beach Ranch, E 82.21 329 *e*P **P** 09 14 02.9 +0.7
comp=E,3.3nm,0.8s
BOSA Boshof 82.97 118 P **P** 09 14 05.7 -1.1
comp=E,6.5nm,0.9s,baz=245,slow=5.9,SNR=6.1
I05D Terrebonne, OR 83.06 326 P **P** 09 14 07.1 +0.5
baz=134
YKA Yellowknife Ar 93.72 341 P **P** 09 14 57.2 0.0
comp=E,2.7nm,0.7s,baz=138,slow=4.4,SNR=47
YKA pP **pP** 09 15 12.8 -0.6
comp=E,1.9nm,0.8s,baz=137,slow=4.5,SNR=10
YKA sP **sP** 09 15 19.2 -0.3
comp=E,2.4nm,0.7s,baz=140,slow=4.4,SNR=9.2
YKW3 Yellowknife Ar 93.78 341 *e*P **P** 09 14 57.0 -0.6
comp=E,3.7nm,0.8s
YKW3 *e*pP **pP** 09 15 12.3 -1.4
KBZ Khabaz 122.88 53 PKP **PKPdf** 09 20 36.9 -0.1
comp=E,2.8nm,0.9s,baz=252,slow=3.2,SNR=5.4
ASAR Alice Springs 126.68 208 PKP **PKPdf** 09 20 44.9 -0.1
comp=E,1.3nm,0.8s,baz=145,slow=2.3,SNR=8.3
ASAR pPKP **pPKPdf** 09 21 01.7 -0.1
comp=E,1.7nm,0.8s,baz=143,slow=2.3,SNR=6.6
H11S2 WAKE ISLAND Hyl27.11 275 T T 11 40 29.6
baz=108,slow=75,SNR=344
H11S1 WAKE ISLAND Hyl27.12 275 T T 11 40 35.8
baz=108,slow=75,SNR=213
H11S3 WAKE ISLAND Hyl27.13 275 T T 11 40 31.6
baz=108,slow=75,SNR=264
H11N3 WAKE ISLAND Hyl27.28 277 T T 11 40 43.2
baz=106,slow=75,SNR=47
H11N1 WAKE ISLAND Hyl27.29 277 T T 11 40 43.7
baz=106,slow=75,SNR=33
H11N2 WAKE ISLAND Hyl27.29 277 T T 11 40 42.0
baz=106,slow=75,SNR=52
WR1 Warramunga Arr 129.75 210 *e*PKPdf **PKPdf** 09 20 50.9 -0.1
WRA Warramunga Arr 129.75 210 PKP **PKPdf** 09 20 50.9 -0.1
comp=E,3.3nm,0.9s,baz=169,slow=0.9,SNR=5.9
TIXI Tiksi 131.69 352 PKP **PKiKP** 09 20 53.9 -0.1
comp=E,0.9nm,0.3s,baz=37,slow=3.5,SNR=4.3
KURK Kurchatov 144.49 35 *e*PKPdf **PKPdf** 09 21 16.4 -0.6
ZAA0 Zalesovo Array 145.20 26 *e*PKPbc **PKPbc** 09 21 18.5 +0.7
ZALV Zalesovo Beam 145.20 26 PKPbc **PKPbc** 09 21 18.6 +0.7
comp=E,37nm,0.8s,baz=308,slow=4.7,SNR=77
EKS2 Erkin-Say 145.27 50 P **PKPdf** 09 21 19.8 +1.0
SNR=9.9
AML Almayashu 145.39 51 P **PKPab** 09 21 20.7 +1.0
SNR=12
AAK Ala-Archa 145.78 49 P **PKPab** 09 21 21.7 +0.9
SNR=16
AAK Ala-Archa 145.78 49 *e*PKPdf **PKPab** 09 21 21.8 +1.1
CHMS Chumysh 145.82 49 P **PKPab** 09 21 21.7 +1.0
SNR=5.2
UCH Uchtor 145.93 50 P **PKPab** 09 21 22.5 +0.8
SNR=15
KBK Karagaybulak 146.08 49 P **PKPab** 09 21 22.6 +0.7
SNR=7.8
TKM2 Tokmak 2 146.43 48 P **PKPbc** 09 21 22.3 0.0
SNR=11
KZA Kyzart 146.50 50 P **PKPbc** 09 21 23.2 +0.4
SNR=7.3
NIL Nilore 146.88 66 *e*PKPdf **PKPdf** 09 21 21.6 -0.1
ULHL Ulahol 147.12 49 P **PKPab** 09 21 25.8 -0.2
SNR=12
KDJ Kajisay 147.81 49 *e*PKPdf **PKPdf** 09 21 24.6 +1.4
KSH Kashi 147.84 54 PKPbc **PKPdf** 09 21 23.8 +0.5
KSH pPKP pPKPdf 09 21 34.5 -5.4
KSH PP **PP** 09 24 58.8 +4.8
KSH SKS **SKSdf** 09 28 27.3 -0.2
KSH AMB AMB
comp=E,160nm,4.4s
MAKZ Makanchi 148.57 38 *e*PKPdf **PKPdf** 09 21 25.3 +1.2
MKAR Makanchi Array 148.75 38 PKP **PKPdf** 09 21 25.2 +0.8
comp=E,9.2nm,0.7s,baz=323,slow=2.5,SNR=70
MKAR PKPbc **PKPbc** 09 21 28.4 +0.1
comp=E,9.3nm,0.7s,baz=317,slow=2.6,SNR=67
MKAR pPKPbc **pPKPbc** 09 21 45.5 +0.7
comp=E,6.9nm,0.7s,baz=310,slow=2.3,SNR=10.0
KLR Kul'dur 150.04 331 PKPbc **PKPbc** 09 21 31.4 +0.1
comp=E,3.4nm,0.9s,baz=8.0,slow=12,SNR=3.8
MJAR Matsushiro Arr 152.96 303 PKPab **PKPab** 09 21 52.1 +2.1
comp=E,4.9nm,0.9s,baz=145,slow=1.3,SNR=2.4
MAJO Matsushiro 152.97 303 *e*PKPab **PKPab** 09 21 52.1 +2.1
USRK Ussuriysk Ar. 153.40 323 PKPab **PKPab** 09 21 53.8 +2.4
comp=E,6.6nm,0.9s,baz=290,slow=1.0,SNR=4.9
WMQ Urumqi 153.59 38 *e*PKPbc **PKPdf** 09 21 31.8 -0.1
KSRS Korea Array 159.96 314 PKP **PKPdf** 09 21 38.9 -1.3
comp=E,0.6nm,0.3s,baz=93,slow=3.0,SNR=2.8
KSRS PKPab **PKPab** 09 22 21.4 +1.6
comp=E,1.3nm,0.8s,baz=60,slow=5.3,SNR=2.9
HHC Hu-ho-hao-te 163.72 355 *e*PKP **PKPdf** 09 21 46.0 +1.9
HHC LR LR
comp=E,220nm,20.6s
HHC LR LR
comp=E,130nm,21.1s
HHC LR LR
comp=E,200nm,21.2s
NJ2 Nanjing 169.16 315 *e*PKP **PKPdf** 09 21 47.8 -0.6

ISCJB ***27*** *09:15:25.7±0.6, 37°.26N±0°.04×37°.08E±0°.04, h13km±5km, Error ellipse: s-maj=7.4km s-min=4.7km az=9.4*
ISK ***27*** *09:15:25.4, 37°.27N×37°.06E, h8km, ML1.9/6*
DDA ***27*** *09:15:26.1, 37°.33N×37°.10E, h9km±1km, ML2.7*
ISC 27 09:15:25.8±0.9, 37°.28N±0°.04×37°.08E±0°.03, h13km±7km, n13, σ0=63/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**137**	PG	**Pg**	**09 15 29.1**	**-0.5**
GAZ				SG	**Sg**	**09 15 31.8**	**-0.4**
HCB	**Kahramanmara**	**0.15**	**294**	IAML_P			
comp=Z,5μm,0.1s							
HCB				*i* P	**Pg**	**09 15 29.5**	**-0.1**
HCB				*i* S	**Sb**	**09 15 34.0**	**+0.3**
AYKD	**Aykdinkavak**	**0.26**	**301**	IAML_P			
comp=Z,9μm,0.1s							
AYKD				*i* P	**Pg**	**09 15 31.9**	**+0.5**
AYKD				*i* S	**Sb**	**09 15 36.2**	**-0.6**
KMRS	**Kahramanmaras**	**0.27**	**327**	PG	**Pg**	**09 15 31.3**	**-0.2**
KMRS				SG	**Sg**	**09 15 35.6**	**+0.3**
KAMA	**Osmaniye**	**0.34**	**254**	IAML_P			
comp=Z,2μm,0.1s							
KAMA				*i* P	**Pg**	**09 15 33.2**	**+0.3**
KAMA				*i* S	**Sg**	**09 15 38.8**	**+1.1**
GZT	**Gaziantep**	**0.39**	**79**	IAML_P			
comp=Z,2μm,0.1s							
GZT				*i* P	**Pg**	**09 15 34.1**	**+0.4**
GZT				*i* S	**Sg**	**09 15 39.0**	**0.0**
KUZU	**Kuzuini**	**0.51**	**181**	IAML_P			
comp=Z,8μm,0.1s							
KUZU				*i* P	**Pb**	**09 15 38.0**	**+1.4**
KUZU				*i* S	**Sn**	**09 15 46.3**	**-1.1**
ANDN	**Andirin**	**0.66**	**297**	IAML_P			
comp=Z,672nm,0.1s							
ANDN				*i* P	**Pb**	**09 15 39.3**	**0.0**
KOZT	**Kozan**	**1.02**	**282**	PG	**Pb**	**09 15 44.9**	**-0.5**
CEYT	**Ceyhan**	**1.10**	**256**	PG	**Pb**	**09 15 46.4**	**-0.3**
CEYT				SG	**Sg**	**09 16 01.9**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.16**	**219**	PN	**Pb**	**09 15 47.3**	**-0.4**
DARE	**Darende-Malaty**	**1.33**	**14**	PN	**Pb**	**09 15 51.1**	**+0.5**
URFA	**Urfa**	**1.39**	**83**	PN	**Pb**	**09 15 52.0**	**+0.2**

NIED ***27*** *09:16:00, 39°.20N×141°.80E, h107km, Mw4.5 Best double couple: M0=6.24000×10^15 NP1:φs=121.00000°, δ=44.00000°, λ=-101.00000°. NP2:φs=316.00000°, δ=47.00000°, λ=-80.00000°.*
BJI ***27*** *09:16:32.7±0.0, 39°.16N×141°.96E, h96km, mb4.7/26, mB4.7/16*
ISCJB ***27*** *09:16:35.8±0.2, 39°.21N±0°.03×141°.79E±0°.04, h105km±1km, mb4.4/72, Error ellipse: s-maj=5.9km s-min=3.2km az=34.5*
MOS ***27*** *09:16:35.0±0.9, 39°.23N×141°.73E, h95km, mb4.6/29, Error ellipse: s-maj=7.9km s-min=4.8km az=87.9*
IDC ***27*** *09:16:35.2±0.7, 39°.11N×141°.72E, h86km±6km, mb4.1/25, mb1 4.2/33, mb1mx4.2/38, mbtmp4.4/33, MS3.1/6, Ms1 3.2/6, ms1mx2.9/43, Error ellipse: s-maj=12.0km s-min=9.5km az=110.0*
NEIC ***27*** *09:16:36.7±2.0, 39°.15N×141°.77E, h98km±4km, mb4.5/95, Error ellipse: s-maj=17.9km s-min=12.5km az=117.0*
NEIC Recorded [2 JMA] in Aomori, Iwate and Miyagi.
JMA ***27*** *09:16:37.4±0.1, 39°.16N×141°.74E, h102km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs=299.00000°, δ=51.00000°, λ=-89.00000°. NP2: φs=117.00000°, δ=39.00000°, λ=-91.00000°. Principal axes: T Plg6.0000°, Azm28.0000°; N Plg1.0000°, Azm118.0000°; P Plg84.0000°, Azm217.0000°;*
JMA Felt II J1.
ISC 27 09:16:36.5±0.4, 39°.16N±0°.04×141°.82E±0°.05, h100km±3km, h100km:pP-P, n173, σ1=36/208, mb4.4/72, 16C-19D, Eastern Honshu

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

OFUJ	**Ofunato**	**0.14**	**237**	‖P	**Pn**	**09 16 51.8**	**+1.3**
OFUJ				S	**Sn**	**09 17 02.2**	**+1.3**
MIYJ	**Miyakonagasawa**	**0.42**	**0**	‖P	**Pn**	**09 16 53.0**	**+1.3**
MIYJ				*e*S	**Sn**	**09 17 04.1**	**+1.0**
JKMT	**Kesennumamotoy**	**0.44**	**218**	P	**Pn**	**09 16 52.9**	**+1.1**
JKMT				S	**Sn**	**09 17 04.1**	**+0.9**
JMK	**Ichinoseki**	**0.51**	**246**	‖P	**Pn**	**09 16 52.9**	**+0.6**
JMK				S	**Sn**	**09 17 04.5**	**+0.4**
JOM	**Ohasama**	**0.52**	**308**	‖P	**Pn**	**09 16 53.1**	**+0.8**
JOM				S	**Sn**	**09 17 05.1**	**+0.9**
JIO	**Ouri**	**0.79**	**208**	⇑P	**Pn**	**09 16 55.4**	**+0.7**
JIO				S	**Sn**	**09 17 08.5**	**+0.1**
JRG	**Rokugo**	**0.95**	**285**	‖P	**Pn**	**09 16 57.0**	**+0.7**
JRG				S	**Sn**	**09 17 12.1**	**+0.8**
JYK	**Kaneyama**	**1.16**	**259**	⇑P	**Pn**	**09 16 59.4**	**+0.7**
JYK				S	**Sn**	**09 17 15.9**	**+0.5**
JOU	**Okura**	**1.20**	**229**	⇑P	**Pn**	**09 16 59.8**	**+0.7**
JOU				S	**Sn**	**09 17 16.6**	**+0.4**
JANG	**Nango**	**1.24**	**349**	⇑P	**Pn**	**09 16 59.9**	**+0.3**
JANG				S	**Sn**	**09 17 16.5**	**-0.5**
JAH	**Hinai**	**1.38**	**319**	‖P	**Pn**	**09 17 02.1**	**+0.9**
JAH				S	**Sn**	**09 17 20.7**	**+0.8**
JMM	**Marumori**	**1.52**	**212**	⇑P	**Pn**	**09 17 03.1**	**+0.2**
JMM				S	**Sn**	**09 17 22.6**	**-0.4**
JYS	**Shirataka**	**1.66**	**236**	⇑P	**Pn**	**09 17 05.5**	**+0.8**
JYS				S	**Sn**	**09 17 26.8**	**+0.7**
JYA	**Atsumi**	**1.73**	**252**	⇑P	**Pn**	**09 17 06.3**	**+0.7**
JYA				S	**Sn**	**09 17 28.3**	**+0.5**
ERM	**Erimo**	**3.03**	**19**	*e*Pn	**Pn**	**09 17 22.5**	**-0.1**
ERM				*e*Sn	**Sn**	**09 17 57.2**	**-0.9**
ERM	**Erimo**	**3.03**	**19**	*c i*P	**Pn**	**09 17 22.6**	**0.0**
ERM				pmax	pmax		
comp=Z,201nm,0.6s							
MAJO	**Matsushiro**	**3.87**	**229**	*e*Pn	**Pn**	**09 17 34.7**	**+0.9**
MAJO	**Matsushiro**	**3.87**	**229**	*c i*P	**Pn**	**09 17 34.8**	**+0.9**
MAT	**Matsushiro**	**3.87**	**229**	P	**Pn**	**09 17 34.8**	**+0.9**
MAT				S	**Sn**	**09 18 19.5**	**+1.1**
MJAR	**Matsushiro Arr**	**3.87**	**229**	P	**Pn**	**09 17 33.1**	**-0.8**
comp=Z,3.0nm,0.3s,baz=28,slow=13,SNR=647							
MJAR				LR	LR	09 19 33.1	
comp=Z,148nm,18.7s,baz=50,slow=47							
MJB9	**Matsu-Tunnel**	**3.87**	**229**	*e*Pn	**Pn**	**09 17 35.0**	**+1.1**
ASAJ	**Asahikawa**	**4.99**	**6**	P	**Pn**	**09 17 48.7**	**-0.3**
comp=Z,26nm,0.3s,baz=219,slow=9.7,SNR=108							
ASAJ				S	**Sn**	**09 18 44.0**	**-1.4**
comp=Z,16nm,0.3s,baz=171,slow=30,SNR=7.4							
ASAJ				LR	LR	09 20 00.8	
comp=Z,152nm,20.4s,baz=188,slow=41							
GLVR	**Golovnino**	**5.36**	**30**	‖*i*P	**Pn**	**09 17 53.0**	**-0.9**
GLVR				*i* S	**Sn**	**09 18 51.7**	**-2.5**
GLVR				pmax	pmax		
comp=N,198nm,0.2s							
GLVR				pmax	pmax		
comp=Z,772nm,0.2s							
GLVR				pmax	pmax		
comp=E,198nm,0.3s							
GLVR				smax	smax		
comp=E,542nm,0.3s							
GLVR				smax	smax		
comp=N,937nm,0.2s							
INU	**Inuyama**	**5.39**	**227**	*e*Pn	**Pn**	**09 17 55.2**	**+0.7**
GRPR	**Tuman**	**5.67**	**30**	‖*i*P	**Pn**	**09 17 57.2**	**-1.0**
GRPR				*i* S	**Sn**	**09 18 57.9**	**-4.0**
GRPR				pmax	pmax		
comp=Z,767nm,0.3s							
GRPR				pmax	pmax		
comp=N,342nm,0.2s							
GRPR				pmax	pmax		
comp=E,432nm,0.2s							
GRPR				smax	smax		
comp=E,629nm,0.4s							
GRPR				smax	smax		
comp=N,966nm,0.3s							
LAGR	**Lagunnoye**	**5.73**	**30**	‖*i*P	**Pn**	**09 17 58.1**	**-0.8**
LAGR				*i* S	**Sn**	**09 19 00.7**	**-2.6**
LAGR				pmax	pmax		
comp=N,352nm,0.4s							
LAGR				pmax	pmax		
comp=Z,1μm,0.4s							
LAGR				pmax	pmax		
comp=E,395nm,0.3s							
LAGR				smax	smax		
comp=N,1μm,0.5s							
LAGR				smax	smax		
comp=E,1μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**5.74**	**31**	*c i*P	**Pn**	**09 17 57.7**	**-1.4**
YUK				*i* S	**Sn**	**09 19 00.2**	**-3.4**
YUK				pmax	pmax		
comp=N,133nm,0.2s							
YUK				pmax	pmax		
comp=E,270nm,0.2s							
YUK				pmax	pmax		
comp=Z,917nm,0.2s							
YUK				smax	smax		
comp=N,563nm,0.3s							
YUK				smax	smax		
comp=E,498nm,0.3s							
JHJ	**Hachijo jima 2**	**6.25**	**196**	P	**Pn**	**09 18 04.5**	**-1.6**
comp=E,59nm,0.3s,baz=339,slow=18,SNR=47							
JHJ				S	**Sn**	**09 19 11.3**	**-4.7**
comp=E,71nm,0.3s,baz=282,slow=24,SNR=10							
JHJ2	**Mitsune**	**6.25**	**196**	*e*Pn	**Pn**	**09 18 05.1**	**-1.0**
JHJ2				*e*Sn	**Sn**	**09 19 12.6**	**-3.4**
KUR	**Kuril'sk**	**7.55**	**35**	*e*P	**Pn**	**09 18 23.1**	**-0.6**
KUR				*e*S	**Sn**	**09 19 44.9**	**-2.7**
KUR				pmax	pmax		
comp=Z,167nm,0.5s							
KUR				pmax	pmax		
comp=N,54nm,0.2s							
KUR				pmax	pmax		
comp=E,54nm,0.2s							
KUR				smax	smax		
comp=N,93nm,0.5s							
KUR				smax	smax		
comp=E,43nm,0.3s							
YSS	**Yuzh-Sakhalins**	**7.82**	**5**	*e*Pn	**Pn**	**09 18 26.8**	**-0.6**
YSS	**Yuzh-Sakhalins**	**7.82**	**5**	*e*P	**Pn**	**09 18 26.8**	**-0.6**
YSS				*e*S	**Sn**	**09 19 51.7**	**-2.5**
YSS				pmax	pmax		
comp=Z,40nm,0.9s							
YSS				pmax	pmax		
comp=N,30nm,0.7s							
YSS				smax	smax		
comp=N,40nm,1.5s							
YSS				MLR	MLR		
comp=Z,200nm,16.0s							
MSHR	**Mys Shultsa**	**8.77**	**296**	⇑*e*P	**Pn**	**09 18 37.7**	**-2.6**
USA0B	**Ussuriysk Arra**	**8.91**	**308**	*e*Pn	**Pn**	**09 18 44.2**	**+1.9**
USRK	**Ussuriysk Ar.**	**8.91**	**308**	P	**Pn**	**09 18 42.6**	**+0.4**
comp=Z,1.4nm,0.3s,baz=114,slow=27,SNR=20							
JNU	**Nakatsue**	**10.70**	**239**	*e*Pn	**Pn**	**09 19 05.3**	**-1.4**
JNU	**Nakatsue**	**10.70**	**239**	P	**Pn**	**09 19 05.9**	**-0.7**
comp=Z,2.1nm,0.3s,baz=182,slow=2.4,SNR=14							
KSRS	**Korea Array**	**11.05**	**266**	P	**Pn**	**09 19 11.4**	**+0.1**
comp=Z,0.4nm,0.3s,baz=88,slow=13,SNR=9.6							
KSRS				LR	LR	09 23 23.2	
comp=Z,91nm,18.1s,baz=66,slow=37							
TYV	**Tymovskoe**	**11.72**	**3**	*e*P	**Pn**	**09 19 19.1**	**-1.1**
TYV				pmax	pmax		
comp=Z,9.0nm,1.1s							
TYV				pmax	pmax		
comp=Z,100nm,2.4s							
KLR	**Kul'dur**	**12.38**	**328**	‖*e*P	**Pn**	**09 19 27.5**	**-1.5**
KLR	**Kul'dur**	**12.38**	**328**	P	**Pn**	**09 19 27.9**	**-1.1**
comp=Z,0.2nm,0.3s,baz=129,slow=13,SNR=9.2							
SKR	**Severo-Kuril's**	**15.31**	**37**	⇑*e*P	**Pn**	**09 20 04.3**	**-2.6**
ZEA	**Zeya**	**17.65**	**330**	*e*P	**P**	**09 20 34.6**	**-0.7**
ZEA				pmax	pmax		
comp=Z,26nm,0.8s							
PETK	**Petropavlovsk-**	**17.71**	**33**	P	**P**	**09 20 36.4**	**+0.4**
comp=Z,0.2nm,0.3s,baz=218,slow=9.4,SNR=4.1							
PETK				LR	LR	09 28 23.4	
comp=Z,30nm,18.7s,baz=234,slow=40							
PEA1	**Petropavlovsk-**	**17.72**	**33**	*e*P	**P**	**09 20 36.4**	**+0.4**
NJ2	**Nanjing**	**19.94**	**256**	*e*P	**P**	**09 21 00.3**	**-0.1**
NJ2				pmax	pmax		
comp=Z,14nm,0.5s							
MA2	**Magadan**	**21.21**	**13**	*e*P	**P**	**09 21 13.3**	**-0.6**
comp=Z,12nm,0.8s							
MA2	**Magadan**	**21.21**	**13**	*c e*P	**P**	**09 21 16.8**	**+2.9**
MA2				pmax	pmax		
comp=Z,16nm,0.9s							
MA2	**Magadan**	**21.21**	**13**	P	**P**	**09 21 15.1**	**+1.3**
comp=Z,9.8nm,0.7s,baz=205,slow=9.0,SNR=11							
HHC	**Hu-ho-hao-te**	**23.18**	**284**	*e*P	**P**	**09 21 32.8**	**-1.7**

HHC pmax pmax
comp=Z,52nm,0.7s
HHC pmax pmax
comp=Z,280nm,3.9s
WHN Wuhan 24.05 257 P **P 09 21 45.3 +3.0**
SEY Seymchan 24.65 12 P **P 09 21 48.5 +1.1**
comp=Z,7.6nm,0.9s,baz=208,slow=5.9,SNR=12
XAN Xi'an 26.81 269 P **P 09 22 07.0 -0.3**
XAN pmax pmax
comp=Z,6.0nm,0.8s
SONA0 Songino Array 26.93 300 *e*P **P 09 22 08.8 +0.5**
SONM Songino Array 26.93 300 P **P 09 22 08.8 +0.5**
comp=Z,3.0nm,0.7s,baz=100,slow=9.3,SNR=6.1
H11N2 WAKE ISLAND Hy 29.02 125 T T 09 53 07.2
baz=317,slow=75,SNR=307
H11N1 WAKE ISLAND Hy 29.03 125 T T 09 53 05.6
baz=317,slow=75,SNR=497
H11N3 WAKE ISLAND Hy 29.04 125 T T 09 53 06.2
baz=317,slow=75,SNR=426
TLY Talaya 29.23 308*de*P **P 09 22 28.6 0.0**
ZAK Zakamensk 29.25 305 *e*P **P 09 22 26.8 -2.1**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
H11S1 WAKE ISLAND Hy 29.80 127 T T 09 54 00.8
baz=318,slow=76,SNR=167
H11S3 WAKE ISLAND Hy 29.81 127 T T 09 54 00.9
baz=318,slow=76,SNR=270
H11S2 WAKE ISLAND Hy 29.82 127 T T 09 54 02.1
baz=318,slow=76,SNR=177
LZH Lanzhou 30.09 276 *e*P **P 09 22 33.0 -3.6**
LZH pP pP 09 22 54.0 -5.0
LZH sP sP 09 23 06.3 -4.4
LZH pmax pmax
comp=Z,17nm,1.1s
LZH LR LR
comp=Z,290nm,14.1s
LZH LR LR
comp=Z,260nm,15.5s
LZH LR LR
comp=Z,90nm,17.3s
BILL Bilibino 31.91 17 *e*P **P 09 22 53.2 +1.2**
BILL *e**PP **pP 09 23 18.5 +4.1**
BILL *e**SP **sP 09 23 27.6 +1.6**
BILL *e* 09 24 03.8
BILL *e* 09 25 39.8
BILL pmax pmax
comp=Z,2.0nm,1.0s
CD2 Chengdu 32.05 267 *e*P **P 09 22 53.0 -0.7**
GTA Gaotai 32.30 284 *e*P **P 09 22 55.5 -0.4**
GTA pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 33.23 353 P **P 09 23 02.9 -0.6**
comp=Z,1.9nm,0.7s,baz=136,slow=6.5,SNR=6.5
KMI Kunming 35.64 259 P **P 09 23 26.0 +0.9**
KMI pmax pmax
comp=Z,22nm,0.6s
DGZ Jazzator, Alta 39.44 304*d* iP **P 09 23 57.6 +0.8**
DGZ pmax pmax
comp=Z,11nm,0.9s
WMQ Urumqi 40.20 295 *e*P **P 09 24 04.3 +1.2**
WMQ sP sP 09 24 39.5 +1.9
WMQ LR LR
comp=Z,2μm,39.5s
WMQ LR LR
comp=Z,2μm,38.9s
WMQ LR LR
comp=Z,250nm,37.7s
ZAA0 Zalesovo Array 40.75 311 *e*P **P 09 24 06.7 -0.6**
comp=Z,9.5nm,0.8s
ZAA1 Zalesovo Array 40.75 311 *e*PcP **PcP 09 26 06.4 -0.2**
ZALV Zalesovo Beam 40.75 311 P **P 09 24 06.9 -0.4**
comp=Z,9.3nm,0.7s,baz=86,slow=7.2,SNR=13
ZALV PcP **PcP 09 26 06.4 -0.2**
comp=Z,3.4nm,0.7s,baz=103,slow=3.2,SNR=5.9
NRIK Noril'sk 41.49 334 P **P 09 24 12.7 -0.4**
comp=Z,1.7nm,0.4s,baz=127,slow=8.9,SNR=3.9
NVS Novosibirsk 41.63 312 *e*P **P 09 24 14.3 -0.2**
CMMT Chiang Mai 42.15 254 P P 09 24 25.3 +6.1
comp=Z,4.3nm,0.7s
CMAR Chiang Mai Arr 42.38 253 P **P 09 24 20.6 -0.4**
comp=Z,1.2nm,0.3s,baz=42,slow=7.3,SNR=3.8
CMAR LR LR 09 42 01.2
comp=Z,52nm,18.3s,baz=185,slow=36
MK31 Makanchi Array 43.29 300 *e*P **P 09 24 28.2 +0.1**
comp=Z,9.6nm,0.8s
MK31 Makanchi Array 43.29 300 *e*P **P 09 24 28.2 +0.1**
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 43.29 300 P **P 09 24 28.2 0.0**
comp=Z,8.9nm,0.7s,baz=85,slow=9.6,SNR=37
MKAR PcP **PcP 09 26 14.9 -0.4**
comp=Z,1.5nm,0.8s,baz=72,slow=4.7,SNR=3.2
MAKZ Makanchi 43.50 300 *e*P **P 09 24 29.9 +0.1**
comp=Z,11nm,1.0s
MAKZ Makanchi 43.50 300 *e*P **P 09 24 29.9 +0.1**
MAKZ pmax pmax
comp=Z,11nm,1.0s
KURK Kurchatov 44.90 307 *e*P **P 09 24 40.7 -0.2**
comp=Z,29nm,0.8s
KURK Kurchatov 44.90 307*d* iP **P 09 24 40.5 -0.3**
KURK *i* *PP **pP 09 25 04.9 +0.5**
KURK pmax pmax
comp=Z,36nm,0.9s
MDM Murphy Dome 46.96 33 *e*P **P 09 24 59.1 +2.2**
comp=Z,8.6nm,1.0s
COLA College 47.12 33⇑*e*P **P 09 24 56.9 -1.2**
COLA pmax pmax
comp=Z,13nm,2.5s
HDA Harding Lake 47.54 34 *e*P **P 09 25 02.5 +1.2**
comp=Z,6.3nm,1.0s
ILAR Eielson Array 47.54 33 P **P 09 25 02.5 +1.2**
comp=Z,3.4nm,0.8s,baz=271,slow=6.4,SNR=41
BOOM Boomskoye usch 48.83 296 *e*P **P 09 25 12.2 +0.4**
comp=Z,4.9nm,0.7s
BOOM Boomskoye usch 48.83 296 *e*P **P 09 25 12.2 +0.4**
BOOM pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 49.45 311 *e*P **P 09 25 16.3 +0.1**
comp=Z,8.4nm,0.8s
BRVK Borovoye 49.45 311*d* iP **P 09 25 16.1 -0.1**
BRVK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 49.79 297*d* iP **P 09 25 18.9 -0.2**
AAK pmax pmax
comp=Z,2.0nm,0.6s
KSH Kashi 49.86 293 P **P 09 25 23.0 +3.4**
KSH pP pP 09 25 44.8 +1.3
KSH sP sP 09 25 59.0 +4.2
KSH S **S 09 32 25.5 +3.5**
KSH SS **SS 09 35 54.5 -1.0**
KSH pmax pmax
comp=Z,5.0nm,0.4s
KSH pmax pmax
comp=Z,170nm,3.6s
KSH LR LR
comp=Z,580nm,10.8s
KSH LR LR
comp=Z,570nm,11.0s
KK31 Karatay Array 52.36 299 *i* P **P 09 25 37.8 -0.3**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
INK Inuvik 52.36 28 *e*P **P 09 25 37.9 +0.2**
comp=Z,4.4nm,0.9s
INK Inuvik 52.36 28 *e*P **P 09 25 37.9 +0.2**
INK pmax pmax
comp=Z,4.0nm,0.9s
ARU Arti 55.00 318 *e*P **P 09 25 56.9 -0.2**
comp=Z,17nm,0.8s
ARU Arti 55.00 318*c* iP **P 09 25 56.7 -0.4**
ARU *PP **pP 09 26 20.3 -1.3**
ARU S **S 09 33 33.2 +2.0**
ARU SS **SS 09 37 13.5 -2.1**
ARU pmax pmax
comp=Z,20nm,0.9s
AB31 Akbulak array 56.83 309 P **P 09 26 09.0 -1.3**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
FITZ Fitzroy Crossi 58.93 198 LR LR 09 51 08.4
comp=Z,30nm,18.6s,baz=264,slow=35
PRGR Permogore 59.17 326 *e*P P 09 26 21.1 -5.3
PRGR pmax pmax
comp=Z,12nm,0.9s
WR1 Warramunga Arr 59.20 188 *e*P **P 09 26 25.7 -1.4**
WR1 *e*PcP **PcP 09 27 14.0 -0.5**
WRA Warramunga Arr 59.20 188 P **P 09 26 25.7 -1.4**
comp=Z,4.8nm,0.7s,baz=354,slow=7.7,SNR=21
WRA PcP **PcP 09 27 14.0 -0.5**
comp=Z,4.6nm,0.9s,baz=4.5,slow=5.3,SNR=5.0
YKA Yellowknife Ar 61.82 31 P **P 09 26 45.2 +0.9**
comp=Z,1.0nm,0.8s,baz=300,slow=6.5,SNR=11
YKA pP **pP 09 27 06.4 -2.6**
comp=Z,0.5nm,0.6s,baz=304,slow=6.6,SNR=2.9
YKA PcP **PcP 09 27 25.2 +0.7**
comp=Z,0.9nm,0.8s,baz=303,slow=4.2,SNR=9.3
YKB5 Yellowknife Ar 61.82 31 *e*PcP **PcP 09 27 25.2 +0.7**
ARCES ARCESS Array B 62.13 339 P **P 09 26 46.5 +0.2**
comp=Z,3.3nm,0.8s,baz=46,slow=5.9,SNR=4.7
KLMR Klimovskoe 62.14 327 *e*P **P 09 26 44.9 -1.7**
KLMR pmax pmax
comp=Z,16nm,1.8s
ASAR Alice Springs 62.93 188 P **P 09 26 52.1 -0.1**
comp=Z,3.3nm,0.8s,baz=9.5,slow=6.2,SNR=33
ASAR pP **pP 09 27 12.8 -4.2**
comp=Z,0.8nm,0.8s,baz=1.3,slow=4.2,SNR=2.2
ASAR PcP **sP 09 27 29.4 +1.5**
comp=Z,1.7nm,0.8s,baz=12,slow=5.3,SNR=6.4
GEYT Alibeck 63.10 298 P **P 09 26 53.1 -0.3**
comp=Z,6.1nm,0.8s,baz=13,slow=3.2,SNR=10.0
OBN Obninsk 66.59 323 *e*P **P 09 27 16.0 +0.3**
OBN *e**PP **pP 09 27 40.3 -0.7**
OBN *e* 09 27 44.6
OBN *e**SP **sP 09 27 55.6 +3.5**
OBN *e* 09 29 44.7
OBN *e*PPP PPP 09 31 19.8
OBN pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 67.09 332 P **P 09 27 18.5 -0.2**
comp=Z,9.6nm,0.7s,baz=46,slow=8.2,SNR=29
FINES pP **pP 09 27 40.5 -3.5**
comp=Z,1.6nm,0.5s,baz=53,slow=9.8,SNR=2.4
KIV Kislovodsk 69.76 311 *e*P **P 09 27 36.1 +0.3**
comp=Z,22nm,0.8s
KIV Kislovodsk 69.76 311 *e*P **P 09 27 36.0 +0.2**
KIV pmax pmax
comp=Z,95nm,1.1s
KBZ Khabaz 69.77 310 P **P 09 27 36.3 +0.6**
comp=Z,10nm,1.0s,baz=60,slow=3.4,SNR=17
STKA Stephens Creek 70.67 180 *e*P **P 09 27 39.5 -1.6**
STKA Stephens Creek 70.67 180 P **P 09 27 41.2 +0.1**
comp=Z,2.4nm,0.9s,baz=353,slow=8.1,SNR=3.7
GNI Garni 70.70 306⇑*e*P **P 09 27 42.7 +1.0**
GNI pmax pmax
comp=Z,40nm,1.6s
WVOR Wild Horse Val 70.89 51 *e*P **P 09 27 43.7 +0.9**
comp=Z,3.6nm,1.1s
WVOR Wild Horse Val 70.89 51 *e*P **P 09 27 43.7 +0.9**
WVOR pmax pmax
comp=Z,4.0nm,1.1s
BEKR Beckworth 71.33 54 *e*P **P 09 27 46.3 +0.8**
comp=Z,7.1nm,1.0s
FFC Flin Flon 71.75 33 *e*P **P 09 27 48.5 +0.9**
comp=Z,4.4nm,1.0s
FFC Flin Flon 71.75 33 *e*P **P 09 27 48.5 +0.9**
FFC pmax pmax
comp=Z,4.0nm,1.0s
HRY Holter Researc 72.20 44 *e*P **P 09 27 51.8 +1.2**
NB2 NORSAR Subarra 72.36 337 P **P 09 27 50.6 -0.5**
comp=Z,2.0nm,0.7s,baz=38,slow=6.2
NOA NORSAR Array B 72.36 337 P **P 09 27 51.0 -0.1**
NOA NORSAR Array B 72.36 337 P **P 09 27 51.0 -0.1**
comp=Z,3.9nm,0.8s,baz=38,slow=6.0,SNR=13
DLMT Dillon 72.62 45 *e*P **P 09 27 54.5 +1.4**
comp=Z,5.7nm,0.8s
AKASG Malin Array Be 72.82 322 P **P 09 27 53.4 -0.6**
comp=Z,4.1nm,0.5s,baz=44,slow=7.0,SNR=4.5
KIEV Kiev 72.83 322*d* iP **P 09 27 53.3 -0.7**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
BOZ Bozeman (W) 73.00 45 *e*P **P 09 27 56.6 +1.2**
comp=Z,5.1nm,0.8s
BOZ Bozeman (W) 73.00 45 *e*P **P 09 27 56.6 +1.2**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
NVAR Mina Array Bea 73.47 54 P **P 09 28 00.3 +2.0**
comp=Z,3.6nm,0.8s,baz=290,slow=5.6,SNR=22
R11A Troy Canyon, C 75.21 53 *e*P **P 09 28 09.5 +1.1**
comp=Z,5.2nm,1.0s
PD31 Pinedale Array 75.96 46 *e*P **P 09 28 13.5 +0.9**
comp=Z,2.9nm,0.8s
PDAR Pinedale Array 75.96 46 P **P 09 28 13.7 +1.1**
comp=Z,1.8nm,0.7s,baz=277,slow=2.3,SNR=17
MPU Maple Canyon 76.54 49 *e*P **P 09 28 17.5 +1.5**
comp=Z,7.4nm,0.9s
KWP Kalwaria Pacla 76.59 324 *e*P **P 09 28 16.8 +1.0**
KWP Kalwaria Pacla 76.59 324 *e*P **P 09 28 16.8 +1.0**
SHPR Sheep Range 76.62 54 *e*P **P 09 28 18.6 +2.2**
comp=Z,6.0nm,1.0s
BUR08 Bucovina Ar. S 76.83 322 *e*P **P 09 28 17.4 0.0**
comp=Z,5.0nm,0.9s
MSU Marysvale 77.19 51 *e*P **P 09 28 21.6 +2.0**
MSU Marysvale 77.19 51 *e*P **P 09 28 21.6 +2.0**
OJC Ojcow 77.46 326 *e*P **P 09 28 21.2 +0.6**
OJC Ojcow 77.46 326 *e*P **P 09 28 21.2 +0.6**
ULM Lac du Bonnet 77.56 34 P **P 09 28 21.4 +0.3**
comp=Z,3.0nm,0.8s,baz=319,slow=3.5,SNR=6.9
BR101 Keskin Array S 77.69 311 *e*P **P 09 28 22.2 0.0**
BRTR Keskin Array B 77.69 311 P **P 09 28 22.2 0.0**
comp=Z,1.5nm,0.5s,baz=102,slow=3.2,SNR=9.7
NIE Niedzica 77.83 325 *e*P **P 09 28 22.8 +0.1**
NIE Niedzica 77.83 325 *e*P **P 09 28 22.8 +0.1**
VYHS Vyhne 79.16 325 *e*P **P 09 28 30.8 +0.7**
VYHS pmax pmax
comp=Z,17nm,2.4s
VYHS Vyhne 79.16 325 *e*P **P 09 28 30.8 +0.7**
CLL Collm 79.42 330⇓*i*P **P 09 28 31.2 -0.2**
CLL *i* 09 28 35.4
CLL pmax pmax
comp=Z,390nm,0.9s
CLL Collm 79.42 330⇓*i*P **P 09 28 31.2 -0.2**
comp=Z,11nm,0.9s
CLL *i* 09 28 35.4
KHC Kasperske Hory 80.90 329 *e*P **P 09 28 39.2 -0.3**
comp=Z,2.3nm,0.7s
KHC Kasperske Hory 80.90 329 *e*P **P 09 28 39.2 -0.3**
KHC pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 81.08 328 P **P 09 28 40.6 +0.2**
comp=Z,1.7nm,0.6s,baz=36,slow=7.0,SNR=6.1
VTS Vitosha 81.39 319 *e*P **P 09 28 43.2 +0.9**
comp=Z,6.5nm,0.8s
VTS Vitosha 81.39 319 *e*P **P 09 28 43.2 +0.9**
VTS pmax pmax
comp=Z,7.0nm,0.8s
ECSD EROS Data Cent 82.06 39 *e*P **P 09 28 46.3 +0.6**
comp=Z,4.1nm,0.9s
TUC Tucson 82.09 55 *e*P **P 09 28 47.3 +1.2**
comp=Z,2.5nm,1.0s
TUC Tucson 82.09 55 *e*P **P 09 28 47.3 +1.2**
TUC pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 82.98 50 *e*P **P 09 28 51.4 +0.6**
comp=Z,4.7nm,1.1s
ANMO Albuquerque 82.98 50⇓*e*P **P 09 28 51.7 +0.9**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
BFO Black Forest 83.61 331 *i* P **P 09 28 54.9 +1.3**
FUORN Ofenpass-Fuorn 84.25 329 *e*P **P 09 28 57.8 +0.6**
comp=Z,15nm,0.8s
TXAR Lajitas Array 88.58 53 P **P 09 29 19.6 +1.1**
comp=Z,1.3nm,0.7s,baz=292,slow=3.5,SNR=19
CCM Cathedral Cave 89.01 39 *e*P **P 09 29 20.2 +0.1**
comp=Z,6.1nm,0.8s
CCM Cathedral Cave 89.01 39 *e*P **P 09 29 20.3 +0.1**
CCM pmax pmax
comp=Z,6.0nm,0.8s
MAW Mawson 121.58 206 PKP **PKPdf 09 35 16.7 -0.4**
comp=Z,1.8nm,0.7s,baz=173,slow=1.5,SNR=4.2
LPAZ La Paz 145.31 57 *e*PKPdf **PKPdf 09 36 04.1 +0.4**
LPAZ La Paz 145.31 57 PKPbc **PKPbc 09 36 03.8 +0.2**
comp=Z,6.7nm,0.8s,baz=343,slow=4.2,SNR=32

*NNC **27** 09:17:20.1±6.2, 37°.14N×70°.17E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=50.2km s-min=43.7km az=56.0
ISC 27 09:17:08.8±2.6, 36°.1N±0°.1×70°.8E±0°.3, h10km, n10,
σ2§93/10, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.99**	**358**	⇓Pn		**Pn**	**09 18 52.4**	**+1.1**
	0.2nm,0.2s,baz=179,slow=12,SNR=12							
KK31				⇑Pg		Pb	09 19 06.3	-4.1
	0.3nm,0.3s							
KK31				⇑Sn		Sn	09 20 00.2	-11
	1.8nm,0.5s,baz=185,slow=23,SNR=4.4							
KK31				⇑Lg		Lg	09 20 27.7	
	1.3nm,0.4s							
AAK	**Ala-Archa**	**7.13**	**23**	⇑Pn		**Pn**	**09 18 55.8**	**+2.6**
	1.6nm,0.4s							
AAK				⇓Sn		**Sn**	**09 20 11.5**	**-2.9**
	8.7nm,0.7s							
TKM2	**Tokmak 2**	**7.75**	**27**	⇓Pn		**Pn**	**09 19 03.7**	**+1.8**
	3.0nm,0.5s							
PYUN	**Piuthan**	**13.05**	**124**	*e*P		Pn	09 20 19.7	+5.2
	9.4nm,0.5s							
DANN	**Dangsing**	**13.42**	**122**	*e*P		**P**	**09 20 25.1**	**-4.1**
	5.8nm,0.4s							
DMN	**Daman**	**14.81**	**121**	*e*P		**P**	**09 20 42.2**	**-2.4**
	6.7nm,0.5s							
PKIN	**Phulchoki**	**15.03**	**120**	*e*P		**Pn**	**09 20 44.5**	**+2.9**
	12nm,0.5s							
PKI	**Pulchoki**	**15.04**	**120**	*e*P		**Pn**	**09 20 44.5**	**+2.7**
	16nm,0.5s							
JIRN	**Jiri**	**15.54**	**118**	*e*P		**P**	**09 20 51.2**	**-1.6**
	24nm,0.6s							
RAMN	**Ramite**	**16.26**	**120**	*e*P		**Pn**	**09 20 58.0**	**+0.4**
	8.4nm,0.4s							

*DDA **27** 09:40:50.8, 38°.19N×32°.35E, h7km±3km, ML2.7*
*ISK **27** 09:40:50.2, 38°.20N×32°.31E, h2km, ML2.0/10*
*ISCJB **27** 09:40:51.3±0.6, 38°.20N±0°.03×32°.35E±0°.04, h2km±6km,*
Error ellipse: s-maj=5.7km s-min=4.9km az=176.9
ISC 27 09:40:50.5±1.1, 38°.20N±0°.03×32°.31E±0°.04, h5km±9km,
n16, σ0§73/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LADK	**Ladik-KONYA**	**0.04**	**94**	PG		**Pg**	**09 40 51.3**	**-0.5**
KONT	**Konya--Tatoy**	**0.26**	**172**	PG		**Pg**	**09 40 55.9**	**+0.3**
KONT				SG		**Sg**	**09 41 00.3**	**+1.3**
KONT	**Konya--Tatoy**	**0.26**	**172**	IAML_P				
	comp=Z,9μm,0.1s							
KONT				*i* P		**Pb**	**09 40 56.8**	**-0.9**
KONT				*i* S		**Sb**	**09 41 01.2**	**-1.3**
KDHN	**Kadinhani**	**0.35**	**334**	IAML_P				
	comp=Z,3μm,0.2s							
KDHN				*i* P		**Pb**	**09 40 58.6**	**-0.8**
KDHN				*i* S		**Sb**	**09 41 04.7**	**-0.7**
KMER	**Konya-Meram**	**0.44**	**174**	IAML_P				
	comp=Z,529nm,0.1s							
KMER				*i* P		**Pb**	**09 41 00.0**	**-0.8**
DOGA	**KONYA_Doganhis**	**0.52**	**259**	IAML_P				
	comp=Z,1μm,0.1s							
DOGA				*i* P		**Pb**	**09 41 01.6**	**-0.6**
DOGA				*i* S		**Sb**	**09 41 10.6**	**+0.5**
CHBY	**Cihanbeyli**	**0.59**	**50**	PG		**Pb**	**09 41 02.7**	**-0.7**
CHBY				SG		**Sb**	**09 41 11.7**	**-0.5**
KIZT	**Kizilcal**	**0.76**	**333**	PG		**Pb**	**09 41 05.8**	**-0.5**
KIZT				SG		**Sb**	**09 41 16.4**	**-0.6**
SULT	**Sultanhani-AKS**	**0.95**	**90**	PG		**Pb**	**09 41 09.3**	**-0.2**
KULU	**Kulu**	**1.00**	**33**	PG		**Pb**	**09 41 10.1**	**-0.3**
KKUL	**Konya-Kulu**	**1.08**	**26**	IAML_P				
	comp=Z,177nm,0.2s							
KKUL				*i* P		**Pn**	**09 41 12.5**	**+0.1**
KKUL				*i* S		**Sn**	**09 41 27.4**	**-0.4**
AFSR	**Afar-Bala (An**	**1.38**	**25**	PN		**Pb**	**09 41 17.3**	**+0.5**
YAYX	**Yaylak**	**1.39**	**58**	PN		**Pb**	**09 41 17.6**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.39**	**334**	PN		**Pb**	**09 41 17.4**	**+0.4**
CIFT	**Cifteler, Eski**	**1.52**	**320**	PN		**Pb**	**09 41 19.2**	**0.0**
BERE	**Bereket-Mersin**	**1.99**	**158**	PN		**Pn**	**09 41 25.9**	**+0.9**

*MOS **27** 09:41:12.3±0.9, 9°.44N×82°.68W, h10km, mb5.7/19,*
MS5.3/17, Error ellipse: s-maj=8.5km s-min=6.1km
az=108.3
*UCR **27** 09:41:13.9±2.4, 9°.31N×82°.70W, h1km±5km, MD4.3, ML5.0,*
mb5.6(NEIC)
*BJI **27** 09:41:13.0±0.0, 9°.40N×82°.60W, h11km, mB5.9/19,*
Ms5.9/25, Ms7 5.7/24
*NEIC **27** 09:41:14.6±1.7, 9°.42N×82°.64W, h9km±3km, mb5.6/474,*
MS5.3/496, MW5.7, MW5.7, Error ellipse: s-maj=12.3km
s-min=8.2km az=208.0, Moment Tensor Solution. s56
Moment tensor: Scale 10^{17}Nm; M_{rr}3.97; $M_{\theta\theta}$-2.22;
$M_{\phi\phi}$-1.75; $M_{r\theta}$-2.36; $M_{\theta\phi}$1.70; $M_{\phi r}$2.23; Best double
couple: $M_0$5.00000×10^{17} NP1:ϕ_s130.00000°, δ25.00000°,
λ88.00000°. NP2:ϕ_s312.00000°, δ65.00000°, λ91.00000°.
Principal axes: T 5.1600, Plg70.0000°, Azm225.0000°; N
-0.2700, Plg1.0000°, Azm132.0000°; P -4.8900,
Plg20.0000°, Azm42.0000°;
NEIC Felt [IV] at Boquete and Volcan and [III] at Bocas del
Toro, Panama. Felt [IV] at Alajuela, Alajuelita, Escazu,
Guadalupe, Palmar, Sabanilla and San Pedro; [III] at San
Jose, San Juan and Tres Rios, Costa Rica. Felt widely in
central and eastern Costa Rica and western Panama.
*ISCJB **27** 09:41:14.9±0.4, 9°.36N±0°.01×82°.70W±0°.02, h29km±3km,*
mb5.3/109, MS5.3/512 Error ellipse: s-maj=3.0km
s-min=1.8km az=138.7
*NEIC **27** 09:41:14.0±0.0, 9°.49N×82°.44W, h15km, Moment Tensor*
Solution. s49 Moment tensor: Scale 10^{17}Nm; M_{rr}4.14;
$M_{\theta\theta}$-3.35; $M_{\phi\phi}$-0.79; $M_{r\theta}$-1.99; $M_{\theta\phi}$1.99; $M_{\phi r}$1.12; Best
double couple: $M_0$4.90000×10^{17} NP1:$\phi_0$299.00000°,
δ59.00000°, λ90.00000°. NP2:$\phi_0$118.00000°, δ31.00000°,
λ89.00000°. Principal axes: T 4.7100, Plg75.0000°,
Azm210.0000°; N 0.2900, Plg0.0000°, Azm118.0000°; P
-5.0000, Plg14.0000°, Azm28.0000°;
*IDC **27** 09:41:18.9±1.2, 9°.44N×82°.65W, h48km±13km, mb4.6/37,*
mb1 4.8/43, mb1mx4.7/53, mbtmp4.9/43, ML4.8/4, MS5.1/25,
Ms1 5.1/25, ms1mx5.0/34 Error ellipse: s-maj=14.5km
s-min=7.2km az=47.0
*GCMT **27** 09:41:18.6±0.1, 9°.46N±0°.01×82°.67W±0°.01, h20km,*
MW5.8/126, Moment Tensor Solution. s117, c232;
s126, c328; Duration: 1§8 Moment tensor: Scale 10^{17}
Nm; M_{rr}4.00±.04; $M_{\theta\theta}$-2.82±.04; $M_{\phi\phi}$-1.18±.04;
$M_{r\theta}$-2.88±.08; $M_{\theta\phi}$2.08±.03; $M_{\phi r}$1.85±.08; Best double
couple: $M_0$5.35500×10^{17} NP1:$\phi_0$303.00000°, δ65.00000°,
λ89.00000°. NP2:$\phi_0$125.00000°, δ25.00000°, λ92.00000°.
Principal axes: T 5.2380, Plg70.0000°, Azm211.0000°; N
0.2340, Plg1.0000°, Azm304.0000°; P -5.4720,
Plg20.0000°, Azm34.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface/mantle waves,
cutoff=50s. Triangular moment-rate function
ISC 27 09:41:14.7±0.6, 9°.36N±0°.03×82°.65W±0°.02, h16km±3km,
h16km: pP-P, n1530, σ1§68/1111, mb5.5/108, MS5.3/515,
28C-13D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TBS2		**0.56**	**180**	⇓*e*P		**Pg**	**09 41 23.9**	**-2.0**
TBS2				*e*S		**Sg**	**09 41 32.0**	**-1.5**
BRU2	**Volcan**	**0.56**	**184**	⇓*e*P		**Pg**	**09 41 24.9**	**-1.1**
BRU2				*e*S		**Sg**	**09 41 33.4**	**-0.1**
DRK0	**Durika**	**0.59**	**261**	⇓*e*P		**Pg**	**09 41 24.7**	**-1.7**
EDSV	**San Vito**	**0.62**	**210**	⇓*e*P		**Pb**	**09 41 26.1**	**-1.2**
EDBA	**Buenos Aires**	**0.64**	**252**	⇓*e*P		**Pb**	**09 41 26.4**	**-1.2**
EDPN	**Palmar Norte**	**0.89**	**243**	⇓*e*P		**Pb**	**09 41 30.9**	**-0.8**
EDLM	**Las Mercedes**	**0.93**	**265**	*e*P		**Pb**	**09 41 30.5**	**-1.9**
DVD	**David**	**0.94**	**168**	⇑*e*P		**Pb**	**09 41 32.2**	**-0.4**
DVD				*e*S		**Sb**	**09 41 45.4**	**+0.5**
PTJ1	**Puerto Jimnez**	**1.04**	**218**	⇑*e*P		**Pb**	**09 41 32.4**	**-1.9**
PTJ1				*e*S		**Sb**	**09 41 46.3**	**-1.4**
EDDO	**Dominical**	**1.20**	**265**	*e*P		**Pn**	**09 41 36.0**	**-0.8**
SJS	**Escuela Geolog**	**1.50**	**293**	⇑*e*P		**Pn**	**09 41 41.0**	**0.0**
SJS				*e*S		**Sb**	**09 42 01.1**	**+0.1**
HDC	**Heredia**	**1.57**	**294**	*e*Pn		**Pn**	**09 41 42.3**	**+0.2**
HDC				*e*Sn		**Sn**	**09 42 01.7**	**-0.5**
HDC	**Heredia**	**1.57**	**294**	⇑*e*P		**Pn**	**09 41 42.0**	**-0.1**
HDC				*e*S		**Sn**	**09 42 02.7**	**+0.5**
SRA1	**San Ramn**	**1.94**	**292**	⇑*e*P		**Pn**	**09 41 47.5**	**+0.4**
CEDE	**Laguna Cedeo**	**2.31**	**299**	⇑*e*P		**Pn**	**09 41 52.6**	**+0.5**
CEDE				*i* P		**Pb**	**09 41 53.8**	**-2.3**
ARE1	**Arenal 1**	**2.31**	**298**	⇑*e*P		**Pn**	**09 41 52.7**	**+0.6**
CASO	**Castillo**	**2.31**	**298**	*i* P		**Pn**	**09 41 53.6**	**+1.4**
CASO				*i* S		**Sb**	**09 42 24.4**	**0.0**
JTS	**Las Juntas de**	**2.45**	**292**	*e*Pn		**Pn**	**09 41 55.1**	**+1.1**
JTS				*e*Sn		**Sn**	**09 42 25.2**	**+1.6**
JTS	**Las Juntas de**	**2.45**	**292**	*c* iP		**Pn**	**09 41 54.8**	**+0.8**
JTS	**Las Juntas de**	**2.45**	**292**	P		**Pn**	**09 41 54.3**	**+0.3**

968nm,0.3s,baz=158,slow=7.4,SNR=547
JTS LR LR 09 42 23.8
comp=Z,14µm,19.9s,baz=207,slow=27
JTS S **Sn** **09 42 25.6 +1.9**
5µm,0.3s,baz=11,slow=22,SNR=77
JTS Las Juntas de 2.45 292⇑ *eP* **Pn** **09 41 54.6 +0.6**
JTS *eS* **Sb** **09 42 27.8 -0.5**
PNME Penonome 2.46 111⇑ *eP* **Pb** **09 41 56.9 -1.6**
PNME *eS* **Sb** **09 42 26.9 -1.7**
ZANG Zanguenga, Cho 2.78 98⇑ *eP* **Pn** **09 41 58.4 -0.2**
BCIP Isla Barro Col 2.79 94 *ePn* **Pn** **09 41 58.8 +0.1**
BCIP *eSn* **Sn** **09 42 29.3 -2.8**
BCIP Isla Barro Col 2.79 94 *eP* **Pn** **09 41 59.0 +0.3**
BCIP Isla Barro Col 2.79 94 *eP* **Pn** **09 41 58.8 +0.1**
BCIP *e* 09 42 29.3
BCIP Isla Barro Col 2.79 94 *eP* **Pn** **09 41 59.0 +0.3**
BCIP Isla Barro Col 2.79 94⇑ *eP* **Pn** **09 41 58.5 -0.2**
BCIP *eS* **Sn** **09 42 31.7 -0.3**
CUI Cuipilapa 2.79 298⇑ *eP* **Pn** **09 41 59.1 +0.4**
AZU Azuero 2.82 123 *eP* **Pn** **09 41 59.5 +0.4**
AZU *eS* **Sb** **09 42 39.3 +0.2**
HORNC Hornillas 2.83 299 *i P* **Pn** **09 42 00.0 +0.7**
MESS Mesas 2.85 299⇑ *eP* **Pn** **09 41 59.8 +0.2**
FRIJ El Hiral 2.89 93 *eP* **Pn** **09 41 59.5 -0.6**
BUEV Buena Vista 3.06 298 *eP* **Pn** **09 42 03.5 +0.9**
GBS3 Finca Las Img 3.10 297 *i P* **Pn** **09 42 05.0 +2.0**
UPA Univ. de Panam 3.10 97 *eP* **Pn** **09 42 02.9 -0.1**
FLAM Flamenco Islan 3.11 98 *eP* **Pn** **09 42 03.9 +0.1**
NY14 Universidad de 3.11 295 *i P* **Pn** **09 42 04.5 +1.4**
ESPN Las Esperanzas 3.25 330 *ePn* **Pn** **09 42 05.0 0.0**
ESPN *eSn* **Sn** **09 42 44.1 +0.7**
ESPN Las Esperanzas 3.25 330⇓ *eP* **Pn** **09 42 04.2 -0.8**
ESPN IAML 09 43 03.1
comp=N,12µm,1.3s
ACON Acoyapa 3.58 317 *ePn* **Pn** **09 42 10.1 +0.5**
ACON *eSn* **Sn** **09 42 47.1 -4.6**
ACON Acoyapa 3.58 317 *eP* **Pn** **09 42 09.8 +0.2**
ACON IAML 09 43 16.1
comp=E,8µm,1.0s
CONN Concepcion 3.65 307 *eP* **Pn** **09 42 10.4 -0.2**
PRVC Isla de Provid 4.19 17 *eP* **Pn** **09 42 15.6 -2.4**
PRVC Isla de Provid 4.19 17 *eP* **Pn** **09 42 15.6 -2.4**
MASN Masaya 4.32 308⇓ *eP* **Pn** **09 42 21.4 +1.7**
MGAN Managua 4.49 308 *eP* **Pn** **09 42 23.8 +1.8**
COPN Copaltepe 4.78 306 *eP* **Pn** **09 42 26.4 +0.4**
MATN Matagalpa 4.78 318 *eP* **Pn** **09 42 26.2 -0.1**
CNGN Cerro Negro 5.05 309 *eP* **Pn** **09 42 31.5 +1.6**
ESTN Estel 5.21 316 *ePn* **Pn** **09 42 32.1 0.0**
ESTN Estel 5.21 316 *eP* **Pn** **09 42 32.2 +0.1**
ESTN IAML 09 44 08.3
comp=N,3µm,0.8s
CRIN San Cristobal 5.44 308⇓ *eP* **Pn** **09 42 38.5 +3.3**
CSGN Cosiguina Volc 6.00 307 *ePn* **Pn** **09 42 44.5 +1.5**
CSGN Cosiguina Volc 6.00 307 *eP* **Pn** **09 42 44.3 +1.3**
CSGN Cosiguina Volc 6.00 307 *eP* **Pn** **09 42 44.3 +1.3**
SOLC Bahia Solano 6.06 121 *eP* **Pn** **09 42 42.8 -0.9**
SOLC Bahia Solano 6.06 121 *eP* **Pn** **09 42 42.8 -0.9**
CNCH Conchagua 6.40 308 *eP* **Pn** **09 42 49.4 +1.0**
CNCH Conchagua 6.40 308 *eP* **Pn** **09 42 49.4 +1.0**
LCND La Caada 6.46 308 *eP* **Pn** **09 42 51.4 +2.1**
LCND La Caada 6.46 308 *eP* **Pn** **09 42 51.4 +2.1**
TGUH Tegucigalpa,Un 6.50 316 *ePn* **Pn** **09 42 50.8 +1.0**
TGUH Tegucigalpa,Un 6.50 316 *eP* **Pn** **09 42 50.5 +0.8**
TGUH Tegucigalpa,Un 6.50 316 *eP* **Pn** **09 42 50.5 +0.8**
PACA Pacayal 6.89 307 *eP* **Pn** **09 42 57.0 +1.6**
PACA Pacayal 6.89 307 *eP* **Pn** **09 42 57.0 +1.6**
UREC San Jos de Ur 7.22 102 *eP* **Pn** **09 43 00.1 +0.4**
UREC San Jos de Ur 7.22 102 *eP* **Pn** **09 43 00.1 +0.4**
MALC Bahia Malaga 7.49 135 *eP* **Pn** **09 43 06.7 +3.3**
MALC Bahia Malaga 7.49 135 *eP* **Pn** **09 43 06.7 +3.3**
LFRS El Faro 7.57 305 *eP* **Pn** **09 43 05.8 +1.1**
PLMC San Jos del P 7.72 125 *eP* **Pn** **09 43 10.1 +3.5**
PLMC San Jos del P 7.72 125 *eP* **Pn** **09 43 10.1 +3.5**
HELC Santa Helena 7.73 114 *eP* Pn 09 43 12.7 +5.7
HELC Santa Helena 7.73 114 *eP* Pn 09 43 12.7 +5.7
BOQS Boqueron 7.81 304 *eP* **Pn** **09 43 10.5 +2.5**
YOTC Yotoco, Valle 8.23 130 *eP* **Pn** **09 43 16.0 +2.3**
YOTC Yotoco, Valle 8.23 130 *eP* **Pn** **09 43 16.0 +2.3**
ARGC Ariguani, Magd 8.31 86 *eP* **Pn** **09 43 13.4 -1.2**
ARGC Ariguani, Magd 8.31 86 *eP* **Pn** **09 43 13.4 -1.2**
GUY2C Guyana, Caldas 8.32 119 *eP* Pn 09 43 20.7 +5.5
GUY2C Guyana, Caldas 8.32 119 *eP* Pn 09 43 20.7 +5.5
SMRC Santa Marta, M 8.49 77 *eP* **Pn** **09 43 13.4 -3.7**
SMRC Santa Marta, M 8.49 77 *eP* **Pn** **09 43 13.4 -3.7**
RREF El Recreo 8.50 121 *eP* **Pn** **09 43 20.7 +2.9**
RREF El Recreo 8.50 121 *eP* **Pn** **09 43 20.7 +2.9**
PTBC PUERTO BERRIO, 8.59 108 *eP* Pn 09 43 28.6 +10
PTBC PUERTO BERRIO, 8.59 108 *eP* Pn 09 43 28.6 +10
POPC Popayan, Colom 9.01 138 *eP* **Pn** **09 43 26.7 +2.2**
POPC Popayan, Colom 9.01 138 *eP* **Pn** **09 43 26.7 +2.2**
BBAC Balboa, Cauca 9.06 143 *eP* **Pn** **09 43 26.7 +1.5**
BBAC Balboa, Cauca 9.06 143 *eP* **Pn** **09 43 26.7 +1.5**
CODC Agustn Codazz 9.10 86 *eP* **Pn** **09 43 24.0 -1.4**
CODC Agustn Codazz 9.10 86 *eP* **Pn** **09 43 24.0 -1.4**
BRRC Barranca, Sant 9.13 104 *eP* Pn 09 43 34.0 +8.1
BRRC Barranca, Sant 9.13 104 *eP* Pn 09 43 34.0 +8.1
MARP Paez Belalcaza 9.29 134 *eP* Pn 09 43 34.0 +5.7
MARP Paez Belalcaza 9.29 134 *eP* Pn 09 43 34.0 +5.7
OCAC Ocana 9.29 96 *eP* **Pn** **09 43 28.0 -0.3**
OCAC Ocana 9.29 96 *eP* **Pn** **09 43 28.0 -0.3**
PCON Cinco Dias 9.36 138 *eP* **Pn** **09 43 32.0 +2.5**
PCON Cinco Dias 9.36 138 *eP* **Pn** **09 43 32.0 +2.5**
SOTA Rioblanco 9.36 140 *eP* **Pn** **09 43 31.3 +1.7**
SOTA Rioblanco 9.36 140 *eP* **Pn** **09 43 31.3 +1.7**
ROSC El Rosal 9.41 118 *ePn* **Pn** **09 43 32.0 +1.9**
ROSC El Rosal 9.41 118 P **Pn** **09 43 33.0 +3.0**
comp=N,2.6nm,0.3s,baz=41,slow=14,SNR=15
APG El Apazote 9.47 307 P **Pn** **09 43 31.1 +0.3**
comp=N,10nm,0.3s,baz=120,slow=8.8,SNR=73
PRAC Prado 9.54 126 *eP* **Pn** **09 43 36.0 +4.4**
PRAC Prado 9.54 126 *eP* **Pn** **09 43 36.0 +4.4**
CRUC La Cruz 9.60 143 *eP* **Pn** **09 43 37.3 +4.7**
CRUC La Cruz 9.60 143 *eP* **Pn** **09 43 37.3 +4.7**
GCUF Volcan Galeras 9.65 147 *eP* **Pn** **09 43 36.0 +2.4**
GCUF Volcan Galeras 9.65 147 *eP* **Pn** **09 43 36.0 +2.4**
BETC Betania 9.77 132 *eP* **Pn** **09 43 38.6 +3.9**
BETC Betania 9.77 132 *eP* **Pn** **09 43 38.6 +3.9**
BARC Barichara 9.78 106 *eP* **Pn** **09 43 36.0 +1.0**
BARC Barichara 9.78 106 *eP* **Pn** **09 43 36.0 +1.0**
MCJ Malvern 9.79 29 *i P* **Pn** **09 43 35.3 +0.4**
OTAV Otavalo 9.98 155 *ePn* **Pn** **09 43 40.0 +2.0**
OTAV Otavalo 9.98 155 *eP* **Pn** **09 43 40.0 +2.0**
OTAV Otavalo 9.98 155 *eP* **Pn** **09 43 40.0 +2.0**
OTAV Otavalo 9.98 155 *eP* **Pn** **09 43 40.0 +2.0**
FSCY Frank Sound, G 9.99 8 *ePn* **Pn** **09 43 36.7 -1.1**
CHIC Chingaza 10.03 117 *eP* **Pn** **09 43 42.0 +3.4**
CHIC Chingaza 10.03 117 *eP* **Pn** **09 43 42.0 +3.4**
PAMC Pamplona, Colo 10.05 101 *eP* **Pn** **09 43 41.3 +2.3**
PAMC Pamplona, Colo 10.05 101 *eP* **Pn** **09 43 41.3 +2.3**
CVJ Coleyville 10.12 29 *i P* **Pn** **09 43 40.8 +1.3**
MTDJ Mount Denham 10.12 29 *ePn* **Pn** **09 43 40.0 +0.5**
VILC Villavicencio, 10.31 120 *eP* Pn 09 43 47.3 +5.0
VILC Villavicencio, 10.31 120 *eP* Pn 09 43 47.3 +5.0
HOJ Hope 10.33 33 *i P* **Pn** **09 43 43.0 +0.7**
STH Stony Hill 10.36 33⇓ *iP* **Pn** **09 43 43.2 +0.5**
BBJ Bamboo Saint A 10.38 30 *i P* **Pn** **09 43 43.3 +0.2**
FLOC Florencia 10.40 138 *eP* **Pn** **09 43 46.0 +2.6**
FLOC Florencia 10.40 138 *eP* **Pn** **09 43 46.0 +2.6**
URIC Uribia, Colomb 10.74 77 *eP* **Pn** **09 43 45.3 -2.7**
URIC Uribia, Colomb 10.74 77 *eP* **Pn** **09 43 45.3 -2.7**
YOPC Yopal, Colombi 10.90 111 *eP* **Pn** **09 43 53.3 +3.0**
YOPC Yopal, Colombi 10.90 111 *eP* **Pn** **09 43 53.3 +3.0**
TAMC Tame, Arauca 11.15 104 *eP* **Pn** **09 43 56.5 +3.0**
TAMC Tame, Arauca 11.15 104 *eP* **Pn** **09 43 56.5 +3.0**
CCIG Comitan 11.52 308 *ePn* **Pn** **09 43 59.6 +0.8**
SDV Santo Domingo 11.88 91 *ePn* **Pn** **09 44 03.2 -0.5**
SDV Santo Domingo 11.88 91 P **Pn** **09 44 03.9 +0.2**
comp=N,2.8nm,0.3s,baz=281,slow=6.8,SNR=46
SDV S **Sn** **09 46 11.9 -4.3**
comp=N,9.1nm,0.3s,baz=27,slow=18,SNR=5.9
SDV LR LR 09 49 42.1
comp=N,17µm,19.7s,baz=266,slow=42
SDV Santo Domingo 11.88 91⇑ *iP* **Pn** **09 44 04.7 +0.9**
SDV Santo Domingo 11.88 91 *eP* **Pn** **09 44 03.7 0.0**
PTLC Puerto Leguiza 12.02 139 *eP* **Pn** **09 44 09.2 +3.6**
PTLC Puerto Leguiza 12.02 139 *eP* **Pn** **09 44 09.2 +3.6**
TEIG Tepich 12.09 334 *ePn* **Pn** **09 44 05.5 -0.9**
PAYG Puerto Ayora 12.54 218 *ePn* **Pn** **09 44 13.7 +1.1**
PAYG Puerto Ayora 12.54 218⇑ *iP* **P** **09 44 20.7 -3.5**
PAYG *eS* Sn 09 46 55.6 +24

GTBY Guantanamo Bay 12.79 34 *ePn* **Pn** **09 44 16.5 +0.5**
LGNH Logne 13.33 46 *ePn* **Pn** **09 44 23.6 +0.3**
MYIG Mrida 13.40 330 *ePn* **Pn** **09 44 25.0 +0.7**
CMIG Matias Romero 14.16 304 P **Pn** **09 44 34.3 -0.5**
comp=N,4.6nm,0.3s,baz=120,slow=8.6,SNR=51
SDDR Presa de Saban 14.58 48 *ePn* **Pn** **09 44 41.2 +0.6**
SDD Santo Domingo 15.31 52 *ePn* **Pn** **09 44 50.8 +0.5**
comp=N,2µm,1.6s
062Z Marathon 15.36 6 P **Pn** **09 44 51.5 +0.6**
baz=186
GRTK Grand Turk 16.39 41 *ePn* **Pn** **09 45 05.0 +0.7**
comp=N,685nm,1.4s
061Z Ochoppi 16.50 6 *ePn* **Pn** **09 45 06.1 +0.5**
comp=N,415nm,1.2s
061Z Ochoppi 16.50 6 P **Pn** **09 45 05.6 0.0**
baz=186
PCDR Punta Cana, DR 16.56 55 *ePn* **P** **09 45 07.9 -1.0**
comp=N,4µm,1.8s
059Z Ave Maria 16.92 4 P **Pn** **09 45 11.0 0.0**
baz=184
ATAH Atahualpa 16.93 165 P **P** **09 45 13.3 -0.2**
comp=N,1.6nm,0.3s,baz=345,slow=11,SNR=61
ATAH LR LR 09 51 12.0
comp=N,17µm,18.8s,baz=337,slow=35
060Z West Palm Beac 17.07 6 P **Pn** **09 45 13.5 +0.7**
baz=187
CRPR Cabo Rojo, PR 17.36 59 *ePn* **P** **09 45 19.4 +1.6**
comp=N,831nm,1.8s
TLIG Tlapa 17.48 299 *ePn* **Pn** **09 45 18.7 +0.6**
comp=N,240nm,1.2s
059A Moore Haven 17.57 4 P **Pn** **09 45 18.8 -0.2**
baz=185
058A Arcadia 17.62 3 P **P** **09 45 20.9 +0.3**
baz=183
060A Indiantown 17.71 7 P **Pn** **09 45 21.0 +0.2**
baz=187
959A Okeechobee 18.14 5 P **Pn** **09 45 25.9 -0.2**
baz=186
958A Wauchula 18.15 3 P **Pn** **09 45 25.3 -0.8**
baz=183
957A Wimauma 18.22 1 P **P** **09 45 27.3 +0.2**
baz=181
SJG San Juan 18.23 60 *ePn* **P** **09 45 29.0 +1.7**
comp=N,664nm,1.4s
SJG San Juan 18.23 60 *eP* **Pn** **09 45 24.2 -2.9**
SJG San Juan 18.23 60 *eP* **P** **09 45 29.0 +1.7**
SJG pmax pmax
comp=Z,660nm,1.3s
SJG San Juan 18.23 60 *eP* **Pn** **09 45 24.2 -2.9**
SJG San Juan 18.23 60 P **P** **09 45 27.7 +0.4**
comp=Z,5.3nm,0.3s,baz=254,slow=8.6,SNR=33
SJG S Sn 09 48 38.8 -12
comp=Z,2.6nm,0.3s,baz=50,slow=17,SNR=7.4
SJG LR LR 09 51 48.4
comp=Z,9µm,19.6s,baz=247,slow=35
859A Kempfer Cattle 18.67 5 P **P** **09 45 32.4 +0.2**
baz=185
DWPF Disney Wildern 18.69 3 *eP* **Pn** **09 45 33.0 +0.3**
comp=Z,430nm,1.6s
DWPF Disney Wildern 18.69 3 P **Pn** **09 45 33.4 +0.7**
baz=184
858A St. Cloud 18.79 4 P **Pn** **09 45 35.1 +1.1**
baz=184
858A S **S** **09 49 11.8 +4.9**
baz=184
857A Zephyrhills 18.81 1 P **Pn** **09 45 35.5 +1.2**
baz=181
757A Oxford 19.49 2 P **P** **09 45 41.6 +0.5**
baz=182
758A Lake Helen 19.55 4 P **Pn** **09 45 42.9 -0.2**
baz=184
656A Willston 19.91 0 P **Pn** **09 45 47.7 +0.3**
baz=180,SNR=17
658A Bunnell 20.00 4 P **Pn** **09 45 48.9 +0.5**
baz=184,SNR=7.3
655A Horseshoe Beac 20.05 358 P Pn 09 45 48.8 -0.2
baz=178
657A Interlachen 20.13 2 P Pn 09 45 50.3 +0.2
baz=182,SNR=12
556A Lake Butler 20.54 1 P Pn 09 45 54.1 -0.7
baz=181,SNR=9.2
557A Orange Park 20.57 2 P Pn 09 45 54.4 -0.7
baz=183
554A Perry 20.64 357 P Pn 09 45 55.2 -0.7
baz=177
555A McAlpin 20.66 359 PFAKE 09 46 10.0 +14
555A LR LR
comp=Z,8µm,19.0s
555A McAlpin 20.66 359 P Pn 09 45 55.7 -0.4
baz=179,SNR=15
552A Lynn Haven 20.81 354 P Pn 09 45 57.7 -0.2
baz=173
GRHS Sauteurs 20.84 80 *eP* Pn 09 46 03.4 +5.0
GRSS Sisters 20.87 80 *eP* Pn 09 46 05.3 +6.5
SMRT St. Maarten 20.87 63 *eP* **P** **09 45 57.1 +0.8**
comp=Z,1µm,1.8s
SMRT St. Maarten 20.87 63 *eP* P 09 45 47.9 -8.4
SKOC St. Kitts, UWI 20.91 66 *eP* **P** **09 45 56.8 +0.1**
TPP Pointe-a-Pierr 20.91 86 *eP* Pn 09 45 59.5 +0.1
SKI Saint Kitts 20.92 66 PFAKE 09 46 10.0 +11
SKI LR LR
comp=Z,6µm,19.0s
SKI Saint Kitts 20.92 66 *eP* **P** **09 45 50.1 -6.8**
NVBH Bath Hotel, Ne 20.96 66 *e* Pn 09 46 04.0 +4.2
TRN Trinidad (W) 20.97 85 *eP* **P** **09 45 58.2 +0.9**
NEV Hard Times 21.01 66 *eP* **P** **09 45 57.7 0.0**
457A Yulee 21.18 3 P **P** **09 46 00.9 +1.5**
baz=183
MLYT Lee's Yard 21.22 68 *eP* **P** **09 46 00.3 +0.2**
456A Hilliard 21.26 2 *eP* **P** **09 46 01.2 +0.9**
comp=Z,309nm,1.2s
456A LR LR
comp=Z,9µm,18.0s
456A Hilliard 21.26 2 P **P** **09 46 02.0 +1.6**
baz=182
454A Quitman 21.27 358 P **P** **09 46 02.3 +1.9**
baz=177,SNR=14
455A Stateville 21.28 359 P **P** **09 46 02.3 +1.8**
baz=179,SNR=14
FCV Fort Charlotte 21.33 78 *eP* **P** **09 46 04.0 +2.7**
SVB Belmont 21.34 78 *eP* **P** **09 46 02.8 +1.4**
451A Vernon 21.34 353 P **P** **09 46 02.8 +1.6**
baz=172
SVV Soufriere Volc 21.38 77 *eP* **P** **09 46 06.9 +5.1**
SSV Crater Summit 21.40 77 *eP* **P** **09 46 06.4 +4.2**
SFAN Fancy Village 21.43 77 *e* P 09 46 11.5 +9.2
453A Whigham 21.44 356 PFAKE 09 46 10.0 +7.7
453A LR LR
comp=Z,10µm,19.0s
453A Whigham 21.44 356 P **P** **09 46 04.7 +2.4**
baz=176,SNR=32
SVCV St. Vincent, C 21.44 78 *eP* **P** **09 46 06.1 +3.6**
452A Marianna 21.51 354 P **P** **09 46 05.1 +2.1**
baz=173,SNR=29
BBL Barber's Block 21.57 71 *eP* **P** **09 46 05.0 +1.2**
MDN Morne-Daniel 21.59 72 *eP* **P** **09 46 05.5 +1.5**
DPMT Pointe Michel 21.59 72 *eP* **P** **09 46 01.4 -2.6**
SLDE Delcer 21.61 76 *eP* **P** **09 46 09.6 +5.3**
DBCT Belle View Cho 21.62 72 *eP* **P** **09 45 59.3 -5.1**
BPA Boggy Peak 21.62 67 *eP* **P** **09 45 59.1 -5.4**
SLB Belfond 21.63 76 *eP* **P** **09 46 07.1 +2.6**
450A Crestview 21.65 351 P **P** **09 46 06.6 +2.1**
baz=169
FDF Fort de France 21.69 74 *eP* **P** **09 46 05.9 +0.7**
comp=Z,173nm,0.9s
FDF Fort de France 21.69 74 *eP* **P** **09 46 07.8 +2.6**
FDF Fort de France 21.69 74 *eP* **P** **09 46 05.9 +0.7**
FDF pmax pmax
comp=Z,170nm,0.9s
MCLT Moule a Chique 21.70 76 *eP* **P** **09 46 06.9 +1.7**
449A Pace 21.71 349 P **P** **09 46 07.2 +2.0**
baz=168
SLBI Saint Lucia, B 21.72 76 *eP* **P** **09 46 07.8 +2.3**
SLPA Patience 21.75 76 *eP* **P** **09 46 09.8 +4.1**
TOSP Speyside 21.84 83 *eP* **P** **09 46 02.5 -4.3**
356A Blackshear 21.86 1 P **P** **09 46 08.0 +1.2**
baz=181
355A Pearson 21.87 360 P **P** **09 46 08.4 +1.5**
baz=180,SNR=9.3
ANWB Willy Bob 21.89 66 *eP* **P** **09 46 07.5 +0.3**
comp=Z,391nm,1.2s
ANWB LR LR
comp=Z,4µm,20.0s
353A Camilla 21.93 356 P **P** **09 46 09.4 +2.0**
baz=176,SNR=39
351A Pinckard 21.98 353 P **P** **09 46 10.0 +1.9**
baz=172,SNR=43
357A Townsend 21.98 3 P **P** **09 46 09.3 +1.2**
baz=183
NNA Nana 21.98 165 *eP* **P** **09 46 09.5 +1.2**
comp=Z,627nm,1.4s
NNA LR LR
comp=Z,4µm,20.0s
NNA Nana 21.98 165 *cePn* **P** **09 46 10.2 +1.9**
NNA Nana 21.98 165 P **P** **09 46 10.0 +1.8**
comp=Z,232nm,1.2s,baz=332,slow=12,SNR=48
TIGA Tifton 21.98 358 PFAKE 09 46 20.0 +12
TIGA LR LR
comp=Z,8µm,18.0s
TIGA Tifton 21.98 358 P **P** **09 46 10.0 +1.8**
baz=178,SNR=34
BRAL Brewton 22.08 350 P **P** **09 46 11.1 +2.0**
baz=168
352A Blakely 22.11 355 PFAKE 09 46 20.0 +11
352A LR LR
comp=Z,8µm,18.0s
352A Blakely 22.11 355 P **P** **09 46 11.2 +1.7**
baz=174,SNR=38
350A Dozier 22.21 352 P **P** **09 46 12.3 +1.7**
baz=170,SNR=24
349A Repton 22.28 350 P **P** **09 46 13.2 +1.9**
baz=168,SNR=33
255A Hazlehurst 22.45 0 PFAKE 09 46 20.0 +6.9
255A LR LR
comp=Z,9µm,18.0s
255A Hazlehurst 22.45 0 P **P** **09 46 13.9 +0.8**
baz=180,SNR=21
254A Abbeville 22.48 359 P **P** **09 46 14.9 +1.5**
baz=178,SNR=38
256A Glennville 22.52 2 P **P** **09 46 15.1 +1.2**
baz=182,SNR=15
257A Skidaway Islan 22.55 4 PFAKE 09 46 30.0 +16
257A LR LR
comp=Z,16µm,18.0s
257A Skidaway Islan 22.55 4 P **P** **09 46 15.1 +0.9**
baz=184
252A Lumpkin 22.61 355 P **P** **09 46 16.0 +1.2**
baz=175,SNR=18
253A Americus 22.63 357 PFAKE 09 46 30.0 +15
253A LR LR
comp=Z,8µm,18.0s
253A Americus 22.63 357 P **P** **09 46 16.3 +1.2**
baz=176,SNR=23
250A Grady 22.75 352 P **P** **09 46 17.9 +1.6**
baz=171,SNR=18
251A Midway 22.76 354 P **P** **09 46 17.2 +0.8**
baz=173,SNR=55
249A Camden 22.88 350 P **P** **09 46 19.6 +1.9**
baz=169,SNR=44
BBGH Gun Hill 22.96 78 *eP* P 09 46 26.0 +7.4
BBSP Saint Philip 23.05 79 *eP* **P** **09 46 24.8 +5.2**
KVTX Kingsville 23.11 324 PFAKE 09 46 30.0 +10
KVTX LR LR
comp=Z,6µm,19.0s
154A Montrose 23.14 359 P **P** **09 46 21.9 +1.6**
baz=179,SNR=24
155A Kite 23.15 0 P **P** **09 46 21.9 +1.5**
baz=180,SNR=61
151A Opelika 23.18 354 P **P** **09 46 21.9 +1.1**
baz=173,SNR=37
153A Fort Valley 23.20 357 P **P** **09 46 21.9 +0.9**
baz=177,SNR=11
156A Sylvania 23.20 2 P **P** **09 46 22.9 +1.9**
baz=183,SNR=22
157A Early Branch 23.25 4 P **P** **09 46 23.4 +2.0**
baz=184,SNR=6.1
152A Waverly Hall 23.27 356 PFAKE 09 46 30.0 +8.3
152A LR LR
comp=Z,10µm,18.0s
152A Waverly Hall 23.27 356 P **P** **09 46 23.0 +1.3**
baz=175,SNR=37
ZAIG Zacatecas 23.28 307 *eP* **P** **09 46 23.2 +1.0**
comp=Z,52nm,1.3s
ZAIG LR LR
comp=Z,6µm,22.0s
150A Eclectic 23.34 353 P **P** **09 46 23.9 +1.5**
baz=172,SNR=36
158A Hollywood 23.37 5 P **P** **09 46 24.3 +1.7**
baz=186
149A Jones 23.44 351 P **P** **09 46 24.7 +1.4**
baz=170,SNR=28
148A Greensboro 23.61 350 P **P** **09 46 26.4 +1.4**
baz=168,SNR=30
NHSC New Hope 23.74 5 PFAKE 09 46 40.0 +14
NHSC LR LR
comp=Z,14µm,18.0s
NHSC New Hope 23.74 5 P **P** **09 46 27.5 +1.2**
baz=186,SNR=13
Z55A Blythe 23.75 1 P **P** **09 46 28.3 +1.9**
baz=181
Z54A Sparta 23.76 360 P **P** **09 46 27.3 +0.9**
baz=180,SNR=22
Z52A Williamson 23.77 356 P **P** **09 46 27.9 +1.3**
baz=176,SNR=16
Z53A Monticello 23.82 358 P **P** **09 46 28.1 +1.1**
baz=178,SNR=39
Z56A Williston 23.88 3 PFAKE 09 46 40.0 +12
Z56A LR LR
comp=Z,13µm,18.0s
Z56A Williston 23.88 3 P **P** **09 46 29.1 +1.5**
baz=183
VBMS Vicksburg 23.88 343 P **P** **09 46 29.5 +1.9**
baz=161,SNR=14
Z57A Bowman 23.89 4 P **P** **09 46 29.2 +1.5**
baz=185,SNR=6.9
LRAL Lakeview Retre 23.90 351 P **P** **09 46 29.4 +1.6**
baz=169,SNR=75
HKT Hockley 23.91 331 *eP* **P** **09 46 27.7 -0.1**
comp=Z,444nm,2.0s
HKT Hockley 23.91 331 *eP* **P** **09 46 27.7 -0.1**
HKT pmax pmax
comp=Z,440nm,2.0s
GOGA Godfrey 23.95 358 P **P** **09 46 29.5 +1.2**
baz=178,SNR=43
Z51A Franklin 23.95 355 P **P** **09 46 29.8 +1.4**
baz=174
Z50A Ashland 23.97 353 PFAKE 09 46 40.0 +12
Z50A LR LR
comp=Z,5µm,18.0s
Z50A Ashland 23.97 353 P **P** **09 46 29.7 +1.2**
baz=172,SNR=45
Z59A Georgetown, SC 23.97 7 P **P** **09 46 29.2 +0.8**
baz=188
Z49A Columbiana 23.99 352 P **P** **09 46 30.2 +1.6**
baz=171,SNR=56
Z58A St. Stephen 24.00 6 P **P** **09 46 30.7 +1.9**
baz=187,SNR=26
Y56A Pelion 24.35 3 P **P** **09 46 33.6 +1.6**
baz=183,SNR=7.9
Y54A Tignall 24.39 360 P **P** **09 46 33.7 +1.4**
baz=180,SNR=40
Y53A Monroe 24.39 358 P **P** **09 46 34.1 +1.8**
baz=178,SNR=31
Y52A Lilburn 24.42 357 P **P** **09 46 33.9 +1.3**
baz=177,SNR=46
Y55A Saluda 24.47 2 P **P** **09 46 34.7 +1.6**
baz=182,SNR=35
Y51A Rockmart 24.52 355 P **P** **09 46 34.4 +0.8**
baz=174,SNR=37
833A Chaparral WMA, 24.57 322 P **P** **09 46 32.9 -1.2**
baz=137,SNR=10
Y50A Piedmont 24.58 354 P **P** **09 46 35.0 +1.0**
baz=173,SNR=47
Y58A Scranton 24.58 6 PFAKE 09 46 50.0 +16
Y58A LR LR
comp=Z,10µm,19.0s
Y58A Scranton 24.58 6 P **P** **09 46 35.8 +1.8**
baz=187,SNR=9.0
Y49A Blount Mountai 24.62 352 P **P** **09 46 35.4 +0.9**
baz=171,SNR=27
Y57A Sumter 24.63 5 PFAKE 09 46 50.0 +16
Y57A LR LR
comp=Z,15µm,18.0s
Y57A Sumter 24.63 5 P **P** **09 46 35.3 +0.8**
baz=185
PTGA Pitinga 24.72 113 *eP* **P** **09 46 36.9 +1.4**
comp=Z,172nm,1.7s
PTGA LR LR
comp=Z,10µm,20.0s
PTGA Pitinga 24.72 113 P **P** **09 46 37.4 +1.8**
comp=Z,17nm,0.8s,baz=298,slow=12,SNR=24
PTGA LR LR 09 57 01.1
comp=Z,11µm,19.3s,baz=297,slow=38
Y48A Jasper 24.79 351 P **P** **09 46 37.7 +1.8**

baz=169,SNR=46
Y60A Bolivia 24.86 9 P P 09 46 37.1 +0.5
baz=190
NATX Nacogdoches 24.92 335 P P 09 46 37.1 0.0
baz=151
X55A Gracelyn & Ava 25.01 2 P P 09 46 39.6 +1.7
baz=182,SNR=74
X53A Estanollee 25.03 359 P P 09 46 39.6 +1.5
baz=178,SNR=58
X56A White Oak 25.06 3 P P 09 46 40.1 +1.7
baz=184,SNR=57
X54A Belton 25.07 1 P P 09 46 40.2 +1.7
baz=181,SNR=54
X57A Johnson Farm, 25.09 5 P P 09 46 40.4 +1.7
baz=186
X50B Fort Payne 25.13 354 P P 09 46 39.6 +0.5
baz=173,SNR=39
X52A Dahlonega 25.15 358 P P 09 46 39.9 +0.7
baz=177,SNR=37
X51A Calhoun 25.17 356 PFAKE 09 46 50.0 +11
X51A LR LR
comp=Z,8µm,18.0s
X51A Calhoun 25.17 356 P P 09 46 39.8 +0.5
baz=175,SNR=23
BIRD Birdtown, Kers 25.25 4 PFAKE 09 46 50.0 +10
BIRD LR LR
comp=Z,13µm,18.0s
X49A Woodville 25.26 353 P P 09 46 41.1 +0.9
baz=172,SNR=48
X58A Rowland 25.26 6 P P 09 46 41.3 +1.2
baz=188,SNR=19
X48A Hartselle 25.30 351 P P 09 46 42.1 +1.6
baz=170,SNR=22
PAULI Pauline 25.35 2 PFAKE 09 46 50.0 +9.0
PAULI LR LR
comp=Z,11µm,18.0s
X59A McDuffie Farm, 25.37 8 P P 09 46 42.1 +1.0
baz=189
435B Jarrell 25.45 329 P P 09 46 41.4 -0.6
baz=144,SNR=19
X60A Albert Glenn T 25.46 9 P P 09 46 42.4 +0.4
baz=191
X47A Russelville 25.49 350 P P 09 46 42.7 +0.4
baz=168
Z41A Richland Creek 25.56 340 P P 09 46 43.4 +0.5
baz=156
W54A Cherokee Point 25.61 1 P P 09 46 45.1 +1.7
baz=181,SNR=38
W52A Murphy 25.64 358 P P 09 46 45.2 +1.5
baz=177,SNR=43
X46A Booneville 25.66 349 P P 09 46 44.6 +0.8
baz=166,SNR=25
KMSC Kings Mountain 25.69 2 PFAKE 09 47 00.0 +16
KMSC LR LR
comp=Z,10µm,19.0s
KMSC Kings Mountain 25.69 2 P P 09 46 45.5 +1.4
baz=183,SNR=31
W53A Cullowhee 25.69 359 P P 09 46 46.2 +1.9
baz=179,SNR=34
W56A Indian Trail 25.72 4 P P 09 46 45.8 +1.4
baz=185,SNR=17
W58A Raeford 25.73 6 P P 09 46 45.6 +1.2
baz=188,SNR=14
W51A Cleveland 25.75 356 P P 09 46 46.1 +1.4
baz=175,SNR=33
W57A Gilead 25.79 5 PFAKE 09 47 00.0 +15
W57A LR LR
comp=Z,10µm,18.0s
W57A Gilead 25.79 5 P P 09 46 45.9 +0.9
baz=186,SNR=36
OXF Oxford 25.79 347 P P 09 46 45.2 +0.2
baz=165,SNR=40
W50A Signal Mountai 25.83 355 PFAKE 09 47 00.0 +15
W50A LR LR
comp=Z,8µm,18.0s
W50A Signal Mountai 25.83 355 P P 09 46 46.2 +0.8
baz=174,SNR=30
W49A Belvidere 25.85 353 P P 09 46 47.1 +1.5
baz=172,SNR=40
W48A Pulaski 25.95 352 P P 09 46 47.9 +1.4
baz=170,SNR=50
W60A Pink Hill 25.97 9 P P 09 46 47.3 +0.7
baz=191
W59A Clinton 25.97 8 P P 09 46 47.6 +1.0
baz=190
CPCT Cooper Cave 26.02 357 PFAKE 09 47 00.0 +13
CPCT LR LR
comp=Z,8µm,19.0s
CNNC Cliffs of the 26.12 9 PFAKE 09 47 00.0 +12
CNNC LR LR
comp=Z,15µm,19.0s
CNNC Cliffs of the 26.12 9 P P 09 46 49.1 +1.1
baz=191
X43A Marvell 26.15 344 P P 09 46 48.7 +0.4
baz=161
W47A Westpoint 26.16 351 P P 09 46 49.1 +0.7
baz=169,SNR=59
W46A Michie 26.18 349 P P 09 46 49.6 +1.0
baz=167,SNR=7.6
V53A Saluda 26.19 360 P P 09 46 50.8 +2.1
baz=180,SNR=44
W61A Ground Anchor 26.21 11 P P 09 46 50.4 +1.6
baz=193,SNR=14
V50A Pikeville 26.28 356 P P 09 46 51.5 +1.9
baz=175,SNR=32
V54A Nebo 26.30 1 P P 09 46 52.0 +2.3
baz=182,SNR=33
V51A Loudon 26.37 357 P P 09 46 52.3 +2.1
baz=176,SNR=34
WHTX Lake Whitney, 26.37 331 P P 09 46 49.6 -0.7
baz=146
V52A Sevierville 26.37 358 P P 09 46 51.2 +0.9
baz=178,SNR=20
V56A Mocksville 26.40 4 PFAKE 09 47 00.0 +9.4
V56A LR LR
comp=Z,13µm,18.0s
V56A Mocksville 26.40 4 P P 09 46 51.7 +1.2
baz=185,SNR=7.6
V55A Taylorsville 26.40 3 P P 09 46 51.9 +1.4
baz=183,SNR=32
JCT Junction City 26.41 325 P P 09 46 49.7 -1.1
baz=139,SNR=28
V49A McMinnville 26.45 354 P P 09 46 51.1 +0.1
baz=173,SNR=47
V58A Windy Hill, Pi 26.51 6 P P 09 46 52.1 +0.6
baz=188,SNR=21
V48A Smith Brothers 26.53 352 P P 09 46 52.7 +0.9
baz=171,SNR=54
V57A Coltrane Farms 26.54 5 P P 09 46 52.9 +1.2
baz=186,SNR=41
V59A Middlesex 26.59 8 P P 09 46 53.5 +1.3
baz=190,SNR=17
X40A Basin Creek Fa 26.69 341 P P 09 46 53.1 -0.1
baz=157,SNR=9.3
V47A Nunnelly 26.72 351 P P 09 46 54.3 +0.9
baz=169,SNR=67
V60A Jim Taylor Roa 26.74 10 PFAKE 09 47 10.0 +16
V60A LR LR
comp=Z,18µm,18.0s
V60A Jim Taylor Roa 26.74 10 P P 09 46 54.9 +1.4
baz=192
V46A Holladay 26.79 350 P P 09 46 54.1 +0.1
baz=168,SNR=54
V62A Hyde County Ai 26.79 12 P P 09 46 55.3 +1.3
baz=195
U53A Fall Branch 26.88 0 P P 09 46 55.1 +0.2
baz=180,SNR=29
V61A Roper 26.89 11 P P 09 46 55.7 +0.8
baz=193
U52A Thorn Hill 26.92 359 P P 09 46 56.3 +1.0
baz=178,SNR=26
U51A La Follette 26.92 358 P P 09 46 56.2 +0.9
baz=177,SNR=11
U56A King 26.94 4 P P 09 46 56.9 +1.5
baz=185,SNR=35
MIAR Mount Ida 26.99 340 P P 09 46 56.5 +0.6
baz=156,SNR=29
U50A Jamestown 27.01 356 P P 09 46 57.2 +1.1
baz=175,SNR=22
U54A Nelsons Funny 27.05 1 PFAKE 09 47 10.0 +14
U54A LR LR
comp=Z,9µm,19.0s
U54A Nelsons Funny 27.05 1 P P 09 46 58.0 +1.5
baz=182,SNR=33
U55A TA2, Sparta 27.06 3 P P 09 46 58.2 +1.6
baz=184,SNR=29
WVT Waverly 27.06 351 *e*P P 09 46 56.7 +0.2
comp=Z,214nm,1.7s
WVT Waverly 27.06 351 *e*P P 09 46 56.7 +0.2
WVT pmax pmax
comp=Z,210nm,1.7s
WVT Waverly 27.06 351 P P 09 46 57.1 +0.6
baz=169
TZTN Tazewell 27.07 358 P P 09 46 57.9 +1.3
baz=178,SNR=21
U57A Blanch 27.12 6 P P 09 46 58.0 +1.1
baz=187,SNR=27
W41B Gary Mavity, V 27.15 343 P P 09 46 57.2 0.0
baz=159,SNR=35
U58A Oxford 27.17 7 P P 09 46 58.5 +1.0
baz=189,SNR=14
U49A Red Boiling Sp 27.18 354 P P 09 46 58.2 +0.6
baz=173,SNR=32
U59A Littleton 27.23 9 PFAKE 09 47 10.0 +12
U59A LR LR
comp=Z,15µm,18.0s
U59A Littleton 27.23 9 P P 09 46 58.8 +0.8
baz=190,SNR=9.3
U48A Cassie Pea, Po 27.26 353 P P 09 46 59.0 +0.7
baz=172,SNR=36
U47A Clarksville 27.29 352 P P 09 46 59.1 +0.6
baz=170
U46A Springville 27.34 350 P P 09 46 59.0 0.0
baz=168,SNR=13
U61A Possum Corner 27.44 11 P P 09 47 01.2 +1.4
baz=193,SNR=8.2
U60A Pendleton 27.45 10 P P 09 47 01.4 +1.5
baz=192,SNR=8.0
T53A Wise 27.50 0 P P 09 47 02.2 +1.7
baz=180,SNR=10
T51A Gray 27.51 358 P P 09 47 02.0 +1.5
baz=177,SNR=15
T54A Tazewell 27.59 2 P P 09 47 02.9 +1.5
baz=182,SNR=32
T50A Nancy 27.61 356 P P 09 47 02.8 +1.4
baz=175,SNR=32
T52A Hallie 27.62 359 PFAKE 09 47 10.0 +8.4
T52A LR LR
comp=Z,8µm,19.0s
T52A Hallie 27.62 359 P P 09 47 03.1 +1.5
baz=179,SNR=25
T56A Rocky Mt 27.65 5 P P 09 47 03.0 +1.3
baz=186,SNR=8.7
W39A Magazine 27.66 340 P P 09 47 02.2 +0.4
baz=156,SNR=32
T55A Pulaski 27.68 3 P P 09 47 03.3 +1.1
baz=184,SNR=21
T57A Hurt 27.69 6 PFAKE 09 47 10.0 +7.9
T57A LR LR
comp=Z,12µm,18.0s
T57A Hurt 27.69 6 P P 09 47 03.0 +0.9
baz=187,SNR=7.2
T58A Grand View Acr 27.71 7 P P 09 47 03.4 +1.1
baz=189,SNR=6.1
T49A Edmonton 27.74 355 PFAKE 09 47 10.0 +7.4
T49A LR LR
comp=Z,7µm,18.0s
T49A Edmonton 27.74 355 P P 09 47 03.3 +0.7
baz=174,SNR=38
T47A Sharon Grove 27.80 352 P P 09 47 03.8 +0.7
baz=171,SNR=30
BLA Blacksburg 27.80 4 PFAKE 09 47 20.0 +17
BLA LR LR
comp=Z,7µm,18.0s
BLA Blacksburg 27.80 4 P P 09 47 04.4 +1.2
baz=185,SNR=17
T48A Bowling Green 27.83 354 P P 09 47 04.7 +1.3
baz=172,SNR=30
T59A Double "B" Far 27.87 9 PFAKE 09 47 20.0 +16
T59A LR LR
comp=Z,18µm,18.0s
T59A Double "B" Far 27.87 9 P P 09 47 04.9 +1.2
baz=191,SNR=8.5
T46A Princeton 27.96 351 P P 09 47 05.4 +0.8
baz=169,SNR=77
TXAR Lajitas Array 27.97 318 P P 09 47 05.7 +0.8
comp=Z,1.5nm,0.8s,baz=136,slow=8.5,SNR=14
ABTX Abilene, Hawle 27.98 328 P P 09 47 04.8 0.0
baz=142
T45A Paducah 28.07 350 P P 09 47 06.1 +0.6
baz=167
S51A Beattyville 28.17 358 P P 09 47 07.5 +1.1
baz=178,SNR=15
T60A Surry 28.17 10 PFAKE 09 47 20.0 +14
T60A LR LR
comp=Z,11µm,18.0s
T60A Surry 28.17 10 P P 09 47 06.5 +0.1
baz=192
S52A Salyersville 28.20 359 P P 09 47 07.7 +1.1
baz=179,SNR=18
S53A Williamson 28.20 1 P P 09 47 07.5 +0.8
baz=181,SNR=24
S50A Richmond 28.24 357 P P 09 47 08.9 +1.9
baz=176,SNR=15
BBSR BB Station 28.30 33 *e*P P 09 47 09.4 +1.8
comp=Z,148nm,1.4s
S56A Natural Bridge 28.33 5 P P 09 47 09.1 +1.3
baz=186,SNR=6.3
S48A Wiedeman Farm, 28.34 354 P P 09 47 08.9 +1.0
baz=173,SNR=21
S54A Dingess, Beckl 28.34 2 P P 09 47 08.6 +0.6
baz=183,SNR=18
S55A Lewisburg 28.35 4 P P 09 47 08.0 -0.1
baz=184,SNR=31
S47A Hartford 28.37 353 P P 09 47 08.3 +0.2
baz=171,SNR=20
S49A Springfield 28.40 356 P P 09 47 08.2 -0.3
baz=174,SNR=28
U40A Yellville 28.43 343 P P 09 47 08.8 0.0
baz=158,SNR=28
S58A Poland Farm, P 28.43 8 PFAKE 09 47 20.0 +11
S58A LR LR
comp=Z,11µm,19.0s
S58A Poland Farm, P 28.43 8 P P 09 47 09.6 +0.8
baz=190,SNR=6.5
S57A Dark Hollow, R 28.47 6 PFAKE 09 47 20.0 +11
S57A LR LR
comp=Z,8µm,18.0s
S57A Dark Hollow, R 28.47 6 P P 09 47 11.2 +2.1
baz=188,SNR=7.6
S46A Don Dixon Farm 28.57 352 P P 09 47 10.8 +0.9
baz=170,SNR=11
S59A Mechanicsville 28.69 9 P P 09 47 09.1 -1.9
baz=191
R54A Victor 28.73 3 P P 09 47 13.0 +1.5
baz=183,SNR=22
S60A Water View 28.73 10 P P 09 47 11.7 +0.3
baz=193
R58B Mineral 28.80 8 PFAKE 09 47 20.0 +8.0
R58B LR LR
comp=Z,14µm,18.0s
R58B Mineral 28.80 8 P P 09 47 13.5 +1.5
baz=190
R51A Hillsboro 28.82 358 P P 09 47 13.2 +1.0
baz=178,SNR=36
S44A Carbondale 28.83 349 P P 09 47 12.9 +0.6
baz=166
R50A Paris 28.83 357 P P 09 47 13.2 +0.9
baz=177,SNR=22
R52A Catlettsburg 28.85 0 P P 09 47 13.2 +0.8
baz=180
R53A Hurricane 28.85 1 PFAKE 09 47 20.0 +7.5
R53A LR LR
comp=Z,9µm,20.0s
R53A Hurricane 28.85 1 P P 09 47 13.9 +1.4
baz=181,SNR=16
R55A Marlinton 28.89 4 PFAKE 09 47 30.0 +17
R55A LR LR
comp=Z,10µm,18.0s
R55A Marlinton 28.89 4 P P 09 47 13.0 +0.1
baz=185
R49A Shelbyville 28.89 356 P P 09 47 13.7 +0.9
baz=175,SNR=42
WCI Wyandotte Cave 28.93 354 *e*P P 09 47 13.9 +0.8
comp=Z,328nm,1.4s
WCI Wyandotte Cave 28.93 354 *e*P P 09 47 13.9 +0.8
WCI pmax pmax
comp=Z,330nm,1.4s
WCI Wyandotte Cave 28.93 354 P P 09 47 14.2 +1.0
baz=173
TUL1 Leonard 29.01 338 P P 09 47 13.1 -0.9
baz=152
R47A Wooly Knot Far 29.02 354 P P 09 47 14.8 +0.9
baz=172,SNR=49
R57A Stanardsville 29.05 7 P P 09 47 15.9 +1.6
baz=188,SNR=9.5
R46A Gibon Southern 29.06 352 P P 09 47 14.9 +0.6
baz=170,SNR=12
R48A Northridge Ran 29.06 355 P P 09 47 15.2 +0.9
baz=174,SNR=21
CBN Corbin Frederi 29.11 9 PFAKE 09 47 30.0 +15
CBN LR LR
comp=Z,17µm,19.0s
CBN Corbin Frederi 29.11 9 P P 09 47 16.1 +1.4
baz=191
R58A Rapidan 29.11 8 P P 09 47 16.3 +1.5
baz=189,SNR=7.2
R59A King George, V 29.14 9 P P 09 47 16.6 +1.5
baz=191
R45A Skylar, Fairfi 29.25 351 P P 09 47 17.0 +1.0
baz=169,SNR=38
LPAZ La Paz 29.26 150 P P 09 47 17.2 +0.2
comp=Z,11nm,0.8s,baz=330,slow=9.5,SNR=21
LPAZ LR LR 10 00 46.3
comp=Z,5µm,18.2s,baz=319,slow=40
LPAZ La Paz 29.26 150 *e*P P 09 47 18.1 +1.1
WMOK Wichita Mounta 29.26 332 P P 09 47 17.8 +1.6
baz=146
R60A Leonardtown, M 29.30 10 P P 09 47 17.8 +1.4
baz=192
Q50A Georgetown 29.38 358 P P 09 47 18.7 +1.6
baz=177
Q53A Leroy 29.39 2 P P 09 47 18.6 +1.3
baz=182,SNR=25
Q52A Bidwell 29.48 1 P P 09 47 19.5 +1.5
baz=181,SNR=24
Q54A Coxs Mills 29.54 3 PFAKE 09 47 30.0 +11
Q54A LR LR
comp=Z,7µm,18.0s
Q54A Coxs Mills 29.54 3 P P 09 47 20.0 +1.4
baz=184,SNR=24
Q51A Peebles 29.55 359 PFAKE 09 47 30.0 +11
Q51A LR LR
comp=Z,6µm,20.0s
Q51A Peebles 29.55 359 P P 09 47 19.7 +1.1
baz=179,SNR=20
Q48A North Vernon 29.57 355 P P 09 47 19.4 +0.5
baz=174,SNR=26
Q49A Aurora 29.59 356 P P 09 47 19.9 +0.9
baz=176,SNR=16
Q55A Buckhannon 29.60 4 P P 09 47 21.1 +1.9
baz=185,SNR=53
CCM Cathedral Cave 29.60 346 *e*P P 09 47 19.2 +0.1
comp=Z,143nm,1.2s
CCM Cathedral Cave 29.60 346 *e*P P 09 47 19.2 +0.1
CCM pmax pmax
comp=Z,140nm,1.2s
CCM Cathedral Cave 29.60 346 P P 09 47 19.3 +0.2
baz=163
Q47A Bedord North L 29.64 354 P P 09 47 19.8 +0.3
baz=172,SNR=45
SLBS Sierra La Lagu 29.71 302 PFAKE 09 47 30.0 +10
SLBS LR LR
comp=Z,4µm,21.0s
Q57A Strasburg 29.79 7 P P 09 47 21.6 +0.7
baz=188
Q45A Warren Harvey, 29.82 351 P P 09 47 21.2 +0.2
baz=169,SNR=27
Q46A CEJHS Indians, 29.84 353 P P 09 47 22.0 +0.8
baz=171
Q59A Harwood 29.87 9 P P 09 47 22.2 +0.8
baz=192
BLO Bloomington 29.89 354 PFAKE 09 47 30.0 +8.4
BLO LR LR
comp=Z,5µm,18.0s
P51A Williamsport 30.00 359 PFAKE 09 47 40.0 +17
P51A LR LR
comp=Z,7µm,18.0s
P51A Williamsport 30.00 359 P P 09 47 23.3 +0.7
baz=179,SNR=13
P53A Whipple 30.02 2 PFAKE 09 47 40.0 +17
P53A LR LR
comp=Z,12µm,18.0s
P53A Whipple 30.02 2 P P 09 47 24.8 +2.0
baz=182,SNR=51
MDP Montagnes des 30.06 96 P P 09 47 24.4 +0.8
comp=Z,51nm,0.9s,baz=280,slow=11,SNR=7.7
MDP LR LR 10 00 35.2
comp=Z,5µm,20.2s,baz=271,slow=38
P48A Milroy 30.07 356 P P 09 47 24.0 +0.7
baz=174,SNR=27
P49A Miami Univ. Ec 30.10 357 P P 09 47 23.9 +0.3
baz=176,SNR=14
P50A Jamestown 30.14 358 P P 09 47 24.3 +0.4
baz=178,SNR=16
P52A Corning 30.15 1 P P 09 47 25.0 +1.0
baz=181,SNR=15
P47A Martinsville 30.17 354 P P 09 47 24.3 +0.1
baz=173,SNR=26
P54A Burton 30.18 3 P P 09 47 25.4 +1.2
baz=184
Q42A Golden Eagle 30.26 348 P P 09 47 25.1 +0.2
baz=164,SNR=15
MCWV Mont Chateau 30.27 4 PFAKE 09 47 40.0 +15
MCWV LR LR
comp=Z,6µm,18.0s
MCWV Mont Chateau 30.27 4 P P 09 47 26.1 +1.0
baz=186,SNR=21
P45A Graceland, Par 30.38 352 P P 09 47 25.9 -0.1
baz=170
P46A Rosedale 30.40 353 P P 09 47 25.4 -0.8
baz=171,SNR=19
P59A Jarrettsville 30.63 9 P P 09 47 29.2 +1.0
baz=192,SNR=6.0
O52A Adamsville 30.64 1 PFAKE 09 47 40.0 +12
O52A LR LR
comp=Z,10µm,18.0s
O52A Adamsville 30.64 1 P P 09 47 28.7 +0.4
baz=182,SNR=17
MNTX Cornudas Mount 30.64 320 P P 09 47 28.4 0.0
baz=132,SNR=14
O50A Cable 30.67 359 P P 09 47 28.7 +0.1
baz=178,SNR=24
MSTX Muleshoe 30.69 326 P P 09 47 27.5 -1.5
baz=138
U32A Winter Ranch, 30.73 334 PFAKE 09 47 40.0 +11
U32A LR LR
comp=Z,2µm,19.0s
O49A Covington 30.73 357 PFAKE 09 47 40.0 +11
O49A LR LR
comp=Z,7µm,19.0s
O49A Covington 30.73 357 P P 09 47 28.9 -0.3
baz=177
ACSO Alum Creek Sta 30.74 360 PFAKE 09 47 40.0 +11
ACSO LR LR
comp=Z,7µm,18.0s
ACSO Alum Creek Sta 30.74 360 P P 09 47 28.6 -0.6
baz=179,SNR=35
O54A Avella 30.76 3 P P 09 47 29.7 +0.3
baz=184,SNR=29
P43A Skaggs, Pawnee 30.77 350 P P 09 47 30.0 +0.5
baz=167,SNR=25
O53A New Philadelph 30.79 2 P P 09 47 29.8 +0.2
baz=183,SNR=30
AMTX Amarillo 30.80 328 P P 09 47 28.6 -1.3
baz=141
O48A Farmland 30.85 356 P P 09 47 30.7 +0.5
baz=175,SNR=14
O55A Ligonier 30.86 5 P P 09 47 30.6 +0.3
baz=186,SNR=7.4
O47A Sheridan 30.91 355 P P 09 47 30.5 -0.1
baz=173,SNR=20
P60A Greenville 30.96 11 P P 09 47 31.4 +0.3
baz=194,SNR=5.6
O56A Blue Knob Stat 30.99 6 PFAKE 09 47 40.0 +8.5
O56A LR LR
comp=Z,3µm,19.0s
O56A Blue Knob Stat 30.99 6 P P 09 47 32.2 +0.7
baz=188,SNR=19
MVL Millersville 31.02 9 PFAKE 09 47 40.0 +8.3
MVL LR LR
comp=Z,14µm,18.0s
O57A Amberson 31.04 7 P P 09 47 31.5 -0.4
baz=190
O45A Potomac 31.09 352 P P 09 47 32.1 -0.1
baz=170,SNR=5.2
O44A Mansfield 31.10 351 P P 09 47 32.2 -0.1
baz=169,SNR=6.0
MNMC Minye Minye 31.10 156 *e*P P 09 47 34.7 +1.8
comp=Z,87nm,0.8s
MNMC LR LR
comp=Z,4µm,21.0s
SFIN Lafayette 31.14 353 PFAKE 09 47 50.0 +17

SFIN LR LR
comp=Z,5µm,18.0s
SFIN Lafayette 31.14 353 P P 09 47 32.4 -0.4
baz=172,SNR=6.1
PAGS Pennsylvania G 31.19 9 PFAKE 09 47 50.0 +17
PAGS LR LR
comp=Z,13µm,18.0s
N50A Nevada 31.28 359 P P **09 47 33.9 -0.1**
baz=179,SNR=17
N52A McGinn's Farm, 31.33 1 P P **09 47 34.6 +0.1**
baz=182
O59A Robesonia 31.36 10 P P **09 47 35.5 +0.8**
baz=192,SNR=9.0
N53A Lisbon 31.36 3 PFAKE 09 47 50.0 +15
N53A LR LR
comp=Z,7µm,19.0s
N53A Lisbon 31.36 3 P P **09 47 35.5 +0.9**
baz=183
N51A Ashland 31.43 0 PFAKE 09 47 50.0 +15
N51A LR LR
comp=Z,10µm,18.0s
N51A Ashland 31.43 0 P P **09 47 36.5 +1.2**
baz=180,SNR=18
SSPA Standing Stone 31.43 7 *e*P P **09 47 37.6 +2.3**
comp=Z,141nm,1.4s
SSPA LR LR
comp=Z,9µm,19.0s
SSPA Standing Stone 31.43 7 P P **09 47 35.8 +0.5**
baz=189
N48A Decatur 31.44 357 P P **09 47 36.1 +0.8**
baz=176,SNR=24
N55A Marion Center 31.46 5 PFAKE 09 47 50.0 +14
N55A LR LR
comp=Z,7µm,18.0s
N55A Marion Center 31.46 5 P P **09 47 37.5 +2.0**
baz=187,SNR=22
N49A Columbus Grove 31.46 358 PFAKE 09 47 50.0 +14
N49A LR LR
comp=Z,7µm,19.0s
N49A Columbus Grove 31.46 358 P P **09 47 36.5 +1.0**
baz=177,SNR=12
O60A Telford 31.50 11 P P **09 47 36.8 +1.0**
baz=194,SNR=6.6
N47A Urbana 31.51 356 P P **09 47 34.4 -1.6**
baz=174,SNR=26
N54A Moraine State 31.56 4 PFAKE 09 47 50.0 +14
N54A LR LR
comp=Z,12µm,18.0s
N54A Moraine State 31.56 4 P P **09 47 36.5 +0.1**
baz=185,SNR=18
N57A Milroy 31.59 7 P P **09 47 37.4 +0.7**
baz=190,SNR=9.2
N46A Monticello 31.61 354 P P **09 47 36.6 -0.2**
baz=172,SNR=5.1
HDIL Hopedale 31.62 350 P P **09 47 36.5 -0.5**
baz=168,SNR=31
PB11 IPOC Station P 31.64 156 PFAKE 09 47 50.0 +12
PB11 LR LR
comp=Z,5µm,18.0s
N45A Kentland 31.65 353 P P **09 47 36.4 -0.8**
baz=171,SNR=5.6
N56A West Decatur 31.66 6 P P **09 47 38.2 +0.8**
baz=188,SNR=21
N44A Piper City 31.68 352 P P **09 47 36.9 -0.6**
baz=170,SNR=6.3
GO01 Chusmiza 31.75 155 PFAKE 09 47 50.0 +11
GO01 LR LR
comp=Z,4µm,18.0s
LUPA Lehigh Univers 31.77 11 PFAKE 09 47 50.0 +12
LUPA LR LR
comp=Z,500nm,18.0s
M51A Elyria 31.84 1 P P **09 47 38.4 -0.5**
baz=181
M50A Fremont 31.91 359 PFAKE 09 47 50.0 +10
M50A LR LR
comp=Z,8µm,20.0s
M50A Fremont 31.91 359 P P **09 47 39.0 -0.5**
baz=179
N43A Stutzman Famil 31.98 351 P P **09 47 39.7 -0.4**
baz=168,SNR=19
M47A Cromwell 31.98 356 P P **09 47 40.1 0.0**
baz=174,SNR=5.8
M53A WI Miller and 32.00 3 P P **09 47 41.1 +0.9**
baz=184,SNR=13
M49A Liberty Center 32.01 358 P P **09 47 40.8 +0.5**
baz=178,SNR=8.7
N59A State Game Lan 32.01 10 PFAKE 09 47 50.0 +10
N59A LR LR
comp=Z,8µm,19.0s
N59A State Game Lan 32.01 10 P P **09 47 41.5 +1.0**
baz=193,SNR=7.9
M48A Edgerton 32.05 357 PFAKE 09 47 50.0 +9.3
M48A LR LR
comp=Z,7µm,18.0s
M48A Edgerton 32.05 357 P P **09 47 40.9 +0.3**
baz=176
N41A Harden Midland 32.06 348 P P **09 47 40.6 -0.2**
baz=165,SNR=13
M52A Chesterland 32.07 2 PFAKE 09 47 50.0 +9.1
M52A LR LR
comp=Z,6µm,19.0s
M52A Chesterland 32.07 2 P P **09 47 40.6 -0.3**
baz=182
M46A Old House Fiel 32.08 355 PFAKE 09 47 50.0 +9.0
M46A LR LR
comp=Z,8µm,18.0s
M46A Old House Fiel 32.08 355 P P **09 47 40.0 -1.0**
baz=173
M54A Oil Creek Stat 32.13 4 PFAKE 09 47 50.0 +8.6
M54A LR LR
comp=Z,14µm,18.0s
M54A Oil Creek Stat 32.13 4 P P **09 47 41.7 +0.3**
baz=186,SNR=14
KSU1 Kansas State U 32.14 339 PFAKE 09 47 50.0 +8.4
KSU1 LR LR
comp=Z,2µm,22.0s
KSU1 Kansas State U 32.14 339 P P **09 47 41.3 -0.3**
baz=154,SNR=12
M45A Boilermakers S 32.16 353 P P **09 47 41.5 -0.1**
baz=172,SNR=5.4
M55A Ridgway 32.16 5 P P **09 47 42.9 +1.2**
baz=187,SNR=24
ALLY Alegheny Colle 32.23 4 PFAKE 09 47 50.0 +7.7
ALLY LR LR
comp=Z,13µm,18.0s
M56A Emporium 32.24 6 P P **09 47 43.7 +1.3**
baz=188,SNR=24
M44A Midewin, Midew 32.25 352 PFAKE 09 48 00.0 +18
M44A LR LR
comp=Z,3µm,20.0s
M44A Midewin, Midew 32.25 352 P P **09 47 41.7 -0.8**
baz=170
PLIO Pelee Island, 32.26 0 P P **09 47 43.2 +0.7**
baz=180,SNR=6.0
N40A Mertquake, Sal 32.38 347 P P **09 47 42.9 -0.7**
baz=163
ODNJ Ogdensburg 32.39 11 PFAKE 09 48 00.0 +16
ODNJ LR LR
comp=Z,5µm,19.0s
M43A Waltham Townsh 32.43 351 P P **09 47 42.9 -1.2**
baz=168,SNR=5.6
PAL Palisades 32.45 12 P P **09 47 45.4 +1.2**
baz=196,SNR=7.4
L48A N Adams 32.49 358 P P **09 47 44.4 -0.1**
baz=177
L53A Girard 32.53 3 P P **09 47 44.9 0.0**
baz=184
L50A Kingsville 32.55 360 P P **09 47 45.2 +0.1**
baz=180
L47A Sherwood 32.56 356 P P **09 47 45.6 +0.4**
baz=175,SNR=26
L49A Milan 32.63 358 P P **09 47 46.1 +0.3**
baz=178,SNR=9.9
M41A Milan 32.64 349 P P **09 47 45.5 -0.4**
baz=166,SNR=34
L46A Eue Claire 32.68 355 PFAKE 09 48 00.0 +14
L46A LR LR
comp=Z,7µm,19.0s
L46A Eue Claire 32.68 355 P P **09 47 46.2 0.0**
baz=173
ERPA Erie 32.71 4 PFAKE 09 48 00.0 +13
ERPA LR LR
comp=Z,13µm,18.0s
ERPA Erie 32.71 4 P P **09 47 46.1 -0.4**
baz=185
121A Cookes Peak, D 32.73 318 P P **09 47 46.9 -0.2**
baz=129

AAM Ann Arbor 32.82 359 PFAKE 09 48 00.0 +13
AAM LR LR
comp=Z,8µm,19.0s
AAM Ann Arbor 32.82 359 P P **09 47 47.7 +0.3**
baz=178
L54A Sinclairville 32.88 5 P P **09 47 48.6 +0.6**
baz=186,SNR=11
L55A Hinsdale 32.90 6 P P **09 47 49.2 +0.9**
baz=188,SNR=32
YLE Yale 32.97 14 PFAKE 09 48 00.0 +11
YLE LR LR
comp=Z,9µm,18.0s
L44A Lake County Fo 33.01 353 P P **09 47 46.9 -2.2**
baz=170
SIV San Ignacio 33.03 140 P P **09 47 49.3 -0.3**
comp=Z,16nm,0.7s,baz=327,slow=9.2,SNR=98
319A Douglas 33.04 315 PFAKE 09 48 00.0 +10
319A LR LR
comp=Z,3µm,21.0s
CBKS Cedar Bluff 33.09 335 PFAKE 09 48 00.0 +10
CBKS LR LR
comp=Z,2µm,22.0s
CBKS Cedar Bluff 33.09 335 P P **09 47 49.3 -0.6**
baz=148
L42A Oliver, Polo 33.09 350 PFAKE 09 48 00.0 +10
L42A LR LR
comp=Z,2µm,22.0s
L42A Oliver, Polo 33.09 350 P P **09 47 49.3 -0.6**
baz=167
L43A Garden Prairie 33.13 352 P P **09 47 49.5 -0.6**
baz=169,SNR=18
SRIG Santa Rosalia 33.14 307 PFAKE 09 48 00.0 +10
SRIG LR LR
comp=Z,3µm,22.0s
Y22D IRIS PASSCAL I 33.19 321 P P **09 47 49.1 -1.9**
baz=132
BINY Binghamton 33.23 9 PFAKE 09 48 00.0 +8.9
BINY LR LR
comp=Z,10µm,19.0s
BINY Binghamton 33.23 9 P P **09 47 51.2 +0.1**
baz=192,SNR=12
K47A Vermontville 33.24 357 P P **09 47 51.2 +0.1**
baz=176,SNR=22
K51A Iona Station 33.25 2 P P **09 47 51.4 +0.3**
baz=182
K50A Casco 33.28 0 PFAKE 09 48 00.0 +8.5
K50A LR LR
comp=Z,8µm,19.0s
K50A Casco 33.28 0 P P **09 47 52.4 +0.9**
baz=180
K49A Clarkson 33.30 359 P P **09 47 52.0 +0.3**
baz=179,SNR=10
K54A Basiliko Farm, 33.30 5 P P **09 47 52.6 +0.9**
baz=187,SNR=5.8
K46A Dorr 33.31 356 P P **09 47 51.0 -0.7**
baz=174
K52A Tillsonburg 33.33 3 P P **09 47 52.4 +0.5**
baz=184
K48A Perry 33.34 358 P P **09 47 52.0 +0.1**
baz=177,SNR=17
CLDB Colider 33.43 126 *e*P P **09 47 52.6 -0.6**
L40A Anamosa 33.43 348 PFAKE 09 48 10.0 +17
L40A LR LR
comp=Z,2µm,22.0s
L40A Anamosa 33.43 348 P P **09 47 52.4 -0.4**
baz=165,SNR=36
K55A Perry 33.48 6 P P **09 47 53.7 +0.5**
baz=188,SNR=19
ANMO Albuquerque 33.50 323 *e*P P **09 47 53.8 0.0**
comp=Z,12nm,0.9s
ANMO Albuquerque 33.50 323 *ce*P P **09 47 53.3 -0.5**
ANMO pmax pmax
comp=Z,13nm,1.4s
ANMO Albuquerque 33.50 323 P P **09 47 53.0 -0.8**
baz=134
ANMO Albuquerque 33.50 323 P P **09 47 54.0 +0.3**
comp=Z,6.0nm,1.1s,baz=141,slow=10,SNR=12
MMNY Mt. Morris Dam 33.50 6 PFAKE 09 48 10.0 +17
MMNY LR LR
comp=Z,8µm,18.0s
TASM ASL Pad, Albuq 33.50 323 P P **09 47 53.1 -0.7**
baz=134,SNR=14
TASM ASL Pad, Albuq 33.50 323 P P **09 47 53.2 -0.6**
baz=134,SNR=14
K43A Burlington 33.58 352 PFAKE 09 48 10.0 +16
K43A LR LR
comp=Z,4µm,18.0s
K43A Burlington 33.58 352 P P **09 47 52.3 -1.9**
baz=170
L39A Vinton 33.65 347 P P **09 47 53.9 -0.9**
baz=163,SNR=24
TYNO Tyneside 33.69 4 P P **09 47 54.4 -0.7**
baz=185
SCIA State Center 33.73 346 PFAKE 09 48 10.0 +15
SCIA LR LR
comp=Z,6µm,18.0s
SCIA State Center 33.73 346 P P **09 47 54.7 -0.7**
baz=161,SNR=25
M65A Busby, Falmout 33.78 16 P P **09 47 55.4 -0.4**
baz=202
J47A Sunmer 33.80 357 PFAKE 09 48 10.0 +14
J47A LR LR
comp=Z,6µm,18.0s
J47A Sunmer 33.80 357 P P **09 47 54.1 -1.8**
baz=176,SNR=5.4
K42A Prairie Point, 33.80 351 P P **09 47 55.0 -1.0**
baz=168,SNR=17
PB04 IPOC Station P 33.80 159 *e*P P **09 47 58.1 +1.7**
comp=Z,139nm,1.2s
PB04 LR LR
comp=Z,4µm,18.0s
J52A Paris 33.80 3 P P **09 47 56.0 0.0**
baz=184,SNR=10
J48A Bridge Port 33.82 359 PFAKE 09 48 10.0 +14
J48A LR LR
comp=Z,7µm,20.0s
J48A Bridge Port 33.82 359 P P **09 47 56.0 -0.1**
baz=180,SNR=11
STCO Saint Catharin 33.85 5 P P **09 47 55.5 -0.9**
baz=186
J49A Marlette 33.87 359 P P **09 47 56.1 -0.5**
baz=179
MEDO Medina 33.87 6 PFAKE 09 48 10.0 +13
MEDO LR LR
comp=Z,6µm,18.0s
MEDO Medina 33.87 6 P P **09 47 55.9 -0.7**
baz=187
BRYW Bryant College 33.88 15 PFAKE 09 48 10.0 +13
BRYW LR LR
comp=Z,8µm,18.0s
T25A Trinidad 33.94 328 PFAKE 09 48 10.0 +12
T25A LR LR
comp=Z,3µm,22.0s
T25A Trinidad 33.94 328 P P **09 47 56.5 -1.1**
baz=139
J46A Howard City 33.96 356 P P **09 47 56.6 -0.8**
baz=175
J54A Appleton 33.96 5 PFAKE 09 48 10.0 +13
J54A LR LR
comp=Z,5µm,18.0s
J54A Appleton 33.96 5 P P **09 47 57.5 +0.1**
baz=187
QUA2 Belchertown 34.02 14 PFAKE 09 48 10.0 +12
QUA2 LR LR
comp=Z,7µm,18.0s
K40A Colesburg 34.03 349 P P **09 47 57.6 -0.4**
baz=165,SNR=23
J55A Hilton 34.04 6 PFAKE 09 48 10.0 +12
J55A LR LR
comp=Z,8µm,19.0s
J55A Hilton 34.04 6 P P **09 47 57.8 -0.2**
baz=188,SNR=5.8
JFWS Jewell Farm 34.08 350 PFAKE 09 48 10.0 +12
JFWS LR LR
comp=Z,2µm,19.0s
JFWS Jewell Farm 34.08 350 P P **09 47 57.8 -0.7**
baz=167,SNR=18
J45A Montague 34.10 355 PFAKE 09 48 10.0 +11
J45A LR LR
comp=Z,6µm,18.0s
J45A Montague 34.10 355 P P **09 47 57.3 -1.3**
baz=173
TRY Troy 34.16 12 PFAKE 09 48 10.0 +11
TRY LR LR
comp=Z,4µm,18.0s
K39A Oelwein 34.19 348 P P **09 47 58.5 -0.9**
baz=164,SNR=41

ACTO Acton 34.19 3 P P **09 47 57.9 -1.5**
baz=184
TORO Toronto--Lesli 34.24 4 P P **09 47 58.8 -1.0**
baz=186
J43A Natural Harves 34.26 353 P P **09 47 58.3 -1.7**
baz=170
J42A Columbus 34.30 352 P P **09 47 59.6 -0.7**
baz=169,SNR=17
I51A Listowel 34.34 2 P P **09 48 01.1 +0.4**
baz=183,SNR=12
BCX Boston College 34.36 15 PFAKE 09 48 10.0 +9.2
BCX LR LR
comp=Z,7µm,18.0s
WES Weston 34.37 15 PFAKE 09 48 10.0 +9.1
WES LR LR
comp=Z,8µm,18.0s
HRV Adam Dziewonsk 34.42 15 PFAKE 09 48 10.0 +8.6
HRV LR LR
comp=Z,4µm,18.0s
HRV Adam Dziewonsk 34.42 15 P P **09 48 01.3 -0.1**
baz=200
I53A Kortright Cn E 34.44 4 P P **09 48 01.3 -0.1**
baz=185
I49A Point Hope 34.45 360 PFAKE 09 48 10.0 +8.4
I49A LR LR
comp=Z,10µm,19.0s
I49A Point Hope 34.45 360 P P **09 48 01.3 -0.3**
baz=180
J41A Loganville 34.48 351 P P **09 48 01.5 -0.4**
baz=167,SNR=22
LVC Limon Verde 34.51 157 *e*P P **09 48 05.5 +2.7**
comp=Z,136nm,1.4s
LVC LR LR
comp=Z,4µm,18.0s
LVC Limon Verde 34.51 157 *e*P P **09 48 05.5 +2.7**
LVC pmax pmax
comp=Z,140nm,1.4s
LVC Limon Verde 34.51 157 P P **09 48 04.4 +1.7**
comp=Z,21nm,1.1s,baz=342,slow=5.7,SNR=15
KSCO Kaye Shedlock' 34.52 332 PFAKE 09 48 20.0 +18
KSCO LR LR
comp=Z,4µm,22.0s
KSCO Kaye Shedlock' 34.52 332 P P **09 48 01.3 -1.2**
baz=144
BASO Ashfield 34.53 1 P P **09 48 02.9 +0.5**
baz=182,SNR=18
I46A Reed City 34.53 356 P P **09 48 01.6 -0.8**
baz=175
DRWO Darlington Wes 34.55 5 P P **09 48 03.6 +1.2**
baz=187
DRCO St. Marys Ceme 34.56 5 P P **09 48 03.7 +1.2**
baz=187
I47A Gladwin 34.56 358 PFAKE 09 48 20.0 +17
I47A LR LR
comp=Z,6µm,18.0s
I47A Gladwin 34.56 358 P P **09 48 02.2 -0.4**
baz=177
PKRO Pickering 34.61 5 P P **09 48 03.0 0.0**
baz=186
TUC Tucson 34.62 315 *e*P P **09 48 03.6 +0.2**
comp=Z,15nm,1.3s
TUC LR LR
comp=Z,4µm,18.0s
TUC Tucson 34.62 315 *e*P P **09 48 03.6 +0.2**
TUC pmax pmax
comp=Z,15nm,1.3s
TUC Tucson 34.62 315 P P **09 48 02.3 -1.1**
baz=125
WLVO Wesleyville 34.63 5 P P **09 48 02.0 -1.2**
baz=187
J40A Soldiers Grove 34.63 350 P P **09 48 02.7 -0.5**
baz=166,SNR=35
BWLO Walkerton 34.65 2 P P **09 48 03.5 +0.2**
baz=183,SNR=14
I45A Fountain 34.68 355 PFAKE 09 48 20.0 +16
I45A LR LR
comp=Z,6µm,18.0s
I45A Fountain 34.68 355 P P **09 48 03.2 -0.4**
baz=174
I48A Sherman Twp 34.71 359 P P **09 48 04.1 +0.3**
baz=178
I43A Langenfeld Bro 34.72 353 P P **09 48 03.4 -0.6**
baz=170,SNR=25
BGNE Belgrade 34.73 339 PFAKE 09 48 20.0 +16
BGNE LR LR
comp=Z,3µm,22.0s
BGNE Belgrade 34.73 339 P P **09 48 03.3 -0.9**
baz=152
PB10 IPOC Station P 34.75 160 *e*P P **09 48 06.8 +2.4**
comp=Z,94nm,1.4s
PB10 LR LR
comp=Z,4µm,18.0s
J39A Decorah 34.76 348 P P **09 48 03.3 -1.0**
baz=164,SNR=37
BRCO Bruce Peninsul 34.77 2 P P **09 48 05.1 +0.8**
baz=182,SNR=9.5
ACCN Adirondack Com 34.79 12 PFAKE 09 48 20.0 +15
ACCN LR LR
comp=Z,4µm,20.0s
PECO Prince Edward 34.79 7 P P **09 48 05.2 +0.6**
baz=190
I42A Draeger Farm, 34.83 352 PFAKE 09 48 20.0 +15
I42A LR LR
comp=Z,4µm,18.0s
I42A Draeger Farm, 34.83 352 P P **09 48 04.3 -0.6**
baz=169,SNR=32
SDCO Great Sand Dun 34.97 328 P P **09 48 06.3 -0.3**
baz=138,SNR=27
I55A Frankford 34.99 6 P P **09 48 06.4 +0.1**
baz=188,SNR=15
I40A Norwalk 35.09 350 P P **09 48 06.5 -0.7**
baz=166,SNR=20
H46A Fife Lake 35.12 357 P P **09 48 06.1 -1.3**
baz=176,SNR=11
BMRO Meriville Lake 35.12 2 P P **09 48 06.0 -1.5**
baz=182
I41A Arkdale 35.13 351 PFAKE 09 48 20.0 +12
I41A LR LR
comp=Z,2µm,22.0s
I41A Arkdale 35.13 351 P P **09 48 06.8 -0.8**
baz=168,SNR=16
H47A Mio 35.13 358 P P **09 48 07.8 +0.2**
baz=177
H48A Harrisville 35.21 359 PFAKE 09 48 20.0 +12
H48A LR LR
comp=Z,10µm,19.0s
H48A Harrisville 35.21 359 P P **09 48 08.4 +0.2**
baz=179,SNR=13
I39A Houston 35.22 349 PFAKE 09 48 20.0 +12
I39A LR LR
comp=Z,2µm,18.0s
I39A Houston 35.22 349 P P **09 48 07.7 -0.6**
baz=165,SNR=25
H52A Wyevale 35.23 3 P P **09 48 07.8 -0.5**
baz=185
NCB Newcomb 35.25 11 PFAKE 09 48 20.0 +11
NCB LR LR
comp=Z,5µm,18.0s
H45A Beulah 35.25 356 P P **09 48 08.3 -0.3**
baz=174
H43A Windswept, Lux 35.26 354 PFAKE 09 48 20.0 +11
H43A LR LR
comp=Z,6µm,19.0s
H43A Windswept, Lux 35.26 354 P P **09 48 07.7 -0.8**
baz=171,SNR=18
DELO Deloro Mine 35.30 6 P P **09 48 08.9 -0.1**
baz=189,SNR=9.4
FFD Franklin Falls 35.31 14 PFAKE 09 48 20.0 +11
FFD LR LR
comp=Z,5µm,19.0s
GLMI Grayling 35.37 358 PFAKE 09 48 20.0 +10
GLMI LR LR
comp=Z,7µm,18.0s
GLMI Grayling 35.37 358 P P **09 48 08.5 -1.1**
baz=177
H55A Tweed 35.38 7 P P **09 48 09.4 -0.2**
baz=189,SNR=18
H42A Shiocton 35.39 353 PFAKE 09 48 20.0 +10
H42A LR LR
comp=Z,4µm,19.0s
H42A Shiocton 35.39 353 P P **09 48 08.7 -1.0**
baz=170
HNH Hanover 35.39 13 PFAKE 09 48 20.0 +10
HNH LR LR
comp=Z,5µm,18.0s
X18A Snowflake 35.39 319 PFAKE 09 48 20.0 +10
X18A LR LR

comp=Z,3µm,19.0s
SADO **Sadowa** **35.41** **4** PFAKE 09 48 20.0 +10
SADO LR LR
comp=Z,4µm,19.0s
SADO **Sadowa** **35.41** **4** P **P** **09 48 10.7 +0.8**
comp=Z,20nm,1.2s,baz=238,slow=4.6,SNR=7.7
H56A **Elgin** **35.54** **8** P **P** **09 48 11.4 +0.4**
baz=191,SNR=29
W18A **Petrified Fore** **35.62** **320** PFAKE 09 48 20.0 +7.9
W18A LR LR
comp=Z,3µm,20.0s
W18A **Petrified Fore** **35.62** **320** P **P** **09 48 10.9 -1.3**
baz=130
G45A **Suttons Bay** **35.64** **356** PFAKE 09 48 20.0 +8.1
G45A LR LR
comp=Z,5µm,19.0s
G45A **Suttons Bay** **35.64** **356** P **P** **09 48 10.7 -1.2**
baz=175
H41A **Junction City** **35.64** **351** PFAKE 09 48 20.0 +8.1
H41A LR LR
comp=Z,3µm,18.0s
H41A **Junction City** **35.64** **351** P **P** **09 48 11.5 -0.4**
baz=168,SNR=14
S22A **4UR Ranch, Cre** **35.69** **326** PFAKE 09 48 30.0 +17
S22A LR LR
comp=Z,3µm,21.0s
S22A **4UR Ranch, Cre** **35.69** **326** P **P** **09 48 11.6 -1.2**
baz=136,SNR=9.2
G47A **Hillman** **35.70** **359** P **P** **09 48 11.9 -0.5**
baz=178,SNR=14
Q24A **Divide** **35.71** **329** PFAKE 09 48 30.0 +17
Q24A LR LR
comp=Z,2µm,19.0s
Q24A **Divide** **35.71** **329** P **P** **09 48 11.3 -1.6**
baz=140
TOBO **Tobermory, Bru** **35.75** **1** P **P** **09 48 12.2 -0.6**
baz=182,SNR=13
BANO **Bancroft** **35.76** **6** P **P** **09 48 12.9 -0.1**
baz=188
H40A **Chili** **35.76** **351** P **P** **09 48 11.7 -1.2**
baz=167,SNR=24
G53A **Haliburton** **35.80** **5** P **P** **09 48 13.6 +0.4**
baz=187,SNR=7.6
LONY **Lake Ozonia** **35.82** **10** PFAKE 09 48 30.0 +17
LONY LR LR
comp=Z,8µm,18.0s
LONY **Lake Ozonia** **35.82** **10** P **P** **09 48 13.9 +0.4**
baz=194,SNR=9.7
OGNE **Ogallala** **35.84** **335** PFAKE 09 48 30.0 +16
OGNE LR LR
comp=Z,3µm,22.0s
OGNE **Ogallala** **35.84** **335** P **P** **09 48 13.8 0.0**
baz=146,SNR=7.2
214A **Organ Pipe Nat** **35.86** **313** P **P** **09 48 12.8 -1.3**
baz=122
PLVO **Plevna** **35.87** **7** PFAKE 09 48 30.0 +16
PLVO LR LR
comp=Z,10µm,19.0s
PLVO **Plevna** **35.87** **7** P **P** **09 48 14.0 +0.2**
baz=189,SNR=14
G46A **Petoskey** **35.88** **357** P **P** **09 48 13.9 0.0**
baz=176
VT1 **Waterbury** **35.88** **12** PFAKE 09 48 30.0 +16
VT1 LR LR
comp=Z,6µm,18.0s
KLBO **Killbear Provi** **35.93** **3** P **P** **09 48 14.3 0.0**
baz=184,SNR=5.7
H39A **Augusta** **35.97** **350** P **P** **09 48 13.4 -1.3**
baz=165,SNR=36
LBNH **Lisbon** **35.98** **13** PFAKE 09 48 30.0 +15
LBNH LR LR
comp=Z,5µm,18.0s
LBNH **Lisbon** **35.98** **13** P **P** **09 48 14.9 +0.1**
baz=198,SNR=5.5
G43A **Wallace** **36.03** **354** PFAKE 09 48 30.0 +15
G43A LR LR
comp=Z,6µm,19.0s
G43A **Wallace** **36.03** **354** P **P** **09 48 14.1 -1.1**
baz=172,SNR=20
BUKO **Buck Lake** **36.06** **4** P **P** **09 48 15.3 -0.2**
baz=185,SNR=6.6
G42A **Mountain** **36.09** **353** PFAKE 09 48 30.0 +14
G42A LR LR
comp=Z,5µm,19.0s
G42A **Mountain** **36.09** **353** P **P** **09 48 15.4 -0.4**
baz=170,SNR=41
G55A **Calabogie** **36.13** **7** P **P** **09 48 17.1 +1.1**
baz=190,SNR=16
H38A **Maiden Rock** **36.16** **348** P **P** **09 48 15.7 -0.7**
baz=164,SNR=25
FRNY **Flat Rock** **36.20** **11** PFAKE 09 48 30.0 +13
FRNY LR LR
comp=Z,5µm,18.0s
MVCO **Mesa Verde** **36.26** **324** P **P** **09 48 16.8 -0.7**
baz=133,SNR=24
F49A **Sandfield** **36.27** **1** P **P** **09 48 17.3 0.0**
baz=181,SNR=6.2
F45A **CMU Biological** **36.27** **357** P **P** **09 48 16.8 -0.5**
baz=175
X16A **Lo Mia Camp, P** **36.30** **318** PFAKE 09 48 30.0 +12
X16A LR LR
comp=Z,2µm,19.0s
F46A **Macinaw City C** **36.33** **358** P **P** **09 48 17.3 -0.4**
baz=176
F48A **Evansville** **36.34** **0** P **P** **09 48 17.5 -0.3**
baz=180,SNR=11
ECSD **EROS Data Cent** **36.34** **343** PFAKE 09 48 30.0 +12
ECSD LR LR
comp=Z,4µm,18.0s
ECSD **EROS Data Cent** **36.34** **343** P **P** **09 48 16.9 -1.0**
baz=156,SNR=19
G40A **Rib Lake** **36.36** **351** PFAKE 09 48 30.0 +12
G40A LR LR
comp=Z,4µm,18.0s
G40A **Rib Lake** **36.36** **351** P **P** **09 48 17.7 -0.4**
baz=167,SNR=32
F52A **Sundridge** **36.42** **4** P **P** **09 48 19.1 +0.6**
baz=186,SNR=11
ORIO **Orleans, Innes** **36.48** **8** P **P** **09 48 19.1 +0.1**
baz=192
PEMO **Pembroke** **36.48** **6** P **P** **09 48 19.2 +0.2**
baz=189,SNR=16
F51A **Arnstein** **36.51** **3** P **P** **09 48 19.6 +0.2**
baz=184
G39A **Holcombe** **36.54** **350** P **P** **09 48 18.8 -0.8**
baz=166,SNR=52
F43A **Flat Rock, Esc** **36.55** **355** P **P** **09 48 19.3 -0.3**
baz=172
G38A **Ridgeland** **36.55** **349** P **P** **09 48 18.7 -1.0**
baz=165,SNR=18
F42A **Maple Grove Fa** **36.57** **354** P **P** **09 48 19.7 -0.2**
baz=171
ISCO **Idaho Springs** **36.58** **330** PFAKE 09 48 30.0 +10
ISCO LR LR
comp=Z,2µm,22.0s
ISCO **Idaho Springs** **36.58** **330** P **P** **09 48 19.9 -0.5**
baz=140,SNR=9.3
F44A **Big Bay de Noc** **36.62** **356** P **P** **09 48 19.6 -0.7**
baz=174,SNR=18
F41A **Three Lakes** **36.67** **352** PFAKE 09 48 30.0 +9.3
F41A LR LR
comp=Z,4µm,19.0s
F41A **Three Lakes** **36.67** **352** P **P** **09 48 19.9 -0.8**
baz=169,SNR=23
ALGO **Algonquin Park** **36.68** **5** P **P** **09 48 20.7 0.0**
baz=188
F55A **Otter Lake** **36.74** **7** P **P** **09 48 22.0 +0.7**
baz=190
ALFO **Alfred** **36.75** **9** P **P** **09 48 22.3 +1.0**
baz=193,SNR=26
SPMN **Marine on St.** **36.79** **348** P **P** **09 48 20.7 -1.0**
baz=163,SNR=30
WVL **Waterville** **36.84** **16** PFAKE 09 48 30.0 +7.9
WVL LR LR
comp=Z,7µm,18.0s
E46A **Sault Ste Mari** **36.90** **358** PFAKE 09 48 30.0 +7.4
E46A LR LR
comp=Z,7µm,20.0s
E46A **Sault Ste Mari** **36.90** **358** P **P** **09 48 22.3 -0.4**
baz=177,SNR=5.6
WUAZ **Wupatki** **36.92** **319** PFAKE 09 48 40.0 +17
WUAZ LR LR
comp=Z,3µm,18.0s
WUAZ **Wupatki** **36.92** **319** P **P** **09 48 23.0 -0.2**
baz=128,SNR=7.7
E45A **Wooded Hills,** **36.93** **357** P **P** **09 48 22.4 -0.4**
baz=176

E52A **Mattawa** **36.95** **5** P **P** **09 48 23.3 +0.3**
baz=186,SNR=5.4
E47A **Iron Bridge** **36.97** **359** P **P** **09 48 23.6 +0.4**
baz=179,SNR=14
E50A **Wahnapitae** **36.97** **2** P **P** **09 48 23.4 +0.2**
baz=183,SNR=14
113A **Mohawk Valley,** **36.98** **314** PFAKE 09 48 40.0 +17
113A LR LR
comp=Z,6µm,19.0s
F40A **Park Falls** **36.99** **351** P **P** **09 48 22.5 -0.9**
baz=168,SNR=38
E48A **Lockeyer** **36.99** **1** P **P** **09 48 23.5 +0.1**
baz=181,SNR=25
COWI **Conover** **37.03** **353** PFAKE 09 48 40.0 +16
COWI LR LR
comp=Z,4µm,18.0s
E43A **Lone Tree Farm** **37.07** **355** PFAKE 09 48 40.0 +16
E43A LR LR
comp=Z,6µm,19.0s
E43A **Lone Tree Farm** **37.07** **355** P **P** **09 48 23.5 -0.6**
baz=173,SNR=20
Y14A **Wickenburg** **37.08** **316** PFAKE 09 48 40.0 +16
Y14A LR LR
comp=Z,3µm,18.0s
F39A **Loretta** **37.11** **350** P **P** **09 48 23.3 -1.1**
baz=166,SNR=19
E53A **Dumoine, Ponti** **37.13** **6** P **P** **09 48 25.0 +0.4**
baz=188,SNR=6.2
E51A **G1948 Merrick** **37.14** **4** P **P** **09 48 25.1 +0.4**
baz=185,SNR=20
PV18 **Skein Mesa, Pa** **37.20** **325** PFAKE 09 48 40.0 +14
PV18 LR LR
comp=Z,2µm,21.0s
E42A **Champion** **37.21** **354** P **P** **09 48 25.1 -0.2**
baz=171,SNR=20
E44A **Grand Marais A** **37.23** **356** PFAKE 09 48 40.0 +15
E44A LR LR
comp=Z,4µm,19.0s
E44A **Grand Marais A** **37.23** **356** P **P** **09 48 24.2 -1.2**
baz=175
F37A **Hinrichs Farm,** **37.23** **348** P **P** **09 48 24.5 -1.0**
baz=164,SNR=12
E54A **Lac Daplat, Po** **37.24** **6** P **P** **09 48 26.2 +0.7**
baz=189,SNR=12
PV20 **West Nyswonger** **37.30** **325** PFAKE 09 48 40.0 +14
PV20 LR LR
comp=Z,2µm,19.0s
F38A **Pierce - Schro** **37.32** **349** P **P** **09 48 25.3 -0.9**
baz=165,SNR=45
E41A **Kenton** **37.36** **353** P **P** **09 48 26.1 -0.5**
baz=170
D46A **Sault St. Mari** **37.42** **358** P **P** **09 48 27.0 0.0**
baz=178
E40A **Wakefield** **37.47** **352** P **P** **09 48 26.6 -0.9**
baz=168,SNR=22
E39A **Mellen** **37.50** **351** P **P** **09 48 26.6 -1.1**
baz=167,SNR=23
D47A **Chapleau** **37.57** **359** P **P** **09 48 27.4 -0.9**
baz=179,SNR=17
N23A **Red Feather La** **37.58** **331** P **P** **09 48 27.5 -1.3**
baz=140
PKME **Peaks-Kenny Pk** **37.58** **16** PFAKE 09 48 40.0 +12
PKME LR LR
comp=Z,7µm,18.0s
PKME **Peaks-Kenny Pk** **37.58** **16** P **P** **09 48 28.4 0.0**
baz=202
EMMW **East Machias** **37.59** **18** PFAKE 09 48 40.0 +11
EMMW LR LR
comp=Z,7µm,18.0s
D52A **ZEK Kipawa Sen** **37.66** **5** P **P** **09 48 28.5 -0.5**
baz=187,SNR=17
D48A **Paudash Townsh** **37.69** **1** P **P** **09 48 28.5 -0.9**
baz=181,SNR=21
SUSD **Miller** **37.70** **341** P **P** **09 48 27.4 -2.1**
baz=153,SNR=7.6
D51A **Lot 18 Range I** **37.70** **4** P **P** **09 48 28.5 -1.0**
baz=185
D49A **Beulah Townshi** **37.80** **1** P **P** **09 48 29.0 -1.2**
baz=182
D53A **Lac Vacive, Po** **37.82** **6** PFAKE 09 48 40.0 +10
D53A LR LR
comp=Z,9µm,18.0s
D53A **Lac Vacive, Po** **37.82** **6** P **P** **09 48 31.2 +0.7**
baz=188,SNR=8.0
GLA **Glamis** **37.88** **313** PFAKE 09 48 40.0 +8.8
GLA LR LR
comp=Z,3µm,20.0s
GLA **Glamis** **37.88** **313** P **P** **09 48 29.7 -1.6**
baz=121
E38A **The Farm, Brul** **37.88** **350** PFAKE 09 48 40.0 +9.0
E38A LR LR
comp=Z,2µm,18.0s
E38A **The Farm, Brul** **37.88** **350** P **P** **09 48 30.0 -1.0**
baz=166,SNR=12
D41A **Chassel** **37.91** **353** PFAKE 09 48 40.0 +8.9
D41A LR LR
comp=Z,4µm,18.0s
D41A **Chassel** **37.91** **353** P **P** **09 48 30.6 -0.5**
baz=170,SNR=19
D54A **Lac Fusel, La** **38.01** **7** P **P** **09 48 32.1 +0.1**
baz=190,SNR=22
Y12C **Blythe** **38.03** **314** PFAKE 09 48 40.0 +7.6
Y12C LR LR
comp=Z,6µm,19.0s
U15A **North Rim** **38.06** **320** PFAKE 09 48 50.0 +17
U15A LR LR
comp=Z,3µm,18.0s
PDMCI **Parker Dam,Lak** **38.06** **315** P **P** **09 48 31.8 -0.9**
baz=123
GGN **Saint George** **38.15** **18** PFAKE 09 48 50.0 +17
GGN LR LR
comp=Z,6µm,18.0s
O20A **White River Ci** **38.17** **328** P **P** **09 48 32.9 -0.9**
baz=136,SNR=12
W13A **Hualapai Mount** **38.33** **317** PFAKE 09 48 50.0 +15
W13A LR LR
comp=Z,2µm,19.0s
SWSC **Sam W. Stewart** **38.53** **312** P **P** **09 48 36.1 -0.6**
baz=120
BC3 **Big Chuckawall** **38.64** **314** P **P** **09 48 35.7 -2.0**
baz=121
IRM **Iron Mountain** **38.69** **315** P **P** **09 48 36.5 -1.5**
baz=122
LATQ **La Tuque** **38.81** **11** P **P** **09 48 39.0 +0.2**
baz=196,SNR=11
C40A **Isle Royale Na** **38.82** **353** PFAKE 09 48 50.0 +11
C40A LR LR
comp=Z,4µm,18.0s
C40A **Isle Royale Na** **38.82** **353** P **P** **09 48 37.8 -1.0**
baz=170
VLDQ **Val d'Or** **38.87** **6** PFAKE 09 48 50.0 +11
VLDQ LR LR
comp=Z,9µm,19.0s
BAR **Barrett** **39.04** **311** PFAKE 09 48 50.0 +9.0
BAR LR LR
comp=Z,2µm,22.0s
LDFC **Landfair** **39.16** **316** PFAKE 09 49 00.0 +18
LDFC LR LR
comp=Z,4µm,20.0s
EYMN **Ely** **39.17** **351** P **P** **09 48 40.6 -1.3**
baz=166,SNR=9.8
K22A **Casper** **39.21** **332** P **P** **09 48 40.2 -2.2**
baz=141,SNR=12
BELC **Belle Mtn. Jos** **39.21** **314** P **P** **09 48 40.0 -2.5**
baz=121
PQI **Presque Isle** **39.22** **16** PFAKE 09 48 50.0 +7.8
PQI LR LR
comp=Z,7µm,18.0s
RSSD **Black Hills** **39.29** **336** *e*P **P** **09 48 43.5 +0.4**
comp=Z,111nm,1.5s
RSSD **Black Hills** **39.29** **336** *e*P **P** **09 48 43.5 +0.4**
RSSD pmax pmax
comp=Z,110nm,1.5s
RSSD **Black Hills** **39.29** **336** P **P** **09 48 41.1 -2.0**
baz=145
PFO **Pinyon Flats O** **39.34** **313** PFAKE 09 49 00.0 +16
PFO LR LR
comp=Z,3µm,22.0s
LMN **Caledonia Moun** **39.46** **20** PFAKE 09 49 00.0 +16
LMN LR LR
comp=Z,5µm,19.0s
CPE **Camp Elliot** **39.46** **312** PFAKE 09 49 00.0 +16
CPE LR LR
comp=Z,3µm,18.0s
AQDB **Aquidauana** **39.78** **138** *e*P **P** **09 48 46.8 -0.4**
LSQQ **Lebel-sur-Quev** **39.85** **6** P **P** **09 48 45.8 -1.6**
baz=189

LCO **Las Campanas** **39.85** **164** *e*P **P** **09 48 49.6 +1.6**
comp=Z,194nm,1.6s
LCO **Las Campanas** **39.85** **164** *e*P **P** **09 48 49.6 +1.6**
LCO pmax pmax
comp=Z,190nm,1.6s
LCO **Las Campanas** **39.85** **164** *e*P **P** **09 48 49.6 +1.6**
MURC **Murrieta** **39.87** **312** P **P** **09 48 44.6 -3.3**
baz=119
SHPR **Sheep Range** **39.98** **318** *e*P **P** **09 48 49.9 +1.0**
comp=Z,48nm,1.9s
SHPR LR LR
comp=Z,2µm,18.0s
GBN **Guysborough** **40.26** **23** PFAKE 09 49 00.0 +9.1
GBN LR LR
comp=Z,4µm,19.0s
AGMN **Agassiz Nation** **40.37** **346** P **P** **09 48 50.6 -1.2**
baz=160,SNR=6.1
SHOC **Shoshone, Teco** **40.40** **316** P **P** **09 48 49.0 -3.2**
baz=123
GSC **Goldstone, Bar** **40.45** **315** PFAKE 09 49 00.0 +7.2
GSC LR LR
comp=Z,4µm,19.0s
GSC **Goldstone, Bar** **40.45** **315** P **P** **09 48 50.6 -2.1**
baz=121
MATQ **Matagami** **40.49** **5** P **P** **09 48 52.3 -0.4**
baz=188,SNR=5.9
BFSC **Mount Baldy Ra** **40.52** **313** P **P** **09 48 51.9 -1.4**
baz=120
C2SB **Chapadao do Su** **40.57** **134** *e*P **P** **09 48 54.5 +0.7**
CIS **Catalina Islan** **40.67** **311** P **P** **09 48 53.6 -1.0**
baz=118
DUG **Dugway, Tooele** **40.76** **324** PFAKE 09 49 10.0 +15
DUG LR LR
comp=Z,3µm,18.0s
DUG **Dugway, Tooele** **40.76** **324** P **P** **09 48 53.3 -2.0**
baz=131
BW06 **Boulder Array** **40.77** **329** P **P** **09 48 54.1 -1.3**
baz=137,SNR=5.2
PDAR **Pinedale Array** **40.77** **329** P **P** **09 48 54.6 -0.8**
comp=Z,3.5nm,1.1s,baz=139,slow=9.2,SNR=24
PDAR LR LR 10 08 30.4
comp=Z,1µm,19.5s,baz=148,slow=40
MWC **Mount Wilson** **40.80** **313** PFAKE 09 49 10.0 +14
MWC LR LR
comp=Z,3µm,18.0s
PASC **Pasadena Art C** **40.87** **313** PFAKE 09 49 10.0 +14
PASC LR LR
comp=Z,2µm,20.0s
MDND **Maddock** **40.95** **343** PFAKE 09 49 10.0 +13
MDND LR LR
comp=Z,4µm,18.0s
MDND **Maddock** **40.95** **343** P **P** **09 48 56.1 -0.5**
baz=154,SNR=13
TPNV **Topopah Spring** **40.95** **317** PFAKE 09 49 10.0 +13
TPNV LR LR
comp=Z,3µm,18.0s
TPNV **Topopah Spring** **40.95** **317** P **P** **09 48 55.6 -1.4**
baz=124,SNR=18
HWUT **Hardware Ranch** **41.00** **326** PFAKE 09 49 10.0 +13
HWUT LR LR
comp=Z,2µm,19.0s
CHGQ **Chibougamau** **41.01** **8** P **P** **09 48 57.8 +0.8**
baz=192,SNR=6.6
EDW2 **Edwards Air Fo** **41.08** **314** P **P** **09 48 57.1 -0.8**
baz=120
FURC **Furnace Creek,** **41.10** **316** P **P** **09 48 58.1 +0.1**
baz=122,SNR=8.7
LRMC **Laurel Mtn Rad** **41.16** **315** P **P** **09 48 58.3 -0.4**
baz=121
R11A **Troy Canyon, C** **41.31** **320** PFAKE 09 49 10.0 +10
R11A LR LR
comp=Z,2µm,19.0s
R11A **Troy Canyon, C** **41.31** **320** P **P** **09 48 56.6 -3.4**
baz=126,SNR=11
MPMC **Manual Prospec** **41.32** **315** P **P** **09 48 60.0 0.0**
baz=122
SNCC **San Nicolas Is** **41.43** **311** PFAKE 09 49 10.0 +9.2
SNCC LR LR
comp=Z,2µm,19.0s
OSI **Osito Audit: C** **41.47** **313** PFAKE 09 49 10.0 +8.9
OSI LR LR
comp=Z,4µm,18.0s
DAC **Darwin (Calif)** **41.51** **316** PFAKE 09 49 10.0 +8.5
DAC LR LR
comp=Z,5µm,21.0s
AHID **Auburn Hatcher** **41.55** **328** PFAKE 09 49 10.0 +8.1
AHID LR LR
comp=Z,2µm,21.0s
GRAC **Grapevine Rang** **41.73** **317** P **P** **09 49 02.4 -0.8**
baz=122
ARVC **Arvin** **41.80** **313** P **P** **09 48 59.6 -4.1**
baz=119
ISA **Isabella, Lake** **41.80** **314** PFAKE 09 49 20.0 +16
ISA LR LR
comp=Z,3µm,18.0s
ISA **Isabella, Lake** **41.80** **314** P **P** **09 49 01.6 -2.3**
baz=120
CWC **Cottonwood Cre** **41.92** **316** P P 09 49 00.1 -4.8
baz=121
MOOW **Moose Ponds** **42.07** **329** PFAKE 09 49 20.0 +14
MOOW LR LR
comp=Z,2µm,22.0s
ULM **Lac du Bonnet** **42.21** **347** P **P** **09 49 05.4 -1.5**
comp=Z,41nm,0.7s,baz=157,slow=8.0,SNR=104
ULM LR LR 10 07 58.0
comp=Z,2µm,18.1s,baz=168,slow=38
IMW **Indian Meadow** **42.28** **329** PFAKE 09 49 20.0 +12
IMW LR LR
comp=Z,2µm,20.0s
LAO **LASA Array** **42.28** **336** PFAKE 09 49 20.0 +12
LAO LR LR
comp=Z,2µm,21.0s
LAO **LASA Array** **42.28** **336** P **P** **09 49 07.2 -0.3**
baz=144,SNR=21
FLWY **Flagg Ranch** **42.29** **330** PFAKE 09 49 20.0 +12
FLWY LR LR
comp=Z,2µm,22.0s
VES **Vestal, Richgr** **42.33** **314** P **P** **09 49 07.2 -0.8**
baz=120,SNR=8.5
BDFB **Brasilia** **42.36** **126** *e*P **P** **09 49 09.1 +0.4**
comp=Z,72nm,1.0s
BDFB LR LR
comp=Z,5µm,18.0s
BDFB **Brasilia** **42.36** **126** P **P** **09 49 09.4 +0.8**
comp=Z,57nm,0.9s,baz=290,slow=9.2,SNR=47
BDFB LR LR 10 07 26.9
comp=Z,3µm,18.1s,baz=304,slow=37
RLMT **Red Lodge** **42.37** **332** PFAKE 09 49 20.0 +11
RLMT LR LR
comp=Z,1µm,22.0s
RLMT **Red Lodge** **42.37** **332** P **P** **09 49 08.3 -0.3**
baz=139,SNR=21
H17A **Grant Village** **42.46** **330** P **P** **09 49 09.3 0.0**
baz=137,SNR=6.7
ELK **Elko** **42.54** **323** PFAKE 09 49 20.0 +10
ELK LR LR
comp=Z,3µm,18.0s
SMMC **Simmler** **42.72** **313** P **P** **09 49 10.9 -0.4**
baz=118
VOG **Valley Oaks Go** **42.77** **315** P **P** **09 49 10.0 -1.6**
baz=120
ITRB **Iturama** **42.96** **132** *e*P **P** **09 49 12.9 -0.5**
DGMT **Dagmar** **42.99** **339** PFAKE 09 49 30.0 +17
DGMT LR LR
comp=Z,3µm,21.0s
DGMT **Dagmar** **42.99** **339** P **P** **09 49 13.5 +0.2**
baz=148,SNR=12
NV11 **Mina Array Sit** **43.03** **318** PFAKE 09 49 30.0 +16
NV11 LR LR
comp=Z,200nm,18.0s
PAGB **Antelope Grade** **43.10** **313** PFAKE 09 49 30.0 +16
PAGB LR LR
comp=Z,3µm,21.0s
NVAR **Mina Array Bea** **43.13** **318** P **P** **09 49 14.5 -0.2**
comp=Z,2.7nm,0.8s,baz=127,slow=7.2,SNR=24
NVAR LR LR 10 09 44.6
comp=Z,3µm,18.8s,baz=133,slow=40
CPUP **Villa Florida** **43.18** **146** *e*P **P** **09 49 14.4 -0.6**
comp=Z,15nm,1.7s
CPUP **Villa Florida** **43.18** **146** *e*P **P** **09 49 14.4 -0.6**
CPUP pmax pmax
comp=Z,58nm,1.7s
CPUP **Villa Florida** **43.18** **146** P **P** **09 49 14.3 -0.6**
comp=Z,4.7nm,0.9s,baz=327,slow=9.0,SNR=9.6
CPUP LR LR 10 10 04.0
comp=Z,3µm,18.8s,baz=326,slow=40
CPUP **Villa Florida** **43.18** **146** *e*P **P** **09 49 14.4 -0.6**

MDPB Devils Postpil 43.22 317 PFAKE 09 49 30.0 +14
MDPB LR LR
comp=Z,4μm,20.0s
KVN Kaiserville 43.33 319 PFAKE 09 49 30.0 +14
KVN LR LR
comp=Z,3μm,20.0s
RYN Ryan 43.38 318 PFAKE 09 49 30.0 +13
RYN LR LR
comp=Z,3μm,22.0s
BMN Battle Mountai 43.56 321 PFAKE 09 49 30.0 +12
BMN LR LR
comp=Z,2μm,18.0s
BOZ Bozeman (W) 43.84 331 P **P** **09 49 15.9 -4.4**
baz=136,SNR=32
HLID Hailey 43.87 326 PFAKE 09 49 30.0 +9.4
HLID LR LR
comp=Z,4μm,20.0s
HLID Hailey 43.87 326 P P 09 49 15.8 -4.9
baz=132,SNR=28
WAKR Walker 43.92 317 *e*P **P** **09 49 22.2 +1.0**
comp=Z,45nm,1.5s
WAKR LR LR
comp=Z,4μm,19.0s
YERR Yerington 44.04 318 PFAKE 09 49 30.0 +7.9
YERR LR LR
comp=Z,3μm,21.0s
CMB Columbia Colle 44.32 316 PFAKE 09 49 40.0 +16
CMB LR LR
comp=Z,2μm,21.0s
PNTR Pine Nut 44.33 318 *e*P **P** **09 49 25.5 +1.0**
comp=Z,23nm,1.1s
PNTR LR LR
comp=Z,3μm,20.0s
SAO San Andreas Ge 44.44 314 PFAKE 09 49 40.0 +15
SAO LR LR
comp=Z,3μm,18.0s
VCNR Virginia City 44.48 318 PFAKE 09 49 40.0 +14
VCNR LR LR
comp=Z,3μm,20.0s
PAHR Pah Rah Range 44.52 319 PFAKE 09 49 40.0 +14
PAHR LR LR
comp=Z,2μm,19.0s
RPN Rapa Nui 44.55 215 PFAKE 09 49 40.0 +14
RPN LR LR
comp=Z,8μm,18.0s
RUBR Rubicon Trail 44.68 318 PFAKE 09 49 40.0 +13
RUBR LR LR
comp=Z,3μm,19.0s
EGMT Eagleton 44.80 334 P **P** **09 49 25.3 -2.6**
baz=140,SNR=12
PTGB Pitanga 45.14 139 *e*P **P** **09 49 29.8 -1.1**
BB19B Bebedouro 45.15 132 *e*P **P** **09 49 30.9 0.0**
AFDM Forest Hills D 45.18 317 PFAKE 09 49 40.0 +9.0
AFDM LR LR
comp=Z,3μm,20.0s
BEKR Beckworth 45.24 318 PFAKE 09 49 40.0 +8.3
BEKR LR LR
comp=Z,4μm,20.0s
WVOR Wild Horse Val 45.59 322 PFAKE 09 49 50.0 +16
WVOR LR LR
comp=Z,2μm,19.0s
PLID Pearl Lake 45.73 327 PFAKE 09 49 50.0 +15
PLID LR LR
comp=Z,2μm,21.0s
ORV Oroville 45.84 317 *e*P **P** **09 49 36.4 +0.3**
comp=Z,56nm,1.6s
ORV LR LR
comp=Z,2μm,21.0s
ORV Oroville 45.84 317 *e*P **P** **09 49 36.4 +0.3**
ORV pmax pmax
comp=Z,56nm,1.6s
ORV MLR MLR
comp=Z,2μm,21.0s
MSO Missoula 45.85 330 P **P** **09 49 32.9 -3.3**
baz=134,SNR=8.1
FRTB Fartura 45.87 136 *e*P **P** **09 49 37.4 +0.7**
MCCM Marconi Confer 46.09 315 PFAKE 09 49 50.0 +12
MCCM LR LR
comp=Z,2μm,20.0s
MCI8 Montes Claros 46.22 124 *e*P **P** **09 49 39.7 +0.1**
MCI9 Montes Claros 46.27 124 *e*P **P** **09 49 39.4 -0.4**
MOD Modoc Plateau 46.30 321 PFAKE 09 49 50.0 +10
MOD LR LR
comp=Z,2μm,19.0s
MCI6 Montes Claros 46.32 124 *e*P **P** **09 49 40.2 -0.1**
O03E Paynes Creek 46.41 318 P **P** **09 49 36.3 -4.4**
baz=121
HOPS Hopland Field 46.62 316 PFAKE 09 49 50.0 +7.6
HOPS LR LR
comp=Z,2μm,18.0s
ITAB Concordia 46.89 142 *e*P **P** **09 49 44.3 -0.2**
O02D Mt. Diablo Mer 47.01 318 P P 09 49 40.7 -4.7
baz=120
I07A Izee 47.07 324 PFAKE 09 50 00.0 +14
I07A LR LR
comp=Z,4μm,19.0s
SCHQ Schefferville 47.07 12 *e*P **P** **09 49 46.4 +0.8**
comp=Z,24nm,1.6s
SCHQ LR LR
comp=Z,6μm,18.0s
SCHQ Schefferville 47.07 12 P **P** **09 49 46.1 +0.6**
comp=Z,7.8nm,0.6s,baz=210,slow=14,SNR=3.0
SCHQ LR LR 10 10 48.0
comp=Z,4μm,18.1s,baz=207,slow=38
K05A Summer Lake 47.12 322 PFAKE 09 50 00.0 +14
K05A LR LR
comp=Z,2μm,18.0s
M04C Macdoel 47.21 320 P **P** **09 49 42.6 -4.5**
baz=122,SNR=7.3
G08A Pilot Rock 47.48 325 *e*P **P** **09 49 48.6 -0.5**
comp=Z,57nm,1.8s
SPB Sao Paulo 47.52 134 PFAKE 09 50 00.0 +10
SPB LR LR
comp=Z,6μm,19.0s
SPB Sao Paulo 47.52 134 *e*P **P** **09 49 48.7 -0.8**
KMRM Mail Ridge 47.64 317 PFAKE 09 50 00.0 +10
KMRM LR LR
comp=Z,3μm,18.0s
M02C Callahan 47.66 319 P **P** **09 49 47.4 -3.1**
baz=120
L04D Klamath Falls 47.73 320 P P 09 49 46.1 -5.0
baz=122,SNR=12
YBH Yreka Blue Hor 47.74 319 PFAKE 09 50 00.0 +8.9
YBH LR LR
comp=Z,3μm,21.0s
YBH Yreka Blue Hor 47.74 319 *e*P **P** **09 49 49.8 -1.3**
YBH pmax pmax
comp=Z,17nm,1.3s
PINE Pine Mountain 47.75 323 PFAKE 09 50 00.0 +8.7
PINE LR LR
comp=Z,3μm,18.0s
FFC Flin Flon 47.79 345 *e*P **P** **09 49 50.9 -0.3**
comp=Z,308nm,1.8s
FFC Flin Flon 47.79 345 *e*P **P** **09 49 50.9 -0.3**
FFC pmax pmax
comp=Z,310nm,1.8s
BSCB Bom Sucesso 47.91 129 *e*P **P** **09 49 52.9 +0.2**
KHMM Horse Mountain 47.97 318 PFAKE 09 50 10.0 +17
KHMM LR LR
comp=Z,3μm,19.0s
JCC Jacoby Creek, 48.14 318 PFAKE 09 50 10.0 +16
JCC LR LR
comp=Z,3μm,20.0s
I05D Terrebonne, OR 48.29 323 P **P** **09 49 51.0 -4.3**
baz=124
HUMO Hull Mountain 48.34 320 PFAKE 09 50 10.0 +14
HUMO LR LR
comp=Z,3μm,19.0s
NEW Newport 48.41 330 P **P** **09 49 53.1 -3.0**
baz=132,SNR=13
NEW Newport 48.41 330 P **P** **09 49 55.1 -1.0**
comp=Z,12nm,0.9s,baz=135,slow=8.1,SNR=14
I04A Tendick Farm, 48.64 322 P P 09 49 52.6 -5.4
baz=123
G05D Wamic, OR 48.79 324 P **P** **09 49 59.5 +0.4**
baz=125,SNR=6.7
RCBR Riachuelo 48.98 106 *e*P **P** **09 50 01.2 +0.2**
comp=Z,134nm,1.5s
RCBR LR LR
comp=Z,7μm,18.0s
RCBR Riachuelo 48.98 106 *e*P **P** **09 50 01.2 +0.2**
RCBR pmax pmax
comp=Z,130nm,1.5s
RCBR Riachuelo 48.98 106 *e*P **P** **09 50 01.9 +0.9**
H04A Detroit Lake 48.99 323 PFAKE 09 50 10.0 +9.3
H04A LR LR
comp=Z,2μm,19.0s
CNLB Canela 49.17 143 *e*P **P** **09 50 02.3 +0.1**
ESAR Angra dos Reis 49.34 131 *e*P **P** **09 50 03.2 -0.3**
KEBM Edson Butte 49.35 320 PFAKE 09 50 20.0 +16
KEBM LR LR
comp=Z,2μm,18.0s
SJMB Sao Joao De Ma 49.51 124 *e*P **P** **09 50 04.9 0.0**
TER01 Tubaro-SC 49.68 140 *e*P **P** **09 50 05.7 -0.4**
GO06 Curarrehue 49.79 169 *e*P **P** **09 50 06.7 -0.1**
comp=Z,96nm,1.1s
BSFB Barra de Sao F 49.85 124 *e*P **P** **09 50 07.7 +0.2**
LON Longmire 49.95 325 PFAKE 09 50 20.0 +12
LON LR LR
comp=Z,2μm,22.0s
FCC Fort Churchill 50.06 352 *e*P **P** **09 50 07.9 -0.6**
comp=Z,330nm,1.8s
FCC LR LR
comp=Z,4μm,21.0s
FCC Fort Churchill 50.06 352 *e*P **P** **09 50 07.9 -0.6**
FCC pmax pmax
comp=Z,330nm,1.8s
FCC MLR MLR
comp=Z,4μm,21.0s
CAM01 Campos-RJ 50.78 128 *e*P **P** **09 50 15.0 +0.5**
TRQA Tornquist 50.98 159 *e*P **P** **09 50 15.5 -0.3**
comp=Z,166nm,1.9s
TRQA Tornquist 50.98 159 *e*P **P** **09 50 15.5 -0.3**
TRQA pmax pmax
comp=Z,170nm,1.9s
B05A Bryant 50.99 327 P **P** **09 50 12.7 -3.0**
baz=126
PLCA Paso Flores 51.08 168 *e*P **P** **09 50 17.1 +0.6**
comp=Z,120nm,1.1s
PLCA Paso Flores 51.08 168 P **P** **09 50 17.8 +1.2**
comp=Z,53nm,0.9s,baz=5.4,slow=9.1,SNR=38
PLCA Paso Flores 51.08 168 *e*P **P** **09 50 17.8 +1.2**
D03D Eldon 51.11 326 P **P** **09 50 14.7 -2.0**
baz=125,SNR=6.3
A04D Lummi Island 51.59 327 P **P** **09 50 17.4 -2.7**
baz=126
GO07 Milledeo Hill, 52.86 172 *e*P **P** **09 50 30.1 +0.4**
comp=Z,406nm,1.4s
FRB Frobisher Bay 55.22 8 P **P** **09 50 45.4 -1.3**
comp=Z,5.0nm,0.7s,baz=204,slow=7.6,SNR=10
BBB Bella Bella 56.39 328 PFAKE 09 51 10.0 +15
BBB LR LR
comp=Z,1μm,18.0s
ROSA Rosais 56.64 50 *e*P **P** **09 50 56.9 -0.3**
comp=Z,296nm,1.4s
YKA Yellowknife Ar 57.87 343 P **P** **09 51 04.7 -0.7**
comp=Z,31nm,0.9s,baz=135,slow=7.5,SNR=282
YKW3 Yellowknife Ar 57.92 343 PFAKE 09 51 20.0 +14
YKW3 LR LR
comp=Z,2μm,20.0s
CMLA Cha da Macela 58.46 51 PFAKE 09 51 20.0 +10
CMLA LR LR
comp=Z,2μm,19.0s
NRS Narsarsuaq 58.51 20 *i* P **P** **09 51 14.4 +4.4**
NRS Narsarsuaq 58.51 20 *i* P **P** **09 51 14.4 +4.4**
TAOE Nuku Hiva Isla 60.04 254 *e*T T 10 54 29.9
comp=Z,24nm,0.3s
RKT Rikitea 60.51 237 *e*S **S** **09 59 37.2 -2.6**
comp=Z,3μm,29.5s
RKT *e*LR LR 10 09 21.2
comp=Z,3μm,28.5s
RKT Rikitea 60.51 237 *e*T T 10 55 33.1
comp=Z,4.0nm,0.3s
WRAK Wrangell Islan 60.72 331 PFAKE 09 51 40.0 +15
WRAK LR LR
comp=Z,2μm,22.0s
DLBC Dease Lake 60.73 334 PFAKE 09 51 40.0 +15
DLBC LR LR
comp=Z,3μm,19.0s
GO09 Cerro Castillo 61.04 173 *e*P **P** **09 51 29.4 +1.9**
comp=Z,185nm,1.5s
SFJD Kangerlussuaq 61.48 14 *e*P **P** **09 51 29.3 -1.0**
comp=Z,43nm,1.4s
SFJD LR LR
comp=Z,4μm,19.0s
SFJD Kangerlussuaq 61.48 14 *i* P P 09 51 39.4 +9.1
SFJD MLR MLR
comp=Z,4μm,15.0s
SFJD Kangerlussuaq 61.48 14 P **P** **09 51 29.6 -0.7**
comp=Z,13nm,1.1s,baz=206,slow=5.2,SNR=6.1
SFJD Kangerlussuaq 61.48 14 *i* P P 09 51 39.4 +9.1
SIT Sitka 62.46 331 PFAKE 09 51 50.0 +13
SIT LR LR
comp=Z,1μm,18.0s
JIS Juneau Island 62.60 332 PFAKE 09 51 50.0 +12
JIS LR LR
comp=Z,2μm,20.0s
BESE Bessie Mountai 62.97 332 PFAKE 09 51 50.0 +9.5
BESE LR LR
comp=Z,3μm,19.0s
ILULI Ilulissat 63.18 12 PFAKE 09 51 50.0 +8.4
ILULI LR LR
comp=Z,3μm,20.0s
ILULI Ilulissat 63.18 12 *i* P **P** **09 51 46.3 +4.7**
ILULI MLR MLR
comp=Z,3μm,18.0s
ILULI Ilulissat 63.18 12 *i* P **P** **09 51 46.3 +4.7**
SKAG Skagway 63.61 333 PFAKE 09 52 00.0 +15
SKAG LR LR
comp=Z,2μm,21.0s
WHY Whitehorse 64.00 334 PFAKE 09 52 00.0 +13
WHY LR LR
comp=Z,2μm,20.0s
PMOZ Porto Moniz, M 64.39 58 *e*S **S** **10 00 34.0 +5.3**
PMOZ Porto Moniz, M 64.39 58 *e*LR LR 10 11 18.1
comp=Z,642nm,18.0s
MACI Morro de la Ar 64.65 63 *e*P **P** **09 51 52.9 +0.6**
comp=Z,519nm,1.1s
RES Resolute Bay 65.66 356 PFAKE 09 52 10.0 +12
RES LR LR
comp=Z,3μm,18.0s
RES Resolute Bay 65.66 356 P **P** **09 51 56.8 -1.1**
comp=Z,11nm,0.8s,baz=189,slow=9.9,SNR=28
BCPM Bancas Point 65.78 332 PFAKE 09 52 10.0 +11
BCPM LR LR
comp=Z,3μm,20.0s
PCA Pinnacle 66.12 332 PFAKE 09 52 10.0 +8.8
PCA LR LR
comp=Z,3μm,20.0s
KULLO Kullorsuaq 66.79 7 *i* P **P** **09 52 08.6 +3.6**
KULLO MLR MLR
comp=Z,5μm,19.0s
KULLO Kullorsuaq 66.79 7 *i* P **P** **09 52 08.6 +3.6**
CTGM Chitina Glacie 66.96 333 PFAKE 09 52 20.0 +13
CTGM LR LR
comp=Z,2μm,20.0s
BALM Baldy 67.44 333 PFAKE 09 52 20.0 +10
BALM LR LR
comp=Z,3μm,20.0s
DAWY Dawson 67.47 337 PFAKE 09 52 20.0 +10
DAWY LR LR
comp=Z,2μm,19.0s
INK Inuvik 67.57 342 PFAKE 09 52 20.0 +10
INK LR LR
comp=Z,3μm,18.0s
EPYK Eagle Plains 67.58 339 PFAKE 09 52 20.0 +10
EPYK LR LR
comp=Z,2μm,19.0s
EPYK Eagle Plains 67.58 339 P **P** **09 52 10.3 0.0**
baz=120,SNR=64
HMT Hamilton 68.06 332 PFAKE 09 52 30.0 +17
HMT LR LR
comp=Z,3μm,19.0s
SUMG Summit 68.45 13 PFAKE 09 52 30.0 +14
SUMG LR LR
comp=Z,4μm,19.0s
SUMG Summit 68.45 13 *e*P **P** **09 52 18.7 +2.6**
SUMG MLR MLR
comp=Z,10μm,16.0s
SUMG Summit 68.45 13 *i* P **P** **09 52 18.7 +2.6**
EGAK Eagle 68.47 337 PFAKE 09 52 30.0 +14
EGAK LR LR
comp=Z,2μm,20.0s
MENT Mentasta 68.77 335 PFAKE 09 52 30.0 +12
MENT LR LR
comp=Z,2μm,21.0s
EYAK Cordova Ski Ar 68.83 332 PFAKE 09 52 30.0 +12
EYAK LR LR
comp=Z,4μm,19.0s
VAH Vaihoa 68.85 250 *e*P **P** **09 52 20.8 +1.8**
comp=Z,118nm,1.2s
DIV Divide 69.03 332 PFAKE 09 52 30.0 +10
DIV LR LR
comp=Z,2μm,21.0s
PMOR Pomariorio Ree 69.03 250 *e*P **P** **09 52 22.2 +2.0**
comp=Z,126nm,1.1s
DOT Dot Lake 69.18 335 PFAKE 09 52 30.0 +10
DOT LR LR
comp=Z,2μm,18.0s
HARP HAARP 69.19 334 PFAKE 09 52 30.0 +10
HARP LR LR
comp=Z,2μm,18.0s
KLU Klutina 69.22 333 PFAKE 09 52 30.0 +9.3
KLU LR LR
comp=Z,3μm,21.0s
PAX Paxson 69.53 334 PFAKE 09 52 40.0 +17
PAX LR LR
comp=Z,2μm,18.0s
RIDG Independent Ri 69.54 335 PFAKE 09 52 40.0 +17
RIDG LR LR
comp=Z,2μm,20.0s
GLI Glacier Island 69.56 332 PFAKE 09 52 40.0 +17
GLI LR LR
comp=Z,2μm,19.0s
SCM Sheep Creek Mo 69.97 333 PFAKE 09 52 40.0 +15
SCM LR LR
comp=Z,2μm,20.0s
KNK Knik Glacier 70.35 332 PFAKE 09 52 40.0 +12
KNK LR LR
comp=Z,2μm,18.0s
DHY Denali Highway 70.38 334 PFAKE 09 52 40.0 +12
DHY LR LR
comp=Z,2μm,18.0s
SML Sawmill 70.41 333 PFAKE 09 52 40.0 +12
SML LR LR
comp=Z,2μm,18.0s
PRP Porcupine Dome 70.46 337 PFAKE 09 52 40.0 +12
PRP LR LR
comp=Z,3μm,21.0s
STCH Steam Cracks 70.49 287 PFAKE 09 52 40.0 +11
STCH LR LR
comp=Z,3μm,21.0s
PUH Pauahi 70.58 287 PFAKE 09 52 40.0 +10
PUH LR LR
comp=Z,2μm,18.0s
HATHI Halema'uma'u T 70.62 287 PFAKE 09 52 40.0 +10
HATHI LR LR
comp=Z,2μm,21.0s
RIM Rim 70.63 287 PFAKE 09 52 40.0 +10
RIM LR LR
comp=Z,2μm,18.0s
HDA Harding Lake 70.64 335 PFAKE 09 52 40.0 +11
HDA LR LR
comp=Z,2μm,20.0s
OBL Observatory Le 70.64 287 PFAKE 09 52 40.0 +10
OBL LR LR
comp=Z,2μm,19.0s
UWE Uwekahuna 70.65 287 PFAKE 09 52 40.0 +10
UWE LR LR
comp=Z,2μm,18.0s
SDHHI Sand Hill 70.65 287 PFAKE 09 52 40.0 +10
SDHHI LR LR
comp=Z,2μm,18.0s
WRMHI West Rim 70.66 287 PFAKE 09 52 40.0 +10
WRMHI LR LR
comp=Z,2μm,20.0s
GHO Glory Hole Cre 70.67 333 PFAKE 09 52 40.0 +10
GHO LR LR
comp=Z,2μm,21.0s
PMR Palmer 70.71 332 PFAKE 09 52 40.0 +10
PMR LR LR
comp=Z,2μm,20.0s
MLH Mauna Loa 70.73 287 PFAKE 09 52 40.0 +9.0
MLH LR LR
comp=Z,2μm,18.0s
ILAR Eielson Array 70.74 336 P **P** **09 52 29.5 -0.4**
comp=Z,41nm,1.0s,baz=113,slow=3.6,SNR=143
ILAR LR LR 10 26 48.6
comp=Z,1μm,18.4s,baz=116,slow=39
RC01 Rabbit Creek A 70.85 332 PFAKE 09 52 40.0 +9.4
RC01 LR LR
comp=Z,3μm,20.0s
POHA Pohakuloa 70.86 288 PFAKE 09 52 40.0 +8.3
POHA LR LR
comp=Z,2μm,18.0s
HPAH Hawaii Prepara 71.00 288 PFAKE 09 52 50.0 +18
HPAH LR LR
comp=Z,2μm,20.0s
CCB Clear Creek Bu 71.07 336 PFAKE 09 52 40.0 +8.2
CCB LR LR
comp=Z,2μm,19.0s
POKR Poker Plat Res 71.08 336 P **P** **09 52 31.7 -0.2**
baz=109,SNR=7.1
RND Reindeer 71.12 334 PFAKE 09 52 40.0 +7.7
RND LR LR
comp=Z,2μm,18.0s
WRH Wood River Hil 71.13 335 PFAKE 09 52 40.0 +7.8
WRH LR LR
comp=Z,2μm,19.0s
COLA College 71.16 336 *e*P **P** **09 52 32.7 +0.3**
comp=Z,73nm,1.1s
COLA LR LR
comp=Z,1μm,20.0s
COLA College 71.16 336 *e*P **P** **09 52 32.7 +0.3**
COLA pmax pmax
comp=Z,73nm,1.1s
TCOL CIGO, UAF Yank 71.17 336 P **P** **09 52 31.0 -1.5**
baz=109,SNR=16
KHLU Kahalu`u 71.20 288 PFAKE 09 52 50.0 +16
KHLU LR LR
comp=Z,2μm,19.0s
PMAFR Mafra 71.25 52 *e*S **S** **10 01 52.3 +1.7**
MCK McKinley 71.25 335 PFAKE 09 52 50.0 +17
MCK LR LR
comp=Z,2μm,21.0s
PPT Papeete 71.31 248 LR LR 10 16 48.9
comp=Z,1μm,18.6s,baz=70,slow=30
PPT2 Papeete2 71.31 248 *e*S **S** **10 01 48.8 -3.1**
comp=Z,1μm,24.5s
PPT2 *e*SS **SS** **10 06 23.6 -2.9**
comp=Z,684nm,28.2s
PPT2 *e*LQ LQ 10 11 16.3
comp=Z,1μm,28.5s
PPT2 *e*LR LR 10 14 14.3
comp=Z,1μm,22.8s,baz=53
MDM Murphy Dome 71.34 336 PFAKE 09 52 50.0 +16
MDM LR LR
comp=Z,1μm,18.0s
LIS Lisbon 71.35 52 *e*P **P** **09 52 33.9 -0.2**
LIS *e*S **S** **10 01 52.3 +0.7**
LIS AMS AMS 10 17 53.1
comp=Z,1μm,22.7s
LIS Lisbon 71.35 52 *e*P **P** **09 52 33.8 -0.2**
LIS *e*S **S** **10 01 52.3 +0.7**
KDAK Kodiak Island 71.47 328 PFAKE 09 52 50.0 +16
KDAK LR LR
comp=Z,1μm,20.0s
PFVI Vila Bisbo 71.53 54 *e*P **P** **09 52 36.5 +1.3**
comp=Z,149nm,1.5s
PFVI *e*S **S** **10 01 56.8 +3.0**
PFVI Vila Bisbo 71.53 54 PFAKE 09 52 50.0 +15
PFVI LR LR
comp=Z,2μm,22.0s
BWN Browne 71.61 335 PFAKE 09 52 50.0 +15
BWN LR LR
comp=Z,1μm,19.0s
PTEO Sao Teotonio 71.63 54 *e*P **P** **09 52 37.3 +1.5**
comp=Z,140nm,1.6s
SCO Scoresbysund 71.67 18 PFAKE 09 52 50.0 +15
SCO LR LR
comp=Z,2μm,18.0s
SCO Scoresbysund 71.67 18 *e*P **P** **09 52 38.4 +3.0**
SCO MLR MLR
comp=Z,2μm,17.0s
SCO Scoresbysund 71.67 18 *i* P **P** **09 52 38.4 +3.0**
MORF Marmelete 71.68 54 *e*P **P** **09 52 35.8 -0.3**
MORF *e*S **S** **10 01 56.3 +0.7**
MORF AMS AMS 10 18 09.2
comp=Z,1μm,17.8s
MORF Marmelete 71.68 54 *e*P **P** **09 52 37.6 +1.4**
comp=Z,176nm,1.6s
MORF *e*S **S** **10 01 58.8 +3.2**
OHAK Old Harbor 71.72 327 PFAKE 09 52 50.0 +14
OHAK LR LR
comp=Z,1μm,22.0s
PNCL Nicolau / Gran 71.81 53 *e*P **P** **09 52 37.7 +0.9**
comp=Z,97nm,1.5s
PNCL *e*S **S** **10 01 59.0 +2.1**

PCAS	**Casmilo, Conde**	**71.92**	**51**	*e*P	**P**	**09 52 38.7**	**+1.2**
	comp=Z,179nm,1.5s						
PCAS				*e*S	**S**	**10 01 59.4**	**+1.2**
COI	**Coimbra**	**71.99**	**51**	*e*P	**P**	**09 52 39.5**	**+1.6**
	comp=Z,217nm,1.6s						
COI				*e*S	**S**	**10 01 59.4**	**+0.4**
COI	**Coimbra**	**71.99**	**51**	PFAKE		09 52 50.0	+12
COI				LR	LR		
	comp=Z,2μm,20.0s						
MESJ	**Messejana**	**72.04**	**53**	*e*P	**P**	**09 52 38.0**	**-0.3**
MESJ				*e*S	**S**	**10 02 00.4**	**+0.8**
MESJ				AMS	AMS	10 18 12.6	
	comp=Z,1μm,18.4s						
MESJ	**Messejana**	**72.04**	**53**	*e*P	**P**	**09 52 38.9**	**+0.7**
	comp=Z,62nm,1.5s						
MESJ	**Messejana**	**72.04**	**53**	*e*P	**P**	**09 52 37.9**	**-0.3**
MESJ				*e*S	**S**	**10 02 00.4**	**+0.8**
PMTG	**Montargil**	**72.08**	**52**	*e*P	**P**	**09 52 38.8**	**+0.3**
	comp=Z,92nm,1.5s						
PMTG				*e*S	**S**	**10 02 01.9**	**+1.8**
PCVE	**Castro Verde**	**72.17**	**54**	*e*P	**P**	**09 52 40.1**	**+1.0**
	comp=Z,59nm,1.4s						
PCVE				*e*S	**S**	**10 02 03.6**	**+2.4**
PGAV	**Gavieira, Arco**	**72.20**	**49**	*e*P	**P**	**09 52 40.3**	**+1.1**
	comp=Z,125nm,1.6s						
PGAV				*e*S	**S**	**10 02 03.5**	**+2.0**
PGAV	**Gavieira, Arco**	**72.20**	**49**	*e*LR	LR	10 14 47.1	
	comp=Z,904nm,20.0s						
EVO	**Evora**	**72.23**	**53**	*e*P	**P**	**09 52 39.5**	**+0.1**
	comp=Z,66nm,1.6s						
EVO	**Evora**	**72.23**	**53**	*i*P	**P**	**09 52 40.0**	**+0.6**
EVO				*i*S	**SKiKP**	**10 02 10.6**	**-4.8**
BPAW	**Bear Paw Mtn.**	**72.23**	**335**	PFAKE		09 52 50.0	+11
BPAW				LR	LR		
	comp=Z,2μm,19.0s						
PBDV	**Barranco-do-Ve**	**72.25**	**54**	*e*P	**P**	**09 52 40.4**	**+0.8**
	comp=Z,97nm,1.8s						
PBDV				*e*S	**S**	**10 02 05.1**	**+3.0**
PBEJ	**Beja**	**72.32**	**53**	*e*P	**P**	**09 52 41.7**	**+1.7**
	comp=Z,54nm,1.6s						
PCAB	**Cabril**	**72.36**	**49**	*e*P	**P**	**09 52 41.1**	**+0.9**
	comp=Z,98nm,1.7s						
MLY	**Manley**	**72.38**	**336**	PFAKE		09 52 50.0	+10
MLY				LR	LR		
	comp=Z,700nm,19.0s						
PVIS	**Viseu**	**72.41**	**50**	*e*P	**P**	**09 52 41.0**	**+0.5**
	comp=Z,101nm,1.6s						
PVAQ	**Vaqueiros**	**72.42**	**54**	*e*P	**P**	**09 52 41.4**	**+0.8**
	comp=Z,70nm,1.5s						
PVAQ				*e*S	**S**	**10 02 06.4**	**+2.3**
PVAQ	**Vaqueiros**	**72.42**	**54**	*e*LR	LR	10 14 20.8	
	comp=Z,1μm,20.0s						
PVAQ	**Vaqueiros**	**72.42**	**54**	PFAKE		09 52 50.0	+9.4
PVAQ				LR	LR		
	comp=Z,2μm,21.0s						
POLO	**Lamas de Olo**	**72.52**	**50**	*e*P	**P**	**09 52 41.5**	**+0.3**
	comp=Z,46nm,1.4s						
POLO				*e*S	**S**	**10 02 06.4**	**+1.2**
PVRL	**Vila Real**	**72.57**	**50**	*e*P	**P**	**09 52 42.2**	**+0.8**
	comp=Z,110nm,1.7s						
AVE	**Averroes**	**72.61**	**58**	*i*P	**P**	**09 52 45.4**	**+3.6**
AVE				*i*S	**S**	**10 02 05.8**	**-0.5**
MTE	**Manteigas**	**72.66**	**51**	*e*P	**P**	**09 52 42.3**	**+0.3**
	comp=Z,96nm,1.6s						
MTE				*e*S	**S**	**10 02 06.9**	**0.0**
MTE	**Manteigas**	**72.66**	**51**	*e*LR	LR	10 15 16.3	
	comp=Z,1μm,22.0s						
MTE	**Manteigas**	**72.66**	**51**	PFAKE		09 52 50.0	+8.0
MTE				LR	LR		
	comp=Z,2μm,21.0s						
PCBR	**Castelo Branco**	**72.69**	**51**	*e*P	**P**	**09 52 42.8**	**+0.7**
	comp=Z,76nm,1.4s						
PMRV	**Marv??o**	**72.74**	**52**	*e*P	**P**	**09 52 43.1**	**+0.6**
	comp=Z,62nm,1.6s						
PMRV				*e*S	**S**	**10 02 08.9**	**+1.2**
PMRV	**Marv??o**	**72.74**	**52**	*e*LR	LR	10 15 20.5	
	comp=Z,1μm,20.0s						
COLD	**Coldfoot**	**72.81**	**338**	PFAKE		09 52 50.0	+7.7
COLD				LR	LR		
	comp=Z,1μm,20.0s						
TBI	**Tubuai**	**72.93**	**242**	*e*S	**S**	**10 02 09.0**	**-1.2**
	comp=Z,3μm,27.2s						
TBI				*e*LQ	LQ	10 12 00.5	
	comp=Z,701nm,31.2s						
TBI				*e*LR	LR	10 15 06.6	
	comp=Z,1μm,25.8s,baz=74						
TOLK	**Toolik Lake Re**	**73.02**	**339**	P	**P**	**09 52 43.7**	**+0.1**
	baz=108,SNR=30						
RTC	**Rabat Centre**	**73.08**	**57**	PFAKE		09 53 00.0	+16
RTC				LR	LR		
	comp=Z,4μm,19.0s						
MVO	**Moncorvo**	**73.09**	**50**	*e*P	**P**	**09 52 44.7**	**+0.2**
	comp=Z,101nm,1.3s						
MVO				*e*S	**S**	**10 02 13.2**	**+1.5**
MVO	**Moncorvo**	**73.09**	**50**	*e*LR	LR	10 15 27.3	
	comp=Z,755nm,20.0s						
PBRG	**Braganca**	**73.33**	**49**	*e*P	**P**	**09 52 46.2**	**+0.3**
	comp=Z,90nm,1.7s						
PBRG				*e*S	**S**	**10 02 17.0**	**+2.7**
SFS	**San Fernando**	**73.62**	**55**	*i*P	**P**	**09 52 49.3**	**+1.7**
IFR	**Ifrane**	**74.52**	**58**	*i*P	**P**	**09 52 52.2**	**-1.1**
IFR				*i*S	**S**	**10 02 32.9**	**+4.5**
MDT	**Midelt**	**74.97**	**59**	P	**P**	**09 52 56.4**	**+0.6**
	comp=Z,25nm,0.9s,baz=283,slow=5.6,SNR=19						
EMAL	**Malaga-Limoner**	**75.05**	**54**	*i*P	**P**	**09 52 57.0**	**+1.1**
EMAL				*i*S	**S**	**10 02 35.9**	**+2.2**
PAB	**San Pablo**	**75.10**	**52**	*e*P	**P**	**09 52 57.4**	**+1.1**
	comp=Z,54nm,1.3s						
PAB				LR	LR		
	comp=Z,1μm,21.0s						
PAB	**San Pablo**	**75.10**	**52**	*e*P	**P**	**09 52 57.4**	**+1.1**
PAB				pmax	pmax		
	comp=Z,54nm,1.2s						
DAG	**Danmarks Havn**	**75.11**	**12**	*i*P	P	09 53 00.7	+5.1
DAG				MLR	MLR		
	comp=Z,6μm,17.0s						
DAG	**Danmarks Havn**	**75.11**	**12**	*i*P	P	09 53 00.7	+5.1
PVLZ	**Peæn de**	**75.17**	**56**	*i*P	**P**	**09 52 58.0**	**+1.2**
PVLZ				*i*S	**S**	**10 02 37.4**	**+2.2**
PMSA	**Palmer Station**	**75.24**	**172**	*e*P	**P**	**09 52 57.9**	**+1.5**
ESDC	**Sonseca Array**	**75.40**	**51**	P	**P**	**09 52 58.9**	**+0.8**
	comp=Z,39nm,1.0s,baz=278,slow=5.7,SNR=80						
ESDC				LR	LR	10 23 26.6	
	comp=Z,900nm,18.8s,baz=270,slow=34						
ESLA	**Sonseca Array**	**75.40**	**51**	PFAKE		09 53 10.0	+12
ESLA				LR	LR		
	comp=Z,1μm,20.0s						
UCM	**Universidad Co**	**75.95**	**51**	*i*P	**P**	**09 53 05.0**	**+3.9**
UCM				*e*S	**S**	**10 02 48.9**	**+5.2**
EKA	**Eskdalemuir Ar**	**76.38**	**35**	P	**P**	**09 53 02.6**	**-0.6**
	comp=Z,14nm,1.0s,baz=269,slow=5.0,SNR=7.9						
TIC	**Toumodi**	**76.79**	**85**	*e*P	**P**	**09 53 06.4**	**0.0**
LIC	**Lamto**	**76.84**	**86**	*e*P	**P**	**09 53 06.8**	**+0.2**
	comp=Z,342nm,1.7s						
DBIC	**Dimbokro**	**76.95**	**85**	*e*P	**P**	**09 53 08.0**	**+0.8**
	comp=Z,32nm,1.4s						
DBIC	**Dimbokro**	**76.95**	**85**	*e*P	**P**	**09 53 08.0**	**+0.8**
DBIC	**Dimbokro**	**76.95**	**85**	P	**P**	**09 53 08.0**	**+0.8**
	comp=Z,34nm,1.0s,baz=258,slow=6.0,SNR=16						
DBIC				LR	LR	10 26 06.2	
	comp=Z,616nm,21.2s,baz=245,slow=35						
KIC	**Kosan Boka**	**77.11**	**86**	*e*P	**P**	**09 53 08.3**	**+0.2**
	comp=Z,351nm,1.6s						
RDOG	**Red Dog Mine**	**77.73**	**338**	PFAKE		09 53 20.0	+9.4
RDOG				LR	LR		
	comp=Z,2μm,20.0s						
CART	**Cartagena**	**77.76**	**54**	PFAKE		09 53 20.0	+8.7
CART				LR	LR		
	comp=Z,900nm,18.0s						
CART	**Cartagena**	**77.76**	**54**	*i*P	**P**	**09 53 14.6**	**+3.2**
CART				*e*S	**S**	**10 02 59.8**	**-3.7**
ANM	**Nome**	**78.48**	**334**	PFAKE		09 53 30.0	+15
ANM				LR	LR		
	comp=Z,2μm,18.0s						
CLF	**Chambon-Foret**	**79.72**	**43**	PFAKE		09 53 30.0	+8.1
CLF				LR	LR		
	comp=Z,2μm,19.0s						
NIKH	**Nikolski High**	**80.31**	**322**	PFAKE		09 53 40.0	+15
NIKH				LR	LR		
	comp=Z,700nm,19.0s						
UCC	**Uccle**	**80.94**	**40**	PFAKE		09 53 40.0	+12
UCC				LR	LR		
	comp=Z,2μm,20.0s						
DOU	**Dourbes**	**81.13**	**41**	⇑P	**P**	**09 53 28.7**	**-0.8**
SSB	**Saint Sauveur**	**81.46**	**45**	PFAKE		09 53 40.0	+8.6
SSB				LR	LR		
	comp=Z,1μm,19.0s						
BCLA	**Clavier**	**81.56**	**40**	⇓P	**P**	**09 53 31.2**	**-0.5**
MAHO	**Mahon**	**81.72**	**51**	*i*P	**P**	**09 53 36.2**	**+3.4**
MAHO				*i*S	**S**	**10 03 47.7**	**+2.5**
KBS	**Kingsbay**	**81.76**	**11**	*e*P	**P**	**09 53 33.0**	**+0.7**
	comp=Z,42nm,1.3s						
KBS				LR	LR		
	comp=Z,2μm,19.0s						
KBS	**Kingsbay**	**81.76**	**11**	*e*P	**P**	**09 53 33.0**	**+0.7**
MEM	**Membach**	**82.00**	**40**	⇑P	**P**	**09 53 34.0**	**0.0**
WLF	**Walferdange**	**82.17**	**41**	PFAKE		09 53 50.0	+15
WLF				LR	LR		
	comp=Z,8μm,18.0s						
TOC7	**Torodi Ar. Sit**	**82.44**	**78**	PFAKE		09 53 50.0	+13
TOC7				LR	LR		
	comp=Z,1μm,20.0s						
TOC5	**Torodi Ar. Sit**	**82.45**	**78**	PFAKE		09 53 50.0	+13
TOC5				LR	LR		
	comp=Z,1μm,19.0s						
TOB5	**Torodi Ar. Sit**	**82.45**	**78**	PFAKE		09 53 50.0	+13
TOB5				LR	LR		
	comp=Z,1μm,19.0s						
TOB4	**Torodi Ar. Sit**	**82.45**	**78**	PFAKE		09 53 50.0	+13
TOB4				LR	LR		
	comp=Z,1μm,20.0s						
TOA1	**Torodi Ar. Sit**	**82.46**	**78**	PFAKE		09 53 50.0	+13
TOA1				LR	LR		
	comp=Z,1μm,19.0s						
TOA3	**Torodi Ar. Sit**	**82.46**	**78**	PFAKE		09 53 50.0	+13
TOA3				LR	LR		
	comp=Z,1μm,19.0s						
TOA0	**Torodi Ar. Sit**	**82.46**	**78**	PFAKE		09 53 50.0	+13
TOA0				LR	LR		
	comp=Z,1μm,19.0s						
TORD	**Torodi Ar. Bea**	**82.46**	**78**	P	**P**	**09 53 35.7**	**-1.4**
	comp=Z,8.5nm,1.0s,baz=309,slow=7.1,SNR=30						
TORD				LR	LR	10 32 22.3	
	comp=Z,662nm,18.3s,baz=305,slow=37						
TOC1	**Torodi Ar. Sit**	**82.47**	**78**	PFAKE		09 53 50.0	+13
TOC1				LR	LR		
	comp=Z,1μm,19.0s						
TOA2	**Torodi Ar. Sit**	**82.47**	**78**	PFAKE		09 53 50.0	+13
TOA2				LR	LR		
	comp=Z,1μm,20.0s						
TOC4	**Torodi Ar. Sit**	**82.47**	**78**	PFAKE		09 53 50.0	+13
TOC4				LR	LR		
	comp=Z,1μm,19.0s						
TOB2	**Torodi Ar. Sit**	**82.47**	**78**	PFAKE		09 53 50.0	+13
TOB2				LR	LR		
	comp=Z,16μm,18.0s						
TOB3	**Torodi Ar. Sit**	**82.47**	**78**	PFAKE		09 53 50.0	+13
TOB3				LR	LR		
	comp=Z,1μm,19.0s						
TOC2	**Torodi Ar. Sit**	**82.49**	**78**	PFAKE		09 53 50.0	+13
TOC2				LR	LR		
	comp=Z,1μm,19.0s						
TOC3	**Torodi Ar. Sit**	**82.49**	**78**	PFAKE		09 53 50.0	+13
TOC3				LR	LR		
	comp=Z,1μm,19.0s						
ECH	**Echery**	**82.97**	**42**	PFAKE		09 53 50.0	+11
ECH				LR	LR		
	comp=Z,2μm,18.0s						
BNI	**Bardonecchia**	**82.98**	**46**	PFAKE		09 53 50.0	+10
BNI				LR	LR		
	comp=Z,2μm,20.0s						
KONO	**Kongsberg**	**83.14**	**31**	PFAKE		09 53 50.0	+10
KONO				LR	LR		
	comp=Z,1μm,19.0s						
KONO	**Kongsberg**	**83.14**	**31***c*	*i*P	**P**	**09 53 39.0**	**-0.8**
KONO				pmax	pmax		
	comp=Z,13nm,1.1s						
SENIN	**Lac Senin/Sane**	**83.27**	**44**	PFAKE		09 53 50.0	+8.9
SENIN				LR	LR		
	comp=Z,2μm,20.0s						
MUD	**Monsted U'grnd**	**83.28**	**34**	*i*P	**P**	**09 53 44.8**	**+4.2**
MUD	**Monsted U'grnd**	**83.28**	**34**	*i*P	**P**	**09 53 44.8**	**+4.2**
BFO	**Black Forest**	**83.74**	**42**	PFAKE		09 54 00.0	+17
BFO				LR	LR		
	comp=Z,2μm,20.0s						
BFO	**Black Forest**	**83.74**	**42***ce*	P	**P**	**09 53 44.3**	**+1.1**
NB2	**NORSAR Subarra**	**83.76**	**29**	P	**P**	**09 53 42.5**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=278,slow=5.1						
NOA	**NORSAR Array B**	**83.76**	**29**	P	**P**	**09 53 42.4**	**-0.5**
	comp=Z,7.7nm,1.0s,baz=277,slow=5.0,SNR=12						
NC405	**NORSAR Array S**	**83.99**	**29**	*e*P	**P**	**09 53 44.5**	**+0.4**
	comp=Z,91nm,1.4s						
STU	**Stuttgart**	**84.25**	**42**	PFAKE		09 54 00.0	+14
STU				LR	LR		
	comp=Z,3μm,18.0s						
TUE	**Stuetta**	**84.67**	**44**	PFAKE		09 54 00.0	+12
TUE				LR	LR		
	comp=Z,2μm,18.0s						
TAM	**Tamanrasset**	**84.77**	**68**	PFAKE		09 54 00.0	+11
TAM				LR	LR		
	comp=Z,900nm,20.0s						
DAVOX	**Davos/Dischmat**	**84.98**	**44**	P	**P**	**09 53 50.0**	**+0.3**
DAVOX	**Davos/Dischmat**	**84.98**	**44**	P	**P**	**09 53 50.0**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=220,slow=7.9,SNR=4.9						
HFS	**Hagfors**	**85.11**	**30**	P	**P**	**09 53 48.7**	**-1.1**
	comp=Z,7.3nm,0.9s,baz=228,slow=1.8,SNR=7.7						
ADK	**Adak**	**85.19**	**322**	*e*P	**P**	**09 53 50.0**	**-0.4**
	comp=Z,205nm,1.3s						
ADK	**Adak**	**85.19**	**322**	*e*P	**P**	**09 53 50.0**	**-0.4**
COP	**Copenhagen**	**85.20**	**34**	*i*P	**P**	**09 53 54.4**	**+4.1**
COP				MLR	MLR		
	comp=Z,600nm,17.0s						
COP	**Copenhagen**	**85.20**	**34**	*i*P	**P**	**09 53 54.4**	**+4.1**
FUORN	**Ofenpass-Fuorn**	**85.27**	**44**	*e*P	**P**	**09 53 51.4**	**+0.2**
	comp=Z,22nm,1.2s						
FUORN				LR	LR		
	comp=Z,2μm,18.0s						
GRFO	**Grafenberg**	**85.44**	**41**	PFAKE		09 54 00.0	+8.3
GRFO				LR	LR		
	comp=Z,2μm,20.0s						
GRA1	**Grafenberg Arr**	**85.44**	**41**	PFAKE		09 54 00.0	+8.3
GRA1				LR	LR		
	comp=Z,2μm,20.0s						
VLC	**Villacollemand**	**85.73**	**46**	PFAKE		09 54 10.0	+17
VLC				LR	LR		
	comp=Z,800nm,18.0s						
RGN	**Rugen**	**85.90**	**36**	PFAKE		09 54 10.0	+16
RGN				LR	LR		
	comp=Z,2μm,18.0s						
NKC	**Novy Kostel**	**86.13**	**40**	*e*P	**P**	**09 53 55.6**	**+0.5**
NKC				*e*		09 53 59.9	
NKC				*e*		10 04 23.7	
NKC				MLR	MLR		
	comp=Z,1μm,17.4s						
NKC	**Novy Kostel**	**86.13**	**40**	*e*P	**P**	**09 53 55.6**	**+0.5**
NKC				*e*pP	**pP**	**09 53 59.9**	**-0.6**
NKC				*e*SKS	**SKSac**	**10 04 23.7**	**+2.9**
NKC				AMS	AMS	10 30 40.0	
	comp=Z,1μm,17.4s						
KEST	**Kesra**	**86.22**	**55**	PFAKE		09 54 10.0	+14
KEST				LR	LR		
	comp=Z,800nm,19.0s						
KEST	**Kesra**	**86.22**	**55**	P	**P**	**09 53 55.1**	**-0.9**
	comp=Z,14nm,1.1s,baz=213,slow=4.0,SNR=4.9						
KEST				PKKP	**PKKPdf**	**10 11 44.3**	**-3.8**
	comp=Z,2.1nm,0.4s,baz=357,slow=3.5,SNR=5.0						
KEST				LR	LR	10 33 43.0	
	comp=Z,574nm,18.1s,baz=208,slow=36						
CLL	**Collm**	**86.29**	**39**	PFAKE		09 54 10.0	+14
CLL				LR	LR		
	comp=Z,1μm,20.0s						
CLL	**Collm**	**86.29**	**39**	*i*P	**P**	**09 53 55.0**	**-0.9**
CLL				*i*		09 54 00.3	
CLL				*e*S	**SKSac**	**10 04 26.0**	**+4.4**
CLL				pmax	pmax		
	comp=Z,11nm,1.2s						
CLL				MLR	MLR		
	comp=Z,1μm,18.6s						
CLL	**Collm**	**86.29**	**39**	*i*P	**P**	**09 53 55.0**	**-0.9**
	comp=Z,23nm,1.2s						
CLL				*i*pP	**pP**	**09 54 00.3**	**-0.9**
	comp=Z,40nm,1.5s						
CLL				*e*PP	**PP**	**09 57 12.0**	**-4.6**
CLL				*e*SKSac	**SKSac**	**10 04 26.0**	**+4.4**
CLL				*e*PS	**PnS**	**10 05 28.0**	**-1.2**
CLL				*e*SS	**SS**	**10 10 11.0**	**+1.4**
CLL				*e*SSS	SSS	10 13 42.0	
CLL				*e*SSSS		10 16 36.0	
CLL				Lm	MLR	10 34 00.0	
	comp=N,600nm,18.4s						
CLL				Lm	MLR	10 34 00.0	
	comp=E,700nm,18.5s						
CLL				Lm	MLR	10 34 00.0	
	comp=Z,1μm,18.6s						
RUE	**Ruedersdorf**	**86.55**	**38**	*e*P	**P**	**09 53 56.3**	**-0.8**
BSD	**Bornholm Skovb**	**86.70**	**35**	*i*P	**P**	**09 54 00.8**	**+3.0**
BSD	**Bornholm Skovb**	**86.70**	**35**	*i*P	**P**	**09 54 00.8**	**+3.0**
BRG	**Berggiesshubel**	**86.95**	**39**	*e*P	**P**	**09 53 59.1**	**0.0**
	comp=Z,22nm,1.4s						
BRG				*e*PP	**PP**	**09 57 25.9**	**+4.0**
	comp=Z,19nm,1.6s						
BRG				S	**SKSac**	**10 04 23.0**	**-2.8**
BRG				SS	SS	10 09 53.0	-26
BRG	**Berggiesshubel**	**86.95**	**39**	*e*P	**P**	**09 53 59.1**	**0.0**
BRG				*e*		09 57 25.9	
BRG				S	**SKSac**	**10 04 23.0**	**-2.8**
BRG				pmax	pmax		
	comp=Z,22nm,1.4s						
BRG				pmax	pmax		
	comp=Z,19nm,1.7s						
BRG				MLR	MLR		
	comp=N,477nm,17.9s						
BRG				MLR	MLR		
	comp=E,929nm,18.8s						
BRG				MLR	MLR		
	comp=Z,1μm,18.8s						
KHC	**Kasperske Hory**	**87.05**	**41**	PFAKE		09 54 10.0	+10
KHC				LR	LR		
	comp=Z,900nm,18.0s						
KHC	**Kasperske Hory**	**87.05**	**41**	*e*P	**P**	**09 53 59.5**	**-0.2**
KHC				*e*		09 54 04.5	
KHC				*e*		10 04 21.2	
KHC				MLR	MLR		
	comp=Z,2μm,18.0s						
KHC	**Kasperske Hory**	**87.05**	**41**	*e*P	**P**	**09 53 59.5**	**-0.2**
KHC				*e*pP	**pP**	**09 54 04.5**	**-0.6**
KHC				*e*SKS	**SKSac**	**10 04 21.2**	**-5.4**
KHC				AMS	AMS	10 31 50.0	
	comp=Z,2μm,18.0s						
GERES	**GERESS Array B**	**87.18**	**41**	P	**P**	**09 53 59.7**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=237,slow=4.6,SNR=7.0						
GERES				LR	LR	10 32 20.6	
	comp=Z,2μm,18.0s,baz=277,slow=35						
PVCC	**Panska Ves**	**87.41**	**39**	*e*P	**P**	**09 54 01.5**	**+0.1**
PVCC				MLR	MLR		
	comp=Z,1μm,18.9s						
PVCC	**Panska Ves**	**87.41**	**39**	*e*P	**P**	**09 54 01.5**	**+0.1**
PVCC				AMS	AMS	10 31 10.0	
	comp=Z,1μm,18.9s						
PRU	**Pruhonice**	**87.50**	**40**	*e*P	**P**	**09 54 01.6**	**-0.2**
PRU				*e*		09 54 07.5	
PRU				*e*		10 04 27.4	
PRU				MLR	MLR		
	comp=Z,2μm,20.9s						
PRU	**Pruhonice**	**87.50**	**40**	*e*P	**P**	**09 54 01.6**	**-0.2**
PRU				*e*pP	**pP**	**09 54 07.5**	**+0.3**
PRU				*e*SKS	**SKSac**	**10 04 27.4**	**-1.8**
PRU				AMS	AMS	10 28 50.0	
	comp=Z,2μm,20.9s						
ARCES	**ARCESS Array B**	**87.53**	**20**	P	**P**	**09 53 59.8**	**-1.8**
	comp=Z,6.5nm,1.0s,baz=282,slow=5.9,SNR=7.0						
ARCES				LR	LR	10 33 11.4	
	comp=Z,370nm,19.3s,baz=292,slow=36						
GOPC	**GO Pecny, Ondr**	**87.67**	**40**	AMS	AMS	10 32 40.0	
KEV	**Kevo**	**87.94**	**19**	PFAKE		09 54 20.0	+17
KEV				LR	LR		
	comp=Z,900nm,20.0s						
AQU	**L'Aquila**	**88.21**	**48**	PFAKE		09 54 20.0	+15
AQU				LR	LR		
	comp=Z,1μm,21.0s						
UPC	**Upice**	**88.31**	**39**	*e*P	**P**	**09 54 05.5**	**-0.2**
UPC				*e*		10 04 30.2	
UPC	**Upice**	**88.31**	**39**	*e*P	**P**	**09 54 05.5**	**-0.2**
UPC				*e*SKS	SKS	10 04 30.2	
KSP	**Ksiaz**	**88.42**	**39**	*e*P	**P**	**09 54 06.2**	**+0.1**
KSP	**Ksiaz**	**88.42**	**39**	*e*P	**P**	**09 54 06.2**	**+0.1**
DPC	**Dobruska-Polom**	**88.54**	**39**	*e*P	**P**	**09 54 06.8**	**0.0**
DPC				*e*		09 54 11.0	
DPC				*e*		10 04 32.5	
DPC				MLR	MLR		
	comp=Z,900nm,18.9s						
DPC	**Dobruska-Polom**	**88.54**	**39**	*e*P	**P**	**09 54 06.8**	**0.0**
DPC				*e*pP	**pP**	**09 54 11.0**	**-1.2**
DPC				*e*SKS	**SKSac**	**10 04 32.5**	**-3.0**
DPC				AMS	AMS	10 31 50.0	
	comp=Z,900nm,18.9s						
KRUC	**Moravsky**	**88.88**	**41**	*e*P	**P**	**09 54 06.6**	**-1.8**
KRUC	**Moravsky**	**88.88**	**41**	*e*S	**SKSac**	**10 04 30.9**	**-6.6**
KRUC				*e*		10 11 01.5	
KRLC	**Kraliky**	**88.89**	**39**	*e*P	**P**	**09 54 09.2**	**+0.7**
KRLC				*e*		09 54 13.7	
KRLC	**Kraliky**	**88.89**	**39**	*e*P	**P**	**09 54 09.2**	**+0.7**
KRLC				*e*pP	**pP**	**09 54 13.7**	**-0.2**
VRAC	**Vranov**	**88.95**	**40**	*e*P	**P**	**09 54 07.8**	**-0.9**
VRAC	**Vranov**	**88.95**	**40**	*e*S	**SKSac**	**10 04 31.9**	**-6.0**
VRAC				*e*		10 11 02.6	
VRAC	**Vranov**	**88.95**	**40**	P	**P**	**09 54 06.9**	**-1.8**
	comp=Z,1.3nm,0.3s,baz=295,slow=7.0,SNR=6.8						
CLTB	**Caltabellotta**	**88.97**	**52**	PFAKE		09 54 20.0	+11
CLTB				LR	LR		
	comp=Z,1μm,18.0s						
BILL	**Bilibino**	**89.07**	**339**	*e*P	**P**	**09 54 09.1**	**+0.2**
	comp=Z,293nm,1.4s						
BILL	**Bilibino**	**89.07**	**339***c*	*i*P	**P**	**09 54 08.9**	**0.0**
BILL				*i*		09 54 14.5	
BILL				*e*		09 57 38.0	
BILL				*e*PPP	PPP	09 59 37.0	
BILL				pmax	pmax		
	comp=Z,161nm,1.5s						
MORC	**Moravsky Berou**	**89.44**	**40**	PFAKE		09 54 20.0	+8.9
MORC				LR	LR		
	comp=Z,2μm,20.0s						
MORC	**Moravsky Berou**	**89.44**	**40**	*e*P	**P**	**09 54 10.3**	**-0.8**
MORC				*e*		10 11 09.6	
JAVC	**Velka Javorina**	**89.74**	**41**	*e*P	**P**	**09 54 12.9**	**+0.4**
JAVC				*e*		10 11 12.9	
OKC	**Ostrava-Krasne**	**89.81**	**39**	AMS	AMS	10 32 50.0	
	comp=Z,2μm,18.2s						
SLIT	**Slitere, Latvi**	**90.04**	**31**	*e*P	**P**	**09 54 11.6**	**-2.0**
PBUR	**Paburg**	**90.33**	**33**	*e*P	**P**	**09 54 14.7**	**-0.3**
WDD	**Wied Dalam**	**90.34**	**54**	PFAKE		09 54 30.0

UZH MLR MLR
comp=E,400nm,18.0s
UZH MLR MLR
comp=Z,200nm,18.0s
TIR Tirane 93.14 47 PFAKE 09 54 40.0 +12
TIR LR LR
comp=Z,900nm,18.0s
VNA3 Neumayer Olymp 93.41 162 P **P 09 54 28.9 0.0**
LVV L'vov 93.46 38 *e*P **P 09 54 30.0 +0.3**
LVV MLR MLR
comp=N,700nm,18.0s
LVV MLR MLR
comp=Z,700nm,18.0s
LVV MLR MLR
comp=E,300nm,17.0s
VNA1 Neumayer--Stat 93.66 161 P **P 09 54 30.2 +0.3**
VNA2 Neumayer--Watz 94.02 161 P **P 09 54 31.6 -0.1**
baz=300,slow=4.2
FNA Florina 94.39 48 PFAKE 09 54 50.0 +16
FNA LR LR
comp=Z,1μm,20.0s
VTS Vitosha 95.19 45 PFAKE 09 54 50.0 +12
VTS LR LR
comp=Z,800nm,21.0s
AGG Agios Georgios 95.59 49 PFAKE 09 54 50.0 +10
AGG LR LR
comp=Z,700nm,21.0s
SNAA Sanae 95.63 162 P **P 09 54 39.0 -0.1**
SNAA Sanae 95.63 162 *e*P **P 09 54 39.0 -0.1**
comp=Z,25nm,1.4s
SNAA Sanae 95.63 162 *e*P **P 09 54 39.0 -0.1**
MLR Muntele Rosu 96.12 42 PFAKE 09 54 50.0 +7.9
MLR LR LR
comp=Z,2μm,20.0s
MLR Muntele Rosu 96.12 42 P **P 09 54 41.3 -0.8**
comp=Z,1.6nm,0.4s,baz=40,slow=23,SNR=3.6
KIEV Kiev 96.26 36 PFAKE 09 54 50.0 +7.6
KIEV LR LR
comp=Z,2μm,20.0s
AKASG Malin Array Be 96.27 36 LR LR 10 35 31.3
comp=Z,1μm,19.9s,baz=280,slow=34
AKBB Malin Array Si 96.27 36 PFAKE 09 54 50.0 +7.6
AKBB LR LR
comp=Z,2μm,20.0s
TIXI Tiksi 96.50 350 *e*P **P 09 54 42.1 -1.0**
comp=Z,30nm,1.9s
TIXI Tiksi 96.50 350⇑ *i*P **P 09 54 41.7 -1.4**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
TIXI Tiksi 96.50 350 P **P 09 54 42.5 -0.6**
comp=Z,1.6nm,0.5s,baz=40,slow=3.8,SNR=7.1
TIXI LR LR 10 42 27.4
comp=Z,884nm,18.1s,baz=28,slow=38
KLMR Klimovskoe 96.68 25 *e*P **P 09 54 41.2 -2.9**
KLMR *e* 09 58 37.9
KLMR pmax pmax
comp=Z,31nm,1.5s
KIS Kishinev 97.44 40 *e*P Pdif 09 54 50.0 +2.1
KIS LRM MLR 10 34 55.0
comp=Z,2μm,20.0s
KIS Kishinev 97.44 40 *e*P Pdif 09 54 50.0 +2.1
KIS *e* 10 07 40.0
ALN Alexandroupoli 97.73 46 PFAKE 09 55 00.0 +11
ALN LR LR
comp=Z,600nm,18.0s
OBN Obninsk 98.31 30 PFAKE 09 55 00.0 +8.4
OBN LR LR
comp=Z,2μm,19.0s
OBN Obninsk 98.31 30 *e*P Pdif 09 54 51.8 +0.2
OBN *e* 09 58 52.0
OBN *e*PPP PPP 10 00 57.8
OBN pmax pmax
comp=Z,6.0nm,1.2s
OBN MLR MLR
comp=Z,1μm,19.0s
PRGR Permogore 98.63 22 *e*P **P 09 54 51.1 -1.7**
PRGR *e* 09 58 51.5
PRGR pmax pmax
comp=Z,7.0nm,1.0s
SANT Santorini 98.75 51 PFAKE 09 55 10.0 +16
SANT LR LR
comp=Z,600nm,19.0s
PET Petropavlovsk 99.06 328 PFAKE 09 55 10.0 +15
PET LR LR
comp=Z,800nm,21.0s
PET Petropavlovsk 99.06 328 *e*P **Pdif 09 54 53.3 -1.6**
PET *e* 10 05 31.5
PET pmax pmax
comp=Z,100nm,9.1s
PET pmax pmax
comp=Z,200nm,7.0s
PET MLR MLR
comp=Z,900nm,22.0s
MA2 Magadan 99.22 336 PFAKE 09 55 10.0 +14
MA2 LR LR
comp=Z,1μm,20.0s
QSPA South Pole Qui 99.35 180 *e*P **Pdif 09 54 56.8 +0.8**
comp=Z,16nm,1.0s
QSPA LR LR
comp=Z,900nm,19.0s
BALB Balikesir 99.47 47 PFAKE 09 55 10.0 +13
BALB LR LR
comp=Z,2μm,21.0s
PEA0B Petropavlovsk- 99.52 328 PFAKE 09 55 10.0 +13
PEA0B LR LR
comp=Z,600nm,21.0s
PETK Petropavlovsk- 99.52 328 LR LR 10 44 20.9
comp=Z,364nm,18.9s,baz=59,slow=38
MANT Manisa 100.37 48 PFAKE 09 55 10.0 +8.5
MANT LR LR
comp=Z,2μm,18.0s
MDUB Mudurnu 101.53 45 PFAKE 09 55 20.0 +14
MDUB LR LR
comp=Z,2μm,18.0s
ISP Isparta 102.06 48 PFAKE 09 55 20.0 +11
ISP LR LR
comp=Z,700nm,18.0s
TSUM Tsumeb 102.63 108 PFAKE 09 55 20.0 +8.3
TSUM LR LR
comp=Z,700nm,18.0s
MXZ Matakaoa Point 102.79 234 PFAKE 09 55 20.0 +8.2
MXZ LR LR
comp=Z,2μm,22.0s
ANTO Ankara 102.90 45 PFAKE 09 55 20.0 +7.5
ANTO LR LR
comp=Z,500nm,20.0s
ILGA Ilgaz 103.05 44 PFAKE 09 55 30.0 +17
ILGA LR LR
comp=Z,600nm,22.0s
SBA Scott Base 103.38 192 PFAKE 09 55 30.0 +16
SBA LR LR
comp=Z,900nm,20.0s
BRTR Keskin Array B 103.55 45 PP **PP 09 59 32.7 +1.4**
comp=Z,0.6nm,0.8s,baz=252,slow=6.4,SNR=3.8
SNOP Sinop 103.64 43 PFAKE 09 55 30.0 +14
SNOP LR LR
comp=Z,400nm,21.0s
TARA Tarawa 104.00 274 PFAKE 09 55 30.0 +12
TARA LR LR
comp=Z,2μm,20.0s
CSS Mathiatis 105.25 50 PFAKE 09 59 50.0 +13
CSS LR LR
comp=Z,400nm,20.0s
SUR Sutherland 106.30 121 PFAKE 09 59 50.0 +11
SUR LR LR
comp=Z,2μm,20.0s
ARU Arti 107.04 21 PFAKE 09 59 50.0 +10
ARU LR LR
comp=Z,1μm,20.0s
KIV Kislovodsk 107.49 38 PFAKE 09 59 50.0 +8.8
KIV LR LR
comp=Z,600nm,18.0s
OXZ Oxford 107.49 228 PFAKE 09 59 50.0 +9.0
OXZ LR LR
comp=Z,4μm,21.0s
KWAJ Kwajalein Atol 107.74 282 PFAKE 09 59 50.0 +7.7
KWAJ LR LR
comp=Z,1μm,21.0s
SIRT Sirnak 110.69 44 PFAKE 10 00 00.0 +13
SIRT LR LR
comp=Z,1μm,21.0s
GNI Garni 110.83 41 PFAKE 10 00 00.0 +12
GNI LR LR
comp=Z,600nm,21.0s
GNI Garni 110.83 41 *i* PKIKP **PKiKP 09 59 49.1 +1.4**

YSS Yuzh-Sakhalins 110.91 329 PFAKE 10 00 00.0 +13
YSS LR LR
comp=Z,400nm,19.0s
MAK Makhachkala 110.94 37 *e*P **Pdif 09 55 44.3 -3.8**
MAK *e* 10 06 22.8
MAK *e*PS **PS 10 09 49.0 -7.4**
MAK *e*SS SS 10 15 50.0 -5.2
MAK *e*SSS SSS 10 19 59.5
MAK pmax pmax
comp=Z,47nm,0.4s
AKTO Aktyubinsk 111.34 26 PP **PP 10 00 26.4 -1.0**
comp=Z,1.0nm,0.5s,baz=352,slow=2.6,SNR=6.8
LSZ Lusaka 112.41 103 PFAKE 10 00 00.0 +8.8
LSZ LR LR
comp=Z,700nm,18.0s
DZM Mont Dzumac 112.77 250 *e*LR LR 10 33 26.3
comp=Z,468nm,23.7s
MBAR Mbarara 113.17 87 PFAKE 10 00 10.0 +17
MBAR LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 113.68 17 PFAKE 10 00 00.0 +7.5
BRVK LR LR
comp=Z,1μm,19.0s
BRVK Borovoye 113.68 17 *i* PKIKP **PKiKP 09 59 51.6 -0.9**
KLR Kul'dur 114.31 336 PP **PP 10 00 52.5 +3.9**
comp=Z,1.7nm,0.8s,baz=24,slow=3.7,SNR=4.9
ZAA0 Zalesovo Array 116.05 8 PFAKE 10 00 10.0 +13
ZAA0 LR LR
comp=Z,2μm,19.0s
PATS Pohnpei 117.16 283 PFAKE 10 00 10.0 +10
PATS LR LR
comp=Z,1μm,18.0s
MAW Mawson 117.45 166 PFAKE 10 00 10.0 +11
MAW LR LR
comp=Z,200nm,19.0s
KURK Kurchatov 118.00 13 PFAKE 10 00 10.0 +9.1
KURK LR LR
comp=Z,2μm,19.0s
KURK Kurchatov 118.00 13 PKIKP **PKPdf 10 00 00.3 -0.5**
KURBB Kurchatov Arra 118.06 13 PKP **PKPdf 10 00 00.3 -0.7**
comp=Z,0.5nm,0.8s,baz=309,slow=2.0,SNR=3.1
HNR Honiara 118.32 264 PFAKE 10 00 20.0 +18
HNR LR LR
comp=Z,1μm,19.0s
HIA Hailar 118.40 344 PFAKE 10 00 10.0 +8.2
HIA LR LR
comp=Z,1μm,19.0s
FURI Furi 118.83 74 PFAKE 10 00 20.0 +16
FURI LR LR
comp=Z,600nm,19.0s
MDJ Mudanjiang 118.88 334 PFAKE 10 00 20.0 +17
MDJ LR LR
comp=Z,1μm,19.0s
TLY Talaya 118.96 356 PFAKE 10 00 20.0 +17
TLY LR LR
comp=Z,700nm,19.0s
NAI Nairobi 119.26 86 PFAKE 10 00 20.0 +15
NAI LR LR
comp=Z,800nm,21.0s
KMBO Kilima Mbogo 119.68 86 PFAKE 10 00 20.0 +15
KMBO LR LR
comp=Z,600nm,21.0s
MAJO Matsushiro 120.35 322 PFAKE 10 00 20.0 +14
MAJO LR LR
comp=Z,400nm,20.0s
GYA0B ALIBECK ARRAY 120.37 35 PFAKE 10 00 20.0 +14
GYA0B LR LR
comp=Z,700nm,19.0s
INU Inuyama 121.86 322 PFAKE 10 00 20.0 +11
INU LR LR
comp=Z,400nm,20.0s
ATD Arta Tunnel 121.98 70 PFAKE 10 00 20.0 +10
ATD LR LR
comp=Z,400nm,20.0s
DAMY Dhamar 122.36 66 PFAKE 10 00 20.0 +9.2
DAMY LR LR
comp=Z,600nm,20.0s
MAKZ Makanchi 122.42 12 PFAKE 10 00 20.0 +10
MAKZ LR LR
comp=Z,1μm,18.0s
CASY Casey 122.44 186 PFAKE 10 00 20.0 +11
CASY LR LR
comp=Z,1μm,20.0s
SONM Songino Array 122.49 353 PP PP 10 01 46.0 +0.9
comp=Z,6.1nm,1.1s,baz=15,slow=6.2,SNR=5.8
MK32 Makanchi Array 122.50 12 *e*PKPdf **PKPdf 10 00 08.0 -1.7**
MKAR Makanchi Array 122.50 12 PKIKP **PKPdf 10 00 08.0 -1.7**
MKAR Makanchi Array 122.50 12 PKP **PKPdf 10 00 08.0 -1.7**
comp=Z,0.2nm,0.4s,baz=356,slow=3.6,SNR=4.3
FRU1 Bishkek 124.09 20 PFAKE 10 00 30.0 +17
FRU1 LR LR
comp=Z,2μm,18.0s
AAK Ala-Archa 124.19 20 PFAKE 10 00 30.0 +16
AAK LR LR
comp=Z,2μm,18.0s
BOOM Boomskoye usch 124.81 19 PFAKE 10 00 30.0 +15
BOOM LR LR
comp=Z,900nm,20.0s
KSRS Korea Array 125.33 330 PKP **PKPdf 10 00 14.5 -0.8**
comp=Z,1.0nm,0.7s,baz=20,slow=3.9,SNR=3.6
RABL Rabaul 125.37 271 PFAKE 10 00 30.0 +14
RABL LR LR
comp=Z,1μm,21.0s
CHGR Chuyangaron 125.48 27 PFAKE 10 00 30.0 +14
CHGR LR LR
comp=Z,2μm,19.0s
KDJ Kajisay 125.53 18 PFAKE 10 00 30.0 +14
KDJ LR LR
comp=Z,800nm,19.0s
GAR Garm 125.71 26 PFAKE 10 00 30.0 +13
GAR LR LR
comp=Z,3μm,19.0s
NRN Naryn 125.78 20 PFAKE 10 00 30.0 +13
NRN LR LR
comp=Z,1μm,19.0s
TARG Taragay, Kyrgy 126.08 18 PFAKE 10 00 30.0 +12
TARG LR LR
comp=Z,1μm,18.0s
WMQ Urumqi 126.35 9 *e*PKP **PKiKP 10 00 19.0 +1.3**
WMQ PP **PP 10 02 12.8 +1.9**
WMQ AMB AMB
comp=Z,490nm,8.9s
WMQ LR LR
comp=Z,3μm,20.7s
WMQ LR LR
comp=Z,2μm,18.7s
WMQ LR LR
comp=Z,5μm,20.7s
WMQ Urumqi 126.35 9 PFAKE 10 00 30.0 +12
WMQ LR LR
comp=Z,2μm,20.0s
CAN Canberra 126.42 233 PFAKE 10 00 30.0 +12
CAN LR LR
comp=Z,1μm,22.0s
KSH Kashi 127.48 21 PKP **PKPdf 10 00 19.8 +0.2**
KSH PP **PP 10 02 24.8 +6.1**
KSH SKS **SKSdf 10 07 29.5 -1.6**
KSH SKKS **SKKSac 10 09 15.3 -2.0**
KSH AMB AMB
comp=Z,330nm,6.7s
KSH LR LR
comp=Z,230nm,12.5s
KSH LR LR
comp=Z,170nm,9.5s
KSH LR LR
comp=Z,2μm,13.1s
BJT Baijiatuau 127.87 342 PFAKE 10 00 30.0 +9.3
BJT LR LR
comp=Z,1μm,18.0s
HHC Hu-ho-hao-te 128.35 346 *e*PKP **PKPdf 10 00 20.5 -0.7**
HHC PP **PP 10 02 28.3 +4.1**
HHC PKS **PKSdf 10 04 00.5 +2.7**
HHC SKS **SKSdf 10 07 30.5 -2.1**
HHC SS **SS 10 19 41.3 +2.9**
HHC AMB AMB
comp=Z,290nm,9.1s
HHC LR LR
comp=Z,700nm,21.7s
HHC LR LR
comp=Z,480nm,20.1s
HHC LR LR
comp=Z,620nm,21.0s
KBL Kabul 128.76 30 PFAKE 10 00 30.0 +7.1
KBL LR LR
comp=Z,700nm,20.0s

MANU Manus Island 129.75 275 PFAKE 10 00 40.0 +15
MANU LR LR
comp=Z,1μm,19.0s
ABPO Ambohimpanom 130.62 107 PFAKE 10 00 40.0 +13
ABPO LR LR
comp=Z,800nm,19.0s
PMG Port Moresby 130.89 266 PFAKE 10 00 40.0 +13
PMG LR LR
comp=Z,1μm,18.0s
NIL Nilore 131.48 27 PFAKE 10 00 40.0 +12
NIL LR LR
comp=Z,400nm,19.0s
JOW Kunigami 133.15 321 PFAKE 10 00 40.0 +8.3
JOW LR LR
comp=Z,400nm,19.0s
STKA Stephens Creek 133.34 235 *e*PKPdf **PKiKP 10 00 31.6 -0.3**
STKA LR LR
comp=Z,300nm,18.0s
STKA Stephens Creek 133.34 235 *e*PKIKP **PKiKP 10 00 31.6 -0.3**
STKA MLR MLR
comp=Z,300nm,18.0s
STKA Stephens Creek 133.34 235 PKP **PKPdf 10 00 30.2 -0.5**
comp=Z,1.2nm,0.3s,baz=54,slow=8.8,SNR=4.7
NJ2 Nanjing 133.97 334 *e*PKP **PKPdf 10 00 31.3 -0.6**
DHRM DHARAMSHALA 134.00 25 *e*P **PKPdf 10 00 32.4 +0.2**
DHRM IAMs_20 IAMs_20 10 51 49.8
comp=Z,724nm,22.3s
LZH Lanzhou 134.38 353 *e*PKP PKPpre 10 00 27.0
LZH sPKP 10 00 41.5
LZH SS SS 10 20 50.5 -1.6
LZH AMB AMB
comp=Z,220nm,4.9s
LZH LR LR
comp=Z,450nm,16.8s
LZH LR LR
comp=Z,770nm,20.1s
LZH LR LR
comp=Z,630nm,22.0s
SMLA Simla 135.33 25 *e*P **PKPdf 10 00 32.9 -1.6**
SMLA IAMs_20 IAMs_20 10 50 21.3
comp=Z,892nm,19.1s
XAN Xi'an 135.46 346 PFAKE 10 00 50.0 +14
XAN LR LR
comp=Z,1μm,20.0s
DDI Dehra Dun 136.40 24 *e*P **PKPdf 10 00 36.4 -0.2**
DDI IAmb IAmb 10 00 37.5
comp=Z,59nm,0.3s
DDI IAMs_20 IAMs_20 10 50 54.7
comp=Z,412nm,16.3s
WHN Wuhan 137.09 338 PKP **PKiKP 10 00 39.0 -0.6**
WHN PP **PP 10 03 24.0 +3.7**
WHN PKS 10 04 16.0
WHN SKKS 10 10 12.8
WHN LR LR
comp=Z,1μm,12.5s
WHN LR LR
comp=Z,1μm,14.1s
WHN LR LR
comp=Z,2μm,19.4s
BHJ Bhuj 137.75 39 *e*P **PKPdf 10 00 38.4 -0.8**
BHJ IAmb IAmb 10 00 39.4
YOJ Yonaguni jima 138.08 324 PFAKE 10 00 50.0 +8.3
YOJ LR LR
comp=Z,1μm,18.0s
MSEY Mahe Island 138.21 87 PFAKE 10 00 50.0 +7.6
MSEY LR LR
comp=Z,600nm,19.0s
ENH Enshi 138.90 344 PFAKE 10 00 50.0 +6.6
ENH LR LR
comp=Z,1μm,18.0s
NACB Ninganchiao 139.11 325 PFAKE 10 00 50.0 +6.1
NACB LR LR
comp=Z,800nm,20.0s
CD2 Chengdu 139.49 352 PKP **PKPdf 10 00 40.5 -1.8**
CD2 PP **PP 10 03 35.8 +0.8**
CD2 LR LR
comp=Z,2μm,24.0s
CD2 LR LR
comp=Z,2μm,21.6s
CD2 LR LR
comp=Z,2μm,17.7s
SSLB Suanglung 139.78 325 PFAKE 10 01 00.0 +15
SSLB LR LR
comp=Z,800nm,18.0s
YULB Yu-li 139.89 325 PFAKE 10 01 00.0 +14
YULB LR LR
comp=Z,500nm,22.0s
QZH Quanzhou 140.10 329⇑PKP **PKPdf 10 00 40.3 -3.1**
QZH SS SS 10 21 59.0 -1.9
QZH LR LR
comp=Z,420nm,15.2s
QZH LR LR
comp=Z,600nm,19.9s
QZH LR LR
comp=Z,640nm,19.0s
TPUB Ta-pu 140.34 325 PFAKE 10 01 00.0 +14
TPUB LR LR
comp=Z,700nm,18.0s
TWG Pinlang 140.47 324 PFAKE 10 01 00.0 +13
TWG LR LR
comp=Z,3μm,19.0s
LSA Lhasa 140.71 9 PFAKE 10 01 00.0 +12
LSA LR LR
comp=Z,602nm,20.0s
BHPL Bhopal 142.19 31 *e*P **PKPdf 10 00 46.9 -0.4**
BHPL IAmb IAmb 10 00 49.3
BHPL IAMs_20 IAMs_20 10 46 17.0
comp=Z,1μm,1.1s
ASAR Alice Springs 142.31 243 PKhKP PKPpre 10 00 43.0
comp=Z,14nm,1.1s,baz=119,slow=4.3,SNR=34
WB2 Warramunga Arr 142.77 249 PFAKE 10 01 00.0 +8.5
WB2 LR LR
comp=Z,900nm,19.0s
WRAB Tennant Creek 142.77 249 *e*PKPpre PKPpre 10 00 44.6
WRAB LR LR
comp=Z,900nm,18.0s
WRAB Tennant Creek 142.77 249 *ce*PKIKP **PKPdf 10 00 45.3 -3.0**
WRAB pmax pmax
comp=Z,62nm,1.3s
WRA Warramunga Arr 142.78 249 PKhKP PKPpre 10 00 44.8
comp=Z,19nm,1.0s,baz=123,slow=1.4,SNR=28
WC1 Warramunga Arr 142.78 249 PFAKE 10 01 00.0 +8.5
WC1 LR LR
comp=Z,800nm,18.0s
FORT Forrest 144.34 229 PFAKE 10 01 00.0 +5.6
FORT LR LR
comp=Z,1μm,20.0s
HKPS Hong Kong Po S 144.50 333 PFAKE 10 01 00.0 +5.0
HKPS LR LR
comp=Z,1μm,19.0s
FAKI Fak Fak 144.73 278 PFAKE 10 01 00.0 +4.3
FAKI LR LR
comp=Z,800nm,19.0s
NGP Nagpur 144.75 31 *e*P **PKPab 10 00 48.8 -1.7**
SHL Shillong 144.88 9 PFAKE 10 01 00.0 +4.1
SHL LR LR
comp=Z,1μm,20.0s
SHL Shillong 144.88 9 *e*P **PKPab 10 00 48.5 -2.6**
BOK Bokaro 145.19 19 *e*P **PKPbc 10 00 50.5 -1.6**
BOK IAMs_20 IAMs_20 10 50 13.8
comp=Z,136nm,6.8s
KMI Kunming 145.32 351 PFAKE 10 01 10.0 +13
KMI LR LR
comp=Z,900nm,20.0s
PLP Palo 145.78 306⇑ *e*P **PKPdf 10 00 52.9 -0.8**
GOA Goa 146.05 44 *e*P **PKPdf 10 00 50.3 -3.8**
MTN Manton Dam 146.68 261 PFAKE 10 01 10.0 +10
MTN LR LR
comp=Z,700nm,19.0s
DAV Davao City (W) 147.48 299 PFAKE 10 01 10.0 +8.7
DAV LR LR
comp=Z,500nm,22.0s
DAV Davao City (W) 147.48 299‖ *i*P **PKPab 10 01 00.7 -0.4**
HYB Hyderabad 147.55 35 *i* PKP **PKPdf 10 00 55.0 -1.7**
HYB *e* 10 01 04.5
HYB *e* 10 01 14.5
HYB *e* 10 01 25.0
HYB Hyderabad 147.55 35 *e*P **PKPdf 10 00 54.8 -1.9**
TNTI Ternate 148.45 287 PFAKE 10 01 10.0 +4.9
TNTI LR LR
comp=Z,200nm,20.0s
SLVN Son La 148.82 348 PFAKE 10 01 10.0 +3.8
SLVN LR LR
comp=Z,700nm,18.0s
QIZ Qiongzhong 149.22 336 PKPbc **PKPdf 10 00 59.5 +0.2**

QIZ			PP	PP	10 04 35.5	+2.0
QIZ			SS	SS	10 23 50.5	+5.6
QIZ			AMB	AMB		
	comp=Z,480nm,5.9s					
QIZ			LR	LR		
	comp=Z,630nm,19.6s					
QIZ			LR	LR		
	comp=Z,480nm,16.9s					
QIZ			LR	LR		
	comp=Z,800nm,20.6s					
QIZ	**Qiongzhong**	**149.22 336**	PFAKE		10 01 10.0	+2.2
QIZ			LR	LR		
	comp=Z,900nm,19.0s					
NWAO	**Narrogin (SRO)**	**150.22 215**	*e*PKPdf	**PKPbc**	**10 01 04.5**	**-1.1**
NWAO	**Narrogin (SRO)**	**150.22 215**	*e*PKIKP	**PKPbc**	**10 01 04.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**151.21 249**	*e*PKPdf	**PKPbc**	**10 01 06.3**	**-2.0**
PAYA	**Payao**	**151.35 355**	PKP	**PKPab**	**10 01 16.0**	**-0.6**
PAYA	**Payao**	**151.35 355**	P	**PKPab**	**10 01 16.0**	**-0.6**
	comp=Z,27μm,0.9s					
CHTO	**Chiang Mai**	**151.96 357**	PFAKE		10 01 20.0	+0.9
CHTO			LR	LR		
	comp=Z,500nm,19.0s					
CMMT	**Chiang Mai**	**151.96 357**	P	**PKPab**	**10 01 23.7**	**+4.6**
	comp=Z,5.7nm,1.1s					
MDRS	**Chennai**	**151.98 38**	*e*P	**PKPdf**	**10 01 03.6**	**-0.1**
PHRA	**Phrae**	**152.17 354**	PKP	**PKPab**	**10 01 18.6**	**-1.4**
PHRA	**Phrae**	**152.17 354**	P	**PKPab**	**10 01 18.6**	**-1.4**
	comp=Z,1.2nm,1.1s,comp=Z,227nm					
CMAR	**Chiang Mai Arr**	**152.31 357**	*c i*PKIKP	**PKPbc**	**10 01 09.3**	**-1.6**
CMAR			pmax	pmax		
	comp=Z,2.0nm,0.8s					
CMAR	**Chiang Mai Arr**	**152.31 357**	PKP	**PKPdf**	**10 01 03.3**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=316,slow=2.5,SNR=6.2					
CMAR			PKPbc	**PKPbc**	**10 01 09.4**	**-1.5**
	comp=Z,2.1nm,0.8s,baz=343,slow=2.5,SNR=8.4					
UTTA	**Uttaradit**	**152.88 353**	P	**PKPab**	**10 01 27.8**	**+4.9**
	comp=Z,12μm,1.2s					
SKNT	**Sakolnakorn**	**153.02 346**	PKP	**PKPab**	**10 01 23.8**	**+0.2**
TRD	**Trivandrum**	**153.03 49**	⇓*e*P	**PKPdf**	**10 01 03.4**	**-1.9**
SOEI	**Soe**	**153.45 267**	*e*PKPdf	**PKPdf**	**10 01 09.2**	**+3.2**
SOEI			LR	LR		
	comp=Z,2μm,19.0s					
PBKT	**Sadao Pong**	**153.99 352**	P	**PKPab**	**10 01 31.6**	**+4.0**
	comp=Z,9.9nm,1.2s					
PSAB3	**Pilbara Seismi**	**155.17 238**	PFAKE		10 01 20.0	+12
PSAB3			LR	LR		
	comp=Z,2μm,21.0s					
PSA00	**Pilbara Seismi**	**155.19 238**	PFAKE		10 01 20.0	+12
PSA00			LR	LR		
	comp=Z,2μm,19.0s					
PSAA2	**Pilbara Seismi**	**155.19 238**	PFAKE		10 01 20.0	+12
PSAA2			LR	LR		
	comp=Z,2μm,18.0s					
PSAA1	**Pilbara Seismi**	**155.20 238**	PFAKE		10 01 20.0	+12
PSAA1			LR	LR		
	comp=Z,3μm,21.0s					
PSAB1	**Pilbara Seismi**	**155.21 238**	PFAKE		10 01 20.0	+12
PSAB1			LR	LR		
	comp=Z,2μm,19.0s					
PSAD3	**Pilbara Seismi**	**155.22 238**	PFAKE		10 01 20.0	+12
PSAD3			LR	LR		
	comp=Z,2μm,20.0s					
PSAC1	**Pilbara Seismi**	**155.24 238**	PFAKE		10 01 20.0	+12
PSAC1			LR	LR		
	comp=Z,3μm,20.0s					
DLV	**T Lat**	**156.11 332**	PFAKE		10 01 20.0	+10
DLV			LR	LR		
	comp=Z,700nm,19.0s					
SRAK	**Srakaew**	**156.31 349**	P	**PKPab**	**10 01 44.1**	**+6.5**
	comp=Z,126μm,0.9s					
PALK	**Pallekele**	**156.59 46**	PFAKE		10 01 20.0	+10
PALK			LR	LR		
	comp=Z,900nm,19.0s					
DGPR	**DIGLIPUR**	**157.18 11**	*e*P	**PKPdf**	**10 01 07.4**	**-3.5**
DGPR			IAmb	IAmb	10 01 09.2	
	comp=Z,390nm,1.9s					
DGPR			IAMs_20	IAMs_20	10 51 30.4	
	comp=Z,2μm,4.5s					
KAPI	**Kappang**	**157.36 279**	PFAKE		10 01 20.0	+8.8
KAPI			LR	LR		
	comp=Z,400nm,20.0s					
PBA	**Port Blair**	**158.62 12**	*e*P	PKPdf	10 01 11.9	-0.8
PBA			IAmb	IAmb	10 01 16.6	
	comp=Z,60nm,0.7s					
PKDT	**Phuket**	**162.83 357**	PKP	**PKPdf**	**10 01 19.9**	**+2.6**
KSM	**Kuching**	**163.19 309**	*e*PKPdf	**PKPdf**	**10 01 20.8**	**+3.1**
CMBY	**CAMPBELL BAY**	**163.38 12**	*e*P	**PKPdf**	**10 01 17.1**	**-0.7**
CMBY			IAmb	IAmb	10 01 23.4	
	comp=Z,75nm,0.7s					
CMBY			IAMs_20	IAMs_20	10 45 12.2	
	comp=Z,2μm,5.0s					

*NNC **27** 09:44:36.6± 1.8, 53°.48N× 87°.72E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=13.5km s-min=6.5km az=61.0, Suspected Mining explosion.*

*KRAR **27** 09:44:36.0± 0.9, 53°.70N× 87°.90E, M2.7, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 27 09:44:37.1±2.3, 53°.50N×87°.78E, h0km, mb1 3.4/3, mb1mx3.2/63, mbtmp3.4/3, ML3.3/3, 9C-4D, Error ellipse: s-maj=20.8km s-min=12.9km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**286**	*i*		09 56 17.4	
	baz=100,slow=335,SNR=19						
ZAA0	**Zalesovo Array**	**1.82**	**285**	⇓P		Pn	09 45 07.9 -1.7
	0.8nm,0.3s						
ZAA0				⇑S		Sn	09 45 32.8 -0.5
	6.4nm,0.8s						
ZALV	**Zalesovo Beam**	**1.82**	**285**	Pn		Pn	09 45 08.3 -1.3
	7.9nm,0.3s,baz=99,slow=17,SNR=23						
ZALV				Lg		Lg	09 45 34.2
	8.6nm,0.3s,baz=105,slow=28,SNR=14						
KURK	**Kurchatov**	**6.29**	**247**	⇓Pn		Pn	09 46 11.6 +0.5
	1.6nm,0.7s						
KURK				⇑Sn		Sn	09 47 24.0 +0.3
	2.3nm,0.9s						
KURK				⇑Lg		Lg	09 47 55.3
	15nm,1.4s						
KURBB	**Kurchatov Arra**	**6.39**	**247**	⇑Pn		Pn	09 46 12.0 -0.4
	2.1nm,0.3s						
KURBB				⇑Sn		Sn	09 47 24.9 -1.1
	4.1nm,0.7s						
KURBB				⇓Lg		Lg	09 47 55.2
	8.0nm,0.7s						
KURBB	**Kurchatov Arra**	**6.39**	**247**	Pn		Pn	09 46 12.9 +0.5
	0.3nm,0.3s,baz=62,slow=14,SNR=21						
KURBB				Sn		Sn	09 47 24.8 -1.2
	0.1nm,0.3s,baz=49,slow=20,SNR=4.4						
KURBB				Lg		Lg	09 48 00.7
	0.1nm,0.3s,baz=65,slow=32,SNR=12						
MK31	**Makanchi Array**	**7.58**	**210**	⇑Pn		Pn	09 46 29.4 +0.7
	0.1nm,0.2s,baz=27,slow=12,SNR=18						
MK31				⇓Sn		Sn	09 47 54.1 -1.3
	1.1nm,0.6s,baz=31,slow=22,SNR=6.3						
MK31				⇑Lg		Lg	09 48 35.6
	1.0nm,0.6s,baz=34,slow=29,SNR=4.0						
MKAR	**Makanchi Array**	**7.58**	**210**	Pn		Pn	09 46 29.5 +0.7
	0.5nm,0.3s,baz=27,slow=13,SNR=16						
MKAR				Sn		Sn	09 47 55.3 0.0
	0.2nm,0.3s,baz=32,slow=23,SNR=9.6						
MKAR				Lg		Lg	09 48 39.4
	0.2nm,0.3s,baz=38,slow=31,SNR=7.3						
MAKZ	**Makanchi**	**7.66**	**211**	⇑Sn		Sn	09 47 57.7 +0.3
	3.8nm,1.2s						
MAKZ				⇑Lg		Lg	09 48 38.8
	5.0nm,1.1s						
BVAR	**Borovoye Array**	**10.43**	**274**	Pn		Pn	09 47 08.0 +0.2
	0.4nm,0.3s,baz=71,slow=12,SNR=3.8						
BVAR				Sn		Sn	09 48 58.9 -6.4
	0.4nm,0.3s,baz=74,slow=28,SNR=3.7						

*THE **27** 09:45:46.9, 39°.85N× 20°.70E, h0km± 1km, ML3.3/10, Error ellipse: s-maj=1.6km s-min=0.4km az=156.0*

*ATH **27** 09:45:46.3, 39°.86N× 20°.69E, h9km± 1km, ML3.2/9, Error ellipse: s-maj=1.7km s-min=0.8km az=295.0*

*BEO **27** 09:45:47.2± 0.4, 39°.77N× 20°.78E, h0km, ML3.3/8*

*PDG **27** 09:45:47.2± 0.5, 39°.77N× 20°.71E, h9km, ML3.5/10, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

*IDC **27** 09:45:50.5± 3.6, 39°.79N× 20°.70E, h34km± 31km, mb3.6/9, mb1 3.7/13, mb1mx3.5/55, mbtmp3.7/13, ML3.4/4, MS2.6/1, Ms1 2.6/1, ms1mx2.3/42, Error ellipse: s-maj=22.6km s-min=16.8km az=82.0*

ISC 27 09:45:46.7±1.0, 39°.83N±0°.01×20°.70E±0°.01, h5km±7km, n183, σ1°50/232, mb3.8/8, 24C-5D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.21**	**145**	P	**Pg**	**09 45 50.9**	**0.0**
JAN				S	**Sg**	**09 45 54.8**	**+1.2**
JAN	**Janina**	**0.21**	**145**	P	**Pg**	**09 45 50.8**	**0.0**
JAN				S	**Sg**	**09 45 54.6**	**+0.9**
JAN				AML	AML	09 45 56.4	
JAN				AML	AML	09 45 56.7	
	comp=N,99795μm,0.2s						
IGT	**Igoumenitsa**	**0.41**	**223**	*e*Pg	**Pg**	**09 45 53.9**	**-0.7**
IGT				*e*Sg	**Sg**	**09 46 00.8**	**+0.8**
IGT	**Igoumenitsa**	**0.41**	**223**	P	**Pg**	**09 45 53.9**	**-0.7**
IGT				S	**Sb**	**09 46 01.6**	**-1.4**
IGT	**Igoumenitsa**	**0.41**	**223**	P	**Pg**	**09 45 53.9**	**-0.7**
IGT				S	**Sg**	**09 46 00.7**	**+0.8**
IGT				AML	AML	09 46 05.0	
	comp=N,11912μm,0.4s						
IGT				AML	AML	09 46 05.1	
	comp=E,9790μm,0.4s						
MEV	**Metsovon**	**0.41**	**96**	P	**Pg**	**09 45 54.6**	**-0.1**
PENT	**Pentalofos**	**0.50**	**43**	P	**Pg**	**09 45 55.4**	**-0.9**
PENT				S	**Sg**	**09 46 03.5**	**+0.7**
PENT	**Pentalofos**	**0.50**	**43**	P	**Pg**	**09 45 55.5**	**-0.9**
PENT				S	**Sg**	**09 46 02.5**	**-0.3**
PENT				AML	AML	09 46 12.4	
	comp=E,5557μm,0.6s						
PENT				AML	AML	09 46 13.4	
	comp=N,6354μm,0.6s						
KPRO	**Kipourio**	**0.53**	**76**	P	**Pg**	**09 45 55.9**	**-1.0**
KPRO				S	**Sg**	**09 46 04.3**	**+0.5**
KPRO	**Kipourio**	**0.53**	**76**	P	**Pg**	**09 45 56.1**	**-0.7**
KPRO				S	**Sg**	**09 46 03.5**	**-0.3**
KPRO				AML	AML	09 46 07.9	
	comp=N,10800μm,0.4s						
KPRO				AML	AML	09 46 08.5	
	comp=E,8662μm,0.3s						
SRN	**Sarande**	**0.54**	**275**	P	**Pg**	**09 45 56.7**	**-0.3**
SRN				S	**Sg**	**09 46 04.9**	**+0.9**
KASA	**Kassiopi**	**0.59**	**262**	P	**Pg**	**09 45 58.1**	**+0.1**
NEST	**Nestorio**	**0.64**	**25**	P	**Pg**	**09 45 58.6**	**-0.5**
NEST				S	**Sg**	**09 46 08.4**	**+0.9**
NEST	**Nestorio**	**0.64**	**25**	P	**Pg**	**09 45 58.4**	**-0.6**
NEST				S	**Sg**	**09 46 07.5**	**+0.1**
NEST				AML	AML	09 46 19.6	
	comp=N,2337μm,0.4s						
NEST				AML	AML	09 46 19.9	
	comp=E,2484μm,0.6s						
KEK	**Kerkira**	**0.70**	**261**	P	**Pg**	**09 45 59.8**	**-0.4**
KEK				S	**Sb**	**09 46 11.1**	**-0.3**
KEK	**Kerkira**	**0.70**	**261**	P	**Pg**	**09 45 59.8**	**-0.4**
KEK				S	**Sg**	**09 46 09.6**	**+0.3**
KEK				AML	AML	09 46 17.1	
	comp=E,8776μm,0.7s						
KEK				AML	AML	09 46 18.1	
	comp=N,6254μm,0.8s						
TPE	**Tepelena**	**0.70**	**312**	P	**Pg**	**09 45 59.9**	**-0.3**
TPE				S	**Sg**	**09 46 09.9**	**+0.6**
KZN	**Kozani**	**0.95**	**60**	P	**Pg**	**09 46 04.4**	**-0.6**
KZN	**Kozani**	**0.95**	**60**	P	**Pg**	**09 46 04.5**	**-0.6**
TSLK	**Tsoukalades, L**	**1.00**	**182**	P	**Pg**	**09 46 06.0**	**0.0**
TSLK	**Tsoukalades, L**	**1.00**	**182**	P	**Pg**	**09 46 05.7**	**-0.2**
TSLK				S	**Sg**	**09 46 19.2**	**+0.2**
LKD2	**Lefkada island**	**1.04**	**182**	P	**Pg**	**09 46 06.5**	**-0.2**
LKD2	**Lefkada island**	**1.04**	**182**	P	**Pg**	**09 46 06.5**	**-0.2**
THL	**Klokotos Trika**	**1.05**	**104**	P	**Pg**	**09 46 05.9**	**-0.9**
THL	**Klokotos Trika**	**1.05**	**104**	P	**Pg**	**09 46 06.0**	**-0.9**
THL				S	**Sb**	**09 46 21.1**	**-0.4**
THL				AML	AML	09 46 30.0	
	comp=N,1883μm,0.6s						
THL				AML	AML	09 46 34.0	
	comp=E,1765μm,0.6s						
FNA	**Florina**	**1.08**	**28**	*e*Pg	**Pg**	**09 46 06.6**	**-1.0**
FNA				*e*Sg	**Sb**	**09 46 22.4**	**-0.2**
FNA	**Florina**	**1.08**	**28**	P	**Pg**	**09 46 06.5**	**-1.0**
FNA				S	**Sg**	**09 46 22.0**	**+0.4**
FNA	**Florina**	**1.08**	**28**	P	**Pg**	**09 46 06.6**	**-1.0**
VLO	**Vlora**	**1.12**	**305**	P	**Pg**	**09 46 08.0**	**-0.2**
VLO				S	**Sb**	**09 46 23.6**	**+0.2**
EVGI	**Lefkada island**	**1.21**	**181**	P	**Pg**	**09 46 09.5**	**-0.4**
EVGI	**Lefkada island**	**1.21**	**181**	P	**Pg**	**09 46 09.2**	**-0.7**
EVR	**Evrytania**	**1.26**	**136**	P	**Pg**	**09 46 10.7**	**-0.1**
EVR	**Evrytania**	**1.26**	**136**	P	**Pb**	**09 46 10.9**	**-0.1**
BIA	**Bitola**	**1.28**	**22**	*i* Pn	**Pg**	**09 46 10.8**	**-0.5**
OHR	**Ohrid**	**1.28**	**3**	*i* Pn	**Pg**	**09 46 10.2**	**-1.1**
OHR				*i* Sn	**Sn**	**09 46 30.9**	**+1.9**
PDO	**Prodromos**	**1.29**	**163**	P	**Pg**	**09 46 11.0**	**-0.4**
PVO	**Paravola**	**1.37**	**152**	P	**Pg**	**09 46 12.4**	**-0.2**
FSK	**Fiskardo**	**1.37**	**184**	P	**Pg**	**09 46 13.1**	**+0.1**
FSK	**Fiskardo**	**1.37**	**184**	P	**Pg**	**09 46 13.4**	**+0.4**
FSK				S	**Sn**	**09 46 31.9**	**+0.8**
LIT	**Litokhoron**	**1.41**	**78**	P	**Pn**	**09 46 12.5**	**-0.6**
AGG	**Agios Georgios**	**1.50**	**122**	P	**Pb**	**09 46 14.8**	**-0.3**
AGG	**Agios Georgios**	**1.50**	**122**	P	**Pb**	**09 46 14.7**	**-0.3**
AGG				S	**Sg**	**09 46 35.9**	**+1.0**
AGG				AML	AML	09 46 44.6	
	comp=N,1414μm,0.5s						
AGG				AML	AML	09 46 48.7	
	comp=E,1375μm,0.5s						
ANX	**Ano Chora**	**1.56**	**142**	P	**Pb**	**09 46 15.8**	**-0.4**
ANX	**Ano Chora**	**1.56**	**142**	P	**Pb**	**09 46 15.7**	**-0.4**
KRUS	**Krusevo**	**1.59**	**15**	*i* Pn	**Pn**	**09 46 15.6**	**-0.1**
KRUS				*i* Sn	**Sg**	**09 46 39.6**	**+1.7**
TIR	**Tirane**	**1.64**	**338**	*e*Pn	**Pg**	**09 46 18.7**	**+0.5**
TIR	**Tirane**	**1.64**	**338**	P	**Pn**	**09 46 16.1**	**-0.2**
TIR				S	**Sb**	**09 46 38.8**	**+0.3**
TIR	**Tirane**	**1.64**	**338**	⇑*i*P	**Pg**	**09 46 18.1**	**-0.1**
TIR	**Tirane**	**1.64**	**338**	S	**Sg**	**09 46 41.1**	**+1.6**
VLS	**Valsamata**	**1.65**	**183**	P	**Pn**	**09 46 16.8**	**+0.4**
VLS	**Valsamata**	**1.65**	**183**	P	**Pn**	**09 46 16.8**	**+0.4**
VLS				S	**Sg**	**09 46 41.4**	**+1.6**
EFP	**Efpalio**	**1.69**	**146**	P	**Pn**	**09 46 17.4**	**+0.5**
EFP	**Efpalio**	**1.69**	**146**	P	**Pg**	**09 46 19.1**	**0.0**
KFL	**Anninata**	**1.72**	**178**	P	**Pn**	**09 46 17.1**	**-0.2**
KFL	**Anninata**	**1.72**	**178**	P	**Pb**	**09 46 18.1**	**-0.7**
GRG	**Griva**	**1.72**	**49**	P	**Pn**	**09 46 16.6**	**-0.8**
GRG	**Griva**	**1.72**	**49**	P	**Pn**	**09 46 17.6**	**+0.2**
FYTO	**Fytoko, Volos**	**1.78**	**103**	P	**Pn**	**09 46 18.2**	**0.0**
FYTO	**Fytoko, Volos**	**1.78**	**103**	P	**Pn**	**09 46 19.0**	**+0.8**
TRIZ	**Trizonia**	**1.81**	**143**	P	**Pb**	**09 46 20.2**	**-0.2**
KALE	**Kalithea**	**1.82**	**142**	P	**Pn**	**09 46 19.2**	**+0.4**
KALE	**Kalithea**	**1.82**	**142**	P	**Pb**	**09 46 20.7**	**+0.1**
AXAR	**Agios Charalam**	**1.86**	**124**	P	**Pn**	**09 46 19.8**	**+0.6**
PHP	**Peshkopia**	**1.86**	**354**	P	**Pn**	**09 46 18.9**	**-0.5**
PHP				S	**Sn**	**09 46 43.6**	**+0.3**
RLS	**Riolos of Patr**	**1.87**	**161**	P	**Pn**	**09 46 20.1**	**+0.7**
RLS	**Riolos of Patr**	**1.87**	**161**	P	**Pb**	**09 46 21.1**	**-0.3**
LAKA	**Lakka**	**1.88**	**147**	P	**Pn**	**09 46 19.8**	**+0.3**
LAKA	**Lakka**	**1.88**	**147**	P	**Pb**	**09 46 21.5**	**-0.1**
LAKA				AML	AML	09 46 44.8	
	comp=E,861μm,0.2s						
LAKA				AML	AML	09 46 44.8	
	comp=N,1098μm,0.3s						
XOR	**Xorichti**	**1.98**	**103**	P	**Pn**	**09 46 21.0**	**0.0**
XOR	**Xorichti**	**1.98**	**103**	P	**Pn**	**09 46 22.0**	**+1.0**
HORT	**Hortiatis**	**1.99**	**67**	P	**Pn**	**09 46 21.4**	**+0.2**
HORT	**Hortiatis**	**1.99**	**67**	P	**Pn**	**09 46 21.4**	**+0.2**
DSF	**Desfina**	**2.01**	**134**	P	**Pn**	**09 46 22.2**	**+0.8**
DSF	**Desfina**	**2.01**	**134**	P	**Pb**	**09 46 23.2**	**-0.6**
NEO	**Neokhori**	**2.02**	**104**	P	**Pn**	**09 46 21.3**	**-0.2**
DRO	**Drossia**	**2.04**	**157**	P	**Pn**	**09 46 22.2**	**+0.5**
DRO	**Drossia**	**2.04**	**157**	P	**Pb**	**09 46 23.9**	**-0.3**
VAY	**Valandovo**	**2.06**	**43**	*e*Pn	**Pn**	**09 46 22.7**	**+0.6**
VAY				*e*Sn	**Sb**	**09 46 49.7**	**-0.9**
VAY	**Valandovo**	**2.06**	**43**	P	**Pn**	**09 46 22.2**	**+0.1**
VAY	**Valandovo**	**2.06**	**43**	*i* Pn	**Pb**	**09 46 24.2**	**-0.5**
VAY				*i* Sn	**Sg**	**09 46 56.8**	**+3.8**
KLV	**Kalavryta, Ach**	**2.12**	**147**	P	**Pn**	**09 46 23.5**	**+0.7**
KLV	**Kalavryta, Ach**	**2.12**	**147**	P	**Pb**	**09 46 25.1**	**-0.5**
ATAL	**Atalanti**	**2.13**	**121**	P	**Pn**	**09 46 23.1**	**+0.1**
ATAL	**Atalanti**	**2.13**	**121**	P	**Pb**	**09 46 24.5**	**-1.3**
KNT	**Kendrikon**	**2.14**	**51**	P	**Pn**	**09 46 23.0**	**-0.2**
KNT	**Kendrikon**	**2.14**	**51**	P	**Pn**	**09 46 24.1**	**+0.9**
SKO	**Skopje**	**2.21**	**15**	*e*Pn	**Pn**	**09 46 25.6**	**+1.5**
SKO				*e*Sn	**Sb**	**09 46 53.9**	**-1.0**
SKO	**Skopje**	**2.21**	**15**	*i* Pn	**Pn**	**09 46 25.8**	**+1.6**
SOH	**Sokhos**	**2.26**	**63**	P	**Pn**	**09 46 25.2**	**+0.4**
GUR	**Goura**	**2.29**	**145**	P	**Pb**	**09 46 27.9**	**-0.6**
PAIG	**Paliouri**	**2.30**	**87**	P	**Pn**	**09 46 25.0**	**-0.3**
ULC	**Ulcinj**	**2.40**	**333**	⇓*i*Pn	**Pn**	**09 46 28.4**	**+1.7**
ULC				*e*Sn	**Sb**	**09 47 00.5**	**+0.2**
SRS	**Serrai**	**2.56**	**59**	*e*Pn	**Pn**	**09 46 29.8**	**+0.9**
OUR	**Ouranopolis**	**2.57**	**78**	P	**Pn**	**09 46 29.2**	**+0.2**
CGL1	**Ceglie Messapi**	**2.60**	**290**	*e*Pn	**Pg**	**09 46 36.0**	**-0.5**
DRME	**Dracevica, Mon**	**2.62**	**335**	⇑*i*Pn	**Pn**	**09 46 31.3**	**+1.6**
DRME				*e*Sn	**Sb**	**09 47 06.0**	**-0.6**
DRME	**Dracevica, Mon**	**2.62**	**335**	*e*Pn	**Pn**	**09 46 31.1**	**+1.4**
TAR1	**Taranto**	**2.70**	**286**	*e*Pn	**Pn**	**09 46 31.1**	**+0.2**
KKB	**Krupnik**	**2.72**	**41**	*e*P	**Pb**	**09 46 34.3**	**-1.6**
FASA	**Fasano**	**2.74**	**292**	*e*Pn	**Pg**	**09 46 38.1**	**-1.1**
PDG	**Podgorica**	**2.82**	**338**	*e*Pn	**Pn**	**09 46 35.0**	**+2.6**
PDG	**Podgorica**	**2.82**	**338**	⇑*i*P	**Pn**	**09 46 34.4**	**+2.0**
PDG	**Podgorica**	**2.82**	**338**	S	**Sn**	**09 47 08.1**	**+1.4**
PDG	**Podgorica**	**2.82**	**338**	*e*Pn	**Pn**	**09 46 34.1**	**+1.7**
TTG	**Podgorica**	**2.82**	**338**	⇑*i*Pn	**Pn**	**09 46 34.8**	**+2.4**
TTG				*e*Sn	**Sb**	**09 47 10.8**	**-1.5**
PVY	**Plav**	**2.82**	**349**	⇑*i*Pn	**Pn**	**09 46 35.1**	**+2.5**
PVY				*e*Sn	**Sb**	**09 47 10.8**	**-1.7**
BUM	**Brajici-Budva**	**2.82**	**332**	⇓*i*Pn	**Pn**	**09 46 33.9**	**+1.4**
BUM				*e*Sn	**Sb**	**09 47 10.7**	**-1.8**
MASS	**Massafra**	**2.83**	**288**	*e*Pn	**Pb**	**09 46 35.7**	**-2.1**
MMB	**Musomiste**	**2.90**	**52**	*e*P	**Pb**	**09 46 38.6**	**-0.3**
BOSS	**Bosilegrad**	**2.98**	**26**	*e*Pn	**Pn**	**09 46 36.2**	**+1.4**
CEME	**Cevo**	**3.03**	**334**	⇑*i*Pn	**Pn**	**09 46 36.3**	**+0.9**
CEME				*e*Sn	**Sb**	**09 47 15.8**	**-2.6**
HCY	**Herceg Novi**	**3.10**	**328**	⇑*i*Pn	**Pn**	**09 46 38.1**	**+1.8**
HCY				*e*Sn	**Sb**	**09 47 17.4**	**-3.0**
HCY	**Herceg Novi**	**3.10**	**328**	*e*Pn	**Pn**	**09 46 37.8**	**+1.5**
IVA	**Berane**	**3.10**	**349**	⇑*i*Pn	**Pn**	**09 46 38.9**	**+2.5**
IVA				*e*Sn	**Sb**	**09 47 17.4**	**-3.1**
BARS	**Barje**	**3.10**	**15**	*e*Pn	**Pn**	**09 46 37.5**	**+1.2**
BARS	**Barje**	**3.10**	**15**	*e*Pn	Pg	09 46 53.9	+7.8
BARS				*e*Sn	**Sn**	**09 47 14.8**	**+1.0**
TIP	**Timpagrande**	**3.12**	**259**	P	**Pn**	**09 46 36.4**	**-0.2**
TIP	**Timpagrande**	**3.12**	**259**	⇑*i*P	**Pn**	**09 46 36.4**	**-0.2**
TIP	**Timpagrande**	**3.12**	**259**	S	**Sn**	**09 47 14.7**	**+0.5**
KOME	**Kolasin**	**3.15**	**344**	⇓*i*Pn	**Pn**	**09 46 39.5**	**+2.5**
KOME				*e*Sn	**Sb**	**09 47 18.8**	**-3.1**
MATE	**Matera**	**3.16**	**286**	⇑*i*P	**Pn**	**09 46 37.5**	**+0.4**
MATE	**Matera**	**3.16**	**286**	S	**Sg**	**09 47 27.3**	**-1.0**
NKME	**Niksic**	**3.21**	**336**	⇓*i*Pn	**Pn**	**09 46 40.2**	**+2.3**
NKME				*e*Sn	**Sn**	**09 47 20.1**	**+3.4**
SG1	**Sgolgore (BA)**	**3.23**	**289**	*e*Pn	**Pn**	**09 46 38.1**	**-0.1**
SG1				Sn	**Sg**	**09 47 32.1**	**+1.6**
VTS	**Vitosha**	**3.38**	**34**	*e*Pn	**Pn**	**09 46 41.0**	**+0.7**
VTS				*e*Sn	**Sn**	**09 47 21.1**	**+0.2**
VTS	**Vitosha**	**3.38**	**34**	P	**Pn**	**09 46 39.9**	**-0.4**
VTS	**Vitosha**	**3.38**	**34**	⇑*i*P	**Pn**	**09 46 42.4**	**+2.1**
VTS	**Vitosha**	**3.38**	**34**	*e*P	**Pn**	**09 46 42.0**	**+1.7**
TREB	**Trebinje**	**3.38**	**329**	*e*Pn	**Pn**	**09 46 41.6**	**+1.4**
TREB				*e*Sn	**Sn**	**09 47 23.1**	**+2.4**
TREB	**Trebinje**	**3.38**	**329**	*e*Pn	**Pn**	**09 46 41.2**	**+1.0**
SELS	**Selova**	**3.40**	**5**	*e*Pn	**Pn**	**09 46 42.0**	**+1.5**
SJES	**Sjenica**	**3.47**	**351**	*e*Pn	**Pn**	**09 46 44.2**	**+2.7**
SJES				*e*Sn	**Sn**	**09 47 25.8**	**+2.7**
BRY	**Bratogost**	**3.47**	**333**	⇓*i*Pn	**Pn**	**09 46 44.0**	**+2.4**
BRY				*e*Sn	**Sn**	**09 47 26.1**	**+3.0**
BRY	**Bratogost**	**3.47**	**333**	*e*Pn	**Pb**	**09 46 50.3**	**+1.5**
RZN	**Rozhen**	**3.57**	**57**	*e*P	**Pn**	**09 46 46.5**	**+3.5**
UPM	**Unac-Piva**	**3.63**	**339**	⇑*i*Pn	**Pn**	**09 46 45.9**	**+2.1**
UPM				*e*Sn	**Sn**	**09 47 30.1**	**+3.0**
UPM	**Unac-Piva**	**3.63**	**339**	*e*Pn	**Pn**	**09 46 47.6**	**+3.8**
PLE	**Pljevlja**	**3.63**	**345**	⇑*i*Pn	**Pn**	**09 46 46.2**	**+2.5**
PLE				*

14nm,0.7s
PVAQ Vaqueiros 1.98 343⇓ eP Pn 09 46 36.7 +0.5
PVAQ eS Sn 09 46 59.4 -1.2
PVAQ A A 09 47 00.6
21nm,0.4s
PVAQ Vaqueiros 1.98 343 P Pn 09 46 36.7 +0.5
PVAQ S Sn 09 46 59.4 -1.2
21nm,0.4s
EGRO El Granado 2.06 349 P Pn 09 46 38.0 +0.8
3.6nm,0.1s,SNR=13
EGRO S Sn 09 47 01.9 -0.7
12nm,0.1s,SNR=15
EMIJ Mijas 2.10 59 P Pn 09 46 38.0 +0.2
1.9nm,0.2s,SNR=7.9
EMIJ S Sn 09 47 01.9 -1.6
4.9nm,0.2s,SNR=7.9
PFVI Vila Bisbo 2.19 318 eP Pn 09 46 39.3 +0.3
PFVI eS Sn 09 47 04.2 -1.4
PFVI A A 09 47 08.1
9.1nm,0.6s
MORF Marmelete 2.23 324 eP Pn 09 46 39.7 +0.1
MORF eS Sn 09 47 05.1 -1.6
MORF AML AML 09 47 07.2
comp=N,24nm,0.2s
MORF Marmelete 2.23 324⇓ eP Pn 09 46 39.7 +0.1
MORF eS Sn 09 47 05.8 -0.9
MORF A A 09 47 10.0
comp=N,14nm,0.2s
MORF Marmelete 2.23 324 P Pn 09 46 39.7 +0.1
MORF S Sn 09 47 05.1 -1.6
comp=N,24nm,0.2s
EMIN Mina Concepcio 2.28 7 P Pn 09 46 40.8 +0.7
comp=N,0.8nm,0.1s,SNR=7.9
EMIN S Sn 09 47 06.9 -0.7
comp=N,5.3nm,0.1s,SNR=10
PCVE Castro Verde 2.28 339 eP Pn 09 46 41.0 +0.8
PCVE eS Sn 09 47 07.1 -0.6
PCVE A A 09 47 09.3
comp=N,11nm,0.2s
PCVE Castro Verde 2.28 339 P Pn 09 46 41.0 +0.8
PCVE S Sn 09 47 07.1 -0.6
comp=N,11nm,0.2s
PTEO Sao Teotonio 2.46 326 eP Pn 09 46 43.3 +0.8
PTEO eS Sn 09 47 11.0 -1.0
PTEO A A 09 47 21.6
comp=N,9.6nm,0.9s
PTEO Sao Teotonio 2.46 326 P Pn 09 46 43.3 +0.8
PTEO S Sn 09 47 11.0 -1.0
comp=N,4.8nm,0.9s
MESJ Messejana 2.53 338 eP Pn 09 46 44.1 +0.7
MESJ eS Sn 09 47 12.5 -1.0
MESJ AML AML 09 47 17.4
comp=N,18nm,0.2s
MESJ Messejana 2.53 338 eP Pn 09 46 44.4 +1.0
MESJ eS Sn 09 47 13.5 0.0
MESJ A A 09 47 19.0
comp=N,12nm,0.3s
MESJ Messejana 2.53 338 P Pn 09 46 44.1 +0.7
MESJ S Sn 09 47 12.5 -1.0
comp=N,18nm,0.2s
PBEJ Beja 2.61 345 eS Sn 09 47 16.3 +0.8
PBEJ A A 09 47 20.5
comp=N,9.8nm,0.2s
PBEJ Beja 2.61 345 S Sn 09 47 16.3 +0.8
comp=N,4.9nm,0.2s
PBAR Barrancos 2.67 359 eS Sn 09 47 16.9 +0.1
PBAR Barrancos 2.67 359 S Sn 09 47 16.9 +0.1
EGOR Sierra Gorda, 2.84 55 P Pn 09 46 49.5 +1.8
comp=N,0.8nm,0.1s,SNR=7.9
EGOR S Sn 09 47 21.0 -0.2
comp=N,2.2nm,0.2s,SNR=7.9
ECAB El Cabril 2.87 26 P Pn 09 46 48.8 +0.8
comp=N,0.8nm,0.1s,SNR=10
ECAB S Sn 09 47 20.2 -1.5
comp=N,1.6nm,0.1s,SNR=9.7
PNCL Nicolau / Gran 2.88 335 eP Pn 09 46 48.8 +0.8
PNCL eS Sn 09 47 21.0 -0.8
PNCL A A 09 47 24.6
comp=N,7.3nm,0.4s
PNCL Nicolau / Gran 2.88 335 P Pn 09 46 48.8 +0.8
PNCL S Sn 09 47 21.0 -0.8
comp=N,7.3nm,0.4s
ELGU Los Guajares, 3.06 63 P Pn 09 46 51.4 +0.9
comp=N,1.5nm,0.1s,SNR=4.0
ELGU S Sn 09 47 24.0 -2.3
comp=N,6.5nm,0.1s,SNR=7.9
EVO Evora 3.13 345 eP Pn 09 46 52.5 +1.0
EVO eS Sn 09 47 28.1 +0.2
EVO A A 09 47 31.2
comp=N,14nm,0.4s
EVO Evora 3.13 345 P Pn 09 46 52.5 +1.0
EVO S Sn 09 47 28.1 +0.2
comp=N,14nm,0.4s
EBAD Badajoz 3.25 360 P Pn 09 46 54.3 +1.3
comp=N,0.7nm,0.1s,SNR=7.9
EBAD S Sn 09 47 29.9 -0.8
comp=N,4.3nm,0.1s,SNR=6.3
EADA Adamuz 3.30 36 P Pn 09 46 55.1 +1.3
comp=N,4.0nm,0.2s,SNR=23
EADA S Sn 09 47 29.8 -2.2
comp=N,4.3nm,0.1s,SNR=7.9
EQUE Quentar 3.34 58 P Pn 09 46 56.3 +1.9
comp=N,1.6nm,0.1s,SNR=7.9
EQUE S Sn 09 47 33.9 +0.6
comp=N,4.6nm,0.2s,SNR=7.9
EBER Berja 3.61 66 S Sn 09 47 39.0 -0.8
comp=N,1.6nm,0.2s,SNR=7.9
PMTG Montargil 3.69 345 eP Pn 09 47 00.1 +1.1
PMTG eS Sn 09 47 41.7 +0.3
PMTG A A 09 47 45.3
comp=N,4.2nm,0.5s
PMTG Montargil 3.69 345 P Pn 09 47 00.1 +1.1
PMTG S Sn 09 47 41.7 +0.3
comp=N,4.2nm,0.5s
PMAFR Mafra 3.89 333 eP Pn 09 47 03.2 +1.4
PMAFR eS Sn 09 47 45.9 -0.5
PMAFR A A 09 47 51.1
comp=N,16nm,0.6s
EQES Quesada 3.91 53 P Pn 09 47 03.6 +1.5
comp=N,1.1nm,0.2s,SNR=7.9
EQES S Sn 09 47 46.3 -0.7
comp=N,5.0nm,0.1s,SNR=7.9
PMRV Marv??o 3.93 356 eP Pn 09 47 03.6 +1.3
PMRV eS Sn 09 47 47.3 0.0
PMRV A A 09 47 48.3
comp=N,6.3nm,0.6s
PMRV Marv??o 3.93 356 P Pn 09 47 03.6 +1.3
PMRV S Sn 09 47 47.3 0.0
comp=N,6.3nm,0.6s
PCBR Castelo Branco 4.34 355 eP Pn 09 47 09.5 +1.6
PCBR eS Sn 09 47 57.0 -0.3
PCBR A A 09 47 58.1
comp=N,4.6nm,0.2s
PCBR Castelo Branco 4.34 355 P Pn 09 47 09.5 +1.6
PCBR S Sn 09 47 57.0 -0.3
comp=N,2.3nm,0.2s
EPLA Plasencia 4.61 9 P Pn 09 47 13.9 +2.3
comp=N,2.2nm,0.1s,SNR=7.9
EPLA S Sn 09 48 02.9 -1.0
comp=N,1.2nm,0.1s,SNR=7.9
ESDC Sonseca Array 4.81 29 S Sn 09 48 06.5 -2.4
SNR=7.9
ETOB Tobarra 5.37 53 ⇑P Pn 09 47 22.7 +0.8
comp=N,4.8nm,0.1s,SNR=18
ETOB S Sn 09 48 19.9 -2.6
comp=N,6.3nm,0.1s,SNR=7.7
MVO Moncorvo 5.65 360 eS Sn 09 48 28.7 -0.5
PVRL Vila Real 5.79 355 eP Pn 09 47 28.0 +0.5
PVRL Vila Real 5.79 355 P Pn 09 47 28.0 +0.5
POLO Lamas de Olo 5.89 354 eS Sn 09 48 33.2 -2.0
POLO Lamas de Olo 5.89 354 S Sn 09 48 33.2 -2.0
ELOB Lobios 6.41 353 S Sn 09 48 45.0 -2.6
comp=N,2.8nm,0.2s,SNR=7.9
ECAL Calabor 6.43 2 S Sn 09 48 46.7 -1.5
comp=N,5.9nm,0.4s,SNR=7.9
PGAV Gavieira, Arco 6.53 352 eS Sn 09 48 50.2 -0.4
PGAV Gavieira, Arco 6.53 352 S Sn 09 48 50.2 -0.4
ETOR Torete 6.59 35 P Pn 09 47 40.3 +1.9
comp=N,1.6nm,0.2s,SNR=8.9
ETOR S Sn 09 48 48.1 -4.0
comp=N,2.2nm,0.2s,SNR=7.9
EMOS Mosqueruela 7.08 45 P Pn 09 47 47.4 +2.1
comp=N,0.7nm,0.2s,SNR=7.9
EMOS S Sn 09 49 01.0 -3.3
comp=N,1.8nm,0.3s,SNR=7.9

*IDC **27** 09:46:15.4±1.0, 72°.89N×5°.10E, h0km, mb3.6/5, mb1 3.8/10, mb1mx3.6/58, mbtmp3.7/10, ML3.3/5, MS3.5/4, Ms1 3.5/4, ms1mx3.1/42, Error ellipse: s-maj=22.2km s-min=14.2km az=40.0*
*NAO **27** 09:46:15.8±2.2, 72°.90N×5°.49E, ML3.4*
*ISCJB **27** 09:46:16.8±0.7, 72°.87N±0°.05×6°.2E±0°.2, h11km, mb3.6/5, MS3.5/1, Error ellipse: s-maj=7.9km s-min=6.9km az=0.9*
*HEL **27** 09:46:19.9±0.5, 72°.98N×6°.45E, h10km, ML2.8, ML3.4(NAO), ML2.6(BER), Confirmed Earthquake*
*BER **27** 09:46:20.3±3.3, 72°.96N×5°.43E, h21km±33km, ML2.6, ML3.4(NAO), Confirmed Earthquake*

ISC 27 09:46:16.3±0.7, 72°.85N±0°.06×5°.56E±0°.06, h11km, n59, σ2°.82/76, mb3.7/5, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**4.14**	**60**	Pn	**Pn**	**09 47 19.4**	**+0.2**
BJO1	**Bjornoya**	**4.14**	**60**	*e*P	**Pn**	**09 47 19.4**	**+0.2**
BJO	**Bjornoya**	**4.19**	**60**	Pn	**Pn**	**09 47 19.4**	**-0.5**
JMIC	**Jan Mayen**	**4.76**	**254**	LR	LR	09 48 23.8	
	comp=Z,14nm,18.3s,baz=64,slow=28						
TRO	**Tromso**	**5.38**	**120**	*e*P	**Pn**	**09 47 38.8**	**+2.5**
TRO				*e*S	**Sn**	**09 48 34.8**	**-3.3**
TRO				IAML		09 48 41.0	
	comp=Z,15nm,0.4s						
TRO	**Tromso**	**5.38**	**120**	*e*P	**Pn**	**09 47 38.8**	**+2.5**
TRO				*e*S	**Sn**	**09 48 34.8**	**-3.3**
TRO				IAML		09 48 41.0	
	comp=Z,15nm,0.4s						
LOF	**Lofoten**	**5.43**	**147**	*e*P	**Pn**	**09 47 39.4**	**+2.3**
LOF	**Lofoten**	**5.43**	**147**	*e*P	**Pn**	**09 47 39.4**	**+2.3**
STEI	**Steigen**	**5.91**	**142**	*e*P	**Pn**	**09 47 45.8**	**+2.2**
STEI				*e*S	**Sn**	**09 48 47.9**	**-3.2**
STEI				IAML		09 48 55.1	
	comp=Z,13nm,0.3s						
STEI	**Steigen**	**5.91**	**142**	*e*P	**Pn**	**09 47 45.8**	**+2.2**
STEI				*e*S	**Sn**	**09 48 47.9**	**-3.2**
STEI				IAML		09 48 55.1	
	comp=Z,13nm,0.3s						
SPA0	**Spitsbergen Ar**	**5.99**	**22**	Pn	**Pn**	**09 47 44.4**	**-0.3**
	baz=214,slow=16						
SPA0	**Spitsbergen Ar**	**5.99**	**22**	Pn	**Pn**	**09 47 44.4**	**-0.3**
	baz=214,slow=16						
SPA0	**Spitsbergen Ar**	**5.99**	**22**	*e*P	**Pn**	**09 47 44.4**	**-0.3**
SPITS	**Spitsbergen Ar**	**5.99**	**22**	Pn	**Pn**	**09 47 44.4**	**-0.3**
	baz=204,slow=16,SNR=69						
HAMF	**Hammerfest**	**6.10**	**102**	*e*P	**Pn**	**09 47 47.5**	**+1.4**
HAMF				*e*S	**Sn**	**09 48 53.4**	**-2.4**
HAMF				IAML		09 48 54.8	
	comp=Z,5.5nm,0.3s						
HAMF	**Hammerfest**	**6.10**	**102**	*e*P	**Pn**	**09 47 47.5**	**+1.4**
HAMF				*e*S	**Sn**	**09 48 53.4**	**-2.4**
HAMF				IAML		09 48 54.8	
	comp=Z,5.5nm,0.3s						
KIF	**Kilpisjarvi**	**6.30**	**120**	*e*P	**Pn**	**09 47 51.4**	**+2.5**
KIF	**Kilpisjarvi**	**6.30**	**120**	*e*P	**Pn**	**09 47 51.6**	**+2.7**
KIF				*e*S	**Sn**	**09 48 56.5**	**-4.1**
KIF				MSN		09 49 03.9	
	comp=Z,4.3nm,0.2s						
KBS	**Kingsbay**	**6.30**	**11**	Pn	**Pn**	**09 47 46.8**	**-2.2**
KBS	**Kingsbay**	**6.30**	**11**	*e*P	**Pn**	**09 47 48.5**	**-0.4**
KBS	**Kingsbay**	**6.30**	**11**	*e*P	**Pn**	**09 47 48.5**	**-0.4**
KONS	**Konsvik**	**6.89**	**154**	*e*P	**Pn**	**09 47 59.0**	**+2.0**
KONS				*e*S	**Sn**	**09 49 10.4**	**-4.9**
KONS				IAML		09 49 17.0	
	comp=Z,13nm,0.5s						
KONS	**Konsvik**	**6.89**	**154**	*e*P	**Pn**	**09 47 59.0**	**+2.0**
KONS				IAML		09 49 17.0	
	comp=Z,13nm,0.5s						
SALU	**Saltoluokta**	**7.03**	**135**	*e*P	**Pn**	**09 48 02.0**	**+3.1**
SALU				*e*S	**Sn**	**09 49 17.6**	**-1.1**
SALU	**Saltoluokta**	**7.03**	**135**	*e*P	**Pn**	**09 48 02.0**	**+3.1**
ARA0	**ARCESS Array S**	**7.23**	**108**	Pn	**Pn**	**09 48 04.2**	**+2.5**
	baz=316,slow=14						
ARA0				Sn	**Sn**	**09 49 21.6**	**-2.0**
	baz=299,slow=22						
ARA0	**ARCESS Array S**	**7.23**	**108**	Pn	**Pn**	**09 48 04.2**	**+2.5**
	baz=316,slow=14						
ARA0				Sn	**Sn**	**09 49 21.6**	**-2.0**
	baz=299,slow=22						
ARCES	**ARCESS Array B**	**7.23**	**108**	Pn	**Pn**	**09 48 04.0**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=321,slow=12,SNR=23						
ARCES				Sn	**Sn**	**09 49 23.4**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=305,slow=19,SNR=6.7						
ARE0	**ARCESS Array S**	**7.23**	**108**	*e*P	**Pn**	**09 48 03.1**	**+1.4**
ARE0				*e*S	**Sn**	**09 49 16.6**	**-7.1**
MOR8	**Moi Rana**	**7.38**	**151**	*e*P	**Pn**	**09 48 06.2**	**+2.4**
MOR8	**Moi Rana**	**7.38**	**151**	*e*P	**Pn**	**09 48 06.2**	**+2.4**
HEF	**Hetta**	**7.46**	**118**	*e*P	**Pn**	**09 48 08.0**	**+3.1**
HEF	**Hetta**	**7.46**	**118**	*e*P	**Pn**	**09 48 07.8**	**+2.9**
HEF				*e*S	**Sn**	**09 49 24.0**	**-5.3**
KEV	**Kevo**	**7.53**	**104**	*e*P	**Pn**	**09 48 07.0**	**+1.2**
KEV	**Kevo**	**7.53**	**104**	*e*P	**Pn**	**09 48 06.8**	**+1.0**
KEV				*e*S	**Sn**	**09 49 23.6**	**-7.4**
KEV				MSN		09 49 31.5	
	comp=Z,1.4nm,0.2s						
NSS	**Namsos**	**8.67**	**161**	*e*P	**Pn**	**09 48 24.0**	**+2.6**
NSS				*e*S	**Sn**	**09 49 54.6**	**-4.3**
NSS				IAML		09 50 01.3	
	comp=Z,9.7nm,0.4s						
NSS	**Namsos**	**8.67**	**161**	*e*P	**Pn**	**09 48 24.0**	**+2.6**
NSS				*e*S	**Sn**	**09 49 54.6**	**-4.3**
NSS				IAML		09 50 01.3	
	comp=Z,9.7nm,0.4s						
SCO	**Scoresbysund**	**8.93**	**268**	*i* P	**Pn**	**09 48 21.9**	**-3.1**
RNF	**Rovaniemi**	**9.41**	**121**	*e*P	**Pn**	**09 48 33.0**	**+1.5**
RNF				*e*S	**Sn**	**09 50 10.6**	**-6.5**
TOF	**Tornio**	**9.41**	**127**	*e*P	**Pn**	**09 48 34.5**	**+2.9**
TOF				*e*S	**Sn**	**09 50 11.7**	**-5.5**
AKN	**Aaknes**	**10.73**	**176**	Pn	**Pn**	**09 48 51.4**	**+1.8**
AKN	**Aaknes**	**10.73**	**176**	Pn	**Pn**	**09 48 51.4**	**+1.8**
AKN	**Aaknes**	**10.73**	**176**	*e*P	**Pn**	**09 48 51.4**	**+1.8**
NB2	**NORSAR Subarra**	**12.05**	**167**	Pn	**Pn**	**09 49 08.9**	**+1.1**
	baz=349,slow=14						
NB2	**NORSAR Subarra**	**12.05**	**167**	Pn	**Pn**	**09 49 08.9**	**+1.1**
	baz=349,slow=14						
NB2	**NORSAR Subarra**	**12.05**	**167**	*e*P	**Pn**	**09 49 08.9**	**+1.1**
NOA	**NORSAR Array B**	**12.05**	**167**	Pn	**Pn**	**09 49 09.3**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=341,slow=13,SNR=4.3						
NOA				LR	LR	09 53 25.3	
	comp=Z,76nm,21.3s,baz=330,slow=35						
HFS	**Hagfors**	**13.15**	**162**	Pn	**Pn**	**09 49 24.9**	**+2.2**
	baz=356,slow=14						
HFS	**Hagfors**	**13.15**	**162**	Pn	**Pn**	**09 49 24.6**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=353,slow=11,SNR=9.0						
HFS				LR	LR	09 54 20.1	
	comp=Z,312nm,20.3s,baz=0.5,slow=37						
HFS	**Hagfors**	**13.15**	**162**	Pn	**Pn**	**09 49 24.9**	**+2.2**
	baz=356,slow=14						
HFS	**Hagfors**	**13.15**	**162**	*e*P	**Pn**	**09 49 24.9**	**+2.2**
FINES	**FINESS Array B**	**13.82**	**135**	Pn	**Pn**	**09 49 33.6**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=319,slow=17,SNR=5.0						
FINES				LR	LR	09 54 46.6	
	comp=Z,212nm,21.6s,baz=320,slow=37						
KLMR	**Klimovskoe**	**17.60**	**115**	*e*P	**Pn**	**09 50 20.6**	**-0.4**
	comp=Z,14nm,1.2s						
VRAC	**Vranov**	**24.13**	**162**	P	**P**	**09 51 34.5**	**+2.7**
	comp=Z,4.2nm,0.7s,baz=346,slow=8.3,SNR=3.7						
MLR	**Muntele Rosu**	**29.02**	**150**	LR	LR	10 03 58.9	
	comp=Z,118nm,18.8s,baz=150,slow=36						
BRTR	**Keskin Array B**	**35.92**	**142**	P	**P**	**09 53 20.1**	**+3.8**
	comp=Z,0.8nm,0.7s,baz=340,slow=8.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**37.67**	**85**	P	**P**	**09 53 32.8**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=326,slow=7.1,SNR=3.1						
NVAR	**Mina Array Bea**	**62.53**	**313**	P	**P**	**09 56 39.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=35,slow=5.4,SNR=3.7						
TXAR	**Lajitas Array**	**67.66**	**297**	P	**P**	**09 57 12.4**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=31,slow=11,SNR=2.4						

MEX 27 09:53:38.2±0.6, 15°.01N×93°.47W, h49km±15km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.73**	**19**	*e*P	Pn	09 53 50.4	-2.0
PCIG				*i* S	Sn	09 54 00.8	-1.8
TGIG		**1.79**	**11**	*e*P	Pn	09 54 05.0	-1.8
TGIG				*e*S	Sn	09 54 26.0	-2.5
CCIG	**Comitan**	**1.80**	**45**	*e*P	Pn	09 54 06.2	-0.9
CCIG				*i* S	Sn	09 54 26.5	-2.3
CMIG	**Matias Romero**	**2.48**	**327**	*i* P	Pn	09 54 15.6	-0.6
CMIG				*i* S	Sn	09 54 43.8	-1.5

UCR 27 09:57:26.7±2.3, 9°.31N×82°.71W, h12km±11km, MD3.6, ML3.8, 4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.51**	**178**	⇓*i*P	Pg	09 57 36.5	-0.3
	baz=354,slow=2.4						
BRU2				AMP		09 57 37.2	
	comp=Z,6μm,0.0s						
BRU2				*e*S	Sg	09 57 43.9	+0.3
TBS2		**0.51**	**174**	*i* P	Pg	09 57 35.3	-1.5
TBS2				AMP		09 57 35.7	
	comp=Z,3μm,0.2s						
TBS2				*i* S	Sg	09 57 41.3	-2.4
DRK0	**Durika**	**0.53**	**265**	*e*P	Pg	09 57 36.5	-0.7
DRK0				*i* S	Sg	09 57 43.9	-0.3
EDSV	**San Vito**	**0.55**	**208**	⇓*i*P	Pg	09 57 37.6	+0.1
EDBA	**Buenos Aires**	**0.58**	**256**	⇓*e*P	Pg	09 57 38.0	+0.1
EDBA				*e*S	Sb	09 57 46.8	-0.1
EDPN	**Palmar Norte**	**0.81**	**245**	*e*P	Pg	09 57 42.6	+0.1
EDPN				*e*S	Sb	09 57 54.2	+0.5
DVD	**David**	**0.90**	**163**	⇓*i*P	Pg	09 57 43.5	-0.7
	baz=345,slow=2.4						
DVD				*e*S	Sg	09 57 56.1	+0.2
PTJ1	**Puerto Jimnez**	**0.96**	**217**	*i* P	Pg	09 57 44.4	-1.0
HDC	**Heredia**	**1.55**	**297**	*e*P	Pn	09 57 53.9	-0.3
JTS	**Las Juntas de**	**2.42**	**294**	*e*P	Pn	09 58 06.6	+0.5
BCIP	**Isla Barro Col**	**2.84**	**93**	*e*P	Pn	09 58 09.9	-2.0
FRIJ	**El Hiral**	**2.95**	**91**	*e*P	Pn	09 58 11.5	-1.9

*ISCJB **27** 10:22:16.5±0.7, 33°.53S±0°.03×72°.05W±0°.06, h43km±9km, Error ellipse: s-maj=8.8km s-min=5.1km az=24.0*
*GUC **27** 10:22:17.0±0.5, 33°.60S×71°.99W, h14km±4km, ML4.1*
*NEIC **27** 10:22:17.0±0.0, 33°.60S×71°.99W, h14km, mb4.1/3, ML4.1(GUC), After GUC.*
NEIC Felt [III] at El Tabo and San Antonio and [II] at Algarrobo and Quillota.
*IDC **27** 10:22:18.4±3.0, 33°.55S×72°.12W, h43km±27km, mb3.3/4, mb1 3.8/8, mb1mx3.6/24, mbtmp3.7/8, ML4.0/4, Error ellipse: s-maj=35.3km s-min=25.2km az=102.0*

ISC 27 10:22:16.4±2.2, 33°.53S±0°.05×72°.03W±0°.07, h27km±16km, n40, σ1°.12/50, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.01**	**57**	*e*Pg	**Pn**	**10 22 35.6**	**+0.4**
ROC1				*e*Sg	**Sn**	**10 22 49.0**	**+0.3**
ROCH	**El Roble**	**1.02**	**57**	*e*P	**Pn**	**10 22 35.0**	**-0.2**
ROCH				*e*S	**Sb**	**10 22 48.5**	**-0.2**
ROCH				IAML		10 22 54.1	
	comp=N,6μm,0.4s						
ANTU	**Antumapu**	**1.17**	**92**	*e*P	**Pn**	**10 22 36.6**	**-0.5**
ANTU				*e*S	**Sn**	**10 22 51.0**	**-1.2**
ANTU				IAML		10 22 57.2	
	comp=E,8μm,0.1s						
PEL	**Peldehue**	**1.19**	**72**	*e*Pn	**Pn**	**10 22 37.3**	**0.0**
PEL				*e*Sn	**Sn**	**10 22 50.9**	**-1.8**
PEL	**Peldehue**	**1.19**	**72**	*e*P	**Pn**	**10 22 37.2**	**-0.2**
PEL				*e*S	**Sn**	**10 22 52.7**	**0.0**
PEL				IAML		10 22 56.2	
	comp=N,11μm,0.4s						
CLCH	**Cerro Calan**	**1.26**	**84**	*e*P	**Pn**	**10 22 38.3**	**0.0**
CLCH				*e*S	**Sn**	**10 22 54.2**	**-0.2**
CLCH				IAML		10 22 59.1	
	comp=N,8μm,0.3s						
FSR	**Penalolen**	**1.26**	**88**	*e*P	**Pn**	**10 22 37.9**	**-0.4**
FSR				*e*S	**Sn**	**10 22 53.9**	**-0.5**
FCH	**Farellones**	**1.47**	**83**	*e*P	**Pn**	**10 22 42.1**	**+0.7**
FCH				*e*S	**Sb**	**10 23 01.1**	**-0.6**
FCH				IAML		10 23 05.1	
	comp=N,9μm,0.3s						
GO05	**Huala**	**1.48**	**177**	*e*Pn	**Pn**	**10 22 41.3**	**0.0**
GO05				*e*Sn	**Sn**	**10 22 58.9**	**-0.9**
GO05	**Huala**	**1.48**	**177**	*e*P	**Pn**	**10 22 40.7**	**-0.6**
GO05				*e*S	**Sn**	**10 22 58.6**	**-1.2**
GO05				IAML		10 23 04.5	
	comp=E,3μm,0.5s						
LMEL	**Las Melosas**	**1.56**	**102**	*e*P	**Pn**	**10 22 42.4**	**-0.2**
LMEL				*e*S	**Sn**	**10 23 01.8**	**-0.2**
LMEL				IAML		10 23 08.5	
	comp=N,6μm,0.4s						
CCHI	**Chillan**	**3.07**	**181**	*e*P	**Pn**	**10 23 04.4**	**+1.3**
CCHI				*e*S	**Sn**	**10 23 40.5**	**+1.6**
CCHI				IAML		10 24 04.6	
	comp=N,912nm,0.6s						
GO04	**Tololo Observa**	**3.51**	**18**	*e*Pn	**Pn**	**10 23 10.3**	**+0.9**
CFA	**Coronel Fontan**	**3.73**	**60**	P	**Pn**	**10 23 16.1**	**+3.7**
	comp=N,25nm,0.3s,baz=233,slow=12,SNR=50						
CFA				S	**Sb**	**10 24 04.6**	**-1.9**
	comp=N,19nm,0.3s,baz=246,slow=11,SNR=3.9						
LCO	**Las Campanas**	**4.65**	**15**	*e*Pn	**Pn**	**10 23 25.4**	**+0.3**
GO06	**Curarrehue**	**6.06**	**176**	*e*Pn	**Pn**	**10 23 46.4**	**+2.0**
GO03	**Copiap**	**6.12**	**15**	*e*Pn	**Pn**	**10 23 44.9**	**-0.2**
PLCA	**Paso Flores**	**7.29**	**171**	P	**Pn**	**10 24 01.7**	**+0.6**
	comp=N,0.7nm,0.3s,baz=356,slow=14,SNR=16						
GO02	**Mina Guanaco**	**8.60**	**15**	*e*Pn	**Pn**	**10 24 19.9**	**+0.4**
TRQA	**Tornquist**	**9.33**	**122**	*e*Pn	**Pn**	**10 24 32.3**	**+3.2**
CPUP	**Villa Florida**	**14.62**	**64**	P	**Pn**	**10 25 42.5**	**+1.0**
	comp=N,0.1nm,0.3s,baz=248,slow=11,SNR=2.3						
LPAZ	**La Paz**	**17.52**	**13**	*e*Pn	**P**	**10 26 21.0**	**+0.5**
	comp=N,3.3nm,0.9s						
LPAZ	**La Paz**	**17.52**	**13**	P	**Pn**	**10 26 19.7**	**+0.2**
	comp=N,0.1nm,0.3s,baz=206,slow=5.3,SNR=9.8						
SIV	**San Ignacio**	**20.07**	**32**	P	**P**	**10 26 48.0**	**+0.1**
	comp=N,0.7nm,0.6s,baz=222,slow=13,SNR=4.9						
LTX	**Lajitas**	**69.33**	**331**	*e*P	**P**	**10 33 22.3**	**+0.7**
TXAR	**Lajitas Array**	**69.33**	**331**	P	**P**	**10 33 22.3**	**+0.7**
	comp=N,0.4nm,0.6s,baz=148,slow=8.9,SNR=6.3						
WVT	**Waverly**	**70.86**	**347**	*e*P	**P**	**10 33 31.9**	**+1.2**
	comp=N,4.9nm,0.9s						
NV01	**Mina Array Sit**	**83.50**	**325**	*e*P	**P**	**10 34 40.5**	**-1.4**
NVAR	**Mina Array Bea**	**83.50**	**325**	P	**P**	**10 34 40.5**	**-1.4**
	comp=N,0.1nm,0.3s,baz=160,slow=2.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**84.05**	**70**	P	**P**	**10 34 44.1**	**-0.8**
	comp=N,1.3nm,0.7s,baz=286,slow=3.8,SNR=7.5						
TOA1	**Torodi Ar. Sit**	**84.05**	**70**	*e*P	**P**	**10 34 44.1**	**-0.8**
WR1	**Warramunga Arr**	**121.17**	**209**	*e*PKPdf	**PKPdf**	**10 41 06.8**	**-0.6**
WRA	**Warramunga Arr**	**121.17**	**209**	PKP	**PKPdf**	**10 41 06.8**	**-0.6**
	comp=N,12nm,0.3s,baz=160,slow=2.7,SNR=2.8						
H11S2	**WAKE ISLAND Hyl**	**25.78**	**269**	T	T	13 00 08.5	
	baz=118						
H11S1	**WAKE ISLAND Hyl**	**25.79**	**269**	T	T	13 00 06.4	
	baz=118,SNR=7.8						
H11S3	**WAKE ISLAND Hyl**	**25.80**	**269**	T	T	13 00 09.5	
	baz=118						
BVAR	**Borovoye Array**	**146.93**	**42**	PKPbc	**PKPbc**	**10 41 56.7**	**+0.8**
	comp=N,0.7nm,0.5s,baz=318,slow=4.1,SNR=4.8						
KURBB	**Kurchatov Arra**	**152.52**	**43**	PKPbc	**PKPbc**	**10 42 09.5**	**-0.3**
	comp=N,0.5nm,0.6s,baz=302,slow=3.1,SNR=4.4						
MK32	**Makanchi Array**	**156.45**	**48**	*e*PKPab	**PKPab**	**10 42 36.9**	**-0.3**
MKAR	**Makanchi Array**	**156.45**	**48**	P

KBK ⇓*i*S **Sg** **10 24 50.7 +0.1**
baz=66
DGS Degeres 0.56 7 P **Pg** **10 24 43.3 -0.6**
1.4nm,0.3s
DGS S **Sg** **10 24 51.8 +0.6**
8.7nm,0.4s
ULHL Ulahol 0.61 137⇑*i*P **Pg** **10 24 44.2 -0.6**
baz=37
ULHL ⇑*i*S **Sg** **10 24 53.2 +0.6**
baz=37
KZA Kyzart 0.69 208⇑*i*P **Pg** **10 24 46.2 -0.2**
baz=7.0
KZA ⇑*i*S **Sg** **10 24 55.9 +0.6**
baz=7.0
CHMS Chumysh 0.75 295⇑*i*P **Pg** **10 24 46.8 -0.8**
baz=95
CHMS ⇑*i*S **Sg** **10 24 57.4 0.0**
baz=95
AAK Ala-Archa 0.88 267 ⇑P **Pg** **10 24 49.3 -0.7**
0.9nm,0.5s
AAK ⇓S **Sg** **10 25 01.1 -0.3**
3.2nm,0.5s
AAK Ala-Archa 0.88 267⇓*i*P **Pg** **10 24 49.5 -0.5**
baz=67
AAK ⇓*i*S **Sg** **10 25 01.3 -0.1**
baz=67
UCH Uchtor 0.98 242⇓*i*P **Pg** **10 24 51.2 -0.8**
baz=42
UCH ⇓*i*S **Sg** **10 25 05.1 +0.4**
baz=42
MDOK Medeo 1.11 64 ⇑P **Pg** **10 24 53.5 -1.0**
3.6nm,0.7s
MDOK ⇑S **Sb** **10 25 10.2 -0.2**
7.7nm,1.0s
KTBS Karatobe 1.26 35 P **Pg** **10 24 56.1 -1.2**
1.2nm,0.2s
KTBS S **Sb** **10 25 14.2 -0.4**
5.3nm,0.4s
NRN Naryn 1.28 169⇑*i*P **Pg** **10 24 57.2 -0.4**
baz=70
NRN ⇑*i*S **Sb** **10 25 15.0 -0.4**
baz=70
AML Almayashu 1.57 250⇑*i*P **Pn** **10 25 02.1 -0.7**
baz=50
AML ⇑*i*S **Sb** **10 25 23.6 -0.4**
baz=50
MRKS Merke 1.81 273 Pg **Pb** **10 25 06.4 -0.9**
3.2nm,0.1s
MRKS Lg Lg 10 25 32.3
5.0nm,0.3s
TARG Taragay, Kyrgy 1.84 121⇑*i*P **Pb** **10 25 07.3 -0.8**
baz=21
TARG ⇑*i*S **Sg** **10 25 32.3 -0.2**
baz=21
PDGK Podgornoye 2.87 76 ⇓Pg **Pb** **10 25 24.3 -1.0**
2.2nm,0.8s
PDGK ⇑Lg Lg 10 26 03.4
3.0nm,0.7s
PDGK Podgornoye 2.87 76⇑*i*P **Pn** **10 25 21.5 +1.2**
baz=76
PDGK ⇑*i*S **Sn** **10 25 57.3 +1.8**
baz=76
KK31 Karatay Array 3.82 278 ⇓Pg **Pb** **10 25 43.3 +1.8**
0.5nm,0.5s,baz=94,slow=16,SNR=8.1
KK31 ⇑Lg Lg 10 26 32.8
0.9nm,0.6s,baz=90,slow=28,SNR=3.6

UCR 27 10:59:09.3±2.4,9°29N×82°74W,h9km±11km,MD2.9, ML3.6,2D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK0	**Durika**	**0.50**	**267**	*e*P	Pg	10 59 19.3	+0.3
DRK0				AMP		10 59 19.8	
	comp=Z,106μm,0.1s						
DRK0				*e*S	Sb	10 59 26.9	-0.8
BRU2	**Volcan**	**0.50**	**174**	⇓*i*P	Pb	10 59 19.8	-0.5
BRU2				AMP		10 59 20.6	
	comp=Z,3μm,0.0s						
BRU2				*e*S	Sb	10 59 27.5	-0.3
TBS2		**0.50**	**170**	*e*P	Pg	10 59 18.9	-0.2
TBS2				AMP		10 59 19.0	
	comp=Z,2μm,0.2s						
TBS2				*e*S	Sg	10 59 26.1	+0.4
EDSV	**San Vito**	**0.52**	**206**	*e*P	Pb	10 59 20.9	+0.2
EDPN	**Palmar Norte**	**0.78**	**245**⇓*e*P		Pb	10 59 25.5	+0.5
DVD	**David**	**0.90**	**161**	*e*P	Pb	10 59 26.9	-0.1
DVD				AMP		10 59 29.4	
	comp=Z,424nm,0.3s						
DVD				*e*S	Sb	10 59 39.2	+0.1
HDC	**Heredia**	**1.52**	**298**	*e*P	Pn	10 59 36.4	-0.5
HDC				*e*S	Sn	10 59 56.7	-0.2
SRA1	**San Ramn**	**1.89**	**295**	*e*P	Pn	10 59 38.3	-3.5
JTS	**Las Juntas de**	**2.39**	**295**	*e*P	Pn	10 59 49.1	+0.3
CUI	**Cuipilapa**	**2.74**	**300**	*e*P	Pn	10 59 55.0	+1.5
AZU	**Azuero**	**2.86**	**121**	*e*S	Sn	11 00 32.4	+2.7
BCIP	**Isla Barro Col**	**2.87**	**92**	*e*S	Sn	11 00 25.3	-4.7

IDC ***27*** *11:06:05.6±0.7,54°.15S×136°.26W,h0km,mb4.1/7, mb1 4.3/7,mb1mx4.1/25,mbtmp4.1/7,MS4.8/18, Ms1 4.8/18,ms1mx4.7/23,Error ellipse: s-maj=30.4km s-min=20.9km az=163.0*
ISCJB ***27*** *11:06:06.5±0.6,54°.24S±0°.10×136°.0W±0°.2,h10km, mb4.5/18,MS5.0/85,Error ellipse: s-maj=17.3km s-min=10.6km az=135.5*
NEIC ***27*** *11:06:08.4±2.3,54°.22S×135°.82W,h10km,mb4.7/14, MS5.0/70,Error ellipse: s-maj=31.0km s-min=21.6km az=322.0*
GCMT ***27*** *11:06:16.4±0.1,54°.67S±0°.01×135°.68W±0°.01,h18km, MW5.5/116,Moment Tensor Solution. s104,c158; s116,c236; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.24±.04; $M_{\theta\theta}$1.88±.04; $M_{\phi\phi}$-1.64±.03; $M_{r\theta}$0.32±.09; $M_{\theta\phi}$1.84±.03; $M_{r\phi}$0.31±.08; Best double couple: $M_0$2.58200×10^{17} NP1:ϕ_s22.00000°,δ87.00000°, λ171.00000°. NP2:ϕ_s112.00000°,δ81.00000°,λ3.00000°. Principal axes: T 2.7260, Plg8.0000°, Azm337.0000°; N -0.2930, Plg81.0000°, Azm185.0000°; P -2.4380, Plg4.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 27 11:06:08.3±0.6,54°.2S±0°.1×136°.1W±0°.1,h10km,n139, σ_2s19/44,mb4.7/18,MS5.0/86,2D,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**30.86**	**200**	*e*P	**P**	**11 12 25.2**	**+1.1**
SBA				LR	LR		
	comp=Z,2μm,21.0s						
RKT	**Rikitea**	**31.06**	**2**	*e*LR	LR	11 20 22.1	
	comp=Z,5μm,30.0s						
RKT	**Rikitea**	**31.06**	**2**	*e*T	T	11 45 12.8	
	comp=Z,11nm,0.2s						
VNDA	**Vanda**	**31.81**	**201**	*e*P	**P**	**11 12 34.2**	**+1.7**
	comp=Z,8.0nm,1.3s						
VNDA	**Vanda**	**31.81**	**201**	P	**P**	**11 12 31.8**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=138,slow=4.0,SNR=6.2						
VNDA				LR	LR	11 22 00.1	
	comp=Z,1μm,21.8s,baz=82,slow=30						
TBI	**Tubuai**	**32.43**	**337**	*e*LR	LR	11 20 54.6	
	comp=Z,6μm,30.0s,baz=166						
TBI	**Tubuai**	**32.43**	**337**	*e*T	T	11 47 02.4	
	comp=Z,80nm,0.3s						
MQZ	**McQueen's Vall**	**34.55**	**266**	PFAKE		11 13 10.0	+13
MQZ				LR	LR		
	comp=Z,2μm,20.0s						
BKZ	**Black Stump Fm**	**35.13**	**276**	PFAKE		11 13 20.0	+18
BKZ				LR	LR		
	comp=Z,2μm,20.0s						
OXZ	**Oxford**	**35.13**	**266**	PFAKE		11 13 10.0	+8.3
OXZ				LR	LR		
	comp=Z,3μm,22.0s						
URZ	**Urewera**	**35.37**	**277**	PFAKE		11 13 20.0	+16
URZ				LR	LR		
	comp=Z,2μm,21.0s						
QSPA	**South Pole Qui**	**35.95**	**180**	*e*P	**P**	**11 13 08.0**	**-0.7**
	comp=Z,9.9nm,0.9s						
QSPA				LR	LR		
	comp=Z,3μm,18.0s						
PMSA	**Palmer Station**	**36.00**	**136**	PFAKE		11 13 20.0	+11
PMSA				LR	LR		
	comp=Z,4μm,20.0s						
USHA	**Ushuaia**	**37.87**	**119**	P	**P**	**11 13 25.4**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=243,slow=13,SNR=1.8						
PPT2	**Papeete2**	**38.02**	**339**	*e*S	S	11 18 47.6	-31
	comp=Z,722nm,27.5s						
PPT2				*e*LQ	LQ	11 21 50.7	
	comp=Z,734nm,27.0s						
PPT2				*e*LR	LR	11 23 30.0	
	comp=Z,6μm,27.2s,baz=172						
PPT2	**Papeete2**	**38.02**	**339**	*e*T	T	11 54 06.9	
	comp=Z,12nm,0.3s						
PPT	**Papeete**	**38.04**	**339**	LR	LR	11 25 14.0	
	comp=Z,1μm,19.4s,baz=162,slow=30						
VAH	**Vaihoa**	**39.93**	**342**	*e*T	T	11 56 27.9	
	comp=Z,36nm,0.2s						
PMOR	**Pomariorio Ree**	**40.21**	**342**	*e*T	T	11 56 49.8	
	comp=Z,3.7nm,0.2s						
PLCA	**Paso Flores**	**44.68**	**100**	LR	LR	11 28 37.9	
	comp=Z,2μm,19.4s,baz=256,slow=30						
GO05	**Huala**	**47.73**	**94**	PFAKE		11 15 00.0	+15
GO05				LR	LR		
	comp=Z,3μm,20.0s						
VNA3	**Neumayer Olymp**	**49.23**	**160**	P	**P**	**11 14 56.4**	**+0.2**
CASY	**Casey**	**49.77**	**209**	*e*P	**P**	**11 15 01.1**	**+0.8**
	comp=Z,24nm,1.4s						
PEL	**Peldehue**	**49.78**	**93**	*e*P	**P**	**11 15 00.3**	**-0.7**
	comp=Z,13nm,1.0s						
VNA2	**Neumayer--Watz**	**49.93**	**160**	P	**P**	**11 14 59.0**	**-2.6**
	baz=240,slow=8.5						
VNA1	**Neumayer--Stat**	**49.98**	**160**	P	**P**	**11 15 03.4**	**+1.5**
SNAA	**Sanae**	**50.17**	**163**	P	**P**	**11 15 03.7**	**+0.3**
SNAA	**Sanae**	**50.17**	**163**	*e*P	**P**	**11 15 02.3**	**-1.1**
	comp=Z,8.0nm,1.0s						
SNAA				LR	LR		
	comp=Z,2μm,20.0s						
TRQA	**Tornquist**	**51.39**	**104**	*e*P	**P**	**11 15 11.9**	**-1.1**
	comp=Z,8.6nm,1.1s						
TRQA				LR	LR		
	comp=Z,2μm,19.0s						
GO04	**Tololo Observa**	**51.86**	**90**	*e*P	**P**	**11 15 15.2**	**-1.7**
	comp=Z,12nm,1.0s						
DZM	**Mont Dzumac**	**53.48**	**283**	*e*LR	LR	11 30 05.7	
	comp=Z,2μm,24.9s						
DZM	**Mont Dzumac**	**53.48**	**283**	LR	LR	11 32 51.2	
	comp=Z,823nm,21.6s,baz=173,slow=30						
CAN	**Canberra**	**53.80**	**258**	PFAKE		11 15 40.0	+9.1
CAN				LR	LR		
	comp=Z,700nm,21.0s						
SYO	**Syowa Base**	**57.05**	**178**⇓*e*P		**P**	**11 15 54.3**	**+0.6**
SYO	**Syowa Base**	**57.05**	**178**⇓*i*pP		pP	11 15 56.7	+0.7
MAW	**Mawson**	**57.68**	**188**	*e*P	**P**	**11 16 00.9**	**+2.7**
	comp=Z,2.0nm,0.9s						
MAW				LR	LR		
	comp=Z,200nm,20.0s						
MAW	**Mawson**	**57.68**	**188**	P	**P**	**11 15 56.9**	**-1.2**
	comp=Z,4.3nm,1.0s,baz=161,slow=14,SNR=3.9						
MAW				LR	LR	11 39 57.2	
	comp=Z,810nm,18.6s,baz=158,slow=35						
LVC	**Limon Verde**	**58.66**	**86**	*e*P	**P**	**11 16 05.5**	**-0.7**
	comp=Z,5.5nm,0.8s						
STKA	**Stephens Creek**	**60.53**	**256**	PFAKE		11 16 30.0	+11
STKA				LR	LR		
	comp=Z,200nm,20.0s						
STKA	**Stephens Creek**	**60.53**	**256**	LR	LR	11 38 34.3	
	comp=Z,687nm,19.3s,baz=175,slow=32						
NNA	**Nana**	**62.54**	**71**	PFAKE		11 16 40.0	+7.7
NNA				LR	LR		
	comp=Z,2μm,19.0s						
CPUP	**Villa Florida**	**62.61**	**98**	P	**P**	**11 16 31.8**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=233,slow=11,SNR=6.0						
CPUP				LR	LR	11 39 12.7	
	comp=Z,2μm,20.9s,baz=220,slow=32						
BBOO	**Buckleboo**	**62.95**	**251**	PFAKE		11 16 50.0	+15
BBOO				LR	LR		
	comp=Z,2μm,22.0s						
LPAZ	**La Paz**	**64.06**	**82**	*e*P	**P**	**11 16 41.6**	**-1.4**
	comp=Z,11nm,1.4s						
LPAZ	**La Paz**	**64.06**	**82**	P	**P**	**11 16 42.1**	**-0.9**
	comp=Z,5.8nm,1.2s,baz=270,slow=5.1,SNR=4.5						
LPAZ				LR	LR	11 38 22.0	
	comp=Z,214nm,19.4s,baz=210,slow=30						
SPB	**Sao Paulo**	**70.43**	**103**	*e*P	**P**	**11 17 23.3**	**+0.7**
	comp=Z,28nm,1.4s						
SPB				LR	LR		
	comp=Z,2μm,19.0s						
AS31	**Alice Springs**	**71.17**	**256**	*e*P	**P**	**11 17 26.6**	**-0.7**
	comp=Z,2.5nm,0.9s						
ASAR	**Alice Springs**	**71.17**	**256**	P	**P**	**11 17 26.1**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=140,slow=7.2,SNR=31						
ASAR				LR	LR	11 43 49.3	
	comp=Z,749nm,21.1s,baz=184,slow=32						
OTAV	**Otavalo**	**71.86**	**63**	*e*P	**P**	**11 17 33.4**	**+1.5**
	comp=Z,8.1nm,1.3s						
OTAV				LR	LR		
	comp=Z,100nm,20.0s						
H01W1	**Cape Leeuwin H**	**72.69**	**234**	T	T	12 37 51.1	
	baz=144,slow=76,SNR=36						
H01W2	**Cape Leeuwin H**	**72.70**	**234**	T	T	12 38 01.1	
	baz=144,slow=76,SNR=40						
H01W3	**Cape Leeuwin H**	**72.71**	**234**	T	T	12 37 57.9	
	baz=144,slow=76,SNR=40						
WB2	**Warramunga Arr**	**73.83**	**258**	PFAKE		11 18 00.0	+17
WB2				LR	LR		
	comp=Z,1μm,18.0s						
WRAB	**Tennant Creek**	**73.84**	**258**	PFAKE		11 18 00.0	+17
WRAB				LR	LR		
	comp=Z,1μm,18.0s						
SOTA	**Rioblanco**	**74.44**	**63**	*e*P	P	11 17 52.2	+5.0
SOTA	**Rioblanco**	**74.44**	**63**	*e*P	P	11 17 52.2	+5.0
JCUZ	**Jacuzzi**	**75.10**	**341**	PFAKE		11 18 00.0	+10
JCUZ				LR	LR		
	comp=Z,2μm,20.0s						
WRMHI	**West Rim**	**75.16**	**341**	PFAKE		11 18 00.0	+9.3
WRMHI				LR	LR		
	comp=Z,1μm,20.0s						
OBL	**Observatory Le**	**75.17**	**341**	PFAKE		11 18 00.0	+9.3
OBL				LR	LR		
	comp=Z,2μm,18.0s						
BDFB	**Brasilia**	**76.34**	**98**	PFAKE		11 18 10.0	+12
BDFB				LR	LR		
	comp=Z,2μm,22.0s						
BDFB	**Brasilia**	**76.34**	**98**	LR	LR	11 47 25.2	
	comp=Z,1μm,21.2s,baz=212,slow=32						
TRIS	**Tristan da Cun**	**77.01**	**137**	PFAKE		11 18 10.0	+8.9
TRIS				LR	LR		
	comp=Z,16μm,22.0s						
GUY2C	**Guyana, Caldas**	**77.70**	**63**	*e*P	**P**	**11 18 09.8**	**+4.1**
GUY2C	**Guyana, Caldas**	**77.70**	**63**	*e*P	**P**	**11 18 09.8**	**+4.1**
ROSC	**El Rosal**	**77.92**	**64**	LR	LR	11 45 35.8	
	comp=Z,461nm,21.7s,baz=208,slow=30						
NORC	**Norcasia**	**78.24**	**63**	*e*P	**P**	**11 18 09.0**	**+0.8**
NORC	**Norcasia**	**78.24**	**63**	*e*P	**P**	**11 18 09.0**	**+0.8**
BCIP	**Isla Barro Col**	**78.80**	**57**	PFAKE		11 18 20.0	+8.8
BCIP				LR	LR		
	comp=Z,900nm,19.0s						
PTBC	**PUERTO BERRIO,**	**79.28**	**63**	*e*P	**P**	**11 18 16.6**	**+2.7**
PTBC	**PUERTO BERRIO,**	**79.28**	**63**	*e*P	**P**	**11 18 16.6**	**+2.7**
RUSC	**La Rusia**	**79.46**	**64**	*e*P	**P**	**11 18 18.6**	**+3.2**
RUSC	**La Rusia**	**79.46**	**64**	*e*P	**P**	**11 18 18.6**	**+3.2**
FITZ	**Fitzroy Crossi**	**80.25**	**253**	LR	LR	11 50 08.8	
	comp=Z,693nm,19.5s,baz=138,slow=33						
PSAC3	**Pilbara Seismi**	**80.60**	**246**	PFAKE		11 18 30.0	+8.9
PSAC3				LR	LR		
	comp=Z,1μm,19.0s						
PTGA	**Pitinga**	**81.29**	**79**	PFAKE		11 18 40.0	+15
PTGA				LR	LR		
	comp=Z,800nm,20.0s						
H11S2	**WAKE ISLAND Hy**	**87.33**	**307**	T	T	12 56 07.0	
	baz=148,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**87.34**	**307**	T	T	12 56 04.0	
	baz=148,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**87.35**	**307**	T	T	12 56 00.6	
	baz=148,slow=76,SNR=18						
BATI	**Baumata**	**87.74**	**256**	LR	LR	11 56 56.2	
	comp=Z,466nm,18.3s,slow=35						
LTX	**Lajitas**	**87.79**	**28**	*e*P	**P**	**11 18 56.8**	**-0.5**
TXAR	**Lajitas Array**	**87.79**	**28**	P	**P**	**11 18 56.8**	**-0.5**
	comp=Z,0.3nm,1.0s,baz=202,slow=4.6,SNR=2.9						
H11N3	**WAKE ISLAND Hy**	**88.30**	**308**	T	T	12 57 07.2	
	baz=149,slow=76,SNR=7.0						
H11N1	**WAKE ISLAND Hy**	**88.30**	**308**	T	T	12 57 14.0	
	baz=149,slow=76,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**88.31**	**308**	T	T	12 57 08.3	
	baz=149,slow=76,SNR=6.4						
RCBR	**Riachuelo**	**91.23**	**102**	PFAKE		11 19 20.0	+6.1
RCBR				LR	LR		
	comp=Z,1μm,18.0s						
WUAZ	**Wupatki**	**91.88**	**20**	PFAKE		11 19 30.0	+14
WUAZ				LR	LR		
	comp=Z,400nm,20.0s						
MDPB	**Devils Postpil**	**92.64**	**13**	PFAKE		11 19 30.0	+10
MDPB				LR	LR		
	comp=Z,600nm,19.0s						
MCCM	**Marconi Confer**	**92.69**	**10**	PFAKE		11 19 30.0	+10
MCCM				LR	LR		
	comp=Z,600nm,20.0s						
CMB	**Columbia Colle**	**92.87**	**12**	PFAKE		11 19 30.0	+9.3
CMB				LR	LR		
	comp=Z,500nm,19.0s						
WAKR	**Walker**	**93.45**	**13**	PFAKE		11 19 30.0	+6.4
WAKR				LR	LR		
	comp=Z,800nm,20.0s						
NVAR	**Mina Array Bea**	**93.53**	**14**	LR	LR	11 52 28.3	
	comp=Z,542nm,20.0s,baz=188,slow=30						
AFDM	**Forest Hills D**	**93.70**	**12**	PFAKE		11 19 40.0	+15
AFDM				LR	LR		
	comp=Z,400nm,19.0s						
RUBR	**Rubicon Trail**	**93.90**	**12**	PFAKE		11 19 40.0	+14
RUBR				LR	LR		
	comp=Z,600nm,22.0s						
YERR	**Yerington**	**93.95**	**13**	PFAKE		11 19 40.0	+14
YERR				LR	LR		
	comp=Z,700nm,20.0s						
PNTR	**Pine Nut**	**94.01**	**13**	PFAKE		11 19 40.0	+14
PNTR				LR	LR		
	comp=Z,600nm,20.0s						
KAPI	**Kappang**	**94.19**	**256**	LR	LR	11 57 55.2	
	comp=Z,182nm,21.4s,baz=156,slow=33						
VCNR	**Virginia City**	**94.20**	**13**	PFAKE		11 19 40.0	+13
VCNR				LR	LR		
	comp=Z,600nm,20.0s						
PAHR	**Pah Rah Range**	**94.64**	**13**	PFAKE		11 19 40.0	+11
PAHR				LR	LR		
	comp=Z,700nm,19.0s						
BEKR	**Beckworth**	**94.68**	**12**	PFAKE		11 19 40.0	+11
BEKR				LR	LR		
	comp=Z,400nm,21.0s						
PV13	**Radium Mtn., P**	**94.95**	**21**	PFAKE		11 19 40.0	+9.4
PV13				LR	LR		
	comp=Z,400nm,19.0s						
PV01	**Paradox Valley**	**94.98**	**21**	PFAKE		11 19 40.0	+9.3
PV01				LR	LR		
	comp=Z,400nm,20.0s						
PV03	**Paradox Valley**	**95.04**	**21**	PFAKE		11 19 40.0	+9.1
PV03				LR	LR		
	comp=Z,400nm,19.0s						
PV11	**David Mesa, Pa**	**95.08**	**21**	PFAKE		11 19 40.0	+8.9
PV11				LR	LR		
	comp=Z,300nm,20.0s						
PV20	**West Nyswonger**	**95.10**	**21**	PFAKE		11 19 40.0	+8.8
PV20				LR	LR		
	comp=Z,300nm,20.0s						
PV10	**Paradox Valley**	**95.11**	**21**	PFAKE		11 19 40.0	+8.7
PV10				LR	LR		
	comp=Z,600nm,20.0s						
WDC	**Whiskeytown Da**	**95.13**	**10**	PFAKE		11 19 40.0	+9.0
WDC				LR	LR		
	comp=Z,600nm,18.0s						
BMN	**Battle Mountai**	**95.66**	**14**	PFAKE		11 19 40.0	+6.4
BMN				LR	LR		
	comp=Z,700nm,18.0s						
BOSA	**Boshof**	**95.95**	**164**	LR	LR	11 56 31.6	
	comp=Z,1μm,21.9s,baz=196,slow=32						
YBH	**Yreka Blue Hor**	**96.26**	**10**	PFAKE		11 19 50.0	+14
YBH				LR	LR		
	comp=Z,600nm,22.0s						
WVOR	**Wild Horse Val**	**97.42**	**13**	PFAKE		11 19 50.0	+8.4
WVOR				LR	LR		
	comp=Z,500nm,20.0s						
HBAR	**Harrisburg**	**97.60**	**36**	PFAKE		11 19 50.0	+7.6
HBAR				LR	LR		
	comp=Z,400nm,19.0s						
HWUT	**Hardware Ranch**	**97.73**	**18**	PFAKE		11 19 50.0	+6.9
HWUT				LR	LR		
	comp=Z,300nm,19.0s						
J08A	**Circle Bar Ran**	**98.36**	**13**	PFAKE		11 20 00.0	+14
J08A				LR	LR		
	comp=Z,500nm,19.0s						
GLAT	**Glass**	**98.72**	**37**	PFAKE		11 20 00.0	+13
GLAT				LR	LR		
	comp=Z,100nm,20.0s						
I07A	**Izee**	**98.94**	**12**	PFAKE		11 20 00.0	+12
I07A				LR	LR		
	comp=Z,200nm,19.0s						
HLID	**Hailey**	**99.15**	**16**	PFAKE		11 20 00.0	+11
HLID				LR	LR		
	comp=Z,500nm,21.0s						
H04A	**Detroit Lake**	**99.23**	**10**	PFAKE		11 20 00.0	+11
H04A				LR	LR		
	comp=Z,400nm,18.0s						
PDAR	**Pinedale Array**	**99.24**	**19**	LR	LR	11 56 00.5	
	comp=Z,344nm,20.9s,baz=214,slow=30						
LEM	**Lembang**	**99.38**	**244**	LR	LR	11 57 09.7	
	comp=Z,139nm,20.8s,baz=132,slow=31						
G06A	**Carlson Farm,**	**99.94**	**11**	PFAKE		11 20 00.0	+7.3
G06A				LR	LR		
	comp=Z,600nm,18.0s						
BMO	**Blue Mountains**	**99.98**	**13**	PFAKE		11 20 00.0	+7.1
BMO				LR	LR		
	comp=Z,400nm,19.0s						
HAWA	**Hanford**	**101.21**	**12**	PFAKE		11 20 10.0	+12
HAWA				LR	LR		
	comp=Z,400nm,19.0s						
LTY	**Liberty**	**101.94**	**11**	PFAKE		11 20 10.0	+8.5
LTY				LR	LR		
	comp=Z,500nm,20.0s						
MSO	**Missoula**	**102.41**	**15**	PFAKE		11 20 20.0	+16
MSO				LR	LR		
	comp=Z,700nm,20.0s						
V60A	**Jim Taylor Roa**	**102.91**	**46**	PFAKE		11 20 20.0	+14
V60A				LR	LR		
	comp=Z,600nm,19.0s						
TSUM	**Tsumeb**	**103.46**	**154**	PFAKE		11 20 20.0	+11
TSUM				LR	LR		
	comp=Z,1μm,22.0s						
T59A	**Double "B" Far**	**103.83**	**45**	PFAKE		11 20 20.0	+10
T59A				LR	LR		
	comp=Z,400nm,20.0s						
R55A	**Marlinton**	**103.92**	**42**	PFAKE		11 20 20.0	+9.5
R55A				LR	LR		
	comp=Z,300nm,19.0s						
T60A	**Surry**	**104.31**	**45**	PFAKE		11 20 20.0	+7.8
T60A				LR	LR		
	comp=Z,500nm,19.0s						
CBN	**Corbin Frederi**	**104.95**	**44**	PFAKE		11 20 30.0	+15
CBN				LR	LR		
	comp=Z,400nm,19.0s						
ILAR	**Eielson Array**	**118.95**	**355**	PKP	**PKPdf**	**11 24 54.6**	**-0.9**
	comp=Z,0.1nm,0.6s,baz=198,slow=1.8,SNR=2.3						
CMAR	**Chiang Mai Arr**	**125.06**	**252**	PKP	**PKPdf**	**11 25 08.2**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=194,slow=1.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**127.34**	**125**	PKP	**PKPdf**	**11 25 11.4**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=228,slow=0.7,SNR=2.5						
TOA1	**Torodi Ar. Sit**	**127.34**	**125**	*e*PKPdf	**PKPdf**	**11 25 11.4**	**-1.8**
HHC	**Hu-ho-hao-te**	**134.18**	**282**	*e*PKP	**PKiKP**	**11 25 32.3**	**+5.5**
HHC				PP	PP	11 28 16.0	+19
HHC				PKS	**PKSdf**	**11 29 05.3**	**+3.5**
HHC	**Hu-ho-hao-te**	**134.18**	**282**	SS	SS	11 46 01.8	+15
ESDC	**Sonseca Array**	**144.94**	**95**	PKPbc	**PKPbc**	**11 25 43.3**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=285,slow=2.5,SNR=4.6						
MK32	**Makanchi Array**	**154.76**	**269**	*e*PKPab	**PKPab**	**11 26 19.6**	**-4.3**
MKAR	**Makanchi Array**	**154.76**	**269**	PKPab	**PKPab**	**11 26 19.6**	**-4.3**
	comp=Z,0.8nm,0.8s,baz=120,slow=4.9,SNR=5.4						

MOS ***27*** *11:29:27.6±0.8,3°.50S×152°.45E,h461km,mb5.3/68,Error ellipse: s-maj=7.8km s-min=5.0km az=102.5*
BJI ***27*** *11:29:27.3±0.0,3°.29S×152°.83E,h464km,mb5.3/69, mB4.9/41*
ISCJB ***27*** *11:29:28.0±0.4,3°.60S±0°.02×152°.46E±0°.02,h468km±4km, mb5.2/297,Error ellipse: s-maj=3.6km s-min=3.0km az=17.8*
IDC ***27*** *11:29:28.5±0.3,3°.59S×152°.48E,h462km±

ISC 27 11:29:28.9±0.3, 3°57'S±0'.03×152°49'E±0'.04, h468km±2km, h470km:pP-P, n772, σ1°23/872, mb5.1/288, 37C-7D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.70**	**208**	*eP*	**P**	**11 30 26.9**	**+0.6**
RABL				*eS*	**S**	**11 31 14.3**	**+1.5**
MANU	**Manus Island**	**5.34**	**286**	*eP*	**P**	**11 30 59.2**	**+1.7**
PMG	**Port Moresby**	**7.85**	**222**	*eP*	**P**	**11 31 24.4**	**+1.3**
PMG				*eS*	**S**	**11 32 56.4**	**-0.4**
PMG	**Port Moresby**	**7.85**	**222**	*eP*	**P**	**11 31 24.4**	**+1.3**
PMG				*eS*	**S**	**11 32 56.4**	**-0.4**
PMG	**Port Moresby**	**7.85**	**222**	P	**P**	**11 31 24.1**	**+1.0**
	40nm,0.3s,baz=52,slow=5.9,SNR=101						
PMG				S	S	11 32 45.4	-11
	15nm,0.3s,baz=16,slow=11,SNR=4.9						
HNR	**Honiara**	**9.42**	**129**	*eP*	**P**	**11 31 40.0**	**+0.1**
HNR				*eS*	**S**	**11 33 23.0**	**-4.5**
HNR	**Honiara**	**9.42**	**129**	*eP*	**P**	**11 31 39.6**	**-0.2**
HNR				*eS*	**S**	**11 33 25.8**	**-1.8**
HNR	**Honiara**	**9.42**	**129**	*eP*	**P**	**11 31 39.7**	**-0.2**
HNR				*eS*	**S**	**11 33 25.8**	**-1.8**
HNR	**Honiara**	**9.42**	**129**	P	**P**	**11 31 40.0**	**+0.1**
	52nm,0.3s,baz=188,slow=3.4,SNR=25						
HNR				S	**S**	**11 33 26.2**	**-1.4**
	12nm,0.3s,baz=349,slow=23,SNR=10						
PATS	**Pohnpei**	**11.86**	**29**	*eP*	**P**	**11 32 07.1**	**+0.9**
PATS	**Pohnpei**	**11.86**	**29**	P	**P**	**11 32 07.4**	**+1.2**
	baz=12,SNR=23						
GENI	**Genyem**	**12.35**	**274**	P	**P**	**11 32 12.2**	**+0.7**
GENI				S	**S**	**11 34 25.5**	**-0.1**
COEN	**Coen**	**13.82**	**221**	*eP*	**P**	**11 32 28.0**	**+0.7**
COEN				*eS*	**S**	**11 34 53.4**	**-1.1**
COEN	**Coen**	**13.82**	**221**	P	**P**	**11 32 28.9**	**+1.6**
	baz=14,SNR=24						
COEN				S	**S**	**11 34 55.4**	**+0.8**
	baz=14						
CTA	**Charters Tower**	**17.51**	**200**	P	**P**	**11 33 05.8**	**-0.4**
	1.5nm,0.3s,baz=30,slow=11,SNR=23						
CTA				S	**S**	**11 36 06.3**	**+1.9**
	baz=163,slow=8.6,SNR=3.7						
CTAO	**Charters Tower**	**17.51**	**200**	*eP*	**P**	**11 33 06.3**	**+0.2**
	46nm,0.8s						
CTAO	**Charters Tower**	**17.51**	**200**	*eP*	**P**	**11 33 06.3**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,46nm,0.8s						
GUMO	**Guam**	**18.65**	**336**	*eP*	**P**	**11 33 16.6**	**-0.5**
	comp=Z,2μm,1.0s						
GUMO	**Guam**	**18.65**	**336**	*eP*	**P**	**11 33 16.6**	**-0.5**
GUMO				pmax	pmax		
	comp=Z,2μm,1.0s						
GUMO	**Guam**	**18.65**	**336**	P	**P**	**11 33 16.9**	**-0.2**
	comp=Z,40nm,0.3s,baz=167,slow=7.2,SNR=54						
FAKI	**Fak Fak**	**20.22**	**271**	*eP*	**P**	**11 33 31.3**	**-0.3**
	comp=Z,186nm,0.8s						
FAKI	**Fak Fak**	**20.22**	**271**	P	**P**	**11 33 31.8**	**+0.3**
	comp=Z,257nm,0.9s,comp=Z,3μm						
ANA2	**Anatahan**	**20.89**	**341**	*eP*	**P**	**11 33 36.3**	**-1.3**
	comp=Z,440nm,0.8s						
PALU	**Palau**	**21.00**	**301**	P	**P**	**11 33 39.3**	**+0.8**
	baz=21,SNR=12						
TARA	**Tarawa**	**21.00**	**77**	*eP*	**P**	**11 33 38.2**	**-0.4**
	comp=Z,861nm,1.1s						
QIS	**Mount Isa**	**21.04**	**216**	P	**P**	**11 33 38.9**	**0.0**
	baz=21,SNR=9.4						
SARN	**Sarigan**	**21.20**	**342**	*eP*	**P**	**11 33 39.4**	**-1.0**
	comp=Z,547nm,1.7s						
SWI	**Sorong**	**21.39**	**277**	P	**P**	**11 33 42.4**	**+0.3**
EIDS	**Eidsvold**	**21.72**	**183**	*eP*	**P**	**11 33 44.7**	**-0.2**
	comp=Z,23nm,0.8s						
EIDS	**Eidsvold**	**21.72**	**183**	P	**P**	**11 33 44.7**	**-0.2**
	baz=22,SNR=8.7						
KDU	**Kakadu**	**21.77**	**244**	P	**P**	**11 33 44.6**	**-1.0**
	baz=22,SNR=11						
BNDI	**Bandanaira**	**22.55**	**267**	P	**P**	**11 33 53.3**	**+0.6**
DZM	**Mont Dzumac**	**22.84**	**145**	*eP*	**P**	**11 33 55.0**	**-0.2**
	comp=Z,560nm,1.1s						
DZM	**Mont Dzumac**	**22.84**	**145**	*eP*	**P**	**11 33 54.9**	**-0.2**
	comp=Z,176nm,0.8s						
DZM	**Mont Dzumac**	**22.84**	**145**	P	**P**	**11 33 55.1**	**-0.2**
	comp=Z,217nm,1.0s,baz=282,slow=7.1,SNR=82						
ONTNC	**Ouen Toro**	**23.03**	**145**	*eP*	**P**	**11 33 56.3**	**-0.5**
	comp=Z,201nm,1.3s						
RMQ	**Roma**	**23.07**	**189**	P	**P**	**11 33 56.9**	**-0.2**
	baz=23,SNR=9.3						
MARNC	**Mare, Loyalty**	**23.34**	**141**	*eP*	**P**	**11 33 59.4**	**-0.2**
	comp=Z,244nm,0.9s						
WRAB	**Tennant Creek**	**24.04**	**226**	*eP*	**P**	**11 34 05.3**	**-0.5**
	comp=Z,20nm,0.6s						
WRAB	**Tennant Creek**	**24.04**	**226**	*c iP*	**P**	**11 34 05.1**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,16nm,0.6s						
WB2	**Warramunga Arr**	**24.04**	**226**	*eP*	**P**	**11 34 05.4**	**-0.5**
	comp=Z,18nm,0.6s						
WR1	**Warramunga Arr**	**24.05**	**226**	*eP*	**P**	**11 34 05.7**	**-0.3**
WRA	**Warramunga Arr**	**24.05**	**226**	P	**P**	**11 34 05.7**	**-0.3**
	comp=Z,13nm,0.5s,baz=50,slow=9.2,SNR=155						
TNTI	**Ternate**	**25.48**	**279**	*eP*	**P**	**11 34 18.8**	**0.0**
	comp=Z,67nm,1.1s						
TNTI	**Ternate**	**25.48**	**279**	P	**P**	**11 34 18.8**	**0.0**
KNRA	**Kununurra**	**26.27**	**241**	P	**P**	**11 34 24.9**	**-0.8**
	baz=26,SNR=4.1						
SANI	**Sanana**	**26.52**	**273**	P	**P**	**11 34 28.0**	**0.0**
	comp=Z,147nm,1.1s,comp=Z,2μm						
ARMA	**Armidale**	**26.72**	**182**	*eP*	**P**	**11 34 29.6**	**0.0**
	comp=Z,66nm,0.8s						
ARMA	**Armidale**	**26.72**	**182**	P	**P**	**11 34 30.4**	**+0.8**
	baz=27,SNR=24						
AS31	**Alice Springs**	**26.86**	**220**	*eP*	**P**	**11 34 30.2**	**-0.8**
	comp=Z,2.5nm,0.7s						
ASAR	**Alice Springs**	**26.86**	**220**	P	**P**	**11 34 29.9**	**-1.1**
	comp=Z,11nm,0.8s,baz=52,slow=8.1,SNR=86						
ASAR				pP	**pP**	**11 35 50.0**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=52,slow=11,SNR=3.0						
ASAR				ScP	**ScP**	**11 40 33.8**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=36,slow=3.1,SNR=4.4						
FUNA	**Funafuti**	**27.00**	**102**	*eP*	**P**	**11 34 31.8**	**-0.4**
	comp=Z,254nm,1.1s						
SGSI	**Sangihe**	**27.89**	**285**	P	**P**	**11 34 41.1**	**+1.0**
CMSA	**Cobar Meteorol**	**28.55**	**192**	P	**P**	**11 34 45.3**	**-0.3**
	baz=29,SNR=38						
SOEI	**Soe**	**28.69**	**256**	*eP*	**P**	**11 34 47.1**	**0.0**
	comp=Z,66nm,0.8s						
SOEI	**Soe**	**28.69**	**256**	P	**P**	**11 34 47.4**	**+0.2**
KMSI	**Cibinong**	**28.79**	**278**	P	**P**	**11 34 48.5**	**+0.5**
BATI	**Baumata**	**29.35**	**256**	P	**P**	**11 34 52.6**	**-0.3**
	comp=Z,78nm,0.7s,baz=167,slow=3.8,SNR=12						
MGCD	**Mangrove Creek**	**29.52**	**182**	P	**P**	**11 34 54.7**	**+0.7**
	baz=30,SNR=6.4						
LUWI	**Luwuk**	**29.80**	**274**	*eP*	**P**	**11 34 57.5**	**+0.7**
	comp=Z,371nm,0.9s						
LUWI	**Luwuk**	**29.80**	**274**	P	**P**	**11 34 57.2**	**+0.4**
STKA	**Stephens Creek**	**29.96**	**199**	*eP*	**P**	**11 34 57.4**	**-0.5**
	comp=Z,8.6nm,1.3s						
STKA	**Stephens Creek**	**29.96**	**199**	P	**P**	**11 34 57.3**	**-0.6**
	baz=30,SNR=23						
STKA	**Stephens Creek**	**29.96**	**199**	P	**P**	**11 34 57.5**	**-0.5**
	comp=Z,14nm,0.9s,baz=10.0,slow=9.0,SNR=27						
STKA				pP	**pP**	**11 36 17.6**	**-1.1**
	comp=Z,5.2nm,0.7s,baz=23,slow=10,SNR=2.2						
FITZ	**Fitzroy Crossi**	**30.00**	**239**	*eP*	**P**	**11 34 57.5**	**-0.9**
	comp=Z,13nm,0.6s						
FITZ	**Fitzroy Crossi**	**30.00**	**239**	P	**P**	**11 34 57.2**	**-1.2**
	baz=30,SNR=60						
FITZ	**Fitzroy Crossi**	**30.00**	**239**	P	**P**	**11 34 56.9**	**-1.5**
	comp=Z,9.2nm,0.4s,baz=50,slow=11,SNR=120						
FITZ				pP	**pP**	**11 36 18.1**	**-1.8**
	comp=Z,7.3nm,0.8s,baz=80,slow=8.5,SNR=3.4						
FITZ				ScP	**ScP**	**11 40 44.9**	**+0.7**
	comp=Z,8.0nm,0.9s,baz=115,slow=4.3,SNR=3.5						
CTBH	**Cotabato--PC H**	**30.16**	**291**	⇓*iP*	**P**	**11 35 00.9**	**+1.1**
MMRI	**Maumere**	**30.49**	**259**	P	**P**	**11 35 02.0**	**-0.8**
MRSI	**Marisa**	**30.80**	**277**	P	**P**	**11 35 04.9**	**-0.5**
YNG	**Young**	**30.81**	**187**	P	**P**	**11 35 05.7**	**+0.4**
	baz=31						
APSI	**Ampana**	**30.93**	**274**	P	**P**	**11 35 07.2**	**+0.6**
PLP	**Palo**	**31.05**	**298**	⇑*eP*	**P**	**11 35 07.6**	**0.0**
WRKA	**Warakurna**	**31.58**	**225**	P	**P**	**11 35 10.8**	**-1.4**
	baz=32,SNR=83						
CAN	**Canberra**	**31.76**	**185**	*eP*	**P**	**11 35 13.6**	**+0.2**
	comp=Z,58nm,1.0s						
CAN	**Canberra**	**31.76**	**185**	P	**P**	**11 35 14.1**	**+0.7**
	baz=32						
CAN	**Canberra**	**31.76**	**185**	*eP*	**P**	**11 35 13.6**	**+0.2**
CAN				pmax	pmax		
	comp=Z,58nm,1.0s						
BSSI	**Bau Bau, Buton**	**31.99**	**264**	P	**P**	**11 35 14.9**	**-0.8**
HTT	**Hallett**	**32.30**	**202**	P	**P**	**11 35 18.0**	**-0.1**
	baz=32,SNR=18						
BNSI	**Bone**	**32.32**	**267**	P	**P**	**11 35 19.2**	**+0.7**
BKSI	**Bulukumba**	**32.32**	**266**	P	**P**	**11 35 18.8**	**+0.3**
WSI	**Waingapu**	**32.53**	**258**	P	**P**	**11 35 20.0**	**-0.3**
TTSI	**Tana Toraja**	**32.62**	**270**	P	**P**	**11 35 21.8**	**+0.7**
	comp=Z,60nm,1.2s,comp=Z,869nm						
SPSI	**Sidrap Palu**	**32.66**	**268**	P	**P**	**11 35 21.4**	**0.0**
KAPI	**Kappang**	**32.68**	**266**	*eP*	**P**	**11 35 21.6**	**0.0**
	comp=Z,45nm,0.7s						
KAPI				*e*ScP	**ScP**	**11 40 54.1**	**+0.7**
KAPI	**Kappang**	**32.68**	**266**	*eP*	**P**	**11 35 21.6**	**0.0**
KAPI				pmax	pmax		
	comp=Z,45nm,0.7s						
KAPI	**Kappang**	**32.68**	**266**	P	**P**	**11 35 20.8**	**-0.8**
	comp=Z,40nm,0.6s,baz=97,slow=4.3,SNR=39						
KAPI				ScP	**ScP**	**11 40 54.1**	**+0.7**
	comp=Z,5.5nm,0.3s,baz=303,slow=3.3,SNR=3.9						
MPSI	**Mapaga**	**32.81**	**276**	P	**P**	**11 35 22.5**	**-0.2**
BBOO	**Buckleboo**	**32.91**	**206**	P	**P**	**11 35 22.4**	**-0.9**
	baz=33,SNR=11						
MILA	**Mila**	**33.47**	**185**	P	**P**	**11 35 29.1**	**+1.1**
	baz=34,SNR=5.4						
TOO	**Toolangi**	**34.44**	**190**	P	**P**	**11 35 36.5**	**+0.3**
	baz=35,SNR=9.1						
ARPS	**Mount Arapiles**	**34.46**	**195**	P	**P**	**11 35 36.7**	**+0.3**
	baz=35,SNR=10						
PLAI	**Plampang**	**34.89**	**260**	P	**P**	**11 35 38.6**	**-1.7**
SMKI	**Samarinda**	**35.39**	**274**	P	**P**	**11 35 46.6**	**+2.1**
FORT	**Forrest**	**35.55**	**218**	*eP*	**P**	**11 35 45.0**	**-0.7**
	comp=Z,32nm,0.6s						
FORT	**Forrest**	**35.55**	**218**	P	**P**	**11 35 44.9**	**-0.7**
	baz=36,SNR=38						
BKB	**Balikpapan**	**35.64**	**273**	P	**P**	**11 35 48.2**	**+1.6**
KNTN	**Kanton**	**35.74**	**90**	*eP*	**P**	**11 35 47.7**	**+0.3**
	comp=Z,326nm,1.0s						
TGY	**Tagaytay City**	**35.88**	**300**	P	**P**	**11 35 49.0**	**+0.4**
	comp=Z,160nm,0.5s,baz=182,slow=2.3,SNR=13						
TGY				PKKP	**PKKPdf**	**12 00 14.2**	**+0.1**
	comp=Z,281nm,0.4s,baz=155,slow=5.9,SNR=3.6						
OUZ	**Omahuta**	**37.07**	**151**	*eP*	**P**	**11 35 58.8**	**+0.7**
	comp=Z,189nm,1.3s						
MTKI	**Muara Teweh, K**	**37.66**	**273**	P	**P**	**11 36 03.9**	**+0.6**
JOW	**Kunigami**	**38.23**	**324**	*eP*	**P**	**11 36 08.7**	**+0.9**
	comp=Z,247nm,1.1s						
KMMI	**Kalianget**	**38.51**	**263**	P	**P**	**11 36 11.4**	**+1.2**
MOO	**Moorlands**	**38.99**	**186**	P	**P**	**11 36 15.1**	**+1.3**
	baz=39,SNR=3.4						
TAU	**Tasmania Unive**	**39.44**	**186**	*eP*	**P**	**11 36 17.7**	**+0.3**
	comp=Z,83nm,1.4s						
TAU	**Tasmania Unive**	**39.44**	**186**	*eP*	**P**	**11 36 17.7**	**+0.3**
TAU				pmax	pmax		
	comp=Z,83nm,1.4s						
NIUE	**Niue**	**39.81**	**116**	*eP*	**P**	**11 36 20.8**	**0.0**
	comp=Z,302nm,1.1s						
KMBL	**Kambalda**	**39.93**	**223**	P	**P**	**11 36 20.6**	**-1.0**
	baz=40,SNR=7.0						
GRJI	**Gresik**	**39.97**	**264**	P	**P**	**11 36 23.5**	**+1.3**
YOJ	**Yonaguni jima**	**39.98**	**316**	*eP*	**P**	**11 36 22.0**	**0.0**
	comp=Z,601nm,1.2s						
YOJ	**Yonaguni jima**	**39.98**	**316**	*eP*	**P**	**11 36 22.0**	**0.0**
YOJ				pmax	pmax		
	comp=Z,601nm,1.2s						
TWG	**Pinlang**	**40.36**	**312**	*eP*	**P**	**11 36 24.4**	**-0.7**
	comp=Z,327nm,1.2s						
YULB	**Yu-li**	**40.54**	**313**	*eP*	**P**	**11 36 26.6**	**+0.1**
	comp=Z,97nm,0.9s						
SBUM	**Sibu**	**40.69**	**278**	*eP*	**P**	**11 36 28.8**	**+0.8**
	comp=Z,134nm,1.6s						
SBUM	**Sibu**	**40.69**	**278**	P	**P**	**11 36 30.0**	**+2.0**
PWJI	**Pageruojo**	**40.70**	**262**	P	**P**	**11 36 26.1**	**-1.9**
PBKI	**Pangkalan Bun**	**40.77**	**270**	P	**P**	**11 36 29.5**	**+0.9**
NACB	**Ninganchiao**	**40.80**	**314**	*eP*	**P**	**11 36 29.4**	**+0.8**
	comp=Z,339nm,1.2s						
TPUB	**Ta-pu**	**40.97**	**312**	*eP*	**P**	**11 36 30.2**	**+0.1**
	comp=Z,96nm,0.7s						
SSLB	**Suanglung**	**41.02**	**313**	*eP*	**P**	**11 36 30.9**	**+0.4**
	comp=Z,144nm,1.2s						
URZ	**Urewera**	**41.20**	**150**	*eP*	**P**	**11 36 31.8**	**+0.2**
	comp=Z,147nm,1.2s						
URZ	**Urewera**	**41.20**	**150**	P	**P**	**11 36 30.6**	**-1.0**
	comp=Z,51nm,0.9s,baz=255,slow=4.0,SNR=48						
YHNB	**Yeheng**	**41.26**	**315**	*eP*	**P**	**11 36 33.3**	**+0.9**
	comp=Z,704nm,1.7s						
INU	**Inuyama**	**41.35**	**341**	*eP*	**P**	**11 36 32.1**	**-0.7**
	comp=Z,94nm,0.9s						
TATO	**Taipei**	**41.37**	**315**	*eP*	**P**	**11 36 33.4**	**+0.2**
	comp=Z,408nm,1.3s						
WOJI	**Wonogiri, Jawa**	**41.56**	**262**	P	**P**	**11 36 33.3**	**-1.6**
BKZ	**Black Stump Fm**	**41.60**	**152**	*eP*	**P**	**11 36 34.8**	**-0.1**
	comp=Z,53nm,0.5s						
JNU	**Nakatsue**	**41.84**	**332**	*eP*	**P**	**11 36 37.0**	**+0.2**
	comp=Z,239nm,0.9s						
JNU	**Nakatsue**	**41.84**	**332**	P	**P**	**11 36 35.9**	**-1.0**
	comp=Z,158nm,0.7s,baz=127,slow=2.0,SNR=71						
JNU				pP	**pwP**	**11 38 06.5**	**-2.4**
	comp=Z,57nm,0.9s,baz=147,slow=5.1,SNR=4.5						
UGM	**Wanagama**	**41.97**	**262**	*eP*	**P**	**11 36 37.7**	**-0.4**
	comp=Z,279nm,1.4s						
UGM	**Wanagama**	**41.97**	**262**	P	**P**	**11 36 37.9**	**-0.2**
MJAR	**Matsushiro Arr**	**42.08**	**343**	P	**P**	**11 36 37.1**	**-1.5**
	comp=Z,95nm,0.9s,baz=171,slow=8.4,SNR=183						
MJAR				ScP	**ScP**	**11 41 29.2**	**+0.7**
	comp=Z,8.6nm,1.2s,baz=173,slow=5.4,SNR=7.3						
MAJO	**Matsushiro**	**42.08**	**343**	*eP*	**P**	**11 36 37.5**	**-1.1**
	comp=Z,120nm,0.8s						
MAJO				*e*ScP	**ScP**	**11 41 29.0**	**+0.5**
MAJO	**Matsushiro**	**42.08**	**343**	*c iP*	**P**	**11 36 37.1**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,116nm,0.9s						
MAT	**Matsushiro**	**42.08**	**343**	P	**P**	**11 36 37.3**	**-1.3**
MAT				S	**S**	**11 42 18.0**	**-5.2**
MJB9	**Matsu-Tunnel**	**42.08**	**343**	*eP*	**P**	**11 36 37.6**	**-1.0**
	comp=Z,123nm,0.8s						
YOGI	**Yogyakarta**	**42.19**	**262**	P	**P**	**11 36 39.3**	**-0.6**
THZ	**Tophouse**	**42.20**	**157**	*eP*	**P**	**11 36 39.3**	**-0.3**
	comp=Z,148nm,0.8s						
KSM	**Kuching**	**42.46**	**276**	*eP*	**P**	**11 36 42.3**	**+0.3**
	comp=Z,166nm,0.9s						
KSM	**Kuching**	**42.46**	**276**	P	**P**	**11 36 43.0**	**+1.0**
SNZO	**South Karori**	**42.54**	**155**	*eP*	**P**	**11 36 41.9**	**-0.3**
	comp=Z,798nm,1.7s						
FOZ	**Fox Glacier**	**42.66**	**161**	*eP*	**P**	**11 36 43.6**	**+0.5**
	comp=Z,126nm,0.8s						
BFZ	**Birch Farm**	**42.70**	**153**	*eP*	**P**	**11 36 43.4**	**-0.1**
	comp=Z,176nm,0.8s						
LTZ	**Lake Taylor**	**42.84**	**159**	*eP*	**P**	**11 36 44.7**	**+0.1**
	comp=Z,196nm,1.0s						
MORW	**Morawa**	**42.89**	**230**	P	**P**	**11 36 44.1**	**-1.1**
	baz=43,SNR=11						
KLBR	**Kellerberrin**	**42.93**	**226**	P	**P**	**11 36 44.6**	**-0.9**
	baz=43,SNR=6.2						
KHZ	**Kahutara**	**43.00**	**157**	*eP*	**P**	**11 36 45.3**	**-0.5**
	comp=Z,140nm,0.6s						
BLDU	**Ballidu**	**43.17**	**227**	P	**P**	**11 36 46.2**	**-1.1**
	baz=43,SNR=14						
OXZ	**Oxford**	**43.22**	**159**	*eP*	**P**	**11 36 47.3**	**-0.2**
	comp=Z,90nm,0.5s						
RPZ	**Rata Peaks**	**43.23**	**160**	*eP*	**P**	**11 36 47.4**	**-0.2**
	comp=Z,160nm,0.8s						
RPZ	**Rata Peaks**	**43.23**	**160**	P	**P**	**11 36 47.3**	**-0.2**
	comp=Z,132nm,0.5s,baz=240,slow=1.8,SNR=65						
QZH	**Quanzhou**	**43.44**	**313**	⇑*iP*	**P**	**11 36 50.8**	**+1.3**
QZH				pmax	pmax		
	comp=Z,180nm,0.9s						
LBZ	**Lake Benmore**	**43.54**	**162**	*eP*	**P**	**11 36 49.6**	**-0.4**
	comp=Z,109nm,1.0s						
CRLZ	**Canterbury Las**	**43.65**	**159**	*eP*	**P**	**11 36 50.7**	**-0.2**
	comp=Z,491nm,1.5s						
DCZ	**Deep Cove**	**43.66**	**165**	*eP*	**P**	**11 36 50.9**	**+0.1**
	comp=Z,103nm,0.9s						
MQZ	**McQueen's Vall**	**43.77**	**159**	*eP*	**P**	**11 36 51.9**	**+0.1**
	comp=Z,77nm,0.7s						
MLZ	**Mavora Lakes**	**43.82**	**164**	*eP*	**P**	**11 36 52.2**	**0.0**
	comp=Z,217nm,0.9s						
WHZ	**Wether Hill Ro**	**44.26**	**165**	*eP*	**P**	**11 36 55.3**	**-0.3**
	comp=Z,108nm,0.8s						
ODZ	**Otahua Downs**	**44.28**	**162**	*eP*	**P**	**11 36 55.6**	**-0.1**
	comp=Z,87nm,1.3s						
CISI	**Cisompet, Garu**	**44.63**	**263**	*eP*	**P**	**11 36 58.1**	**-0.9**
	comp=Z,379nm,0.8s						
CISI				*e*S	**S**	**11 42 59.7**	**-0.8**
CISI	**Cisompet, Garu**	**44.63**	**263**	P	**P**	**11 36 58.0**	**-1.0**
TPI	**Tanjungpandan**	**44.78**	**270**	P	**P**	**11 37 00.6**	**+0.5**
LEM	**Lembang**	**44.79**	**264**	P	**P**	**11 37 01.1**	**+0.6**
LEM	**Lembang**	**44.79**	**264**	P	**P**	**11 37 00.3**	**-0.2**
	comp=Z,29nm,0.4s,baz=35,slow=7.5,SNR=6.4						
RKGY	**Rocky Gully**	**45.17**	**223**	P	**P**	**11 37 02.9**	**0.0**
	baz=45,SNR=5.2						
HKPS	**Hong Kong Po S**	**45.44**	**306**	*eP*	**P**	**11 37 05.4**	**+0.3**
	comp=Z,304nm,1.3s						
CBJI	**Citeko**	**45.55**	**265**	P	**P**	**11 37 04.5**	**-1.6**
SKJI	**Sukabumi**	**45.85**	**264**	P	**P**	**11 37 07.3**	**-1.1**
TJN	**Taejon**	**46.15**	**332**	*c iP*	**P**	**11 37 10.7**	**+0.4**
ERM	**Erimo**	**46.16**	**350**	⇓*eP*	**P**	**11 37 10.0**	**-0.2**
ERM				pmax	pmax		
	comp=Z,50nm,0.7s						
DLV	**T Lat**	**46.38**	**290**	*eP*	**P**	**11 37 13.2**	**+0.5**
	comp=Z,258nm,1.2s						
CGJI	**Cibinong**	**46.70**	**264**	P	**P**	**11 37 12.8**	**-2.1**
KSRS	**Korea Array**	**46.77**	**333**	P	**P**	**11 37 15.3**	**+0.4**
	comp=Z,94nm,1.0s,baz=149,slow=8.7,SNR=153						
KSRS				pP	**pwP**	**11 38 47.2**	**-2.4**
	comp=Z,11nm,0.9s,baz=148,slow=9.6,SNR=5.5						
KSRS				ScP	**ScP**	**11 41 48.0**	**+0.2**
	comp=Z,8.1nm,1.0s,baz=146,slow=5.3,SNR=8.2						
KS15	**Wonju Array Si**	**46.78**	**333**	*eP*	**P**	**11 37 15.5**	**+0.4**
	comp=Z,99nm,0.9s						
QIZ	**Qiongzhong**	**47.59**	**300**	P	**P**	**11 37 22.0**	**+0.5**
QIZ				S	**S**	**11 43 43.8**	**+2.0**
QIZ				sS	**ScS**	**11 46 26.8**	**+2.4**
QIZ				pmax	pmax		
	comp=Z,73nm,1.5s						
QIZ	**Qiongzhong**	**47.59**	**300**	*eP*	**P**	**11 37 22.3**	**+0.8**
	comp=Z,102nm,1.1s						
NJ2	**Nanjing**	**47.70**	**321**	⇑*iP*	**P**	**11 37 23.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,110nm,1.4s						
YUK	**Yuzh-Kuril'sk**	**47.76**	**354**	⇓*eP*	**P**	**11 37 21.8**	**-0.5**
TPRI	**Tanjung Pinang**	**48.15**	**274**	P	**P**	**11 37 26.4**	**+0.6**
ASAJ	**Asahikawa**	**48.30**	**350**	P	**P**	**11 37 27.2**	**+0.8**
	comp=Z,188nm,0.8s,baz=220,slow=10,SNR=105						
KUR	**Kuril'sk**	**48.76**	**356**	⇑*iP*	**P**	**11 37 30.2**	**+0.4**
JMBI	**JAMBI**	**48.83**	**271**	P	**P**	**11 37 32.0**	**+1.0**
MYKOM	**Kota Tinggi**	**48.91**	**275**	*eP*	**P**	**11 37 31.7**	**+0.2**
	comp=Z,112nm,1.1s						
MYKOM	**Kota Tinggi**	**48.91**	**275**	P	**P**	**11 37 32.0**	**+0.5**
WHN	**Wuhan**	**49.76**	**316**	⇑*iP*	**P**	**11 37 38.8**	**+1.2**
WHN				sP	**sP**	**11 39 56.5**	**-2.3**
WHN				pmax	pmax		
	comp=Z,530nm,1.2s						
MSHR	**Mys Shultsa**	**49.84**	**339**	*c iP*	**P**	**11 37 38.0**	**+0.1**
VLA	**Vladivostok**	**50.06**	**340**	*c iP*	**P**	**11 37 39.9**	**+0.4**
VLA				pmax	pmax		
	comp=Z,165nm,1.1s						
TEY	**Ternei**	**50.43**	**345**	⇑*eP*	**P**	**11 37 41.6**	**-0.6**
TEY				pmax	pmax		
	comp=E,30nm,1.1s						
TEY				pmax	pmax		
	comp=Z,50nm,0.9s						
TEY				pmax	pmax		
	comp=N,30nm,0.7s						
DL2	**Dalian**	**50.97**	**329**	P	**P**	**11 37 46.8**	**+0.6**
DL2				pP	**pP**	**11 39 18.5**	**+2.2**
DL2				*e*S	**S**	**11 44 27.8**	**+0.4**
DL2				pmax	pmax		
	comp=N,180nm,0.9s						
USA0B	**Ussuriysk Arra**	**50.99**	**341**	*eP*	**P**	**11 37 46.7**	**+0.4**
	comp=N,148nm,1.0s						
USRK	**Ussuriysk Ar.**	**50.99**	**341**	P	**P**	**11 37 46.6**	**+0.3**
	comp=N,83nm,0.9s,baz=171,slow=7.9,SNR=117						
USRK				pP	**pP**	**11 39 16.0**	**-0.4**
	comp=N,14nm,1.1s,baz=157,slow=7.8,SNR=2.9						
YSS	**Yuzh-Sakhalins**	**51.04**	**351**	*eP*	**P**	**11 37 46.6**	**0.0**
	comp=N

GSI	Gunungsitoli	55.10	274	eP	P	11 38 15.5	-0.9
	comp=E,187nm,1.1s						
GSI	Gunungsitoli	55.10	274	P	P	11 38 15.1	-1.3
TIY	Taiyuan	55.38	322	eP	P	11 38 18.8	+0.8
UTTA	Uttaradit	55.41	294	P	P	11 38 19.8	+1.4
	comp=E,152µm,1.0s						
XAN	Xi'an	55.53	316	eP	P	11 38 19.3	+0.2
	comp=E,646nm,1.8s						
XAN	Xi'an	55.53	316	eP	P	11 38 19.3	+0.2
XAN				pmax	pmax		
	comp=Z,646nm,1.8s						
KLR	Kul'dur	55.59	344c	iP	P	11 38 19.3	+0.2
KLR				pmax	pmax		
	comp=Z,117nm,1.2s						
KLR	Kul'dur	55.59	344	P	P	11 38 19.5	+0.4
	comp=Z,69nm,0.8s,baz=158,slow=5.3,SNR=165						
KLR				PcP	PcP	11 39 12.2	+0.1
	comp=Z,5.3nm,0.5s,baz=80,slow=1.3,SNR=5.2						
KLR				pP	pP	11 39 51.2	+0.3
	comp=Z,17nm,1.1s,baz=156,slow=6.8,SNR=3.4						
KLR				ScP	ScP	11 42 26.4	+0.8
	comp=Z,4.2nm,0.9s,baz=180,slow=3.4,SNR=3.6						
NANT	Nan	55.60	296	P	P	11 38 20.6	+0.8
	comp=Z,223µm,0.7s						
KHLH	Kahului Airpor	55.64	62	eP	P	11 38 20.7	+0.7
	comp=Z,694nm,1.7s						
SRDT	SRDT	55.81	290	P	P	11 38 22.9	+1.6
	comp=Z,100nm,1.0s						
GRNR	Gornyy	55.86	348⇑	iP	P	11 38 26.1	+5.1
GRNR				pmax	pmax		
	comp=N,80nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,52nm,1.0s						
PHRA	Phrae	55.93	295	P	P	11 38 23.4	+1.3
	comp=Z,10nm,1.2s						
KMI	Kunming	56.05	303	P	P	11 38 25.0	+1.9
KMI				pmax	pmax		
	comp=Z,150nm,1.3s						
KMI	Kunming	56.05	303	eP	P	11 38 24.3	+1.2
	comp=Z,213nm,1.2s						
KMI	Kunming	56.05	303	eP	P	11 38 24.3	+1.2
KMI				pmax	pmax		
	comp=Z,213nm,1.2s						
LHMI	Lhok Sumawe	56.17	279	P	P	11 38 24.1	+0.3
LAMP	Lampang	56.48	295	P	P	11 38 27.3	+1.4
	comp=Z,159µm,0.9s						
PAYA	Payao	56.52	296	P	P	11 38 27.3	+1.1
	comp=Z,169µm,0.8s						
UMPA	Umpang Tak	56.53	292	P	P	11 38 27.7	+1.4
	comp=Z,129µm,0.9s						
PET	Petropavlovsk	56.62	4	eP	P	11 38 26.2	+0.1
	comp=Z,131nm,0.7s						
PET	Petropavlovsk	56.62	4	eP	P	11 38 26.6	+0.4
PET				e		11 39 15.9	
PET				e*PP	pP	11 39 58.8	-0.2
PET				eS	S	11 45 37.9	-3.8
PET				pmax	pmax		
	comp=Z,400nm,4.3s						
PET				pmax	pmax		
	comp=Z,205nm,0.7s						
PET				pmax	pmax		
	comp=Z,200nm,9.1s						
PET				MLR	MLR		
	comp=Z,300nm,21.0s						
PET				MLR	MLR		
	comp=Z,300nm,22.0s						
PEA0B	Petropavlovsk-	56.64	4	eP	P	11 38 26.8	+0.5
	comp=Z,665nm,1.5s						
PETK	Petropavlovsk-	56.64	4	P	P	11 38 27.0	+0.7
PETK				*PP	pP	11 39 59.0	-0.1
PETK	Petropavlovsk-	56.64	4	P	P	11 38 27.0	+0.7
	comp=Z,148nm,0.6s,baz=156,slow=6.3,SNR=478						
PETK				pP	pP	11 39 59.0	-0.1
	comp=Z,17nm,0.8s,baz=178,slow=7.3,SNR=3.8						
CM31	Chiang Mai Arr	57.09	295	eP	P	11 38 31.4	+1.3
	comp=Z,118nm,1.1s						
CM31	Chiang Mai Arr	57.09	295	P	P	11 38 31.9	+1.8
	SNR=24						
CMAR	Chiang Mai Arr	57.09	295	P	P	11 38 31.6	+1.5
	comp=Z,59nm,0.9s,baz=112,slow=5.1,SNR=155						
CMAR				pP	pP	11 40 03.0	-1.3
	comp=Z,2.7nm,0.8s,baz=116,slow=4.1,SNR=1.5						
CMMT	Chiang Mai	57.19	295	P	P	11 38 31.7	+0.9
	comp=Z,27nm,1.3s,comp=Z,426nm						
CHTO	Chiang Mai	57.19	295	eP	P	11 38 31.3	+0.5
	comp=Z,89nm,1.3s						
CHTO	Chiang Mai	57.19	295	eP	P	11 38 31.3	+0.5
CHTO				pmax	pmax		
	comp=Z,89nm,1.3s						
CHTO	Chiang Mai	57.19	295	P	P	11 38 32.8	+2.0
	SNR=19						
NKL	Nikolayevsk	57.38	352	iP	P	11 38 32.0	+0.6
NKL				pmax	pmax		
	comp=N,34nm,1.0s						
NKL				pmax	pmax		
	comp=Z,43nm,1.0s						
CD2	Chengdu	57.71	310	⇑P	P	11 38 35.0	+0.8
HHC	Hu-ho-hao-te	57.88	324	eP	P	11 38 36.0	+0.8
HHC				S	S	11 46 03.5	+4.9
HHC				ScS	ScS	11 47 35.0	-1.7
HHC				pmax	pmax		
	comp=Z,89nm,1.0s						
HHC				pmax	pmax		
	comp=Z,250nm,5.9s						
TIAR	Tiarei	58.61	108	eP	P	11 38 41.7	+1.2
	comp=Z,37nm,0.9s						
BTO	Baotou	58.64	323	eP	P	11 38 41.8	+1.4
SMY	Shemya	58.99	15	eP	P	11 38 42.7	+0.4
	comp=Z,290nm,1.3s						
SMY	Shemya	58.99	15	eP	P	11 38 42.7	+0.4
SMY				pmax	pmax		
	comp=Z,290nm,1.3s						
PMOR	Pomariorio Ree	59.75	105	eP	P	11 38 48.9	+0.7
	comp=Z,364nm,1.2s						
HIA	Hailar	59.79	336	eP	P	11 38 48.3	+0.4
	comp=Z,158nm,1.0s						
HIA	Hailar	59.79	336	eP	P	11 38 48.3	+0.4
HIA				pmax	pmax		
	comp=Z,158nm,1.0s						
LZH	Lanzhou	60.14	315	eP	P	11 38 52.3	+1.6
LZH				PcP	PcP	11 39 35.0	+4.2
LZH				eS	S	11 46 31.0	+3.5
LZH				pmax	pmax		
	comp=Z,280nm,1.0s						
LZH				pmax	pmax		
	comp=Z,770nm,4.9s						
ZEA	Zeya	60.89	343	eP	P	11 38 55.2	+0.2
ZEA				pmax	pmax		
	comp=N,94nm,1.0s						
ZEA				pmax	pmax		
	comp=E,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,140nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,400nm,2.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,17.0s						
KIWB	Kanaga Island	60.94	21	eP	P	11 38 55.8	+0.3
ADK	Adak	61.14	21	eP	P	11 38 56.7	0.0
	comp=Z,77nm,0.8s						
ADK	Adak	61.14	21	eP	P	11 38 56.7	0.0
ADK				pmax	pmax		
	comp=Z,77nm,0.8s						
MA2	Magadan	62.97	359	eP	P	11 39 08.6	+0.1
	comp=Z,192nm,0.8s						
MA2	Magadan	62.97	359c	iP	P	11 39 08.6	+0.1
MA2				pmax	pmax		
	comp=Z,233nm,0.9s						
MA2	Magadan	62.97	359	P	P	11 39 08.8	+0.3
	comp=Z,169nm,0.7s,baz=164,slow=6.2,SNR=125						
CIT	Chita	64.46	335	eP	P	11 39 19.5	+1.2
CIT				pmax	pmax		
	comp=Z,236nm,1.2s						
GTA	Gaotai	64.55	317	⇑P	P	11 39 20.8	+1.5
GTA				pP	pwP	11 40 59.0	+0.4
GTA				sP	sP	11 41 41.3	-4.9
GTA				pmax	pmax		
	comp=Z,180nm,1.0s						
GTA				pmax	pmax		
	comp=Z,410nm,7.6s						
BRDH	Bariadhala	64.83	297	P	P	11 39 21.6	+0.4
	comp=Z,115nm,0.5s,baz=104,slow=3.7,SNR=5.6						
SONA0	Songino Array	65.13	328	eP	P	11 39 23.8	+1.0
SONM	Songino Array	65.13	328	P	P	11 39 23.8	+1.0
	comp=Z,26nm,0.5s,baz=140,slow=6.9,SNR=37						
SHL	Shillong	65.43	300	eP	P	11 39 25.0	-0.2
	comp=Z,304nm,1.2s						
SHL	Shillong	65.43	300	eP	P	11 39 25.0	-0.2
SHL				pmax	pmax		
	comp=Z,305nm,1.2s						
SHL	Shillong	65.43	300⇑	iP	P	11 39 25.0	-0.2
SHL				eS	S	11 47 10.0	-23
SEY	Seymchan	66.32	360	P	P	11 39 30.2	+0.5
	comp=Z,19nm,0.6s,baz=168,slow=5.5,SNR=59						
UNV	Unalaska Valle	66.64	25	eP	P	11 39 31.8	-0.1
	comp=Z,37nm,0.7s						
LSA	Lhasa	67.30	304	eP	P	11 39 37.6	+0.5
	comp=Z,80nm,1.1s						
LSA	Lhasa	67.30	304	eP	P	11 39 37.6	+0.5
LSA				pmax	pmax		
	comp=Z,80nm,1.1s						
YAK	Yakutsk	67.72	349c	iP	P	11 39 38.8	+0.4
YAK				e*PP	pP	11 41 13.5	-1.9
YAK				e		11 42 08.3	
YAK				e		11 48 18.7	
YAK				pmax	pmax		
	comp=Z,790nm,0.9s						
YAK				pmax	pmax		
	comp=N,404nm,0.9s						
YAK				pmax	pmax		
	comp=E,233nm,1.4s						
YAK				pmax	pmax		
	comp=Z,107nm,1.2s						
YAK				pmax	pmax		
	comp=N,99nm,1.3s						
YAK				pmax	pmax		
	comp=E,130nm,2.0s						
ZAK	Zakamensk	68.29	329	eP	P	11 39 42.3	0.0
ZAK				e		11 41 24.1	
ZAK				pmax	pmax		
	comp=Z,140nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,16nm,1.4s						
BOD	Bodaibo	68.54	339⇓	iP	P	11 39 43.1	-0.4
BOD				pmax	pmax		
	comp=Z,122nm,1.1s						
TLY	Talaya	68.87	330	eP	P	11 39 46.0	+0.4
	comp=Z,83nm,1.1s						
TLY	Talaya	68.87	330c	iP	P	11 39 46.2	+0.5
TLY	Talaya	68.87	330	P	P	11 39 47.3	+1.6
	SNR=12						
CASY	Casey	69.09	197	eP	P	11 39 46.4	-0.3
	comp=Z,10.0nm,0.8s						
ODAN	Odare	69.66	300	eP	P	11 39 52.1	+0.8
	comp=Z,188nm,0.5s						
MOY	Mondy	70.21	329	eP	P	11 39 54.5	+0.6
MOY				pmax	pmax		
	comp=Z,159nm,1.3s						
SDPT	Sand Point	70.26	26	eP	P	11 39 53.9	0.0
	comp=Z,109nm,0.8s						
RAMN	Ramite	70.37	300	eP	P	11 39 56.0	+0.5
	comp=Z,47nm,0.4s						
JIRN	Jiri	70.90	301	eP	P	11 39 59.2	+0.4
	comp=Z,582nm,1.3s						
PKI	Pulchoki	71.55	300	eP	P	11 40 02.9	+0.3
	comp=Z,91nm,0.7s						
PKIN	Phulchoki	71.56	300	eP	P	11 40 02.9	+0.3
	comp=Z,81nm,0.7s						
KKN	Kakani	71.71	301	eP	P	11 40 04.0	+0.6
	comp=Z,148nm,0.7s						
DMN	Daman	71.82	300	eP	P	11 40 04.8	+0.7
	comp=Z,483nm,1.1s						
BILL	Bilibino	72.10	5	eP	P	11 40 04.8	+0.3
	comp=Z,113nm,1.1s						
BILL	Bilibino	72.10	5c	iP	P	11 40 05.0	+0.5
BILL				pmax	pmax		
	comp=Z,113nm,1.1s						
GAMB	Gambell	72.29	16	eP	P	11 40 06.3	+0.6
	comp=Z,69nm,1.0s						
GKN	Gorkha	72.32	301	eP	P	11 40 07.3	+0.5
	comp=Z,462nm,1.1s						
RKT	Rikitea	72.55	113	eP	P	11 40 08.3	+0.3
	comp=Z,185nm,1.2s						
DANN	Dangsing	73.15	301	eP	P	11 40 11.8	0.0
	comp=Z,152nm,0.7s						
KOLN	Koldanda	73.15	300	eP	P	11 40 12.0	+0.3
	comp=Z,180nm,0.9s						
PYUN	Piuthan	73.75	300	eP	P	11 40 15.1	-0.1
	comp=Z,384nm,1.0s						
VNDA	Vanda	74.06	178	eP	P	11 40 15.5	-0.2
	comp=Z,13nm,0.8s						
VNDA	Vanda	74.06	178	P	P	11 40 15.9	+0.2
	comp=Z,9.7nm,0.8s,baz=333,slow=6.4,SNR=44						
VNDA				pP	pP	11 41 56.1	+1.7
	comp=Z,5.1nm,0.8s,baz=316,slow=5.5,SNR=7.5						
SBA	Scott Base	74.61	177	eP	P	11 40 19.3	+0.5
	comp=Z,40nm,1.4s						
SBA	Scott Base	74.61	177	eP	P	11 40 19.3	+0.5
SBA				pmax	pmax		
	comp=Z,40nm,1.4s						
WMQ	Urumqi	74.64	317	P	P	11 40 20.8	+1.1
WMQ				pP	pP	11 42 00.5	+0.2
WMQ				S	S	11 49 19.0	+1.8
WMQ				sS	sS	11 52 11.0	-6.6
WMQ				pmax	pmax		
	comp=Z,250nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,660nm,3.6s						
WMQ	Urumqi	74.64	317	eP	P	11 40 20.3	+0.6
	comp=Z,225nm,1.5s						
WMQ	Urumqi	74.64	317	eP	P	11 40 20.3	+0.6
WMQ				pmax	pmax		
	comp=Z,225nm,1.5s						
KDAK	Kodiak Island	75.22	27	iP	P	11 40 23.4	+0.9
HYB	Hyderabad	75.81	289	iP	P	11 40 27.0	+0.3
HYB				epP	pP	11 42 10.0	+2.3
SVW2	Sparrevohn	75.82	23	eP	P	11 40 26.9	+1.0
	comp=Z,33nm,1.0s						
RSO	Redoubt South	76.60	25	eP	P	11 40 30.0	-0.4
HOM	Homer	76.64	26	eP	P	11 40 30.9	+0.5
	comp=Z,259nm,0.9s						
TIXI	Tiksi	76.65	353	eP	P	11 40 29.5	-0.6
	comp=Z,73nm,1.3s						
TIXI	Tiksi	76.65	353c	iP	P	11 40 29.5	-0.6
TIXI				pmax	pmax		
	comp=Z,61nm,1.3s						
TIXI	Tiksi	76.65	353	P	P	11 40 29.6	-0.6
	comp=Z,16nm,0.6s,baz=135,slow=5.0,SNR=58						
CNPM	China Poot	76.75	26	eP	P	11 40 31.6	+0.5
	comp=Z,214nm,0.7s						
DGZ	Jazzator, Alta	76.93	323c	iP	P	11 40 32.8	+0.4
DGZ				pmax	pmax		
	comp=Z,54nm,1.0s						
BRLK	Bradley Lake	77.02	26	eP	P	11 40 32.6	0.0
	comp=Z,54nm,0.7s						
SEW	Seward	77.82	26	eP	P	11 40 37.1	+0.3
	comp=Z,53nm,0.8s						
RC01	Rabbit Creek A	78.19	25	eP	P	11 40 39.0	+0.2
	comp=Z,80nm,1.2s						
RC01				eS	S	11 49 54.5	+0.1
PMR	Palmer	78.70	25	eP	P	11 40 41.5	0.0
	comp=Z,49nm,1.2s						
PMR				eS	S	11 49 58.8	-0.8
PMR	Palmer	78.70	25	eP	P	11 40 41.5	0.0
PMR				eS	S	11 49 58.8	-0.8
PMR				pmax	pmax		
	comp=Z,49nm,1.2s						
GHO	Glory Hole Cre	78.88	24	eP	P	11 40 42.7	+0.1
	comp=Z,27nm,0.8s						
GHO				eS	S	11 50 01.8	+0.1
KNK	Knik Glacier	78.89	25	eP	P	11 40 42.9	+0.3
	comp=Z,67nm,1.4s						
KNK				eS	S	11 50 01.0	-0.8
SML	Sawmill	79.14	25	eP	P	11 40 44.2	+0.3
	comp=Z,79nm,0.8s						
SML				eS	S	11 50 05.0	+0.7
SML	Sawmill	79.14	25	eP	P	11 40 44.2	+0.3
SML				eS	S	11 50 05.0	+0.7
SML				pmax	pmax		
	comp=Z,79nm,0.8s						
MK31	Makanchi Array	79.20	319	eP	P	11 40 45.0	+0.4
	comp=Z,67nm,1.0s						
MK31	Makanchi Array	79.20	319	iP	P	11 40 45.0	+0.4
MK31				pmax	pmax		
	comp=Z,69nm,0.9s						
MKAR	Makanchi Array	79.20	319	P	P	11 40 45.1	+0.4
	comp=Z,62nm,0.9s,baz=101,slow=6.3,SNR=240						
MKAR				pP	pP	11 42 27.4	+0.9
	comp=Z,7.5nm,1.0s,baz=103,slow=8.8,SNR=3.8						
GLI	Glacier Island	79.22	26	eP	P	11 40 44.7	+0.4
	comp=Z,51nm,0.7s						
BPAW	Bear Paw Mtn.	79.27	22	eP	P	11 40 44.1	-0.5
	comp=Z,28nm,1.1s						
MAKZ	Makanchi	79.41	319	eP	P	11 40 45.8	+0.1
	comp=Z,123nm,1.0s						
MAKZ	Makanchi	79.41	319	eP	P	11 40 45.8	+0.1
MAKZ				pmax	pmax		
	comp=Z,123nm,1.0s						
SCM	Sheep Creek Mo	79.57	25	eP	P	11 40 46.6	+0.3
	comp=Z,42nm,0.9s						
SCM	Sheep Creek Mo	79.57	25	eP	P	11 40 46.6	+0.3
SCM				pmax	pmax		
	comp=Z,42nm,0.9s						
MCK	McKinley	79.85	23	eP	P	11 40 47.3	-0.4
	comp=Z,92nm,0.9s						
MCK				eS	S	11 50 10.8	-0.8
MCK	McKinley	79.85	23	eP	P	11 40 47.3	-0.4
MCK				eS	S	11 50 10.8	-0.8
MCK				pmax	pmax		
	comp=Z,92nm,0.9s						
MLY	Manley	79.85	21	eP	P	11 40 47.7	0.0
	comp=Z,15nm,0.6s						
BWN	Browne	79.87	22	eP	P	11 40 47.7	0.0
	comp=Z,87nm,1.2s						
DIV	Divide	79.90	26	eP	P	11 40 48.4	+0.4
	comp=Z,32nm,0.9s						
ZAA0	Zalesovo Array	79.97	326	eP	P	11 40 47.9	-0.6
	comp=Z,48nm,0.8s						
ZALV	Zalesovo Beam	79.97	326	P	P	11 40 48.0	-0.5
	comp=Z,48nm,0.8s,baz=110,slow=5.4,SNR=116						
ZALV				pP	pP	11 42 31.3	+0.8
	comp=Z,11nm,0.8s,baz=117,slow=5.2,SNR=9.6						
ZALV				PP	PP	11 44 00.6	+2.2
	comp=Z,6.5nm,1.0s,baz=121,slow=7.8,SNR=3.5						
ZAA1	Zalesovo Array	79.97	326	ePP	PP	11 44 00.6	+2.2
DHY	Denali Highway	80.14	24	eP	P	11 40 49.4	0.0
	comp=Z,31nm,0.9s						
DHY				eS	S	11 50 13.0	-1.9
PDGK	Podgornoye	80.18	315	P	P	11 40 49.5	-0.5
PDGK				pmax	pmax		
	comp=Z,34nm,0.8s						
HMT	Hamilton	80.22	27	eP	P	11 40 50.1	+0.4
	comp=Z,39nm,0.8s						
WRH	Wood River Hil	80.54	22	eP	P	11 40 50.6	-0.7
	comp=Z,50nm,1.0s						
MDM	Murphy Dome	80.73	22	eP	P	11 40 51.7	-0.6
	comp=Z,24nm,1.1s						
CCB	Clear Creek Bu	80.74	22	eP	P	11 40 51.5	-0.7
	comp=Z,42nm,0.8s						
HARP	HAARP	80.74	25	eP	P	11 40 52.6	+0.3
	comp=Z,37nm,0.7s						
TCOL	CIGO, UAF Yank	80.83	22	P	P	11 40 52.0	-0.7
	baz=241						
COLA	College	80.83	22	eP	P	11 40 52.2	-0.5
	comp=Z,69nm,0.8s						
COLA	College	80.83	22c	iP	P	11 40 51.8	-0.9
COLA				pmax	pmax		
	comp=Z,52nm,0.8s						
PAX	Paxson	80.86	24	eP	P	11 40 53.1	0.0
	comp=Z,13nm,0.9s						
PAX	Paxson	80.86	24	eP	P	11 40 53.1	0.0
PAX				pmax	pmax		
	comp=Z,13nm,0.9s						
HDA	Harding Lake	80.95	23	eP	P	11 40 52.8	-0.6
	comp=Z,16nm,0.8s						
TARG	Taragay, Kyrgy	81.01	313	eP	P	11 40 55.0	+0.3
	comp=Z,34nm,1.1s						
POKR	Poker Plat Res	81.11	22	P	P	11 40 53.0	-1.2
	baz=241						
NVS	Novosibirsk	81.14	327	eP	P	11 40 54.5	0.0
NVS				e		11 42 38.1	
NVS				eS	S	11 50 17.1	-7.9
NVS				pmax	pmax		
	comp=Z,193nm,1.6s						
NVS				pmax	pmax		
	comp=N,51nm,1.5s						
NVS				pmax	pmax		
	comp=E,100nm,1.4s						
NVS				smax	smax		
	comp=E,51nm,2.5s						
ILAR	Eielson Array	81.14	22	P	P	11 40 53.3	-1.1
	comp=E,37nm,0.7s,baz=247,slow=5.5,SNR=317						
ILAR				pP	pP	11 42 34.9	-2.4
	comp=E,4.2nm,0.9s,baz=253,slow=5.4,SNR=4.1						
ILAR				S	S	11 50 21.9	-2.8
	comp=E,1.1nm,1.0s,baz=257,slow=10,SNR=7.3						
ILB	Eielson Array	81.14	22	eP	P	11 40 53.5	-0.9
	comp=E,44nm,0.8s						
COLD	Coldfoot	81.20	19	eP	P	11 40 55.2	+0.6
	comp=E,14nm,1.0s						
BALM	Baldy	81.37	27	eP	P	11 40 56.2	+0.4
	comp=E,21nm,0.8s						
BALM	Baldy	81.37	27	eP	P	11 40 56.2	+0.4
BALM				pmax	pmax		
	comp=Z,21nm,0.8s						
RIDG	Independent Ri	81.46	24	eP	P	11 40 56.1	0.0
	comp=Z,57nm,1.2s						
MENT	Mentasta	81.57	25	eP	P	11 40 56.9	+0.3
	comp=Z,20nm,1.0s						
DOT	Dot Lake	81.73	24	eP	P	11 40 57.7	+0.2
	comp=Z,48nm,0.9s						
CTGM	Chitina Glacie	81.80	27	eP	P	11 40 58.7	+0.7
	comp=Z,35nm,0.8s						
KSH	Kashi	81.91	311	P	P	11 41 01.8	+2.8
KSH				PP	PP	11 44 18.5	+3.7
KSH				S	S	11 50 29.5	-4.2
KSH				pmax	pmax		
	comp=Z,66nm,1.1s						
KSH				pmax	pmax		
	comp=Z,860nm,3.3s						
TOLK	Toolik Lake Re	82.15	18	eP	P	11 41 00.2	+0.6
	comp=Z,43nm,0.8s						
TOLK	Toolik Lake Re	82.15	18	P	P	11 41 00.1	+0.6
	baz=239						
ULHL	Ulahol	82.26	313	P	P	11 41 01.9	+1.0
	SNR=26						
NRN	Naryn	82.27	312	eP	P	11 41 01.8	+0.7
	comp=Z,94nm,1.5s						
NRN	Naryn	82.27	312	eP	P	11 41 01.8	+0.7
NRN				pmax	pmax		
	comp=Z,94nm,1.5s						
BOOM	Boomskoye usch	82.53	313	eP	P	11 41 02.7	+0.5
	comp=Z,76nm,1.0s						
FYU	Fort Yukon	82.59	21	eP	P	11 41 02.1	+0.4
	comp=Z,37nm,0.8s						
KURK	Kurchatov	82.62	322	eP	P	11 41 02.0	-0.2
	comp=Z,170nm,1.2s						
KURK	Kurchatov	82.62	322c	iP	P	11 41 02.0	-0.2
KURK				pmax	pmax		
	comp=Z,166nm,1.2s						
KURK	Kurchatov	82.62	322	P	P	11 41 02.4	+0.2
	SNR=60						
KURBB	Kurchatov Arra	82.65	322	P	P	11 41 02.2	-0.1
	comp=Z,48nm,0.9s,baz=107,slow=4.1,SNR=209						
KURBB				pP	pP	11 42 45.5	+0.2
	comp=Z,11nm,1.0s,baz=108,slow=4.8,SNR=7.5						
KURBB				S	S	11 50 37.7	-2.6
	comp=Z,0.2nm,0.3s,baz=97,slow=7.8,SNR=4.0						
TKM2	Tokmak 2	82.86	314	P	P	11 41 04.7	+0.7
	SNR=75						
TKM2	Tokmak 2	82.86	314	P	P	11 41 04.4	+0.5
TKM2				pmax	pmax		
	comp=Z,66nm,0.8s						
KZA	Kyzart	82.95	313	P	P	11 41 06.2	+1.6
	SNR=96						
NIL	Nilore	83.03	304	eP	P	11 41 04.8	+0.1
	comp=Z,85nm,0.6s						
NIL	Nilore	83.03	304	eP	P	11 41 04.9	+0.1
NIL				pmax	pmax		
	comp=Z,85nm,0.6s						
KBK	Karagaybulak	83.28	314	P	P	11 41 06.8	+0.9
	SNR=47						
EGAK	Eagle	83.36	23	eP	P	11 41 06.1	+0.5
	comp=Z,46nm,0.9s						
CHMS	Chumysh	83.49	314	P	P	11 41 07.4	+0.6
	SNR=31						
UCH	Uchtor	83.51	313	P	P	11 41 08.9	+1.4
	SNR=95						
FRU1	Bishkek	83.54	314	eP	P	11 41 07.8	+0.6
	comp=Z,198nm,1.4s						
FRU1	Bishkek	83.54	314	eP	P	11 41 07.8	+0.6
FRU1				pmax	pmax		
	comp=Z,198nm,1.4s						
AAK	Ala-Archa	83.60	313	P	P	11 41 08.5	+0.9
	SNR=23						
AAK	Ala-Archa	83.60	313	eP	P	11 41 07.9	+0.3
	comp=Z,70nm,1.0s						
AAK	Ala-Archa	83.60	313c	iP	P	11 41 08.3	+0.7

comp=Z,74nm,1.0s
AAK Ala-Archa 83.60 313 P P 11 41 08.6 +0.9
SNR=37
AAK Ala-Archa 83.60 313 P P 11 41 08.4 +0.9
comp=Z,43nm,0.8s,baz=108,slow=4.4,SNR=84
USP Ospenovka 83.72 314 P P 11 41 08.7 +0.7
SNR=44
DAWY Dawson 83.80 24 eP P 11 41 08.4 +0.5
comp=Z,54nm,1.3s
BESE Bessie Mountai 84.08 30 eP P 11 41 10.3 +0.9
comp=Z,19nm,0.9s
AML Almayashu 84.09 313 P P 11 41 11.7 +1.3
SNR=73
SKAG Skagway 84.10 29 eP P 11 41 10.1 +0.7
comp=Z,22nm,1.2s
EKS2 Erkin-Say 84.13 313 P P 11 41 11.1 +0.9
SNR=27
ARSB Arslanbob 84.48 312 eP P 11 41 12.5 +0.6
comp=Z,147nm,1.3s
WHY Whitehorse 84.67 28 eP P 11 41 13.1 +0.7
comp=Z,19nm,0.8s
NRIK Noril'sk 84.71 341 P P 11 41 11.8 -0.4
comp=Z,23nm,0.7s,baz=102,slow=5.3,SNR=27
NRIK pP **pP 11 42 56.7 +1.4**
comp=Z,12nm,0.9s,baz=104,slow=5.5,SNR=2.5
WRAK Wrangell Islan 84.80 33 eP P 11 41 13.7 +0.8
comp=Z,15nm,1.0s
EPYK Eagle Plains 85.65 22 eP P 11 41 17.4 +0.4
comp=Z,58nm,0.8s
EPYK Eagle Plains 85.65 22 P P 11 41 17.6 +0.6
baz=251
OTUK Ortayu 86.10 319 P P 11 41 19.0 -0.5
OTUK pmax pmax
comp=Z,33nm,1.0s
GAR Garm 86.15 309 eP P 11 41 20.3 +0.2
comp=Z,62nm,0.8s
GAR Garm 86.15 309 eP P 11 41 20.3 +0.2
GAR pmax pmax
comp=Z,62nm,0.8s
QSPA South Pole Qui 86.38 180 eP P 11 41 20.4 -0.2
comp=Z,56nm,1.1s
DLBC Dease Lake 86.49 31 eP P 11 41 22.0 +0.8
comp=Z,19nm,1.2s
DLBC Dease Lake 86.49 31 P P 11 41 21.5 +0.3
comp=Z,11nm,1.1s,baz=262,slow=4.8,SNR=11
DLBC pP **pP 11 43 06.3 +0.4**
comp=Z,6.1nm,0.9s,baz=264,slow=9.2,SNR=2.0
KK31 Karatay Array 86.57 313 eP P 11 41 21.6 -0.2
comp=Z,42nm,1.3s
KK31 Karatay Array 86.57 313 i P P 11 41 21.3 -0.5
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 86.57 313 eP P 11 41 21.6 -0.2
comp=Z,42nm,1.3s
MAW Mawson 86.58 203 eP P 11 41 20.9 -0.4
comp=Z,2.1nm,1.1s
MAW Mawson 86.58 203 P P 11 41 21.5 +0.2
comp=Z,3.7nm,1.0s,baz=109,slow=6.5,SNR=10
MAW pP **pP 11 43 05.6 -0.8**
comp=Z,4.2nm,0.9s,baz=39,slow=12,SNR=4.7
KBL Kabul 86.61 305 eP P 11 41 21.5 -1.0
comp=Z,15nm,1.0s
KBL Kabul 86.61 305 eP P 11 41 21.5 -1.0
KBL pmax pmax
comp=Z,15nm,1.0s
INK Inuvik 87.42 21 eP P 11 41 24.9 -0.3
comp=Z,40nm,1.3s
INK Inuvik 87.42 21 P P 11 41 24.9 -0.3
comp=Z,20nm,1.1s,baz=264,slow=3.5,SNR=27
INK pP **pP 11 43 09.2 -0.9**
comp=Z,3.7nm,1.1s,baz=250,slow=16,SNR=2.3
INK S **SKSac 11 51 07.9 +0.5**
comp=Z,0.4nm,0.6s,baz=50,slow=31,SNR=6.1
KCPM Cahto Peak 87.58 50 eP P 11 41 27.3 +0.5
comp=Z,17nm,1.1s
KHMM Horse Mountain 87.61 49 eP P 11 41 27.6 +0.6
comp=Z,25nm,1.2s
J01E Myrtle Point 87.73 47 P P 11 41 27.9 +0.6
baz=263
L02E Cave Junction 87.85 48 P P 11 41 28.9 +1.0
baz=263
K02D Willamette Mer 87.87 47 P P 11 41 28.6 +0.6
baz=263
I02D Swisshome 87.91 46 P P 11 41 28.6 +0.6
baz=263
BVAR Borovoye Array 88.08 323 P P 11 41 27.9 -0.8
comp=Z,58nm,0.8s,baz=100,slow=6.2,SNR=205
BVAR pP **pP 11 43 13.3 +0.1**
comp=Z,4.7nm,0.7s,baz=104,slow=5.4,SNR=4.4
BRVK Borovoye 88.15 323 eP P 11 41 28.2 -0.8
comp=Z,76nm,1.0s
BRVK Borovoye 88.15 323c iP P 11 41 28.0 -1.0
BRVK pmax pmax
comp=Z,62nm,1.0s
BRVK Borovoye 88.15 323 P P 11 41 28.5 -0.5
SNR=28
I03D Drain, OR 88.22 46 P P 11 41 30.0 +0.5
baz=263
O02D Mt. Diablo Mer 88.24 50 P P 11 41 30.7 +0.8
baz=264,SNR=7.8
M02C Callahan 88.33 49 P P 11 41 31.3 +1.1
baz=264,SNR=8.9
HUMO Hull Mountain 88.38 47 eP P 11 41 31.2 +0.9
comp=Z,22nm,1.0s
N02D Trinity Center 88.39 49 P P 11 41 31.4 +0.9
baz=264,SNR=5.9
YBH Yreka Blue Hor 88.47 48 eP P 11 41 31.6 +0.7
comp=Z,20nm,1.1s
YBH Yreka Blue Hor 88.47 48 eP P 11 41 31.6 +0.7
YBH pmax pmax
comp=Z,20nm,1.1s
L04D Klamath Falls 88.82 48 P P 11 41 32.5 0.0
baz=264
D03D Eldon 88.84 42 P P 11 41 32.7 +0.4
baz=264
I04A Tendick Farm, 88.90 46 P P 11 41 32.8 0.0
baz=264
O03E Paynes Creek 89.01 50 P P 11 41 33.4 0.0
baz=264,SNR=8.3
J04D Umpqua Nationa 89.07 47 P P 11 41 34.1 +0.3
baz=264
M04C Macdoel 89.12 48 P P 11 41 34.5 +0.5
baz=264,SNR=11
K04D Chiloquin, OR 89.27 47 P P 11 41 33.8 -0.8
baz=264
AFDM Forest Hills D 89.52 51 eP P 11 41 36.1 +0.3
comp=Z,18nm,1.3s
B05A Bryant 89.58 42 P P 11 41 35.9 +0.1
baz=264
J05D Fort Rock, OR 89.71 47 P P 11 41 36.7 0.0
baz=265
I05D Terrebonne, OR 89.73 46 P P 11 41 36.8 +0.2
baz=265
G05D Wamic, OR 89.82 45 P P 11 41 37.4 +0.4
baz=265
CMB Columbia Colle 89.91 52 eP P 11 41 37.8 +0.2
comp=Z,14nm,1.3s
CMB Columbia Colle 89.91 52 eP P 11 41 37.8 +0.2
CMB pmax pmax
comp=Z,14nm,1.3s
K05A Summer Lake 89.91 47 eP P 11 41 37.9 +0.2
comp=Z,25nm,0.9s
PINE Pine Mountain 89.96 46 eP P 11 41 37.9 0.0
comp=Z,26nm,1.2s
BEKR Beckworth 90.07 50 eP P 11 41 38.3 -0.2
comp=Z,13nm,1.2s
PKM Mcpherson Peak 90.13 55 P P 11 41 39.2 +0.3
baz=266
MOD Modoc Plateau 90.28 48 eP P 11 41 39.8 +0.4
comp=Z,29nm,1.3s
VCNR Virginia City 90.58 51 eP P 11 41 41.2 +0.3
comp=Z,9.8nm,1.0s
PNTR Pine Nut 90.60 51 eP P 11 41 41.6 +0.5
comp=Z,18nm,1.1s
WAKR Walker 90.69 52 eP P 11 41 42.2 +0.8
comp=Z,12nm,1.1s
PAHR Pah Rah Range 90.81 50 eP P 11 41 42.3 +0.4
comp=Z,13nm,1.1s
YERR Yerington 90.87 51 eP P 11 41 42.7 +0.5
comp=Z,15nm,1.2s
MDPB Devils Postpil 90.91 53 eP P 11 41 43.1 +0.6
comp=Z,20nm,1.2s
ARVC Arvin 90.95 55 P P 11 41 43.0 +0.6
baz=266
MLAC Mammoth, Mammo 91.10 53 P P 11 41 43.6 +0.2
baz=266
CIS Catalina Islan 91.18 57 P P 11 41 43.1 -0.5
baz=266

ISA Isabella, Lake 91.27 55 eP P 11 41 44.2 +0.2
comp=Z,11nm,1.1s
ISA Isabella, Lake 91.27 55 eP P 11 41 44.2 +0.2
ISA pmax pmax
comp=Z,11nm,1.1s
ISA Isabella, Lake 91.27 55 P P 11 41 44.0 0.0
baz=266,SNR=6.2
DECC Green Verdugo 91.30 56 P P 11 41 44.4 +0.3
baz=267
FMP Fort Macarthur 91.30 56 P P 11 41 44.4 +0.3
baz=267
RYN Ryan 91.41 52 eP P 11 41 45.5 +0.8
comp=Z,24nm,1.3s
PASC Pasadena Art C 91.42 56 eP P 11 41 45.4 +0.8
comp=Z,24nm,1.0s
G08A Pilot Rock 91.49 45 eP P 11 41 45.1 +0.3
comp=Z,8.5nm,1.3s
MWC Mount Wilson 91.53 56 eP P 11 41 45.8 +0.4
comp=Z,46nm,1.0s
WVOR Wild Horse Val 91.55 48 eP P 11 41 45.3 +0.1
comp=Z,11nm,1.1s
WVOR Wild Horse Val 91.55 48 eP P 11 41 45.3 +0.1
WVOR pmax pmax
comp=Z,11nm,1.1s
TIN Tinemaha, Big 91.55 53 P P 11 41 45.7 +0.4
baz=267
NV01 Mina Array Sit 91.57 52 eP P 11 41 46.3 +0.8
NVAR Mina Array Bea 91.57 52 P P 11 41 46.3 +0.8
comp=Z,14nm,1.0s,baz=258,slow=5.9,SNR=54
NVAR PP **PP 11 45 36.5 +4.8**
comp=Z,0.7nm,0.7s,baz=267,slow=8.4,SNR=4.2
EDW2 Edwards Air Fo 91.62 55 P P 11 41 46.5 +0.9
baz=267,SNR=7.6
CWC Cottonwood Cre 91.64 54 P P 11 41 46.0 +0.2
baz=267
NV11 Mina Array Sit 91.69 52 eP P 11 41 46.4 +0.4
comp=Z,1.8nm,1.2s
J08A Circle Bar Ran 91.72 47 eP P 11 41 46.3 +0.3
comp=Z,11nm,1.0s
KVN Kaiserville 91.76 51 eP P 11 41 46.7 +0.4
comp=Z,15nm,1.2s
KVN Kaiserville 91.76 51 eP P 11 41 46.7 +0.4
KVN pmax pmax
comp=Z,15nm,1.2s
BFSC Mount Baldy Ra 91.86 56 P P 11 41 46.6 -0.2
baz=267,SNR=6.0
LRMC Laurel Mtn Rad 91.91 55 P P 11 41 47.1 +0.1
baz=267
DAC Darwin (Calif) 92.02 54 eP P 11 41 48.7 +1.1
comp=Z,29nm,1.1s
DAC Darwin (Calif) 92.02 54 eP P 11 41 48.7 +1.1
DAC pmax pmax
comp=Z,29nm,1.1s
MPMC Manual Prospec 92.09 54 P P 11 41 48.5 +0.6
baz=267,SNR=16
MURC Murrieta 92.21 57 P P 11 41 48.4 +0.1
baz=267
GRAC Grapevine Rang 92.24 53 P P 11 41 48.8 +0.4
baz=267
109C Camp Elliot, M 92.25 57 P P 11 41 48.7 +0.3
baz=267
CPE Camp Elliot 92.25 57 eP P 11 41 49.4 +0.9
comp=Z,31nm,1.1s
BMN Battle Mountai 92.51 50 eP P 11 41 50.4 +0.7
comp=Z,7.5nm,1.0s
BAR Barrett 92.61 58 eP P 11 41 50.6 +0.5
comp=Z,16nm,1.2s
GSC Goldstone, Bar 92.61 55 eP P 11 41 50.4 +0.2
comp=Z,14nm,1.2s
GSC Goldstone, Bar 92.61 55 P P 11 41 50.4 +0.2
baz=268,SNR=7.6
FURC Furnace Creek, 92.62 54 P P 11 41 50.3 +0.2
baz=268,SNR=16
BMO Blue Mountains 92.64 45 eP P 11 41 50.1 0.0
comp=Z,5.6nm,1.0s
BMO Blue Mountains 92.64 45 eP P 11 41 50.1 0.0
BMO pmax pmax
comp=Z,6.0nm,1.0s
F10A Beach Ranch, E 92.73 44 eP P 11 41 50.5 0.0
comp=Z,5.3nm,1.0s
PFO Pinyon Flats O 92.83 57 eP P 11 41 51.4 +0.1
comp=Z,15nm,1.0s
PFO Pinyon Flats O 92.83 57 eP P 11 41 51.4 +0.1
PFO pmax pmax
comp=Z,15nm,1.0s
PFO Pinyon Flats O 92.83 57 P P 11 41 51.8 +0.5
baz=268,SNR=7.9
MONP2 Monument Peak 92.83 57 P P 11 41 52.1 +0.7
baz=268,SNR=8.7
NEW Newport 92.89 42 P P 11 41 50.7 -0.4
baz=268
NEW Newport 92.89 42 P P 11 41 51.5 +0.4
comp=Z,3.1nm,0.9s,baz=238,slow=4.2,SNR=4.4
HEC Hector,Ludlow 92.98 55 P P 11 41 51.5 -0.4
baz=268
SHOC Shoshone, Teco 93.07 54 P P 11 41 52.9 +0.7
baz=268,SNR=11
IKP In-Ko-Pah, Jac 93.08 58 P P 11 41 53.2 +0.8
baz=268,SNR=6.0
TPNV Topopah Spring 93.13 53 eP P 11 41 52.0 -0.6
comp=Z,19nm,1.0s
TPNV Topopah Spring 93.13 53 eP P 11 41 52.1 -0.6
TPNV pmax pmax
comp=Z,19nm,1.0s
TPNV Topopah Spring 93.13 53 P P 11 41 52.9 +0.3
baz=268,SNR=18
BELC Belle Mtn. Jos 93.22 56 P P 11 41 53.3 +0.2
baz=268,SNR=8.1
TUQ Turquoise Moun 93.34 55 P P 11 41 53.1 -0.5
baz=268
SWSC Sam W. Stewart 93.35 57 P P 11 41 53.9 +0.4
baz=268
GMRC Granite Mounta 93.53 56 P P 11 41 55.0 +0.5
baz=268,SNR=15
BC3 Big Chuckawall 93.67 57 P P 11 41 56.1 +1.0
baz=268,SNR=11
R11A Troy Canyon, C 93.70 52 eP P 11 41 55.2 0.0
comp=Z,13nm,1.3s
R11A Troy Canyon, C 93.70 52 P P 11 41 55.3 0.0
baz=268
IRM Iron Mountain 93.94 56 P P 11 41 57.1 +0.8
baz=268,SNR=11
SVE Sverdlovsk 93.98 327 eP P 11 41 54.7 -1.1
SVE pmax pmax
comp=Z,34nm,1.6s
SHPR Sheep Range 93.99 54 eP P 11 41 57.1 +0.5
comp=Z,13nm,1.0s
ELK Elko 94.03 50 eP P 11 41 56.8 0.0
comp=Z,4.7nm,1.2s
ELK Elko 94.03 50 eP P 11 41 56.8 0.0
ELK pmax pmax
comp=Z,5.0nm,1.2s
GLA Glamis 94.17 57 P P 11 41 57.5 +0.2
baz=268
AB31 Akbulak array 94.35 319 i P P 11 41 55.6 -2.1
AB31 pmax pmax
comp=Z,18nm,1.1s
ABKAR Akbulak array 94.35 319 eP P 11 41 56.0 -1.7
comp=Z,18nm,1.1s
NEE2 Needles Airpor 94.39 56 P P 11 41 59.1 +0.9
baz=269,SNR=5.5
Y12C Blythe 94.44 57 eP P 11 41 59.2 +0.7
comp=Z,16nm,1.2s
Y12C Blythe 94.44 57 P P 11 41 58.8 +0.3
baz=269
YKW3 Yellowknife Ar 94.48 28 eP P 11 41 57.9 -0.1
comp=Z,3.2nm,0.8s
YKA Yellowknife Ar 94.49 28 P P 11 41 58.0 +0.1
comp=Z,2.3nm,0.7s,baz=274,slow=4.8,SNR=35
YKA pP **pP 11 43 42.8 -0.6**
comp=Z,0.9nm,0.9s,baz=271,slow=4.9,SNR=2.7
YKA PP **PP 11 45 58.3 +5.0**
comp=Z,0.8nm,0.7s,baz=278,slow=7.4,SNR=4.2
YKB5 Yellowknife Ar 94.49 28 eP P 11 41 58.0 +0.1
HLID Hailey 94.68 47 P P 11 41 59.8 +0.2
baz=270
PDMCI Parker Dam,Lak 94.77 56 P P 11 42 00.7 +0.8
baz=269
W13A Hualapai Mount 95.00 55 eP P 11 42 01.6 +0.4
comp=Z,10.0nm,1.0s
PSUT Pine Spring 95.06 52 eP P 11 42 01.4 -0.1
comp=Z,6.1nm,1.1s
ARU Arti 95.13 326 eP P 11 41 59.3 -1.7
comp=Z,30nm,1.1s
ARU Arti 95.13 326 P P 11 41 59.0 -2.1
ARU 11 45 57.6
ARU S **SKSac 11 51 48.9 -2.2**
ARU Arti 95.13 326 P P 11 41 59.1 -1.9

comp=Z,5.0nm,0.6s,baz=86,slow=2.6,SNR=22
ARU PP **PP 11 45 58.1 -0.2**
comp=Z,2.8nm,0.8s,baz=106,slow=4.1,SNR=6.1
CCUT Cedar City 95.44 53 eP P 11 42 03.6 +0.4
comp=Z,8.6nm,1.1s
LCMT Little Creek M 95.53 53 eP P 11 42 04.0 +0.4
comp=Z,13nm,1.3s
AKTO Aktyubinsk 95.59 320 P P 11 42 01.5 -1.8
comp=Z,10nm,1.0s,baz=103,slow=6.4,SNR=18
AKTO PP **PP 11 46 02.4 +0.3**
comp=Z,1.0nm,0.4s,baz=38,slow=16,SNR=4.8
GEYT Alibeck 95.63 308 P P 11 42 03.6 -0.2
comp=Z,2.7nm,0.3s,baz=47,slow=2.6,SNR=9.2
GEYT pP **pP 11 43 49.8 +0.3**
comp=Z,2.8nm,0.4s,baz=67,slow=11,SNR=2.1
SZCU Shurtz Canyon 95.66 53 eP P 11 42 04.5 +0.2
comp=Z,8.6nm,1.1s
Y14A Wickenburg 95.71 56 eP P 11 42 04.9 +0.6
comp=Z,17nm,1.6s
KNB Kanab 95.87 53 eP P 11 42 05.8 +0.7
comp=Z,27nm,1.3s
KNB Kanab 95.87 53 eP P 11 42 05.8 +0.7
KNB pmax pmax
comp=Z,27nm,1.3s
PKCU Pink Cliffs 96.28 53 eP P 11 42 07.9 +0.8
comp=Z,27nm,1.4s
U15A North Rim 96.30 54 eP P 11 42 08.0 +0.8
comp=Z,18nm,1.5s
MTPU Mount Pierson 96.38 52 eP P 11 42 08.2 +0.6
comp=Z,8.2nm,1.3s
BOZ Bozeman (W) 96.65 45 P P 11 42 09.0 +0.6
baz=272
WUAZ Wupatki 97.05 55 eP Pdif 11 42 11.0 +0.6
comp=Z,7.1nm,1.0s
WUAZ Wupatki 97.05 55 P Pdif 11 42 11.5 +1.0
baz=271
TMUT Trail Mountain 97.12 51 eP Pdif 11 42 11.2 +0.3
comp=Z,6.0nm,0.9s
H17A Grant Village 97.44 46 eP Pdif 11 42 12.9 +0.8
comp=Z,2.9nm,0.9s
H17A Grant Village 97.44 46 P Pdif 11 42 13.0 +0.9
baz=272
P17A Butcher Ranch, 97.48 51 eP Pdif 11 42 12.4 +0.1
comp=Z,6.0nm,1.3s
TUC Tucson 97.58 58 eP Pdif 11 42 12.8 0.0
comp=Z,4.9nm,1.3s
TUC Tucson 97.58 58 eP Pdif 11 42 12.8 0.0
TUC pmax pmax
comp=Z,5.0nm,1.3s
TUC Tucson 97.58 58 P Pdif 11 42 13.3 +0.5
baz=271
BW06 Boulder Array 98.25 47 ePdif Pdif 11 42 15.5 -0.2
comp=Z,2.6nm,0.8s
BW06 Boulder Array 98.25 47 P Pdif 11 42 15.6 -0.1
baz=273
PD31 Pinedale Array 98.25 47 ePdif Pdif 11 42 15.4 -0.3
comp=Z,2.6nm,0.9s
PDAR Pinedale Array 98.25 47 P Pdif 11 42 14.6 -1.1
comp=Z,1.4nm,0.7s,baz=249,slow=2.9,SNR=12
RLMT Red Lodge 98.33 45 P P 11 42 17.0 +1.0
baz=273
W18A Petrified Fore 98.40 55 P P 11 42 17.0 +0.4
baz=272
PV07 Paradox Valley 99.15 52 ePdif Pdif 11 42 20.0 +0.2
comp=Z,5.2nm,1.0s
RES Resolute Bay 99.30 14 P Pdif 11 42 18.4 -0.9
comp=Z,3.5nm,0.8s,baz=8.1,slow=4.5,SNR=6.7
MVCO Mesa Verde 99.32 53 P Pdif 11 42 20.2 -0.5
baz=273
O20A White River Ci 99.38 50 P Pdif 11 42 21.1 +0.3
baz=273
RWWY Rawlins 100.06 48 ePdif Pdif 11 42 23.5 -0.3
SMCO Snowmass 100.41 51 ePdif Pdif 11 42 26.0 +0.4
K22A Casper 100.49 47 P Pdif 11 42 25.1 -0.5
baz=275
S22A 4UR Ranch, Cre 100.62 52 P Pdif 11 42 27.3 +0.8
baz=274
TASM ASL Pad, Albuq 101.09 55 P Pdif 11 42 28.2 -0.3
baz=273
TASM ASL Pad, Albuq 101.09 55 P Pdif 11 42 27.5 -1.0
baz=273
ANMO Albuquerque 101.09 55⇓ eP Pdif 11 42 27.8 -0.7
PRGR Permogore 101.11 332 eP Pdif 11 42 25.1 -2.5
PRGR pmax pmax
comp=Z,13nm,0.6s
SDCO Great Sand Dun 101.67 52 P Pdif 11 42 30.0 -1.1
baz=274
MAK Makhachkala 103.39 313 eP Pdif 11 42 36.7 -1.5
MAK e 11 46 59.3
MAK ePPP PPP 11 49 15.3
MAK ePS PS 11 56 23.7 +0.2
MAK pmax pmax
comp=Z,31nm,0.4s
TMCR Tamitsa 103.69 336 i P Pdif 11 42 37.4 -1.6
LTX Lajitas 103.81 61 ePdif Pdif 11 42 40.6 +0.1
LTX ePP **PP 11 47 04.7 +0.3**
LTX Lajitas 103.81 61 eP Pdif 11 42 40.6 +0.1
LTX e 11 47 04.7
TXAR Lajitas Array 103.81 61 Pdiff Pdif 11 42 40.6 +0.1
comp=Z,0.2nm,0.8s,baz=14,slow=1.9,SNR=2.5
TXAR PP **PP 11 47 04.7 +0.3**
comp=Z,2.8nm,1.3s,baz=246,slow=5.3,SNR=5.5
APA Apatity 104.08 340⇑ i P Pdif 11 42 43.0 +2.2
APA pmax pmax
comp=Z,14nm,0.6s
KLMR Klimovskoe 104.16 332 eP Pdif 11 42 37.3 -3.9
KLMR pmax pmax
comp=Z,21nm,1.4s
ARCES ARCESS Array B 105.61 343 Pdiff Pdif 11 42 47.1 -0.5
comp=Z,3.6nm,0.9s,baz=40,slow=7.1,SNR=3.9
ARCES PKiKP **PKiKP 11 46 58.0 +0.2**
comp=Z,1.5nm,0.7s,baz=111,slow=2.7,SNR=5.0
ARCES PKKPbc **PKKPbc 11 58 22.0 -4.3**
comp=Z,0.8nm,0.5s,baz=249,slow=2.3,SNR=7.2
KBZ Khabaz 106.58 315 PP PP 11 47 24.8 +0.9
comp=Z,3.3nm,0.9s,baz=127,slow=9.1,SNR=4.4
OBN Obninsk 107.54 327 eP Pdif 11 42 54.5 -1.9
OBN e 11 47 30.4
OBN pmax pmax
comp=Z,10.0nm,0.9s
FIA0 FINESS Array S 109.81 336 ePdif Pdif 11 43 05.0 -1.3
FIA0 FINESS Array S 109.81 336 eP Pdif 11 43 05.1 -1.3
FINES FINESS Array B 109.81 336 Pdiff Pdif 11 43 05.0 -1.3
comp=Z,1.6nm,0.6s,baz=64,slow=4.4,SNR=7.6
FINES PP **PP 11 47 44.2 -2.2**
comp=Z,4.8nm,1.1s,baz=106,slow=6.2,SNR=3.8
AKASG Malin Array Be 113.32 325 PKiKP PKiKP 11 47 12.2 -0.6
comp=Z,4.1nm,0.7s,baz=60,slow=2.2,SNR=3.9
AKASG PP **PP 11 48 11.2 -0.5**
comp=Z,2.5nm,0.6s,baz=58,slow=9.6,SNR=4.1
KIEV Kiev 113.33 325⇑ i PKiKP PKiKP 11 47 12.0 -0.8
M43A Waltham Townsh 113.54 46 P PKiKP 11 47 13.1 -0.4
baz=287
BRTR Keskin Array B 114.26 312 PKP PKPdf 11 47 14.6 -0.6
comp=Z,0.5nm,0.5s,baz=132,slow=3.7,SNR=3.8
BRTR PP **PP 11 48 15.7 -3.2**
comp=Z,6.3nm,1.0s,baz=104,slow=5.2,SNR=14
NB2 NORSAR Subarra 115.66 340 PKPdf PKPdf 11 47 15.9 -1.2
comp=Z,0.5nm,0.5s,baz=39,slow=1.9
NB200 NORSAR Array S 115.66 340 ePKPdf PKPdf 11 47 16.5 -0.6
NOA NORSAR Array B 115.66 340 PKP PKPdf 11 47 16.5 -0.6
comp=Z,1.4nm,0.7s,baz=44,slow=1.8,SNR=6.9
NOA PP **PP 11 48 21.9 -5.6**
comp=Z,1.0nm,0.7s,baz=34,slow=7.6,SNR=3.8
BURAR Bucovina Array 117.03 323⇓ i P PKPdf 11 47 16.8 -3.4
Q49A Aurora 117.25 48 P PKPdf 11 47 19.7 -1.1
baz=289
E50A Wahnapitae 117.25 39 P PKPdf 11 47 20.0 -0.5
baz=296
O49A Covington 117.27 46 P PKPdf 11 47 20.6 -0.2
baz=290
TOBO Tobermory, Bru 117.27 40 P PKPdf 11 47 20.0 -0.5
baz=295
LRAL Lakeview Retre 117.33 55 P PKPdf 11 47 20.6 -0.5
baz=285
W49A Belvidere 117.37 52 P PKPdf 11 47 20.3 -0.8
baz=286
V49A McMinnville 117.47 51 P PKPdf 11 47 20.8 -0.5
baz=287
MLR Muntele Rosu 117.52 320⇑ i P PKPdf 11 47 14.9 -6.4
149A Jones 117.61 55 P PKPdf 11 47 21.3 -0.4
baz=284
O50A Cable 117.79 46 P PKPdf 11 47 21.4 -0.4
baz=291
P50A Jamestown 117.85 47 P PKPdf 11 47 21.9 0.0
baz=290
T50A Nancy 117.92 50 P PKPdf 11 47 21.5 -0.6

baz=288
S50A Richmond 118.05 49 P PKPdf 11 47 20.9 -1.5
baz=289
KLBO Killbear Provi 118.05 39 P PKPdf 11 47 21.4 -0.7
baz=296
W50A Signal Mountai 118.10 52 P PKPdf 11 47 21.7 -0.9
baz=287
KOLS Kolonicke sedl 118.13 325 *e*PKIKP **PKiKP 11 47 22.7 +0.5**
KOLS Kolonicke sedl 118.13 325 *e*PKP **PKiKP 11 47 22.7 +0.5**
Z50A Ashland 118.15 54 P PKPdf 11 47 21.3 -1.4
baz=285
N51A Ashland 118.40 45 P PKPdf 11 47 21.5 -1.4
baz=292
S51A Beattyville 118.67 49 P PKPdf 11 47 22.9 -0.6
baz=289
S52A Salyersville 119.04 48 P PKiKP 11 47 24.3 0.0
baz=290
W52A Murphy 119.21 52 P PKPdf 11 47 24.1 -0.6
baz=288
V52A Sevierville 119.24 51 P PKPdf 11 47 23.7 -1.0
baz=288
EZN Ezine 119.54 314 ⇓ *i*P **PKPdf 11 47 24.0 -1.1**
GZR Gura Zlata 119.56 321 ⇑ *i*P **PKPdf 11 47 25.0 -0.1**
T53A Wise 119.68 49 P PKPdf 11 47 25.0 -0.6
baz=290
W53A Cullowhee 119.79 51 P PKPdf 11 47 24.9 -1.0
baz=288
U53A Fall Branch 119.85 50 P PKPdf 11 47 25.4 -0.5
baz=289
Z53A Monticello 120.03 53 P PKPdf 11 47 25.5 -0.7
baz=287
M54A Oil Creek Stat 120.05 43 P PKPdf 11 47 25.4 -0.7
baz=294
BZS Buzias 120.17 322 ⇑ *i*P **PKPdf 11 47 25.5 -0.7**
I55A Frankford 120.17 40 P PKPdf 11 47 25.6 -0.6
baz=298
Q54A Coxs Mills 120.22 46 P PKPdf 11 47 25.7 -0.8
baz=292
MORC Moravsky Berou 120.28 328 *e*PKPdf **PKPdf 11 47 26.3 0.0**
MORC Moravsky Berou 120.28 328 *e*PKIKP **PKPdf 11 47 26.3 0.0**
MORC Moravsky Berou 120.28 328 *e*PKP **PKiKP 11 47 26.4 0.0**
MORC *e* 11 48 56.5
VYHS Vyhne 120.30 326 *e*PKIKP **PKPdf 11 47 26.0 -0.4**
VYHS Vyhne 120.30 326 *e*PKP **PKPdf 11 47 26.0 -0.4**
S54A Dingess, Beckl 120.31 48 P PKPdf 11 47 25.5 -1.2
baz=291
MDVR Moldovita 120.51 321 ⇑ *i*P **PKPdf 11 47 25.4 -1.5**
VTS Vitosha 120.53 318 *e*PKPdf **PKPdf 11 47 26.8 -0.4**
VTS Vitosha 120.53 318 ⇑ *i*P **PKPdf 11 47 27.1 -0.1**
VTS Vitosha 120.53 318 *e*PKIKP **PKPdf 11 47 26.8 -0.4**
Y54A Tignall 120.56 53 P PKPdf 11 47 26.6 -0.7
baz=288
DPC Dobruska-Polom 120.58 329 *e*PKIKP **PKiKP 11 47 27.2 +0.2**
DPC Dobruska-Polom 120.58 329 *e*PKPDF **PKiKP 11 47 27.2 +0.2**
L55A Hinsdale 120.59 42 P PKPdf 11 47 25.7 -1.5
baz=296
UPC Upice 120.65 329 *e*PKIKP **PKPdf 11 47 26.9 0.0**
UPC Upice 120.65 329 *e*PKPDF **PKPdf 11 47 26.9 0.0**
JAVC Velka Javorina 120.74 327 *e*PKP **PKiKP 11 47 28.3 +0.9**
N55A Marion Center 120.82 44 P PKPdf 11 47 26.3 -1.3
baz=295
PLCA Paso Flores 120.94 143 *e*PKPdf **PKPdf 11 47 27.5 -0.4**
PLCA Paso Flores 120.94 143 PKP **PKiKP 11 47 28.1 0.0**
comp=Z,3.0nm,0.5s,baz=290,slow=2.0,SNR=16
PLCA PKKPbc **PKKPbc 11 57 34.5 0.0**
comp=Z,2.2nm,0.8s,baz=76,slow=14,SNR=3.1
PLCA Paso Flores 120.94 143 *e*P **PKiKP 11 47 31.1 +3.1**
R55A Marlinton 121.00 47 P PKPdf 11 47 27.4 -0.7
baz=292
VRAC Vranov 121.06 328 *e*PKP **PKPdf 11 47 27.3 -0.5**
BLA Blacksburg 121.18 48 P PKPdf 11 47 27.9 -0.6
baz=292
Y55A Saluda 121.20 52 P PKPdf 11 47 27.1 -1.4
baz=289
X55A Gracelyn & Ava 121.20 52 P PKPdf 11 47 27.8 -0.7
baz=289
KMSC Kings Mountain 121.21 51 P PKPdf 11 47 28.5 0.0
baz=290
MODS Modra-Piesok 121.23 327 *e*PKIKP **PKiKP 11 47 28.3 0.0**
MODS Modra-Piesok 121.23 327 *e*PKP **PKiKP 11 47 28.3 0.0**
N56A West Decatur 121.23 43 P PKPdf 11 47 27.8 -0.6
baz=295
KRUC Moravsky 121.31 328 *e*PKP **PKPdf 11 47 28.2 -0.1**
BRG Berggiesshubel 121.46 331 *i* PKP **PKPdf 11 47 28.5 0.0**
comp=Z,8.6nm,0.9s
BRG *e*pPKP **PP 11 49 00.9 -6.3**
comp=Z,5.1nm,1.1s
BRG Berggiesshubel 121.46 331 *i* PKIKP **PKPdf 11 47 28.5 0.0**
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,5.0nm,1.1s
GOPC GO Pecny, Ondr 121.63 329 *e*PKIKP **PKPdf 11 47 28.9 0.0**
GOPC GO Pecny, Ondr 121.63 329 *e*PKPDF **PKPdf 11 47 28.9 0.0**
CLL Collm 121.63 331 *e*PKPdf **PKPdf 11 47 28.6 -0.2**
CLL Collm 121.63 331 *i* PKIKP **PKPdf 11 47 28.7 -0.1**
CLL *e* 11 49 09.0
CLL pmax pmax
comp=Z,23nm,0.9s
CLL Collm 121.63 331 *i* PKPdf **PKPdf 11 47 28.7 -0.1**
comp=Z,9.0nm,0.9s
CLL *e*PP **PP 11 49 09.0 +0.6**
CLL *e*PKKPbc **PKKPbc 11 57 32.0 0.0**
comp=Z,5.0nm,0.6s
CLL LmV 12 51 00.0
comp=Z,200nm,21.9s
X56A White Oak 121.66 51 P PKiKP 11 47 30.0 +0.5
baz=290
CONA Conrad Observa 122.26 327 *i* PKiKP **PKiKP 11 47 30.4 0.0**
comp=Z,4.2nm,0.7s
FNA Florina 122.59 317 *e*PKPdf **PKPdf 11 47 30.2 -0.9**
FNA Florina 122.59 317 *e*PKIKP **PKPdf 11 47 30.2 -0.9**
NKC Novy Kostel 122.60 331 *e*PKIKP **PKiKP 11 47 31.1 +0.1**
NKC Novy Kostel 122.60 331 *e*PKPDF **PKiKP 11 47 31.1 +0.1**
KHC Kasperske Hory 122.74 329 *e*PKPdf **PKPdf 11 47 30.7 -0.4**
KHC Kasperske Hory 122.74 329 *e*PKIKP **PKiKP 11 47 31.2 -0.1**
KHC Kasperske Hory 122.74 329 *e*PKPDF **PKiKP 11 47 31.2 -0.1**
ARSA Arzberg 122.84 326 *i* PKiKP **PKPdf 11 47 31.2 -0.1**
comp=Z,1.9nm,0.6s
GERES GERESS Array B 122.85 329 PKP **PKPdf 11 47 31.3 0.0**
comp=Z,3.3nm,0.6s,baz=54,slow=2.3,SNR=17
GERES PP **PP 11 49 18.6 +1.9**
comp=Z,0.9nm,0.7s,baz=54,slow=6.8,SNR=4.8
W58A Raeford 122.87 50 P PKPdf 11 47 31.3 -0.4
baz=291
U58A Oxford 122.88 48 P PKPdf 11 47 31.6 0.0
baz=292
PDG Podgorica 123.21 320 ⇑ *i*P **PKPdf 11 47 32.0 -0.1**
KBA Koelnbreinsper 124.13 327 *i* PKPdf **PKPdf 11 47 33.2 -0.8**
comp=Z,9.9nm,1.3s
ABTA Abfaltersbach 124.79 327 *i* PKPdf **PKPdf 11 47 34.3 -0.8**
comp=Z,16nm,1.2s
WATA Walderalm 124.91 328 *i* PKPdf **PKPdf 11 47 34.4 -1.0**
comp=Z,8.6nm,0.9s
WTTA Wattenberg 124.92 328 *i* PKiKP **PKPdf 11 47 35.6 +0.1**
comp=Z,7.4nm,0.5s
SQTA Sankt Quirin 125.18 329 *i* PKiKP **PKPdf 11 47 36.0 +0.1**
comp=Z,7.3nm,0.7s
RETA Reutte 125.23 329 *i* PKiKP **PKPdf 11 47 35.9 0.0**
comp=Z,3.1nm,0.6s
FETA Feichten 125.56 329 *e*PKiKP **PKiKP 11 47 36.9 -0.2**
comp=Z,14nm,1.1s
DAVA Damuels 125.82 329 *i* PKiKP **PKPdf 11 47 37.3 +0.1**
comp=Z,5.9nm,0.6s
FUORN Ofenpass-Fuorn 126.06 329 *e*PKPdf **PKPdf 11 47 37.5 -0.2**
TUE Stuetta 126.63 329 *e*PKPdf **PKPdf 11 47 38.4 -0.4**
GO04 Tololo Observa 126.74 132 *e*PKPdf **PKPdf 11 47 39.3 -0.3**
LCO Las Campanas 127.41 131 *e*PKPdf **PKiKP 11 47 41.3 -0.2**
LCO Las Campanas 127.41 131 *e*PKIKP **PKiKP 11 47 41.3 -0.2**
LCO Las Campanas 127.41 131 *e*P **PKiKP 11 47 42.2 +0.7**
TRQA Tornquist 127.70 146 *e*P **PKiKP 11 44.2 +2.6**
BNI Bardonecchia 128.97 329 *e*PKPdf **PKPdf 11 47 43.5 +0.3**
BNI Bardonecchia 128.97 329 *e*PKIKP **PKPdf 11 47 43.5 +0.3**
OTAV Otavalo 128.99 93 *e*P **PKiKP 11 47 47.2 +1.9**
GO02 Mina Guanaco 130.17 127 *e*PKPdf **PKPdf 11 47 45.5 -0.9**
PB01 IPOC Station P 132.14 123 *e*PKPdf **PKPdf 11 47 49.6 -0.2**
MNMC Minye Minye 132.85 120 *e*PKPdf **PKPdf 11 47 51.2 -0.2**
GO01 Chusmiza 132.98 121 *e*PKPdf **PKPdf 11 47 52.0 +0.1**
KEST Kesra 133.29 318 *e*PKPdf **PKPdf 11 47 51.8 +0.2**
KEST *e*SKPbc **SKPbc 11 50 35.9 +0.2**
KEST Kesra 133.29 318 PKP **PKPdf 11 47 52.1 +0.5**
comp=Z,6.7nm,1.0s,baz=328,slow=7.9,SNR=5.4
KEST SKPbc **SKPbc 11 50 36.6 +0.9**
comp=Z,22nm,1.1s,baz=355,slow=0.5,SNR=9.5
LPAZ La Paz 135.26 117 *e*PKPdf **PKPdf 11 47 55.2 -1.2**
LPAZ La Paz 135.26 117 PKP **PKiKP 11 47 57.3 -0.8**
comp=Z,3.7nm,0.5s,baz=170,slow=0.7,SNR=15
LPAZ SKPbc **SKPbc 11 50 45.2 +2.1**
comp=Z,22nm,1.0s,baz=311,slow=1.8,SNR=21
LPAZ La Paz 135.26 117 *e*P **PKiKP 11 47 58.7 +0.7**
SDV Santo Domingo 136.83 81 *e*PKPdf **PKPdf 11 47 58.0 -0.9**
SDV Santo Domingo 136.83 81 *e*P **PKiKP 11 48 02.3 +1.5**
PBRG Braganca 137.63 337 *e*PP PP 11 50 50.0 -1.1
ESDC Sonseca Array 138.20 332 PKP **PKiKP 11 48 01.7 -1.0**
comp=Z,0.1nm,0.2s,baz=23,slow=3.3,SNR=4.8
ESDC PP **PP 11 50 47.0 -7.7**
comp=Z,1.6nm,0.7s,baz=26,slow=6.4,SNR=4.7
MVO Moncorvo 138.29 337 *e*PKPdf **PKPdf 11 48 00.5 -0.2**
POLO Lamas de Olo 138.41 338 *e*PKPdf **PKiKP 11 48 03.7 +0.5**
CPUP Villa Florida 138.57 138 PKhKP PKPpre 11 47 51.6
comp=Z,1.7nm,0.8s,baz=21,slow=2.9,SNR=3.8
CPUP PKP **PKPdf 11 48 00.6 -1.0**
comp=Z,3.1nm,0.7s,baz=323,slow=3.5,SNR=6.9
CPUP SKPbc **SKPbc 11 50 52.6 +0.8**
comp=Z,5.9nm,0.9s,baz=247,slow=3.2,SNR=6.7
CPUP Villa Florida 138.57 138 *e*P **PKiKP 11 48 04.1 +0.3**
CNLB Canela 140.37 147 *e*P **PKiKP 11 48 08.4 +0.9**
ITAB Concordia 141.23 144 *e*P **PKiKP 11 48 09.8 +0.6**
PBEJ Beja 141.29 335 *e*PKPdf **PKPdf 11 48 02.3 -3.8**
PVAQ Vaqueiros 141.75 334 *e*PKPdf **PKPdf 11 48 02.3 -4.7**
TER01 Tubaro-SC 141.91 148 *e*P **PKiKP 11 48 11.3 +0.7**
TAM Tamanrasset 142.75 304 *e*PKPdf **PKPdf 11 48 07.5 -1.9**
TAM Tamanrasset 142.75 304 *e*PKIKP **PKPdf 11 48 07.5 -1.9**
PTGB Pitanga 143.12 141 *e*P **PKiKP 11 48 12.0 -1.3**
FRTB Fartura 145.67 142 *e*P **PKPab 11 48 16.8 0.0**
SPB Sao Paulo 146.74 145 *e*P **PKiKP 11 48 20.4 -0.2**
PTGA Pitinga 147.28 97 *e*P **PKPbc 11 48 21.0 +0.7**
ITRB Iturama 147.76 137 *e*P **PKPbc 11 48 22.1 +0.7**
BB19B Bebedouro 148.00 141 *e*P **PKiKP 11 48 22.7 -0.7**
CLDB Colider 148.40 117 *e*P **PKPbc 11 48 23.6 +0.5**
ESAR Angra dos Reis 148.83 149 *e*P **PKPbc 11 48 24.3 +0.4**
TOA0 Torodi Ar. Sit 149.62 290 *e*PKPbc **PKPbc 11 48 25.8 -0.2**
TOA0 *e*PKPab **PKPab 11 48 33.1 0.0**
TOA0 Torodi Ar. Sit 149.62 290 PKiKP **PKPbc 11 48 25.7 -0.4**
SNR=7.3
TORD Torodi Ar. Bea 149.62 290 PKP **PKPdf 11 48 20.3 -0.6**
comp=Z,29nm,0.9s,baz=305,slow=5.2,SNR=39
TORD PKPbc **PKPbc 11 48 24.3 -1.7**
comp=Z,34nm,0.9s,baz=95,slow=1.7,SNR=81
TORD pPKPbc **pPKPbc 11 50 15.6 -1.2**
comp=Z,4.0nm,0.9s,baz=38,slow=1.9,SNR=4.2
TOA1 Torodi Ar. Sit 149.62 290 *e*PKPdf **PKPdf 11 48 20.3 -0.6**
TOA1 *e*pPKPdf **pPKPbc 11 50 15.6 -1.2**
BSCB Bom Sucesso 150.29 146 *e*P **PKPbc 11 48 26.8 -0.8**
CAM01 Campos-RJ 151.21 152 *e*P **PKPbc 11 48 28.3 -1.2**
BDFB Brasilia 152.14 134 *e*PKPbc **PKPbc 11 48 32.0 0.0**
BDFB *e*PKPab **PKPab 11 48 43.8 +0.2**
BDFB Brasilia 152.14 134 PKPbc **PKPbc 11 48 31.9 0.0**
comp=Z,20nm,0.5s,baz=234,slow=1.5,SNR=25
BDFB pPKPbc **pPKPbc 11 50 22.4 -1.1**
comp=Z,12nm,1.0s,baz=162,slow=4.8,SNR=5.5
MCI6 Montes Claros 154.08 142 *e*P **PKPbc 11 48 32.7 -3.3**
SJMB Sao Joao De Ma 154.09 149 *e*P **PKPbc 11 48 33.8 -2.1**
BSFB Barra de Sao F 154.15 150 *e*P **PKPbc 11 48 33.5 -2.5**
MCI9 Montes Claros 154.16 142 *e*P **PKPbc 11 48 32.8 -3.4**
MCI8 Montes Claros 154.17 142 *e*P **PKPbc 11 48 32.9 -3.3**
JANB Januaria 155.11 138 *e*P **PKPdf 11 48 34.7 +5.8**
KIC Kosan Boka 157.15 278 *e*PKP2 **PKPab 11 49 05.0 -0.3**
comp=Z,48nm,1.1s
DBIC Dimbokro 157.23 279 *e*PKPdf **PKPdf 11 48 31.4 -0.3**
DBIC *e*PKPab **PKPab 11 49 05.5 0.0**
DBIC Dimbokro 157.23 279 *e*PKIKP **PKPdf 11 48 31.4 -0.3**
DBIC Dimbokro 157.23 279 PKPab **PKPab 11 49 04.8 -0.7**
comp=Z,18nm,0.9s,baz=55,slow=5.6,SNR=11
TIC Toumodi 157.40 279 *e*PKP2 **PKPab 11 49 05.8 -0.5**
LIC Lamto 157.45 278 *e*PKP2 **PKPab 11 49 06.2 -0.3**
comp=Z,61nm,1.2s
NBMO Morrinhos-CE 165.73 118 *e*P **PKPdf 11 48 47.5 +7.0**
RCBR Riachuelo 167.45 138 *e*P **PKPdf 11 48 49.5 +7.7**

NEIC ***27*** *11:34:33.6±0.8, 12°.84N×144°.14E, h124km±8km, mb4.1/22, Error ellipse: s-maj=18.6km s-min=15.2km az=78.0*
IDC ***27*** *11:34:33.5±0.9, 12°.88N×144°.14E, h125km±8km, mb3.8/12, mb1 4.0/12, mb1mx3.7/55, mbtmp4.2/12, MS4.1/3, Ms1 4.1/3, ms1mx3.3/44, Error ellipse: s-maj=25.0km s-min=14.7km az=105.0*
ISC 27 11:34:34.8±0.7, 12°.9N±0°.1×144°.3E±0°.2, h138km, n44, σ1°08/42, mb4.0/30, South of Mariana Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUMO Guam 0.94 40 P **Pn 11 34 56.4 -1.5**
78nm,0.3s,baz=218,slow=5.4,SNR=61
GUMO S **Sn 11 35 13.3 -2.3**
337nm,0.3s,baz=163,slow=19,SNR=60
ANA2 Anatahan 3.74 22 *e*Pn **Pn 11 35 30.9 -0.5**
SARN Sarigan 4.09 21 *e*Pn **Pn 11 35 36.1 +0.1**
PMG Port Moresby 22.31 172 LR LR 11 48 13.6
comp=Z,532nm,18.5s,baz=179,slow=37
MJAR Matsushiro Arr 24.20 348 P **P 11 39 37.6 -0.9**
1.3nm,0.5s,baz=166,slow=8.6,SNR=5.2
MAJO Matsushiro 24.20 348 *e*P **P 11 39 37.6 -0.9**
KSRS Korea Array 28.51 332 LR LR 11 50 09.9
comp=Z,395nm,21.7s,baz=222,slow=33
WR1 Warramunga Arr 34.03 197 *e*P **P 11 41 05.2 -0.6**
WRA Warramunga Arr 34.03 197 P **P 11 41 05.2 -0.6**
1.4nm,0.6s,baz=11,slow=7.3,SNR=3.7
AS31 Alice Springs 37.69 196 *e*P **P 11 41 36.5 -0.5**
1.4nm,0.6s
ASAR Alice Springs 37.69 196 P **P 11 41 36.8 -0.2**
1.8nm,0.5s,baz=20,slow=13,SNR=13
STKA Stephens Creek 44.56 183 *e*P **P 11 42 32.7 -0.2**
0.4nm,1.0s
FORT Forrest 46.10 199 *e*P **P 11 42 44.9 -0.2**
19nm,1.0s
MK32 Makanchi Array 61.59 316 *e*P **P 11 44 37.8 +0.1**
MKAR Makanchi Array 61.59 316 P **P 11 44 37.8 +0.1**
0.8nm,0.6s,baz=82,slow=10,SNR=3.3
KURBB Kurchatov Arra 64.79 320 P **P 11 44 56.8 -1.8**
1.4nm,0.8s,baz=103,slow=6.9,SNR=2.2
KLU Klutina 69.18 29 *e*P **P 11 45 27.3 +1.0**
3.3nm,1.1s
ILAR Eielson Array 69.48 25 P **P 11 45 26.9 -1.1**
0.6nm,0.4s,baz=251,slow=5.6,SNR=8.4
ILB Eielson Array 69.48 25 *e*P **P 11 45 26.9 -1.1**
1.2nm,0.9s
TOLK Toolik Lake Re 69.51 21 *e*P **P 11 45 28.7 +0.6**
1.9nm,1.0s
BVAR Borovoye Array 70.12 322 P **P 11 45 33.3 +1.2**
0.9nm,0.4s,baz=93,slow=6.9,SNR=3.8
DOT Dot Lake 70.45 27 *e*P **P 11 45 34.5 +0.5**
2.4nm,1.1s
MENT Mentasta 70.47 27 *e*P **P 11 45 32.5 -1.6**
2.6nm,0.9s
DAWY Dawson 72.56 27 *e*P **P 11 45 47.7 +1.1**
2.1nm,1.1s
EPYK Eagle Plains 73.91 24 *e*P **P 11 45 55.1 +0.6**
3.0nm,0.8s
INK Inuvik 75.27 22 P **P 11 46 02.4 +0.2**
1.7nm,0.8s,baz=241,slow=8.2,SNR=4.4
YKW3 Yellowknife Ar 83.76 27 *e*P **P 11 46 48.8 +0.5**
2.7nm,1.1s
YKA Yellowknife Ar 83.78 27 P **P 11 46 48.7 +0.4**
1.5nm,0.6s,baz=285,slow=5.1,SNR=10
YKB5 Yellowknife Ar 83.78 27 *e*P **P 11 46 48.7 +0.4**
YBH Yreka Blue Hor 83.80 49 *e*P **P 11 46 50.5 +1.4**
2.7nm,0.9s
LTY Liberty 84.08 43 *e*P **P 11 46 51.1 +0.8**
2.5nm,1.0s
K05A Summer Lake 84.91 47 *e*P **P 11 46 55.8 +1.0**
6.5nm,1.0s
RES Resolute Bay 85.39 13 *e*P **P 11 46 57.1 +0.9**
4.7nm,0.9s
RES Resolute Bay 85.39 13 P **P 11 46 56.8 +0.6**
2.9nm,0.9s,baz=271,slow=3.2,SNR=6.0
BEKR Beckworth 85.95 50 *e*P **P 11 47 01.1 +1.1**
2.3nm,0.9s
NEW Newport 86.17 41 *e*P **P 11 47 01.4 +0.7**
5.5nm,0.9s
NEW Newport 86.17 41 P **P 11 47 02.1 +1.5**
4.3nm,0.8s,baz=305,slow=2.2,SNR=7.6
BMO Blue Mountains 86.93 45 *e*P **P 11 47 05.5 +1.0**
4.4nm,0.9s
KVN Kaiserville 87.84 51 *e*P **P 11 47 10.3 +1.2**
2.8nm,1.1s
NV01 Mina Array Sit 87.84 51 *e*P **P 11 47 10.8 +1.6**
NVAR Mina Array Bea 87.84 51 P **P 11 47 10.8 +1.6**
2.2nm,0.7s,baz=265,slow=5.7,SNR=9.4
NV11 Mina Array Sit 87.96 51 *e*P **P 11 47 11.3 +1.6**
0.1nm,0.8s
TPNV Topopah Spring 89.81 52 *e*P **P 11 47 20.1 +1.8**
2.7nm,0.8s
BRTR Keskin Array B 97.12 313 LR LR 12 36 37.7
comp=Z,94nm,21.7s,baz=150,slow=38

IDC 27 11:42:18.6±2.0, 3°.79N×127°.50E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.3/48, mbtmp3.5/4, Error ellipse: s-maj=195.6km s-min=21.0km az=66.0, Talaud Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 24.53 164 P **P 11 47 40.0 -0.2**
105nm,0.3s,baz=344,slow=12,SNR=15
ASAR Alice Springs 28.00 167 P **P 11 48 13.1 +1.6**
0.2nm,0.8s,baz=347,slow=7.6,SNR=2.5
STKA Stephens Creek 37.92 160 P **P 11 49 36.2 -1.7**
0.8nm,0.6s,baz=312,slow=16,SNR=3.4
MKAR Makanchi Array 57.94 325 P **P 11 52 12.8 -0.1**
0.4nm,0.6s,baz=113,slow=9.3,SNR=3.6
KURBB Kurchatov Arra 62.10 327 P **P 11 52 41.1 -0.1**
0.5nm,0.7s,baz=125,slow=5.6,SNR=4.5

IDC 27 11:46:22.1±15.0, 0°.38N×124°.61E, h0km, mb3.6/2, mb1 3.7/2, mb1mx3.4/47, mbtmp3.6/2, Error ellipse: s-maj=243.7km s-min=173.0km az=163.0, Minahassa Peninsula, Sulawesi
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 22.33 155 P **P 11 51 22.3 +0.7**
170nm,0.4s,baz=331,slow=12,SNR=6.9
ASAR Alice Springs 25.55 160 P **P 11 51 53.7 +0.9**
0.4nm,0.5s,baz=344,slow=7.4,SNR=16
STKA Stephens Creek 35.88 155 P **P 11 53 21.9 -2.0**
1.1nm,0.6s,baz=353,slow=14,SNR=3.2

SOME ***27*** *12:00:41.2, 41°.02N×71°.65E, h5km*
KRNET ***27*** *12:00:43.9±0.1, 41°.33N×71°.42E, h23km, mb2.3*
NNC ***27*** *12:00:48.0±5.1, 41°.49N×71°.67E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=51.2km s-min=16.7km az=19.0*
ISC 27 12:00:46.4±1.6, 41°.40N±0°.08×71°.65E±0°.03, h7km±14km, n16, σ1°15/29, 17C-5D, Kyrgyzstan
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ARK Arkit 0.47 30 ⇑ *i*P **Pg 12 00 55.1 -0.3**
baz=43
ARK ⇑ *i*S **Sb 12 01 03.8 -0.4**
baz=43
ARSB Arslanbob 1.01 94 ⇓ *i*P **Pg 12 01 05.2 -0.5**
baz=90
ARSB ⇓ *i*S **Sb 12 01 20.9 +1.1**
baz=90
IUG Iuzhnay 1.42 302 *e*P **Pn 12 01 11.9 -0.9**
5.4nm,0.1s
IUG *e*S **Sg 12 01 32.5 +0.4**
15nm,0.2s
AML Almayashu 1.70 64 ⇑ *i*P **Pn 12 01 16.8 0.0**
baz=64
AML ⇑ *i*S **Sg 12 01 41.3 +0.3**
baz=64
CHM Chimkent 1.79 302 *e*P **Pn 12 01 18.5 +0.8**
147nm,0.2s
CHM *e*S **Sg 12 01 44.2 +0.4**
244nm,0.2s
MRKS Merke 1.79 41 *e*P **Pb 12 01 19.6 0.0**
4.6nm,0.2s
MRKS *e*S **Sg 12 01 46.1 +2.2**
7.7nm,0.3s
KK31 Karatay Array 1.90 334 ⇑ Pg **Pn 12 01 20.4 +1.1**
0.3nm,0.3s,baz=149,slow=16,SNR=5.4
KK31 Lg Lg 12 01 47.6
2.0nm,0.3s,baz=153,slow=29,SNR=14
EKS2 Erkin-Say 2.03 51 ⇓ *i*P **Pn 12 01 21.6 +0.5**
baz=52
EKS2 ⇓ *i*S **Sb 12 01 49.5 +0.3**
baz=52
ARLS Aral 2.06 76 ⇑ *i*P **Pn 12 01 22.4 +0.8**
baz=75
ARLS ⇑ *i*S **Sb 12 01 51.5 +1.4**
baz=75
UCH Uchtor 2.30 68 ⇑ *i*P **Pn 12 01 25.9 +0.8**
baz=68
UCH ⇑ *i*S **Sb 12 01 57.1 -0.1**
baz=68
AAK Ala-Archa 2.46 59 ⇑ Pn **Pb 12 01 30.2 -0.8**
2.3nm,0.5s
AAK Lg Lg 12 02 03.8
1.7nm,0.5s
AAK Ala-Archa 2.46 59 ⇑ *i*P **Pn 12 01 27.8 +0.7**
baz=59
AAK ⇑ *i*S **Sb 12 02 00.2 -1.3**
baz=59
KBK Karagaybulak 2.76 62 ⇑ *i*P **Pn 12 01 32.0 +0.7**
baz=62
KBK ⇑ *i*S **Sb 12 02 07.6 -2.7**
baz=62
KZA Kyzart 2.78 75 ⇑ *i*P **Pn 12 01 32.8 +1.1**
baz=74
KZA ⇑ *i*S **Sb 12 02 08.8 -2.3**
baz=74
TKM2 Tokmak 2 3.31 61 ⇑ Pg **Pb 12 01 45.0 -0.5**
1.4nm,0.8s
TKM2 ⇓ Lg Lg 12 02 30.5
1.2nm,0.5s
DGS Degeres 3.57 58 *e*P **Pb 12 01 50.5 +0.6**
2.6nm,0.4s
DGS *e*S **Sg 12 02 39.9 -1.2**
2.7nm,0.4s

IDC 27 12:06:02.6±3.0, 30°.59S×177°.57W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.6/24, mbtmp3.7/3, ML2.8/1, Error ellipse: s-maj=69.0km s-min=36.0km az=115.0, Kermadec Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 8.82 208 Pn Pn 12 08 11.4 0.0
0.1nm,0.3s,baz=192,slow=20,SNR=2.9
URZ Sn Sn 12 09 51.6 +0.1
0.7nm,0.3s,baz=213,slow=22,SNR=6.7
STKA Stephens Creek 34.80 257 P **P 12 12 56.9 +1.8**
0.8nm,0.4s,baz=99,slow=13,SNR=4.4
ASAR Alice Springs 43.47 267 P **P 12 14 06.8 -0.9**
0.5nm,0.5s,baz=105,slow=7.5,SNR=19
WRA Warramunga Arr 44.48 272 P **P 12 14 15.3 -0.6**
167nm,0.4s,baz=125,slow=7.2,SNR=2.6
FINES FINESS Array B 145.45 340 PKPbc PKPbc 12 25 41.0 -0.8
0.9nm,0.5s,baz=40,slow=2.4,SNR=7.0

ISCJB ***27*** *12:20:23.7±0.4, 45°.26N±0°.06×137°.21E±0°.07, h350km, mb3.5/5, Error ellipse: s-maj=9.4km s-min=5.3km az=26.1*
IDC ***27*** *12:20:24.7±1.1, 45°.29N×137°.12E, h352km±16km, mb3.2/5, mb1 3.1/10, mb1mx2.9/35, mbtmp3.8/10, Error ellipse: s-maj=23.2km s-min=15.3km az=160.0*
JMA ***27*** *12:20:24.7±0.4, 45°.11N×137°.25E, h360km, M3.4*
ISC 27 12:20:23.8±0.7, 45°.15N±0°.08×137°.31E±0°.06, h350km, n30, σ1°69/34, mb3.7/5, Primorye
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JSK Shakotan 2.90 127 P **Pn 12 21 24.1 +1.8**
JWK2 Keihoku 3.25 85 P **Pn 12 21 27.8 +2.5**
JOSM Okushiri--Mats 3.45 152 P **Pn 12 21 29.2 +1.9**
JSE Soyaes 3.75 91 P **Pn 12 21 32.3 +2.2**
USRK Ussuriysk Ar. 3.91 258 P **Pn 12 21 32.1 +0.3**
5.3nm,0.3s,baz=62,slow=11,SNR=84
ASAJ Asahikawa 3.92 103 P **Pn 12 21 34.1 +2.2**
ASAJ Asahikawa 3.92 103 P **Pn 12 21 34.4 +2.5**
8.5nm,0.3s,baz=271,slow=6.1,SNR=76
JKB Kayabe 4.24 139 P **Pn 12 21 36.4 +1.1**
JBT2 Biratori 2 4.35 121 P **Pn 12 21 38.3 +1.9**
JBT2 *e*S **S 12 22 37.4 +2.3**
JOT Ohata 4.65 143 P **Pn 12 21 41.6 +1.9**
JTKR Abashiri--Toko 4.86 102 P **Pn 12 21 43.8 +2.0**
JCH Churui 5.06 118 P **Pn 12 21 44.4 +0.4**
JCH *e*S **S 12 22 45.9 -3.0**
KLR Kul'dur 5.57 319 P **Pn 12 21 48.7 -0.8**
0.4nm,0.3s,baz=126,slow=11,SNR=8.5
NEM2 Nemuro 2 6.32 103 P **Pn 12 21 58.7 +0.5**

NEM2				eS	S	12 23 11.1	-3.7
JMK	Ichinoseki	6.84	153	P	Pn	12 22 05.3	+0.9
JMK				eS	S	12 23 24.2	-1.9
MJAR	Matsushiro Arr	8.63	175	P	P	12 22 28.0	0.0
0.1nm,0.3s,baz=4.6,slow=12,SNR=7.3							
KSRS	Korea Array	10.43	226	P	P	12 22 48.8	+0.8
0.3nm,0.3s,baz=42,slow=11,SNR=5.9							
SEY	Seymchan	19.80	21	P	P	12 24 28.9	-0.4
0.4nm,0.3s,baz=213,slow=9.5,SNR=10.0							
SONM	Songino Array	21.38	288	P	P	12 24 42.1	-2.1
4.6nm,0.6s,baz=58,slow=14,SNR=4.2							
ZALV	Zalesovo Beam	34.45	304	P	P	12 26 38.2	-1.0
2.0nm,0.5s,baz=76,slow=6.0,SNR=6.4							
MKAR	Makanchi Array	37.61	293	P	P	12 27 05.8	-0.2
0.8nm,0.6s,baz=87,slow=9.2,SNR=9.5							
JIRN	Jiri	43.92	264	eP	P	12 27 58.6	+1.0
9.3nm,0.3s							
RAMN	Ramite	44.06	263	eP	P	12 27 59.5	+0.9
7.9nm,0.4s							
PKI	Pulchoki	44.52	265	eP	P	12 28 02.9	+0.6
3.1nm,0.3s							
DMN	Daman	44.72	265	eP	P	12 28 04.3	+0.6
3.7nm,0.4s							
DANN	Dangsing	45.22	267	eP	P	12 28 09.0	+1.3
7.1nm,0.2s							
KOLN	Koldanda	45.68	267	eP	P	12 28 12.2	+1.0
4.0nm,0.2s							
PYUN	Piuthan	45.91	267	eP	P	12 28 14.3	+1.3
3.9nm,0.2s							
INK	Inuvik	48.72	30	P	P	12 28 33.9	+0.4
0.3nm,0.3s,baz=299,slow=8.4,SNR=6.0							
FINES	FINESS Array B	60.23	329	P	P	12 29 55.0	-0.5
1.1nm,0.5s,baz=56,slow=7.1,SNR=8.1							

NNC 27 12:23:34.1±6.9, 36°.64N×70°.53E, h0km, mb3.9, mpv3.6, 2C-2D, Error ellipse: s-maj=62.0km s-min=55.7km az=112.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.45	360	⇑Pn	Pn	12 25 11.7	+1.3
1.6nm,0.5s,baz=199,slow=16,SNR=16							
KK31				⇓Sn	Sn	12 26 26.5	+1.8
0.7nm,0.3s,baz=193,slow=24,SNR=4.2							
AAK	Ala-Archa	6.72	26	⇑Pn	Pn	12 25 14.5	+0.2
3.4nm,0.4s							
AAK				Sn	Sn	12 26 31.8	+0.2
4.5nm,0.6s							
TKM2	Tokmak 2	7.38	30	⇓Pn	Pn	12 25 23.0	-0.4
2.3nm,0.7s							
AB31	Akbulak array	14.78	332	Pn	Pn	12 27 01.9	-2.4
0.7nm,0.4s,baz=163,slow=11,SNR=30							

TEH 27 12:24:34.1, 32°.61N×56°.08E, h6km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPRV	Parvadeh(Tabas	0.66	50	ePg	Pb	12 24 47.5	-0.6
TPRV				IAMB	IAmb	12 25 05.9	
comp=Z,0.0nm,0.7s							
IBAF	Bafgh	1.10	203	ePg	Pg	12 24 55.2	-0.1
YZKH	Yazd	1.28	261	ePg	Pb	12 25 00.0	+1.4
TKDS	Koohdasht(Taba	1.33	41	ePg	Pg	12 25 00.2	+0.5
TKDS				IAMB	IAmb	12 25 21.1	
comp=Z,0.0nm,0.3s							
TABS	Tabas	1.36	40	ePn	Pg	12 25 01.8	+1.7
TNSJ	Nastanj	1.42	18	ePg	Pg	12 25 02.1	+0.7
TNSJ				IAMB	IAmb	12 25 28.4	
comp=Z,0.0nm,0.4s							
IMEH	Mehriz	1.74	226	IAMB	IAmb	12 25 35.2	
comp=Z,0.0nm,0.4s							
IMEH				ePg	Pg	12 25 07.8	+0.3
ISAD	Sadrabad	2.14	252	ePn	Pb	12 25 13.3	-0.2
ISAD				IAMB	IAmb	12 25 45.3	
comp=Z,0.0nm,0.4s							
KHGB	Koh Gabri	2.25	171	ePn	Pb	12 25 14.4	-0.9
KHGB				IAMB	IAmb	12 25 49.5	
comp=Z,0.0nm,0.4s							
ITEG	Tejag	2.27	82	ePn	Pb	12 25 14.4	-1.2
ITEG				IAMB	IAmb	12 25 47.9	
comp=Z,0.0nm,0.7s							
IKOO	Kooshah	2.48	93	ePn	Pn	12 25 17.0	+1.7
IKOO				IAMB	IAmb	12 25 58.5	
comp=Z,0.0nm,0.2s							
TVBK	TV Kerman	2.68	167	ePn	Pb	12 25 21.0	-1.7
TVBK				IAMB	IAmb	12 26 01.6	
comp=Z,0.0nm,0.3s							
KRBR	Kerman	2.68	167	ePn	Pb	12 25 21.5	-1.2
NGRK	Negar Kerman	3.00	169	ePn	Pn	12 25 25.2	+2.6
NGRK				IAMB	IAmb	12 26 12.9	
comp=Z,0.0nm,0.4s							
CHMN	Cheshme madani	3.01	155	ePn	Pb	12 25 25.5	-2.8
CHMN				IAMB	IAmb	12 26 12.6	
comp=Z,0.0nm,0.3s							
IMON	Monand	3.07	78	ePn	Pn	12 25 25.7	+2.2
IZEF	Zefreh	3.17	276	ePn	Pn	12 25 27.5	+2.6
IDAH	Dahanechah	3.20	87	ePn	Pn	12 25 27.5	+2.3
IDAH				IAMB	IAmb	12 26 27.9	
comp=Z,0.0nm,0.8s							
IRAM	Ramesheh	3.23	257	ePn	Pn	12 25 27.6	+1.9
IANJ	Anjilo	3.37	328	ePn	Pn	12 25 30.0	+2.4
SHRO	Shahrood	3.38	359	ePn	Pn	12 25 29.6	+2.1
SHRT	Shahrakht	3.68	72	ePn	Pn	12 25 34.9	+3.2
SBZV	Sabzevar	3.98	18	ePn	Pn	12 25 38.0	+2.1
ISFR	Sfrayin	4.71	19	ePn	Pn	12 25 47.1	+1.1

*ISCJB **27** 12:32:46.0±0.5, 31°.64N±0°.04×104°.36E±0°.08, h9km, mb3.7/7, Error ellipse: s-maj=10.1km s-min=5.6km az=16.6*
*IDC **27** 12:32:46.3±0.9, 31°.78N×104°.50E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.6/46, mbtmp3.9/8, ML4.3/1, Error ellipse: s-maj=51.2km s-min=16.9km az=61.0*
*BJI **27** 12:32:49.2±0.0, 31°.67N×104°.03E, h15km, ML3.7/13, Ms3.7/6, Ms7 3.7/4*

ISC 27 12:32:47.6±0.7, 31°.67N±0°.04×104°.28E±0°.06, h9km, n13, σ2§03/19, mb3.7/7, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.88	211	⇑Pg	Pg	12 33 04.0	-0.4
CD2				Sg	Sg	12 33 14.8	-1.0
CD2				smax	smax		
comp=N,3μm,0.6s							
CD2				smax	smax		
comp=E,2μm,0.5s							
LZH	Lanzhou	4.42	355	ePg	Pb	12 34 02.0	-3.5
LZH				Sn	Sn	12 34 49.0	+2.3
LZH				Sg	Sg	12 35 09.0	-0.6
LZH				smax	smax		
comp=N,75nm,1.2s							
LZH				smax	smax		
comp=E,110nm,1.0s							
LZH				LR	LR		
comp=N,410nm,6.2s							
LZH				LR	LR		
comp=E,370nm,6.0s							
LZH				LR	LR		
comp=Z,360nm,6.8s							
XAN	Xi'an	4.57	58	Pn	Pn	12 34 01.3	+4.4
XAN				Pg	Pg	12 34 15.5	+0.4
XAN				Sg	Sg	12 35 10.3	-4.0
GYA	Guiyang	5.59	157	Pn	Pn	12 34 12.0	+0.9
GYA				Sg	Sg	12 35 45.8	-1.5
GYA				smax	smax		
comp=N,110nm,0.6s							
GYA				smax	smax		
comp=E,130nm,0.9s							
CMAR	Chiang Mai Arr	14.01	201	Pn	Pn	12 36 08.1	+1.8
0.4nm,0.3s,baz=16,slow=12,SNR=13							
WMQ	Urumqi	17.82	318	eP	P	12 36 56.5	-0.1
WMQ				LR	LR		
comp=N,560nm,21.9s							
WMQ				LR	LR		
comp=E,920nm,21.9s							
WMQ				LR	LR		
comp=Z,870nm,19.9s							
MKAR	Makanchi Array	22.66	318	P	P	12 37 49.0	-0.1
0.9nm,0.7s,baz=125,slow=13,SNR=9.0							
ZALV	Zalesovo Beam	26.28	334	P	P	12 38 24.5	+1.3
0.8nm,0.5s,baz=125,slow=12,SNR=2.7							
KURBB	Kurchatov Arra	26.88	322	P	P	12 38 28.7	+0.1
0.4nm,0.2s,baz=124,slow=9.3,SNR=3.4							
WRA	Warramunga Arr	58.86	147	P	P	12 42 47.6	+0.8
1.4nm,0.6s,baz=334,slow=9.3,SNR=2.8							
ASAR	Alice Springs	61.90	149	P	P	12 43 08.1	+0.5
0.5nm,0.5s,baz=335,slow=6.7,SNR=24							
STKA	Stephens Creek	72.40	147	P	P	12 44 13.0	-1.1
1.3nm,0.8s,baz=339,slow=9.0,SNR=3.1							
YKA	Yellowknife Ar	81.11	17	P	P	12 45 01.7	-1.2
0.2nm,0.5s,baz=326,slow=4.9,SNR=3.8							

*ISCJB **27** 12:32:52.4±0.4, 6°.87N±0°.02×73°.13W±0°.03, h156km±3km, mb3.1/3, Error ellipse: s-maj=4.7km s-min=3.1km az=28.0*
*IDC **27** 12:32:52.5±0.8, 6°.74N×72°.97W, h157km±14km, mb2.9/3, mb1 3.4/5, mb1mx3.1/28, mbtmp3.5/5, Error ellipse: s-maj=43.3km s-min=7.5km az=132.0*
*RSNC **27** 12:32:53.9±1.1, 6°.84N×73°.15W, h150km±4km, ML3.8, Mw4.0*

ISC 27 12:32:53.0±0.8, 6°.84N±0°.03×73°.12W±0°.03, h157km±5km, n42, σ1§11/74, mb3.2/3, 4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	Giron, Santand	0.25	343	⇓iP	Pn	12 33 14.3	-0.1
GIRC				eS	Sn	12 33 30.0	-0.9
BARC	Barichara	0.26	194	eP	Pn	12 33 14.3	-0.4
BARC				eS	Sn	12 33 29.0	-2.1
BARC				i		12 33 30.5	
comp=Z,676nm,0.2s							
BRRC	Barranca, Sant	0.64	294	eP	Pn	12 33 16.1	+0.2
BRRC				eS	Sn	12 33 32.5	-0.9
BRRC				i		12 33 33.9	
comp=E,2μm,0.2s							
PAMC	Pamplona, Colo	0.65	40	⇓iP	Pn	12 33 17.1	+0.5
PAMC				eS	Sn	12 33 34.1	-0.4
PAMC				i		12 33 35.7	
comp=N,894nm,0.3s							
CBRI	Barrientos, No	0.93	20	iP	Pn	12 33 20.4	+2.3
CBRI				eS	Sn	12 33 40.1	+2.8
RUSC	La Rusia	0.94	178	eP	Pn	12 33 18.2	-0.4
RUSC				eS	Sn	12 33 36.9	-1.3
RUSC				i		12 33 38.9	
comp=E,863nm,0.3s							
CAPV	Capacho	1.29	38	eP	Pn	12 33 22.2	+0.9
CAPV				eS	Sn	12 33 42.3	-0.8
PTBC	PUERTO BERRIO,	1.36	257	eP	Pn	12 33 20.6	-1.1
PTBC				eS	Sn	12 33 42.0	-1.8
PTBC				i		12 33 44.1	
comp=E,529nm,0.3s							
TAMC	Tame, Arauca	1.38	107	⇓iP	Pn	12 33 22.6	+0.6
TAMC				i		12 33 22.8	
comp=Z,467nm,0.3s							
TAMC				eS	Sn	12 33 44.0	-0.2
OCAC	Ocana	1.40	352	eP	Pn	12 33 22.4	+0.1
OCAC				eS	Sn	12 33 43.5	-1.4
OCAC				i		12 33 47.7	
comp=E,998nm,0.2s							
YOPC	Yopal, Colombi	1.63	155	⇓iP	Pn	12 33 25.0	+0.3
YOPC				eS	Sn	12 33 48.9	-0.2
YOPC				i		12 33 52.4	
comp=E,499nm,0.3s							
ZARC	Zaragoza, Cauc	1.84	291	eP	Pn	12 33 26.6	-0.2
ZARC				eS	Sn	12 33 51.9	-0.9
ZARC				i		12 34 00.3	
comp=E,911nm,0.2s							
CTAB	Cerro Tablazo,	2.11	211	eP	Pn	12 33 31.6	+1.2
CTAB				eS	Sn	12 34 00.5	+1.3
NORC	Norcasia	2.15	234	eP	Pn	12 33 30.0	-0.4
NORC				eS	Sn	12 33 57.7	-1.6
NORC				i		12 34 04.6	
comp=N,851nm,0.2s							
SMLC	San Martn de	2.16	334	eP	Pn	12 33 30.7	+0.2
SMLC				eS	Sn	12 33 58.9	-0.5
SMLC				i		12 34 07.1	
comp=E,446nm,0.3s							
CHIC	Chingaza	2.28	195	eP	Pn	12 33 32.3	0.0
CHIC				eS	Sn	12 34 01.6	-1.0
CHIC				i		12 34 10.0	
comp=E,391nm,0.6s							
CROSA	EL ROSAL, CUND	2.31	211	eP	Pn	12 33 34.4	+1.7
CROSA				eS	Sn	12 34 04.1	+0.9
CROSA				i		12 34 07.6	
comp=Z,271nm,0.4s							
ROSC	El Rosal	2.32	211	P	Pn	12 33 33.7	+0.9
comp=Z,67nm,0.3s,baz=321,slow=2.8,SNR=124							
ROSC				S	Sn	12 34 02.9	-0.5
comp=Z,63nm,0.3s,baz=28,slow=24,SNR=18							
HELC	Santa Helena	2.48	255	eP	Pn	12 33 34.9	+0.3
HELC				eS	Sn	12 34 06.4	-0.2
HELC				i		12 34 13.6	
comp=E,337nm,0.4s							
UREC	San Jos de Ur	2.56	291	eP	Pn	12 33 33.9	-1.3
UREC				eS	Sn	12 34 06.4	-1.4
SOCV	Socops	2.66	57	eP	Pn	12 33 36.6	+0.1
SOCV				eS	Sn	12 34 08.4	-1.8
GUY2C	Guyana, Caldas	2.75	234	eP	Pn	12 33 38.3	+0.2
GUY2C				eS	Sn	12 34 12.9	+0.1
GUY2C				i		12 34 24.1	
comp=N,251nm,0.5s							
VILC	Villavicencio,	2.77	192	eP	Pn	12 33 37.5	-0.5
VILC				eS	Sn	12 34 11.3	-1.5
VILC				i		12 34 15.9	
comp=E,769nm,0.6s							
RREF	El Recreo	2.94	229	eP	Pn	12 33 40.8	+0.3
RREF				eS	Sn	12 34 17.8	+0.6
RREF				i		12 34 26.3	
comp=Z,238nm,0.4s							
CODC	Agustn Codazz	3.09	354	eP	Pn	12 33 41.7	-0.1
CODC				eS	Sn	12 34 19.2	-0.5
CODC				i		12 34 27.9	
comp=E,69nm,0.4s							
SDV	Santo Domingo	3.19	50	eP	Pn	12 33 43.8	+0.4
SDV				eS	Sn	12 34 21.1	-1.2
SDV	Santo Domingo	3.19	50	P	Pn	12 33 43.9	+0.6
comp=E,8.4nm,0.3s,baz=217,slow=5.2,SNR=28							
SDV				S	Sn	12 34 20.5	-1.8
comp=E,34nm,0.3s,baz=44,slow=20,SNR=30							
ARGC	Ariguani, Magd	3.20	340	eP	Pn	12 33 44.3	+1.1
ARGC				eS	Sn	12 34 22.9	+0.7
ARGC				i		12 34 30.5	
comp=E,128nm,0.4s							
PRAC	Prado	3.57	210	eP	Pn	12 33 47.6	-0.4
PRAC				eS	Sn	12 34 29.5	-1.2
PRAC				i		12 34 35.7	
comp=E,301nm,0.3s							
ELOV	Elorza	3.62	87	eP	Pn	12 33 48.5	0.0
PLMC	San Jos del P	3.69	239	eP	Pn	12 33 49.8	+0.3
PLMC				eS	Sn	12 34 33.6	+0.2
YOTC	Yotoco, Valle	4.29	229	eP	Pn	12 33 56.5	-0.8
GUVC	San Jose del G	4.30	173	eP	Pn	12 33 56.4	-1.1
SMRC	Santa Marta, M	4.43	346	eP	Pn	12 33 58.6	-0.6
SMRC				eS	Sn	12 34 47.5	-3.2
SMRC				i		12 34 48.4	
comp=E,77nm,0.4s							
DABV	Dabajuro	4.74	31	eP	Pn	12 34 03.1	-0.1
DABV				eS	Sn	12 34 55.9	-2.0
MARP	Paez Belalcaza	4.87	216	eP	Pn	12 34 04.7	-0.5
MALC	Bahia Malaga	5.05	236	eP	Pn	12 34 09.3	+2.1
FLOC	Florencia	5.80	206	eP	Pn	12 34 16.8	-0.5
TXAR	Lajitas Array	36.45	312	P	P	12 39 44.1	+1.1
comp=E,0.2nm,0.4s,baz=121,slow=11,SNR=4.4							
PDAR	Pinedale Array	48.06	324	P	P	12 41 17.7	+0.8
comp=E,0.2nm,0.5s,baz=131,slow=11,SNR=2.6							
YKA	Yellowknife Ar	63.24	340	P	P	12 43 04.6	+0.1
comp=E,0.3nm,0.6s,baz=130,slow=6.9,SNR=7.2							
ASAR	Alice Springs	149.12	234	PKPbc	PKPbc	12 52 22.8	-0.9
comp=E,0.4nm,0.6s,baz=114,slow=3.3,SNR=5.0							

*CRAAG **27** 12:33:29.4, 36°.73N×5°.24E, MI3.0*
*ISCJB **27** 12:33:30.4±0.5, 36°.90N±0°.06×5°.28E±0°.07, h18km, Error ellipse: s-maj=11.2km s-min=4.2km az=43.0*
*MDD **27** 12:33:31.2±1.7, 36°.82N×5°.29E, h3km±21km, mb3.6/6, Error ellipse: s-maj=15.1km s-min=7.2km az=178.0, PRXIMO*

ISC 27 12:33:30.5±0.9, 36°.84N±0°.06×5°.33E±0°.04, h18km, n24, σ1§47/28, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	Djebel Bou Aff	0.53	124	P	Pg	12 33 41.1	-0.1
DFRA	Djebel Bou Aff	0.53	124	P	Pg	12 33 41.1	-0.1
SET	Setif	0.64	175	P	Pb	12 33 44.0	+0.8
SET	Setif	0.64	175	P	Pb	12 33 44.0	+0.8
CKHR	Kef el Ahmar	0.84	170	P	Pb	12 33 44.5	-2.1
CKHR	Kef el Ahmar	0.84	170	P	Pb	12 33 44.5	-2.1
CASM	Ain Smara	1.10	121	P	Pb	12 33 50.6	-0.4
CASM	Ain Smara	1.10	121	P	Pb	12 33 50.6	-0.4
CTEI	Djebel Teioual	1.17	131	P	Pn	12 33 53.1	+1.1
CTEI	Djebel Teioual	1.17	131	P	Pn	12 33 53.1	+1.1
CKFL	Kef-Lekhel	1.21	111	P	Pn	12 33 53.8	+1.2
CKFL	Kef-Lekhel	1.21	111	P	Pn	12 33 53.8	+1.2
CAEH	'Ain El Ouahch	1.22	92	P	Pn	12 33 54.9	+2.2
CAEH	'Ain El Ouahch	1.22	92	P	Pn	12 33 54.9	+2.2
CMAH	Djebel Manchou	1.69	97	P	Pn	12 34 00.3	+1.0
CMAH	Djebel Manchou	1.69	97	P	Pn	12 34 00.3	+1.0
ABA	Alger-Bouzarea	1.84	269	P	Pn	12 34 03.0	+1.8
ABA	Alger-Bouzarea	1.84	269	P	Pn	12 34 03.0	+1.8
ETOS	Mallorca	3.53	327	P	Pn	12 34 26.2	+1.8
1.6nm,0.2s,SNR=7.9							
ETOS				S	Sn	12 35 04.9	-0.8
1.2nm,0.2s,SNR=7.9							
EIBI	Ibiza	3.83	306	P	Pn	12 34 29.9	+1.4
1.1nm,0.1s,SNR=7.9							
EIBI				S	Sn	12 35 12.9	-0.2
1.4nm,0.2s,SNR=7.9							
CFON	Fontmartina	5.40	336	P	Pn	12 34 51.7	+1.5
0.6nm,0.1s,SNR=7.9							
CFON				S	Sn	12 35 49.9	-2.1
1.4nm,0.2s,SNR=7.9							
EPOB	Poblet	5.59	325	P	Pn	12 34 53.9	+1.1
0.8nm,0.2s,SNR=7.9							
EPOB				S	Sn	12 35 54.2	-2.3
0.8nm,0.3s,SNR=7.9							
ETOB	Tobarra	5.74	290	P	Pn	12 34 55.4	+0.6
0.5nm,0.3s,SNR=7.9							
EMOS	Mosqueruela	5.74	310	P	Pn	12 34 56.2	+1.2
0.2nm,0.2s,SNR=7.9							

*SOME **27** 12:42:38.1, 41°.37N×81°.60E, h10km*
*NNC **27** 12:42:39.0±1.3, 41°.43N×81°.57E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=9.5km s-min=6.8km az=165.0*

ISC 27 12:42:43.4±2.5, 41°.5N±0°.1×81°.47E±0°.08, h17km, n28, σ2§06/44, 3C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.07	337	Pg	Pb	12 43 19.5	-1.2
5.7nm,0.2s							
KTMS				Lg	Lg	12 43 49.8	
17nm,0.4s							
KTMS	Ketmen	2.07	337	eP	Pb	12 43 19.7	-1.0
5.7nm,0.2s							
KTMS				eS	Sg	12 43 49.8	-0.4
17nm,0.4s							
SHLS	Shalkode	2.19	318	Pg	Pn	12 43 19.1	-0.1
49nm,0.2s							
SHLS				Lg	Lg	12 43 49.2	
109nm,0.3s							
SHLS	Shalkode	2.19	318	eP	Pn	12 43 19.1	-0.1
49nm,0.2s							
SHLS				eS	Sb	12 43 48.5	-1.1
109nm,0.3s							
PDGK	Podgornoye	2.31	321	Pg	Pb	12 43 23.1	-1.6
2.4nm,0.4s							
PDGK				Lg	Lg	12 43 55.5	
12nm,0.5s							
PDGK	Podgornoye	2.31	321	⇓Pn	Pn	12 43 20.9	0.0
7.6nm,0.4s							
PDGK				⇑Lg	Lg	12 43 57.7	
24nm,0.7s							
UZB	Uzynbulak	2.42	312	Pg	Pb	12 43 24.7	-1.9
1.9nm,0.2s							
UZB				Lg	Lg	12 43 57.6	
18nm,0.3s							
UZB	Uzynbulak	2.42	312	eP	Pb	12 43 25.5	-1.1
15nm,0.3s							
UZB				eS	Sb	12 43 59.7	+3.5
18nm,0.3s							
SATY	Saty	2.73	305	Pg	Pb	12 43 31.8	-0.1
5.5nm,0.3s							
SATY				Lg	Lg	12 44 10.4	
16nm,0.1s							
SATY	Saty	2.73	305	eP	Pb	12 43 31.8	-0.1
5.5nm,0.3s							
SATY				eS	Sg	12 44 10.3	-0.8
16nm,0.1s							
KPKS	Kokpek	2.82	314	eP	Pb	12 43 32.6	-0.7
18nm,0.2s							
KPKS				eS	Sb	12 44 11.6	+4.1
49nm,0.4s							
KURS	Kuram	3.12	310	Pg	Pb	12 43 38.5	+0.1
4.1nm,0.4s							
KURS				Lg	Lg	12 44 22.8	
7.5nm,0.5s							
KURS	Kuram	3.12	310	eP	Pb	12 43 38.0	-0.4
4.1nm,0.4s							
KURS				eS	Sg	12 44 21.6	-2.0
7.5nm,0.5s							
MNBS	Baschi	3.39	319	Pg	Pb	12 43 43.7	+0.5
2.1nm,0.2s							
MNBS				Lg	Lg	12 44 30.6	
7.1nm,0.2s							
MNBS	Baschi	3.39	319	eP	Pb	12 43 43.7	+0.5
2.1nm,0.2s							
MNBS				eS	Sg	12 44 30.6	-1.8
7.1nm,0.2s							
KOTS	Kotyrbulak	3.64	299	Pg	Pb	12 43 47.4	0.0
1.6nm,0.2s							
KOTS				Lg	Lg	12 44 37.3	
8.1nm,0.6s							
KOTS	Kotyrbulak	3.64	299	eP	Pb	12 43 47.4	0.0
1.6nm,0.2s							
KOTS				eS	Sg	12 44 37.3	-3.1
8.1nm,0.6s							
MDOK	Medeo	3.65	298	eP	Pb	12 43 45.6	-2.0
2.8nm,0.5s							
MDOK				eS	Sb	12 44 34.4	+2.7
6.9nm,0.6s							
TNSS	Tian-Shan	3.67	296	Pg	Pb	12 43 47.5	-0.6
2.2nm,0.3s							
TNSS				Lg	Lg	12 44 37.8	
6.8nm,0.5s							
TNSS	Tian-Shan	3.67	296	eP	Pb	12 43 47.5	-0.6
2.2nm,0.3s							
TNSS				eS	Sg	12 44 37.8	-3.6
6.8nm,0.5s							
ARXS	Arharly	3.78	316	eP	Pb	12 43 49.9	+0.2
2.6nm,0.5s							
ARXS				eS	Sg	12 44 41.6	-3.2
3.3nm,0.4s							
IZV	Izvestkoviy	3.90	294	Pg	Pb	12 43 51.9	+0.1
1.8nm,0.4s							
IZV				Lg	Lg	12 44 44.8	
6.6nm,0.3s							
IZV	Izvestkoviy	3.90	294	eP	Pb	12 43 51.9	+0.1
1.8nm,0.4s							
IZV				eS	Sg	12 44 44.8	-3.8
6.6nm,0.3s							
KTBS	Karatobe	4.14	303	Pg	Pb	12 43 56.2	+0.3
0.9nm,0.3s							
KTBS				Lg	Lg	12 44 52.0	
3.0nm,0.5s							
KTBS	Karatobe	4.14	303	eP	Pb	12 43 56.1	+0.3
0.9nm,0.3s							
KTBS				eS	Sg	12 44 52.0	-4.5
3.0nm,0.5s							
DGS	Degeres	4.55	294	eP	Pb	12 44 02.6	-0.2
2.4nm,0.3s							
DGS				eS	Sb	12 45 03.3	+6.0
4.7nm,0.6s							
MAKZ	Makanchi	5.28	4	⇓Pn	Pn	12 44 00.2	-1.3
1.3nm,0.6s							
MAKZ				⇓Sn

*MDD **27** 12:45:34.8±0.5, 36′.71N×5′.25E, h10km, mb4.0/10, Error ellipse: s-maj=8.7km s-min=4.7km az=40.0, PRXIMO*
ISC 27 12:45:32.5±0.9, 36′.78N±0′.04×5′.24E±0′.04, h10km, n30, σ1§89/42, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.56**	**115**	P	**Pb**	**12 45 44.4**	**-0.2**
DFRA	**Djebel Bou Aff**	**0.56**	**115**	P	**Pb**	**12 45 44.4**	**-0.2**
SET	**Setif**	**0.60**	**168**	P	**Pb**	**12 45 45.0**	**-0.1**
SET	**Setif**	**0.60**	**168**	P	**Pb**	**12 45 45.0**	**-0.1**
CKHR	**Kef el Ahmar**	**0.80**	**164**	P	**Pg**	**12 45 47.5**	**-0.4**
CKHR	**Kef el Ahmar**	**0.80**	**164**	P	**Pg**	**12 45 47.5**	**-0.4**
CASM	**Ain Smara**	**1.13**	**117**	P	**Pb**	**12 45 54.5**	**+0.2**
CASM	**Ain Smara**	**1.13**	**117**	P	**Pb**	**12 45 54.5**	**+0.2**
CTEI	**Djebel Teioual**	**1.18**	**127**	P	**Pb**	**12 45 55.2**	**0.0**
CTEI	**Djebel Teioual**	**1.18**	**127**	P	**Pb**	**12 45 55.2**	**0.0**
CKFL	**Kef-Lekhel**	**1.25**	**107**	P	**Pg**	**12 45 58.0**	**+1.4**
CKFL	**Kef-Lekhel**	**1.25**	**107**	P	**Pg**	**12 45 58.0**	**+1.4**
CAEH	**'Ain El Ouahch**	**1.29**	**90**	P	**Pg**	**12 45 57.6**	**+0.3**
CAEH	**'Ain El Ouahch**	**1.29**	**90**	P	**Pg**	**12 45 57.6**	**+0.3**
CMAH	**Djebel Manchou**	**1.76**	**95**	P	**Pn**	**12 46 03.4**	**+0.3**
CMAH	**Djebel Manchou**	**1.76**	**95**	P	**Pn**	**12 46 03.4**	**+0.3**
ABA	**Alger-Bouzarea**	**1.77**	**271**	P	**Pn**	**12 46 02.0**	**-1.2**
ABA	**Alger-Bouzarea**	**1.77**	**271**	P	**Pn**	**12 46 02.0**	**-1.2**
MAHO	**Mahon**	**3.20**	**346**	P	**Pn**	**12 46 23.8**	**+0.9**
MAHO				S	**Sn**	**12 46 58.8**	**-2.3**
MAHO	**Mahon**	**3.20**	**346**	*e*P	**Pn**	**12 46 23.8**	**+0.9**
MAHO				*e*S	**Sn**	**12 46 58.8**	**-2.3**
ETOS	**Mallorca**	**3.54**	**328**	P	**Pn**	**12 46 29.2**	**+1.7**
	6.3nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**12 47 06.8**	**-2.7**
	2.3nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.81**	**307**	P	**Pn**	**12 46 33.7**	**+2.4**
	9.1nm,0.3s,SNR=11						
EIBI				S	**Sn**	**12 47 14.4**	**-1.8**
	5.9nm,0.4s,SNR=7.6						
EMUR	**La Murta**	**5.27**	**283**	P	**Pn**	**12 46 54.1**	**+2.6**
	1.2nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**12 47 51.1**	**-1.2**
	0.9nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**5.43**	**337**	P	**Pn**	**12 46 55.1**	**+1.5**
	1.6nm,0.2s,SNR=11						
CFON				S	**Sn**	**12 47 52.2**	**-3.9**
	2.8nm,0.2s,SNR=6.2						
EPOB	**Poblet**	**5.59**	**326**	P	**Pn**	**12 46 57.8**	**+2.0**
	1.2nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**12 47 56.5**	**-3.8**
	1.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.69**	**291**	P	**Pn**	**12 47 00.6**	**+3.4**
	2.0nm,0.2s,SNR=6.7						
ETOB				S	**Sn**	**12 48 00.8**	**-1.9**
	2.1nm,0.7s,SNR=5.6						
EMOS	**Mosqueruela**	**5.73**	**310**	P	**Pn**	**12 46 59.3**	**+1.5**
	1.4nm,0.4s,SNR=7.9						
EMOS				S	**Sn**	**12 48 00.8**	**-2.9**
	0.3nm,0.2s,SNR=7.9						
CSOR	**Sort**	**6.42**	**332**	P	**Pn**	**12 47 10.4**	**+3.2**
	1.1nm,0.2s,SNR=8.5						
CSOR				S	**Sn**	**12 48 18.1**	**-2.6**
	0.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**6.52**	**273**	P	**Pn**	**12 47 10.1**	**+1.4**
	1.1nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**12 48 22.1**	**-1.2**
	0.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.70**	**281**	P	**Pn**	**12 47 13.3**	**+2.2**
	2.1nm,0.4s,SNR=4.1						
EQES				S	**Sn**	**12 48 29.9**	**+2.2**
	1.2nm,0.2s,SNR=5.1						

*SKO **27** 12:49:27.8, 41′.63N×22′.33E, h21km, M1.9, ML2.3*
*THE **27** 12:49:28.5, 41′.66N×22′.34E, h0km±4km, ML1.8/5, Error ellipse: s-maj=4.0km s-min=0.7km az=85.0*
*ATH **27** 12:49:29.1, 41′.56N×22′.35E, h29km±2km, ML2.0/1, Error ellipse: s-maj=6.8km s-min=2.2km az=177.0*
*SOF **27** 12:49:29.1, 41′.62N×22′.42E, h15km*
BEO 27 12:49:29.4±0.3, 41′.68N×22′.38E, h0km, ML1.9/3, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.38**	**157**	*e*Pg	Pg	12 49 35.9	-0.8
VAY				*e*Sg	Sg	12 49 41.5	-0.2
VAY	**Valandovo**	**0.38**	**157**	P	Pg	12 49 35.8	-0.9
VAY				S	Sg	12 49 41.4	-0.3
VAY	**Valandovo**	**0.38**	**157**	*i* Pg	Pg	12 49 35.8	-0.9
VAY				*i* Sg	Sg	12 49 41.7	0.0
VAY				*e*Lg	Lg	12 49 42.1	
	comp=N,330nm,0.4s						
VAY				*e*Lg	Lg	12 49 42.3	
	comp=E,168nm,0.4s						
KKB	**Krupnik**	**0.56**	**70**	*i* Pg	Pg	12 49 39.7	-0.5
KKB				*i* Sg	Sg	12 49 48.3	+0.8
KNT	**Kendrikon**	**0.65**	**142**	P	Pg	12 49 40.6	-1.2
KNT				S	Sg	12 49 50.2	+0.1
KNT	**Kendrikon**	**0.65**	**142**	*i* Pg	Pg	12 49 40.6	-1.2
KNT				*i* Sg	Sg	12 49 50.1	0.0
KNT	**Kendrikon**	**0.65**	**142**	P	Pg	12 49 40.7	-1.0
KNT				S	Sg	12 49 49.6	-0.5
KNT				AML	AML	12 49 51.5	
	comp=N,414μm,0.3s						
KNT				AML	AML	12 49 52.2	
	comp=E,235μm,0.4s						
GRG	**Griva**	**0.72**	**178**	P	Pg	12 49 41.5	-1.6
GRG				S	Sg	12 49 51.7	-0.7
GRG	**Griva**	**0.72**	**178**	⇓*i*Pg	Pg	12 49 41.6	-1.6
GRG				*i* Sg	Sg	12 49 52.6	+0.1
GRG	**Griva**	**0.72**	**178**	P	Pg	12 49 41.5	-1.6
BOSS	**Bosilegrad**	**0.82**	**5**	*e*Pg	Pg	12 49 44.3	-0.9
BOSS				*e*Sg	Sg	12 49 54.9	-1.0
KRUS	**Krusevo**	**0.90**	**250**	⇓*i*Pg	Pg	12 49 45.0	-1.6
KRUS				*i* Sg	Sg	12 49 57.4	-0.9
KRUS				*e*Lg	Lg	12 49 57.8	
	comp=N,8.4nm,0.4s						
KRUS				*e*Lg	Lg	12 49 58.4	
	comp=E,4.2nm,0.3s						
MMB	**Musomiste**	**1.02**	**94**	*i* Pg	Pg	12 49 48.0	-0.9
MMB				*i* Sg	Sb	12 50 03.3	-0.5
MMB	**Musomiste**	**1.02**	**94**	*i* P	Pg	12 49 47.9	-1.0
SRS	**Serrai**	**1.07**	**121**	*e*Pg	Pg	12 49 49.3	-0.6
SRS				*e*Sg	Sg	12 50 03.2	-0.6
SRS	**Serrai**	**1.07**	**121**	P	Pg	12 49 49.0	-0.9
SRS				S	Sb	12 50 05.3	-0.1
SRS	**Serrai**	**1.07**	**121**	*i* Pg	Pg	12 49 49.3	-0.7
SRS	**Serrai**	**1.07**	**121**	P	Pg	12 49 49.0	-1.0
SOH	**Sokhos**	**1.13**	**139**	P	Pg	12 49 49.8	-1.2
SOH				S	Sg	12 50 06.0	+0.4
SOH	**Sokhos**	**1.13**	**139**	*i* Pg	Pg	12 49 49.4	-1.6
SOH				*i* Sg	Sg	12 50 05.9	+0.3
SOH	**Sokhos**	**1.13**	**139**	P	Pg	12 49 49.5	-1.5
SOH				S	Sg	12 50 03.5	-2.1
VTS	**Vitosha**	**1.14**	**34**	*e*Pg	Pg	12 49 49.6	-1.6
VTS				*e*Sg	Sg	12 50 04.4	-1.6
VTS	**Vitosha**	**1.14**	**34**	P	Pg	12 49 49.5	-1.7
VTS	**Vitosha**	**1.14**	**34**	*i* Pg	Pg	12 49 50.5	-0.8
VTS	**Vitosha**	**1.14**	**34**	*i* P	Pg	12 49 50.4	-0.8
FNA	**Florina**	**1.17**	**221**	*e*Pg	Pg	12 49 50.1	-1.6
FNA				*e*Sg	Sg	12 50 06.4	-0.5
FNA	**Florina**	**1.17**	**221**	P	Pg	12 49 50.0	-1.7
FNA				S	Sg	12 50 06.5	-0.4
FNA	**Florina**	**1.17**	**221**	*i* Pg	Pg	12 49 50.0	-1.7
FNA				*i* Sg	Sg	12 50 06.5	-0.4
FNA	**Florina**	**1.17**	**221**	P	Pg	12 49 49.2	-2.6
ZAPS	**Zavoj**	**1.61**	**7**	*e*Pg	Pn	12 49 58.6	-0.5
ZAPS				*e*Sg	Sn	12 50 20.4	-0.2
KAVA	**Kavala**	**1.75**	**112**	P	Pn	12 50 00.1	-0.9
RZN	**Rozhen**	**1.75**	**89**	*i* P	Pn	12 50 01.0	-0.2
SELS	**Selova**	**1.80**	**329**	*e*Pg	Pn	12 50 01.5	-0.3

ROM 27 12:53:09.8±0.2, 43′.35N±0′.01×13′.25E±0′.02, h10km, ML1.6/3, Error ellipse: s-maj=1.6km s-min=0.7km az=48.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CING	**Cingoli**	**0.05**	**299**	P	Pg	12 53 11.6	-0.2
CING	**Cingoli**	**0.05**	**299**	P	Pg	12 53 11.6	-0.2
CING				S	Sg	12 53 12.9	-0.5
CING				AML	AML		
	comp=E,1815μm,1.5s						
CING				AML	AML		
	comp=N,1310μm,1.0s						
CING				AML	AML		
	comp=E,1815μm,1.5s						
CING				AML	AML		
	comp=N,1310μm,1.0s						
CING	**Cingoli**	**0.05**	**299**	S	Sg	12 53 12.8	-0.5
TRE1	**Treia**	**0.06**	**133**	P	Pg	12 53 12.4	+0.5
TRE1				S	Sg	12 53 14.5	+1.1
EL6	**Elcito**	**0.11**	**259**	P	Pg	12 53 12.8	+0.2
EL6				S	Sg	12 53 15.6	+0.9
EL6				AML	AML		
	comp=E,414μm,0.8s						
EL6				AML	AML		
	comp=N,424μm,0.4s						
EL6				AML	AML		
	comp=N,424μm,0.4s						
EL6				AML	AML		
	comp=E,414μm,0.8s						
EL6	**Elcito**	**0.11**	**259**	P	Pb	12 53 13.4	-0.7
EL6	**Elcito**	**0.11**	**259**	S	Sg	12 53 15.5	+0.9
MMUR	**Monte Murano**	**0.21**	**296**	P	Pb	12 53 15.1	-0.6
MMUR				S	Sg	12 53 18.8	+1.7
CSP1	**Cessapalombo**	**0.26**	**188**	P	Pg	12 53 15.3	+0.2
CSP1				S	Sb	12 53 20.3	-0.9
CSP1	**Cessapalombo**	**0.26**	**188**	P	Pg	12 53 15.4	+0.3
CSP1	**Cessapalombo**	**0.26**	**188**	S	Sb	12 53 20.4	-0.9
ARVD	**Arcevia**	**0.27**	**303**	P	Pg	12 53 15.9	+0.6
ARVD	**Arcevia**	**0.27**	**303**	P	Pg	12 53 15.9	+0.7
ARVD				S	Sb	12 53 20.7	-0.7
ARVD				AML	AML		
	comp=E,50μm,0.2s						
ARVD				AML	AML		
	comp=N,49μm,0.2s						
ARVD				AML	AML		
	comp=N,49μm,0.2s						
ARVD				AML	AML		
	comp=E,50μm,0.2s						
ARVD	**Arcevia**	**0.27**	**303**	P	Pg	12 53 16.0	+0.7
ARVD	**Arcevia**	**0.27**	**303**	S	Sb	12 53 20.6	-0.8
FDMO	**Fiordimonte**	**0.34**	**201**	P	Pg	12 53 16.6	+0.1
FDMO				S	Sb	12 53 22.6	-0.7
FDMO	**Fiordimonte**	**0.34**	**201**	P	Pg	12 53 16.7	+0.2
FDMO	**Fiordimonte**	**0.34**	**201**	S	Sb	12 53 22.6	-0.7
FDMO	**Fiordimonte**	**0.34**	**201**	S	Sb	12 53 23.0	-0.3

*ISCJB **27** 13:13:48.8±0.8, 13′.8N±0′.1×93′.00E±0′.09, h29km, mb4.1/8, MS3.9/1, Error ellipse: s-maj=16.4km s-min=11.9km az=156.3*
*IDC **27** 13:13:50.1±1.1, 13′.61N×92′.75E, h26km±6km, mb3.7/7, mb1 3.8/8, mb1mx3.5/32, mbtmp3.8/8, ML3.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/45, Error ellipse: s-maj=42.5km s-min=15.2km az=54.0*
ISC 27 13:13:50.6±1.0, 13′.7N±0′.1×92′.9E±0′.1, h29km, n15, σ1§12/13, mb3.8/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.45**	**50**	Pn	**Pn**	**13 15 39.4**	**+1.9**
	0.2nm,0.3s,baz=239,slow=17,SNR=2.9						
CMAR				Sn	**Sn**	**13 16 58.7**	**-2.3**
	0.5nm,0.3s,baz=204,slow=32,SNR=4.5						
BRDH	**Bariadhala**	**8.98**	**352**	LR	LR	13 19 35.9	
	comp=Z,103nm,20.0s,baz=137,slow=38						
H08S3	**Diego Garcia H**	**29.36**	**225**	T	T	13 50 04.6	
	baz=43,slow=76,SNR=6.6						
H08S2	**Diego Garcia H**	**29.37**	**225**	T	T	13 49 57.7	
	baz=43,slow=76,SNR=9.7						
H08S1	**Diego Carcia H**	**29.38**	**225**	T	T	13 49 58.3	
	baz=43,slow=76,SNR=9.7						
MKAR	**Makanchi Array**	**34.15**	**347**	P	**P**	**13 20 33.5**	**+0.4**
	0.9nm,0.8s,baz=182,slow=8.5,SNR=7.2						
MKAR				pP	**pP**	**13 20 42.0**	**+0.5**
	1.2nm,0.8s,baz=152,slow=8.0,SNR=9.5						
KURBB	**Kurchatov Arra**	**38.61**	**345**	P	**P**	**13 21 11.5**	**+0.4**
	0.8nm,0.7s,baz=158,slow=7.9,SNR=4.2						
KURBB				pP	**pP**	**13 21 19.7**	**+0.1**
	0.5nm,0.4s,baz=159,slow=7.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**40.63**	**353**	pP	pP	13 21 35.3	-1.0
	0.9nm,0.4s,baz=178,slow=7.2,SNR=3.2						
WRA	**Warramunga Arr**	**52.72**	**129**	P	**P**	**13 23 03.6**	**+0.6**
	146nm,0.3s,baz=295,slow=9.9,SNR=13						
ASAR	**Alice Springs**	**54.65**	**133**	P	**P**	**13 23 17.4**	**+0.2**
	0.7nm,0.5s,baz=310,slow=7.0,SNR=29						
ASAR				pP	**pP**	**13 23 24.9**	**-1.2**
	0.6nm,0.5s,baz=309,slow=6.7,SNR=5.3						
BRTR	**Keskin Array B**	**57.80**	**308**	P	**P**	**13 23 39.2**	**-0.4**
	0.6nm,0.6s,baz=108,slow=7.1,SNR=3.6						
SEY	**Seymchan**	**64.17**	**26**	LR	LR	13 56 55.6	
	comp=Z,70nm,19.1s,baz=344,slow=40						
FINES	**FINESS Array B**	**67.02**	**331**	P	**P**	**13 24 40.9**	**+0.2**
	0.7nm,0.8s,baz=79,slow=9.9,SNR=4.7						
ARCES	**ARCESS Array B**	**69.39**	**340**	P	**P**	**13 24 55.1**	**-0.3**
	3.8nm,1.0s,baz=97,slow=7.4,SNR=4.1						
GERES	**GERESS Array B**	**72.72**	**317**	P	**P**	**13 25 15.3**	**-0.9**
	0.3nm,0.5s,baz=117,slow=1.8,SNR=5.1						

*ISCJB **27** 13:32:39.9±0.5, 26′.61N±0′.03×57′.61E±0′.06, h10km, Error ellipse: s-maj=7.6km s-min=4.5km az=179.8*
*TEH **27** 13:32:39.5, 26′.68N×57′.71E, h8km, ML3.6*
*OMAN **27** 13:32:39.4±8.5, 26′.79N×57′.79E, h23km, ml3.7/7, Error ellipse: s-maj=96.9km s-min=25.6km az=10.0*
*DSN **27** 13:32:39.2±2.7, 26′.44N×57′.88E, h10km, ML3.8/8, Error ellipse: s-maj=35.2km s-min=9.6km az=13.0*
ISC 27 13:32:38.1±1.0, 26′.71N±0′.04×57′.79E±0′.05, h10km, n39, σ1§59/39, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.07**	**181**	*e*Pg	**Pn**	**13 32 59.8**	**+0.7**
NIAN	**Nian**	**1.20**	**315**	IAMB	IAmb	13 33 29.8	
NIAN				*e*Pg	**Pg**	**13 33 03.0**	**+1.9**
KHNJ	**Kahnooj**	**1.23**	**356**	*e*Pg	**Pg**	**13 33 02.8**	**+1.0**
KHNJ				IAMB	IAmb	13 33 26.0	
	comp=Z,0.0nm,0.5s						
GENO	**Geno**	**1.60**	**296**	*e*Pn	**Pg**	**13 33 08.8**	**0.0**
BNDS	**Bandar-Abbas**	**1.60**	**296**	*e*Pn	**Pn**	**13 33 06.8**	**+0.2**
SHME	**Shamm**	**1.62**	**246**	*e*P	**Pn**	**13 33 07.6**	**+0.8**
	SNR=88						
SHME				S	**Sb**	**13 33 29.5**	**+0.8**
SHME	**Shamm**	**1.62**	**246**	*e*Pn	**Pn**	**13 33 07.6**	**+0.8**
MDH	**Madha**	**1.95**	**224**	*e*P	**Pn**	**13 33 09.8**	**-1.4**
	SNR=17						
MDH	**Madha**	**1.95**	**224**	*e*Pn	**Pn**	**13 33 09.8**	**-1.4**
MSFE	**Esma-Masafi**	**1.99**	**228**	*e*P	**Pn**	**13 33 10.8**	**-1.1**
	SNR=7.0						
MSFE	**Esma-Masafi**	**1.99**	**228**	*e*Pn	**Pn**	**13 33 11.0**	**-0.9**
HATD	**Hatta, Dubai**	**2.40**	**219**	*e*P	**Pn**	**13 33 15.8**	**-1.7**
	SNR=5.1						
HATD	**Hatta, Dubai**	**2.40**	**219**	*e*Pn	**Pn**	**13 33 15.8**	**-1.7**
ASHO	**Ashiyiah**	**2.56**	**218**	*e*P	**Pn**	**13 33 18.9**	**-0.7**
	SNR=17						
ASHO	**Ashiyiah**	**2.56**	**218**	P	**Pn**	**13 33 19.1**	**-0.5**
	SNR=17						
ASHO	**Ashiyiah**	**2.56**	**218**	*e*Pn	**Pn**	**13 33 19.1**	**-0.5**
NAZ	**Nazwa, Dubai**	**2.58**	**229**	*e*P	**Pn**	**13 33 21.2**	**+1.3**
	SNR=6.1						
NAZ	**Nazwa, Dubai**	**2.58**	**229**	*e*Pn	**Pn**	**13 33 21.9**	**+2.1**
CHBR	**Chabahar**	**2.66**	**114**	*e*Pn	**Pb**	**13 33 25.7**	**-0.1**
FAQ	**Al Faqa, Dubai**	**2.79**	**226**	*e*P	**Pn**	**13 33 22.5**	**-0.3**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**2.79**	**226**	*e*Pn	**Pn**	**13 33 24.5**	**+1.7**
ASUD	**Al Ashush, Dub**	**3.04**	**227**	P	**Pn**	**13 33 26.2**	**0.0**
NGRK	**Negar Kerman**	**3.07**	**342**	*e*Pn	**Pb**	**13 33 31.3**	**-1.7**
NGRK				IAMB	IAmb	13 34 19.1	
	comp=Z,0.0nm,0.3s						
CHMN	**Cheshme madani**	**3.14**	**356**	*e*Pn	**Pb**	**13 33 32.7**	**-1.6**
CHMN				IAMB	IAmb	13 34 29.7	
	comp=N,0.0nm,0.9s						
HOQ	**Hoqain**	**3.15**	**188**	P	**Pn**	**13 33 27.0**	**-0.8**
	SNR=8.7						
HOQ	**Hoqain**	**3.15**	**188**	*e*Pn	**Pn**	**13 33 26.4**	**-1.3**
BIDO	**Bidbid**	**3.19**	**174**	*e*Pn	**Pn**	**13 33 27.8**	**-0.5**
ALNE	**Al Ain**	**3.23**	**215**	*e*Pn	**Pn**	**13 33 31.0**	**+2.2**
KRBR	**Kerman**	**3.38**	**345**	*e*Pn	**Pb**	**13 33 36.7**	**-1.6**
ARQ	**Araqi**	**3.55**	**199**	P	**Pn**	**13 33 36.0**	**+2.7**
	SNR=6.6						
SMDO	**Samad**	**3.65**	**176**	P	**Pn**	**13 33 37.0**	**+2.3**
	SNR=7.5						
KHGB	**Koh Gabri**	**3.83**	**343**	*e*Pn	**Pb**	**13 33 42.6**	**-3.3**
KHGB				IAMB	IAmb	13 34 48.1	
	comp=Z,0.0nm,1.0s						
SZD1	**Zahaedan-tmp**	**3.87**	**44**	*e*Pn	**Pb**	**13 33 43.1**	**-3.5**
BSY	**Bisya**	**3.99**	**188**	P	**Pn**	**13 33 41.0**	**+1.7**
	SNR=11						
GHIR	**Ghir-Karzin**	**4.55**	**291**	*e*Pn	**Pn**	**13 33 47.3**	**+0.2**
IBAF	**Bafgh**	**5.24**	**339**	*e*Pn	**Pn**	**13 33 59.3**	**+2.7**
IKOO	**Kooshah**	**5.79**	**10**	*e*Pn	Pn	13 34 08.8	+4.5
IKAZ	**Kazeroun**	**6.07**	**302**	*e*Pn	**Pn**	**13 34 08.4**	**+0.2**
KLNJ	**Kolanjah**	**6.92**	**310**	*e*Pn	**Pn**	**13 34 21.2**	**+1.3**

*CRAAG **27** 13:37:48.4, 36′.89N×5′.22E, MI3.2*
*ISCJB **27** 13:37:54.6±0.5, 36′.87N±0′.04×5′.35E±0′.06, h19km, Error ellipse: s-maj=8.3km s-min=3.9km az=141.3*
*MDD **27** 13:37:55.2±0.5, 36′.75N×5′.34E, h0km, mb3.8/7, Error ellipse: s-maj=7.6km s-min=4.4km az=55.0, PRXIMO*
*LDG **27** 13:37:59.3±0.8, 36′.95N×5′.35E, h2km, Ml3.6/5, Error ellipse: s-maj=20.0km s-min=13.8km az=143.0*
ISC 27 13:37:54.7±0.9, 36′.77N±0′.04×5′.39E±0′.04, h19km, n39, σ2§18/53, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.45**	**120**	P	**Pg**	**13 38 03.4**	**-0.7**
DFRA	**Djebel Bou Aff**	**0.45**	**120**	P	**Pg**	**13 38 03.4**	**-0.7**
SET	**Setif**	**0.57**	**179**	P	**Pg**	**13 38 05.0**	**-1.2**
SET	**Setif**	**0.57**	**179**	P	**Pg**	**13 38 05.0**	**-1.2**
CKHR	**Kef el Ahmar**	**0.76**	**172**	P	**Pb**	**13 38 09.8**	**+0.4**
CKHR	**Kef el Ahmar**	**0.76**	**172**	P	**Pb**	**13 38 09.8**	**+0.4**
CASM	**Ain Smara**	**1.02**	**120**	P	**Pb**	**13 38 12.9**	**-1.0**
CASM	**Ain Smara**	**1.02**	**120**	P	**Pb**	**13 38 12.9**	**-1.0**
CTEI	**Djebel Teioual**	**1.08**	**130**	P	**Pb**	**13 38 15.3**	**+0.4**
CTEI	**Djebel Teioual**	**1.08**	**130**	P	**Pb**	**13 38 15.3**	**+0.4**
CKFL	**Kef-Lekhel**	**1.14**	**109**	P	**Pg**	**13 38 17.9**	**+1.2**
CKFL	**Kef-Lekhel**	**1.14**	**109**	P	**Pg**	**13 38 17.9**	**+1.2**
CAEH	**'Ain El Ouahch**	**1.17**	**89**	P	**Pn**	**13 38 17.2**	**+1.1**
CAEH	**'Ain El Ouahch**	**1.17**	**89**	P	**Pn**	**13 38 17.2**	**+1.1**
CMAH	**Djebel Manchou**	**1.64**	**95**	P	**Pb**	**13 38 25.7**	**+1.3**
CMAH	**Djebel Manchou**	**1.64**	**95**	P	**Pb**	**13 38 25.7**	**+1.3**
ABA	**Alger-Bouzarea**	**1.89**	**272**	P	**Pn**	**13 38 30.0**	**+4.0**
ABA	**Alger-Bouzarea**	**1.89**	**272**	P	**Pn**	**13 38 30.0**	**+4.0**
ETOS	**Mallorca**	**3.61**	**327**	P	**Pn**	**13 38 51.1**	**+1.4**
	2.1nm,0.1s,SNR=7.9						
ETOS				S	**Sn**	**13 39 31.1**	**-0.7**
	1.9nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.91**	**306**	P	**Pn**	**13 38 55.8**	**+2.0**
	1.0nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**13 39 36.7**	**-2.4**
	0.8nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**5.48**	**336**	P	**Pn**	**13 39 16.7**	**+1.2**
	0.4nm,0.1s,SNR=7.9						
CFON				S	**Sn**	**13 40 16.4**	**-1.7**
	1.8nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.67**	**325**	P	**Pn**	**13 39 19.1**	**+1.1**
	0.5nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**13 40 20.2**	**-2.4**
	0.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.81**	**291**	P	**Pn**	**13 39 22.6**	**+2.7**
	0.8nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.94**	**331**	P	**Pn**	**13 39 24.7**	**+3.0**
	0.9nm,0.1s,SNR=7.9						
EMIR				S	**Sn**	**13 40 27.9**	**-1.4**
	1.9nm,0.2s,SNR=7.9						
PGF	**Pioggiola**	**6.41**	**25**	*e*Pn	**Pn**	**13 39 30.6**	**+2.5**
PGF				*e*Sn	**Sn**	**13 40 37.9**	**-2.8**
	9.6nm,0.3s						
PGF	**Pioggiola**	**6.41**	**25**	P	**Pn**	**13 39 30.6**	**+2.5**
PGF				S	**Sn**	**13 40 37.9**	**-2.8**
	4.8nm,0.3s						
CSOR	**Sort**	**6.49**	**331**	P	**Pn**	**13 39 31.5**	**+2.2**
	0.6nm,0.1s,SNR=7.9						
CSOR				S	**Sn**	**13 40 40.0**	**-2.8**
	0.4nm,0.2s,SNR=7.9						
LMR	**La Mourre**	**6.61**	**7**	*e*Pn	**Pn**	**13 39 31.8**	**+1.0**
LMR				*e*Sn	**Sn**	**13 40 42.0**	**-3.6**
	4.6nm,0.3s						
LMR	**La Mourre**	**6.61**	**7**	P	**Pn**	**13 39 31.8**	**+1.0**
LMR				S	**Sn**	**13 40 42.0**	**-3.6**
	2.3nm,0.3s						
FRF	**La Foret Royal**	**6.85**	**8**	*e*Pn	**Pn**	**13 39 35.5**	**+1.4**
FRF				*e*Sn	**Sn**	**13 40 48.7**	**-2.8**
	5.5nm,0.3s						
FRF	**La Foret Royal**	**6.85**	**8**	P	**Pn**	**13 39 35.5**	**+1.4**
FRF				S	**Sn**	**13 40 48.7**	**-2.8**
	2.8nm,0.3s						
MTLF	**Montolieu**	**7.00**	**341**	*e*Pn	**Pn**	**13 39 37.6**	**+1.5**
MTLF	**Montolieu**	**

PB06	**IPOC Station P**	**1.85 189**	⇓*e*P	**Pn**	**13 38 31.3**	**+0.1**
PB06			*e*S	**Sn**	**13 38 54.8**	**-0.3**
PB05	**IPOC Station P**	**2.17 204**	*e*P	**Pn**	**13 38 35.0**	**-0.1**
PB15	**IPOC Station P**	**2.34 185**	*e*P	**Pn**	**13 38 37.5**	**+0.1**
PB15			⇓*e*S	**Sn**	**13 39 06.5**	**+0.4**
PB12	**IPOC Station P**	**2.46 335**	*e*P	**Pn**	**13 38 38.5**	**-0.5**
PB16	**IPOC Station P**	**2.53 354**	*e*P	**Pn**	**13 38 41.3**	**+1.0**
PB10	**IPOC Station P**	**2.90 204**	*e*P	**Pn**	**13 38 43.6**	**-1.0**

*DDA **27** 13:39:48.8, 38°.61N×36°.18E, h6km±2km, ML2.5*
*ISCJB **27** 13:39:50.2±1.1, 38°.58N±0°.07×36°.20E±0°.06, h8km±7km, Error ellipse: s-maj=12.8km s-min=5.0km az=28.6*
*ISK **27** 13:39:50.6, 38°.63N×36°.24E, h14km, ML2.1/4*
ISC 27 13:39:50.0±1.5, 38°.61N±0°.06×36°.21E±0°.04, h11km±11km, n9, σ0§70/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.38**	**311**	PG	**Pb**	**13 39 58.6**	**-0.3**
BNN				SG	**Sb**	**13 40 04.6**	**-0.2**
ELBS	**KAHRAMANMARAS**	**0.77**	**111**	*i* P	**Pg**	**13 40 04.2**	**-0.9**
ELBS				*i* S	**Sb**	**13 40 16.4**	**+0.2**
CUALT	**Altinyayla-SIV**	**0.79**	**32**	*i* P	**Pg**	**13 40 04.6**	**-0.7**
CUALT				*i* S	**Sb**	**13 40 17.1**	**+0.4**
DARE	**Darende-Malaty**	**0.99**	**92**	PG	**Pn**	**13 40 09.7**	**-0.4**
DARE				SG	**Sn**	**13 40 23.7**	**-0.5**
CUKAN	**kangal_SIVAS**	**1.21**	**54**	*i* P	**Pg**	**13 40 12.8**	**-0.5**
CUKAN				*i* S	**Sn**	**13 40 30.1**	**+0.6**
YOZ	**Yozgat**	**1.25**	**326**	PN	**Pg**	**13 40 14.1**	**+0.1**
YOZ				SN	**Sn**	**13 40 31.2**	**+0.8**
AKCD	**Akcadag**	**1.38**	**102**	IAML_P			
	comp=Z,660nm,0.1s						
AKCD				*i* P	**Pg**	**13 40 17.0**	**+0.5**
AKCD				*i* S	**Sg**	**13 40 35.7**	**+1.4**
SVSK	**Karacayir**	**1.44**	**25**	PN	**Pb**	**13 40 16.4**	**-0.5**
KEMA	**Kemaliye**	**1.90**	**69**	IAML_P			
	comp=Z,130nm,0.1s						
KEMA				*i* P	**Pb**	**13 40 24.5**	**-0.3**
KEMA				*i* S	**Sg**	**13 40 51.9**	**+0.8**

*NIED **27** 13:43:00, 35°.10N×142°.10E, h8km, Mw3.8 Best double couple: M0:6.49000×10^14 NP1:φs:17.00000°, δ30.00000°, λ-111.00000°. NP2:φs:220.00000°, δ62.00000°, λ-78.00000°.*
*IDC **27** 13:43:26.1±1.0, 35°.05N×142°.23E, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.5/52, mbtmp3.7/8, ML3.4/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/29, Error ellipse: s-maj=28.2km s-min=19.5km az=94.0*
*JMA **27** 13:43:29.0±0.2, 35°.08N×142°.15E, h63km±5km, M3.6*
ISC 27 13:43:29.2±2.9, 35°.09N±0°.06×142°.16E±0°.08, h24km±21km, n25, σ1§39/33, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.06**	**246**	P	**Pn**	**13 43 47.7**	**-0.4**
BSO1				*e*S	**Sb**	**13 44 02.2**	**+0.2**
CHOJ	**Chosi**	**1.22**	**300**	P	**Pn**	**13 43 50.6**	**-0.2**
CHOJ				*e*S	**Sn**	**13 44 06.3**	**-0.2**
BSO3	**Boso 3**	**1.38**	**258**	P	**Pn**	**13 43 52.9**	**+0.1**
BSO4	**Boso 4**	**1.50**	**267**	P	**Pn**	**13 43 54.9**	**+0.4**
KTR	**Katsuura**	**1.51**	**273**	P	**Pn**	**13 43 54.4**	**-0.3**
KTR				*e*S	**Sn**	**13 44 13.1**	**-0.6**
JKUC	**kamogawauchiur**	**1.61**	**273**	P	**Pn**	**13 43 55.9**	**-0.2**
JKUC				*e*S	**Sn**	**13 44 15.4**	**-0.6**
JIM2	**Oshima 3**	**2.27**	**261**	P	**Pn**	**13 44 04.3**	**-1.0**
JIM2				*e*S	**Sn**	**13 44 31.1**	**-1.4**
JMKN	**Mikurajimanish**	**2.44**	**241**	P	**Pn**	**13 44 06.5**	**-1.0**
JMKN				*e*S	**Sn**	**13 44 34.2**	**-2.3**
JFK	**Kawauchi**	**2.49**	**336**	P	**Pn**	**13 44 07.9**	**-0.4**
JFK				*e*S	**Sn**	**13 44 35.1**	**-2.9**
JOD2	**Odawara 2**	**2.52**	**275**	P	**Pn**	**13 44 08.0**	**-0.7**
JOD2				*e*S	**Sn**	**13 44 36.5**	**-2.1**
JAG	**Ashikaga**	**2.57**	**302**	P	**Pn**	**13 44 09.2**	**-0.1**
JHJ	**Hachijo jima 2**	**2.79**	**226**	Pn	**Pn**	**13 44 11.2**	**-1.1**
	32nm,0.3s,baz=132,slow=22,SNR=24						
JHJ				Sn	**Sn**	**13 44 41.6**	**-3.6**
	72nm,0.3s,baz=93,slow=23,SNR=10.0						
MJAR	**Matsushiro Arr**	**3.52**	**295**	Pn	**Pn**	**13 44 22.9**	**+0.5**
	0.8nm,0.3s,baz=114,slow=8.3,SNR=39						
MJAR				Sn	**Sn**	**13 45 02.6**	**-0.7**
	1.0nm,0.3s,baz=153,slow=22,SNR=6.7						
MAT	**Matsushiro**	**3.52**	**295**	P	**Pn**	**13 44 22.9**	**+0.5**
MAT				S	**Sn**	**13 45 01.9**	**-1.4**
ASAJ	**Asahikawa**	**9.02**	**2**	Pn	**Pn**	**13 45 36.3**	**-1.6**
	1.6nm,0.3s,baz=209,slow=12,SNR=11						
ASAJ				Sn	**Sn**	**13 47 16.0**	**-2.6**
	0.4nm,0.3s,baz=103,slow=18,SNR=5.6						
KSRS	**Korea Array**	**11.73**	**286**	LR	LR	13 51 26.1	
	comp=Z,446nm,18.2s,baz=73,slow=41						
USRK	**Ussuriysk Ar.**	**11.99**	**322**	Pn	**Pn**	**13 46 19.9**	**+1.3**
	0.3nm,0.3s,baz=138,slow=12,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**26.66**	**119**	T	T	14 17 17.1	
	baz=310,slow=75,SNR=2.8						
H11N1	**WAKE ISLAND Hy**	**26.67**	**119**	T	T	14 17 18.2	
	baz=310,slow=75,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**26.68**	**119**	T	T	14 17 20.2	
	baz=310,slow=75,SNR=3.1						
MKAR	**Makanchi Array**	**45.68**	**304**	P	**P**	**13 51 49.3**	**+1.3**
	0.2nm,0.5s,baz=87,slow=12,SNR=3.0						
ILAR	**Eielson Array**	**50.82**	**32**	P	**P**	**13 52 27.6**	**+0.3**
	0.2nm,0.6s,baz=249,slow=7.6,SNR=3.6						
WRA	**Warramunga Arr**	**55.23**	**189**	P	**P**	**13 53 01.1**	**+0.8**
	1.5nm,0.7s,baz=359,slow=8.4,SNR=9.3						
ASAR	**Alice Springs**	**58.96**	**189**	P	**P**	**13 53 26.4**	**-0.3**
	0.4nm,0.6s,baz=14,slow=13,SNR=10						
LPAZ	**La Paz**	**147.09**	**63**	PKPbc	**PKPbc**	**14 03 12.7**	**+1.3**
	0.8nm,0.5s,baz=23,slow=17,SNR=4.2						

*CRAAG **27** 13:53:35.6, 36°.76N×5°.22E, Ml2.9*
*ISCJB **27** 13:53:36.9±0.5, 36°.77N±0°.06×5°.14E±0°.06, h10km, Error ellipse: s-maj=10.6km s-min=4.1km az=36.3*
*MDD **27** 13:53:38.7±0.5, 36°.75N×5°.26E, h0km, mb3.7/2, Error ellipse: s-maj=8.5km s-min=4.8km az=34.0, PRXIMO*
ISC 27 13:53:37.5±0.9, 36°.77N±0°.06×5°.26E±0°.03, h10km, n26, σ1§36/30, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.55**	**115**	P	**Pg**	**13 53 48.5**	**+0.4**
DFRA	**Djebel Bou Aff**	**0.55**	**115**	P	**Pg**	**13 53 48.5**	**+0.4**
SET	**Setif**	**0.58**	**169**	P	**Pg**	**13 53 49.0**	**+0.2**
SET	**Setif**	**0.58**	**169**	P	**Pg**	**13 53 49.0**	**+0.2**
CKHR	**Kef el Ahmar**	**0.78**	**165**	P	**Pg**	**13 53 52.8**	**+0.2**
CKHR	**Kef el Ahmar**	**0.78**	**165**	P	**Pg**	**13 53 52.8**	**+0.2**
CASM	**Ain Smara**	**1.11**	**117**	P	**Pb**	**13 53 57.9**	**-1.0**
CASM	**Ain Smara**	**1.11**	**117**	P	**Pb**	**13 53 57.9**	**-1.0**
CTEI	**Djebel Teioual**	**1.17**	**127**	P	**Pb**	**13 53 59.2**	**-0.6**
CTEI	**Djebel Teioual**	**1.17**	**127**	P	**Pb**	**13 53 59.2**	**-0.6**
CKFL	**Kef-Lekhel**	**1.23**	**107**	P	**Pg**	**13 54 02.5**	**+1.4**
CKFL	**Kef-Lekhel**	**1.23**	**107**	P	**Pg**	**13 54 02.5**	**+1.4**
CAEH	**'Ain El Ouahch**	**1.28**	**89**	P	**Pn**	**13 54 02.1**	**+0.7**
CAEH	**'Ain El Ouahch**	**1.28**	**89**	P	**Pn**	**13 54 02.1**	**+0.7**
CMAH	**Djebel Manchou**	**1.74**	**94**	P	**Pn**	**13 54 09.5**	**+1.7**
CMAH	**Djebel Manchou**	**1.74**	**94**	P	**Pn**	**13 54 09.5**	**+1.7**
ABA	**Alger-Bouzarea**	**1.79**	**272**	P	**Pb**	**13 54 11.0**	**+0.7**
ABA	**Alger-Bouzarea**	**1.79**	**272**	P	**Pb**	**13 54 11.0**	**+0.7**
ETOS	**Mallorca**	**3.56**	**328**	P	**Pn**	**13 54 33.4**	**+0.6**
	1.3nm,0.2s,SNR=7.5						
ETOS				S	**Sn**	**13 55 12.5**	**-2.3**
	0.8nm,0.2s,SNR=6.2						
EIBI	**Ibiza**	**3.83**	**307**	P	**Pn**	**13 54 37.0**	**+0.6**
	2.0nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**13 55 20.1**	**-1.4**
	0.6nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.61**	**326**	P	**Pn**	**13 55 01.0**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**13 56 02.1**	**-3.5**
	0.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.71**	**291**	P	**Pn**	**13 55 04.0**	**+1.6**
	0.6nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.75**	**310**	P	**Pn**	**13 55 04.7**	**+1.7**
	SNR=7.9						
EMIR	**Miracle**	**5.89**	**332**	P	**Pn**	**13 55 06.5**	**+1.6**
	0.9nm,0.1s,SNR=7.9						
CSOR	**Sort**	**6.44**	**332**	P	**Pn**	**13 55 14.1**	**+1.7**
	0.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**6.72**	**281**	P	**Pn**	**13 55 17.1**	**+0.8**
	0.5nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**13 56 31.0**	**-2.0**
	0.1nm,0.3s,SNR=7.9						

IDC 27 13:57:46.9±2.0, 24°.95N×97°.08E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.3/47, mbtmp3.8/3, Error ellipse: s-maj=82.6km s-min=28.2km az=67.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**24.00**	**16**	P	P	14 03 03.3	-0.1
	1.3nm,0.3s,baz=188,slow=9.6,SNR=2.3						
MKAR	**Makanchi Array**	**24.79**	**335**	P	P	14 03 10.6	0.0
	1.6nm,0.5s,baz=144,slow=9.9,SNR=17						
ASAR	**Alice Springs**	**60.08**	**141**	P	P	14 07 56.1	0.0
	0.2nm,0.5s,baz=318,slow=6.6,SNR=5.0						

DJA 27 13:59:49.3±1.1, 1°.N±5°.×12°.0E±°, h10km, M3.6/6, MLv3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.51**	**130**	P	Pg	13 59 59.8	+0.6
MPSI				S	Sg	14 00 06.9	+0.9
MRSI	**Marisa**	**2.44**	**94**	P	Pn	14 00 29.0	-0.2
MRSI				S	Sb	14 01 01.3	-2.1
APSI	**Ampana**	**2.65**	**126**	P	Pn	14 00 33.5	+1.3
LUWI	**Luwuk**	**3.68**	**118**	P	Pn	14 00 45.5	-0.8

*JMA **27** 14:09:23.9±0.2, 44°.02N×148°.10E, h0km, M3.8*
*SKHL **27** 14:09:24.4±0.6, 44°.45N×148°.26E, h44km±3km, mb3.9/4*
ISC 27 14:09:23.6±2.4, 44°.42N±0°.09×148°.0E±0°.1, h10km, n16, σ1§53/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.82**	**354**	*i* P	**Pg**	**14 09 39.0**	**-0.4**
KUR				AMB	AMB	14 09 40.7	
	90nm,0.3s						
KUR				AMB	AMB	14 09 40.7	
	10.0nm,0.3s						
KUR				AMB	AMB	14 09 40.7	
	30nm,0.3s						
KUR				*i* S	**Sg**	**14 09 50.0**	**-0.1**
KUR				A	A	14 09 55.4	
	140nm,0.3s						
KUR				A	A	14 09 55.4	
	700nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.58**	**257**	*i* P	**Pb**	**14 09 52.0**	**-0.9**
YUK				AMB	AMB	14 09 55.0	
	40nm,0.2s						
YUK				AMB	AMB	14 09 55.0	
	30nm,0.2s						
YUK				*i* S	**Sb**	**14 10 12.6**	**-0.3**
YUK				A	A	14 10 23.0	
	300nm,0.4s						
YUK				A	A	14 10 23.0	
	440nm,0.4s						
LAGR	**Lagunnoye**	**1.63**	**258**	*e*P	**Pb**	**14 09 53.0**	**-0.7**
LAGR				*e*S	**Sb**	**14 10 14.0**	**-0.3**
LAGR				A	A	14 10 24.0	
	290nm,0.5s						
LAGR				A	A	14 10 24.0	
	690nm,0.5s						
GRPR	**Tuman**	**1.65**	**256**	*e*P	**Pb**	**14 09 53.0**	**-1.2**
GRPR				AMB	AMB	14 09 56.0	
	80nm,0.2s						
GRPR				AMB	AMB	14 09 56.0	
	50nm,0.2s						
GRPR				AMB	AMB	14 09 56.0	
	20nm,0.2s						
GRPR				*e*S	**Sb**	**14 10 15.0**	**0.0**
GRPR				A	A	14 10 19.0	
	280nm,0.4s						
GRPR				A	A	14 10 19.0	
	290nm,0.4s						
GLVR	**Golovnino**	**1.91**	**250**	*i* P	**Pb**	**14 09 57.0**	**-1.5**
GLVR				AMB	AMB	14 09 59.0	
	50nm,0.4s						
GLVR				*e*S	**Sb**	**14 10 22.0**	**-0.4**
GLVR				A	A	14 10 31.0	
	390nm,0.5s						
GLVR				A	A	14 10 31.0	
	270nm,0.5s						
NEM2	**Nemuro 2**	**1.94**	**238**	P	**Pn**	**14 09 56.9**	**+0.3**
NEM2				*e*S	**Sn**	**14 10 20.9**	**-0.1**
JRA	**Rausu**	**2.12**	**258**	P	**Pb**	**14 10 01.6**	**-0.5**
JRA				*e*S	**Sb**	**14 10 29.5**	**+1.0**
JKHN	**Kushirohamanak**	**2.45**	**238**	P	**Pn**	**14 10 04.5**	**+0.9**
JKHN				*e*S	**Sn**	**14 10 34.4**	**+0.8**
JNK	**Nakash**	**2.51**	**252**	P	**Pb**	**14 10 06.5**	**-2.2**
JNK				*e*S	**Sn**	**14 10 37.0**	**+2.0**
JAK	**Akkeshi**	**2.78**	**240**	P	**Pn**	**14 10 09.1**	**+0.9**
JAK				*e*S	**Sn**	**14 10 42.3**	**+0.5**
JTKR	**Abashiri--Toko**	**2.97**	**263**	P	**Pb**	**14 10 14.1**	**-2.5**
JAR	**Ashorobuto**	**3.25**	**251**	P	**Pn**	**14 10 17.4**	**+2.7**
JAR				*e*S	**Sb**	**14 10 57.5**	**-3.6**
JCH	**Churui**	**3.82**	**243**	P	**Pn**	**14 10 24.7**	**+2.2**
JCH				*e*S	**Sn**	**14 11 08.2**	**+0.8**
JNBK	**Urakawa-nobuka**	**4.38**	**243**	P	**Pn**	**14 10 32.2**	**+2.0**
JKB	**Kayabe**	**5.69**	**246**	P	**Pn**	**14 10 50.1**	**+2.0**
JKB				*e*S	**Sn**	**14 11 54.2**	**+0.8**
JOT	**Ohata**	**5.94**	**242**	P	**Pn**	**14 10 52.7**	**+1.2**

JMA 27 14:16:21.6±0.1, 31°.94N×129°.34E, h6km±3km, M3.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.41**	**129**	P	Pg	14 16 29.4	-0.2
JSJ				*e*S	Sg	14 16 35.1	+0.1
NGSJ	**Nagasakinomoza**	**0.79**	**29**	P	Pg	14 16 36.6	-0.2
NGSJ				*e*S	Sb	14 16 48.1	-0.7
JHD	**Hondo**	**0.85**	**52**	P	Pg	14 16 38.0	0.0
JHD				*e*S	Sb	14 16 50.1	-0.5
JFU	**Fukue jima 2**	**0.87**	**325**	P	Pb	14 16 39.0	-0.1
JFU				*e*S	Sb	14 16 50.6	-0.5
JSU	**Suzuyama**	**1.04**	**114**	P	Pg	14 16 41.3	-0.3
JSU				S	Sg	14 16 55.1	-0.1
JZO	**Okuchi**	**1.09**	**79**	P	Pg	14 16 42.3	-0.2
JZO				S	Sb	14 16 57.1	-0.2
JIU3	**Izumi3**	**1.39**	**64**	S	Sb	14 17 05.6	-0.3

*ISCJB **27** 14:26:40.2±0.8, 10°.85±0°.1×165°.27E±0°.09, h35km, mb4.4/7, Error ellipse: s-maj=17.9km s-min=9.4km az=37.9*
*IDC **27** 14:26:44.8±3.9, 10°.78S×165°.16E, h60km±32km, mb3.7/5, mb1 3.9/7, mb1mx3.6/30, mbtmp4.1/7, ML4.4/2, Error ellipse: s-maj=30.2km s-min=22.5km az=58.0*
*NEIC **27** 14:26:44.9±1.3, 10°.82S×165°.17E, h66km±11km, mb4.4/4, Error ellipse: s-maj=17.2km s-min=10.5km az=55.0*
ISC 27 14:26:41.8±1.0, 10°.85±0°.1×165°.3E±0°.1, h35km, n18, σ1§59/18, mb4.1/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.45**	**284**	*e*Pn	**Pn**	**14 28 01.8**	**+1.1**
HNR				S	**Sn**	**14 29 02.6**	**+0.4**
HNR	**Honiara**	**5.45**	**284**	P	**Pn**	**14 28 02.3**	**+1.7**
	24nm,0.3s,baz=135,slow=8.9,SNR=12						
HNR				S	**Sn**	**14 29 02.6**	**+0.4**
	1.3nm,0.3s,baz=180,slow=19,SNR=3.0						
MARNC	**Mare, Loyalty**	**10.94**	**167**	*e*Pn	**Pn**	**14 29 19.6**	**+3.6**
DZM	**Mont Dzumac**	**11.27**	**175**	P	**Pn**	**14 29 22.7**	**+2.2**
	1.5nm,0.3s,baz=323,slow=16,SNR=19						
DZM				S	**Sn**	**14 31 22.8**	**-2.5**
	0.1nm,0.3s,baz=100,slow=18,SNR=2.3						
H11S2	**WAKE ISLAND Hy**	**29.13**	**3**	T	T	15 03 05.3	
	baz=183,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**29.13**	**3**	T	T	15 03 05.4	
	baz=183,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**29.15**	**3**	T	T	15 03 06.7	
	baz=183,slow=76,SNR=21						
STKA	**Stephens Creek**	**30.34**	**223**	*e*P	**P**	**14 32 50.0**	**-0.2**
	5.3nm,1.9s						
STKA	**Stephens Creek**	**30.34**	**223**	P	**P**	**14 32 50.1**	**-0.2**
	1.6nm,0.6s,baz=30,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**32.53**	**243**	P	**P**	**14 33 07.5**	**-2.2**
	1.0nm,0.8s,baz=65,slow=10,SNR=16						
CISI	**Cisompet, Garu**	**56.79**	**268**	*e*P	**P**	**14 36 22.9**	**-0.2**
	94nm,0.4s						
QSPA	**South Pole Qui**	**79.21**	**180**	*e*P	**P**	**14 38 42.3**	**-0.9**
	12nm,1.6s						
ILAR	**Eielson Array**	**83.41**	**19**	P	**P**	**14 39 05.1**	**-0.1**
	0.3nm,0.5s,baz=240,slow=4.7,SNR=8.2						
ILB	**Eielson Array**	**83.41**	**19**	*e*P	**P**	**14 39 04.7**	**-0.5**
	5.2nm,1.4s						
MAW	**Mawson**	**84.80**	**202**	*e*P	**P**	**14 39 11.2**	**-1.0**
	3.4nm,0.8s						
MAW	**Mawson**	**84.80**	**202**	P	**P**	**14 39 13.7**	**+1.4**
	2.2nm,0.7s,baz=105,slow=6.3,SNR=5.6						
MK32	**Makanchi Array**	**93.05**	**317**	*e*P	**P**	**14 39 51.5**	**-0.5**
MKAR	**Makanchi Array**	**93.05**	**317**	P	**P**	**14 39 51.5**	**-0.5**
	0.3nm,0.6s,baz=83,slow=10,SNR=3.5						

*IDC **27** 14:31:47.6±3.7, 56°.33S×26°.61W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/23, mbtmp3.7/2, Error ellipse: s-maj=130.2km s-min=52.1km az=173.0*
*ISCJB **27** 14:32:01.3±1.1, 55°.7S±0°.2×26°.8W±0°.5, h100km, mb3.6/2, Error ellipse: s-maj=46.6km s-min=14.7km az=157.4*
ISC 27 14:32:02.5±1.1, 55°.8S±0°.2×26°.9W±0°.3, h100km, n10, σ1§66/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.98**	**159**	P	**Pn**	**14 35 51.7**	**-1.7**
VNA3	**Neumayer Olymp**	**17.19**	**161**	P	**Pn**	**14 35 56.8**	**+0.8**
VNA2	**Neumayer--Watz**	**17.38**	**158**	P	**Pn**	**14 36 00.4**	**+2.2**
	baz=317,slow=12						
SNAA	**Sanae**	**18.92**	**157**	P	**Pn**	**14 36 15.9**	**-0.9**
H10S2	**ASCENSION HYDR**	**47.69**	**16**	T	T	15 32 49.4	
	baz=190,slow=75,SNR=9.2						
H10S3	**ASCENSION HYDR**	**47.69**	**16**	T	T	15 32 48.5	
	baz=190,slow=75,SNR=6.5						
H10S1	**ASCENSION HYDR**	**47.71**	**16**	T	T	15 32 49.2	
	baz=190,slow=75,SNR=8.9						
LPAZ	**La Paz**	**50.36**	**305**	P	**P**	**14 40 50.2**	**+0.3**
	0.7nm,0.5s,baz=172,slow=7.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**72.73**	**29**	P	**P**	**14 43 19.8**	**+0.3**
	0.3nm,0.5s,baz=193,slow=6.1,SNR=4.1						
ILAR	**Eielson Array**	**150.06**	**312**	PKPbc	**PKiKP**	**14 51 39.4**	**-1.2**
	0.9nm,0.8s,baz=124,slow=2.0,SNR=8.9						

*BJI **27** 14:34:31.4±0.0, 10°.32S×162°.33E, h65km, mb4.7/15, mB4.9/11, Ms4.8/3, Ms7 4.7/3*
*ISCJB **27** 14:34:33.0±0.2, 10°.73S±0°.03×161°.35E±0°.05, h61km, mb4.7/64, Error ellipse: s-maj=6.6km s-min=4.4km az=162.6*
*IDC **27** 14:34:35.6±1.8, 10°.69S×161°.40E, h69km±15km, mb4.2/20, mb1 4.4/21, mb1mx4.3/32, mbtmp4.5/21, MS3.6/21, Ms1 3.6/21, ms1mx3.6/24, Error ellipse: s-maj=17.5km s-min=10.2km az=77.0*
*NEIC **27** 14:34:35.6±0.6, 10°.65S×161°.41E, h69km±6km, mb4.7/48, Error ellipse: s-maj=5.1km s-min=4.8km az=86.0*
ISC 27 14:34:34.5±0.4, 10°.72S±0°.06×161°.50E±0°.08, h61km, n119, σ1§22/115, mb4.7/64, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.99**	**310**	*i* P	**Pn**	**14 35 07.0**	**+1.2**
HNR				*i* S	Sn	14 35 18.0	-12
HNR	**Honiara**	**1.99**	**310**	P	**Pn**	**14 35 06.4**	**+0.6**
	2μm,0.3s,baz=159,slow=7.8,SNR=817						
HNR				S	**Sn**	**14 35 29.3**	**-0.3**
	2μm,0.3s,baz=180,slow=21,SNR=9.8						
HNR				LR	LR	14 35 51.5	
	comp=Z,1μm,21.5s,baz=174,slow=40						
DZM	**Mont Dzumac**	**12.25**	**158**	P	**Pn**	**14 37 28.0**	**+1.7**
	14nm,0.3s,baz=8.5,slow=8.8,SNR=122						
DZM				S	**Sn**	**14 39 35.0**	**-6.2**
	1.8nm,0.3s,baz=330,slow=20,SNR=3.3						
DZM				LR	LR	14 41 21.0	
	comp=Z,250nm,20.7s,baz=350,slow=33						
MARNC	**Mare, Loyalty**	**12.41**	**150**	*e*Pn	**Pn**	**14 37 29.0**	**+0.6**
OUENC	**Ouen Island, N**	**12.71**	**157**	*e*Pn	**Pn**	**14 37 34.5**	**+2.0**
PINNC	**Pines Island,**	**13.13**	**155**	*e*Pn	**Pn**	**14 37 40.3**	**+2.1**
MANU	**Manus Island**	**16.46**	**301**	*e*Pn	**Pn**	**14 38 20.2**	**-1.5**
	22nm,0.9s						
TARA	**Tarawa**	**16.52**	**44**	*e*Pn	**P**	**14 38 24.7**	**+0.6**
	101nm,0.7s						
CTA	**Charters Tower**	**17.39**	**236**	P	**P**	**14 38 35.8**	**+2.1**
	2.5nm,0.3s,baz=65,slow=13,SNR=25						
CTAO	**Charters Tower**	**17.39**	**236**	*e*Pn	**P**	**14 38 35.0**	**+1.3**
	60nm,1.2s						
EIDS	**Eidsvold**	**17.60**	**213**	*e*Pn	**P**	**14 38 38.3**	**+2.3**
	28nm,1.0s						
PATS	**Pohnpei**	**17.72**	**350**	*e*Pn	**Pn**	**14 38 35.1**	**-2.1**
	132nm,1.2s						
COEN	**Coen**	**18.18**	**258**	*e*P	**Pn**	**14 38 42.4**	**-0.5**
	81nm,1.7s						
WB2	**Warramunga Arr**	**27.70**	**247**	*e*P	**P**	**14 40 17.0**	**-0.2**
	38nm,1.1s						
WR1	**Warramunga Arr**	**27.71**	**247**	*e*P	**P**	**14 40 17.1**	**-0.2**
WRA	**Warramunga Arr**	**27.71**	**247**	P	**P**	**14 40 17.1**	**-0.2**
	72nm,0.3s,baz=78,slow=9.5,SNR=3.4						
STKA	**Stephens Creek**	**27.96**	**218**	*e*P	**P**	**14 40 19.3**	**-0.1**
	3.0nm,1.1s						
STKA	**Stephens Creek**	**27.96**	**218**	P	**P**	**14 40 19.5**	**+0.1**
	2.0nm,0.7s,baz=31,slow=10,SNR=6.2						
STKA				LR	LR	14 50 47.3	
	comp=Z,415nm,19.7s,baz=33,slow=35						
AS31	**Alice Springs**	**29.26**	**240**	*e*P	**P**	**14 40 30.2**	**-0.9**
	1.6nm,

comp=Z,31nm,21.9s,baz=151,slow=32
PEA1 Petropavlovsk- 63.66 357 *eP* **P 14 44 59.0 -0.1**
VNDA Vanda 66.79 180 *eP* **P 14 45 20.0 +0.8**
5.2nm,0.8s
VNDA Vanda 66.79 180 P **P 14 45 20.4 +1.2**
4.1nm,0.7s,baz=342,slow=6.5,SNR=21
VNDA LR LR 15 08 47.8
comp=Z,45nm,21.2s,baz=2.5,slow=31
KMI Kunming 67.41 303 P P 14 45 29.8 +5.5
KMI pmax pmax
comp=Z,15nm,0.6s
CM31 Chiang Mai Arr 68.17 295 *eP* **P 14 45 29.3 +0.4**
12nm,1.1s
CMAR Chiang Mai Arr 68.17 295 P **P 14 45 29.3 +0.4**
3.6nm,0.6s,baz=124,slow=5.1,SNR=26
CHTO Chiang Mai 68.29 295 *eP* **P 14 45 28.7 -0.9**
16nm,1.6s
HHC Hu-ho-hao-te 68.93 322 *eP* **P 14 45 34.5 +1.2**
HHC pmax pmax
comp=Z,54nm,1.1s
HHC pmax pmax
comp=Z,200nm,6.2s
CD2 Chengdu 69.11 309 *eP* **P 14 45 35.0 +0.4**
SEY Seymchan 73.76 356 P **P 14 46 01.8 -0.1**
1.5nm,0.5s,baz=203,slow=15,SNR=3.6
SONA0 Songino Array 75.97 325 *eP* **P 14 46 15.4 +0.3**
SONM Songino Array 75.97 325 P **P 14 46 15.4 +0.3**
7.8nm,0.7s,baz=117,slow=2.8,SNR=8.1
SONM LR LR 15 21 32.1
comp=Z,24nm,18.0s,baz=245,slow=37
BILL Bilibino 78.62 2 *eP* **P 14 46 29.2 -0.2**
6.1nm,1.1s
QSPA South Pole Qui 79.29 180 *eP* **P 14 46 33.6 +0.2**
SCM Sheep Creek Mo 82.55 22 *eP* **P 14 46 50.9 +0.3**
45nm,1.6s
DIV Divide 82.69 23 *eP* **P 14 46 51.1 -0.2**
10.0nm,1.0s
MCK McKinley 83.21 20 *eP* **P 14 46 53.7 -0.2**
45nm,1.8s
DHY Denali Highway 83.32 21 *eP* **P 14 46 54.0 -0.6**
18nm,1.8s
MAW Mawson 83.45 202 *eP* **P 14 46 55.6 +0.6**
1.5nm,0.8s
MAW Mawson 83.45 202 P **P 14 46 55.7 +0.6**
5.6nm,0.7s,baz=97,slow=5.1,SNR=13
MAW LR LR 15 18 30.8
comp=Z,30nm,20.7s,baz=71,slow=32
BALM Baldy 83.97 24 *eP* **P 14 46 58.4 +0.4**
5.0nm,0.8s
WRH Wood River Hil 83.98 20 *eP* **P 14 46 57.3 -0.5**
3.6nm,0.8s
CCB Clear Creek Bu 84.19 20 *eP* **P 14 46 58.1 -0.7**
14nm,1.8s
MDM Murphy Dome 84.25 19 *eP* **P 14 46 58.5 -0.7**
28nm,1.9s
COLA College 84.32 19 *eP* **P 14 46 58.7 -0.7**
5.7nm,0.7s
HDA Harding Lake 84.32 20 *eP* **P 14 46 59.6 +0.1**
5.8nm,1.0s
CTGM Chitina Glacie 84.34 24 *eP* **P 14 46 59.8 -0.1**
10nm,1.1s
MENT Mentasta 84.55 22 *eP* **P 14 47 01.2 +0.4**
4.4nm,0.7s
ILAR Eielson Array 84.57 20 P **P 14 47 00.2 -0.6**
1.7nm,0.7s,baz=246,slow=5.5,SNR=16
ILAR LR LR 15 19 05.0
comp=Z,43nm,21.4s,baz=246,slow=32
ILB Eielson Array 84.57 20 *eP* **P 14 46 60.0 -0.8**
DOT Dot Lake 84.85 21 *eP* **P 14 47 02.0 -0.3**
4.3nm,0.7s
WMQ Urumqi 85.93 316 *eP* **P 14 47 08.0 -0.2**
EGAK Eagle 86.54 21 *eP* **P 14 47 11.4 +0.8**
5.3nm,0.8s
YBH Yreka Blue Hor 86.67 47 P **P 14 47 12.9 +1.0**
0.8nm,0.3s,baz=348,slow=3.3,SNR=9.0
YBH LR LR 15 19 54.4
comp=Z,20nm,18.9s,baz=274,slow=31
DAWY Dawson 86.79 22 *eP* **P 14 47 12.7 +0.8**
11nm,1.5s
EPYK Eagle Plains 88.95 21 *eP* **P 14 47 23.1 +1.0**
5.9nm,0.8s
NV01 Mina Array Sit 89.03 51 *eP* **P 14 47 24.6 +1.2**
NVAR Mina Array Bea 89.03 51 P **P 14 47 24.6 +1.2**
2.6nm,0.7s,baz=233,slow=7.0,SNR=20
NVAR LR LR 15 21 28.9
comp=Z,29nm,18.7s,baz=276,slow=32
NV11 Mina Array Sit 89.14 51 *eP* **P 14 47 24.7 +0.9**
0.3nm,1.2s
PFO Pinyon Flats O 89.33 56 LR LR 15 19 35.4
comp=Z,44nm,18.9s,baz=284,slow=30
KVN Kaiserville 89.33 50 *eP* **P 14 47 25.5 +0.8**
10nm,1.7s
WVOR Wild Horse Val 89.78 47 *eP* **P 14 47 27.5 +0.8**
4.9nm,1.1s
J08A Circle Bar Ran 90.13 46 *eP* **P 14 47 29.4 +1.1**
8.3nm,1.1s
TPNV Topopah Spring 90.26 53 *eP* **P 14 47 30.1 +1.0**
6.0nm,0.8s
BMN Battle Mountai 90.32 49 *eP* **P 14 47 30.7 +1.4**
4.4nm,0.8s
MK31 Makanchi Array 90.44 318 *eP* **P 14 47 28.2 -1.4**
1.6nm,0.6s
MK32 Makanchi Array 90.44 318 *eP* **P 14 47 28.6 -0.9**
MKAR Makanchi Array 90.44 318 P **P 14 47 28.6 -0.9**
2.2nm,0.5s,baz=94,slow=5.8,SNR=31
MKAR LR LR 15 28 17.1
comp=Z,18nm,20.6s,baz=92,slow=36
MAKZ Makanchi 90.66 318 *eP* **P 14 47 29.2 -1.3**
2.7nm,1.3s
ZALV Zalesovo Beam 90.87 325 LR LR 15 29 11.1
comp=Z,21nm,19.8s,baz=64,slow=36
SHPR Sheep Range 91.01 53 *eP* **P 14 47 33.6 +0.9**
4.2nm,0.8s
R11A Troy Canyon, C 91.08 51 *eP* **P 14 47 33.5 +0.6**
2.1nm,0.9s
F10A Beach Ranch, E 91.63 44 *eP* **P 14 47 35.8 +0.6**
6.0nm,0.9s
W13A Hualapai Mount 91.73 55 *eP* **P 14 47 36.9 +0.9**
2.1nm,0.7s
ELK Elko 91.86 49 *eP* **P 14 47 37.4 +0.8**
1.6nm,0.8s
ELK Elko 91.86 49 P **P 14 47 37.6 +1.1**
1.5nm,0.8s,baz=278,slow=8.0,SNR=5.0
ELK LR LR 15 20 33.1
comp=Z,21nm,20.6s,baz=282,slow=30
NEW Newport 92.24 41 LR LR 15 23 24.9
comp=Z,23nm,18.8s,baz=230,slow=32
HLID Hailey 93.06 46 *eP* **P 14 47 42.7 +0.8**
4.4nm,1.3s
U15A North Rim 93.26 54 *eP* **P 14 47 43.5 +0.3**
1.8nm,0.8s
KSH Kashi 93.31 309 P **P 14 47 44.8 +1.7**
KSH pP pwP 14 48 02.3 -0.5
KSH PP **PP 14 51 31.5 +3.7**
KSH S **S 14 58 42.5 -3.6**
KSH pmax pmax
comp=Z,140nm,4.4s
KSH LR LR
comp=N,110nm,7.7s
KSH LR LR
comp=E,120nm,7.7s
KSH LR LR
comp=Z,100nm,6.3s
NRIK Noril'sk 94.37 340 LR LR 15 29 10.7
comp=Z,75nm,21.6s,baz=71,slow=35
PDAR Pinedale Array 96.41 48 P **P 14 47 59.1 +1.7**
0.6nm,0.7s,baz=215,slow=3.0,SNR=6.3
YKA Yellowknife Ar 96.61 28 P **P 14 47 56.6 -0.8**
1.0nm,0.6s,baz=258,slow=4.5,SNR=15
YKB5 Yellowknife Ar 96.61 28 *eP* **P 14 47 56.6 -0.8**
TXAR Lajitas Array 99.35 62 LR LR 15 24 45.9
comp=Z,16nm,21.6s,baz=0.0,slow=30
ARCES ARCESS Array B 114.93 344 PKP **PKiKP 14 53 06.7 -1.2**
0.6nm,0.3s,baz=83,slow=1.5,SNR=16

*DDA **27** 14:44:00.8, 39°.03N×34°.92E, h7km±5km, ML2.7*
*ISK **27** 14:44:00.5, 38°.98N×34°.99E, h1km, ML2.2/9*
*ISCJB **27** 14:44:01.5±0.7, 39°.00N±0°.03×34°.95E±0.03, h1km±5km, Error ellipse: s-maj=5.6km s-min=3.7km az=172.7*
ISC 27 14:44:01.2±1.2, 39°.01N±0°.03×34°.95E±0°.02, h4km±11km, n17, σ1§17/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVNS	**Nevsehir-Avano**	**0.21**	**202**	IAML_P			
	comp=Z,14μm,0.1s						
AVNS				*i* P	**Pg**	**14 44 05.3**	**-0.1**
AVNS				*i* S	Sg	14 44 17.0	+8.7
SIRC	**Yozgat**	**0.36**	**25**	IAML_P			
	comp=Z,3μm,0.1s						
SIRC				*i* P	**Pg**	**14 44 08.2**	**-0.1**
SIRC				*i* S	**Sb**	**14 44 14.8**	**-1.7**
GUNE	**Kayseri**	**0.53**	**101**	IAML_P			
	comp=Z,8μm,0.2s						
GUNE				*i* P	**Pb**	**14 44 12.7**	**-0.5**
GUNE				*i* S	**Sb**	**14 44 22.2**	**+0.8**
YOZ	**Yozgat**	**0.69**	**24**	PG	**Pb**	**14 44 15.2**	**-0.8**
YOZ				SG	**Sb**	**14 44 25.9**	**-0.2**
BNN	**Bunyan**	**0.71**	**102**	PG	**Pg**	**14 44 14.6**	**-0.3**
BNN				SG	**Sb**	**14 44 25.1**	**-1.4**
CDAG	**Cicekdag**	**0.76**	**324**	IAML_P			
	comp=Z,623nm,0.1s						
CDAG				*i* P	**Pg**	**14 44 15.7**	**-0.2**
CDAG				*i* S	**Sg**	**14 44 26.4**	**+0.6**
KIRS	**Kırehir-Merke**	**0.82**	**279**	IAML_P			
	comp=Z,384nm,0.1s						
KIRS				*i* P	**Pg**	**14 44 16.4**	**-0.5**
KIRS				*i* S	**Sb**	**14 44 28.2**	**-1.3**
YAYX	**Yaylak**	**0.89**	**266**	PG	**Pb**	**14 44 19.0**	**-0.4**
YAYX				SG	**Sn**	**14 44 32.9**	**-1.2**
SERE	**Sereflikochisa**	**1.08**	**267**	PN	**Pn**	**14 44 22.7**	**-0.6**
SERE				SN	**Sn**	**14 44 38.9**	**0.0**
CUSAR	**Sarkisla-SIVAS**	**1.08**	**67**	*i* P	**Pb**	**14 44 21.9**	**-0.7**
CUSAR				*i* S	**Sb**	**14 44 37.3**	**0.0**
CORM	**Corum**	**1.20**	**348**	PN	**Pn**	**14 44 25.4**	**+0.5**
CORM				SN	**Sn**	**14 44 42.9**	**+1.2**
COAL	**Corum-Alaca**	**1.25**	**1**	IAML_P			
	comp=Z,70nm,0.2s						
COAL				*i* P	**Pn**	**14 44 25.2**	**-0.3**
COAL				*i* S	**Sn**	**14 44 46.5**	**+3.6**
DELI	**KIRIKKALE**	**1.27**	**321**	IAML_P			
	comp=Z,196nm,0.2s						
DELI				*i* P	**Pg**	**14 44 24.3**	**-1.3**
DELI				*i* S	**Sb**	**14 44 42.5**	**-0.2**
SULT	**Sultanhani-AKS**	**1.38**	**235**	PN	**Pg**	**14 44 27.9**	**+0.1**
SULT				SN	**Sn**	**14 44 47.7**	**+1.5**
KULU	**Kulu**	**1.52**	**272**	PN	**Pb**	**14 44 29.4**	**-0.7**
KULU				SN	**Sg**	**14 44 51.9**	**+1.8**
AFSR	**Afar-Bala (An**	**1.53**	**287**	PN	**Pg**	**14 44 30.4**	**-0.1**
AFSR				SN	**Sg**	**14 44 52.1**	**+1.8**
SVSK	**Karacayir**	**1.83**	**59**	PN	**Pb**	**14 44 34.2**	**-1.0**

IDC 27 14:55:54.0±2.9, 14°.17N×122°.52E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/32, mbtmp3.8/3, Error ellipse: s-maj=261.9km s-min=26.3km az=63.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.84**	**161**	P	P	15 02 55.7	+0.1
	1.2nm,0.4s,baz=341,slow=12,SNR=20						
ASAR	**Alice Springs**	**39.22**	**163**	P	P	15 03 24.0	-0.3
	0.8nm,0.4s,baz=338,slow=7.2,SNR=36						
MKAR	**Makanchi Array**	**46.72**	**322**	P	P	15 04 24.8	-0.1
	0.5nm,0.6s,baz=126,slow=9.6,SNR=5.8						

*IDC **27** 15:19:15.8±1.9, 39°.52N×30°.17W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/32, mbtmp3.6/4, MS3.3/7, Ms1 3.3/7, ms1mx2.9/30, Error ellipse: s-maj=57.1km s-min=13.9km az=167.0*
*SVSA **27** 15:19:18.3±1.0, 39°.48N×29°.79W, h15km, ML3.5, Error ellipse: s-maj=8.1km s-min=2.4km az=26.0*
ISC 27 15:19:13.6±1.4, 39°.3N±0°.1×29°.84W±0°.06, h2km±11km, n24, σ1§68/29, mb3.5/4, MS3.2/7, 1D, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**1.07**	**276**	*eP*	**Pb**	**15 19 34.6**	**-0.1**
H07S1				*eS*	**Sg**	**15 19 46.8**	**-1.0**
H07S1	**FLORES T-PHASE**	**1.07**	**276**	Pn	**Pb**	**15 19 34.6**	**-0.1**
H07S1				Sn	**Sg**	**15 19 46.4**	**-1.4**
H07N1	**FLORES T-PHASE**	**1.07**	**293**	*eP*	**Pg**	**15 19 34.7**	**+0.5**
H07N1	**FLORES T-PHASE**	**1.07**	**293**	Pn	**Pg**	**15 19 34.2**	**+0.1**
H07N1				Sn	**Sg**	**15 19 46.2**	**-1.9**
PCED	**Cedros**	**1.10**	**126**	⇓*iP*	**Pn**	**15 19 36.3**	**+0.3**
PCED				*eS*	**Sg**	**15 19 49.3**	**+0.4**
PCED				A	A	15 19 51.9	
	403nm,0.3s						
CALA	**Caldeira**	**1.13**	**128**	*eP*	**Pn**	**15 19 36.4**	**-0.1**
HOR	**Horta**	**1.21**	**128**	*eP*	**Pg**	**15 19 37.8**	**+1.1**
HOR				*eS*	**Sb**	**15 19 52.3**	**-0.9**
HOR				A	A	15 19 55.4	
	564nm,0.2s						
PCAN	**Candelaria**	**1.33**	**127**	*eP*	**Pb**	**15 19 39.6**	**+0.3**
PCAN				*eS*	**Sb**	**15 19 55.7**	**-1.2**
PCAN				A	A	15 19 57.6	
	326nm,0.2s						
PICO	**Pico**	**1.35**	**125**	*eP*	**Pb**	**15 19 39.9**	**+0.3**
PICO				*eS*	**Sb**	**15 19 55.9**	**-1.5**
PICO				A	A	15 19 58.1	
	770nm,0.3s						
ROSA	**Rosais**	**1.36**	**114**	*eP*	**Pn**	**15 19 39.2**	**-0.5**
ROSA				*eS*	**Sb**	**15 19 55.1**	**-2.6**
ROSA				A	A	15 19 57.1	
	176nm,0.4s						
PGRA	**Graciosa**	**1.47**	**99**	*eP*	**Pn**	**15 19 39.9**	**-1.1**
PGRA				*eS*	**Sn**	**15 19 55.8**	**-5.0**
PGRA				A	A	15 19 56.4	
	292nm,0.3s						
PPNO	**Prainha do Nor**	**1.47**	**123**	*eP*	**Pn**	**15 19 41.3**	**+0.1**
PPNO				*eS*	**Sn**	**15 19 58.8**	**-2.2**
PPNO				A	A	15 20 03.2	
	237nm,0.2s						
PMAN	**Manadas**	**1.51**	**115**	*eP*	**Pn**	**15 19 41.7**	**+0.1**
PMAN				*eS*	**Sn**	**15 19 58.8**	**-3.1**
PMAN				A	A	15 20 00.9	
	269nm,0.3s						
PSMN	**Pico do Norte,**	**4.40**	**120**	*eP*	**Pn**	**15 20 21.7**	**+0.4**
SCHQ	**Schefferville**	**29.20**	**314**	LR	LR	15 35 02.9	
	comp=Z,36nm,18.0s,baz=270,slow=33						
TORD	**Torodi Ar. Bea**	**38.10**	**124**	LR	LR	15 41 30.1	
	comp=Z,24nm,19.0s,baz=320,slow=35						
DBIC	**Dimbokro**	**39.50**	**139**	LR	LR	15 41 07.4	
	comp=Z,36nm,20.9s,baz=283,slow=33						
FINES	**FINESS Array B**	**40.36**	**38**	P	**P**	**15 26 54.3**	**+2.0**
	1.3nm,0.8s,baz=228,slow=7.3,SNR=3.7						
ULM	**Lac du Bonnet**	**46.70**	**306**	LR	LR	15 46 17.1	
	comp=Z,51nm,18.3s,baz=56,slow=35						
PDAR	**Pinedale Array**	**58.09**	**301**	P	**P**	**15 29 08.4**	**-0.2**
	0.1nm,0.3s,baz=90,slow=3.6,SNR=2.6						
PDAR				LR	LR	15 53 44.1	
	comp=Z,29nm,18.4s,baz=70,slow=36						
TXAR	**Lajitas Array**	**60.26**	**285**	P	**P**	**15 29 25.1**	**+1.4**
	0.2nm,0.6s,baz=64,slow=8.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**71.50**	**35**	LR	LR	16 00 31.1	
	comp=Z,13nm,18.1s,baz=66,slow=35						
MKAR	**Makanchi Array**	**75.09**	**41**	P	**P**	**15 30 59.0**	**+2.1**
	1.0nm,0.9s,baz=316,slow=6.0,SNR=8.2						
BOSA	**Boshof**	**84.83**	**134**	LR	LR	16 05 52.1	
	comp=Z,31nm,21.7s,baz=262,slow=33						

SVSA 27 15:19:53.2±1.1, 39°.40N×29°.83W, h15km, MD3.5, ML3.1, Error ellipse: s-maj=25.0km s-min=8.6km az=51.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.17**	**131**	*eP*	Pn	15 20 10.4	-4.6
PCED				*eS*	Sb	15 20 23.4	-6.7
PCED				A	A	15 20 25.9	
	120nm,0.2s						
CALA	**Caldeira**	**1.20**	**133**	*eS*	Sb	15 20 24.2	-6.9
HOR	**Horta**	**1.28**	**133**	*eS*	Sb	15 20 26.4	-6.8
HOR				A	A	15 20 27.7	
	473nm,0.2s						
PCAN	**Candelaria**	**1.41**	**131**	*eP*	Pn	15 20 14.0	-4.3
PCAN				*eS*	Sn	15 20 30.0	-6.6
PCAN				A	A	15 20 31.9	
	171nm,0.2s						
ROSA	**Rosais**	**1.41**	**118**	*eP*	Pn	15 20 14.0	-4.4
ROSA				*eS*	Sn	15 20 29.3	-7.4
ROSA				A	A	15 20 32.2	
	50nm,0.3s						
PICO	**Pico**	**1.42**	**129**	*eP*	Pn	15 20 14.3	-4.2
PICO				*eS*	Sn	15 20 30.3	-6.6
PICO				A	A	15 20 32.6	
	227nm,0.2s						
PPNO	**Prainha do Nor**	**1.54**	**127**	*eS*	Sn	15 20 33.1	-6.7
PPNO				A	A	15 20 36.3	
	98nm,0.4s						

*IDC **27** 15:21:57.1±4.8, 8°.86N×82°.40W, h0km, mb3.9/2, mb1 4.3/3, mb1mx3.7/22, mbtmp4.0/3, ML4.4/1, MS2.0/1, Ms1 2.0/1, ms1mx1.9/20, Error ellipse: s-maj=118.8km s-min=60.5km az=9.0*
*ISCJB **27** 15:22:02.7±0.8, 9°.34N±0°.03×82°.67W±0°.03, h6km±5km, mb3.9/2, Error ellipse: s-maj=6.6km s-min=3.8km az=34.6*
*UCR **27** 15:22:04.5±2.5, 9°.27N×82°.74W, h11km±5km, MD4.3*
ISC 27 15:21:59.8±1.3, 9°.25N±0°.04×82°.54W±0°.03, h2km±10km, n26, σ1§57/37, 7C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBS2		**0.47**	**194**	*eP*	**Pn**	**15 22 12.9**	**-0.9**
TBS2				*eS*	**Sb**	**15 22 19.8**	**+1.3**
BRU2	**Volcan**	**0.48**	**198**	⇓*iP*	**Pn**	**15 22 14.0**	**+0.1**
BRU2				*eS*	**Sb**	**15 22 21.5**	**+2.8**
EDSV	**San Vito**	**0.60**	**225**	*eP*	**Pn**	**15 22 15.1**	**-0.5**
DRK0	**Durika**	**0.69**	**271**	*eP*	**Pg**	**15 22 14.0**	**+0.9**
DRK0				*eS*	**Sg**	**15 22 21.9**	**-0.2**
EDBA	**Buenos Aires**	**0.73**	**263**	⇓*iP*	**Pg**	**15 22 14.7**	**+0.9**
EDBA				*eS*	**Sg**	**15 22 24.2**	**+0.9**
DVD	**David**	**0.82**	**174**	*eP*	**Pn**	**15 22 20.8**	**+2.4**
DVD				*eS*	**Sn**	**15 22 33.3**	**+2.2**
EDPN	**Palmar Norte**	**0.95**	**252**	*eP*	**Pn**	**15 22 19.7**	**-0.5**
EDLM	**Las Mercedes**	**1.03**	**272**	*eP*	**Pg**	**15 22 18.9**	**-0.8**
EDLM				*eS*	**Sg**	**15 22 31.2**	**-1.8**
PTJ1	**Puerto Jimnez**	**1.03**	**227**	⇑*iP*	**Pn**	**15 22 21.8**	**+0.4**
PTJ1				*eS*	**Sn**	**15 22 34.6**	**-1.9**
EDDO	**Dominical**	**1.30**	**270**	⇓*iP*	**Pn**	**15 22 24.7**	**-0.4**
EDDO				*eS*	**Sg**	**15 22 41.0**	**-0.8**
SJS	**Escuela Geolog**	**1.64**	**295**	⇑*eP*	**Pn**	**15 22 30.9**	**+1.1**
HDC	**Heredia**	**1.72**	**296**	⇑*iP*	**Pn**	**15 22 30.7**	**-0.3**
HDC				*eS*	**Sn**	**15 22 51.4**	**-2.2**
SRA1	**San Ramn**	**2.08**	**294**	⇓*eP*	**Pn**	**15 22 36.3**	**+0.4**
CEDE	**Laguna Cedeo**	**2.46**	**300**	⇓*eP*	**Pn**	**15 22 42.1**	**+1.1**
ARE1	**Arenal 1**	**2.46**	**299**	⇑*eP*	**Pn**	**15 22 43.3**	**+2.3**
JTS	**Las Juntas de**	**2.59**	**294**	Pn	**Pn**	**15 22 44.2**	**+1.3**
	50nm,0.3s,baz=108,slow=21,SNR=120						
JTS				LR	LR	15 23 14.1	
	comp=Z,29nm,21.0s,baz=232,slow=27						
JTS				Sn	**Sn**	**15 23 17.0**	**+2.0**
	96nm,0.3s,baz=43,slow=22,SNR=43						
JTS	**Las Juntas de**	**2.59**	**294**	⇑*eP*	**Pn**	**15 22 44.1**	**+1.3**
ZANG	**Zanguenga, Cho**	**2.66**	**96**	⇓*iP*	**Pb**	**15 22 48.0**	**-0.3**
AZU	**Azuero**	**2.67**	**123**	*eP*	**Pg**	**15 22 50.8**	**-0.3**
AZU				*eS*	**Sg**	**15 23 24.9**	**-0.9**
BCIP	**Isla Barro Col**	**2.67**	**92**	⇑*iP*	**Pb**	**15 22 47.8**	**-0.7**
CUI	**Cuipilapa**	**2.93**	**299**	*eP*	**Pn**	**15 22 48.4**	**+0.7**
ESPN	**Las Esperanzas**	**3.40**	**330**	⇑*eP*	**Pn**	**15 22 53.9**	**-0.1**
ACON	**Acoyapa**	**3.74**	**316**	⇓*iP*	**Pn**	**15 23 01.9**	**+3.2**
YKA	**Yellowknife Ar**	**58.00**	**343**	P	**P**	**15 31 54.1**	**+0.2**
	1.4nm,0.8s,baz=136,slow=7.5,SNR=22						
ILAR	**Eielson Array**	**70.88**	**336**	P	**P**	**15 33 18.6**	**+0.4**
	0.7nm,0.7s,baz=117,slow=4.4,SNR=7.7						
ASAR	**Alice Springs**	**142.36**	**243**	PKP	**PKPdf**	**15 41 31.2**	**-4.0**
	0.4nm,0.9s,baz=116,slow=4.1,SNR=3.1						

WEL 27 15:30:09.7, 37°S±13°×18°0E±°, h137km±18km, ML3.8/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.51**	**232**	P	Pn	15 30 37.8	-0.6
PKGZ	**Pakihiroa**	**1.86**	**227**	P	Pn	15 30 43.1	+0.7
PKGZ				S	Sn	15 31 07.2	-0.4
PUZ	**Puketiti**	**1.89**	**220**	P	Pn	15 30 43.6	+0.8
PUZ				S	Sn	15 31 08.9	+0.7
HAZ	**Te Kaha**	**1.96**	**235**	P	Pn	15 30 45.0	+1.4
HAZ				S	Sn	15 31 10.4	+0.8
TWGZ	**Tauwhareparae**	**2.12**	**223**	P	Pn	15 30 47.0	+1.5
TWGZ				S	Sn	15 31 14.7	+1.7
RUGZ	**Raukumara Rang**	**2.15**	**231**	P	Pn	15 30 47.6	+1.5
CNGZ	**Carnagh Statio**	**2.24**	**214**	P	Pn	15 30 49.1	+2.1
TKGZ	**Te Karaka**	**2.38**	**220**	P	Pn	15 30 50.3	+1.6
TKGZ				S	Sn	15 31 20.3	+1.7
MWZ	**Matawai**	**2.48**	**226**	P	Pn	15 30 51.4	+1.4
RIGZ	**Rimuhau**	**2.63**	**217**	P	Pn	15 30 53.2	+1.4
RAGZ	**Rawiri**	**2.66**	**225**	P	Pn	15 30 54.2	+2.0
URZ	**Urewera**	**2.69**	**232**	P	Pn	15 30 53.8	+1.3
PRGZ	**Paritu Road**	**2.74**	**213**	P	Pn	15 30 54.9	+1.6
OPRZ	**Ohinepanea**	**2.86**	**244**	P	Pn	15 30 55.8	+1.1
SNGZ	**Shannon Statio**	**2.90**	**222**	P	Pn	15 30 56.6	+1.4
KNZ	**Kokohu**	**2.92**	**215**	P	Pn	15 30 56.6	+1.2
MHGZ	**Mahia Peninsul**	**2.93**	**210**	P	Pn	15 30 57.1	+1.5
MUGZ	**Murupara**	**3.03**	**232**	P	Pn	15 30 58.7	+1.8
RAHZ	**Arahi**	**3.13**	**223**	P	Pn	15 31 00.4	+2.1
MTHZ	**Maungataniwha**	**3.23**	**226**	P	Pn	15 31 02.5	+2.9
KUZ	**Kuaotunu**	**3.28**	**267**	P	Pn	15 31 00.1	-0.1
NMHZ	**Naumai**	**3.42**	**223**	P	Pn	15 31 04.0	+2.0
ARHZ	**Aropaoanui**	**3.44**	**219**	P	Pn	15 31 03.3	+1.1
MRHZ	**Matea Rd**	**3.47**	**230**	P	Pn	15 31 04.0	+1.3
TOZ	**Tahuroa Road**	**3.61**	**251**	P	Pn	15 31 05.5	+1.1
BKZ	**Black Stump Fm**	**3.64**	**225**	P	Pn	15 31 07.0	+2.1
MCHZ	**McNeill Hill**	**3.73**	**220**	P	Pn	15 31 07.7	+1.7
MKAZ	**Moumakai**	**3.75**	**261**	P	Pn	15 31 07.7	+1.3
ETAZ	**East Tamaki Re**	**3.93**	**264**	P	Pn	15 31 10.0	+1.4
BHHZ	**Black Hill Sta**	**4.10**	**225**	P	Pn	15 31 13.0	+2.0
PNHZ	**Pukenui**	**4.33**	**220**	P	Pn	15 31 15.0	+1.0
DVHZ	**Dannevirke**	**4.64**	**217**	P	Pn	15 31 17.7	-0.4
BFZ	**Birch Farm**	**4.91**	**213**	P	Pn	15 31 22.2	+0.6

*DDA **27** 16:11:32.8, 39°.94N×28°.72E, h6km±3km, ML2.5*
*ISK **27** 16:11:32.7, 39°.94N×28°.74E, h7km, ML2.1/11*
ISC 27 16:11:33.2±1.0, 39°.95N±0°.02×28°.73E±0°.03, h7km±8km, n23, σ0§76/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.16**	**54**	PG	**Pg**	**16 11 36.3**	**-0.3**
ORLT				SG	**Sg**	**16 11 39.5**	**+0.6**
ULDT	**Uludag**	**0.37**	**59**	IAML_P			
	comp=Z,1μm,0.1s						
ULDT				*i* P	**Pb**	**16 11 41.0**	**-1.2**
ULDT				*i* S	**Sg**	**16 11 46.3**	**+0.9**
DURS	**Dursunbey**	**0.40**	**209**	IAML_P			
	comp=Z,1μm,0.2s						
DURS				*i* P	**Pg**	**16 11 41.0**	**-0.1**
DURS				*i* S	**Sg**	**16 11 46.2**	**-0.1**
KCTX	**Karacabey (Bur**	**0.42**	**318**	PG	**Pg**	**16 11 41.4**	**-0.1**
KCTX				SG	**Sb**	**16 11 48.8**	**-0.8**
MDNY	**Mudanya-Bursa**	**0.43**	**16**	PG	**Pg**	**16 11 41.9**	**+0.2**
MDNY				SG	**Sg**	**16 11 48.5**	**+1.1**
ARMT	**Armutlu**	**0.62**	**10**	PG	**Pg**	**16 11 45.1**	**-0.2**
ARMT				SG	**Sb**	**16 11 54.8**	**-0.6**
BALB	**Balikesir**	**0.72**	**245**	PG	**Pb**	**16 11 47.6**	**-0.5**
TVSB	**Tavsanli**	**0.76**	**131**	PG	**Pg**	**16 11 47.3**	**-0.5**
CAVI	**Cavuskoy**	**0.89**	**73**	PG	**Pg**	**16 11 50.1**	**-0.3**
BUY	**Buyukada**	**0.95**	**18**	PG	**Pb**	**16 11 51.6**	**-0.4**
BUY	**Buyukada**	**0.95**	**18**	IAML_P			
	comp=Z,666nm,0.1s						
B

MANT				*i* P		**Pb**	**16 12 00.3**	**-0.6**
KHAL	**Karahalli**	**1.69**	**159**	IAML_P				
	comp=Z,98nm,0.1s							
KHAL				*i* P		**Pb**	**16 12 03.8**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**1.69**	**264**	IAML_P				
	comp=Z,232nm,0.2s							
BAYC				*i* P		**Pb**	**16 12 04.6**	**0.0**
BAYC				*i* S		**Sg**	**16 12 27.6**	**0.0**

KRSC 27 16:30:11.8±10.0, 53°71N×154°48E, h684km±10km, ML3.9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.79**	**115**	*e*P	P	16 31 33.5	+0.6
GNL	**Ganaly**	**2.06**	**89**	*e*P	P	16 31 35.0	+1.1
ASAK	**Asacha**	**2.45**	**121**	*e*P	P	16 31 36.7	+1.3
KOK	**Koryaka**	**2.52**	**98**	*e*P	P	16 31 37.2	+1.6
KRER	**Koryakskii**	**2.58**	**97**	*e*P	P	16 31 37.6	+1.6
AVH	**Avacha**	**2.58**	**98**	*e*P	P	16 31 37.8	+1.9
SMAR	**Somma**	**2.62**	**98**	*e*P	P	16 31 37.9	+1.7
DALK	**Dalny**	**2.65**	**103**	*e*P	P	16 31 37.3	+1.3
SDLR	**Sedlovina**	**2.66**	**98**	*e*P	P	16 31 37.5	+1.2
KDTR	**Khodutka, Kamc**	**2.90**	**130**	*e*P	P	16 31 37.1	-0.2
KDTR				*e*S	S	16 32 44.5	-2.5
ESO	**Esso**	**3.30**	**46**	*e*P	P	16 31 39.6	+0.5
SPN	**Mys Shipunski**	**3.37**	**98**	*e*P	P	16 31 40.7	+1.1
SPN				*e*S	S	16 32 50.6	-0.8
MKZ	**Mys Kozlova**	**4.34**	**76**	*e*P	P	16 31 46.2	+1.0
MKZ				*e*S	S	16 33 01.5	-0.3
KBTR	**Krutoberegovo**	**5.42**	**59**	*e*P	P	16 31 53.2	+0.6

*PDG **27** 16:35:12.2±0.2, 43°15N×18°95E, h2km±1km, MD2.5/4, ML2.5/14, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
*BEO **27** 16:35:12.8±0.2, 43°13N×19°03E, h5km±3km, ML2.3/11*
*SAR **27** 16:35:12.4±0.2, 43°17N×18°97E, h3km±2km, ML2.3/9*

ISC 27 16:35:11.8±0.8, 43°15N±0°01×18°97E±0°02, h6km±6km, n52, σ0°76/93, 10C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.07**	**315**	⇑*i*Pg	**Pg**	**16 35 13.6**	**-0.1**
UPM				*e*Sg	**Sg**	**16 35 15.0**	**0.0**
UPM	**Unac-Piva**	**0.07**	**315**	*e*Pg	**Pg**	**16 35 13.6**	**-0.1**
UPM				*e*Sg	**Sg**	**16 35 15.0**	**0.0**
NKY	**Niksic**	**0.34**	**178**	⇓*i*Pg	**Pg**	**16 35 18.9**	**+0.4**
NKY				*e*Sg	**Sg**	**16 35 24.0**	**+1.0**
PLE	**Pljevlja**	**0.35**	**60**	⇑*i*Pg	**Pg**	**16 35 19.3**	**+0.6**
PLE				*e*Sg	**Sg**	**16 35 24.6**	**+1.2**
NKME	**Niksic**	**0.39**	**182**	⇑*i*Pg	**Pg**	**16 35 19.4**	**+0.1**
NKME				*e*Sg	**Sb**	**16 35 25.6**	**-1.8**
BRY	**Bratogost**	**0.41**	**232**	⇓*i*Pg	**Pg**	**16 35 19.5**	**-0.2**
BRY				*e*Sg	**Sg**	**16 35 25.7**	**+0.7**
BRY	**Bratogost**	**0.41**	**232**	*e*Pg	**Pg**	**16 35 19.5**	**-0.2**
BRY				*e*Sg	**Sg**	**16 35 26.0**	**+1.0**
KOME	**Kolasin**	**0.50**	**127**	⇑*i*Pg	**Pg**	**16 35 21.8**	**+0.4**
KOME				*e*Sg	**Sb**	**16 35 29.6**	**-1.1**
CEME	**Cevo**	**0.61**	**184**	⇑*i*Pg	**Pg**	**16 35 23.0**	**-0.5**
CEME				*e*Sg	**Sb**	**16 35 33.2**	**-0.5**
TREB	**Trebinje**	**0.63**	**227**	*e*Pg	**Pg**	**16 35 23.9**	**-0.1**
TREB				*e*Sg	**Sb**	**16 35 33.8**	**-0.6**
TREB	**Trebinje**	**0.63**	**227**	*e*Pg	**Pg**	**16 35 23.4**	**-0.6**
TREB				*e*Sg	**Sg**	**16 35 33.3**	**+1.1**
IVA	**Berane**	**0.73**	**112**	⇓*i*Pg	**Pg**	**16 35 26.0**	**+0.1**
IVA				*e*Sg	**Sb**	**16 35 38.1**	**+0.8**
SJES	**Sjenica**	**0.74**	**81**	*e*Pg	**Pg**	**16 35 26.0**	**0.0**
SJES				*e*Sg	**Sg**	**16 35 34.8**	**-0.8**
PDG	**Podgorica**	**0.75**	**164**	*e*Pg	**Pg**	**16 35 25.6**	**-0.6**
PDG				*e*Sg	**Sg**	**16 35 35.3**	**-0.7**
PDG	**Podgorica**	**0.75**	**164**	⇓*i*P	**Pb**	**16 35 26.9**	**-0.4**
PDG				S	**Sb**	**16 35 37.7**	**-0.1**
PDG	**Podgorica**	**0.75**	**164**	*e*Pg	**Pg**	**16 35 25.7**	**-0.5**
PDG				*e*Sg	**Sb**	**16 35 37.4**	**-0.4**
TTG	**Podgorica**	**0.75**	**164**	⇓*i*Pg	**Pg**	**16 35 25.8**	**-0.5**
TTG				*e*Sg	**Sb**	**16 35 38.0**	**+0.2**
BBLS	**Lazići**	**0.78**	**24**	*e*Pg	**Pg**	**16 35 26.9**	**+0.1**
BBLS				*e*Sg	**Sb**	**16 35 38.5**	**-0.2**
BBLS	**Lazići**	**0.78**	**24**	*e*Pg	**Pg**	**16 35 26.6**	**-0.2**
BBLS				*e*Sg	**Sg**	**16 35 37.0**	**+0.1**
HCY	**Herceg Novi**	**0.79**	**207**	⇓*i*Pg	**Pg**	**16 35 26.4**	**-0.5**
HCY				*e*Sg	**Sb**	**16 35 38.9**	**0.0**
HCY	**Herceg Novi**	**0.79**	**207**	*e*Pg	**Pg**	**16 35 26.5**	**-0.5**
HCY				*e*Sg	**Sb**	**16 35 38.3**	**-0.6**
BUM	**Brajici-Budva**	**0.85**	**184**	⇓*i*Pg	**Pg**	**16 35 27.6**	**-0.6**
BUM				*e*Sg	**Sb**	**16 35 41.1**	**+0.3**
PVY	**Plav**	**0.91**	**127**	⇑*i*Pg	**Pg**	**16 35 29.2**	**-0.2**
PVY				*e*Sg	**Sn**	**16 35 43.7**	**-1.2**
HAPS	**Han Pijesak,Bl**	**0.93**	**359**	*e*Pg	**Pb**	**16 35 30.7**	**+0.2**
HAPS				*e*Sg	**Sg**	**16 35 42.9**	**+1.0**
HAPS	**Han Pijesak,Bl**	**0.93**	**359**	*e*Pg	**Pg**	**16 35 28.4**	**-1.3**
HAPS				*e*Sg	**Sg**	**16 35 41.1**	**-0.8**
IVAS	**Ivanjica**	**0.96**	**63**	*e*Pg	**Pg**	**16 35 29.7**	**-0.5**
IVAS				*e*Sg	**Sg**	**16 35 42.5**	**-0.2**
STON	**Ston**	**0.98**	**254**	*e*Pg	**Pg**	**16 35 31.0**	**+0.5**
STON				*e*Sg	**Sb**	**16 35 45.0**	**+0.8**
STON	**Ston**	**0.98**	**254**	*e*Pg	**Pg**	**16 35 29.7**	**-0.8**
STON				Sg	**Sg**	**16 35 43.0**	**-0.1**
STON	**Ston**	**0.98**	**254**	*e*Pg	**Pg**	**16 35 29.5**	**-1.0**
STON				*e*Sg	**Sg**	**16 35 43.8**	**+0.6**
DRME	**Dracevica, Mon**	**0.98**	**171**	⇓*i*Pg	**Pb**	**16 35 30.7**	**-0.4**
DRME				*e*Sg	**Sn**	**16 35 45.9**	**-0.4**
DRME	**Dracevica, Mon**	**0.98**	**171**	*e*Pg	**Pb**	**16 35 30.8**	**-0.4**
DRME				*e*Sg	**Sb**	**16 35 44.4**	**+0.1**
DIVS	**Divibare**	**1.20**	**38**	*e*Pg	**Pg**	**16 35 34.4**	**-0.4**
DIVS				*e*Sg	**Sb**	**16 35 50.9**	**0.0**
DIVS	**Divibare**	**1.20**	**38**	*e*Pg	**Pg**	**16 35 34.1**	**-0.7**
DIVS				*e*Sg	**Sg**	**16 35 49.8**	**-0.6**
ULC	**Ulcinj**	**1.21**	**170**	⇓*i*Pg	**Pg**	**16 35 34.4**	**-0.5**
ULC				*e*Sg	**Sn**	**16 35 53.3**	**+1.4**
TEKS	**Tekeris**	**1.45**	**16**	*e*Pg	**Pg**	**16 35 39.8**	**+0.1**
TEKS				*e*Sg	**Sg**	**16 35 58.8**	**+0.2**
TEKS	**Tekeris**	**1.45**	**16**	*e*Pn	**Pb**	**16 35 39.5**	**+0.2**
TEKS				*e*Sn	**Sg**	**16 35 58.7**	**+0.2**
GRUS	**Gruza**	**1.47**	**59**	*e*Pg	**Pb**	**16 35 39.5**	**0.0**
GRUS				*e*Sg	**Sn**	**16 35 59.0**	**+0.7**
TRUS	**Trudelj**	**1.49**	**44**	*e*Pg	**Pb**	**16 35 40.0**	**0.0**
TRUS				*e*Sg	**Sb**	**16 35 58.9**	**-0.3**
SELS	**Selova**	**1.57**	**87**	*e*Pg	**Pn**	**16 35 40.6**	**+0.3**
BLY	**Banja Luka**	**2.05**	**322**	*e*Pn	**Pb**	**16 35 48.9**	**-0.6**
BLY	**Banja Luka**	**2.05**	**322**	⇑*i*P	**Pb**	**16 35 51.2**	**0.0**
BLY	**Banja Luka**	**2.05**	**322**	S	**Sg**	**16 36 18.0**	**+0.2**
BLY	**Banja Luka**	**2.05**	**322**	*e*Pn	**Pn**	**16 35 47.3**	**+0.4**
BLY				*e*Sn	**Sn**	**16 36 14.0**	**+1.2**
FRGS	**Fruska Gora**	**2.09**	**16**	*e*Pn	**Pn**	**16 35 47.4**	**-0.1**
FRGS				*e*Sn	**Sn**	**16 36 14.6**	**+0.7**
MDVR	**Moldovita**	**2.56**	**50**	⇑*i*P	**Pb**	**16 35 57.0**	**-1.2**
MDVR	**Moldovita**	**2.56**	**50**	S	**Sb**	**16 36 30.1**	**+0.1**
MORH	**Mrgy, Hungar**	**3.07**	**356**	*e*Pn	**Pn**	**16 36 00.0**	**-0.8**
MORH				Sn	**Sn**	**16 36 38.0**	**+0.1**
BZS	**Buzias**	**3.11**	**37**	*e*Pn	**Pn**	**16 36 03.2**	**+1.8**
BZS	**Buzias**	**3.11**	**37**	⇑*i*P	**Pb**	**16 36 04.9**	**-2.6**
BZS	**Buzias**	**3.11**	**37**	S	**Sb**	**16 36 44.4**	**-1.2**
GZR	**Gura Zlata**	**3.53**	**49**	⇑*i*P	**Pn**	**16 36 09.8**	**+2.5**
GZR	**Gura Zlata**	**3.53**	**49**	S	**Sn**	**16 36 49.9**	**+0.5**

*ISCJB **27** 17:01:07.2±0.4, 67°04N±0°02×20°93E±0°08, h0km, Error ellipse: s-maj=4.6km s-min=3.4km az=178.2*
*UPP **27** 17:01:08.3±0.1, 67°07N×20°91E, h0km, ML2.0, Explosion*
*HEL **27** 17:01:09.1±0.1, 67°06N×20°94E, h0km, ML2.2, ML2.0(UPP), Explosion*
*IDC **27** 17:01:10.1±0.8, 66°99N×21°49E, h0km, mb1 3.2/5, mb1mx3.0/46, mbtmp3.2/5, ML2.0/5, Error ellipse: s-maj=15.2km s-min=7.4km az=102.0*

ISC 27 17:01:07.9±0.7, 67°03N±0°02×20°88E±0°03, h0km, n35, σ1°21/47, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.61**	**45**	P	**Pg**	**17 01 19.3**	**-0.4**
MASU				S	**Sg**	**17 01 26.5**	**-1.0**
MASU	**Masugnsbyn**	**0.61**	**45**	*i* P	**Pg**	**17 01 19.3**	**-0.4**
MASU				*i* S	**Sg**	**17 01 26.5**	**-1.0**
ERTU	**Ertsjaerv**	**0.70**	**132**	P	**Pb**	**17 01 21.8**	**-1.2**
ERTU	**Ertsjaerv**	**0.70**	**132**	*i* P	**Pb**	**17 01 21.8**	**-1.2**
HARU	**Harads**	**0.87**	**178**	P	**Pb**	**17 01 25.3**	**-0.5**
HARU	**Harads**	**0.87**	**178**	*e*P	**Pb**	**17 01 25.3**	**-0.5**
PAJU	**Pajala**	**0.88**	**89**	P	**Pg**	**17 01 24.2**	**-0.4**
PAJU	**Pajala**	**0.88**	**89**	*i* P	**Pg**	**17 01 24.2**	**-0.4**
RATU	**Laukkuluspa**	**0.94**	**329**	P	**Pg**	**17 01 25.2**	**-0.8**
RATU	**Laukkuluspa**	**0.94**	**329**	*e*P	**Pg**	**17 01 25.2**	**-0.8**
SALU	**Saltoluokta**	**0.99**	**292**	*e*P	**Pb**	**17 01 27.0**	**-1.0**
NIKU	**Nikkaluokta**	**1.11**	**321**	P	**Pg**	**17 01 28.5**	**-0.6**
NIKU	**Nikkaluokta**	**1.11**	**321**	*e*P	**Pg**	**17 01 28.5**	**-0.6**
LANU	**Lannavaara**	**1.11**	**22**	P	**Pg**	**17 01 28.7**	**-0.5**
LANU	**Lannavaara**	**1.11**	**22**	*e*P	**Pg**	**17 01 28.7**	**-0.5**
SJUU	**Sjulsmark**	**1.55**	**169**	P	**Pg**	**17 01 37.7**	**+0.1**
SJUU	**Sjulsmark**	**1.55**	**169**	*e*P	**Pg**	**17 01 37.7**	**+0.1**
HEF	**Hetta**	**1.75**	**36**	*e*P	**Pn**	**17 01 39.4**	**-0.1**
HEF	**Hetta**	**1.75**	**36**	*e*P	**Pn**	**17 01 38.7**	**-0.8**
	baz=223						
HEF				MSG		17 02 00.6	
	comp=Z,15nm,0.2s						
HEF				*e*SN	**Sg**	**17 02 03.4**	**-0.5**
LILU	**Lilltraesk**	**1.80**	**194**	P	**Pg**	**17 01 41.8**	**-0.5**
LILU	**Lilltraesk**	**1.80**	**194**	*e*P	**Pg**	**17 01 41.8**	**-0.5**
KIF	**Kilpisjarvi**	**1.99**	**359**	*e*PB	**Pb**	**17 01 43.9**	**-1.0**
	baz=177						
KIF				MSG		17 02 08.1	
	comp=Z,42nm,0.2s						
KIF				*e*SG	**Sg**	**17 02 11.1**	**-0.6**
RNF	**Rovaniemi**	**2.07**	**99**	*e*PB	**Pb**	**17 01 45.1**	**-1.2**
RNF				*e*SG	**Sg**	**17 02 14.2**	**-0.2**
SGF	**Sodankyl**	**2.23**	**77**	*e*PB	**Pb**	**17 01 47.3**	**-1.8**
	baz=260						
SGF				*e*SG	**Sb**	**17 02 17.4**	**+0.1**
OUL	**Oulu**	**2.83**	**131**	*e*PB	**Pb**	**17 01 57.9**	**-1.2**
ARE0	**ARCESS Array S**	**3.05**	**32**	*e*PG	**Pb**	**17 02 02.6**	**-0.4**
ARE0				*e*SG	**Sb**	**17 02 41.8**	**+1.1**
ARCES	**ARCESS Array B**	**3.05**	**32**	Pn	**Pn**	**17 01 57.1**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=210,slow=13,SNR=27						
ARCES				Sn	**Sn**	**17 02 35.9**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=213,slow=25,SNR=5.0						
OUF	**Merijarvi**	**3.11**	**147**	*e*PB	**Pb**	**17 02 01.6**	**-2.4**
OUF				MSG		17 02 37.6	
	comp=Z,3.2nm,0.2s						
OUF				*e*SB	**Sb**	**17 02 40.8**	**-1.6**
VRF	**Varrio**	**3.45**	**74**	*e*P	**Pn**	**17 02 05.2**	**+2.4**
	baz=257						
KEV	**Kevo**	**3.56**	**37**	*e*P	**Pn**	**17 02 05.7**	**+1.4**
	baz=222						
VAF	**Ylistaro**	**4.07**	**168**	*e*P	**Pn**	**17 02 14.7**	**+3.3**
FINES	**FINESS Array B**	**6.04**	**156**	Pn	**Pn**	**17 02 39.7**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=346,slow=13,SNR=5.4						
FINES				Sn	**Sn**	**17 03 47.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=343,slow=26,SNR=7.9						
FINES				Lg	Lg	17 04 16.8	
	comp=Z,0.1nm,0.3s,baz=344,slow=29,SNR=2.1						
NOA	**NORSAR Array B**	**7.35**	**220**	Pn	**Pn**	**17 02 57.4**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=40,slow=19,SNR=3.9						
NOA				Sn	**Sn**	**17 04 18.2**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=46,slow=25,SNR=2.5						
HFS	**Hagfors**	**7.62**	**208**	Pn	**Pn**	**17 03 01.9**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=20,slow=14,SNR=3.6						
HFS				Sn	**Sn**	**17 04 25.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=28,slow=28,SNR=3.9						
HFS				Lg	Lg	17 05 05.2	
	comp=Z,0.1nm,0.3s,baz=26,slow=32,SNR=3.4						
SPITS	**Spitsbergen Ar**	**11.29**	**355**	Pn	**Pn**	**17 03 52.0**	**+1.9**
	baz=166,slow=18,SNR=3.2						

*CRAAG **27** 17:04:17.4, 36°82N×5°18E, Ml3.3*
*ISCJB **27** 17:04:21.1±0.4, 36°99N±0°03×5°28E±0°03, h18km, Error ellipse: s-maj=4.5km s-min=3.4km az=42.1*
*MDD **27** 17:04:21.1±1.1, 36°74N×5°25E, h2km±14km, mb4.2/22, Error ellipse: s-maj=10.0km s-min=5.8km az=173.0, PRXIMO*
*LDG **27** 17:04:23.2±0.3, 36°85N×5°34E, h2km, Ml3.7/4, Error ellipse: s-maj=5.9km s-min=3.5km az=149.0*

ISC 27 17:04:20.3±0.9, 36°77N±0°05×5°31E±0°04, h18km, n65, σ2°20/98, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.51**	**116**	P	**Pg**	**17 04 31.1**	**+0.5**
DFRA	**Djebel Bou Aff**	**0.51**	**116**	P	**Pg**	**17 04 31.1**	**+0.5**
SET	**Setif**	**0.58**	**173**	P	**Pb**	**17 04 31.0**	**-0.9**
SET	**Setif**	**0.58**	**173**	P	**Pb**	**17 04 31.0**	**-0.9**
CKHR	**Kef el Ahmar**	**0.77**	**168**	P	**Pb**	**17 04 34.1**	**-1.2**
CKHR	**Kef el Ahmar**	**0.77**	**168**	P	**Pb**	**17 04 34.1**	**-1.2**
CASM	**Ain Smara**	**1.08**	**118**	P	**Pb**	**17 04 41.7**	**+1.2**
CASM	**Ain Smara**	**1.08**	**118**	P	**Pb**	**17 04 41.7**	**+1.2**
CKFL	**Kef-Lekhel**	**1.19**	**108**	P	**Pg**	**17 04 44.3**	**+0.9**
CKFL	**Kef-Lekhel**	**1.19**	**108**	P	**Pg**	**17 04 44.3**	**+0.9**
CAEH	**'Ain El Ouahch**	**1.24**	**89**	P	**Pb**	**17 04 44.1**	**+1.0**
CAEH	**'Ain El Ouahch**	**1.24**	**89**	P	**Pb**	**17 04 44.1**	**+1.0**
CMAH	**Djebel Manchou**	**1.70**	**94**	P	**Pn**	**17 04 50.0**	**+0.9**
CMAH	**Djebel Manchou**	**1.70**	**94**	P	**Pn**	**17 04 50.0**	**+0.9**
ABSA	**Djebel Ababsia**	**1.81**	**105**	P	**Pb**	**17 04 53.4**	**+0.4**
CABS	**Djebel Ababsia**	**1.81**	**105**	P	**Pb**	**17 04 53.4**	**+0.4**
ABA	**Alger-Bouzarea**	**1.83**	**272**	P	**Pn**	**17 04 50.0**	**-0.8**
ABA	**Alger-Bouzarea**	**1.83**	**272**	P	**Pn**	**17 04 50.0**	**-0.8**
MAHO	**Mahon**	**3.23**	**346**	P	**Pn**	**17 05 10.3**	**+0.3**
MAHO				S	**Sn**	**17 05 46.8**	**-1.2**
MAHO	**Mahon**	**3.23**	**346**	*e*P	**Pn**	**17 05 10.3**	**+0.3**
MAHO				*e*S	**Sn**	**17 05 46.8**	**-1.2**
ETOS	**Mallorca**	**3.58**	**327**	P	**Pn**	**17 05 16.1**	**+1.2**
	4.7nm,0.1s,SNR=26						
ETOS				S	**Sn**	**17 05 55.7**	**-1.0**
	8.0nm,0.4s,SNR=9.6						
EIBI	**Ibiza**	**3.86**	**307**	P	**Pn**	**17 05 20.5**	**+1.7**
	1.8nm,0.2s,SNR=14						
EIBI				S	**Sn**	**17 06 03.5**	**-0.2**
	16nm,0.3s						
EBEN2	**Beniarda presa**	**4.76**	**295**	P	**Pn**	**17 05 32.8**	**+1.7**
	2.5nm,0.1s,SNR=7.9						
AFON	**Font Roja**	**5.01**	**294**	P	**Pn**	**17 05 36.6**	**+2.0**
	2.1nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**5.33**	**284**	P	**Pn**	**17 05 40.5**	**+1.5**
	2.3nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.46**	**337**	P	**Pn**	**17 05 41.9**	**+1.1**
	2.4nm,0.2s,SNR=6.8						
CFON				S	**Sn**	**17 06 40.9**	**-2.2**
	4.1nm,0.5s						
EPOB	**Poblet**	**5.63**	**326**	P	**Pn**	**17 05 44.2**	**+1.0**
	2.5nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**17 06 45.0**	**-2.5**
	2.0nm,0.4s						
ECHE	**Chera**	**5.69**	**302**	P	**Pn**	**17 05 46.4**	**+2.5**
	1.9nm,0.3s,SNR=7.9						
ECHE				S	**Sn**	**17 06 47.3**	**-1.5**
	9.4nm,7.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.70**	**319**	P	**Pn**	**17 05 46.4**	**+2.2**
	3.1nm,0.4s,SNR=7.9						
ERTA				S	**Sn**	**17 06 47.6**	**-1.6**
	6.3nm,1.7s,SNR=7.9						
ETOB	**Tobarra**	**5.75**	**291**	P	**Pn**	**17 05 47.4**	**+2.6**
	3.1nm,0.2s,SNR=10						
ETOB				S	**Sn**	**17 06 49.4**	**-1.0**
	7.7nm,1.1s,SNR=12						
EMOS	**Mosqueruela**	**5.78**	**310**	P	**Pn**	**17 05 47.3**	**+2.0**
	1.9nm,0.3s,SNR=9.5						
EMOS				S	**Sn**	**17 06 49.7**	**-1.5**
	8.4nm,1.4s						
EMIR	**Miracle**	**5.91**	**331**	P	**Pn**	**17 05 49.2**	**+2.2**
	5.2nm,0.2s,SNR=9.1						
EMIR				S	**Sn**	**17 06 52.1**	**-2.2**
	21nm,1.0s						
EJON	**La Jonquera**	**5.97**	**342**	P	**Pn**	**17 05 50.3**	**+2.5**
	4.6nm,0.3s,SNR=7.9						
EJON				S	**Sn**	**17 06 53.8**	**-1.8**
	10nm,0.9s,SNR=4.2						
SJAF	**Saint Jean de**	**6.00**	**343**	P	**Pn**	**17 05 49.4**	**+1.2**
	2.4nm,0.3s,SNR=7.9						
SJAF				S	**Sn**	**17 06 54.8**	**-1.7**
	8.5nm,1.7s,SNR=7.9						
CLLI	**Llivia**	**6.25**	**337**	P	**Pn**	**17 05 54.1**	**+2.3**
	3.5nm,0.7s,SNR=5.6						
CLLI				S	**Sn**	**17 07 00.9**	**-1.9**
	11nm,1.2s						
PGF	**Pioggiola**	**6.43**	**25**	*e*Pn	**Pn**	**17 05 56.0**	**+1.8**
PGF				*e*Sn	**Sn**	**17 07 03.4**	**-3.7**
	14nm,0.2s						
PGF	**Pioggiola**	**6.43**	**25**	P	**Pn**	**17 05 56.0**	**+1.8**
PGF				S	**Sn**	**17 07 03.4**	**-3.7**
	6.9nm,0.2s						
CSOR	**Sort**	**6.46**	**331**	P	**Pn**	**17 05 57.0**	**+2.4**
	1.9nm,0.2s,SNR=13						
CSOR				S	**Sn**	**17 07 05.8**	**-2.0**
	8.0nm,1.0s						
EBER	**Berja**	**6.58**	**274**	P	**Pn**	**17 05 57.7**	**+1.4**
	1.8nm,0.2s,SNR=7.9						
LMR	**La Mourre**	**6.62**	**8**	*e*Pn	**Pn**	**17 05 57.4**	**+0.8**
LMR				*e*Sn	**Sn**	**17 07 07.7**	**-3.9**
	6.2nm,0.2s						
LMR	**La Mourre**	**6.62**	**8**	P	**Pn**	**17 05 57.4**	**+0.8**
LMR				S	**Sn**	**17 07 07.7**	**-3.9**
	3.1nm,0.2s						
EQES	**Quesada**	**6.76**	**281**	P	**Pn**	**17 06 01.1**	**+2.4**
	1.5nm,0.2s,SNR=7.9						
FRF	**La Foret Royal**	**6.86**	**8**	*e*Pn	**Pn**	**17 06 00.5**	**+0.6**
FRF				*e*Sn	**Sn**	**17 07 14.5**	**-3.0**
	6.3nm,0.2s						
FRF	**La Foret Royal**	**6.86**	**8**	P	**Pn**	**17 06 00.5**	**+0.6**
FRF				S	**Sn**	**17 07 14.5**	**-3.0**
	3.2nm,0.2s						
ELGU	**Los Guajares,**	**7.17**	**273**	P	**Pn**	**17 06 04.8**	**+0.5**
	2.5nm,0.3s,SNR=7.9						
SMRF	**Simiane la Rot**	**7.20**	**2**	*e*Sn	**Sn**	**17 07 24.7**	**-1.2**
SMRF	**Simiane la Rot**	**7.20**	**2**	S	**Sn**	**17 07 24.7**	**-1.2**
SBF	**Sospel**	**7.27**	**12**	*e*Pn	**Pn**	**17 06 07.1**	**+1.5**
SBF				*e*Sn	**Sn**	**17 07 23.5**	**-4.1**
SBF	**Sospel**	**7.27**	**12**	P	**Pn**	**17 06 07.1**	**+1.5**
SBF				S	**Sn**	**17 07 23.5**	**-4.1**
EPF	**Esparros**	**7.32**	**330**	*e*Pn	**Pn**	**17 06 08.9**	**+2.5**
EPF				*e*Sn	**Sn**	**17 07 27.3**	**-1.8**
	2.3nm,0.3s						
EPF	**Esparros**	**7.32**	**330**	P	**Pn**	**17 06 08.9**	**+2.5**
EPF				S	**Sn**	**17 07 27.3**	**-1.8**
	1.2nm,0.3s						
LASF	**Ste Croix**	**7.38**	**352**	*e*Pn	**Pn**	**17 06 08.3**	**+1.2**
LASF				*e*Sn	**Sn**	**17 07 26.7**	**-3.7**
LASF	**Ste Croix**	**7.38**	**352**	P	**Pn**	**17 06 08.3**	**+1.2**
LASF				S	**Sn**	**17 07 26.7**	**-3.7**
ETSF	**Etsaut**	**7.60**	**325**	*e*Pn	**Pn**	**17 06 14.5**	**+4.3**
ETSF				*e*Sn	**Sn**	**17 07 33.9**	**-2.0**
ETSF	**Etsaut**	**7.60**	**325**	P	**Pn**	**17 06 14.5**	**+4.3**
ETSF				S	**Sn**	**17 07 33.9**	**-2.0**
ATE	**Arette**	**7.81**	**326**	P	**Pn**	**17 06 15.2**	**+2.2**
	2.3nm,0.4s,SNR=7.9						
ATE				S	**Sn**	**17 07 37.9**	**-3.2**
	5.5nm,1.6s,SNR=7.9						
MBDF	**Montbardon**	**8.02**	**7**	*e*Sn	**Sn**	**17 07 43.5**	**-2.9**
MBDF	**Montbardon**	**8.02**	**7**	S	**Sn**	**17 07 43.5**	**-2.9**
VIVF	**Saint-Julien-l**	**8.09**	**357**	*e*Pn	**Pn**	**17 06 17.4**	**+0.5**
VIVF				*e*Sn	**Sn**	**17 07 43.2**	**-4.7**
VIVF	**Saint-Julien-l**	**8.09**	**357**	P	**Pn**	**17 06 17.4**	**+0.5**
VIVF				Sn	**Sn**	**17 07 43.2**	**-4.7**
PAB	**San Pablo**	**8.10**	**293**	P	**Pn**	**17 06 19.2**	**+2.2**
	1.9nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**8.29**	**323**	P	**Pn**	**17 06 21.9**	**+2.2**
	1.3nm,0.3s,SNR=7.9						
EALK				S	**Sn**	**17 07 49.5**	**-3.4**
	7.4nm,0.8s,SNR=6.5						
ECAB	**El Cabril**	**8.64**	**282**	P	**Pn**	**17 06 24.8**	**+0.4**
	0.7nm,0.4s,SNR=7.9						
LPL	**La Plagne**	**8.80**	**7**	*e*Pn	**Pn**	**17 06 29.7**	**+2.9**
LPL	**La Plagne**	**8.80**	**7**	P	**Pn**

ESO Esso 3.98 343 PN **Pn 17 14 28.3 +0.7**
KLY Klyuchi 4.18 359 *e*P **Pn 17 14 30.8 +0.5**
KLY Klyuchi 4.18 359 PN **Pn 17 14 30.8 +0.5**
SRDR Sredinnyy 4.22 352 *e*P **Pn 17 14 31.7 +0.6**
SRDR Sredinnyy 4.22 352 PN **Pn 17 14 31.7 +0.6**
KBTR Krutoberegovo 4.25 16 *e*P **Pn 17 14 30.6 -0.8**
KBTR Krutoberegovo 4.25 16 PN **Pn 17 14 30.6 -0.8**
KBG Krutoberegovo 4.28 15 *e*P **Pn 17 14 31.4 -0.3**
KBG Krutoberegovo 4.28 15 PN **Pn 17 14 31.4 -0.3**
BKI Bering 4.37 43 *e*P **Pn 17 14 31.8 -1.1**
BKI *e*S **Sn 17 15 17.7 -4.8**
BKI Bering 4.37 43 PN **Pn 17 14 31.8 -1.1**
BDR Baidarnaya 4.44 3 *e*P **Pn 17 14 34.5 +0.4**
BDR Baidarnaya 4.44 3 PN **Pn 17 14 34.5 +0.4**
SMKR Semkarok 4.47 5 *e*P **Pn 17 14 34.5 +0.1**
SMKR Semkarok 4.47 5 PN **Pn 17 14 34.5 +0.1**
SRKR Sorokina 4.53 3 *e*P **Pn 17 14 35.8 +0.6**
SRKR Sorokina 4.53 3 PN **Pn 17 14 35.8 +0.6**
SMY Shemya 8.19 81 *e*Pn **Pn 17 15 25.1 -0.2**
SMY Shemya 8.19 81 *e*PN **Pn 17 15 25.1 -0.2**
MA2 Magadan 9.31 327⇑*e*PN **Pn 17 15 39.8 -1.0**
MA2 Magadan 9.31 327 Pn **Pn 17 15 40.8 0.0**
comp=Z,0.4nm,0.3s,baz=135,slow=20,SNR=2.9
MA2 LR LR 17 19 45.2
comp=Z,105nm,19.6s,baz=138,slow=42
KUR Kuril'sk 10.96 236 *e*PN **Pn 17 16 04.3 +1.0**
KUR pmax pmax
comp=Z,21nm,0.6s
KUR MLR MLR
comp=Z,868nm,11.0s
KUR MLR MLR
comp=N,843nm,16.0s
KUR MLR MLR
comp=E,627nm,11.0s
TYV Tymovskoe 11.35 271 *e*PN **Pn 17 16 08.5 -0.1**
TYV pmax pmax
comp=Z,6.0nm,0.9s
TYV MLR MLR
comp=E,3μm,16.0s
TYV MLR MLR
comp=Z,1μm,16.0s
SEY Seymchan 11.70 341 Pn **Pn 17 16 15.3 +2.0**
comp=Z,0.1nm,0.3s,baz=163,slow=19,SNR=2.6
YSS Yuzh-Sakhalins 12.77 253 *e*PN **Pn 17 16 27.4 -0.7**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=Z,300nm,14.0s
YUK Yuzh-Kuril'sk 12.82 237 *e*PN **Pn 17 16 33.2 +4.5**
YUK MLR MLR
comp=Z,413nm,18.0s
KIWB Kanaga Island 13.62 82 *e*Pn **Pn 17 16 40.1 +0.5**
ASAJ Asahikawa 14.51 244 Pn **Pn 17 16 50.5 -1.3**
comp=Z,1.8nm,0.3s,baz=70,slow=14,SNR=20
ASAJ LR LR 17 23 18.3
comp=Z,162nm,18.8s,baz=148,slow=41
GRNR Gornyy 15.21 274 *e*P P 17 17 17.1 +11
GRNR pmax pmax
comp=Z,13nm,1.0s
ERM Erimo 15.65 237 *e*Pn **Pn 17 17 02.8 -4.0**
comp=Z,82nm,1.6s
ERM Erimo 15.65 237⇑*e*P **Pn 17 17 02.4 -4.4**
BILL Biiibino 16.17 7 *e*Pn **Pn 17 17 13.3 0.0**
comp=Z,20nm,0.7s
BILL Biiibino 16.17 7 *de*P **Pn 17 17 12.9 -0.5**
BILL pmax pmax
comp=Z,36nm,1.3s
BILL MLR MLR
comp=Z,319nm,17.0s
KLR Kul'dur 18.54 272||*e*P **P 17 17 42.3 -0.2**
KLR Kul'dur 18.54 272 P **P 17 17 41.3 -1.2**
comp=Z,0.5nm,0.3s,baz=54,slow=12,SNR=17
KLR LR LR 17 25 43.7
comp=Z,236nm,18.5s,baz=74,slow=40
YAK Yakutsk 19.37 313 *e*P **P 17 17 48.8 -2.6**
YAK pmax pmax
comp=Z,504nm,1.0s
YAK pmax pmax
comp=N,116nm,1.3s
YAK pmax pmax
comp=E,204nm,1.2s
YAK pmax pmax
comp=Z,357nm,0.9s
YAK pmax pmax
comp=N,77nm,1.2s
YAK pmax pmax
comp=E,81nm,1.0s
ZEA Zeya 20.14 288 *e*P **P 17 17 58.2 -1.8**
ZEA pmax pmax
comp=Z,13nm,0.8s
ZEA MLR MLR
comp=Z,900nm,15.0s
ZEA MLR MLR
comp=E,500nm,17.0s
USA0B Ussuriysk Arra 20.65 259 *e*P **P 17 18 03.9 -1.7**
comp=E,11nm,0.9s
USRK Ussuriysk Ar. 20.65 259 P **P 17 18 03.0 -2.5**
comp=E,12nm,0.9s,baz=53,slow=10,SNR=13
USRK LR LR 17 27 13.1
comp=E,213nm,18.1s,baz=62,slow=40
ANM Nome 21.37 41 *e*P **P 17 18 11.0 -2.0**
comp=E,6.8nm,0.8s
ANM Nome 21.37 41 *e*P **P 17 18 11.0 -2.0**
ANM pmax pmax
comp=Z,7.0nm,0.8s
MDJ Mudanjiang 21.89 262 *e*P **P 17 18 16.4 -2.3**
comp=Z,8.7nm,0.7s
MSHR Mys Shultsa 22.07 256||*e*P **P 17 18 19.0 -1.7**
MJB9 Matsu-Tunnel 22.29 234 *e*P **P 17 18 23.3 +0.1**
comp=Z,19nm,0.6s
MAJO Matsushiro 22.29 234 *e*P **P 17 18 23.1 -0.1**
comp=Z,19nm,0.6s
MAJO Matsushiro 22.29 234 *ce*P **P 17 18 22.9 -0.3**
MAJO pmax pmax
comp=Z,12nm,0.6s
MAT Matsushiro 22.29 234 P **P 17 18 23.4 +0.2**
MAT S Sn 17 22 35.4 -3.8
MJAR Matsushiro Arr 22.29 234 P **P 17 18 23.8 +0.6**
comp=Z,8.8nm,0.8s,baz=26,slow=8.4,SNR=33
MJAR LR LR 17 27 54.2
comp=Z,194nm,20.6s,baz=50,slow=39
RDOG Red Dog Mine 23.60 34 *e*P **P 17 18 36.5 +0.2**
comp=Z,7.2nm,0.7s
TIXI Tiksi 24.11 336 *d i*P **P 17 18 39.8 -1.2**
TIXI pmax pmax
comp=Z,18nm,1.0s
TIXI Tiksi 24.11 336 P **P 17 18 39.0 -2.0**
comp=Z,16nm,0.6s,baz=123,slow=9.5,SNR=78
TIXI PcP **PcP 17 22 21.7 +0.6**
comp=Z,1.5nm,0.6s,baz=136,slow=4.9,SNR=4.2
HIA Hailar 25.88 280 *e*P **P 17 18 54.1 -3.2**
comp=Z,23nm,0.9s
HIA Hailar 25.88 280 *e*P **P 17 18 54.1 -3.2**
HIA pmax pmax
comp=Z,23nm,0.9s
BOD Bodaibo 26.96 301 *e*P **P 17 19 03.9 -3.1**
BOD pmax pmax
comp=Z,9.0nm,1.2s
KSRS Korea Array 27.25 250 P **P 17 19 09.9 +0.2**
comp=Z,1.9nm,0.8s,baz=42,slow=9.4,SNR=5.6
KSRS LR LR 17 30 11.8
comp=Z,76nm,18.2s,baz=54,slow=37
BPAW Bear Paw Mtn. 27.42 45 *e*P **P 17 19 12.0 +1.0**
comp=Z,22nm,2.0s
KNK Knik Glacier 28.62 51 *e*P **P 17 19 22.5 +0.7**
comp=Z,18nm,1.5s
SML Sawmill 28.65 50 *e*P **P 17 19 23.1 +1.0**
comp=Z,8.5nm,0.6s
SML Sawmill 28.65 50 *e*P **P 17 19 23.1 +1.0**
SML pmax pmax
comp=Z,9.0nm,0.6s
JNU Nakatsue 28.74 240 P **P 17 19 25.2 +2.1**
comp=Z,13nm,1.0s,baz=54,slow=8.7,SNR=2.4
JNU LR LR 17 32 55.7
comp=Z,101nm,19.5s,baz=6.5,slow=41
DHY Denali Highway 29.03 48 *e*P **P 17 19 26.3 +0.8**
comp=Z,4.2nm,1.1s
SCM Sheep Creek Mo 29.13 50 *e*P **P 17 19 27.2 +0.9**
comp=Z,13nm,1.2s
SCM Sheep Creek Mo 29.13 50 *e*P **P 17 19 27.2 +0.9**
SCM pmax pmax
comp=Z,13nm,1.2s
HDA Harding Lake 29.19 45 *e*P **P 17 19 26.8 0.0**
comp=Z,10nm,1.6s
ILAR Eielson Array 29.21 44 P **P 17 19 26.1 -0.9**
comp=Z,0.5nm,0.7s,baz=256,slow=6.1,SNR=7.6
PRP Porcupine Dome 29.80 43 *e*P **P 17 19 32.6 +0.3**
comp=Z,11nm,1.6s
EGAK Eagle 31.67 44 *e*P **P 17 19 48.7 +0.1**
comp=Z,9.0nm,1.5s
H11N2 WAKE ISLAND Hy 32.70 169 T T 17 56 01.1
baz=352,slow=76,SNR=12
H11N3 WAKE ISLAND Hy 32.72 169 T T 17 56 01.7
baz=352,slow=76,SNR=15
H11N1 WAKE ISLAND Hy 32.72 169 T T 17 56 00.2
baz=352,slow=76,SNR=16
H11S1 WAKE ISLAND Hy 33.89 170 T T 17 57 30.0
baz=352
H11S3 WAKE ISLAND Hy 33.90 170 T T 17 57 32.8
baz=352
H11S2 WAKE ISLAND Hy 33.91 170 T T 17 57 32.8
baz=352
INK Inuvik 34.39 37 *e*P **P 17 20 13.0 +0.7**
comp=Z,2.6nm,0.9s
INK Inuvik 34.39 37 P **P 17 20 12.9 +0.7**
comp=Z,1.0nm,0.5s,baz=287,slow=8.2,SNR=4.3
ZAK Zakamensk 35.19 291 *e*P **P 17 20 16.0 -3.6**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
WHY Whitehorse 35.25 50 *e*P **P 17 20 21.0 +1.1**
comp=Z,13nm,1.8s
SKAG Skagway 35.37 52 *e*P **P 17 20 23.2 +2.4**
comp=Z,3.9nm,0.6s
BESE Bessie Mountai 35.87 54 *e*P **P 17 20 26.7 +1.4**
comp=Z,4.9nm,1.2s
NJ2 Nanjing 36.34 253 *e*P **P 17 20 32.0 +2.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NRIK Noril'sk 36.91 326 P **P 17 20 32.5 -1.4**
comp=Z,1.6nm,0.5s,baz=104,slow=10,SNR=5.0
NRIK LR LR 17 36 43.2
comp=Z,85nm,19.7s,baz=52,slow=38
DLBC Dease Lake 38.30 53 *e*P **P 17 20 48.3 +2.4**
comp=Z,2.8nm,0.7s
WHN Wuhan 40.10 256 P **P 17 21 02.5 +1.4**
YKW3 Yellowknife Ar 43.56 42 *e*P **P 17 21 29.8 +0.8**
comp=Z,1.7nm,0.7s
YKA Yellowknife Ar 43.60 42 P **P 17 21 30.0 +0.7**
YKA Yellowknife Ar 43.60 42 P **P 17 21 30.0 +0.7**
comp=Z,1.0nm,0.8s,baz=297,slow=8.1,SNR=7.6
ZALV Zalesovo Beam 43.63 304 P **P 17 21 26.9 -2.7**
comp=Z,0.6nm,0.4s,baz=42,slow=6.8,SNR=4.7
ZALV PcP **PcP 17 23 16.6 +0.2**
comp=Z,0.7nm,0.4s,baz=72,slow=4.7,SNR=3.4
ZALV LR LR 17 41 06.1
comp=Z,65nm,18.6s,baz=56,slow=38
NVS Novosibirsk 43.98 306||*i*P **P 17 21 31.0 -1.5**
NVS pmax pmax
comp=Z,22nm,1.3s
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=E,16nm,1.1s
RES Resolute Bay 44.06 22 P **P 17 21 34.0 +1.2**
comp=E,1.8nm,0.7s,baz=275,slow=9.3,SNR=6.9
DGZ Jazzator, Alta 44.45 297 *d i*P **P 17 21 35.8 -0.7**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
CD2 Chengdu 46.28 266 *e*P **P 17 21 50.0 -1.1**
SPA0 Spitsbergen Ar 48.14 351 *e*P **P 17 22 05.3 +0.4**
comp=Z,56nm,1.3s
SPA0 Spitsbergen Ar 48.14 351 *e*P **P 17 22 04.8 -0.2**
KURK Kurchatov 48.58 303 *e*P **P 17 22 06.6 -2.0**
comp=Z,16nm,0.9s
KURK Kurchatov 48.58 303 *c i*P **P 17 22 06.5 -2.1**
KURK pmax pmax
comp=Z,25nm,1.3s
MK31 Makanchi Array 48.93 297 *e*P **P 17 22 10.2 -1.3**
comp=Z,2.2nm,0.6s
MK31 Makanchi Array 48.93 297 *i* P **P 17 22 09.4 -2.0**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 48.93 297 P **P 17 22 09.2 -2.3**
comp=Z,2.2nm,0.5s,baz=58,slow=7.5,SNR=37
MKAR LR LR 17 44 14.3
comp=Z,103nm,19.2s,baz=43,slow=38
MAKZ Makanchi 49.09 297 *e*P **P 17 22 10.4 -2.3**
comp=Z,3.3nm,0.8s
MAKZ Makanchi 49.09 297 P **P 17 22 09.3 -3.4**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
KMI Kunming 51.06 261 P **P 17 22 32.5 +4.4**
KMI pmax pmax
comp=Z,26nm,0.5s
BRVK Borovoye 51.32 309 *e*P **P 17 22 27.3 -2.1**
comp=Z,11nm,0.7s
BRVK Borovoye 51.32 309 *d i*P **P 17 22 28.4 -1.0**
BRVK pmax pmax
comp=Z,11nm,0.9s
WVOR Wild Horse Val 52.86 66 *e*P **P 17 22 39.4 -1.7**
comp=Z,5.4nm,0.8s
WVOR Wild Horse Val 52.86 66 *e*P **P 17 22 39.4 -1.7**
WVOR pmax pmax
comp=Z,5.0nm,0.8s
SLVN Son La 53.19 257 *e*P **P 17 22 44.8 +1.0**
comp=Z,7.7nm,0.8s
OTUK Ortayu 53.33 304 P **P 17 22 42.1 -2.3**
OTUK pmax pmax
comp=Z,8.0nm,0.8s
LVZ Lovozero 53.73 338 *de*P **P 17 22 46.9 -0.2**
LVZ pmax pmax
comp=Z,29nm,2.5s
ARCES ARCESS Array B 54.31 342 P **P 17 22 50.8 -0.5**
comp=Z,8.1nm,0.8s,baz=42,slow=9.2,SNR=14
ARCES LR LR 17 49 14.4
comp=Z,46nm,18.6s,baz=47,slow=40
ARE0 ARCESS Array S 54.31 342 *e*P **P 17 22 51.1 -0.1**
ARU Arti 54.37 318 *e*P **P 17 22 50.8 -1.0**
comp=Z,9.9nm,0.6s
ARU Arti 54.37 318 *d i*P **P 17 22 50.8 -1.0**
ARU S **S 17 30 29.3 +2.3**
ARU SS **SS 17 34 14.5 +5.8**
ARU pmax pmax
comp=Z,10.0nm,0.8s
KDJ Kajisay 54.71 295 *ep*P pP 17 23 05.5 +0.8
SUMG Summit 54.86 7 *e*P **P 17 22 56.2 +0.6**
comp=Z,16nm,0.9s
SUMG Summit 54.86 7 *e*P **P 17 22 56.2 +0.6**
SUMG pmax pmax
comp=Z,16nm,0.9s
LSA Lhasa 54.89 275 *e*P **P 17 22 56.8 +0.2**
comp=Z,3.9nm,0.6s
LSA Lhasa 54.89 275 *e*P **P 17 22 56.8 +0.2**
LSA pmax pmax
comp=Z,4.0nm,0.6s
BOOM Boomskoye usch 55.16 296 *e*P **P 17 22 57.5 -0.5**
comp=Z,5.0nm,1.2s
BOOM Boomskoye usch 55.16 296 *e*P **P 17 22 57.5 -0.5**
BOOM pmax pmax
comp=Z,5.0nm,1.2s
KTK1 Kautokeino 55.18 343 *e*P **P 17 22 57.5 0.0**
TRO Tromso 55.38 345 *e*P **P 17 22 58.9 -0.1**
KVN Kaiserville 55.40 69 *e*P **P 17 23 01.6 +1.8**
comp=Z,7.8nm,1.4s
KVN Kaiserville 55.40 69 *e*P **P 17 23 01.6 +1.8**
KVN pmax pmax
comp=Z,8.0nm,1.4s
PRGR Permogore 55.46 328 *e*P **P 17 22 56.4 -3.2**
PRGR *e* 17 24 59.0
PRGR pmax pmax
comp=Z,14nm,0.4s
NVAR Mina Array Bea 55.70 70 P **P 17 23 04.2 +2.2**
comp=Z,0.8nm,0.6s,baz=298,slow=7.3,SNR=7.2
TMCR Tamitsa 55.80 334 *e*P **P 17 23 01.9 -0.1**
AAK Ala-Archa 55.86 297 *e*P **P 17 23 02.1 -0.9**
AAK *ep*P **pwP 17 23 16.1 -1.6**
AAK Ala-Archa 55.86 297 *d i*P **P 17 23 02.0 -1.0**
AAK pmax pmax
comp=Z,4.0nm,1.3s
SKNT Sakolnakorn 56.51 254 P **P 17 23 09.7 +2.0**
comp=Z,12nm,0.8s
PAYA Payao 57.13 259 P **P 17 23 13.9 +1.8**
comp=Z,36μm,0.7s,comp=Z,270μm
KSH Kashi 57.14 294 P **P 17 23 14.0 +1.9**
KSH PP **PP 17 25 23.8 +4.9**
KSH S **S 17 30 59.8 -4.9**
KSH pmax pmax
comp=Z,7.0nm,0.3s
KSH pmax pmax
comp=Z,44nm,3.7s
KSH LR LR
comp=Z,47nm,6.1s
KSH LR LR
comp=Z,45nm,7.5s
KSH LR LR
comp=Z,440nm,7.4s
SHL Shillong 57.40 271 *e*P **P 17 23 13.5 -0.7**
comp=Z,7.8nm,1.0s
SHL Shillong 57.40 271 *e*P **P 17 23 13.5 -0.7**
SHL pmax pmax
comp=Z,8.0nm,1.0s
STEI Steigen 57.51 345 *e*P **P 17 23 14.1 +0.1**
PHRA Phrae 57.57 258 P **P 17 23 17.0 +1.8**
comp=Z,2.7nm,1.0s
LOF Lofoten 57.58 346 *e*P **P 17 23 14.6 0.0**
BW06 Boulder Array 57.64 61 *e*P **P 17 23 17.5 +1.8**
comp=Z,3.2nm,1.0s
PD31 Pinedale Array 57.64 61 *e*P **P 17 23 15.9 +0.2**
comp=Z,3.1nm,1.0s
PDAR Pinedale Array 57.64 61 P **P 17 23 17.6 +1.8**
comp=Z,1.5nm,0.7s,baz=296,slow=3.3,SNR=13
KK31 Karatay Array 57.70 300 *e*P **P 17 23 14.4 -1.5**
comp=Z,3.5nm,0.8s
KK31 Karatay Array 57.70 300 *e*P **P 17 23 14.4 -1.5**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 57.70 300 *e*P **P 17 23 14.4 -1.5**
comp=Z,3.5nm,0.8s
KKAR Karatay Array 57.70 300 *e*P **P 17 23 14.4 -1.5**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
LAMP Lampang 57.91 259 P **P 17 23 19.4 +1.8**
comp=Z,28μm,0.8s
UTTA Uttaradit 57.96 257 P **P 17 23 19.7 +1.8**
comp=Z,25μm,0.8s,comp=Z,180μm
KLMR Klimovskoe 57.97 330⇑*i*P **P 17 23 17.6 +0.1**
KLMR pmax pmax
comp=Z,16nm,0.6s
CMMT Chiang Mai 58.11 259 P **P 17 23 20.2 +1.2**
comp=Z,10nm,0.8s
CHTO Chiang Mai 58.11 259 *e*P **P 17 23 19.8 +0.8**
comp=Z,14nm,0.8s
CHTO Chiang Mai 58.11 259 *e*P **P 17 23 19.8 +0.8**
CHTO pmax pmax
comp=Z,14nm,0.8s
CM31 Chiang Mai Arr 58.38 259 *e*P **P 17 23 22.4 +1.4**
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 58.38 259 P **P 17 23 22.2 +1.3**
comp=Z,8.1nm,0.7s,baz=27,slow=7.0,SNR=56
CMAR LR LR 17 51 26.6
comp=Z,56nm,19.3s,baz=21,slow=39
AB31 Akbulak array 58.71 311 *i* P **P 17 23 21.2 -1.6**
AB31 pmax pmax
comp=Z,5.0nm,0.9s
ABKAR Akbulak array 58.71 311 *e*P **P 17 23 21.4 -1.4**
comp=Z,5.7nm,0.9s
ODAN Odare 59.23 275 *e*P **P 17 23 25.8 -1.2**
comp=Z,11nm,0.6s
MOR8 Moi Rana 59.25 345 *e*P **P 17 23 25.1 -1.2**
JIRN Jiri 59.38 277 *e*P **P 17 23 27.7 -0.5**
comp=Z,14nm,0.5s
RSSD Black Hills 59.60 56 *e*P **P 17 23 30.5 +1.1**
comp=Z,4.7nm,0.6s
RSSD Black Hills 59.60 56 *e*P **P 17 23 30.5 +1.1**
RSSD pmax pmax
comp=Z,5.0nm,0.6s
BTK Batken 59.64 297 *e*P **P 17 23 28.4 -1.1**
comp=Z,7.5nm,0.7s
BTK Batken 59.64 297 *e*P **P 17 23 28.4 -1.1**
BTK pmax pmax
comp=Z,8.0nm,0.7s
SRU San Rafael Swe 59.64 64 *e*P **P 17 23 31.6 +2.0**
comp=Z,3.3nm,0.8s
SRU San Rafael Swe 59.64 64 *e*P **P 17 23 31.7 +2.0**
SRU pmax pmax
comp=Z,3.0nm,0.8s
RAMN Ramite 59.65 276 *e*P **P 17 23 28.3 -1.6**
comp=Z,58nm,0.6s
KKN Kakani 59.85 277 *e*P **P 17 23 30.9 -0.4**
comp=Z,32nm,0.5s
PKI Pulchoki 59.93 277 *e*P **P 17 23 31.5 -0.4**
comp=Z,11nm,0.5s
PKIN Phulchoki 59.93 277 *e*P **P 17 23 31.4 -0.5**
comp=Z,15nm,0.7s
DMN Daman 60.09 277 *e*P **P 17 23 32.8 -0.1**
comp=Z,23nm,0.5s
UMPA Umpang Tak 60.17 258 P **P 17 23 37.4 +4.1**
comp=Z,30μm,1.0s
DANN Dangsing 60.37 279 *e*P **P 17 23 34.6 -0.3**
comp=Z,27nm,0.5s
GAR Garm 60.66 297 *e*P **P 17 23 35.4 -1.1**
comp=Z,14nm,0.7s
GAR Garm 60.66 297 *e*P **P 17 23 35.4 -1.1**
GAR pmax pmax
comp=Z,14nm,0.7s
KOLN Koldanda 60.89 279 *e*P **P 17 23 37.8 -0.5**
comp=Z,18nm,0.5s
PYUN Piuthan 61.02 279 *e*P **P 17 23 38.6 -0.6**
comp=Z,16nm,0.6s
FIA1 FINESS Array S 61.15 337 *e*P **P 17 23 39.5 +0.2**
comp=Z,17nm,0.7s
FINES FINESS Array B 61.15 337 P **P 17 23 39.9 +0.5**
comp=Z,13nm,0.6s,baz=30,slow=8.2,SNR=70
FINES LR LR 17 54 18.1
comp=Z,49nm,18.7s,baz=13,slow=40
NSS Namsos 61.17 345 *e*P **P 17 23 39.6 +0.2**
PV13 Radium Mtn., P 61.26 64 *e*P **P 17 23 42.5 +1.7**
comp=Z,4.1nm,0.8s
CHGR Chuyangaron 61.54 297 *e*P **P 17 23 43.6 +1.1**
comp=Z,10nm,0.7s
X16A Lo Mia Camp, P 62.45 69 *e*P **P 17 23 49.1 +0.4**
comp=Z,2.2nm,0.8s
MOS Moscow 62.67 328 *e*P **P 17 23 47.9 -1.7**
NIL Nilore 62.81 290 *e*P **P 17 23 50.9 -0.1**
comp=Z,12nm,0.8s
NIL Nilore 62.81 290 *e*P **P 17 23 50.9 -0.1**
NIL pmax pmax
comp=Z,12nm,0.8s
OBN Obninsk 63.53 328 *e*P **P 17 23 53.9 -1.4**
OBN *e* 17 24 31.5
OBN *e* 17 26 13.3
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN MLR MLR
comp=Z,105nm,16.0s
VSU Vasula 63.58 335 *de*P **P 17 23 56.5 +0.9**
VSU pmax pmax
comp=Z,40nm,1.3s
DOMB Dombas 63.96 346 *e*P **P 17 23 58.5 +0.4**
AKN Aaknes 64.14 347 *e*P **P 17 23 59.8 +0.5**
NC303 NORSAR Array S 64.36 344 *e*P **P 17 24 00.6 -0.2**
comp=Z,68nm,1.8s
NC405 NORSAR Array S 64.41 344 *e*P **P 17 24 01.2 +0.1**
comp=Z,20nm,1.0s
NC204 NORSAR Array S 64.42 344 *e*P **P 17 24 01.7 +0.5**
comp=Z,94nm,1.9s
NB201 NORSAR Array S 64.54 344 *e*P **P 17 24 02.2 +0.3**
comp=Z,68nm,1.8s
NB2 NORSAR Subarra 64.56 344 P **P 17 24 01.9 -0.2**
comp=Z,2.7nm,0.6s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.56 344 P **P 17 24 01.9 -0.2**
baz=22,slow=6.9
NOA NORSAR Array B 64.56 344 P **P 17 24 02.3 +0.2**
comp=Z,4.0nm,0.7s,baz=21,slow=6.7,SNR=24
NOA LR LR 17 54 05.2
comp=Z,49nm,20.7s,baz=15,slow=38
LPSR Galich'ya Gora 64.79 325 *e*P **P 17 24 03.2 -0.4**
LPSR pmax pmax
comp=Z,20nm,0.7s
NC602 NORSAR Array S 64.80 344 *e*P **P 17 24 03.7 +0.1**
ANMO Albuquerque 64.89 65⇑*e*P **P 17 24 06.2 +1.3**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
VRH Novokhopyorsk 64.91 323 *e*P **P 17 24 03.4 -1.0**
VRH pmax pmax
comp=Z,20nm,0.5s
SKAR Skarslia 65.38 345 *e*P **P 17 24 06.6 -0.8**
KSM Kuching 65.64 238 *e*P **P 17 24 10.8 +1.1**
comp=Z,8.8nm,1.1s
VSR Storozhevoye 65.84 324 *e*P **P 17 24 09.8 -0.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 66.00 324 *e*P **P 17 24 10.7 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.8s
KONO Kongsberg 66.15 344 *e*P **P 17 24 12.4 +0.1**
GEYT Alibeck 67.94 304 P **P 17 24 24.3 +0.2**
comp=Z,3.7nm,0.6s,baz=39,slow=0.9,SNR=8.8
GEYT LR LR 17 57 03.2

comp=Z,69nm,18.7s,baz=40,slow=39
AKASG Malin Array Be 69.63 329 P P 17 24 34.1 -0.3
comp=Z,5.0nm,0.5s,baz=32,slow=6.7,SNR=18
AKBB Malin Array Si 69.63 329 eP P 17 24 34.1 -0.3
comp=Z,24nm,1.3s
AKBB Malin Array Si 69.63 329 eP P 17 24 34.1 -0.3
AKBB pmax pmax
comp=Z,24nm,1.3s
KIEV Kiev 69.64 329 eP P 17 24 34.1 -0.3
comp=Z,20nm,1.2s
KIEV Kiev 69.64 329⇑iP P 17 24 34.2 -0.2
KIEV Kiev 69.64 329c iP P 17 24 33.9 -0.5
KIEV pmax pmax
comp=Z,11nm,1.1s
NCK Nalchik 70.39 317⇓eP P 17 24 39.5 +0.3
NCK pmax pmax
comp=Z,9.0nm,0.9s
KIV Kislovodsk 70.40 317 epP pP 17 24 47.8 -1.5
KIV Kislovodsk 70.40 317 eP P 17 24 38.6 -0.7
KIV pmax pmax
comp=Z,33nm,0.9s
KIV MLR MLR
comp=Z,194nm,18.0s
KBZ Khabaz 70.50 317 P P 17 24 40.1 +0.4
comp=Z,9.0nm,0.8s,baz=70,slow=3.6,SNR=22
TX31 Lajitas Ar. Si 70.64 67 eP P 17 24 42.5 +1.5
comp=Z,3.4nm,0.9s
TXAR Lajitas Array 70.64 67 P P 17 24 42.4 +1.3
comp=Z,1.8nm,0.7s,baz=296,slow=4.7,SNR=20
HYB Hyderabad 71.68 275 iP P 17 24 47.0 -0.4
HYB e 17 24 59.0
KWP Kalwaria Pacla 72.52 333 eP P 17 24 53.0 +1.1
KWP Kalwaria Pacla 72.52 333 eP P 17 24 53.1 +1.1
comp=Z,227nm,1.0s
KWP Kalwaria Pacla 72.52 333 eP P 17 24 53.1 +1.2
KWP pmax pmax
comp=Z,227nm,1.0s
GNI Garni 72.62 314deP P 17 24 54.6 +1.7
GNI pmax pmax
comp=Z,68nm,1.3s
OJC Ojcow 72.77 335 eP P 17 24 54.2 +0.7
OJC Ojcow 72.77 335 eP P 17 24 54.1 +0.7
comp=Z,6.7nm,0.8s
OJC Ojcow 72.77 335 eP P 17 24 54.1 +0.7
OJC pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 73.27 333 eP P 17 24 57.3 +0.9
KOLS pmax pmax
comp=Z,8.0nm,1.2s
KOLS Kolonicke sedl 73.27 333 eP P 17 24 57.3 +0.9
CLL Collm 73.38 340 eP P 17 24 57.4 +0.5
comp=Z,8.6nm,1.0s
CLL Collm 73.38 340⇑iP P 17 24 57.5 +0.5
CLL e 17 25 09.0
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 73.38 340⇑iP P 17 24 57.5 +0.5
comp=Z,9.0nm,1.1s
CLL e 17 25 09.0
UPC Upice 73.45 337 eP P 17 24 58.5 +1.1
UPC Upice 73.45 337 eP P 17 24 58.5 +1.1
DPC Dobruska-Polom 73.52 337 eP P 17 24 59.3 +1.4
DPC e 17 25 09.9
DPC Dobruska-Polom 73.52 337 eP P 17 24 59.3 +1.4
DPC epP pP 17 25 09.9 +2.1
OKC Ostrava-Krasne 73.55 336 eP P 17 24 59.1 +1.1
OKC Ostrava-Krasne 73.55 336 eP P 17 24 59.1 +1.1
BUR08 Bucovina Ar. S 73.58 330 eP P 17 24 58.8 +0.5
comp=Z,7.9nm,0.7s
BRG Berggiesshubel 73.58 339 eP P 17 24 58.1 -0.1
comp=Z,3.4nm,0.9s
BRG Berggiesshubel 73.58 339 eP P 17 24 58.1 -0.1
BRG pmax pmax
comp=Z,3.0nm,0.9s
BURAR Bucovina Array 73.60 330⇓iP P 17 24 59.2 +0.8
MORC Moravsky Berou 73.76 336 eP P 17 25 00.2 +1.0
comp=Z,5.8nm,0.8s
MORC Moravsky Berou 73.76 336⇑iP P 17 24 58.4 -0.9
MORC Moravsky Berou 73.76 336 eP P 17 25 00.2 +1.0
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 73.76 336 eP P 17 25 00.0 +0.7
LANS Liptovska Anna 73.84 335 eP P 17 25 01.8 +2.1
LANS Liptovska Anna 73.84 335 eP P 17 25 01.8 +2.1
TRPA Tarpa 73.92 332⇑iP P 17 25 01.4 +1.2
TRPA Tarpa 73.92 332 eP P 17 25 01.0 +0.9
BIZ Bicaz 73.92 330⇑iP P 17 25 00.5 +0.3
TESR Tescani 74.13 329⇑iP P 17 25 01.6 +0.1
PRU Pruhonice 74.28 338 eP P 17 25 03.4 +1.2
PRU e 17 25 13.0
PRU Pruhonice 74.28 338 eP P 17 25 03.4 +1.2
PRU epP pP 17 25 13.0 +0.8
VRAC Vranov 74.42 337⇑iP P 17 25 03.4 +0.3
VRAC Vranov 74.42 337 eP P 17 25 04.0 +0.9
JAVC Velka Javorina 74.57 336 eP P 17 25 05.9 +1.9
VYHS Vyhne 74.61 335 eP P 17 25 05.4 +1.2
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 74.61 335 eP P 17 25 05.4 +1.2
KRUC Moravsky 74.70 337 eP P 17 25 05.6 +0.9
CFR Carcaliu 74.83 327⇑iP P 17 25 05.7 +0.2
PSZ Piszkesteto 74.85 334 eP P 17 25 06.3 +0.6
comp=Z,6.5nm,0.8s
PSZ Piszkesteto 74.85 334⇑iP P 17 25 05.4 -0.3
PSZ Piszkesteto 74.85 334 eP P 17 25 06.3 +0.6
PSZ pmax pmax
comp=Z,7.0nm,0.8s
PSZ Piszkesteto 74.85 334 eP P 17 25 06.1 +0.4
DOPR Dopca 75.02 330⇑iP P 17 25 07.8 +1.2
DRGR 75.08 332⇑iP P 17 25 07.3 +0.2
MODS Modra-Piesok 75.12 336 eP P 17 25 08.4 +1.2
MODS Modra-Piesok 75.12 336 eP P 17 25 08.4 +1.2
MLR Muntele Rosu 75.27 329 eP P 17 25 09.5 +1.3
comp=Z,8.9nm,0.7s
MLR Muntele Rosu 75.27 329⇑iP P 17 25 09.2 +1.0
KHC Kasperske Hory 75.30 338 eP P 17 25 09.2 +1.1
comp=Z,4.1nm,1.3s
KHC Kasperske Hory 75.30 338 eP P 17 25 09.3 +1.1
KHC pmax pmax
comp=Z,4.0nm,1.3s
KHC Kasperske Hory 75.30 338 eP P 17 25 09.6 +1.4
KHC epP pP 17 25 19.0 +0.8
ZST Bratislava 75.33 336 eP P 17 25 09.2 +0.9
ZST Bratislava 75.33 336 eP P 17 25 09.2 +0.9
TLB Topalu 75.39 327⇓iP P 17 25 09.4 +0.7
MEM Membach 75.41 344 P P 17 25 09.6 +0.9
comp=Z,19nm,0.9s
GERES GERESS Array B 75.54 338 P P 17 25 10.2 +0.6
comp=Z,1.5nm,0.7s,baz=24,slow=4.5,SNR=11
GERES LR LR 18 03 14.7
comp=Z,41nm,18.2s,baz=54,slow=40
VOIR 75.60 329⇑iP P 17 25 11.2 +1.2
ARR Arges 75.79 330⇑iP P 17 25 12.4 +1.3
CSKK Cskako 75.80 335 eP P 17 25 12.0 +1.0
ICOR Ion Corvin 75.88 327⇑iP P 17 25 13.2 +1.7
CONA Conrad Observa 75.89 336 eP P 17 25 12.4 +0.7
comp=Z,5.3nm,1.1s
GZR Gura Zlata 76.33 331⇑iP P 17 25 14.6 +0.4
BZS Buzias 76.47 332⇑iP P 17 25 15.1 +0.2
ARSA Arzberg 76.60 336 eP P 17 25 16.2 +0.6
comp=Z,7.0nm,1.2s
SOKA Soboth 77.26 337 eP P 17 25 20.4 +0.9
comp=Z,4.4nm,0.8s
KBA Koelnbreinsper 77.28 338 eP P 17 25 21.4 +1.7
comp=Z,12nm,0.8s
RETA Reutte 77.48 340 eP P 17 25 21.6 +1.0
comp=Z,3.9nm,0.9s
WTTA Wattenberg 77.50 339 eP P 17 25 18.3 -2.6
comp=Z,3.9nm,0.7s
OBKA Obir 77.53 337 eP P 17 25 21.3 +0.3
comp=Z,4.7nm,1.1s
MOTA Moosalm 77.54 339 eP P 17 25 22.4 +1.4
comp=Z,1.7nm,0.5s
BR131 Keskin Array S 77.61 321 eP P 17 25 21.9 +0.4
comp=Z,3.9nm,0.8s
BRTR Keskin Array B 77.61 321 iP P 17 25 22.0 +0.4
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 77.61 321 P P 17 25 21.9 +0.4
comp=Z,3.2nm,0.9s,baz=46,slow=4.4,SNR=12
BRTR LR LR 18 06 02.7
comp=Z,28nm,18.7s,baz=51,slow=41
SQTA Sankt Quirin 77.63 339 eP P 17 25 19.4 -2.1
comp=Z,9.4nm,0.9s

MYKA Terra Mystica 77.64 337 eP P 17 25 20.1 -1.4
comp=Z,2.2nm,0.5s
ABTA Abfaltersbach 77.79 338 eP P 17 25 20.3 -2.1
comp=Z,7.8nm,1.2s
DAVA Damuels 77.85 340 P P 17 25 24.6 +1.8
comp=Z,5.2nm,1.0s
FETA Feichten 77.92 340 eP P 17 25 21.1 -2.1
comp=Z,5.4nm,0.9s
VTS Vitosha 78.70 329⇑iP P 17 25 27.5 -0.1
TUE Stuetta 78.74 340 eP P 17 25 29.4 +1.6
comp=Z,6.6nm,0.7s
ASAR Alice Springs 79.06 205 P P 17 25 30.2 +0.8
comp=Z,0.7nm,0.7s,baz=18,slow=5.3,SNR=12
PDG Podgorica 80.07 332⇑iP P 17 25 35.0 +0.2
ESDC Sonseca Array 87.59 348 P P 17 26 13.6 +0.2
comp=Z,0.3nm,0.4s,baz=0.3,slow=3.8,SNR=5.2
TORD Torodi Ar. Bea 112.50 338 PP PP 17 32 46.2 -0.8
comp=Z,1.5nm,1.1s,baz=355,slow=7.8,SNR=4.3

ATH 27 17:23:33.4, 38°.97N×24°.82E, h24km±4km, ML2.2/2, Error ellipse: s-maj=4.3km s-min=1.0km az=272.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	**0.23**	**246**	P	Pb	17 23 39.5	+0.3
SKY				S	Sb	17 23 43.1	-0.1
SKY				AML	AML	17 23 43.5	
	comp=E,2110μm,0.2s						
SKY				AML	AML	17 23 44.2	
	comp=N,2917μm,0.1s						
PSRA	**Psara**	**0.73**	**126**	P	Pn	17 23 47.9	-0.3
PSRA				S	Sn	17 23 58.0	-0.5
SIGR	**SIGRI**	**0.84**	**73**	P	Pb	17 23 49.4	0.0
SIGR				S	Sn	17 24 01.6	+0.1
SIGR				AML	AML	17 24 04.2	
	comp=N,192μm,0.4s						
SIGR				AML	AML	17 24 04.3	
	comp=E,237μm,0.3s						
LIA	**Limnos Island**	**0.97**	**17**	P	Pn	17 23 52.0	+0.5
LIA				S	Sn	17 24 05.6	+1.1
DION	**Dionisos Attik**	**1.13**	**218**	P	Pb	17 23 54.8	+0.5
DION				S	Sn	17 24 10.6	+2.0
CHOS	**Chios island**	**1.13**	**121**	P	Pb	17 23 55.0	+0.7

*IDC **27** 17:28:09.5±2.2, 34°.71N×141°.27E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.5/35, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=51.0km s-min=23.8km az=63.0*
*JMA **27** 17:28:15.9±0.1, 34°.65N×140°.65E, h54km±2km, M3.5*
*ISCJB **27** 17:28:16.3±0.6, 34°.64N±0°.03×140°.59E±0°.05, h51km±6km, Error ellipse: s-maj=7.4km s-min=5.7km az=3.3*
ISC 27 17:28:17.1±1.1, 34°.64N±0°.04×140°.60E±0°.06, h42km±10km, n27, σ0°.80/32, 4C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.18**	**336**	⇑P	Pn	17 28 24.5	+0.3
BSO1	**Boso 1**	**0.31**	**87**	⇑P	Pn	17 28 25.1	0.0
BSO4	**Boso 4**	**0.41**	**329**	⇑P	Pn	17 28 27.2	+0.4
KTR	**Katsuura**	**0.56**	**336**	⇑P	Pn	17 28 28.3	-0.5
KTR				eS	Sn	17 28 36.9	-0.1
JKUC	**kamogawauchiur**	**0.62**	**328**	P	Pn	17 28 29.2	-0.3
JKUC				eS	Sn	17 28 38.2	-0.1
TATJ	**Tateyama 2**	**0.70**	**304**	⇓P	Pn	17 28 31.1	+0.5
JIM2	**Oshima 3**	**0.97**	**275**	⇓P	Pn	17 28 33.9	-0.3
JIM2				eS	Sn	17 28 46.3	-0.5
JSMT	**Sammumatsuo**	**1.01**	**353**	P	Pn	17 28 34.1	-0.8
JSMT				eS	Sn	17 28 46.5	-1.4
JTHY	**Toshimahigashi**	**1.09**	**264**	P	Pn	17 28 36.0	+0.1
JTHY				eS	Sn	17 28 50.2	+0.5
JMKN	**Mikurajimanish**	**1.12**	**229**	⇓P	Pn	17 28 36.2	-0.1
JMKN				eS	Sn	17 28 49.8	-0.7
JKO	**Kozu shima**	**1.29**	**250**	P	Pn	17 28 38.9	+0.3
KTJ3	**Kamata3**	**1.29**	**284**	⇓P	Pn	17 28 38.1	-0.6
KTJ3				eS	Sn	17 28 53.0	-1.8
JOD2	**Odawara 2**	**1.39**	**297**	⇓P	Pn	17 28 39.5	-0.6
JOD2				eS	Sn	17 28 55.7	-1.5
JIZS	**Izushimoda**	**1.42**	**274**	⇓P	Pn	17 28 40.2	-0.2
JIZS				eS	Sn	17 28 57.2	-0.7
JHJ	**Hachijo jima 2**	**1.66**	**204**	Pn	Pn	17 28 44.2	+0.5
	31nm,0.3s,baz=45,slow=20,SNR=71						
JHJ				Sn	Sn	17 29 03.2	-0.5
	60nm,0.3s,baz=88,slow=22,SNR=6.6						
MJAR	**Matsushiro Arr**	**2.72**	**315**	Pn	Pn	17 28 59.4	+1.1
	0.8nm,0.3s,baz=151,slow=12,SNR=39						
MJAR				Sn	Sn	17 29 30.4	+0.3
	1.6nm,0.3s,baz=131,slow=26,SNR=10						
MAT	**Matsushiro**	**2.72**	**315**	P	Pn	17 28 59.9	+1.5
MAT				S	Sn	17 29 30.1	0.0
JNU	**Nakatsue**	**8.22**	**262**	Pn	Pn	17 30 19.0	+5.1
	0.6nm,0.3s,baz=80,slow=17,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**27.60**	**116**	T	T	18 03 17.0	
	baz=309,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.60**	**116**	T	T	18 03 17.8	
	baz=309,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.61**	**116**	T	T	18 03 22.6	
	baz=309,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.22**	**118**	T	T	18 04 02.5	
	baz=313,slow=76						
H11S1	**WAKE ISLAND Hy**	**28.22**	**118**	T	T	18 04 02.8	
	baz=313,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.23**	**118**	T	T	18 04 04.0	
	baz=313,slow=76						
MKAR	**Makanchi Array**	**44.87**	**304**	P	P	17 36 28.7	+1.4
	0.3nm,0.5s,baz=93,slow=7.6,SNR=3.4						
WRA	**Warramunga Arr**	**54.60**	**187**	P	P	17 37 40.8	-0.6
	0.9nm,0.3s,baz=357,slow=6.6,SNR=29						
ASAR	**Alice Springs**	**58.33**	**187**	P	P	17 38 07.3	-0.6
	0.5nm,0.6s,baz=7.3,slow=8.5,SNR=12						

*NNC **27** 17:29:46.5±0.3, 43°.34N×78°.27E, h0km, mb2.5, mpv2.6, Error ellipse: s-maj=4.1km s-min=2.0km az=176.0*
*ISCJB **27** 17:29:47.6±0.4, 43°.37N±0°.02×78°.28E±0°.02, h9km±3km, Error ellipse: s-maj=3.7km s-min=2.8km az=163.3*
*KRNET **27** 17:29:47.2±0.1, 43°.36N×78°.28E, h23km, mb2.5*
*SOME **27** 17:29:47.1, 43°.33N×78°.25E, h15km*
ISC 27 17:29:47.6±0.8, 43°.35N±0°.02×78°.25E±0°.01, h10km±6km, n53, σ1°.39/104, 18C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.15**	**337**	P	Pg	17 29 51.3	+0.4
	1.7nm,0.0s						
KURS				S	Sg	17 29 54.1	+0.9
	14nm,0.2s						
KURS	**Kuram**	**0.15**	**337**	eP	Pg	17 29 51.3	+0.4
	baz=28						
KURS				eS	Sg	17 29 54.1	+0.9
	baz=28						
KURS	**Kuram**	**0.15**	**337**	eP	Pg	17 29 51.3	+0.4
	1.9nm,0.1s						
KURS				eS	Sg	17 29 54.1	+0.9
	14nm,0.2s						
SATY	**Saty**	**0.32**	**159**	P	Pb	17 29 54.2	-1.2
	52nm,0.1s						
SATY				S	Sb	17 29 59.3	-1.4
	68nm,0.2s						
SATY	**Saty**	**0.32**	**159**	⇓iP	Pb	17 29 54.2	-1.2
	52nm,0.1s						
SATY				eS	Sb	17 29 59.2	-1.4
	159nm,0.2s						
KPKS	**Kokpek**	**0.34**	**70**	⇑iP	Pg	17 29 54.0	-0.3
	baz=73						
KPKS				⇑eS	Sg	17 29 58.9	+0.1
	baz=73						
KPKS	**Kokpek**	**0.34**	**70**	⇑iP	Pg	17 29 54.0	-0.3
	50nm,0.1s						
KPKS				eS	Sg	17 29 58.9	+0.1
	81nm,0.2s						
UZB	**Uzynbulak**	**0.60**	**110**	P	Pg	17 29 58.8	-0.5
	3.1nm,0.1s						
UZB				S	Sg	17 30 06.6	-0.6
	36nm,0.1s						
UZB	**Uzynbulak**	**0.60**	**110**	⇓iP	Pg	17 29 58.8	-0.5
	baz=11						
UZB				⇓eS	Sg	17 30 06.6	-0.6
	baz=11						
UZB	**Uzynbulak**	**0.60**	**110**	⇓iP	Pg	17 29 58.8	-0.5
	3.1nm,0.1s						
UZB				eS	Sg	17 30 06.6	-0.6

	35nm,0.1s						
MNBS	**Baschi**	**0.73**	**9**	P	Pg	17 30 01.2	-0.6
	0.8nm,0.1s						
MNBS				S	Sg	17 30 11.2	-0.1
	20nm,0.2s						
MNBS	**Baschi**	**0.73**	**9**	eP	Pg	17 30 01.2	-0.6
	0.8nm,0.1s						
MNBS				eS	Sg	17 30 11.2	-0.1
	20nm,0.2s						
KOTS	**Kotyrbulak**	**0.84**	**262**	P	Pg	17 30 03.5	-0.3
	4.2nm,0.1s						
KOTS				S	Sb	17 30 15.4	-0.3
	8.5nm,0.3s						
KOTS	**Kotyrbulak**	**0.84**	**262**	⇓iP	Pg	17 30 03.4	-0.3
	baz=62						
KOTS				⇓eS	Sb	17 30 15.2	-0.5
	baz=62						
KOTS	**Kotyrbulak**	**0.84**	**262**	⇓iP	Pg	17 30 03.4	-0.3
	4.2nm,0.1s						
KOTS				eS	Sb	17 30 15.2	-0.5
	8.5nm,0.3s						
MDOK	**Medeo**	**0.90**	**258**	P	Pb	17 30 04.1	-1.2
	1.8nm,0.7s						
MDOK				⇑S	Sb	17 30 16.4	-0.9
	1.5nm,0.4s						
MDOK	**Medeo**	**0.90**	**258**	eP	Pb	17 30 04.2	-1.1
	baz=58						
MDOK				eS	Sb	17 30 16.5	-0.9
	baz=58						
MDOK	**Medeo**	**0.90**	**258**	eP	Pb	17 30 04.2	-1.1
	1.5nm,0.2s						
MDOK				eS	Sb	17 30 16.5	-0.9
	2.0nm,0.5s						
PDGK	**Podgornoye**	**0.91**	**91**	P	Pb	17 30 03.6	-1.9
	1.0nm,0.2s						
PDGK				S	Sb	17 30 15.4	-2.2
	3.6nm,0.2s						
PDGK	**Podgornoye**	**0.91**	**91**	⇑P	Pb	17 30 03.6	-1.9
	0.8nm,0.4s						
PDGK				⇓S	Sb	17 30 15.4	-2.2
	1.9nm,0.3s						
PDGK	**Podgornoye**	**0.91**	**91**	⇑iP	Pb	17 30 03.5	-1.9
	baz=92						
PDGK				⇑iS	Sb	17 30 15.5	-2.2
	baz=92						
SHLS	**Shalkode**	**0.91**	**102**	eP	Pn	17 30 09.2	+2.7
	baz=99						
SHLS				eS	Sn	17 30 25.2	+5.4
	baz=99						
SHLS	**Shalkode**	**0.91**	**102**	eP	Pn	17 30 09.2	+2.7
	2.7nm,0.2s						
SHLS				eS	Sn	17 30 25.1	+5.4
	4.1nm,0.2s						
ARXS	**Arharly**	**0.91**	**341**	P	Pb	17 30 04.0	-1.6
	0.3nm,0.1s						
ARXS				S	Sb	17 30 15.9	-1.9
	6.8nm,0.2s						
ARXS	**Arharly**	**0.91**	**341**	eP	Pb	17 30 04.0	-1.6
	0.3nm,0.1s						
ARXS				eS	Sb	17 30 15.9	-1.9
	6.8nm,0.2s						
TNSS	**Tian-Shan**	**1.00**	**252**	P	Pb	17 30 06.2	-1.0
	1.1nm,0.1s						
TNSS				S	Sg	17 30 20.5	+0.5
	2.1nm,0.2s						
TNSS	**Tian-Shan**	**1.00**	**252**	eP	Pb	17 30 06.3	-1.0
	baz=52						
TNSS				eS	Sg	17 30 20.5	+0.5
	baz=52						
TNSS	**Tian-Shan**	**1.00**	**252**	eP	Pb	17 30 06.2	-1.0
	1.5nm,0.2s						
TNSS				eS	Sg	17 30 20.5	+0.5
	2.1nm,0.2s						
KTBS	**Karatobe**	**1.20**	**288**	P	Pn	17 30 09.1	-1.3
	0.2nm,0.1s						
KTBS				S	Sb	17 30 24.9	-1.0
	6.3nm,0.2s						
KTBS	**Karatobe**	**1.20**	**288**	eP	Pn	17 30 09.1	-1.3
	0.6nm,0.1s						
KTBS				eS	Sb	17 30 24.9	-1.0
	6.3nm,0.2s						
IZV	**Izvestkoviy**	**1.24**	**256**	P	Pn	17 30 10.3	-0.8
	1.6nm,0.1s						
IZV				S	Sg	17 30 27.3	-0.1
	2.3nm,0.2s						
IZV	**Izvestkoviy**	**1.24**	**256**	eP	Pn	17 30 10.3	-0.8
	baz=56						
IZV				eS	Sg	17 30 27.3	-0.1
	baz=56						
IZV	**Izvestkoviy**	**1.24**	**256**	eP	Pn	17 30 10.3	-0.8
	1.6nm,0.1s						
IZV				eS	Sg	17 30 27.3	-0.1
	2.3nm,0.2s						
MTBS	**Maitube**	**1.35**	**261**	eP	Pg	17 30 13.3	-0.1
	1.8nm,0.1s						
MTBS				eS	Sg	17 30 32.1	+1.2
	16nm,0.2s						
KDJ	**Kajisay**	**1.45**	**213**	⇓iP	Pb	17 30 14.0	-0.8
	baz=13						
KDJ				⇓iS	Sg	17 30 33.7	-0.6
	baz=13						
DJR	**Jarkent**	**1.48**	**48**	P	Pb	17 30 14.0	-1.3
	0.7nm,0.1s						
DJR				S	Sb	17 30 33.2	-1.1
	4.3nm,0.3s						
DJR	**Jarkent**	**1.48**	**48**	eP	Pb	17 30 14.0	-1.3
	0.9nm,0.1s						
DJR				eS	Sb	17 30 33.2	-1.1
	4.3nm,0.3s						
KUU	**Kurty**	**1.49**	**292**	P	Pb	17 30 14.2	-1.1
	0.9nm,0.2s						
KUU				S	Sb	17 30 33.5	-0.8
	6.2nm,0.2s						
KUU	**Kurty**	**1.49**	**292**	eP	Pb	17 30 14.2	-1.1
	0.9nm,0.2s						
KUU				eS	Sb	17 30 33.5	-0.8
	6.2nm,0.2s						
KTMS	**Ketmen**	**1.54**	**86**	P	Pb	17 30 14.6	-1.6
	2.8nm,0.2s						
KTMS				S	Sb	17 30 34.4	-1.4
	2.0nm,0.1s						
KTMS	**Ketmen**	**1.54**	**86**	eP	Pb	17 30 14.6	-1.6
	baz=85						
KTMS				eS	Sb	17 30 34.4	-1.4
	baz=85						
KTMS	**Ketmen**	**1.54**	**86**	eP	Pb	17 30 14.6	-1.6
	2.8nm,0.2s						
KTMS				eS	Sb	17 30 34.4	-1.4
	3.8nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.66**	**192**	⇑iP	Pb	17 30 17.0	-1.4
	baz=92						
TARG				⇑iS	Sg	17 30 39.5	-1.3
	baz=92						
DGS	**Degeres**	**1.81**	**267**	P	Pb	17 30 19.7	-1.1
	1.1nm,0.2s						
DGS				S	Sb	17 30 43.5	-0.2
	6.1nm,0.3s						
DGS	**Degeres**	**1.81**	**267**	eP	Pb	17 30 19.8	-1.1
	baz=67						
DGS				eS	Sb	17 30 43.5	-0.2
	baz=67						
DGS	**Degeres**	**1.81**	**267**	eP	Pb	17 30 19.8	-1.1
	1.1nm,0.2s						
DGS				eS	Sb	17 30 43.5	-0.2
	6.1nm,0.3s						
ULHL	**Ulahol**	**1.85**	**234**	⇑iP	Pb	17 30 20.9	-0.6
	baz=34						
ULHL				⇑iS	Sb	17 30 44.8	0.0
	baz=34						
BOOM	**Boomskoye usch**	**1.90**	**244**	⇑iP	Pb	17 30 22.1	-0.4
	baz=44						
BOOM				⇑iS	Sb	17 30 46.0	-0.4
	baz=44						
TKM2	**Tokmak 2**	**1.99**	**258**	⇑Pg	Pb	17 30 22.9	-1.1
	0.7nm,0.5s						
TKM2				⇓Lg	Lg	17 30 49.8	
	1.1nm,0.4s						
TKM2	**Tokmak 2**	**1.99**	**258**	⇑iP	Pb	17 30 23.3	-0.7
	baz=58						
TKM2				⇑iS	Sb	17 30 48.1	-0.8
	baz=58						
KAPS	**Kapalarasan**	**2.09**	**22**	Pg	Pb	17 30 24.5	-1.1
	0.2nm,0.2s						
KAPS				Lg	Lg	17 30 51.2	
	3.6nm,0.3s						
KAPS	**Kapalarasan**	**2.09**	**22**	eP	Pb	17 30 24.4	-1.2
	0.3nm,0.3s						
KAPS				eS	Sb	17 30 51.2	-0.4
	3.6nm,0.3s						

KBK	**Karagaybulak**	**2.52**	**255**⇑ *i P*	**Pb**	**17 30 30.8**	**-2.2**
	baz=55					
KBK			⇑ *i S*	**Sb**	**17 31 01.1**	**-3.0**
	baz=55					

SVSA 27 17:30:25.6±0.9, 39°.03N×29°.91W, h5km, MD3.8, ML3.0, Error ellipse: s-maj=9.8km s-min=2.2km az=34.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.02**	**113**	*eP*	Pg	17 30 41.4	-3.8
PCED				*eS*	Sg	17 30 54.2	-4.3
PCED				A	A	17 30 54.8	
	150nm,0.5s						
CALA	**Caldeira**	**1.04**	**115**	*eP*	Pg	17 30 42.0	-3.6
CALA				*eS*	Sg	17 30 54.5	-4.7
H07S1	**FLORES T-PHASE**	**1.07**	**290**	*eP*	Pg	17 30 43.5	-2.6
HOR	**Horta**	**1.12**	**116**	*eP*	Pg	17 30 42.6	-4.4
HOR				*eS*	Sg	17 30 56.3	-5.2
HOR				A	A	17 30 58.6	
	291nm,0.3s						
H07N1	**FLORES T-PHASE**	**1.15**	**306**	*eP*	Pg	17 30 43.5	-4.1
H07N1				*eS*	Sg	17 30 57.0	-5.5
PCAN	**Candelaria**	**1.25**	**116**	*eS*	Sg	17 30 59.2	-6.5
PCAN				A	A	17 31 03.0	
	135nm,0.3s						
PICO	**Pico**	**1.27**	**114**	*eP*	Pg	17 30 45.7	-4.3
PICO				*eS*	Sg	17 31 00.0	-6.6
PICO				A	A	17 31 02.6	
	237nm,0.4s						
ROSA	**Rosais**	**1.34**	**103**	*eP*	Pn	17 30 46.3	-4.7
ROSA				*eS*	Sg	17 31 01.7	-6.9
ROSA				A	A	17 31 05.5	
	112nm,0.3s						
PPNO	**Prainha do Nor**	**1.40**	**113**	*eP*	Pn	17 30 46.9	-5.0
PPNO				*eS*	Sb	17 31 03.2	-7.3
PPNO				A	A	17 31 07.3	
	98nm,0.3s						
PGRA	**Graciosa**	**1.50**	**89**	*eS*	Sn	17 31 05.2	-8.0
PGRA				A	A	17 31 07.6	
	30nm,0.4s						

*ISCJB **27** 17:34:43.2±0.7, 20°.9S±0°.2×178°.7W±0°.1, h579km, mb3.7/10, Error ellipse: s-maj=22.2km s-min=14.6km az=146.9*
*IDC **27** 17:34:45.6±3.7, 20°.97S×178°.54W, h601km±44km, mb3.2/10, mb1 3.5/11, mb1mx3.3/26, mbtmp4.2/11, Error ellipse: s-maj=25.9km s-min=21.4km az=169.0*
ISC 27 17:34:43.7±0.8, 20°.9S±0°.2×178°.6W±0°.1, h579km, n17, σ1§18/19, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.66**	**191**	P	**P**	**17 38 17.0**	**+0.2**
	1.1nm,0.3s,baz=349,slow=1.5,SNR=6.8						
JAY	**Jayapura**	**43.67**	**289**	P	**P**	**17 41 59.5**	**+0.9**
	4.0nm,0.5s,baz=142,slow=5.5,SNR=12						
ASAR	**Alice Springs**	**43.89**	**257**	P	**P**	**17 42 01.1**	**+0.9**
	3.9nm,0.5s,baz=93,slow=7.6,SNR=89						
ASAR				PcP	**PcP**	**17 43 33.7**	**+0.3**
	0.7nm,0.6s,baz=107,slow=4.1,SNR=7.4						
ASAR				S	**S**	**17 47 48.6**	**-1.8**
	0.6nm,0.8s,baz=90,slow=17,SNR=4.5						
WRA	**Warramunga Arr**	**44.00**	**263**	P	**P**	**17 42 01.4**	**+0.3**
	2.2nm,0.3s,baz=93,slow=7.7,SNR=70						
MJAR	**Matsushiro Arr**	**70.25**	**324**	P	**P**	**17 44 59.4**	**0.0**
	1.2nm,0.6s,baz=157,slow=7.0,SNR=3.4						
PETK	**Petropavlovsk-**	**76.56**	**346**	P	**P**	**17 45 34.7**	**-0.2**
	2.5nm,0.9s,baz=106,slow=7.8,SNR=4.2						
NVAR	**Mina Array Bea**	**81.72**	**44**	P	**P**	**17 46 03.7**	**+0.9**
	0.5nm,0.5s,baz=219,slow=7.0,SNR=5.4						
TXAR	**Lajitas Array**	**87.75**	**58**	P	**P**	**17 46 32.9**	**+0.7**
	0.6nm,0.8s,baz=212,slow=8.3,SNR=3.6						
ILAR	**Eielson Array**	**88.86**	**13**	P	**P**	**17 46 35.5**	**-0.8**
	0.4nm,0.5s,baz=221,slow=4.9,SNR=7.1						
PDAR	**Pinedale Array**	**89.65**	**43**	P	**P**	**17 46 41.4**	**+0.5**
	0.5nm,0.6s,baz=173,slow=2.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	**17 46 43.6**	**+2.1**
	0.7nm,0.5s,baz=112,slow=4.0,SNR=5.5						
MKAR	**Makanchi Array**	**111.11**	**313**	PKiKP	**PKiKP**	**17 52 11.5**	**-0.5**
	0.1nm,0.4s,baz=108,slow=1.1,SNR=4.1						
BVAR	**Borovoye Array**	**119.07**	**320**	PKP	**PKPdf**	**17 52 26.3**	**-0.8**
	0.8nm,0.4s,baz=110,slow=4.2,SNR=9.1						
ARCES	**ARCESS Array B**	**129.25**	**349**	PKP	**PKPdf**	**17 52 45.5**	**-0.6**
	0.8nm,0.6s,baz=4.6,slow=2.3,SNR=6.4						
AKASG	**Malin Array Be**	**143.13**	**330**	PKP	**PKPdf**	**17 53 09.4**	**-2.8**
	1.9nm,0.4s,baz=43,slow=4.7,SNR=9.4						
BRTR	**Keskin Array B**	**146.73**	**311**	PKPbc	**PKPbc**	**17 53 21.4**	**-0.4**
	0.9nm,0.5s,baz=145,slow=3.9,SNR=6.2						
GERES	**GERESS Array B**	**150.47**	**343**	PKPbc	**PKPbc**	**17 53 29.6**	**-1.0**
	0.6nm,0.6s,baz=28,slow=3.2,SNR=6.5						

MAN 27 18:08:25.2, 7°.75N×123°.42E, h40km, mb4.4, ML3.3, MS3.1, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.83**	**355**⇑ *eP*		Pn	18 08 42.7	+2.3
DCPH				*eS*	Sn	18 08 53.6	+2.1
CTBH	**Cotabato--PC H**	**0.97**	**123**⇑ *iP*		Pn	18 08 42.2	-0.2
CTBH				*i S*	Sn	18 08 55.2	+0.2
CGP	**Cagayan de Oro**	**1.44**	**61**	*eP*	Pn	18 08 48.8	0.0
CGP				*eS*	Sn	18 09 07.2	+0.6
SNPH	**Sibulan**	**1.59**	**353**⇑ *iP*		Pn	18 08 51.9	+0.9
SNPH				*i S*	Sn	18 09 11.2	+0.9

IDC 27 18:30:55.9±14.0, 5°.04S×129°.51E, h170km±138km, mb3.1/3, mb1 3.5/5, mb1mx3.2/34, mbtmp3.8/5, ML4.1/2, Error ellipse: s-maj=144.4km s-min=26.7km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.54**	**163**	P	Pn	18 34 25.3	-0.8
	0.7nm,0.3s,baz=345,slow=12,SNR=37						
WRA				S	Sn	18 37 08.8	-11
	0.3nm,0.3s,baz=326,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**19.00**	**168**	P	P	18 35 05.5	+0.9
	1.1nm,0.3s,baz=347,slow=11,SNR=125						
ASAR				S	S	18 38 25.8	-5.6
	0.1nm,0.3s,baz=356,slow=24,SNR=4.0						
STKA	**Stephens Creek**	**29.00**	**158**	P	P	18 36 39.1	-0.7
	0.5nm,0.4s,baz=311,slow=11,SNR=3.6						
CMAR	**Chiang Mai Arr**	**38.12**	**309**	P	P	18 37 58.4	-0.3
	0.4nm,0.7s,baz=133,slow=6.8,SNR=3.7						
MKAR	**Makanchi Array**	**66.33**	**327**	P	P	18 41 26.5	+0.3
	0.3nm,0.6s,baz=129,slow=7.1,SNR=4.7						

ROM 27 18:32:33.6±0.3, 44°.290N±0°.010×10°.93E±0°.02, h17km±1km, ML1.2/2, Error ellipse: s-maj=1.3km s-min=0.7km az=312.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZCCA	**Zocca**	**0.07**	**30**	P	Pg	18 32 36.2	-0.7
ZCCA	**Zocca**	**0.07**	**30**	P	Pg	18 32 36.3	-0.6
ZCCA				S	Sg	18 32 39.7	+0.6
ZCCA	**Zocca**	**0.07**	**30**	S	Sg	18 32 39.6	+0.5
MTCR	**Monte La Croce**	**0.27**	**169**	P	Pb	18 32 39.8	-0.2
MTCR				S	Sb	18 32 44.5	+0.1
POPM	**Popiglio**	**0.27**	**207**	P	Pg	18 32 39.8	+0.2
POPM				S	Sb	18 32 44.2	-0.2
POPM				AML	AML		
	comp=E,99μm,1.4s						
POPM				AML	AML		
	comp=N,87μm,0.1s						
POPM				AML	AML		
	comp=E,99μm,1.4s						
POPM				AML	AML		
	comp=N,87μm,0.1s						
POPM	**Popiglio**	**0.27**	**207**	P	Pg	18 32 39.8	+0.2
POPM	**Popiglio**	**0.27**	**207**	S	Sb	18 32 44.2	-0.2
BDI	**Bagni Di Lucca**	**0.33**	**226**	P	Pg	18 32 40.5	0.0
BDI				S	Sb	18 32 45.8	-0.3
BDI				AML	AML		
	comp=E,38μm,1.5s						
BDI				AML	AML		
	comp=N,60μm,0.7s						
BDI				AML	AML		
	comp=N,60μm,0.7s						
BDI				AML	AML		
	comp=E,38μm,1.5s						
BDI	**Bagni Di Lucca**	**0.33**	**226**	P	Pg	18 32 40.6	+0.1
BDI	**Bagni Di Lucca**	**0.33**	**226**	S	Sb	18 32 45.9	-0.2
SARO	**Sassorosso**	**0.39**	**255**	P	Pg	18 32 41.6	0.0
SARO	**Sassorosso**	**0.39**	**255**	P	Pg	18 32 41.7	0.0
SARO	**Sassorosso**	**0.39**	**255**	P	Pg	18 32 41.7	+0.1
SARO				S	Sb	18 32 48.1	+0.2
SARO	**Sassorosso**	**0.39**	**255**	S	Sb	18 32 48.0	+0.1
ARCI	**Arcidosso**	**1.49**	**164**	S	Sb	18 33 20.0	+0.4
NRCA	**Norcia**	**2.16**	**132**	S	Sg	18 33 44.0	+1.1
VVLD	**Villa Vallelon**	**3.12**	**140**	S	Sg	18 34 14.0	+0.2
PAOL	**Paolisi**	**4.22**	**139**	P	Pn	18 33 41.1	+3.9
SOLUN	**Solunto**	**6.50**	**162**	P	Pb	18 34 26.5	+0.4
RESU	**Resuttano**	**7.05**	**159**	P	Pn	18 34 14.3	-1.7

*ISCJB **27** 18:32:38.6±0.7, 11°.66S±0°.08×166°.31E±0°.09, h35km, mb4.2/11, MS3.4/10, Error ellipse: s-maj=14.4km s-min=9.7km az=137.8*
*IDC **27** 18:32:44.1±3.9, 11°.50S×166°.24E, h66km±31km, mb3.8/7, mb1 4.1/9, mb1mx3.7/43, mbtmp4.2/9, ML4.1/2, MS3.3/10, Ms1 3.3/10, ms1mx3.0/30, Error ellipse: s-maj=32.1km s-min=25.0km az=80.0*
*NEIC **27** 18:32:44.1±1.4, 11°.63S×166°.15E, h68km±7km, mb4.5/4, Error ellipse: s-maj=37.3km s-min=23.6km az=60.0*
ISC 27 18:32:40.3±0.9, 11°.47S±0°.09×166°.4E±0°.1, h35km, n32, σ1§53/23, mb4.2/11, MS3.4/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.69**	**287**	*eP*	**Pn**	**18 34 17.0**	**+0.9**
HNR				*eS*	**Sn**	**18 35 32.0**	**+0.8**
HNR	**Honiara**	**6.69**	**287**	*ePn*	**Pn**	**18 34 17.2**	**+1.1**
HNR	**Honiara**	**6.69**	**287**	P	**Pn**	**18 34 16.9**	**+0.8**
	16nm,0.3s,baz=114,slow=0.2,SNR=14						
HNR				S	**Sn**	**18 35 30.8**	**-0.4**
	3.1nm,0.3s,baz=53,slow=20,SNR=1.7						
HNR				LR	LR	18 37 07.5	
	comp=Z,326nm,19.0s,baz=101,slow=40						
DZM	**Mont Dzumac**	**10.54**	**180**	*ePn*	Pn	18 35 14.6	+5.6
	2.8nm,0.2s						
DZM				*eSn*	Sn	18 36 56.6	-9.3
	1.5nm,0.3s						
DZM				*eLR*	LR	18 37 31.2	
	comp=Z,244nm,24.8s						
DZM	**Mont Dzumac**	**10.54**	**180**	P	**Pn**	**18 35 13.1**	**+4.1**
	0.3nm,0.3s,baz=322,slow=17,SNR=10.0						
DZM				S	**Sn**	**18 37 03.0**	**-2.9**
	baz=315,slow=19,SNR=3.6						
DZM				LR	LR	18 38 54.5	
	comp=Z,151nm,21.9s,baz=238,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.77**	**1**	T	T	19 09 38.2	
	baz=181,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.78**	**0**	T	T	19 09 51.0	
	baz=181						
H11S1	**WAKE ISLAND Hy**	**29.79**	**1**	T	T	19 09 56.1	
	baz=181,slow=74						
STKA	**Stephens Creek**	**30.60**	**225**	P	**P**	**18 38 51.5**	**+0.4**
	2.0nm,0.8s,baz=57,slow=14,SNR=4.0						
WR1	**Warramunga Arr**	**31.97**	**251**	*eP*	**P**	**18 39 02.1**	**-1.2**
WRA	**Warramunga Arr**	**31.97**	**251**	P	**P**	**18 39 02.1**	**-1.2**
	3.7nm,1.0s,baz=85,slow=10,SNR=4.2						
AS31	**Alice Springs**	**33.20**	**244**	*eP*	**P**	**18 39 11.5**	**-2.7**
	1.7nm,1.3s						
ASAR	**Alice Springs**	**33.21**	**244**	P	**P**	**18 39 12.5**	**-1.6**
	2.9nm,0.8s,baz=74,slow=9.8,SNR=24						
ASAR				PcP	**PcP**	**18 41 55.6**	**-0.9**
	0.9nm,0.8s,baz=68,slow=2.5,SNR=7.4						
ASAR				LR	LR	18 51 04.9	
	comp=Z,71nm,20.0s,baz=86,slow=33						
FITZ	**Fitzroy Crossi**	**39.92**	**256**	LR	LR	18 56 05.6	
	comp=Z,75nm,18.9s,baz=86,slow=35						
PPT	**Papeete**	**42.94**	**103**	LR	LR	18 54 26.7	
	comp=Z,36nm,19.7s,baz=54,slow=30						
PPT2	**Papeete2**	**42.94**	**103**	*eLR*	LR	18 52 27.7	
	comp=Z,88nm,28.0s						
TBI	**Tubuai**	**43.55**	**112**	*eLR*	LR	18 52 41.9	
	comp=Z,264nm,29.5s						
DAV	**Davao City (W)**	**44.62**	**292**	LR	LR	18 58 29.2	
	comp=Z,10nm,20.0s,baz=156,slow=35						
TGY	**Tagaytay City**	**51.77**	**298**	LR	LR	19 00 53.2	
	comp=Z,24nm,20.6s,baz=142,slow=33						
ASAJ	**Asahikawa**	**59.42**	**340**	LR	LR	19 03 26.4	
	comp=Z,36nm,21.0s,baz=168,slow=31						
PETK	**Petropavlovsk-**	**64.76**	**354**	LR	LR	19 04 57.4	
	comp=Z,16nm,21.9s,baz=159,slow=30						
VNDA	**Vanda**	**66.08**	**181**	*eP*	**P**	**18 43 22.2**	**-1.1**
VNDA	**Vanda**	**66.08**	**181**	P	**P**	**18 43 23.3**	**0.0**
	1.5nm,1.0s,baz=346,slow=8.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**72.90**	**293**	P	**P**	**18 44 07.1**	**+0.7**
	1.6nm,0.9s,baz=120,slow=3.7,SNR=7.2						
QSPA	**South Pole Qui**	**78.53**	**180**	*eP*	**P**	**18 44 37.9**	**0.0**
	25nm,1.6s						
ILAR	**Eielson Array**	**83.70**	**18**	P	**P**	**18 45 05.6**	**+0.5**
	0.2nm,0.6s,baz=230,slow=6.8,SNR=4.2						
NVAR	**Mina Array Bea**	**85.79**	**50**	LR	LR	19 15 27.9	
	comp=Z,39nm,21.3s,baz=173,slow=30						
MK31	**Makanchi Array**	**94.29**	**317**	*eP*	**P**	**18 45 55.6**	**-0.5**
	1.4nm,0.9s						
MK32	**Makanchi Array**	**94.29**	**317**	*eP*	**P**	**18 45 55.8**	**-0.4**
MKAR	**Makanchi Array**	**94.29**	**317**	P	**P**	**18 45 55.8**	**-0.4**
	1.4nm,0.6s,baz=93,slow=5.8,SNR=16						
MAKZ	**Makanchi**	**94.50**	**317**	*eP*	**P**	**18 45 56.2**	**-0.9**
	2.7nm,1.1s						
ARCES	**ARCESS Array B**	**116.91**	**346**	PKP	**PKPdf**	**18 51 19.5**	**-1.3**
	3.7nm,1.1s,baz=110,slow=1.8,SNR=4.0						

*SKO **27** 18:33:41.2, 41°.79N×20°.88E, h15km, M2.1, ML2.8*
*THE **27** 18:33:41.2, 41°.83N×20°.85E, h0km±2km, ML2.5/5, Error ellipse: s-maj=3.0km s-min=1.2km az=323.0*
*PDG **27** 18:33:42.0±0.6, 41°.93N×20°.89E, h8km±1km, ML2.8/14, Error ellipse: s-maj=1.0km s-min=1.0km az=90.0*
*BEO **27** 18:33:42.7±0.3, 41°.85N×20°.91E, h5km±2km, ML2.3/11*
*SIK **27** 18:33:45.7, 42°.06N×20°.74E, h2km, M2.4*
ISC 27 18:33:41.1±1.0, 41°.83N±0°.02×20°.89E±0°.01, h6km±9km, n81, σ1§04/126, 9C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.37**	**247**	P	**Pg**	**18 33 47.5**	**-0.7**
PHP				S	**Sg**	**18 33 52.4**	**-0.6**
SKO	**Skopje**	**0.43**	**71**	*ePg*	**Pb**	**18 33 50.6**	**-0.5**
SKO				*eSg*	**Sb**	**18 33 56.7**	**-1.2**
SKO	**Skopje**	**0.43**	**71**	*i Pg*	**Pb**	**18 33 50.4**	**-0.7**
SKO				*i Sg*	**Sb**	**18 33 57.1**	**-0.8**
SKO				*eLg*	Lg	18 33 57.5	
	comp=E,50nm,0.4s						
SKO				*eLg*	Lg	18 33 57.6	
	comp=N,70nm,0.3s						
KRUS	**Krusevo**	**0.53**	**150**⇑ *iPg*		**Pg**	**18 33 51.6**	**+0.3**
KRUS				*i Sg*	**Sg**	**18 33 59.0**	**+0.8**
KRUS				*eLg*	Lg	18 34 00.3	
	comp=N,262nm,0.2s						
KRUS				*eLg*	Lg	18 34 00.4	
	comp=E,292nm,0.5s						
OHR	**Ohrid**	**0.72**	**186**⇓ *iPg*		**Pg**	**18 33 54.7**	**-0.2**
OHR				*i Sg*	**Sb**	**18 34 06.1**	**-0.1**
OHR				*eLg*	Lg	18 34 06.9	
	comp=N,292nm,0.4s						
OHR				*eLg*	Lg	18 34 08.0	
	comp=E,355nm,0.5s						
BIA	**Bitola**	**0.87**	**158**	*i Pg*	**Pb**	**18 33 58.4**	**-0.2**
BIA				*i Sg*	**Sn**	**18 34 11.4**	**-1.6**
BIA				*eLg*	Lg	18 34 13.5	
	comp=E,243nm,0.3s						
BIA				*eLg*	Lg	18 34 13.8	
	comp=N,265nm,0.6s						
TIR	**Tirane**	**0.91**	**238**	*ePg*	**Pn**	**18 33 59.5**	**-0.8**
TIR				*eSg*	**Sb**	**18 34 11.6**	**+0.1**
TIR	**Tirane**	**0.91**	**238**⇓ *iP*		**Pg**	**18 33 58.4**	**-0.1**
TIR	**Tirane**	**0.91**	**238**	*i Pg*	**Pb**	**18 33 58.9**	**-0.3**
PVY	**Plav**	**1.03**	**318**⇓ *iPg*		**Pg**	**18 33 59.6**	**-1.3**
PVY				*eSg*	**Sb**	**18 34 14.6**	**-0.6**
FNA	**Florina**	**1.11**	**161**	P	**Pb**	**18 34 01.6**	**-1.0**
FNA				S	**Sn**	**18 34 17.9**	**-0.8**
FNA	**Florina**	**1.11**	**161**⇓ *iPg*		**Pb**	**18 34 01.8**	**-0.8**
FNA				*i Sg*	**Sn**	**18 34 18.8**	**0.0**
BARS	**Barje**	**1.20**	**34**	*ePg*	**Pg**	**18 34 04.1**	**0.0**
BARS				*eSg*	**Sn**	**18 34 20.5**	**-0.5**
BARS	**Barje**	**1.20**	**34**	*ePn*	**Sn**	**18 34 23.7**	**+2.7**
ULC	**Ulcinj**	**1.24**	**277**⇓ *iPg*		**Pg**	**18 34 05.1**	**+0.3**
ULC				*eSg*	**Sn**	**18 34 24.8**	**+2.9**
ULC	**Ulcinj**	**1.24**	**277** *i Pg*		**Pn**	**18 34 03.7**	**-1.2**
BEY	**Berane**	**1.28**	**325** *i Pg*		**Pn**	**18 34 04.9**	**-0.6**
IVA	**Berane**	**1.28**	**325**⇓ *iPg*		**Pn**	**18 34 04.2**	**-1.3**
IVA				*eSg*	**Sn**	**18 34 23.0**	**0.0**
DRME	**Dracevica, Mon**	**1.32**	**286**⇑ *iPg*		**Pg**	**18 34 06.6**	**+0.2**
DRME				*eSg*	**Sg**	**18 34 26.1**	**+2.6**
DRME	**Dracevica, Mon**	**1.32**	**286** *ePn*		**Pn**	**18 34 05.3**	**-0.7**
BOSS	**Bosilegrad**	**1.36**	**60** *ePg*		**Pg**	**18 34 07.3**	**+0.2**
BOSS				*eSg*	**Sg**	**18 34 25.3**	**+0.7**
PDG	**Podgorica**	**1.36**	**297** *ePg*		**Pg**	**18 34 07.3**	**+0.2**
PDG				*eSg*	**Sg**	**18 34 26.9**	**+2.2**
PDG	**Podgorica**	**1.36**	**297**⇑ *iP*		**Pg**	**18 34 06.8**	**-0.3**
PDG	**Podgorica**	**1.36**	**297** S		**Sg**	**18 34 26.6**	**+1.9**
PDG	**Podgorica**	**1.36**	**297** *ePn*		**Pn**	**18 34 06.2**	**-0.3**
TTG	**Podgorica**	**1.36**	**297**⇓ *iPg*		**Pn**	**18 34 05.7**	**-0.8**
TTG				*eSg*	**Sg**	**18 34 26.1**	**+1.4**
VAY	**Valandovo**	**1.36**	**111** *i Pg*		**Pg**	**18 34 06.9**	**-0.2**
VAY				*i Sg*	**Sg**	**18 34 25.6**	**+0.9**
VAY				*eLg*	Lg	18 34 26.7	
	comp=E,74nm,0.4s						
VAY				*eLg*	Lg	18 34 27.5	
	comp=N,196nm,0.6s						
SELS	**Selova**	**1.40**	**7** *ePg*		**Pn**	**18 34 06.9**	**-0.2**
SELS				*eSg*	**Sg**	**18 34 25.7**	**-0.4**
NEST	**Nestorio**	**1.42**	**175** P		**Pn**	**18 34 07.0**	**-0.5**
NEST				S	**Sg**	**18 34 28.9**	**+2.3**
GRG	**Griva**	**1.43**	**127** P		**Pb**	**18 34 07.9**	**-0.2**
GRG				S	**Sg**	**18 34 27.9**	**+0.8**
GRG	**Griva**	**1.43**	**127** *i Pg*		**Pb**	**18 34 07.9**	**-0.2**
GRG				*i Sg*	**Sg**	**18 34 27.8**	**+0.7**
KOME	**Kolasin**	**1.44**	**315**⇓ *iPg*		**Pn**	**18 34 07.4**	**-0.4**
KOME				*eSg*	**Sg**	**18 34 29.0**	**+1.5**
BUM	**Brajici-Budva**	**1.56**	**288**⇓ *iPg*		**Pb**	**18 34 09.5**	**-0.9**
BUM				*eSg*	**Sg**	**18 34 33.6**	**+2.4**
SJES	**Sjenica**	**1.58**	**335** *ePn*		**Pb**	**18 34 10.0**	**-0.8**
SJES				*eSn*	**Sg**	**18 34 33.0**	**+1.0**
CEME	**Cevo**	**1.63**	**297**⇑ *iPn*		**Pb**	**18 34 11.7**	**+0.1**
CEME				*eSn*	**Sg**	**18 34 35.0**	**+1.5**
KKB	**Krupnik**	**1.64**	**88** *i Pn*		**Pg**	**18 34 12.1**	**-0.4**
PENT	**Pentalofos**	**1.64**	**173** P		**Pb**	**18 34 12.0**	**+0.2**
PENT				S	**Sg**	**18 34 34.0**	**+0.2**
KNT	**Kendrikon**	**1.65**	**113** P		**Pb**	**18 34 11.3**	**-0.5**
KNT				S	**Sg**	**18 34 33.9**	**-0.1**
KNT	**Kendrikon**	**1.65**	**113** *i Pn*		**Pb**	**18 34 11.4**	**-0.5**
KNT				*i Sn*	**Sg**	**18 34 34.0**	**0.0**
KZN	**Kozani**	**1.66**	**156** P		**Pb**	**18 34 11.4**	**-0.7**
NKME	**Niksic**	**1.72**	**304**⇑ *iPn*		**Pb**	**18 34 12.6**	**-0.4**
NKME				*eSn*	**Sg**	**18 34 36.6**	**+0.4**
NKY	**Niksic**	**1.72**	**306**⇑ *iPn*		**Pb**	**18 34 12.2**	**-0.9**
NKY				*eSn*	**Sg**	**18 34 36.2**	**0.0**
IVAS	**Ivanjica**	**1.83**	**343** *ePn*		**Pb**	**18 34 14.5**	**-0.5**
IVAS				*eSn*	**Sb**	**18 34 38.4**	**+0.3**
PLE	**Pljevlja**	**1.87**	**324**⇓ *iPn*		**Pn**	**18 34 13.7**	**+0.1**
PLE				*eSn*	**Sb**	**18 34 39.0**	**-0.2**
HCY	**Herceg Novi**	**1.89**	**290**⇑ *iPn*		**Pb**	**18 34 15.2**	**-0.7**
HCY				*eSn*	**Sg**	**18 34 41.4**	**-0.3**
HCY	**Herceg Novi**	**1.89**	**290** *ePn*		**Pb**	**18 34 15.2**	**-0.7**
BOVS	**Bovan**	**1.90**	**18** *ePn*		**Pb**	**18 34 15.4**	**-0.7**
BOVS				*eSn*	**Sb**	**18 34 38.8**	**-1.3**
KPRO	**Kipourio**	**1.91**	**169** P		**Pb**	**18 34 16.1**	**-0.2**
VTS	**Vitosha**	**1.91**	**65** *ePn*		**Pn**	**18 34 14.9**	**+0.6**
VTS				*eSn*	**Sb**	**18 34 39.2**	**-1.3**
VTS	**Vitosha**	**1.91**	**65** P		**Pn**	**18 34 14.4**	**+0.1**
VTS				S	**Sb**	**18 34 40.2**	**-0.3**
VTS	**Vitosha**	**1.91**	**65**⇓ *iP*		**Pb**	**18 34 15.2**	**-1.2**
VTS	**Vitosha**	**1.91**	**65** S		**Sg**	**18 34 43.4**	**+0.9**
VTS	**Vitosha**	**1.91**	**65** *i Pn*		**Pn**	**18 34 14.9**	**+0.6**
ZAPS	**Zavoj**	**1.93**	**41** *ePn*		**Pb**	**18 34 16.6**	**-0.1**
ZAPS				*eSn*	**Sb**	**18 34 40.7**	**-0.4**
UPM	**Unac-Piva**	**2.01**	**314**⇓ *iPn*		**Pb**	**18 34 16.7**	**-1.4**
UPM				*eSn*	**Sb**	**18 34 43.4**	**-0.1**
UPM	**Unac-Piva**	**2.01**	**314** *ePn*		**Pn**	**18 34 15.4**	**-0.3**
BRY	**Bratogost**	**2.05**	**302**⇑ *iPn*		**Pb**	**18 34 17.9**	**-0.8**
BRY				*eSn*	**Sb**	**18 34 44.4**	**0.0**
BRY	**Bratogost**	**2.05**	**302** *ePn*		**Pb**	**18 34 17.0**	**-1.7**
GRUS	**Gruza**	**2.06**	**356** *ePn*		**Pn**	**18 34 16.5**	**+0.3**
GRUS				*eSn*	**Sb**	**18 34 44.1**	**-0.7**
TREB	**Trebinje**	**2.08**	**296** *ePn*		**Pb**	**18 34 19.0**	**-0.3**
TREB				*eSn*	**Sb**	**18 34 45.5**	**+0.1**
TREB	**Trebinje**	**2.08**	**296** *ePn*		**Pb**	**18 34 18.8**	**-0.5**
SRS	**Serrai**	**2.15**	**108** P		**Pn**	**18 34 17.8**	**+0.4**
NVR	**Nevrokopi**	**2.28**	**101** P		**Pn**	**18 34 20.1**	**+0.9**
DIVS	**Divibare**	**2.36**	**344** *ePn*		**

PMSA	**Palmer Station**	**42.85**	**219**	*e*P	**P**	**18 46 20.3**	**-0.2**
	32nm,0.6s						
PMSA	**Palmer Station**	**42.85**	**219**	P	**P**	**18 46 20.0**	**-0.5**
	28nm,0.7s,baz=101,slow=5.2,SNR=19						
VNDA	**Vanda**	**46.92**	**169**	*e*P	**P**	**18 46 52.4**	**-0.4**
VNDA				*e*pP	**P**	**18 46 53.4**	**+0.6**
VNDA	**Vanda**	**46.92**	**169**	P	**P**	**18 46 52.9**	**+0.1**
	0.8nm,0.8s,baz=221,slow=7.5,SNR=4.3						
VNDA				PcP	**PcP**	**18 48 25.9**	**+0.8**
	1.1nm,0.9s,baz=251,slow=5.2,SNR=3.7						
SBA	**Scott Base**	**47.18**	**170**	*e*P	**P**	**18 46 56.0**	**+1.2**
	12nm,1.2s						
KMBO	**Kilima Mbogo**	**53.21**	**17**	LR	LR	19 09 30.0	
	comp=Z,121nm,18.7s,baz=94,slow=35						
H10S2	**ASCENSION HYDR**	**53.86**	**311**	T	T	19 46 01.4	
	baz=152,slow=75,SNR=4.2						
H10S3	**ASCENSION HYDR**	**53.87**	**311**	T	T	19 45 57.2	
	baz=152,slow=75,SNR=5.9						
H10S1	**ASCENSION HYDR**	**53.88**	**311**	T	T	19 46 03.1	
	baz=152,slow=75,SNR=4.7						
PLCA	**Paso Flores**	**60.86**	**240**	*e*P	**P**	**18 48 35.0**	**-0.2**
	24nm,1.7s						
PLCA	**Paso Flores**	**60.86**	**240**	P	**P**	**18 48 35.3**	**0.0**
	4.1nm,0.8s,baz=154,slow=7.0,SNR=6.8						
PLCA				LR	LR	19 13 02.8	
	comp=Z,16nm,18.1s,baz=154,slow=34						
H01W2	**Cape Leeuwin H**	**63.22**	**113**	T	T	19 57 55.8	
	baz=221,slow=74						
H01W3	**Cape Leeuwin H**	**63.23**	**113**	T	T	19 57 59.9	
	baz=221						
H01W1	**Cape Leeuwin H**	**63.23**	**113**	T	T	19 58 16.4	
	baz=221,slow=74						
CPUP	**Villa Florida**	**64.03**	**260**	*e*P	**P**	**18 48 56.2**	**-0.2**
	5.3nm,1.0s						
CPUP	**Villa Florida**	**64.03**	**260**	P	**P**	**18 48 55.9**	**-0.6**
	4.0nm,0.9s,baz=126,slow=6.0,SNR=8.0						
CPUP				LR	LR	19 11 56.1	
	comp=Z,48nm,20.8s,baz=168,slow=32						
DBIC	**Dimbokro**	**64.39**	**328**	LR	LR	19 10 06.1	
	comp=Z,63nm,21.6s,baz=137,slow=30						
BDFB	**Brasilia**	**66.61**	**275**	P	**P**	**18 49 12.8**	**-0.6**
	1.4nm,0.4s,baz=86,slow=3.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**68.77**	**337**	P	**P**	**18 49 25.9**	**-0.9**
	1.4nm,0.9s,baz=165,slow=6.2,SNR=6.3						
TORD				LR	LR	19 13 18.4	
	comp=Z,49nm,21.2s,baz=295,slow=30						
TOA1	**Torodi Ar. Sit**	**68.78**	**337**	*e*P	**P**	**18 49 25.9**	**-0.9**
PB11	**IPOC Station P**	**76.30**	**255**	*e*P	**P**	**18 50 11.8**	**-0.2**
	12nm,0.9s						
LPAZ	**La Paz**	**78.13**	**259**	*e*P	**P**	**18 50 22.2**	**-0.7**
LPAZ	**La Paz**	**78.13**	**259**	P	**P**	**18 50 23.9**	**+1.0**
	0.4nm,0.4s,baz=103,slow=4.3,SNR=4.6						
LPAZ				LR	LR	19 22 49.0	
	comp=Z,19nm,19.0s,baz=130,slow=34						
STKA	**Stephens Creek**	**79.62**	**130**	P	**P**	**18 50 30.6**	**+0.5**
	4.6nm,1.1s,baz=169,slow=15,SNR=3.5						
ASAR	**Alice Springs**	**82.65**	**120**	P	**P**	**18 50 45.8**	**-0.6**
	2.8nm,0.8s,baz=207,slow=5.2,SNR=42						
ASAR				LR	LR	19 21 35.1	
	comp=Z,43nm,18.9s,baz=96,slow=31						
AS31	**Alice Springs**	**82.65**	**120**	*e*P	**P**	**18 50 46.0**	**-0.5**
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**85.94**	**118**	P	**P**	**18 51 02.3**	**-0.8**
	3.8nm,0.8s,baz=197,slow=2.6,SNR=12						
WR1	**Warramunga Arr**	**85.94**	**118**	*e*P	**P**	**18 51 02.4**	**-0.8**
KEST	**Kesra**	**89.50**	**348**	LR	LR	19 32 35.6	
	comp=Z,74nm,18.9s,baz=276,slow=36						
BR101	**Keskin Array S**	**93.04**	**8**	*e*P	**P**	**18 51 36.3**	**+0.2**
BRTR	**Keskin Array B**	**93.04**	**8**	P	**P**	**18 51 36.3**	**+0.1**
	0.2nm,0.4s,baz=184,slow=8.4,SNR=3.6						
BRTR				LR	LR	19 34 27.1	
	comp=Z,34nm,19.2s,baz=205,slow=36						
CMAR	**Chiang Mai Arr**	**96.18**	**67**	LR	LR	19 27 02.6	
	comp=Z,29nm,20.3s,baz=196,slow=30						
KBZ	**Khabaz**	**98.05**	**14**	LR	LR	19 36 26.7	
	comp=Z,35nm,19.8s,baz=210,slow=36						
PPT2	**Papeete2**	**109.18**	**187**	*e*LR	LR	19 29 08.7	
	comp=Z,84nm,30.5s						
TAOE	**Nuku Hiva Isla**	**116.57**	**198**	*e*LR	LR	19 32 34.2	
	comp=Z,96nm,27.6s						
PV22	**Blue Mesa, Par**	**144.43**	**265**	*e*PKPdf	PKPbc	18 57 57.7	+0.3
RSSD	**Black Hills**	**144.95**	**277**	*e*PKPbc	PKPbc	18 57 58.8	-0.1
U15A	**North Rim**	**145.12**	**259**	*e*PKPbc	**PKPab**	**18 57 59.6**	**-0.2**
O20A	**White River Ci**	**145.12**	**268**	*e*PKPbc	**PKPab**	**18 57 59.3**	**-0.3**
RWWY	**Rawlins**	**145.45**	**271**	*e*PKPdf	**PKPdf**	**18 57 58.8**	**-1.8**
K22A	**Casper**	**145.60**	**273**	*e*PKPdf	**PKPdf**	**18 58 00.5**	**-0.2**
KNB	**Kanab**	**145.83**	**259**	*e*PKPdf	**PKPab**	**18 58 01.9**	**-0.4**
SRU	**San Rafael Swe**	**145.84**	**264**	*e*PKPdf	**PKPbc**	**18 58 01.5**	**-0.4**
FCC	**Fort Churchill**	**145.87**	**305**	*e*PKPdf	**PKPdf**	**18 58 00.1**	**-0.3**
Q16A	**Castle Valley**	**146.10**	**263**	*e*PKPdf	**PKPdf**	**18 58 01.9**	**+0.2**
MTPU	**Mount Pierson**	**146.14**	**261**	*e*PKPdf	**PKPbc**	**18 58 02.4**	**-0.7**
TMUT	**Trail Mountain**	**146.37**	**264**	*e*PKPdf	**PKPdf**	**18 58 02.7**	**+0.4**
MSU	**Marysvale**	**146.44**	**262**	*e*PKPdf	**PKPdf**	**18 58 02.5**	**+0.1**
CCUT	**Cedar City**	**146.51**	**260**	*e*PKPdf	**PKPab**	**18 58 04.2**	**-0.7**
SHPR	**Sheep Range**	**146.85**	**256**	*e*PKPbc	**PKPbc**	**18 58 05.7**	**+0.8**
NLU	**North Lily Min**	**147.30**	**264**	*e*PKPbc	**PKPbc**	**18 58 06.5**	**+0.3**
JLU	**Jordanelle**	**147.33**	**266**	*e*PKPbc	**PKPbc**	**18 58 05.8**	**-0.4**
PSUT	**Pine Spring**	**147.45**	**260**	*e*PKPbc	**PKPbc**	**18 58 06.6**	**0.0**
PD31	**Pinedale Array**	**147.49**	**270**	*e*PKPbc	**PKPbc**	**18 58 05.5**	**-1.0**
PDAR	**Pinedale Array**	**147.49**	**270**	PKPbc	**PKPbc**	**18 58 05.0**	**-1.5**
	3.0nm,0.9s,baz=113,slow=3.9,SNR=18						
BW06	**Boulder Array**	**147.49**	**270**	*e*PKPbc	**PKPbc**	**18 58 05.8**	**-0.8**
LAO	**LASA Array**	**147.63**	**279**	*e*PKPbc	**PKPbc**	**18 58 06.8**	**+0.2**
TPNV	**Topopah Spring**	**147.79**	**256**	*e*PKPbc	**PKPbc**	**18 58 07.3**	**-0.2**
DUG	**Dugway, Tooele**	**147.89**	**264**	*e*PKPbc	**PKPbc**	**18 58 07.4**	**-0.2**
HWUT	**Hardware Ranch**	**148.01**	**267**	*e*PKPbc	**PKPbc**	**18 58 07.7**	**-0.3**
R11A	**Troy Canyon, C**	**148.35**	**258**	*e*PKPbc	**PKPbc**	**18 58 09.2**	**+0.2**
AHID	**Auburn Hatcher**	**148.42**	**269**	*e*PKPbc	**PKPbc**	**18 58 08.5**	**-0.5**
BGU	**Big Grassy Mou**	**148.48**	**265**	*e*PKPbc	**PKPbc**	**18 58 09.4**	**+0.2**
FFC	**Flin Flon**	**148.64**	**295**	*e*PKPbc	**PKPbc**	**18 58 08.8**	**-0.1**
FXWY	**Fox Creek**	**148.87**	**271**	*e*PKPbc	**PKPbc**	**18 58 09.5**	**-0.7**
IMW	**Indian Meadow**	**148.96**	**271**	*e*PKPbc	**PKPbc**	**18 58 10.7**	**+0.3**
YHH	**Holmes Hill**	**149.40**	**273**	*e*PKPbc	**PKPbc**	**18 58 11.4**	**-0.2**
ELK	**Elko**	**149.68**	**262**	*e*PKPbc	**PKiKP**	**18 58 12.9**	**-0.4**
OMMB	**Old Mammoth Mi**	**149.84**	**254**	*e*PKPdf	**PKPdf**	**18 58 08.2**	**+0.2**
NV11	**Mina Array Sit**	**149.91**	**256**	*e*PKPbc	**PKPbc**	**18 58 13.4**	**+0.6**
NV01	**Mina Array Sit**	**150.00**	**256**	*e*PKPdf	**PKPdf**	**18 58 08.3**	**+0.2**
NV01				*e*PKPbc	**PKPbc**	**18 58 13.4**	**+0.3**
NVAR	**Mina Array Bea**	**150.00**	**256**	PKP	**PKPdf**	**18 58 08.3**	**+0.1**
	0.4nm,0.7s,baz=145,slow=3.3,SNR=4.8						
NVAR				PKPbc	**PKPbc**	**18 58 13.4**	**+0.3**
	4.0nm,0.9s,baz=145,slow=3.3,SNR=8.7						
KVN	**Kaiserville**	**150.29**	**257**	*e*PKPdf	**PKPdf**	**18 58 08.3**	**-0.2**
EGMT	**Eagleton**	**150.38**	**279**	*e*PKPbc	**PKPbc**	**18 58 12.9**	**-0.6**
BMN	**Battle Mountai**	**150.66**	**260**	*e*PKPbc	**PKiKP**	**18 58 14.7**	**-0.6**
WAKR	**Walker**	**150.70**	**255**	*e*PKPdf	**PKPdf**	**18 58 09.1**	**-0.1**
LRM	**Limekiln Ridge**	**150.90**	**273**	*e*PKPdf	**PKPdf**	**18 58 10.8**	**+1.5**
HRY	**Holter Researc**	**150.98**	**275**	*e*PKPdf	**PKPdf**	**18 58 08.0**	**-1.3**
BEKR	**Beckworth**	**152.14**	**256**	*e*PKPbc	**PKPbc**	**18 58 18.5**	**+0.5**
MSO	**Missoula**	**152.30**	**274**	*e*PKPbc	**PKiKP**	**18 58 17.9**	**-0.4**
YKA	**Yellowknife Ar**	**156.35**	**309**	PKP	**PKPdf**	**18 58 17.0**	**+0.8**
	0.2nm,0.6s,baz=63,slow=1.7,SNR=3.2						
YKA				PKPab	**PKPab**	**18 58 45.2**	**+0.5**
	1.4nm,0.9s,baz=89,slow=4.9,SNR=11						
YKB5	**Yellowknife Ar**	**156.35**	**309**	*e*PKPdf	**PKPdf**	**18 58 17.0**	**+0.8**
YKB5				*e*PKPab	**PKPab**	**18 58 45.2**	**+0.5**
ILAR	**Eielson Array**	**167.49**	**341**	PKPab	**PKPab**	**18 59 33.4**	**0.0**
	0.5nm,1.0s,baz=27,slow=4.2,SNR=3.7						

MEX 27 18:50:34.5±0.6, 14°.49N×91°.76W, h78km±8km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.64**	**311**	*i* P	Pn	18 50 47.4	-2.0
THIG				*i* S	Sn	18 50 58.5	-1.9
CCIG	**Comitan**	**1.82**	**349**	*i* P	Pn	18 51 02.9	-1.3
CCIG				*i* S	Sn	18 51 24.7	-1.9
PCIG		**1.86**	**311**	*i* P	Pn	18 51 03.2	-1.2
PCIG				*i* S	Sn	18 51 25.9	-1.2
TGIG		**2.63**	**330**	*i* P	Pn	18 51 12.8	-2.1
TGIG				*i* S	Sn	18 51 44.4	-1.4
CMIG	**Matias Romero**	**3.97**	**311**	*e*P	Pn	18 51 32.4	-0.6
CMIG				*i* S	Sn	18 52 16.4	-2.0

*IDC **27** 18:51:07.9±2.0, 1°.39N×126°.35E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/30, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=118.4km s-min=25.2km az=68.0*
*DJA **27** 18:51:12.2±0.5, 1°.N±4°.×12°.6E±°.*, *h10km, M3.6/4, MLv3.6/4*
*ISCJB **27** 18:51:13.6±0.8, 1°.24N±0°.06×126°.21E±0°.06, h54km, mb3.2/3, Error ellipse: s-maj=9.7km s-min=8.5km az=42.3*

ISC 27 18:51:14.9±1.1, 1°.27N±0°.07×126°.24E±0°.07, h54km, n9, σ1§19/11, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.23**	**114**	P	**Pn**	**18 51 36.1**	**+0.3**
KMSI	**Cibinong**	**2.36**	**253**	P	**Pn**	**18 51 50.3**	**-0.9**
KMSI				S	**Sn**	**18 52 17.5**	**-1.5**
SGSI	**Sangihe**	**2.50**	**344**	P	**Pn**	**18 51 52.2**	**-1.0**
SANI	**Sanana**	**3.31**	**184**	P	**Pn**	**18 52 03.8**	**-0.4**
SANI				S	**Sn**	**18 52 41.0**	**-1.3**
MRSI	**Marisa**	**4.37**	**260**	P	**Pn**	**18 52 20.8**	**+2.1**
FITZ	**Fitzroy Crossi**	**19.25**	**182**	P	**P**	**18 55 35.5**	**+0.5**
	0.1nm,0.3s,baz=3.9,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**22.53**	**160**	P	**P**	**18 56 10.0**	**-0.4**
	1.3nm,0.8s,baz=338,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**25.88**	**164**	P	**P**	**18 56 42.0**	**+0.1**
	0.2nm,0.5s,baz=343,slow=7.5,SNR=8.4						
MKAR	**Makanchi Array**	**59.30**	**326**	P	**P**	**19 01 12.1**	**+0.9**
	0.1nm,0.3s,baz=114,slow=7.6,SNR=4.3						

IDC 27 19:03:42.6±1.8, 0°.79N×126°.87E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/25, mbtmp4.0/4, Error ellipse: s-maj=207.7km s-min=22.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.87**	**161**	P	P	19 08 36.6	-0.5
	2.4nm,0.4s,baz=343,slow=13,SNR=29						
ASAR	**Alice Springs**	**25.25**	**165**	P	P	19 09 10.6	-0.1
	3.3nm,0.7s,baz=343,slow=11,SNR=55						
ASAR				PcP	PcP	19 12 44.0	-0.3
	0.2nm,0.6s,baz=354,slow=2.3,SNR=3.0						
STKA	**Stephens Creek**	**35.36**	**158**	P	P	19 10 40.4	+0.4
	1.1nm,0.6s,baz=334,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**60.05**	**326**	P	P	19 13 51.3	-0.1
	0.5nm,0.4s,baz=126,slow=7.9,SNR=11						

TAP 27 19:10:32.9, 22°.84N×121°.10E, h67km, ML2.0, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**0.03**	**222**	P	Pn	19 10 43.0	+0.3
	baz=222						
TWGBT				*e*S	Sn	19 10 50.4	+0.5
	baz=222						
TWG	**Pinlang**	**0.03**	**237**	P	Pn	19 10 43.0	+0.3
	baz=222						
TWG				*e*S	Sn	19 10 50.4	+0.5
	baz=222						
ECL	**Taimali**	**0.27**	**209**	*e*P	Pn	19 10 43.7	+0.1
	baz=207						
ECL				*e*S	Sn	19 10 51.9	+0.6
	baz=207						
ELDTW	**Lidau**	**0.36**	**348**	*e*P	Pn	19 10 44.4	0.0
	baz=348						
ELDTW				*e*S	Sn	19 10 53.1	+0.4
	baz=348						
SSD	**Sandimen**	**0.44**	**258**	P	Pn	19 10 45.2	+0.3
	baz=257						
SSD				*e*S	Sn	19 10 54.4	+0.7
	baz=257						
SLGT	**Liugui**	**0.45**	**291**	*e*P	Pn	19 10 45.5	+0.5
	baz=290						
SLGT				*e*S	Sn	19 10 53.9	+0.1
	baz=290						
MASBT	**Mashibuluo**	**0.48**	**243**	P	Pn	19 10 45.6	+0.3
	baz=242						
MASBT				*e*S	Sn	19 10 54.4	-0.1
	baz=242						
EAST	**Anshuo**	**0.51**	**207**	*e*P	Pn	19 10 46.4	+0.8
	baz=206						
EAST				*e*S	Sn	19 10 55.5	+0.6
	baz=206						
TWF1	**Yuli**	**0.54**	**20**	*e*P	Pn	19 10 46.3	+0.3
	baz=20						
YULB	**Yu-li**	**0.58**	**18**	*e*P	Pn	19 10 46.6	+0.3
	baz=18						
YULB				*e*S	Sn	19 10 56.2	0.0
	baz=18						
SSPT	**Xinbi**	**0.60**	**234**	*e*P	Pn	19 10 47.3	+0.7
	baz=234						
SSPT				*e*S	Sn	19 10 57.2	+0.7
	baz=234						
CHN1	**Nanshi**	**0.63**	**303**	P	Pn	19 10 47.6	+0.8
	baz=303						
CHN1				*e*S	Sn	19 10 58.0	+0.9
	baz=303						
TPUB	**Ta-pu**	**0.63**	**317**	P	Pn	19 10 47.6	+0.7
	baz=316						
TPUB				*e*S	Sn	19 10 58.0	+0.9
	baz=316						
SCZT	**Fangliau**	**0.64**	**224**	*e*P	Pn	19 10 47.3	+0.4
	baz=223						
SCZT				*e*S	Sn	19 10 57.6	+0.4
	baz=223						
SNST	**Tainan City**	**0.67**	**305**	*e*S	Sn	19 10 58.5	+0.7
	baz=304						
EHY	**Hungye**	**0.70**	**17**	*e*P	Pn	19 10 48.0	+0.4
	baz=17						
EHY				*e*S	Sn	19 10 59.1	+0.7
	baz=17						
HGSD	**Ruisui**	**0.72**	**25**	*e*P	Pn	19 10 48.5	+0.7
	baz=24						
HGSD				*e*S	Sn	19 10 59.9	+1.1
	baz=24						

TAP 27 19:10:43.4, 23°.72N×120°.91E, h3km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHYT	**Xinyi Township**	**0.06**	**245**	P	Pg	19 10 45.3	+0.6
	baz=244						
WHYT				*e*S	Sg	19 10 46.5	+1.0
	baz=244						
SSLB	**Suanglung**	**0.08**	**31**	P	Pg	19 10 45.9	+0.8
	baz=31						
SSLB				*e*S	Sg	19 10 47.4	+1.2
	baz=31						
SMLT	**Sun Moon Lake**	**0.16**	**357**	*e*P	Pg	19 10 47.6	+1.0
	baz=359						
SMLT				*e*S	Sg	19 10 50.7	+1.9
	baz=359						
TYC	**Yuchr**	**0.19**	**345**	*e*P	Pg	19 10 48.0	+0.9
	baz=348						
TYC				*e*S	Sg	19 10 51.4	+1.8
	baz=348						
VWDT	**VWDT**	**0.21**	**81**	P	Pg	19 10 48.9	+1.3
	baz=81						
VWDT				*e*S	Sg	19 10 52.7	+2.3
	baz=81						
YUS	**Yu-Shan**	**0.23**	**171**	*e*P	Pg	19 10 48.9	+0.8
	baz=171						
CHN5	**Tsauling**	**0.25**	**240**	*e*P	Pg	19 10 49.2	+1.0
	baz=332						
CHN5	**Tsauling**	**0.25**	**240**	*e*P	Pg	19 10 49.2	+1.0
	baz=239						
CHN5				*e*S	Sg	19 10 53.7	+2.3
	baz=239						
WNT	**Mingjian**	**0.26**	**307**	*e*P	Pb	19 10 50.2	-0.6
	baz=307						
DPDB	**Guoxing**	**0.31**	**3**	*e*P	Pg	19 10 50.6	+1.1
	baz=2.0						
DPDB				*e*S	Sb	19 10 56.1	-1.1
	baz=2.0						
WGK	**Gukeng**	**0.32**	**264**	*e*S	Sb	19 10 56.8	-0.6
	baz=263						
OWD	**Renai**	**0.34**	**46**	*e*P	Pg	19 10 50.8	+0.8
	baz=46						
OWD				*e*S	Sg	19 10 55.3	+0.9
	baz=46						
WDLH	**Douliu**	**0.34**	**265**	*e*S	Sb	19 10 57.5	-0.5
	baz=264						
CHN4	**Tsaushan**	**0.47**	**218**	*e*P	Pb	19 10 53.9	-0.5
	baz=218						

*ISCJB **27** 19:21:11.4±2.4, 20°.9S±0°.4×178°.4W±0°.4, h550km, mb3.9/6, Error ellipse: s-maj=67.6km s-min=21.3km az=140.5*
*IDC **27** 19:21:13.0±7.2, 20°.85S×178°.44W, h553km±66km, mb3.3/6, mb1 3.5/7, mb1mx3.1/24, mbtmp4.3/7, Error ellipse: s-maj=68.5km s-min=28.1km az=122.0*

ISC 27 19:21:12.7±1.5, 20°.8S±0°.3×178°.5W±0°.2, h550km, n13, σ1§32/15, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.06**	**262**	P	**P**	**19 24 13.5**	**+0.8**
	0.2nm,0.3s,baz=94,slow=19,SNR=2.3						
STKA	**Stephens Creek**	**37.21**	**244**	P	**P**	**19 27 38.9**	**+1.1**
	1.4nm,0.6s,baz=93,slow=13,SNR=6.6						
JAY	**Jayapura**	**43.70**	**289**	P	**P**	**19 28 30.6**	**+0.8**
	7.2nm,0.5s,baz=180,slow=17,SNR=6.3						
ASAR	**Alice Springs**	**43.97**	**257**	P	**P**	**19 28 32.2**	**+0.4**
	4.6nm,0.8s,baz=95,slow=8.0,SNR=44						
ASAR				PcP	**PcP**	**19 30 05.3**	**-0.1**
	0.8nm,0.6s,baz=108,slow=3.5,SNR=8.7						
ASAR				S	**S**	**19 34 21.2**	**-3.0**
	0.7nm,1.0s,baz=96,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**44.08**	**262**	P	**P**	**19 28 32.4**	**-0.2**
	1.6nm,0.3s,baz=93,slow=7.5,SNR=55						
PETK	**Petropavlovsk-**	**76.48**	**346**	P	**P**	**19 32 06.4**	**+0.4**
	2.4nm,0.9s,baz=129,slow=8.3,SNR=3.3						
ILAR	**Eielson Array**	**88.75**	**13**	P	**P**	**19 33 07.0**	**-0.5**
	0.4nm,0.5s,baz=220,slow=5.1,SNR=5.6						
MKAR	**Makanchi Array**	**111.08**	**313**	PKiKP	**PKiKP**	**19 38 44.1**	**+0.1**
	0.1nm,0.4s,baz=90,slow=1.4,SNR=3.6						
ARCES	**ARCESS Array B**	**129.17**	**349**	PKP	**PKPdf**	**19 39 18.3**	**+0.4**
	2.3nm,0.9s,baz=57,slow=3.3,SNR=4.4						
FINES	**FINESS Array B**	**135.96**	**343**	PKP	**PKPdf**	**19 39 31.8**	**+1.0**
	0.6nm,0.6s,baz=96,slow=4.2,SNR=4.8						
AKASG	**Malin Array Be**	**143.08**	**330**	PKP	**PKPdf**	**19 39 41.3**	**-2.7**
	1.9nm,0.4s,baz=42,slow=4.1,SNR=9.2						
BRTR	**Keskin Array B**	**146.71**	**312**	PKPbc	**PKPbc**	**19 39 53.3**	**-0.3**
	0.9nm,0.6s,baz=74,slow=5.1,SNR=6.7						
GERES	**GERESS Array B**	**150.40**	**344**	PKPbc	**PKPbc**	**19 40 02.6**	**+0.3**
	0.7nm,0.7s,baz=14,slow=1.7,SNR=6.4						

*IDC **27** 19:34:39.3±1.6, 3°.43N×126°.85E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/35, mbtmp3.8/5, Error ellipse: s-maj=103.5km s-min=21.6km az=68.0*
*DJA **27** 19:34:42.7±0.9, 4°.N±5°.×12°.7E±°.*, *h10km, M4.1/8, mb4.2/5, mB4.9/1, MLv4.1/8, Mw(mB)4.2/1*
*ISCJB **27** 19:34:43.5±1.0, 3°.55N±0°.08×126°.89E±0°.08, h48km, mb3.6/5, Error ellipse: s-maj=14.2km s-min=7.8km az=43.1*

ISC 27 19:34:45.8±1.1, 3°.48N±0°.07×126°.87E±0°.09, h48km, n13, σ1§92/15, mb3.9/5, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.35**	**279**	P	**Pn**	**19 35 06.8**	**-1.5**
SGSI				S	**Sn**	**19 35 22.3**	**-2.8**
TNTI	**Ternate**	**2.74**	**170**	P	**Pn**	**19 35 24.8**	**-2.4**
TNTI				S	**Sn**	**19 36 01.5**	**+2.4**
KMSI	**Cibinong**	**4.08**	**225**	P	**Pn**	**19 35 47.4**	**+1.7**
CTBH	**Cotabato--PC H**	**4.54**	**325**	⇑*i*P	**Pn**	**19 35 54.2**	**+2.2**
MRSI	**Marisa**	**5.76**	**239**	P	**Pn**	**19 36 08.9**	**+0.2**
LUWI	**Luwuk**	**6.08**	**222**	P	**Pn**	**19 36 13.7**	**+0.6**
APSI	**Ampana**	**6.80**	**230**	P	**Pn**	**19 36 26.4**	**+3.3**
MPSI	**Mapaga**	**7.63**	**246**	P	**Pn**	**19 36 34.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.48**	**183**	P	**P**	**19 39 30.2**	**-0.2**
	1.4nm,0.8s,baz=1.8,slow=11,SNR=9.2						
WRA	**Warramunga Arr**	**24.41**	**163**	P	**P**	**19 39 58.6**	**-1.3**
	1.5nm,0.4s,baz=341,slow=11,SNR=26						
ASAR	**Alice Springs**	**27.84**	**166**	P	**P**	**19 40 29.7**	**-1.2**
	0.4nm,0.7s,baz=352,slow=7.1,SNR=7.7						
STKA	**Stephens Creek**	**37.85**	**159**	P	**P**	**19 41 58.5**	**+0.4**
	1.1nm,0.5s,baz=330,slow=9.6,SNR=6.4						
MKAR	**Makanchi Array**	**57.84**	**325**	P	**P**	**19 44 32.7**	**+0.1**
	0.7nm,0.4s,baz=120,slow=7.7,SNR=15						

KRSC 27 19:42:49.2±10.0, 52°.22N×160°.78E, h43km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.00**	**333**	*e*P	Pn	19 43 07.4	+0.6
SPN				*e*S	Sn	19 43 20.9	+1.3
NLC	**Nalytchevo**	**1.29**	**318**	*e*P	Pn	19 43 12.7	+1.9
NLC				*e*S	Sn	19 43 28.7	+1.8
DALK	**Dalny**	**1.48**	**304**	*e*P	Pn	19 43 14.7	+1.3
DALK				*e*S	Sn	19 43 33.1	+1.6
PET	**Petropavlovsk**	**1.53**	**303**	*e*P	Pn	19 43 17.7	+3.7
PET				*e*S	Sn	19 43 35.8	+3.2
UGLR	**Uglovaya**	**1.55**	**311**	*e*P	Pn	19 43 16.6	+2.1
SDLR	**Sedlovina**	**1.57**	**314**	*e*P	Pn	19 43 16.6	+1.9
SMAR	**Somma**	**1.60**	**312**	*e*P	P

9.3nm,0.3s,baz=70,slow=22,SNR=25
URZ Urewera 6.58 198 P **Pn 19 54 17.5 +2.1**
TLZ Tolley Road 7.15 207 P Pn 19 54 27.6 +5.5
MCHZ McNeill Hill 7.81 197 P **Pn 19 54 30.7 +1.0**
KWHZ Kaweka Forest 7.86 199 P **Pn 19 54 32.2 +1.8**
KWHZ S **S 19 55 59.2 -2.9**
BHHZ Black Hill Sta 8.02 200 P **Pn 19 54 33.2 +0.9**
KRHZ Kereru 8.08 198 P **Pn 19 54 34.3 +1.4**
KRHZ S **S 19 56 03.4 -3.3**
PNHZ Pukenui 8.38 198 P **Pn 19 54 36.3 -0.2**
WPHZ Waipukurau 8.46 197 P **Pn 19 54 39.9 +2.5**
TSZ Takapari Road 8.58 199 P **Pn 19 54 39.9 +1.0**
ANWZ Angora Road 8.82 196 P **Pn 19 54 43.1 +1.4**
POWZ Post Office Ro 8.94 199 P **Pn 19 54 43.3 +0.2**
PRWZ Pori Road 9.04 198 P **Pn 19 54 44.7 +0.4**
BFZ Birch Farm 9.09 197 P **Pn 19 54 44.8 -0.1**
MRZ Mangatainoka R 9.24 200 P **Pn 19 54 46.3 -0.5**
HOWZ Holdsworth Sta 9.48 199 P **Pn 19 54 49.5 -0.1**
TMWZ Te Maipa 9.58 197 P **Pn 19 54 50.4 -0.4**
KIW Kapiti Island 9.63 202 P **Pn 19 54 50.9 -0.4**
MTW Mount Morrison 9.73 199 P **Pn 19 54 50.9 -1.6**
STKA Stephens Creek 32.17 260 P **P 19 58 36.7 +2.3**
2.5nm,0.5s,baz=100,slow=11,SNR=10
ASAR Alice Springs 41.04 270 P **P 19 59 49.0 +0.3**
2.2nm,0.3s,baz=107,slow=7.2,SNR=114
WRA Warramunga Arr 42.18 275 P **P 19 59 58.1 +0.3**
4.9nm,0.3s,baz=107,slow=8.6,SNR=187
FINES FINESS Array B 145.89 338 PKPbc **PKPbc 20 11 34.6 -1.4**
3.8nm,0.7s,baz=45,slow=4.6,SNR=26
NB2 NORSAR Subarra149.97 349 PKP **PKPdf 20 11 45.3 +3.9**
comp=Z,0.6nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 149.97 349 PKPbc **PKPbc 20 11 45.6 -1.1**
comp=Z,0.8nm,0.6s,baz=16,slow=4.1,SNR=4.9
AKASG Malin Array Be 151.26 319 PKPbc **PKPbc 20 11 48.6 -1.3**
comp=Z,0.4nm,0.4s,baz=73,slow=2.6,SNR=2.6
BRTR Keskin Array B 151.51 295 PKPbc **PKPbc 20 11 49.0 -2.1**
comp=Z,0.3nm,0.5s,baz=106,slow=2.4,SNR=2.9
TORD Torodi Ar. Bea 161.15 186 PKPab **PKPab 20 12 41.6 -1.2**
comp=Z,0.8nm,1.1s,baz=159,slow=4.3,SNR=3.5

MAN 27 19:58:41.5, 12°.97N×124°.87E, h14km, mb4.2, ML3.0, MS2.7, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.79**	**176**	⇓*eP*	Pn	19 59 10.9	-1.2

*MDD **27** 20:07:09.9±1.8, 32°.29N×6°.41W, h0km, mb4.1/14, Error ellipse: s-maj=15.9km s-min=13.0km az=22.0, PRXIMO*
*INMG **27** 20:07:11.6±2.4, 32°.29N×6°.22W, h13km±18km, ML3.0, Error ellipse: s-maj=8.9km s-min=8.6km az=152.0*
*IGIL **27** 20:07:13.0, 32°.52N×6°.12W, h1km, ML3.0*
ISC 27 20:07:16.0±2.2, 32°.7N±0°.1×6°.26W±0°.05, h10km, n57, σ1°.18/103, 1C-1D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVE	**Averroes**	**1.11**	**300**	⇓*iP*	**Pb**	**20 07 36.8**	**-0.6**
AVE				*e*S	**Sn**	**20 07 55.7**	**+2.6**
IFR	**Ifrane**	**1.23**	**51**	⇑*eP*	**Pn**	**20 07 37.1**	**-2.3**
IFR				*e*S	**Sn**	**20 07 58.4**	**+2.2**
EMIJ	**Mijas**	**4.01**	**17**	P	**Pn**	**20 08 17.1**	**-0.4**
1.2nm,0.2s,SNR=7.9
EMIJ				S	**Sn**	**20 09 07.7**	**+3.2**
6.7nm,0.8s,SNR=7.9
ESPR	**Espera**	**4.13**	**5**	S	**Sn**	**20 09 11.1**	**+3.6**
7.5nm,0.8s,SNR=7.9
ELGU	**Los Guajares,**	**4.65**	**27**	P	**Pn**	**20 08 26.0**	**-0.4**
1.0nm,0.3s,SNR=7.9
ELGU				S	**Sn**	**20 09 21.7**	**+1.3**
10nm,0.7s,SNR=7.9
PBDV	**Barranco-do-Ve**	**4.70**	**344**	*e*Pn	**Pn**	**20 08 26.5**	**-0.4**
PBDV				*e*Sn	**Sn**	**20 09 23.2**	**+1.7**
PBDV				A	A	20 09 24.5	
10nm,0.7s
PBDV	**Barranco-do-Ve**	**4.70**	**344**	P	**Pn**	**20 08 26.5**	**-0.4**
PBDV				S	**Sn**	**20 09 23.2**	**+1.7**
10nm,0.7s
PVAQ	**Vaqueiros**	**4.80**	**346**	*e*Pn	**Pn**	**20 08 28.0**	**-0.4**
PVAQ				*e*Sn	**Sn**	**20 09 25.5**	**+1.4**
PVAQ				A	A	20 09 30.8	
15nm,0.4s
PVAQ	**Vaqueiros**	**4.80**	**346**	P	**Pn**	**20 08 28.0**	**-0.4**
PVAQ				S	**Sn**	**20 09 25.5**	**+1.4**
15nm,0.4s
PFVI	**Vila Bisbo**	**4.86**	**335**	*e*Pn	**Pn**	**20 08 29.0**	**-0.2**
PFVI				*e*Sn	**Sn**	**20 09 27.8**	**+2.3**
PFVI				A	A	20 09 30.5	
14nm,0.5s
PFVI	**Vila Bisbo**	**4.86**	**335**	P	**Pn**	**20 08 28.0**	**-1.1**
5.2nm,0.4s,SNR=7.9
PFVI				S	**Sn**	**20 09 25.3**	**-0.2**
14nm,0.6s,SNR=7.9
EGRO	**El Granado**	**4.89**	**349**	P	**Pn**	**20 08 29.0**	**-0.5**
6.5nm,0.3s,SNR=16
EGRO				S	**Sn**	**20 09 27.5**	**+1.4**
16nm,0.4s,SNR=6.5
MORF	**Marmelete**	**4.96**	**337**	*e*P	**Pn**	**20 08 29.8**	**-0.8**
MORF	**Marmelete**	**4.96**	**337**	*e*Pn	**Pn**	**20 08 30.0**	**-0.6**
MORF				*e*Sn	**Sn**	**20 09 28.7**	**+0.7**
MORF				A	A	20 09 31.3	
11nm,0.2s
MORF	**Marmelete**	**4.96**	**337**	P	**Pn**	**20 08 30.0**	**-0.6**
MORF				S	**Sn**	**20 09 28.7**	**+0.7**
11nm,0.2s
EBER	**Berja**	**4.99**	**33**	S	**Sn**	**20 09 31.5**	**+2.6**
17nm,1.1s,SNR=7.9
EMIN	**Mina Concepcio**	**5.03**	**356**	P	**Pn**	**20 08 30.9**	**-0.6**
1.2nm,0.2s,SNR=23
EMIN				S	**Sn**	**20 09 30.3**	**+0.8**
2.8nm,0.3s,SNR=6.2
PCVE	**Castro Verde**	**5.09**	**344**	*e*Pn	**Pn**	**20 08 32.2**	**-0.1**
PCVE				*e*Sn	**Sn**	**20 09 32.3**	**+1.1**
PCVE				A	A	20 09 33.8	
14nm,0.3s
PCVE	**Castro Verde**	**5.09**	**344**	P	**Pn**	**20 08 32.2**	**-0.1**
PCVE				S	**Sn**	**20 09 32.3**	**+1.1**
14nm,0.3s
PTEO	**Sao Teotonio**	**5.20**	**338**	*e*Pn	**Pn**	**20 08 33.7**	**-0.1**
PTEO				*e*Sn	**Sn**	**20 09 35.1**	**+1.3**
PTEO				A	A	20 09 46.9	
8.4nm,1.0s
PTEO	**Sao Teotonio**	**5.20**	**338**	P	**Pn**	**20 08 33.7**	**-0.1**
PTEO				S	**Sn**	**20 09 35.1**	**+1.3**
4.2nm,1.0s
MESJ	**Messejana**	**5.33**	**343**	*e*P	**Pn**	**20 08 35.1**	**-0.6**
MESJ				*e*S	**Sn**	**20 09 34.5**	**-2.7**
MESJ				AML	AML	20 09 39.4	
comp=N,17nm,0.3s
MESJ	**Messejana**	**5.33**	**343**	*e*Pn	**Pn**	**20 08 35.3**	**-0.3**
MESJ				*e*Sn	**Sn**	**20 09 38.0**	**+0.9**
MESJ				A	A	20 09 40.2	
comp=N,12nm,0.4s
MESJ	**Messejana**	**5.33**	**343**	P	**Pn**	**20 08 35.3**	**-0.3**
MESJ				S	**Sn**	**20 09 38.0**	**+0.9**
comp=N,12nm,0.4s
ECAB	**El Cabril**	**5.37**	**7**	P	**Pn**	**20 08 35.8**	**-0.3**
comp=N,1.0nm,0.2s,SNR=14
ECAB				S	**Sn**	**20 09 38.7**	**+0.7**
comp=N,2.3nm,0.4s
PBEJ	**Beja**	**5.43**	**346**	*e*Pn	**Pn**	**20 08 37.7**	**+0.7**
PBEJ				*e*Sn	**Sn**	**20 09 41.4**	**+1.8**
PBEJ				A	A	20 09 43.8	
comp=N,8.2nm,1.0s
PBEJ	**Beja**	**5.43**	**346**	P	**Pn**	**20 08 37.7**	**+0.7**
PBEJ				S	**Sn**	**20 09 41.4**	**+1.8**
comp=N,4.1nm,1.0s
EADA	**Adamuz**	**5.59**	**14**	P	**Pn**	**20 08 38.5**	**-0.6**
comp=N,1.8nm,0.2s,SNR=7.9
EADA				S	**Sn**	**20 09 45.1**	**+1.7**
comp=N,17nm,2.2s,SNR=7.9
PNCL	**Nicolau / Gran**	**5.67**	**342**	*e*Pn	**Pn**	**20 08 39.5**	**-0.8**
PNCL				*e*Sn	**Sn**	**20 09 45.7**	**+0.3**
PNCL				A	A	20 09 48.0	
comp=N,8.4nm,0.5s
PNCL	**Nicolau / Gran**	**5.67**	**342**	P	**Pn**	**20 08 39.5**	**-0.8**
PNCL				S	**Sn**	**20 09 45.7**	**+0.3**
comp=N,8.4nm,0.5s
EQES	**Quesada**	**5.68**	**26**	P	**Pn**	**20 08 40.7**	**+0.1**
comp=N,2.7nm,0.8s,SNR=7.9
EQES				S	**Sn**	**20 09 49.1**	**+3.2**
comp=N,3.7nm,1.1s,SNR=7.9
EVO	**Evora**	**5.95**	**347**	*e*Pn	**Pn**	**20 08 43.8**	**-0.3**
EVO				*e*Sn	**Sn**	**20 09 52.8**	**+0.4**
EVO				A	A	20 09 55.7	
comp=N,12nm,1.0s
EVO	**Evora**	**5.95**	**347**	P	**Pn**	**20 08 43.8**	**-0.3**
EVO				S	**Sn**	**20 09 52.8**	**+0.4**
comp=N,12nm,1.0s
EBAD	**Badajoz**	**6.03**	**354**	P	**Pn**	**20 08 44.8**	**-0.4**
comp=N,1.4nm,0.1s,SNR=14
EBAD				S	**Sn**	**20 09 54.8**	**+0.4**
comp=N,6.3nm,0.4s,SNR=7.2
PMTG	**Montargil**	**6.51**	**346**	*e*Pn	**Pn**	**20 08 51.6**	**-0.2**
PMTG				*e*Sn	**Sn**	**20 10 07.3**	**+1.1**
PMTG				A	A	20 10 18.5	
comp=N,6.0nm,0.5s
PMTG	**Montargil**	**6.51**	**346**	P	**Pn**	**20 08 51.6**	**-0.2**
PMTG				S	**Sn**	**20 10 07.3**	**+1.1**
comp=N,6.0nm,0.5s
PMAFR	**Mafra**	**6.67**	**339**	*e*Pn	**Pn**	**20 08 54.9**	**+0.9**
PMAFR				*e*Sn	**Sn**	**20 10 11.8**	**+1.8**
PMAFR				A	A	20 10 14.1	
comp=N,20nm,0.7s
PMAFR	**Mafra**	**6.67**	**339**	P	**Pn**	**20 08 52.9**	**-1.1**
comp=N,16nm,0.4s,SNR=7.9
PMAFR				S	**Sn**	**20 10 08.9**	**-1.2**
comp=N,25nm,0.6s,SNR=7.9
PMRV	**Marv??o**	**6.74**	**353**	*e*Pn	**Pn**	**20 08 54.9**	**0.0**
PMRV				*e*Sn	**Sn**	**20 10 12.1**	**+0.4**
PMRV				A	A	20 10 14.2	
comp=N,6.8nm,0.5s
PMRV	**Marv??o**	**6.74**	**353**	P	**Pn**	**20 08 54.9**	**0.0**
PMRV				S	**Sn**	**20 10 12.1**	**+0.4**
comp=N,6.8nm,0.5s
PAB	**San Pablo**	**6.96**	**12**	P	**Pn**	**20 08 56.9**	**-1.3**
comp=N,2.3nm,1.0s,SNR=7.9
PAB				S	**Sn**	**20 10 16.5**	**-1.0**
comp=N,1.4nm,0.4s,SNR=7.9
ETOB	**Tobarra**	**7.03**	**32**	P	**Pn**	**20 08 59.7**	**+0.7**
comp=N,1.7nm,0.6s,SNR=7.9
PTOM	**Tomar**	**7.08**	**346**	*e*Pn	**Pn**	**20 09 00.0**	**+0.4**
PTOM				*e*Sn	**Sn**	**20 10 20.9**	**+0.8**
PTOM				A	A	20 10 22.1	
comp=N,5.6nm,0.3s
PTOM	**Tomar**	**7.08**	**346**	P	**Pn**	**20 09 00.0**	**+0.4**
PTOM				S	**Sn**	**20 10 20.9**	**+0.8**
comp=N,2.8nm,0.3s
PCBR	**Castelo Branco**	**7.15**	**352**	*e*Pn	**Pn**	**20 09 01.3**	**+0.7**
PCBR				*e*Sn	**Sn**	**20 10 21.8**	**-0.1**
PCBR				A	A	20 10 24.1	
comp=N,4.3nm,0.3s
PCBR	**Castelo Branco**	**7.15**	**352**	P	**Pn**	**20 09 01.3**	**+0.7**
PCBR				S	**Sn**	**20 10 21.8**	**-0.1**
comp=N,2.2nm,0.3s
ESDC	**Sonseca Array**	**7.16**	**14**	P	**Pn**	**20 09 00.4**	**-0.5**
comp=N,0.6nm,0.2s,baz=197,slow=13,SNR=5.6
ESDC				S	**Sn**	**20 10 20.8**	**-1.5**
comp=N,0.6nm,0.3s,baz=198,slow=23,SNR=7.4
EPLA	**Plasencia**	**7.31**	**1**	S	**Sn**	**20 10 26.2**	**+0.4**
comp=N,9.1nm,0.3s,SNR=12
MTE	**Manteigas**	**7.71**	**353**	*e*Sn	**Sn**	**20 10 34.8**	**-1.0**
MTE	**Manteigas**	**7.71**	**353**	S	**Sn**	**20 10 34.8**	**-1.0**
GUD	**Guadarrama**	**8.07**	**12**	S	**Sn**	**20 10 42.3**	**-2.4**
comp=N,3.1nm,1.2s,SNR=7.9
MVO	**Moncorvo**	**8.43**	**356**	*e*Pn	**Pn**	**20 09 18.4**	**+0.2**
MVO				*e*Sn	**Sn**	**20 10 53.6**	**+0.1**
MVO				A	A	20 10 56.7	
comp=N,3.4nm,0.4s
MVO	**Moncorvo**	**8.43**	**356**	P	**Pn**	**20 09 17.6**	**-0.6**
comp=N,2.6nm,0.5s,SNR=7.3
MVO				S	**Sn**	**20 10 52.8**	**-0.7**
comp=N,1.8nm,1.9s,SNR=7.9
POLO	**Lamas de Olo**	**8.70**	**352**	*e*Sn	**Sn**	**20 10 59.1**	**-1.1**
POLO				A	A	20 11 04.0	
comp=N,1.6nm,0.4s
POLO	**Lamas de Olo**	**8.70**	**352**	S	**Sn**	**20 10 59.1**	**-1.1**
comp=N,1.6nm,0.4s
ETOR	**Torete**	**8.74**	**21**	P	**Pn**	**20 09 22.2**	**-0.3**
comp=N,2.0nm,0.3s,SNR=7.9
ETOR				S	**Sn**	**20 11 00.8**	**-0.3**
comp=N,3.1nm,2.0s,SNR=7.9
ELOB	**Lobios**	**9.22**	**352**	S	**Sn**	**20 11 11.6**	**-1.3**
comp=N,3.4nm,0.4s,SNR=5.7

*ISCJB **27** 20:15:25.2±0.5, 35°.56N±0°.04×140°.21E±0°.05, h72km±5km, mb3.6/4, Error ellipse: s-maj=7.7km s-min=5.9km az=32.0*
*JMA **27** 20:15:25.7±0.2, 35°.65N×140°.17E, h64km±2km, M3.3 Broadband fault plane solution: P waves. NP1: φs240.00000°, δ88.00000°, λ-94.00000°. NP2: φs126.00000°, δ5.00000°, λ-24.00000°. Principal axes: T Plg43.0000°, Azm334.0000°; N Plg4.0000°, Azm240.0000°; P Plg47.0000°, Azm145.0000°;*
*IDC **27** 20:15:26.8±4.2, 35°.58N×140°.18E, h66km±39km, mb3.3/4, mb1 3.6/4, mb1mx3.2/30, mbtmp3.6/4, MS2.4/1, Ms1 2.4/1, ms1mx2.1/17 Error ellipse: s-maj=35.1km s-min=22.9km az=92.0*
ISC 27 20:15:26.3±0.9, 35°.58N±0°.05×140°.19E±0°.05, h64km±8km, n26, σ0°.53/27, mb3.6/4, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.16**	**177**	P	**Pn**	**20 15 36.4**	**+0.4**
JSMT	**Sammumatsuo**	**0.22**	**74**	P	**Pn**	**20 15 36.1**	**-0.2**
JIHU	**Itakohorinouch**	**0.47**	**35**	P	**Pn**	**20 15 37.9**	**-0.4**
BSO3	**Boso 3**	**0.82**	**161**	⇑P	**Pn**	**20 15 42.0**	**0.0**
JOD2	**Odawara 2**	**0.95**	**251**	⇓P	**Pn**	**20 15 43.6**	**-0.3**
JOD2				S	**Sn**	**20 15 56.4**	**-0.6**
JAG	**Ashikaga**	**1.03**	**325**	⇓P	**Pn**	**20 15 43.9**	**-1.0**
JIM2	**Oshima 3**	**1.06**	**216**	P	**Pn**	**20 15 44.7**	**-0.6**
JIM2				S	**Sn**	**20 15 59.0**	**-0.5**
BSO1	**Boso 1**	**1.13**	**145**	P	**Pn**	**20 15 44.9**	**-0.7**
BSO1				S	**Sn**	**20 16 00.4**	**+0.3**
JRY	**Ryogami san**	**1.13**	**293**	⇓P	**Pn**	**20 15 46.2**	**-0.1**
JFNN	**Fujinakano**	**1.29**	**253**	P	**Pn**	**20 15 48.4**	**+0.1**
JFNN				S	**Sn**	**20 16 04.8**	**+0.1**
JYN	**Shimob**	**1.34**	**267**	⇓P	**Pn**	**20 15 48.9**	**-0.2**
JYN				S	**Sn**	**20 16 06.5**	**+0.3**
JIZS	**Izushimoda**	**1.38**	**232**	⇑P	**Pn**	**20 15 49.1**	**-0.3**
JIZS				S	**Sn**	**20 16 06.2**	**-0.6**
JKT	**Katashina**	**1.41**	**327**	P	**Pn**	**20 15 48.9**	**-1.0**
MJAR	**Matsushiro Arr**	**1.87**	**301**	P	**Pn**	**20 15 55.8**	**-0.2**
4.9nm,0.3s,baz=122,slow=14,SNR=164
MJAR				S	**Sn**	**20 16 18.7**	**0.0**
3.6nm,0.3s,baz=152,slow=21,SNR=9.1
MJAR				LR	LR	20 16 52.3	
comp=Z,63nm,20.4s,baz=115,slow=47
MAT	**Matsushiro**	**1.87**	**301**	P	**Pn**	**20 15 56.3**	**+0.2**
MAT				S	**Sn**	**20 16 19.7**	**+1.0**
KSRS	**Korea Array**	**10.05**	**284**	LR	LR	20 21 24.2	
comp=Z,18nm,19.2s,baz=135,slow=36
H11N2	**WAKE ISLAND Hy**	**28.32**	**117**	T	T	20 50 53.2	
baz=311,slow=74
H11N1	**WAKE ISLAND Hy**	**28.32**	**117**	T	T	20 50 59.3	
baz=311,slow=74
H11N3	**WAKE ISLAND Hy**	**28.33**	**117**	T	T	20 50 55.0	
baz=311
H11S1	**WAKE ISLAND Hy**	**28.96**	**119**	T	T	20 51 25.6	
baz=310
H11S3	**WAKE ISLAND Hy**	**28.96**	**119**	T	T	20 51 18.6	
baz=310
H11S2	**WAKE ISLAND Hy**	**28.98**	**119**	T	T	20 51 25.7	
baz=310
MKAR	**Makanchi Array**	**44.07**	**303**	P	**P**	**20 23 27.8**	**0.0**
0.6nm,0.6s,baz=88,slow=9.3,SNR=8.4
ILAR	**Eielson Array**	**51.25**	**32**	P	**P**	**20 24 23.4**	**+0.3**
0.5nm,0.8s,baz=265,slow=6.2,SNR=6.4
WRA	**Warramunga Arr**	**55.50**	**187**	P	**P**	**20 24 54.6**	**-0.2**
0.8nm,0.6s,baz=6.3,slow=7.6,SNR=9.1
ASAR	**Alice Springs**	**59.23**	**187**	P	**P**	**20 25 21.5**	**+0.6**
0.2nm,0.4s,baz=19,slow=12,SNR=14

*IDC **27** 20:21:57.5±0.5, 52°.24N×160°.21E, h0km, mb5.1/30, mb1 5.3/33, mb1mx5.2/35, mbtmp5.1/33, ML4.9/3, MS5.1/31, Ms1 5.1/31, ms1mx5.0/35, Error ellipse: s-maj=12.3km s-min=10.4km az=147.0*
*KRSC **27** 20:21:57.1±10.0, 51°.95N×160°.71E, h49km±10km, ML5.7*
*NEIC **27** 20:21:59.8±1.5, 52°.23N×160°.26E, h13km±3km, mb5.3/420, MW5.3, Error ellipse: s-maj=11.2km s-min=10.1km az=126.0 Best double couple: NP1:φs254.00000°, δ25.00000°, λ114.00000°. NP2:φs48.00000°, δ67.00000°, λ79.00000°. Principal axes: T 0.9900, Plg66.0000°, Azm298.0000°; N 0.0700, Plg10.0000°, Azm52.0000°; P -1.0600, Plg21.0000°, Azm146.0000°;*
*BJI **27** 20:21:59.7±0.0, 52°.61N×159°.76E, h17km, mb5.4/80, mB5.3/59, Ms5.7/89, Ms7 5.6/84*
*ISCJB **27** 20:22:01.5±0.3, 52°.10N±0°.02×160°.40E±0°.02, h43km±2km, mb5.3/496, MS5.3/101, Error ellipse: s-maj=3.2km s-min=1.8km az=163.0*
*MOS **27** 20:22:02.7±1.0, 52°.18N×160°.18E, h57km, mb5.6/126, MS5.4/48, Error ellipse: s-maj=5.2km s-min=2.9km az=96.7*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
*GCMT **27** 20:22:03.8±0.2, 52°.08N±0°.01×160°.70E±0°.02, h23km, MW5.3/105, Moment Tensor Solution. s83,c150; s105,c198; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr1.02±.02; Mθθ-0.36±.01; Mφφ-0.65±.01; Mrθ0.35±.02; Mφφ-0.48±.01; Mφr0.42±.02; Best double couple: M0 1.15700×10^17 NP1:φs38.00000°, δ59.00000°, λ92.00000°. NP2:φs215.00000°, δ31.00000°, λ87.00000°. Principal axes: T 1.1590, Plg76.0000°, Azm313.0000°; N -0.0050, Plg1.0000°, Azm217.0000°; P -1.1550, Plg14.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 20:22:02.1±0.4, 52°.10N±0°.03×160°.40E±0°.03, h33km±1km, h33km:pP-P, n1613, σ1°.48/1691, mb5.3/531, MS5.4/105, 142C-36D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.03**	**347**	*e*P	**Pn**	**20 22 18.9**	**-1.3**
SPN				*e*S	**Sb**	**20 22 35.8**	**+1.3**
SPN	**Mys Shipunski**	**1.03**	**347**	PN	**Pn**	**20 22 18.9**	**-1.3**
SPN				S	**Sb**	**20 22 35.8**	**+1.3**
RUS	**Russkaya**	**1.21**	**287**	*e*P	**Pn**	**20 22 21.9**	**-0.7**
RUS				*e*S	**Sb**	**20 22 40.0**	**+0.4**
RUS	**Russkaya**	**1.21**	**287**	PN	**Pn**	**20 22 21.9**	**-0.7**
RUS				S	**Sb**	**20 22 40.0**	**+0.4**
NLC	**Nalytchevo**	**1.25**	**330**	*e*P	**Pn**	**20 22 23.2**	**0.0**
NLC				*e*S	**Sb**	**20 22 41.6**	**+0.7**
NLC	**Nalytchevo**	**1.25**	**330**	PN	**Pn**	**20 22 23.2**	**0.0**
NLC				S	**Sb**	**20 22 41.6**	**+0.7**
DALK	**Dalny**	**1.37**	**314**	*e*P	**Pn**	**20 22 24.8**	**-0.1**
DALK				*e*S	**Sb**	**20 22 46.3**	**+2.0**
DALK	**Dalny**	**1.37**	**314**	PN	**Pn**	**20 22 24.8**	**-0.1**
PET	**Petropavlovsk**	**1.41**	**312**	*e*Pn	**Pn**	**20 22 25.3**	**-0.2**
PET	**Petropavlovsk**	**1.41**	**312**	PN	**Pn**	**20 22 25.4**	**0.0**
MTVR	**Mutnovka**	**1.41**	**287**	*e*P	**Pn**	**20 22 25.5**	**-0.1**
MTVR	**Mutnovka**	**1.41**	**287**	PN	**Pn**	**20 22 25.5**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.47**	**260**	*e*P	**Pn**	**20 22 25.2**	**-0.9**
KDTR				*e*S	**Sn**	**20 22 44.4**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.47**	**260**	PN	**Pn**	**20 22 25.2**	**-0.9**
KDTR				S	**Sn**	**20 22 44.4**	**+0.2**
UGLR	**Uglovaya**	**1.47**	**320**	*i* P	**Pn**	**20 22 26.7**	**+0.4**
UGLR	**Uglovaya**	**1.47**	**320**	PN	**Pn**	**20 22 26.7**	**+0.4**
GRL	**Gorelyy**	**1.50**	**289**	*i* P	**Pn**	**20 22 27.8**	**+1.1**
GRL	**Gorelyy**	**1.50**	**289**	PN	**Pn**	**20 22 27.8**	**+1.1**
SDLR	**Sedlovina**	**1.50**	**323**	*i* P	**Pn**	**20 22 26.7**	**-0.1**
SDLR	**Sedlovina**	**1.50**	**323**	PN	**Pn**	**20 22 26.7**	**-0.1**
SMAR	**Somma**	**1.52**	**321**	*i* P	**Pn**	**20 22 27.0**	**-0.1**
SMAR	**Somma**	**1.52**	**321**	PN	**Pn**	**20 22 27.0**	**-0.1**
AVH	**Avacha**	**1.55**	**320**	*i* P	**Pn**	**20 22 27.8**	**+0.4**
AVH	**Avacha**	**1.55**	**320**	PN	**Pn**	**20 22 27.8**	**+0.4**
ASAK	**Asacha**	**1.56**	**282**	*e*P	**Pn**	**20 22 27.8**	**+0.2**
ASAK	**Asacha**	**1.56**	**282**	PN	**Pn**	**20 22 27.8**	**+0.2**
KRMR	**Karymshinskiy**	**1.57**	**299**	*e*P	**Pn**	**20 22 27.7**	**+0.1**
KRMR	**Karymshinskiy**	**1.57**	**299**	PN	**Pn**	**20 22 27.7**	**+0.1**
KRER	**Koryakskii**	**1.57**	**321**	*e*P	**Pn**	**20 22 28.1**	**+0.3**
KRER	**Koryakskii**	**1.57**	**321**	PN	**Pn**	**20 22 28.1**	**+0.3**
KOK	**Koryaka**	**1.61**	**319**	*e*P	**Pn**	**20 22 29.1**	**+0.9**
KOK	**Koryaka**	**1.61**	**319**	PN	**Pn**	**20 22 29.1**	**+0.9**
KRX	**Arik**	**1.65**	**321**	*e*P	**Pn**	**20 22 29.3**	**+0.4**
KRX	**Arik**	**1.65**	**321**	PN	**Pn**	**20 22 29.3**	**+0.4**
I44RU	**PETROPAVLOVSK-**	**1.92**	**303**	**Pn**	**Pn**	**20 22 33.9**	**+1.4**
baz=105,slow=26,SNR=2.1
I44RU				Sn	**Sb**	**20 23 03.6**	**+3.5**
baz=100,slow=37
PEA0B	**Petropavlovsk-**	**1.93**	**303**	*e*Pn	**Pn**	**20 22 33.1**	**+0.4**
PETK	**Petropavlovsk-**	**1.93**	**303**	Pn	**Pn**	**20 22 33.0**	**+0.4**
538nm,0.3s,baz=108,slow=14,SNR=1028
PETK				Sn	**Sb**	**20 23 01.3**	**+0.9**
688nm,0.3s,baz=103,slow=22,SNR=6.0
PETK				LR	LR	20 23 05.9	
comp=Z,16μm,19.9s,baz=120,slow=39
PEA1	**Petropavlovsk-**	**1.94**	**303**	*e*Pn	**Pn**	**20 22 33.0**	**+0.4**
PEA1				*e*Sn	**Sb**	**20 23 01.3**	**+0.9**
PEA1				*e*		20 23 05.9	
APC	**Apacha**	**2.15**	**294**	*e*P	**Pn**	**20 22 36.9**	**+1.4**
APC	**Apacha**	**2.15**	**294**	PN	**Pn**	**20 22 36.9**	**+1.4**
GNL	**Ganaly**	**2.19**	**318**	*i* P	**Pn**	**20 22 37.2**	**+1.0**
GNL	**Ganaly**	**2.19**	**318**	PN	**Pn**	**20 22 37.2**	**+1.0**
PAU	**Pauzhetka**	**2.32**	**256**	*e*P	**Pn**	**20 22 38.2**	**+0.4**
PAU	**Pauzhetka**	**2.32**	**256**	PN	**Pn**	**20 22 38.2**	**+0.4**
MKZ	**Mys Kozlova**	**2.59**	**17**	*e*P	**Pn**	**20 22 40.2**	**-1.4**
MKZ				*e*S	**Sn**	**20 23 10.8**	**-1.1**
MKZ	**Mys Kozlova**	**2.59**	**17**	PN	**Pn**	**20 22 40.2**	**-1.4**
MKZ				S	**Sn**	**20 23 10.8**	**-1.1**
KZV	**Kizimen**	**3.02**	**359**	*i* P	**Pn**	**20 22 48.1**	**+0.4**
KZV	**Kizimen**	**3.02**	**359**	PN	**Pn**	**20 22 48.1**	**+0.4**
SKR	**Severo-Kuril's**	**3.03**	**244**	*e*P	**Pn**	**20 22 47.6**	**-0.1**
SKR				*e*S	**Sn**	**20 23 22.0**	**-0.8**
SKR	**Severo-Kuril's**	**3.03**	**244**	*e*PN	**Pn**	**20 22 47.9**	**+0.2**
SKR				*e*S	**Sn**	**20 23 21.2**	**-1.6**
SKR				pmax	pmax		
comp=Z,1μm,0.5s
SKR				smax	smax		
comp=E,4μm,0.6s
SKR				smax	smax		
comp=N,13μm,0.8s
SKR				MLR	MLR		
comp=Z,40μm,15.0s
TUMD	**Tumrok D**	**3.11**	**0**	*e*P	**Pn**	**20 22 48.8**	**0.0**
TUMD				*e*S	**Sn**	**20 23 26.1**	**+1.2**
TUMR	**Tumrok**	**3.20**	**357**	*i* P	**Pn**	**20 22 50.9**	**+0.8**
TUMR	**Tumrok**	**3.20**	**357**	PN	**Pn**	**20 22 48.8**	**-1.3**
TUMR				S	**

SMY	**Shemya**	**8.40**	**80**	*e*Pn	**Pn**	**20 24 01.0**	**-0.4**
SMY	**Shemya**	**8.40**	**80**	*e*PN	**Pn**	**20 24 01.0**	**-0.4**
TILK	**Tilichiki**	**8.96**	**19**	*e*P	**Pn**	**20 24 09.1**	**+0.2**
TILK	**Tilichiki**	**8.96**	**19**	PN	**Pn**	**20 24 09.1**	**+0.2**
MA2	**Magadan**	**9.24**	**328**	*e*Pn	**Pn**	**20 24 10.1**	**-2.7**
MA2	**Magadan**	**9.24**	**328**	*ce*PN	**Pn**	**20 24 12.8**	**0.0**
MA2	**Magadan**	**9.24**	**328**	Pn	**Pn**	**20 24 13.5**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=140,slow=9.3,SNR=14						
MA2				LR	LR	20 28 33.3	
	comp=Z,18μm,18.1s,baz=144,slow=44						
KUR	**Kuril'sk**	**10.75**	**235**	*e*PN	**Pn**	**20 24 33.7**	**+0.1**
KUR				pmax	pmax		
	comp=Z,1μm,5.3s						
KUR				pmax	pmax		
	comp=Z,114nm,0.9s						
KUR				pmax	pmax		
	comp=E,39nm,0.8s						
KUR				pmax	pmax		
	comp=N,48nm,0.5s						
KUR				MLR	MLR		
	comp=N,26μm,17.0s						
KUR				MLR	MLR		
	comp=Z,13μm,17.0s						
KUR				MLR	MLR		
	comp=E,12μm,15.0s						
KMSK	**Kamenskaya**	**10.86**	**14**	*e*P	**Pn**	**20 24 36.2**	**+1.3**
KMSK	**Kamenskaya**	**10.86**	**14**	PN	**Pn**	**20 24 36.2**	**+1.3**
TYV	**Tymovskoe**	**11.14**	**271**	*e*PN	**Pn**	**20 24 42.3**	**+3.5**
TYV				*e*S	Sn	20 26 52.7	+11
TYV				pmax	pmax		
	comp=Z,1μm,5.2s						
TYV				pmax	pmax		
	comp=Z,52nm,1.4s						
TYV				smax	smax		
	comp=E,34nm,1.6s						
TYV				smax	smax		
	comp=E,1μm,8.8s						
TYV				MLR	MLR		
	comp=N,15μm,17.0s						
TYV				MLR	MLR		
	comp=Z,19μm,17.0s						
SEY	**Seymchan**	**11.67**	**342**	Pn	**Pn**	**20 24 47.9**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=146,slow=12,SNR=35						
SEY				LR	LR	20 29 32.1	
	comp=Z,7μm,20.0s,baz=146,slow=40						
NKL	**Nikolayevsk**	**12.03**	**283**	*e*PN	**Pn**	**20 24 53.0**	**+2.0**
NKL				pmax	pmax		
	comp=E,290nm,2.0s						
NKL				pmax	pmax		
	comp=Z,290nm,2.0s						
UGL	**Uglegorsk**	**12.04**	**263**	*c i*PN	**Pn**	**20 24 53.8**	**+2.7**
UGL				S	**Sn**	**20 27 12.2**	**+8.2**
UGL				pmax	pmax		
	comp=Z,3μm,4.4s						
UGL				pmax	pmax		
	comp=E,3μm,4.2s						
UGL				pmax	pmax		
	comp=Z,167nm,0.9s						
UGL				MLR	MLR		
	comp=Z,12μm,14.0s						
UGL				MLR	MLR		
	comp=E,16μm,13.0s						
UGL				MLR	MLR		
	comp=N,9μm,14.0s						
YSS	**Yuzh-Sakhalins**	**12.55**	**253**	*e*Pn	**Pn**	**20 24 59.1**	**+0.8**
YSS	**Yuzh-Sakhalins**	**12.55**	**253**	*c i*PN	**Pn**	**20 24 59.4**	**+1.2**
YSS				pmax	pmax		
	comp=Z,80nm,1.0s						
YSS				pmax	pmax		
	comp=Z,800nm,3.3s						
YSS				pmax	pmax		
	comp=N,600nm,3.2s						
YSS				pmax	pmax		
	comp=E,900nm,3.0s						
YSS				MLR	MLR		
	comp=Z,6μm,16.0s						
YSS				MLR	MLR		
	comp=N,11μm,14.0s						
YSS				MLR	MLR		
	comp=E,3μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**12.62**	**236⇑**	*i*PN	**Pn**	**20 24 56.8**	**-2.2**
YUK				*i* S	**Sn**	**20 27 21.8**	**+3.5**
YUK				pmax	pmax		
	comp=Z,262nm,0.8s						
YUK				pmax	pmax		
	comp=N,212nm,1.0s						
YUK				pmax	pmax		
	comp=E,171nm,0.7s						
YUK				pmax	pmax		
	comp=Z,543nm,1.5s						
ASAJ	**Asahikawa**	**14.30**	**243**	Pn	**Pn**	**20 25 21.1**	**-0.9**
	comp=Z,9.8nm,0.3s,baz=72,slow=14,SNR=110						
ASAJ				LR	LR	20 31 48.4	
	comp=Z,9μm,18.2s,baz=52,slow=41						
GRNR	**Gornyy**	**15.00**	**274**	*e*P	**P**	**20 25 37.5**	**+1.0**
GRNR				pmax	pmax		
	comp=Z,50nm,1.1s						
ERM	**Erimo**	**15.45**	**236**	*e*Pn	**Pn**	**20 25 33.4**	**-3.9**
	comp=Z,60nm,0.6s						
ERM	**Erimo**	**15.45**	**236**	*ce*P	**Pn**	**20 25 33.4**	**-3.9**
ERM				pmax	pmax		
	comp=Z,31nm,0.7s						
BILL	**Bilibino**	**16.25**	**8**	*e*Pn	**Pn**	**20 25 44.0**	**-3.5**
	comp=Z,136nm,0.9s						
BILL	**Bilibino**	**16.25**	**8**	*d i*P	**Pn**	**20 25 48.4**	**+0.9**
BILL				*e*S	**Sn**	**20 28 48.7**	**+2.3**
BILL				pmax	pmax		
	comp=Z,184nm,1.0s						
BILL				MLR	MLR		
	comp=Z,9μm,19.0s						
TEY	**Ternei**	**17.21**	**255⇓**	*e*P	**P**	**20 26 00.5**	**-0.5**
TEY				*e*S	**Sn**	**20 29 07.5**	**-2.5**
TEY				pmax	pmax		
	comp=E,80nm,1.9s						
TEY				pmax	pmax		
	comp=Z,80nm,1.8s						
TEY				pmax	pmax		
	comp=N,50nm,1.9s						
TEY				MLR	MLR		
	comp=N,7μm,14.0s						
TEY				MLR	MLR		
	comp=E,6μm,14.0s						
TEY				MLR	MLR		
	comp=Z,9μm,15.0s						
KLR	**Kul'dur**	**18.33**	**272**	*c i*P	**P**	**20 26 13.2**	**-0.2**
KLR	**Kul'dur**	**18.33**	**272**	P	**Pn**	**20 26 13.5**	**-0.1**
	comp=Z,3.2nm,0.3s,baz=68,slow=10,SNR=67						
KLR				LR	LR	20 34 12.9	
	comp=Z,9μm,18.6s,baz=74,slow=40						
NIKH	**Nikolski High**	**18.66**	**75**	*e*P	**Pn**	**20 26 18.8**	**+1.3**
	comp=Z,120nm,1.0s						
GAMB	**Gambell**	**18.68**	**40**	*e*P	**P**	**20 26 16.8**	**-0.3**
	comp=Z,44nm,1.0s						
YAK	**Yakutsk**	**19.24**	**313**	*e*P	**P**	**20 26 20.5**	**-2.8**
YAK				*e*S	**Sn**	**20 29 52.0**	**-6.9**
YAK				pmax	pmax		
	comp=Z,3μm,1.0s						
YAK				pmax	pmax		
	comp=N,562nm,0.9s						
YAK				pmax	pmax		
	comp=E,2μm,1.4s						
YAK				pmax	pmax		
	comp=Z,2μm,0.9s						
YAK				pmax	pmax		
	comp=N,356nm,1.2s						
YAK				pmax	pmax		
	comp=E,2μm,1.2s						
YAK				smax	smax		
	comp=N,1μm,1.5s						
YAK				smax	smax		
	comp=E,3μm,2.0s						
YAK				MLR	MLR		
	comp=Z,21μm,16.0s						
YAK				MLR	MLR		
	comp=N,26μm,17.0s						
YAK				MLR	MLR		
	comp=E,17μm,17.0s						
UNV	**Unalaska Valle**	**19.91**	**72**	*e*P	**P**	**20 26 28.9**	**-1.7**
	comp=E,229nm,1.4s						
ZEA	**Zeya**	**19.96**	**288**	*e*P	**P**	**20 26 29.2**	**-1.9**
ZEA				*e*S	**S**	**20 30 13.0**	**-0.7**
ZEA				pmax	pmax		
	comp=N,31nm,0.8s						
ZEA				pmax	pmax		
	comp=E,59nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,93nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,700nm,12.0s						
ZEA				smax	smax		
	comp=E,1μm,11.0s						
ZEA				MLR	MLR		
	comp=N,7μm,14.0s						
ZEA				MLR	MLR		
	comp=E,16μm,14.0s						
ZEA				MLR	MLR		
	comp=Z,27μm,14.0s						
USA0B	**Ussuriysk Arra**	**20.43**	**259**	*e*P	**P**	**20 26 32.6**	**-3.8**
	comp=Z,127nm,0.8s						
USRK	**Ussuriysk Ar.**	**20.43**	**259**	P	**P**	**20 26 34.2**	**-2.2**
	comp=Z,104nm,0.8s,baz=61,slow=9.4,SNR=86						
USRK				LR	LR	20 34 24.9	
	comp=Z,6μm,21.3s,baz=55,slow=37						
ANM	**Nome**	**21.54**	**41**	*e*P	**P**	**20 26 48.4**	**+0.2**
	comp=Z,106nm,1.3s						
ANM	**Nome**	**21.54**	**41**	*e*P	**P**	**20 26 48.4**	**+0.2**
ANM				pmax	pmax		
	comp=Z,110nm,1.2s						
MDJ	**Mudanjiang**	**21.67**	**262**	P	**P**	**20 26 48.0**	**-1.7**
MDJ				pP	pP	20 26 51.8	-5.8
MDJ				sP	sP	20 26 53.8	-7.7
MDJ				pmax	pmax		
	comp=Z,33nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,450nm,3.5s						
MDJ				LR	LR		
	comp=Z,13μm,20.3s						
MDJ				LR	LR		
	comp=Z,6μm,19.9s						
MDJ				LR	LR		
	comp=Z,6μm,19.9s						
MDJ	**Mudanjiang**	**21.67**	**262**	*e*P	**P**	**20 26 47.9**	**-1.7**
	comp=Z,80nm,0.8s						
MSHR	**Mys Shultsa**	**21.85**	**256⇑**	*e*P	**P**	**20 26 48.2**	**-3.4**
MJAR	**Matsushiro Arr**	**22.09**	**234**	P	**P**	**20 26 54.0**	**-0.3**
	comp=Z,54nm,0.7s,baz=19,slow=10,SNR=146						
MJAR				PcP	**PcP**	**20 30 51.3**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=35,slow=0.7,SNR=6.3						
MJAR				LR	LR	20 36 01.3	
	comp=Z,7μm,21.1s,baz=55,slow=38						
MJB9	**Matsu-Tunnel**	**22.09**	**234**	*e*P	**P**	**20 26 53.9**	**-0.4**
	comp=Z,238nm,1.0s						
MAJO	**Matsushiro**	**22.09**	**234**	*e*P	**P**	**20 26 53.9**	**-0.5**
	comp=Z,232nm,1.0s						
MAJO				*e*PcP	**PcP**	**20 30 51.3**	**+0.4**
MAJO	**Matsushiro**	**22.09**	**234**	*c i*P	**P**	**20 26 53.8**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,141nm,1.0s						
MAT	**Matsushiro**	**22.09**	**234**	P	**P**	**20 26 55.2**	**+0.9**
MAT				S	Sn	20 31 02.0	-5.7
INU	**Inuyama**	**23.62**	**234**	*e*P	**P**	**20 27 10.0**	**-0.1**
	comp=Z,151nm,0.8s						
TIXI	**Tiksi**	**24.07**	**336**	*e*P	**P**	**20 27 11.3**	**-2.5**
	comp=Z,180nm,1.0s						
TIXI	**Tiksi**	**24.07**	**336**	*c i*P	**P**	**20 27 11.6**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,164nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,6μm,15.0s						
TIXI	**Tiksi**	**24.07**	**336**	P	**P**	**20 27 11.6**	**-2.3**
	comp=Z,129nm,0.8s,baz=121,slow=9.2,SNR=299						
CN2	**Changchun**	**24.64**	**264**	*e*P	**P**	**20 27 16.8**	**-2.5**
CN2				*es*P	pP	20 27 23.8	-3.9
CN2				*e*S	**S**	**20 31 33.3**	**-5.1**
CN2				*e*SS	**SnSn**	**20 32 27.3**	**+2.0**
CN2				pmax	pmax		
	comp=Z,90nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,8μm,19.0s						
CN2				LR	LR		
	comp=Z,6μm,19.0s						
CN2				LR	LR		
	comp=Z,10μm,20.0s						
HIA	**Hailar**	**25.68**	**280**	*e*P	**P**	**20 27 25.9**	**-2.8**
	comp=Z,193nm,1.0s						
HIA	**Hailar**	**25.68**	**280**	*c i*P	**P**	**20 27 26.1**	**-2.7**
HIA				pmax	pmax		
	comp=Z,932nm,0.9s						
RSO	**Redoubt South**	**26.79**	**53**	*e*P	**P**	**20 27 40.3**	**+1.4**
BOD	**Bodaibo**	**26.80**	**301⇑**	*i*P	**P**	**20 27 36.9**	**-1.9**
BOD				pmax	pmax		
	comp=Z,95nm,2.0s						
OHAK	**Old Harbor**	**26.85**	**61**	*e*P	**P**	**20 27 39.7**	**+0.5**
	comp=Z,57nm,0.9s						
SNY	**Shenyang**	**26.88**	**262**	⇓P	**P**	**20 27 39.3**	**-0.3**
SNY				pP	**pP**	**20 27 48.5**	**+0.6**
SNY				sP	**sP**	**20 27 51.0**	**-0.8**
SNY				PP	**PnPn**	**20 28 26.8**	**+4.8**
SNY				S	**S**	**20 32 15.5**	**+1.6**
SNY				pmax	pmax		
	comp=Z,83nm,0.8s						
SNY				pmax	pmax		
	comp=Z,660nm,4.8s						
SNY				LR	LR		
	comp=Z,14μm,19.5s						
SNY				LR	LR		
	comp=Z,9μm,20.4s						
SNY				LR	LR		
	comp=Z,6μm,15.1s						
KSRS	**Korea Array**	**27.03**	**250**	P	**P**	**20 27 41.5**	**+0.5**
	comp=Z,22nm,0.6s,baz=42,slow=9.4,SNR=57						
KSRS				PcP	**PcP**	**20 31 02.6**	**+1.0**
	comp=Z,3.3nm,0.7s,baz=6.9,slow=1.1,SNR=6.5						
KSRS				LR	LR	20 39 26.1	
	comp=Z,4μm,18.6s,baz=57,slow=39						
KS15	**Wonju Array Si**	**27.06**	**250**	*e*P	**P**	**20 27 42.0**	**+0.7**
	comp=Z,76nm,1.2s						
BPAW	**Bear Paw Mtn.**	**27.60**	**45**	*e*P	**P**	**20 27 45.9**	**-0.1**
	comp=Z,25nm,1.0s						
CNPM	**China Poot**	**27.62**	**55**	*e*P	**P**	**20 27 47.1**	**+1.0**
	comp=Z,61nm,1.2s						
SUA	**Susitna One**	**27.72**	**51**	*e*P	**P**	**20 27 47.1**	**0.0**
	comp=Z,34nm,1.3s						
TJN	**Taejon**	**28.10**	**249**	*i*P	**P**	**20 27 51.6**	**+1.0**
COLD	**Coldfoot**	**28.21**	**39**	*e*P	**P**	**20 27 51.7**	**+0.4**
	comp=Z,9.4nm,0.9s						
BWN	**Browne**	**28.27**	**45**	*e*P	**P**	**20 27 51.0**	**-0.9**
	comp=Z,118nm,1.1s						
CIT	**Chita**	**28.41**	**289**	*e*P	**P**	**20 27 51.4**	**-2.0**
CIT				*e*		20 28 01.3	
CIT				*e*		20 28 09.1	
CIT				*e*		20 28 47.8	
CIT				pmax	pmax		
	comp=Z,160nm,1.4s						
SEW	**Seward**	**28.46**	**54**	*e*P	**P**	**20 27 51.3**	**-2.3**
	comp=Z,37nm,1.0s						
MCK	**McKinley**	**28.50**	**46**	*e*P	**P**	**20 27 54.1**	**+0.1**
	comp=Z,29nm,1.2s						
MCK	**McKinley**	**28.50**	**46**	*e*P	**P**	**20 27 54.1**	**+0.1**
MCK				pmax	pmax		
	comp=Z,29nm,1.2s						
JNU	**Nakatsue**	**28.54**	**240**	*e*P	**P**	**20 27 54.3**	**-0.3**
	comp=Z,147nm,1.0s						
JNU	**Nakatsue**	**28.54**	**240**	P	**P**	**20 27 55.5**	**+0.9**
	comp=Z,51nm,0.8s,baz=98,slow=3.9,SNR=15						
JNU				LR	LR	20 41 24.6	
	comp=Z,3μm,19.2s,baz=42,slow=41						
GHO	**Glory Hole Cre**	**28.57**	**50**	*e*P	**P**	**20 27 54.3**	**-0.3**
	comp=Z,27nm,1.2s						
TOLK	**Toolik Lake Re**	**28.66**	**36**	*e*P	**P**	**20 27 55.4**	**0.0**
	comp=Z,22nm,0.9s						
TOLK	**Toolik Lake Re**	**28.66**	**36**	P	**P**	**20 27 53.0**	**-2.3**
	baz=261,SNR=13						
KNK	**Knik Glacier**	**28.82**	**51**	*e*P	**P**	**20 27 56.9**	**+0.1**
	comp=Z,44nm,1.0s						
MDM	**Murphy Dome**	**28.82**	**44**	*e*P	**P**	**20 27 57.0**	**+0.1**
	comp=Z,22nm,1.2s						
WRH	**Wood River Hil**	**28.87**	**45**	*e*P	**P**	**20 27 58.0**	**+0.7**
	comp=Z,29nm,1.0s						
TCOL	**CIGO, UAF Yank**	**28.98**	**44**	P	**P**	**20 27 55.3**	**-2.9**
	baz=269						
COLA	**College**	**28.98**	**44**	*e*P	**P**	**20 27 58.4**	**+0.2**
	comp=Z,21nm,0.9s						
COLA	**College**	**28.98**	**44**	*e*P	**P**	**20 27 58.4**	**+0.2**
COLA				pmax	pmax		
	comp=Z,21nm,0.9s						
CCB	**Clear Creek Bu**	**29.00**	**44**	*e*P	**P**	**20 27 58.1**	**-0.2**
	comp=Z,49nm,1.4s						
POKR	**Poker Plat Res**	**29.16**	**43**	P	**P**	**20 27 56.1**	**-3.8**
	baz=269						
DHY	**Denali Highway**	**29.22**	**47**	*e*P	**P**	**20 28 01.2**	**+0.7**
	comp=Z,94nm,1.7s						
SCM	**Sheep Creek Mo**	**29.32**	**50**	*e*P	**P**	**20 28 01.7**	**+0.4**
	comp=Z,34nm,0.9s						
SCM	**Sheep Creek Mo**	**29.32**	**50**	*e*P	**P**	**20 28 01.7**	**+0.4**
SCM				pmax	pmax		
	comp=Z,34nm,0.9s						
HDA	**Harding Lake**	**29.37**	**45**	*e*P	**P**	**20 28 02.5**	**+0.8**
	comp=Z,10nm,0.8s						
HDA	**Harding Lake**	**29.37**	**45**	P	**P**	**20 27 59.2**	**-2.5**
	baz=271						
ILAR	**Eielson Array**	**29.39**	**44**	P	**P**	**20 28 01.4**	**-0.5**
	comp=Z,5.9nm,0.9s,baz=257,slow=7.3,SNR=30						
ILAR				PcP	**PcP**	**20 31 07.2**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=272,slow=3.5,SNR=4.4						
ILAR				LR	LR	20 41 18.5	
	comp=Z,2μm,19.8s,baz=276,slow=40						
ILB	**Eielson Array**	**29.39**	**44**	*e*P	**P**	**20 28 01.2**	**-0.6**
	comp=Z,13nm,0.8s						
GLI	**Glacier Island**	**29.53**	**52**	*e*P	**P**	**20 28 03.8**	**+0.7**
	comp=Z,15nm,0.9s						
DL2	**Dalian**	**29.82**	**259**	P	**P**	**20 28 06.8**	**+0.9**
DL2				pP	**pP**	**20 28 15.5**	**+1.2**
DL2				PP	**PnPn**	**20 29 05.3**	**+3.1**
DL2				*e*S	**S**	**20 33 02.5**	**+2.2**
DL2				pmax	pmax		
	comp=Z,72nm,0.7s						
DL2				pmax	pmax		
	comp=Z,480nm,4.5s						
DL2				LR	LR		
	comp=Z,5μm,15.9s						
DL2				LR	LR		
	comp=Z,4μm,16.9s						
DL2				LR	LR		
	comp=Z,5μm,22.3s						
PAX	**Paxson**	**30.09**	**48**	*e*P	**P**	**20 28 08.3**	**+0.2**
	comp=Z,10nm,1.0s						
PAX	**Paxson**	**30.09**	**48**	*e*P	**P**	**20 28 08.3**	**+0.2**
PAX				pmax	pmax		
	comp=Z,10.0nm,1.0s						
FYU	**Fort Yukon**	**30.11**	**40**	*e*P	**P**	**20 28 09.2**	**+1.1**
	comp=Z,43nm,1.2s						
DIV	**Divide**	**30.14**	**51**	*e*P	**P**	**20 28 09.5**	**+0.9**
	comp=Z,68nm,1.7s						
RIDG	**Independent Ri**	**30.32**	**46**	*e*P	**P**	**20 28 09.0**	**-1.1**
	comp=Z,18nm,1.0s						
DOT	**Dot Lake**	**30.67**	**46**	*e*P	**P**	**20 28 12.7**	**-0.5**
	comp=Z,8.3nm,0.8s						
MENT	**Mentasta**	**30.89**	**48**	*e*P	**P**	**20 28 15.1**	**0.0**
	comp=Z,11nm,1.0s						
HMT	**Hamilton**	**30.99**	**53**	*e*P	**P**	**20 28 16.2**	**+0.2**
	comp=Z,39nm,1.3s						
TGL	**Tana Glacier**	**31.61**	**52**	*e*P	**P**	**20 28 21.7**	**+0.1**
	comp=Z,29nm,1.2s						
BALM	**Baldy**	**31.80**	**51**	*e*P	**P**	**20 28 24.0**	**+0.8**
	comp=Z,15nm,1.1s						
BALM	**Baldy**	**31.80**	**51**	*e*P	**P**	**20 28 24.0**	**+0.8**
BALM				pmax	pmax		
	comp=Z,15nm,1.1s						
EGAK	**Eagle**	**31.85**	**44**	*e*P	**P**	**20 28 23.1**	**-0.4**
	comp=Z,17nm,0.8s						
CTGM	**Chitina Glacie**	**32.29**	**51**	*e*P	**P**	**20 28 27.4**	**-0.3**
	comp=Z,31nm,1.2s						
BJI	**Beijing**	**32.46**	**266**	P	**P**	**20 28 29.0**	**-0.1**
BJI				S	**S**	**20 33 41.0**	**-0.6**
BJI				LR	LR		
	comp=Z,2μm,20.1s						
BJI				LR	LR		
	comp=Z,2μm,20.8s						
BJI				LR	LR		
	comp=Z,2μm,19.5s						
BJT	**Baijiatuau**	**32.48**	**266**	*e*P	**P**	**20 28 28.0**	**-1.3**
	comp=Z,12nm,0.8s						
BJT	**Baijiatuau**	**32.48**	**266**	*e*P	**P**	**20 28 28.0**	**-1.3**
BJT				pmax	pmax		
	comp=Z,12nm,0.8s						
DAWY	**Dawson**	**32.69**	**45**	*e*P	**P**	**20 28 31.3**	**+0.4**
	comp=Z,14nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**32.70**	**169**	T	T	21 04 52.7	
	baz=352,slow=76,SNR=414						
H11N3	**WAKE ISLAND Hy**	**32.71**	**169**	T	T	21 04 24.8	
	baz=352,slow=76,SNR=323						
H11N1	**WAKE ISLAND Hy**	**32.72**	**169**	T	T	21 04 36.7	
	baz=352,slow=76,SNR=440						
EPYK	**Eagle Plains**	**33.53**	**41**	*e*P	**P**	**20 28 38.6**	**+0.4**
	comp=Z,41nm,1.3s						
EPYK	**Eagle Plains**	**33.53**	**41**	P	**P**	**20 28 35.8**	**-2.4**
	baz=277						
IRK	**Irkutsk**	**33.69**	**293**	*e*P	**P**	**20 28 38.1**	**-1.6**
IRK				pmax	pmax		
	comp=Z,121nm,2.0s						
H11S1	**WAKE ISLAND Hy**	**33.88**	**169**	T	T	21 05 53.9	
	baz=353,slow=74						
H11S3	**WAKE ISLAND Hy**	**33.90**	**169**	T	T	21 05 31.8	
	baz=353,slow=74						
H11S2	**WAKE ISLAND Hy**	**33.90**	**169**	T	T	21 05 27.4	
	baz=353						
HYT	**Haines Junctio**	**34.15**	**50**	*e*P	**P**	**20 28 44.0**	**+0.2**
	comp=Z,20nm,1.0s						
TLY	**Talaya**	**34.26**	**292**	*e*P	**P**	**20 28 43.2**	**-1.5**
	comp=Z,88nm,1.0s						
TLY	**Talaya**	**34.26**	**292**	*c i*P	**P**	**20 28 43.3**	**-1.5**
TLY	**Talaya**	**34.26**	**292**	P	**P**	**20 28 43.6**	**-1.2**
	SNR=29						
TIA	**Tai'an**	**34.29**	**260**	P	**P**	**20 28 44.8**	**-0.3**
TIA				pP	**pP**	**20 28 51.8**	**-1.8**
TIA				pmax	pmax		
	comp=Z,23nm,0.9s						
TIA				LR	LR		
	comp=Z,3μm,15.0s						
TIA				LR	LR		
	comp=Z,3μm,14.2s						
TIA				LR	LR		
	comp=Z,2μm,14.2s						
SONM	**Songino Array**	**34.32**	**285**	P	**P**	**20 28 43.8**	**-1.6**
	comp=Z,7.0nm,0.5s,baz=68,slow=8.5,SNR=7.0						
SONM				LR	LR	20 44 31.7	
	comp=Z,15μm,18.0s,baz=64,slow=40						
INK	**Inuvik**	**34.55**	**37**	*e*P	**P**	**20 28 46.7**	**-0.3**
	comp=Z,25nm,1.0s						
INK	**Inuvik**	**34.55**	**37**	*e*P	**P**	**20 28 46.7**	**-0.3**
INK				pmax	pmax		
	comp=Z,25nm,1.0s						
HHC	**Hu-ho-hao-te**	**34.83**	**271**	*e*P	**P**	**20 28 48.0**	**-1.9**
HHC				sP	pP	20 28 57.0	-1.6
HHC				PcP	**PcP**	**20 31 19.0**	**-3.4**
HHC				S	**S**	**20 34 18.5**	**0.0**
HHC				SS	**SnSn**	**20 36 22.0**	**-12**
HHC				pmax	pmax		
	comp=Z,110nm,0.8s						
HHC				pmax	pmax		
	comp=Z,430nm,4.4s						
HHC				LR	LR		
	comp=Z,3μm,12.1s						
HHC				LR	LR		
	comp=Z,2μm,13.2s						
HHC				LR	LR		
	comp=Z,3μm,11.7s						
JOW	**Kunigami**	**34.90**	**236**	*e*P	**P**	**20 28 51.4**	**+1.0**
	comp=Z,52nm,0.8s						
ZAK	**Zakamensk**	**35.01**	**290**	*e*P	**P**	**20 28 49.9**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,65nm,1.3s						
WHY	**Whitehorse**	**35.44**	**50**	*e*P	**P**	**20 28 55.4**	**+0.5**
	comp=Z,20nm,1.0s						
SKAG	**Skagway**	**35.57**	**52**	*e*P	**P**	**20 28 57.6**	**+1.8**
	comp=Z,30nm,0.9s						
MOY	**Mondy**	**35.77**	**294**	*e*P	**P**	**20 28 56.7**	**-1.2**
MOY				pmax	pmax		
	comp=Z,130nm,1.3s						
BTO	**Baotou**	**35.92**	**272**	*e*P	**P**	**20 28 58.0**	**-1.3**
BESE	**Bessie Mountai**	**36.07**	**54**	*e*P	**P**	**20 29 01.8**	**+1.5**
	comp=Z,31nm,1.1s						
NJ2	**Nanjing**	**36.13**	**253**	*e*P	**P**	**20 29 03.5**	**+2.6**
NJ2				sP	**sP**	**20 29 11.0**	**-1.7**
NJ2				S	**S**	**20 34 43.8**	**+5.6**
NJ2				pmax	pmax		
	comp=Z,76nm,0.8s						
NJ2				LR	LR		
	comp=Z,5μm,16.8s						
NJ2				LR	LR		
	comp=Z,4μm,14.6s						
NJ2				LR	LR		
	comp=Z,4μm,16.3s						
TIY	**Taiyuan**	**36.20**	**266**	*e*P	**P**	**20 28 59.5**	**-2.1**
TIY				S	**S**	**20 34 40.0**	**+0.6**
TIY				pmax	pmax

	comp=Z,5μm,18.2s						
TIY				LR	LR		
	comp=Z,3μm,17.6s						
TIY				LR	LR		
	comp=Z,4μm,13.1s						
SIT	**Sitka**	**36.34**	**56**	*e*P	**P**	**20 29 02.6**	**+0.2**
	comp=Z,80nm,1.8s						
SIT	**Sitka**	**36.34**	**56**	*e*P	**P**	**20 29 02.7**	**+0.2**
SIT				pmax	pmax		
	comp=Z,80nm,1.8s						
JIS	**Juneau Island**	**36.41**	**54**	*e*P	**P**	**20 29 03.8**	**+0.9**
	comp=Z,45nm,1.2s						
NRIK	**Noril'sk**	**36.83**	**326**	P	**P**	**20 29 04.1**	**-2.4**
	comp=Z,48nm,1.0s,baz=89,slow=8.7,SNR=68						
NRIK				LR	LR	20 45 42.7	
	comp=Z,11μm,18.3s,baz=71,slow=39						
WRAK	**Wrangell Islan**	**38.10**	**56**	*e*P	**P**	**20 29 16.2**	**-1.2**
	comp=Z,23nm,0.7s						
DLBC	**Dease Lake**	**38.50**	**52**	*e*P	**P**	**20 29 21.3**	**+0.4**
	comp=Z,31nm,1.0s						
WHN	**Wuhan**	**39.88**	**256**⇑	*i*P	**P**	**20 29 34.5**	**+1.9**
WHN				sP	**pwP**	**20 29 45.0**	**-0.7**
WHN				pmax	pmax		
	comp=Z,150nm,0.8s						
WHN				LR	LR		
	comp=Z,8μm,13.8s						
WHN				LR	LR		
	comp=Z,2μm,9.4s						
WHN				LR	LR		
	comp=Z,7μm,14.5s						
YHNB	**Yeheng**	**40.30**	**242**	*e*P	**P**	**20 29 38.0**	**+1.9**
	comp=Z,38nm,0.7s						
XAN	**Xi'an**	**40.75**	**264**	P	**P**	**20 29 40.3**	**+0.5**
XAN				S	**S**	**20 35 48.5**	**+0.4**
XAN				pmax	pmax		
	comp=Z,17nm,1.7s						
XAN				pmax	pmax		
	comp=Z,310nm,4.2s						
XAN				LR	LR		
	comp=Z,6μm,20.1s						
XAN				LR	LR		
	comp=Z,6μm,20.1s						
XAN				LR	LR		
	comp=Z,4μm,15.7s						
XAN	**Xi'an**	**40.75**	**264**	*e*P	**P**	**20 29 40.3**	**+0.5**
	comp=Z,44nm,1.5s						
XAN	**Xi'an**	**40.75**	**264**	*e*P	**P**	**20 29 40.3**	**+0.5**
XAN				pmax	pmax		
	comp=Z,44nm,1.5s						
SSLB	**Suanglung**	**41.23**	**242**	*e*P	**P**	**20 29 44.0**	**+0.2**
	comp=Z,32nm,0.8s						
YULB	**Yu-li**	**41.36**	**241**	*e*P	**P**	**20 29 44.4**	**-0.5**
	comp=Z,81nm,0.5s						
QZH	**Quanzhou**	**41.62**	**246**⇑	*i*P	**P**	**20 29 47.5**	**+0.5**
QZH				S	**S**	**20 36 04.3**	**+3.2**
QZH				pmax	pmax		
	comp=Z,410nm,5.2s						
QZH				LR	LR		
	comp=Z,2μm,15.6s						
QZH				LR	LR		
	comp=Z,2μm,13.9s						
QZH				LR	LR		
	comp=Z,2μm,14.0s						
TPUB	**Ta-pu**	**41.80**	**242**	*e*P	**P**	**20 29 49.2**	**+0.8**
	comp=Z,73nm,0.7s						
TWG	**Pinlang**	**41.94**	**241**	*e*P	**P**	**20 29 49.5**	**-0.1**
	comp=Z,285nm,0.8s						
LZH	**Lanzhou**	**42.53**	**271**	*e*P	**P**	**20 29 54.5**	**0.0**
LZH				pP	pP	20 29 59.3	-4.1
LZH				sP	pwP	20 30 02.3	-4.4
LZH				PP	**PP**	**20 31 38.0**	**+4.8**
LZH				*e*S	**S**	**20 36 17.5**	**+2.8**
LZH				sS	pS	20 36 20.8	-3.9
LZH				pmax	pmax		
	comp=Z,56nm,1.0s						
LZH				pmax	pmax		
	comp=Z,380nm,5.4s						
LZH				LR	LR		
	comp=Z,6μm,17.1s						
LZH				LR	LR		
	comp=Z,6μm,18.2s						
LZH				LR	LR		
	comp=Z,8μm,19.5s						
GTA	**Gaotai**	**42.91**	**278**	*e*P	**P**	**20 29 56.0**	**-1.5**
GTA				pP	pP	20 30 00.3	-6.1
GTA				sP	sP	20 30 03.5	-6.5
GTA				pmax	pmax		
	comp=Z,28nm,1.4s						
GTA				pmax	pmax		
	comp=Z,250nm,5.8s						
GTA				LR	LR		
	comp=Z,8μm,16.1s						
GTA				LR	LR		
	comp=Z,6μm,14.1s						
GTA				LR	LR		
	comp=Z,9μm,17.2s						
ENH	**Enshi**	**43.01**	**260**	*e*P	**P**	**20 29 56.9**	**-1.4**
	comp=Z,102nm,0.8s						
ZAA0	**Zalesovo Array**	**43.48**	**304**	*e*P	**P**	**20 29 58.6**	**-3.1**
	comp=Z,24nm,0.8s						
ZALV	**Zalesovo Beam**	**43.48**	**304**	*i* P	**P**	**20 29 59.5**	**-2.2**
ZALV				pmax	pmax		
	comp=Z,26nm,0.8s						
ZALV	**Zalesovo Beam**	**43.48**	**304**	P	**P**	**20 29 58.9**	**-2.8**
	comp=Z,26nm,0.8s,baz=57,slow=6.6,SNR=76						
ZALV				LR	LR	20 49 34.9	
	comp=Z,6μm,18.5s,baz=66,slow=38						
YKW3	**Yellowknife Ar**	**43.74**	**42**	*e*P	**P**	**20 30 04.2**	**+0.5**
	comp=Z,13nm,1.0s						
YKA	**Yellowknife Ar**	**43.78**	**42**	P	**P**	**20 30 03.3**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=298,slow=8.1,SNR=31						
NVS	**Novosibirsk**	**43.84**	**305**⇓	*i*P	**P**	**20 30 02.7**	**-1.9**
NVS				*e*S	**S**	**20 36 27.3**	**-5.7**
NVS				*e*		20 39 51.1	
NVS				pmax	pmax		
	comp=N,55nm,1.0s						
NVS				pmax	pmax		
	comp=E,146nm,1.0s						
NVS				pmax	pmax		
	comp=Z,220nm,1.0s						
NVS				smax	smax		
	comp=E,30nm,1.7s						
RES	**Resolute Bay**	**44.18**	**22**	*e*P	**P**	**20 30 07.3**	**+0.2**
	comp=E,27nm,0.8s						
RES	**Resolute Bay**	**44.18**	**22**	*e*P	**P**	**20 30 07.3**	**+0.2**
RES				pmax	pmax		
	comp=Z,27nm,0.8s						
DGZ	**Jazzator, Alta**	**44.28**	**297***c*	*i*P	**P**	**20 30 06.9**	**-1.6**
DGZ				pmax	pmax		
	comp=Z,48nm,0.9s						
CD2	**Chengdu**	**46.06**	**265**	⇑P	**P**	**20 30 22.3**	**-0.4**
CD2				pP	pP	20 30 26.5	-5.1
CD2				sP	pwP	20 30 28.5	-6.3
CD2				PP	**PP**	**20 32 12.0**	**+1.1**
CD2				S	**S**	**20 37 04.0**	**-1.9**
CD2				ScS	**ScS**	**20 40 15.5**	**-0.2**
CD2				pmax	pmax		
	comp=Z,110nm,0.5s						
CD2				pmax	pmax		
	comp=Z,630nm,4.3s						
CD2				LR	LR		
	comp=Z,14μm,24.5s						
CD2				LR	LR		
	comp=Z,13μm,19.1s						
CD2				LR	LR		
	comp=Z,8μm,18.6s						
LLLB	**Lillooet**	**46.35**	**59**	*e*P	**P**	**20 30 25.0**	**+0.2**
	comp=Z,20nm,1.0s						
ZSN	**Zaisan**	**46.95**	**296**	*e*P	**P**	**20 30 32.9**	**+3.5**
ZSN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ZSN				MLR	MLR		
	comp=Z,953nm,15.0s						
ZSN	**Zaisan**	**46.95**	**296**	*e*P	**P**	**20 30 32.9**	**+3.5**
	comp=Z,6.5nm,0.7s						
ZSN				*e*LR	LR	20 51 02.2	
	comp=Z,953nm,15.1s						
GYA	**Guiyang**	**47.48**	**259**⇓	*i*P	**P**	**20 30 34.0**	**+0.1**
GYA				pP	pP	20 30 39.5	-3.0
GYA				PcP	**PcP**	**20 32 03.3**	**-0.5**
GYA				PP	**PP**	**20 32 25.3**	**0.0**
GYA				S	**S**	**20 37 28.0**	**+1.7**
GYA				pmax	pmax		
	comp=Z,50nm,1.0s						
GYA				pmax	pmax		
	comp=Z,310nm,7.2s						
GYA				LR	LR		
	comp=Z,3μm,18.0s						
GYA				LR	LR		
	comp=Z,2μm,19.6s						
GYA				LR	LR		
	comp=Z,4μm,16.2s						
WMQ	**Urumqi**	**47.48**	**290**	P	**P**	**20 30 33.0**	**-0.7**
WMQ				pP	pP	20 30 37.5	-5.0
WMQ				sP	sP	20 30 42.0	-4.1
WMQ				pmax	pmax		
	comp=Z,340nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,1μm,3.7s						
WMQ				LR	LR		
	comp=Z,14μm,15.7s						
WMQ				LR	LR		
	comp=Z,24μm,14.3s						
WMQ				LR	LR		
	comp=Z,28μm,15.7s						
WMQ	**Urumqi**	**47.48**	**290**	*e*P	**P**	**20 30 32.9**	**-0.8**
	comp=Z,132nm,1.0s						
WMQ	**Urumqi**	**47.48**	**290**	*e*P	**P**	**20 30 32.9**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,132nm,1.0s						
SEM	**Semipalatinsk**	**47.75**	**302***c*	*i*P	**P**	**20 30 32.5**	**-3.3**
SEM				pmax	pmax		
	comp=Z,36nm,0.8s						
SEM				MLR	MLR		
	comp=Z,1μm,14.0s						
SEM	**Semipalatinsk**	**47.75**	**302**⇑	*i*P	**P**	**20 30 32.5**	**-3.3**
	comp=Z,36nm,0.8s						
SEM				*e*LR	LR	20 51 08.9	
	comp=Z,1μm,14.2s						
D04E	**Lakebay**	**47.83**	**64**	P	**P**	**20 30 33.6**	**-2.5**
	baz=306						
KBS	**Kingsbay**	**47.89**	**352**	*e*P	**P**	**20 30 36.9**	**+0.7**
	comp=Z,100nm,0.9s						
KBS	**Kingsbay**	**47.89**	**352***ce*P		**P**	**20 30 36.1**	**-0.2**
KBS				pmax	pmax		
	comp=Z,262nm,0.8s						
KBS	**Kingsbay**	**47.89**	**352**	*e*P	**P**	**20 30 37.7**	**+1.5**
SPA0	**Spitsbergen Ar**	**48.15**	**351**	*e*P	**P**	**20 30 38.1**	**-0.2**
	comp=Z,507nm,1.3s						
SPA0	**Spitsbergen Ar**	**48.15**	**351**	*e*P	**P**	**20 30 39.4**	**+1.1**
KURK	**Kurchatov**	**48.42**	**303**	*e*P	**P**	**20 30 38.1**	**-2.6**
	comp=Z,258nm,1.1s						
KURK	**Kurchatov**	**48.42**	**303***c*	*i*P	**P**	**20 30 38.3**	**-2.4**
KURK				pmax	pmax		
	comp=Z,212nm,1.0s						
KURK	**Kurchatov**	**48.42**	**303**	P	**P**	**20 30 38.8**	**-1.9**
	SNR=88						
MK31	**Makanchi Array**	**48.76**	**297**	*e*P	**P**	**20 30 40.9**	**-2.5**
	comp=Z,34nm,0.6s						
MK31	**Makanchi Array**	**48.76**	**297**	*e*P	**P**	**20 30 41.2**	**-2.2**
MK31				pmax	pmax		
	comp=Z,34nm,0.6s						
MKAR	**Makanchi Array**	**48.76**	**297**	P	**P**	**20 30 41.1**	**-2.3**
	comp=Z,29nm,0.5s,baz=58,slow=6.5,SNR=393						
MKAR				LR	LR	20 52 35.2	
	comp=Z,3μm,20.2s,baz=48,slow=38						
MAKZ	**Makanchi**	**48.92**	**297**	*e*P	**P**	**20 30 41.9**	**-2.8**
	comp=Z,47nm,0.9s						
MAKZ	**Makanchi**	**48.92**	**297**	*e*P	**P**	**20 30 41.9**	**-2.8**
MAKZ				pmax	pmax		
	comp=Z,47nm,0.9s						
B08A	**Colville Reser**	**49.01**	**61**	*e*P	**P**	**20 30 46.0**	**+0.6**
	comp=Z,28nm,1.1s						
HSPB	**Hornsund (broa**	**49.27**	**350**	*e*P	**P**	**20 30 47.0**	**+0.1**
HSPB				MLR	MLR		
	comp=Z,12μm,21.3s						
HSPB	**Hornsund (broa**	**49.27**	**350**	*e*P	**P**	**20 30 47.6**	**+0.7**
I04A	**Tendick Farm,**	**50.07**	**67**	P	**P**	**20 30 51.0**	**-2.5**
	baz=309						
NEW	**Newport**	**50.24**	**60**	*e*P	**P**	**20 30 55.7**	**+0.9**
	comp=Z,17nm,1.2s						
NEW	**Newport**	**50.24**	**60**	*e*P	**P**	**20 30 55.7**	**+0.9**
NEW				pmax	pmax		
	comp=Z,17nm,1.2s						
NEW	**Newport**	**50.24**	**60**	P	**P**	**20 30 51.7**	**-3.0**
	baz=306						
NEW	**Newport**	**50.24**	**60**	LR	LR	20 51 46.2	
	comp=Z,395nm,18.7s,baz=320,slow=36						
E09A	**Wood Farm, Sta**	**50.77**	**62**	*e*P	**P**	**20 30 59.5**	**+0.8**
	comp=Z,46nm,1.3s						
KMI	**Kunming**	**50.84**	**261**	P	**P**	**20 30 59.3**	**-0.4**
KMI				pP	pP	20 31 04.0	-4.4
KMI				sP	sP	20 31 06.0	-6.3
KMI				PP	**PP**	**20 32 52.5**	**-3.5**
KMI				S	**S**	**20 38 14.3**	**+0.5**
KMI				sS	pS	20 38 22.8	-1.4
KMI				SS	**SS**	**20 41 40.8**	**-7.6**
KMI				pmax	pmax		
	comp=Z,38nm,1.0s						
KMI				pmax	pmax		
	comp=Z,450nm,3.7s						
KMI				LR	LR		
	comp=Z,5μm,19.4s						
KMI				LR	LR		
	comp=Z,4μm,18.8s						
KMI				LR	LR		
	comp=Z,2μm,21.1s						
PINE	**Pine Mountain**	**50.91**	**66**	*e*P	**P**	**20 30 59.8**	**-0.2**
	comp=Z,19nm,1.1s						
BJO	**Bjornoya**	**51.04**	**347**	*e*P	**P**	**20 31 00.6**	**+0.3**
J05D	**Fort Rock, OR**	**51.06**	**67**	P	**P**	**20 30 58.2**	**-2.9**
	baz=309						
L04D	**Klamath Falls**	**51.12**	**69**	P	**P**	**20 31 00.4**	**-1.2**
	baz=310						
KULLO	**Kullorsuaq**	**51.12**	**12**	*i* P	**P**	**20 31 01.0**	**+0.1**
KULLO				pmax	pmax		
	comp=Z,78nm,0.9s						
KULLO				MLR	MLR		
	comp=Z,2μm,16.0s						
KULLO	**Kullorsuaq**	**51.12**	**12**	*i* P	**P**	**20 31 01.0**	**+0.1**
	comp=Z,78nm,0.9s						
BRVK	**Borovoye**	**51.19**	**309**	*e*P	**P**	**20 30 59.6**	**-2.1**
	comp=Z,123nm,0.7s						
BRVK	**Borovoye**	**51.19**	**309***c*	*i*P	**P**	**20 30 59.4**	**-2.3**
BRVK				pmax	pmax		
	comp=Z,102nm,0.9s						
BRVK	**Borovoye**	**51.19**	**309**	P	**P**	**20 30 59.9**	**-1.9**
	SNR=50						
YBH	**Yreka Blue Hor**	**51.20**	**69**	*e*P	**P**	**20 31 02.4**	**+0.3**
	comp=Z,26nm,1.2s						
YBH	**Yreka Blue Hor**	**51.20**	**69**	*e*P	**P**	**20 31 02.4**	**+0.3**
YBH				pmax	pmax		
	comp=Z,26nm,1.2s						
QIZ	**Qiongzhong**	**51.26**	**250**	P	**P**	**20 31 04.5**	**+1.9**
QIZ				S	**S**	**20 38 21.8**	**+2.7**
QIZ				ScS	**ScS**	**20 40 51.3**	**+0.7**
QIZ				pmax	pmax		
	comp=Z,64nm,1.5s						
QIZ				LR	LR		
	comp=Z,1μm,18.1s						
QIZ				LR	LR		
	comp=Z,2μm,13.7s						
QIZ				LR	LR		
	comp=Z,2μm,20.1s						
QIZ	**Qiongzhong**	**51.26**	**250**	*e*P	**P**	**20 31 02.9**	**+0.3**
	comp=Z,77nm,1.0s						
M02C	**Callahan**	**51.33**	**70**	P	**P**	**20 31 02.8**	**-0.3**
	baz=310						
DAG	**Danmarks Havn**	**51.40**	**360**⇑	*i*P	**P**	**20 31 02.7**	**-0.3**
DAG				*i*		20 31 13.5	
DAG				pmax	pmax		
	comp=Z,37nm,0.8s						
DAG				MLR	MLR		
	comp=Z,2μm,17.0s						
DAG	**Danmarks Havn**	**51.40**	**360**⇑	*i*P	**P**	**20 31 02.7**	**-0.3**
	comp=Z,50nm,0.8s						
DAG				*i*		20 31 13.5	
WALA	**Waterton Lakes**	**51.44**	**57**	*e*P	**P**	**20 31 04.2**	**+0.3**
	comp=Z,41nm,1.2s						
M04C	**Macdoel**	**51.67**	**69**	P	**P**	**20 31 05.3**	**-0.3**
	baz=310						
N02D	**Trinity Center**	**51.68**	**70**	P	**P**	**20 31 03.4**	**-2.3**
	baz=310						
BRZS	**Berezniki**	**51.91**	**305***c*	*i*P	**P**	**20 31 04.2**	**-2.9**
BRZS				pmax	pmax		
	comp=Z,107nm,1.4s						
BRZS				MLR	MLR		
	comp=Z,3μm,14.0s						
BRZS	**Berezniki**	**51.91**	**305**⇑	*i*P	**P**	**20 31 04.3**	**-2.9**
	comp=Z,107nm,1.4s						
BRZS				*e*LR	LR	20 54 26.2	
	comp=Z,3μm,14.2s						
TDK	**Taldyqorghan**	**52.00**	**297**	*i* P	**P**	**20 31 06.3**	**-1.6**
TDK				pmax	pmax		
	comp=Z,147nm,1.2s						
TDK				MLR	MLR		
	comp=Z,6μm,15.0s						
TDK	**Taldyqorghan**	**52.00**	**297**	*i* P	**P**	**20 31 06.3**	**-1.6**
	comp=Z,147nm,1.2s						
TDK				*e*LR	LR	20 54 04.9	
	comp=Z,6μm,15.3s						
WDC	**Whiskeytown Da**	**52.03**	**70**	*e*P	**P**	**20 31 10.8**	**+2.6**
	comp=Z,20nm,1.0s						
O02D	**Mt. Diablo Mer**	**52.15**	**71**	P	**P**	**20 31 07.5**	**-1.7**
	baz=311						
BMO	**Blue Mountains**	**52.26**	**63**	*e*P	**P**	**20 31 10.4**	**+0.4**
	comp=Z,15nm,1.2s						
BMO	**Blue Mountains**	**52.26**	**63**	*e*P	**P**	**20 31 10.4**	**+0.4**
BMO				pmax	pmax		
	comp=Z,15nm,1.2s						
MOD	**Modoc Plateau**	**52.47**	**68**	*e*P	**P**	**20 31 12.4**	**+0.8**
	comp=Z,31nm,1.1s						
SHLS	**Shalkode**	**52.59**	**295***c*	*i*P	**P**	**20 31 08.8**	**-3.7**
SHLS				pmax	pmax		
	comp=Z,50nm,1.4s						
SHLS				MLR	MLR		
	comp=Z,622nm,15.0s						
SHLS	**Shalkode**	**52.59**	**295**⇑	*i*P	**P**	**20 31 08.8**	**-3.7**
	comp=Z,50nm,1.4s						
SHLS				*e*LR	LR	20 54 22.2	
	comp=Z,622nm,14.8s						
O03E	**Paynes Creek**	**52.65**	**70**	P	**P**	**20 31 11.5**	**-1.3**
	baz=311						
MSO	**Missoula**	**52.83**	**59**	*e*P	**P**	**20 31 15.1**	**+1.0**
	comp=Z,55nm,1.6s						
MSO	**Missoula**	**52.83**	**59**	P	**P**	**20 31 12.0**	**-2.1**
	baz=310						
KPKS	**Kokpek**	**52.83**	**295***c*	*i*P	**P**	**20 31 12.2**	**-2.0**
KPKS				pmax	pmax		
	comp=Z,39nm,1.1s						
KPKS				MLR	MLR		
	comp=Z,3μm,15.0s						
KPKS	**Kokpek**	**52.83**	**295**⇑	*i*P	**P**	**20 31 12.2**	**-2.0**
	comp=Z,39nm,1.1s						
KPKS				*e*LR	LR	20 54 36.8	
	comp=Z,3μm,15.4s						
PLID	**Pearl Lake**	**52.83**	**62**	*e*P	**P**	**20 31 14.8**	**+0.4**
	comp=Z,14nm,0.9s						
UZB	**Uzynbulak**	**52.84**	**295***c*	*i*P	**P**	**20 31 12.1**	**-2.3**
UZB				pmax	pmax		
	comp=Z,24nm,1.3s						
UZB				MLR	MLR		
	comp=Z,1μm,18.0s						
UZB	**Uzynbulak**	**52.84**	**295**⇑	*i*P	**P**	**20 31 12.1**	**-2.3**
	comp=Z,24nm,1.3s						
UZB				*e*LR	LR	20 54 39.4	
	comp=Z,1μm,17.5s						
SLVN	**Son La**	**52.98**	**257**	*e*P	**P**	**20 31 15.8**	**+0.3**
	comp=Z,62nm,1.0s						
GDXM	**Geysers**	**53.04**	**72**	*e*P	**P**	**20 31 17.9**	**+2.1**
	comp=Z,52nm,1.6s						
WVOR	**Wild Horse Val**	**53.07**	**66**	*e*P	**P**	**20 31 17.6**	**+1.6**
	comp=Z,30nm,1.4s						
WVOR	**Wild Horse Val**	**53.07**	**66**	*e*P	**P**	**20 31 17.6**	**+1.6**
WVOR				pmax	pmax		
	comp=Z,30nm,1.4s						
SVE	**Sverdlovsk**	**53.13**	**317***de*P		**P**	**20 31 15.1**	**-1.0**
SVE				*e*S	S	20 38 56.3	+12
SVE				pmax	pmax		
	comp=Z,65nm,1.5s						
SVE				MLR	MLR		
	comp=Z,6μm,16.0s						
SATY	**Saty**	**53.24**	**295***c*	*i*P	**P**	**20 31 15.5**	**-1.8**
SATY				pmax	pmax		
	comp=Z,50nm,1.2s						
SATY				MLR	MLR		
	comp=Z,2μm,17.0s						
SATY	**Saty**	**53.24**	**295**⇑	*i*P	**P**	**20 31 15.5**	**-1.8**
	comp=Z,50nm,1.2s						
SATY				*e*LR	LR	20 54 49.6	
	comp=Z,2μm,17.1s						
FFC	**Flin Flon**	**53.59**	**46**	*e*P	**P**	**20 31 20.5**	**+1.0**
	comp=Z,12nm,1.0s						
FFC	**Flin Flon**	**53.59**	**46**	*e*P	**P**	**20 31 20.8**	**+1.3**
FFC				pmax	pmax		
	comp=Z,12nm,1.0s						
HAMF	**Hammerfest**	**53.68**	**344**	*e*P	**P**	**20 31 19.2**	**-0.7**
LVZ	**Lovozero**	**53.69**	**338**	*e*P	**P**	**20 31 18.9**	**-1.2**
	comp=Z,104nm,0.9s						
LVZ	**Lovozero**	**53.69**	**338**	*e*P	**P**	**20 31 18.9**	**-1.2**
LVZ				pmax	pmax		
	comp=Z,104nm,0.9s						
BEKR	**Beckworth**	**53.76**	**70**	*e*P	**P**	**20 31 21.2**	**0.0**
	comp=Z,25nm,1.0s						
KEV	**Kevo**	**53.82**	**342**	*e*P	**P**	**20 31 19.4**	**-1.5**
	comp=Z,93nm,1.3s						
KEV	**Kevo**	**53.82**	**342**	*e*P	**P**	**20 31 19.4**	**-1.5**
KEV				pmax	pmax		
	comp=Z,93nm,1.3s						
KUU	**Kurty**	**53.85**	**297**	*e*LR	LR	20 55 08.4	
	comp=Z,4μm,15.1s						
MDOK	**Medeo**	**53.93**	**296**	*e*P	**P**	**20 31 19.6**	**-2.7**
MDOK				pmax	pmax		
	comp=Z,304nm,1.7s						
MDOK				MLR	MLR		
	comp=Z,4μm,17.0s						
MDOK	**Medeo**	**53.93**	**296**	*e*P	**P**	**20 31 19.7**	**-2.7**
	comp=Z,304nm,1.7s						
MDOK				*e*LR	LR	20 54 45.3	
	comp=Z,4μm,17.3s						
AAA	**Alma-Ata**	**53.98**	**296**	*e*P	**P**	**20 31 19.8**	**-2.8**
AAA				pmax	pmax		
	comp=Z,29nm,0.9s						
AAA				MLR	MLR		
	comp=Z,4μm,20.0s						
AAA	**Alma-Ata**	**53.98**	**296**	*e*P	**P**	**20 31 19.9**	**-2.8**
	comp=Z,29nm,0.9s						
AAA				*e*LR	LR	20 54 46.8	
	comp=Z,4μm,20.2s						
HRY	**Holter Researc**	**54.01**	**58**	*e*P	**P**	**20 31 22.6**	**-0.2**
AFDM	**Forest Hills D**	**54.02**	**71**	*e*P	**P**	**20 31 24.7**	**+1.8**
	comp=Z,14nm,1.1s						
FCC	**Fort Churchill**	**54.15**	**38**	*e*P	**P**	**20 31 24.3**	**+0.9**
	comp=Z,23nm,0.8s						
FCC	**Fort Churchill**	**54.15**	**38**	*e*P	**P**	**20 31 24.3**	**+0.9**
FCC				pmax	pmax		
	comp=Z,23nm,0.8s						
EGMT	**Eagleton**	**54.24**	**56**	*e*P	**P**	**20 31 25.4**	**+0.9**
	comp=Z,21nm,1.1s						
APA	**Apatity**	**54.24**	**338**⇑	*i*P	**P**	**20 31 22.5**	**-1.6**
APA				pmax	pmax		
	comp=Z,33nm,0.9s						
APA				MLR	MLR		
	comp=Z,2μm,19.0s						
ARU	**Arti**	**54.26**	**318**	*e*P	**P**	**20 31 22.4**	**-1.9**
	comp=Z,68nm,0.8s						
ARU	**Arti**	**54.26**	**318***c*	*i*P	**P**	**20 31 21.9**	**-2.4**
ARU						20 32 27.8	
ARU						20 33 21.9	
ARU				S	**S**	**20 39 00.1**	**+0.8**
ARU						20 41 11.9	
ARU				pmax	pmax		
	comp=Z,73nm,0.8s						
ARU				MLR	MLR		
	comp=Z,4μm,17.0s						
ARCES	**ARCESS Array B**	**54.29**	**342**	P	**P**	**20 31 24.0**	**-0.4**
	comp=Z,48nm,0.9s,baz=43,slow=8.3,SNR=94						
ARCES				LR	LR	21 01 18.2	
	comp=Z,778nm,18.4s,baz=28,slow=44						
ARE0	**ARCESS Array S**	**54.29**	**342**	*e*P	**P**	**20 31 23.8**	**-0.6**
	comp=Z,6.8nm,1.3s						
ARE0	**ARCESS Array S**	**54.29**	**342**	*e*P	**P**	**20 31 24.2**	**-0.3**
BTLS	**Baital**	**54.35**	**299***c*	*i*P	**P**	**20 31 22.6**	**-2.6**
BTLS				pmax	pmax		
	comp=Z,27nm,1.2s						
BTLS				MLR	MLR		
	comp=Z,1μm,15.0s						
BTLS	**Baital**	**54.35**	**299**⇑	*i*P	**P**	**20 31 22.6**	**-2.6**
	comp=Z,27nm,1.2s						
BTLS				*e*LR	LR	20 55 34.4	
	comp=Z,1μm,14.8s						
PAHR	**Pah Rah Range**	**54.43**	**69**	*e*P	**P**	**20 31 27.7**	**+1.7**
	comp=Z,37nm,1.3s						
TARG	**Taragay, Kyrgy**	**54.45**	**294**	*e*P	**P**	**20 31 25.4**	**-1.1**
	comp=Z,25nm,1.1s						
KDJ	**Kajisay**	**54.53**	**295**	*e*P	**P**	**20 31 25.3**	**-1.5**
	comp=Z,56nm,0.8s						
KDJ	**Kajisay**	**54.53**	**295**	*e*P	**P**	**20 31 25.3**	**-1.5**
KDJ				pmax	pmax		
	comp=Z,56nm,0.8s						

VCNR	Virginia City	54.55	70	eP	P	20 31 26.3	-0.7
	comp=Z,26nm,0.9s						
LSA	Lhasa	54.68	274	eP	P	20 31 28.2	-0.1
	comp=Z,30nm,0.7s						
LSA	Lhasa	54.68	274	i P	P	20 31 28.0	-0.4
	SNR=27						
LSA	Lhasa	54.68	274	eP	P	20 31 28.2	-0.1
LSA				pmax	pmax		
	comp=Z,30nm,0.7s						
HLID	Hailey	54.68	63	eP	P	20 31 29.1	+1.2
	comp=Z,10.0nm,1.1s						
HLID	Hailey	54.68	63	P	P	20 31 25.4	-2.5
	baz=311						
MCMT	McKenzie Canyo	54.70	61	eP	P	20 31 28.1	0.0
PNTR	Pine Nut	54.72	70	eP	P	20 31 29.7	+1.4
	comp=Z,37nm,0.9s						
BOZ	Bozeman (W)	54.85	59	eP	P	20 31 29.7	+0.7
	comp=Z,15nm,1.0s						
BOZ	Bozeman (W)	54.85	59	P	P	20 31 27.7	-1.3
	baz=311,SNR=11						
TKM2	Tokmak 2	54.89	297	P	P	20 31 28.4	-1.1
	SNR=34						
TKM2	Tokmak 2	54.89	297	i P	P	20 31 26.8	-2.6
TKM2				pmax	pmax		
	comp=Z,40nm,1.0s						
SUMG	Summit	54.93	7	eP	P	20 31 29.2	-0.2
	comp=Z,107nm,0.9s						
SUMG	Summit	54.93	7	eP	P	20 31 29.5	0.0
SUMG				pmax	pmax		
	comp=Z,110nm,0.9s						
SUMG	Summit	54.93	7	i P	P	20 31 30.0	+0.5
CMB	Columbia Colle	54.97	71	eP	P	20 31 31.5	+1.7
	comp=Z,20nm,1.0s						
CMB	Columbia Colle	54.97	71	eP	P	20 31 31.5	+1.7
CMB				pmax	pmax		
	comp=Z,20nm,1.0s						
ULHL	Ulahol	54.98	296	P	P	20 31 29.7	-0.4
	SNR=39						
BOOM	Boomskoye usch	54.99	296	eP	P	20 31 28.9	-1.2
	comp=Z,40nm,0.9s						
BOOM	Boomskoye usch	54.99	296	eP	P	20 31 28.9	-1.2
BOOM				pmax	pmax		
	comp=Z,40nm,0.9s						
YERR	Yerington	55.00	70	eP	P	20 31 31.6	+1.3
	comp=Z,20nm,0.7s						
KTK1	Kautokeino	55.16	343	eP	P	20 31 30.7	-0.1
BMN	Battle Mountai	55.19	67	eP	P	20 31 32.9	+1.4
	comp=Z,35nm,1.1s						
WAKR	Walker	55.20	70	eP	P	20 31 33.4	+1.6
	comp=Z,22nm,1.0s						
USP	Ospenovka	55.27	298	P	P	20 31 30.7	-1.2
	SNR=43						
CHMS	Chumysh	55.31	297	P	P	20 31 30.7	-1.5
	SNR=59						
TRO	Tromso	55.37	345	eP	P	20 31 32.4	+0.2
PRGR	Permogore	55.38	328	eP	P	20 31 26.4	-6.0
PRGR				e*PP	pP	20 31 42.5	+0.9
PRGR				eS	S	20 39 12.5	-1.7
PRGR				pmax	pmax		
	comp=Z,66nm,0.6s						
KBK	Karagaybulak	55.43	297	P	P	20 31 32.0	-1.3
	SNR=43						
QLMT	Earthquake Lak	55.46	60	eP	P	20 31 34.9	+1.4
FRU1	Bishkek	55.50	297	eP	P	20 31 32.4	-1.2
	comp=Z,75nm,0.8s						
FRU1	Bishkek	55.50	297	eP	P	20 31 32.4	-1.2
FRU1				pmax	pmax		
	comp=Z,75nm,0.8s						
KVN	Kaiserville	55.61	69	eP	P	20 31 36.0	+1.4
	comp=Z,32nm,1.1s						
KVN	Kaiserville	55.61	69	eP	P	20 31 36.0	+1.4
KVN				pmax	pmax		
	comp=Z,32nm,1.1s						
KZA	Kyzart	55.65	296	P	P	20 31 34.9	-0.2
	SNR=14						
RYN	Ryan	55.65	70	eP	P	20 31 35.5	+0.6
	comp=Z,18nm,1.1s						
AAK	Ala-Archa	55.69	297	P	P	20 31 33.6	-1.6
	SNR=61						
AAK	Ala-Archa	55.69	297	eP	P	20 31 33.5	-1.6
	comp=Z,56nm,0.9s						
AAK	Ala-Archa	55.69	297	i P	P	20 31 33.6	-1.6
	SNR=86						
AAK	Ala-Archa	55.69	297	c iP	P	20 31 33.2	-1.9
AAK				pmax	pmax		
	comp=Z,69nm,1.0s						
AAK	Ala-Archa	55.69	297	P	P	20 31 33.9	-1.2
	SNR=37						
TMCR	Tamitsa	55.75	333	eP	P	20 31 32.6	-2.4
TMCR				pmax	pmax		
	comp=Z,270nm,1.0s						
PANO	Nakornpanom	55.79	253	P	P	20 31 37.8	+1.9
	comp=Z,2.5nm,1.5s						
YHH	Holmes Hill	55.80	59	eP	P	20 31 36.1	+0.1
	comp=Z,22nm,1.2s						
NVAR	Mina Array Bea	55.91	70	P	P	20 31 38.6	+1.7
	comp=Z,7.0nm,0.7s,baz=292,slow=7.1,SNR=34						
NVAR				LR	LR	20 54 37.1	
	comp=Z,330nm,19.7s,baz=310,slow=35						
NONG	Nongkai	55.94	255	P	P	20 31 38.7	+1.7
	comp=Z,3.5nm,1.0s						
UCH	Uchtor	55.95	297	P	P	20 31 36.5	-0.8
	SNR=16						
NV11	Mina Array Sit	55.99	70	eP	P	20 31 38.6	+1.3
	comp=Z,1.9nm,1.2s						
MDPB	Devils Postpil	56.00	71	eP	P	20 31 38.3	+0.8
	comp=Z,19nm,1.0s						
OMMB	Old Mammoth Mi	56.06	71	eP	P	20 31 38.4	+0.3
	comp=Z,12nm,1.1s						
EKS2	Erkin-Say	56.07	297	P	P	20 31 36.7	-1.1
	SNR=35						
ELK	Elko	56.10	66	eP	P	20 31 38.1	-0.1
	comp=Z,13nm,0.8s						
ELK	Elko	56.10	66	eP	P	20 31 38.1	-0.1
ELK				pmax	pmax		
	comp=Z,13nm,0.8s						
SKNT	Sakolnakorn	56.30	253	P	P	20 31 40.8	+1.3
	comp=Z,142nm,1.3s						
IMW	Indian Meadow	56.34	60	eP	P	20 31 41.4	+1.5
	comp=Z,15nm,1.0s						
FLWY	Flagg Ranch	56.35	60	eP	P	20 31 40.5	+0.6
	comp=Z,26nm,0.9s						
RLMT	Red Lodge	56.41	58	eP	P	20 31 41.4	+1.1
	comp=Z,34nm,1.0s						
RLMT	Red Lodge	56.41	58	P	P	20 31 40.1	-0.2
	baz=312,SNR=11						
AML	Almayashu	56.47	297	P	P	20 31 40.2	-0.7
	SNR=25						
FXWY	Fox Creek	56.47	61	eP	P	20 31 43.1	+2.4
	comp=Z,21nm,1.3s						
MOOW	Moose Ponds	56.55	60	eP	P	20 31 41.9	+0.6
	comp=Z,32nm,1.5s						
TPAW	Teton Pass	56.61	61	eP	P	20 31 43.7	+1.9
	comp=Z,41nm,1.4s						
LOHW	Long Hollow	56.72	60	eP	P	20 31 43.2	+0.7
	comp=Z,28nm,1.3s						
DGMT	Dagmar	56.72	52	eP	P	20 31 43.9	+1.7
	comp=Z,18nm,0.9s						
REDW	Red Top Meadow	56.75	61	eP	P	20 31 43.0	+0.3
	comp=Z,42nm,1.3s						
HVU	Hansel Valley	56.77	63	eP	P	20 31 44.0	+1.1
	comp=Z,25nm,1.1s						
HVU	Hansel Valley	56.77	63	eP	P	20 31 44.0	+1.1
HVU				pmax	pmax		
	comp=Z,25nm,1.1s						
ILULI	Ilulissat	56.81	13	eP	P	20 31 42.4	-0.1
	comp=Z,57nm,0.8s						
ILULI	Ilulissat	56.81	13	i P	P	20 31 42.4	-0.1
ILULI				pmax	pmax		
	comp=Z,58nm,0.8s						
ILULI	Ilulissat	56.81	13	i P	P	20 31 42.4	-0.1
	comp=Z,58nm,0.8s						
PAYA	Payao	56.91	259	P	P	20 31 45.3	+1.4
	comp=Z,224µm,0.8s						
LAO	LASA Array	56.92	55	eP	P	20 31 44.9	+1.2
	comp=Z,31nm,1.1s						
LAO	LASA Array	56.92	55	P	P	20 31 43.6	-0.1
	baz=313,SNR=6.9						
KSH	Kashi	56.97	293	P	P	20 31 47.3	+3.1
KSH				pP	pP	20 31 51.0	-2.2
KSH				sP	sP	20 31 54.5	-2.3
KSH				S	S	20 39 40.0	+3.9
KSH				pmax	pmax		
	comp=Z,94nm,1.1s						
KSH				pmax	pmax		
	comp=Z,470nm,3.1s						
KSH				LR	LR		
	comp=Z,2µm,11.7s						
KSH				LR	LR		
	comp=Z,1µm,12.2s						
KSH				LR	LR		
	comp=Z,2µm,14.2s						
AHID	Auburn Hatcher	57.02	61	eP	P	20 31 45.7	+1.1
	comp=Z,27nm,1.1s						
SHL	Shillong	57.19	270	eP	P	20 31 45.0	-1.0
	comp=Z,59nm,1.0s						
SHL	Shillong	57.19	270	eP	P	20 31 45.0	-1.0
SHL				pmax	pmax		
	comp=Z,59nm,1.0s						
SHL	Shillong	57.19	270	i S	S	20 39 35.0	-4.4
BGU	Big Grassy Mou	57.21	64	eP	P	20 31 46.6	+0.7
	comp=Z,9.5nm,1.0s						
VES	Vestal, Richgr	57.22	72	P	P	20 31 44.3	-1.6
	baz=314						
SPUT	South Promonto	57.27	63	eP	P	20 31 47.4	+1.0
	comp=Z,31nm,1.2s						
PHRA	Phrae	57.36	258	P	P	20 31 48.4	+1.4
	comp=Z,20nm,1.1s,comp=Z,275nm						
CWC	Cottonwood Cre	57.40	71	P	P	20 31 47.5	+0.1
	baz=314						
KHON	Khomkaen	57.48	254	P	P	20 31 49.6	+1.7
	comp=Z,136µm,1.1s						
STEI	Steigen	57.50	345	eP	P	20 31 47.7	+0.4
R11A	Troy Canyon, C	57.53	68	eP	P	20 31 49.1	+0.8
	comp=Z,20nm,1.4s						
R11A	Troy Canyon, C	57.53	68	P	P	20 31 48.3	+0.1
	baz=314,SNR=12						
KK31	Karatay Array	57.54	300	eP	P	20 31 45.8	-2.3
	comp=Z,37nm,0.8s						
KK31	Karatay Array	57.54	300	eP	P	20 31 45.8	-2.3
KK31				pmax	pmax		
	comp=Z,37nm,0.8s						
KKAR	Karatay Array	57.54	300	eP	P	20 31 45.7	-2.4
	comp=Z,37nm,0.8s						
KKAR	Karatay Array	57.54	300	eP	P	20 31 45.7	-2.4
KKAR				pmax	pmax		
	comp=Z,37nm,0.8s						
HWUT	Hardware Ranch	57.55	63	eP	P	20 31 49.4	+1.0
	comp=Z,17nm,0.9s						
LOF	Lofoten	57.57	346	eP	P	20 31 48.6	+0.7
LAMP	Lampang	57.70	258	P	P	20 31 50.9	+1.5
	comp=Z,172µm,0.9s						
DLV	T Lat	57.71	246	eP	P	20 31 51.3	+1.6
	comp=Z,73nm,1.3s						
SCO	Scoresbysund	57.72	1	i P	P	20 31 49.0	+0.2
SCO				pmax	pmax		
	comp=Z,14nm,1.0s						
SCO	Scoresbysund	57.72	1	i P	P	20 31 49.0	+0.2
	comp=Z,14nm,1.0s						
UTTA	Uttaradit	57.74	257	P	P	20 31 51.2	+1.5
	comp=Z,147µm,0.9s						
DUG	Dugway, Tooele	57.83	65	eP	P	20 31 51.8	+1.5
	comp=Z,25nm,1.1s						
DUG	Dugway, Tooele	57.83	65	eP	P	20 31 51.8	+1.5
DUG				pmax	pmax		
	comp=Z,25nm,1.1s						
DUG	Dugway, Tooele	57.83	65	P	P	20 31 47.4	-2.9
	baz=314						
BW06	Boulder Array	57.85	60	eP	P	20 31 52.3	+1.8
	comp=Z,48nm,1.3s						
BW06	Boulder Array	57.85	60	P	P	20 31 47.3	-3.2
	baz=314						
PD31	Pinedale Array	57.85	60	eP	P	20 31 52.2	+1.6
	comp=Z,44nm,1.3s						
PDAR	Pinedale Array	57.85	60	P	P	20 31 51.9	+1.4
	comp=Z,7.2nm,0.8s,baz=287,slow=2.4,SNR=25						
PDAR				LR	LR	20 53 52.4	
	comp=Z,397nm,22.0s,baz=339,slow=33						
CMMT	Chiang Mai	57.89	259	P	P	20 31 51.6	+0.8
	comp=Z,72nm,0.8s,comp=Z,852nm						
CHTO	Chiang Mai	57.89	259	eP	P	20 31 51.1	+0.3
	comp=Z,105nm,0.9s						
CHTO	Chiang Mai	57.89	259	eP	P	20 31 51.1	+0.3
CHTO				pmax	pmax		
	comp=Z,105nm,0.9s						
CHTO	Chiang Mai	57.89	259	P	P	20 31 51.9	+1.1
	SNR=23						
KLMR	Klimovskoe	57.91	330⇑	i P	P	20 31 49.7	-0.6
KLMR				pmax	pmax		
	comp=Z,170nm,1.3s						
JBG	Jabagly	57.98	299	c iP	P	20 31 50.1	-1.3
JBG				pmax	pmax		
	comp=Z,44nm,1.4s						
JBG				MLR	MLR		
	comp=Z,944nm,15.0s						
MPMC	Manual Prospec	58.01	71	P	P	20 31 51.7	+0.1
	baz=314						
CTU	Camp Tracy	58.08	64	eP	P	20 31 53.1	+1.0
	comp=Z,11nm,0.9s						
FURC	Furnace Creek,	58.09	70	P	P	20 31 51.1	-0.8
	baz=314						
TPNV	Topopah Spring	58.11	70	eP	P	20 31 54.1	+1.8
	comp=Z,31nm,1.1s						
TPNV	Topopah Spring	58.11	70	eP	P	20 31 54.1	+1.8
TPNV				pmax	pmax		
	comp=Z,31nm,1.1s						
TPNV	Topopah Spring	58.11	70	P	P	20 31 52.5	+0.1
	baz=314						
TNTI	Ternate	58.15	220	P	P	20 31 52.9	+0.3
CM31	Chiang Mai Arr	58.16	259	eP	P	20 31 53.9	+1.1
	comp=Z,9.1nm,1.3s						
CM31	Chiang Mai Arr	58.16	259	P	P	20 31 54.7	+2.0
	SNR=17						
CMAR	Chiang Mai Arr	58.16	259	P	P	20 31 53.8	+1.0
	comp=Z,46nm,0.8s,baz=31,slow=6.9,SNR=220						
CMAR				LR	LR	20 59 24.6	
	comp=Z,2µm,19.3s,baz=55,slow=39						
JLU	Jordanelle	58.31	63	eP	P	20 31 53.7	-0.1
	comp=Z,26nm,1.4s						
CHAI	Chaiyaphum	58.32	254	P	P	20 31 54.9	+1.1
	comp=Z,98µm,1.0s,comp=Z,989µm						
PSUT	Pine Spring	58.39	67	eP	P	20 31 54.8	+0.5
	comp=Z,24nm,1.3s						
PBKT	Sadao Pong	58.40	256	P	P	20 31 55.8	+1.5
	comp=Z,23nm,1.6s,comp=Z,523nm						
NLU	North Lily Min	58.41	64	eP	P	20 31 57.0	+2.6
	comp=Z,16nm,1.0s						
IUG	Iuzhnay	58.45	299	c iP	P	20 31 53.2	-1.3
IUG				pmax	pmax		
	comp=Z,29nm,1.0s						
IUG				MLR	MLR		
	comp=Z,492nm,16.0s						
IUG	Iuzhnay	58.45	299⇑	i P	P	20 31 53.2	-1.3
	comp=Z,29nm,1.0s						
IUG				eLR	LR	20 58 10.3	
	comp=Z,492nm,15.7s						
EDW2	Edwards Air Fo	58.53	72	P	P	20 31 56.2	+1.1
	baz=315						
CHM	Chimkent	58.56	300	eLR	LR	20 58 11.0	
	comp=Z,583nm,14.3s						
ABKAR	Akbulak array	58.59	311	eP	P	20 31 53.4	-1.9
	comp=Z,56nm,0.8s						
MPU	Maple Canyon	58.61	64	eP	P	20 31 56.0	+0.1
	comp=Z,35nm,1.3s						
SHOC	Shoshone, Teco	58.82	70	P	P	20 31 57.1	0.0
	baz=315						
GSC	Goldstone, Bar	58.93	71	eP	P	20 31 59.6	+1.6
	comp=Z,19nm,1.0s						
GSC	Goldstone, Bar	58.93	71	eP	P	20 31 59.6	+1.6
GSC				pmax	pmax		
	comp=Z,19nm,1.0s						
GSC	Goldstone, Bar	58.93	71	P	P	20 31 59.5	+1.5
	baz=315						
SFJD	Kangerlussuaq	58.94	14	eP	P	20 31 57.8	+0.3
	comp=Z,52nm,1.3s						
SFJD	Kangerlussuaq	58.94	14	i P	P	20 31 57.5	+0.1
SFJD				pmax	pmax		
	comp=Z,29nm,1.0s						
SFJD	Kangerlussuaq	58.94	14	i P	P	20 31 57.5	+0.1
	comp=Z,29nm,1.0s						
MWC	Mount Wilson	58.95	73	eP	P	20 31 59.8	+1.6
	comp=Z,51nm,1.1s						
MWC	Mount Wilson	58.95	73	eP	P	20 31 59.8	+1.6
MWC				pmax	pmax		
	comp=Z,51nm,1.1s						
ODAN	Odare	59.02	275	eP	P	20 31 58.6	-0.3
	comp=Z,56nm,0.7s						
SHPR	Sheep Range	59.05	69	eP	P	20 32 00.7	+1.8
	comp=Z,24nm,1.4s						
KONS	Konsvik	59.15	345	eP	P	20 31 59.9	+1.0
BFSC	Mount Baldy Ra	59.17	73	P	P	20 32 00.3	+0.6
	baz=315						
JIRN	Jiri	59.18	276	eP	P	20 31 59.3	-0.8
	comp=Z,138nm,0.7s						
MOR8	Moi Rana	59.24	345	eP	P	20 31 59.0	-0.5
CIS	Catalina Islan	59.31	74	P	P	20 32 00.9	+0.3
	baz=315						
TMUT	Trail Mountain	59.34	64	eP	P	20 32 00.1	-1.0
	comp=Z,14nm,0.8s						
CCUT	Cedar City	59.35	67	eP	P	20 32 02.9	+1.9
	comp=Z,16nm,1.1s						
MSU	Marysvale	59.35	66	eP	P	20 32 02.6	+1.6
MSU	Marysvale	59.35	66	eP	P	20 32 02.6	+1.6
TUQ	Turquoise Moun	59.35	71	P	P	20 32 00.5	-0.4
	baz=315						
MDND	Maddock	59.36	50	P	P	20 32 02.0	+1.3
	baz=315						
ULM	Lac du Bonnet	59.37	46	eP	P	20 32 00.9	+0.2
	comp=Z,61nm,1.8s						
ULM	Lac du Bonnet	59.37	46	eP	P	20 32 00.9	+0.2
ULM				pmax	pmax		
	comp=Z,61nm,1.8s						
ULM	Lac du Bonnet	59.37	46	P	P	20 32 00.8	+0.2
	comp=Z,6.2nm,0.8s,baz=332,slow=6.6,SNR=5.2						
RAMN	Ramite	59.44	275	eP	P	20 32 01.0	-0.8
	comp=Z,225nm,0.6s						
BTK	Batken	59.47	297	eP	P	20 31 60.0	-1.7
	comp=Z,89nm,0.8s						
BTK	Batken	59.47	297	eP	P	20 32 00.0	-1.7
BTK				pmax	pmax		
	comp=Z,89nm,0.8s						
P17A	Butcher Ranch,	59.48	64	eP	P	20 32 03.5	+1.6
	comp=Z,23nm,1.1s						
Q16A	Castle Valley	59.63	65	eP	P	20 32 04.2	+1.3
	comp=Z,15nm,1.0s						
KKN	Kakani	59.64	277	eP	P	20 32 02.5	-0.7
	comp=Z,144nm,0.5s						
MTPU	Mount Pierson	59.67	66	eP	P	20 32 05.0	+1.6
	comp=Z,14nm,1.1s						
PKI	Pulchoki	59.72	277	eP	P	20 32 02.9	-0.9
	comp=Z,109nm,0.7s						
PKIN	Phulchoki	59.73	277	eP	P	20 32 02.7	-1.1
	comp=Z,93nm,0.7s						
LCMT	Little Creek M	59.79	68	eP	P	20 32 05.1	+1.1
	comp=Z,24nm,1.1s						
RSSD	Black Hills	59.81	56	eP	P	20 32 04.3	+0.2
	comp=Z,36nm,1.0s						
RSSD	Black Hills	59.81	56	eP	P	20 32 04.3	+0.2
RSSD				pmax	pmax		
	comp=Z,36nm,1.0s						
RSSD	Black Hills	59.81	56	P	P	20 32 03.2	-0.8
	baz=315						
RWWY	Rawlins	59.85	60	eP	P	20 32 01.2	-3.3
	comp=Z,17nm,0.8s						
SRU	San Rafael Swe	59.85	64	eP	P	20 32 05.0	+0.6
	comp=Z,28nm,0.9s						
SRU	San Rafael Swe	59.85	64	eP	P	20 32 05.0	+0.6
SRU				pmax	pmax		
	comp=Z,28nm,0.9s						
DMN	Daman	59.88	277	eP	P	20 32 04.3	-0.5
	comp=Z,183nm,0.7s						
GKN	Gorkha	59.88	278	eP	P	20 32 04.0	-0.7
	comp=Z,159nm,0.7s						
MURC	Murrieta	59.90	73	P	P	20 32 05.1	+0.5
	baz=315						
UMPA	Umpang Tak	59.95	257	P	P	20 32 08.2	+3.1
	comp=Z,247µm,0.9s						
GMRC	Granite Mounta	59.96	71	P	P	20 32 06.6	+1.4
	baz=315						
KNB	Kanab	60.03	67	eP	P	20 32 07.2	+1.6
	comp=Z,33nm,1.2s						
DANN	Dangsing	60.17	279	eP	P	20 32 06.3	-0.6
	comp=Z,238nm,0.7s						
BELC	Belle Mtn. Jos	60.32	72	P	P	20 32 08.1	+0.5
	baz=315						
PFO	Pinyon Flats O	60.32	72	P	P	20 32 07.1	-0.5
	baz=316						
O20A	White River Ci	60.39	62	eP	P	20 32 10.6	+2.5
	comp=Z,20nm,1.0s						
O20A	White River Ci	60.39	62	P	P	20 32 08.8	+0.7
	baz=315						
109C	Camp Elliot, M	60.45	74	P	P	20 32 08.9	+0.6
	baz=316						
GAR	Garm	60.49	296	eP	P	20 32 07.0	-1.7
	comp=Z,131nm,0.8s						
GAR	Garm	60.49	296	eP	P	20 32 07.0	-1.7
GAR				pmax	pmax		
	comp=Z,131nm,0.8s						
KOLN	Koldanda	60.68	278	eP	P	20 32 09.3	-1.0
	comp=Z,148nm,0.6s						
MRSI	Marisa	60.69	225	P	P	20 32 10.3	+0.2
IRM	Iron Mountain	60.71	71	P	P	20 32 09.3	-0.8
	baz=316						
U15A	North Rim	60.75	67	eP	P	20 32 11.1	+0.4
	comp=Z,21nm,1.3s						
W13A	Hualapai Mount	60.77	70	eP	P	20 32 11.8	+1.0
	comp=Z,13nm,1.1s						
AGMN	Agassiz Nation	60.79	48	eP	P	20 32 10.7	+0.2
	comp=Z,17nm,1.1s						
AGMN	Agassiz Nation	60.79	48	P	P	20 32 06.7	-3.7
	baz=317						
PYUN	Piuthan	60.82	279	eP	P	20 32 10.4	-0.8
	comp=Z,212nm,0.8s						
MONP2	Monument Peak	60.85	73	P	P	20 32 11.4	0.0
	baz=316						
BC3	Big Chuckawall	60.88	72	P	P	20 32 12.9	+1.5
	baz=316						
N23A	Red Feather La	61.09	60	eP	P	20 32 13.6	+0.7
	comp=Z,24nm,1.1s						
N23A	Red Feather La	61.09	60	P	P	20 32 11.8	-1.2
	baz=316						
PV21	Cone Mtn., Par	61.10	64	eP	P	20 32 13.9	+0.9
	comp=Z,16nm,0.9s						
FIA1	FINESS Array S	61.11	337	eP	P	20 32 11.8	-0.6
	comp=Z,113nm,0.8s						
FINES	FINESS Array B	61.11	337	P	P	20 32 12.2	-0.2
	comp=Z,64nm,0.6s,baz=38,slow=8.1,SNR=256						
FINES				LR	LR	21 02 33.9	
	comp=Z,2µm,19.0s,baz=26,slow=40						
PV23	Carpenter Ridg	61.16	64	eP	P	20 32 14.5	+1.1
	comp=Z,33nm,1.1s						
NSS	Namsos	61.16	345	eP	P	20 32 12.6	0.0
PDMCI	Parker Dam,Lak	61.19	70	P	P	20 32 12.5	-0.8
	baz=316						
PV10	Paradox Valley	61.19	64	eP	P	20 32 14.8	+1.1
	comp=Z,47nm,1.3s						
PV22	Blue Mesa, Par	61.22	63	eP	P	20 32 15.4	+1.6
	comp=Z,17nm,0.9s						
SRDT	SRDT	61.24	256	P	P	20 32 15.9	+2.0
	comp=Z,19nm,1.1s						
PV04	Paradox Valley	61.26	64	eP	P	20 32 14.6	+0.5
	comp=Z,38nm,1.2s						
PV20	West Nyswonger	61.26	64	eP	P	20 32 14.0	0.0
	comp=Z,18nm,0.9s						
SANI	Sanana	61.27	220	P	P	20 32 14.4	+0.4
PV16	Nyswonger Mesa	61.31	64	eP	P	20 32 14.1	-0.3
	comp=Z,32nm,1.1s						
PV11	David Mesa, Pa	61.34	64	eP	P	20 32 14.7	+0.1
	comp=Z,34nm,1.0s						
Y12C	Blythe	61.36	71	P	P	20 32 15.7	+1.2
	baz=316						
PV18	Skein Mesa, Pa	61.36	64	eP	P	20 32 16.3	+1.5
	comp=Z,22nm,0.9s						
PV07	Paradox Valley	61.37	63	eP	P	20 32 16.6	+1.8
	comp=Z,19nm,1.0s						
PV12	Saucer Basin,	61.37	64	eP	P	20 32 17.1	+2.3
	comp=Z,52nm,1.3s						
CHGR	Chuyangaron	61.37	297	eP	P	20 32 14.6	0.0
	comp=Z,61nm,0.7s						
PV05	Paradox Valley	61.37	64	eP	P	20 32 15.7	+0.9
	comp=Z,28nm,0.8s						
PV03	Paradox Valley	61.39	64	eP	P	20 32 16.4	+1.5
	comp=Z,24nm,1.0s						
PUL	Pulkovo	61.46	334	i P	P	20 32 15.1	+0.4
PUL	Pulkovo	61.46	334	eP	P	20 32 14.8	+0.1

comp=Z,33nm,1.3s
ISCO Idaho Springs 62.05 60 eP P 20 32 20.7 +1.2
ISCO pmax pmax
comp=Z,33nm,1.3s
ISCO Idaho Springs 62.05 60 P P 20 32 18.3 -1.2
baz=316
PHET Kaeng Krachan 62.07 254 P P 20 32 21.9 +2.5
comp=Z,230μm,0.8s
BNDI Bandanaira 62.08 215 P P 20 32 22.8 +3.4
Y14A Wickenburg 62.11 70 eP P 20 32 21.2 +1.6
comp=Z,43nm,1.8s
MVCO Mesa Verde 62.33 64 P P 20 32 21.2 -0.1
baz=316
113A Mohawk Valley, 62.50 71 eP P 20 32 22.9 +0.8
comp=Z,15nm,1.2s
MOS Moscow 62.60 328 eP P 20 32 20.2 -2.3
MOS e 20 32 31.7
MOS eS **S 20 40 47.5 -0.3**
MOS pmax pmax
comp=Z,181nm,1.4s
MOS pmax pmax
comp=Z,500nm,2.0s
MOS pmax pmax
comp=N,400nm,2.4s
MOS MLR MLR
comp=Z,1μm,15.0s
TBLU Trondheim 62.63 345 eP P 20 32 21.6 -1.0
NIL Nilore 62.63 290 eP P 20 32 22.1 -1.0
comp=Z,141nm,0.8s
NIL Nilore 62.63 290 eP P 20 32 22.1 -1.0
NIL pmax pmax
comp=Z,141nm,0.8s
X16A Lo Mia Camp, P 62.66 68 eP P 20 32 24.7 +1.1
comp=Z,8.7nm,0.9s
S22A 4UR Ranch, Cre 62.86 63 eP P 20 32 26.2 +1.3
comp=Z,28nm,1.4s
S22A 4UR Ranch, Cre 62.86 63 P P 20 32 22.2 -2.7
baz=316,SNR=8.6
EYMN Ely 63.02 46 eP P 20 32 24.4 -1.1
comp=Z,20nm,1.0s
EYMN Ely 63.02 46 P P 20 32 23.3 -2.1
baz=319
OGNE Ogallala 63.11 57 P P 20 32 23.6 -2.7
baz=317
W18A Petrified Fore 63.13 67 P P 20 32 27.8 +1.2
baz=317
X18A Snowflake 63.44 67 eP P 20 32 29.4 +0.7
comp=Z,21nm,1.1s
OBN Obninsk 63.46 328 eP P 20 32 27.2 -0.9
comp=Z,112nm,1.1s
OBN Obninsk 63.46 328⇑ iP P 20 32 27.5 -0.7
OBN Obninsk 63.46 328c iP P 20 32 27.0 -1.2
OBN e 20 33 02.0
OBN ePPP PPP 20 36 16.2
OBN eS **S 20 40 56.9 -1.6**
OBN pmax pmax
comp=Z,208nm,1.7s
OBN MLR MLR
comp=Z,2μm,16.0s
VSU Vasula 63.53 335c eP P 20 32 28.4 -0.2
VSU pmax pmax
comp=Z,439nm,1.3s
VSU Vasula 63.53 335 eP P 20 32 28.2 -0.4
VSU IAmb IAmb 20 32 29.7
comp=Z,232nm,0.9s
VSU IAmb IAmb 20 32 41.0
comp=Z,251nm,0.8s
SDCO Great Sand Dun 63.59 62 eP P 20 32 29.7 0.0
comp=Z,28nm,1.5s
SDCO Great Sand Dun 63.59 62 P P 20 32 29.1 -0.6
baz=317,SNR=6.5
SBUM Sibu 63.62 236 eP P 20 32 31.3 +1.6
comp=Z,33nm,1.3s
SBUM Sibu 63.62 236 P P 20 32 33.0 +3.3
214A Organ Pipe Nat 63.65 71 P P 20 32 30.3 +0.5
baz=317
MOL Molde 63.68 346 eP P 20 32 30.5 +0.9
ECSD EROS Data Cent 63.79 52 eP P 20 32 30.8 +0.2
comp=Z,16nm,0.9s
ECSD EROS Data Cent 63.79 52 P P 20 32 26.6 -4.0
baz=318,SNR=9.5
DOMB Dombas 63.95 345 eP P 20 32 31.2 -0.2
E38A The Farm, Brul 64.00 47 P P 20 32 29.1 -2.9
baz=320
AKN Aaknes 64.14 346 eP P 20 32 32.7 +0.1
F38A Pierce - Schro 64.35 47 P P 20 32 30.1 -4.1
baz=320,SNR=7.9
NC303 NORSAR Array S 64.35 344 eP P 20 32 33.6 -0.4
comp=Z,75nm,0.8s
KBL Kabul 64.39 294 eP P 20 32 32.5 -2.5
comp=Z,37nm,0.7s
KBL Kabul 64.39 294 eP P 20 32 32.5 -2.5
KBL pmax pmax
comp=Z,37nm,0.7s
NC405 NORSAR Array S 64.40 344 eP P 20 32 33.8 -0.5
comp=Z,73nm,0.8s
NC204 NORSAR Array S 64.41 344 eP P 20 32 34.0 -0.4
comp=Z,436nm,1.6s
SPMN Marine on St. 64.48 49 P P 20 32 35.0 -0.1
baz=319
BKB Balikpapan 64.52 230 P P 20 32 36.9 +1.2
NB201 NORSAR Array S 64.53 344 eP P 20 32 34.9 -0.3
comp=Z,602nm,1.8s
NB2 NORSAR Subarra 64.55 344 P P 20 32 35.0 -0.4
comp=Z,49nm,0.8s,baz=20,slow=6.9
NB2 NORSAR Subarra 64.55 344 P P 20 32 35.0 -0.4
baz=20,slow=6.9
NOA NORSAR Array B 64.55 344 P P 20 32 34.9 -0.4
comp=Z,30nm,0.7s,baz=21,slow=6.6,SNR=197
NOA LR LR 21 03 20.5
comp=Z,917nm,19.6s,baz=15,slow=39
TUC Tucson 64.57 70 eP P 20 32 37.8 +1.8
comp=Z,11nm,1.3s
TUC Tucson 64.57 70 eP P 20 32 37.8 +1.8
TUC pmax pmax
comp=Z,11nm,1.2s
TUC Tucson 64.57 70 P P 20 32 37.5 +1.5
baz=317
E39A Mellen 64.62 46 P P 20 32 35.4 -0.6
baz=320
T25A Trinidad 64.62 62 eP P 20 32 37.1 +0.6
comp=Z,42nm,1.4s
T25A Trinidad 64.62 62 P P 20 32 37.0 +0.6
baz=318
NBO00 NORSAR Array S 64.63 344 eP P 20 32 35.2 -0.7
comp=Z,155nm,1.4s
LPSR Galich'ya Gora 64.71 325 eP P 20 32 35.5 -0.9
LPSR e*SP **pP 20 32 46.1 +0.3**
LPSR pmax pmax
comp=Z,110nm,0.7s
LPSR MLR MLR
comp=Z,4μm,18.0s
BGNE Belgrade 64.76 55 P P 20 32 36.4 -0.6
baz=318
IVI Ivigtut 64.76 15 eP P 20 32 37.0 +0.4
comp=Z,48nm,1.0s
TTSI Tana Toraja 64.76 226 P P 20 32 36.0 -1.2
NC602 NORSAR Array S 64.78 344 eP P 20 32 36.9 +0.1
comp=Z,205nm,1.9s
NAO01 NORSAR Array S 64.79 344 eP P 20 32 36.4 -0.5
comp=Z,334nm,1.8s
NAO01 NORSAR Array S 64.79 344 eP P 20 32 36.4 -0.5
F39A Loretta 64.81 47 P P 20 32 36.1 -1.2
baz=320
VRH Novokhopyorsk 64.81 322 eP P 20 32 35.7 -1.4
VRH e*SP **pP 20 32 46.6 +0.1**
VRH pmax pmax
comp=Z,80nm,0.6s
VRH pmax pmax
comp=Z,100nm,0.7s
VRH MLR MLR
comp=Z,6μm,18.0s
E40A Wakefield 64.86 46 P P 20 32 34.7 -2.9
baz=320,SNR=9.2
G38A Ridgeland 64.96 48 P P 20 32 38.1 -0.1
baz=320
D41A Chassel 64.98 45 P P 20 32 37.9 -0.4
baz=321
TASM ASL Pad, Albuq 65.10 65 P P 20 32 39.9 +0.3
baz=318,SNR=5.9
TASM ASL Pad, Albuq 65.10 65 P P 20 32 39.5 0.0
baz=318,SNR=5.7
ANMO Albuquerque 65.10 65 eP P 20 32 41.3 +1.8
comp=Z,21nm,1.5s
ANMO Albuquerque 65.10 65⇑ eP P 20 32 34.9 -4.7
ANMO Albuquerque 65.10 65 P P 20 32 40.7 +1.2
baz=318

LAZ Ladron 65.12 66 eP P 20 32 42.5 +2.8
H38A Maiden Rock 65.14 49 P P 20 32 40.2 +0.8
baz=320
F40A Park Falls 65.17 46 P P 20 32 39.4 -0.2
baz=320
HYA Hoyanger 65.22 347 eP P 20 32 40.0 +0.4
E41A Kenton 65.26 45 P P 20 32 40.6 +0.4
baz=321
VORR Voronezh 65.36 324 eP P 20 32 37.0 -3.7
VORR pmax pmax
comp=Z,250nm,1.4s
SKAR Skarslia 65.37 345 eP P 20 32 41.3 +0.6
LENM Lemitar 65.39 66 eP P 20 32 42.9 +1.5
SLIT Slitere, Latvi 65.39 337 eP P 20 32 39.8 -1.0
SLIT IAmb IAmb 20 32 42.6
comp=Z,720nm,0.9s
KSM Kuching 65.43 237 eP P 20 32 43.0 +1.4
comp=Z,56nm,1.1s
KSM Kuching 65.43 237 P P 20 32 45.0 +3.4
COWI Conover 65.47 46 eP P 20 32 42.5 +1.0
SUE Sulen 65.52 347 eP P 20 32 41.9 +0.4
BNM Barren Site 65.59 65 eP P 20 32 43.7 +0.9
SPSI Sidrap Palu 65.61 226 P P 20 32 42.7 0.0
OSL Oslo 65.67 344 eP P 20 32 43.4 +0.9
E42A Champion 65.75 45 P P 20 32 43.3 0.0
baz=321
VSR Storozhevoye 65.75 324 eP P 20 32 42.0 -1.2
VSR e*SP **pP 20 32 53.2 +0.6**
VSR pmax pmax
comp=Z,110nm,1.0s
VSR pmax pmax
comp=Z,380nm,2.2s
VSR MLR MLR
comp=Z,4μm,18.0s
F41A Three Lakes 65.76 46 eP P 20 32 42.8 -0.6
comp=Z,22nm,1.0s
F41A Three Lakes 65.76 46 P P 20 32 43.3 -0.2
baz=321
BNSI Bone 65.85 225 P P 20 32 44.3 +0.1
VORD Divnogorie 65.91 324 eP P 20 32 43.4 -0.8
VORD e*SP **pP 20 32 54.3 +0.7**
VORD pmax pmax
comp=Z,60nm,0.8s
ASK Askoy 66.02 347 eP P 20 32 45.0 +0.3
IZAR Zarasai 66.03 334 eP P 20 32 44.5 -0.4
IZAR IAmb IAmb 20 32 46.8
comp=Z,24nm,0.9s
H40A Chili 66.05 48 P P 20 32 44.1 -1.2
baz=321
KRAB Krabi 66.05 252 P P 20 32 47.8 +2.2
comp=Z,379μm,0.6s
SKLT Songkhla 66.06 250 P P 20 32 52.0 +6.3
BER Bergen 66.09 347 eP P 20 32 45.7 +0.5
I39A Houston 66.12 49 eP P 20 32 45.9 +0.2
comp=Z,19nm,0.8s
I39A Houston 66.12 49 P P 20 32 45.4 -0.3
baz=320
319A Douglas 66.12 69 eP P 20 32 46.8 +0.8
comp=Z,34nm,1.1s
KONO Kongsberg 66.14 344 eP P 20 32 45.8 +0.3
comp=Z,95nm,1.6s
KONO Kongsberg 66.14 344⇑ eP P 20 32 42.2 -3.4
KONO pmax pmax
comp=Z,19nm,0.9s
KONO Kongsberg 66.14 344 eP P 20 32 46.1 +0.5
E43A Lone Tree Farm 66.19 44 P P 20 32 45.5 -0.6
baz=322
ISAL Salakas 66.22 334 eP P 20 32 45.9 -0.3
ISAL IAmb IAmb 20 32 48.2
comp=Z,26nm,0.9s
IDID Didziasalis 66.28 333 eP P 20 32 46.4 -0.1
IDID IAmb IAmb 20 32 48.5
comp=Z,38nm,1.0s
ODD1 Odda 66.36 346 eP P 20 32 47.5 +0.4
H41A Junction City 66.39 47 eP P 20 32 47.4 -0.1
comp=Z,49nm,1.5s
H41A Junction City 66.39 47 P P 20 32 45.8 -1.6
baz=321
IIGN Ignalina 66.39 333 eP P 20 32 47.1 -0.1
IIGN IAmb IAmb 20 32 49.2
comp=Z,44nm,0.8s
J39A Decorah 66.43 49 P P 20 32 47.1 -0.7
baz=320,SNR=5.6
SCHQ Schefferville 66.45 28 eP P 20 32 47.6 -0.1
comp=Z,53nm,1.9s
SCHQ Schefferville 66.45 28 P P 20 32 47.4 -0.3
comp=Z,32nm,0.7s,baz=358,slow=7.6,SNR=20
SCHQ LR LR 21 06 11.0
comp=Z,795nm,18.8s,baz=348,slow=40
G42A Mountain 66.45 46 P P 20 32 47.5 -0.4
baz=321
E44A Grand Marais A 66.46 44 P P 20 32 44.9 -2.9
baz=322
I40A Norwalk 66.50 48 P P 20 32 47.2 -1.0
baz=321
F43A Flat Rock, Esc 66.54 45 P P 20 32 45.0 -3.4
baz=322
KAPI Kappang 66.55 225 eP P 20 32 49.2 +0.5
comp=Z,47nm,1.4s
KAPI Kappang 66.55 225 eP P 20 32 49.2 +0.5
KAPI pmax pmax
comp=Z,47nm,1.4s
KAPI Kappang 66.55 225 P P 20 32 50.6 +1.8
SNR=6.2
NACGM Naroch 66.62 333 eP P 20 32 47.0 -1.8
NACGM eP **P 20 32 48.0 -0.8**
NACGM ePcP **sP 20 33 03.0 +1.8**
NACGM eS **S 20 41 44.0 +6.6**
NACGM eLQ LQ 20 57 02.0
NACGM eLR LR 21 01 38.0
NACGM LRM MLR 21 05 32.0
comp=Z,6.9nm,16.0s
MICGM Minsk 66.66 332⇓ eP P 20 32 49.0 0.0
MICGM PM 20 32 50.0
comp=Z,0.6nm,1.8s
MICGM ePcP **PcP 20 33 24.0 +6.0**
MICGM ePP **PP 20 35 10.0 -5.4**
MICGM ePPP PPP 20 36 44.0
MICGM eS **S 20 41 40.0 +2.1**
MICGM eSS SS 20 45 24.0 -31
MICGM eLQ LQ 20 56 28.0
MICGM eLR LR 21 03 04.0
MICGM LRM MLR 21 06 00.0
comp=E,1.7nm,14.0s
MICGM LRM MLR 21 06 06.0
comp=Z,6.2nm,16.0s
MICGM LRM MLR 21 06 08.0
comp=N,2.8nm,16.0s
MNK Minsk 66.66 332⇓ eP P 20 32 49.0 0.0
MNK e 20 33 24.0
MNK eS **S 20 41 40.0 +2.1**
MNK pmax pmax
comp=Z,550nm,1.8s
MNK MLR MLR
comp=E,2μm,14.0s
MNK MLR MLR
comp=Z,6μm,16.0s
MNK MLR MLR
comp=N,3μm,16.0s
BKSI Bulukumba 66.66 225 P P 20 32 47.7 -1.8
F44A Big Bay de Noc 66.75 44 P P 20 32 48.1 -1.6
baz=322
G43A Wallace 66.76 45 eP P 20 32 49.7 -0.1
comp=N,26nm,1.0s
G43A Wallace 66.76 45 P P 20 32 46.5 -3.3
baz=322
SCIA State Center 66.81 51 eP P 20 32 50.8 +0.6
comp=N,90nm,1.1s
SCIA State Center 66.81 51 P P 20 32 50.0 -0.2
baz=320
K39A Oelwein 66.83 50 P P 20 32 50.3 0.0
baz=321
J40A Soldiers Grove 66.83 49 P P 20 32 49.8 -0.5
baz=321
BLS5 Blasjo 66.85 346 eP P 20 32 50.4 +0.2
PABE Paberze 66.86 335 eP P 20 32 50.0 -0.3
PABE IAmb IAmb 20 32 52.0
comp=Z,188nm,0.9s
PBUR Paburg 66.92 336 eP P 20 32 50.5 -0.1
PBUR IAmb IAmb 20 32 52.5
comp=Z,206nm,1.3s
D46A Sault St. Mari 67.03 42 P P 20 32 50.8 -0.8
baz=323,SNR=7.1
K40A Colesburg 67.18 49 P P 20 32 51.6 -0.9

baz=321
J41A Loganville 67.19 48 P P 20 32 52.1 -0.5
baz=321
MATQ Matagami 67.21 37 P P 20 32 52.0 -0.6
baz=326
L39A Vinton 67.22 50 P P 20 32 51.9 -0.9
baz=321
KMY Karmoy 67.23 346 eP P 20 32 53.3 +0.7
BSSI Bau Bau, Buton 67.24 224 P P 20 32 53.8 +0.7
I42A Draeger Farm, 67.28 47 eP P 20 32 54.2 +1.0
comp=Z,26nm,1.1s
I42A Draeger Farm, 67.28 47 P P 20 32 52.4 -0.7
baz=322
D47A Chapleau 67.28 42 P P 20 32 50.5 -2.6
baz=324,SNR=8.1
E46A Sault Ste Mari 67.34 43 eP P 20 32 53.3 -0.2
comp=Z,15nm,0.8s
E46A Sault Ste Mari 67.34 43 P P 20 32 51.8 -1.6
baz=323,SNR=5.5
KULM Kulim 67.57 249 eP P 20 32 55.8 +0.5
comp=Z,87nm,1.6s
KULM Kulim 67.57 249 P P 20 32 58.0 +2.7
F46A Macinaw City C 67.62 43 P P 20 32 54.0 -1.2
baz=323
I43A Langenfeld Bro 67.63 47 P P 20 32 52.1 -3.3
baz=322
J42A Columbus 67.64 48 P P 20 32 55.8 +0.4
baz=322
L40A Anamosa 67.64 50 eP P 20 32 55.4 0.0
comp=Z,18nm,0.8s
L40A Anamosa 67.64 50 P P 20 32 54.4 -1.0
baz=321
E47A Iron Bridge 67.70 42 P P 20 32 54.9 -0.8
baz=324,SNR=5.4
D48A Paudash Townsh 67.72 41 P P 20 32 54.9 -0.9
baz=324,SNR=10
SNART Snartemo 67.77 345 eP P 20 32 56.2 +0.2
GEYT Alibeck 67.79 303 P P 20 32 56.2 -0.3
comp=Z,38nm,0.8s,baz=11,slow=3.0,SNR=75
GEYT PP **PP 20 35 28.6 +2.9**
comp=Z,9.5nm,1.1s,baz=34,slow=11,SNR=3.6
GEYT LR LR 21 05 23.7
comp=Z,5μm,18.2s,baz=20,slow=38
GYA0B ALIBECK ARRAY 67.79 303 eP P 20 32 55.5 -1.0
comp=Z,44nm,0.9s
G45A Suttons Bay 67.82 44 P P 20 32 53.6 -2.9
baz=323
MSTX Muleshoe 67.87 63 eP P 20 32 58.5 +1.4
comp=Z,25nm,1.1s
MSTX Muleshoe 67.87 63 P P 20 32 57.5 +0.3
baz=319
G46A Petoskey 67.94 44 P P 20 32 56.6 -0.6
baz=323
K42A Prairie Point, 67.95 48 P P 20 32 56.7 -0.7
baz=322
IPM Ipoh 68.01 248 eP P 20 32 58.5 +0.4
comp=Z,32nm,0.8s
IPM Ipoh 68.01 248 P P 20 33 02.0 +3.9
LSQQ Lebel-sur-Quev 68.03 37 P P 20 32 57.4 -0.4
baz=326
MNTX Cornudas Mount 68.11 66 eP P 20 33 00.3 +1.8
comp=Z,28nm,1.4s
MNTX Cornudas Mount 68.11 66 P P 20 32 58.9 +0.4
baz=319
CHGQ Chibougamau 68.26 35 P P 20 32 58.4 -0.8
baz=327,SNR=7.0
GDL2 Guadalupe Moun 68.31 65 eP P 20 33 02.5 +2.6
N40A Mertquake, Sal 68.38 51 P P 20 32 58.2 -1.8
baz=321
SUW Suwalki 68.40 334 eP P 20 32 59.0 -1.0
SUW LMZ LR 21 06 23.4
comp=Z,5μm,16.0s
SUW Suwalki 68.40 334 eP P 20 32 60.0 0.0
comp=Z,106nm,1.0s
SUW Suwalki 68.40 334 eP P 20 32 59.0 -1.0
SUW MLR MLR
comp=Z,5μm,16.0s
L42A Oliver, Polo 68.41 49 eP P 20 33 00.2 0.0
comp=Z,20nm,0.9s
L42A Oliver, Polo 68.41 49 P P 20 32 57.5 -2.7
baz=322
H46A Fife Lake 68.41 44 P P 20 32 57.4 -2.9
baz=323
F48A Evansville 68.47 42 P P 20 32 59.7 -0.8
baz=324,SNR=6.5
G47A Hillman 68.48 43 P P 20 32 58.2 -2.5
baz=324
M41A Milan 68.49 50 P P 20 33 00.2 -0.6
baz=322
VLDQ Val d'Or 68.64 38 eP P 20 33 00.2 -1.4
L43A Garden Prairie 68.70 48 P P 20 33 02.0 0.0
baz=322
D51A Lot 18 Range I 68.75 39 P P 20 33 00.6 -1.7
baz=325
E50A Wahnapitae 68.75 41 P P 20 33 01.3 -1.0
baz=325,SNR=5.8
F49A Sandfield 68.76 42 P P 20 33 00.8 -1.6
baz=324
MMRI Maumere 68.76 221 P P 20 33 03.5 +0.8
N41A Harden Midland 68.86 51 eP P 20 33 03.4 +0.3
comp=Z,74nm,1.1s
N41A Harden Midland 68.86 51 P P 20 33 02.9 -0.2
baz=322
SOEI Soe 68.98 219 P P 20 33 05.2 +1.0
TPRI Tanjung Pinang 68.99 242 P P 20 33 05.9 +1.8
MAK Makhachkala 69.01 314 eP P 20 33 00.1 -3.8
MAK e 20 35 31.3
MAK ePPP PPP 20 37 14.2
MAK eS **S 20 42 03.9 -2.4**
MAK eSS **SS 20 46 27.4 -3.9**
MAK pmax pmax
comp=Z,90nm,1.5s
MAK MLR MLR
comp=Z,3μm,15.0s
H48A Harrisville 69.09 43 P P 20 33 03.8 -0.6
baz=324
E51A G1948 Merrick 69.16 40 P P 20 33 03.6 -1.3
baz=326,SNR=10
D52A ZEK Kipawa Sen 69.22 39 P P 20 33 03.1 -2.1
baz=326,SNR=6.0
MUD Monsted U'grnd 69.24 343 i P P 20 33 05.6 +0.5
MUD pmax pmax
comp=Z,41nm,1.0s
MUD MLR MLR
comp=Z,2μm,17.0s
MUD Monsted U'grnd 69.24 343 i P P 20 33 05.6 +0.5
comp=Z,41nm,1.0s
RSC Scourie 69.29 352 eP P 20 33 06.1 +0.7
COP Copenhagen 69.36 341 i P P 20 33 06.5 +0.6
COP pmax pmax
comp=Z,60nm,0.9s
COP MLR MLR
comp=Z,1μm,17.0s
COP Copenhagen 69.36 341 i P P 20 33 06.5 +0.6
comp=Z,60nm,0.9s
BSD Bornholm Skovb 69.38 340⇑ iP P 20 33 06.1 +0.1
BSD pmax pmax
comp=Z,54nm,0.9s
BSD MLR MLR
comp=Z,2μm,16.0s
BSD Bornholm Skovb 69.38 340⇑ iP P 20 33 06.1 +0.1
comp=Z,54nm,0.9s
D53A Lac Vacive, Po 69.41 38 eP P 20 33 06.3 -0.1
comp=Z,20nm,0.9s
D53A Lac Vacive, Po 69.41 38 P P 20 33 05.8 -0.5
baz=326
TOBO Tobermory, Bru 69.41 42 P P 20 33 06.2 -0.2
baz=325
WMOK Wichita Mounta 69.45 60 eP P 20 33 07.9 +1.0
comp=Z,22nm,1.1s
WMOK Wichita Mounta 69.45 60 eP P 20 33 07.9 +1.0
WMOK pmax pmax
comp=Z,22nm,1.1s
WMOK Wichita Mounta 69.45 60 P P 20 33 06.2 -0.6
baz=320,SNR=7.0
N43A Stutzman Famil 69.47 49 P P 20 33 05.5 -1.3
baz=322
F51A Arnstein 69.49 40 P P 20 33 04.8 -2.1
baz=325
AKASG Malin Array Be 69.56 329 P P 20 33 06.4 -0.9
comp=Z,34nm,0.5s,baz=30,slow=6.5,SNR=101
AKASG LR LR 21 09 12.2
comp=Z,2μm,18.3s,baz=10.0,slow=41
AKBB Malin Array Si 69.56 329 eP P 20 33 06.3 -0.9
comp=Z,2.2nm,0.6s
AKBB Malin Array Si 69.56 329 eP P 20 33 06.3 -0.9
AKBB pmax pmax

comp=Z,2.0nm,0.6s
GROC Groznyy 69.57 315 *e*P **P 20 33 03.1 -4.3**
GROC *e* 20 33 25.9
GROC *e* 20 35 37.7
GROC *e*S **S 20 42 08.3 -4.6**
GROC pmax pmax
comp=Z,45nm,1.1s
KIEV Kiev 69.58 329 *e*P **P 20 33 06.3 -1.0**
comp=Z,115nm,1.1s
KIEV Kiev 69.58 329⇑*i*P **P 20 33 07.2 -0.1**
KIEV Kiev 69.58 329 *i* P **P 20 33 06.2 -1.1**
SNR=49
KIEV Kiev 69.58 329*c i*P **P 20 33 06.2 -1.1**
KIEV pmax pmax
comp=Z,81nm,1.0s
J47A Sunmer 69.62 45 *e*P **P 20 33 08.4 +0.7**
comp=Z,24nm,0.7s
J47A Sunmer 69.62 45 P **P 20 33 07.4 -0.3**
baz=324
E52A Mattawa 69.69 39 P **P 20 33 05.6 -2.6**
baz=326
HDIL Hopedale 69.72 50 *e*P **P 20 33 09.1 +0.7**
comp=Z,35nm,0.6s
HDIL Hopedale 69.72 50 P **P 20 33 07.4 -1.0**
baz=322
D54A Lac Fusel, La 69.74 38 P **P 20 33 05.8 -2.7**
baz=327,SNR=9.1
F52A Sundridge 69.83 40 P **P 20 33 06.5 -2.6**
baz=326,SNR=7.5
KLBO Killbear Provi 69.84 41 P **P 20 33 08.1 -1.0**
baz=325,SNR=6.4
MCD Coleburn Disti 69.86 351 *e*P **P 20 33 09.5 +0.5**
I49A Point Hope 69.91 43 *e*P **P 20 33 09.9 +0.3**
comp=Z,52nm,1.4s
I49A Point Hope 69.91 43 P **P 20 33 09.8 +0.3**
baz=324
K47A Vermontville 70.00 46 P **P 20 33 10.4 +0.4**
baz=324
E53A Dumoine, Ponti 70.00 39 P **P 20 33 09.1 -0.9**
baz=326,SNR=5.1
BMRO Meriville Lake 70.05 42 P **P 20 33 10.6 +0.3**
baz=325
N44A Piper City 70.07 49 P **P 20 33 10.4 -0.2**
baz=323
BUKO Buck Lake 70.09 40 P **P 20 33 09.4 -1.2**
baz=326,SNR=5.2
MDO Dochfour 70.11 351 *e*P **P 20 33 10.9 +0.4**
TUL1 Leonard 70.12 57 *e*P **P 20 33 12.0 +1.0**
comp=Z,22nm,1.0s
TUL1 Leonard 70.12 57 P **P 20 33 11.4 +0.5**
baz=321
KAC Achnashellach 70.14 352 *e*P **P 20 33 11.9 +1.2**
E54A Lac Daplat, Po 70.14 38 P **P 20 33 09.8 -1.0**
baz=327,SNR=7.3
ALGO Algonquin Park 70.20 39 P **P 20 33 10.4 -0.9**
baz=326
BRCO Bruce Peninsul 70.25 42 P **P 20 33 11.8 +0.3**
baz=325
RGN Rugen 70.25 340 *e*P **P 20 33 12.2 +0.8**
comp=Z,208nm,1.0s
K48A Perry 70.27 45 P **P 20 33 12.6 +0.8**
baz=324
NCK Nalchik 70.28 316⇓*e*P **P 20 33 11.7 -0.2**
NCK pmax pmax
comp=Z,33nm,0.8s
KIV Kislovodsk 70.29 317 *e*P **P 20 33 11.7 -0.3**
comp=Z,30nm,0.8s
KIV Kislovodsk 70.29 317⇑*i*P **P 20 33 12.4 +0.4**
KIV Kislovodsk 70.29 317 *i* P **P 20 33 11.6 -0.3**
SNR=23
KIV Kislovodsk 70.29 317 *e*P **P 20 33 11.7 -0.3**
KIV *e* 20 35 46.7
KIV *e* 20 42 23.5
KIV pmax pmax
comp=Z,84nm,1.0s
KIV MLR MLR
comp=Z,5μm,18.0s
KIV Kislovodsk 70.29 317 P **P 20 33 12.1 +0.1**
SNR=25
BASO Ashfield 70.34 43 P **P 20 33 12.0 -0.2**
baz=325
KBZ Khabaz 70.39 317 P **P 20 33 12.6 +0.2**
comp=Z,41nm,0.8s,baz=58,slow=5.1,SNR=90
KBZ LR LR 21 09 02.6
comp=Z,3μm,18.3s,baz=10.0,slow=40
Q42A Golden Eagle 70.42 52 P **P 20 33 13.8 +1.0**
baz=322
L47A Sherwood 70.46 46 P **P 20 33 12.9 -0.1**
baz=324
BWLO Walkerton 70.47 42 P **P 20 33 11.9 -1.1**
baz=325
GKP Gorka Klasztor 70.57 338 *e*P **P 20 33 13.3 0.0**
GKP LMZ LR 21 08 48.3
comp=Z,5μm,16.7s
GKP Gorka Klasztor 70.57 338 *e*P **P 20 33 13.3 0.0**
GKP MLR MLR
comp=Z,5μm,16.7s
K49A Clarkson 70.58 44 P **P 20 33 14.4 +0.8**
baz=324
PSI Prapat 70.58 249 *e*P **P 20 33 14.5 +0.3**
comp=Z,22nm,1.0s
PSI Prapat 70.58 249 *e*P **P 20 33 14.5 +0.3**
PSI pmax pmax
comp=Z,22nm,1.0s
ABTX Abilene, Hawle 70.59 62 *e*P **P 20 33 14.9 +1.0**
comp=Z,24nm,1.0s
ABTX Abilene, Hawle 70.59 62 P **P 20 33 13.7 -0.2**
baz=320
N46A Monticello 70.64 48 P **P 20 33 14.2 +0.2**
baz=323
G53A Haliburton 70.67 40 P **P 20 33 13.4 -0.7**
baz=326
O45A Potomac 70.69 49 P **P 20 33 14.9 +0.5**
baz=323
ZEI Tsey 70.73 316 *e*P **P 20 33 12.4 -2.4**
ZEI pmax pmax
comp=Z,32nm,0.9s
CCM Cathedral Cave 70.75 53 *e*P **P 20 33 14.6 -0.2**
comp=Z,30nm,1.3s
CCM Cathedral Cave 70.75 53 *e*P **P 20 33 14.6 -0.2**
CCM pmax pmax
comp=Z,30nm,1.3s
CCM Cathedral Cave 70.75 53 P **P 20 33 14.7 -0.1**
baz=322
PEMO Pembroke 70.75 39 P **P 20 33 14.8 +0.2**
baz=327
I51A Listowel 70.78 42 P **P 20 33 13.7 -1.1**
baz=325
HHAR Hobbs 70.78 55 *e*P **P 20 33 14.3 -0.7**
comp=Z,28nm,1.0s
L48A N Adams 70.83 46 P **P 20 33 14.2 -1.0**
baz=324
TX31 Lajitas Ar. Si 70.86 67 *e*P **P 20 33 16.1 +0.4**
comp=Z,31nm,1.3s
TXAR Lajitas Array 70.86 67 P **P 20 33 16.4 +0.7**
comp=Z,7.3nm,0.8s,baz=298,slow=4.6,SNR=52
AAM Ann Arbor 70.88 45 P **P 20 33 14.5 -1.0**
baz=324
SFIN Lafayette 70.88 48 P **P 20 33 13.7 -1.8**
baz=323
L49A Milan 70.99 45 P **P 20 33 15.8 -0.3**
baz=324
BEL Belsk 70.99 335 *e*P **P 20 33 16.7 +0.7**
BEL LMZ LR 21 08 02.4
comp=Z,4μm,16.4s
BEL Belsk 70.99 335 *e*P **P 20 33 16.7 +0.7**
BEL MLR MLR
comp=Z,4μm,16.4s
BANO Bancroft 71.03 40 P **P 20 33 14.3 -2.0**
baz=327,SNR=7.3
N47A Urbana 71.12 47 P **P 20 33 14.2 -2.8**
baz=324
FVM French Village 71.20 52 *e*P **P 20 33 16.3 -1.2**
comp=Z,22nm,1.0s
FVM French Village 71.20 52 *e*P **P 20 33 16.3 -1.2**
FVM pmax pmax
comp=Z,22nm,1.0s
P45A Graceland, Par 71.26 49 P **P 20 33 17.6 -0.2**
baz=323
U40A Yellville 71.28 55 P **P 20 33 17.3 -0.6**
baz=322,SNR=7.9
G55A Calabogie 71.30 39 P **P 20 33 15.4 -2.6**
baz=327,SNR=5.2
ACTO Acton 71.34 42 P **P 20 33 15.3 -2.9**
baz=326
PLVO Plevna 71.34 39 *e*P **P 20 33 17.7 -0.6**
comp=Z,26nm,1.4s
PLVO Plevna 71.34 39 P **P 20 33 18.0 -0.3**
baz=327
EAB Aberfoyle 71.35 351 *e*P **P 20 33 18.7 +0.7**
LAWE Loch Awe, Argy 71.37 352 *e*P **P 20 33 17.7 -0.4**
LAWE IAmb IAmb 20 33 19.5
comp=Z,49nm,1.0s
M49A Liberty Center 71.41 46 P **P 20 33 18.2 -0.5**
baz=324
ESY Stoneypath 71.44 350 *e*P **P 20 33 19.0 +0.4**
P46A Rosedale 71.44 49 P **P 20 33 17.9 -1.0**
baz=323
N48A Decatur 71.44 47 P **P 20 33 18.2 -0.7**
baz=324
L50A Kingsville 71.46 45 P **P 20 33 18.2 -0.7**
baz=325
HYB Hyderabad 71.48 275⇑*i*P **P 20 33 19.0 -0.5**
comp=Z,145nm,1.0s
HYB *e* 20 33 30.5
HYB *e* 20 42 50.0
DELO Deloro Mine 71.57 40 P **P 20 33 20.0 +0.4**
baz=327
Q45A Warren Harvey, 71.57 50 P **P 20 33 18.7 -1.0**
baz=323
EAU Auchinoon 71.59 350 *e*P **P 20 33 20.2 +0.6**
ORIO Orleans, Innes 71.60 38 P **P 20 33 19.0 -0.7**
baz=328
DRWO Darlington Wes 71.66 41 P **P 20 33 20.9 +0.7**
baz=326
ALFO Alfred 71.69 37 P **P 20 33 20.2 -0.1**
baz=328
H55A Tweed 71.71 39 P **P 20 33 19.5 -1.0**
baz=327,SNR=6.9
ANN Anapa 71.72 321 *e*P **P 20 33 19.5 -0.9**
ANN *e* 20 33 37.1
ANN *e* 20 35 57.5
ANN pmax pmax
comp=Z,115nm,1.7s
PGBU Glenifferbraes 71.73 351 *e*P **P 20 33 20.9 +0.6**
PGBU IAmb IAmb 20 33 22.4
comp=Z,72nm,1.0s
WLVO Wesleyville 71.75 41 P **P 20 33 19.7 -1.0**
baz=326,SNR=6.0
PLIO Pelee Island, 71.78 45 P **P 20 33 20.2 -0.7**
baz=325
I55A Frankford 71.79 40 P **P 20 33 20.7 -0.2**
baz=327
SOC Sochi 71.82 319*c i*P **P 20 33 20.4 -0.7**
SOC *e**SP **pwP 20 33 32.4 -0.9**
SOC *e*PPP PPP 20 37 39.9
SOC *e*S **S 20 42 42.0 +2.9**
SOC *e*SS **SS 20 47 18.0 +3.5**
SOC *e*SSS SSS 20 50 24.2
O48A Farmland 71.87 47 P **P 20 33 20.1 -1.4**
baz=324
LVV L'vov 71.92 332 *e*P **P 20 33 21.7 +0.1**
LVV *e* 20 33 39.5
LVV *e* 20 35 57.0
LVV *e* 20 37 45.7
LVV *e*S **S 20 42 37.9 -2.1**
LVV *e* 20 43 10.6
LVV *e* 20 50 15.5
LVV MLR MLR
comp=Z,4μm,17.0s
LVV MLR MLR
comp=N,3μm,16.0s
LVV MLR MLR
comp=E,2μm,16.0s
P47A Martinsville 71.98 48 P **P 20 33 21.7 -0.4**
baz=324
S44A Carbondale 72.00 51 P **P 20 33 20.9 -1.3**
baz=323
SIUC Southern Illin 72.00 51 *e*P **P 20 33 22.3 0.0**
comp=E,51nm,1.4s
H56A Elgin 72.04 39 P **P 20 33 21.7 -0.7**
baz=328
RUE Ruedersdorf 72.08 339 *e*P **P 20 33 22.4 -0.1**
RUE IAmb IAmb 20 33 25.0
comp=Z,119nm,1.1s
ESK Eskdalemuir 72.09 350 *e*P **P 20 33 22.5 -0.1**
comp=Z,57nm,1.0s
ESK Eskdalemuir 72.09 350 *e*P **P 20 33 22.4 -0.1**
ESK IAmb IAmb 20 33 24.0
comp=Z,56nm,1.0s
ESK Eskdalemuir 72.09 350 *e*P **P 20 33 22.5 -0.1**
ESK pmax pmax
comp=Z,57nm,1.0s
BLO Bloomington 72.11 49 *e*P **P 20 33 23.3 +0.4**
comp=Z,12nm,0.9s
BLO Bloomington 72.11 49 *e*P **P 20 33 23.3 +0.4**
BLO pmax pmax
comp=Z,12nm,0.9s
JCT Junction City 72.15 63 *e*P **P 20 33 23.5 +0.2**
comp=Z,23nm,1.1s
JCT Junction City 72.15 63 *e*P **P 20 33 23.5 +0.2**
JCT pmax pmax
comp=Z,23nm,1.1s
JCT Junction City 72.15 63 P **P 20 33 24.3 +1.0**
baz=321
J54A Appleton 72.20 41 *e*P **P 20 33 23.7 +0.3**
comp=Z,32nm,0.9s
J54A Appleton 72.20 41 P **P 20 33 20.9 -2.5**
baz=326
O49A Covington 72.29 47 P **P 20 33 24.0 0.0**
baz=324
PECO Prince Edward 72.30 40 P **P 20 33 22.9 -1.1**
baz=327
M51A Elyria 72.31 45 P **P 20 33 23.0 -1.1**
baz=325
MIAR Mount Ida 72.32 56 *e*P **P 20 33 24.7 +0.4**
comp=Z,23nm,1.3s
MIAR Mount Ida 72.32 56 *e*P **P 20 33 24.7 +0.4**
MIAR pmax pmax
comp=Z,23nm,1.3s
MIAR Mount Ida 72.32 56 P **P 20 33 24.4 +0.1**
baz=322
N50A Nevada 72.34 46 P **P 20 33 24.0 -0.3**
baz=325
Q47A Bedord North L 72.35 49 P **P 20 33 22.9 -1.4**
baz=324
MEDO Medina 72.36 41 *e*P **P 20 33 24.7 +0.4**
comp=Z,35nm,0.9s
MEDO Medina 72.36 41 P **P 20 33 25.6 +1.2**
baz=327
P48A Milroy 72.39 48 P **P 20 33 23.5 -1.1**
baz=324
WHAR Wooly Hollow 72.39 55 *e*P **P 20 33 25.4 +0.7**
comp=Z,82nm,1.7s
R46A Gibon Southern 72.42 50 P **P 20 33 25.8 +1.0**
baz=324
KWP Kalwaria Pacla 72.46 333 *e*P **P 20 33 25.2 +0.3**
KWP LMZ LR 21 09 04.0
comp=Z,4μm,17.6s
KWP Kalwaria Pacla 72.46 333 *e*P **P 20 33 25.1 +0.2**
comp=Z,2μm,1.0s
KWP Kalwaria Pacla 72.46 333 *e*P **P 20 33 25.2 +0.3**
KWP MLR MLR
comp=Z,4μm,17.6s
M52A Chesterland 72.49 44 P **P 20 33 24.2 -1.0**
baz=326
GNI Garni 72.50 314 *e*P **P 20 33 26.0 +0.6**
comp=Z,61nm,0.9s
GNI Garni 72.50 314 *i* P **P 20 33 25.7 +0.2**
SNR=27
GNI Garni 72.50 314*c i*P **P 20 33 26.0 +0.6**
GNI pmax pmax
comp=Z,155nm,1.0s
GNI Garni 72.50 314 P **P 20 33 27.5 +2.1**
SNR=24
W41B Gary Mavity, V 72.51 55 *e*P **P 20 33 25.7 +0.4**
comp=Z,22nm,0.8s
W41B Gary Mavity, V 72.51 55 P **P 20 33 24.4 -0.9**
baz=322,SNR=6.6
J55A Hilton 72.53 41 *e*P **P 20 33 25.5 +0.1**
comp=Z,28nm,0.9s
J55A Hilton 72.53 41 P **P 20 33 23.6 -1.8**
baz=327,SNR=5.7
N51A Ashland 72.56 45 *e*P **P 20 33 25.3 -0.4**
comp=Z,43nm,0.8s
N51A Ashland 72.56 45 P **P 20 33 22.8 -2.8**
baz=325,SNR=7.2
GSI Gunungsitoli 72.57 249 *e*P **P 20 33 25.9 -0.1**
comp=Z,42nm,0.9s
GSI Gunungsitoli 72.57 249 P **P 20 33 26.8 +0.8**
ERPA Erie 72.60 43 P **P 20 33 22.5 -3.3**
baz=326
L53A Girard 72.62 43 P **P 20 33 23.9 -2.0**
baz=326,SNR=7.6
P49A Miami Univ. Ec 72.65 47 P **P 20 33 23.8 -2.3**
baz=324
LONY Lake Ozonia 72.66 38 P **P 20 33 24.4 -1.7**
baz=328
OJC Ojcow 72.72 335 *e*P **P 20 33 26.7 +0.3**
OJC LMZ LR 21 09 14.6
comp=Z,4μm,16.5s
OJC Ojcow 72.72 335 *e*P **P 20 33 26.2 -0.2**
comp=Z,71nm,1.0s
OJC Ojcow 72.72 335 *e*P **P 20 33 26.2 -0.2**
OJC pmax pmax
comp=Z,71nm,1.0s
K54A Basiliko Farm, 72.73 42 P **P 20 33 22.8 -3.8**
baz=327,SNR=6.9
X40A Basin Creek Fa 72.75 56 *e*P **P 20 33 27.5 +0.7**
comp=Z,64nm,2.0s
X40A Basin Creek Fa 72.75 56 P **P 20 33 28.0 +1.2**
baz=322
PDSI Padang 72.75 245 P **P 20 33 26.8 -0.2**
L54A Sinclairville 72.78 42 P **P 20 33 26.7 -0.2**
baz=326
BCA Borcka 72.80 316⇑*i*P **P 20 33 27.7 +0.6**
R47A Wooly Knot Far 72.81 49 P **P 20 33 27.2 +0.1**
baz=324
KARS Kars 72.84 315 *e*P **P 20 33 28.1 +0.6**
KARS Kars 72.84 315 *e*P **P 20 33 28.1 +0.6**
SIM Simferopol' 72.85 323*c i*P **P 20 33 26.8 -0.4**
SIM pmax pmax
comp=Z,90nm,1.4s
SIM MLR MLR
comp=Z,2μm,16.5s
ACSO Alum Creek Sta 72.86 46 *e*P **P 20 33 28.2 +0.9**
comp=Z,24nm,0.9s
M53A WI Miller and 72.87 44 P **P 20 33 26.7 -0.7**
baz=326,SNR=7.5
K55A Perry 72.88 41 P **P 20 33 24.1 -3.4**
baz=327,SNR=11
ALLY Alegheny Colle 72.92 43 *e*P **P 20 33 28.2 +0.5**
comp=Z,112nm,1.6s
MOQ Mont Orford 72.92 36 *e*P **P 20 33 28.4 +0.6**
KIS Kishinev 72.93 328⇑*i*P **P 20 33 26.0 -1.7**
comp=Z,400nm,2.0s
KIS Kishinev 72.93 328 *i* PcP **PcP 20 33 37.0 -7.6**
KIS Kishinev 72.93 328 *e*PP PP 20 35 57.0 -13
KIS Kishinev 72.93 328⇑*i*P **P 20 33 26.0 -1.7**
KIS *i* 20 33 37.0
KIS *e*S **S 20 42 46.0 -5.7**
KIS *e*PS 20 43 30.0
KIS pmax pmax
comp=Z,400nm,2.0s
KIS pmax pmax
comp=Z,800nm,4.0s
KIS pmax pmax
comp=N,300nm,3.0s
KIS MLR MLR
comp=Z,4μm,16.0s
KIS MLR MLR
comp=N,3μm,17.0s
MMNY Mt. Morris Dam 72.94 41 *e*P **P 20 33 27.2 -0.6**
comp=N,36nm,0.9s
N52A McGinn's Farm, 72.95 45 P **P 20 33 24.2 -3.7**
baz=326
WCI Wyandotte Cave 72.98 49 *e*P **P 20 33 28.4 +0.3**
comp=N,16nm,0.8s
WCI Wyandotte Cave 72.98 49 *e*P **P 20 33 28.4 +0.3**
WCI pmax pmax
comp=Z,16nm,0.8s
WCI Wyandotte Cave 72.98 49 P **P 20 33 27.7 -0.4**
baz=324
P50A Jamestown 73.00 47 P **P 20 33 25.5 -2.8**
baz=325
KSP Ksiaz 73.03 337 *e*P **P 20 33 28.3 +0.1**
KSP LMZ LR 21 11 54.9
comp=Z,4μm,16.8s
KSP Ksiaz 73.03 337 *e*P **P 20 33 28.3 +0.1**
KSP MLR MLR
comp=Z,4μm,16.8s
R48A Northridge Ran 73.03 49 P **P 20 33 26.2 -2.3**
baz=324
STHS Stebnicka Huta 73.07 333 *e*P **P 20 33 29.5 +1.0**
STHS pmax pmax
comp=Z,67nm,0.9s
STHS Stebnicka Huta 73.07 333 *e*P **P 20 33 29.5 +1.0**
IAS Iasi 73.17 329⇑*i*P **P 20 33 28.8 -0.3**
T46A Princeton 73.17 51 P **P 20 33 28.7 -0.6**
baz=324,SNR=5.5
L55A Hinsdale 73.19 42 P **P 20 33 29.6 +0.2**
baz=327
S47A Hartford 73.21 50 P **P 20 33 29.6 +0.1**
baz=324
KOLS Kolonicke sedl 73.22 333 *e*P **P 20 33 29.6 +0.2**
KOLS pmax pmax
comp=Z,46nm,1.0s
KOLS Kolonicke sedl 73.22 333 *e*P **P 20 33 29.6 +0.2**
M54A Oil Creek Stat 73.24 43 *e*P **P 20 33 29.5 -0.2**
comp=Z,32nm,0.9s
M54A Oil Creek Stat 73.24 43 P **P 20 33 26.9 -2.7**
baz=326,SNR=7.1
HPK Haverah Park 73.25 349 *e*P **P 20 33 30.1 +0.7**
HPK IAmb IAmb 20 33 31.1
comp=Z,91nm,0.9s
N53A Lisbon 73.32 44 *e*P **P 20 33 30.0 -0.2**
comp=Z,67nm,1.4s
N53A Lisbon 73.32 44 P **P 20 33 28.0 -2.1**
baz=326,SNR=5.4
NIE Niedzica 73.32 334 *e*P **P 20 33 30.3 +0.3**
NIE LMZ LR 21 09 39.8
comp=Z,2μm,16.7s
NIE Niedzica 73.32 334 *e*P **P 20 33 30.3 +0.3**
NIE MLR MLR
comp=Z,2μm,16.7s
NCB Newcomb 73.34 38 *e*P **P 20 33 30.3 +0.1**
comp=Z,11nm,1.0s
CLL Collm 73.35 339 *e*P **P 20 33 30.0 -0.1**
comp=Z,60nm,0.9s
CLL Collm 73.35 339⇓*i*P **P 20 33 30.8 +0.7**
CLL *e* 20 33 39.0
CLL *e*S **SKiKP 20 42 58.0 -0.2**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 73.35 339⇓*i*P **P 20 33 30.8 +0.7**
comp=Z,77nm,1.0s
CLL *e* 20 33 39.0
CLL *e*PP **PP 20 36 12.0 -1.0**
CLL *e*PPP PPP 20 38 06.0
CLL *e*S **SKiKP 20 42 58.0 -0.2**
CLL *e*PPS PPS 20 43 45.0
CLL *e*SS **SS 20 47 43.0 +5.6**
CLL *e*SSS SSS 20 51 00.0
CLL *e*SSSS 20 52 48.0
CLL LmH 21 09 00.0
comp=N,1μm,18.3s
CLL LmH 21 09 00.0
comp=E,2μm,18.0s
UPC Upice 73.41 337 *e*P **P 20 33 31.5 +1.0**
UPC MLR MLR
comp=Z,4μm,15.2s
UPC Upice 73.41 337 *e*P **P 20 33 31.5 +1.0**
UPC *e*S SKiKP 20 43 13.5 +15
UPC AMS AMS 21 12 10.0
comp=Z,4μm,15.2s
P51A Williamsport 73.44 46 P P 20 33 25.5 -5.3
baz=325
PRAR RASCA 73.44 329⇑*i*P **P 20 33 30.8 +0.1**
R49A Shelbyville 73.45 48 P **P 20 33 31.4 +0.5**
baz=324
O52A Adamsville 73.46 45 *e*P **P 20 33 31.4 +0.4**
comp=Z,35nm,0.8s
O52A Adamsville 73.46 45 P **P 20 33 29.6 -1.4**
baz=326,SNR=9.4
DPC Dobruska-Polom 73.48 337 *e*P **P 20 33 31.6 +0.6**
DPC MLR MLR
comp=Z,2μm,16.3s
DPC Dobruska-Polom 73.48 337 *e*P **P 20 33 31.6 +0.6**
DPC *e*S SKiKP 20 43 13.6 +15
DPC AMS AMS 21 12 10.0
comp=Z,2μm,16.3s
UZH Uzhgorod 73.48 332*c i*P **P 20 33 29.8 -1.1**
UZH *e**PP **pP 20 33 41.0 +0.5**
UZH *e*S **S 20 42 50.4 -7.5**
UZH MLR MLR
comp=N,600nm,16.0s
UZH MLR MLR
comp=E,400nm,16.0s
UZH MLR MLR
comp=Z,850nm,16.0s

OKC	Ostrava-Krasne	73.50	336	eP	P	20 33 31.5 +0.5
OKC				e		20 33 40.3
OKC				MLR	MLR	
	comp=Z,3µm,16.0s					
OKC	Ostrava-Krasne	73.50	336	eP	P	20 33 31.5 +0.5
OKC				ex	x	20 33 40.3
OKC				AMS	AMS	21 09 50.0
	comp=Z,3µm,16.0s					
BUR08	Bucovina Ar. S	73.51	330	eP	P	20 33 31.0 -0.3
	comp=Z,61nm,0.8s					
BURAR	Bucovina Array	73.53	330	⇓iP	P	20 33 31.5 +0.1
Q50A	Georgetown	73.54	47	P	P	20 33 31.9 +0.5
	baz=325					
S48A	Wiedeman Farm,	73.55	49	P	P	20 33 29.4 -2.1
	baz=324,SNR=5.1					
BRG	Berggiesshubel	73.55	339	eP	P	20 33 32.2 +0.9
	comp=Z,33nm,1.1s					
BRG				S	S	20 43 09.0 +10
BRG				SS	SS	20 48 03.0 +23
BRG	Berggiesshubel	73.55	339	eP	P	20 33 32.2 +0.9
BRG				pmax	pmax	
	comp=Z,33nm,1.1s					
BRG				MLR	MLR	
	comp=N,1µm,18.8s					
BRG				MLR	MLR	
	comp=E,1µm,11.5s					
BRG				MLR	MLR	
	comp=Z,2µm,14.6s					
N54A	Moraine State	73.55	43	eP	P	20 33 32.0 +0.5
	comp=Z,86nm,1.5s					
N54A	Moraine State	73.55	43	P	P	20 33 30.1 -1.4
	baz=326,SNR=9.0					
LEOM	Leova	73.58	328	⇑iP	P	20 33 31.9 +0.4
VT1	Waterbury	73.58	37	eP	P	20 33 32.1 +0.5
	comp=Z,37nm,1.3s					
T47A	Sharon Grove	73.59	50	eP	P	20 33 32.3 +0.5
	comp=Z,20nm,0.8s					
T47A	Sharon Grove	73.59	50	P	P	20 33 31.9 +0.1
	baz=324					
O53A	New Philadelph	73.62	45	P	P	20 33 30.2 -1.7
	baz=326,SNR=7.8					
KRLC	Kraliky	73.62	337	eP	P	20 33 32.4 +0.6
KRLC	Kraliky	73.62	337	eP	P	20 33 32.4 +0.6
M55A	Ridgway	73.64	42	P	P	20 33 31.4 -0.7
	baz=327,SNR=10					
Q51A	Peebles	73.68	47	eP	P	20 33 32.8 +0.5
	comp=Z,41nm,1.5s					
Q51A	Peebles	73.68	47	P	P	20 33 31.3 -0.9
	baz=325					
MORC	Moravsky Berou	73.71	336	eP	P	20 33 32.4 +0.1
	comp=Z,61nm,0.9s					
MORC	Moravsky Berou	73.71	336	⇓iP	P	20 33 32.9 +0.6
MORC	Moravsky Berou	73.71	336	eP	P	20 33 32.4 +0.1
MORC				pmax	pmax	
	comp=Z,61nm,0.9s					
MORC	Moravsky Berou	73.71	336	eP	P	20 33 32.7 +0.4
P52A	Corning	73.72	46	P	P	20 33 31.8 -0.7
	baz=326,SNR=5.7					
PVCC	Panska Ves	73.73	338	eP	P	20 33 32.7 +0.3
PVCC				MLR	MLR	
	comp=Z,3µm,15.6s					
PVCC	Panska Ves	73.73	338	eP	P	20 33 32.7 +0.3
PVCC				AMS	AMS	21 11 30.0
	comp=Z,3µm,15.6s					
LANS	Liptovska Anna	73.79	334	eP	P	20 33 33.9 +1.1
LANS	Liptovska Anna	73.79	334	eP	P	20 33 33.9 +1.1
S49A	Springfield	73.80	49	P	P	20 33 33.7 +0.7
	baz=324					
LBWR	Ladybower, Pea	73.81	349	eP	P	20 33 32.4 -0.4
LBWR				IAmb	IAmb	20 33 34.7
	comp=Z,68nm,0.9s					
T48A	Bowling Green	73.83	50	P	P	20 33 32.8 -0.3
	baz=324					
BIZ	Bicaz	73.86	329	⇓iP	P	20 33 33.1 -0.1
TRPA	Tarpa	73.86	332	⇓iP	P	20 33 34.1 +0.9
TRPA	Tarpa	73.86	332	⇑iP	P	20 33 34.0 +0.9
M56A	Emporium	73.87	42	P	P	20 33 32.5 -0.9
	baz=327,SNR=5.8					
WVT	Waverly	73.93	51	eP	P	20 33 35.1 +1.3
	comp=Z,14nm,0.9s					
WVT	Waverly	73.93	51	eP	P	20 33 35.1 +1.3
WVT				pmax	pmax	
	comp=Z,14nm,0.9s					
WVT	Waverly	73.93	51	P	P	20 33 33.3 -0.5
	baz=324					
U47A	Clarksville	73.94	51	P	P	20 33 34.4 +0.6
	baz=324					
WTSB	Winterswijk	73.95	343	eP	P	20 33 33.8 +0.3
	comp=Z,84nm,0.7s					
WTSB				epP	pP	20 33 43.7 +0.8
KTUT	Trabzon	73.96	317	⇑iP	P	20 33 33.5 -0.3
BIR	Birlad	73.96	328	⇑iP	P	20 33 34.5 +0.7
LBNH	Lisbon	73.97	36	eP	P	20 33 34.3 +0.4
	comp=Z,34nm,1.2s					
LBNH	Lisbon	73.97	36	eP	P	20 33 34.3 +0.4
LBNH				pmax	pmax	
	comp=Z,34nm,1.2s					
LBNH	Lisbon	73.97	36	P	P	20 33 34.9 +1.0
	baz=330					
BMR	Baia Mare	74.00	331	⇓iP	P	20 33 34.6 +0.6
PKME	Peaks-Kenny Pk	74.02	34	P	P	20 33 32.7 -1.4
	baz=331					
AKDA	Akdag	74.02	316	iP	P	20 33 35.5 +1.0
O54A	Avella	74.03	44	P	P	20 33 33.6 -0.7
	baz=326,SNR=7.6					
DZM	Mont Dzumac	74.04	174	eS	SKiKP	20 43 00.9 +1.1
	comp=Z,247nm,22.5s					
DZM	Mont Dzumac	74.04	174	eLR	LR	20 56 18.5
	comp=Z,1µm,22.2s					
ACCN	Adirondack Com	74.05	38	eP	P	20 33 34.6 +0.2
	comp=Z,21nm,0.9s					
V46A	Holladay	74.06	52	P	P	20 33 35.1 +0.6
	baz=324					
TESR	Tescani	74.06	329	⇑iP	P	20 33 34.3 -0.1
KECS	Kecovo	74.12	334	eP	P	20 33 35.2 +0.5
KECS				pmax	pmax	
	comp=Z,109nm,0.9s					
KECS	Kecovo	74.12	334	eP	P	20 33 35.2 +0.5
N55A	Marion Center	74.13	43	eP	P	20 33 35.2 +0.3
	comp=Z,30nm,0.9s					
N55A	Marion Center	74.13	43	P	P	20 33 34.1 -0.8
	baz=327,SNR=18					
BINY	Binghamton	74.16	40	eP	P	20 33 35.2 +0.1
BINY				ePcP	sP	20 33 47.2 -0.1
BINY	Binghamton	74.16	40	P	P	20 33 34.8 -0.2
	baz=328					
R51A	Hillsboro	74.17	47	P	P	20 33 34.7 -0.4
	baz=325					
P53A	Whipple	74.17	45	eP	P	20 33 34.2 -0.9
	comp=Z,61nm,1.7s					
P53A	Whipple	74.17	45	P	P	20 33 34.6 -0.5
	baz=326					
Q52A	Bidwell	74.21	46	P	P	20 33 35.8 +0.4
	baz=326					
T49A	Edmonton	74.24	49	eP	P	20 33 36.2 +0.6
	comp=Z,19nm,1.1s					
T49A	Edmonton	74.24	49	P	P	20 33 34.3 -1.3
	baz=324					
PRU	Pruhonice	74.24	338	eP	P	20 33 35.7 +0.4
PRU				MLR	MLR	
	comp=Z,2µm,16.4s					
PRU	Pruhonice	74.24	338	eP	P	20 33 35.7 +0.4
PRU				eS	S	20 43 21.6 +15
PRU				AMS	AMS	21 11 20.0
	comp=Z,2µm,16.4s					
U48A	Cassie Pea, Po	74.24	50	P	P	20 33 36.2 +0.6
	baz=324					
GOPC	GO Pecny, Ondr	74.25	338	eP	P	20 33 35.4 -0.1
GOPC				e		20 33 44.1
GOPC				MLR	MLR	
	comp=Z,2µm,16.2s					
GOPC	GO Pecny, Ondr	74.25	338	eP	P	20 33 35.4 -0.1
GOPC				ex	x	20 33 44.1
GOPC				eS	S	20 43 20.0 +13
GOPC				AMS	AMS	21 10 40.0
	comp=Z,2µm,16.2s					
ARCR	ARCALIA	74.27	330	⇑iP	P	20 33 37.1 +1.5
S50A	Richmond	74.30	48	P	P	20 33 35.5 -0.3
	baz=325,SNR=6.4					
N56A	West Decatur	74.30	42	P	P	20 33 35.7 -0.2
	baz=327,SNR=19					
V47A	Nunnelly	74.32	51	P	P	20 33 36.0 -0.1
	baz=324					
VRAC	Vranov	74.38	336	⇓iP	P	20 33 37.3 +1.1
VRAC	Vranov	74.38	336	eP	P	20 33 36.7 +0.5
CWF	Charnwood Fore	74.41	349	eP	P	20 33 36.5 +0.3
CWF				IAmb	IAmb	20 33 37.9
	comp=Z,74nm,1.2s					
OXF	Oxford	74.45	54	ePcP	PcP	20 33 54.9 +3.6
GIUM	Giurgiulesti	74.46	327	⇑iP	P	20 33 37.8 +1.1
P54A	Burton	74.47	44	P	P	20 33 36.1 -0.7
	baz=326,SNR=16					
O55A	Ligonier	74.47	43	P	P	20 33 36.2 -0.6
	baz=327,SNR=13					
FOEL	Foel Wylfa	74.48	350	eP	P	20 33 36.4 -0.3
FOEL				IAmb	IAmb	20 33 38.3
	comp=Z,78nm,1.0s					
NKC	Novy Kostel	74.48	339	eP	P	20 33 37.6 +0.8
NKC				MLR	MLR	
	comp=Z,1µm,16.5s					
NKC	Novy Kostel	74.48	339	eP	P	20 33 37.6 +0.8
NKC				eS	S	20 43 24.0 +15
NKC				AMS	AMS	21 12 40.0
	comp=Z,1µm,16.5s					
WVL	Waterville	74.50	35	eP	P	20 33 38.3 +1.4
	comp=Z,44nm,1.1s					
TLCR		74.52	327	⇑iP	P	20 33 37.3 +0.3
JAVC	Velka Javorina	74.53	335	eP	P	20 33 38.6 +1.5
TUDR		74.54	328	⇑iP	P	20 33 37.7 +0.6
R52A	Catlettsburg	74.56	47	P	P	20 33 38.8 +1.4
	baz=326					
VYHS	Vyhne	74.56	335	eP	P	20 33 37.8 +0.6
VYHS				pmax	pmax	
	comp=Z,27nm,1.0s					
VYHS	Vyhne	74.56	335	eP	P	20 33 37.8 +0.6
LLW	Llanuwychllyn	74.57	350	eP	P	20 33 37.9 +0.7
PETR	Petresti	74.57	328	⇑iP	P	20 33 38.9 +1.6
ODBI	Odobesti	74.59	328	⇓iP	P	20 33 39.1 +1.6
U49A	Red Boiling Sp	74.60	50	P	P	20 33 38.2 +0.6
	baz=324					
VRI	Vrincioaia	74.61	328	⇑iP	P	20 33 38.2 +0.6
Q53A	Leroy	74.63	46	P	P	20 33 37.3 -0.5
	baz=326,SNR=10					
T50A	Nancy	74.63	49	P	P	20 33 38.8 +1.0
	baz=325					
PLOR	Plostina	74.65	328	⇓iP	P	20 33 38.2 +0.4
KRUC	Moravsky	74.66	336	eP	P	20 33 38.4 +0.6
TREC	Trest	74.67	337	eP	P	20 33 38.3 +0.4
TREC				MLR	MLR	
	comp=Z,4µm,16.8s					
TREC	Trest	74.67	337	eP	P	20 33 38.3 +0.4
TREC				AMS	AMS	21 10 40.0
	comp=Z,4µm,16.8s					
CLTN	Cedars of Leba	74.68	50	eP	P	20 33 38.7 +0.6
	comp=Z,22nm,1.4s					
MCWV	Mont Chateau	74.70	44	eP	P	20 33 38.9 +0.7
	comp=Z,20nm,1.0s					
MCWV	Mont Chateau	74.70	44	P	P	20 33 36.2 -2.0
	baz=327,SNR=7.9					
SSPA	Standing Stone	74.70	42	eP	P	20 33 38.7 +0.5
	comp=Z,28nm,0.9s					
SSPA	Standing Stone	74.70	42	P	P	20 33 38.5 +0.3
	baz=327					
OZUR		74.71	329	⇑iP	P	20 33 39.3 +1.1
LTVH	Ltavrtes, Hu	74.72	332	⇑iP	P	20 33 39.0 +0.9
O56A	Blue Knob Stat	74.73	43	eP	P	20 33 38.4 -0.1
	comp=Z,24nm,0.8s					
O56A	Blue Knob Stat	74.73	43	P	P	20 33 38.2 -0.2
	baz=327,SNR=14					
V48A	Smith Brothers	74.73	51	eP	P	20 33 38.8 +0.4
	comp=Z,16nm,0.9s					
V48A	Smith Brothers	74.73	51	P	P	20 33 38.6 +0.2
	baz=324					
PLAL	Pickwick Lake	74.73	52	eP	P	20 33 38.8 +0.4
	comp=Z,25nm,1.1s					
N57A	Milroy	74.74	42	P	P	20 33 38.0 -0.4
	baz=328,SNR=23					
W47A	Westpoint	74.75	52	P	P	20 33 37.8 -0.7
	baz=324					
CFR	Carcaliu	74.75	327	⇑iP	P	20 33 38.0 -0.4
PSZ	Piszkesteto	74.80	334	eP	P	20 33 39.2 +0.5
	comp=Z,62nm,1.0s					
PSZ	Piszkesteto	74.80	334	⇑iP	P	20 33 40.2 +1.5
PSZ	Piszkesteto	74.80	334	eP	P	20 33 39.2 +0.5
PSZ				pmax	pmax	
	comp=Z,62nm,1.0s					
PSZ	Piszkesteto	74.80	334	⇑iP	P	20 33 39.1 +0.3
Q54A	Coxs Mills	74.83	45	eP	P	20 33 39.9 +0.9
	comp=Z,27nm,1.3s					
Q54A	Coxs Mills	74.83	45	P	P	20 33 39.4 +0.4
	baz=326					
P55A	Reedsville	74.83	44	P	P	20 33 37.4 -1.6
	baz=327					
CJR	Cluj-Napoca	74.83	331	⇑iP	P	20 33 39.5 +0.6
R53A	Hurricane	74.87	46	eP	P	20 33 39.1 -0.1
	comp=Z,23nm,1.0s					
R53A	Hurricane	74.87	46	P	P	20 33 37.7 -1.5
	baz=326					
BISRR	Bisoca	74.90	328	⇓iP	P	20 33 40.5 +1.2
GRER		74.96	328	⇑iP	P	20 33 39.6 0.0
LMN	Caledonia Moun	74.98	31	eP	P	20 33 40.2 +0.5
	comp=Z,37nm,0.9s					
DRGR		75.02	331	⇑iP	P	20 33 40.7 +0.7
BNGL	BINGOL	75.06	315	iP	P	20 33 43.3 +2.7
MODS	Modra-Piesok	75.08	336	eP	P	20 33 40.3 +0.1
MODS				pmax	pmax	
	comp=Z,54nm,1.0s					
MODS	Modra-Piesok	75.08	336	eP	P	20 33 40.3 +0.1
U50A	Jamestown	75.12	49	P	P	20 33 41.7 +1.0
	baz=325					
Q55A	Buckhannon	75.14	45	P	P	20 33 41.3 +0.5
	baz=327					
V49A	McMinnville	75.15	50	P	P	20 33 41.4 +0.6
	baz=325					
W48A	Pulaski	75.16	51	P	P	20 33 40.7 -0.3
	baz=324					
O57A	Amberson	75.17	42	P	P	20 33 41.7 +0.8
	baz=328					
MLR	Muntele Rosu	75.19	329	eP	P	20 33 41.7 +0.6
	comp=Z,68nm,0.8s					
MLR	Muntele Rosu	75.19	329	⇓iP	P	20 33 42.4 +1.3
X47A	Russelville	75.21	52	P	P	20 33 42.4 +1.1
	baz=324					
DIKM	Dikmen	75.23	321	⇓iP	P	20 33 42.3 +1.1
WRAB	Tennant Creek	75.24	205	eP	P	20 33 42.0 +0.6
	comp=Z,25nm,1.0s					
WRAB	Tennant Creek	75.24	205	⇓eP	P	20 33 41.2 -0.2
WRAB				pmax	pmax	
	comp=Z,15nm,1.0s					
WB2	Warramunga Arr	75.25	205	eP	P	20 33 42.1 +0.7
	comp=Z,22nm,0.9s					
HARR	Harsova	75.25	327	⇓iP	P	20 33 41.0 -0.3
WRA	Warramunga Arr	75.26	205	P	P	20 33 41.4 0.0
	comp=Z,7.0nm,0.8s,baz=14,slow=7.3,SNR=20					
GRA1	Grafenberg Arr	75.26	340	eP	P	20 33 41.7 +0.4
	comp=Z,84nm,1.0s					
GRF	Grafenberg Arr	75.26	340	eP	P	20 33 41.7 +0.4
GRF				pmax	pmax	
	comp=Z,84nm,1.0s					
HGN	Heimansgroeve	75.26	344	eP	P	20 33 41.5 +0.3
	comp=Z,168nm,1.2s					
HGN				epP	pP	20 33 51.7 +1.1
GRFO	Grafenberg	75.26	340	eP	P	20 33 41.8 +0.6
	comp=Z,75nm,1.0s					
GRFO	Grafenberg	75.26	340	eP	P	20 33 41.8 +0.6
GRFO				pmax	pmax	
	comp=Z,75nm,1.0s					
KHC	Kasperske Hory	75.27	338	eP	P	20 33 41.4 0.0
	comp=Z,23nm,1.0s					
KHC	Kasperske Hory	75.27	338	eP	P	20 33 42.0 +0.6
KHC				e		20 33 51.2
KHC				MLR	MLR	
	comp=Z,3µm,14.9s					
KHC	Kasperske Hory	75.27	338	eP	P	20 33 42.0 +0.6
KHC				ex	x	20 33 51.2
KHC				eS	S	20 43 29.4 +11
KHC				AMS	AMS	21 12 00.0
	comp=Z,3µm,14.9s					
BEBN	Eben Emael	75.27	344	⇑P	P	20 33 42.4 +1.1
BEBN				⇑PcP	PcP	20 33 56.7 +2.1
ZST	Bratislava	75.28	336	eP	P	20 33 42.2 +0.8
ZST	Bratislava	75.28	336	eP	P	20 33 42.2 +0.8
TLB	Topalu	75.31	327	⇑iP	P	20 33 42.0 +0.4
SRO	Srobarova	75.32	335	eP	P	20 33 43.4 +1.8
SRO	Srobarova	75.32	335	eP	P	20 33 43.4 +1.8
N59A	State Game Lan	75.33	41	eP	P	20 33 41.9 0.0
	comp=Z,26nm,0.9s					
N59A	State Game Lan	75.33	41	P	P	20 33 40.8 -1.0
	baz=328,SNR=12					
ISR	Istrita	75.33	328	⇑iP	P	20 33 43.4 +1.6
MCH1	Michaelchurch	75.34	349	eP	P	20 33 41.7 +0.1
MCH1				IAmb	IAmb	20 33 43.5
	comp=Z,37nm,0.8s					
MEM	Membach	75.39	343	⇑P	P	20 33 42.5 +0.5
	comp=Z,115nm,1.0s					
MONM	Monmouth	75.47	349	eP	P	20 33 43.1 +0.7
MONM				IAmb	IAmb	20 33 44.1
	comp=Z,61nm,1.0s					
UCC	Uccle	75.49	345	eP	P	20 33 42.7 +0.2
	comp=Z,30nm,0.7s					
UCC	Uccle	75.49	345	eP	P	20 33 42.7 +0.2
UCC				pmax	pmax	
	comp=Z,31nm,0.7s					
UCC	Uccle	75.49	345	⇑P	P	20 33 42.6 +0.2
W49A	Belvidere	75.50	51	P	P	20 33 43.5 +0.6
	baz=324					
GEC2	GERESS Array S	75.51	338	eP	P	20 33 43.0 +0.2
	comp=Z,38nm,1.1s					
GEC2	GERESS Array S	75.51	338	eP	P	20 33 43.0 +0.2
GEC2				pmax	pmax	
	comp=Z,38nm,1.1s					
GERES	GERESS Array B	75.51	338	P	P	20 33 43.1 +0.3
	comp=Z,16nm,0.8s,baz=34,slow=4.9,SNR=102					
GERES				LR	LR	21 11 12.2
	comp=Z,792nm,20.2s,baz=24,slow=39					
AMRR	Amara	75.52	327	⇑iP	P	20 33 43.8 +1.0
PAGS	Pennsylvania G	75.53	42	eP	P	20 33 42.7 -0.3
	comp=Z,22nm,0.9s					
VOIR		75.53	329	⇓iP	P	20 33 43.8 +0.8
U51A	La Follette	75.53	49	P	P	20 33 42.5 -0.6
	baz=325					
MFTR	Murfatlar	75.54	326	⇑iP	P	20 33 43.4 +0.5
EFOR	EFORIE	75.55	326	⇑iP	P	20 33 43.8 +0.8
SWET	Sewanee	75.58	51	eP	P	20 33 43.8 +0.4
	comp=Z,21nm,1.0s					
S54A	Dingess, Beckl	75.60	46	P	P	20 33 42.9 -0.5
	baz=326					
HRV	Adam Dziewonsk	75.60	37	P	P	20 33 42.0 -1.3
	baz=330					
V50A	Pikevile	75.61	50	P	P	20 33 44.1 +0.6
	baz=325					
TZTN	Tazewell	75.62	48	P	P	20 33 43.1 -0.4
	baz=325					
ODNJ	Ogdensburg	75.65	40	eP	P	20 33 43.6 0.0
	comp=Z,37nm,0.9s					
X48A	Hartselle	75.66	52	P	P	20 33 43.1 -0.7
	baz=324					
SWN1	Swindon	75.67	349	eP	P	20 33 44.5 +0.9
SWN1				IAmb	IAmb	20 33 45.9
	comp=Z,158nm,1.0s					
O59A	Robesonia	75.68	41	P	P	20 33 42.3 -1.5
	baz=328					
SIRT	Sirnak	75.69	314	eP	P	20 33 43.9 -0.2
	comp=Z,189nm,1.0s					
BCLA	Clavier	75.70	344	⇑P	P	20 33 44.0 +0.3
	comp=Z,37nm,1.3s					
BCLA				⇓PcP	sP	20 33 54.7 -1.6
CUZAR	Zara_SIVAS	75.71	318	iP	P	20 33 45.8 +1.6
MTUR	Matau	75.71	329	⇑iP	P	20 33 43.8 -0.2
ARR	Arges	75.72	330	⇑iP	P	20 33 45.6 +1.5
CSKK	Cskako	75.75	335	eP	P	20 33 45.0 +0.9
LUPA	Lehigh Univers	75.76	41	eP	P	20 33 44.6 +0.3
	comp=Z,2.0nm,1.0s					
SNF	Seneffe	75.78	345	⇑P	P	20 33 45.1 +0.9
	comp=Z,47nm,0.9s					
SNF				⇑PcP	pwP	20 33 59.4 +2.5
WOL	Wolverton	75.80	348	eP	P	20 33 44.7 +0.4
WOL				IAmb	IAmb	20 33 46.1
	comp=Z,84nm,0.8s					
ICOR	Ion Corvin	75.80	327	⇑iP	P	20 33 45.6 +1.2
SIRR	Siria	75.81	332	⇑iP	P	20 33 44.9 +0.4
LEHL	Lehliu	75.81	328	⇓iP	P	20 33 45.0 +0.5
SULR		75.82	328	⇓iP	P	20 33 44.5 0.0
U52A	Thorn Hill	75.82	48	P	P	20 33 42.5 -2.2
	baz=326					
Q57A	Strasburg	75.83	43	P	P	20 33 44.0 -0.7
	baz=327					
CONA	Conrad Observa	75.84	336	epP	P	20 33 45.8 +1.0
	comp=Z,34nm,1.2s,SNR=30					
V51A	Loudon	75.85	49	eP	P	20 33 45.6 +0.8
	comp=Z,16nm,0.6s					
V51A	Loudon	75.85	49	P	P	20 33 43.1 -1.8
	baz=325					
MVL	Millersville	75.87	41	eP	P	20 33 46.7 +1.8
	comp=Z,20nm,1.1s					
W50A	Signal Mountai	75.89	50	eP	P	20 33 45.4 +0.3
	comp=Z,20nm,0.9s					
W50A	Signal Mountai	75.89	50	P	P	20 33 46.6 +1.5
	baz=325					
SOP	Sopron	75.90	336	⇑iP	P	20 33 45.1 +0.2
SOP				eS	S	20 43 32.0 +7.1
LOT	Lotru	75.92	330	⇑iP	P	20 33 45.3 +0.1
X49A	Woodville	75.96	51	P	P	20 33 45.7 +0.2
	baz=325					
O60A	Telford	75.99	41	P	P	20 33 44.8 -0.8
	baz=329					
PAL	Palisades	75.99	39	eP	P	20 33 45.7 +0.2
	comp=Z,29nm,0.8s					
PAL	Palisades	75.99	39	eP	P	20 33 45.7 +0.2
PAL				pmax	pmax	
	comp=Z,29nm,0.8s					
PAL	Palisades	75.99	39	P	P	20 33 45.9 +0.3
	baz=329					
BRNJ	Basking Ridge	76.01	40	eP	P	20 33 46.0 +0.3
	comp=Z,81nm,1.8s					
Y48A	Jasper	76.03	52	P	P	20 33 43.0 -2.9
	baz=324					
CPCT	Cooper Cave	76.06	50	eP	P	20 33 46.5 +0.4
	comp=Z,14nm,1.0s					
T54A	Tazewell	76.09	47	P	P	20 33 44.4 -1.9
	baz=326					
DOU	Dourbes	76.13	344	⇑P	P	20 33 46.5 +0.3
	comp=Z,28nm,1.2s					
CPNY	Central Park	76.16	39	eP	P	20 33 47.0 +0.5
	comp=Z,34nm,0.9s					
P59A	Jarrettsville	76.17	42	P	P	20 33 43.8 -2.8
	baz=328					
V52A	Sevierville	76.17	49	eP	P	20 33 45.2 -1.5
	comp=Z,57nm,1.7s					
V52A	Sevierville	76.17	49	P	P	20 33 44.5 -2.2
	baz=326					
FITZ	Fitzroy Crossi	76.17	214	eP	P	20 33 47.4 +0.7
SDMD	Soldier's Deli	76.17	42	eP	P	20 33 47.5 +0.9
	comp=Z,14nm,1.0s					
W51A	Cleveland	76.18	50	P	P	20 33 47.1 +0.3
	baz=325					
GZR	Gura Zlata	76.27	331	⇓iP	P	20 33 47.4 +0.2
TIH	Tihany	76.28	335	⇑iP	P	20 33 48.0 +0.9
WLF	Walferdange	76.28	343	eP	P	20 33 47.4 +0.4
	comp=Z,347nm,1.5s					
WLF	Walferdange	76.28	343	eP	P	20 33 47.4 +0.4
WLF				pmax	pmax	
	comp=Z,347nm,1.5s					
WLF	Walferdange	76.28	343	⇓P	P	20 33 47.4 +0.4
PSUB	Penn St. - Bra	76.30	41	eP	P	20 33 48.0 +0.7
	comp=Z,20nm,1.1s					
MOA	Molln	76.31	337	epP	P	20 33 48.0 +0.7
	comp=Z,9.6nm,0.7s,SNR=12					
SGRR	Singureni	76.31	328	⇑iP	P	20 33 47.0 -0.3
P60A	Greenville	76.32	41	P	P	20 33 46.0 -1.5
	baz=328					
X50B	Fort Payne	76.33	51	P	P	20 33 47.5 -0.1
	baz=325,SNR=5.2					
ILGA	Ilgaz	76.34	321	eP	P	20 33 48.6 +0.8
	comp=Z,129nm,0.9s					
HUMR	Humele	76.36	329	⇑iP	P	20 33 47.0 -0.6
T55A	Pulaski	76.39	46	P	P	20 33 48.4 +0.4
	baz=326					
R57A	Stanardsville	76.40	44	P	P	20 33 46.0 -1.9
	baz=327,SNR=5.7					
BZS	Buzias	76.41	332	⇓iP	P	20 33 47.9 0.0
Y49A	Blount Mountai	76.45	52	eP	P	20 33 48.4 +0.1
	comp=Z,54nm,1.8s					
Y49A	Blount Mountai	76.45	52	P	P	20 33 49.4 +1.1
	baz=325					
BLA	Blacksburg

STU pmax pmax
comp=Z,65nm,1.3s
ARSA Arzberg 76.56 336 *ep*P **P 20 33 49.6 +0.9**
comp=Z,11nm,0.6s,SNR=16
R58A Rapidan 76.62 44 P **P 20 33 48.3 -0.9**
baz=328,SNR=7.9
X51A Calhoun 76.62 50 P **P 20 33 51.7 +2.5**
baz=325
W52A Murphy 76.63 49 *e*P **P 20 33 49.4 +0.1**
comp=Z,24nm,1.3s
S57A Dark Hollow, R 76.66 44 *e*P **P 20 33 50.6 +1.1**
comp=Z,47nm,1.4s
S57A Dark Hollow, R 76.66 44 P **P 20 33 47.9 -1.5**
baz=327
V53A Saluda 76.67 48 *e*P **P 20 33 49.9 +0.3**
comp=Z,11nm,0.6s
V53A Saluda 76.67 48 P **P 20 33 49.1 -0.5**
baz=326,SNR=6.3
MORH Mrgy, Hungar 76.70 334⇑ *i*P **P 20 33 48.0 -1.5**
Y50A Piedmont 76.75 51 P **P 20 33 50.4 +0.4**
baz=325
PRD Provadia 76.75 327 *i*P **P 20 33 50.2 +0.4**
BANR Banloc 76.77 332⇑ *i*P **P 20 33 50.8 +0.9**
U55A TA2, Sparta 76.79 47 P **P 20 33 50.4 +0.1**
baz=326
SRE Strehaia 76.80 330⇑ *i*P **P 20 33 49.8 -0.3**
LRAL Lakeview Retre 76.83 53 *e*P **P 20 33 50.4 -0.1**
comp=Z,7.1nm,0.8s
LRAL Lakeview Retre 76.83 53 P **P 20 33 50.3 -0.1**
baz=324
HERR Herculane 76.84 331⇑ *i*P **P 20 33 50.5 +0.2**
W53A Cullowhee 76.92 49 P **P 20 33 51.1 0.0**
baz=326
Z49A Columbiana 76.93 52 P **P 20 33 50.3 -0.7**
baz=325
R58B Mineral 76.95 44 *e*P **P 20 33 51.8 +0.8**
comp=Z,37nm,1.5s
R58B Mineral 76.95 44 P **P 20 33 51.9 +0.9**
baz=328
BEHE Becsehely 76.97 335⇑ *i*P **P 20 33 51.7 +0.7**
BEHE Becsehely 76.97 335 *e*P **P 20 33 51.1 +0.1**
V54A Nebo 76.98 48 P **P 20 33 51.8 +0.5**
baz=326
VLAD Vladila 77.02 329⇓ *i*P **P 20 33 50.9 -0.4**
X52A Dahlonega 77.05 50 P **P 20 33 50.9 -0.8**
baz=326
Y51A Rockmart 77.06 51 P **P 20 33 52.0 +0.2**
baz=325
KOGS Kog 77.12 335 *i*P **P 20 33 52.4 +0.5**
MDVR Moldovita 77.14 331⇑ *i*P **P 20 33 51.4 -0.7**
BFO Black Forest 77.15 341 *e*P **P 20 33 52.5 +0.4**
comp=Z,38nm,1.1s
BFO Black Forest 77.15 341 *e*P **P 20 33 52.4 +0.4**
BFO pmax pmax
comp=Z,38nm,1.1s
T57A Hurt 77.17 45 *e*P **P 20 33 52.5 +0.2**
comp=Z,8.1nm,0.8s
T57A Hurt 77.17 45 P **P 20 33 51.7 -0.6**
baz=327,SNR=5.2
S58A Poland Farm, P 77.17 44 *e*P **P 20 33 52.0 -0.3**
comp=Z,12nm,1.0s
S58A Poland Farm, P 77.17 44 P **P 20 33 51.4 -0.9**
baz=328
Z50A Ashland 77.18 52 *e*P **P 20 33 51.4 -1.0**
comp=Z,23nm,1.0s
Z50A Ashland 77.18 52 P **P 20 33 51.7 -0.7**
baz=325
SZH Strazhica 77.18 328 *i*P **P 20 33 51.7 -0.6**
SOKA Soboth 77.22 336 *ep*P **P 20 33 53.7 +1.2**
comp=Z,53nm,1.1s,SNR=29
PUNG Punghina 77.23 330⇑ *i*P **P 20 33 52.5 0.0**
PERS Pernice 77.23 336 *i*P **P 20 33 53.2 +0.6**
KBA Koelnbreinsper 77.25 338 *ep*P **P 20 33 54.2 +1.4**
comp=Z,84nm,0.7s,SNR=61
V55A Taylorsville 77.25 47 P **P 20 33 51.0 -1.8**
baz=326
149A Jones 77.28 53 P **P 20 33 54.2 +1.2**
baz=325
FRGS Fruska Gora 77.35 333⇑ *i*P **P 20 33 53.0 -0.2**
X53A Estanollee 77.41 49 P **P 20 33 52.8 -0.9**
baz=326
WATA Walderalm 77.41 339 *ep*P **P 20 33 54.8 +1.1**
comp=Z,34nm,1.0s,SNR=19
W54A Cherokee Point 77.44 48 P **P 20 33 51.3 -2.6**
baz=326
RETA Reutte 77.44 339 *ep*P **P 20 33 54.4 +0.6**
comp=Z,24nm,0.8s,SNR=13
WTTA Wattenberg 77.46 339 *ep*P **P 20 33 55.2 +1.2**
comp=Z,90nm,1.3s,SNR=29
ECH Echery 77.48 342 *e*P **P 20 33 53.8 -0.1**
comp=Z,53nm,1.0s
ECH Echery 77.48 342 *e*P **P 20 33 53.8 -0.1**
ECH pmax pmax
comp=Z,53nm,1.0s
OBKA Obir 77.49 337 *ep*P **P 20 33 54.9 +0.8**
comp=Z,11nm,0.6s,SNR=13
MOTA Moosalm 77.51 339 *ep*P **P 20 33 54.7 +0.5**
comp=Z,37nm,0.9s,SNR=26
BR131 Keskin Array S 77.51 321 *e*P **P 20 33 54.0 -0.4**
comp=Z,64nm,1.2s
BR131 Keskin Array S 77.51 321 P **P 20 33 55.5 +1.1**
SNR=21
BRTR Keskin Array B 77.51 321 P **P 20 33 54.1 -0.2**
comp=Z,20nm,0.9s,baz=46,slow=3.4,SNR=86
BRTR PP **PP 20 36 51.6 +3.0**
comp=Z,6.4nm,1.0s,baz=46,slow=2.4,SNR=3.8
BRTR LR LR 21 13 29.5
comp=Z,1µm,19.6s,baz=17,slow=40
T58A Grand View Acr 77.53 45 P **P 20 33 53.9 -0.4**
baz=328
Y52A Lilburn 77.57 50 P **P 20 33 55.2 +0.6**
baz=326
MYKA Terra Mystica 77.60 337 *ep*P **P 20 33 55.6 +0.9**
comp=Z,16nm,1.1s,SNR=11
SQTA Sankt Quirin 77.60 339 *ep*P **P 20 33 55.7 +0.9**
comp=Z,50nm,0.9s,SNR=30
U57A Blanch 77.61 45 P **P 20 33 54.8 0.0**
baz=327
V56A Mocksville 77.61 47 *e*P **P 20 33 55.4 +0.6**
comp=Z,10nm,0.9s
V56A Mocksville 77.61 47 P **P 20 33 52.1 -2.7**
baz=327
150A Eclectic 77.65 52 P **P 20 33 53.0 -2.0**
baz=325
BR231 Keskin MP Arra 77.74 321 *e*P **P 20 33 55.6 -0.1**
comp=Z,85nm,1.1s
ABTA Abfaltersbach 77.75 338 *ep*P **P 20 33 56.0 +0.5**
comp=Z,63nm,1.0s,SNR=15
ZAG Zagreb 77.77 335⇑ *i*P **P 20 33 56.1 +0.6**
SILT Sile 77.77 324⇑ *i*P **P 20 33 56.3 +0.7**
KMSC Kings Mountain 77.79 48 *e*P **P 20 33 56.4 +0.6**
comp=Z,39nm,1.6s
KMSC Kings Mountain 77.79 48 P **P 20 33 55.0 -0.8**
baz=326
MDUB Mudurnu 77.80 323 *e*P **P 20 33 56.0 +0.1**
comp=Z,430nm,0.9s
X54A Belton 77.80 49 P **P 20 33 54.6 -1.2**
baz=326
Y53A Monroe 77.81 50 P **P 20 33 55.2 -0.7**
baz=326
MPEP Malo Peshtene 77.81 329 P **P 20 33 56.0 +0.2**
DAVA Damuels 77.82 340 *i*pP **P 20 33 56.7 +0.7**
comp=Z,30nm,1.1s,SNR=10
V57A Coltrane Farms 77.87 46 P **P 20 33 54.5 -1.8**
baz=327
FETA Feichten 77.89 339 *i*pP **P 20 33 57.4 +1.0**
comp=Z,35nm,1.0s,SNR=24
KLYT Kilyos 77.90 325⇑ *i*P **P 20 33 56.7 +0.4**
CRES Cresnjev 77.90 336 *e*P **P 20 33 56.2 -0.1**
T59A Double "B" Far 77.93 44 *e*P **P 20 33 57.3 +0.8**
comp=Z,37nm,1.4s
T59A Double "B" Far 77.93 44 P **P 20 33 55.9 -0.6**
baz=328
JLP Les Platons 77.94 348 *e*P **P 20 33 57.1 +0.7**
Z52A Williamson 77.95 51 P **P 20 33 56.3 -0.4**
baz=326
PALK Pallekele 77.97 266 *e*P **P 20 33 57.6 +0.5**
comp=Z,316nm,1.9s
PALK Pallekele 77.97 266 *e*P **P 20 33 57.6 +0.5**
PALK pmax pmax
comp=Z,316nm,1.9s
JQE Queens East 77.98 348 *e*P **P 20 33 57.4 +0.9**
JVM Valle D.L. Mar 77.98 348 *e*P **P 20 33 56.8 +0.2**
U58A Oxford 77.98 45 P **P 20 33 55.8 -1.0**
baz=328
JRS Jersey 77.99 348 *e*P **P 20 33 57.3 +0.7**
JSA Saint Aubin 78.00 348 *e*P **P 20 33 57.4 +0.7**

JSA lAmb lAmb 20 33 58.4
comp=Z,90nm,0.9s
SHME Shamm 78.05 297 *i*P **P 20 33 56.3 -1.1**
SNR=65
PHSR Pinarhisar 78.10 326⇑ *i*P **P 20 33 58.2 +0.8**
HODGE Hodges 78.11 49 *e*P **P 20 33 58.2 +0.6**
comp=Z,27nm,1.3s
EDRB Edirne 78.17 326 P **P 20 33 57.8 0.0**
X55A Gracelyn & Ava 78.21 48 P **P 20 33 56.4 -1.8**
baz=326
Y54A Tignall 78.22 49 P **P 20 33 57.5 -0.7**
baz=326
152A Waverly Hall 78.24 51 *e*P **P 20 33 58.7 +0.3**
comp=Z,10nm,0.9s
152A Waverly Hall 78.24 51 P **P 20 33 58.1 -0.2**
baz=326
V58A Windy Hill, Pi 78.24 46 P **P 20 33 57.4 -0.8**
baz=327
CEY Cerknica 78.24 336 *e*P **P 20 33 57.7 -0.5**
BOJS Bojanci 78.26 336 *i*P **P 20 33 58.3 +0.1**
DIVS Divibare 78.27 332⇑ *i*P **P 20 33 58.0 -0.4**
U59A Littleton 78.35 44 *e*P **P 20 33 59.1 +0.3**
comp=Z,12nm,0.9s
U59A Littleton 78.35 44 P **P 20 33 58.9 0.0**
baz=328
FUORN Ofenpass-Fuorn 78.38 339 *e*P **P 20 33 58.3 -0.9**
comp=Z,38nm,0.9s
W57A Gilead 78.38 47 *e*P **P 20 33 58.6 -0.5**
comp=Z,17nm,1.2s
W57A Gilead 78.38 47 P **P 20 33 57.8 -1.3**
baz=327
PGB Panagyurishte 78.40 329 *i*P **P 20 33 59.1 0.0**
BLY Banja Luka 78.45 334 *e*P **P 20 33 59.0 -0.3**
comp=Z,14nm,0.7s
BLY Banja Luka 78.45 334⇓ *i*P **P 20 33 59.6 +0.3**
BLY Banja Luka 78.45 334⇑ *i*P **P 20 33 58.8 -0.5**
X56A White Oak 78.46 48 P **P 20 33 59.7 +0.1**
baz=327
CLF Chambon-Foret 78.52 345 *e*P **P 20 34 00.3 +0.7**
comp=Z,127nm,1.3s
Y55A Saluda 78.54 49 P **P 20 34 01.1 +1.1**
baz=326
MDH Madha 78.55 296 *i*P **P 20 33 58.7 -1.5**
SNR=12
449A Pace 78.56 54 P **P 20 34 01.0 +0.8**
baz=325
HAPS Han Pijesak,Bl 78.58 333 *e*P **P 20 33 59.9 -0.3**
MSFE Esma-Masafi 78.58 297 *i*P **P 20 33 59.4 -1.0**
SNR=12
BIRD Birdtown, Kers 78.60 47 *e*P **P 20 33 59.8 -0.5**
comp=Z,12nm,1.1s
VTS Vitosha 78.64 329 *e*P **P 20 33 59.6 -1.0**
VTS *e*P **P 20 34 00.3 -0.2**
VTS Vitosha 78.64 329 P **P 20 33 59.6 -1.0**
VTS Vitosha 78.64 329⇑ *i*P **P 20 34 00.8 +0.2**
VTS Vitosha 78.64 329 *e*P **P 20 33 59.6 -1.0**
VTS Vitosha 78.64 329 *i*P **P 20 34 00.5 -0.1**
V59A Middlesex 78.65 45 P **P 20 34 01.0 +0.5**
baz=328
BBLS Lazići 78.65 332⇑ *i*P **P 20 34 00.9 +0.4**
TUE Stuetta 78.71 340 *e*P **P 20 34 01.7 +0.7**
comp=Z,53nm,0.8s
UMQ Umm Al-Quwin 78.72 297 *i*P **P 20 34 01.2 +0.1**
SNR=12
UMQ Umm Al-Quwin 78.72 297 P **P 20 34 02.2 +1.1**
SNR=11
W58A Raeford 78.83 46 P **P 20 34 02.1 +0.6**
baz=328
WSAR Wadi Sarin 78.87 293 P **P 20 34 03.4 +1.5**
SNR=9.5
AS31 Alice Springs 78.92 205 *e*P **P 20 34 02.7 +0.7**
comp=Z,1.2nm,1.0s
ASAR Alice Springs 78.93 205 P **P 20 34 02.7 +0.7**
comp=Z,6.7nm,0.7s,baz=15,slow=5.4,SNR=90
ASAR LR LR 21 07 04.0
comp=Z,397nm,21.9s,baz=14,slow=34
BIDO Bidbid 78.93 294 P **P 20 34 04.0 +1.7**
SNR=9.0
HATD Hatta, Dubai 79.02 296 *i*P **P 20 34 02.3 -0.5**
SNR=48
HATD Hatta, Dubai 79.02 296 P **P 20 34 03.0 +0.3**
SNR=36
TAOE Nuku Hiva Isla 79.08 120 *e*LR LR 20 58 42.0
comp=Z,363nm,23.2s
PLE Pljevlja 79.15 332⇑ *i*P **P 20 34 03.6 +0.3**
NAZ Nazwa, Dubai 79.15 297 *i*P **P 20 34 02.6 -0.9**
SNR=17
NAZ Nazwa, Dubai 79.15 297 P **P 20 34 04.0 +0.5**
SNR=26
ASHO Ashiyiah 79.17 296 *i*P **P 20 34 02.8 -0.9**
SNR=53
ASHO Ashiyiah 79.17 296 P **P 20 34 03.8 +0.2**
SNR=41
RDO Rodhopi 79.21 327 *e*P **P 20 34 03.3 -0.2**
RDO Rodhopi 79.21 327 P **P 20 34 03.3 -0.2**
SENIN Lac Senin/Sane 79.23 341 *e*P **P 20 34 04.5 +0.6**
comp=Z,28nm,1.0s
ALN Alexandroupoli 79.26 327 *e*P **P 20 34 04.3 +0.6**
comp=Z,44nm,1.0s
ALN Alexandroupoli 79.26 327 P **P 20 34 03.5 -0.3**
ALN Alexandroupoli 79.26 327 *e*P **P 20 34 04.4 +0.6**
ALN pmax pmax
comp=Z,44nm,1.0s
JLN Jalan Bani Buh 79.28 292 P **P 20 34 06.0 +1.8**
SNR=14
SMDO Samad 79.34 294 P **P 20 34 09.0 +4.3**
SNR=11
HOQ Hoqain 79.34 295 P **P 20 34 08.0 +3.4**
SNR=8.4
SOHO SOHO 79.34 296 P **P 20 34 04.2 -0.3**
SNR=29
KKB Krupnik 79.36 329 *i*P **P 20 34 04.7 +0.3**
FAQ Al Faqa, Dubai 79.38 297 *i*P **P 20 34 03.6 -1.1**
SNR=28
FAQ Al Faqa, Dubai 79.38 297 P **P 20 34 05.0 +0.3**
SNR=16
UPM Unac-Piva 79.40 332⇑ *i*P **P 20 34 04.6 -0.2**
UPM Unac-Piva 79.40 332 *e*P **P 20 34 05.2 +0.4**
MMB Musomiste 79.41 328 *i*P **P 20 34 04.7 0.0**
IVA Berane 79.42 332⇑ *i*P **P 20 34 04.7 -0.1**
KOME Kolasin 79.55 332⇑ *i*P **P 20 34 05.2 -0.3**
NVR Nevrokopi 79.58 328 P **P 20 34 05.5 -0.1**
ASUD Al Ashush, Dub 79.62 297 *i*P **P 20 34 05.2 -0.8**
SNR=10
ASUD Al Ashush, Dub 79.62 297 P **P 20 34 07.0 +1.0**
SNR=15
PVY Plav 79.66 331⇑ *i*P **P 20 34 05.7 -0.4**
KAVA Kavala 79.68 328 *e*P **P 20 34 06.2 +0.1**
KAVA Kavala 79.68 328 P **P 20 34 06.2 +0.1**
BALB Balikesir 79.74 325 *e*P **P 20 34 06.1 -0.3**
comp=Z,272nm,1.0s
NKY Niksic 79.74 332⇑ *i*P **P 20 34 05.7 -0.8**
SKO Skopje 79.78 330 *e*P **P 20 34 06.3 -0.3**
SKO Skopje 79.78 330 P **P 20 34 06.3 -0.3**
SKO Skopje 79.78 330 *e*P **P 20 34 06.3 -0.3**
BRY Bratogost 79.79 333⇑ *i*P **P 20 34 05.9 -0.9**
BRY Bratogost 79.79 333 *e*P **P 20 34 06.4 -0.4**
NKME Niksic 79.79 332⇑ *i*P **P 20 34 06.1 -0.6**
SMTH Samothraki Isl 79.81 327 *e*P **P 20 34 06.4 -0.4**
SMTH Samothraki Isl 79.81 327 P **P 20 34 06.4 -0.4**
ALNE Al Ain 79.84 296 *i*P **P 20 34 06.5 -0.8**
SNR=9.2
AJN Ajban 79.86 297 *i*P **P 20 34 06.3 -1.0**
SNR=10
AJN Ajban 79.86 297 P **P 20 34 07.2 -0.1**
SNR=16
SRS Serrai 79.88 328 P **P 20 34 07.0 -0.2**
THAS Thassos island 79.97 327 P **P 20 34 06.5 -1.1**
ARQ Araqi 79.98 295 P P 20 34 16.0 +8.0
SNR=11
CEME Cevo 80.00 332⇑ *i*P **P 20 34 06.9 -1.0**
TREB Trebinje 80.01 333 *e*P **P 20 34 07.4 -0.5**
PDG Podgorica 80.01 332⇓ *i*P **P 20 34 07.7 -0.1**
PDG Podgorica 80.01 332⇑ *i*P **P 20 34 07.3 -0.6**
TTG Podgorica 80.01 332⇑ *i*P **P 20 34 07.5 -0.3**
TTG Podgorica 80.01 332 *e*P **P 20 34 07.2 -0.6**
comp=Z,96nm,1.1s
TTG Podgorica 80.01 332 *e*P **P 20 34 07.3 -0.6**
TTG pmax pmax
comp=Z,96nm,1.1s
VAY Valandovo 80.02 329 *e*P **P 20 34 08.0 +0.1**
VAY Valandovo 80.02 329 P **P 20 34 08.0 +0.1**
STON Ston 80.05 333⇑ *i*P **P 20 34 05.9 -2.1**
KNT Kendrikon 80.06 329 P **P 20 34 08.0 -0.2**
BSY Bisya 80.06 294 P P 20 34 17.0 +8.5
SNR=14
EZN Ezine 80.12 326 *e*P **P 20 34 07.9 -0.6**
EZN Ezine 80.12 326 P **P 20 34 07.9 -0.6**
EZN Ezine 80.12 326⇑ *i*P **P 20 34 08.8 +0.3**
EZN Ezine 80.12 326 *e*P **P 20 34 07.9 -0.6**
HCY Herceg Novi 80.22 332⇑ *i*P **P 20 34 08.6 -0.4**
HCY Herceg Novi 80.22 332 *e*P **P 20 34 06.7 -2.3**
SOH Sokhos 80.22 328 P **P 20 34 07.9 -1.2**
BUM Brajici-Budva 80.24 332⇑ *i*P **P 20 34 08.4 -0.8**
DRME Dracevica, Mon 80.26 332⇑ *i*P **P 20 34 09.0 -0.2**
DRME Dracevica, Mon 80.26 332⇑ *i*P **P 20 34 08.8 -0.4**
PHP Peshkopia 80.35 331 P **P 20 34 08.7 -1.1**
ISP Isparta 80.36 322 *e*P **P 20 34 09.3 -0.7**
ISP *e*P **P 20 34 10.1 +0.1**
ISP Isparta 80.36 322 P **P 20 34 09.3 -0.7**
ISP Isparta 80.36 322 *e*P **P 20 34 09.3 -0.7**
GRG Griva 80.40 329 P **P 20 34 09.1 -0.9**
LIA Limnos Island 80.44 327 P **P 20 34 09.9 -0.3**
ULC Ulcinj 80.44 332⇑ *i*P **P 20 34 09.9 -0.3**
KULA Kula-Manisa 80.45 324 P **P 20 34 09.9 -0.5**
MANT Manisa 80.51 324 *e*P **P 20 34 10.6 -0.3**
comp=Z,200nm,1.0s
PLG Polygyros 80.59 328 P **P 20 34 10.7 -0.4**
BNI Bardonecchia 80.61 341 *e*P **P 20 34 11.8 +0.6**
comp=Z,54nm,1.0s
BNI Bardonecchia 80.61 341 *e*P **P 20 34 11.8 +0.6**
BNI pmax pmax
comp=Z,54nm,1.0s
PRK Paraskevi 80.65 326 P **P 20 34 11.0 -0.3**
VLC Villacollemand 80.69 339 *e*P **P 20 34 11.7 +0.2**
comp=Z,79nm,1.2s
SSB Saint Sauveur 80.80 343 *e*P **P 20 34 12.0 -0.1**
comp=Z,39nm,0.8s
TIR Tirane 80.83 331 *e*P **P 20 34 12.2 -0.1**
comp=Z,65nm,0.8s
TIR Tirane 80.83 331 P **P 20 34 11.4 -0.9**
TIR Tirane 80.83 331⇑ *i*P **P 20 34 12.8 +0.5**
SIGR SIGRI 80.83 326 P **P 20 34 11.0 -1.3**
FNA Florina 80.88 330 *e*P **P 20 34 11.9 -0.7**
comp=Z,34nm,1.0s
FNA Florina 80.88 330 P **P 20 34 12.3 -0.3**
FNA Florina 80.88 330 *e*P **P 20 34 11.9 -0.7**
FNA pmax pmax
comp=Z,35nm,1.0s
PAIG Paliouri 80.92 328 P **P 20 34 12.1 -0.7**
MHTO MHTO 81.02 292 P **P 20 34 14.0 +0.5**
SNR=42
LIT Litokhoron 81.15 329 P **P 20 34 12.7 -1.3**
NEST Nestorio 81.32 330 P **P 20 34 14.2 -0.8**
CHOS Chios island 81.50 325 P **P 20 34 15.3 -0.7**
XOR Xorichti 81.59 328 P **P 20 34 15.1 -1.3**
MAMC Mammari 81.61 319 P **P 20 34 14.0 -2.5**
NEO Neokhori 81.63 328 P **P 20 34 14.4 -2.2**
KPRO Kipourio 81.64 329 P **P 20 34 15.1 -1.6**
AQU L'Aquila 81.67 336 *e*P **P 20 34 17.7 +0.9**
comp=Z,124nm,1.2s
AQU L'Aquila 81.67 336 *e*P **P 20 34 17.7 +0.9**
AQU pmax pmax
comp=Z,125nm,1.2s
AQU L'Aquila 81.67 336⇑ *i*P **P 20 34 17.6 +0.8**
BHL Bhannes 81.69 316 *e*P **P 20 34 16.5 -0.6**
QASN Qassioun 81.74 316 *e*P **P 20 34 19.2 +1.8**
CSS Mathiatis 81.75 319 *e*P **P 20 34 17.1 -0.2**
comp=Z,92nm,0.8s
CSS Mathiatis 81.75 319 P **P 20 34 16.2 -1.1**
TOTH TOTAH 81.82 315 *e*P **P 20 34 19.1 +1.4**
PPT Papeete 81.84 132 LR LR 21 04 33.5
comp=Z,526nm,19.0s,baz=317,slow=31
PPT2 Papeete2 81.86 132 *e*S **S 20 44 26.1 -3.0**
comp=Z,1µm,32.0s
PPT2 Papeete2 81.86 132 *e*LR LR 20 59 51.1
comp=Z,1µm,23.8s,baz=331
ALFC Alefka 81.87 319 P **P 20 34 17.8 -0.2**
FETY Fethiye 81.95 322 *e*P **P 20 34 17.2 -1.1**
FETY Fethiye 81.95 322 P **P 20 34 17.2 -1.1**
BRBR Barbar 81.98 316 *e*P **P 20 34 20.3 +1.5**
JAN Janina 82.07 330 P **P 20 34 19.3 +0.4**
SZAC Souni 82.11 319 P **P 20 34 19.4 +0.2**
SHBL Chebaa 82.12 316 *e*P **P 20 34 18.7 -0.8**
AGG Agios Georgios 82.18 328 *e*P **P 20 34 18.4 -1.0**
comp=Z,22nm,0.9s
AGG Agios Georgios 82.18 328 *e*P **P 20 34 18.5 -1.0**
AGG pmax pmax
comp=Z,22nm,0.9s
PPCY Paphos 82.21 319 P **P 20 34 19.2 -0.5**
BODT Bodrum 82.23 324 *e*P **P 20 34 18.8 -1.0**
BODT Bodrum 82.23 324 P **P 20 34 18.8 -1.0**
LKR Lokris 82.30 328 P **P 20 34 17.8 -2.3**
KEK Kerkira 82.35 330 *e*P **P 20 34 19.3 -1.0**
KEK Kerkira 82.35 330 P **P 20 34 19.3 -1.0**
IGT Igoumenitsa 82.35 330 *e*P **P 20 34 19.9 -0.4**
IGT Igoumenitsa 82.35 330 P **P 20 34 19.9 -0.4**
IGT Igoumenitsa 82.35 330 *e*P **P 20 34 19.9 -0.4**
MATE Matera 82.39 333⇑ *i*P **P 20 34 20.2 -0.3**
EVR Evrytania 82.44 329 P **P 20 34 19.9 -1.1**
DION Dionisos Attik 82.50 327 P **P 20 34 19.8 -1.4**
PTL Penteli 82.55 327 *e*P **P 20 34 19.6 -1.9**
PTL Penteli 82.55 327 P **P 20 34 19.6 -1.9**
SHMJ Saham 82.65 316 P **P 20 34 23.2 +1.2**
ATHU Athens Univers 82.66 327 *e*P **P 20 34 20.5 -1.5**
ATHU Athens Univers 82.66 327 P **P 20 34 20.5 -1.5**
APE Apeiranthos 82.86 325⇑ *i*P **P 20 34 22.0 -1.1**
LKD2 Lefkada island 82.93 329 P **P 20 34 23.2 -0.2**
HSUJ Al Zarqa 82.99 315 P **P 20 34 25.0 +1.1**
DID Didima 83.26 327 *e*P **P 20 34 22.2 -2.9**
DID Didima 83.26 327 P **P 20 34 22.2 -2.9**
RLS Riolos of Patr 83.34 329 P **P 20 34 24.5 -1.0**
KFL Anninata 83.51 329 P **P 20 34 25.6 -0.8**
VLS Valsamata 83.51 329 P **P 20 34 25.6 -0.8**
WALJ Wala 83.63 315 P **P 20 34 27.8 +0.7**
KARP Karpathos 83.63 323 *e*P **P 20 34 25.6 -1.5**
comp=Z,66nm,0.7s
AMT Artemida-Makis 83.74 328 P **P 20 34 26.5 -1.1**
TIP Timpagrande 83.74 332 *e*P **P 20 34 27.6 0.0**
comp=Z,107nm,1.5s
TIP Timpagrande 83.74 332 P **P 20 34 28.1 +0.5**
TIP Timpagrande 83.74 332⇑ *i*P **P 20 34 28.6 +1.0**
ITM Ithomi 83.99 328 *e*P **P 20 34 28.2 -0.7**
comp=Z,49nm,1.0s
ITM Ithomi 83.99 328 P **P 20 34 27.5 -1.4**
ZKR Zakros 84.36 324 *e*P **P 20 34 29.5 -1.3**
ZKR Zakros 84.36 324 P **P 20 34 29.5 -1.3**
LAST Lasithi 84.59 324 P **P 20 34 30.5 -1.5**
ANKY Antikythira Is 84.72 326 *e*P **P 20 34 30.6 -1.9**
ANKY Antikythira Is 84.72 326 P **P 20 34 30.6 -1.9**
IMMV Iera Moni Meta 84.85 326 P **P 20 34 32.0 -1.2**
SIVA Sivas 84.96 325 P **P 20 34 32.6 -1.2**
STKA Stephens Creek 85.23 196 *e*P **P 20 34 36.1 +1.3**
comp=Z,5.2nm,1.9s
STKA Stephens Creek 85.23 196 P **P 20 34 35.4 +0.6**
comp=Z,3.5nm,0.8s,baz=334,slow=8.1,SNR=6.4
STKA LR LR 21 10 15.3
comp=Z,309nm,21.9s,baz=10,slow=34
PGAV Gavieira, Arco 85.80 352 *e*P **P 20 34 39.6 +1.6**
comp=Z,134nm,1.7s
PGAV Gavieira, Arco 85.80 352 *e*S S 20 45 18.6 +10
PGAV Gavieira, Arco 85.80 352 *e*LR LR 21 09 57.6
comp=Z,579nm,16.0s
PBRG Braganca 85.81 350 *e*P **P 20 34 38.4 +0.4**
comp=Z,107nm,1.7s
POLO Lamas de Olo 86.34 351 *e*P **P 20 34 42.1 +1.4**
comp=Z,44nm,1.6s
PVRL Vila Real 86.43 351 *e*P **P 20 34 42.5 +1.4**
comp=Z,130nm,1.9s
MVO Moncorvo 86.47 351 *e*P **P 20 34 43.0 +1.7**
comp=Z,77nm,1.4s
MVO Moncorvo 86.47 351 *e*S **S 20 45 19.7 +4.7**
MVO Moncorvo 86.47 351 *e*LR LR 21 06 27.1
comp=Z,803nm,20.0s
TBI Tubuai 86.95 135 *e*S **S 20 45 16.6 -2.9**
comp=Z,357nm,26.8s
TBI Tubuai 86.95 135 *e*LR LR 21 02 00.7
comp=Z,1µm,25.2s,baz=332
PVIS Viseu 87.00 351 *e*P **P 20 34 46.3 +2.4**
comp=Z,75nm,2.0s
FORT Forrest 87.26 207 *e*P **P 20 34 46.3 +1.5**
comp=Z,38nm,0.9s
MTE Manteigas 87.28 351 *e*P **P 20 34 47.7 +2.5**
comp=Z,56nm,1.1s
MTE Manteigas 87.28 351 *e*S S 20 45 37.2 +14
MTE Manteigas 87.28 351 *e*LR LR 21 08 21.1
comp=Z,844nm,18.0s
MTE Manteigas 87.28 351 *e*P **P 20 34 45.7 +0.4**

comp=Z,40nm,1.0s
ESDC Sonseca Array 87.59 348 P **P 20 34 46.2 -0.5**
comp=Z,7.7nm,0.8s,baz=3.5,slow=5.0,SNR=25
ESDC LR LR 21 19 14.2
comp=Z,465nm,18.2s,baz=30,slow=39
ESLA Sonseca Array 87.59 348 *e*P **P 20 34 47.3 +0.5**
comp=Z,32nm,1.1s
PCAS Casmilo, Conde 87.72 351 *e*P **P 20 34 46.9 -0.4**
comp=Z,64nm,1.6s
PAB San Pablo 87.77 348 *e*P **P 20 34 48.6 +1.0**
comp=Z,31nm,1.3s
PAB San Pablo 87.77 348 *e*P **P 20 34 48.6 +1.0**
PAB pmax pmax
comp=Z,31nm,1.3s
PCBR Castelo Branco 87.83 351 *e*P **P 20 34 49.7 +1.9**
comp=Z,45nm,1.6s
PMRV Marv??o 88.23 351 *e*LR LR 21 08 47.0
comp=Z,760nm,16.0s
KEST Kesra 88.95 337 *e*P **P 20 34 53.5 +0.2**
comp=Z,30nm,1.7s
KEST Kesra 88.95 337 P **P 20 34 53.2 0.0**
comp=Z,21nm,1.1s,baz=290,slow=3.8,SNR=8.0
KEST LR LR 21 20 27.4
comp=Z,2μm,18.5s,baz=358,slow=40
PVAQ Vaqueiros 90.27 351 *e*S **S 20 45 54.8 +3.9**
PVAQ Vaqueiros 90.27 351 *e*LR LR 21 07 08.5
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 112.46 337 PKiKP **PKiKP 20 40 34.7 -0.1**
comp=Z,0.8nm,0.7s,baz=13,slow=2.1,SNR=6.0
TORD PP **PP 20 41 15.2 -4.9**
comp=Z,5.0nm,0.8s,baz=6.5,slow=9.5,SNR=7.4
DBIC Dimbokro 120.12 343 PKP **PKiKP 20 40 49.8 +0.1**
comp=Z,5.7nm,0.7s,baz=32,slow=1.0,SNR=8.7
LPAZ La Paz 127.71 65 PKP **PKPdf 20 41 04.7 -0.1**
comp=Z,1.4nm,0.9s,baz=346,slow=6.0,SNR=3.8
VNDA Vanda 129.35 180 PKhKP PKPpre 20 41 00.9
comp=Z,0.4nm,0.6s,baz=346,slow=4.2,SNR=3.3
BDFB Brasilia 137.19 42 PKhKP PKPpre 20 41 17.8
comp=Z,0.9nm,0.3s,baz=346,slow=8.3,SNR=2.2
MAW Mawson 139.28 216 PKhKP PKPpre 20 41 18.4
comp=Z,3.0nm,0.9s,baz=352,slow=7.1,SNR=3.0
MAW PKP **PKiKP 20 41 26.1 -0.2**
comp=Z,3.6nm,1.0s,baz=45,slow=2.9,SNR=4.0
BOSA Boshof 139.41 288 PKhKP PKPpre 20 41 22.3
comp=Z,2.8nm,0.8s,baz=134,slow=9.8,SNR=3.2
CPUP Villa Florida 141.73 62 *e*PKPdf **PKPdf 20 41 29.8 0.0**
CPUP Villa Florida 141.73 62 *e*PKIKP **PKPdf 20 41 29.8 0.0**
CPUP Villa Florida 141.73 62 PKP **PKPdf 20 41 30.2 +0.4**
comp=Z,2.5nm,0.9s,baz=25,slow=2.6,SNR=4.5
QSPA South Pole Qui 141.84 180 *e*PKPpre PKPpre 20 41 24.2
PLCA Paso Flores 143.80 92 PKIKP **PKPdf 20 41 33.0 -0.2**
PLCA Paso Flores 143.80 92 PKP **PKPdf 20 41 33.0 -0.2**
comp=Z,3.3nm,0.9s,baz=360,slow=2.4,SNR=7.1
TRQA Tornquist 147.45 81 *e*PKPbc **PKPbc 20 41 42.0 0.0**
TRQA Tornquist 147.45 81 *e*PKP2 **PKPbc 20 41 42.0 0.0**
SYO Syowa Base 148.00 216 ||*e*PKPdf **PKPbc 20 41 42.0 -0.4**
SYO Syowa Base 148.00 216 ||*e*PKIKP **PKPab 20 41 47.8 +2.5**
SNAA Sanae 158.99 195 PKiKP **PKPab 20 42 38.0 +6.2**
VNA3 Neumayer Olymp 160.27 190 PKiKP **PKPab 20 42 37.5 +0.2**

IDC 27 20:34:18.2±2.3, 6°84S×129°52E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.5/28, mbtmp3.6/3, ML3.9/2, MS4.1/2, Ms1 4.1/2, ms1mx3.6/13, Error ellipse: s-maj=159.6km s-min=31.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.85**	**161**	Pn	Pn	20 37 34.8	-1.2
	0.8nm,0.3s,baz=343,slow=13,SNR=96						
WRA				Sn	Sn	20 39 58.3	-12
	0.8nm,0.3s,baz=329,slow=22,SNR=10.0						
ASAR	**Alice Springs**	**17.26**	**166**	P	P	20 38 21.8	-0.7
	0.3nm,0.3s,baz=344,slow=11,SNR=14						
ASAR				S	Sn	20 41 20.9	-13
	0.1nm,0.3s,baz=341,slow=23,SNR=4.6						
ASAJ	**Asahikawa**	**52.08**	**12**	LR	LR	21 06 03.4	
	comp=Z,265nm,19.2s,baz=210,slow=37						
KLR	**Kul'dur**	**55.86**	**2**	LR	LR	21 09 57.6	
	comp=Z,103nm,18.4s,baz=261,slow=38						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	20 45 18.3	0.0
	0.2nm,0.5s,baz=118,slow=6.8,SNR=3.1						

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*IDC **27** 20:43:46.8±1.4, 52°28N×160°26E, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.8/38, mbtmp3.9/14, ML3.7/2, Error ellipse: s-maj=34.4km s-min=18.7km az=134.0*
*KRSC **27** 20:43:46.8±10.0, 52°01N×160°67E, h62km±10km, ML4.4*
*NEIC **27** 20:43:48.1±2.0, 52°12N×160°38E, h10km±2km, mb4.4/4, Error ellipse: s-maj=24.7km s-min=14.1km az=196.0*
*MOS **27** 20:43:50.5±0.9, 52°12N×160°44E, h51km, mb4.5/2, Error ellipse: s-maj=8.8km s-min=5.0km az=105.7*
ISC 27 20:43:46.2±1.7, 52°07N±0°04×160°53E±0°05, h6km±9km, n106, σ1§20/125, mb4.1/15, 3C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.08**	**343**	*e*P	**Pn**	**20 44 08.0**	**+0.2**
SPN				*e*S	**Sn**	**20 44 22.4**	**-0.7**
SPN	**Mys Shipunski**	**1.08**	**343**	PN	**Pn**	**20 44 08.0**	**+0.2**
SPN				S	**Sn**	**20 44 22.4**	**-0.7**
RUS	**Russkaya**	**1.29**	**287**	*e*P	**Pg**	**20 44 11.4**	**+0.4**
RUS				*e*S	**Sn**	**20 44 28.8**	**+0.5**
RUS	**Russkaya**	**1.29**	**287**	PN	**Pg**	**20 44 11.4**	**+0.4**
RUS				S	**Sn**	**20 44 28.8**	**+0.5**
NLC	**Nalytchevo**	**1.32**	**327**	*e*P	**Pg**	**20 44 12.2**	**+0.7**
NLC	**Nalytchevo**	**1.32**	**327**	PN	**Pg**	**20 44 12.2**	**+0.7**
DALK	**Dalny**	**1.45**	**312**	*e*P	**Pg**	**20 44 14.0**	**0.0**
DALK	**Dalny**	**1.45**	**312**	PN	**Pg**	**20 44 14.0**	**0.0**
PET	**Petropavlovsk**	**1.50**	**311**	*e*Pn	**Pg**	**20 44 14.6**	**-0.3**
PET	**Petropavlovsk**	**1.50**	**311**	*e*P	**Pg**	**20 44 14.8**	**0.0**
PET	**Petropavlovsk**	**1.50**	**311**	*e*PN	**Pg**	**20 44 14.6**	**-0.3**
PET				*e*S	**Sg**	**20 44 34.0**	**-0.2**
PET				pmax	pmax		
	comp=Z,163nm,0.6s						
PET				smax	smax		
	comp=E,1μm,0.6s						
PET				smax	smax		
	comp=N,1μm,0.7s						
MTVR	**Mutnovka**	**1.50**	**287**	*e*P	**Pg**	**20 44 14.8**	**-0.2**
MTVR				*e*S	**Sg**	**20 44 34.6**	**+0.2**
MTVR	**Mutnovka**	**1.50**	**287**	PN	**Pg**	**20 44 14.8**	**-0.2**
MTVR				S	**Sg**	**20 44 34.6**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.54**	**261**	*e*P	**Pb**	**20 44 14.6**	**-0.5**
KDTR				*e*S	**Sn**	**20 44 33.8**	**-0.6**
KDTR	**Khodutka, Kamc**	**1.54**	**261**	PN	**Pb**	**20 44 14.6**	**-0.5**
KDTR				S	**Sn**	**20 44 33.8**	**-0.6**
UGLR	**Uglovaya**	**1.55**	**318**	*e*P	**Pg**	**20 44 15.9**	**+0.1**
UGLR				*e*S	**Sg**	**20 44 36.2**	**+0.3**
UGLR	**Uglovaya**	**1.55**	**318**	PN	**Pg**	**20 44 15.9**	**+0.1**
UGLR				S	**Sg**	**20 44 36.2**	**+0.3**
SDLR	**Sedlovina**	**1.57**	**321**	*e*P	**Pg**	**20 44 16.2**	**-0.2**
SDLR	**Sedlovina**	**1.57**	**321**	PN	**Pg**	**20 44 16.2**	**-0.2**
GRL	**Gorelyy**	**1.59**	**289**	*e*P	**Pg**	**20 44 17.6**	**+1.0**
GRL	**Gorelyy**	**1.59**	**289**	PN	**Pg**	**20 44 17.6**	**+1.0**
SMAR	**Somma**	**1.60**	**319**	*e*P	**Pg**	**20 44 16.4**	**-0.4**
SMAR	**Somma**	**1.60**	**319**	PN	**Pg**	**20 44 16.4**	**-0.4**
AVH	**Avacha**	**1.62**	**318**	*e*P	**Pg**	**20 44 16.9**	**-0.4**
AVH	**Avacha**	**1.62**	**318**	PN	**Pg**	**20 44 16.9**	**-0.4**
KRER	**Koryakskii**	**1.65**	**319**	*e*P	**Pg**	**20 44 17.4**	**-0.4**
KRER	**Koryakskii**	**1.65**	**319**	PN	**Pg**	**20 44 17.4**	**-0.4**
ASAK	**Asacha**	**1.65**	**282**	*e*P	**Pg**	**20 44 17.4**	**-0.4**
ASAK	**Asacha**	**1.65**	**282**	PN	**Pg**	**20 44 17.4**	**-0.4**
KRMR	**Karymshinskiy**	**1.66**	**298**	*e*P	**Pb**	**20 44 16.9**	**-0.2**
KRMR				*e*S	**Sb**	**20 44 37.9**	**-0.3**
KRMR	**Karymshinskiy**	**1.66**	**298**	PN	**Pb**	**20 44 16.9**	**-0.2**
KRMR				S	**Sb**	**20 44 37.9**	**-0.3**
KOK	**Koryaka**	**1.69**	**318**	*e*P	**Pb**	**20 44 17.7**	**+0.1**
KOK	**Koryaka**	**1.69**	**318**	PN	**Pb**	**20 44 17.7**	**+0.1**
KRX	**Arik**	**1.73**	**319**	*e*P	**Pb**	**20 44 18.4**	**0.0**
KRX	**Arik**	**1.73**	**319**	PN	**Pb**	**20 44 18.4**	**0.0**
PEA0B	**Petropavlovsk-**	**2.02**	**302**	*e*Pn	**Pn**	**20 44 21.2**	**+0.5**
PETK	**Petropavlovsk-**	**2.02**	**302**	Pn	**Pb**	**20 44 22.2**	**-1.1**
	comp=N,17nm,0.3s,baz=104,slow=19,SNR=52						
PETK				Sn	**Sg**	**20 44 50.0**	**-1.0**
	comp=N,28nm,0.3s,baz=107,slow=23,SNR=6.0						
PEA1	**Petropavlovsk-**	**2.02**	**302**	*e*Pn	**Pb**	**20 44 22.2**	**-1.1**
PEA1				*e*Sn	**Sg**	**20 44 50.0**	**-1.1**
APC	**Apacha**	**2.23**	**294**	*e*P	**Pb**	**20 44 25.8**	**-1.1**
APC				*e*S	**Sb**	**20 44 53.1**	**-1.7**
APC	**Apacha**	**2.23**	**294**	PN	**Pb**	**20 44 25.8**	**-1.1**
APC				S	**Sb**	**20 44 53.1**	**-1.7**
GNL	**Ganaly**	**2.26**	**317**	*e*P	**Pb**	**20 44 26.6**	**-0.9**
GNL	**Ganaly**	**2.26**	**317**	PN	**Pb**	**20 44 26.6**	**-0.9**
PAU	**Pauzhetka**	**2.39**	**257**	*e*P	**Pb**	**20 44 27.9**	**-1.6**
PAU	**Pauzhetka**	**2.39**	**257**	PN	**Pb**	**20 44 27.9**	**-1.6**
MKZ	**Mys Kozlova**	**2.60**	**16**	*e*P	**Pn**	**20 44 29.0**	**+0.4**
MKZ				*e*S	**Sn**	**20 44 58.7**	**-1.7**
MKZ	**Mys Kozlova**	**2.60**	**16**	PN	**Pn**	**20 44 29.0**	**+0.4**
MKZ				S	**Sn**	**20 44 58.7**	**-1.7**
KZV	**Kizimen**	**3.06**	**357**	*e*P	**Pn**	**20 44 37.0**	**+1.9**
KZV				*e*S	**Sn**	**20 45 12.5**	**+0.5**
KZV	**Kizimen**	**3.06**	**357**	PN	**Pn**	**20 44 37.0**	**+1.9**
KZV				S	**Sn**	**20 45 12.5**	**+0.5**
SKR	**Severo-Kuril's**	**3.09**	**245**	*e*P	**Pn**	**20 44 36.4**	**+0.9**
SKR				*e*S	**Sn**	**20 45 12.0**	**-0.7**
SKR	**Severo-Kuril's**	**3.09**	**245**	*e*PN	**Pn**	**20 44 36.6**	**+1.1**
SKR				*e*S	**Sn**	**20 45 11.4**	**-1.3**
SKR				pmax	pmax		
	comp=Z,70nm,0.6s						
SKR				smax	smax		
	comp=N,74nm,0.4s						
SKR				smax	smax		
	comp=E,325nm,0.5s						
TUMD	**Tumrok D**	**3.14**	**359**	*e*P	**Pn**	**20 44 37.7**	**+1.5**
TUMD				*e*S	**Sn**	**20 45 14.0**	**0.0**
TUMR	**Tumrok**	**3.23**	**356**	*e*P	**Pn**	**20 44 39.7**	**+2.2**
TUMR	**Tumrok**	**3.23**	**356**	PN	**Pn**	**20 44 37.7**	**+0.2**
TUMR				S	**Sn**	**20 45 14.0**	**-2.3**
ALID	**Alaid**	**3.34**	**251**	*e*P	**Pn**	**20 44 40.4**	**+1.4**
ALID	**Alaid**	**3.34**	**251**	PN	**Pn**	**20 44 40.4**	**+1.4**
KBTR	**Krutoberegovo**	**4.36**	**17**	*e*P	**Pn**	**20 44 54.0**	**+1.1**
KBTR	**Krutoberegovo**	**4.36**	**17**	PN	**Pn**	**20 44 54.0**	**+1.1**
BKI	**Bering**	**4.51**	**44**	*e*S	**Sn**	**20 45 42.8**	**-4.8**
BDR	**Baidarnaya**	**4.53**	**5**	*e*P	**Pn**	**20 44 58.6**	**+3.3**
BDR	**Baidarnaya**	**4.53**	**5**	PN	**Pn**	**20 44 58.6**	**+3.3**
SMKR	**Semkarok**	**4.56**	**7**	*e*P	**Pn**	**20 44 57.5**	**+1.8**
SMKR	**Semkarok**	**4.56**	**7**	PN	**Pn**	**20 44 57.5**	**+1.8**
SRKR	**Sorokina**	**4.61**	**4**	*e*P	**Pn**	**20 44 58.8**	**+2.4**
SRKR	**Sorokina**	**4.61**	**4**	PN	**Pn**	**20 44 58.8**	**+2.4**
ASAJ	**Asahikawa**	**14.36**	**243**	Pn	**Pn**	**20 47 10.6**	**+0.8**
	comp=E,0.7nm,0.3s,baz=61,slow=8.6,SNR=5.6						
BILL	**Bilibino**	**16.27**	**8**	*e*P	**P**	**20 47 39.3**	**+1.3**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KLR	**Kul'dur**	**18.42**	**273**	P	**P**	**20 48 02.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=64,slow=10.0,SNR=5.9						
USRK	**Ussuriysk Ar.**	**20.51**	**259**	P	**P**	**20 48 23.2**	**-1.6**
	comp=Z,3.4nm,1.0s,baz=51,slow=15,SNR=4.3						
MAJO	**Matsushiro**	**22.14**	**234**	*e*P	**P**	**20 48 42.7**	**+0.3**
MAJO	**Matsushiro**	**22.14**	**234**	*e*P	**P**	**20 48 42.7**	**+0.3**
MJAR	**Matsushiro Arr**	**22.14**	**234**	P	**P**	**20 48 42.7**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=19,slow=12,SNR=5.8						
TIXI	**Tiksi**	**24.13**	**336**	P	**P**	**20 49 01.2**	**-1.1**
	comp=Z,3.5nm,0.6s,baz=124,slow=9.1,SNR=17						
KSRS	**Korea Array**	**27.10**	**250**	P	**P**	**20 49 32.2**	**+2.7**
	comp=Z,0.8nm,0.5s,baz=44,slow=9.7,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**32.65**	**169**	T	T	21 26 31.8	
	baz=352,slow=75,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**32.67**	**169**	T	T	21 26 21.2	
	baz=352,slow=75,SNR=9.5						
H11N1	**WAKE ISLAND Hy**	**32.67**	**169**	T	T	21 26 22.8	
	baz=352,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**33.84**	**169**	T	T	21 27 49.7	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**33.85**	**169**	T	T	21 28 00.4	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**33.86**	**169**	T	T	21 27 49.7	
	baz=352						
KURK	**Kurchatov**	**48.51**	**303**	*e*P	**P**	**20 52 28.1**	**-1.3**
	comp=Z,3.1nm,0.8s						
KURK	**Kurchatov**	**48.51**	**303**	*e*P	**P**	**20 52 28.1**	**-1.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MK31	**Makanchi Array**	**48.85**	**297**	*e*P	**P**	**20 52 30.9**	**-1.2**
	comp=Z,4.6nm,1.5s						
MK31	**Makanchi Array**	**48.85**	**297**	*e*P	**P**	**20 52 30.9**	**-1.2**
MK31				pmax	pmax		
	comp=Z,5.0nm,1.5s						
MK32	**Makanchi Array**	**48.85**	**297**	*e*P	**P**	**20 52 30.8**	**-1.4**
MKAR	**Makanchi Array**	**48.85**	**297**	P	**P**	**20 52 30.8**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=56,slow=7.2,SNR=22						
ARCES	**ARCESS Array B**	**54.35**	**342**	P	**P**	**20 53 12.9**	**0.0**
	comp=Z,4.6nm,0.9s,baz=44,slow=8.9,SNR=4.8						
CM31	**Chiang Mai Arr**	**58.24**	**259**	*e*P	**P**	**20 53 42.4**	**+1.1**
	comp=Z,22nm,1.8s						
CMAR	**Chiang Mai Arr**	**58.24**	**259**	P	**P**	**20 53 42.9**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=33,slow=6.5,SNR=6.7						
ABKAR	**Akbulak array**	**58.67**	**311**	*e*P	**P**	**20 53 43.1**	**-0.9**
	comp=Z,1.5nm,0.8s						
FIA0	**FINESS Array S**	**61.17**	**337**	*e*P	**P**	**20 54 01.7**	**+0.8**
FIA0	**FINESS Array S**	**61.17**	**337**	*e*P	**P**	**20 54 01.7**	**+0.8**
FINES	**FINESS Array B**	**61.17**	**337**	P	**P**	**20 54 01.7**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=35,slow=8.0,SNR=23						
NB2	**NORSAR Subarra**	**64.60**	**344**	P	**P**	**20 54 24.0**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=22,slow=6.9						
NB200	**NORSAR Array S**	**64.60**	**344**	*e*P	**P**	**20 54 23.9**	**+0.1**
NOA	**NORSAR Array B**	**64.60**	**344**	P	**P**	**20 54 23.9**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=21,slow=6.6,SNR=5.7						
GEYT	**Alibeck**	**67.88**	**304**	P	**P**	**20 54 43.9**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=12,slow=7.8,SNR=3.2						
AKASG	**Malin Array Be**	**69.63**	**329**	P	**P**	**20 54 55.8**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=31,slow=6.5,SNR=3.9						
LTX	**Lajitas**	**70.79**	**67**	*e*P	**P**	**20 55 05.2**	**+1.7**
LTX	**Lajitas**	**70.79**	**67**	*e*P	**P**	**20 55 05.2**	**+1.7**
TXAR	**Lajitas Array**	**70.79**	**67**	P	**P**	**20 55 05.2**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=287,slow=4.3,SNR=4.4						
CLL	**Collm**	**73.41**	**339**	*e*P	**P**	**20 55 20.0**	**+1.4**
BURAR	**Bucovina Array**	**73.60**	**330** ‖	*e*P	**P**	**20 55 20.5**	**+0.5**
VRAC	**Vranov**	**74.44**	**336** ‖	*e*P	**P**	**20 55 25.1**	**+0.3**
MLR	**Muntele Rosu**	**75.26**	**329** ‖	*e*P	**P**	**20 55 28.4**	**-1.3**
VOIR		**75.60**	**329** ‖	*e*P	**P**	**20 55 31.8**	**+0.2**
GZR	**Gura Zlata**	**76.33**	**331** ‖	*e*P	**P**	**20 55 36.5**	**+0.7**

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*ISCJB **27** 20:54:36.7±0.4, 24°47N±0°02×122°26E±0°02, h70km±4km, Error ellipse: s-maj=3.1km s-min=2.6km az=39.1*
*JMA **27** 20:54:36.7±0.1, 24°38N×122°28E, h71km±1km, M1.1*
*TAP **27** 20:54:37.2, 24°48N×122°21E, h71km, ML2.6, B*
ISC 27 20:54:36.9±1.3, 24°48N±0°03×122°27E±0°02, h71km±7km, n88, σ0§76/173, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.15**	**299**	P	**Pn**	**20 54 47.7**	**+0.3**
	baz=311						
EOS1				S	**Sn**	**20 54 55.8**	**+0.8**
	baz=311						
TWC	**Suao**	**0.40**	**289**	P	**Pn**	**20 54 49.1**	**+0.2**
	baz=291						
TWC				*e*S	**Sn**	**20 54 57.3**	**-0.5**
	baz=291						
NANB	**Nanao**	**0.48**	**264**	P	**Pn**	**20 54 49.8**	**+0.2**
	baz=262						
NANB				*e*S	**Sn**	**20 54 58.5**	**-0.4**
	baz=262						
ENA	**Nanau**	**0.48**	**264**	P	**Pn**	**20 54 49.8**	**+0.1**
	baz=262						
ENA				S	**Sn**	**20 54 59.4**	**+0.3**
	baz=262						
NTC	**Toucheng**	**0.55**	**313**	*e*P	**Pn**	**20 54 50.2**	**0.0**
	baz=316						
NTC				*e*S	**Sn**	**20 54 59.8**	**-0.3**
	baz=316						
ILA	**Ilan**	**0.55**	**301**	*e*P	**Pn**	**20 54 50.3**	**0.0**
	baz=304						
ILA				*e*S	**Sn**	**20 55 00.2**	**0.0**
	baz=304						
TWB1	**Santiao Chiao**	**0.59**	**334**	*e*P	**Pn**	**20 54 51.2**	**+0.5**
	baz=339						
TWB1				*e*S	**Sn**	**20 55 00.8**	**+0.1**
	baz=339						
TWE	**Neicheng**	**0.60**	**294**	P	**Pn**	**20 54 51.4**	**+0.7**
	baz=296						
TWE				*e*S	**Sn**	**20 55 00.8**	**-0.2**
	baz=296						
JYNG	**Yonagunijimaku**	**0.62**	**92**	P	**Pn**	**20 54 50.8**	**-0.1**
JYNG				*e*S	**Sn**	**20 55 01.2**	**-0.1**
TIPB	**Shuangxi**	**0.64**	**321**	P	**Pn**	**20 54 51.6**	**+0.4**
	baz=324						
TIPB				*e*S	**Sn**	**20 55 02.1**	**+0.3**
	baz=324						
ENTT	**Nioudou**	**0.66**	**284**	P	**Pn**	**20 54 52.0**	**+0.6**
	baz=284						
ENTT				*e*S	**Sn**	**20 55 02.1**	**-0.1**
	baz=284						
YOJ	**Yonaguni jima**	**0.68**	**91**	*e*P	**Pn**	**20 54 51.8**	**+0.2**
	baz=90						
YOJ				*e*S	**Sn**	**20 55 02.2**	**-0.2**
	baz=90						
YOJ	**Yonaguni jima**	**0.68**	**91**	P	**Pn**	**20 54 51.5**	**-0.1**
YOJ				*e*S	**Sn**	**20 55 02.3**	**-0.2**
NACB	**Ninganchiao**	**0.69**	**244**	P	**Pn**	**20 54 51.4**	**-0.3**
	baz=241						
NACB				*e*S	**Sn**	**20 55 02.6**	**-0.1**
	baz=241						
NDT	**Datong Townshi**	**0.70**	**280**	*e*P	**Pn**	**20 54 52.3**	**+0.4**
	baz=280						
NDT				*e*S	**Sn**	**20 55 03.2**	**+0.2**
	baz=280						
TWD	**Chiawan**	**0.73**	**237**	*e*P	**Pn**	**20 54 51.1**	**-1.1**
	baz=234						
TWD				*e*S	**Sn**	**20 55 03.0**	**-0.5**
	baz=234						
NWF	**Wu-fen Shan**	**0.74**	**323**	*e*P	**Pn**	**20 54 52.2**	**-0.1**
	baz=326						
NWF				*e*S	**Sn**	**20 55 01.5**	**-2.3**
	baz=326						
WFSB	**Wu-fen Shan**	**0.74**	**323**	*e*P	**Pn**	**20 54 52.1**	**-0.2**
	baz=326						
WFSB				*e*S	**Sn**	**20 55 01.3**	**-2.4**
	baz=326						
NWLT	**Wulai**	**0.76**	**293**	P	**Pn**	**20 54 53.4**	**+0.8**
	baz=294						
NWLT				*e*S	**Sn**	**20 55 04.4**	**+0.2**
	baz=294						
ETLH	**Xiulin Townshi**	**0.77**	**249**	P	**Pn**	**20 54 52.5**	**-0.2**
	baz=247						
ETLH				*e*S	**Sn**	**20 55 04.3**	**-0.1**
	baz=247						
NNSB	**Datong**	**0.81**	**267**	P	**Pn**	**20 54 53.4**	**+0.2**
	baz=266						
NNSB				*e*S	**Sn**	**20 55 05.3**	**-0.1**
	baz=266						
NNS	**Nan Shan**	**0.82**	**267**	*e*P	**Pn**	**20 54 53.4**	**0.0**
	baz=266						
NNS				*e*S	**Sn**	**20 55 05.3**	**-0.2**
	baz=266						
NHDH	**Xindian Distri**	**0.83**	**306**	*e*P	**Pn**	**20 54 53.8**	**+0.5**
	baz=307						
NHDH				*e*S	**Sn**	**20 55 05.3**	**-0.3**
	baz=307						
YHNB	**Yeheng**	**0.84**	**283**	P	**Pn**	**20 54 54.0**	**+0.5**
	baz=283						
YHNB				*e*S	**Sn**	**20 55 06.0**	**+0.2**
	baz=283						
ENLB	**Shoufeng**	**0.84**	**227**	P	**Pn**	**20 54 53.8**	**+0.4**
	baz=224						
ENLB				*e*S	**Sn**	**20 55 06.0**	**+0.2**
	baz=224						
NSK	**Sanguang**	**0.85**	**283**	P	**Pn**	**20 54 54.2**	**+0.5**
	baz=283						
NSK				*e*S	**Sn**	**20 55 06.2**	**0.0**
	baz=283						
TATO	**Taipei**	**0.87**	**305**	*e*P	**Pn**	**20 54 54.4**	**+0.7**
	baz=306						
TATO				*e*S	**Sn**	**20 55 06.1**	**-0.2**
	baz=306						
YM07	**YM07**	**0.91**	**320**	*e*P	**Pn**	**20 54 55.0**	**+0.7**
	baz=322						
YM07				*e*S	**Sn**	**20 55 06.8**	**-0.6**
	baz=322						
YM01	**YM01**	**0.92**	**316**	*e*P	**Pn**	**20 54 54.4**	**-0.1**
	baz=318						
YM01				*e*S	**Sn**	**20 55 08.2**	**+0.7**
	baz=318						
YM11	**YM11**	**0.93**	**317**	*e*P	**Pn**	**20 54 54.4**	**-0.3**
	baz=319						
YM11				*e*S	**Sn**	**20 55 06.9**	**-1.0**
	baz=319						
YM10	**YM10**	**0.93**	**316**	*e*P	**Pn**	**20 54 54.6**	**0.0**
	baz=318						
YM10				*e*S	**Sn**	**20 55 08.5**	**+0.7**
	baz=318						
YM08	**YM08**	**0.94**	**319**	*e*P	**Pn**	**20 54 55.1**	**+0.4**
	baz=321						
YM08				*e*S	**Sn**	**20 55 06.6**	**-1.3**
	baz=321						
WHF	**Hehuan Shan**	**0.97**	**250**	P	**Pn**	**20 54 55.6**	**+0.1**
	baz=248						
WHF				*e*S	**Sn**	**20 55 08.8**	**-0.6**
	baz=248						
TWS1	**Kuangyinshan**	**0.99**	**309**	*e*P	**Pn**	**20 54 54.0**	**-1.3**
	baz=310						
TWS1				*e*S	**Sn**	**20 55 09.6**	**+0.6**
	baz=310						
WLTB	**Daxi**	**1.00**	**292**	*e*P	**Pn**	**20 54 56.1**	**+0.7**
	baz=292						
WLTB				*e*S	**Sn**	**20 55 08.7**	**-0.5**
	baz=292						
TWY	**Chenhua**	**1.00**	**323**	*e*P	**Pn**	**20 54 56.0**	**+0.6**
	baz=325						
TWY				*e*S	**Sn**	**20 55 09.3**	**+0.1**
	baz=325						
NTST	**Danshui**	**1.01**	**313**	*e*P	**Pn**	**20 54 56.5**	**+1.0**
	baz=314						
NTST				*e*S	**Sn**	**20 55 09.7**	**+0.3**
	baz=314					

SSLB				*e*S		**Sn**	**20 55 18.4**	**+0.3**
	baz=238							
YULB	**Yu-li**	**1.40**	**220**	*e*P		**Pn**	**20 54 59.7**	**-0.9**
	baz=217							
YULB				*e*S		**Sn**	**20 55 16.4**	**-2.1**
	baz=217							
TWF1	**Yuli**	**1.43**	**219**	*e*P		**Pn**	**20 55 00.2**	**-0.8**
	baz=216							
TWF1				*e*S		**Sn**	**20 55 19.4**	**+0.2**
	baz=216							
WHYT	**Xinyi Township**	**1.51**	**239**	*e*P		**Pn**	**20 55 03.6**	**+1.5**
	baz=237							
WHYT				*e*S		**Sn**	**20 55 21.4**	**+0.4**
	baz=237							
YUS	**Yu-Shan**	**1.56**	**231**	*e*P		**Pn**	**20 55 03.4**	**+0.3**
	baz=229							
YUS				*e*S		**Sn**	**20 55 22.1**	**-0.7**
	baz=229							
WNT	**Mingjian**	**1.57**	**248**	*e*P		**Pn**	**20 55 03.2**	**+0.4**
	baz=246							
WNT				*e*S		**Sn**	**20 55 22.4**	**+0.1**
	baz=246							
CHKT	**Chengkung**	**1.60**	**211**	*e*P		**Pn**	**20 55 03.3**	**+0.1**
	baz=209							
CHKT				*e*S		**Sn**	**20 55 23.4**	**+0.3**
	baz=209							
ALS	**Alishan**	**1.65**	**235**	*e*P		**Pn**	**20 55 04.5**	**+0.4**
	baz=232							
ALS				*e*S		**Sn**	**20 55 24.4**	**-0.3**
	baz=232							
CHN5	**Tsauling**	**1.70**	**239**	*e*P		**Pn**	**20 55 06.2**	**+1.6**
	baz=237							
CHN5				*e*S		**Sn**	**20 55 25.8**	**+0.2**
	baz=237							
JIJ	**Ishigaki jima**	**1.71**	**93**	P		**Pn**	**20 55 04.9**	**+0.2**
JIJ				S		**Sn**	**20 55 25.2**	**-0.6**
ELDTW	**Lidau**	**1.72**	**222**	*e*P		**Pn**	**20 55 04.3**	**-0.6**
	baz=220							
ELDTW				*e*S		**Sn**	**20 55 24.8**	**-1.4**
	baz=220							
WGK	**Gukeng**	**1.75**	**244**	*e*P		**Pn**	**20 55 06.0**	**+0.8**
	baz=242							
WGK				*e*S		**Sn**	**20 55 26.2**	**-0.5**
	baz=242							
RLNB	**Erlin**	**1.84**	**252**	*e*P		**Pn**	**20 55 07.0**	**+0.6**
	baz=250							
RLNB				*e*S		**Sn**	**20 55 28.6**	**-0.2**
	baz=250							
JISG	**Ishigakijimahi**	**1.86**	**86**	P		**Pn**	**20 55 07.0**	**+0.3**
JISG				*e*S		**Sn**	**20 55 29.9**	**+0.6**
CHN4	**Tsaushan**	**1.90**	**234**	*e*P		**Pn**	**20 55 08.2**	**+0.9**
	baz=232							
CHN4				*e*S		**Sn**	**20 55 30.7**	**+0.4**
	baz=232							
TPUB	**Ta-pu**	**1.91**	**232**	*e*P		**Pn**	**20 55 08.2**	**+0.9**
	baz=230							
TPUB				*e*S		**Sn**	**20 55 30.4**	**0.0**
	baz=230							
STYT	**Tauyuan**	**1.91**	**227**	*e*P		**Pn**	**20 55 08.1**	**+0.8**
	baz=225							
STYT				*e*S		**Sn**	**20 55 30.3**	**-0.2**
	baz=225							
WTP	**Ta-pu**	**1.95**	**231**	*e*P		**Pn**	**20 55 08.9**	**+1.0**
	baz=229							
WTP				*e*S		**Sn**	**20 55 32.0**	**+0.5**
	baz=229							
TWGBT	**Beinan**	**1.98**	**214**	*e*P		**Pn**	**20 55 09.3**	**+1.0**
	baz=212							
TWGBT				*e*S		**Sn**	**20 55 31.4**	**-0.8**
	baz=212							
TWG	**Pinlang**	**1.98**	**214**	*e*P		**Pn**	**20 55 08.7**	**+0.3**
	baz=212							
TWG				*e*S		**Sn**	**20 55 31.1**	**-1.2**
	baz=212							
TWK	**Hsinying**	**2.03**	**234**	*e*P		**Pn**	**20 55 09.2**	**+0.2**
	baz=232							
TWK				*e*S		**Sn**	**20 55 34.9**	**+1.5**
	baz=232							
CHN1	**Nanshi**	**2.05**	**231**	*e*P		**Pn**	**20 55 11.4**	**+2.1**
	baz=230							
CHN1				*e*S		**Sn**	**20 55 35.9**	**+1.9**
	baz=230							
WLGB	**Puzi**	**2.06**	**241**	*e*P		**Pn**	**20 55 09.8**	**+0.5**
	baz=240							
WLGB				*e*S		**Sn**	**20 55 33.1**	**-1.0**
	baz=240							
SLGT	**Liugui**	**2.10**	**225**	*e*P		**Pn**	**20 55 11.2**	**+1.3**
	baz=224							
SLGT				*e*S		**Sn**	**20 55 36.0**	**+1.0**
	baz=224							
TAI1	**Yung-k'ang**	**2.36**	**233**	*e*P		**Pn**	**20 55 13.9**	**+0.6**
	baz=231							
TAI1				*e*S		**Sn**	**20 55 40.4**	**-0.9**
	baz=231							
MASBT	**Mashibuluo**	**2.39**	**219**	*e*P		**Pn**	**20 55 14.1**	**+0.3**
	baz=217							
MASBT				*e*S		**Sn**	**20 55 40.6**	**-1.5**
	baz=217							
EAST	**Anshuo**	**2.46**	**212**	*e*P		**Pn**	**20 55 15.1**	**+0.2**
	baz=210							
EAST				*e*S		**Sn**	**20 55 45.6**	**+1.7**
	baz=210							
SSPT	**Xinbi**	**2.53**	**219**	*e*S		**Sn**	**20 55 45.4**	**0.0**
	baz=217							
VWUC	**VWUC**	**2.62**	**282**	*e*P		**Pn**	**20 55 15.9**	**-1.0**
	baz=281							
VWUC				*e*S		**Sn**	**20 55 45.2**	**-2.3**
	baz=281							
PHUB	**P'eng-hu**	**2.65**	**249**	*e*P		**Pn**	**20 55 18.1**	**+0.8**
	baz=248							
PHUB				*e*S		**Sn**	**20 55 46.8**	**-1.6**
	baz=248							
MATB	**Ma-tsu**	**2.68**	**309**	*e*P		**Pn**	**20 55 18.0**	**+0.2**
	baz=309							
MATB				*e*S		**Sn**	**20 55 48.4**	**-0.8**
	baz=309							
TSEB	**Hengchuen, Pin**	**2.86**	**206**	*e*P		**Pn**	**20 55 21.1**	**+0.9**
	baz=205							
TSEB				*e*S		**Sn**	**20 55 53.4**	**-0.1**
	baz=205							
TWKBT	**Hengchun**	**2.86**	**208**	*e*P		**Pn**	**20 55 20.7**	**+0.5**
	baz=206							
TWKBT				*e*S		**Sn**	**20 55 52.3**	**-1.2**
	baz=206							
TWK1	**Hengchun**	**2.86**	**208**	*e*S		**Sn**	**20 55 52.0**	**-1.6**
	baz=206							

ISCJB ***27*** *21:17:36.6±1.1, 34°.85N±0°.06×28°.19E±0°.07, h95km±12km, Error ellipse: s-maj=13.5km s-min=4.8km az=139.6*
ATH ***27*** *21:17:37.9, 34°.94N×28°.05E, h100km±2km, ML2.4/8, Error ellipse: s-maj=5.5km s-min=2.0km az=321.0*
DDA ***27*** *21:17:37.4, 35°.06N×28°.26E, h24km±3km, ML3.2*
ISC 27 21:17:37.0±1.7, 34°.78N±0°.08×28°.21E±0°.04, h78km±22km, n40, σ1§19/56, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.15**	**312**	P		**Pn**	**21 17 58.7**	**+0.9**
KARP				S		**Sn**	**21 18 13.2**	**-0.2**
KARP				AML		AML	21 18 17.3	
	comp=N,250μm,0.2s							
KARP				AML		AML	21 18 17.9	
	comp=E,230μm,0.2s							
ARG	**Arkhangelos**	**1.43**	**357**	P		**Pn**	**21 18 01.5**	**+0.1**
ARG				S		**Sn**	**21 18 19.7**	**-0.1**
ARG				AML		AML	21 18 21.9	
	comp=E,97μm,0.2s							
ARG				AML		AML	21 18 22.7	
	comp=N,79μm,0.2s							
ZKR	**Zakros**	**1.67**	**282**	P		**Pn**	**21 18 04.8**	**+0.3**
ZKR				S		**Sn**	**21 18 25.0**	**-0.3**
ZKR				AML		AML	21 18 27.0	
	comp=N,44μm,0.4s							
ZKR				AML		AML	21 18 28.0	
	comp=E,96μm,0.2s							
AKAS	**Kas**	**1.84**	**38**	IAML_P				
	comp=Z,794nm,0.1s							
AKAS				*i* P		**Pn**	**21 18 07.8**	**+0.8**
AKAS				*i* S		**Sn**	**21 18 29.4**	**-0.3**
FETY	**Fethiye**	**1.98**	**21**	*i* P		**Pn**	**21 18 09.0**	**+0.3**
FETY				*i* S		**Sn**	**21 18 32.2**	**-0.6**
DAT	**Datca**	**2.01**	**345**	*i* P		**Pn**	**21 18 10.1**	**+1.0**
DAT				*i* S		**Sn**	**21 18 32.7**	**-0.8**
DALY	**Dalyan (Mula)**	**2.06**	**10**	IAML_P				
	comp=Z,562nm,0.1s							
DALY				*i* P		**Pn**	**21 18 10.2**	**+0.5**
DALY				*i* S		**Sn**	**21 18 34.7**	**+0.1**
TURN	**Turunc**	**2.11**	**9**	IAML_P				
	comp=Z,874nm,0.1s							
TURN				*i* P		**Pn**	**21 18 09.9**	**-0.5**
TURN				*i* S		**Sn**	**21 18 34.2**	**-1.6**
NPS	**Neapolis**	**2.18**	**283**	P		**Pn**	**21 18 12.2**	**+0.9**
NPS				AML		AML	21 18 42.6	
	comp=N,73μm,0.2s							
NPS				AML		AML	21 18 43.8	
	comp=E,93μm,0.4s							
LAST	**Lasithi**	**2.27**	**280**	P		**Pn**	**21 18 13.0**	**+0.4**
LAST				AML		AML	21 18 41.6	
	comp=N,61μm,0.6s							
LAST				AML		AML	21 18 45.0	
	comp=E,61μm,0.7s							
AKUM	**Antalya-Kumluc**	**2.32**	**48**	IAML_P				
	comp=Z,329nm,0.1s							
AKUM				*i* P		**Pn**	**21 18 14.1**	**+0.9**
AKUM				*i* S		**Sn**	**21 18 36.9**	**-4.0**
BDRM	**Kayabasi**	**2.36**	**345**	IAML_P				
	comp=Z,289nm,0.1s							
BDRM				*i* P		**Pn**	**21 18 14.6**	**+0.8**
BDRM				*i* S		**Sn**	**21 18 41.7**	**-0.2**
ANAF	**Anafi Island**	**2.53**	**309**	P		**Pn**	**21 18 16.0**	**0.0**
ANAF				AML		AML	21 18 45.5	
	comp=N,458μm,0.5s							
ANAF				AML		AML	21 18 45.7	
	comp=E,383μm,0.4s							
TAVA	**DENIZLI_Tavas**	**2.74**	**12**	IAML_P				
	comp=Z,898nm,0.2s							
TAVA				*i* P		**Pn**	**21 18 21.0**	**+2.1**
TAVA				*i* S		**Sn**	**21 18 52.5**	**+1.4**
SANT	**Santorini**	**2.75**	**306**	P		**Pn**	**21 18 18.8**	**-0.1**
THR6	**Thira Island,**	**2.78**	**305**	P		**Pn**	**21 18 19.7**	**+0.4**
AMGA	**Amorgos Island**	**2.78**	**318**	P		**Pn**	**21 18 19.3**	**-0.1**
SIVA	**Sivas**	**2.80**	**276**	P		**Pn**	**21 18 20.5**	**+0.9**
SIVA				AML		AML	21 18 54.6	
	comp=N,98μm,0.5s							
SIVA				AML		AML	21 18 56.2	
	comp=E,108μm,0.4s							
THR2	**Thira island,**	**2.80**	**307**	P		**Pn**	**21 18 19.8**	**+0.1**
THR3	**Thira Island,**	**2.81**	**306**	P		**Pn**	**21 18 19.9**	**+0.2**
KORT	**Korkueli**	**2.82**	**38**	IAML_P				
	comp=Z,270nm,0.3s							
KORT				*i* P		**Pn**	**21 18 22.9**	**+2.9**
CMBO	**Columbo, Santo**	**2.84**	**307**	P		**Pn**	**21 18 19.8**	**-0.3**
THR5	**Thira Island,**	**2.84**	**306**	P		**Pn**	**21 18 20.4**	**+0.2**
AYDN	**Tasoluk**	**2.89**	**355**	*i* P		**Pn**	**21 18 22.0**	**+1.2**
AYDN				*i* S		**Sn**	**21 18 53.0**	**-1.5**
GCAM	**G?zelcaml?**	**3.02**	**345**	IAML_P				
	comp=Z,105nm,0.1s							
GCAM				*i* P		**Pn**	**21 18 24.6**	**+2.0**
IOSP	**Ios island**	**3.06**	**310**	P		**Pn**	**21 18 22.8**	**-0.4**
SMG	**Samos**	**3.12**	**340**	P		**Pn**	**21 18 24.2**	**+0.2**
APE	**Apeiranthos**	**3.15**	**317**	P		**Pn**	**21 18 24.5**	**+0.1**
VAM	**Vamos**	**3.34**	**282**	P		**Pn**	**21 18 27.1**	**+0.2**
GVD	**Gavdhos**	**3.39**	**272**	P		**Pn**	**21 18 28.1**	**+0.5**
GVD				AML		AML	21 19 08.4	
	comp=N,61μm,0.3s							
GVD				AML		AML	21 19 11.8	
	comp=E,54μm,0.2s							
KEPZ	**Antalya-Kepez**	**3.48**	**52**	IAML_P				
	comp=Z,126nm,0.1s							
KEPZ				*i* P		**Pn**	**21 18 29.4**	**+0.6**
KEPZ				*i* S		**Sn**	**21 19 06.2**	**-2.8**
IMMV	**Iera Moni Meta**	**3.53**	**282**	P		**Pn**	**21 18 29.7**	**+0.2**
MHLO	**Agia Marina, M**	**3.63**	**303**	P		**Pn**	**21 18 31.0**	**+0.1**
MANT	**Manisa**	**3.71**	**4**	*i* P		**Pn**	**21 18 32.4**	**+0.1**
MANT				*i* S		**Sn**	**21 19 14.0**	**-1.0**
KHAL	**Karahalli**	**3.73**	**16**	IAML_P				
	comp=Z,127nm,0.1s							
KHAL				*i* P		**Pn**	**21 18 34.2**	**+1.9**
KHAL				*i* S		**Sn**	**21 19 14.1**	**-1.0**
SERI	**Serifos**	**3.84**	**309**	P		**Pn**	**21 18 34.0**	**+0.3**
USAK	**Uak-Merkez**	**3.98**	**9**	IAML_P				
	comp=Z,330nm,0.1s							
USAK				*i* P		**Pn**	**21 18 36.1**	**+0.4**
USAK				*i* S		**Sn**	**21 19 19.6**	**-1.6**
CHOS	**Chios island**	**3.99**	**335**	P		**Pn**	**21 18 36.7**	**+0.8**
ANKY	**Antikythira Is**	**4.15**	**287**	P		**Pn**	**21 18 39.5**	**+1.5**
DOGA	**KONYA_Doganhis**	**4.34**	**39**	IAML_P				
	comp=Z,245nm,0.1s							
DOGA				*i* P		**Pn**	**21 18 42.8**	**+2.2**

KRNET ***27*** *21:25:05.9±0.1, 40°.51N×78°.10E, h18km, mb2.4*
NNC ***27*** *21:25:06.9±3.7, 40°.52N×78°.04E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=25.1km s-min=20.9km az=164.0*
SOME ***27*** *21:25:08.3, 40°.58N×78°.20E, h15km*
ISC 27 21:25:04.4±3.0, 40°.5N±0°.1×78°.07E±0°.06, h8km±13km, n22, σ1§38/37, 17C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.29**	**351**	⇑*i*P		**Pb**	**21 25 29.6**	**+0.4**
	baz=50							
TARG				⇑*i*S		**Sn**	**21 25 47.1**	**+0.3**
	baz=50							
KDJ	**Kajisay**	**1.80**	**338**	⇑*i*P		**Pb**	**21 25 38.9**	**+1.1**
	baz=37							
KDJ				⇑*i*S		**Sg**	**21 26 02.8**	**+0.4**
	baz=37							
NRN	**Naryn**	**1.85**	**303**	⇑*i*P		**Pg**	**21 25 40.5**	**+0.7**
	baz=0.0							
NRN				⇑*i*S		**Sg**	**21 26 05.7**	**+1.9**
	baz=0.0							
ULHL	**Ulahol**	**2.26**	**323**	⇑*i*P		**Pb**	**21 25 46.2**	**+0.6**
	baz=22							
ULHL				⇑*i*S		**Sb**	**21 26 15.7**	**+1.9**
	baz=22							
BOOM	**Boomskoye usch**	**2.59**	**322**	⇓*e*P		**Pb**	**21 25 50.8**	**-0.4**
	baz=21							
BOOM				⇑*i*S		**Sb**	**21 26 23.6**	**+0.4**
	baz=21							
KZA	**Kyzart**	**2.67**	**308**	⇑*i*P		**Pb**	**21 25 52.2**	**-0.6**
	baz=7.0							
KZA				⇑*i*S		**Sb**	**21 26 26.3**	**+0.4**
	baz=7.0							
TNSS	**Tian-Shan**	**2.71**	**342**	Pg		**Pg**	**21 25 57.1**	**+0.7**
	2.1nm,0.7s							
TNSS				Lg		Lg	21 26 32.3	
	2.8nm,0.5s							
TNSS	**Tian-Shan**	**2.71**	**342**	*e*P		**Pg**	**21 25 57.1**	**+0.7**
	2.1nm,0.5s							
TNSS				*e*S		**Sg**	**21 26 32.0**	**+0.4**
	2.8nm,0.5s							
UZB	**Uzynbulak**	**2.78**	**15**	Pg		**Pg**	**21 25 57.1**	**-0.6**
UZB				Lg		Lg	21 26 32.0	
UZB	**Uzynbulak**	**2.78**	**15**	*e*P		**Pb**	**21 25 55.1**	**+0.6**
	1.2nm,0.3s							
UZB				*e*S		**Sb**	**21 26 28.3**	**-0.5**
	1.2nm,0.2s							
IZV	**Izvestkoviy**	**2.80**	**338**	Pg		**Pg**	**21 25 59.4**	**+1.3**
	0.7nm,0.2s							
IZV				Lg		Lg	21 26 36.1	
	6.1nm,0.4s							
IZV	**Izvestkoviy**	**2.80**	**338**	*e*P		**Pg**	**21 25 58.8**	**+0.7**
	1.4nm,0.3s							
IZV				*e*S		**Sg**	**21 26 34.7**	**+0.4**
	6.1nm,0.4s							
MDOK	**Medeo**	**2.81**	**345**	Pg		**Pb**	**21 25 55.3**	**+0.4**
	2.3nm,0.9s							
MDOK				⇑Lg		Lg	21 26 34.5	
	10.0nm,0.6s							
MDOK	**Medeo**	**2.81**	**345**	*e*P		**Pg**	**21 25 58.4**	**+0.1**
	1.7nm,0.5s							
MDOK				*e*S		**Sg**	**21 26 34.4**	**-0.3**
	10nm,0.6s							
KURS	**Kuram**	**3.03**	**1**	*e*P		**Pg**	**21 26 01.6**	**-0.9**
	2.2nm,0.6s							
KURS				*e*S		**Sg**	**21 26 40.5**	**-1.2**
	3.8nm,0.7s							
KPKS	**Kokpek**	**3.04**	**8**	*e*P		**Pb**	**21 26 00.2**	**+1.3**
	3.6nm,0.2s							
KPKS				*e*S		**Sb**	**21 26 37.2**	**+1.0**
	6.1nm,0.5s							
TKM2	**Tokmak 2**	**3.08**	**324**	⇑Pg		**Pb**	**21 26 00.4**	**+0.7**
	0.8nm,0.8s							
TKM2				⇑Lg		Lg	21 26 42.8	
	2.1nm,0.7s							
UCH	**Uchtor**	**3.21**	**305**	⇓*i*P		**Pb**	**21 25 59.9**	**-2.1**
	baz=4.0							
UCH				⇓*i*S		**Sb**	**21 26 39.3**	**-2.1**
	baz=4.0							
KBK	**Karagaybulak**	**3.21**	**314**	⇑*e*P		**Pb**	**21 25 59.7**	**-2.1**
	baz=13							
KBK				⇑*i*S		**Sb**	**21 26 38.9**	**-2.3**
	baz=13							
KTBS	**Karatobe**	**3.42**	**343**	Pg		**Pg**	**21 26 08.2**	**-1.6**
	1.0nm,0.7s							
KTBS				Lg		Lg	21 26 51.3	
	4.9nm,0.4s							
KTBS	**Karatobe**	**3.42**	**343**	*e*P		**Pg**	**21 26 08.2**	**-1.6**
	0.8nm,0.5s							
KTBS				*e*S		**Sg**	**21 26 51.3**	**-2.8**
	4.9nm,0.4s							
AAK	**Ala-Archa**	**3.46**	**310**	⇓Pg		**Pb**	**21 26 09.2**	**+3.2**
	1.2nm,0.7s							
AAK				⇓Lg		Lg	21 26 54.0	
	2.4nm,0.7s							

KRSC 27 21:32:26.2±10.0, 55°.15N×153°.76E, h536km±10km, ML4.1, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**2.85**	**119**	*e*P		P	21 33 42.6	+3.4
APC	**Apacha**	**3.00**	**137**	*e*P		P	21 33 42.7	+2.7
KRX	**Arik**	**3.38**	**120**	*e*P		P	21 33 45.3	+2.6
KOK	**Koryaka**	**3.42**	**121**	*e*P		P	21 33 45.6	+2.7
AVH	**Avacha**	**3.48**	**121**	*e*P		P	21 33 46.4	+3.1
SMAR	**Somma**	**3.52**	**121**	*e*P		P	21 33 46.2	+2.5
SDLR	**Sedlovina**	**3.55**	**120**	*e*P		P	21 33 45.8	+2.0
UGLR	**Uglovaya**	**3.56**	**121**	*e*P		P	21 33 46.6	+2.7
RUS	**Russkaya**	**3.92**	**132**	*e*P		P	21 33 46.6	+0.2
RUS				*e*S		S	21 34 51.6	-0.3
SPN	**Mys Shipunski**	**4.22**	**117**	*e*P		P	21 33 48.4	-0.3
SPN				*e*S		S	21 34 54.8	-1.3
KDTR	**Khodutka, Kamc**	**4.23**	**141**	*e*P		P	21 33 48.2	-0.6
KDTR				*e*S		S	21 34 55.1	-1.1
ALID	**Alaid**	**4.43**	**165**	*e*P		P	21 33 51.6	+1.0
MKZ	**Mys Kozlova**	**4.64**	**94**	S		S	21 35 01.9	-0.4
KBTR	**Krutoberegovo**	**5.24**	**75**	*e*P		P	21 33 56.7	-0.3
KBTR				*e*S		S	21 35 09.7	-1.8
BKI	**Bering**	**7.00**	**85**	*e*S		S	21 35 43.9	+2.5

ISCJB ***27*** *21:35:14.5±0.3, 51°.47N±0°.02×16°.14E±0°.02, h0km, mb3.6/6, Error ellipse: s-maj=2.3km s-min=1.6km az=17.1*
LDG ***27*** *21:35:15.0±0.2, 51°.57N×16°.24E, h1km, Ml3.9/13, Error ellipse: s-maj=5.6km s-min=2.6km az=10.0, Suspected Mining induced.*
IPEC ***27*** *21:35:16.0±0.4, 51°.55N×16°.23E, h1km±2km, ML3.1/3, Error ellipse: s-maj=3.9km s-min=1.8km az=57.0*
IDC ***27*** *21:35:16.4±0.6, 51°.49N×16°.08E, h0km, mb3.6/6, mb1 3.7/14, mb1mx3.5/45, mbtmp3.5/14, ML3.2/8, Error ellipse: s-maj=9.5km s-min=6.2km az=95.0*
BGR ***27*** *21:35:17.1±0.3, 51°.53N×16°.16E, h1km, ML3.8/9, Error ellipse: s-maj=3.3km s-min=2.2km az=34.0*
PRU ***27*** *21:35:18.9±0.0, 51°.44N×16°.14E, h0km, Felt In Harrachov*
ISC 27 21:35:14.3±0.5, 51°.58N±0°.02×16°.16E±0°.02, h0km, n145, σ1§99/223, mb3.7/6, 8C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**173**	*e*Pg		**Pb**	**21 35 29.9**	**-0.2**
KSP				*i* Sg		**Sg**	**21 35 39.2**	**+1.2**
KSP	**Ksiaz**	**0.74**	**173**	*e*Pg		**Pb**	**21 35 30.0**	**0.0**
	SNR=67							
KSP				*e*Sg		**Sg**	**21 35 39.3**	**+1.2**
	SNR=5.9							
UPC	**Upice**	**1.08**	**185**	*e*PG		**Pb**	**21 35 36.3**	**+0.5**
UPC				*e*SG		**Sg**	**21 35 49.7**	**+0.9**
	comp=Z,397nm,0.5s							
DPC	**Dobruska-Polom**	**1.23**	**175**	*e*Pg		**Pb**	**21 35 38.8**	**+0.4**
	SNR=149							
DPC	**Dobruska-Polom**	**1.23**	**175**	*e*PG		**Pb**	**21 35 38.9**	**+0.4**
DPC				*e*SG		**Sg**	**21 35 53.6**	**-0.3**
	comp=Z,188nm,0.4s							
PVCC	**Panska Ves**	**1.45**	**224**	*e*Pn		**Pb**	**21 35 42.8**	**+0.6**
	SNR=17							
PVCC				*e*Pg		**Pg**	**21 35 43.5**	**+1.4**
	SNR=192							
PVCC				*e*Sg		**Sn**	**21 36 03.1**	**+1.6**
	SNR=5.8							
PVCC	**Panska Ves**	**1.45**	**224**	*e*PG		**Pb**	**21 35 42.7**	**+0.5**
PVCC				*e*SG		**Sn**	**21 36 02.4**	**+0.9**
	comp=Z,677nm,0.2s							
KRLC	**Kraliky**	**1.56**	**165**	*e*PG		**Pn**	**21 35 44.0**	**+0.7**
KRLC				*e*SG		**Sg**	**21 36 04.8**	**+0.6**
	comp=Z,91nm,0.7s							
BRG	**Berggiesshubel**	**1.56**	**244**	PG		**Pg**	**21 35 45.8**	**+1.6**
BRG	**Berggiesshubel**	**1.56**	**244**	PN		**Pn**	**21 35 43.8**	**+0.5**
BRG	**Berggiesshubel**	**1.56**	**244**	*e*Pn		**Pn**	**21 35 44.0**	**+0.7**
	SNR=6.1							
BRG				*e*Pg		**Pg**	**21 35 45.6**	**+1.4**
	SNR=98							
BRG				*e*Sg		**Sg**	**21 36 06.1**	**+1.7**
	SNR=9.9							
RUE	**Ruedersdorf**	**1.72**	**303**	*e*Pn		**Pb**	**21 35 46.8**	**0.0**
	SNR=49							
RUE				*e*Sg		**Sg**	**21 36 13.0**	**+3.3**
	SNR=5.4							
GOPC	**GO Pecny, Ondr**	**1.88**	**208**	*e*PN		**Pn**	**21 35 48.2**	**+0.5**
GOPC				*e*PG		**Pb**	**21 35 50.2**	**+0.7**
GOPC				*e*SG		**Sb**	**21 36 14.6**	**+1.1**
	comp=Z,165nm,0.8s							
FBE	**Freiberg**	**1.88**	**251**	*e*Pn		**Pn**	**21 35 48.6**	**+1.0**
	SNR=3.0							
PRU	**Pruhonice**	**1.89**	**213**	*e*Pn		**Pn**	**21 35 48.6**	**+0.7**
	SNR=50							
PRU				*e*Sg		**Sb**	**21 36 14.9**	**+1.0**
	SNR=5.5							
PRU	**Pruhonice**	**1.89**	**213**	*e*PG		**Pb**	**21 35 50.4**	**+0.7**
PRU				*e*SG		**Sb**	**21 36 14.9**	**+1.0**
	comp=Z,386nm,0.3s							
CLL	**Collm**	**1.99**	**263**	*e*Pn		**Pn**	**21 35 50.0**	**+0.8**
CLL				*e*Pg		**Pg**	**21 35 53.0**	**+0.5**
CLL				*i*			21 35 56.1	
CLL				*i* Sg		**Sg**	**21 36 19.9**	**+1.6**
	comp=Z,274nm,0.5s							
CLL	**Collm**	**1.99**	**263**	*e*Pn		**Pn**	**21 35 50.0**	**+0.8**
	SNR=28							
CLL				*e*Pg		**Pg**	**21 35 53.7**	**+1.2**
	SNR=14							
MORC	**Moravsky Berou**	**2.01**	**153**	⇓*i*P		**Pn**	**21 35 50.5**	**+1.0**
MORC	**Moravsky Berou**	**2.01**	**153**	S		**Sn**	**21 36 16.1**	**+0.8**
MORC	**Moravsky Berou**	**2.01**	**153**	*e*PN		**Pn**	**21 35 50.1**	**+0.6**
MORC

	SNR=13					
TANN			eSg		Sg	21 36 39.1 +1.0
	SNR=5.7					
OJC	**Ojcow**	**2.68 119**	ePn		Pn	21 35 58.1 -0.6
OJC			ePg		Pg	21 36 05.7 +0.1
OJC			eSn		Sn	21 36 27.3 -4.5
OJC			eSg		Sg	21 36 40.5 +0.3
NKC	**Novy Kostel**	**2.71 242**	ePn		Pn	21 36 00.5 +1.5
	SNR=17					
NKC	**Novy Kostel**	**2.71 242**	ePn		Pn	21 36 00.3 +1.2
NKC			ePG		Pg	21 36 06.5 +0.3
NKC			eSG		Sg	21 36 41.9 +0.7
	comp=Z,316nm,0.3s					
GUNZ	**Gunzen**	**2.71 245**	ePn		Pn	21 36 00.5 +1.4
	SNR=7.0					
GUNZ			eSg		Sg	21 36 42.3 +1.0
	SNR=7.5					
WERN	**Wernitzgruen**	**2.72 243**	ePn		Pn	21 36 00.7 +1.4
	SNR=9.7					
PLN	**Plauen**	**2.75 248**	ePn		Pn	21 36 00.9 +1.2
	SNR=6.4					
NEUB	**Neuenburg**	**2.77 264**	eSg		Sg	21 36 45.4 +2.2
	SNR=5.4					
JAVC	**Velka Javorina**	**2.89 160**	ePN		Pn	21 36 03.7 +2.1
JAVC	**Velka Javorina**	**2.89 160**	ePn		Pn	21 36 04.0 +2.4
	SNR=14					
KHC	**Kasperske Hory**	**2.95 215**	ePn		Pn	21 36 03.4 +0.9
	SNR=29					
KHC	**Kasperske Hory**	**2.95 215**	ePN		Pn	21 36 03.3 +0.8
KHC			ePG		Pg	21 36 09.9 -1.0
KHC			eSG		Sg	21 36 47.9 -1.3
	comp=Z,77nm,0.4s					
MOX	**Moxa**	**3.01 254**	ePn		Pn	21 36 04.3 +1.1
	SNR=5.1					
MOX			eSg		Sg	21 36 52.9 +1.9
	SNR=7.7					
MANZ	**Manzenberg**	**3.02 240**	ePn		Pn	21 36 05.0 +1.6
	SNR=15					
GEC2	**GERESS Array S**	**3.16 211**	ePn		Pn	21 36 06.5 +1.2
	SNR=16					
GERES	**GERESS Array B**	**3.16 211**	Pn		Pn	21 36 06.3 +1.0
	comp=Z,3.8nm,0.3s,baz=32,slow=13,SNR=115					
GERES			Lg		Lg	21 36 53.4
	comp=Z,19nm,0.3s,baz=47,slow=32,SNR=9.1					
WET	**Wettzell**	**3.22 222**	ePn		Pn	21 36 07.2 +1.1
	SNR=14					
LANS	**Liptovska Anna**	**3.22 138**	ePN		Pn	21 36 07.9 +1.7
LANS			ePG		Pg	21 36 16.8 +0.7
LANS			eSG		Sg	21 36 57.7 -0.1
MODS	**Modra-Piesok**	**3.29 167**	ePN		Pn	21 36 08.0 +0.9
MODS			ePG		Pg	21 36 17.0 -0.3
MODS			eSG		Sg	21 36 59.4 -0.5
KOLL	**Kolacno**	**3.33 153**	ePN		Pn	21 36 08.8 +1.2
NIE	**Niedzica**	**3.42 128**	ePn		Pn	21 36 12.0 +3.1
NIE			ePg		Pg	21 36 20.1 +0.3
NIE			eSg		Sg	21 37 04.6 +0.6
ZST	**Bratislava**	**3.44 169**	ePG		Pg	21 36 20.0 -0.2
ZST			eSG		Sg	21 37 02.8 -2.0
VYHS	**Vyhne**	**3.54 150**	ePN		Pn	21 36 11.6 +1.1
VYHS			ePG		Pg	21 36 23.2 +1.1
VYHS			eSG		Sg	21 37 09.8 +1.9
CLZ	**Clausthal**	**3.61 276**	ePn		Pn	21 36 13.6 +2.1
	SNR=10					
BSD	**Bornholm Skovb**	**3.62 349**	iP		Pn	21 36 12.4 +0.8
BSD			iS		Sn	21 36 51.8 -3.2
CONA	**Conrad Observa**	**3.66 183**	ePn		Pn	21 36 13.5 +1.3
	comp=Z,4.5nm,0.3s,SNR=8.2					
CONA			Sg		Sg	21 37 10.0 -1.7
	comp=Z,89nm,0.7s					
GRF	**Grafenberg Arr**	**3.67 241**	ePn		Pn	21 36 13.7 +1.5
	SNR=7.3					
NRDL	**Niedersach Rie**	**3.85 286**	ePn		Pn	21 36 17.2 +2.5
	SNR=3.2					
STHS	**Stebnicka Huta**	**3.90 122**	ePG		Pg	21 36 31.5 +2.4
STHS			eSG		Sg	21 37 21.7 +2.1
SOP	**Sopron**	**3.91 176**	ePn		Pn	21 36 14.1 -1.5
SOP			ePg		Pg	21 36 29.0 -0.1
SOP			eSg		Sg	21 37 19.1 -0.7
MOA	**Molln**	**3.93 199**	ePn		Pn	21 36 17.3 +1.4
	comp=Z,21nm,0.5s,SNR=19					
MOA			Sg		Sg	21 37 20.3 -0.2
	comp=Z,32nm,0.3s					
KECS	**Kecovo**	**4.17 136**	ePG		Pg	21 36 36.3 +2.1
KECS			eSG		Sg	21 37 32.4 +4.2
BSEG	**Bad Segeberg**	**4.26 306**	ePn		Pn	21 36 21.0 +0.6
	SNR=5.8					
ARSA	**Arzberg**	**4.35 186**	ePn		Pn	21 36 23.8 +2.1
	comp=Z,3.7nm,0.3s					
ARSA			Pg		Pg	21 36 38.6 +0.9
	comp=Z,6.0nm,0.5s					
ARSA			Sg		Sg	21 37 34.7 +0.7
	comp=Z,41nm,0.7s					
PSZ	**Piszkesteto**	**4.39 145**	⇑iP		Pn	21 36 23.8 +1.5
PSZ	**Piszkesteto**	**4.39 145**	ePn		Pn	21 36 23.1 +0.8
PSZ			eSg		Sg	21 37 39.1 +3.8
CSKK	**Cskako**	**4.44 161**	ePn		Pn	21 36 23.1 +0.3
KOLS	**Kolonicke sedl**	**4.73 122**	ePN		Pn	21 36 28.4 +1.5
KOLS			ePG		Pg	21 36 46.6 +1.6
KOLS			eSG		Sg	21 37 51.1 +4.8
TIH	**Tihany**	**4.82 166**	ePn		Pn	21 36 29.0 +1.0
KBA	**Koelnbreinsper**	**4.86 203**	ePn		Pn	21 36 30.6 +1.7
	comp=Z,17nm,0.5s,SNR=13					
KBA			Sg		Sg	21 37 54.1 +3.6
	comp=Z,30nm,0.6s					
SOKA	**Soboth**	**4.96 189**	ePn		Pn	21 36 32.7 +2.6
	comp=Z,1.5nm,0.4s					
SOKA			Pg		Pg	21 36 48.3 -1.0
	comp=Z,4.1nm,0.6s					
SOKA			Sg		Sg	21 37 56.8 +3.3
	comp=Z,14nm,0.5s					
BEHE	**Becsehely**	**5.13 175**	ePn		Pn	21 36 37.0 +4.7
BEHE			eSg		Sg	21 38 02.1 +3.1
OBKA	**Obir**	**5.18 192**	ePn		Pn	21 36 35.4 +2.3
	comp=Z,2.3nm,0.5s					
OBKA			Sg		Sg	21 38 02.1 +1.4
	comp=Z,28nm,0.6s					
WATA	**Walderalm**	**5.19 217**	ePn		Pn	21 36 35.6 +2.3
	comp=Z,14nm,0.5s,SNR=11					
MYKA	**Terra Mystica**	**5.22 199**	Pn		Pn	21 36 35.5 +1.9
	comp=Z,2.6nm,0.6s					
MYKA			Sg		Sg	21 38 02.7 +0.8
	comp=Z,17nm,0.7s					
WTTA	**Wattenberg**	**5.23 216**	ePn		Pn	21 36 35.2 +1.3
	comp=Z,4.3nm,0.3s,SNR=5.6					
WTTA			Sg		Sg	21 38 03.1 +0.9
	comp=Z,21nm,0.5s					
MOTA	**Moosalm**	**5.37 220**	ePn		Pn	21 36 37.0 +1.2
	comp=Z,6.5nm,0.6s,SNR=9.3					
TRPA	**Tarpa**	**5.38 127**	⇑iP		Pn	21 36 37.8 +2.1
TRPA	**Tarpa**	**5.38 127**	ePn		Pn	21 36 37.1 +1.3
TRPA			ePg		Pg	21 36 58.0 +0.7
TRPA			Sn		Sn	21 37 33.0 -5.3
ABTA	**Abfaltersbach**	**5.39 208**	ePn		Pn	21 36 38.1 +2.1
	comp=Z,8.5nm,0.8s,SNR=6.4					
ABTA			Sg		Sg	21 38 08.1 +0.6
	comp=Z,23nm,0.7s					
RETA	**Reutte**	**5.39 223**	Sg		Sg	21 38 09.2 +1.7
	comp=Z,16nm,0.6s					
SQTA	**Sankt Quirin**	**5.43 218**	ePn		Pn	21 36 38.3 +1.8
	comp=Z,6.4nm,0.3s,SNR=7.3					
SQTA			eSn		Sn	21 37 40.3 +0.6
	comp=Z,8.6nm,0.4s					
MORH	**Mrgy, Hungar**	**5.61 162**	ePn		Pn	21 36 39.0 +0.1
PBUR	**Paburg**	**5.62 35**	eP		Pg	21 37 05.1 +3.3
LTVH	**Ltavrtes, Hu**	**5.62 136**	ePn		Pn	21 36 42.1 +3.0
FETA	**Feichten**	**5.78 220**	ePn		Pn	21 36 43.4 +2.0
	comp=Z,1.6nm,0.4s					
FETA			Sg		Sg	21 38 23.2 +3.3
	comp=Z,7.2nm,0.5s					
DAVA	**Damuels**	**5.93 226**	Pn		Pn	21 36 44.4 +0.9
	comp=Z,3.6nm,0.4s					
DAVA			Sg		Sg	21 38 29.6 +4.8
	comp=Z,18nm,0.3s					
PABE	**Paberze**	**6.09 47**	eP		Pg	21 37 13.8 +2.8
DAVOX	**Davos/Dischmat**	**6.32 223**	Pn		Pn	21 36 51.0 +2.1
	comp=Z,0.7nm,0.3s,baz=41,slow=14,SNR=12					
DAVOX			Lg		Lg	21 38 34.0
	comp=Z,1.1nm,0.3s,baz=138,slow=15,SNR=3.1					
DRGR		**6.43 136**	⇑iP		Pn	21 36 52.2 +1.9
SIRR	**Siria**	**6.43 144**	⇑iP		Pn	21 36 51.2 +1.0
CDF	**Champ du Feu**	**6.54 245**	ePn		Pn	21 36 51.7 -0.1
CDF			eSg		Sg	21 38 40.9 -3.5
	comp=Z,44nm,0.7s					
BZS	**Buzias**	**6.98 147**	⇑iP		Pn	21 36 59.4 +1.7
IIGN	**Ignalina**	**7.10 54**	eP		Pg	21 37 30.4 +0.2
BURAR	**Bucovina Array**	**7.10 120**	⇑iP		Pn	21 37 01.3 +1.8
HINF	**Hinteralfeld**	**7.11 242**	ePn		Pn	21 36 59.1 -0.5
HINF	**Hinteralfeld**	**7.11 242**	ePg		Pg	21 37 28.6 -1.9
HINF			eSg		Sg	21 38 58.8 -3.7
	comp=Z,24nm,0.6s					
ISAL	**Salakas**	**7.16 52**	eP		Pg	21 37 37.0 +5.7
HAU	**Haudompre**	**7.29 244**	ePn		Pn	21 37 00.7 -1.3
HAU	**Haudompre**	**7.29 244**	ePg		Pg	21 37 32.4 -1.4
HAU			eSg		Sg	21 39 02.3 -5.8
	comp=Z,23nm,0.6s					
IZAR	**Zarasai**	**7.30 51**	eP		Pg	21 37 39.8 +5.7
GIVF	**Givet**	**7.33 263**	ePn		Pn	21 37 03.8 +1.3
GIVF			eSg		Sg	21 39 07.2 -2.3
	comp=Z,44nm,0.9s					
IDID	**Didziasalis**	**7.34 55**	eP		Pg	21 37 30.8 -4.1
PAGF	**Fort de Pagny**	**7.36 250**	ePn		Pn	21 37 03.0 0.0
PAGF			eSg		Sg	21 39 08.9 -1.7
	comp=Z,31nm,0.8s					
GZR	**Gura Zlata**	**7.59 142**	⇑iP		Pn	21 37 07.3 +1.1
BAIF	**Baives**	**7.72 263**	eSg		Sg	21 39 18.7 -3.4
	comp=Z,51nm,1.1s					
MDVR	**Moldovita**	**7.75 149**	⇑iP		Pn	21 37 09.4 +1.1
MEZF	**Maizieres J'vi**	**7.78 251**	ePn		Pn	21 37 09.7 +0.9
MEZF			eSg		Sg	21 39 20.4 -3.7
	comp=Z,35nm,1.0s					
SFTF	**Sexfontaines**	**7.93 249**	ePn		Pn	21 37 12.0 +1.2
	baz=68					
SFTF			eSn		Sn	21 38 35.2 -6.0
SFTF			eSg		Sg	21 39 21.6 -7.3
	comp=Z,18nm,0.7s,baz=69					
CABF	**La Chapelle**	**8.27 237**	eSg		Sg	21 39 33.9 -5.7
	comp=Z,14nm,0.6s					
AKASG	**Malin Array Be**	**8.27 91**	Pn		Pn	21 37 14.8 -0.6
	comp=Z,2.0nm,0.3s,baz=280,slow=12,SNR=12					
AKASG			Sn		Sn	21 38 45.6 -3.8
	comp=Z,1.0nm,0.3s,baz=272,slow=22,SNR=3.9					
AKASG			Lg		Lg	21 39 41.0
	comp=Z,0.3nm,0.3s,baz=279,slow=26,SNR=3.2					
HFS	**Hagfors**	**8.69 352**	Pn		Pn	21 37 21.8 +0.7
	comp=Z,0.2nm,0.3s,baz=173,slow=13,SNR=7.0					
HFS			Sn		Sn	21 38 57.9 -1.7
	comp=Z,0.3nm,0.3s,baz=179,slow=27,SNR=3.0					
HFS			Lg		Lg	21 39 54.5
	comp=Z,0.4nm,0.3s,baz=161,slow=27,SNR=3.3					
LPL	**La Plagne**	**8.71 230**	ePn		Pn	21 37 23.4 +1.8
LPG	**La Plagne**	**8.71 229**	ePn		Pn	21 37 22.6 +0.8
LOR	**Lormes**	**9.10 247**	ePn		Pn	21 37 26.5 -0.3
LOR			eSg		Sn	21 40 01.8 +52
	comp=Z,23nm,1.0s					
MBDF	**Montbardon**	**9.29 226**	ePn		Pn	21 37 29.9 +0.4
SSF	**Saint Saulge**	**9.41 246**	ePn		Pn	21 37 30.9 -0.2
SSF			eSg		Sn	21 40 11.4 +54
	comp=Z,14nm,0.8s					
SMF	**Signal de Mont**	**9.46 243**	eSg		Sn	21 40 11.4 +53
	comp=Z,52nm,1.2s					
ORIF	**Oris-en-Rattie**	**9.55 230**	ePn		Pn	21 37 32.0 -1.1
SBF	**Sospel**	**9.70 221**	ePn		Pn	21 37 36.5 +1.5
HYF	**Humbligny**	**9.80 249**	eSg		Sn	21 40 20.9 +54
NOA	**NORSAR Array B**	**9.87 346**	Pn		Pn	21 37 36.6 -0.8
	comp=Z,0.0nm,0.3s,baz=164,slow=12,SNR=3.8					
NOA			Sn		Sn	21 39 27.7 -1.1
	comp=Z,0.0nm,0.3s,baz=166,slow=15,SNR=2.6					
NOA			Lg		Lg	21 40 31.4
	comp=Z,0.0nm,0.3s,baz=1.3,slow=19,SNR=4.0					
BGF	**Bois d'Agland**	**10.07 245**	ePn		Pn	21 37 40.0 -0.1
BGF			eSg		Sn	21 40 30.4 +57
	comp=Z,9.1nm,0.6s					
PGF	**Pioggiola**	**10.26 211**	ePn		Pn	21 37 42.2 -0.6
FRF	**La Foret Royal**	**10.27 222**	ePn		Pn	21 37 43.5 +0.7
LMR	**La Mourre**	**10.51 222**	ePn		Pn	21 37 47.2 +1.1
FLN	**La Foliniere**	**11.04 262**	ePn		Pn	21 37 52.4 -0.9
FLN	**La Foliniere**	**11.04 262**	ePg		Pn	21 38 40.4 +47
FINES	**FINESS Array B**	**11.29 25**	Pn		Pn	21 37 56.2 -0.5
	comp=Z,0.3nm,0.3s,baz=190,slow=11,SNR=10					
FINES			Sn		Sn	21 39 57.2 -6.2
	comp=Z,0.5nm,0.3s,baz=216,slow=21,SNR=5.6					
FINES			Lg		Lg	21 41 16.5
	comp=Z,0.1nm,0.3s,baz=202,slow=22,SNR=2.6					
RJF	**Les Rejaudoux**	**11.56 243**	ePn		Pn	21 37 58.9 -1.6
EKA	**Eskdalemuir Ar**	**12.10 296**	Pn		Pn	21 38 05.3 -2.6
	baz=103,slow=14,SNR=7.2					
VAE	**Valguarnera**	**14.15 186**	Pn		Pn	21 38 32.1 -3.8
	comp=Z,1.1nm,0.3s,baz=89,slow=24,SNR=6.1					
ARCES	**ARCESS Array B**	**18.55 10**	Pn		P	21 39 29.8 -2.4
	comp=Z,0.4nm,0.3s,baz=192,slow=11,SNR=15					
ARU	**Arti**	**25.08 62**	P		P	21 40 43.1 +2.9
	comp=Z,0.6nm,0.5s,baz=257,slow=7.2,SNR=4.4					
AKTO	**Aktyubinsk**	**26.11 76**	P		P	21 40 50.4 +0.8
	comp=Z,1.0nm,0.6s,baz=293,slow=13,SNR=2.9					
MKAR	**Makanchi Array**	**42.16 69**	P		P	21 43 10.4 +2.1
	comp=Z,0.2nm,0.4s,baz=308,slow=7.1,SNR=3.2					
YKA	**Yellowknife Ar**	**59.81 336**	P		P	21 45 23.1 +2.4
	comp=Z,0.7nm,0.5s,baz=25,slow=6.9,SNR=8.5					
CMAR	**Chiang Mai Arr**	**71.32 84**	P		P	21 46 38.0 +2.2
	comp=Z,0.4nm,0.6s,baz=319,slow=6.2,SNR=3.6					
PDAR	**Pinedale Array**	**74.91 322**	P		P	21 46 59.1 +2.1
	comp=Z,0.3nm,0.6s,baz=98,slow=6.1,SNR=4.6					

*ISCJB **27** 21:38:19.7±0.8, 36°.64N±0°.05×27°.15E±0°.05, h132km±7km, Error ellipse: s-maj=8.7km s-min=6.7km az=150.5*
*ISK **27** 21:38:19.7, 36°.67N×27°.17E, h133km, ML2.5/10*
*ATH **27** 21:38:19.0, 36°.63N×27°.15E, h140km±7km, ML2.8/7, Error ellipse: s-maj=7.9km s-min=2.4km az=94.0*

ISC 27 21:38:19.6±1.8, 36°.66N±0°.05×27°.18E±0°.05, h135km±12km, n39, σ0°69/44, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.33**	**77**	PG		**21 38 38.7**	**+0.2**
DAT				SG		**21 38 52.6**	**-0.3**
BODT	**Bodrum**	**0.42**	**14**	PG		**21 38 39.1**	**+0.3**
BODT				SG		**21 38 52.9**	**-0.5**
BODT	**Bodrum**	**0.42**	**14**	P		**21 38 39.2**	**+0.4**
ARG	**Arkhangelos**	**0.88**	**120**	PG		**21 38 42.4**	**+0.5**
ARG				SG		**21 38 58.8**	**+0.1**
ARG	**Arkhangelos**	**0.88**	**120**	P		**21 38 42.3**	**+0.5**
ARG	**Arkhangelos**	**0.88**	**120**	P		**21 38 42.4**	**+0.5**
ARG				AML	AML	21 38 59.4	
	comp=E,511μm,0.4s						
ARG				AML	AML	21 39 00.2	
	comp=N,325μm,0.2s						
AMGA	**Amorgos Island**	**1.05**	**280**	P		**21 38 44.1**	**+0.7**
AMGA	**Amorgos Island**	**1.05**	**280**	P		**21 38 44.1**	**+0.7**
SMG	**Samos**	**1.08**	**345**	P		**21 38 44.0**	**+0.2**
KARP	**Karpathos**	**1.11**	**181**	PN		**21 38 44.5**	**+0.5**
KARP				SN		**21 39 02.4**	**-0.2**
KARP	**Karpathos**	**1.11**	**181**	P		**21 38 44.1**	**+0.1**
KARP	**Karpathos**	**1.11**	**181**	P		**21 38 44.1**	**+0.1**
KARP				AML	AML	21 39 05.1	
	comp=N,525μm,0.2s						
KARP				AML	AML	21 39 05.8	
	comp=E,418μm,0.1s						
TURN	**Turunc**	**1.16**	**79**	PG		**21 38 41.9**	**-2.5**
ANAF	**Anafi Island**	**1.18**	**256**	P		**21 38 45.1**	**+0.5**
ANAF	**Anafi Island**	**1.18**	**256**	P		**21 38 45.1**	**+0.5**
DALY	**Dalyan (Mula)**	**1.19**	**82**	PN		**21 38 45.2**	**+0.5**
APE	**Apeiranthos**	**1.39**	**288**	P		**21 38 47.8**	**+1.0**
APE	**Apeiranthos**	**1.39**	**288**	P		**21 38 47.7**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.40**	**23**	PN		**21 38 47.3**	**+0.2**
THR3	**Thira Island,**	**1.46**	**261**	P		**21 38 47.7**	**+0.3**
THR6	**Thira Island,**	**1.47**	**259**	P		**21 38 48.4**	**+0.7**
FETY	**Fethiye**	**1.53**	**90**	PN		**21 38 48.9**	**+0.6**
ZKR	**Zakros**	**1.73**	**207**	P		**21 38 51.5**	**+0.9**
ZKR	**Zakros**	**1.73**	**207**	P		**21 38 51.0**	**+0.4**
ZKR				S		**21 39 13.1**	**-1.2**
ZKR				AML	AML	21 39 15.9	
	comp=N,148μm,0.3s						
ZKR				AML	AML	21 39 16.9	
	comp=E,328μm,0.2s						
NPS	**Neapolis**	**1.89**	**223**	P		**21 38 52.6**	**+0.1**
NPS	**Neapolis**	**1.89**	**223**	P		**21 38 52.3**	**-0.2**
NPS				AML	AML	21 39 17.7	
	comp=E,692μm,0.4s						
NPS				AML	AML	21 39 18.3	
	comp=N,355μm,0.3s						
CHOS	**Chios island**	**1.94**	**333**	P		**21 38 53.3**	**+0.1**
AKAS	**Kas**	**2.00**	**102**	PN		**21 38 54.7**	**+0.8**
LAST	**Lasithi**	**2.04**	**223**	P		**21 38 54.5**	**+0.1**
LAST	**Lasithi**	**2.04**	**223**	P		**21 38 54.4**	**+0.1**
LAST				AML	AML	21 39 20.2	
	comp=N,120μm,0.3s						
LAST				AML	AML	21 39 21.2	
	comp=E,118μm,0.2s						
ELL	**Elmali**	**2.19**	**87**	PN		**21 38 57.3**	**+1.1**
SIVA	**Sivas**	**2.53**	**230**	P		**21 39 01.3**	**+1.0**
SIVA	**Sivas**	**2.53**	**230**	P		**21 39 01.2**	**+0.8**
SIVA				AML	AML	21 39 35.2	
	comp=E,243μm,0.5s						
SIVA				AML	AML	21 39 38.6	
	comp=N,128μm,0.3s						
VAM	**Vamos**	**2.72**	**244**	P		**21 39 02.8**	**0.0**
IMMV	**Iera Moni Meta**	**2.86**	**246**	P		**21 39 04.8**	**+0.3**
GVD	**Gavdhos**	**3.10**	**235**	P		**21 39 07.0**	**-0.7**
GVD				AML	AML	21 39 49.3	
	comp=N,78μm,0.3s						
GVD				AML	AML	21 39 50.0	
	comp=E,97μm,0.4s						
ANKY	**Antikythira Is**	**3.23**	**257**	P		**21 39 09.1**	**-0.2**
KYTH	**Kithira**	**3.36**	**265**	P		**21 39 11.4**	**+0.4**
VLI	**Veliai**	**3.41**	**272**	P		**21 39 11.6**	**0.0**

*IDC **27** 21:42:26.9±0.7, 15°.28S×173°.14W, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.1/32, mbtmp4.0/11, MS3.4/3, Ms1 3.4/3, ms1mx3.1/34, Error ellipse: s-maj=33.2km s-min=16.5km az=129.0*
*NEIC **27** 21:42:28.1±2.6, 15°.22S×173°.22W, h10km±4km, mb4.5/10, Error ellipse: s-maj=24.7km s-min=16.4km az=102.0*

ISC 27 21:42:30.7±0.5, 15°.29S±0°.07×173°.0W±0°.1, h29km, n41, σ1°70/34, mb4.1/15, 4C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.75**	**143**	ePn		**21 43 42.4**	**+2.0**
NIUE				eSn		**21 44 29.8**	**-4.8**
KNTN	**Kanton**	**12.50**	**6**	ePn		**21 45 23.2**	**-3.4**
KNTN				eSn		21 47 29.2	-16
RAR	**Rarotonga**	**13.84**	**117**	LR		21 49 32.4	
	comp=Z,114nm,19.0s,baz=292,slow=30						
RAO	**Raoul Island**	**14.63**	**197**	ePn		**21 45 56.5**	**+0.8**
DZM	**Mont Dzumac**	**20.63**	**248**	P		**21 47 08.3**	**+0.3**
	8.2nm,1.0s,baz=306,slow=18,SNR=2.2						
URZ	**Urewera**	**24.50**	**199**	eP		**21 47 45.9**	**-1.6**
	27nm,1.1s						
URZ	**Urewera**	**24.50**	**199**	P		**21 47 46.2**	**-1.3**
	8.0nm,0.7s,baz=254,slow=20,SNR=2.7						
URZ				LR	LR	21 56 08.9	
	comp=Z,131nm,19.6s,baz=344,slow=34						
BKZ	**Black Stump Fm**	**25.52**	**199**	eP		**21 47 57.5**	**+0.7**
	7.6nm,1.0s						
HNR	**Honiara**	**27.08**	**279**	LR	LR	21 56 52.9	
	comp=Z,89nm,18.4s,baz=134,slow=32						
H11S2	**WAKE ISLAND Hy**	**39.09**	**328**	T		22 30 40.4	
	baz=146,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**39.10**	**328**	T		22 30 36.4	
	baz=146,slow=76,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**39.10**	**328**	T		22 30 37.8	
	baz=146,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**40.03**	**330**	T		22 31 46.0	
	baz=147,slow=76,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**40.03**	**330**	T		22 31 47.5	
	baz=147,slow=76,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**40.04**	**330**	T		22 31 47.7	
	baz=147,slow=76,SNR=5.8						
STKA	**Stephens Creek**	**44.45**	**240**	P		**21 50 38.4**	**-1.0**
	1.7nm,0.7s,baz=86,slow=10,SNR=5.0						
WR1	**Warramunga Arr**	**50.28**	**257**	eP		**21 51 23.2**	**-1.7**
WRA	**Warramunga Arr**	**50.28**	**257**	P		**21 51 23.2**	**-1.7**
	1.0nm,0.5s,baz=87,slow=8.4,SNR=7.9						
AS31	**Alice Springs**	**50.54**	**252**	eP		**21 51 23.7**	**-3.2**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**50.54**	**252**	P		**21 51 25.1**	**-1.8**
	2.4nm,0.8s,baz=86,slow=8.0,SNR=16						
VNDA	**Vanda**	**63.53**	**186**	P		**21 53 00.2**	**+2.4**
	0.9nm,0.7s,baz=11,slow=5.1,SNR=6.8						
PETK	**Petropavlovsk-**	**72.66**	**342**	P		**21 53 56.5**	**+1.1**
	4.1nm,0.9s,baz=147,slow=8.6,SNR=3.2						
PEA1	**Petropavlovsk-**	**72.66**	**342**	eP		**21 53 56.5**	**+1.0**
NV01	**Mina Array Sit**	**73.97**	**42**	eP		**21 54 04.6**	**+0.8**
NVAR	**Mina Array Bea**	**73.97**	**42**	P		**21 54 04.6**	**+0.8**
	0.6nm,0.7s,baz=257,slow=7.3,SNR=3.0						
WRH	**Wood River Hil**	**81.77**	**11**	eP		**21 54 47.4**	**+1.1**
	6.8nm,1.0s						
PD31	**Pinedale Array**	**81.91**	**42**	eP		**21 54 48.5**	**+0.7**
	0.8nm,0.9s						
PDAR	**Pinedale Array**	**81.91**	**42**	P		**21 54 48.5**	**+0.7**
	0.3nm,0.6s,baz=228,slow=4.5,SNR=3.1						
HDA	**Harding Lake**	**81.92**	**11**	eP		**21 54 47.5**	**+0.4**
	6.1nm,1.0s						
CCB	**Clear Creek Bu**	**81.98**	**11**	eP		**21 54 48.4**	**+1.0**
	5.8nm,0.8s						
ILAR	**Eielson Array**	**82.26**	**11**	P		**21 54 49.8**	**+0.9**
	1.1nm,0.7s,baz=226,slow=6.5,SNR=14						
YKA	**Yellowknife Ar**	**89.83**	**23**	P		**21 55 26.9**	**+0.6**
	0.5nm,0.8s,baz=232,slow=5.0,SNR=7.1						
YKB5	**Yellowknife Ar**	**89.83**	**23**	eP		**21 55 26.9**	**+0.6**
CLL	**Collm**	**143.75**	**354**	iPKPdf		**22 02 05.1**	**-1.2**

	baz=63								
KBK					⇓*i*S		**Sn**	**21 55 58.1**	**+3.3**
	baz=63								
KZA	**Kyzart**	**2.98**	**74**		⇑*i*P		**Pn**	**21 55 22.2**	**+2.6**
	baz=75								
KZA					⇑*i*S		**Sb**	**21 55 59.1**	**-2.8**
	baz=75								
USP	**Ospenovka**	**3.01**	**49**		⇑*i*P		**Pn**	**21 55 22.0**	**+2.3**
	baz=50								
USP					⇑*i*S		**Sn**	**21 55 58.6**	**+2.8**
	baz=50								
NRN	**Naryn**	**3.46**	**87**		⇑*i*P		**Pn**	**21 55 28.8**	**+2.6**
	baz=88								
NRN					⇑*i*S		**Sn**	**21 56 10.5**	**+3.1**
	baz=88								
TKM2	**Tokmak 2**	**3.50**	**61**		⇑Pg		**Pb**	**21 55 35.1**	**+1.0**
	2.7nm,1.0s								
TKM2					⇓Lg		Lg	21 56 21.9	
	2.4nm,0.3s								
TKM2	**Tokmak 2**	**3.50**	**61**		⇑*i*P		**Pn**	**21 55 29.2**	**+2.5**
	baz=63								
TKM2					⇑*i*S		**Sn**	**21 56 11.1**	**+2.8**
	baz=63								
DGS	**Degeres**	**3.76**	**58**		Pg		**Pb**	**21 55 40.3**	**+1.7**
	1.3nm,0.5s								
DGS					Lg		Lg	21 56 29.7	
	2.6nm,0.5s								
DGS	**Degeres**	**3.76**	**58**		*e*P		**Pb**	**21 55 40.2**	**+1.7**
	1.3nm,0.5s								
DGS					*e*S		**Sg**	**21 56 29.8**	**-3.1**
	2.6nm,0.5s								
BTLS	**Baital**	**4.19**	**27**		Pg		**Pg**	**21 55 50.2**	**-1.9**
	0.6nm,0.2s								
BTLS					Lg		Lg	21 56 46.1	
	1.2nm,0.5s								
BTLS	**Baital**	**4.19**	**27**		*e*P		**Pg**	**21 55 50.2**	**-1.9**
	0.6nm,0.2s								
BTLS					*e*S		**Sg**	**21 56 46.1**	**-0.3**
	1.2nm,0.5s								
KTBS	**Karatobe**	**4.57**	**57**		Pg		**Pb**	**21 55 55.7**	**+3.3**
	1.3nm,0.6s								
KTBS					Lg		Lg	21 56 55.6	
	3.3nm,0.6s								
KTBS	**Karatobe**	**4.57**	**57**		*e*P		**Pb**	**21 55 55.7**	**+3.3**
	1.3nm,0.6s								
KTBS					*e*S		**Sg**	**21 56 55.6**	**-3.1**
	3.3nm,0.6s								
MDOK	**Medeo**	**4.57**	**64**		Pg		**Pg**	**21 55 56.0**	**-3.6**
MDOK					Lg		Lg	21 56 56.3	
MDOK	**Medeo**	**4.57**	**64**		*e*P		**Pg**	**21 55 56.0**	**-3.6**
MDOK					*e*S		**Sg**	**21 56 56.3**	**-2.6**
KOTS	**Kotyrbulak**	**4.64**	**64**		Pg		**Pg**	**21 55 57.9**	**-3.0**
	0.9nm,0.5s								
KOTS					Lg		Lg	21 56 59.6	
	7.3nm,0.5s								
KOTS	**Kotyrbulak**	**4.64**	**64**		*e*P		**Pg**	**21 55 57.9**	**-3.0**
	0.9nm,0.5s								
KOTS					*e*S		**Sg**	**21 56 59.6**	**-1.5**
	7.3nm,0.5s								

*DDA **27** 21:58:01.7, 41.°03N×43.°90E, h7km±5km, ML2.5*
*TIF **27** 21:58:01.9, 41.°10N×43.°98E, h20km±2km*
*ISK **27** 21:58:02.1, 41.°03N×43.°96E, h9km, ML2.2/6*
*NORS **27** 21:58:05.1±0.0, 41.°26N×43.°92E, h10km, MPVA3.3*

ISC 27 21:58:02.1±1.0, 41.°07N±0.°02×43.°98E±0.°02, h12km±10km, n43,σ0°88/74, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.34**	**304**	P	**Pg**	**21 58 09.4**	**+0.3**
BGD				S	**Sg**	**21 58 14.3**	**+0.5**
KZRT	**Kazreti**	**0.45**	**45**	P	**Pg**	**21 58 11.1**	**+0.1**
KZRT				S	**Sg**	**21 58 17.5**	**+0.5**
AKH	**Akhalkalaki**	**0.50**	**313**	P	**Pg**	**21 58 11.6**	**-0.3**
AKH				S	**Sg**	**21 58 18.2**	**-0.3**
DIGO	**Kars**	**0.80**	**215**	*i* P	**Pg**	**21 58 17.7**	**+0.1**
DIGO				*i* S	**Sg**	**21 58 27.8**	**-0.3**
KARS	**Kars**	**0.81**	**237**	PG	**Pg**	**21 58 17.7**	**-0.1**
KARS				SG	**Sg**	**21 58 28.9**	**+0.4**
BTNK	**Botanikuri**	**0.87**	**45**	P	**Pg**	**21 58 18.5**	**-0.5**
BTNK				S	**Sb**	**21 58 30.8**	**0.0**
TBLG	**Delisi**	**0.87**	**41**	P	**Pg**	**21 58 18.6**	**-0.4**
TBLG				S	**Sb**	**21 58 30.9**	**0.0**
TBLG	**Delisi**	**0.87**	**41**	*e*Pg	**Pg**	**21 58 18.6**	**-0.4**
TBLG				*e*Sg	**Sb**	**21 58 30.9**	**0.0**
SEAG	**Tbilisi Sea**	**0.93**	**42**	P	**Sg**	**21 58 31.4**	**-0.9**
EPOS	**Posof**	**1.03**	**295**	*i* P	**Pg**	**21 58 21.6**	**-0.5**
EPOS				*i* S	**Sb**	**21 58 35.7**	**+0.1**
GNI	**Garni**	**1.09**	**147**	PG	**Pg**	**21 58 23.0**	**-0.1**
GNI				SG	**Sb**	**21 58 38.1**	**+0.9**
TASB	**TASBURUN-IGDIR**	**1.10**	**169**	PG	**Pg**	**21 58 22.8**	**-0.6**
TASB				SG	**Sg**	**21 58 38.4**	**+0.6**
IGDI	**IGDIR**	**1.20**	**176**	IAML_P			
	comp=Z,101nm,0.1s						
IGDI				*i* P	**Pg**	**21 58 24.2**	**-1.0**
IGDI				*i* S	**Sg**	**21 58 40.9**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.33**	**248**	PN	**Pn**	**21 58 26.9**	**+0.2**
SRKG	**Sareki**	**1.34**	**340**	P	**Pn**	**21 58 23.8**	**-2.8**
SRKG				S	**Sb**	**21 58 42.1**	**-2.1**
GUDG	**Gudauri**	**1.44**	**15**	P	**Pg**	**21 58 29.4**	**-0.4**
GUDG				S	**Sg**	**21 58 49.5**	**+0.9**
TKB	**Tkibuli**	**1.47**	**330**	P	**Pn**	**21 58 29.3**	**+0.7**
TKB				S	**Sg**	**21 58 49.3**	**-0.3**
ARTV	**Artvin**	**1.55**	**275**	IAML_P			
	comp=Z,836nm,0.1s						
ARTV				*i* P	**Pg**	**21 58 31.5**	**-0.4**
DAGI	**Agillar**	**1.56**	**271**	IAML_P			
	comp=Z,222nm,0.3s						
DAGI				*i* P	**Pb**	**21 58 31.3**	**+0.3**
DAGI				*i* S	**Sb**	**21 58 51.0**	**+0.4**
ONI	**Oni**	**1.57**	**346**	P	**Pb**	**21 58 30.8**	**-0.2**
ONI				S	**Sb**	**21 58 50.9**	**+0.1**
ONI	**Oni**	**1.57**	**346**	*e*Pg	**Pb**	**21 58 30.8**	**-0.2**
ONI				*e*Sg	**Sb**	**21 58 50.9**	**+0.1**
EATA	**Eleskirt**	**1.66**	**224**	IAML_P			
	comp=Z,98nm,0.2s						
EATA				*i* P	**Pg**	**21 58 35.0**	**+1.1**
DDFL	**Dedoflistskaro**	**1.66**	**76**	P	**Pn**	**21 58 30.3**	**-0.8**
DDFL				S	**Sg**	**21 58 57.6**	**+2.2**
AGRB	**Hanur-Agry**	**1.67**	**207**	PN	**Pn**	**21 58 31.8**	**+0.4**
ZEI	**Tsey**	**1.72**	**358**	*e*Pg	**Pg**	**21 58 34.8**	**-0.3**
ZEI				*e*Sg	**Sg**	**21 58 57.6**	**+0.2**
DBAD	**Bademkaya**	**1.73**	**269**	IAML_P			
	comp=Z,295nm,0.1s						
DBAD				*i* P	**Pb**	**21 58 33.6**	**-0.2**
DBAD				*i* S	**Sb**	**21 58 55.6**	**+0.1**
LACR	**Lac**	**1.77**	**8**	*e*Pg	**Pn**	**21 58 33.4**	**+0.7**
LACR				*e*Sg	**Sb**	**21 58 57.6**	**+0.8**
BATM	**Batumi**	**1.80**	**288**	P	**Pb**	**21 58 35.0**	**0.0**
BATM				S	**Sg**	**21 58 59.0**	**-1.0**
BCA	**Borcka**	**1.81**	**283**	PN	**Pb**	**21 58 34.6**	**-0.6**
DIGR	**Digorskoe uzhe**	**1.85**	**351**	*e*Pg	**Pb**	**21 58 36.6**	**+0.6**
DIGR				*e*Sg	**Sg**	**21 59 00.7**	**-1.0**
LGD	**Lagodekhi**	**1.87**	**65**	P	**Pb**	**21 58 35.6**	**-0.5**
LGD				S	**Sg**	**21 59 01.7**	**-0.4**
LGD	**Lagodekhi**	**1.87**	**65**	*e*Pg	**Pb**	**21 58 35.6**	**-0.5**
LGD				*e*Sg	**Sg**	**21 59 01.7**	**-0.4**
CLDR	**Caldiran**	**1.93**	**181**	PN	**Pn**	**21 58 35.4**	**+0.5**
KORR	**Kora**	**2.02**	**2**	*e*Pg	**Pg**	**21 58 40.4**	**-0.3**
KORR				*e*Sg	**Sg**	**21 59 07.2**	**+0.3**
KMGR	**Komgaron**	**2.09**	**18**	*e*Pg	**Pg**	**21 58 41.5**	**-0.8**
ARNR	**Ardon**	**2.12**	**6**	*i* Pg	**Pb**	**21 58 41.5**	**+1.0**
LSNR	**Lesken**	**2.21**	**357**	*e*Pg	**Pb**	**21 58 42.9**	**+0.9**
BTLR	**Botlikh**	**2.31**	**46**	*e*Pg	**Pb**	**21 58 44.0**	**+0.2**
NEY	**Neytrino**	**2.37**	**337**	*e*Pn	**Pb**	**21 58 45.2**	**+0.4**
NEY				*e*Sn	**Sb**	**21 59 14.4**	**+0.4**
DVE	**Vedeno**	**2.47**	**40**	*e*Pn	**Pb**	**21 58 47.0**	**+0.5**
GROC	**Groznyy**	**2.52**	**32**	*e*Pn	**Pg**	**21 58 53.6**	**+3.1**
GROC				*e*Sn	**Sg**	**21 59 24.0**	**+0.8**
GNBR	**Gunib**	**2.60**	**59**	*e*Pn	**Pn**	**21 58 45.2**	**+1.2**
GNBR				*e*Sn	**Sb**	**21 59 19.6**	**-0.9**
AKT	**Akhty**	**2.86**	**81**	*e*Pn	**Pb**	**21 58 51.0**	**-2.1**
AKT				*e*Sn	**Sb**	**21 59 26.5**	**-1.6**

*KRSC **27** 22:02:35.2±10.0, 52.°20N×161.°31E, h58km±10km, ML4.4*
*IDC **27** 22:02:36.2±0.7, 52.°57N×160.°91E, h0km, mb3.9/20, mb1 4.0/22, mb1mx3.9/41, mbtmp3.8/22, ML3.4/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/48, Error ellipse: s-maj=18.7km s-min=13.4km az=166.0*
*BJI **27** 22:02:37.4±0.0, 52.°56N×161.°00E, h33km, mb4.3/10, mB4.8/9, Ms4.5/2, Ms7 4.5/1*
*ISCJB **27** 22:02:38.3±0.7, 52.°29N±0.°04×161.°20E±0.°05, h36km±4km, mb4.2/46, Error ellipse: s-maj=7.9km s-min=4.4km az=151.8*
*MOS **27** 22:02:39.2±0.9, 52.°35N×161.°12E, h39km, mb4.8/18, Error ellipse: s-maj=7.8km s-min=4.6km az=109.8*
*NEIC **27** 22:02:40.0±3.0, 52.°35N×161.°05E, h34km±4km, mb4.4/24, Error ellipse: s-maj=19.6km s-min=14.3km az=157.0*

ISC 27 22:02:37.5±0.9, 52.°31N±0.°05×161.°13E±0.°04, h17km±5km, n174,σ1°40/188, mb4.3/46, 19C-12D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.04**	**320**	*e*P	**Pb**	**22 02 56.5**	**-0.5**
SPN				*e*S	**Sn**	**22 03 11.0**	**-0.3**
SPN	**Mys Shipunski**	**1.04**	**320**	PN	**Pb**	**22 02 56.5**	**-0.5**
SPN				S	**Sn**	**22 03 11.0**	**-0.3**
NLC	**Nalytchevo**	**1.39**	**309**	*e*P	**Pb**	**22 03 02.0**	**-0.9**
NLC	**Nalytchevo**	**1.39**	**309**	PN	**Pb**	**22 03 02.0**	**-0.9**
RUS	**Russkaya**	**1.61**	**275**	*e*P	**Pn**	**22 03 05.0**	**-0.1**
RUS				*e*S	**Sn**	**22 03 25.3**	**0.0**
RUS	**Russkaya**	**1.61**	**275**	PN	**Pn**	**22 03 05.0**	**-0.1**
RUS				S	**Sn**	**22 03 25.3**	**0.0**
DALK	**Dalny**	**1.62**	**298**	*e*P	**Pb**	**22 03 05.6**	**-1.2**
DALK	**Dalny**	**1.62**	**298**	PN	**Pb**	**22 03 05.6**	**-1.2**
UGLR	**Uglovaya**	**1.66**	**304**	*e*P	**Pb**	**22 03 06.7**	**-1.1**
UGLR	**Uglovaya**	**1.66**	**304**	PN	**Pb**	**22 03 06.7**	**-1.1**
PET	**Petropavlovsk**	**1.67**	**296**	*e*Pn	**Pb**	**22 03 06.4**	**-1.3**
PET				*e*Sn	Sn	22 03 16.4	-10
PET	**Petropavlovsk**	**1.67**	**296**	*e*P	**Pb**	**22 03 06.7**	**-1.0**
PET				*e*S	**Sb**	**22 03 28.7**	**+0.3**
PET	**Petropavlovsk**	**1.67**	**296**	*o i* PN	**Pb**	**22 03 06.6**	**-1.1**
PET				*e*S	**Sb**	**22 03 28.0**	**-0.4**
PET				pmax	pmax		
	comp=Z,285nm,0.7s						
PET				smax	smax		
	comp=N,1μm,0.5s						
PET				smax	smax		
	comp=E,1μm,0.9s						
SDLR	**Sedlovina**	**1.67**	**306**	*e*P	**Pb**	**22 03 06.6**	**-1.3**
SDLR	**Sedlovina**	**1.67**	**306**	PN	**Pb**	**22 03 06.6**	**-1.3**
SMAR	**Somma**	**1.71**	**305**	*e*P	**Pb**	**22 03 07.2**	**-1.3**
SMAR	**Somma**	**1.71**	**305**	PN	**Pb**	**22 03 07.2**	**-1.3**
AVH	**Avacha**	**1.74**	**304**	*e*P	**Pb**	**22 03 07.8**	**-1.2**
AVH	**Avacha**	**1.74**	**304**	PN	**Pb**	**22 03 07.8**	**-1.2**
KRER	**Koryakskii**	**1.75**	**306**	*e*P	**Pb**	**22 03 08.2**	**-1.1**
KRER	**Koryakskii**	**1.75**	**306**	PN	**Pb**	**22 03 08.2**	**-1.1**
KOK	**Koryaka**	**1.80**	**304**	*e*P	**Pb**	**22 03 08.6**	**-1.5**
KOK	**Koryaka**	**1.80**	**304**	PN	**Pb**	**22 03 08.6**	**-1.5**
MTVR	**Mutnovka**	**1.81**	**277**	*e*P	**Pn**	**22 03 08.6**	**+0.6**
MTVR				*e*S	**Sb**	**22 03 31.7**	**-1.0**
MTVR	**Mutnovka**	**1.81**	**277**	PN	**Pn**	**22 03 08.6**	**+0.6**
MTVR				S	**Sb**	**22 03 31.7**	**-1.0**
KRX	**Arik**	**1.83**	**306**	*e*P	**Pn**	**22 03 08.9**	**+0.6**
KRX	**Arik**	**1.83**	**306**	PN	**Pn**	**22 03 08.9**	**+0.6**
KRMR	**Karymshinskiy**	**1.90**	**287**	*e*P	**Pn**	**22 03 09.5**	**+0.4**
KRMR	**Karymshinskiy**	**1.90**	**287**	PN	**Pn**	**22 03 09.5**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.95**	**256**	*e*P	**Pn**	**22 03 09.0**	**-0.7**
KDTR				*e*S	**Sn**	**22 03 31.9**	**-1.9**
KDTR	**Khodutka, Kamc**	**1.95**	**256**	PN	**Pn**	**22 03 09.0**	**-0.7**
KDTR				S	**Sn**	**22 03 31.9**	**-1.9**
ASAK	**Asacha**	**1.98**	**273**	*e*P	**Pn**	**22 03 10.9**	**+0.6**
ASAK	**Asacha**	**1.98**	**273**	PN	**Pn**	**22 03 10.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**2.23**	**292**	*e*Pn	**Pn**	**22 03 14.8**	**+1.1**
PETK	**Petropavlovsk-**	**2.23**	**292**	Pn	**Pn**	**22 03 14.8**	**+1.1**
	comp=E,26nm,0.3s,baz=107,slow=17,SNR=436						
PETK				Sn	**Sb**	**22 03 42.7**	**-2.0**
	comp=E,26nm,0.3s,baz=104,slow=18,SNR=7.4						
PETK				LR	LR	22 04 18.6	
	comp=E,415nm,19.9s,baz=2.1,slow=51						
PEA1	**Petropavlovsk-**	**2.23**	**292**	*e*Pn	**Pn**	**22 03 14.8**	**+1.0**
PEA1				*e*Sn	**Sb**	**22 03 42.7**	**-2.1**
MKZ	**Mys Kozlova**	**2.28**	**9**	*e*P	**Pn**	**22 03 14.2**	**-0.1**
MKZ				*e*S	**Sn**	**22 03 41.1**	**-0.8**
MKZ	**Mys Kozlova**	**2.28**	**9**	PN	**Pn**	**22 03 14.2**	**-0.1**
MKZ				S	**Sn**	**22 03 41.1**	**-0.8**
GNL	**Ganaly**	**2.37**	**307**	*e*P	**Pn**	**22 03 17.1**	**+1.4**
GNL	**Ganaly**	**2.37**	**307**	PN	**Pn**	**22 03 17.1**	**+1.4**
APC	**Apacha**	**2.50**	**286**	*e*P	**Pn**	**22 03 19.0**	**+1.7**
APC	**Apacha**	**2.50**	**286**	PN	**Pn**	**22 03 19.0**	**+1.7**
PAU	**Pauzhetka**	**2.80**	**254**	*e*P	**Pn**	**22 03 22.0**	**+0.5**
PAU	**Pauzhetka**	**2.80**	**254**	PN	**Pn**	**22 03 22.0**	**+0.5**
KZV	**Kizimen**	**2.85**	**350**	*e*P	**Pn**	**22 03 23.6**	**+1.3**
KZV	**Kizimen**	**2.85**	**350**	PN	**Pn**	**22 03 23.6**	**+1.3**
TUMD	**Tumrok D**	**2.93**	**352**	*e*P	**Pn**	**22 03 24.4**	**+1.1**
TUMR	**Tumrok**	**3.04**	**349**	*e*P	**Pn**	**22 03 25.6**	**+0.8**
TUMR	**Tumrok**	**3.04**	**349**	PN	**Pn**	**22 03 24.4**	**-0.4**
ALID	**Alaid**	**3.77**	**250**	*e*P	**Pn**	**22 03 35.3**	**+0.4**
ALID	**Alaid**	**3.77**	**250**	PN	**Pn**	**22 03 35.3**	**+0.4**
KBTR	**Krutoberegovo**	**4.03**	**14**	*e*P	**Pn**	**22 03 38.4**	**0.0**
KBTR	**Krutoberegovo**	**4.03**	**14**	PN	**Pn**	**22 03 38.4**	**0.0**
BKI	**Bering**	**4.08**	**43**	*e*P	**Pn**	**22 03 38.7**	**-0.4**
BKI				*e*S	**Sn**	**22 04 22.9**	**-3.5**
BKI	**Bering**	**4.08**	**43**	PN	**Pn**	**22 03 38.7**	**-0.4**
SRDR	**Sredinnyy**	**4.10**	**349**	*e*P	**Pn**	**22 03 41.4**	**+2.0**
SRDR	**Sredinnyy**	**4.10**	**349**	PN	**Pn**	**22 03 41.4**	**+2.0**
BDR	**Baidarnaya**	**4.27**	**1**	*e*P	**Pn**	**22 03 43.1**	**+1.4**
BDR	**Baidarnaya**	**4.27**	**1**	PN	**Pn**	**22 03 43.1**	**+1.4**
SMKR	**Semkarok**	**4.29**	**3**	*e*P	**Pn**	**22 03 43.8**	**+1.8**
SMKR	**Semkarok**	**4.29**	**3**	PN	**Pn**	**22 03 43.8**	**+1.8**
SRKR	**Sorokina**	**4.35**	**0**	*e*P	**Pn**	**22 03 45.0**	**+2.1**
SRKR	**Sorokina**	**4.35**	**0**	PN	**Pn**	**22 03 45.0**	**+2.1**
SEY	**Seymchan**	**11.62**	**340**	Pn	**Pn**	**22 05 19.5**	**-2.9**
	baz=37,slow=20,SNR=2.4						
YSS	**Yuzh-Sakhalins**	**13.05**	**253**	*e*PN	**Pn**	**22 05 39.9**	**-2.0**
YSS				MLR	MLR		
	comp=Z,600nm,14.0s						
ASAJ	**Asahikawa**	**14.79**	**244**	Pn	**Pn**	**22 06 03.5**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=138,slow=12,SNR=2.8						
ERM	**Erimo**	**15.94**	**237**	*e*Pn	Pn	22 06 13.2	-7.5
	comp=Z,15nm,1.0s						
ERM	**Erimo**	**15.94**	**237**	*e*P	Pn	22 06 13.2	-7.5
ERM				pmax	pmax		
	comp=Z,15nm,1.0s						
BILL	**Bilibino**	**15.98**	**7**	*e*Pn	**Pn**	**22 06 22.1**	**+1.0**
	comp=Z,5.3nm,0.6s						
BILL				*e*Sn	Sn	22 09 04.9	-13
BILL	**Bilibino**	**15.98**	**7**	*c e*P	**Pn**	**22 06 22.3**	**+1.2**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,123nm,15.0s						
KLR	**Kul'dur**	**18.77**	**272**	⇓*e*P	**Pn**	**22 06 56.8**	**+0.7**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KLR	**Kul'dur**	**18.77**	**272**	P	**P**	**22 06 54.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=64,slow=11,SNR=3.0						
USRK	**Ussuriysk Ar.**	**20.92**	**259**	P	**P**	**22 07 18.2**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=65,slow=14,SNR=3.9						
ANM	**Nome**	**21.09**	**41**	*e*P	**P**	**22 07 20.1**	**-0.6**
	comp=Z,5.2nm,1.0s						
ANM	**Nome**	**21.09**	**41**	*e*P	**P**	**22 07 20.1**	**-0.6**
ANM				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MAJO	**Matsushiro**	**22.58**	**235**	*e*P	**P**	**22 07 35.4**	**-1.5**
	comp=Z,7.7nm,0.8s						
MAJO	**Matsushiro**	**22.58**	**235**	⇓*e*P	**P**	**22 07 38.9**	**+2.0**
MJAR	**Matsushiro Arr**	**22.58**	**235**	P	**P**	**22 07 37.9**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=144,slow=22,SNR=5.0						
MJB9	**Matsu-Tunnel**	**22.58**	**235**	*e*P	**P**	**22 07 34.9**	**-2.0**
	comp=Z,7.8nm,0.8s						
TIXI	**Tiksi**	**24.06**	**335**	*e*P	**P**	**22 07 50.7**	**-0.6**
	comp=Z,7.3nm,1.0s						
TIXI	**Tiksi**	**24.06**	**335**	*d e*P	**P**	**22 07 50.7**	**-0.6**
TIXI				*i* *PP	**pwP**	**22 08 01.4**	**0.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TIXI	**Tiksi**	**24.06**	**335**	P	**P**	**22 07 50.3**	**-1.1**
	comp=Z,4.7nm,0.8s,baz=119,slow=9.5,SNR=17						
HIA	**Hailar**	**26.08**	**280**	⇓*e*P	**P**	**22 08 10.6**	**+0.6**
HIA				pmax	pmax		
	comp=Z,40nm,1.0s						
BOD	**Bodaibo**	**27.08**	**301**	*e*P	**P**	**22 08 15.9**	**-3.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s						
SEW	**Seward**	**27.97**	**54**	*e*P	**P**	**22 08 25.5**	**-1.2**
	comp=Z,13nm,1.0s						
ILAR	**Eielson Array**	**28.93**	**44**	P	**P**	**22 08 35.2**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=247,slow=9.4,SNR=3.1						
ILB	**Eielson Array**	**28.93**	**44**	*e*P	**P**	**22 08 35.2**	**-0.1**
	comp=Z,1.9nm,1.1s						
JNU	**Nakatsue**	**29.03**	**241**	LR	LR	22 20 19.6	
	comp=Z,89nm,20.1s,baz=202,slow=37						
WHN	**Wuhan**	**40.37**	**256**	P	**P**	**22 10 15.0**	**+0.8**
YKA	**Yellowknife Ar**	**43.32**	**42**	P	**P**	**22 10 37.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=306,slow=6.8,SNR=3.4						
YKA				LR	LR	22 30 01.8	
	comp=Z,6.6nm,18.1s,baz=296,slow=38						
YKB5	**Yellowknife Ar**	**43.32**	**42**	*e*P	**P**	**22 10 37.5**	**-0.4**
ZAA1	**Zalesovo Array**	**43.73**	**304**	*e*P	**P**	**22 10 40.2**	**-1.2**
ZALV	**Zalesovo Beam**	**43.73**	**304**	P	**P**	**22 10 40.2**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=55,slow=7.6,SNR=2.7						
NVS	**Novosibirsk**	**44.08**	**306**	*e*P	**P**	**22 10 43.5**	**-0.7**
DGZ	**Jazzator, Alta**	**44.58**	**297**	*d e*P	**P**	**22 10 48.5**	**0.0**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KURK	**Kurchatov**	**48.68**	**303**	*e*P	**P**	**22 11 19.5**	**-0.9**
	comp=Z,7.1nm,1.1s						
KURK	**Kurchatov**	**48.68**	**303**	*c e*P	**P**	**22 11 20.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MK31	**Makanchi Array**	**49.06**	**297**	*e*P	**P**	**22 11 21.8**	**-1.6**
	comp=Z,0.6nm,0.7s						
MK31	**Makanchi Array**	**49.06**	**297**	*e*P	**P**	**22 11 21.8**	**-1.6**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK32	**Makanchi Array**	**49.06**	**297**	*e*P	**P**	**22 11 22.2**	**-1.2**
MKAR	**Makanchi Array**	**49.06**	**297**	*c e*P	**P**	**22 11 27.2**	**+3.8**
MKAR	**Makanchi Array**	**49.06**	**297**	P	**P**	**22 11 22.2**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=51,slow=6.6,SNR=12						
BRVK	**Borovoye**	**51.40**	**309**	⇑*e*P	**P**	**22 11 41.3**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**54.23**	**342**	P	**P**	**22 11 59.3**	**-2.4**
	comp=Z,2.2nm,1.0s,baz=37,slow=7.1,SNR=2.3						
ARU	**Arti**	**54.40**	**318**	*e*P	**P**	**22 12 03.2**	**+0.1**
	comp=Z,3.9nm,0.8s						
ARU	**Arti**	**54.40**	**318**	*d i* P	**P**	**22 12 03.5**	**+0.5**
ARU				*PP	**pwP**	**22 12 13.3**	**0.0**
ARU						22 14 01.1	
ARU				S	**S**	**22 19 39.2**	**-1.0**
ARU				SS	**SS**	**22 23 24.1**	**+2.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.4s						
SUMG	**Summit**	**54.66**	**7**	*i* P	P	22 12 10.7	+5.5
SUMG				*i*		22 12 21.2	
SUMG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SUMG	**Summit**	**54.66**	**7**	*i* P	P	22 12 10.7	+5.5
	comp=Z,8.7nm,0.7s						
SUMG				*i*		22 12 21.2	
NV01	**Mina Array Sit**	**55.42**	**70**	*e*P	**P**	**22 12 11.3**	**+0.3**
NVAR	**Mina Array Bea**	**55.42**	**70**	P	**P**	**22 12 11.3**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=309,slow=6.5,SNR=3.1						
PRGR	**Permogore**	**55.44**	**328**	*e*P	**P**	**22 12 07.3**	**-3.1**
PRGR				*e* *PP	**pwP**	**22 12 21.8**	**+1.1**
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ELK	**Elko**	**55.60**	**66**	P	**P**	**22 12 15.2**	**+3.0**
	comp=Z,0.8nm,0.7s,baz=299,slow=13,SNR=3.6						
AAK	**Ala-Archa**	**55.99**	**297**	*e*P	**P**	**22 12 14.9**	**0.0**
	comp=Z,3.6nm,0.8s						
AAK	**Ala-Archa**	**55.99**	**297**	⇓*e*P	**P**	**22 12 14.7**	**-0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KSH	**Kashi**	**57.29**	**294**	P	**P**	**22 12 27.3**	**+3.1**
KSH				sP	pwP	22 12 41.0	+6.6
KSH				PP	**PP**	**22 14 36.0**	**+4.9**
KSH				S	**S**	**22 20 18.0**

CFR	Carcaliu	74.82 328	⇓iP	P	22 14 14.5	-2.0
CFR	Carcaliu	74.82 328	⇓P	P	22 14 14.5	-2.0
KHC	Kasperske Hory	75.23 339	eP	P	22 14 15.5	-3.4
KHC	Kasperske Hory	75.23 339	eP	P	22 14 15.5	-3.4
MLR	Muntele Rosu	75.24 329	⇑iP	P	22 14 20.0	+0.8
MLR	Muntele Rosu	75.24 329	⇑P	P	22 14 20.0	+0.8
VOIR		75.57 330	⇑iP	P	22 14 21.3	+0.3
VOIR		75.57 330	⇑P	P	22 14 21.3	+0.3
ARR	Arges	75.76 330	⇑iP	P	22 14 19.1	-3.0
GZR	Gura Zlata	76.30 331	⇑iP	P	22 14 17.4	-7.7
BFO	Black Forest	77.09 342	iP	P	22 14 30.8	+1.3
BR101	Keskin Array S	77.63 321	eP	P	22 14 33.0	+0.2
BRTR	Keskin Array B	77.63 321	P	P	22 14 33.0	+0.2
BRTR	Keskin Array B	77.63 321	P	P	22 14 33.0	+0.2
	comp=Z,1.6nm,1.0s,baz=29,slow=2.8,SNR=5.9					
AS31	Alice Springs	79.31 205	eP	P	22 14 43.7	+1.9
	comp=Z,0.9nm,1.0s					
ASAR	Alice Springs	79.31 205	P	P	22 14 43.7	+1.8
	comp=Z,0.6nm,0.9s,baz=18,slow=5.1,SNR=3.8					

ISC 27 22:11:40.1±1.1, 50°.26N±0°.04×18°.94E±0°.05, h0km, n6, σ0§41/12, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.05	41	ePg	Pg	22 11 41.0	0.0
CHZP				eSg	Sg	22 11 41.9	+0.2
OJC	Ojcow	0.55	93	ePg	Pg	22 11 50.0	-0.6
OJC				eSg	Sg	22 11 57.6	-0.2
MORC	Moravsky Berou	1.02	243	ePG	Pb	22 12 00.8	+0.1
MORC				eSG	Sg	22 12 12.7	-0.2
LANS	Liptovska Anna	1.16	163	ePG	Pg	22 12 02.2	-0.1
LANS				eSG	Sg	22 12 17.0	-0.2
NIE	Niedzica	1.21	133	ePg	Pg	22 12 03.1	-0.2
NIE				eSg	Sg	22 12 20.0	+0.9
VYHS	Vyhne	1.77	182	ePN	Pn	22 12 11.9	0.0
VYHS				eSN	Sn	22 12 35.3	+0.2

IDC 27 22:14:51.8±10.0, 16°.00S×175°.61W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/34, mbtmp4.0/3, Error ellipse: s-maj=475.0km s-min=36.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	47.64	257	P	P	22 23 29.8	-0.4
	1.5nm,0.7s,baz=84,slow=8.0,SNR=14						
ASAR	Alice Springs	47.90	252	P	P	22 23 32.3	+0.1
	3.2nm,0.5s,baz=88,slow=8.0,SNR=51						
ILAR	Eielson Array	83.45	12	P	P	22 27 20.9	0.0
	0.3nm,0.6s,baz=213,slow=5.6,SNR=5.4						

IDC 27 22:23:14.6±1.6, 3°.84S×140°.66E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/28, mbtmp3.7/5, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/32, Error ellipse: s-maj=63.9km s-min=24.8km az=107.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.15	201	P	Pn	22 27 14.2	-1.6
	0.3nm,0.3s,baz=23,slow=12,SNR=17						
WRA				S	Sn	22 30 20.5	-6.9
	0.3nm,0.3s,baz=14,slow=26,SNR=4.8						
GUMO	Guam	17.81	14	LR	LR	22 32 59.1	
	comp=Z,54nm,20.6s,baz=162,slow=33						
FITZ	Fitzroy Crossi	20.42	225	P	P	22 27 52.4	-1.1
	2.5nm,0.6s,baz=49,slow=10,SNR=5.3						
FITZ				S	S	22 31 25.6	-18
	2.0nm,0.4s,baz=169,slow=16,SNR=3.0						
ASAR	Alice Springs	20.76	198	P	Pn	22 27 58.8	-0.8
	2.9nm,0.5s,baz=27,slow=9.5,SNR=38						
MKAR	Makanchi Array	71.87	322	P	P	22 34 40.0	+0.4
	0.3nm,0.7s,baz=111,slow=7.9,SNR=2.7						
ILAR	Eielson Array	86.06	24	P	P	22 35 56.5	-0.4
	0.2nm,0.6s,baz=264,slow=4.2,SNR=2.9						

*ISCJB **27** 22:27:42.7±0.2, 23°.76S±0°.03×66°.79W±0°.03, h214km±2km, mb4.0/18, Error ellipse: s-maj=4.8km s-min=3.7km az=31.5*
*SJA **27** 22:27:42.6±0.8, 23°.69S×66°.74W, h219km±5km, ML3.6, MW4.2*
*NEIC **27** 22:27:43.0±0.0, 23°.69S×66°.74W, h219km, mb4.4/23, MD4.2(SJA), After SJA.*
*VAO **27** 22:27:43.5±0.3, 23°.78S×66°.81W, h213km, mb4.1*
*IDC **27** 22:27:43.9±1.3, 23°.61S×66°.49W, h197km±11km, mb3.7/12, mb1 3.9/18, mb1mx3.8/33, mbtmp4.2/18, Error ellipse: s-maj=14.4km s-min=11.8km az=48.0*

ISC 27 22:27:43.4±0.6, 23°.76S±0°.04×66°.78W±0°.04, h200km±6km, n109, σ1§34/122, mb4.2/18, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.37	67	eP	Pn	22 28 17.8	+1.4
HJA				IAML		22 28 18.5	
	comp=Z,744nm,0.6s						
HJA				eS	S	22 28 44.0	+2.4
SLA	San Lorenzo	1.50	130	eP	Pn	22 28 19.6	+2.3
SLA				IAML		22 28 19.8	
	comp=Z,356nm,0.4s						
SLA				eS	S	22 28 46.2	+2.9
AZAP	Zapla	1.63	107	eP	Pn	22 28 19.9	+1.3
AZAP				IAML		22 28 20.2	
	comp=Z,1μm,0.5s						
AZAP				eS	S	22 28 47.0	+1.7
YJA	Yavi	1.96	37	eP	Pn	22 28 23.1	+1.1
YJA				IAML		22 28 55.0	
	comp=Z,101nm,0.6s						
LVC	Limon Verde	2.27	300	ePn	Pn	22 28 26.5	+1.3
LVC				eS	S	22 28 58.2	+1.3
LVC	Limon Verde	2.27	300	eP	Pn	22 28 26.8	+1.6
LVC				eS	S	22 28 58.2	+1.3
LVC				IAML		22 29 00.9	
	comp=Z,270nm,0.4s						
LVC	Limon Verde	2.27	300	P	Pn	22 28 26.5	+1.3
	comp=Z,31nm,0.3s,baz=172,slow=5.8,SNR=466						
LVC				S	S	22 28 57.8	+0.8
	comp=Z,113nm,0.3s,baz=268,slow=6.7,SNR=7.8						
LVC	Limon Verde	2.27	300	eP	Pn	22 28 24.9	-0.3
FSA	Cafayete	2.45	163	eP	Pn	22 28 28.4	+1.5
PB15	IPOC Station P	2.53	282	eP	Pn	22 28 29.1	+1.2
PB06	IPOC Station P	2.78	292	eP	Pn	22 28 31.7	+1.1
GO02	Mina Guanaco	2.92	241	ePn	Pn	22 28 33.6	+1.2
GO02				eS	S	22 29 11.2	+1.3
PB09	IPOC Station P	3.00	310	eP	Pn	22 28 35.0	+1.8
PB03	IPOC Station P	3.23	301	eP	Pn	22 28 36.7	+0.8
PB05	IPOC Station P	3.28	285	eP	Pn	22 28 37.2	+0.8
AHML	Horco Molle	3.28	157	eP	Pn	22 28 37.7	+1.2
AHML				IAML		22 29 20.2	
	comp=Z,15nm,0.6s						
PB04	IPOC Station P	3.42	294	ePn	Pn	22 28 38.5	+0.4
PB04				eS	S	22 29 19.2	-1.1
PB04	IPOC Station P	3.42	294	eP	Pn	22 28 38.6	+0.4
PB14	IPOC Station P	3.42	255	eP	Pn	22 28 38.7	+0.3
PB10	IPOC Station P	3.47	273	ePn	Pn	22 28 39.2	+0.6
PB10				eS	S	22 29 20.1	-1.2
PB10	IPOC Station P	3.47	273	eP	Pn	22 28 39.4	+0.7
PB07	IPOC Station P	3.51	305	eP	Pn	22 28 39.8	+0.4
PB01	IPOC Station P	3.69	317	ePn	Pn	22 28 41.8	+0.3
PB01				eS	S	22 29 24.8	-1.5
PB02	IPOC Station P	3.77	309	eP	Pn	22 28 42.5	+0.1
PB08	IPOC Station P	4.22	328	eP	Pn	22 28 49.6	+1.2
GO01	Chusmiza	4.65	331	ePn	Pn	22 28 55.6	+1.7
CYA	Choya	4.75	170	eP	Pn	22 28 56.1	+1.6
PB11	IPOC Station P	4.79	326	ePn	Pn	22 28 54.8	-0.6
PB11	IPOC Station P	4.79	326	eP	Pn	22 28 54.9	-0.6
GO03	Copiap	4.93	219	ePn	Pn	22 28 56.2	-0.7
GO03	Copiap	4.93	219	eP	Pn	22 28 56.9	-0.1
PSGCX	Pisagua	5.18	322	eP	Pn	22 28 60.0	-0.3
MNMC	Minye Minye	5.30	330	ePn	Pn	22 29 01.7	-0.2
MNMC				eS	S	22 30 00.5	-3.0
MNMCX	Minye Minye	5.30	330	eP	Pn	22 29 02.1	+0.2
PB12	IPOC Station P	6.10	326	eP	Pn	22 29 11.4	-0.6
LCO	Las Campanas	6.30	213	ePn	Pn	22 29 14.0	-0.8
LCO	Las Campanas	6.30	213	eP	Pn	22 29 13.6	-1.1
GO04	Tololo Observa	7.33	208	ePn	Pn	22 29 26.1	-1.9
GO04				eS	S	22 30 46.8	-4.3
LPAZ	La Paz	7.54	350	ePn	Pn	22 29 30.9	-0.4
LPAZ	La Paz	7.54	350	P	Pn	22 29 31.4	+0.2
	comp=Z,4.7nm,0.3s,baz=128,slow=3.9,SNR=76						
LPAZ				S	S	22 30 54.5	-2.4
	comp=Z,0.5nm,0.3s,baz=343,slow=16,SNR=4.8						
LPAZ	La Paz	7.54	350	eP	Pn	22 29 31.5	+0.2
CFA	Coronel Fontan	7.92	189	P	Pn	22 29 34.8	-0.8
	comp=Z,7.2nm,0.3s,baz=49,slow=20,SNR=65						
CFA				S	S	22 30 59.3	-5.6
	comp=Z,12nm,0.3s,baz=201,slow=15,SNR=12						
CPUP	Villa Florida	8.94	109	ePn	Pn	22 29 48.2	-0.6
CPUP	Villa Florida	8.94	109	P	Pn	22 29 47.1	-1.8
	comp=Z,0.1nm,0.3s,baz=288,slow=11,SNR=14						
CPUP	Villa Florida	8.94	109	eP	Pn	22 29 47.8	-1.1
SIV	San Ignacio	9.41	36	P	Pn	22 29 53.1	-2.0
	comp=Z,9.6nm,0.3s,baz=230,slow=12,SNR=235						
PEL	Peldehue	9.96	199	ePn	Pn	22 29 59.5	-2.6
AQDB	Aquidauana	10.78	74	eP	Pn	22 30 12.2	-0.4
GO05	Huala	12.07	201	ePn	Pn	22 30 27.5	-1.6
PTGB	Pitanga	13.46	97	eP	Pn	22 30 47.4	+0.7
ITAB	Concordia	13.67	108	eP	Pn	22 30 49.0	-0.2
C2SB	Chapadao do Su	13.91	72	eP	P	22 30 53.6	-0.6
TRQA	Tornquist	14.83	165	ePn	Pn	22 31 02.7	-0.7
CNLB	Canela	15.28	115	eP	Pn	22 31 08.5	-0.6
ITRB	Iturama	15.78	78	eP	P	22 31 14.7	-0.3
TIJ01	Guaruva-PR	16.25	99	eP	P	22 31 19.6	-0.6
GO06	Curarrehue	16.27	193	eP	Pn	22 31 21.1	+0.1
	comp=Z,4.7nm,0.8s						
TER01	Tubaro-SC	16.54	110	eP	P	22 31 23.1	-0.1
CLDB	Colider	16.54	41	eP	P	22 31 22.3	-1.0
BB19B	Bebedouro	17.09	85	eP	P	22 31 29.1	-0.2
PLCA	Paso Flores	17.22	190	ePn	Pn	22 31 32.1	-0.1
	comp=Z,5.3nm,0.9s						
PLCA	Paso Flores	17.22	190	P	Pn	22 31 33.0	+0.8
	comp=Z,0.2nm,0.3s,baz=355,slow=14,SNR=3.1						
PLCA	Paso Flores	17.22	190	eP	P	22 31 29.6	-1.0
SPB	Sao Paulo	17.72	93	eP	P	22 31 36.6	+0.4
RCLB	Rio Claro- Sao	17.76	90	eP	P	22 31 36.4	-0.3
BDFB	Brasilia	19.41	69	eP	P	22 31 53.8	-0.8
	comp=Z,19nm,0.8s						
BDFB	Brasilia	19.41	69	P	P	22 31 53.5	-1.1
	comp=Z,1.8nm,0.3s,baz=238,slow=12,SNR=20						
ESAR	Angra dos Reis	20.52	92	eP	P	22 32 06.4	+0.1
BSCB	Bom Sucesso	20.53	87	eP	P	22 32 06.2	-0.3
VAS01	Vassouras-RJ	21.52	91	eP	P	22 32 16.4	-0.6
DUB01	Friburgo-RJ	22.53	91	eP	P	22 32 25.2	-1.5
MCI6	Montes Claros	22.53	76	eP	P	22 32 25.6	-1.1
MCI8	Montes Claros	22.56	76	eP	P	22 32 25.9	-1.1
MCI9	Montes Claros	22.57	76	eP	P	22 32 25.8	-1.3
JANB	Januaria	22.86	72	eP	P	22 32 28.5	-1.2
CAM01	Campos-RJ	23.23	90	eP	P	22 32 32.5	-0.4
PTGA	Pitinga	23.82	17	eP	P	22 32 37.2	-1.1
	comp=Z,23nm,1.1s						
PTGA	Pitinga	23.82	17	P	P	22 32 36.8	-1.6
	comp=Z,5.0nm,0.3s,baz=213,slow=8.0,SNR=12						
PTGA	Pitinga	23.82	17	eP	P	22 32 37.5	-0.8
ALF01	Guarapari-ES	24.31	88	eP	P	22 32 41.5	-1.2
SJMB	Sao Joao De Ma	24.36	83	eP	P	22 32 42.2	-1.0
BSFB	Barra de Sao F	24.64	83	eP	P	22 32 44.6	-1.1
RIB01	Linhares ES	24.92	85	eP	P	22 32 47.4	-0.9
RCBR	Riachuelo	34.63	64	eP	P	22 34 14.0	+0.1
SNAA	Sanae	59.51	161	eP	P	22 37 26.5	+1.4
	comp=Z,4.3nm,0.7s						
BIRD	Birdtown, Kers	59.52	347	eP	P	22 37 26.5	+1.0
	comp=Z,6.6nm,0.9s						
WVT	Waverly	62.80	341	eP	P	22 37 47.1	-0.4
	comp=Z,9.2nm,0.8s						
TXAR	Lajitas Array	63.60	324	P	P	22 37 54.0	+0.9
	comp=Z,0.6nm,0.4s,baz=152,slow=6.9,SNR=8.1						
W39A	Magazine	63.98	336	eP	P	22 37 55.0	-0.3
	comp=Z,6.8nm,0.8s						
CCM	Cathedral Cave	65.64	339	eP	P	22 38 05.5	-0.5
	comp=Z,11nm,0.6s						
QSPA	South Pole Qui	66.44	180	eP	P	22 38 11.9	+0.9
	comp=Z,7.2nm,0.6s						
DBIC	Dimbokro	67.53	72	P	P	22 38 17.6	-0.9
	comp=Z,1.4nm,0.3s,baz=229,slow=5.1,SNR=7.2						
VNDA	Vanda	74.97	190	P	P	22 39 04.8	+2.8
	comp=Z,1.4nm,1.0s,baz=160,slow=2.9,SNR=5.6						
TORD	Torodi Ar. Bea	76.29	69	P	P	22 39 08.1	-2.4
	comp=Z,1.2nm,0.3s,baz=270,slow=5.9,SNR=42						
PDAR	Pinedale Array	77.05	329	P	P	22 39 15.4	+1.0
	comp=Z,0.8nm,0.6s,baz=130,slow=6.8,SNR=7.6						
ULM	Lac du Bonnet	78.06	341	P	P	22 39 19.6	0.0
	comp=Z,3.0nm,0.6s,baz=148,slow=5.8,SNR=6.9						
NVAR	Mina Array Bea	78.48	321	P	P	22 39 24.5	+2.0
	comp=Z,0.7nm,0.7s,baz=147,slow=3.9,SNR=3.1						
BOSA	Boshof	80.66	117	P	P	22 39 33.2	-1.3
	comp=Z,3.6nm,1.0s,baz=249,slow=4.8,SNR=6.4						
MAW	Mawson	81.60	163	P	P	22 39 40.1	+1.6
	comp=Z,3.5nm,0.8s,baz=220,slow=6.6,SNR=9.2						
ESDC	Sonseca Array	86.08	43	P	P	22 40 02.6	+1.0
	comp=Z,0.5nm,0.7s,baz=252,slow=6.2,SNR=3.7						
YKA	Yellowknife Ar	93.97	340	P	P	22 40 38.6	+0.8
	comp=Z,1.3nm,0.6s,baz=132,slow=4.4,SNR=21						
ASAR	Alice Springs	128.76	205	PKiP	PKiKP	22 46 28.1	-0.2
	comp=Z,2.2nm,0.8s,baz=149,slow=2.4,SNR=13						
WRA	Warramunga Arr	131.93	207	PKiP	PKiKP	22 46 34.4	-0.3
	comp=Z,13nm,0.3s,baz=195,slow=2.4,SNR=20						
PETK	Petropavlovsk-	135.54	323	PKiP	PKiKP	22 46 40.7	-0.2
	comp=Z,1.0nm,0.6s,baz=68,slow=3.1,SNR=4.7						
ZALV	Zalesovo Beam	143.09	28	PKP	PKPbc	22 46 51.1	+0.7
	comp=Z,1.2nm,0.3s,baz=297,slow=4.6,SNR=6.4						
MKAR	Makanchi Array	146.21	39	PKPbc	PKPbc	22 46 59.9	-0.2
	comp=Z,4.5nm,0.5s,baz=321,slow=2.6,SNR=37						
KLR	Kul'dur	150.70	335	PKPbc	PKPbc	22 47 12.1	+0.6
	comp=Z,4.4nm,0.6s,baz=45,slow=3.1,SNR=17						
MJAR	Matsushiro Arr	155.00	306	PKPab	PKPab	22 47 39.0	+1.2
	comp=Z,0.4nm,0.3s,baz=133,slow=3.4,SNR=4.3						
CMAR	Chiang Mai Arr	165.67	109	PKPab	PKPab	22 48 25.0	+0.1
	comp=Z,0.3nm,0.3s,baz=243,slow=5.1,SNR=4.3						

*ISCJB **27** 22:31:54.5±0.3, 8°.82S±0°.05×158°.40E±0°.05, h29km, mb4.4/27, MS3.4/7, Error ellipse: s-maj=8.1km s-min=7.0km az=33.3*
*NEIC **27** 22:31:56.0±1.2, 8°.87S×158°.48E, h29km±4km, mb4.6/29, Error ellipse: s-maj=16.4km s-min=14.1km az=129.0*
*IDC **27** 22:31:58.1±2.2, 8°.91S×158°.47E, h47km±25km, mb4.2/17, mb1 4.3/18, mb1mx4.1/41, mbtmp4.5/18, ML3.9/1, MS3.4/9, Ms1 3.4/9, ms1mx3.2/29, Error ellipse: s-maj=17.7km s-min=13.4km az=127.0*

ISC 27 22:31:55.8±0.5, 8°.91S±0°.07×158°.51E±0°.07, h29km, n47, σ0§73/46, mb4.5/27, MS3.4/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.51	110	iP	Pn	22 32 22.0	+1.1
HNR				iS	Sb	22 32 42.0	0.0
HNR	Honiara	1.51	110	P	Pn	22 32 22.0	+1.1
	148nm,0.3s,baz=244,slow=3.3,SNR=25						
HNR				S	Sb	22 32 42.4	+0.4
	566nm,0.3s,baz=247,slow=20,SNR=12						
PMG	Port Moresby	11.22	267	LR	LR	22 39 03.8	
	comp=Z,176nm,18.1s,baz=140,slow=38						
DZM	Mont Dzumac	15.15	151	ePn	P	22 35 31.0	-1.8
	16nm,1.0s						
DZM				eSn	Sn	22 38 13.5	-1.5
DZM	Mont Dzumac	15.15	151	P	P	22 35 31.6	-1.2
	0.7nm,0.3s,baz=321,slow=18,SNR=4.9						
DZM				LR	LR	22 39 40.6	
	comp=Z,285nm,18.6s,baz=44,slow=30						
PATS	Pohnpei	15.64	359	ePn	Pn	22 35 33.5	-0.9
	88nm,1.1s						
CTA	Charters Tower	16.25	226	P	P	22 35 44.7	-0.3
	0.3nm,0.3s,baz=36,slow=12,SNR=3.2						
CTAO	Charters Tower	16.25	226	ePn	P	22 35 45.9	+1.0
	13nm,1.1s						
WRAB	Tennant Creek	25.80	242	eP	P	22 37 24.7	0.0
	13nm,0.7s						
WB2	Warramunga Arr	25.80	242	eP	P	22 37 24.4	-0.3
	9.3nm,0.8s						
WR1	Warramunga Arr	25.81	242	eP	P	22 37 24.6	-0.2
WRA	Warramunga Arr	25.81	242	P	P	22 37 24.6	-0.2
	11nm,0.7s,baz=67,slow=9.3,SNR=26						
GUMO	Guam	26.14	329	LR	LR	22 47 07.7	
	comp=Z,31nm,19.1s,baz=148,slow=35						
STKA	Stephens Creek	27.73	212	eP	P	22 37 42.2	+0.3
	1.6nm,0.8s						
STKA	Stephens Creek	27.73	212	P	P	22 37 42.2	+0.3
	3.6nm,0.5s,baz=35,slow=11,SNR=9.3						
AS31	Alice Springs	27.73	235	eP	P	22 37 41.3	-0.8
	1.1nm,0.6s						
ASAR	Alice Springs	27.74	235	P	P	22 37 41.3	-0.8
	3.4nm,0.9s,baz=70,slow=9.1,SNR=11						
ASAR				LR	LR	22 48 02.9	
	comp=Z,103nm,19.1s,baz=152,slow=35						
FITZ	Fitzroy Crossi	33.19	251	P	P	22 38 30.1	-0.3
	2.9nm,0.8s,baz=76,slow=7.2,SNR=4.0						
MJAR	Matsushiro Arr	49.07	338	LR	LR	23 04 06.3	
	comp=Z,14nm,18.0s,baz=75,slow=39						
JNU	Nakatsue	49.39	329	P	P	22 40 43.0	-0.1
	14nm,0.9s,baz=72,slow=6.4,SNR=4.3						
KSRS	Korea Array	54.29	330	P	P	22 41 19.8	+0.3
	2.4nm,0.5s,baz=155,slow=9.1,SNR=7.9						
KSRS				LR	LR	23 03 47.5	
	comp=Z,12nm,18.9s,baz=106,slow=35						
KS15	Wonju Array Si	54.30	330	eP	P	22 41 19.8	+0.2
	15nm,1.1s						
USRK	Ussuriysk Ar.	58.06	338	P	P	22 41 46.5	+0.1
	2.4nm,0.7s,baz=102,slow=12,SNR=4.0						
PETK	Petropavlovsk-	61.78	359	P	P	22 42 12.0	+0.3
	5.3nm,0.8s,baz=162,slow=6.9,SNR=8.5						
PETK				LR	LR	23 05 14.8	
	comp=Z,63nm,21.9s,baz=164,slow=32						
PEA1	Petropavlovsk-	61.78	359	eP	P	22 42 12.0	+0.3
KLR	Kul'dur	62.47	341	P	P	22 42 17.4	+0.9
	1.0nm,0.5s,baz=168,slow=5.7,SNR=6.1						
CM31	Chiang Mai Arr	64.75	295	eP	P	22 42 32.7	+0.6
	4.7nm,1.0s						
CMAR	Chiang Mai Arr	64.75	295	P	P	22 42 32.7	+0.6
	0.9nm,0.4s,baz=127,slow=5.9,SNR=8.2						
MA2	Magadan	68.54	356	P	P	22 42 55.2	-0.3
	2.9nm,0.3s,baz=202,slow=4.0,SNR=4.7						
VNDA	Vanda	68.61	179	eP	P	22 42 57.0	+1.3
	3.6nm,0.9s						
VNDA	Vanda	68.61	179	P	P	22 42 55.9	+0.2
	2.3nm,0.7s,baz=337,slow=6.6,SNR=15						
VNDA				LR	LR	23 08 18.4	
	comp=Z,46nm,18.1s,baz=346,slow=32						
SONA0	Songino Array	72.84	326	eP	P	22 43 22.5	+0.4
SONM	Songino Array	72.84	326	P	P	22 43 22.5	+0.4
	9.5nm,0.8s,baz=121,slow=5.4,SNR=8.9						
QSPA	South Pole Qui	81.08	180	eP	P	22 44 09.0	+0.8
	5.1nm,0.7s						
CCB	Clear Creek Bu	83.51	20	eP	P	22 44 20.2	-0.4
	2.9nm,0.7s						
HDA	Harding Lake	83.66	21	eP	P	22 44 22.0	+0.6
	2.6nm,0.8s						
ILAR	Eielson Array	83.90	21	P	P	22 44 22.1	-0.6
	1.7nm,0.7s,baz=256,slow=4.5,SNR=14						
ILB	Eielson Array	83.90	21	eP	P	22 44 22.4	-0.2
	3.9nm,1.0s						
MAW	Mawson	83.98	203	eP	P	22 44 23.5	+0.4
	1.1nm,1.1s						
MAW	Mawson	83.98	203	P	P	22 44 23.5	+0.4
	3.1nm,0.6s,baz=102,slow=5.9,SNR=11						
MK32	Makanchi Array	87.14	318	eP	P	22 44 38.7	-0.5
MKAR	Makanchi Array	87.14	318	P	P	22 44 38.7	-0.5
	3.3nm,0.5s,baz=98,slow=6.0,SNR=45						
MAKZ	Makanchi	87.35	318	eP	P	22 44 39.9	-0.4
	2.4nm,0.9s						
ZALV	Zalesovo Beam	87.71	325	P	P	22 44 40.2	-1.5
	1.7nm,0.5s,baz=115,slow=6.7,SNR=8.2						
BEKR	Beckworth	88.91	50	eP	P	22 44 47.0	-1.0
	6.0nm,1.2s						
NRIK	Noril'sk	91.69	340	LR	LR	23 24 50.2	
	comp=Z,40nm,21.2s,baz=94,slow=35						
ESDC	Sonseca Array	145.59	336	PKPbc	PKPbc	22 51 31.7	-0.3
	0.9nm,0.6s,baz=11,slow=4.0,SNR=6.9						

*VAO **27** 22:43:15.8±0.5, 22°.37S×69°.21W, h146km, mb4.2*
*SJA **27** 22:43:17.6±1.2, 22°.13S×68°.74W, h137km±6km, ML3.2, MW3.4*
*ISCJB **27** 22:43:17.5±0.3, 22°.22S±0°.03×68°.79W±0°.04, h141km±4km, mb4.0/2, Error ellipse: s-maj=6.6km s-min=4.2km az=11.7*
*IDC **27** 22:43:18.5±0.6, 22°.27S×68°.28W, h102km±12km, mb4.0/3, mb1 3.8/8, mb1mx3.5/35, mbtmp4.1/8, MS2.5/1, Ms1 2.6/1, ms1mx2.4/24, Error ellipse: s-maj=29.8km s-min=19.7km az=116.0*
*NEIC **27** 22:43:19.0±0.0, 22°.14S×68°.72W, h120km, mb4.2/4, ML3.7(GUC), After GUC.*
*GUC **27** 22:43:19.7±0.5, 22°.15S×68°.70W, h123km±4km, ML3.8*

ISC 27 22:43:18.1±0.6, 22°.21S±0°.04×68°.72W±0°.05, h129km±6km, n80, σ1§63/107, 10C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.44	204	ePn	Pn	22 43 37.4	+0.1
LVC	Limon Verde	0.44	204	eP	Pn	22 43 37.4	+0.1
LVC				IAML		22 43 37.7	
	comp=Z,944nm,0.2s						
LVC				eS	Sn	22 43 51.5	-0.2
LVC	Limon Verde	0.44	204	P	Pn	22 43 37.6	+0.3
	comp=Z,456nm,0.3s,baz=40,slow=6.8,SNR=6211						
LVC				S	Sn	22 43 50.7	-1.1
	comp=Z,478nm,0.3s,baz=283,slow=22,SNR=63						
LVC	Limon

```
      comp=Z,16nm,0.6s
GO02  Mina Guanaco     3.05 195  ePn   Pn    22 44 06.9 +1.3
MNMC  Minye Minye      3.17 345  ePn   Pn    22 44 06.9 -0.4
MNMCX Minye Minye      3.17 345  eP    Pn    22 44 07.2 -0.1
HJA   Humahuaca        3.21 109  eP    Pn    22 44 09.9 +2.1
HJA                              IAML        22 44 10.8
      comp=Z,73nm,0.4s
PB12  IPOC Station P   3.88 337  eP    Pn    22 44 15.4 -1.1
GO03  Copiap           5.54 194  ePn   Pn    22 44 37.8 -0.7
LPAZ  La Paz           5.92   5  ePn   Pn    22 44 45.7 +1.6
LPAZ  La Paz           5.92   5  P     Pn    22 44 46.0 +1.9
      comp=Z,1.8nm,0.3s,baz=210,slow=4.2,SNR=36
LPAZ                             LR    LR    22 47 08.3
      comp=Z,48nm,20.8s,baz=120,slow=39
LPAZ  La Paz           5.92   5  eP    Pn    22 44 45.1 +0.9
LCO   Las Campanas     7.01 194  ePn   Pn    22 44 55.4 -3.0
LCO                              eSn   Sn    22 46 14.0 -2.9
LCO   Las Campanas     7.01 194  eP    Pn    22 44 51.8 -6.6
GO04  Tololo Observa   8.15 193  ePn   Pn    22 45 11.3 -2.5
GO04                             eSn   Sn    22 46 42.7 -1.8
CFA   Coronel Fontan   9.37 177  P     Pn    22 45 28.9 -1.1
      comp=Z,1.3nm,0.3s,baz=356,slow=13,SNR=7.9
SIV   San Ignacio      9.51  51  P     Pn    22 45 28.4 -3.6
      comp=Z,2.3nm,0.3s,baz=259,slow=8.1,SNR=48
SIV                              S     Sn    22 47 06.7 -10
      comp=Z,1.0nm,0.3s,baz=239,slow=18,SNR=11
ROC1  El Roble        10.92 190  ePn   Pn    22 45 49.3 -1.7
CPUP  Villa Florida   11.17 114  P     Pn    22 45 51.1 -2.9
      comp=Z,0.1nm,0.3s,baz=274,slow=9.9,SNR=3.2
AQDB  Aquidauana      12.25  84  eP    P     22 46 12.6 -2.7
GO05  Huala           13.06 192  ePn   Pn    22 46 18.1 -0.7
C2SB  Chapadao do Su  15.27  80  eP    P     22 46 50.9 +2.1
PTGB  Pitanga         15.48 103  eP    P     22 46 52.5 +1.2
ITAB  Concordia       15.87 112  eP    P     22 46 56.7 +1.2
CLDB  Colider         16.73  50  eP    P     22 47 05.4 +0.3
TRQA  Tornquist       16.83 161  ePn   P     22 47 04.5 -1.4
      comp=Z,28nm,1.8s
TRQA  Tornquist       16.83 161  eP    P     22 47 02.4 -3.5
ITRB  Iturama         17.33  85  eP    Pn    22 47 12.8 +0.6
GO06  Curarrehue      17.48 187  eP    Pn    22 47 15.2 +1.3
      comp=Z,55nm,1.9s
CNLB  Canela          17.57 117  eP    Pn    22 47 14.7 -0.3
FRTB  Fartura         17.70  97  eP    Pn    22 47 17.4 +0.7
PLCA  Paso Flores     18.53 184  eP    Pn    22 47 28.2 +1.8
      comp=Z,55nm,2.0s
PLCA  Paso Flores     18.53 184  P     Pn    22 47 28.2 +1.8
      comp=Z,0.2nm,0.3s,baz=33,slow=9.9,SNR=4.1
PLCA  Paso Flores     18.53 184  eP    P     22 47 19.6 -5.1
BB19B Bebedouro       18.80  90  eP    Pn    22 47 29.1 -0.7
RCLB  Rio Claro- Sao  19.60  95  eP    P     22 47 36.3 -0.2
SPB   Sao Paulo       19.66  98  eP    P     22 47 37.8 +0.8
BDFB  Brasilia        20.63  75  eP    P     22 47 45.7 -1.9
      comp=Z,6.1nm,0.6s
BDFB                             eP    P     22 47 45.7 -1.9
BDFB  Brasilia        20.63  75  P     P     22 47 45.7 -1.9
      comp=Z,5.9nm,0.5s,baz=240,slow=9.6,SNR=10
PMNB  Patos De Minas  21.20  84  eP    P     22 47 53.0 -0.7
MCI6  Montes Claros   23.99  81  eP    P     22 48 21.8 +0.8
MCI8  Montes Claros   24.01  81  eP    P     22 48 21.2  0.0
MCI9  Montes Claros   24.02  81  eP    P     22 48 22.1 +0.8
DUB01 Friburgo-RJ     24.39  95  eP    P     22 48 24.6  0.0
CAM01 Campos-RJ       25.08  94  eP    P     22 48 30.7  0.0
DBIC  Dimbokro        68.77  73  P     P     22 54 09.6 +1.0
      comp=Z,6.6nm,1.0s,baz=264,slow=7.3,SNR=4.8
TOA1  Torodi Ar. Sit  77.42  70  eP    P     22 55 00.7 +1.2
TORD  Torodi Ar. Bea  77.42  70  P     P     22 55 00.7 +1.2
      comp=Z,1.8nm,0.8s,baz=259,slow=5.5,SNR=18
MK32  Makanchi Array 146.10  37  ePKPdf PKiKP 23 02 45.4 -0.8
MKAR  Makanchi Array 146.10  37  PKPbc  PKPbc 23 02 45.4 +2.3
      comp=Z,1.0nm,0.8s,baz=318,slow=1.9,SNR=2.9
```

*DDA **27** 22:51:43.4, 42°.22N×41°.23E, h8km±4km, ML2.5*
ISC 27 22:51:39.0±4.2, 42°.4N±0°.1×41°.0E±0°.2, h6km±14km, n7, σ0°90/14, Western Caucasus

```
Code  Station Name     Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
BATM  Batumi           0.97 148  P     Pn    22 51 59.2  0.0
BATM                             S     Sn    22 52 13.2 -0.1
DBOC  Borcka           1.19 156  i P   Pn    22 52 02.9 +0.7
DBOC                             i S   Sn    22 52 18.1 -0.7
TKB   Tkibuli          1.47  92  P     Pn    22 52 07.0 +0.9
TKB                              S     Sn    22 52 27.1 +1.4
DBAD  Bademkaya        1.50 160  IAML_P
      comp=Z,305nm,0.1s
DBAD                             i P   Pn    22 52 07.3 +0.7
DBAD                             i S   Sn    22 52 25.4 -1.1
DAGI  Agillar          1.51 153  IAML_P
      comp=Z,125nm,0.1s
DAGI                             i P   Pg    22 52 07.8 -0.1
DAGI                             i S   Sn    22 52 26.8  0.0
EPOS  Posof            1.58 125  i P   Pg    22 52 09.3  0.0
EPOS                             i S   Sn    22 52 29.0 +0.4
SRKG  Sareki           1.73  93  P     Pn    22 52 08.3 -1.5
SRKG                             S     Sn    22 52 31.6 -0.7
```

JMA 27 22:55:18.8±0.3, 31°.24N×141°.25E, h49km, M3.8, Southeast of Honshu

```
Code  Station Name     Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
JHCJ  Hachijojimakas   2.20 326  eS    Sn    22 56 19.5 +0.5
JHJ2  Mitsune          2.23 327  P     Pn    22 55 54.3 +1.1
JHJ2                             S     Sn    22 56 21.3 +1.8
JAG   Ashikaga         5.38 344  P     Pn    22 56 38.0 +1.5
JAG                              eS    Sn    22 57 38.9 +1.7
JHO   Hitachi          5.39 354  P     Pn    22 56 38.4 +1.8
JHO                              eS    Sn    22 57 38.7 +1.4
```

ROM 27 23:09:45.9±0.1, 42°.984N±0°.003×13°.029E±0°.003, h12km, Md1.3/2, Error ellipse: s-maj=0.3km s-min=0.1km az=354.0, Central Italy

```
Code  Station Name     Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
FDMO  Fiordimonte      0.07  39  P     Pg    23 09 48.8 +0.3
FDMO                             S     Sg    23 09 50.8 +0.4
FDMO                             END
FDMO                             END
FDMO  Fiordimonte      0.07  39  S     Sg    23 09 50.8 +0.4
CESI  CESI - Serrava   0.09 283  P     Pg    23 09 49.1 +0.3
CESI                             S     Sg    23 09 51.5 +0.5
CESI  CESI - Serrava   0.09 283  S     Sg    23 09 51.5 +0.6
CESI  CESI - Serrava   0.09 283  P     Pg    23 09 49.2 +0.4
NRCA  Norcia           0.16 157  P     Pg    23 09 50.1 +0.4
NRCA                             S     Sg    23 09 53.3 +0.8
NRCA                             END
NRCA                             END
NRCA  Norcia           0.16 157  S     Sg    23 09 53.3 +0.8
CSP1  Cessapalombo     0.17  50  P     Pg    23 09 50.3 +0.4
CSP1                             S     Sg    23 09 53.4 +0.7
ASSB  Assisi San Ben   0.28 282  P     Pg    23 09 52.1 +0.4
ASSB                             S     Sg    23 09 56.5 +0.9
ASSB  Assisi San Ben   0.28 282  S     Sg    23 09 56.5 +0.9
ASSB  Assisi San Ben   0.28 282  P     Pg    23 09 52.2 +0.5
FOSV  Fossato di Vic   0.37 328  S     Sb    23 09 60.0 -0.2
MOMA  Monte Martano    0.38 242  P     Pb    23 09 54.4 -0.3
MOMA  Monte Martano    0.38 242  AML   AML
      comp=E,36μm,1.2s
MOMA                             AML   AML
      comp=N,34μm,0.6s
MOMA                             AML   AML
      comp=N,34μm,0.6s
MOMA                             AML   AML
      comp=E,36μm,1.2s
```

ROM 27 23:09:54.8±0.2, 43°.459N±0°.004×12°.840E±0°.010, h14km±1km, Md1.3/3, Error ellipse: s-maj=0.7km s-min=0.5km az=85.0, Central Italy

```
Code  Station Name     Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
ARVD  Arcevia          0.08  62  P     Pg    23 09 57.9 +0.1
ARVD                             S     Sg    23 10 00.2 +0.4
ARVD                             END
ARVD                             END
ARVD  Arcevia          0.08  62  P     Pg    23 09 57.9 +0.1
FRON  Frontone         0.10 305  P     Pg    23 09 58.2 +0.2
FRON                             S     Sb    23 10 00.8 -0.2
FRON                             END
FRON                             END
FRON  Frontone         0.10 305  P     Pg    23 09 58.2 +0.2
FOSV  Fossato di Vic   0.17 199  P     Pg    23 09 59.1 +0.2
FOSV                             S     Sb    23 10 02.6 -0.5
MPAG  Monte Paganucc   0.18 341  P     Pg    23 09 59.3 +0.2
MPAG                             S     Sg    23 10 02.7 +0.6
MPAG                             END
MPAG                             END
MPAG  Monte Paganucc   0.18 341  P     Pg    23 09 59.3 +0.2
PIEI  Pieia            0.23 289  P     Pg    23 10 00.1 +0.2
PIEI                             S     Sg    23 10 04.1 +0.6
PIEI  Pieia            0.23 289  P     Pg    23 10 00.2 +0.3
NARO  Abbazia di Nar   0.24 309  P     Pb    23 10 01.0 +0.1
NARO                             S     Sg    23 10 04.3 +0.7
MOMA  Monte Martano    0.68 197  AML   AML
      comp=E,36μm,1.2s
MOMA                             AML   AML
      comp=N,34μm,0.6s
MOMA                             AML   AML
      comp=N,34μm,0.6s
MOMA                             AML   AML
      comp=E,36μm,1.2s
```

IDC 27 23:13:04.7±52.0, 18°.03S×178°.71E, h0km, mb4.4/2, mb1 4.5/2, mb1mx3.8/27, mbtmp4.4/2, Error ellipse: s-maj=937.8km s-min=147.4km az=78.0, Fiji Islands

```
Code  Station Name     Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
STKA  Stephens Creek  36.17 240  P     P     23 20 09.0  0.0
      1.0nm,0.3s,baz=99,slow=13,SNR=4.6
WRA   Warramunga Arr  41.91 260  P     P     23 20 57.2  0.0
      138nm,0.3s,baz=93,slow=7.9,SNR=1.2
ASAR  Alice Springs   42.11 254  P     P     23 20 58.7 -0.2
      5.3nm,0.5s,baz=90,slow=8.5,SNR=60
```

*ISN **27** 23:22:16.3±1.4, 37°.18N×42°.47E, h0km±6km, ML2.9*
*ISK **27** 23:22:18.6, 37°.27N×42°.48E, h5km, ML2.9/11*
*DDA **27** 23:22:19.0, 37°.27N×42°.52E, h10km±2km, ML2.9*
ISC 27 23:22:18.8±1.2, 37°.20N±0°.03×42°.49E±0°.03, h4km±10km, n29, σ1°04/46, Turkey

```
Code  Station Name     Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
SIRN  Sırnak           0.30 349  i P   Pg    23 22 24.6 -0.1
SIRN                             i S   Sg    23 22 28.2 -0.4
SIRN                             IAML_P
      comp=Z,11μm,0.2s
SIRT  Sirnak           0.30 353  PG    Pg    23 22 23.9 -0.8
SIRT                             SG    Sg    23 22 28.2 -0.5
CUKT  Cukurca          0.90  87  PG    Pg    23 22 37.0 +1.0
CUKT                             SG    Sb    23 22 50.5 +1.1
CUKT  Cukurca          0.90  87  i P   Pg    23 22 36.8 +0.8
CUKT                             i S   Sg    23 22 48.7 +1.0
CUKT                             IAML_P
      comp=Z,721nm,0.2s
MSL   Mosul            0.94 148  ePg   Pg    23 22 37.0 +0.2
MSL                              AML   AML   23 22 38.6
      comp=Z,787nm,0.6s
MSL                              eSg   Sg    23 22 50.6 +1.5
HAKT  HAKKARI          1.04  69  i P   Pg    23 22 38.6 -0.1
HAKT                             i S   Sg    23 22 52.4 +0.2
HAKT                             IAML_P
      comp=Z,2μm,0.3s
GEVA  Gevas            1.20  22  i P   Pg    23 22 41.1 -0.7
GEVA                             i S   Sg    23 22 56.1 -1.2
GEVA                             IAML_P
      comp=Z,593nm,0.1s
BLIS  Bitlis-Merkez    1.25 347  i P   Pb    23 22 42.7 -0.3
BLIS                             i S   Sn    23 22 59.5 -1.0
MARD  Mardin           1.37 275  i P   Pn    23 22 45.8 +1.1
MARD                             i S   Sn    23 23 05.1 +1.7
SVAN  Silvan-Diyarba   1.39 313  PN    Pn    23 22 44.9 -0.2
SVAN  Silvan-Diyarba   1.39 313  i P   Pn    23 22 45.3 +0.2
SVAN                             i S   Sn    23 23 04.9 +1.0
SVAN                             IAML_P
      comp=Z,3μm,0.4s
BASK  Baskale_VAN      1.48  54  i P   Pb    23 22 47.2 +0.3
BASK                             IAML_P
      comp=Z,1μm,0.2s
VANB  Van              1.57  27  PN    Pn    23 22 46.9 -0.6
ADCV  BITLIS_Adilcev   1.62   7  i P   Pg    23 22 49.7 -0.1
ADCV                             IAML_P
      comp=Z,670nm,0.3s
MUSM  Mu-Merkez        1.71 333  i P   Pn    23 22 49.7 +0.3
MUSM                             i S   Sg    23 23 13.1 -0.5
MUSM                             IAML_P
      comp=Z,1μm,0.2s
MLAZ  Malazgirt-MUS    1.94   1  PN    Pn    23 22 53.4 +0.7
DIYA  Diyarbakir       2.01 292  i P   Pb    23 22 56.2 +0.3
DIYA                             i S   Sg    23 23 23.4  0.0
DIYA                             IAML_P
      comp=Z,1μm,0.2s
BNGL  BINGOL           2.04 329  i P   Pn    23 22 55.0 +0.9
BNGL                             i S   Sg    23 23 23.2 -1.2
HANI  Diyarbakir_Han   2.05 307  i P   Pn    23 22 54.3 +0.2
HANI                             i S   Sn    23 23 20.0 -0.1
HANI                             IAML_P
      comp=Z,201nm,0.2s
VRTB  Varto-Mus        2.12 338  PN    Pn    23 22 55.9 +0.8
VRTB  Varto-Mus        2.12 338  i P   Pb    23 22 57.0 -0.8
VRTB                             i S   Sg    23 23 28.5 +1.6
VRTB                             IAML_P
      comp=Z,847nm,0.2s
CLDR  Caldiran         2.25  30  PN    Pn    23 22 57.7 +0.8
BNGB  Bingl            2.29 322  PN    Pn    23 22 58.6 +1.2
IKRK  Kirkuk           2.34 140  ePn   Pn    23 22 56.7 -1.3
IKRK                             eSn   Sn    23 23 26.0 -1.2
EATA  Eleskirt         2.66   0  i P   Pb    23 23 06.5 -0.6
EATA                             IAML_P
      comp=Z,28nm,0.1s
YEDI  Yedisu-Bingol    2.71 326  PN    Pn    23 23 04.3 +1.1
SVRC  Sivrice-ELAZID   2.78 296  PN    Pn    23 23 05.3 +1.1
URFA  Urfa             2.93 276  PN    Pn    23 23 07.7 +1.5
RTB   Rutbah           4.53 204  ePn   Pn    23 23 26.8 -1.3
RTB                              AML   AML   23 23 46.5
      comp=Z,27nm,0.6s
RTB                              eSn   Sn    23 24 18.0 -3.2
```

*IDC **27** 23:29:32.1±3.4, 51°.55N×160°.61E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/33, mbtmp3.6/4, ML2.3/1, MS2.0/1, Ms1 2.0/1, ms1mx2.0/45, Error ellipse: s-maj=91.1km s-min=44.5km az=24.0*
*KRSC **27** 23:29:35.8±10.0, 52°.01N×160°.79E, h60km±10km, ML3.8*
ISC 27 23:29:34.0±2.3, 51°.98N±0°.08×160°.69E±0°.07, h5km±12km, n27, σ1°37/34, mb3.7/3, Off east coast of Kamchatka Peninsula

```
Code  Station Name     Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
SPN   Mys Shipunski    1.20 340  eP    Pb    23 29 57.3 +0.1
SPN                              eS    Sb    23 30 11.5 -1.4
RUS   Russkaya         1.42 290  eP    Pg    23 30 01.8 +0.6
RUS                              eS    Sb    23 30 19.2 -0.1
NLC   Nalytchevo       1.45 326  eP    Pb    23 30 01.7 +0.2
NLC                              eS    Sn    23 30 19.2 -1.1
DALK  Dalny            1.59 312  eP    Pb    23 30 03.5 -0.3
MTVR  Mutnovka         1.63 289  eP    Pg    23 30 04.8 -0.4
MTVR                             eS    Sb    23 30 25.0 -0.4
KDTR  Khodutka, Kamc   1.63 265  eP    Pg    23 30 04.6 -0.7
KDTR                             eS    Sb    23 30 24.1 -1.3
PET   Petropavlovsk    1.63 311  eP    Pb    23 30 04.6 +0.1
UGLR  Uglovaya         1.68 318  eP    Pg    23 30 06.1 -0.1
SDLR  Sedlovina        1.71 320  eP    Pb    23 30 05.9 -0.1
SMAR  Somma            1.73 319  eP    Pb    23 30 06.4  0.0
AVH   Avacha           1.76 318  eP    Pb    23 30 07.2 +0.4
ASAK  Asacha           1.77 284  eP    Pg    23 30 07.4 -0.5
KRER  Koryakskii       1.78 319  eP    Pb    23 30 07.5 +0.2
KRMR  Karymshinskiy    1.79 300  eP    Pb    23 30 06.9 -0.3
KOK   Koryaka          1.82 317  eP    Pb    23 30 07.9 +0.1
KRX   Arik             1.86 319  eP    Pb    23 30 08.7 +0.1
PETK  Petropavlovsk-   2.15 303  Pn    Pb    23 30 12.6 -0.9
      3.5nm,0.3s,baz=107,slow=19,SNR=54
PETK                             Sn    Sg    23 30 42.5 -0.6
      7.0nm,0.3s,baz=114,slow=18,SNR=6.7
PETK                             LR    LR    23 30 45.3
      comp=Z,36nm,21.6s,baz=93,slow=31
APC   Apacha           2.36 295  eP    Pb    23 30 16.2 -0.8
GNL   Ganaly           2.40 317  eP    Pb    23 30 16.4 -1.3
KZV   Kizimen          3.15 356  eP    Pn    23 30 26.2 +1.8
TUMD  Tumrok D         3.24 357  eP    Pn    23 30 27.1 +1.6
TUMD                             eS    Sn    23 31 03.1 -1.3
TUMR  Tumrok           3.33 355  eP    Pn    23 30 29.4 +2.6
KBTR  Krutoberegovo    4.42  16  eP    Pn    23 30 43.4 +1.7
BKI   Bering           4.51  42  eS    Sn    23 31 30.7 -4.9
MKAR  Makanchi Array  48.98 297  P     P     23 38 21.0 -0.2
      0.2nm,0.5s,baz=61,slow=7.5,SNR=4.3
FINES FINESS Array B  61.29 337  P     P     23 39 51.4 +1.6
      1.5nm,0.8s,baz=38,slow=9.6,SNR=7.3
NOA   NORSAR Array B  64.72 344  P     P     23 40 13.9 +1.3
      0.3nm,0.6s,baz=22,slow=6.7,SNR=3.0
```

*JMA **27** 23:34:07.9±0.2, 35°.05N×142°.27E, h57km±5km, M3.4*
*ISCJB **27** 23:34:08.9±1.9, 35°.04N±0°.05×142°.17E±0°.10, h32km±22km, mb4.4/2, Error ellipse: s-maj=13.8km s-min=8.6km az=165.4*
*IDC **27** 23:34:08.8±2.4, 34°.84N×142°.03E, h0km, mb3.1/1, mb1 3.1/3, mb1mx3.1/28, mbtmp3.2/3, ML2.8/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/34, Error ellipse: s-maj=45.3km s-min=28.4km az=77.0*
ISC 27 23:34:10.7±2.3, 35°.03N±0°.06×142°.1E±0°.1, h22km±15km, n20, σ1°26/26, Off east coast of Honshu

```
Code  Station Name     Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
BSO1  Boso 1           0.99 248  P     Pn    23 34 27.8 -0.9
BSO1                             S     Sb    23 34 42.2 +1.0
CHOJ  Chosi            1.21 304  P     Pn    23 34 30.5 -1.8
CHOJ                             S     Sn    23 34 47.1 -1.0
BSO3  Boso 3           1.32 261  P     Pn    23 34 32.9 -0.6
BSO4  Boso 4           1.44 269  P     Pn    23 34 34.8 -0.6
JKUC  kamogawauchiur   1.56 275  P     Pn    23 34 35.9 -1.2
JKUC                             S     Sn    23 34 56.3 -0.3
JIM2  Oshima 3         2.21 263  P     Pn    23 34 44.4 -1.7
JMKN  Mikurajimanish   2.36 242  P     Pn    23 34 46.8 -1.3
JOD2  Odawara 2        2.47 276  P     Pn    23 34 48.3 -1.4
JAG   Ashikaga         2.56 304  P     Pn    23 34 49.7 -1.2
JHJ   Hachijo jima 2   2.70 226  Pn    Pn    23 34 52.0 -0.7
      10nm,0.3s,baz=90,slow=20,SNR=5.5
JHJ                              Sn    Sn    23 35 22.8 -2.0
      43nm,0.3s,baz=267,slow=22,SNR=8.2
JRY   Ryogami san      2.78 292  P     Pn    23 34 52.8 -1.2
JRY                              S     Sn    23 35 26.2 -0.7
JFNN  Fujinakano       2.80 274  S     Sn    23 35 27.7 +0.5
JFT   Otama            2.86 331  P     Pn    23 34 53.5 -1.5
JYN   Shimob           2.94 280  P     Pn    23 34 55.2 -1.0
JYN                              S     Sn    23 35 30.5 -0.3
MJAR  Matsushiro Arr   3.50 297  Pn    Pn    23 35 03.2 -0.6
      0.4nm,0.3s,baz=118,slow=8.6,SNR=11
MJAR                             Sn    Sn    23 35 44.0 -0.5
      0.4nm,0.3s,baz=54,slow=25,SNR=4.0
MAT   Matsushiro       3.50 297  P     Pn    23 35 03.7 -0.1
MAT                              S     Sn    23 35 43.6 -1.0
KSRS  Korea Array     11.70 286  LR    LR    23 41 33.2
      comp=Z,23nm,21.2s,baz=105,slow=38
USRK  Ussuriysk Ar.   12.02 323  LR    LR    23 42 04.2
      comp=Z,44nm,19.7s,baz=112,slow=39
MKAR  Makanchi Array  45.67 304  P     P     23 42 32.4 +2.7
      0.1nm,0.5s,baz=72,slow=9.3,SNR=2.6
WRA   Warramunga Arr  55.16 189  P     P     23 43 41.2 -0.4
      27nm,0.3s,baz=359,slow=6.5,SNR=1.9
```

*ISN **27** 23:41:28.4±1.6, 37°.22N×42°.53E, h0km±8km, ML2.6*
*DDA **27** 23:41:29.8, 37°.18N×42°.51E, h14km±2km, ML2.9*
*ISK **27** 23:41:30.7, 37°.29N×42°.49E, h5km, ML2.7/10*
ISC 27 23:41:29.9±1.3, 37°.20N±0°.03×42°.50E±0°.03, h3km±10km, n26, σ1°00/45, Turkey

```
Code  Station Name     Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
SIRN  Sırnak           0.30 347  i P   Pg    23 41 35.2 -0.6
SIRN                             i S   Sg    23 41 39.5 -0.3
SIRN                             IAML_P
      comp=Z,13μm,0.2s
SIRT  Sirnak           0.31 351  PG    Pg    23 41 35.2 -0.6
SIRT                             SG    Sg    23 41 39.8 -0.1
CUKT  Cukurca          0.88  87  PG    Pg    23 41 48.9 -0.4
CUKT                             SG    Sn    23 42 02.1 -0.6
CUKT  Cukurca          0.88  87  i P   Pb    23 41 47.9  0.0
CUKT                             i S   Sb    23 42 00.4 +0.3
CUKT                             IAML_P
      comp=Z,2μm,0.3s
MSL   Mosul            0.94 148  ePg   Pb    23 41 48.5 -0.3
      baz=330
MSL                              AML   AML   23 41 49.9
      comp=Z,830nm,0.4s
MSL                              eSg   Sn    23 42 03.0 -0.8
HAKT  HAKKARI          1.02  69  i P   Pg    23 41 49.2 -0.3
HAKT                             IAML_P
      comp=Z,2μm,0.3s
GEVA  Gevas            1.20  21  i P   Pg    23 41 52.4 -0.4
GEVA                             i S   Sb    23 42 08.1 -1.1
GEVA                             IAML_P
      comp=Z,372nm,0.2s
BLIS  Bitlis-Merkez    1.25 346  i P   Pn    23 41 54.0 -0.4
BLIS                             i S   Sn    23 42 12.4 +0.5
MARD  Mardin           1.38 275  i P   Pg    23 41 56.4 +0.1
MARD                             i S   Sn    23 42 15.1 +0.2
SVAN  Silvan-Diyarba   1.41 313  PN    Pg    23 41 57.9 +1.1
SVAN                             SN    Sn    23 42 15.9 +0.4
SVAN  Silvan-Diyarba   1.41 313  i P   Pg    23 41 57.1 +0.3
SVAN                             i S   Sn    23 42 17.0 +1.5
SVAN                             IAML_P
      comp=Z,2μm,0.3s
TVAN  Van              1.51  28  i P   Pg    23 41 59.4 +0.6
TVAN                             i S   Sg    23 42 20.9 +2.6
TVAN                             IAML_P
      comp=Z,331nm,0.3s
VANB  Van              1.56  26  PN    Pb    23 41 59.1 -0.4
VANB                             SN    Sg    23 42 19.1 -1.0
ADCV  BITLIS_Adilcev   1.62   6  i P   Pg    23 42 01.9 +1.0
ADCV                             i S   Sg    23 42 23.7 +1.8
ADCV                             IAML_P
      comp=Z,483nm,0.3s
MUSM  Mu-Merkez        1.71 333  i P   Pn    23 42 00.8 +0.1
MUSM                             i S   Sb    23 42 23.7 -0.3
MUSM                             IAML_P
      comp=Z,1μm,0.2s
MLAZ  Malazgirt-MUS    1.94   1  PN    Pb    23 42 04.8 -1.2
DIYA  Diyarbakir       2.03 292  i P   Pb    23 42 06.6 -0.8
DIYA                             i S   Sg    23 42 34.4 -0.6
DIYA                             IAML_P
      comp=Z,677nm,0.3s
BNGL  BINGOL           2.05 329  i P   Pb    23 42 07.7 -0.2
BNGL                             i S   Sb    23 42 34.0 +0.2
HANI  Diyarbakir_Han   2.06 307  i P   Pb    23 42 06.9 -1.0
HANI                             i S   Sn    23 42 29.5 -2.2
HANI                             IAML_P
      comp=Z,148nm,0.2s
VRTB  Varto-Mus        2.12 337  PN    Pb    23 42 07.8 -1.3
VRTB  Varto-Mus        2.12 337  i P   Pb    23 42 09.2  0.0
VRTB                             i S   Sg    23 42 39.3 +1.2
VRTB                             IAML_P
      comp=Z,933nm,0.2s
CLDR  Caldiran         2.24  29  PN    Pb    23 42 09.6 -1.5
BNGB  Bingl            2.30 322  PN    Pb    23 42 10.5 -1.5
IKRK  Kirkuk           2.33 140  ePn   Pn    23 42 10.0 +0.9
IKRK                             AML   AML   23 42 15.3
      comp=Z,23nm,0.5s
IKRK                             eSn   Sn    23 42 38.0 -0.2
AGRB  Hanur-Agry       2.40   9  PN    Pn    23 42 11.4 +1.1
YEDI  Yedisu-Bingol    2.71 326  PN    Pn    23 42 16.1 +1.6
```

NNC 27 23:46:47.4±5.9, 36°.84N×70°.25E, h0km, mb3.8, mpv3.4, 5C-5D, Error ellipse: s-maj=47.1km s-min=31.7km az=172.0, Hindu Kush region

```
Code  Station Name     Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
KK31  Karatay Array    6.26   2  ⇓P    Pn    23 48 23.3 +2.4
      1.1nm,0.3s,baz=177,slow=12,SNR=22
KK31                             ⇓S    Sn    23 49 35.0 +1.8
      4.1nm,0.6s,baz=187,slow=25,SNR=9.1
AAK   Ala-Archa        6.65  28  ⇓P    Pn    23 48 25.2 -1.3
      1.2nm,0.5s
AAK                              ⇑S    Sn    23 49 44.8 +1.9
      7.3nm,0.9s
TKM2  Tokmak 2         7.33  32  ⇓P    Pn    23 48 34.2 -1.6
      1.3nm,0.5s
```

TKM2 ⇑S Sn 23 49 59.1 -0.7
1.5nm,0.6s
AB31 Akbulak array 14.50 332 ⇑P Pn 23 50 14.1 +0.4
0.9nm,0.7s,baz=166,slow=12,SNR=13
AB31 ⇓S Sn 23 52 55.6 +0.5
0.6nm,0.5s,baz=150,slow=22,SNR=3.4
AKTO Aktyubinsk 16.19 331 ⇑P P 23 50 38.5 -0.9
4.2nm,1.4s
AKTO ⇑S Sn 23 53 36.2 0.0
2.4nm,1.2s

BJI ***28*** *00:09:47.4±0.0, 43°.23N×40°.88E, h10km, mb4.9/60, mB5.4/46, Ms5.1/58, Ms7 4.8/57*
DDA ***28*** *00:09:48.3, 43°.24N×41°.56E, h7km±2km, ML4.9*
TIF ***28*** *00:09:49.8, 43°.16N×41°.53E, h8km±3km*
AZER ***28*** *00:09:51.7±0.6, 43°.23N×41°.54E, h2km, ml5.2/11, ms4.1/4, Error ellipse: s-maj=9.3km s-min=5.8km az=27.0*
MOS ***28*** *00:09:51.6±1.1, 43°.20N×41°.57E, h7km, mb5.3/54, MS4.6/47, Error ellipse: s-maj=3.6km s-min=2.8km az=41.8 Broadband fault plane solution: P waves. $M_0$2.10000×10^{17} NP1:ϕ_s=80.00000°, δ73.00000°, λ59.00000°. NP2:ϕ_s=324.00000°, δ35.00000°, λ150.00000°. Principal axes: T Plg52.0000°, Azm315.0000°; N Plg29.0000°, Azm90.0000°; P Plg22.0000°, Azm193.0000°;*
MOS Fault plane solution: P-wave C24, D28 . Felt (III-IV) at Sochi, (II) at Sukhumi, Kutaisi.
ISK ***28*** *00:09:51.0, 43°.25N×41°.55E, h12km, ML5.3/32*
IDC ***28*** *00:09:51.4±0.3, 43°.13N×41°.71E, h0km, mb4.8/31, mb1 4.9/35, mb1mx4.9/36, mbtmp4.8/35, ML3.9/4, MS4.4/44, Ms1 4.4/44, ms1mx4.4/52, Error ellipse: s-maj=7.2km s-min=5.1km az=152.0*
NEIC ***28*** *00:09:52.5±2.8, 43°.25N×41°.66E, h5km±4km, mb5.4/384, MS4.8/351, MW5.1, ML4.9(ISK), ML5.1(TIF), Error ellipse: s-maj=10.8km s-min=6.9km az=126.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^{16}Nm; M_{rr}1.88; $M_{\theta\theta}$-3.67; $M_{\phi\phi}$1.79; $M_{r\theta}$3.24; $M_{\theta\phi}$1.79; $M_{r\phi}$1.13; Best double couple: $M_0$5.00000×10^{16} NP1:ϕ_s=73.00000°, δ76.00000°, λ54.00000°. NP2:ϕ_s=325.00000°, δ39.00000°, λ157.00000°. Principal axes: T 4.5600, Plg46.0000°, Azm306.0000°; N 0.7900, Plg35.0000°, Azm84.0000°; P -5.3500, Plg22.0000°, Azm190.0000°;*
NEIC Felt at K'ut'aisi and Sokhumi, Georgia.
NORS ***28*** *00:09:52.3±0.0, 43°.39N×41°.67E, h9km, MPVA5.4*
ISCJB ***28*** *00:09:53.0±0.1, 43°.230N±0°.009×41°.555E±0°.010, h14km, mb5.1/144, MS4.7/382, Error ellipse: s-maj=1.3km s-min=0.9km az=26.8*
PDG ***28*** *00:09:53.9, 43°.23N×41°.61E, h10km, mb5.3/7*
GCMT ***28*** *00:09:53.5±0.1, 43°.28N±0°.01×41°.65E±0°.02, h12km, MW5.2/99, Moment Tensor Solution. s72,c102; s99,c191; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.63±.01; $M_{\theta\theta}$-0.74±.01; $M_{\phi\phi}$0.10±.01; $M_{r\theta}$0.26±.03; $M_{\theta\phi}$0.12±.01; $M_{r\phi}$0.14±.03; Best double couple: $M_0$0.75700×10^{17} NP1:ϕ_s=82.00000°, δ57.00000°, λ71.00000°. NP2:ϕ_s=294.00000°, δ38.00000°, λ116.00000°. Principal axes: T 0.7200, Plg71.0000°, Azm307.0000°; N 0.0750, Plg16.0000°, Azm93.0000°; P -0.7950, Plg10.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 00:09:53.4±0.6, 43°.23N±0°.02×41°.64E±0°.01, h9km±3km, n1668, σ1°.67/1533, mb5.2/149, MS4.8/382, 71C-84D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.06**	**353**	*d* PG	**Pg**	**00 09 55.0**	**-0.6**
DOMR	**Dombai**	**0.06**	**353**	*i* Pg	**Pg**	**00 09 55.0**	**-0.6**
ARXR	**Arkhyz**	**0.42**	**322**	*i* Pg	**Pg**	**00 10 01.6**	**-0.1**
NEY	**Neytrino**	**0.80**	**88**	⇓*i* PG	**Pg**	**00 10 05.8**	**-2.9**
NEY				*e*S	**Sg**	**00 10 15.4**	**-3.7**
NEY	**Neytrino**	**0.80**	**88**	*i* Pg	**Pg**	**00 10 05.8**	**-2.9**
NEY				*e*Sg	**Sg**	**00 10 15.3**	**-3.8**
SHA1	**Shidzhatmaz**	**0.90**	**55**	*e*PG	**Pg**	**00 10 09.1**	**-1.6**
SHA1				*e*S	**Sg**	**00 10 21.1**	**-1.4**
SHA1	**Shidzhatmaz**	**0.90**	**55**	*i* Pg	**Pg**	**00 10 09.2**	**-1.6**
SHA1				*e*Sg	**Sg**	**00 10 21.6**	**-0.8**
KBZ	**Khabaz**	**1.05**	**61**	Pg	**Pg**	**00 10 11.4**	**-2.0**
	837nm,0.3s,baz=231,slow=5.6,SNR=4880						
KBZ				Lg	Lg	00 10 25.2	
	2μm,0.3s,baz=126,slow=21,SNR=25						
KBZ				LR	LR	00 10 46.4	
	comp=Z,20μm,19.9s,baz=152,slow=52						
KIV	**Kislovodsk**	**1.05**	**46**	PN	**Pg**	**00 10 12.2**	**-1.4**
KIV				SN	**Sb**	**00 10 27.7**	**-0.1**
KIV	**Kislovodsk**	**1.05**	**46**	*e*Pg	**Pg**	**00 10 12.2**	**-1.4**
KIV				*e*Sg	**Sg**	**00 10 26.2**	**-1.1**
KIV	**Kislovodsk**	**1.05**	**46**	⇓*i*P	**Pg**	**00 10 12.2**	**-1.4**
KIV	**Kislovodsk**	**1.05**	**46**	*e*P	**Pg**	**00 10 12.1**	**-1.5**
KIV	**Kislovodsk**	**1.05**	**46**	⇓*i*PG	**Pg**	**00 10 12.1**	**-1.5**
KIV				*e*S	**Sg**	**00 10 26.3**	**-1.0**
KIV	**Kislovodsk**	**1.05**	**46**	P	**Pg**	**00 10 12.2**	**-1.4**
	SNR=7950						
KIV0	**Kislovodsk Arr**	**1.06**	**46**	*i* Pg	**Pg**	**00 10 12.1**	**-1.7**
KIV0				*e*Sg	**Sg**	**00 10 26.1**	**-1.3**
KVAR	**Kislovodsk Arr**	**1.06**	**46**	Pg	**Pg**	**00 10 12.6**	**-1.1**
	baz=259,slow=19						
KVAR				Lg	Lg	00 10 26.6	
	baz=5.7,slow=10						
BEYR	**Belyy Ugol+**	**1.16**	**47**	⇓*i*PG	**Pb**	**00 10 13.8**	**-1.8**
BEYR				*e*S	**Sg**	**00 10 29.4**	**-1.4**
TKB	**Tkibuli**	**1.33**	**131**	P	**Pn**	**00 10 16.1**	**-2.1**
TKB				S	**Sb**	**00 10 35.1**	**-0.5**
TKB	**Tkibuli**	**1.33**	**131**	PG	**Pn**	**00 10 16.0**	**-2.1**
PYA1	**Pyatigorsk**	**1.35**	**51**	⇓*i*PG	**Pn**	**00 10 17.0**	**-1.4**
PYA1				*e*S	**Sb**	**00 10 35.4**	**-0.8**
PYA1	**Pyatigorsk**	**1.35**	**51**	*i* Pg	**Pn**	**00 10 16.9**	**-1.5**
PYA1				*e*Sg	**Sb**	**00 10 35.1**	**-1.1**
NVNR	**Nevinnomyssk**	**1.41**	**10**	*i* Pg	**Pn**	**00 10 18.7**	**-0.5**
NVNR				*e*Sg	**Sg**	**00 10 38.8**	**+0.2**
KBTC	**Kuba-Taba**	**1.42**	**65**	⇓*i*PG	**Pn**	**00 10 18.6**	**-0.7**
KBTC				*e*S	**Sn**	**00 10 38.1**	**0.0**
KBTC	**Kuba-Taba**	**1.42**	**65**	*i* Pg	**Pn**	**00 10 18.6**	**-0.7**
KBTC				*i* Pg	**Sn**	**00 10 38.2**	**+0.1**
SOC	**Sochi**	**1.44**	**285**	*e*PG	**Pn**	**00 10 18.6**	**-1.0**
SOC				*e*		00 10 40.0	
SOC				pmax	pmax		
	comp=Z,7μm,0.6s						
SOC				smax	smax		
	comp=E,7μm,0.7s						
SOC				smax	smax		
	comp=N,3μm,0.6s						
SOC	**Sochi**	**1.44**	**285**	*i* Pg	**Pn**	**00 10 19.9**	**+0.3**
SOC				*i* Sg	**Sg**	**00 10 40.8**	**+1.1**
NCK	**Nalchik**	**1.46**	**79**	*d* PG	**Pn**	**00 10 19.2**	**-0.6**
NCK	**Nalchik**	**1.46**	**79**	*i* Pg	**Pn**	**00 10 19.2**	**-0.6**
NCK				*e*Sg	**Sg**	**00 10 39.8**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.46**	**102**	*e*PG	**Pn**	**00 10 18.9**	**-1.2**
DIGR	**Digorskoe uzhe**	**1.46**	**102**	*e*Pg	**Pn**	**00 10 18.5**	**-1.6**
DIGR				*e*Sg	**Sn**	**00 10 38.0**	**-1.4**
ONI	**Oni**	**1.48**	**115**	P	**Pn**	**00 10 18.8**	**-1.4**
ONI				S	**Sn**	**00 10 39.5**	**-0.2**
ONI	**Oni**	**1.48**	**115**	⇓*i*PG	**Pn**	**00 10 18.8**	**-1.4**
ONI				*e*S	**Sn**	**00 10 39.5**	**-0.2**
ONI	**Oni**	**1.48**	**115**	*e*Pg	**Pn**	**00 10 19.0**	**-1.2**
SRKG	**Sareki**	**1.55**	**125**	P	**Pn**	**00 10 17.3**	**-3.9**
SRKG				S	**Sn**	**00 10 40.2**	**-1.3**
LABN	**Labinsk**	**1.56**	**335**	⇓*i*PG	**Pb**	**00 10 22.6**	**+0.2**
LABN	**Labinsk**	**1.56**	**335**	*i* Pg	**Pb**	**00 10 22.4**	**+0.1**
LABN				*e*Sg	**Sg**	**00 10 47.0**	**+3.6**
LSNR	**Lesken**	**1.60**	**87**	*e*PN	**Pb**	**00 10 23.1**	**0.0**
LSNR				*e*S	**Sg**	**00 10 45.5**	**+0.7**
LSNR	**Lesken**	**1.60**	**87**	*i* Pg	**Pn**	**00 10 21.1**	**-0.8**
BATM	**Batumi**	**1.62**	**178**	P	**Pn**	**00 10 19.7**	**-2.4**
BATM				S	**Sn**	**00 10 41.1**	**-2.0**
BATM	**Batumi**	**1.62**	**178**	PG	**Pn**	**00 10 19.9**	**-2.2**
BATM	**Batumi**	**1.62**	**178**	*e*Pg	**Pn**	**00 10 19.9**	**-2.2**
ZEI	**Tsey**	**1.72**	**104**	*e*PN	**Pb**	**00 10 24.8**	**-0.4**
ZEI				*e*S	**Sg**	**00 10 52.4**	**+3.8**
ZEI	**Tsey**	**1.72**	**104**	*e*Pg	**Pn**	**00 10 24.3**	**+0.7**
ZEI				*e*Sg	**Sb**	**00 10 47.6**	**+0.6**
STDR	**Stavd-Durt**	**1.78**	**85**	*e*PN	**Pg**	**00 10 27.0**	**-0.4**
STDR				*e*S	**Sg**	**00 10 50.9**	**+0.4**
STDR	**Stavd-Durt**	**1.78**	**85**	*i* Pg	**Pb**	**00 10 25.7**	**-0.4**
BCA	**Borcka**	**1.78**	**180**	PN	**Pn**	**00 10 22.9**	**-1.4**
BCA				SN	**Sn**	**00 10 46.2**	**-0.9**
BCA	**Borcka**	**1.78**	**180**	⇑*i*P	**Pn**	**00 10 23.4**	**-0.9**
LZRR	**Lazarevskoye**	**1.79**	**294**	*i* Pg	**Pb**	**00 10 25.6**	**-0.6**
LZRR				*e*Sg	**Sg**	**00 10 51.6**	**+0.9**
KORR	**Kora**	**1.79**	**94**	*e*PN	**Pb**	**00 10 26.7**	**+0.5**
KORR				*e*S	**Sg**	**00 10 51.8**	**+1.1**
KORR	**Kora**	**1.79**	**94**	*e*Pg	**Pn**	**00 10 24.8**	**+0.4**
KORR				*e*Sg	**Sn**	**00 10 48.0**	**+0.8**
DBOC	**Borcka**	**1.88**	**179**	IAML_P			
	comp=Z,56μm,0.2s						
DBOC				*i* P	**Pn**	**00 10 24.3**	**-1.4**
DBOC				*i* S	**Sn**	**00 10 47.6**	**-1.9**
EPOS	**Posof**	**1.90**	**154**	*i* P	**Pn**	**00 10 26.1**	**0.0**
EPOS				*i* Sn	**Sb**	**00 10 52.4**	**+0.2**
ARNR	**Ardon**	**1.94**	**91**	*e*PN	**Pg**	**00 10 30.4**	**-0.1**
ARNR				*e*S	**Sg**	**00 10 56.0**	**+0.4**
ARNR	**Ardon**	**1.94**	**91**	*e*Pg	**Pb**	**00 10 28.0**	**-0.8**
LACR	**Lac**	**1.99**	**101**	*e*PN	**Pn**	**00 10 28.0**	**+0.7**
LACR				*e*S	**Sg**	**00 10 56.2**	**-1.2**
LACR	**Lac**	**1.99**	**101**	*i* Pg	**Pn**	**00 10 27.0**	**-0.3**
LACR				*e*Sg	**Sb**	**00 10 55.5**	**+0.7**
PRTR	**Priterechnaya**	**2.00**	**74**	⇓*i*PN	**Pb**	**00 10 28.8**	**-1.0**
PRTR	**Priterechnaya**	**2.00**	**74**	*e*Pg	**Pb**	**00 10 28.7**	**-1.0**
PRTR				*e*Sg	**Sg**	**00 10 58.2**	**+0.7**
ARTV	**Artvin**	**2.05**	**174**	IAML_P			
	comp=Z,144μm,0.1s						
ARTV				*i* P	**Pn**	**00 10 26.6**	**-1.6**
ARTV				*i* S	**Sn**	**00 10 52.4**	**-1.6**
BTKR	**Batakoyurt**	**2.13**	**85**	*i* Pg	**Pb**	**00 10 30.6**	**-1.4**
BTKR				*e*Sg	**Sb**	**00 10 57.9**	**-0.6**
DAGI	**Agillar**	**2.16**	**174**	*i* P	**Pn**	**00 10 28.3**	**-1.3**
DAGI				*i* S	**Sn**	**00 10 54.6**	**-1.9**
DBAD	**Bademkaya**	**2.21**	**179**	IAML_P			
	comp=Z,15μm,0.2s						
DBAD				*i* P	**Pn**	**00 10 29.0**	**-1.3**
GUDG	**Gudauri**	**2.23**	**109**	P	**Pn**	**00 10 31.7**	**+1.1**
GUDG	**Gudauri**	**2.23**	**109**	PN	**Pn**	**00 10 31.3**	**+0.7**
GUDG	**Gudauri**	**2.23**	**109**	*e*Pg	**Pn**	**00 10 31.3**	**+0.7**
VLKR	**Vladikavkaz**	**2.23**	**94**	*e*PN	**Pb**	**00 10 33.0**	**-0.9**
VLKR				*e*S	**Sb**	**00 11 02.2**	**+0.6**
VLKR	**Vladikavkaz**	**2.23**	**94**	*i* Pg	**Pn**	**00 10 31.9**	**+1.4**
CHAY	**Cayeli-Rize**	**2.25**	**198**	PN	**Pn**	**00 10 28.5**	**-2.1**
CHAY				SN	**Sn**	**00 10 57.1**	**-1.3**
AKH	**Akhalkalaki**	**2.28**	**142**	P	**Pn**	**00 10 30.9**	**-0.5**
AKH				S	**Sb**	**00 11 01.7**	**-1.5**
AKH	**Akhalkalaki**	**2.28**	**142**	⇓*i*PN	**Pn**	**00 10 30.8**	**-0.5**
AKH				*e*S	**Sb**	**00 11 01.6**	**-1.5**
AKH	**Akhalkalaki**	**2.28**	**142**	*e*Pg	**Pn**	**00 10 30.9**	**-0.5**
TRKR	**Terskaya**	**2.31**	**77**	*e*PN	**Pb**	**00 10 34.5**	**-0.6**
TRKR				*e*S	**Sb**	**00 11 04.5**	**+0.8**
TRKR	**Terskaya**	**2.31**	**77**	*i* Pn	**Pn**	**00 10 32.9**	**+1.4**
DDEM	**Demirkent**	**2.34**	**178**	IAML_P			
	comp=Z,51μm,0.2s						
DDEM				*i* P	**Pn**	**00 10 30.7**	**-1.3**
KMGR	**Komgaron**	**2.37**	**93**	*e*PN	**Pb**	**00 10 35.7**	**-0.5**
KMGR				*e*S	**Sb**	**00 11 07.0**	**+1.4**
KMGR	**Komgaron**	**2.37**	**93**	*e*Pn	**Pn**	**00 10 33.8**	**+1.3**
BGD	**Bogdanovka**	**2.44**	**143**	P	**Pn**	**00 10 33.5**	**-0.1**
BGD				S	**Sn**	**00 11 05.5**	**+1.8**
BGD	**Bogdanovka**	**2.44**	**143**	PN	**Pn**	**00 10 33.3**	**-0.3**
BGD	**Bogdanovka**	**2.44**	**143**	*e*Pn	**Pn**	**00 10 33.3**	**-0.3**
KGUR	**Krasnodar**	**2.59**	**315**	*i* Pn	**Pb**	**00 10 39.3**	**-0.7**
KGUR				*e*Sn	**Sg**	**00 11 15.6**	**-1.1**
ERBR	**Yeremizino-Bor**	**2.62**	**342**	⇑*i*PN	**Pb**	**00 10 38.3**	**-2.2**
ERBR				*e*S	**Sb**	**00 11 11.1**	**-1.6**
ERBR	**Yeremizino-Bor**	**2.62**	**342**	*i* Pn	**Pb**	**00 10 38.2**	**-2.2**
ERBR				*e*Sn	**Sb**	**00 11 10.7**	**-2.0**
KTUT	**Trabzon**	**2.64**	**212**	PN	**Pn**	**00 10 33.7**	**-2.3**
MACK	**Trabzon**	**2.67**	**212**	IAML_P			
	comp=Z,103μm,0.1s						
MACK				*i* P	**Pn**	**00 10 35.2**	**-1.4**
MACK				*i* S	**Sn**	**00 11 06.6**	**-2.5**
SENK	**Senkaya-Erzuru**	**2.72**	**168**	PN	**Pn**	**00 10 36.4**	**-1.0**
TBLG	**Delisi**	**2.74**	**122**	P	**Pn**	**00 10 37.8**	**+0.2**
TBLG				S	**Sn**	**00 11 12.9**	**+2.2**
TBLG	**Delisi**	**2.74**	**122**	⇓*i*PN	**Pn**	**00 10 37.7**	**+0.2**
TBLG				*e*S	**Sn**	**00 11 12.9**	**+2.2**
TBLG	**Delisi**	**2.74**	**122**	*e*Pn	**Pn**	**00 10 37.9**	**+0.4**
KZRT	**Kazreti**	**2.75**	**131**	P	**Pn**	**00 10 37.3**	**-0.4**
KZRT				S	**Sn**	**00 11 12.3**	**+1.2**
KZRT	**Kazreti**	**2.75**	**131**	PN	**Pn**	**00 10 37.9**	**+0.2**
KZRT	**Kazreti**	**2.75**	**131**	*e*Pn	**Pn**	**00 10 37.8**	**+0.1**
SEAG	**Tbilisi Sea**	**2.76**	**121**	P	**Pn**	**00 10 37.9**	**+0.1**
SEAG				S	**Sb**	**00 11 14.5**	**-2.3**
SEAG	**Tbilisi Sea**	**2.76**	**121**	PN	**Pn**	**00 10 39.1**	**+1.3**
SEAG	**Tbilisi Sea**	**2.76**	**121**	*e*Pn	**Pn**	**00 10 39.1**	**+1.3**
BTNK	**Botanikuri**	**2.80**	**122**	P	**Pn**	**00 10 38.7**	**+0.3**
BTNK				S	**Sn**	**00 11 14.9**	**+2.6**
BTNK	**Botanikuri**	**2.80**	**122**	PN	**Pn**	**00 10 38.8**	**+0.4**
BTNK	**Botanikuri**	**2.80**	**122**	*e*Pn	**Pn**	**00 10 38.7**	**+0.3**
KARS	**Kars**	**2.81**	**157**	PN	**Pn**	**00 10 38.3**	**-0.3**
KARS	**Kars**	**2.81**	**157**	*e*Pn	**Pn**	**00 10 39.1**	**+0.6**
KARS	**Kars**	**2.81**	**157**	*e*PN	**Pn**	**00 10 39.2**	**+0.6**
KRIK	**Erzurum-spir**	**2.94**	**191**	*i* P	**Pn**	**00 10 39.8**	**-0.6**
KRIK				*i* S	**Sn**	**00 11 15.4**	**-0.4**
GROC	**Groznyy**	**3.04**	**89**	⇑*i*PN	**Pn**	**00 10 42.5**	**+0.9**
GROC	**Groznyy**	**3.04**	**89**	*i* Pn	**Pn**	**00 10 43.1**	**+1.5**
GROC				*e*Sn	**Sb**	**00 11 23.3**	**-1.5**
BAYT	**Aydıntepe-Bayb**	**3.04**	**202**	PN	**Pn**	**00 10 40.7**	**-1.1**
DIGO	**Kars**	**3.10**	**155**	*i* P	**Pn**	**00 10 43.8**	**+1.2**
AKDA	**Akdag**	**3.13**	**184**	*i* P	**Pn**	**00 10 44.3**	**+1.3**
BAYB	**BAYBURT**	**3.14**	**200**	IAML_P			
	comp=Z,8μm,0.2s						
BAYB				*i* P	**Pn**	**00 10 42.1**	**-1.1**
BAYB				*i* S	**Sn**	**00 11 20.1**	**-0.8**
HOMI	**Horasan**	**3.19**	**176**	*i* P	**Pn**	**00 10 45.6**	**+1.8**
KOPR	**Koprukoy-ERZUR**	**3.24**	**177**	PN	**Pn**	**00 10 43.8**	**-0.7**
DVE	**Vedeno**	**3.30**	**93**	*c*ePN	**Pn**	**00 10 45.2**	**0.0**
DVE	**Vedeno**	**3.30**	**93**	*e*Pn	**Pn**	**00 10 45.2**	**0.0**
DVE				*e*Sn	**Sb**	**00 11 30.5**	**-1.8**
KOPT	**Kop Dagi**	**3.32**	**195**	*i* P	**Pn**	**00 10 46.4**	**+0.7**
ANN	**Anapa**	**3.41**	**299**	*e*PN	**Pn**	**00 10 49.1**	**+2.4**
ANN				*e*		00 11 31.9	
ANN				*e*		00 11 38.9	
ANN				pmax	pmax		
	comp=Z,2μm,0.8s						
ANN				smax	smax		
	comp=E,3μm,0.4s						
ANN				smax	smax		
	comp=N,9μm,0.8s						
ANN				smax	smax		
	comp=N,6μm,0.9s						
ANN	**Anapa**	**3.41**	**299**	*e*Pn	**Pn**	**00 10 48.5**	**+1.9**
ANN				*e*Sn	**Sb**	**00 11 32.6**	**-2.9**
BTLR	**Botlikh**	**3.42**	**98**	*e*Pn	**Pn**	**00 10 47.1**	**+0.3**
BTLR				*e*Sn	**Sn**	**00 11 24.9**	**-2.6**
EATA	**Eleskirt**	**3.42**	**169**	*i* P	**Pn**	**00 10 47.3**	**+0.2**
QZX	**Qazax, Azerbai**	**3.52**	**127**	P	**Pn**	**00 10 49.9**	**+1.6**
	SNR=449						
QZX				S	**Sn**	**00 11 32.7**	**+2.7**
KELT	**Kelkit**	**3.56**	**211**	IAML_P			
	comp=Z,7μm,0.1s						
KELT				*i* P	**Pn**	**00 10 48.2**	**-0.7**
KELT				*i* S	**Sn**	**00 11 29.2**	**-1.9**
ORDU	**Ordu-Boztepe**	**3.59**	**233**	IAML_P			
	comp=Z,4μm,0.3s						
ORDU				*i* P	**Pn**	**00 10 47.5**	**-1.7**
ORDU				*i* S	**Sn**	**00 11 29.9**	**-1.8**
ECAT	**Cat-ERZURUM**	**3.65**	**188**	*i* P	**Pn**	**00 10 50.7**	**+0.5**
LGD	**Lagodekhi**	**3.68**	**111**	P	**Pn**	**00 10 52.4**	**+2.0**
LGD	**Lagodekhi**	**3.68**	**111**	*e*PN	**Pn**	**00 10 52.4**	**+2.0**
LGD	**Lagodekhi**	**3.68**	**111**	*e*Pn	**Pn**	**00 10 52.9**	**+2.5**
DDFL	**Dedoflistskaro**	**3.77**	**117**	P	**Pn**	**00 10 50.3**	**-1.4**
DDFL	**Dedoflistskaro**	**3.77**	**117**	PN	**Pn**	**00 10 51.6**	**-0.1**
DDFL	**Dedoflistskaro**	**3.77**	**117**	*e*Pn	**Pn**	**00 10 51.6**	**-0.1**
TASB	**TASBURUN-IGDIR**	**3.78**	**148**	PN	**Pn**	**00 10 51.8**	**-0.1**
XNZR	**Khunzakh**	**3.79**	**99**	*e*Pn	**Pn**	**00 10 53.2**	**+1.2**
AGRB	**Hanur-Agry**	**3.79**	**164**	PN	**Pn**	**00 10 51.9**	**-0.2**
EUZM	**Uzumlu**	**3.81**	**203**	IAML_P			
	comp=Z,8μm,0.3s						
EUZM				*i* P	**Pn**	**00 10 53.0**	**+0.7**
IGDI	**IGDIR**	**3.83**	**151**	*i* P	**Pn**	**00 10 53.3**	**+0.9**
GNI	**Garni**	**3.86**	**142**	PN	**Pn**	**00 10 52.6**	**-0.4**
GNI	**Garni**	**3.86**	**142**	*e*Pn	**Pn**	**00 10 53.4**	**+0.5**
GNI	**Garni**	**3.86**	**142**	*i* P	**Pn**	**00 10 53.4**	**+0.5**
	SNR=29						
GNI	**Garni**	**3.86**	**142**	⇑*e*PN	**Pn**	**00 10 53.1**	**+0.1**
GNI				pmax	pmax		
	comp=Z,360nm,1.0s						
GNI	**Garni**	**3.86**	**142**	P	**Pn**	**00 10 53.8**	**+0.9**
	SNR=484						
GNI	**Garni**	**3.86**	**142**	Pn	**Pn**	**00 10 52.0**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=351,slow=0.6,SNR=24						
GNI				Pg	**Pb**	**00 11 00.8**	**-0.8**
	comp=Z,17nm,0.3s,baz=328,slow=14,SNR=48						
GNI				Lg	Lg	00 11 50.7	
	comp=Z,7.3nm,0.3s,baz=128,slow=19,SNR=2.4						
YEDI	**Yedisu-Bingol**	**3.88**	**193**	PN	**Pn**	**00 10 52.6**	**-0.6**
ERZN	**Erzincan**	**3.91**	**202**	PN	**Pn**	**00 10 53.0**	**-0.7**
TUTA	**Tutak**	**3.92**	**167**	*i* P	**Pn**	**00 10 54.5**	**+0.5**
KARO	**Karliova-Bingo**	**3.94**	**187**	PN	**Pn**	**00 10 53.6**	**-0.6**
GDB	**GEDABAY**	**3.96**	**128**	P	**Pn**	**00 10 56.4**	**+1.9**
	SNR=54						
GDB				S	**Sn**	**00 11 43.8**	**+2.7**
SUSE	**Susehri**	**3.96**	**222**	IAML_P			
	comp=Z,12μm,0.3s						
SUSE				*i* P	**Pn**	**00 10 54.1**	**-0.3**
SUSE				*i* S	**Sn**	**00 11 40.3**	**-0.7**
DYDN	**Diyadin**	**3.99**	**157**	*i* P	**Pn**	**00 10 57.2**	**+2.3**
GNBR	**Gunib**	**4.01**	**100**	⇑*e*PN	**Pn**	**00 10 53.3**	**-1.7**
GNBR	**Gunib**	**4.01**	**100**	*e*Pn	**Pn**	**00 10 58.4**	**+3.4**
GNBR				*e*Sn	**Sn**	**00 11 45.2**	**+3.1**
ZKTA	**Zakatala**	**4.02**	**112**	P	**Pn**	**00 10 56.8**	**+1.8**
	SNR=28						
ZKTA				S	**Sn**	**00 11 45.2**	**+3.0**
VRTB	**Varto-Mus**	**4.07**	**182**	PN	**Pn**	**00 10 55.3**	**-0.5**
VRTB	**Varto-Mus**	**4.07**	**182**	*i* P	**Pn**	**00 10 57.3**	**+1.5**
MLAZ	**Malazgirt-MUS**	**4.14**	**170**	PN	**Pn**	**00 10 56.7**	**-0.2**
HYR	**Heyderabad**	**4.26**	**144**	P	**Pn**	**00 10 58.6**	**+0.2**
	SNR=5.6						
HYR				S	**Sn**	**00 11 50.9**	**+2.7**
KERU	**Kerch**	**4.26**	**301**	⇓*e*PN	**Pn**	**00 10 59.4**	**+1.1**
RSDY	**Resadiye-TOKAT**	**4.29**	**230**	PN	**Pn**	**00 10 57.9**	**-0.8**
BNGL	**BINGOL**	**4.29**	**185**	*i* P	**Pn**	**00 10 59.4**	**+0.5**
BNGB	**Bingl**	**4.29**	**190**	PN	**Pn**	**00 10 58.4**	**-0.5**
BGOL	**Bingol**	**4.30**	**190**	*i* P	**Pn**	**00 10 59.9**	**+0.9**
MAK	**Makhachkala**	**4.31**	**92**	*e*PN	**Pn**	**00 10 56.6**	**-2.4**
MAK				*e*		00 11 09.3	
MAK				*e*		00 11 46.4	
MAK				*e*		00 12 01.1	
MAK				*e*		00 12 12.2	
MAK				pmax	pmax		
	comp=Z,85nm,0.3s						
MAK				smax	smax		
	comp=N,805nm,0.5s						
MAK				smax	smax		
	comp=N,1μm,1.4s						
MAK				MLR	MLR		
	comp=Z,7μm,8.0s						
MAK	**Makhachkala**	**4.31**	**92**	*e*Pn	**Pb**	**00 11 04.7**	**-4.5**
GANJ	**Ganja**	**4.34**	**125**	P	**Pn**	**00 11 01.0**	**+1.4**
	SNR=19						
GANJ				S	**Sn**	**00 11 53.5**	**+3.2**
REFA	**Refahiye_ERZN**	**4.40**	**210**	*i* P	Pn	00 10 54.1	-6.3
TNCL	**Tunceli-Merkez**	**4.40**	**202**	IAML_P			
	comp=Z,1μm,0.2s						
TNCL				*i* P	**Pn**	**00 11 00.2**	**-0.2**
CUZAR	**Zara_SIVAS**	**4.42**	**222**	*i* P	**Pn**	**00 11 02.7**	**+2.0**
CLDR	**Caldiran**	**4.43**	**156**	PN	**Pn**	**00 11 00.9**	**0.0**
CLDR	**Caldiran**	**4.43**	**156**	*i* P	**Pn**	**00 11 02.3**	**+1.4**
ERBA	**Erbaa**	**4.44**	**237**	*i* P	**Pn**	**00 11 01.6**	**+0.8**
VMUR	**Van-Muradiye**	**4.48**	**

SIM	Simferopol'	5.68 290	ePn	Pn	00 11 17.2	-0.7
SIM			eSn	Sn	00 12 22.4	-0.8
KAGI	orum-Kargı	5.71 251	IAML_P			
	comp=Z,2µm,0.4s					
KAGI			i P	Pn	00 11 18.3	0.0
PQL	Pirkuli	5.73 113	P	Pn	00 11 19.6	+1.0
	SNR=24					
PQL			S	Sn	00 12 28.5	+3.9
SIRT	Sirnak	5.75 174	PN	Pn	00 11 19.9	+0.9
SIRT	Sirnak	5.75 174	ePn	Pn	00 11 21.6	+2.6
SIRN	Sırnak	5.76 174	IAML_P			
	comp=Z,270nm,0.3s					
SIRN			i P	Pn	00 11 20.4	+1.4
BZK	Bozkurt	5.77 260	PN	Pn	00 11 18.4	-0.7
BZK	Bozkurt	5.77 260	⇑iP	Pn	00 11 18.5	-0.7
COAL	Corum-Alaca	5.79 241	IAML_P			
	comp=Z,161nm,0.2s					
COAL			i P	Pn	00 11 20.2	+0.7
SIZA	Siyzn	5.81 109	P	Pn	00 11 20.4	+0.7
SIZA			S	Sn	00 12 30.4	+3.8
HAKT	HAKKARI	5.88 164	IAML_P			
	comp=Z,624nm,0.4s					
HAKT			i P	Pn	00 11 23.9	+3.1
SEVA	Sevastopol	5.89 285	⇓iP	Pn	00 11 20.8	0.0
SEV	Sevastopol'	5.91 286	eP	Pn	00 11 19.7	-1.2
SEV			eS	Sn	00 12 26.1	-2.6
SEV	Sevastopol'	5.91 286	ePn	Pn	00 11 19.7	-1.2
SEV			eSn	Sn	00 12 26.1	-2.6
ATGJ	Altiaghaj	5.93 111	P	Pn	00 11 22.1	+0.7
ATGJ			S	Sn	00 12 33.1	+3.6
MARD	Mardin	5.94 187	i P	Pn	00 11 19.1	-2.5
YOZ	Yozgat	5.95 235	PN	Pn	00 11 21.5	-0.2
KAST	KASTAMONU	5.97 256	IAML_P			
	comp=Z,2µm,0.2s					
KAST			i P	Pn	00 11 23.2	+1.4
ELBS	KAHRAMANMARAS	5.97 216	IAML_P			
	comp=Z,435nm,0.6s					
ELBS			i P	Pn	00 11 27.2	+5.2
CORM	Corum	6.06 242	PN	Pn	00 11 22.9	-0.3
GBS	Qobustan	6.08 114	P	Pn	00 11 26.4	+3.0
GBS			S	Sn	00 12 37.7	+4.6
CUKT	Cukurca	6.16 165	PN	Pn	00 11 25.5	+0.9
CUKT	Cukurca	6.16 165	IAML_P			
	comp=Z,338nm,0.4s					
CUKT			i P	Pn	00 11 29.2	+4.6
URFA	Urfa	6.17 201	PN	Pn	00 11 24.9	+0.3
BNN	Bunyan	6.18 227	PN	Pn	00 11 24.9	0.0
SIRC	Yozgat	6.24 234	IAML_P			
	comp=Z,390nm,0.3s					
SIRC			i P	Pn	00 11 26.1	+0.4
ILGA	Ilgaz	6.28 252	ePn	Pn	00 11 26.2	0.0
ILGA			eSn	Sn	00 12 25.1	-13
ILGA	Ilgaz	6.28 252	IAML_P			
	comp=Z,1µm,0.3s					
ILGA			i P	Pn	00 11 26.2	0.0
ALIB	Äli-Bayra	6.42 118	P	Pn	00 11 30.3	+2.3
ALIB			S	Sn	00 12 45.5	+4.2
GLBA	Clilabad	6.46 126	P	Pn	00 11 30.9	+2.3
GLBA			S	Sn	00 12 46.9	+4.5
CDAG	Cicekdag	6.54 239	IAML_P			
	comp=Z,836nm,0.3s					
CDAG			i P	Pn	00 11 30.5	+0.8
DELI	KIRIKKALE	6.62 243	IAML_P			
	comp=Z,332nm,0.2s					
DELI			i P	Pn	00 11 31.6	+0.7
GZT	Gaziantep	6.64 209	IAML_P			
	comp=Z,650nm,0.2s					
GZT			i P	Pn	00 11 32.1	+0.9
ELDT	Eldivan	6.71 249	IAML_P			
	comp=Z,2µm,0.3s					
ELDT			i P	Pn	00 11 35.7	+3.5
SAIM	ADANA	6.73 221	IAML_P			
	comp=Z,35nm,0.2s					
SAIM			i P	Pn	00 11 34.6	+2.2
SURC	SANLIURFA_SURC	6.75 201	i P	Pn	00 11 33.5	+0.9
AVNS	Nevsehir-Avano	6.77 232	IAML_P			
	comp=Z,70nm,0.3s					
AVNS			i P	Pn	00 11 33.7	+0.7
LRK	Lerik	6.84 130	P	Pn	00 11 35.5	+1.6
LRK			S	Sn	00 12 56.3	+4.4
HCB	Kahramanmara	6.90 213	IAML_P			
	comp=Z,292nm,0.3s					
HCB			i P	Pn	00 11 35.9	+1.3
ANDN	Andirin	6.94 217	IAML_P			
	comp=Z,258nm,0.4s					
ANDN			i P	Pn	00 11 37.4	+2.2
BR131	Keskin Array S	6.95 242	ePn	Pn	00 11 35.5	+0.1
BR131			eSn	Sn	00 12 48.0	-6.6
BR131	Keskin Array S	6.95 242	P	Pn	00 11 35.6	+0.1
	SNR=28					
BRTR	Keskin Array B	6.95 242	Pn	Pn	00 11 35.8	+0.3
	comp=Z,1.2nm,0.3s,baz=42,slow=9.0,SNR=52					
BRTR			Sn	Sn	00 12 53.6	-1.0
	comp=Z,6.6nm,0.3s,baz=164,slow=12,SNR=7.6					
BRTR			LR	LR	00 14 33.0	
	comp=Z,2µm,20.8s,baz=54,slow=40					
KBUK	KARABUK-Merkez	6.98 256	IAML_P			
	comp=Z,1µm,0.3s					
KBUK			i P	Pn	00 11 36.5	+0.8
YAHY	KAYSERI_Yahyal	7.00 225	IAML_P			
	comp=Z,52nm,0.2s					
YAHY			i P	Pn	00 11 37.6	+1.5
LKRN	Lenkeran, Azer	7.04 127	P	Pn	00 11 36.9	+0.3
LKRN			S	Sn	00 13 01.1	+4.5
KIRS	Kırehir-Merke	7.11 238	IAML_P			
	comp=Z,879nm,0.3s					
KIRS			i P	Pn	00 11 38.5	+0.9
BTIN	Bartın	7.12 260	IAML_P			
	comp=Z,332nm,0.2s					
BTIN			i P	Pn	00 11 38.4	+0.7
ASTR	Astara	7.15 128	P	Pn	00 11 38.3	+0.3
ASTR			S	Sn	00 13 03.4	+4.1
KUZU	Kuzuini	7.33 210	IAML_P			
	comp=Z,763nm,0.2s					
KUZU			i P	Pn	00 11 42.6	+1.9
BBAL	Bala	7.38 243	IAML_P			
	comp=Z,111nm,0.2s					
BBAL			i P	Pn	00 11 43.9	+2.6
ANTO	Ankara	7.43 246	ePn	Pn	00 11 42.4	+0.4
ANTO	Ankara	7.43 246	eP	Pn	00 11 42.4	+0.4
BR231	Keskin MP Arra	7.46 246	ePn	Pn	00 11 42.2	-0.2
AKSY	AKSARAY - Alti	7.51 235	IAML_P			
	comp=Z,20nm,0.2s					
AKSY			i P	Pn	00 11 44.3	+1.2
BCAM	Yenicaga	7.52 255	IAML_P			
	comp=Z,335nm,0.3s					
BCAM			i P	Pn	00 11 44.0	+0.8
KKUL	Konya-Kulu	7.72 241	IAML_P			
	comp=Z,86nm,0.3s					
KKUL			i P	Pn	00 11 47.2	+1.2
KIBS	BOLU	7.83 252	IAML_P			
	comp=Z,99nm,0.4s					
KIBS			i P	Pn	00 11 47.8	+0.4
YURE	YUREGIR	7.88 218	i P	Pn	00 11 44.5	-3.5
VORD	Divnogorie	7.90 349	eP	Pn	00 11 50.0	+1.7
VORD			pmax	pmax		
	comp=Z,320nm,1.2s					
YIGI	Dzce	7.91 257	IAML_P			
	comp=Z,86nm,0.3s					
YIGI			i P	Pn	00 11 49.9	+1.4
GULE	Gulek	7.92 224	IAML_P			
	comp=Z,1µm,0.7s					
GULE			i P	Pn	00 11 52.3	+3.6
VRH	Novokhopyorsk	7.98 0	eP	Pn	00 11 50.8	+1.5
VRH			pmax	pmax		
	comp=Z,290nm,1.7s					
VRH			pmax	pmax		
	comp=Z,410nm,1.8s					
VRH			MLR	MLR		
	comp=Z,10µm,14.0s					
KERG	Konya-Eregli	8.16 227	IAML_P			
	comp=Z,194nm,1.0s					
KERG			i P	Pn	00 11 55.7	+3.6
VSR	Storozhevoye	8.17 349	eP	Pn	00 11 52.4	+0.5
VSR			pmax	pmax		
	comp=Z,380nm,0.6s					
VSR			pmax	pmax		
	comp=Z,260nm,0.4s					
VSR			MLR	MLR		
	comp=Z,7µm,10.0s					
MDUB	Mudurnu	8.26 254	ePn	Pn	00 11 54.9	+1.4
BTAS	Taskesti	8.37 255	i P	Pn	00 11 57.6	+2.8
SAHE	Sakarya_HENDEK	8.37 257	i P	Pn	00 11 56.2	+1.4
KDHN	Kadinhani	8.61 240	IAML_P			
	comp=Z,334nm,0.4s					
KDHN			i P	Pn	00 11 59.1	+1.0
VORR	Voronezh	8.61 350	P	Pn	00 11 55.0	-2.9
VORR			pmax	pmax		
	comp=Z,750nm,0.4s					
KAND	Kocaeli-Kandir	8.76 260	i P	Pn	00 11 59.6	-0.6
SRCK	Saricakaya, Es	8.84 253	i P	Pn	00 12 02.7	+1.5
CIFT	Cifteler, Eski	8.85 248	i P	Pn	00 12 03.9	+2.5
GEYV	SAKARYA_Geyve	8.89 256	i P	Pn	00 12 07.0	+5.0
KMER	Konya-Meram	8.92 235	i P	Pn	00 12 06.8	+4.3
BORA	Eskisehir	9.03 252	i P	Pn	00 12 06.5	+2.6
DOGA	KONYA_Doganhis	9.14 239	i P	Pn	00 12 06.8	+1.3
SILT	Sile	9.14 261	⇑iP	Pn	00 12 04.9	-0.4
ERMK	Ermenek	9.38 228	i P	Pn	00 12 13.7	+4.8
TLCR		9.41 286	⇓iP	Pn	00 12 07.8	-1.2
EFOR	EFORIE	9.47 280	⇓iP	Pn	00 12 07.6	-2.2
TSMN	Mangalia Port-	9.49 278	⇑iP	Pn	00 12 09.4	-0.7
MANR	Mangalia	9.50 278	⇓iP	Pn	00 12 07.1	-3.1
LPSR	Galich'ya Gora	9.55 350	eP	Pn	00 12 11.5	+0.6
LPSR			pmax	pmax		
	comp=Z,600nm,0.7s					
LPSR			pmax	pmax		
	comp=Z,510nm,0.7s					
LPSR			MLR	MLR		
	comp=Z,6µm,10.0s					
MFTR	Murfatlar	9.62 280	⇑iP	Pn	00 12 09.5	-2.4
KIS	Kishinev	9.81 297	⇓iP	Pn	00 12 13.5	-1.0
	comp=Z,500nm,1.4s					
KIS			i S	Sn	00 14 06.5	+1.8
KIS			i Li		00 14 36.0	
KIS			i LQ	LQ	00 15 14.0	
KIS			i LR	LR	00 15 40.0	
	comp=Z,5µm,12.0s					
KIS	Kishinev	9.81 297	⇓iP	Pn	00 12 13.5	-1.0
KIS			i S	Sn	00 14 06.5	+1.8
KIS			pmax	pmax		
	comp=Z,500nm,1.4s					
KIS			MLR	MLR		
	comp=Z,5µm,12.0s					
CFR	Carcaliu	9.89 286	⇓iP	Pn	00 12 12.6	-3.0
CVDA	Cernavoda	9.90 281	⇓iP	Pn	00 12 13.7	-2.0
TLB	Topalu	9.91 283	⇑iP	Pn	00 12 13.2	-2.6
KEPZ	Antalya-Kepez	9.95 234	i P	Pn	00 12 21.1	+4.7
HARR	Harsova	9.99 283	⇓iP	Pn	00 12 15.0	-2.0
GAZI	Gazipasa	10.01 229	i P	Pn	00 12 22.1	+4.8
ISP	Isparta	10.03 241	⇓eP	Pn	00 12 19.4	+1.7
LEOM	Leova	10.05 293	⇑iP	Pn	00 12 16.2	-1.5
ICOR	Ion Corvin	10.07 280	⇓iP	Pn	00 12 15.4	-2.6
AMRR	Amara	10.41 283	⇓iP	Pn	00 12 21.1	-1.6
BIR	Birlad	10.42 292	⇑iP	Pn	00 12 20.8	-2.0
CSS	Mathiatis	10.47 221	ePn	Pn	00 12 24.1	+0.4
PHSR	Pinarhisar	10.56 266	⇑iP	Pn	00 12 23.8	-0.9
PETR	Petresti	10.59 289	⇑iP	Pn	00 12 23.4	-1.8
IAS	Iasi	10.69 297	⇑iP	Pn	00 12 24.8	-1.7
GRER		10.73 287	⇓iP	Pn	00 12 27.1	0.0
LEHL	Lehliu	10.78 282	⇓iP	Pn	00 12 25.4	-2.3
BALB	Balikesir	10.93 256	ePn	Pn	00 12 29.4	-0.4
BISRR	Bisoca	10.93 287	⇑iP	Pn	00 12 29.6	-0.3
VRI	Vrincioaia	10.96 289	⇑iP	Pn	00 12 28.5	-1.8
MANT	Manisa	10.97 249	ePn	Pn	00 12 30.4	-0.3
ISR	Istrita	11.01 285	⇑iP	Pn	00 12 30.8	-0.1
PLOR	Plostina	11.01 289	⇑iP	Pn	00 12 29.5	-1.5
TESR	Tescani	11.13 292	⇓iP	Pn	00 12 30.5	-2.1
SULR		11.19 283	⇓iP	Pn	00 12 33.3	0.0
AKASG	Malin Array Be	11.29 316	Pn	Pn	00 12 34.3	-0.4
	comp=Z,8.1nm,0.3s,baz=116,slow=13,SNR=44					
AKASG			Sn	Sn	00 14 38.0	-3.0
	comp=Z,8.3nm,0.3s,baz=122,slow=24,SNR=5.6					
AKASG			Lg	Lg	00 15 44.5	
	baz=124,slow=28,SNR=4.5					
AKASG			LR	LR	00 17 02.5	
	comp=Z,2µm,18.2s,baz=95,slow=38					
AKBB	Malin Array Si	11.29 316	ePn	Pn	00 12 33.1	-1.7
AKBB	Malin Array Si	11.29 316	eP	Pn	00 12 33.1	-1.7
KIEV	Kiev	11.30 316	ePn	Pn	00 12 32.6	-2.2
KIEV	Kiev	11.30 316	⇑iP	Pn	00 12 33.3	-1.5
KIEV	Kiev	11.30 316	i P	Pn	00 12 33.8	-1.0
	SNR=14					
KIEV	Kiev	11.30 316	deP	Pn	00 12 34.3	-0.5
MMAI	Mount Meron Ar	11.31 208	Pn	Pn	00 12 37.8	+2.6
	comp=Z,0.7nm,0.3s,baz=43,slow=12,SNR=8.7					
MMAI			LR	LR	00 17 15.5	
	comp=Z,2µm,20.8s,baz=10.0,slow=40					
BUC1	Bucharest	11.34 281	⇓iP	Pn	00 12 35.2	-0.2
SGRR	Singureni	11.38 280	⇓iP	Pn	00 12 33.2	-2.8
SHMJ	Saham	11.46 206	P	Pn	00 12 41.6	+4.5
	comp=Z,56nm,1.3s					
MLR	Muntele Rosu	11.46 287	ePn	Pn	00 12 35.5	-1.7
MLR			eSn	Sn	00 14 32.7	-13
MLR	Muntele Rosu	11.46 287	⇓iP	Pn	00 12 36.2	-1.0
MLR	Muntele Rosu	11.46 287	Pn	Pn	00 12 37.0	-0.2
	comp=Z,3.1nm,0.3s,baz=76,slow=3.7,SNR=107					
MLR			Sn	Sn	00 14 43.3	-2.0
	comp=Z,18nm,0.3s,baz=145,slow=21,SNR=11					
MLR			LR	LR	00 19 03.0	
	comp=Z,5µm,18.9s,baz=74,slow=48					
BIZ	Bicaz	11.59 294	⇑iP	Pn	00 12 36.8	-2.0
PRAR	RASCA	11.61 296	⇓iP	Pn	00 12 37.3	-1.8
OZUR		11.65 290	⇑iP	Pn	00 12 37.9	-1.8
ASF	Jabal al Asfar	11.65 200	Pn	Pn	00 12 40.5	+0.6
	comp=Z,0.1nm,0.3s,baz=356,slow=8.0,SNR=5.1					
ASF			Lg	Lg	00 15 58.1	
	comp=Z,0.1nm,0.3s,baz=220,slow=18,SNR=2.5					
ASF			LR	LR	00 17 46.4	
	comp=Z,3µm,18.5s,baz=332,slow=41					
ALN	Alexandroupoli	11.82 264	ePn	Pn	00 12 39.8	-2.2
ALN	Alexandroupoli	11.82 264	eP	Pn	00 12 39.8	-2.2
DOPR	Dopca	11.90 289	⇓iP	Pn	00 12 40.9	-2.2
MTUR	Matau	12.06 285	⇑iP	Pn	00 12 44.7	-0.6
VOIR		12.08 286	⇓iP	Pn	00 12 44.2	-1.5
HUMR	Humele	12.09 282	⇓iP	Pn	00 12 43.8	-1.9
BURAR	Bucovina Array	12.34 296	⇑iP	Pn	00 12 46.8	-2.4
OBN	Obninsk	12.34 346	ePn	Pn	00 12 47.9	-1.2
OBN	Obninsk	12.34 346	⇓iP	Pn	00 12 47.2	-1.9
OBN	Obninsk	12.34 346	deP	Pn	00 12 47.1	-1.9
OBN			eS	Sn	00 15 07.0	+0.4
OBN			pmax	pmax		
	comp=Z,272nm,1.5s					
OBN			MLR	MLR		
	comp=Z,5µm,15.0s					
OBN	Obninsk	12.34 346	Pn	Pn	00 12 47.2	-1.9
	comp=Z,1.3nm,0.3s,baz=151,slow=6.2,SNR=50					
OBN			Sn	Sn	00 15 05.5	-1.1
	comp=Z,0.3nm,0.3s,baz=294,slow=20,SNR=2.2					
OBN			Lg	Lg	00 16 15.8	
	comp=Z,0.8nm,0.3s,baz=167,slow=23,SNR=3.7					
OBN			LR	LR	00 17 47.4	
	comp=Z,2µm,18.1s,baz=158,slow=38					
ARR	Arges	12.37 286	⇓iP	Pn	00 12 48.4	-1.2
VLAD	Vladila	12.52 279	⇑iP	Pn	00 12 48.3	-3.2
MOS	Moscow	12.79 350	eP	Pn	00 12 52.1	-3.0
MOS			eS	Sn	00 15 14.3	-3.2
MOS			pmax	pmax		
	comp=Z,500nm,2.0s					
MOS			pmax	pmax		
	comp=Z,230nm,1.4s					
MOS			MLR	MLR		
	comp=N,4µm,10.0s					
MOS			MLR	MLR		
	comp=Z,5µm,10.0s					
ARCR	ARCALIA	12.79 294	⇑iP	Pn	00 12 53.2	-2.1
AMAZ	Amatzia	12.83 207	P	Pn	00 13 01.8	+5.9
	comp=Z,104nm,1.6s					
GHAJ	Ghor Haditha	12.84 204	P	Pn	00 12 57.5	+1.5
	comp=Z,47nm,1.4s					
LOT	Lotru	12.98 286	⇑iP	Pn	00 12 56.2	-1.8
CJR	Cluj-Napoca	13.24 291	⇓iP	Pn	00 13 00.5	-0.9
AKTO	Aktyubinsk	13.31 52	P	Pn	00 12 58.8	-3.6
AKTO			pmax	pmax		
	comp=Z,63nm,1.1s					
AKTO	Aktyubinsk	13.31 52	Pn	Pn	00 13 00.6	-1.8
	comp=Z,1.4nm,0.3s,baz=252,slow=11,SNR=25					
AKTO			Sn	Sn	00 15 22.4	-8.1
	comp=Z,0.6nm,0.3s,baz=233,slow=20,SNR=1.8					
AKTO			LR	LR	00 19 42.1	
	comp=Z,2µm,20.7s,baz=234,slow=44					
JDRJ	Daraweish	13.35 203	P	Pn	00 13 04.2	+1.1
	comp=Z,127nm,1.7s					
BMR	Baia Mare	13.48 296	⇓iP	Pn	00 13 01.5	-3.2
VTS	Vitosha	13.50 274	ePn	Pn	00 13 02.6	-2.6
VTS			eSn	Sn	00 15 23.4	-12
VTS	Vitosha	13.50 274	P	Pn	00 13 02.5	-2.6
VTS	Vitosha	13.50 274	⇑iP	Pn	00 13 03.3	-1.8
VTS	Vitosha	13.50 274	eP	Pn	00 13 02.6	-2.6
KARP	Karpathos	13.56 240	P	Pn	00 13 08.2	+2.4
PUNG	Punghina	13.56 281	⇓iP	Pn	00 13 04.9	-0.9
GEYT	Alibeck	13.59 107	Pn	Pn	00 13 05.2	-1.1
	comp=Z,0.9nm,0.3s,baz=289,slow=14,SNR=30					
GYA0B	ALIBECK ARRAY	13.59 107	ePn	Pn	00 13 05.2	-1.1
GZR	Gura Zlata	13.68 286	⇑iP	Pn	00 13 06.1	-1.3
APE	Apeiranthos	13.76 249	deP	Pn	00 13 10.2	+1.6
LVV	L'vov	13.78 305	eP	Pn	00 13 06.0	-2.7
LVV			eS	Sn	00 15 42.7	+0.9
LVV			MLR	MLR		
	comp=N,2µm,10.0s					
LVV			MLR	MLR		
	comp=E,4µm,10.0s					
LVV			MLR	MLR		
	comp=Z,3µm,10.0s					
SOH	Sokhos	13.80 266	P	P	00 13 19.2	+1.5
DRGR		13.85 291	⇓iP	Pn	00 13 06.3	-3.5
PLG	Polygyros	13.87 264	P	P	00 13 19.0	+0.6
HERR	Herculane	13.92 283	⇑iP	Pn	00 13 07.4	-3.3
AB31	Akbulak array	14.02 58	P	Pn	00 13 09.4	-2.5
AB31			pmax	pmax		
	comp=Z,39nm,0.9s					
ABKAR	Akbulak array	14.02 58	ePn	Pn	00 13 10.6	-1.4
SANT	Santorini	14.19 247	ePn	Pn	00 13 12.7	-1.7
TRPA	Tarpa	14.21 297	⇓iP	Pn	00 13 11.2	-3.4
TRPA	Tarpa	14.21 297	eP	Pn	00 13 10.0	-4.6
MDVR	Moldovita	14.42 283	⇑iP	Pn	00 13 15.9	-1.7
MICGM	Minsk	14.43 326	eP	Pn	00 13 13.0	-4.6
MICGM			ePP	P	00 13 24.0	-0.5
MICGM			LRM	MLR	00 15 12.0	
	comp=Z,7.1nm,16.0s					
MICGM			eS	Sn	00 15 50.0	-7.6
MICGM			eSS	SnSn	00 16 04.0	-5.9
MICGM			eLQ	LQ	00 17 44.0	
MICGM			eLR	LR	00 18 38.0	
MNK	Minsk	14.43 326	eP	Pn	00 13 13.0	-4.6
MNK			eS	Sn	00 15 50.0	-7.6
MNK			MLR	MLR		
	comp=Z,7µm,16.0s					
PTL	Penteli	14.44 255	P	Pn	00 13 18.1	+0.2
LTVH	Ltavrtes, Hu	14.49 293	eP	Pn	00 13 20.0	+1.6
UZH	Uzhgorod	14.49 299	c iP	Pn	00 13 15.4	-3.1
UZH			eS	Sn	00 15 55.6	-3.5
BZS	Buzias	14.50 286	⇓iP	Pn	00 13 15.2	-3.4
KWP	Kalwaria Pacla	14.52 303	eP	Pn	00 13 16.9	-1.9
KWP	Kalwaria Pacla	14.52 303	ePn	Pn	00 13 17.2	-1.7
KWP	Kalwaria Pacla	14.52 303	eP	Pn	00 13 17.2	-1.7
EIL	Elat	14.55 204	P	Pn	00 13 19.1	-0.3
	comp=Z,45nm,1.4s					
EIL	Elat	14.55 204	Pn	Pn	00 13 21.3	+1.9
	comp=Z,0.2nm,0.3s,baz=344,slow=4.8,SNR=11					
EIL			LR	LR	00 19 28.8	
	comp=Z,2µm,19.2s,baz=19,slow=40					
ATH	Athens Observa	14.58 255	P	Pn	00 13 20.1	+0.3
KOLS	Kolonicke sedl	14.58 300	eP	Pn	00 13 17.9	-1.8
KOLS	Kolonicke sedl	14.58 300	ePN	Pn	00 13 17.9	-1.8
KOLS	Kolonicke sedl	14.58 300	eSN	Sn	00 15 50.7	-11
ATAL	Atalanti	14.77 258	P	Pn	00 13 21.2	-1.1
AGG	Agios Georgios	15.14 260	ePn	Pn	00 13 28.1	+0.8
	comp=Z,97nm,1.1s					
AGG	Agios Georgios	15.14 260	P	Pn	00 13 27.1	-0.2
AGG	Agios Georgios	15.14 260	eP	Pn	00 13 28.1	+0.8
AGG			pmax	pmax		
	comp=Z,97nm,1.1s					
NACGM	Naroch	15.17 326	eP	Pn	00 13 23.0	-4.5
NACGM			PM		00 13 26.0	
	comp=Z,0.2nm,1.0s					
NACGM			ePP	sP	00 13 47.0	+10
NACGM			ePPP	PPP	00 14 07.0	
NACGM			eS	Sn	00 16 04.0	-11
NACGM			eSS	S	00 16 52.0	+19
NACGM			eLQ	LQ	00 17 58.0	
NACGM			eLR	LR	00 19 18.0	
NACGM			LRM	MLR	00 21 18.0	
	comp=Z,5.3nm,8.0s					
THL	Klokotos Trika	15.17 263	P	Pn	00 13 28.3	+0.6
IDI	Anoyia	15.19 244	Pn	Pn	00 13 30.4	+2.4
	comp=Z,0.5nm,0.3s,baz=62,slow=12,SNR=4.6					
IDI			LR	LR	00 20 55.0	
	comp=Z,620nm,19.9s,baz=54,slow=44					
KRUS	Krusevo	15.20 270	i P	P	00 13 30.9	-2.4
BIA	Bitola	15.23 269	i P	Pn	00 13 29.1	+0.6
KRND	KRANIDI	15.25 254	P	Pn	00 13 28.7	-0.1
FNA	Florina	15.26 268	ePn	Pn	00 13 29.2	+0.3
	comp=Z,54nm,1.1s					
FNA			eSn	Sn	00 16 10.3	-7.6
FNA	Florina	15.26 268	P	P	00 13 32.8	-1.0
FNA	Florina	15.26 268	eP	Pn	00 13 29.2	+0.3
FNA			e		00 16 10.3	
FNA			pmax	pmax		
	comp=Z,54nm,1.1s					
STHS	Stebnicka Huta	15.37 301	eP	Pn	00 13 27.6	-2.6
STHS			e		00 16 10.9	
STHS	Stebnicka Huta	15.37 301	ePN	Pn	00 13 27.6	-2.6
STHS	Stebnicka Huta	15.37 301	eSN	Sn	00 16 10.9	-10
IDID	Didziasalis	15.47 327	eP	Pn	00 13 30.0	-1.6
IDID			IAmb	IAmb	00 13 46.2	
	comp=Z,41nm,1.0s					
KPRO	Kipourio	15.51 265	P	P	00 13 37.8	+1.1
EVR	Evrytania	15.55 261	P	P	00 13 37.9	+0.7
GUR	Goura	15.57 257	P	Pn	00 13 34.1	+1.0
VAM	Vamos	15.57 246	P	Pn	00 13 32.9	-0.1
SERG	Sergoula	15.57 259	P	Pn	00 13 34.2	+1.2
OHR	Ohrid	15.59 269	i P	P	00 13 35.5	-2.0
ANX	Ano Chora	15.60 259	P	Pn	00 13 34.1	+0.7
NEST	Nestorio	15.60 267	P	P	00 13 38.1	+0.4
PENT	Pentalofos	15.60 266	P	P	00 13 38.2	+0.5
KECS	Kecovo	15.63 297	eP	Pn	00 13 33.5	-0.1
KECS			e		00 16 18.3	
KECS	Kecovo	15.63 297	ePN	Pn	00 13 33.5	-0.1
KECS	Kecovo	15.63 297	eSN	Sn	00 16 18.3	-8.5
KLV	Kalavryta, Ach	15.66 257	P	Pn	00 13 34.9	+0.7
DIVS	Divibare	15.69 281	eP	Pn	00 13 31.9	-2.6
IMMV	Iera Moni Meta	15.69 246	P	Pn	00 13 34.4	-0.1
IIGN	Ignalina	15.71 326	eP	Pn	00 13 32.3	-2.3
IIGN			IAmb	IAmb	00 13 42.5	
	comp=Z,60nm,0.9s					
PHP	Peshkopia	15.72 272	P	P	00 13 37.4	-1.6
VLI	Veliai	15.73 252	P	Pn	00 13 34.5	-0.5
FRGS	Fruska Gora	15.77 285	⇑iP	Pn	00 13 35.5	0.0
VLX	Vlachokerasia	15.80 255	P	Pn	00 13 37.2	+1.1
PVO	Paravola	15.87 260	P	P	00 13 39.5	-1.1
P

ULC	**Ulcinj**	**16.53 273**	⇓*i*P	**Pn**	**00 13 46.5**	**+1.2**
NKY	**Niksic**	**16.56 276**	⇓*i*P	**Pn**	**00 13 46.5**	**+0.7**
UPM	**Unac-Piva**	**16.57 278**	⇓*i*P	**Pn**	**00 13 46.6**	**+0.7**
UPM	**Unac-Piva**	**16.57 278**	*e*P	**Pn**	**00 13 46.6**	**+0.7**
NKME	**Niksic**	**16.60 276**	⇓*i*P	**Pn**	**00 13 47.3**	**+1.1**
MORH	**Mrgy, Hungar**	**16.60 288**	*e*P	**Pn**	**00 13 45.1**	**-1.1**
MORH			*e*S	**S**	**00 16 57.1**	**-4.9**
CEME	**Cevo**	**16.66 275**	⇓*i*P	**Pn**	**00 13 47.6**	**+0.6**
VYHS	**Vyhne**	**16.71 296**	*e*P	**Pn**	**00 13 45.1**	**-2.4**
VYHS	**Vyhne**	**16.71 296**	*e*PN	**Pn**	**00 13 45.1**	**-2.4**
BUM	**Brajici-Budva**	**16.72 275**	⇓*i*P	**Pn**	**00 13 48.5**	**+0.7**
PABE	**Paberze**	**16.77 323**	*e*P	**Pn**	**00 13 44.1**	**-4.1**
PABE			IAmb	IAmb	00 13 48.8	
	comp=Z,317nm,0.8s					
BRY	**Bratogost**	**16.88 277**	⇓*i*P	**P**	**00 13 51.0**	**-0.9**
SRO2	**Moca**	**16.89 294**	*e*P	**Pn**	**00 13 49.1**	**-0.7**
SRO2	**Moca**	**16.89 294**	*e*PN	**Pn**	**00 13 49.1**	**-0.7**
CSKK	**Cskako**	**16.94 292**	*e*P	**P**	**00 13 54.0**	**+1.6**
CSKK			*e*S	**S**	**00 17 12.1**	**+3.1**
SRO	**Srobarova**	**16.95 294**	*e*P	**Pn**	**00 13 51.4**	**+0.8**
SRO	**Srobarova**	**16.95 294**	*e*PN	**Pn**	**00 13 51.4**	**+0.8**
HCY	**Herceg Novi**	**16.99 275**	⇓*i*P	**P**	**00 13 52.5**	**-0.4**
HCY	**Herceg Novi**	**16.99 275**	*e*P	**P**	**00 13 53.5**	**+0.6**
TREB	**Trebinje**	**17.04 276**	*e*P	**P**	**00 13 53.9**	**+0.3**
ARU	**Arti**	**17.07 33**	*e*Pn	**Pn**	**00 13 48.4**	**-3.6**
	comp=Z,94nm,1.1s					
ARU	**Arti**	**17.07 33**	*c i*P	**Pn**	**00 13 48.9**	**-3.1**
ARU			S	**Sn**	**00 16 57.4**	**-4.4**
ARU			pmax	pmax		
	comp=Z,56nm,1.6s					
ARU			MLR	MLR		
	comp=Z,2μm,15.0s					
ARU	**Arti**	**17.07 33**	P	**Pn**	**00 13 48.9**	**-3.1**
	comp=Z,0.0nm,0.3s,baz=239,slow=9.2,SNR=23					
ARU			S	**Sn**	**00 17 04.1**	**+2.4**
	comp=Z,0.0nm,0.3s,baz=107,slow=19,SNR=2.6					
ARU			LR	LR	00 22 47.6	
	comp=Z,2μm,18.0s,baz=228,slow=45					
TIH	**Tihany**	**17.15 291**	⇓*e*P	**P**	**00 13 54.0**	**-0.7**
TIH			*e*S	**S**	**00 17 14.0**	**+0.8**
OKC	**Ostrava-Krasne**	**17.42 300**	*e*P	**Pn**	**00 13 54.5**	**-1.9**
OKC			MLR	MLR		
	comp=Z,3μm,12.2s					
OKC	**Ostrava-Krasne**	**17.42 300**	*e*P	**Pn**	**00 13 54.5**	**-1.9**
OKC			*e*x	x	00 14 02.1	
OKC			AMS	AMS	00 22 00.0	
	comp=Z,3μm,12.2s					
RAC	**Raciborz**	**17.45 301**	*e*P	**Pn**	**00 13 55.0**	**-1.8**
RAC			MLR	MLR		
	comp=Z,3μm,14.2s					
STON	**Ston**	**17.49 277**	*i* P	**P**	**00 13 59.3**	**+0.8**
STON	**Ston**	**17.49 277**	*e*P	**P**	**00 14 00.1**	**+1.6**
JAVC	**Velka Javorina**	**17.53 297**	*e*PN	**Pn**	**00 13 56.7**	**-1.2**
BLY	**Banja Luka**	**17.65 283**	*e*Pn	**P**	**00 14 01.6**	**+1.3**
	comp=Z,67nm,1.2s					
BLY			*e*PcP	PcP	00 18 29.4	-8.5
BLY	**Banja Luka**	**17.65 283**	⇑*i*P	**Pn**	**00 13 58.5**	**-0.8**
BLY	**Banja Luka**	**17.65 283**	⇑*i*P	**P**	**00 14 00.0**	**-0.2**
KLMR	**Klimovskoe**	**17.70 357**	⇓*i*P	**Pn**	**00 13 56.1**	**-3.7**
KLMR			pmax	pmax		
	comp=Z,529nm,1.5s					
MODS	**Modra-Piesok**	**17.71 295**	*e*P	**Pn**	**00 13 58.2**	**-1.9**
MODS	**Modra-Piesok**	**17.71 295**	*e*P	**Pn**	**00 13 58.2**	**-1.9**
MORC	**Moravsky Berou**	**17.79 300**	⇓*i*P	**Pn**	**00 13 57.9**	**-3.1**
MORC	**Moravsky Berou**	**17.79 300**	*e*PN	**Pn**	**00 13 58.5**	**-2.5**
ZST	**Bratislava**	**17.81 295**	*e*P	**Pn**	**00 14 00.0**	**-1.2**
ZST	**Bratislava**	**17.81 295**	*e*PN	**Pn**	**00 14 00.0**	**-1.2**
VSU	**Vasula**	**17.85 334**	*d i*P	**Pn**	**00 14 00.7**	**-1.0**
VSU	**Vasula**	**17.85 334**	*e*P	**Pn**	**00 13 59.9**	**-1.8**
VSU			IAmb	IAmb	00 14 14.7	
	comp=Z,812nm,1.1s					
BEHE	**Becsehely**	**17.90 289**	⇑*i*P	**Pn**	**00 14 02.6**	**+0.2**
BEHE	**Becsehely**	**17.90 289**	⇓*e*P	**P**	**00 14 03.1**	**0.0**
PUL	**Pulkovo**	**17.96 341**	*d i*P	**P**	**00 14 05.3**	**+1.8**
PUL			pmax	pmax		
	comp=Z,1μm,1.7s					
PUL	**Pulkovo**	**17.96 341**	*e*P	**P**	**00 14 04.2**	**+0.7**
PBUR	**Paburg**	**18.00 322**	*e*P	**Pn**	**00 14 00.1**	**-3.4**
PBUR			IAmb	IAmb	00 14 04.7	
	comp=Z,331nm,1.0s					
KLNR	**Kaliningrad**	**18.02 317**	⇑*e*P	**Pn**	**00 14 03.6**	**-0.2**
KLNR			MLR	MLR		
	comp=Z,1μm,18.0s					
SOP	**Sopron**	**18.12 293**	*e*P	**P**	**00 14 06.0**	**+0.7**
SOP			*e*S	**S**	**00 17 39.1**	**+6.2**
SVE	**Sverdlovsk**	**18.19 35**	*d i*P	**Pn**	**00 14 03.4**	**-2.5**
SVE			pmax	pmax		
	comp=Z,359nm,1.9s					
SVE			MLR	MLR		
	comp=Z,2μm,10.0s					
VRAC	**Vranov**	**18.30 298**	⇓*i*P	**Pn**	**00 14 05.6**	**-1.7**
VRAC	**Vranov**	**18.30 298**	*e*PN	**Pn**	**00 14 05.3**	**-2.0**
VRAC	**Vranov**	**18.30 298**	P	**Pn**	**00 14 07.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=99,slow=11,SNR=19					
VRAC			LR	LR	00 22 09.9	
	comp=Z,1μm,18.9s,baz=92,slow=40					
KRLC	**Kraliky**	**18.33 301**	*e*P	**Pn**	**00 14 07.4**	**-0.3**
KRLC	**Kraliky**	**18.33 301**	*e*P	**Pn**	**00 14 07.4**	**-0.3**
KRUC	**Moravsky**	**18.39 297**	*e*PN	**Pn**	**00 14 07.9**	**-0.5**
PRGR	**Permogore**	**18.59 6**	⇑*i*P	**P**	**00 14 07.2**	**-3.3**
PRGR			*e*		00 17 31.3	
PRGR			pmax	pmax		
	comp=Z,141nm,0.9s					
CONA	**Conrad Observa**	**18.61 294**	*e*P	**Pn**	**00 14 12.0**	**+0.9**
	comp=Z,75nm,1.2s,SNR=53					
UDBI	**Udbina**	**18.68 283**	*i* P	**Pn**	**00 14 12.9**	**+0.9**
DPC	**Dobruska-Polom**	**18.68 301**	*e*P	**P**	**00 14 11.5**	**-0.1**
DPC			MLR	MLR		
	comp=Z,3μm,9.8s					
DPC	**Dobruska-Polom**	**18.68 301**	*e*P	**P**	**00 14 11.5**	**-0.1**
DPC			AMS	AMS	00 23 30.0	
	comp=Z,3μm,9.8s					
ARSA	**Arzberg**	**18.79 291**	*e*P	**Pn**	**00 14 14.1**	**+0.9**
	comp=Z,25nm,1.5s,SNR=9.4					
KSP	**Ksiaz**	**18.81 303**	*e*P	**P**	**00 14 12.7**	**-0.3**
KSP	**Ksiaz**	**18.81 303**	*e*P	**P**	**00 14 12.7**	**-0.3**
CRES	**Cresnjev**	**18.82 287**	⇑*i*P	**Pn**	**00 14 13.6**	**0.0**
SLIT	**Slitere, Latvi**	**18.86 327**	*e*P	**P**	**00 14 08.9**	**-4.6**
SLIT			IAmb	IAmb	00 14 14.0	
	comp=Z,897nm,1.1s					
UPC	**Upice**	**18.91 302**	*e*P	**Pn**	**00 14 15.7**	**+1.0**
UPC			MLR	MLR		
	comp=Z,2μm,11.3s					
UPC	**Upice**	**18.91 302**	*e*P	**Pn**	**00 14 15.7**	**+1.0**
UPC			AMS	AMS	00 23 00.0	
	comp=Z,2μm,11.3s					
BOJS	**Bojanci**	**18.97 286**	*e*P	**Pn**	**00 14 15.7**	**+0.2**
GKP	**Gorka Klasztor**	**19.01 310**	*e*P	**Pn**	**00 14 15.8**	**-0.1**
GKP	**Gorka Klasztor**	**19.01 310**	*e*P	**Pn**	**00 14 15.8**	**-0.1**
TREC	**Trest**	**19.02 298**	*e*P	**Pn**	**00 14 17.3**	**+1.3**
TREC			MLR	MLR		
	comp=Z,1μm,11.0s					
TREC	**Trest**	**19.02 298**	*e*P	**Pn**	**00 14 17.3**	**+1.3**
TREC			*e*pP	**sP**	**00 14 22.6**	**+2.4**
TREC			*e*S	**S**	**00 17 59.8**	**+8.7**
TREC			AMS	AMS	00 23 20.0	
	comp=Z,1μm,11.0s					
PERS	**Pernice**	**19.05 289**	*i* P	**Pn**	**00 14 17.4**	**+0.9**
SOKA	**Soboth**	**19.11 290**	*e*P	**Pn**	**00 14 17.6**	**+0.4**
	comp=Z,44nm,1.2s,SNR=16					
TIP	**Timpagrande**	**19.13 266**	*e*P	**P**	**00 14 16.9**	**+0.3**
	comp=Z,94nm,1.2s					
TIP			*e*PcP	**PcP**	**00 18 34.1**	**-6.4**
TIP	**Timpagrande**	**19.13 266**	P	**P**	**00 14 16.8**	**+0.2**
TIP	**Timpagrande**	**19.13 266**	⇑*i*P	**P**	**00 14 17.0**	**+0.3**
VISS	**Visnje**	**19.25 287**	*e*P	**Pn**	**00 14 22.6**	**+3.8**
NVLJ	**Novalja**	**19.31 283**	*i* P	**Pn**	**00 14 19.1**	**-0.4**
OBKA	**Obir**	**19.44 289**	*e*P	**Pn**	**00 14 21.8**	**+0.6**
	comp=Z,75nm,1.6s,SNR=7.4					
LJU	**Ljubljana**	**19.46 288**	⇑*i*P	**Pn**	**00 14 21.2**	**-0.2**
CEY	**Cerknica**	**19.54 287**	⇑*i*P	**Pn**	**00 14 22.0**	**-0.4**
GOPC	**GO Pecny, Ondr**	**19.57 299**	*e*P	**P**	**00 14 21.8**	**+0.5**
GOPC			MLR	MLR		
	comp=Z,2μm,12.0s					
GOPC	**GO Pecny, Ondr**	**19.57 299**	*e*P	**P**	**00 14 21.8**	**+0.5**
GOPC			*e*S	**S**	**00 18 08.2**	**+6.0**
GOPC			AMS	AMS	00 24 20.0	
	comp=Z,2μm,12.0s					
MOA	**Molln**	**19.67 293**	*e*pP	**Pn**	**00 14 23.3**	**-0.5**
	comp=Z,40nm,1.2s,SNR=24					
PRU	**Pruhonice**	**19.73 299**	*e*P	**Pn**	**00 14 24.2**	**-0.4**
PRU			MLR	MLR		
	comp=Z,2μm,11.4s					
PRU	**Pruhonice**	**19.73 299**	*e*P	**Pn**	**00 14 24.2**	**-0.4**
PRU			*e*S	**Sn**	**00 18 15.2**	**+9.0**
PRU			AMS	AMS	00 24 30.0	
	comp=Z,2μm,11.4s					
JAVS	**Javornik**	**19.79 287**	*e*P	**Pn**	**00 14 27.1**	**+1.8**
PVCC	**Panska Ves**	**19.81 301**	*e*P	**Pn**	**00 14 25.3**	**-0.2**
PVCC			MLR	MLR		
	comp=Z,2μm,12.6s					
PVCC	**Panska Ves**	**19.81 301**	*e*P	**Pn**	**00 14 25.3**	**-0.2**
PVCC			*e*x	x	00 14 28.0	
PVCC			AMS	AMS	00 23 30.0	
	comp=Z,2μm,12.6s					
MYKA	**Terra Mystica**	**20.07 289**	*e*P	Pn	00 14 28.4	-0.2
	comp=Z,52nm,1.3s,SNR=14					
CEL	**Celeste**	**20.09 264**	PFAKE		00 14 40.0	+11
CEL			LR	LR		
	comp=Z,300nm,21.0s					
GERES	**GERESS Array B**	**20.13 296**	P	Pn	00 14 28.4	-0.9
	comp=Z,49nm,1.0s,baz=98,slow=9.6,SNR=179					
GERES			LR	LR	00 23 17.2	
	comp=Z,754nm,18.3s,baz=98,slow=40					
KHC	**Kasperske Hory**	**20.24 297**	*e*P	Pn	00 14 29.9	-0.7
KHC			*e*		00 14 47.0	
KHC			*e*S	**S**	**00 18 16.4**	**+0.8**
KHC			MLR	MLR		
	comp=Z,2μm,9.4s					
KHC	**Kasperske Hory**	**20.24 297**	*e*P	Pn	00 14 29.9	-0.7
KHC			*e*x	x	00 14 47.0	
KHC			*e*S	**S**	**00 18 16.4**	**+0.8**
KHC			AMS	AMS	00 25 20.0	
	comp=Z,2μm,9.4s					
KBA	**Koelnbreinsper**	**20.27 291**	*e*P	Pn	00 14 30.7	-0.5
	comp=Z,93nm,1.3s,SNR=40					
BRG	**Berggiesshubel**	**20.27 302**	*e*P	**P**	**00 14 29.6**	**+0.7**
	comp=Z,122nm,2.0s					
BRG			*i* PP	**PnPn**	**00 14 46.8**	**+1.3**
	comp=Z,77nm,1.4s					
BRG			S	Sn	00 18 25.0	+5.9
BRG	**Berggiesshubel**	**20.27 302**	*e*P	**P**	**00 14 29.6**	**+0.7**
BRG			*i*		00 14 46.8	
BRG			pmax	pmax		
	comp=Z,122nm,2.0s					
BRG			pmax	pmax		
	comp=Z,77nm,1.4s					
BRG			MLR	MLR		
	comp=N,1μm,9.7s					
BRG			MLR	MLR		
	comp=E,1μm,12.3s					
BRG			MLR	MLR		
	comp=Z,2μm,10.7s					
FINES	**FINESS Array B**	**20.47 338**	P	**P**	**00 14 31.7**	**+0.7**
	comp=Z,6.1nm,0.4s,baz=149,slow=11,SNR=48					
FINES			LR	LR	00 22 43.4	
	comp=Z,3μm,19.6s,baz=144,slow=38					
AQU	**L'Aquila**	**20.70 277**	*e*P	Pn	00 14 35.1	-1.0
	comp=Z,206nm,1.1s					
AQU			LR	LR		
	comp=Z,600nm,21.0s					
AQU	**L'Aquila**	**20.70 277**	*e*P	Pn	00 14 35.1	-1.0
AQU			pmax	pmax		
	comp=Z,206nm,1.1s					
AQU			MLR	MLR		
	comp=Z,600nm,21.0s					
AQU	**L'Aquila**	**20.70 277**	⇑*i*P	**P**	**00 14 34.8**	**+1.0**
RUE	**Ruedersdorf**	**20.74 306**	*e*P	**P**	**00 14 33.5**	**-0.5**
RUE			IAmb	IAmb	00 14 44.4	
	comp=Z,433nm,1.3s					
SHME	**Shamm**	**20.83 141**	*i* P	**P**	**00 14 35.3**	**+0.1**
	SNR=29					
ABTA	**Abfaltersbach**	**20.84 290**	*e*P	**P**	**00 14 36.4**	**+1.1**
	comp=Z,44nm,1.1s,SNR=23					
CLL	**Collm**	**20.94 303**	PFAKE		00 14 50.0	+11
CLL			LR	LR		
	comp=Z,1μm,21.0s					
CLL	**Collm**	**20.94 303**	⇑*i*P	**P**	**00 14 37.3**	**+1.1**
CLL			*i*		00 14 40.5	
CLL			*e*S	**S**	**00 18 30.0**	**+0.6**
CLL			pmax	pmax		
	comp=Z,77nm,1.4s					
CLL	**Collm**	**20.94 303**	⇑*i*P	**P**	**00 14 37.3**	**+1.1**
	comp=Z,82nm,1.4s					
CLL			*i*		00 14 40.5	
	comp=Z,203nm,1.1s					
CLL			*i*		00 14 43.4	
	comp=Z,258nm,1.2s					
CLL			*e*S	**S**	**00 18 30.0**	**+0.6**
CLL			*e*		00 19 18.0	
BSD	**Bornholm Skovb**	**20.98 314**	*i* P	**P**	**00 14 36.8**	**+0.2**
BSD			pmax	pmax		
	comp=Z,160nm,1.0s					
BSD	**Bornholm Skovb**	**20.98 314**	*i* P	**P**	**00 14 36.8**	**+0.2**
	comp=Z,165nm,1.0s					
KK31	**Karatay Array**	**21.02 80**	*e*P	**P**	**00 14 37.6**	**+0.4**
	comp=Z,60nm,1.2s					
KK31	**Karatay Array**	**21.02 80**	*e*P	**P**	**00 14 37.6**	**+0.4**
KK31			pmax	pmax		
	comp=Z,60nm,1.2s					
UMQ	**Umm Al-Quwin**	**21.06 142**	*i* P	**P**	**00 14 39.0**	**+1.3**
	SNR=7.8					
UMQ	**Umm Al-Quwin**	**21.06 142**	P	**P**	**00 14 40.2**	**+2.5**
	SNR=9.1					
UMQ			S	**S**	**00 18 31.2**	**-0.9**
TMCR	**Tamitsa**	**21.08 356**	*e*P	**P**	**00 14 38.1**	**+0.6**
TMCR			*e*S	Sn	00 18 37.2	-1.0
TMCR			pmax	pmax		
	comp=Z,303nm,1.1s					
NKC	**Novy Kostel**	**21.10 300**	*e*P	**P**	**00 14 39.1**	**+1.1**
NKC			*e*S	Sn	00 18 39.1	-0.1
NKC			MLR	MLR		
	comp=Z,2μm,10.0s					
NKC	**Novy Kostel**	**21.10 300**	*e*P	**P**	**00 14 39.1**	**+1.1**
NKC			*e*S	Sn	00 18 39.1	-0.1
NKC			AMS	AMS	00 25 30.0	
	comp=Z,2μm,10.0s					
CHGR	**Chuyangaron**	**21.24 93**	*e*P	P	00 14 27.4	-12
	comp=Z,176nm,0.9s					
CHGR			LR	LR		
	comp=Z,3μm,19.0s					
BRVK	**Borovoye**	**21.36 53**	*e*P	**P**	**00 14 42.0**	**+1.2**
	comp=Z,136nm,1.0s					
BRVK			LR	LR		
	comp=Z,2μm,20.0s					
BRVK	**Borovoye**	**21.36 53**	*c i*P	**P**	**00 14 41.4**	**+0.7**
BRVK			pmax	pmax		
	comp=Z,98nm,1.0s					
BRVK			MLR	MLR		
	comp=Z,2μm,20.0s					
BRVK	**Borovoye**	**21.36 53**	P	**P**	**00 14 42.2**	**+1.4**
	SNR=112					
BVAR	**Borovoye Array**	**21.41 53**	P	**P**	**00 14 42.3**	**+1.0**
	comp=Z,40nm,0.9s,baz=256,slow=7.3,SNR=79					
MSFE	**Esma-Masafi**	**21.43 142**	*i* P	**P**	**00 14 43.5**	**+1.8**
	SNR=8.4					
WTTA	**Wattenberg**	**21.43 291**	*e*pP	**P**	**00 14 42.5**	**+0.7**
	comp=Z,175nm,1.1s,SNR=61					
VAE	**Valguarnera**	**21.48 264**	P	**P**	**00 14 43.5**	**+1.4**
	comp=Z,59nm,1.0s,baz=97,slow=3.7,SNR=12					
WATA	**Walderalm**	**21.48 291**	*e*pP	**P**	**00 14 42.9**	**+0.7**
	comp=Z,266nm,1.1s,SNR=46					
NAZ	**Nazwa, Dubai**	**21.53 143**	*i* P	**P**	**00 14 43.4**	**+0.7**
	SNR=27					
NAZ	**Nazwa, Dubai**	**21.53 143**	P	**P**	**00 14 43.2**	**+0.4**
	SNR=20					
NAZ			P	**P**	**00 14 43.2**	**+0.4**
	SNR=20					
NAZ			S	**S**	**00 18 41.1**	**-0.3**
NAZ			S	**S**	**00 18 41.1**	**-0.3**
AJN	**Ajban**	**21.62 145**	*i* P	**P**	**00 14 44.5**	**+0.8**
	SNR=23					
AJN	**Ajban**	**21.62 145**	P	**P**	**00 14 44.4**	**+0.8**
	SNR=26					
AJN			S	**S**	**00 18 43.4**	**+0.3**
ASUD	**Al Ashush, Dub**	**21.70 144**	*i* P	**P**	**00 14 45.9**	**+1.3**
	SNR=13					
ASUD	**Al Ashush, Dub**	**21.70 144**	P	**P**	**00 14 45.5**	**+0.9**
	SNR=16					
ASUD			P	**P**	**00 14 45.5**	**+0.9**
	SNR=16					
FAQ	**Al Faqa, Dubai**	**21.71 144**	*i* P	**P**	**00 14 46.0**	**+1.3**
	SNR=12					
FAQ	**Al Faqa, Dubai**	**21.71 144**	P	**P**	**00 14 44.8**	**+0.1**
	SNR=12					
FAQ			P	**P**	**00 14 44.8**	**+0.1**
	SNR=12					
SQTA	**Sankt Quirin**	**21.73 291**	*e*pP	**P**	**00 14 45.0**	**+0.2**
	comp=Z,141nm,1.0s,SNR=56					
MOTA	**Moosalm**	**21.80 292**	*e*pP	**P**	**00 14 45.5**	**-0.1**
	comp=Z,137nm,0.9s,SNR=72					
GRFO	**Grafenberg**	**21.83 298**	*e*P	**P**	**00 14 46.9**	**+1.1**
	comp=Z,302nm,1.7s					
GRFO	**Grafenberg**	**21.83 298**	*e*P	**P**	**00 14 46.9**	**+1.1**
GRFO			pmax	pmax		
	comp=Z,302nm,1.7s					
HATD	**Hatta, Dubai**	**21.88 142**	*i* P	**P**	**00 14 46.9**	**+0.4**
	SNR=8.7					
HATD	**Hatta, Dubai**	**21.88 142**	P	**P**	**00 14 46.5**	**0.0**
	SNR=8.5					
HATD			P	**P**	**00 14 46.5**	**0.0**
	SNR=8.5					
OTUK	**Ortayu**	**21.92 66**	P	**P**	**00 14 46.5**	**-0.3**
OTUK			pmax	pmax		
	comp=Z,223nm,1.3s					
GAR	**Garm**	**21.97 91**	PFAKE		00 15 00.0	+13
GAR			LR	LR		
	comp=Z,4μm,18.0s					
ASHO	**Ashiyiah**	**21.97 143**	*i* P	**P**	**00 14 47.7**	**+0.2**
	SNR=12					
ASHO	**Ashiyiah**	**21.97 143**	P	**P**	**00 14 47.3**	**-0.2**
	SNR=8.9					
ASHO			P	**P**	**00 14 47.3**	**-0.2**
	SNR=8.9					
ASHO			S	**S**	**00 18 47.4**	**-2.7**
ASHO			S	**S**	**00 18 47.4**	**-2.7**
BTK	**Batken**	**21.99 88**	PFAKE		00 15 00.0	+12
BTK			LR	LR		
	comp=Z,2μm,18.0s					
RETA	**Reutte**	**22.03 292**	*e*pP	**P**	**00 14 48.0**	**0.0**
	comp=Z,72nm,1.9s,SNR=60					
FETA	**Feichten**	**22.06 291**	*e*P	**P**	**00 14 47.8**	**-0.7**
	comp=Z,165nm,1.1s,SNR=43					
WDD	**Wied Dalam**	**22.11 260**	*e*P	**P**	**00 14 48.2**	**-0.7**
ALNE	**Al Ain**	**22.39 144**	*i* P	**P**	**00 14 53.7**	**+1.7**
	SNR=20					
FUORN	**Ofenpass-Fuorn**	**22.39 290**	*e*P	**P**	**00 14 52.1**	**0.0**
	comp=Z,125nm,0.9s					
FUORN			LR	LR		
	comp=Z,2μm,21.0s					
COP	**Copenhagen**	**22.51 314**	⇓*i*P	**P**	**00 14 54.2**	**+1.2**
COP			pmax	pmax		
	comp=Z,46nm,1.1s					
COP	**Copenhagen**	**22.51 314**	⇓*i*P	**P**	**00 14 54.2**	**+1.2**
	comp=Z,46nm,1.1s					
VLC	**Villacollemand**	**22.55 283**	PFAKE		00 15 00.0	+6.4
VLC			LR	LR		
	comp=Z,300nm,18.0s					
DAVA	**Damuels**	**22.63 291**	*e*P	**P**	**00 14 53.9**	**-0.6**
	comp=Z,132nm,1.1s,SNR=52					
DAVOX	**Davos/Dischmat**	**22.65 290**	P	**P**	**00 14 56.1**	**+1.3**
	comp=Z,138nm,1.1s,baz=108,slow=6.8,SNR=53					
DAVOX			LR	LR	00 25 19.3	
	comp=Z,2μm,19.4s,baz=80,slow=41					
SOHO	**SOHO**	**22.66 142**	P	**P**	**00 14 55.1**	**+0.3**
	SNR=38					
SOHO			P	**P**	**00 14 55.1**	**+0.3**
	SNR=38					
SOHO			S	**S**	**00 19 02.5**	**-0.4**
SOHO			S	**S**	**00 19 02.5**	**-0.4**
KBL	**Kabul**	**22.95 103**	*e*P	**P**	**00 15 00.9**	**+2.8**
	comp=Z,128nm,1.5s					
KBL	**Kabul**	**22.95 103**	*e*P	**P**	**00 15 00.9**	**+2.8**
KBL			pmax	pmax		
	comp=Z,128nm,1.5s					
TUE	**Stuetta**	**23.03 289**	PFAKE		00 15 10.0	+11
TUE			LR	LR		
	comp=Z,2μm,20.0s					
EKS2	**Erkin-Say**	**23.46 80**	P	**P**	**00 15 04.5**	**+1.3**
	SNR=18					
HOQ	**Hoqain**	**23.49 142**	P	**P**	**00 15 05.2**	**+1.8**
	SNR=7.9					
BFO	**Black Forest**	**23.66 294**	*e*P	**P**	**00 15 05.2**	**+0.3**
	comp=Z,55nm,1.1s					
BFO	**Black Forest**	**23.66 294**	*e*P	**P**	**00 15 05.2**	**+0.3**
BFO			pmax	pmax		
	comp=Z,55nm,1.1s					
USP	**Ospenovka**	**23.86 79**	P	**P**	**00 15 07.1**	**+0.2**
	SNR=11					
BIDO	**Bidbid**	**23.92 140**	P	**P**	**00 15 09.0**	**+1.4**
	SNR=6.3					
BIDO			P	**P**	**00 15 09.0**	**+1.4**
	SNR=6.3					
HFS	**Hagfors**	**23.93 325**	P	**P**	**00 15 08.1**	**+0.7**
	comp=Z,42nm,0.7s,baz=134,slow=6.4,SNR=34					
HFS			S	**S**	**00 19 32.2**	**+8.5**
	comp=Z,7.8nm,0.9s,baz=106,slow=26,SNR=2.2					
HFS			LR	LR	00 25 23.8	
	comp=Z,2μm,19.5s,baz=118,slow=39					
AAK	**Ala-Archa**	**23.98 80**	P	**P**	**00 15 09.4**	**+1.2**
	SNR=17					
AAK	**Ala-Archa**	**23.98 80**	*e*P	**P**	**00 15 09.4**	**+1.2**
	comp=Z,59nm,1.2s					
AAK			LR	LR		
	comp=Z,1μm,20.0s					
AAK	**Ala-Archa**	**23.98 80**	*i* P	**P**	**00 15 08.6**	**+0.3**
	SNR=44					
AAK	**Ala-Archa**	**23.98 80**	*c i*P	**P**	**00 15 08.1**	**-0.2**
AAK			pmax	pmax		
	comp=Z,129nm,3.1s					
AAK			MLR	MLR		
	comp=Z,901nm,17.0s					
AAK	**Ala-Archa**	**23.98 80**	P	**P**	**00 15 10.1**	**+1.9**
	SNR=59					
AAK	**Ala-Archa**	**23.98 80**	P	**P**	**00 15 08.6**	**+0.3**
	comp=Z,14nm,1.0s,baz=262,slow=8.3,SNR=34					
AAK			LR	LR	00 26 12.8	
	comp=Z,823nm,18.9s,baz=282,slow=41					
FRU1	**Bishkek**	**24.05 80**	PFAKE		00 15 20.0	+11
FRU1			LR	LR		
	comp=Z,900nm,19.0s					
UCH	**Uchtor**	**24.09 81**	P	**P**	**00 15 13.3**	**+3.7**
	SNR=5.8					
SMDO	**Samad**	**24.28 141**	P	**P**	**00 15 12.4**	**+1.3**
	SNR=10					
KBK	**Karagaybulak**	**24.31 80**	P	**P**	**00 15 12.7**	**+1.5**
	SNR=18					
WSAR	**Wadi Sarin**	**24.40 139**	P	**P**	**00 15 12.9**	**+0.9**
	SNR=18					
WSAR	**Wadi Sarin**	**24.40 139**	P	**P**	**00 15 10.8**	**-1.2**
	comp=Z,30nm,0.8s,baz=339,

SNR=24
NRN Naryn 25.37 82 PFAKE 00 15 30.0 +9.0
NRN LR LR
comp=Z,1μm,19.0s
NB2 NORSAR Subarra 25.45 325 P **P 00 15 21.2 -0.1**
comp=Z,214nm,2.0s,baz=120,slow=9.3
NB2 NORSAR Subarra 25.45 325 P **P 00 15 21.2 -0.1**
baz=120,slow=9.3
NOA NORSAR Array B 25.45 325 P **P 00 15 21.6 +0.3**
comp=Z,22nm,0.8s,baz=126,slow=9.8,SNR=33
NOA LR LR 00 26 11.9
comp=Z,2μm,19.2s,baz=120,slow=38
BEBN Eben Emael 25.46 300 ⇑P **P 00 15 23.8 +2.5**
HOMB Homborsund 25.46 318 *e*P **P 00 15 23.5 +2.2**
KONO Kongsberg 25.50 321 *e*P **P 00 15 22.2 +0.5**
comp=Z,127nm,1.2s
KONO Kongsberg 25.50 321 *de*P **P 00 15 23.8 +2.1**
KONO pmax pmax
comp=Z,184nm,1.7s
KONO MLR MLR
comp=Z,1μm,17.0s
KONO Kongsberg 25.50 321 *e*P **P 00 15 24.3 +2.6**
AAA Alma-Ata 25.60 78 *e*P **P 00 15 23.5 +0.7**
AAA pmax pmax
comp=Z,300nm,5.7s
BCLA Clavier 25.68 299 ⇓P **P 00 15 24.4 +1.1**
KEST Kesra 25.91 264 P **P 00 15 26.9 +1.2**
comp=Z,70nm,1.0s,baz=316,slow=1.8,SNR=24
KEST LR LR 00 29 17.3
comp=Z,294nm,18.7s,baz=324,slow=45
KSH Kashi 25.92 86 P **P 00 15 25.0 -0.9**
KSH pP pP 00 15 29.0 -0.3
KSH PP **PnPn 00 16 04.0 +0.9**
KSH S **S 00 19 50.5 -5.6**
KSH pmax pmax
comp=Z,57nm,1.2s
KSH pmax pmax
comp=Z,430nm,4.5s
KSH LR LR
comp=Z,410nm,10.3s
KSH LR LR
comp=Z,380nm,10.9s
KSH LR LR
comp=Z,2μm,10.5s
KDJ Kajisay 26.04 80 *e*P **P 00 15 27.8 +0.8**
comp=Z,37nm,1.4s
KDJ LR LR
comp=Z,1μm,18.0s
KDJ Kajisay 26.04 80 *e*P **P 00 15 27.8 +0.8**
KDJ pmax pmax
comp=Z,37nm,1.4s
KDJ MLR MLR
comp=Z,1μm,18.0s
MHTO MHTO 26.05 143 P **P 00 15 28.0 +1.1**
SNR=11
MHTO P **P 00 15 28.0 +1.1**
SNR=11
MHTO S **S 00 19 56.2 -1.7**
MHTO S **S 00 19 56.2 -1.7**
KURBB Kurchatov Arra 26.05 61 P **P 00 15 27.2 +0.5**
comp=Z,48nm,0.7s,baz=274,slow=9.2,SNR=37
KURK Kurchatov 26.11 60 *e*P **P 00 15 28.0 +0.7**
comp=Z,129nm,1.0s
KURK Kurchatov 26.11 60 *c i*P **P 00 15 27.8 +0.6**
KURK pmax pmax
comp=Z,122nm,1.3s
KURK MLR MLR
comp=Z,1μm,19.0s
KURK Kurchatov 26.11 60 P **P 00 15 28.2 +1.0**
SNR=117
DOU Dourbes 26.13 298 ⇑P **P 00 15 29.1 +1.7**
comp=Z,46nm,1.6s
SNART Snartemo 26.13 317 *e*P **P 00 15 30.4 +3.1**
SNF Seneffe 26.33 299 ⇑P **P 00 15 32.3 +3.0**
comp=Z,36nm,1.3s
NIL Nilore 26.41 101 *e*P **P 00 15 31.0 +0.8**
comp=Z,64nm,1.1s
NIL Nilore 26.41 101 *e*P **P 00 15 31.0 +0.8**
NIL pmax pmax
comp=Z,63nm,1.1s
SKAR Skarslia 26.54 323 *e*P **P 00 15 32.9 +1.8**
TARG Taragay, Kyrgy 26.59 81 *e*P **P 00 15 33.8 +1.6**
comp=Z,65nm,1.8s
TARG LR LR
comp=Z,800nm,20.0s
DOMB Dombas 26.85 326 *e*P **P 00 15 35.4 +1.5**
BLS5 Blasjo 26.88 319 *e*P **P 00 15 36.0 +1.8**
ODD1 Odda 26.98 320 *e*P **P 00 15 38.2 +3.1**
TBLU Trondheim 27.00 329 *e*P **P 00 15 37.6 +2.4**
NSS Namsos 27.13 332 *e*P **P 00 15 37.1 +0.8**
PDGK Podgornoye 27.41 77 P **P 00 15 38.4 -0.8**
PDGK pmax pmax
comp=Z,24nm,1.2s
MOR8 Moi Rana 27.41 336 *e*P **P 00 15 39.4 +0.5**
KTK1 Kautokeino 27.56 346 *e*P **P 00 15 42.2 +2.0**
KEV Kevo 27.63 349 *e*P **P 00 15 40.9 +0.1**
comp=Z,164nm,1.4s
KEV LR LR
comp=Z,2μm,20.0s
KEV Kevo 27.63 349 *e*P **P 00 15 40.9 +0.1**
KEV pmax pmax
comp=Z,164nm,1.4s
KEV MLR MLR
comp=Z,2μm,20.0s
ARCES ARCESS Array B 27.65 348 P **P 00 15 41.3 +0.3**
comp=Z,6.8nm,0.7s,baz=154,slow=7.8,SNR=19
ARCES LR LR 00 27 36.1
comp=Z,1μm,21.5s,baz=140,slow=38
ARE0 ARCESS Array S 27.65 348 *e*P **P 00 15 42.6 +1.6**
MOL Molde 27.72 326 *e*P **P 00 15 39.6 -2.0**
BER Bergen 27.76 321 *e*P **P 00 15 41.6 -0.4**
AKN Aaknes 27.77 325 *e*P **P 00 15 45.0 +2.8**
ASK Askoy 27.86 321 *e*P **P 00 15 44.3 +1.4**
KONS Konsvik 28.03 336 *e*P **P 00 15 47.0 +2.7**
SUE Sulen 28.27 322 *e*P **P 00 15 48.1 +1.6**
STEI Steigen 28.44 339 *e*P **P 00 15 48.4 +0.4**
MAKZ Makanchi 28.52 69 *e*P **P 00 15 49.8 +0.8**
comp=Z,40nm,1.4s
MAKZ LR LR
comp=Z,1μm,21.0s
MAKZ Makanchi 28.52 69 *e*P **P 00 15 49.8 +0.8**
MAKZ pmax pmax
comp=Z,40nm,1.4s
MAKZ MLR MLR
comp=Z,1μm,21.0s
DAMY Dhamar 28.66 174 PFAKE 00 16 00.0 +9.3
DAMY LR LR
comp=Z,2μm,22.0s
MK31 Makanchi Array 28.73 69 *i* P **P 00 15 50.0 -0.9**
MK31 pmax pmax
comp=Z,20nm,1.4s
MKAR Makanchi Array 28.73 69 P **P 00 15 51.0 +0.1**
MKAR Makanchi Array 28.73 69 P **P 00 15 51.0 +0.1**
comp=Z,6.5nm,0.9s,baz=275,slow=8.2,SNR=21
MKAR LR LR 00 28 42.7
comp=Z,809nm,21.6s,baz=278,slow=39
TRO Tromso 28.92 344 *e*P **P 00 15 53.4 +1.2**
NVS Novosibirsk 29.21 52 ⇑*i*P **P 00 15 56.9 +2.0**
NVS *e* 00 20 47.9
NVS pmax pmax
comp=N,41nm,1.7s
NVS pmax pmax
comp=E,40nm,1.7s
NVS pmax pmax
comp=Z,132nm,1.7s
NVS smax smax
comp=N,222nm,2.8s
NVS smax smax
comp=E,227nm,2.2s
ZALV Zalesovo Beam 30.06 54 P **P 00 16 02.7 +0.2**
comp=E,13nm,0.7s,baz=260,slow=6.2,SNR=47
ZALV LR LR 00 29 50.2
comp=E,756nm,18.7s,baz=252,slow=40
ATD Arta Tunnel 31.60 178 PFAKE 00 16 30.0 +14
ATD LR LR
comp=Z,900nm,18.0s
DGZ Jazzator, Alta 31.80 62 ⇓*e*P **P 00 16 18.5 +0.4**
DGZ pmax pmax
comp=Z,10.0nm,1.2s
DGZ MLR MLR
comp=Z,486nm,16.0s
WMQ Urumqi 33.07 73 P **P 00 16 30.5 +1.3**
WMQ sP sP 00 16 39.3 +5.3
WMQ S **S 00 21 47.8 -0.3**
WMQ SS **SnSn 00 23 53.3 +7.2**
WMQ pmax pmax
comp=Z,100nm,2.1s
WMQ pmax pmax
comp=Z,1μm,3.6s
WMQ LR LR
comp=Z,19μm,22.7s
WMQ LR LR
comp=Z,5μm,23.9s
WMQ LR LR
comp=Z,7μm,18.7s
WMQ Urumqi 33.07 73 PFAKE 00 16 40.0 +11
WMQ LR LR
comp=Z,3μm,19.0s
ESDC Sonseca Array 34.04 280 P **P 00 16 37.3 -0.3**
comp=Z,14nm,1.0s,baz=65,slow=9.0,SNR=40
ESDC LR LR 00 32 24.1
comp=Z,329nm,21.1s,baz=85,slow=40
FURI Furi 34.30 185 PFAKE 00 16 50.0 +10
FURI LR LR
comp=Z,2μm,20.0s
PAB San Pablo 34.36 280 *e*P **P 00 16 38.9 -1.6**
comp=Z,26nm,1.2s
PAB San Pablo 34.36 280 *e*P **P 00 16 38.9 -1.6**
PAB pmax pmax
comp=Z,26nm,1.2s
NRIK Noril'sk 35.06 26 P **P 00 16 47.6 +1.5**
comp=Z,8.5nm,0.8s,baz=246,slow=7.6,SNR=21
NRIK LR LR 00 33 04.7
comp=Z,1μm,20.0s,baz=250,slow=40
PBRG Braganca 35.29 285 *e*P **P 00 16 48.9 +0.4**
comp=Z,28nm,1.6s
MVO Moncorvo 35.71 284 *e*P **P 00 16 51.7 -0.4**
comp=Z,36nm,1.4s
MVO Moncorvo 35.71 284 *e*LR LR 00 30 42.1
comp=Z,586nm,20.0s
TAM Tamanrasset 36.12 247 PFAKE 00 17 10.0 +14
TAM LR LR
comp=Z,300nm,21.0s
PGAV Gavieira, Arco 36.32 286 *e*LR LR 00 30 43.4
comp=Z,445nm,18.0s
MTE Manteigas 36.34 283 *e*P **P 00 16 58.5 +1.0**
comp=Z,43nm,1.4s
MTE Manteigas 36.34 283 *e*LR LR 00 31 41.8
comp=Z,574nm,22.0s
MTE Manteigas 36.34 283 PFAKE 00 17 10.0 +12
MTE LR LR
comp=Z,700nm,21.0s
PYUN Piuthan 36.44 101 *e*P **P 00 16 58.9 +0.2**
comp=Z,138nm,1.4s
SPA0 Spitsbergen Ar 36.48 351 *e*P **P 00 16 59.8 +1.6**
PCBR Castelo Branco 36.50 282 *e*P **P 00 16 59.6 +0.8**
comp=Z,44nm,1.5s
PMRV Marv??o 36.59 281 *e*P **P 00 17 00.1 +0.5**
comp=Z,64nm,1.7s
PMRV Marv??o 36.59 281 *e*LR LR 00 31 55.7
comp=Z,339nm,20.0s
DANN Dangsing 36.85 100 *e*P **P 00 17 02.8 +0.5**
comp=Z,48nm,0.7s
COI Coimbra 37.03 283 *e*P **P 00 17 04.6 +1.3**
comp=Z,77nm,1.1s
KOLN Koldanda 37.07 101 *e*P **P 00 17 04.1 +0.1**
comp=Z,13nm,0.7s
PMTG Montargil 37.33 281 *e*P **P 00 17 06.6 +0.8**
comp=Z,36nm,1.5s
PBEJ Beja 37.48 279 *e*P **P 00 17 08.7 +1.5**
comp=Z,43nm,1.8s
KBS Kingsbay 37.59 351 PFAKE 00 17 20.0 +12
KBS LR LR
comp=Z,400nm,20.0s
KBS Kingsbay 37.59 351 ⇓*e*P **P 00 17 08.0 +0.4**
KBS pmax pmax
comp=Z,219nm,1.6s
KBS MLR MLR
comp=Z,6μm,14.0s
PVAQ Vaqueiros 37.63 278 *e*P **P 00 17 08.7 +0.3**
comp=Z,64nm,1.3s
PVAQ Vaqueiros 37.63 278 *e*LR LR 00 32 23.9
comp=Z,407nm,18.0s
PCVE Castro Verde 37.77 279 *e*P **P 00 17 09.1 -0.5**
comp=Z,53nm,1.4s
PBDV Barranco-do-Ve 37.85 278 *e*P **P 00 17 11.3 +0.9**
comp=Z,76nm,1.3s
PNCL Nicolau / Gran 37.93 280 *e*P **P 00 17 11.8 +0.9**
comp=Z,58nm,1.4s
DMN Daman 38.25 100 *e*P **P 00 17 14.2 +0.1**
comp=Z,76nm,1.2s
KKN Kakani 38.27 99 *e*P **P 00 17 14.1 -0.1**
comp=Z,58nm,1.2s
PKIN Phulchoki 38.48 99 *e*P **P 00 17 15.9 -0.1**
comp=Z,32nm,1.0s
PKI Pulchoki 38.49 99 *e*P **P 00 17 16.0 -0.2**
comp=Z,51nm,1.2s
JIRN Jiri 39.00 99 *e*P **P 00 17 20.7 +0.2**
comp=Z,86nm,1.0s
RAMN Ramite 39.71 99 *e*P **P 00 17 25.9 -0.4**
MOY Mondy 40.01 56 *e*P **P 00 17 30.3 +2.0**
MOY pmax pmax
comp=Z,103nm,2.8s
ODAN Odare 40.33 99 *e*P **P 00 17 31.7 +0.2**
comp=Z,110nm,1.2s
HYB Hyderabad 40.45 118 *i* P **P 00 17 32.0 -0.3**
HYB *e*S **S 00 23 40.0 -1.0**
SCO Scoresbysund 41.23 333 *e*P **P 00 17 39.7 +1.7**
SCO Scoresbysund 41.23 333 *i* P **P 00 17 39.7 +1.7**
LSA Lhasa 41.47 92 PFAKE 00 17 50.0 +8.9
LSA LR LR
comp=Z,500nm,22.0s
TLY Talaya 41.61 56 *e*P **P 00 17 43.8 +2.3**
comp=Z,152nm,2.0s
TLY LR LR
comp=Z,500nm,20.0s
TLY Talaya 41.61 56 *e*P **P 00 17 43.9 +2.4**
TLY *e*SS SS 00 27 04.7 +2.4
TLY pmax pmax
comp=Z,126nm,2.0s
TLY Talaya 41.61 56 P **P 00 17 44.1 +2.6**
SNR=18
DAG Danmarks Havn 41.62 342 ⇑*i*P **P 00 17 42.3 +1.1**
DAG pmax pmax
comp=Z,66nm,1.3s
DAG Danmarks Havn 41.62 342 ⇑*i*P **P 00 17 42.3 +1.1**
comp=Z,34nm,1.3s
ZAK Zakamensk 41.71 58 *e*P **P 00 17 43.4 +1.0**
ZAK pmax pmax
comp=Z,15nm,1.9s
GTA Gaotai 43.10 74 *e*P **P 00 17 54.0 +0.1**
GTA pP sP 00 17 58.5 -0.3
GTA sP pP 00 18 01.5 +4.1
GTA PcP **PcP 00 19 42.0 -1.7**
GTA pmax pmax
comp=Z,9.0nm,1.7s
GTA pmax pmax
comp=Z,240nm,5.2s
GTA LR LR
comp=Z,760nm,14.1s
GTA LR LR
comp=Z,770nm,16.1s
GTA LR LR
comp=Z,850nm,14.4s
KMBO Kilima Mbogo 44.33 186 *e*P **P 00 18 05.7 +1.6**
comp=Z,13nm,1.0s
KMBO LR LR
comp=Z,600nm,20.0s
KMBO Kilima Mbogo 44.33 186 *i* P **P 00 18 05.3 +1.3**
SNR=8.7
KMBO Kilima Mbogo 44.33 186 *e*P **P 00 18 05.7 +1.6**
KMBO pmax pmax
comp=Z,13nm,1.0s
KMBO MLR MLR
comp=Z,600nm,20.0s
KMBO Kilima Mbogo 44.33 186 P **P 00 18 04.9 +0.9**
comp=Z,7.3nm,0.9s,baz=15,slow=9.4,SNR=18
KMBO LR LR 00 37 03.2
comp=Z,696nm,18.1s,baz=358,slow=37
SHL Shillong 44.35 97 PFAKE 00 18 20.0 +16
SHL LR LR
comp=Z,700nm,20.0s
SONM Songino Array 44.41 61 P **P 00 18 04.6 +0.2**
comp=Z,3.4nm,0.7s,baz=278,slow=8.4,SNR=11
SONM PcP **PcP 00 19 48.9 +1.0**
comp=Z,2.5nm,0.9s,baz=207,slow=4.8,SNR=4.8
SONM LR LR 00 38 14.1
comp=Z,418nm,18.9s,baz=288,slow=38
NAI Nairobi 44.51 187 PFAKE 00 18 20.0 +15
NAI LR LR
comp=Z,600nm,18.0s
MBAR Mbarara 44.72 196 *e*P **P 00 18 06.8 -0.2**
comp=Z,55nm,1.8s
MBAR LR LR
comp=Z,1μm,19.0s
MBAR Mbarara 44.72 196 *de*P **P 00 18 06.9 -0.2**
MBAR pmax pmax
comp=Z,10.0nm,1.4s
TOB2 Torodi Ar. Sit 45.55 241 PFAKE 00 18 30.0 +16
TOB2 LR LR
comp=Z,100nm,20.0s
TOA2 Torodi Ar. Sit 45.56 241 PFAKE 00 18 30.0 +16
TOA2 LR LR
comp=Z,200nm,22.0s
TOA1 Torodi Ar. Sit 45.56 241 *e*P **P 00 18 12.4 -1.2**
TOA1 *e*PcP **PcP 00 19 50.9 -1.3**
TOA0 Torodi Ar. Sit 45.56 241 *e*P **P 00 18 12.6 -1.0**
comp=Z,38nm,1.0s
TOA0 Torodi Ar. Sit 45.56 241 P **P 00 18 13.6 0.0**
SNR=6.2
TORD Torodi Ar. Bea 45.56 241 P **P 00 18 12.4 -1.2**
comp=Z,23nm,1.0s,baz=8.3,slow=4.5,SNR=49
TORD PcP **PcP 00 19 50.9 -1.3**
comp=Z,4.2nm,1.1s,baz=64,slow=3.4,SNR=4.1
TORD LR LR 00 40 31.5
comp=Z,142nm,20.3s,baz=0.0,slow=40
BOD Bodaibo 45.97 45 *e*P **P 00 18 15.7 -0.7**
BOD pmax pmax
comp=Z,31nm,1.7s
SUMG Summit 46.48 336 *e*P **P 00 18 21.7 +1.0**
comp=Z,51nm,1.4s
SUMG Summit 46.48 336 *i* P **P 00 18 21.6 +1.0**
SUMG pmax pmax
comp=Z,260nm,1.7s
SUMG Summit 46.48 336 *i* P **P 00 18 21.6 +1.0**
comp=Z,259nm,1.7s
LZH Lanzhou 47.45 77 *e*P **P 00 18 29.3 +0.8**
LZH pP sP 00 18 33.8 +0.5
LZH sP pP 00 18 37.0 +5.0
LZH PP **PP 00 20 20.8 +1.2**
LZH S **S 00 25 25.5 +2.5**
LZH sS sS 00 25 36.3 +7.7
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,310nm,4.8s
LZH LR LR
comp=Z,970nm,14.1s
LZH LR LR
comp=Z,850nm,14.6s
LZH LR LR
comp=Z,930nm,15.2s
TIXI Tiksi 48.81 25 *e*P **P 00 18 38.5 +0.2**
comp=Z,40nm,1.7s
TIXI Tiksi 48.81 25 ⇑*e*P **P 00 18 38.5 +0.2**
TIXI pmax pmax
comp=Z,39nm,2.5s
TIXI MLR MLR
comp=Z,356nm,19.0s
BTO Baotou 49.65 68 *e*P **P 00 18 45.5 +0.2**
CD2 Chengdu 50.02 83 P **P 00 18 49.5 +1.4**
CD2 S **S 00 26 00.5 +1.4**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,110nm,5.5s
CD2 LR LR
comp=Z,920nm,18.1s
CD2 LR LR
comp=Z,720nm,19.1s
CD2 LR LR
comp=Z,560nm,14.7s
HHC Hu-ho-hao-te 50.58 67 *e*P **P 00 18 53.3 +0.9**
HHC sP sP 00 19 02.0 +4.7
HHC S **S 00 26 05.0 -1.9**
HHC ScS **ScS 00 28 45.3 +1.8**
HHC SS **SS 00 29 41.5 +0.9**
HHC pmax pmax
comp=Z,140nm,1.1s
HHC pmax pmax
comp=Z,490nm,5.4s
HHC LR LR
comp=Z,430nm,14.8s
HHC LR LR
comp=Z,950nm,15.7s
HHC LR LR
comp=Z,1μm,15.7s
ILULI Ilulissat 51.32 333 PFAKE 00 19 10.0 +13
ILULI LR LR
comp=Z,1μm,21.0s
XAN Xi'an 52.08 76 P **P 00 19 04.3 +0.7**
XAN pP sP 00 19 15.0 +6.5
XAN S **S 00 26 30.5 +3.0**
XAN pmax pmax
comp=Z,18nm,1.8s
XAN pmax pmax
comp=Z,390nm,3.9s
XAN LR LR
comp=Z,650nm,22.9s
XAN LR LR
comp=Z,750nm,23.9s
XAN LR LR
comp=Z,560nm,13.0s
XAN Xi'an 52.08 76 *e*P **P 00 19 03.5 -0.1**
comp=Z,44nm,1.4s
XAN LR LR
comp=Z,500nm,19.0s
XAN Xi'an 52.08 76 *e*P **P 00 19 03.5 -0.1**
XAN pmax pmax
comp=Z,44nm,1.4s
XAN MLR MLR
comp=Z,500nm,19.0s
HIA Hailar 52.10 54 *c i*P **P 00 19 03.9 +0.4**
HIA pmax pmax
comp=Z,228nm,1.4s
HIA MLR MLR
comp=Z,3μm,18.0s
KMI Kunming 52.53 89 P **P 00 19 10.3 +3.0**
KMI pP sP 00 19 13.5 +1.3
KMI PP **PP 00 21 06.8 +0.7**
KMI S **S 00 26 35.5 +1.2**
KMI SS **SS 00 30 09.0 -3.2**
KMI pmax pmax
comp=Z,26nm,0.5s
KMI pmax pmax
comp=Z,99nm,3.1s
KMI LR LR
comp=Z,350nm,17.9s
KMI LR LR
comp=Z,440nm,16.5s
KMI LR LR
comp=Z,340nm,24.3s
KMI Kunming 52.53 89 PFAKE 00 19 20.0 +13
KMI LR LR
comp=Z,400nm,20.0s
TIY Taiyuan 52.67 70 *e*P **P 00 19 10.0 +2.0**
TIY S **S 00 26 41.3 +5.6**
TIY LR LR
comp=Z,560nm,16.0s
TIY LR LR
comp=Z,550nm,12.2s
TIY LR LR
comp=Z,650nm,27.1s
CHTO Chiang Mai 53.65 98 *e*P **P 00 19 14.4 -0.9**
comp=Z,41nm,1.4s
CHTO LR LR
comp=Z,300nm,22.0s
CHTO Chiang Mai 53.65 98 *e*P **P 00 19 14.4 -0.9**
CHTO pmax pmax
comp=Z,41nm,1.4s
CHTO MLR MLR
comp=Z,300nm,22.0s
CHTO Chiang Mai 53.65 98 P **P 00 19 14.8 -0.5**
SNR=6.1
CHTO P **P 00 19 14.8 -0.5**
SNR=6.1
CMMT Chiang Mai 53.65 98 P **P 00 19 15.9 +0.6**
comp=Z,10.0nm,1.1s
CM31 Chiang Mai Arr 53.88 99 *e*P **P 00 19 16.8 -0.2**
comp=Z,59nm,1.8s
CMAR Chiang Mai Arr 53.88 99 P **P 00 19 16.8 -0.2**
comp=Z,3.9nm,0.9s,baz=304,slow=7.0,SNR=16
CMAR LR LR 00 46 13.6
comp=Z,251nm,20.6s,baz=322,slow=41
BJI Beijing 54.06 66 P **P 00 19 19.3 +1.3**
BJI S **S 00 27 01.5 +7.2**
BJI pmax pmax
comp=Z,12nm,1.8s
BJI LR LR

comp=Z,390nm,26.5s
BJI LR LR
comp=Z,230nm,25.0s
BJI LR LR
comp=Z,240nm,20.1s
BJT Baijiatuau 54.07 66 PFAKE 00 19 30.0 +12
BJT LR LR
comp=Z,700nm,19.0s
LAMP Lampang 54.34 98 P **P 00 19 22.7 +2.4**
comp=Z,24µm,0.8s,comp=Z,270µm
ZEA Zeya 54.40 47 *e*P **P 00 19 21.4 +1.1**
ZEA pmax pmax
comp=Z,61nm,1.6s
ZEA pmax pmax
comp=Z,200nm,6.0s
ZEA MLR MLR
comp=Z,2µm,15.0s
ZEA MLR MLR
comp=E,1µm,14.0s
ZEA MLR MLR
comp=N,900nm,13.0s
ENH Enshi 54.50 80 *e*P **P 00 19 21.1 -0.3**
comp=N,33nm,0.9s
ENH LR LR
comp=Z,500nm,19.0s
GYA Guiyang 54.62 85 P **P 00 19 21.5 -0.9**
GYA PP **PP 00 21 26.0 +1.3**
GYA S **S 00 26 56.3 -6.1**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.3s
GYA LR LR
comp=Z,520nm,18.4s
GYA LR LR
comp=Z,540nm,19.0s
GYA LR LR
comp=Z,610nm,18.2s
DBIC Dimbokro 54.65 242 *e*P **P 00 19 21.7 -0.9**
comp=Z,29nm,1.1s
DBIC Dimbokro 54.65 242 *e*P **P 00 19 21.7 -0.9**
DBIC pmax pmax
comp=Z,29nm,1.1s
DBIC Dimbokro 54.65 242 P **P 00 19 21.5 -1.1**
comp=Z,7.9nm,0.5s,baz=27,slow=6.9,SNR=20
DBIC LR LR 00 45 45.1
comp=Z,131nm,19.8s,baz=16,slow=39
TIC Toumodi 54.77 242 *e*P **P 00 19 22.1 -1.4**
PHRA Phrae 54.78 98 P **P 00 19 24.5 +0.9**
comp=Z,2.4nm,1.2s
KIC Kosan Boka 54.81 242 *e*P **P 00 19 23.6 -0.2**
comp=Z,66nm,1.1s
LIC Lamto 55.09 242 *e*P **P 00 19 24.5 -1.3**
comp=Z,106nm,0.9s
UTTA Uttaradit 55.51 98 P **P 00 19 31.0 +2.2**
comp=Z,15µm,1.2s,comp=Z,202µm
SLVN Son La 55.67 92 *e*P **P 00 19 31.1 +1.0**
comp=Z,59nm,1.9s
PBKT Sadao Pong 56.57 99 P **P 00 19 37.9 +1.5**
comp=Z,9.9nm,1.2s,comp=Z,305nm
CHAI Chaiyaphum 57.74 99 P P 00 19 51.1 +6.4
comp=Z,18µm,0.7s
WHN Wuhan 57.83 77 P **P 00 19 44.3 -0.8**
WHN S **S 00 27 52.5 +7.9**
WHN LR LR
comp=Z,1µm,10.8s
WHN LR LR
comp=Z,1µm,11.2s
WHN LR LR
comp=Z,1µm,11.5s
PHET Kaeng Krachan 58.05 103 P **P 00 19 50.6 +3.8**
comp=Z,23µm,0.6s
CN2 Changchun 58.15 58 *e*P **P 00 19 48.0 +0.8**
CN2 *es*P sP 00 19 55.0 +2.9
CN2 *e*S **S 00 27 46.3 -2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,730nm,21.0s
CN2 LR LR
comp=Z,490nm,20.0s
CN2 LR LR
comp=Z,220nm,23.0s
SKNT Sakolnakorn 58.49 96 P **P 00 19 51.2 +1.3**
comp=Z,10nm,1.0s,comp=Z,5µm
PANO Nakornpanom 58.84 96 P **P 00 19 53.8 +1.5**
comp=Z,0.3nm,1.1s
RES Resolute Bay 58.87 348 *e*P **P 00 19 53.6 +1.8**
comp=Z,38nm,1.6s
RES LR LR
comp=Z,400nm,19.0s
RES Resolute Bay 58.87 348 *e*P **P 00 19 53.6 +1.8**
RES pmax pmax
comp=Z,38nm,1.6s
RES MLR MLR
comp=Z,400nm,19.0s
KLR Kul'dur 59.04 50 *ce*P **P 00 19 53.4 0.0**
KLR pmax pmax
comp=Z,46nm,1.8s
KLR MLR MLR
comp=Z,484nm,19.0s
KLR Kul'dur 59.04 50 LR LR 00 49 25.9
comp=Z,978nm,18.2s,baz=303,slow=40
LSZ Lusaka 59.51 195 *e*P **P 00 19 56.8 -0.2**
comp=Z,49nm,1.9s
LSZ LR LR
comp=Z,800nm,19.0s
LSZ Lusaka 59.51 195 *e*P **P 00 19 56.8 -0.2**
LSZ pmax pmax
comp=Z,49nm,1.9s
LSZ MLR MLR
comp=Z,800nm,19.0s
NJ2 Nanjing 60.15 73 *e*P **P 00 20 01.8 +0.6**
NJ2 pmax pmax
comp=Z,41nm,1.7s
NJ2 LR LR
comp=Z,850nm,24.0s
NJ2 LR LR
comp=Z,700nm,24.0s
NJ2 LR LR
comp=Z,670nm,20.1s
MDJ Mudanjiang 60.24 55 P **P 00 20 03.5 +1.8**
MDJ S **S 00 28 20.3 +4.7**
MDJ pmax pmax
comp=Z,5.0nm,0.5s
MDJ pmax pmax
comp=Z,130nm,5.2s
MDJ LR LR
comp=Z,750nm,13.5s
MDJ LR LR
comp=Z,510nm,12.5s
MDJ LR LR
comp=Z,830nm,15.5s
MDJ Mudanjiang 60.24 55 PFAKE 00 20 10.0 +8.3
MDJ LR LR
comp=Z,500nm,18.0s
GRNR Gornyy 60.76 46 *e*P P 00 20 11.0 +5.8
GRNR pmax pmax
comp=Z,21nm,1.0s
QIZ Qiongzhong 61.45 90 P **P 00 20 10.8 +0.5**
QIZ S **S 00 28 33.5 +1.8**
QIZ SS **SS 00 32 38.8 +6.5**
QIZ pmax pmax
comp=Z,15nm,1.3s
QIZ LR LR
comp=Z,340nm,24.0s
QIZ LR LR
comp=Z,390nm,24.0s
QIZ LR LR
comp=Z,250nm,14.7s
BILL Bilibino 61.57 21 *e*P **P 00 20 10.6 +0.2**
comp=Z,48nm,1.6s
BILL LR LR
comp=Z,700nm,22.0s
BILL Bilibino 61.57 21 *e*P **P 00 20 10.6 +0.2**
BILL *e* 00 20 50.6
BILL *e* 00 22 25.4
BILL *e*PPP PPP 00 23 54.4
BILL pmax pmax
comp=Z,40nm,2.5s
BILL MLR MLR
comp=Z,688nm,22.0s
USA0B Ussuriysk Arra 61.91 55 PFAKE 00 20 30.0 +17
USA0B LR LR
comp=Z,600nm,19.0s

USRK Ussuriysk Ar. 61.91 55 P **P 00 20 12.5 -0.5**
comp=Z,7.1nm,1.0s,baz=316,slow=8.0,SNR=9.3
USRK PP **PP 00 22 31.0 +2.2**
comp=Z,2.3nm,0.8s,baz=283,slow=9.6,SNR=4.2
USRK LR LR 00 50 03.1
comp=Z,339nm,18.6s,baz=296,slow=39
MA2 Magadan 62.26 33 PFAKE 00 20 30.0 +15
MA2 LR LR
comp=Z,900nm,19.0s
MA2 Magadan 62.26 33⇑ *e*P **P 00 20 17.5 +2.4**
MA2 MLR MLR
comp=Z,837nm,21.0s
KSRS Korea Array 63.20 63 P **P 00 20 21.4 -0.3**
comp=Z,11nm,0.9s,baz=299,slow=5.7,SNR=20
KSRS LR LR 00 50 35.4
comp=Z,544nm,18.3s,baz=301,slow=39
TJN Taejon 63.45 64⇓ *e*P **P 00 20 23.8 +0.4**
TYV Tymovskoe 63.94 44 *e*P P 00 20 17.4 -9.0
TYV pmax pmax
comp=Z,21nm,0.6s
PSI Prapat 64.68 112 *e*P **P 00 20 30.5 -1.4**
comp=Z,16nm,1.1s
PSI Prapat 64.68 112 *e*P **P 00 20 30.5 -1.4**
PSI pmax pmax
comp=Z,16nm,1.1s
GSI Gunungsitoli 64.87 114 *e*P **P 00 20 31.9 -1.1**
comp=Z,20nm,1.1s
GSI Gunungsitoli 64.87 114 P **P 00 20 32.1 -0.9**
SCHQ Schefferville 65.00 323 P **P 00 20 33.4 +0.1**
comp=Z,12nm,1.0s,baz=48,slow=8.6,SNR=6.3
SCHQ LR LR 00 48 07.9
comp=Z,242nm,21.2s,baz=22,slow=35
DLV T Lat 65.07 97 PFAKE 00 20 50.0 +15
DLV LR LR
comp=Z,400nm,20.0s
TSUM Tsumeb 65.94 205 PFAKE 00 20 50.0 +10
TSUM LR LR
comp=Z,900nm,19.0s
YHNB Yeheng 66.31 78 *e*P **P 00 20 42.3 -0.1**
comp=Z,185nm,1.7s
YSS Yuzh-Sakhalins 66.38 47 PFAKE 00 20 50.0 +7.7
YSS LR LR
comp=Z,500nm,22.0s
YSS Yuzh-Sakhalins 66.38 47⇑ *e*P **P 00 20 43.9 +1.6**
YSS *e*S **S 00 29 25.1 -7.1**
YSS *e*SS **SS 00 33 47.5 -0.3**
YSS *e*SSS SSS 00 36 41.4
YSS pmax pmax
comp=Z,30nm,1.4s
YSS pmax pmax
comp=Z,200nm,2.2s
YSS MLR MLR
comp=Z,600nm,15.6s
YSS MLR MLR
comp=N,500nm,13.2s
YSS MLR MLR
comp=E,400nm,17.3s
SSLB Suanglung 66.56 79 PFAKE 00 21 00.0 +16
SSLB LR LR
comp=Z,300nm,19.0s
TPUB Ta-pu 66.63 79 *e*P **P 00 20 43.1 -1.2**
comp=Z,64nm,1.4s
NACB Ninganchiao 66.78 78 PFAKE 00 21 00.0 +15
NACB LR LR
comp=Z,400nm,20.0s
YULB Yu-li 67.05 79 PFAKE 00 21 00.0 +13
YULB LR LR
comp=Z,400nm,19.0s
RDOG Red Dog Mine 67.51 10 PFAKE 00 21 00.0 +11
RDOG LR LR
comp=Z,300nm,20.0s
ASAJ Asahikawa 68.08 50 LR LR 00 55 20.6
comp=Z,1µm,18.5s,baz=332,slow=40
TOLK Toolik Lake Re 68.14 4 PFAKE 00 21 10.0 +17
TOLK LR LR
comp=Z,400nm,22.0s
TOLK Toolik Lake Re 68.14 4 P **P 00 20 54.5 +1.3**
baz=351,SNR=58
GBN Guysborough 68.45 312 PFAKE 00 21 10.0 +15
GBN LR LR
comp=Z,400nm,21.0s
INK Inuvik 68.73 358 PFAKE 00 21 10.0 +13
INK LR LR
comp=Z,500nm,21.0s
MYKOM Kota Tinggi 68.79 108 PFAKE 00 21 10.0 +12
MYKOM LR LR
comp=Z,200nm,21.0s
PEA0B Petropavlovsk- 69.46 35 PFAKE 00 21 10.0 +8.4
PEA0B LR LR
comp=Z,400nm,20.0s
PETK Petropavlovsk- 69.46 35 P **P 00 21 00.3 -1.3**
comp=Z,1.9nm,0.7s,baz=23,slow=4.8,SNR=3.8
PETK LR LR 00 54 39.9
comp=Z,390nm,18.8s,baz=302,slow=39
LBTB Lobatse 69.49 196 *e*P **P 00 21 01.1 -1.0**
comp=Z,18nm,0.9s
LBTB Lobatse 69.49 196 *e*P **P 00 21 01.1 -1.0**
LBTB pmax pmax
comp=Z,18nm,0.9s
ERM Erimo 69.74 51 PFAKE 00 21 20.0 +16
ERM LR LR
comp=Z,900nm,19.0s
PET Petropavlovsk 69.92 35 PFAKE 00 21 20.0 +16
PET LR LR
comp=Z,399nm,19.0s
YUK Yuzh-Kuril'sk 69.93 48 *e*P **P 00 21 03.1 -1.5**
YUK *e*S **S 00 30 07.6 -7.0**
YUK MLR MLR
comp=Z,752nm,16.0s
YUK MLR MLR
comp=E,430nm,13.0s
YUK MLR MLR
comp=N,706nm,16.0s
GAMB Gambell 70.12 15 PFAKE 00 21 20.0 +15
GAMB LR LR
comp=Z,300nm,19.0s
MJB9 Matsu-Tunnel 70.29 58 PFAKE 00 21 20.0 +13
MJB9 LR LR
comp=Z,300nm,18.0s
MAJO Matsushiro 70.29 58 *e*P **P 00 21 05.9 -1.1**
comp=Z,29nm,1.4s
MAJO Matsushiro 70.29 58⇓ *e*P **P 00 21 07.5 +0.4**
MAJO pmax pmax
comp=Z,13nm,1.3s
MAJO MLR MLR
comp=Z,275nm,17.0s
MAT Matsushiro 70.29 58 P **P 00 21 06.6 -0.5**
MAT S **S 00 30 23.0 +3.8**
MJAR Matsushiro Arr 70.29 58 P **P 00 21 06.9 -0.1**
comp=Z,3.7nm,0.8s,baz=303,slow=6.6,SNR=14
MJAR LR LR 00 55 15.6
comp=Z,275nm,19.4s,baz=295,slow=39
INU Inuyama 70.30 60 PFAKE 00 21 20.0 +13
INU LR LR
comp=Z,600nm,21.0s
FYU Fort Yukon 70.41 3 PFAKE 00 21 20.0 +13
FYU LR LR
comp=Z,400nm,22.0s
ANM Nome 70.47 12 PFAKE 00 21 20.0 +12
ANM LR LR
comp=Z,300nm,20.0s
SKR Severo-Kuril's 70.50 38⇓ *e*P **P 00 21 09.8 +1.8**
EPYK Eagle Plains 70.73 359 P **P 00 21 09.5 +0.2**
baz=1.2,SNR=30
PRP Porcupine Dome 71.45 3 PFAKE 00 21 30.0 +16
PRP LR LR
comp=Z,300nm,22.0s
MLY Manley 71.65 5 PFAKE 00 21 30.0 +15
MLY LR LR
comp=Z,200nm,21.0s
CHGQ Chibougamau 71.73 322 P **P 00 21 15.8 +0.2**
baz=44,SNR=16
POKR Poker Plat Res 71.76 4 P **P 00 21 15.5 0.0**
baz=353
FCC Fort Churchill 71.96 338 PFAKE 00 21 30.0 +13
FCC LR LR
comp=Z,600nm,20.0s
COLA College 71.98 4 *e*P **P 00 21 17.9 +1.1**
comp=Z,152nm,1.8s
COLA *e*PP **PP 00 23 53.7 -2.1**
COLA LR LR
comp=Z,200nm,20.0s
COLA College 71.98 4 *c i*P **P 00 21 17.6 +0.9**
COLA pmax pmax
comp=Z,22nm,1.1s
TCOL CIGO, UAF Yank 71.98 4 P **P 00 21 17.0 +0.3**

baz=353
ILAR Eielson Array 72.13 4 P **P 00 21 18.4 +0.7**
comp=Z,6.0nm,1.2s,baz=342,slow=3.5,SNR=23
ILAR PP **PP 00 23 55.3 -1.9**
comp=Z,1.9nm,1.0s,baz=348,slow=8.2,SNR=4.7
ILAR LR LR 00 57 04.9
comp=Z,129nm,20.3s,baz=352,slow=39
WRH Wood River Hil 72.37 4 *e*P **P 00 21 19.7 +0.6**
comp=Z,78nm,1.7s
WRH LR LR
comp=Z,200nm,21.0s
HDA Harding Lake 72.49 4 P **P 00 21 20.0 +0.1**
baz=353
BPAW Bear Paw Mtn. 72.55 6 PFAKE 00 21 30.0 +10
BPAW LR LR
comp=Z,300nm,19.0s
PKME Peaks-Kenny Pk 72.61 316 P **P 00 21 21.5 +0.6**
baz=46
LATQ La Tuque 72.82 320 P **P 00 21 22.5 +0.5**
baz=44
YKW3 Yellowknife Ar 72.85 349 PFAKE 00 21 30.0 +8.0
YKW3 LR LR
comp=Z,300nm,18.0s
YKA Yellowknife Ar 72.91 349 P **P 00 21 22.8 +0.5**
comp=Z,3.5nm,0.6s,baz=15,slow=6.3,SNR=66
YKA LR LR 00 55 14.1
comp=Z,31nm,18.8s,baz=22,slow=37
BOSA Boshof 73.06 195 *e*P **P 00 21 22.9 -0.8**
comp=Z,39nm,1.3s
BOSA Boshof 73.06 195 *e*P **P 00 21 22.9 -0.8**
BOSA pmax pmax
comp=Z,39nm,1.3s
BOSA Boshof 73.06 195 P **P 00 21 22.5 -1.1**
comp=Z,14nm,0.9s,baz=6.1,slow=5.3,SNR=9.6
BOSA LR LR 00 54 17.8
comp=Z,386nm,18.3s,baz=22,slow=36
MATQ Matagami 73.28 324 P **P 00 21 24.9 +0.1**
baz=42,SNR=20
WVL Waterville 73.29 316 PFAKE 00 21 40.0 +15
WVL LR LR
comp=Z,400nm,19.0s
RND Reindeer 73.38 5 PFAKE 00 21 40.0 +15
RND LR LR
comp=Z,300nm,22.0s
KSM Kuching 73.55 104 PFAKE 00 21 40.0 +13
KSM LR LR
comp=Z,200nm,19.0s
DHY Denali Highway 73.80 4 PFAKE 00 21 40.0 +12
DHY LR LR
comp=Z,200nm,21.0s
LBNH Lisbon 74.66 317 PFAKE 00 21 40.0 +7.0
LBNH LR LR
comp=Z,300nm,20.0s
LBNH Lisbon 74.66 317 P **P 00 21 33.3 +0.3**
baz=44
D54A Lac Fusel, La 74.79 321 P **P 00 21 33.6 0.0**
baz=42
GHO Glory Hole Cre 75.00 5 PFAKE 00 21 50.0 +15
GHO LR LR
comp=Z,300nm,20.0s
VT1 Waterbury 75.01 317 PFAKE 00 21 50.0 +15
VT1 LR LR
comp=Z,300nm,18.0s
FRNY Flat Rock 75.05 318 *e*P **P 00 21 35.4 +0.3**
comp=Z,19nm,1.3s
FRNY LR LR
comp=Z,300nm,19.0s
FFD Franklin Falls 75.08 316 PFAKE 00 21 50.0 +15
FFD LR LR
comp=Z,400nm,18.0s
ALFO Alfred 75.09 319 P **P 00 21 36.0 +0.6**
baz=42,SNR=10
PMR Palmer 75.17 5 PFAKE 00 21 50.0 +14
PMR LR LR
comp=Z,300nm,20.0s
SUA Susitna One 75.18 6 PFAKE 00 21 50.0 +14
SUA LR LR
comp=Z,300nm,21.0s
D53A Lac Vacive, Po 75.32 322 PFAKE 00 21 50.0 +13
D53A LR LR
comp=Z,400nm,19.0s
D53A Lac Vacive, Po 75.32 322 P **P 00 21 37.4 +0.7**
baz=41,SNR=21
ORIO Orleans, Innes 75.52 320 P **P 00 21 37.6 -0.3**
baz=42
E54A Lac Daplat, Po 75.57 321 P **P 00 21 37.9 -0.2**
baz=41,SNR=11
RC01 Rabbit Creek A 75.62 6 PFAKE 00 21 50.0 +12
RC01 LR LR
comp=Z,300nm,19.0s
F55A Otter Lake 75.63 320 P **P 00 21 38.2 -0.3**
baz=42
LONY Lake Ozonia 75.69 319 PFAKE 00 21 50.0 +11
LONY LR LR
comp=Z,300nm,18.0s
LONY Lake Ozonia 75.69 319 P **P 00 21 39.6 +0.7**
baz=42,SNR=9.0
D52A ZEK Kipawa Sen 75.71 322 P **P 00 21 39.5 +0.6**
baz=41,SNR=10
HRV Adam Dziewonsk 75.72 315 P **P 00 21 39.4 +0.3**
baz=44
E53A Dumoine, Ponti 75.83 321 P **P 00 21 40.2 +0.6**
baz=41,SNR=12
M65A Busby, Falmout 75.93 314 P **P 00 21 40.3 +0.1**
baz=44
NCB Newcomb 76.00 318 PFAKE 00 21 50.0 +9.3
NCB LR LR
comp=Z,200nm,20.0s
BALM Baldy 76.04 2 PFAKE 00 21 50.0 +9.3
BALM LR LR
comp=Z,200nm,21.0s
D51A Lot 18 Range I 76.05 323 P **P 00 21 40.9 0.0**
baz=40
CTGM Chitina Glacie 76.13 1 PFAKE 00 21 50.0 +8.7
CTGM LR LR
comp=Z,300nm,22.0s
ACCN Adirondack Com 76.15 317 PFAKE 00 21 50.0 +8.5
ACCN LR LR
comp=Z,200nm,19.0s
PEMO Pembroke 76.17 321 P **P 00 21 41.9 +0.4**
baz=41,SNR=12
G55A Calabogie 76.24 320 P **P 00 21 42.2 +0.2**
baz=41,SNR=5.4
HYT Haines Junctio 76.30 360 PFAKE 00 21 50.0 +7.8
HYT LR LR
comp=Z,200nm,19.0s
ALGO Algonquin Park 76.33 321 P **P 00 21 42.8 +0.4**
baz=41,SNR=8.3
E52A Mattawa 76.35 322 P **P 00 21 42.8 +0.2**
baz=40,SNR=7.9
H56A Elgin 76.52 320 P **P 00 21 43.8 +0.3**
baz=42
E51A G1948 Merrick 76.53 323 P **P 00 21 43.7 +0.1**
baz=40,SNR=10
PLVO Plevna 76.56 320 PFAKE 00 22 00.0 +16
PLVO LR LR
comp=Z,400nm,19.0s
PLVO Plevna 76.56 320 P **P 00 21 45.1 +1.3**
baz=41,SNR=8.5
D49A Beulah Townshi 76.78 324 P **P 00 21 45.2 +0.2**
baz=39,SNR=7.6
BANO Bancroft 76.98 321 P **P 00 21 47.1 +0.9**
baz=41,SNR=13
H55A Tweed 76.98 320 P **P 00 21 46.9 +0.7**
baz=41,SNR=11
F52A Sundridge 77.02 322 P **P 00 21 47.5 +1.1**
baz=40,SNR=13
D48A Paudash Townsh 77.05 324 P **P 00 21 46.8 +0.3**
baz=39,SNR=8.7
E50A Wahnapitae 77.17 323 P **P 00 21 48.0 +0.8**
baz=39,SNR=13
F51A Arnstein 77.19 322 P **P 00 21 48.1 +0.8**
baz=40,SNR=13
DELO Deloro Mine 77.21 320 P **P 00 21 47.8 +0.4**
baz=41,SNR=12
G53A Haliburton 77.22 321 P **P 00 21 48.4 +0.9**
baz=40,SNR=9.4
KSCT Kent School, K 77.28 316 PFAKE 00 22 00.0 +12
KSCT LR LR
comp=Z,400nm,18.0s
BUKO Buck Lake 77.33 322 P **P 00 21 48.9 +0.8**
baz=40,SNR=14
PECO Prince Edward 77.36 319 P **P 00 21 49.3 +1.0**
baz=41,SNR=8.8
I55A Frankford 77.47 320 P **P 00 21 48.3 -0.6**
baz=41,SNR=9.7
FFC Flin Flon 77.61 339 *e*P **P 00 21 50.0 +0.5**

comp=Z,47nm,1.4s
FFC *e*PP PP 00 24 35.2 -8.5
FFC LR LR
comp=Z,300nm,18.0s
FFC Flin Flon 77.61 339 *e*P **P 00 21 50.0 +0.5**
FFC pmax pmax
comp=Z,47nm,1.4s
FFC MLR MLR
comp=Z,300nm,18.0s
D47A Chapleau 77.69 325 P **P 00 21 51.0 +0.9**
baz=38
SADO Sadowa 77.73 321 PFAKE 00 22 00.0 +10
SADO LR LR
comp=Z,400nm,19.0s
KLBO Killbear Provi 77.76 322 P **P 00 21 50.5 0.0**
baz=39,SNR=18
PAL Palisades 78.02 316 PFAKE 00 22 00.0 +8.0
PAL LR LR
comp=Z,300nm,18.0s
PAL Palisades 78.02 316 P **P 00 21 52.2 +0.2**
baz=42
WLVO Wesleyville 78.03 320 P **P 00 21 52.6 +0.6**
baz=40
H52A Wyevale 78.16 322 P **P 00 21 52.8 0.0**
baz=39
BINY Binghamton 78.17 318 P **P 00 21 53.4 +0.4**
baz=41,SNR=7.7
DRCO St. Marys Ceme 78.21 320 P **P 00 21 53.4 +0.4**
baz=40
D46A Sault St. Mari 78.21 325 P **P 00 21 53.8 +0.8**
baz=37,SNR=19
DRWO Darlington Wes 78.22 320 P **P 00 21 53.3 +0.2**
baz=40
E47A Iron Bridge 78.24 325 P **P 00 21 53.8 +0.7**
baz=38,SNR=8.2
F49A Sandfield 78.25 323 P **P 00 21 54.1 +0.8**
baz=38,SNR=15
J55A Hilton 78.25 319 PFAKE 00 22 00.0 +6.7
J55A LR LR
comp=Z,400nm,18.0s
J55A Hilton 78.25 319 P **P 00 21 52.8 -0.5**
baz=40
PKRO Pickering 78.31 321 P **P 00 21 53.7 +0.1**
baz=40
ODNJ Ogdensburg 78.32 316 PFAKE 00 22 10.0 +16
ODNJ LR LR
comp=Z,500nm,19.0s
TOBO Tobermory, Bru 78.44 323 P **P 00 21 54.8 +0.5**
baz=38,SNR=12
F48A Evansville 78.45 324 P **P 00 21 55.4 +1.0**
baz=38,SNR=8.4
DLBC Dease Lake 78.46 356 PFAKE 00 22 10.0 +16
DLBC LR LR
comp=Z,500nm,20.0s
BRNJ Basking Ridge 78.60 316 PFAKE 00 22 10.0 +15
BRNJ LR LR
comp=Z,400nm,18.0s
MEDO Medina 78.63 320 P **P 00 21 55.9 +0.5**
baz=40
J54A Appleton 78.64 320 PFAKE 00 22 10.0 +15
J54A LR LR
comp=Z,200nm,18.0s
J54A Appleton 78.64 320 P **P 00 21 55.9 +0.5**
baz=40
I53A Kortright Cn E 78.66 321 P **P 00 21 55.9 +0.4**
baz=40
TORO Toronto--Lesli 78.71 321 P **P 00 21 56.3 +0.5**
baz=40
E46A Sault Ste Mari 78.74 325 PFAKE 00 22 10.0 +14
E46A LR LR
comp=Z,500nm,20.0s
E46A Sault Ste Mari 78.74 325 P **P 00 21 56.7 +0.8**
baz=37,SNR=8.4
I52A Shelburne 78.74 321 P **P 00 21 56.6 +0.5**
baz=39
K55A Perry 78.78 319 P **P 00 21 56.7 +0.4**
baz=40,SNR=5.8
BMRO Meriville Lake 78.80 322 P **P 00 21 56.8 +0.5**
baz=39,SNR=12
STCO Saint Catharin 78.94 320 P **P 00 21 57.2 +0.2**
baz=40
N59A State Game Lan 79.03 317 PFAKE 00 22 10.0 +12
N59A LR LR
comp=Z,400nm,19.0s
N59A State Game Lan 79.03 317 P **P 00 21 58.0 +0.3**
baz=41,SNR=5.4
ACTO Acton 79.04 321 P **P 00 21 58.5 +0.8**
baz=39
E45A Wooded Hills, 79.11 326 P **P 00 21 59.0 +1.0**
baz=36,SNR=6.3
BWLO Walkerton 79.14 322 P **P 00 21 59.0 +0.8**
baz=39,SNR=12
K54A Basiliko Farm, 79.17 320 P **P 00 21 58.5 +0.1**
baz=40
BRCO Bruce Peninsul 79.17 322 P **P 00 21 59.1 +0.7**
baz=38
E44A Grand Marais A 79.20 326 PFAKE 00 22 10.0 +12
E44A LR LR
comp=Z,400nm,21.0s
E44A Grand Marais A 79.20 326 P **P 00 21 59.1 +0.7**
baz=36
O60A Telford 79.29 316 P **P 00 21 59.9 +0.9**
baz=41,SNR=6.3
I51A Listowel 79.33 322 P **P 00 21 59.9 +0.7**
baz=39,SNR=8.0
TYNO Tyneside 79.35 321 P **P 00 21 59.7 +0.4**
baz=39
L55A Hinsdale 79.38 319 P **P 00 21 59.6 +0.1**
baz=40,SNR=7.7
F46A Macinaw City C 79.40 325 P **P 00 22 00.1 +0.6**
baz=37
C40A Isle Royale Na 79.41 329 PFAKE 00 22 10.0 +10
C40A LR LR
comp=Z,400nm,20.0s
C40A Isle Royale Na 79.41 329 P **P 00 22 00.2 +0.7**
baz=34,SNR=6.9
BASO Ashfield 79.45 322 P **P 00 22 00.8 +0.9**
baz=38,SNR=10
G47A Hillman 79.50 324 P **P 00 22 01.1 +1.0**
baz=37,SNR=11
J52A Paris 79.52 321 P **P 00 22 00.3 0.0**
baz=39
PSUB Penn St. - Bra 79.61 316 PFAKE 00 22 10.0 +9.2
PSUB LR LR
comp=Z,300nm,18.0s
H48A Harrisville 79.65 324 PFAKE 00 22 10.0 +9.1
H48A LR LR
comp=Z,500nm,18.0s
H48A Harrisville 79.65 324 P **P 00 22 01.5 +0.6**
baz=37
O59A Robesonia 79.69 317 P **P 00 22 01.5 +0.2**
baz=41,SNR=5.9
L54A Sinclairville 79.75 320 P **P 00 22 01.8 +0.2**
baz=39,SNR=7.3
M56A Emporium 79.79 319 P **P 00 22 02.2 +0.4**
baz=40,SNR=8.6
F45A CMU Biological 79.79 325 P **P 00 22 02.3 +0.6**
baz=36
P60A Greenville 79.79 316 P **P 00 22 01.7 -0.1**
baz=41,SNR=6.4
ULM Lac du Bonnet 79.79 334 PFAKE 00 22 10.0 +8.4
ULM LR LR
comp=Z,500nm,20.0s
ULM Lac du Bonnet 79.79 334 P **P 00 22 02.1 +0.5**
comp=Z,18nm,0.9s,baz=35,slow=6.0,SNR=19
ULM LR LR 00 57 57.5
comp=Z,516nm,18.4s,baz=34,slow=36
G46A Petoskey 79.81 325 P **P 00 22 01.8 0.0**
baz=36
E43A Lone Tree Farm 79.83 327 PFAKE 00 22 10.0 +8.1
E43A LR LR
comp=Z,500nm,22.0s
E43A Lone Tree Farm 79.83 327 P **P 00 22 02.4 +0.4**
baz=35,SNR=8.1
D41A Chassel 79.89 328 PFAKE 00 22 10.0 +7.8
D41A LR LR
comp=Z,700nm,22.0s
D41A Chassel 79.89 328 P **P 00 22 02.8 +0.5**
baz=34,SNR=6.8
F44A Big Bay de Noc 79.93 326 P **P 00 22 03.2 +0.8**
baz=36,SNR=11
K52A Tillsonburg 79.98 321 P **P 00 22 03.6 +0.8**
baz=39
PAGS Pennsylvania G 80.02 317 PFAKE 00 22 10.0 +7.0
PAGS LR LR
comp=Z,400nm,20.0s
I49A Point Hope 80.03 323 PFAKE 00 22 10.0 +7.0
I49A LR LR
comp=Z,300nm,21.0s
I49A Point Hope 80.03 323 P **P 00 22 03.2 +0.2**
baz=38
N57A Milroy 80.03 318 P **P 00 22 03.1 0.0**
baz=40,SNR=9.2
M55A Ridgway 80.08 319 P **P 00 22 03.8 +0.4**
baz=40,SNR=10
GLMI Grayling 80.10 324 PFAKE 00 22 10.0 +6.6
GLMI LR LR
comp=Z,500nm,18.0s
GLMI Grayling 80.10 324 P **P 00 22 02.5 -0.9**
baz=37
H47A Mio 80.11 324 P **P 00 22 03.7 +0.2**
baz=37
E42A Champion 80.16 327 P **P 00 22 04.1 +0.4**
baz=35,SNR=9.4
ERPA Erie 80.16 320 PFAKE 00 22 20.0 +16
ERPA LR LR
comp=Z,300nm,19.0s
ERPA Erie 80.16 320 P **P 00 22 04.0 +0.2**
baz=39
I48A Sherman Twp 80.22 323 P **P 00 22 04.5 +0.5**
baz=37
EYMN Ely 80.25 330 PFAKE 00 22 20.0 +16
EYMN LR LR
comp=Z,800nm,22.0s
EYMN Ely 80.25 330 P **P 00 22 04.9 +0.7**
baz=33,SNR=9.8
N56A West Decatur 80.28 318 P **P 00 22 03.9 -0.6**
baz=40,SNR=8.7
SSPA Standing Stone 80.29 318 *e*P **P 00 22 04.2 -0.3**
comp=Z,39nm,1.3s
SSPA LR LR
comp=Z,300nm,20.0s
SSPA Standing Stone 80.29 318 P **P 00 22 04.5 0.0**
baz=40
P59A Jarretsville 80.35 316 P **P 00 22 05.3 +0.5**
baz=41
F43A Flat Rock, Esc 80.35 326 P **P 00 22 05.4 +0.7**
baz=35,SNR=14
G45A Suttons Bay 80.37 325 PFAKE 00 22 20.0 +15
G45A LR LR
comp=Z,500nm,18.0s
G45A Suttons Bay 80.37 325 P **P 00 22 05.5 +0.7**
baz=36,SNR=6.0
K51A Iona Station 80.40 321 P **P 00 22 05.5 +0.5**
baz=38
L53A Girard 80.42 320 P **P 00 22 04.9 -0.2**
baz=39,SNR=7.1
M54A Oil Creek Stat 80.48 319 PFAKE 00 22 20.0 +14
M54A LR LR
comp=Z,300nm,19.0s
M54A Oil Creek Stat 80.48 319 P **P 00 22 05.2 -0.4**
baz=39,SNR=7.3
O57A Amberson 80.49 317 P **P 00 22 05.8 +0.2**
baz=40
E41A Kenton 80.54 328 P **P 00 22 06.3 +0.5**
baz=34,SNR=10
H46A Fife Lake 80.58 325 P **P 00 22 05.6 -0.4**
baz=36,SNR=6.1
ALLY Alegheny Colle 80.60 320 PFAKE 00 22 20.0 +14
ALLY LR LR
comp=Z,400nm,21.0s
J49A Marlette 80.63 323 P **P 00 22 06.7 +0.5**
baz=37
I47A Gladwin 80.70 324 P **P 00 22 07.5 +0.9**
baz=37
SDMD Soldier's Deli 80.70 316 PFAKE 00 22 20.0 +13
SDMD LR LR
comp=Z,200nm,20.0s
N55A Marion Center 80.72 319 P **P 00 22 07.1 +0.3**
baz=40,SNR=7.5
DMPH Davao City--Mi 80.73 89⇑ *e*P P 00 22 01.7 -5.5
R61A Willards 80.75 315 P **P 00 22 06.9 0.0**
baz=41
DAV Davao City (W) 80.79 89 LR LR 01 03 20.5
comp=Z,146nm,18.3s,baz=318,slow=40
F42A Maple Grove Fa 80.79 327 P **P 00 22 07.5 +0.4**
baz=35
K50A Casco 80.86 322 PFAKE 00 22 20.0 +12
K50A LR LR
comp=Z,300nm,20.0s
K50A Casco 80.86 322 P **P 00 22 07.9 +0.4**
baz=38
H45A Beulah 80.87 325 P **P 00 22 07.6 +0.1**
baz=36
O56A Blue Knob Stat 80.91 318 P **P 00 22 08.3 +0.4**
baz=40
COWI Conover 80.91 328 PFAKE 00 22 20.0 +12
COWI LR LR
comp=Z,500nm,22.0s
E40A Wakefield 80.92 328 P **P 00 22 08.6 +0.8**
baz=34,SNR=12
J48A Bridge Port 80.96 323 PFAKE 00 22 20.0 +12
J48A LR LR
comp=Z,400nm,20.0s
J48A Bridge Port 80.96 323 P **P 00 22 08.1 0.0**
baz=37
M53A WI Miller and 81.01 320 P **P 00 22 08.1 -0.2**
baz=39
Q59A Harwood 81.02 316 P **P 00 22 08.7 +0.3**
baz=40
G43A Wallace 81.03 326 PFAKE 00 22 20.0 +12
G43A LR LR
comp=Z,500nm,19.0s
G43A Wallace 81.03 326 P **P 00 22 09.2 +0.9**
baz=35,SNR=6.4
N54A Moraine State 81.06 319 PFAKE 00 22 20.0 +11
N54A LR LR
comp=Z,300nm,18.0s
N54A Moraine State 81.06 319 P **P 00 22 08.4 -0.2**
baz=39
I46A Reed City 81.17 324 P **P 00 22 09.0 -0.1**
baz=36
F41A Three Lakes 81.19 328 PFAKE 00 22 20.0 +11
F41A LR LR
comp=Z,500nm,22.0s
F41A Three Lakes 81.19 328 P **P 00 22 09.8 +0.5**
baz=34,SNR=15
MPSI Mapaga 81.22 98 P **P 00 22 09.9 +0.1**
comp=Z,9.6nm,1.2s,comp=Z,272nm
E39A Mellen 81.22 329 P **P 00 22 09.7 +0.3**
baz=33,SNR=12
K49A Clarkson 81.23 322 P **P 00 22 09.8 +0.3**
baz=37
M52A Chesterland 81.25 320 PFAKE 00 22 20.0 +10
M52A LR LR
comp=Z,300nm,20.0s
M52A Chesterland 81.25 320 P **P 00 22 09.7 +0.1**
baz=38
O55A Ligonier 81.31 318 P **P 00 22 10.2 +0.2**
baz=39,SNR=6.3
G42A Mountain 81.34 327 PFAKE 00 22 20.0 +10
G42A LR LR
comp=Z,500nm,21.0s
G42A Mountain 81.34 327 P **P 00 22 11.0 +1.0**
baz=34,SNR=14
E38A The Farm, Brul 81.41 329 PFAKE 00 22 20.0 +10
E38A LR LR
comp=Z,500nm,22.0s
E38A The Farm, Brul 81.41 329 P **P 00 22 10.7 +0.3**
baz=32
I45A Fountain 81.42 325 PFAKE 00 22 20.0 +10
I45A LR LR
comp=Z,500nm,20.0s
I45A Fountain 81.42 325 P **P 00 22 10.6 +0.1**
baz=36
R60A Leonardtown, M 81.44 315 P **P 00 22 09.9 -0.7**
baz=40
F40A Park Falls 81.44 328 P **P 00 22 10.6 0.0**
baz=33,SNR=6.5
J47A Sunmer 81.46 324 PFAKE 00 22 20.0 +9.3
J47A LR LR
comp=Z,400nm,19.0s
J47A Sunmer 81.46 324 P **P 00 22 11.0 +0.3**
baz=36
AGMN Agassiz Nation 81.48 333 PFAKE 00 22 20.0 +9.3
AGMN LR LR
comp=Z,600nm,18.0s
AGMN Agassiz Nation 81.48 333 P **P 00 22 10.9 +0.2**
baz=30,SNR=6.8
K48A Perry 81.50 323 P **P 00 22 11.2 +0.2**
baz=37
L50A Kingsville 81.52 322 P **P 00 22 11.3 +0.2**
baz=37
N53A Lisbon 81.58 320 *e*P **P 00 22 10.0 -1.4**
comp=Z,32nm,1.4s
N53A LR LR
comp=Z,400nm,19.0s
N53A Lisbon 81.58 320 P **P 00 22 11.5 +0.1**
baz=38
PLIO Pelee Island, 81.67 321 P **P 00 22 12.2 +0.4**
baz=38
AAM Ann Arbor 81.70 322 PFAKE 00 22 20.0 +8.0
AAM LR LR
comp=Z,300nm,20.0s
AAM Ann Arbor 81.70 322 P **P 00 22 11.8 -0.2**
baz=37
H43A Windswept, Lux 81.71 326 PFAKE 00 22 20.0 +8.0
H43A LR LR
comp=Z,500nm,20.0s
H43A Windswept, Lux 81.71 326 P **P 00 22 12.4 +0.4**
baz=35
J46A Howard City 81.73 324 P **P 00 22 12.7 +0.6**
baz=36
F39A Loretta 81.75 329 P **P 00 22 12.5 +0.3**
baz=33,SNR=11
R59A King George, V 81.76 316 P **P 00 22 12.3 0.0**
baz=40
Q57A Strasburg 81.78 317 P **P 00 22 12.6 +0.1**
baz=40,SNR=6.9
M51A Elyria 81.80 321 P **P 00 22 12.3 -0.2**
baz=38
O54A Avella 81.85 319 P **P 00 22 12.6 -0.2**
baz=39
CBN Corbin Frederi 81.89 316 PFAKE 00 22 20.0 +7.0
CBN LR LR
comp=Z,400nm,19.0s
CBN Corbin Frederi 81.89 316 P **P 00 22 13.2 +0.2**
baz=40
S60A Water View 81.90 315 P **P 00 22 12.8 -0.3**
baz=40
L49A Milan 81.90 322 P **P 00 22 13.2 +0.1**
baz=37
J45A Montague 81.98 325 PFAKE 00 22 20.0 +6.6
J45A LR LR
comp=Z,400nm,19.0s
J45A Montague 81.98 325 P **P 00 22 13.5 +0.1**
baz=35
N52A McGinn's Farm, 81.98 320 P **P 00 22 13.6 +0.1**
baz=38
H42A Shiocton 81.98 326 PFAKE 00 22 20.0 +6.6
H42A LR LR
comp=Z,500nm,21.0s
H42A Shiocton 81.98 326 P **P 00 22 13.5 +0.1**
baz=34
K47A Vermontville 82.00 323 P **P 00 22 13.4 -0.1**
baz=36
MCWV Mont Chateau 82.00 318 P **P 00 22 14.2 +0.6**
baz=39,SNR=5.9
G40A Rib Lake 82.01 328 PFAKE 00 22 20.0 +6.4
G40A LR LR
comp=Z,500nm,22.0s
G40A Rib Lake 82.01 328 P **P 00 22 14.1 +0.5**
baz=33,SNR=12
F38A Pierce - Schro 82.07 329 P **P 00 22 14.9 +1.0**
baz=32,SNR=19
P55A Reedsville 82.11 318 P **P 00 22 14.1 -0.1**
baz=39
R58A Rapidan 82.14 316 P **P 00 22 14.2 -0.2**
baz=40
M50A Fremont 82.14 321 PFAKE 00 22 30.0 +16
M50A LR LR
comp=Z,300nm,18.0s
M50A Fremont 82.14 321 P **P 00 22 14.2 -0.1**
baz=37
S59A Mechanicsville 82.19 316 P **P 00 22 14.4 -0.2**
baz=40
O53A New Philadelph 82.20 320 P **P 00 22 15.1 +0.5**
baz=38,SNR=5.8
N51A Ashland 82.21 321 PFAKE 00 22 30.0 +15
N51A LR LR
comp=Z,400nm,19.0s
N51A Ashland 82.21 321 P **P 00 22 14.7 0.0**
baz=38
K46A Dorr 82.33 324 P **P 00 22 15.8 +0.6**
baz=36
R58B Mineral 82.33 316 PFAKE 00 22 30.0 +15
R58B LR LR
comp=Z,400nm,18.0s
R58B Mineral 82.33 316 P **P 00 22 15.4 +0.1**
baz=40
L48A N Adams 82.33 323 P **P 00 22 15.0 -0.4**
baz=36
I43A Langenfeld Bro 82.34 326 P **P 00 22 15.4 +0.1**
baz=34
H41A Junction City 82.34 327 PFAKE 00 22 30.0 +15
H41A LR LR
comp=Z,500nm,22.0s
H41A Junction City 82.34 327 P **P 00 22 15.7 +0.4**
baz=34,SNR=9.3
P54A Burton 82.35 319 P **P 00 22 15.6 +0.1**
baz=38
G39A Holcombe 82.37 328 P **P 00 22 15.8 +0.3**
baz=33,SNR=17
T60A Surry 82.37 315 PFAKE 00 22 30.0 +14
T60A LR LR
comp=Z,200nm,20.0s
T60A Surry 82.37 315 P **P 00 22 15.5 0.0**
baz=40
R57A Stanardsville 82.40 317 P **P 00 22 15.9 +0.1**
baz=40,SNR=11
M49A Liberty Center 82.50 322 P **P 00 22 16.7 +0.5**
baz=37
F37A Hinrichs Farm, 82.55 330 P **P 00 22 16.9 +0.5**
baz=32
O52A Adamsville 82.60 320 PFAKE 00 22 30.0 +13
O52A LR LR
comp=Z,300nm,19.0s
O52A Adamsville 82.60 320 P **P 00 22 17.0 +0.2**
baz=38
MRSI Marisa 82.60 96 P **P 00 22 14.7 -2.4**
comp=Z,11nm,0.9s
H40A Chili 82.63 328 P **P 00 22 17.5 +0.6**
baz=33,SNR=12
Q55A Buckhannon 82.63 318 P **P 00 22 17.2 +0.2**
baz=39,SNR=5.6
L47A Sherwood 82.65 323 P **P 00 22 16.5 -0.5**
baz=36
I42A Draeger Farm, 82.65 326 PFAKE 00 22 30.0 +13
I42A LR LR
comp=Z,500nm,20.0s
I42A Draeger Farm, 82.65 326 P **P 00 22 16.0 -0.9**
baz=34,SNR=6.5
S58A Poland Farm, P 82.69 316 PFAKE 00 22 30.0 +13
S58A LR LR
comp=Z,400nm,18.0s
S58A Poland Farm, P 82.69 316 P **P 00 22 17.6 +0.4**
baz=40,SNR=8.0
N50A Nevada 82.69 321 P **P 00 22 17.2 0.0**
baz=37
G38A Ridgeland 82.73 329 P **P 00 22 17.4 +0.1**
baz=32,SNR=8.2
M48A Edgerton 82.83 322 PFAKE 00 22 30.0 +12
M48A LR LR
comp=Z,300nm,19.0s
M48A Edgerton 82.83 322 P **P 00 22 17.9 0.0**
baz=36
U61A Possum Corner 82.83 314 PFAKE 00 22 30.0 +12
U61A LR LR
comp=Z,500nm,20.0s
U61A Possum Corner 82.83 314 P **P 00 22 18.7 +0.7**
baz=40
J43A Natural Harves 82.87 326 P **P 00 22 18.5 +0.4**
baz=34,SNR=5.2
P53A Whipple 82.88 319 PFAKE 00 22 30.0 +12
P53A LR LR
comp=Z,400nm,19.0s
P53A Whipple 82.88 319 P **P 00 22 18.4 +0.2**
baz=38,SNR=13
I41A Arkdale 82.89 327 PFAKE 00 22 30.0 +12
I41A LR LR
comp=Z,500nm,21.0s
I41A Arkdale 82.89 327 P **P 00 22 18.3 +0.1**
baz=33,SNR=6.9
T59A Double "B" Far 82.92 315 PFAKE 00 22 30.0 +12
T59A LR LR
comp=Z,300nm,19.0s
T59A Double "B" Far 82.92 315 P **P 00 22 18.4 0.0**
baz=40
H39A Augusta 82.93 328 P **P 00 22 19.2 +0.9**
baz=32,SNR=6.8
Q54A Coxs Mills 83.01 319 P **P 00 22 18.7 -0.2**

baz=38
S57A **Dark Hollow, R** **83.03 317** PFAKE 00 22 30.0 +11
S57A LR LR
comp=Z,300nm,21.0s
S57A **Dark Hollow, R** **83.03 317** P **P** **00 22 18.9 -0.1**
baz=39,SNR=9.2
N49A **Columbus Grove** **83.04 322** PFAKE 00 22 30.0 +11
N49A LR LR
comp=Z,300nm,19.0s
N49A **Columbus Grove** **83.04 322** P **P** **00 22 18.8 -0.2**
baz=36,SNR=6.5
ACSO **Alum Creek Sta** **83.04 321** P **P** **00 22 18.9 -0.1**
baz=37,SNR=6.0
SPMN **Marine on St.** **83.04 329** P **P** **00 22 19.5 +0.5**
baz=32,SNR=5.7
MDND **Maddock** **83.08 335** PFAKE 00 22 30.0 +11
MDND LR LR
comp=Z,500nm,20.0s
MDND **Maddock** **83.08 335** P **P** **00 22 19.2 +0.1**
baz=27
L46A **Eue Claire** **83.09 324** PFAKE 00 22 30.0 +11
L46A LR LR
comp=Z,400nm,20.0s
L46A **Eue Claire** **83.09 324** P **P** **00 22 19.3 0.0**
baz=35
U60A **Pendleton** **83.10 315** P **P** **00 22 19.3 0.0**
baz=40
P52A **Corning** **83.12 320** P **P** **00 22 19.3 -0.1**
baz=38,SNR=9.6
V62A **Hyde County Ai** **83.16 313** P **P** **00 22 20.1 +0.4**
baz=41
J42A **Columbus** **83.21 326** P **P** **00 22 20.0 +0.2**
baz=34,SNR=6.2
H38A **Maiden Rock** **83.31 329** P **P** **00 22 20.2 -0.2**
baz=32
V61A **Roper** **83.31 314** P **P** **00 22 20.8 +0.3**
baz=40
I40A **Norwalk** **83.33 327** P **P** **00 22 21.1 +0.6**
baz=33,SNR=6.5
M47A **Cromwell** **83.33 323** P **P** **00 22 20.5 0.0**
baz=36
K43A **Burlington** **83.39 325** PFAKE 00 22 30.0 +9.2
K43A LR LR
comp=Z,400nm,20.0s
K43A **Burlington** **83.39 325** P **P** **00 22 21.1 +0.3**
baz=34
S56A **Natural Bridge** **83.40 317** P **P** **00 22 20.7 -0.2**
baz=39
O50A **Cable** **83.40 321** P **P** **00 22 21.0 +0.1**
baz=37,SNR=5.2
Q53A **Leroy** **83.44 319** P **P** **00 22 21.3 +0.2**
baz=38,SNR=9.9
T58A **Grand View Acr** **83.44 316** P **P** **00 22 21.3 +0.2**
baz=39,SNR=7.2
N48A **Decatur** **83.47 322** P **P** **00 22 21.1 -0.1**
baz=36,SNR=7.4
U59A **Littleton** **83.52 315** PFAKE 00 22 30.0 +8.4
U59A LR LR
comp=Z,200nm,19.0s
U59A **Littleton** **83.52 315** P **P** **00 22 21.5 0.0**
baz=40
J41A **Loganville** **83.53 327** P **P** **00 22 21.0 -0.5**
baz=33,SNR=11
M46A **Old House Fiel** **83.61 323** PFAKE 00 22 30.0 +8.1
M46A LR LR
comp=Z,500nm,18.0s
M46A **Old House Fiel** **83.61 323** P **P** **00 22 21.8 -0.1**
baz=35
L44A **Lake County Fo** **83.65 325** P **P** **00 22 22.2 +0.1**
baz=34
P51A **Williamsport** **83.67 320** PFAKE 00 22 30.0 +7.7
P51A LR LR
comp=Z,300nm,18.0s
P51A **Williamsport** **83.67 320** P **P** **00 22 21.5 -0.8**
baz=37
V60A **Jim Taylor Roa** **83.69 314** PFAKE 00 22 30.0 +7.6
V60A LR LR
comp=Z,500nm,22.0s
V60A **Jim Taylor Roa** **83.69 314** P **P** **00 22 22.3 -0.1**
baz=40
O49A **Covington** **83.70 321** PFAKE 00 22 30.0 +7.6
O49A LR LR
comp=Z,300nm,21.0s
O49A **Covington** **83.70 321** P **P** **00 22 22.1 -0.4**
baz=36,SNR=9.8
Q52A **Bidwell** **83.71 319** P **P** **00 22 22.5 0.0**
baz=38,SNR=14
R54A **Victor** **83.71 318** P **P** **00 22 22.2 -0.4**
baz=38,SNR=6.9
I39A **Houston** **83.71 328** PFAKE 00 22 30.0 +7.5
I39A LR LR
comp=Z,400nm,19.0s
I39A **Houston** **83.71 328** P **P** **00 22 22.4 -0.1**
baz=32
K42A **Prairie Point,** **83.75 326** P **P** **00 22 22.4 -0.3**
baz=34
N47A **Urbana** **83.75 323** P **P** **00 22 22.4 -0.2**
baz=36
T57A **Hurt** **83.77 316** PFAKE 00 22 30.0 +7.2
T57A LR LR
comp=Z,300nm,20.0s
T57A **Hurt** **83.77 316** P **P** **00 22 23.3 +0.5**
baz=39,SNR=7.4
S55A **Lewisburg** **83.79 318** P **P** **00 22 23.4 +0.4**
baz=38,SNR=8.5
J40A **Soldiers Grove** **83.79 327** P **P** **00 22 22.9 +0.1**
baz=33,SNR=7.2
DGMT **Dagmar** **83.86 338** PFAKE 00 22 30.0 +6.8
DGMT LR LR
comp=Z,400nm,19.0s
DGMT **Dagmar** **83.86 338** P **P** **00 22 23.8 +0.7**
baz=24
U58A **Oxford** **83.88 315** P **P** **00 22 23.3 -0.1**
baz=39,SNR=11
P50A **Jamestown** **83.92 321** P **P** **00 22 23.4 -0.1**
baz=37
L43A **Garden Prairie** **83.99 325** P **P** **00 22 24.0 +0.1**
baz=34
W61A **Ground Anchor** **84.00 314** P **P** **00 22 24.3 +0.3**
baz=40
JFWS **Jewell Farm** **84.00 327** PFAKE 00 22 40.0 +16
JFWS LR LR
comp=Z,400nm,19.0s
JFWS **Jewell Farm** **84.00 327** P **P** **00 22 24.2 +0.3**
baz=33,SNR=8.3
O48A **Farmland** **84.01 322** P **P** **00 22 23.7 -0.4**
baz=36,SNR=12
M45A **Boilermakers S** **84.02 324** P **P** **00 22 24.2 +0.2**
baz=35
R53A **Hurricane** **84.06 319** P **P** **00 22 24.8 +0.5**
baz=38,SNR=11
T56A **Rocky Mt** **84.14 317** P **P** **00 22 25.0 +0.2**
baz=39,SNR=7.9
S54A **Dingess, Beckl** **84.17 318** P **P** **00 22 24.5 -0.4**
baz=38
Q51A **Peebles** **84.17 320** PFAKE 00 22 40.0 +15
Q51A LR LR
comp=Z,400nm,19.0s
Q51A **Peebles** **84.17 320** P **P** **00 22 25.0 +0.1**
baz=37,SNR=14
BLA **Blacksburg** **84.19 317** PFAKE 00 22 40.0 +15
BLA LR LR
comp=Z,300nm,22.0s
BLA **Blacksburg** **84.19 317** P **P** **00 22 25.0 0.0**
baz=38
N46A **Monticello** **84.20 323** P **P** **00 22 24.9 0.0**
baz=35,SNR=7.2
V59A **Middlesex** **84.20 315** P **P** **00 22 24.8 -0.3**
baz=39,SNR=8.2
J39A **Decorah** **84.22 328** P **P** **00 22 25.0 -0.1**
baz=32,SNR=7.0
U57A **Blanch** **84.25 316** P **P** **00 22 25.3 0.0**
baz=39,SNR=19
M44A **Midewin, Midew** **84.36 324** PFAKE 00 22 40.0 +14
M44A LR LR
comp=Z,400nm,20.0s
M44A **Midewin, Midew** **84.36 324** P **P** **00 22 26.2 +0.4**
baz=34
R52A **Catlettsburg** **84.39 319** P **P** **00 22 26.0 0.0**
baz=37
P49A **Miami Univ. Ec** **84.40 321** P **P** **00 22 25.6 -0.4**
baz=36,SNR=6.9
CNNC **Cliffs of the** **84.42 314** PFAKE 00 22 40.0 +14
CNNC LR LR
comp=Z,400nm,19.0s
CNNC **Cliffs of the** **84.42 314** P **P** **00 22 26.4 +0.2**
baz=40

T55A **Pulaski** **84.44 317** P **P** **00 22 26.5 +0.2**
baz=38,SNR=7.9
W60A **Pink Hill** **84.47 314** P **P** **00 22 26.1 -0.4**
baz=40
O47A **Sheridan** **84.49 323** P **P** **00 22 26.3 -0.1**
baz=35
L42A **Oliver, Polo** **84.52 326** PFAKE 00 22 40.0 +13
L42A LR LR
comp=Z,400nm,20.0s
L42A **Oliver, Polo** **84.52 326** P **P** **00 22 26.1 -0.5**
baz=33
K40A **Colesburg** **84.54 327** P **P** **00 22 26.3 -0.4**
baz=32,SNR=7.7
N45A **Kentland** **84.57 324** P **P** **00 22 26.4 -0.5**
baz=35
Q50A **Georgetown** **84.61 320** P **P** **00 22 27.1 0.0**
baz=36
V58A **Windy Hill, Pi** **84.63 315** P **P** **00 22 26.9 -0.3**
baz=39,SNR=12
S53A **Williamson** **84.66 319** P **P** **00 22 27.1 -0.3**
baz=38,SNR=12
M43A **Waltham Townsh** **84.70 325** P **P** **00 22 27.6 +0.1**
baz=34,SNR=6.2
W59A **Clinton** **84.77 315** P **P** **00 22 27.4 -0.5**
baz=39
SFIN **Lafayette** **84.78 323** PFAKE 00 22 40.0 +12
SFIN LR LR
comp=Z,400nm,18.0s
SFIN **Lafayette** **84.78 323** P **P** **00 22 27.9 0.0**
baz=35
P48A **Milroy** **84.78 322** P **P** **00 22 27.1 -0.8**
baz=36,SNR=5.3
KAPI **Kappang** **84.80 102** P **P** **00 22 27.8 -0.5**
SNR=5.8
KAPI P **P** **00 22 27.8 -0.5**
SNR=5.8
K39A **Oelwein** **84.83 328** P **P** **00 22 27.8 -0.3**
baz=32,SNR=8.9
U56A **King** **84.84 317** P **P** **00 22 28.5 +0.1**
baz=38
R51A **Hillsboro** **84.86 320** P **P** **00 22 28.4 0.0**
baz=37,SNR=7.1
T54A **Tazewell** **84.88 318** P **P** **00 22 28.1 -0.4**
baz=38,SNR=12
N44A **Piper City** **84.88 324** P **P** **00 22 28.3 -0.1**
baz=34
V57A **Coltrane Farms** **84.90 316** P **P** **00 22 28.4 -0.2**
baz=39
Q49A **Aurora** **84.91 321** P **P** **00 22 28.0 -0.6**
baz=36
X60A **Albert Glenn T** **84.98 314** P **P** **00 22 28.8 -0.1**
baz=40
U55A **TA2, Sparta** **85.06 317** P **P** **00 22 29.3 -0.2**
baz=38,SNR=24
L40A **Anamosa** **85.11 327** PFAKE 00 22 40.0 +10
L40A LR LR
comp=Z,500nm,18.0s
L40A **Anamosa** **85.11 327** P **P** **00 22 29.6 +0.1**
baz=32,SNR=12
S52A **Salyersville** **85.12 319** P **P** **00 22 30.2 +0.6**
baz=37,SNR=13
P47A **Martinsville** **85.14 322** P **P** **00 22 29.5 -0.2**
baz=35,SNR=7.0
O45A **Potomac** **85.16 324** P **P** **00 22 29.6 -0.2**
baz=34
N43A **Stutzman Famil** **85.20 325** P **P** **00 22 30.5 +0.4**
baz=34,SNR=7.6
R50A **Paris** **85.22 320** P **P** **00 22 30.2 0.0**
baz=36,SNR=8.8
BKSI **Bulukumba** **85.28 102** P **P** **00 22 28.8 -1.9**
comp=Z,3.3nm,0.7s
W58A **Raeford** **85.29 315** P **P** **00 22 30.9 +0.3**
baz=39,SNR=9.1
X59A **McDuffie Farm,** **85.31 314** P **P** **00 22 30.8 +0.2**
baz=39
V56A **Mocksville** **85.32 316** PFAKE 00 22 40.0 +9.3
V56A LR LR
comp=Z,200nm,20.0s
V56A **Mocksville** **85.32 316** P **P** **00 22 30.8 0.0**
baz=38,SNR=10.0
Q48A **North Vernon** **85.35 322** P **P** **00 22 30.7 -0.1**
baz=36,SNR=5.4
L39A **Vinton** **85.36 327** P **P** **00 22 31.0 +0.2**
baz=32,SNR=8.8
S51A **Beattyville** **85.39 319** P **P** **00 22 30.8 -0.2**
baz=37,SNR=9.9
T53A **Wise** **85.41 318** P **P** **00 22 31.1 -0.1**
baz=37,SNR=10.0
M41A **Milan** **85.41 326** P **P** **00 22 30.9 -0.1**
baz=33
U54A **Nelsons Funny** **85.42 318** PFAKE 00 22 40.0 +8.7
U54A LR LR
comp=Z,300nm,20.0s
U54A **Nelsons Funny** **85.42 318** P **P** **00 22 31.1 -0.2**
baz=38
P46A **Rosedale** **85.45 323** P **P** **00 22 30.5 -0.8**
baz=35
BLO **Bloomington** **85.51 322** PFAKE 00 22 40.0 +8.4
BLO LR LR
comp=Z,400nm,20.0s
T52A **Hallie** **85.53 319** PFAKE 00 22 40.0 +8.3
T52A LR LR
comp=Z,300nm,21.0s
T52A **Hallie** **85.53 319** P **P** **00 22 32.3 +0.5**
baz=37,SNR=19
Y60A **Bolivia** **85.55 314** PFAKE 00 22 40.0 +8.2
Y60A LR LR
comp=Z,300nm,19.0s
Y60A **Bolivia** **85.55 314** P **P** **00 22 31.2 -0.6**
baz=39
O44A **Mansfield** **85.56 324** P **P** **00 22 32.2 +0.4**
baz=34,SNR=5.5
HDIL **Hopedale** **85.57 325** PFAKE 00 22 40.0 +8.1
HDIL LR LR
comp=Z,400nm,18.0s
HDIL **Hopedale** **85.57 325** P **P** **00 22 31.9 0.0**
baz=34,SNR=9.9
W57A **Gilead** **85.58 316** PFAKE 00 22 40.0 +8.0
W57A LR LR
comp=Z,300nm,19.0s
W57A **Gilead** **85.58 316** P **P** **00 22 31.7 -0.3**
baz=38,SNR=6.8
R49A **Shelbyville** **85.61 321** P **P** **00 22 32.0 -0.1**
baz=36,SNR=6.5
V55A **Taylorsville** **85.65 317** P **P** **00 22 32.7 +0.4**
baz=38,SNR=11
Q47A **Bedord North L** **85.66 322** P **P** **00 22 32.3 0.0**
baz=35
EGMT **Eagleton** **85.69 341** PFAKE 00 22 40.0 +7.5
EGMT LR LR
comp=Z,500nm,20.0s
EGMT **Eagleton** **85.69 341** P **P** **00 22 32.6 +0.1**
baz=20,SNR=8.0
ECSD **EROS Data Cent** **85.71 331** PFAKE 00 22 40.0 +7.5
ECSD LR LR
comp=Z,800nm,19.0s
ECSD **EROS Data Cent** **85.71 331** P **P** **00 22 33.1 +0.6**
baz=29,SNR=23
X58A **Rowland** **85.71 315** PFAKE 00 22 40.0 +7.4
X58A LR LR
comp=Z,500nm,18.0s
X58A **Rowland** **85.71 315** P **P** **00 22 32.4 -0.3**
baz=39
S50A **Richmond** **85.74 320** P **P** **00 22 32.7 -0.1**
baz=36,SNR=6.5
P45A **Graceland, Par** **85.76 323** PFAKE 00 22 40.0 +7.2
P45A LR LR
comp=Z,400nm,18.0s
P45A **Graceland, Par** **85.76 323** P **P** **00 22 32.5 -0.4**
baz=34,SNR=6.2
R48A **Northridge Ran** **85.84 321** P **P** **00 22 33.0 -0.2**
baz=35
SUSD **Miller** **85.89 333** P **P** **00 22 33.2 -0.2**
baz=28
W56A **Indian Trail** **85.89 316** P **P** **00 22 33.5 -0.1**
baz=38,SNR=9.1
U53A **Fall Branch** **85.92 318** P **P** **00 22 33.6 -0.2**
baz=37,SNR=6.6
Q46A **CEJHS Indians,** **86.00 323** P **P** **00 22 33.3 -0.7**
baz=35
SCIA **State Center** **86.02 328** PFAKE 00 22 50.0 +16
SCIA LR LR
comp=Z,400nm,20.0s
SCIA **State Center** **86.02 328** P **P** **00 22 34.4 +0.3**
baz=31
PLAI **Plampang** **86.04 106** P **P** **00 22 31.1 -3.4**
comp=Z,37nm,1.6s
LAO **LASA Array** **86.05 338** PFAKE 00 22 50.0 +16
LAO LR LR
comp=Z,300nm,20.0s
LAO **LASA Array** **86.05 338** P **P** **00 22 35.5 +1.3**
baz=23,SNR=16
S49A **Springfield** **86.07 321** P **P** **00 22 34.1 -0.3**
baz=36
V54A **Nebo** **86.07 317** P **P** **00 22 34.5 0.0**
baz=38,SNR=7.4
N41A **Harden Midland** **86.10 326** PFAKE 00 22 50.0 +16
N41A LR LR
comp=Z,500nm,20.0s
N41A **Harden Midland** **86.10 326** P **P** **00 22 34.4 0.0**
baz=33,SNR=14
T51A **Gray** **86.10 319** P **P** **00 22 34.9 +0.3**
baz=36,SNR=5.7
BSSI **Bau Bau, Buton** **86.11 102** P **P** **00 22 32.1 -2.7**
comp=Z,14nm,0.5s,comp=Z,529nm
X57A **Johnson Farm,** **86.17 315** P **P** **00 22 35.0 +0.1**
baz=38
WCI **Wyandotte Cave** **86.17 321** *e*P **P** **00 22 35.1 +0.2**
comp=Z,25nm,1.4s
WCI LR LR
comp=Z,300nm,20.0s
WCI **Wyandotte Cave** **86.17 321** *e*P **P** **00 22 35.1 +0.2**
WCI pmax pmax
comp=Z,25nm,1.4s
WCI MLR MLR
comp=Z,300nm,20.0s
WCI **Wyandotte Cave** **86.17 321** P **P** **00 22 34.6 -0.3**
baz=35
BIRD **Birdtown, Kers** **86.22 316** PFAKE 00 22 50.0 +15
BIRD LR LR
comp=Z,300nm,20.0s
R47A **Wooly Knot Far** **86.23 322** P **P** **00 22 34.8 -0.3**
baz=35,SNR=6.7
N40A **Mertquake, Sal** **86.25 326** P **P** **00 22 34.7 -0.5**
baz=32,SNR=6.8
TZTN **Tazewell** **86.25 319** PFAKE 00 22 50.0 +15
TZTN LR LR
comp=Z,300nm,20.0s
TZTN **Tazewell** **86.25 319** P **P** **00 22 35.5 +0.2**
baz=37
KMSC **Kings Mountain** **86.27 316** PFAKE 00 22 50.0 +15
KMSC LR LR
comp=Z,300nm,20.0s
KMSC **Kings Mountain** **86.27 316** P **P** **00 22 35.7 +0.3**
baz=38,SNR=9.8
U52A **Thorn Hill** **86.28 319** P **P** **00 22 35.4 -0.1**
baz=37
TNTI **Ternate** **86.36 92** P **P** **00 22 34.5 -1.6**
Y58A **Scranton** **86.38 315** PFAKE 00 22 50.0 +14
Y58A LR LR
comp=Z,400nm,20.0s
Y58A **Scranton** **86.38 315** P **P** **00 22 35.6 -0.4**
baz=39
P43A **Skaggs, Pawnee** **86.43 324** P **P** **00 22 36.1 0.0**
baz=33,SNR=8.5
Q45A **Warren Harvey,** **86.46 323** P **P** **00 22 36.3 0.0**
baz=34,SNR=12
T50A **Nancy** **86.48 320** P **P** **00 22 36.7 +0.2**
baz=36
S48A **Wiedeman Farm,** **86.53 321** P **P** **00 22 36.4 -0.2**
baz=35
OLIL **Olney** **86.57 323** PFAKE 00 22 50.0 +13
OLIL LR LR
comp=Z,400nm,18.0s
V53A **Saluda** **86.59 318** PFAKE 00 22 50.0 +13
V53A LR LR
comp=Z,400nm,18.0s
V53A **Saluda** **86.59 318** P **P** **00 22 37.0 -0.1**
baz=37,SNR=8.9
U51A **La Follette** **86.61 319** P **P** **00 22 37.2 +0.1**
baz=36
X56A **White Oak** **86.63 316** P **P** **00 22 37.2 +0.1**
baz=38,SNR=7.5
Y57A **Sumter** **86.67 315** PFAKE 00 22 50.0 +13
Y57A LR LR
comp=Z,400nm,19.0s
Y57A **Sumter** **86.67 315** P **P** **00 22 37.4 0.0**
baz=38
R46A **Gibon Southern** **86.74 322** P **P** **00 22 36.9 -0.8**
baz=34
T49A **Edmonton** **86.74 320** PFAKE 00 22 50.0 +12
T49A LR LR
comp=Z,300nm,18.0s
T49A **Edmonton** **86.74 320** P **P** **00 22 37.5 -0.2**
baz=36
W54A **Cherokee Point** **86.74 317** P **P** **00 22 38.2 +0.5**
baz=37,SNR=6.6
PAULI **Pauline** **86.76 317** PFAKE 00 22 50.0 +12
PAULI LR LR
comp=Z,300nm,20.0s
V52A **Sevierville** **86.83 318** PFAKE 00 22 50.0 +12
V52A LR LR
comp=Z,300nm,19.0s
V52A **Sevierville** **86.83 318** P **P** **00 22 38.7 +0.5**
baz=37
Z58A **St. Stephen** **86.90 314** P **P** **00 22 38.6 +0.1**
baz=38
JSC **Jenkinsville** **86.91 316** PFAKE 00 22 50.0 +11
JSC LR LR
comp=Z,400nm,20.0s
X55A **Gracelyn & Ava** **86.95 316** P **P** **00 22 39.0 +0.3**
baz=38,SNR=9.5
S47A **Hartford** **86.96 322** P **P** **00 22 37.8 -0.9**
baz=35
U50A **Jamestown** **86.97 319** P **P** **00 22 38.5 -0.4**
baz=36
NEW **Newport** **86.99 346** PFAKE 00 22 50.0 +11
NEW LR LR
comp=Z,500nm,22.0s
NEW **Newport** **86.99 346** P **P** **00 22 39.7 +1.0**
baz=15,SNR=36
R45A **Skylar, Fairfi** **87.01 323** P **P** **00 22 38.5 -0.5**
baz=34,SNR=5.6
T48A **Bowling Green** **87.13 321** P **P** **00 22 39.8 +0.2**
baz=35,SNR=7.3
W53A **Cullowhee** **87.16 318** P **P** **00 22 39.7 -0.2**
baz=37,SNR=8.1
BG3 **Lake Jocassee** **87.18 317** PFAKE 00 22 50.0 +10
BG3 LR LR
comp=Z,300nm,20.0s
V51A **Loudon** **87.23 319** PFAKE 00 22 50.0 +10
V51A LR LR
comp=Z,300nm,18.0s
V51A **Loudon** **87.23 319** P **P** **00 22 39.9 -0.2**
baz=36
X54A **Belton** **87.26 317** P **P** **00 22 40.4 +0.1**
baz=37,SNR=14
S46A **Don Dixon Farm** **87.26 322** P **P** **00 22 39.9 -0.3**
baz=34
B08A **Colville Reser** **87.27 347** PFAKE 00 22 50.0 +10
B08A LR LR
comp=Z,400nm,19.0s
NHSC **New Hope** **87.27 314** P **P** **00 22 40.6 +0.3**
baz=38
Y56A **Pelion** **87.32 316** P **P** **00 22 40.5 -0.1**
baz=38
U49A **Red Boiling Sp** **87.33 320** P **P** **00 22 40.0 -0.6**
baz=35
Z57A **Bowman** **87.40 315** P **P** **00 22 41.2 +0.3**
baz=38
A04D **Lummi Island** **87.40 350** P **P** **00 22 39.9 -0.7**
baz=11
B06A **Marblemount** **87.44 349** PFAKE 00 22 50.0 +9.2
B06A LR LR
comp=Z,400nm,20.0s
HODGE **Hodges** **87.45 316** PFAKE 00 22 50.0 +8.8
HODGE LR LR
comp=Z,300nm,20.0s
Q42A **Golden Eagle** **87.47 325** P **P** **00 22 41.1 -0.1**
baz=33
Y55A **Saluda** **87.48 316** P **P** **00 22 41.5 +0.2**
baz=37,SNR=9.7
T47A **Sharon Grove** **87.56 321** PFAKE 00 22 50.0 +8.3
T47A LR LR
comp=Z,300nm,18.0s
T47A **Sharon Grove** **87.56 321** P **P** **00 22 41.3 -0.3**
baz=35
158A **Hollywood** **87.57 314** P **P** **00 22 41.6 -0.1**
baz=38
W52A **Murphy** **87.59 318** P **P** **00 22 42.1 +0.2**
baz=36
CPCT **Cooper Cave** **87.59 319** PFAKE 00 22 50.0 +8.1
CPCT LR LR
comp=Z,300nm,18.0s
C09A **Chrisman Ranch** **87.64 347** PFAKE 00 22 50.0 +8.1

C09A			LR	LR		
	comp=Z,600nm,20.0s					
U48A	**Cassie Pea, Po**	**87.69 321**	P	**P**	**00 22 41.8**	**-0.6**
	baz=35					
V50A	**Pikevile**	**87.69 319**	P	**P**	**00 22 42.0**	**-0.3**
	baz=36					
Z56A	**Williston**	**87.72 315**	PFAKE		00 22 50.0	+7.5
Z56A			LR	LR		
	comp=Z,300nm,20.0s					
Z56A	**Williston**	**87.72 315**	P	**P**	**00 22 42.7**	**+0.2**
	baz=38					
MSO	**Missoula**	**87.75 343**	PFAKE		00 22 50.0	+7.4
MSO			LR	LR		
	comp=Z,300nm,20.0s					
MSO	**Missoula**	**87.75 343**	P	**P**	**00 22 42.6**	**0.0**
	baz=18,SNR=23					
X53A	**Estanollee**	**87.76 317**	P	**P**	**00 22 42.8**	**+0.1**
	baz=37					
B05A	**Bryant**	**87.77 349**	P	**P**	**00 22 42.7**	**+0.3**
	baz=12					
RSSD	**Black Hills**	**87.78 336**	*e*P	**P**	**00 22 44.0**	**+1.1**
	comp=Z,48nm,1.4s					
RSSD			LR	LR		
	comp=Z,600nm,20.0s					
RSSD	**Black Hills**	**87.78 336**	*e*P	**P**	**00 22 44.0**	**+1.1**
RSSD			pmax	pmax		
	comp=Z,48nm,1.4s					
RSSD			MLR	MLR		
	comp=Z,600nm,20.0s					
RSSD	**Black Hills**	**87.78 336**	P	**P**	**00 22 43.3**	**+0.4**
	baz=24					
T46A	**Princeton**	**87.87 322**	P	**P**	**00 22 42.7**	**-0.5**
	baz=34					
SIUC	**Southern Illin**	**87.90 323**	PFAKE		00 22 50.0	+6.7
SIUC			LR	LR		
	comp=Z,400nm,21.0s					
C06D	**Leavenworth**	**87.93 348**	P	**P**	**00 22 42.9**	**-0.4**
	baz=13					
CLTN	**Cedars of Leba**	**87.93 320**	PFAKE		00 22 50.0	+6.5
CLTN			LR	LR		
	comp=Z,200nm,18.0s					
S44A	**Carbondale**	**87.94 323**	P	**P**	**00 22 43.5**	**0.0**
	baz=33					
W51A	**Cleveland**	**87.94 319**	P	**P**	**00 22 43.6**	**0.0**
	baz=36					
Y54A	**Tignall**	**87.96 317**	P	**P**	**00 22 43.8**	**+0.2**
	baz=37,SNR=18					
X52A	**Dahlonega**	**87.97 318**	P	**P**	**00 22 43.6**	**-0.1**
	baz=36					
V49A	**McMinnville**	**88.00 320**	P	**P**	**00 22 42.8**	**-1.0**
	baz=35					
157A	**Early Branch**	**88.03 315**	P	**P**	**00 22 44.4**	**+0.4**
	baz=38					
SMRT	**St. Maarten**	**88.07 293**	PFAKE		00 23 00.0	+16
SMRT			LR	LR		
	comp=Z,300nm,21.0s					
U47A	**Clarksville**	**88.09 321**	P	**P**	**00 22 43.2**	**-1.0**
	baz=34					
W50A	**Signal Mountai**	**88.18 319**	PFAKE		00 23 00.0	+15
W50A			LR	LR		
	comp=Z,300nm,20.0s					
W50A	**Signal Mountai**	**88.18 319**	P	**P**	**00 22 44.4**	**-0.3**
	baz=36					
Z55A	**Blythe**	**88.19 316**	P	**P**	**00 22 44.7**	**-0.1**
	baz=37					
FVM	**French Village**	**88.20 324**	PFAKE		00 23 00.0	+15
FVM			LR	LR		
	comp=Z,400nm,21.0s					
T45A	**Paducah**	**88.23 322**	P	**P**	**00 22 44.5**	**-0.3**
	baz=34					
BGNE	**Belgrade**	**88.29 331**	PFAKE		00 23 00.0	+15
BGNE			LR	LR		
	comp=Z,700nm,18.0s					
BGNE	**Belgrade**	**88.29 331**	P	**P**	**00 22 45.4**	**+0.2**
	baz=28					
RLMT	**Red Lodge**	**88.29 340**	PFAKE		00 23 00.0	+15
RLMT			LR	LR		
	comp=Z,600nm,19.0s					
RLMT	**Red Lodge**	**88.29 340**	P	**P**	**00 22 45.7**	**+0.4**
	baz=21,SNR=18					
156A	**Sylvania**	**88.31 315**	P	**P**	**00 22 44.9**	**-0.4**
	baz=38					
BOZ	**Bozeman (W)**	**88.42 342**	PFAKE		00 23 00.0	+14
BOZ			LR	LR		
	comp=Z,500nm,20.0s					
BOZ	**Bozeman (W)**	**88.42 342**	P	**P**	**00 22 46.5**	**+0.7**
	baz=19,SNR=24					
Y53A	**Monroe**	**88.42 317**	P	**P**	**00 22 45.8**	**0.0**
	baz=36,SNR=6.8					
V48A	**Smith Brothers**	**88.45 320**	PFAKE		00 23 00.0	+14
V48A			LR	LR		
	comp=Z,400nm,18.0s					
V48A	**Smith Brothers**	**88.45 320**	P	**P**	**00 22 44.8**	**-1.1**
	baz=35					
SWET	**Sewanee**	**88.46 320**	PFAKE		00 23 00.0	+14
SWET			LR	LR		
	comp=Z,300nm,19.0s					
D08A	**Wollman Farm,**	**88.47 347**	PFAKE		00 23 00.0	+14
D08A			LR	LR		
	comp=Z,700nm,21.0s					
X51A	**Calhoun**	**88.47 318**	PFAKE		00 23 00.0	+14
X51A			LR	LR		
	comp=Z,200nm,19.0s					
X51A	**Calhoun**	**88.47 318**	P	**P**	**00 22 46.4**	**+0.4**
	baz=36					
CCM	**Cathedral Cave**	**88.49 325**	*e*P	**P**	**00 22 46.1**	**0.0**
	comp=Z,12nm,1.1s					
CCM			LR	LR		
	comp=Z,400nm,19.0s					
CCM	**Cathedral Cave**	**88.49 325**	P	**P**	**00 22 46.1**	**0.0**
	baz=32					
Z54A	**Sparta**	**88.54 316**	P	**P**	**00 22 46.7**	**+0.3**
	baz=37,SNR=7.9					
LTY	**Liberty**	**88.55 348**	PFAKE		00 23 00.0	+14
LTY			LR	LR		
	comp=Z,400nm,19.0s					
U46A	**Springville**	**88.56 322**	P	**P**	**00 22 45.7**	**-0.8**
	baz=34					
WVT	**Waverly**	**88.59 321**	*e*P	**P**	**00 22 46.0**	**-0.6**
	comp=Z,6.6nm,1.3s					
WVT			LR	LR		
	comp=Z,200nm,18.0s					
WVT	**Waverly**	**88.59 321**	*e*P	**P**	**00 22 46.0**	**-0.6**
WVT			pmax	pmax		
	comp=Z,7.0nm,1.3s					
WVT			MLR	MLR		
	comp=Z,200nm,18.0s					
WVT	**Waverly**	**88.59 321**	P	**P**	**00 22 45.6**	**-1.0**
	baz=34					
257A	**Skidaway Islan**	**88.60 314**	P	**P**	**00 22 46.9**	**+0.2**
	baz=38					
D03D	**Eldon**	**88.62 350**	P	**P**	**00 22 46.9**	**+0.4**
	baz=11					
SARN	**Sarigan**	**88.64 68**	PFAKE		00 23 00.0	+13
SARN			LR	LR		
	comp=Z,900nm,22.0s					
Y52A	**Lilburn**	**88.64 317**	PFAKE		00 23 00.0	+13
Y52A			LR	LR		
	comp=Z,200nm,20.0s					
Y52A	**Lilburn**	**88.64 317**	P	**P**	**00 22 47.2**	**+0.2**
	baz=36,SNR=6.8					
W49A	**Belvidere**	**88.69 320**	P	**P**	**00 22 47.5**	**+0.3**
	baz=35					
V47A	**Nunnelly**	**88.70 321**	P	**P**	**00 22 46.7**	**-0.5**
	baz=34					
GOGA	**Godfrey**	**88.71 317**	PFAKE		00 23 00.0	+13
GOGA			LR	LR		
	comp=Z,400nm,22.0s					
GOGA	**Godfrey**	**88.71 317**	P	**P**	**00 22 47.3**	**0.0**
	baz=37					
155A	**Kite**	**88.83 316**	P	**P**	**00 22 48.0**	**+0.2**
	baz=37					
DLMT	**Dillon**	**88.86 342**	PFAKE		00 23 00.0	+12
DLMT			LR	LR		
	comp=Z,200nm,18.0s					
Z53A	**Monticello**	**88.87 317**	P	**P**	**00 22 48.1**	**+0.2**
	baz=36					
D04E	**Lakebay**	**88.92 349**	P	**P**	**00 22 48.1**	**+0.2**
	baz=11					
X50B	**Fort Payne**	**88.94 319**	P	**P**	**00 22 47.7**	**-0.6**
	baz=35					
W48A	**Pulaski**	**88.99 320**	P	**P**	**00 22 48.0**	**-0.6**
	baz=35					
V46A	**Holladay**	**89.00 321**	P	**P**	**00 22 47.7**	**-0.8**
	baz=34					
PARMO	**Parma**	**89.02 323**	PFAKE		00 23 00.0	+11
PARMO			LR	LR		
	comp=Z,400nm,19.0s					
MMRI	**Maumere**	**89.07 103**	P	**P**	**00 22 44.4**	**-4.7**
LKWY	**Lake**	**89.09 340**	PFAKE		00 23 00.0	+11
LKWY			LR	LR		
	comp=Z,900nm,18.0s					
Y51A	**Rockmart**	**89.11 318**	P	**P**	**00 22 48.8**	**-0.4**
	baz=36					
154A	**Montrose**	**89.17 316**	PFAKE		00 23 00.0	+11
154A			LR	LR		
	comp=Z,500nm,22.0s					
154A	**Montrose**	**89.17 316**	P	**P**	**00 22 49.6**	**+0.3**
	baz=37					
PVMO	**Portageville**	**89.20 323**	PFAKE		00 23 00.0	+11
PVMO			LR	LR		
	comp=Z,400nm,19.0s					
W47A	**Westpoint**	**89.21 321**	P	**P**	**00 22 48.5**	**-1.0**
	baz=34					
HAWA	**Hanford**	**89.21 347**	PFAKE		00 23 00.0	+11
HAWA			LR	LR		
	comp=Z,600nm,21.0s					
F10A	**Beach Ranch, E**	**89.22 345**	PFAKE		00 23 00.0	+10
F10A			LR	LR		
	comp=Z,400nm,22.0s					
X49A	**Woodville**	**89.22 319**	P	**P**	**00 22 49.3**	**-0.3**
	baz=35					
H17A	**Grant Village**	**89.30 340**	PFAKE		00 23 00.0	+10
H17A			LR	LR		
	comp=Z,700nm,19.0s					
H17A	**Grant Village**	**89.30 340**	P	**P**	**00 22 50.2**	**+0.1**
	baz=20,SNR=8.0					
Z52A	**Williamson**	**89.36 317**	P	**P**	**00 22 50.4**	**+0.1**
	baz=36					
Y50A	**Piedmont**	**89.44 319**	P	**P**	**00 22 50.6**	**0.0**
	baz=35					
HALT	**Halls**	**89.46 322**	PFAKE		00 23 00.0	+9.3
HALT			LR	LR		
	comp=Z,400nm,18.0s					
E04D	**Cinebar**	**89.51 349**	P	**P**	**00 22 50.8**	**+0.1**
	baz=11					
X48A	**Hartselle**	**89.61 320**	PFAKE		00 23 00.0	+8.6
X48A			LR	LR		
	comp=Z,300nm,20.0s					
X48A	**Hartselle**	**89.61 320**	P	**P**	**00 22 51.3**	**-0.1**
	baz=35					
FLWY	**Flagg Ranch**	**89.62 340**	PFAKE		00 23 00.0	+8.4
FLWY			LR	LR		
	comp=Z,500nm,18.0s					
KSU1	**Kansas State U**	**89.75 329**	PFAKE		00 23 00.0	+8.0
KSU1			LR	LR		
	comp=Z,600nm,21.0s					
KSU1	**Kansas State U**	**89.75 329**	P	**P**	**00 22 51.7**	**-0.3**
	baz=29					
F07A	**Phinny Hill Vi**	**89.76 347**	PFAKE		00 23 00.0	+8.1
F07A			LR	LR		
	comp=Z,700nm,20.0s					
CBYP	**Canovanas**	**89.78 295**	PFAKE		00 23 00.0	+7.5
CBYP			LR	LR		
	comp=Z,500nm,19.0s					
254A	**Abbeville**	**89.79 316**	P	**P**	**00 22 51.7**	**-0.6**
	baz=37					
Y49A	**Blount Mountai**	**89.79 319**	PFAKE		00 23 00.0	+7.7
Y49A			LR	LR		
	comp=Z,400nm,21.0s					
Y49A	**Blount Mountai**	**89.79 319**	P	**P**	**00 22 51.6**	**-0.7**
	baz=35					
PLID	**Pearl Lake**	**89.84 344**	PFAKE		00 23 00.0	+7.4
PLID			LR	LR		
	comp=Z,600nm,22.0s					
K22A	**Casper**	**89.85 337**	PFAKE		00 23 00.0	+7.4
K22A			LR	LR		
	comp=Z,600nm,21.0s					
K22A	**Casper**	**89.85 337**	P	**P**	**00 22 52.5**	**-0.1**
	baz=23,SNR=14					
IMW	**Indian Meadow**	**89.86 341**	PFAKE		00 23 00.0	+7.2
IMW			LR	LR		
	comp=Z,400nm,18.0s					
152A	**Waverly Hall**	**89.93 317**	PFAKE		00 23 00.0	+7.0
152A			LR	LR		
	comp=Z,300nm,21.0s					
152A	**Waverly Hall**	**89.93 317**	P	**P**	**00 22 51.8**	**-1.1**
	baz=36,SNR=7.0					
X47A	**Russelville**	**89.94 320**	P	**P**	**00 22 51.8**	**-1.1**
	baz=34					
MOOW	**Moose Ponds**	**89.95 340**	PFAKE		00 23 00.0	+6.9
MOOW			LR	LR		
	comp=Z,500nm,19.0s					
F05D	**White Salmon**	**90.01 348**	P	**P**	**00 22 51.6**	**-1.5**
	baz=12					
OGNE	**Ogallala**	**90.03 333**	PFAKE		00 23 00.0	+6.6
OGNE			LR	LR		
	comp=Z,600nm,19.0s					
LOHW	**Long Hollow**	**90.04 340**	PFAKE		00 23 00.0	+6.4
LOHW			LR	LR		
	comp=Z,500nm,19.0s					
355A	**Pearson**	**90.05 315**	P	**P**	**00 22 53.2**	**-0.3**
	baz=37					
Z50A	**Ashland**	**90.05 318**	PFAKE		00 23 00.0	+6.5
Z50A			LR	LR		
	comp=Z,200nm,20.0s					
Z50A	**Ashland**	**90.05 318**	P	**P**	**00 22 52.8**	**-0.7**
	baz=35					
SJG	**San Juan**	**90.08 295**	PFAKE		00 23 10.0	+16
SJG			LR	LR		
	comp=Z,100nm,19.0s					
253A	**Americus**	**90.13 316**	PFAKE		00 23 10.0	+16
253A			LR	LR		
	comp=Z,500nm,20.0s					
SVB	**Belmont**	**90.17 288**	PFAKE		00 23 10.0	+16
SVB			LR	LR		
	comp=Z,400nm,21.0s					
G08A	**Pilot Rock**	**90.19 346**	PFAKE		00 23 10.0	+16
G08A			LR	LR		
	comp=Z,400nm,22.0s					
SNOW	**Snow King Moun**	**90.22 340**	PFAKE		00 23 10.0	+16
SNOW			LR	LR		
	comp=Z,600nm,20.0s					
TPAW	**Teton Pass**	**90.24 340**	PFAKE		00 23 10.0	+15
TPAW			LR	LR		
	comp=Z,500nm,18.0s					
BMO	**Blue Mountains**	**90.31 345**	PFAKE		00 23 10.0	+15
BMO			LR	LR		
	comp=Z,400nm,18.0s					
REDW	**Red Top Meadow**	**90.34 340**	PFAKE		00 23 10.0	+15
REDW			LR	LR		
	comp=Z,600nm,20.0s					
HBAR	**Harrisburg**	**90.34 323**	PFAKE		00 23 10.0	+15
HBAR			LR	LR		
	comp=Z,300nm,18.0s					
151A	**Opelika**	**90.35 318**	P	**P**	**00 22 54.3**	**-0.6**
	baz=36					
MET	**Memphis--Engin**	**90.38 322**	PFAKE		00 23 10.0	+15
MET			LR	LR		
	comp=Z,500nm,19.0s					
Z49A	**Columbiana**	**90.39 319**	P	**P**	**00 22 54.3**	**-0.8**
	baz=35					
252A	**Lumpkin**	**90.48 317**	P	**P**	**00 22 54.9**	**-0.7**
	baz=36					
G06A	**Carlson Farm,**	**90.52 348**	PFAKE		00 23 10.0	+14
G06A			LR	LR		
	comp=Z,500nm,19.0s					
BW06	**Boulder Array**	**90.57 339**	PFAKE		00 23 10.0	+14
BW06			LR	LR		
	comp=Z,500nm,19.0s					
BW06	**Boulder Array**	**90.57 339**	P	**P**	**00 22 56.0**	**-0.1**
	baz=20					
PDAR	**Pinedale Array**	**90.57 339**	P	**P**	**00 22 56.8**	**+0.7**
	comp=Z,3.1nm,1.0s,baz=35,slow=3.6,SNR=14					
PDAR			LR	LR	01 04 54.3	
	comp=Z,460nm,18.9s,baz=32,slow=36					
U40A	**Yellville**	**90.61 325**	P	**P**	**00 22 55.0**	**-1.1**
	baz=31,SNR=8.5					
G05D	**Wamic, OR**	**90.61 348**	P	**P**	**00 22 55.3**	**-0.6**
	baz=12					
150A	**Eclectic**	**90.62 318**	P	**P**	**00 22 55.2**	**-1.0**
	baz=35					
OXF	**Oxford**	**90.66 321**	PFAKE		00 23 10.0	+14
OXF			LR	LR		
	comp=Z,400nm,18.0s					
OXF	**Oxford**	**90.66 321**	P	**P**	**00 22 54.6**	**-1.7**
	baz=33					
251A	**Midway**	**90.74 317**	P	**P**	**00 22 56.6**	**-0.1**
	baz=36,SNR=8.2					
353A	**Camilla**	**90.74 316**	P	**P**	**00 22 56.8**	**+0.1**
	baz=36					
LRAL	**Lakeview Retre**	**90.75 319**	PFAKE		00 23 10.0	+13
LRAL			LR	LR		
	comp=Z,400nm,20.0s					
LRAL	**Lakeview Retre**	**90.75 319**	P	**P**	**00 22 56.9**	**+0.1**
	baz=35					
PHWY	**Pilot Hill**	**90.78 336**	PFAKE		00 23 10.0	+13
PHWY			LR	LR		
	comp=Z,500nm,20.0s					
G03D	**McMinnville, O**	**90.92 349**	P	**P**	**00 22 56.9**	**-0.5**
	baz=11					
RWWY	**Rawlins**	**90.93 337**	PFAKE		00 23 10.0	+12
RWWY			LR	LR		
	comp=Z,700nm,21.0s					
AHID	**Auburn Hatcher**	**90.96 340**	PFAKE		00 23 10.0	+12
AHID			LR	LR		
	comp=Z,600nm,19.0s					
HLID	**Hailey**	**90.97 343**	PFAKE		00 23 10.0	+12
HLID			LR	LR		
	comp=Z,300nm,19.0s					
HLID	**Hailey**	**90.97 343**	P	**P**	**00 22 58.0**	**+0.2**
	baz=17,SNR=8.5					
352A	**Blakely**	**91.00 317**	PFAKE		00 23 10.0	+12
352A			LR	LR		
	comp=Z,500nm,21.0s					
149A	**Jones**	**91.00 319**	P	**P**	**00 22 57.0**	**-0.9**
	baz=35					
758A	**Lake Helen**	**91.06 313**	P	**P**	**00 22 57.5**	**-0.7**
	baz=38					
HHAR	**Hobbs**	**91.13 326**	PFAKE		00 23 10.0	+12
HHAR			LR	LR		
	comp=Z,500nm,19.0s					
CBKS	**Cedar Bluff**	**91.15 331**	P	**P**	**00 22 58.8**	**+0.2**
	baz=27					
250A	**Grady**	**91.26 318**	PFAKE		00 23 10.0	+11
250A			LR	LR		
	comp=Z,200nm,20.0s					
H04A	**Detroit Lake**	**91.29 349**	PFAKE		00 23 10.0	+11
H04A			LR	LR		
	comp=Z,500nm,21.0s					
N23A	**Red Feather La**	**91.30 336**	PFAKE		00 23 10.0	+10
N23A			LR	LR		
	comp=Z,600nm,21.0s					
N23A	**Red Feather La**	**91.30 336**	P	**P**	**00 23 00.4**	**+0.9**
	baz=23,SNR=9.4					
W41B	**Gary Mavity, V**	**91.36 324**	PFAKE		00 23 10.0	+10
W41B			LR	LR		
	comp=Z,400nm,20.0s					
W41B	**Gary Mavity, V**	**91.36 324**	P	**P**	**00 22 59.8**	**+0.3**
	baz=32					
351A	**Pinckard**	**91.50 317**	P	**P**	**00 23 00.4**	**+0.1**
	baz=35					
147A	**Livingston**	**91.65 320**	PFAKE		00 23 10.0	+9.1
147A			LR	LR		
	comp=Z,300nm,18.0s					
249A	**Camden**	**91.67 318**	P	**P**	**00 23 01.4**	**+0.4**
	baz=35					
UALR	**University of**	**91.74 324**	PFAKE		00 23 10.0	+8.7
UALR			LR	LR		
	comp=Z,400nm,19.0s					
KSCO	**Kaye Shedlock'**	**91.97 333**	PFAKE		00 23 10.0	+7.5
KSCO			LR	LR		
	comp=Z,500nm,20.0s					
J08A	**Circle Bar Ran**	**91.97 346**	PFAKE		00 23 10.0	+7.6
J08A			LR	LR		
	comp=Z,400nm,21.0s					
W39A	**Magazine**	**91.99 325**	PFAKE		00 23 10.0	+7.5
W39A			LR	LR		
	comp=Z,400nm,19.0s					
W39A	**Magazine**	**91.99 325**	P	**P**	**00 23 02.0**	**-0.5**
	baz=31					
HWUT	**Hardware Ranch**	**92.17 340**	PFAKE		00 23 10.0	+6.6
HWUT			LR	LR		
	comp=Z,400nm,20.0s					
I04A	**Tendick Farm,**	**92.19 349**	P	**P**	**00 23 03.1**	**-0.2**
	baz=12					
X40A	**Basin Creek Fa**	**92.19 324**	PFAKE		00 23 10.0	+6.6
X40A			LR	LR		
	comp=Z,400nm,18.0s					
X40A	**Basin Creek Fa**	**92.19 324**	P	**P**	**00 23 02.5**	**-1.0**
	baz=31					
TUL1	**Leonard**	**92.20 327**	PFAKE		00 23 10.0	+6.5
TUL1			LR	LR		
	comp=Z,400nm,21.0s					
TUL1	**Leonard**	**92.20 327**	P	**P**	**00 23 03.4**	**-0.1**
	baz=30,SNR=6.5					
ISCO	**Idaho Springs**	**92.20 335**	PFAKE		00 23 10.0	+6.2
ISCO			LR	LR		
	comp=Z,600nm,20.0s					
ISCO	**Idaho Springs**	**92.20 335**	P	**P**	**00 23 04.2**	**+0.4**
	baz=23,SNR=7.4					
CCAR	**Cane Creek**	**92.21 323**	PFAKE		00 23 10.0	+6.5
CCAR			LR	LR		
	comp=Z,600nm,19.0s					
SDD	**Santo Domingo**	**92.30 298**	PFAKE		00 23 20.0	+16
SDD			LR	LR		
	comp=Z,800nm,22.0s					
MIAR	**Mount Ida**	**92.46 324**	PFAKE		00 23 20.0	+15
MIAR			LR	LR		
	comp=Z,300nm,20.0s					
MIAR	**Mount Ida**	**92.46 324**	P	**P**	**00 23 04.3**	**-0.4**
	baz=31,SNR=5.8					
J05D	**Fort Rock, OR**	**92.51 348**	P	**P**	**00 23 03.3**	**-1.6**
	baz=12					
O20A	**White River Ci**	**92.67 337**	P	**P**	**00 23 05.7**	**-0.1**
	baz=21,SNR=9.4					
Q24A	**Divide**	**92.83 335**	PFAKE		00 23 20.0	+13
Q24A			LR	LR		
	comp=Z,800nm,20.0s					
Q24A	**Divide**	**92.83 335**	P	**P**	**00 23 06.4**	**-0.3**
	baz=24					
WVOR	**Wild Horse Val**	**92.90 346**	PFAKE		00 23 20.0	+13
WVOR			LR	LR		
	comp=Z,400nm,22.0s					
U32A	**Winter Ranch,**	**93.04 329**	PFAKE		00 23 20.0	+13
U32A			LR	LR		
	comp=Z,900nm,22.0s					
X37A	**Clayton**	**93.18 326**	PFAKE		00 23 20.0	+12
X37A			LR	LR		
	comp=Z,400nm,20.0s					
Z41A	**Richland Creek**	**93.23 323**	PFAKE		00 23 20.0	+12
Z41A			LR	LR		
	comp=Z,500nm,18.0s					
059Z	**Ave Maria**	**93.26 311**	P	**P**	**00 23 08.7**	**+0.2**
	baz=38					
K02D	**Willamette Mer**	**93.45 349**	P	**P**	**00 23 09.5**	**+0.4**
	baz=11					
MOD	**Modoc Plateau**	**93.71 347**	PFAKE		00 23 20.0	+10
MOD			LR	LR		
	comp=Z,500nm,22.0s					
L04D	**Klamath Falls**	**93.72 348**	P	**P**	**00 23 11.1**	**+0.6**
	baz=12					
DUG	**Dugway, Tooele**	**93.81 341**	PFAKE		00 23 20.0	+9.0
DUG			LR	LR		
	comp=Z,400nm,20.0s					
DUG	**Dugway, Tooele**	**93.81 341**	P	**P**	**00 23 11.7**	**+0.8**
	baz=18,SNR=14					
L02E	**Cave Junction**	**93.97 349**	P	**P**	**00 23 12.4**	**+0.9**
	baz=11					
SDCO	**Great Sand Dun**	**94.05 334**	PFAKE		00 23 20.0	+7.7
SDCO			LR	LR		
	comp=Z,500nm,20.0s					
YBH	**Yreka Blue Hor**	**94.26 348**	LR	LR	01 06 28.3	
	comp=Z,134nm,21.6s,baz=54,slow=36					
T25A	**Trinidad**	**94.26 333**	PFAKE		00 23 20.0	+6.8
T25A			LR	LR		
	comp=Z,600nm,22.0s					
PV22	**Blue Mesa, Par**	**94.31 337**	PFAKE		00 23 20.0	+6.6
PV22			LR	LR		
	comp=Z,400nm,18.0s					
PV07	**Paradox Valley**	**94.36 337**	PFAKE		00 23 20.0	+6.4
PV07			LR	LR		
	comp=Z,400nm,20.0s					
WMOK	**Wichita Mounta**	**94.41 328**	PFAKE		00 23 20.0	+6.3
WMOK			LR	LR		
	comp=Z,300nm,22.0s					
WMOK	**Wichita Mounta**	**94.41 328**	P	**P**	**00 23 13.5**	**-0.2**
	baz=28,SNR=13					
S22A	**4UR Ranch, Cre**	**94.46 335**	PFAKE		00 23 30.0	+16
S22A			LR	LR		
	comp=Z,700nm,21.0s					
S22A	**4UR Ranch, Cre**	**94.46 335**	P	**P**	**00 23 14.3**	**+0.1**
	baz=22					
PV04	**Paradox Valley**	**94.47 337**	PFAKE		00 23 30.0	+16
PV04			LR	LR		
	comp=Z,500nm,22.0s					
PV11	**David Mesa, Pa**	**94.55 337**	PFAKE		00 23 30.0	+16
PV11			LR	LR		
	comp=Z,600nm,19.0s					

PV03	**Paradox Valley**	**94.59**	**337**	PFAKE		00 23 30.0	+15
PV03				LR	LR		
	comp=Z,400nm,20.0s						
M02C	**Callahan**	**94.61**	**348**	P	**P**	**00 23 15.0**	**+0.5**
	baz=11						
PV18	**Skein Mesa, Pa**	**94.61**	**337**	PFAKE		00 23 30.0	+15
PV18				LR	LR		
	comp=Z,200nm,21.0s						
N02D	**Trinity Center**	**95.00**	**348**	P	**P**	**00 23 16.4**	**+0.1**
	baz=11						
NATX	**Nacogdoches**	**95.31**	**324**	PFAKE		00 23 30.0	+12
NATX				LR	LR		
	comp=Z,300nm,18.0s						
WDC	**Whiskeytown Da**	**95.36**	**348**	PFAKE		00 23 30.0	+12
WDC				LR	LR		
	comp=Z,400nm,18.0s						
MVCO	**Mesa Verde**	**95.46**	**336**	PFAKE		00 23 30.0	+11
MVCO				LR	LR		
	comp=Z,500nm,19.0s						
MVCO	**Mesa Verde**	**95.46**	**336**	P	**P**	**00 23 17.6**	**-1.1**
	baz=21,SNR=5.2						
O03E	**Paynes Creek**	**95.52**	**347**	P	**P**	**00 23 19.3**	**+0.5**
	baz=12						
BEKR	**Beckworth**	**95.70**	**346**	PFAKE		00 23 30.0	+10
BEKR				LR	LR		
	comp=Z,400nm,19.0s						
KVN	**Kaiserville**	**96.07**	**344**	PFAKE		00 23 30.0	+8.6
KVN				LR	LR		
	comp=Z,400nm,19.0s						
ORV	**Oroville**	**96.19**	**347**	PFAKE		00 23 30.0	+8.3
ORV				LR	LR		
	comp=Z,400nm,19.0s						
R11A	**Troy Canyon, C**	**96.21**	**342**	P	**P**	**00 23 21.1**	**-1.0**
	baz=16,SNR=12						
WHTX	**Lake Whitney,**	**96.29**	**326**	PFAKE		00 23 30.0	+7.7
WHTX				LR	LR		
	comp=Z,500nm,18.0s						
MSTX	**Muleshoe**	**96.57**	**331**	P	**P**	**00 23 23.4**	**-0.3**
	baz=25						
ABTX	**Abilene, Hawle**	**96.61**	**328**	PFAKE		00 23 30.0	+6.3
ABTX				LR	LR		
	comp=Z,500nm,19.0s						
ABTX	**Abilene, Hawle**	**96.61**	**328**	P	**P**	**00 23 23.2**	**-0.6**
	baz=27						
NVAR	**Mina Array Bea**	**96.71**	**344**	P	**P**	**00 23 25.3**	**+1.0**
	comp=Z,5.1nm,1.2s,baz=24,slow=3.6,SNR=9.8						
NVAR				LR	LR	01 09 39.5	
	comp=Z,61nm,19.3s,baz=20,slow=37						
ANMO	**Albuquerque**	**96.92**	**334**	*e*P	**P**	**00 23 24.6**	**-0.7**
	comp=Z,7.8nm,1.4s						
ANMO				LR	LR		
	comp=Z,400nm,21.0s						
ANMO	**Albuquerque**	**96.92**	**334**	⇓*e*P	**P**	**00 23 25.9**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ANMO				MLR	MLR		
	comp=Z,338nm,17.0s						
ANMO	**Albuquerque**	**96.92**	**334**	P	**P**	**00 23 25.1**	**-0.3**
	baz=23						
TASM	**ASL Pad, Albuq**	**96.93**	**334**	P	**P**	**00 23 25.4**	**+0.1**
	baz=23						
TASM	**ASL Pad, Albuq**	**96.93**	**334**	P	**P**	**00 23 25.0**	**-0.4**
	baz=23						
HOPS	**Hopland Field**	**96.99**	**348**	PFAKE		00 23 40.0	+15
HOPS				LR	LR		
	comp=Z,500nm,22.0s						
U15A	**North Rim**	**97.24**	**339**	PFAKE		00 23 40.0	+13
U15A				LR	LR		
	comp=Z,400nm,21.0s						
HKT	**Hockley**	**97.38**	**324**	PFAKE		00 23 40.0	+13
HKT				LR	LR		
	comp=Z,400nm,18.0s						
W18A	**Petrified Fore**	**97.77**	**337**	PFAKE		00 23 40.0	+11
W18A				LR	LR		
	comp=Z,400nm,18.0s						
WUAZ	**Wupatki**	**97.85**	**338**	PFAKE		00 23 40.0	+10
WUAZ				LR	LR		
	comp=Z,400nm,20.0s						
WUAZ	**Wupatki**	**97.85**	**338**	P	**P**	**00 23 29.0**	**-0.5**
	baz=20,SNR=6.3						
Y22D	**IRIS PASSCAL I**	**97.88**	**334**	PFAKE		00 23 40.0	+10
Y22D				LR	LR		
	comp=Z,400nm,18.0s						
FURC	**Furnace Creek,**	**98.30**	**343**	P	Pdif	00 23 31.7	+0.5
	baz=16						
X18A	**Snowflake**	**98.38**	**337**	PFAKE		00 23 40.0	+8.1
X18A				LR	LR		
	comp=Z,400nm,19.0s						
CWC	**Cottonwood Cre**	**98.58**	**344**	P	Pdif	00 23 32.7	0.0
	baz=15						
MPMC	**Manual Prospec**	**98.83**	**343**	P	Pdif	00 23 35.0	+1.1
	baz=15						
MNTX	**Cornudas Mount**	**99.54**	**332**	PFAKE		00 23 50.0	+13
MNTX				LR	LR		
	comp=Z,700nm,19.0s						
MNTX	**Cornudas Mount**	**99.54**	**332**	P	**Pdif**	**00 23 36.3**	**-0.6**
	baz=24,SNR=10						
121A	**Cookes Peak, D**	**99.57**	**334**	P	**Pdif**	**00 23 37.4**	**+0.1**
	baz=22						
GMRC	**Granite Mounta**	**99.64**	**341**	P	**Pdif**	**00 23 38.1**	**+0.7**
	baz=16						
EPT	**El Paso**	**99.86**	**333**	PFAKE		00 23 50.0	+12
EPT				LR	LR		
	comp=Z,500nm,21.0s						
EDW2	**Edwards Air Fo**	**100.07**	**343**	P	**Pdif**	**00 23 40.1**	**+0.9**
	baz=15						
IRM	**Iron Mountain**	**100.11**	**341**	P	**Pdif**	**00 23 40.3**	**+0.8**
	baz=17						
Y12C	**Blythe**	**100.35**	**340**	P	**Pdif**	**00 23 41.6**	**+1.2**
	baz=17						
BFSC	**Mount Baldy Ra**	**100.61**	**343**	P	**Pdif**	**00 23 41.4**	**-0.4**
	baz=15						
BC3	**Big Chuckawall**	**100.67**	**341**	P	**Pdif**	**00 23 41.2**	**-0.8**
	baz=17						
TUC	**Tucson**	**100.69**	**336**	P	**Pdif**	**00 23 43.0**	**+0.9**
	baz=20						
LTX	**Lajitas**	**101.08**	**330**	*e*Pdif	**Pdif**	**00 23 45.1**	**+1.2**
LTX	**Lajitas**	**101.08**	**330**	*e*P	**Pdif**	**00 23 45.1**	**+1.2**
TXAR	**Lajitas Array**	**101.08**	**330**	P	**Pdif**	**00 23 45.1**	**+1.2**
	comp=Z,1.6nm,1.0s,baz=131,slow=3.5,SNR=6.9						
113A	**Mohawk Valley,**	**101.09**	**339**	*e*Pdif	**Pdif**	**00 23 45.1**	**+1.4**
319A	**Douglas**	**101.11**	**335**	PFAKE		00 24 00.0	+16
319A				LR	LR		
	comp=Z,800nm,22.0s						
HSIG		**103.82**	**335**	PFAKE		00 24 10.0	+14
HSIG				LR	LR		
	comp=Z,700nm,20.0s						
MAW	**Mawson**	**111.67**	**171**	Pdiff	**Pdif**	**00 24 30.2**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=0.0,slow=4.0,SNR=17						
SYO	**Syowa Base**	**111.93**	**181**	⇓*ep*Pdif	pPdif	00 24 37.9	+3.4
MWH	**Moku'aweowe**	**115.62**	**18**	PFAKE		00 28 50.0	+13
MWH				LR	LR		
	comp=Z,1μm,18.0s						
RIM	**Rim**	**115.78**	**18**	PFAKE		00 28 50.0	+13
RIM				LR	LR		
	comp=Z,1μm,18.0s						
STCH	**Steam Cracks**	**115.82**	**18**	PFAKE		00 28 50.0	+13
STCH				LR	LR		
	comp=Z,2μm,22.0s						
PLCA	**Paso Flores**	**130.79**	**248**	PKP	**PKPdf**	**00 29 04.4**	**-0.2**
	comp=Z,10nm,1.1s,baz=2.0,slow=3.0,SNR=6.4						
MQZ	**McQueen's Vall**	**144.86**	**108**	PFAKE		00 29 40.0	+6.1
MQZ				LR	LR		
	comp=Z,2μm,18.0s						
BKZ	**Black Stump Fm**	**146.10**	**99**	PFAKE		00 29 40.0	+3.2
BKZ				LR	LR		
	comp=Z,2μm,21.0s						

*NEIC **28** 00:17:58.1±0.0,45°.35S×166°.74E, h3km, ML4.3(WEL), After WEL.*

WEL 28 00:17:58.9,46°S±5°×167°E±°, h12km, ML4.5/18, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.29**	**82**	*e*Pg	Pb	00 18 06.0	0.0
DCZ	**Deep Cove**	**0.29**	**82**	P	Pb	00 18 06.1	+0.2
DCZ				S	Sb	00 18 10.8	+0.2
WHZ	**Wether Hill Ro**	**0.92**	**115**	*e*Pg	Pn	00 18 17.4	-0.3
WHZ				*e*Sg	Sg	00 18 28.3	-0.4
WHZ	**Wether Hill Ro**	**0.92**	**115**	P	Pn	00 18 17.4	-0.3
WHZ				S	Sn	00 18 30.9	+0.1
MLZ	**Mavora Lakes**	**0.97**	**82**	*e*Pg	Pg	00 18 17.1	-0.5
MLZ				*e*Sg	Sg	00 18 28.6	-1.7
MLZ	**Mavora Lakes**	**0.97**	**82**	P	Pg	00 18 17.0	-0.6
MLZ				S	Sg	00 18 30.2	-0.1
MSZ	**Milford Sound**	**1.18**	**45**	P	Pn	00 18 18.4	-2.8
MSZ				S	Sb	00 18 35.5	-0.8
APZ	**The Paps**	**1.58**	**147**	P	Pg	00 18 29.1	-0.1
WKZ	**Wanaka**	**1.74**	**68**	*e*Pn	Pn	00 18 28.8	-0.2
WKZ	**Wanaka**	**1.74**	**68**	P	Pn	00 18 28.6	-0.3
EAZ	**Earnscleugh**	**1.82**	**82**	P	Pn	00 18 30.5	+0.5
SYZ	**Scrubby Hill**	**1.96**	**123**	P	Pn	00 18 33.0	+1.2
JCZ	**Jackson Bay**	**2.04**	**46**	P	Pn	00 18 34.3	+1.2
TUZ	**Tuapeka**	**2.07**	**104**	P	Pb	00 18 34.9	-1.4
LBZ	**Lake Benmore**	**2.68**	**67**	*e*Pn	Pn	00 18 40.9	-0.9
LBZ	**Lake Benmore**	**2.68**	**67**	P	Pn	00 18 40.9	-1.0
HHSZ	**Highcliff Hill**	**2.72**	**99**	P	Pn	00 18 42.5	+0.1
ODZ	**Otahua Downs**	**2.79**	**82**	*e*Pn	Pn	00 18 42.8	-0.5
ODZ	**Otahua Downs**	**2.79**	**82**	P	Pn	00 18 42.6	-0.6
FOZ	**Fox Glacier**	**2.95**	**49**	*e*Pn	Pn	00 18 45.3	-0.1
FOZ	**Fox Glacier**	**2.95**	**49**	P	Pn	00 18 45.0	-0.5
GCSZ	**Gaunt Creek Bo**	**3.37**	**51**	P	Pn	00 18 50.3	-1.0
RPZ	**Rata Peaks**	**3.56**	**61**	*e*Pn	Pn	00 18 52.2	-1.6
RPZ				*e*Sn	Sn	00 19 26.2	-10
RPZ	**Rata Peaks**	**3.56**	**61**	P	Pn	00 18 52.3	-1.6
WVZ	**Waitaha Valley**	**3.75**	**51**	P	Pn	00 18 54.9	-1.7
OXZ	**Oxford**	**4.37**	**62**	*e*Pn	Pn	00 19 04.2	-0.9
OXZ	**Oxford**	**4.37**	**62**	P	Pn	00 19 04.2	-0.8
INZ	**Inchbonnie**	**4.38**	**52**	P	Pn	00 19 03.6	-1.5
MQZ	**McQueen's Vall**	**4.58**	**69**	*e*Pn	Pn	00 19 05.9	-2.0
MQZ	**McQueen's Vall**	**4.58**	**69**	P	Pn	00 19 07.4	-0.5
CRLZ	**Canterbury Las**	**4.62**	**67**	*e*Pn	Pn	00 19 06.5	-2.0
LTZ	**Lake Taylor**	**4.82**	**58**	*e*Pn	Pn	00 19 09.3	-1.9
LTZ	**Lake Taylor**	**4.82**	**58**	P	Pn	00 19 09.9	-1.3
AMCZ	**Amberley**	**4.83**	**63**	P	Pn	00 19 11.4	0.0
OKCZ	**Okains Bay**	**4.84**	**71**	P	Pn	00 19 12.0	+0.4
DSZ	**Denniston Nort**	**5.25**	**46**	P	Pn	00 19 16.6	-0.6
KHZ	**Kahutara**	**5.79**	**60**	*e*Pn	Pn	00 19 23.3	-1.2
KHZ	**Kahutara**	**5.79**	**60**	P	Pn	00 19 24.8	+0.3
THZ	**Tophouse**	**5.83**	**52**	*e*Pn	Pn	00 19 24.8	-0.3
THZ	**Tophouse**	**5.83**	**52**	P	Pn	00 19 25.0	-0.1
QRZ	**Quartz Range**	**6.30**	**44**	P	Pn	00 19 29.3	-2.2
NNZ	**Nelson**	**6.46**	**51**	P	Pn	00 19 33.3	-0.4
TUWZ	**Tuamarina**	**6.63**	**55**	P	Pn	00 19 36.5	+0.5
TCW	**Tory Channel**	**6.96**	**55**	P	Pn	00 19 42.0	+1.4
DUWZ	**D'Urville Isla**	**7.04**	**51**	P	Pn	00 19 41.5	-0.3
HOWZ	**Holdsworth Sta**	**7.88**	**57**	P	Pn	00 19 53.4	+0.1
KHEZ	**Kahui Hut**	**8.21**	**43**	P	Pn	00 19 56.9	-0.9
PKE	**Pukeiti**	**8.27**	**43**	P	Pn	00 19 57.7	-1.0
BFZ	**Birch Farm**	**8.46**	**59**	*e*Pn	Pn	00 19 58.3	-2.8
VRZ	**Vera Road**	**8.71**	**46**	P	Pn	00 20 04.8	+0.2
MOVZ	**Moawhango**	**9.02**	**51**	P	Pn	00 20 10.9	+2.0
BHHZ	**Black Hill Sta**	**9.13**	**52**	P	Pn	00 20 12.6	+2.1
HIZ	**Hauiti**	**9.23**	**44**	*e*Pn	Pn	00 20 10.5	-1.2
HIZ	**Hauiti**	**9.23**	**44**	P	Pn	00 20 10.2	-1.5
BKZ	**Black Stump Fm**	**9.60**	**52**	*e*Pn	Pn	00 20 16.7	-0.1
MKAZ	**Moumakai**	**10.51**	**40**	P	Pn	00 20 28.8	-0.3
URZ	**Urewera**	**10.58**	**50**	*e*Pn	Pn	00 20 29.0	-1.2
WIAZ	**Waiheke Island**	**10.75**	**39**	P	Pn	00 20 31.9	-0.7
WCZ	**Waipu Caves**	**11.15**	**34**	P	Pn	00 20 36.7	-1.3
OUZ	**Omahuta**	**11.52**	**29**	*e*Pn	Pn	00 20 40.6	-2.5
OUZ	**Omahuta**	**11.52**	**29**	P	Pn	00 20 41.5	-1.6
TAU	**Tasmania Unive**	**14.18**	**274**	*e*Pn	Pn	00 21 17.9	-1.4

MEX 28 00:20:59.7±0.9, 16°.93N×94°.74W, h124km±7km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.21**	**320**	*e*P	Pn	00 21 15.4	-1.4
CMIG				*e*S	Sn	00 21 27.7	-2.1
TGIG		**1.56**	**95**	*i* P	Pn	00 21 26.5	-1.6
TGIG				*e*S	Sn	00 21 47.3	-2.5
HUIG	**Huatulco**	**1.75**	**229**	*e*P	Pn	00 21 28.3	-2.0
HUIG				*e*S	Sn	00 21 52.5	-1.2
PCIG		**1.90**	**130**	*e*P	Pn	00 21 31.4	-0.8
PCIG				*e*S	Sn	00 21 55.6	-1.4
CCIG	**Comitan**	**2.58**	**104**	*e*P	Pn	00 21 39.6	-1.2
CCIG				*i* S	Sn	00 22 10.8	-1.7
TPIG	**Tehuac#an**	**2.90**	**301**	*e*P	Pn	00 21 44.4	-0.7
TPIG				*i* S	Sn	00 22 18.9	-1.1
PNIG	**Pinotepa**	**3.29**	**261**	*e*P	Pn	00 21 48.0	-1.9
PNIG				*i* S	Sn	00 22 27.3	-1.5

MEX 28 00:25:32.4±0.5, 17°.14N×101°.27W, h8km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.50**	**338**	*e*P	Pg	00 25 41.9	-0.3
ZIIG				*i* S	Sg	00 25 48.9	+0.1
CAIG	**El Cayaco**	**0.96**	**95**	*e*P	Pg	00 25 48.3	-2.7
CAIG				*i* S	Sg	00 26 00.5	-3.0
ARIG	**Puente Sto Nin**	**1.44**	**38**	*e*P	Pn	00 25 54.9	-3.9
ARIG				*i* S	Sn	00 26 12.4	-5.6
MEIG	**Mezcala**	**1.76**	**63**	*i* P	Pn	00 26 00.4	-2.9
MEIG				*i* S	Sn	00 26 21.4	-4.6
PLIG	**Platanillo**	**2.10**	**53**	*i* P	Pn	00 26 04.3	-3.6
PLIG				*i* S	Sn	00 26 30.6	-3.7
TLIG	**Tlapa**	**2.62**	**80**	*i* S	Sn	00 26 42.6	-4.6

*ISN **28** 00:25:55.1±1.1, 37°.12N×42°.44E, h0km±5km, ML2.7*
*ISCJB **28** 00:25:56.7±0.7, 37°.19N±0°.03×42°.52E±0°.04, h3km±5km, Error ellipse: s-maj=5.5km s-min=3.7km az=142.2*
*DDA **28** 00:25:56.6, 37°.23N×42°.49E, h7km±4km, ML2.8*
*ISK **28** 00:25:56.2, 37°.27N×42°.49E, h1km, ML2.6/6*

ISC 28 00:25:56.2±1.2, 37°.19N±0°.04×42°.51E±0°.03, h11km±9km, n22, σ0°97/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**Sırnak**	**0.31**	**346**	IAML_P			
	comp=Z,11μm,0.1s						
SIRN				*i* P	**Pg**	**00 26 02.8**	**+0.1**
SIRN				*i* S	**Sg**	**00 26 07.0**	**+0.1**
SIRT	**Sirnak**	**0.31**	**350**	PG	**Pg**	**00 26 01.8**	**-0.8**
SIRT				SG	**Sg**	**00 26 06.3**	**-0.6**
CUKT	**Cukurca**	**0.88**	**86**	PG	**Pn**	**00 26 14.2**	**-0.4**
CUKT				SG	**Sn**	**00 26 27.6**	**+0.1**
CUKT	**Cukurca**	**0.88**	**86**	IAML_P			
	comp=Z,1μm,0.3s						
CUKT				*i* P	**Pn**	**00 26 14.9**	**+0.3**
CUKT				*i* S	**Sn**	**00 26 27.0**	**-0.5**
MSL	**Mosul**	**0.93**	**148**	*e*Pg	**Pn**	**00 26 15.4**	**+0.2**
MSL				AML	AML	00 26 16.6	
	comp=Z,478nm,0.6s						
MSL				*e*Sg	**Sn**	**00 26 28.3**	**-0.1**
HAKT	**HAKKARI**	**1.02**	**69**	IAML_P			
	comp=Z,1μm,0.2s						
HAKT				*i* P	**Pn**	**00 26 16.8**	**+0.1**
HAKT				*i* S	**Sn**	**00 26 31.7**	**+0.5**
GEVA	**Gevas**	**1.20**	**21**	IAML_P			
	comp=Z,220nm,0.3s						
GEVA				*i* P	**Pb**	**00 26 18.6**	**-0.5**
GEVA				*i* S	**Sb**	**00 26 33.6**	**-1.1**
BLIS	**Bitlis-Merkez**	**1.26**	**346**	IAML_P			
	comp=Z,4μm,0.3s						
BLIS				*i* P	**Pg**	**00 26 21.6**	**+1.1**
BLIS				*i* S	**Sn**	**00 26 37.5**	**+0.6**
MARD	**Mardin**	**1.39**	**276**	*i* P	**Pg**	**00 26 23.9**	**+1.1**
MARD				*i* S	**Sg**	**00 26 42.4**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.41**	**313**	PN	**Pg**	**00 26 23.2**	**-0.2**
SVAN				SN	**Sg**	**00 26 42.5**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.41**	**313**	*i* P	**Pg**	**00 26 23.5**	**+0.2**
SVAN				*i* S	**Sg**	**00 26 43.1**	**+1.4**
TVAN	**Van**	**1.51**	**28**	IAML_P			
	comp=Z,346nm,0.2s						
TVAN				*i* P	**Pg**	**00 26 26.6**	**+1.4**
VANB	**Van**	**1.56**	**26**	PN	**Pn**	**00 26 24.5**	**+0.4**
ADCV	**BITLIS_Adilcev**	**1.62**	**6**	IAML_P			
	comp=Z,366nm,0.2s						
ADCV				*i* P	**Pg**	**00 26 28.3**	**+0.9**
ADCV				*i* S	**Sg**	**00 26 49.9**	**+1.4**
MUSM	**Mu-Merkez**	**1.72**	**333**	IAML_P			
	comp=Z,895nm,0.2s						
MUSM				*i* P	**Pb**	**00 26 27.3**	**-0.6**
MUSM				*i* S	**Sb**	**00 26 50.0**	**+0.4**
MLAZ	**Malazgirt-MUS**	**1.95**	**1**	PN	**Pb**	**00 26 30.6**	**-1.2**
DIYA	**Diyarbakir**	**2.03**	**292**	IAML_P			
	comp=Z,766nm,0.2s						
DIYA				*i* P	**Pb**	**00 26 33.7**	**+0.5**
DIYA				*i* S	**Sg**	**00 27 01.1**	**-0.5**
BNGL	**BINGOL**	**2.06**	**329**	*i* P	**Pg**	**00 26 34.7**	**-1.0**
BNGL				*i* S	**Sg**	**00 27 01.0**	**-1.4**
HANI	**Diyarbakir_Han**	**2.07**	**307**	IAML_P			
	comp=Z,130nm,0.2s						
HANI				*i* P	**Pb**	**00 26 32.7**	**-1.1**
HANI				*i* S	**Sb**	**00 26 58.2**	**-1.4**
BNGB	**Bingl**	**2.31**	**322**	PN	**Pn**	**00 26 35.8**	**+1.6**
IKRK	**Kirkuk**	**2.32**	**140**	*e*Pn	**Pn**	**00 26 35.0**	**+0.7**
IKRK				AML	AML	00 26 36.0	
	comp=Z,100nm,0.3s						
IKRK				*e*Sn	**Sn**	**00 27 04.0**	**+1.1**
RTB	**Rutbah**	**4.53**	**204**	*e*Pn	**Pn**	**00 27 05.0**	**+0.3**
RTB				AML	AML	00 27 09.1	
	comp=Z,14nm,0.3s						
RTB				*e*Sn	**Sn**	**00 27 55.0**	**-2.4**

*ISCJB **28** 00:31:56.4±1.3, 35°.35S±0°.08×179°.1W±0°.2, h35km, mb4.2/2, Error ellipse: s-maj=20.0km s-min=9.2km az=20.2*
*WEL **28** 00:31:58.7±1.2, 35°S±9°×17°9W±1°3, h33km, ML4.5/25*
*IDC **28** 00:32:03.1±6.5, 32°.71S×179°.61E, h0km, mb4.3/2, mb1 4.6/2, mb1mx3.8/22, mbtmp4.3/2, Error ellipse: s-maj=277.0km s-min=60.5km az=161.0*

ISC 28 00:31:58.5±1.9, 35°.4S±0°.1×179°.1W±0°.2, h35km, n34, σ0°66/39, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.01**	**223**	P	**Pn**	**00 32 43.3**	**-0.3**
MXZ				S	**Sn**	**00 33 17.7**	**-0.7**
PKGZ	**Pakihiroa**	**3.37**	**221**	P	**Pn**	**00 32 48.8**	**+0.2**
PKGZ				S	**Sn**	**00 33 27.8**	**+0.4**
PUZ	**Puketiti**	**3.41**	**217**	P	**Pn**	**00 32 49.3**	**+0.1**
PUZ				S	**Sn**	**00 33 27.9**	**-0.6**
HAZ	**Te Kaha**	**3.44**	**225**	P	**Pn**	**00 32 50.5**	**+1.0**
HAZ				S	**Sn**	**00 33 30.9**	**+1.8**
TWGZ	**Tauwhareparae**	**3.63**	**219**	P	**Pn**	**00 32 53.0**	**+0.7**
TWGZ				S	**Sn**	**00 33 34.3**	**+0.3**
RUGZ	**Raukumara Rang**	**3.64**	**224**	P	**Pn**	**00 32 52.8**	**+0.3**
CNGZ	**Carnagh Statio**	**3.77**	**214**	P	**Pn**	**00 32 54.1**	**+0.1**
TKGZ	**Te Karaka**	**3.90**	**218**	P	**Pn**	**00 32 56.4**	**+0.5**
MWZ	**Matawai**	**3.99**	**221**	P	**Pn**	**00 32 57.1**	**-0.1**
RIGZ	**Rimuhau**	**4.15**	**216**	P	**Pn**	**00 32 59.6**	**+0.2**
URZ	**Urewera**	**4.17**	**225**	P	**Pn**	**00 32 59.5**	**-0.1**
OPRZ	**Ohinepanea**	**4.26**	**233**	P	**Pn**	**00 33 00.4**	**-0.4**
KUZ	**Kuaotunu**	**4.39**	**250**	P	**Pn**	**00 33 02.5**	**-0.1**
SNGZ	**Shannon Statio**	**4.42**	**219**	P	**Pn**	**00 33 03.4**	**+0.3**
KNZ	**Kokohu**	**4.45**	**214**	P	**Pn**	**00 33 03.6**	**+0.2**
RTZ	**Ruatahuna**	**4.49**	**223**	P	**Pn**	**00 33 03.9**	**-0.2**
MUGZ	**Murupara**	**4.51**	**226**	P	**Pn**	**00 33 03.8**	**-0.6**
TARZ	**Mount Tarawera**	**4.52**	**230**	P	**Pn**	**00 33 05.4**	**+0.9**
RAHZ	**Arahi**	**4.65**	**219**	P	**Pn**	**00 33 06.5**	**+0.2**
MTHZ	**Maungataniwha**	**4.74**	**222**	P	**Pn**	**00 33 07.3**	**-0.1**
WIAZ	**Waiheke Island**	**4.86**	**251**	P	**Pn**	**00 33 08.9**	**-0.2**
TOZ	**Tahuroa Road**	**4.92**	**240**	P	**Pn**	**00 33 09.7**	**-0.2**
MRHZ	**Matea Rd**	**4.96**	**225**	P	**Pn**	**00 33 10.0**	**-0.5**
BKZ	**Black Stump Fm**	**5.15**	**221**	P	**Pn**	**00 33 11.1**	**-2.0**
WCZ	**Waipu Caves**	**5.35**	**262**	P	**Pn**	**00 33 16.1**	**+0.4**
KWHZ	**Kaweka Forest**	**5.37**	**220**	P	**Pn**	**00 33 16.1**	**-0.1**
KRVZ	**Karewarewa**	**5.59**	**227**	P	**Pn**	**00 33 18.9**	**-0.3**
WTVZ	**West Tongariro**	**5.63**	**227**	P	**Pn**	**00 33 18.9**	**-0.9**
NGZ	**Ngauruhoe**	**5.66**	**226**	P	**Pn**	**00 33 19.9**	**-0.3**
MOVZ	**Moawhango**	**5.73**	**224**	P	**Pn**	**00 33 20.1**	**-1.0**
FWVZ	**Far West T-bar**	**5.74**	**226**	P	**Pn**	**00 33 21.5**	**+0.1**
ASAR	**Alice Springs**	**42.16**	**273**	P	**P**	**00 39 47.6**	**-0.1**
	2.5nm,0.7s,baz=113,slow=7.6,SNR=24						
WRA	**Warramunga Arr**	**43.59**	**278**	P	**P**	**00 39 58.5**	**-0.9**
	3.6nm,0.5s,baz=114,slow=7.9,SNR=32						
FINES	**FINESS Array B**	**149.40**	**336**	PKPbc	**PKiKP**	**00 51 44.8**	**+0.8**
	1.5nm,0.7s,baz=66,slow=3.4,SNR=4.2						

*KRSC **28** 00:40:28.4±10.0, 51°.92N×160°.65E, h60km±10km, ML4.5*
*IDC **28** 00:40:29.5±1.4, 52°.37N×160°.05E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.8/35, mbtmp3.9/15, ML3.3/1, Error ellipse: s-maj=34.4km s-min=21.2km az=139.0*
*ISCJB **28** 00:40:31.2±0.8, 51°.96N±0°.04×160°.53E±0°.07, h42km±5km, mb4.1/25, Error ellipse: s-maj=9.0km s-min=4.7km az=40.4*
*MOS **28** 00:40:31.0±1.0, 51°.97N×160°.54E, h43km, mb4.3/14, Error ellipse: s-maj=9.5km s-min=4.7km az=109.9*
*NEIC **28** 00:40:34.4±2.6, 52°.25N×160°.08E, h35km±3km, mb4.2/5, Error ellipse: s-maj=21.7km s-min=16.9km az=185.0*

ISC 28 00:40:31.2±1.7, 51°.95N±0°.05×160°.53E±0°.04, h28km±11km, n129, σ1°42/154, mb4.1/25, 20C-6D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.19**	**345**	*e*P	**Pn**	**00 40 50.6**	**-1.3**
SPN				*e*S	**Sn**	**00 41 07.1**	**0.0**
SPN	**Mys Shipunski**	**1.19**	**

GNL S Sn 00 41 37.3 +1.4
PAU Pauzhetka 2.36 260 eP Pn 00 41 08.7 +0.7
PAU Pauzhetka 2.36 260 PN Pn 00 41 08.7 +0.7
MKZ Mys Kozlova 2.71 15 eP Pn 00 41 12.3 -0.5
MKZ eS Sn 00 41 42.7 -1.8
MKZ Mys Kozlova 2.71 15 PN Pn 00 41 12.3 -0.5
MKZ S Sn 00 41 42.7 -1.8
SKR Severo-Kuril's 3.04 247 eP Pn 00 41 18.4 +1.0
SKR eS Sn 00 41 52.5 -0.4
SKR Severo-Kuril's 3.04 247 ePN Pn 00 41 18.3 +0.9
SKR pmax pmax
comp=Z,138nm,0.7s
KZV Kizimen 3.17 358 eS Sn 00 41 57.2 +1.0
TUMD Tumrok D 3.26 359 eP Pn 00 41 20.6 +0.2
TUMD eS Sn 00 41 56.8 -1.4
ALID Alaid 3.30 253 eP Pn 00 41 22.2 +1.1
ALID Alaid 3.30 253 PN Pn 00 41 22.2 +1.1
TUMR Tumrok 3.34 356 eP Pn 00 41 22.7 +1.0
TUMR Tumrok 3.34 356 PN Pn 00 41 20.6 -1.1
KBTR Krutoberegovo 4.47 17 eP Pn 00 41 37.3 +0.3
KBTR Krutoberegovo 4.47 17 PN Pn 00 41 37.3 +0.3
BKI Bering 4.60 43 eS Sn 00 42 26.9 -4.2
BDR Baidarnaya 4.64 5 eP Pn 00 41 41.7 +2.3
BDR Baidarnaya 4.64 5 PN Pn 00 41 41.7 +2.3
SMKR Semkarok 4.67 6 eP Pn 00 41 41.6 +1.8
SMKR Semkarok 4.67 6 PN Pn 00 41 41.6 +1.8
SRKR Sorokina 4.72 4 eP Pn 00 41 42.7 +2.1
SRKR Sorokina 4.72 4 PN Pn 00 41 42.7 +2.1
GSTR Great Sitkin T 14.41 80 ePn P 00 44 04.3 +4.7
ERM Erimo 15.43 237 ceP Pn 00 44 01.0 -5.7
ERM pmax pmax
comp=Z,20nm,1.3s
BILL Bilibino 16.38 8⇑ eP P 00 44 23.3 +1.9
BILL pmax pmax
comp=Z,12nm,2.5s
BILL MLR MLR
comp=Z,483nm,17.0s
KLR Kul'dur 18.42 273 P P 00 44 43.9 -0.2
comp=Z,0.1nm,0.3s,baz=78,slow=9.3,SNR=3.5
USRK Ussuriysk Ar. 20.48 259 P P 00 45 05.9 -0.7
comp=Z,3.1nm,0.8s,baz=42,slow=11,SNR=4.9
MAJO Matsushiro 22.07 234 eP P 00 45 24.9 +1.1
comp=Z,5.7nm,0.8s
MAJO Matsushiro 22.07 234 eP P 00 45 24.9 +1.1
MAJO pmax pmax
comp=Z,6.0nm,0.8s
MJAR Matsushiro Arr 22.07 234 P P 00 45 25.9 +2.2
comp=Z,1.0nm,0.3s,baz=20,slow=10,SNR=4.5
TIXI Tiksi 24.23 336 eP P 00 45 43.6 -1.5
comp=Z,3.6nm,0.6s
TIXI Tiksi 24.23 336⇑ eP P 00 45 44.5 -0.6
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 24.23 336 P P 00 45 43.2 -2.0
comp=Z,2.6nm,0.5s,baz=125,slow=9.3,SNR=9.8
BCPM Bancas Point 33.36 52 eS S 00 52 30.1 +4.8
WHN Wuhan 39.92 256 P P 00 48 01.3 -1.4
ZAA1 Zalesovo Array 43.62 304 eP P 00 48 30.0 -2.7
ZALV Zalesovo Beam 43.62 304 P P 00 48 30.0 -2.7
comp=Z,0.6nm,0.3s,baz=54,slow=7.8,SNR=2.5
DGZ Jazzator, Alta 44.42 297 d iP P 00 48 38.6 -0.7
DGZ pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 48.57 303 deP P 00 49 10.0 -1.6
KURK pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 48.90 297 eP P 00 49 12.7 -1.6
comp=Z,0.9nm,0.6s
MK31 Makanchi Array 48.90 297 eP P 00 49 12.7 -1.6
MK31 pmax pmax
comp=Z,1.0nm,0.6s
MK32 Makanchi Array 48.90 297 eP P 00 49 12.4 -1.8
MKAR Makanchi Array 48.90 297 ceP P 00 49 12.6 -1.7
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 48.90 297 P P 00 49 12.4 -1.8
comp=Z,1.1nm,0.5s,baz=55,slow=6.5,SNR=19
BRVK Borovoye 51.34 309 ceP P 00 49 31.6 -1.1
BRVK pmax pmax
comp=Z,4.0nm,0.9s
ARU Arti 54.42 318 d iP P 00 49 54.2 -1.1
ARU 00 51 54.5
ARU S S 00 57 32.2 +0.6
ARU SS SS 01 01 12.8 -0.5
ARU pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 54.45 342 P P 00 49 54.6 -0.8
comp=Z,0.9nm,0.6s,baz=34,slow=9.0,SNR=7.1
AAK Ala-Archa 55.82 297⇓ eP P 00 50 05.4 -0.5
AAK pmax pmax
comp=Z,2.0nm,1.3s
KSH Kashi 57.09 293 P P 00 50 18.0 +3.1
KSH sP pwP 00 50 41.3 +13
KSH S S 00 58 06.5 -1.5
KSH ScS ScS 00 59 57.0 -5.2
CM31 Chiang Mai Arr 58.21 259 eP P 00 50 25.0 +2.2
comp=Z,5.7nm,0.4s
CMAR Chiang Mai Arr 58.21 259 i P P 00 50 20.2 -2.7
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 58.21 259 P P 00 50 25.0 +2.2
comp=Z,0.8nm,0.3s,baz=25,slow=8.0,SNR=6.1
FIA0 FINESS Array S 61.27 337 eP P 00 50 43.5 +0.2
FIA0 FINESS Array S 61.27 337 eP P 00 50 43.5 +0.2
FINES FINESS Array B 61.27 337 P P 00 50 43.5 +0.2
comp=Z,1.8nm,0.6s,baz=39,slow=8.7,SNR=16
OBN Obninsk 63.62 328 eP P 00 50 57.6 -1.4
OBN e 00 53 17.4
OBN pmax pmax
comp=Z,2.0nm,0.9s
NB2 NORSAR Subarra 64.71 344 P P 00 51 06.3 +0.1
comp=Z,0.8nm,0.4s,baz=30,slow=6.5
NB200 NORSAR Array S 64.71 344 eP P 00 51 05.9 -0.3
NOA NORSAR Array B 64.71 344 P P 00 51 05.9 -0.3
comp=Z,1.2nm,0.8s,baz=23,slow=6.6,SNR=8.6
GEYT Alibeck 67.93 304 P P 00 51 26.6 -0.7
comp=Z,1.3nm,0.6s,baz=45,slow=6.3,SNR=2.8
AKASG Malin Array Be 69.73 329 P P 00 51 36.8 -1.3
comp=Z,0.7nm,0.4s,baz=32,slow=6.4,SNR=3.3
AKBB Malin Array Si 69.73 329 eP P 00 51 36.8 -1.3
comp=Z,3.9nm,1.0s
AKBB Malin Array Si 69.73 329 eP P 00 51 36.8 -1.3
AKBB pmax pmax
comp=Z,4.0nm,1.0s
KIEV Kiev 69.74 329⇑ eP P 00 51 38.9 +0.8
KIEV pmax pmax
comp=Z,2.0nm,0.9s
LTX Lajitas 70.84 67 eP P 00 51 48.4 +3.0
LTX Lajitas 70.84 67 eP P 00 51 48.4 +3.0
TXAR Lajitas Array 70.84 67 P P 00 51 48.3 +2.9
comp=Z,0.2nm,0.6s,baz=297,slow=4.8,SNR=4.1
KOLS Kolonicke sedl 73.38 333 eP P 00 52 01.6 +1.4
KOLS Kolonicke sedl 73.38 333 eP P 00 52 01.6 +1.4
CLL Collm 73.51 339 ⇓ iP P 00 52 01.9 +1.0
CLL pmax pmax
comp=Z,82nm,1.2s
CLL Collm 73.51 339 ⇓ iP P 00 52 01.9 +1.0
comp=Z,6.0nm,1.2s
BURAR Bucovina Array 73.69 330 ⇑ iP P 00 52 03.2 +1.0
BURAR Bucovina Array 73.69 330 ⇑ P P 00 52 03.2 +1.0
TRPA Tarpa 74.03 332 ⇑ iP P 00 52 05.4 +1.5
VYHS Vyhne 74.72 335 eP P 00 52 09.7 +1.7
DRGR 75.19 331 ⇑ iP P 00 52 10.1 -0.7
DRGR 75.19 331 ⇑ P P 00 52 10.1 -0.7
MLR Muntele Rosu 75.36 329 ⇑ iP P 00 52 11.1 -0.8
MLR Muntele Rosu 75.36 329 ⇑ P P 00 52 11.1 -0.8
GERES GERESS Array B 75.67 338 P P 00 52 13.6 0.0
comp=Z,0.3nm,0.4s,baz=26,slow=6.5,SNR=4.7
VOIR 75.69 329 ⇑ iP P 00 52 14.3 +0.6
VOIR 75.69 329 ⇑ P P 00 52 14.3 +0.6
ARR Arges 75.88 330 ⇑ iP P 00 52 14.1 -0.7
GZR Gura Zlata 76.43 331 ⇑ iP P 00 52 18.9 +1.0
GZR Gura Zlata 76.43 331 ⇑ P P 00 52 18.9 +1.0
BR101 Keskin Array S 77.67 321 eP P 00 52 25.2 +0.1
BRTR Keskin Array B 77.67 321 ceP P 00 52 25.7 +0.6
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 77.67 321 P P 00 52 25.2 +0.1
comp=Z,1.5nm,1.1s,baz=116,slow=2.9,SNR=4.1

*ISCJB **28** 00:51:54.4±0.5, 34°.11N±0°.03×135°.15E±0°.03, h3km±5km, mb3.7/2, Error ellipse: s-maj=5.2km s-min=4.3km az=27.2*

*IDC **28** 00:51:54.6±1.4, 33°.93N×135°.24E, h0km, mb3.7/2, mb1 3.8/6, mb1mx3.4/47, mbtmp3.6/6, ML3.1/4, Error ellipse: s-maj=28.7km s-min=13.7km az=149.0*
*JMA **28** 00:51:54.7, 34°.11N×135°.16E, h7km, M3.5 Broadband fault plane solution: P waves. NP1:φ1=162.00000°, δ60.00000°, λ90.00000°. NP2:φ2=342.00000°, δ30.00000°, λ90.00000°. Principal axes: T Plg75.0000°, Azm73.0000°; N Plg0.0000°, Azm162.0000°; P Plg15.0000°, Azm252.0000°;*
JMA Felt III J1.

ISC 28 00:51:54.2±1.2, 34°.11N±0°.03×135°.15E±0°.03, h2km±10km, n21, σ1°40/25, 5D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	Minabe	0.31	146	⇓P	Pg	00 52 01.0	+0.9
JWM				S	Sg	00 52 05.2	+1.0
JAJ2	Tsuna	0.38	325	⇓P	Pg	00 52 02.4	+1.0
JAJ2				S	Sg	00 52 07.6	+1.3
JWY	Kouya	0.39	73	P	Pg	00 52 01.9	+0.3
JTNC	Tanabenakahech	0.48	127	P	Pg	00 52 04.2	+0.8
JTNC				S	Sg	00 52 10.5	+0.9
JAI	Aioi	0.66	242	⇓P	Pg	00 52 07.4	+0.6
JAI				S	Sg	00 52 16.3	+1.0
JHE	Heguri	0.70	39	⇓P	Pg	00 52 08.0	+0.4
JHE				S	Sg	00 52 17.4	+0.7
JKS	Kasai	0.91	344	P	Pg	00 52 12.0	+0.4
JKS				S	Sg	00 52 23.8	+0.5
JKN2	Miekihoku	0.94	82	⇓P	Pg	00 52 12.1	-0.1
JKN2				S	Sg	00 52 25.0	+0.5
MAT	Matsushiro	3.49	45	P	Pn	00 52 50.6	+1.1
MAT				eS	Sn	00 53 33.6	+2.2
MJAR	Matsushiro Arr	3.49	45	Pn	Pb	00 52 53.0	-3.7
	0.3nm,0.3s,baz=226,slow=15,SNR=10						
MJAR				Pg	Pg	00 53 00.6	-0.3
	0.9nm,0.3s,baz=227,slow=16,SNR=25						
MJAR				Lg	Lg	00 53 45.6	
	0.2nm,0.3s,baz=216,slow=30,SNR=4.8						
JNU	Nakatsue	3.70	256	Pn	Pn	00 52 52.8	+0.4
	3.2nm,0.3s,baz=32,slow=5.7,SNR=16						
JNU				Pg	Pg	00 53 03.3	-1.7
	9.9nm,0.3s,baz=45,slow=17,SNR=22						
JNU				Lg	Lg	00 53 54.2	
	2.4nm,0.3s,baz=248,slow=14,SNR=5.2						
KSRS	Korea Array	6.75	302	Pn	Pn	00 53 36.5	+2.1
	0.6nm,0.3s,baz=117,slow=14,SNR=9.8						
KLR	Kul'dur	15.32	352	Pn	P	00 55 35.4	-0.9
	0.1nm,0.3s,baz=134,slow=13,SNR=3.9						
H11N2	WAKE ISLAND Hy	31.57	109	T	T	01 30 54.9	
	baz=303,slow=75,SNR=3.3						
H11N1	WAKE ISLAND Hy	31.58	109	T	T	01 30 54.9	
	baz=303,slow=75,SNR=3.9						
H11N3	WAKE ISLAND Hy	31.59	109	T	T	01 30 56.0	
	baz=303,slow=75,SNR=4.3						
H11S3	WAKE ISLAND Hy	32.10	111	T	T	01 31 31.5	
	baz=305,slow=75,SNR=10						
H11S1	WAKE ISLAND Hy	32.11	111	T	T	01 31 31.7	
	baz=305,slow=75,SNR=8.8						
H11S2	WAKE ISLAND Hy	32.12	111	T	T	01 31 32.8	
	baz=305,slow=75,SNR=5.1						
WRA	Warramunga Arr	53.76	181	P	P	01 01 16.7	-1.4
	2.0nm,0.9s,baz=353,slow=6.7,SNR=3.6						
NVAR	Mina Array Bea	80.80	50	P	P	01 04 11.2	+1.4
	0.2nm,0.5s,baz=302,slow=1.7,SNR=2.2						

*ISCJB **28** 01:05:52.2±0.2, 31°.68S±0°.02×179°.84E±0°.05, h350km, mb4.3/40, Error ellipse: s-maj=6.2km s-min=2.6km az=19.2*
*IDC **28** 01:05:54.1±1.3, 31°.71S×179°.88E, h363km±11km, mb3.9/12, mb1 4.1/15, mb1mx3.8/34, mbtmp4.6/15, Error ellipse: s-maj=16.1km s-min=10.8km az=174.0*
*NEIC **28** 01:05:54.3±2.4, 31°.68S×179°.94E, h368km±5km, mb4.5/37, Error ellipse: s-maj=15.8km s-min=8.0km az=99.0*
*WEL **28** 01:05:54.0, 31°.68S×179°.94E, h367km*

ISC 28 01:05:52.7±0.2, 31°.74S±0°.03×179°.92W±0°.05, h350km, n271, σ1°81/292, mb4.4/37, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.02	35	P	Pn	01 06 51.4	-0.8
RAO	Raoul Island	3.03	35	ePn	Pn	01 06 52.5	+0.1
RAO				eS	S	01 07 42.3	+2.0
RIZ	Raoul Island	3.03	35	P	Pn	01 06 51.8	-0.6
RIZ				S	S	01 07 39.8	-0.5
RIZ	Raoul Island	3.03	35	P	Pn	01 06 51.9	-0.4
RIZ	Raoul Island	3.03	35	P	Pn	01 06 51.3	-1.1
GRZ	Great Barrier	5.91	219	P	Pn	01 07 25.6	+3.3
MXZ	Matakaoa Point	5.99	194	ePn	Pn	01 07 24.9	+1.7
MXZ				eS	S	01 08 35.3	-1.3
MXZ	Matakaoa Point	5.99	194	P	Pn	01 07 24.2	+1.1
MXZ				S	S	01 08 33.4	-3.2
MXZ	Matakaoa Point	5.99	194	P	Pn	01 07 24.4	+1.2
MXZ	Matakaoa Point	5.99	194	P	Pn	01 07 23.4	+0.2
MXZ				S	S	01 08 34.5	-2.1
KUZ	Kuaotunu	6.16	215	P	Pn	01 07 29.0	+3.9
WIZ	White Island	6.24	202	P	Pn	01 07 30.0	+3.9
WIZ	White Island	6.24	202	P	Pn	01 07 29.2	+3.1
HAZ	Te Kaha	6.29	197	P	Pn	01 07 26.2	-0.5
HAZ				S	S	01 08 41.1	-1.8
HAZ	Te Kaha	6.29	197	P	Pn	01 07 27.6	+1.0
WCZ	Waipu Caves	6.34	227	P	Pn	01 07 30.7	+3.4
PKGZ	Pakihiroa	6.35	194	P	Pn	01 07 26.6	-0.8
PKGZ				S	S	01 08 38.2	-6.2
PKGZ	Pakihiroa	6.35	194	P	Pn	01 07 27.0	-0.4
PKGZ				S	S	01 08 36.7	-7.7
OUZ	Omahuta	6.43	236	ePn	Pn	01 07 30.1	+1.8
OUZ				eS	S	01 08 44.0	-2.0
OUZ	Omahuta	6.43	236	P	Pn	01 07 31.2	+2.9
PUZ	Puketiti	6.49	193	P	Pn	01 07 28.1	-0.9
PUZ				S	S	01 08 44.4	-2.9
PUZ	Puketiti	6.49	193	P	Pn	01 07 28.6	-0.3
PUZ	Puketiti	6.49	193	P	Pn	01 07 32.4	+3.4
PUZ				S	S	01 08 44.2	-3.0
WIAZ	Waiheke Island	6.49	218	P	Pn	01 07 33.4	+4.4
RUGZ	Raukumara Rang	6.51	197	P	Pn	01 07 29.2	-0.1
RUGZ				S	S	01 08 45.0	-2.9
RUGZ	Raukumara Rang	6.51	197	P	Pn	01 07 31.7	+2.3
WHRZ	Whale Island	6.61	202	P	Pn	01 07 35.4	+5.0
WHRZ	Whale Island	6.61	202	P	Pn	01 07 33.1	+2.7
TWGZ	Tauwhareparae	6.65	194	P	Pn	01 07 31.1	+0.3
TWGZ				S	S	01 08 51.1	+0.5
TWGZ	Tauwhareparae	6.65	194	P	Pn	01 07 34.6	+3.7
MKAZ	Moumakai	6.71	216	P	Pn	01 07 35.7	+4.1
OPRZ	Ohinepanea	6.74	204	P	Pn	01 07 36.0	+4.1
OPRZ	Ohinepanea	6.74	204	P	Pn	01 07 35.6	+3.8
MARZ	Manawahe	6.83	203	P	Pn	01 07 37.1	+4.2
WTAZ	Waiatarua	6.89	220	P	Pn	01 07 39.0	+5.3
CNGZ	Carnagh Statio	6.90	192	P	Pn	01 07 34.8	+1.1
CNGZ	Carnagh Statio	6.90	192	P	Pn	01 07 33.5	-0.2
MWZ	Matawai	6.90	197	P	Pn	01 07 32.9	-0.9
MWZ	Matawai	6.90	197	P	Pn	01 07 33.5	-0.3
MWZ	Matawai	6.90	197	P	Pn	01 07 34.9	+1.2
EDRZ	Edgecumbe	6.92	202	P	S	01 09 00.4	+4.1
TKGZ	Te Karaka	6.93	195	P	Pn	01 07 33.3	-0.7
TKGZ	Te Karaka	6.93	195	P	Pn	01 07 33.0	-1.0
TKGZ	Te Karaka	6.93	195	P	Pn	01 07 35.7	+1.6
URZ	Urewera	6.94	200	ePn	Pn	01 07 34.2	0.0
URZ				eS	S	01 08 56.5	-0.3
URZ	Urewera	6.94	200	P	Pn	01 07 36.8	+2.6
	10nm,0.3s,baz=262,slow=3.4,SNR=35						
URZ				S	S	01 08 54.6	-2.2
	106nm,0.3s,baz=68,slow=21,SNR=19						
URZ	Urewera	6.94	200	P	Pn	01 07 33.0	-1.2
URZ	Urewera	6.94	200	P	Pn	01 07 36.2	+2.0
URZ	Urewera	6.94	200	P	Pn	01 07 35.3	+1.1
KARZ	Kaharoa	7.01	206	P	Pn	01 07 40.1	+5.1
KARZ	Kaharoa	7.01	206	P	Pn	01 07 38.9	+3.9
OMRZ	Omania	7.04	205	P	Pn	01 07 40.6	+5.2
TOZ	Tahuroa Road	7.06	211	P	Pn	01 07 38.6	+3.0
TARZ	Mount Tarawera	7.11	203	P	Pn	01 07 41.0	+4.7
TARZ	Mount Tarawera	7.11	203	P	S	01 09 03.2	+2.6
HLRZ	Highlands Stat	7.18	204	P	Pn	01 07 43.2	+6.1
RRRZ	Republican Roa	7.20	203	P	Pn	01 07 42.2	+4.9
RIGZ	Rimuhau	7.20	195	P	Pn	01 07 36.8	-0.5
MUGZ	Murupara	7.24	201	P	Pn	01 07 37.1	-0.7
MUGZ	Murupara	7.24	201	P	S	01 09 03.5	+0.2
HSRZ	Hossack Road	7.27	205	P	Pn	01 07 42.5	+4.4
RTZ	Ruatahuna	7.31	199	P	Pn	01 07 38.6	0.0
HRRZ	Handcock Road	7.32	204	P	Pn	01 07 42.3	+3.5
GRRZ	Galatos Road	7.35	205	P	Pn	01 07 43.7	+4.6
SNGZ	Shannon Statio	7.37	197	P	Pn	01 07 41.6	+2.3
PRGZ	Paritu Road	7.38	193	P	Pn	01 07 41.7	+2.3
PRGZ	Paritu Road	7.38	193	P	S	01 09 02.5	-3.8
PRRZ	Plateau Road	7.38	203	P	Pn	01 07 43.0	+3.6
ALRZ	Allen Road	7.46	203	P	Pn	01 07 43.2	+2.9
WPRZ	Whakapapatarin	7.48	204	P	Pn	01 07 45.4	+4.8
WPRZ	Whakapapatarin	7.48	204	P	Pn	01 07 44.1	+3.5
KNZ	Kokohu	7.52	194	P	Pn	01 07 40.1	-0.9
KNZ	Kokohu	7.52	194	P	Pn	01 07 38.9	-2.1
TLZ	Tolley Road	7.55	208	P	Pn	01 07 45.9	+4.5
RAHZ	Arahi	7.56	198	P	Pn	01 07 43.2	+1.7
MTHZ	Maungataniwha	7.57	200	P	Pn	01 07 41.4	-0.2
KUTZ	Kaahu Road	7.58	206	P	Pn	01 07 47.3	+5.5
MHGZ	Mahia Peninsul	7.60	193	P	Pn	01 07 45.7	+3.7
MHGZ	Mahia Peninsul	7.60	193	P	Pn	01 07 41.4	-0.6
WHHZ	Waihua	7.68	197	P	Pn	01 07 44.8	+2.0
WHTZ	Whakaora	7.69	205	P	Pn	01 07 50.3	+7.3
WATZ	Wairara	7.80	206	P	Pn	01 07 50.8	+6.4
NMHZ	Naumai	7.81	199	P	Pn	01 07 46.7	+2.2
HATZ	Hinemaiaia	7.84	203	P	Pn	01 07 48.6	+3.8
ARHZ	Aropaoanui	7.91	198	P	Pn	01 07 45.6	0.0
RATZ	Rangitukua	7.93	205	P	Pn	01 07 49.1	+3.2
BKZ	Black Stump Fm	7.96	201	ePn	Pn	01 07 47.8	+1.5
BKZ				eS	S	01 09 17.1	-1.8
HIZ	Hauiti	7.99	211	ePn	Pn	01 07 48.2	+1.6
HIZ	Hauiti	7.99	211	P	Pn	01 07 52.2	+5.6
KATZ	Kakaramea	8.05	205	P	P	01 07 50.8	+0.3
MCHZ	McNeill Hill	8.16	199	P	Pn	01 07 50.0	+1.4
KRVZ	Karewarewa	8.18	205	P	Pn	01 07 51.0	+2.1
KWHZ	Kaweka Forest	8.22	200	P	Pn	01 07 50.0	+0.7
CKHZ	Cape Kidnapper	8.27	196	P	Pn	01 07 52.2	+2.4
WHVZ	Whangaehu Hut	8.36	205	P	Pn	01 07 52.3	+1.1
WHVZ				S	S	01 09 27.7	-0.3
BHHZ	Black Hill Sta	8.39	202	P	Pn	01 07 50.5	-0.9
MOVZ	Moawhango	8.42	204	P	Pn	01 07 52.0	+0.3
MOVZ				S	S	01 09 25.5	-3.4
KAHZ	Kahuranaki	8.44	197	P	Pn	01 07 51.0	-1.0
MTVZ	Mangateitei	8.50	205	P	Pn	01 07 54.2	+1.6
VRZ	Vera Road	8.55	209	P	P	01 07 56.6	+0.8
PXZ	Pawanui	8.67	197	P	Pn	01 07 55.5	+0.9
PNHZ	Pukenui	8.74	200	P	Pn	01 07 54.1	-1.3
WPHZ	Waipukurau	8.81	199	P	Pn	01 07 57.4	+1.1
PKE	Pukeiti	8.94	212	P	P	01 08 02.0	+1.8
TSZ	Takapari Road	8.94	201	P	Pn	01 07 58.5	+0.6
PRHZ	Porangahau	8.95	197	P	Pn	01 07 59.3	+1.4
LREZ	Lake Rotokare	8.98	209	P	P	01 08 01.3	+0.8
WAZ	Wanganui	9.00	206	P	Pn	01 07 59.6	+1.1
ANWZ	Angora Road	9.17	197	P	Pn	01 08 01.4	+0.8
POWZ	Post Office Ro	9.31	201	P	Pn	01 08 02.6	+0.4
PRWZ	Pori Road	9.40	200	P	Pn	01 08 04.0	+0.7
BFZ	Birch Farm	9.44	198	ePn	Pn	01 08 04.6	+0.8
BFZ				eS	S	01 09 47.2	-4.0
BFZ	Birch Farm	9.44	198	P	Pn	01 08 02.9	-0.9
MRZ	Mangatainoka R	9.61	201	P	Pn	01 08 05.2	-0.6
TIWZ	Tintock	9.63	199	P	Pn	01 08 06.9	+0.8
CPWZ	Castlepoint	9.67	198	P	Pn	01 08 08.6	+2.2
HOWZ	Holdsworth Sta	9.85	201	P	Pn	01 08 05.8	-2.9
OGWZ	Otaki Gorge	9.88	202	P	Pn	01 08 08.6	-0.5
TMWZ	Te Maipa	9.93	199	P	Pn	01 08 09.7	0.0
KIW	Kapiti Island	10.01	203	P	Pn	01 08 08.7	-1.9
MTW	Mount Morrison	10.09	200	P	Pn	01 08 10.9	-0.6
CAW	Cannon Point	10.18	202	P	Pn	01 08 11.3	-1.3
TRWZ	Traveller	10.26	199	P	Pn	01 08 14.1	+0.6
DUWZ	D'Urville Isla	10.31	207	P	Pn	01 08 13.2	-1.0
PAWZ	Paruwai Farm	10.32	200	P	Pn	01 08 12.8	-1.5
MSWZ	Moikau Station	10.40	201	P	Pn	01 08 14.9	-0.3
SNOO	South Karori	10.48	203	ePn	Pn	01 08 14.8	-1.5
BHW	Baring Head	10.51	202	P	Pn	01 08 15.7	-0.8
TCW	Tory Channel	10.54	205	P	Pn	01 08 15.9	-1.0
PLWZ	Palliser	10.54	200	P	Pn	01 08 16.3	-0.7
TUWZ	Tuamarina	10.85	205	P	Pn	01 08 20.5	0.0
NNZ	Nelson	10.88	208	P	Pn	01 08 19.8	-1.2
QRZ	Quartz Range	10.91	212	P	Pn	01 08 20.2	-1.2
BSWZ	Blackbirch Sta	11.12	205	P	Pn	01 08 22.9	-0.9
THZ	Tophouse	11.53	208	eP	Pn	01 08 27.4	-1.3
KHZ	Kahutara	11.86	204	eP	P	01 08 31.4	-1.1
CTZ	Chatham Island	12.25	169	P	Pn	01 08 51.1	+14
OXZ	Oxford	13.20	207	eP	P	01 08 46.3	-1.0
OXZ				eS	S	01 11 04.5	-7.6
CRLZ	Canterbury Las	13.20	204	eP	P	01 08 46.1	-1.2
CRLZ				eS	S	01 11 01.5	-10
RPZ	Rata Peaks	13.91	208	eP	P	01 08 53.3	-1.9
RPZ				eS	S	01 11 21.4	-5.1
RPZ	Rata Peaks	13.91	208	P	P	01 08 55.6	+0.4
	1.8nm,0.3s,baz=1.2,slow=2.3,SNR=4.5						
RPZ				S	S	01 11 19.5	-7.0
	13nm,0.3s,baz=29,slow=16,SNR=23						
FOZ	Fox Glacier	14.29	212	eP	P	01 08 59.5	+0.2
PINNC	Pines Island,	14.45	306	eP	P	01 09 00.9	-0.3
ODZ	Otahua Downs	15.18	206	eP	P	01 09 08.2	-0.9
	49nm,1.2s						
ODZ				eS	S	01 11 47.9	-4.1
DZM	Mont Dzumac	15.50	305	eP	P	01 09 13.8	+0.9
	58nm,0.8s						
DZM	Mont Dzumac	15.50	305	P	P	01 09 13.0	+0.1
	1.4nm,0.3s,baz=128,slow=16,SNR=12						
LHI	Lord Howe Isla	17.90	265	eP	P	01 09 40.0	+1.5
	84nm,0.8s						
ARMA	Armidale	24.37	266	eP	P	01 10 41.0	+0.5
	31nm,1.4s						
EIDS	Eidsvold	26.20	277	eP	P	01 10 53.1	-3.7
	24nm,1.3s						
TOO	Toolangi	28.93	249	eP	P	01 11 21.8	+1.0
	12nm,1.1s						
KNTN	Kanton	29.83	17	eP	P	01 11 28.0	-0.8
	43nm,0.9s						
CTA	Charters Tower	32.43	283	P	P	01 11 51.6	+0.2
	9.3nm,0.6s,baz=119,slow=9.9,SNR=6.4						
CTAO	Charters Tower	32.43	283	eP	P	01 11 51.1	-0.4
	9.9nm,0.6s						
STKA	Stephens Creek	32.59	259	eP	P	01 11 53.7	+1.1
	1.5nm,0.8s						
STKA	Stephens Creek	32.59	259	P	P	01 11 53.2	+0.6
	4.7nm,0.4s,baz=100,slow=11,SNR=14						
BBOO	Buckleboo	37.03	256	eP	P	01 12 29.4	-1.0
	12nm,1.1s						
AS31	Alice Springs	41.41	269	eP	P	01 13 06.0	-0.4
	1.4nm,0.8s						
AS31				eScP	ScP	01 18 10.2	-2.6
ASAR	Alice Springs	41.41	269	P	P

4.0nm,0.9s
GLA Glamis 89.02 50 *e*P **P 01 18 11.1 +2.4**
18nm,0.8s
AFDM Forest Hills D 89.15 42 *e*P **P 01 18 10.9 +1.8**
5.8nm,1.2s
WAKR Walker 89.73 43 *e*P **P 01 18 13.8 +1.8**
13nm,1.5s
YBH Yreka Blue Hor 90.11 39 P **P 01 18 14.2 +0.7**
1.9nm,0.8s,baz=180,slow=4.0,SNR=4.5
BEKR Beckworth 90.12 42 *e*P **P 01 18 13.9 +0.2**
7.0nm,1.5s
BEKR *e*pP **pwP 01 19 42.3 +4.7**
NV01 Mina Array Sit 90.34 44 *e*P **P 01 18 15.5 +0.6**
NVAR Mina Array Bea 90.34 44 P **P 01 18 15.5 +0.6**
2.3nm,0.7s,baz=220,slow=7.8,SNR=16
KVN Kaiserville 90.87 43 *e*P **P 01 18 18.5 +1.2**
2.6nm,0.8s
TUC Tucson 91.24 52 *e*P **P 01 18 21.7 +2.8**
3.3nm,0.8s
PINE Pine Mountain 92.47 38 *e*P **P 01 18 26.3 +1.8**
21nm,1.3s
U15A North Rim 92.75 48 *e*P **P 01 18 27.6 +1.4**
3.2nm,0.8s
PSUT Pine Spring 93.08 46 *e*P **P 01 18 29.0 +1.4**
LTX Lajitas 94.50 58 *e*P **P 01 18 34.7 +0.7**
TXAR Lajitas Array 94.50 58 P **P 01 18 34.7 +0.7**
0.4nm,0.8s,baz=244,slow=5.4,SNR=4.2
TMUT Trail Mountain 95.18 47 *e*P **P 01 18 40.2 +3.0**
39nm,0.5s
SUA Susitna One 95.86 14 *e*P **P 01 18 39.7 +0.3**
6.4nm,0.7s
GLI Glacier Island 96.11 15 *e*P **P 01 18 41.2 +0.8**
8.3nm,0.7s
GHO Glory Hole Cre 96.51 14 *e*P **P 01 18 43.0 +0.6**
8.6nm,0.7s
SCM Sheep Creek Mo 96.91 15 *e*P **P 01 18 45.2 +1.0**
8.2nm,0.8s
PD31 Pinedale Array 98.24 44 *e*P Pdif 01 18 51.2 +0.4
2.7nm,1.5s
PDAR Pinedale Array 98.24 44 P Pdif 01 18 51.2 +0.4
0.2nm,0.5s,baz=181,slow=3.6,SNR=3.3
CCB Clear Creek Bu 99.31 13 *e*Pdif **Pdif 01 18 54.8 +0.1**
1.8nm,0.6s
ILAR Eielson Array 99.61 14 P **Pdif 01 18 55.8 -0.2**
0.8nm,0.7s,baz=212,slow=4.9,SNR=7.2
ILAR PKiKP **PKiKP 01 23 21.9 -1.0**
0.9nm,0.7s,baz=258,slow=2.3,SNR=7.0
ILB Eielson Array 99.61 14 *e*Pdif **Pdif 01 18 55.8 -0.2**
1.9nm,1.0s
ILB *e*PKiKP **PKiKP 01 23 21.9 -1.0**
INK Inuvik 105.52 16 PKiKP **PKiKP 01 23 31.9 -1.6**
1.0nm,0.6s,baz=258,slow=4.4,SNR=5.8
YKA Yellowknife Ar 107.37 26 PKiKP **PKiKP 01 23 36.3 -0.7**
0.7nm,0.5s,baz=248,slow=1.5,SNR=15
YKB5 Yellowknife Ar 107.37 26 *e*PKiKP **PKiKP 01 23 36.3 -0.7**
BOSA Boshof 115.37 204 PKKPab PKKPab 01 34 34.7 -3.3
1.9nm,0.6s,baz=315,slow=5.7,SNR=5.4
MK32 Makanchi Array 117.37 310 *e*PKPdf **PKPdf 01 23 54.9 -1.7**
MK32 *e*SP SP 01 34 22.4 +0.3
MKAR Makanchi Array 117.37 310 PKP **PKPdf 01 23 54.9 -1.7**
1.1nm,0.8s,baz=64,slow=2.8,SNR=6.2
MKAR PKKPbc **PKKPbc 01 34 22.4 +0.9**
0.5nm,0.5s,baz=282,slow=3.6,SNR=6.7
ZALV Zalesovo Beam 117.93 318 PKP **PKPdf 01 23 56.3 -1.1**
0.9nm,0.4s,baz=172,slow=2.9,SNR=2.7
ZAA1 Zalesovo Array 117.93 318 *e*PKPdf **PKPdf 01 23 56.3 -1.1**
RES Resolute Bay 119.02 18 *e*PKPdf **PKPdf 01 23 57.9 -1.0**
RES Resolute Bay 119.02 18 PKP **PKPdf 01 23 57.6 -1.3**
4.7nm,0.7s,baz=211,slow=3.7,SNR=24
NRIK Noril'sk 120.18 336 PKP **PKPdf 01 24 00.2 -1.1**
2.5nm,0.4s,baz=90,slow=2.3,SNR=7.1
KURK Kurchatov 120.78 314 *e*PKPdf **PKPdf 01 24 01.8 -1.2**
KMBO Kilima Mbogo 131.95 234 SKPbc **SKPbc 01 27 16.9 -1.7**
2.7nm,0.6s,baz=83,slow=4.6,SNR=8.3
GEYT Alibeck 132.62 294 SKPbc **SKPbc 01 27 17.4 -2.3**
5.1nm,0.9s,baz=156,slow=1.4,SNR=10
ARCES ARCESS Array B 139.53 347 PKhKP PKPpre 01 24 30.9
2.5nm,0.7s,baz=39,slow=2.2,SNR=13
ARCES PKP **PKPdf 01 24 37.5 -0.4**
4.0nm,0.6s,baz=77,slow=2.5,SNR=15
ARCES SKPbc **SKPbc 01 27 38.5 -1.2**
2.1nm,0.8s,baz=73,slow=4.0,SNR=3.8
KTK1 Kautokeino 140.41 347 *e*PKPdf **PKPdf 01 24 38.5 -0.9**
TRO Tromso 140.60 350 *e*PKPdf **PKPdf 01 24 39.1 -0.6**
STEI Steigen 142.70 351 *e*PKPdf **PKPdf 01 24 43.1 -0.4**
KONS Konsvik 144.34 351 *e*PKPbc **PKPab 01 24 45.0 -0.7**
KBZ Khabaz 144.45 302 PKP **PKPab 01 24 46.0 -0.8**
2.8nm,0.9s,baz=104,slow=5.2,SNR=4.5
MOR8 Moi Rana 144.46 350 *e*PKPbc **PKPab 01 24 44.5 -1.7**
OBN Obninsk 145.29 323 *e*PKPdf **PKPdf 01 24 48.3 -0.2**
FIA1 FINESS Array S 145.80 338 *e*PKPdf **PKPdf 01 24 49.4 +0.3**
FIA0 FINESS Array S 145.80 338 *e*PKPdf **PKPdf 01 24 49.2 +0.1**
FIA0 *e*SKPbc **SKPbc 01 27 54.3 -0.9**
FINES FINESS Array B 145.80 338 PKPbc **PKPdf 01 24 49.2 +0.1**
28nm,0.7s,baz=66,slow=4.6,SNR=89
FINES SKPbc **SKPbc 01 27 54.3 -0.9**
1.8nm,0.6s,baz=70,slow=1.6,SNR=3.6
NSS Namsos 146.36 351 *e*PKPdf **PKPdf 01 24 49.5 -0.5**
VSU Vasula 147.74 334 *e*P **PKPdf 01 24 54.6 +2.1**
VSU IAmb IAmb 01 24 56.0
comp=Z,64nm,0.5s
TBLU Trondheim 147.81 351 *e*PKPbc **PKPdf 01 24 54.9 +2.4**
MOL Molde 148.78 353 *e*PKPbc **PKPdf 01 24 57.2 +3.2**
DOMB Dombas 149.13 352 *e*PKPbc **PKPbc 01 24 58.8 -0.5**
AKN Aaknes 149.22 354 *e*PKPbc **PKPbc 01 24 59.1 -0.4**
NC303 NORSAR Array S 149.59 349 *e*PKPbc **PKPbc 01 24 59.6 -0.8**
NC204 NORSAR Array S 149.64 350 *e*PKPbc **PKPbc 01 24 60.0 -0.6**
NC405 NORSAR Array S 149.64 349 *e*PKPbc **PKPbc 01 24 59.9 -0.6**
NB201 NORSAR Array S 149.77 349 *e*PKPbc **PKPbc 01 25 00.4 -0.5**
NB201 *e*PKPab **PKPab 01 25 07.1 -0.5**
NB200 NORSAR Array S 149.79 349 *e*PKPbc **PKPbc 01 25 00.1 -0.8**
NOA NORSAR Array B 149.79 349 PKPbc **PKPbc 01 25 00.1 -0.8**
comp=Z,9.1nm,0.6s,baz=16,slow=4.2,SNR=56
IDID Didziasalis 149.86 329 *e*P **PKPbc 01 25 01.0 -0.2**
IDID IAmb IAmb 01 25 02.7
comp=Z,5.5nm,0.9s
NBO00 NORSAR Array S 149.87 350 *e*PKPbc **PKPbc 01 25 00.8 -0.3**
ISAL Salakas 149.96 330 *e*P **PKPdf 01 24 59.9 +3.7**
ISAL IAmb IAmb 01 25 00.7
comp=Z,4.3nm,0.8s
NC602 NORSAR Array S 150.03 349 *e*PKPbc **PKPbc 01 25 00.5 -1.0**
NC602 NORSAR Array S 150.03 349 *e*PKPbc **PKPbc 01 25 00.7 -0.7**
NAO01 NORSAR Array S 150.03 349 *e*PKPbc **PKPbc 01 25 01.1 -0.4**
IIGN Ignalina 150.06 330 *e*P **PKPbc 01 25 01.6 -0.1**
IIGN IAmb IAmb 01 25 03.2
comp=Z,6.6nm,0.8s
HYA Hoyanger 150.29 354 *e*PKPbc **PKPbc 01 25 01.7 -0.3**
SUE Sulen 150.51 355 *e*PKPbc **PKPbc 01 25 02.3 -0.2**
SKAR Skarslia 150.55 352 *e*PKPbc **PKPbc 01 25 02.9 +0.1**
PABE Paberze 150.90 332 *e*P **PKPbc 01 25 02.9 -0.7**
PABE IAmb IAmb 01 25 03.9
comp=Z,35nm,0.7s
ASK Askoy 151.05 355 *e*PKPbc **PKPbc 01 25 03.5 -0.3**
BER Bergen 151.14 355 *e*PKPbc **PKPbc 01 25 03.8 -0.2**
PBUR Paburg 151.31 334 *e*P **PKPbc 01 25 04.3 -0.2**
PBUR IAmb IAmb 01 25 04.7
comp=Z,27nm,0.8s
AKASG Malin Array Be 151.31 320 PKPbc **PKPbc 01 25 03.9 -0.8**
comp=Z,2.4nm,0.4s,baz=48,slow=2.5,SNR=12
AKBB Malin Array Si 151.31 320 *e*PKPbc **PKPbc 01 25 04.0 -0.7**
KONO Kongsberg 151.37 350 *e*PKPbc **PKPbc 01 25 04.2 -0.3**
KONO Kongsberg 151.37 350 *e*PKPbc **PKPbc 01 25 04.5 0.0**
ODD1 Odda 151.49 353 *e*PKPbc **PKPbc 01 25 04.8 -0.1**
BR101 Keskin Array S 151.74 296 *e*PKPbc **PKPbc 01 25 05.2 -1.1**
BR131 Keskin Array S 151.74 296 *e*PKPbc **PKPbc 01 25 05.1 -1.1**
BRTR Keskin Array B 151.74 296 PKPbc **PKPbc 01 25 05.2 -1.1**
comp=Z,1.4nm,0.7s,baz=138,slow=2.9,SNR=10
BLS5 Blasjo 151.99 353 *e*PKPbc **PKPbc 01 25 05.8 -0.2**
SUW Suwalki 152.27 330 *e*PKPbc **PKPbc 01 25 05.8 -1.0**
KMY Karmoy 152.31 354 *e*PKPbc **PKPbc 01 25 06.5 -0.1**
HOMB Homborsund 152.85 350 *e*PKPbc **PKPbc 01 25 07.8 0.0**
SNART Snartemo 152.96 352 *e*PKPbc **PKPbc 01 25 08.2 0.0**
DBIC Dimbokro 154.63 169 PKP **PKPdf 01 25 04.6 +0.3**
comp=Z,2.3nm,0.6s,baz=86,slow=5.2,SNR=5.0
DBIC PKPbc **PKPbc 01 25 13.6 +0.5**
comp=Z,2.1nm,0.4s,baz=162,slow=2.7,SNR=9.8
CLL Collm 158.25 338 ‖ *i*P **PKPab 01 25 43.5 -0.5**
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 158.30 336 *e*P **PKPab 01 25 43.5 -0.7**
comp=Z,7.0nm,1.4s
GERES GERESS Array B 160.06 333 PKPab **PKPab 01 25 51.5 -0.5**
comp=Z,0.5nm,0.6s,baz=22,slow=5.5,SNR=5.1
TORD Torodi Ar. Bea 161.43 185 PKP **PKPdf 01 25 11.6 -0.8**
comp=Z,1.9nm,0.9s,baz=115,slow=1.6,SNR=14
TORD PKPab **PKPab 01 25 58.0 -0.7**
comp=Z,1.2nm,0.4s,baz=191,slow=2.9,SNR=21
TOA1 Torodi Ar. Sit 161.44 185 *e*PKPdf **PKPdf 01 25 11.6 -0.9**
TOA1 *e*PKPab **PKPab 01 25 58.0 -0.7**
ESDC Sonseca Array 171.43 21 PKP **PKPdf 01 25 18.9 -0.6**
comp=Z,1.0nm,0.8s,baz=356,slow=3.9,SNR=5.4
ESDC PKPab **PKPab 01 26 42.2 -0.2**
comp=Z,1.3nm,0.7s,baz=327,slow=3.9,SNR=9.2

MEX 28 01:12:17.5±1.0, 14°.59N×92°.46W, h57km±12km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.37**	**31**	*e*P	Pn	01 12 26.6	-1.4
THIG				*i* S	Sn	01 12 34.4	-1.1
PCIG		**1.33**	**327**	*e*P	Pn	01 12 39.0	-0.9
PCIG				*i* S	Sn	01 12 53.7	-2.9
CCIG	**Comitan**	**1.72**	**11**	*e*P	Pn	01 12 44.6	-0.6
CCIG				*i* S	Sn	01 13 04.3	-1.9
TGIG		**2.27**	**344**	*e*P	Pn	01 12 52.1	-0.6
TGIG				*i* S	Sn	01 13 18.0	-1.5
CMIG	**Matias Romero**	**3.41**	**317**	*i* P	Pn	01 13 07.6	-0.6
CMIG				*e*S	Sn	01 13 46.1	-1.3

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*IDC **28** 01:12:59.3±1.0, 38°.20N×22°.16E, h0km, mb3.7/9, mb1 3.8/13, mb1mx3.6/47, mbtmp3.7/13, ML3.4/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/33, Error ellipse: s-maj=18.4km s-min=16.8km az=60.0*
*ISCJB **28** 01:13:00.8±0.2, 38°.23N×22°.11E±0°.02, h10km±1km, mb3.6/8, Error ellipse: s-maj=2.4km s-min=2.2km az=153.9*
*ATH **28** 01:13:00.7, 38°.23N×22°.12E, h13km±2km, ML3.5/9, Error ellipse: s-maj=2.2km s-min=0.7km az=312.0*
*THE **28** 01:13:01.0, 38°.23N×22°.12E, h2km±1km, ML3.5/18, Error ellipse: s-maj=1.4km s-min=0.3km az=264.0*
ISC 28 01:13:01.2±0.7, 38°.23N±0°.01×22°.11E±0°.02, h9km±4km, n123, σ1°39/160, mb3.7/8, 12C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIK	**Aliki, Aigiali**	**0.03**	**359**	P	**Pg**	**01 13 02.6**	**-0.3**
ALIK				S	**Sg**	**01 13 02.9**	**-1.2**
LAKA	**Lakka**	**0.11**	**275**	P	**Pg**	**01 13 03.5**	**-0.3**
LAKA				S	**Sg**	**01 13 05.3**	**-0.4**
LAKA	**Lakka**	**0.11**	**275**	P	**Pg**	**01 13 03.6**	**-0.3**
LAKA				S	**Sg**	**01 13 05.3**	**-0.4**
TRIZ	**Trizonia**	**0.14**	**347**	P	**Pg**	**01 13 04.0**	**-0.3**
TRIZ				S	**Sg**	**01 13 05.8**	**-0.7**
TRIZ	**Trizonia**	**0.14**	**347**	P	**Pg**	**01 13 04.1**	**-0.3**
TRIZ				S	**Sg**	**01 13 06.7**	**+0.2**
KALE	**Kalithea**	**0.16**	**8**	P	**Pg**	**01 13 04.6**	**-0.1**
KALE				S	**Sg**	**01 13 07.5**	**+0.3**
KALE	**Kalithea**	**0.16**	**8**	P	**Pg**	**01 13 04.6**	**-0.1**
KALE				S	**Sg**	**01 13 07.6**	**+0.4**
KALE				AML	AML	01 13 07.8	
	comp=N,57303μm,0.2s						
KALE				AML	AML	01 13 09.5	
	comp=E,47192μm,0.2s						
SERG	**Sergoula**	**0.19**	**347**	P	**Pg**	**01 13 04.9**	**-0.3**
SERG				S	**Sg**	**01 13 08.3**	**+0.4**
SERG	**Sergoula**	**0.19**	**347**	P	**Pg**	**01 13 04.9**	**-0.3**
SERG				S	**Sg**	**01 13 08.3**	**+0.4**
SERG				AML	AML	01 13 09.2	
	comp=E,68094μm,0.3s						
SERG				AML	AML	01 13 10.6	
	comp=N,54214μm,0.2s						
KLV	**Kalavryta, Ach**	**0.19**	**171**	P	**Pg**	**01 13 04.8**	**-0.4**
KLV				S	**Sg**	**01 13 07.7**	**-0.2**
KLV	**Kalavryta, Ach**	**0.19**	**171**	P	**Pg**	**01 13 04.8**	**-0.4**
KLV				S	**Sg**	**01 13 08.1**	**+0.2**
KLV				AML	AML	01 13 09.6	
	comp=N,25161μm,0.5s						
KLV				AML	AML	01 13 10.5	
	comp=E,25456μm,0.3s						
EFP	**Efpalio**	**0.26**	**320**	P	**Pg**	**01 13 06.0**	**-0.3**
EFP				S	**Sg**	**01 13 09.9**	**+0.1**
EFP	**Efpalio**	**0.26**	**320**	P	**Pg**	**01 13 06.0**	**-0.3**
EFP				S	**Sg**	**01 13 10.2**	**+0.3**
EFP				AML	AML	01 13 10.3	
	comp=E,42531μm,0.2s						
EFP				AML	AML	01 13 10.4	
	comp=N,29748μm,0.2s						
UPR	**University Cam**	**0.26**	**282**	P	**Pg**	**01 13 06.5**	**0.0**
UPR				S	**Sg**	**01 13 10.8**	**+0.8**
GUR	**Goura**	**0.34**	**148**	P	**Pg**	**01 13 07.4**	**-0.7**
GUR				S	**Sg**	**01 13 12.1**	**-0.5**
GUR	**Goura**	**0.34**	**148**	P	**Pg**	**01 13 07.5**	**-0.5**
GUR				S	**Sg**	**01 13 13.1**	**+0.5**
GUR				AML	AML	01 13 13.6	
	comp=E,44994μm,0.5s						
GUR				AML	AML	01 13 13.7	
	comp=N,54774μm,0.6s						
DSF	**Desfina**	**0.37**	**61**	P	**Pg**	**01 13 08.1**	**-0.5**
DSF				S	**Sg**	**01 13 13.4**	**-0.1**
DSF	**Desfina**	**0.37**	**61**	P	**Pg**	**01 13 08.1**	**-0.5**
DSF				S	**Sg**	**01 13 13.5**	**-0.1**
DSF				AML	AML	01 13 14.9	
	comp=N,13094μm,0.1s						
DSF				AML	AML	01 13 15.2	
	comp=E,11721μm,0.2s						
ANX	**Ano Chora**	**0.39**	**338**	P	**Pg**	**01 13 08.3**	**-0.7**
ANX				S	**Sg**	**01 13 13.9**	**-0.3**
ANX	**Ano Chora**	**0.39**	**338**	P	**Pg**	**01 13 08.5**	**-0.5**
ANX				S	**Sg**	**01 13 14.9**	**+0.7**
ANX				AML	AML	01 13 17.6	
	comp=E,24889μm,0.3s						
ANX				AML	AML	01 13 17.6	
	comp=N,23404μm,0.3s						
DRO	**Drossia**	**0.42**	**229**	P	**Pg**	**01 13 09.0**	**-0.4**
DRO				S	**Sg**	**01 13 15.8**	**+0.8**
DRO	**Drossia**	**0.42**	**229**	P	**Pg**	**01 13 09.1**	**-0.4**
DRO				S	**Sg**	**01 13 16.0**	**+1.0**
DRO				AML	AML	01 13 18.5	
	comp=E,40577μm,0.3s						
DRO				AML	AML	01 13 18.8	
	comp=N,33242μm,0.5s						
RLS	**Riolos of Patr**	**0.54**	**251**	P	**Pg**	**01 13 10.9**	**-0.7**
RLS				S	**Sg**	**01 13 19.2**	**+0.5**
RLS	**Riolos of Patr**	**0.54**	**251**	P	**Pg**	**01 13 11.2**	**-0.5**
AXS	**Araxos**	**0.58**	**267**	P	**Pg**	**01 13 12.1**	**-0.3**
AXS	**Araxos**	**0.58**	**267**	P	**Pg**	**01 13 12.1**	**-0.3**
AXS				S	**Sg**	**01 13 20.8**	**+0.7**
AXS				AML	AML	01 13 23.2	
	comp=N,7386μm,0.4s						
AXS				AML	AML	01 13 23.7	
	comp=E,7268μm,0.3s						
PVO	**Paravola**	**0.60**	**310**	P	**Pg**	**01 13 12.2**	**-0.6**
PVO				S	**Sg**	**01 13 21.0**	**+0.3**
PVO	**Paravola**	**0.60**	**310**	P	**Pg**	**01 13 12.3**	**-0.5**
LTK	**Loutraki**	**0.70**	**107**	P	**Pg**	**01 13 14.0**	**-0.8**
LTK				S	**Sg**	**01 13 24.2**	**+0.2**
TRIP	**Tripoli**	**0.71**	**170**	P	**Pg**	**01 13 14.2**	**-0.7**
EVR	**Evrytania**	**0.72**	**341**	P	**Pg**	**01 13 14.2**	**-1.0**
EVR	**Evrytania**	**0.72**	**341**	P	**Pg**	**01 13 14.6**	**-0.6**
AMT	**Artemida-Makis**	**0.77**	**205**	P	**Pg**	**01 13 15.2**	**-0.8**
AMT				S	**Sb**	**01 13 27.1**	**-0.1**
AGG	**Agios Georgios**	**0.81**	**12**	P	**Pg**	**01 13 15.8**	**-1.0**
AGG				S	**Sg**	**01 13 27.3**	**-0.1**
AGG	**Agios Georgios**	**0.81**	**12**	P	**Pg**	**01 13 15.8**	**-1.0**
LKR	**Lokris**	**0.81**	**59**	P	**Pg**	**01 13 15.7**	**-1.2**
LKR				S	**Sg**	**01 13 27.6**	**+0.1**
LKR	**Lokris**	**0.81**	**59**	P	**Pg**	**01 13 16.1**	**-0.8**
ATAL	**Atalanti**	**0.85**	**57**	P	**Pg**	**01 13 16.0**	**-1.6**
ATAL				S	**Sb**	**01 13 29.7**	**+0.1**
VLX	**Vlachokerasia**	**0.88**	**166**	P	**Pg**	**01 13 16.8**	**-1.4**
VLX				S	**Sb**	**01 13 30.2**	**-0.5**
KFL	**Anninata**	**1.05**	**264**	P	**Pg**	**01 13 20.5**	**-0.9**
ITM	**Ithomi**	**1.06**	**188**	P	**Pg**	**01 13 20.1**	**-1.5**
ITM				S	**Sb**	**01 13 36.2**	**+0.6**
ITM	**Ithomi**	**1.06**	**188**	P	**Pg**	**01 13 20.2**	**-1.3**
SMIA	**Simia**	**1.08**	**53**	P	**Pg**	**01 13 20.9**	**-1.0**
DID	**Didima**	**1.15**	**129**	P	**Pg**	**01 13 22.1**	**-1.1**
KRND	**KRANIDI**	**1.18**	**136**	P	**Pg**	**01 13 22.7**	**-1.1**
VLS	**Valsamata**	**1.20**	**268**	P	**Pg**	**01 13 23.1**	**-1.2**
FSK	**Fiskardo**	**1.24**	**281**	P	**Pg**	**01 13 23.7**	**-1.3**
MRKA	**Markates**	**1.25**	**67**	P	**Pg**	**01 13 24.7**	**-0.5**
LKD2	**Lefkada island**	**1.27**	**296**	P	**Pg**	**01 13 24.0**	**-1.6**
TSLK	**Tsoukalades, L**	**1.29**	**298**	P	**Pg**	**01 13 24.7**	**-1.2**
THL	**Klokotos Trika**	**1.33**	**357**	P	**Pg**	**01 13 25.8**	**-1.0**
THL	**Klokotos Trika**	**1.33**	**357**	P	**Pg**	**01 13 25.8**	**-1.0**
FYTO	**Fytoko, Volos**	**1.34**	**29**	P	**Pg**	**01 13 25.9**	**-1.1**
PYL	**PYLOS**	**1.36**	**193**	P	**Pn**	**01 13 25.7**	**-0.7**
VLY	**Voula,Athens**	**1.38**	**105**	P	**Pb**	**01 13 27.3**	**+0.1**
NEO	**Neokhori**	**1.38**	**39**	P	**Pn**	**01 13 26.2**	**-0.5**
PTL	**Penteli**	**1.39**	**97**	P	**Pn**	**01 13 26.6**	**-0.2**
XOR	**Xorichti**	**1.41**	**36**	P	**Pn**	**01 13 26.6**	**-0.5**
DION	**Dionisos Attik**	**1.44**	**95**	P	**Pn**	**01 13 27.4**	**-0.1**
EREA	**Eretria**	**1.44**	**82**	P	**Pn**	**01 13 27.7**	**+0.2**
LRSO	**Larissa Observ**	**1.46**	**9**	P	**Pn**	**01 13 27.3**	**-0.3**
VLI	**Veliai**	**1.65**	**156**	P	**Pn**	**01 13 30.1**	**-0.2**
JAN	**Janina**	**1.73**	**326**	P	**Pb**	**01 13 32.9**	**-0.3**
KPRO	**Kipourio**	**1.82**	**342**	P	**Pn**	**01 13 32.0**	**-0.7**
LIT	**Litokhoron**	**1.89**	**9**	P	**Pn**	**01 13 33.2**	**-0.5**
KZN	**Kozani**	**2.09**	**353**	P	**Pn**	**01 13 37.2**	**+0.7**
KTHR	**Kythira**	**2.09**	**160**	P	**Pn**	**01 13 37.8**	**+1.4**
FNA	**Florina**	**2.61**	**348**	P	**Pn**	**01 13 44.2**	**+0.6**
SOH	**Sokhos**	**2.76**	**20**	P	**Pn**	**01 13 46.1**	**+0.4**
BIA	**Bitola**	**2.85**	**348**	*i* Pn	**Pb**	**01 13 50.9**	**-1.4**
APE	**Apeiranthos**	**2.95**	**112**	⇑ *i*P	**Pn**	**01 13 50.7**	**+2.4**
APE	**Apeiranthos**	**2.95**	**112**	S	**Sn**	**01 14 25.8**	**+2.0**
OHR	**Ohrid**	**3.05**	**341**	*i* Pn	**Pg**	**01 13 58.3**	**-1.4**
VAY	**Valandovo**	**3.11**	**6**	*i* Pn	**Pn**	**01 13 52.6**	**+2.2**
KRUS	**Krusevo**	**3.20**	**348**	*i* Pn	**Pn**	**01 13 54.1**	**+2.3**
SANT	**Santorini**	**3.25**	**124**	⇑ *i*P	**Pb**	**01 13 57.4**	**-1.7**
SANT	**Santorini**	**3.25**	**124**	S	**Sn**	**01 14 34.4**	**+3.2**
TIR	**Tirane**	**3.56**	**332**	⇑ *i*P	**Pn**	**01 13 58.2**	**+1.6**
EZN	**Ezine**	**3.65**	**63**	⇑ *i*P	**Pn**	**01 13 59.3**	**+1.5**
IDI	**Anoyia**	**3.69**	**142**	Pn	**Pn**	**01 13 57.7**	**-0.7**
	comp=E,1.5nm,0.3s,baz=311,slow=18,SNR=6.3						
IDI				Sn	**Sn**	**01 14 39.8**	**-2.2**
	comp=E,3.7nm,0.3s,baz=359,slow=14,SNR=4.4						
LAST	**Lasithi**	**4.09**	**138**	P	**Pn**	**01 14 04.2**	**+0.3**
TIP	**Timpagrande**	**4.29**	**284**	P	**Pn**	**01 14 08.4**	**+1.6**
TIP	**Timpagrande**	**4.29**	**284**	‖ *i*P	**Pn**	**01 14 09.0**	**+2.2**
TIP	**Timpagrande**	**4.29**	**284**	S	**Sn**	**01 14 59.8**	**+2.8**
VTS	**Vitosha**	**4.47**	**11**	⇑ *i*P	**Pn**	**01 14 11.3**	**+2.1**
VTS	**Vitosha**	**4.47**	**11**	S	**Sn**	**01 15 03.8**	**+2.5**
FASA	**Fasano**	**4.50**	**307**	*e*Pn	**Pn**	**01 14 13.4**	**+4.0**
MASS	**Massafra**	**4.53**	**304**	*e*Pn	**Pn**	**01 14 10.9**	**+0.9**
PDG	**Podgorica**	**4.73**	**333**	⇑ *i*P	**Pn**	**01 14 13.9**	**+1.3**
PDG	**Podgorica**	**4.73**	**333**	S	**Sn**	**01 15 08.8**	**+1.2**
MATE	**Matera**	**4.83**	**302**	‖ *i*P	**Pn**	**01 14 16.7**	**+2.6**
MATE	**Matera**	**4.83**	**302**	S	**Sn**	**01 15 11.0**	**+0.9**
SG1	**Sgolgore (BA)**	**4.94**	**304**	*e*Pn	**Pn**	**01 14 16.4**	**+0.8**
SG1				Sn	**Sn**	**01 15 10.2**	**-2.7**
BAI	**Bari**	**4.96**	**307**	*e*Pn	**Pn**	**01 14 17.3**	**+1.6**
STON	**Ston**	**5.72**	**325**	*e*Pn	**Pn**	**01 14 26.4**	**+0.1**
STON				Sn	**Sn**	**01 15 29.7**	**-2.4**
MDVR	**Moldovita**	**6.55**	**358**	⇑ *i*P	**Pn**	**01 14 41.7**	**+4.0**
ARR	**Arges**	**7.38**	**14**	‖ *i*P	**Pn**	**01 14 51.8**	**+2.7**
VOIR		**7.53**	**16**	‖ *i*P	**Pn**	**01 14 53.1**	**+2.0**
MLR	**Muntele Rosu**	**7.80**	**20**	⇑ *i*P	**Pn**	**01 14 57.9**	**+3.0**
MLR	**Muntele Rosu**	**7.80**	**20**	Pn	**Pn**	**01 14 57.2**	**+2.3**
	comp=E,0.4nm,0.3s,baz=170,slow=18,SNR=9.8						
DOPR	**Dopca**	**8.11**	**16**	⇑ *i*P	**Pn**	**01 15 01.5**	**+2.5**
PLOR	**Plostina**	**8.33**	**22**	⇑ *i*P	**Pn**	**01 15 04.7**	**+2.6**
NVLJ	**Novalja**	**8.34**	**322**	*e*Pn	**Pn**	**01 15 04.5**	**+2.3**
VRI	**Vrincioaia**	**8.37**	**23**	⇑ *i*P	**Pn**	**01 15 04.8**	**+2.2**
BRTR	**Keskin Array B**	**9.10**	**77**	Pn	**Pn**	**01 15 14.8**	**+1.9**
	comp=E,0.3nm,0.3s,baz=260,slow=13,SNR=14						
PSZ	**Piszkesteto**	**9.82**	**351**	⇑ *i*P	**Pn**	**01 15 24.4**	**+1.9**
SOKA	**Soboth**	**9.93**	**331**	*e*Pn	**Pn**	**01 15 25.5**	**+1.5**
	comp=E,1.0nm,0.4s						
SOKA				Sn	**Sn**	**01 17 13.7**	**-1.8**
	comp=E,0.6nm,0.3s						
VYHS	**Vyhne**	**10.53**	**348**	*e*PN	**Pn**	**01 15 36.3**	**+4.1**
MODS	**Modra-Piesok**	**10.73**	**342**	*e*PN	**Pn**	**01 15 38.8**	**+3.8**
ABTA	**Abfaltersbach**	**11.07**	**323**	Pn	**Pn**	**01 15 42.6**	**+2.9**
	comp=E,1.2nm,0.4s						
ABTA				Sn	**Sn**	**01 17 41.6**	**-1.9**
	comp=E,2.9nm,0.8s						
WTTA	**Wattenberg**	**11.86**	**323**	*e*Pn	**Pn**	**01 15 53.0**	**+2.5**
	comp=E,0.9nm,0.2s						
SQTA	**Sankt Quirin**	**12.03**	**322**	*e*Pn	**Pn**	**01 15 54.4**	**+1.5**
	comp=E,3.0nm,0.5s						
GERES	**GERESS Array B**	**12.23**	**333**	Pn	**Pn**	**01 15 56.8**	**+1.3**
	comp=E,0.1nm,0.3s,baz=140,slow=14,SNR=2.3						
GERES				LR	LR	01 21 31.9	
	comp=E,92nm,19.9s,baz=310,slow=42						
ESDC	**Sonseca Array**	**20.31**	**282**	P	**P**	**01 17 37.9**	**+0.4**
	comp=E,3.6nm,0.7s,baz=74,slow=11,SNR=25						
HFS	**Hagfors**	**22.57**	**349**	P	**P**	**01 18 01.5**	**+0.1**
	comp=E,1.6nm,0.8s,baz=163,slow=15,SNR=4.6						
FINES	**FINESS Array B**	**23.37**	**5**	P	**P**	**01 18 08.5**	**-1.2**

NVNR				*e*Sg	Sn	01 46 17.6	0.0
SOC	**Sochi**	**1.50**	**286**	*i* Pg	Pn	01 45 59.6	+0.7
SOC				*e*Sg	Sg	01 46 20.8	+1.1
LSNR	**Lesken**	**1.56**	**86**	*e*Pg	Pg	01 46 02.2	+0.6
LSNR				*e*Sg	Sg	01 46 23.5	+1.6
BATM	**Batumi**	**1.57**	**180**	P	Pb	01 46 00.2	-0.9
BATM				S	Sg	01 46 23.0	+0.8
LABN	**Labinsk**	**1.62**	**335**	*e*Pg	Pg	01 46 03.5	+0.8
LABN				*i* Sg	Sg	01 46 25.1	+1.3
ZEI	**Tsey**	**1.67**	**103**	*e*Pg	Pg	01 46 05.7	+2.0
DBOC	**Borcka**	**1.83**	**181**	IAML_P			
	comp=Z,689nm,0.2s						
DBOC				*i* P	Pb	01 46 04.3	-1.2
DBOC				*i* S	Sn	01 46 25.2	-1.8
EPOS	**Posof**	**1.84**	**155**	*i* P	Pb	01 46 05.3	-0.4
EPOS				*i* S	Sg	01 46 29.0	-1.8
LZRR	**Lazarevskoye**	**1.84**	**295**	*e*Pg	Pb	01 46 05.4	-0.3
LZRR				*e*Sg	Sg	01 46 31.8	+1.0
ARNR	**Ardon**	**1.90**	**89**	*e*Pg	Pg	01 46 08.8	+0.8
LACR	**Lac**	**1.94**	**100**	*e*Pg	Pg	01 46 08.6	-0.3
ARTV	**Artvin**	**2.00**	**175**	IAML_P			
	comp=Z,1μm,0.2s						
ARTV				*i* P	Pn	01 46 05.2	-0.9
ARTV				*i* S	Sn	01 46 30.2	-1.3
DAGI	**Agillar**	**2.10**	**175**	IAML_P			
	comp=Z,223nm,0.2s						
DAGI				*i* P	Pb	01 46 08.4	-1.8
DAGI				*i* S	Sn	01 46 32.9	-1.0
DBAD	**Bademkaya**	**2.16**	**180**	IAML_P			
	comp=Z,384nm,0.2s						
DBAD				*i* P	Pn	01 46 08.6	+0.5
DDEM	**Demirkent**	**2.29**	**179**	IAML_P			
	comp=Z,750nm,0.2s						
DDEM				*i* P	Pn	01 46 08.1	-1.8
BGD	**Bogdanovka**	**2.38**	**143**	P	Pb	01 46 13.8	-1.1
BGD				S	Sb	01 46 45.0	+0.4
MACK	**Trabzon**	**2.65**	**213**	IAML_P			
	comp=Z,1μm,0.1s						
MACK				*i* P	Pn	01 46 14.5	-0.3
MACK				*i* S	Sn	01 46 46.2	-1.0
ERBR	**Yeremizino-Bor**	**2.68**	**342**	*e*Pn	Pb	01 46 20.7	+0.8
ERBR				*e*Sn	Sb	01 46 55.3	+2.3
BAYB	**BAYBURT**	**3.11**	**201**	IAML_P			
	comp=Z,114nm,0.3s						
BAYB				*i* P	Pn	01 46 22.7	+1.4
BAYB				*i* S	Sn	01 46 59.7	+0.9

IEPN ***28*** *02:14:23.0, 79°.22N×4°.67E, h15km*
NAO ***28*** *02:14:25.1±2.8, 78°.86N×5°.28E, ML2.9*
BER ***28*** *02:14:27.9±2.4, 78°.84N×5°.52E, h10km, ML2.4, ML2.9(NAO), Confirmed Earthquake*

ISC 28 02:14:20.9±3.0, 79°.23N±0°.08×4°.7E±0°.1, h13km±11km, n13, σ1°94/25, 3D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.41**	**99**	Pg	Pg	02 14 48.0	-0.1
KBS				Lg	Lg	02 15 06.5	
KBS	**Kingsbay**	**1.41**	**99**	‖ *i*P	Pg	02 14 47.9	-0.1
KBS				*i* S	Sb	02 15 06.1	+1.1
KBS	**Kingsbay**	**1.41**	**99**	‖ *i*P	Pg	02 14 47.9	-0.1
KBS				*e*S	Sg	02 15 06.4	0.0
KBS				IAML		02 15 09.4	
	comp=Z,92nm,0.3s						
BRBA	**Barentsburg A**	**2.22**	**117**	Pn	Pn	02 14 58.9	+1.5
BRBA				Pg	Pb	02 15 00.5	-0.3
BRBA				Sn	Sn	02 15 25.7	+1.2
BRBA				Lg	Lg	02 15 27.8	
BRBA	**Barentsburg A**	**2.22**	**117**	Pn	Pn	02 14 58.9	+1.5
BRBA				Pg	Pb	02 15 00.5	-0.3
BRBA				Sn	Sn	02 15 25.7	+1.2
BRBA				Sg	Sb	02 15 27.8	-0.3
SPA0	**Spitsbergen Ar**	**2.53**	**109**	Pn	Pb	02 15 04.2	-1.9
	baz=299,slow=9.3						
SPA0				Lg	Lg	02 15 38.0	
	baz=281,slow=22						
SPA0	**Spitsbergen Ar**	**2.53**	**109**	‖ *i*P	Pb	02 15 04.1	-1.9
SPA0				*i* S	Sn	02 15 34.8	+2.6
SPA0	**Spitsbergen Ar**	**2.53**	**109**	Pn	Pb	02 15 04.2	-1.9
	baz=299,slow=9.3						
SPA0				Sg	Sb	02 15 38.0	+1.0
	baz=281,slow=22						
SPA0				IAML		02 15 39.2	
	comp=Z,35nm,0.7s						
HSP	**Hornsund**	**3.16**	**129**	Pn	Pn	02 15 11.5	+1.2
HSP				Sn	Sn	02 15 47.3	-0.4
HSPB	**Hornsund (broa**	**3.16**	**130**	*e*P	Pn	02 15 11.5	+1.2
HSPB				*e*S	Sn	02 15 42.8	-5.0
HSPB				*e*		02 15 47.3	
HSPB				IAML		02 15 51.0	
	comp=Z,19nm,0.4s						
HOPEN	**Hopen**	**5.05**	**112**	*e*P	Pn	02 15 38.1	+1.9
HOPEN				*e*S	Sn	02 16 31.4	-2.9
HOPEN				*e*		02 16 35.1	
HOPEN				IAML		02 16 37.0	
	comp=Z,30nm,0.3s						
DAG	**Danmarks Havn**	**5.42**	**255**	*i* P	Pn	02 15 35.9	-5.4
DAG				*e*S	Sn	02 16 28.7	-15
ZFI2	**Zemlya Franca-**	**7.47**	**57**	*e*P	Pn	02 16 11.2	+1.8
ZFI2				*e*S	Sn	02 17 31.1	-2.7
	comp=Z,2.4nm,1.2s						

WEL 28 02:21:27.4, 41°S±1°×17°5E±°, h5km±1km, ML4.0/25, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.21**	**60**	P	Pg	02 21 31.9	+0.4
KIW				S	Sg	02 21 34.4	+0.1
CAW	**Cannon Point**	**0.33**	**116**	P	Pg	02 21 34.8	+0.9
CAW				S	Sg	02 21 39.7	+1.4
TCW	**Tory Channel**	**0.39**	**230**	P	Pb	02 21 36.3	-0.4
TCW				S	Sb	02 21 41.6	-1.4
OGWZ	**Otaki Gorge**	**0.41**	**69**	Pg	Pg	02 21 35.6	+0.4
BHW	**Baring Head**	**0.47**	**161**	P	Pb	02 21 37.9	-0.2
DUWZ	**D'Urville Isla**	**0.59**	**286**	P	Pb	02 21 40.0	-0.2
MSWZ	**Moikau Station**	**0.63**	**136**	P	Pb	02 21 41.1	+0.2
HOWZ	**Holdsworth Sta**	**0.64**	**84**	P	Pg	02 21 40.4	+0.6
MTW	**Mount Morrison**	**0.66**	**107**	P	Pb	02 21 41.2	-0.2
PAWZ	**Paruwai Farm**	**0.71**	**126**	P	Pb	02 21 42.5	+0.2
TUWZ	**Tuamarina**	**0.72**	**230**	P	Pb	02 21 41.9	-0.5
PLWZ	**Palliser**	**0.75**	**144**	P	Pb	02 21 43.6	+0.7
CMWZ	**Cape Campbell**	**0.86**	**204**	P	Pn	02 21 46.1	0.0
TRWZ	**Traveller**	**0.88**	**120**	P	Pn	02 21 46.1	-0.4
OHWZ	**Ohakea**	**0.90**	**33**	P	Pg	02 21 45.0	+0.3
BSWZ	**Blackbirch Sta**	**0.96**	**218**	P	Pb	02 21 47.0	+0.5
NNZ	**Nelson**	**1.01**	**255**	P	Pb	02 21 47.4	0.0
CPWZ	**Castlepoint**	**1.16**	**88**	P	Pn	02 21 51.0	+0.7
BFZ	**Birch Farm**	**1.23**	**77**	P	Pb	02 21 51.1	0.0
WAZ	**Wanganui**	**1.23**	**11**	P	Pg	02 21 51.0	0.0
DVHZ	**Dannevirke**	**1.32**	**60**	P	Pn	02 21 52.4	-0.1
TSZ	**Takapari Road**	**1.34**	**48**	P	Pn	02 21 52.6	-0.2
LREZ	**Lake Rotokare**	**1.52**	**352**	P	Pb	02 21 56.2	+0.2
THZ	**Tophouse**	**1.55**	**238**	P	Pb	02 21 56.4	-0.2
PNHZ	**Pukenui**	**1.57**	**49**	P	Pn	02 21 56.3	+0.3
WPHZ	**Waipukurau**	**1.62**	**57**	P	Pb	02 21 57.2	-0.6
QRZ	**Quartz Range**	**1.63**	**274**	P	Pg	02 21 58.3	-0.3
PRHZ	**Porangahau**	**1.65**	**66**	P	Pn	02 21 57.4	+0.3
NMEZ	**Namu Road**	**1.66**	**338**	P	Pg	02 21 59.4	+0.1
PREZ	**Palmer Road**	**1.67**	**346**	P	Pg	02 21 59.5	+0.2
KHZ	**Kahutara**	**1.68**	**210**	P	Pb	02 21 58.5	-0.3
MTVZ	**Mangateitei**	**1.69**	**21**	P	Pb	02 21 59.0	-0.1
KHEZ	**Kahui Hut**	**1.74**	**343**	P	Pb	02 22 00.3	+0.4
PKVZ	**Pokaka**	**1.75**	**17**	P	Pn	02 21 59.0	+0.5
MOVZ	**Moawhango**	**1.76**	**28**	P	Pn	02 21 58.9	+0.3
NBEZ	**Newall Road No**	**1.80**	**340**	P	Pb	02 22 01.4	+0.5
DREZ	**Durham Road**	**1.81**	**348**	P	Pb	02 22 00.4	-0.6
BHHZ	**Black Hill Sta**	**1.82**	**36**	P	Pb	02 22 00.4	-0.8
DRZ	**Dome Shelter**	**1.82**	**22**	P	Pb	02 22 01.1	-0.3
WHVZ	**Whangaehu Hut**	**1.82**	**23**	P	Pb	02 22 00.6	-0.8
FWVZ	**Far West T-bar**	**1.84**	**22**	P	Pn	02 22 00.5	+0.7
VRZ	**Vera Road**	**1.84**	**2**	P	Pb	02 22 00.9	-0.6
PKE	**Pukeiti**	**1.84**	**343**	P	Pg	02 22 02.3	-0.5
KRHZ	**Kereru**	**1.85**	**45**	P	Pn	02 22 00.2	+0.3
TUVZ	**Tukino**	**1.85**	**24**	P	Pb	02 22 01.5	-0.3
MHEZ	**Mangahewa**	**1.90**	**352**	P	Pb	02 22 03.2	+0.6
NGZ	**Ngauruhoe**	**1.92**	**22**	P	Pb	02 22 02.8	-0.2
WTVZ	**West Tongariro**	**1.98**	**21**	P	Pb	02 22 03.0	-0.9
KWHZ	**Kaweka Forest**	**2.04**	**42**	P	Pn	02 22 03.5	+1.0
KAHZ	**Kahuranaki**	**2.05**	**56**	P	Pn	02 22 01.4	-1.1
KATZ	**Kakaramea**	**2.14**	**22**	P	Pb	02 22 06.3	-0.4
MCHZ	**McNeill Hill**	**2.17**	**46**	P	Pg	02 22 08.4	-0.6
RITZ	**Rihia Road**	**2.18**	**25**	P	Pb	02 22 08.2	+0.8
RATZ	**Rangitukua**	**2.26**	**22**	P	Pb	02 22 08.8	+0.1
BKZ	**Black Stump Fm**	**2.28**	**38**	P	Pn	02 22 06.3	+0.6
WATZ	**Wairara**	**2.40**	**20**	P	Pb	02 22 10.5	-0.6
HIZ	**Hauiti**	**2.45**	**3**	P	Pb	02 22 10.2	-1.8
LTZ	**Lake Taylor**	**2.55**	**224**	P	Pn	02 22 10.3	+0.8
MTHZ	**Maungataniwha**	**2.69**	**39**	P	Pn	02 22 11.8	+0.4
TLZ	**Tolley Road**	**2.71**	**15**	P	Pn	02 22 13.9	+2.2
INZ	**Inchbonnie**	**2.98**	**233**	P	Pn	02 22 16.5	+1.1
OKCZ	**Okains Bay**	**3.00**	**203**	P	Pn	02 22 16.6	+0.9
OXZ	**Oxford**	**3.07**	**219**	P	Pn	02 22 17.7	+1.2
MQZ	**McQueen's Vall**	**3.12**	**208**	P	Pn	02 22 15.9	-1.3
TOZ	**Tahuroa Road**	**3.29**	**12**	P	Pn	02 22 21.4	+1.8
WVZ	**Waitaha Valley**	**3.61**	**233**	P	Pn	02 22 25.9	+1.9
RPZ	**Rata Peaks**	**3.84**	**223**	P	Pn	02 22 27.3	+0.2
MKAZ	**Moumakai**	**3.87**	**6**	P	Pn	02 22 29.4	+1.8
MBAZ	**Motutapu North**	**4.19**	**2**	P	Pn	02 22 34.5	+2.5
ODZ	**Otahua Downs**	**5.03**	**215**	P	Pn	02 22 43.9	+0.4
JCZ	**Jackson Bay**	**5.34**	**233**	P	Pn	02 22 48.8	+0.9
CTZ	**Chatham Island**	**7.02**	**116**	P	Pn	02 23 10.4	-0.4

MDD ***28*** *02:25:00.8±2.1, 32°.24N×5°.62W, h0km, mb4.5/16, Error ellipse: s-maj=23.1km s-min=15.2km az=35.0, PRXIMO*
INMG ***28*** *02:25:02.3±1.9, 32°.37N×5°.35W, h11km±10km, ML2.8, Error ellipse: s-maj=10.8km s-min=5.1km az=172.0*
IGIL ***28*** *02:25:03.9, 32°.31N×5°.28W, h24km, ML3.0*

ISC 28 02:25:08.0±2.7, 32°.7N±0°.2×5°.65W±0°.05, h16km, n72, σ1°49/117, 2C-1D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFR	**Ifrane**	**0.94**	**28**	*e*P	Pn	02 25 24.0	-2.7
IFR				*e*S	Sn	02 25 39.9	-0.1
AVE	**Averroes**	**1.60**	**293**	‖ *i*P	Pg	02 25 36.4	-2.5
AVE				*e*S	Sg	02 26 03.9	+4.1
ECEU	**Ceuta**	**3.22**	**4**	P	Pn	02 25 59.0	+1.1
	3.9nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.76**	**2**	P	Pn	02 26 05.4	+0.1
	SNR=7.9						
EMIJ	**Mijas**	**3.94**	**10**	P	Pn	02 26 04.5	-3.3
	1.5nm,0.2s,SNR=13						
EMIJ				S	Sn	02 26 53.5	-0.3
	2.7nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.18**	**358**	P	Pn	02 26 10.9	-0.2
	1.5nm,0.1s,SNR=8.8						
ESPR				S	Sn	02 27 02.4	+2.8
	5.6nm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**4.50**	**21**	P	Pn	02 26 13.3	-2.2
	0.8nm,0.1s,SNR=7.9						
ELGU				S	Sn	02 27 06.6	-1.0
	0.3nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**4.60**	**16**	P	Pn	02 26 15.5	-1.5
	0.2nm,0.2s,SNR=7.9						
EGOR				S	Sn	02 27 17.0	+6.9
	1.0nm,0.1s,SNR=7.9						
EBER	**Berja**	**4.78**	**28**	P	Pn	02 26 22.6	+3.0
	1.8nm,0.3s,SNR=5.5						
EBER				S	Sn	02 27 18.4	+3.7
	0.9nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.87**	**21**	P	Pn	02 26 21.0	+0.5
	0.7nm,0.1s,SNR=7.9						
PBDV	**Barranco-de-Ve**	**4.92**	**338**	*e*Pn	Pn	02 26 20.6	-0.7
PBDV				*e*Sn	Sn	02 27 18.2	+0.3
PBDV				A	A	02 27 30.4	
	5.9nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.92**	**338**	P	Pn	02 26 20.6	-0.7
PBDV				S	Sn	02 27 18.2	+0.3
	5.9nm,0.4s						
PVAQ	**Vaqueiros**	**5.01**	**341**	*e*Pn	Pn	02 26 21.8	-0.7
PVAQ				*e*Sn	Sn	02 27 19.9	-0.1
PVAQ				A	A	02 27 28.6	
	6.8nm,0.4s						
PVAQ	**Vaqueiros**	**5.01**	**341**	P	Pn	02 26 21.8	-0.7
PVAQ				S	Sn	02 27 19.9	-0.1
	6.8nm,0.4s						
EGRO	**El Granado**	**5.07**	**343**	P	Pn	02 26 22.8	-0.5
	6.8nm,0.1s,SNR=35						
EGRO				S	Sn	02 27 21.3	-0.3
	5.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.14**	**351**	P	Pn	02 26 23.1	-1.2
	3.4nm,0.3s,SNR=30						
EMIN				S	Sn	02 27 24.5	+1.1
	1.1nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.15**	**330**	*e*Pn	Pn	02 26 24.2	-0.2
PFVI				*e*Sn	Sn	02 27 26.5	+3.0
PFVI				A	A	02 27 36.4	
	6.8nm,0.6s						
PFVI	**Vila Bisbo**	**5.15**	**330**	P	Pn	02 26 24.4	-0.1
	2.9nm,0.2s,SNR=12						
PFVI				S	Sn	02 27 25.0	+1.4
	2.5nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**5.23**	**333**	*e*P	Pn	02 26 25.2	-0.4
MORF				*e*S	Sn	02 27 24.8	-0.8
MORF				AML	AML	02 27 33.6	
	comp=N,23nm,0.0s						
MORF	**Marmelete**	**5.23**	**333**	‖ *e*Pn	Pn	02 26 25.1	-0.4
MORF				*e*Sn	Sn	02 27 27.0	+1.4
MORF				A	A	02 27 34.0	
	comp=N,9.4nm,0.4s						
MORF	**Marmelete**	**5.23**	**333**	P	Pn	02 26 25.1	-0.4
MORF				S	Sn	02 27 27.0	+1.4
	comp=N,9.4nm,0.4s						
PCVE	**Castro Verde**	**5.31**	**339**	*e*Pn	Pn	02 26 26.4	-0.3
PCVE				*e*Sn	Sn	02 27 29.0	+1.5
PCVE				A	A	02 27 35.0	
	comp=N,9.0nm,0.4s						
PCVE	**Castro Verde**	**5.31**	**339**	P	Pn	02 26 26.4	-0.3
PCVE				S	Sn	02 27 29.0	+1.5
	comp=N,9.0nm,0.4s						
ECAB	**El Cabril**	**5.39**	**2**	P	Pn	02 26 26.4	-1.3
	comp=N,1.7nm,0.1s,SNR=23						
ECAB				S	Sn	02 27 28.3	-1.0
	comp=N,2.7nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.47**	**333**	*e*Pn	Pn	02 26 28.8	0.0
PTEO				*e*Sn	Sn	02 27 33.1	+1.8
PTEO				A	A	02 27 44.6	
	comp=N,9.6nm,0.5s						
PTEO	**Sao Teotonio**	**5.47**	**333**	P	Pn	02 26 28.8	0.0
PTEO				S	Sn	02 27 33.1	+1.8
	comp=N,4.8nm,0.5s						
EQES	**Quesada**	**5.53**	**22**	P	Pn	02 26 29.7	-0.1
	comp=N,0.1nm,0.1s,SNR=12						
EQES				S	Sn	02 27 35.8	+2.8
	comp=N,0.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.54**	**9**	P	Pn	02 26 28.4	-1.5
	comp=N,0.7nm,0.1s,SNR=10						
EADA				S	Sn	02 27 32.6	-0.7
	comp=N,1.3nm,0.1s,SNR=7.9						
MESJ	**Messejana**	**5.56**	**339**	*e*Pn	Pn	02 26 29.5	-0.5
MESJ				*e*S	Sn	02 27 31.9	-1.7
MESJ				AML	AML	02 27 39.7	
	comp=N,11nm,0.3s						
MESJ	**Messejana**	**5.56**	**339**	‖ *e*Pn	Pn	02 26 29.6	-0.5
MESJ				*e*Sn	Sn	02 27 34.9	+1.3
MESJ				A	A	02 27 39.1	
	comp=N,6.3nm,0.2s						
MESJ	**Messejana**	**5.56**	**339**	P	Pn	02 26 29.6	-0.5
MESJ				S	Sn	02 27 34.9	+1.3
	comp=N,6.3nm,0.2s						
PBEJ	**Beja**	**5.63**	**342**	*e*Pn	Pn	02 26 31.4	+0.4
PBEJ				*e*Sn	Sn	02 27 36.5	+1.1
PBEJ				A	A	02 27 40.4	
	comp=N,5.1nm,0.6s						
PBEJ	**Beja**	**5.63**	**342**	P	Pn	02 26 31.4	+0.4
PBEJ				S	Sn	02 27 36.5	+1.1
	comp=N,2.6nm,0.6s						
PNCL	**Nicolau / Gran**	**5.91**	**337**	*e*Pn	Pn	02 26 34.1	-0.7
PNCL				*e*Sn	Sn	02 27 43.4	+1.3
PNCL				A	A	02 27 48.2	
	comp=N,4.1nm,0.3s						
PNCL	**Nicolau / Gran**	**5.91**	**337**	P	Pn	02 26 34.1	-0.7
PNCL				S	Sn	02 27 43.4	+1.3
	comp=N,4.1nm,0.3s						
EBAD	**Badajoz**	**6.16**	**350**	P	Pn	02 26 37.6	-0.7
	comp=N,8.1nm,0.1s,SNR=124						
EBAD				S	Sn	02 27 48.7	+0.3
	comp=N,9.9nm,0.2s,SNR=7.9						
PMTG	**Montargil**	**6.71**	**343**	*e*Pn	Pn	02 26 45.1	-0.7
PMTG				*e*Sn	Sn	02 28 02.8	+0.9
PMTG				A	A	02 28 15.3	
	comp=N,3.9nm,0.9s						
PMTG	**Montargil**	**6.71**	**343**	P	Pn	02 26 45.1	-0.7
PMTG				S	Sn	02 28 02.8	+0.9
	comp=N,3.9nm,0.9s						
ETOB	**Tobarra**	**6.82**	**28**	P	Pn	02 26 47.7	+0.2
	comp=N,0.0nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**6.88**	**349**	*e*Pn	Pn	02 26 47.5	-0.7
PMRV				*e*Sn	Sn	02 28 05.7	-0.4
PMRV				A	A	02 28 11.3	
	comp=N,3.5nm,0.5s						
PMRV	**Marv??o**	**6.88**	**349**	P	Pn	02 26 47.5	-0.7
PMRV				S	Sn	02 28 05.7	-0.4
	comp=N,3.5nm,0.5s						
PMAFR	**Mafra**	**6.92**	**336**	*e*Pn	Pn	02 26 48.7	0.0
PMAFR	**Mafra**	**6.92**	**336**	P	Pn	02 26 47.6	-1.1
	comp=N,3.7nm,0.3s,SNR=7.3						
PMAFR				S	Sn	02 28 05.0	-2.1
	comp=N,2.4nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**6.93**	**8**	P	Pn	02 26 46.9	-2.0
	comp=N,1.9nm,0.3s,SNR=7.9						
PAB				S	Sn	02 28 03.6	-3.9
	comp=N,0.8nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.11**	**11**	P	Pn	02 26 49.5	-1.9
	comp=N,1.0nm,0.3s,baz=196,slow=13,SNR=22						
ESDC				S	Sn	02 28 14.1	+2.2
	comp=N,0.3nm,0.3s,baz=196,slow=23,SNR=4.0						
PTOM	**Tomar**	**7.27**	**343**	*e*Pn	Pn	02 26 53.2	-0.4
PTOM	**Tomar**	**7.27**	**343**	P	Pn	02 26 53.2	-0.4
PCBR	**Castelo Branco**	**7.30**	**349**	*e*Pn	Pn	02 26 53.4	-0.5
PCBR				*e*Sn	Sn	02 28 16.8	+0.5
PCBR				A	A	02 28 18.1	
	comp=N,2.3nm,0.2s						
PCBR	**Castelo Branco**	**7.30**	**349**	P	Pn	02 26 53.4	-0.5
PCBR				S	Sn	02 28 16.8	+0.5
	comp=N,1.2nm,0.2s						
EPLA	**Plasencia**	**7.38**	**357**	P	Pn	02 26 53.8	-1.3
	comp=N,4.2nm,0.1s,SNR=51						
EPLA				S	Sn	02 28 15.3	-3.1
	comp=N,1.8nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**7.85**	**349**	*e*Pn	Pn	02 27 00.8	-0.8
MTE				*e*Sn	Sn	02 28 30.6	+0.4
MTE				A	A	02 28 33.1	
	comp=N,4.1nm,0.2s						
MTE	**Manteigas**	**7.85**	**349**	P	Pn	02 27 00.8	-0.8
MTE				S	Sn	02 28 30.6	+0.4
	comp=N,2.0nm,0.2s						
PVIS	**Viseu**	**8.22**	**348**	*e*Pn	Pn	02 27 05.6	-1.0
PVIS	**Viseu**	**8.22**	**348**	P	Pn	02 27 05.6	-1.0
MVO	**Moncorvo**	**8.54**	**353**	*e*Pn	Pn	02 27 09.6	-1.4
MVO	**Moncorvo**	**8.54**	**353**	P	Pn	02 27 10.3	-0.7
	comp=N,4.7nm,0.1s,SNR=35						
PVRL	**Vila Real**	**8.74**	**350**	*e*Pn	Pn	02 27 13.0	-0.7
PVRL	**Vila Real**	**8.74**	**350**	P	Pn	02 27 13.0	-0.7
POLO	**Lamas de Olo**	**8.84**	**349**	*e*Pn	Pn	02 27 14.5	-0.7
POLO	**Lamas de Olo**	**8.84**	**349**	P	Pn	02 27 14.5	-0.7
PBRG	**Braganca**	**9.15**	**355**	*e*Pn	Pn	02 27 18.6	-0.7
PBRG	**Braganca**	**9.15**	**355**	P	Pn	02 27 18.6	-0.7
PCAB	**Cabril**	**9.21**	**349**	*e*Pn	Pn	02 27 19.5	-0.7
PCAB	**Cabril**	**9.21**	**349**	P	Pn	02 27 19.5	-0.7
ECAL	**Calabor**	**9.28**	**355**	P	Pn	02 27 20.6	-0.6
	comp=N,2.7nm,0.2s,SNR=7.0						
ELOB	**Lobios**	**9.37**	**349**	P	Pn	02 27 21.7	-0.7
	comp=N,1.8nm,0.2s,SNR=7.3						
PGAV	**Gavieira, Arco**	**9.50**	**348**	*e*Pn	Pn	02 27 24.7	+0.5
PGAV	**Gavieira, Arco**	**9.50**	**348**	P	Pn	02 27 24.7	+0.5
EAGO	**Agolada(Pontev**	**10.29**	**350**	P	Pn	02 27 34.2	-0.7
	comp=N,3.6nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**10.61**	**2**	P	Pn	02 27 38.5	-0.8
	comp=N,0.2nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**10.69**	**354**	P	Pn	02 27 39.7	-0.8
	comp=N,0.1nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**11.02**	**16**	P	Pn	02 27 44.6	-0.4
	comp=N,0.9nm,0.3s,SNR=7.9						

IDC ***28*** *02:25:05.5±0.9, 5°.98S×130°.37E, h0km, mb4.2/8, mb1 4.6/11, mb1mx4.2/41, mbtmp4.4/11, ML4.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/33, Error ellipse: s-maj=38.5km s-min=18.0km az=79.0*
NEIC ***28*** *02:25:17.8±2.7, 6°.26S×130°.57E, h131km±5km, mb4.5/16, Error ellipse: s-maj=15.5km s-min=12.4km az=66.0*
ISCJB ***28*** *02:25:18.0±0.3, 6°.30S±0°.03×130°.56E±0°.05, h150km, mb4.4/19, Error ellipse: s-maj=7.9km s-min=4.1km az=157.3*

ISC 28 02:25:18.5±0.5, 6°.38S±0°.04×130°.58E±0°.06, h150km, n55, σ3°00/59, mb4.3/19, Banda Sea

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

PKIN	Phulchoki	55.18	310	eP	P	02 34 36.9	+0.7
	6.5nm,0.5s						
KKN	Kakani	55.38	310	eP	P	02 34 37.9	+0.4
	5.5nm,0.3s						
KLR	Kul'dur	55.39	1	LR	LR	02 58 32.9	
	comp=Z,11nm,19.1s,baz=185,slow=36						
DMN	Daman	55.42	310	eP	P	02 34 38.4	+0.5
	3.6nm,0.3s						
KOLN	Koldanda	56.65	309	eP	P	02 34 47.1	+0.5
	5.3nm,0.4s						
DANN	Dangsing	56.82	310	eP	P	02 34 48.3	+0.4
	7.4nm,0.6s						
PYUN	Piuthan	57.28	309	eP	P	02 34 52.0	+0.9
	6.4nm,0.4s						
SONA0	Songino Array	58.04	341	eP	P	02 34 57.8	+2.0
SONM	Songino Array	58.04	341	P	P	02 34 57.8	+2.0
	0.3nm,0.4s,baz=163,slow=5.3,SNR=3.4						
PETK	Petropavlovsk-	63.56	18	P	P	02 35 36.1	+3.2
	2.4nm,0.8s,baz=343,slow=1.5,SNR=4.2						
PEA1	Petropavlovsk-	63.56	18	eP	P	02 35 36.1	+3.2
KSH	Kashi	67.96	317	P	P	02 36 07.8	+6.3
MK31	Makanchi Array	68.03	326	eP	P	02 36 03.8	+2.1
	1.2nm,0.8s						
MK32	Makanchi Array	68.03	326	eP	P	02 36 03.8	+2.1
MKAR	Makanchi Array	68.03	326	P	P	02 36 03.8	+2.1
	1.8nm,0.6s,baz=124,slow=7.4,SNR=24						
SEY	Seymchan	71.10	10	P	P	02 36 23.5	+3.4
	0.7nm,0.2s,baz=204,slow=5.6,SNR=4.2						
KURBB	Kurchatov Arra	72.29	328	P	P	02 36 28.7	+1.2
	1.7nm,0.2s,baz=133,slow=5.1,SNR=4.6						
TORD	Torodi Ar. Bea	129.25	282	PKP	PKiKP	02 44 15.9	+5.1
	0.3nm,0.9s,baz=92,slow=1.5,SNR=3.0						
TOA1	Torodi Ar. Sit	129.25	282	ePKPdf	PKiKP	02 44 15.9	+5.1

IDC 28 02:29:48.6±4.7, 23°.26S×176°.54W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/47, mbtmp4.3/3, Error ellipse: s-maj=258.9km s-min=39.9km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.66	268	P	P	02 36 41.3	+1.2
	7.1nm,0.5s,baz=97,slow=8.1,SNR=4.2						
ASAR	Alice Springs	45.27	259	P	P	02 38 08.2	-0.1
	1.1nm,0.4s,baz=96,slow=7.2,SNR=6.1						
WRA	Warramunga Arr	45.62	264	P	P	02 38 09.8	-1.3
	0.8nm,0.4s,baz=99,slow=10,SNR=7.3						
ARCES	ARCESS Array B	131.86	350	PKP	PKiKP	02 49 04.0	-0.2
	0.8nm,0.6s,baz=27,slow=1.0,SNR=4.6						
AKASG	Malin Array Be	146.07	330	PKPbc	PKPdf	02 49 28.9	-0.6
	0.9nm,0.6s,baz=32,slow=4.1,SNR=3.2						
BRTR	Keskin Array B	149.66	310	PKPbc	PKPbc	02 49 40.0	-0.6
	0.9nm,0.6s,baz=48,slow=2.1,SNR=6.3						

*ISCJB **28** 02:45:35.1±0.4, 12°.07N±0°.05×86°.90W±0°.04, h74km±4km, mb3.9/10, Error ellipse: s-maj=9.2km s-min=3.8km az=33.7*
*SNET **28** 02:45:36.8±1.4, 12°.11N×86°.99W, h32km±7km, ML4.2*
*UCR **28** 02:45:36.0±1.7, 12°.04N×86°.94W, h50km±11km, MD4.2, ML4.0*
*IDC **28** 02:45:36.9±1.4, 12°.42N×86°.58W, h69km±17km, mb3.7/10, mb1 3.9/14, mb1mx3.6/47, mbtmp4.0/14, MS2.9/3, Ms1 2.9/3, ms1mx2.7/23, Error ellipse: s-maj=36.7km s-min=11.4km az=50.0*

ISC 28 02:45:35.3±0.9, 12°.07N±0°.05×86°.93W±0°.05, h61km±7km, n66, σ1§29/82, mb4.0/10, 14D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.34	71	eP	Pn	02 45 46.4	+0.6
CNGN	Cerro Negro	0.48	27	⇓iP	Pn	02 45 46.8	-0.4
CNGN				eS	Sn	02 45 55.6	-0.2
CNGN	Cerro Negro	0.48	27	⇓iP	Pn	02 45 46.8	-0.4
CNGN				eS	Sn	02 45 55.0	-0.9
MOMN	Momotombo	0.51	48	eP	Pn	02 45 48.0	+0.6
TELN	Telica	0.54	10	eP	Pn	02 45 48.4	+0.5
APYN	Apoyeque	0.58	74	eP	Pn	02 45 48.9	+0.7
XAVN	Gruta Xavier	0.59	82	eP	Pn	02 45 49.3	+1.0
CRIN	San Cristobal	0.64	349	eP	Pn	02 45 49.7	+0.7
CRIN				eS	Sn	02 46 00.5	+1.6
MGAN	Managua	0.67	83	eP	Pn	02 45 50.1	+0.9
MASN	Masaya	0.76	96	eP	Pn	02 45 50.3	-0.1
MASN				eS	Sn	02 46 00.1	-1.4
CSGN	Cosiguina Volc	1.09	326	⇓iP	Pn	02 45 56.0	+1.3
CSGN				eS	Sn	02 46 10.2	+1.1
CSGN	Cosiguina Volc	1.09	326	⇓iP	Pn	02 45 56.0	+1.3
CSGN				eS	Sn	02 46 10.1	+1.1
ESTN	Estel	1.16	28	eP	Pn	02 45 56.8	+1.3
ESTN				eS	Sn	02 46 12.6	+1.9
ESTN	Estel	1.16	28	⇓iP	Pn	02 45 56.9	+1.3
ESTN				eS	Sn	02 46 12.6	+1.9
MATN	Matagalpa	1.30	49	eP	Pn	02 45 58.4	+1.0
MATN				eS	Sn	02 46 15.7	+1.8
CONN	Concepcion	1.37	111	eP	Pn	02 45 58.4	+0.2
SOMN	Somoto	1.38	13	eP	Pn	02 46 01.5	+3.0
CNCH	Conchagua	1.49	324	⇓eP	Pn	02 46 00.4	+0.4
CNCH				eS	Sn	02 46 18.6	0.0
CNCH	Conchagua	1.49	324	⇓eP	Pn	02 46 00.4	+0.4
CNCH				eS	Sn	02 46 18.6	0.0
LCND	La Caada	1.55	323	⇓iP	Pn	02 46 01.0	+0.3
LCND	La Caada	1.55	323	⇓iP	Pn	02 46 01.0	+0.3
ACON	Acoyapa	1.72	93	eP	Pn	02 46 03.3	+0.4
ACON				eS	Sn	02 46 24.3	+0.5
VSM	San Miguel	1.89	316	eP	Pn	02 46 06.4	+0.9
VSM	San Miguel	1.89	316	eP	Pn	02 46 06.4	+0.9
LCY	Lacayo	1.90	315	eP	Pn	02 46 06.2	+0.8
LCY	Lacayo	1.90	315	eP	Pn	02 46 06.2	+0.8
PACA	Pacayal	1.95	316	⇓iP	Pn	02 46 06.9	+0.7
PACA	Pacayal	1.95	316	⇓iP	Pn	02 46 06.9	+0.7
TGUH	Tegucigalpa,Un	2.00	350	eP	Pn	02 46 08.5	+1.7
TECA	Tecapa	2.09	313	eP	Pn	02 46 09.0	+0.9
TECA	Tecapa	2.09	313	eP	Pn	02 46 09.0	+0.9
CAHU	Cacacuatique	2.10	324	eP	Pn	02 46 09.3	+0.9
CAHU	Cacacuatique	2.10	324	eP	Pn	02 46 09.3	+0.9
MESS	Mesas	2.15	128	⇓iP	Pn	02 46 09.3	+0.4
CUI	Cuipilapa	2.23	129	eP	Pn	02 46 10.1	+0.2
VICT	Victoria	2.51	319	⇓iP	Pn	02 46 14.7	+0.8
VICT	Victoria	2.51	319	⇓iP	Pn	02 46 14.7	+0.8
PAVA	Las Pavas	2.55	310	eP	Pn	02 46 16.2	+1.8
PAVA	Las Pavas	2.55	310	eP	Pn	02 46 16.2	+1.8
ESPN	Las Esperanzas	2.57	87	eP	Pn	02 46 15.4	+0.9
LFRS	El Faro	2.59	307	eP	Pn	02 46 15.7	+0.8
JTS	Las Juntas de	2.62	132	P	Pn	02 46 15.4	+0.1
	6.4nm,0.3s,baz=29,slow=18,SNR=30						
JTS				S	Sn	02 46 49.4	+3.5
	46nm,0.3s,baz=346,slow=19,SNR=9.8						
JTS				LR	LR	02 47 04.8	
	comp=Z,100nm,21.5s,baz=354,slow=33						
JTS	Las Juntas de	2.62	132	eP	Pn	02 46 15.4	+0.1
CEDE	Laguna Cedeo	2.69	126	eP	Pn	02 46 17.8	+1.6
ARE1	Arenal 1	2.69	126	eP	Pn	02 46 17.1	+0.9
BOQS	Boqueron	2.83	306	eP	Pn	02 46 20.2	+1.9
FUG	Fuego 3	4.49	302	eP	Pn	02 46 45.0	+4.0
FUG				eS	Sn	02 47 34.0	+2.1
APG	El Apazote	4.51	311	P	Pn	02 46 43.7	+2.4
	1.8nm,0.3s,baz=130,slow=9.9,SNR=13						
CMIG	Matias Romero	9.18	304	P	Pn	02 47 47.6	+2.5
	1.2nm,0.3s,baz=145,slow=11,SNR=27						
CMIG				S	Sn	02 49 26.2	-0.7
	0.5nm,0.3s,baz=97,slow=17,SNR=2.5						
ROSC	El Rosal	14.38	119	LR	LR	02 54 28.2	
	comp=Z,43nm,21.6s,baz=228,slow=37						
SDV	Santo Domingo	16.33	100	P	Pn	02 49 20.9	0.0
	0.2nm,0.3s,baz=300,slow=2.1,SNR=4.1						
TXAR	Lajitas Array	23.19	320	P	P	02 50 37.4	+0.3
	5.5nm,0.5s,baz=139,slow=9.2,SNR=121						
TXAR				PcP	PcP	02 54 24.8	+1.2
	0.3nm,0.6s,baz=146,slow=6.0,SNR=4.1						
ANMO	Albuquerque	28.86	325	P	P	02 51 29.2	+0.8
	1.2nm,0.7s,baz=114,slow=7.3,SNR=7.9						
PDAR	Pinedale Array	36.35	331	P	P	02 52 33.8	+0.1
	1.0nm,0.5s,baz=127,slow=11,SNR=12						
ELK	Elko	37.87	324	P	P	02 52 47.3	+0.7
	1.5nm,0.9s,baz=142,slow=6.1,SNR=6.9						
ELK				PcP	PcP	02 55 02.4	+0.5
	0.8nm,0.7s,baz=110,slow=5.7,SNR=4.5						
NVAR	Mina Array Bea	38.33	319	P	P	02 52 51.6	+1.1
	0.9nm,0.6s,baz=129,slow=7.3,SNR=4.9						
NVAR				PcP	PcP	02 55 04.2	+0.8
	1.8nm,0.6s,baz=139,slow=3.7,SNR=8.8						
ULM	Lac du Bonnet	38.77	351	P	P	02 52 51.9	-1.9
	4.0nm,0.5s,baz=167,slow=9.3,SNR=12						
YKA	Yellowknife Ar	54.11	345	P	P	02 54 52.3	-1.4
	1.2nm,0.6s,baz=138,slow=7.5,SNR=28						
RES	Resolute Bay	62.76	358	P	P	02 55 51.5	-2.3
	1.3nm,0.6s,baz=170,slow=11,SNR=7.6						
INK	Inuvik	63.72	342	P	P	02 55 59.3	-0.9
	0.6nm,0.7s,baz=186,slow=8.6,SNR=4.2						
ILAR	Eielson Array	66.57	336	P	P	02 56 17.6	-1.2
	0.5nm,0.5s,baz=142,slow=4.9,SNR=14						
NOA	NORSAR Array B	83.45	29	LR	LR	03 33 16.3	
	comp=Z,15nm,18.5s,baz=255,slow=34						
ASAR	Alice Springs	139.60	248	PKhKP	PKPpre	03 04 50.0	
	0.4nm,0.5s,baz=117,slow=3.6,SNR=6.6						
ASAR				PKP	PKPdf	03 04 57.2	+0.2
	0.9nm,0.7s,baz=88,slow=2.0,SNR=9.5						
WRA	Warramunga Arr	139.66	253	PKP	PKPdf	03 04 57.5	+0.3
	90nm,0.3s,baz=137,slow=1.0,SNR=2.2						
FITZ	Fitzroy Crossi	148.02	255	PKPbc	PKPbc	03 05 14.8	0.0
	1.4nm,0.6s,baz=153,slow=2.3,SNR=6.3						
CMAR	Chiang Mai Arr	149.12	349	PKPbc	PKPbc	03 05 17.0	-0.8
	0.8nm,0.3s,baz=343,slow=2.8,SNR=3.9						

IDC 28 02:53:12.4±26.0, 24°.55S×179°.84E, h545km±298km, mb3.2/4, mb1 3.4/4, mb1mx3.0/30, mbtmp4.2/4, Error ellipse: s-maj=292.7km s-min=65.5km az=154.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.34	271	P	P	02 58 48.9	+0.1
	5.7nm,0.3s,baz=84,slow=10,SNR=10.0						
ASAR	Alice Springs	41.79	261	P	P	03 00 14.6	-0.2
	0.5nm,0.5s,baz=97,slow=7.2,SNR=8.6						
WRA	Warramunga Arr	42.23	267	P	P	03 00 17.5	-0.7
	79nm,0.3s,baz=95,slow=7.9,SNR=2.1						
FITZ	Fitzroy Crossi	50.64	266	P	P	03 01 22.1	+0.3
	1.3nm,0.7s,baz=97,slow=8.1,SNR=3.7						
TXAR	Lajitas Array	90.89	58	P	P	03 05 18.3	-0.1
	0.6nm,0.8s,baz=219,slow=7.4,SNR=6.7						

JMA 28 03:11:11.8±0.2, 37°.94N×144°.10E, h51km, M4.1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.11	281	P	Pn	03 11 45.7	+1.1
JIKH				S	Sn	03 12 10.3	+0.6
OFUJ	Ofunato	2.22	302	P	Pn	03 11 47.4	+1.2
OFUJ				S	Sn	03 12 13.9	+1.5
JIO	Ouri	2.23	284	P	Pn	03 11 47.3	+1.1
JIO				S	Sn	03 12 13.4	+0.9
JKMT	Kesennumamotoy	2.24	294	P	Pn	03 11 47.5	+1.1
JKMT				S	Sn	03 12 13.8	+1.0
JMK	Ichinoseki	2.48	295	P	Pn	03 11 50.8	+1.2
JMK				S	Sn	03 12 20.0	+1.3
JOM	Ohasama	2.68	306	P	Pn	03 11 54.0	+1.6
JOM				eS	Sn	03 12 25.3	+1.7
JFT	Otama	3.01	263	P	Pn	03 11 58.8	+1.8
JFT				S	Sn	03 12 33.4	+1.5
JYK	Kaneyama	3.10	290	P	Pn	03 11 59.5	+1.4
JYK				S	Sn	03 12 36.2	+2.3
JANG	Nango	3.15	321	P	Pn	03 11 59.7	+0.8

*ISCJB **28** 03:18:07.3±0.3, 43°.24N±0°.03×41°.71E±0°.02, h14km±5km, Error ellipse: s-maj=5.8km s-min=2.8km az=5.1*
*TIF **28** 03:18:07.8, 43°.23N×41°.62E, h33km±3km*
*DDA **28** 03:18:47.3, 43°.25N×41°.51E, h11km, ML3.0*

ISC 28 03:18:08.0±0.8, 43°.24N±0°.03×41°.69E±0°.02, h14km±6km, n25, σ1§26/48, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	Dombai	0.07	315	iPg	Pg	03 18 10.7	-0.4
DOMR				iSg	Sg	03 18 12.8	-0.3
ARXR	Arkhyz	0.44	317	ePg	Pb	03 18 17.6	-0.1
ARXR				eSg	Sb	03 18 25.2	+0.8
NEY	Neytrino	0.75	89	ePg	Pb	03 18 21.9	-1.2
NEY				eSg	Sb	03 18 30.7	-2.6
SHA1	Shidzhatmaz	0.86	54	ePg	Pb	03 18 24.6	-0.3
SHA1				eSg	Sb	03 18 36.3	-0.1
KIV0	Kislovodsk Arr	1.02	45	ePg	Pn	03 18 27.9	-0.2
KIV0				eSg	Sg	03 18 41.7	+0.6
BEYR	Belyy Ugol+	1.12	46	ePg	Pb	03 18 29.8	+0.5
BEYR				eSg	Sg	03 18 44.9	+0.6
TKB	Tkibuli	1.31	132	P	Pn	03 18 32.3	+0.3
TKB				S	Sg	03 18 50.6	+0.4
PYA1	Pyatigorsk	1.31	51	ePg	Pb	03 18 32.3	-0.1
PYA1				eSg	Sg	03 18 50.3	+0.1
GUZR	Guzeripl'	1.37	304	ePg	Pg	03 18 34.7	+0.3
GUZR				eSg	Sg	03 18 53.5	+1.3
KBTC	Kuba-Taba	1.37	65	ePg	Pb	03 18 34.1	+0.5
KBTC				eSg	Sg	03 18 52.2	-0.1
DIGR	Digorskoe uzhe	1.42	103	ePg	Pg	03 18 36.1	+0.7
DIGR				eSg	Sg	03 18 54.5	+0.5
ONI	Oni	1.45	116	P	Pb	03 18 34.8	0.0
ONI	Oni	1.45	116	ePg	Pb	03 18 34.8	0.0
SOC	Sochi	1.48	284	ePg	Pb	03 18 34.8	-0.6
SOC				eSg	Sg	03 18 57.2	+1.5
SRKG	Sareki	1.53	126	P	Pn	03 18 33.6	-1.4
SRKG				S	Sn	03 18 55.2	+0.6
BATM	Batumi	1.64	180	P	Pn	03 18 37.0	+0.5
BATM				S	Sn	03 18 57.7	+0.4
ZEI	Tsey	1.68	105	ePg	Pg	03 18 40.8	+0.5
ZEI				eSg	Sg	03 19 04.3	+2.1
LZRR	Lazarevskoye	1.82	293	ePg	Pg	03 18 42.7	-0.3
LZRR				eSg	Sg	03 19 07.9	+1.4
DBOC	Borcka	1.89	181	IAML_P			
	comp=Z,441nm,0.1s						
DBOC				iP	Pn	03 18 40.3	+0.3
DBOC				iS	Sn	03 19 02.3	-1.4
ARNR	Ardon	1.90	91	ePg	Pg	03 18 45.7	+1.3
ARNR				eSg	Sg	03 19 11.8	+2.8
EPOS	Posof	1.90	156	iP	Pn	03 18 41.5	+1.3
EPOS				iS	Sb	03 19 07.1	+0.9
LACR	Lac	1.95	101	ePg	Pg	03 18 45.7	+0.2
LACR				eSg	Sg	03 19 10.4	-0.4
ARTV	Artvin	2.06	175	IAML_P			
	comp=Z,922nm,0.1s						
ARTV				iP	Pn	03 18 42.1	-0.4
ARTV				iS	Sn	03 19 07.0	-1.1
DAGI	Agillar	2.17	176	IAML_P			
	comp=Z,166nm,0.2s						
DAGI				iP	Pn	03 18 45.5	+1.7
DAGI				iS	Sn	03 19 06.3	-4.3
DBAD	Bademkaya	2.22	180	IAML_P			
	comp=Z,214nm,0.1s						
DBAD				iP	Pn	03 18 45.7	+1.1
DBAD				iS	Sn	03 19 09.3	-2.6

*NNC **28** 03:20:26.4±3.9, 34°.02N×69°.57E, h0km, mb3.8, Error ellipse: s-maj=48.6km s-min=29.0km az=122.0*

ISC 28 03:20:32.2±1.8, 35°.30N±0°.08×72°.4E±0°.2, h10km, n12, σ2§81/15, 1C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	DHARAMSHALA	4.43	132	eP	Pb	03 21 48.4	-1.8
DHRM				eS	Sg	03 22 53.3	-1.0
DHRM				IAML		03 23 21.0	
	comp=N,82nm,0.6s						
DHRM				IAML		03 23 22.2	
	comp=E,133nm,0.8s						
SMLA	Simla	5.74	135	eP	Pn	03 22 01.5	+4.0
SMLA				eS	Sb	03 23 18.5	-2.9
SMLA				IAML		03 23 20.5	
	comp=N,65nm,0.2s						
SMLA				IAML		03 23 21.4	
	comp=E,46nm,0.3s						
AAK	Ala-Archa	7.50	12	⇓P	Pb	03 22 44.6	+2.1
	comp=E,1.9nm,0.5s						
AAK				⇓S	Sg	03 24 31.2	-1.8
	comp=E,7.3nm,0.9s						
KK31	Karatay Array	7.94	350	P	Pn	03 22 37.9	+10
	comp=E,4.5nm,0.9s,baz=186,slow=14,SNR=22						
KK31				⇑S	Sb	03 24 24.1	-0.3
	comp=E,3.5nm,0.7s						
PYUN	Piuthan	11.49	126	eP	Pn	03 23 18.7	+2.1
	comp=E,9.5nm,0.4s						
DANN	Dangsing	11.86	123	eP	Pn	03 23 25.6	+4.0
	comp=E,12nm,0.6s						
DMN	Daman	13.25	122	eP	Pn	03 23 43.2	+2.6
	comp=E,8.1nm,0.5s						
KKN	Kakani	13.26	121	eP	Pn	03 23 43.9	+3.2
	comp=E,15nm,0.6s						
PKI	Pulchoki	13.48	121	eP	Pn	03 23 46.4	+2.5
	comp=E,15nm,0.6s						
JIRN	Jiri	13.98	119	eP	Pn	03 23 53.5	+2.8
	comp=E,18nm,0.4s						
RAMN	Ramite	14.70	121	eP	Pn	03 24 00.8	+0.3
	comp=E,7.0nm,0.6s						
AB31	Akbulak array	16.70	330	⇓P	Pn	03 24 23.4	-2.8
	comp=E,0.2nm,0.5s,baz=155,slow=14,SNR=8.9						

*ISK **28** 03:28:32.6, 42°.92N×29°.13E, h27km, ML3.2/19*
*DDA **28** 03:28:34.1, 42°.70N×29°.14E, h37km±3km, ML3.4*

ISC 28 03:28:33.8±5.5, 42°.93N±0°.02×29°.15E±0°.03, h35km±15km, n74, σ1§00/96, 11C-9D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSMN	Mangalia Port-	0.96	335	⇓iP	Pn	03 28 50.3	-0.4
TSMN				S	Sn	03 29 03.3	+0.1
MANR	Mangalia	0.98	335	⇑iP	Pn	03 28 50.5	-0.5
MANR	Mangalia	0.98	335	S	Sn	03 29 04.0	+0.4
EFOR	EFORIE	1.21	342	⇑iP	Pn	03 28 54.3	+0.1
EFOR	EFORIE	1.21	342	S	Sn	03 29 09.7	+0.4
MFTR	Murfatlar	1.36	337	⇑iP	Pn	03 28 56.7	+0.5
MFTR	Murfatlar	1.36	337	S	Sn	03 29 13.9	+1.0
ICOR	Ion Corvin	1.54	321	⇓iP	Pn	03 28 58.9	+0.2
ICOR	Ion Corvin	1.54	321	S	Sn	03 29 18.2	+0.7
KIYI	Yalıkoy-Catalc	1.57	204	PN	Pn	03 28 59.0	-0.1
KIYI				SN	Sn	03 29 18.4	+0.2
CVDA	Cernavoda	1.62	331	⇑iP	Pn	03 28 59.5	-0.3
CVDA	Cernavoda	1.62	331	S	Sn	03 29 21.4	+2.0
KLYT	Kilyos	1.67	183	PN	Pn	03 29 00.4	-0.1
KLYT				SN	Sn	03 29 20.7	0.0
KLYT	Kilyos	1.67	183	⇓iP	Pn	03 29 00.4	-0.1
KLYT	Kilyos	1.67	183	S	Sn	03 29 20.6	-0.1
CTKS	Kestanelik-??a	1.75	196	PN	Pn	03 29 01.6	0.0
CTKS				SN	Sn	03 29 22.1	-0.6
BGKT	Bogazkoy	1.77	189	PN	Pn	03 29 01.9	+0.1
BGKT				SN	Sn	03 29 23.0	0.0
PHSR	Pinarhisar	1.77	224	PN	Pn	03 29 02.0	+0.2
PHSR				SN	Sn	03 29 23.2	+0.1
PHSR	Pinarhisar	1.77	224	⇑iP	Pn	03 29 02.7	+0.9
PHSR	Pinarhisar	1.77	224	S	Sn	03 29 24.5	+1.4
SILT	Sile	1.81	168	PN	Pn	03 29 02.3	-0.1
SILT	Sile	1.81	168	⇓iP	Pn	03 29 02.1	-0.3
SILT	Sile	1.81	168	S	Sn	03 29 23.4	-0.6
SLVT	Silivri	1.83	203	PN	Pn	03 29 02.9	+0.2
TLB	Topalu	1.84	335	⇓iP	Pn	03 29 02.7	-0.1
TLB	Topalu	1.84	335	S	Sn	03 29 26.5	+1.6
ELBA	Catalca	1.86	197	IAML_P			
	comp=Z,6μm,0.2s						
ELBA				iP	Pn	03 29 03.6	+0.5
ISK	Istanbul-Kandi	1.86	182	PN	Pn	03 29 03.4	+0.3
KIRK	Kırklareli	1.90	234	IAML_P			
	comp=Z,824nm,0.2s						
KIRK				iP	Pn	03 29 05.1	+1.5
KIRK				iS	Sn	03 29 25.6	-0.8
HARR	Harsova	1.97	334	⇑iP	Pn	03 29 04.4	-0.2
KAND	Kocaeli-Kandir	1.99	157	IAML_P			
	comp=Z,467nm,0.2s						
KAND				iP	Pn	03 29 05.2	+0.4
KAND				iS	Sn	03 29 28.2	-0.3
BUY	Buyukada	2.07	181	PN	Pn	03 29 06.5	+0.5
BUY	Buyukada	2.07	181	IAML_P			
	comp=Z,2μm,0.2s						
BUY				iP	Pn	03 29 07.2	+1.2
BUY				iS	Sn	03 29 30.1	-0.5
HRT	Hereke	2.14	169	PN	Pn	03 29 07.4	+0.5
KDZE	Karadeniz Ereo	2.35	133	S	Sn	03 29 36.5	-0.9
SAUV	Serdivan-Sakar	2.35	158	PN	Pn	03 29 10.6	+0.7
CFR	Carcaliu	2.37	342	⇓iP	Pn	03 29 09.3	-0.7
CFR	Carcaliu	2.37	342	S	Sn	03 29 36.3	-1.5
ARMT	Armutlu	2.37	185	PN	Pn	03 29 10.6	+0.5
SPNC	Sapanca-Adapaz	2.40	158	PN	Pn	03 29 11.1	+0.6
SAHE	Sakarya_HENDEK	2.43	148	IAML_P			
	comp=Z,111nm,0.1s						
SAHE				iP	Pn	03 29 11.5	+0.6
SAHE				iS	Sn	03 29 37.7	-1.8
GEYV	SAKARYA_Geyve	2.59	160	IAML_P			
	comp=Z,503nm,0.1s						
GEYV				iP	Pn	03 29 15.9	+2.8
GEYV				iS	Sn	03 29 43.3	0.0
BTIN	Bartın	2.64	118	IAML_P			
	comp=Z,4μm,0.1s						
BTIN				iP	Pn	03 29 14.0	+0.2
BTIN				iS	Sn	03 29 42.8	-1.7
SART	Tekirdag	2.68	214	IAML_P			
	comp=Z,594nm,0.1s						
SART				iP	Pn	03 29 15.8	+1.5
RKY	Sarkoy-Tekirda	2.68	214	PN	Pn	03 29 14.9	+0.5
GULT	Gulveren	2.69	157	PN	Pn	03 29 15.5	+0.9
KCTX	Karacabey (Bur	2.72	193	PN	Pn	03 29 15.6	+0.6
BTAS	Taskesti	2.73	149	IAML_P			
	comp=Z,304nm,0.1s						
BTAS				iP	Pn	03 29 16.8	+1.7
BTAS				iS	Sn	03 29 47.5	+0.6
EDC	Edincik	2.75	201	PN	Pn	03 29 15.9	+0.6
ULDT	Uludag	2.78	180	IAML_

σ1°41/18, mb3.8/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.33**	**163**	P	**Pn**	**03 31 18.7**	**-1.1**
	489nm,0.3s,baz=141,slow=2.4,SNR=213						
GUMO				S	**Sn**	**03 31 32.8**	**-2.7**
	576nm,0.3s,baz=164,slow=20,SNR=76						
H11S3	**WAKE ISLAND Hy**	**21.53**	**75**	T	T	03 57 52.6	
	baz=261,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**21.55**	**75**	T	T	03 57 54.6	
	baz=261,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**21.55**	**75**	T	T	03 57 42.9	
	baz=261,slow=75,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**21.94**	**72**	T	T	03 58 57.2	
	baz=257,slow=75,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**21.95**	**72**	T	T	03 59 03.2	
	baz=257,slow=75,SNR=2.1						
H11N3	**WAKE ISLAND Hy**	**21.96**	**72**	T	T	03 58 58.6	
	baz=257,slow=75,SNR=10.0						
MJAR	**Matsushiro Arr**	**23.30**	**347**	P	**P**	**03 35 52.5**	**-1.1**
	1.3nm,0.7s,baz=152,slow=7.1,SNR=4.0						
ASAJ	**Asahikawa**	**30.17**	**357**	LR	LR	03 47 37.7	
	comp=Z,16nm,21.2s,baz=158,slow=33						
WRA	**Warramunga Arr**	**35.16**	**197**	P	**P**	**03 37 38.6**	**-0.3**
	132nm,0.3s,baz=9.8,slow=7.9,SNR=1.4						
WRA				PcP	**PcP**	**03 40 09.5**	**+2.6**
	106nm,0.3s,baz=21,slow=4.4,SNR=0.8						
ASAR	**Alice Springs**	**38.82**	**196**	P	**P**	**03 38 09.6**	**-0.1**
	0.8nm,0.5s,baz=19,slow=12,SNR=20						
DZM	**Mont Dzumac**	**41.59**	**149**	P	**P**	**03 38 33.5**	**+0.9**
	12nm,0.6s,baz=239,slow=6.4,SNR=11						
STKA	**Stephens Creek**	**45.62**	**184**	P	**P**	**03 39 04.0**	**-0.5**
	2.3nm,0.7s,baz=359,slow=10.0,SNR=5.1						
MKAR	**Makanchi Array**	**61.20**	**316**	P	**P**	**03 40 59.8**	**+1.6**
	0.5nm,0.4s,baz=90,slow=9.2,SNR=5.9						
ILAR	**Eielson Array**	**68.33**	**25**	P	**P**	**03 41 42.3**	**-1.6**
	0.6nm,0.5s,baz=254,slow=5.5,SNR=12						
INK	**Inuvik**	**74.11**	**22**	P	**P**	**03 42 18.4**	**-0.2**
	1.4nm,1.0s,baz=218,slow=5.6,SNR=4.4						
YKA	**Yellowknife Ar**	**82.63**	**27**	P	**P**	**03 43 05.5**	**0.0**
	0.4nm,0.4s,baz=283,slow=5.5,SNR=4.1						
NVAR	**Mina Array Bea**	**86.80**	**51**	P	**P**	**03 43 28.4**	**+1.2**
	1.1nm,0.7s,baz=267,slow=4.7,SNR=6.2						
FINES	**FINESS Array B**	**90.84**	**335**	P	**P**	**03 43 44.8**	**-0.6**
	1.0nm,0.9s,baz=47,slow=3.4,SNR=4.1						
VNDA	**Vanda**	**91.78**	**176**	P	**P**	**03 43 49.7**	**+0.4**
	0.8nm,0.8s,baz=311,slow=5.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**134.61**	**305**	PKP	**PKiKP**	**03 50 02.2**	**0.0**
	0.2nm,0.4s,baz=46,slow=2.5,SNR=5.3						
DBIC	**Dimbokro**	**143.57**	**302**	PKP	**PKPdf**	**03 50 15.7**	**-1.5**
	2.6nm,0.6s,baz=37,slow=4.4,SNR=4.6						
LPAZ	**La Paz**	**148.17**	**99**	PKPbc	**PKPbc**	**03 50 30.7**	**+1.6**
	2.9nm,0.6s,baz=290,slow=1.8,SNR=15						

*IDC **28** 04:03:54.4±2.3, 43°.78N×17°.30W, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.5/42, mbtmp3.7/8, ML4.6/3, Error ellipse: s-maj=55.1km s-min=27.4km az=80.0*
*NEIC **28** 04:03:56.3±2.6, 43°.80N×17°.14W, h15km±9km, mb4.7/4, Error ellipse: s-maj=34.0km s-min=23.3km az=70.0*
*IGIL **28** 04:03:58.6, 43°.69N×17°.33W, h10km, ML3.8*
*MDD **28** 04:03:58.1±1.4, 43°.66N×17°.19W, h20km, mb4.7/30, Error ellipse: s-maj=13.7km s-min=10.5km az=81.0, PRXIMO*
*INMG **28** 04:04:01.2±2.1, 43°.68N×17°.32W, h10km, ML3.7, Error ellipse: s-maj=9.8km s-min=7.0km az=66.0*
*LDG **28** 04:04:01.4±0.4, 43°.84N×17°.03W, h30km, Ml4.2/22, Error ellipse: s-maj=7.2km s-min=5.4km az=95.0*
*ISCJB **28** 04:04:02.5±0.5, 43°.58N±0°.03×16°.12W±0°.04, h10km, mb4.0/8, Error ellipse: s-maj=4.7km s-min=4.0km az=148.2*

ISC 28 04:04:00.6±0.7, 43°.71N±0°.03×16°.32W±0°.04, h10km, n189,
σ2°81/318, mb4.0/8, 4D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**5.41**	**96**	P	**Pn**	**04 05 25.5**	**+4.1**
	8.7nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**04 06 28.5**	**+4.7**
	29nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**5.81**	**103**	P	**Pn**	**04 05 31.1**	**+4.2**
	11nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**04 06 38.3**	**+4.7**
	18nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.08**	**96**	P	**Pn**	**04 05 34.7**	**+4.1**
	6.1nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**04 06 45.4**	**+5.2**
	16nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.17**	**104**	⇓ePn	**Pn**	**04 05 36.3**	**+4.4**
PGAV				eSn	**Sn**	**04 06 46.7**	**+4.1**
PGAV				A	A	04 06 51.1	
	32nm,0.2s						
PGAV	**Gavieira, Arco**	**6.17**	**104**	P	**Pn**	**04 05 36.3**	**+4.4**
PGAV				S	**Sn**	**04 06 46.7**	**+4.1**
	32nm,0.2s						
PTO	**Porto**	**6.26**	**112**	ePn	**Pn**	**04 05 36.3**	**+3.2**
PTO				eSn	**Sn**	**04 06 48.6**	**+3.9**
PTO				A	A	04 06 51.4	
	38nm,0.2s						
PTO	**Porto**	**6.26**	**112**	P	**Pn**	**04 05 36.3**	**+3.2**
PTO				S	**Sn**	**04 06 48.6**	**+3.9**
	19nm,0.2s						
ELOB	**Lobios**	**6.35**	**104**	P	**Pn**	**04 05 38.5**	**+4.1**
	18nm,0.2s,SNR=100						
ELOB				S	**Sn**	**04 06 51.5**	**+4.5**
	16nm,0.1s,SNR=8.1						
PCAB	**Cabril**	**6.43**	**105**	ePn	**Pn**	**04 05 39.7**	**+4.3**
PCAB				eSn	**Sn**	**04 06 52.9**	**+4.1**
PCAB				A	A	04 06 56.6	
	43nm,0.3s						
PCAB	**Cabril**	**6.43**	**105**	P	**Pn**	**04 05 39.7**	**+4.3**
PCAB				S	**Sn**	**04 06 52.9**	**+4.1**
	22nm,0.3s						
EPON	**Pontenova**	**6.68**	**90**	⇓P	**Pn**	**04 05 42.8**	**+4.0**
	4.1nm,0.1s,SNR=18						
EPON				S	**Sn**	**04 06 58.4**	**+3.4**
	30nm,0.2s,SNR=11						
POLO	**Lamas de Olo**	**6.72**	**107**	ePn	**Pn**	**04 05 43.2**	**+3.8**
POLO				eSn	**Sn**	**04 06 59.7**	**+3.7**
POLO				A	A	04 07 08.8	
	6.1nm,0.7s						
POLO	**Lamas de Olo**	**6.72**	**107**	P	**Pn**	**04 05 43.2**	**+3.8**
POLO				S	**Sn**	**04 06 59.7**	**+3.7**
	6.1nm,0.7s						
PVRL	**Vila Real**	**6.81**	**108**	ePn	**Pn**	**04 05 44.0**	**+3.4**
PVRL				eSn	**Sn**	**04 07 01.9**	**+3.7**
PVRL	**Vila Real**	**6.81**	**108**	P	**Pn**	**04 05 44.0**	**+3.4**
PVRL				S	**Sn**	**04 07 01.9**	**+3.7**
COI	**Coimbra**	**6.86**	**118**	ePn	**Pn**	**04 05 43.8**	**+2.6**
COI				eSn	**Sn**	**04 07 01.5**	**+2.3**
COI				A	A	04 07 08.9	
	34nm,0.4s						
COI	**Coimbra**	**6.86**	**118**	ePn	**Pn**	**04 05 43.3**	**+2.1**
COI				eSn	**Sn**	**04 07 02.1**	**+2.8**
COI	**Coimbra**	**6.86**	**118**	P	**Pn**	**04 05 43.8**	**+2.6**
COI				S	**Sn**	**04 07 01.5**	**+2.3**
	17nm,0.4s						
PCAS	**Casmilo, Conde**	**6.89**	**119**	ePn	**Pn**	**04 05 44.4**	**+2.8**
PCAS				eSn	**Sn**	**04 07 01.9**	**+1.9**
PCAS				A	A	04 07 05.1	
	16nm,0.5s						
PCAS	**Casmilo, Conde**	**6.89**	**119**	P	**Pn**	**04 05 44.4**	**+2.8**
PCAS				S	**Sn**	**04 07 01.9**	**+1.9**
	16nm,0.5s						
PVIS	**Viseu**	**6.94**	**113**	ePn	**Pn**	**04 05 45.5**	**+3.1**
PVIS				eSn	**Sn**	**04 07 03.8**	**+2.5**
PVIS				A	A	04 07 08.8	
	14nm,0.1s						
PVIS	**Viseu**	**6.94**	**113**	P	**Pn**	**04 05 45.5**	**+3.1**
PVIS				S	**Sn**	**04 07 03.8**	**+2.5**
	6.8nm,0.1s						
PMAFR	**Mafra**	**7.11**	**129**	ePn	**Pn**	**04 05 46.5**	**+1.7**
PMAFR				eSn	**Sn**	**04 07 05.9**	**+0.3**
PMAFR				A	A	04 07 14.2	
	81nm,0.5s						
PMAFR	**Mafra**	**7.11**	**129**	P	**Pn**	**04 05 46.4**	**+1.7**
	30nm,0.2s,SNR=12						
PMAFR				S	**Sn**	**04 07 05.4**	**-0.2**
	46nm,0.2s,SNR=12						
PTOM	**Tomar**	**7.20**	**122**	ePn	**Pn**	**04 05 48.2**	**+2.3**
PTOM				eSn	**Sn**	**04 07 07.9**	**+0.3**
PTOM				A	A	04 07 13.4	
	35nm,0.4s						
PTOM	**Tomar**	**7.20**	**122**	P	**Pn**	**04 05 48.2**	**+2.3**
PTOM				S	**Sn**	**04 07 07.9**	**+0.3**
	18nm,0.4s						
ECAL	**Calabor**	**7.27**	**101**	P	Pn	04 05 51.5	+4.6
	23nm,0.3s,SNR=30						
ECAL				S	**Sn**	**04 07 13.7**	**+4.2**
	30nm,0.2s,SNR=9.9						
PBRG	**Braganca**	**7.30**	**102**	ePn	Pn	04 05 52.0	+4.6
PBRG				eSn	**Sn**	**04 07 14.5**	**+4.1**
PBRG				A	A	04 07 18.4	
	16nm,0.3s						
PBRG	**Braganca**	**7.30**	**102**	P	Pn	04 05 52.0	+4.6
PBRG				S	**Sn**	**04 07 14.5**	**+4.1**
	7.8nm,0.3s						
MTE	**Manteigas**	**7.32**	**114**	ePn	**Pn**	**04 05 49.8**	**+2.1**
MTE				eSn	**Sn**	**04 07 12.6**	**+1.8**
MTE				A	A	04 07 17.2	
	23nm,0.5s						
MTE	**Manteigas**	**7.32**	**114**	ePn	**Pn**	**04 05 49.8**	**+2.1**
MTE				eSn	**Sn**	**04 07 15.6**	**+4.7**
MTE	**Manteigas**	**7.32**	**114**	P	**Pn**	**04 05 49.8**	**+2.1**
MTE				S	**Sn**	**04 07 12.6**	**+1.8**
	12nm,0.5s						
MVO	**Moncorvo**	**7.33**	**107**	ePn	**Pn**	**04 05 51.4**	**+3.6**
MVO				eSn	**Sn**	**04 07 13.6**	**+2.5**
MVO				A	A	04 07 17.1	
	21nm,0.4s						
MVO	**Moncorvo**	**7.33**	**107**	P	**Pn**	**04 05 51.2**	**+3.5**
	10nm,0.2s,SNR=29						
MVO				S	**Sn**	**04 07 13.4**	**+2.4**
	20nm,0.2s,SNR=8.2						
PMTG	**Montargil**	**7.65**	**125**	ePn	**Pn**	**04 05 54.3**	**+2.2**
PMTG				eSn	**Sn**	**04 07 17.3**	**-1.5**
PMTG				A	A	04 07 30.0	
	9.9nm,0.2s						
PMTG	**Montargil**	**7.65**	**125**	P	**Pn**	**04 05 54.3**	**+2.2**
PMTG				S	**Sn**	**04 07 17.3**	**-1.5**
	9.9nm,0.2s						
PCBR	**Castelo Branco**	**7.66**	**117**	ePn	**Pn**	**04 05 54.4**	**+2.2**
PCBR				eSn	**Sn**	**04 07 20.9**	**+1.9**
PCBR				A	A	04 07 25.1	
	20nm,0.3s						
PCBR	**Castelo Branco**	**7.66**	**117**	P	**Pn**	**04 05 54.4**	**+2.2**
PCBR				S	**Sn**	**04 07 20.9**	**+1.9**
	10nm,0.3s						
PMRV	**Marv??o**	**7.94**	**120**	ePn	**Pn**	**04 05 58.2**	**+2.0**
PMRV				eSn	**Sn**	**04 07 26.4**	**+0.3**
PMRV				A	A	04 07 32.1	
	13nm,0.5s						
PMRV	**Marv??o**	**7.94**	**120**	P	**Pn**	**04 05 58.2**	**+2.0**
PMRV				S	**Sn**	**04 07 26.4**	**+0.3**
	13nm,0.5s						
EARI	**Arriondas**	**8.09**	**89**	P	**Pn**	**04 06 02.2**	**+4.0**
	6.1nm,0.2s,SNR=84						
EARI				S	**Sn**	**04 07 34.0**	**+4.3**
	9.0nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**8.13**	**131**	ePn	**Pn**	**04 05 59.9**	**+1.3**
PNCL				eSn	**Sn**	**04 07 29.6**	**-0.9**
PNCL				A	A	04 07 34.2	
	16nm,0.3s						
PNCL	**Nicolau / Gran**	**8.13**	**131**	P	**Pn**	**04 05 59.9**	**+1.3**
PNCL				S	**Sn**	**04 07 29.6**	**-0.9**
	16nm,0.3s						
PTEO	**Sao Teotonio**	**8.44**	**134**	ePn	**Pn**	**04 06 04.3**	**+1.4**
PTEO				eSn	**Sn**	**04 07 36.9**	**-1.3**
PTEO				A	A	04 07 44.8	
	27nm,0.3s						
PTEO	**Sao Teotonio**	**8.44**	**134**	P	**Pn**	**04 06 04.3**	**+1.4**
PTEO				S	**Sn**	**04 07 36.9**	**-1.3**
	13nm,0.3s						
EPLA	**Plasencia**	**8.46**	**112**	P	**Pn**	**04 06 06.7**	**+3.4**
	9.9nm,0.4s,SNR=27						
EPLA				S	**Sn**	**04 07 39.7**	**+0.8**
	7.8nm,0.3s,SNR=6.2						
MESJ	**Messejana**	**8.49**	**131**	eP	**Pn**	**04 06 05.3**	**+1.7**
MESJ				eS	**Sn**	**04 07 37.4**	**-2.1**
MESJ				AML	AML	04 07 42.7	
	comp=E,27nm,0.3s						
MESJ	**Messejana**	**8.49**	**131**	ePn	**Pn**	**04 06 05.6**	**+2.0**
MESJ				eSn	**Sn**	**04 07 38.0**	**-1.5**
MESJ				A	A	04 07 41.7	
	comp=E,19nm,0.8s						
MESJ	**Messejana**	**8.49**	**131**	P	**Pn**	**04 06 05.3**	**+1.7**
MESJ				P	**Pn**	**04 06 05.6**	**+2.0**
MESJ				S	**Sn**	**04 07 37.4**	**-2.1**
	comp=E,27nm,0.3s						
PBEJ	**Beja**	**8.56**	**129**	eSn	**Sn**	**04 07 40.1**	**-1.0**
PBEJ				A	A	04 07 45.8	
	comp=E,10nm,0.2s						
PBEJ	**Beja**	**8.56**	**129**	S	**Sn**	**04 07 40.1**	**-1.0**
	comp=E,5.2nm,0.2s						
EBAD	**Badajoz**	**8.58**	**122**	P	**Pn**	**04 06 06.5**	**+1.7**
	comp=E,2.4nm,0.2s,SNR=17						
EBAD				S	**Sn**	**04 07 40.4**	**-1.3**
	comp=E,15nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**8.66**	**135**	eP	**Pn**	**04 06 06.7**	**+0.7**
MORF				eS	**Sn**	**04 07 40.5**	**-3.2**
MORF				AML	AML	04 07 45.1	
	comp=N,72nm,0.2s						
MORF	**Marmelete**	**8.66**	**135**	ePn	**Pn**	**04 06 06.7**	**+0.7**
MORF				eSn	**Sn**	**04 07 41.1**	**-2.6**
MORF				A	A	04 07 48.0	
	comp=N,25nm,0.3s						
MORF	**Marmelete**	**8.66**	**135**	P	**Pn**	**04 06 06.7**	**+0.7**
MORF				S	**Sn**	**04 07 40.5**	**-3.2**
	comp=N,72nm,0.2s						
PFVI	**Vila Bisbo**	**8.70**	**136**	ePn	**Pn**	**04 06 08.1**	**+1.5**
PFVI				eSn	**Sn**	**04 07 41.2**	**-3.5**
PFVI				A	A	04 07 52.4	
	comp=N,11nm,0.6s						
PFVI	**Vila Bisbo**	**8.70**	**136**	ePn	**Pn**	**04 06 06.6**	**0.0**
PFVI				eSn	**Sn**	**04 07 41.3**	**-3.4**
PFVI	**Vila Bisbo**	**8.70**	**136**	P	**Pn**	**04 06 07.3**	**+0.8**
	comp=N,4.7nm,0.2s,SNR=7.2						
PFVI				S	**Sn**	**04 07 41.9**	**-2.8**
	comp=N,5.5nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**8.74**	**131**	ePn	**Pn**	**04 06 09.0**	**+1.9**
PCVE				eSn	**Sn**	**04 07 44.5**	**-1.1**
PCVE				A	A	04 07 47.9	
	comp=N,21nm,0.5s						
PCVE	**Castro Verde**	**8.74**	**131**	P	**Pn**	**04 06 09.0**	**+1.9**
PCVE				S	**Sn**	**04 07 44.5**	**-1.1**
	comp=N,21nm,0.5s						
PVAQ	**Vaqueiros**	**9.08**	**131**	ePn	**Pn**	**04 06 13.5**	**+1.8**
PVAQ				eSn	**Sn**	**04 07 51.9**	**-2.1**
PVAQ				A	A	04 07 57.3	
	comp=N,24nm,0.5s						
PVAQ	**Vaqueiros**	**9.08**	**131**	ePn	**Pn**	**04 06 13.7**	**+1.9**
PVAQ				eSn	**Sn**	**04 07 52.7**	**-1.3**
PVAQ	**Vaqueiros**	**9.08**	**131**	P	**Pn**	**04 06 13.5**	**+1.8**
PVAQ				S	**Sn**	**04 07 51.9**	**-2.1**
	comp=N,24nm,0.5s						
PBDV	**Barranco-do-Ve**	**9.08**	**132**	ePn	**Pn**	**04 06 14.2**	**+2.4**
PBDV				eSn	**Sn**	**04 07 52.6**	**-1.5**
PBDV				A	A	04 08 02.7	
	comp=N,15nm,0.6s						
PBDV	**Barranco-do-Ve**	**9.08**	**132**	P	**Pn**	**04 06 14.2**	**+2.4**
PBDV				S	**Sn**	**04 07 52.6**	**-1.5**
	comp=N,15nm,0.6s						
EGRO	**El Granado**	**9.12**	**130**	P	**Pn**	**04 06 14.5**	**+2.2**
	comp=N,1.5nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**04 07 54.1**	**-0.8**
	comp=N,12nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**9.39**	**88**	P	Pn	04 06 20.3	+4.3
	comp=N,7.1nm,0.2s,SNR=32						
ELAN				S	**Sn**	**04 08 04.3**	**+2.8**
	comp=N,4.9nm,0.4s,SNR=5.8						
EMIN	**Mina Concepcio**	**9.42**	**126**	P	**Pn**	**04 06 18.7**	**+2.3**
	comp=N,3.8nm,0.2s,SNR=26						
EMIN				S	**Sn**	**04 08 00.1**	**-2.3**
	comp=N,3.4nm,0.3s,SNR=10						
GUD	**Guadarrama**	**9.54**	**105**	⇓P	Pn	04 06 22.8	+4.7
	comp=N,5.1nm,0.2s,SNR=18						
GUD				S	**Sn**	**04 08 09.0**	**+3.5**
	comp=N,2.5nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**9.88**	**111**	ePn	**Pn**	**04 06 25.9**	**+3.2**
PAB				eSn	**Sn**	**04 08 13.9**	**+0.1**
PAB	**San Pablo**	**9.88**	**111**	P	**Pn**	**04 06 26.3**	**+3.5**
	comp=N,1.5nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**04 08 13.6**	**-0.2**
	comp=N,1.4nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**9.99**	**121**	P	**Pn**	**04 06 26.5**	**+2.3**
	comp=N,6.1nm,0.2s,SNR=57						
ECAB				S	**Sn**	**04 08 15.1**	**-1.2**
	comp=N,3.2nm,0.4s,SNR=5.5						
ESDC	**Sonseca Array**	**10.08**	**109**	P	**Pn**	**04 06 28.8**	**+3.2**
	comp=N,4.2nm,0.2s,baz=295,slow=13,SNR=62						
ESDC				S	**Sn**	**04 08 19.3**	**+0.6**
	comp=N,0.7nm,0.3s,baz=294,slow=24,SNR=7.5						
ESDC	**Sonseca Array**	**10.08**	**109**	Pn	**Pn**	**04 06 28.7**	**+3.2**
	comp=N,4.1nm,0.3s,baz=297,slow=13,SNR=43						
ESDC				Sn	**Sn**	**04 08 18.6**	**-0.1**
	comp=N,3.8nm,0.3s,baz=294,slow=23,SNR=11						
ESLA	**Sonseca Array**	**10.08**	**109**	ePn	**Pn**	**04 06 27.6**	**+2.1**
ESLA				eSn	**Sn**	**04 08 21.3**	**+2.6**
QUIF	**Quistinic**	**10.10**	**61**	ePn	**Pn**	**04 06 27.3**	**+1.6**
QUIF				eSn	**Sn**	**04 08 14.9**	**-4.1**
	comp=N,6.2nm,0.2s						
QUIF	**Quistinic**	**10.10**	**61**	ePn	**Pn**	**04 06 27.3**	**+1.6**
QUIF				eSn	**Sn**	**04 08 14.9**	**-4.1**
QUIF	**Quistinic**	**10.10**	**61**	P	**Pn**	**04 06 27.3**	**+1.6**
QUIF				S	**Sn**	**04 08 14.9**	**-4.1**
	comp=N,3.1nm,0.2s						
ROSF	**Rostrenen**	**10.19**	**58**	ePn	**Pn**	**04 06 27.6**	**+0.8**
ROSF				eSn	**Sn**	**04 08 16.2**	**-4.8**
	comp=N,24nm,0.5s						
ROSF	**Rostrenen**	**10.19**	**58**	ePn	**Pn**	**04 06 27.6**	**+0.8**
ROSF				eSn	**Sn**	**04 08 16.2**	**-4.8**
ROSF	**Rostrenen**	**10.19**	**58**	P	**Pn**	**04 06 27.6**	**+0.8**
ROSF				S	**Sn**	**04 08 16.2**	**-4.8**
	comp=N,12nm,0.5s						
EADA	**Adamuz**	**10.46**	**118**	⇓P	**Pn**	**04 06 33.2**	**+2.5**
	comp=N,2.7nm,0.1s,SNR=18						
EADA				S	**Sn**	**04 08 27.5**	**-0.5**
	comp=N,2.7nm,0.1s,SNR=7.9						
ESPR	**Espera**	**10.51**	**127**	P	**Pn**	**04 06 33.6**	**+2.3**
	comp=N,1.3nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**04 08 25.9**	**-3.2**
	comp=N,13nm,0.3s,SNR=7.9						
SGMF	**Saint Gilles**	**10.60**	**60**	ePn	**Pn**	**04 06 34.2**	**+1.7**
SGMF				eSn	**Sn**	**04 08 27.4**	**-3.8**
	comp=N,4.3nm,0.2s						
SGMF	**Saint Gilles**	**10.60**	**60**	ePn	**Pn**	**04 06 34.2**	**+1.7**
SGMF				eSn	**Sn**	**04 08 27.4**	**-3.8**
SGMF	**Saint Gilles**	**10.60**	**60**	P	**Pn**	**04 06 34.2**	**+1.7**
SGMF				S	**Sn**	**04 08 27.4**	**-3.8**
	comp=N,2.2nm,0.2s						
EALK	**Alkurruntz**	**10.79**	**87**	P	Pn	04 06 39.6	+4.4
	comp=N,3.2nm,0.3s,SNR=6.1						
EALK				S	**Sn**	**04 08 37.1**	**+1.2**
	comp=N,10nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**10.86**	**90**	S	**Sn**	**04 08 41.6**	**+3.9**
	comp=N,3.1nm,0.2s,SNR=7.9						
ETOR	**Torete**	**10.96**	**100**	P	Pn	04 06 43.1	+5.5
	comp=N,1.4nm,0.3s,SNR=6.8						
SJPF	**Ste Jean**	**11.00**	**88**	ePn	**Pn**	**04 06 42.1**	**+4.0**
SJPF				eSn	**Sn**	**04 08 40.7**	**-0.5**
	comp=N,4.9nm,0.2s						
SJPF	**Ste Jean**	**11.00**	**88**	ePn	**Pn**	**04 06 42.1**	**+4.0**
SJPF				eSn	**Sn**	**04 08 40.7**	**-0.5**
SJPF	**Ste Jean**	**11.00**	**88**	P	**Pn**	**04 06 42.1**	**+4.0**
SJPF				S	**Sn**	**04 08 40.7**	**-0.5**
	comp=N,2.5nm,0.2s						
EMIJ	**Mijas**	**11.35**	**125**	S	**Sn**	**04 08 48.0**	**-1.8**
	comp=N,0.9nm,0.2s,SNR=7.9						
ATE	**Arette**	**11.39**	**88**	P	Pn	04 06 48.1	+4.7
	comp=N,1.3nm,0.2s,SNR=7.9						
ATE				S	**Sn**	**04 08 53.9**	**+3.3**
	comp=N,1.0nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**11.40**	**121**	P	**Pn**	**04 06 47.0**	**+3.3**
	comp=N,1.3nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**04 08 48.6**	**-2.5**
	comp=N,0.7nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**11.52**	**89**	ePn	Pn	04 06 49.6	+4.4
ETSF				eSn	**Sn**	**04 08 54.2**	**+0.3**
	comp=N,3.8nm,0.2s						
ETSF	**Etsaut**	**11.52**	**89**	ePn	Pn	04 06 49.6	+4.4
ETSF				eSn	**Sn**	**04 08 54.2**	**+0.3**
ETSF	**Etsaut**	**11.52**	**89**	P	Pn	04 06 49.6	+4.4
ETSF				S	**Sn**	**04 08 54.2**	**+0.3**
	comp=N,1.9nm,0.2s						
DSB	**Dublin**	**11.59**	**31**	ePn	**Pn**	**04 06 42.6**	**-3.4**
EQES	**Quesada**	**11.65**	**116**	P	**Pn**	**04 06 49.5**	**+2.6**
	comp=N,1.4nm,0.2s,SNR=11						
EQES				S	**Sn**	**04 08 56.0**	**-1.1**
	comp=N,0.6nm,0.1s,SNR=7.9						
GRR	**Gorron**	**11.72**	**61**	ePn	**Pn**	**04 06 50.1**	**+2.3**
GRR				eSn	**Sn**	**04 08 55.8**	**-2.8**
	comp=N,4.5nm,0.3s						
GRR	**Gorron**	**11.72**	**61**	ePn	**Pn**	**04 06 50.1**	**+2.3**
GRR				eSn	**Sn**	**04 08 55.8**	**-2.8**
GRR	**Gorron**	**11.72**	**61**	P	**Pn**	**04 06 50.1**	**+2.3**
GRR				S	**Sn**	**04 08 55.8**	**-2.8**
	comp=N,2.2nm,0.3s						
EQUE	**Quentar**	**11.76**	**119**	P	**Pn**	**04 06 51.8**	**+3.3**
	comp=N,2.2nm,0.3s,SNR=9.3						
MFF	**Saint Martin d**	**11.78**	**70**	ePn	**Pn**	**04 06 50.2**	**+1.5**
MFF				eSn	**Sn**	**04 08 57.9**	**-2.3**
	comp=N,4.0nm,0.3s						
MFF	**Saint Martin d**	**11.78**	**70**	ePn	**Pn**	**04 06 50.2**	**+1.5**
MFF				eSn	**Sn**	**04 08 57.9**	**-2.3**
MFF	**Saint Martin d**	**11.78**	**70**	P	**Pn**	**04 06 50.2**	**+1.5**

comp=N,0.5nm,0.2s,SNR=7.9
EPOB S **Sn** **04 09 32.0 +0.7**
comp=N,0.5nm,0.2s,SNR=7.9
CAF Calviac 13.23 78 *e*Pn **Pn** **04 07 10.7 +2.2**
CAF *e*Sn **Sn** **04 09 32.5 -3.1**
comp=N,4.4nm,0.3s
CAF Calviac 13.23 78 *e*Pn **Pn** **04 07 10.7 +2.2**
CAF *e*Sn **Sn** **04 09 32.5 -3.1**
CAF Calviac 13.23 78 P **Pn** **04 07 10.7 +2.2**
CAF S **Sn** **04 09 32.5 -3.1**
comp=N,2.2nm,0.3s
EMIR Miracle 13.23 92 P P 04 07 13.7 -4.8
comp=N,0.7nm,0.2s,SNR=7.9
EMIR S **Sn** **04 09 36.7 +0.9**
comp=N,1.8nm,0.2s,SNR=7.9
TCF Toulx Ste Croi 13.37 72 *e*Pn **Pn** **04 07 11.8 +1.4**
TCF *e*Sn **Sn** **04 09 33.9 -5.1**
comp=N,4.5nm,0.3s
TCF Toulx Ste Croi 13.37 72 *e*Pn **Pn** **04 07 11.8 +1.4**
TCF *e*Sn **Sn** **04 09 33.9 -5.1**
TCF Toulx Ste Croi 13.37 72 P **Pn** **04 07 11.8 +1.4**
TCF S **Sn** **04 09 33.9 -5.1**
comp=N,2.2nm,0.3s
CLLI Llivia 13.43 89 P **P** **04 07 16.8 -4.1**
comp=N,0.6nm,0.3s,SNR=7.9
CLLI S **Sn** **04 09 42.6 +1.8**
comp=N,0.2nm,0.1s,SNR=7.9
MTLF Montolieu 13.46 85 *e*Pn **Pn** **04 07 14.8 +3.1**
MTLF *e*Sn **Sn** **04 09 39.9 -1.4**
comp=N,3.4nm,0.2s
MTLF Montolieu 13.46 85 *e*Pn **Pn** **04 07 14.8 +3.1**
MTLF *e*Sn **Sn** **04 09 39.9 -1.4**
MTLF Montolieu 13.46 85 P **Pn** **04 07 14.8 +3.1**
MTLF S **Sn** **04 09 39.9 -1.4**
comp=N,1.7nm,0.2s
BGF Bois d'Agland 13.83 71 *e*Pn **Pn** **04 07 18.8 +2.2**
BGF *e*Sn **Sn** **04 09 46.4 -3.8**
comp=N,10nm,0.3s
BGF Bois d'Agland 13.83 71 *e*Pn **Pn** **04 07 18.8 +2.2**
BGF *e*Sn **Sn** **04 09 46.4 -3.8**
BGF Bois d'Agland 13.83 71 P **Pn** **04 07 18.8 +2.2**
BGF S **Sn** **04 09 46.4 -3.8**
comp=N,5.2nm,0.3s
CFON Fontmartina 13.93 92 P **P** **04 07 22.3 -4.0**
comp=N,3.7nm,0.2s,SNR=14
CFON S **Sn** **04 09 53.6 +0.8**
comp=N,3.4nm,0.2s,SNR=7.9
MDT Midelt 14.23 136 Pn **Pn** **04 07 23.1 +0.8**
comp=N,0.4nm,0.3s,baz=359,slow=7.8,SNR=14
MDT Sn Sn 04 09 53.6 -6.6
comp=N,0.5nm,0.3s,baz=280,slow=17,SNR=7.9
SSF Saint Saulge 14.33 70 *e*Pn **Pn** **04 07 24.5 +1.0**
SSF *e*Sn **Sn** **04 09 56.1 -6.3**
comp=N,1.9nm,0.2s
SSF Saint Saulge 14.33 70 *e*Pn **Pn** **04 07 24.5 +1.0**
SSF *e*Sn **Sn** **04 09 56.1 -6.3**
SSF Saint Saulge 14.33 70 P **Pn** **04 07 24.5 +1.0**
SSF S **Sn** **04 09 56.1 -6.3**
comp=N,0.9nm,0.2s
ESK Eskdalemuir 14.38 32 *e*Pn Pn 04 07 18.7 -5.4
EKA Eskdalemuir Ar 14.41 32 Pn **Pn** **04 07 22.1 -2.4**
baz=223,slow=13,SNR=13
EKA Sn Sn 04 09 50.8 -13
baz=218,slow=24,SNR=2.9
SMF Signal de Mont 14.52 71 *e*Pn **Pn** **04 07 27.9 +1.8**
SMF Signal de Mont 14.52 71 *e*Pn **Pn** **04 07 27.9 +1.8**
SMF Signal de Mont 14.52 71 P **Pn** **04 07 27.9 +1.8**
LASF Ste Croix 14.56 82 *e*Pn **P** **04 07 29.5 -3.7**
LASF *e*Sn **Sn** **04 10 03.6 -4.4**
comp=N,8.7nm,0.4s
LASF Ste Croix 14.56 82 *e*Pn **P** **04 07 29.5 -3.7**
LASF *e*Sn **Sn** **04 10 03.6 -4.4**
LASF Ste Croix 14.56 82 P **P** **04 07 29.5 -3.7**
LASF S **Sn** **04 10 03.6 -4.4**
comp=N,4.3nm,0.4s
LOR Lormes 14.59 69 *e*Pn **Pn** **04 07 28.6 +1.5**
LOR *e*Sn **Sn** **04 10 03.9 -4.9**
comp=N,2.2nm,0.3s
LOR Lormes 14.59 69 *e*Pn **Pn** **04 07 28.6 +1.5**
LOR *e*Sn **Sn** **04 10 03.9 -4.9**
LOR Lormes 14.59 69 P **Pn** **04 07 28.6 +1.5**
LOR S **Sn** **04 10 03.9 -4.9**
comp=N,1.1nm,0.3s
VIVF Saint-Julien-l 15.08 78 *e*Pn **P** **04 07 36.3 -2.8**
VIVF *e*Sn **Sn** **04 10 16.7 -4.1**
comp=N,2.6nm,0.4s
VIVF Saint-Julien-l 15.08 78 *e*Pn **P** **04 07 36.3 -2.8**
VIVF *e*Sn **Sn** **04 10 16.7 -4.1**
VIVF Saint-Julien-l 15.08 78 P **P** **04 07 36.3 -2.8**
VIVF S **Sn** **04 10 16.7 -4.1**
comp=N,1.3nm,0.4s
SMRF Simiane la Rot 15.80 81 *e*Pn **P** **04 07 46.8 -0.2**
SMRF Simiane la Rot 15.80 81 *e*Pn **P** **04 07 46.8 -0.2**
SMRF Simiane la Rot 15.80 81 P **P** **04 07 46.8 -0.2**
LPL La Plagne 16.51 76 *e*Pn **P** **04 07 55.2 +0.1**
LPL La Plagne 16.51 76 *e*Pn **P** **04 07 55.2 +0.1**
LPL La Plagne 16.51 76 P **P** **04 07 55.2 +0.1**
FRF La Foret Royal 16.63 83 *e*Pn **P** **04 07 58.0 +1.9**
FRF La Foret Royal 16.63 83 *e*Pn **P** **04 07 58.0 +1.9**
FRF La Foret Royal 16.63 83 P **P** **04 07 58.0 +1.9**
NC602 NORSAR Array S 23.84 35 *e*P **P** **04 09 11.0 -2.6**
comp=N,4.1nm,0.9s
FIA0 FINESS Array S 30.55 40 *e*P **P** **04 10 12.9 -1.0**
FINES FINESS Array B 30.55 40 P **P** **04 10 12.9 -1.0**
comp=N,2.4nm,1.0s,baz=180,slow=15,SNR=2.6
ARCES ARCESS Array B 33.42 25 P **P** **04 10 35.9 -3.3**
comp=N,1.7nm,1.0s,baz=242,slow=9.5,SNR=5.3
TOA1 Torodi Ar. Sit 34.16 148 *e*P **P** **04 10 45.4 -0.6**
TORD Torodi Ar. Bea 34.17 148 P **P** **04 10 45.4 -0.7**
comp=N,0.5nm,1.0s,baz=334,slow=8.8,SNR=3.1
BR101 Keskin Array S 37.05 79 *e*P **P** **04 11 13.1 +2.2**
BRTR Keskin Array B 37.05 79 P **P** **04 11 13.1 +2.2**
comp=N,0.2nm,0.6s,baz=310,slow=9.6,SNR=2.1
CSS Mathiatis 38.89 86 *e*P **P** **04 11 25.0 -1.2**
comp=N,47nm,1.5s
MOQ Mont Orford 39.23 292 *e*P P 04 11 11.6 -18
PBMO Poplar Bluff 55.26 290 *e*P P 04 13 20.5 -13
comp=N,16nm,1.3s
MK32 Makanchi Array 64.81 49 *e*P **P** **04 14 38.3 -1.1**
MKAR Makanchi Array 64.81 49 P **P** **04 14 38.3 -1.1**
comp=N,0.3nm,0.6s,baz=328,slow=5.0,SNR=3.4
WR1 Warramunga Arr 145.91 55 *e*PKPdf **PKPdf** **04 23 36.6 -3.3**
WRA Warramunga Arr 145.91 55 PKPbc **PKPbc** **04 23 36.6 -3.9**
comp=N,137nm,0.3s,baz=329,slow=3.4,SNR=1.7
AS31 Alice Springs 148.43 60 *e*PKPbc **PKPbc** **04 23 43.6 -3.9**
ASAR Alice Springs 148.43 60 PKPbc **PKPbc** **04 23 43.6 -3.9**
comp=N,0.5nm,0.5s,baz=319,slow=2.0,SNR=5.2

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*ISCJB **28** 04:27:37.4±0.5,24°.88N±0°.02×122°.46E±0°.03,h8km±3km, Error ellipse: s-maj=4.6km s-min=3.3km az=43.1*
*JMA **28** 04:27:37.5,24°.90N×122°.46E,h19km±4km,M2.3*
*TAP **28** 04:27:38.1,24°.87N×122°.38E,h10km±1km,ML2.6,C*
ISC 28 04:27:37.4±1.1,**24°.87N**±0°.03×**122°.44E**±0°.03,**h9**km±10km, **n36**,σ0**944**/67,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.43**	**221**	*e*P	**Pb**	**04 27 47.1**	**0.0**
baz=215							
EOS1				*e*S	**Sb**	**04 27 54.0**	**+0.4**
baz=215							
TWB1	**Santiao Chiao**	**0.43**	**289**	*i* P	**Pb**	**04 27 46.6**	**-0.6**
baz=291							
TWB1				*i* S	**Sb**	**04 27 52.7**	**-1.0**
baz=291							
TIPB	**Shuangxi**	**0.56**	**280**	P	**Pb**	**04 27 49.0**	**-0.4**
baz=281							
TIPB				S	**Sb**	**04 27 57.2**	**-0.4**
baz=281							
TWC	**Suao**	**0.59**	**244**	*i* P	**Pg**	**04 27 49.3**	**+0.4**
baz=241							
TWC				S	**Sg**	**04 27 57.4**	**+0.7**
baz=241							
NWF	**Wu-fen Shan**	**0.62**	**289**	P	**Pb**	**04 27 50.1**	**-0.4**
baz=290							
NWF				S	**Sb**	**04 27 58.9**	**-0.6**
baz=290							
WFSB	**Wu-fen Shan**	**0.62**	**289**	*e*P	**Pb**	**04 27 50.0**	**-0.5**
baz=290							
WFSB				*e*S	**Sb**	**04 27 59.5**	**+0.1**
baz=290							
JYNG	**Yonaguni jima**	**0.63**	**132**	P	**Pg**	**04 27 49.6**	**+0.1**
JYNG				*e*S	**Sb**	**04 27 58.2**	**-1.2**
YOJ	**Yonaguni jima**	**0.67**	**128**	*e*P	**Pg**	**04 27 50.2**	**-0.1**
baz=125							
YOJ				*e*S	**Sg**	**04 27 59.2**	**+0.2**
baz=125							
YOJ	**Yonaguni jima**	**0.67**	**128**	P	**Pg**	**04 27 50.2**	**-0.1**
YOJ				*e*S	**Sg**	**04 27 59.1**	**+0.2**
TWE	**Neicheng**	**0.71**	**258**	P	**Pb**	**04 27 51.8**	**-0.2**
baz=256							
TWE				S	**Sb**	**04 28 01.7**	**-0.3**
baz=256							
NANB	**Nanao**	**0.77**	**235**	*e*P	**Pg**	**04 27 52.3**	**+0.2**
baz=232							
NANB				*e*S	**Sg**	**04 28 02.2**	**+0.1**
baz=232							
ENA	**Nanau**	**0.77**	**235**	P	**Pb**	**04 27 52.9**	**-0.1**
baz=232							
ENA				S	**Sb**	**04 28 03.2**	**-0.4**
baz=232							
YM07	**YM07**	**0.80**	**292**	*e*P	**Pg**	**04 27 52.6**	**-0.2**
baz=293							
YM07				*e*S	**Sg**	**04 28 03.8**	**+0.5**
baz=293							
PCYT	**Pengchaiyu**	**0.82**	**336**	P	**Pb**	**04 27 53.6**	**-0.3**
baz=340							
PCYT				S	**Sb**	**04 28 06.3**	**+1.2**
baz=340							
ENTT	**Nioudou**	**0.82**	**254**	P	**Pb**	**04 27 54.0**	**+0.1**
baz=252							
ENTT				S	**Sb**	**04 28 06.0**	**+0.8**
baz=252							
YM08	**YM08**	**0.83**	**292**	*e*P	**Pb**	**04 27 53.9**	**-0.1**
baz=293							
YM08				*e*S	**Sb**	**04 28 05.2**	**-0.1**
baz=293							
YM01	**YM01**	**0.83**	**289**	*e*P	**Pg**	**04 27 53.4**	**-0.1**
baz=290							
YM01				*e*S	**Sb**	**04 28 05.4**	**0.0**
baz=290							
YM11	**YM11**	**0.83**	**291**	*e*P	**Pb**	**04 27 54.7**	**+0.6**
baz=291							
YM10	**YM10**	**0.84**	**290**	*e*P	**Pb**	**04 27 54.0**	**-0.3**
baz=290							
YM10				*e*S	**Sb**	**04 28 06.2**	**+0.5**
baz=290							
NWLT	**Wulai**	**0.85**	**264**	*e*P	**Pb**	**04 27 54.2**	**-0.2**
baz=263							
NWLT				*e*S	**Sg**	**04 28 05.2**	**+0.2**
baz=263							
TWY	**Chenhua**	**0.86**	**298**	P	**Pb**	**04 27 54.6**	**+0.1**
baz=299							
TWY				S	**Sb**	**04 28 06.1**	**+0.1**
baz=299							
NDT	**Datong Townshi**	**0.88**	**252**	P	**Pb**	**04 27 54.9**	**0.0**
baz=251							
NDT				S	**Sb**	**04 28 06.8**	**+0.1**
baz=251							
YHNB	**Yeheng**	**0.98**	**258**	*e*P	**Pg**	**04 27 55.9**	**-0.5**
baz=257							
YHNB				*e*S	**Sb**	**04 28 10.2**	**+0.3**
baz=257							
NSK	**Sanguang**	**1.00**	**259**	P	**Pg**	**04 27 56.4**	**-0.2**
baz=258							
NSK				S	**Sg**	**04 28 08.9**	**-0.7**
baz=258							
NACB	**Ninganchiao**	**1.03**	**228**	*e*P	**Pg**	**04 27 56.7**	**-0.7**
baz=225							
NACB				*e*S	**Sg**	**04 28 10.7**	**-0.1**
baz=225							
NNSB	**Datong**	**1.05**	**245**	*e*P	**Pg**	**04 27 57.3**	**-0.4**
baz=244							
NNSB				*e*S	**Sb**	**04 28 12.3**	**+0.4**
baz=244							
NNS	**Nan Shan**	**1.06**	**246**	P	**Pb**	**04 27 57.9**	**0.0**
baz=244							
NNS				S	**Sb**	**04 28 12.2**	**+0.3**
baz=244							
ETLH	**Xiulin Townshi**	**1.09**	**233**	*e*P	**Pg**	**04 27 57.7**	**-0.8**
baz=231							
ETLH				*e*S	**Sb**	**04 28 13.3**	**+0.4**
baz=231							
TWD	**Chiawan**	**1.10**	**224**	P	**Pn**	**04 27 59.0**	**+0.1**
baz=221							
TWD				*e*S	**Sn**	**04 28 13.9**	**-0.3**
baz=221							
WHF	**Hehuan Shan**	**1.29**	**236**	P	**Pb**	**04 28 02.0**	**-0.1**
baz=234							
WHF				S	**Sg**	**04 28 18.6**	**-0.4**
baz=234							
TWT	**Tachien**	**1.30**	**242**	*e*P	**Pg**	**04 28 02.6**	**+0.1**
baz=240							
TWT				*e*S	**Sn**	**04 28 20.0**	**+0.5**
baz=240							
LIOB	**Emei**	**1.31**	**260**	*e*P	**Pn**	**04 28 01.5**	**-0.4**
baz=259							
OWD	**Renai**	**1.47**	**232**	*e*P	**Pb**	**04 28 04.8**	**-0.2**
baz=230							
OWD				*e*S	**Sg**	**04 28 24.5**	**-0.2**
baz=230							
VWDT	**VWDT**	**1.62**	**227**	*e*P	**Pn**	**04 28 06.6**	**+0.4**
baz=225							
HGSD	**Ruisui**	**1.66**	**214**	*e*P	**Pn**	**04 28 07.2**	**+0.6**
baz=212							
YULB	**Yu-li**	**1.80**	**215**	*e*P	**Pn**	**04 28 09.3**	**+0.6**
baz=213							

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*SOME **28** 04:28:45.5,44°.77N×81°.97E,h5km*
*ISCJB **28** 04:28:47.5±1.1,44°.74N±0°.05×82°.2E±0°.1,h10km, Error ellipse: s-maj=12.4km s-min=4.4km az=29.8*
*NNC **28** 04:28:47.1±1.0,44°.79N×81°.93E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=11.7km s-min=3.9km az=123.0*
ISC 28 04:28:46.0±1.4,**44°.77N**±0°.05×**82°.03E**±0°.08,**h10**km,**n18**, σ1**902**/30,**2C-3D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.66**	**256**	S	**Sg**	**04 29 39.1**	**-0.2**
15nm,0.5s							
DJR	**Jarkent**	**1.66**	**256**	*e*P	**Pb**	**04 29 16.5**	**-0.1**
15nm,0.4s							
DJR				*e*S	**Sg**	**04 29 39.0**	**-0.2**
15nm,0.5s							
KTMS	**Ketmen**	**1.79**	**223**	*e*P	**Pn**	**04 29 18.4**	**+1.4**
6.8nm,0.3s							
KTMS				*e*S	**Sb**	**04 29 42.5**	**+1.1**
64nm,0.5s							
KAPS	**Kapalarasan**	**1.96**	**286**	Pg	**Pb**	**04 29 22.0**	**+0.2**
7.7nm,0.4s							
KAPS				Lg	Lg	04 29 48.5	
9.8nm,0.5s							
KAPS	**Kapalarasan**	**1.96**	**286**	*e*P	**Pb**	**04 29 22.0**	**+0.2**
7.7nm,0.4s							
KAPS				*e*S	**Sg**	**04 29 48.5**	**-0.5**
9.8nm,0.5s							
MK31	**Makanchi Array**	**2.04**	**5**	Pn	**Pb**	**04 29 22.8**	**-0.2**
3.4nm,0.4s,baz=187,slow=13,SNR=46							
MK31				⇑Sn	**Sb**	**04 29 48.7**	**+0.2**
6.9nm,0.3s,baz=190,slow=27							
MAKZ	**Makanchi**	**2.04**	**359**	⇑Pn	**Pb**	**04 29 22.8**	**-0.3**
2.1nm,0.3s							
MAKZ				⇓Sn	**Sb**	**04 29 49.4**	**+0.8**
11nm,0.3s							
PDGK	**Podgornoye**	**2.33**	**233**	Pg	**Pb**	**04 29 27.6**	**-0.5**
5.1nm,0.5s							
PDGK				Lg	Lg	04 29 58.2	
20nm,0.6s							
PDGK	**Podgornoye**	**2.33**	**233**	⇓Pn	**Pb**	**04 29 27.3**	**-0.7**
7.8nm,0.6s							
PDGK				⇓Sn	**Sb**	**04 29 57.7**	**+0.8**
40nm,0.7s							
SHLS	**Shalkode**	**2.45**	**230**	Pg	**Pn**	**04 29 26.3**	**+0.1**
21nm,0.4s							
SHLS				Lg	Lg	04 29 55.6	
39nm,0.3s							
SHLS	**Shalkode**	**2.45**	**230**	*e*P	**Pn**	**04 29 26.3**	**+0.1**
21nm,0.4s							
SHLS				*e*S	**Sn**	**04 29 55.6**	**-0.7**
39nm,0.3s							
MNBS	**Baschi**	**2.69**	**256**	Pg	**Pb**	**04 29 34.0**	**-0.3**
6.5nm,0.5s							
MNBS				Lg	Lg	04 30 08.8	
19nm,0.4s							
MNBS	**Baschi**	**2.69**	**256**	*e*P	**Pb**	**04 29 34.0**	**-0.3**
6.5nm,0.5s							
MNBS				*e*S	**Sb**	**04 30 08.8**	**+1.6**
19nm,0.4s							
UZB	**Uzynbulak**	**2.71**	**234**	Pg	**Pb**	**04 29 34.3**	**-0.3**
3.6nm,0.6s							
UZB				Lg	Lg	04 30 09.6	
5.6nm,0.4s							
UZB	**Uzynbulak**	**2.71**	**234**	*e*P	**Pb**	**04 29 34.3**	**-0.3**
3.6nm,0.6s							
UZB				*e*S	**Sb**	**04 30 09.6**	**+1.8**
5.6nm,0.4s							
KPKS	**Kokpek**	**2.73**	**243**	*e*P	**Pb**	**04 29 34.5**	**-0.5**
11nm,0.3s							
KPKS				*e*S	**Sb**	**04 30 09.9**	**+1.3**
23nm,0.5s							
ARXS	**Arharly**	**3.06**	**261**	*e*P	**Pb**	**04 29 40.7**	**+0.2**
3.2nm,0.3s							
ARXS				*e*S	**Sg**	**04 30 20.5**	**-3.6**
14nm,0.4s							
SATY	**Saty**	**3.12**	**238**	*e*P	**Pb**	**04 29 40.5**	**-1.2**
4.3nm,0.2s							
SATY				*e*S	**Sb**	**04 30 19.9**	**+0.1**
10nm,0.3s							

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*ISCJB **28** 04:36:06.1±0.1,56°.19N±0°.01×120°.67W±0°.03,h10km, mb4.3/58,MS3.7/22,Error ellipse: s-maj=2.5km s-min=2.0km az=169.5*
*IDC **28** 04:36:06.4±0.5,56°.21N×121°.07W,h0km,mb4.0/13, mb1 4.1/23,mb1mx4.0/42,mbtmp4.0/23,ML3.5/10, MS3.5/30,Ms1 3.5/30,ms1mx3.4/58,Error ellipse: s-maj=8.2km s-min=6.6km az=94.0*
*PGC **28** 04:36:08.2±0.0,56°.15N×120°.87W,h5km,mb4.4,ML4.8/4, Mw4.2*
PGC 11km south of Fort St. John, Bc British Columbia, Canada Felt (I) at Ft. St. John and Taylor, British Columbia.
*NEIC **28** 04:36:09.2±0.0,56°.20N×120°.57W,h5km,mb4.4/128, MW4.0(SLM),MW4.2(OTT),After OTT.*
NEIC Felt [II] at Fort Saint John. Also felt at Dawson Creek and Taylor.
ISC 28 04:36:08.1±0.3,**56°.28N**±0°.03×**120°.56W**±0°.03,**h10**km, **n633**,σ1**995**/638,**mb4.5**/57,**MS3.7**/22,**British Columbia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDEA	**Red Earth Cree**	**2.92**	**82**	Pn	**Pn**	**04 36 58.6**	**+4.0**
RDEA				Sg	**Sg**	**04 37 44.1**	**+2.2**
FNBB	**Fort Nelson**	**2.94**	**334**	*e*Pn	**Pn**	**04 36 56.0**	**+1.2**
FNBB				*e*Sn	**Sn**	**04 37 31.4**	**+1.3**
FNBB				*e*Sg	**Sb**	**04 37 41.7**	**+5.3**
FNBB	**Fort Nelson**	**2.94**	**334**	Pn	**Pn**	**04 36 56.0**	**+1.2**
FNBB				Sn	**Sn**	**04 37 31.4**	**+1.3**
FNBB				Sg	**Sb**	**04 37 41.7**	**+5.3**
UBRB	**Upper Baezaeko**	**3.96**	**213**	*e*Pn	Pn	04 37 04.8	-4.2
UBRB				*e*Sn	**Sb**	**04 38 01.9**	**-4.1**
UBRB	**Upper Baezaeko**	**3.96**	**213**	Pn	Pn	04 37 04.8	-4.2
UBRB				Sg	**Sb**	**04 38 01.9**	**-4.1**
ATHA	**Athabasca**	**4.41**	**108**	Pn	**Pn**	**04 37 16.7**	**+1.7**
ATHA				Sn	**Sn**	**04 38 07.9**	**+1.5**
ATHA				Sg	**Sg**	**04 38 29.2**	**-0.3**
SLEB	**Sale Mountain**	**5.32**	**163**	*e*Pn	**Pn**	**04 37 27.0**	**-0.7**
SLEB				*e*Sn	**Sn**	**04 38 25.9**	**-3.2**
SLEB	**Sale Mountain**	**5.32**	**163**	Pn	**Pn**	**04 37 27.0**	**-0.7**
SLEB				Sn	**Sn**	**04 38 25.9**	**-3.2**
SLEB				Sg	**Sb**	**04 38 49.9**	**+4.8**
DLBC	**Dease Lake**	**5.56**	**297**	*e*Pn	**Pn**	**04 37 29.2**	**-1.7**
DLBC	**Dease Lake**	**5.56**	**297**	Pn	**Pn**	**04 37 28.3**	**-2.6**
1.3nm,0.3s,baz=93,slow=11,SNR=11							
DLBC				Pg	Pb	04 37 41.6	-3.7
2.1nm,0.3s,baz=99,slow=13,SNR=6.1							
DLBC				Lg	Lg	04 38 51.2	
2.5nm,0.3s,baz=144,slow=19,SNR=3.0							
DLBC				LR	LR	04 39 33.0	
comp=Z,108nm,18.4s,baz=154,slow=39							
DLBC	**Dease Lake**	**5.56**	**297**	Pn	**Pn**	**04 37 29.2**	**-1.7**
DLBC				Sg	**Sb**	**04 38 57.2**	**+5.2**
LLLB	**Lillooet**	**5.73**	**188**	*e*Pn	**Pn**	**04 37 30.7**	**-2.5**
LLLB				*e*Sn	**Sn**	**04 38 35.5**	**-3.6**
LLLB	**Lillooet**	**5.73**	**188**	Pn	**Pn**	**04 37 30.8**	**-2.5**
LLLB				Sn	**Sn**	**04 38 33.5**	**-5.5**
LLLB				Sg	**Sb**	**04 39 01.7**	**+4.9**
FSMA	**Fort Smith**	**5.94**	**48**	Sg	**Sg**	**04 39 21.3**	**+2.9**
BBB	**Bella Bella**	**6.03**	**230**	*e*Pn	Pn	04 37 33.2	-4.1
BBB				*e*Sn	**Sn**	**04 38 37.6**	**-8.7**
BBB	**Bella Bella**	**6.03**	**230**	Pn	Pn	04 37 32.7	-4.5
1.5nm,0.3s,baz=68,slow=7.9,SNR=22							
BBB				Pg	Pb	04 37 43.6	-10
1.8nm,0.3s,baz=131,slow=20,SNR=8.4							
BBB				Sn	Sn	04 38 36.6	-10
2.4nm,0.3s,baz=325,slow=23,SNR=5.7							
BBB				Lg	Lg	04 39 02.4	
3.8nm,0.3s,baz=337,slow=23,SNR=3.2							
BBB	**Bella Bella**	**6.03**	**230**	Pn	Pn	04 37 33.0	-4.3
BBB				Sn	**Sn**	**04 38 37.6**	**-8.7**
BBB				Sg	**Sb**	**04 39 08.1**	**+2.7**
WSLR	**Whistler**	**6.32**	**194**	Sn	Sn	04 38 44.2	-9.3
WSLR				Sg	**Sb**	**04 39 20.2**	**+6.5**
WRAK	**Wrangell Islan**	**6.56**	**276**	*e*Pn	**Pn**	**04 37 41.5**	**-3.0**
WRAK				*e*Sn	**Sn**	**04 38 57.2**	**-1.9**
TLCB	**Telegraph Cove**	**6.85**	**216**	Sg	**Sb**	**04 39 30.6**	**+1.6**
CBB	**Campbell River**	**6.89**	**207**	Sg	**Sb**	**04 39 31.9**	**+1.9**
HOPB	**Hope**	**6.92**	**185**	Sg	**Sb**	**04 39 34.2**	**+3.3**
PHC	**Port Hardy**	**6.92**	**219**	Sg	**Sb**	**04 39 34.5**	**+3.6**
YKA	**Yellowknife Ar**	**6.94**	**24**	Pn	**Pn**	**04 37 49.7**	**+0.1**
1.8nm,0.3s,baz=200,slow=13,SNR=64							
YKA				Sn	**Sn**	**04 39 08.3**	**-0.2**
5.9nm,0.3s,baz=199,slow=22,SNR=7.3							
YKA				Lg	Lg	04 39 45.6	
2.3nm,0.3s,baz=207,slow=30,SNR=3.5							
YKA				LR	LR	04 41 00.6	
comp=Z,60nm,18.2s,baz=203,slow=41							
YKB5	**Yellowknife Ar**	**6.94**	**24**	*e*Pn	**Pn**	**04 37 49.7**	**+0.1**
YKB5				*e*Sn	**Sn**	**04 39 08.3**	**-0.2**
SHB	**Sechelt**	**6.98**	**198**	Sg	**Sb**	**04 39 37.4**	**+4.6**
YKW3	**Yellowknife Ar**	**6.99**	**23**	*e*Pn	**Pn**	**04 37 51.2**	**+0.8**
YKW3				*e*Pb	Pg	04 38 19.7	-2.1
YKW3				*e*Sn	**Sn**	**04 39 09.5**	**-0.4**
YKW3				*e*Sg	**Sg**	**04 39 53.0**	**+0.8**
YKW3	**Yellowknife Ar**	**6.99**	**23**	Pn	**Pn**	**04 37 51.2**	**+0.8**
YKW3				Pg	Pg	04 38 19.7	-2.1
YKW3				Sn	**Sn**	**04 39 09.5**	**-0.4**
YKW3				Sg	**Sg**	**04 39 53.0**	**+0.8**
PNT	**Penticton**	**6.99**	**175**	*e*Pn	**Pn**	**04 37 49.4**	**-1.1**
PNT	**Penticton**	**6.99**	**175**	Pn	**Pn**	**04 37 49.4**	**-1.1**
PNT				Sg	**Sb**	**04 39 37.3**	**+4.2**
MAYB	**Maynard**	**7.09**	**217**	*e*Pn	**Pn**	**04 37 49.2**	**-2.7**
MAYB	**Maynard**	**7.09**	**217**	Pn	**Pn**	**04 37 49.2**	**-2.7**
MAYB				Sg	**Sb**	**04 39 38.7**	**+2.8**
WOSB	**Woss**	**7.11**	**213**	*e*Pn	**Pn**	**04 37 49.9**	**-2.3**
WOSB	**Woss**	**7.11**	**213**	Pn	**Pn**	**04 37 49.9**	**-2.3**
WOSB				Sg	**Sb**	**04 39 39.6**	**+3.2**
PACB	**Port Alice, BC**	**7.17**	**218**	Sg	**Sb**	**04 39 39.0**	**+1.0**
HOLB	**Holberg**	**7.23**	**222**	Sg	**Sb**	**04 39 42.4**	**+2.6**
GDR	**Gold River**	**7.29**	**209**	Sg	**Sb**	**04 39 45.1**	**+3.5**
MOBC	**Moresby Island**	**7.32**	**249**	*e*Pn	**Pn**	**04 37 52.2**	**-2.7**
MOBC				*e*Sb	**Sb**	**04 39 44.9**	**+2.6**
MOBC	**Moresby Island**	**7.32**	**249**	Pn	**Pn**	**04 37 51.4**	**-3.5**
MOBC				Sg	**Sb**	**04 39 44.9**	**+2.6**
VDB	**Vedder Mountai**	**7.32**	**188**	*e*Pn	**Pn**	**04 37 52.4**	**-2.6**
VDB	**Vedder Mountai**	**7.32**	**188**	Pn	**Pn**	**04 37 52.4**	**-2.6**
VDB				Sg	**Sb**	**04

baz=6.1
WALA Waterton Lakes 8.28 148 ePn Pn 04 38 06.8 -1.3
WALA eSn Sn 04 39 37.2 -4.6
WALA Waterton Lakes 8.28 148 Pn Pn 04 38 06.9 -1.3
WALA Sn Sn 04 39 33.8 -8.0
WALA Sg Sb 04 40 19.7 +10
NEW Newport 8.29 164 ePn Pn 04 38 04.8 -3.6
NEW eSn Sn 04 39 39.3 -2.8
NEW Newport 8.29 164 P Pn 04 38 05.1 -3.3
baz=346
NEW Newport 8.29 164 Pn Pn 04 38 08.0 -0.4
0.3nm,0.3s,baz=350,slow=11,SNR=7.9
NEW Lg Lg 04 40 21.7
3.2nm,0.3s,baz=72,slow=19,SNR=7.1
NEW LR LR 04 41 42.2
comp=Z,196nm,21.9s,baz=339,slow=40
C09A Chrisman Ranch 8.60 170 Sg Sg 04 40 27.2 -17
WHY Whitehorse 8.69 306 ePn Pn 04 38 11.7 -2.1
WHY Whitehorse 8.69 306 Sg Sg 04 40 31.3 -15
GNW Green Mountain 8.84 190 Sg Sg 04 40 32.9 -19
LTY Liberty 9.03 180 Sg 04 40 41.9
D05A Enumclaw 9.14 186 ePn Pn 04 38 19.8 -0.2
BSMT Bassoo Peak 9.15 155 ePn Pn 04 38 19.4 -0.9
BSMT Bassoo Peak 9.15 155 Pn Pn 04 38 19.4 -0.9
D08A Wollman Farm, 9.29 173 ePn Pn 04 38 22.9 +1.0
D08A eSn Sn 04 40 07.0 +0.7
YBMT Yellow Bay 9.34 152 ePn Pn 04 38 22.3 -0.4
YBMT Yellow Bay 9.34 152 Pn Pn 04 38 22.3 -0.4
FMW Mount Fremont 9.38 185 Sg Sn 04 40 55.7 +47
FBMT Ferry Basin 9.65 154 ePn Pn 04 38 26.6 -0.5
FBMT Ferry Basin 9.65 154 Pn Pn 04 38 26.6 -0.5
FBMT Sg Sn 04 41 05.0 +49
SWMT Swartz Lake 9.66 153 ePn Pn 04 38 26.2 -1.1
SWMT Swartz Lake 9.66 153 Pn Pn 04 38 26.2 -1.1
E04D Cinebar 9.81 188 P Pn 04 38 26.4 -2.7
baz=6.6
E08A Dider Farm, El 9.84 174 ePn Pn 04 38 30.7 +1.1
E08A eSn Sn 04 40 17.9 -2.1
HYT Haines Junctio 9.95 304 ePn Pn 04 38 31.2 +0.2
HYT Haines Junctio 9.95 304 Sg Sn 04 41 16.8 +54
SLMT Seeley Lake 10.04 151 ePn Pn 04 38 30.6 -1.8
SLMT Seeley Lake 10.04 151 Pn Pn 04 38 30.6 -1.8
SLMT Sg Sn 04 41 17.6 +52
YUK7 Dusty Glacier 10.15 302 Sg Sn 04 41 23.9 +56
MSO Missoula 10.31 154 ePn Pn 04 38 33.7 -2.4
MSO Missoula 10.31 154 P Pn 04 38 31.3 -4.7
baz=339,SNR=5.3
F04D Rainier, OR 10.32 190 P Pn 04 38 32.4 -3.7
baz=7.7
YUK6 Outpost Mounta 10.38 304 Sg Sn 04 41 32.1 +59
F05D White Salmon 10.42 183 P Pn 04 38 33.7 -3.8
baz=2.8
F10A Beach Ranch, E 10.53 167 ePn Pn 04 38 39.1 +0.2
EGMT Eagleton 10.59 137 ePn Pn 04 38 37.7 -2.1
EGMT Eagleton 10.59 137 P Pn 04 38 37.6 -2.2
baz=325,SNR=36
LYMT Lyon Mountain 10.63 148 ePn Pn 04 38 38.6 -2.0
LYMT Lyon Mountain 10.63 148 Pn Pn 04 38 38.6 -2.0
YUK4 Talbot Arm 10.65 306 Sg 04 41 43.9
FFC Flin Flon 10.65 91 ePn Pn 04 38 41.3 +0.7
BCPM Bancas Point 10.73 298 eSn Sn 04 40 52.7 +11
BPMT Black Pine Rid 10.80 153 ePn Pn 04 38 40.9 -2.0
BPMT Black Pine Rid 10.80 153 Pn Pn 04 38 40.9 -2.0
BPMT Sg Sn 04 41 41.5 +58
DHRN Dharma Camp 10.81 2 Pn Pn 04 38 42.8 +0.1
DHRN Sn Sn 04 40 40.2 -3.3
DHRN Sg 04 41 52.0
ELMT Elliston 10.98 149 Pn Pn 04 38 43.1 -2.2
HRY Holter Researc 11.00 147 ePn Pn 04 38 43.5 -2.1
HRY Holter Researc 11.00 147 Pn Pn 04 38 43.5 -2.1
G08A Pilot Rock 11.05 174 ePn Pn 04 38 46.4 +0.3
PLID Pearl Lake 11.56 164 ePn Pn 04 38 52.9 -0.4
YUK3 Moose Creek 11.61 306 Sg 04 42 12.6
BMO Blue Mountains 11.62 168 ePn Pn 04 38 53.6 -0.3
YUK2 White River 11.79 306 Sg 04 42 18.6
KUKN Kugluktuk,NWT 11.86 10 ePn Pn 04 38 56.9 -0.2
KUKN eSn Sn 04 41 04.8 -4.4
KUKN Kugluktuk,NWT 11.86 10 Pn Pn 04 38 56.9 -0.2
KUKN Sn Sn 04 41 04.8 -4.4
KUKN Sg 04 42 26.9
DLMT Dillon 12.02 152 ePn Pn 04 38 57.4 -2.1
BOZ Bozeman (W) 12.07 149 ePn Pn 04 38 57.3 -2.9
BOZ Bozeman (W) 12.07 149 P Pn 04 38 56.4 -3.8
baz=335,SNR=5.5
DAWY Dawson 12.16 318 ePn Pn 04 39 02.4 +1.2
I07A Izee 12.23 176 ePn Pn 04 39 03.7 +1.5
BALM Baldy 12.28 302 ePn Pn 04 39 08.1 +5.3
I02D Swisshome 12.36 191 P Pn 04 39 01.3 -2.6
baz=8.6
MCMT McKenzie Canyo 12.45 154 ePn Pn 04 39 04.9 -0.6
PINE Pine Mountain 12.50 181 ePn Pn 04 39 08.5 +2.4
GCMT Greycliff 12.52 142 ePn Pn 04 39 04.5 -1.7
I04A Tendick Farm, 12.55 186 P Pn 04 39 04.5 -2.1
baz=4.8
DGMT Dagmar 12.66 121 ePn Pn 04 39 06.6 -1.6
DGMT Dagmar 12.66 121 P Pn 04 39 06.4 -1.8
baz=314,SNR=17
EPYK Eagle Plains 12.70 329 ePn Pn 04 39 10.4 +1.8
EPYK Eagle Plains 12.70 329 P Pn 04 39 08.5 -0.1
baz=135
J05D Fort Rock, OR 13.01 182 P Pn 04 39 11.6 -1.4
baz=1.6,SNR=8.1
YHH Holmes Hill 13.04 148 ePn Pn 04 39 10.7 -2.8
LAO LASA Array 13.09 131 ePn Pn 04 39 11.5 -2.5
LAO LASA Array 13.09 131 P Pn 04 39 11.6 -2.3
baz=322,SNR=14
YMR Madison River 13.11 148 ePn Pn 04 39 12.5 -1.9
RLMT Red Lodge 13.24 143 ePn Pn 04 39 16.2 0.0
RLMT Red Lodge 13.24 143 P Pn 04 39 13.7 -2.5
baz=331
HLID Hailey 13.32 160 ePn Pn 04 39 16.4 -0.8
HLID Hailey 13.32 160 P Pn 04 39 15.5 -1.7
baz=345,SNR=16
MENT Mentasta 13.43 309 ePn Pn 04 39 17.9 -0.6
INK Inuvik 13.45 339 ePn Pn 04 39 17.1 -1.5
INK eSn Sn 04 41 36.5 -11
INK Inuvik 13.45 339 Pn Pn 04 39 16.3 -2.3
0.5nm,0.3s,baz=152,slow=7.9,SNR=14
INK Sn Sn 04 41 38.3 -10
0.2nm,0.3s,baz=76,slow=8.3,SNR=2.5
INK LR LR 04 45 03.4
comp=Z,171nm,19.7s,baz=146,slow=40
INK Inuvik 13.45 339 Pn Pn 04 39 17.1 -1.5
INK Sn Sn 04 41 36.5 -11
H17A Grant Village 13.47 148 ePn Pn 04 39 20.6 +1.2
H17A Grant Village 13.47 148 P Pn 04 39 17.9 -1.6
baz=335
K05A Summer Lake 13.56 181 ePn Pn 04 39 22.3 +1.7
K04D Chiloquin, OR 13.69 184 P Pn 04 39 20.2 -2.0
baz=2.8
FLWY Flagg Ranch 13.72 149 ePn Pn 04 39 22.9 +0.1
IMW Indian Meadow 13.82 150 ePn Pn 04 39 26.9 +2.6
DOT Dot Lake 13.83 312 ePn Pn 04 39 26.5 +2.6
DOT Dot Lake 13.83 312 Pn Pn 04 39 26.5 +2.6
DOT Sg 04 43 27.1
WVOR Wild Horse Val 13.91 174 ePn Pn 04 39 27.0 +1.8
SCRK Sand Creek 13.92 313 ePn Pn 04 39 27.5 +2.2
MOOW Moose Ponds 14.02 149 ePn Pn 04 39 26.1 -0.7
FXWY Fox Creek 14.04 150 ePn Pn 04 39 27.4 +0.3
L04D Klamath Falls 14.12 185 P Pn 04 39 26.2 -1.9
baz=4.0
LOHW Long Hollow 14.18 149 ePn Pn 04 39 28.1 -0.9
RIDG Independent Ri 14.18 312 ePn Pn 04 39 31.3 +2.5
TPAW Teton Pass 14.20 150 ePn Pn 04 39 30.0 +0.6
SNOW Snow King Moun 14.28 150 ePn Pn 04 39 31.2 +0.8
REDW Red Top Meadow 14.34 150 ePn Pn 04 39 31.9 +0.7
MOD Modoc Plateau 14.39 179 ePn Pn 04 39 34.6 +2.8
FCC Fort Churchill 14.40 69 ePn Pn 04 39 29.9 -1.8
FCC eSn Sn 04 42 01.7 -10
FCC Fort Churchill 14.40 69 Pn Pn 04 39 29.9 -1.8
FCC Sn Sn 04 42 01.7 -10
FCC Sg 04 43 35.7
M04C Macdoel 14.53 184 P Pn 04 39 31.2 -2.6
baz=2.8
YBH Yreka Blue Hor 14.62 186 LR LR 04 45 27.5
comp=Z,226nm,18.1s,baz=6.0,slow=39
AHID Auburn Hatcher 14.83 152 ePn Pn 04 39 38.1 +0.2
BW06 Boulder Array 15.26 148 ePn Pn 04 39 44.1 +0.4
27nm,1.1s
BW06 Boulder Array 15.26 148 P Pn 04 39 42.9 -0.8
baz=336,SNR=11
PD31 Pinedale Array 15.26 148 ePn Pn 04 39 43.4 -0.3
PDAR Pinedale Array 15.26 148 Pn Pn 04 39 43.4 -0.3
0.1nm,0.3s,baz=353,slow=10,SNR=14
HDA Harding Lake 15.29 313 ePn Pn 04 39 44.0 +0.4
7.1nm,1.2s
HDA Harding Lake 15.29 313 P Pn 04 39 41.6 -2.1
baz=110
MDND Maddock 15.35 115 ePn Pn 04 39 44.5 -0.2
40nm,1.0s
MDND Maddock 15.35 115 P Pn 04 39 41.5 -3.2
baz=311
N02D Trinity Center 15.38 186 P Pn 04 39 41.2 -3.9
baz=4.5
ILAR Eielson Array 15.39 314 Pn Pn 04 39 42.5 -2.5
0.0nm,0.3s,baz=118,slow=12,SNR=17
ILAR Lg Lg 04 44 06.5
baz=113,slow=25,SNR=4.6
ILB Eielson Array 15.39 314 ePn Pn 04 39 42.5 -2.5
FYU Fort Yukon 15.54 321 ePn Pn 04 39 47.8 +0.9
32nm,1.4s
CCB Clear Creek Bu 15.71 313 ePn Pn 04 39 50.0 +0.7
9.5nm,1.2s
WRH Wood River Hil 15.77 313 ePn Pn 04 39 50.8 +0.8
18nm,1.2s
HWUT Hardware Ranch 15.80 155 ePn Pn 04 39 51.5 +0.8
9.9nm,1.1s
SPUT South Promonto 15.88 157 ePn Pn 04 39 52.1 +0.4
23nm,1.4s
ULM Lac du Bonnet 15.90 102 ePn Pn 04 39 50.1 -1.6
26nm,1.4s
ULM eSn Sn 04 42 34.8 -13
ULM Lac du Bonnet 15.90 102 Pn Pn 04 39 49.2 -2.5
0.4nm,0.3s,baz=301,slow=13,SNR=10
ULM Sn Sn 04 42 37.4 -10
0.7nm,0.3s,baz=248,slow=18,SNR=3.3
ULM Lg Lg 04 44 17.8
0.3nm,0.3s,baz=346,slow=2.2,SNR=3.5
ULM LR LR 04 46 23.7
comp=Z,122nm,18.0s,baz=332,slow=38
ULM Lac du Bonnet 15.90 102 Pn Pn 04 39 50.1 -1.6
ULM Sn Sn 04 42 34.8 -13
ULM Sg 04 44 26.5
ELK Elko 15.93 165 ePn Pn 04 39 53.9 +1.5
12nm,1.1s
ELK ePcP PcP 04 44 48.4 -1.6
ELK Elko 15.93 165 Pn Pn 04 39 52.3 -0.1
0.1nm,0.3s,baz=358,slow=6.4,SNR=13
ELK Lg Lg 04 44 18.2
0.0nm,0.3s,baz=320,slow=7.9,SNR=3.6
ELK LR LR 04 45 55.2
comp=Z,106nm,19.8s,baz=348,slow=37
MDM Murphy Dome 15.99 314 ePn Pn 04 39 53.4 +0.6
4.8nm,0.8s
BMN Battle Mountai 16.01 171 ePn Pn 04 39 52.6 -0.7
14nm,1.1s
O03E Paynes Creek 16.01 183 P Pn 04 39 51.0 -2.4
baz=2.5,SNR=6.8
RSSD Black Hills 16.07 132 ePn Pn 04 39 51.0 -3.1
14nm,0.9s
RSSD Black Hills 16.07 132 P Pn 04 39 51.2 -2.9
baz=325
BGU Big Grassy Mou 16.13 159 ePn Pn 04 39 54.9 0.0
4.7nm,1.0s
O02D Mt. Diablo Mer 16.18 186 P Pn 04 39 53.8 -1.6
baz=4.5
TCUT Toone Canyon 16.30 155 ePn Pn 04 39 57.6 +0.4
118nm,1.5s
K22A Casper 16.36 141 ePn Pn 04 39 56.4 -1.4
24nm,1.0s
K22A Casper 16.36 141 P Pn 04 39 55.7 -2.1
baz=331
PAHR Pah Rah Range 16.60 177 ePn Pn 04 40 02.4 +1.5
16nm,1.4s
ORV Oroville 16.74 183 ePn Pn 04 40 02.5 0.0
19nm,1.3s
JLU Jordanelle 16.78 155 ePn Pn 04 39 59.2 -4.1
5.6nm,0.9s
DUG Dugway, Tooele 16.88 159 ePn Pn 04 40 05.8 +1.4
9.5nm,0.8s
DUG Dugway, Tooele 16.88 159 P Pn 04 40 02.4 -2.0
baz=345,SNR=13
BPAW Bear Paw Mtn. 16.89 310 ePn P 04 40 07.9 +1.6
8.8nm,1.2s
RWWY Rawlins 16.98 144 ePn Pn 04 40 05.3 -0.5
35nm,1.2s
AGMN Agassiz Nation 17.02 108 ePn P 04 40 08.5 +0.7
AGMN Agassiz Nation 17.02 108 P Pn 04 40 05.0 -0.9
baz=307,SNR=10
NLU North Lily Min 17.26 158 ePn P 04 40 11.3 +0.5
8.8nm,1.2s
KVN Kaiserville 17.31 174 ePn Pn 04 40 11.2 +1.3
14nm,1.4s
EPLO Experimental L 17.38 101 Pn Pn 04 40 07.8 -2.7
EPLO Sn Sn 04 43 10.7 -13
COLD Coldfoot 17.59 320 ePn Pn 04 40 14.0 +1.0
7.5nm,1.3s
RYN Ryan 17.71 175 ePn Pn 04 40 14.1 -0.7
5.4nm,0.9s
NV01 Mina Array Sit 17.92 174 ePn Pn 04 40 17.5 0.0
NVAR Mina Array Bea 17.92 174 P Pn 04 40 17.5 0.0
0.1nm,0.3s,baz=349,slow=9.3,SNR=13
NVAR LR LR 04 48 04.6
comp=Z,38nm,21.9s,baz=354,slow=40
PHWY Pilot Hill 17.92 140 ePn Pn 04 40 16.9 -0.7
23nm,1.1s
TOLK Toolik Lake Re 18.01 325 ePn Pn 04 40 20.7 +2.5
15nm,1.4s
TOLK Toolik Lake Re 18.01 325 P Pn 04 40 17.8 -0.4
baz=119,SNR=7.4
P17A Butcher Ranch, 18.02 155 ePn Pn 04 40 18.1 -0.6
17nm,1.2s
O20A White River Ci 18.07 148 ePn Pn 04 40 18.0 -1.2
34nm,1.3s
O20A White River Ci 18.07 148 P Pn 04 40 17.7 -1.6
baz=337,SNR=19
SUSD Miller 18.08 122 P Pn 04 40 16.7 -2.5
baz=318
TMUT Trail Mountain 18.08 156 ePn Pn 04 40 18.6 -1.0
4.6nm,0.9s
SOLO Sioux Lookout 18.10 98 Pn Pn 04 40 17.3 -2.2
N23A Red Feather La 18.11 142 ePn Pn 04 40 18.7 -1.2
32nm,1.2s
N23A Red Feather La 18.11 142 P Pn 04 40 18.3 -1.6
baz=333,SNR=16
R11A Troy Canyon, C 18.24 167 ePn Pn 04 40 20.1 -1.2
6.3nm,1.3s
R11A Troy Canyon, C 18.24 167 P Pn 04 40 19.4 -1.9
baz=351,SNR=7.5
CMB Columbia Colle 18.25 180 ePn Pn 04 40 20.3 -1.0
7.5nm,1.3s
PSUT Pine Spring 18.30 163 ePn Pn 04 40 21.6 -0.5
18nm,1.2s
PKLO Pickle Lake 18.35 92 Pn Pn 04 40 20.5 -1.9
PKLO Sg 04 45 36.2
Q16A Castle Valley 18.45 156 ePn P 04 40 24.8 +0.9
11nm,1.0s
MSU Marysvale 18.63 159 eP Pn 04 40 26.9 +0.7
ATKO Atikokan Iron 19.01 101 Pn P 04 40 29.9 +0.1
ATKO Sg 04 46 04.1
MTPU Mount Pierson 19.08 159 eP Pn 04 40 33.4 +1.6
34nm,1.4s
ISCO Idaho Springs 19.20 143 eP P 04 40 32.6 +0.3
9.8nm,0.9s
ISCO Idaho Springs 19.20 143 P P 04 40 31.0 -1.3
baz=334,SNR=17
PV21 Cone Mtn., Par 19.33 152 eP P 04 40 33.8 +0.2
30nm,1.2s
SMCO Snowmass 19.33 147 eP P 04 40 33.8 0.0
13nm,1.1s
PV09 Paradox Valley 19.35 152 eP P 04 40 34.6 +0.8
SZCU Shurtz Canyon 19.35 162 eP Pn 04 40 35.8 +1.0
6.1nm,1.0s
PV22 Blue Mesa, Par 19.40 151 eP P 04 40 34.6 +0.3
21nm,1.1s
PV23 Carpenter Ridg 19.42 152 eP P 04 40 34.1 -0.5
19nm,1.0s
PV10 Paradox Valley 19.49 152 eP P 04 40 36.4 +1.1
27nm,1.1s
PV14 Lion Creek, Pa 19.49 152 eP P 04 40 34.9 -0.5
28nm,1.1s
PV04 Paradox Valley 19.51 152 eP P 04 40 35.7 +0.2
19nm,1.0s
OGNE Ogallala 19.53 134 P P 04 40 33.9 -1.7
baz=328
PV07 Paradox Valley 19.53 151 eP P 04 40 35.0 -0.8
14nm,1.0s
PV20 West Nyswonger 19.54 152 eP P 04 40 36.8 +1.0
47nm,1.4s
TPNV Topopah Spring 19.55 170 eP P 04 40 33.7 -2.2
12nm,1.1s
TPNV Topopah Spring 19.55 170 P P 04 40 34.2 -1.7
baz=353,SNR=7.4
PV19 Morning Glory 19.56 152 eP P 04 40 37.2 +1.1
33nm,1.2s
EYMN Ely 19.58 103 eP P 04 40 36.7 +0.8
15nm,0.9s
EYMN Ely 19.58 103 P P 04 40 33.7 -2.2
baz=306
PV16 Nyswonger Mesa 19.58 152 eP P 04 40 36.1 -0.2
35nm,1.3s
PV17 East Wray Mesa 19.60 152 eP P 04 40 37.5 +1.0
41nm,1.2s
PV11 David Mesa, Pa 19.60 152 eP P 04 40 37.1 +0.6
46nm,1.3s
PV12 Saucer Basin, 19.61 151 eP P 04 40 36.9 +0.3
19nm,1.1s
PKCU Pink Cliffs 19.64 160 eP Pn 04 40 40.0 +1.6
37nm,1.2s
PV18 Skein Mesa, Pa 19.64 152 eP P 04 40 38.0 +1.0
28nm,1.2s
PV03 Paradox Valley 19.65 152 eP P 04 40 37.8 +0.8
20nm,1.2s
PV02 Paradox Valley 19.73 151 eP Pn 04 40 40.8 +1.4
13nm,0.9s
ECSD EROS Data Cent 19.73 119 eP P 04 40 38.7 +1.0
28nm,1.1s
ECSD EROS Data Cent 19.73 119 P P 04 40 35.6 -2.1
baz=318,SNR=12
PV13 Radium Mtn., P 19.75 152 eP P 04 40 39.3 +1.2
15nm,0.8s
PV05 Paradox Valley 19.75 152 eP P 04 40 39.1 +0.9
30nm,1.2s
PV01 Paradox Valley 19.84 151 eP P 04 40 39.4 +0.2
14nm,1.0s
LCMT Little Creek M 19.89 163 eP P 04 40 40.4 +0.8
5.2nm,1.1s
CWC Cottonwood Cre 19.91 174 P P 04 40 37.3 -2.6
baz=356
KNB Kanab 19.96 162 eP Pn 04 40 42.3 +0.3
32nm,1.3s
FURC Furnace Creek, 19.97 171 P P 04 40 40.1 -0.2
baz=354,SNR=14
DAC Darwin (Calif) 20.11 173 eP Pn 04 40 47.7 +3.9
11nm,1.4s
SHPR Sheep Range 20.11 167 eP P 04 40 43.1 +1.1
7.4nm,1.1s
Q24A Divide 20.11 143 eP P 04 40 43.3 +1.1
19nm,1.2s
Q24A Divide 20.11 143 P P 04 40 42.6 +0.4
baz=334,SNR=7.4
TBO Thunder Bay 20.32 99 eP P 04 40 45.9 +1.8
TBO Thunder Bay 20.32 99 Pn P 04 40 45.9 +1.8
MPMC Manual Prospec 20.33 173 P P 04 40 45.4 +0.9
baz=355,SNR=7.7
VES Vestal, Richgr 20.46 177 P P 04 40 46.5 +0.9
baz=358
SPMN Marine on St. 20.60 111 eP P 04 40 48.9 +1.8
27nm,1.2s
SPMN Marine on St. 20.60 111 P P 04 40 47.8 +0.7
baz=312
F38A Pierce - Schro 20.60 108 P P 04 40 48.3 +1.2
baz=310,SNR=7.5
U15A North Rim 20.63 161 eP P 04 40 48.0 +0.3
48nm,1.1s
ISA Isabella, Lake 20.67 175 P P 04 40 48.5 +0.6
baz=357
S22A 4UR Ranch, Cre 20.69 148 eP P 04 40 48.6 +0.1
12nm,1.4s
S22A 4UR Ranch, Cre 20.69 148 P P 04 40 48.4 -0.1
baz=338
MVCO Mesa Verde 20.73 152 eP P 04 40 48.8 0.0
96nm,1.4s
MVCO Mesa Verde 20.73 152 P P 04 40 48.6 -0.1
baz=341,SNR=30
BGNE Belgrade 20.81 126 eP P 04 40 50.7 +1.3
68nm,0.9s
BGNE Belgrade 20.81 126 P P 04 40 49.0 -0.4
baz=323
C40A Isle Royale Na 20.87 100 P P 04 40 50.2 +0.2
baz=305
KSCO Kaye Shedlock' 20.97 138 eP P 04 40 52.8 +1.6
41nm,1.0s
KSCO Kaye Shedlock' 20.97 138 P P 04 40 50.3 -1.0
baz=331,SNR=6.5
RES Resolute Bay 20.97 19 eP P 04 40 53.0 +2.1
12nm,1.0s
RES eS S 04 44 34.9 -9.2
RES Resolute Bay 20.97 19 P P 04 40 52.1 +1.2
8.8nm,0.9s,baz=225,slow=10,SNR=22
RES S S 04 44 34.9 -9.2
1.7nm,0.6s,baz=297,slow=11,SNR=3.1
RES Lg Lg 04 47 04.0
7.8nm,0.8s,baz=158,slow=19,SNR=4.8
RES LR LR 04 49 12.8
comp=Z,311nm,19.8s,baz=214,slow=37
RES Resolute Bay 20.97 19 Pn P 04 40 52.9 +2.1
RES Sn S 04 44 36.9 -7.2
E39A Mellen 21.04 105 P P 04 40 52.4 +0.6
baz=309,SNR=8.1
SDCO Great Sand Dun 21.10 145 eP P 04 40 54.0 +1.1
24nm,1.3s
SDCO Great Sand Dun 21.10 145 P P 04 40 52.6 -0.3
baz=336,SNR=25
GSC Goldstone, Bar 21.13 171 eP P 04 40 55.5 +2.5
15nm,1.1s
GSC Goldstone, Bar 21.13 171 P P 04 40 52.3 -0.7
baz=354
G38A Ridgeland 21.13 110 P P 04 40 52.5 -0.3
baz=312,SNR=7.4
F39A Loretta 21.14 107 P P 04 40 52.5 -0.5
baz=310,SNR=19
H38A Maiden Rock 21.25 111 P P 04 40 54.0 -0.1
baz=313,SNR=6.5
E40A Wakefield 21.35 104 P P 04 40 54.3 -0.9
baz=308
G39A Holcombe 21.42 108 P P 04 40 55.7 -0.2
baz=311,SNR=12
VIMO Victor Mine 21.46 84 Pn P 04 40 58.3 +2.0
VIMO Sn S 04 44 45.8 -8.3
EDW2 Edwards Air Fo 21.47 174 P P 04 40 56.0 -0.6
baz=356
LDFC Landfair 21.52 168 eP P 04 40 58.1 +0.8
51nm,1.2s
F40A Park Falls 21.57 106 P P 04 40 56.4 -1.1
baz=310,SNR=7.3
W13A Hualapai Mount 21.66 165 eP P 04 40 59.2 +0.3
6.9nm,1.1s
WUAZ Wupatki 21.69 159 eP P 04 40 58.7 -0.3
14nm,0.9s
WUAZ Wupatki 21.69 159 P P 04 40 57.9 -1.1
baz=346,SNR=8.9
D41A Chassel 21.70 102 eP P 04 41 01.1 +2.2
37nm,1.0s
D41A Chassel 21.70 102 P P 04 40 59.3 +0.4
baz=307,SNR=7.3
GMRC Granite Mounta 21.75 169 P P 04 41 00.1 +0.4
baz=353
H39A Augusta 21.76 110 P P 04 40 59.9 +0.2
baz=312,SNR=6.1
E41A Kenton 21.85 103 P P 04 41 00.3 -0.2
baz=308,SNR=5.7
NEE2 Needles Airpor 21.89 167 P P 04 41 00.9 -0.1
baz=351
G40A Rib Lake 21.94 107 eP P 04 41 02.6 +1.0
36nm,1.3s
G40A Rib Lake 21.94 107 P P 04 41 00.9 -0.7
baz=311,SNR=10.0
COWI Conover 21.98 104 eP P 04 41 02.7 +0.7
16nm,1.3s
T25A Trinidad 22.01 144 eP P 04 41 03.3 +0.7
14nm,1.1s
T25A Trinidad 22.01 144 P P 04 41 01.9 -0.7
baz=336
DECC Green Verdugo 22.08 175 P P 04 41 02.1 -1.0
baz=357
BFSC Mount Baldy Ra 22.13 174 P P 04 41 02.8 -1.0
baz=356,SNR=5.9
BLG Laguna Peak, P 22.19 177 P P 04 41 03.4 -0.9
baz=358
I39A Houston 22.21 112 P P 04 41 03.4 -1.1
baz=314
F41A Three Lakes 22.23 105 P P 04 41 03.5 -1.2
baz=310
CBKS Cedar Bluff 22.27 133 eP P 04 41 04.3 -0.8
17nm,1.1s
CBKS Cedar Bluff 22.27 133 P P 04 41 03.7 -1.4

	baz=328					
H40A	Chili	22.27	109	P	P	04 41 04.3 -0.8
	baz=312,SNR=15					
PDMCI	Parker Dam,Lak	22.41	166	P	P	04 41 05.2 -1.4
	baz=351					
W18A	Petrified Fore	22.42	156	eP	P	04 41 06.8 -0.1
	30nm,1.2s					
W18A	Petrified Fore	22.42	156	P	P	04 41 05.1 -1.8
	baz=344,SNR=13					
IRM	Iron Mountain	22.43	168	P	P	04 41 05.5 -1.3
	baz=352,SNR=6.9					
E42A	Champion	22.44	102	P	P	04 41 05.7 -1.2
	baz=308					
J39A	Decorah	22.48	113	P	P	04 41 06.1 -1.2
	baz=315					
BELC	Belle Mtn. Jos	22.50	170	P	P	04 41 06.4 -1.4
	baz=353,SNR=7.2					
I40A	Norwalk	22.65	110	P	P	04 41 07.5 -1.6
	baz=314					
H41A	Junction City	22.67	108	eP	P	04 41 10.1 +0.8
	14nm,1.0s					
H41A	Junction City	22.67	108	P	P	04 41 07.8 -1.5
	baz=312,SNR=6.8					
X16A	Lo Mia Camp, P	22.74	160	eP	P	04 41 11.4 +1.1
	12nm,1.2s					
SCIA	State Center	22.76	118	P	P	04 41 08.0 -2.3
	baz=319					
MURC	Murrieta	22.79	173	P	P	04 41 09.9 -0.9
	baz=355					
K39A	Oelwein	22.84	114	P	P	04 41 09.9 -1.2
	baz=316,SNR=8.3					
PFO	Pinyon Flats O	22.84	171	eP	P	04 41 11.5 +0.1
	10nm,1.2s					
PFO	Pinyon Flats O	22.84	171	P	P	04 41 11.5 +0.1
	1.7nm,0.3s,baz=17,slow=3.8,SNR=4.0					
PFO			LR	LR	04 50 24.1	
	comp=Z,91nm,20.2s,baz=302,slow=38					
BC3	Big Chuckawall	22.89	169	P	P	04 41 11.0 -0.8
	baz=353,SNR=8.6					
Y12C	Blythe	22.91	167	eP	P	04 41 12.5 +0.6
	10nm,1.3s					
Y12C	Blythe	22.91	167	P	P	04 41 11.1 -0.8
	baz=351					
G42A	Mountain	22.91	105	P	P	04 41 10.7 -1.1
	baz=310,SNR=9.2					
CIS	Catalina Islan	22.92	175	P	P	04 41 11.1 -1.0
	baz=357					
I41A	Arkdale	22.93	109	eP	P	04 41 13.4 +1.4
	28nm,1.4s					
I41A	Arkdale	22.93	109	P	P	04 41 11.3 -0.7
	baz=313					
J40A	Soldiers Grove	22.93	112	P	P	04 41 10.6 -1.5
	baz=314					
X18A	Snowflake	22.93	157	eP	P	04 41 12.6 +0.2
	30nm,1.3s					
Y14A	Wickenburg	22.94	164	eP	P	04 41 11.5 -0.8
	12nm,1.2s					
E43A	Lone Tree Farm	22.97	101	eP	P	04 41 14.1 +1.6
	24nm,1.3s					
E43A	Lone Tree Farm	22.97	101	P	P	04 41 12.8 +0.3
	baz=308					
SNCC	San Nicolas Is	23.04	178	P	P	04 41 13.1 -0.1
	baz=358					
L39A	Vinton	23.20	115	P	P	04 41 13.8 -1.1
	baz=317					
F43A	Flat Rock, Esc	23.22	103	P	P	04 41 12.8 -2.2
	baz=309,SNR=7.8					
K40A	Colesburg	23.22	113	P	P	04 41 13.7 -1.4
	baz=316					
G43A	Wallace	23.30	104	eP	P	04 41 17.5 +1.7
	30nm,1.4s					
G43A	Wallace	23.30	104	P	P	04 41 15.6 -0.2
	baz=310,SNR=6.2					
J41A	Loganville	23.33	111	P	P	04 41 14.9 -1.3
	baz=314					
SCI2	San Clemente I	23.34	176	P	P	04 41 15.9 -0.3
	baz=357					
H42A	Shiocton	23.34	107	P	P	04 41 15.4 -0.8
	baz=312					
KSU1	Kansas State U	23.37	127	P	P	04 41 16.0 -0.5
	baz=325,SNR=5.7					
TASM	ASL Pad, Albuq	23.41	150	P	P	04 41 16.2 -1.0
	baz=340,SNR=30					
TASM	ASL Pad, Albuq	23.41	150	P	P	04 41 16.2 -1.0
	baz=340,SNR=30					
ANMO	Albuquerque	23.41	150	eP	P	04 41 17.7 +0.4
	24nm,1.1s					
ANMO	Albuquerque	23.41	150	P	P	04 41 16.1 -1.1
	baz=340					
ANMO	Albuquerque	23.41	150	P	P	04 41 17.5 +0.2
	12nm,1.1s,baz=331,slow=11,SNR=35					
ANMO			LR	LR	04 52 03.3	
	comp=Z,57nm,18.8s,baz=325,slow=41					
E44A	Grand Marais A	23.41	100	P	P	04 41 16.5 -0.5
	baz=307					
JFWS	Jewell Farm	23.53	112	eP	P	04 41 19.8 +1.7
	15nm,1.1s					
JFWS	Jewell Farm	23.53	112	P	P	04 41 19.2 +1.0
	baz=315					
F44A	Big Bay de Noc	23.54	101	P	P	04 41 17.3 -0.9
	baz=308					
I42A	Draeger Farm,	23.55	108	eP	P	04 41 20.1 +1.8
	29nm,1.2s					
I42A	Draeger Farm,	23.55	108	P	P	04 41 17.3 -1.0
	baz=313,SNR=5.9					
MONP2	Monument Peak	23.56	171	P	P	04 41 18.2 -0.5
	baz=354					
GLA	Glamis	23.56	168	P	P	04 41 18.2 -0.4
	baz=352					
SWSC	Sam W. Stewart	23.56	170	P	P	04 41 18.0 -0.5
	baz=353					
L40A	Anamosa	23.64	115	eP	P	04 41 24.1 +4.8
	16nm,1.1s					
L40A	Anamosa	23.64	115	P	P	04 41 19.2 -0.1
	baz=317					
LAZ	Ladron	23.74	152	eP	P	04 41 21.4 +0.9
H43A	Windswept, Lux	23.77	106	eP	P	04 41 23.4 +2.9
	31nm,1.1s					
H43A	Windswept, Lux	23.77	106	P	P	04 41 19.6 -0.9
	baz=311					
IKP	In-Ko-Pah, Jac	23.82	171	P	P	04 41 21.1 -0.1
	baz=354					
J42A	Columbus	23.83	110	P	P	04 41 20.9 -0.1
	baz=314					
LPM	Los Pinos Moun	23.96	151	eP	P	04 41 23.6 +1.0
I43A	Langenfeld Bro	23.96	107	P	P	04 41 21.8 -0.5
	baz=312					
E45A	Wooded Hills,	23.98	99	P	P	04 41 22.8 +0.3
	baz=307					
LENM	Lemitar	24.00	151	eP	P	04 41 24.0 +1.0
K42A	Prairie Point,	24.09	111	P	P	04 41 23.2 -0.3
	baz=315					
Y22D	IRIS PASSCAL I	24.10	151	P	P	04 41 24.1 +0.2
	baz=341					
BNM	Barren Site	24.11	151	eP	P	04 41 25.1 +1.0
J43A	Natural Harves	24.16	109	P	P	04 41 23.9 -0.3
	baz=313					
F45A	CMU Biological	24.21	101	P	P	04 41 24.4 -0.2
	baz=309					
D46A	Sault St. Mari	24.29	97	P	P	04 41 24.7 -0.7
	baz=306					
N40A	Mertquake, Sal	24.34	117	P	P	04 41 25.1 -0.7
	baz=319					
E46A	Sault Ste Mari	24.46	98	P	P	04 41 26.7 -0.2
	baz=307					
L42A	Oliver, Polo	24.48	113	eP	P	04 41 29.7 +2.6
	17nm,0.8s					
L42A	Oliver, Polo	24.48	113	P	P	04 41 26.4 -0.7
	baz=316					
M41A	Milan	24.49	115	P	P	04 41 26.3 -0.9
	baz=318					
G45A	Suttons Bay	24.54	102	P	P	04 41 26.8 -0.9
	baz=310					
K43A	Burlington	24.68	110	P	P	04 41 27.8 -1.1
	baz=314					
D47A	Chapleau	24.71	96	P	P	04 41 28.8 -0.4
	baz=306,SNR=6.2					
G46A	Petoskey	24.80	101	P	P	04 41 29.2 -0.7
	baz=309					
L43A	Garden Prairie	24.83	111	P	P	04 41 29.6 -0.6
	baz=316					
N41A	Harden Midland	24.83	116	P	P	04 41 30.2 -0.1
	baz=319					
214A	Organ Pipe Nat	24.91	164	P	P	04 41 31.8 +0.7
	baz=350					
TUC	Tucson	24.91	160	eP	P	04 41 32.9 +1.8
	16nm,1.4s					
TUC	Tucson	24.91	160	P	P	04 41 32.0 +0.8
	baz=347					
E47A	Iron Bridge	24.97	97	P	P	04 41 31.4 -0.2
	baz=307					
H46A	Fife Lake	25.11	103	P	P	04 41 32.8 +0.1
	baz=310					
M43A	Waltham Townsh	25.26	113	P	P	04 41 34.5 +0.4
	baz=317					
121A	Cookes Peak, D	25.35	154	P	P	04 41 35.5 +0.3
	baz=343,SNR=9.3					
D48A	Paudash Townsh	25.36	95	P	P	04 41 35.4 +0.3
	baz=305,SNR=5.9					
I46A	Reed City	25.37	104	P	P	04 41 35.3 +0.2
	baz=311					
G47A	Hillman	25.44	100	P	P	04 41 35.7 0.0
	baz=309					
MSTX	Muleshoe	25.44	144	eP	P	04 41 37.3 +1.3
	13nm,1.1s					
MSTX	Muleshoe	25.44	144	P	P	04 41 36.0 0.0
	baz=337,SNR=6.4					
N43A	Stutzman Famil	25.51	114	P	P	04 41 35.6 -0.9
	baz=318					
E48A	Lockeyer	25.57	96	P	P	04 41 36.5 -0.5
	baz=306,SNR=6.0					
H47A	Mio	25.62	102	P	P	04 41 37.2 -0.2
	baz=310					
F48A	Evansville	25.72	98	P	P	04 41 38.0 -0.3
	baz=308					
HDIL	Hopedale	25.73	114	eP	P	04 41 38.8 +0.4
	26nm,1.0s					
HDIL	Hopedale	25.73	114	P	P	04 41 38.4 0.0
	baz=318					
M44A	Midewin, Midew	25.77	111	eP	P	04 41 42.0 +3.3
	69nm,1.4s					
M44A	Midewin, Midew	25.77	111	P	P	04 41 39.4 +0.7
	baz=316					
I47A	Gladwin	25.83	103	P	P	04 41 39.1 -0.2
	baz=311					
F49A	Sandfield	26.07	97	P	P	04 41 41.5 0.0
	baz=308					
319A	Douglas	26.12	158	eP	P	04 41 43.9 +1.8
	10nm,1.2s					
N44A	Piper City	26.15	113	P	P	04 41 42.0 -0.2
	baz=317					
WMOK	Wichita Mounta	26.18	136	eP	P	04 41 43.7 +1.1
	24nm,1.1s					
WMOK	Wichita Mounta	26.18	136	P	P	04 41 43.3 +0.7
	baz=332,SNR=23					
L46A	Eue Claire	26.24	108	P	P	04 41 43.4 +0.4
	baz=315					
MATQ	Matagami	26.27	86	P	P	04 41 43.7 +0.4
	baz=301					
P43A	Skaggs, Pawnee	26.31	116	P	P	04 41 43.6 0.0
	baz=320					
FRB	Frobisher Bay	26.35	52	P	P	04 41 46.6 +2.7
	3.6nm,0.8s,baz=284,slow=10,SNR=6.5					
FRB			Lg	Lg	04 49 40.5	
	10nm,1.0s,baz=210,slow=20,SNR=3.8					
FRB			LR	LR	04 52 27.9	
	comp=Z,306nm,18.0s,baz=340,slow=37					
Q42A	Golden Eagle	26.36	118	P	P	04 41 45.0 +0.8
	baz=321					
TUL1	Leonard	26.39	130	P	P	04 41 43.9 -0.5
	baz=328					
E50A	Wahnapitae	26.40	95	P	P	04 41 44.8 +0.3
	baz=306					
O44A	Mansfield	26.45	114	P	P	04 41 45.3 +0.3
	baz=318					
K47A	Vermontville	26.47	106	P	P	04 41 45.7 +0.6
	baz=313					
CCM	Cathedral Cave	26.69	121	eP	P	04 41 50.5 +3.3
	12nm,1.3s					
CCM	Cathedral Cave	26.69	121	P	P	04 41 47.8 +0.7
	baz=322					
TOBO	Tobermory, Bru	26.69	98	P	P	04 41 47.2 +0.1
	baz=308					
J48A	Bridge Port	26.70	103	P	P	04 41 51.3 +4.2
	baz=312					
O45A	Potomac	26.76	113	P	P	04 41 47.6 -0.2
	baz=318					
MNTX	Cornudas Mount	26.76	150	eP	P	04 41 48.6 +0.7
	28nm,1.1s					
MNTX	Cornudas Mount	26.76	150	P	P	04 41 48.4 +0.5
	baz=341,SNR=43					
D51A	Lot 18 Range I	26.77	92	P	P	04 41 48.1 +0.3
	baz=305					
L47A	Sherwood	26.84	107	P	P	04 41 48.7 +0.3
	baz=314					
LSQQ	Lebel-sur-Quev	27.01	87	P	P	04 41 50.1 +0.2
	baz=302					
E51A	G1948 Merrick	27.03	94	P	P	04 41 49.6 -0.6
	baz=306					
FVM	French Village	27.14	120	eP	P	04 41 51.7 +0.5
	6.5nm,0.9s					
F51A	Arnstein	27.15	95	P	P	04 41 50.4 -0.9
	baz=307					
VLDQ	Val d'Or	27.26	89	eP	P	04 41 53.4 +1.3
	19nm,1.4s					
L48A	N Adams	27.27	106	P	P	04 41 51.0 -1.4
	baz=314					
P45A	Graceland, Par	27.29	114	P	P	04 41 51.9 -0.6
	baz=319					
U40A	Yellville	27.31	125	P	P	04 41 52.0 -0.7
	baz=326					
KLBO	Killbear Provi	27.34	96	P	P	04 41 52.9 +0.1
	baz=308					
N47A	Urbana	27.36	109	P	P	04 41 52.8 -0.3
	baz=316					
D52A	ZEK Kipawa Sen	27.37	92	P	P	04 41 53.3 +0.2
	baz=305					
BASO	Ashfield	27.39	100	P	P	04 41 54.1 +0.7
	baz=310					
L49A	Milan	27.52	105	P	P	04 41 54.7 +0.1
	baz=314					
Q45A	Warren Harvey,	27.56	115	P	P	04 41 55.3 +0.3
	baz=320					
F52A	Sundridge	27.56	95	P	P	04 41 56.1 +1.1
	baz=307					
O47A	Sheridan	27.57	111	P	P	04 41 55.4 +0.3
	baz=317					
E52A	Mattawa	27.64	93	P	P	04 41 56.1 +0.5
	baz=306					
D53A	Lac Vacive, Po	27.71	91	eP	P	04 41 58.8 +2.6
	9.3nm,1.1s					
D53A	Lac Vacive, Po	27.71	91	P	P	04 41 56.8 +0.6
	baz=305					
BUKO	Buck Lake	27.74	95	P	P	04 41 57.1 +0.6
	baz=308					
M49A	Liberty Center	27.85	107	P	P	04 41 57.4 -0.1
	baz=315					
W39A	Magazine	27.86	128	eP	P	04 41 58.8 +1.2
	11nm,1.3s					
W39A	Magazine	27.86	128	P	P	04 41 57.9 +0.2
	baz=327,SNR=6.0					
S44A	Carbondale	27.94	118	P	P	04 41 58.4 +0.1
	baz=322					
R45A	Skylar, Fairfi	27.96	116	P	P	04 41 58.2 -0.4
	baz=320					
H52A	Wyevale	27.96	97	P	P	04 41 59.0 +0.5
	baz=309					
P47A	Martinsville	28.08	112	P	P	04 41 59.2 -0.4
	baz=318					
O48A	Farmland	28.09	110	P	P	04 42 00.7 +1.0
	baz=317					
E53A	Dumoine, Ponti	28.14	92	P	P	04 42 01.7 +1.6
	baz=306					
ALGO	Algonquin Park	28.18	93	P	P	04 42 01.2 +0.8
	baz=307					
D54A	Lac Fusel, La	28.25	90	P	P	04 42 01.5 +0.5
	baz=305					
SADO	Sadowa	28.30	96	Lg	Lg	04 50 46.1
	5.7nm,0.8s,baz=277,slow=16,SNR=8.0					
SADO			LR	LR	04 52 20.0	
	comp=Z,57nm,18.4s,baz=342,slow=34					
G53A	Haliburton	28.36	95	P	P	04 42 03.0 +1.0
	baz=308					
E54A	Lac Daplat, Po	28.37	92	P	P	04 42 02.5 +0.4
	baz=306					
PLIO	Pelee Island,	28.38	105	P	P	04 42 03.6 +1.4
	baz=314					
Q47A	Bedord North L	28.41	113	P	P	04 42 02.8 +0.3
	baz=319					
MIAR	Mount Ida	28.50	128	eP	P	04 42 04.3 +0.9
	13nm,1.4s					
MIAR	Mount Ida	28.50	128	P	P	04 42 04.2 +0.9
	baz=328					
P48A	Milroy	28.54	111	P	P	04 42 04.1 +0.5
	baz=318					
S46A	Don Dixon Farm	28.71	116	P	P	04 42 05.5 +0.3
	baz=321					
Q48A	North Vernon	28.77	112	P	P	04 42 05.5 -0.3
	baz=318					
N50A	Nevada	28.79	107	P	P	04 42 05.3 -0.5
	baz=315					
PEMO	Pembroke	28.79	93	P	P	04 42 06.0 +0.1
	baz=307					
BANO	Bancroft	28.82	95	P	P	04 42 05.7 -0.4
	baz=308					
R47A	Wooly Knot Far	28.84	114	P	P	04 42 05.0 -1.4
	baz=320					
O50A	Cable	28.98	108	P	P	04 42 07.5 -0.1
	baz=316					
WCI	Wyandotte Cave	29.01	114	P	P	04 42 07.9 0.0
	baz=320					
T46A	Princeton	29.12	117	P	P	04 42 08.9 0.0
	baz=322					
WHTX	Lake Whitney,	29.13	137	P	P	04 42 09.5 +0.5
	baz=333					
S47A	Hartford	29.20	115	P	P	04 42 10.6 +1.0
	baz=321					
M52A	Chesterland	29.21	104	P	P	04 42 10.8 +1.1
	baz=314					
WLVO	Wesleyville	29.25	97	P	P	04 42 10.9 +1.0
	baz=310					
ACSO	Alum Creek Sta	29.26	107	P	P	04 42 11.1 +1.0
	baz=316					
PLVO	Plevna	29.28	94	P	P	04 42 11.6 +1.5
	baz=308					
P50A	Jamestown	29.28	109	P	P	04 42 10.5 +0.3
	baz=317					
DELO	Deloro Mine	29.30	95	eP	P	04 42 11.8 +1.4
	13nm,1.3s					
DELO	Deloro Mine	29.30	95	P	P	04 42 12.4 +2.0
	baz=309					
G55A	Calabogie	29.34	93	P	P	04 42 12.7 +2.0
	baz=306					
I55A	Frankford	29.46	96	P	P	04 42 13.1 +1.3
	baz=309					
LTX	Lajitas	29.48	149	eP	P	04 42 13.0 +0.8
TXAR	Lajitas Array	29.48	149	P	P	04 42 13.0 +0.8
	3.3nm,1.0s,baz=353,slow=8.8,SNR=25					
TXAR			LR	LR	04 55 47.1	
	comp=Z,48nm,18.5s,baz=0.0,slow=40					
H55A	Tweed	29.52	95	P	P	04 42 13.4 +1.1
	baz=309					
J54A	Appleton	29.54	98	P	P	04 42 13.8 +1.3
	baz=311					
R49A	Shelbyville	29.54	112	P	P	04 42 12.9 +0.3
	baz=319					
T47A	Sharon Grove	29.56	117	P	P	04 42 12.6 -0.2
	baz=321					
S48A	Wiedeman Farm,	29.57	114	P	P	04 42 13.1 +0.3
	baz=320					
M53A	Wt Miller and	29.65	103	P	P	04 42 13.8 +0.2
	baz=314					
SCHQ	Schefferville	29.78	70	LR	LR	04 54 29.4
	comp=Z,346nm,18.3s,baz=347,slow=37					
T48A	Bowling Green	29.82	115	P	P	04 42 15.4 +0.3
	baz=321					
WVT	Waverly	29.88	119	P	P	04 42 15.7 +0.2
	baz=323					
ORIO	Orleans, Innes	29.89	92	P	P	04 42 15.9 +0.3
	baz=308					
U47A	Clarksville	29.90	117	P	P	04 42 16.1 +0.4
	baz=322					
Q51A	Peebles	29.94	109	P	P	04 42 16.4 +0.3
	baz=317					
O52A	Adamsville	29.96	106	P	P	04 42 16.7 +0.4
	baz=316					
R50A	Paris	29.98	111	P	P	04 42 17.1 +0.6
	baz=319					
H56A	Elgin	30.01	94	P	P	04 42 17.8 +1.2
	baz=309					
PECO	Prince Edward	30.02	96	eP	P	04 42 19.1 +2.4
	11nm,1.0s					
PECO	Prince Edward	30.02	96	P	P	04 42 16.8 0.0
	baz=310					
ALFO	Alfred	30.14	91	P	P	04 42 17.2 -0.5
	baz=307					
P52A	Corning	30.14	107	P	P	04 42 18.4 +0.4
	baz=316					
O53A	New Philadelph	30.20	105	P	P	04 42 18.8 +0.4
	baz=315					
K55A	Perry	30.21	98	P	P	04 42 19.2 +0.7
	baz=312					
U48A	Cassie Pea, Po	30.21	116	P	P	04 42 19.0 +0.5
	baz=322					
R51A	Hillsboro	30.36	111	P	P	04 42 19.8 0.0
	baz=318					
L55A	Hinsdale	30.37	100	P	P	04 42 20.1 +0.2
	baz=312					
S50A	Richmond	30.40	112	P	P	04 42 20.0 -0.2
	baz=319					
U49A	Red Boiling Sp	30.59	115	P	P	04 42 21.7 -0.2
	baz=321					
P53A	Whipple	30.65	106	P	P	04 42 22.3 -0.1
	baz=316					
CLTN	Cedars of Leba	30.65	117	eP	P	04 42 24.6 +2.3
	6.1nm,1.3s					
T50A	Nancy	30.68	114	P	P	04 42 22.8 +0.1
	baz=320					
V48A	Smith Brothers	30.68	118	eP	P	04 42 23.9 +1.2
	16nm,1.4s					
V48A	Smith Brothers	30.68	118	P	P	04 42 22.5 -0.2
	baz=323					
O54A	Avella	30.69	104	P	P	04 42 22.7 -0.1
	baz=315					
W47A	Westpoint	30.69	119	P	P	04 42 23.6 +0.8
	baz=324					
LONY	Lake Ozonia	30.93	92	P	P	04 42 24.9 +0.1
	baz=309					
M56A	Emporium	30.98	100	P	P	04 42 25.8 +0.4
	baz=313					
N55A	Marion Center	31.03	102	P	P	04 42 26.0 +0.3
	baz=314					
Q53A	Leroy	31.03	107	P	P	04 42 25.9 +0.1
	baz=317					
V49A	McMinnville	31.12	117	P	P	04 42 26.4 -0.2
	baz=322					
U50A	Jamestown	31.14	114	P	P	04 42 26.2 -0.6
	baz=321					
O55A	Ligonier	31.26	103	P	P	04 42 27.6 -0.1
	baz=315					
Q54A	Coxs Mills	31.31	107	P	P	04 42 28.1 -0.1
	baz=317					
N56A	West Decatur	31.31	101	P	P	04 42 27.7 -0.5
	baz=314					
W49A	Belvidere	31.45	118	P	P	04 42 28.2 -1.3
	baz=323					
NCB	Newcomb	31.54	93	eP	P	04 42 32.9 +2.7
	12nm,1.3s					
BINY	Binghamton	31.71	97	P	P	04 42 29.6 -2.1
	baz=312					
N57A	Milroy	31.83	101	P	P	04 42 32.8 +0.1
	baz=314					
W50A	Signal Mountai	31.86	116	P	P	04 42 33.0 -0.1
	baz=322					
O57A	Amberson	32.16	102	P	P	04 42 35.4 -0.3
	baz=314					
W51A	Cleveland	32.17	116	P	P	04 42 35.4 -0.4
	baz=322					
R55A	Marlinton	32.20	107	P	P	04 42 35.6 -0.6
	baz=317					
V52A	Sevierville	32.22	114	P	P	04 42 35.5 -0.8
	baz=321					
X50B	Fort Payne	32.28	118	P	P	04 42 36.9 +0.1
	baz=323					
U53A	Fall Branch	32.35	112	P	P	04 42 37.2 -0.1
	baz=320					
X51A	Calhoun	32.59	117	P	P	04 42 37.9 -1.5
	baz=323					
U54A	Nelsons Funny	32.62	111	P	P	04 42 40.0 +0.2
	baz=320					
W52A	Murphy	32.64	115	P	P	04 42 40.0 +0.1
	baz=322					
N59A	State Game Lan	32.70	99	P	P	04 42 40.2 -0.2
	baz=313					
T55A	Pulaski	32.71	109	P	P	04 42 41.5 +0.9
	baz=319					
V53A	Saluda	32.76	113	P	P	04 42 41.1 0.0
	baz=321					
BLA	Blacksburg	32.84	108	P	P	04 42 42.3 +0.7
	baz=318					
Z49A	Columbiana	32.87	120	P	P	04 42 41.9 0.0
	baz=325					
O59A	Robesonia	32.89	100	P	P	04 42 42.4 +0.4
	baz=314					
W53A	Cullowhee	32.97	114	P	P	04 42 43.0 +0.1

	baz=322						
U55A	TA2, Sparta	33.04	110	P		P	04 42 44.0 +0.5
	baz=319						
X52A	Dahlonega	33.04	115	P		P	04 42 43.2 -0.3
	baz=322						
Z50A	Ashland	33.12	119	P		P	04 42 44.3 +0.1
	baz=324						
V54A	Nebo	33.12	112	P		P	04 42 44.5 +0.4
	baz=320						
T56A	Rocky Mt	33.18	108	P		P	04 42 45.5 +0.9
	baz=318						
149A	Jones	33.24	121	P		P	04 42 46.5 +1.4
	baz=326						
O60A	Telford	33.31	99	P		P	04 42 46.1 +0.4
	baz=314						
Y52A	Lilburn	33.55	116	P		P	04 42 48.3 +0.5
	baz=323						
V56A	Mocksville	33.85	110	P		P	04 42 50.7 +0.2
	baz=320						
Z52A	Williamson	33.91	118	P		P	04 42 50.8 -0.2
	baz=324						
152A	Waverly Hall	34.18	118	*e*P		P	04 42 54.5 +1.2
	10nm,1.1s						
152A	Waverly Hall	34.18	118	P		P	04 42 53.0 -0.4
	baz=324						
251A	Midway	34.31	120	P		P	04 42 53.9 -0.6
	baz=325						
W56A	Indian Trail	34.33	111	P		P	04 42 55.0 +0.4
	baz=320						
T59A	Double "B" Far	34.54	106	P		P	04 42 56.5 +0.1
	baz=318						
252A	Lumpkin	34.72	119	P		P	04 42 57.8 -0.2
	baz=325						
254A	Abbeville	35.47	117	P		P	04 43 04.1 -0.4
	baz=324						
TIXI	Tiksi	43.52	334	*e*P		P	04 44 12.6 +1.5
	9.4nm,1.4s						
MA2	Magadan	43.86	313	*e*S		S	04 50 47.6 +3.0
ARCES	ARCESS Array B	52.11	14	LR		LR	05 09 19.7
	comp=Z,52nm,18.3s,baz=279,slow=38						
NOA	NORSAR Array B	57.03	26	LR		LR	05 10 07.7
	comp=Z,46nm,18.7s,baz=245,slow=36						
HFS	Hagfors	58.42	25	LR		LR	05 09 49.8
	comp=Z,108nm,18.9s,baz=320,slow=34						
FIA0	FINESS Array S	59.73	18	*e*P		P	04 46 13.5 +1.2
FINES	FINESS Array B	59.73	18	P		P	04 46 13.5 +1.2
	3.3nm,0.8s,baz=347,slow=5.9,SNR=8.8						
FINES				LR		LR	05 12 01.6
	comp=Z,82nm,19.0s,baz=19,slow=36						
ARU	Arti	67.65	1	LR		LR	05 18 21.8
	comp=Z,46nm,18.9s,baz=108,slow=37						
ZALV	Zalesovo Beam	68.19	344	LR		LR	05 19 15.6
	comp=Z,10nm,21.3s,baz=90,slow=38						
GEC2	GERESS Array S	68.53	31	*e*P		P	04 47 11.9 +1.5
GERES	GERESS Array B	68.53	31	P		P	04 47 11.9 +1.5
	0.5nm,0.7s,baz=358,slow=7.1,SNR=5.3						
GERES				LR		LR	05 16 38.5
	comp=Z,36nm,21.5s,baz=279,slow=35						
VRAC	Vranov	68.91	28	LR		LR	05 18 50.8
	comp=Z,57nm,18.1s,baz=330,slow=37						
SONA0	Songino Array	69.10	328	*e*P		P	04 47 13.6 -0.4
SONM	Songino Array	69.10	328	P		P	04 47 13.6 -0.4
	0.4nm,0.7s,baz=5.0,slow=3.4,SNR=4.6						
DAVOX	Davos/Dischmat	69.25	34	LR		LR	05 17 47.4
	comp=Z,122nm,20.2s,baz=275,slow=36						
ESDC	Sonseca Array	70.42	47	P		P	04 47 22.7 +0.5
	0.8nm,0.5s,baz=328,slow=6.7,SNR=7.0						
AKASG	Malin Array Be	70.48	20	P		P	04 47 23.5 +1.2
	1.0nm,0.5s,baz=348,slow=4.8,SNR=6.7						
AKASG				LR		LR	05 17 22.5
	comp=Z,55nm,18.2s,baz=295,slow=35						
AKBB	Malin Array Si	70.48	20	*e*P		P	04 47 23.5 +1.2
	6.3nm,1.4s						
AKTO	Aktyubinsk	73.65	1	LR		LR	05 24 11.3
	comp=Z,43nm,18.2s,baz=350,slow=39						
HHC	Hu-ho-hao-te	73.68	321	*e*P		P	04 47 44.8 +3.0
MLR	Muntele Rosu	74.77	24	LR		LR	05 21 16.5
	comp=Z,118nm,18.0s,baz=302,slow=36						
MK32	Makanchi Array	75.53	344	*e*P		P	04 47 51.2 -1.1
MKAR	Makanchi Array	75.53	344	P		P	04 47 51.2 -1.1
	0.3nm,0.5s,baz=10,slow=5.2,SNR=3.9						
WMQ	Urumqi	77.46	339	*e*P		P	04 48 06.5 +3.1
WMQ				sP		PcP	04 48 13.5 -0.3
WHN	Wuhan	81.78	314	P		P	04 48 24.5 -2.4
BR101	Keskin Array S	81.89	20	*e*P		P	04 48 28.5 +0.9
BRTR	Keskin Array B	81.89	20	P		P	04 48 28.5 +0.9
	0.6nm,0.8s,baz=348,slow=2.9,SNR=4.6						
BRTR				LR		LR	05 26 04.5
	comp=Z,22nm,19.0s,baz=92,slow=36						
KSH	Kashi	83.55	347	P		P	04 48 37.5 +1.3
LPAZ	La Paz	84.53	130	P		P	04 48 41.0 -0.8
	0.6nm,0.4s,baz=14,slow=8.5,SNR=4.8						
GEYT	Alibeck	86.15	1	LR		LR	05 31 23.7
	comp=Z,27nm,20.2s,baz=235,slow=38						
KMI	Kunming	91.00	322	P		P	04 49 14.8 +2.1
TORD	Torodi Ar. Bea	95.88	56	LR		LR	05 30 41.2
	comp=Z,52nm,18.6s,baz=300,slow=34						

*IEPN **28** 04:43:39.0, 79°.34N×4°.60E, h15km*
*NAO **28** 04:43:40.1±2.8, 78°.93N×5°.14E, ML2.9*
*BER **28** 04:43:42.7±3.0, 78°.82N×5°.29E, h10km, ML1.9, ML2.9(NAO), Confirmed Earthquake*

ISC 28 04:43:39.0±3.7, 79°.11N±0°.10×5°.3E±0°.1, h11km±18km, n14, σ19°63/23, 1C-2D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.29	95	*e*P	Pn	04 44 03.5	+0.6
	48nm,0.6s						
KBS	Kingsbay	1.29	95	Pg	Pn	04 44 03.5	+0.7
KBS				Lg	Lg	04 44 22.1	
KBS	Kingsbay	1.29	95	||*i*P	Pn	04 44 03.4	+0.6
KBS				*i* S	Sb	04 44 21.6	+1.9
KBS	Kingsbay	1.29	95	||*i*P	Pn	04 44 03.5	+0.6
KBS				*e*S	Sn	04 44 21.8	+1.8
BRBA	Barentsburg A	2.07	116	Pn	Pn	04 44 14.6	+1.1
BRBA				Pg	Pb	04 44 15.9	-0.5
BRBA				Lg	Lg	04 44 43.3	
BRBA	Barentsburg A	2.07	116	Pn	Pn	04 44 14.6	+1.1
BRBA				Pg	Pb	04 44 15.9	-0.5
BRBA				Sg	Sb	04 44 43.3	+1.3
SPA0	Spitsbergen Ar	2.39	108	Pn	Pn	04 44 19.8	+1.8
	baz=300,slow=7.4						
SPA0				Lg	Lg	04 44 54.8	
	baz=275,slow=22						
SPA0	Spitsbergen Ar	2.39	108	||*i*P	Pn	04 44 19.7	+1.8
SPA0				*i* S	Sb	04 44 50.5	-0.7
SPA0	Spitsbergen Ar	2.39	108	Pn	Pn	04 44 19.8	+1.8
	baz=300,slow=7.4						
SPA0				Sg	Sg	04 44 54.8	-0.7
	baz=275,slow=22						
HSP	Hornsund	3.00	130	Pn	Pn	04 44 27.4	+1.1
HSP				Sn	Sn	04 45 03.1	+1.0
HSPB	Hornsund (broa	3.00	130	*e*P	Pn	04 44 27.4	+1.1
HSPB				*e*S	Sn	04 44 58.9	-3.3
HSPB				*e*		04 45 04.5	
HSPB				IAML		04 45 06.3	
	comp=Z,11nm,0.6s						
HOPEN	Hopen	4.91	112	*e*P	Pn	04 44 52.6	+0.2
HOPEN				*e*S	Sn	04 45 45.6	-3.5
HOPEN				*e*		04 45 50.9	
DAG	Danmarks Havn	5.50	257	*i* P	Pn	04 44 51.4	-9.2
DAG				*i* S	Sn	04 45 44.7	-19
ZFI2	Zemlya Franca-	7.45	57	*e*P	Pn	04 45 26.9	-0.4
ZFI2				*e*S	Sn	04 46 46.6	-4.9
	comp=Z,2.2nm,3.2s						

MEX 28 04:52:31.0±0.6, 14°.67N×93°.16W, h10km±17km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.89	75	*i* P	Pg	04 52 45.8	-2.4
THIG				*i* S	Sg	04 52 57.6	-2.3
PCIG		1.03	357	*e*P	Pg	04 52 47.4	-3.4
PCIG				*e*S	Sg	04 53 00.5	-3.7
CCIG	Comitan	1.88	31	*e*P	Pn	04 53 00.9	-2.5
CCIG				*e*S	Sn	04 53 22.3	-4.9
TGIG		2.09	1	*e*P	Pn	04 53 03.2	-3.0
TGIG				*i* S	Sn	04 53 28.4	-3.9
CMIG	Matias Romero	2.92	326	*i* P	Pn	04 53 14.8	-2.7
CMIG				*i* S	Sn	04 53 48.8	-4.0

IDC 28 05:07:25.4±1.1, 29°.11S×176°.33W, h0km, mb3.8/2, mb1 4.2/2, mb1mx3.7/23, mbtmp3.8/2, Error ellipse: s-maj=63.4km s-min=31.0km az=171.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.65	265	P	P	05 15 40.5	+0.4
	1.1nm,0.4s,baz=105,slow=7.4,SNR=14						
WRA	Warramunga Arr	45.53	270	P	P	05 15 46.6	-0.5
	128nm,0.3s,baz=100,slow=8.2,SNR=1.6						
TXAR	Lajitas Array	90.47	56	P	P	05 20 29.9	+0.6
	0.3nm,0.8s,baz=222,slow=3.6,SNR=2.7						
FINES	FINESS Array B	144.41	342	PKP	PKPab	05 27 00.5	-0.6
	1.8nm,0.8s,baz=50,slow=4.3,SNR=6.1						
AKASG	Malin Array Be	151.12	325	PKPbc	PKPbc	05 27 19.1	-1.0
	1.3nm,0.5s,baz=46,slow=2.6,SNR=3.6						
BRTR	Keskin Array B	153.22	301	PKPbc	PKPbc	05 27 26.2	+0.7
	0.4nm,0.7s,baz=70,slow=1.7,SNR=2.7						
TORD	Torodi Ar. Bea	164.01	173	PKPab	PKPab	05 28 23.5	-0.6
	0.5nm,0.8s,baz=185,slow=4.0,SNR=3.0						

*NIED **28** 05:07:00, 38°.20N×142°.50E, h29km, Mw3.5 Best double couple: M0=1.74000×10^14 NP1:φs=85.00000°, δ=24.00000°, λ=-58.00000°. NP2:φs=231.00000°, δ=70.00000°, λ=-103.00000°.*

JMA 28 05:07:36.0±0.1, 38°.20N×142°.48E, h34km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.81	278	P	Pn	05 07 50.9	0.0
JIKH				S	Sn	05 08 01.3	-0.4
JIO	Ouri	0.93	286	P	Pn	05 07 52.8	+0.2
JIO				S	Sn	05 08 04.6	0.0
JKMT	Kesennumamotoy	1.00	308	P	Pn	05 07 54.0	+0.4
JKMT				S	Sn	05 08 06.8	+0.3
OFUJ	Ofunato	1.08	324	P	Pn	05 07 55.1	+0.3
OFUJ				S	Sn	05 08 08.8	+0.2
JMK	Ichinoseki	1.24	308	P	Pn	05 07 57.7	+0.8
JMK				*e*S	Sb	05 08 13.6	-1.0
JMM	Marumori	1.37	256	P	Pn	05 07 58.9	+0.2
JMM				*e*S	Sn	05 08 15.7	0.0
JOU	Okura	1.44	277	P	Pn	05 08 00.9	+1.2
JOU				S	Sb	05 08 18.9	-1.4
JFK	Kawauchi	1.52	237	P	Pn	05 08 00.5	-0.3
JFK				*e*S	Sn	05 08 18.3	-1.1
JOM	Ohasama	1.57	324	P	Pn	05 08 02.8	+1.3
JOM				*e*S	Sn	05 08 22.0	+1.3
JYK	Kaneyama	1.81	294	P	Pn	05 08 06.2	+1.4
JYK				*e*S	Sb	05 08 29.6	-1.3
JFT	Otama	1.83	249	P	Pn	05 08 06.5	+1.5
JFT				*e*S	Sn	05 08 28.6	+1.6
JRG	Rokugo	1.87	310	P	Pb	05 08 07.8	-1.8
JRG				*e*S	Sb	05 08 30.6	-2.0
JYS	Shirataka	1.90	271	*e*S	Sn	05 08 30.0	+1.2
JYA	Atsumi	2.21	281	P	Pn	05 08 12.3	+2.1
JYA				*e*S	Sb	05 08 40.6	-1.6

*NEIC **28** 05:23:50.2±0.0, 19°.43N×68°.53W, h67km, MD3.4(RSPR), After RSPR.*

RSPR 28 05:23:50.2, 19°.43N×68°.53W, h67km±8km, MD3.4/6, 4C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.92	171	*e*Pn	Pn	05 24 06.4	-1.2
DR12	Loma Pena Alta	1.02	232	||*e*P	Pn	05 24 07.7	-1.3
DR12				*e*S	Sn	05 24 22.2	-0.7
AGP	Aguadilla	1.66	127	*e*Pn	Pn	05 24 17.8	+0.5
AGP				*e*Sn	Sn	05 24 37.5	-0.4
MPR	Mayaguez	1.79	132	*e*Pn	Pn	05 24 18.2	-0.8
MPR				*e*Sn	Sn	05 24 36.3	-4.5
CRPR	Cabo Rojo, PR	1.96	136	||*e*P	Pn	05 24 20.5	-0.7
CRPR	Cabo Rojo, PR	1.96	136	*e*S	Sn	05 24 44.1	-0.7
CRPR	Cabo Rojo, PR	1.96	136	*e*Pn	Pn	05 24 15.8	-5.4
AOPR	Arecibo Observ	2.00	122	||*e*P	Pn	05 24 21.1	-0.7
AOPR	Arecibo Observ	2.00	122	*e*S	Sn	05 24 45.0	-0.9
AOPR	Arecibo Observ	2.00	122	*e*Pn	Pn	05 24 21.7	-0.1
AOPR				*e*Sn	Sn	05 24 45.9	0.0
BANI	BANI	2.01	239	*e*Pn	Pn	05 24 21.1	-1.0
BANI				*e*Sn	Sn	05 24 41.0	-5.3
OBIP	Obispado Ponce	2.29	127	*e*Pn	Pn	05 24 25.0	-0.7
OBIP				*e*Sn	Sn	05 24 53.0	+0.1
SDDR	Presa de Saban	2.64	261	*e*Pn	Pn	05 24 31.2	+0.7
CBYP	Canovanas	2.78	114	*e*Pn	Pn	05 24 31.6	-1.0
HUMP	Col San Antoni	2.85	116	||*e*P	Pn	05 24 33.3	0.0
HUMP	Col San Antoni	2.85	116	*e*S	Sn	05 25 05.7	-0.8
HUMP	Col San Antoni	2.85	116	*e*Pn	Pn	05 24 32.6	-0.8
HUMP				*e*Sn	Sn	05 25 04.1	-2.4
MTP	Monte Pirata	3.12	115	||*e*P	Pn	05 24 36.7	-0.3
MTP	Monte Pirata	3.12	115	*e*S	Sn	05 25 13.0	-0.2
MTP	Monte Pirata	3.12	115	*e*Pn	Pn	05 24 37.2	+0.1

MEX 28 05:28:04.7±0.7, 16°.83N×93°.89W, h159km±6km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		0.74	94	*i* P	Pn	05 28 26.9	-1.6
TGIG				*e*S	Sn	05 28 44.1	-2.5
CMIG	Matias Romero	0.99	286	*e*P	Pn	05 28 29.1	-1.1
CMIG				*i* S	Sn	05 28 48.2	-1.6
PCIG		1.29	150	*e*P	Pn	05 28 31.6	-1.3
PCIG				*e*S	Sn	05 28 52.6	-1.9
HUIG	Huatulco	2.38	244	*i* P	Pn	05 28 41.5	-3.3
HUIG				*e*S	Sn	05 29 13.2	-2.6
TPIG	Tehuac#an	3.67	296	*i* P	Pn	05 29 00.3	-0.8
TPIG				*i* S	Sn	05 29 42.5	-2.5
PNIG	Pinotepa	4.08	265	*i* P	Pn	05 29 04.4	-2.0
PNIG				*i* S	Sn	05 29 51.8	-2.6

*ISCJB **28** 05:36:57.9±0.4, 50°.08N±0°.02×18°.35E±0°.02, h0km, Error ellipse: s-maj=3.6km s-min=2.1km az=7.4*
*VIE **28** 05:36:59.2±1.8, 50°.14N×18°.37E, h0km, mb1.8/3, ml2.6/4, Error ellipse: s-maj=13.0km s-min=9.9km az=93.0, Suspected Mining induced.*
*PRU **28** 05:36:59.7±0.0, 50°.06N×18°.42E, h0km*
*IPEC **28** 05:36:59.0±0.1, 50°.08N×18°.47E, h1km±2km, ML2.1/3, Error ellipse: s-maj=1.8km s-min=0.9km az=165.0*

ISC 28 05:36:58.9±0.8, 50°.04N±0°.03×18°.42E±0°.02, h0km, n27, σ0°80/49, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.27	222	*e*PG	Pb	05 37 05.6	-1.0
OKC				*e*SG	Sb	05 37 10.2	-1.4
	comp=Z,213nm,0.6s						
CHZP	Chorzow	0.45	55	*e*Pg	Pg	05 37 07.6	+0.1
CHZP				*e*Sg	Sg	05 37 13.8	+0.6
MORC	Moravsky Berou	0.62	246	*e*PG	Pg	05 37 11.6	+0.8
MORC				*e*SG	Sg	05 37 19.9	+1.0
MORC	Moravsky Berou	0.62	246	*e*Pg	Pg	05 37 11.6	+0.8
	baz=63						
MORC				*e*Sg	Sg	05 37 19.9	+1.0
	63nm,0.2s,baz=63						
OJC	Ojcow	0.91	78	*e*Pg	Pg	05 37 15.6	-0.7
OJC				*e*Sg	Sg	05 37 28.1	+0.1
LANS	Liptovska Anna	1.12	142	*e*PG	Pb	05 37 21.2	+0.1
LANS				*e*SG	Sn	05 37 37.8	-0.1
JAVC	Velka Javorina	1.27	203	*e*PG	Pn	05 37 24.5	+0.5
NIE	Niedzica	1.37	116	*e*Pg	Pg	05 37 25.1	+0.1
NIE				*e*Sg	Sn	05 37 44.5	+0.4
DPC	Dobruska-Polom	1.39	284	*e*PG	Pg	05 37 25.0	-0.4
DPC				*e*SG	Sn	05 37 44.3	-0.3
	comp=Z,73nm,0.6s						
VRAC	Vranov	1.39	239	*e*PG	Pn	05 37 25.6	0.0
VRAC				*e*SG	Sb	05 37 43.9	-0.2
VRAC	Vranov	1.39	239	*e*Pg	Pn	05 37 25.6	0.0
	baz=57						
VRAC				*e*Sg	Sb	05 37 43.8	-0.3
	16nm,0.2s,baz=57						
VYHS	Vyhne	1.57	170	*e*PG	Pn	05 37 27.9	-0.1
VYHS				*e*SG	Sg	05 37 49.9	+0.7
KSP	Ksiaz	1.58	302	*e*Pg	Pn	05 37 27.3	-1.0
KSP				*e*Sg	Sb	05 37 49.6	0.0
UPC	Upice	1.62	288	*e*PG	Pn	05 37 28.7	0.0
UPC				*e*SG	Sg	05 37 51.5	+0.7
	comp=Z,17nm,0.3s						
KRUC	Moravsky	1.64	234	*e*PN	Pb	05 37 29.6	-0.5
KRUC				*e*SG	Sg	05 37 51.7	+0.1
KRUC	Moravsky	1.64	234	*e*Pn	Pb	05 37 29.5	-0.5
	baz=52						
KRUC				*e*Sg	Sg	05 37 51.6	0.0
	19nm,0.2s,baz=52						
MODS	Modra-Piesok	1.82	205	*e*SN	Sn	05 37 55.0	-0.4
MODS				eLG	Lg	05 38 02.7	
STHS	Stebnicka Huta	1.93	108	*e*PN	Pb	05 37 35.2	+0.2
STHS				*e*SN	Sg	05 38 00.9	-0.1
STHS				eLG	Lg	05 38 08.5	
TREC	Trest	2.04	250	*e*SG	Sg	05 38 05.0	+0.4
	comp=Z,20nm,0.2s						
GOPC	GO Pecny, Ondr	2.35	268	*e*SG	Sg	05 38 13.8	-0.5
	comp=Z,16nm,0.6s						
PRU	Pruhonice	2.50	270	*e*PG	Pb	05 37 45.1	+0.4
PRU				*e*SG	Sg	05 38 19.1	-0.2
	comp=Z,19nm,0.8s						
PVCC	Panska Ves	2.52	283	*e*SG	Sg	05 38 20.4	+0.6
	comp=Z,26nm,0.5s						
CONA	Conrad Observa	2.70	220	Pn	Pn	05 37 45.2	+1.6
	0.8nm,0.2s						
CONA				Sn	Sn	05 38 18.2	+1.1
	2.0nm,0.3s						
BRG	Berggiesshubel	2.98	288	PG	Pb	05 37 53.2	+0.3
BRG				SG	Sg	05 38 33.2	-1.5
	8.6nm,0.5s						
KHC	Kasperske Hory	3.28	256	*e*PN	Pn	05 37 51.0	-0.6
KHC				*e*PG	Pg	05 38 00.0	-1.7
KHC				*e*SG	Sg	05 38 43.7	-0.5
	comp=Z,10nm,0.6s						
MOA	Molln	3.50	233	Sg	Sg	05 38 50.9	-0.6
	11nm,0.7s						
CLL	Collm	3.67	292	*e*Pg	Pg	05 38 12.0	+2.7
CLL				*e*Sg	Sg	05 38 56.0	-0.9
	comp=Z,9.0nm,0.5s						

IDC 28 05:58:28.7±1.7, 0°.64N×126°.29E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.6/30, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=129.6km s-min=22.9km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.63	182	P	P	06 02 48.1	0.0
	0.1nm,0.3s,baz=355,slow=8.7,SNR=3.8						
WRA	Warramunga Arr	21.93	159	P	P	06 03 23.6	-0.4
	124nm,0.3s,baz=330,slow=12,SNR=1.4						
ASAR	Alice Springs	25.27	163	P	P	06 03 57.4	+0.4
	1.1nm,0.3s,baz=345,slow=12,SNR=29						
STKA	Stephens Creek	35.44	157	P	P	06 05 26.4	-0.4
	0.7nm,0.3s,baz=338,slow=8.1,SNR=4.6						
MKAR	Makanchi Array	59.85	326	P	P	06 08 36.2	-0.1
	0.4nm,0.4s,baz=118,slow=8.0,SNR=7.1						

*ISCJB **28** 06:04:56.4±0.7, 18°.78N±0°.09×69°.04W±0°.03, h160km±6km, Error ellipse: s-maj=14.0km s-min=4.7km az=2.6*
*RSPR **28** 06:04:57.9, 19°.12N×68°.81W, h165km±2km, MD3.9/21*
*NEIC **28** 06:04:57.9±0.0, 19°.12N×68°.81W, h166km, MD3.9(RSPR), After RSPR.*

ISC 28 06:04:57.0±1.1, 18°.81N±0°.10×69°.06W±0°.04, h159km±8km, n64, σ0°96/76, 17C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	0.30	266	||*e*P	Pn	06 05 18.1	-0.5
DR12				*e*S	Sn	06 05 36.3	+1.2
PCDR	Punta Cana, DR	0.71	114	||*e*P	Pn	06 05 20.5	0.0
PCDR				*e*S	Sn	06 05 39.5	+1.1
PCDR	Punta Cana, DR	0.71	114	||*e*P	Pn	06 05 20.9	+0.4
PCDR	Punta Cana, DR	0.71	114	*e*S	Sn	06 05 37.9	-0.5
PCDR	Punta Cana, DR	0.71	114	*e*Pn	Pn	06 05 20.9	+0.4
PCDR				*e*Sn	Sn	06 05 37.9	-0.5
BANI	BANI	1.30	251	*e*Pn	Pn	06 05 24.6	-0.7
BANI				*e*Sn	Sn	06 05 44.9	-2.1
AGP	Aguadilla	1.87	102	*e*Pn	Pn	06 05 31.7	+0.5
AGP				*e*Sn	Sn	06 05 57.0	-0.4
AGPR	Aguadilla, PR	1.88	100	||*e*P	Pn	06 05 31.0	-0.3
AGPR	Aguadilla, PR	1.88	100	*e*S	Sn	06 05 57.0	-0.7
MPR	Mayaguez	1.92	108	*e*Pn	Pn	06 05 32.0	+0.3
LSP	Las Mesas	1.98	108	||*e*P	Pn	06 05 32.9	+0.4
LSP	Las Mesas	1.98	108	*e*Pn	Pn	06 05 32.9	+0.4
CRPR	Cabo Rojo, PR	2.02	113	||*e*P	Pn	06 05 33.3	+0.4
CRPR	Cabo Rojo, PR	2.02	113	*e*S	Sn	06 06 01.9	+1.4
CRPR	Cabo Rojo, PR	2.02	113	*e*Pn	Pn	06 05 32.4	-0.5
SDDR	Presa de Saban	2.11	275	*e*Pn	Pn	06 05 34.6	+0.6
AOPR	Arecibo Observ	2.24	102	||*e*P	Pn	06 05 35.2	-0.3
AOPR	Arecibo Observ	2.24	102	||*e*P	Pn	06 05 35.6	+0.1
AOPR				*e*S	Sn	06 06 04.3	-0.8
AOPR	Arecibo Observ	2.24	102	*e*Pn	Pn	06 05 35.6	+0.1
AOPR				*e*Sn	Sn	06 06 04.3	-0.8
EMPR	Esperanza - Ma	2.43	97	||*e*P	Pn	06 05 37.3	-0.3
EMPR	Esperanza - Ma	2.43	97	*e*S	Sn	06 06 07.9	-1.2
EMPR	Esperanza - Ma	2.43	97	*e*Pn	Pn	06 05 37.6	0.0
EMPR				*e*Sn	Sn	06 06 07.3	-1.7
OBIP	Obispado Ponce	2.46	108	||*e*P	Pn	06 05 38.7	+0.7
OBIP	Obispado Ponce	2.46	108	*e*S	Sn	06 06 10.1	+0.4
OBIP	Obispado Ponce	2.46	108	*e*Pn	Pn	06 05 38.7	+0.7
OBIP				*e*Sn	Sn	06 06 10.1	+0.4
CELP	Cerrillos	2.47	107	||*e*P	Pn	06 05 38.1	-0.1
CELP				*e*S	Sn	06 06 09.7	-0.3
CELP	Cerrillos	2.47	107	*e*Pn	Pn	06 05 38.1	-0.1
CELP				*e*Sn	Sn	06 06 09.7	-0.3
ICMP	Isla Caja de M	2.58	110	*e*Pn	Pn	06 05 38.8	-0.7
SJG	San Juan	2.85	104	||*e*P	Pn	06 05 42.5	-0.4
SJG	San Juan	2.85	104	*e*S	Sn	06 06 18.1	-0.2
SJG	San Juan	2.85	104	*e*Pn	Pn	06 05 42.0	-0.8
SJG	San Juan	2.85	104	*e*P	Pn	06 05 43.5	+0.7
SJG	San Juan	2.85	104	*e*P	Pn	06 05 43.

JTH			S		Sn	06 14 48.3	+1.5
OFUJ	**Ofunato**	**1.97 267**	P		Pn	06 14 24.4	+0.6
OFUJ			*e*S		Sn	06 14 48.4	+1.1
JOM	**Ohasama**	**2.27 278**	P		Pn	06 14 29.5	+1.6
JOM			*e*S		Sn	06 14 56.3	+1.6
JMK	**Ichinoseki**	**2.33 265**	P		Pn	06 14 29.9	+1.1
JMK			*e*S		Sn	06 14 57.3	+1.1
JANG	**Nango**	**2.38 300**	P		Pn	06 14 29.9	+0.5
JANG			*e*S		Sn	06 14 58.3	+1.0
JYK	**Kaneyama**	**3.00 266**	P		Pn	06 14 40.0	+2.0
JOT	**Ohata**	**3.25 313**	P		Pn	06 14 42.6	+1.3
JOT			*e*S		Sn	06 15 19.5	+0.8
JNBK	**Urakawa-nobuka**	**3.27 341**	P		Pn	06 14 42.0	+0.4
JNBK			*e*S		Sn	06 15 19.7	+0.5
JCH	**Churui**	**3.47 350**	P		Pn	06 14 44.0	-0.3
JCH			*e*S		Sn	06 15 22.3	-1.9
JFT	**Otama**	**3.47 242**	P		Pn	06 14 44.0	-0.4
JFT			*e*S		Sn	06 15 22.5	-1.7
JKB	**Kayabe**	**3.61 319**	*e*S		Sn	06 15 27.9	+0.3
JAK	**Akkeshi**	**3.81 5**	P		Pn	06 14 47.6	-1.4
JAK			*e*S		Sn	06 15 30.0	-2.5
NEM2	**Nemuro 2**	**4.32 15**	P		Pn	06 14 53.3	-2.7
NEM2			*e*S		Sn	06 15 40.2	-4.9
JTKR	**Abashiri--Toko**	**4.77 357**	P		Pn	06 15 01.6	-0.6
JTKR			*e*S		Sn	06 15 53.1	-3.1
JRY	**Ryogami san**	**5.27 235**	P		Pn	06 15 09.3	+0.2
JRY			*e*S		Sn	06 16 07.5	-1.1

*IDC **28** 06:22:45.9±8.8, 36°71N×70°87E, h104km±56km, mb3.3/4, mb1 3.4/10, mb1mx3.2/44, mbtmp3.8/10, MS3.0/2, Ms1 3.0/2, ms1mx2.4/29, Error ellipse: s-maj=75.6km s-min=36.4km az=174.0*
*NNC **28** 06:22:47.1±21.0, 36°68N×70°41E, h100km, mb3.5, mpv3.9, Error ellipse: s-maj=172.3km s-min=118.1km az=162.0*
ISC 28 06:22:45.4±1.7, 36°7N±0°1×70°71E±0°09, h100km, n18, σ1°83/20, mb3.7/4, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.44**	**359**	⇑P	**Pn**	**06 24 20.6**	**+3.0**
	5.0nm,0.3s,baz=178,slow=12,SNR=70						
KK31				⇑S	**Sn**	**06 25 31.7**	**+2.1**
	3.0nm,0.3s,baz=179,slow=26						
AAK	**Ala-Archa**	**6.65**	**25**	⇑P	**Pn**	**06 24 22.7**	**+2.1**
	2.2nm,0.4s						
AAK				⇓S	**Sn**	**06 25 37.0**	**+2.1**
	11nm,0.8s						
AAK	**Ala-Archa**	**6.65**	**25**	P	**Pn**	**06 24 19.5**	**-1.1**
	0.4nm,0.3s,baz=205,slow=14,SNR=3.4						
AAK				S	**Sn**	**06 25 32.4**	**-2.6**
	0.7nm,0.3s,baz=210,slow=13,SNR=4.1						
GEYT	**Alibeck**	**10.11**	**281**	S	**Sn**	**06 26 59.0**	**-0.1**
	0.7nm,0.3s,baz=69,slow=30,SNR=2.1						
MKAR	**Makanchi Array**	**13.31**	**37**	P	**Pn**	**06 25 48.8**	**-1.4**
	0.1nm,0.3s,baz=218,slow=14,SNR=8.9						
AB31	**Akbulak array**	**14.83**	**331**	P	**P**	**06 26 12.0**	**-1.1**
	1.5nm,0.5s,baz=163,slow=12,SNR=29						
AB31				⇓S	**Sn**	**06 28 49.6**	**-3.7**
	1.2nm,0.5s,baz=165,slow=22						
KURBB	**Kurchatov Arra**	**15.05**	**20**	P	**Pn**	**06 26 13.8**	**+1.2**
	0.1nm,0.3s,baz=208,slow=10,SNR=8.7						
BVAR	**Borovoye Array**	**16.37**	**359**	P	**Pn**	**06 26 29.9**	**+0.9**
	0.3nm,0.3s,baz=157,slow=8.0,SNR=5.4						
AKTO	**Aktyubinsk**	**16.53**	**330**	⇑P	**P**	**06 26 34.1**	**+2.3**
	4.2nm,0.9s						
AKTO	**Aktyubinsk**	**16.53**	**330**	P	**P**	**06 26 32.4**	**+0.5**
	0.5nm,0.3s,baz=130,slow=13,SNR=10.0						
ZALV	**Zalesovo Beam**	**19.87**	**25**	P	**P**	**06 27 08.0**	**-0.5**
	0.6nm,0.3s,baz=218,slow=11,SNR=9.9						
GNI	**Garni**	**20.62**	**288**	LR	LR	06 38 50.5	
	comp=Z,20nm,18.0s,baz=36,slow=46						
FINES	**FINESS Array B**	**37.22**	**326**	P	**P**	**06 29 46.9**	**+0.2**
	0.9nm,0.7s,baz=144,slow=5.2,SNR=2.8						
ARCES	**ARCESS Array B**	**40.91**	**338**	P	**P**	**06 30 18.3**	**+0.9**
	1.6nm,0.7s,baz=113,slow=9.3,SNR=7.5						
NB2	**NORSAR Subarra**	**44.11**	**323**	P	**P**	**06 30 43.7**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.11**	**323**	P	**P**	**06 30 42.4**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=97,slow=7.8,SNR=5.6						
KLR	**Kul'dur**	**45.24**	**54**	LR	LR	06 52 44.0	
	comp=Z,26nm,18.5s,baz=125,slow=40						
YKA	**Yellowknife Ar**	**81.10**	**2**	P	**P**	**06 34 48.7**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=349,slow=5.6,SNR=3.0						

*KRNET **28** 06:44:46.6±0.1, 39°13N×71°41E, mb3.4*
*NNC **28** 06:44:53.0±5.3, 39°51N×71°58E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=43.4km s-min=19.3km az=4.0*
ISC 28 06:44:53.0±2.0, 39°5N±0°1×71°54E±0°04, h10km, n26, σ2°53/38, 16C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.76**	**313**	⇑*i*P	**Pg**	**06 45 06.5**	**-1.2**
	baz=34						
BTK				⇑*i*S	**Sb**	**06 45 20.9**	**+2.0**
	baz=34						
ARSB	**Arslanbob**	**2.10**	**31**	⇓*i*P	**Pb**	**06 45 30.9**	**-0.3**
	baz=28						
ARSB				⇓*i*S	**Sg**	**06 46 02.9**	**+2.4**
	baz=28						
ARK	**Arkit**	**2.28**	**8**	⇑*i*P	**Pb**	**06 45 32.9**	**-1.5**
	baz=9.0						
ARK				⇑*i*S	**Sg**	**06 46 07.8**	**+1.4**
	baz=9.0						
IUG	**Iuzhnay**	**2.85**	**337**	Pg	**Pb**	**06 45 43.0**	**-1.0**
	16nm,0.2s						
IUG				Lg	Lg	06 46 24.7	
	233nm,0.5s						
AML	**Almayashu**	**3.06**	**32**	P	**Pb**	**06 45 45.1**	**-2.7**
	SNR=23						
AML	**Almayashu**	**3.06**	**32**	⇑*e*P	**Pn**	**06 45 44.7**	**+2.8**
	baz=29						
AML				⇑*i*S	**Sb**	**06 46 27.0**	**+1.5**
	baz=29						
ARLS	**Aral**	**3.14**	**41**	⇓*i*P	**Pn**	**06 45 44.9**	**+2.2**
	baz=38						
ARLS				⇓*i*S	**Sb**	**06 46 28.3**	**+0.8**
	baz=38						
UCH	**Uchtor**	**3.51**	**39**	P	**Pn**	**06 45 50.5**	**+2.5**
	SNR=12						
UCH	**Uchtor**	**3.51**	**39**	⇑*i*P	**Pn**	**06 45 50.5**	**+2.5**
	baz=36						
UCH				⇑*i*S	**Sb**	**06 46 37.2**	**-1.1**
	baz=36						
EKS2	**Erkin-Say**	**3.55**	**28**	P	**Pn**	**06 45 51.9**	**+3.6**
	SNR=7.6						
EKS2	**Erkin-Say**	**3.55**	**28**	⇓*i*P	**Pn**	**06 45 51.2**	**+2.9**
	baz=26						
EKS2				⇓*i*S	**Sb**	**06 46 38.3**	**-0.9**
	baz=26						
KK31	**Karatay Array**	**3.65**	**348**	⇑Pn	**Pn**	**06 45 51.8**	**+2.3**
	4.8nm,0.5s,baz=170,slow=12,SNR=56						
KK31				Pg	**Pg**	**06 46 02.6**	**-0.2**
	3.2nm,0.3s,baz=166,slow=15,SNR=8.6						
KK31				⇑Lg	Lg	06 46 40.0	
	27nm,0.7s						
KZA	**Kyzart**	**3.79**	**47**	P	**Pn**	**06 45 53.1**	**+1.2**
	SNR=34						
KZA	**Kyzart**	**3.79**	**47**	⇑*i*P	**Pn**	**06 45 53.9**	**+2.0**
	baz=44						
KZA				⇑*i*S	**Sb**	**06 46 42.9**	**-3.5**
	baz=44						
AAK	**Ala-Archa**	**3.82**	**35**	P	**Pn**	**06 45 55.2**	**+3.2**
	SNR=15						
AAK	**Ala-Archa**	**3.82**	**35**	⇓Pn	**Pn**	**06 45 54.9**	**+2.8**
	10nm,0.5s						
AAK				⇑Pg	**Pg**	**06 46 04.4**	**-1.8**
	10nm,0.5s						
AAK				⇑Lg	Lg	06 46 46.1	
	12nm,0.5s						
AAK	**Ala-Archa**	**3.82**	**35**	⇑*i*P	**Pn**	**06 45 55.0**	**+3.0**
	baz=33						
AAK				⇑*i*S	**Sb**	**06 46 44.1**	**-2.9**
	baz=33						
KBK	**Karagaybulak**	**4.04**	**38**	P	**Pn**	**06 45 59.5**	**+4.4**
	SNR=8.8						
CHMS	**Chumysh**	**4.22**	**34**	P	**Pn**	**06 46 00.4**	**+3.0**
	SNR=7.0						
CHMS	**Chumysh**	**4.22**	**34**	⇓*i*P	**Pn**	**06 46 00.4**	**+3.0**
	baz=32						
CHMS				⇓*i*S	**Sb**	**06 46 54.4**	**-4.0**
	baz=32						
USP	**Ospenovka**	**4.34**	**30**	P	**Pn**	**06 46 01.9**	**+2.8**
	SNR=12						
TKM2	**Tokmak 2**	**4.56**	**41**	P	**Pn**	**06 46 04.5**	**+2.3**
	SNR=13						
TKM2	**Tokmak 2**	**4.56**	**41**	⇓Pn	**Pn**	**06 46 04.3**	**+2.0**
	3.1nm,0.4s						
TKM2				⇓Lg	Lg	06 47 16.7	
	8.8nm,0.6s						
KST	**Kastek**	**4.83**	**42**	Pg	**Pb**	**06 46 19.4**	**+1.5**
	4.7nm,0.7s						
KST				Lg	Lg	06 47 26.4	
	9.7nm,0.6s						
KUU	**Kurty**	**5.64**	**38**	Pg	**Pb**	**06 46 33.9**	**+2.3**
	1.8nm,0.4s						
KUU				Lg	Lg	06 47 52.1	
	6.3nm,0.5s						
AB31	**Akbulak array**	**12.76**	**323**	P	**Pn**	**06 47 51.5**	**-2.8**
	0.5nm,0.4s,baz=136,slow=13,SNR=20						

*ISCJB **28** 06:47:13.2±0.3, 40°64N±0°04×140°09E±0°08, h165km±3km, mb3.6/13, Error ellipse: s-maj=10.2km s-min=6.9km az=6.7*
*IDC **28** 06:47:13.3±1.4, 40°65N×140°10E, h152km±12km, mb3.1/12, mb1 3.3/15, mb1mx3.2/35, mbtmp3.6/15, Error ellipse: s-maj=16.7km s-min=11.5km az=115.0*
*JMA **28** 06:47:14.5±0.1, 40°64N×140°08E, h158km±1km, M3.1*
ISC 28 06:47:14.3±0.7, 40°65N±0°04×140°12E±0°07, h161km±5km, n30, σ0°76/38, mb3.4/13, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.10**	**238**	P	**Pn**	**06 47 35.6**	**-0.2**
JIW				S	**Sn**	**06 47 52.2**	**0.0**
JHHS	**Hirosakihyakuz**	**0.18**	**88**	S	**Sn**	**06 47 52.6**	**+0.3**
JNTW	**Noshirotokiwa**	**0.38**	**175**	P	**Pn**	**06 47 36.5**	**+0.1**
JNTW				S	**Sn**	**06 47 53.4**	**+0.1**
JAH	**Hinai**	**0.60**	**139**	P	**Pn**	**06 47 37.3**	**-0.1**
JAH				S	**Sn**	**06 47 54.6**	**-0.5**
JTM	**Tenmabayashi**	**0.74**	**79**	P	**Pn**	**06 47 38.3**	**+0.1**
JTM				S	**Sn**	**06 47 56.1**	**-0.4**
JSR	**Shiriuchi**	**0.91**	**14**	P	**Pn**	**06 47 39.5**	**+0.1**
JOT	**Ohata**	**1.02**	**43**	P	**Pn**	**06 47 40.5**	**+0.3**
JANG	**Nango**	**1.10**	**104**	P	**Pn**	**06 47 40.8**	**-0.1**
JANG				S	**Sn**	**06 48 00.9**	**-0.5**
JKB	**Kayabe**	**1.42**	**29**	P	**Pn**	**06 47 44.2**	**+0.4**
JOM	**Ohasama**	**1.48**	**142**	P	**Pn**	**06 47 44.3**	**-0.2**
JOSM	**Okushiri--Mats**	**1.52**	**342**	P	**Pn**	**06 47 44.7**	**-0.1**
JOSM				S	**Sn**	**06 48 07.5**	**-0.9**
JYK	**Kaneyama**	**1.74**	**174**	P	**Pn**	**06 47 47.1**	**-0.1**
JMK	**Ichinoseki**	**1.89**	**153**	P	**Pn**	**06 47 48.3**	**-0.6**
JAW	**Awa shima**	**2.29**	**197**	P	**Pn**	**06 47 53.4**	**0.0**
JAW				S	**Sn**	**06 48 22.9**	**-0.7**
ASAJ	**Asahikawa**	**3.92**	**27**	P	**Pn**	**06 48 13.8**	**+0.1**
	9.4nm,0.3s,baz=236,slow=11,SNR=24						
ASAJ				S	**Sn**	**06 48 57.1**	**-3.0**
	3.9nm,0.3s,baz=156,slow=20,SNR=6.8						
MJAR	**Matsushiro Arr**	**4.36**	**201**	P	**Pn**	**06 48 19.9**	**+0.3**
	0.2nm,0.3s,baz=9.6,slow=14,SNR=6.4						
USRK	**Ussuriysk Ar.**	**6.98**	**303**	P	**Pn**	**06 48 54.6**	**+0.6**
	0.3nm,0.3s,baz=109,slow=13,SNR=7.5						
SEY	**Seymchan**	**23.49**	**14**	P	**P**	**06 52 09.8**	**+0.7**
	2.1nm,0.5s,baz=189,slow=7.8,SNR=7.6						
ZALV	**Zalesovo Beam**	**38.79**	**309**	P	**P**	**06 54 23.0**	**0.0**
	0.5nm,0.3s,baz=99,slow=9.3,SNR=2.6						
MKAR	**Makanchi Array**	**41.42**	**298**	P	**P**	**06 54 44.2**	**-0.5**
	0.2nm,0.4s,baz=78,slow=7.3,SNR=2.7						
ILAR	**Eielson Array**	**47.03**	**34**	P	**P**	**06 55 29.2**	**+0.2**
	0.3nm,0.6s,baz=289,slow=8.5,SNR=5.1						
ARCES	**ARCESS Array B**	**60.27**	**338**	P	**P**	**06 57 05.3**	**+0.2**
	0.6nm,0.5s,baz=62,slow=8.4,SNR=4.0						
WRA	**Warramunga Arr**	**60.52**	**186**	P	**P**	**06 57 07.0**	**-0.3**
	138nm,0.3s,baz=2.7,slow=7.3,SNR=1.7						
YKA	**Yellowknife Ar**	**61.21**	**31**	P	**P**	**06 57 11.5**	**0.0**
	0.2nm,0.5s,baz=298,slow=6.8,SNR=2.8						
ASAR	**Alice Springs**	**64.24**	**186**	P	**P**	**06 57 30.8**	**-1.2**
	0.2nm,0.3s,baz=356,slow=7.7,SNR=3.6						
FINES	**FINESS Array B**	**65.16**	**331**	P	**P**	**06 57 37.4**	**-0.1**
	0.3nm,0.3s,baz=34,slow=10,SNR=3.5						
NOA	**NORSAR Array B**	**70.47**	**336**	P	**P**	**06 58 09.7**	**-1.2**
	0.4nm,0.6s,baz=25,slow=7.5,SNR=2.5						
NVAR	**Mina Array Bea**	**73.64**	**53**	P	**P**	**06 58 31.2**	**+0.9**
	0.5nm,0.7s,baz=273,slow=7.8,SNR=3.8						
PDAR	**Pinedale Array**	**75.86**	**45**	P	**P**	**06 58 44.3**	**+1.3**
	0.2nm,0.4s,baz=63,slow=0.8,SNR=4.5						
TXAR	**Lajitas Array**	**88.70**	**52**	P	**P**	**06 59 50.4**	**+0.7**
	0.1nm,0.5s,baz=354,slow=3.2,SNR=3.5						

*IDC **28** 06:54:17.9±0.8, 55°66S×26°73W, h0km, mb4.1/4, mb1 4.2/5, mb1mx4.0/25, mbtmp4.0/5, ML3.7/1, MS2.8/2, Ms1 2.8/2, ms1mx2.6/17, Error ellipse: s-maj=37.2km s-min=22.0km az=63.0*
ISC 28 06:54:21.9±1.1, 56°0S±0°4×27°5W±0°5, h35km, n16, σ2°16/7, mb4.1/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.90**	**156**	P	**Pn**	**06 58 40.2**	**+0.2**
	0.2nm,0.3s,baz=342,slow=20,SNR=2.7						
SNAA				LR	LR	07 05 25.0	
	comp=Z,35nm,18.9s,baz=40,slow=35						
CPUP	**Villa Florida**	**36.61**	**312**	P	**P**	**07 01 25.8**	**+1.3**
	3.3nm,0.9s,baz=168,slow=11,SNR=8.3						
CPUP				LR	LR	07 16 30.9	
	comp=Z,9.1nm,18.8s,baz=215,slow=36						
VNDA	**Vanda**	**46.65**	**183**	P	P	07 02 49.6	+3.5
	1.1nm,0.6s,baz=183,slow=5.2,SNR=15						
H10S2	**ASCENSION HYDR**	**47.97**	**17**	T	T	07 54 47.4	
	baz=190,slow=75,SNR=20						
H10S3	**ASCENSION HYDR**	**47.98**	**17**	T	T	07 54 48.5	
	baz=190,slow=75,SNR=14						
H10S1	**ASCENSION HYDR**	**47.99**	**17**	T	T	07 54 51.4	
	baz=190,slow=75,SNR=14						
H10N1	**ASCENSION HYDR**	**49.09**	**17**	T	T	07 56 17.6	
	baz=189,slow=75,SNR=5.7						
H10N3	**ASCENSION HYDR**	**49.09**	**17**	T	T	07 56 18.8	
	baz=189,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**49.11**	**17**	T	T	07 56 18.2	
	baz=189,slow=75,SNR=9.2						
LPAZ	**La Paz**	**50.17**	**306**	P	P	07 03 17.9	+3.3
	3.4nm,0.4s,baz=100,slow=4.8,SNR=32						
TORD	**Torodi Ar. Bea**	**73.08**	**30**	P	P	07 05 46.4	-1.9
	0.5nm,0.5s,baz=200,slow=6.7,SNR=8.5						
YKA	**Yellowknife Ar**	**135.97**	**318**	PKP	**PKiKP**	**07 13 39.4**	**+0.2**
	0.1nm,0.4s,baz=139,slow=2.1,SNR=4.6						
MKAR	**Makanchi Array**	**137.04**	**72**	PKP	**PKiKP**	**07 13 41.8**	**-0.1**
	0.1nm,0.6s,baz=213,slow=4.3,SNR=2.4						
INK	**Inuvik**	**145.61**	**321**	PKPbc	**PKPbc**	**07 13 55.9**	**+0.9**
	0.9nm,0.4s,baz=114,slow=4.1,SNR=9.7						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPab**	**07 14 08.7**	**-4.0**
	1.3nm,0.8s,baz=115,slow=1.7,SNR=11						
SONM	**Songino Array**	**150.92**	**87**	PKPbc	**PKPbc**	**07 14 10.6**	**+0.6**
	0.6nm,0.4s,baz=210,slow=4.6,SNR=4.7						

*GCMT **28** 06:59:41.9±0.5, 35°52S±0°03×178°50E±0°03, h194km±3km, MW5.0/67, Moment Tensor Solution. s18,c19; s67,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.42±.19; $M_{\theta\theta}$-0.28±.29; $M_{\phi\phi}$2.71±.25; $M_{r\theta}$-2.40±.17; $M_{\theta\phi}$0.17±.19; $M_{r\phi}$-2.25±.15; Best double couple: $M_0$4.15000×10^{16} NP1:ϕ_s34.00000°, δ72.00000°, λ-69.00000°. NP2: ϕ_s162.00000°, δ27.00000°, λ-139.00000°. Principal axes: T 3.8510, Plg25.0000°, Azm108.0000°; N 0.6050, Plg20.0000°, Azm207.0000°; P -4.4490, Plg57.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*WEL **28** 06:59:41.8, 36°S±11°×17°8E±°, h212km±10km*
*BJI **28** 06:59:44.3±0.0, 36°10S×178°20E, h187km, mb5.1/9, mB5.3/7*
*NEIC **28** 06:59:44.9±2.9, 36°34S×178°71E, h222km±7km, mb4.9/46, Error ellipse: s-maj=22.9km s-min=16.9km az=152.0*
*IDC **28** 06:59:45.1±1.1, 35°89S×178°35E, h195km±10km, mb4.5/15, mb1 4.6/17, mb1mx4.4/32, mbtmp4.9/17, MS3.5/6, Ms1 3.5/6, ms1mx3.1/20, Error ellipse: s-maj=13.9km s-min=11.3km az=24.0*
*ISCJB **28** 06:59:46.8±0.3, 36°27S±0°03×178°25E±0°04, h220km±2km, mb4.8/57, Error ellipse: s-maj=6.0km s-min=4.3km az=145.1*
ISC 28 06:59:47.2±0.7, 36°17S±0°06×178°33E±0°05, h216km±6km, n405, σ1°87/414, mb4.9/55, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.39**	**181**	*e*Pn	**Pn**	**07 00 19.2**	**-2.2**
MXZ	**Matakaoa Point**	**1.39**	**181**	P	**Pn**	**07 00 18.9**	**-2.5**
MXZ				S	**S**	**07 00 45.9**	**-2.2**
HAZ	**Te Kaha**	**1.64**	**195**	P	**Pn**	**07 00 21.7**	**-1.8**
PKGZ	**Pakihiroa**	**1.73**	**187**	P	**Pn**	**07 00 23.0**	**-1.3**
RUGZ	**Raukumara Rang**	**1.86**	**196**	P	**Pn**	**07 00 23.8**	**-1.9**
PUZ	**Puketiti**	**1.90**	**182**	P	**Pn**	**07 00 24.4**	**-1.5**
PUZ				S	**S**	**07 00 54.9**	**-1.1**
WHRZ	**Whale Island**	**2.00**	**212**	P	**Pn**	**07 00 26.7**	**-0.1**
MYRZ	**Mayor Island**	**2.01**	**236**	P	**Pn**	**07 00 24.8**	**-2.2**
KUZ	**Kuaotunu**	**2.18**	**254**	P	**Pn**	**07 00 24.5**	**-4.1**
OPRZ	**Ohinepanea**	**2.19**	**220**	P	**Pn**	**07 00 27.9**	**-0.8**
MARZ	**Manawahe**	**2.24**	**216**	P	**Pn**	**07 00 29.1**	**-0.2**
MWZ	**Matawai**	**2.25**	**196**	P	**Pn**	**07 00 28.4**	**-1.0**
MWZ				S	**S**	**07 01 02.8**	**+0.5**
TGRZ	**Tauranga**	**2.27**	**226**	P	**Pn**	**07 00 28.3**	**-1.3**
TKGZ	**Te Karaka**	**2.30**	**189**	P	**Pn**	**07 00 29.0**	**-0.8**
URZ	**Urewera**	**2.30**	**205**	*e*Pn	**Pn**	**07 00 29.2**	**-0.7**
URZ				*e*S	**S**	**07 01 04.6**	**+1.5**
URZ	**Urewera**	**2.30**	**205**	P	**Pn**	**07 00 28.9**	**-0.9**
	117nm,0.3s,baz=24,slow=2.1,SNR=884						
URZ				S	**S**	**07 01 03.7**	**+0.6**
	431nm,0.3s,baz=90,slow=20,SNR=13						
URZ				LR	LR	07 01 28.3	
	comp=Z,1μm,19.6s,baz=46,slow=40						
URZ	**Urewera**	**2.30**	**205**	P	**Pn**	**07 00 28.4**	**-1.4**
URZ				S	**S**	**07 01 03.8**	**+0.6**
EDRZ	**Edgecumbe**	**2.31**	**213**	P	**Pn**	**07 00 29.8**	**-0.3**
GRZ	**Great Barrier**	**2.32**	**267**	P	Pn	07 00 24.9	-5.3
LIRZ	**Lichensteins R**	**2.40**	**220**	P	**Pn**	**07 00 31.0**	**0.0**
OMRZ	**Omania**	**2.48**	**218**	P	**Pn**	**07 00 32.1**	**+0.2**
KARZ	**Kaharoa**	**2.48**	**221**	P	**Pn**	**07 00 31.3**	**-0.6**
TARZ	**Mount Tarawera**	**2.52**	**215**	P	**Pn**	**07 00 32.6**	**+0.2**
KMRZ	**Kaimai**	**2.54**	**228**	P	**Pn**	**07 00 32.0**	**-0.5**
RRRZ	**Republican Roa**	**2.60**	**213**	P	**Pn**	**07 00 32.8**	**-0.3**
HLRZ	**Highlands Stat**	**2.61**	**217**	P	**Pn**	**07 00 33.5**	**+0.3**
MUGZ	**Murupara**	**2.61**	**208**	P	**Pn**	**07 00 32.4**	**-0.9**
UTU	**Utuhina**	**2.63**	**220**	P	**Pn**	**07 00 33.9**	**+0.4**
WIAZ	**Waiheke Island**	**2.65**	**255**	P	**Pn**	**07 00 30.0**	**-3.7**
RTZ	**Ruatahuna**	**2.66**	**203**	P	**Pn**	**07 00 32.8**	**-1.1**
RTZ				S	**S**	**07 01 11.1**	**+0.8**
HSRZ	**Hossack Road**	**2.71**	**217**	P	**Pn**	**07 00 35.1**	**+0.8**
MKAZ	**Moumakai**	**2.71**	**249**	P	**Pn**	**07 00 31.6**	**-2.8**
TOZ	**Tahuroa Road**	**2.75**	**235**	P	**Pn**	**07 00 33.8**	**-0.9**
HRRZ	**Handcock Road**	**2.75**	**216**	P	**Pn**	**07 00 35.2**	**+0.4**
PRRZ	**Plateau Road**	**2.79**	**213**	P	**Pn**	**07 00 35.0**	**-0.2**
GRRZ	**Galatos Road**	**2.80**	**218**	P	**Pn**	**07 00 36.3**	**+0.9**
ETAZ	**East Tamaki Re**	**2.84**	**253**	P	**Pn**	**07 00 33.1**	**-2.8**
ALRZ	**Allen Road**	**2.86**	**213**	P	**Pn**	**07 00 35.9**	**-0.2**
KNZ	**Kokohu**	**2.89**	**190**	P	**Pn**	**07 00 35.3**	**-1.0**
WPRZ	**Whakapapatarin**	**2.91**	**216**	P	**Pn**	**07 00 36.9**	**+0.3**
RAHZ	**Arahi**	**2.91**	**199**	P	**Pn**	**07 00 36.1**	**-0.6**
MTHZ	**Maungataniwha**	**2.92**	**203**	P	**Pn**	**07 00 35.7**	**-1.1**
EPAZ	**Eden Park BICE**	**2.97**	**255**	P	**Pn**	**07 00 34.8**	**-2.5**
MHGZ	**Mahia Peninsul**	**3.00**	**186**	P	**Pn**	**07 00 36.9**	**-0.6**
WHHZ	**Waihua**	**3.03**	**196**	P	**Pn**	**07 00 37.5**	**-0.4**
KUTZ	**Kaahu Road**	**3.05**	**220**	P	**Pn**	**07 00 39.1**	**+0.8**
MRHZ	**Matea Rd**	**3.06**	**209**	P	**Pn**	**07 00 37.4**	**-0.9**
TLZ	**Tolley Road**	**3.10**	**225**	P	**Pn**	**07 00 39.7**	**+0.9**
WTAZ	**Waiatarua**	**3.12**	**255**	P	**Pn**	**07 00 36.3**	**-2.7**
WHTZ	**Whakaora**	**3.12**	**216**	P	**Pn**	**07 00 39.5**	**+0.4**
WCZ	**Waipu Caves**	**3.23**	**273**	P	Pn	07 00 35.2	-5.1
HATZ	**Hinemaiaia**	**3.24**	**213**	P	**Pn**	**07 00 39.7**	**-0.7**
ARHZ	**Aropaoanui**	**3.26**	**198**	P	**Pn**	**07 00 40.0**	**-0.6**
WATZ	**Wairara**	**3.27**	**218**	P	**Pn**	**07 00 41.0**	**+0.3**
BKZ	**Black Stump Fm**	**3.32**	**205**	*e*Pn	**Pn**	**07 00 40.3**	**-1.1**
BKZ	**Black Stump Fm**	**3.32**	**205**	P	**Pn**	**07 00 40.6**	**-0.8**
RATZ	**Rangitukua**	**3.37**	**216**	P	**Pn**	**07 00 42.2**	**+0.3**
RITZ	**Rihia Road**	**3.42**	**214**	P	**Pn**	**07 00 42.3**	**-0.2**
KATZ	**Kakaramea**	**3.49**	**216**	P	**Pn**	**07 00 43.4**	**-0.1**
MCHZ	**McNeill Hill**	**3.51**	**201**	P	**Pn**	**07 00 43.0**	**-0.6**
KWHZ	**Kaweka Forest**	**3.58**	**204**	P	**Pn**	**07 00 43.6**	**-0.9**
CKHZ	**C

TUZ	Tuapeka	11.76	211	P	Pn	07 02 28.1	-0.3
MLZ	Mavora Lakes	12.00	217	ePn	Pn	07 02 29.5	-2.0
MLZ	Mavora Lakes	12.00	217	P	Pn	07 02 30.2	-1.4
WHZ	Wether Hill Ro	12.47	216	ePn	Pn	07 02 35.0	-2.3
DCZ	Deep Cove	12.55	219	ePn	Pn	07 02 37.0	-1.3
DCZ	Deep Cove	12.55	219	P	Pn	07 02 38.8	+0.4
APZ	The Paps	13.16	213	P	Pn	07 02 47.1	+1.1
DZM	Mont Dzumac	17.45	320	eP	P	07 03 33.6	-2.5
	42nm,0.9s						
DZM	Mont Dzumac	17.45	320	P	P	07 03 33.2	-2.9
	1.0nm,0.3s,baz=133,slow=11,SNR=13						
DZM				LR	LR	07 09 03.8	
	comp=Z,116nm,19.6s,baz=212,slow=32						
MGCD	Mangrove Creek	22.55	270	P	P	07 04 32.7	+3.7
	baz=24						
ARMA	Armidale	23.00	277	eP	P	07 04 35.2	+2.0
	29nm,0.8s						
ARMA	Armidale	23.00	277	P	P	07 04 36.1	+2.9
	baz=24,SNR=12						
MILA	Mila	23.39	259	P	P	07 04 40.7	+4.0
	baz=24,SNR=4.5						
CNB	Canberra Magne	23.49	263	P	P	07 04 41.4	+3.8
	baz=24,SNR=5.2						
CAN	Canberra	23.78	263	eP	P	07 04 38.9	-1.3
	15nm,1.0s						
YNG	Young	24.48	266	P	P	07 04 49.4	+2.9
	baz=25,SNR=5.0						
EIDS	Eidsvold	25.68	287	eP	P	07 04 57.8	+0.3
	28nm,0.8s						
EIDS	Eidsvold	25.68	287	P	P	07 04 57.7	+0.3
	baz=26,SNR=7.0						
RMQ	Roma	26.95	283	P	P	07 05 10.6	+1.8
	baz=28,SNR=22						
CMSA	Cobar Meteorol	27.42	270	P	P	07 05 15.3	+2.4
	baz=28,SNR=17						
ARPS	Mount Arapiles	29.24	258	P	P	07 05 32.2	+3.3
	baz=30,SNR=5.5						
STKA	Stephens Creek	30.62	267	eP	P	07 05 42.6	+1.4
	3.6nm,0.9s						
STKA	Stephens Creek	30.62	267	P	P	07 05 43.4	+2.2
	baz=32,SNR=12						
STKA	Stephens Creek	30.62	267	P	P	07 05 43.1	+1.9
	14nm,0.8s,baz=94,slow=11,SNR=24						
CTA	Charters Tower	32.32	291	P	P	07 05 55.9	-0.2
	71nm,0.8s,baz=120,slow=11,SNR=36						
CTAO	Charters Tower	32.32	291	eP	P	07 05 56.7	+0.6
	93nm,0.9s						
HTT	Hallett	32.32	263	P	P	07 05 58.4	+2.3
	baz=33,SNR=14						
BBOO	Buckleboo	34.80	263	eP	P	07 06 18.4	+1.0
	13nm,0.7s						
BBOO	Buckleboo	34.80	263	P	P	07 06 18.3	+1.0
	baz=36,SNR=18						
QIS	Mount Isa	37.18	284	P	P	07 06 37.9	+0.2
	baz=38,SNR=26						
COEN	Coen	38.45	296	eP	P	07 06 48.1	-0.2
	106nm,0.8s						
COEN	Coen	38.45	296	P	P	07 06 48.2	-0.2
	baz=39,SNR=38						
PMG	Port Moresby	38.87	306	eP	P	07 06 51.5	-0.3
	51nm,0.7s						
PMG	Port Moresby	38.87	306	P	P	07 06 50.9	-0.8
	51nm,0.7s,baz=216,slow=0.7,SNR=9.5						
RABL	Rabaul	39.92	317	eP	P	07 06 59.4	-1.0
	457nm,0.5s						
AS31	Alice Springs	40.15	276	eP	P	07 07 02.6	+0.3
	25nm,0.6s						
AS31				eScP	ScP	07 12 29.9	-0.7
AS31				eS	S	07 12 54.3	+1.8
ASAR	Alice Springs	40.15	276	P	P	07 07 02.6	+0.3
	94nm,0.9s,baz=114,slow=7.5,SNR=378						
ASAR				ScP	ScP	07 12 29.9	-0.7
	0.5nm,0.5s,baz=109,slow=3.6,SNR=4.4						
ASAR				S	S	07 12 54.3	+1.8
	0.5nm,0.8s,baz=116,slow=14,SNR=2.8						
WRAB	Tennant Creek	41.67	281	eP	P	07 07 14.5	-0.3
	120nm,0.9s						
WR1	Warramunga Arr	41.67	281	eP	P	07 07 14.8	0.0
WRA	Warramunga Arr	41.67	281	P	P	07 07 14.8	0.0
	172nm,0.3s,baz=114,slow=8.4,SNR=5.3						
WRA				S	S	07 13 19.5	+4.4
	133nm,0.3s,baz=118,slow=14,SNR=1.6						
FORT	Forrest	41.90	262	eP	P	07 07 17.8	+1.4
	42nm,0.7s						
FORT	Forrest	41.90	262	P	P	07 07 17.5	+1.0
	baz=43,SNR=16						
WRKA	Warakurna	44.04	270	P	P	07 07 33.4	-0.4
	baz=45,SNR=105						
KDU	Kakadu	47.30	288	P	P	07 07 58.4	-0.8
	baz=48,SNR=16						
MTN	Manton Dam	48.24	286	P	P	07 08 06.0	-0.5
	baz=49,SNR=7.4						
KNRA	Kununurra	48.45	282	P	P	07 08 08.2	+0.2
	baz=49,SNR=9.7						
FITZ	Fitzroy Crossi	49.61	277	eP	P	07 08 17.5	+0.6
	30nm,0.8s						
FITZ	Fitzroy Crossi	49.61	277	P	P	07 08 17.3	+0.5
	baz=50,SNR=33						
NWAO	Narrogin (SRO)	49.69	255	P	P	07 08 19.0	+1.6
	baz=51,SNR=5.6						
KLBR	Kellerberrin	49.79	257	P	P	07 08 19.3	+1.3
	baz=51,SNR=6.2						
MUN	Mundaring	50.85	256	P	P	07 08 27.4	+1.4
	baz=52,SNR=3.4						
MORW	Morawa	52.16	259	P	P	07 08 36.2	+0.5
	baz=53,SNR=7.8						
PSA00	Pilbara Seismi	52.52	269	eP	P	07 08 38.9	+0.5
	19nm,0.6s						
FAKI	Fak Fak	53.82	297	eP	P	07 08 46.3	-1.7
	32nm,0.7s						
GIRL	Giralia	56.53	265	P	P	07 09 09.0	+1.8
	baz=58						
HMH	Humu'ula Sheep	60.76	28	eP	P	07 09 35.4	-1.2
	74nm,0.7s						
MAW	Mawson	65.83	202	P	P	07 10 09.5	+0.6
	2.7nm,0.8s,baz=102,slow=13,SNR=3.5						
SBUM	Sibu	72.39	287	eP	P	07 10 49.3	-0.7
	5.5nm,1.0s						
SNAA	Sanae	72.45	180	P	P	07 10 53.4	+3.8
SNAA	Sanae	72.45	180	P	P	07 10 53.3	+3.8
	baz=182,slow=15						
VNA3	Neumayer Olymp	72.73	177	P	P	07 10 55.1	+4.0
VNA2	Neumayer--Watz	73.13	178	P	P	07 10 57.4	+3.9
	baz=205,slow=4.6						
VNA1	Neumayer--Stat	73.38	178	P	P	07 10 59.0	+4.1
SSLB	Suanglung	80.56	309	eP	P	07 11 34.2	-1.4
	11nm,0.8s						
PLCA	Paso Flores	80.77	134	P	P	07 11 39.2	+2.5
	3.5nm,0.8s,baz=228,slow=7.0,SNR=6.3						
MJAR	Matsushiro Arr	81.38	328	P	P	07 11 37.1	-2.5
	3.3nm,0.8s,baz=165,slow=5.8,SNR=5.9						
MJAR				LR	LR	07 49 46.9	
	comp=Z,11nm,18.3s,baz=155,slow=37						
MAJO	Matsushiro	81.38	328	eP	P	07 11 37.1	-2.5
KSRS	Korea Array	86.87	322	P	P	07 12 07.3	+0.1
	4.9nm,0.8s,baz=142,slow=5.4,SNR=14						
KSRS				LR	LR	07 48 24.9	
	comp=Z,20nm,18.9s,baz=158,slow=34						
NJ2	Nanjing	87.78	313	eP	P	07 12 13.5	+1.9
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
WHN	Wuhan	89.48	309	P	P	07 12 22.8	+3.2
USRK	Ussuriysk Ar.	90.37	329	P	P	07 12 23.5	0.0
	5.0nm,0.8s,baz=125,slow=3.6,SNR=9.2						
PEA0B	Petropavlovsk-	90.70	348	eP	P	07 12 23.5	-1.3
	21nm,0.9s						
PETK	Petropavlovsk-	90.70	348	P	P	07 12 23.3	-1.5
	14nm,0.7s,baz=123,slow=6.8,SNR=23						
PEA1	Petropavlovsk-	90.71	348	eP	P	07 12 23.3	-1.5
SBC	Santa Barbara	90.94	47	P	P	07 12 27.2	+0.9
	baz=226						
PKM	Mcpherson Peak	91.20	46	P	P	07 12 28.4	+0.6
	baz=226						
FMP	Fort Macarthur	91.28	48	P	P	07 12 28.9	+1.0
	baz=226						
SMMC	Simmler	91.39	46	P	P	07 12 29.1	+0.7
	baz=226						
109C	Camp Elliot, M	91.45	49	P	P	07 12 29.8	+1.1
	baz=227						
PAGB	Antelope Grade	91.53	46	eP	P	07 12 28.6	-0.5
	18nm,0.9s						
DECC	Green Verdugo	91.63	48	P	P	07 12 30.3	+0.6
	baz=226						
OSI	Osito Audit: C	91.65	47	P	P	07 12 30.3	+0.6
	baz=226						
MONP2	Monument Peak	91.87	50	P	P	07 12 33.0	+2.0
	baz=227,SNR=9.0						
MURC	Murrieta	91.87	49	P	P	07 12 32.5	+1.8
	baz=227,SNR=5.3						
IKP	In-Ko-Pah, Jac	91.90	50	P	P	07 12 31.7	+0.8
	baz=228,SNR=7.3						
ARVC	Arvin	91.94	47	P	P	07 12 32.1	+1.1
	baz=226						
BFSC	Mount Baldy Ra	92.03	48	P	P	07 12 32.6	+1.0
	baz=227,SNR=9.1						
EDW2	Edwards Air Fo	92.27	48	P	P	07 12 33.9	+1.4
	baz=227,SNR=5.7						
VES	Vestal, Richgr	92.29	46	P	P	07 12 33.5	+0.9
	baz=226						
SWSC	Sam W. Stewart	92.29	50	P	P	07 12 34.2	+1.6
	baz=228,SNR=7.0						
PFO	Pinyon Flats O	92.33	49	P	P	07 12 34.6	+1.6
	baz=227						
PFO	Pinyon Flats O	92.33	49	P	P	07 12 33.5	+0.5
	6.2nm,0.8s,baz=256,slow=3.8,SNR=7.9						
BBRC	Big Bear Solar	92.49	49	P	P	07 12 35.1	+1.2
	baz=227						
ISA	Isabella, Lake	92.52	47	P	P	07 12 35.1	+1.4
	baz=226,SNR=5.9						
RRX	Edison Barstow	92.86	48	P	P	07 12 36.7	+1.4
	baz=227						
LRMC	Laurel Mtn Rad	92.86	47	P	P	07 12 36.7	+1.3
	baz=227						
BELC	Belle Mtn. Jos	92.88	49	P	P	07 12 37.3	+1.8
	baz=228,SNR=7.1						
GLA	Glamis	92.97	51	P	P	07 12 38.1	+2.3
	baz=228,SNR=8.8						
BC3	Big Chuckawall	92.98	50	P	P	07 12 37.9	+2.0
	baz=228,SNR=9.6						
CMB	Columbia Colle	93.07	44	eP	P	07 12 32.0	-4.2
	11nm,0.9s						
HEC	Hector,Ludlow	93.23	48	P	P	07 12 38.2	+1.2
	baz=228						
GSC	Goldstone, Bar	93.27	48	P	P	07 12 38.4	+1.2
	baz=227						
O02D	Mt. Diablo Mer	93.28	41	P	P	07 12 38.5	+1.3
	baz=224,SNR=6.7						
CWC	Cottonwood Cre	93.29	46	P	P	07 12 37.9	+0.5
	baz=227						
MPMC	Manual Prospec	93.37	47	P	P	07 12 38.7	+0.8
	baz=227						
AFDM	Forest Hills D	93.39	43	eP	P	07 12 34.1	-3.5
	7.2nm,0.9s						
113A	Mohawk Valley,	93.45	51	eP	P	07 12 34.6	-3.4
	15nm,1.1s						
IRM	Iron Mountain	93.51	50	P	P	07 12 40.3	+2.0
	baz=228,SNR=12						
214A	Organ Pipe Nat	93.53	53	P	P	07 12 40.5	+2.1
	baz=229,SNR=5.9						
GMRC	Granite Mounta	93.61	49	P	P	07 12 40.6	+1.8
	baz=228						
Y12C	Blythe	93.62	50	eP	P	07 12 36.9	-1.8
	10nm,0.9s						
Y12C	Blythe	93.62	50	P	P	07 12 40.5	+1.7
	baz=228						
WDC	Whiskeytown Da	93.70	41	eP	P	07 12 36.9	-2.0
	8.1nm,0.9s						
KMI	Kunming	93.76	298	P	P	07 12 42.3	+2.4
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
TUQ	Turquoise Moun	93.89	48	P	P	07 12 40.4	+0.3
	baz=229						
O03E	Paynes Creek	93.89	42	P	P	07 12 40.0	+0.1
	baz=225						
N02D	Trinity Center	93.90	41	P	P	07 12 40.9	+0.9
	baz=224						
WAKR	Walker	93.93	44	eP	P	07 12 37.1	-3.3
	11nm,1.0s						
SHOC	Shoshone, Teco	93.99	48	P	P	07 12 41.4	+1.0
	baz=228						
FURC	Furnace Creek,	94.02	47	P	P	07 12 41.5	+1.0
	baz=227						
M02C	Callahan	94.12	40	P	P	07 12 41.5	+0.6
	baz=224,SNR=5.0						
PDMCI	Parker Dam,Lak	94.22	50	P	P	07 12 42.7	+1.2
	baz=229						
PNTR	Pine Nut	94.25	44	eP	P	07 12 39.1	-2.7
	17nm,0.9s						
L02E	Cave Junction	94.29	39	P	P	07 12 42.7	+1.0
	baz=224						
VCNR	Virginia City	94.37	43	eP	P	07 12 39.5	-2.8
	6.1nm,0.9s						
BEKR	Beckworth	94.37	43	eP	P	07 12 39.0	-3.3
	6.6nm,0.9s						
YBH	Yreka Blue Hor	94.44	40	P	P	07 12 42.6	+0.2
	5.8nm,1.1s,baz=201,slow=5.0,SNR=7.2						
NVAR	Mina Array Bea	94.53	45	P	P	07 12 43.5	+0.4
	7.9nm,0.9s,baz=220,slow=8.7,SNR=48						
RYN	Ryan	94.54	45	eP	P	07 12 39.2	-3.9
	6.0nm,1.0s						
NV11	Mina Array Sit	94.61	45	eP	P	07 12 41.1	-2.3
	0.7nm,1.1s						
K02D	Willamette Mer	94.64	39	P	P	07 12 44.7	+1.4
	baz=224						
Y14A	Wickenburg	94.70	51	eP	P	07 12 39.9	-3.8
	6.3nm,1.0s						
TPNV	Topopah Spring	94.71	47	P	P	07 12 45.0	+1.1
	baz=228,SNR=6.0						
PAHR	Pah Rah Range	94.80	43	eP	P	07 12 39.6	-4.6
	8.6nm,1.0s						
J01E	Myrtle Point	94.85	38	P	P	07 12 45.8	+1.7
	baz=223						
W13A	Hualapai Mount	94.91	50	eP	P	07 12 40.4	-4.5
	3.6nm,0.9s						
M04C	Macdoel	94.93	40	P	P	07 12 45.2	+0.5
	baz=225						
L04D	Klamath Falls	95.00	40	P	P	07 12 46.0	+0.9
	baz=224						
TUC	Tucson	95.06	53	eP	P	07 12 37.9	-7.6
	2.5nm,0.8s						
TUC	Tucson	95.06	53	P	P	07 12 46.4	+0.8
	baz=230						
KVN	Kaiserville	95.07	44	eP	P	07 12 40.6	-4.9
	6.1nm,1.0s						
X16A	Lo Mia Camp, P	95.99	51	eP	P	07 12 45.4	-4.4
	4.1nm,0.9s						
R11A	Troy Canyon, C	96.04	46	P	P	07 12 50.0	0.0
	baz=228						
J05D	Fort Rock, OR	96.31	40	P	P	07 12 51.4	+0.4
	baz=225						
H04D	Lebanon	96.43	38	P	P	07 12 52.0	+0.7
	baz=224						
BMN	Battle Mountai	96.50	44	eP	P	07 12 46.6	-5.3
	3.8nm,1.0s						
LCMT	Little Creek M	96.55	49	eP	P	07 12 47.1	-5.2
	5.9nm,1.1s						
CD2	Chengdu	96.62	303	eP	P	07 12 54.5	+1.9
G03D	McMinnville, O	96.66	37	P	P	07 12 52.1	-0.2
	baz=224						
U15A	North Rim	96.76	49	eP	P	07 12 48.1	-5.3
	6.3nm,0.9s						
KNB	Kanab	96.81	49	eP	P	07 12 47.7	-5.8
	8.2nm,1.0s						
ELK	Elko	97.83	45	P	Pdif	07 12 58.8	+0.8
	0.9nm,0.8s,baz=255,slow=2.8,SNR=5.6						
HHC	Hu-ho-hao-te	98.09	315	eP	Pdif	07 13 01.5	+2.5
HHC				pmax	pmax		
	comp=Z,54nm,1.3s						
HHC				pmax	pmax		
	comp=Z,200nm,7.9s						
MA2	Magadan	98.09	346	LR	LR	07 49 25.2	
	comp=Z,15nm,21.9s,baz=148,slow=30						
D03D	Eldon	98.42	36	P	Pdif	07 13 00.4	+0.2
	baz=224						
CPUP	Villa Florida	98.65	131	LR	LR	07 50 42.4	
	comp=Z,45nm,20.5s,baz=216,slow=31						
TASM	ASL Pad, Albuq	99.52	54	P	Pdif	07 13 05.5	-0.1
	baz=232						
TASM	ASL Pad, Albuq	99.52	54	P	Pdif	07 13 04.6	-1.1
	baz=232						
ANMO	Albuquerque	99.53	54	P	Pdif	07 13 05.5	-0.1
	baz=232						
ANMO	Albuquerque	99.53	54	P	Pdif	07 13 03.1	-2.5
	1.0nm,0.8s,baz=282,slow=19,SNR=2.9						
MVCO	Mesa Verde	99.61	51	P	Pdif	07 13 05.9	-0.1
	baz=232						
LZH	Lanzhou	99.74	308	eP	Pdif	07 13 24.3	+18
LZH				pP	pwP	07 14 10.0	+8.2
LZH				sP	sP	07 14 33.5	+12
HLID	Hailey	100.15	43	P	Pdif	07 13 08.3	+0.1
	baz=229						
MSTX	Muleshoe	101.38	56	P	Pdif	07 13 14.1	+0.2
	baz=234						
SDCO	Great Sand Dun	101.82	52	P	Pdif	07 13 14.8	-1.1
	baz=233						
PDAR	Pinedale Array	102.39	46	P	Pdif	07 13 19.1	+0.8
	0.7nm,0.7s,baz=225,slow=3.4,SNR=8.2						
INK	Inuvik	110.17	17	PKiKP	PKiKP	07 17 50.4	-1.6
	0.4nm,0.6s,baz=207,slow=2.3,SNR=3.2						
YKA	Yellowknife Ar	111.97	27	PKiKP	PKiKP	07 17 53.8	-1.7
	0.5nm,0.7s,baz=236,slow=1.5,SNR=7.4						
151A	Opelika	112.96	66	P	PKiKP	07 17 58.9	+0.5
	baz=241						
454A	Quitman	113.34	68	P	PKiKP	07 17 59.9	+0.7
	baz=241						
WMQ	Urumqi	114.32	307	ePKP	PKiKP	07 18 02.0	+1.2
WMQ				LR	LR		
	comp=N,4μm,38.8s						
WMQ				LR	LR		
	comp=E,3μm,39.2s						
WMQ				LR	LR		
	comp=Z,260nm,39.2s						
457A	Yulee	114.86	69	P	PKPdf	07 18 01.0	-1.1
	baz=241						
WCI	Wyandotte Cave	114.95	60	P	PKPdf	07 18 01.8	-0.3
	baz=243						
P46A	Rosedale	114.95	58	P	PKiKP	07 18 02.7	+0.7
	baz=243						
X52A	Dahlonega	115.00	64	P	PKPdf	07 18 02.2	-0.1
	baz=242						
H45A	Beulah	117.91	54	P	PKiKP	07 18 09.0	+1.4
	baz=246						
U55A	TA2, Sparta	117.92	64	P	PKPdf	07 18 07.5	-0.5
	baz=244						
W57A	Gilead	118.10	65	P	PKiKP	07 18 08.4	+0.2
	baz=244						
Q52A	Bidwell	118.11	61	P	PKPdf	07 18 08.1	0.0
	baz=245						
ACSO	Alum Creek Sta	118.14	59	P	PKiKP	07 18 09.4	+1.2
	baz=245						
J47A	Sunmer	118.14	55	P	PKPdf	07 18 07.3	-0.8
	baz=246						
U56A	King	118.34	64	P	PKiKP	07 18 09.2	+0.5
	baz=244						
P52A	Corning	118.48	60	P	PKPdf	07 18 08.2	-0.6
	baz=245						
V57A	Coltrane Farms	118.58	65	P	PKiKP	07 18 09.3	+0.2
	baz=244						
BLA	Blacksburg	118.68	63	P	PKiKP	07 18 09.5	+0.1
	baz=245						
MK32	Makanchi Array	119.04	309	ePKPdf	PKPdf	07 18 08.1	-1.6
MKAR	Makanchi Array	119.04	309	PKP	PKPdf	07 18 08.1	-1.6
	0.5nm,0.4s,baz=179,slow=1.0,SNR=10						
MAKZ	Makanchi	119.24	309	ePKPdf	PKPdf	07 18 06.0	-4.0
O53A	New Philadelph	119.38	60	P	PKPdf	07 18 10.2	-0.3
	baz=246						
T57A	Hurt	119.44	64	P	PKPdf	07 18 10.2	-0.5
	baz=245						
Q55A	Buckhannon	119.67	61	P	PKPdf	07 18 10.8	-0.4
	baz=246						
U58A	Oxford	119.69	65	P	PKPdf	07 18 10.8	-0.4
	baz=245						
E46A	Sault Ste Mari	119.72	52	ePKPdf	PKPdf	07 18 10.6	-0.4
E46A	Sault Ste Mari	119.72	52	P	PKPdf	07 18 10.6	-0.4
	baz=248						
N53A	Lisbon	119.87	59	P	PKPdf	07 18 11.5	0.0
	baz=246						
T58A	Grand View Acr	119.94	64	P	PKPdf	07 18 11.3	-0.4
	baz=246						
O54A	Avella	119.94	60	P	PKPdf	07 18 11.6	0.0
	baz=246						
ZALV	Zalesovo Beam	120.21	317	PKP	PKPdf	07 18 09.7	-2.0
	1.0nm,0.4s,baz=112,slow=3.3,SNR=4.2						
ZAA1	Zalesovo Array	120.22	317	ePKPdf	PKPdf	07 18 09.7	-2.0
KSH	Kashi	120.42	299	PKP	PKiKP	07 18 13.3	+0.5
KSH				PP	PP	07 19 47.3	+4.3
KSH				SKS	SKSdf	07 25 06.5	+2.5
KSH				SS	SS	07 36 01.8	+7.1
KSH				AMB	AMB		
	comp=Z,190nm,4.2s						
KSH				LR	LR		
	comp=N,280nm,8.6s						
KSH				LR	LR		
	comp=E,190nm,8.7s						
KSH				LR	LR		
	comp=Z,190nm,9.5s						
N54A	Moraine State	120.52	59	P	PKPdf	07 18 12.7	0.0
	baz=247						
S58A	Poland Farm, P	120.56	64	P	PKPdf	07 18 12.3	-0.6
	baz=246						
D47A	Chapleau	120.75	52	P	PKPdf	07 18 12.8	-0.1
	baz=249						
D48A	Paudash Townsh	121.62	52	P	PKPdf	07 18 13.3	-1.3
	baz=250						
N57A	Milroy	122.15	60	P	PKPdf	07 18 15.2	-0.6
	baz=248						
BUKO	Buck Lake	122.58	55	P	PKPdf	07 18 14.8	-1.7
	baz=250						
E51A	G1948 Merrick	122.89	53	P	PKPdf	07 18 16.2	-0.8
	baz=250						
O59A	Robesonia	122.95	61	P	PKPdf	07 18 16.1	-1.2
	baz=248						
G53A	Haliburton	122.98	55	P	PKPdf	07 18 17.1	-0.2
	baz=250						
I55A	Frankford	123.30	57	P	PKPdf	07 18 16.6	-1.3
	baz=250						
BANO	Bancroft	123.41	56	P	PKPdf	07 18 17.0	-1.1
	baz=250						
NRIK	Noril'sk	123.59	335	PKP	PKPdf	07 18 16.7	-1.0
	1.8nm,0.3s,baz=113,slow=3.0,SNR=4.3						
ALGO	Algonquin Park	123.64	55	P	PKPdf	07 18 17.1	-1.4
	baz=251						
RES	Resolute Bay	123.67	19	ePKPdf	PKPdf	07 18 16.7	-1.0
RES	Resolute Bay	123.67	19	PKP	PKPdf	07 18 16.9	-0.8
	3.5nm,0.9s,baz=278,slow=3.3,SNR=14						
PECO	Prince Edward	123.67	57	P	PKPdf	07 18 16.9	-1.7
	baz=250						
D52A	ZEK Kipawa Sen	123.73	53	P	PKPdf	07 18 17.6	-1.1
	baz=251						
H55A	Tweed	123.75	56	P	PKPdf	07 18 17.9	-0.8
	baz=250						
BINY	Binghamton	123.77	59	P	PKPdf	07 18 18.0	-0.9
	baz=250						
PLVO	Plevna	123.99	56	P	PKPdf	07 18 17.8	-1.4
	baz=251						
E53A	Dumoine, Ponti	124.03	54	P	PKiKP	07 18 20.0	+0.5
	baz=251						
PEMO	Pembroke	124.08	55	P	PKPdf	07 18 18.9	-0.5
	baz=251						
D53A	Lac Vacive, Po	124.23	53	P	PKPdf	07 18 19.5	-0.1
	baz=252						
G55A	Calabogie	124.30	56	P	PKPdf	07 18 19.3	-0.5
	baz=251						
E54A	Lac Daplat, Po	124.36	54	P	PKPdf	07 18 19.4	-0.5
	baz=252						
H56A	Elgin	124.39	57	P	PKPdf	07 18 19.5	-0.5
	baz=251						
VLDQ	Val d'Or	124.70	52	ePKPdf	PKPdf	07 18 19.6	-0.8
F55A	Otter Lake	124.72	55	P	PKPdf	07 18 19.8	-0.8
	baz=252						
D54A	Lac Fusel, La	124.93	54	P	PKPdf	07 18 20.2	-0.8
	baz=252						
MATQ	Matagami	125.07	50	P	PKPdf	07 18 19.8	-1.3
	baz=254						
ORIO	Orleans, Innes	125.17	56	P	PKPdf	07 18 21.2	-0.2
	baz=252						
LSQQ	Lebel-sur-Quev	125.28	51	P	PKPdf	07 18 20.7	-0.9

35nm,0.6s
KIC **Kosan Boka** 150.20 174 *e*PKIKP **PKiKP** 07 19 14.2 +0.4
8.4nm,0.4s
NSS **Namsos** 150.44 348 *e*PKPbc **PKPbc** 07 19 10.2 -1.8
TIC **Toumodi** 150.45 173 *e*PKIKP **PKiKP** 07 19 14.7 +0.4
DBIC **Dimbokro** 150.49 174 PKPbc **PKPbc** 07 19 15.3 +1.6
3.8nm,0.4s,baz=162,slow=3.1,SNR=17
BR101 **Keskin Array S** 152.04 288 *e*PKPbc **PKPbc** 07 19 15.9 -0.8
BR131 **Keskin Array S** 152.04 288 *e*PKPbc **PKPbc** 07 19 12.3 -4.4
BRTR **Keskin Array B** 152.04 288 PKPbc **PKPbc** 07 19 15.9 -0.8
3.7nm,0.8s,baz=140,slow=4.2,SNR=17
ILGA **Ilgaz** 152.04 291 *e*PKPbc **PKPbc** 07 19 14.8 -2.0
DOMB **Dombas** 153.24 349 *e*PKPbc **PKPbc** 07 19 16.9 -1.6
AKN **Aaknes** 153.41 351 *e*PKPbc **PKPbc** 07 19 18.3 -0.6
AKASG **Malin Array Be** 153.51 313 PKPbc **PKPbc** 07 19 18.3 -1.1
1.8nm,0.4s,baz=58,slow=3.3,SNR=7.4
NC303 **NORSAR Array S** 153.59 346 *e*PKPbc **PKPbc** 07 19 17.3 -1.9
NB2 **NORSAR Subarra** 153.79 346 PKPdf **PKPbc** 07 19 17.9 -1.8
comp=Z,9.3nm,1.4s,baz=31,slow=1.9
NB2 **NORSAR Subarra** 153.79 346 *e* **PKPbc** 07 19 17.9 -1.8
baz=31,slow=1.9
NOA **NORSAR Array B** 153.79 346 PKPbc **PKPbc** 07 19 18.6 -1.2
comp=Z,2.9nm,0.8s,baz=32,slow=2.0,SNR=11
NC602 **NORSAR Array S** 154.00 345 *e*PKPbc **PKPbc** 07 19 18.8 -1.3
SKAR **Skarslia** 154.65 349 *e*PKPbc **PKPbc** 07 19 19.9 -1.7
TORD **Torodi Ar. Bea** 156.88 188 PKP **PKPdf** 07 19 16.9 -0.3
comp=Z,1.8nm,1.1s,baz=261,slow=1.3,SNR=4.2
TORD PKPab **PKPab** 07 19 49.4 +1.5
comp=Z,2.3nm,0.6s,baz=173,slow=2.1,SNR=12
TOA1 **Torodi Ar. Sit** 156.88 188 *e*PKPdf **PKPdf** 07 19 16.9 -0.3
VYHS **Vyhne** 160.54 316 *e*PKP **PKPab** 07 20 03.7 +0.5
DPC **Dobruska-Polom** 160.77 323 *e*PKPAB **PKPab** 07 20 03.4 -0.8
BRG **Bergqiesshubel** 161.51 327 *e*PKP **PKPab** 07 20 05.2 -2.1
comp=Z,4.8nm,0.8s
KHC **Kasperske Hory** 162.91 324 *e*PKPAB **PKPab** 07 20 12.6 -1.0
GERES **GERESS Array B** 163.04 323 PKPab **PKPab** 07 20 11.3 -3.0
comp=Z,1.9nm,0.8s,baz=35,slow=3.3,SNR=13

*ISCJB **28** 07:38:05.3±0.7, 6°.1S±0°.1×151°.4E±0°.1, h41km, mb4.0/11, MS2.2/1, Error ellipse: s-maj=23.4km s-min=9.4km az=41.9*
*IDC **28** 07:38:09.3±4.9, 6°.12S×151°.36E, h65km±43km, mb3.7/10, mb1 3.9/11, mb1mx3.6/37, mbtmp4.0/11, ML2.6/1, MS2.3/1, Ms1 2.3/1, ms1mx2.1/27, Error ellipse: s-maj=27.6km s-min=23.6km az=76.0*
ISC 28 07:38:06.8±0.8, 6°.1S±0°.1×151°.5E±0°.2, h41km, n14, σ1§05/14, mb4.0/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	5.42	232	P	Pn	07 39 26.7	+1.6
13nm,0.3s,baz=70,slow=7.3,SNR=26							
PMG				S	Sn	07 40 26.3	+0.1
2.1nm,0.3s,baz=88,slow=4.5,SNR=3.0							
WRA	**Warramunga Arr**	21.63	229	P	P	07 42 52.7	-1.0
110nm,0.3s,baz=50,slow=13,SNR=2.1							
ASAR	**Alice Springs**	24.34	222	P	P	07 43 21.1	+0.1
3.8nm,0.7s,baz=56,slow=8.8,SNR=42							
FITZ	**Fitzroy Crossi**	27.90	242	P	P	07 43 51.9	-1.2
3.9nm,1.0s,baz=84,slow=10,SNR=4.8							
DAV	**Davao City (W)**	28.93	296	LR	LR	07 53 18.8	
comp=Z,6.1nm,21.5s,baz=341,slow=32							
RPZ	**Rata Peaks**	41.28	158	P	P	07 45 47.3	-0.9
12nm,0.8s,baz=347,slow=19,SNR=4.3							
SONM	**Songino Array**	66.68	329	P	P	07 48 53.1	-0.5
0.6nm,0.7s,baz=132,slow=2.1,SNR=3.5							
MKAR	**Makanchi Array**	80.39	319	P	P	07 50 14.8	+0.7
0.1nm,0.3s,baz=112,slow=3.9,SNR=3.2							
ZALV	**Zalesovo Beam**	81.45	327	P	P	07 50 18.4	-1.1
0.6nm,0.3s,baz=146,slow=3.3,SNR=3.3							
ILAR	**Eielson Array**	83.81	22	P	P	07 50 31.2	-0.3
1.3nm,0.6s,baz=246,slow=5.2,SNR=15							
KURBB	**Kurchatov Arra**	83.96	322	P	P	07 50 32.3	-0.4
0.3nm,0.6s,baz=104,slow=3.9,SNR=3.1							
NVAR	**Mina Array Bea**	93.90	52	P	P	07 51 22.3	+1.7
0.2nm,0.5s,baz=285,slow=5.7,SNR=4.1							
YKA	**Yellowknife Ar**	97.14	28	P	P	07 51 35.3	+0.7
0.1nm,0.5s,baz=267,slow=4.3,SNR=3.5							
TORD	**Torodi Ar. Bea**	149.39	286	PKPbc	PKPbc	07 57 51.5	-0.9
1.1nm,0.6s,baz=73,slow=1.9,SNR=7.1							

*MEX **28** 07:56:48.7±0.6, 13°.89N×91°.82W, h15km, MD3.9*
*SNET **28** 07:56:49.4±0.7, 14°.15N×91°.34W, h4km±11km, ML3.4*
ISC 28 07:56:46.5±3.0, 14°.4N±0°.2×91°.5W±0°.1, h11km±18km, n11, σ1§33/17, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.91	307	*e*P	Pn	07 57 06.5	+1.3
THIG				*i* S	Sn	07 57 18.6	+0.2
RTR	**El Retiro**	1.87	104	*e*P	Pb	07 57 19.7	-1.0
SBLS	**San Blas**	1.90	105	*e*P	Pn	07 57 19.7	+0.6
SBLS				*e*S	Sn	07 57 44.0	+0.8
CEVE	**Cerro Verde**	1.91	106	*e*P	Pb	07 57 20.1	-1.4
CEVE				IAML		07 57 50.9	
comp=Z,717nm,0.3s							
UNIC	**Santa Ana**	1.93	101	*e*P	Pb	07 57 20.6	-1.1
CCIG	**Comitan**	2.01	343	*e*P	Pg	07 57 25.0	0.0
CCIG				*i* S	Sg	07 57 53.0	+2.0
MTO3	**Montecristo**	2.08	89	*e*P	Pb	07 57 23.4	-1.1
PCIG		2.12	309	*e*P	Pn	07 57 22.6	+0.7
PCIG				*e*S	Sn	07 57 48.8	+0.5
SNET	**Serv Nac Est T**	2.31	107	*e*P	Pn	07 57 25.4	+0.8
SNET				IAML		07 57 56.1	
comp=Z,180nm,0.2s							
TGIG		2.86	327	*i* P	Pb	07 57 35.5	-2.1
TGIG				*i* S	Sb	07 58 11.0	-1.8
CMIG	**Matias Romero**	4.24	310	*e*P	Pn	07 57 52.0	+1.1
CMIG				*i* S	Sn	07 58 41.3	+0.8

*IDC **28** 08:02:39.5±3.5, 4°.18N×94°.63E, h0km, mb4.0/3, mb1 4.2/5, mb1mx3.6/46, mbtmp3.9/5, ML4.2/2, MS3.9/1, Ms1 3.9/1, ms1mx2.6/38, Error ellipse: s-maj=93.0km s-min=27.7km az=68.0*
*ISCJB **28** 08:02:45.5±0.8, 4°.82N±0°.07×95°.98E±0°.07, h10km, mb4.2/8, MS4.0/1, Error ellipse: s-maj=10.4km s-min=9.4km az=4.3*
*NEIC **28** 08:02:51.0±1.5, 4°.89N×96°.07E, h35km, mb4.0/5, Error ellipse: s-maj=21.2km s-min=5.9km az=307.0*
ISC 28 08:02:47.6±1.0, 4°.88N±0°.07×96°.00E±0°.08, h10km, n18, σ1§44/21, mb4.1/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	1.00	70	*e*Pn	Pg	08 03 07.3	+0.3
LHMI				*e*Sn	Sg	08 03 20.9	+0.8
PSI	**Prapat**	3.57	125	*e*Pn	Pn	08 03 45.7	+2.5
PSI				*e*Sn	Sn	08 04 26.0	+0.4
PSI	**Prapat**	3.57	125	Pn	Pn	08 03 47.4	+4.1
4.9nm,0.3s,baz=313,slow=15,SNR=11							
PSI				Sn	Sg	08 04 40.6	-1.9
1.9nm,0.3s,baz=198,slow=20,SNR=3.9							
GSI	**Gunungsitoli**	3.88	156	*e*Pn	Pn	08 03 48.0	+0.6
KULM	**Kulim**	4.65	85	*e*Pn	Pn	08 03 57.9	-0.1
IPM	**Ipoh**	5.02	94	*e*Pn	Pn	08 04 03.0	-0.1
IPM				*e*Sn	Sn	08 05 00.8	-0.5
CMAR	**Chiang Mai Arr**	13.80	12	Pn	P	08 06 12.1	+0.1
0.6nm,0.3s,baz=204,slow=11,SNR=3.1							
WMQ	**Urumqi**	39.47	351	*e*P	P	08 10 18.5	+0.2
8.8nm,0.5s							
SONA0	**Songino Array**	43.72	10	*e*P	P	08 10 53.1	0.0
SONM	**Songino Array**	43.72	10	P	P	08 10 53.1	0.0
0.7nm,0.5s,baz=204,slow=8.0,SNR=5.1							
WR1	**Warramunga Arr**	45.04	124	*e*P	P	08 11 02.9	-1.1
WRA	**Warramunga Arr**	45.04	124	P	P	08 11 02.9	-1.1
1.2nm,0.7s,baz=287,slow=11,SNR=6.0							
WB2	**Warramunga Arr**	45.05	124	*e*P	P	08 11 02.5	-1.6
3.0nm,1.1s							
WC3	**Warramunga Arr**	45.07	124	*e*P	P	08 11 03.2	-1.1
2.2nm,1.0s							
AS31	**Alice Springs**	46.59	129	*e*P	P	08 11 15.5	-0.8
1.7nm,1.1s							
ASAR	**Alice Springs**	46.59	129	P	P	08 11 15.7	-0.6
2.0nm,0.5s,baz=300,slow=7.8,SNR=32							
FORT	**Forrest**	46.86	141	*e*P	P	08 11 16.6	-1.6
13nm,0.9s							
CTA	**Charters Tower**	55.25	118	LR	LR	08 41 00.7	
comp=Z,104nm,18.1s,baz=95,slow=41							

WEL 28 08:16:02.4, 39°.7S±0°.8×17°.7E±°, h46km±1km, ML3.9/40, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	0.10	209	P	Pn	08 16 10.2	+0.4
CKHZ	**Cape Kidnapper**	0.11	67	P	Pn	08 16 10.1	+0.3
CKHZ				S	Sn	08 16 15.8	+0.7
MCHZ	**McNeill Hill**	0.32	324	P	Pn	08 16 11.5	+0.1
MCHZ				S	Sn	08 16 18.1	+0.3
PXZ	**Pawanui**	0.33	191	P	Pn	08 16 12.0	+0.6
PXZ				S	Sn	08 16 19.5	+1.6
ARHZ	**Aropaoanui**	0.44	5	P	Pn	08 16 13.1	+0.4
ARHZ				S	Sn	08 16 21.5	+1.5
KRHZ	**Kereru**	0.45	278	P	Pn	08 16 12.6	-0.2
KRHZ				S	Sn	08 16 20.3	+0.1
KWHZ	**Kaweka Forest**	0.49	305	P	Pn	08 16 13.1	-0.2
KWHZ				S	Sn	08 16 20.9	-0.2
WPHZ	**Waipukurau**	0.53	227	P	Pn	08 16 14.5	+0.7
WPHZ				S	Sn	08 16 23.7	+1.8
PNHZ	**Pukenui**	0.61	250	P	Pn	08 16 14.9	0.0
PRHZ	**Porangahau**	0.61	203	P	Pn	08 16 15.4	+0.6
NMHZ	**Naumai**	0.61	350	P	Pn	08 16 15.2	+0.3
BKZ	**Black Stump Fm**	0.64	327	P	Pn	08 16 15.1	-0.1
BKZ				S	Sn	08 16 24.4	-0.1
WHHZ	**Waihua**	0.67	20	P	Pn	08 16 16.0	+0.5
BHHZ	**Black Hill Sta**	0.71	287	P	Pn	08 16 16.1	-0.1
BHHZ				S	Sn	08 16 25.8	-0.4
RAHZ	**Arahi**	0.79	8	P	Pn	08 16 17.6	+0.3
RAHZ				S	Sn	08 16 29.0	+0.9
TSZ	**Takapari Road**	0.83	245	P	Pn	08 16 17.8	0.0
ANWZ	**Angora Road**	0.84	205	P	Pn	08 16 18.3	+0.5
DVHZ	**Dannevirke**	0.84	225	P	Pn	08 16 18.3	+0.5
MTHZ	**Maungataniwha**	0.85	355	P	Pn	08 16 18.2	+0.1
KNZ	**Kokohu**	0.89	40	P	Pn	08 16 18.5	+0.1
MHGZ	**Mahia Peninsul**	0.93	54	P	Pn	08 16 19.7	+0.6
MRHZ	**Matea Rd**	0.96	335	P	Pn	08 16 20.0	+0.5
MOVZ	**Moawhango**	0.97	287	P	Pn	08 16 20.2	+0.6
SNGZ	**Shannon Statio**	0.97	19	P	Pn	08 16 20.0	+0.4
HATZ	**Hinemaiaia**	1.05	321	P	Pn	08 16 21.5	+0.9
PRGZ	**Paritu Road**	1.07	43	P	Pn	08 16 21.4	+0.5
RTZ	**Ruatahuna**	1.09	2	P	Pn	08 16 21.8	+0.5
TUVZ	**Tukino**	1.09	293	P	Pn	08 16 22.8	+1.4
RITZ	**Rihia Road**	1.11	310	P	Pn	08 16 22.8	+1.2
BFZ	**Birch Farm**	1.11	208	P	Pn	08 16 21.8	+0.3
WHVZ	**Whangaehu Hut**	1.13	291	P	Pn	08 16 23.0	+1.0
PRWZ	**Pori Road**	1.13	221	P	Pn	08 16 22.5	+0.7
POWZ	**Post Office Ro**	1.13	232	P	Pn	08 16 22.4	+0.5
DRZ	**Dome Shelter**	1.15	291	P	Pn	08 16 23.1	+0.8
FWVZ	**Far West T-bar**	1.17	292	P	Pn	08 16 23.3	+0.9
NGZ	**Ngauruhoe**	1.17	296	P	Pn	08 16 23.3	+1.0
MTVZ	**Mangateitei**	1.18	285	P	Pn	08 16 23.5	+1.0
RIGZ	**Rimuhau**	1.18	33	P	Pn	08 16 22.9	+0.4
WTVZ	**West Tongariro**	1.20	299	P	Pn	08 16 23.9	+1.0
KATZ	**Kakaramea**	1.21	307	P	Pn	08 16 23.8	+0.8
ALRZ	**Allen Road**	1.23	338	P	Pn	08 16 23.8	+0.7
MUGZ	**Murupara**	1.23	354	P	Pn	08 16 23.5	+0.3
RATZ	**Rangitukua**	1.23	312	P	Pn	08 16 24.2	+0.9
PRRZ	**Plateau Road**	1.28	340	P	Pn	08 16 24.4	+0.6
WHTZ	**Whakaora**	1.29	323	P	Pn	08 16 24.9	+0.9
PKVZ	**Pokaka**	1.30	288	P	Pn	08 16 24.9	+0.8
TWVZ	**Taurewa**	1.33	298	P	Pn	08 16 25.0	+0.4
WPRZ	**Whakapapatarin**	1.33	333	P	Pn	08 16 25.4	+0.8
TIWZ	**Tintock**	1.34	217	P	Pn	08 16 25.4	+0.7
OHWZ	**Ohakea**	1.35	248	P	Pn	08 16 26.3	+1.5
WATZ	**Wairara**	1.37	316	P	Pn	08 16 25.4	+0.3
RRRZ	**Republican Roa**	1.40	346	P	Pn	08 16 25.9	+0.4
HRRZ	**Handcock Road**	1.41	338	P	Pn	08 16 26.2	+0.6
MRZ	**Mangatainoka R**	1.42	227	P	Pn	08 16 25.5	-0.2
MWZ	**Matawai**	1.44	19	P	Pn	08 16 25.6	-0.4
TKGZ	**Te Karaka**	1.45	29	P	Pn	08 16 25.9	-0.2
URZ	**Urewera**	1.45	5	P	Pn	08 16 25.9	-0.2
HSRZ	**Hossack Road**	1.49	338	P	Pn	08 16 27.2	+0.4
KUTZ	**Kaahu Road**	1.49	324	P	Pn	08 16 27.2	+0.5
TARZ	**Mount Tarawera**	1.50	347	P	Pn	08 16 27.6	+0.6
WAZ	**Wanganui**	1.51	267	P	Pn	08 16 28.9	+1.9
CNGZ	**Carnagh Statio**	1.57	39	P	Pn	08 16 28.0	+0.3
TMWZ	**Te Maipa**	1.62	209	P	Pn	08 16 28.0	-0.4
HOWZ	**Holdsworth Sta**	1.62	222	P	Pn	08 16 28.2	-0.3
OMRZ	**Omania**	1.66	344	P	Pn	08 16 29.3	+0.4
TWGZ	**Tauwhareparae**	1.73	28	P	Pn	08 16 30.8	+0.9
OGWZ	**Otaki Gorge**	1.75	230	P	Pn	08 16 30.1	-0.1
TLZ	**Tolley Road**	1.75	321	P	Pn	08 16 30.3	0.0
VRZ	**Vera Road**	1.79	288	P	Pn	08 16 31.4	+0.6
MTW	**Mount Morrison**	1.82	217	P	Pn	08 16 30.3	-0.9
RUGZ	**Raukumara Rang**	1.83	19	P	Pn	08 16 31.3	-0.1
OPRZ	**Ohinepanea**	1.88	351	P	Pn	08 16 33.0	+1.0
PUZ	**Puketiti**	1.93	33	P	Pn	08 16 32.3	-0.4
KIW	**Kapiti Island**	1.94	233	P	Pn	08 16 32.6	-0.2
TRWZ	**Traveller**	1.94	209	P	Pn	08 16 32.0	-0.9
LREZ	**Lake Rotokare**	1.98	276	P	Pn	08 16 34.9	+1.5
CAW	**Cannon Point**	2.00	225	P	Pn	08 16 32.9	-0.8
HIZ	**Hauiti**	2.01	306	P	Pn	08 16 34.5	+0.6
PKGZ	**Pakihiroa**	2.02	26	P	Pn	08 16 33.9	-0.1
PAWZ	**Paruwai Farm**	2.04	214	P	Pn	08 16 34.1	0.0
HAZ	**Te Kaha**	2.05	19	P	Pn	08 16 34.4	0.0
MHEZ	**Mangahewa**	2.12	286	P	Pn	08 16 37.9	+2.6
MSWZ	**Moikau Station**	2.14	216	P	Pn	08 16 36.3	+0.7
PLWZ	**Palliser**	2.26	214	P	Pn	08 16 36.9	-0.4
TOZ	**Tahuroa Road**	2.27	330	P	Pn	08 16 38.9	+1.6
KHEZ	**Kahui Hut**	2.30	279	P	Pn	08 16 41.1	+3.2
PKE	**Pukeiti**	2.34	282	P	Pn	08 16 40.8	+2.3
MXZ	**Matakaoa Point**	2.39	27	P	Pn	08 16 41.5	+2.5
TCW	**Tory Channel**	2.53	233	P	Pn	08 16 40.1	-0.8
DUWZ	**D'Urville Isla**	2.56	244	P	Pn	08 16 41.2	-0.2
TUWZ	**Tuamarina**	2.86	232	P	Pn	08 16 43.9	-1.6
BSWZ	**Blackbirch Sta**	3.08	228	P	Pn	08 16 47.0	-1.4
NNZ	**Nelson**	3.11	240	P	Pn	08 16 47.9	-0.9
QRZ	**Quartz Range**	3.56	250	P	Pn	08 16 53.8	-1.2
THZ	**Tophouse**	3.69	235	P	Pn	08 16 55.2	-1.7
KHZ	**Kahutara**	3.74	222	P	Pn	08 16 57.1	-0.4
DSZ	**Denniston Nort**	4.40	241	P	Pn	08 17 06.0	-0.7
LTZ	**Lake Taylor**	4.67	227	P	Pn	08 17 08.6	-1.8
OKCZ	**Okains Bay**	4.96	215	P	Pn	08 17 12.5	-1.8
INZ	**Inchbonnie**	5.13	232	P	Pn	08 17 14.2	-2.3
MQZ	**McQueen's Vall**	5.13	217	P	Pn	08 17 15.1	-1.4
OXZ	**Oxford**	5.16	224	P	Pn	08 17 15.6	-1.5
WVZ	**Waitaha Valley**	5.75	232	P	Pn	08 17 24.3	-0.9
RPZ	**Rata Peaks**	5.96	226	P	Pn	08 17 26.5	-1.5
CTZ	**Chatham Island**	6.28	132	P	Pn	08 17 33.6	+1.3
FOZ	**Fox Glacier**	6.57	232	P	Pn	08 17 36.2	-0.1
LBZ	**Lake Benmore**	6.87	225	P	Pn	08 17 38.6	-1.9
ODZ	**Otahua Downs**	7.08	219	P	Pn	08 17 41.2	-2.2
JCZ	**Jackson Bay**	7.49	232	P	Pn	08 17 47.5	-1.6

*ISCJB **28** 08:32:57.4±1.0, 17°.72S±0°.07×167°.3E±0°.2, h12km, mb3.8/7, MS2.8/1, Error ellipse: s-maj=28.3km s-min=10.6km az=4.6*
*IDC **28** 08:32:57.4±1.1, 17°.56S×167°.23E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/26, mbtmp3.9/8, ML4.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/35, Error ellipse: s-maj=35.3km s-min=21.6km az=114.0*
ISC 28 08:32:59.1±1.1, 17°.7S±0°.1×167°.3E±0°.2, h12km, n10, σ1§16/10, mb3.9/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	4.43	190	Pn	Pn	08 34 06.5	+0.4
14nm,0.3s,baz=325,slow=12,SNR=102							
DZM				Sn	Sn	08 34 55.9	-1.8
3.4nm,0.3s,baz=336,slow=19,SNR=4.1							
PMG	**Port Moresby**	21.20	290	LR	LR	08 44 28.3	
comp=Z,41nm,21.2s,baz=170,slow=33							
STKA	**Stephens Creek**	27.17	234	P	P	08 38 43.7	+1.2
2.5nm,0.6s,baz=65,slow=11,SNR=7.6							
WRA	**Warramunga Arr**	31.23	261	P	P	08 39 18.4	-0.4
1.1nm,0.8s,baz=80,slow=7.7,SNR=3.6							
ASAR	**Alice Springs**	31.73	254	P	P	08 39 22.8	-0.5
1.0nm,0.5s,baz=80,slow=8.6,SNR=31							
VNDA	**Vanda**	59.92	181	P	P	08 43 06.0	+1.5
0.5nm,0.9s,baz=5.2,slow=11,SNR=2.1							
PETK	**Petropavlovsk-**	70.99	354	P	P	08 44 16.3	-0.1
1.3nm,0.7s,baz=197,slow=4.1,SNR=3.1							
ILAR	**Eielson Array**	89.33	18	P	P	08 45 53.7	-1.2
0.4nm,0.8s,baz=217,slow=6.4,SNR=4.2							
MKAR	**Makanchi Array**	99.34	316	P	Pdif	08 46 41.8	+0.6
0.1nm,0.6s,baz=103,slow=4.6,SNR=2.2							
ARCES	**ARCESS Array B**	123.10	345	PKP	PKPdf	08 51 55.2	+0.2
1.6nm,0.9s,baz=57,slow=4.5,SNR=4.3							

*NORS **28** 08:41:06.2±0.0, 41°.90N×45°.73E, h14km, MPVA3.4*
*TIF **28** 08:41:06.3, 41°.92N×45°.80E, h16km±2km*
*DRS **28** 08:41:08.9±0.0, 41°.96N×45°.77E, h16km, ML2.1/3*
ISC 28 08:41:06.5±1.0, 41°.92N±0°.03×45°.77E±0°.02, h16km±9km, n17, σ0§41/34, 1C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	0.36	103	P	Pg	08 41 14.0	+0.1
LGD				S	Sb	08 41 19.7	-0.3
LGD	**Lagodekhi**	0.36	103	*e*Pg	Pg	08 41 14.0	+0.1
LGD				*e*Sg	Sb	08 41 19.7	-0.3
DDFL	**Dedoflistskaro**	0.54	151	P	Pg	08 41 16.5	-0.7
DDFL				S	Sb	08 41 25.9	+0.7
BTNK	**Botanikuri**	0.76	252	P	Pn	08 41 22.1	-0.5
BTNK				S	Sn	08 41 34.2	+0.3
TBLG	**Delisi**	0.79	257	P	Pn	08 41 22.7	-0.3
TBLG				S	Sn	08 41 34.5	-0.1
TBLG	**Delisi**	0.79	257	*e*Pg	Pn	08 41 22.7	-0.3
TBLG				*e*Sg	Sn	08 41 34.5	-0.1
BTLR	**Botlikh**	0.82	24	*e*Pg	Pg	08 41 22.3	0.0
15nm,0.5s							
BTLR				⇓*e*Sg	Sg	08 41 33.3	+0.1
55nm,0.6s							
GNBR	**Gunib**	1.00	62	*e*Pg	Pg	08 41 25.7	-0.2
23nm,0.4s							
GNBR				⇓*e*Sg	Sn	08 41 39.8	-0.1
59nm,0.4s							
KMKR	**Kumukh**	1.01	78	*i* Pg	Pn	08 41 26.2	0.0
KMKR				*e*Sg	Sn	08 41 40.2	-0.1
DVE	**Vedeno**	1.07	14	*e*Pg	Pg	08 41 27.0	-0.2
DVE				*e*Sg	Sn	08 41 41.7	+0.3
KZRT	**Kazreti**	1.16	243	P	Pb	08 41 28.2	+0.1
KZRT				S	Sg	08 41 44.6	+0.7
LACR	**Lac**	1.42	310	*e*Pg	Pb	08 41 32.3	-0.4
LACR				*e*Sg	Sb	08 41 51.0	+0.5
AKT	**Akhty**	1.53	106	*e*Pg	Pg	08 41 35.9	0.0
5.1nm,0.3s							
AKT				⇑*e*Sg	Sg	08 41 56.3	+0.4
13nm,0.4s							
ZEI	**Tsey**	1.63	303	*e*Pg	Pb	08 41 36.0	-0.4
ZEI				*e*Sg	Sg	08 41 58.4	-0.8
ONI	**Oni**	1.85	292	P	Pb	08 41 40.6	+0.7
ONI				S	Sg	08 42 06.0	+0.1
ONI	**Oni**	1.85	292	*e*Pg	Pb	08 41 40.6	+0.7
ONI				*e*Sg	Sg	08 42 06.0	+0.1
DIGR	**Digorskoe uzhe**	1.89	302	*e*Pg	Pb	08 41 41.0	+0.2
DIGR				*e*Sg	Sb	08 42 04.7	+0.4

*ISCJB **28** 08:45:50.2±0.6, 21°.37S±0°.03×177°.93W±0°.03, h383km±5km, mb4.9/258, Error ellipse: s-maj=5.0km s-min=3.1km az=143.3*
*MOS **28** 08:45:51.4±0.9, 21°.40S×177°.89W, h397km, mb5.1/42, Error ellipse: s-maj=9.8km s-min=8.0km az=59.1*
*BJI **28** 08:45:52.3±0.0, 21°.07S×177°.32W, h411km, mb4.9/36, mB5.1/24*
*NEIC **28** 08:45:53.1±1.6, 21°.40S×177°.82W, h406km±5km, mb5.0/238, Error ellipse: s-maj=14.0km s-min=11.7km az=131.0*
*IDC **28** 08:45:53.4±0.5, 21°.39S×177°.89W, h407km±4km, mb4.3/31, mb1 4.5/33, mb1mx4.4/42, mbtmp5.0/33, Error ellipse: s-maj=11.0km s-min=8.0km az=144.0*
*GCMT **28** 08:45:55.1±0.3, 21°.34S±0°.04×177°.68W±0°.03, h404km±1km, MW5.2/73, Moment Tensor Solution. s73,c100; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.78±.03; Mθθ0.54±.06; Mφφ0.23±.05; Mrθ-0.07±.05; Mθφ0.66±.05; Mφr0.19±.05; Best double couple: M±0.95400×10^17 NP1:φs214.00000°, δ50.00000°, λ-115.00000°. NP2:φs70.00000°, δ46.00000°, λ-63.00000°. Principal axes: T 1.0670, Plg2.0000°, Azm321.0000°; N -0.2260, Plg19.0000°, Azm231.0000°; P -0.8410, Plg71.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 28 08:45:52.7±0.4, 21°.52S±0°.04×177°.73W±0°.05, h405km±3km, h407km:pP-P, n789, σ1§17/869, mb5.0/258, 63C-17D, Fiji Islands region

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

AMCZ **Amberley** 23.05 198 P P 08 50 28.0 +3.7
OXZ **Oxford** 23.36 199 *e*P P 08 50 27.8 +0.6
comp=Z,256nm,1.6s
OXZ **Oxford** 23.36 199 P P 08 50 28.9 +1.8
MQZ **McQueen's Vall** 23.53 198 P P 08 50 30.0 +1.4
RPZ **Rata Peaks** 24.02 200 *e*P P 08 50 34.5 +1.4
comp=Z,47nm,0.8s
RPZ **Rata Peaks** 24.02 200 P P 08 50 34.1 +1.0
comp=Z,19nm,0.4s,baz=40,slow=4.6,SNR=25
MLZ **Mavora Lakes** 26.48 203 *e*P P 08 50 54.9 0.0
comp=Z,199nm,1.7s
WHZ **Wether Hill Ro** 26.99 202 *e*P P 08 51 00.8 +1.4
comp=Z,75nm,0.8s
EIDS **Eidsvold** 28.84 256 *e*P P 08 51 15.9 -0.1
comp=Z,73nm,1.5s
ARMA **Armidale** 28.87 246 *e*P P 08 51 17.0 +0.6
comp=Z,50nm,1.2s
CAN **Canberra** 32.17 237 *e*P P 08 51 45.3 +0.4
comp=Z,79nm,0.8s
CAN **Canberra** 32.17 237 *e*P P 08 51 45.3 +0.4
CAN pmax pmax
comp=Z,79nm,0.8s
CTAO **Charters Tower** 33.65 266 *e*P P 08 51 57.6 -0.2
comp=Z,40nm,1.0s
CTAO **Charters Tower** 33.65 266 *e*P P 08 51 57.6 -0.2
CTAO pmax pmax
comp=Z,40nm,1.0s
TOO **Toolangi** 35.51 235 *e*P P 08 52 13.6 +0.3
comp=Z,99nm,1.0s
TOO **Toolangi** 35.51 235 *e*P P 08 52 13.6 +0.3
TOO pmax pmax
comp=Z,99nm,1.0s
PMG **Port Moresby** 35.82 284 *e*P P 08 52 15.5 -0.7
comp=Z,40nm,0.9s
PMG **Port Moresby** 35.82 284 *e*P P 08 52 15.5 -0.7
PMG pmax pmax
comp=Z,40nm,0.9s
TAU **Tasmania Unive** 36.09 226 *e*P P 08 52 18.1 +0.1
comp=Z,136nm,2.0s
TAU **Tasmania Unive** 36.09 226 *e*P P 08 52 18.1 +0.1
TAU pmax pmax
comp=Z,136nm,2.0s
STKA **Stephens Creek** 37.59 245 *e*P P 08 52 30.8 +0.1
comp=Z,19nm,1.0s
STKA **Stephens Creek** 37.59 245 *e*P P 08 52 30.8 +0.1
STKA pmax pmax
comp=Z,19nm,1.0s
STKA **Stephens Creek** 37.59 245 P P 08 52 30.7 +0.1
comp=Z,66nm,1.0s,baz=89,slow=9.0,SNR=69
BBOO **Buckleboo** 42.33 245 *e*P P 08 53 08.5 -0.6
comp=Z,129nm,1.0s
AS31 **Alice Springs** 44.54 258 *e*P P 08 53 26.0 -0.6
comp=Z,9.6nm,0.8s
AS31 *e*PcP PcP 08 55 01.9 +0.2
ASAR **Alice Springs** 44.54 258 P P 08 53 25.9 -0.8
comp=Z,35nm,0.8s,baz=86,slow=9.6,SNR=199
ASAR PcP PcP 08 55 01.6 -0.1
comp=Z,4.0nm,0.7s,baz=98,slow=4.7,SNR=8.1
ASAR ScP ScP 08 58 16.6 +2.0
comp=Z,1.7nm,0.8s,baz=113,slow=4.5,SNR=2.2
ASAR S S 08 59 30.0 -1.5
comp=Z,3.4nm,0.9s,baz=95,slow=16,SNR=10
WB2 **Warramunga Arr** 44.71 263 *e*P P 08 53 26.7 -1.3
comp=Z,48nm,1.1s
WRAB **Tennant Creek** 44.71 263 *e*P P 08 53 26.5 -1.5
comp=Z,43nm,1.1s
WRAB *e*PcP PcP 08 55 03.2 +0.9
WRAB **Tennant Creek** 44.71 263 *d iP* P 08 53 26.6 -1.4
WRAB pmax pmax
comp=Z,45nm,1.1s
WR1 **Warramunga Arr** 44.72 263 *e*P P 08 53 26.4 -1.7
WR1 *e*PcP PcP 08 55 03.1 +0.8
WR1 *e*S S 08 59 31.6 -2.4
WRA **Warramunga Arr** 44.72 263 P P 08 53 26.4 -1.7
comp=Z,11nm,0.4s,baz=95,slow=7.6,SNR=191
WRA PcP PcP 08 55 03.1 +0.8
comp=Z,7.8nm,0.9s,baz=90,slow=6.9,SNR=4.3
WRA S S 08 59 31.6 -2.4
comp=Z,2.3nm,0.9s,baz=84,slow=11,SNR=5.8
GENI **Genyem** 45.05 289 P P 08 53 30.7 +0.1
FORT **Forrest** 49.13 247 *e*P P 08 54 01.0 -0.5
comp=Z,209nm,0.8s
MTN **Manton Dam** 49.43 271 *e*P P 08 54 02.9 -1.1
comp=Z,19nm,0.8s
FITZ **Fitzroy Crossi** 53.15 263 *e*P P 08 54 30.8 -0.3
comp=Z,104nm,1.4s
SWI **Sorong** 53.75 285 P P 08 54 35.6 +0.1
SOEI **Soe** 56.79 272 *e*P P 08 54 57.3 +0.2
comp=Z,286nm,1.2s
SOEI **Soe** 56.79 272 P P 08 54 58.4 +1.3
SBA **Scott Base** 56.88 184 *e*P P 08 54 58.9 +2.4
comp=Z,32nm,1.1s
SBA *e*PcP PcP 08 55 49.1 +2.4
SBA **Scott Base** 56.88 184 *e*P P 08 54 58.9 +2.4
SBA *e* 08 55 49.1
SBA pmax pmax
comp=Z,32nm,1.1s
VNDA **Vanda** 56.93 185 *e*P P 08 54 59.0 +2.2
comp=Z,16nm,1.3s
VNDA *e*PcP PcP 08 55 48.2 +1.4
VNDA **Vanda** 56.93 185 P P 08 54 59.6 +2.8
comp=Z,12nm,1.2s,baz=359,slow=7.4,SNR=26
PSA00 **Pilbara Seismi** 57.69 257 *e*P P 08 55 02.6 -0.5
comp=Z,84nm,0.9s
SANI **Sanana** 58.03 282 P P 08 55 03.5 -2.0
NWAO **Narrogin (SRO)** 58.15 244 *e*P P 08 55 05.2 -0.8
comp=Z,51nm,1.0s
NWAO **Narrogin (SRO)** 58.15 244 *e*P P 08 55 05.2 -0.8
NWAO pmax pmax
comp=Z,51nm,1.0s
MORW **Morawa** 59.68 248 *e*P P 08 55 16.2 -0.3
LUWI **Luwuk** 61.37 281 *e*P P 08 55 27.3 -0.7
comp=Z,252nm,1.3s
LUWI **Luwuk** 61.37 281 P P 08 55 28.1 +0.1
BSSI **Bau Bau, Buton** 61.54 275 P P 08 55 28.0 -1.1
BKSI **Bulukumba** 62.17 275 P P 08 55 31.1 -2.2
BNSI **Bone** 62.53 276 P P 08 55 35.3 -0.3
GIRL **Giralia** 62.53 255 *e*P P 08 55 35.6 +0.1
comp=Z,238nm,1.0s
KAPI **Kappang** 62.63 276 *e*P P 08 55 35.6 -0.6
comp=Z,86nm,1.9s
KAPI **Kappang** 62.63 276 *ce*P P 08 55 36.0 -0.3
KAPI pmax pmax
comp=Z,39nm,1.7s
KAPI **Kappang** 62.63 276 P P 08 55 35.6 -0.6
comp=Z,5.7nm,0.4s,baz=98,slow=12,SNR=5.8
MRSI **Marisa** 62.75 282 P P 08 55 36.6 -0.4
SPSI **Sidrap Palu** 63.00 277 P P 08 55 37.2 -1.5
PLAI **Plampang** 63.14 271 P P 08 55 38.9 -0.7
CASY **Casey** 63.16 206 *e*P P 08 55 39.5 +0.7
comp=Z,35nm,1.0s
TTSI **Tana Toraja** 63.30 278 P P 08 55 38.9 -1.7
MPSI **Mapaga** 64.55 281 P P 08 55 48.2 -0.5
JAGI **Jajag, Banyuwa** 66.63 270 *e*P P 08 56 00.0 -1.7
comp=Z,92nm,1.0s
JAGI **Jajag, Banyuwa** 66.63 270 P P 08 56 00.1 -1.7
KMMI **Kalianget** 67.29 271 P P 08 56 04.5 -1.4
GMJI **Gumukmas** 67.36 270 P P 08 56 05.5 -0.8
QSPA **South Pole Qui** 68.56 180 *e*P P 08 56 14.6 +1.6
comp=Z,47nm,1.0s
MTKI **Muara Teweh, K** 68.65 278 P P 08 56 14.3 0.0
GRJI **Gresik** 68.72 271 P P 08 56 15.5 +0.8
PWJI **Pagerwojo** 68.97 269 P P 08 56 16.1 -0.1
NGJI **Ngawi** 69.51 270 P P 08 56 20.2 +0.7
WOJI **Wonogiri, Jawa** 69.85 269 P P 08 56 21.5 0.0
UGM **Wanagama** 70.20 269 *e*P P 08 56 23.3 -0.4
comp=Z,111nm,1.0s
MJAR **Matsushiro Arr** 71.17 324 P P 08 56 28.1 -0.9
comp=Z,10nm,1.0s,baz=161,slow=6.3,SNR=16
MAJO **Matsushiro** 71.17 324 *e*P P 08 56 27.9 -1.1
comp=Z,38nm,1.5s
MAJO **Matsushiro** 71.17 324 *c iP* P 08 56 28.7 -0.3
MAJO pmax pmax
comp=Z,27nm,1.5s
MAT **Matsushiro** 71.17 324 P P 08 56 28.2 -0.8
MAT S S 09 05 12.2 -0.2
MJB9 **Matsu-Tunnel** 71.18 324 *e*P P 08 56 28.1 -0.9
comp=Z,39nm,1.5s
SBUM **Sibu** 72.43 280 *e*P P 08 56 36.6 -0.2
comp=Z,17nm,1.1s
SBUM **Sibu** 72.43 280 P P 08 56 39.0 +2.2
JCJI **Jatiwangi** 72.78 270 P P 08 56 38.6 -0.3
CISI **Cisompet, Garu** 72.84 269 *e*P P 08 56 38.2 -1.1
comp=Z,88nm,1.1s
CISI **Cisompet, Garu** 72.84 269 P P 08 56 38.6 -0.7
JNU **Nakatsue** 73.18 317 *e*P P 08 56 39.8 -1.0
comp=Z,173nm,1.9s
JNU **Nakatsue** 73.18 317 P P 08 56 39.2 -1.6
comp=Z,38nm,1.2s,baz=79,slow=5.2,SNR=4.5
LEM **Lembang** 73.28 269 P P 08 56 42.2 +0.2
LEM **Lembang** 73.28 269 P P 08 56 42.1 +0.2
comp=Z,117nm,0.8s,baz=153,slow=21,SNR=14
KSM **Kuching** 73.80 278 *e*P P 08 56 44.5 -0.3
comp=Z,75nm,1.0s
KSM **Kuching** 73.80 278 P P 08 56 46.0 +1.2
TWG **Pinlang** 74.14 303 *e*P P 08 56 45.2 -1.3
comp=Z,105nm,0.5s
NACB **Ninganchiao** 74.45 304 *e*P P 08 56 47.7 -0.5
comp=Z,91nm,1.0s
TPI **Tanjungpandan** 74.68 273 P P 08 56 49.9 +0.1
ASAJ **Asahikawa** 74.74 332 P P 08 56 50.4 +1.0
comp=Z,41nm,1.0s,baz=221,slow=10,SNR=15
TPUB **Ta-pu** 74.74 303 *e*P P 08 56 48.8 -1.1
comp=Z,103nm,0.8s
CGJI **Cibinong** 75.14 269 P P 08 56 51.4 -1.0
PPBI **Pangkal Pinang** 76.31 273 P P 08 56 59.4 +0.5
YSS **Yuzh-Sakhalins** 76.91 333 *e*P P 08 57 01.5 +0.1
comp=Z,55nm,1.0s
YSS **Yuzh-Sakhalins** 76.91 333⇑ *e*P P 08 57 01.7 +0.3
YSS pmax pmax
comp=Z,50nm,1.0s
QZH **Quanzhou** 77.18 303⇑ *i*P P 08 57 04.3 +0.9
PEA0B **Petropavlovsk-** 77.31 345 *e*P P 08 57 03.6 0.0
comp=Z,827nm,1.4s
PETK **Petropavlovsk-** 77.31 345 P P 08 57 03.7 +0.2
comp=Z,25nm,0.9s,baz=111,slow=8.1,SNR=25
PEA1 **Petropavlovsk-** 77.32 345 *e*P P 08 57 03.7 +0.2
SNCC **San Nicolas Is** 77.75 47 P P 08 57 08.8 +2.4
baz=234
KSRS **Korea Array** 77.81 319 P P 08 57 07.5 +0.9
comp=Z,7.0nm,1.0s,baz=144,slow=6.1,SNR=14
SCZ2 **Santa Cruz Isl** 78.11 46 P P 08 57 10.9 +2.5
baz=234
SCI2 **San Clemente I** 78.26 47 P P 08 57 10.3 +1.1
baz=235
SBC **Santa Barbara** 78.33 46 P P 08 57 10.8 +1.3
baz=234
PKM **Mcpherson Peak** 78.52 45 P P 08 57 12.3 +1.5
baz=234
SAO **San Andreas Ge** 78.59 43 *e*P P 08 57 11.7 +0.8
comp=Z,34nm,0.9s
SAO **San Andreas Ge** 78.59 43 *e*P P 08 57 11.7 +0.8
SAO pmax pmax
comp=Z,34nm,0.9s
SMMC **Simmler** 78.66 45 P P 08 57 12.9 +1.6
baz=233
PAGB **Antelope Grade** 78.74 44 *e*P P 08 57 13.1 +1.3
comp=Z,22nm,1.0s
JMBI **JAMBI** 78.82 273 P P 08 57 14.4 +1.7
FMP **Fort Macarthur** 78.86 47 P P 08 57 13.8 +1.4
baz=235
HOPS **Hopland Field** 78.97 40 *e*P P 08 57 14.0 +1.1
comp=Z,55nm,1.1s
OSI **Osito Audit: C** 79.09 46 P P 08 57 15.0 +1.3
baz=234
KCPM **Cahto Peak** 79.11 40 *e*P P 08 57 14.6 +0.9
comp=Z,56nm,1.1s
DECC **Green Verdugo** 79.14 47 P P 08 57 14.7 +0.8
baz=235
PASC **Pasadena Art C** 79.19 47 *e*P P 08 57 14.8 +0.6
comp=Z,28nm,0.9s
109C **Camp Elliot, M** 79.21 48 P P 08 57 15.4 +1.1
baz=236
MWC **Mount Wilson** 79.31 47 *e*P P 08 57 16.1 +1.1
comp=Z,33nm,0.9s
MWC **Mount Wilson** 79.31 47 *e*P P 08 57 16.1 +1.1
MWC pmax pmax
comp=Z,33nm,0.9s
ARVC **Arvin** 79.32 46 P P 08 57 16.2 +1.4
baz=234,SNR=6.5
KMRM **Mail Ridge** 79.38 39 *e*P P 08 57 16.3 +1.2
comp=Z,106nm,0.9s
HKPS **Hong Kong Po S** 79.41 299 *e*P P 08 57 15.9 +0.3
comp=Z,156nm,1.3s
MURC **Murrieta** 79.55 48 P P 08 57 17.4 +1.3
baz=236,SNR=6.2
VES **Vestal, Richgr** 79.56 45 P P 08 57 17.1 +1.0
baz=234,SNR=15
BFSC **Mount Baldy Ra** 79.59 47 P P 08 57 17.5 +1.1
baz=235,SNR=5.1
VOG **Valley Oaks Go** 79.65 44 P P 08 57 17.4 +0.9
baz=234
DLV **T Lat** 79.66 287 *e*P P 08 57 16.9 -0.4
comp=Z,69nm,1.2s
MONP2 **Monument Peak** 79.69 49 P P 08 57 18.6 +1.4
baz=236,SNR=13
EDW2 **Edwards Air Fo** 79.73 46 P P 08 57 18.7 +1.5
baz=235,SNR=12
IKP **In-Ko-Pah, Jac** 79.77 49 P P 08 57 19.0 +1.6
baz=236,SNR=6.8
KHMM **Horse Mountain** 79.78 39 *e*P P 08 57 18.5 +1.2
comp=Z,51nm,1.1s
ISA **Isabella, Lake** 79.86 45 *e*P P 08 57 18.8 +1.0
comp=Z,35nm,1.0s
ISA **Isabella, Lake** 79.86 45 *e*P P 08 57 18.8 +1.0
ISA pmax pmax
comp=Z,35nm,1.0s
ISA **Isabella, Lake** 79.86 45 P P 08 57 19.2 +1.4
baz=234,SNR=15
MYKOM **Kota Tinggi** 79.89 276 *e*P P 08 57 18.2 -0.2
comp=Z,53nm,1.1s
MYKOM **Kota Tinggi** 79.89 276 P P 08 57 18.0 -0.4
O02D **Mt. Diablo Mer** 79.89 40 P P 08 57 19.7 +1.9
baz=231,SNR=21
USA0B **Ussuriysk Arra** 79.94 326 *e*P P 08 57 18.4 +0.5
comp=Z,61nm,1.4s
USRK **Ussuriysk Ar.** 79.94 326 P P 08 57 18.4 +0.6
comp=Z,17nm,1.0s,baz=108,slow=4.2,SNR=28
CMB **Columbia Colle** 80.03 42 *e*P P 08 57 19.1 +0.4
comp=Z,27nm,1.0s
CMB **Columbia Colle** 80.03 42 *e*P P 08 57 19.1 +0.4
CMB pmax pmax
comp=Z,27nm,1.0s
PFO **Pinyon Flats O** 80.06 48 *e*P P 08 57 20.1 +1.1
comp=Z,28nm,1.2s
PFO **Pinyon Flats O** 80.06 48 *e*P P 08 57 20.1 +1.1
PFO pmax pmax
comp=Z,28nm,1.2s
PFO **Pinyon Flats O** 80.06 48 P P 08 57 20.1 +1.1
baz=236,SNR=5.9
TYV **Tymovskoe** 80.06 336 *e*P P 08 57 19.2 +0.8
TYV pmax pmax
comp=Z,45nm,1.3s
BBRC **Big Bear Solar** 80.11 47 P P 08 57 20.3 +0.9
baz=236
SWSC **Sam W. Stewart** 80.15 49 P P 08 57 20.7 +1.5
baz=236,SNR=7.4
AFDM **Forest Hills D** 80.23 41 *e*P P 08 57 20.7 +1.1
comp=Z,25nm,1.0s
ORV **Oroville** 80.28 41 *e*P P 08 57 21.1 +1.2
comp=Z,27nm,1.0s
LRMC **Laurel Mtn Rad** 80.28 46 P P 08 57 21.3 +1.1
baz=235,SNR=7.8
WDC **Whiskeytown Da** 80.29 39 *e*P P 08 57 20.8 +0.9
comp=Z,38nm,1.0s
WDC **Whiskeytown Da** 80.29 39 *e*P P 08 57 20.8 +0.9
WDC pmax pmax
comp=Z,38nm,1.0s
RRX **Edison Barstow** 80.40 47 P P 08 57 21.8 +1.2
baz=236
N02D **Trinity Center** 80.45 39 P P 08 57 22.5 +1.7
baz=231,SNR=14
O03E **Paynes Creek** 80.55 40 P P 08 57 22.3 +0.9
baz=232,SNR=16
CWC **Cottonwood Cre** 80.57 45 P P 08 57 22.6 +1.0
baz=235
BELC **Belle Mtn. Jos** 80.59 48 P P 08 57 23.3 +1.5
baz=236,SNR=16
M02C **Callahan** 80.62 39 P P 08 57 23.3 +1.7
baz=231,SNR=13
MDPB **Devils Postpil** 80.62 43 *e*P P 08 57 23.0 +1.0
comp=Z,31nm,1.0s
OMMB **Old Mammoth Mi** 80.66 43 *e*P P 08 57 22.8 +0.5
comp=Z,23nm,1.2s
L02E **Cave Junction** 80.68 38 P P 08 57 23.4 +1.5
baz=230
MAW **Mawson** 80.70 200 *e*P P 08 57 22.6 +1.0
comp=Z,4.1nm,0.9s
MAW **Mawson** 80.70 200 *e*P P 08 57 22.6 +1.0
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW **Mawson** 80.70 200 P P 08 57 22.9 +1.3
comp=Z,13nm,0.8s,baz=128,slow=4.4,SNR=12
MPMC **Manual Prospec** 80.75 45 P P 08 57 23.9 +1.3
baz=235,SNR=19
GSC **Goldstone, Bar** 80.77 46 *e*P P 08 57 23.8 +1.1
comp=Z,30nm,1.1s
GSC **Goldstone, Bar** 80.77 46 P P 08 57 23.8 +1.1
baz=236,SNR=9.6
MLAC **Mammoth, Mammo** 80.78 44 P P 08 57 24.0 +1.2
baz=234
BC3 **Big Chuckawall** 80.78 48 P P 08 57 24.3 +1.5
baz=237,SNR=13
DAC **Darwin (Calif)** 80.80 45 *e*P P 08 57 24.3 +1.4
comp=Z,12nm,1.0s
DAC **Darwin (Calif)** 80.80 45 *e*P P 08 57 24.3 +1.4
DAC pmax pmax
comp=Z,12nm,1.0s
HEC **Hector,Ludlow** 80.83 47 P P 08 57 24.0 +1.1
baz=236,SNR=7.7
TIN **Tinemaha, Big** 80.83 44 P P 08 57 24.2 +1.2
baz=234,SNR=5.7
GLA **Glamis** 80.89 49 *e*P P 08 57 24.9 +1.6
comp=Z,55nm,1.1s
GLA **Glamis** 80.89 49 *e*P P 08 57 24.9 +1.6
GLA pmax pmax
comp=Z,55nm,1.1s
GLA **Glamis** 80.89 49 P P 08 57 25.1 +1.8
baz=237,SNR=8.1
WAKR **Walker** 80.91 43 *e*P P 08 57 24.8 +1.4
comp=Z,49nm,1.1s
YBH **Yreka Blue Hor** 80.92 38 *e*P P 08 57 24.5 +1.2
comp=Z,31nm,0.8s
YBH **Yreka Blue Hor** 80.92 38 *e*P P 08 57 24.5 +1.2
YBH pmax pmax
comp=Z,31nm,0.8s
K02D **Willamette Mer** 81.00 37 P P 08 57 25.0 +1.4
baz=230
J01E **Myrtle Point** 81.15 37 P P 08 57 25.7 +1.5
baz=230
PNTR **Pine Nut** 81.16 42 *e*P P 08 57 25.9 +1.1
comp=Z,72nm,1.0s
VCNR **Virginia City** 81.25 42 *e*P P 08 57 26.1 +0.9
comp=Z,37nm,1.1s
GMRC **Granite Mounta** 81.26 47 P P 08 57 26.5 +1.3
baz=236,SNR=10
IRM **Iron Mountain** 81.27 48 P P 08 57 26.7 +1.5
baz=237,SNR=22
HUMO **Hull Mountain** 81.34 38 *e*P P 08 57 26.6 +1.3
comp=Z,42nm,1.2s
GRAC **Grapevine Rang** 81.36 45 P P 08 57 26.5 +0.9
baz=235
FURC **Furnace Creek,** 81.39 45 P P 08 57 27.0 +1.3
baz=235,SNR=9.9
TUQ **Turquoise Moun** 81.44 47 P P 08 57 27.4 +1.2
baz=236,SNR=12
M04C **Macdoel** 81.46 39 P P 08 57 27.4 +1.3
baz=231,SNR=19
L04D **Klamath Falls** 81.47 38 P P 08 57 27.5 +1.4
baz=231,SNR=15
SHOC **Shoshone, Teco** 81.47 46 P P 08 57 27.2 +1.1
baz=236,SNR=7.8
Y12C **Blythe** 81.48 49 *e*P P 08 57 27.6 +1.4
comp=Z,31nm,1.0s
Y12C **Blythe** 81.48 49 P P 08 57 27.8 +1.6
baz=237,SNR=12
MDJ **Mudanjiang** 81.49 325 P P 08 57 27.0 +1.0
MDJ pP pwP 08 58 58.5 -0.8
MDJ S S 09 07 09.5 +6.5
MDJ pmax pmax
comp=Z,32nm,1.3s
MDJ pmax pmax
comp=Z,450nm,3.5s
113A **Mohawk Valley,** 81.49 50 *e*P P 08 57 27.4 +1.1
comp=Z,33nm,1.1s
RYN **Ryan** 81.56 43 *e*P P 08 57 27.6 +0.8
comp=Z,46nm,1.4s
NV01 **Mina Array Sit** 81.59 43 *e*P P 08 57 28.2 +1.2
NVAR **Mina Array Bea** 81.59 43 P P 08 57 28.2 +1.2
comp=Z,28nm,0.9s,baz=224,slow=8.7,SNR=72
NVAR pP pP 08 58 57.9 +0.1
comp=Z,1.7nm,0.8s,baz=231,slow=5.7,SNR=3.9
PAHR **Pah Rah Range** 81.67 42 *e*P P 08 57 28.1 +0.9
comp=Z,38nm,1.1s
214A **Organ Pipe Nat** 81.75 51 P P 08 57 29.4 +1.7
baz=238
LDFC **Landfair** 81.80 47 *e*P P 08 57 29.4 +1.4
comp=Z,78nm,1.0s
I02D **Swisshome** 81.81 36 P P 08 57 28.5 +0.9
baz=230
I03D **Drain, OR** 81.82 37 P P 08 57 29.1 +1.4
baz=230
NEE2 **Needles Airpor** 81.97 48 P P 08 57 29.5 +0.8
baz=237
PDSI **Padang** 82.04 272 P P 08 57 28.7 -0.9
PDMCI **Parker Dam,Lak** 82.05 48 P P 08 57 30.6 +1.5
baz=237,SNR=18
TPNV **Topopah Spring** 82.07 45 *e*P P 08 57 30.3 +0.9
comp=Z,26nm,1.0s
TPNV **Topopah Spring** 82.07 45 *e*P P 08 57 30.3 +0.9
TPNV pmax pmax
comp=Z,26nm,1.0s
TPNV **Topopah Spring** 82.07 45 P P 08 57 30.7 +1.3
baz=236,SNR=20
KVN **Kaiserville** 82.08 43 *e*P P 08 57 30.1 +0.7
comp=Z,34nm,1.0s
KVN **Kaiserville** 82.08 43 *e*P P 08 57 30.1 +0.7
KVN pmax pmax
comp=Z,34nm,1.0s
J04D **Umpqua Nationa** 82.22 37 P P 08 57 31.6 +1.6
baz=231,SNR=14
I04A **Tendick Farm,** 82.40 37 P P 08 57 31.8 +1.0
baz=231,SNR=5.3
MOD **Modoc Plateau** 82.44 39 *e*P P 08 57 31.9 +0.7
comp=Z,44nm,1.0s
GRNR **Gornyy** 82.52 333 *e*P P 08 57 37.2 +6.0
GRNR pmax pmax
comp=Z,38nm,1.0s
SHPR **Sheep Range** 82.55 46 *e*P P 08 57 32.6 +0.7
comp=Z,24nm,1.2s
K05A **Summer Lake** 82.60 38 *e*P P 08 57 33.0 +1.0
comp=Z,74nm,1.0s
Y14A **Wickenburg** 82.65 49 *e*P P 08 57 33.3 +1.0
comp=Z,29nm,1.0s
W13A **Hualapai Mount** 82.65 48 *e*P P 08 57 33.6 +1.1
comp=Z,22nm,1.1s
H04D **Lebanon** 82.69 36 P P 08 57 33.3 +1.2
baz=230
J05D **Fort Rock, OR** 82.75 38 P P 08 57 34.0 +1.3
baz=232,SNR=36
G03D **McMinnville, O** 82.84 35 P P 08 57 34.0 +1.1
baz=230
H04A **Detroit Lake** 83.09 36 *e*P P 08 57 34.9 +0.6
comp=Z,57nm,1.1s
PINE **Pine Mountain** 83.23 38 *e*P P 08 57 36.0 +0.8
comp=Z,85nm,1.0s
WHN **Wuhan** 83.25 306 P P 08 57 36.3 +1.0
WHN S S 09 07 18.0 -3.2
WHN pmax pmax
comp=Z,86nm,1.2s
CN2 **Changchun** 83.25 322 *e*P P 08 57 34.5 -0.5
CN2 pmax pmax
comp=Z,10.0nm,0.7s
R11A **Troy Canyon, C** 83.29 44 *e*P P 08 57 36.0 +0.4
comp=Z,13nm,1.0s
R11A **Troy Canyon, C** 83.29 44 P P 08 57 36.4 +0.8
baz=236,SNR=24
I05D **Terrebonne, OR** 83.34 37 P P 08 57 36.7 +1.2
baz=231
TUC **Tucson** 83.41 52 *e*P P 08 57 37.1 +0.9
comp=Z,44nm,1.1s
TUC **Tucson** 83.41 52 *e*P P 08 57 37.1 +0.9
TUC pmax pmax
comp=Z,44nm,1.1s
TUC **Tucson** 83.41 52 P P 08 57 38.2 +2.0
baz=240
BMN **Battle Mountai** 83.43 42 *e*P P 08 57 37.0 +0.7
comp=Z,40nm,0.9s
BMN **Battle Mountai** 83.43 42 *e*P P 08 57 37.0 +0.7
BMN pmax pmax
comp=Z,40nm,0.9s
IPM **Ipoh** 83.51 277 *e*P P 08 57 36.8 -0.3
comp=Z,73nm,1.1s
IPM **Ipoh** 83.51 277 P P 08 57 38.0 +0.9
KLR **Kul'dur** 83.53 329 *d iP* P 08 57 36.2 -0.1
KLR pmax pmax
comp=Z,24nm,1.4s
KLR **Kul'dur** 83.53 329 P P 08 57 36.7 +0.4
comp=Z,8.9nm,1.1s,baz=101,slow=4.4,SNR=15
F04D **Rainier, OR** 83.54 35 P P 08 57 37.8 +1.4

baz=230
WVOR **Wild Horse Val** 83.75 40 *e*P P 08 57 38.1 +0.4
comp=Z,38nm,1.1s
WVOR **Wild Horse Val** 83.75 40 *e*P P 08 57 38.1 +0.4
WVOR pmax pmax
comp=Z,38nm,1.1s
G05D **Wamic, OR** 83.92 36 P P 08 57 39.5 +1.1
baz=231
X16A **Lo Mia Camp, P** 84.01 50 *e*P P 08 57 40.3 +1.0
comp=Z,34nm,1.1s
319A **Douglas** 84.05 53 *e*P P 08 57 41.3 +1.8
comp=Z,59nm,1.0s
E04D **Cinebar** 84.08 35 P P 08 57 40.5 +1.4
baz=230
LCMT **Little Creek M** 84.12 47 *e*P P 08 57 40.9 +1.2
comp=Z,27nm,1.1s
KULM **Kulim** 84.16 278 *e*P P 08 57 39.9 -0.4
comp=Z,52nm,1.2s
KULM **Kulim** 84.16 278 P P 08 57 42.0 +1.7
RSO **Redoubt South** 84.17 12 *e*P P 08 57 40.0 +0.5
I07A **Izee** 84.23 38 *e*P P 08 57 41.1 +1.1
comp=Z,36nm,1.0s
F05D **White Salmon** 84.25 36 P P 08 57 41.1 +1.1
baz=231
G06A **Carlson Farm,** 84.30 37 *e*P P 08 57 40.8 +0.5
comp=Z,39nm,1.1s
CCUT **Cedar City** 84.33 46 *e*P P 08 57 41.4 +0.5
comp=Z,28nm,1.2s
D04E **Lakebay** 84.37 34 P P 08 57 42.0 +1.5
baz=230
J08A **Circle Bar Ran** 84.39 39 *e*P P 08 57 42.0 +1.1
comp=Z,44nm,1.3s
KNB **Kanab** 84.41 47 *e*P P 08 57 42.5 +1.3
comp=Z,51nm,1.3s
D03D **Eldon** 84.43 34 P P 08 57 42.1 +1.3
baz=230
U15A **North Rim** 84.46 47 *e*P P 08 57 43.0 +1.4
comp=Z,40nm,0.9s
PSUT **Pine Spring** 84.53 45 *e*P P 08 57 42.9 +1.1
comp=Z,12nm,1.2s
SZCU **Shurtz Canyon** 84.53 46 *e*P P 08 57 43.2 +1.3
comp=Z,45nm,1.4s
SEW **Seward** 84.54 14 *e*P P 08 57 40.9 -0.1
comp=Z,14nm,1.0s
LON **Longmire** 84.60 35 *e*P P 08 57 42.6 +0.8
comp=Z,48nm,1.8s
WUAZ **Wupatki** 84.62 49 *e*P P 08 57 43.3 +1.0
WUAZ **Wupatki** 84.62 49 P P 08 57 43.6 +1.4
baz=239
HPIG 84.74 59 *e*P P 08 57 44.1 +1.0
comp=Z,17nm,1.1s
D05A **Enumclaw** 84.79 34 *e*P P 08 57 44.1 +1.6
comp=Z,93nm,1.3s
MA2 **Magadan** 84.83 345 *e*P P 08 57 42.4 0.0
comp=Z,51nm,0.7s
MA2 **Magadan** 84.83 345 ⇓*i*P P 08 57 42.8 +0.3
MA2 pmax pmax
comp=Z,30nm,1.0s
MA2 **Magadan** 84.83 345 P P 08 57 41.4 -1.1
comp=Z,13nm,0.7s,baz=122,slow=3.7,SNR=14
PSI **Prapat** 84.83 275 *e*P P 08 57 42.8 -1.0
comp=Z,48nm,1.2s
PSI **Prapat** 84.83 275 P P 08 57 43.1 -0.6
comp=Z,27nm,1.1s,baz=185,slow=5.3,SNR=11
ELK **Elko** 84.85 43 *e*P P 08 57 44.1 +0.7
comp=Z,13nm,1.0s
ELK **Elko** 84.85 43 P P 08 57 44.4 +1.0
comp=Z,8.2nm,1.0s,baz=231,slow=5.5,SNR=12
ELK pP pP 08 59 16.1 +1.1
comp=Z,1.9nm,0.9s,baz=212,slow=6.3,SNR=3.2
SPU **Mount Spurr** 84.97 12 *e*P P 08 57 42.4 -0.8
PKCU **Pink Cliffs** 84.98 47 *e*P P 08 57 45.6 +1.4
comp=Z,44nm,1.0s
X18A **Snowflake** 85.12 50 *e*P P 08 57 45.8 +1.0
comp=Z,16nm,0.9s
GAMB **Gambell** 85.14 3 *e*P P 08 57 44.2 +0.4
comp=Z,11nm,0.8s
G08A **Pilot Rock** 85.27 37 *e*P P 08 57 45.9 +0.7
comp=Z,46nm,1.1s
RC01 **Rabbit Creek A** 85.36 13 *e*P P 08 57 45.0 0.0
comp=Z,20nm,1.1s
MTPU **Mount Pierson** 85.38 46 *e*P P 08 57 47.5 +1.3
comp=Z,18nm,0.9s
A04D **Lummi Island** 85.39 33 P P 08 57 46.6 +1.2
baz=230
B05A **Bryant** 85.42 34 P P 08 57 46.5 +0.9
baz=230,SNR=7.3
ZAIG **Zacatecas** 85.42 64 *e*P P 08 57 47.8 +1.1
TCRU **Three Creeks R** 85.50 46 *e*P P 08 57 47.9 +1.3
comp=Z,14nm,1.1s
LTY **Liberty** 85.53 35 *e*P P 08 57 46.5 +0.2
comp=Z,20nm,1.0s
GSI **Gunungsitoli** 85.54 273 P P 08 57 48.4 +1.3
W18A **Petrified Fore** 85.57 50 *e*P P 08 57 48.1 +1.1
comp=Z,20nm,1.1s
W18A **Petrified Fore** 85.57 50 P P 08 57 48.0 +1.1
baz=240
HAWA **Hanford** 85.61 36 *e*P P 08 57 47.7 +1.0
comp=Z,47nm,1.1s
MSU **Marysvale** 85.63 46 *e*P P 08 57 48.5 +1.2
121A **Cookes Peak, D** 85.72 53 P P 08 57 49.8 +2.0
baz=241,SNR=12
GLI **Glacier Island** 85.76 14 *e*P P 08 57 46.7 -0.4
comp=Z,24nm,0.9s
SYO **Syowa Base** 85.80 193 ⇑*i*P P 08 57 45.6 -1.6
C06D **Leavenworth** 85.83 34 P P 08 57 48.2 +0.5
baz=231
KNK **Knik Glacier** 85.93 14 *e*P P 08 57 47.0 -0.8
comp=Z,18nm,1.0s
PMR **Palmer** 85.94 13 *e*P P 08 57 47.3 -0.6
comp=Z,44nm,1.6s
PMR **Palmer** 85.94 13 *e*P P 08 57 47.3 -0.6
PMR pmax pmax
comp=Z,44nm,1.6s
BMO **Blue Mountains** 85.95 38 *e*P P 08 57 49.1 +0.6
comp=Z,15nm,1.1s
BMO **Blue Mountains** 85.95 38 *e*P P 08 57 49.1 +0.6
BMO pmax pmax
comp=Z,15nm,1.1s
DUG **Dugway, Tooele** 86.10 44 *e*P P 08 57 50.2 +0.8
comp=Z,5.0nm,1.0s
DUG **Dugway, Tooele** 86.10 44 *e*P P 08 57 50.2 +0.8
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG **Dugway, Tooele** 86.10 44 P P 08 57 49.9 +0.5
baz=236
GHO **Glory Hole Cre** 86.15 13 *e*P P 08 57 48.6 -0.3
comp=Z,27nm,0.8s
DIV **Divide** 86.30 15 *e*P P 08 57 49.5 -0.1
comp=Z,23nm,1.0s
D08A **Wollman Farm,** 86.35 36 *e*P P 08 57 51.5 +1.3
comp=Z,38nm,1.0s
E09A **Wood Farm, Sta** 86.45 37 *e*P P 08 57 51.5 +0.7
comp=Z,61nm,1.3s
Q16A **Castle Valley** 86.51 46 *e*P P 08 57 52.1 +0.7
comp=Z,41nm,1.6s
WRAK **Wrangell Islan** 86.54 23 *e*P P 08 57 51.5 +0.6
comp=Z,15nm,1.0s
SCM **Sheep Creek Mo** 86.55 14 *e*P P 08 57 50.7 -0.2
comp=Z,30nm,1.0s
SCM **Sheep Creek Mo** 86.55 14 *e*P P 08 57 50.7 -0.2
SCM pmax pmax
comp=Z,30nm,1.0s
F10A **Beach Ranch, E** 86.65 37 *e*P P 08 57 51.5 -0.2
comp=Z,66nm,0.9s
TMUT **Trail Mountain** 86.68 45 *e*P P 08 57 53.4 +1.0
comp=Z,29nm,1.0s
TLIG **Tlapa** 86.69 70 *e*P P 08 57 53.4 +0.7
comp=Z,35nm,1.1s
MPU **Maple Canyon** 86.78 45 *e*P P 08 57 53.5 +0.8
comp=Z,8.2nm,1.0s
ENH **Enshi** 86.82 304 *e*P P 08 57 52.9 0.0
comp=Z,83nm,1.1s
PLID **Pearl Lake** 86.84 39 *e*P P 08 57 53.0 +0.1
comp=Z,56nm,1.4s
B08A **Colville Reser** 86.92 35 *e*P P 08 57 53.2 +0.3
comp=Z,23nm,0.8s
HLID **Hailey** 86.93 41 *e*P P 08 57 54.3 +1.0
comp=Z,10.0nm,0.9s
HLID **Hailey** 86.93 41 P P 08 57 54.2 +1.0
baz=236
HVU **Hansel Valley** 86.97 43 *e*P P 08 57 54.1 +0.6
comp=Z,8.9nm,1.0s
SNAA **Sanae** 86.99 178 P P 08 57 53.4 +0.4
SNAA **Sanae** 86.99 178 *e*P P 08 57 53.7 +0.6
comp=Z,17nm,1.5s
SNAA **Sanae** 86.99 178 ⇑*i*P P 08 57 54.0 +0.9
SNAA pmax pmax
comp=Z,344nm,1.0s
SRU **San Rafael Swe** 87.04 46 *e*P P 08 57 54.6 +0.6
comp=Z,26nm,0.9s
CTU **Camp Tracy** 87.05 44 *e*P P 08 57 54.5 +0.5
comp=Z,10nm,1.1s
BALM **Baldy** 87.08 16 *e*P P 08 57 53.2 -0.2
comp=Z,16nm,1.0s
BALM **Baldy** 87.08 16 *e*P P 08 57 53.2 -0.2
BALM pmax pmax
comp=Z,16nm,1.0s
P17A **Butcher Ranch,** 87.08 46 *e*P P 08 57 54.7 +0.6
comp=Z,31nm,1.4s
LAZ **Ladron** 87.09 51 *e*P P 08 57 55.7 +1.4
Y22D **IRIS PASSCAL I** 87.09 52 P P 08 57 55.6 +1.3
baz=242
VNA3 **Neumayer Olymp** 87.12 176 P P 08 57 54.5 +1.0
MNTX **Cornudas Mount** 87.13 54 *e*P P 08 57 55.0 +0.6
comp=Z,37nm,1.1s
MNTX **Cornudas Mount** 87.13 54 P P 08 57 55.8 +1.5
baz=243,SNR=48
C09A **Chrisman Ranch** 87.15 36 *e*P P 08 57 54.5 +0.5
comp=Z,23nm,0.8s
JLU **Jordanelle** 87.20 44 *e*P P 08 57 55.2 +0.5
comp=Z,26nm,1.8s
JIS **Juneau Island** 87.24 21 *e*P P 08 57 55.0 +1.0
comp=Z,17nm,1.3s
BNM **Barren Site** 87.34 52 *e*P P 08 57 56.5 +0.9
GYA **Guiyang** 87.37 300 P P 08 57 56.3 +0.6
GYA PP PP 09 01 30.0 +2.8
GYA SKS SKSac 09 07 39.5 -4.7
GYA S S 09 07 59.0 -2.5
GYA pmax pmax
comp=Z,20nm,0.9s
LTX **Lajitas** 87.39 57 *e*P P 08 57 57.5 +1.8
TXAR **Lajitas Array** 87.39 57 P P 08 57 57.5 +1.8
comp=Z,12nm,0.9s,baz=217,slow=6.7,SNR=76
TXAR pP pP 08 59 29.4 +1.5
comp=Z,3.3nm,1.0s,baz=230,slow=5.9,SNR=6.5
SEY **Seymchan** 87.42 347 P P 08 57 54.6 -0.3
comp=Z,24nm,0.8s,baz=148,slow=5.6,SNR=57
MVCO **Mesa Verde** 87.47 48 *e*P P 08 57 56.5 +0.4
comp=Z,8.2nm,1.3s
MVCO **Mesa Verde** 87.47 48 P P 08 57 56.7 +0.6
baz=241
PV05 **Paradox Valley** 87.49 47 *e*P P 08 57 57.1 +1.0
comp=Z,18nm,1.1s
TCUT **Toone Canyon** 87.50 44 *e*P P 08 57 56.8 +0.6
comp=Z,51nm,1.3s
SLVN **Son La** 87.52 294 *e*P P 08 57 56.2 -0.2
comp=Z,16nm,1.3s
VNA2 **Neumayer--Watz** 87.56 177 P P 08 57 53.2 -2.5
baz=217,slow=2.9
DHY **Denali Highway** 87.64 13 *e*P P 08 57 55.7 -0.4
comp=Z,15nm,1.4s
PV11 **David Mesa, Pa** 87.75 47 *e*P P 08 57 57.6 +0.3
comp=Z,15nm,1.2s
VNA1 **Neumayer--Stat** 87.79 177 P P 08 57 57.8 +1.1
TASM **ASL Pad, Albuq** 87.84 51 P P 08 57 58.9 +1.1
baz=242,SNR=22
TASM **ASL Pad, Albuq** 87.84 51 P P 08 57 58.9 +1.1
baz=242,SNR=20
ANMO **Albuquerque** 87.84 51 *e*P P 08 57 58.5 +0.7
comp=Z,17nm,1.0s
ANMO **Albuquerque** 87.84 51 P P 08 57 58.8 +1.0
baz=242
ANMO **Albuquerque** 87.84 51 P P 08 57 58.9 +1.1
comp=Z,8.5nm,0.9s,baz=311,slow=20,SNR=22
ANMO pP pwP 08 59 31.7 -1.3
comp=Z,2.8nm,1.0s,baz=222,slow=2.8,SNR=5.3
SKAG **Skagway** 87.84 20 *e*P P 08 57 57.8 +0.8
comp=Z,38nm,1.6s
PV01 **Paradox Valley** 87.88 48 *e*P P 08 57 57.6 -0.3
comp=Z,10nm,0.9s
MCK **McKinley** 87.91 12 *e*P P 08 57 56.6 -0.6
comp=Z,46nm,1.2s
MCK **McKinley** 87.91 12 *e*P P 08 57 56.6 -0.6
MCK pmax pmax
comp=Z,46nm,1.2s
PAX **Paxson** 87.97 14 *e*P P 08 57 56.9 -0.7
comp=Z,11nm,1.2s
PAX **Paxson** 87.97 14 *e*P P 08 57 56.9 -0.7
PAX pmax pmax
comp=Z,11nm,1.2s
NEW **Newport** 88.05 36 *e*P P 08 57 58.1 -0.2
comp=Z,14nm,1.1s
NEW **Newport** 88.05 36 P P 08 57 58.6 +0.4
baz=234,SNR=7.7
NEW **Newport** 88.05 36 P P 08 57 58.5 +0.2
comp=Z,8.1nm,0.9s,baz=208,slow=3.0,SNR=11
BWN **Browne** 88.20 12 *e*P P 08 57 57.9 -0.6
comp=Z,42nm,0.8s
HYT **Haines Junctio** 88.25 18 *e*P P 08 57 58.9 -0.1
comp=Z,6.3nm,0.9s
MENT **Mentasta** 88.35 15 *e*P P 08 57 59.2 -0.1
comp=Z,14nm,1.1s
PLCA **Paso Flores** 88.39 133 P P 08 58 01.2 +1.0
comp=Z,3.4nm,0.9s,baz=261,slow=9.1,SNR=5.4
AHID **Auburn Hatcher** 88.55 43 *e*P P 08 58 01.6 +0.7
comp=Z,29nm,1.4s
MCMT **McKenzie Canyo** 88.56 40 *e*P P 08 58 01.6 +0.6
ZEA **Zeya** 88.64 331 *e*P P 08 58 00.5 -0.3
ZEA pmax pmax
comp=Z,12nm,1.0s
WRH **Wood River Hil** 88.73 12 *e*P P 08 58 00.1 -0.9
comp=Z,24nm,0.9s
RIDG **Independent Ri** 88.78 14 *e*P P 08 58 01.0 -0.3
comp=Z,15nm,1.1s
DOT **Dot Lake** 88.88 14 *e*P P 08 58 00.8 -0.9
comp=Z,16nm,1.0s
DLBC **Dease Lake** 88.88 23 *e*P P 08 58 02.2 +0.3
comp=Z,40nm,1.9s
DLBC **Dease Lake** 88.88 23 P P 08 58 02.5 +0.5
comp=Z,4.4nm,0.9s,baz=212,slow=7.3,SNR=6.9
DLBC pP pwP 08 59 36.8 -1.2
comp=Z,2.0nm,0.8s,baz=199,slow=4.2,SNR=2.7
LNIG **Linares** 88.89 63 *e*P P 08 58 02.7 0.0
comp=Z,30nm,0.9s
S22A **4UR Ranch, Cre** 88.90 49 *e*P P 08 58 02.6 -0.2
comp=Z,14nm,1.1s
S22A **4UR Ranch, Cre** 88.90 49 P P 08 58 03.9 +1.1
baz=242,SNR=17
HDA **Harding Lake** 88.91 13 *e*P P 08 58 01.1 -0.7
comp=Z,12nm,0.7s
HDA **Harding Lake** 88.91 13 P P 08 58 00.9 -0.9
baz=208
WHY **Whitehorse** 88.92 20 *e*P P 08 58 01.1 -1.0
comp=Z,8.7nm,1.0s
XAN **Xi'an** 88.95 307 P P 08 58 03.3 +0.5
XAN pmax pmax
comp=Z,24nm,1.2s
XAN **Xi'an** 88.95 307 *e*P P 08 58 02.3 -0.5
comp=Z,36nm,1.2s
CCB **Clear Creek Bu** 88.95 12 *e*P P 08 58 00.8 -1.1
comp=Z,18nm,0.9s
DLMT **Dillon** 89.00 40 *e*P P 08 58 02.9 0.0
comp=Z,31nm,1.1s
UTTA **Uttaradit** 89.00 289 P P 08 58 06.1 +2.8
MSO **Missoula** 89.01 38 *e*P P 08 58 02.5 -0.4
comp=Z,20nm,1.4s
MSO **Missoula** 89.01 38 P P 08 58 03.0 +0.1
baz=237,SNR=9.4
REDW **Red Top Meadow** 89.01 42 *e*P P 08 58 03.0 -0.2
comp=Z,41nm,1.1s
TPAW **Teton Pass** 89.02 42 *e*P P 08 58 03.3 +0.1
comp=Z,19nm,1.0s
FXWY **Fox Creek** 89.05 42 *e*P P 08 58 02.4 -0.9
comp=Z,30nm,1.5s
O20A **White River Ci** 89.08 46 *e*P P 08 58 03.2 -0.3
comp=Z,45nm,1.6s
O20A **White River Ci** 89.08 46 P P 08 58 04.1 +0.6
baz=241,SNR=6.5
SNOW **Snow King Moun** 89.12 42 *e*P P 08 58 03.5 -0.2
comp=Z,30nm,0.9s
TCOL **CIGO, UAF Yank** 89.14 12 P P 08 58 01.8 -1.0
baz=208
COLA **College** 89.14 12 *e*P P 08 58 01.9 -1.0
comp=Z,22nm,0.8s
COLA **College** 89.14 12 ⇓*i*P P 08 58 01.7 -1.1
COLA pmax pmax
comp=Z,24nm,0.9s
MDM **Murphy Dome** 89.14 12 *e*P P 08 58 01.7 -1.2
comp=Z,21nm,1.0s
SCRK **Sand Creek** 89.18 14 *e*P P 08 58 02.8 -0.5
IMW **Indian Meadow** 89.23 42 *e*P P 08 58 04.5 +0.2
comp=Z,29nm,1.0s
ILAR **Eielson Array** 89.24 13 P P 08 58 02.2 -1.1
comp=Z,6.6nm,0.3s,baz=227,slow=5.2,SNR=43
MOOW **Moose Ponds** 89.28 42 *e*P P 08 58 04.5 +0.1
comp=Z,11nm,1.0s
LOHW **Long Hollow** 89.30 42 *e*P P 08 58 04.8 +0.3
comp=Z,17nm,1.1s
LRM **Limekiln Ridge** 89.33 39 *e*P P 08 58 05.8 +1.2
QLMT **Earthquake Lak** 89.42 41 *e*P P 08 58 05.1 +0.1
POKR **Poker Plat Res** 89.44 12 P P 08 58 03.0 -1.3
baz=208
SMCO **Snowmass** 89.48 47 *e*P P 08 58 05.7 +0.1
comp=Z,12nm,1.1s
FLWY **Flagg Ranch** 89.48 42 *e*P P 08 58 05.2 -0.1
comp=Z,37nm,0.9s
YPP **Pitchstone Pla** 89.51 41 *e*P P 08 58 05.7 +0.2
comp=Z,29nm,1.7s
YHB **Horse Butte** 89.52 41 *e*P P 08 58 05.5 +0.1
comp=Z,29nm,1.0s
BW06 **Boulder Array** 89.53 43 *e*P P 08 58 05.0 -0.5
comp=Z,18nm,1.0s
BW06 **Boulder Array** 89.53 43 P P 08 58 06.0 +0.4
baz=240,SNR=18
PDAR **Pinedale Array** 89.53 43 P P 08 58 06.0 +0.5
comp=Z,10nm,0.9s,baz=208,slow=2.9,SNR=72
PDAR pP pwP 08 59 41.7 +0.3
comp=Z,0.5nm,0.8s,baz=216,slow=4.5,SNR=1.9
PHRA **Phrae** 89.58 290 P P 08 58 08.4 +2.4
YFT **Old Faithful** 89.58 41 *e*P P 08 58 04.8 -1.0
comp=Z,25nm,1.0s
YMR **Madison River** 89.62 41 *e*P P 08 58 04.9 -1.0
comp=Z,27nm,0.9s
BOZ **Bozeman (W)** 89.70 40 *e*P P 08 58 06.4 +0.2
comp=Z,29nm,1.0s
BOZ **Bozeman (W)** 89.70 40 *e*P P 08 58 06.4 +0.2
BOZ pmax pmax
comp=Z,29nm,1.0s
BOZ **Bozeman (W)** 89.70 40 P P 08 58 07.3 +1.1
baz=238,SNR=13
H17A **Grant Village** 89.72 41 *e*P P 08 58 05.4 -1.0
comp=Z,20nm,0.9s
H17A **Grant Village** 89.72 41 P P 08 58 08.4 +2.0
baz=239,SNR=11
YHH **Holmes Hill** 89.75 41 *e*P P 08 58 06.8 +0.1
comp=Z,25nm,1.2s
YNR **Norris Junctio** 89.82 41 *e*P P 08 58 07.4 +0.6
comp=Z,30nm,1.4s
SDCO **Great Sand Dun** 89.83 49 *e*P P 08 58 07.1 0.0
comp=Z,20nm,1.5s
SDCO **Great Sand Dun** 89.83 49 P P 08 58 07.7 +0.6
baz=242,SNR=17
KMI **Kunming** 90.03 297 P P 08 58 09.5 +1.2
KMI pmax pmax
comp=Z,22nm,0.5s
BILL **Bilibino** 90.07 354 *e*P P 08 58 06.5 -0.6
comp=Z,6.5nm,0.9s
BILL **Bilibino** 90.07 354 ⇑*i*P P 08 58 06.8 -0.3
BILL pmax pmax
comp=Z,5.0nm,0.9s
LAMP **Lampang** 90.11 290 P P 08 58 11.5 +3.0
MSTX **Muleshoe** 90.11 53 *e*P P 08 58 08.4 0.0
comp=Z,23nm,0.9s
MSTX **Muleshoe** 90.11 53 P P 08 58 09.0 +0.7
baz=244
HRY **Holter Researc** 90.17 39 *e*P P 08 58 08.5 +0.2
PRP **Porcupine Dome** 90.18 13 *e*P P 08 58 07.2 -0.7
comp=Z,14nm,1.0s
PAYA **Payao** 90.22 291 P P 08 58 11.5 +2.5
HHC **Hu-ho-hao-te** 90.24 314 *e*P P 08 58 09.3 +0.6
HHC S S 09 08 32.3 +4.9
HHC pmax pmax
comp=Z,65nm,1.2s
HHC pmax pmax
comp=Z,210nm,6.7s
WALA **Waterton Lakes** 90.25 36 *e*P P 08 58 08.2 -0.4
comp=Z,14nm,1.0s
T25A **Trinidad** 90.32 50 *e*P P 08 58 08.7 -0.6
comp=Z,14nm,1.2s
T25A **Trinidad** 90.32 50 P P 08 58 10.0 +0.6
baz=243,SNR=6.4
833A **Chaparral WMA,** 90.35 60 *e*P P 08 58 09.6 +0.2
comp=Z,28nm,1.1s
833A **Chaparral WMA,** 90.35 60 P P 08 58 10.3 +1.0
baz=246
DAWY **Dawson** 90.36 16 *e*P P 08 58 07.5 -1.2
comp=Z,14nm,0.8s
EGAK **Eagle** 90.52 15 *e*P P 08 58 09.2 0.0
comp=Z,20nm,1.0s
RWWY **Rawlins** 90.52 45 *e*P P 08 58 10.3 +0.1
comp=Z,29nm,1.1s
Q24A **Divide** 90.63 48 P P 08 58 11.4 +0.5
baz=243
CM31 **Chiang Mai Arr** 90.69 289 *e*P P 08 58 10.9 -0.2
comp=Z,21nm,0.9s
CMAR **Chiang Mai Arr** 90.69 289 P P 08 58 12.1 +0.9
comp=Z,4.6nm,0.4s,baz=124,slow=2.8,SNR=32
CMAR pP pP 08 59 46.4 +2.2
comp=Z,1.4nm,0.3s,baz=207,slow=35,SNR=2.3
ISCO **Idaho Springs** 90.70 47 *e*P P 08 58 11.1 0.0
comp=Z,10nm,1.8s
ISCO **Idaho Springs** 90.70 47 *e*P P 08 58 11.1 0.0
ISCO pmax pmax
comp=Z,11nm,1.8s
ISCO **Idaho Springs** 90.70 47 P P 08 58 11.8 +0.6
baz=242
CMMT **Chiang Mai** 90.82 290 P P 08 58 14.1 +2.3
CHTO **Chiang Mai** 90.82 290 *e*P P 08 58 11.8 0.0
comp=Z,25nm,1.1s
CHTO **Chiang Mai** 90.82 290 *e*P P 08 58 11.8 0.0
CHTO pmax pmax
comp=Z,25nm,1.1s
COLD **Coldfoot** 90.83 10 *e*P P 08 58 10.6 0.0
comp=Z,7.1nm,1.0s
RLMT **Red Lodge** 90.89 41 *e*P P 08 58 11.9 +0.1
comp=Z,16nm,1.0s
RLMT **Red Lodge** 90.89 41 P P 08 58 13.0 +1.2
baz=240,SNR=20
JCT **Junction City** 90.91 58 P P 08 58 12.5 +0.5
baz=246
GCMT **Greycliff** 90.98 40 *e*P P 08 58 12.6 +0.5
N23A **Red Feather La** 90.98 46 *e*P P 08 58 12.3 -0.1
comp=Z,10.0nm,1.0s
N23A **Red Feather La** 90.98 46 P P 08 58 13.1 +0.7
baz=242,SNR=9.8
AMTX **Amarillo** 91.32 53 P P 08 58 14.3 +0.4
baz=245
K22A **Casper** 91.42 44 *e*P P 08 58 14.3 0.0
comp=Z,22nm,1.0s
K22A **Casper** 91.42 44 P P 08 58 14.9 +0.6
baz=242,SNR=13
PHWY **Pilot Hill** 91.50 46 *e*P P 08 58 14.8 +0.1
comp=Z,6.1nm,1.0s
CD2 **Chengdu** 91.55 303 *e*P P 08 58 15.0 +0.1
ABTX **Abilene, Hawle** 91.92 56 *e*P P 08 58 16.5 -0.1
comp=Z,32nm,1.3s
ABTX **Abilene, Hawle** 91.92 56 P P 08 58 17.2 +0.6
baz=246
EGMT **Eagleton** 92.05 39 *e*P P 08 58 17.0 +0.1
comp=Z,9.3nm,1.0s
EGMT **Eagleton** 92.05 39 P P 08 58 17.3 +0.4
baz=240
TOLK **Toolik Lake Re** 92.21 10 *e*P P 08 58 17.0 -0.1
comp=Z,20nm,1.8s
TOLK **Toolik Lake Re** 92.21 10 P P 08 58 18.0 +0.9
baz=206
KSCO **Kaye Shedlock'** 92.41 49 *e*P P 08 58 19.0 +0.2
comp=Z,37nm,1.1s
KSCO **Kaye Shedlock'** 92.41 49 P P 08 58 19.8 +0.9
baz=244
435B **Jarrell** 92.78 58 *e*P P 08 58 21.2 +0.6
comp=Z,16nm,0.9s
435B **Jarrell** 92.78 58 P P 08 58 21.4 +0.8
baz=247
EPYK **Eagle Plains** 92.89 15 *e*P P 08 58 19.8 -0.5
comp=Z,9.2nm,0.9s
EPYK **Eagle Plains** 92.89 15 P P 08 58 20.1 -0.2
baz=218
WHTX **Lake Whitney,** 93.36 57 P P 08 58 23.5 +0.3
baz=247
LAO **LASA Array** 93.51 41 *e*P P 08 58 24.2 +0.6
comp=Z,13nm,0.8s
LAO **LASA Array** 93.51 41 P P 08 58 24.7 +1.1
baz=242
LZH **Lanzhou** 93.58 307 *e*P P 08 58 24.5 +0.2
LZH sP sP 09 00 42.8 +3.8
LZH pmax pmax
comp=Z,16nm,1.0s
RSSD **Black Hills** 93.71 44 *e*P P 08 58 24.2 -0.6
comp=Z,20nm,1.0s
RSSD **Black Hills** 93.71 44 *e*P P 08 58 24.2 -0.6

RSSD					pmax	pmax		
	comp=Z,20nm,1.0s							
RSSD	**Black Hills**	**93.71**	**44**	P		**P**	**08 58 25.1**	**+0.3**
	baz=244							
CBKS	**Cedar Bluff**	**94.37**	**50**	P		**P**	**08 58 28.1**	**+0.3**
	baz=246							
INK	**Inuvik**	**95.18**	**15**	*e*P		**P**	**08 58 29.8**	**-0.8**
	comp=Z,7.1nm,1.2s							
INK	**Inuvik**	**95.18**	**15**	P		**P**	**08 58 29.8**	**-0.8**
	comp=Z,5.0nm,1.1s,baz=218,slow=3.0,SNR=11							
DGMT	**Dagmar**	**95.54**	**40**	*e*P		**P**	**08 58 32.9**	**+0.2**
	comp=Z,17nm,0.9s							
DGMT	**Dagmar**	**95.54**	**40**	P		**P**	**08 58 33.5**	**+0.7**
	baz=244							
BGNE	**Belgrade**	**96.52**	**48**	P		**P**	**08 58 37.9**	**+0.6**
	baz=247							
SONA0	**Songino Array**	**96.68**	**319**	*e*P		**P**	**08 58 36.0**	**-2.1**
SONM	**Songino Array**	**96.68**	**319**	P		**P**	**08 58 36.0**	**-2.1**
SONM	**Songino Array**	**96.68**	**319**	P		**P**	**08 58 36.0**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=108,slow=4.7,SNR=3.1							
YKA	**Yellowknife Ar**	**97.33**	**25**	P		**P**	**08 58 39.3**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=239,slow=4.2,SNR=13							
YKB5	**Yellowknife Ar**	**97.33**	**25**	*e*P		**P**	**08 58 39.4**	**-1.0**
ECSD	**EROS Data Cent**	**98.45**	**46**	P		**P**	**08 58 46.3**	**+0.4**
	baz=248							
TIXI	**Tiksi**	**99.79**	**345**	⇑*i*P		**Pdif**	**08 58 50.7**	**-0.5**
TIXI					pmax	pmax		
	comp=Z,2.0nm,1.2s							
LPAZ	**La Paz**	**101.44**	**113**	Pdiff		**Pdif**	**08 59 03.9**	**+3.3**
	comp=Z,1.2nm,0.8s,baz=162,slow=6.4,SNR=5.8							
WVT	**Waverly**	**102.28**	**56**	P		**Pdif**	**08 59 03.5**	**+0.4**
	baz=252							
ZALV	**Zalesovo Beam**	**111.44**	**321**	*i* PKIKP		**PKiKP**	**09 03 38.0**	**-1.2**
ZALV	**Zalesovo Beam**	**111.44**	**321**	PKiKP		**PKiKP**	**09 03 38.0**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=132,slow=2.2,SNR=4.6							
ZAA1	**Zalesovo Array**	**111.44**	**321**	*e*PKiKP		**PKiKP**	**09 03 38.0**	**-1.2**
MK32	**Makanchi Array**	**112.07**	**313**	*e*PKiKP		**PKiKP**	**09 03 39.3**	**-1.3**
MKAR	**Makanchi Array**	**112.07**	**313**	PKiKP		**PKiKP**	**09 03 39.3**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=74,slow=1.7,SNR=14							
KURK	**Kurchatov**	**114.91**	**317**	*e*PKPdf		PKPdf	09 03 44.4	-1.5
KURK	**Kurchatov**	**114.91**	**317**	*e*PKIKP		PKPdf	09 03 44.4	-1.5
KURBB	**Kurchatov Arra**	**114.96**	**317**	PKP		PKPdf	09 03 44.6	-1.4
	comp=Z,2.5nm,0.9s,baz=102,slow=1.9,SNR=16							
KSH	**Kashi**	**115.67**	**305**	PKP		**PKiKP**	**09 03 48.5**	**+0.6**
KSH				PP		**PP**	**09 05 02.5**	**+4.6**
KSH				sPKP			09 06 08.8	
KSH				SKS		**SKSdf**	**09 10 19.5**	**-1.4**
KSH				SS		**SS**	**09 20 30.5**	**+4.2**
KSH				AMB		AMB		
	comp=Z,270nm,4.7s							
NRN	**Naryn**	**115.88**	**307**	*e*PKPdf		**PKPdf**	**09 03 47.3**	**-1.2**
NRN	**Naryn**	**115.88**	**307**	*e*PKIKP		**PKPdf**	**09 03 47.3**	**-1.2**
AAK	**Ala-Archa**	**117.12**	**308**	*e*PKPdf		**PKPdf**	**09 03 49.7**	**-1.0**
FRB	**Frobisher Bay**	**117.56**	**28**	PKP		**PKPdf**	**09 03 49.6**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=319,slow=2.3,SNR=6.0							
BDFB	**Brasilia**	**118.39**	**123**	PKP		**PKPdf**	**09 03 52.9**	**-0.9**
	comp=Z,2.0nm,0.4s,baz=288,slow=4.0,SNR=3.7							
GAR	**Garm**	**119.99**	**303**	*e*PKPdf		**PKPdf**	**09 03 55.0**	**-1.3**
BVAR	**Borovoye Array**	**120.01**	**320**	PKP		**PKPdf**	**09 03 54.6**	**-1.1**
	comp=Z,3.1nm,0.3s,baz=120,slow=2.7,SNR=28							
KKAR	**Karatay Array**	**120.07**	**308**	*e*PKPdf		**PKPdf**	**09 03 55.0**	**-1.2**
KKAR	**Karatay Array**	**120.07**	**308**	*e*PKIKP		**PKPdf**	**09 03 55.0**	**-1.2**
BRVK	**Borovoye**	**120.08**	**320**	*e*PKPdf		**PKPdf**	**09 03 54.9**	**-0.9**
BRVK	**Borovoye**	**120.08**	**320**	⇓*i*PKIKP		**PKPdf**	**09 03 55.5**	**-0.3**
CHGR	**Chuyangaron**	**120.86**	**303**	*e*PKPdf		**PKPdf**	**09 03 57.9**	**0.0**
SPA0	**Spitsbergen Ar**	**122.89**	**357**	*e*PKPdf		**PKPdf**	**09 03 59.3**	**-1.3**
SPITS	**Spitsbergen Ar**	**122.89**	**357**	PKP		**PKPdf**	**09 03 59.8**	**-0.8**
	comp=Z,15nm,0.8s,baz=52,slow=6.7,SNR=16							
DAG	**Danmarks Havn**	**123.72**	**6**	*i* PKIKP		**PKPdf**	**09 04 00.6**	**-1.5**
DAG					pmax	pmax		
	comp=Z,4.0nm,0.8s							
DAG	**Danmarks Havn**	**123.72**	**6**	*i* P		**PKPdf**	**09 04 00.6**	**-1.5**
	comp=Z,4.8nm,0.8s							
SUMG	**Summit**	**124.08**	**14**	*e*PKPdf		**PKPdf**	**09 04 03.1**	**-0.3**
SUMG	**Summit**	**124.08**	**14**	*i* PKIKP		**PKPdf**	**09 04 03.3**	**-0.1**
SUMG					pmax	pmax		
	comp=Z,41nm,1.1s							
SUMG	**Summit**	**124.08**	**14**	*i* P		**PKPdf**	**09 04 03.3**	**-0.1**
	comp=Z,41nm,1.1s							
BOSA	**Boshof**	**125.45**	**205**	PKP		**PKiKP**	**09 04 07.7**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=178,slow=3.6,SNR=5.1							
ARU	**Arti**	**126.18**	**325**	*e*PKPdf		**PKPdf**	**09 04 06.3**	**-1.1**
ARU	**Arti**	**126.18**	**325**	PKP		**PKPdf**	**09 04 07.1**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=105,slow=1.6,SNR=15							
ABKAR	**Akbulak array**	**126.99**	**316**	*e*PKPdf		**PKPdf**	**09 04 08.0**	**-1.1**
AKTO	**Aktyubinsk**	**127.99**	**318**	PKP		**PKPdf**	**09 04 10.5**	**-0.6**
	comp=Z,2.3nm,0.4s,baz=84,slow=1.9,SNR=12							
ARCES	**ARCESS Array B**	**129.96**	**350**	PKP		**PKPdf**	**09 04 13.6**	**-0.7**
	comp=Z,4.9nm,0.6s,baz=51,slow=1.0,SNR=30							
ARCES				pPKP		**pPKPdf**	**09 05 54.2**	**+1.8**
	comp=Z,3.1nm,0.9s,baz=54,slow=8.2,SNR=3.0							
PRGR	**Permogore**	**130.07**	**335**	*e*PKIKP		**PKPdf**	**09 04 11.2**	**-3.4**
PRGR					pmax	pmax		
	comp=Z,5.0nm,0.4s							
KLMR	**Klimovskoe**	**132.91**	**336**	*e*PKIKP		**PKPdf**	**09 04 18.9**	**-1.1**
KLMR					pmax	pmax		
	comp=Z,15nm,1.3s							
FIA1	**FINESS Array S**	**136.81**	**344**	*e*PKPdf		**PKPdf**	**09 04 26.3**	**-1.0**
FIA0	**FINESS Array S**	**136.81**	**344**	*e*PKPpre		PKPpre	09 04 19.3	
FIA0				*e*PKPdf		**PKPdf**	**09 04 27.2**	**0.0**
FIA0	**FINESS Array S**	**136.81**	**344**	*e*PKHKP		PKPpre	09 04 19.3	
FIA0				*e*			09 04 27.2	
FINES	**FINESS Array B**	**136.81**	**344**	PKhKP		PKPpre	09 04 19.3	
	comp=Z,0.9nm,0.5s,baz=81,slow=3.3,SNR=4.9							
FINES				PKP		**PKPdf**	**09 04 27.2**	**0.0**
	comp=Z,4.6nm,0.8s,baz=343,slow=2.0,SNR=11							
OBN	**Obninsk**	**137.76**	**331**	*i* PKIKP		**PKPdf**	**09 04 27.2**	**-2.0**
OBN				*e*			09 07 20.4	
OBN					pmax	pmax		
	comp=Z,16nm,1.2s							
VSR	**Storozhevoye**	**138.75**	**325**	⇑*i*PKIKP		**PKiKP**	**09 04 33.3**	**-0.1**
GNI	**Garni**	**139.52**	**307**	⇑*i*PKIKP		**PKPdf**	**09 04 33.6**	**+0.4**
NC303	**NORSAR Array S**	**139.82**	**353**	*e*PKPpre		PKPpre	09 04 25.0	
NB201	**NORSAR Array S**	**140.00**	**353**	*e*PKPpre		PKPpre	09 04 26.1	
NB2	**NORSAR Subarra**	**140.01**	**353**	PKP		PKPpre	09 04 25.3	
	comp=Z,3.9nm,1.1s,baz=20,slow=3.8							
NB200	**NORSAR Array S**	**140.01**	**353**	*e*PKPpre		PKPpre	09 04 25.4	
NB200				*e*PKPdf		**PKPdf**	**09 04 33.1**	**-0.1**
NB200				*e*PP		**PP**	**09 07 35.7**	**+1.0**
NOA	**NORSAR Array B**	**140.01**	**353**	PKhKP		PKPpre	09 04 25.4	
	comp=Z,0.8nm,0.7s,baz=21,slow=5.2,SNR=5.3							
NOA				PKP		**PKPdf**	**09 04 33.1**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=14,slow=4.1,SNR=7.3							
NOA				PP		**PP**	**09 07 35.7**	**+1.0**
	comp=Z,2.3nm,1.1s,baz=15,slow=3.7,SNR=3.6							
SHEL	**Horse Pasture**	**141.94**	**167**	*i* PKIKP		**PKPdf**	**09 04 37.8**	**-0.3**
KAC	**Achnashellach**	**143.63**	**7**	*e*P		PKPab	09 04 37.5	-0.4
MCD	**Coleburn Disti**	**143.75**	**5**	*e*P		PKPab	09 04 37.6	-0.7
KPL	**Plockton**	**143.75**	**7**	*e*P		PKPab	09 04 37.9	-0.4
SUW	**Suwalki**	**143.87**	**339**	*e*PKP		PKPab	09 04 38.5	-0.4
SUW	**Suwalki**	**143.87**	**339**	*e*PKPdf		PKPab	09 04 38.1	-0.7
SUW	**Suwalki**	**143.87**	**339**	*e*PKIKP		PKPab	09 04 38.5	-0.3
AKASG	**Malin Array Be**	**144.02**	**331**	PKP		PKPbc	09 04 38.1	-1.3
	comp=Z,12nm,0.7s,baz=40,slow=4.6,SNR=64							
AKASG				pPKP		pPKPdf	09 06 17.1	-1.8
	comp=Z,1.4nm,0.4s,baz=38,slow=3.7,SNR=2.0							
AKBB	**Malin Array Si**	**144.02**	**331**	*e*PKPdf		PKPbc	09 04 38.1	-1.4
AKBB	**Malin Array Si**	**144.02**	**331**	*e*PKIKP		PKPbc	09 04 38.1	-1.4
KIEV	**Kiev**	**144.03**	**331**	*e*PKPdf		PKPbc	09 04 37.9	-1.6
KIEV	**Kiev**	**144.03**	**331**	⇑*i*P		PKPbc	09 04 38.5	-1.0
KIEV	**Kiev**	**144.03**	**331**	⇑PKIKP		PKPbc	09 04 38.5	-1.0
DRUM	**Mains of Drumt**	**144.47**	**4**	*e*P		PKPbc	09 04 38.9	-1.9
MBAR	**Mbarara**	**144.56**	**235**	*e*PKPbc		**PKPdf**	**09 04 43.0**	**+0.1**
MBAR	**Mbarara**	**144.56**	**235**	*e*PKIKP		**PKPdf**	**09 04 43.0**	**+0.1**
MUD	**Monsted U'grnd**	**144.73**	**353**	*i* PKIKP		PKPbc	09 04 41.1	-0.5
MUD					pmax	pmax		
	comp=Z,76nm,0.9s							
MUD	**Monsted U'grnd**	**144.73**	**353**	*i* P		PKPbc	09 04 41.1	-0.5
	comp=Z,76nm,0.9s							
EDU	**Dundee**	**144.80**	**5**	*e*P		**PKPdf**	**09 04 41.5**	**-0.3**
INVG	**Invergeldie, C**	**144.82**	**6**	*e*P		**PKPdf**	**09 04 41.0**	**-0.8**
LAWE	**Loch Awe, Argy**	**144.84**	**7**	*e*P		**PKPdf**	**09 04 39.5**	**-2.3**
COP	**Copenhagen**	**145.04**	**350**	*e*PKIKP		**PKPdf**	**09 04 42.2**	**0.0**
COP	**Copenhagen**	**145.04**	**350**	*i* P		**PKPdf**	**09 04 42.2**	**0.0**
BSD	**Bornholm Skovb**	**145.13**	**347**	*i* PKIKP		**PKPdf**	**09 04 42.5**	**+0.2**
BSD					pmax	pmax		
	comp=Z,92nm,1.0s							
BSD	**Bornholm Skovb**	**145.13**	**347**	*i* P		**PKPdf**	**09 04 42.5**	**+0.2**
	comp=Z,92nm,1.0s							
SEVA	**Sevastopol**	**145.41**	**319**	⇑*i*P		**PKPbc**	**09 04 44.0**	**-0.1**
EBL	**Broad Law**	**145.56**	**5**	*e*P		**PKPbc**	**09 04 43.8**	**-0.4**
SNOP	**Sinop**	**145.64**	**314**	*e*PKPdf		**PKPdf**	**09 04 43.0**	**-0.7**
DIKM	**Dikmen**	**145.77**	**314**	⇑*i*P		**PKPbc**	**09 04 45.4**	**+0.2**
ESK	**Eskdalemuir**	**146.00**	**6**	*i* PKP2		**PKPbc**	**09 04 45.5**	**+0.1**
GAL1	**Galloway**	**146.28**	**7**	*e*P		**PKPdf**	**09 04 45.3**	**+1.0**
BEL	**Belsk**	**146.49**	**339**	*e*PKP		**PKPbc**	**09 04 47.0**	**+0.1**
BEL	**Belsk**	**146.49**	**339**	*e*PKP2		**PKPbc**	**09 04 47.0**	**+0.1**
EDMD	**Edmundbyers**	**146.58**	**4**	*e*P		**PKPbc**	**09 04 46.4**	**-0.7**
KIS	**Kishinev**	**146.72**	**326**	*e*P		**PKPdf**	**09 04 46.0**	**+0.7**
KIS	**Kishinev**	**146.72**	**326**	*e*PKIKP		**PKPdf**	**09 04 46.0**	**+0.7**
KIS				*e*			09 06 24.0	
LVV	**L'vov**	**146.93**	**334**	*e*PKP2		**PKPbc**	**09 04 48.0**	**-0.2**
WIM	**Isle of Man**	**147.00**	**8**	*e*P		**PKPbc**	**09 04 48.0**	**-0.3**
ILGA	**Ilgaz**	**147.07**	**313**	*e*PKPbc		**PKPbc**	**09 04 49.2**	**0.0**
LEOM	**Leova**	**147.36**	**326**	⇓*i*P		**PKPdf**	**09 04 47.1**	**+0.7**
LEOM	**Leova**	**147.36**	**326**	⇓PKIKP		**PKPdf**	**09 04 47.1**	**+0.7**
HPK	**Haverah Park**	**147.47**	**4**	*e*P		**PKPbc**	**09 04 49.1**	**-0.4**
KWP	**Kalwaria Pacla**	**147.60**	**335**	*e*PKP		**PKPbc**	**09 04 50.3**	**+0.3**
KWP	**Kalwaria Pacla**	**147.60**	**335**	*e*PKPbc		**PKPbc**	**09 04 50.2**	**+0.2**
KWP	**Kalwaria Pacla**	**147.60**	**335**	*e*PKP2		**PKPbc**	**09 04 50.3**	**+0.3**
BR101	**Keskin Array S**	**147.70**	**311**	*e*PKPbc		**PKPbc**	**09 04 50.1**	**-0.7**
BR101				*ep*PKPdf		**pPKPdf**	**09 06 26.7**	**+0.8**
BR131	**Keskin Array S**	**147.70**	**311**	*e*PKPdf		**PKPdf**	**09 04 46.2**	**-1.2**
BR131				*e*PKPbc		**PKPbc**	**09 04 50.6**	**-0.2**
BRTR	**Keskin Array B**	**147.70**	**311**	PKPbc		**PKPbc**	**09 04 50.1**	**-0.7**
	comp=Z,13nm,0.8s,baz=138,slow=3.2,SNR=41							
BRTR				pPKPbc		**pPKPdf**	**09 06 26.7**	**+0.8**
	comp=Z,5.3nm,1.2s,baz=100,slow=1.6,SNR=3.6							
PRAR	**RASCA**	**147.77**	**329**	⇑*i*P		**PKPbc**	**09 04 51.3**	**+0.8**
WLF1	**Llynfaes**	**147.87**	**8**	*e*P		**PKPbc**	**09 04 49.8**	**-0.8**
LBWR	**Ladybower, Pea**	**148.02**	**5**	*e*P		**PKPbc**	**09 04 50.8**	**-0.2**
BURAR	**Bucovina Array**	**148.06**	**330**	⇓*i*P		**PKPbc**	**09 04 51.6**	**+0.2**
BURAR	**Bucovina Array**	**148.06**	**330**	⇓PKP2		**PKPbc**	**09 04 51.6**	**+0.2**
BIZ	**Bicaz**	**148.12**	**328**	⇑*i*P		**PKPbc**	**09 04 52.1**	**+0.6**
TESR	**Tescani**	**148.15**	**327**	⇑*i*P		**PKPbc**	**09 04 51.5**	**0.0**
OJC	**Ojcow**	**148.19**	**338**	*e*PKP		**PKPbc**	**09 04 51.7**	**+0.2**
OJC	**Ojcow**	**148.19**	**338**	*e*PKPdf		**PKPdf**	**09 04 47.3**	**-0.4**
OJC				*e*PKPbc		**PKPbc**	**09 04 51.8**	**+0.2**
OJC	**Ojcow**	**148.19**	**338**	*e*PKIKP		**PKPdf**	**09 04 47.3**	**-0.4**
CFR	**Carcaliu**	**148.25**	**324**	⇑*i*P		**PKPbc**	**09 04 51.3**	**-0.5**
CFR	**Carcaliu**	**148.25**	**324**	⇑PKP2		**PKPbc**	**09 04 51.3**	**-0.5**
KOLS	**Kolonicke sedl**	**148.33**	**335**	*e*PKP2		**PKPbc**	**09 04 52.4**	**+0.5**
KOLS	**Kolonicke sedl**	**148.33**	**335**	*e*PKP		**PKPbc**	**09 04 52.4**	**+0.5**
KOLS				*e*			09 04 57.1	
FOEL	**Foel Wylfa**	**148.40**	**6**	*e*P		**PKPbc**	**09 04 51.5**	**-0.4**
VRI	**Vrincioaia**	**148.55**	**326**	⇑*i*P		**PKPbc**	**09 04 51.9**	**-0.7**
VRI	**Vrincioaia**	**148.55**	**326**	⇑PKP2		**PKPbc**	**09 04 51.9**	**-0.7**
UZH	**Uzhgorod**	**148.56**	**334**	*c* PKP2		**PKPbc**	**09 04 52.7**	**+0.2**
PLOR	**Plostina**	**148.60**	**326**	⇑*i*P		**PKPbc**	**09 04 52.4**	**-0.3**
PLOR	**Plostina**	**148.60**	**326**	⇑PKP2		**PKPbc**	**09 04 52.4**	**-0.3**
HARR	**Harsova**	**148.67**	**324**	⇑*i*P		**PKiKP**	**09 04 53.6**	**-0.4**
HARR	**Harsova**	**148.67**	**324**	⇑PKP2		**PKiKP**	**09 04 53.6**	**-0.4**
TLB	**Topalu**	**148.68**	**323**	⇑*i*P		**PKPbc**	**09 04 52.7**	**-0.2**
TLB	**Topalu**	**148.68**	**323**	⇑PKP2		**PKPbc**	**09 04 52.7**	**-0.2**
NIE	**Niedzica**	**148.69**	**337**	*e*PKP		**PKiKP**	**09 04 53.6**	**-0.4**
NIE	**Niedzica**	**148.69**	**337**	*e*PKP2		**PKiKP**	**09 04 53.6**	**-0.4**
KSP	**Ksiaz**	**148.73**	**343**	*e*PKP		**PKPbc**	**09 04 53.4**	**+0.6**
KSP	**Ksiaz**	**148.73**	**343**	*e*PKP2		**PKPbc**	**09 04 53.4**	**+0.6**
TRPA	**Tarpa**	**148.86**	**333**	⇑*i*P		**PKPbc**	**09 04 52.6**	**-0.6**
TRPA	**Tarpa**	**148.86**	**333**	⇓*e*P		**PKPbc**	**09 04 52.1**	**-1.1**
MDUB	**Mudurnu**	**149.03**	**314**	*e*PKPdf		**PKPdf**	**09 04 48.4**	**-1.1**
MDUB				*e*PKPbc		**PKPbc**	**09 04 53.9**	**-0.2**
OKC	**Ostrava-Krasne**	**149.07**	**340**	*e*PKP2		**PKPbc**	**09 04 53.8**	**+0.1**
OKC	**Ostrava-Krasne**	**149.07**	**340**	⇑*e*PKP		**PKPbc**	**09 04 53.8**	**+0.1**
OKC				*e*PKPAB		**PKPab**	**09 04 59.5**	**+0.1**
CLL	**Collm**	**149.10**	**347**	*e*PKPdf		**PKPdf**	**09 04 48.8**	**-0.3**
CLL				*e*PKPbc		**PKPbc**	**09 04 54.1**	**+0.3**
CLL	**Collm**	**149.10**	**347**	*e*PKPdf		**PKPdf**	**09 04 49.0**	**-0.1**
CLL				⇓*i*PKPbc		**PKPbc**	**09 04 53.4**	**-0.3**
	comp=Z,54nm,1.0s							
CLL				*i* PKPab		**PKPab**	**09 04 59.1**	**-0.4**
	comp=Z,36nm,0.9s							
CLL				*ep*PKPab		**pPKPbc**	**09 06 32.0**	**+0.7**
UPC	**Upice**	**149.11**	**343**	*e*PKP2		**PKPbc**	**09 04 54.1**	**+0.3**
UPC	**Upice**	**149.11**	**343**	⇑*e*PKP		**PKPbc**	**09 04 54.1**	**+0.3**
UPC				*e*PKPAB		**PKPab**	**09 04 58.3**	**-1.3**
DOPR	**Dopca**	**149.16**	**328**	⇑*i*P		**PKPbc**	**09 04 54.1**	**0.0**
DPC	**Dobruska-Polom**	**149.17**	**342**	*e*PKPDF		**PKPdf**	**09 04 49.5**	**+0.2**
DPC				⇑*e*PKP		**PKPbc**	**09 04 54.5**	**+0.5**
MLR	**Muntele Rosu**	**149.21**	**327**	*e*PKPdf		**PKPdf**	**09 04 49.0**	**-0.6**
MLR				*e*PKPbc		**PKPbc**	**09 04 54.4**	**0.0**
MLR	**Muntele Rosu**	**149.21**	**327**	⇑*i*P		**PKPdf**	**09 04 50.3**	**+0.7**
LANS	**Liptovska Anna**	**149.21**	**338**	*e*PKP2		**PKiKP**	**09 04 54.9**	**-0.2**
LANS	**Liptovska Anna**	**149.21**	**338**	*e*PKP		**PKiKP**	**09 04 54.9**	**-0.2**
LANS				*e*			09 05 02.3	
KRLC	**Kraliky**	**149.28**	**342**	*e*PKP2		**PKPbc**	**09 04 54.8**	**+0.5**
KRLC	**Kraliky**	**149.28**	**342**	⇑*e*PKP		**PKPbc**	**09 04 54.8**	**+0.5**
MCH1	**Michaelchurch**	**149.30**	**6**	*e*P		**PKPbc**	**09 04 53.4**	**-0.7**
BRG	**Berggiesshubel**	**149.30**	**345**	*e*PKP		**PKPdf**	**09 04 49.7**	**+0.3**
	comp=Z,14nm,1.5s							
BRG	**Berggiesshubel**	**149.30**	**345**	*i* PKP		**PKPbc**	**09 04 54.3**	**+0.1**
	comp=Z,72nm,1.5s							
BRG	**Berggiesshubel**	**149.30**	**345**	*i* PKP		**PKPab**	**09 04 59.6**	**-0.7**
	comp=Z,25nm,0.9s							
BRG				*ep*PKP		**pPKPbc**	**09 06 30.9**	**-0.9**
	comp=Z,28nm,1.7s							
MORC	**Moravsky Berou**	**149.31**	**340**	*e*PKPdf		**PKPdf**	**09 04 49.4**	**-0.1**
MORC				*e*PKPbc		**PKPbc**	**09 04 55.0**	**+0.6**
MORC	**Moravsky Berou**	**149.31**	**340**	⇑*i*P		**PKPbc**	**09 04 54.6**	**+0.2**
MORC	**Moravsky Berou**	**149.31**	**340**	⇑PKP2		**PKPbc**	**09 04 54.6**	**+0.2**
MORC	**Moravsky Berou**	**149.31**	**340**	*e*PKP		**PKPbc**	**09 04 54.7**	**+0.3**
SECR		**149.45**	**326**	⇑*i*P		**PKPbc**	**09 04 54.6**	**-0.2**
PVCC	**Panska Ves**	**149.47**	**344**	*e*PKP2		**PKPbc**	**09 04 55.1**	**+0.5**
PVCC	**Panska Ves**	**149.47**	**344**	⇑*e*PKP		**PKPbc**	**09 04 55.1**	**+0.5**
MONM	**Monmouth**	**149.47**	**6**	*e*P		**PKPbc**	**09 04 53.9**	**-0.7**
CJR	**Cluj-Napoca**	**149.48**	**330**	⇓*i*P		**PKPdf**	**09 04 51.1**	**+1.2**
CSS	**Mathiatis**	**149.67**	**303**	*e*PKPdf		**PKPdf**	**09 04 49.2**	**-1.3**
CSS				*e*PKPbc		**PKPbc**	**09 04 55.5**	**-0.2**
VOIR		**149.70**	**327**	⇑*i*P		**PKPbc**	**09 04 55.4**	**-0.1**
SILT	**Sile**	**149.71**	**317**	⇑*i*P		**PKPbc**	**09 04 55.6**	**+0.1**
DRGR		**149.82**	**331**	⇑*i*P		**PKPbc**	**09 04 55.4**	**-0.3**
ARR	**Arges**	**149.96**	**328**	⇓*i*P		**PKPdf**	**09 04 51.6**	**+0.9**
LEF	**Lefka**	**149.96**	**303**	⇑*i*P		**PKPbc**	**09 04 55.8**	**-0.5**
PRU	**Pruhonice**	**149.97**	**344**	*e*PKP		**PKPbc**	**09 04 56.0**	**+0.1**
PRU				*e*PKPAB		**PKPab**	**09 05 02.3**	**-0.9**
GOPC	**GO Pecny, Ondr**	**149.98**	**344**	⇑*e*PKP		**PKPbc**	**09 04 55.7**	**-0.2**
GOPC				*e*PKPAB		**PKPab**	**09 05 01.8**	**-1.4**
VYHS	**Vyhne**	**149.99**	**338**	*e*PKP		**PKPbc**	**09 04 56.4**	**+0.4**
VYHS				*e*			09 05 03.4	
VRAC	**Vranov**	**150.02**	**341**	⇑*i*P		**PKPbc**	**09 04 56.4**	**+0.4**
VRAC	**Vranov**	**150.02**	**341**	*e*PKP		**PKPbc**	**09 04 56.4**	**+0.4**
VRAC				*e*			09 05 03.9	
KLYT	**Kilyos**	**150.04**	**317**	⇑*i*P		**PKPdf**	**09 04 52.8**	**+2.0**
JAVC	**Velka Javorina**	**150.07**	**339**	*e*PKP		**PKiKP**	**09 04 58.3**	**+1.4**
PSZ	**Piszkesteto**	**150.08**	**336**	*e*PKPdf		**PKPdf**	**09 04 50.9**	**0.0**
PSZ				*e*PKPbc		**PKPbc**	**09 04 56.4**	**+0.1**
PSZ	**Piszkesteto**	**150.08**	**336**	⇑*i*P		**PKPbc**	**09 04 56.6**	**+0.3**
PSZ	**Piszkesteto**	**150.08**	**336**	⇑*e*P		**PKPbc**	**09 04 56.0**	**-0.3**
NKC	**Novy Kostel**	**150.24**	**347**	*e*PKIKP		**PKPbc**	**09 04 56.8**	**+0.3**
NKC				*e*			09 05 04.5	
NKC	**Novy Kostel**	**150.24**	**347**	⇑*e*PKP		**PKPbc**	**09 04 56.8**	**+0.3**
NKC				*e*PKPAB		**PKPab**	**09 05 04.5**	**+0.2**
KRUC	**Moravsky**	**150.30**	**341**	*e*PKP		**PKPdf**	**09 04 50.9**	**-0.1**
KRUC				*e*			09 04 56.9	
KRUC				*e*			09 05 04.9	
TREC	**Trest**	**150.35**	**342**	*e*PKIKP		**PKPbc**	**09 04 57.1**	**+0.3**
TREC				*e*			09 05 05.6	
TREC	**Trest**	**150.35**	**342**	⇑*e*PKP		**PKPbc**	**09 04 57.1**	**+0.3**
TREC				*e*PKPAB		**PKPab**	**09 05 05.6**	**+0.8**
MODS	**Modra-Piesok**	**150.62**	**339**	*e*PKIKP		**PKPbc**	**09 04 57.2**	**-0.3**
MODS	**Modra-Piesok**	**150.62**	**339**	*e*PKP		**PKPbc**	**09 04 57.2**	**-0.3**
SIRR	**Siria**	**150.69**	**332**	⇑*i*P		**PKPbc**	**09 04 57.9**	**+0.2**
MEM	**Membach**	**150.81**	**355**	⇓PKPdf		**PKPdf**	**09 04 52.5**	**+0.7**
MEM				⇓PKPbc		**PKPbc**	**09 04 57.6**	**-0.2**
GZR	**Gura Zlata**	**150.84**	**330**	⇑*i*P		**PKPbc**	**09 04 57.5**	**-0.6**
GZR	**Gura Zlata**	**150.84**	**330**	⇑PKIKP		**PKPbc**	**09 04 57.5**	**-0.6**
KHC	**Kasperske Hory**	**151.01**	**345**	*e*PKPdf		**PKPdf**	**09 04 52.0**	**-0.2**
KHC				*e*PKPbc		**PKPbc**	**09 04 58.7**	**+0.3**
KHC				*e*PKPab		**PKPab**	**09 05 08.3**	**+0.8**
KHC	**Kasperske Hory**	**151.01**	**345**	*e*PKIKP		**PKPdf**	**09 04 51.9**	**-0.3**
KHC				*e*			09 05 08.3	
KHC	**Kasperske Hory**	**151.01**

MTVR S S 09 01 09.9 -0.5
PET Petropavlovsk 3.28 108 *e*P P 09 00 01.6 -0.4
PET Petropavlovsk 3.28 108 *e*P P 09 00 01.9 -0.2
PET Petropavlovsk 3.28 108κ *i*P P 09 00 01.6 -0.4
PET *e*S S 09 01 08.6 -1.5
PET pmax pmax
comp=Z,400nm,1.3s
PET pmax pmax
comp=Z,294nm,0.5s
PET smax smax
comp=E,300nm,2.1s
PET smax smax
comp=N,200nm,1.4s
PET smax smax
comp=N,106nm,0.6s
PET smax smax
comp=E,104nm,0.7s
SMAR Somma 3.28 104 *e*P P 09 00 02.3 0.0
SMAR Somma 3.28 104 P P 09 00 02.3 0.0
UGLR Uglovaya 3.31 105 *e*P P 09 00 02.4 0.0
UGLR Uglovaya 3.31 105 P P 09 00 02.4 0.0
SDLR Sedlovina 3.32 103 *e*P P 09 00 02.2 -0.3
SDLR Sedlovina 3.32 103 P P 09 00 02.2 -0.3
DALK Dalny 3.33 108 *e*P P 09 00 01.7 -0.7
DALK *e*S S 09 01 09.5 -1.1
DALK Dalny 3.33 108 P P 09 00 01.7 -0.7
DALK S S 09 01 09.5 -1.1
PAU Pauzhetka 3.37 142 *e*P P 09 00 02.4 -0.3
PAU *e*S S 09 01 10.6 -0.5
PAU Pauzhetka 3.37 142 P P 09 00 02.4 -0.3
PAU S S 09 01 10.6 -0.5
RUS Russkaya 3.48 118 *e*P P 09 00 02.0 -1.2
RUS *e*S S 09 01 09.6 -2.6
RUS Russkaya 3.48 118 P P 09 00 02.0 -1.2
RUS S S 09 01 09.6 -2.6
NLC Nalytchevo 3.62 104 *e*P P 09 00 03.5 -0.5
NLC *e*S S 09 01 12.7 -1.0
NLC Nalytchevo 3.62 104 P P 09 00 03.5 -0.5
NLC S S 09 01 12.7 -1.0
KDTR Khodutka, Kamc 3.64 129 *e*P P 09 00 02.4 -1.9
KDTR *e*S S 09 01 08.5 -5.5
KDTR Khodutka, Kamc 3.64 129 P P 09 00 02.4 -1.9
KDTR S S 09 01 08.5 -5.5
SKR Severo-Kuril's 3.84 154 *e*P P 09 00 04.5 -1.1
SKR *e*S S 09 01 15.7 -0.6
SKR Severo-Kuril's 3.84 154 *d i*P P 09 00 04.7 -0.9
TUMR Tumrok 4.01 71 *e*P P 09 00 06.7 +0.1
TUMR Tumrok 4.01 71 P P 09 00 06.4 -0.2
TUMR S S 09 01 19.2 +0.6
SPN Mys Shipunski 4.03 103 *e*P P 09 00 05.1 -1.6
SPN *e*S S 09 01 13.4 -5.2
SPN Mys Shipunski 4.03 103 P P 09 00 05.1 -1.6
SPN S S 09 01 13.4 -5.2
KZV Kizimen 4.06 74 *e*P P 09 00 06.5 -0.5
KZV Kizimen 4.06 74 P P 09 00 06.5 -0.5
KOZ Kozyrevsk 4.12 60 *e*P P 09 00 07.7 +0.5
KOZ Kozyrevsk 4.12 60 P P 09 00 07.7 +0.5
TUMD Tumrok D 4.13 73 *e*P P 09 00 06.4 -1.0
TUMD *e*S S 09 01 19.2 -0.7
SRDR Sredinnyy 4.16 56 *e*P P 09 00 07.9 +0.4
SRDR Sredinnyy 4.16 56 P P 09 00 07.9 +0.4
KIRR Kirishev 4.32 63 *e*P P 09 00 08.5 -0.3
KIRR Kirishev 4.32 63 P P 09 00 08.5 -0.3
BZMR Bezymyannaya 4.39 63 *e*P P 09 00 09.4 +0.2
BZMR Bezymyannaya 4.39 63 P P 09 00 09.4 +0.2
BZWR Bezymyannyi-We 4.40 63 *e*P P 09 00 09.4 0.0
BZWR Bezymyannyi-We 4.40 63 P P 09 00 09.4 0.0
BZGR Bezymyannyi-Gr 4.50 64 *e*P P 09 00 10.2 +0.2
BZGR Bezymyannyi-Gr 4.50 64 P P 09 00 10.2 +0.2
LGNR Loginova 4.55 62 *e*P P 09 00 10.9 +0.4
LGNR Loginova 4.55 62 P P 09 00 10.9 +0.4
CIRR Tsirk 4.59 62 *e*P P 09 00 11.4 +0.7
CIRR Tsirk 4.59 62 P P 09 00 11.4 +0.7
KLY Klyuchi 4.62 59 *e*P P 09 00 11.1 +0.4
KLY Klyuchi 4.62 59 P P 09 00 11.1 +0.4
MKZ Mys Kozlova 4.83 82 *e*P P 09 00 09.6 -2.6
MKZ *e*S S 09 01 24.0 -4.8
MKZ Mys Kozlova 4.83 82 P P 09 00 09.6 -2.6
MKZ S S 09 01 24.0 -4.8
BDR Baidarnaya 5.01 58 *e*P P 09 00 14.1 +0.4
BDR Baidarnaya 5.01 58 P P 09 00 14.1 +0.4
SRKR Sorokina 5.03 57 *e*P P 09 00 14.3 +0.5
SRKR Sorokina 5.03 57 P P 09 00 14.3 +0.5
SMKR Semkarok 5.14 59 *e*P P 09 00 14.5 -0.2
SMKR Semkarok 5.14 59 P P 09 00 14.5 -0.2
MA2 Magadan 5.62 346 *e*P P 09 00 18.3 +0.1
MA2 *e*S S 09 01 39.8 -0.1
MA2 Magadan 5.62 346 P P 09 00 18.2 0.0
MA2 S S 09 01 39.5 -0.4
MA2 Magadan 5.62 346 P P 09 00 17.1 -1.2
comp=E,4.2nm,0.3s,baz=153,slow=7.5,SNR=56
MA2 S S 09 01 40.0 +0.1
comp=E,0.7nm,0.3s,baz=32,slow=22,SNR=14
KBG Krutoberegovo 5.67 65 *e*P P 09 00 15.9 -2.8
KBG *e*S S 09 01 35.7 -4.9
KBG Krutoberegovo 5.67 65 P P 09 00 15.9 -2.8
KBG S S 09 01 35.7 -4.9
KBTR Krutoberegovo 5.71 65 *e*P P 09 00 17.2 -1.9
KBTR Krutoberegovo 5.71 65 P P 09 00 17.2 -1.9
PALN Palana 6.08 33 *e*P P 09 00 22.6 +0.6
PALN Palana 6.08 33 P P 09 00 22.6 +0.6
BKI Bering 7.30 77 *e*P P 09 00 34.4 +1.7
BKI *e*S S 09 02 08.1 +1.9
BKI Bering 7.30 77 P P 09 00 34.4 +1.7
BKI S S 09 02 08.1 +1.9
OSSR Ossora 7.32 42 *e*P P 09 00 33.0 +0.3
OSSR Ossora 7.32 42 P P 09 00 33.0 +0.3
TYV Tymovskoe 7.40 248 *e*P P 09 00 35.0 +1.3
TYV *e*S S 09 02 06.4 -1.5
TYV pmax pmax
comp=Z,212nm,0.8s
TYV pmax pmax
comp=Z,400nm,1.6s
TYV smax smax
comp=E,15nm,1.3s
TYV smax smax
comp=N,400nm,4.0s
NKL Nikolayevsk 7.69 268 *e*P P 09 00 37.0 +0.8
NKL pmax pmax
comp=E,24nm,0.5s
NKL pmax pmax
comp=Z,210nm,0.5s
UGL Uglegorsk 8.75 239⇑ *i*P P 09 00 47.8 +1.6
UGL pmax pmax
comp=Z,625nm,0.9s
UGL pmax pmax
comp=E,285nm,0.5s
UGL pmax pmax
comp=N,352nm,0.6s
SEY Seymchan 8.81 357 P P 09 00 45.8 -0.6
comp=N,2.8nm,0.3s,baz=183,slow=9.2,SNR=31
SEY S S 09 02 31.6 +0.3
comp=N,0.1nm,0.3s,baz=21,slow=19,SNR=5.8
YSS Yuzh-Sakhalins 9.94 228 *e*P P 09 00 58.4 +0.8
YSS Yuzh-Sakhalins 9.94 228α *i*P P 09 00 58.6 +0.9
YSS *e*S S 09 02 49.1 -2.4
YSS pmax pmax
comp=Z,100nm,2.0s
YSS pmax pmax
comp=Z,90nm,0.8s
YSS smax smax
comp=N,30nm,1.1s
YSS smax smax
comp=E,30nm,0.9s
YSS smax smax
comp=N,400nm,4.4s
YSS smax smax
comp=E,200nm,2.8s
YSS MLR MLR
comp=Z,100nm,16.2s
YSS MLR MLR
comp=N,200nm,10.5s
YSS MLR MLR
comp=E,100nm,17.9s
KMSK Kamenskaya 10.65 34 *e*P P 09 01 04.9 +0.7
KMSK Kamenskaya 10.65 34 P P 09 01 04.9 +0.7
YUK Yuzh-Kuril'sk 11.31 209 P P 09 01 07.8 -3.2
GRPR Tuman 11.37 209 P P 09 01 07.4 -4.2
GRPR *e*S S 09 03 18.6 +1.9
GRPR pmax pmax
comp=Z,85nm,0.3s
ASAJ Asahikawa 12.32 220 P P 09 01 19.9 -0.8
comp=Z,0.6nm,0.3s,baz=49,slow=11,SNR=5.0
SMY Shemya 12.36 88 *e*P P 09 01 21.9 +1.1
SMY Shemya 12.36 88 *e*P P 09 01 21.9 +1.1
TEY Ternei 14.24 237⇑ *i*P P 09 01 40.2 +1.5
TEY pmax pmax
comp=Z,30nm,0.8s
TEY pmax pmax
comp=N,20nm,0.8s
KLR Kul'dur 14.34 259c *i*P P 09 01 40.1 +0.5
KLR Kul'dur 14.34 259 P P 09 01 39.4 -0.3
comp=N,3.6nm,0.3s,baz=70,slow=8.8,SNR=109
KLR S S 09 04 08.5 +1.4
baz=313,slow=18,SNR=7.4
KLR ScP ScP 09 08 42.9 +0.7
comp=N,0.4nm,0.3s,baz=59,slow=3.3,SNR=18
BILL Bilibino 15.16 19⇑ *e*P P 09 01 47.1 +0.3
BILL *e*S S 09 04 20.1 +0.2
BILL pmax pmax
comp=Z,2.0nm,0.7s
ZEA Zeya 15.43 279 *e*P P 09 01 49.6 +0.1
ZEA *e*S S 09 04 24.5 -0.2
ZEA pmax pmax
comp=Z,23nm,1.0s
ZEA smax smax
comp=E,500nm,7.0s
USA0B Ussuriysk Arra 17.18 243 *e*P P 09 02 05.8 +0.3
comp=E,13nm,1.4s
USRK Ussuriysk Ar. 17.18 243 P P 09 02 05.5 0.0
comp=E,0.6nm,0.3s,baz=47,slow=11,SNR=7.1
USRK ScP ScP 09 08 48.4 +0.7
comp=E,0.2nm,0.3s,baz=46,slow=1.0,SNR=8.2
ATKA Atka Island 19.37 83 *e*P P 09 02 26.4 +1.2
comp=E,48nm,1.1s
GAMB Gambell 20.08 48 *e*P P 09 02 32.3 +0.8
comp=E,18nm,1.3s
TIXI Tiksi 20.52 338c*e*P P 09 02 35.5 +0.2
TIXI pmax pmax
comp=Z,12nm,0.4s
TIXI Tiksi 20.52 338 P P 09 02 35.4 +0.2
comp=Z,19nm,0.6s,baz=127,slow=8.7,SNR=16
TIXI S S 09 05 44.8 -0.9
comp=Z,1.9nm,0.5s,baz=270,slow=20,SNR=5.8
TIXI ScP ScP 09 08 54.5 -0.4
comp=Z,3.1nm,0.8s,baz=78,slow=4.2,SNR=6.9
MJB9 Matsu-Tunnel 20.57 217 *e*P P 09 02 37.3 +1.0
comp=Z,10.0nm,0.6s
MAJO Matsushiro 20.57 217 *e*P P 09 02 37.3 +1.0
comp=Z,9.8nm,0.6s
MAJO Matsushiro 20.57 217 *e*P P 09 02 37.3 +1.0
MAJO pmax pmax
comp=Z,10.0nm,0.6s
MAT Matsushiro 20.57 217 P P 09 02 36.6 +0.3
MAT *e*S S 09 05 48.8 +1.3
MJAR Matsushiro Arr 20.57 217 P P 09 02 37.7 +1.4
comp=Z,8.8nm,0.7s,baz=28,slow=7.4,SNR=30
MJAR PcP PcP 09 06 18.8 +0.9
comp=Z,1.7nm,0.7s,baz=85,slow=1.4,SNR=4.2
MJAR ScP ScP 09 08 54.6 -1.1
comp=Z,2.5nm,0.7s,baz=354,slow=1.3,SNR=7.3
HIA Hailar 21.35 271 *e*P P 09 02 42.9 -0.2
comp=Z,6.6nm,0.7s
HIA Hailar 21.35 271 *e*P P 09 02 42.9 -0.2
HIA pmax pmax
comp=Z,7.0nm,0.7s
BOD Bodaibo 22.16 296 *e*P P 09 02 49.5 -0.6
BOD pmax pmax
comp=Z,19nm,1.2s
ANM Nome 22.95 47 *e*P P 09 02 58.3 +1.3
comp=Z,31nm,1.4s
ANM Nome 22.95 47 *e*P P 09 02 58.3 +1.3
ANM pmax pmax
comp=Z,31nm,1.4s
KSRS Korea Array 24.23 237 P P 09 03 10.0 +1.3
comp=Z,20nm,0.6s,baz=33,slow=8.9,SNR=63
KSRS PcP PcP 09 06 26.1 +0.6
comp=Z,3.6nm,0.8s,baz=7.6,slow=1.9,SNR=7.7
KS15 Wonju Array Si 24.26 237 *e*P P 09 03 09.8 +0.8
comp=Z,27nm,0.9s
JNU Nakatsue 26.45 226 *e*P P 09 03 29.2 +1.0
comp=Z,53nm,1.4s
JNU Nakatsue 26.45 226 P P 09 03 28.9 +0.7
comp=Z,5.5nm,0.5s,baz=6.9,slow=3.6,SNR=10
RSO Redoubt South 28.97 56 *e*P P 09 03 50.9 +1.0
SPU Mount Spurr 29.16 54 *e*P P 09 03 52.9 +1.5
BPAW Bear Paw Mtn. 29.20 48 *e*P P 09 03 52.8 +1.2
comp=Z,16nm,0.7s
COLD Coldfoot 29.30 41 *e*P P 09 03 53.4 +1.0
comp=Z,12nm,1.2s
TOLK Toolik Lake Re 29.52 39 *e*P P 09 03 55.0 +0.7
comp=Z,37nm,1.2s
TOLK Toolik Lake Re 29.52 39 P P 09 03 55.3 +1.0
baz=270
TLY Talaya 29.66 286 *e*P P 09 03 56.7 +0.9
comp=Z,17nm,0.9s
TLY Talaya 29.66 286*d i*P P 09 03 56.9 +1.2
TLY pmax pmax
comp=Z,47nm,0.9s
KDAK Kodiak Island 29.71 61 *e*P P 09 03 56.3 +0.3
comp=Z,34nm,0.5s
KDAK *e*ScP ScP 09 09 22.0 +0.3
KDAK Kodiak Island 29.71 61 *i*P P 09 03 56.0 0.0
SONA0 Songino Array 29.84 277 *e*P P 09 03 57.9 +0.4
SONA0 *e*PcP PcP 09 06 39.4 -0.1
SONA0 *e*ScP ScP 09 09 21.8 -0.8
SONM Songino Array 29.84 277 P P 09 03 57.9 +0.4
comp=Z,6.2nm,0.7s,baz=64,slow=7.8,SNR=31
SONM PcP PcP 09 06 39.4 -0.1
comp=Z,3.9nm,0.5s,baz=83,slow=1.4,SNR=13
SONM ScP ScP 09 09 21.8 -0.8
comp=Z,1.9nm,0.6s,baz=62,slow=2.4,SNR=8.5
BWN Browne 29.85 48 *e*P P 09 03 59.3 +2.1
comp=Z,153nm,1.4s
CNPM China Poot 29.92 57 *e*P P 09 03 58.2 +0.4
comp=Z,35nm,0.6s
BRLK Bradley Lake 30.04 57 *e*P P 09 03 59.1 +0.2
comp=Z,44nm,1.0s
MCK McKinley 30.15 48 *e*P P 09 04 00.8 +1.1
comp=Z,27nm,0.9s
MCK McKinley 30.15 48 *e*P P 09 04 00.9 +1.1
MCK pmax pmax
comp=Z,27nm,0.9s
MDM Murphy Dome 30.28 46 *e*P P 09 04 01.7 +0.8
comp=Z,13nm,0.7s
RC01 Rabbit Creek A 30.28 54 *e*P P 09 04 01.8 +0.9
comp=Z,16nm,0.6s
WRH Wood River Hil 30.40 47 *e*P P 09 04 03.0 +1.2
comp=Z,72nm,0.7s
ZAK Zakamensk 30.43 284 *e*P P 09 04 03.0 +0.6
ZAK pmax pmax
comp=Z,10.0nm,1.1s
TCOL CIGO, UAF Yank 30.45 46 P P 09 04 03.6 +1.4
baz=278
COLA College 30.45 46 *e*P P 09 04 03.3 +1.1
comp=Z,44nm,0.8s
COLA College 30.45 46c *i*P P 09 04 03.6 +1.4
COLA pmax pmax
comp=Z,40nm,0.8s
PMR Palmer 30.45 53 *e*P P 09 04 03.1 +0.8
comp=Z,14nm,0.9s
PMR Palmer 30.45 53 *e*P P 09 04 03.1 +0.8
PMR pmax pmax
comp=Z,14nm,0.9s
CCB Clear Creek Bu 30.50 46 *e*P P 09 04 03.5 +0.9
comp=Z,28nm,1.1s
GHO Glory Hole Cre 30.51 52 *e*P P 09 04 04.0 +1.1
comp=Z,46nm,0.9s
POKR Poker Plat Res 30.59 45 P P 09 04 04.8 +1.3
baz=278
SEW Seward 30.65 56 *e*P P 09 04 04.3 +0.3
comp=Z,84nm,1.4s
SML Sawmill 30.78 52 *e*P P 09 04 06.2 +1.0
comp=Z,86nm,1.0s
SML Sawmill 30.78 52 *e*P P 09 04 06.2 +1.0
SML pmax pmax
comp=Z,86nm,1.0s
KNK Knik Glacier 30.81 53 *e*P P 09 04 06.6 +1.2
comp=Z,92nm,0.7s
HHC Hu-ho-hao-te 30.81 262 *e*P P 09 04 09.5 +3.6
ILAR Eielson Array 30.87 46 P P 09 04 06.7 +0.8
comp=Z,16nm,0.5s,baz=284,slow=11,SNR=220
ILAR S S 09 08 26.7 -0.3
comp=Z,1.5nm,1.1s,baz=272,slow=12,SNR=6.0
ILAR ScP ScP 09 09 24.2 -1.3
comp=Z,2.7nm,1.1s,baz=285,slow=4.0,SNR=9.7
HDA Harding Lake 30.90 47 *e*P P 09 04 06.5 +0.4
comp=Z,37nm,1.2s
HDA Harding Lake 30.90 47 P P 09 04 06.4 +0.3
baz=280
DHY Denali Highway 30.95 49 *e*P P 09 04 07.2 +0.4
comp=Z,27nm,0.8s
MOY Mondy 31.16 287 *e*P P 09 04 09.4 +0.8
MOY pmax pmax
comp=Z,32nm,1.6s
SCM Sheep Creek Mo 31.24 52 *e*P P 09 04 09.9 +0.8
comp=Z,56nm,1.1s
SCM Sheep Creek Mo 31.24 52 *e*P P 09 04 09.9 +0.8
SCM pmax pmax
comp=Z,56nm,1.1s
PRP Porcupine Dome 31.33 44 *e*P P 09 04 11.0 +1.1
comp=Z,57nm,0.9s
PRP *e*S S 09 08 33.0 -1.2
GLI Glacier Island 31.58 54 *e*P P 09 04 12.5 +0.6
comp=Z,18nm,0.9s
PAX Paxson 31.83 49 *e*P P 09 04 14.6 +0.5
comp=Z,6.6nm,0.7s
PAX Paxson 31.83 49 *e*P P 09 04 14.6 +0.5
PAX pmax pmax
comp=Z,7.0nm,0.7s
RIDG Independent Ri 31.94 48 *e*P P 09 04 15.1 +0.1
comp=Z,27nm,0.8s
DIV Divide 32.14 53 *e*P P 09 04 17.7 +1.0
comp=Z,56nm,1.4s
DOT Dot Lake 32.30 48 *e*P P 09 04 18.0 0.0
comp=Z,18nm,0.7s
EYAK Cordova Ski Ar 32.31 54 *e*P P 09 04 18.8 +0.8
comp=Z,24nm,0.9s
MENT Mentasta 32.61 49 *e*P P 09 04 21.5 +0.9
comp=Z,10nm,0.6s
NRIK Noril'sk 32.72 323 P P 09 04 21.2 -0.2
comp=Z,3.5nm,0.6s,baz=85,slow=14,SNR=5.1
EGAK Eagle 33.28 45 *e*P P 09 04 26.7 +0.5
comp=Z,37nm,0.8s
BALM Baldy 33.76 52 *e*P P 09 04 31.4 +1.1
comp=Z,36nm,0.7s
BALM Baldy 33.76 52 *e*P P 09 04 31.4 +1.1
BALM pmax pmax
comp=Z,36nm,0.7s
DAWY Dawson 34.20 46 *e*P P 09 04 34.2 +0.3
comp=Z,7.3nm,0.8s
CTGM Chitina Glacie 34.25 52 *e*P P 09 04 36.1 +1.6
comp=Z,57nm,0.7s
EPYK Eagle Plains 34.70 42 *e*P P 09 04 38.8 +0.9
comp=Z,23nm,1.1s
EPYK Eagle Plains 34.70 42 P P 09 04 39.0 +1.1
baz=284
INK Inuvik 35.42 38 *e*P P 09 04 44.5 +0.8
comp=Z,14nm,0.6s
INK Inuvik 35.42 38 P P 09 04 44.4 +0.7
comp=Z,13nm,0.5s,baz=292,slow=7.6,SNR=127
INK ScP ScP 09 09 41.5 0.0
comp=Z,3.1nm,0.7s,baz=242,slow=7.1,SNR=9.6
HYT Haines Junctio 36.06 51 *e*P P 09 04 51.1 +1.8
comp=Z,36nm,0.9s
WHN Wuhan 36.64 246 P P 09 04 54.5 +0.2
WHY Whitehorse 37.31 50 *e*P P 09 05 01.0 +1.5
comp=Z,20nm,0.8s
SKAG Skagway 37.59 52 *e*P P 09 05 03.1 +1.5
comp=Z,20nm,1.1s
BESE Bessie Mountai 38.19 54 *e*P P 09 05 08.3 +1.8
comp=Z,18nm,0.9s
LZH Lanzhou 38.49 263 *e*P P 09 05 11.0 +1.6
LZH pP PP 09 06 56.0 -1.4
LZH sP sP 09 08 03.0 -2.1
JIS Juneau Island 38.54 54 *e*P P 09 05 11.3 +2.1
comp=Z,14nm,0.7s
GTA Gaotai 38.63 270 *e*P P 09 05 11.5 +1.1
SIT Sitka 38.63 56 *e*P P 09 05 12.0 +2.0
comp=Z,38nm,1.1s
SIT Sitka 38.63 56 *e*P P 09 05 12.0 +2.0
SIT pmax pmax
comp=Z,38nm,1.1s
ZAA0 Zalesovo Array 38.85 299 *e*P P 09 05 11.2 -0.6
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 38.85 299 P P 09 05 11.0 -0.8
comp=Z,9.0nm,0.5s,baz=55,slow=7.4,SNR=23
ZALV PcP PcP 09 07 05.3 -0.4
comp=Z,3.7nm,0.5s,baz=74,slow=3.2,SNR=8.1
ZALV ScP ScP 09 09 54.5 -0.3
comp=Z,0.5nm,0.3s,baz=46,slow=4.3,SNR=4.0
YULB Yu-li 39.07 231 *e*P P 09 05 13.6 -0.4
comp=Z,10nm,1.1s
NVS Novosibirsk 39.22 301⇑ *i*P P 09 05 15.0 +0.2
NVS pmax pmax
comp=Z,50nm,0.7s
NVS pmax pmax
comp=N,11nm,0.8s
NVS pmax pmax
comp=E,30nm,0.7s
DGZ Jazzator, Alta 39.64 292*d i*P P 09 05 19.2 +0.8
DGZ pmax pmax
comp=Z,20nm,0.8s
WRAK Wrangell Islan 40.38 56 *e*P P 09 05 25.9 +2.0
comp=Z,21nm,0.8s
DLBC Dease Lake 40.51 52 *e*P P 09 05 26.9 +1.9
comp=Z,20nm,1.0s
DLBC Dease Lake 40.51 52 P P 09 05 26.9 +1.9
comp=Z,13nm,0.8s,baz=284,slow=6.6,SNR=25
DIB Dawson Inlet, 41.97 60 *e*P P 09 05 38.4 +2.0
comp=Z,17nm,0.9s
WMQ Urumqi 42.90 284 *e*P P 09 05 45.3 +1.4
RES Resolute Bay 43.75 21 *e*P P 09 05 50.4 +0.5
comp=Z,3.6nm,1.1s
RES *e*ScP ScP 09 10 14.2 +0.1
RES Resolute Bay 43.75 21 *e*P P 09 05 50.4 +0.5
RES pmax pmax
comp=Z,4.0nm,1.1s
RES Resolute Bay 43.75 21 P P 09 05 50.5 +0.6
comp=Z,0.9nm,0.3s,baz=341,slow=3.8,SNR=10
RES ScP ScP 09 10 14.0 -0.1
comp=Z,3.4nm,0.8s,baz=305,slow=4.3,SNR=13
KURK Kurchatov 43.79 298 *e*P P 09 05 50.4 -0.1
comp=Z,60nm,0.9s
KURK *e*PcP PcP 09 07 21.9 -0.4
KURK Kurchatov 43.79 298*d i*P P 09 05 50.2 -0.3
KURK pmax pmax
comp=Z,40nm,0.6s
KURBB Kurchatov Arra 43.89 297 P P 09 05 51.2 -0.1
comp=Z,34nm,0.5s,baz=60,slow=7.5,SNR=146
KURBB PcP PcP 09 07 21.9 -0.8
comp=Z,3.2nm,0.6s,baz=59,slow=3.4,SNR=6.3
KURBB ScP ScP 09 10 14.0 -1.1
comp=Z,2.1nm,0.9s,baz=56,slow=3.5,SNR=5.4
MK31 Makanchi Array 44.12 291 *e*P P 09 05 53.0 -0.2
comp=Z,22nm,0.6s
MK31 Makanchi Array 44.12 291 *e*P P 09 05 52.7 -0.5
MK31 pmax pmax
comp=Z,23nm,0.6s
MK32 Makanchi Array 44.12 291 *e*P P 09 05 52.7 -0.6
MKAR Makanchi Array 44.12 291 P P 09 05 52.7 -0.5
comp=Z,22nm,0.5s,baz=58,slow=7.4,SNR=205
MAKZ Makanchi 44.28 291 *e*P P 09 05 54.2 -0.2
comp=Z,24nm,0.5s
MAKZ Makanchi 44.28 291 *e*P P 09 05 54.2 -0.2
MAKZ pmax pmax
comp=Z,24nm,0.5s
BBB Bella Bella 44.74 59 *e*P P 09 05 58.7 +0.9
comp=Z,63nm,1.4s
BBB Bella Bella 44.74 59 P P 09 05 59.4 +1.6
comp=Z,9.5nm,0.8s,baz=299,slow=8.2,SNR=5.7
YKW3 Yellowknife Ar 44.93 41 *e*P P 09 05 59.6 +0.5
comp=Z,7.6nm,0.7s
YKA Yellowknife Ar 44.98 41 P P 09 06 00.1 +0.7
comp=Z,11nm,0.7s,baz=306,slow=7.2,SNR=96
YKA ScP ScP 09 10 19.5 +0.1
comp=Z,1.5nm,0.8s,baz=304,slow=4.1,SNR=13
YKB5 Yellowknife Ar 44.98 41 *e*P P 09 06 00.1 +0.7
YKB5 *e*ScP ScP 09 10 19.5 +0.1
KBS Kingsbay 45.20 350 *e*P P 09 06 01.3 +0.4
SPA0 Spitsbergen Ar 45.36 349 *e*P P 09 06 01.5 -0.6
comp=Z,23nm,1.2s
SPA0 Spitsbergen Ar 45.36 349 *e*P P 09 05 59.9 -2.2
SPITS Spitsbergen Ar 45.36 349 P P 09 06 01.9 -0.2
comp=Z,5.0nm,0.5s,baz=54,slow=8.4,SNR=46
HSPB Hornsund (broa 46.44 348 *e*P P 09 06 10.0 -0.3
BVAR Borovoye Array 46.59 304 P P 09 06 11.3 -0.4
comp=Z,19nm,0.5s,baz=58,slow=7.7,SNR=80
BVAR PcP PcP 09 07 31.6 -0.7
comp=Z,5.0nm,0.5s,baz=72,slow=2.6,SNR=9.1
BVAR ScP ScP 09 10 24.2 -2.2
comp=Z,0.3nm,0.3s,baz=45,slow=8.4,SNR=3.4
BRVK Borovoye 46.62 304 *e*P P 09 06 11.5 -0.4
comp=Z,30nm,0.6s
BRVK *e*PcP PcP 09 07 31.9 -0.4
BRVK Borovoye 46.62 304*d i*P P 09 06 11.6 -0.4

BRVK pmax pmax
comp=Z,24nm,0.6s
KMI Kunming 47.26 253 P **P 09 06 18.3 +0.9**
PDGK Podgornoye 47.83 289 P **P 09 06 21.1 -0.2**
PDGK pmax pmax
comp=Z,23nm,0.9s
OTUK Ortayu 48.55 298 P **P 09 06 26.1 -0.3**
OTUK pmax pmax
comp=Z,14nm,0.5s
SVE Sverdlovsk 48.73 313 *e*P **P 09 06 27.7 +0.1**
SVE pmax pmax
comp=Z,35nm,0.9s
LLLB Lilloоet 48.81 57 *e*P **P 09 06 29.5 +1.3**
comp=Z,9.7nm,0.6s
A04D Lummi Island 49.59 60 P **P 09 06 35.2 +1.3**
baz=310
SLVN Son La 49.62 249 *e*P **P 09 06 35.2 +0.5**
comp=Z,21nm,0.8s
TARG Taragay, Kyrgy 49.82 288 *e*P **P 09 06 36.3 0.0**
comp=Z,9.0nm,0.9s
ARU Arti 49.87 314 *e*P **P 09 06 35.5 -0.4**
comp=Z,34nm,0.7s
ARU *e*PcP **PcP 09 07 43.8 -0.5**
ARU Arti 49.87 314 *d i*P **P 09 06 35.4 -0.4**
ARU *e* 09 07 43.2
ARU S **S 09 13 01.5 +1.2**
ARU pmax pmax
comp=Z,28nm,0.6s
ARU Arti 49.87 314 P **P 09 06 35.2 -0.7**
comp=Z,12nm,0.4s,baz=66,slow=4.6,SNR=42
ARU PcP **PcP 09 07 43.5 -0.8**
comp=Z,1.8nm,0.3s,baz=198,slow=1.6,SNR=4.1
D03D Eldon 50.16 61 P **P 09 06 39.6 +1.4**
baz=311,SNR=5.8
B05A Bryant 50.20 60 P **P 09 06 39.9 +1.5**
baz=311,SNR=8.7
TKM2 Tokmak 2 50.25 291 P **P 09 06 39.5 +0.3**
SNR=14
TKM2 Tokmak 2 50.25 291 *i* P **P 09 06 38.9 -0.3**
TKM2 pmax pmax
comp=Z,11nm,0.6s
B06A Marblemount 50.34 59 *e*P **P 09 06 40.4 +1.0**
comp=Z,24nm,1.0s
ULHL Ulahol 50.35 290 P **P 09 06 40.4 +0.5**
SNR=12
LSA Lhasa 50.49 267 *e*P **P 09 06 41.7 +0.3**
comp=Z,25nm,0.6s
LSA Lhasa 50.49 267 *e*P **P 09 06 41.7 +0.3**
LSA pmax pmax
comp=Z,25nm,0.6s
D04E Lakebay 50.56 61 P **P 09 06 42.6 +1.6**
baz=311
USP Ospenovka 50.62 292 P **P 09 06 42.2 +0.6**
SNR=16
CHMS Chumysh 50.67 292 P **P 09 06 42.3 +0.4**
SNR=7.9
KBK Karagaybulak 50.79 291 P **P 09 06 43.5 +0.5**
SNR=8.4
ARCES ARCESS Array B 50.95 339 P **P 09 06 42.9 -0.6**
comp=Z,8.1nm,0.7s,baz=29,slow=7.8,SNR=21
ARCES PcP **PcP 09 07 46.9 -1.3**
comp=Z,2.5nm,0.7s,baz=0.0,slow=2.8,SNR=3.6
ARE0 ARCESS Array S 50.95 339 *e*P **P 09 06 42.8 -0.7**
KZA Kyzart 51.01 290 P **P 09 06 45.7 +0.8**
SNR=9.8
NRN Naryn 51.03 289 *e*P **P 09 06 45.1 +0.2**
comp=Z,9.3nm,1.0s
NRN Naryn 51.03 289 *e*P **P 09 06 45.1 +0.2**
NRN pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 51.05 291 P **P 09 06 45.3 +0.5**
SNR=24
AAK Ala-Archa 51.05 291 *e*P **P 09 06 45.2 +0.3**
comp=Z,28nm,0.9s
AAK Ala-Archa 51.05 291 *d i*P **P 09 06 44.8 0.0**
AAK pmax pmax
comp=Z,27nm,0.8s
E04D Cinebar 51.07 62 P **P 09 06 46.5 +1.7**
baz=312
UCH Uchtor 51.31 291 P **P 09 06 47.4 +0.3**
SNR=6.0
PRGR Permogore 51.35 324 *e*P **P 09 06 44.3 -2.1**
PRGR pmax pmax
comp=Z,33nm,0.6s
EKS2 Erkin-Say 51.42 292 P **P 09 06 48.1 +0.6**
SNR=17
B08A Colville Reser 51.53 58 *e*P **P 09 06 48.9 +0.8**
comp=Z,17nm,0.9s
LTY Liberty 51.59 60 *e*P **P 09 06 49.4 +0.9**
comp=Z,7.8nm,0.8s
HMH Humu'ula Sheep 51.80 111 *e*P **P 09 06 51.8 +1.1**
comp=Z,275nm,1.6s
AML Almayashu 51.83 291 P **P 09 06 51.5 +0.8**
SNR=16
KTK1 Kautokeino 51.85 340 *e*P **P 09 06 49.2 -0.8**
MLH Mauna Loa 51.94 111 *e*P **P 09 06 52.9 +1.3**
comp=Z,295nm,1.5s
MLH Mauna Loa 51.94 111 *e*P **P 09 06 52.9 +1.3**
MLH pmax pmax
comp=Z,295nm,1.5s
TMCR Tamitsa 51.95 330 *e*P **P 09 06 49.9 -0.8**
I02D Swisshome 52.03 65 P **P 09 06 52.5 +0.9**
baz=312
KIRV Kirov 52.11 320 P **P 09 06 51.6 -0.3**
comp=Z,25nm,0.5s,baz=126,slow=1.5,SNR=6.7
TRO Tromso 52.17 342 *e*P **P 09 06 51.7 -0.5**
H04D Lebanon 52.34 64 P **P 09 06 55.4 +1.5**
baz=313
KSH Kashi 52.35 287 P **P 09 06 58.0 +3.9**
C09A Chrisman Ranch 52.43 58 *e*P **P 09 06 55.2 +0.7**
comp=Z,10nm,0.6s
I03D Drain, OR 52.58 65 P **P 09 06 57.2 +1.7**
baz=313
G05D Wamic, OR 52.60 62 P **P 09 06 57.2 +1.5**
baz=313
J01E Myrtle Point 52.63 66 P **P 09 06 58.0 +2.1**
baz=313
PANO Nakornpanom 52.65 245 P **P 09 06 57.7 +1.3**
comp=Z,0.9nm,0.8s
NEW Newport 52.69 57 *e*P **P 09 06 57.2 +0.9**
comp=Z,6.1nm,1.0s
NEW Newport 52.69 57 *e*P **P 09 06 57.2 +0.9**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 52.69 57 P **P 09 06 57.2 +0.9**
baz=313
NEW Newport 52.69 57 P **P 09 06 57.2 +0.9**
comp=Z,3.6nm,0.7s,baz=299,slow=6.5,SNR=8.8
NEW ScP **ScP 09 10 52.3 -0.5**
comp=Z,2.7nm,0.8s,baz=235,slow=0.9,SNR=4.2
HAWA Hanford 52.74 60 *e*P **P 09 06 57.6 +0.9**
comp=Z,9.2nm,0.6s
F07A Phinny Hill Vi 52.88 61 *e*P **P 09 06 58.5 +0.9**
comp=Z,18nm,0.7s
KK31 Karatay Array 52.89 294 *e*P **P 09 06 57.5 -0.3**
comp=Z,20nm,0.8s
KK31 Karatay Array 52.89 294 *e*P **P 09 06 57.5 -0.3**
KK31 pmax pmax
comp=Z,20nm,0.8s
E08A Dider Farm, El 52.92 60 *e*P **P 09 06 58.9 +1.0**
comp=Z,13nm,0.9s
I04A Tendick Farm, 53.01 64 P **P 09 07 00.4 +1.8**
baz=313
K02D Willamette Mer 53.09 66 P **P 09 07 00.8 +1.5**
baz=313
SKNT Sakolnakorn 53.13 245 P **P 09 07 00.7 +0.9**
comp=Z,49nm,0.8s
SHL Shillong 53.16 263 *e*P **P 09 06 59.8 -0.3**
comp=Z,23nm,0.6s
SHL Shillong 53.16 263 *e*P **P 09 06 59.8 -0.3**
SHL pmax pmax
comp=Z,23nm,0.6s
I05D Terrebonne, OR 53.20 63 P **P 09 07 01.6 +1.6**
baz=313
PAYA Payao 53.44 251 P **P 09 07 03.3 +1.4**
comp=Z,90μm,0.7s,comp=Z,899μm
L02E Cave Junction 53.49 67 P **P 09 07 03.8 +1.8**
baz=314
J04D Umpqua Nationa 53.55 65 P **P 09 07 04.9 +2.3**
baz=314,SNR=6.8
WALA Waterton Lakes 53.72 55 *e*P **P 09 07 04.3 +0.7**
comp=Z,16nm,0.8s
PINE Pine Mountain 53.79 63 *e*P **P 09 07 05.6 +1.3**
comp=Z,20nm,0.8s
G08A Pilot Rock 53.79 61 *e*P **P 09 07 04.7 +0.5**
comp=Z,3.7nm,0.7s
PHRA Phrae 53.93 250 P **P 09 07 06.7 +1.3**
comp=Z,6.5nm,0.9s
KLMR Klimovskoe 53.96 326 ‖ *i*P **P 09 07 04.7 -0.2**
KLMR pmax pmax
comp=Z,24nm,0.6s
J05D Fort Rock, OR 53.98 64 P **P 09 07 08.1 +2.5**
baz=314,SNR=31
AB31 Akbulak array 54.04 306 *i*P **P 09 07 05.0 -0.7**
AB31 pmax pmax
comp=Z,21nm,0.8s
ABKAR Akbulak array 54.04 306 *e*P **P 09 07 05.3 -0.4**
comp=Z,22nm,0.8s
AKTO Aktyubinsk 54.13 308 P **P 09 07 05.8 -0.5**
comp=Z,12nm,0.5s,baz=68,slow=8.8,SNR=44
AKTO PcP **PcP 09 07 59.9 -0.8**
comp=Z,3.4nm,0.4s,baz=42,slow=11,SNR=2.4
L04D Klamath Falls 54.15 66 P **P 09 07 08.9 +2.2**
baz=314,SNR=12
K04D Chiloquin, OR 54.16 65 P **P 09 07 08.9 +2.1**
baz=314
F10A Beach Ranch, E 54.20 59 *e*P **P 09 07 08.1 +1.1**
comp=Z,11nm,0.8s
LAMP Lampang 54.24 251 P **P 09 07 08.8 +1.2**
comp=Z,105μm,0.7s
YBH Yreka Blue Hor 54.27 66 *e*P **P 09 07 08.9 +1.4**
comp=Z,13nm,0.7s
YBH Yreka Blue Hor 54.27 66 *e*P **P 09 07 08.9 +1.4**
YBH pmax pmax
comp=Z,13nm,0.7s
YBH Yreka Blue Hor 54.27 66 P **P 09 07 09.4 +1.9**
comp=Z,11nm,0.7s,baz=360,slow=4.2,SNR=26
KHON Khomkaen 54.28 246 P **P 09 07 09.2 +1.4**
comp=Z,83μm,0.5s
STEI Steigen 54.33 342 *e*P **P 09 07 06.5 -0.9**
I07A Izee 54.34 62 *e*P **P 09 07 09.1 +1.1**
comp=Z,10nm,1.0s
UTTA Uttaradit 54.36 249 P **P 09 07 09.4 +1.0**
comp=Z,67μm,0.8s,comp=Z,517μm
CMMT Chiang Mai 54.39 252 P **P 09 07 09.4 +0.8**
comp=Z,23nm,0.7s
CHTO Chiang Mai 54.39 252 *e*P **P 09 07 09.1 +0.5**
comp=Z,27nm,0.7s
CHTO Chiang Mai 54.39 252 *e*P **P 09 07 09.1 +0.5**
CHTO pmax pmax
comp=Z,27nm,0.7s
M02C Callahan 54.42 67 P **P 09 07 11.3 +2.7**
baz=314
LOF Lofoten 54.45 343 *e*P **P 09 07 07.8 -0.4**
CM31 Chiang Mai Arr 54.68 251 *e*P **P 09 07 11.0 +0.4**
comp=Z,21nm,0.7s
CMAR Chiang Mai Arr 54.68 251 P **P 09 07 11.2 +0.6**
comp=Z,20nm,0.7s,baz=24,slow=6.8,SNR=63
CMAR PcP **PcP 09 08 03.5 +0.2**
comp=Z,2.4nm,0.6s,baz=9.3,slow=2.7,SNR=4.8
CMAR ScP **ScP 09 11 02.0 +0.1**
comp=Z,0.6nm,0.3s,baz=4.7,slow=4.6,SNR=4.4
M04C Macdoel 54.70 66 P **P 09 07 12.8 +2.2**
baz=314,SNR=9.4
N02D Trinity Center 54.80 67 P **P 09 07 13.8 +2.6**
baz=315,SNR=10.0
ODAN Odare 54.81 268 *e*P **P 09 07 12.0 +0.3**
comp=Z,45nm,0.7s
BMO Blue Mountains 54.94 60 *e*P **P 09 07 13.2 +1.0**
comp=Z,6.5nm,0.8s
FCC Fort Churchill 55.00 36 *e*P **P 09 07 12.2 0.0**
comp=Z,7.3nm,0.6s
FCC Fort Churchill 55.00 36 *e*P **P 09 07 12.2 0.0**
FCC pmax pmax
comp=Z,7.0nm,0.6s
FFC Flin Flon 55.01 43 *e*P **P 09 07 13.0 +0.6**
comp=Z,12nm,0.8s
FFC Flin Flon 55.01 43 *e*P **P 09 07 13.0 +0.6**
FFC pmax pmax
comp=Z,12nm,0.8s
CHAI Chaiyaphum 55.09 247 P **P 09 07 14.1 +0.7**
comp=Z,47μm,0.6s,comp=Z,562μm
PBKT Sadao Pong 55.09 248 P **P 09 07 14.5 +1.1**
comp=Z,12nm,0.8s
WDC Whiskeytown Da 55.16 67 *e*P **P 09 07 15.2 +1.6**
comp=Z,7.6nm,0.8s
WDC Whiskeytown Da 55.16 67 *e*P **P 09 07 15.2 +1.6**
WDC pmax pmax
comp=Z,8.0nm,0.8s
RAMN Ramite 55.21 269 *e*P **P 09 07 14.6 +0.1**
comp=Z,114nm,0.5s
MSO Missoula 55.24 57 *e*P **P 09 07 15.0 +0.7**
comp=Z,13nm,0.9s
MSO Missoula 55.24 57 P **P 09 07 15.4 +1.1**
baz=315,SNR=14
O02D Mt. Diablo Mer 55.31 68 P **P 09 07 17.1 +2.3**
baz=315,SNR=8.8
KKN Kakani 55.36 270 *e*P **P 09 07 15.8 +0.3**
comp=Z,53nm,0.5s
J08A Circle Bar Ran 55.38 62 *e*P **P 09 07 16.7 +1.5**
comp=Z,15nm,0.8s
PKI Pulchoki 55.45 270 *e*P **P 09 07 16.3 +0.1**
comp=Z,107nm,0.8s
PKIN Phulchoki 55.45 270 *e*P **P 09 07 16.1 -0.1**
comp=Z,67nm,0.7s
DMN Daman 55.60 270 *e*P **P 09 07 17.5 +0.3**
comp=Z,60nm,0.7s
O03E Paynes Creek 55.76 67 P **P 09 07 19.3 +1.4**
baz=315,SNR=13
DANN Dangsing 55.84 272 *e*P **P 09 07 19.1 +0.3**
comp=Z,100nm,0.7s
GAR Garm 55.85 291 *e*P **P 09 07 18.6 0.0**
comp=Z,76nm,0.7s
GAR Garm 55.85 291 *e*P **P 09 07 18.6 0.0**
GAR pmax pmax
comp=Z,76nm,0.7s
WVOR Wild Horse Val 55.94 63 *e*P **P 09 07 20.6 +1.5**
comp=Z,18nm,0.9s
WVOR Wild Horse Val 55.94 63 *e*P **P 09 07 20.6 +1.5**
WVOR pmax pmax
comp=Z,18nm,0.9s
MOR8 Moi Rana 56.03 341 *e*P **P 09 07 17.3 -1.9**
HRY Holter Researc 56.36 55 *e*P **P 09 07 23.3 +1.4**
KOLN Koldanda 56.36 272 *e*P **P 09 07 22.4 +0.1**
comp=Z,49nm,0.5s
EGMT Eagleton 56.41 53 *e*P **P 09 07 22.9 +0.6**
comp=Z,12nm,1.0s
EGMT Eagleton 56.41 53 P **P 09 07 23.1 +0.9**
baz=316,SNR=12
ORV Oroville 56.45 68 *e*P **P 09 07 23.4 +0.9**
comp=Z,12nm,0.8s
ORV Oroville 56.45 68 *e*P **P 09 07 23.4 +0.9**
ORV pmax pmax
comp=Z,12nm,0.8s
PYUN Piuthan 56.47 273 *e*P **P 09 07 23.3 +0.2**
UMPA Umpang Tak 56.55 250 P **P 09 07 26.3 +2.8**
comp=Z,79μm,0.7s
CHGR Chuyangaron 56.73 291 *e*P **P 09 07 25.9 +1.4**
comp=Z,42nm,0.7s
BEKR Beckworth 56.84 67 *e*P **P 09 07 26.5 +1.1**
comp=Z,13nm,0.9s
DLMT Dillon 56.94 57 *e*P **P 09 07 27.1 +1.1**
comp=Z,24nm,1.0s
AFDM Forest Hills D 57.17 68 *e*P **P 09 07 28.7 +1.3**
comp=Z,7.4nm,1.0s
MCMT McKenzie Canyo 57.20 58 *e*P **P 09 07 28.5 +0.6**
BOZ Bozeman (W) 57.25 56 *e*P **P 09 07 28.8 +0.8**
comp=Z,14nm,0.8s
BOZ Bozeman (W) 57.25 56 P **P 09 07 29.5 +1.4**
baz=316,SNR=20
HLID Hailey 57.32 60 *e*P **P 09 07 29.8 +1.3**
comp=Z,2.9nm,0.9s
HLID Hailey 57.32 60 P **P 09 07 30.2 +1.6**
baz=316,SNR=8.8
FIA0 FINESS Array S 57.47 333 *e*P **P 09 07 27.8 -1.2**
FIA0 FINESS Array S 57.47 333 *e*P **P 09 07 27.8 -1.2**
FINES FINESS Array B 57.47 333 P **P 09 07 27.8 -1.2**
comp=Z,15nm,0.6s,baz=36,slow=8.0,SNR=51
FINES PcP **PcP 09 08 12.1 -1.5**
comp=Z,2.4nm,0.5s,baz=72,slow=6.2,SNR=4.0
PAHR Pah Rah Range 57.48 66 *e*P **P 09 07 31.0 +1.3**
comp=Z,18nm,0.9s
VCNR Virginia City 57.63 67 *e*P **P 09 07 32.1 +1.3**
comp=Z,11nm,0.8s
PNTR Pine Nut 57.81 67 *e*P **P 09 07 33.4 +1.4**
comp=Z,17nm,0.9s
QLMT Earthquake Lak 57.90 57 *e*P **P 09 07 33.8 +1.3**
NSS Namsos 57.97 342 *e*P **P 09 07 32.1 -0.2**
NIL Nilore 58.05 284 *e*P **P 09 07 33.8 +0.4**
comp=Z,80nm,0.6s
NIL Nilore 58.05 284 *e*P **P 09 07 33.8 +0.4**
NIL pmax pmax
comp=Z,80nm,0.6s
GCMT Greycliff 58.06 55 *e*P **P 09 07 35.0 +1.5**
YHB Horse Butte 58.07 57 *e*P **P 09 07 35.0 +1.3**
comp=Z,21nm,0.8s
BMN Battle Mountai 58.12 64 *e*P **P 09 07 35.2 +1.3**
comp=Z,8.2nm,0.8s
BMN Battle Mountai 58.12 64 *e*P **P 09 07 35.2 +1.3**
BMN pmax pmax
comp=Z,8.0nm,0.8s
CMB Columbia Colle 58.14 68 *e*P **P 09 07 35.2 +1.2**
comp=Z,29nm,1.5s
CMB Columbia Colle 58.14 68 *e*P **P 09 07 35.2 +1.2**
CMB pmax pmax
comp=Z,29nm,1.5s
YHH Holmes Hill 58.22 56 *e*P **P 09 07 35.6 +0.8**
comp=Z,13nm,0.7s
WAKR Walker 58.32 67 *e*P **P 09 07 37.0 +1.6**
comp=Z,12nm,0.7s
H17A Grant Village 58.64 57 P **P 09 07 40.6 +3.1**
baz=317,SNR=8.0
DGMT Dagmar 58.64 50 *e*P **P 09 07 38.0 +0.9**
comp=Z,16nm,0.9s
DGMT Dagmar 58.64 50 P **P 09 07 38.1 +0.9**
baz=318,SNR=7.0
KVN Kaiserville 58.65 66 *e*P **P 09 07 39.1 +1.6**
comp=Z,20nm,1.0s
KVN Kaiserville 58.65 66 *e*P **P 09 07 39.2 +1.6**
KVN pmax pmax
comp=Z,20nm,1.0s
RYN Ryan 58.72 66 *e*P **P 09 07 39.2 +1.2**
comp=Z,11nm,0.9s
RLMT Red Lodge 58.74 55 *e*P **P 09 07 39.3 +1.1**
comp=Z,34nm,1.3s
RLMT Red Lodge 58.74 55 P **P 09 07 39.9 +1.8**
baz=317,SNR=28
IMW Indian Meadow 58.82 57 *e*P **P 09 07 40.2 +1.4**
comp=Z,6.0nm,0.7s
PHET Kaeng Krachan 58.83 247 P **P 09 07 40.4 +1.6**
comp=Z,86μm,0.6s
ELK Elko 58.93 62 P **P 09 07 40.8 +1.3**
comp=Z,6.2nm,0.7s,baz=307,slow=7.1,SNR=39
FXWY Fox Creek 58.97 58 *e*P **P 09 07 40.9 +1.2**
comp=Z,6.8nm,0.7s
NV01 Mina Array Sit 58.99 66 *e*P **P 09 07 40.9 +1.0**
NVAR Mina Array Bea 58.99 66 P **P 09 07 40.9 +1.0**
comp=Z,13nm,0.7s,baz=302,slow=6.3,SNR=84
MOOW Moose Ponds 59.02 57 *e*P **P 09 07 41.5 +1.4**
comp=Z,6.0nm,0.9s
LAO LASA Array 59.03 52 *e*P **P 09 07 41.3 +1.5**
comp=Z,8.6nm,0.8s
LAO LASA Array 59.03 52 P **P 09 07 41.0 +1.1**
baz=318
TPAW Teton Pass 59.11 58 *e*P **P 09 07 42.0 +1.3**
comp=Z,10nm,0.8s
LOHW Long Hollow 59.19 57 *e*P **P 09 07 42.4 +1.2**
comp=Z,12nm,1.1s
SNOW Snow King Moun 59.23 57 *e*P **P 09 07 42.8 +1.3**
comp=Z,6.6nm,0.8s
REDW Red Top Meadow 59.25 58 *e*P **P 09 07 42.8 +1.2**
comp=Z,14nm,1.2s
OBN Obninsk 59.40 323 *e*P **P 09 07 40.6 -1.4**
OBN *e* 09 08 19.2
OBN *e*PP **pP 09 09 39.6 -1.9**
OBN *e* 09 10 03.8
OBN pmax pmax
comp=Z,16nm,0.9s
HVU Hansel Valley 59.45 60 *e*P **P 09 07 43.0 +0.2**
comp=Z,17nm,1.6s
HVU Hansel Valley 59.45 60 *e*P **P 09 07 43.0 +0.2**
HVU pmax pmax
comp=Z,17nm,1.6s
AHID Auburn Hatcher 59.57 58 *e*P **P 09 07 44.1 +0.4**
comp=Z,8.9nm,1.0s
VSU Vasula 59.79 331 *c e*P **P 09 07 44.1 -0.4**
VSU pmax pmax
comp=Z,60nm,0.6s
BGU Big Grassy Mou 59.94 61 *e*P **P 09 07 46.9 +0.8**
comp=Z,4.4nm,0.7s
VOG Valley Oaks Go 59.94 69 P **P 09 07 47.9 +2.0**
baz=318
TIN Tinemaha, Big 60.03 67 P **P 09 07 48.1 +1.4**
baz=318
HWUT Hardware Ranch 60.19 59 *e*P **P 09 07 48.7 +1.0**
comp=Z,9.7nm,0.8s
BW06 Boulder Array 60.33 57 P **P 09 07 49.7 +0.9**
baz=318,SNR=5.9
PDAR Pinedale Array 60.33 57 P **P 09 07 49.6 +0.9**
comp=Z,11nm,0.8s,baz=342,slow=1.9,SNR=78
SMMC Simmler 60.34 70 P **P 09 07 49.8 +1.2**
baz=318
VES Vestal, Richgr 60.46 69 P **P 09 07 50.1 +0.7**
baz=318,SNR=5.3
R11A Troy Canyon, C 60.50 65 *e*P **P 09 07 50.7 +0.9**
comp=Z,3.6nm,1.0s
R11A Troy Canyon, C 60.50 65 P **P 09 07 51.1 +1.3**
baz=318,SNR=7.2
LPSR Galich'ya Gora 60.53 320 *e*P **P 09 07 48.4 -1.1**
LPSR pmax pmax
comp=Z,50nm,0.7s
VRH Novokhopyorsk 60.56 318 *e*P **P 09 07 48.5 -1.2**
VRH pmax pmax
comp=Z,60nm,0.5s
CWC Cottonwood Cre 60.56 68 P **P 09 07 51.7 +1.4**
baz=318
DUG Dugway, Tooele 60.59 61 P **P 09 07 51.9 +1.6**
baz=318,SNR=12
TCUT Toone Canyon 60.63 60 *e*P **P 09 07 51.9 +1.2**
comp=Z,14nm,0.7s
PKM Mcpherson Peak 60.76 70 P **P 09 07 53.4 +1.9**
baz=318
DOMB Dombas 60.79 342 *e*P **P 09 07 50.5 -0.5**
ULM Lac du Bonnet 60.84 43 P **P 09 07 51.2 -0.4**
comp=Z,2.3nm,0.3s,baz=317,slow=6.8,SNR=8.8
ISA Isabella, Lake 60.92 69 P **P 09 07 53.3 +0.8**
baz=318
JLU Jordanelle 60.99 60 *e*P **P 09 07 54.0 +0.9**
comp=Z,4.7nm,0.7s
AKN Aaknes 61.03 343 *e*P **P 09 07 52.7 0.0**
ARVC Arvin 61.12 69 P **P 09 07 54.3 +0.6**
baz=318
MDND Maddock 61.13 47 P **P 09 07 54.3 +0.7**
baz=320
SBC Santa Barbara 61.14 70 P **P 09 07 54.9 +1.1**
baz=318
MPMC Manual Prospec 61.17 68 P **P 09 07 55.7 +1.5**
baz=318,SNR=11
NC204 NORSAR Array S 61.17 340 *e*P **P 09 07 53.3 -0.3**
comp=Z,42nm,0.9s
TPNV Topopah Spring 61.18 66 *e*P **P 09 07 55.7 +1.5**
comp=Z,17nm,0.6s
TPNV Topopah Spring 61.18 66 *e*P **P 09 07 55.7 +1.5**
TPNV pmax pmax
comp=Z,17nm,0.6s
TPNV Topopah Spring 61.18 66 P **P 09 07 55.8 +1.5**
baz=318,SNR=22
FURC Furnace Creek, 61.20 67 P **P 09 07 56.0 +1.8**
baz=318,SNR=19
PSUT Pine Spring 61.28 63 *e*P **P 09 07 55.6 +0.6**
comp=Z,11nm,0.7s
NB2 NORSAR Subarra 61.30 340 P **P 09 07 53.6 -0.8**
comp=Z,5.8nm,0.7s,baz=25,slow=6.5
NB2 NORSAR Subarra 61.30 340 P **P 09 07 53.6 -0.8**
baz=25,slow=6.5
NB200 NORSAR Array S 61.30 340 *e*P **P 09 07 53.4 -1.0**
NOA NORSAR Array B 61.30 340 P **P 09 07 53.4 -1.0**
comp=Z,9.1nm,0.7s,baz=24,slow=6.5,SNR=40
LRMC Laurel Mtn Rad 61.49 68 P **P 09 07 57.5 +1.3**
baz=318,SNR=5.4
NC602 NORSAR Array S 61.51 340 *e*P **P 09 07 55.0 -0.7**
VSR Storozhevoye 61.54 319 *e*P **P 09 07 55.2 -0.9**
VSR pmax pmax
comp=Z,40nm,0.8s
SBUM Sibu 61.59 229 *e*P **P 09 07 57.8 +0.9**
comp=Z,20nm,0.8s
VORD Divnogorie 61.69 319 *e*P **P 09 07 56.1 -1.0**
VORD pmax pmax
comp=Z,20nm,0.6s
EDW2 Edwards Air Fo 61.76 69 P **P 09 07 59.3 +1.3**
baz=318
K22A Casper 61.91 55 *e*P **P 09 07 59.6 +0.8**
comp=Z,9.6nm,0.7s
K22A Casper 61.91 55 P **P 09 07 59.6 +0.8**
baz=319,SNR=9.2
SHOC Shoshone, Teco 61.94 67 P **P 09 08 00.4 +1.4**
baz=318
RSSD Black Hills 61.98 53 *e*P **P 09 08 00.0 +0.6**
comp=Z,25nm,0.7s
RSSD Black Hills 61.98 53 *e*P **P 09 08 00.0 +0.6**
RSSD pmax pmax

comp=Z,25nm,0.7s
RSSD Black Hills 61.98 53 P P 09 08 00.3 +0.9
baz=320
DECC Green Verdugo 62.04 70 P P 09 08 01.1 +1.4
baz=319
TMUT Trail Mountain 62.08 61 eP P 09 08 01.0 +0.7
comp=Z,12nm,0.8s
SHPR Sheep Range 62.09 66 eP P 09 08 01.6 +1.5
comp=Z,5.8nm,0.9s
GSC Goldstone, Bar 62.10 68 eP P 09 08 01.1 +1.0
comp=Z,7.1nm,0.7s
GSC Goldstone, Bar 62.10 68 eP P 09 08 01.1 +1.0
GSC pmax pmax
comp=Z,7.0nm,0.7s
GSC Goldstone, Bar 62.10 68 P P 09 08 01.5 +1.4
baz=319,SNR=5.6
HYA Hoyanger 62.12 343 eP P 09 07 59.6 0.0
MSU Marysvale 62.17 62 eP P 09 08 02.2 +1.5
MSU Marysvale 62.17 62 eP P 09 08 02.2 +1.5
SKAR Skarsla 62.19 341 eP P 09 08 00.2 0.0
CCUT Cedar City 62.27 64 eP P 09 08 02.6 +1.2
comp=Z,4.9nm,0.7s
AGMN Agassiz Nation 62.37 45 P P 09 08 01.2 -0.4
baz=322
SZCU Shurtz Canyon 62.38 63 eP P 09 08 02.8 +0.7
comp=Z,6.8nm,0.9s
Q16A Castle Valley 62.39 61 eP P 09 08 02.9 +0.8
comp=Z,4.3nm,0.7s
BFSC Mount Baldy Ra 62.43 69 P P 09 08 03.3 +1.0
baz=319
SUE Sulen 62.46 343 eP P 09 08 02.2 +0.4
TUQ Turquoise Moun 62.48 67 P P 09 08 04.2 +1.5
baz=319,SNR=5.5
SRU San Rafael Swe 62.58 61 eP P 09 08 04.5 +1.2
comp=Z,9.8nm,0.9s
SRU San Rafael Swe 62.58 61 eP P 09 08 04.5 +1.2
SRU pmax pmax
comp=Z,10.0nm,0.9s
LCMT Little Creek M 62.73 64 eP P 09 08 05.6 +1.4
comp=Z,4.9nm,0.9s
BBRC Big Bear Solar 62.81 69 P P 09 08 06.1 +1.2
baz=319
SCI2 San Clemente I 62.88 71 P P 09 08 07.1 +2.1
baz=319
KONO Kongsberg 62.90 340 ceP P 09 08 03.4 -1.3
KONO pmax pmax
comp=Z,21nm,2.5s
PKCU Pink Cliffs 62.90 63 eP P 09 08 06.8 +1.3
comp=Z,13nm,0.8s
ASK Askoy 62.93 343 eP P 09 08 05.2 +0.3
KNB Kanab 62.95 64 eP P 09 08 07.0 +1.3
comp=Z,11nm,1.1s
KNB Kanab 62.95 64 eP P 09 08 07.0 +1.3
KNB pmax pmax
comp=Z,11nm,1.1s
O20A White River Ci 62.96 58 eP P 09 08 06.5 +0.8
comp=Z,21nm,0.6s
O20A White River Ci 62.96 58 P P 09 08 06.8 +1.1
baz=320,SNR=21
BER Bergen 63.00 343 eP P 09 08 05.2 -0.1
GMRC Granite Mounta 63.11 67 P P 09 08 08.2 +1.6
baz=319,SNR=11
GEYT Alibeck 63.16 298 P P 09 08 06.0 -0.8
comp=Z,25nm,0.7s,baz=28,slow=3.5,SNR=17
GYA0B ALIBECK ARRAY 63.16 298 eP P 09 08 06.9 +0.1
comp=Z,27nm,0.8s
MURC Murrieta 63.16 69 P P 09 08 08.0 +1.1
baz=319
KSM Kuching 63.31 230 eP P 09 08 08.9 +0.9
comp=Z,27nm,0.7s
BELC Belle Mtn. Jos 63.51 68 P P 09 08 10.2 +1.0
baz=319
N23A Red Feather La 63.52 56 eP P 09 08 10.2 +0.8
comp=Z,7.1nm,0.8s
N23A Red Feather La 63.52 56 P P 09 08 10.4 +1.0
baz=320,SNR=8.1
PFO Pinyon Flats O 63.55 69 P P 09 08 10.6 +1.1
baz=319
U15A North Rim 63.68 64 eP P 09 08 11.4 +1.0
comp=Z,8.8nm,0.8s
BLS5 Blasjo 63.70 342 eP P 09 08 09.9 0.0
109C Camp Elliot, M 63.74 70 P P 09 08 11.5 +1.0
baz=319
PV09 Paradox Valley 63.75 60 eP P 09 08 11.7 +0.9
W13A Hualapai Mount 63.83 66 eP P 09 08 12.1 +0.7
comp=Z,6.1nm,0.9s
IRM Iron Mountain 63.86 67 P P 09 08 12.9 +1.6
baz=319,SNR=10
BC3 Big Chuckawall 64.07 68 P P 09 08 13.8 +1.1
baz=319
MONP2 Monument Peak 64.12 69 P P 09 08 14.2 +1.1
baz=319
KMY Karmoy 64.12 342 eP P 09 08 12.3 -0.1
PDMCI Parker Dam,Lak 64.29 67 P P 09 08 15.4 +1.4
baz=320,SNR=5.5
PV01 Paradox Valley 64.31 60 eP P 09 08 15.0 +0.6
comp=Z,5.4nm,0.7s
SMCO Snowmass 64.32 58 eP P 09 08 15.5 +0.9
comp=Z,10nm,0.7s
SWSC Sam W. Stewart 64.42 69 P P 09 08 16.0 +1.2
baz=320
EYMN Ely 64.42 42 eP P 09 08 14.2 -0.4
comp=Z,9.1nm,0.9s
EYMN Ely 64.42 42 P P 09 08 14.1 -0.5
baz=324
IKP In-Ko-Pah, Jac 64.47 69 P P 09 08 16.4 +1.1
baz=320
Y12C Blythe 64.50 67 eP P 09 08 16.5 +1.2
comp=Z,13nm,0.8s
Y12C Blythe 64.50 67 P P 09 08 16.9 +1.6
baz=320,SNR=6.8
ISCO Idaho Springs 64.52 57 eP P 09 08 16.7 +1.0
comp=Z,14nm,1.4s
ISCO Idaho Springs 64.52 57 eP P 09 08 16.7 +1.0
ISCO pmax pmax
comp=Z,14nm,1.4s
ISCO Idaho Springs 64.52 57 P P 09 08 17.0 +1.3
baz=320,SNR=6.8
KULM Kulim 64.68 241 eP P 09 08 17.1 +0.5
comp=Z,25nm,1.1s
WUAZ Wupatki 64.85 64 eP P 09 08 18.9 +1.3
comp=Z,18nm,1.3s
WUAZ Wupatki 64.85 64 P P 09 08 19.2 +1.6
baz=320,SNR=6.0
GLA Glamis 64.87 68 eP P 09 08 19.1 +1.4
comp=Z,11nm,0.8s
GLA Glamis 64.87 68 eP P 09 08 19.1 +1.4
GLA pmax pmax
comp=Z,11nm,0.8s
GLA Glamis 64.87 68 P P 09 08 19.0 +1.4
baz=320
MVCO Mesa Verde 65.05 61 eP P 09 08 19.7 +0.7
comp=Z,8.6nm,0.9s
MVCO Mesa Verde 65.05 61 P P 09 08 20.0 +1.0
baz=320,SNR=7.6
IPM Ipoh 65.18 241 eP P 09 08 19.5 -0.3
comp=Z,19nm,0.7s
Y14A Wickenburg 65.18 66 eP P 09 08 20.4 +0.7
comp=Z,10nm,0.7s
OGNE Ogallala 65.37 54 eP P 09 08 21.6 +0.8
comp=Z,31nm,0.8s
OGNE Ogallala 65.37 54 P P 09 08 21.5 +0.8
baz=322
KAPI Kappang 65.37 218 P P 09 08 21.9 +1.1
comp=Z,6.0nm,0.3s,baz=55,slow=15,SNR=4.0
Q24A Divide 65.39 57 eP P 09 08 22.0 +0.8
comp=Z,5.0nm,0.8s
Q24A Divide 65.39 57 P P 09 08 21.9 +0.7
baz=321
E38A The Farm, Brul 65.48 43 eP P 09 08 20.9 -0.3
comp=Z,23nm,0.6s
E38A The Farm, Brul 65.48 43 P P 09 08 20.7 -0.6
baz=324,SNR=8.9
S22A 4UR Ranch, Cre 65.49 59 P P 09 08 23.2 +1.4
baz=321,SNR=7.7
AKASG Malin Array Be 65.56 325 P P 09 08 20.6 -1.0
comp=Z,11nm,0.4s,baz=31,slow=6.5,SNR=22
KIEV Kiev 65.57 325 eP P 09 08 20.5 -1.1
comp=Z,17nm,0.8s
KIEV Kiev 65.57 325 ⇓iP P 09 08 20.6 -1.1
KIEV Kiev 65.57 325 ⇓P P 09 08 20.6 -1.1
ECSD EROS Data Cent 65.65 48 eP P 09 08 22.4 0.0
comp=Z,12nm,0.7s
ECSD EROS Data Cent 65.65 48 P P 09 08 22.4 0.0
baz=323,SNR=19
X16A Lo Mia Camp, P 65.65 65 eP P 09 08 24.2 +1.5
comp=Z,10nm,0.8s

F37A Hinrichs Farm, 65.76 45 P P 09 08 22.5 -0.4
baz=324
F38A Pierce - Schro 65.88 44 P P 09 08 23.7 +0.1
baz=324,SNR=10.0
KIV Kislovodsk 65.88 312 eP P 09 08 24.9 +1.1
KIV pmax pmax
comp=Z,30nm,1.0s
KBZ Khabaz 65.97 312 P P 09 08 24.5 +0.3
comp=Z,15nm,0.8s,baz=75,slow=3.3,SNR=25
W18A Petrified Fore 66.02 63 P P 09 08 26.1 +1.2
baz=320
E39A Mellen 66.07 43 P P 09 08 24.3 -0.5
baz=325,SNR=7.9
SPMN Marine on St. 66.09 45 eP P 09 08 24.8 -0.2
comp=Z,5.0nm,0.8s
SPMN Marine on St. 66.09 45 P P 09 08 24.4 -0.6
baz=324
SDCO Great Sand Dun 66.16 58 eP P 09 08 26.7 +0.7
comp=Z,5.9nm,0.9s
SDCO Great Sand Dun 66.16 58 P P 09 08 26.9 +1.0
baz=321,SNR=18
E40A Wakefield 66.28 42 P P 09 08 26.2 +0.1
baz=325,SNR=12
D41A Chassel 66.29 41 P P 09 08 25.5 -0.7
baz=326
F39A Loretta 66.30 43 P P 09 08 26.1 -0.1
baz=325,SNR=7.2
X18A Snowflake 66.36 64 eP P 09 08 28.4 +1.4
comp=Z,8.5nm,0.8s
NEY Neytrino 66.43 312 iP P 09 08 29.8 +2.5
NEY pmax pmax
comp=Z,1.0nm,0.9s
G38A Ridgeland 66.53 45 P P 09 08 26.9 -0.8
baz=325
KSCO Kaye Shedlock' 66.59 56 P P 09 08 28.5 +0.1
baz=322
F40A Park Falls 66.62 43 P P 09 08 28.0 -0.3
baz=325,SNR=8.5
E41A Kenton 66.63 42 P P 09 08 27.6 -0.7
baz=326
214A Organ Pipe Nat 66.80 67 P P 09 08 31.0 +1.4
baz=321,SNR=6.0
E42A Champion 67.07 41 P P 09 08 30.5 -0.5
baz=326
G40A Rib Lake 67.12 43 eP P 09 08 31.1 -0.3
comp=Z,15nm,1.4s
G40A Rib Lake 67.12 43 P P 09 08 30.8 -0.5
baz=325
F41A Three Lakes 67.17 42 P P 09 08 31.4 -0.3
baz=326,SNR=6.4
T25A Trinidad 67.18 58 eP P 09 08 32.2 +0.2
comp=Z,13nm,1.5s
T25A Trinidad 67.18 58 P P 09 08 32.3 +0.2
baz=322
E43A Lone Tree Farm 67.47 41 P P 09 08 32.5 -0.9
baz=327
H40A Chili 67.57 44 P P 09 08 33.6 -0.4
baz=325
TUC Tucson 67.62 66 eP P 09 08 35.3 +0.6
comp=Z,2.4nm,0.8s
TUC Tucson 67.62 66 eP P 09 08 35.3 +0.6
TUC pmax pmax
comp=Z,2.0nm,0.8s
TUC Tucson 67.62 66 P P 09 08 35.8 +1.2
baz=321
E44A Grand Marais A 67.67 40 P P 09 08 33.2 -1.4
baz=327
I39A Houston 67.74 45 P P 09 08 33.9 -1.2
baz=325,SNR=5.2
TASM ASL Pad, Albuq 67.85 61 P P 09 08 36.7 +0.5
baz=322,SNR=5.0
TASM ASL Pad, Albuq 67.85 61 P P 09 08 37.0 +0.8
baz=322
ANMO Albuquerque 67.85 61 eP P 09 08 36.5 +0.3
comp=Z,2.7nm,0.8s
ANMO Albuquerque 67.85 61 ⇓iP P 09 08 37.8 +1.6
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 67.85 61 P P 09 08 37.0 +0.8
baz=322
ANMO Albuquerque 67.85 61 P P 09 08 37.8 +1.6
comp=Z,1.5nm,0.5s,baz=302,slow=7.0,SNR=11
G42A Mountain 67.85 42 P P 09 08 35.2 -0.6
baz=326
F43A Flat Rock, Esc 67.85 41 P P 09 08 35.0 -0.7
baz=327
H41A Junction City 67.88 43 P P 09 08 35.3 -0.6
baz=326
LAZ Ladron 67.92 62 eP P 09 08 38.1 +1.5
GNI Garni 68.00 308 ceP P 09 08 38.1 +1.2
GNI pmax pmax
comp=Z,63nm,1.3s
F44A Big Bay de Noc 68.02 41 P P 09 08 36.2 -0.5
baz=327
I40A Norwalk 68.08 45 P P 09 08 35.7 -1.4
baz=326
J39A Decorah 68.08 46 P P 09 08 36.0 -1.2
baz=325
G43A Wallace 68.13 42 P P 09 08 36.2 -1.2
baz=326
D46A Sault St. Mari 68.14 39 P P 09 08 36.2 -1.3
baz=328
I41A Arkdale 68.25 44 P P 09 08 37.3 -0.8
baz=326
D47A Chapleau 68.34 38 P P 09 08 37.4 -1.3
baz=328
H42A Shiocton 68.42 43 P P 09 08 38.1 -1.1
baz=326
J40A Soldiers Grove 68.44 45 P P 09 08 38.2 -1.1
baz=326
E46A Sault Ste Mari 68.49 39 P P 09 08 38.2 -1.4
baz=328
K39A Oelwein 68.52 46 P P 09 08 38.7 -1.1
baz=325
SCIA State Center 68.61 47 P P 09 08 40.0 -0.3
baz=325
F45A CMU Biological 68.61 40 P P 09 08 39.4 -0.8
baz=327
LSQQ Lebel-sur-Quev 68.71 33 P P 09 08 40.2 -0.6
baz=331
D48A Paudash Townsh 68.71 37 P P 09 08 39.8 -1.1
baz=329
H43A Windswept, Lux 68.75 42 P P 09 08 40.7 -0.4
baz=327
J41A Loganville 68.76 44 P P 09 08 40.6 -0.7
baz=326
I42A Draeger Farm, 68.78 43 P P 09 08 40.7 -0.6
baz=326
E47A Iron Bridge 68.79 38 P P 09 08 40.6 -0.8
baz=328
K40A Colesburg 68.84 46 P P 09 08 41.1 -0.7
baz=326
L39A Vinton 68.95 46 P P 09 08 41.6 -0.7
baz=325
OJC Ojcow 68.96 330 eP P 09 08 41.9 -0.4
comp=Z,15nm,1.0s
OJC Ojcow 68.96 330 eP P 09 08 41.9 -0.4
OJC pmax pmax
comp=Z,15nm,1.0s
JFWS Jewell Farm 69.04 45 P P 09 08 41.9 -1.0
baz=326
121A Cookes Peak, D 69.04 63 P P 09 08 44.5 +1.2
baz=322
I43A Langenfeld Bro 69.09 43 P P 09 08 42.5 -0.7
baz=327
SEVA Sevastopol 69.13 318 ⇓iP P 09 08 42.9 -0.5
319A Douglas 69.15 65 eP P 09 08 45.1 +1.1
comp=Z,16nm,0.9s
J42A Columbus 69.17 44 P P 09 08 43.1 -0.6
baz=326
G46A Petoskey 69.17 40 P P 09 08 42.9 -0.8
baz=328
L40A Anamosa 69.33 46 P P 09 08 43.8 -0.9
baz=326
KOLS Kolonicke sedl 69.35 328 eP P 09 08 44.5 -0.2
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 69.35 328 eP P 09 08 44.5 -0.2
KSU1 Kansas State U 69.36 51 P P 09 08 44.0 -0.9
baz=324
VLDQ Val d'Or 69.38 34 eP P 09 08 43.2 -1.6
comp=Z,7.6nm,0.8s
K42A Prairie Point, 69.52 44 P P 09 08 44.9 -0.9
baz=326
BURAR Bucovina Array 69.56 325 ⇓iP P 09 08 45.8 -0.2
BURAR Bucovina Array 69.56 325 ⇓P P 09 08 45.8 -0.2
I45A Fountain 69.72 42 P P 09 08 45.5 -1.4
baz=327

E50A Wahnapitae 69.73 37 P P 09 08 45.8 -1.1
baz=330
CLL Collm 69.82 335 eP P 09 08 46.6 -0.8
comp=Z,11nm,0.6s
CLL Collm 69.82 335 ⇓iP P 09 08 46.8 -0.6
CLL pmax pmax
comp=Z,36nm,0.6s
CLL Collm 69.82 335 ⇓iP P 09 08 46.8 -0.6
comp=Z,12nm,0.6s
DPC Dobruska-Polom 69.83 332 eP P 09 08 47.9 +0.4
DPC Dobruska-Polom 69.83 332 eP P 09 08 47.9 +0.4
F49A Sandfield 69.83 38 P P 09 08 46.3 -1.2
baz=329
TRPA Tarpa 69.98 327 ⇓iP P 09 08 48.5 +0.2
BRG Berggiesshubel 69.98 334 ePKP P 09 08 46.5 -1.8
comp=Z,5.3nm,0.8s
BRG Berggiesshubel 69.98 334 eP P 09 08 46.5 -1.8
BRG pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 70.01 331 eP P 09 08 48.0 -0.6
comp=Z,12nm,0.8s
MORC Moravsky Berou 70.01 331 ⇓iP P 09 08 48.6 0.0
MORC Moravsky Berou 70.01 331 ⇓P P 09 08 48.6 0.0
MORC Moravsky Berou 70.01 331 eP P 09 08 48.6 0.0
LANS Liptovska Anna 70.01 330 eP P 09 08 49.7 +1.1
LANS Liptovska Anna 70.01 330 eP P 09 08 49.7 +1.1
L42A Oliver, Polo 70.03 45 P P 09 08 47.7 -1.1
baz=326
TESR Tescani 70.03 324 ⇓iP P 09 08 48.1 -0.6
D52A ZEK Kipawa Sen 70.05 35 P P 09 08 47.6 -1.2
baz=331
E51A G1948 Merrick 70.07 36 P P 09 08 47.8 -1.2
baz=330
M41A Milan 70.19 46 P P 09 08 48.9 -0.8
baz=326
D53A Lac Vacive, Po 70.20 34 P P 09 08 49.0 -0.7
baz=331
L43A Garden Prairie 70.27 44 P P 09 08 49.2 -0.9
baz=327
AMTX Amarillo 70.31 58 eP P 09 08 51.0 +0.3
comp=Z,22nm,1.3s
AMTX Amarillo 70.31 58 P P 09 08 50.0 -0.7
baz=323
TLCR 70.41 322 ⇑iP P 09 08 50.2 -0.7
TLCR 70.41 322 ⇑P P 09 08 50.2 -0.7
F51A Arnstein 70.44 36 P P 09 08 50.0 -1.1
baz=330
TOBO Tobermory, Bru 70.48 38 P P 09 08 50.5 -0.9
baz=330
D54A Lac Fusel, La 70.48 34 P P 09 08 50.3 -1.1
baz=332
MSTX Muleshoe 70.49 59 eP P 09 08 51.6 -0.2
comp=Z,8.7nm,0.9s
MSTX Muleshoe 70.49 59 P P 09 08 51.3 -0.5
baz=323,SNR=5.1
VRI Vrincioaia 70.56 324 ⇓iP P 09 08 51.0 -0.8
VRI Vrincioaia 70.56 324 ⇓P P 09 08 51.1 -0.8
N41A Harden Midland 70.60 47 P P 09 08 51.0 -1.2
baz=326
PLOR Plostina 70.60 324 ⇓iP P 09 08 57.9 +5.8
PLOR Plostina 70.60 324 ⇓P P 09 08 57.9 +5.8
L44A Lake County Fo 70.61 44 P P 09 08 51.3 -0.8
baz=327
PRU Pruhonice 70.63 333 eP P 09 08 52.4 +0.2
PRU Pruhonice 70.63 333 eP P 09 08 52.4 +0.2
CFR Carcaliu 70.66 322 ⇓iP P 09 08 52.0 -0.4
CFR Carcaliu 70.66 322 ⇓P P 09 08 52.0 -0.4
VRAC Vranov 70.69 332 ⇓iP P 09 08 52.9 +0.3
VRAC Vranov 70.69 332 ⇓P P 09 08 52.9 +0.3
VRAC Vranov 70.69 332 eP P 09 08 52.8 +0.2
F52A Sundridge 70.77 36 P P 09 08 52.0 -1.0
baz=330
VYHS Vyhne 70.79 330 eP P 09 08 53.3 +0.2
VYHS pmax pmax
comp=Z,4.0nm,0.7s
VYHS Vyhne 70.79 330 eP P 09 08 53.3 +0.2
JAVC Velka Javorina 70.80 331 eP P 09 08 54.3 +1.1
M43A Waltham Townsh 70.80 45 P P 09 08 52.2 -1.0
baz=327
KLBO Killbear Provi 70.83 37 P P 09 08 52.2 -1.3
baz=330
DIKM Dikmen 70.91 316 ⇑iP P 09 08 53.9 0.0
E54A Lac Daplat, Po 70.94 34 P P 09 08 53.4 -0.6
baz=331
J47A Sunmer 70.94 41 P P 09 08 53.5 -0.6
baz=328
MNTX Cornudas Mount 70.95 62 eP P 09 08 55.3 +0.9
comp=Z,12nm,0.8s
MNTX Cornudas Mount 70.95 62 P P 09 08 55.8 +1.4
baz=323,SNR=24
KRUC Moravsky 70.97 332 eP P 09 08 54.3 +0.1
PSZ Piszkesteto 70.99 329 ⇑iP P 09 08 54.2 -0.2
PSZ Piszkesteto 70.99 329 ⇑P P 09 08 54.2 -0.2
TREC Trest 71.01 332 eP P 09 08 54.7 +0.3
TREC Trest 71.01 332 eP P 09 08 54.7 +0.3
K46A Dorr 71.03 42 P P 09 08 53.2 -1.5
baz=328
BUKO Buck Lake 71.05 36 P P 09 08 53.8 -0.9
baz=330
ALGO Algonquin Park 71.06 35 P P 09 08 53.3 -1.4
baz=331
I49A Point Hope 71.10 39 P P 09 08 53.8 -1.2
baz=329
BMRO Meriville Lake 71.13 38 P P 09 08 54.1 -1.0
baz=330
MLR Muntele Rosu 71.16 324 eP P 09 08 55.6 +0.1
comp=Z,13nm,0.6s
MLR Muntele Rosu 71.16 324 ⇓iP P 09 08 56.0 +0.5
MLR Muntele Rosu 71.16 324 eP P 09 08 55.6 +0.1
MLR pmax pmax
comp=Z,13nm,0.6s
TLB Topalu 71.20 322 ⇓iP P 09 08 55.2 -0.4
TLB Topalu 71.20 322 ⇓P P 09 08 55.2 -0.4
M44A Midewin, Midew 71.22 44 P P 09 08 55.0 -0.7
baz=327
MODS Modra-Piesok 71.35 331 eP P 09 08 56.0 -0.4
MODS pmax pmax
comp=Z,10.0nm,1.1s
MODS Modra-Piesok 71.35 331 eP P 09 08 56.0 -0.4
K47A Vermontville 71.36 42 P P 09 08 56.0 -0.6
baz=328
HDIL Hopedale 71.39 46 P P 09 08 56.3 -0.5
baz=327
BASO Ashfield 71.47 39 P P 09 08 56.7 -0.5
baz=330
VOIR 71.52 324 ⇓iP P 09 08 57.7 +0.2
VOIR 71.52 324 ⇓P P 09 08 57.7 +0.2
K48A Perry 71.58 41 P P 09 08 57.7 -0.1
baz=329
G53A Haliburton 71.59 36 P P 09 08 57.4 -0.4
baz=331
KHC Kasperske Hory 71.67 334 eP P 09 08 58.2 -0.1
comp=Z,3.3nm,0.9s
KHC Kasperske Hory 71.67 334 eP P 09 08 58.2 -0.1
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 71.67 334 eP P 09 08 58.3 -0.1
N44A Piper City 71.67 45 P P 09 08 57.9 -0.5
baz=327
ICOR Ion Corvin 71.70 322 ⇑iP P 09 08 58.8 +0.4
ARR Arges 71.72 325 ⇓iP P 09 08 59.4 +0.7
WMOK Wichita Mounta 71.85 56 eP P 09 08 59.9 +0.3
comp=Z,10nm,0.8s
WMOK Wichita Mounta 71.85 56 eP P 09 08 59.9 +0.3
WMOK pmax pmax
comp=Z,10.0nm,0.8s
WMOK Wichita Mounta 71.85 56 P P 09 09 00.1 +0.5
baz=324,SNR=16
K49A Clarkson 71.86 40 P P 09 08 59.1 -0.3
baz=329
L47A Sherwood 71.86 42 P P 09 08 59.2 -0.3
baz=328,SNR=5.1
GERES GERESS Array B 71.90 333 P P 09 08 59.4 -0.3
comp=Z,2.7nm,0.5s,baz=30,slow=5.6,SNR=11
BANO Bancroft 71.92 36 P P 09 08 59.3 -0.5
baz=331
ILGA Ilgaz 72.04 316 eP P 09 09 00.7 -0.1
comp=Z,18nm,0.8s
P43A Skaggs, Pawnee 72.06 46 P P 09 09 00.1 -0.6
baz=327
O44A Mansfield 72.08 45 P P 09 09 00.1 -0.6
baz=327
G55A Calabogie 72.13 35 P P 09 09 00.0 -0.9
baz=332
CONA Conrad Observa 72.15 332 eP P 09 09 01.7 +0.5
comp=Z,4.9nm,0.6s

AAM	Ann Arbor	72.19	41	P	P	09 09 01.1	-0.2
	baz=329						
L48A	N Adams	72.19	42	P	P	09 09 01.2	-0.2
	baz=329						
PLVO	Plevna	72.20	35	P	P	09 09 00.7	-0.7
	baz=332						
M47A	Cromwell	72.22	43	P	P	09 09 01.0	-0.5
	baz=328						
Q42A	Golden Eagle	72.23	47	P	P	09 09 01.3	-0.3
	baz=326						
L49A	Milan	72.31	41	P	P	09 09 01.9	-0.1
	baz=329						
GZR	Gura Zlata	72.32	326⇑	iP	P	09 09 01.6	-0.5
GZR	Gura Zlata	72.32	326	⇑P	P	09 09 01.6	-0.5
TUL1	Leonard	72.33	53	eP	P	09 09 02.8	+0.5
	comp=Z,17nm,0.8s						
TUL1	Leonard	72.33	53	P	P	09 09 02.6	+0.4
	baz=325,SNR=7.8						
ORIO	Orleans, Innes	72.36	34	P	P	09 09 01.8	-0.4
	baz=332						
ALFO	Alfred	72.40	33	P	P	09 09 02.4	-0.1
	baz=333						
SFIN	Lafayette	72.45	44	P	P	09 09 02.3	-0.6
	baz=328						
DELO	Deloro Mine	72.47	36	P	P	09 09 02.3	-0.6
	baz=332						
BZS	Buzias	72.50	327⇑	iP	P	09 09 02.6	-0.4
BZS	Buzias	72.50	327	P	P	09 09 02.6	-0.4
J52A	Paris	72.57	38	P	P	09 09 03.1	-0.4
	baz=330						
H55A	Tweed	72.59	35	P	P	09 09 02.9	-0.7
	baz=332						
N47A	Urbana	72.60	43	P	P	09 09 03.2	-0.5
	baz=328						
CCM	Cathedral Cave	72.63	48	eP	P	09 09 03.8	-0.1
	comp=Z,4.5nm,0.8s						
CCM	Cathedral Cave	72.63	48	eP	P	09 09 03.8	-0.1
CCM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CCM	Cathedral Cave	72.63	48	P	P	09 09 03.5	-0.4
	baz=326						
MOA	Molln	72.66	333	eP	P	09 09 04.4	+0.4
	comp=Z,3.5nm,0.6s						
I55A	Frankford	72.71	36	P	P	09 09 03.5	-0.8
	baz=332						
ARSA	Arzberg	72.86	331	eP	P	09 09 05.6	+0.4
	comp=Z,4.0nm,0.6s						
HHAR	Hobbs	72.88	51	eP	P	09 09 05.3	-0.1
	comp=Z,7.7nm,0.7s						
N48A	Decatur	72.88	43	P	P	09 09 04.8	-0.5
	baz=329						
HERR	Herculane	72.89	326⇓	iP	P	09 09 04.3	-1.0
P45A	Graceland, Par	72.90	45	P	P	09 09 05.2	-0.2
	baz=328						
TYNO	Tyneside	72.92	38	P	P	09 09 04.9	-0.6
	baz=331						
O47A	Sheridan	72.95	44	P	P	09 09 05.4	-0.3
	baz=328						
ABTX	Abilene, Hawle	73.13	58	eP	P	09 09 07.5	+0.6
	comp=Z,10nm,0.8s						
ABTX	Abilene, Hawle	73.13	58	P	P	09 09 07.0	+0.1
	baz=324						
N49A	Columbus Grove	73.16	42	P	P	09 09 06.5	-0.4
	baz=329						
BR101	Keskin Array S	73.19	316	eP	P	09 09 06.9	-0.4
BR131	Keskin Array S	73.19	316	eP	P	09 09 07.0	-0.4
	comp=Z,6.4nm,0.9s						
BRTR	Keskin Array B	73.19	316	P	P	09 09 06.9	-0.4
	comp=Z,4.7nm,0.7s,baz=52,slow=3.0,SNR=12						
PECO	Prince Edward	73.20	36	P	P	09 09 06.6	-0.4
	baz=332						
Q45A	Warren Harvey,	73.26	46	P	P	09 09 07.2	-0.3
	baz=328						
U40A	Yellville	73.32	51	P	P	09 09 07.7	-0.2
	baz=326,SNR=18						
O48A	Farmland	73.34	43	P	P	09 09 07.7	-0.3
	baz=329						
SOKA	Soboth	73.53	332	eP	P	09 09 09.0	+0.1
	comp=Z,4.8nm,0.5s						
P47A	Martinsville	73.55	44	P	P	09 09 09.1	0.0
	baz=328						
KBA	Koelnbreinsper	73.62	333	eP	P	09 09 10.4	+0.8
	comp=Z,8.6nm,0.6s						
N50A	Nevada	73.70	41	P	P	09 09 09.6	-0.4
	baz=329						
M52A	Chesterland	73.72	40	P	P	09 09 09.8	-0.2
	baz=330						
ERPA	Erie	73.73	39	P	P	09 09 09.7	-0.4
	baz=331						
LTX	Lajitas	73.73	62	eP	P	09 09 11.7	+1.3
LTX	Lajitas	73.73	62	eP	P	09 09 11.7	+1.3
TXAR	Lajitas Array	73.73	62	P	P	09 09 11.7	+1.3
	comp=Z,8.1nm,0.7s,baz=300,slow=4.5,SNR=86						
L53A	Girard	73.77	39	P	P	09 09 10.0	-0.4
	baz=331						
S44A	Carbondale	73.80	47	P	P	09 09 10.2	-0.4
	baz=327						
OBKA	Obir	73.81	332	eP	P	09 09 10.8	+0.2
	comp=Z,5.1nm,0.9s						
W39A	Magazine	73.85	52	P	P	09 09 10.6	-0.3
	baz=326						
WATA	Walderalm	73.85	334	iP	P	09 09 11.9	+1.0
	comp=Z,12nm,1.1s						
L54A	Sinclairville	73.87	38	P	P	09 09 10.2	-0.7
	baz=331						
N51A	Ashland	73.87	41	P	P	09 09 10.1	-0.8
	baz=330						
K55A	Perry	73.88	37	P	P	09 09 10.5	-0.5
	baz=332						
WTTA	Wattenberg	73.90	334	eP	P	09 09 11.8	+0.6
	comp=Z,5.9nm,0.5s						
P48A	Milroy	73.91	44	P	P	09 09 10.6	-0.6
	baz=329						
RETA	Reutte	73.91	335	P	P	09 09 11.5	+0.4
	comp=Z,6.0nm,0.9s						
Q47A	Bedord North L	73.95	45	P	P	09 09 10.8	-0.6
	baz=328						
PHSR	Pinarhisar	73.95	321⇓	iP	P	09 09 11.4	0.0
MOTA	Moosalm	73.96	334	P	P	09 09 11.8	+0.3
	comp=Z,4.4nm,0.8s						
O50A	Cable	74.05	42	P	P	09 09 11.2	-0.8
	baz=329						
SQTA	Sankt Quirin	74.05	334	eP	P	09 09 12.4	+0.5
	comp=Z,6.1nm,0.7s						
PBMO	Poplar Bluff	74.05	49	eP	P	09 09 11.9	-0.1
	comp=Z,7.2nm,0.8s						
M53A	WI Miller and	74.06	39	P	P	09 09 11.8	-0.2
	baz=330						
PALK	Pallekele	74.08	260	eP	P	09 09 11.8	-0.7
	comp=Z,25nm,0.9s						
PALK	Pallekele	74.08	260	eP	P	09 09 11.8	-0.7
PALK				pmax	pmax		
	comp=Z,25nm,0.9s						
PALK	Pallekele	74.08	260	P	P	09 09 12.1	-0.4
	comp=Z,19nm,0.8s,baz=116,slow=3.1,SNR=5.9						
P49A	Miami Univ. Ec	74.14	43	P	P	09 09 12.3	-0.2
	baz=329						
ABTA	Abfaltersbach	74.15	333	eP	P	09 09 12.9	+0.4
	comp=Z,5.5nm,0.7s						
L55A	Hinsdale	74.23	37	P	P	09 09 12.3	-0.7
	baz=332						
Q48A	North Vernon	74.24	44	P	P	09 09 12.7	-0.3
	baz=329						
DAVA	Damuels	74.32	335	eP	P	09 09 14.3	+0.8
	comp=Z,12nm,1.1s						
FETA	Feichten	74.36	335	eP	P	09 09 14.3	+0.6
	comp=Z,5.5nm,0.8s						
M54A	Oil Creek Stat	74.38	39	P	P	09 09 13.3	-0.4
	baz=331						
P50A	Jamestown	74.44	42	P	P	09 09 13.5	-0.6
	baz=329						
R47A	Wooly Knot Far	74.45	45	P	P	09 09 13.7	-0.4
	baz=328						
WHAR	Wooly Hollow	74.46	51	eP	P	09 09 14.5	+0.2
	comp=Z,8.4nm,0.8s						
S46A	Don Dixon Farm	74.47	46	P	P	09 09 14.1	-0.2
	baz=328						
MIAR	Mount Ida	74.48	52	P	P	09 09 14.4	0.0
	baz=326						
N53A	Lisbon	74.55	40	P	P	09 09 14.4	-0.4
	baz=330						
W41B	Gary Mavity, V	74.57	51	eP	P	09 09 15.1	+0.2
	comp=Z,11nm,0.8s						
W41B	Gary Mavity, V	74.57	51	P	P	09 09 14.7	-0.2
	baz=326,SNR=12						
WCI	Wyandotte Cave	74.60	45	eP	P	09 09 15.2	+0.1
	comp=Z,8.1nm,0.7s						
WCI	Wyandotte Cave	74.60	45	eP	P	09 09 15.2	+0.1
WCI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WCI	Wyandotte Cave	74.60	45	P	P	09 09 14.9	-0.2
	baz=328						
VTS	Vitosha	74.62	324	eP	P	09 09 14.4	-0.9
	comp=Z,14nm,0.8s						
VTS	Vitosha	74.62	324⇓	iP	P	09 09 15.0	-0.3
VTS	Vitosha	74.62	324	⇓P	P	09 09 15.0	-0.3
R48A	Northridge Ran	74.63	45	P	P	09 09 14.8	-0.4
	baz=329						
WHTX	Lake Whitney,	74.72	56	P	P	09 09 16.0	+0.1
	baz=325						
N54A	Moraine State	74.73	39	P	P	09 09 15.3	-0.5
	baz=331						
M55A	Ridgway	74.74	38	P	P	09 09 15.3	-0.5
	baz=331						
O52A	Adamsville	74.77	41	P	P	09 09 15.4	-0.6
	baz=330						
JCT	Junction City	74.79	59	eP	P	09 09 16.6	+0.3
	comp=Z,8.9nm,0.9s						
JCT	Junction City	74.79	59	eP	P	09 09 16.6	+0.3
JCT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
JCT	Junction City	74.79	59	P	P	09 09 16.3	0.0
	baz=325						
DAVOX	Davos/Dischmat	74.79	335	P	P	09 09 16.4	+0.2
	comp=Z,6.3nm,0.6s,baz=26,slow=4.0,SNR=7.8						
X40A	Basin Creek Fa	74.87	52	P	P	09 09 16.6	-0.1
	baz=326,SNR=6.8						
O53A	New Philadelph	74.89	40	P	P	09 09 16.2	-0.5
	baz=330						
S47A	Hartford	74.89	46	P	P	09 09 16.2	-0.5
	baz=328						
T46A	Princeton	74.93	47	P	P	09 09 16.7	-0.2
	baz=328						
R49A	Shelbyville	75.01	44	P	P	09 09 17.0	-0.3
	baz=329						
Q50A	Georgetown	75.02	43	P	P	09 09 16.9	-0.5
	baz=329						
P52A	Corning	75.07	41	P	P	09 09 17.4	-0.3
	baz=330						
BINY	Binghamton	75.08	36	P	P	09 09 17.0	-0.7
	baz=333						
Q51A	Peebles	75.12	42	P	P	09 09 17.6	-0.3
	baz=330						
S48A	Wiedeman Farm,	75.19	45	P	P	09 09 17.9	-0.4
	baz=329						
TUE	Stuetta	75.21	335	eP	P	09 09 18.6	0.0
	comp=Z,12nm,0.8s						
N55A	Marion Center	75.26	39	P	P	09 09 18.1	-0.6
	baz=331						
T47A	Sharon Grove	75.31	46	eP	P	09 09 19.2	+0.1
	comp=Z,8.3nm,0.8s						
T47A	Sharon Grove	75.31	46	P	P	09 09 18.7	-0.3
	baz=328						
R50A	Paris	75.36	44	P	P	09 09 18.9	-0.3
	baz=329						
U46A	Springville	75.39	47	P	P	09 09 19.5	+0.1
	baz=328						
N56A	West Decatur	75.39	38	P	P	09 09 18.9	-0.5
	baz=332						
S49A	Springfield	75.39	44	P	P	09 09 19.4	0.0
	baz=329,SNR=5.8						
P53A	Whipple	75.48	41	P	P	09 09 19.9	-0.1
	baz=330						
T48A	Bowling Green	75.51	46	P	P	09 09 19.7	-0.4
	baz=329						
Q52A	Bidwell	75.60	42	P	P	09 09 20.2	-0.4
	baz=330						
WRAB	Tennant Creek	75.62	199	eP	P	09 09 20.9	+0.1
	comp=Z,17nm,1.0s						
WRAB	Tennant Creek	75.62	199	eP	P	09 09 20.9	+0.1
WRAB				pmax	pmax		
	comp=Z,17nm,1.0s						
WB2	Warramunga Arr	75.63	199	eP	P	09 09 20.9	+0.1
	comp=Z,14nm,0.9s						
WR1	Warramunga Arr	75.63	199	eP	P	09 09 21.3	+0.4
WRA	Warramunga Arr	75.63	199	P	P	09 09 21.3	+0.4
	comp=Z,8.7nm,0.5s,baz=10,slow=6.1,SNR=108						
O55A	Ligonier	75.64	39	P	P	09 09 20.4	-0.4
	baz=331						
R51A	Hillsboro	75.65	43	P	P	09 09 20.7	-0.1
	baz=330						
U47A	Clarksville	75.70	47	P	P	09 09 21.0	-0.1
	baz=328						
WVT	Waverly	75.73	47	eP	P	09 09 21.5	+0.2
	comp=Z,5.5nm,0.6s						
WVT	Waverly	75.73	47	eP	P	09 09 21.5	+0.2
WVT				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WVT	Waverly	75.73	47	P	P	09 09 21.3	-0.1
	baz=328						
P54A	Burton	75.73	40	P	P	09 09 20.9	-0.4
	baz=331						
N57A	Milroy	75.80	38	P	P	09 09 21.2	-0.5
	baz=332						
FITZ	Fitzroy Crossi	75.84	207	eP	P	09 09 22.1	+0.1
	comp=Z,8.6nm,1.0s						
S50A	Richmond	75.85	44	P	P	09 09 21.6	-0.4
	baz=329						
O56A	Blue Knob Stat	75.86	38	P	P	09 09 21.6	-0.5
	baz=332						
T49A	Edmonton	75.87	45	eP	P	09 09 22.1	0.0
	comp=Z,6.1nm,0.6s						
T49A	Edmonton	75.87	45	P	P	09 09 21.8	-0.3
	baz=329,SNR=5.3						
V46A	Holladay	75.88	48	P	P	09 09 21.9	-0.2
	baz=328						
U48A	Cassie Pea, Po	75.96	46	P	P	09 09 22.2	-0.4
	baz=329						
Q53A	Leroy	75.98	41	P	P	09 09 22.1	-0.5
	baz=330						
R52A	Catlettsburg	75.99	42	P	P	09 09 22.3	-0.4
	baz=330						
P55A	Reedsville	76.06	40	P	P	09 09 22.7	-0.5
	baz=331						
PDG	Podgorica	76.11	327⇑	iP	P	09 09 22.0	-1.3
V47A	Nunnelly	76.12	47	P	P	09 09 23.3	-0.2
	baz=328,SNR=5.8						
S51A	Beattyville	76.21	43	P	P	09 09 23.5	-0.5
	baz=330						
T50A	Nancy	76.23	45	P	P	09 09 23.9	-0.2
	baz=329,SNR=6.8						
O57A	Amberson	76.25	38	P	P	09 09 23.4	-0.7
	baz=332						
NATX	Nacogdoches	76.27	54	P	P	09 09 24.1	-0.2
	baz=326						
U49A	Red Boiling Sp	76.28	45	P	P	09 09 23.8	-0.5
	baz=329						
N59A	State Game Lan	76.29	36	P	P	09 09 23.5	-0.9
	baz=333						
W46A	Michie	76.33	48	P	P	09 09 24.2	-0.5
	baz=328						
S52A	Salyersville	76.38	43	P	P	09 09 24.7	-0.2
	baz=330						
CLTN	Cedars of Leba	76.40	46	eP	P	09 09 25.2	+0.2
	comp=Z,4.1nm,0.7s						
V48A	Smith Brothers	76.49	47	P	P	09 09 25.2	-0.3
	baz=329						
W47A	Westpoint	76.57	47	P	P	09 09 25.6	-0.3
	baz=328						
T51A	Gray	76.65	44	P	P	09 09 26.0	-0.4
	baz=330						
X46A	Booneville	76.73	49	P	P	09 09 26.3	-0.5
	baz=328						
U50A	Jamestown	76.75	45	P	P	09 09 26.6	-0.3
	baz=329,SNR=5.8						
R54A	Victor	76.77	41	P	P	09 09 26.5	-0.6
	baz=331						
V49A	McMinnville	76.86	46	P	P	09 09 27.1	-0.4
	baz=329						
T52A	Hallie	76.91	43	P	P	09 09 27.4	-0.5
	baz=330						
W48A	Pulaski	76.95	47	P	P	09 09 27.5	-0.5
	baz=329						
R55A	Marlinton	77.02	41	P	P	09 09 27.6	-0.8
	baz=331						
X47A	Russelville	77.08	48	P	P	09 09 28.2	-0.5
	baz=328						
U51A	La Follette	77.12	44	P	P	09 09 28.5	-0.5
	baz=330						
TZTN	Tazewell	77.17	44	P	P	09 09 28.9	-0.3
	baz=330						
BNI	Bardonecchia	77.19	337	eP	P	09 09 29.3	0.0
	comp=Z,5.7nm,0.7s						
BNI	Bardonecchia	77.19	337	eP	P	09 09 29.3	0.0
BNI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
T53A	Wise	77.20	43	P	P	09 09 29.0	-0.5
	baz=330						
W49A	Belvidere	77.26	47	P	P	09 09 29.1	-0.6
	baz=329						
V50A	Pikevile	77.28	45	P	P	09 09 29.3	-0.5
	baz=329						
S55A	Lewisburg	77.32	41	P	P	09 09 29.7	-0.3
	baz=331						
SWET	Sewanee	77.32	46	eP	P	09 09 29.4	-0.7
	comp=Z,6.3nm,0.9s						
U52A	Thorn Hill	77.38	44	P	P	09 09 30.1	-0.3
	baz=330						
M65A	Busby, Falmout	77.41	32	P	P	09 09 29.5	-0.8
	baz=335						
V51A	Loudon	77.48	45	P	P	09 09 30.3	-0.6
	baz=330						
X48A	Hartselle	77.49	47	P	P	09 09 30.3	-0.6
	baz=329						
T54A	Tazewell	77.52	42	P	P	09 09 30.4	-0.7
	baz=331						
W50A	Signal Mountai	77.59	46	P	P	09 09 30.9	-0.6
	baz=329						
U53A	Fall Branch	77.72	43	P	P	09 09 31.6	-0.6
	baz=330						
X49A	Woodville	77.75	47	P	P	09 09 32.0	-0.3
	baz=329,SNR=7.0						
V52A	Sevierville	77.76	44	eP	P	09 09 32.0	-0.4
	comp=Z,7.2nm,0.9s						
V52A	Sevierville	77.76	44	P	P	09 09 31.8	-0.6
	baz=330						
T55A	Pulaski	77.78	42	P	P	09 09 31.8	-0.7
	baz=331						
R58A	Rapidan	77.80	39	P	P	09 09 32.0	-0.5
	baz=332						
W51A	Cleveland	77.86	45	P	P	09 09 32.4	-0.5
	baz=330						
U54A	Nelsons Funny	77.89	43	P	P	09 09 32.8	-0.3
	baz=331						
X50B	Fort Payne	78.08	46	P	P	09 09 33.4	-0.8
	baz=329						
U55A	TA2, Sparta	78.21	42	P	P	09 09 34.3	-0.6
	baz=331						
V53A	Saluda	78.22	44	P	P	09 09 34.5	-0.4
	baz=330						
W52A	Murphy	78.26	45	P	P	09 09 34.7	-0.4
	baz=330						
Y49A	Blount Mountai	78.27	47	P	P	09 09 34.6	-0.6
	baz=329						
147A	Livingston	78.46	49	P	P	09 09 35.8	-0.3
	baz=328						
T57A	Hurt	78.47	41	P	P	09 09 35.6	-0.5
	baz=332						
V54A	Nebo	78.48	43	P	P	09 09 35.9	-0.4
	baz=331						
W53A	Cullowhee	78.51	44	P	P	09 09 36.1	-0.5
	baz=330						
Y50A	Piedmont	78.53	47	P	P	09 09 36.0	-0.5
	baz=329						
LRAL	Lakeview Retre	78.72	48	P	P	09 09 37.2	-0.2
	baz=329						
Z49A	Columbiana	78.78	48	P	P	09 09 37.4	-0.5
	baz=329						
T58A	Grand View Acr	78.79	40	P	P	09 09 37.3	-0.5
	baz=332						
Y51A	Rockmart	78.81	46	P	P	09 09 37.4	-0.6
	baz=330						
U57A	Blanch	78.94	41	P	P	09 09 37.9	-0.7
	baz=332						
W54A	Cherokee Point	78.98	44	P	P	09 09 38.3	-0.6
	baz=331						
Z50A	Ashland	79.00	47	eP	P	09 09 38.7	-0.3
	comp=Z,11nm,0.6s						
Z50A	Ashland	79.00	47	P	P	09 09 38.7	-0.3
	baz=329,SNR=7.8						
V56A	Mocksville	79.03	42	P	P	09 09 38.7	-0.4
	baz=331						
X53A	Estanollee	79.03	45	P	P	09 09 38.8	-0.3
	baz=330						
149A	Jones	79.18	48	P	P	09 09 39.6	-0.3
	baz=329						
V57A	Coltrane Farms	79.25	41	P	P	09 09 39.6	-0.6
	baz=332						
Y52A	Lilburn	79.27	46	P	P	09 09 40.0	-0.4
	baz=330						
U58A	Oxford	79.27	40	P	P	09 09 40.1	-0.3
	baz=332						
KMSC	Kings Mountain	79.28	43	P	P	09 09 40.0	-0.5
	baz=331						
AS31	Alice Springs	79.34	198	eP	P	09 09 41.3	+0.6
	comp=Z,2.6nm,0.8s						
ASAR	Alice Springs	79.34	198	P	P	09 09 41.2	+0.5
	comp=Z,5.8nm,0.4s,baz=12,slow=5.0,SNR=121						
KARP	Karpathos	79.39	318	eP	P	09 09 39.4	-1.7
	comp=Z,13nm,0.7s						
Y53A	Monroe	79.47	45	P	P	09 09 40.9	-0.5
	baz=330						
150A	Eclectic	79.51	48	P	P	09 09 40.9	-0.7
	baz=329						
249A	Camden	79.56	49	P	P	09 09 42.0	+0.1
	baz=329						
V58A	Windy Hill, Pi	79.58	41	P	P	09 09 41.4	-0.6
	baz=332						
Z52A	Williamson	79.70	46	P	P	09 09 42.3	-0.4
	baz=330						
X55A	Gracelyn & Ava	79.74	44	P	P	09 09 42.5	-0.3
	baz=331						
W57A	Gilead	79.80	42	P	P	09 09 42.7	-0.5
	baz=332						
Y54A	Tignall	79.84	45	P	P	09 09 42.9	-0.5
	baz=330						
151A	Opelika	79.88	47	P	P	09 09 42.8	-0.8
	baz=330						
GOGA	Godfrey	79.91	45	P	P	09 09 43.2	-0.5
	baz=330						
V59A	Middlesex	79.94	40	P	P	09 09 43.4	-0.4
	baz=332						
X56A	White Oak	79.97	43	P	P	09 09 43.6	-0.4
	baz=331						
152A	Waverly Hall	80.02	47	P	P	09 09 43.9	-0.4
	baz=330						
Y55A	Saluda	80.11	44	P	P	09 09 44.3	-0.4
	baz=331						
251A	Midway	80.21	48	P	P	09 09 45.1	-0.2
	baz=330						
W58A	Raeford	80.22	42	P	P	09 09 44.5	-0.8
	baz=332						
Z54A	Sparta	80.32	45	P	P	09 09 45.5	-0.4
	baz=330						
449A	Pace	80.56	50	P	P	09 09 47.0	-0.1
	baz=329						
X58A	Rowland	80.58	42	P	P	09 09 46.6	-0.6
	baz=332						
252A	Lumpkin	80.59	47	P	P	09 09 47.1	-0.1
	baz=330						
351A	Pinckard	80.83	48	P	P	09 09 48.3	-0.1
	baz=330						
352A	Blakely	80.95	47	P	P	09 09 48.9	-0.2
	baz=330						
155A	Kite	81.01	45	P	P	09 09 49.1	-0.3
	baz=331						
Y58A	Scranton	81.02	42	P	P	09 09 49.2	-0.2
	baz=332						
254A	Abbeville	81.25	46	P	P	09 09 50.4	-0.3
	baz=330						
451A	Vernon	81.33	49	P	P	09 09 50.9	-0.1
	baz=330						
353A	Camilla	81.37	47	P	P	09 09 51.0	-0.3
	baz=330						
Z58A	St. Stephen	81.47	43	P	P	09 09 51.5	-0.2
	baz=332						
256A	Glennville	81.81	45	P	P	09 09 52.7	-0.8
	baz=331						
158A	Hollywood	81.84	43	P	P	09 09 53.2	-0.4
	baz=332						
357A	Townsend	82.46	45	P	P	09 09 55.8	-0.9
	baz=331						
456A	Hilliard	82.84	46	P	P	09 09 58.2	-0.4
	baz=331						
657A	Interlachen	83.90	46	P	P	09 10 03.0	-0.9
	baz=331						
ESDC	Sonseca Array	84.53	343	P	P	09 10 06.0	-1.0
	comp=Z,3.2nm,0.7s,baz=5.8,slow=4.0,SNR=12						
KEST	Kesra	85.26	331	P	P	09 10 10.9	+0.4
	comp=Z,5.7nm,0.5s,baz=55,slow=5.5,SNR=4.1						
859A	Kempfer Cattle	85.64	46	P	P	09 10 11.3	-1.0
	baz=332						
STKA	Stephens Creek	86.31	190	eP	P	09 10 15.5	+0.4
	comp=Z,3.1nm,1.6s						

STKA **Stephens Creek 86.31 190** P **P 09 10 14.7 -0.5**
comp=Z,1.8nm,0.7s,baz=336,slow=3.6,SNR=5.6
059A Moore Haven 86.49 47 P **P 09 10 15.3 -1.0**
baz=332
061Z Ochoppi 87.55 47 P **P 09 10 20.7 -0.6**
baz=332
TORD Torodi Ar. Bea 108.78 331 PKiKP **PKiKP 09 15 56.6 -1.3**
comp=Z,0.3nm,0.5s,baz=3.1,slow=2.2,SNR=3.6
TORD PP **PP 09 16 34.8 -1.9**
comp=Z,0.5nm,0.7s,baz=6.5,slow=8.1,SNR=3.6
LPAZ La Paz 130.35 57 SKPbc **SKPbc 09 19 04.0 -1.3**
comp=Z,1.9nm,0.7s,baz=356,slow=6.2,SNR=11
VNDA Vanda 131.53 178 *e*PKPdf **PKPdf 09 16 39.9 +0.5**
VNDA Vanda 131.53 178 PKP **PKPdf 09 16 39.0 -0.4**
comp=Z,0.6nm,0.7s,baz=314,slow=4.7,SNR=3.6
VNDA SKPbc **SKPbc 09 19 06.2 -0.7**
comp=Z,2.6nm,0.7s,baz=323,slow=4.3,SNR=16
BOSA Boshof 134.86 283 PKP **PKPdf 09 16 47.9 +0.6**
comp=Z,2.0nm,0.9s,baz=333,slow=3.7,SNR=3.4
MAW Mawson 138.56 215 SKPbc **SKPbc 09 19 28.0 -0.8**
comp=Z,3.3nm,0.8s,baz=79,slow=5.2,SNR=4.4
CPUP Villa Florida 144.09 52 PKP **PKPdf 09 17 03.9 0.0**
comp=Z,1.3nm,0.4s,baz=350,slow=1.1,SNR=12
SYO Syowa Base 147.19 217⇑ *e*PKPdf **PKPbc 09 17 09.4 -1.7**
SYO Syowa Base 147.19 217⇓ *e*PKPbc **PKiKP 09 17 12.6 -0.1**
SYO Syowa Base 147.19 217⇓ *e*PKiKP **PKPab 09 17 14.4 -0.8**
PLCA Paso Flores 147.88 84 PKPbc **PKPbc 09 17 14.5 +0.6**
comp=Z,2.0nm,0.9s,baz=314,slow=8.5,SNR=2.5
PLCA SKPbc **SKiKP 09 19 53.1 +0.9**
comp=Z,4.0nm,1.1s,baz=330,slow=6.9,SNR=4.4

PRU 28 09:06:11.6±0.0, 51°.50N×16°.07E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**168**	*e*Pg	Pg	09 06 23.7	-0.8
KSP				*e*Sg	Sg	09 06 33.6	+0.5
UPC	**Upice**	**0.99**	**182**	*e*PG	Pg	09 06 30.3	-0.3
UPC				*e*SG	Sg	09 06 43.7	+0.2
	comp=Z,10nm,0.4s						
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	Pg	09 06 32.9	-0.9
DPC				*e*SG	Sg	09 06 48.5	-0.4
	comp=Z,11nm,0.5s						
BRG	**Berggiesshubel**	**1.48**	**246**	PG	Pn	09 06 37.5	-1.9
BRG				SG	Sg	09 06 57.3	-1.8
	26nm,0.5s						
KRLC	**Kraliky**	**1.50**	**162**	*e*SG	Sn	09 07 00.2	+0.2
	comp=Z,3.0nm,0.6s						
MORC	**Moravsky Berou**	**1.96**	**151**	*e*PN	Pn	09 06 42.7	-3.5
MORC				*e*SG	Sn	09 07 11.5	0.0
VRAC	**Vranov**	**2.22**	**171**	*e*SG	Sb	09 07 21.3	+0.7
NKC	**Novy Kostel**	**2.62**	**242**	*e*SG	Sg	09 07 36.2	+0.4
	comp=Z,8.5nm,0.4s						
KHC	**Kasperske Hory**	**2.86**	**215**	*e*SG	Sg	09 07 41.8	-1.6

DDA 28 09:08:02.3, 39°.54N×28°.16E, h7km±1km, ML2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.38**	**244**	IAML_P			
	comp=Z,2μm,0.3s						
STEP				*i* P	Pg	09 08 10.2	+0.5
ULDT	**Uludag**	**0.96**	**51**	IAML_P			
	comp=Z,496nm,0.4s						
ULDT				*i* P	Pb	09 08 21.5	+0.1
USAK	**Uak-Merkez**	**1.06**	**141**	IAML_P			
	comp=Z,472nm,0.3s						
USAK				*i* P	Pb	09 08 23.1	+0.1
GDZ	**Gediz**	**1.12**	**113**	IAML_P			
	comp=Z,846nm,0.3s						
GDZ				*i* P	Pn	09 08 25.5	+1.0
GDZ				*i* S	Sn	09 08 40.6	+0.4

*NNC **28** 09:10:09.3±4.4, 41°.56N×75°.46E, h15km±62km, mb3.5, mpv2.9, Error ellipse: s-maj=73.8km s-min=26.5km az=23.0*
*ISCJB **28** 09:10:31.4±0.5, 42°.33N±0°.03×75°.89E±0°.04, h22km±6km, Error ellipse: s-maj=5.3km s-min=4.6km az=6.4*
*KRNET **28** 09:10:31.2±0.1, 42°.32N×75°.89E, h21km, mb1.8*
ISC 28 09:10:30.9±1.0, 42°.32N±0°.04×75°.88E±0°.03, h16km±11km, n11, σ0°.940/18, 13C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**0.18**	**15**	⇓ *i* P	**Pb**	**09 10 35.8**	**-0.1**
	baz=12						
BOOM				⇓ *i* S	**Sb**	**09 10 39.2**	**-0.1**
	baz=12						
ULHL	**Ulahol**	**0.28**	**105**	⇑ *i* P	**Pg**	**09 10 37.0**	**0.0**
	baz=5.0						
ULHL				⇑ *i* S	**Sg**	**09 10 41.1**	**-0.1**
	baz=5.0						
KZA	**Kyzart**	**0.52**	**243**	⇑ *i* P	**Pg**	**09 10 41.6**	**+0.2**
	baz=44						
KZA				⇑ *i* S	**Sb**	**09 10 49.1**	**-0.4**
	baz=44						
TKM2	**Tokmak 2**	**0.64**	**341**	⇑ Sn	**Sb**	**09 10 52.5**	**-0.1**
	3.5nm,0.2s						
TKM2	**Tokmak 2**	**0.64**	**341**	⇑ *i* P	**Pb**	**09 10 44.0**	**+0.2**
	baz=40						
TKM2				⇑ *i* S	**Sb**	**09 10 52.3**	**-0.3**
	baz=40						
KST	**Kastek**	**0.73**	**5**	P	Pb	09 10 36.4	-8.9
	1.6nm,0.3s						
KST				S	**Sb**	**09 10 55.8**	**+0.7**
	17nm,0.3s						
NRN	**Naryn**	**0.89**	**174**	⇑ *i* P	**Pg**	**09 10 48.5**	**+0.3**
	baz=76						
NRN				⇑ *i* S	**Sg**	**09 11 00.4**	**+0.5**
	baz=76						
DGS	**Degeres**	**0.93**	**355**	P	Pb	09 10 39.6	-9.1
	1.0nm,0.3s						
DGS				S	**Sb**	**09 11 01.1**	**+0.3**
	4.4nm,0.3s						
KDJ	**Kajisay**	**0.99**	**101**	⇑ *i* P	**Pb**	**09 10 49.2**	**-0.5**
	baz=1.0						
KDJ				⇑ *i* S	**Sb**	**09 11 03.1**	**+0.6**
	baz=1.0						
KNDC	**Almaty**	**1.21**	**41**	⇑ Pn	Pn	09 10 41.7	-11
	12nm,0.2s						
KNDC				⇑ Sn	**Sb**	**09 11 08.3**	**-0.5**
	22nm,0.2s						
ARLS	**Aral**	**1.24**	**249**	⇓ *i* P	**Pb**	**09 10 53.9**	**-0.2**
	baz=50						
ARLS				⇓ *i* S	**Sg**	**09 11 10.7**	**-0.4**
	baz=50						

*NDI **28** 09:36:33.5±2.0, 20°.28N×94°.14E, h10km, ML3.3*
*ISCJB **28** 09:36:39.9±0.5, 20°.67N±0°.04×94°.00E±0°.06, h52km, mb3.8/13, Error ellipse: s-maj=8.8km s-min=4.9km az=149.8*
*IDC **28** 09:36:43.7±2.1, 20°.61N×94°.05E, h67km±19km, mb3.6/13, mb1 3.7/15, mb1mx3.5/51, mbtmp3.9/15, Error ellipse: s-maj=25.9km s-min=13.2km az=48.0*
ISC 28 09:36:41.5±0.7, 20°.61N±0°.07×94°.13E±0°.08, h52km, n36, σ1°.978/40, mb3.8/13, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**2.15**	**331**	*e*P	**Pn**	**09 37 14.8**	**-0.3**
SAIH				*e*S	**Sn**	**09 37 44.0**	**+3.2**
SAIH				IAML		09 37 49.6	
	comp=N,240nm,0.2s						
SAIH				IAML		09 37 50.5	
	comp=E,272nm,0.2s						
BRDH	**Bariadhala**	**3.10**	**312**	P	**Pn**	**09 37 30.6**	**+2.7**
	comp=E,39nm,0.3s,baz=105,slow=19,SNR=2.3						
BRDH				S	**Sn**	**09 38 04.8**	**+1.1**
	comp=E,16nm,0.3s,baz=90,slow=20,SNR=2.5						
BELO	**BELONIA**	**3.62**	**317**	*e*S	**Sn**	**09 38 16.7**	**+0.1**
CMMT	**Chiang Mai**	**4.88**	**111**	P	Pn	09 37 57.5	+5.1
	comp=E,7.6nm,0.7s,comp=E,260nm						
CMAR	**Chiang Mai Arr**	**5.02**	**114**	P	**Pn**	**09 37 57.5**	**+3.2**
	comp=E,1.1nm,0.3s,baz=288,slow=14,SNR=9.9						
KOHI	**KOHIMA**	**5.09**	**360**	*e*S	**Sn**	**09 38 53.4**	**+0.4**
KOHI				IAML		09 39 00.8	
	comp=E,35nm,0.9s						
KOHI				IAML		09 39 00.9	
	comp=N,28nm,0.3s						
SHL	**Shillong**	**5.35**	**338**	*e*P	**Pn**	**09 37 56.3**	**-2.7**
SHL				*e*S	**Sn**	**09 38 58.1**	**-1.4**
SHL				IAML		09 39 05.7	
	comp=N,30nm,0.1s						
SHL				IAML		09 39 06.1	
	comp=E,32nm,0.0s						
PAYA	**Payao**	**5.54**	**102**	P	**Pn**	**09 38 02.9**	**+1.4**
TEZP	**TEZPUR**	**6.11**	**349**	*e*P	**Pn**	**09 38 07.4**	**-1.8**
TEZP				*e*S	**Sn**	**09 39 16.8**	**-0.9**
TEZP				IAML		09 39 20.1	
	comp=N,48nm,0.3s						
TEZP				IAML		09 39 21.4	
	comp=E,48nm,0.3s						
NANT	**Nan**	**6.45**	**105**	P	Pn	09 38 20.7	+6.8
	comp=E,19μm,0.5s,comp=E,652μm						
ITAN	**ITANAGAR**	**6.52**	**357**	*e*P	**Pn**	**09 38 13.6**	**-1.2**
ITAN				*e*S	**Sn**	**09 39 26.0**	**-1.9**
ZIRO	**ZIRO**	**6.89**	**358**	*e*P	**Pn**	**09 38 18.8**	**-1.3**
ZIRO				*e*S	**Sn**	**09 39 37.6**	**+0.2**
PBKT	**Sadao Pong**	**7.63**	**121**	P	**Pn**	**09 38 29.5**	**-0.6**
GTK	**Tadong**	**8.38**	**324**	*e*P	**Pn**	**09 38 39.3**	**-1.2**
ODAN	**Odare**	**8.77**	**317**	*e*P	**Pn**	**09 38 45.4**	**-0.5**
	comp=E,6.8nm,0.3s						
RAMN	**Ramite**	**9.35**	**314**	*e*P	**Pn**	**09 38 52.6**	**-1.3**
	comp=E,16nm,0.4s						
JIRN	**Jiri**	**10.09**	**316**	*e*P	**Pn**	**09 39 02.7**	**-1.4**
	comp=E,9.9nm,0.2s						
PKI	**Pulchoki**	**10.56**	**313**	*e*P	**Pn**	**09 39 08.6**	**-1.9**
	comp=E,11nm,0.5s						
PKIN	**Phulchoki**	**10.57**	**313**	*e*P	**Pn**	**09 39 08.5**	**-2.1**
	comp=E,10.0nm,0.4s						
KOLN	**Koldanda**	**11.96**	**309**	*e*P	**Pn**	**09 39 26.5**	**-3.1**
	comp=E,5.5nm,0.2s						
DANN	**Dangsing**	**12.18**	**311**	*e*P	**Pn**	**09 39 29.3**	**-3.4**
	comp=E,10nm,0.5s						
PYUN	**Piuthan**	**12.59**	**308**	*e*P	**Pn**	**09 39 34.5**	**-3.7**
	comp=E,2.2nm,0.2s						
TRTT	**Trang**	**13.79**	**156**	P	**Pn**	**09 39 50.7**	**-3.7**
MKAR	**Makanchi Array**	**27.85**	**342**	P	**P**	**09 42 26.9**	**+0.8**
	comp=E,0.8nm,0.5s,baz=152,slow=9.3,SNR=13						
SONM	**Songino Array**	**28.92**	**17**	P	**P**	**09 42 36.1**	**+0.4**
	comp=E,0.3nm,0.4s,baz=195,slow=10,SNR=3.0						
KURBB	**Kurchatov Arra**	**32.39**	**341**	P	**P**	**09 43 06.9**	**+0.7**
	comp=E,1.1nm,0.8s,baz=149,slow=8.8,SNR=6.4						
ZALV	**Zalesovo Beam**	**34.04**	**350**	P	**P**	**09 43 21.1**	**+0.6**
	comp=E,1.2nm,0.4s,baz=165,slow=6.5,SNR=4.1						
AKTO	**Aktyubinsk**	**41.15**	**325**	P	**P**	**09 44 21.0**	**+0.4**
	comp=E,0.6nm,0.3s,baz=82,slow=8.9,SNR=4.0						
TIXI	**Tiksi**	**54.85**	**13**	P	**P**	**09 46 06.8**	**+0.7**
	comp=E,1.9nm,0.3s,baz=176,slow=4.7,SNR=5.9						
WRA	**Warramunga Arr**	**56.33**	**133**	P	**P**	**09 46 18.1**	**+0.6**
	comp=E,0.7nm,0.7s,baz=299,slow=9.5,SNR=3.0						
ASAR	**Alice Springs**	**58.63**	**137**	P	**P**	**09 46 34.5**	**+0.9**
	comp=E,0.4nm,0.6s,baz=314,slow=7.2,SNR=11						
GERES	**GERESS Array B**	**68.56**	**316**	P	**P**	**09 47 39.3**	**+0.4**
	comp=E,0.9nm,0.6s,baz=64,slow=6.1,SNR=5.7						
BOSA	**Boshof**	**82.52**	**236**	P	**P**	**09 48 59.2**	**0.0**
	comp=E,1.1nm,0.5s,baz=120,slow=3.8,SNR=4.0						
ILAR	**Eielson Array**	**83.02**	**22**	P	**P**	**09 49 01.4**	**+0.4**
	comp=E,0.2nm,0.6s,baz=305,slow=5.8,SNR=3.0						
INK	**Inuvik**	**84.83**	**16**	P	**P**	**09 49 10.7**	**+0.6**
	comp=E,0.3nm,0.3s,baz=322,slow=2.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**87.69**	**283**	P	**P**	**09 49 25.3**	**+0.1**
	comp=E,0.3nm,0.6s,baz=58,slow=7.2,SNR=2.9						

*ASRS **28** 09:44:09.3, 53°.61N×87°.91E, M2.9, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NNC **28** 09:44:13.4±2.7, 53°.47N×87°.79E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=19.2km s-min=12.9km az=83.0, Suspected Mining explosion.*
*IDC **28** 09:44:14.6±2.3, 53°.47N×87°.78E, h0km, mb1 3.6/3, mb1mx3.2/42, mbtmp3.6/3, ML3.2/3, Error ellipse: s-maj=20.7km s-min=13.1km az=63.0*
ISC 28 09:44:14.4±3.4, 53°.5N±0°.1×87°.6E±0°.2, h0km, n10, σ2°.935/15, 8C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**287**	*i*		09 56 16.6	
	baz=102,slow=334,SNR=9.4						
ZAA0	**Zalesovo Array**	**1.72**	**287**	⇓ P	**Pn**	**09 44 45.2**	**-0.4**
	2.7nm,0.6s,baz=101,slow=16						
ZAA0				⇑ S	**Sg**	**09 45 11.1**	**+1.4**
	24nm,1.0s,baz=105,slow=23						
ZAA0				⇓ Rg	Rg	09 45 31.7	
	52nm,1.6s						
ZALV	**Zalesovo Beam**	**1.72**	**287**	Pn	**Pn**	**09 44 45.5**	**-0.1**
	5.1nm,0.3s,baz=100,slow=14,SNR=76						
ZALV				Lg	Lg	09 45 12.2	
	11nm,0.3s,baz=102,slow=24,SNR=24						
KURK	**Kurchatov**	**6.19**	**247**	⇑ Pn	**Pn**	**09 45 48.3**	**+1.3**
	3.6nm,0.6s						
KURK				⇑ Sn	**Sn**	**09 46 55.1**	**-3.3**
	3.3nm,0.6s						
KURK				⇑ Lg	Lg	09 47 32.2	
	35nm,0.9s						
KURBB	**Kurchatov Arra**	**6.29**	**247**	⇑ Pn	**Pn**	**09 45 49.9**	**+1.6**
	8.9nm,0.5s						
KURBB				⇓ Sn	**Sn**	**09 47 00.7**	**0.0**
	13nm,0.6s						
KURBB				⇓ Lg	Lg	09 47 35.2	
	30nm,0.8s						
KURBB	**Kurchatov Arra**	**6.29**	**247**	Pn	**Pn**	**09 45 50.1**	**+1.8**
	0.4nm,0.3s,baz=62,slow=14,SNR=36						
KURBB				Sn	**Sn**	**09 47 02.2**	**+1.5**
	0.1nm,0.3s,baz=60,slow=28,SNR=4.1						
KURBB				Lg	Lg	09 47 36.6	
	0.1nm,0.3s,baz=64,slow=32,SNR=9.9						
MK31	**Makanchi Array**	**7.51**	**209**	⇑ Pn	**Pn**	**09 46 06.9**	**+1.8**
	1.0nm,0.5s,baz=27,slow=13,SNR=17						
MK31				⇑ Sn	**Sn**	**09 47 26.1**	**-4.9**
	4.3nm,0.8s						
MK31				⇑ Lg	Lg	09 48 10.6	
	6.0nm,0.7s						
MKAR	**Makanchi Array**	**7.51**	**209**	Pn	**Pn**	**09 46 07.1**	**+1.9**
	0.3nm,0.3s,baz=29,slow=12,SNR=22						
MKAR				Sn	**Sn**	**09 47 31.7**	**+0.7**
	0.2nm,0.3s,baz=26,slow=14,SNR=3.6						
MKAR				Lg	Lg	09 48 14.7	
	0.3nm,0.3s,baz=30,slow=29,SNR=8.6						
BVAR	**Borovoye Array**	**10.33**	**274**	Pn	**Pn**	**09 46 45.7**	**+1.9**
	0.4nm,0.3s,baz=74,slow=16,SNR=5.3						
BVAR				Sn	**Sn**	**09 48 37.2**	**-2.9**
	0.3nm,0.3s,baz=75,slow=27,SNR=4.5						
SONM	**Songino Array**	**13.17**	**108**	Lg	Lg	09 51 06.1	
	0.1nm,0.3s,baz=314,slow=30,SNR=4.0						

*NNC **28** 09:55:48.6±6.7, 53°.81N×88°.73E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=51.8km s-min=47.2km az=40.0, Suspected Mining explosion.*
*IDC **28** 09:56:00.4±3.0, 53°.68N×88°.09E, h0km, mb1 3.3/2, mb1mx3.1/36, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=26.9km s-min=16.6km az=58.0*
ISC 28 09:55:50.3±2.7, 52°.24N±0°.08×88°.1E±0°.2, h0km, n7, σ0°.978/9, 6C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**2.63**	**312**	Pn	**Pn**	**09 56 34.5**	**+0.5**
	3.8nm,0.3s,baz=97,slow=12,SNR=40						
ZALV				Lg	Lg	09 57 02.6	
	8.5nm,0.3s,baz=94,slow=38,SNR=21						
I46RU	**ZALESOVO INFRA**	**2.63**	**312**	*i*		10 08 48.3	
	baz=96,slow=336,SNR=4.4						
KURK	**Kurchatov**	**6.13**	**259**	⇑ Pn	Pb	09 57 32.2	-5.7
	1.0nm,0.5s						
KURK				⇓ Lg	Lg	09 59 24.6	
	5.1nm,0.8s						
KURBB	**Kurchatov Arra**	**6.21**	**259**	⇑ Pn	**Pb**	**09 57 38.8**	**-0.5**
	2.4nm,0.3s,baz=62,slow=14						
KURBB				⇑ Sn	**Sb**	**09 58 53.8**	**-0.3**
	6.1nm,0.8s						
KURBB				⇑ Lg	Lg	09 59 30.7	
	6.5nm,0.6s						
KURBB	**Kurchatov Arra**	**6.21**	**259**	Pn	**Pb**	**09 57 39.4**	**+0.1**
	0.3nm,0.3s,baz=62,slow=14,SNR=16						
KURBB				Lg	Lg	09 59 31.3	
	0.1nm,0.3s,baz=60,slow=33,SNR=6.1						
MK31	**Makanchi Array**	**6.64**	**217**	Pn	**Pb**	**09 57 46.6**	**0.0**
	baz=160,slow=5.7,SNR=4.6						
MK31				⇑ Pg	**Pg**	**09 57 56.6**	**-0.8**
	0.4nm,0.7s,baz=33,slow=13,SNR=7.5						
MK31				⇑ Sn	**Sg**	**09 59 23.7**	**+0.3**
	1.0nm,0.7s						
MK31				⇓ Lg	Lg	10 00 04.3	
	3.9nm,0.9s						
MKAR	**Makanchi Array**	**6.64**	**217**	Pn	**Pg**	**09 57 56.8**	**-0.6**
	0.2nm,0.3s,baz=32,slow=14,SNR=10						
MKAR				Sn	**Sg**	**09 59 24.8**	**+1.4**
	0.2nm,0.3s,baz=32,slow=27,SNR=5.3						
MKAR				Lg	Lg	10 00 05.7	
	0.1nm,0.3s,baz=20,slow=34,SNR=3.5						

LJU 28 10:16:54.6, 45°.94N×14°.31E, h0km, ML0.5, 1C Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBAS	**Gorenja Brezov**	**0.10**	**95**	⇑ *i* Pg	Pg	10 16 56.2	-0.2
GBAS				*i* Sg	Sg	10 16 58.0	+0.4
	comp=Z,24nm,0.2s						
CRNS	**Crni Vrh**	**0.14**	**347**	*i* Pg	Pg	10 16 57.0	-0.3
CRNS				*i* Sg	Sg	10 16 59.6	+0.4
	comp=Z,11nm,0.1s						
JAVS	**Javornik**	**0.18**	**254**	*i* Pg	Pg	10 16 57.8	-0.2
JAVS				*i* Sg	Sg	10 17 00.9	+0.7
	comp=Z,4.0nm,0.1s						
CEY	**Cerknica**	**0.22**	**158**	*i* Pg	Pg	10 16 58.6	-0.2
CEY				*e*Sg	Sg	10 17 02.3	+0.6
	comp=Z,7.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.32**	**60**	*i* Pg	Pg	10 17 01.1	+0.5
	comp=Z,2.0nm,0.1s						

ROM 28 10:17:45.5±0.1, 42°.469N±0°.005×13°.495E±0°.010, h15km±1km, ML1.6/3, Error ellipse: s-maj=0.8km s-min=0.3km az=66.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.09**	**316**	P	Pg	10 17 49.1	+0.1
CAMP	**Campotosto**	**0.09**	**316**	P	Pg	10 17 49.1	+0.2
CAMP				S	Sg	10 17 51.4	+0.2
CAMP				AML	AML		
	comp=E,507μm,0.1s						
CAMP				AML	AML		
	comp=N,305μm,0.2s						
CAMP				AML	AML		
	comp=E,506μm,0.1s						
CAMP				AML	AML		
	comp=N,306μm,0.2s						
CAMP				AML	AML		
	comp=N,306μm,0.2s						
CAMP				AML	AML		
	comp=E,506μm,0.1s						
CAMP	**Campotosto**	**0.09**	**316**	S	Sg	10 17 51.4	+0.2
AQU	**L'Aquila**	**0.13**	**211**	P	Pb	10 17 49.8	0.0
AQU				S	Sb	10 17 52.7	+0.1
TERO	**Teramo**	**0.17**	**28**	P	Pg	10 17 50.1	+0.2
TERO				S	Sb	10 17 53.3	-0.5
TERO	**Teramo**	**0.17**	**28**	S	Sg	10 17 53.3	+0.5
SMA1	**SAN MARTINO**	**0.20**	**324**	P	Pg	10 17 50.5	+0.2
SMA1				S	Sg	10 17 53.9	+0.3
SMA1	**SAN MARTINO**	**0.20**	**324**	S	Sg	10 17 53.8	+0.2
FAGN	**Fagnano**	**0.21**	**162**	P	Pb	10 17 50.9	-0.3
FIAM	**Fiamignano**	**0.34**	**235**	P	Pb	10 17 53.1	-0.3
LNSS	**Leonessa**	**0.36**	**292**	P	Pg	10 17 53.1	+0.1
LNSS				S	Sg	10 17 58.1	0.0
LNSS				AML	AML		
	comp=E,202μm,0.7s						
LNSS				AML	AML		
	comp=N,324μm,0.2s						
LNSS				AML	AML		
	comp=E,203μm,0.7s						
LNSS				AML	AML		
	comp=N,324μm,0.2s						
LNSS				AML	AML		
	comp=N,324μm,0.2s						
LNSS				AML	AML		
	comp=E,203μm,0.7s						
LNSS	**Leonessa**	**0.36**	**292**	P	Pg	10 17 53.2	+0.1
LNSS	**Leonessa**	**0.36**	**292**	P	Pg	10 17 53.2	+0.1
LNSS	**Leonessa**	**0.36**	**292**	S	Sb	10 17 58.9	-0.3
NRCA	**Norcia**	**0.46**	**322**	P	Pg	10 17 54.5	-0.3
NRCA				S	Sb	10 18 02.2	+0.1
NRCA	**Norcia**	**0.46**	**322**	P	Pg	10 17 54.6	-0.2
NRCA	**Norcia**	**0.46**	**322**	S	Sb	10 18 02.2	+0.1
OFFI	**Offida**	**0.49**	**17**	P	Pg	10 17 55.5	+0.2
INTR	**Introdacqua**	**0.55**	**146**	P	Pg	10 17 56.2	-0.3
INTR	**Introdacqua**	**0.55**	**146**	P	Pg	10 17 56.2	-0.2
INTR	**Introdacqua**	**0.55**	**146**	P	Pg	10 17 56.2	-0.2
INTR	**Introdacqua**	**0.55**	**146**	S	Sb	10 18 04.8	+0.2
FDMO	**Fiordimonte**	**0.64**	**332**	P	Pg	10 17 57.7	-0.5
FDMO	**Fiordimonte**	**0.64**	**332**	P	Pg	10 17 57.7	-0.5
FDMO				S	Sb	10 18 07.6	+0.4
FDMO				AML	AML		
	comp=E,32μm,0.1s						
FDMO				AML	AML		
	comp=N,33μm,0.9s						
FDMO				AML	AML		
	comp=E,32μm,0.1s						
FDMO				AML	AML		
	comp=N,33μm,0.9s						
FDMO				AML	AML		
	comp=N,33μm,0.9s						
FDMO				AML	AML		
	comp=E,32μm,0.1s						
FDMO	**Fiordimonte**	**0.64**	**332**	P	Pg	10 17 57.8	-0.4
FDMO	**Fiordimonte**	**0.64**	**332**	S	Sb	10 18 07.6	+0.4
GUMA	**Gualdo di Mace**	**0.68**	**28**	P	Pg	10 17 57.6	-1.2
GUMA	**Gualdo di Mace**	**0.68**	**28**	P	Pg	10 17 57.7	-1.1

*BJI **28** 10:24:03.0±0.0, 3°.48S×130°.01E, h28km, mb4.6/23, mB4.9/17, Ms4.8/4, Ms7 4.6/2*
*IDC **28** 10:24:03.7±0.5, 2°.97S×129°.87E, h0km, mb4.4/21, mb1 4.5/23, mb1mx4.5/33, mbtmp4.4/23, ML4.5/2, MS3.6/26, Ms1 3.6/26, ms1mx3.5/43, Error ellipse: s-maj=25.5km s-min=11.2km az=80.0*
*ISCJB **28** 10:24:05.3±0.2, 3°.03S±0°.03×129°.86E±0°.03, h25km, mb4.9/71, MS3.7/24, Error ellipse: s-maj=4.1km s-min=3.4km az=142.7*
*NEIC **28** 10:24:07.5±2.2, 3°.03S×129°.78E, h27km±3km, mb4.6/57, Error ellipse: s-maj=11.5km s-min=6.6km az=66.0*
*DJA **28** 10:24:07.2±0.2, 3°S±3°×13°0E±°, h10km, M4.7/28, mB5.2/17, mb5.0/28, MLv5.0/9, Mw(mB)4.6/17*
ISC 28 10:24:07.2±0.3, 3°.03S±0°.04×129°.81E±0°.05, h25km, n169, σ1°.962/156, mb4.7/70, MS3.6/24, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.49**	**176**	P	**Pb**	**10 24 36.4**	**+2.2**
FAKI	**Fak Fak**	**2.44**	**88**	*e*Pn	**Pn**	**10 24 45.8**	**+0.3**
FAKI				*e*Sn	**Sn**	**10 25 12.4**	**-2.0**
FAKI	**Fak Fak**	**2.44

GENI	Genyem	10.35	88	P	Pn	10 26 36.2	+2.0
MPSI	Mapaga	10.46	288	P	Pn	10 26 35.9	+0.3
MTKI	Muara Teweh, K	15.05	278	P	Pn	10 27 40.2	+1.8
SRBI	Singaraja	15.37	250	P	P	10 27 45.6	-1.4
FITZ	Fitzroy Crossi	15.53	195	Pn	Pn	10 27 44.2	-0.4
	1.2nm,0.3s,baz=36,slow=9.2,SNR=12						
FITZ				LR	LR	10 33 53.9	
	comp=Z,204nm,21.0s,baz=26,slow=38						
KMMI	Kalianget	16.28	255	P	P	10 27 58.0	+0.9
JAGI	Jajag, Banyuwa	16.49	250	ePn	Pn	10 27 56.4	-0.5
	69nm,1.1s						
COEN	Coen	17.09	130	ePn	Pn	10 28 04.2	-0.3
	29nm,0.9s						
WRAB	Tennant Creek	17.38	166	ePn	Pn	10 28 06.3	-1.8
	15nm,0.6s						
WR1	Warramunga Arr	17.39	166	ePn	Pn	10 28 06.7	-1.5
WRA	Warramunga Arr	17.39	166	P	Pn	10 28 06.7	-1.5
	2.2nm,0.3s,baz=339,slow=12,SNR=81						
WRA				S	Sn	10 31 09.6	-12
	0.6nm,0.3s,baz=340,slow=21,SNR=5.4						
WB2	Warramunga Arr	17.39	166	ePn	Pn	10 28 06.0	-2.2
	17nm,0.8s						
WC3	Warramunga Arr	17.41	166	ePn	Pn	10 28 05.5	-3.0
	25nm,1.0s						
GRJI	Gresik	17.69	257	P	P	10 28 15.6	+2.8
PMG	Port Moresby	18.36	111	LR	LR	10 36 16.2	
	comp=Z,213nm,18.0s,baz=300,slow=40						
SBUM	Sibu	18.41	287	eP	Pn	10 28 21.7	+0.8
	25nm,1.1s						
PWJI	Pagerwojo	18.59	254	P	Pn	10 28 24.1	+1.0
NGJI	Ngawi	18.77	256	P	Pn	10 28 28.9	+3.6
WOJI	Wonogiri, Jawa	19.40	255	P	Pn	10 28 35.0	+2.2
UGM	Wanagama	19.80	255	eP	P	10 28 35.7	-0.3
	107nm,1.0s						
UGM	Wanagama	19.80	255	P	Pn	10 28 46.3	+8.7
KSM	Kuching	20.00	283	eP	P	10 28 38.0	-0.2
	22nm,0.6s						
PSAD1	Pilbara Seismi	20.73	207	eP	P	10 28 45.1	-0.9
	18nm,0.6s						
PSAC2	Pilbara Seismi	20.79	207	eP	P	10 28 46.6	-0.1
	16nm,0.8s						
PSAB2	Pilbara Seismi	20.80	207	eP	P	10 28 46.1	-0.7
	20nm,0.6s						
PSA00	Pilbara Seismi	20.83	207	eP	P	10 28 46.6	-0.4
	19nm,0.6s						
PSAB3	Pilbara Seismi	20.84	207	eP	P	10 28 46.4	-0.8
	21nm,0.6s						
AS31	Alice Springs	20.90	169	eP	P	10 28 49.0	+1.2
	41nm,0.6s						
AS31				eS	S	10 32 38.2	-1.5
ASAR	Alice Springs	20.90	169	P	P	10 28 49.0	+1.1
	94nm,0.6s,baz=352,slow=11,SNR=1313						
ASAR				S	S	10 32 37.5	-2.3
	13nm,0.9s,baz=352,slow=22,SNR=13						
ASAR				PcP	PcP	10 32 56.4	+0.7
	3.0nm,0.6s,baz=13,slow=1.8,SNR=5.4						
GUMO	Guam	22.27	42	LR	LR	10 39 07.4	
	comp=Z,80nm,18.3s,baz=230,slow=41						
LEM	Lembang	22.43	259	LR	LR	10 39 31.1	
	comp=Z,469nm,19.1s,baz=66,slow=41						
CTA	Charters Tower	23.34	138	P	P	10 29 14.6	+0.7
	10nm,0.8s,baz=330,slow=12,SNR=9.3						
CTAO	Charters Tower	23.34	138	eP	P	10 29 14.5	+0.7
	26nm,1.1s						
PPBI	Pangkal Pinang	23.67	272	P	P	10 29 17.5	+0.5
GIRL	Giralia	24.67	216	eP	P	10 29 26.4	+0.3
	55nm,1.1s						
JMBI	JAMBI	26.18	272	P	P	10 29 42.0	+1.9
MYKOM	Kota Tinggi	26.39	280	eP	P	10 29 43.1	+1.2
	24nm,1.0s						
FORT	Forrest	27.65	183	eP	P	10 29 53.2	+0.1
	24nm,0.7s						
NACB	Ninganchiao	28.19	344	eP	P	10 29 52.4	-5.5
	14nm,0.8s						
MORW	Morawa	29.02	205	eP	P	10 30 05.2	-0.1
	7.4nm,1.0s						
PDSI	Padang	29.41	273	P	P	10 30 08.6	-0.3
IPM	Ipoh	29.71	284	eP	P	10 30 10.6	-1.1
	15nm,1.0s						
BBOO	Buckleboo	30.20	170	eP	P	10 30 16.3	+0.6
	13nm,1.0s						
STKA	Stephens Creek	30.77	160	eP	P	10 30 21.5	+0.7
	1.4nm,0.9s						
STKA	Stephens Creek	30.77	160	P	P	10 30 21.4	+0.7
	4.3nm,0.4s,baz=346,slow=7.5,SNR=27						
STKA				LR	LR	10 43 25.5	
	comp=Z,158nm,20.5s,baz=335,slow=38						
PSI	Prapat	31.41	280	eP	P	10 30 25.8	-1.0
	12nm,0.8s						
NWAO	Narrogin (SRO)	32.00	200	eP	P	10 30 30.1	-1.4
	12nm,1.1s						
KHON	Khomkaen	32.89	307	P	P	10 30 40.7	+1.2
	73μm,0.6s						
CHAI	Chaiyaphum	33.33	305	P	P	10 30 44.5	+1.1
	28μm,0.8s						
ARMA	Armidale	34.18	145	eP	P	10 30 52.4	+1.5
	16nm,1.1s						
UTTA	Uttaradit	35.47	307	P	P	10 31 03.1	+1.2
	15μm,0.7s						
NANT	Nan	35.93	308	P	P	10 31 08.2	+2.3
	33μm,0.7s						
PHRA	Phrae	36.14	307	P	P	10 31 09.7	+2.0
	2.5nm,1.1s,110nm						
NJ2	Nanjing	36.41	344	eP	P	10 31 11.3	+1.6
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WHN	Wuhan	36.50	337	P	P	10 31 30.8	+20
LAMP	Lampang	36.63	307	P	P	10 31 14.5	+2.6
	21μm,1.0s						
CAN	Canberra	36.73	153	eP	P	10 31 13.2	+0.6
	6.6nm,0.9s						
PAYA	Payao	36.90	308	P	P	10 31 18.8	+4.6
	31μm,1.3s						
CM31	Chiang Mai Arr	37.15	306	eP	P	10 31 16.2	-0.1
	23nm,1.1s						
CMAR	Chiang Mai Arr	37.15	306	P	P	10 31 17.1	+0.8
	10.0nm,1.1s,baz=133,slow=6.9,SNR=15						
TOO	Toolangi	37.27	159	eP	P	10 31 15.9	-1.2
	4.9nm,0.9s						
CMMT	Chiang Mai	37.33	307	P	P	10 31 19.0	+1.2
	14nm,1.1s						
CHTO	Chiang Mai	37.33	307	eP	P	10 31 18.8	+1.0
	19nm,0.9s						
KMI	Kunming	38.38	318	P	P	10 31 28.0	+1.1
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MAJO	Matsushiro	40.14	11	eP	P	10 31 38.0	-3.2
MAT	Matsushiro	40.14	11	P	P	10 31 38.0	-3.1
MJAR	Matsushiro Arr	40.14	11	P	P	10 31 38.0	-3.2
	1.5nm,0.6s,baz=194,slow=9.9,SNR=6.4						
MJAR				LR	LR	10 48 07.0	
	comp=Z,73nm,18.7s,baz=175,slow=36						
KS15	Wonju Array Si	40.30	358	eP	P	10 31 41.3	-1.2
	12nm,1.1s						
KSRS	Korea Array	40.31	358	P	P	10 31 42.6	0.0
	1.1nm,0.8s,baz=172,slow=9.6,SNR=4.2						
KSRS				LR	LR	10 47 21.9	
	comp=Z,92nm,21.4s,baz=168,slow=35						
XAN	Xi'an	41.80	334	eP	P	10 31 55.9	+1.0
	7.2nm,1.1s						
CD2	Chengdu	41.90	326	eP	P	10 31 57.0	+1.2
LZH	Lanzhou	45.85	330	eP	P	10 32 31.0	+3.3
LZH				pP	sP	10 32 37.3	-1.1
LZH				sP	pP	10 32 41.0	+5.7
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
SHL	Shillong	46.45	310	eP	P	10 32 31.4	-1.2
	12nm,1.0s						
HHC	Hu-ho-hao-te	46.74	341	eP	P	10 32 37.0	+2.5
HHC				pmax	pmax		
	comp=Z,60nm,1.0s						
HHC				pmax	pmax		
	comp=Z,260nm,5.2s						
USRK	Ussuriysk Ar.	47.05	2	P	P	10 32 34.9	-1.8
	1.4nm,0.5s,baz=184,slow=7.1,SNR=4.9						
ASAJ	Asahikawa	48.31	12	P	P	10 32 48.0	+1.6
	5.0nm,0.6s,baz=166,slow=12,SNR=4.5						
GTA	Gaotai	50.44	330	eP	P	10 33 03.3	+0.3
GTA				pP	pP	10 33 10.3	-0.5
GTA				sP	sP	10 33 15.0	+1.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GTA				LR	LR		
	comp=N,440nm,24.0s						
GTA				LR	LR		
	comp=E,420nm,23.9s						
RAMN	Ramite	51.24	308	eP	P	10 33 09.4	0.0
	22nm,0.5s						
JIRN	Jiri	51.90	309	eP	P	10 33 13.3	-1.2
KLR	Kul'dur	52.07	2	P	P	10 33 14.9	0.0
	1.9nm,0.8s,baz=309,slow=1.5,SNR=7.3						
KOLN	Koldanda	53.98	308	eP	P	10 33 29.5	-0.2
	15nm,0.6s						
DANN	Dangsing	54.12	308	eP	P	10 33 28.6	-2.2
	37nm,1.0s						
ULN	Ulaanbaatar	54.46	341	eP	P	10 33 33.5	+0.8
	8.5nm,1.0s						
HYB	Hyderabad	54.48	294	iP	P	10 33 36.0	+2.8
PYUN	Piuthan	54.61	308	eP	P	10 33 33.5	-0.7
	43nm,1.0s						
SONA0	Songino Array	54.64	341	eP	P	10 33 34.3	+0.3
SONM	Songino Array	54.64	341	P	P	10 33 34.3	+0.3
	3.9nm,1.1s,baz=153,slow=7.9,SNR=15						
SONM				LR	LR	10 58 01.5	
	comp=Z,46nm,19.1s,baz=142,slow=37						
BKZ	Black Stump Fm	55.56	137	eP	P	10 33 41.3	+0.6
	47nm,1.2s						
URZ	Urewera	55.56	135	eP	P	10 33 40.7	0.0
	32nm,1.1s						
WMQ	Urumqi	60.00	326	eP	P	10 34 13.5	+1.7
WMQ				pP	sP	10 34 22.0	-0.7
WMQ				LR	LR		
	comp=N,3μm,38.9s						
WMQ				LR	LR		
	comp=E,4μm,38.8s						
WMQ				LR	LR		
	comp=Z,450nm,25.1s						
PETK	Petropavlovsk-	60.64	19	P	P	10 34 15.8	-0.1
	3.9nm,1.0s,baz=174,slow=4.3,SNR=3.3						
PETK				LR	LR	11 00 52.2	
	comp=Z,20nm,19.6s,baz=203,slow=36						
MA2	Magadan	64.57	12	P	P	10 34 42.9	+0.9
	2.0nm,0.3s,baz=187,slow=11,SNR=4.2						
MK31	Makanchi Array	64.83	326	eP	P	10 34 43.5	-0.6
	4.6nm,1.1s						
MKAR	Makanchi Array	64.83	326	P	P	10 34 44.2	+0.1
	1.4nm,0.5s,baz=125,slow=8.0,SNR=23						
MKAR				LR	LR	11 05 00.3	
	comp=Z,29nm,19.7s,baz=108,slow=38						
KSH	Kashi	65.00	316	P	P	10 34 47.8	+2.3
KSH				pmax	pmax		
	comp=Z,12nm,0.4s						
MAKZ	Makanchi	65.02	326	eP	P	10 34 45.1	-0.1
	6.8nm,1.0s						
KDJ	Kajisay	65.43	319	eP	P	10 34 48.5	+0.3
	5.5nm,1.1s						
AAK	Ala-Archa	67.42	319	eP	P	10 35 01.8	+0.8
	4.4nm,0.9s						
AAK	Ala-Archa	67.42	319	LR	LR	11 07 31.6	
	comp=Z,28nm,18.0s,baz=112,slow=39						
ARSB	Arslanbob	67.85	317	eP	P	10 35 04.5	+0.8
	5.5nm,0.9s						
SEY	Seymchan	67.96	11	P	P	10 35 03.8	+0.1
	5.0nm,0.6s,baz=204,slow=6.4,SNR=16						
ZAA0	Zalesovo Array	67.97	333	eP	P	10 35 03.5	-0.4
	13nm,1.0s						
ZALV	Zalesovo Beam	67.97	333	P	P	10 35 03.7	-0.2
	5.4nm,0.8s,baz=93,slow=5.9,SNR=9.6						
ZALV				LR	LR	11 05 51.3	
	comp=Z,30nm,19.4s,baz=64,slow=37						
KBL	Kabul	68.10	309	eP	P	10 35 03.5	-2.0
	5.1nm,0.9s						
KURK	Kurchatov	69.06	328	eP	P	10 35 10.9	+0.1
	27nm,0.9s						
KK31	Karatay Array	70.26	318	eP	P	10 35 18.0	-0.4
	2.9nm,1.1s						
TIXI	Tiksi	74.54	360	eP	P	10 35 43.3	0.0
	2.7nm,0.7s						
TIXI	Tiksi	74.54	360	P	P	10 35 43.2	-0.1
	2.3nm,0.5s,baz=176,slow=5.8,SNR=7.9						
BRVK	Borovoye	74.70	327	eP	P	10 35 44.4	-0.3
	7.2nm,0.8s						
VNDA	Vanda	76.39	173	eP	P	10 35 54.5	+0.6
VNDA	Vanda	76.39	173	P	P	10 35 54.2	+0.3
	1.2nm,0.7s,baz=326,slow=6.8,SNR=15						
VNDA				LR	LR	11 08 51.2	
	comp=Z,32nm,20.2s,baz=335,slow=35						
SBA	Scott Base	77.27	172	eP	P	10 35 59.6	+0.7
	5.7nm,1.1s						
NRIK	Noril'sk	77.69	346	P	P	10 36 01.8	+0.5
	4.5nm,0.7s,baz=120,slow=5.8,SNR=5.4						
NRIK				LR	LR	11 11 59.2	
	comp=Z,31nm,21.8s,baz=90,slow=37						
AKUT	Akutan	77.80	33	eP	P	10 36 02.5	+0.3
	51nm,1.0s						
MAW	Mawson	78.56	201	eP	P	10 36 07.1	+0.9
	0.9nm,1.0s						
MAW	Mawson	78.56	201	P	P	10 36 07.0	+0.8
	10nm,1.2s,baz=59,slow=5.0,SNR=6.9						
ABKAR	Akbulak array	79.31	321	eP	P	10 36 10.6	-0.1
	5.9nm,0.7s						
GAMB	Gambell	79.34	23	eP	P	10 36 10.1	-0.4
	5.6nm,1.1s						
PPT	Papeete	80.15	107	LR	LR	11 11 05.4	
	comp=Z,17nm,18.9s,baz=222,slow=35						
AKTO	Aktyubinsk	80.84	322	LR	LR	11 15 32.3	
	comp=Z,29nm,19.5s,baz=103,slow=38						
ARU	Arti	82.26	328	eP	P	10 36 25.3	-0.9
	14nm,1.0s						
KIRV	Kirov	87.56	329	LR	LR	11 17 45.0	
	comp=Z,24nm,18.0s,baz=120,slow=37						
GNI	Garni	88.16	310	LR	LR	11 22 57.3	
	comp=Z,8.0nm,20.2s,baz=72,slow=40						
ILAR	Eielson Array	89.86	25	P	P	10 37 02.6	-1.0
	0.5nm,0.7s,baz=269,slow=4.8,SNR=4.8						
ILB	Eielson Array	89.86	25	eP	P	10 37 03.0	-0.7
	1.0nm,0.8s						
KVAR	Kislovodsk Arr	90.00	314	LR	LR	11 23 37.4	
	comp=Z,17nm,19.6s,baz=242,slow=40						
KMBO	Kilima Mbogo	92.50	269	eP	P	10 37 14.7	-2.6
	3.0nm,0.9s						
KMBO	Kilima Mbogo	92.50	269	P	P	10 37 18.9	+1.5
	1.7nm,0.3s,baz=155,slow=5.5,SNR=3.0						
KMBO				LR	LR	11 15 02.9	
	comp=Z,66nm,21.0s,baz=94,slow=33						
INK	Inuvik	95.27	22	eP	P	10 37 27.0	-1.5
	1.2nm,1.0s						
INK	Inuvik	95.27	22	P	P	10 37 28.1	-0.3
	0.7nm,0.7s,baz=264,slow=2.3,SNR=4.2						
EIL	Elat	95.71	299	LR	LR	11 25 59.1	
	comp=Z,17nm,19.8s,baz=68,slow=39						
BRTR	Keskin Array B	96.67	309	LR	LR	11 28 45.1	
	comp=Z,8.9nm,19.6s,baz=114,slow=40						
SPITS	Spitsbergen Ar	97.66	349	LR	LR	11 24 57.1	
	comp=Z,19nm,22.0s,baz=65,slow=37						
ARCES	ARCESS Array B	97.81	340	P	Pdif	10 37 40.9	+0.8
	4.0nm,1.0s,baz=69,slow=6.9,SNR=5.3						
ARCES				LR	LR	11 27 44.8	
	comp=Z,25nm,18.9s,baz=100,slow=39						
MNTX	Cornudas Mount	120.88	55	ePKPdf	PKiKP	10 42 59.6	+1.4
LTX	Lajitas	122.99	57	ePKPdf	PKiKP	10 43 02.9	+0.4
TXAR	Lajitas Array	122.99	57	PKP	PKiKP	10 43 02.9	+0.4
	0.5nm,0.8s,baz=208,slow=1.7,SNR=5.9						
TORD	Torodi Ar. Bea	127.76	284	PKP	PKPdf	10 43 11.9	+0.3
	0.8nm,0.6s,baz=50,slow=2.2,SNR=5.6						
TOA1	Torodi Ar. Sit	127.76	284	ePKPdf	PKPdf	10 43 11.9	+0.3
CPUP	Villa Florida	150.01	167	PKPbc	PKiKP	10 43 57.0	-0.3
	4.3nm,0.7s,baz=122,slow=1.2,SNR=15						
LPAZ	La Paz	153.87	138	ePKPbc	PKPbc	10 44 05.9	-0.3
LPAZ				ePKPab	PKPab	10 44 16.4	-2.7
LPAZ	La Paz	153.87	138	PKPbc	PKiKP	10 44 07.1	+0.9
	1.1nm,0.7s,baz=229,slow=4.3,SNR=4.1						
FAKI	Fak Fak	2.33	89	P	Pn	10 46 15.8	+1.2
SWI	Sorong	2.50	33	P	Pn	10 46 16.3	-0.5
SANI	Sanana	4.03	283	P	Pn	10 46 35.7	-2.2
LUWI	Luwuk	7.39	285	ePn	Pn	10 47 22.7	-1.4
LUWI				eSn	Sn	10 48 45.1	-2.1
LUWI	Luwuk	7.39	285	P	Pn	10 47 22.5	-1.6
MRSI	Marisa	8.68	293	P	Pn	10 47 40.7	-1.1
	15nm,0.7s,490nm						
SOEI	Soe	8.76	220	ePn	Pn	10 47 49.0	+6.0
MTN	Manton Dam	9.88	173	ePn	Pn	10 47 57.7	-0.5
MTN				eSn	Sn	10 49 48.7	+0.4
BSSI	Bau Bau, Buton	9.90	251	P	Pn	10 47 59.9	+1.3
SPSI	Sidrap Palu	10.17	264	P	Pn	10 48 02.3	0.0
KAPI	Kappang	10.34	258	ePn	Pn	10 48 05.0	+0.5
KAPI	Kappang	10.34	258	Pn	Pn	10 48 05.3	+0.8
	1.1nm,0.3s,baz=79,slow=12,SNR=6.0						
KAPI				LR	LR	10 53 03.5	
	comp=Z,194nm,18.8s,baz=72,slow=44						
MPSI	Mapaga	10.54	288	P	Pn	10 48 07.8	+0.5
FITZ	Fitzroy Crossi	15.60	195	ePn	Pn	10 49 17.4	+1.4
	13nm,1.2s						
FITZ	Fitzroy Crossi	15.60	195	Pn	Pn	10 49 14.8	-1.2
	0.7nm,0.3s,baz=20,slow=11,SNR=14						
FITZ				LR	LR	10 55 22.9	
	comp=Z,102nm,19.1s,baz=30,slow=38						
COEN	Coen	17.05	131	ePn	Pn	10 49 35.0	+0.4
	27nm,1.2s						
WRAB	Tennant Creek	17.40	166	ePn	Pn	10 49 36.6	-2.4
	10nm,0.8s						
WR1	Warramunga Arr	17.41	166	ePn	Pn	10 49 36.9	-2.2
WR1				eSn	Sn	10 52 39.3	-13
WRA	Warramunga Arr	17.41	166	P	Pn	10 49 36.9	-2.2
	1.1nm,0.3s,baz=336,slow=12,SNR=19						
WRA				S	Sn	10 52 39.3	-13
	0.2nm,0.3s,baz=346,slow=22,SNR=4.5						
WB2	Warramunga Arr	17.41	166	ePn	Pn	10 49 36.5	-2.5
	28nm,1.4s						
WB2				eSn	Sn	10 52 42.5	-10
SBUM	Sibu	18.49	287	eP	Pn	10 49 52.5	+0.1
	5.2nm,1.0s						
WOJI	Wonogiri, Jawa	19.50	255	P	Pn	10 50 05.4	+0.8
KSM	Kuching	20.09	282	eP	P	10 50 09.4	-0.3
	9.5nm,1.0s						
PSAC2	Pilbara Seismi	20.88	207	eP	P	10 50 18.4	+0.2
	29nm,1.4s						
PSAB2	Pilbara Seismi	20.89	207	eP	P	10 50 18.4	+0.1
	15nm,0.9s						
PSAC1	Pilbara Seismi	20.90	207	eP	P	10 50 19.6	+1.2
	8.5nm,0.8s						
PSAD2	Pilbara Seismi	20.90	207	eP	P	10 50 17.8	-0.6
	21nm,1.4s						
PSAA2	Pilbara Seismi	20.91	207	eP	P	10 50 20.2	+1.8
	8.9nm,0.8s						
PSA00	Pilbara Seismi	20.91	207	eP	P	10 50 19.4	+0.8
	14nm,1.1s						
PSAA1	Pilbara Seismi	20.92	207	eP	Pn	10 50 20.9	-0.3
	8.8nm,0.7s						
PSAB1	Pilbara Seismi	20.92	207	eP	P	10 50 18.9	+0.2
	9.5nm,0.7s						
AS31	Alice Springs	20.92	170	eP	P	10 50 18.5	-0.2
	18nm,0.7s						
ASAR	Alice Springs	20.93	170	P	P	10 50 18.8	0.0
	50nm,0.7s,baz=351,slow=11,SNR=501						
ASAR				S	S	10 54 07.8	-3.0
	6.2nm,0.9s,baz=352,slow=21,SNR=13						
PSAB3	Pilbara Seismi	20.93	207	eP	P	10 50 19.6	+0.9
	10nm,0.7s						
PSAC3	Pilbara Seismi	20.96	207	eP	P	10 50 19.4	+0.2
	9.9nm,0.8s						
LEM	Lembang	22.54	259	LR	LR	11 00 50.1	
	comp=Z,212nm,18.8s,baz=57,slow=41						
CTA	Charters Tower	23.31	138	P	P	10 50 44.6	+0.5
	5.0nm,0.8s,baz=324,slow=12,SNR=4.5						
CTAO	Charters Tower	23.31	138	eP	P	10 50 45.1	+1.0
	16nm,1.0s						
TPUB	Ta-pu	27.64	341	eP	P	10 51 22.8	-0.8
	9.3nm,0.9s						
FORT	Forrest	27.71	183	eP	P	10 51 23.1	-1.0
	13nm,0.9s						
SSLB	Suanglung	28.00	342	eP	P	10 51 24.9	-1.9
	8.8nm,1.2s						
BBOO	Buckleboo	30.23	170	eP	P	10 51 45.0	-1.5
	6.3nm,0.8s						
STKA	Stephens Creek	30.78	160	eP	P	10 51 51.3	-0.1
	1.4nm,1.0s						
STKA	Stephens Creek	30.78	160	P	P	10 51 51.5	+0.1
	2.2nm,0.3s,baz=340,slow=7.3,SNR=12						
WHN	Wuhan	36.50	337	P	P	10 52 42.8	+1.7
CMAR	Chiang Mai Arr	37.20	306	P	P	10 52 47.2	-0.1
	1.2nm,0.4s,baz=136,slow=6.0,SNR=7.1						
CMMT	Chiang Mai	37.38	307	P	P	10 52 55.8	+6.9
CHTO	Chiang Mai	37.39	307	eP	P	10 52 48.8	-0.1
	5.6nm,0.8s						
KMI	Kunming	38.41	318	P	P	10 53 00.3	+2.6
MAJO	Matsushiro	40.07	10	eP	P	10 53 11.2	0.0
MJAR	Matsushiro Arr	40.07	10	P	P	10 53 11.2	0.0
	1.5nm,0.8s,baz=184,slow=10,SNR=3.1						
KSRS	Korea Array	40.27	358	LR	LR	11 10 58.6	
	comp=Z,21nm,18.6s,baz=168,slow=38						
HHC	Hu-ho-hao-te	46.73	341	eP	P	10 54 07.0	+2.0
SONA0	Songino Array	54.63	341	eP	P	10 55 03.6	-0.9
SONM	Songino Array	54.63	341	P	P	10 55 03.6	-0.9
	0.8nm,0.9s,baz=167,slow=6.8,SNR=2.9						
BKZ	Black Stump Fm	55.52	137	eP	P	10 55 11.1	+0.1
	36nm,1.3s						
WMQ	Urumqi	60.02	326	eP	P	10 55 46.0	+3.5
WMQ				sP	sP	10 55 59.3	+6.0
PETK	Petropavlovsk-	60.56	19	P	P	10 55 48.2	+2.2
	1.2nm,0.8s,baz=249,slow=7.3,SNR=3.8						
PEA1	Petropavlovsk-	60.57	19	eP	P	10 55 48.2	+2.2
MK31	Makanchi Array	64.85	326	eP	P	10 56 14.3	-0.4
	1.5nm,1.0s						
MK32	Makanchi Array	64.85	326	eP	P	10 56 13.7	-1.0
MKAR	Makanchi Array	64.85	326	P	P	10 56 13.7	-1.0
	0.9nm,0.8s,baz=126,slow=8.7,SNR=7.7						
KSH	Kashi	65.04	316	P	P	10 56 16.8	+0.6
ZAA0	Zalesovo Array	67.97	333	eP	P	10 56 34.5	0.0
	4.5nm,1.0s						
ZALV	Zalesovo Beam	67.97	333	P	P	10 56 33.8	-0.7
	1.4nm,0.4s,baz=108,slow=8.0,SNR=6.1						
ZAA1	Zalesovo Array	67.97	333	eP	P	10 56 33.8	-0.7
KURBB	Kurchatov Arra	69.07	328	P	P	10 56 41.0	-0.4
	3.8nm,0.8s,baz=126,slow=6.0						
KURK	Kurchatov	69.07	328	eP	P	10 56 40.8	-0.7
	7.2nm,0.9s						
CHGR	Chuyangaron	69.52	313	eP	P	10 56 41.9	-2.7
	11nm,1.5s						
VNDA	Vanda	76.42	173	P	P	10 57 24.6	-0.1
	0.9nm,0.8s,baz=307,slow=6.3,SNR=4.5						
ABKAR	Akbulak array	79.33	321

	baz=355						
HGSD	**Ruisui**	**0.34**	**220**	P	**Pb**	**10 56 02.2**	**+0.1**
	baz=212						
HGSD				*e*S	**Sn**	**10 56 09.3**	**+0.7**
	baz=212						
EHY	**Hungye**	**0.40**	**232**	*e*P	**Pb**	**10 56 02.5**	**-0.5**
	baz=224						
EHY				*e*S	**Sb**	**10 56 09.0**	**-0.1**
	baz=224						
NACB	**Ninganchiao**	**0.42**	**351**	*e*P	**Pb**	**10 56 03.1**	**-0.1**
	baz=355						
NACB				S	**Sn**	**10 56 09.9**	**-0.8**
	baz=355						
VWDT	**VWDT**	**0.48**	**270**	*e*P	**Pn**	**10 56 04.3**	**-0.4**
	baz=265						
VWDT				*e*S	**Sn**	**10 56 11.7**	**-0.3**
	baz=265						
ETLH	**Xiulin Townshi**	**0.48**	**340**	P	**Pb**	**10 56 04.0**	**-0.3**
	baz=342						
ETLH				*e*S	**Sn**	**10 56 11.2**	**-1.1**
	baz=342						
OWD	**Renai**	**0.49**	**294**	*e*P	**Pb**	**10 56 04.2**	**-0.2**
	baz=292						
OWD				*e*S	**Sn**	**10 56 11.5**	**-1.0**
	baz=292						
YULB	**Yu-li**	**0.49**	**223**	*e*P	**Pb**	**10 56 03.6**	**-0.8**
	baz=217						
YULB				*e*S	**Sb**	**10 56 10.8**	**-0.6**
	baz=217						
TWF1	**Yuli**	**0.52**	**220**	*e*P	**Pb**	**10 56 04.3**	**-0.5**
	baz=214						
TWF1				*e*S	**Sb**	**10 56 11.8**	**-0.4**
	baz=214						
WHF	**Hehuan Shan**	**0.54**	**317**	*e*P	**Pb**	**10 56 04.9**	**-0.4**
	baz=317						
WHF				*e*S	**Sn**	**10 56 12.7**	**-1.3**
	baz=317						
CHGB	**Renai**	**0.54**	**304**	P	**Pn**	**10 56 05.3**	**-0.5**
	baz=303						
CHGB				*e*S	**Sn**	**10 56 13.2**	**-0.8**
	baz=303						
SSLB	**Suanglung**	**0.65**	**273**	P	**Pb**	**10 56 06.6**	**-0.4**
	baz=270						
SSLB				*e*S	**Sn**	**10 56 16.3**	**-0.1**
	baz=270						
TWT	**Tachien**	**0.67**	**318**	P	**Pn**	**10 56 07.4**	**-0.1**
	baz=317						
TWT				*e*S	**Sn**	**10 56 16.6**	**-0.4**
	baz=317						
NANB	**Nanao**	**0.68**	**7**	*e*P	**Pb**	**10 56 07.2**	**-0.2**
	baz=9.0						
NANB				*e*S	**Sn**	**10 56 16.9**	**0.0**
	baz=9.0						
TDCB	**Techi**	**0.68**	**317**	*e*P	**Pn**	**10 56 07.5**	**-0.1**
	baz=317						
TDCB				S	**Sn**	**10 56 16.6**	**-0.6**
	baz=317						
YUS	**Yu-Shan**	**0.70**	**248**	*e*P	**Pb**	**10 56 07.8**	**-0.3**
	baz=244						
YUS				*e*S	**Sb**	**10 56 17.4**	**-0.3**
	baz=244						
SMLT	**Sun Moon Lake**	**0.71**	**281**	P	**Pn**	**10 56 07.7**	**-0.2**
	baz=278						
SMLT				*e*S	**Sn**	**10 56 18.6**	**+0.7**
	baz=278						
NNSB	**Datong**	**0.72**	**339**	P	**Pn**	**10 56 07.9**	**-0.2**
	baz=340						
NNSB				S	**Sn**	**10 56 17.2**	**-0.9**
	baz=340						
DPDB	**Guoxing**	**0.73**	**293**	*e*P	**Pn**	**10 56 08.1**	**-0.1**
	baz=290						
DPDB				*e*S	**Sn**	**10 56 18.2**	**-0.2**
	baz=290						
NNS	**Nan Shan**	**0.73**	**339**	*e*P	**Pn**	**10 56 08.8**	**+0.5**
	baz=340						
NNS				S	**Sn**	**10 56 17.9**	**-0.6**
	baz=340						
WHYT	**Xinyi Township**	**0.75**	**266**	P	**Pn**	**10 56 08.4**	**0.0**
	baz=262						
WHYT				S	**Sn**	**10 56 18.4**	**-0.3**
	baz=262						
TYC	**Yuchr**	**0.76**	**282**	P	**Pn**	**10 56 08.3**	**-0.2**
	baz=279						
TYC				*e*S	**Sn**	**10 56 18.6**	**-0.2**
	baz=279						
ELDTW	**Lidau**	**0.82**	**227**	*e*P	**Pn**	**10 56 08.8**	**-0.6**
	baz=222						
ALS	**Alishan**	**0.82**	**253**	P	**Pb**	**10 56 09.9**	**-0.1**
	baz=249						
ALS				*e*S	**Sn**	**10 56 21.0**	**0.0**
	baz=249						
TWC	**Suao**	**0.87**	**11**	*e*P	**Pn**	**10 56 10.2**	**+0.1**
	baz=14						
TWC				*e*S	**Sn**	**10 56 22.0**	**+0.4**
	baz=14						
ENTT	**Nioudou**	**0.89**	**354**	P	**Pb**	**10 56 10.4**	**-0.5**
	baz=356						
ENTT				*e*S	**Sb**	**10 56 22.3**	**-0.2**
	baz=356						
EOS1	**EOS1**	**0.90**	**28**	*e*P	**Pb**	**10 56 11.4**	**+0.4**
	baz=31						
EOS1				*e*S	**Sb**	**10 56 23.7**	**+1.1**
	baz=31						
WNT	**Mingjian**	**0.91**	**278**	*e*P	**Pb**	**10 56 11.5**	**+0.3**
	baz=276						
CHN5	**Tsauling**	**0.92**	**260**	P	**Pb**	**10 56 11.4**	**0.0**
	baz=257						
CHN5				*e*S	**Sb**	**10 56 24.4**	**+1.1**
	baz=257						
YHNB	**Yeheng**	**0.95**	**344**	P	**Pb**	**10 56 11.3**	**-0.7**
	baz=345						
YHNB				*e*S	**Sb**	**10 56 23.9**	**-0.4**
	baz=345						
TWQ1	**Liyutan**	**1.01**	**306**	*e*P	**Pb**	**10 56 13.0**	**+0.2**
	baz=305						
TWQ1				*e*S	**Sb**	**10 56 27.3**	**+1.5**
	baz=305						
STYT	**Tauyuan**	**1.02**	**235**	P	**Pn**	**10 56 12.6**	**+0.4**
	baz=231						
STYT				*e*S	**Sb**	**10 56 26.3**	**0.0**
	baz=231						
TPUB	**Ta-pu**	**1.05**	**245**	*e*P	**Pb**	**10 56 13.3**	**-0.3**
	baz=242						
TPUB				*e*S	**Sb**	**10 56 27.0**	**-0.1**
	baz=242						
CHN4	**Tsaushan**	**1.06**	**248**	*e*P	**Pb**	**10 56 13.7**	**-0.1**
	baz=245						
CHN4				*e*S	**Sb**	**10 56 28.3**	**+0.9**
	baz=245						
TWGBT	**Beinan**	**1.08**	**210**	P	**Pn**	**10 56 13.2**	**+0.3**
	baz=207						
TWGBT				*e*S	**Sb**	**10 56 28.1**	**+0.3**
	baz=207						
TWK	**Hsinying**	**1.18**	**246**	*e*P	**Pb**	**10 56 15.7**	**-0.2**
	baz=243						
TWK				*e*S	**Sb**	**10 56 32.1**	**+1.2**
	baz=243						
CHN1	**Nanshi**	**1.19**	**242**	*e*P	**Pb**	**10 56 15.8**	**-0.2**
	baz=239						
CHN1				*e*S	**Sb**	**10 56 32.1**	**+1.2**
	baz=239						
JYNG	**Yonagunijimaku**	**1.36**	**59**	P	**Pn**	**10 56 16.8**	**0.0**
JYNG				S	**Sn**	**10 56 33.8**	**0.0**
YOJ	**Yonaguni jima**	**1.42**	**60**	P	**Pn**	**10 56 17.8**	**+0.2**
YOJ				*e*S	**Sn**	**10 56 34.9**	**-0.3**
MASBT	**Mashibuluo**	**1.48**	**220**	P	**Pn**	**10 56 19.6**	**+1.1**
	baz=218						
MASBT				*e*S	**Sb**	**10 56 39.3**	**0.0**
	baz=218						
IRIF	**Iriomote-Funau**	**1.98**	**73**	P	**Pn**	**10 56 25.6**	**+0.4**
IRIF				*e*S	**Sn**	**10 56 49.4**	**+0.5**
JKRS	**Kuro-shima**	**2.20**	**77**	P	**Pn**	**10 56 29.0**	**+0.7**
JKRS				*e*S	**Sn**	**10 56 54.2**	**-0.2**
JIJ	**Ishigaki jima**	**2.34**	**74**	P	**Pn**	**10 56 29.9**	**-0.4**
JIJ				S	**Sn**	**10 56 56.9**	**-1.2**
JISG	**Ishigakijimahi**	**2.56**	**71**	S	**Sn**	**10 57 01.6**	**-1.7**
JTJ	**Tarama**	**2.91**	**72**	P	**Pn**	**10 56 37.9**	**-0.2**

*ISCJB **28** 11:09:50.8±0.6, 60°.3S±0°.1×32°.6W±0°.3, h10km, mb4.2/7, MS3.5/4, Error ellipse: s-maj=26.2km s-min=11.8km az=154.1*
*IDC **28** 11:09:51.8±1.1, 60°.02S×33°.10W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/17, mbtmp3.9/3, MS3.4/4, Ms1 3.4/4, ms1mx3.0/15, Error ellipse: s-maj=49.0km s-min=31.3km az=90.0*

*NEIC **28** 11:09:53.2±1.3, 60°.12S×32°.95W, h10km, mb4.4/5, Error ellipse: s-maj=24.2km s-min=20.1km az=134.0*

ISC 28 11:09:52.3±0.7, 60°.2S±0°.1×32°.3W±0°.2, h10km, n30, σ1§84/20, mb4.3/7, MS3.5/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**14.34**	**150**	P	**Pn**	**11 13 12.5**	**-2.5**
VNA1	**Neumayer--Stat**	**14.35**	**147**	P	**Pn**	**11 13 12.9**	**-2.2**
VNA2	**Neumayer--Watz**	**14.74**	**147**	P	**Pn**	**11 13 17.9**	**-2.6**
	baz=304,slow=15						
SNAA	**Sanae**	**16.39**	**147**	P	**Pn**	**11 13 41.8**	**-0.2**
SNAA	**Sanae**	**16.39**	**147**	*e*Pn	**P**	**11 13 45.4**	**+0.4**
	4.4nm,1.1s						
QSPA	**South Pole Qui**	**30.05**	**180**	*e*P	**P**	**11 16 02.4**	**+1.2**
	5.0nm,1.1s						
CPUP	**Villa Florida**	**37.96**	**322**	LR	LR	11 31 58.6	
	comp=Z,30nm,20.2s,baz=215,slow=35						
VNDA	**Vanda**	**42.26**	**185**	*e*P	**P**	**11 17 47.2**	**+2.3**
VNDA	**Vanda**	**42.26**	**185**	P	**P**	**11 17 47.0**	**+2.0**
	1.0nm,0.9s,baz=191,slow=5.2,SNR=6.4						
GO02	**Mina Guanaco**	**43.41**	**307**	*e*P	**P**	**11 17 54.1**	**-1.1**
	15nm,1.4s						
BDFB	**Brasilia**	**45.94**	**339**	LR	LR	11 38 15.4	
	comp=Z,36nm,18.3s,baz=112,slow=37						
LPAZ	**La Paz**	**50.91**	**314**	*e*P	**P**	**11 18 52.7**	**-1.5**
LPAZ	**La Paz**	**50.91**	**314**	P	**P**	**11 18 52.0**	**-2.2**
	0.6nm,0.6s,baz=166,slow=4.2,SNR=2.1						
H10S2	**ASCENSION HYDR**	**52.82**	**22**	T	T	12 16 37.6	
	baz=191,slow=74,SNR=7.3						
H10S3	**ASCENSION HYDR**	**52.82**	**22**	T	T	12 16 37.7	
	baz=191,slow=74,SNR=7.6						
H10S1	**ASCENSION HYDR**	**52.83**	**22**	T	T	12 16 45.9	
	baz=191,slow=74,SNR=6.7						
H10N1	**ASCENSION HYDR**	**53.93**	**22**	T	T	12 18 23.0	
	baz=190,slow=75,SNR=7.8						
H10N3	**ASCENSION HYDR**	**53.94**	**22**	T	T	12 18 04.5	
	baz=190,slow=75,SNR=11						
H10N2	**ASCENSION HYDR**	**53.95**	**22**	T	T	12 18 06.1	
	baz=190,slow=75,SNR=11						
ATAH	**Atahualpa**	**63.21**	**307**	LR	LR	11 46 30.3	
	comp=Z,43nm,21.9s,baz=195,slow=35						
TOA0	**Torodi Ar. Sit**	**78.01**	**34**	*e*P	**P**	**11 21 53.0**	**+2.4**
	3.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**78.01**	**34**	P	**P**	**11 21 52.2**	**+1.6**
	2.7nm,0.9s,baz=198,slow=5.5,SNR=12						
TOA1	**Torodi Ar. Sit**	**78.02**	**34**	*e*P	**P**	**11 21 52.2**	**+1.6**
MTP	**Monte Pirata**	**82.53**	**328**	*e*P	**P**	**11 22 14.4**	**-0.5**
	48nm,1.4s						
PPT	**Papeete**	**87.62**	**238**	LR	LR	11 52 32.3	
	comp=Z,36nm,20.7s,baz=110,slow=29						
MTPU	**Mount Pierson**	**117.53**	**299**	*e*PKPdf	**PKPdf**	**11 28 35.3**	**-2.6**
YKA	**Yellowknife Ar**	**137.40**	**317**	PKP	**PKPdf**	**11 29 14.8**	**+0.4**
	0.2nm,0.8s,baz=132,slow=2.6,SNR=3.6						
YKB5	**Yellowknife Ar**	**137.40**	**317**	*e*PKPdf	**PKPdf**	**11 29 14.8**	**+0.4**
ILAR	**Eielson Array**	**150.66**	**307**	PKPbc	**PKPbc**	**11 29 42.7**	**-0.2**
	1.8nm,1.0s,baz=152,slow=2.1,SNR=9.5						
ILB	**Eielson Array**	**150.66**	**307**	*e*PKPbc	**PKPbc**	**11 29 44.3**	**+1.5**

IDC 28 11:33:31.6±28.0, 22°.23S×171°.75W, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.6/34, mbtmp3.9/3, Error ellipse: s-maj=528.2km s-min=173.6km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.14**	**265**	P	P	11 41 01.4	+0.1
	3.4nm,0.8s,baz=106,slow=7.4,SNR=3.2						
STKA	**Stephens Creek**	**42.38**	**247**	P	P	11 41 26.7	-1.2
	1.1nm,0.5s,baz=70,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**49.81**	**257**	P	P	11 42 26.6	-0.1
	0.2nm,0.4s,baz=88,slow=6.5,SNR=8.6						
WRA	**Warramunga Arr**	**50.14**	**262**	P	P	11 42 29.6	+0.4
	12nm,0.3s,baz=98,slow=8.3,SNR=10						

MEX 28 11:33:49.6±0.4, 14°.95N×93°.48W, h48km±12km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.79**	**18**	*e*P	Pn	11 34 02.7	-1.8
PCIG				*e*S	Sn	11 34 13.4	-1.9
THIG		**1.17**	**92**	*i* P	Pn	11 34 08.7	-0.9
THIG				*i* S	Sn	11 34 22.8	-1.7
CCIG	**Comitan**	**1.85**	**44**	*i* P	Pn	11 34 17.7	-1.4
CCIG				*i* S	Sn	11 34 39.3	-2.0
TGIG		**1.85**	**11**	*i* P	Pn	11 34 17.6	-1.3
TGIG				*e*S	Sn	11 34 39.0	-2.2
CMIG	**Matias Romero**	**2.52**	**328**	*e*P	Pn	11 34 26.5	-1.6
CMIG				*e*S	Sn	11 34 55.6	-2.1

IDC 28 11:34:03.8±26.0, 22°.43S×172°.75W, h0km, mb4.4/4, mb1 4.5/4, mb1mx3.9/34, mbtmp4.4/4, 1C, Error ellipse: s-maj=487.0km s-min=149.8km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.19**	**266**	P	P	11 41 26.2	+0.7
	4.5nm,0.4s,baz=95,slow=11,SNR=12						
STKA	**Stephens Creek**	**41.44**	**247**	P	P	11 41 51.4	-1.0
	0.9nm,0.4s,baz=85,slow=8.7,SNR=5.9						
ASAR	**Alice Springs**	**48.86**	**258**	P	P	11 42 51.2	-0.4
	0.8nm,0.6s,baz=93,slow=8.0,SNR=23						
WRA	**Warramunga Arr**	**49.19**	**263**	P	P	11 42 54.2	+0.2
	6.5nm,0.3s,baz=99,slow=8.3,SNR=3.4						
SYO	**Syowa Base**	**85.86**	**191⇑**	*e*P	P	11 46 29.6	-15

*DDA **28** 12:43:13.9, 35°.19N×34°.21E, h7km±2km, ML2.9*
*ISK **28** 12:43:14.4, 35°.12N×33°.89E, h11km, ML2.9/17*
*NSSC **28** 12:43:16.6±0.6, 34°.70N×34°.05E, h0km±999km, ML2.2*

ISC 28 12:43:13.1±1.3, 35°.06N±0°.03×34°.06E±0°.03, h3km±11km, n31, σ1§22/43, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EREN	**Erenkoy**	**0.48**	**11**	PG	**Pb**	**12 43 24.7**	**+0.5**
EREN	**Erenkoy**	**0.48**	**11**	*i* P	**Pb**	**12 43 25.4**	**+1.2**
AKIN	**Akıncılar- Kıb**	**0.49**	**265**	PG	**Pg**	**12 43 22.1**	**-0.5**
AKIN				SG	**Sg**	**12 43 28.3**	**-0.7**
CSS	**Mathiatis**	**0.61**	**261**	PG	**Pg**	**12 43 23.8**	**-1.0**
AKDN	**Akdeniz- Kıbrı**	**0.93**	**285**	PG	**Pg**	**12 43 30.1**	**-0.8**
LEF	**Lefka**	**0.96**	**274**	PG	**Pg**	**12 43 31.5**	**-0.1**
LEF	**Lefka**	**0.96**	**274**	IAML_P			
	comp=Z,2μm,0.2s						
LEF				*i* P	**Pg**	**12 43 31.9**	**+0.3**
LEF				*i* S	**Sn**	**12 43 51.8**	**+4.0**
TISA	**Tisan-Mersin**	**1.14**	**344**	PG	**Pg**	**12 43 35.1**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.17**	**339**	PG	**Pg**	**12 43 35.3**	**-0.4**
AKKU				SG	**Sb**	**12 43 51.1**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.20**	**339**	IAML_P			
	comp=Z,721nm,0.2s						
GULN				*i* P	**Pg**	**12 43 35.6**	**-0.5**
GULN				*i* S	**Sn**	**12 43 52.5**	**-1.2**
IKL	**Isikli**	**1.22**	**345**	PN	**Pg**	**12 43 35.6**	**-0.9**
SILI	**Silifke-Mersin**	**1.31**	**355**	PN	**Pg**	**12 43 38.4**	**+0.1**
TEKE	**Tekeli-Mersin**	**1.33**	**325**	PN	**Pn**	**12 43 37.9**	**-0.7**
KEBE	**Keben-Mersin**	**1.41**	**348**	PN	**Pn**	**12 43 39.3**	**-0.6**
KIZK	**Mersin**	**1.42**	**3**	PN	**Pn**	**12 43 38.9**	**-1.0**
KIZK	**Mersin**	**1.42**	**3**	IAML_P			
	comp=Z,958nm,0.3s						
KIZK				*i* P	**Pn**	**12 43 39.4**	**-0.5**
BERE	**Bereket-Mersin**	**1.46**	**332**	PN	**Pn**	**12 43 39.8**	**-0.7**
TEVE	**Tevekalti-Mers**	**1.46**	**340**	PN	**Pn**	**12 43 40.1**	**-0.5**
ERMK	**Ermenek**	**1.83**	**330**	*i* P	**Pg**	**12 43 48.9**	**+0.6**
ERMK				*i* S	**Sg**	**12 44 14.2**	**+2.1**
MERS	**Mersin**	**1.84**	**12**	PN	**Pb**	**12 43 46.7**	**-0.8**
GAZI	**Gazipasa**	**1.84**	**310**	PN	**Pn**	**12 43 45.0**	**-0.7**
GAZI	**Gazipasa**	**1.84**	**310**	*i* P	**Pn**	**12 43 45.4**	**-0.3**
GAZI				*i* S	**Sg**	**12 44 11.8**	**-0.6**
TAHT	**Tahtakopru-Hat**	**2.17**	**52**	PN	**Pb**	**12 43 52.7**	**-0.4**
YURE	**YUREGİR**	**2.17**	**35**	PN	**Pb**	**12 43 52.6**	**-0.6**
BRBR	**Barbar**	**2.27**	**136**	*e*P	**Pn**	**12 43 52.5**	**+0.8**
BRBR				*e*S	**Sn**	**12 44 18.5**	**-1.9**
BRBR				AML	AML	12 44 23.5	
	comp=E,13nm,0.5s						
BRBR				AML	AML	12 44 30.7	
	comp=N,27nm,0.7s						
GULE	**Gulek**	**2.29**	**14**	IAML_P			
	comp=Z,333nm,0.2s						
GULE				*i* P	**Pn**	**12 43 52.6**	**+0.6**
GULE				*i* S	**Sg**	**12 44 29.2**	**+2.3**
KARA	**Karaisali**	**2.34**	**20**	PN	**Pn**	**12 43 53.9**	**+1.4**
KERG	**Konya-Eregli**	**2.35**	**1**	IAML_P			
	comp=Z,163nm,0.2s						
KERG				*i* P	**Pn**	**12 43 53.5**	**+0.7**
KERG				*i* S	**Sg**	**12 44 27.4**	**-1.3**
QASN	**Qassioun**	**2.38**	**129**	*e*P	**Pn**	**12 43 54.7**	**+1.5**
QASN				*e*S	**Sn**	**12 44 22.2**	**-0.8**
QASN				AML	AML	12 44 27.0	
	comp=N,65nm,0.4s						
QASN				AML	AML	12 44 28.5	
	comp=E,37nm,0.5s						
TOTH	**TOTAH**	**2.59**	**130**	*e*P	**Pn**	**12 43 57.8**	**+1.7**
TOTH				*e*S	**Sn**	**12 44 26.3**	**-1.8**
TOTH				AML	AML	12 44 31.6	
	comp=N,38nm,0.4s						
TOTH				AML	AML	12 44 32.8	
	comp=E,17nm,0.4s						
KEPZ	**Antalya-Kepez**	**2.71**	**313**	IAML_P			
	comp=Z,224nm,0.4s						
KEPZ				*i* P	**Pn**	**12 43 59.0**	**+1.3**
KEPZ				*i* S	**Sb**	**12 44 35.7**	**-0.3**

*NORS **28** 12:51:05.5±0.0, 44°.72N×41°.05E, h1km, MPVA4.0*
*MOS **28** 12:51:06.0±1.9, 44°.90N×40°.84E, h1km, mb4.2/1, Error ellipse: s-maj=14.6km s-min=7.3km az=107.2*
MOS Felt (II-III) at Novokubansk.

ISC 28 12:51:03.2±1.4, 45°.07N±0°.04×40°.96E±0°.02, h0km±11km, n34, σ1§05/59, 1C, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABN	**Labinsk**	**0.46**	**202**	*i* PG	**Pg**	**12 51 10.2**	**-1.9**
LABN	**Labinsk**	**0.46**	**202**	*e*Pg	**Pb**	**12 51 13.9**	**-0.3**
LABN				*e*Sg	**Sb**	**12 51 21.6**	**0.0**
ERBR	**Yeremizino-Bor**	**0.73**	**332**	*i* Pg	**Pn**	**12 51 20.1**	**-0.6**
ERBR				*e*Sg	**Sn**	**12 51 31.1**	**-1.4**
NVNR	**Nevinnomyssk**	**0.85**	**122**	*e*Pg	**Pg**	**12 51 19.4**	**0.0**
NVNR				*e*Sg	**Sg**	**12 51 30.6**	**+0.2**
GUZR	**Guzeripl'**	**1.23**	**210**	*e*Pg	**Pg**	**12 51 27.2**	**+0.4**
GUZR				*e*Sg	**Sg**	**12 51 43.3**	**+0.5**
RPOR	**Krasnaya Polya**	**1.46**	**200**	*i* PG	**Pn**	**12 51 31.1**	**+0.2**
RPOR	**Krasnaya Polya**	**1.46**	**200**	*e*Pg	**Pb**	**12 51 31.5**	**+0.2**
RPOR				*e*Sg	**Sn**	**12 51 50.0**	**-0.7**
ARXR	**Arkhyz**	**1.53**	**171**	*e*Pg	**Pn**	**12 51 30.9**	**-0.9**
ARXR				*e*Sg	**Sn**	**12 51 51.3**	**-1.2**
KIV	**Kislovodsk**	**1.66**	**132⇑**	*i* PN	**Pb**	**12 51 34.4**	**-0.4**
KIV				*i* S	**Sb**	**12 51 55.9**	**-0.4**
KIV0	**Kislovodsk Arr**	**1.67**	**131**	*e*Pg	**Pb**	**12 51 34.0**	**-0.8**
KIV0				*e*Sg	**Sb**	**12 51 56.0**	**-0.5**
BEYR	**Belyy Ugol+**	**1.70**	**128**	*e*Pg	**Pb**	**12 51 34.6**	**-0.7**
BEYR				*e*Sg	**Sb**	**12 51 57.0**	**-0.3**
SOC	**Sochi**	**1.74**	**211**	*e*PG	**Pb**	**12 51 36.3**	**+0.4**
SOC				*e*S	**Sb**	**12 51 59.1**	**+0.8**
SOC	**Sochi**	**1.74**	**211**	*e*Pg	**Pb**	**12 51 36.6**	**+0.6**
SOC				*e*Sg	**Sg**	**12 51 59.8**	**+0.8**
SHA1	**Shidzhatmaz**	**1.80**	**137**	*e*PN	**Pn**	**12 51 36.2**	**+0.4**
SHA1				*e*S	**Sb**	**12 52 00.2**	**-0.3**
SHA1	**Shidzhatmaz**	**1.80**	**137**	*e*Pg	**Pn**	**12 51 36.1**	**+0.4**
SHA1				*e*Sg	**Sb**	**12 51 59.7**	**-0.8**
PYA1	**Pyatigorsk**	**1.83**	**123**	*i* PN	**Pg**	**12 51 37.7**	**-0.5**
PYA1	**Pyatigorsk**	**1.83**	**123**	*e*Pg	**Pb**	**12 51 37.6**	**0.0**
PYA1				*e*Sg	**Sg**	**12 52 01.2**	**-0.7**
DOMR	**Dombai**	**1.84**	**165**	*i* PN	**Pn**	**12 51 36.3**	**+0.1**
DOMR	**Dombai**	**1.84**	**165**	*e*Pg	**Pn**	**12 51 35.9**	**-0.4**
DOMR				*e*Sg	**Sn**	**12 51 59.2**	**-1.1**
KBTC	**Kuba-Taba**	**2.15**	**125**	*e*PN	**Pg**	**12 51 44.0**	**-0.5**
KBTC				*e*S	**Sg**	**12 52 12.2**	**-0.2**
KBTC	**Kuba-Taba**	**2.15**	**125**	*e*Pg	**Pg**	**12 51 44.0**	**-0.5**
KBTC				*e*Sg	**Sg**	**12 52 11.1**	**-1.3**
NEY	**Neytrino**	**2.22**	**145**	*e*PN	**Pb**	**12 51 43.5**	**-0.8**
NEY				*e*S	**Sb**	**12 52 12.4**	**0.0**
NEY	**Neytrino**	**2.22**	**145**	*e*Pg	**Pb**	**12 51 43.0**	**-1.3**
NEY				*e*Sg	**Sb**	**12 52 12.0**	**-0.4**
NCK	**Nalchik**	**2.46**	**129**	*i* PN	**Pn**	**12 51 45.8**	**+1.2**
ANN	**Anapa**	**2.52**	**265**	*e*Pn	**Pb**	**12 51 48.5**	**-0.8**
ANN				*e*Sn	**Sb**	**12 52 22.3**	**+1.5**
LSNR	**Lesken**	**2.73**	**130**	*e*PN	**Pb**	**12 51 52.5**	**-0.4**
LSNR				*e*S	**Sb**	**12 52 28.3**	**+1.3**
LSNR	**Lesken**	**2.73**	**130**	*e*Pn	**Pg**	**12 51 55.9**	**+0.4**
LSNR				*e*Sn	**Sg**	**12 52 28.8**	**-2.2**
DIGR	**Digorskoe uzhe**	**2.88**	**138**	*e*Pn	**Pg**	**12 51 58.4**	**0.0**
DIGR				*i* Sn	**Sb**	**12 52 32.8**	**+1.4**
ARNR	**Ardon**	**3.05**	**127**	*e*Pn	**Pg**	**12 52 05.5**	**+3.9**
ARNR				*e*Sn	**Sg**	**12 52 41.2**	**+0.1**
ZEI	**Tsey**	**3.12**	**136**	*e*Pn	**Pg**	**12 52 03.2**	**+0.3**
ZEI				*e*Sn	**Sb**	**12 52 40.5**	**+2.3**
LACR	**Lac**	**3.29**	**132**	*e*PN	**Pb**	**12 52 01.6**	**-0.9**
LACR				pmax	pmax		
	comp=Z,16nm,0.3s						
LACR	**Lac**	**3.29**	**132**	*e*Pn	**Pb**	**12 52 04.1**	**+1.6**
LACR				*e*Sn	**Sb**	**12 52 44.0**	**+0.8**
OBN	**Obninsk**	**10.44**	**346**	*e*P	Pn	12 53 40.2	+6.2
OBN				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ARU	**Arti**	**15.86**	**38**	*i* P	**P**	**12 54 53.0**	**+1.5**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*ISCJB **28** 13:01:54.9±0.5, 17°.50N±0°.05×95°.07W±0°.04, h133km, mb4.4/3, Error ellipse: s-maj=7.4km s-min=5.5km az=10.5*
*MEX **28** 13:01:57.7±0.7, 17°.41N×95°.08W, h135km±5km, MD3.9*
*NEIC **28** 13:01:57.7±0.0, 17°.41N×95°.08W, h135km, mb4.5/4, MD3.9(MEX), After MEX.*
NEIC Felt at Ixtac Zoquitlan.

**ISC 28 13:01:55.2±1.0, 17°.52N±0°.06×95°.08W±0°.04, h133km, n21, σ1§27/31, mb4.4/3, Oa

PB09	**IPOC Station P**	**2.83 319**	⇑	*i* P	Pn	13 28 21.9	+0.4
PB09				*i* S	S	13 28 60.0	-1.1
PB05	**IPOC Station P**	**2.92 292**	⇑	*i* P	Pn	13 28 22.6	+0.2
PB05				*i* S	S	13 29 01.2	-1.5
PB03	**IPOC Station P**	**2.98 309**	⇑	*i* P	Pn	13 28 23.2	+0.1
PB03				*i* S	S	13 29 03.2	-0.9
PB03				IAML		13 29 05.0	
	comp=E,70nm,0.1s						
PB10	**IPOC Station P**	**3.05 278**	⇑	*i* P	Pn	13 28 23.9	+0.3
PB10				*i* S	S	13 29 03.6	-1.4
PB04	**IPOC Station P**	**3.11 301**	⇓	*i* P	Pn	13 28 25.1	+0.5
PB04				*i* S	S	13 29 05.8	-0.8
PB04				IAML		13 29 12.5	
	comp=N,39nm,0.1s						
PB07	**IPOC Station P**	**3.29 312**	⇓	*i* P	Pn	13 28 26.7	+0.1
PB07				*i* S	S	13 29 09.1	-1.2
PB07				IAML		13 29 11.2	
	comp=N,49nm,0.2s						
PB01	**IPOC Station P**	**3.56 324**	⇑	*i* P	Pn	13 28 29.5	-0.1
PB01				*i* S	S	13 29 14.5	-1.3
PB01				IAML		13 29 20.3	
	comp=E,23nm,0.3s						
PB02	**IPOC Station P**	**3.58 317**	⇑	*i* P	Pn	13 28 29.9	+0.1
PB02				*i* S	S	13 29 14.7	-1.6
PB02				IAML		13 29 21.0	
	comp=E,40nm,0.2s						

*IDC **28** 14:12:35.8±1.3,2°.59N×95°.47E,h0km,mb4.2/10,*
mb1 4.3/12,mb1mx3.9/43,mbtmp4.2/12,ML4.1/2,MS3.3/4,
Ms1 3.4/4,ms1mx2.9/37,Error ellipse: s-maj=42.5km
s-min=16.1km az=52.0
*BJI **28** 14:12:36.5±0.0,2°.16N×95°.74E,h37km,mb4.6/34,*
mB4.8/20,Ms4.2/7,Ms7 3.9/6
*ISCJB **28** 14:12:39.3±0.4,2°.57N±0°.04×95°.57E±0°.04,h35km,*
mb4.5/34,MS3.8/2,Error ellipse: s-maj=7.1km
s-min=3.6km az=135.2
*DJA **28** 14:12:41.1±1.2,3°N±3°×9°6E±°,h36km±23km,M4.2/7,*
mb4.3/5,mB4.8/2,MLv4.2/7,Mw(mB)4.1/2
*NEIC **28** 14:12:42.8±1.2,2°.70N×95°.68E,h47km±9km,mb4.5/18,*
Error ellipse: s-maj=13.3km s-min=4.7km az=58.0

ISC 28 14:12:41.2±0.6,2°.61N±0°.05×95°.59E±0°.07,h35km,n83,
σ1§09/87,mb4.5/34,Off west coast of northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.71**	**68**	P	**Pn**	**14 13 07.2**	**-1.4**
TPTI				S	**Sn**	**14 13 31.9**	**+2.6**
GSI	**Gunungsitoli**	**2.37**	**123**	P	**Pn**	**14 13 18.2**	**+0.6**
GSI				S	**Sn**	**14 13 44.4**	**-1.1**
LHMI	**Lhok Sumawe**	**2.93**	**27**	*e*Pn	**Pn**	**14 13 25.2**	**-0.2**
LHMI	**Lhok Sumawe**	**2.93**	**27**	P	**Pn**	**14 13 24.8**	**-0.6**
PSI	**Prapat**	**3.33**	**87**	Pn	**Pn**	**14 13 31.6**	**+0.6**
	7.5nm,0.3s,baz=312,slow=11,SNR=25						
PSI				Sn	**Sn**	**14 14 09.3**	**-0.2**
	3.7nm,0.3s,baz=82,slow=14,SNR=4.6						
PSI				LR	LR	14 15 08.4	
	comp=Z,340nm,20.2s,baz=257,slow=44						
PBSI	**Pulau Batu**	**3.77**	**135**	P	**Pn**	**14 13 37.9**	**+1.0**
PBSI				S	**Sn**	**14 14 17.6**	**-2.5**
SISI	**Saibi**	**5.25**	**138**	P	**Pn**	**14 13 57.5**	**+0.3**
SISI				S	**Sn**	**14 14 57.9**	**+1.4**
KULM	**Kulim**	**5.71**	**62**	*e*Pn	**Pn**	**14 14 03.2**	**-0.3**
IPM	**Ipoh**	**5.73**	**71**	*e*Pn	**Pn**	**14 14 03.6**	**-0.3**
SKLT	**Songkhla**	**6.75**	**48**	P	**Pn**	**14 14 19.1**	**+1.2**
	13nm,0.6s						
MYKOM	**Kota Tinggi**	**8.29**	**95**	*e*Pn	**Pn**	**14 14 39.5**	**+0.4**
MNAI	**Manna**	**10.10**	**133**	*e*Pn	**Pn**	**14 15 04.7**	**+0.8**
CHAI	**Chaiyaphum**	**14.63**	**25**	P	**P**	**14 16 12.7**	**+1.0**
	20μm,0.7s						
KSM	**Kuching**	**14.75**	**94**	*e*Pn	**Pn**	**14 16 07.6**	**+0.1**
PBKT	**Sadao Pong**	**14.85**	**21**	P	**P**	**14 16 14.6**	**+0.5**
	5.6nm,0.7s,476nm						
LEM	**Lembang**	**15.23**	**128**	LR	LR	14 22 47.4	
	comp=Z,193nm,19.9s,baz=252,slow=40						
KHON	**Khomkaen**	**15.39**	**27**	P	**P**	**14 16 19.4**	**-0.7**
	81μm,0.7s						
PALK	**Pallekele**	**15.54**	**288**	LR	LR	14 22 02.3	
	comp=Z,126nm,18.2s,baz=116,slow=37						
UTTA	**Uttaradit**	**15.81**	**18**	P	**P**	**14 16 23.6**	**-1.2**
	18μm,0.7s						
CM31	**Chiang Mai Arr**	**16.09**	**12**	*e*Pn	**Pn**	**14 16 24.6**	**-0.3**
	16nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.09**	**12**	Pn	**Pn**	**14 16 26.2**	**+1.3**
	0.4nm,0.3s,baz=200,slow=11,SNR=48						
CMAR				LR	LR	14 22 35.5	
	comp=Z,80nm,20.3s,baz=199,slow=37						
PHRA	**Phrae**	**16.43**	**16**	P	**Pn**	**14 16 30.4**	**+1.1**
	1.4nm,1.1s						
CHTO	**Chiang Mai**	**16.43**	**11**	*e*Pn	**Pn**	**14 16 29.1**	**-0.2**
	6.5nm,0.9s						
CMMT	**Chiang Mai**	**16.43**	**11**	P	**Pn**	**14 16 30.4**	**+1.1**
	4.1nm,1.2s						
SKNT	**Sakolnakorn**	**16.48**	**29**	P	**P**	**14 16 32.4**	**+0.1**
	13nm,1.5s						
SBUM	**Sibu**	**16.61**	**90**	*e*Pn	**Pn**	**14 16 31.9**	**+0.3**
	3.4nm,1.0s						
PANO	**Nakornpanom**	**16.95**	**31**	P	**Pn**	**14 16 36.2**	**+0.4**
	0.5nm,0.8s						
QIZ	**Qiongzhong**	**21.47**	**40**	P	**P**	**14 17 25.8**	**-1.0**
QIZ				S	**S**	**14 21 23.0**	**-0.3**
QIZ				LR	LR		
	comp=N,170nm,15.7s						
QIZ				LR	LR		
	comp=E,63nm,7.7s						
QIZ				LR	LR		
	comp=Z,100nm,15.7s						
KMI	**Kunming**	**23.42**	**16**	P	**P**	**14 17 50.0**	**+2.4**
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
H08S2	**Diego Garcia H**	**25.20**	**246**	T	T	14 44 15.7	
	baz=66,slow=75,SNR=1457						
H08S3	**Diego Garcia H**	**25.20**	**246**	T	T	14 44 11.2	
	baz=66,slow=75,SNR=1982						
H08S1	**Diego Carcia H**	**25.21**	**246**	T	T	14 44 16.2	
	baz=66,slow=75,SNR=2276						
KAPI	**Kappang**	**25.30**	**107**	P	**P**	**14 18 04.6**	**-0.1**
	4.6nm,0.6s,baz=217,slow=15,SNR=3.5						
ODAN	**Odare**	**25.36**	**343**	*e*P	**P**	**14 18 06.2**	**+0.7**
	34nm,0.8s						
RAMN	**Ramite**	**25.69**	**341**	*e*P	**P**	**14 18 09.5**	**+1.0**
	27nm,0.6s						
JIRN	**Jiri**	**26.48**	**341**	*e*P	**P**	**14 18 16.0**	**+0.2**
	42nm,0.6s						
PKI	**Pulchoki**	**26.66**	**340**	*e*P	**P**	**14 18 18.7**	**+1.3**
	18nm,0.7s						
PKIN	**Phulchoki**	**26.67**	**340**	*e*P	**P**	**14 18 18.6**	**+1.2**
	13nm,0.8s						
KKN	**Kakani**	**26.91**	**339**	*e*P	**P**	**14 18 20.2**	**+0.7**
	4.2nm,0.3s						
LSA	**Lhasa**	**27.27**	**352**	*e*P	**P**	**14 18 22.1**	**-0.9**
	7.8nm,0.6s						
KOLN	**Koldanda**	**27.52**	**337**	*e*P	**P**	**14 18 26.8**	**+1.9**
	21nm,0.7s						
DANN	**Dangsing**	**27.98**	**337**	*e*P	**P**	**14 18 29.9**	**+0.8**
	24nm,0.7s						
CD2	**Chengdu**	**29.19**	**14**	*e*P	**P**	**14 18 41.0**	**+1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WHN	**Wuhan**	**32.97**	**31**	P	**P**	**14 19 09.8**	**-3.0**
XAN	**Xi'an**	**33.65**	**20**	P	**P**	**14 19 17.5**	**-1.3**
XAN				pP	pP	14 19 27.5	-1.4
XAN				pmax	pmax		
	comp=Z,20nm,0.7s						
XAN	**Xi'an**	**33.65**	**20**	*e*P	**P**	**14 19 16.9**	**-2.0**
	15nm,0.7s						
LZH	**Lanzhou**	**34.17**	**12**	*e*P	**P**	**14 19 25.5**	**+2.0**
LZH				sP	sP	14 19 35.8	-2.0
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
FITZ	**Fitzroy Crossi**	**36.05**	**126**	*e*P	**P**	**14 19 39.3**	**-0.4**
	24nm,1.8s						
FITZ	**Fitzroy Crossi**	**36.05**	**126**	P	**P**	**14 19 39.3**	**-0.4**
	1.8nm,0.8s,baz=270,slow=6.1,SNR=3.6						
NJ2	**Nanjing**	**36.56**	**34**	*e*P	**P**	**14 19 44.5**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
GTA	**Gaotai**	**36.83**	**5**	*e*P	**P**	**14 19 45.5**	**-0.7**
GTA				pP	pP	14 19 54.8	-1.6
GTA				sP	sP	14 19 58.5	-2.1
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**40.71**	**19**	*e*P	**P**	**14 20 19.8**	**+1.1**
HHC				pmax	pmax		
	comp=Z,49nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,4.8s						
KSH	**Kashi**	**40.84**	**337**	P	**P**	**14 20 19.5**	**-0.3**
KSH				pP	sP	14 20 32.0	-2.2
KSH				sP	pP	14 20 36.8	+6.8
KSH				S	**S**	**14 26 25.5**	**-3.3**
KSH				sS	sS	14 26 47.0	+1.4
KSH				pmax	pmax		
	comp=Z,33nm,3.2s						
KSH				LR	LR		
	comp=N,64nm,8.3s						
KSH				LR	LR		
	comp=E,66nm,8.3s						
WMQ	**Urumqi**	**41.63**	**351**	*e*P	**P**	**14 20 26.8**	**+0.6**
WMQ				pP	pP	14 20 34.8	-1.5
WMQ				pmax	pmax		
	comp=Z,79nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,140nm,3.7s						
WMQ				LR	LR		
	comp=N,260nm,26.9s						
WMQ				LR	LR		
	comp=E,990nm,25.1s						
WMQ				LR	LR		
	comp=Z,170nm,26.9s						
TARG	**Taragay, Kyrgy**	**42.10**	**340**	*e*P	**P**	**14 20 32.1**	**+1.7**
	4.6nm,0.8s						
KDJ	**Kajisay**	**42.67**	**340**	*e*P	**P**	**14 20 34.6**	**-0.2**
	6.4nm,0.6s						
ARSB	**Arslanbob**	**43.59**	**335**	*e*P	**P**	**14 20 41.8**	**-0.4**
	15nm,1.4s						
WRA	**Warramunga Arr**	**44.14**	**122**	P	**P**	**14 20 47.4**	**+0.6**
	70nm,0.3s,baz=294,slow=11,SNR=2.4						
WR1	**Warramunga Arr**	**44.14**	**122**	*e*P	**P**	**14 20 47.4**	**+0.6**
MK32	**Makanchi Array**	**45.51**	**347**	*e*P	**P**	**14 20 57.4**	**0.0**
MKAR	**Makanchi Array**	**45.51**	**347**	P	**P**	**14 20 57.4**	**+0.1**
	6.6nm,0.6s,baz=160,slow=7.9,SNR=44						
ASAR	**Alice Springs**	**45.52**	**127**	P	**P**	**14 20 58.8**	**+1.0**
	0.7nm,0.7s,baz=298,slow=8.0,SNR=14						
AS31	**Alice Springs**	**45.52**	**127**	*e*P	**P**	**14 20 58.8**	**+0.9**
	2.6nm,1.5s						
MAKZ	**Makanchi**	**45.59**	**347**	*e*P	**P**	**14 20 57.4**	**-0.6**
	6.1nm,0.6s						
KS15	**Wonju Array Si**	**45.61**	**37**	*e*P	**P**	**14 20 58.1**	**-0.1**
	102nm,1.9s						
KSAR	**Wonju Array Be**	**45.61**	**37**	P	**P**	**14 20 58.1**	**-0.1**
KSRS	**Korea Array**	**45.64**	**37**	P	**P**	**14 20 58.1**	**-0.3**
	1.5nm,0.7s,baz=223,slow=9.2,SNR=8.0						
SONA0	**Songino Array**	**46.01**	**10**	*e*P	**P**	**14 21 00.9**	**-0.5**
SONA0				*e*PcP	**PcP**	**14 22 38.5**	**+0.9**
SONM	**Songino Array**	**46.01**	**10**	P	**P**	**14 21 00.9**	**-0.5**
	2.0nm,0.6s,baz=193,slow=9.1,SNR=12						
SONM				PcP	**PcP**	**14 22 38.5**	**+0.9**
	1.1nm,0.5s,baz=192,slow=2.7,SNR=5.5						
KK31	**Karatay Array**	**46.09**	**334**	*e*P	**P**	**14 21 01.6**	**-0.4**
	3.3nm,0.9s						
KKAR	**Karatay Array**	**46.09**	**334**	*e*P	**P**	**14 21 01.6**	**-0.3**
	3.3nm,0.9s						
GEYT	**Alibeck**	**49.11**	**320**	P	**P**	**14 21 27.7**	**+2.2**
	1.1nm,0.3s,baz=116,slow=9.8,SNR=3.0						
KURK	**Kurchatov**	**50.03**	**346**	*e*P	**P**	**14 21 31.8**	**-0.5**
	5.5nm,0.8s						
ZAA0	**Zalesovo Array**	**51.93**	**352**	*e*P	**P**	**14 21 45.9**	**-0.6**
	6.9nm,0.8s						
ZALV	**Zalesovo Beam**	**51.93**	**352**	P	**P**	**14 21 46.4**	**-0.1**
	7.2nm,0.6s,baz=183,slow=6.8,SNR=35						
ZAA1	**Zalesovo Array**	**51.94**	**352**	*e*P	**P**	**14 21 46.4**	**-0.1**
BRVK	**Borovoye**	**54.47**	**342**	*e*P	**P**	**14 22 04.0**	**-1.2**
	4.9nm,0.8s						
ABKAR	**Akbulak array**	**55.52**	**332**	*e*P	**P**	**14 22 12.4**	**-0.5**
	4.7nm,0.9s						
NRIK	**Noril'sk**	**66.84**	**357**	P	**P**	**14 23 29.1**	**0.0**
	1.5nm,0.6s,baz=161,slow=9.5,SNR=3.6						
TIXI	**Tiksi**	**72.09**	**11**	*e*P	**P**	**14 24 00.2**	**-1.3**
	2.7nm,0.8s						
FIA0	**FINESS Array S**	**78.02**	**333**	*e*P	**P**	**14 24 35.4**	**-0.5**
FINES	**FINESS Array B**	**78.02**	**333**	P	**P**	**14 24 35.4**	**-0.5**
	1.9nm,0.9s,baz=107,slow=9.3,SNR=3.2						
ARCES	**ARCESS Array B**	**80.68**	**340**	P	**P**	**14 24 49.9**	**-0.4**
	1.4nm,0.9s,baz=108,slow=5.0,SNR=4.2						

MEX 28 14:23:05.5±0.7,14°.74N×92°.34W,h90km±6km,MD3.7,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.19**	**23**	*e*P	Pn	14 23 17.1	-1.4
THIG				*e*S	Sn	14 23 26.4	-1.6
PCIG		**1.28**	**319**	*i* P	Pn	14 23 27.9	-0.6
PCIG				*e*S	Sn	14 23 44.0	-1.8
CCIG	**Comitan**	**1.55**	**7**	*i* P	Pn	14 23 31.3	-0.8
CCIG				*i* S	Sn	14 23 49.8	-2.4
TGIG		**2.17**	**340**	*i* P	Pn	14 23 39.4	-0.5
TGIG				*i* S	Sn	14 24 05.2	-1.1
CMIG	**Matias Romero**	**3.39**	**314**	*i* P	Pn	14 23 56.2	0.0
CMIG				*e*S	Sn	14 24 33.8	-1.6

*BJI **28** 14:24:50.2±0.0,2°.25N×95°.62E,h18km,mb4.7/32,*
mB4.6/19,Ms4.0/7,Ms7 3.7/3
*IDC **28** 14:24:52.4±1.0,2°.64N×95°.55E,h0km,mb4.2/11,*
mb1 4.3/13,mb1mx4.0/39,mbtmp4.2/13,ML4.3/2,MS3.4/5,
Ms1 3.4/5,ms1mx3.0/34,Error ellipse: s-maj=30.4km
s-min=14.4km az=46.0
*ISCJB **28** 14:24:54.2±0.3,2°.56N±0°.03×95°.57E±0°.03,h25km,*
mb4.5/32,Error ellipse: s-maj=5.9km s-min=3.6km
az=137.9
*NEIC **28** 14:24:55.3±2.4,2°.58N×95°.55E,h22km±16km,mb4.5/18,*
Error ellipse: s-maj=11.8km s-min=4.7km az=59.0
*DJA **28** 14:24:58.4±1.0,3°N±3°×9°6E±°,h17km±10km,M4.3/9,*
mb4.6/7,mB4.9/3,MLv4.2/9,Mw(mB)4.2/3

ISC 28 14:24:55.9±0.5,2°.59N±0°.05×95°.60E±0°.07,h25km,n98,
σ1§14/97,mb4.5/32,1C-2D,Off west coast of northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.72**	**67**	P	**Pn**	**14 25 23.3**	**-0.9**
TPTI				S	**Sn**	**14 25 43.1**	**-2.3**
GSI	**Gunungsitoli**	**2.35**	**123**	*e*Pn	**Pn**	**14 25 34.1**	**+1.1**
GSI	**Gunungsitoli**	**2.35**	**123**	P	**Pn**	**14 25 33.9**	**+0.9**
GSI				S	**Sn**	**14 26 01.1**	**0.0**
LHMI	**Lhok Sumawe**	**2.95**	**27**	*e*Pn	**Pn**	**14 25 40.8**	**-0.4**
LHMI	**Lhok Sumawe**	**2.95**	**27**	P	**Pn**	**14 25 41.3**	**+0.1**
LHMI				S	**Sn**	**14 26 18.0**	**+2.2**
PSI	**Prapat**	**3.33**	**86**	Pn	**Pn**	**14 25 47.5**	**+1.0**
	14nm,0.3s,baz=311,slow=10,SNR=22						
PSI				Sn	**Sn**	**14 26 27.0**	**+1.5**
	9.1nm,0.3s,baz=265,slow=15,SNR=5.0						
PSI				LR	LR	14 27 23.6	
	comp=Z,343nm,20.6s,baz=258,slow=45						
PBSI	**Pulau Batu**	**3.75**	**134**	P	**Pn**	**14 25 53.8**	**+1.5**
PBSI				S	**Sn**	**14 26 34.0**	**-1.7**
SISI	**Saibi**	**5.23**	**138**	P	**Pn**	**14 26 14.8**	**+2.3**
KULM	**Kulim**	**5.71**	**62**	*e*Pn	**Pn**	**14 26 19.2**	**0.0**
IPM	**Ipoh**	**5.74**	**71**	*e*Pn	**Pn**	**14 26 19.2**	**-0.4**
PDSI	**Padang**	**5.98**	**125**	P	**Pn**	**14 26 24.5**	**+1.6**
KRAB	**Krabi**	**6.65**	**32**	P	**Pn**	**14 26 32.2**	**+0.2**
	212μm,0.5s,869nm						
SKLT	**Songkhla**	**6.77**	**48**	P	**Pn**	**14 26 35.8**	**+2.1**
	19nm,0.6s,0.1nm						
PPSI	**Pulau Pagai**	**6.91**	**140**	P	**Pn**	**14 26 37.5**	**+1.9**
MYKOM	**Kota Tinggi**	**8.29**	**95**	*e*Pn	**Pn**	**14 26 55.1**	**+0.5**
PBA	**Port Blair**	**9.44**	**343**	*e*Pn	Pn	14 27 08.7	-1.7
MNAI	**Manna**	**10.09**	**133**	*e*Pn	**Pn**	**14 27 19.1**	**-0.2**
CHAI	**Chaiyaphum**	**14.65**	**25**	P	**P**	**14 28 28.0**	**+0.2**
PBKT	**Sadao Pong**	**14.87**	**20**	P	**P**	**14 28 30.0**	**-0.1**
	6.4nm,0.7s						
LEM	**Lembang**	**15.21**	**128**	LR	LR	14 34 29.2	
	comp=Z,190nm,20.3s,baz=264,slow=38						
KHON	**Khomkaen**	**15.40**	**27**	P	**P**	**14 28 35.5**	**-0.6**
	93μm,0.8s						
PALK	**Pallekele**	**15.55**	**288**	LR	LR	14 33 50.1	
	comp=Z,149nm,19.6s,baz=117,slow=35						
DLV	**T Lat**	**15.80**	**53**	*e*Pn	**P**	**14 28 39.4**	**-1.3**
	12nm,1.1s						
CISI	**Cisompet, Garu**	**15.82**	**130**	*e*Pn	**Pn**	**14 28 36.9**	**-0.3**
	160nm,1.7s						
UTTA	**Uttaradit**	**15.83**	**18**	P	**P**	**14 28 39.7**	**-1.1**
	23μm,0.8s						
CM31	**Chiang Mai Arr**	**16.11**	**12**	*e*Pn	**P**	**14 28 42.4**	**-1.6**
	14nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.11**	**12**	Pn	**Pn**	**14 28 42.0**	**+1.1**
	0.6nm,0.3s,baz=200,slow=11,SNR=51						
CMAR				LR	LR	14 34 39.6	
	comp=Z,88nm,19.7s,baz=198,slow=37						
LAMP	**Lampang**	**16.32**	**14**	P	**P**	**14 28 46.1**	**-0.2**
	17μm,0.8s,247μm						
PHRA	**Phrae**	**16.45**	**16**	P	**Pn**	**14 28 46.4**	**+1.2**
	1.8nm,1.0s,99nm						
CHTO	**Chiang Mai**	**16.46**	**11**	*e*Pn	**Pn**	**14 28 45.3**	**0.0**
	4.9nm,0.8s						
CMMT	**Chiang Mai**	**16.46**	**11**	P	**Pn**	**14 28 46.4**	**+1.1**
	4.1nm,0.8s,167nm						
SKNT	**Sakolnakorn**	**16.50**	**29**	P	**P**	**14 28 53.1**	**+4.8**
SBUM	**Sibu**	**16.61**	**90**	*e*Pn	**Pn**	**14 28 46.6**	**-0.7**
	3.4nm,1.0s						
PANO	**Nakornpanom**	**16.97**	**31**	P	**Pn**	**14 28 52.2**	**+0.5**
	0.6nm,0.8s						
QIZ	**Qiongzhong**	**21.48**	**39**	P	**P**	**14 29 43.0**	**+0.1**
QIZ				S	**S**	**14 33 42.3**	**+2.2**
QIZ				LR	LR		
	comp=N,200nm,17.6s						
QIZ				LR	LR		
	comp=E,140nm,16.2s						
KMI	**Kunming**	**23.44**	**16**	P	**P**	**14 30 04.8**	**+1.1**
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
H08S2	**Diego Garcia H**	**25.19**	**246**	T	T	14 56 28.4	
	baz=66,slow=75,SNR=3867						
H08S3	**Diego Garcia H**	**25.19**	**246**	T	T	14 56 30.8	
	baz=66,slow=75,SNR=3911						
H08S1	**Diego Carcia H**	**25.21**	**246**	T	T	14 56 32.0	
	baz=66,slow=75,SNR=3761						
KAPI	**Kappang**	**25.29**	**107**	*e*P	**P**	**14 30 20.3**	**-0.4**
	8.2nm,0.7s						
KAPI	**Kappang**	**25.29**	**107**	P	**P**	**14 30 21.3**	**+0.6**
	10nm,0.8s,baz=84,slow=20,SNR=6.7						
ODAN	**Odare**	**25.39**	**343**	*e*P	**P**	**14 30 22.3**	**+0.7**
	36nm,0.8s						
RAMN	**Ramite**	**25.71**	**341**	*e*P	**P**	**14 30 25.5**	**+0.9**
	35nm,0.6s						
JIRN	**Jiri**	**26.50**	**341**	*e*P	**P**	**14 30 32.4**	**+0.5**
	53nm,0.7s						
PKI	**Pulchoki**	**26.69**	**340**	*e*P	**P**	**14 30 34.6**	**+1.1**
	14nm,0.6s						
PKIN	**Phulchoki**	**26.70**	**340**	*e*P	**P**	**14 30 34.3**	**+0.7**
	7.4nm,0.5s						
DMN	**Daman**	**26.83**	**339**	*e*P	**P**	**14 30 36.1**	**+1.4**
	12nm,0.5s						
KKN	**Kakani**	**26.93**	**339**	*e*P	**P**	**14 30 36.5**	**+0.9**
KOLN	**Koldanda**	**27.54**	**337**	*e*P	**P**	**14 30 43.2**	**+2.1**
	17nm,0.6s						
DANN	**Dangsing**	**28.00**	**337**	*e*P	**P**	**14 30 46.5**	**+1.2**
	23nm,0.7s						
PYUN	**Piuthan**	**28.08**	**336**	*e*P	**P**	**14 30 47.5**	**+1.6**
CD2	**Chengdu**	**29.21**	**14**	*e*P	**P**	**14 30 57.0**	**+1.3**
WHN	**Wuhan**	**32.99**	**31**	P	**P**	**14 31 30.5**	**+1.5**
XAN	**Xi'an**	**33.67**	**20**	P	**P**	**14 31 33.5**	**-1.5**
XAN				pP	pP	14 31 41.5	-0.9
XAN				pmax	pmax		
	comp=Z,22nm,0.7s						
XAN	**Xi'an**	**33.67**	**20**	*e*P	**P**	**14 31 33.0**	**-2.0**
	16nm,0.7s						
LZH	**Lanzhou**	**34.20**	**12**	*e*P	**P**	**14 31 38.8**	**-0.9**
LZH				pP	pP	14 31 47.5	+0.4
LZH				sP	sP	14 31 50.8	+0.7
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				pmax	pmax		
	comp=Z,170nm,4.7s						
FITZ	**Fitzroy Crossi**	**36.03**	**126**	*e*P	**P**	**14 31 55.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**36.03**	**126**	P	**P**	**14 31 55.7**	**+0.2**
	1.5nm,0.8s,baz=274,slow=1.4,SNR=4.5						
NJ2	**Nanjing**	**36.58**	**34**	*e*P	**P**	**14 32 01.0**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
GTA	**Gaotai**	**36.85**	**5**	*e*P	**P**	**14 32 01.5**	**-0.9**
GTA				pP	pP	14 32 08.0	-1.9
GTA				sP	sP	14 32 11.5	-1.4
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**40.73**	**19**	*e*P	**P**	**14 32 37.0**	**+2.1**
HHC				pmax	pmax		
	comp=Z,55nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,4.9s						
KSH	**Kashi**	**40.86**	**337**	P	**P**	**14 32 35.8**	**-0.2**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WMQ	**Urumqi**	**41.65**	**351**	P	**P**	**14 32 42.5**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,27nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,300nm,6.3s						
WMQ				LR	LR		
	comp=N,460nm,25.1s						
WMQ				LR	LR		
	comp=E,380nm,30.7s						
TARG	**Taragay, Kyrgy**	**42.12**	**340**	*e*P	**P**	**14 32 46.0**	**-0.7**
	5.4nm,0.7s						
KDJ	**Kajisay**	**42.69**	**340**	*e*P	**P**	**14 32 51.2**	**+0.2**
	6.6nm,0.6s						
ARSB	**Arslanbob**	**43.61**	**335**	*e*P	**P**	**14 32 58.8**	**+0.4**
WRA	**Warramunga Arr**	**44.13**	**122**	P	**P**	**14 33 03.4**	**+0.7**
	74nm,0.3s,baz=291,slow=10,SNR=1.9						
WR1	**Warramunga Arr**	**44.13**	**122**	*e*P	**P**	**14 33 03.4**	**+0.7**
AS31	**Alice Springs**	**45.51**	**127**	*e*P	**P**	**14 33 14.8**	**+1.0**
	1.4nm,1.1s						
ASAR	**Alice Springs**	**45.51**	**127**	P	**P**	**14

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.87**	**211**	P	**Pg**	**14 33 55.9**	**+0.3**
SALI				S	**Sb**	**14 34 08.5**	**+1.1**
MORR	**Playas El Morr**	**1.22**	**170**	P	**Pn**	**14 34 01.6**	**+0.1**
MILO	**Milagro-Astudi**	**1.29**	**131**	P	**Pn**	**14 34 00.3**	**-2.2**
MILO				S	**Sb**	**14 34 16.4**	**-3.0**
MAG1	**Magdalena**	**1.55**	**30**	P	**Pn**	**14 34 04.0**	**-2.1**
COHC	**Cochancay**	**1.64**	**129**	P	**Pn**	**14 34 06.0**	**-1.4**
ILLI	**Illinizas Sur**	**1.95**	**69**	P	**Pn**	**14 34 09.8**	**-2.2**
BBIL	**Ulba Tungurahu**	**2.05**	**90**	P	**Pn**	**14 34 13.2**	**0.0**
BMAS	**Trigal station**	**2.06**	**92**	P	**Pn**	**14 34 13.9**	**+0.5**
ARRY	**Arrayan**	**2.08**	**92**	P	**Pn**	**14 34 14.0**	**+0.2**
POND	**Pondoa**	**2.09**	**90**	P	**Pn**	**14 34 13.9**	**+0.1**
REFU	**Refugio**	**2.09**	**91**	P	**Pn**	**14 34 14.1**	**+0.1**
PAT1	**Patacocha**	**2.10**	**92**	P	**Pn**	**14 34 14.6**	**+0.5**
BPAT	**Tungurahua Vol**	**2.11**	**92**	P	**Pn**	**14 34 14.4**	**+0.3**
BPAT				S	**Sn**	**14 34 41.6**	**+1.1**
BRUN	**Tungurahua Vol**	**2.13**	**90**	P	**Pn**	**14 34 14.4**	**+0.1**
BULB	**Ulba Tungurahu**	**2.13**	**90**	P	**Pn**	**14 34 14.7**	**+0.3**
BULB				S	**Sn**	**14 34 41.9**	**+1.0**
CAMI	**Rancho Maria**	**2.17**	**70**	P	**Pn**	**14 34 16.2**	**+1.2**
NINA	**Atacazo Ninahu**	**2.18**	**62**	P	**Pn**	**14 34 14.9**	**-0.4**
PIS1	**Pisayambo**	**2.19**	**80**	P	**Pn**	**14 34 15.6**	**+0.4**
PISA	**Pisayambo**	**2.19**	**80**	P	**Pn**	**14 34 15.3**	**0.0**
BMOR	**Cotopaxi Volca**	**2.19**	**71**	P	**Pn**	**14 34 15.6**	**+0.1**
BREF	**Cotopaxi Volca**	**2.23**	**70**	P	**Pn**	**14 34 16.6**	**+0.6**
BVC2	**Cotopaxi Volca**	**2.26**	**70**	P	**Pn**	**14 34 15.8**	**-0.6**
BTAM	**Cotopaxi Volca**	**2.27**	**71**	P	**Pn**	**14 34 16.0**	**-0.5**
VC1	**Cotopaxi 1**	**2.28**	**70**	P	**Pn**	**14 34 16.4**	**-0.2**
PITA	**Cotopaxi Volc**	**2.28**	**68**	P	**Pn**	**14 34 15.7**	**-0.8**
TERV	**Terraza Guagua**	**2.30**	**57**	P	**Pn**	**14 34 15.7**	**-1.3**
PINO	**Pino**	**2.31**	**57**	P	**Pn**	**14 34 15.3**	**-1.8**
COV1	**Cotopaxi Volc**	**2.33**	**71**	P	**Pn**	**14 34 16.2**	**-1.2**
YANA	**Yana**	**2.36**	**56**	P	**Pn**	**14 34 16.1**	**-1.6**
PAC1	**Pacto, Paraso**	**2.43**	**46**	P	**Pn**	**14 34 15.7**	**-2.6**
ANTG	**Antisana-Guama**	**2.46**	**68**	P	**Pn**	**14 34 19.5**	**+0.3**
ANTS	**Antisana-Sarah**	**2.54**	**69**	P	**Pn**	**14 34 20.6**	**+0.3**
ANTI	**Antisana**	**2.57**	**68**	P	**Pn**	**14 34 21.6**	**+1.0**
OTAV	**Otavalo**	**2.67**	**52**	*eP*	**Pn**	**14 34 19.5**	**-2.3**
OTAV				*eS*	**Sn**	**14 34 54.8**	**+0.5**
OTAV	**Otavalo**	**2.67**	**52**	*eP*	**Pn**	**14 34 19.5**	**-2.3**
OTAV				*eS*	**Sn**	**14 34 54.8**	**+0.5**
CUSE	**Cuicocha Este**	**2.75**	**51**	P	**Pn**	**14 34 23.7**	**+0.7**
CUSE				S	**Sn**	**14 34 57.5**	**+1.2**
ARDO	**Archidona, Ten**	**2.77**	**81**	P	**Pn**	**14 34 25.0**	**+2.1**
CUIC	**Cuicocha-Domo**	**2.78**	**52**	P	**Pn**	**14 34 22.7**	**-0.6**
URCU	**Urcuqui**	**2.94**	**51**	P	**Pn**	**14 34 27.8**	**+2.1**
MCRA	**Macar, Loja**	**2.98**	**169**	P	**Pn**	**14 34 24.9**	**-0.9**
CRUC	**La Cruz**	**4.67**	**50**	*eP*	**Pn**	**14 34 52.5**	**+3.2**
CRUC	**La Cruz**	**4.67**	**50**	*eP*	**Pn**	**14 34 52.5**	**+3.2**
BBAC	**Balboa, Cauca**	**4.75**	**44**	*eP*	**Pn**	**14 34 49.6**	**-0.7**
BBAC				*eS*	**Sn**	**14 35 45.3**	**-0.2**
BBAC	**Balboa, Cauca**	**4.75**	**44**	*eP*	**Pn**	**14 34 49.6**	**-0.7**
BBAC				*eS*	**Sn**	**14 35 45.3**	**-0.2**
SOTA	**Rioblanco**	**5.29**	**48**	*eP*	**Pn**	**14 34 56.9**	**-1.1**
SOTA	**Rioblanco**	**5.29**	**48**	*eP*	**Pn**	**14 34 56.9**	**-1.1**
POPC	**Popayan, Colom**	**5.52**	**44**	*eP*	**Pn**	**14 34 59.8**	**-1.2**
POPC	**Popayan, Colom**	**5.52**	**44**	*eP*	**Pn**	**14 34 59.8**	**-1.2**
PCON	**Cinco Dias**	**5.58**	**48**	*eP*	**Pn**	**14 35 06.1**	**+4.1**
PCON	**Cinco Dias**	**5.58**	**48**	*eP*	**Pn**	**14 35 06.1**	**+4.1**

BUC 28 14:34:25.8±0.9, 45°.71N×26°.60E, h142km±7km, MD3.7/3, 20C-20D, Error ellipse: s-maj=9.5km s-min=6.6km az=91.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.15**	**13**	⇓*i*P	Pn	14 34 44.8	-0.3
PLOR				*i* S	Sn	14 34 59.6	-0.2
PLOR	**Plostina**	**0.15**	**13**	⇓*i*P	Pn	14 34 44.8	-0.3
VRI	**Vrincioaia**	**0.18**	**29**	⇓*i*P	Pn	14 34 45.1	0.0
VRI				*i* S	Sn	14 34 59.6	-0.2
VRI	**Vrincioaia**	**0.18**	**29**	⇓*i*P	Pn	14 34 45.1	0.0
ODBI	**Odobesti**	**0.32**	**80**	⇓*i*P	Pn	14 34 46.0	+0.6
ODBI				*i* S	Sn	14 35 00.6	+0.3
ODBI	**Odobesti**	**0.32**	**80**	⇓*i*P	Pn	14 34 46.0	+0.6
GRER		**0.42**	**141**	⇑*i*P	Pn	14 34 46.8	+0.9
GRER		**0.42**	**141**	⇑*i*P	Pn	14 34 46.8	+0.9
PETR	**Petresti**	**0.44**	**88**	⇓*i*P	Pn	14 34 46.4	+0.5
PETR				*i* S	Sn	14 35 01.3	+0.1
PETR	**Petresti**	**0.44**	**88**	⇓*i*P	Pn	14 34 46.4	+0.5
MLR	**Muntele Rosu**	**0.51**	**245**	⇑*i*P	Pn	14 34 46.4	-0.1
MLR				*i* S	Sn	14 35 02.0	-0.1
MLR	**Muntele Rosu**	**0.51**	**245**	⇑*i*P	Pn	14 34 46.4	-0.1
ISR	**Istrita**	**0.59**	**184**	⇑*i*P	Pn	14 34 47.1	+0.3
ISR				*i* S	Sn	14 35 03.0	+0.2
ISR	**Istrita**	**0.59**	**184**	⇑*i*P	Pn	14 34 47.1	+0.3
ISR				S	Sn	14 35 03.0	+0.2
TUDR		**0.76**	**98**	⇓*i*P	Pn	14 34 48.3	+0.5
TUDR				*i* S	Sn	14 35 04.8	+0.3
TUDR		**0.76**	**98**	⇓*i*P	Pn	14 34 48.3	+0.5
SECR		**0.77**	**209**	⇑*i*P	Pn	14 34 48.0	0.0
SECR				*i* S	Sn	14 35 05.0	+0.2
SECR		**0.77**	**209**	⇑*i*P	Pn	14 34 48.0	0.0
TESR	**Tescani**	**0.81**	**2**	⇓*i*P	Pn	14 34 47.8	-0.4
TESR				*i* S	Sn	14 35 03.9	-1.4
TESR	**Tescani**	**0.81**	**2**	⇓*i*P	Pn	14 34 47.8	-0.4
BIR	**Birlad**	**0.91**	**52**	*i* S	Sn	14 35 05.9	-0.8
BIR	**Birlad**	**0.91**	**52**	S	Sn	14 35 05.9	-0.8
SULR		**1.06**	**193**	⇑*i*P	Pn	14 34 50.2	-0.1
SULR				*i* S	Sn	14 35 08.9	0.0
SULR		**1.06**	**193**	⇑*i*P	Pn	14 34 50.2	-0.1
VOIR		**1.12**	**257**	⇓*i*P	Pn	14 34 50.3	-0.7
VOIR				*i* S	Sn	14 35 07.9	-2.3
VOIR		**1.12**	**257**	⇓*i*P	Pn	14 34 50.3	-0.7
CFR	**Carcaliu**	**1.20**	**116**	⇑*i*P	Pn	14 34 51.4	-0.3
CFR				*i* S	Sn	14 35 10.3	-1.1
CFR	**Carcaliu**	**1.20**	**116**	⇑*i*P	Pn	14 34 51.4	-0.3
AMRR	**Amara**	**1.21**	**154**	⇓*i*P	Pn	14 34 51.8	0.0
AMRR				*i* S	Sn	14 35 11.4	-0.2
AMRR	**Amara**	**1.21**	**154**	⇓*i*P	Pn	14 34 51.8	0.0
AMRR				S	Sn	14 35 11.4	-0.2
LEHL	**Lehliu**	**1.24**	**173**	*i* S	Sn	14 35 11.4	-0.7
LEHL	**Lehliu**	**1.24**	**173**	S	Sn	14 35 11.4	-0.7
BIZ	**Bicaz**	**1.28**	**345**	⇓*i*P	Pn	14 34 53.3	+0.9
BIZ	**Bicaz**	**1.28**	**345**	⇓*i*P	Pn	14 34 53.3	+0.9
LEOM	**Leova**	**1.38**	**56**	*i* S	Sn	14 35 13.6	-0.9
LEOM	**Leova**	**1.38**	**56**	S	Sn	14 35 13.6	-0.9
HARR	**Harsova**	**1.39**	**137**	⇑*i*P	Pn	14 34 53.3	-0.2
HARR	**Harsova**	**1.39**	**137**	⇑*i*P	Pn	14 34 53.3	-0.2
BUC1	**Bucharest**	**1.42**	**197**	*i* S	Sn	14 35 14.2	-1.1
BUC1	**Bucharest**	**1.42**	**197**	S	Sn	14 35 14.2	-1.1
TLB	**Topalu**	**1.52**	**137**	⇑*i*P	Pn	14 34 54.7	-0.2
TLB				*i* S	Sn	14 35 15.5	-1.6
TLB	**Topalu**	**1.52**	**137**	⇑*i*P	Pn	14 34 54.7	-0.2
SGRR	**Singureni**	**1.55**	**197**	*i* S	Sn	14 35 16.2	-1.6
SGRR	**Singureni**	**1.55**	**197**	S	Sn	14 35 16.2	-1.6
TLCR		**1.64**	**108**	⇑*i*P	Pn	14 34 56.5	+0.2
TLCR				*i* S	Sn	14 35 19.8	+0.2
TLCR		**1.64**	**108**	⇑*i*P	Pn	14 34 56.5	+0.2
HUMR	**Humele**	**1.65**	**225**	*i* S	Sn	14 35 17.8	-1.9
HUMR	**Humele**	**1.65**	**225**	S	Sn	14 35 17.8	-1.9
ICOR	**Ion Corvin**	**1.81**	**151**	*i* S	Sn	14 35 21.4	-1.5
ICOR	**Ion Corvin**	**1.81**	**151**	S	Sn	14 35 21.4	-1.5
MILM	**Milestii Mici**	**1.95**	**51**	⇓*i*P	Pn	14 35 00.1	+0.3
MILM	**Milestii Mici**	**1.95**	**51**	⇓*i*P	Pn	14 35 00.1	+0.3
BURAR	**Bucovina Array**	**2.13**	**334**	⇑*i*P	Pn	14 35 03.5	+1.4
BURAR	**Bucovina Array**	**2.13**	**334**	⇑*i*P	Pn	14 35 03.5	+1.4

*CRAAG **28** 14:43:07.6, 36°.13N×1°.87E, MI3.2*
*MDD **28** 14:43:08.9±2.2, 36°.16N×1°.87E, h1km±16km, mb4.0/10, Error ellipse: s-maj=34.4km s-min=10.7km az=150.0, PRXIMO*

ISC 28 14:43:04.6±2.7, 35°.9N±0°.1×2°.0E±0°.1, h16km, n16, σ2°.26/24, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.53**	**312**	P	**Pg**	**14 43 15.3**	**+0.1**
ECHA	**Ech Chlef**	**0.57**	**292**	P	**Pg**	**14 43 16.6**	**+0.7**
ECHF	**Ech Chlef**	**0.59**	**292**	P	**Pg**	**14 43 16.6**	**+0.3**
EANR	**'Ain N'Sour**	**0.75**	**271**	P	**Pg**	**14 43 16.8**	**-2.4**
EANR	**'Ain N'Sour**	**0.75**	**271**	P	**Pg**	**14 43 16.8**	**-2.4**
EIBI	**Ibiza**	**3.13**	**350**	P	**Pn**	**14 43 55.3**	**+2.0**
	10nm,0.2s,SNR=26						
EIBI				S	**Sn**	**14 44 28.1**	**-2.3**
	21nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.23**	**307**	S	**Sn**	**14 44 30.8**	**-2.1**
	1.0nm,0.1s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.25**	**328**	P	**Pn**	**14 43 56.4**	**+1.4**
	2.1nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.88**	**9**	P	**Pn**	**14 44 05.5**	**+2.0**
	2.4nm,0.3s,SNR=6.7						
ETOS				S	**Sn**	**14 44 46.1**	**-2.6**
	1.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.92**	**315**	P	**Pn**	**14 44 07.1**	**+2.8**
	1.6nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**14 44 47.6**	**-2.5**
	3.7nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.08**	**285**	P	**Pn**	**14 44 08.0**	**+1.6**
	2.4nm,0.1s,SNR=11						
EBER				S	**Sn**	**14 44 53.4**	**-0.5**
	3.0nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.25**	**302**	P	**Pn**	**14 44 10.6**	**+1.8**
	3.3nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**14 44 57.9**	**-0.4**
	4.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.49**	**296**	P	**Pn**	**14 44 15.5**	**+3.4**
	2.8nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**14 45 03.4**	**-0.6**
	1.4nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.58**	**288**	P	**Pn**	**14 44 16.1**	**+2.9**
	2.2nm,0.2s,SNR=7.9						
ELGU	**Los Guajares.**	**4.65**	**283**	P	**Pn**	**14 44 16.1**	**+1.8**
	4.5nm,0.3s,SNR=7.9						
ELGU				S	**Sn**	**14 45 06.6**	**-1.3**
	1.0nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.84**	**337**	P	**Pn**	**14 44 19.5**	**+2.6**
	2.8nm,0.1s,SNR=33						
EMOS				S	**Sn**	**14 45 08.7**	**-4.0**
	0.9nm,0.2s,SNR=7.9						

WEL 28 15:01:58.6, 41°.6S±0°.7×174°.4E±0°.7, h18km±2km, ML3.7/22, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.25**	**217**	P	Pb	15 02 04.9	+0.4
CMWZ				S	Sb	15 02 09.2	+0.7
TCW	**Tory Channel**	**0.35**	**343**	P	Pb	15 02 06.7	+0.3
TCW				S	Sb	15 02 12.0	+0.4
BHW	**Baring Head**	**0.37**	**68**	P	Pb	15 02 06.7	+0.1
TUWZ	**Tuamarina**	**0.37**	**288**	P	Pb	15 02 06.7	0.0
TUWZ				S	Sb	15 02 12.4	+0.2
BSWZ	**Blackbirch Sta**	**0.44**	**247**	P	Pb	15 02 07.8	0.0
PLWZ	**Palliser**	**0.63**	**92**	P	Pg	15 02 11.6	+0.5
MSWZ	**Moikau Station**	**0.64**	**78**	P	Pg	15 02 11.8	+0.5
CAW	**Cannon Point**	**0.66**	**48**	P	Pg	15 02 12.0	+0.4
PAWZ	**Paruwai Farm**	**0.78**	**78**	P	Pg	15 02 14.1	+0.3
KIW	**Kapiti Island**	**0.78**	**29**	P	Pg	15 02 14.3	+0.4
DUWZ	**D'Urville Isla**	**0.83**	**333**	P	Pn	15 02 15.2	-0.2
NNZ	**Nelson**	**0.85**	**293**	P	Pg	15 02 15.1	0.0
MTW	**Mount Morrison**	**0.91**	**65**	P	Pn	15 02 16.6	+0.2
OGWZ	**Otaki Gorge**	**0.93**	**38**	P	Pg	15 02 16.6	0.0
TRWZ	**Traveller**	**0.97**	**82**	P	Pb	15 02 17.0	+0.2
HOWZ	**Holdsworth Sta**	**1.05**	**52**	P	Pg	15 02 18.9	-0.1
KHZ	**Kahutara**	**1.09**	**217**	P	Pb	15 02 18.8	0.0
THZ	**Tophouse**	**1.15**	**259**	P	Pb	15 02 20.1	+0.1
TMWZ	**Te Maipa**	**1.20**	**69**	P	Pn	15 02 20.2	-0.2
MRZ	**Mangatainoka R**	**1.25**	**45**	P	Pb	15 02 21.9	+0.3
TIWZ	**Tintock**	**1.35**	**56**	P	Pb	15 02 23.3	-0.1
OHWZ	**Ohakea**	**1.50**	**27**	P	Pg	15 02 27.4	-0.1
PRWZ	**Pori Road**	**1.54**	**50**	P	Pb	15 02 26.0	-0.6
POWZ	**Post Office Ro**	**1.54**	**42**	P	Pb	15 02 26.0	-0.6
QRZ	**Quartz Range**	**1.59**	**296**	P	Pb	15 02 27.6	+0.1
BFZ	**Birch Farm**	**1.63**	**59**	P	Pn	15 02 26.5	+0.1
DVHZ	**Dannevirke**	**1.82**	**47**	P	Pn	15 02 29.2	+0.1
WAZ	**Wanganui**	**1.84**	**14**	P	Pg	15 02 33.4	-0.6
TSZ	**Takapari Road**	**1.90**	**39**	P	Pn	15 02 30.6	+0.6
DSZ	**Denniston Nort**	**1.97**	**263**	P	Pn	15 02 32.4	+1.4
LTZ	**Lake Taylor**	**2.02**	**232**	P	Pn	15 02 31.7	-0.1
LREZ	**Lake Rotokare**	**2.08**	**360**	P	Pg	15 02 38.5	-0.1
AMCZ	**Amberley**	**2.09**	**218**	P	Pn	15 02 31.7	-1.0
PNHZ	**Pukenui**	**2.12**	**40**	P	Pn	15 02 33.5	+0.3
KHEZ	**Kahui Hut**	**2.27**	**352**	P	Pb	15 02 39.2	+0.1
MTVZ	**Mangateitei**	**2.31**	**21**	P	Pb	15 02 39.0	-0.6
PKVZ	**Pokaka**	**2.37**	**18**	P	Pb	15 02 40.1	-0.6
MOVZ	**Moawhango**	**2.37**	**26**	P	Pb	15 02 41.7	+0.9
PKE	**Pukeiti**	**2.37**	**352**	P	Pb	15 02 40.8	0.0
OKCZ	**Okains Bay**	**2.39**	**204**	P	Pn	15 02 35.3	-1.6
BHHZ	**Black Hill Sta**	**2.41**	**32**	P	Pn	15 02 38.6	+1.4
CRLZ	**Canterbury Las**	**2.42**	**213**	P	Pn	15 02 35.4	-1.8
WHVZ	**Whangaehu Hut**	**2.43**	**22**	P	Pb	15 02 40.8	-1.1
VRZ	**Vera Road**	**2.44**	**6**	P	Pb	15 02 41.2	-0.6
OXZ	**Oxford**	**2.50**	**224**	P	Pn	15 02 36.6	-1.7
INZ	**Inchbonnie**	**2.50**	**241**	P	Pn	15 02 38.6	+0.3
MQZ	**McQueen's Vall**	**2.52**	**210**	P	Pn	15 02 36.4	-2.2
WTVZ	**West Tongariro**	**2.59**	**21**	P	Pb	15 02 45.7	+1.2
KRVZ	**Karewarewa**	**2.62**	**21**	P	Pb	15 02 46.2	+1.0
BKZ	**Black Stump Fm**	**2.86**	**34**	P	Pn	15 02 43.7	+0.4
WVZ	**Waitaha Valley**	**3.12**	**240**	P	Pn	15 02 46.9	0.0
RPZ	**Rata Peaks**	**3.29**	**228**	P	Pn	15 02 47.9	-1.3
MWZ	**Matawai**	**4.00**	**38**	P	Pn	15 02 57.6	-1.5
ODZ	**Otahua Downs**	**4.45**	**217**	P	Pn	15 03 03.2	-1.9
TUZ	**Tuapeka**	**5.60**	**217**	P	Pn	15 03 19.8	-1.2

*IDC **28** 15:03:10.5±2.8, 26°.59N×91°.57E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/34, mbtmp3.3/4, ML3.5/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/32, Error ellipse: s-maj=202.7km s-min=20.4km az=60.0*
*NDI **28** 15:03:13.6±3.3, 27°.05N×92°.47E, h20km±20km, ML3.3*
*ISCJB **28** 15:03:14.1±0.8, 27°.06N±0°.04×92°.43E±0°.05, h23km±8km, mb3.2/3, MS3.2/3, Error ellipse: s-maj=8.7km s-min=6.0km az=145.5*

ISC 28 15:03:13.7±1.1, 27°.03N±0°.04×92°.40E±0°.04, h15km±9km, n15, σ1s70/19, mb3.3/3, MS3.2/3, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEZP	**TEZPUR**	**0.54**	**139**	*eP*	**Pg**	**15 03 24.2**	**-0.3**
TEZP				*eS*	**Sg**	**15 03 31.6**	**-0.1**
TEZP				IAML		15 03 32.7	
	comp=N,1μm,0.1s						
TEZP				IAML		15 03 32.9	
	comp=E,2μm,0.1s						
TAWA	**Tawang**	**0.74**	**320**	*eP*	**Pg**	**15 03 27.6**	**-0.6**
TAWA				*eS*	**Sg**	**15 03 38.0**	**0.0**
TAWA				IAML		15 03 39.8	
	comp=E,3μm,0.2s						
TAWA				IAML		15 03 39.9	
	comp=N,3μm,0.1s						
ZIRO	**ZIRO**	**1.38**	**69**	*eP*	**Pn**	**15 03 38.3**	**-0.3**
ZIRO				*eS*	**Sb**	**15 03 56.6**	**-0.2**
ZIRO				*eS*	**Sn**	**15 03 57.1**	**+0.4**
ZIRO				IAML		15 04 01.3	
	comp=E,1μm,0.0s						
ZIRO				IAML		15 04 02.7	
	comp=N,2μm,0.6s						
SHL	**Shillong**	**1.53**	**198**	*eP*	**Pb**	**15 03 42.0**	**+0.2**
SHL				*eS*	**Sb**	**15 04 02.4**	**+1.3**
SHL				IAML		15 04 07.1	
SHL				IAML		15 04 07.8	
	comp=E,338nm,0.2s						
JORH	**JORHAT**	**1.68**	**99**	*ex*	**Sb**	**15 04 05.6**	**+0.5**
KOHI	**KOHIMA**	**2.01**	**130**	*eP*	**Pn**	**15 03 49.0**	**+1.8**
KOHI				*eS*	**Sb**	**15 04 15.8**	**+0.9**
KOHI				IAML		15 04 21.7	
	comp=E,110nm,0.3s						
KOHI				IAML		15 04 22.5	
	comp=N,107nm,0.4s						
SAIH	**SAIHA**	**4.55**	**173**	*eP*	**Pn**	**15 04 23.5**	**+1.4**
SAIH				*eS*	**Sn**	**15 05 09.2**	**-5.7**
SAIH				IAML		15 05 23.9	
	comp=N,15nm,0.2s						
SAIH				IAML		15 05 24.2	
	comp=E,15nm,0.7s						
CMAR	**Chiang Mai Arr**	**10.45**	**143**	Pn	**Pn**	**15 05 43.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=312,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**21.29**	**341**	P	**P**	**15 08 00.4**	**+0.8**
	comp=E,0.8nm,0.6s,baz=147,slow=12,SNR=9.7						
KURBB	**Kurchatov Arra**	**25.83**	**339**	P	**P**	**15 08 44.9**	**+0.6**
	comp=E,0.2nm,0.4s,baz=156,slow=9.7,SNR=4.6						
GEYT	**Alibeck**	**30.74**	**299**	LR	LR	15 23 28.0	
	comp=E,46nm,18.1s,baz=170,slow=40						
KSRS	**Korea Array**	**31.63**	**62**	LR	LR	15 23 32.4	
	comp=E,35nm,18.4s,baz=165,slow=38						
WRA	**Warramunga Arr**	**61.90**	**135**	P	**P**	**15 13 33.0**	**+0.2**
	comp=E,80nm,0.3s,baz=319,slow=6.9,SNR=1.8						
ASAR	**Alice Springs**	**64.40**	**138**	P	**P**	**15 13 50.5**	**+1.1**
	comp=E,0.2nm,0.5s,baz=317,slow=6.4,SNR=2.7						
ILAR	**Eielson Array**	**77.69**	**22**	LR	LR	15 50 53.4	
	comp=E,20nm,18.6s,baz=108,slow=36						

*JMA **28** 15:32:05.4±0.2, 24°.87N×122°.79E, h136km±3km, M2.4*
*TAP **28** 15:32:05.1, 24°.96N×122°.83E, h134km, ML3.0, D*
*ISCJB **28** 15:32:06.3±0.5, 24°.83N±0°.04×122°.81E±0°.02, h126km±4km, Error ellipse: s-maj=6.1km s-min=2.6km az=171.9*

ISC 28 15:32:06.3±1.6, 24°.86N±0°.06×122°.81E±0°.03, h130km±9km, n62, σ0s70/114, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**163**	P	**Pn**	**15 32 25.1**	**+0.1**
JYNG				S	**Sn**	**15 32 39.7**	**+0.6**
YOJ	**Yonaguni jima**	**0.44**	**155**	P	**Pn**	**15 32 25.0**	**-0.1**
	baz=159						
YOJ				S	**Sn**	**15 32 39.8**	**+0.6**
	baz=159						
YOJ	**Yonaguni jima**	**0.44**	**155**	P	**Pn**	**15 32 25.0**	**-0.1**
YOJ				*eS*	**Sn**	**15 32 40.1**	**+0.9**
EOS1	**EOS1**	**0.69**	**243**	*eP*	**Pn**	**15 32 26.8**	**+0.2**
	baz=231						
EOS1				*eS*	**Sn**	**15 32 43.3**	**+1.4**
	baz=231						
TWB1	**Santiao Chiao**	**0.76**	**281**	P	**Pn**	**15 32 26.8**	**-0.3**
	baz=270						
TIPB	**Shuangxi**	**0.90**	**277**	P	**Pn**	**15 32 28.2**	**-0.1**
	baz=265						
TIPB				S	**Sn**	**15 32 44.8**	**-0.2**
	baz=265						
TWC	**Suao**	**0.91**	**254**	*eS*	**Sn**	**15 32 44.7**	**-0.4**
	baz=242						
IRIF	**Iriomote-Funau**	**0.99**	**122**	P	**Pn**	**15 32 28.8**	**-0.3**
TWE	**Neicheng**	**1.05**	**263**	*eP*	**Pn**	**15 32 29.9**	**+0.2**
	baz=251						
TWE				*eS*	**Sn**	**15 32 47.3**	**0.0**
	baz=251						
NANB	**Nanao**	**1.06**	**246**	*eP*	**Pn**	**15 32 29.9**	**+0.1**
	baz=237						
NANB				*eS*	**Sn**	**15 32 47.8**	**+0.2**
	baz=237						
ENA	**Nanau**	**1.06**	**246**	*eP*	**Pn**	**15 32 30.0**	**+0.2**
	baz=237						
ENA				*eS*	**Sn**	**15 32 47.9**	**+0.2**
	baz=237						
SLBB	**Yuanshan**	**1.07**	**264**	P	**Pn**	**15 32 29.9**	**0.0**
	baz=259						
YM07	**YM07**	**1.12**	**286**	P	**Pn**	**15 32 30.2**	**-0.3**
	baz=281						
YM07				*eS*	**Sn**	**15 32 48.3**	**-0.4**
	baz=281						
ENTT	**Nioudou**	**1.15**	**259**	*eP*	**Pn**	**15 32 31.0**	**+0.3**
	baz=250						
ENTT				S	**Sn**	**15 32 50.2**	**+1.0**
	baz=250						
YM01	**YM01**	**1.16**	**284**	*eP*	**Pn**	**15 32 30.7**	**-0.1**
	baz=279						
YM01				*eS*	**Sn**	**15 32 49.7**	**+0.3**
	baz=279						
YM10	**YM10**	**1.17**	**285**	*eP*	**Pn**	**15 32 30.8**	**-0.1**
	baz=280						
YM10				*eS*	**Sn**	**15 32 49.1**	**-0.5**
	baz=280						
NWLT	**W

	baz=224						
SMLT	**Sun Moon Lake**	**2.00 241**	P		**Pn**	**15 32 41.4**	**+1.1**
	baz=235						
SMLT			*e*S		**Sn**	**15 33 07.0**	**+0.7**
	baz=235						
SSLB	**Suanglung**	**2.00 238**	*e*P		**Pn**	**15 32 41.6**	**+1.3**
	baz=233						
SSLB			*e*S		**Sn**	**15 33 06.3**	**-0.1**
	baz=233						
YULB	**Yu-li**	**2.01 224**	*e*P		**Pn**	**15 32 39.3**	**-1.2**
	baz=230						
YULB			*e*S		**Sn**	**15 33 05.5**	**-1.1**
	baz=230						
TYC	**Yuchr**	**2.02 242**	P		**Pn**	**15 32 42.0**	**+1.5**
	baz=240						
TYC			S		**Sn**	**15 33 07.9**	**+1.3**
	baz=240						
TWF1	**Yuli**	**2.04 223**	P		**Pn**	**15 32 40.4**	**-0.4**
	baz=230						
TWF1			*e*S		**Sn**	**15 33 05.6**	**-1.6**
	baz=230						
WHYT	**Xinyi Township**	**2.13 237**	*e*P		**Pn**	**15 32 42.5**	**+0.6**
	baz=232						
WHYT			*e*S		**Sn**	**15 33 10.7**	**+1.5**
	baz=232						
JIRB	**Irabujima**	**2.15 90**	P		**Pn**	**15 32 41.7**	**-0.3**
JIRB			S		**Sn**	**15 33 08.8**	**-0.6**
YUS	**Yu-Shan**	**2.18 232**	P		**Pn**	**15 32 43.4**	**+0.4**
	baz=225						
YUS			*e*S		**Sn**	**15 33 10.8**	**-0.2**
	baz=225						
CHKT	**Chengkung**	**2.20 217**	*e*S		**Sn**	**15 33 09.6**	**-1.0**
	baz=211						
JIKM	**Ikemajima**	**2.21 88**	*e*S		**Sn**	**15 33 11.3**	**+0.4**
JMJ2	**Miyako jima3**	**2.29 93**	P		**Pn**	**15 32 44.5**	**+0.7**
JMJ2			*e*S		**Sn**	**15 33 12.6**	**-0.1**
CHN5	**Tsauling**	**2.32 238**	*e*P		**Pn**	**15 32 45.0**	**+0.7**
	baz=245						
CHN5			*e*S		**Sn**	**15 33 14.0**	**+0.6**
	baz=245						
ELDTW	**Lidau**	**2.34 225**	P		**Pn**	**15 32 44.3**	**-0.3**
	baz=224						
ELDTW			S		**Sn**	**15 33 13.1**	**-0.8**
	baz=224						
JOGS	**Gusukube**	**2.36 92**	S		**Sn**	**15 33 14.1**	**-0.1**
CHN4	**Tsaushan**	**2.52 234**	*e*P		**Pn**	**15 32 47.4**	**+0.6**
	baz=232						
CHN4			*e*S		**Sn**	**15 33 18.4**	**+0.4**
	baz=232						
TPUB	**Ta-pu**	**2.53 232**	*e*S		**Sn**	**15 33 17.9**	**-0.2**
	baz=231						
CHN1	**Nanshi**	**2.67 232**	*e*S		**Sn**	**15 33 21.6**	**+0.2**
	baz=231						
SLGT	**Liugui**	**2.72 227**	*e*P		**Pn**	**15 32 50.6**	**+1.3**
	baz=226						
SLGT			*e*S		**Sn**	**15 33 23.1**	**+0.8**
	baz=226						

*IDC **28** 15:43:42.7±1.3, 6°.53S×129°.98E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.8/29, mbtmp4.1/6, ML4.9/3, Error ellipse: s-maj=66.8km s-min=18.8km az=70.0*
*ISCJB **28** 15:43:55.7±0.4, 7°.01S±0°.04×129°.87E±0°.07, h150km, mb4.0/7, Error ellipse: s-maj=9.8km s-min=5.5km az=165.8*
*DJA **28** 15:43:56.7±0.5, 7°S±3°×13°0E±°, h198km±10km, M4.4/6, mB4.7/3, mb4.3/5, MLv4.4/6, Mw(mB)4.0/3*
*NEIC **28** 15:43:57.6±0.8, 6°.93S×129°.78E, h145km±9km, mb4.3/7, Error ellipse: s-maj=10.9km s-min=9.0km az=51.0*
ISC 28 15:43:57.3±0.6, **6°.96S**±0°.05×**129°.86E**±0°.07, **h150**km, **n30,** σ**2**s**45**/34, **mb4.1/7, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.75**	**125**	*e*Pn	**Pn**	**15 44 31.7**	**+2.1**
SAUI				*e*Sn	**Sn**	**15 44 53.3**	**-1.0**
SAUI	**Saumlaki**	**1.75**	**125**	P	**Pn**	**15 44 32.1**	**+2.5**
SAUI				S	**Sn**	**15 44 58.2**	**+3.9**
BNDI	**Bandanaira**	**2.43**	**1**	P	**Pn**	**15 44 40.1**	**+2.6**
FAKI	**Fak Fak**	**4.67**	**31**	*e*Pn	**Pn**	**15 45 05.5**	**-0.8**
FAKI	**Fak Fak**	**4.67**	**31**	P	**Pn**	**15 45 06.1**	**-0.3**
FAKI				S	**Sn**	**15 45 57.0**	**-3.2**
MTN	**Manton Dam**	**5.97**	**168**	*e*Pn	**Pn**	**15 45 23.6**	**-0.1**
SOEI	**Soe**	**6.19**	**243**	*e*Pn	**Pn**	**15 45 28.1**	**+1.4**
SOEI	**Soe**	**6.19**	**243**	P	**Pn**	**15 45 28.2**	**+1.4**
	33nm,0.8s,0.4nm						
SWI	**Sorong**	**6.22**	**13**	P	**Pn**	**15 45 26.3**	**-0.7**
	25nm,0.5s,1μm0.3nm						
MMRI	**Maumere**	**7.74**	**257**	P	**Pn**	**15 45 50.1**	**+2.9**
	22nm,0.5s,952nm0.2nm						
FITZ	**Fitzroy Crossi**	**11.81**	**200**	Pn	**Pn**	**15 46 38.8**	**-2.3**
	0.8nm,0.3s,baz=27,slow=10,SNR=29						
FITZ				Sn	Sn	15 48 40.3	-11
	1.1nm,0.3s,baz=242,slow=23,SNR=3.7						
WRAB	**Tennant Creek**	**13.61**	**162**	*e*Pn	**Pn**	**15 47 01.2**	**-3.1**
WR1	**Warramunga Arr**	**13.61**	**162**	*e*Pn	**Pn**	**15 47 01.5**	**-2.9**
WRA	**Warramunga Arr**	**13.61**	**162**	Pn	**Pn**	**15 47 01.5**	**-2.9**
	34nm,0.3s,baz=340,slow=14,SNR=1.5						
WRA				Sn	Sn	15 49 23.1	-12
	42nm,0.3s,baz=339,slow=24,SNR=9.8						
WB2	**Warramunga Arr**	**13.62**	**162**	*e*Pn	**Pn**	**15 47 01.6**	**-2.8**
COEN	**Coen**	**14.81**	**119**	*e*Pn	**P**	**15 47 22.3**	**+0.8**
JAGI	**Jajag, Banyuwa**	**15.64**	**263**	*e*Pn	**Pn**	**15 47 26.9**	**-2.9**
	35nm,1.2s						
AS31	**Alice Springs**	**17.05**	**167**	*e*P	**P**	**15 47 46.8**	**+0.5**
	2.2nm,0.6s						
ASAR	**Alice Springs**	**17.05**	**167**	P	**Pn**	**15 47 48.0**	**+1.0**
	0.8nm,0.3s,baz=345,slow=10,SNR=75						
ASAR				S	**S**	**15 50 49.3**	**-7.2**
	0.4nm,0.3s,baz=356,slow=21,SNR=5.7						
PMG	**Port Moresby**	**17.29**	**99**	*e*P	**P**	**15 47 49.9**	**+1.0**
	24nm,1.1s						
STKA	**Stephens Creek**	**27.10**	**158**	*e*P	**P**	**15 49 26.9**	**+0.8**
	6.0nm,1.6s						
STKA	**Stephens Creek**	**27.10**	**158**	P	**P**	**15 49 30.6**	**+4.5**
	1.3nm,0.6s,baz=332,slow=11,SNR=7.9						
CM31	**Chiang Mai Arr**	**39.60**	**310**	*e*P	**P**	**15 51 14.5**	**+0.1**
	12nm,1.4s						
CMAR	**Chiang Mai Arr**	**39.60**	**310**	P	**P**	**15 51 14.9**	**+0.5**
	1.1nm,0.5s,baz=136,slow=7.3,SNR=7.6						
SONA0	**Songino Array**	**58.36**	**342**	*e*P	**P**	**15 53 37.9**	**+1.0**
SONM	**Songino Array**	**58.36**	**342**	P	**P**	**15 53 37.9**	**+1.0**
	0.4nm,0.6s,baz=164,slow=8.8,SNR=2.5						
MK31	**Makanchi Array**	**68.12**	**327**	*e*P	**P**	**15 54 41.6**	**+0.5**
	1.9nm,0.6s						
MK32	**Makanchi Array**	**68.12**	**327**	*e*P	**P**	**15 54 42.0**	**+1.0**
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**15 54 42.0**	**+1.0**
	3.3nm,0.5s,baz=118,slow=8.2,SNR=38						
MAKZ	**Makanchi**	**68.30**	**327**	*e*P	**P**	**15 54 42.6**	**+0.4**
	2.3nm,0.5s						

*NEIC **28** 15:55:12.3±0.0, 47°.70N×120°.23W, h7km, MD2.4(SEA), After SEA.*
NEIC Felt [II] at Entiat and Orondo. Also felt at Wenatchee.
*PGC **28** 15:55:12.7, 47°.70N×120°.23W, h7km, ML2.5/1, ML2.5/1, 157km east of Seattle, Wa Washington*
*PNSN **28** 15:55:12.3, 47°.70N×120°.23W, h7km, MD2.4, Fault plane solution: NP1:φs100.00000°, δ80.00000°, λ80.00000°.*
ISC 28 15:55:11.3±1.2, **47°.70N**±0°.02×**120°.21W**±0°.03, **h2**km±11km, **n26,** σ**0**s**72**/35, **Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTY	**Liberty**	**0.54**	**216**	*e*Pg	**Pg**	**15 55 22.1**	**+0.5**
LTY	**Liberty**	**0.54**	**216**	P	**Pg**	**15 55 22.1**	**+0.5**
LTY				S	**Sg**	**15 55 28.9**	**+0.4**
GPW	**Glacier Peak**	**0.75**	**304**	P	**Pg**	**15 55 25.7**	**0.0**
B08A	**Colville Reser**	**0.89**	**41**	*e*Pg	**Pg**	**15 55 28.5**	**+0.2**
B08A	**Colville Reser**	**0.89**	**41**	P	**Pg**	**15 55 28.7**	**+0.4**
B08A				S	**Sg**	**15 55 40.4**	**+0.5**
D08A	**Wollman Farm,**	**1.08**	**126**	*e*Pg	**Pg**	**15 55 32.4**	**+0.3**
B06A	**Marblemount**	**1.19**	**314**	*e*Pg	**Pg**	**15 55 34.0**	**-0.1**
B06A	**Marblemount**	**1.19**	**314**	P	**Pg**	**15 55 33.8**	**-0.2**
B06A				S	**Sg**	**15 55 48.5**	**-0.9**
FMW	**Mount Fremont**	**1.25**	**233**	P	**Pg**	**15 55 34.9**	**-0.4**
JCW	**Jim Creek**	**1.26**	**294**	P	**Pb**	**15 55 34.7**	**-1.1**
D05A	**Enumclaw**	**1.31**	**248**	*e*Pn	**Pn**	**15 55 36.8**	**+0.1**
C09A	**Chrisman Ranch**	**1.31**	**85**	*e*Pn	**Pn**	**15 55 36.7**	**0.0**
C09A	**Chrisman Ranch**	**1.31**	**85**	P	**Pn**	**15 55 35.9**	**-0.8**
C09A				S	**Sb**	**15 55 53.2**	**-0.8**
HAWA	**Hanford**	**1.39**	**160**	*e*Pn	**Pn**	**15 55 37.7**	**0.0**
E08A	**Dider Farm, El**	**1.44**	**146**	*e*Pn	**Pn**	**15 55 38.3**	**-0.1**
LON	**Longmire**	**1.44**	**230**	*e*Pn	**Pb**	**15 55 39.3**	**+0.3**
LON	**Longmire**	**1.44**	**230**	Pn	**Pn**	**15 55 38.7**	**+0.2**
LON				Sg	**Sb**	**15 55 56.7**	**-1.1**
MBW	**Mount Baker**	**1.57**	**315**	Pn	**Pn**	**15 55 40.7**	**+0.3**
MBW				Sg	**Sn**	**15 56 00.9**	**-0.5**
PNT	**Penticton**	**1.67**	**13**	Pn	**Pn**	**15 55 42.2**	**+0.5**
PNT				Sg	**Sb**	**15 56 05.0**	**+0.7**
GNW	**Green Mountain**	**1.77**	**267**	Pn	**Pn**	**15 55 43.9**	**+0.9**
GNW				Sg	**Sb**	**15 56 06.7**	**-0.6**
VDB	**Vedder Mountai**	**1.83**	**317**	Pn	**Pb**	**15 55 45.7**	**+0.1**
VDB				Sg	**Sb**	**15 56 09.4**	**+0.4**
E09A	**Wood Farm, Sta**	**1.84**	**129**	*e*Pn	**Pn**	**15 55 45.4**	**+1.4**
HOPB	**Hope**	**1.87**	**335**	Sg	**Sb**	**15 56 10.4**	**+0.3**
HDW	**Hoodsport**	**1.92**	**270**	Sg	**Sn**	**15 56 10.6**	**+0.7**
G06A	**Carlson Farm,**	**2.48**	**187**	*e*Pn	**Pn**	**15 55 54.5**	**+1.7**
G08A	**Pilot Rock**	**2.56**	**160**	*e*Pn	**Pb**	**15 55 56.6**	**-1.4**

*NORS **28** 15:56:53.2±0.0, 42°.26N×48°.38E, h38km, MPVA3.8*
DRS 28 15:56:51.3±0.0, **42°.52N**×**48°.65E, h17**km, **ML2.6/4, 4D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.54**	**206**	*i* Pg	Pg	15 57 01.1	-0.9
	378nm,0.6s						
DRN				⇓*e*Sg	Sg	15 57 08.1	-1.3
	518nm,0.5s						
URKR	**Urkarakh**	**0.83**	**245**	*e*Pg	Pb	15 57 05.7	-1.7
URKR				*e*Sg	Sb	15 57 15.1	-3.3
MAK	**Makhachkala**	**0.95**	**298**	*e*Pg	Pb	15 57 09.3	-0.1
MAK				*i* Sg	Sg	15 57 22.8	+0.3
KSMR	**Kasumkent**	**0.99**	**203**	*e*Pg	Pb	15 57 08.0	-2.1
KSMR				*i* Sg	Sb	15 57 20.0	-2.9
KMKR	**Kumukh**	**1.22**	**252**	*e*Pg	Pn	15 57 12.0	-1.7
KMKR				*i* Sg	Sb	15 57 26.0	-3.4
ARKR	**Arakani**	**1.23**	**275**	*e*Pg	Pn	15 57 13.0	-0.8
ARKR				*e*Sg	Sb	15 57 28.5	-1.2
AKT	**Akhty**	**1.24**	**214**	*e*Pg	Pn	15 57 11.8	-2.3
	53nm,0.2s						
AKT				⇓*e*Sg	Sb	15 57 25.3	-4.8
	419nm,0.6s						
GNBR	**Gunib**	**1.26**	**265**	*e*Pg	Pn	15 57 13.3	-0.9
	13nm,0.3s						
GNBR				⇓*e*Sg	Sb	15 57 27.9	-2.6
	129nm,0.4s						
KRNR	**Karanay**	**1.32**	**284**	*e*Pg	Pn	15 57 14.0	-1.1
UNCR	**Uncukul**	**1.39**	**279**	*e*Pg	Pn	15 57 15.0	-0.9
UNCR				*e*Sg	Sn	15 57 32.0	-1.9
BTLR	**Botlikh**	**1.80**	**276**	*i* Pg	Pn	15 57 22.3	+0.7
	13nm,0.5s						
BTLR				⇓*e*Sg	Sn	15 57 43.8	-0.3
	37nm,0.6s						
DVE	**Vedeno**	**1.91**	**284**	*e*Pg	Pn	15 57 23.9	+0.7
DVE				*i* Sg	Sn	15 57 47.9	+1.0

*IDC **28** 16:03:38.3±5.0, 32°.18S×179°.70W, h170km±46km, mb3.7/3, mb1 3.9/6, mb1mx3.5/25, mbtmp4.3/6, Error ellipse: s-maj=40.6km s-min=33.8km az=26.0*
*WEL **28** 16:03:49.8±1.1, 33°S±7°×18°0W±1°, h33km, ML5.2/21*
ISC 28 16:03:42.5±1.4, **32°.28S**±0°.08×**180°.0E**±0°.2, **h200**km, **n50,** σ**2**s**35**/51, **mb3.9/3, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.44**	**194**	P	**Pn**	**16 05 06.7**	**+4.2**
MXZ				S	**Sn**	**16 06 05.1**	**-0.7**
KUZ	**Kuaotunu**	**5.67**	**217**	P	Pn	16 05 12.5	+7.2
HAZ	**Te Kaha**	**5.75**	**198**	P	**Pn**	**16 05 07.8**	**+1.4**
HAZ				S	**Sn**	**16 06 12.0**	**-0.8**
PKGZ	**Pakihiroa**	**5.80**	**195**	P	**Pn**	**16 05 11.0**	**+3.8**
WCZ	**Waipu Caves**	**5.92**	**230**	P	Pn	16 05 14.9	+6.3
PUZ	**Puketiti**	**5.95**	**193**	P	**Pn**	**16 05 11.0**	**+2.0**
PUZ				S	**Sn**	**16 06 16.7**	**-0.7**
RUGZ	**Raukumara Rang**	**5.97**	**198**	P	**Pn**	**16 05 13.4**	**+4.0**
RUGZ				S	**Sn**	**16 06 16.6**	**-1.7**
TWGZ	**Tauwhareparae**	**6.10**	**195**	P	Pn	16 05 15.8	+4.8
TWGZ				S	**Sn**	**16 06 21.9**	**+0.7**
OPRZ	**Ohinepanea**	**6.21**	**206**	P	Pn	16 05 17.4	+5.0
CNGZ	**Carnagh Statio**	**6.35**	**193**	P	**Pn**	**16 05 14.3**	**+0.1**
MWZ	**Matawai**	**6.36**	**198**	P	**Pn**	**16 05 16.0**	**+1.7**
MWZ				S	**Sn**	**16 06 24.6**	**-2.6**
TKGZ	**Te Karaka**	**6.38**	**195**	P	**Pn**	**16 05 17.5**	**+2.9**
TKGZ				S	**Sn**	**16 06 24.5**	**-3.1**
URZ	**Urewera**	**6.41**	**201**	P	**Pn**	**16 05 14.9**	**0.0**
	10nm,0.3s,baz=266,slow=3.7,SNR=112						
URZ				S	**Sn**	**16 06 26.6**	**-1.6**
	13nm,0.3s,baz=240,slow=14,SNR=14						
URZ	**Urewera**	**6.41**	**201**	P	**Pn**	**16 05 16.7**	**+1.8**
URZ				S	**Sn**	**16 06 26.1**	**-2.1**
KARZ	**Kaharoa**	**6.49**	**207**	P	Pn	16 05 21.9	+5.9
TOZ	**Tahuroa Road**	**6.55**	**213**	P	Pn	16 05 23.7	+6.8
RIGZ	**Rimuhau**	**6.66**	**195**	P	**Pn**	**16 05 21.2**	**+3.0**
RRRZ	**Republican Roa**	**6.67**	**204**	P	**Pn**	**16 05 22.6**	**+4.3**
MUGZ	**Murupara**	**6.71**	**202**	P	**Pn**	**16 05 22.2**	**+3.4**
SNGZ	**Shannon Statio**	**6.83**	**198**	P	**Pn**	**16 05 22.7**	**+2.3**
PRGZ	**Paritu Road**	**6.84**	**194**	P	**Pn**	**16 05 23.6**	**+3.0**
PRRZ	**Plateau Road**	**6.86**	**204**	P	**Pn**	**16 05 24.4**	**+3.6**
ALRZ	**Allen Road**	**6.93**	**204**	P	**Pn**	**16 05 25.7**	**+4.0**
KNZ	**Kokohu**	**6.98**	**195**	P	**Pn**	**16 05 24.7**	**+2.4**
RAHZ	**Arahi**	**7.02**	**199**	P	**Pn**	**16 05 25.8**	**+2.9**
MTHZ	**Maungataniwha**	**7.03**	**200**	P	**Pn**	**16 05 25.7**	**+2.6**
WHHZ	**Waihua**	**7.14**	**197**	P	**Pn**	**16 05 26.7**	**+2.3**
MRHZ	**Matea Rd**	**7.15**	**203**	P	**Pn**	**16 05 27.3**	**+2.7**
NMHZ	**Naumai**	**7.27**	**200**	P	**Pn**	**16 05 28.9**	**+2.7**
HATZ	**Hinemaiaia**	**7.31**	**204**	P	**Pn**	**16 05 29.7**	**+3.0**
ARHZ	**Aropaoanui**	**7.37**	**198**	P	**Pn**	**16 05 30.2**	**+2.7**
BKZ	**Black Stump Fm**	**7.43**	**201**	P	**Pn**	**16 05 28.5**	**+0.3**
HIZ	**Hauiti**	**7.49**	**212**	P	Pn	16 05 35.4	+6.5
KWHZ	**Kaweka Forest**	**7.69**	**201**	P	**Pn**	**16 05 33.9**	**+2.3**
BHHZ	**Black Hill Sta**	**7.86**	**203**	P	**Pn**	**16 05 35.1**	**+1.3**
MOVZ	**Moawhango**	**7.89**	**204**	P	**Pn**	**16 05 35.8**	**+1.5**
KRHZ	**Kereru**	**7.90**	**201**	P	**Pn**	**16 05 35.1**	**+0.7**
KAHZ	**Kahuranaki**	**7.90**	**198**	P	**Pn**	**16 05 36.5**	**+2.1**
PXZ	**Pawanui**	**8.13**	**197**	P	**Pn**	**16 05 37.8**	**+0.5**
PNHZ	**Pukenui**	**8.20**	**201**	P	**Pn**	**16 05 38.1**	**-0.2**
PRHZ	**Porangahau**	**8.41**	**198**	P	**Pn**	**16 05 41.5**	**+0.6**
RPZ	**Rata Peaks**	**13.39**	**209**	P	**Pn**	**16 06 42.6**	**-2.2**
	0.6nm,0.3s,baz=217,slow=2.5,SNR=5.3						
RPZ				S		16 09 01.4	-13
	1.7nm,0.3s,baz=323,slow=22,SNR=7.9						
DZM	**Mont Dzumac**	**15.74**	**307**	P	**Pn**	**16 07 14.7**	**+0.9**
	0.4nm,0.3s,baz=18,slow=16,SNR=3.0						
ASAR	**Alice Springs**	**41.32**	**270**	P	**P**	**16 11 09.6**	**+0.8**
	0.8nm,0.4s,baz=107,slow=7.4,SNR=29						
WRA	**Warramunga Arr**	**42.48**	**275**	P	**P**	**16 11 18.8**	**+0.7**
	1.4nm,0.3s,baz=102,slow=8.4,SNR=43						
PETK	**Petropavlovsk-**	**87.22**	**347**	P	**P**	**16 16 04.7**	**-0.9**
	2.2nm,0.8s,baz=132,slow=6.6,SNR=4.9						
ARCES	**ARCESS Array B**	**140.03**	**346**	PKhKP	PKPpre	16 22 39.0	
	1.6nm,0.8s,baz=76,slow=3.8,SNR=3.9						
FINES	**FINESS Array B**	**146.26**	**338**	PKPbc	**PKPbc**	**16 22 57.3**	**-1.3**
	2.3nm,0.5s,baz=40,slow=4.2,SNR=26						
NB2	**NORSAR Subarra**	**150.30**	**349**	PKP	**PKPbc**	**16 23 07.8**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=13,slow=2.6						
NOA	**NORSAR Array B**	**150.30**	**349**	PKPbc	**PKPbc**	**16 23 08.0**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=17,slow=4.2,SNR=5.3						

*ISCJB **28** 16:04:37.4±0.2, 38°.23N±0°.01×22°.13E±0°.02, h8km±2km, mb3.6/4, Error ellipse: s-maj=2.5km s-min=2.3km az=150.1*
*ATH **28** 16:04:37.1, 38°.23N×22°.12E, h13km±2km, ML3.1/12, Error ellipse: s-maj=2.2km s-min=0.6km az=309.0*
*IDC **28** 16:04:37.6±1.2, 38°.63N×22°.18E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/35, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=54.6km s-min=20.4km az=152.0*
*THE **28** 16:04:37.5, 38°.23N×22°.12E, h9km, ML3.0/25, Error ellipse: s-maj=0.6km s-min=0.3km az=336.0*
ISC 28 16:04:37.7±0.7, **38°.23N**±0°.01×**22°.12E**±0°.02, **h10**km±4km, **n65,** σ**0**s**80**/106, **mb3.7/4, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIK	**Aliki, Aigiali**	**0.03**	**351**	P	**Pg**	**16 04 39.3**	**-0.2**
ALIK				S	**Sg**	**16 04 41.0**	**+0.3**
LAKA	**Lakka**	**0.11**	**276**	P	**Pg**	**16 04 40.0**	**-0.4**
LAKA				S	**Sg**	**16 04 41.9**	**-0.5**
LAKA	**Lakka**	**0.11**	**276**	P	**Pg**	**16 04 40.0**	**-0.4**
LAKA				S	**Sg**	**16 04 41.8**	**-0.5**
LAKA				AML	AML	16 04 42.1	
	comp=N,22721μm,0.3s						
LAKA				AML	AML	16 04 42.6	
	comp=E,23564μm,0.3s						
TRIZ	**Trizonia**	**0.14**	**346**	P	**Pg**	**16 04 40.6**	**-0.3**
TRIZ				S	**Sg**	**16 04 43.1**	**+0.1**
TRIZ	**Trizonia**	**0.14**	**346**	P	**Pg**	**16 04 40.6**	**-0.3**
TRIZ				S	**Sg**	**16 04 42.9**	**-0.1**
KALE	**Kalithea**	**0.16**	**6**	P	**Pg**	**16 04 41.1**	**-0.2**
KALE				S	**Sg**	**16 04 43.9**	**+0.2**
KALE	**Kalithea**	**0.16**	**6**	P	**Pg**	**16 04 41.1**	**-0.2**
KALE				S	**Sg**	**16 04 44.1**	**+0.4**
KALE				AML	AML	16 04 44.8	
	comp=N,17370μm,0.3s						
KALE				AML	AML	16 04 46.8	
	comp=E,11314μm,0.2s						
KLV	**Kalavryta, Ach**	**0.19**	**172**	P	**Pg**	**16 04 41.4**	**-0.2**
KLV				S	**Sg**	**16 04 44.5**	**+0.1**
KLV	**Kalavryta, Ach**	**0.19**	**172**	P	**Pg**	**16 04 41.4**	**-0.2**
KLV				S	**Sg**	**16 04 44.5**	**+0.1**
KLV				AML	AML	16 04 44.8	
	comp=N,15173μm,0.3s						
KLV				AML	AML	16 04 47.1	
	comp=E,16166μm,0.4s						
SERG	**Sergoula**	**0.19**	**345**	P	**Pg**	**16 04 41.4**	**-0.3**
SERG				S	**Sg**	**16 04 45.5**	**+1.0**
SERG	**Sergoula**	**0.19**	**345**	P	**Pg**	**16 04 41.4**	**-0.3**
SERG				S	**Sg**	**16 04 45.0**	**+0.5**
SERG				AML	AML	16 04 45.5	
	comp=N,13754μm,0.3s						
SERG				AML	AML	16 04 45.6	
	comp=E,15540μm,0.2s						
EFP	**Efpalio**	**0.26**	**320**	P	**Pg**	**16 04 42.4**	**-0.5**
EFP				S	**Sg**	**16 04 46.7**	**+0.3**
EFP	**Efpalio**	**0.26**	**320**	P	**Pg**	**16 04 42.5**	**-0.4**
EFP				S	**Sg**	**16 04 46.4**	**0.0**
EFP				AML	AML	16 04 46.7	
	comp=E,10272μm,0.2s						
EFP				AML	AML	16 04 47.3	
	comp=N,6607μm,0.4s						
UPR	**University Cam**	**0.27**	**282**	P	**Pg**	**16 04 43.0**	**-0.1**
UPR				S	**Sg**	**16 04 47.2**	**+0.5**
GUR	**Goura**	**0.34**	**149**	P	**Pg**	**16 04 44.0**	**-0.5**
GUR				S	**Sg**	**16 04 49.0**	**-0.1**
GUR	**Goura**	**0.34**	**149**	P	**Pg**	**16 04 44.1**	**-0.5**
GUR				S	**Sg**	**16 04 48.9**	**-0.1**
GUR				AML	AML	16 04 50.2	
	comp=E,30372μm,0.5s						
GUR				AML	AML	16 04 50.2	
	comp=N,35230μm,0.6s						
DSF	**Desfina**	**0.37**	**61**	P	**Pg**	**16 04 44.7**	**-0.3**
DSF				S	**Sg**	**16 04 50.1**	**+0.1**
DSF	**Desfina**	**0.37**	**61**	P	**Pg**	**16 04 44.7**	**-0.3**
DSF				S	**Sg**	**16 04 50.1**	**+0.1**
DSF				AML	AML	16 04 51.4	
	comp=N,9136μm,0.2s						
DSF				AML	AML	16 04 51.8	
	comp=E,7255μm,0.2s						
DLFA	**Delphi**	**0.39**	**50**	P	**Pg**	**16 04 44.9**	**-0.4**
DLFA				S	**Sg**	**16 04 50.4**	**-0.1**
DLFA				AML	AML	16 04 50.9	
	comp=E,10271μm,0.4s						
DLFA				AML	AML	16 04 52.1	
	comp=N,4433μm,0.5s						
ANX	**Ano Chora**	**0.40**	**337**	P	**Pg**	**16 04 44.8**	**-0.7**
ANX				S	**Sg**	**16 04 51.1**	**+0.4**
ANX	**Ano Chora**	**0.40**	**337**	P	**Pg**	**16 04 44.8**	**-0.7**
ANX				S	**Sg**	**16 04 51.2**	**+0.5**
ANX				AML	AML	16 04 53.9	
	comp=N,8201μm,0.4s						
ANX				AML	AML	16 04 54.9	
	comp=E,4932μm,0.2s						
DRO	**Drossia**	**0.42**	**229**	P	**Pg**	**16 04 45.5**	**-0.5**
DRO				S	**Sb**	**16 04 52.7**	**-1.1**
DRO	**Drossia**	**0.42**	**229**	P	**Pg**	**16 04 45.5**	**-0.5**
DRO				S	**Sg**	**16 04 52.3**	**+0.8**
DRO				AML	AML	16 04 55.4	
	comp=N,8968μm,0.3s						
DRO				AML	AML	16 04 55.5	
	comp=E,11186μm,0.5s						
RLS	**Riolos of Patr**	**0.54**	**252**	P	**Pg**	**16 04 47.3**	**-0.8**
RLS				S	**Sb**	**16 04 56.7**	**-0.4**
RLS	**Riolos of Patr**	**0.54**	**252**	P	**Pg**	**16 04 47.4**	**-0.8**
RLS				S	**Sg**	**16 04 56.1**	**+0.8**
RLS				AML	AML	16 04 58.3	
	comp=N,1880μm,0.2s						
RLS				AML	AML	16 04 58.5	
	comp=E,2042μm,0.2s						
PVO	**Paravola**	**0.60**	**310**	P	**Pg**	**16 04

ISC 28 16:21:42.3±1.4, 33°.82N±0°.04×35°.78E±0°.07, h14km±14km, n7, σ0§60/12, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.13**	**311**	*eP*	**Pg**	**16 21 45.9**	**-0.1**
BHL				*eS*	**Sg**	**16 21 48.9**	**+0.5**
DQRL	**Deir Qamar**	**0.20**	**237**	*eP*	**Pg**	**16 21 46.5**	**-0.4**
DQRL				*eS*	**Sg**	**16 21 50.1**	**0.0**
RCY	**Rachaya**	**0.32**	**171**	*eP*	**Pg**	**16 21 48.5**	**-0.5**
BRBR	**Barbar**	**0.43**	**160**	*eP*	**Pg**	**16 21 50.6**	**-0.4**
BRBR				*eS*	**Sg**	**16 21 55.8**	**-1.0**
BRBR				AML	AML	16 22 00.2	
	comp=N,61nm,0.6s						
BRBR				AML	AML	16 22 00.6	
	comp=E,31nm,0.6s						
HWQ	**Hawqa**	**0.48**	**17**	*eP*	**Pg**	**16 21 51.0**	**-0.9**
QASN	**Qassioun**	**0.51**	**124**	*eP*	**Pg**	**16 21 52.3**	**+0.1**
QASN				*eS*	**Sg**	**16 21 59.2**	**+0.2**
QASN				AML	AML	16 22 02.5	
	comp=N,90nm,0.5s						
QASN				AML	AML	16 22 04.4	
	comp=E,29nm,0.5s						
TOTH	**TOTAH**	**0.71**	**130**	*eP*	**Pb**	**16 21 56.9**	**+0.4**
TOTH				*eS*	**Sb**	**16 22 06.5**	**+0.4**
TOTH				AML	AML	16 22 13.2	
	comp=E,8.0nm,0.3s						
TOTH				AML	AML	16 22 13.8	
	comp=N,13nm,0.7s						

IDC 28 16:24:20.2±13.0, 14°.80S×177°.98W, h479km±153km, mb3.1/5, mb1 3.4/5, mb1mx3.1/25, mbtmp4.0/5, Error ellipse: s-maj=84.5km s-min=42.2km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.55**	**238**	P	P	16 31 17.8	+0.8
	0.5nm,0.4s,baz=85,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**45.68**	**256**	P	P	16 31 57.0	-0.4
	0.4nm,0.3s,baz=93,slow=8.6,SNR=11						
ASAR	**Alice Springs**	**46.10**	**251**	P	P	16 32 00.1	-0.5
	8.2nm,0.6s,baz=84,slow=8.0,SNR=261						
ILAR	**Eielson Array**	**82.78**	**13**	P	P	16 35 53.1	+0.3
	0.6nm,0.6s,baz=226,slow=4.8,SNR=4.4						
TXAR	**Lajitas Array**	**83.99**	**58**	P	P	16 35 59.3	-0.5
	0.5nm,0.6s,baz=220,slow=5.5,SNR=7.8						
BRTR	**Keskin Array B**	**142.83**	**318**	PKP	PKPdf	16 42 58.5	-0.5
	1.3nm,0.8s,baz=76,slow=3.4,SNR=6.3						

BJI ***28*** *16:25:29.2±0.0, 53°.72N×159°.92E, h63km, mb5.0/66, mB4.9/42, Ms4.4/55, Ms7 4.2/55*
KRSC ***28*** *16:25:31.0±10.0, 53°.22N×160°.24E, h68km±10km, ML5.6*
MOS ***28*** *16:25:32.7±1.0, 53°.31N×159°.84E, h89km, mb5.2/103, Error ellipse: s-maj=5.7km s-min=3.1km az=78.3*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
GCMT ***28*** *16:25:33.5±0.2, 53°.30N±0°.02×160°.03E±0°.03, h66km±1km, MW5.0/89, Moment Tensor Solution. s58,c80; s89,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.59±.15; $M_{\theta\theta}$-1.23±.15; $M_{\phi\phi}$-2.36±.14; $M_{r\theta}$-1.37±.10; $M_{\theta\phi}$-1.86±.10; $M_{\phi r}$-2.40±.09; Best double couple: M_o4.59000×10^{16} NP1:ϕ_s212.00000°, δ64.00000°, λ86.00000°. NP2: ϕ_s41.00000°, δ27.00000°, λ98.00000°. Principal axes: T 4.5260, Plg71.0000°, Azm114.0000°; N 0.1290, Plg3.0000°, Azm214.0000°; P -4.6550, Plg18.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISCJB ***28*** *16:25:33.4±0.2, 53°.38N±0°.02×159°.83E±0°.02, h91km±1km, mb5.2/553 Error ellipse: s-maj=3.2km s-min=1.8km az=156.7*
NEIC ***28*** *16:25:33.5±0.3, 53°.49N×159°.74E, h74km±3km, mb5.4/298, Error ellipse: s-maj=3.4km s-min=1.6km az=163.0*
NEIC Felt at Mokhovaya.
IDC ***28*** *16:25:35.4±0.8, 53°.53N×159°.78E, h86km±6km, mb4.6/27, mb1 4.8/29, mb1mx4.7/32, mbtmp4.9/29, MS4.0/27, Ms1 4.0/27, ms1mx3.9/34, Error ellipse: s-maj=12.6km s-min=7.9km az=149.0*

ISC 28 16:25:32.4±0.4, 53°.32N±0°.03×160°.02E±0°.03, h68km±2km, h67km:pP-P, n1561, σ1§32/1649, mb5.3/557, 35C-24D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.22**	**179**	*eP*	**Pn**	**16 25 43.1**	**+0.3**
SPN				*eS*	**Sn**	**16 25 50.3**	**-0.1**
SPN	**Mys Shipunski**	**0.22**	**179**	PN	**Pn**	**16 25 43.1**	**+0.3**
NLC	**Nalytchevo**	**0.43**	**250**	*eP*	**Pn**	**16 25 45.3**	**+1.0**
NLC				*eS*	**Sn**	**16 25 54.7**	**+1.7**
NLC	**Nalytchevo**	**0.43**	**250**	PN	**Pn**	**16 25 45.3**	**+1.0**
NLC				S	**Sn**	**16 25 54.7**	**+1.7**
SDLR	**Sedlovina**	**0.68**	**267**	*eP*	**Pn**	**16 25 48.2**	**+1.2**
SDLR	**Sedlovina**	**0.68**	**267**	PN	**Pn**	**16 25 48.2**	**+1.2**
UGLR	**Uglovaya**	**0.73**	**262**	*eP*	**Pn**	**16 25 48.9**	**+1.4**
UGLR	**Uglovaya**	**0.73**	**262**	PN	**Pn**	**16 25 48.9**	**+1.4**
SMAR	**Somma**	**0.73**	**266**	*i* P	**Pn**	**16 25 48.8**	**+1.1**
SMAR	**Somma**	**0.73**	**266**	PN	**Pn**	**16 25 48.8**	**+1.1**
KRER	**Koryakskii**	**0.76**	**269**	*eP*	**Pn**	**16 25 49.7**	**+1.7**
KRER	**Koryakskii**	**0.76**	**269**	PN	**Pn**	**16 25 49.7**	**+1.7**
AVH	**Avacha**	**0.77**	**266**	*eP*	**Pn**	**16 25 49.6**	**+1.6**
AVH	**Avacha**	**0.77**	**266**	PN	**Pn**	**16 25 49.6**	**+1.6**
DALK	**Dalny**	**0.81**	**250**	*eP*	**Pn**	**16 25 49.5**	**+1.1**
DALK				*eS*	**Sn**	**16 26 01.6**	**+1.3**
DALK	**Dalny**	**0.81**	**250**	PN	**Pn**	**16 25 49.5**	**+1.1**
DALK				S	**Sn**	**16 26 01.6**	**+1.3**
KRX	**Arik**	**0.82**	**273**	*eP*	**Pn**	**16 25 50.1**	**+1.4**
KRX	**Arik**	**0.82**	**273**	PN	**Pn**	**16 25 50.1**	**+1.4**
KOK	**Koryaka**	**0.83**	**269**	*eP*	**Pn**	**16 25 50.4**	**+1.7**
KOK	**Koryaka**	**0.83**	**269**	PN	**Pn**	**16 25 50.4**	**+1.7**
PET	**Petropavlovsk**	**0.87**	**251**	*e*Pn	**Pn**	**16 25 50.2**	**+1.1**
PET	**Petropavlovsk**	**0.87**	**251**	PN	**Pn**	**16 25 50.3**	**+1.1**
PET				S	**Sn**	**16 26 03.0**	**+1.5**
KRMR	**Karymshinskiy**	**1.24**	**247**	*eP*	**Pn**	**16 25 55.3**	**+1.5**
KRMR				*eS*	**Sn**	**16 26 11.7**	**+1.9**
KRMR	**Karymshinskiy**	**1.24**	**247**	PN	**Pn**	**16 25 55.3**	**+1.5**
KRMR				S	**Sn**	**16 26 11.7**	**+1.9**
RUS	**Russkaya**	**1.27**	**226**	*eP*	**Pn**	**16 25 55.0**	**+0.8**
RUS				*eS*	**Sn**	**16 26 11.5**	**+0.9**
RUS	**Russkaya**	**1.27**	**226**	PN	**Pn**	**16 25 55.0**	**+0.8**
RUS				S	**Sn**	**16 26 11.5**	**+0.9**
GNL	**Ganaly**	**1.30**	**288**	*eP*	**Pn**	**16 25 56.2**	**+1.6**
GNL	**Ganaly**	**1.30**	**288**	PN	**Pn**	**16 25 56.2**	**+1.6**
MTVR	**Mutnovka**	**1.39**	**234**	*eP*	**Pn**	**16 25 57.5**	**+1.5**
MTVR	**Mutnovka**	**1.39**	**234**	PN	**Pn**	**16 25 57.5**	**+1.5**
I44RU	**PETROPAVLOVSK-**	**1.40**	**262**	P	**Pn**	**16 25 57.9**	**+1.9**
	baz=78,slow=19,SNR=1.9						
I44RU				S	**Sn**	**16 26 17.1**	**+3.4**
	baz=78,slow=37						
GRL	**Gorelyy**	**1.41**	**238**	*eP*	**Pn**	**16 25 57.9**	**+1.8**
GRL	**Gorelyy**	**1.41**	**238**	PN	**Pn**	**16 25 57.9**	**+1.8**
PEA0B	**Petropavlovsk-**	**1.41**	**262**	*e*Pn	**Pn**	**16 25 57.8**	**+1.7**
PEA1	**Petropavlovsk-**	**1.41**	**262**	*e*Pn	**Pn**	**16 25 57.8**	**+1.8**
PEA1				*e*Sn	**Sn**	**16 26 16.9**	**+3.0**
PETK	**Petropavlovsk-**	**1.41**	**262**	P	**Pn**	**16 25 57.8**	**+1.8**
	476nm,0.3s,baz=84,slow=20,SNR=8268						
PETK				S	**Sn**	**16 26 16.9**	**+3.0**
	2μm,0.3s,baz=88,slow=39,SNR=33						
PETK				LR	LR	16 26 37.6	
	comp=Z,51μm,22.0s,baz=82,slow=47						
ASAK	**Asacha**	**1.59**	**235**	*eP*	**Pn**	**16 26 00.6**	**+2.1**
ASAK	**Asacha**	**1.59**	**235**	PN	**Pn**	**16 26 00.6**	**+2.1**
MKZ	**Mys Kozlova**	**1.60**	**39**	*eP*	**Pn**	**16 25 59.2**	**+0.7**
MKZ	**Mys Kozlova**	**1.60**	**39**	PN	**Pn**	**16 25 59.2**	**+0.7**
APC	**Apacha**	**1.77**	**258**	*eP*	**Pn**	**16 26 03.2**	**+2.4**
APC				*eS*	**Sn**	**16 26 25.9**	**+3.5**
APC	**Apacha**	**1.77**	**258**	PN	**Pn**	**16 26 03.2**	**+2.4**
APC				S	**Sn**	**16 26 25.9**	**+3.5**
KZV	**Kizimen**	**1.80**	**5**	*eP*	**Pn**	**16 26 03.5**	**+2.1**
KZV	**Kizimen**	**1.80**	**5**	PN	**Pn**	**16 26 03.5**	**+2.1**
TUMD	**Tumrok D**	**1.90**	**7**	*eP*	**Pn**	**16 26 04.4**	**+1.8**
TUMD				*eS*	**Sn**	**16 26 28.0**	**+2.5**
KDTR	**Khodutka, Kamc**	**1.92**	**219**	*eP*	**Pn**	**16 26 03.8**	**+0.9**
KDTR				*eS*	**Sn**	**16 26 27.0**	**+0.9**
KDTR	**Khodutka, Kamc**	**1.92**	**219**	PN	**Pn**	**16 26 03.8**	**+0.9**
KDTR				S	**Sn**	**16 26 27.0**	**+0.9**
TUMR	**Tumrok**	**1.97**	**2**	*i* P	**Pn**	**16 26 06.2**	**+2.6**
TUMR				*eS*	**Sn**	**16 26 30.2**	**+2.9**
TUMR	**Tumrok**	**1.97**	**2**	PN	**Pn**	**16 26 04.4**	**+0.8**
TUMR				S	**Sn**	**16 26 28.0**	**+0.7**
BZMR	**Bezymyannaya**	**2.63**	**6**	*eP*	**Pn**	**16 26 15.9**	**+3.3**
BZMR	**Bezymyannaya**	**2.63**	**6**	PN	**Pn**	**16 26 15.9**	**+3.3**
KIRR	**Kirishev**	**2.64**	**4**	*eP*	**Pn**	**16 26 15.8**	**+3.0**
KIRR	**Kirishev**	**2.64**	**4**	PN	**Pn**	**16 26 15.8**	**+3.0**
KPT	**Kopyto**	**2.65**	**2**	*eP*	**Pn**	**16 26 15.9**	**+3.0**
KPT	**Kopyto**	**2.65**	**2**	PN	**Pn**	**16 26 15.9**	**+3.0**
BZGR	**Bezymyannyi-Gr**	**2.65**	**8**	*eP*	**Pn**	**16 26 15.9**	**+3.0**
BZGR	**Bezymyannyi-Gr**	**2.65**	**8**	PN	**Pn**	**16 26 15.9**	**+3.0**
BZWR	**Bezymyannyi-We**	**2.66**	**6**	*eP*	**Pn**	**16 26 16.0**	**+2.9**
BZWR	**Bezymyannyi-We**	**2.66**	**6**	PN	**Pn**	**16 26 16.0**	**+2.9**
PAU	**Pauzhetka**	**2.70**	**228**	*eP*	**Pn**	**16 26 15.7**	**+2.2**
PAU				*eS*	**Sn**	**16 26 49.1**	**+4.1**
PAU	**Pauzhetka**	**2.70**	**228**	PN	**Pn**	**16 26 15.7**	**+2.2**
PAU				S	**Sn**	**16 26 49.1**	**+4.1**
ESO	**Esso**	**2.72**	**344**	*eP*	**Pn**	**16 26 16.2**	**+2.5**
ESO	**Esso**	**2.72**	**344**	PN	**Pn**	**16 26 16.2**	**+2.5**
KOZ	**Kozyrevsk**	**2.74**	**358**	*eP*	**Pn**	**16 26 17.0**	**+3.0**
KOZ	**Kozyrevsk**	**2.74**	**358**	PN	**Pn**	**16 26 17.0**	**+3.0**
LGNR	**Loginova**	**2.79**	**8**	*i* P	**Pn**	**16 26 18.5**	**+3.5**
LGNR	**Loginova**	**2.79**	**8**	PN	**Pn**	**16 26 18.5**	**+3.5**
CIRR	**Tsirk**	**2.83**	**8**	*eP*	**Pn**	**16 26 18.8**	**+3.5**
CIRR	**Tsirk**	**2.83**	**8**	PN	**Pn**	**16 26 18.8**	**+3.5**
KRSR	**Krestovskiy**	**2.92**	**6**	*eP*	**Pn**	**16 26 19.2**	**+2.7**
KRSR	**Krestovskiy**	**2.92**	**6**	PN	**Pn**	**16 26 19.2**	**+2.7**
SRDR	**Sredinnyy**	**3.01**	**357**	*eP*	**Pn**	**16 26 20.1**	**+2.5**
SRDR	**Sredinnyy**	**3.01**	**357**	PN	**Pn**	**16 26 20.1**	**+2.5**
KLY	**Klyuchi**	**3.02**	**7**	*eP*	**Pn**	**16 26 20.8**	**+3.1**
KLY				*eS*	**Sn**	**16 26 57.2**	**+4.5**
KLY	**Klyuchi**	**3.02**	**7**	PN	**Pn**	**16 26 20.8**	**+3.1**
KLY				S	**Sn**	**16 26 57.2**	**+4.5**
KBTR	**Krutoberegovo**	**3.32**	**28**	*i* P	**Pn**	**16 26 23.3**	**+1.5**
KBTR	**Krutoberegovo**	**3.32**	**28**	PN	**Pn**	**16 26 23.3**	**+1.5**
BDR	**Baidarnaya**	**3.33**	**11**	*eP*	**Pn**	**16 26 25.3**	**+3.3**
BDR	**Baidarnaya**	**3.33**	**11**	PN	**Pn**	**16 26 25.3**	**+3.3**
KBG	**Krutoberegovo**	**3.33**	**27**	*eP*	**Pn**	**16 26 23.6**	**+1.7**
KBG	**Krutoberegovo**	**3.33**	**27**	PN	**Pn**	**16 26 23.6**	**+1.7**
SMKR	**Semkarok**	**3.37**	**14**	*eP*	**Pn**	**16 26 25.7**	**+3.1**
SMKR	**Semkarok**	**3.37**	**14**	PN	**Pn**	**16 26 25.7**	**+3.1**
SRKR	**Sorokina**	**3.41**	**11**	*eP*	**Pn**	**16 26 26.6**	**+3.5**
SRKR	**Sorokina**	**3.41**	**11**	PN	**Pn**	**16 26 26.6**	**+3.5**
SKR	**Severo-Kuril's**	**3.58**	**224**	*ce*PN	**Pn**	**16 26 26.9**	**+1.6**
SKR				*eS*	**Sn**	**16 27 08.5**	**+2.2**
SKR	**Severo-Kuril's**	**3.58**	**224**	*ce*PN	**Pn**	**16 26 26.8**	**+1.5**
BKI	**Bering**	**3.97**	**59**	*eP*	**Pn**	**16 26 30.7**	**+0.1**
BKI				*eS*	**Sn**	**16 27 11.6**	**-4.2**
BKI	**Bering**	**3.97**	**59**	PN	**Pn**	**16 26 30.7**	**+0.1**
PALN	**Palana**	**5.78**	**360**	*eP*	Pn	16 27 00.2	+4.8
PALN	**Palana**	**5.78**	**360**	PN	Pn	16 27 00.2	+4.8
OSSR	**Ossora**	**6.18**	**15**	*eP*	**Pn**	**16 27 04.0**	**+3.2**
OSSR	**Ossora**	**6.18**	**15**	PN	**Pn**	**16 27 04.0**	**+3.2**
TILK	**Tilichiki**	**7.89**	**23**	*eP*	**Pn**	**16 27 26.4**	**+2.2**
TILK	**Tilichiki**	**7.89**	**23**	PN	**Pn**	**16 27 26.4**	**+2.2**
MA2	**Magadan**	**8.09**	**324**	*e*Pn	**Pn**	**16 27 29.0**	**+2.0**
MA2	**Magadan**	**8.09**	**324**	*d i*PN	**Pn**	**16 27 29.6**	**+2.6**
MA2	**Magadan**	**8.09**	**324**	P	**Pn**	**16 27 29.7**	**+2.7**
	4.1nm,0.3s,baz=133,slow=8.7,SNR=136						
MA2				LR	LR	16 31 04.1	
	comp=Z,1μm,18.6s,baz=126,slow=42						
SMY	**Shemya**	**8.51**	**88**	*e*Pn	**Pn**	**16 27 32.9**	**+0.2**
SMY	**Shemya**	**8.51**	**88**	*e*Pn	**Pn**	**16 27 32.9**	**+0.2**
KMSK	**Kamenskaya**	**9.74**	**17**	*eP*	**Pn**	**16 27 53.8**	**+4.4**
KMSK	**Kamenskaya**	**9.74**	**17**	PN	**Pn**	**16 27 53.8**	**+4.4**
OKH	**Okha**	**10.20**	**278**	*d i*PN	**Pn**	**16 27 59.9**	**+4.1**
OKH				*eS*	**Sn**	**16 29 47.3**	**-1.1**
OKH				pmax	pmax		
	comp=Z,300nm,9.1s						
OKH				smax	smax		
	comp=E,300nm,6.5s						
OKH				smax	smax		
	comp=N,200nm,18.6s						
SEY	**Seymchan**	**10.44**	**340**	P	**Pn**	**16 28 02.8**	**+3.9**
	comp=N,0.2nm,0.3s,baz=139,slow=10,SNR=35						
TYV	**Tymovskoe**	**10.96**	**264**	*e*PN	Pn	16 28 10.9	+4.7
TYV				*eS*	**Sn**	**16 30 12.5**	**+5.5**
TYV				pmax	pmax		
	comp=Z,900nm,2.6s						
TYV				pmax	pmax		
	comp=Z,117nm,1.4s						
TYV				smax	smax		
	comp=E,11nm,1.4s						
TYV				smax	smax		
	comp=E,200nm,5.7s						
TYV				MLR	MLR		
	comp=E,1μm,15.0s						
TYV				MLR	MLR		
	comp=Z,700nm,15.0s						
KUR	**Kuril'sk**	**11.32**	**229**	*d i*PN	**Pn**	**16 28 10.9**	**-0.2**
KUR				pmax	pmax		
	comp=Z,104nm,0.9s						
KUR				pmax	pmax		
	comp=E,56nm,0.8s						
KUR				pmax	pmax		
	comp=N,40nm,0.5s						
KUR				MLR	MLR		
	comp=Z,578nm,13.0s						
NKL	**Nikolayevsk**	**11.59**	**277**	*e*PN	**Pn**	**16 28 19.0**	**+4.3**
NKL				pmax	pmax		
	comp=Z,430nm,2.0s						
UGL	**Uglegorsk**	**12.03**	**257**	⇑*i*PN	**P**	**16 28 26.5**	**-4.7**
UGL				*eS*	Sn	16 30 43.3	+10
UGL				pmax	pmax		
	comp=Z,308nm,1.2s						
UGL				smax	smax		
	comp=E,700nm,7.4s						
UGL				smax	smax		
	comp=E,110nm,1.3s						
UGL				MLR	MLR		
	comp=Z,1μm,18.0s						
YSS	**Yuzh-Sakhalins**	**12.76**	**247**	*e*Pn	**Pn**	**16 28 29.9**	**-0.8**
YSS	**Yuzh-Sakhalins**	**12.76**	**247**	⇑*e*PN	**Pn**	**16 28 32.0**	**+1.3**
YSS				*eS*	**Sn**	**16 30 52.6**	**+1.8**
YSS				pmax	pmax		
	comp=N,60nm,1.0s						
YSS				pmax	pmax		
	comp=E,80nm,1.0s						
YSS				pmax	pmax		
	comp=Z,80nm,1.0s						
YSS				pmax	pmax		
	comp=Z,200nm,4.9s						
YSS				smax	smax		
	comp=N,200nm,7.9s						
YSS				smax	smax		
	comp=E,200nm,6.9s						
YSS				MLR	MLR		
	comp=Z,700nm,14.0s						
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
YSS				MLR	MLR		
	comp=E,400nm,15.0s						
YUK	**Yuzh-Kuril'sk**	**13.16**	**231**	*e*PN	**Pn**	**16 28 36.1**	**-0.1**
YUK				pmax	pmax		
	comp=Z,556nm,0.5s						
YUK				pmax	pmax		
	comp=N,189nm,0.6s						
YUK				pmax	pmax		
	comp=E,86nm,0.6s						
YUK				MLR	MLR		
	comp=Z,266nm,13.0s						
KIWB	**Kanaga Island**	**13.95**	**87**	*e*Pn	**Pn**	**16 28 47.8**	**+1.3**
ADK	**Adak**	**14.22**	**86**	*e*Pn	**Pn**	**16 28 50.5**	**+0.4**
ADK	**Adak**	**14.22**	**86**	*eP*	**Pn**	**16 28 50.5**	**+0.4**
GSTR	**Great Sitkin T**	**14.54**	**85**	*e*Pn	**Pn**	**16 28 55.1**	**+0.7**
ASAJ	**Asahikawa**	**14.70**	**238**	P	**Pn**	**16 28 57.4**	**+0.9**
	comp=Z,6.5nm,0.3s,baz=73,slow=14,SNR=53						
ASAJ				LR	LR	16 34 13.1	
	comp=Z,922nm,21.8s,baz=42,slow=35						
GRNR	**Gornyy**	**14.73**	**270**	*eP*	**P**	**16 29 04.6**	**+3.4**
GRNR				pmax	pmax		
	comp=N,29nm,1.0s						
GRNR				pmax	pmax		
	comp=E,42nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,39nm,1.0s						
BILL	**Bilibino**	**15.07**	**9**	*e*Pn	**Pn**	**16 29 00.2**	**-0.8**
	comp=Z,50nm,0.9s						
BILL	**Bilibino**	**15.07**	**9**	*eP*	**Pn**	**16 29 00.0**	**-1.0**
BILL				*eS*	**Sn**	**16 31 45.5**	**-1.1**
BILL				pmax	pmax		
	comp=Z,16nm,0.9s						
BILL				MLR	MLR		
	comp=Z,721nm,20.0s						
ATKA	**Atka Island**	**15.62**	**84**	*e*Pn	**Pn**	**16 29 09.5**	**+1.3**
	comp=Z,40nm,0.9s						
ERM	**Erimo**	**15.98**	**232**	*e*Pn	**Pn**	**16 29 10.5**	**-2.3**
	comp=Z,159nm,0.5s						
ERM	**Erimo**	**15.98**	**232**	*eP*	**Pn**	**16 29 10.5**	**-2.3**
ERM				pmax	pmax		
	comp=Z,160nm,0.5s						
TEY	**Ternei**	**17.35**	**251**	⇓*eP*	**P**	**16 29 31.9**	**+1.7**
TEY				*eS*	**Sn**	**16 32 37.6**	**-4.4**
TEY				pmax	pmax		
	comp=Z,30nm,1.3s						
TEY				pmax	pmax		
	comp=E,30nm,1.2s						
TEY				pmax	pmax		
	comp=N,10.0nm,1.4s						
GAMB	**Gambell**	**17.92**	**43**	*eP*	**Pn**	**16 29 37.2**	**+0.6**
	comp=N,27nm,1.0s						
KLR	**Kul'dur**	**18.09**	**268**	*d i*P	**Pn**	**16 29 39.4**	**+0.6**
KLR	**Kul'dur**	**18.09**	**268**	P	**Pn**	**16 29 39.6**	**+0.8**
	comp=N,1.5nm,0.3s,baz=70,slow=9.9,SNR=39						
KLR				LR	LR	16 36 52.1	
	comp=N,604nm,21.2s,baz=80,slow=38						
YAK	**Yakutsk**	**18.25**	**311**	*eP*	**P**	**16 29 38.8**	**-1.2**
YAK				*eS*	**Sn**	**16 32 59.5**	**-4.1**
YAK				pmax	pmax		
	comp=Z,135nm,0.8s						
YAK				pmax	pmax		
	comp=N,19nm,0.9s						
YAK				pmax	pmax		
	comp=E,72nm,0.9s						
YAK				pmax	pmax		
	comp=Z,667nm,1.3s						
YAK				pmax	pmax		
	comp=N,297nm,1.2s						
YAK				pmax	pmax		
	comp=E,524nm,1.5s						
YAK				smax	smax		
	comp=N,277nm,2.2s						
YAK				smax	smax		
	comp=E,70nm,1.0s						
NIKH	**Nikolski High**	**18.60**	**79**	*eP*	**Pn**	**16 29 44.5**	**-0.4**
	comp=E,114nm,1.0s						
ZEA	**Zeya**	**19.39**	**284**	*eP*	**P**	**16 29 52.5**	**-0.1**
ZEA				pmax	pmax		
	comp=E,59nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,76nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,20.0s						
UNV	**Unalaska Valle**	**19.78**	**75**	*eP*	**P**	**16 29 57.5**	**+0.7**
	comp=Z,202nm,1.0s						
AKUT	**Akutan**	**20.14**	**74**	*eP*	Pn	16 30 02.1	-1.0
	comp=Z,229nm,0.9s						
USA0B	**Ussuriysk Arra**	**20.49**	**255**	*eP*	**P**	**16 30 03.6**	**-0.9**
	comp=Z,43nm,1.0s						
USRK	**Ussuriysk Ar.**	**20.49**	**255**	P	**P**	**16 30 03.7**	**-0.8**
	comp=Z,27nm,0.9s,baz=55,slow=11,SNR=18						
USRK				ScP	**ScP**	**16 37 44.5**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=101,slow=1.5,SNR=8.0						
USRK				LR	LR	16 38 36.7	
	comp=Z,371nm,19.3s,baz=47,slow=38						
ANM	**Nome**	**20.80**	**44**	*eP*	**P**	**16 30 08.9**	**+1.2**
	comp=Z,248nm,1.8s						
ANM	**Nome**	**20.80**	**44**	*eP*	**P**	**16 30 08.9**	**+1.2**
ANM				pmax	pmax		
	comp=Z,250nm,1.8s						
FALS	**False Pass**	**21.35**	**71**	*eP*	**P**	**16 30 14.8**	**+1.2**
	comp=Z,114nm,0.6s						
MDJ	**Mudanjiang**	**21.65**	**259**	P	**P**	**16 30 15.3**	**-1.7**
MDJ				S	**S**	**16 34 11.5**	**-1.4**
MDJ				pmax	pmax		
	comp=Z,12nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,130nm,3.5s						
MDJ				LR	LR		
	comp=Z,320nm,13.2s						
MDJ				LR	LR		
	comp=Z,420nm,16.5s						
MDJ				LR	LR		
	comp=Z,550nm,23.0s						
MDJ	**Mudanjiang**	**21.65**	**259**	*eP*	**P**	**16 30 15.6**	**-1.4**
	comp=Z,42nm,0.9s						
MJAR	**Matsushiro Arr**	**22.65**	**231**	P	**P**	**16 30 28.2**	**+0.4**
	comp=Z,77nm,0.8s,baz=18,slow=11,SNR=187						
MJAR				PcP	**PcP**	**16 34 18.4**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=112,slow=0.8,SNR=4.6						
MJAR				ScP	**ScP**	**16 37 49.2**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=158,slow=1.3,SNR=5.1						
MJAR				LR	LR	16 39 08.0	
	comp=Z,274nm,21.8s,baz=55,slow=36						
MJB9	**Matsu-Tunnel**	**22.65**	**231**	*eP*	**P**	**16 30 27.6**	**-0.2**
	comp=Z,156nm,0.8s						
MAJO	**Matsushiro**	**22.66**	**231**	*eP*	**P**	**16 30 27.6**	**-0.2**
	comp=Z,156nm,0.8s						
MAJO				*e*PcP	**PcP**	**16 34 18.4**	**+0.5**
MAJO				*e*ScP	**ScP**	**16 37 49.2**	**-0.2**
MAJO	**Matsushiro**	**22.66**	**231**	*d i*P	**P**	**16 30 28.0**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,145nm,0.7s						
MAT	**Matsushiro**	**22.66**	**231**	P	**P**	**16 30 28.0**	**+0.2**
MAT				S	**S**	**16 34 31.2**	**+0.3**
TIXI	**Tiksi**	**22.86**	**335**	*eP*	**P**	**16 30 27.8**	**-1.8**
	comp=Z,39nm,0.8s						
TIXI

RC01	Rabbit Creek A	27.66	54	eP		P	16 31 13.4 0.0
	comp=Z,44nm,1.4s						
TOLK	Toolik Lake Re	27.81	37	eP		P	16 31 14.6 -0.1
	comp=Z,15nm,0.7s						
TOLK	Toolik Lake Re	27.81	37	P		P	16 31 15.1 +0.3
	baz=263						
MCK	McKinley	27.83	48	eP		P	16 31 15.2 +0.3
	comp=Z,37nm,1.0s						
MCK	McKinley	27.83	48	eP		P	16 31 15.2 +0.3
MCK				pmax		pmax	
	comp=Z,37nm,1.0s						
PMR	Palmer	27.90	52	eP		P	16 31 15.6 +0.1
	comp=Z,10.0nm,0.7s						
PMR	Palmer	27.90	52	eP		P	16 31 15.6 +0.1
PMR				pmax		pmax	
	comp=Z,10.0nm,0.7s						
SEW	Seward	27.94	56	eP		P	16 31 14.5 -1.4
GHO	Glory Hole Cre	27.98	52	eP		P	16 31 16.5 +0.2
	comp=Z,19nm,0.9s						
MDM	Murphy Dome	28.11	45	eP		P	16 31 17.8 +0.4
	comp=Z,19nm,1.0s						
WRH	Wood River Hil	28.18	46	eP		P	16 31 18.4 +0.4
	comp=Z,49nm,0.8s						
KNK	Knik Glacier	28.24	53	eP		P	16 31 18.5 -0.1
	comp=Z,89nm,0.9s						
SML	Sawmill	28.25	52	eP		P	16 31 19.3 +0.6
	comp=Z,127nm,1.0s						
SML	Sawmill	28.25	52	eP		P	16 31 19.3 +0.6
SML				pmax		pmax	
	comp=Z,127nm,1.0s						
TCOL	CIGO, UAF Yank	28.27	45	P		P	16 31 19.4 +0.6
	baz=272						
COLA	College	28.27	45	eP		P	16 31 18.9 +0.1
	comp=Z,29nm,0.8s						
COLA	College	28.27	45⇑	eP		P	16 31 19.6 +0.8
COLA				pmax		pmax	
	comp=Z,56nm,1.4s						
CCB	Clear Creek Bu	28.30	46	eP		P	16 31 19.4 +0.4
	comp=Z,142nm,1.8s						
POKR	Poker Plat Res	28.45	45	P		P	16 31 21.2 +0.9
	baz=272						
DHY	Denali Highway	28.57	49	eP		P	16 31 21.7 0.0
	comp=Z,116nm,1.6s						
HDA	Harding Lake	28.68	46	eP		P	16 31 22.0 -0.4
	comp=Z,23nm,0.6s						
HDA	Harding Lake	28.68	46	P		P	16 31 22.3 -0.1
	baz=273						
ILAR	Eielson Array	28.69	46	P		P	16 31 22.7 +0.2
	comp=Z,18nm,0.7s,baz=264,slow=8.1,SNR=159						
ILAR				ScP		ScP	16 38 03.9 -2.3
	comp=Z,1.5nm,1.1s,baz=284,slow=3.6,SNR=6.2						
ILAR				LR		LR	16 42 43.5
	comp=Z,133nm,20.5s,baz=248,slow=36						
ILB	Eielson Array	28.69	46	eP		P	16 31 22.4 -0.1
	comp=Z,22nm,0.8s						
SCM	Sheep Creek Mo	28.72	52	eP		P	16 31 23.0 +0.1
	comp=Z,65nm,0.9s						
SCM	Sheep Creek Mo	28.72	52	eP		P	16 31 23.0 +0.1
SCM				pmax		pmax	
	comp=Z,65nm,0.9s						
GLI	Glacier Island	28.97	54	eP		P	16 31 25.2 +0.2
	comp=Z,47nm,1.6s						
JNU	Nakatsue	28.98	238	eP		P	16 31 25.3 -0.1
	comp=Z,42nm,1.0s						
JNU	Nakatsue	28.98	238	P		P	16 31 26.0 +0.6
	comp=Z,22nm,0.8s,baz=69,slow=6.5,SNR=9.5						
JNU				LR		LR	16 44 50.6
	comp=Z,133nm,19.1s,baz=70,slow=40						
PRP	Porcupine Dome	29.24	44	eP		P	16 31 28.0 +0.4
	comp=Z,38nm,0.8s						
PAX	Paxson	29.45	49	eP		P	16 31 30.1 +0.7
	comp=Z,9.7nm,0.9s						
PAX	Paxson	29.45	49	eP		P	16 31 30.1 +0.7
PAX				pmax		pmax	
	comp=Z,10.0nm,0.9s						
DIV	Divide	29.57	53	eP		P	16 31 30.4 0.0
	comp=Z,30nm,0.8s						
RIDG	Independent Ri	29.65	48	eP		P	16 31 30.4 -0.7
	comp=Z,24nm,0.8s						
HARP	HAARP	29.66	50	eP		P	16 31 31.6 +0.4
	comp=Z,38nm,0.6s						
EYAK	Cordova Ski Ar	29.68	54	eP		P	16 31 31.4 +0.1
	comp=Z,20nm,0.7s						
DL2	Dalian	29.85	257	P		P	16 31 36.5 +3.4
DL2				eS		S	16 36 30.8 +5.8
DL2				pmax		pmax	
	comp=Z,27nm,1.2s						
DL2				pmax		pmax	
	comp=Z,68nm,10.0s						
DL2				LR		LR	
	comp=Z,310nm,21.7s						
DL2				LR		LR	
	comp=Z,360nm,20.0s						
DL2				LR		LR	
	comp=Z,620nm,21.3s						
DOT	Dot Lake	30.00	48	eP		P	16 31 33.3 -0.9
	comp=Z,15nm,0.6s						
MENT	Mentasta	30.25	49	eP		P	16 31 36.0 -0.3
HMT	Hamilton	30.44	54	eP		P	16 31 38.5 +0.4
	comp=Z,39nm,1.1s						
TGL	Tana Glacier	31.05	53	eP		P	16 31 44.3 +0.8
	comp=Z,127nm,1.9s						
EGAK	Eagle	31.13	45	eP		P	16 31 43.5 -0.6
	comp=Z,22nm,0.8s						
BALM	Baldy	31.22	52	eP		P	16 31 45.6 +0.6
	comp=Z,14nm,0.9s						
BALM	Baldy	31.22	52	eP		P	16 31 45.7 +0.6
BALM				pmax		pmax	
	comp=Z,14nm,0.9s						
CTGM	Chitina Glacie	31.71	52	eP		P	16 31 50.5 +1.1
	comp=Z,29nm,0.7s						
DAWY	Dawson	31.99	46	eP		P	16 31 51.8 0.0
	comp=Z,10nm,1.0s						
BJT	Baijiatuau	32.36	264	eP		P	16 31 54.8 -0.4
	comp=Z,9.3nm,0.6s						
BJT	Baijiatuau	32.36	264	eP		P	16 31 54.8 -0.4
BJT				pmax		pmax	
	comp=Z,9.0nm,0.6s						
EPYK	Eagle Plains	32.76	42	eP		P	16 31 59.0 +0.6
	comp=Z,20nm,0.9s						
EPYK				ePcP		PcP	16 34 42.5 +0.6
EPYK	Eagle Plains	32.76	42	P		P	16 31 59.0 +0.6
	baz=278						
ULN	Ulaanbaatar	33.41	282	ceP		P	16 32 03.3 -1.1
ULN				pmax		pmax	
	comp=Z,6.0nm,1.3s						
TLY	Talaya	33.60	290	eP		P	16 32 05.0 -0.9
	comp=Z,22nm,1.3s						
TLY	Talaya	33.60	290	eP		P	16 32 06.1 +0.2
TLY				eS		S	16 37 28.3 +5.0
TLY				pmax		pmax	
	comp=Z,18nm,0.9s						
TLY				MLR		MLR	
	comp=Z,845nm,22.0s						
INK	Inuvik	33.72	38	eP		P	16 32 07.4 +0.8
	comp=Z,18nm,0.8s						
INK	Inuvik	33.72	38	eP		P	16 32 07.4 +0.8
INK				pmax		pmax	
	comp=Z,18nm,0.8s						
SONA0	Songino Array	33.80	283	eP		P	16 32 06.9 -0.9
SONA0				ePcP		PcP	16 34 46.4 +1.0
SONA0				eScP		ScP	16 38 24.0 +0.2
SONM	Songino Array	33.80	283	P		P	16 32 06.9 -0.9
	comp=Z,4.7nm,0.7s,baz=63,slow=8.5,SNR=24						
SONM				PcP		PcP	16 34 46.4 +1.0
	comp=Z,3.0nm,0.6s,baz=42,slow=1.4,SNR=8.1						
SONM				ScP		ScP	16 38 24.0 +0.2
	comp=Z,4.9nm,1.0s,baz=73,slow=2.3,SNR=14						
SONM				LR		LR	16 46 53.3
	comp=Z,538nm,20.1s,baz=62,slow=38						
H11N2	WAKE ISLAND Hy	33.95	168	T		T	17 07 58.6
	baz=352,slow=76,SNR=465						
H11N3	WAKE ISLAND Hy	33.96	168	T		T	17 07 55.7
	baz=352,slow=76,SNR=1223						
H11N1	WAKE ISLAND Hy	33.96	168	T		T	17 07 59.2
	baz=352,slow=76,SNR=720						
TIA	Tai'an	34.31	258	P		P	16 32 10.3 -1.8
TIA				S		S	16 37 42.8 +8.4
TIA				pmax		pmax	
	comp=Z,22nm,0.8s						
TIA				LR		LR	
	comp=Z,320nm,21.6s						
TIA				LR		LR	
	comp=Z,450nm,23.5s						
TIA				LR		LR	
	comp=Z,520nm,21.6s						
ZAK	Zakamensk	34.38	289	eP		P	16 32 11.9 -0.9
ZAK				e			16 34 45.0
ZAK				pmax		pmax	
	comp=Z,10.0nm,1.4s						
HHC	Hu-ho-hao-te	34.60	269	eP		P	16 32 13.5 -1.3
HHC				sS		sS	16 38 08.0 +1.0
HHC				pmax		pmax	
	comp=Z,120nm,0.8s						
HHC				pmax		pmax	
	comp=Z,490nm,4.3s						
HHC				LR		LR	
	comp=Z,250nm,12.8s						
HHC				LR		LR	
	comp=Z,180nm,13.5s						
HHC				LR		LR	
	comp=Z,790nm,15.9s						
WHY	Whitehorse	34.84	51	eP		P	16 32 18.4 +1.7
	comp=Z,60nm,0.8s						
SKAG	Skagway	35.01	54	eP		P	16 32 19.8 +1.9
	comp=Z,77nm,0.8s						
MOY	Mondy	35.09	292	eP		P	16 32 18.7 -0.1
MOY				pmax		pmax	
	comp=Z,32nm,1.2s						
H11S1	WAKE ISLAND Hy	35.13	169	T		T	17 09 35.5
	baz=352,slow=76,SNR=162						
H11S3	WAKE ISLAND Hy	35.14	169	T		T	17 09 31.8
	baz=352,slow=76,SNR=461						
H11S2	WAKE ISLAND Hy	35.15	169	T		T	17 09 32.3
	baz=352,slow=76,SNR=75						
BESE	Bessie Mountai	35.54	55	eP		P	16 32 24.1 +1.6
	comp=Z,57nm,0.8s						
BTO	Baotou	35.68	270	eP		P	16 32 23.0 -1.0
NRIK	Noril'sk	35.69	325	LR		LR	16 48 32.0
	comp=Z,844nm,18.7s,baz=58,slow=39						
SIT	Sitka	35.87	57	eP		P	16 32 27.6 +2.3
	comp=Z,60nm,0.9s						
SIT	Sitka	35.87	57	eP		P	16 32 27.6 +2.3
SIT				pmax		pmax	
	comp=Z,60nm,0.9s						
JIS	Juneau Island	35.88	55	eP		P	16 32 26.7 +1.4
	comp=Z,93nm,1.0s						
NJ2	Nanjing	36.29	251	eP		P	16 32 28.0 -1.1
NJ2				pmax		pmax	
	comp=Z,24nm,0.9s						
WRAK	Wrangell Islan	37.63	57	eP		P	16 32 42.1 +1.9
	comp=Z,73nm,0.8s						
DLBC	Dease Lake	37.94	53	eP		P	16 32 45.3 +2.3
	comp=Z,72nm,0.8s						
DIB	Dawson Inlet,	39.00	62	eP		P	16 32 53.5 +1.8
	comp=Z,34nm,0.9s						
WHN	Wuhan	39.98	254	P		P	16 33 00.0 -0.2
XAN	Xi'an	40.66	263	P		P	16 33 07.0 +1.2
XAN	Xi'an	40.66	263	eP		P	16 33 04.8 -1.0
	comp=Z,12nm,1.1s						
XAN	Xi'an	40.66	263	eP		P	16 33 04.8 -1.0
XAN				pmax		pmax	
	comp=Z,12nm,1.1s						
SSLB	Suanglung	41.62	240	eP		P	16 33 13.0 -0.8
	comp=Z,102nm,2.0s						
YULB	Yu-li	41.77	240	eP		P	16 33 13.6 -1.3
	comp=Z,18nm,0.8s						
BBB	Bella Bella	41.81	61	eP		P	16 33 14.8 -0.2
	comp=Z,44nm,0.9s						
TPUB	Ta-pu	42.19	240	eP		P	16 33 18.0 -0.4
	comp=Z,73nm,1.7s						
LZH	Lanzhou	42.30	269	eP		P	16 33 19.3 0.0
LZH				pP		pP	16 33 38.5 +2.4
LZH				PP		PP	16 35 00.8 +2.6
LZH				pmax		pmax	
	comp=Z,35nm,1.0s						
LZH				pmax		pmax	
	comp=Z,170nm,4.0s						
LZH				LR		LR	
	comp=Z,670nm,16.3s						
LZH				LR		LR	
	comp=Z,580nm,14.1s						
LZH				LR		LR	
	comp=Z,690nm,16.8s						
TWG	Pinlang	42.35	239	eP		P	16 33 19.4 -0.3
	comp=Z,99nm,0.6s						
GTA	Gaotai	42.54	276	eP		P	16 33 20.5 -0.7
GTA				pP		pP	16 33 37.3 -0.8
GTA				sP		sP	16 33 44.5 -1.4
GTA				ScP		ScP	16 38 57.5 +0.4
GTA				ScS		ScS	16 43 14.0 -1.9
GTA				pmax		pmax	
	comp=Z,14nm,0.9s						
GTA				pmax		pmax	
	comp=Z,58nm,6.2s						
GTA				LR		LR	
	comp=Z,460nm,23.0s						
GTA				LR		LR	
	comp=Z,440nm,21.0s						
GTA				LR		LR	
	comp=Z,200nm,18.5s						
ZAA1	Zalesovo Array	42.61	302	eP		P	16 33 19.5 -2.0
ZAA1				ePcP		PcP	16 35 09.9 -2.4
ZAA1				eScP		ScP	16 38 57.0 0.0
ZAA0	Zalesovo Array	42.62	302	eP		P	16 33 19.3 -2.2
	comp=Z,8.9nm,0.8s						
ZALV	Zalesovo Beam	42.62	302	P		P	16 33 19.5 -2.0
	comp=Z,8.9nm,0.8s,baz=55,slow=7.1,SNR=33						
ZALV				PcP		PcP	16 35 09.9 -2.5
	comp=Z,5.5nm,0.9s,baz=55,slow=7.6,SNR=4.6						
ZALV				ScP		ScP	16 38 56.9 -0.1
	comp=Z,8.7nm,0.9s,baz=46,slow=4.3,SNR=16						
ZALV				LR		LR	16 52 15.8
	comp=Z,373nm,19.2s,baz=70,slow=38						
NVS	Novosibirsk	42.95	304⇑	iP		P	16 33 23.0 -1.2
NVS				i			16 33 42.6
NVS				i S		S	16 39 37.6 -6.4
NVS				pmax		pmax	
	comp=Z,76nm,1.3s						
NVS				pmax		pmax	
	comp=N,18nm,1.4s						
NVS				pmax		pmax	
	comp=E,45nm,1.4s						
NVS				smax		smax	
	comp=N,15nm,1.4s						
NVS				smax		smax	
	comp=E,14nm,2.0s						
YKW3	Yellowknife Ar	42.99	43	eP		P	16 33 24.7 +0.3
	comp=E,17nm,0.9s						
ENH	Enshi	43.01	258	eP		P	16 33 22.7 -2.3
	comp=E,31nm,0.8s						
YKA	Yellowknife Ar	43.02	43	P		P	16 33 25.7 +1.0
	comp=E,12nm,0.7s,baz=300,slow=8.1,SNR=128						
YKA				PcP		PcP	16 35 14.5 +0.9
	comp=E,2.3nm,0.8s,baz=300,slow=3.8,SNR=5.2						
YKA				ScP		ScP	16 38 58.5 0.0
	comp=E,0.7nm,0.7s,baz=294,slow=4.0,SNR=4.3						
YKA				LR		LR	16 53 04.2
	comp=E,12nm,18.9s,baz=301,slow=38						
YKB5	Yellowknife Ar	43.02	43	eP		P	16 33 25.7 +1.0
YKB5				eScP		ScP	16 38 58.5 +0.1
RES	Resolute Bay	43.13	22	eP		P	16 33 25.2 -0.2
	comp=E,7.8nm,0.9s						
RES	Resolute Bay	43.13	22	eP		P	16 33 25.5 +0.1
RES				pmax		pmax	
	comp=Z,8.0nm,0.9s						
DGZ	Jazzator, Alta	43.53	296	d iP		P	16 33 28.3 -0.8
DGZ				pmax		pmax	
	comp=Z,16nm,1.0s						
LLLB	Lilloet	45.94	60	eP		P	16 33 49.2 +1.1
	comp=Z,45nm,0.9s						
CD2	Chengdu	45.95	264	eP		P	16 33 46.5 -1.9
CD2				S		S	16 40 25.5 -2.6
CD2				pmax		pmax	
	comp=Z,60nm,0.8s						
CD2				LR		LR	
	comp=Z,260nm,21.6s						
CD2				LR		LR	
	comp=Z,450nm,17.2s						
PGC	Sidney	46.25	63	eP		P	16 33 51.8 +1.3
A04D	Lummi Island	46.61	63	P		P	16 33 54.7 +1.4
	baz=307						
WMQ	Urumqi	46.85	289	P		P	16 33 54.8 -0.6
WMQ				sP		sP	16 34 19.5 -0.7
WMQ				S		S	16 40 35.5 -5.4
WMQ				pmax		pmax	
	comp=Z,85nm,0.9s						
WMQ				pmax		pmax	
	comp=Z,250nm,3.7s						
WMQ				LR		LR	
	comp=Z,2μm,31.5s						
WMQ				LR		LR	
	comp=Z,2μm,31.5s						
WMQ				LR		LR	
	comp=Z,2μm,25.9s						
WMQ	Urumqi	46.85	289	eP		P	16 33 54.8 -0.6
	comp=Z,24nm,0.6s						
WMQ	Urumqi	46.85	289	eP		P	16 33 54.8 -0.6
WMQ				pmax		pmax	
	comp=Z,24nm,0.6s						
SPA0	Spitsbergen Ar	46.90	350	eP		P	16 33 54.3 -1.0
	comp=Z,52nm,1.3s						
D03D	Eldon	47.11	64	P		P	16 33 59.2 +1.9
	baz=308,SNR=7.8						
B05A	Bryant	47.20	63	P		P	16 33 59.5 +1.5
	baz=307,SNR=10						
B06A	Marblemount	47.38	62	eP		P	16 33 58.9 -0.4
	comp=Z,59nm,0.9s						
D04E	Lakebay	47.50	64	P		P	16 34 02.1 +1.9
	baz=308						
GYA	Guiyang	47.50	257⇑	iP		P	16 34 03.3 +2.6
GYA				PP		PP	16 35 55.5 +3.0
GYA				S		S	16 40 52.0 +1.4
GYA				SS		SS	16 44 15.3 -3.6
GYA				pmax		pmax	
	comp=Z,30nm,0.8s						
GYA				pmax		pmax	
	comp=Z,130nm,5.4s						
GYA				LR		LR	
	comp=Z,550nm,18.8s						
GYA				LR		LR	
	comp=Z,520nm,18.3s						
GYA				LR		LR	
	comp=Z,600nm,18.0s						
KURK	Kurchatov	47.58	302	eP		P	16 33 58.3 -2.5
	comp=Z,42nm,0.9s						
KURK	Kurchatov	47.58	302	eP		P	16 33 58.4 -2.5
KURK				pmax		pmax	
	comp=Z,42nm,1.0s						
KURK	Kurchatov	47.58	302	P		P	16 33 59.3 -1.5
	SNR=28						
KURK				P		P	16 33 59.3 -1.5
	SNR=28						
D05A	Enumclaw	47.92	64	eP		P	16 34 04.3 +0.8
	comp=Z,62nm,0.9s						
E04D	Cinebar	47.99	65	P		P	16 34 06.0 +1.9
	baz=308,SNR=11						
MK31	Makanchi Array	48.02	295	eP		P	16 34 02.2 -2.2
	comp=Z,9.5nm,0.9s						
MK31	Makanchi Array	48.02	295	eP		P	16 34 02.2 -2.2
MK31				pmax		pmax	
	comp=Z,10.0nm,0.9s						
MK32	Makanchi Array	48.02	295	eP		P	16 34 02.7 -1.6
MK32				eScP		ScP	16 39 19.5 0.0
MKAR	Makanchi Array	48.02	295	P		P	16 34 02.7 -1.6
	comp=Z,5.9nm,0.6s,baz=57,slow=7.2,SNR=54						
MKAR				ScP		ScP	16 39 19.5 0.0
	comp=Z,2.7nm,1.0s,baz=34,slow=4.5,SNR=6.1						
MKAR				LR		LR	16 55 30.8
	comp=Z,272nm,20.6s,baz=48,slow=38						
F04D	Rainier, OR	48.04	66	P		P	16 34 05.6 +1.1
	baz=309						
C06D	Leavenworth	48.05	63	P		P	16 34 05.8 +1.2
	baz=308						
MAKZ	Makanchi	48.18	296	eP		P	16 34 03.4 -2.2
	comp=Z,23nm,1.3s						
MAKZ	Makanchi	48.18	296	eP		P	16 34 03.4 -2.2
MAKZ				pmax		pmax	
	comp=Z,23nm,1.3s						
LON	Longmire	48.28	64	eP		P	16 34 07.2 +0.8
	comp=Z,11nm,0.9s						
LON	Longmire	48.28	64	eP		P	16 34 07.2 +0.8
LON				pmax		pmax	
	comp=Z,11nm,0.9s						
G03D	McMinnville, O	48.44	67	P		P	16 34 08.3 +0.7
	baz=309						
LTY	Liberty	48.58	63	eP		P	16 34 09.5 +0.8
	comp=Z,23nm,0.8s						
B08A	Colville Reser	48.61	61	eP		P	16 34 09.7 +0.8
	comp=Z,70nm,0.9s						
I02D	Swisshome	48.82	68	P		P	16 34 11.4 +0.9
	baz=310						
F05D	White Salmon	49.01	65	P		P	16 34 12.9 +1.0
	baz=309						
H04D	Lebanon	49.17	67	P		P	16 34 14.5 +1.3
	baz=310,SNR=6.9						
I03D	Drain, OR	49.35	68	P		P	16 34 16.7 +2.1
	baz=310,SNR=5.4						
H04A	Detroit Lake	49.37	67	eP		P	16 34 15.8 +1.0
	comp=Z,51nm,1.0s						
J01E	Myrtle Point	49.37	69	P		P	16 34 16.3 +1.6
	baz=310						
G05D	Wamic, OR	49.49	66	P		P	16 34 17.3 +1.6
	baz=310,SNR=8.2						
C09A	Chrisman Ranch	49.52	61	eP		P	16 34 16.5 +0.7
	comp=Z,51nm,1.0s						
D08A	Wollman Farm,	49.64	62	eP		P	16 34 17.1 +0.4
	comp=Z,50nm,1.3s						
HAWA	Hanford	49.73	63	eP		P	16 34 18.1 +0.7
	comp=Z,60nm,1.2s						
I04A	Tendick Farm,	49.81	68	P		P	16 34 19.7 +1.5
	baz=310,SNR=14						
K02D	Willamette Mer	49.82	70	P		P	16 34 20.2 +2.0
	baz=311						
NEW	Newport	49.83	60	eP		P	16 34 18.8 +0.6
	comp=Z,43nm,1.1s						
NEW	Newport	49.83	60	eP		P	16 34 18.8 +0.6
NEW				pmax		pmax	
	comp=Z,43nm,1.1s						
NEW	Newport	49.83	60	P		P	16 34 19.2 +1.0
	baz=309,SNR=16						
F07A	Phinny Hill Vi	49.83	64	eP		P	16 34 19.3 +1.1
	comp=Z,106nm,0.8s						
G06A	Carlson Farm,	49.87	65	eP		P	16 34 19.4 +0.8
	comp=Z,12nm,0.9s						
E08A	Dider Farm, El	49.92	63	eP		P	16 34 19.6 +0.8
	comp=Z,37nm,0.9s						
KULLO	Kullorsuaq	49.98	12	i P		P	16 34 18.8 -0.1
KULLO				pmax		pmax	
	comp=Z,35nm,0.8s						
KULLO	Kullorsuaq	49.98	12	i P		P	16 34 18.8 -0.1
	comp=Z,35nm,0.8s						
I05D	Terrebonne, OR	50.06	67	P		P	16 34 21.5 +1.4
	baz=310,SNR=6.7						
DAG	Danmarks Havn	50.17	360	i P		P	16 34 20.1 -0.3
DAG				pmax		pmax	
	comp=Z,13nm,0.8s						
DAG	Danmarks Havn	50.17	360	i P		P	16 34 20.1 -0.3
	comp=Z,17nm,0.8s						
L02E	Cave Junction	50.20	70	P		P	16 34 23.1 +2.0
	baz=311,SNR=5.7						
BRVK	Borovoye	50.24	308	eP		P	16 34 19.0 -2.2
	comp=Z,17nm,0.8s						
BRVK	Borovoye	50.24	308	eP		P	16 34 19.1 -2.1
BRVK				pmax		pmax	
	comp=Z,17nm,0.9s						
BRVK	Borovoye	50.24	308	P		P	16 34 19.6 -1.6
	SNR=11						
BRVK				P		P	16 34 19.6 -1.6
	SNR=11						
HUMO	Hull Mountain	50.28	69	eP		P	16 34 22.9 +1.2
	comp=Z,29nm,1.0s						
J04D	Umpqua Nationa	50.34	68	P		P	16 34 24.4 +2.1
	baz=311,SNR=16						
E09A	Wood Farm, Sta	50.40	63	eP		P	16 34 23.4 +0.9
	comp=Z,96nm,0.9s						
PINE	Pine Mountain	50.63	67	eP		P	16 34 25.7 +1.2
	comp=Z,52nm,0.9s						
G08A	Pilot Rock	50.74	64	eP		P	16 34 26.2 +0.9
	comp=Z,48nm,1.4s						
J05D	Fort Rock, OR	50.80	68	P		P	16 34 28.0 +2.2
	baz=311,SNR=33						
KMI	Kunming	50.82	260	P		P	16 34 28.5 +2.3
KMI				pmax		pmax	
	comp=Z,24nm,1.0s						
KMI				LR		LR	
	comp=Z,250nm,19.6s						
KMI				LR		LR	
	comp=Z,210nm,20.1s						
KMI				LR		LR	
	comp=Z,320nm,27.9s						
L04D	Klamath Falls	50.90	69	P		P	16 34 28.5 +2.1
	baz=311,SNR=24						
K04D	Chiloquin, OR	50.94	69	P		P	16 34 28.8 +2.0
	baz=311						
KHMM	Horse Mountain	50.97	71	eP		P	16 34 29.4 +2.3
	comp=Z,92nm,1.3s						
WALA	Waterton Lakes	50.98	58	eP		P	16 34 27.9 +0.9
	comp=Z,66nm,0.8s						
YBH	Yreka Blue Hor	50.99	70	eP		P	16 34 29.2 +2.1
	comp=Z,37nm,0.9s						

YBH	Yreka Blue Hor	50.99	70	eP		P	16 34 29.2 +2.1
YBH				pmax		pmax	
	comp=Z,37nm,0.9s						
M02C	Callahan	51.13	70	P		P	16 34 30.7 +2.5
	baz=312,SNR=13						
I07A	Izee	51.23	66	eP		P	16 34 30.0 +1.0
	comp=Z,18nm,1.1s						
F10A	Beach Ranch, E	51.23	63	eP		P	16 34 29.6 +0.7
	comp=Z,28nm,0.9s						
K05A	Summer Lake	51.35	68	eP		P	16 34 32.0 +2.0
	comp=Z,65nm,1.1s						
K05A				eP	cP	PcP	16 35 45.4 +1.6
KMRM	Mail Ridge	51.42	72	eP		P	16 34 32.2 +1.9
	comp=Z,34nm,0.9s						
M04C	Macdoel	51.44	69	P		P	16 34 32.6 +2.1
	baz=312,SNR=18						
QIZ	Qiongzhong	51.48	248	P		P	16 34 32.5 +1.6
QIZ				S		S	16 41 51.0 +5.0
QIZ				pmax		pmax	
	comp=Z,26nm,1.0s						
QIZ				LR		LR	
	comp=Z,200nm,19.1s						
QIZ				LR		LR	
	comp=Z,160nm,17.7s						
QIZ				LR		LR	
	comp=Z,150nm,18.1s						
N02D	Trinity Center	51.49	71	P		P	16 34 33.4 +2.6
	baz=312,SNR=16						
PDGK	Podgornoye	51.75	294	P		P	16 34 30.8 -2.0
PDGK				pmax		pmax	
	comp=Z,18nm,0.9s						
WDC	Whiskeytown Da	51.84	71	eP		P	16 34 35.0 +1.6
	comp=Z,27nm,0.9s						
WDC	Whiskeytown Da	51.84	71	eP		P	16 34 35.0 +1.6
WDC				pmax		pmax	
	comp=Z,27nm,0.9s						
BMO	Blue Mountains	51.92	64	eP		P	16 34 35.2 +1.2
	comp=Z,53nm,1.2s						
BMO	Blue Mountains	51.92	64	eP		P	16 34 35.2 +1.2
BMO				pmax		pmax	
	comp=Z,53nm,1.2s						
O02D	Mt. Diablo Mer	51.97	72	P		P	16 34 36.8 +2.4
	baz=312,SNR=13						
SVE	Sverdlovsk	52.08	317	eP		P	16 34 33.8 -1.1
SVE				pmax		pmax	
	comp=Z,10.0nm,0.9s						
MOD	Modoc Plateau	52.22	68	eP		P	16 34 37.9 +1.5
	comp=Z,136nm,1.4s						
J08A	Circle Bar Ran	52.27	66	eP		P	16 34 37.9 +1.3
	comp=Z,39nm,1.3s						
OTUK	Ortayu	52.32	302	P		P	16 34 34.8 -2.0
OTUK				pmax		pmax	
	comp=Z,13nm,0.9s						
MSO	Missoula	52.40	60	eP		P	16 34 38.3 +0.7
	comp=Z,82nm,1.4s						
MSO				eP	cP	PcP	16 35 47.9 +0.3
MSO	Missoula	52.40	60	P		P	16 34 38.7 +1.1
	baz=311,SNR=23						
O03E	Paynes Creek	52.45	71	P		P	16 34 39.6 +1.5
	baz=313,SNR=40						
PLID	Pearl Lake	52.46	63	eP		P	16 34 39.0 +0.8
	comp=Z,45nm,0.8s						
HOPS	Hopland Field	52.61	73	eP		P	16 34 40.3 +1.2
	comp=Z,92nm,1.5s						
WVOR	Wild Horse Val	52.79	67	eP		P	16 34 41.9 +1.3
	comp=Z,43nm,1.3s						
FFC	Flin Flon	52.90	46	eP		P	16 34 41.6 +0.7
	comp=Z,22nm,0.9s						
FFC	Flin Flon	52.90	46	i P		P	16 34 41.9 +0.9
APA	Apatity	53.02	337	⇓ i P		P	16 34 47.3 +5.6
APA				pmax		pmax	
	comp=Z,4.0nm,0.8s						
APA				MLR		MLR	
	comp=Z,300nm,16.0s						
SLVN	Son La	53.04	256	eP		P	16 34 41.3 -1.3
	comp=Z,19nm,0.9s						
ARCES	ARCESS Array B	53.06	342	P		P	16 34 40.3 -1.7
	comp=Z,5.1nm,0.8s,baz=36,slow=6.8,SNR=14						
ARCES				PcP		PcP	16 35 49.2 -0.3
	comp=Z,2.8nm,0.8s,baz=28,slow=4.1,SNR=6.4						
ARCES				LR		LR	17 01 47.4
	comp=Z,89nm,20.1s,baz=52,slow=41						
ORV	Oroville	53.12	71	eP		P	16 34 43.5 +0.6
	comp=Z,41nm,0.9s						
ORV	Oroville	53.12	71	eP		P	16 34 43.5 +0.6
ORV				pmax		pmax	
	comp=Z,41nm,0.9s						
ARU	Arti	53.20	317	eP		P	16 34 40.5 -2.7
	comp=Z,20nm,0.6s						
ARU	Arti	53.20	317	d i P		P	16 34 41.4 -1.8
ARU							16 35 48.7
ARU				S		S	16 42 07.5 -1.1
ARU				pmax		pmax	
	comp=Z,20nm,0.8s						
ARU				MLR		MLR	
	comp=Z,263nm,20.0s						
FCC	Fort Churchill	53.33	39	eP		P	16 34 44.3 +0.3
	comp=Z,32nm,1.0s						
FCC	Fort Churchill	53.33	39	eP		P	16 34 44.3 +0.3
FCC				pmax		pmax	
	comp=Z,32nm,1.0s						
BEKR	Beckworth	53.56	70	eP		P	16 34 47.6 +1.3
	comp=Z,71nm,1.0s						
HRY	Holter Researc	53.57	59	eP		P	16 34 47.3 +1.1
SUMG	Summit	53.74	7	eP		P	16 34 47.7 +0.3
	comp=Z,53nm,0.9s						
SUMG	Summit	53.74	7	i P		P	16 34 48.0 +0.6
SUMG				pmax		pmax	
	comp=Z,140nm,0.9s						
SUMG	Summit	53.74	7	i P		P	16 34 48.0 +0.6
	comp=Z,137nm,0.9s						
EGMT	Eagleton	53.74	56	eP		P	16 34 47.2 -0.2
	comp=Z,45nm,1.0s						
EGMT	Eagleton	53.74	56	P		P	16 34 48.2 +0.8
	baz=312,SNR=21						
TARG	Taragay, Kyrgy	53.74	293	eP		P	16 34 46.7 -1.2
	comp=Z,6.9nm,0.9s						
KDJ	Kajisay	53.82	294	eP		P	16 34 46.6 -1.5
	comp=Z,25nm,0.8s						
KDJ	Kajisay	53.82	294	eP		P	16 34 46.6 -1.5
KDJ				pmax		pmax	
	comp=Z,25nm,0.8s						
AFDM	Forest Hills D	53.84	71	eP		P	16 34 48.7 +0.6
	comp=Z,35nm,1.1s						
DLMT	Dillon	54.08	60	eP		P	16 34 50.4 +0.5
	comp=Z,37nm,1.2s						
TKM2	Tokmak 2	54.15	296	P		P	16 34 48.7 -1.9
	SNR=14						
TKM2	Tokmak 2	54.15	296	i P		P	16 34 48.6 -2.0
TKM2				pmax		pmax	
	comp=Z,13nm,0.8s						
PAHR	Pah Rah Range	54.22	70	eP		P	16 34 52.4 +1.3
	comp=Z,67nm,0.9s						
PRGR	Permogore	54.22	328	eP		P	16 34 48.5 -2.0
PRGR				e*PP		pP	16 35 06.1 -1.8
PRGR				pmax		pmax	
	comp=Z,32nm,0.8s						
RUBR	Rubicon Trail	54.23	71	eP		P	16 34 52.7 +1.5
	comp=Z,48nm,0.8s						
ULHL	Ulahol	54.25	295	P		P	16 34 50.1 -1.2
	SNR=24						
MCMT	McKenzie Canyo	54.30	61	eP		P	16 34 52.4 +0.6
HLID	Hailey	54.33	63	eP		P	16 34 53.0 +1.1
	comp=Z,16nm,0.8s						
HLID	Hailey	54.33	63	P		P	16 34 53.4 +1.6
	baz=313,SNR=26						
VCNR	Virginia City	54.35	70	eP		P	16 34 53.9 +1.8
	comp=Z,76nm,0.8s						
CTBH	Cotabato--PC H	54.35	226	⇑ i P		P	16 34 50.4 -1.6
LSA	Lhasa	54.37	273	eP		P	16 34 51.8 -0.9
	comp=Z,7.5nm,0.8s						
LSA	Lhasa	54.37	273	P		P	16 34 52.1 -0.6
LSA	Lhasa	54.37	273	eP		P	16 34 51.8 -0.9
LSA				pmax		pmax	
	comp=Z,8.0nm,0.8s						
BOZ	Bozeman (W)	54.42	60	eP		P	16 34 53.5 +1.0
	comp=Z,32nm,0.8s						
BOZ	Bozeman (W)	54.42	60	eP		P	16 34 53.5 +1.0
BOZ				pmax		pmax	
	comp=Z,32nm,0.8s						
BOZ	Bozeman (W)	54.42	60	P		P	16 34 54.0 +1.5
	baz=313,SNR=21						
USP	Ospenovka	54.50	297	P		P	16 34 51.7 -1.2
	SNR=18						
PNTR	Pine Nut	54.52	70	eP		P	16 34 55.3 +1.9
	comp=Z,120nm,0.8s						
CHMS	Chumysh	54.55	296	P		P	16 34 52.4 -0.9
	SNR=8.5						
TMCR	Tamitsa	54.55	333	eP		P	16 34 51.2 -1.7
KBK	Karagaybulak	54.68	296	P		P	16 34 53.2 -1.2
	SNR=8.2						
YERR	Yerington	54.79	70	eP		P	16 34 57.0 +1.7
	comp=Z,80nm,0.9s						
CMB	Columbia Colle	54.80	72	eP		P	16 34 56.7 +1.5
	comp=Z,79nm,1.4s						
CMB	Columbia Colle	54.80	72	eP		P	16 34 56.7 +1.5
CMB				pmax		pmax	
	comp=Z,79nm,1.4s						
KZA	Kyzart	54.91	295	P		P	16 34 55.6 -0.7
	SNR=6.6						
BMN	Battle Mountai	54.93	68	eP		P	16 34 58.0 +1.9
	comp=Z,72nm,0.9s						
BMN	Battle Mountai	54.93	68	eP		P	16 34 58.1 +1.9
BMN				pmax		pmax	
	comp=Z,72nm,0.9s						
AAK	Ala-Archa	54.94	296	P		P	16 34 55.3 -0.9
	SNR=28						
AAK	Ala-Archa	54.94	296	eP		P	16 34 54.8 -1.4
	comp=Z,20nm,0.8s						
AAK	Ala-Archa	54.94	296	i P		P	16 34 55.1 -1.1
	SNR=36						
AAK	Ala-Archa	54.94	296	eP		P	16 34 54.8 -1.4
AAK				pmax		pmax	
	comp=Z,20nm,0.9s						
AAK	Ala-Archa	54.94	296	P		P	16 34 55.2 -1.1
	SNR=13						
AAK				P		P	16 34 55.2 -1.1
	SNR=13						
NRN	Naryn	54.94	294	eP		P	16 34 55.2 -1.2
	comp=Z,8.6nm,0.8s						
NRN	Naryn	54.94	294	eP		P	16 34 55.2 -1.2
NRN				pmax		pmax	
	comp=Z,9.0nm,0.8s						
WAKR	Walker	55.01	71	eP		P	16 34 59.0 +2.1
	comp=Z,76nm,0.8s						
QLMT	Earthquake Lak	55.04	60	eP		P	16 34 58.4 +1.4
SAO	San Andreas Ge	55.07	74	eP		P	16 34 58.6 +1.5
	comp=Z,23nm,0.9s						
SAO	San Andreas Ge	55.07	74	eP		P	16 34 58.6 +1.5
SAO				pmax		pmax	
	comp=Z,23nm,0.9s						
UCH	Uchtor	55.20	296	P		P	16 34 57.2 -1.3
	SNR=9.1						
YHB	Horse Butte	55.22	60	eP		P	16 34 59.6 +1.3
	comp=Z,45nm,0.8s						
GCMT	Greycliff	55.30	58	eP		P	16 35 00.2 +1.5
EKS2	Erkin-Say	55.30	296	P		P	16 34 57.7 -1.2
	SNR=37						
YHH	Holmes Hill	55.37	60	eP		P	16 35 00.8 +1.3
	comp=Z,38nm,0.9s						
KVN	Kaiserville	55.39	69	eP		P	16 35 01.6 +2.0
	comp=Z,97nm,1.1s						
YMR	Madison River	55.40	60	eP		P	16 35 01.2 +1.6
	comp=Z,50nm,0.9s						
RYN	Ryan	55.45	70	eP		P	16 35 01.9 +1.9
	comp=Z,55nm,0.8s						
YNR	Norris Junctio	55.51	60	eP		P	16 35 02.1 +1.6
	comp=Z,28nm,1.0s						
YFT	Old Faithful	55.61	60	eP		P	16 35 03.5 +2.3
	comp=Z,44nm,0.8s						
ILULI	Ilulissat	55.67	13	eP		P	16 35 01.1 +0.3
	comp=Z,25nm,0.8s						
ILULI	Ilulissat	55.67	13	eP		P	16 35 01.1 +0.3
ILULI				pmax		pmax	
	comp=Z,25nm,0.8s						
NVAR	Mina Array Bea	55.71	70	P		P	16 35 04.1 +2.2
	comp=Z,49nm,0.8s,baz=297,slow=7.4,SNR=189						
NVAR				PcP		PcP	16 36 02.2 +1.7
	comp=Z,4.9nm,0.7s,baz=317,slow=3.8,SNR=3.2						
NVAR				LR		LR	16 55 36.2
	comp=Z,53nm,21.1s,baz=272,slow=32						
NV01	Mina Array Sit	55.71	70	eP		P	16 35 04.1 +2.2
NV01				eP	cP	PcP	16 36 02.2 +1.7
AML	Almayashu	55.71	296	P		P	16 35 01.0 -1.1
	SNR=13						
YPP	Pitchstone Pla	55.75	60	eP		P	16 35 04.3 +2.0
	comp=Z,53nm,1.5s						
LKWY	Lake	55.76	60	eP		P	16 35 03.8 +1.5
	comp=Z,48nm,0.8s						
LKWY	Lake	55.76	60	eP		P	16 35 03.8 +1.5
LKWY				pmax		pmax	
	comp=Z,48nm,0.8s						
H17A	Grant Village	55.79	60	eP		P	16 35 05.3 +2.8
	comp=Z,73nm,1.1s						
H17A	Grant Village	55.79	60	P		P	16 35 05.7 +3.3
	baz=314,SNR=17						
NV11	Mina Array Sit	55.79	70	eP		P	16 35 04.3 +1.9
	comp=Z,3.7nm,1.0s						
ELK	Elko	55.81	66	eP		P	16 35 04.6 +2.0
	comp=Z,29nm,0.8s						
ELK	Elko	55.81	66	eP		P	16 35 04.6 +2.0
ELK				pmax		pmax	
	comp=Z,29nm,0.8s						
MDPB	Devils Postpil	55.82	71	eP		P	16 35 04.6 +1.8
	comp=Z,50nm,1.0s						
OMMB	Old Mammoth Mi	55.88	71	eP		P	16 35 05.1 +1.8
	comp=Z,24nm,0.9s						
FLWY	Flagg Ranch	55.94	60	eP		P	16 35 05.5 +2.0
	comp=Z,42nm,0.8s						
IMW	Indian Meadow	55.94	61	eP		P	16 35 05.4 +1.8
	comp=Z,56nm,1.2s						
MLAC	Mammoth, Mammo	55.96	71	P		P	16 35 06.3 +2.6
	baz=315						
RLMT	Red Lodge	55.96	59	eP		P	16 35 05.3 +1.7
	comp=Z,77nm,0.8s						
RLMT	Red Lodge	55.96	59	P		P	16 35 05.6 +2.0
	baz=314,SNR=59						
FXWY	Fox Creek	56.07	61	eP		P	16 35 06.3 +1.8
	comp=Z,24nm,0.8s						
MOOW	Moose Ponds	56.15	61	eP		P	16 35 06.8 +1.8
	comp=Z,33nm,1.2s						
DGMT	Dagmar	56.16	53	eP		P	16 35 05.8 +1.0
	comp=Z,48nm,0.9s						
DGMT	Dagmar	56.16	53	P		P	16 35 05.9 +1.2
	baz=314,SNR=5.1						
TPAW	Teton Pass	56.22	61	eP		P	16 35 07.1 +1.6
	comp=Z,93nm,1.5s						
KSH	Kashi	56.28	292	P		P	16 35 08.8 +3.0
KSH				S		S	16 42 57.5 +6.9
KSH				pmax		pmax	
	comp=Z,12nm,0.9s						
KSH				pmax		pmax	
	comp=Z,160nm,4.6s						
KSH				LR		LR	
	comp=Z,140nm,10.1s						
KSH				LR		LR	
	comp=Z,120nm,12.3s						
KSH				LR		LR	
	comp=Z,250nm,10.5s						
LOHW	Long Hollow	56.31	61	eP		P	16 35 08.0 +1.8
	comp=Z,54nm,1.1s						
SNOW	Snow King Moun	56.34	61	eP		P	16 35 08.0 +1.7
	comp=Z,35nm,1.0s						
REDW	Red Top Meadow	56.36	61	eP		P	16 35 08.4 +1.9
	comp=Z,124nm,1.7s						
LAO	LASA Array	56.41	56	eP		P	16 35 08.2 +1.6
	comp=Z,85nm,0.9s						
LAO	LASA Array	56.41	56	P		P	16 35 08.4 +1.8
	baz=314,SNR=24						
HVU	Hansel Valley	56.43	64	eP		P	16 35 08.9 +1.9
	comp=Z,42nm,1.0s						
HVU	Hansel Valley	56.43	64	eP		P	16 35 08.9 +1.9
HVU				pmax		pmax	
	comp=Z,42nm,1.0s						
PAGB	Antelope Grade	56.48	74	eP		P	16 35 09.0 +1.8
	comp=Z,44nm,0.9s						
SCO	Scoresbysund	56.49	1	i P		P	16 35 04.7 -2.0
SCO				pmax		pmax	
	comp=Z,19nm,1.3s						
SCO	Scoresbysund	56.49	1	i P		P	16 35 04.7 -2.0
	comp=Z,19nm,1.3s						
VOG	Valley Oaks Go	56.57	73	P		P	16 35 09.2 +1.4
	baz=315						
AHID	Auburn Hatcher	56.64	62	eP		P	16 35 10.0 +1.5
	comp=Z,56nm,0.9s						
TIN	Tinemaha, Big	56.71	71	P		P	16 35 11.3 +2.4
	baz=315,SNR=8.1						
KLMR	Klimovskoe	56.73	330	eP		P	16 35 06.5 -2.0
KLMR				pmax		pmax	
	comp=Z,18nm,0.8s						
KK31	Karatay Array	56.73	299	eP		P	16 35 07.0 -1.9
	comp=Z,12nm,0.8s						
KK31	Karatay Array	56.73	299	eP		P	16 35 07.0 -1.9
KK31				pmax		pmax	
	comp=Z,12nm,0.8s						
KKAR	Karatay Array	56.73	299	eP		P	16 35 07.1 -1.8
	comp=Z,12nm,0.8s						
KKAR	Karatay Array	56.73	299	eP		P	16 35 07.1 -1.8
KKAR				pmax		pmax	
	comp=Z,12nm,0.8s						
BGU	Big Grassy Mou	56.89	65	eP		P	16 35 11.9 +1.7
	comp=Z,14nm,0.8s						
SMMC	Simmler	56.92	74	P		P	16 35 12.6 +2.2
	baz=316,SNR=5.1						
SPUT	South Promonto	56.94	64	eP		P	16 35 12.2 +1.7
	comp=Z,64nm,1.1s						
VES	Vestal, Richgr	57.08	73	P		P	16 35 12.7 +1.3
	baz=316,SNR=8.2						
HWUT	Hardware Ranch	57.20	63	eP		P	16 35 14.2 +1.7
	comp=Z,43nm,0.8s						
CWC	Cottonwood Cre	57.23	72	P		P	16 35 14.6 +1.9
	baz=315						
GRAC	Grapevine Rang	57.24	71	P		P	16 35 14.5 +1.9
	baz=315,SNR=28						
R11A	Troy Canyon, C	57.29	68	eP		P	16 35 14.5 +1.4
	comp=Z,21nm,0.8s						
R11A	Troy Canyon, C	57.29	68	P		P	16 35 14.7 +1.7
	baz=315,SNR=40						
PKM	Mcpherson Peak	57.33	74	P		P	16 35 15.5 +2.1
	baz=316,SNR=9.5						
BW06	Boulder Array	57.45	61	eP		P	16 35 15.8 +1.5
	comp=Z,66nm,0.8s						
BW06	Boulder Array	57.45	61	P		P	16 35 15.9 +1.7
	baz=315,SNR=84						
PD31	Pinedale Array	57.45	61	eP		P	16 35 15.8 +1.6
	comp=Z,61nm,0.8s						
PDAR	Pinedale Array	57.45	61	P		P	16 35 15.9 +1.6
	comp=Z,54nm,0.8s,baz=317,slow=2.6,SNR=350						
PDAR				LR		LR	17 01 12.3
	comp=Z,36nm,18.5s,baz=358,slow=37						
DUG	Dugway, Tooele	57.52	65	eP		P	16 35 16.6 +1.9
	comp=Z,48nm,1.0s						
DUG	Dugway, Tooele	57.52	65	P		P	16 35 16.7 +2.1
	baz=315,SNR=23						
ISA	Isabella, Lake	57.55	73	eP		P	16 35 15.3 +0.5
	comp=Z,32nm,1.0s						
ISA	Isabella, Lake	57.55	73	eP		P	16 35 15.3 +0.5
ISA				pmax		pmax	
	comp=Z,32nm,1.0s						
ISA	Isabella, Lake	57.55	73	P		P	16 35 15.9 +1.1
	baz=316,SNR=5.5						
AB31	Akbulak array	57.61	310	P		P	16 35 12.7 -2.2
AB31				pmax		pmax	
	comp=Z,8.0nm,0.9s						
ABKAR	Akbulak array	57.61	310	eP		P	16 35 13.0 -2.0
	comp=Z,10nm,0.9s						
DAC	Darwin (Calif)	57.62	72	eP		P	16 35 18.8 +3.4
	comp=Z,60nm,1.5s						
TCUT	Toone Canyon	57.63	63	eP		P	16 35 16.9 +1.4
	comp=Z,39nm,0.8s						
RABL	Rabaul	57.68	189	eP		P	16 35 15.2 -0.5
	comp=Z,105nm,0.7s						
SBC	Santa Barbara	57.71	74	P		P	16 35 16.5 +0.7
	baz=316						
ARVC	Arvin	57.73	73	P		P	16 35 17.1 +1.1
	baz=316						
CTU	Camp Tracy	57.74	64	eP		P	16 35 16.3 +0.1
	comp=Z,36nm,1.0s						
SFJD	Kangerlussuaq	57.80	14	eP		P	16 35 15.8 -0.1
	comp=Z,46nm,1.3s						
SFJD	Kangerlussuaq	57.80	14	i P		P	16 35 16.5 +0.5
SFJD				pmax		pmax	
	comp=Z,17nm,1.0s						
SFJD	Kangerlussuaq	57.80	14	i P		P	16 35 16.5 +0.5
	comp=Z,17nm,1.0s						
MPMC	Manual Prospec	57.83	72	P		P	16 35 18.8 +1.8
	baz=316,SNR=34						
FURC	Furnace Creek,	57.90	71	P		P	16 35 19.3 +2.1
	baz=316,SNR=44						
TPNV	Topopah Spring	57.90	70	eP		P	16 35 18.9 +1.6
	comp=Z,63nm,1.0s						
TPNV	Topopah Spring	57.90	70	eP		P	16 35 19.0 +1.6
TPNV				pmax		pmax	
	comp=Z,63nm,1.0s						
TPNV	Topopah Spring	57.90	70	P		P	16 35 19.3 +1.9
	baz=316,SNR=60						
CHTO	Chiang Mai	57.91	258	eP		P	16 35 16.4 -1.0
	comp=Z,23nm,0.8s						
CHTO	Chiang Mai	57.91	258	eP		P	16 35 17.5 +0.1
CHTO				pmax		pmax	
	comp=Z,23nm,0.9s						
JLU	Jordanelle	57.97	64	eP		P	16 35 19.4 +1.5
	comp=Z,58nm,1.5s						
DLV	T Lat	58.01	245	eP		P	16 35 18.8 +0.4
	comp=Z,15nm,0.9s						
SCZ2	Santa Cruz Isl	58.07	75	P		P	16 35 19.6 +1.2
	baz=316						
NLU	North Lily Min	58.09	65	eP		P	16 35 20.4 +1.7
	comp=Z,34nm,0.8s						
PSUT	Pine Spring	58.12	67	eP		P	16 35 20.6 +1.6
	comp=Z,34nm,1.1s						
LRMC	Laurel Mtn Rad	58.14	72	P		P	16 35 20.6 +1.6
	baz=316,SNR=24						
OSI	Osito Audit: C	58.16	74	eP		P	16 35 20.6 +1.6
	comp=Z,55nm,0.8s						
OSI	Osito Audit: C	58.16	74	P		P	16 35 20.8 +1.7
	baz=316						
CM31	Chiang Mai Arr	58.19	258	eP		P	16 35 19.4 0.0
	comp=Z,17nm,0.8s						
CM31				eScP		ScP	16 40 01.6 -2.5
CMAR	Chiang Mai Arr	58.19	258	P		P	16 35 19.6 +0.3
	comp=Z,12nm,0.8s,baz=25,slow=7.2,SNR=45						
CMAR				ScP		ScP	16 40 01.6 -2.5
	comp=Z,1.2nm,1.0s,baz=9.5,slow=4.7,SNR=3.4						
CMAR				LR		LR	17 02 25.5
	comp=Z,155nm,19.9s,baz=63,slow=38						
MPU	Maple Canyon	58.28	64	eP		P	16 35 21.7 +1.6
	comp=Z,39nm,0.9s						
BLG	Laguna Peak, P	58.32	74	P		P	16 35 21.5 +1.3
	baz=316						
EDW2	Edwards Air Fo	58.38	73	P		P	16 35 22.3 +1.7
	baz=316,SNR=23						
SHOC	Shoshone, Teco	58.64	71	P		P	16 35 24.2 +1.8
	baz=316,SNR=11						
DECC	Green Verdugo	58.64	74	P		P	16 35 24.0 +1.7
	baz=316						
SNCC	San Nicolas Is	58.67	75	P		P	16 35 24.9 +2.3
	baz=316						
ULM	Lac du Bonnet	58.70	47	eP		P	16 35 23.1 +0.6
	comp=Z,27nm,0.7s						
ULM	Lac du Bonnet	58.70	47	eP		P	16 35 23.1 +0.6
ULM				pmax		pmax	
	comp=Z,27nm,0.7s						
ULM	Lac du Bonnet	58.70	47	P		P	16 35 23.4 +0.9
	comp=Z,23nm,0.5s,baz=316,slow=7.0,SNR=35						
ULM				LR		LR	17 00 30.7
	comp=Z,100nm,21.6s,baz=283,slow=36						
ODAN	Odare	58.70	274	eP		P	16 35 22.1 -1.0
	comp=Z,20nm,0.6s						
GSC	Goldstone, Bar	58.76	72	eP		P	16 35 24.5 +1.2
	comp=Z,48nm,0.8s						
GSC	Goldstone, Bar	58.76	72	eP		P	16 35 24.5 +1.2
GSC				pmax		pmax	
	comp=Z,48nm,0.8s						
GSC	Goldstone, Bar	58.76	72	P		P	16 35 24.9 +1.6
	baz=316,SNR=28						
MDND	Maddock	58.77	51	eP		P	16 35 24.5 +1.5
	comp=Z,127nm,0.8s						
MDND	Maddock	58.77	51	P		P	16 35 25.0 +1.9
	baz=317,SNR=7.1						
PASC	Pasadena Art C	58.78	74	eP		P	16 35 24.0 +0.6
	comp=Z,36nm,0.8s						
MWC	Mount Wilson	58.82	74	eP		P	16 35 24.5 +0.7
	comp=Z,73nm,1.1s						
MWC	Mount Wilson	58.82	74	eP		P	16 35 24.5 +0.7
MWC				pmax		pmax	
	comp=Z,73nm,1.1s						
JIRN	Jiri	58.83	275	eP		P	16 35 22.8 -1.4
	comp=Z,26nm,0.7s						
SHPR	Sheep

MSU	Marysvale	59.06	66	eP	P	16 35 27.3	+1.8
CCUT	Cedar City	59.09	68	eP	P	16 35 27.6	+1.8
	comp=Z,28nm,0.9s						
RAMN	Ramite	59.10	274	eP	P	16 35 24.5	-1.5
	comp=Z,52nm,0.6s						
K22A	Casper	59.11	59	eP	P	16 35 26.6	+0.9
	comp=Z,42nm,0.9s						
K22A	Casper	59.11	59	P	P	16 35 27.0	+1.3
	baz=316,SNR=21						
P17A	Butcher Ranch,	59.15	64	eP	P	16 35 27.6	+1.5
	comp=Z,110nm,1.7s						
TUQ	Turquoise Moun	59.17	71	P	P	16 35 27.9	+1.8
	baz=316,SNR=23						
SZCU	Shurtz Canyon	59.21	67	eP	P	16 35 27.9	+1.3
	comp=Z,35nm,1.1s						
KKN	Kakani	59.27	276	eP	P	16 35 25.8	-1.3
	comp=Z,28nm,0.5s						
RSSD	Black Hills	59.32	56	eP	P	16 35 28.6	+1.4
	comp=Z,173nm,0.8s						
RSSD	Black Hills	59.32	56	eP	P	16 35 28.6	+1.4
RSSD	Black Hills	59.32	56	P	P	16 35 28.9	+1.7
	baz=316						
Q16A	Castle Valley	59.32	65	eP	P	16 35 29.1	+1.8
	comp=Z,35nm,0.9s						
PKI	Pulchoki	59.36	276	eP	P	16 35 26.2	-1.6
	comp=Z,31nm,0.7s						
PKIN	Phulchoki	59.36	276	eP	P	16 35 26.2	-1.6
	comp=Z,32nm,0.6s						
HEC	Hector,Ludlow	59.37	72	P	P	16 35 29.2	+1.7
	baz=316,SNR=9.4						
MTPU	Mount Pierson	59.39	66	eP	P	16 35 30.0	+2.1
	comp=Z,26nm,1.0s						
BBRC	Big Bear Solar	59.44	73	P	P	16 35 29.7	+1.5
	baz=317						
RWWY	Rawlins	59.44	60	eP	P	16 35 29.2	+1.1
	comp=Z,45nm,0.9s						
DMN	Daman	59.51	276	eP	P	16 35 27.6	-1.2
	comp=Z,34nm,0.6s						
SRU	San Rafael Swe	59.53	65	eP	P	16 35 30.4	+1.7
	comp=Z,82nm,0.8s						
LCMT	Little Creek M	59.54	68	eP	P	16 35 30.5	+1.8
	comp=Z,51nm,1.1s						
GAR	Garm	59.74	296	eP	P	16 35 28.4	-1.6
	comp=Z,33nm,0.8s						
GAR	Garm	59.74	296	eP	P	16 35 28.4	-1.6
GAR				pmax	pmax		
	comp=Z,33nm,0.8s						
PKCU	Pink Cliffs	59.75	67	eP	P	16 35 32.0	+1.6
	comp=Z,38nm,0.9s						
MURC	Murrieta	59.76	73	P	P	16 35 31.6	+1.5
	baz=317,SNR=9.9						
DANN	Dangsing	59.77	278	eP	P	16 35 29.3	-1.3
	comp=Z,28nm,0.6s						
KNB	Kanab	59.77	68	eP	P	16 35 31.9	+1.6
	comp=Z,39nm,0.9s						
KNB	Kanab	59.77	68	eP	P	16 35 32.0	+1.6
KNB				pmax	pmax		
	comp=Z,39nm,0.9s						
GMRC	Granite Mounta	59.79	71	P	P	16 35 32.2	+1.8
	baz=317,SNR=31						
LDFC	Landfair	59.89	71	eP	P	16 35 32.1	+1.0
	comp=Z,109nm,0.9s						
FIA1	FINESS Array S	59.89	336	eP	P	16 35 29.5	-1.0
	comp=Z,14nm,0.7s						
FIA0	FINESS Array S	59.89	336	eP	P	16 35 29.6	-0.9
FIA0				eScP	ScP	16 40 09.3	-1.7
FIA0	FINESS Array S	59.89	336	eP	P	16 35 29.7	-0.9
FINES	FINESS Array B	59.89	336	P	P	16 35 29.6	-0.9
	comp=Z,12nm,0.7s,baz=43,slow=8.6,SNR=44						
FINES				ScP	ScP	16 40 09.3	-1.7
	comp=Z,1.2nm,0.7s,baz=76,slow=5.9,SNR=3.3						
FINES				LR	LR	17 05 07.0	
	comp=Z,133nm,18.9s,baz=34,slow=40						
O20A	White River Ci	60.02	62	eP	P	16 35 33.3	+1.3
	comp=Z,51nm,0.8s						
O20A	White River Ci	60.02	62	P	P	16 35 33.6	+1.5
	baz=317,SNR=25						
AGMN	Agassiz Nation	60.14	48	eP	P	16 35 32.9	+0.4
	comp=Z,31nm,0.8s						
AGMN	Agassiz Nation	60.14	48	P	P	16 35 33.2	+0.7
	baz=318,SNR=14						
BELC	Belle Mtn. Jos	60.16	72	P	P	16 35 34.2	+1.2
	baz=317,SNR=17						
PFO	Pinyon Flats O	60.18	73	eP	P	16 35 34.3	+1.2
	comp=Z,16nm,0.8s						
PFO	Pinyon Flats O	60.18	73	eP	P	16 35 34.3	+1.2
PFO				pmax	pmax		
	comp=Z,16nm,0.8s						
PFO	Pinyon Flats O	60.18	73	P	P	16 35 34.5	+1.3
	baz=317						
KOLN	Koldanda	60.29	277	eP	P	16 35 32.5	-1.5
	comp=Z,26nm,0.6s						
109C	Camp Elliot, M	60.33	74	P	P	16 35 35.3	+1.4
	baz=317						
NEE2	Needles Airpor	60.39	71	P	P	16 35 35.7	+1.4
	baz=317						
PYUN	Piuthan	60.41	278	eP	P	16 35 33.4	-1.5
	comp=Z,30nm,0.7s						
U15A	North Rim	60.49	68	eP	P	16 35 37.0	+1.5
	comp=Z,29nm,1.1s						
IRM	Iron Mountain	60.53	72	P	P	16 35 37.2	+1.8
	baz=317,SNR=12						
W13A	Hualapai Mount	60.56	70	eP	P	16 35 37.3	+1.4
	comp=Z,25nm,0.9s						
CHGR	Chuyangaron	60.62	296	eP	P	16 35 35.9	-0.1
CHGR				ePcP	PcP	16 36 20.8	+1.1
PHWY	Pilot Hill	60.63	60	eP	P	16 35 37.0	+0.6
	comp=Z,74nm,0.8s						
N23A	Red Feather La	60.68	60	eP	P	16 35 38.0	+1.4
	comp=Z,67nm,0.8s						
N23A	Red Feather La	60.68	60	P	P	16 35 38.3	+1.7
	baz=317,SNR=54						
BC3	Big Chuckawall	60.72	72	P	P	16 35 38.1	+1.3
	baz=317,SNR=18						
MONP2	Monument Peak	60.72	73	P	P	16 35 38.3	+1.3
	baz=317,SNR=7.2						
PV09	Paradox Valley	60.72	64	eP	P	16 35 38.4	+1.4
BAR	Barrett	60.73	74	eP	P	16 35 38.2	+1.4
	comp=Z,27nm,1.0s						
PV21	Cone Mtn., Par	60.76	64	eP	P	16 35 38.9	+1.7
	comp=Z,43nm,0.8s						
PV23	Carpenter Ridg	60.82	64	eP	P	16 35 39.0	+1.4
	comp=Z,65nm,1.0s						
PV10	Paradox Valley	60.86	64	eP	P	16 35 39.7	+1.8
	comp=Z,86nm,0.9s						
PV14	Lion Creek, Pa	60.87	64	eP	P	16 35 39.0	+1.1
	comp=Z,93nm,1.3s						
PV22	Blue Mesa, Par	60.88	64	eP	P	16 35 39.2	+1.2
	comp=Z,46nm,0.8s						
PV04	Paradox Valley	60.92	64	eP	P	16 35 39.5	+1.3
	comp=Z,75nm,0.9s						
PV20	West Nyswonger	60.93	64	eP	P	16 35 39.6	+1.3
	comp=Z,56nm,0.9s						
PV19	Morning Glory	60.94	64	eP	P	16 35 39.8	+1.4
	comp=Z,62nm,1.0s						
PV17	East Wray Mesa	60.98	64	eP	P	16 35 40.0	+1.4
	comp=Z,108nm,0.8s						
PV16	Nyswonger Mesa	60.98	64	eP	P	16 35 40.1	+1.5
	comp=Z,64nm,0.9s						
PDMCI	Parker Dam,Lak	61.00	71	P	P	16 35 40.0	+1.5
	baz=317,SNR=21						
PV11	David Mesa, Pa	61.01	64	eP	P	16 35 40.3	+1.5
	comp=Z,75nm,0.8s						
PV18	Skein Mesa, Pa	61.03	64	eP	P	16 35 40.4	+1.4
	comp=Z,86nm,0.9s						
PV07	Paradox Valley	61.03	64	eP	P	16 35 40.3	+1.4
	comp=Z,48nm,1.0s						
PV12	Saucer Basin,	61.03	64	eP	P	16 35 40.4	+1.4
	comp=Z,44nm,0.8s						
SWSC	Sam W. Stewart	61.04	73	P	P	16 35 40.0	+1.2
	baz=317						
PV05	Paradox Valley	61.05	64	eP	P	16 35 40.5	+1.4
	comp=Z,120nm,0.7s						
PV03	Paradox Valley	61.05	64	eP	P	16 35 40.4	+1.3
	comp=Z,68nm,1.0s						
IKP	In-Ko-Pah, Jac	61.08	73	P	P	16 35 40.6	+1.4
	baz=317,SNR=5.9						
PV13	Radium Mtn., P	61.14	64	eP	P	16 35 41.1	+1.4
	comp=Z,87nm,0.9s						
PV02	Paradox Valley	61.15	64	eP	P	16 35 41.2	+1.4
	comp=Z,126nm,1.7s						
Y12C	Blythe	61.18	71	eP	P	16 35 41.4	+1.6
	comp=Z,122nm,1.5s						
Y12C	Blythe	61.18	71	P	P	16 35 41.5	+1.7
	baz=317,SNR=11						
PV01	Paradox Valley	61.29	64	eP	P	16 35 42.1	+1.4
	comp=Z,68nm,1.5s						
SMCO	Snowmass	61.38	62	eP	P	16 35 43.0	+1.5
	comp=Z,44nm,0.8s						
MOS	Moscow	61.44	327	eP	P	16 35 40.9	-0.3
MOS				e		16 36 09.1	
GLA	Glamis	61.52	72	eP	P	16 35 43.6	+1.5
	comp=Z,62nm,0.9s						
GLA	Glamis	61.52	72	eP	P	16 35 43.6	+1.5
GLA				pmax	pmax		
	comp=Z,62nm,0.9s						
GLA	Glamis	61.52	72	P	P	16 35 44.0	+1.8
	baz=318,SNR=9.5						
SUSD	Miller	61.57	53	P	P	16 35 42.9	+0.7
	baz=318						
ISCO	Idaho Springs	61.65	61	eP	P	16 35 44.9	+1.7
	comp=Z,61nm,0.9s						
ISCO	Idaho Springs	61.65	61	P	P	16 35 45.3	+2.0
	baz=318,SNR=52						
WUAZ	Wupatki	61.66	68	eP	P	16 35 44.8	+1.6
	comp=Z,75nm,1.3s						
WUAZ	Wupatki	61.66	68	P	P	16 35 45.3	+2.1
	baz=317,SNR=28						
Y14A	Wickenburg	61.91	70	eP	P	16 35 46.2	+1.4
	comp=Z,33nm,1.0s						
NIL	Nilore	62.00	289	eP	P	16 35 44.2	-1.1
	comp=Z,37nm,1.0s						
NIL	Nilore	62.00	289	eP	P	16 35 44.6	-0.7
NIL				pmax	pmax		
	comp=Z,37nm,1.0s						
MVCO	Mesa Verde	62.01	65	eP	P	16 35 46.9	+1.3
	comp=Z,37nm,0.8s						
MVCO	Mesa Verde	62.01	65	P	P	16 35 47.1	+1.6
	baz=318,SNR=26						
OBN	Obninsk	62.30	327	ceP	P	16 35 43.8	-3.1
OBN				e*PP	pP	16 36 01.3	-3.4
OBN				e		16 36 17.5	
OBN				e		16 38 02.3	
OBN				ePPP	PPP	16 39 32.5	
OBN				pmax	pmax		
	comp=Z,33nm,1.7s						
OBN				MLR	MLR		
	comp=Z,167nm,19.0s						
VSU	Vasula	62.33	334	ceP	P	16 35 45.8	-1.2
VSU				pmax	pmax		
	comp=Z,73nm,1.7s						
VSU	Vasula	62.33	334	eP	P	16 35 45.8	-1.2
VSU				IAmb	IAmb	16 36 03.8	
	comp=Z,57nm,0.9s						
EYMN	Ely	62.33	46	eP	P	16 35 47.5	+0.3
	comp=Z,36nm,0.8s						
EYMN	Ely	62.33	46	P	P	16 35 47.8	+0.5
	baz=320,SNR=10						
113A	Mohawk Valley,	62.33	72	eP	P	16 35 48.4	+0.9
	comp=Z,16nm,0.8s						
X16A	Lo Mia Camp, P	62.43	69	eP	P	16 35 50.3	+1.9
	comp=Z,26nm,0.8s						
Q24A	Divide	62.51	61	eP	P	16 35 50.4	+1.4
	comp=Z,25nm,0.9s						
Q24A	Divide	62.51	61	P	P	16 35 50.5	+1.5
	baz=318,SNR=13						
S22A	4UR Ranch, Cre	62.51	63	eP	P	16 35 50.8	+1.8
	comp=Z,51nm,1.0s						
S22A	4UR Ranch, Cre	62.51	63	P	P	16 35 51.0	+2.0
	baz=318,SNR=50						
OGNE	Ogallala	62.65	58	eP	P	16 35 50.7	+1.1
	comp=Z,108nm,1.1s						
OGNE	Ogallala	62.65	58	P	P	16 35 50.9	+1.3
	baz=318,SNR=12						
W18A	Petrified Fore	62.87	67	eP	P	16 35 53.1	+1.8
	comp=Z,32nm,0.9s						
W18A	Petrified Fore	62.87	67	P	P	16 35 53.2	+2.0
	baz=318,SNR=19						
NC303	NORSAR Array S	63.11	344	eP	P	16 35 51.4	-0.9
	comp=Z,72nm,1.8s						
NC405	NORSAR Array S	63.16	343	eP	P	16 35 51.8	-0.8
	comp=Z,160nm,2.0s						
NC204	NORSAR Array S	63.16	344	eP	P	16 35 52.0	-0.6
	comp=Z,32nm,1.0s						
X18A	Snowflake	63.18	68	eP	P	16 35 54.6	+1.2
	comp=Z,51nm,0.9s						
ECSD	EROS Data Cent	63.22	52	eP	P	16 35 53.5	+0.3
	comp=Z,46nm,0.8s						
ECSD	EROS Data Cent	63.22	52	P	P	16 35 53.9	+0.7
	baz=320,SNR=49						
SDCO	Great Sand Dun	63.22	62	eP	P	16 35 54.9	+1.1
	comp=Z,29nm,1.0s						
SDCO	Great Sand Dun	63.22	62	P	P	16 35 55.4	+1.7
	baz=318,SNR=45						
NB201	NORSAR Array S	63.29	344	eP	P	16 35 52.5	-1.0
	comp=Z,76nm,1.4s						
NB2	NORSAR Subarra	63.31	344	P	P	16 35 52.3	-1.3
	comp=Z,3.2nm,0.6s,baz=22,slow=6.9						
NB200	NORSAR Array S	63.31	344	eP	P	16 35 52.7	-0.9
NOA	NORSAR Array B	63.31	344	P	P	16 35 52.7	-0.9
	comp=Z,4.6nm,0.7s,baz=20,slow=6.7,SNR=29						
NOA				LR	LR	17 08 28.8	
	comp=Z,35nm,18.6s,baz=30,slow=41						
E38A	The Farm, Brul	63.33	47	eP	P	16 35 53.9	-0.1
	comp=Z,40nm,0.8s						
E38A	The Farm, Brul	63.33	47	P	P	16 35 54.1	+0.1
	baz=321,SNR=8.3						
C40A	Isle Royale Na	63.35	45	P	P	16 35 53.9	-0.2
	baz=322						
214A	Organ Pipe Nat	63.48	72	P	P	16 35 56.8	+1.6
	baz=318,SNR=9.0						
F37A	Hinrichs Farm,	63.54	48	P	P	16 35 55.6	+0.3
	baz=321						
LPSR	Galich'ya Gora	63.57	324	eP	P	16 35 54.2	-1.2
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
IVI	Ivigtut	63.64	15	eP	P	16 35 55.9	+0.2
	comp=Z,66nm,1.2s						
F38A	Pierce - Schro	63.69	48	P	P	16 35 57.2	+0.8
	baz=321,SNR=21						
KBL	Kabul	63.70	293	eP	P	16 35 54.3	-2.5
	comp=Z,20nm,0.8s						
KBL	Kabul	63.70	293	eP	P	16 35 54.9	-1.9
KBL				pmax	pmax		
	comp=Z,20nm,0.9s						
VRH	Novokhopyorsk	63.70	322	eP	P	16 35 53.9	-2.4
VRH				pmax	pmax		
	comp=Z,50nm,1.7s						
KSCO	Kaye Shedlock'	63.78	59	eP	P	16 35 57.9	+0.6
	comp=Z,51nm,1.0s						
KSCO	Kaye Shedlock'	63.78	59	P	P	16 35 58.3	+1.1
	baz=319,SNR=6.7						
SPMN	Marine on St.	63.84	49	eP	P	16 35 57.6	+0.3
	comp=Z,45nm,0.8s						
SPMN	Marine on St.	63.84	49	P	P	16 35 57.9	+0.5
	baz=321,SNR=5.9						
E39A	Mellen	63.95	47	P	P	16 35 58.3	+0.3
	baz=321,SNR=31						
SBUM	Sibu	64.11	235	eP	P	16 36 00.6	+1.2
	comp=Z,8.5nm,0.7s						
SBUM	Sibu	64.11	235	P	P	16 36 02.0	+2.6
F39A	Loretta	64.15	47	P	P	16 35 59.8	+0.5
	baz=321,SNR=21						
SLIT	Slitere, Latvi	64.17	336	eP	P	16 35 57.8	-1.5
SLIT				IAmb	IAmb	16 36 16.8	
	comp=Z,160nm,0.9s						
E40A	Wakefield	64.18	46	P	P	16 36 00.3	+0.8
	baz=322,SNR=78						
BGNE	Belgrade	64.24	55	eP	P	16 36 00.6	+0.6
	comp=Z,126nm,0.9s						
BGNE	Belgrade	64.24	55	P	P	16 36 00.8	+0.8
	baz=320,SNR=11						
T25A	Trinidad	64.25	62	eP	P	16 36 01.4	+1.0
	comp=Z,44nm,1.0s						
T25A	Trinidad	64.25	62	P	P	16 36 01.7	+1.3
	baz=319,SNR=27						
D41A	Chassel	64.27	45	eP	P	16 36 00.3	+0.2
	comp=Z,76nm,1.4s						
D41A	Chassel	64.27	45	P	P	16 36 00.4	+0.3
	baz=322,SNR=7.3						
G38A	Ridgeland	64.31	48	P	P	16 36 00.7	+0.3
	baz=321						
TUC	Tucson	64.36	70	eP	P	16 36 02.2	+1.2
	comp=Z,23nm,1.1s						
TUC	Tucson	64.36	70	eP	P	16 36 02.2	+1.2
TUC				pmax	pmax		
	comp=Z,23nm,1.1s						
TUC	Tucson	64.36	70	P	P	16 36 02.7	+1.6
	baz=319						
F40A	Park Falls	64.50	47	P	P	16 36 01.8	+0.2
	baz=322,SNR=14						
H38A	Maiden Rock	64.50	49	P	P	16 36 02.3	+0.6
	baz=321,SNR=7.7						
G39A	Holcombe	64.53	48	P	P	16 36 01.9	+0.1
	baz=321,SNR=9.2						
E41A	Kenton	64.57	46	P	P	16 36 02.3	+0.2
	baz=322,SNR=20						
VSR	Storozhevoye	64.63	323	eP	P	16 36 00.1	-2.2
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
COWI	Conover	64.78	46	eP	P	16 36 03.4	-0.1
	comp=Z,36nm,0.8s						
TASM	ASL Pad, Albuq	64.79	65	P	P	16 36 05.6	+1.7
	baz=319,SNR=30						
TASM	ASL Pad, Albuq	64.79	65	P	P	16 36 05.6	+1.7
	baz=319,SNR=30						
ANMO	Albuquerque	64.79	65	eP	P	16 36 04.7	+0.8
	comp=Z,27nm,0.9s						
ANMO	Albuquerque	64.79	65	ceP	P	16 36 05.3	+1.4
ANMO				pmax	pmax		
	comp=Z,31nm,1.0s						
ANMO	Albuquerque	64.79	65	P	P	16 36 05.9	+1.9
	baz=319						
LAZ	Ladron	64.83	66	eP	P	16 36 06.1	+1.9
H39A	Augusta	64.95	48	P	P	16 36 04.5	-0.1
	baz=322						
G40A	Rib Lake	64.97	47	eP	P	16 36 04.7	0.0
	comp=Z,20nm,0.9s						
G40A	Rib Lake	64.97	47	P	P	16 36 04.9	+0.1
	baz=322,SNR=10						
E42A	Champion	65.04	45	P	P	16 36 05.4	+0.2
	baz=322,SNR=9.8						
F41A	Three Lakes	65.08	46	eP	P	16 36 05.7	+0.3
	comp=Z,53nm,0.9s						
F41A	Three Lakes	65.08	46	P	P	16 36 05.9	+0.5
	baz=322,SNR=26						
IDID	Didziasalis	65.08	333	eP	P	16 36 03.6	-1.6
IDID				IAmb	IAmb	16 36 23.0	
	comp=Z,11nm,1.0s						
LENM	Lemitar	65.09	66	eP	P	16 36 07.4	+1.5
LPM	Los Pinos Moun	65.17	66	eP	P	16 36 07.9	+1.5
IIGN	Ignalina	65.19	333	eP	P	16 36 05.0	-0.9
IIGN				IAmb	IAmb	16 36 23.7	
	comp=Z,12nm,0.9s						
Y22D	IRIS PASSCAL I	65.19	66	P	P	16 36 08.8	+2.3
	baz=319						
BNM	Barren Site	65.29	66	eP	P	16 36 08.9	+1.6
H40A	Chili	65.39	48	P	P	16 36 07.7	+0.3
	baz=322,SNR=13						
CBKS	Cedar Bluff	65.41	58	eP	P	16 36 07.6	-0.1
	comp=Z,39nm,0.8s						
CBKS	Cedar Bluff	65.41	58	eP	P	16 36 07.6	-0.1
CBKS				pmax	pmax		
	comp=Z,39nm,0.8s						
CBKS	Cedar Bluff	65.41	58	P	P	16 36 07.9	+0.1
	baz=320,SNR=6.0						
SCHQ	Schefferville	65.47	28	eP	P	16 36 07.3	-0.5
	comp=Z,11nm,0.8s						
SCHQ	Schefferville	65.47	28	P	P	16 36 07.3	-0.5
	comp=Z,7.1nm,0.6s,baz=332,slow=9.7,SNR=4.7						
SCHQ				LR	LR	17 09 22.8	
	comp=Z,51nm,18.3s,baz=313,slow=40						
E43A	Lone Tree Farm	65.47	44	eP	P	16 36 07.5	-0.5
	comp=Z,13nm,0.8s						
E43A	Lone Tree Farm	65.47	44	P	P	16 36 07.8	-0.1
	baz=323						
I39A	Houston	65.48	49	eP	P	16 36 07.8	-0.3
	comp=Z,62nm,1.0s						
I39A	Houston	65.48	49	P	P	16 36 08.0	0.0
	baz=322,SNR=12						
PABE	Paberze	65.65	334	eP	P	16 36 07.3	-1.6
PABE				IAmb	IAmb	16 36 25.6	
	comp=Z,41nm,0.9s						
H41A	Junction City	65.72	47	eP	P	16 36 08.6	-1.0
	comp=Z,34nm,1.0s						
H41A	Junction City	65.72	47	P	P	16 36 09.3	-0.3
	baz=322,SNR=10						
E44A	Grand Marais A	65.73	44	eP	P	16 36 09.3	-0.2
	comp=Z,75nm,0.9s						
E44A	Grand Marais A	65.73	44	P	P	16 36 09.8	+0.3
	baz=323						
G42A	Mountain	65.76	46	eP	P	16 36 09.4	-0.4
	comp=Z,35nm,1.0s						
G42A	Mountain	65.76	46	P	P	16 36 10.0	+0.1
	baz=323,SNR=9.8						
J39A	Decorah	65.81	49	P	P	16 36 09.8	-0.3
	baz=322,SNR=10.0						
F43A	Flat Rock, Esc	65.83	45	P	P	16 36 10.4	+0.1
	baz=323,SNR=8.9						
I40A	Norwalk	65.86	48	P	P	16 36 10.6	+0.1
	baz=322,SNR=7.6						
121A	Cookes Peak, D	65.87	68	P	P	16 36 13.0	+2.0
	baz=319,SNR=8.4						
319A	Douglas	65.91	70	eP	P	16 36 12.5	+1.4
	comp=Z,67nm,0.9s						
KSM	Kuching	65.91	237	eP	P	16 36 12.1	+1.0
	comp=Z,45nm,0.8s						
KSM	Kuching	65.91	237	P	P	16 36 15.0	+3.9
F44A	Big Bay de Noc	66.03	44	P	P	16 36 11.5	0.0
	baz=323,SNR=5.8						
I41A	Arkdale	66.06	48	P	P	16 36 12.1	+0.3
	baz=322						
G43A	Wallace	66.07	46	eP	P	16 36 11.8	+0.1
	comp=Z,53nm,0.8s						
G43A	Wallace	66.07	46	P	P	16 36 12.1	+0.4
	baz=323,SNR=13						
J40A	Soldiers Grove	66.19	49	P	P	16 36 12.3	-0.3
	baz=322						
K39A	Oelwein	66.21	50	P	P	16 36 12.4	-0.4
	baz=322,SNR=11						
SCIA	State Center	66.22	51	eP	P	16 36 12.8	0.0
	comp=Z,249nm,0.6s						
SCIA	State Center	66.22	51	P	P	16 36 13.6	+0.8
	baz=322,SNR=17						
E45A	Wooded Hills,	66.25	43	P	P	16 36 12.4	-0.5
	baz=324						
D46A	Sault St. Mari	66.28	42	P	P	16 36 12.2	-0.9
	baz=324,SNR=7.8						
H42A	Shiocton	66.30	47	P	P	16 36 12.8	-0.4
	baz=323						
MATQ	Matagami	66.37	37	P	P	16 36 12.8	-0.8
	baz=327						
D47A	Chapleau	66.52	42	P	P	16 36 13.8	-0.8
	baz=325,SNR=10						
J41A	Loganville	66.55	48	P	P	16 36 14.8	-0.1
	baz=322,SNR=14						
K40A	Colesburg	66.56	50	P	P	16 36 14.9	0.0
	baz=322,SNR=18						
E46A	Sault St Mari	66.59	43	eP	P	16 36 14.3	-0.8
	comp=Z,22nm,0.8s						
E46A	Sault Ste Mari	66.59	43	P	P	16 36 14.5	-0.6
	baz=324,SNR=6.7						
L39A	Vinton	66.62	50	P	P	16 36 15.6	+0.2
	baz=322,SNR=25						
I42A	Draeger Farm,	66.62	47	eP	P	16 36 14.9	-0.4
	comp=Z,28nm,0.8s						
I42A	Draeger Farm,	66.62	47	P	P	16 36 15.4	+0.1
	baz=323,SNR=9.1						
F45A	CMU Biological	66.65	44	P	P	16 36 15.3	-0.2
	baz=324						
H43A	Windswept, Lux	66.66	46	eP	P	16 36 15.7	+0.1
	comp=Z,30nm,0.8s						
H43A	Windswept, Lux	66.66	46	P	P	16 36 15.6	+0.1
	baz=323,SNR=5.5						
HSIG		66.73	72	eP	P	16 36 17.0	+0.8
	comp=Z,30nm,1.1s						
KSU1	Kansas State U	66.76	55	P	P	16 36 15.9	-0.4
	baz=321						
JFWS	Jew

L40A	Anamosa	67.02	50	P	P	16 36 17.6	-0.3
	baz=322,SNR=19						
G45A	Suttons Bay	67.11	45	P	P	16 36 18.1	-0.3
	baz=324						
LSQQ	Lebel-sur-Quev	67.19	37	P	P	16 36 18.3	-0.5
	baz=327						
SUW	Suwalki	67.19	334	eP	pP	16 36 34.9	-1.8
G46A	Petoskey	67.21	44	P	P	16 36 19.1	0.0
	baz=324						
J43A	Natural Harves	67.24	47	P	P	16 36 19.0	-0.3
	baz=323						
SRIG	Santa Rosalia	67.28	75	eP	P	16 36 20.5	+0.8
	comp=Z,33nm,0.7s						
H45A	Beulah	67.28	45	P	P	16 36 19.3	-0.2
	baz=324						
K42A	Prairie Point,	67.31	48	P	P	16 36 19.5	-0.2
	baz=323,SNR=15						
E48A	Lockeyer	67.36	41	P	P	16 36 19.1	-0.9
	baz=325,SNR=7.7						
CHGQ	Chibougamau	67.38	35	P	P	16 36 19.2	-0.8
	baz=328,SNR=7.3						
AMTX	Amarillo	67.40	62	eP	P	16 36 21.0	+0.5
	comp=Z,89nm,1.5s						
AMTX	Amarillo	67.40	62	P	P	16 36 21.2	+0.7
	baz=320						
MSTX	Muleshoe	67.52	63	eP	P	16 36 21.9	+0.6
	comp=Z,70nm,1.0s						
MSTX	Muleshoe	67.52	63	P	P	16 36 22.0	+0.7
	baz=320,SNR=37						
U32A	Winter Ranch,	67.65	59	eP	P	16 36 21.7	-0.3
	comp=Z,37nm,0.8s						
I45A	Fountain	67.67	46	P	P	16 36 22.1	+0.2
	baz=324						
H46A	Fife Lake	67.70	45	P	P	16 36 22.0	-0.1
	baz=324						
GLMI	Grayling	67.72	44	P	P	16 36 21.9	-0.3
	baz=324						
F48A	Evansville	67.72	42	P	P	16 36 21.6	-0.7
	baz=325						
G47A	Hillman	67.75	43	P	P	16 36 21.9	-0.5
	baz=325						
L42A	Oliver, Polo	67.78	49	eP	P	16 36 22.1	-0.6
	comp=Z,56nm,0.7s						
L42A	Oliver, Polo	67.78	49	P	P	16 36 22.2	-0.4
	baz=323,SNR=18						
N40A	Mertquake, Sal	67.78	51	P	P	16 36 23.1	+0.4
	baz=322,SNR=25						
VLDQ	Val d'Or	67.81	38	eP	P	16 36 21.0	-1.7
	comp=Z,33nm,0.9s						
KULM	Kulim	67.81	248	eP	P	16 36 23.8	+0.6
	comp=Z,18nm,0.8s						
K43A	Burlington	67.82	48	eP	P	16 36 22.4	-0.6
	comp=Z,62nm,0.9s						
K43A	Burlington	67.82	48	P	P	16 36 22.6	-0.3
	baz=323,SNR=6.5						
MNTX	Cornudas Mount	67.83	67	eP	P	16 36 24.5	+1.3
	comp=Z,45nm,0.9s						
MNTX	Cornudas Mount	67.83	67	P	P	16 36 24.8	+1.6
	baz=320,SNR=58						
M41A	Milan	67.88	50	P	P	16 36 23.3	0.0
	baz=323,SNR=9.6						
D51A	Lot 18 Range I	67.95	39	P	P	16 36 22.4	-1.2
	baz=326						
BSSI	Bau Bau, Buton	67.97	223	P	P	16 36 24.7	+0.6
	comp=Z,35nm,1.1s						
E50A	Wahnapitae	67.97	41	P	P	16 36 22.9	-0.9
	baz=326						
F49A	Sandfield	68.00	42	P	P	16 36 23.0	-1.0
	baz=326,SNR=5.1						
L43A	Garden Prairie	68.05	48	P	P	16 36 24.0	-0.4
	baz=323,SNR=5.1						
H47A	Mio	68.07	44	P	P	16 36 24.2	-0.2
	baz=325						
I46A	Reed City	68.08	45	P	P	16 36 24.5	-0.1
	baz=324						
N41A	Harden Midland	68.26	51	eP	P	16 36 25.6	-0.1
	comp=Z,132nm,1.0s						
N41A	Harden Midland	68.26	51	P	P	16 36 25.9	+0.2
	baz=323,SNR=22						
IPM	Ipoh	68.27	247	eP	P	16 36 25.9	-0.3
	comp=Z,36nm,0.8s						
IPM	Ipoh	68.27	247	P	pP	16 36 44.0	-0.1
H48A	Harrisville	68.35	43	P	P	16 36 26.2	0.0
	baz=325						
E51A	G1948 Merrick	68.36	40	P	P	16 36 25.2	-1.1
	baz=327,SNR=7.9						
AKASG	Malin Array Be	68.39	329	P	P	16 36 24.8	-1.6
	comp=Z,1.6nm,0.3s,baz=29,slow=6.4,SNR=11						
AKASG				LR	LR	17 09 41.7	
	comp=Z,282nm,20.3s,baz=350,slow=39						
AKBB	Malin Array Si	68.39	329	eP	P	16 36 24.4	-2.0
	comp=Z,10nm,0.8s						
KIEV	Kiev	68.41	329	eP	P	16 36 24.3	-2.1
	comp=Z,9.8nm,0.8s						
KIEV	Kiev	68.41	329	⇑iP	P	16 36 25.1	-1.3
KIEV	Kiev	68.41	329	iP	P	16 36 24.8	-1.6
	SNR=6.2						
KIEV	Kiev	68.41	329	⇑iP	P	16 36 24.6	-1.8
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
D52A	ZEK Kipawa Sen	68.41	39	P	P	16 36 25.4	-1.1
	baz=327,SNR=9.0						
I47A	Gladwin	68.41	44	P	P	16 36 26.6	-0.1
	baz=325						
L44A	Lake County Fo	68.43	48	P	P	16 36 26.4	-0.4
	baz=324						
J46A	Howard City	68.47	46	P	P	16 36 27.1	+0.1
	baz=324,SNR=5.1						
GROC	Groznyy	68.54	314	eP	P	16 36 25.4	-2.0
GROC				eS	S	16 45 23.9	-0.3
GROC				e		16 45 40.8	
GROC				e		16 46 16.0	
GROC				pmax	pmax		
	comp=Z,15nm,0.6s						
M43A	Waltham Townsh	68.55	49	P	P	16 36 27.3	-0.2
	baz=323,SNR=6.6						
D53A	Lac Vacive, Po	68.59	38	eP	P	16 36 26.8	-0.8
	comp=Z,23nm,1.0s						
D53A	Lac Vacive, Po	68.59	38	P	P	16 36 27.0	-0.6
	baz=327,SNR=12						
I48A	Sherman Twp	68.61	44	P	P	16 36 27.8	-0.1
	baz=325						
TOBO	Tobermory, Bru	68.65	42	P	P	16 36 27.4	-0.7
	baz=326						
F51A	Arnstein	68.70	40	P	P	16 36 27.3	-1.1
	baz=326						
N43A	Stutzman Famil	68.85	49	P	P	16 36 29.3	-0.1
	baz=323,SNR=6.8						
E52A	Mattawa	68.89	39	P	P	16 36 28.4	-1.1
	baz=327						
D54A	Lac Fusel, La	68.91	38	P	P	16 36 29.0	-0.7
	baz=328,SNR=7.6						
J47A	Sunmer	68.92	45	eP	P	16 36 29.3	-0.5
	comp=Z,65nm,0.8s						
J47A	Sunmer	68.92	45	P	P	16 36 29.8	0.0
	baz=325						
K46A	Dorr	68.95	46	P	P	16 36 29.7	-0.3
	baz=324						
MYKOM	Kota Tinggi	68.98	243	eP	P	16 36 31.0	+0.5
	comp=Z,28nm,1.0s						
MYKOM	Kota Tinggi	68.98	243	P	pP	16 36 50.0	+1.5
M44A	Midewin, Midew	69.00	48	eP	P	16 36 29.9	-0.4
	comp=Z,43nm,0.8s						
M44A	Midewin, Midew	69.00	48	P	P	16 36 30.1	-0.2
	baz=324,SNR=6.5						
WMOK	Wichita Mounta	69.03	60	eP	P	16 36 31.4	+0.7
	comp=Z,61nm,0.9s						
WMOK	Wichita Mounta	69.03	60	eP	P	16 36 31.4	+0.7
WMOK				pmax	pmax		
	comp=Z,61nm,0.9s						
WMOK	Wichita Mounta	69.03	60	P	P	16 36 31.5	+0.9
	baz=321,SNR=49						
F52A	Sundridge	69.05	40	P	P	16 36 29.8	-0.8
	baz=327,SNR=7.3						
KLBO	Killbear Provi	69.06	41	P	P	16 36 29.8	-0.8
	baz=326						
HDIL	Hopedale	69.10	50	eP	P	16 36 30.7	-0.2
	comp=Z,84nm,0.9s						
HDIL	Hopedale	69.10	50	P	P	16 36 31.1	+0.1
	baz=323,SNR=6.6						
I49A	Point Hope	69.18	43	eP	P	16 36 31.3	-0.1
	comp=Z,36nm,0.8s						
I49A	Point Hope	69.18	43	P	P	16 36 31.2	-0.2
	baz=326						
E53A	Dumoine, Ponti	69.19	39	P	P	16 36 30.5	-0.9
	baz=328						
KIV	Kislovodsk	69.24	317	eP	P	16 36 31.1	-0.8
	comp=Z,12nm,0.8s						
KIV	Kislovodsk	69.24	317	⇑iP	P	16 36 32.3	+0.4
KIV	Kislovodsk	69.24	317	P	P	16 36 31.6	-0.3
KIV	Kislovodsk	69.24	317	eP	P	16 36 30.7	-1.2
KIV				pmax	pmax		
	comp=Z,39nm,0.9s						
KIV				MLR	MLR		
	comp=Z,382nm,17.0s						
BMRO	Meriville Lake	69.29	42	P	P	16 36 31.5	-0.6
	baz=326						
K47A	Vermontville	69.30	46	P	P	16 36 32.4	+0.2
	baz=325,SNR=15						
J48A	Bridge Port	69.31	44	P	P	16 36 34.7	+2.6
	baz=325						
BUKO	Buck Lake	69.31	40	P	P	16 36 31.3	-0.9
	baz=327						
E54A	Lac Daplat, Po	69.32	38	P	P	16 36 31.1	-1.1
	baz=328						
KBZ	Khabaz	69.34	316	P	P	16 36 31.8	-0.5
	comp=Z,17nm,0.9s,baz=49,slow=2.7,SNR=32						
KBZ				LR	LR	17 11 57.6	
	comp=Z,211nm,19.2s,baz=28,slow=40						
M45A	Boilermakers S	69.36	48	P	P	16 36 32.0	-0.5
	baz=324						
ALGO	Algonquin Park	69.40	39	P	P	16 36 31.6	-1.1
	baz=327						
N44A	Piper City	69.44	49	P	P	16 36 32.7	-0.3
	baz=324						
BRCO	Bruce Peninsul	69.49	42	P	P	16 36 32.7	-0.6
	baz=326						
J49A	Marlette	69.53	44	P	P	16 36 33.4	-0.1
	baz=326,SNR=5.6						
K48A	Perry	69.57	45	P	P	16 36 34.1	+0.3
	baz=325,SNR=14						
BASO	Ashfield	69.59	43	P	P	16 36 33.7	-0.2
	baz=326						
TUL1	Leonard	69.65	57	eP	P	16 36 34.3	-0.1
	comp=Z,46nm,0.9s						
TUL1	Leonard	69.65	57	P	P	16 36 34.8	+0.4
	baz=322,SNR=7.9						
N45A	Kentland	69.67	48	P	P	16 36 34.5	0.0
	baz=324						
ZEI	Tsey	69.69	315	eP	P	16 36 32.7	-2.1
ZEI				pmax	pmax		
	comp=Z,12nm,0.9s						
BWLO	Walkerton	69.72	42	P	P	16 36 34.3	-0.4
	baz=326						
P43A	Skaggs, Pawnee	69.73	50	P	P	16 36 35.0	+0.1
	baz=324,SNR=7.3						
M46A	Old House Fiel	69.74	47	eP	P	16 36 34.4	-0.5
	comp=Z,48nm,0.8s						
M46A	Old House Fiel	69.74	47	P	P	16 36 34.8	-0.1
	baz=324						
L47A	Sherwood	69.78	46	P	P	16 36 34.9	-0.2
	baz=325,SNR=8.3						
O44A	Mansfield	69.80	49	P	P	16 36 35.0	-0.3
	baz=324						
Q42A	Golden Eagle	69.84	52	P	P	16 36 36.2	+0.7
	baz=323,SNR=46						
K49A	Clarkson	69.87	45	P	P	16 36 36.2	+0.6
	baz=326,SNR=5.6						
G53A	Haliburton	69.88	40	P	P	16 36 34.9	-0.8
	baz=327,SNR=9.4						
PEMO	Pembroke	69.94	39	P	P	16 36 34.9	-1.1
	baz=328,SNR=5.8						
SADO	Sadowa	69.97	41	eP	P	16 36 34.9	-1.3
	comp=Z,34nm,0.9s						
N46A	Monticello	69.98	48	P	P	16 36 35.7	-0.7
	baz=324						
I51A	Listowel	70.03	42	P	P	16 36 36.4	-0.2
	baz=326,SNR=8.7						
O45A	Potomac	70.06	49	P	P	16 36 36.9	+0.1
	baz=324,SNR=7.2						
M47A	Cromwell	70.10	47	P	P	16 36 37.0	-0.1
	baz=325						
L48A	N Adams	70.14	46	P	P	16 36 37.4	+0.1
	baz=325,SNR=13						
F55A	Otter Lake	70.14	38	P	P	16 36 36.2	-1.1
	baz=328						
I52A	Shelburne	70.15	42	P	P	16 36 36.8	-0.6
	baz=327						
AAM	Ann Arbor	70.18	45	eP	P	16 36 37.8	+0.2
	comp=Z,54nm,0.9s						
AAM	Ann Arbor	70.18	45	P	P	16 36 37.6	+0.1
	baz=326						
CCM	Cathedral Cave	70.18	53	eP	P	16 36 37.3	-0.3
	comp=Z,45nm,1.0s						
CCM	Cathedral Cave	70.18	53	eP	P	16 36 37.7	+0.1
CCM				pmax	pmax		
	comp=Z,45nm,1.0s						
CCM	Cathedral Cave	70.18	53	P	P	16 36 37.7	+0.1
	baz=323						
SLM	Saint Louis	70.20	52	eP	P	16 36 37.8	+0.1
	comp=Z,100nm,0.8s						
SLM	Saint Louis	70.20	52	eP	P	16 36 37.8	+0.1
SLM				pmax	pmax		
	comp=Z,100nm,0.8s						
ABTX	Abilene, Hawle	70.22	62	eP	P	16 36 38.7	+0.7
	comp=Z,68nm,1.0s						
ABTX	Abilene, Hawle	70.22	62	P	P	16 36 38.9	+0.9
	baz=322,SNR=13						
K50A	Casco	70.22	44	P	P	16 36 37.5	-0.3
	baz=326						
BANO	Bancroft	70.23	40	P	P	16 36 37.2	-0.7
	baz=328						
SFIN	Lafayette	70.24	48	eP	P	16 36 37.4	-0.5
	comp=Z,24nm,0.8s						
SFIN	Lafayette	70.24	48	P	P	16 36 37.8	-0.2
	baz=324,SNR=8.6						
HHAR	Hobbs	70.28	56	eP	P	16 36 38.1	-0.2
	comp=Z,67nm,0.7s						
L49A	Milan	70.29	45	P	P	16 36 38.3	+0.1
	baz=326						
M48A	Edgerton	70.39	46	eP	P	16 36 38.9	+0.1
	comp=Z,58nm,0.8s						
M48A	Edgerton	70.39	46	P	P	16 36 38.8	-0.1
	baz=325						
MTN	Manton Dam	70.39	210	eP	P	16 36 39.5	+0.5
	comp=Z,44nm,1.0s						
N47A	Urbana	70.46	47	P	P	16 36 38.7	-0.6
	baz=325,SNR=9.9						
G55A	Calabogie	70.49	39	P	P	16 36 38.5	-0.9
	baz=329,SNR=6.6						
PLVO	Plevna	70.54	39	P	P	16 36 38.8	-0.9
	baz=328						
ACTO	Acton	70.58	42	P	P	16 36 39.5	-0.5
	baz=327						
TX31	Lajitas Ar. Si	70.59	67	eP	P	16 36 41.7	+1.3
	comp=Z,56nm,0.8s						
LTX	Lajitas	70.59	67	eP	P	16 36 42.1	+1.7
LTX	Lajitas	70.59	67	eP	P	16 36 42.1	+1.7
TXAR	Lajitas Array	70.59	67	P	P	16 36 42.1	+1.7
	comp=Z,44nm,0.6s,baz=299,slow=4.6,SNR=521						
FVM	French Village	70.63	52	eP	P	16 36 41.1	+0.8
	comp=Z,62nm,0.9s						
FVM	French Village	70.63	52	eP	P	16 36 41.2	+0.8
FVM				pmax	pmax		
	comp=Z,62nm,0.9s						
P45A	Graceland, Par	70.64	49	eP	P	16 36 40.2	-0.1
	comp=Z,25nm,1.0s						
P45A	Graceland, Par	70.64	49	P	P	16 36 40.3	-0.1
	baz=324,SNR=5.1						
PKRO	Pickering	70.67	41	P	P	16 36 40.0	-0.5
	baz=327						
J52A	Paris	70.72	42	P	P	16 36 40.4	-0.4
	baz=327						
M49A	Liberty Center	70.72	46	P	P	16 36 40.8	-0.1
	baz=326,SNR=7.7						
K51A	Iona Station	70.73	43	P	P	16 36 40.6	-0.3
	baz=326						
L50A	Kingsville	70.75	45	P	P	16 36 40.9	-0.1
	baz=326						
U40A	Yellville	70.75	55	P	P	16 36 41.1	-0.1
	baz=323,SNR=40						
N48A	Decatur	70.77	47	P	P	16 36 40.9	-0.2
	baz=325,SNR=25						
O47A	Sheridan	70.77	48	P	P	16 36 40.4	-0.8
	baz=325						
DELO	Deloro Mine	70.77	40	P	P	16 36 40.2	-0.9
	baz=328						
P46A	Rosedale	70.81	49	P	P	16 36 41.5	+0.1
	baz=324,SNR=13						
PSI	Prapat	70.82	248	eP	P	16 36 42.2	+0.2
	comp=Z,20nm,0.7s						
PSI	Prapat	70.82	248	eP	P	16 36 42.5	+0.6
PSI				pmax	pmax		
	comp=Z,20nm,0.7s						
ALFO	Alfred	70.85	37	P	P	16 36 40.8	-0.7
	baz=329						
DRWO	Darlington Wes	70.89	41	P	P	16 36 41.6	-0.2
	baz=328						
DRCO	St. Marys Ceme	70.89	41	P	P	16 36 41.6	-0.2
	baz=328						
H55A	Tweed	70.91	39	P	P	16 36 41.4	-0.6
	baz=328,SNR=9.2						
Q45A	Warren Harvey,	70.96	50	P	P	16 36 42.4	+0.1
	baz=324,SNR=12						
WLVO	Wesleyville	70.97	41	P	P	16 36 41.8	-0.5
	baz=328						
I55A	Frankford	71.00	40	P	P	16 36 41.6	-0.9
	baz=328						
K52A	Tillsonburg	71.00	43	P	P	16 36 42.2	-0.3
	baz=327						
PLIO	Pelee Island,	71.06	45	P	P	16 36 42.7	-0.3
	baz=326						
N49A	Columbus Grove	71.08	46	eP	P	16 36 42.9	-0.2
	comp=Z,36nm,0.8s						
N49A	Columbus Grove	71.08	46	P	P	16 36 42.8	-0.2
	baz=326,SNR=8.7						
TYNO	Tyneside	71.08	42	P	P	16 36 42.7	-0.3
	baz=327						
OLIL	Olney	71.11	50	eP	P	16 36 43.4	+0.1
	comp=Z,34nm,0.9s						
HYB	Hyderabad	71.16	274	iP	P	16 36 44.0	+0.1
M50A	Fremont	71.17	45	eP	P	16 36 43.2	-0.3
	comp=Z,40nm,0.9s						
M50A	Fremont	71.17	45	P	P	16 36 43.3	-0.3
	baz=326						
O48A	Farmland	71.20	47	P	P	16 36 43.4	-0.4
	baz=325,SNR=8.3						
W39A	Magazine	71.22	56	eP	P	16 36 43.9	-0.1
	comp=Z,25nm,0.8s						
W39A	Magazine	71.22	56	P	P	16 36 44.2	+0.2
	baz=323,SNR=14						
Q46A	CEJHS Indians,	71.22	49	P	P	16 36 44.0	0.0
	baz=325						
H56A	Elgin	71.23	39	P	P	16 36 42.9	-0.9
	baz=328,SNR=5.8						
STCO	Saint Catharin	71.27	42	P	P	16 36 43.8	-0.3
	baz=327						
KWP	Kalwaria Pacla	71.27	332	eP	P	16 36 40.1	-3.9
KWP	Kalwaria Pacla	71.27	332	eP	P	16 36 40.1	-3.9
HPIG		71.33	70	eP	P	16 36 45.8	+0.8
	comp=Z,18nm,0.6s						
P47A	Martinsville	71.33	48	P	P	16 36 44.4	-0.2
	baz=325,SNR=13						
SLBS	Sierra La Lagu	71.38	75	eP	P	16 36 46.7	+1.5
	comp=Z,28nm,1.1s						
R45A	Skylar, Fairfi	71.39	50	P	P	16 36 45.0	+0.1
	baz=324,SNR=8.1						
S44A	Carbondale	71.42	52	P	P	16 36 45.6	+0.5
	baz=324,SNR=17						
SIUC	Southern Illin	71.42	51	eP	P	16 36 45.2	+0.1
	comp=Z,90nm,0.7s						
J54A	Appleton	71.42	41	eP	P	16 36 44.9	-0.2
	comp=Z,40nm,0.9s						
J54A	Appleton	71.42	41	P	P	16 36 44.5	-0.6
	baz=328						
BLO	Bloomington	71.48	49	eP	P	16 36 45.3	-0.2
	comp=Z,29nm,0.8s						
BLO	Bloomington	71.48	49	eP	P	16 36 45.3	-0.2
BLO				pmax	pmax		
	comp=Z,29nm,0.8s						
GNI	Garni	71.49	313	eP	P	16 36 45.6	-0.2
	comp=Z,11nm,0.8s						
GNI	Garni	71.49	313	ceP	P	16 36 45.6	-0.2
GNI				pmax	pmax		
	comp=Z,157nm,1.7s						
GNI	Garni	71.49	313	P	P	16 36 46.7	+0.9
	SNR=5.0						
GNI				P	P	16 36 46.7	+0.9
	SNR=5.0						
PECO	Prince Edward	71.51	40	P	P	16 36 44.9	-0.7
	baz=328,SNR=5.3						
OJC	Ojcow	71.52	334	eP	P	16 36 45.8	+0.2
OJC	Ojcow	71.52	334	eP	P	16 36 45.4	-0.2
	comp=Z,11nm,0.8s						
OJC	Ojcow	71.52	334	eP	P	16 36 45.8	+0.2
MEDO	Medina	71.59	41	eP	P	16 36 45.6	-0.4
	comp=Z,43nm,1.0s						
MEDO	Medina	71.59	41	P	P	16 36 45.6	-0.4
	baz=328						
M51A	Elyria	71.60	45	P	P	16 36 45.9	-0.2
	baz=326						
O49A	Covington	71.62	47	eP	P	16 36 46.0	-0.3
	comp=Z,39nm,1.0s						
O49A	Covington	71.62	47	P	P	16 36 46.0	-0.3
	baz=326						
N50A	Nevada	71.65	46	P	P	16 36 46.7	+0.2
	baz=326,SNR=8.8						
Q47A	Bedord North L	71.71	49	P	P	16 36 46.9	0.0
	baz=325,SNR=11						
P48A	Milroy	71.73	48	P	P	16 36 46.8	-0.3
	baz=325,SNR=14						
J55A	Hilton	71.75	41	eP	P	16 36 46.3	-0.7
	comp=Z,29nm,0.9s						
J55A	Hilton	71.75	41	P	P	16 36 46.4	-0.6
	baz=328,SNR=5.5						
M52A	Chesterland	71.77	44	P	P	16 36 47.0	-0.2
	baz=327						
JCT	Junction City	71.80	63	eP	P	16 36 47.8	+0.1
	comp=Z,58nm,1.1s						
JCT	Junction City	71.80	63	eP	P	16 36 47.8	+0.1
JCT				pmax	pmax		
	comp=Z,58nm,1.1s						
JCT	Junction City	71.80	63	P	P	16 36 48.3	+0.7
	baz=322,SNR=18						
R46A	Gibon Southern	71.81	50	P	P	16 36 47.7	+0.2
	baz=325,SNR=5.7						
KSP	Ksiaz	71.81	337	eP	P	16 36 47.4	+0.1
KSP	Ksiaz	71.81	337	eP	P	16 36 47.4	+0.1
LONY	Lake Ozonia	71.83	38	eP	P	16 36 46.5	-1.0
	comp=Z,16nm,1.3s						
LONY	Lake Ozonia	71.83	38	P	P	16 36 46.6	-0.9
	baz=329						
MIAR	Mount Ida	71.83	56	eP	P	16 36 47.8	+0.1
	comp=Z,36nm,0.8s						
MIAR	Mount Ida	71.83	56	eP	P	16 36 47.8	+0.1
MIAR				pmax	pmax		
	comp=Z,36nm,0.8s						
MIAR	Mount Ida	71.83	56	P	P	16 36 48.2	+0.5
	baz=323,SNR=20						
ERPA	Erie	71.85	43	eP	P	16 36 47.2	-0.5
	comp=Z,48nm,0.9s						
ERPA	Erie	71.85	43	P	P	16 36 47.4	-0.3
	baz=327						
N51A	Ashland	71.86	45	P	P	16 36 47.7	-0.1
	baz=326,SNR=12						
WHTX	Lake Whitney,	71.86	61	eP	P	16 36 48.2	+0.2
	comp=Z,23nm,0.8s						
WHTX	Lake Whitney,	71.86	61	P	P	16 36 48.1	+0.2
	baz=322						
L53A	Girard	71.88	43	P	P	16 36 47.8	0.0
	baz=327,SNR=6.6						
WHAR	Wooly Hollow	71.88	55	eP	P	16 36 47.8	-0.2
	comp=Z,46nm,1.0s						
K54A	Basiliko Farm,	71.96	42	P	P	16 36 47.9	-0.4
	baz=328,SNR=6.3						
O50A	Cable	71.96	46	P	P	16 36 48.3	-0.1
	baz=326,SNR=9.1						
P49A	Miami Univ. Ec	71.99	47	P	P	16 36 48.3	-0.2
	baz=326,SNR=8.4						
W41B	Gary Mavity, V	71.99	55	eP	P	16 36 48.5	-0.1
	comp=Z,54nm,0.8s						
W41B	Gary Mavity, V	71.99	55	P	P	16 36 48.8	+0.2
	baz=323,SNR=41						
PARMO	Parma	72.01	52	eP	P	16 36 49.6	+1.0
	comp=Z,510nm,0.7s						
KOLS	Kolonicke sedl	72.02	332	eP	P	16 36 48.4	-0.2
KOLS				pmax	pmax		
	comp=Z,16nm,1.5s						
KOLS	Kolonicke sedl	72.02	332	eP	P	16 36 48.4	-0.2
L54A	Sinclairville	72.03	42	P	P	16 36 48.4	-0.3
	baz=328						
Q48A	North Vernon	72.03	48	P	P	16 36 48.5	-0.2
	baz=325						
MOQ	Mont Orford	72.07	36	eP	P	16 36 49.1	+0.1
K55A	Perry	72.11	41	P	P	16 36 48.8	-0.4
	baz=328,SNR=14						
NIE	Niedzica	72.12	334	eP	P	16 36 49.0	-0.2
NIE	Niedzica	72.12	334	eP

CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 72.12 339⇓*i*P **P** 16 36 48.6 -0.5
comp=Z,25nm,1.0s
CLL *i* pP **pP** 16 37 05.0 -2.3
comp=Z,23nm,0.9s
CLL *e*S **S** 16 46 06.0 +0.3
CLL *e* 16 56 54.0
CLL Lm MLR 17 07 00.0
comp=Z,200nm,21.7s
M53A WI Miller and 72.14 44 P **P** 16 36 49.6 +0.1
baz=327,SNR=8.0
S46A Don Dixon Farm 72.14 50 P **P** 16 36 49.7 +0.3
baz=325,SNR=5.2
ACSO Alum Creek Sta 72.17 46 *e*P **P** 16 36 49.5 -0.1
comp=Z,47nm,0.9s
ACSO Alum Creek Sta 72.17 46 P **P** 16 36 49.7 +0.1
baz=326,SNR=11
MMNY Mt. Morris Dam 72.17 41 *e*P **P** 16 36 49.0 -0.5
comp=Z,44nm,0.9s
ALLY Alegheny Colle 72.18 43 *e*P **P** 16 36 48.7 -0.9
comp=Z,58nm,1.2s
R47A Wooly Knot Far 72.19 49 P **P** 16 36 49.8 +0.1
baz=325,SNR=12
UPC Upice 72.19 337 *e*P **P** 16 36 49.7 +0.1
UPC *e* 16 37 06.8
UPC Upice 72.19 337 *e*P **P** 16 36 49.7 +0.1
UPC *e*pP **PcP** 16 37 06.8 -0.7
N52A McGinn's Farm, 72.24 45 P **P** 16 36 49.6 -0.4
baz=327
T45A Paducah 72.25 52 *e*P **P** 16 36 50.8 +0.7
comp=Z,226nm,0.6s
T45A Paducah 72.25 52 P **P** 16 36 50.4 +0.4
baz=324
X40A Basin Creek Fa 72.25 56 *e*P **P** 16 36 50.5 +0.3
comp=Z,34nm,1.1s
X40A Basin Creek Fa 72.25 56 P **P** 16 36 50.2 0.0
baz=323,SNR=12
DPC Dobruska-Polom 72.27 337 *e*P **P** 16 36 50.3 +0.2
DPC *e* 16 37 07.4
DPC Dobruska-Polom 72.27 337 *e*P **P** 16 36 50.3 +0.2
DPC *e*pP **PcP** 16 37 07.4 -0.5
UZH Uzhgorod 72.29 332 *e*P **P** 16 36 50.9 +0.7
UZH *e* 16 37 10.0
BRG Berggiesshubel 72.33 338 *e*P **P** 16 36 49.8 -0.6
BRG *e* 16 37 06.8
comp=Z,6.9nm,0.9s
BRG Berggiesshubel 72.33 338 *e*P **P** 16 36 49.8 -0.6
BRG *e* 16 37 06.8
BRG pmax pmax
comp=Z,4.0nm,1.0s
P50A Jamestown 72.33 47 P **P** 16 36 50.5 -0.1
baz=326,SNR=7.5
BUR08 Bucovina Ar. S 72.33 330 *e*P **P** 16 36 49.4 -1.2
comp=Z,10nm,0.8s
Q49A Aurora 72.34 48 P **P** 16 36 50.4 -0.3
baz=326
WCI Wyandotte Cave 72.35 49 *e*P **P** 16 36 50.9 +0.2
comp=Z,63nm,0.8s
WCI Wyandotte Cave 72.35 49 *e*P **P** 16 36 51.1 +0.4
WCI pmax pmax
comp=Z,63nm,0.8s
WCI Wyandotte Cave 72.35 49 P **P** 16 36 50.9 +0.2
baz=325
BURAR Bucovina Array 72.35 330⇑*i*P **P** 16 36 50.2 -0.5
R48A Northridge Ran 72.40 49 P **P** 16 36 51.3 +0.3
baz=325,SNR=6.0
L55A Hinsdale 72.42 42 P **P** 16 36 50.8 -0.4
baz=328,SNR=5.3
M54A Oil Creek Stat 72.50 43 *e*P **P** 16 36 51.2 -0.3
comp=Z,32nm,0.9s
M54A Oil Creek Stat 72.50 43 P **P** 16 36 51.4 -0.2
baz=328,SNR=9.3
MORC Moravsky Berou 72.50 336 *e*P **P** 16 36 50.9 -0.6
comp=Z,9.3nm,0.9s
MORC Moravsky Berou 72.50 336⇓*i*P **P** 16 36 52.5 +1.0
MORC Moravsky Berou 72.50 336 *e*P **P** 16 36 50.9 -0.6
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 72.50 336 *e*P **P** 16 36 51.6 +0.1
NCB Newcomb 72.52 38 *e*P **P** 16 36 50.9 -0.7
comp=Z,12nm,1.0s
T46A Princeton 72.58 51 P **P** 16 36 52.9 +0.8
baz=325,SNR=24
LANS Liptovska Anna 72.58 334 *e*P **P** 16 36 52.9 +0.9
LANS *e* 16 37 09.7
LANS Liptovska Anna 72.58 334 *e*P **P** 16 36 52.9 +0.9
LANS *e*PCP **pP** 16 37 09.7 -0.4
N53A Lisbon 72.60 44 *e*P **P** 16 36 51.8 -0.3
comp=Z,38nm,1.0s
N53A Lisbon 72.60 44 P **P** 16 36 52.1 -0.1
baz=327,SNR=6.9
S47A Hartford 72.60 50 P **P** 16 36 52.3 +0.1
baz=325,SNR=8.0
TRPA Tarpa 72.67 332⇑*i*P **P** 16 36 52.6 +0.1
TRPA Tarpa 72.67 332⇓*e*P **P** 16 36 51.1 -1.4
BIZ Bicaz 72.69 329⇑*i*P **P** 16 36 52.1 -0.5
VT1 Waterbury 72.74 37 *e*P **P** 16 36 52.9 -0.1
comp=Z,12nm,0.9s
435B Jarrell 72.75 62 P **P** 16 36 53.7 +0.5
baz=322
O52A Adamsville 72.75 45 *e*P **P** 16 36 52.8 -0.3
comp=Z,81nm,0.8s
O52A Adamsville 72.75 45 P **P** 16 36 53.0 -0.1
baz=327,SNR=14
P51A Williamsport 72.75 46 *e*P **P** 16 36 52.7 -0.4
comp=Z,26nm,0.8s
P51A Williamsport 72.75 46 P **P** 16 36 52.7 -0.4
baz=326
R49A Shelbyville 72.80 48 P **P** 16 36 53.9 +0.5
baz=326,SNR=9.2
GSI Gunungsitoli 72.81 248 *e*P **P** 16 36 54.0 +0.3
comp=Z,44nm,0.7s
GSI Gunungsitoli 72.81 248 P **P** 16 36 54.7 +1.0
comp=Z,64nm,0.8s
N54A Moraine State 72.82 43 *e*P **P** 16 36 53.3 -0.1
comp=Z,29nm,0.9s
N54A Moraine State 72.82 43 P **P** 16 36 53.4 -0.1
baz=327,SNR=5.5
Q50A Georgetown 72.88 47 P **P** 16 36 54.1 +0.2
baz=326,SNR=14
M55A Ridgway 72.89 42 P **P** 16 36 53.9 0.0
baz=328,SNR=14
TESR Tescani 72.90 328⇑*i*P **P** 16 36 53.7 -0.1
O53A New Philadelph 72.91 45 P **P** 16 36 53.8 -0.2
baz=327,SNR=10
S48A Wiedeman Farm, 72.92 49 P **P** 16 36 54.4 +0.3
baz=325,SNR=16
T47A Sharon Grove 72.99 50 *e*P **P** 16 36 55.1 +0.6
comp=Z,80nm,0.8s
T47A Sharon Grove 72.99 50 P **P** 16 36 55.2 +0.6
baz=325,SNR=19
U46A Springville 73.00 52 P **P** 16 36 55.1 +0.5
baz=325
Q51A Peebles 73.01 47 *e*P **P** 16 36 54.1 -0.5
comp=Z,43nm,0.8s
Q51A Peebles 73.01 47 P **P** 16 36 54.8 +0.2
baz=326,SNR=10
PRU Pruhonice 73.02 338 *e*P **P** 16 36 54.8 +0.3
PRU *e* 16 37 11.4
PRU Pruhonice 73.02 338 *e*P **P** 16 36 54.8 +0.3
PRU *e*pP **PcP** 16 37 11.4 +0.4
P52A Corning 73.03 46 P **P** 16 36 54.4 -0.3
baz=327,SNR=9.8
GOPC GO Pecny, Ondr 73.03 337 *e*P **P** 16 36 54.5 -0.1
GOPC *e* 16 37 10.5
GOPC GO Pecny, Ondr 73.03 337 *e*P **P** 16 36 54.5 -0.1
GOPC *e*x x 16 37 10.5
LBNH Lisbon 73.11 36 *e*P **P** 16 36 55.1 -0.1
comp=Z,26nm,1.1s
LBNH Lisbon 73.11 36 *e*P **P** 16 36 55.1 -0.1
LBNH pmax pmax
comp=Z,26nm,1.1s
LBNH Lisbon 73.11 36 P **P** 16 36 55.5 +0.3
baz=331,SNR=5.4
M56A Emporium 73.11 42 P **P** 16 36 54.8 -0.4
baz=328,SNR=7.3
PKME Peaks-Kenny Pk 73.13 34 P **P** 16 36 55.2 0.0
baz=332
S49A Springfield 73.17 49 P **P** 16 36 56.0 +0.5
baz=326,SNR=12
VRAC Vranov 73.17 336⇑*i*P **P** 16 36 55.9 +0.5
VRAC Vranov 73.17 336 *e*P **P** 16 36 55.8 +0.4
R50A Paris 73.19 48 P **P** 16 36 56.0 +0.3
baz=326,SNR=16

X43A Marvell 73.19 55 P **P** 16 36 56.1 +0.4
baz=324
T48A Bowling Green 73.22 50 P **P** 16 36 56.1 +0.2
baz=325,SNR=8.1
ACCN Adirondack Com 73.23 38 *e*P **P** 16 36 55.4 -0.5
comp=Z,23nm,1.0s
Z41A Richland Creek 73.25 57 P **P** 16 36 56.6 +0.5
baz=324
NKC Novy Kostel 73.26 339 *e*P **P** 16 36 56.3 +0.4
NKC *e* 16 37 13.0
NKC Novy Kostel 73.26 339 *e*P **P** 16 36 56.3 +0.4
NKC *e*pP **PcP** 16 37 13.0 +0.9
O54A Avella 73.31 44 P **P** 16 36 56.6 +0.2
baz=327,SNR=8.2
JAVC Velka Javorina 73.32 335 *e*P **P** 16 36 57.6 +1.3
U47A Clarksville 73.35 51 P **P** 16 36 57.2 +0.6
baz=325,SNR=12
WVT Waverly 73.35 52 *e*P **P** 16 36 57.1 +0.5
comp=Z,56nm,0.7s
WVT Waverly 73.35 52 *e*P **P** 16 36 57.2 +0.5
WVT pmax pmax
comp=Z,56nm,0.7s
WVT Waverly 73.35 52 P **P** 16 36 57.3 +0.7
baz=325
VYHS Vyhne 73.35 334 *e*P **P** 16 36 56.8 +0.3
VYHS *e* 16 37 13.7
VYHS pmax pmax
comp=Z,39nm,2.8s
VYHS Vyhne 73.35 334 *e*P **P** 16 36 56.8 +0.3
VYHS *e*pP **pP** 16 37 13.7 -1.0
BINY Binghamton 73.37 40 P **P** 16 36 56.1 -0.6
baz=329
N55A Marion Center 73.38 43 *e*P **P** 16 36 56.6 -0.2
comp=Z,49nm,1.1s
N55A Marion Center 73.38 43 P **P** 16 36 56.7 -0.2
baz=328,SNR=16
KRUC Moravsky 73.44 336 *e*P **P** 16 36 57.6 +0.6
P53A Whipple 73.47 45 *e*P **P** 16 36 57.1 -0.2
comp=Z,34nm,0.9s
P53A Whipple 73.47 45 P **P** 16 36 57.2 -0.1
baz=327,SNR=8.7
V46A Holladay 73.48 52 P **P** 16 36 57.8 +0.4
baz=325,SNR=26
NATX Nacogdoches 73.50 59 *e*P **P** 16 36 58.5 +0.9
comp=Z,55nm,0.6s
NATX Nacogdoches 73.50 59 P **P** 16 36 58.4 +0.8
baz=323
R51A Hillsboro 73.50 47 P **P** 16 36 58.1 +0.5
baz=326,SNR=17
Q52A Bidwell 73.53 46 P **P** 16 36 57.6 -0.1
baz=327,SNR=11
N56A West Decatur 73.55 42 P **P** 16 36 57.7 -0.1
baz=328,SNR=5.9
CFR Carcaliu 73.60 327⇓*i*P **P** 16 36 57.8 -0.2
PSZ Piszkesteto 73.60 333 *e*P **P** 16 36 57.8 -0.3
comp=Z,8.4nm,1.0s
PSZ Piszkesteto 73.60 333 *e*P **P** 16 36 57.8 -0.3
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 73.60 333⇓*e*P **P** 16 36 56.0 -2.0
T49A Edmonton 73.61 49 *e*P **P** 16 36 58.5 +0.3
comp=Z,30nm,0.8s
T49A Edmonton 73.61 49 P **P** 16 36 58.5 +0.3
baz=326,SNR=14
WVL Waterville 73.62 35 *e*P **P** 16 36 58.2 +0.1
comp=Z,17nm,0.9s
U48A Cassie Pea, Po 73.64 50 P **P** 16 36 58.8 +0.4
baz=325,SNR=15
S50A Richmond 73.65 48 P **P** 16 36 58.7 +0.3
baz=326,SNR=9.0
833A Chaparral WMA, 73.71 65 *e*P **P** 16 36 59.7 +0.8
comp=Z,31nm,0.9s
833A Chaparral WMA, 73.71 65 P **P** 16 37 00.2 +1.3
baz=322,SNR=5.4
O55A Ligonier 73.74 43 P **P** 16 36 58.6 -0.3
baz=328,SNR=11
V47A Nunnelly 73.74 51 P **P** 16 36 59.4 +0.5
baz=325,SNR=15
P54A Burton 73.76 44 P **P** 16 36 59.2 +0.1
baz=327,SNR=26
DOPR Dopca 73.78 329⇓*i*P **P** 16 36 59.0 0.0
DRGR 73.84 331⇓*i*P **P** 16 36 59.5 0.0
MODS Modra-Piesok 73.86 335 *e*P **P** 16 36 59.3 -0.2
MODS *e* 16 37 16.6
MODS pmax pmax
comp=Z,7.0nm,1.1s
MODS Modra-Piesok 73.86 335 *e*P **P** 16 36 59.3 -0.2
MODS *e*PCP **pP** 16 37 16.6 -1.1
R52A Catlettsburg 73.89 47 P **P** 16 36 60.0 +0.2
baz=327,SNR=12
W46A Michie 73.90 52 P **P** 16 36 59.8 -0.1
baz=325
OXF Oxford 73.91 54 *e*P **P** 16 37 00.3 +0.3
comp=Z,66nm,0.8s
OXF Oxford 73.91 54 *e*P **P** 16 37 00.3 +0.3
OXF pmax pmax
comp=Z,66nm,0.8s
OXF Oxford 73.91 54 P **P** 16 37 00.3 +0.3
baz=325
Q53A Leroy 73.93 46 P **P** 16 37 00.3 +0.2
baz=327,SNR=38
SSPA Standing Stone 73.95 42 *e*P **P** 16 36 59.7 -0.4
comp=Z,31nm,1.0s
SSPA Standing Stone 73.95 42 P **P** 16 36 60.0 -0.1
baz=328
MCWV Mont Chateau 73.97 44 *e*P **P** 16 37 00.3 0.0
comp=Z,27nm,0.8s
MCWV Mont Chateau 73.97 44 P **P** 16 37 00.5 +0.2
baz=328,SNR=11
N57A Milroy 73.98 42 P **P** 16 37 00.1 -0.2
baz=329,SNR=22
O56A Blue Knob Stat 73.99 43 *e*P **P** 16 37 00.2 -0.2
comp=Z,39nm,0.9s
O56A Blue Knob Stat 73.99 43 P **P** 16 37 00.3 -0.2
baz=328,SNR=14
U49A Red Boiling Sp 73.99 50 P **P** 16 37 00.6 +0.2
baz=326,SNR=15
T50A Nancy 74.00 49 P **P** 16 37 00.6 +0.2
baz=326,SNR=13
HGN Heimansgroeve 74.02 343 *e*P **P** 16 37 00.7 +0.4
comp=Z,51nm,1.2s
HGN *e*P **P** 16 37 03.9 +3.6
comp=Z,7.5nm,0.0s
GRA1 Grafenberg Arr 74.03 340 *e*P **P** 16 37 00.8 +0.4
comp=Z,22nm,0.9s
GRFO Grafenberg 74.03 340 *e*P **P** 16 37 00.9 +0.5
comp=Z,20nm,0.9s
GRFO Grafenberg 74.03 340 *e*P **P** 16 37 01.4 +1.0
GRFO pmax pmax
comp=Z,21nm,0.9s
MLR Muntele Rosu 74.03 328 *e*P **P** 16 37 00.7 0.0
comp=Z,9.9nm,0.6s
MLR Muntele Rosu 74.03 328⇑*i*P **P** 16 37 00.9 +0.2
KHC Kasperske Hory 74.04 338 *e*P **P** 16 37 00.7 +0.1
comp=Z,4.9nm,1.0s
KHC Kasperske Hory 74.04 338 *e*P **P** 16 37 01.0 +0.4
KHC *e* 16 37 17.8
KHC *e* 16 37 26.1
KHC Kasperske Hory 74.04 338 *e*P **P** 16 37 01.0 +0.4
KHC *e*pP **pP** 16 37 17.8 -1.0
KHC *e*sP **sP** 16 37 26.1 -0.1
S51A Beattyville 74.05 48 *e*P **P** 16 37 00.5 -0.2
comp=Z,17nm,0.8s
S51A Beattyville 74.05 48 P **P** 16 37 00.8 +0.1
baz=326,SNR=6.1
LMN Caledonia Moun 74.05 31 *e*P **P** 16 37 00.7 +0.1
comp=Z,15nm,0.7s
GGN Saint George 74.06 32 *e*P **P** 16 37 00.7 0.0
comp=Z,12nm,0.6s
CLTN Cedars of Leba 74.08 50 *e*P **P** 16 37 01.3 +0.4
comp=Z,39nm,0.7s
P55A Reedsville 74.11 44 P **P** 16 37 01.5 +0.4
baz=328,SNR=23
Q54A Coxs Mills 74.12 45 *e*P **P** 16 37 01.2 0.0
comp=Z,56nm,1.3s
Q54A Coxs Mills 74.12 45 P **P** 16 37 01.3 +0.1
baz=327,SNR=14
DIKM Dikmen 74.14 320⇓*i*P **P** 16 37 00.7 -0.5
V48A Smith Brothers 74.14 51 *e*P **P** 16 37 01.4 +0.1
comp=Z,60nm,0.8s
V48A Smith Brothers 74.14 51 P **P** 16 37 01.7 +0.4
baz=325,SNR=20
MEM Membach 74.15 343 ⇓P **P** 16 37 01.3 +0.2
comp=Z,40nm,1.0s
MEM ⇑pP **pP** 16 37 18.2 -1.1
PLAL Pickwick Lake 74.17 52 *e*P **P** 16 37 01.5 +0.1
comp=Z,54nm,0.8s

W47A Westpoint 74.17 52 P **P** 16 37 01.9 +0.4
baz=325,SNR=12
R53A Hurricane 74.19 46 *e*P **P** 16 37 01.6 0.0
comp=Z,58nm,0.8s
R53A Hurricane 74.19 46 P **P** 16 37 01.9 +0.3
baz=327,SNR=11
S52A Salyersville 74.24 47 P **P** 16 37 02.1 +0.2
baz=327
X46A Booneville 74.27 53 P **P** 16 37 02.4 +0.3
baz=325
GEC2 GERESS Array S 74.28 338 *e*P **P** 16 37 01.4 -0.6
comp=Z,8.4nm,1.1s
GEC2 GERESS Array S 74.28 338 *e*P **P** 16 37 01.4 -0.6
GEC2 pmax pmax
comp=Z,8.0nm,1.1s
GERES GERESS Array B 74.28 338 P **P** 16 37 02.2 +0.1
comp=Z,2.9nm,0.8s,baz=35,slow=4.9,SNR=26
GERES LR LR 17 16 36.7
comp=Z,88nm,18.6s,baz=32,slow=41
HKT Hockley 74.33 61 *e*P **P** 16 37 03.1 +0.7
comp=Z,40nm,1.5s
HKT Hockley 74.33 61 *e*P **P** 16 37 03.1 +0.7
HKT pmax pmax
comp=Z,40nm,1.5s
VOIR 74.36 329⇑*i*P **P** 16 37 02.7 +0.2
O57A Amberson 74.41 42 P **P** 16 37 02.9 +0.1
baz=329,SNR=23
Q55A Buckhannon 74.43 45 P **P** 16 37 03.3 +0.2
baz=328,SNR=12
T51A Gray 74.45 48 P **P** 16 37 03.2 +0.1
baz=326
BCLA Clavier 74.46 344 ⇓P **P** 16 37 02.9 +0.1
BCLA ⇑pP **pP** 16 37 19.9 -1.2
U50A Jamestown 74.50 49 P **P** 16 37 03.7 +0.3
baz=326,SNR=14
V49A McMinnville 74.54 50 P **P** 16 37 03.8 +0.2
baz=326,SNR=11
ARR Arges 74.55 329⇑*i*P **P** 16 37 04.1 +0.5
N59A State Game Lan 74.55 41 *e*P **P** 16 37 03.2 -0.4
comp=Z,15nm,0.9s
N59A State Game Lan 74.55 41 P **P** 16 37 03.2 -0.4
baz=329,SNR=6.7
W48A Pulaski 74.58 51 P **P** 16 37 04.3 +0.4
baz=325,SNR=49
CONA Conrad Observa 74.63 336 *e*P **P** 16 37 05.0 +1.0
comp=Z,5.8nm,0.9s,SNR=5.3
X47A Russelville 74.65 52 P **P** 16 37 04.1 -0.1
baz=325,SNR=10
S53A Williamson 74.66 47 P **P** 16 37 04.4 0.0
baz=327
R54A Victor 74.73 46 P **P** 16 37 04.9 +0.2
baz=327,SNR=17
HRV Adam Dziewonsk 74.76 37 *e*P **P** 16 37 04.9 +0.1
comp=Z,16nm,0.9s
HRV Adam Dziewonsk 74.76 37 *e*P **P** 16 37 04.9 +0.1
HRV pmax pmax
comp=Z,16nm,0.9s
HRV Adam Dziewonsk 74.76 37 P **P** 16 37 04.8 +0.1
baz=331
T52A Hallie 74.76 48 *e*P **P** 16 37 04.9 0.0
comp=Z,55nm,0.9s
T52A Hallie 74.76 48 P **P** 16 37 05.4 +0.5
baz=327,SNR=15
PAGS Pennsylvania G 74.76 42 *e*P **P** 16 37 04.1 -0.7
comp=Z,27nm,1.0s
DOU Dourbes 74.89 344 ⇑P **P** 16 37 05.6 +0.2
comp=Z,12nm,1.1s
DOU ⇑pP **pP** 16 37 21.6 -2.0
U51A La Follette 74.90 49 P **P** 16 37 05.8 0.0
baz=326,SNR=9.4
O59A Robesonia 74.91 41 P **P** 16 37 05.3 -0.4
baz=329,SNR=6.2
W49A Belvidere 74.91 51 P **P** 16 37 05.9 +0.2
baz=326,SNR=15
S54A Dingess, Beckl 74.91 46 P **P** 16 37 05.9 +0.1
baz=327
WES Weston 74.95 37 *e*P **P** 16 37 05.9 +0.1
comp=Z,20nm,1.0s
WES Weston 74.95 37 *e*P **P** 16 37 06.6 +0.8
WES pmax pmax
comp=Z,20nm,1.0s
TZTN Tazewell 74.97 48 *e*P **P** 16 37 06.0 -0.1
comp=Z,30nm,0.9s
TZTN Tazewell 74.97 48 P **P** 16 37 06.6 +0.4
baz=327,SNR=10.0
LUPA Lehigh Univers 74.98 40 *e*P **P** 16 37 05.6 -0.5
comp=Z,2.3nm,1.1s
SWET Sewanee 74.98 51 *e*P **P** 16 37 06.1 -0.2
comp=Z,112nm,0.7s
V50A Pikevile 74.99 50 P **P** 16 37 06.4 +0.1
baz=326,SNR=22
WLF Walferdange 75.04 343 ⇓P **P** 16 37 07.1 +0.8
WLF ⇑pP **pP** 16 37 23.3 -1.2
T53A Wise 75.06 47 P **P** 16 37 07.1 +0.4
baz=327,SNR=13
GZR Gura Zlata 75.09 330⇑*i*P **P** 16 37 06.6 -0.1
X48A Hartselle 75.09 52 *e*P **P** 16 37 06.5 -0.3
comp=Z,22nm,0.8s
X48A Hartselle 75.09 52 P **P** 16 37 06.6 -0.3
baz=326,SNR=9.2
Q57A Strasburg 75.09 43 P **P** 16 37 06.8 0.0
baz=328,SNR=9.4
MVL Millersville 75.11 41 *e*P **P** 16 37 06.8 +0.1
comp=Z,14nm,0.8s
U52A Thorn Hill 75.18 48 P **P** 16 37 07.8 +0.4
baz=327,SNR=18
PAL Palisades 75.19 39 *e*P **P** 16 37 07.2 -0.1
comp=Z,26nm,0.9s
PAL Palisades 75.19 39 *e*P **P** 16 37 07.6 +0.3
PAL pmax pmax
comp=Z,26nm,0.9s
PAL Palisades 75.19 39 P **P** 16 37 07.0 -0.2
baz=330
O60A Telford 75.21 41 P **P** 16 37 06.9 -0.5
baz=330
VBMS Vicksburg 75.22 56 P **P** 16 37 08.6 +1.0
baz=325
BZS Buzias 75.22 331⇑*i*P **P** 16 37 07.0 -0.4
V51A Loudon 75.22 49 *e*P **P** 16 37 07.6 0.0
comp=Z,43nm,0.7s
V51A Loudon 75.22 49 P **P** 16 37 07.6 0.0
baz=326,SNR=15
DZM Mont Dzumac 75.28 174 *e*P **P** 16 37 10.2 +2.3
comp=Z,234nm,1.3s
DZM Mont Dzumac 75.28 174 *e*LR LR 17 00 26.9
comp=Z,295nm,28.3s
DZM Mont Dzumac 75.28 174 *e*P **P** 16 37 10.2 +2.3
comp=Z,142nm,1.3s
S55A Lewisburg 75.28 45 P **P** 16 37 07.9 -0.1
baz=328,SNR=6.7
W50A Signal Mountai 75.28 50 *e*P **P** 16 37 07.8 -0.2
comp=Z,64nm,0.8s
W50A Signal Mountai 75.28 50 P **P** 16 37 08.2 +0.2
baz=326,SNR=30
ARSA Arzberg 75.34 336 *e*P **P** 16 37 08.5 +0.4
comp=Z,4.5nm,0.9s
CPNY Central Park 75.36 39 *e*P **P** 16 37 07.1 -1.1
comp=Z,30nm,0.8s
X49A Woodville 75.38 51 P **P** 16 37 08.8 +0.3
baz=326,SNR=42
P59A Jarrettsville 75.41 42 P **P** 16 37 08.2 -0.3
baz=329,SNR=8.5
T54A Tazewell 75.41 47 P **P** 16 37 09.1 +0.4
baz=327,SNR=14
SDMD Soldier's Deli 75.42 42 *e*P **P** 16 37 07.7 -0.9
comp=Z,13nm,0.9s
CPCT Cooper Cave 75.44 50 *e*P **P** 16 37 08.7 -0.1
comp=Z,41nm,0.8s
Y48A Jasper 75.47 52 P **P** 16 37 08.6 -0.4
baz=326,SNR=6.8
PSUB Penn St. - Bra 75.52 41 *e*P **P** 16 37 08.5 -0.7
comp=Z,15nm,0.9s
V52A Sevierville 75.53 49 *e*P **P** 16 37 09.5 +0.1
comp=Z,30nm,0.9s
V52A Sevierville 75.53 49 P **P** 16 37 09.7 +0.4
baz=327,SNR=10
P60A Greenville 75.55 41 P **P** 16 37 08.7 -0.6
baz=330
U53A Fall Branch 75.56 48 P **P** 16 37 09.8 +0.3
baz=327,SNR=19
W51A Cleveland 75.57 50 P **P** 16 37 09.7 +0.1
baz=326,SNR=17
R57A Stanardsville 75.67 44 P **P** 16 37 10.5 +0.4
baz=328,SNR=17
T55A Pulaski 75.71 46 P **P** 16 37 10.7 +0.3
baz=328,SNR=8.0
X50B Fort Payne 75.73 51 P **P** 16 37 10.5 0.0
baz=326,SNR=27

U54A **Nelsons Funny** 75.76 47 *e*P P 16 37 10.9 +0.2
comp=Z,40nm,0.8s
U54A **Nelsons Funny** 75.76 47 P P 16 37 11.0 +0.2
baz=327,SNR=13
S56A **Natural Bridge** 75.76 45 P P 16 37 10.7 +0.1
baz=328
BLA **Blacksburg** 75.79 46 *e*P P 16 37 10.2 -0.6
comp=Z,28nm,0.8s
BLA **Blacksburg** 75.79 46 *e*P P 16 37 10.2 -0.6
BLA pmax pmax
comp=Z,28nm,0.8s
BLA **Blacksburg** 75.79 46 P P 16 37 10.9 +0.1
baz=328
Y49A **Blount Mountai** 75.87 52 *e*P P 16 37 11.0 -0.3
comp=Z,33nm,0.8s
Y49A **Blount Mountai** 75.87 52 P P 16 37 11.3 0.0
baz=326,SNR=17
R58A **Rapidan** 75.89 43 P P 16 37 11.3 0.0
baz=329,SNR=13
BFO **Black Forest** 75.91 341 *e*P P 16 37 10.6 -0.8
comp=Z,30nm,1.6s
BFO **Black Forest** 75.91 341 *i*P P 16 37 12.1 +0.8
S57A **Dark Hollow, R** 75.95 44 *e*P P 16 37 11.7 0.0
comp=Z,32nm,0.9s
S57A **Dark Hollow, R** 75.95 44 P P 16 37 12.0 +0.3
baz=328,SNR=14
147A **Livingston** 75.95 54 *e*P P 16 37 11.6 -0.2
comp=Z,81nm,0.8s
147A **Livingston** 75.95 54 P P 16 37 12.2 +0.5
baz=325,SNR=8.3
Q59A **Harwood** 75.96 42 P P 16 37 11.8 +0.2
baz=329
MDVR **Moldovita** 75.96 331⇑ *i*P P 16 37 11.0 -0.7
SOKA **Soboth** 76.00 336 *e*P P 16 37 12.2 +0.3
comp=Z,5.8nm,0.7s
W52A **Murphy** 76.00 49 P P 16 37 12.2 +0.1
baz=327
X51A **Calhoun** 76.02 50 *e*P P 16 37 12.1 0.0
comp=Z,40nm,0.9s
X51A **Calhoun** 76.02 50 P P 16 37 12.3 +0.2
baz=326,SNR=9.3
PERS **Pernice** 76.02 336 *e*P P 16 37 12.1 +0.1
KBA **Koelnbreinsper** 76.03 337 *e*P P 16 37 13.2 +1.0
comp=Z,26nm,0.8s,SNR=20
V53A **Saluda** 76.03 48 *e*P P 16 37 12.3 0.0
comp=Z,68nm,1.6s
V53A **Saluda** 76.03 48 P P 16 37 12.3 0.0
baz=327,SNR=11
T56A **Rocky Mt** 76.11 46 P P 16 37 12.3 -0.3
baz=328
U55A **TA2, Sparta** 76.11 47 P P 16 37 12.6 -0.1
baz=328,SNR=7.6
Y50A **Piedmont** 76.16 51 P P 16 37 12.9 0.0
baz=326,SNR=23
WATA **Walderalm** 76.18 338 *e*P P 16 37 13.0 -0.1
comp=Z,2.4nm,0.5s
RETA **Reutte** 76.22 339 *e*P P 16 37 13.8 +0.6
comp=Z,5.6nm,0.8s
R58B **Mineral** 76.22 44 *e*P P 16 37 12.7 -0.6
comp=Z,29nm,1.1s
R58B **Mineral** 76.22 44 P P 16 37 13.1 -0.1
baz=329,SNR=9.2
CBN **Corbin Frederi** 76.23 43 P P 16 37 13.5 +0.2
baz=329
WTTA **Wattenberg** 76.24 338 *e*P P 16 37 14.5 +1.1
comp=Z,12nm,1.0s
ECH **Echery** 76.25 342 *e*P P 16 37 12.7 -0.5
comp=Z,20nm,1.1s
ECH **Echery** 76.25 342 *e*P P 16 37 12.7 -0.5
ECH pmax pmax
comp=Z,20nm,1.1s
WRAB **Tennant Creek** 76.26 205 *e*P P 16 37 13.6 +0.2
comp=Z,26nm,0.9s
WRAB **Tennant Creek** 76.26 205 *e*P P 16 37 13.6 +0.2
WRAB pmax pmax
comp=Z,26nm,0.9s
WB2 **Warramunga Arr** 76.27 205 *e*P P 16 37 13.8 +0.3
comp=Z,27nm,0.9s
WR1 **Warramunga Arr** 76.27 205 *e*P P 16 37 13.8 +0.3
WRA **Warramunga Arr** 76.27 205 P P 16 37 13.8 +0.3
comp=Z,169nm,0.4s,baz=17,slow=6.1,SNR=2.7
LRAL **Lakeview Retre** 76.27 53 *e*P P 16 37 13.1 -0.5
comp=Z,26nm,0.6s
LRAL **Lakeview Retre** 76.27 53 P P 16 37 13.4 -0.2
baz=326,SNR=17
OBKA **Obir** 76.28 336 *e*P P 16 37 14.3 +0.8
comp=Z,14nm,0.9s,SNR=5.1
MOTA **Moosalm** 76.28 339 *e*P P 16 37 14.2 +0.7
comp=Z,2.9nm,0.6s,SNR=5.7
W53A **Cullowhee** 76.29 49 P P 16 37 14.0 +0.2
baz=327,SNR=12
148A **Greensboro** 76.31 53 P P 16 37 13.7 -0.1
baz=326
ZAIG **Zacatecas** 76.32 70 *e*P P 16 37 15.1 +0.7
comp=Z,30nm,0.9s
V54A **Nebo** 76.33 48 P P 16 37 14.1 +0.2
baz=327,SNR=16
R59A **King George, V** 76.34 43 P P 16 37 14.1 +0.3
baz=329
Z49A **Columbiana** 76.36 52 P P 16 37 14.1 0.0
baz=326,SNR=17
SQTA **Sankt Quirin** 76.37 339 *e*P P 16 37 14.8 +0.7
comp=Z,13nm,0.8s
LNIG **Linares** 76.38 67 *e*P P 16 37 14.2 -0.1
comp=Z,22nm,1.2s
MYKA **Terra Mystica** 76.38 337 *e*P P 16 37 14.4 +0.4
comp=Z,3.4nm,0.6s
BR101 **Keskin Array S** 76.42 320 *e*P P 16 37 13.9 -0.5
BR131 **Keskin Array S** 76.42 320 *e*P P 16 37 13.2 -1.3
comp=Z,7.8nm,1.0s
BR131 **Keskin Array S** 76.42 320 P P 16 37 16.5 +2.0
SNR=7.3
BRTR **Keskin Array B** 76.42 320 *i*P P 16 37 14.0 -0.5
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR **Keskin Array B** 76.42 320 P P 16 37 13.9 -0.5
comp=Z,4.3nm,0.8s,baz=69,slow=2.8,SNR=16
BRTR LR LR 17 16 40.6
comp=Z,74nm,20.1s,baz=61,slow=40
X52A **Dahlonega** 76.43 50 P P 16 37 14.8 +0.4
baz=327,SNR=16
S58A **Poland Farm, P** 76.45 44 *e*P P 16 37 14.4 -0.1
comp=Z,16nm,0.9s
S58A **Poland Farm, P** 76.45 44 P P 16 37 14.4 -0.1
baz=329,SNR=5.6
T57A **Hurt** 76.47 45 *e*P P 16 37 14.6 0.0
comp=Z,19nm,0.8s
T57A **Hurt** 76.47 45 P P 16 37 14.5 -0.1
baz=328,SNR=9.4
Y51A **Rockmart** 76.47 51 P P 16 37 14.6 -0.1
baz=326,SNR=21
R60A **Leonardtown, M** 76.50 43 P P 16 37 15.0 +0.2
baz=329
ABTA **Abfaltersbach** 76.53 338 *e*P P 16 37 15.3 +0.4
comp=Z,15nm,0.9s,SNR=8.4
U56A **King** 76.53 46 P P 16 37 15.1 +0.1
baz=328,SNR=6.0
BG3 **Lake Jocassee** 76.54 49 *e*P P 16 37 15.3 +0.2
comp=Z,47nm,0.8s
V55A **Taylorsville** 76.59 47 P P 16 37 15.4 +0.1
baz=328,SNR=6.4
DAVA **Damuels** 76.59 340 *e*P P 16 37 16.0 +0.7
comp=Z,9.3nm,1.1s
Z50A **Ashland** 76.60 52 *e*P P 16 37 15.4 -0.1
comp=Z,60nm,0.8s
Z50A **Ashland** 76.60 52 P P 16 37 15.6 +0.1
baz=326,SNR=32
S59A **Mechanicsville** 76.64 43 P P 16 37 16.2 +0.6
baz=329
FETA **Feichten** 76.67 339 *e*P P 16 37 16.8 +1.0
comp=Z,10nm,0.9s,SNR=5.9
149A **Jones** 76.73 53 P P 16 37 16.3 +0.1
baz=326
X53A **Estanollee** 76.78 49 P P 16 37 16.9 +0.4
baz=327,SNR=19
W54A **Cherokee Point** 76.80 48 P P 16 37 16.6 0.0
baz=327,SNR=10.0
T58A **Grand View Acr** 76.82 45 P P 16 37 16.5 -0.1
baz=329,SNR=10
VISS **Visnje** 76.87 336 *i*P P 16 37 16.5 -0.2
Z51A **Franklin** 76.90 51 P P 16 37 17.1 -0.1
baz=326
U57A **Blanch** 76.91 45 P P 16 37 17.4 +0.3
baz=328,SNR=10
V56A **Mocksville** 76.94 47 *e*P P 16 37 17.4 +0.1
comp=Z,24nm,0.8s
V56A **Mocksville** 76.94 47 P P 16 37 17.5 +0.2
baz=328,SNR=10

S60A **Water View** 76.95 43 P P 16 37 18.1 +0.8
baz=329
Y52A **Lilburn** 76.96 50 *e*P P 16 37 17.7 +0.2
comp=Z,29nm,0.8s
Y52A **Lilburn** 76.96 50 P P 16 37 17.9 +0.4
baz=327,SNR=9.6
BOJS **Bojanci** 77.04 335 *i*P P 16 37 17.8 +0.1
FITZ **Fitzroy Crossi** 77.06 213 *e*P P 16 37 18.6 +0.6
249A **Camden** 77.08 53 P P 16 37 18.8 +0.7
baz=326,SNR=7.3
150A **Eclectic** 77.09 52 P P 16 37 18.0 -0.2
baz=326,SNR=16
KMSC **Kings Mountain** 77.13 48 *e*P P 16 37 18.3 -0.1
comp=Z,28nm,0.8s
KMSC **Kings Mountain** 77.13 48 P P 16 37 18.4 -0.1
baz=328,SNR=11
FUORN **Ofenpass-Fuorn** 77.15 339 *e*P P 16 37 18.7 +0.1
comp=Z,12nm,0.9s
X54A **Belton** 77.16 49 P P 16 37 19.0 +0.4
baz=327,SNR=12
V57A **Coltrane Farms** 77.18 46 P P 16 37 18.7 +0.1
baz=328,SNR=11
PAULI **Pauline** 77.19 48 *e*P P 16 37 18.4 -0.3
comp=Z,19nm,0.9s
Y53A **Monroe** 77.19 50 P P 16 37 19.0 +0.2
baz=327,SNR=9.9
T59A **Double "B" Far** 77.20 44 *e*P P 16 37 18.9 +0.1
comp=Z,31nm,1.1s
T59A **Double "B" Far** 77.20 44 P P 16 37 18.8 +0.1
baz=329,SNR=7.3
U58A **Oxford** 77.28 45 P P 16 37 18.9 -0.2
baz=329,SNR=9.5
SHME **Shamm** 77.29 296 *i*P P 16 37 18.1 -1.3
SNR=7.8
Z52A **Williamson** 77.36 51 P P 16 37 19.8 +0.1
baz=327,SNR=10
T60A **Surry** 77.40 43 P P 16 37 19.9 +0.1
baz=329
VTS **Vitosha** 77.46 329 *e*P P 16 37 19.2 -1.1
comp=Z,7.6nm,0.9s
VTS **Vitosha** 77.46 329⇑ *i*P P 16 37 20.2 -0.1
VTS **Vitosha** 77.46 329 *e*P P 16 37 19.2 -1.1
VTS pmax pmax
comp=Z,8.0nm,0.9s
W56A **Indian Trail** 77.47 47 P P 16 37 19.8 -0.5
baz=328,SNR=7.0
HODGE **Hodges** 77.48 49 *e*P P 16 37 20.4 +0.1
comp=Z,29nm,0.9s
TUE **Stuetta** 77.48 340 *e*P P 16 37 19.6 -0.9
comp=Z,19nm,0.8s
151A **Opelika** 77.48 52 P P 16 37 19.9 -0.5
baz=326,SNR=5.8
250A **Grady** 77.49 53 P P 16 37 20.5 +0.1
baz=326
V58A **Windy Hill, Pi** 77.55 46 P P 16 37 21.0 +0.3
baz=328,SNR=17
349A **Repton** 77.56 54 P P 16 37 21.4 +0.5
baz=326
X55A **Gracelyn & Ava** 77.56 48 P P 16 37 20.9 +0.1
baz=328,SNR=12
Y54A **Tignall** 77.59 49 P P 16 37 21.6 +0.6
baz=327,SNR=68
GOGA **Godfrey** 77.61 50 *e*P P 16 37 21.1 0.0
comp=Z,12nm,0.7s
GOGA **Godfrey** 77.61 50 *e*P P 16 37 21.1 0.0
GOGA pmax pmax
comp=Z,12nm,0.7s
GOGA **Godfrey** 77.61 50 P P 16 37 21.1 0.0
baz=327,SNR=7.4
U59A **Littleton** 77.63 44 *e*P P 16 37 21.2 +0.1
comp=Z,20nm,0.9s
U59A **Littleton** 77.63 44 P P 16 37 21.2 +0.1
baz=329,SNR=5.6
152A **Waverly Hall** 77.65 51 *e*P P 16 37 21.1 -0.2
comp=Z,31nm,1.1s
152A **Waverly Hall** 77.65 51 P P 16 37 21.2 -0.2
baz=327,SNR=8.7
Z53A **Monticello** 77.68 50 P P 16 37 21.4 -0.1
baz=327,SNR=16
W57A **Gilead** 77.71 47 *e*P P 16 37 21.4 -0.2
comp=Z,31nm,0.9s
W57A **Gilead** 77.71 47 P P 16 37 21.4 -0.2
baz=328,SNR=9.3
BRAL **Brewton** 77.78 54 P P 16 37 23.3 +1.2
baz=326
U60A **Pendleton** 77.80 44 P P 16 37 21.5 -0.6
baz=329
251A **Midway** 77.80 52 P P 16 37 22.2 0.0
baz=326,SNR=5.1
MDH **Madha** 77.81 296 P P 16 37 21.4 -0.9
X56A **White Oak** 77.81 48 P P 16 37 22.1 0.0
baz=328,SNR=13
PALK **Pallekele** 77.82 266 P P 16 37 22.3 -0.3
MSFE **Esma-Masafi** 77.83 296 P P 16 37 21.7 -0.8
JSC **Jenkinsville** 77.89 48 *e*P P 16 37 21.5 -1.1
comp=Z,21nm,0.9s
JSC **Jenkinsville** 77.89 48 *e*P P 16 37 21.5 -1.1
JSC pmax pmax
comp=Z,21nm,0.9s
Y55A **Saluda** 77.91 49 P P 16 37 22.9 +0.2
baz=328,SNR=12
350A **Dozier** 77.92 53 P P 16 37 23.3 +0.5
baz=326
BIRD **Birdtown, Kers** 77.93 47 *e*P P 16 37 22.8 -0.1
comp=Z,28nm,0.8s
V59A **Middlesex** 77.94 45 P P 16 37 23.2 +0.3
baz=329,SNR=14
SENIN **Lac Senin/Sane** 78.00 341 *e*P P 16 37 23.4 +0.1
comp=Z,42nm,1.9s
449A **Pace** 78.03 54 P P 16 37 24.6 +1.1
baz=326
Z54A **Sparta** 78.05 50 P P 16 37 23.8 +0.3
baz=327,SNR=16
153A **Fort Valley** 78.08 51 P P 16 37 24.0 +0.3
baz=327
W58A **Raeford** 78.15 46 P P 16 37 24.4 +0.3
baz=329,SNR=20
252A **Lumpkin** 78.20 52 P P 16 37 24.5 +0.1
baz=327
U61A **Possum Corner** 78.21 43 P P 16 37 24.6 +0.2
baz=330
X57A **Johnson Farm,** 78.25 47 P P 16 37 24.7 +0.1
baz=328
HATD **Hatta, Dubai** 78.27 296 P P 16 37 24.2 -0.7
Y56A **Pelion** 78.28 48 P P 16 37 25.2 +0.4
baz=328
450A **Crestview** 78.30 54 P P 16 37 26.1 +1.1
baz=326
V60A **Jim Taylor Roa** 78.36 44 P P 16 37 25.4 +0.2
baz=329
W59A **Clinton** 78.37 45 P P 16 37 26.0 +0.7
baz=329
Z55A **Blythe** 78.38 49 P P 16 37 25.8 +0.4
baz=328
351A **Pinckard** 78.39 53 P P 16 37 25.8 +0.4
baz=326
253A **Americus** 78.43 51 P P 16 37 25.7 +0.1
baz=327
154A **Montrose** 78.45 50 *e*P P 16 37 25.9 +0.2
comp=Z,94nm,1.0s
154A **Montrose** 78.45 50 P P 16 37 26.1 +0.3
baz=327,SNR=5.4
Y57A **Sumter** 78.49 47 P P 16 37 25.9 -0.1
baz=328
X58A **Rowland** 78.50 46 *e*P P 16 37 26.1 0.0
comp=Z,43nm,0.6s
X58A **Rowland** 78.50 46 P P 16 37 26.0 0.0
baz=329
352A **Blakely** 78.54 52 P P 16 37 26.6 +0.4
baz=327
CNNC **Cliffs of the** 78.54 45 P P 16 37 26.2 0.0
baz=329
V61A **Roper** 78.62 44 P P 16 37 26.7 +0.1
baz=330
FAQ **Al Faqa, Dubai** 78.63 296 *i*P P 16 37 26.0 -0.9
SNR=5.9
Z56A **Williston** 78.64 49 P P 16 37 27.1 +0.3
baz=328
155A **Kite** 78.73 50 P P 16 37 27.8 +0.5
baz=328,SNR=6.3
W60A **Pink Hill** 78.77 45 P P 16 37 27.6 +0.1
baz=329
X59A **McDuffie Farm,** 78.80 46 P P 16 37 27.8 +0.2
baz=329
PDG **Podgorica** 78.82 331⇑ *i*P P 16 37 27.2 -0.4
TTG **Podgorica** 78.82 331 *e*P P 16 37 26.7 -0.9
comp=Z,16nm,0.7s
TTG **Podgorica** 78.82 331 *e*P P 16 37 26.7 -0.9

TTG pmax pmax
comp=Z,16nm,0.7s
451A **Vernon** 78.86 53 P P 16 37 28.5 +0.5
baz=326
ASUD **Al Ashush, Dub** 78.87 296 P P 16 37 27.5 -0.6
Y58A **Scranton** 78.91 47 *e*P P 16 37 27.7 -0.6
comp=Z,71nm,0.8s
Y58A **Scranton** 78.91 47 P P 16 37 28.5 +0.3
baz=328,SNR=5.7
254A **Abbeville** 78.92 51 P P 16 37 28.6 +0.3
baz=327
Z57A **Bowman** 78.96 48 P P 16 37 28.9 +0.4
baz=328,SNR=6.2
W61A **Ground Anchor** 78.97 44 P P 16 37 28.6 +0.1
baz=330
353A **Camilla** 78.98 52 P P 16 37 29.0 +0.3
baz=327
X60A **Albert Glenn T** 79.07 45 P P 16 37 29.1 0.0
baz=329
ALNE **Al Ain** 79.10 296 P P 16 37 28.6 -0.8
AJN **Ajban** 79.10 296 P P 16 37 28.4 -1.0
156A **Sylvania** 79.15 49 P P 16 37 30.2 +0.6
baz=328
TIGA **Tifton** 79.20 51 *e*P P 16 37 29.9 0.0
comp=Z,58nm,0.8s
TIGA **Tifton** 79.20 51 P P 16 37 30.7 +0.8
baz=327,SNR=5.9
Z58A **St. Stephen** 79.33 47 P P 16 37 30.9 +0.4
baz=326
453A **Whigham** 79.35 52 P P 16 37 31.6 +0.9
baz=327
157A **Early Branch** 79.35 49 P P 16 37 31.5 +0.8
baz=328
NHSC **New Hope** 79.36 48 *e*P P 16 37 31.2 +0.5
comp=Z,71nm,1.1s
NHSC **New Hope** 79.36 48 P P 16 37 31.2 +0.5
baz=328
BNI **Bardonecchia** 79.38 341 *e*P P 16 37 31.0 +0.2
comp=Z,18nm,0.9s
BNI **Bardonecchia** 79.38 341 *e*P P 16 37 31.0 +0.2
BNI pmax pmax
comp=Z,18nm,0.9s
Y60A **Bolivia** 79.45 46 P P 16 37 31.1 -0.1
baz=329
256A **Glennville** 79.54 50 P P 16 37 32.4 +0.7
baz=328
355A **Pearson** 79.63 51 P P 16 37 33.0 +0.8
baz=328
Z59A **Georgetown, SC** 79.64 47 P P 16 37 32.6 +0.4
baz=329
454A **Quitman** 79.79 52 P P 16 37 33.6 +0.5
baz=327
TAOE **Nuku Hiva Isla** 79.89 120 *e*LR LR 17 02 20.8
comp=Z,266nm,32.4s
AS31 **Alice Springs** 79.95 204 *e*P P 16 37 34.5 +0.7
comp=Z,5.2nm,0.7s
ASAR **Alice Springs** 79.95 204 P P 16 37 34.8 +0.9
comp=Z,16nm,0.7s,baz=16,slow=5.2,SNR=229
ASAR PKKPbc **PKKPbc** 16 56 18.6 +0.7
comp=Z,0.3nm,0.6s,baz=194,slow=2.0,SNR=9.5
455A **Stateville** 80.05 51 P P 16 37 34.9 +0.4
baz=328
357A **Townsend** 80.19 50 P P 16 37 35.6 +0.3
baz=328
554A **Perry** 80.29 52 P P 16 37 36.7 +0.9
baz=327
MHTO **MHTO** 80.34 292 P P 16 37 36.0 -0.1
SNR=8.1
MHTO P P 16 37 36.0 -0.1
SNR=8.1
AQU **L'Aquila** 80.46 336 *e*P P 16 37 36.8 +0.2
comp=Z,27nm,0.9s
AQU **L'Aquila** 80.46 336 *e*P P 16 37 36.8 +0.2
AQU pmax pmax
comp=Z,27nm,0.9s
456A **Hilliard** 80.53 50 P P 16 37 37.8 +0.7
baz=328
555A **McAlpin** 80.60 51 *e*P P 16 37 38.5 +1.1
comp=Z,55nm,0.8s
555A **McAlpin** 80.60 51 P P 16 37 38.3 +0.9
baz=328
556A **Lake Butler** 80.96 51 P P 16 37 40.4 +1.1
baz=328
557A **Orange Park** 81.26 51 P P 16 37 42.0 +1.0
baz=328
656A **Willston** 81.43 52 P P 16 37 43.0 +1.1
baz=328
657A **Interlachen** 81.56 51 P P 16 37 43.8 +1.2
baz=328
658A **Bunnell** 81.98 51 P P 16 37 46.0 +1.3
baz=328
757A **Oxford** 82.01 51 P P 16 37 46.2 +1.3
baz=328
PSA00 **Pilbara Seismi** 82.29 217 *e*P P 16 37 46.0 -0.2
comp=Z,16nm,0.8s
758A **Lake Helen** 82.40 51 P P 16 37 48.3 +1.4
baz=328
857A **Zephyrhills** 82.50 52 P P 16 37 48.6 +1.1
baz=328
TIP **Timpagrande** 82.55 332 *e*P P 16 37 47.6 -0.1
comp=Z,21nm,1.1s
TLIG **Tlapa** 82.72 71 *e*P P 16 37 50.3 +1.3
comp=Z,148nm,1.9s
PPT **Papeete** 82.84 132 LR LR 17 06 04.5
comp=Z,128nm,21.8s,baz=326,slow=29
PPT2 **Papeete2** 82.85 132 *e*LR LR 17 03 51.9
comp=Z,535nm,29.5s,baz=319
DWPF **Disney Wildern** 83.01 51 P P 16 37 51.1 +1.0
baz=328
058A **Arcadia** 83.72 52 P P 16 37 55.2 +1.3
baz=328
959A **Okeechobee** 83.76 51 P P 16 37 55.3 +1.3
baz=329
PGAV **Gavieira, Arco** 84.55 351 *e*pP pP 16 38 16.5 0.0
PBRG **Braganca** 84.56 350 *e*P P 16 37 59.2 +1.3
comp=Z,31nm,1.6s
PBRG *e*pP **pP** 16 38 16.4 -0.1
PCAB **Cabril** 84.78 351 *e*pP pP 16 38 17.5 -0.1
POLO **Lamas de Olo** 85.09 351 *e*P P 16 38 02.2 +1.5
comp=Z,15nm,2.4s
POLO *e*pP **pP** 16 38 19.3 +0.1
PVRL **Vila Real** 85.19 351 *e*P P 16 38 02.8 +1.7
comp=Z,47nm,2.3s
PVRL *e*pP **pP** 16 38 19.6 0.0
MVO **Moncorvo** 85.23 350 *e*P P 16 38 02.8 +1.5
comp=Z,36nm,2.0s
MVO *e*pP **pP** 16 38 19.8 -0.1
MTE **Manteigas** 86.04 351 *e*P P 16 38 07.1 +1.8
comp=Z,76nm,1.7s
MTE *e*pP **pP** 16 38 24.2 +0.3
STKA **Stephens Creek** 86.34 196 *e*P P 16 38 07.2 +0.7
comp=Z,4.3nm,1.1s
STKA **Stephens Creek** 86.34 196 *e*P P 16 38 07.2 +0.7
STKA pmax pmax
comp=Z,4.0nm,1.1s
STKA **Stephens Creek** 86.34 196 P P 16 38 07.6 +1.0
comp=Z,11nm,0.9s,baz=330,slow=5.2,SNR=14
ESDC **Sonseca Array** 86.35 348 P P 16 38 08.1 +1.2
comp=Z,9.0nm,0.7s,baz=3.5,slow=4.7,SNR=40
ESLA **Sonseca Array** 86.35 348 *e*P P 16 38 06.9 0.0
comp=Z,21nm,0.9s
PCAS **Casmilo, Conde** 86.47 351 *e*P P 16 38 09.1 +1.7
comp=Z,49nm,1.8s
PCAS *e*pP **pP** 16 38 25.8 -0.2
PAB **San Pablo** 86.52 348 *e*P P 16 38 07.6 -0.2
comp=Z,18nm,0.9s
PAB **San Pablo** 86.52 348 *e*P P 16 38 09.0 +1.2
PCBR **Castelo Branco** 86.58 350 *e*P P 16 38 09.5 +1.6
comp=Z,27nm,1.6s
PCBR *e*pP **pP** 16 38 26.2 -0.3
PTOM **Tomar** 86.89 351 *e*pP pP 16 38 27.0 -1.1
PMTG **Montargil** 87.42 351 *e*pP pP 16 38 29.9 -0.7
KEST **Kesra** 87.73 336 *e*P P 16 38 13.6 0.0
comp=Z,43nm,1.4s
KEST **Kesra** 87.73 336 P P 16 38 13.6 0.0
comp=Z,11nm,0.8s,baz=305,slow=3.9,SNR=8.5
KEST LR LR 17 24 58.6
comp=Z,88nm,18.2s,baz=0.0,slow=41
TBI **Tubuai** 87.98 135 *e*LR LR 17 06 18.9
comp=Z,235nm,26.5s,baz=326
FORT **Forrest** 88.24 207 *e*P P 16 38 16.2 +0.5
comp=Z,116nm,1.5s
CAN **Canberra** 88.80 189 *e*P P 16 38 19.0 +0.7
comp=Z,21nm,1.0s
CAN **Canberra** 88.80 189 *e*P P 16 38 19.0 +0.7
CAN pmax pmax
comp=Z,21nm,1.0s

PCVE	Castro Verde	88.83 351	*e*PP	pP	16 38 36.7	-0.7
TOA1	Torodi Ar. Sit	111.23 337	*e*PKiKP	PKiKP	16 43 57.2	-1.3
TORD	Torodi Ar. Bea	111.24 337	PKiKP	PKiKP	16 43 57.2	-1.3
comp=Z,0.6nm,0.5s,baz=12,slow=4.4,SNR=6.7						
DBIC	Dimbokro	118.88 343	*e*PKiKP	PKPdf	16 44 13.0	-0.2
DBIC	Dimbokro	118.88 343	PKP	PKPdf	16 44 12.9	-0.2
comp=Z,5.2nm,0.8s,baz=82,slow=2.8,SNR=6.0						
TIC	Toumodi	118.93 343	*e*PKiKP	PKPdf	16 44 13.2	-0.1
KIC	Kosan Boka	119.16 343	*e*PKiKP	PKPdf	16 44 13.5	-0.2
comp=Z,90nm,2.0s						
LIC	Lamto	119.34 343	*e*PKiKP	PKPdf	16 44 13.1	-1.0
comp=Z,51nm,1.7s						
CASY	Casey	125.03 202	*e*PKPdf	PKiKP	16 44 23.8	+0.3
LPAZ	La Paz	127.40 64	*e*PKPdf	PKPdf	16 44 30.0	-0.1
LPAZ	La Paz	127.40 64	*e*PKiKP	PKPdf	16 44 30.0	-0.1
LPAZ	La Paz	127.40 64	PKP	PKiKP	16 44 30.5	-0.1
comp=Z,2.5nm,0.7s,baz=24,slow=8.6,SNR=13						
PB11	IPOC Station P	129.38 68	*e*PKPdf	PKPdf	16 44 33.4	+0.1
VNDA	Vanda	130.58 179	PKP	PKiKP	16 44 34.2	-0.3
comp=Z,0.9nm,0.6s,baz=291,slow=4.1,SNR=10						
SIV	San Ignacio	130.84 57	PKP	PKPdf	16 44 36.2	+0.3
comp=Z,5.1nm,0.8s,baz=22,slow=1.9,SNR=17						
BOSA	Boshof	138.81 289	PKP	PKPdf	16 44 50.5	-0.1
comp=Z,4.0nm,0.6s,baz=2.1,slow=0.6,SNR=8.6						
CFA	Coronel Fontan	139.29 77	PKhKP	PKPpre	16 44 42.3	
comp=Z,2.7nm,0.6s,baz=114,slow=2.4,SNR=6.4						
MAW	Mawson	140.14 216	PKP	PKiKP	16 44 54.0	0.0
comp=Z,5.9nm,0.6s,baz=94,slow=6.3,SNR=12						
CPUP	Villa Florida	141.35 61	PKP	PKPdf	16 44 55.7	+0.6
comp=Z,1.6nm,0.6s,baz=341,slow=3.1,SNR=5.4						
QSPA	South Pole Qui	143.07 180	*e*PKPpre	PKPpre	16 44 52.4	
PLCA	Paso Flores	144.06 90	*e*PKPdf	PKPbc	16 44 58.2	+0.4
PLCA	Paso Flores	144.06 90	*e*PKiKP	PKPbc	16 44 58.2	+0.5
PLCA	Paso Flores	144.06 90	PKP	PKPbc	16 44 58.5	+0.8
comp=Z,22nm,0.7s,baz=319,slow=4.0,SNR=39						
TRQA	Tornquist	147.47 79	*e*PKPdf	PKPdf	16 45 06.3	+1.0
TRQA			*e*PKPbc	PKPbc	16 45 08.1	+0.1
TRQA	Tornquist	147.47 79	*e*PKP2	PKPdf	16 45 06.4	+1.0
GO09	Cerro Castillo	148.50 108	*e*PKPdf	PKPdf	16 45 07.9	+1.3
GO09			*e*PKPbc	PKPbc	16 45 11.1	+0.8
SYO	Syowa Base	148.85 217	*e*PKPdf	PKPdf	16 45 07.4	+0.8
SYO	Syowa Base	148.85 217	*e*PKPbc	PKiKP	16 45 11.8	-0.1
SYO	Syowa Base	148.85 217	*e*pPKPbc	pPKPbc	16 45 24.6	-5.4
SYO	Syowa Base	148.85 217	*e*pPKPbc	pPKPbc	16 45 30.3	+0.3
USHA	Ushuaia	151.98 113	PKPbc	PKiKP	16 45 18.8	0.0
baz=197,slow=4.1						
SNAA	Sanae	160.11 196	*e*PKPab	PKPab	16 46 02.4	-0.3
SNAA	Sanae	160.11 196	*e*PKP2	PKPab	16 46 02.3	-0.4

TAP 28 16:38:55.8,24°.91N×122°.22E,h8km,ML2.2,C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.23**	**295**	P	Pg	16 39 00.0	-0.5
baz=295							
TWB1				S	Sg	16 39 03.9	+0.2
baz=295							
EGS		**0.27**	**257**	*e*P	Pg	16 39 00.6	-0.5
baz=255							
NTC	**Toucheng**	**0.36**	**262**	*e*P	Pb	16 39 03.6	-0.8
baz=261							
EOS1	**EOS1**	**0.37**	**193**	*e*P	Pg	16 39 03.4	+0.5
baz=193							
EOS1				*e*S	Sb	16 39 11.1	+0.8
baz=193							
TIPB	**Shuangxi**	**0.37**	**280**	P	Pg	16 39 02.9	-0.1
baz=280							
TIPB				S	Sg	16 39 08.1	+0.3
baz=280							
NWF	**Wu-fen Shan**	**0.43**	**292**	*e*P	Pg	16 39 03.8	-0.5
baz=292							
NWF				*e*S	Sg	16 39 09.5	-0.4
baz=292							
WFSB	**Wu-fen Shan**	**0.43**	**292**	*e*P	Pg	16 39 03.8	-0.4
baz=292							
TWC	**Suao**	**0.45**	**229**	P	Pg	16 39 04.4	-0.1
baz=227							
TWC				S	Sb	16 39 12.2	-0.5
baz=227							
TWE	**Neicheng**	**0.54**	**250**	P	Pg	16 39 06.0	-0.2
baz=248							
TWE				*e*S	Sb	16 39 14.9	-0.4
baz=248							
YM07	**YM07**	**0.61**	**296**	*e*P	Pg	16 39 06.7	-0.8
baz=296							
YM07				*e*S	Sg	16 39 15.1	-0.4
baz=296							
NHDH	**Xindian Distri**	**0.64**	**275**	P	Pg	16 39 08.3	+0.2
baz=274							
NHDH				S	Sg	16 39 16.5	+0.1
baz=274							
YM01	**YM01**	**0.64**	**292**	P	Pg	16 39 08.1	0.0
baz=291							
YM01				*e*S	Sg	16 39 16.6	+0.1
baz=291							
YM08	**YM08**	**0.64**	**296**	*e*P	Pg	16 39 07.8	-0.3
baz=295							
YM08				*e*S	Sg	16 39 15.6	-0.9
baz=295							
NANB	**Nanao**	**0.64**	**222**	*e*P	Pg	16 39 07.6	-0.5
baz=221							
NANB				*e*S	Sg	16 39 16.3	-0.3
baz=221							
YM11	**YM11**	**0.64**	**294**	*e*P	Pg	16 39 07.9	-0.3
baz=293							
YM11				*e*S	Sg	16 39 16.6	0.0
baz=293							
ENA	**Nanau**	**0.65**	**223**	P	Pg	16 39 07.9	-0.4
baz=221							
ENA				S	Sg	16 39 16.6	-0.1
baz=221							
ENA	**Nanau**	**0.65**	**223**	*e*S	Sg	16 39 16.6	-0.1
baz=88							
YM10	**YM10**	**0.65**	**293**	P	Pg	16 39 08.4	+0.1
baz=292							
YM10				S	Sg	16 39 17.6	+0.8
baz=292							
ENTT	**Nioudou**	**0.65**	**246**	*e*P	Pg	16 39 08.4	0.0
baz=245							
NWLT	**Wulai**	**0.67**	**259**	P	Pg	16 39 08.3	-0.4
baz=258							
NWLT				S	Sg	16 39 17.4	0.0
baz=258							
TATO	**Taipei**	**0.67**	**276**	*e*P	Pg	16 39 08.7	0.0
baz=275							
TATO				*e*S	Sg	16 39 17.9	+0.4
baz=275							
TWY	**Chenhua**	**0.67**	**303**	P	Pg	16 39 08.6	-0.2
baz=303							
TWY				S	Sb	16 39 18.8	-0.4
baz=303							
NDT	**Datong Townshi**	**0.71**	**245**	P	Pg	16 39 09.1	-0.4
baz=244							
NDT				S	Sb	16 39 19.7	-0.6
baz=244							
NDT	**Datong Townshi**	**0.71**	**245**	P	Pg	16 39 09.3	-0.2
baz=26							
NTST	**Danshui**	**0.75**	**290**	*e*P	Pb	16 39 10.9	-0.1
baz=290							
YHNB	**Yeheng**	**0.81**	**253**	*e*P	Pg	16 39 11.0	-0.3
baz=252							
YHNB				*e*S	Sg	16 39 21.9	+0.1
baz=252							
YHNB	**Yeheng**	**0.81**	**253**	*e*P	Pg	16 39 10.9	-0.4
baz=351							
NSK	**Sanguang**	**0.82**	**254**	P	Pg	16 39 10.9	-0.6
baz=253							
NSK				*e*S	Sg	16 39 21.8	-0.4
baz=253							
NSK	**Sanguang**	**0.82**	**254**	P	Pg	16 39 10.8	-0.7
baz=350							
YOJ	**Yonaguni jima**	**0.84**	**122**	*e*P	Pg	16 39 10.5	-1.5
baz=121							
YOJ				*e*S	Sg	16 39 21.8	-1.2
baz=121							
NNSB	**Datong**	**0.90**	**238**	*e*P	Pb	16 39 13.6	-0.1
baz=238							
NNSB				*e*S	Sb	16 39 25.9	0.0
baz=238							
NACB	**Ninganchiao**	**0.93**	**218**	*e*P	Pg	16 39 12.6	-1.0
baz=218							
NACB				*e*S	Sg	16 39 25.7	0.0
baz=218							
ETLH	**Xiulin Townshi**	**0.97**	**224**	*e*P	Pg	16 39 12.9	-1.5
baz=224							
ETLH				*e*S	Sg	16 39 27.0	0.0
baz=224							
ETLH	**Xiulin Townshi**	**0.97**	**224**	*e*S	Pg	16 39 13.1	-1.3
baz=163							
LIOB	**Emei**	**1.13**	**257**	*e*S	Sg	16 39 32.0	-0.1
baz=256							
WHF	**Hehuan Shan**	**1.16**	**229**	*e*S	Sb	16 39 33.6	+0.1
baz=228							
CHGB	**Renai**	**1.27**	**229**	*e*S	Sb	16 39 36.7	-0.1
baz=228							
OWD	**Renai**	**1.34**	**225**	*e*P	Pn	16 39 20.6	-0.4
baz=225							
OWD				*e*S	Sb	16 39 37.4	-1.3
baz=225							
HGSD	**Ruisui**	**1.59**	**208**	*e*P	Pn	16 39 24.2	+0.1
baz=207							
YULB	**Yu-li**	**1.73**	**209**	*e*P	Pn	16 39 25.8	-0.3
baz=209							
TWF1	**Yuli**	**1.76**	**209**	*e*P	Pn	16 39 25.5	-1.1
baz=208							

TAP 28 16:39:04.1,24°.42N×121°.41E,h12km±1km,ML1.3,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.03**	**286**	*e*P	Pg	16 39 07.3	+0.9
baz=285							
NNSB				*e*S	Sg	16 39 08.3	+0.2
baz=285							
NDT	**Datong Townshi**	**0.20**	**26**	S	Sg	16 39 12.9	+1.4
baz=26							
ETLH	**Xiulin Townshi**	**0.22**	**164**	*e*P	Pg	16 39 09.3	+0.4
baz=163							
YHNB	**Yeheng**	**0.25**	**352**	*e*S	Sb	16 39 14.2	-0.8
baz=351							
NSK	**Sanguang**	**0.26**	**349**	S	Sb	16 39 14.7	-0.6
baz=350							
NACB	**Ninganchiao**	**0.29**	**146**	*e*P	Pb	16 39 11.2	-0.1
baz=146							
ENA	**Nanau**	**0.30**	**88**	*e*P	Pb	16 39 11.4	0.0
baz=88							
WHF	**Hehuan Shan**	**0.31**	**206**	P	Pb	16 39 11.4	-0.4
baz=205							
WHF				*e*S	Sb	16 39 17.1	+0.2
baz=205							
CHGB	**Renai**	**0.42**	**212**	*e*P	Pb	16 39 13.2	-0.4
baz=211							
CHGB				*e*S	Sb	16 39 19.6	-0.4
baz=211							
LIOB	**Emei**	**0.43**	**302**	*e*P	Pg	16 39 12.3	-0.3
baz=301							
OWD	**Renai**	**0.51**	**205**	*e*P	Pg	16 39 14.5	+0.3
baz=205							
DPDB	**Guoxing**	**0.59**	**229**	*e*P	Pb	16 39 16.0	-0.3
baz=229							

IDC 28 17:05:40.2±3.0,30°.56S×178°.11W,h0km,mb3.9/2, mb1 4.0/3,mb1mx3.7/26,mbtmp3.9/3,ML3.2/1,Error ellipse: s-maj=72.6km s-min=36.2km az=115.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.63**	**206**	Pn	Pn	17 07 46.4	+0.1
0.3nm,0.3s,baz=28,slow=14,SNR=1.0							
URZ				Sn	Sn	17 09 23.6	-0.7
1.5nm,0.3s,baz=210,slow=23,SNR=19							
STKA	**Stephens Creek**	**34.35**	**257**	P	P	17 12 30.0	+1.2
2.3nm,0.7s,baz=86,slow=9.8,SNR=5.4							
ASAR	**Alice Springs**	**43.00**	**267**	P	P	17 13 40.6	-0.9
0.8nm,0.8s,baz=102,slow=7.8,SNR=11							
FINES	**FINESS Array B**	**145.27**	**340**	PKPbc	PKPbc	17 25 17.9	-0.9
1.1nm,0.6s,baz=67,slow=4.8,SNR=8.4							

*ISCJB **28** 17:20:08.4±0.6,33°.8N±0°.1×135°.9E±0°.1,h422km±5km, mb3.2/6,Error ellipse: s-maj=16.6km s-min=15.2km az=141.8*
*JMA **28** 17:20:09.3±0.2,33°.79N×135°.83E,h415km±2km,M2.8*
*IDC **28** 17:20:09.4±1.0,33°.77N×135°.89E,h416km±12km,mb3.0/6, mb1 3.0/11,mb1mx2.8/44,mbtmp3.7/11,Error ellipse: s-maj=22.3km s-min=15.4km az=70.0*
ISC 28 17:20:09.3±0.9,33°.8N±0°.1×135°.86E±0°.10,h413km±8km, n19,σ0°58/22,mb3.2/6,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMMH	**Miemihama**	**0.14**	**74**	P	**P**	**17 21 00.5**	**+0.3**
JKN2	**Miekihoku**	**0.57**	**37**	P	**P**	**17 21 01.2**	**+0.5**
JIE	**Ise**	**0.93**	**49**	P	**P**	**17 21 02.2**	**+0.6**
JEG	**Eigenji**	**1.42**	**18**	P	**P**	**17 21 04.1**	**+0.7**
JWT	**Wachi**	**1.54**	**346**	P	**P**	**17 21 04.3**	**+0.4**
JWT				S	**S**	**17 21 46.8**	**-1.4**
JMN	**Monobe**	**1.65**	**269**	P	**P**	**17 21 05.3**	**+0.7**
JAO	**Obara**	**1.88**	**37**	P	**P**	**17 21 06.3**	**+0.5**
JAO				S	**S**	**17 21 51.5**	**0.0**
JYTA	**Yamagatataniai**	**1.94**	**21**	P	**P**	**17 21 06.6**	**+0.5**
JHJ	**Hachijo jima 2**	**3.34**	**100**	P	**P**	**17 21 16.8**	**+0.5**
7.3nm,0.3s,baz=241,slow=19,SNR=3.6							
MJAR	**Matsushiro Arr**	**3.36**	**34**	P	**P**	**17 21 16.8**	**+0.4**
0.3nm,0.3s,baz=201,slow=8.3,SNR=25							
JNU	**Nakatsue**	**4.22**	**262**	P	**P**	**17 21 24.9**	**+0.8**
1.7nm,0.3s,baz=28,slow=4.9,SNR=13							
KSRS	**Korea Array**	**7.43**	**302**	P	**P**	**17 21 58.6**	**+0.4**
0.2nm,0.3s,baz=115,slow=12,SNR=8.0							
USRK	**Ussuriysk Ar.**	**10.83**	**345**	P	**P**	**17 22 35.8**	**+0.2**
0.1nm,0.3s,baz=227,slow=19,SNR=3.6							
CMAR	**Chiang Mai Arr**	**36.27**	**255**	P	**P**	**17 26 35.8**	**-0.1**
0.3nm,0.6s,baz=45,slow=7.9,SNR=3.3							
MKAR	**Makanchi Array**	**42.10**	**304**	P	**P**	**17 27 23.1**	**+0.1**
0.3nm,0.4s,baz=88,slow=11,SNR=5.9							
MKAR				PcP	**PcP**	**17 29 08.5**	**-0.1**
0.2nm,0.7s,baz=122,slow=1.6,SNR=3.7							
WRA	**Warramunga Arr**	**53.44**	**182**	P	**P**	**17 28 48.6**	**-0.4**
2.4nm,1.1s,baz=360,slow=6.3,SNR=11							
ASAR	**Alice Springs**	**57.16**	**182**	P	**P**	**17 29 14.8**	**-0.3**
0.2nm,0.8s,baz=352,slow=5.6,SNR=4.7							
ARCES	**ARCESS Array B**	**65.41**	**339**	P	**P**	**17 30 09.3**	**+0.3**
2.4nm,1.0s,baz=42,slow=7.3,SNR=1.9							
FINES	**FINESS Array B**	**69.52**	**331**	P	**P**	**17 30 34.3**	**-0.2**
1.9nm,0.9s,baz=66,slow=4.6,SNR=7.5							

IDC 28 17:26:30.2±14.0,19°.73S×177°.64W,h412km±152km, mb3.5/6,mb1 3.7/6,mb1mx3.3/24,mbtmp4.3/6,Error ellipse: s-maj=61.3km s-min=25.4km az=72.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.91**	**263**	P	P	17 32 37.4	+0.4
5.7nm,1.0s,baz=82,slow=7.8,SNR=7.4							
STKA	**Stephens Creek**	**38.43**	**243**	P	P	17 33 14.5	-0.1
3.8nm,0.4s,baz=86,slow=9.1,SNR=14							
ASAR	**Alice Springs**	**45.03**	**256**	P	P	17 34 07.2	-0.3
16nm,0.7s,baz=93,slow=7.9,SNR=271							
WRA	**Warramunga Arr**	**45.05**	**261**	P	P	17 34 07.0	-0.7
160nm,0.4s,baz=93,slow=7.3,SNR=1.8							
VNDA	**Vanda**	**58.71**	**185**	P	P	17 35 46.0	0.0
0.4nm,0.6s,baz=358,slow=7.4,SNR=5.6							
MJAR	**Matsushiro Arr**	**69.79**	**323**	P	P	17 36 57.8	+0.2
0.6nm,0.6s,baz=152,slow=5.7,SNR=6.8							
PETK	**Petropavlovsk-**	**75.61**	**345**	P	P	17 37 30.7	-0.4
2.3nm,1.0s,baz=113,slow=7.4,SNR=4.9							
BRTR	**Keskin Array B**	**146.56**	**313**	PKPbc	PKPbc	17 45 24.1	-0.6
0.6nm,0.7s,baz=85,slow=4.5,SNR=4.0							

IDC 28 18:14:59.5±2.2,5°.16N×125°.75E,h0km,mb3.5/3, mb1 3.6/3,mb1mx3.3/34,mbtmp3.5/3,Error ellipse: s-maj=205.0km s-min=25.8km az=64.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.33**	**162**	P	P	18 20 38.1	+0.8
123nm,0.3s,baz=341,slow=12,SNR=2.7							
ASAR	**Alice Springs**	**29.73**	**165**	P	P	18 21 07.0	-0.7
0.4nm,0.9s,baz=336,slow=7.1,SNR=4.2							
STKA	**Stephens Creek**	**39.80**	**159**	P	P	18 22 34.1	-0.4
0.8nm,0.8s,baz=310,slow=17,SNR=2.4							
MKAR	**Makanchi Array**	**55.84**	**325**	P	P	18 24 38.7	-0.1
0.2nm,0.4s,baz=116,slow=7.7,SNR=4.9							

*NIED **28** 18:17:00,35°.10N×142°.30E,h8km,Mw3.8 Best double couple: M0:6.32000×10^14 NP1:φs9.00000°,δ25.00000°, λ-84.00000°. NP2:φs182.00000°,δ66.00000°, λ-93.00000°.*
*IDC **28** 18:17:21.9±1.3,35°.09N×142°.27E,h0km,mb3.5/6, mb1 3.6/11,mb1mx3.5/46,mbtmp3.6/11,ML3.1/5,MS3.0/4, Ms1 3.0/4,ms1mx2.6/39,Error ellipse: s-maj=30.4km s-min=19.4km az=82.0*
*JMA **28** 18:17:23.2±0.4,35°.09N×142°.26E,h43km,M3.5*
*ISCJB **28** 18:17:25.6±0.8,35°.09N±0°.05×142°.06E±0°.07,h42km, mb3.5/6,MS3.3/2,Error ellipse: s-maj=8.1km s-min=6.4km az=11.2*
ISC 28 18:17:27.2±1.1,35°.10N±0°.06×142°.11E±0°.09,h42km,n24, σ1°78/27,mb3.5/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.03**	**245**	P	**Pn**	**18 17 43.0**	**-1.7**
BSO1				S	**Sn**	**18 17 57.8**	**+0.1**
CHOJ	**Chosi**	**1.19**	**301**	P	**Pn**	**18 17 45.7**	**-1.7**
CHOJ				*e*S	**Sn**	**18 18 01.4**	**-0.9**
BSO3	**Boso 3**	**1.35**	**258**	P	**Pn**	**18 17 48.2**	**-1.1**
BSO4	**Boso 4**	**1.46**	**266**	P	**Pn**	**18 17 50.2**	**-0.8**
JSMT	**Sammumatsuo**	**1.46**	**292**	P	**Pn**	**18 17 50.4**	**-0.7**
JKUC	**kamogawauchiur**	**1.57**	**273**	P	**Pn**	**18 17 51.3**	**-1.3**
JIM2	**Oshima 3**	**2.23**	**261**	P	**Pn**	**18 17 59.6**	**-2.2**
JMKN	**Mikurajimanish**	**2.40**	**241**	P	**Pn**	**18 18 02.2**	**-1.9**
JMKN				S	**Sn**	**18 18 30.2**	**-2.1**
JFK	**Kawauchi**	**2.47**	**337**	P	**Pn**	**18 18 02.5**	**-2.6**
JHJ	**Hachijo jima 2**	**2.76**	**225**	Pn	**Pn**	**18 18 07.0**	**-2.0**
16nm,0.3s,baz=286,slow=18,SNR=23							
JHJ				Sn	**Sn**	**18 18 37.8**	**-3.3**
43nm,0.3s,baz=88,slow=23,SNR=12							
MJAR	**Matsushiro Arr**	**3.48**	**296**	Pn	**Pn**	**18 18 17.8**	**-1.1**
0.3nm,0.3s,baz=117,slow=8.7,SNR=27							
MJAR				Sn	**Sn**	**18 18 57.1**	**-1.8**
0.3nm,0.3s,baz=151,slow=8.0,SNR=5.6							
MAT	**Matsushiro**	**3.48**	**296**	P	**Pn**	**18 18 18.0**	**-0.9**
MAT				S	**Sn**	**18 18 57.1**	**-1.8**
ASAJ	**Asahikawa**	**9.01**	**2**	Pn	**Pn**	**18 19 31.9**	**-2.9**
0.6nm,0.3s,baz=213,slow=12,SNR=4.9							
JNU	**Nakatsue**	**9.52**	**261**	LR	LR	18 22 40.3	
comp=Z,62nm,21.7s,baz=78,slow=33							
KSRS	**Korea Array**	**11.69**	**286**	Pn	**Pn**	**18 20 12.8**	**+1.4**
0.1nm,0.3s,baz=96,slow=11,SNR=3.0							
KSRS				LR	LR	18 25 00.6	
comp=Z,51nm,19.3s,baz=144,slow=39							
USRK	**Ussuriysk Ar.**	**11.97**	**322**	Pn	**Pn**	**18 20 15.8**	**+0.6**
0.2nm,0.3s,baz=150,slow=11,SNR=5.2							
PETK	**Petropavlovsk-**	**21.12**	**27**	P	**P**	**18 22 07.1**	**-1.1**
4.4nm,1.0s,baz=224,slow=12,SNR=3.1							
SONM	**Songino Array**	**29.36**	**307**	P	**P**	**18 23 28.2**	**+1.9**
0.3nm,0.5s,baz=120,slow=8.5,SNR=3.1							
ZALV	**Zalesovo Beam**	**43.65**	**314**	P	**P**	**18 25 29.3**	**+1.8**
0.3nm,0.4s,baz=102,slow=6.5,SNR=1.5							
MKAR	**Makanchi Array**	**45.64**	**304**	P	**P**	**18 25 44.5**	**+1.0**
0.3nm,0.7s,baz=86,slow=6.5,SNR=3.2							
AAK	**Ala-Archa**	**51.92**	**300**	LR	LR	18 50 08.5	
comp=Z,36nm,19.0s,baz=132,slow=38							
WRA	**Warramunga Arr**	**55.23**	**189**	P	**P**	**18 26 56.6**	**+0.4**
1.2nm,0.9s,baz=1.8,slow=7.3,SNR=3.4							
ASAR	**Alice Springs**	**58.96**	**189**	P	**P**	**18 27 24.1**	**+1.7**
0.3nm,0.7s,baz=354,slow=7.1,SNR=3.2							
AKTO	**Aktyubinsk**	**60.39**	**313**	LR	LR	18 54 47.7	
comp=Z,15nm,21.9s,baz=8.7,slow=37							

*ISCJB **28** 18:31:14.5±0.7,23°.92N±0°.08×100°.14E±0°.07,h10km, mb3.4/5,Error ellipse: s-maj=12.9km s-min=8.0km az=147.0*
*BJI **28** 18:31:14.2±0.0,24°.00N×99°.98E,h5km,ML3.8/7*
*IDC **28** 18:31:15.0±1.1,23°.94N×100°.22E,h0km,mb3.4/5, mb1 3.5/6,mb1mx3.3/45,mbtmp3.4/6,ML3.3/1,Error ellipse: s-maj=41.4km s-min=17.7km az=80.0*
ISC 28 18:31:16.2±0.9,23°.90N±0°.08×100°.11E±0°.10,h10km,n9, σ1°24/10,mb3.3/5,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.69**	**62**	Pg	**Pg**	**18 32 06.5**	**-1.4**
KMI				Sg	**Sg**	**18 32 43.5**	**+0.7**
KMI				smax	smax		
comp=N,560nm,1.0s							
KMI				smax	smax		
comp=E,470nm,1.1s							
CMAR	**Chiang Mai Arr**	**5.52**	**192**	Pn	**Pn**	**18 32 40.1**	**+1.6**
0.2nm,0.3s,baz=5.5,slow=13,SNR=6.2							
CMAR				Pg	**Pg**	**18 33 00.2**	**-1.8**
10nm,0.3s,baz=1.7,slow=16,SNR=40							
CMAR				Lg	Lg	18 34 11.8	
6.2nm,0.3s,baz=3.7,slow=29,SNR=9.4							
WHN	**Wuhan**	**14.29**	**59**	P	P	18 34 49.5	+3.6
WMQ	**Urumqi**	**22.34**	**336**	*e*P	**P**	**18 36 13.0**	**-1.3**
WMQ				pP	sP	18 36 17.3	-1.9
SONM	**Songino Array**	**24.41**	**10**	P	**P**	**18 36 34.9**	**-0.1**
0.2nm,0.5s,baz=173,slow=13,SNR=3.3							
MKAR	**Makanchi Array**	**26.95**	**332**	P	**P**	**18 36 57.9**	**0.0**
0.4nm,0.6s,baz=140,slow=10,SNR=5.8							
WRA	**Warramunga Arr**	**54.88**	**140**	P	**P**	**18 40 46.8**	**-0.3**
0.5nm,0.5s,baz=338,slow=7.1,SNR=4.4							
ASAR	**Alice Springs**	**57.55**	**143**	P	**P**	**18 41 06.7**	**+0.5**
0.2nm,0.8s,baz=318,slow=6.8,SNR=4.9							
FINES	**FINESS Array B**	**61.69**	**328**	P	**P**	**18 41 35.0**	**+0.7**
0.6nm,0.8s,baz=97,slow=8.1,SNR=2.7							

*KRSC **28** 18:33:10.2±10.0,51°.99N×160°.80E,h61km±10km,ML4.2*
*ISCJB **28** 18:33:11.6±1.1,52°.04N±0°.04×160°.75E±0°.05,h21km±8km, mb3.7/10,MS3.1/2,Error ellipse: s-maj=6.2km s-min=5.1km az=160.6*
*IDC **28** 18:33:11.2±1.2,52°.28N×160°.53E,h0km,mb3.6/10, mb1 3.8/11,mb1mx3.5/56,mbtmp3.6/11,ML3.4/1,MS3.2/2, Ms1 3.2/2,ms1mx2.6/32,Error ellipse: s-maj=27.4km s-min=23.0km az=118.0*
ISC 28 18:33:11.3±3.5,52°.06N±0°.05×160°.72E±0°.04,h9km±22km, n47,σ1°41/61,mb3.7/10,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.13**	**338**	*e*P	**Pb**	**18 33 31.7**	**-1.2**
SPN				*e*

MKZ			*e*S	Sn	18 34 22.5	-2.1
KZV	**Kizimen**	**3.07 355**	*e*P	Pn	18 34 00.9	+0.7
KZV			*e*S	Sn	18 34 35.5	-1.6
TUMD	**Tumrok D**	**3.16 357**	*e*P	Pn	18 34 01.3	+0.1
TUMD			*e*S	Sn	18 34 37.0	-2.0
SKR	**Severo-Kuril's**	**3.19 246**	*e*S	Sn	18 34 37.5	-2.3
TUMR	**Tumrok**	**3.25 354**	*e*P	Pn	18 34 03.7	+1.1
ESO	**Esso**	**4.05 344**	P	Pn	18 34 15.2	+1.7
KBTR	**Krutoberegovo**	**4.34 16**	*e*P	Pn	18 34 18.5	+1.1
BKI	**Bering**	**4.44 43**	*e*P	Pn	18 34 19.6	+0.8
BKI			*e*S	Sn	18 35 05.8	-4.7
BDR	**Baidarnaya**	**4.53 3**	P	Pn	18 34 21.7	+1.6
SRKR	**Sorokina**	**4.62 3**	*e*P	Pn	18 34 23.3	+2.1
KLR	**Kul'dur**	**18.53 273**	P	Pn	18 37 29.0	+1.0
	0.1nm,0.3s,baz=83,slow=17,SNR=4.2					
USRK	**Ussuriysk Ar.**	**20.62 259**	LR	LR	18 47 29.7	
	comp=Z,30nm,18.8s,baz=214,slow=42					
MJAR	**Matsushiro Arr**	**22.23 235**	P	**P**	**18 38 10.0**	**+1.9**
	1.2nm,0.7s,baz=16,slow=10.0,SNR=4.1					
TIXI	**Tiksi**	**24.18 336**	P	**P**	**18 38 25.8**	**-1.7**
	2.4nm,0.6s,baz=132,slow=9.1,SNR=16					
H11N2	**WAKE ISLAND Hy 32.62 169**		T	T	19 14 26.3	
	baz=352,slow=76,SNR=16					
H11N3	**WAKE ISLAND Hy 32.64 169**		T	T	19 14 27.3	
	baz=352,slow=76,SNR=15					
H11N1	**WAKE ISLAND Hy 32.64 169**		T	T	19 14 24.3	
	baz=352,slow=76,SNR=16					
SONM	**Songino Array**	**34.52 285**	LR	LR	18 55 28.3	
	comp=Z,73nm,18.7s,baz=91,slow=39					
MKAR	**Makanchi Array**	**48.95 297**	P	**P**	**18 41 55.3**	**-2.4**
	0.5nm,0.6s,baz=60,slow=6.9,SNR=6.5					
CMAR	**Chiang Mai Arr**	**58.35 259**	P	**P**	**18 43 08.1**	**+1.2**
	0.5nm,0.7s,baz=26,slow=6.6,SNR=4.6					
FINES	**FINESS Array B**	**61.23 337**	P	**P**	**18 43 25.9**	**-0.1**
	1.4nm,0.5s,baz=29,slow=8.4,SNR=13					
NB2	**NORSAR Subarra**	**64.65 344**	P	**P**	**18 43 48.9**	**+0.1**
	comp=Z,4.4nm,1.1s,baz=22,slow=6.9					
NOA	**NORSAR Array B**	**64.65 344**	P	**P**	**18 43 49.1**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=22,slow=6.6,SNR=5.5					
AKASG	**Malin Array Be**	**69.70 329**	P	**P**	**18 44 20.0**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=33,slow=6.8,SNR=2.8					
TXAR	**Lajitas Array**	**70.69 67**	P	**P**	**18 44 29.7**	**+2.2**
	comp=Z,0.1nm,0.5s,baz=312,slow=8.0,SNR=2.8					
BRTR	**Keskin Array B**	**77.67 321**	P	**P**	**18 45 08.2**	**0.0**
	comp=Z,0.4nm,0.6s,baz=4.4,slow=5.3,SNR=3.0					
ASAR	**Alice Springs**	**78.97 205**	P	**P**	**18 45 16.9**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=13,slow=5.8,SNR=4.9					

JMA ***28*** *18:54:34.5±0.3, 35°.07N×142°.21E, h57km, M3.3*
IDC ***28*** *18:54:35.2±2.7, 35°.02N×141°.85E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.2/32, mbtmp3.3/5, ML2.2/1, Error ellipse: s-maj=82.3km s-min=24.4km az=57.0*
ISCJB ***28*** *18:54:36.3±0.9, 35°.09N±0°.05×142°.03E±0°.07, h29km, mb3.5/4, Error ellipse: s-maj=8.8km s-min=7.7km az=169.3*

ISC 28 18:54:38.4±1.4, 35°.08N±0°.06×141°.99E±0°.10, h29km, n18, σ1§12/24, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.93**	**243**	P	**Pn**	**18 54 53.8**	**-1.2**
BSO1				S	**Sb**	**18 55 08.4**	**+1.1**
CHOJ	**Chosi**	**1.11**	**305**	P	**Pn**	**18 54 56.8**	**-1.2**
CHOJ				*e*S	**Sn**	**18 55 12.9**	**+0.5**
BSO3	**Boso 3**	**1.24**	**258**	P	**Pn**	**18 54 59.0**	**-0.5**
BSO4	**Boso 4**	**1.35**	**267**	P	**Pn**	**18 55 00.8**	**-0.4**
JKUC	**kamogawauchiur**	**1.47**	**274**	P	**Pn**	**18 55 02.2**	**-0.7**
JIM2	**Oshima 3**	**2.13**	**261**	P	**Pn**	**18 55 10.4**	**-1.6**
JMKN	**Mikurajimanish**	**2.30**	**240**	P	**Pn**	**18 55 12.9**	**-1.5**
JMKN				S	**Sn**	**18 55 40.5**	**-1.2**
JOD2	**Odawara 2**	**2.38**	**275**	P	**Pn**	**18 55 14.2**	**-1.3**
JOD2				S	**Sn**	**18 55 43.7**	**0.0**
JAG	**Ashikaga**	**2.46**	**304**	P	**Pn**	**18 55 15.5**	**-1.1**
JRY	**Ryogami san**	**2.69**	**291**	P	**Pn**	**18 55 19.3**	**-0.4**
JFT	**Otama**	**2.78**	**332**	P	**Pn**	**18 55 19.4**	**-1.5**
JYN	**Shimob**	**2.85**	**280**	P	**Pn**	**18 55 20.9**	**-1.0**
MJAR	**Matsushiro Arr**	**3.40**	**297**	Pn	**Pn**	**18 55 29.1**	**-0.4**
	0.2nm,0.3s,baz=116,slow=8.9,SNR=13						
MJAR				Sn	**Sn**	**18 56 08.9**	**0.0**
	0.2nm,0.3s,baz=121,slow=16,SNR=2.9						
MAT	**Matsushiro**	**3.40**	**297**	P	**Pn**	**18 55 28.9**	**-0.6**
MAT				S	**Sn**	**18 56 08.1**	**-0.8**
MKAR	**Makanchi Array**	**45.57**	**304**	P	**P**	**19 02 56.9**	**+1.3**
	0.2nm,0.6s,baz=106,slow=5.2,SNR=1.5						
KURBB	**Kurchatov Arra**	**47.59**	**309**	P	**P**	**19 03 10.9**	**-0.4**
	0.4nm,0.5s,baz=83,slow=7.7,SNR=3.5						
WRA	**Warramunga Arr**	**55.19**	**189**	P	**P**	**19 04 10.8**	**+2.3**
	1.1nm,1.0s,baz=0.3,slow=6.5,SNR=1.6						
ASAR	**Alice Springs**	**58.92**	**189**	P	**P**	**19 04 34.1**	**-0.7**
	0.3nm,0.9s,baz=1.5,slow=7.6,SNR=3.2						

ISCJB ***28*** *19:12:19.2±0.8, 25°.82S±0°.09×179°.8W±0°.1, h458km, mb3.7/6, Error ellipse: s-maj=15.3km s-min=11.4km az=0.3*
IDC ***28*** *19:12:20.5±3.1, 25°.88S×179°.73W, h466km±38km, mb3.3/5, mb1 3.4/9, mb1mx3.1/37, mbtmp4.3/9, Error ellipse: s-maj=25.2km s-min=20.1km az=176.0*

ISC 28 19:12:20.0±0.9, 25°.9S±0°.1×179°.8W±0°.1, h458km, n13, σ1§27/14, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.63**	**191**	P	**P**	**19 15 06.0**	**+0.7**
	1.2nm,0.3s,baz=34,slow=12,SNR=3.2						
URZ				S	**S**	**19 17 21.9**	**0.0**
	0.8nm,0.3s,baz=318,slow=18,SNR=3.8						
DZM	**Mont Dzumac**	**13.16**	**284**	P	**P**	**19 15 12.9**	**+1.4**
	0.4nm,0.3s,baz=105,slow=19,SNR=1.2						
RAR	**Rarotonga**	**18.91**	**80**	P	**P**	**19 16 09.8**	**-1.2**
	4.6nm,0.3s,baz=225,slow=8.6,SNR=2.2						
RPZ	**Rata Peaks**	**19.30**	**200**	P	**P**	**19 16 15.2**	**+0.8**
	1.8nm,0.3s,baz=339,slow=3.3,SNR=7.6						
CTA	**Charters Tower**	**31.75**	**273**	P	**P**	**19 18 05.6**	**+0.4**
	6.3nm,0.8s,baz=94,slow=12,SNR=7.1						
STKA	**Stephens Creek**	**34.23**	**251**	P	**P**	**19 18 26.5**	**+0.3**
	2.6nm,1.1s,baz=112,slow=13,SNR=4.6						
ASAR	**Alice Springs**	**41.96**	**263**	P	**P**	**19 19 29.2**	**-0.4**
	0.6nm,0.5s,baz=95,slow=7.8,SNR=17						
ASAR				S	**S**	**19 25 11.2**	**-3.2**
	0.3nm,0.7s,baz=93,slow=17,SNR=2.9						
WRA	**Warramunga Arr**	**42.52**	**268**	P	**P**	**19 19 33.2**	**-0.9**
	1.2nm,0.3s,baz=96,slow=7.7,SNR=3.6						
KSRS	**Korea Array**	**79.89**	**320**	P	**P**	**19 23 40.4**	**+0.4**
	1.4nm,0.6s,baz=141,slow=6.9,SNR=6.1						
PETK	**Petropavlovsk-**	**81.06**	**346**	P	**P**	**19 23 46.3**	**+0.5**
	1.9nm,0.8s,baz=117,slow=5.2,SNR=4.1						
NB2	**NORSAR Subarra**	**144.06**	**351**	PKP	PKPbc	19 31 01.2	0.0
	comp=Z,0.6nm,0.5s,baz=14,slow=3.2						
NOA	**NORSAR Array B**	**144.06**	**351**	PKP	**PKPab**	**19 31 01.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=21,slow=3.8,SNR=9.1						
BRTR	**Keskin Array B**	**148.90**	**305**	PKPbc	**PKPbc**	**19 31 14.3**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=130,slow=2.5,SNR=2.9						

NIED ***28*** *19:24:00, 34°.10N×140°.90E, h41km, Mw5.2 Best double couple: M0:6.96000×10^16 NP1:φs186.00000°, δ20.00000°, λ150.00000°. NP2:φs305.00000°, δ80.00000°, λ73.00000°.*
BJI ***28*** *19:24:20.2±0.0, 34°.20N×140°.80E, h14km, mb4.7/64, mB4.9/41, Ms4.7/70, Ms7 4.5/68*
JMA ***28*** *19:24:24.5±0.2, 34°.18N×140°.81E, h40km±3km, M5.0 Broadband fault plane solution: P waves. NP1: φs332.00000°, δ73.00000°, λ79.00000°. NP2: φs184.00000°, δ20.00000°, λ121.00000°. Principal axes: T Plg61.0000°, Azm226.0000°; N Plg10.0000°, Azm335.0000°; P Plg27.0000°, Azm70.0000°;*
JMA Felt I J1.
ISCJB ***28*** *19:24:24.3±0.3, 34°.12N±0°.02×140°.76E±0°.02, h42km±3km, mb4.9/269, MS4.6/48 Error ellipse: s-maj=3.4km s-min=2.7km az=43.1*
NEIC ***28*** *19:24:24.6±1.6, 34°.17N×140°.75E, h30km±4km, mb5.0/238, Error ellipse: s-maj=12.0km s-min=8.6km az=101.0*
NEIC Recorded [1 JMA] in Chiba, Kanagawa, Shizuoka and Tokyo.
MOS ***28*** *19:24:24.1±0.9, 34°.12N×140°.74E, h44km, mb5.2/70, MS4.6/10, Error ellipse: s-maj=7.8km s-min=5.0km az=111.5*
IDC ***28*** *19:24:25.9±1.4, 34°.16N×140°.78E, h41km±11km, mb4.4/27, mb1 4.5/30, mb1mx4.4/45, mbtmp4.6/30, ML4.1/2, MS4.5/28, Ms1 4.5/28, ms1mx4.4/36, Error ellipse: s-maj=12.8km s-min=8.5km az=80.0*
GCMT ***28*** *19:24:27.6±0.1, 34°.27N±0°.01×140°.87E±0°.01, h40km, MW5.2/105, Moment Tensor Solution. s82,c133; s105,c187; Duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr5.04±.17; Mθθ-2.18±.12; Mφφ-2.85±.13; Mrθ-6.17±.18; Mθφ4.23±.09; Mφr1.87±.13; Best double couple: M0:8.85400×10^16 NP1:φs294.00000°, δ70.00000°, λ69.00000°. NP2:φs163.00000°, δ28.00000°, λ135.00000°.*
Principal axes: T 8.6020, Plg59.0000°, Azm175.0000°; N 0.5150, Plg20.0000°, Azm301.0000°; P -9.1070, Plg23.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 28 19:24:24.4±0.7, 34°.17N±0°.03×140°.80E±0°.03, h32km±4km, n558, σ1§54/589, mb4.9/269, MS4.7/48, 17C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.50**	**17**	⇑P	**Pn**	**19 24 34.8**	**-0.1**
BSO3	**Boso 3**	**0.68**	**339**	⇑P	**Pb**	**19 24 38.1**	**+0.5**
BSO4	**Boso 4**	**0.90**	**335**	⇑P	**Pb**	**19 24 41.4**	**-0.2**
JMKN	**Mikurajimanish**	**1.04**	**255**	P	**Pn**	**19 24 43.3**	**+0.5**
JMKN				*e*S	**Sn**	**19 24 56.6**	**+0.3**
KTR	**Katsuura**	**1.06**	**338**	P	**Pn**	**19 24 43.0**	**0.0**
KTR				S	**Sn**	**19 24 56.5**	**-0.1**
JKUC	**kamogawauchiur**	**1.11**	**333**	P	**Pn**	**19 24 43.9**	**+0.2**
JKUC				*e*S	**Sn**	**19 24 57.8**	**0.0**
TATJ	**Tateyama 2**	**1.14**	**319**	P	**Pb**	**19 24 44.9**	**-0.7**
TATJ				S	**Sb**	**19 24 59.3**	**-0.8**
JIM2	**Oshima 3**	**1.26**	**296**	P	**Pn**	**19 24 45.9**	**+0.1**
JIM2				S	**Sn**	**19 25 00.8**	**-0.9**
JTHY	**Toshimahigashi**	**1.30**	**286**	P	**Pn**	**19 24 46.8**	**+0.4**
JTHY				*e*S	**Sn**	**19 25 03.0**	**+0.3**
JSKK	**Shikinejimakit**	**1.33**	**278**	P	**Pn**	**19 24 47.2**	**+0.5**
JHJ2	**Mitsune**	**1.34**	**218**	*e*Pn	**Pn**	**19 24 47.5**	**+0.7**
JHJ2				*e*Sn	**Sb**	**19 25 06.6**	**+1.0**
JHJ2	**Mitsune**	**1.34**	**218**	⇓P	**Pn**	**19 24 47.6**	**+0.7**
JHJ2				*e*S	**Sn**	**19 25 04.0**	**+0.5**
JCN	**Nagara**	**1.34**	**339**	P	**Pn**	**19 24 47.4**	**+0.5**
JCN				*e*S	**Sn**	**19 25 04.1**	**+0.5**
JHJ	**Hachijo jima 2**	**1.35**	**219**	P	**Pn**	**19 24 47.7**	**+0.7**
	2μm,0.3s,baz=339,slow=20,SNR=395						
JHJ				S	**Sn**	**19 25 01.7**	**-2.1**
	2μm,0.3s,baz=54,slow=19,SNR=31						
JHJ				LR	LR	19 25 34.1	
	comp=Z,27μm,18.1s,baz=124,slow=52						
JKO	**Kozu shima**	**1.38**	**271**	⇓P	**Pn**	**19 24 48.3**	**+0.8**
JSMT	**Sammumatsuo**	**1.50**	**349**	P	**Pn**	**19 24 49.3**	**+0.2**
AJI	**Ajiro2**	**1.66**	**302**	⇓P	**Pn**	**19 24 51.5**	**+0.2**
JHTM	**Izuhatsuma**	**1.68**	**299**	P	**Pn**	**19 24 51.9**	**+0.4**
JIZS	**Izushimoda**	**1.68**	**290**	⇓P	**Pn**	**19 24 52.2**	**+0.6**
JOD2	**Odawara 2**	**1.79**	**308**	⇓P	**Pn**	**19 24 53.3**	**+0.3**
JYN	**Shimob**	**2.28**	**306**	⇓P	**Pn**	**19 25 00.9**	**+1.0**
JRY	**Ryogami san**	**2.41**	**320**	⇑P	**Pn**	**19 25 02.2**	**+0.5**
JHO	**Hitachi**	**2.44**	**356**	⇓P	**Pn**	**19 25 02.5**	**+0.4**
JAG	**Ashikaga**	**2.51**	**334**	P	**Pn**	**19 25 03.1**	**+0.2**
JYZW	**Yoshizawa**	**2.66**	**289**	P	**Pn**	**19 25 06.8**	**+1.7**
JNY	**Yasuok**	**2.70**	**297**	P	**Pn**	**19 25 07.8**	**+2.2**
JAO	**Obara**	**3.12**	**292**	P	**Pn**	**19 25 13.7**	**+2.3**
JNG	**Nsakai**	**3.14**	**316**	⇑P	**Pn**	**19 25 13.7**	**+1.9**
JGF	**Kuroka**	**3.17**	**298**	P	**Pn**	**19 25 14.8**	**+2.7**
MJAR	**Matsushiro Arr**	**3.18**	**319**	P	**Pn**	**19 25 13.2**	**+1.0**
	14nm,0.3s,baz=156,slow=12,SNR=271						
MJAR				S	**Sn**	**19 25 49.1**	**+0.1**
	12nm,0.3s,baz=160,slow=18,SNR=9.3						
MJAR				LR	LR	19 26 48.8	
	comp=Z,7μm,21.4s,baz=140,slow=46						
MAJO	**Matsushiro**	**3.18**	**319**	*e*Pn	**Pn**	**19 25 13.7**	**+1.5**
MAJO				*e*Sn	**Sn**	**19 25 50.7**	**+1.7**
MAJO	**Matsushiro**	**3.18**	**319**	*e i*P	**Pn**	**19 25 13.7**	**+1.5**
MAT	**Matsushiro**	**3.18**	**319**	P	**Pn**	**19 25 14.4**	**+2.2**
MAT				S	**Sn**	**19 25 51.6**	**+2.6**
MAT	**Matsushiro**	**3.18**	**319**	P	**Pn**	**19 25 13.7**	**+1.5**
MJB9	**Matsu-Tunnel**	**3.18**	**319**	*e*Pn	**Pn**	**19 25 13.8**	**+1.6**
MJB9				*e*Sn	**Sn**	**19 25 51.4**	**+2.3**
INU	**Inuyama**	**3.33**	**292**	*e*Pn	**Pn**	**19 25 15.4**	**+1.1**
JJN	**Nakama**	**3.63**	**324**	⇓P	**Pn**	**19 25 19.9**	**+1.5**
JKN2	**Miekihoku**	**3.75**	**272**	P	**Pn**	**19 25 21.9**	**+1.8**
JYA	**Atsumi**	**4.50**	**349**	⇓P	**Pn**	**19 25 32.3**	**+2.0**
JKMT	**Kesennumamotoy**	**4.66**	**6**	P	**Pn**	**19 25 32.0**	**-0.6**
JYK	**Kaneyama**	**4.75**	**356**	P	**Pn**	**19 25 34.7**	**+0.9**
OFUJ	**Ofunato**	**4.95**	**8**	P	**Pn**	**19 25 35.8**	**-0.7**
JRG	**Rokugo**	**5.22**	**359**	P	**Pn**	**19 25 41.1**	**+0.9**
JKZ	**Kuzumaki**	**5.82**	**4**	P	**Pn**	**19 25 48.2**	**-0.3**
JTH	**Tanohata**	**5.82**	**8**	P	**Pn**	**19 25 47.6**	**-0.9**
JAH	**Hinai**	**6.01**	**359**	P	**Pn**	**19 25 51.7**	**+0.6**
ERM	**Erimo**	**8.05**	**13**	*e*Pn	**Pn**	**19 26 17.3**	**-1.7**
ERM				*e*Sn	**Sn**	**19 27 42.5**	**-6.4**
ERM	**Erimo**	**8.05**	**13**	*e*P	**Pn**	**19 26 17.3**	**-1.7**
JNU	**Nakatsue**	**8.34**	**266**	P	**Pn**	**19 26 25.1**	**+1.9**
	2.9nm,0.3s,baz=66,slow=2.1,SNR=26						
ASAJ	**Asahikawa**	**10.03**	**7**	P	**Pn**	**19 26 44.9**	**-1.3**
	18nm,0.3s,baz=227,slow=11,SNR=50						
ASAJ				S	**Sn**	**19 28 28.9**	**-8.7**
	2.9nm,0.3s,baz=60,slow=20,SNR=3.1						
YUK	**Yuzh-Kuril'sk**	**10.60**	**20**	*d i*P	**Pn**	**19 26 51.1**	**-2.9**
YUK				pmax	pmax		
	comp=Z,206nm,0.4s						
YUK				pmax	pmax		
	comp=E,52nm,0.3s						
YUK				pmax	pmax		
	comp=N,30nm,0.2s						
YUK				MLR	MLR		
	comp=Z,2μm,17.0s						
YUK				MLR	MLR		
	comp=N,2μm,16.0s						
YUK				MLR	MLR		
	comp=E,1μm,16.0s						
KSRS	**Korea Array**	**10.96**	**291**	P	**Pn**	**19 27 03.2**	**+4.2**
	comp=E,0.4nm,0.3s,baz=108,slow=13,SNR=6.8						
KSRS				LR	LR	19 31 14.5	
	comp=E,792nm,19.5s,baz=101,slow=37						
KS15	**Wonju Array Si**	**10.99**	**291**	*e*Pn	**Pn**	**19 27 00.8**	**+1.5**
TJN	**Taejon**	**11.21**	**285**	*i* P	**Pn**	**19 27 05.9**	**+3.6**
USA0B	**Ussuriysk Arra**	**12.12**	**328**	*e*Pn	**Pn**	**19 27 16.1**	**+1.3**
USRK	**Ussuriysk Ar.**	**12.12**	**328**	P	**Pn**	**19 27 16.5**	**+1.8**
	comp=E,0.3nm,0.3s,baz=142,slow=12,SNR=18						
USRK				LR	LR	19 31 50.6	
	comp=E,2μm,20.7s,baz=127,slow=37						
KUR	**Kuril'sk**	**12.31**	**24**	*e*P	Pn	19 27 10.7	-6.6
KUR				pmax	pmax		
	comp=Z,75nm,0.8s						
KUR				pmax	pmax		
	comp=Z,38nm,0.4s						
KUR				pmax	pmax		
	comp=N,26nm,0.8s						
KUR				MLR	MLR		
	comp=Z,2μm,16.0s						
KUR				MLR	MLR		
	comp=E,2μm,15.0s						
KUR				MLR	MLR		
	comp=N,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**12.86**	**6**	*e*Pn	**Pn**	**19 27 22.6**	**-2.2**
YSS	**Yuzh-Sakhalins**	**12.86**	**6**	⇑*e*PN	**Pn**	**19 27 22.7**	**-2.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS				pmax	pmax		
	comp=N,30nm,0.5s						
YSS				pmax	pmax		
	comp=Z,200nm,4.9s						
YSS				MLR	MLR		
	comp=Z,2μm,17.0s						
JOW	**Kunigami**	**13.04**	**239**	*e*Pn	**Pn**	**19 27 25.5**	**-1.9**
MDJ	**Mudanjiang**	**13.55**	**324**	P	**Pn**	**19 27 37.0**	**+2.7**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,200nm,3.3s						
MDJ				LR	LR		
	comp=Z,1μm,17.5s						
MDJ				LR	LR		
	comp=Z,2μm,19.8s						
MDJ				LR	LR		
	comp=Z,3μm,21.1s						
MDJ	**Mudanjiang**	**13.55**	**324**	*e*Pn	**Pn**	**19 27 34.5**	**+0.2**
CN2	**Changchun**	**15.31**	**313**	*e*P	**Pn**	**19 27 58.8**	**+0.7**
CN2				*e*sP	pP	19 28 11.0	+0.9
CN2				*e*S	**Sn**	**19 30 46.5**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=Z,1μm,18.0s						
CN2				LR	LR		
	comp=Z,750nm,18.0s						
CN2				LR	LR		
	comp=Z,950nm,21.0s						
SNY	**Shenyang**	**15.57**	**304**	⇑P	**P**	**19 28 11.0**	**+5.6**
SNY				S	**Sn**	**19 30 58.8**	**+6.0**
DL2	**Dalian**	**16.11**	**293**	P	**Pn**	**19 28 04.5**	**-4.0**
DL2				pP	**P**	**19 28 12.0**	**+0.5**
DL2				sP	**pP**	**19 28 18.0**	**-1.0**
DL2				S	**Sn**	**19 30 57.8**	**-8.3**
DL2				pmax	pmax		
	comp=Z,37nm,1.2s						
DL2				pmax	pmax		
	comp=Z,89nm,4.1s						
DL2				LR	LR		
	comp=Z,970nm,11.6s						
DL2				LR	LR		
	comp=Z,910nm,13.9s						
DL2				LR	LR		
	comp=Z,1μm,11.9s						
KLR	**Kul'dur**	**16.48**	**339**	*i* P	**Pn**	**19 28 11.6**	**-1.4**
KLR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KLR	**Kul'dur**	**16.48**	**339**	P	**Pn**	**19 28 10.6**	**-2.5**
	comp=Z,1.3nm,0.3s,baz=152,slow=11,SNR=21						
KLR				LR	LR	19 35 17.7	
	comp=Z,972nm,18.5s,baz=142,slow=40						
TYV	**Tymovskoe**	**16.74**	**4**	*e*P	**Pn**	**19 28 11.5**	**-4.8**
TYV				pmax	pmax		
	comp=Z,300nm,4.2s						
TYV				pmax	pmax		
	comp=Z,22nm,0.8s						
TYV				MLR	MLR		
	comp=Z,4μm,21.0s						
GRNR	**Gornyy**	**16.90**	**350**	*e*P	**Pn**	**19 28 12.5**	**-5.8**
GRNR				pmax	pmax		
	comp=Z,65nm,1.0s						
SARN	**Sarigan**	**17.96**	**164**	*e*P	**P**	**19 28 32.9**	**+0.8**
	comp=Z,40nm,1.1s						
YOJ	**Yonaguni jima**	**18.26**	**243**	*e*P	**P**	**19 28 35.4**	**+0.1**
	comp=Z,240nm,1.8s						
YOJ	**Yonaguni jima**	**18.26**	**243**	*e*P	**P**	**19 28 35.4**	**+0.1**
YOJ				pmax	pmax		
	comp=Z,240nm,1.8s						
ANA2	**Anatahan**	**18.29**	**165**	*e*P	**P**	**19 28 36.0**	**+0.3**
	comp=Z,177nm,1.6s						
YHNB	**Yeheng**	**19.36**	**246**	*e*P	**P**	**19 28 46.5**	**-1.0**
	comp=Z,44nm,1.2s						
NACB	**Ninganchiao**	**19.48**	**244**	*e*P	**P**	**19 28 47.1**	**-1.6**
	comp=Z,17nm,0.9s						
YULB	**Yu-li**	**20.15**	**243**	*e*P	**P**	**19 28 55.0**	**-1.0**
	comp=Z,12nm,1.0s						
SSLB	**Suanglung**	**20.18**	**244**	*e*P	**P**	**19 28 55.8**	**-0.5**
	comp=Z,82nm,1.9s						
BJT	**Baijiatuau**	**20.47**	**294**	*e*P	**P**	**19 28 59.8**	**+0.4**
	comp=Z,14nm,1.0s						
BJT	**Baijiatuau**	**20.47**	**294**	*e*P	**P**	**19 28 59.8**	**+0.4**
BJT				pmax	pmax		
	comp=Z,14nm,1.0s						
TWG	**Pinlang**	**20.66**	**242**	*e*P	**P**	**19 28 59.4**	**-2.2**
	comp=Z,66nm,1.0s						
TPUB	**Ta-pu**	**20.70**	**244**	*e*P	**P**	**19 29 01.6**	**-0.5**
	comp=Z,20nm,1.0s						
GUMO	**Guam**	**20.82**	**169**	*e*P	**P**	**19 29 03.1**	**-0.2**
	comp=Z,262nm,1.1s						
GUMO	**Guam**	**20.82**	**169**	P	**P**	**19 29 03.6**	**+0.3**
	comp=Z,70nm,0.4s,baz=331,slow=1.4,SNR=17						
QZH	**Quanzhou**	**21.36**	**250**	P	**P**	**19 29 13.3**	**+4.2**
QZH				LR	LR		
	comp=Z,670nm,22.3s						
QZH				LR	LR		
	comp=Z,390nm,14.0s						
QZH				LR	LR		
	comp=Z,670nm,22.7s						
HIA	**Hailar**	**21.68**	**320**	*e*P	**P**	**19 29 10.7**	**-1.7**
	comp=Z,31nm,0.8s						
HIA	**Hailar**	**21.68**	**320**	*e*P	**P**	**19 29 10.7**	**-1.7**
HIA				pmax	pmax		
	comp=Z,31nm,0.8s						
PETK	**Petropavlovsk-**	**22.43**	**27**	P	**P**	**19 29 20.7**	**+0.3**
	comp=Z,33nm,1.2s,baz=212,slow=10,SNR=1.5						
PETK				LR	LR	19 38 41.6	
	comp=Z,2μm,21.1s,baz=164,slow=38						
WHN	**Wuhan**	**22.61**	**268**	P	**P**	**19 29 24.0**	**+1.5**
WHN				S	**S**	**19 33 23.5**	**-4.7**
WHN				pmax	pmax		
	comp=Z,42nm,0.6s						
WHN				LR	LR		
	comp=Z,2μm,10.7s						
WHN				LR	LR		
	comp=Z,1μm,10.7s						
WHN				LR	LR		
	comp=Z,3μm,15.7s						
HHC	**Hu-ho-hao-te**	**24.06**	**295**	*e*P	**P**	**19 29 36.3**	**-0.6**
HHC				S	**S**	**19 33 49.5**	**-2.8**
HHC				pmax	pmax		
	comp=Z,110nm,0.7s						
HHC				pmax	pmax		
	comp=Z,370nm,3.9s						
HHC				LR	LR		
	comp=Z,1μm,11.5s						
HHC				LR	LR		
	comp=Z,1μm,12.1s						
HH

LZH	**Lanzhou**	**30.18 284**	*e*P	**P**	**19 30 34.0 +2.1**
LZH			pP	sP	19 30 43.3 -0.3
LZH			sP	pwP	19 30 46.5 +2.5
LZH			PP	**PP**	**19 31 35.5 -4.7**
LZH			sS	sS	19 35 43.3 +0.1
LZH			SS	**ScP**	**19 37 10.5 -1.9**
LZH			pmax	pmax	
	comp=Z,21nm,1.1s				
LZH			pmax	pmax	
	comp=Z,160nm,4.3s				
LZH			LR	LR	
	comp=Z,780nm,12.5s				
LZH			LR	LR	
	comp=Z,890nm,10.8s				
LZH			LR	LR	
	comp=Z,1μm,13.4s				
GYA	**Guiyang**	**30.35 265⇑**	*i*P	**P**	**19 30 33.0 -0.5**
GYA			pP	pP	19 30 41.5 -0.5
GYA			PP	**PnPn**	**19 31 29.0 -3.2**
GYA			S	**S**	**19 35 32.0 +0.1**
GYA			SS	**ScP**	**19 37 12.8 -0.3**
GYA			pmax	pmax	
	comp=Z,20nm,0.8s				
GYA			pmax	pmax	
	comp=Z,120nm,4.9s				
GYA			LR	LR	
	comp=Z,1μm,16.2s				
GYA			LR	LR	
	comp=Z,810nm,16.2s				
GYA			LR	LR	
	comp=Z,1μm,16.8s				
DAV	**Davao City (W)**	**30.41 211**	LR	LR	19 40 41.6
	comp=Z,2μm,21.5s,baz=48,slow=32				
CD2	**Chengdu**	**31.29 274**	P	**P**	**19 30 40.3 -1.3**
CD2			S	**S**	**19 35 46.8 +0.4**
CD2			pmax	pmax	
	comp=Z,130nm,3.9s				
CD2			LR	LR	
	comp=Z,2μm,21.6s				
CD2			LR	LR	
	comp=Z,2μm,18.1s				
CD2			LR	LR	
	comp=Z,2μm,16.2s				
QIZ	**Qiongzhong**	**31.37 249**	P	**P**	**19 30 42.8 +0.4**
QIZ			S	**S**	**19 35 48.8 +1.1**
QIZ			LR	LR	
	comp=Z,380nm,22.6s				
QIZ			LR	LR	
	comp=Z,460nm,25.5s				
QIZ			LR	LR	
	comp=Z,790nm,27.1s				
ZAK	**Zakamensk**	**31.74 312**	*e*P	**P**	**19 30 46.0 +0.6**
ZAK			*e*		19 33 35.0
ZAK			pmax	pmax	
	comp=Z,8.0nm,1.4s				
ZAK			pmax	pmax	
	comp=Z,3.0nm,1.1s				
TLY	**Talaya**	**31.91 315**	*e*P	**P**	**19 30 47.2 +0.4**
	comp=Z,17nm,0.9s				
TLY	**Talaya**	**31.91 315**	*e*P	**P**	**19 30 49.0 +2.2**
TLY			*e*S	**S**	**19 35 57.8 +2.2**
TLY			*e*SS	**SS**	**19 38 13.9 +1.0**
TLY			pmax	pmax	
	comp=Z,73nm,1.3s				
TLY			MLR	MLR	
	comp=Z,2μm,16.0s				
TLY	**Talaya**	**31.91 315**	P	**P**	**19 30 49.7 +2.9**
	SNR=8.8				
GTA	**Gaotai**	**33.03 291**	*e*P	**P**	**19 30 56.8 -0.1**
GTA			pP	pP	19 31 05.8 +0.4
GTA			sP	pwP	19 31 10.0 +1.0
GTA			pmax	pmax	
	comp=Z,4.0nm,0.8s				
GTA			pmax	pmax	
	comp=Z,62nm,6.9s				
GTA			LR	LR	
	comp=Z,690nm,20.6s				
GTA			LR	LR	
	comp=Z,780nm,21.3s				
GTA			LR	LR	
	comp=Z,600nm,22.3s				
MOY	**Mondy**	**33.48 314**	*e*P	**P**	**19 31 01.9 +1.2**
MOY			pmax	pmax	
	comp=Z,14nm,1.6s				
KMI	**Kunming**	**34.13 265**	P	**P**	**19 31 06.5 -0.2**
KMI			pmax	pmax	
	comp=Z,10.0nm,0.5s				
KMI			LR	LR	
	comp=Z,870nm,16.3s				
KMI			LR	LR	
	comp=Z,590nm,17.4s				
KMI			LR	LR	
	comp=Z,2μm,16.3s				
TNTI	**Ternate**	**35.53 204**	*e*P	**P**	**19 31 18.7 +0.2**
	comp=Z,24nm,1.1s				
GENI	**Genyem**	**36.57 181**	P	P	19 31 34.5 +7.1
ATKA	**Atka Island**	**36.73 47**	*e*P	**P**	**19 31 29.3 +0.8**
	comp=Z,69nm,1.5s				
DLV	**T Lat**	**36.80 241**	*e*P	**P**	**19 31 28.9 -0.8**
	comp=Z,18nm,1.3s				
BILL	**Bilibino**	**36.91 16**	*e*P	**P**	**19 31 30.0 +0.1**
	comp=Z,15nm,1.1s				
BILL	**Bilibino**	**36.91 16**	*e*P	**P**	**19 31 29.8 0.0**
BILL			pmax	pmax	
	comp=Z,12nm,1.0s				
FAKI	**Fak Fak**	**37.76 194**	*e*P	**P**	**19 31 36.9 -0.7**
	comp=Z,18nm,0.9s				
MRSI	**Marisa**	**37.89 212**	P	P	19 31 33.3 -5.3
TIXI	**Tiksi**	**38.07 354**	*e*P	**P**	**19 31 41.0 +1.4**
	comp=Z,6.6nm,0.7s				
TIXI	**Tiksi**	**38.07 354**	*ce*P	**P**	**19 31 39.6 0.0**
TIXI			pmax	pmax	
	comp=Z,5.0nm,0.7s				
TIXI	**Tiksi**	**38.07 354**	P	**P**	**19 31 39.7 +0.1**
	comp=Z,5.9nm,0.7s,baz=150,slow=5.4,SNR=3.9				
SANI	**Sanana**	**38.63 204**	P	**P**	**19 31 45.0 +0.1**
LUWI	**Luwuk**	**38.91 210**	*e*P	**P**	**19 31 48.7 +1.5**
	comp=Z,104nm,0.8s				
LUWI	**Luwuk**	**38.91 210**	P	**P**	**19 31 47.6 +0.4**
CHAI	**Chaiyaphum**	**39.30 252**	P	**P**	**19 31 51.1 +0.6**
	comp=Z,34μm,0.6s				
UTTA	**Uttaradit**	**39.43 256**	P	**P**	**19 31 52.7 +1.1**
	comp=Z,13μm,0.7s				
NIKH	**Nikolski High**	**40.07 46**	*e*P	**P**	**19 31 56.5 0.0**
	comp=Z,57nm,1.0s				
CMMT	**Chiang Mai**	**40.17 258**	P	**P**	**19 31 58.6 +0.8**
	comp=Z,3.7nm,0.8s				
CHTO	**Chiang Mai**	**40.17 258**	*e*P	**P**	**19 31 57.2 -0.5**
	comp=Z,6.0nm,0.8s				
CHTO	**Chiang Mai**	**40.17 258**	*e*P	**P**	**19 31 57.3 -0.5**
CHTO			pmax	pmax	
	comp=Z,6.0nm,0.8s				
CM31	**Chiang Mai Arr**	**40.35 258**	*e*P	**P**	**19 31 59.3 0.0**
	comp=Z,8.5nm,1.2s				
CMAR	**Chiang Mai Arr**	**40.35 258**	P	**P**	**19 31 58.1 -1.2**
	comp=Z,5.0nm,0.7s,baz=48,slow=7.5,SNR=34				
CMAR			PcP	**PcP**	**19 34 02.6 +0.3**
	comp=Z,0.6nm,0.4s,baz=24,slow=4.1,SNR=4.7				
CMAR			LR	LR	19 49 59.4
	comp=Z,110nm,20.9s,baz=58,slow=38				
SBUM	**Sibu**	**41.31 226**	*e*P	**P**	**19 32 06.0 -1.1**
	comp=Z,2.0nm,1.0s				
GAMB	**Gambell**	**41.43 30**	*e*P	**P**	**19 32 08.5 +0.9**
	comp=Z,38nm,1.9s				
DGZ	**Jazzator, Alta**	**41.72 308**	*i* P	**P**	**19 32 12.2 +1.8**
DGZ			pmax	pmax	
	comp=Z,14nm,0.6s				
WMQ	**Urumqi**	**41.75 300**	P	**P**	**19 32 13.0 +2.4**
WMQ			S	**S**	**19 38 24.8 -1.0**
WMQ			sS	sS	19 38 39.3 -0.3
WMQ			pmax	pmax	
	comp=Z,89nm,1.1s				
WMQ			pmax	pmax	
	comp=Z,150nm,3.6s				
WMQ			LR	LR	
	comp=Z,3μm,32.5s				
WMQ			LR	LR	
	comp=Z,2μm,32.5s				
WMQ			LR	LR	
	comp=Z,2μm,17.3s				
LSA	**Lhasa**	**42.05 278**	*e*P	**P**	**19 32 13.7 0.0**
	comp=Z,3.5nm,0.6s				
LSA	**Lhasa**	**42.05 278**	*e*P	**P**	**19 32 13.7 0.0**
LSA			pmax	pmax	
	comp=Z,4.0nm,0.6s				
SAUI	**Saumlaki**	**42.88 194**	*e*P	**P**	**19 32 20.4 +0.6**
	comp=Z,460nm,0.9s				
SHL	**Shillong**	**42.94 272**	*e*P	**P**	**19 32 19.2 -1.5**
	comp=Z,33nm,1.9s				
SHL			*e*PcP	**PcP**	**19 34 11.1 +0.1**
SHL	**Shillong**	**42.94 272**	*e*P	**P**	**19 32 19.2 -1.5**
SHL			*e*		19 34 11.1
SHL			pmax	pmax	
	comp=Z,33nm,1.9s				
BNSI	**Bone**	**43.05 211**	P	**P**	**19 32 21.9 +0.6**
KSM	**Kuching**	**43.24 228**	*e*P	**P**	**19 32 22.3 -0.6**
	comp=Z,7.0nm,0.8s				
ZAA0	**Zalesovo Array**	**43.52 315**	*e*P	**P**	**19 32 24.9 +0.2**
	comp=Z,14nm,0.8s				
ZALV	**Zalesovo Beam**	**43.52 315**	P	**P**	**19 32 25.4 +0.6**
	comp=Z,4.2nm,0.3s,baz=95,slow=7.2,SNR=40				
ZALV			PcP	**PcP**	**19 34 11.4 -0.8**
	comp=Z,3.1nm,0.6s,baz=117,slow=3.0,SNR=3.7				
ZALV			ScP	**ScP**	**19 37 59.2 -2.1**
	comp=Z,5.1nm,1.0s,baz=103,slow=3.2,SNR=7.5				
ZAA1	**Zalesovo Array**	**43.52 315**	*e*PP	PP	19 34 11.4 +5.3
ZAA1			*e*ScP	**ScP**	**19 37 59.2 -2.1**
KAPI	**Kappang**	**43.75 211**	LR	LR	19 49 24.8
	comp=Z,415nm,21.2s,baz=26,slow=34				
PMG	**Port Moresby**	**43.75 171**	LR	LR	19 50 00.4
	comp=Z,267nm,20.2s,baz=18,slow=35				
ANM	**Nome**	**44.31 30**	*e*P	**P**	**19 32 32.0 +1.1**
	comp=Z,20nm,1.0s				
ANM	**Nome**	**44.31 30**	*e*P	**P**	**19 32 32.0 +1.1**
ANM			pmax	pmax	
	comp=Z,20nm,1.0s				
SDPT	**Sand Point**	**45.19 43**	*e*P	**P**	**19 32 38.3 +0.3**
	comp=Z,240nm,1.9s				
MK31	**Makanchi Array**	**45.27 304**	*e*P	**P**	**19 32 39.5 +0.6**
	comp=Z,12nm,0.7s				
MK31	**Makanchi Array**	**45.27 304**	*e*P	**P**	**19 32 39.5 +0.6**
MK31			pmax	pmax	
	comp=Z,12nm,0.7s				
MK32	**Makanchi Array**	**45.27 304**	*e*ScP	**ScP**	**19 38 07.7 -0.9**
MKAR	**Makanchi Array**	**45.27 304**	P	**P**	**19 32 39.8 +0.9**
	comp=Z,12nm,0.6s,baz=89,slow=9.9,SNR=186				
MKAR			ScP	**ScP**	**19 38 07.7 -0.9**
	comp=Z,1.3nm,0.8s,baz=77,slow=6.4,SNR=4.7				
MAKZ	**Makanchi**	**45.48 304**	*e*P	**P**	**19 32 41.2 +0.6**
	comp=Z,12nm,0.8s				
MAKZ	**Makanchi**	**45.48 304**	*e*P	**P**	**19 32 41.2 +0.6**
MAKZ			pmax	pmax	
	comp=Z,12nm,0.8s				
NRIK	**Noril'sk**	**45.67 337**	P	**P**	**19 32 41.6 -0.1**
	comp=Z,3.5nm,0.8s,baz=123,slow=6.1,SNR=2.3				
MMRI	**Maumere**	**46.07 206**	*e*P	**P**	**19 32 44.9 -0.5**
	comp=Z,88nm,1.7s				
ODAN	**Odare**	**46.15 276**	*e*P	**P**	**19 32 44.8 -1.6**
	comp=Z,12nm,0.6s				
RDOG	**Red Dog Mine**	**46.29 26**	*e*P	**P**	**19 32 48.2 +1.6**
	comp=Z,13nm,0.8s				
CHGN	**Chignik**	**46.39 42**	*e*P	**P**	**19 32 49.1 +1.7**
	comp=Z,115nm,1.9s				
SOEI	**Soe**	**46.42 203**	*e*P	**P**	**19 32 47.4 -0.9**
	comp=Z,24nm,0.7s				
SOEI	**Soe**	**46.42 203**	P	**P**	**19 32 50.0 +1.7**
RAMN	**Ramite**	**46.77 276**	*e*P	**P**	**19 32 50.4 -0.8**
	comp=Z,14nm,0.4s				
JIRN	**Jiri**	**46.84 278**	*e*P	**P**	**19 32 51.1 -0.8**
	comp=Z,26nm,0.3s				
KULM	**Kulim**	**46.98 241**	*e*P	**P**	**19 32 51.0 -1.6**
	comp=Z,26nm,1.2s				
IPM	**Ipoh**	**47.26 240**	*e*P	**P**	**19 32 53.8 -1.1**
	comp=Z,26nm,1.4s				
KURK	**Kurchatov**	**47.35 310**	*e*P	**P**	**19 32 55.2 +0.1**
	comp=Z,32nm,1.0s				
KURK	**Kurchatov**	**47.35 310**	P	**P**	**19 32 56.0 +0.9**
KURK	**Kurchatov**	**47.35 310**	P	**P**	**19 32 55.9 +0.8**
	SNR=18				
KURBB	**Kurchatov Arra**	**47.41 310**	P	**P**	**19 32 56.0 +0.4**
	comp=Z,22nm,1.1s,baz=86,slow=7.9,SNR=41				
PKI	**Pulchoki**	**47.52 278**	*e*P	**P**	**19 32 57.0 -0.1**
	comp=Z,8.2nm,0.6s				
PKIN	**Phulchoki**	**47.52 278**	*e*P	**P**	**19 32 56.7 -0.4**
	comp=Z,9.4nm,0.5s				
KKN	**Kakani**	**47.54 278**	*e*P	**P**	**19 32 56.7 -0.5**
	comp=Z,14nm,0.7s				
MTN	**Manton Dam**	**47.65 193**	*e*P	**P**	**19 32 57.5 -0.2**
	comp=Z,80nm,0.6s				
DMN	**Daman**	**47.75 278**	*e*P	**P**	**19 32 58.7 -0.2**
	comp=Z,7.4nm,0.5s				
COEN	**Coen**	**47.91 177**	*e*P	**P**	**19 33 00.2 +0.5**
	comp=Z,49nm,1.5s				
GKN	**Gorkha**	**47.99 279**	*e*P	**P**	**19 33 00.0 -0.6**
	comp=Z,10nm,0.2s				
DANN	**Dangsing**	**48.58 279**	*e*P	**P**	**19 33 05.3 0.0**
	comp=Z,58nm,0.6s				
KOLN	**Koldanda**	**48.92 279**	*e*P	**P**	**19 33 07.4 -0.4**
	comp=Z,8.3nm,0.6s				
TARG	**Taragay, Kyrgy**	**49.27 298**	*e*P	**P**	**19 33 11.7 +1.1**
	comp=Z,21nm,0.8s				
PYUN	**Piuthan**	**49.30 280**	*e*P	**P**	**19 33 10.0 -0.7**
	comp=Z,96nm,1.1s				
RSO	**Redoubt South**	**49.47 37**	*e*P	**P**	**19 33 12.5 +1.0**
KDAK	**Kodiak Island**	**49.58 40**	*e*P	**P**	**19 33 12.3 +0.1**
	comp=Z,113nm,1.9s				
KDAK	**Kodiak Island**	**49.58 40**	*i* P	**P**	**19 33 12.5 +0.3**
KDJ	**Kajisay**	**49.64 299**	*e*P	**P**	**19 33 14.0 +0.9**
	comp=Z,14nm,0.9s				
CNPM	**China Poot**	**50.24 38**	*e*P	**P**	**19 33 17.0 -0.2**
	comp=Z,79nm,1.9s				
CNPM			*e*PcP	**PcP**	**19 34 37.4 +1.5**
ULHL	**Ulahol**	**50.29 299**	P	**P**	**19 33 19.1 +1.0**
	SNR=11				
BPAW	**Bear Paw Mtn.**	**50.40 32**	*e*P	**P**	**19 33 20.5 +2.1**
	comp=Z,14nm,1.4s				
BPAW			*e*PcP	**PcP**	**19 34 37.9 +1.5**
SUA	**Susitna One**	**50.46 35**	*e*P	**P**	**19 33 18.8 -0.2**
	comp=Z,10.0nm,0.9s				
SUA			*e*PcP	**PcP**	**19 34 37.4 +0.7**
MLY	**Manley**	**50.55 31**	*e*P	**P**	**19 33 20.5 +1.0**
	comp=Z,12nm,0.9s				
TKM2	**Toknak 2**	**50.60 300**	P	**P**	**19 33 22.0 +1.6**
	SNR=23				
NRN	**Naryn**	**50.66 298**	*e*P	**P**	**19 33 22.0 +1.0**
	comp=Z,7.3nm,0.8s				
NRN	**Naryn**	**50.66 298**	*e*P	**P**	**19 33 22.0 +1.0**
NRN			pmax	pmax	
	comp=Z,7.0nm,0.8s				
UGM	**Wanagama**	**50.74 220**	*e*P	**P**	**19 33 20.1 -1.4**
	comp=Z,162nm,1.3s				
RC01	**Rabbit Creek A**	**50.95 36**	*e*P	**P**	**19 33 25.5 +3.0**
	comp=Z,44nm,1.6s				
KZA	**Kyzart**	**51.05 299**	P	**P**	**19 33 26.0 +1.9**
	SNR=19				
BWN	**Browne**	**51.07 32**	*e*P	**P**	**19 33 26.8 +3.4**
	comp=Z,35nm,1.0s				
KBK	**Karagaybulak**	**51.12 300**	P	**P**	**19 33 25.9 +1.6**
	SNR=29				
KSH	**Kashi**	**51.16 296**	P	**P**	**19 33 29.0 +4.4**
KSH			PP	**PP**	**19 35 28.0 +6.6**
KSH			S	**S**	**19 40 43.5 +2.7**
KSH			pmax	pmax	
	comp=Z,26nm,0.8s				
KSH			pmax	pmax	
	comp=Z,170nm,4.8s				
KSH			LR	LR	
	comp=Z,540nm,13.1s				
KSH			LR	LR	
	comp=Z,500nm,12.0s				
KSH			LR	LR	
	comp=Z,540nm,14.4s				
CHMS	**Chumysh**	**51.19 301**	P	**P**	**19 33 25.5 +0.9**
	SNR=6.2				
PMR	**Palmer**	**51.23 35**	*e*P	**P**	**19 33 25.0 +0.4**
	comp=Z,12nm,0.8s				
TOLK	**Toolik Lake Re**	**51.25 26**	*e*P	**P**	**19 33 26.4 +1.7**
	comp=Z,19nm,1.1s				
TOLK	**Toolik Lake Re**	**51.25 26**	P	**P**	**19 33 26.8 +2.1**
	baz=265				
MCK	**McKinley**	**51.30 32**	*e*P	**P**	**19 33 24.8 -0.3**
	comp=Z,9.5nm,1.0s				
MCK	**McKinley**	**51.30 32**	*e*P	**P**	**19 33 24.8 -0.3**
MCK			pmax	pmax	
	comp=Z,10.0nm,1.0s				
USP	**Ospenovka**	**51.30 301**	P	**P**	**19 33 26.8 +1.3**
	SNR=7.5				
FRU1	**Bishkek**	**51.32 300**	*e*P	**P**	**19 33 25.3 -0.3**
	comp=Z,25nm,1.1s				
GHO	**Glory Hole Cre**	**51.33 35**	*e*P	**P**	**19 33 26.5 +1.1**
	comp=Z,89nm,1.8s				
RND	**Reindeer**	**51.34 33**	*e*P	**P**	**19 33 26.1 +0.7**
	comp=Z,50nm,1.9s				
RND	**Reindeer**	**51.34 33**	*e*P	**P**	**19 33 26.2 +0.7**
RND			pmax	pmax	
	comp=Z,50nm,1.9s				
AAK	**Ala-Archa**	**51.45 300**	P	**P**	**19 33 28.0 +1.2**
	SNR=9.6				
AAK	**Ala-Archa**	**51.45 300**	*e*P	**P**	**19 33 26.8 0.0**
	comp=Z,8.4nm,0.9s				
AAK	**Ala-Archa**	**51.45 300**	*ce*P	**P**	**19 33 27.5 +0.7**
AAK			pmax	pmax	
	comp=Z,9.0nm,0.8s				
AAK	**Ala-Archa**	**51.45 300**	P	**P**	**19 33 27.8 +1.0**
	SNR=6.3				
UCH	**Uchtor**	**51.54 300**	P	**P**	**19 33 29.0 +1.2**
	SNR=12				
KNK	**Knik Glacier**	**51.56 35**	*e*P	**P**	**19 33 27.9 +0.8**
	comp=Z,15nm,0.9s				
SML	**Sawmill**	**51.61 35**	*e*P	**P**	**19 33 28.9 +1.4**
	comp=Z,13nm,0.8s				
SML	**Sawmill**	**51.61 35**	*e*P	**P**	**19 33 28.9 +1.4**
SML			pmax	pmax	
	comp=Z,13nm,0.8s				
MDM	**Murphy Dome**	**51.61 31**	*e*P	**P**	**19 33 28.2 +0.8**
	comp=Z,26nm,1.1s				
WRH	**Wood River Hil**	**51.67 32**	*e*P	**P**	**19 33 29.2 +1.4**
	comp=Z,10nm,1.2s				
CCB	**Clear Creek Bu**	**51.79 31**	*e*P	**P**	**19 33 28.9 +0.2**
	comp=Z,24nm,1.7s				
GSI	**Gunungsitoli**	**51.93 240**	*e*P	**P**	**19 33 28.5 -1.9**
	comp=Z,46nm,1.5s				
EKS2	**Erkin-Say**	**51.96 300**	P	**P**	**19 33 31.5 +1.0**
	SNR=6.5				
DHY	**Denali Highway**	**52.01 33**	*e*P	**P**	**19 33 30.7 +0.1**
	comp=Z,15nm,1.3s				
SCM	**Sheep Creek Mo**	**52.08 35**	*e*P	**P**	**19 33 32.0 +1.0**
	comp=Z,20nm,1.0s				
SCM	**Sheep Creek Mo**	**52.08 35**	*e*P	**P**	**19 33 32.0 +1.0**
SCM			pmax	pmax	
	comp=Z,20nm,1.0s				
AML	**Almayashu**	**52.15 300**	P	**P**	**19 33 34.1 +1.8**
	SNR=39				
HDA	**Harding Lake**	**52.17 32**	*e*P	**P**	**19 33 31.4 -0.1**
	comp=Z,17nm,1.2s				
HDA	**Harding Lake**	**52.17 32**	P	**P**	**19 33 31.9 +0.3**
	baz=271				
ILAR	**Eielson Array**	**52.19 31**	P	**P**	**19 33 31.9 +0.2**
	comp=Z,2.4nm,0.8s,baz=273,slow=6.7,SNR=8.8				
ILAR			LR	LR	19 58 48.3
	comp=Z,134nm,19.2s,baz=290,slow=40				
ILB	**Eielson Array**	**52.19 31**	*e*P	**P**	**19 33 31.4 -0.3**
	comp=Z,10nm,1.0s				
BRVK	**Borovoye**	**52.22 314**	*e*P	**P**	**19 33 30.8 -1.3**
	comp=Z,19nm,0.9s				
BRVK	**Borovoye**	**52.22 314**	*i* P	**P**	**19 33 31.0 -1.1**
BRVK			pmax	pmax	
	comp=Z,14nm,0.7s				
BRVK	**Borovoye**	**52.22 314**	*e*P	**P**	**19 33 30.8 -1.3**
BRVK			pmax	pmax	
	comp=Z,19nm,0.9s				
BRVK	**Borovoye**	**52.22 314**	P	**P**	**19 33 31.4 -0.7**
	SNR=8.2				
GLI	**Glacier Island**	**52.25 36**	*e*P	**P**	**19 33 33.0 +0.8**
	comp=Z,50nm,1.8s				
MNAI	**Manna**	**52.37 231**	*e*P	**P**	**19 33 32.7 -0.9**
	comp=Z,211nm,1.1s				
PRP	**Porcupine Dome**	**52.75 30**	*e*P	**P**	**19 33 36.8 +0.7**
	comp=Z,6.0nm,1.0s				
KLU	**Klutina**	**52.77 35**	*e*P	**P**	**19 33 37.2 +1.1**
	comp=Z,11nm,1.0s				
FYU	**Fort Yukon**	**52.84 29**	*e*P	**P**	**19 33 38.7 +2.2**
	comp=Z,42nm,1.2s				
DIV	**Divide**	**52.87 36**	*e*P	**P**	**19 33 38.6 +1.7**
	comp=Z,28nm,1.2s				
ARSB	**Arslanbob**	**52.88 299**	*e*P	**P**	**19 33 38.1 +0.8**
PAX	**Paxson**	**52.88 33**	*e*P	**P**	**19 33 38.6 +1.6**
	comp=Z,48nm,2.0s				
PAX	**Paxson**	**52.88 33**	*e*P	**P**	**19 33 38.6 +1.6**
PAX			pmax	pmax	
	comp=Z,49nm,2.0s				
BMRM	**Bremner River**	**53.45 36**	*e*P	**P**	**19 33 42.0 +0.8**
	comp=Z,3.6nm,0.9s				
DOT	**Dot Lake**	**53.47 32**	*e*P	**P**	**19 33 42.1 +0.8**
	comp=Z,26nm,1.7s				
MENT	**Mentasta**	**53.68 33**	*e*P	**P**	**19 33 44.5 +1.7**
	comp=Z,11nm,0.9s				
HMT	**Hamilton**	**53.69 37**	*e*P	**P**	**19 33 44.0 +1.1**
	comp=Z,136nm,2.0s				
FITZ	**Fitzroy Crossi**	**53.95 198**	*e*P	**P**	**19 33 45.1 0.0**
	comp=Z,22nm,0.7s				
WRAB	**Tennant Creek**	**54.15 187**	*e*P	**P**	**19 33 46.2 -0.4**
	comp=Z,37nm,0.9s				
WRAB	**Tennant Creek**	**54.15 187**	*ce*P	**P**	**19 33 46.1 -0.5**
WRAB			pmax	pmax	
	comp=Z,54nm,1.3s				
WB2	**Warramunga Arr**	**54.16 187**	*e*P	**P**	**19 33 46.6 0.0**
	comp=Z,32nm,0.6s				
WRA	**Warramunga Arr**	**54.16 188**	P	**P**	**19 33 46.3 -0.3**
	comp=Z,116nm,0.3s,baz=3.5,slow=7.6,SNR=2.2				
KK31	**Karatay Array**	**54.17 302**	*e*P	**P**	**19 33 47.0 +0.3**
	comp=Z,33nm,1.3s				
KKAR	**Karatay Array**	**54.17 302**	*e*P	**P**	**19 33 47.0 +0.4**
	comp=Z,33nm,1.3s				
CTA	**Charters Tower**	**54.20 174**	P	**P**	**19 33 47.2 +0.3**
	comp=Z,9.2nm,0.7s,baz=1.8,slow=7.5,SNR=15				
CTAO	**Charters Tower**	**54.20 174**	*e*P	**P**	**19 33 47.3 +0.3**
	comp=Z,38nm,1.4s				
CTAO	**Charters Tower**	**54.20 174**	*e*P	**P**	**19 33 47.3 +0.3**
CTAO			pmax	pmax	
	comp=Z,38nm,1.4s				
TGL	**Tana Glacier**	**54.34 36**	*e*P	**P**	**19 33 49.0 +1.3**
	comp=Z,20nm,1.3s				
BALM	**Baldy**	**54.54 36**	*e*P	**P**	**19 33 50.4 +1.3**
	comp=Z,19nm,1.4s				
BALM	**Baldy**	**54.54 36**	*e*P	**P**	**19 33 50.4 +1.3**
BALM			pmax	pmax	
	comp=Z,19nm,1.4s				
EGAK	**Eagle**	**54.64 31**	*e*P	**P**	**19 33 51.4 +1.8**
	comp=Z,6.9nm,1.0s				
BTK	**Batken**	**54.82 298**	*e*P	**P**	**19 33 51.7 +0.2**
	comp=Z,9.8nm,0.8s				
BTK	**Batken**	**54.82 298**	*e*P	**P**	**19 33 51.7 +0.2**
BTK			pmax	pmax	
	comp=Z,10.0nm,0.8s				
NIL	**Nilore**	**55.08 290**	*e*P	**P**	**19 33 53.6 +0.2**
	comp=Z,19nm,0.8s				
NIL	**Nilore**	**55.08 290**	*e*P	**P**	**19 33 53.6 +0.2**
NIL			pmax	pmax	
	comp=Z,19nm,0.8s				
GAR	**Garm**	**55.51 297**	*e*P	**P**	**19 33 57.2 +0.6**
	comp=Z,26nm,0.9s				
GAR	**Garm**	**55.51 297**	*e*P	**P**	**19 33 57.2 +0.6**
GAR			pmax	pmax	
	comp=Z,26nm,0.9s				
XMIS	**Christmas Isla**	**55.55 223**	*e*P	**P**	**19 33 57.2 +0.4**
	comp=Z,77nm,1.1s				
EPYK	**Eagle Plains**	**56.26 29**	*e*P	**P**	**19 34 01.6 +0.2**
	comp=Z,19nm,0.8s				
EPYK	**Eagle Plains**	**56.26 29**	P	**P**	**19 34 02.8 +1.4**
	baz=279				
CHGR	**Chuyangaron**	**56.48 297**	*e*P	P	19 34 09.2 +5.8
	comp=Z,56nm,0.7s				
HYT	**Haines Junctio**	**56.90 35**	*e*P	**P**	**19 34 07.2 +1.0**
	comp=Z,44nm,1.9s				
SVE	**Sverdlovsk**	**56.99 320**	*e*P	**P**	**19 34 07.6 +1.0**
SVE			pmax	pmax	
	comp=Z,17nm,0.8s				
INK	**Inuvik**	**57.16 26**	*e*P	**P**	**19 34 05.2 -2.5**
	comp=Z,5.4nm,0.9s				
INK	**Inuvik**	**57.16 26**	P	**P**	**19 34 08.2 +0.5**
	comp=Z,1.6nm,0.5s,baz=298,slow=6.9,SNR=5.2				
HYB	**Hyderabad**	**57.66 270**	*i* P	**P**	**19 34 11.0 -1.0**
HMH	**Humu'ula Sheep**	**57.82 87**	*e*P	**P**	**19 34 14.5 +1.1**
	comp=Z,185nm,1.5s				
KHU	**Kahuku**	**57.88 88**	*e*P	**P**	**19 34 15.3 +1.6**
	comp=Z,166nm,1.2s				
AS31	**Alice Springs**	**57.89 187**	*e*P	**P**	**19 34 12.9 -0.4**
	comp=Z,10nm,0.4s				
ASAR	**Alice Springs**	**57.89 187**	P	**P**	**19 34 13.1 -0.2**
	comp=Z,11nm,0.4s,baz=1.5,slow=6.5,SNR=220				
ASAR			LR	LR

ARU	Arti	58.20	320	eP		P	19 34 15.3 +0.2
	comp=Z,23nm,0.8s						
ARU	Arti	58.20	320	d iP		P	19 34 15.2 +0.1
ARU							19 35 01.9
ARU							19 36 25.0
ARU				S		S	19 42 15.9 +1.5
ARU							19 44 02.7
ARU				SS		SS	19 46 06.5 +0.7
ARU				pmax		pmax	
	comp=Z,21nm,0.8s						
ARU				MLR		MLR	
	comp=Z,419nm,18.0s						
WHY	Whitehorse	58.20	35	eP		P	19 34 17.2 +2.0
	comp=Z,7.9nm,1.0s						
BESE	Bessie Mountai	58.73	38	eP		P	19 34 20.1 +1.2
	comp=Z,19nm,1.5s						
PSA00	Pilbara Seismi	58.91	203	eP		P	19 34 20.2 -0.2
	comp=Z,20nm,0.6s						
JIS	Juneau Island	59.05	38	eP		P	19 34 21.4 +0.4
	comp=Z,8.9nm,0.5s						
ABKAR	Akbulak array	59.43	311	eP		P	19 34 23.6 -0.2
	comp=Z,16nm,1.1s						
EIDS	Eidsvold	60.01	169	eP		P	19 34 28.3 +0.3
	comp=Z,75nm,1.9s						
DZM	Mont Dzumac	61.02	153	eLR		LR	19 52 41.6
	comp=Z,835nm,23.1s						
PALK	Pallekele	61.29	259	eP		P	19 34 35.7 -1.4
	comp=Z,119nm,1.9s						
PALK	Pallekele	61.29	259	eP		P	19 34 35.7 -1.4
PALK				pmax		pmax	
	comp=Z,119nm,1.9s						
COCO	West Island	62.21	230	i P		P	19 34 42.6 -0.5
PRGR	Permogore	62.91	328	eP		P	19 34 48.9 +1.8
PRGR				pmax		pmax	
	comp=Z,15nm,1.0s						
SPA0	Spitsbergen Ar	63.23	349	eP		P	19 34 50.1 +1.0
	comp=Z,62nm,1.7s						
KBS	Kingsbay	63.39	350	eP		P	19 34 51.2 +1.1
	comp=Z,35nm,1.4s						
KBS	Kingsbay	63.39	350	eP		P	19 34 51.2 +1.1
KBS				pmax		pmax	
	comp=Z,35nm,1.4s						
LVZ	Lovozero	64.52	336	eP		P	19 34 57.7 -0.1
	comp=Z,62nm,1.7s						
LVZ	Lovozero	64.52	336	eP		P	19 34 57.7 -0.1
LVZ				pmax		pmax	
	comp=Z,62nm,1.7s						
GEYT	Alibeck	64.81	300	P		P	19 35 01.2 +1.1
	comp=Z,11nm,0.7s,baz=46,slow=4.3,SNR=37						
GYA0B	ALIBECK ARRAY	64.81	300	eP		P	19 35 00.9 +0.8
	comp=Z,14nm,0.8s						
ARMA	Armidale	65.05	170	eP		P	19 35 02.6 +1.0
	comp=Z,72nm,1.9s						
APA	Apatity	65.09	336	i iP		P	19 35 01.2 -0.2
APA				pmax		pmax	
	comp=Z,6.0nm,0.9s						
APA				MLR		MLR	
	comp=Z,700nm,21.0s						
RES	Resolute Bay	65.49	14	eP		P	19 35 03.7 -0.2
	comp=Z,14nm,0.8s						
RES	Resolute Bay	65.49	14	P		P	19 35 04.5 +0.6
	comp=Z,4.8nm,0.6s,baz=312,slow=6.4,SNR=9.9						
STKA	Stephens Creek	65.70	179	eP		P	19 35 05.8 +0.1
	comp=Z,1.7nm,0.8s						
STKA	Stephens Creek	65.70	179	P		P	19 35 06.1 +0.4
	comp=Z,4.9nm,0.6s,baz=0.5,slow=7.2,SNR=15						
STKA				LR		LR	20 04 26.2
	comp=Z,335nm,20.2s,baz=9.2,slow=36						
FORT	Forrest	65.71	192	eP		P	19 35 06.0 +0.2
	comp=Z,80nm,0.6s						
KEV	Kevo	65.94	340	eP		P	19 35 08.3 +1.4
	comp=Z,124nm,2.0s						
KEV	Kevo	65.94	340	eP		P	19 35 08.3 +1.4
KEV				pmax		pmax	
	comp=Z,124nm,2.0s						
ARCES	ARCESS Array B	66.50	340	P		P	19 35 10.9 +0.4
	comp=Z,3.6nm,0.9s,baz=55,slow=6.7,SNR=5.5						
ARCES				LR		LR	20 07 27.4
	comp=Z,635nm,21.8s,baz=34,slow=39						
YKA	Yellowknife Ar	66.54	29	P		P	19 35 10.9 +0.1
	comp=Z,0.9nm,0.6s,baz=300,slow=6.4,SNR=7.5						
BBOO	Buckleboo	66.78	184	eP		P	19 35 12.7 +0.1
	comp=Z,20nm,0.8s						
MORW	Morawa	67.11	203	eP		P	19 35 15.1 +0.3
	comp=Z,28nm,1.0s						
VRH	Novokhopyorsk	69.38	318	eP		P	19 35 28.6 -0.2
VRH				pmax		pmax	
	comp=Z,10.0nm,0.6s						
VRH				MLR		MLR	
	comp=Z,440nm,19.0s						
CAN	Canberra	69.55	173	eP		P	19 35 31.0 +1.0
	comp=Z,92nm,1.9s						
CAN	Canberra	69.55	173	eP		P	19 35 31.0 +1.0
CAN				pmax		pmax	
	comp=Z,92nm,1.9s						
MAK	Makhachkala	69.84	309	eP		P	19 35 30.8 -1.0
MAK				eS		S	19 44 37.5 -1.7
MAK				pmax		pmax	
	comp=Z,11nm,0.4s						
MAK				MLR		MLR	
	comp=Z,327nm,16.0s						
OBN	Obninsk	70.10	324	eP		P	19 35 35.0 +1.8
OBN				pmax		pmax	
	comp=Z,7.0nm,1.0s						
OBN	Obninsk	70.10	324	LR		LR	20 09 11.1
	comp=Z,125nm,18.3s,baz=18,slow=38						
LPSR	Galich'ya Gora	70.19	321	eP		P	19 35 33.3 -0.5
LPSR				pmax		pmax	
	comp=Z,30nm,1.9s						
LPSR				MLR		MLR	
	comp=Z,510nm,20.0s						
NWAO	Narrogin (SRO)	70.32	201	eP		P	19 35 34.5 -0.2
	comp=Z,258nm,1.9s						
NWAO	Narrogin (SRO)	70.32	201	eP		P	19 35 34.5 -0.2
NWAO				pmax		pmax	
	comp=Z,258nm,1.9s						
VSR	Storozhevoye	70.76	319	i P		P	19 35 36.4 -0.9
VSR				pmax		pmax	
	comp=Z,9.0nm,0.8s						
GROC	Groznyy	70.83	310	eP		P	19 35 38.8 +0.9
GROC				e			19 35 56.8
GROC				e			19 38 15.2
GROC				pmax		pmax	
	comp=Z,4.0nm,0.4s						
LTY	Liberty	71.00	45	eP		P	19 35 40.1 +1.1
	comp=Z,17nm,1.6s						
FINES	FINESS Array B	71.12	333	P		P	19 35 39.2 0.0
	comp=Z,5.3nm,0.9s,baz=68,slow=7.7,SNR=2.6						
TOO	Toolangi	71.51	176	eP		P	19 35 43.8 +1.9
	comp=Z,11nm,1.3s						
TOO	Toolangi	71.51	176	eP		P	19 35 43.8 +1.9
TOO				pmax		pmax	
	comp=Z,11nm,1.3s						
I04A	Tendick Farm,	71.66	49	P		P	19 35 44.6 +1.6
	baz=300						
KRMB	Red Mountain	71.83	52	eP		P	19 35 44.2 +0.1
	comp=Z,72nm,1.7s						
KHMM	Horse Mountain	72.27	52	eP		P	19 35 48.4 +1.5
	comp=Z,58nm,1.7s						
KIV	Kislovodsk	72.41	311	eP		P	19 35 47.9 +0.4
	comp=Z,18nm,0.8s						
KIV	Kislovodsk	72.41	311	eP		P	19 35 48.6 +1.0
KIV				pmax		pmax	
	comp=Z,67nm,1.0s						
KIV	Kislovodsk	72.41	311	P		P	19 35 49.4 +1.9
	SNR=5.8						
YBH	Yreka Blue Hor	72.50	51	eP		P	19 35 50.2 +2.0
	comp=Z,21nm,1.8s						
YBH	Yreka Blue Hor	72.50	51	eP		P	19 35 50.2 +2.0
YBH				pmax		pmax	
	comp=Z,21nm,1.8s						
M02C	Callahan	72.58	52	P		P	19 35 50.6 +2.0
	baz=300						
PINE	Pine Mountain	72.58	49	eP		P	19 35 50.4 +1.7
	comp=Z,12nm,1.2s						
GNI	Garni	73.03	307	eP		P	19 35 52.9 +1.5
	comp=Z,15nm,0.8s						
GNI	Garni	73.03	307	ceP		P	19 35 52.7 +1.3
GNI				pmax		pmax	
	comp=Z,117nm,1.3s						
M04C	Macdoel	73.04	51	P		P	19 35 53.3 +1.9
	baz=301						
K05A	Summer Lake	73.16	50	eP		P	19 35 53.2 +1.1
	comp=Z,11nm,1.0s						
WDC	Whiskeytown Da	73.20	52	eP		P	19 35 53.4 +1.2
	comp=Z,24nm,1.9s						
WDC	Whiskeytown Da	73.20	52	eP		P	19 35 53.4 +1.2
WDC				pmax		pmax	
	comp=Z,24nm,1.9s						
O02D	Mt. Diablo Mer	73.24	53	P		P	19 35 54.6 +2.1
	baz=301						
SUMG	Summit	73.54	360	eP		P	19 35 55.1 +1.0
	comp=Z,20nm,1.2s						
SUMG	Summit	73.54	360	eP		P	19 35 55.1 +1.0
SUMG				pmax		pmax	
	comp=Z,20nm,1.2s						
SUMG	Summit	73.54	360	e		P	19 35 55.5 +1.4
WALA	Waterton Lakes	73.90	41	eP		P	19 35 56.9 +0.6
	comp=Z,12nm,1.4s						
MOD	Modoc Plateau	73.96	50	eP		P	19 35 57.4 +0.6
	comp=Z,10nm,1.4s						
BMO	Blue Mountains	74.25	46	eP		P	19 35 59.0 +0.6
	comp=Z,5.1nm,1.3s						
BMO	Blue Mountains	74.25	46	eP		P	19 35 59.0 +0.6
BMO				pmax		pmax	
	comp=Z,5.0nm,1.3s						
J08A	Circle Bar Ran	74.34	48	eP		P	19 36 00.2 +1.2
	comp=Z,15nm,1.4s						
ORV	Oroville	74.41	53	eP		P	19 35 59.7 +0.4
	comp=Z,4.6nm,1.0s						
ORV	Oroville	74.41	53	eP		P	19 35 59.7 +0.4
ORV				pmax		pmax	
	comp=Z,5.0nm,1.0s						
SOC	Sochi	74.44	312	eP		P	19 35 55.9 -3.5
SOC				e			19 38 48.4
SOC				eS		SKiKP	19 45 25.0 +1.7
SOC				pmax		pmax	
	comp=Z,260nm,0.8s						
SOC				MLR		MLR	
	comp=Z,2μm,13.0s						
WVOR	Wild Horse Val	74.73	49	eP		P	19 36 02.4 +1.1
	comp=Z,16nm,0.8s						
WVOR	Wild Horse Val	74.73	49	eP		P	19 36 02.4 +1.1
WVOR				pmax		pmax	
	comp=Z,16nm,0.8s						
SCO	Scoresbysund	74.91	354	eP		P	19 36 03.2 +1.7
	comp=Z,38nm,1.3s						
SCO	Scoresbysund	74.91	354	eP		P	19 36 03.2 +1.7
SCO				pmax		pmax	
	comp=Z,38nm,1.3s						
ANN	Anapa	75.16	314	eP		P	19 36 03.8 +0.3
ANN				eS		S	19 45 37.3 -2.6
ANN				pmax		pmax	
	comp=Z,43nm,1.8s						
ANN				MLR		MLR	
	comp=Z,295nm,17.0s						
OUZ	Omahuta	75.54	153	eP		P	19 36 08.4 +2.9
	comp=Z,344nm,1.9s						
PNTR	Pine Nut	75.91	52	eP		P	19 36 10.8 +2.6
	comp=Z,13nm,1.2s						
CMB	Columbia Colle	75.95	54	eP		P	19 36 09.1 +0.9
	comp=Z,20nm,1.8s						
CMB	Columbia Colle	75.95	54	eP		P	19 36 09.1 +0.9
CMB				pmax		pmax	
	comp=Z,20nm,1.8s						
YERR	Yerington	76.20	52	eP		P	19 36 10.5 +0.7
	comp=Z,7.7nm,1.1s						
AKASG	Malin Array Be	76.26	322	P		P	19 36 09.8 +0.1
	comp=Z,6.5nm,0.6s,baz=46,slow=6.0,SNR=12						
AKASG				LR		LR	20 12 45.6
	comp=Z,436nm,19.0s,baz=60,slow=38						
AKBB	Malin Array Si	76.26	322	eP		P	19 36 10.2 +0.5
	comp=Z,9.4nm,0.6s						
KIEV	Kiev	76.27	323	eP		P	19 36 09.6 -0.1
	comp=Z,9.3nm,0.6s						
KIEV	Kiev	76.27	323	eP		P	19 36 09.6 -0.1
KIEV				pmax		pmax	
	comp=Z,9.0nm,0.6s						
WAKR	Walker	76.33	53	eP		P	19 36 11.7 +1.1
	comp=Z,15nm,1.6s						
FFC	Flin Flon	76.39	32	eP		P	19 36 10.0 -0.3
	comp=Z,6.7nm,0.9s						
FFC	Flin Flon	76.39	32	eP		P	19 36 10.0 -0.3
FFC				pmax		pmax	
	comp=Z,7.0nm,0.9s						
HRY	Holter Researc	76.39	43	eP		P	19 36 11.2 +0.5
NC405	NORSAR Array S	76.42	337	eP		P	19 36 10.5 +0.1
	comp=Z,35nm,1.2s						
NC303	NORSAR Array S	76.44	337	eP		P	19 36 11.0 +0.5
	comp=Z,69nm,1.5s						
HFS	Hagfors	76.49	336	LR		LR	20 12 29.4
	comp=Z,497nm,21.1s,baz=24,slow=38						
LRM	Limekiln Ridge	76.55	44	eP		P	19 36 12.2 +0.5
NC204	NORSAR Array S	76.60	338	eP		P	19 36 11.9 +0.4
	comp=Z,33nm,0.8s						
NB201	NORSAR Array S	76.60	337	eP		P	19 36 12.2 +0.7
	comp=Z,72nm,1.5s						
NB2	NORSAR Subarra	76.63	337	P		P	19 36 11.9 +0.2
	comp=Z,8.4nm,0.8s,baz=41,slow=5.9						
NOA	NORSAR Array B	76.63	337	P		P	19 36 12.2 +0.6
	comp=Z,5.5nm,0.7s,baz=40,slow=5.7,SNR=18						
NOA				LR		LR	20 14 11.7
	comp=Z,426nm,20.8s,baz=35,slow=39						
HLID	Hailey	76.70	46	eP		P	19 36 13.5 +0.9
	comp=Z,3.7nm,1.0s						
HLID	Hailey	76.70	46	P		P	19 36 13.5 +0.9
	baz=305						
BMN	Battle Mountai	76.71	50	eP		P	19 36 13.8 +1.1
	comp=Z,10nm,1.3s						
DLMT	Dillon	76.73	44	eP		P	19 36 12.4 -0.2
	comp=Z,6.8nm,1.0s						
EGMT	Eagleton	76.76	41	eP		P	19 36 13.5 +0.8
EGMT	Eagleton	76.76	41	P		P	19 36 13.3 +0.6
	baz=307						
NBO00	NORSAR Array S	76.78	337	eP		P	19 36 11.4 -1.0
	comp=Z,84nm,1.8s						
FCC	Fort Churchill	76.78	26	eP		P	19 36 12.2 -0.2
	comp=Z,20nm,1.4s						
FCC	Fort Churchill	76.78	26	eP		P	19 36 12.3 -0.2
FCC				pmax		pmax	
	comp=Z,20nm,1.4s						
RYN	Ryan	76.86	52	eP		P	19 36 12.1 -1.4
	comp=Z,6.8nm,0.9s						
NAO01	NORSAR Array S	76.88	337	eP		P	19 36 13.1 +0.1
	comp=Z,23nm,1.1s						
KVN	Kaiserville	76.91	52	eP		P	19 36 15.1 +1.2
	comp=Z,7.3nm,0.9s						
KVN	Kaiserville	76.91	52	eP		P	19 36 15.1 +1.2
KVN				pmax		pmax	
	comp=Z,7.0nm,0.9s						
SIM	Simferopol'	77.02	316	eP		P	19 36 14.4 +0.3
SIM							19 36 31.0
SIM				pmax		pmax	
	comp=Z,9.0nm,0.8s						
SIM				MLR		MLR	
	comp=Z,130nm,17.0s						
MDPB	Devils Postpil	77.04	53	eP		P	19 36 15.7 +1.0
	comp=Z,9.8nm,0.8s						
OMMB	Old Mammoth Mi	77.10	53	eP		P	19 36 14.8 -0.3
	comp=Z,4.6nm,1.2s						
NVAR	Mina Array Bea	77.11	52	P		P	19 36 15.8 +0.7
	comp=Z,82nm,1.0s,baz=297,slow=5.4,SNR=6.8						
BOZ	Bozeman (W)	77.15	43	eP		P	19 36 15.3 +0.3
	comp=Z,3.8nm,1.0s						
BOZ	Bozeman (W)	77.15	43	eP		P	19 36 15.3 +0.3
BOZ				pmax		pmax	
	comp=Z,4.0nm,1.0s						
BOZ	Bozeman (W)	77.15	43	P		P	19 36 15.8 +0.8
	baz=306						
NV11	Mina Array Sit	77.21	52	eP		P	19 36 16.2 +0.7
	comp=Z,0.8nm,1.4s						
PAGB	Antelope Grade	77.28	55	eP		P	19 36 16.5 +0.7
	comp=Z,50nm,1.9s						
QLMT	Earthquake Lak	77.71	44	eP		P	19 36 18.1 -0.2
ELK	Elko	77.79	49	eP		P	19 36 20.3 +1.5
	comp=Z,5.7nm,1.0s						
ELK	Elko	77.79	49	eP		P	19 36 20.3 +1.5
ELK				pmax		pmax	
	comp=Z,6.0nm,1.0s						
YHB	Horse Butte	77.90	44	eP		P	19 36 19.8 +0.5
	comp=Z,15nm,1.6s						
YHH	Holmes Hill	78.07	44	eP		P	19 36 21.3 +0.9
	comp=Z,9.2nm,1.6s						
YMR	Madison River	78.08	44	eP		P	19 36 21.7 +1.4
	comp=Z,22nm,0.4s						
GCMT	Greycliff	78.14	42	eP		P	19 36 21.5 +1.0
YNR	Norris Junctio	78.21	44	eP		P	19 36 20.6 -0.5
	comp=Z,5.4nm,0.6s						
KONO	Kongsberg	78.22	337	eP		P	19 36 21.4 +0.9
	comp=Z,15nm,1.2s						
KONO	Kongsberg	78.22	337	eP		P	19 36 21.4 +0.9
KONO				pmax		pmax	
	comp=Z,15nm,1.2s						
YPP	Pitchstone Pla	78.41	44	eP		P	19 36 23.6 +1.3
	comp=Z,10nm,1.5s						
LKWY	Lake	78.46	44	eP		P	19 36 22.0 -0.5
	comp=Z,29nm,1.4s						
LKWY	Lake	78.46	44	eP		P	19 36 22.0 -0.5
LKWY				pmax		pmax	
	comp=Z,29nm,1.4s						
H17A	Grant Village	78.46	44	eP		P	19 36 20.7 -1.8
	comp=Z,8.8nm,0.6s						
IMW	Indian Meadow	78.55	44	eP		P	19 36 24.5 +1.4
	comp=Z,4.1nm,0.8s						
FLWY	Flagg Ranch	78.58	44	eP		P	19 36 23.1 0.0
	comp=Z,14nm,1.4s						
FXWY	Fox Creek	78.65	45	eP		P	19 36 22.5 -1.1
	comp=Z,3.9nm,1.1s						
HVU	Hansel Valley	78.71	47	eP		P	19 36 22.9 -0.9
	comp=Z,5.4nm,0.8s						
MOOW	Moose Ponds	78.75	44	eP		P	19 36 22.6 -1.5
	comp=Z,2.9nm,0.9s						
RLMT	Red Lodge	78.77	43	eP		P	19 36 25.3 +1.1
	comp=Z,6.1nm,1.1s						
RLMT	Red Lodge	78.77	43	P		P	19 36 24.9 +0.8
	baz=308						
SFJD	Kangerlussuaq	78.78	5	eP		P	19 36 22.2 -1.2
	comp=Z,20nm,1.2s						
SFJD	Kangerlussuaq	78.78	5	eP		P	19 36 22.2 -1.2
SFJD				pmax		pmax	
	comp=Z,20nm,1.2s						
DAC	Darwin (Calif)	78.78	54	eP		P	19 36 25.8 +1.5
	comp=Z,9.2nm,1.5s						
DAC	Darwin (Calif)	78.78	54	eP		P	19 36 25.8 +1.5
DAC				pmax		pmax	
	comp=Z,9.0nm,1.5s						
TPAW	Teton Pass	78.79	45	eP		P	19 36 25.1 +0.8
	comp=Z,3.6nm,0.9s						
LOHW	Long Hollow	78.92	45	eP		P	19 36 25.3 +0.3
	comp=Z,3.3nm,1.1s						
HIZ	Hauiti	78.92	153	eP		P	19 36 24.6 +0.1
	comp=Z,302nm,1.5s						
REDW	Red Top Meadow	78.92	45	eP		P	19 36 25.7 +0.7
	comp=Z,6.2nm,1.1s						
R11A	Troy Canyon, C	78.93	51	eP		P	19 36 26.2 +1.1
	comp=Z,10nm,1.4s						
R11A	Troy Canyon, C	78.93	51	P		P	19 36 26.3 +1.2
	baz=305						
BGU	Big Grassy Mou	79.05	48	eP		P	19 36 26.9 +1.2
	comp=Z,5.4nm,1.1s						
FURC	Furnace Creek,	79.16	53	P		P	19 36 27.6 +1.5
	baz=305						
TPNV	Topopah Spring	79.29	53	eP		P	19 36 27.2 +0.1
	comp=Z,6.9nm,1.0s						
TPNV	Topopah Spring	79.29	53	eP		P	19 36 27.2 +0.1
TPNV				pmax		pmax	
	comp=Z,7.0nm,1.0s						
TPNV	Topopah Spring	79.29	53	P		P	19 36 27.7 +0.7
	baz=305						
HWUT	Hardware Ranch	79.54	47	eP		P	19 36 27.9 -0.5
	comp=Z,5.0nm,0.8s						
DUG	Dugway, Tooele	79.61	48	eP		P	19 36 29.0 +0.2
	comp=Z,6.3nm,0.9s						
DUG	Dugway, Tooele	79.61	48	eP		P	19 36 29.0 +0.2
DUG				pmax		pmax	
	comp=Z,6.0nm,0.9s						
DUG	Dugway, Tooele	79.61	48	P		P	19 36 30.1 +1.3
	baz=306						
MWC	Mount Wilson	79.61	56	eP		P	19 36 29.4 +0.5
	comp=Z,9.9nm,0.7s						
MWC	Mount Wilson	79.61	56	eP		P	19 36 29.4 +0.5
MWC				pmax		pmax	
	comp=Z,10.0nm,0.7s						
TCUT	Toone Canyon	79.93	47	eP		P	19 36 29.3 -1.3
	comp=Z,46nm,0.9s						
PSUT	Pine Spring	79.93	50	eP		P	19 36 31.4 +0.8
	comp=Z,13nm,1.4s						
BW06	Boulder Array	80.04	45	eP		P	19 36 31.4 +0.3
	comp=Z,3.2nm,1.0s						
BW06	Boulder Array	80.04	45	P		P	19 36 32.0 +0.9
	baz=308						
PD31	Pinedale Array	80.04	45	eP		P	19 36 30.1 -1.0
	comp=Z,2.6nm,1.0s						
PDAR	Pinedale Array	80.04	45	P		P	19 36 31.9 +0.8
	comp=Z,0.7nm,0.5s,baz=239,slow=1.2,SNR=4.9						
NLU	North Lily Min	80.21	48	eP		P	19 36 32.5 +0.4
	comp=Z,6.2nm,1.1s						
SHPR	Sheep Range	80.26	52	eP		P	19 36 34.0 +1.6
	comp=Z,3.4nm,0.9s						
TUQ	Turquoise Moun	80.37	54	P		P	19 36 33.9 +1.0
	baz=305						
BR131	Keskin Array S	80.38	312	eP		P	19 36 33.1 +0.2
	comp=Z,6.3nm,0.9s						
BRTR	Keskin Array B	80.38	312	P		P	19 36 33.8 +0.9
	comp=Z,2.6nm,0.6s,baz=92,slow=3.4,SNR=11						
TCRU	Three Creeks R	80.78	49	eP		P	19 36 37.3 +2.1
	comp=Z,6.5nm,0.5s						
CCUT	Cedar City	80.82	51	eP		P	19 36 37.0 +1.6
	comp=Z,8.3nm,1.3s						
GMRC	Granite Mounta	80.92	54	P		P	19 36 37.0 +1.1
	baz=305						
SZCU	Shurtz Canyon	80.97	51	eP		P	19 36 37.2 +1.0
	comp=Z,5.8nm,1.2s						
MSU	Marysvale	81.01	49	eP		P	19 36 36.2 -0.2
MSU	Marysvale	81.01	49	eP		P	19 36 36.2 -0.2
UZH	Uzhgorod	81.04	324	eP		P	19 36 36.3 +0.3
UZH				e			19 36 53.7
PFO	Pinyon Flats O	81.06	55	eP		P	19 36 37.1 +0.6
	comp=Z,12nm,1.3s						
PFO	Pinyon Flats O	81.06	55	eP		P	19 36 37.2 +0.6
PFO				pmax		pmax	
	comp=Z,12nm,1.3s						
PFO	Pinyon Flats O	81.06	55	P		P	19 36 37.4 +0.8
	baz=305						
LCMT	Little Creek M	81.22	51	eP		P	19 36 38.1 +0.7
	comp=Z,34nm,1.3s						
MLR	Muntele Rosu	81.25	320	eP		P	19 36 37.9 +0.5
	comp=Z,23nm,1.7s						
MLR	Muntele Rosu	81.25	320	eP		P	19 36 37.9 +0.5
MLR				pmax		pmax	
	comp=Z,23nm,1.7s						
MLR	Muntele Rosu	81.25	320	LR		LR	20 15 41.0
	comp=Z,424nm,18.5s,baz=322,slow=38						
MTPU	Mount Pierson	81.28	50	eP		P	19 36 39.0 +1.0
	comp=Z,6.9nm,1.0s						
P17A	Butcher Ranch,	81.33	48	eP		P	19 36 39.0 +1.0
Q16A	Castle Valley	81.39	49	eP		P	19 36 40.0 +1.6
	comp=Z,9.3nm,1.0s						
KNB	Kanab	81.49	51	eP		P	19 36 40.2 +1.3
	comp=Z,26nm,1.3s						
KNB	Kanab	81.49	51	eP		P	19 36 40.2 +1.3
KNB				pmax		pmax	
	comp=Z,27nm,1.3s						
SRU	San Rafael Swe	81.68	48	eP		P	19 36 40.8 +0.9
	comp=Z,7.6nm,0.8s						
SRU	San Rafael Swe	81.68	48	eP		P	19 36 40.8 +0.9
SRU				pmax		pmax	
	comp=Z,8.0nm,0.8s						
BC3	Big Chuckawall	81.72	55	P		P	19 36 40.5 +0.5
	baz=306						
K22A	Casper	81.86	43	eP		P	19 36 42.0 +1.3
	comp=Z,5.4nm,0.9s						
RWWY	Rawlins	82.07	45	eP		P	19 36 42.6 +0.6
	comp=Z,7.8nm,1.1s						
MDND	Maddock	82.10	36	eP		P	19 36 41.9 +0.2
	comp=Z,15nm,0.5s						
OKC	Ostrava-Krasne	82.16	327	eP		pP	19 36 49.9 -1.2
OKC	Ostrava-Krasne	82.16	327	epP		pP	19 36 49.9 -1.2
ULM	Lac du Bonnet	82.17	33	eP		P	19 36 41.9 -0.1
	comp=Z,5.3nm,0.9s						
ULM	Lac du Bonnet	82.17	33	eP		P	19 36 41.9 -0.1
ULM				pmax		pmax

comp=Z,44nm,0.8s
PV22 Blue Mesa, Par 83.10 48 *e*P **P 19 36 47.4 +0.1**
comp=Z,12nm,1.1s
PV20 West Nyswonger 83.11 48 *e*P **P 19 36 48.0 +0.7**
comp=Z,14nm,0.9s
PV05 Paradox Valley 83.19 48 *e*P **P 19 36 48.2 +0.4**
comp=Z,16nm,0.9s
PV11 David Mesa, Pa 83.20 48 *e*P **P 19 36 49.0 +1.2**
comp=Z,16nm,0.8s
Y14A Wickenburg 83.20 54 *e*P **P 19 36 48.1 +0.3**
comp=Z,5.7nm,0.8s
PV18 Skein Mesa, Pa 83.21 48 *e*P **P 19 36 48.1 +0.2**
comp=Z,18nm,1.0s
PV03 Paradox Valley 83.24 48 *e*P **P 19 36 48.2 +0.1**
comp=Z,14nm,0.7s
CLL Collm 83.33 330 *e*P **P 19 36 47.0 -0.9**
CLL *e*S **S 19 47 05.0 -1.4**
CLL pmax pmax
comp=Z,13nm,2.2s
CLL Collm 83.33 330 *e*P **P 19 36 47.0 -0.9**
comp=Z,51nm,2.2s
CLL *e*PP **PP 19 40 00.0 +0.9**
CLL *e*S **S 19 47 05.0 -1.4**
CLL *e*SS **SS 19 52 24.0 -6.5**
CLL LmH 20 17 00.0
comp=N,400nm,18.0s
CLL LmH 20 17 00.0
comp=E,300nm,20.4s
CLL LmH 20 17 00.0
comp=Z,300nm,21.0s
CLL LmV 20 19 00.0
comp=Z,400nm,21.5s
PMOR Pomariorio Ree 83.51 113 *e*T T 21 08 39.0
comp=Z,15nm,0.2s
PRU Pruhonice 83.66 328 *e*P **P 19 36 50.9 +1.2**
PRU Pruhonice 83.66 328 *e*P **P 19 36 50.9 +1.2**
PPT2 Papeete2 83.83 116 *e*LR LR 20 03 05.7
comp=Z,355nm,24.2s,baz=311
KHC Kasperske Hory 84.72 328 *e*P **P 19 36 55.5 +0.3**
KHC Kasperske Hory 84.72 328 *e*P **P 19 36 55.5 +0.3**
KHC *e*pP **pP 19 37 02.5 -1.6**
S22A 4UR Ranch, Cre 84.80 47 P **P 19 36 54.0 -2.2**
baz=310
GERES GERESS Array B 84.88 328 P **P 19 36 54.5 -1.5**
comp=Z,1.9nm,0.7s,baz=53,slow=5.2,SNR=5.7
GERES LR LR 20 20 37.8
comp=Z,228nm,18.8s,baz=34,slow=40
EKA Eskdalemuir Ar 85.66 340 LR LR 20 19 16.7
comp=Z,214nm,19.0s,baz=45,slow=38
ECSD EROS Data Cent 86.48 38 P **P 19 37 03.0 -1.0**
baz=316
TBI Tubuai 87.50 120 *e*LR LR 20 04 49.7
comp=Z,328nm,26.0s,baz=313
DAVOX Davos/Dischmat 88.12 329 LR LR 20 20 44.8
comp=Z,547nm,19.2s,baz=0.5,slow=38
E43A Lone Tree Farm 88.98 31 P **P 19 37 16.4 +0.5**
baz=322
F43A Flat Rock, Esc 89.34 31 P **P 19 37 18.1 +0.6**
baz=322
F44A Big Bay de Noc 89.54 31 P **P 19 37 19.2 +0.7**
baz=323
D46A Sault St. Mari 89.79 29 P **P 19 37 20.0 +0.3**
baz=324
D47A Chapleau 90.03 28 P **P 19 37 20.9 +0.1**
baz=325
TXAR Lajitas Array 92.27 52 P **P 19 37 32.3 +0.6**
comp=Z,1.5nm,0.7s,baz=304,slow=3.2,SNR=5.4
TXAR LR LR 20 12 35.1
comp=Z,191nm,21.8s,baz=0.0,slow=31
KEST Kesra 96.98 322 LR LR 20 26 43.8
comp=Z,196nm,18.4s,baz=327,slow=38
ESDC Sonseca Array 99.62 333 LR LR 20 29 24.5
comp=Z,200nm,19.2s,baz=70,slow=39
MAW Mawson 116.74 205 PKIKP **PKiKP 19 43 05.0 +0.6**
MAW Mawson 116.74 205 PKP **PKiKP 19 43 05.0 +0.6**
comp=Z,1.4nm,0.7s,baz=101,slow=5.2,SNR=4.1
TOA1 Torodi Ar. Sit 118.96 313 *e*PKPdf **PKPdf 19 43 09.8 -0.5**
TORD Torodi Ar. Bea 118.96 313 PKP **PKPdf 19 43 09.8 -0.5**
comp=Z,1.8nm,0.9s,baz=5.2,slow=2.8,SNR=7.6
SYO Syowa Base 125.42 206[] *e*Pdiff **Pdif 19 40 01.2 +2.7**
SYO Syowa Base 125.42 206[] *es*Pdiff **Pdif 19 40 07.4 +8.9**
SYO Syowa Base 125.42 206[] *e*PKPdf **PKPdf 19 43 20.0 -1.0**
BOSA Boshof 125.50 257 PKP **PKiKP 19 43 23.1 +0.1**
comp=Z,2.1nm,0.8s,baz=92,slow=6.9,SNR=4.1
DBIC Dimbokro 127.99 315 PKP **PKPdf 19 43 27.3 -0.4**
comp=Z,1.9nm,0.7s,baz=57,slow=8.0,SNR=3.1
LPAZ La Paz 148.51 63 *e*PKPbc **PKPbc 19 44 10.0 +0.8**
LPAZ La Paz 148.51 63 *e*PKP2 **PKPbc 19 44 10.0 +0.8**
LPAZ La Paz 148.51 63 PKPbc **PKPbc 19 44 09.7 +0.5**
comp=Z,4.4nm,0.7s,baz=6.3,slow=4.8,SNR=19
MNMC Minye Minye 149.12 69 *e*PKPbc **PKPbc 19 44 11.0 +0.7**
PB11 IPOC Station P 149.43 70 *e*PKPbc **PKPbc 19 44 10.8 0.0**
GO01 Chusmiza 149.74 69 *e*PKPbc **PKPbc 19 44 12.9 +0.9**
USHA Ushuaia 151.00 144 PKPbc **PKPbc 19 44 14.1 +0.7**
comp=Z,18nm,0.9s,baz=100,slow=3.2,SNR=8.3

KRSC ***28*** *19:24:28.5±10.0, 52.°07N×160.°78E, h43km±10km, ML5.3*
ISCJB ***28*** *19:24:32.9±0.4, 52.°15N±0.°03×160.°33E±0.°03, h45km±3km, mb4.8/250, Error ellipse: s-maj=4.9km s-min=2.9km az=165.8*
NEIC ***28*** *19:24:32.8±2.4, 51.°92N×160.°25E, h37km±4km, mb4.7/207, Error ellipse: s-maj=15.2km s-min=7.6km az=191.0*
MOS ***28*** *19:24:32.6±1.1, 52.°18N×160.°37E, h46km, mb5.1/68, MS4.3/7, Error ellipse: s-maj=6.3km s-min=3.2km az=97.2*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
IDC ***28*** *19:24:35.9±2.3, 52.°32N×160.°28E, h51km±20km, mb4.1/25, mb1 4.3/28, mb1mx4.2/45, mbtmp4.4/28, ML4.4/1, MS3.9/2, Ms1 3.9/2, ms1mx3.2/43, Error ellipse: s-maj=13.9km s-min=10.4km az=165.0*

ISC 28 19:24:34.0±0.7, 52.°12N±0.°05×160.°35E±0.°03, h44km±6km**, n557,** σ1°**43**/559**, mb4.7**/256**, 21C-22D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.00**	**349**	*e*P	**Pn**	**19 24 49.1**	**-2.5**
SPN				*e*S	**Sn**	**19 25 02.6**	**-1.9**
SPN	**Mys Shipunski**	**1.00**	**349**	PN	**Pn**	**19 24 49.1**	**-2.5**
SPN				S	**Sn**	**19 25 02.6**	**-1.9**
RUS	**Russkaya**	**1.17**	**286**	*e*P	**Pn**	**19 24 53.2**	**-0.7**
RUS	**Russkaya**	**1.17**	**286**	PN	**Pn**	**19 24 53.2**	**-0.7**
NLC	**Nalytchevo**	**1.22**	**330**	*e*P	**Pn**	**19 24 53.2**	**-1.3**
NLC				*e*S	**Sn**	**19 25 11.6**	**+1.8**
NLC	**Nalytchevo**	**1.22**	**330**	PN	**Pn**	**19 24 53.2**	**-1.3**
NLC				S	**Sn**	**19 25 11.6**	**+1.8**
DALK	**Dalny**	**1.33**	**314**	*e*P	**Pn**	**19 24 55.4**	**-0.7**
DALK				*e*S	**Sn**	**19 25 15.9**	**+3.2**
DALK	**Dalny**	**1.33**	**314**	PN	**Pn**	**19 24 55.4**	**-0.7**
DALK				S	**Sn**	**19 25 15.9**	**+3.2**
PET	**Petropavlovsk**	**1.38**	**312**	*e*Pn	**Pn**	**19 24 56.3**	**-0.5**
PET	**Petropavlovsk**	**1.38**	**312**	*e*P	**Pn**	**19 24 56.1**	**-0.6**
PET				*e*S	**Sn**	**19 25 16.0**	**+2.3**
PET	**Petropavlovsk**	**1.38**	**312**α	*i*PN	**Pn**	**19 24 56.2**	**-0.5**
PET				*e*S	**Sn**	**19 25 16.9**	**+3.2**
PET				pmax	pmax		
comp=Z,5μm,3.4s
PET pmax pmax
comp=Z,2μm,0.8s
PET pmax pmax
comp=Z,1μm,4.1s
PET smax smax
comp=E,10μm,2.1s
PET smax smax
comp=N,11μm,1.9s
PET smax smax
comp=E,9μm,0.8s
PET smax smax
comp=N,7μm,0.9s
MTVR Mutnovka 1.38 286 *e*P **Pn 19 24 56.9 0.0**
MTVR Mutnovka 1.38 286 PN **Pn 19 24 56.9 0.0**
UGLR Uglovaya 1.43 320 *e*P **Pn 19 24 57.2 -0.4**
UGLR Uglovaya 1.43 320 PN **Pn 19 24 57.2 -0.4**
KDTR Khodutka, Kamc 1.44 258 *e*P **Pn 19 24 57.1 -0.4**
KDTR Khodutka, Kamc 1.44 258 PN **Pn 19 24 57.1 -0.4**
GRL Gorelyy 1.46 288 *e*P **Pn 19 24 59.8 +1.8**
GRL Gorelyy 1.46 288 PN **Pn 19 24 59.8 +1.8**
SDLR Sedlovina 1.46 323 *e*P **Pn 19 24 57.3 -0.7**
SDLR Sedlovina 1.46 323 PN **Pn 19 24 57.3 -0.7**
SMAR Somma 1.48 321 *e*P **Pn 19 24 57.7 -0.7**
SMAR Somma 1.48 321 PN **Pn 19 24 57.7 -0.7**
AVH Avacha 1.51 320 *e*P **Pn 19 24 58.2 -0.4**
AVH Avacha 1.51 320 PN **Pn 19 24 58.2 -0.4**
ASAK Asacha 1.53 281 *e*P **Pn 19 24 59.3 +0.4**
ASAK Asacha 1.53 281 PN **Pn 19 24 59.3 +0.4**
KRMR Karymshinskiy 1.53 299 *e*P **Pn 19 24 58.8 0.0**
KRMR *e*S **Sn 19 25 21.2 +3.7**
KRMR Karymshinskiy 1.53 299 PN **Pn 19 24 58.8 0.0**
KRMR S **Sn 19 25 21.2 +3.7**
KRER Koryakskii 1.53 321 *e*P **Pn 19 24 58.8 -0.3**
KRER Koryakskii 1.53 321 PN **Pn 19 24 58.8 -0.3**
KOK Koryaka 1.57 319 *e*P **Pn 19 24 59.1 -0.4**
KOK Koryaka 1.57 319 PN **Pn 19 24 59.1 -0.4**
KRX Arik 1.61 321 *e*P **Pn 19 25 00.2 +0.1**
KRX Arik 1.61 321 PN **Pn 19 25 00.2 +0.1**
PEA0B Petropavlovsk- 1.89 303 *e*Pn **Pn 19 25 04.2 +0.4**
PETK Petropavlovsk- 1.89 303 P **Pn 19 25 04.2 +0.4**
comp=N,101nm,0.3s,baz=108,slow=18,SNR=611
PETK S **Sn 19 25 29.1 +2.6**
comp=N,120nm,0.3s,baz=116,slow=13,SNR=8.8
PETK LR LR 19 25 36.2
comp=N,1μm,19.7s,baz=47,slow=34
PEA1 Petropavlovsk- 1.90 303 *e*Pn **Pn 19 25 04.2 +0.3**
PEA1 *e*Sn **Sn 19 25 29.1 +2.5**
APC Apacha 2.11 294 *e*P **Pn 19 25 07.8 +1.1**
APC *e*S **Sn 19 25 35.1 +3.4**
APC Apacha 2.11 294 PN **Pn 19 25 07.8 +1.1**
APC S **Sn 19 25 35.1 +3.4**
GNL Ganaly 2.15 318 *e*P **Pn 19 25 07.8 +0.4**
GNL Ganaly 2.15 318 PN **Pn 19 25 07.8 +0.4**
PAU Pauzhetka 2.29 255 *e*P **Pn 19 25 09.4 +0.2**
PAU Pauzhetka 2.29 255 PN **Pn 19 25 09.4 +0.2**
MKZ Mys Kozlova 2.58 18 *e*P **Pn 19 25 10.1 -3.1**
MKZ Mys Kozlova 2.58 18 PN **Pn 19 25 10.1 -3.1**
KZV Kizimen 3.00 359 *e*P **Pn 19 25 18.0 -1.1**
KZV Kizimen 3.00 359 PN **Pn 19 25 18.0 -1.1**
SKR Severo-Kuril's 3.01 243[] *i*PN **Pn 19 25 19.3 +0.1**
SKR *e*S **Sn 19 25 54.0 0.0**
SKR pmax pmax
comp=Z,125nm,0.6s
SKR smax smax
comp=E,1μm,0.8s
SKR smax smax
comp=N,2μm,0.9s
TUMD Tumrok D 3.09 1 *e*P **Pn 19 25 18.6 -1.7**
TUMD *e*S **Sn 19 25 54.8 -1.1**
TUMR Tumrok 3.17 358 *e*P **Pn 19 25 20.8 -0.7**
TUMR Tumrok 3.17 358 PN **Pn 19 25 18.6 -2.9**
TUMR S **Sn 19 25 54.8 -3.3**
BZGR Bezymyannyi-Gr 3.83 3 *e*P **Pn 19 25 30.1 -0.4**
BZGR Bezymyannyi-Gr 3.83 3 PN **Pn 19 25 30.1 -0.4**
KIRR Kirishev 3.84 360 *e*P **Pn 19 25 29.4 -1.3**
KIRR Kirishev 3.84 360 PN **Pn 19 25 29.4 -1.3**
KPT Kopyto 3.86 359 *e*P **Pn 19 25 31.0 +0.2**
KPT Kopyto 3.86 359 PN **Pn 19 25 31.0 +0.2**
ESO Esso 3.94 346 *e*P **Pn 19 25 31.4 -0.4**
ESO Esso 3.94 346 PN **Pn 19 25 31.4 -0.4**
KOZ Kozyrevsk 3.96 356 *e*P **Pn 19 25 31.7 -0.4**
KOZ Kozyrevsk 3.96 356 PN **Pn 19 25 31.7 -0.4**
LGNR Loginova 3.98 3 *e*P **Pn 19 25 33.1 +0.4**
LGNR Loginova 3.98 3 PN **Pn 19 25 33.1 +0.4**
KRSR Krestovskiy 4.11 2 *e*P **Pn 19 25 34.0 -0.3**
KRSR Krestovskiy 4.11 2 PN **Pn 19 25 34.0 -0.3**
KLY Klyuchi 4.21 2 *e*P **Pn 19 25 35.1 -0.4**
KLY Klyuchi 4.21 2 PN **Pn 19 25 35.1 -0.4**
SRDR Sredinnyy 4.22 355 *e*P **Pn 19 25 35.8 0.0**
SRDR Sredinnyy 4.22 355 PN **Pn 19 25 35.8 0.0**
KBTR Krutoberegovo 4.35 19 *e*P **Pn 19 25 35.5 -2.0**
KBTR Krutoberegovo 4.35 19 PN **Pn 19 25 35.5 -2.0**
BDR Baidarnaya 4.49 6 *e*P **Pn 19 25 39.7 +0.2**
BDR Baidarnaya 4.49 6 PN **Pn 19 25 39.7 +0.2**
SMKR Semkarok 4.52 8 *e*P **Pn 19 25 39.1 -0.8**
SMKR Semkarok 4.52 8 PN **Pn 19 25 39.1 -0.8**
BKI Bering 4.55 45 *e*P **Pn 19 25 37.2 -3.1**
BKI *e*S Sn 19 26 23.2 -8.7
BKI Bering 4.55 45 PN **Pn 19 25 37.2 -3.1**
SRKR Sorokina 4.57 6 *e*P **Pn 19 25 41.0 +0.4**
SRKR Sorokina 4.57 6 PN **Pn 19 25 41.0 +0.4**
OSSR Ossora 7.31 11 *e*P **Pn 19 26 17.3 -0.7**
OSSR Ossora 7.31 11 PN **Pn 19 26 17.3 -0.7**
SMY Shemya 8.43 80 *e*Pn **Pn 19 26 30.6 -2.8**
SMY Shemya 8.43 80 *e*PN **Pn 19 26 30.6 -2.8**
TILK Tilichiki 8.94 19 *e*P **Pn 19 26 39.0 -1.4**
TILK Tilichiki 8.94 19 PN **Pn 19 26 39.0 -1.4**
MA2 Magadan 9.20 328 *e*Pn **Pn 19 26 43.5 -0.4**
MA2 Magadan 9.20 328 *i*PN **Pn 19 26 43.2 -0.8**
MA2 Magadan 9.20 328 P **Pn 19 26 44.1 +0.1**
comp=N,0.4nm,0.3s,baz=135,slow=9.6,SNR=7.5
OKH Okha 10.63 285 *d i*PN Pn 19 27 08.8 +5.2
OKH pmax pmax
comp=Z,100nm,8.5s
OKH MLR MLR
comp=Z,2μm,14.0s
KUR Kuril'sk 10.74 235 *d i*PN Pn 19 27 16.0 +11
KUR pmax pmax
comp=Z,82nm,0.8s
KUR pmax pmax
comp=E,41nm,0.4s
KUR pmax pmax
comp=N,24nm,0.7s
KUR MLR MLR
comp=Z,1μm,14.0s
KUR MLR MLR
comp=N,664nm,15.0s
KMSK Kamenskaya 10.84 15 *e*P **Pn 19 27 06.1 -0.2**
KMSK Kamenskaya 10.84 15 PN **Pn 19 27 06.1 -0.2**
TYV Tymovskoe 11.10 270 *e*PN **Pn 19 27 12.2 +2.2**
TYV pmax pmax
comp=Z,10.0nm,1.1s
SEY Seymchan 11.64 342 P **Pn 19 27 18.1 +0.8**
comp=Z,0.0nm,0.3s,baz=151,slow=11,SNR=6.2
UGL Uglegorsk 12.01 263 *e*PN **Pn 19 27 23.2 +0.9**
UGL pmax pmax
comp=Z,44nm,1.2s
UGL MLR MLR
comp=E,2μm,13.0s
YUK Yuzh-Kuril'sk 12.60 236 *i*PN **Pn 19 27 31.2 +0.7**
ADK Adak 14.14 82 *e*Pn **Pn 19 27 49.8 -1.6**
ADK Adak 14.14 82 *e*P **Pn 19 27 49.8 -1.6**
ATKA Atka Island 15.60 80 *e*Pn **Pn 19 28 10.2 -0.5**
comp=E,92nm,1.6s
BILL Bilibino 16.23 8 *e*Pn **Pn 19 28 21.2 +2.7**
comp=E,33nm,0.7s
BILL Bilibino 16.23 8 *c i*P **Pn 19 28 18.1 -0.4**
BILL pmax pmax
comp=Z,30nm,0.7s
SPIA Saint Paul Isl 17.67 62 *e*Pn **Pn 19 28 37.6 +1.1**
comp=Z,747nm,1.8s
GAMB Gambell 18.68 41 *e*P **Pn 19 28 52.6 +3.8**
comp=Z,22nm,1.4s
NIKH Nikolski High 18.68 75 *e*P **P 19 28 49.1 +0.9**
comp=Z,60nm,1.1s
YAK Yakutsk 19.21 313 *c i*P **P 19 28 51.5 -2.4**
YAK *e*S S 19 32 15.9 -13
YAK pmax pmax
comp=Z,165nm,0.6s
YAK pmax pmax
comp=N,53nm,0.9s
YAK pmax pmax
comp=E,174nm,0.9s
YAK pmax pmax
comp=Z,309nm,1.1s
YAK pmax pmax
comp=N,45nm,1.0s
YAK pmax pmax
comp=E,251nm,1.6s
YAK smax smax
comp=N,263nm,2.3s
YAK smax smax
comp=E,139nm,2.0s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK MLR MLR
comp=N,2μm,16.0s
YAK MLR MLR
comp=E,2μm,17.0s
YAK Yakutsk 19.21 313 P **P 19 28 51.8 -2.0**
baz=54,slow=4.7,SNR=39
YAK S **S 19 32 27.4 -1.5**
baz=260,slow=17,SNR=1.8
ZEA Zeya 19.92 288 *e*P **Pn 19 29 07.0 +3.3**
ZEA pmax pmax
comp=N,62nm,0.8s
ZEA pmax pmax
comp=Z,110nm,0.8s
ZEA MLR MLR
comp=Z,2μm,16.0s
AKUT Akutan 20.32 71 *e*P Pn 19 29 09.3 +1.0
comp=Z,97nm,1.1s
USA0B Ussuriysk Arra 20.41 258 *e*P **P 19 29 05.9 -1.2**
comp=Z,24nm,1.0s
USRK Ussuriysk Ar. 20.41 258 P **P 19 29 05.6 -1.5**
comp=Z,22nm,1.0s,baz=57,slow=9.3,SNR=7.2
ANM Nome 21.55 41 *e*P **P 19 29 23.9 +4.8**
comp=Z,29nm,1.2s
MDJ Mudanjiang 21.64 262 *e*P **P 19 29 18.3 -2.1**
comp=Z,35nm,1.4s
MJAR Matsushiro Arr 22.08 234 P **P 19 29 27.3 +2.1**
comp=Z,13nm,0.8s,baz=16,slow=9.0,SNR=6.2
MJAR LR LR 19 38 34.6
comp=Z,720nm,20.0s,baz=90,slow=38
MJB9 Matsu-Tunnel 22.08 234 *e*P **P 19 29 21.4 -3.7**
comp=Z,34nm,0.8s
MAJO Matsushiro 22.08 234 *e*P **P 19 29 21.1 -4.0**
comp=Z,36nm,0.8s
MAJO Matsushiro 22.08 234 *e*P **P 19 29 21.1 -4.0**
MAJO pmax pmax
comp=Z,36nm,0.8s
MAT Matsushiro 22.08 234 P **P 19 29 27.1 +2.0**
SDPT Sand Point 23.18 66 *e*P **P 19 29 35.9 -0.7**
comp=Z,329nm,2.0s
INU Inuyama 23.61 234 *e*P **P 19 29 40.9 +0.1**
comp=Z,40nm,1.0s
RDOG Red Dog Mine 23.76 34 *e*P **P 19 29 41.4 -0.5**
comp=Z,32nm,1.3s
TIXI Tiksi 24.03 336 *e*P **P 19 29 42.6 -1.8**
comp=Z,28nm,0.8s
TIXI Tiksi 24.03 336 *i*P **P 19 29 42.7 -1.7**
TIXI pmax pmax
comp=Z,36nm,1.0s
TIXI Tiksi 24.03 336 P **P 19 29 42.6 -1.8**
comp=Z,23nm,0.7s,baz=129,slow=8.5,SNR=136
CHGN Chignik 24.21 64 *e*P **P 19 29 42.8 -3.2**
comp=Z,36nm,1.2s
CN2 Changchun 24.61 264 *e*P **P 19 29 48.3 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 25.64 280 *e*P **P 19 29 56.7 -2.6**
comp=Z,31nm,0.8s
HIA Hailar 25.64 280 *e*P **P 19 29 56.7 -2.6**
HIA pmax pmax
comp=Z,31nm,0.8s
BOD Bodaibo 26.77 301 *e*P **P 19 30 07.1 -2.2**
BOD pmax pmax
comp=Z,12nm,1.5s
RSO Redoubt South 26.80 53 *e*P **P 19 30 12.0 +2.2**
OHAK Old Harbor 26.87 61 *e*P **P 19 30 16.0 +5.8**
comp=Z,40nm,1.0s
KSRS Korea Array 27.01 250 P **P 19 30 12.5 +0.9**
comp=Z,5.1nm,0.8s,baz=44,slow=9.0,SNR=10
KDAK Kodiak Island 27.16 59 *e*P **P 19 30 12.7 -0.1**
comp=Z,18nm,1.0s
KDAK Kodiak Island 27.16 59 *e*P **P 19 30 12.7 -0.1**
KDAK pmax pmax
comp=Z,18nm,1.0s
BPAW Bear Paw Mtn. 27.61 45 *e*P **P 19 30 18.0 +1.2**
comp=Z,9.9nm,1.1s
CNPM China Poot 27.63 55 *e*P **P 19 30 16.7 -0.4**
comp=Z,17nm,1.0s
SUA Susitna One 27.73 51 *e*P **P 19 30 21.9 +3.8**
comp=Z,11nm,1.2s
MLY Manley 27.77 43 *e*P **P 19 30 21.5 +3.3**
comp=Z,5.4nm,1.0s
BRLK Bradley Lake 27.79 55 *e*P **P 19 30 21.9 +3.4**
comp=Z,44nm,1.6s
BWN Browne 28.28 45 *e*P **P 19 30 24.5 +1.8**
comp=Z,116nm,1.6s
SEW Seward 28.47 54 *e*P P 19 30 20.1 -4.3
comp=Z,50nm,1.6s
MCK McKinley 28.51 46 *e*P **P 19 30 26.4 +1.6**
comp=Z,22nm,1.5s
MCK McKinley 28.51 46 *e*P **P 19 30 26.4 +1.6**
MCK pmax pmax
comp=Z,22nm,1.5s
JNU Nakatsue 28.52 240 *e*P **P 19 30 24.1 -1.1**
comp=Z,39nm,1.1s
JNU Nakatsue 28.52 240 P **P 19 30 27.5 +2.3**
comp=Z,20nm,0.9s,baz=88,slow=3.5,SNR=3.5
RND Reindeer 28.55 47 *e*P P 19 30 29.9 +4.6
comp=Z,28nm,1.4s
GHO Glory Hole Cre 28.58 50 *e*P **P 19 30 27.6 +2.0**
comp=Z,14nm,1.3s
TOLK Toolik Lake Re 28.66 36 *e*P **P 19 30 26.0 -0.2**
comp=Z,19nm,1.6s
KNK Knik Glacier 28.83 51 *e*P **P 19 30 29.2 +1.5**
comp=Z,16nm,1.1s
MDM Murphy Dome 28.83 44 *e*P **P 19 30 29.1 +1.4**
comp=Z,16nm,1.6s
SML Sawmill 28.86 50 *e*P **P 19 30 28.4 +0.4**
comp=Z,47nm,1.6s
SML Sawmill 28.86 50 *e*P **P 19 30 28.4 +0.4**
SML pmax pmax
comp=Z,47nm,1.6s
WRH Wood River Hil 28.88 45 *e*P **P 19 30 30.7 +2.6**
comp=Z,19nm,1.2s
CCB Clear Creek Bu 29.01 44 *e*P **P 19 30 32.8 +3.6**
comp=Z,11nm,1.2s
DHY Denali Highway 29.23 48 *e*P **P 19 30 34.0 +2.6**
comp=Z,12nm,1.3s
SCM Sheep Creek Mo 29.33 50 *e*P **P 19 30 35.9 +3.7**
comp=Z,13nm,1.0s
SCM Sheep Creek Mo 29.33 50 *e*P **P 19 30 35.9 +3.7**
SCM pmax pmax
comp=Z,13nm,1.0s
HDA Harding Lake 29.38 45 *e*P **P 19 30 34.7 +2.2**
comp=Z,3.1nm,0.8s
ILAR Eielson Array 29.40 44 P **P 19 30 31.7 -1.0**
comp=Z,0.8nm,0.8s,baz=264,slow=8.4,SNR=6.6
ILB Eielson Array 29.40 44 *e*P **P 19 30 34.3 +1.5**
comp=Z,3.7nm,0.9s
GLI Glacier Island 29.54 52 *e*P P 19 30 38.2 +4.2
comp=Z,17nm,1.2s
PRP Porcupine Dome 29.98 43 *e*P **P 19 30 39.7 +1.7**
comp=Z,6.0nm,0.8s
KLU Klutina 30.03 51 *e*P **P 19 30 41.6 +3.2**
comp=Z,27nm,1.7s
FYU Fort Yukon 30.11 40 *e*P **P 19 30 42.6 +3.7**
comp=Z,19nm,1.0s
MID Middleton Isla 30.12 55 *e*P **P 19 30 42.9 +3.8**
comp=Z,164nm,1.0s
MID Middleton Isla 30.12 55 *e*P **P 19 30 42.9 +3.8**
MID pmax pmax
comp=Z,164nm,1.0s
DIV Divide 30.15 51 *e*P **P 19 30 42.8 +3.4**
comp=Z,20nm,1.5s
RIDG Independent Ri 30.33 46 *e*P P 19 30 46.4 +5.4
comp=Z,21nm,1.6s
BALM Baldy 31.81 51 *e*P P 19 31 01.4 +7.3
comp=Z,21nm,1.7s
EGAK Eagle 31.85 44 *e*P P 19 30 58.6 +4.3
comp=Z,6.2nm,0.8s
CTGM Chitina Glacie 32.30 51 *e*P **P 19 31 01.1 +2.6**
comp=Z,15nm,1.4s
DAWY Dawson 32.69 45 *e*P P 19 31 11.2 +9.4
comp=Z,11nm,1.7s
H11N2 WAKE ISLAND Hy 32.73 169 T T 20 07 03.8
baz=352,slow=76,SNR=5.7
H11N3 WAKE ISLAND Hy 32.74 169 T T 20 07 03.8
baz=352,slow=76,SNR=6.4
H11N1 WAKE ISLAND Hy 32.74 169 T T 20 07 02.6
baz=352,slow=76,SNR=5.6
BCPM Bancas Point 33.34 52 *e*P P 19 31 12.9 +5.5
comp=Z,38nm,0.5s
EPYK Eagle Plains 33.53 41 *e*P P 19 31 13.3 +4.3
comp=Z,14nm,1.4s
HYT Haines Junctio 34.16 50 *e*P **P 19 31 18.0 +3.3**
comp=Z,6.5nm,1.1s
SONA0 Songino Array 34.29 285 *e*P **P 19 31 15.7 -0.2**
SONA0 *e*PcP **PcP 19 33 51.4 +0.2**
SONM Songino Array 34.29 285 P **P 19 31 15.7 -0.2**
comp=Z,1.1nm,0.4s,baz=62,slow=8.9,SNR=3.2
SONM PcP **PcP 19 33 51.4 +0.2**
comp=Z,0.9nm,0.8s,baz=113,slow=1.9,SNR=2.4
INK Inuvik 34.55 37 *e*P **P 19 31 17.4 -0.3**
comp=Z,3.8nm,0.9s
INK Inuvik 34.55 37 *e*P **P 19 31 17.5 -0.3**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 34.55 37 P **P 19 31 17.3 -0.5**
comp=Z,1.8nm,0.8s,baz=301,slow=7.8,SNR=6.6
INK LR LR 19 46 26.8
comp=Z,95nm,20.3s,baz=172,slow=38
HHC Hu-ho-hao-te 34.80 271 *e*P **P 19 31 19.5 -0.9**
HHC S S 19 36 35.0 -13

HHC PcS **PcS** **19 37 42.5 +3.0**
HHC pmax pmax
comp=Z,69nm,0.9s
HHC pmax pmax
comp=Z,250nm,4.7s
HHC LR LR
comp=Z,1µm,12.9s
HHC LR LR
comp=Z,620nm,11.4s
HHC LR LR
comp=Z,810nm,14.3s
JOW Kunigami 34.88 236 *eP* **P 19 31 17.0 -4.0**
comp=Z,111nm,2.0s
WHY Whitehorse 35.45 50 *eP* **P 19 31 26.7 +0.9**
comp=Z,7.5nm,0.9s
DLBC Dease Lake 38.51 52 *eP* **P 19 31 54.6 +2.9**
comp=Z,7.8nm,0.9s
DLBC Dease Lake 38.51 52 P **P 19 31 51.1 -0.6**
comp=Z,1.6nm,0.8s,baz=325,slow=16,SNR=1.8
DIB Dawson Inlet, 39.40 61 *eP* **P 19 32 01.6 +2.6**
comp=Z,15nm,1.2s
WHN Wuhan 39.86 256 P **P 19 32 04.3 +1.2**
YULB Yu-li 41.34 241 *eP* **P 19 32 13.8 -1.7**
comp=Z,11nm,1.1s
TPUB Ta-pu 41.78 242 *eP* **P 19 32 16.4 -2.7**
comp=Z,35nm,1.5s
YKW3 Yellowknife Ar 43.74 42 *eP* **P 19 32 36.1 +1.6**
comp=Z,6.5nm,1.3s
YKA Yellowknife Ar 43.78 42 P **P 19 32 34.9 +0.1**
comp=Z,0.7nm,0.8s,baz=296,slow=8.3,SNR=5.3
YKB5 Yellowknife Ar 43.78 42 *eP* **P 19 32 34.9 +0.1**
NVS Novosibirsk 43.80 305 ||*iP* **P 19 32 33.7 -1.3**
NVS *e* 19 32 46.5
NVS *eS* S 19 38 51.9 -10
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=E,24nm,1.1s
NVS pmax pmax
comp=Z,38nm,1.1s
NVS smax smax
comp=N,19nm,2.1s
NVS smax smax
comp=E,17nm,1.9s
RES Resolute Bay 44.17 22 *eP* **P 19 32 38.9 +1.1**
comp=E,4.2nm,0.8s
RES Resolute Bay 44.17 22 *eP* **P 19 32 38.9 +1.1**
RES pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 44.17 22 P **P 19 32 37.0 -0.8**
comp=Z,3.7nm,0.9s,baz=316,slow=9.8,SNR=7.4
DGZ Jazzator, Alta 44.24 297 *iP* **P 19 32 36.1 -2.8**
DGZ pmax pmax
comp=Z,22nm,1.0s
CD2 Chengdu 46.03 265 *eP* **P 19 32 52.0 -1.2**
WMQ Urumqi 47.45 290 *eP* **P 19 33 04.5 +0.4**
WMQ LR LR
comp=Z,2µm,13.9s
WMQ LR LR
comp=Z,2µm,18.1s
KBS Kingsbay 47.86 352 *eP* **P 19 33 06.9 +0.1**
comp=Z,14nm,0.8s
KBS Kingsbay 47.86 352 *eP* **P 19 33 06.9 +0.1**
KBS pmax pmax
comp=Z,15nm,0.8s
KBS Kingsbay 47.86 352 *eP* **P 19 33 07.8 +1.1**
SPA0 Spitsbergen Ar 48.12 351 *eP* **P 19 33 08.6 -0.2**
comp=Z,68nm,1.2s
SPA0 Spitsbergen Ar 48.12 351 *eP* **P 19 33 08.7 -0.1**
KURK Kurchatov 48.38 303 *iP* **P 19 33 08.8 -2.4**
KURK pmax pmax
comp=Z,33nm,1.0s
MK31 Makanchi Array 48.72 297 *eP* **P 19 33 12.6 -1.3**
comp=Z,8.5nm,1.0s
MK31 Makanchi Array 48.72 297 *eP* **P 19 33 12.6 -1.3**
MK31 pmax pmax
comp=Z,9.0nm,1.0s
MK32 Makanchi Array 48.72 297 *eP* **P 19 33 12.9 -1.0**
MKAR Makanchi Array 48.72 297 P **P 19 33 12.9 -1.0**
comp=Z,3.8nm,0.6s,baz=54,slow=8.8,SNR=6.2
B08A Colville Reser 49.02 61 *eP* **P 19 33 15.6 -0.6**
comp=Z,5.4nm,0.9s
HSPB Hornsund (broa 49.25 350 *eP* **P 19 33 16.7 -0.7**
HSPB Hornsund (broa 49.25 350 *eP* **P 19 33 17.6 +0.2**
KMI Kunming 50.81 261 P **P 19 33 33.5 +3.3**
KMI pmax pmax
comp=Z,16nm,0.5s
YBH Yreka Blue Hor 51.22 69 *eP* **P 19 33 33.1 +0.1**
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 51.22 69 *eP* **P 19 33 33.1 +0.1**
YBH pmax pmax
comp=Z,12nm,1.1s
DAG Danmarks Havn 51.38 360 *iP* **P 19 33 33.1 -0.4**
DAG pmax pmax
comp=Z,41nm,0.9s
DAG Danmarks Havn 51.38 360 *iP* **P 19 33 33.1 -0.4**
comp=Z,49nm,0.9s
DAG *i* 19 35 24.3
WDC Whiskeytown Da 52.06 70 *eP* **P 19 33 39.4 +0.3**
comp=Z,5.7nm,0.9s
WDC Whiskeytown Da 52.06 70 *eP* **P 19 33 39.4 +0.3**
WDC pmax pmax
comp=Z,6.0nm,0.9s
BMO Blue Mountains 52.28 63 *eP* **P 19 33 40.3 -0.5**
comp=Z,3.4nm,1.2s
BMO Blue Mountains 52.28 63 *eP* **P 19 33 40.3 -0.5**
BMO pmax pmax
comp=Z,3.0nm,1.2s
MOD Modoc Plateau 52.49 68 *eP* **P 19 33 41.0 -1.5**
comp=Z,7.1nm,0.8s
J08A Circle Bar Ran 52.59 65 *eP* **P 19 33 42.8 -0.4**
comp=Z,2.9nm,0.9s
MSO Missoula 52.84 59 *eP* **P 19 33 45.7 +0.7**
comp=Z,10.0nm,1.4s
PLID Pearl Lake 52.85 62 *eP* **P 19 33 45.9 +0.7**
comp=Z,3.0nm,0.9s
SLVN Son La 52.95 257 *eP* **P 19 33 45.5 -0.4**
comp=Z,8.4nm,0.9s
WVOR Wild Horse Val 53.09 66 *eP* **P 19 33 47.8 +0.9**
comp=Z,6.1nm,1.1s
WVOR Wild Horse Val 53.09 66 *eP* **P 19 33 47.8 +0.9**
WVOR pmax pmax
comp=Z,6.0nm,1.1s
SVE Sverdlovsk 53.10 317 *eP* **P 19 33 46.7 +0.2**
ORV Oroville 53.33 71 *eP* **P 19 33 48.5 0.0**
comp=Z,7.1nm,1.3s
ORV Oroville 53.33 71 *eP* **P 19 33 48.5 0.0**
ORV pmax pmax
comp=Z,7.0nm,1.3s
FFC Flin Flon 53.59 46 *eP* **P 19 33 51.5 +1.3**
comp=Z,5.8nm,1.3s
LVZ Lovozero 53.66 338 *eP* **P 19 33 50.0 -0.6**
comp=Z,31nm,0.9s
LVZ Lovozero 53.66 338 *eP* **P 19 33 50.0 -0.6**
LVZ pmax pmax
comp=Z,31nm,0.9s
BEKR Beckworth 53.78 70 *eP* **P 19 33 53.3 +1.2**
comp=Z,7.3nm,1.0s
KEV Kevo 53.79 342 *eP* **P 19 33 51.5 +0.1**
comp=Z,80nm,1.8s
KEV Kevo 53.79 342 *eP* **P 19 33 51.5 +0.1**
KEV pmax pmax
comp=Z,80nm,1.8s
HRY Holter Researc 54.03 58 *eP* **P 19 33 53.9 +0.2**
AFDM Forest Hills D 54.04 71 *eP* **P 19 33 53.2 -0.6**
comp=Z,4.9nm,0.9s
FCC Fort Churchill 54.15 38 *eP* **P 19 33 54.5 +0.3**
comp=Z,6.9nm,1.0s
FCC Fort Churchill 54.15 38 *eP* **P 19 33 54.5 +0.3**
FCC pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 54.22 318 *eP* **P 19 33 53.7 -1.0**
comp=Z,23nm,0.8s
ARU Arti 54.22 318 *diP* **P 19 33 54.0 -0.8**
ARU 19 34 58.3
ARU 19 35 53.9
ARU S **S** **19 41 28.2 -0.3**
ARU SS **SKiKP** **19 45 06.0 +4.6**
ARU pmax pmax
comp=Z,12nm,0.6s
ARCES ARCESS Array B 54.26 342 P **P 19 33 54.7 -0.2**
comp=Z,10nm,0.8s,baz=34,slow=8.8,SNR=18
ARE0 ARCESS Array S 54.26 342 *eP* **P 19 33 54.3 -0.6**
comp=Z,1.0nm,1.0s
ARE0 ARCESS Array S 54.26 342 *eP* **P 19 33 54.7 -0.2**
LRM Limekiln Ridge 54.28 59 *eP* P 19 33 50.9 -4.8

PAHR Pah Rah Range 54.45 69 *eP* **P 19 33 57.7 +0.8**
comp=Z,7.8nm,0.9s
KDJ Kajisay 54.50 295 *eP* **P 19 33 56.2 -1.1**
comp=Z,14nm,0.9s
KDJ Kajisay 54.50 295 *eP* **P 19 33 56.2 -1.1**
KDJ pmax pmax
comp=Z,14nm,0.9s
VCNR Virginia City 54.57 70 *eP* **P 19 33 58.5 +0.6**
comp=Z,10.0nm,1.0s
LSA Lhasa 54.65 274 *eP* **P 19 33 59.7 +0.9**
comp=Z,7.5nm,0.8s
LSA Lhasa 54.65 274 *eP* **P 19 33 59.7 +0.9**
LSA pmax pmax
comp=Z,8.0nm,0.8s
HLID Hailey 54.70 63 *eP* **P 19 33 59.8 +1.1**
comp=Z,10nm,1.8s
MCMT McKenzie Canyo 54.72 60 *eP* **P 19 33 57.7 -1.2**
PNTR Pine Nut 54.74 70 *eP* **P 19 33 60.0 +0.9**
comp=Z,11nm,0.8s
BOZ Bozeman (W) 54.86 59 *eP* **P 19 34 00.2 +0.4**
comp=Z,3.6nm,0.8s
BOZ Bozeman (W) 54.86 59 *eP* **P 19 34 00.2 +0.4**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
SUMG Summit 54.91 7 *eP* **P 19 34 00.2 +0.2**
comp=Z,19nm,1.0s
SUMG Summit 54.91 7 *iP* **P 19 33 59.8 -0.2**
SUMG pmax pmax
comp=Z,46nm,1.0s
SUMG Summit 54.91 7 *iP* **P 19 33 59.8 -0.2**
comp=Z,46nm,1.0s
CMB Columbia Colle 54.99 71 *eP* **P 19 34 01.6 +0.9**
comp=Z,4.4nm,1.0s
YERR Yerington 55.02 70 *eP* **P 19 34 00.7 -0.3**
comp=Z,9.1nm,1.0s
KTK1 Kautokeino 55.13 343 *eP* **P 19 34 01.4 +0.1**
BMN Battle Mountai 55.21 67 *eP* **P 19 34 03.0 +0.6**
comp=Z,16nm,1.3s
BMN Battle Mountai 55.21 67 *eP* **P 19 34 03.0 +0.6**
BMN pmax pmax
comp=Z,16nm,1.3s
WAKR Walker 55.23 70 *eP* **P 19 34 04.1 +1.5**
comp=Z,7.4nm,0.7s
TRO Tromso 55.34 345 *eP* **P 19 34 02.5 -0.2**
PRGR Permogore 55.35 328 ||*iP* **P 19 34 03.0 +0.2**
PRGR pmax pmax
comp=Z,21nm,0.6s
KVN Kaiserville 55.63 69 *eP* **P 19 34 07.5 +2.0**
comp=Z,8.2nm,1.0s
KVN Kaiserville 55.63 69 *eP* **P 19 34 07.5 +2.0**
KVN pmax pmax
comp=Z,8.0nm,1.0s
YHB Horse Butte 55.65 60 *eP* **P 19 34 05.3 -0.3**
comp=Z,4.8nm,0.9s
TMCR Tamitsa 55.72 333 *eP* **P 19 34 05.2 -0.2**
TMCR pmax pmax
comp=Z,35nm,0.8s
GCMT Greycliff 55.77 58 *eP* **P 19 34 06.2 -0.1**
YHH Holmes Hill 55.81 59 *eP* **P 19 34 06.8 0.0**
comp=Z,2.9nm,0.7s
YMR Madison River 55.83 60 *eP* **P 19 34 08.2 +1.3**
comp=Z,5.9nm,1.0s
NV01 Mina Array Sit 55.93 70 *eP* **P 19 34 09.4 +1.8**
NVAR Mina Array Bea 55.93 70 P **P 19 34 09.4 +1.8**
comp=Z,1.3nm,0.7s,baz=301,slow=7.2,SNR=5.4
YNR Norris Junctio 55.95 59 *eP* **P 19 34 08.8 +1.0**
comp=Z,5.5nm,0.8s
NV11 Mina Array Sit 56.02 70 *eP* **P 19 34 08.7 +0.5**
comp=Z,0.5nm,1.1s
MDPB Devils Postpil 56.02 71 *eP* **P 19 34 07.9 -0.5**
comp=Z,7.3nm,1.1s
OMMB Old Mammoth Mi 56.08 71 *eP* **P 19 34 09.0 +0.1**
comp=Z,4.9nm,1.3s
ELK Elko 56.12 66 *eP* **P 19 34 10.0 +1.0**
comp=Z,3.4nm,1.1s
ELK Elko 56.12 66 *eP* **P 19 34 10.0 +1.0**
ELK pmax pmax
comp=Z,3.0nm,1.1s
YPP Pitchstone Pla 56.18 60 *eP* **P 19 34 11.1 +1.6**
comp=Z,2.9nm,1.0s
H17A Grant Village 56.22 60 *eP* **P 19 34 11.8 +2.1**
comp=Z,4.9nm,0.8s
IMW Indian Meadow 56.36 60 *eP* **P 19 34 11.9 +1.2**
comp=Z,5.7nm,1.0s
FLWY Flagg Ranch 56.36 60 *eP* **P 19 34 12.9 +2.3**
comp=Z,5.8nm,0.9s
RLMT Red Lodge 56.42 58 *eP* **P 19 34 11.9 +0.9**
comp=Z,6.1nm,0.8s
FXWY Fox Creek 56.49 61 *eP* **P 19 34 12.4 +0.9**
comp=Z,3.2nm,1.1s
MOOW Moose Ponds 56.56 60 *eP* **P 19 34 11.5 -0.6**
comp=Z,3.3nm,1.0s
TPAW Teton Pass 56.63 61 *eP* **P 19 34 12.2 -0.4**
comp=Z,5.4nm,1.3s
DGMT Dagmar 56.73 52 *eP* **P 19 34 13.8 +0.8**
comp=Z,6.7nm,0.8s
LOHW Long Hollow 56.73 60 *eP* **P 19 34 13.6 +0.3**
comp=Z,3.4nm,0.8s
REDW Red Top Meadow 56.77 61 *eP* **P 19 34 14.0 +0.4**
comp=Z,19nm,1.7s
HVU Hansel Valley 56.79 63 *eP* **P 19 34 15.3 +1.6**
comp=Z,3.6nm,1.0s
HVU Hansel Valley 56.79 63 *eP* **P 19 34 15.3 +1.6**
HVU pmax pmax
comp=Z,4.0nm,1.0s
KSH Kashi 56.93 293 P P 19 34 09.8 -4.8
LAO LASA Array 56.93 55 *eP* **P 19 34 15.9 +1.5**
comp=Z,10nm,1.0s
SHL Shillong 57.16 270 *ex* **P 19 34 13.0 -3.5**
PHRA Phrae 57.33 258 P **P 19 34 20.1 +2.6**
comp=Z,3.9nm,1.1s,comp=Z,320nm
STEI Steigen 57.47 345 *eP* **P 19 34 18.1 +0.3**
LOF Lofoten 57.55 346 *eP* **P 19 34 18.3 0.0**
R11A Troy Canyon, C 57.55 68 *eP* **P 19 34 19.3 +0.2**
comp=Z,4.3nm,1.0s
HWUT Hardware Ranch 57.57 63 *eP* **P 19 34 20.0 +0.8**
comp=Z,5.2nm,0.4s
DLV T Lat 57.69 246 *eP* **P 19 34 18.3 -2.0**
comp=Z,15nm,1.3s
UTTA Uttaradit 57.72 257 P **P 19 34 22.9 +2.7**
comp=Z,28µm,0.8s,comp=Z,202µm
DUG Dugway, Tooele 57.85 65 *eP* **P 19 34 20.8 -0.3**
comp=Z,5.5nm,1.0s
DUG Dugway, Tooele 57.85 65 *eP* **P 19 34 20.8 -0.3**
DUG pmax pmax
comp=Z,6.0nm,1.0s
CMMT Chiang Mai 57.86 259 P **P 19 34 23.2 +1.9**
comp=Z,12nm,0.9s
CHTO Chiang Mai 57.86 259 *eP* **P 19 34 20.6 -0.7**
comp=Z,15nm,0.8s
CHTO Chiang Mai 57.86 259 *eP* **P 19 34 20.6 -0.7**
CHTO pmax pmax
comp=Z,15nm,0.8s
BW06 Boulder Array 57.87 60 *eP* **P 19 34 22.0 +0.7**
comp=Z,36nm,2.0s
PD31 Pinedale Array 57.87 60 *eP* **P 19 34 20.5 -0.8**
comp=Z,32nm,2.0s
PDAR Pinedale Array 57.87 60 P **P 19 34 22.6 +1.3**
comp=Z,0.7nm,0.7s,baz=318,slow=4.2,SNR=6.0
KLMR Klimovskoe 57.87 330 *eP* **P 19 34 19.6 -1.1**
KLMR pmax pmax
comp=Z,26nm,1.0s
TPNV Topopah Spring 58.13 70 *eP* **P 19 34 24.0 +0.8**
comp=Z,9.6nm,1.1s
TPNV Topopah Spring 58.13 70 *eP* **P 19 34 24.0 +0.8**
TPNV pmax pmax
comp=Z,10.0nm,1.1s
CM31 Chiang Mai Arr 58.14 259 *eP* **P 19 34 23.1 -0.1**
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 58.14 259 P **P 19 34 25.1 +1.9**
comp=Z,7.5nm,0.8s,baz=26,slow=7.2,SNR=22
JLU Jordanelle 58.33 63 *eP* **P 19 34 24.4 -0.1**
comp=Z,13nm,1.0s
PSUT Pine Spring 58.41 67 *eP* **P 19 34 24.2 -0.9**
comp=Z,6.3nm,1.2s
GSC Goldstone, Bar 58.95 71 *eP* **P 19 34 28.5 -0.3**
comp=Z,9.1nm,1.2s
MWC Mount Wilson 58.97 73 *eP* **P 19 34 27.2 -1.9**
comp=Z,11nm,1.0s
MWC Mount Wilson 58.97 73 *eP* **P 19 34 27.2 -1.9**
MWC pmax pmax
comp=Z,11nm,1.0s
SHPR Sheep Range 59.07 69 *eP* **P 19 34 31.1 +1.3**
comp=Z,9.0nm,1.4s
MOR8 Moi Rana 59.21 345 *eP* **P 19 34 28.9 -1.1**
CCUT Cedar City 59.37 67 *eP* **P 19 34 32.5 +0.7**
comp=Z,10nm,1.4s

ULM Lac du Bonnet 59.38 46 P **P 19 34 32.4 +1.0**
comp=Z,0.7nm,0.3s,baz=293,slow=6.3,SNR=4.0
BTK Batken 59.43 297 *eP* **P 19 34 31.4 -0.7**
comp=Z,9.8nm,0.8s
BTK Batken 59.43 297 *eP* **P 19 34 31.4 -0.7**
BTK pmax pmax
comp=Z,10.0nm,0.8s
P17A Butcher Ranch, 59.50 64 *eP* **P 19 34 34.6 +2.0**
comp=Z,19nm,1.4s
K22A Casper 59.56 59 *eP* **P 19 34 32.1 -0.9**
comp=Z,5.2nm,0.8s
Q16A Castle Valley 59.65 65 *eP* **P 19 34 34.4 +0.7**
comp=Z,7.4nm,1.1s
MTPU Mount Pierson 59.69 66 *eP* **P 19 34 34.1 -0.1**
comp=Z,8.0nm,1.3s
LCMT Little Creek M 59.81 68 *eP* **P 19 34 36.2 +1.4**
comp=Z,10nm,1.3s
RSSD Black Hills 59.82 56 *eP* **P 19 34 36.7 +1.8**
comp=Z,11nm,0.8s
SRU San Rafael Swe 59.87 64 *eP* **P 19 34 35.8 +0.6**
comp=Z,5.5nm,0.7s
SRU San Rafael Swe 59.87 64 *eP* **P 19 34 35.8 +0.6**
SRU pmax pmax
comp=Z,6.0nm,0.7s
UMPA Umpang Tak 59.92 257 P P 19 34 40.2 +4.6
comp=Z,38µm,0.9s
KNB Kanab 60.05 67 *eP* **P 19 34 37.9 +1.4**
comp=Z,11nm,1.1s
KNB Kanab 60.05 67 *eP* **P 19 34 37.9 +1.4**
KNB pmax pmax
comp=Z,11nm,1.1s
GAR Garm 60.45 296 *eP* **P 19 34 38.3 -0.8**
comp=Z,26nm,0.9s
GAR Garm 60.45 296 *eP* **P 19 34 38.3 -0.8**
GAR pmax pmax
comp=Z,26nm,0.9s
W13A Hualapai Mount 60.79 70 *eP* **P 19 34 42.9 +1.2**
comp=Z,2.2nm,0.8s
FIA1 FINESS Array S 61.08 337 *eP* **P 19 34 42.5 -0.3**
comp=Z,26nm,0.6s
FIA0 FINESS Array S 61.08 337 *eP* **P 19 34 43.3 +0.5**
FIA0 FINESS Array S 61.08 337 *eP* **P 19 34 43.3 +0.5**
FINES FINESS Array B 61.08 337 P **P 19 34 43.3 +0.5**
comp=Z,20nm,0.6s,baz=31,slow=8.7,SNR=158
N23A Red Feather La 61.11 60 *eP* **P 19 34 45.9 +2.2**
comp=Z,22nm,1.6s
NSS Namsos 61.13 345 *eP* **P 19 34 44.4 +1.3**
PV20 West Nyswonger 61.28 64 *eP* **P 19 34 43.9 -0.9**
comp=Z,23nm,1.3s
PV19 Morning Glory 61.29 64 *eP* **P 19 34 44.0 -1.0**
comp=Z,21nm,0.8s
PV16 Nyswonger Mesa 61.33 64 *eP* **P 19 34 45.5 +0.3**
comp=Z,22nm,1.3s
PV11 David Mesa, Pa 61.36 64 *eP* **P 19 34 45.1 -0.3**
comp=Z,35nm,1.4s
PV18 Skein Mesa, Pa 61.38 64 *eP* **P 19 34 44.4 -1.1**
comp=Z,26nm,1.5s
PV07 Paradox Valley 61.39 63 *eP* **P 19 34 44.5 -1.1**
comp=Z,12nm,1.3s
PV03 Paradox Valley 61.41 64 *eP* **P 19 34 46.0 +0.3**
comp=Z,16nm,1.1s
PV13 Radium Mtn., P 61.49 64 *eP* **P 19 34 46.8 +0.5**
comp=Z,22nm,1.3s
WUAZ Wupatki 61.94 68 *eP* **P 19 34 50.8 +1.5**
comp=Z,5.5nm,0.9s
ISCO Idaho Springs 62.06 60 *eP* **P 19 34 52.4 +2.2**
comp=Z,5.3nm,0.9s
ISCO Idaho Springs 62.06 60 *eP* **P 19 34 52.4 +2.2**
ISCO pmax pmax
comp=Z,5.0nm,0.9s
Y14A Wickenburg 62.13 70 *eP* **P 19 34 52.7 +2.2**
comp=Z,3.3nm,1.0s
MVCO Mesa Verde 62.34 64 *eP* **P 19 34 52.5 +0.5**
comp=Z,7.0nm,1.2s
MOS Moscow 62.56 328 *eP* **P 19 34 50.6 -2.3**
MOS *e* 19 35 36.4
NIL Nilore 62.59 290 *eP* **P 19 34 52.7 -0.8**
comp=Z,19nm,0.8s
NIL Nilore 62.59 290 *eP* **P 19 34 52.7 -0.8**
NIL pmax pmax
comp=Z,19nm,0.8s
OBN Obninsk 63.42 328 *eP* **P 19 34 57.7 -0.9**
comp=Z,86nm,1.8s
OBN Obninsk 63.42 328 *eP* **P 19 34 57.0 -1.6**
OBN *e* 19 35 06.2
OBN *e* 19 35 33.5
OBN *e* 19 37 15.7
OBN *e*PPP PPP 19 38 46.8
OBN pmax pmax
comp=Z,10.0nm,0.9s
VSU Vasula 63.50 335 *eP* **P 19 34 59.0 0.0**
VSU IAmb IAmb 19 34 60.0
comp=Z,66nm,0.9s
SDCO Great Sand Dun 63.61 62 *eP* **P 19 35 02.5 +2.0**
comp=Z,13nm,1.9s
ECSD EROS Data Cent 63.80 52 *eP* **P 19 35 02.5 +1.2**
comp=Z,5.9nm,0.9s
DOMB Dombas 63.93 345 *eP* **P 19 35 02.0 +0.1**
AKN Aaknes 64.11 346 *eP* **P 19 35 03.0 0.0**
NC303 NORSAR Array S 64.32 344 *eP* **P 19 35 04.1 -0.3**
comp=Z,69nm,1.5s
NC405 NORSAR Array S 64.37 344 *eP* **P 19 35 04.4 -0.4**
comp=Z,20nm,0.8s
NC204 NORSAR Array S 64.38 344 *eP* **P 19 35 04.6 -0.3**
comp=Z,33nm,0.8s
NB201 NORSAR Array S 64.50 344 *eP* **P 19 35 05.7 0.0**
comp=Z,72nm,1.5s
NB2 NORSAR Subarra 64.52 344 P **P 19 35 05.4 -0.4**
comp=Z,8.8nm,0.7s,baz=22,slow=6.9
NB200 NORSAR Array S 64.52 344 *eP* **P 19 35 05.8 0.0**
NOA NORSAR Array B 64.52 344 P **P 19 35 05.8 0.0**
comp=Z,6.3nm,0.7s,baz=21,slow=6.6,SNR=46
NBO00 NORSAR Array S 64.61 344 *eP* **P 19 35 05.0 -1.3**
comp=Z,84nm,1.8s
LPSR Galich'ya Gora 64.67 325 *eP* **P 19 35 05.9 -0.9**
LPSR pmax pmax
comp=Z,20nm,0.8s
NC602 NORSAR Array S 64.75 344 *eP* **P 19 35 06.0 -1.2**
comp=Z,81nm,1.8s
NC602 NORSAR Array S 64.75 344 *eP* **P 19 35 08.3 +1.1**
NAO01 NORSAR Array S 64.76 344 *eP* **P 19 35 06.9 -0.5**
comp=Z,23nm,1.1s
VRH Novokhopyorsk 64.78 322 *eP* **P 19 35 06.3 -1.3**
VRH pmax pmax
comp=Z,20nm,0.6s
HYA Hoyanger 65.19 347 *eP* **P 19 35 10.4 +0.3**
SKAR Skarslia 65.34 345 *eP* **P 19 35 11.4 +0.3**
SLIT Slitere, Latvi 65.36 337 *eP* **P 19 35 10.9 -0.3**
SLIT IAmb IAmb 19 35 12.8
comp=Z,152nm,0.7s
VSR Storozhevoye 65.71 324 *iP* **P 19 35 12.0 -1.6**
VSR pmax pmax
comp=Z,14nm,0.9s
VORD Divnogorie 65.87 324 *eP* **P 19 35 12.8 -1.8**
VORD pmax pmax
comp=Z,10.0nm,0.5s
KONO Kongsberg 66.11 344 *eP* **P 19 35 17.3 +1.3**
ISAL Salakas 66.19 334 *eP* **P 19 35 17.1 +0.5**
ISAL IAmb IAmb 19 35 19.1
comp=Z,6.2nm,0.8s
IDID Didziasalis 66.24 333 *eP* **P 19 35 17.3 +0.4**
IDID IAmb IAmb 19 35 18.8
comp=Z,7.1nm,0.9s
IIGN Ignalina 66.36 333 *eP* **P 19 35 18.2 +0.5**
IIGN IAmb IAmb 19 35 19.5
comp=Z,11nm,0.6s
BLS5 Blasjo 66.82 346 *eP* **P 19 35 21.1 +0.4**
PABE Paberze 66.83 335 *eP* **P 19 35 20.6 -0.1**
PABE IAmb IAmb 19 35 22.4
comp=Z,38nm,0.9s
GEYT Alibeck 67.75 303 P **P 19 35 27.0 +0.1**
comp=Z,9.0nm,0.8s,baz=57,slow=5.3,SNR=5.1
MNTX Cornudas Mount 68.13 66 *eP* **P 19 35 30.2 +0.9**
comp=Z,4.6nm,1.0s
SUW Suwalki 68.37 334 *eP* **P 19 35 30.4 0.0**
SUW Suwalki 68.37 334 *eP* **P 19 35 30.4 0.0**
N41A Harden Midland 68.87 50 *ep*P pP 19 35 45.2 -0.1
WMOK Wichita Mounta 69.46 60 *eP* **P 19 35 38.6 +1.0**
comp=Z,8.2nm,0.9s
AKASG Malin Array Be 69.53 329 P **P 19 35 37.3 -0.4**
comp=Z,10nm,0.7s,baz=29,slow=6.3,SNR=22
AKBB Malin Array Si 69.53 329 *eP* **P 19 35 37.0 -0.7**
comp=Z,15nm,0.9s
AKBB Malin Array Si 69.53 329 *eP* **P 19 35 37.0 -0.7**
AKBB pmax pmax
comp=Z,15nm,0.9s

KIEV	Kiev	69.54 329	eP	P	19 35 37.1	-0.7
	comp=Z,15nm,0.9s					
KIEV	Kiev	69.54 329	⇑iP	P	19 35 37.6	-0.1
KIEV	Kiev	69.54 329	i P	P	19 35 36.8	-0.9
KIEV			pmax	pmax		
	comp=Z,8.0nm,0.7s					
KIV	Kislovodsk	70.26 317	eP	P	19 35 41.8	-0.6
	comp=Z,18nm,0.8s					
KIV	Kislovodsk	70.26 317	⇑iP	P	19 35 43.5	+1.1
KIV	Kislovodsk	70.26 317	eP	P	19 35 41.8	-0.6
KIV			pmax	pmax		
	comp=Z,18nm,0.8s					
KBZ	Khabaz	70.35 317	P	P	19 35 43.5	+0.7
	comp=Z,8.3nm,0.8s,baz=54,slow=4.5,SNR=19					
ZEI	Tsey	70.69 316	eP	P	19 35 44.5	-0.7
ZEI			pmax	pmax		
	comp=Z,9.0nm,0.8s					
TX31	Lajitas Ar. Si	70.88 67	eP	P	19 35 46.9	+0.4
	comp=Z,6.0nm,1.0s					
LTX	Lajitas	70.88 67	eP	P	19 35 47.2	+0.8
LTX	Lajitas	70.88 67	eP	P	19 35 47.2	+0.8
TXAR	Lajitas Array	70.88 67	P	P	19 35 47.2	+0.7
	comp=Z,0.7nm,0.6s,baz=300,slow=4.7,SNR=8.9					
HYB	Hyderabad	71.44 275	i P	P	19 35 55.0	+5.1
LVV	L'vov	71.88 332	eP	P	19 35 52.1	+0.1
LVV			MLR	MLR		
	comp=Z,500nm,20.0s					
LVV			MLR	MLR		
	comp=N,200nm,18.0s					
LVV			MLR	MLR		
	comp=E,300nm,19.0s					
KWP	Kalwaria Pacla	72.43 333	eP	P	19 35 56.4	+1.1
KWP	Kalwaria Pacla	72.43 333	eP	P	19 35 55.7	+0.4
	comp=E,273nm,0.9s					
KWP	Kalwaria Pacla	72.43 333	eP	P	19 35 55.7	+0.4
W41B	Gary Mavity, V	72.52 55	epP	pP	19 36 08.1	+0.3
OJC	Ojcow	72.69 335	eP	P	19 35 57.6	+0.7
OJC	Ojcow	72.69 335	eP	P	19 35 56.7	-0.2
	comp=E,8.8nm,0.9s					
OJC	Ojcow	72.69 335	eP	P	19 35 56.7	-0.2
OJC			pmax	pmax		
	comp=Z,9.0nm,0.9s					
MOQ	Mont Orford	72.93 36	eP	P	19 35 56.9	-1.5
KSP	Ksiaz	73.00 337	eP	P	19 35 59.6	+0.9
KSP	Ksiaz	73.00 337	eP	P	19 35 59.6	+0.9
KOLS	Kolonicke sedl	73.18 333	eP	P	19 36 00.5	+0.7
KOLS			pmax	pmax		
	comp=Z,7.0nm,0.8s					
KOLS	Kolonicke sedl	73.18 333	eP	P	19 36 00.5	+0.7
NIE	Niedzica	73.29 334	eP	P	19 36 02.0	+1.6
NIE	Niedzica	73.29 334	eP	P	19 36 02.0	+1.6
CLL	Collm	73.32 339	eP	P	19 35 59.9	-0.6
	comp=Z,12nm,0.9s					
CLL	Collm	73.32 339	⇑iP	P	19 36 00.9	+0.4
CLL			i		19 36 13.0	
CLL			pmax	pmax		
	comp=Z,25nm,1.0s					
CLL	Collm	73.32 339	⇑iP	P	19 36 00.9	+0.4
	comp=Z,13nm,1.0s					
CLL			i pP	pP	19 36 13.0	+0.2
UPC	Upice	73.38 337	eP	P	19 36 02.0	+1.1
UPC	Upice	73.38 337	eP	P	19 36 02.0	+1.1
DPC	Dobruska-Polom	73.45 337	eP	P	19 36 02.4	+1.0
DPC			e		19 36 14.5	
DPC	Dobruska-Polom	73.45 337	eP	P	19 36 02.4	+1.0
DPC			ex	x	19 36 14.5	
UZH	Uzhgorod	73.45 332	eP	P	19 36 03.3	+2.0
UZH			e		19 36 15.3	
UZH			i		19 36 26.1	
OKC	Ostrava-Krasne	73.47 336	eP	P	19 36 02.8	+1.4
OKC			e		19 36 15.0	
OKC	Ostrava-Krasne	73.47 336	eP	P	19 36 02.8	+1.4
OKC			ex	x	19 36 15.0	
BUR08	Bucovina Ar. S	73.47 330	eP	P	19 36 02.0	+0.3
	comp=Z,10nm,0.8s					
BURAR	Bucovina Array	73.50 330	⇓iP	P	19 36 02.4	+0.6
BRG	Berggiesshubel	73.52 339	eP	P	19 36 02.2	+0.5
	comp=Z,5.9nm,1.2s					
BRG	Berggiesshubel	73.52 339	eP	P	19 36 02.2	+0.5
BRG			pmax	pmax		
	comp=Z,7.0nm,1.2s					
MORC	Moravsky Berou	73.68 336	eP	P	19 36 03.3	+0.6
	comp=Z,10nm,0.9s					
MORC	Moravsky Berou	73.68 336	⇓iP	P	19 36 03.5	+0.8
MORC	Moravsky Berou	73.68 336	eP	P	19 36 03.3	+0.6
MORC			pmax	pmax		
	comp=Z,10.0nm,0.9s					
MORC	Moravsky Berou	73.68 336	eP	P	19 36 03.7	+0.9
LANS	Liptovska Anna	73.76 334	eP	P	19 36 05.3	+2.1
LANS	Liptovska Anna	73.76 334	eP	P	19 36 05.3	+2.1
BIZ	Bicaz	73.82 329	⇓iP	P	19 36 04.4	+0.8
TRPA	Tarpa	73.83 332	⇑iP	P	19 36 04.8	+1.2
TRPA	Tarpa	73.83 332	eP	P	19 36 04.1	+0.5
TESR	Tescani	74.03 329	⇓iP	P	19 36 04.7	-0.1
PRU	Pruhonice	74.21 338	eP	P	19 36 06.7	+0.9
PRU	Pruhonice	74.21 338	eP	P	19 36 06.7	+0.9
GOPC	GO Pecny, Ondr	74.22 338	eP	P	19 36 06.2	+0.3
GOPC	GO Pecny, Ondr	74.22 338	eP	P	19 36 06.2	+0.3
VRAC	Vranov	74.35 336	⇑iP	P	19 36 07.9	+1.3
VRAC	Vranov	74.35 336	eP	P	19 36 07.7	+1.1
TLCR		74.48 327	⇑iP	P	19 36 08.3	+0.9
JAVC	Velka Javorina	74.49 335	eP	P	19 36 09.3	+1.8
VYHS	Vyhne	74.53 335	eP	P	19 36 08.7	+1.0
VYHS			e		19 36 21.7	
VYHS			pmax	pmax		
	comp=Z,5.0nm,1.0s					
VYHS	Vyhne	74.53 335	eP	P	19 36 08.7	+1.0
VYHS			ePCP	PcP	19 36 21.7	-0.3
VRI	Vrincioaia	74.57 328	⇓iP	P	19 36 08.1	+0.1
PLOR	Plostina	74.61 328	⇓iP	P	19 36 08.8	+0.5
KRUC	Moravsky	74.63 336	eP	P	19 36 09.1	+0.9
TREC	Trest	74.63 337	eP	P	19 36 09.2	+0.9
TREC			e		19 36 21.7	
TREC	Trest	74.63 337	eP	P	19 36 09.2	+0.9
TREC			ex	x	19 36 21.7	
CLTN	Cedars of Leba	74.69 50	epP	pP	19 36 20.9	+0.4
CFR	Carcaliu	74.72 327	⇓iP	P	19 36 09.4	+0.6
PSZ	Piszkesteto	74.77 334	eP	P	19 36 09.8	+0.6
	comp=Z,7.6nm,0.8s					
PSZ	Piszkesteto	74.77 334	⇓iP	P	19 36 10.6	+1.4
PSZ	Piszkesteto	74.77 334	eP	P	19 36 09.8	+0.6
PSZ			pmax	pmax		
	comp=Z,8.0nm,0.8s					
PSZ	Piszkesteto	74.77 334	⇑eP	P	19 36 10.0	+0.8
DOPR	Dopca	74.91 329	⇑iP	P	19 36 11.2	+1.2
MODS	Modra-Piesok	75.04 336	eP	P	19 36 11.4	+0.7
MODS			pmax	pmax		
	comp=Z,9.0nm,1.1s					
MODS	Modra-Piesok	75.04 336	eP	P	19 36 11.4	+0.7
MLR	Muntele Rosu	75.16 329	eP	P	19 36 12.4	+0.9
	comp=Z,13nm,0.7s					
MLR	Muntele Rosu	75.16 329	⇑iP	P	19 36 12.8	+1.3
MLR	Muntele Rosu	75.16 329	eP	P	19 36 12.4	+0.9
MLR			pmax	pmax		
	comp=Z,13nm,0.7s					
GRA1	Grafenberg Arr	75.23 340	eP	P	19 36 12.5	+0.8
	comp=Z,11nm,0.8s					
GRF	Grafenberg Arr	75.23 340	eP	P	19 36 12.5	+0.8
GRF			pmax	pmax		
	comp=Z,11nm,0.8s					
GRFO	Grafenberg	75.23 340	eP	P	19 36 12.5	+0.8
	comp=Z,13nm,1.0s					
GRFO	Grafenberg	75.23 340	eP	P	19 36 12.5	+0.8
GRFO			pmax	pmax		
	comp=Z,13nm,1.0s					
KHC	Kasperske Hory	75.23 338	eP	P	19 36 12.4	+0.7
	comp=Z,3.0nm,0.8s					
KHC	Kasperske Hory	75.23 338	eP	P	19 36 12.5	+0.7
KHC			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KHC	Kasperske Hory	75.23 338	eP	P	19 36 12.8	+1.0
KHC			ex	x	19 36 25.7	
TLB	Topalu	75.27 327	⇓iP	P	19 36 12.7	+0.7
MEM	Membach	75.36 343	⇑P	P	19 36 13.3	+0.8
	comp=Z,24nm,1.0s					
GEC2	GERESS Array S	75.47 338	eP	P	19 36 13.6	+0.3
	comp=Z,3.8nm,0.8s					
GEC2	GERESS Array S	75.47 338	eP	P	19 36 13.6	+0.3
GEC2			pmax	pmax		
	comp=Z,4.0nm,0.8s					
GERES	GERESS Array B	75.47 338	P	P	19 36 13.7	+0.5
	comp=Z,2.2nm,0.7s,baz=35,slow=4.9,SNR=19					
VOIR		75.49 329	⇓iP	P	19 36 14.8	+1.4
SWET	Sewanee	75.59 51	epP	pP	19 36 25.5	-0.3
BCLA	Clavier	75.67 344	⇓P	P	19 36 15.1	+0.9
ARR	Arges	75.69 329	⇓iP	P	19 36 16.2	+1.7
CSKK	Cskako	75.72 334	eP	P	19 36 15.0	+0.5
ICOR	Ion Corvin	75.77 327	⇑iP	P	19 36 15.9	+1.1
CONA	Conrad Observa	75.81 336	eP	P	19 36 16.7	+1.5
	comp=Z,3.9nm,0.6s,SNR=5.8					
DOU	Dourbes	76.10 344	⇓P	P	19 36 17.5	+0.8
GZR	Gura Zlata	76.23 331	⇓iP	P	19 36 18.2	+0.6
MOA	Molln	76.27 337	eP	P	19 36 18.9	+1.1
	comp=Z,4.3nm,0.8s					
ILGA	Ilgaz	76.30 321	eP	P	19 36 19.3	+1.1
	comp=Z,19nm,0.8s					
BZS	Buzias	76.38 332	⇑iP	P	19 36 18.4	+0.1
ARSA	Arzberg	76.53 336	eP	P	19 36 20.8	+1.6
	comp=Z,5.6nm,0.9s					
HERR	Herculane	76.81 331	⇓iP	P	19 36 21.0	+0.3
BFO	Black Forest	77.12 341	eP	P	19 36 22.6	+0.1
	comp=Z,17nm,1.4s					
BFO	Black Forest	77.12 341	eP	P	19 36 22.6	+0.1
BFO			pmax	pmax		
	comp=Z,17nm,1.4s					
SOKA	Soboth	77.18 336	eP	P	19 36 24.2	+1.2
	comp=Z,3.6nm,0.7s,SNR=5.3					
PUNG	Punghina	77.19 330	⇓iP	P	19 36 23.3	+0.4
PERS	Pernice	77.20 336	i P	P	19 36 23.9	+0.9
KBA	Koelnbreinsper	77.22 338	eP	P	19 36 24.8	+1.6
	comp=Z,22nm,0.8s					
RETA	Reutte	77.41 339	eP	P	19 36 25.3	+1.1
	comp=Z,5.8nm,0.8s					
WTTA	Wattenberg	77.43 339	eP	P	19 36 25.9	+1.5
	comp=Z,10nm,1.0s					
ECH	Echery	77.45 342	eP	P	19 36 24.6	+0.2
	comp=Z,9.2nm,0.9s					
ECH	Echery	77.45 342	eP	P	19 36 24.6	+0.2
ECH			pmax	pmax		
	comp=Z,9.0nm,0.9s					
OBKA	Obir	77.46 337	eP	P	19 36 25.8	+1.3
	comp=Z,5.3nm,0.8s					
BR101	Keskin Array S	77.47 321	eP	P	19 36 25.1	+0.4
BR131	Keskin Array S	77.47 321	eP	P	19 36 25.0	+0.3
	comp=Z,6.3nm,0.9s					
BRTR	Keskin Array B	77.47 321	P	P	19 36 25.1	+0.4
	comp=Z,4.2nm,0.9s,baz=35,slow=4.2,SNR=23					
MOTA	Moosalm	77.47 339	eP	P	19 36 25.9	+1.2
	comp=Z,9.9nm,1.0s					
SQTA	Sankt Quirin	77.57 339	eP	P	19 36 26.7	+1.6
	comp=Z,11nm,0.7s,SNR=5.6					
ABTA	Abfaltersbach	77.72 338	eP	P	19 36 26.7	+0.8
	comp=Z,8.6nm,0.9s,SNR=4.7					
MDUB	Mudurnu	77.76 323	eP	P	19 36 26.7	+0.4
	comp=Z,80nm,0.9s					
FETA	Feichten	77.86 339	i P	P	19 36 28.3	+1.4
	comp=Z,8.5nm,1.0s,SNR=4.9					
VISS	Visnje	78.05 336	eP	P	19 36 24.4	-3.3
PHSR	Pinarhisar	78.06 326	⇑iP	P	19 36 28.7	+0.9
JAVS	Javornik	78.15 337	i P	P	19 36 28.6	+0.2
BOJS	Bojanci	78.22 336	i P	P	19 36 29.3	+0.7
FUORN	Ofenpass-Fuorn	78.34 339	eP	P	19 36 30.3	+0.7
	comp=Z,6.5nm,0.8s					
VTS	Vitosha	78.60 329	eP	P	19 36 30.6	-0.3
	comp=Z,7.1nm,0.7s					
VTS	Vitosha	78.60 329	⇑iP	P	19 36 31.6	+0.6
VTS	Vitosha	78.60 329	eP	P	19 36 30.7	-0.3
VTS			pmax	pmax		
	comp=Z,7.0nm,0.7s					
TUE	Stuetta	78.68 340	eP	P	19 36 32.4	+1.0
	comp=Z,11nm,0.8s					
ASAR	Alice Springs	78.93 205	P	P	19 36 34.4	+1.7
	comp=Z,1.2nm,0.6s,baz=9.8,slow=5.1,SNR=3.4					
ALN	Alexandroupoli	79.22 326	eP	P	19 36 34.0	-0.2
	comp=Z,7.7nm,1.0s					
ALN	Alexandroupoli	79.22 326	eP	P	19 36 34.0	-0.2
ALN			pmax	pmax		
	comp=Z,8.0nm,1.0s					
BALB	Balikesir	79.70 325	eP	P	19 36 36.6	-0.2
	comp=Z,50nm,0.9s					
PDG	Podgorica	79.98 332	⇓iP	P	19 36 38.8	+0.5
TTG	Podgorica	79.98 332	eP	P	19 36 38.2	0.0
	comp=Z,15nm,1.0s					
VAY	Valandovo	79.98 329	i P	P	19 36 39.1	+0.8
KRUS	Krusevo	80.35 330	i P	P	19 36 40.6	+0.2
FNA	Florina	80.85 330	eP	P	19 36 43.3	+0.2
	comp=Z,5.5nm,0.7s					
LIT	Litokhoron	81.11 329	eP	P	19 36 44.8	+0.4
	comp=Z,5.6nm,0.7s					
CSS	Mathiatis	81.71 318	eP	P	19 36 46.5	-1.2
	comp=Z,25nm,0.9s					
KARP	Karpathos	83.59 323	eP	P	19 36 56.3	-1.2
	comp=Z,22nm,0.9s					
ITM	Ithomi	83.95 328	eP	P	19 36 57.8	-1.5
	comp=Z,57nm,1.3s					
ESDC	Sonseca Array	87.57 348	P	P	19 37 17.4	+0.2
	comp=Z,2.5nm,0.8s,baz=2.4,slow=4.2,SNR=4.5					

BER 28 19:33:13.0±0.6, 68°.97N×12°.45E, h3km±3km, ML1.2,
Confirmed Earthquake, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	Lofoten	0.93	154	eP	Pg	19 33 29.7	-1.1
LOF				eS	Sg	19 33 42.0	-0.9
LOF				IAML		19 33 43.0	
	comp=Z,5.7nm,0.1s						
STEI	Steigen	1.47	134	eP	Pn	19 33 38.4	-1.9
STEI				eS	Sb	19 33 57.3	-2.6
STEI				IAML		19 33 58.9	
	comp=Z,3.8nm,0.2s						
KONS	Konsvik	2.49	174	eS	Sn	19 34 22.1	-3.3
KONS				IAML		19 34 36.5	
	comp=Z,1.9nm,0.6s						
MOR8	Moi Rana	2.91	164	eP	Pn	19 33 57.1	-3.1
MOR8				IAML		19 34 42.1	
	comp=Z,4.8nm,0.7s						

*KRSC **28** 19:37:08.2±10.0, 52°.04N×160°.71E, h63km±10km, ML5.1*
*NEIC **28** 19:37:12.5±2.3, 52°.27N×160°.15E, h29km±5km, mb4.8/217,*
Error ellipse: s-maj=13.8km s-min=10.9km az=167.0
*BJI **28** 19:37:12.6±0.0, 52°.77N×159°.88E, h32km, mb4.8/36,*
mB5.0/21, Ms4.7/18, Ms7 4.5/18
*ISCJB **28** 19:37:13.6±0.3, 52°.26N±0°.02×160°.29E±0°.03, h52km±2km,*
mb4.9/280, MS4.5/13, Error ellipse: s-maj=4.3km
s-min=2.5km az=156.1
*MOS **28** 19:37:13.2±1.0, 52°.24N×160°.29E, h50km, mb5.0/70,*
MS4.1/6, Error ellipse: s-maj=5.8km s-min=3.1km az=99.3
*IDC **28** 19:37:15.1±2.0, 52°.31N×160°.24E, h48km±18km, mb4.3/29,*
mb1 4.4/34, mb1mx4.4/44, mbtmp4.5/34, ML4.4/4, MS4.2/6,
Ms1 4.2/6, ms1mx3.6/50, Error ellipse: s-maj=13.1km
s-min=9.8km az=143.0

ISC 28 19:37:13.1±0.4, 52°.16N±0°.04×160°.46E±0°.03, h36km±1km,
h31km: pP-P, n632, σ1§42/659, mb4.8/285, MS4.5/13,
26C-29D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.97	344	eP	Pn	19 37 28.8	-1.4
SPN				eS	Sn	19 37 43.6	+0.8
SPN	Mys Shipunski	0.97	344	PN	Pn	19 37 28.8	-1.4
SPN				S	Sn	19 37 43.6	+0.8
NLC	Nalytchevo	1.22	327	eP	Pn	19 37 33.5	0.0
NLC				eS	Sn	19 37 53.2	+4.5
NLC	Nalytchevo	1.22	327	PN	Pn	19 37 33.5	0.0
RUS	Russkaya	1.22	284	eP	Pn	19 37 33.1	-0.5
RUS	Russkaya	1.22	284	PN	Pn	19 37 33.1	-0.5
DALK	Dalny	1.35	311	eP	Pn	19 37 35.2	-0.2
DALK				eS	Sn	19 37 54.7	+2.6
DALK	Dalny	1.35	311	PN	Pn	19 37 35.2	-0.2
DALK				S	Sn	19 37 54.7	+2.6
PET	Petropavlovsk	1.40	309	ePn	Pn	19 37 35.8	-0.2
PET	Petropavlovsk	1.40	309	PN	Pn	19 37 35.8	-0.2
PET				S	Sn	19 37 56.2	+3.0
MTVR	Mutnovka	1.43	284	eP	Pn	19 37 36.6	0.0
MTVR	Mutnovka	1.43	284	PN	Pn	19 37 36.6	0.0
UGLR	Uglovaya	1.45	317	eP	Pn	19 37 37.0	+0.2
UGLR	Uglovaya	1.45	317	PN	Pn	19 37 37.0	+0.2
SDLR	Sedlovina	1.47	320	eP	Pn	19 37 36.9	-0.2
SDLR	Sedlovina	1.47	320	PN	Pn	19 37 36.9	-0.2
SMAR	Somma	1.49	318	i P	Pn	19 37 37.4	-0.1
SMAR	Somma	1.49	318	PN	Pn	19 37 37.4	-0.1
GRL	Gorelyy	1.51	286	eP	Pn	19 37 38.6	+0.9
GRL	Gorelyy	1.51	286	PN	Pn	19 37 38.6	+0.9
KDTR	Khodutka, Kamc	1.51	257	eP	Pn	19 37 36.8	-0.8
KDTR				eS	Sn	19 37 56.1	+0.1
KDTR	Khodutka, Kamc	1.51	257	PN	Pn	19 37 36.8	-0.8
KDTR				S	Sn	19 37 56.1	+0.1
AVH	Avacha	1.52	317	eP	Pn	19 37 38.1	+0.3
AVH	Avacha	1.52	317	PN	Pn	19 37 38.1	+0.3
KRER	Koryakskii	1.54	318	eP	Pn	19 37 38.6	+0.4
KRER	Koryakskii	1.54	318	PN	Pn	19 37 38.6	+0.4
KRMR	Karymshinskiy	1.57	296	eP	Pn	19 37 38.5	+0.1
KRMR	Karymshinskiy	1.57	296	PN	Pn	19 37 38.5	+0.1
KOK	Koryaka	1.58	316	eP	Pn	19 37 38.9	+0.2
KOK	Koryaka	1.58	316	PN	Pn	19 37 38.9	+0.2
ASAK	Asacha	1.59	279	eP	Pn	19 37 39.0	+0.3
ASAK	Asacha	1.59	279	PN	Pn	19 37 39.0	+0.3
KRX	Arik	1.63	318	eP	Pn	19 37 39.4	+0.1
KRX	Arik	1.63	318	PN	Pn	19 37 39.4	+0.1
I44RU	PETROPAVLOVSK-	1.92	301	P	Pn	19 37 45.0	+1.8
	baz=104,slow=27,SNR=1.8						
PEA0B	Petropavlovsk-	1.93	301	ePn	Pn	19 37 43.9	+0.5
PETK	Petropavlovsk-	1.93	301	P	Pn	19 37 43.9	+0.5
	120nm,0.3s,baz=110,slow=19,SNR=539						
PETK				S	Sn	19 38 10.1	+3.7
	166nm,0.3s,baz=107,slow=20,SNR=12						
PEA1	Petropavlovsk-	1.93	301	ePn	Pn	19 37 43.9	+0.5
PEA1				eSn	Sn	19 38 10.1	+3.7
APC	Apacha	2.15	292	eP	Pn	19 37 47.6	+1.2
APC	Apacha	2.15	292	PN	Pn	19 37 47.6	+1.2
GNL	Ganaly	2.16	316	eP	Pn	19 37 47.5	+0.9
GNL	Ganaly	2.16	316	PN	Pn	19 37 47.5	+0.9
PAU	Pauzhetka	2.37	254	eP	Pn	19 37 49.3	0.0
PAU	Pauzhetka	2.37	254	PN	Pn	19 37 49.3	0.0
MKZ	Mys Kozlova	2.52	17	eP	Pn	19 37 50.0	-1.4
MKZ				eS	Sn	19 38 18.7	-2.1
MKZ	Mys Kozlova	2.52	17	PN	Pn	19 37 50.0	-1.4
MKZ				S	Sn	19 38 18.7	-2.1
KZV	Kizimen	2.96	358	eP	Pn	19 37 57.7	+0.1
KZV	Kizimen	2.96	358	PN	Pn	19 37 57.7	+0.1
TUMD	Tumrok D	3.05	359	eP	Pn	19 37 58.5	-0.2
TUMD				eS	Sn	19 38 34.3	+0.4
SKR	Severo-Kuril's	3.09	243	eP	Pn	19 37 58.9	-0.4
SKR				eS	Sn	19 38 34.4	-0.6
SKR	Severo-Kuril's	3.09	243	PN	Pn	19 37 58.9	-0.4
SKR				S	Sn	19 38 34.4	-0.6
TUMR	Tumrok	3.13	357	eP	Pn	19 38 00.7	+0.7
TUMR	Tumrok	3.13	357	PN	Pn	19 37 58.5	-1.5
TUMR				S	Sn	19 38 34.3	-1.8
ESO	Esso	3.91	345	eP	Pn	19 38 10.9	+0.3
ESO	Esso	3.91	345	PN	Pn	19 38 10.9	+0.3
KOZ	Kozyrevsk	3.92	355	eP	Pn	19 38 11.6	+0.9
KOZ	Kozyrevsk	3.92	355	PN	Pn	19 38 11.6	+0.9
LGNR	Loginova	3.93	2	eP	Pn	19 38 12.7	+1.6
LGNR	Loginova	3.93	2	PN	Pn	19 38 12.7	+1.6
KRSR	Krestovskiy	4.06	1	eP	Pn	19 38 13.6	+0.9
KRSR	Krestovskiy	4.06	1	PN	Pn	19 38 13.6	+0.9
KLY	Klyuchi	4.16	2	eP	Pn	19 38 15.1	+1.1
KLY	Klyuchi	4.16	2	PN	Pn	19 38 15.1	+1.1
SRDR	Sredinnyy	4.19	354	eP	Pn	19 38 14.8	+0.4
SRDR	Sredinnyy	4.19	354	PN	Pn	19 38 14.8	+0.4
KBTR	Krutoberegovo	4.29	18	eP	Pn	19 38 15.0	-0.7
KBTR	Krutoberegovo	4.29	18	PN	Pn	19 38 15.0	-0.7
KBG	Krutoberegovo	4.31	17	eP	Pn	19 38 16.1	+0.1
KBG	Krutoberegovo	4.31	17	PN	Pn	19 38 16.1	+0.1
BDR	Baidarnaya	4.44	5	eP	Pn	19 38 19.3	+1.5
BDR	Baidarnaya	4.44	5	PN	Pn	19 38 19.3	+1.5
SMKR	Semkarok	4.47	7	eP	Pn	19 38 18.9	+0.6
SMKR	Semkarok	4.47	7	PN	Pn	19 38 18.9	+0.6
BKI	Bering	4.48	45	eP	Pn	19 38 16.6	-1.7
BKI				eS	Sn	19 39 03.4	-5.6
BKI	Bering	4.48	45	PN	Pn	19 38 16.6	-1.7
SRKR	Sorokina	4.52	5	eP	Pn	19 38 20.6	+1.6
SRKR	Sorokina	4.52	5	PN	Pn	19 38 20.6	+1.6
OSSR	Ossora	7.25	11	eP	Pn	19 38 55.9	-0.5
OSSR	Ossora	7.25	11	PN	Pn	19 38 55.9	-0.5
SMY	Shemya	8.36	81	ePn	Pn	19 39 10.1	-1.4
SMY				eSn	Sn	19 40 38.6	-6.0
SMY	Shemya	8.36	81	ePN	Pn	19 39 10.1	-1.4
TILK	Tilichiki	8.88	19	eP	Pn	19 39 18.9	+0.2
TILK	Tilichiki	8.88	19	PN	Pn	19 39 18.9	+0.2
MA2	Magadan	9.20	328	ePn	Pn	19 39 18.0	-5.1
MA2	Magadan	9.20	328	⇓iPN	Pn	19 39 24.4	+1.3
MA2	Magadan	9.20	328	P	Pn	19 39 23.8	+0.7
	0.5nm,0.3s,baz=141,slow=10,SNR=9.2						
TYV	Tymovskoe	11.17	270	ePN	Pn	19 39 52.7	+2.7
TYV				pmax	pmax		
	comp=Z,18nm,1.4s						
TYV				MLR	MLR		
	comp=N,2μm,16.0s						
TYV				MLR	MLR		
	comp=Z,2μm,16.0s						
SEY	Seymchan	11.62	341	P	Pn	19 39 57.2	+1.0
	comp=Z,0.0nm,0.3s,baz=134,slow=12,SNR=6.7						
UGL	Uglegorsk	12.08	262	PN	Pn	19 39 52.6	-10
UGL				pmax	pmax		
	comp=Z,57nm,0.9s						
UGL				MLR	MLR		
	comp=Z,1μm,12.0s						
UGL				MLR	MLR		
	comp=N,1μm,17.0s						
UGL				MLR	MLR		
	comp=E,2μm,15.0s						
YSS	Yuzh-Sakhalins	12.61	253	ePn	Pn	19 40 08.5	-1.2
YSS	Yuzh-Sakhalins	12.61	253	⇓ePN	Pn	19 40 10.8	+1.1
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				pmax	pmax		
	comp=E,30nm,1.3s						
YSS				MLR	MLR		
	comp=Z,900nm,12.0s						
YSS				MLR	MLR		
	comp=E,600nm,16.0s						
YUK	Yuzh-Kuril'sk	12.68	236	ePN	Pn	19 40 13.7	+3.0
YUK				pmax	pmax		
	comp=N,

GAMB **Gambell** 18.61 41 *e*P Pn 19 41 28.6 +1.2
comp=Z,8.8nm,1.0s
YAK **Yakutsk** 19.23 313*c i*P P 19 41 31.0 -2.7
YAK *e*S Sn 19 45 02.3 -6.8
YAK pmax pmax
comp=Z,293nm,0.8s
YAK pmax pmax
comp=N,97nm,0.9s
YAK pmax pmax
comp=E,264nm,1.0s
YAK smax smax
comp=N,91nm,2.5s
YAK smax smax
comp=E,73nm,2.0s
YAK **Yakutsk** 19.23 313 P P 19 41 31.4 -2.4
comp=E,0.0nm,0.3s,baz=60,slow=4.2,SNR=66
YAK S Sn 19 45 06.3 -2.8
comp=E,0.0nm,0.3s,baz=249,slow=3.0,SNR=2.7
ZEA **Zeya** 19.97 288 *e*P P 19 41 40.0 -1.9
ZEA pmax pmax
comp=Z,23nm,1.0s
ZEA MLR MLR
comp=Z,1µm,17.0s
ZEA MLR MLR
comp=N,1µm,15.0s
ZEA MLR MLR
comp=E,800nm,15.0s
USA0B **Ussuriysk Arra** 20.48 258 *e*P P 19 41 44.3 -3.2
comp=E,35nm,1.0s
USRK **Ussuriysk Ar.** 20.48 258 P P 19 41 45.1 -2.5
comp=E,32nm,1.0s,baz=56,slow=10,SNR=18
USRK LR LR 19 49 14.3
comp=E,423nm,19.8s,baz=67,slow=35
ANM **Nome** 21.47 42 *e*P P 19 41 59.8 +1.8
comp=E,33nm,1.2s
ANM **Nome** 21.47 42 *e*P P 19 41 59.8 +1.8
ANM pmax pmax
comp=Z,33nm,1.2s
MDJ **Mudanjiang** 21.72 262 P P 19 41 58.8 -2.0
MDJ pmax pmax
comp=Z,30nm,0.9s
MDJ pmax pmax
comp=Z,500nm,10.8s
MDJ LR LR
comp=Z,1µm,17.5s
MDJ LR LR
comp=Z,350nm,13.6s
MDJ LR LR
comp=Z,520nm,17.8s
MDJ **Mudanjiang** 21.72 262 *e*P P 19 41 58.3 -2.5
comp=Z,21nm,0.8s
MJB9 **Matsu-Tunnel** 22.16 234 *e*P P 19 42 06.4 +0.8
comp=Z,37nm,0.8s
MAJO **Matsushiro** 22.16 234 *e*P P 19 42 06.4 +0.8
comp=Z,36nm,0.8s
MAJO **Matsushiro** 22.16 234⇓*i*P P 19 42 07.1 +1.4
MAJO pmax pmax
comp=Z,40nm,1.0s
MAT **Matsushiro** 22.16 234 P P 19 42 05.9 +0.2
MJAR **Matsushiro Arr** 22.16 234 P P 19 42 06.0 +0.4
comp=Z,22nm,0.7s,baz=18,slow=10,SNR=64
MJAR LR LR 19 51 13.9
comp=Z,564nm,21.2s,baz=45,slow=38
SDPT **Sand Point** 23.11 67 *e*P P 19 42 22.0 +6.6
comp=Z,140nm,1.6s
RDOG **Red Dog Mine** 23.68 34 *e*P P 19 42 20.5 -0.5
comp=Z,12nm,0.8s
INU **Inuyama** 23.69 234 *e*P P 19 42 22.0 +0.7
comp=Z,30nm,0.8s
TIXI **Tiksi** 24.02 336 *e*P P 19 42 21.7 -2.4
comp=Z,33nm,0.6s
TIXI **Tiksi** 24.02 336⇑*i*P P 19 42 23.0 -1.1
TIXI pmax pmax
comp=Z,30nm,0.8s
TIXI **Tiksi** 24.02 336 P P 19 42 22.6 -1.4
comp=Z,34nm,0.7s,baz=129,slow=8.5,SNR=131
CN2 **Changchun** 24.68 264 *e*P P 19 42 28.0 -2.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HIA **Hailar** 25.70 280 *e*P P 19 42 37.3 -2.3
comp=Z,42nm,0.8s
HIA **Hailar** 25.70 280 *e*P P 19 42 37.3 -2.3
HIA pmax pmax
comp=Z,42nm,0.8s
SII **Sitkinak Islan** 26.41 62 *e*P P 19 42 48.1 +2.2
comp=Z,63nm,0.8s
RSO **Redoubt South** 26.72 53 *e*P P 19 42 49.4 +0.5
OHAK **Old Harbor** 26.79 61 *e*P P 19 42 51.4 +2.1
comp=Z,45nm,1.1s
BOD **Bodaibo** 26.80 301 *e*P P 19 42 47.3 -2.1
BOD pmax pmax
comp=Z,14nm,1.2s
KDAK **Kodiak Island** 27.08 59 *e*P P 19 42 53.4 +1.5
comp=Z,18nm,1.2s
KDAK **Kodiak Island** 27.08 59 *e*P P 19 42 53.4 +1.5
KDAK pmax pmax
comp=Z,18nm,1.2s
KSRS **Korea Array** 27.09 250 P P 19 42 51.3 -0.8
comp=Z,6.1nm,0.8s,baz=44,slow=9.0,SNR=24
KSRS PcP PcP 19 46 13.7 +1.4
comp=Z,1.4nm,0.6s,baz=351,slow=1.6,SNR=6.4
KSRS LR LR 19 54 39.1
comp=Z,288nm,18.6s,baz=65,slow=39
KS15 **Wonju Array Si** 27.12 250 *e*P P 19 42 52.9 +0.5
comp=Z,62nm,1.7s
BPAW **Bear Paw Mtn.** 27.53 45 *e*P P 19 42 55.7 -0.2
comp=Z,4.7nm,0.9s
MLY **Manley** 27.69 43 *e*P P 19 42 58.0 +0.6
comp=Z,4.9nm,1.1s
MLY *e*PcP PcP 19 46 14.4 +1.0
COLD **Coldfoot** 28.14 39 *e*P P 19 42 59.9 -1.4
comp=Z,3.2nm,0.8s
BWN **Browne** 28.20 45 *e*P P 19 43 01.6 -0.2
comp=Z,34nm,1.1s
TOLK **Toolik Lake Re** 28.58 36 *e*P P 19 43 05.4 +0.1
comp=Z,6.4nm,1.1s
JNU **Nakatsue** 28.60 240 *e*P P 19 43 04.8 -0.9
comp=Z,36nm,0.9s
JNU **Nakatsue** 28.60 240 P P 19 43 06.6 +0.9
comp=Z,25nm,0.9s,baz=116,slow=6.8,SNR=10
KNK **Knik Glacier** 28.75 51 *e*P P 19 43 05.6 -1.2
comp=Z,40nm,1.7s
MDM **Murphy Dome** 28.75 44 *e*P P 19 43 06.5 -0.3
comp=Z,12nm,1.6s
SML **Sawmill** 28.78 50 *e*P P 19 43 07.3 +0.2
comp=Z,16nm,1.0s
SML **Sawmill** 28.78 50 *e*P P 19 43 07.3 +0.2
SML pmax pmax
comp=Z,16nm,1.0s
WRH **Wood River Hil** 28.80 45 *e*P P 19 43 08.0 +0.8
comp=Z,5.8nm,0.9s
CCB **Clear Creek Bu** 28.93 44 *e*P P 19 43 09.2 +0.9
comp=Z,8.4nm,1.2s
DHY **Denali Highway** 29.15 48 *e*P P 19 43 09.6 -0.9
comp=Z,12nm,1.5s
SCM **Sheep Creek Mo** 29.25 50 *e*P P 19 43 10.4 -0.9
comp=Z,43nm,1.1s
SCM **Sheep Creek Mo** 29.25 50 *e*P P 19 43 10.4 -0.9
SCM pmax pmax
comp=Z,43nm,1.1s
HDA **Harding Lake** 29.30 45 *e*P P 19 43 09.3 -2.4
comp=Z,3.7nm,0.8s
ILAR **Eielson Array** 29.32 44 P P 19 43 11.4 -0.5
comp=Z,0.8nm,0.7s,baz=254,slow=7.1,SNR=9.7
GLI **Glacier Island** 29.46 52 *e*P P 19 43 11.1 -2.0
comp=Z,17nm,0.8s
PRP **Porcupine Dome** 29.90 43 *e*P P 19 43 17.1 -0.1
comp=Z,4.9nm,0.9s
KLU **Klutina** 29.95 51 *e*P P 19 43 18.1 +0.6
comp=Z,8.7nm,0.8s
PAX **Paxson** 30.02 48 *e*P P 19 43 20.6 +2.5
comp=Z,2.7nm,0.8s
PAX **Paxson** 30.02 48 *e*P P 19 43 20.6 +2.5
PAX pmax pmax
comp=Z,3.0nm,0.8s
DIV **Divide** 30.07 51 *e*P P 19 43 17.8 -0.7
comp=Z,9.5nm,0.9s
RIDG **Independent Ri** 30.25 46 *e*P P 19 43 20.9 +0.8
comp=Z,27nm,1.8s
DOT **Dot Lake** 30.60 46 *e*P P 19 43 22.8 -0.4
comp=Z,13nm,1.8s
CTGM **Chitina Glacie** 32.23 51 *e*P P 19 43 38.7 +1.0
comp=Z,35nm,1.8s
H11N2 **WAKE ISLAND Hy** 32.76 169 T T 20 19 40.7
baz=352,slow=76,SNR=107
H11N3 **WAKE ISLAND Hy** 32.77 169 T T 20 19 38.6
baz=352,slow=76,SNR=82
H11N1 **WAKE ISLAND Hy** 32.77 169 T T 20 19 40.5
baz=352,slow=76,SNR=121
ULN **Ulaanbaatar** 33.93 284 *e*P P 19 43 50.5 -2.2
ULN *e*pP P 19 43 50.8 -1.9
ULN **Ulaanbaatar** 33.93 284⇓*i*P P 19 43 51.2 -1.5
ULN pmax pmax
comp=Z,6.0nm,0.9s
H11S1 **WAKE ISLAND Hy** 33.94 169 T T 20 21 07.6
baz=352,slow=76,SNR=6.0
H11S3 **WAKE ISLAND Hy** 33.95 169 T T 20 21 11.8
baz=352,slow=76,SNR=19
H11S2 **WAKE ISLAND Hy** 33.96 169 T T 20 21 14.9
baz=352,slow=76,SNR=4.4
HYT **Haines Junctio** 34.08 51 *e*P P 19 43 53.3 -0.6
comp=Z,16nm,1.5s
TLY **Talaya** 34.27 292 *e*P P 19 43 54.0 -1.4
comp=Z,9.5nm,0.8s
TLY **Talaya** 34.27 292⇓*i*P P 19 43 54.7 -0.7
SONA0 **Songino Array** 34.34 285 *e*PcP PcP 19 46 31.7 +0.3
SONM **Songino Array** 34.34 285 P P 19 43 54.8 -1.4
comp=Z,1.7nm,0.5s,baz=61,slow=7.6,SNR=12
SONM PcP PcP 19 46 31.7 +0.3
comp=Z,1.2nm,0.7s,baz=75,slow=1.4,SNR=4.2
SONM LR LR 19 59 33.1
comp=Z,904nm,18.8s,baz=61,slow=39
INK **Inuvik** 34.48 37 *e*P P 19 43 57.1 +0.1
comp=Z,4.4nm,1.0s
INK **Inuvik** 34.48 37 P P 19 43 56.6 -0.3
comp=Z,1.9nm,0.6s,baz=289,slow=8.3,SNR=6.4
INK PcP PcP 19 46 32.1 +0.8
comp=Z,1.1nm,0.4s,baz=318,slow=6.8,SNR=3.7
ZAK **Zakamensk** 35.02 290 *e*P P 19 43 59.7 -2.3
ZAK pmax pmax
comp=Z,11nm,1.1s
WHY **Whitehorse** 35.37 50 *e*P P 19 44 04.9 0.0
comp=Z,4.6nm,0.9s
MOY **Mondy** 35.78 293 *e*P P 19 44 07.2 -1.4
MOY pmax pmax
comp=Z,12nm,1.3s
BESE **Bessie Mountai** 36.01 54 *e*P P 19 44 11.3 +1.0
comp=Z,43nm,2.0s
JIS **Juneau Island** 36.34 54 *e*P P 19 44 15.0 +2.0
comp=Z,15nm,1.3s
NRIK **Noril'sk** 36.80 326 P P 19 44 14.8 -2.1
comp=Z,12nm,1.1s,baz=86,slow=10,SNR=8.4
SARN **Sarigan** 37.24 204 *e*P P 19 44 20.1 -1.1
comp=Z,39nm,1.4s
WRAK **Wrangell Islan** 38.04 56 *e*P P 19 44 29.1 +1.6
comp=Z,15nm,1.3s
DLBC **Dease Lake** 38.43 52 *e*P P 19 44 32.8 +1.9
comp=Z,7.7nm,0.9s
WHN **Wuhan** 39.93 256 P P 19 44 45.0 +1.4
WHN pmax pmax
comp=Z,32nm,0.7s
YULB **Yu-li** 41.42 241 *e*P P 19 44 56.2 +0.2
comp=Z,8.3nm,0.9s
TPUB **Ta-pu** 41.86 242 *e*P P 19 45 00.3 +0.7
comp=Z,13nm,1.0s
TWG **Pinlang** 42.01 241 *e*P P 19 45 00.1 -0.6
comp=Z,78nm,1.0s
GTA **Gaotai** 42.94 278 *e*P P 19 45 07.5 -0.9
GTA pP pP 19 45 12.5 -5.7
GTA pmax pmax
comp=Z,6.0nm,0.9s
ENH **Enshi** 43.05 260 *e*P P 19 45 08.0 -1.3
comp=Z,10nm,0.6s
ZAA0 **Zalesovo Array** 43.47 304 *e*P P 19 45 08.5 -3.8
comp=Z,4.7nm,0.8s
ZALV **Zalesovo Beam** 43.47 304 P P 19 45 09.4 -2.9
comp=Z,4.6nm,0.7s,baz=56,slow=6.6,SNR=16
YKA **Yellowknife Ar** 43.70 42 P P 19 45 13.5 -0.5
comp=Z,0.8nm,0.7s,baz=297,slow=7.6,SNR=7.5
NVS **Novosibirsk** 43.83 305⇓*i*P P 19 45 13.3 -1.9
NVS *e* 19 46 59.6
NVS pmax pmax
comp=N,17nm,1.3s
NVS pmax pmax
comp=Z,58nm,1.3s
NVS pmax pmax
comp=E,36nm,1.4s
RES **Resolute Bay** 44.11 22 *e*P P 19 45 17.2 +0.1
comp=E,6.5nm,0.9s
RES **Resolute Bay** 44.11 22 *e*P P 19 45 17.2 +0.1
RES pmax pmax
comp=Z,6.0nm,0.9s
RES **Resolute Bay** 44.11 22 P P 19 45 17.4 +0.2
comp=Z,5.1nm,0.8s,baz=307,slow=9.9,SNR=11
RES PcP PcP 19 47 02.2 +0.6
comp=Z,1.4nm,0.7s,baz=320,slow=4.4,SNR=3.6
DGZ **Jazzator, Alta** 44.28 297*d i*P P 19 45 18.2 -0.9
DGZ pmax pmax
comp=Z,11nm,0.8s
CD2 **Chengdu** 46.10 265 *e*P P 19 45 31.0 -2.6
HMH **Humu'ula Sheep** 47.15 117 *e*P P 19 45 45.6 +3.4
comp=Z,287nm,1.6s
MLOA **Mauna Loa Obse** 47.16 117 *e*P P 19 45 45.2 +2.8
comp=Z,333nm,1.7s
MWH **Moku'aweowe** 47.19 117 *e*P P 19 45 45.8 +3.1
comp=Z,416nm,1.9s
SBLHI **Steaming Bluff** 47.41 117 *e*P P 19 45 47.1 +3.1
comp=Z,800nm,1.8s
HATHI **Halema'uma'u T** 47.42 117 *e*P P 19 45 46.2 +2.2
comp=Z,177nm,0.7s
WMQ **Urumqi** 47.49 290 *e*P P 19 45 43.1 -1.3
comp=Z,18nm,0.8s
WMQ **Urumqi** 47.49 290 *e*P P 19 45 43.1 -1.3
WMQ pmax pmax
comp=Z,18nm,0.8s
KBS **Kingsbay** 47.83 352 *e*P P 19 45 46.1 -0.4
comp=Z,88nm,1.9s
KBS **Kingsbay** 47.83 352⇓*i*P P 19 45 47.3 +0.9
KBS pmax pmax
comp=Z,59nm,0.9s
KBS **Kingsbay** 47.83 352 *e*P P 19 45 46.5 +0.1
SPA0 **Spitsbergen Ar** 48.09 351 *e*P P 19 45 48.5 0.0
comp=Z,42nm,0.9s
SPA0 **Spitsbergen Ar** 48.09 351 *e*P P 19 45 48.2 -0.3
KURK **Kurchatov** 48.42 303 *e*P P 19 45 49.1 -2.2
comp=Z,35nm,1.0s
KURK **Kurchatov** 48.42 303*c i*P P 19 45 49.2 -2.1
KURK pmax pmax
comp=Z,28nm,0.9s
MK31 **Makanchi Array** 48.76 297 *e*P P 19 45 51.9 -2.2
comp=Z,6.5nm,0.6s
MK31 **Makanchi Array** 48.76 297 *e*P P 19 45 51.9 -2.2
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MKAR **Makanchi Array** 48.76 297 P P 19 45 52.2 -1.9
comp=Z,6.5nm,0.6s,baz=57,slow=7.3,SNR=93
MAKZ **Makanchi** 48.93 297 *e*P P 19 45 53.1 -2.2
comp=Z,9.7nm,0.8s
MAKZ **Makanchi** 48.93 297 *e*P P 19 45 53.1 -2.2
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
HSPB **Hornsund (broa** 49.22 350 *e*P P 19 45 57.1 +0.1
KMI **Kunming** 50.89 261 P P 19 46 13.0 +2.3
KMI pmax pmax
comp=Z,13nm,0.5s
YBH **Yreka Blue Hor** 51.14 69 *e*P P 19 46 14.7 +2.4
comp=Z,22nm,1.8s
YBH **Yreka Blue Hor** 51.14 69 *e*P P 19 46 14.7 +2.4
YBH pmax pmax
comp=Z,23nm,1.8s
BRVK **Borovoye** 51.17 309 *e*P P 19 46 10.5 -1.7
comp=Z,21nm,0.8s
BRVK **Borovoye** 51.17 309⇑*i*P P 19 46 11.2 -1.0
WALA **Waterton Lakes** 51.38 57 *e*P P 19 46 15.4 +1.4
comp=Z,5.8nm,0.8s
BMO **Blue Mountains** 52.20 63 *e*P P 19 46 22.2 +2.1
comp=Z,3.0nm,1.1s
BMO **Blue Mountains** 52.20 63 *e*P P 19 46 22.2 +2.1
BMO pmax pmax
comp=Z,3.0nm,1.1s
MOD **Modoc Plateau** 52.41 68 *e*P P 19 46 23.5 +1.7
comp=Z,6.1nm,0.8s
J08A **Circle Bar Ran** 52.51 65 *e*P P 19 46 24.7 +2.2
comp=Z,6.4nm,1.4s
MSO **Missoula** 52.76 59 *e*P P 19 46 27.0 +2.7
comp=Z,16nm,1.7s
WVOR **Wild Horse Val** 53.01 66 *e*P P 19 46 30.1 +3.9
comp=Z,4.0nm,0.8s
SLVN **Son La** 53.02 257 *e*P P 19 46 25.1 -1.3
comp=Z,11nm,0.9s
SVE **Sverdlovsk** 53.11 317 *e*P P 19 46 26.4 -0.1
FFC **Flin Flon** 53.52 46 *i*P P 19 46 32.4 +2.9
HAMF **Hammerfest** 53.63 344 *e*P P 19 46 29.4 -0.7
LVZ **Lovozero** 53.65 338 *e*P P 19 46 29.4 -0.9
comp=Z,29nm,0.9s
LVZ **Lovozero** 53.65 338⇓*i*P P 19 46 30.0 -0.4
KEV **Kevo** 53.77 342 *e*P P 19 46 30.2 -1.0
comp=Z,66nm,1.6s
KEV **Kevo** 53.77 342 *e*P P 19 46 30.2 -1.0
KEV pmax pmax
comp=Z,66nm,1.6s
HRY **Holter Researc** 53.95 58 *e*P P 19 46 34.9 +1.8
FCC **Fort Churchill** 54.07 38 *e*P P 19 46 33.8 +0.3
comp=Z,4.1nm,0.7s
FCC **Fort Churchill** 54.07 38 *e*P P 19 46 33.8 +0.3
FCC pmax pmax
comp=Z,4.0nm,0.7s
LRM **Limekiln Ridge** 54.20 59 *e*P P 19 46 31.3 -3.7
ARU **Arti** 54.23 318 *e*P P 19 46 33.5 -1.3
comp=Z,16nm,0.6s
ARU **Arti** 54.23 318*c i*P P 19 46 33.7 -1.1
ARU *PP sP 19 46 49.0 +0.3
ARU 19 47 38.3
ARU 19 48 35.0
ARU S S 19 54 06.8 -2.4
ARU SS SS 19 57 55.0 +4.4
ARU pmax pmax
comp=Z,14nm,0.6s
ARCES **ARCESS Array B** 54.24 342 P P 19 46 33.8 -0.9
comp=Z,12nm,0.9s,baz=35,slow=8.9,SNR=20
ARE0 **ARCESS Array S** 54.24 342 *e*P P 19 46 33.9 -0.8
comp=Z,1.0nm,1.0s
ARE0 **ARCESS Array S** 54.24 342 *e*P P 19 46 34.1 -0.5
PAHR **Pah Rah Range** 54.38 69 *e*P P 19 46 39.5 +3.2
comp=Z,5.8nm,1.0s
TARG **Taragay, Kyrgy** 54.45 294 *e*P P 19 46 36.4 -0.7
comp=Z,4.3nm,0.9s
KDJ **Kajisay** 54.54 295 *e*P P 19 46 36.1 -1.3
comp=Z,11nm,0.9s
KDJ **Kajisay** 54.54 295 *e*P P 19 46 36.1 -1.3
KDJ pmax pmax
comp=Z,11nm,0.9s
MCMT **McKenzie Canyo** 54.64 61 *e*P P 19 46 39.8 +1.6
PNTR **Pine Nut** 54.66 70 *e*P P 19 46 41.6 +3.2
comp=Z,13nm,0.9s
LSA **Lhasa** 54.71 274 *e*P P 19 46 39.6 +0.5
comp=Z,10.0nm,0.7s
LSA **Lhasa** 54.71 274 *i*P P 19 46 39.3 +0.1
SNR=13
BOZ **Bozeman (W)** 54.78 59 *e*P P 19 46 40.0 +0.9
comp=Z,3.3nm,0.8s
BOZ **Bozeman (W)** 54.78 59 *e*P P 19 46 40.0 +0.9
BOZ pmax pmax
comp=Z,3.0nm,0.8s
SUMG **Summit** 54.86 7 *e*P P 19 46 39.3 -0.3
SUMG **Summit** 54.86 7 *e*P P 19 46 39.3 -0.3
TKM2 **Tokmak 2** 54.90 297 P P 19 46 38.9 -1.1
SNR=7.2
CMB **Columbia Colle** 54.91 71 *e*P P 19 46 41.3 +1.3
comp=Z,6.7nm,1.3s
CMB **Columbia Colle** 54.91 71 *e*P P 19 46 41.3 +1.3
CMB pmax pmax
comp=Z,7.0nm,1.3s
YERR **Yerington** 54.94 70 *e*P P 19 46 44.1 +3.8
comp=Z,4.6nm,0.9s
ULHL **Ulahol** 54.99 296 P P 19 46 39.3 -1.4
SNR=11
KTK1 **Kautokeino** 55.11 343 *e*P P 19 46 39.8 -1.1
BMN **Battle Mountai** 55.13 67 *e*P P 19 46 43.9 +2.2
comp=Z,6.4nm,0.8s
SAO **San Andreas Ge** 55.15 73 *e*P P 19 46 44.0 +2.3
comp=Z,11nm,1.1s
WAKR **Walker** 55.15 70 *e*P P 19 46 43.0 +1.0
comp=Z,6.1nm,0.9s
USP **Ospenovka** 55.27 298 P P 19 46 41.5 -1.0
SNR=6.9
CHMS **Chumysh** 55.31 297 P P 19 46 41.5 -1.3
SNR=7.9
TRO **Tromso** 55.32 345 *e*P P 19 46 42.0 -0.4
PRGR **Permogore** 55.35 328⇓*i*P P 19 46 42.6 -0.1
PRGR pmax pmax
comp=Z,27nm,0.6s
QLMT **Earthquake Lak** 55.40 60 *e*P P 19 46 44.4 +0.8
KBK **Karagaybulak** 55.43 297 P P 19 46 42.5 -1.3
SNR=9.5
FRU1 **Bishkek** 55.50 297 *e*P P 19 46 43.4 -0.9
comp=Z,19nm,1.0s
FRU1 **Bishkek** 55.50 297 *e*P P 19 46 43.4 -0.9
FRU1 pmax pmax
comp=Z,19nm,1.0s
KVN **Kaiserville** 55.55 69 *e*P P 19 46 46.2 +1.4
comp=Z,6.0nm,1.0s
KVN **Kaiserville** 55.55 69 *e*P P 19 46 46.2 +1.4
KVN pmax pmax
comp=Z,6.0nm,1.0s
YHB **Horse Butte** 55.57 60 *e*P P 19 46 46.3 +1.4
comp=Z,4.3nm,0.8s
RYN **Ryan** 55.59 70 *e*P P 19 46 47.9 +2.8
comp=Z,8.7nm,1.2s
NRN **Naryn** 55.66 295 *e*P P 19 46 43.9 -1.8
comp=Z,5.2nm,1.3s
NRN **Naryn** 55.66 295 *e*P P 19 46 43.9 -1.8
NRN pmax pmax
comp=Z,5.0nm,1.3s
GCMT **Greycliff** 55.69 58 *e*P P 19 46 45.3 -0.3
AAK **Ala-Archa** 55.69 297 P P 19 46 44.5 -1.2
SNR=11
AAK **Ala-Archa** 55.69 297 *e*P P 19 46 43.5 -2.2
comp=Z,9.3nm,0.9s
AAK **Ala-Archa** 55.69 297 *i*P P 19 46 44.3 -1.4
SNR=13
AAK **Ala-Archa** 55.69 297⇑*i*P P 19 46 44.8 -0.9
AAK pmax pmax
comp=Z,11nm,1.0s
TMCR **Tamitsa** 55.71 333 *e*P P 19 46 44.8 -0.5
TMCR pmax pmax
comp=Z,36nm,0.6s
YHH **Holmes Hill** 55.73 59 *e*P P 19 46 46.1 0.0
comp=Z,3.2nm,0.9s
YMR **Madison River** 55.75 60 *e*P P 19 46 47.3 +1.1
comp=Z,5.8nm,0.7s
PANO **Nakornpanom** 55.84 253 P P 19 46 49.1 +2.3
comp=Z,0.4nm,0.9s
NVAR **Mina Array Bea** 55.85 70 P P 19 46 48.9 +1.9
comp=Z,1.4nm,0.7s,baz=284,slow=8.3,SNR=6.0
MDPB **Devils Postpil** 55.95 71 *e*P P 19 46 49.6 +1.9
comp=Z,6.6nm,1.0s
YFT **Old Faithful** 55.96 60 *e*P P 19 46 50.6 +2.9
comp=Z,5.7nm,0.6s
ELK **Elko** 56.04 66 *e*P P 19 46 49.9 +1.5
comp=Z,2.1nm,0.8s
ELK **Elko** 56.04 66 *e*P P 19 46 49.9 +1.5
ELK pmax pmax
comp=Z,2.0nm,0.8s
EKS2 **Erkin-Say** 56.07 297 P P 19 46 47.3 -1.1
SNR=20
H17A **Grant Village** 56.14 60 *e*P P 19 46 50.9 +1.9
comp=Z,3.8nm,0.8s
IMW **Indian Meadow** 56.28 60 *e*P P 19 46 49.6 -0.4
comp=Z,4.3nm,0.9s
FLWY **Flagg Ranch** 56.28 60 *e*P P 19 46 50.3 +0.3
comp=Z,4.6nm,0.8s
RLMT **Red Lodge** 56.34 58 *e*P P 19 46 51.1 +0.7
comp=Z,9.2nm,1.1s
SKNT **Sakolnakorn** 56.35 253 P P 19 46 51.8 +1.3
comp=Z,24nm,0.8s
FXWY **Fox Creek** 56.41 61 *e*P P 19 46 51.4 +0.4
comp=Z,2.2nm,0.9s
AML **Almayashu** 56.47 297 P P 19 46 51.3 -0.3
SNR=6.2
MOOW **Moose Ponds** 56.48 60 *e*P P 19 46 52.6 +1.1
comp=Z,2.9nm,0.8s
PAGB **Antelope Grade** 56.56 73 *e*P P 19 46 53.8 +2.0
comp=Z,16nm,1.3s
LOHW **Long Hollow** 56.65 60 *e*P P 19 46 54.7 +2.1
comp=Z,2.9nm,0.9s
REDW **Red Top Meadow** 56.69 61 *e*P P 19 46 53.6 +0.7
comp=Z,24nm,1.9s
HVU **Hansel Valley** 56.71 63 *e*P P 19 46 53.8 +0.8
comp=Z,4.6nm,1.1s
HVU **Hansel Valley** 56.71 63 *e*P P 19 46 53.8 +0.8
HVU pmax pmax
comp=Z,5.0nm,1.1s
ILULI **Ilulissat** 56.74 13 *e*P P 19 46 51.8 -0.8
comp=Z,37nm,1.6s
ILULI **Ilulissat** 56.74 13 *e*P P 19 46 51.8 -0.8
ILULI pmax pmax
comp=Z,37nm,1.6s
LAO **LASA Array** 56.85 55 *e*P P 19 46 55.6 +1.8
comp=Z,9.5nm,0.6s
AHID **Auburn Hatcher** 56.96 61 *e*P P 19 46 56.5 +1.7

comp=Z,5.7nm,1.0s
PAYA Payao 56.96 259 P P 19 46 56.3 +1.5
comp=Z,53µm,0.8s,comp=Z,472µm
KSH Kashi 56.97 293 P P 19 46 57.8 +3.0
KSH PP PP 19 49 06.5 +5.2
KSH S S 19 54 44.0 -2.5
KSH pmax pmax
comp=Z,180nm,6.1s
KSH LR LR
comp=Z,340nm,10.2s
KSH LR LR
comp=Z,270nm,12.6s
KSH LR LR
comp=Z,590nm,13.8s
SHL Shillong 57.22 270 eP P 19 46 55.7 -1.1
comp=Z,14nm,1.0s
SHL Shillong 57.22 270 eP P 19 46 55.7 -1.1
SHL pmax pmax
comp=Z,14nm,1.0s
PHRA Phrae 57.40 258 P P 19 46 59.4 +1.5
comp=Z,4.7nm,0.9s,comp=Z,361nm
ARSB Arslanbob 57.41 297 eP P 19 46 56.2 -1.7
STEI Steigen 57.44 345 eP P 19 46 56.9 -0.7
R11A Troy Canyon, C 57.47 68 eP P 19 47 02.6 +4.1
comp=Z,9.8nm,1.8s
LOF Lofoten 57.52 346 eP P 19 46 58.0 -0.1
KHON Khomkaen 57.53 254 P P 19 47 00.8 +2.0
comp=Z,43µm,0.9s
KK31 Karatay Array 57.53 300 eP P 19 46 56.5 -2.1
comp=Z,11nm,1.2s
KK31 Karatay Array 57.53 300 eP P 19 46 56.5 -2.1
KK31 pmax pmax
comp=Z,11nm,1.2s
KKAR Karatay Array 57.53 300 eP P 19 46 56.5 -2.1
comp=Z,11nm,1.2s
KKAR Karatay Array 57.53 300 eP P 19 46 56.5 -2.1
KKAR pmax pmax
comp=Z,11nm,1.2s
ISA Isabella, Lake 57.65 72 eP P 19 47 01.2 +1.6
comp=Z,6.8nm,0.9s
ISA Isabella, Lake 57.65 72 eP P 19 47 01.2 +1.6
ISA pmax pmax
comp=Z,7.0nm,0.9s
LAMP Lampang 57.75 258 P P 19 47 01.8 +1.4
comp=Z,47µm,0.9s,comp=Z,405µm
DUG Dugway, Tooele 57.77 65 eP P 19 47 01.7 +1.2
comp=Z,5.7nm,1.1s
DUG Dugway, Tooele 57.77 65 eP P 19 47 01.7 +1.2
DUG pmax pmax
comp=Z,6.0nm,1.1s
BW06 Boulder Array 57.79 61 eP P 19 47 01.5 +0.8
comp=Z,5.2nm,0.8s
PD31 Pinedale Array 57.79 61 eP P 19 47 01.2 +0.6
comp=Z,4.7nm,0.8s
PDAR Pinedale Array 57.79 61 P P 19 47 01.8 +1.1
comp=Z,1.2nm,0.8s,baz=309,slow=3.1,SNR=11
UTTA Uttaradit 57.79 257 P P 19 47 02.0 +1.4
comp=Z,42µm,0.8s,comp=Z,337µm
KLMR Klimovskoe 57.87 330 eP P 19 46 59.3 -1.3
KLMR pmax pmax
comp=Z,29nm,0.9s
CMMT Chiang Mai 57.94 259 P P 19 47 02.6 +0.9
comp=Z,16nm,1.1s
CHTO Chiang Mai 57.94 259 eP P 19 47 02.4 +0.6
comp=Z,21nm,0.8s
CM31 Chiang Mai Arr 58.21 259 eP P 19 47 03.7 0.0
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 58.21 259 P P 19 47 04.8 +1.2
comp=Z,12nm,0.8s,baz=26,slow=7.0,SNR=71
CHAI Chaiyaphum 58.37 254 P P 19 47 06.6 +1.9
comp=Z,22µm,0.8s
PBKT Sadao Pong 58.45 256 P P 19 47 07.0 +1.7
comp=Z,6.6nm,1.1s
ABKAR Akbulak array 58.57 311 eP P 19 47 03.6 -2.2
comp=Z,9.5nm,0.7s
MOR8 Moi Rana 59.18 345 eP P 19 47 08.4 -1.4
JIRN Jiri 59.21 276 eP P 19 47 10.5 -0.4
comp=Z,47nm,0.7s
TMUT Trail Mountain 59.28 64 eP P 19 47 12.2 +1.0
comp=Z,12nm,0.9s
MSU Marysvale 59.29 66 eP P 19 47 12.1 +0.9
MSU Marysvale 59.29 66 eP P 19 47 12.1 +0.9
MDND Maddock 59.30 51 eP P 19 47 12.1 +1.3
comp=Z,59nm,1.4s
ULM Lac du Bonnet 59.30 47 eP P 19 47 10.6 -0.2
comp=Z,4.4nm,0.9s
ULM Lac du Bonnet 59.30 47 eP P 19 47 10.6 -0.2
ULM pmax pmax
comp=Z,4.0nm,0.9s
ULM Lac du Bonnet 59.30 47 P P 19 47 10.6 -0.2
comp=Z,2.5nm,0.8s,baz=330,slow=8.8,SNR=3.9
SZCU Shurtz Canyon 59.42 67 eP P 19 47 12.2 +0.2
comp=Z,15nm,1.8s
RAMN Ramite 59.47 275 eP P 19 47 11.9 -0.7
comp=Z,85nm,0.6s
BTK Batken 59.47 297 eP P 19 47 10.6 -1.6
comp=Z,14nm,0.8s
K22A Casper 59.48 59 eP P 19 47 13.0 +0.6
comp=Z,9.3nm,0.7s
KKN Kakani 59.67 277 eP P 19 47 13.3 -0.6
comp=Z,66nm,0.6s
LCMT Little Creek M 59.74 68 eP P 19 47 13.8 -0.4
comp=Z,8.7nm,0.9s
RSSD Black Hills 59.74 56 eP P 19 47 14.9 +0.7
comp=Z,10nm,0.8s
RSSD Black Hills 59.74 56 eP P 19 47 14.9 +0.7
RSSD pmax pmax
comp=Z,10.0nm,0.8s
PKI Pulchoki 59.75 277 eP P 19 47 13.8 -0.8
comp=Z,38nm,0.7s
PKIN Phulchoki 59.75 277 eP P 19 47 13.7 -0.9
comp=Z,31nm,0.7s
RWWY Rawlins 59.79 60 eP P 19 47 14.9 +0.2
comp=Z,4.5nm,0.7s
SRU San Rafael Swe 59.79 64 eP P 19 47 15.2 +0.6
comp=Z,5.8nm,0.8s
SRU San Rafael Swe 59.79 64 eP P 19 47 15.2 +0.6
SRU pmax pmax
comp=Z,6.0nm,0.8s
DMN Daman 59.91 277 eP P 19 47 15.2 -0.4
comp=Z,66nm,0.7s
GKN Gorkha 59.91 278 eP P 19 47 14.8 -0.7
comp=Z,52nm,0.7s
PKCU Pink Cliffs 59.96 67 eP P 19 47 16.6 +0.7
comp=Z,50nm,2.0s
KNB Kanab 59.97 67 eP P 19 47 16.2 +0.3
comp=Z,11nm,1.3s
KNB Kanab 59.97 67 eP P 19 47 16.2 +0.3
KNB pmax pmax
comp=Z,11nm,1.3s
UMPA Umpang Tak 60.00 257 P P 19 47 19.5 +3.5
comp=Z,48µm,0.9s
DANN Dangsing 60.19 279 eP P 19 47 17.0 -0.6
comp=Z,67nm,0.7s
GAR Garm 60.49 296 eP P 19 47 17.8 -1.5
comp=Z,26nm,1.0s
GAR Garm 60.49 296 eP P 19 47 17.8 -1.5
GAR pmax pmax
comp=Z,26nm,1.0s
KOLN Koldanda 60.71 278 eP P 19 47 20.2 -0.8
comp=Z,43nm,0.6s
W13A Hualapai Mount 60.72 70 eP P 19 47 23.9 +2.9
comp=Z,15nm,1.9s
PYUN Piuthan 60.84 279 eP P 19 47 21.2 -0.7
comp=Z,49nm,0.7s
N23A Red Feather La 61.03 60 eP P 19 47 23.4 +0.3
comp=Z,5.5nm,0.8s
PV21 Cone Mtn., Par 61.04 64 eP P 19 47 24.6 +1.4
comp=Z,7.1nm,0.6s
FIA1 FINESS Array S 61.06 337 eP P 19 47 22.4 -0.3
comp=Z,32nm,0.7s
FINES FINESS Array B 61.06 337 P P 19 47 22.9 +0.2
comp=Z,33nm,0.7s,baz=31,slow=8.7,SNR=178
NSS Namsos 61.10 345 eP P 19 47 22.2 -0.7
PV22 Blue Mesa, Par 61.16 64 eP P 19 47 24.7 +0.7
comp=Z,6.9nm,1.1s
PV04 Paradox Valley 61.20 64 eP P 19 47 26.2 +2.0
comp=Z,25nm,0.9s
PV20 West Nyswonger 61.20 64 eP P 19 47 27.0 +2.8
comp=Z,5.8nm,0.5s
PV16 Nyswonger Mesa 61.25 64 eP P 19 47 27.0 +2.5
comp=Z,31nm,1.6s
PV05 Paradox Valley 61.31 64 eP P 19 47 25.2 +0.2
comp=Z,6.9nm,0.7s
PV03 Paradox Valley 61.33 64 eP P 19 47 26.2 +1.1
comp=Z,4.8nm,0.8s
CHGR Chuyangaron 61.37 297 eP P 19 47 26.2 +1.0
comp=Z,11nm,0.7s
PV13 Radium Mtn., P 61.41 64 eP P 19 47 25.6 -0.1
comp=Z,8.4nm,0.8s
SMCO Snowmass 61.70 62 eP P 19 47 28.9 +1.1
comp=Z,3.4nm,0.9s
WUAZ Wupatki 61.86 68 eP P 19 47 30.4 +1.7
comp=Z,4.9nm,1.0s
ISCO Idaho Springs 61.98 61 eP P 19 47 30.7 +1.1
comp=Z,6.7nm,1.2s
ISCO Idaho Springs 61.98 61 eP P 19 47 30.7 +1.1
ISCO pmax pmax
comp=Z,7.0nm,1.2s
PHET Kaeng Krachan 62.12 254 P P 19 47 33.2 +2.8
comp=Z,71µm,0.8s,comp=Z,809µm
MVCO Mesa Verde 62.27 64 eP P 19 47 33.4 +1.9
comp=Z,4.4nm,0.9s
MOS Moscow 62.56 328 eP P 19 47 31.3 -1.5
MOS pmax pmax
comp=Z,34nm,0.9s
X16A Lo Mia Camp, P 62.61 69 eP P 19 47 35.5 +1.8
comp=Z,15nm,1.8s
NIL Nilore 62.64 290 eP P 19 47 33.0 -0.8
NIL Nilore 62.64 290 eP P 19 47 33.0 -0.8
S22A 4UR Ranch, Cre 62.80 63 eP P 19 47 36.5 +1.4
comp=Z,8.6nm,1.1s
EYMN Ely 62.95 46 eP P 19 47 35.8 +0.3
comp=Z,14nm,1.3s
X18A Snowflake 63.38 67 eP P 19 47 40.2 +1.4
comp=Z,7.3nm,1.4s
OBN Obninsk 63.42 328 eP P 19 47 37.2 -1.3
comp=Z,57nm,0.4s
OBN Obninsk 63.42 328 eP P 19 47 38.2 -0.3
OBN e 19 48 11.5
OBN e 19 49 56.9
OBN ePPP PPP 19 51 26.1
OBN pmax pmax
comp=Z,13nm,0.8s
OBN MLR MLR
comp=Z,287nm,19.0s
VSU Vasula 63.49 335 ⇓iP P 19 47 39.4 +0.5
VSU Vasula 63.49 335 eP P 19 47 38.0 -0.9
VSU IAmb IAmb 19 47 39.5
comp=Z,71nm,0.8s
SDCO Great Sand Dun 63.53 62 eP P 19 47 39.8 -0.1
comp=Z,4.4nm,1.4s
MOL Molde 63.63 346 eP P 19 47 40.7 +1.0
SBUM Sibu 63.68 236 eP P 19 47 40.2 -0.5
comp=Z,2.0nm,0.8s
ECSD EROS Data Cent 63.72 52 eP P 19 47 40.5 -0.2
comp=Z,9.2nm,1.3s
DOMB Dombas 63.90 345 eP P 19 47 41.2 -0.5
AKN Aaknes 64.08 347 eP P 19 47 43.1 +0.3
NC303 NORSAR Array S 64.30 344 eP P 19 47 43.9 -0.3
comp=Z,23nm,1.0s
NC405 NORSAR Array S 64.34 344 eP P 19 47 43.7 -0.9
comp=Z,23nm,0.8s
NC204 NORSAR Array S 64.35 344 eP P 19 47 43.9 -0.8
comp=Z,25nm,0.9s
KBL Kabul 64.40 294 eP P 19 47 43.2 -2.4
comp=Z,7.9nm,0.6s
KBL Kabul 64.40 294 eP P 19 47 43.2 -2.4
KBL pmax pmax
comp=Z,8.0nm,0.6s
NB201 NORSAR Array S 64.48 344 eP P 19 47 44.3 -1.2
comp=Z,28nm,0.9s
NB2 NORSAR Subarra 64.50 344 P P 19 47 45.2 -0.4
comp=Z,8.0nm,0.7s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.50 344 P P 19 47 45.2 -0.4
baz=22,slow=6.9
NOA NORSAR Array B 64.50 344 P P 19 47 45.3 -0.3
comp=Z,8.5nm,0.7s,baz=21,slow=6.6,SNR=58
NBO00 NORSAR Array S 64.58 344 eP P 19 47 45.2 -0.9
comp=Z,18nm,0.9s
LPSR Galich'ya Gora 64.67 325 eP P 19 47 45.7 -1.1
LPSR pmax pmax
comp=Z,20nm,0.7s
NC602 NORSAR Array S 64.73 344 eP P 19 47 44.7 -2.3
comp=Z,68nm,1.9s
NC602 NORSAR Array S 64.73 344 eP P 19 47 46.7 -0.3
NAO01 NORSAR Array S 64.74 344 eP P 19 47 46.5 -0.6
comp=Z,18nm,0.8s
VRH Novokhopyorsk 64.79 322 eP P 19 47 46.2 -1.3
VRH pmax pmax
comp=Z,20nm,0.6s
HYA Hoyanger 65.17 347 eP P 19 47 50.0 +0.1
SKAR Skarslía 65.31 345 eP P 19 47 50.8 -0.1
SLIT Slitere, Latvi 65.35 337 eP P 19 47 51.1 +0.1
SLIT IAmb IAmb 19 47 52.3
comp=Z,249nm,0.7s
VSR Storozhevoye 65.72 324 ⇓iP P 19 47 53.3 -0.3
VSR pmax pmax
comp=Z,19nm,0.8s
VORD Divnogorie 65.88 324 eP P 19 47 53.6 -1.0
VORD pmax pmax
comp=Z,10.0nm,0.6s
ASK Askoy 65.96 347 eP P 19 47 55.4 +0.4
IZAR Zarasai 65.99 334 eP P 19 47 55.3 +0.1
IZAR IAmb IAmb 19 47 56.7
comp=Z,8.1nm,0.6s
BER Bergen 66.04 347 eP P 19 47 55.5 +0.1
KONO Kongsberg 66.08 344 eP P 19 47 55.7 -0.1
IDID Didziasalis 66.24 333 eP P 19 47 56.5 -0.4
IDID IAmb IAmb 19 47 58.3
comp=Z,11nm,0.9s
SCHQ Schefferville 66.37 28 P P 19 47 57.5 -0.2
comp=Z,5.1nm,0.6s,baz=4.4,slow=13,SNR=4.6
SCIA State Center 66.74 51 eP P 19 48 00.4 +0.1
comp=Z,29nm,0.6s
BLS5 Blasjo 66.80 346 eP P 19 48 00.1 -0.4
PABE Paberze 66.82 335 eP P 19 47 60.0 -0.5
PABE IAmb IAmb 19 48 01.9
comp=Z,41nm,0.8s
SNART Snartemo 67.72 345 eP P 19 48 06.5 +0.3
GEYT Alibeck 67.78 303 P P 19 48 06.2 -0.8
comp=Z,9.1nm,0.7s,baz=38,slow=2.6,SNR=22
GYA0B ALIBECK ARRAY 67.78 303 eP P 19 48 07.0 0.0
comp=Z,9.2nm,0.7s
MNTX Cornudas Mount 68.05 66 eP P 19 48 08.8 0.0
comp=Z,5.0nm,1.0s
MYKOM Kota Tinggi 68.70 244 eP P 19 48 11.2 -1.8
comp=Z,15nm,1.2s
BSD Bornholm Skovb 69.33 340 eP P 19 48 17.1 +0.8
BSD Bornholm Skovb 69.33 340 iP P 19 48 17.1 +0.8
AKASG Malin Array Be 69.53 329 iP P 19 48 16.8 -0.8
AKASG pmax pmax
comp=Z,8.0nm,0.5s
AKASG Malin Array Be 69.53 329 P P 19 48 16.6 -1.0
comp=Z,7.8nm,0.5s,baz=29,slow=6.3,SNR=25
AKBB Malin Array Si 69.53 329 eP P 19 48 16.5 -1.1
comp=Z,18nm,0.9s
AKBB Malin Array Si 69.53 329 eP P 19 48 16.5 -1.1
AKBB pmax pmax
comp=Z,18nm,0.9s
KIEV Kiev 69.54 329 eP P 19 48 16.4 -1.3
comp=Z,17nm,0.9s
KIEV Kiev 69.54 329 ⇑iP P 19 48 16.9 -0.8
KIEV Kiev 69.54 329 iP P 19 48 16.8 -0.8
SNR=16
KIEV Kiev 69.54 329 ⇑iP P 19 48 17.0 -0.8
KIEV pmax pmax
comp=Z,16nm,0.9s
NCK Nalchik 70.26 316 ⇓iP P 19 48 22.6 +0.3
NCK pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 70.27 317 eP P 19 48 21.8 -0.6
comp=Z,6.0nm,0.7s
KIV Kislovodsk 70.27 317 ⇓iP P 19 48 22.7 +0.3
KIV Kislovodsk 70.27 317 P P 19 48 22.5 +0.1
KIV Kislovodsk 70.27 317 eP P 19 48 22.8 +0.3
KIV pmax pmax
comp=Z,25nm,1.0s
KBZ Khabaz 70.37 317 P P 19 48 23.2 +0.3
comp=Z,11nm,0.8s,baz=83,slow=3.5,SNR=26
GKP Gorka Klasztor 70.52 338 eP P 19 48 24.4 +0.8
GKP Gorka Klasztor 70.52 338 eP P 19 48 24.4 +0.8
ZEI Tsey 70.70 316 eP P 19 48 23.0 -2.3
ZEI pmax pmax
comp=Z,5.0nm,0.5s
TX31 Lajitas Ar. Si 70.80 67 eP P 19 48 26.6 +0.7
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 70.80 67 P P 19 48 26.9 +0.9
comp=Z,1.0nm,0.6s,baz=298,slow=4.6,SNR=16
HYB Hyderabad 71.51 275 iP P 19 48 30.0 -0.2
comp=Z,80nm,1.0s
ESK Eskdalemuir 72.03 350 iP P 19 48 34.1 +1.3
KWP Kalwaria Pacla 72.42 333 eP P 19 48 36.0 +0.8
KWP Kalwaria Pacla 72.42 333 eP P 19 48 35.7 +0.5
comp=Z,336nm,0.9s
KWP Kalwaria Pacla 72.42 333 eP P 19 48 35.7 +0.5
GNI Garni 72.48 314 eP P 19 48 35.9 0.0
comp=Z,10.0nm,0.8s
GNI Garni 72.48 314 P P 19 48 36.7 +0.7
GNI Garni 72.48 314 ⇓iP P 19 48 36.9 +1.0
GNI pmax pmax
comp=Z,21nm,1.0s
OJC Ojcow 72.68 335 eP P 19 48 37.4 +0.6
OJC Ojcow 72.68 335 eP P 19 48 36.8 0.0
comp=Z,13nm,1.0s
OJC Ojcow 72.68 335 eP P 19 48 36.8 0.0
OJC pmax pmax
comp=Z,13nm,1.0s
SIM Simferopol' 72.82 323 P P 19 48 38.0 +0.4
SIM pmax pmax
comp=Z,8µm,1.0s
SIM MLR MLR
comp=Z,160nm,17.5s
KSP Ksiaz 72.99 337 eP P 19 48 39.2 +0.7
KSP Ksiaz 72.99 337 eP P 19 48 39.2 +0.7
KOLS Kolonicke sedl 73.17 333 eP P 19 48 40.1 +0.4
KOLS pmax pmax
comp=Z,8.0nm,0.8s
KOLS Kolonicke sedl 73.17 333 eP P 19 48 40.1 +0.4
NIE Niedzica 73.28 334 eP P 19 48 41.3 +1.0
NIE Niedzica 73.28 334 eP P 19 48 41.3 +1.0
CLL Collm 73.30 339 eP P 19 48 39.7 -0.7
comp=Z,15nm,0.9s
CLL Collm 73.30 339 iP P 19 48 40.4 0.0
CLL i 19 48 52.5
CLL pmax pmax
comp=Z,51nm,1.0s
CLL Collm 73.30 339 iP P 19 48 40.4 0.0
comp=Z,21nm,1.0s
CLL isP pP 19 48 52.5 +1.6
UPC Upice 73.37 337 eP P 19 48 41.0 +0.2
UPC Upice 73.37 337 eP P 19 48 41.0 +0.2
DPC Dobruska-Polom 73.44 337 eP P 19 48 41.5 +0.2
DPC e 19 48 54.5
DPC MLR MLR
comp=Z,600nm,18.6s
DPC Dobruska-Polom 73.44 337 eP P 19 48 41.5 +0.2
DPC esP pwP 19 48 54.5 +0.1
DPC AMS AMS 20 18 20.0
comp=Z,600nm,18.6s
UZH Uzhgorod 73.44 333 eP P 19 48 44.5 +3.3
UZH e 19 49 02.0
OKC Ostrava-Krasne 73.46 336 eP P 19 48 42.1 +0.8
OKC e 19 48 54.1
OKC MLR MLR
comp=Z,500nm,18.6s
OKC Ostrava-Krasne 73.46 336 eP P 19 48 42.1 +0.8
OKC esP pwP 19 48 54.1 -0.4
OKC AMS AMS 20 20 10.0
comp=Z,500nm,18.6s
BUR08 Bucovina Ar. S 73.47 330 eP P 19 48 41.3 -0.3
comp=Z,13nm,0.8s
BURAR Bucovina Array 73.49 330 ⇑iP P 19 48 41.8 +0.1
BRG Berggiesshubel 73.50 339 eP P 19 48 41.7 +0.1
comp=Z,4.9nm,0.9s
BRG Berggiesshubel 73.50 339 eP P 19 48 41.7 +0.1
BRG pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 73.67 336 eP P 19 48 43.0 +0.4
comp=Z,13nm,0.9s
MORC Moravsky Berou 73.67 336 ⇓iP P 19 48 43.6 +1.0
MORC Moravsky Berou 73.67 336 eP P 19 48 43.0 +0.4
MORC pmax pmax
comp=Z,13nm,0.9s
MORC Moravsky Berou 73.67 336 eP P 19 48 43.0 +0.4
PVCC Panska Ves 73.69 338 AMS AMS 20 17 10.0
comp=Z,500nm,21.8s
LANS Liptovska Anna 73.75 334 eP P 19 48 44.6 +1.5
LANS Liptovska Anna 73.75 334 eP P 19 48 44.6 +1.5
BIZ Bicaz 73.82 329 ⇑iP P 19 48 43.4 -0.1
TRPA Tarpa 73.83 332 ⇓iP P 19 48 43.9 +0.4
TRPA Tarpa 73.83 332 ⇑eP P 19 48 44.0 +0.5
TESR Tescani 74.03 329 ⇓iP P 19 48 44.4 -0.3
KECS Kecovo 74.08 334 eP P 19 48 45.8 +0.8
KECS pmax pmax
comp=Z,20nm,0.8s
KECS Kecovo 74.08 334 eP P 19 48 45.8 +0.8
PRU Pruhonice 74.19 338 eP P 19 48 46.3 +0.7
PRU e 19 48 58.8
PRU MLR MLR
comp=Z,600nm,10.8s
PRU Pruhonice 74.19 338 eP P 19 48 46.3 +0.7
PRU esP pwP 19 48 58.8 0.0
PRU AMS AMS 20 19 30.0
comp=Z,600nm,10.8s
GOPC GO Pecny, Ondr 74.21 338 eP P 19 48 46.4 +0.6
GOPC MLR MLR
comp=Z,600nm,22.5s
GOPC GO Pecny, Ondr 74.21 338 eP P 19 48 46.4 +0.6
GOPC AMS AMS 20 19 30.0
comp=Z,600nm,22.5s
ARCR ARCALIA 74.23 331 ⇓iP P 19 48 47.3 +1.4
VRAC Vranov 74.34 336 ⇑iP P 19 48 47.2 +0.7
VRAC Vranov 74.34 336 eP P 19 48 47.2 +0.7
NKC Novy Kostel 74.44 339 eP P 19 48 47.9 +0.8
NKC MLR MLR
comp=Z,500nm,9.9s
NKC Novy Kostel 74.44 339 eP P 19 48 47.9 +0.8
NKC AMS AMS 20 19 40.0
comp=Z,500nm,9.9s
JAVC Velka Javorina 74.48 336 eP P 19 48 49.0 +1.6
VYHS Vyhne 74.52 335 eP P 19 48 48.2 +0.6
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 74.52 335 eP P 19 48 48.2 +0.6
VRI Vrincioaia 74.57 328 ⇑iP P 19 48 48.1 +0.2
PLOR Plostina 74.61 328 ⇓iP P 19 48 48.7 +0.5
KRUC Moravsky 74.61 336 eP P 19 48 48.6 +0.5
TREC Trest 74.62 337 eP P 19 48 48.6 +0.4
TREC e 19 49 01.3
TREC Trest 74.62 337 eP P 19 48 48.6 +0.4
TREC esP pwP 19 49 01.3 0.0
V48A Smith Brothers 74.66 51 eP P 19 48 49.0 +0.4
comp=Z,6.1nm,0.7s
LTVH Ltavrtes, Hu 74.68 332 eP P 19 48 49.1 +0.6
CFR Carcaliu 74.72 327 ⇑iP P 19 48 48.6 -0.1
PSZ Piszkesteto 74.76 334 eP P 19 48 49.0 -0.1
comp=Z,9.8nm,0.8s
PSZ Piszkesteto 74.76 334 eP P 19 48 49.0 -0.1
PSZ pmax pmax
comp=Z,10.0nm,0.8s
PSZ Piszkesteto 74.76 334 eP P 19 48 49.1 0.0
DOPR Dopca 74.91 329 ⇓iP P 19 48 51.1 +1.2
MODS Modra-Piesok 75.03 336 eP P 19 48 51.3 +0.7
MODS pmax pmax
comp=Z,9.0nm,0.8s
MODS Modra-Piesok 75.03 336 eP P 19 48 51.3 +0.7
MLR Muntele Rosu 75.16 329 eP P 19 48 51.6 +0.1
comp=Z,18nm,0.7s
MLR Muntele Rosu 75.16 329 ⇑iP P 19 48 52.5 +1.0
MLR Muntele Rosu 75.16 329 eP P 19 48 51.6 +0.1
MLR pmax pmax
comp=Z,18nm,0.7s
HGN Heimansgroeve 75.21 344 eP P 19 48 52.0 +0.5
comp=Z,33nm,1.0s
GRA1 Grafenberg Arr 75.21 340 eP P 19 48 52.0 +0.4
comp=Z,14nm,0.9s
GRFO Grafenberg 75.21 340 eP P 19 48 52.1 +0.5
comp=Z,11nm,0.8s
GRFO Grafenberg 75.21 340 eP P 19 48 52.1 +0.5
GRFO pmax pmax
comp=Z,11nm,0.8s
KHC Kasperske Hory 75.22 338 eP P 19 48 51.7 0.0
comp=Z,4.2nm,1.0s
KHC Kasperske Hory 75.22 338 eP P 19 48 51.7 0.0
KHC pmax pmax
comp=Z,4.0nm,1.0s
KHC Kasperske Hory 75.22 338 eP P 19 48 52.0 +0.3
KHC ex x 19 49 05.2
ZST Bratislava 75.24 336 eP P 19 48 52.3 +0.6
ZST Bratislava 75.24 336 eP P 19 48 52.3 +0.6
TLB Topalu 75.27 327 ⇑iP P 19 48 52.1 +0.2
WRAB Tennant Creek 75.32 205 ⇓iP P 19 48 51.3 -1.1
WRA Warramunga Arr 75.33 205 P P 19 48 52.9 +0.4
comp=Z,79nm,0.3s,baz=13,slow=7.1,SNR=2.5
MEM Membach 75.34 343 ⇑iP P 19 48 52.2 -0.1
comp=Z,27nm,0.9s

GEC2	GERESS Array S	75.46 338	*e*P		P	19 48 53.5	+0.4
	comp=Z,6.0nm,1.0s						
GEC2	GERESS Array S	75.46 338	*e*P		P	19 48 53.5	+0.4
GEC2			pmax	pmax			
	comp=Z,6.0nm,1.0s						
GERES	GERESS Array B	75.46 338	P		P	19 48 53.0	-0.1
GERES	GERESS Array B	75.46 338	P		P	19 48 53.0	-0.1
	comp=Z,3.1nm,0.7s,baz=35,slow=4.9,SNR=28						
VOIR		75.49 329	⇑*i*P		P	19 48 54.2	+0.9
BCLA	Clavier	75.65 344	⇓P		P	19 48 54.2	+0.2
ARR	Arges	75.68 330	⇓*i*P		P	19 48 55.6	+1.2
CSKK	Cskako	75.71 335	*e*P		P	19 48 55.1	+0.6
SIRR	Siria	75.77 332	⇑*i*P		P	19 48 54.6	-0.2
CONA	Conrad Observa	75.80 336	*e*P		P	19 48 56.3	+1.2
	comp=Z,8.1nm,0.8s,SNR=5.8						
DOU	Dourbes	76.08 344	⇓P		P	19 48 56.6	+0.1
WLF	Walferdange	76.23 343	⇑P		P	19 48 56.2	-1.1
GZR	Gura Zlata	76.23 331	⇑*i*P		P	19 48 57.6	+0.1
FITZ	Fitzroy Crossi	76.24 214	*e*P		P	19 48 58.4	+0.8
	comp=Z,9.5nm,1.2s						
FITZ	Fitzroy Crossi	76.24 214	P		P	19 48 58.7	+1.1
	comp=Z,4.6nm,0.8s,baz=353,slow=4.5,SNR=7.5						
MOA	Molln	76.26 337	*e*P		P	19 48 58.1	+0.5
	comp=Z,5.1nm,0.8s						
ILGA	Ilgaz	76.31 321	*e*P		P	19 48 58.9	+0.6
	comp=Z,79nm,0.8s						
BZS	Buzias	76.37 332	⇑*i*P		P	19 48 58.3	+0.1
ARSA	Arzberg	76.52 336	*e*P		P	19 49 00.4	+1.3
	comp=Z,7.3nm,0.9s						
X51A	Calhoun	76.55 50	*e*P		P	19 49 01.6	+2.1
	comp=Z,9.0nm,0.6s						
HERR	Herculane	76.80 331	⇓*i*P		P	19 49 00.6	-0.1
BFO	Black Forest	77.10 341	*e*P		P	19 49 02.2	-0.1
	comp=Z,39nm,2.0s						
BFO	Black Forest	77.10 341	*e*P		P	19 49 02.2	-0.1
BFO			pmax	pmax			
	comp=Z,39nm,2.0s						
S58A	Poland Farm, P	77.10 44	*e*P		P	19 49 03.2	+0.8
	comp=Z,28nm,0.9s						
SOKA	Soboth	77.17 336	*e*P		P	19 49 03.8	+0.9
	comp=Z,4.1nm,0.6s,SNR=6.2						
PERS	Pernice	77.19 336	*i*P		P	19 49 03.4	+0.4
PUNG	Punghina	77.19 330	⇓*i*P		P	19 49 02.8	0.0
KBA	Koelnbreinsper	77.20 338	*e*P		P	19 49 04.7	+1.6
	comp=Z,27nm,0.8s						
WATA	Walderalm	77.36 339	*e*P		P	19 49 05.2	+1.2
	comp=Z,2.6nm,0.6s						
RETA	Reutte	77.40 339	*i*P		P	19 49 04.9	+0.8
	comp=Z,6.4nm,0.9s						
WTTA	Wattenberg	77.42 339	*e*P		P	19 49 05.5	+1.2
	comp=Z,5.3nm,0.7s,SNR=5.7						
ECH	Echery	77.43 342	*e*P		P	19 49 04.1	-0.1
	comp=Z,8.1nm,0.8s						
ECH	Echery	77.43 342	*e*P		P	19 49 04.1	-0.1
ECH			pmax	pmax			
	comp=Z,8.0nm,0.8s						
OBKA	Obir	77.45 337	*e*P		P	19 49 05.4	+1.0
	comp=Z,6.1nm,0.7s						
MOTA	Moosalm	77.46 339	*i*P		P	19 49 05.4	+0.9
	comp=Z,5.7nm,0.7s,SNR=6.8						
BR131	Keskin Array S	77.48 321	*e*P		P	19 49 04.4	-0.4
	comp=Z,9.1nm,1.0s						
BRTR	Keskin Array B	77.48 321	P		P	19 49 04.8	+0.1
	comp=Z,5.1nm,0.8s,baz=33,slow=3.4,SNR=28						
SQTA	Sankt Quirin	77.55 339	*e*P		P	19 49 06.2	+1.2
	comp=Z,13nm,0.8s						
ABTA	Abfaltersbach	77.71 338	*e*P		P	19 49 06.5	+0.7
	comp=Z,7.8nm,0.8s,SNR=6.8						
MDUB	Mudurnu	77.77 323	*e*P		P	19 49 04.7	-1.6
	comp=Z,77nm,0.8s						
FETA	Feichten	77.85 339	*i*P		P	19 49 07.9	+1.2
	comp=Z,9.2nm,0.9s						
PALK	Pallekele	78.01 266	P		P	19 49 08.2	+0.3
VISS	Visnje	78.04 336	*i*P		P	19 49 07.8	+0.3
SHME	Shamm	78.05 297	P		P	19 49 06.9	-1.1
PHSR	Pinarhisar	78.06 326	⇓*i*P		P	19 49 08.4	+0.6
JAVS	Javornik	78.14 337	*i*P		P	19 49 09.4	+1.2
BOJS	Bojanci	78.21 336	*i*P		P	19 49 08.8	+0.3
FUORN	Ofenpass-Fuorn	78.33 340	*e*P		P	19 49 08.1	-1.4
	comp=Z,7.9nm,0.8s						
MSFE	Esma-Masafi	78.58 297	P		P	19 49 10.5	-0.5
VTS	Vitosha	78.60 329	*e*P		P	19 49 09.9	-1.0
	comp=Z,12nm,0.8s						
VTS	Vitosha	78.60 329	⇑*i*P		P	19 49 11.3	+0.4
VTS	Vitosha	78.60 329	*e*P		P	19 49 09.9	-1.0
VTS			pmax	pmax			
	comp=Z,12nm,0.8s						
TUE	Stuetta	78.66 340	*e*P		P	19 49 10.6	-0.7
	comp=Z,13nm,0.7s						
AS31	Alice Springs	79.00 205	*e*P		P	19 49 13.3	+0.3
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	79.00 205	P		P	19 49 13.9	+0.9
	comp=Z,2.5nm,0.7s,baz=15,slow=5.3,SNR=29						
HATD	Hatta, Dubai	79.02 296	*i*P		P	19 49 13.2	-0.1
	SNR=7.8						
ASHO	Ashiyiah	79.17 296	*i*P		P	19 49 14.7	+0.5
	SNR=6.8						
ALN	Alexandroupoli	79.22 327	*e*P		P	19 49 14.2	0.0
	comp=Z,7.2nm,0.9s						
FAQ	Al Faqa, Dubai	79.38 297	P		P	19 49 14.7	-0.6
ASUD	Al Ashush, Dub	79.62 297	P		P	19 49 16.5	-0.1
BALB	Balikesir	79.70 325	*e*P		P	19 49 14.4	-2.4
	comp=Z,57nm,0.9s						
ALNE	Al Ain	79.84 296	P		P	19 49 17.7	-0.1
PDG	Podgorica	79.97 332	⇑*i*P		P	19 49 17.9	-0.3
TTG	Podgorica	79.97 332	*e*P		P	19 49 17.0	-1.2
	comp=Z,15nm,0.9s						
KRUS	Krusevo	80.35 330	*i*P		P	19 49 20.3	-0.1
BNI	Bardonecchia	80.56 341	*e*P		P	19 49 21.3	-0.2
	comp=Z,9.2nm,1.0s						
FNA	Florina	80.84 330	*e*P		P	19 49 22.4	-0.6
	comp=Z,7.1nm,0.8s						
LIT	Litokhoron	81.11 329	*e*P		P	19 49 23.1	-1.4
	comp=Z,6.5nm,0.8s						
ESDC	Sonseca Array	87.54 348	P		P	19 49 57.4	+0.4
	comp=Z,2.0nm,0.7s,baz=4.4,slow=5.1,SNR=10						

IDC 28 19:37:37.0±3.7, 3°53S×138°60E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/26, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=47.7km s-min=25.2km az=146.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.84	194	Pn	Pn	19 41 34.5	+0.2
	0.4nm,0.3s,baz=11,slow=12,SNR=21						
WRA				Sn	Sn	19 44 41.3	-0.8
	56nm,0.3s,baz=13,slow=23,SNR=3.1						
FITZ	Fitzroy Crossi	19.25	220	P	P	19 42 02.3	-0.9
	0.1nm,0.3s,baz=43,slow=5.5,SNR=8.2						
FITZ				S	S	19 45 42.2	0.0
	0.1nm,0.3s,baz=220,slow=18,SNR=2.2						
ASAR	Alice Springs	20.53	192	P	P	19 42 16.1	-1.0
	1.0nm,0.7s,baz=18,slow=10,SNR=11						
ASAR				S	S	19 46 08.7	+0.9
	0.2nm,0.6s,baz=12,slow=28,SNR=2.6						
STKA	Stephens Creek	28.34	175	P	P	19 43 33.6	+0.8
	1.9nm,1.0s,baz=343,slow=19,SNR=2.4						

ATH ***28*** *19:43:00.9, 38°99N×26°09E, h23km±2km, ML2.1/6, Error ellipse: s-maj=2.8km s-min=1.2km az=318.0*
DDA ***28*** *19:43:00.8, 38°96N×26°09E, h7km±4km, ML2.5*
ISK ***28*** *19:43:00.5, 38°98N×26°12E, h9km, ML2.4/17*
ISCJB ***28*** *19:43:01.1±0.4, 38°98N±0°02×26°11E±0°03, h9km±3km, Error ellipse: s-maj=4.5km s-min=2.6km az=174.8*
THE ***28*** *19:43:01.5, 38°97N×26°03E, h7km±2km, ML2.0/6, Error ellipse: s-maj=2.5km s-min=0.9km az=321.0*
ISC 28 19:43:01.2±0.9, 38°98N±0°02×26°10E±0°02, h12km±8km, n40, σ0°45/67, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.30	321	PG	Pg	19 43 07.1	-0.2
SIGR				SG	Sg	19 43 11.9	+0.5
SIGR	SIGRI	0.30	321	P	Pg	19 43 07.2	-0.1
SIGR				S	Sb	19 43 12.1	-1.3
SIGR	SIGRI	0.30	321	P	Pg	19 43 07.2	-0.1
SIGR				S	Sg	19 43 11.9	+0.5
SIGR				AML	AML	19 43 12.3	
	comp=E,2382μm,0.4s						
SIGR				AML	AML	19 43 12.7	
	comp=N,1066μm,0.2s						
PRK	Paraskevi	0.30	27	P	Pb	19 43 08.1	-0.4
PRK				S	Sb	19 43 13.4	0.0
PRK	Paraskevi	0.30	27	P	Pb	19 43 08.2	-0.3
PRK				S	Sb	19 43 12.7	-0.7
PRK				AML	AML	19 43 13.4	
	comp=N,1394μm,0.4s						
PRK				AML	AML	19 43 13.7	
	comp=E,1023μm,0.3s						
GPNR	Gulpinar-Canak	0.48	3	PG	Pg	19 43 10.2	-0.4
GPNR				SG	Sg	19 43 17.2	+0.3
KRBN	Karaburun	0.53	137	PG	Pg	19 43 11.0	-0.5
KRBN				SG	Sg	19 43 18.8	+0.4
AYVA	Ayvalik	0.57	54	IAML_P			
	comp=Z,366nm,0.2s						
AYVA				*i*P	Pb	19 43 12.6	-0.5
AYVA				*i*S	Sg	19 43 20.1	+0.3
CHOS	Chios island	0.59	183	PG	Pg	19 43 12.5	-0.3
CHOS	Chios island	0.59	183	P	Pg	19 43 12.4	-0.3
CHOS				S	Sg	19 43 20.8	+0.2
CHOS	Chios island	0.59	183	P	Pg	19 43 12.4	-0.3
CHOS				S	Sb	19 43 21.4	-0.5
CHOS				AML	AML	19 43 27.1	
	comp=E,425μm,0.2s						
CHOS				AML	AML	19 43 27.9	
	comp=N,326μm,0.6s						
PSRA	Psara	0.60	224	P	Pb	19 43 13.7	0.0
PSRA				S	Sb	19 43 22.3	+0.2
URLA	Izmir	0.73	148	PG	Pg	19 43 14.9	-0.5
URLA	Izmir	0.73	148	IAML_P			
	comp=Z,1μm,0.3s						
URLA				*i*P	Pb	19 43 15.7	-0.2
ZEDA	zmir-Bergama	0.77	91	IAML_P			
	comp=Z,814nm,0.2s						
ZEDA				*i*P	Pb	19 43 16.2	-0.2
ZEDA				*i*S	Sn	19 43 29.4	+0.2
ZEY	zmir	0.81	157	IAML_P			
	comp=Z,809nm,0.1s						
ZEY				*i*P	Pg	19 43 15.8	-1.0
BAYC	CANAKKALE_Bayr	0.84	25	IAML_P			
	comp=Z,424nm,0.1s						
BAYC				*i*P	Pn	19 43 19.0	+0.1
BAYC				*i*S	Sn	19 43 31.0	-0.1
BOZC	Bozcaada	0.86	358	PG	Pg	19 43 17.5	-0.4
BOZC				SG	Sb	19 43 29.8	+0.2
BOZC	Bozcaada	0.86	358	IAML_P			
	comp=Z,990nm,0.2s						
BOZC				*i*P	Pb	19 43 18.5	+0.3
BOZC				*i*S	Sb	19 43 30.7	+1.1
EZN	Ezine	0.86	12	PG	Pg	19 43 17.4	-0.5
EZN				SG	Sb	19 43 29.7	0.0
EZN	Ezine	0.86	12	P	Pg	19 43 17.6	-0.3
EZN				S	Sb	19 43 30.0	+0.3
LIA	Limnos Island	1.16	323	P	Pg	19 43 23.1	-0.4
LIA				S	Sg	19 43 38.1	-0.5
LIA	Limnos Island	1.16	323	P	Pg	19 43 23.1	-0.4
LIA				S	Sn	19 43 39.0	0.0
LIA				AML	AML	19 43 40.4	
	comp=E,213μm,0.4s						
LIA				AML	AML	19 43 43.3	
	comp=N,124μm,0.6s						
STEP	BALIKESIR_Sava	1.32	72	IAML_P			
	comp=Z,478nm,0.4s						
STEP				*i*P	Pg	19 43 27.9	+1.2
SMG	Samos	1.40	155	P	Pb	19 43 27.4	+0.2
SMG				S	Sg	19 43 46.4	+0.3
SMG	Samos	1.40	155	P	Pb	19 43 27.1	-0.1
SMG				AML	AML	19 43 51.1	
	comp=E,87μm,0.6s						
SMG				AML	AML	19 43 51.2	
	comp=N,104μm,0.4s						
BALY	Balya	1.41	57	IAML_P			
	comp=Z,352nm,0.3s						
BALY				*i*P	Pg	19 43 27.9	-0.2
BALY				*i*S	Sb	19 43 44.3	-1.0
GELI	Tayfur-Gelibol	1.45	12	PN	Pn	19 43 27.2	0.0
GELI				SN	Sb	19 43 46.7	+0.2
LPK	Lapseki	1.48	20	PN	Pn	19 43 27.6	-0.1
LPK				SN	Sb	19 43 47.5	0.0
BALB	Balikesir	1.53	64	PN	Pn	19 43 28.2	-0.2
BALB				SN	Sn	19 43 48.4	+0.2
SMTH	Samothraki Isl	1.55	344	P	Pb	19 43 29.4	-0.5
SMTH				S	Sn	19 43 48.6	-0.2
SMTH	Samothraki Isl	1.55	344	P	Pn	19 43 28.8	+0.1
SMTH				AML	AML	19 43 51.6	
	comp=N,40μm,0.4s						
SMTH				AML	AML	19 43 53.1	
	comp=E,55μm,0.5s						
GCAM	G?zelcaml?	1.56	145	PN	Pn	19 43 28.8	+0.1
GCAM				SN	Sn	19 43 49.3	+0.5
ERIK	Erikli-Kesan	1.72	11	PN	Pn	19 43 31.1	+0.2
ERIK				SN	Sn	19 43 53.5	+0.7
AYDB	Zeytinkoy-Aydi	1.75	126	PN	Pn	19 43 31.5	+0.1
ENEZ	Enez	1.76	1	PN	Pn	19 43 31.6	+0.2
RKY	Sarkoy-Tekirda	1.90	26	PN	Pn	19 43 33.6	+0.1
ALN	Alexandroupoli	1.92	359	PN	Pn	19 43 34.1	+0.4
APE	Apeiranthos	1.96	193	PN	Pn	19 43 34.9	+0.6
RDO	Rodhopi	2.21	349	PN	Pn	19 43 38.1	+0.5

ATH ***28*** *19:58:37.0, 39°85N×20°70E, h12km±4km, ML3.2/15, Error ellipse: s-maj=4.4km s-min=0.7km az=161.0*
THE ***28*** *19:58:37.4, 39°86N×20°68E, h0km±1km, ML3.2/18, Error ellipse: s-maj=1.5km s-min=0.5km az=327.0*
BEO ***28*** *19:58:37.2±0.5, 39°63N×20°86E, h6km±3km, ML3.3/8*
PDG ***28*** *19:58:39.2±0.8, 39°83N×20°60E, h2km±1km, ML3.4/13, Error ellipse: s-maj=0.8km s-min=1.1km az=0.0*
IDC ***28*** *19:58:42.3±2.8, 39°83N×20°51E, h50km±28km, mb3.3/7, mb1 3.4/12, mb1mx3.2/39, mbtmp3.4/12, ML3.6/4, Error ellipse: s-maj=24.5km s-min=18.2km az=152.0*
ISC 28 19:58:37.5±0.9, 39.84N±0°02×20.69E±0°01, h8km±7km, n136, σ1°74/186, mb3.7/6, 18C-11D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.23	146	P	Pg	19 58 41.4	-0.6
JAN				S	Sg	19 58 45.8	+0.7
JAN	Janina	0.23	146	P	Pg	19 58 41.4	-0.6
JAN				S	Sg	19 58 45.8	+0.7
JAN				AML	AML	19 58 46.8	
	comp=N,81628μm,0.4s						
JAN				AML	AML	19 58 47.1	
IGT	Igoumenitsa	0.41	222	*e*Pg	Pg	19 58 44.6	-1.0
IGT				*e*Sg	Sg	19 58 51.6	+0.6
IGT	Igoumenitsa	0.41	222	P	Pg	19 58 44.5	-1.0
IGT				S	Sg	19 58 52.1	+1.1
IGT	Igoumenitsa	0.41	222	P	Pg	19 58 44.6	-1.0
IGT				S	Sg	19 58 51.3	+0.3
IGT				AML	AML	19 58 56.0	
	comp=E,10227μm,0.4s						
IGT				AML	AML	19 58 56.2	
	comp=N,10689μm,0.4s						
MEV	Metsovon	0.42	98	P	Pg	19 58 45.1	-0.6
MEV	Metsovon	0.42	98	P	Pg	19 58 45.2	-0.5
PENT	Pentalofos	0.49	44	P	Pg	19 58 46.1	-1.0
PENT				S	Sg	19 58 54.6	+1.0
PENT	Pentalofos	0.49	44	P	Pg	19 58 46.1	-1.0
PENT				S	Sg	19 58 53.2	-0.4
PENT				AML	AML	19 59 04.1	
	comp=N,4055μm,0.9s						
PENT				AML	AML	19 59 04.5	
	comp=E,3201μm,0.4s						
KPRO	Kipourio	0.53	78	P	Pg	19 58 46.6	-1.2
KPRO				S	Sb	19 58 56.1	-0.8
KPRO	Kipourio	0.53	78	P	Pg	19 58 46.6	-1.2
KPRO				S	Sg	19 58 54.6	-0.1
KPRO				AML	AML	19 59 01.4	
	comp=E,9328μm,0.6s						
KPRO				AML	AML	19 59 06.9	
	comp=N,6270μm,0.5s						
SRN	Sarande	0.53	274	P	Pg	19 58 47.5	-0.2
SRN				S	Sg	19 58 55.8	+1.1
KASA	Kassiopi	0.59	261	P	Pg	19 58 48.8	0.0
KASA				S	Sg	19 58 56.9	+0.3
NEST	Nestorio	0.63	26	P	Pg	19 58 48.9	-0.8
NEST				S	Sg	19 58 58.5	+0.4
NEST	Nestorio	0.63	26	P	Pg	19 58 49.2	-0.6
NEST				S	Sg	19 58 58.3	+0.3
NEST				AML	AML	19 59 07.2	
	comp=E,2550μm,0.6s						
NEST				AML	AML	19 59 08.8	
	comp=N,2171μm,0.4s						
TPE	Tepelena	0.69	311	P	Pg	19 58 50.4	-0.4
TPE				S	Sg	19 59 00.2	+0.5
KEK	Kerkira	0.70	260	P	Pg	19 58 50.0	-0.9
KEK				S	Sb	19 59 01.1	-0.5
KEK	Kerkira	0.70	260	P	Pg	19 58 50.0	-0.9
KEK				S	Sb	19 59 01.1	-0.5
KEK				AML	AML	19 59 04.2	
	comp=N,2826μm,0.4s						
KEK				AML	AML	19 59 06.8	
	comp=E,3170μm,0.3s						
KZN	Kozani	0.95	61	P	Pg	19 58 54.9	-0.8
KZN	Kozani	0.95	61	P	Pg	19 58 54.9	-0.8
KZN				S	Sg	19 59 08.3	+0.1
KZN				AML	AML	19 59 19.2	
	comp=N,1416μm,0.4s						
KZN				AML	AML	19 59 20.4	
	comp=E,1948μm,0.5s						
TSLK	Tsoukalades, L	1.02	181	P	Pg	19 58 56.6	-0.4
TSLK				S	Sn	19 59 11.6	-0.9
TSLK	Tsoukalades, L	1.02	181	P	Pg	19 58 56.6	-0.4
LKD2	Lefkada island	1.05	181	P	Pg	19 58 57.0	-0.7
LKD2				S	Sn	19 59 12.9	-0.5
LKD2	Lefkada island	1.05	181	P	Pg	19 58 57.0	-0.7
LKD2				AML	AML	19 59 21.0	
	comp=E,2792μm,0.5s						
LKD2				AML	AML	19 59 32.9	
	comp=N,2803μm,0.7s						
THL	Klokotos Trika	1.06	105	P	Pg	19 58 56.8	-1.0
THL				S	Sn	19 59 13.4	-0.1
THL	Klokotos Trika	1.06	105	P	Pg	19 58 56.7	-1.1
THL				AML	AML	19 59 20.3	
	comp=E,1348μm,0.8s						
THL				AML	AML	19 59 20.9	
	comp=N,1276μm,0.5s						
FNA	Florina	1.08	29	*e*Pg	Pg	19 58 58.1	-0.1
FNA				*e*Sg	Sn	19 59 16.5	+2.5
FNA	Florina	1.08	29	P	Pg	19 58 57.1	-1.0
FNA	Florina	1.08	29	P	Pg	19 58 57.1	-1.0
FNA				AML	AML	19 59 21.4	
	comp=N,2304μm,0.5s						
FNA				AML	AML	19 59 23.8	
	comp=E,2301μm,0.4s						
EVGI	Lefkada island	1.22	181	P	Pb	19 59 00.5	-0.3
EVGI				S	Sn	19 59 18.9	+1.4
EVGI	Lefkada island	1.22	181	P	Pb	19 59 00.2	-0.6
EVR	Evrytania	1.27	136	P	Pn	19 59 00.8	-0.8
EVR				S	Sn	19 59 20.1	+1.3
EVR	Evrytania	1.27	136	P	Pn	19 59 00.5	-1.0
EVR				AML	AML	19 59 28.0	
	comp=E,2470μm,0.6s						
EVR				AML	AML	19 59 28.6	
	comp=N,2189μm,0.8s						
OHR	Ohrid	1.27	4	*i*Pn	Pn	19 59 01.0	-0.6
BIA	Bitola	1.27	22	*i*Pn	Pb	19 59 01.8	+0.1
PDO	Prodromos	1.30	163	P	Pn	19 59 02.0	0.0
PDO				AML	AML	19 59 32.0	
	comp=E,3768μm,0.6s						
PDO				AML	AML	19 59 35.4	
	comp=N,2955μm,0.5s						
PVO	Paravola	1.39	152	P	Pb	19 59 03.3	-0.3
PVO				S	Sg	19 59 24.1	+2.0
PVO	Paravola	1.39	152	P	Pb	19 59 03.3	-0.3
PVO				AML	AML	19 59 32.4	
	comp=E,2066μm,0.7s						
PVO				AML	AML	19 59 34.5	
	comp=N,2558μm,0.8s						
LIT	Litokhoron	1.41	79	P	Pb	19 59 03.8	-0.2
LIT				S	Sg	19 59 23.4	+0.7
LIT	Litokhoron	1.41	79	P	Pb	19 59 03.7	-0.2
LIT				AML	AML	19 59 34.0	
	comp=E,1546μm,0.5s						
LIT				AML	AML	19 59 35.7	
	comp=N,1433μm,0.5s						
AGG	Agios Georgios	1.51	122	P	Pb	19 59 05.4	-0.4
AGG				S	Sg	19 59 27.1	+1.0
ANX	Ano Chora	1.57	142	P	Pb	19 59 06.7	-0.1
KRUS	Krusevo	1.58	15	*i*Pn	Pg	19 59 07.8	0.0
TIR	Tirane	1.63	338	*e*Pn	Pg	19 59 09.8	+1.1
TIR				*e*Sn	Sg	19 59 33.4	+3.6
VLS	Valsamata	1.67	183	P	Pn	19 59 07.5	+0.6
VLS				S	Sg	19 59 30.7	-0.3
GRG	Griva	1.72	49	P	Pb	19 59 08.9	-0.4
GRG	Griva	1.72	49	P	Pb	19 59 08.9	-0.4
GRG				AML	AML	19 59 43.2	
	comp=N,874μm,1.3s						
GRG				AML	AML	19 59 47.2	
	comp=E,416μm,0.4s						
XOR	Xorichti	1.99	103	P	Pn	19 59 12.0	+0.6
XOR				S	Sb	19 59 39.0	+0.1
VAY	Valandovo	2.06	44	*e*Pn	Pn	19 59 13.1	+0.8
VAY				*e*Sn	Sb	19 59 39.7	-1.1
VAY	Valandovo	2.06	44	*e*Pn	Pn	19 59 13.3	+1.0
SKO	Skopje	2.20	15	*e*Pn	Pb	19 59 16.9	-0.6
SKO	Skopje	2.20	15	*i*Pn	Pb	19 59 16.9	-0.6
ULC	Ulcinj	2.38	333	⇑*i*Pn	Pb	19 59 19.7	-0.9
ULC				*e*Sn	Sg	19 59 52.7	-1.4
SRS	Serrai	2.55	59	*e*Pn	Pn	19 59 19.9	+0.7
SRS				*e*Sn	Sn	19 59 50.8	+0.4
CGL1	Ceglie Messapi	2.59	289	⇓*i*Pn	Pg	19 59 27.5	+0.4
DRME	Dracevica, Mon	2.60	335	⇑*i*Pn	Pb	19 59 22.7	-1.7
DRME				*e*Sn	Sb	19 59 58.1	+1.6
DRME	Dracevica, Mon	2.60	335	*e*Pn	Pn	19 59 22.2	+2.4
TAR1	Taranto	2.70	286	Pn	Pn	19 59 21.4	+0.3
TAR1				Sn	Sg	20 00 07.4	+3.4
PDG	Podgorica	2.80	338	*e*Pn	Pb	19 59 26.2	-1.5
PDG				*e*Sn	Sb	20 00 02.6	+0.4
PDG	Podgorica	2.80	338	⇑*i*P	Pb	19 59 29.2	+1.5
PDG	Podgorica	2.80	338	*e*Pn	Pb	19 59 25.8	-1.9
TTG	Podgorica	2.80	338	⇓*i*Pn	Pb	19 59 26.8	-0.9
TTG				*e*Sn	Sb	20 00 02.4	+0.2
PVY	Plav	2.80	349	⇑*i*Pn	Pb	19 59 26.6	-1.2
PVY				*e*Sn	Sb	20 00 03.3	+0.9
BUM	Brajici-Budva	2.81	332	⇓*i*Pn	Pb	19 59 26.1	-1.7
BUM				*e*Sn	Sb	20 00 02.6	+0.2
MASS	Massafra	2.83	287	*e*Pn	Pg	19 59 31.1	-0.5
CEME	Cevo	3.01	334	⇓*i*Pn	Pn	19 59 28.3	+2.8
CEME				*e*Sn	Sb	20 00 07.3	-1.0
HCY	Herceg Novi	3.08	328	⇑*i*Pn	Pn	19 59 29.3	+2.9
HCY				*e*Sn	Sb	20 00 09.1	-1.2
HCY	Herceg Novi	3.08	328	*e*Pn	Pb	19 59 29.9	-2.7
IVA	Berane	3.08	349	⇑*i*Pn	Pb	19 59 30.5	-2.1
IVA				*e*Sn	Sb	20 00 10.0	-0.4

APE	**Apeiranthos**	**4.70**	**125**	⇑*iP*	**Pn**	**19 59 49.6**	**+0.9**
BANR	**Banloc**	**5.55**	**3**	⇑*iP*	Pn	20 00 06.9	+6.7
GZR	**Gura Zlata**	**5.76**	**15**	⇑*iP*	Pn	20 00 09.3	+6.1
BZS	**Buzias**	**5.81**	**6**	⇑*iP*	Pn	20 00 10.5	+6.6
UDBI	**Udbina**	**5.94**	**324**	*eP*n	**Pn**	**20 00 07.9**	**+2.2**
UDBI				Sn	**Sn**	**20 01 15.8**	**+1.9**
NVLJ	**Novalja**	**6.39**	**319**	*eP*n	**Pn**	**20 00 12.7**	**+0.8**
NVLJ				Sn	**Sn**	**20 01 23.1**	**-2.0**
VOIR		**6.45**	**28**	⇑*iP*	Pn	20 00 19.4	+6.7
MLR	**Muntele Rosu**	**6.84**	**33**	⇑*iP*	Pn	20 00 24.1	+5.9
MLR	**Muntele Rosu**	**6.84**	**33**	P	**Pn**	**20 00 21.9**	**+3.7**
	comp=E,0.3nm,0.3s,baz=223,slow=19,SNR=6.2						
DOPR	**Dopca**	**7.03**	**28**	⇑*iP*	Pn	20 00 26.7	+6.1
CRES	**Cresnjev**	**7.11**	**329**	*eP*n	**Pn**	**20 00 22.9**	**+1.2**
PLOR	**Plostina**	**7.43**	**34**	⇑*iP*	Pn	20 00 32.2	+6.0
CEY	**Cerknica**	**7.48**	**324**	*eP*n	**Pn**	**20 00 28.5**	**+1.7**
VRI	**Vrincioaia**	**7.48**	**34**	⇓*iP*	Pn	20 00 32.1	+5.3
SOKA	**Soboth**	**7.98**	**331**	*eP*n	**Pn**	**20 00 36.0**	**+2.3**
	comp=E,0.9nm,0.3s						
SOKA				Sn	**Sn**	**20 02 02.4**	**-1.8**
	comp=E,1.2nm,0.5s						
OBKA	**Obir**	**8.03**	**328**	*eP*n	**Pn**	**20 00 37.3**	**+2.9**
	comp=E,1.0nm,0.2s						
OBKA				Sn	**Sn**	**20 02 07.4**	**+2.0**
	comp=E,4.8nm,0.4s						
ARSA	**Arzberg**	**8.30**	**335**	Pn	**Pn**	**20 00 40.4**	**+2.3**
	comp=E,0.6nm,0.3s						
KBA	**Koelnbreinsper**	**8.99**	**326**	*eP*n	**Pn**	**20 00 50.5**	**+2.9**
	comp=E,0.1nm,0.1s						
KBA				Sn	**Sn**	**20 02 27.3**	**-1.7**
	comp=E,0.8nm,0.5s						
ABTA	**Abfaltersbach**	**9.12**	**322**	*eP*n	**Pn**	**20 00 52.7**	**+3.4**
	comp=E,1.8nm,0.6s						
ABTA				Sn	**Sn**	**20 02 31.5**	**-0.6**
	comp=E,3.3nm,0.6s						
MOA	**Molln**	**9.25**	**332**	*eP*n	**Pn**	**20 00 55.1**	**+4.0**
	comp=E,0.7nm,0.3s						
MOA				Sn	**Sn**	**20 02 34.8**	**-0.4**
	comp=E,1.8nm,0.6s						
WTTA	**Wattenberg**	**9.90**	**321**	*eP*n	**Pn**	**20 01 03.1**	**+2.9**
	comp=E,2.3nm,0.6s						
BRTR	**Keskin Array B**	**9.97**	**87**	P	**Pn**	**20 01 04.6**	**+3.4**
	comp=E,0.0nm,0.3s,baz=263,slow=12,SNR=2.9						
WATA	**Walderalm**	**9.98**	**322**	*eP*n	**Pn**	**20 01 04.4**	**+3.2**
	comp=E,0.5nm,0.2s						
SQTA	**Sankt Quirin**	**10.08**	**320**	*eP*n	**Pn**	**20 01 05.2**	**+2.7**
	comp=E,1.2nm,0.4s						
FETA	**Feichten**	**10.19**	**318**	Pn	Pn	20 01 15.3	+11
	comp=E,1.1nm,0.6s						
FETA				Sn	**Sn**	**20 02 58.4**	**-0.1**
	comp=E,2.4nm,0.6s						
MOTA	**Moosalm**	**10.22**	**320**	*eP*n	**Pn**	**20 01 07.0**	**+2.5**
	comp=E,1.6nm,0.5s						
GERES	**GERESS Array B**	**10.29**	**333**	P	**Pn**	**20 01 06.4**	**+1.0**
	comp=E,0.1nm,0.3s,baz=134,slow=14,SNR=2.5						
DAVOX	**Davos/Dischmat**	**10.49**	**315**	P	**Pn**	**20 01 08.4**	**+0.2**
	comp=E,0.1nm,0.3s,baz=155,slow=19,SNR=1.8						
DAVOX				S	**Sn**	**20 02 58.7**	**-7.2**
	comp=E,0.1nm,0.3s,baz=342,slow=20,SNR=1.9						
ESDC	**Sonseca Array**	**18.94**	**277**	P	**P**	**20 02 58.0**	**-0.9**
	comp=E,0.2nm,0.3s,baz=68,slow=12,SNR=3.1						
HFS	**Hagfors**	**20.78**	**350**	P	**P**	**20 03 19.1**	**+0.5**
	comp=E,1.0nm,0.5s,baz=173,slow=13,SNR=6.4						
FINES	**FINESS Array B**	**21.88**	**7**	P	**P**	**20 03 30.3**	**-0.2**
	comp=E,2.0nm,0.8s,baz=175,slow=13,SNR=6.1						
NB2	**NORSAR Subarra**	**22.02**	**348**	P	**P**	**20 03 31.7**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=160,slow=10						
NOA	**NORSAR Array B**	**22.02**	**348**	P	**P**	**20 03 31.9**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=158,slow=9.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**31.42**	**217**	P	**P**	**20 04 57.9**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=26,slow=10,SNR=9.7						
MKAR	**Makanchi Array**	**44.34**	**60**	P	**P**	**20 06 48.3**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=276,slow=7.3,SNR=8.8						
ZALV	**Zalesovo Beam**	**44.50**	**49**	P	**P**	**20 06 48.9**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=302,slow=8.2,SNR=3.5						
SONM	**Songino Array**	**59.31**	**51**	P	**P**	**20 08 39.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=259,slow=7.0,SNR=2.4						

*SOME **28** 19:58:56.9, 41.°60N×79.°17E, h20km*
*KRNET **28** 19:58:57.5±0.1, 41.°71N×79.°16E, h11km, mb2.1*
*NNC **28** 19:58:57.1±1.1, 41.°63N×79.°13E, h2km±4km, mb2.9, mpv2.6, Error ellipse: s-maj=7.5km s-min=4.4km az=164.0*

ISC 28 19:58:56.5±2.1, 41.°60N±0.°08×79.°15E±0.°05, h6km±12km, n27, σ0.°65/47, 7C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.01**	**278**	⇑*iP*	**Pb**	**19 59 16.9**	**+0.2**
	baz=72						
TARG				⇑*iS*	**Sb**	**19 59 30.6**	**+0.2**
	baz=72						
UZB	**Uzynbulak**	**1.55**	**357**	P	**Pg**	**19 59 26.0**	**-0.2**
	0.9nm,0.2s						
UZB				S	**Sg**	**19 59 46.9**	**+0.6**
	4.6nm,0.2s						
UZB	**Uzynbulak**	**1.55**	**357**	*eP*	**Pg**	**19 59 26.0**	**-0.2**
	0.9nm,0.2s						
UZB				*eS*	**Sg**	**19 59 46.9**	**+0.6**
	4.6nm,0.2s						
SATY	**Saty**	**1.56**	**340**	P	**Pb**	**19 59 25.4**	**-0.5**
	1.3nm,0.1s						
SATY				S	**Sb**	**19 59 45.8**	**-0.1**
	9.2nm,0.1s						
SATY	**Saty**	**1.56**	**340**	*eP*	**Pb**	**19 59 25.4**	**-0.5**
	1.3nm,0.1s						
SATY				*eS*	**Sb**	**19 59 45.8**	**-0.1**
	9.2nm,0.1s						
KDJ	**Kajisay**	**1.56**	**291**	⇑*iP*	**Pb**	**19 59 26.2**	**+0.3**
	baz=87						
KDJ				⇑*iS*	**Sg**	**19 59 47.2**	**+0.6**
	baz=87						
SHLS	**Shalkode**	**1.58**	**8**	P	**Pg**	**19 59 26.8**	**+0.1**
	5.4nm,0.2s						
SHLS				S	**Sg**	**19 59 48.1**	**+1.0**
	9.9nm,0.3s						
SHLS	**Shalkode**	**1.58**	**8**	*eP*	**Pg**	**19 59 26.8**	**+0.1**
	5.4nm,0.2s						
SHLS				*eS*	**Sg**	**19 59 48.1**	**+1.0**
	9.9nm,0.3s						
PDGK	**Podgornoye**	**1.75**	**8**	P	**Pn**	**19 59 28.0**	**+0.5**
	1.3nm,0.3s						
PDGK				S	**Sn**	**19 59 50.2**	**+0.1**
	2.8nm,0.3s						
PDGK	**Podgornoye**	**1.75**	**8**	⇑P	**Pn**	**19 59 27.6**	**+0.1**
	0.9nm,0.3s						
PDGK				⇓S	**Sb**	**19 59 50.9**	**-0.5**
	7.9nm,0.6s						
PDGK	**Podgornoye**	**1.75**	**8**	⇓*iP*	**Pn**	**19 59 27.8**	**+0.3**
	baz=8.0						
PDGK				⇓*iS*	**Sn**	**19 59 50.0**	**-0.2**
	baz=8.0						
KPKS	**Kokpek**	**1.90**	**350**	*eP*	**Pb**	**19 59 31.0**	**-0.6**
	4.6nm,0.2s						
KPKS				*eS*	**Sb**	**19 59 55.4**	**-0.2**
	19nm,0.4s						
KURS	**Kuram**	**2.02**	**339**	Pg	**Pb**	**19 59 33.5**	**-0.2**
	0.9nm,0.2s						
KURS				Lg	Lg	19 59 59.6	
	3.7nm,0.6s						
KURS	**Kuram**	**2.02**	**339**	*eP*	**Pb**	**19 59 33.5**	**-0.2**
	0.9nm,0.2s						
KURS				*eS*	**Sb**	**19 59 59.6**	**+0.5**
	3.7nm,0.6s						
KTMS	**Ketmen**	**2.05**	**25**	Pg	**Pb**	**19 59 34.3**	**0.0**
	1.6nm,0.2s						
KTMS				Lg	Lg	20 00 01.1	
	2.7nm,0.3s						
KTMS	**Ketmen**	**2.05**	**25**	*eP*	**Pb**	**19 59 34.2**	**0.0**
	1.6nm,0.2s						
KTMS				*eS*	**Sg**	**20 00 01.1**	**-1.3**
	2.7nm,0.3s						
TNSS	**Tian-Shan**	**2.17**	**312**	Pg	**Pb**	**19 59 36.7**	**+0.2**
TNSS				Lg	Lg	20 00 05.0	
TNSS	**Tian-Shan**	**2.17**	**312**	*eP*	**Pb**	**19 59 36.7**	**+0.2**
	0.5nm,0.2s						
TNSS				*eS*	**Sb**	**20 00 05.0**	**+1.2**
	2.6nm,0.2s						
MDOK	**Medeo**	**2.20**	**316**	P	**Pn**	**19 59 33.5**	**-0.2**
	0.9nm,0.6s						
MDOK				S	**Sb**	**20 00 02.9**	**-1.6**
	1.9nm,0.6s						
MDOK	**Medeo**	**2.20**	**316**	Pg	**Pb**	**19 59 36.8**	**-0.1**
	0.4nm,0.1s						
MDOK				Lg	Lg	20 00 05.3	
	3.4nm,0.4s						
MDOK	**Medeo**	**2.20**	**316**	*eP*	**Pb**	**19 59 36.8**	**-0.1**
	0.4nm,0.1s						
MDOK				*eS*	**Sb**	**20 00 05.3**	**+0.8**
	3.4nm,0.4s						
KOTS	**Kotyrbulak**	**2.22**	**318**	Pg	**Pb**	**19 59 37.4**	**+0.2**
	0.8nm,0.2s						
KOTS				Lg	Lg	20 00 06.4	
	5.8nm,0.4s						
KOTS	**Kotyrbulak**	**2.22**	**318**	*eP*	**Pb**	**19 59 37.4**	**+0.2**
	0.8nm,0.2s						
KOTS				*eS*	**Sg**	**20 00 06.4**	**-1.5**
	5.8nm,0.4s						
ULHL	**Ulahol**	**2.26**	**288**	⇓*iP*	**Pb**	**19 59 37.7**	**-0.1**
	baz=85						
ULHL				⇓*iS*	**Sb**	**20 00 06.7**	**+0.6**
	baz=85						
BOOM	**Boomskoye usch**	**2.55**	**292**	⇑*iP*	**Pb**	**19 59 41.4**	**-1.3**
	baz=89						
BOOM				⇑*iS*	**Sb**	**20 00 13.5**	**-0.9**
	baz=89						
KTBS	**Karatobe**	**2.79**	**320**	Lg	Lg	20 00 22.3	
	2.1nm,0.5s						
KTBS	**Karatobe**	**2.79**	**320**	*eP*	**Pb**	**19 59 46.8**	**+0.1**
	0.4nm,0.3s						
KTBS				*eS*	**Sb**	**20 00 22.3**	**+1.2**
	2.1nm,0.5s						

IDC 28 20:05:24.8±32.0, 19.°68S×178.°41W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/35, mbtmp4.0/4, Error ellipse: s-maj=606.6km s-min=149.1km az=87.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.20**	**263**	P	P	20 12 10.2	+6.6
	2.0nm,0.3s,baz=78,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**37.81**	**242**	P	P	20 12 42.9	-0.2
	1.4nm,0.7s,baz=92,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**44.34**	**256**	P	P	20 13 37.7	+0.6
	2.1nm,0.8s,baz=94,slow=7.9,SNR=16						
WRA	**Warramunga Arr**	**44.34**	**261**	P	P	20 13 36.1	-1.0
	0.7nm,0.3s,baz=96,slow=8.1,SNR=16						
FITZ	**Fitzroy Crossi**	**52.76**	**262**	P	P	20 14 42.1	+0.1
	0.6nm,0.3s,baz=99,slow=9.4,SNR=5.6						

IDC 28 20:13:54.1±4.2, 4.°84S×150.°48E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/38, mbtmp3.5/3, Error ellipse: s-maj=166.0km s-min=48.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**225**	P	P	20 18 46.7	-0.6
	0.6nm,0.7s,baz=41,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**24.62**	**219**	P	P	20 19 16.4	0.0
	0.2nm,0.6s,baz=48,slow=6.9,SNR=3.1						
FITZ	**Fitzroy Crossi**	**27.63**	**240**	P	P	20 19 44.2	+0.6
	3.3nm,0.8s,baz=68,slow=11,SNR=7.2						
TORD	**Torodi Ar. Bea**	**148.12**	**287**	PKPbc	PKPbc	20 33 42.2	-0.8
	0.2nm,0.6s,baz=44,slow=4.3,SNR=2.5						

UCR 28 20:21:29.7±1.1, 10.°93N×86.°42W, h24km±4km, MD4.0, ML2.6, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**0.92**	**108**	*i* S	Sb	20 21 59.0	+0.3
GBS3	**Finca Las Img**	**0.96**	**99**	*i* P	Pn	20 21 46.8	-0.9
GBS3				*i* S	Sb	20 22 00.3	+0.3
LAPC	**Finca la Perla**	**0.98**	**99**	*i* P	Pn	20 21 47.2	-0.8
CONN	**Concepcion**	**1.00**	**51**	*eP*	Pn	20 21 47.5	-0.8
BUEV	**Buena Vista**	**1.00**	**97**	*i* P	Pn	20 21 47.8	-0.6
BUEV				*i* S	Sn	20 22 02.1	+0.3
GB1A	**Borinquen Arri**	**1.01**	**96**	*i* P	Pn	20 21 48.1	-0.3
GPS1	**Guardaparques**	**1.06**	**98**	*i* P	Pn	20 21 48.5	-0.7
GPS1				*i* S	Sn	20 22 03.6	+0.3
GPS2	**Hotel Rincn d**	**1.07**	**99**	*i* P	Pn	20 21 48.6	-0.6
BUAI	**Buenos Aires**	**1.07**	**93**	*i* P	Pb	20 21 49.8	+0.2
LIM1	**Limonal**	**1.17**	**101**	*i* P	Pn	20 21 50.6	-0.1
MGAN	**Managua**	**1.22**	**8**	*eP*	Pn	20 21 51.4	+0.1
MGAN				*eS*	Sb	20 22 07.6	+0.1
HORNC	**Hornillas**	**1.24**	**100**	*i* P	Pn	20 21 51.4	-0.2
COPN	**Copaltepe**	**1.25**	**352**	*eP*	Pn	20 21 51.7	0.0
ACAL	**Aguas Claras**	**1.39**	**102**	*i* P	Pn	20 21 54.0	+0.3
PTEN	**Parque Tenorio**	**1.43**	**98**	*i* P	Pn	20 21 54.9	+0.7
AMAS	**Alto Masis**	**1.44**	**103**	*i* P	Pn	20 21 53.9	-0.4
MOMN	**Momotombo**	**1.48**	**356**	*eP*	Pn	20 21 54.7	-0.2
CNGN	**Cerro Negro**	**1.58**	**350**	*eP*	Pn	20 21 55.9	-0.4
CNGN				*eS*	Sn	20 22 16.7	+0.6
CNGN				IAML		20 22 27.5	
	comp=E,72nm,0.4s						
MATN	**Matagalpa**	**2.05**	**14**	*eP*	Pn	20 22 02.6	-0.1
MATN				*eS*	Sn	20 22 28.2	+0.6
CSGN	**Cosiguina Volc**	**2.32**	**331**	*eP*	Pn	20 22 06.1	-0.3

*IDC **28** 20:24:49.9±4.3, 11.°50S×111.°45E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/34, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=202.9km s-min=21.4km az=45.0*
*ISCJB **28** 20:24:53.8±0.8, 11.°05S±0.°05×111.°67E±0.°05, h33km, mb3.5/4, Error ellipse: s-maj=8.6km s-min=6.3km az=135.7*
*DJA **28** 20:24:55.4±0.6, 11.°S±4.°×11.°2E±.°, h10km, M4.4/10, mb4.5/3, mB5.4/1, MLv4.3/10, Mw(mB)4.9/1*

ISC 28 20:24:55.4±1.1, 11.°10S±0.°09×111.°68E±0.°07, h35km, n17, σ1.°58/23, mb3.3/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**3.30**	**32**	P	**Pn**	**20 25 44.8**	**+0.2**
GMJI				S	**Sn**	**20 26 21.0**	**-1.7**
WOJI	**Wonogiri, Jawa**	**3.32**	**347**	P	**Pn**	**20 25 43.3**	**-1.6**
WOJI				S	**Sn**	**20 26 22.4**	**-0.8**
UGM	**Wanagama**	**3.36**	**340**	P	**Pn**	**20 25 44.2**	**-1.3**
UGM				S	**Sn**	**20 26 23.3**	**-0.9**
YOGI	**Yogyakarta**	**3.53**	**337**	S	**Sn**	**20 26 26.9**	**-1.5**
JAGI	**Jajag, Banyuwa**	**3.57**	**43**	P	**Pn**	**20 25 49.1**	**+0.7**
JAGI				S	**Sn**	**20 26 26.6**	**-2.8**
NGJI	**Ngawi**	**3.71**	**357**	P	**Pn**	**20 25 52.0**	**+1.7**
SMRI	**Semarang**	**4.20**	**343**	P	**Pn**	**20 25 58.0**	**+1.0**
GRJI	**Gresik**	**4.23**	**11**	P	**Pn**	**20 25 57.6**	**+0.2**
GRJI				S	**Sn**	**20 26 45.2**	**-0.4**
SRBI	**Singaraja**	**4.59**	**50**	P	**Pn**	**20 26 03.4**	**+1.0**
CISI	**Cisompet, Garu**	**5.18**	**312**	P	**Pn**	**20 26 08.7**	**-1.9**
	43nm,1.8s,4μm0.6nm						
PLAI	**Plampang**	**6.42**	**70**	P	**Pn**	**20 26 28.7**	**+1.2**
SKJI	**Sukabumi**	**6.49**	**308**	P	**Pn**	**20 26 28.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.20**	**119**	Pn	**Pn**	**20 28 24.8**	**-2.7**
	0.2nm,0.3s,baz=303,slow=9.7,SNR=2.1						
FITZ				Sn	Sn	20 30 58.0	-17
	0.2nm,0.3s,baz=34,slow=18,SNR=4.7						
WRA	**Warramunga Arr**	**23.52**	**115**	P	**P**	**20 30 02.4**	**-0.1**
	0.5nm,0.5s,baz=290,slow=13,SNR=2.6						
WRA				S	**S**	**20 34 14.8**	**+0.6**
	0.8nm,0.9s,baz=322,slow=27,SNR=3.4						
ASAR	**Alice Springs**	**24.58**	**123**	P	**P**	**20 30 12.1**	**-0.3**
	0.7nm,0.8s,baz=297,slow=9.1,SNR=6.4						
CMAR	**Chiang Mai Arr**	**31.94**	**337**	P	**P**	**20 31 21.6**	**+3.6**
	1.7nm,0.7s,baz=171,slow=7.9,SNR=13						
MKAR	**Makanchi Array**	**63.34**	**338**	P	**P**	**20 35 20.7**	**-0.3**
	0.1nm,0.3s,baz=136,slow=6.9,SNR=4.0						

*ISCJB **28** 20:29:26.5±0.5, 24.°94N±0.°03×122.°48E±0.°02, h19km±4km, Error ellipse: s-maj=4.7km s-min=3.6km az=20.1*
*JMA **28** 20:29:26.7, 24.°88N×122.°45E, h11km±2km, M1.8*
*TAP **28** 20:29:26.6, 24.°93N×122.°43E, h16km±1km, ML2.6, C*

ISC 28 20:29:26.2±1.1, 24.°92N±0.°03×122.°45E±0.°03, h12km±9km, n54, σ0.°58/83, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.43**	**282**	*eP*	**Pg**	**20 29 34.8**	**+0.1**
	baz=281						
TWB1				*eS*	**Sg**	**20 29 41.4**	**+0.9**
	baz=281						
EOS1	**EOS1**	**0.47**	**219**	P	**Pb**	**20 29 36.2**	**-0.2**
	baz=216						
EOS1				S	**Sb**	**20 29 43.7**	**+0.4**
	baz=216						
EGS		**0.48**	**261**	*eP*	**Pg**	**20 29 36.1**	**+0.5**
	baz=259						
EGS				*eS*	**Sb**	**20 29 43.1**	**-0.4**
	baz=259						
NTC	**Toucheng**	**0.57**	**264**	*eP*	**Pb**	**20 29 37.9**	**-0.2**
	baz=262						
TIPB	**Shuangxi**	**0.57**	**276**	P	**Pb**	**20 29 38.1**	**-0.1**
	baz=274						
TIPB				S	**Sb**	**20 29 46.5**	**+0.2**
	baz=274						
NWF	**Wu-fen Shan**	**0.63**	**284**	P	**Pb**	**20 29 39.3**	**+0.1**
	baz=283						
WFSB	**Wu-fen Shan**	**0.63**	**284**	P	**Pb**	**20 29 39.3**	**+0.2**
	baz=283						
TWC	**Suao**	**0.63**	**241**	*eP*	**Pg**	**20 29 38.7**	**+0.3**
	baz=238						
TWC				S	**Sb**	**20 29 48.9**	**+0.9**
	baz=238						
JYNG	**Yonagunijimaku**	**0.65**	**136**	P	**Pg**	**20 29 38.6**	**-0.1**
JYNG				*eS*	**Sg**	**20 29 47.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.68**	**132**	*eP*	**Pg**	**20 29 39.4**	**0.0**
	baz=131						
YOJ	**Yonaguni jima**	**0.68**	**132**	P	**Pg**	**20 29 39.2**	**-0.2**
YOJ				*eS*	**Sg**	**20 29 48.0**	**-0.4**
TWE	**Neicheng**	**0.74**	**255**	*eP*	**Pg**	**20 29 40.8**	**+0.2**
	baz=252						
TWE				*eS*	**Sb**	**20 29 50.7**	**-0.4**
	baz=252						
PCYT	**Pengchaiyu**	**0.79**	**334**	*eP*	**Pg**	**20 29 41.3**	**-0.2**
	baz=335						
YM07	**YM07**	**0.80**	**289**	P	**Pg**	**20 29 41.9**	**+0.2**
	baz=288						
YM07				*eS*	**Sg**	**20 29 50.1**	**-2.0**
	baz=288						
NANB	**Nanao**	**0.80**	**233**	*eP*	**Pg**	**20 29 41.7**	**-0.1**
	baz=231						
NANB				*eS*	**Sn**	**20 29 54.3**	**-1.0**
	baz=231						
ENA	**Nanau**	**0.81**	**233**	*eP*	**Pg**	**20 29 41.9**	**0.0**
	baz=231						
ENA				S	**Sb**	**20 29 53.5**	**+0.3**
	baz=231						
YM08	**YM08**	**0.83**	**289**	P	**Pg**	**20 29 42.1**	**-0.2**
	baz=288						
YM08				*eS*	**Sg**	**20 29 52.4**	**-0.7**
	baz=288						
YM01	**YM01**	**0.83**	**286**	P	**Pg**	**20 29 42.1**	**-0.3**
	baz=285						
YM11	**YM11**	**0.83**	**287**	P	**Pb**	**20 29 43.4**	**+0.6**
	baz=286						
YM11				*eS*	**Sb**	**20 29 54.2**	**+0.2**
	baz=286						
YM10	**YM10**	**0.84**	**287**	*eP*	**Pg**	**20 29 42.5**	**0.0**
	baz=285						
ENTT	**Nioudou**	**0.85**	**251**	P	**Pb**	**20 29 43.1**	**+0.2**
	baz=249						
ENTT				*eS*	**Sb**	**20 29 54.6**	**+0.3**
	baz=249						
TWY	**Chenhua**	**0.85**	**295**	P	**Pg**	**20 29 42.8**	**+0.2**
	baz=294						
TWY				*eS*	**Sg**	**20 29 53.9**	**+0.1**
	baz=294						
NWLT	**Wulai**	**0.87**	**261**	*eP*	**Pg**	**20 29 43.0**	**0.0**
	baz=259						
NWLT				*eS*	**Sb**	**20 29 55.9**	**+0.8**
	baz=259						
TATO	**Taipei**	**0.88**	**274**	*eP*	**Pg**	**20 29 42.3**	**-0.8**
	baz=272						
ANP	**Anpu**	**0.89**	**288**	*eP*	**Pg**	**20 29 43.1**	**-0.2**
	baz=287						
NDT	**Datong Townshi**	**0.91**	**250**	*eP*	**Pn**	**20 29 45.1**	**+0.2**
	baz=248						
YHNB	**Yeheng**	**1.01**	**256**	P	**Pb**	**20 29 45.7**	**0.0**
	baz=254						
YHNB				*eS*	**Sg**	**20 29 59.5**	**+0.6**
	baz=254						
NSK	**Sanguang**	**1.02**	**257**	*eP*	**Pb**	**20 29 46.1**	**+0.1**
	baz=255						
NSK				*eS*	**Sg**	**20 29 59.4**	**+0.1**
	baz=255						
NACB	**Ninganchiao**	**1.08**	**227**	*eP*	**Pb**	**20 29 46.1**	**-0.7**
	baz=225						
NACB				*eS*	**Sb**	**20 30 00.2**	**-0.6**
	baz=225						
NNSB	**Datong**	**1.09**	**244**	P	**Pb**	**20 29 46.8**	**-0.2**
	baz=242						
NNSB				*eS*	**Sb**	**20 29 59.9**	**-1.4**
	baz=242						
NNS	**Nan Shan**	**1.09**	**244**	P	**Pg**	**20 29 47.4**	**+0.1**
	baz=242						
NNS				*eS*	**Sb**	**20 30 01.3**	**-0.1**
	baz=242						
ETLH	**Xiulin Townshi**	**1.13**	**232**	P	**Pg**	**20 29 48.3**	**+0.3**
	baz=230						
ETLH				*eS*	**Sg**	**20 30 02.9**	**+0.1**
	baz=230						
WHF	**Hehuan Shan**	**1.33**	**235**	*eP*	**Pn**	**20 29 50.8**	**-0.1**
	baz=233						
WHF				*eS*	**Sb**	**20 30 07.7**	**-0.7**
	baz=233						
LIOB	**Emei**	**1.33**	**259**	*eP*	**Pn**	**20 29 50.2**	**-0.5**
	baz=257						
TWT	**Tachien**	**1.34**	**241**	*eP*	**Pb**	**20 29 51.7**	**+0.4**
	baz=239						
NSTT	**Nanjuang**	**1.35**	**258**	*eP*	**Pn**	**20 29 51.2**	**+0.3**
	baz=257						
TDCB	**Techi**	**1.35**	**241**	*eP*	**Pn**	**20 29 50.7**	**-0.4**
	baz=239						
CHGB	**Renai**	**1.44**	**234**	*eP*	**Pb**	**20 29 52.9**	**-0.3**
	baz=232						
CHGB				*eS*	**Sn**	**20 30 10.7**	**-0.7**
	baz=232						
OWD	**Renai**	**1.51**	**231**	*eP*	**Pn**	**20 29 53.4**	**+0.2**
	baz=229						
OWD				*eS*	**Sb**	**20 30 13.0**	**-0.4**
	baz=229						
DPDB	**Guoxing**	**1.65**	**238**	*eP*	**Pb**	**20 29 56.8**	**+0.2**
	baz=236					

ellipse: s-maj=274.9km s-min=89.5km az=119.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.81**	**261**	P	P	20 47 14.2	-0.5
	0.7nm,0.6s,baz=93,slow=7.3,SNR=7.2						
ASAR	**Alice Springs**	**43.85**	**256**	P	P	20 47 15.2	+0.2
	2.8nm,0.8s,baz=98,slow=8.2,SNR=27						
ASAR				PcP	PcP	20 48 47.0	-0.6
	0.8nm,0.7s,baz=104,slow=3.8,SNR=9.1						
BRTR	**Keskin Array B**	**145.38**	**313**	PKPbc	PKPbc	20 58 32.2	-0.2
	0.8nm,0.6s,baz=122,slow=3.6,SNR=5.5						
GERES	**GERESS Array B**	**148.87**	**344**	PKPbc	PKPbc	20 58 40.5	-0.7
	0.4nm,0.6s,baz=354,slow=1.0,SNR=6.5						

IDC 28 21:03:43.2±4.9, 10°.17S×66°.67E, $h0^{km}$, mb3.6/5, mb1 3.6/5, mb1mx3.3/46, mbtmp3.6/5, Error ellipse: s-maj=164.5km s-min=32.0km az=59.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**5.72**	**49**	T	T	21 11 00.2	
	baz=228,slow=75,SNR=1392						
H08N1	**Diego Carcia H**	**5.74**	**49**	T	T	21 11 03.7	
	baz=228,slow=75,SNR=1624						
H08N2	**Diego Garcia H**	**5.74**	**49**	T	T	21 11 03.7	
	baz=228,slow=75,SNR=943						
H08S1	**Diego Carcia H**	**6.26**	**67**	T	T	21 11 43.0	
	baz=245,slow=75,SNR=147						
H08S3	**Diego Garcia H**	**6.28**	**67**	T	T	21 11 46.7	
	baz=245,slow=75,SNR=133						
H08S2	**Diego Garcia H**	**6.28**	**67**	T	T	21 11 44.3	
	baz=245,slow=75,SNR=165						
MKAR	**Makanchi Array**	**58.40**	**13**	P	P	21 13 40.5	-0.1
	0.3nm,0.7s,baz=204,slow=6.3,SNR=3.2						
AKTO	**Aktyubinsk**	**60.82**	**354**	P	P	21 13 57.8	+0.7
	0.8nm,0.7s,baz=146,slow=3.6,SNR=2.9						
KURBB	**Kurchatov Array**	**61.42**	**9**	P	P	21 13 59.7	-1.4
	0.9nm,1.1s,baz=202,slow=7.0,SNR=4.0						
ASAR	**Alice Springs**	**65.21**	**111**	P	P	21 14 27.0	-0.1
	0.4nm,0.9s,baz=273,slow=6.0,SNR=3.2						
SONM	**Songino Array**	**67.64**	**28**	P	P	21 14 43.2	+1.1
	0.6nm,0.9s,baz=241,slow=4.9,SNR=3.9						

*TIF **28** 21:04:06.4, 41°.28N×43°.89E, $h12^{km}$*
*DDA **28** 21:04:07.5, 41°.16N×43°.76E, $h5^{km}\pm1^{km}$, ML3.0*
*ISK **28** 21:04:07.3, 41°.20N×43°.89E, h9km, ML2.1/5*
*NORS **28** 21:04:08.6±0.0, 41°.47N×43°.96E, $h1^{km}$, MPVA3.4*
ISC 28 21:04:07.1±1.0, 41°.27N±0°.02×43°.89E±0°.02, $h10^{km}\pm8^{km}$, n42, σ0°91/75, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.22**	**269**	P	**Pg**	**21 04 11.8**	**0.0**
AKH	**Akhalkalaki**	**0.33**	**296**	P	**Pg**	**21 04 13.7**	**-0.2**
AKH				S	**Sg**	**21 04 18.4**	**+0.2**
AKH	**Akhalkalaki**	**0.33**	**296**	*e*Pg	**Pg**	**21 04 13.7**	**-0.2**
AKH				*e*Sg	**Sg**	**21 04 18.4**	**+0.2**
KZRT	**Kazreti**	**0.40**	**73**	P	**Pg**	**21 04 14.9**	**-0.1**
KZRT				S	**Sg**	**21 04 20.5**	**+0.2**
TBLG	**Delisi**	**0.79**	**54**	P	**Pg**	**21 04 22.1**	**-0.2**
TBLG				S	**Sg**	**21 04 33.2**	**+0.6**
BTNK	**Botanikuri**	**0.80**	**58**	P	**Pg**	**21 04 22.0**	**-0.5**
BTNK				S	**Sg**	**21 04 33.4**	**+0.4**
SEAG	**Tbilisi Sea**	**0.85**	**54**	P	**Pg**	**21 04 22.8**	**-0.7**
SEAG				S	**Sg**	**21 04 34.3**	**-0.2**
KARS	**Kars**	**0.89**	**224**	PG	**Pg**	**21 04 23.9**	**-0.3**
KARS				SG	**Sg**	**21 04 35.8**	**0.0**
EPOS	**Posof**	**0.91**	**285**	*i* P	**Pg**	**21 04 24.0**	**-0.6**
EPOS				*i* S	**Sg**	**21 04 36.8**	**+0.4**
DIGO	**Kars**	**0.94**	**205**	*i* P	**Pg**	**21 04 25.4**	**+0.2**
SRKG	**Sareki**	**1.13**	**339**	P	**Pg**	**21 04 25.1**	**-3.8**
SRKG				S	**Sg**	**21 04 40.6**	**-3.0**
TKB	**Tkibuli**	**1.27**	**329**	P	**Pn**	**21 04 31.0**	**0.0**
TKB				S	**Sn**	**21 04 48.2**	**0.0**
GUDG	**Gudauri**	**1.27**	**20**	P	**Pn**	**21 04 31.0**	**-0.3**
GUDG				S	**Sn**	**21 04 48.7**	**+0.2**
GNI	**Garni**	**1.29**	**150**	PN	**Pn**	**21 04 31.2**	**-0.2**
GNI				SN	**Sb**	**21 04 48.7**	**+0.4**
TASB	**TASBURUN-IGDIR**	**1.31**	**168**	PN	**Pn**	**21 04 31.2**	**-0.3**
TASB				SN	**Sb**	**21 04 48.9**	**+0.2**
ONI	**Oni**	**1.36**	**346**	P	**Pn**	**21 04 32.4**	**0.0**
ONI				S	**Sg**	**21 04 51.0**	**+0.1**
ONI	**Oni**	**1.36**	**346**	*e*Pg	**Pn**	**21 04 32.3**	**0.0**
ONI				*e*Sg	**Sg**	**21 04 51.0**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.36**	**239**	PN	**Pn**	**21 04 32.6**	**+0.2**
SENK				SN	**Sb**	**21 04 50.9**	**+0.5**
IGDI	**IGDIR**	**1.41**	**174**	IAML_P			
	comp=Z,179nm,0.1s						
IGDI				*i* P	**Pn**	**21 04 32.9**	**0.0**
IGDI				*i* S	**Sn**	**21 04 51.7**	**+0.3**
ARTV	**Artvin**	**1.48**	**267**	IAML_P			
	comp=Z,4μm,0.2s						
ARTV				*i* P	**Pn**	**21 04 34.1**	**+0.1**
ARTV				*i* S	**Sn**	**21 04 53.9**	**+0.3**
DAGI	**Agillar**	**1.50**	**263**	IAML_P			
	comp=Z,642nm,0.1s						
DAGI				*i* P	**Pn**	**21 04 34.1**	**-0.2**
ZEI	**Tsey**	**1.52**	**0**	*e*Pg	**Pb**	**21 04 35.8**	**+0.2**
ZEI				*e*Sg	**Sg**	**21 04 58.3**	**+2.3**
DIGR	**Digorskoe uzhe**	**1.65**	**352**	*e*Pg	**Pg**	**21 04 39.1**	**+0.4**
DIGR				*e*Sg	**Sg**	**21 05 01.0**	**+0.8**
DDEM	**Demirkent**	**1.66**	**258**	IAML_P			
	comp=Z,945nm,0.2s						
DDEM				*i* P	**Pn**	**21 04 37.3**	**+0.9**
DBAD	**Bademkaya**	**1.68**	**262**	*i* P	**Pb**	**21 04 37.9**	**-0.3**
DBOC	**Borcka**	**1.68**	**273**	*i* P	**Pb**	**21 04 37.8**	**-0.3**
DBOC				*i* S	**Sn**	**21 04 56.4**	**-1.8**
BATM	**Batumi**	**1.69**	**282**	P	**Pn**	**21 04 37.6**	**+0.9**
BATM				S	**Sb**	**21 04 59.5**	**0.0**
DDFL	**Dedoflistskaro**	**1.69**	**83**	P	**Pn**	**21 04 35.4**	**-1.3**
DDFL				S	**Sg**	**21 05 01.2**	**-0.1**
BCA	**Borcka**	**1.72**	**277**	PN	**Pn**	**21 04 38.1**	**+1.0**
KORR	**Kora**	**1.82**	**4**	*e*Pg	**Pg**	**21 04 42.0**	**-0.1**
KORR				*e*Sg	**Sg**	**21 05 06.4**	**+0.6**
AGRB	**Hanur-Agry**	**1.82**	**202**	PN	**Pn**	**21 04 38.7**	**0.0**
LGD	**Lagodekhi**	**1.85**	**71**	P	**Pb**	**21 04 40.6**	**-0.5**
LGD				S	**Sg**	**21 05 06.5**	**-0.2**
LGD	**Lagodekhi**	**1.85**	**71**	*e*Pg	**Pb**	**21 04 40.6**	**-0.5**
LGD				*e*Sg	**Sg**	**21 05 06.5**	**-0.2**
VLKR	**Vladikavkaz**	**1.87**	**18**	*e*Pg	**Pg**	**21 04 43.3**	**+0.3**
VLKR				*e*Sg	**Sg**	**21 05 10.1**	**+2.8**
KMGR	**Komgaron**	**1.93**	**22**	*e*Pg	**Pg**	**21 04 43.6**	**-0.6**
KMGR				*e*Sg	**Sg**	**21 05 10.1**	**+1.0**
LSNR	**Lesken**	**2.01**	**359**	*e*Pg	**Pg**	**21 04 45.1**	**-0.5**
LSNR				*e*Sg	**Sg**	**21 05 12.6**	**+0.9**
STDR	**Stavd-Durt**	**2.10**	**3**	*e*Pg	**Pg**	**21 04 47.6**	**+0.2**
STDR				*e*Sg	**Sg**	**21 05 14.2**	**-0.5**
BTKR	**Batakoyurt**	**2.16**	**13**	*e*Pg	**Pg**	**21 04 47.6**	**-0.9**
BTKR				*e*Sg	**Sg**	**21 05 16.9**	**+0.4**
BTLR	**Botlikh**	**2.23**	**50**	*e*Pn	**Pb**	**21 04 48.4**	**+0.9**
BTLR				*e*Sn	**Sb**	**21 05 16.9**	**+1.7**
DVE	**Vedeno**	**2.37**	**44**	*e*Pn	**Pb**	**21 04 50.1**	**+0.2**
DVE				*e*Sn	**Sg**	**21 05 21.7**	**-1.6**
GROC	**Groznyy**	**2.40**	**36**	*e*Pn	**Pb**	**21 04 50.5**	**+0.2**
GNBR	**Gunib**	**2.56**	**63**	*e*Pn	**Pb**	**21 04 53.4**	**+0.3**

MEX 28 22:09:38.5±0.4, 15°.59N×95°.02W, $h26^{km}\pm10^{km}$, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.50**	**5**	*e*P	Pn	22 10 01.1	-2.7
CMIG				*i* S	Sn	22 10 19.0	-3.5
PCIG		**1.74**	**86**	*e*P	Pn	22 10 04.8	-2.3
PCIG				*e*S	Sn	22 10 25.2	-3.3
TGIG		**2.18**	**57**	*e*P	Pn	22 10 11.4	-1.8
TGIG				*e*S	Sn	22 10 36.7	-2.6
CCIG	**Comitan**	**2.86**	**76**	*i* P	Pn	22 10 21.0	-1.6
CCIG				*e*S	Sn	22 10 53.2	-3.2

*DRS **28** 22:14:04.4±0.0, 42°.26N×50°.77E, $h18^{km}$, ML3.0/4*
*AZER **28** 22:14:04.7±0.2, 42°.14N×50°.36E, $h65^{km}$, ml3.5/26, Error ellipse: s-maj=4.6km s-min=1.9km az=269.0*
*ISCJB **28** 22:14:07.2±0.4, 41°.62N±0°.03×50°.29E±0°.04, $h138^{km}\pm6^{km}$, mb3.0/3, Error ellipse: s-maj=5.9km s-min=4.0km az=136.6*
*IDC **28** 22:14:08.5±2.0, 41°.93N×50°.35E, $h52^{km}\pm33^{km}$, mb2.9/3, mb1 3.3/10, mb1mx3.1/44, mbtmp3.4/10, ML3.1/6, Error ellipse: s-maj=27.6km s-min=18.5km az=175.0*
*NORS **28** 22:14:09.0±0.0, 41°.58N×49°.96E, $h8^{km}$, MPVA4.1*
*MOS **28** 22:14:09.0±2.7, 41°.58N×49°.96E, $h8^{km}$, mb4.2/1, Error ellipse: s-maj=8.5km s-min=5.7km az=23.4*
*NNC **28** 22:14:12.6±6.2, 42°.00N×51°.35E, $h0^{km}$, mb3.4, Error ellipse: s-maj=67.1km s-min=19.9km az=76.0*
ISC 28 22:14:09.3±0.7, 41°.72N±0°.04×50°.30E±0°.05, $h112^{km}\pm9^{km}$, n85, σ2°25/118, mb3.0/3, 8C-5D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**1.16**	**192**	P	**Pn**	**22 14 32.5**	**+0.2**
	SNR=6.3						
NDR				S	**Sn**	**22 14 53.8**	**+4.1**
SIZA	**Siyzn**	**1.23**	**239**	P	**Pn**	**22 14 32.3**	**-0.9**
	SNR=63						
SIZA				S	**Sn**	**22 14 52.0**	**+0.7**
ATGJ	**Altiaghaj**	**1.33**	**231**	Pn	**Pn**	**22 14 33.5**	**-0.9**
	SNR=61						
ATGJ				Sn	**Sn**	**22 14 54.8**	**+1.4**
GOBA	**Gobu**	**1.38**	**198**	Pg	Pn	22 14 39.0	+4.2
GOBA				Sg	Sn	22 15 04.9	+11
QUBA	**Quba, Azerbaij**	**1.40**	**256**	Pn	**Pn**	**22 14 34.5**	**-0.6**
	SNR=15						
QUBA				Sn	**Sn**	**22 14 53.9**	**-0.7**
DRN	**Derbent**	**1.50**	**283**	*e*PG	**Pn**	**22 14 34.7**	**-1.5**
DRN				*e*S	**Sn**	**22 14 54.5**	**-2.1**
DRN	**Derbent**	**1.50**	**283**	*e*Pg	**Pn**	**22 14 34.6**	**-1.6**
	46nm,0.4s						
DRN				⇑*e*Sg	**Sn**	**22 14 54.3**	**-2.3**
	192nm,0.6s						
QSAR	**Qusar**	**1.54**	**263**	Pn	**Pn**	**22 14 36.0**	**-0.7**
	SNR=12						
QSAR				Sn	**Sn**	**22 14 56.4**	**-1.1**
GBS	**Qobustan**	**1.56**	**221**	Pn	**Pn**	**22 14 37.1**	**+0.1**
GBS				Sn	**Sn**	**22 15 01.3**	**+3.2**
PQL	**Pirkuli**	**1.58**	**235**	Pn	**Pn**	**22 14 36.5**	**-0.8**
	SNR=3.8						
PQL				Sn	**Sn**	**22 15 00.9**	**+2.3**
XNQ	**Khinaliq**	**1.71**	**252**	Pn	**Pn**	**22 14 38.3**	**-0.6**
	SNR=55						
XNQ				Sn	**Sn**	**22 15 00.6**	**-0.9**
IML	**Ismayilli**	**1.84**	**241**	Pn	**Pn**	**22 14 39.2**	**-1.2**
	SNR=8.1						
IML				Sn	**Sn**	**22 15 05.4**	**+1.2**
AKT	**Akhty**	**1.94**	**264**	⇓*e*PN	**Pn**	**22 14 42.8**	**+1.1**
AKT				*e*		22 15 09.3	
AKT				pmax	pmax		
	comp=Z,83nm,0.3s						
AKT				smax	smax		
	comp=N,290nm,0.5s						
AKT	**Akhty**	**1.94**	**264**	*e*Pg	**Pn**	**22 14 42.1**	**+0.4**
	comp=N,83nm,0.3s						
AKT				⇑*e*Sg	**Sn**	**22 15 06.5**	**+0.1**
	comp=N,371nm,0.5s						
QBL	**Gabala**	**2.00**	**248**	Pn	**Pn**	**22 14 41.0**	**-1.5**
	SNR=4.4						
QBL				Sn	**Sn**	**22 15 08.2**	**+0.4**
URKR	**Urkarakh**	**2.04**	**284**	⇑*e*PN	**Pn**	**22 14 43.1**	**+0.2**
URKR				*e*		22 15 07.6	
URKR	**Urkarakh**	**2.04**	**284**	*e*Pg	**Pn**	**22 14 43.1**	**+0.2**
KDMR	**Kurdemir**	**2.08**	**231**	Pn	**Pn**	**22 14 42.3**	**-1.1**
KDMR				Sn	**Sn**	**22 15 08.5**	**-1.0**
SEKA	**Sheki**	**2.38**	**259**	PN	**Pn**	**22 14 45.6**	**-1.7**
SEKA	**Sheki**	**2.38**	**259**	Pn	**Pn**	**22 14 47.4**	**+0.1**
	SNR=54						
SEKA				Sn	**Sn**	**22 15 15.2**	**-1.2**
MAK	**Makhachkala**	**2.41**	**302**	*e*PN	**Pn**	**22 14 45.7**	**-1.9**
MAK				*e*		22 14 50.6	
MAK				*e*		22 15 20.1	
MAK				*e*		22 15 24.0	
MAK				pmax	pmax		
	comp=Z,41nm,0.4s						
ZRD	**Zardab**	**2.44**	**235**	Pn	**Pn**	**22 14 47.1**	**-0.9**
ZRD				Sn	**Sn**	**22 15 16.9**	**-0.8**
GNBR	**Gunib**	**2.57**	**286**	⇑*e*PN	Pn	22 14 51.6	+1.9
GNBR				*e*		22 15 22.9	
GNBR				pmax	pmax		
	comp=Z,28nm,0.6s						
GNBR				smax	smax		
	comp=N,99nm,0.8s						
GNBR	**Gunib**	**2.57**	**286**	*e*Pn	Pn	22 14 51.9	+2.1
	comp=N,28nm,0.5s						
GNBR				⇓*e*Sn	**Sn**	**22 15 22.6**	**+1.8**
	comp=N,126nm,0.7s						
MNGR	**Mingechevir, A**	**2.60**	**250**	PN	**Pn**	**22 14 49.7**	**-0.3**
MNGR	**Mingechevir, A**	**2.60**	**250**	Pn	**Pn**	**22 14 49.7**	**-0.3**
MNGR				Sn	**Sn**	**22 15 20.6**	**-0.7**
ARKR	**Arakani**	**2.61**	**291**	PN	Pn	22 14 53.0	+2.8
ARKR				*e*S	**Sn**	**22 15 25.0**	**+3.3**
ARKR	**Arakani**	**2.61**	**291**	*e*Pn	Pn	22 14 53.0	+2.8
ARKR				*e*Sn	**Sn**	**22 15 25.0**	**+3.3**
KRNR	**Karanay**	**2.75**	**295**	*e*PN	**Pn**	**22 14 52.5**	**+0.4**
KRNR	**Karanay**	**2.75**	**295**	*e*Pn	**Pn**	**22 14 52.5**	**+0.4**
ZKTA	**Zakatala**	**2.75**	**270**	Pg	Pn	22 14 57.5	+5.4
	SNR=9.6						
ZKTA				Sn	**Sn**	**22 15 24.2**	**-0.8**
BRDA	**Brd**	**2.77**	**239**	Pn	**Pn**	**22 14 51.9**	**-0.3**
BRDA				Sn	**Sn**	**22 15 25.5**	**+0.1**
XNZR	**Khunzakh**	**2.79**	**288**	⇑*e*PN	**Pn**	**22 14 53.2**	**+0.4**
XNZR				*e*		22 15 28.2	
XNZR	**Khunzakh**	**2.79**	**288**	*e*Pn	Pn	22 14 54.9	+2.1
XNZR				*e*Sn	**Sn**	**22 15 28.8**	**+2.5**
GLBA	**Clilabad**	**2.87**	**211**	Pn	**Pn**	**22 14 52.2**	**-1.3**
GLBA				Sn	**Sn**	**22 15 26.2**	**-1.5**
LGD	**Lagodekhi**	**3.03**	**274**	P	Pn	22 15 01.0	+5.2
LGD				S	Sn	22 15 42.2	+11
LGD	**Lagodekhi**	**3.03**	**274**	*e*PN	Pn	22 15 00.9	+5.2
LGD				*e*S	Sn	22 15 42.2	+11
LGD	**Lagodekhi**	**3.03**	**274**	*e*Pn	Pn	22 15 01.0	+5.2
DDFL	**Dedoflistskaro**	**3.15**	**266**	P	Pn	22 15 01.6	+4.2
DDFL				S	Sn	22 15 46.4	+12
BTLR	**Botlikh**	**3.17**	**289**	⇑*e*PN	Pn	22 14 59.9	+2.2
BTLR				*e*		22 15 37.4	
BTLR				pmax	pmax		
	comp=Z,31nm,0.6s						
BTLR				smax	smax		
	comp=N,28nm,0.6s						
BTLR	**Botlikh**	**3.17**	**289**	*e*Pn	**Pn**	**22 14 59.0**	**+1.3**
	comp=N,31nm,0.4s						
BTLR				⇓*e*Sn	**Sn**	**22 15 37.1**	**+2.1**
	comp=N,53nm,0.6s						
GANJ	**Ganja**	**3.18**	**252**	PN	**Pn**	**22 14 56.4**	**-1.4**
GANJ	**Ganja**	**3.18**	**252**	Pn	**Pn**	**22 14 56.4**	**-1.4**
	SNR=9.2						
GANJ				Sn	**Sn**	**22 15 31.3**	**-3.9**
LKRN	**Lenkeran, Azer**	**3.22**	**202**	PN	**Pn**	**22 14 56.1**	**-2.1**
LKRN	**Lenkeran, Azer**	**3.22**	**202**	Pn	**Pn**	**22 14 56.6**	**-1.7**
	SNR=4.1						
LKRN				Sn	**Sn**	**22 15 31.9**	**-4.1**
DVE	**Vedeno**	**3.33**	**293**	*ce*PN	**Pn**	**22 15 01.0**	**+1.2**
DVE				pmax	pmax		
	comp=Z,36nm,0.3s						
DVE	**Vedeno**	**3.33**	**293**	*e*Pn	**Pn**	**22 15 01.3**	**+1.5**
DVE				*e*Sn	**Sn**	**22 15 40.8**	**+2.1**
ASTR	**Astara**	**3.36**	**201**	Pn	**Pn**	**22 14 58.4**	**-1.7**
	SNR=5.0						
ASTR				Sn	**Sn**	**22 15 36.8**	**-2.4**
LRK	**Lerik**	**3.41**	**207**	Pn	**Pn**	**22 14 59.4**	**-1.6**
	SNR=8.7						
LRK				Sn	**Sn**	**22 15 37.8**	**-3.2**
GDB	**GEDABAY**	**3.57**	**255**	Pn	**Pn**	**22 15 01.5**	**-1.5**
	SNR=3.3						
GDB				Sn	**Sn**	**22 15 40.2**	**-4.4**
GROC	**Groznyy**	**3.65**	**296**	*e*PN	**Pn**	**22 15 03.3**	**-0.6**
GROC				*e*		22 15 46.3	
GROC				pmax	pmax		
	comp=Z,16nm,1.8s						
GROC				smax	smax		
	comp=N,53nm,0.9s						
GROC				smax	smax		
	comp=E,43nm,1.2s						
GROC				smax	smax		
	comp=N,28nm,0.4s						
QZX	**Qazax, Azerbai**	**3.76**	**262**	Pn	**Pn**	**22 15 05.1**	**-0.4**
	SNR=11						
QZX				Sn	**Sn**	**22 15 44.7**	**-4.3**
BTNK	**Botanikuri**	**4.12**	**271**	P	Pn	22 15 14.3	+4.0
BTNK				S	**Sn**	**22 15 54.6**	**-2.9**
TBLG	**Delisi**	**4.16**	**272**	P	Pn	22 15 40.9	+30
TBLG				S	**Sn**	**22 15 54.6**	**-4.0**
TBLG	**Delisi**	**4.16**	**272**	*e*PG	Pn	22 15 40.8	+30
TBLG				*e*S	**Sn**	**22 15 54.5**	**-4.0**
ORD	**Ordubad**	**4.31**	**231**	Pn	**Pn**	**22 15 12.5**	**-0.4**
	SNR=14						
ORD				Sn	**Sn**	**22 16 01.0**	**-1.2**
NAX	**Nakhchivan**	**4.46**	**237**	PN	**Pn**	**22 15 16.1**	**+1.3**
NAX	**Nakhchivan**	**4.46**	**237**	Pn	**Pn**	**22 15 16.2**	**+1.3**
NAX				Sn	**Sn**	**22 16 06.1**	**+0.3**
GNI	**Garni**	**4.49**	**251**	*e*PN	**Pn**	**22 15 18.8**	**+3.4**
GNI	**Garni**	**4.49**	**251**	P	**Pn**	**22 15 15.6**	**+0.2**
	baz=150,slow=20,SNR=1.8						
GNI				S	**Sn**	**22 16 03.3**	**-3.4**
	comp=N,1.2nm,0.3s,baz=216,slow=13,SNR=4.6						
LSNR	**Lesken**	**5.03**	**290**	*e*Pn	**Pn**	**22 15 21.0**	**-1.5**
LSNR				*e*Sn	**Sn**	**22 16 20.8**	**+1.2**
NCK	**Nalchik**	**5.25**	**292**	*i* PN	**Pn**	**22 15 24.7**	**-0.9**
PYA1	**Pyatigorsk**	**5.79**	**296**	*i* P	**Pn**	**22 15 32.3**	**-0.4**
NEY	**Neytrino**	**5.80**	**288**	*i* P	**Pn**	**22 15 31.1**	**-2.0**
KBZ	**Khabaz**	**5.81**	**293**	P	**Pn**	**22 15 31.7**	**-1.2**
	comp=N,0.5nm,0.3s,baz=104,slow=8.3,SNR=6.9						
KBZ				S	**Sn**	**22 16 33.9**	**-4.3**
	comp=N,1.2nm,0.3s,baz=326,slow=21,SNR=6.1						
SHA1	**Shidzhatmaz**	**5.98**	**292**	*i* P	**Pn**	**22 15 34.3**	**-1.2**
SHA1				*i* S	**Sn**	**22 16 41.4**	**-1.3**
SHA1	**Shidzhatmaz**	**5.98**	**292**	*e*Pn	**Pn**	**22 15 33.5**	**-2.0**
SHA1				*e*Sn	**Sn**	**22 16 41.2**	**-1.5**
KVAR	**Kislovodsk Arr**	**6.02**	**294**	P	**Pn**	**22 15 34.7**	**-1.3**
	baz=287,slow=19,SNR=11						
KVAR				S	**Sn**	**22 16 38.7**	**-4.9**
	baz=211,slow=9.6,SNR=12						
KIV	**Kislovodsk**	**6.03**	**294**	*e*P	**Pn**	**22 15 34.6**	**-1.4**
KIV				*e*		22 16 41.0	
KIV				pmax	pmax		
	comp=Z,23nm,1.0s						
GEYT	**Alibeck**	**7.11**	**120**	P	**Pn**	**22 15 49.9**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=307,slow=15,SNR=16						
GEYT				S	**Sn**	**22 17 05.6**	**-4.4**
	baz=172,slow=34,SNR=1.9						
GYA0B	**ALIBECK ARRAY**	**7.11**	**120**	⇓P	**Pn**	**22 15 51.2**	**+0.5**
	baz=309,slow=15						
GYA0B				⇑S	**Sn**	**22 17 08.2**	**-1.8**
AB31	**Akbulak array**	**10.13**	**39**	P	**Pn**	**22 16 29.7**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=225,slow=13,SNR=22						
AB31				⇓S	**Sn**	**22 18 19.8**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=220,slow=29						
AKTO	**Aktyubinsk**	**10.23**	**29**	P	**Pn**	**22 16 30.7**	**-2.2**
AKTO				S	**Sn**	**22 18 20.8**	**-4.7**
AKTO	**Aktyubinsk**	**10.23**	**29**	P	**Pn**	**22 16 31.3**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=197,slow=12,SNR=6.7						
AKTO				S	**Sn**	**22 18 20.5**	**-5.1**
	comp=Z,0.3nm,0.3s,baz=38,slow=19,SNR=3.4						
ARU	**Arti**	**15.67**	**17**	*i* P	**Pn**	**22 17 42.2**	**-1.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARU	**Arti**	**15.67**	**17**	P	**Pn**	**22 17 41.4**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=180,slow=0.6,SNR=5.2						
OBN	**Obninsk**	**16.17**	**331**	*e*P	**Pn**	**22 17 50.3**	**+0.6**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIEV	**Kiev**	**17.09**	**309**	*i* P	**Pn**	**22 18 03.0**	**+1.9**
KIEV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**17.63**	**43**	P	**Pn**	**22 18 06.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=227,slow=14,SNR=2.9						
AAK	**Ala-Archa**	**17.95**	**79**	*i* P	**P**	**22 18 16.5**	**+5.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,2.0s						
KURBB	**Kurchatov Arra**	**21.38**	**56**	P	**P**	**22 18 51.3**	**+3.6**
	comp=Z,0.3nm,0.4s,baz=256,slow=7.6,SNR=3.0						
KURK	**Kurchatov**	**21.46**	**56**	P	**P**	**22 18 51.3**	**+2.9**
MKAR	**Makanchi Array**	**23.37**	**67**	P	**P**	**22 19 11.4**	**+3.6**
	comp=Z,0.2nm,0.7s,baz=257,slow=10,SNR=3.2						
FINES	**FINESS Array B**	**24.57**	**332**	*e*P	**P**	**22 19 24.1**	**+5.7**
FINES	**FINESS Array B**	**24.57**	**332**	P	**P**	**22 19 20.9**	**+2.6**
	comp=Z,0.9nm,0.7s,baz=126,slow=14,SNR=3.4						

*NEIC **28** 22:18:47.9±0.0, 19°.68N×64°.35W, $h58^{km}$, MD3.7(RSPR), After RSPR.*
RSPR 28 22:18:47.9, 19°.68N×64°.35W, $h58^{km}\pm14^{km}$, MD3.7/10, 13C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.62**	**213**	⇑*e*P	Pn	22 19 13.2	-1.0
CUPR	**Culebra, Puert**	**1.62**	**213**	*e*Pn	Pn	22 19 11.7	-2.5
MTP	**Monte Pirata**	**1.94**	**216**	⇑*e*P	Pn	22 19 17.6	-1.0
MTP	**Monte Pirata**	**1.94**	**216**	*e*S	Sn	22 19 41.3	-0.5

OCAC			*i*			22 27 24.5	
	comp=Z,240nm,0.2s						
YOPC	**Yopal, Colombi**	**1.61 153**	*eP*	Pn		22 27 01.1	-0.1
YOPC			*eS*	Sn		22 27 24.6	+0.1
YOPC			*i*			22 27 28.0	
	comp=Z,169nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.82 292**	*eP*	Pn		22 27 03.5	0.0
ZARC			*eS*	Sn		22 27 29.0	+0.4
ZARC			*i*			22 27 34.5	
	comp=Z,215nm,0.3s						
NORC	**Norcasia**	**2.10 234**	*eP*	Pn		22 27 06.5	-0.4
NORC			*eS*	Sn		22 27 34.1	-0.3
NORC			*i*			22 27 36.2	
	comp=Z,62nm,0.2s						
SMLC	**San Martn de**	**2.19 335**	*eP*	Pn		22 27 06.6	-1.1
SMLC			*eS*	Sn		22 27 35.5	-0.7
CHIC	**Chingaza**	**2.23 195**	*eP*	Pn		22 27 08.7	-0.1
CHIC			*eS*	Sn		22 27 37.1	-0.8
CHIC			*i*			22 27 42.1	
	comp=Z,58nm,0.3s						
HELC	**Santa Helena**	**2.44 256**	*eP*	Pn		22 27 11.4	+0.2
HELC			*eS*	Sn		22 27 41.6	-0.6
HELC			*i*			22 27 49.1	
	comp=Z,50nm,0.3s						
UREC	**San Jos de Ur**	**2.54 292**	*eP*	Pn		22 27 11.0	-1.2
UREC			*eS*	Sn		22 27 42.0	-2.0
GUY2C	**Guyana, Caldas**	**2.70 235**	*eP*	Pn		22 27 15.2	+0.6
VILC	**Villavicencio,**	**2.73 191**	*eP*	Pn		22 27 13.5	-1.1
SDV	**Santo Domingo**	**3.25 50**	*eP*	Pn		22 27 20.1	-1.2
PRAC	**Prado**	**3.52 209**	*eP*	Pn		22 27 24.3	-0.4
PRAC			*eS*	Sn		22 28 04.5	-2.0
PRAC			*i*			22 28 11.5	
	comp=Z,53nm,0.2s						

IDC ***28*** *22:26:20.8±1.2, 6°.71S×130°.57E, h0km, mb4.1/4, mb1 4.4/6, mb1mx4.0/26, mbtmp4.3/6, ML5.0/3, Error ellipse: s-maj=81.0km s-min=19.4km az=74.0*
ISCJB ***28*** *22:26:28.8±0.4, 7°.00S±0°.04×130°.72E±0°.07, h100km, mb4.0/5, Error ellipse: s-maj=10.4km s-min=5.0km az=173.0*
NEIC ***28*** *22:26:31.6±2.9, 6°.94S×130°.57E, h105km±14km, mb4.0/16, Error ellipse: s-maj=20.1km s-min=17.7km az=123.0*

ISC 28 22:26:31.0±0.6, 6°.82S±0°.06×130°.67E±0°.09, h100km, n47, σ2§24/47, mb4.0/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.32**	**152**	*e*Pn	**Pn**	**22 26 56.5**	**+1.3**
FAKI	**Fak Fak**	**4.18**	**22**	*e*Pn	**Pn**	**22 27 32.6**	**-0.1**
FAKI				*e*Sn	**Sn**	**22 28 15.9**	**-4.6**
MTN	**Manton Dam**	**6.01**	**176**	*e*Pn	**Pn**	**22 27 57.1**	**-0.4**
SOEI	**Soe**	**6.97**	**245**	*e*Pn	**Pn**	**22 28 09.6**	**-1.1**
LUWI	**Luwuk**	**9.74**	**306**	*e*Pn	**Pn**	**22 28 49.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**12.24**	**203**	*e*Pn	**Pn**	**22 29 18.0**	**-3.9**
FITZ	**Fitzroy Crossi**	**12.24**	**203**	Pn	**Pn**	**22 29 17.4**	**-4.5**
	1.3nm,0.3s,baz=20,slow=10,SNR=40						
FITZ				Sn	Sn	22 31 20.4	-16
	6.2nm,0.3s,baz=28,slow=18,SNR=13						
WRAB	**Tennant Creek**	**13.52**	**165**	*e*Pn	**Pn**	**22 29 34.8**	**-4.0**
WR1	**Warramunga Arr**	**13.53**	**165**	*e*Pn	**Pn**	**22 29 35.0**	**-3.9**
WRA	**Warramunga Arr**	**13.53**	**165**	Pn	**Pn**	**22 29 35.0**	**-3.9**
	25nm,0.3s,baz=350,slow=14,SNR=1.8						
WRA				Sn	Sn	22 31 51.1	-17
	25nm,0.3s,baz=324,slow=38,SNR=1.2						
WB2	**Warramunga Arr**	**13.53**	**165**	*e*Pn	**Pn**	**22 29 35.1**	**-3.9**
WB2				*e*Sn	Sn	22 31 56.7	-11
WC3	**Warramunga Arr**	**13.55**	**165**	*e*Pn	**Pn**	**22 29 35.0**	**-4.3**
WC3				*e*Sn	Sn	22 31 56.0	-12
COEN	**Coen**	**14.20**	**121**	*e*Pn	**Pn**	**22 29 48.9**	**+1.2**
AS31	**Alice Springs**	**17.04**	**170**	*e*Pn	**Pn**	**22 30 21.7**	**-1.6**
	7.1nm,0.6s						
ASAR	**Alice Springs**	**17.04**	**170**	P	**Pn**	**22 30 21.6**	**-1.6**
	3.0nm,0.3s,baz=348,slow=10.0,SNR=119						
ASAR				S	Sn	22 33 19.6	-13
	1.2nm,0.3s,baz=341,slow=15,SNR=6.1						
PSAD1	**Pilbara Seismi**	**17.93**	**215**	*e*P	**P**	**22 30 30.6**	**-2.7**
	6.2nm,0.7s						
PSAC2	**Pilbara Seismi**	**17.98**	**214**	*e*P	**Pn**	**22 30 34.9**	**+0.3**
	6.0nm,0.7s						
PSAD2	**Pilbara Seismi**	**17.99**	**214**	*e*P	**P**	**22 30 33.1**	**-0.8**
	4.7nm,0.8s						
PSAB2	**Pilbara Seismi**	**18.00**	**214**	*e*P	**P**	**22 30 30.4**	**-3.6**
	5.5nm,0.6s						
PSAC1	**Pilbara Seismi**	**18.01**	**215**	*e*P	**P**	**22 30 32.4**	**-1.7**
	7.4nm,0.8s						
PSAA2	**Pilbara Seismi**	**18.01**	**214**	*e*P	**P**	**22 30 31.2**	**-2.9**
	7.2nm,0.6s						
PSA00	**Pilbara Seismi**	**18.02**	**214**	*e*P	**Pn**	**22 30 35.0**	**-0.1**
	6.6nm,0.8s						
PSAA3	**Pilbara Seismi**	**18.02**	**214**	*e*P	**Pn**	**22 30 34.2**	**-0.9**
	8.2nm,0.8s						
PSAA1	**Pilbara Seismi**	**18.03**	**214**	*e*P	**P**	**22 30 32.4**	**-1.9**
	9.5nm,0.6s						
PSAB1	**Pilbara Seismi**	**18.03**	**214**	*e*P	**Pn**	**22 30 36.4**	**+1.2**
	8.0nm,0.7s						
PSAB3	**Pilbara Seismi**	**18.03**	**214**	*e*P	**P**	**22 30 33.3**	**-1.0**
	8.3nm,0.6s						
PSAC3	**Pilbara Seismi**	**18.07**	**214**	*e*P	**P**	**22 30 32.3**	**-2.4**
	10nm,1.0s						
PSAD3	**Pilbara Seismi**	**18.11**	**214**	*e*P	**P**	**22 30 33.8**	**-1.5**
	7.5nm,0.8s						
CTA	**Charters Tower**	**20.07**	**133**	P	Pn	22 31 01.9	+2.6
	4.1nm,0.6s,baz=307,slow=10,SNR=2.1						
STKA	**Stephens Creek**	**26.94**	**159**	P	**P**	**22 32 05.5**	**+2.4**
	0.5nm,0.3s,baz=328,slow=9.5,SNR=1.9						
ODAN	**Odare**	**53.64**	**310**	*e*P	**P**	**22 35 43.3**	**+0.5**
	12nm,0.6s						
RAMN	**Ramite**	**54.28**	**310**	*e*P	**P**	**22 35 48.6**	**+1.1**
	33nm,0.5s						
JIRN	**Jiri**	**54.97**	**311**	*e*P	**P**	**22 35 53.3**	**+0.7**
PKI	**Pulchoki**	**55.51**	**310**	*e*P	**P**	**22 35 56.7**	**+0.2**
	6.1nm,0.5s						
PKIN	**Phulchoki**	**55.52**	**310**	*e*P	**P**	**22 35 56.7**	**+0.2**
	4.8nm,0.5s						
KKN	**Kakani**	**55.72**	**310**	*e*P	**P**	**22 35 58.4**	**+0.6**
	9.5nm,0.5s						
GKN	**Gorkha**	**56.32**	**310**	*e*P	**P**	**22 36 02.7**	**+0.7**
	21nm,0.3s						
KOLN	**Koldanda**	**56.99**	**309**	*e*P	**P**	**22 36 07.5**	**+0.6**
	8.5nm,0.4s						
DANN	**Dangsing**	**57.16**	**310**	*e*P	**P**	**22 36 08.8**	**+0.7**
PYUN	**Piuthan**	**57.62**	**309**	*e*P	**P**	**22 36 12.2**	**+0.9**
SONA0	**Songino Array**	**58.48**	**341**	*e*P	**P**	**22 36 18.0**	**+1.3**
SONM	**Songino Array**	**58.48**	**341**	P	**P**	**22 36 18.0**	**+1.3**
	0.8nm,0.6s,baz=153,slow=7.2,SNR=6.0						
MK32	**Makanchi Array**	**68.44**	**326**	*e*P	**P**	**22 37 24.2**	**+1.9**
MKAR	**Makanchi Array**	**68.44**	**326**	P	**P**	**22 37 24.2**	**+1.9**
	1.8nm,0.3s,baz=115,slow=8.0,SNR=41						
MAKZ	**Makanchi**	**68.62**	**326**	*e*P	**P**	**22 37 24.0**	**+0.6**
	2.6nm,0.9s						
ZALV	**Zalesovo Beam**	**71.71**	**333**	P	**P**	**22 37 43.0**	**+1.0**
	1.3nm,0.5s,baz=150,slow=6.1,SNR=4.1						
ZAA1	**Zalesovo Array**	**71.72**	**333**	*e*P	**P**	**22 37 43.0**	**+0.9**

ISCJB ***28*** *22:32:37.7±0.7, 0°.9N±0°.2×29°.1W±0°.2, h16km, mb3.8/6, MS3.4/16, Error ellipse: s-maj=31.0km s-min=10.3km az=137.6*
IDC ***28*** *22:32:37.9±1.1, 1°.17N×29°.15W, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/38, mbtmp3.8/6, MS3.3/16, Ms1 3.3/16, ms1mx3.2/33, Error ellipse: s-maj=68.9km s-min=19.2km az=147.0*
NEIC ***28*** *22:32:39.1±1.5, 0°.97N×29°.10W, h10km±3km, mb4.1/4, Error ellipse: s-maj=46.6km s-min=6.7km az=145.0*

ISC 28 22:32:39.9±0.7, 1°.0N±0°.2×29°.1W±0°.2, h16km, n34, σ1§22/16, mb3.9/6, MS3.3/16, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.55**	**225**	*e*Pn	**Pn**	**22 34 55.0**	**-1.8**
RCBR				*e*Sn	Sn	22 36 33.4	-11
SACV	**Santiago Islan**	**14.95**	**21**	*e*Pn	**Pn**	**22 36 10.9**	**+0.1**
H10N3	**ASCENSION HYDR**	**17.01**	**121**	T	T	22 54 09.8	
	baz=300,slow=75,SNR=1274						
H10N2	**ASCENSION HYDR**	**17.02**	**121**	T	T	22 54 07.8	
	baz=300,slow=75,SNR=1181						
H10N1	**ASCENSION HYDR**	**17.03**	**121**	T	T	22 54 09.1	
	baz=300,slow=75,SNR=1664						
H10S3	**ASCENSION HYDR**	**17.46**	**125**	T	T	22 54 40.1	
	baz=303,slow=75,SNR=775						
H10S1	**ASCENSION HYDR**	**17.47**	**125**	T	T	22 54 44.6	
	baz=303,slow=75,SNR=800						
H10S2	**ASCENSION HYDR**	**17.48**	**125**	T	T	22 54 46.6	
	baz=303,slow=75,SNR=896						
DBIC	**Dimbokro**	**24.87**	**76**	*e*P	**P**	**22 38 01.9**	**-0.1**
	6.4nm,0.8s						
DBIC	**Dimbokro**	**24.87**	**76**	P	**P**	**22 38 01.6**	**-0.4**
	4.7nm,0.8s,baz=255,slow=9.8,SNR=5.5						
DBIC				LR	LR	22 46 04.3	
	comp=Z,44nm,19.2s,baz=224,slow=32						
BDFB	**Brasilia**	**24.90**	**228**	*e*P	**P**	**22 38 00.8**	**-1.7**
	4.7nm,1.0s						
BDFB				*e*P	**P**	**22 38 03.0**	**+0.5**
BDFB	**Brasilia**	**24.90**	**228**	P	**P**	**22 38 03.0**	**+0.5**
	1.6nm,0.6s,baz=90,slow=12,SNR=3.3						
BDFB				LR	LR	22 46 46.1	
	comp=Z,128nm,19.1s,baz=97,slow=34						
TOA1	**Torodi Ar. Sit**	**32.84**	**67**	*e*P	**P**	**22 39 13.2**	**0.0**
TORD	**Torodi Ar. Bea**	**32.85**	**67**	P	**P**	**22 39 13.2**	**0.0**
	0.5nm,0.6s,baz=256,slow=9.9,SNR=6.9						
TORD				LR	LR	22 50 31.0	
	comp=Z,44nm,21.5s,baz=325,slow=33						
H05S1	**Guadeloupe/Mar**	**34.07**	**295**	T	T	23 15 09.7	
	SNR=12						
H05N1	**Guadeloupe/Mar**	**34.96**	**298**	T	T	23 16 19.3	
	SNR=4.9						
CPUP	**Villa Florida**	**38.42**	**223**	*e*P	**P**	**22 40 01.5**	**+0.6**
	1.2nm,0.8s						
CPUP	**Villa Florida**	**38.42**	**223**	P	**P**	**22 40 01.5**	**+0.6**
	2.9nm,1.1s,baz=54,slow=8.7,SNR=3.3						
CPUP				LR	LR	22 55 35.6	
	comp=Z,189nm,18.6s,baz=56,slow=36						
LPAZ	**La Paz**	**42.13**	**244**	*e*P	**P**	**22 40 33.0**	**+0.4**
LPAZ	**La Paz**	**42.13**	**244**	P	**P**	**22 40 34.6**	**+2.0**
	1.1nm,0.7s,baz=51,slow=6.2,SNR=4.8						
LPAZ				LR	LR	22 57 12.8	
	comp=Z,65nm,21.7s,baz=72,slow=35						
PLCA	**Paso Flores**	**56.02**	**217**	LR	LR	23 03 43.7	
	comp=Z,22nm,20.2s,baz=89,slow=33						
JTS	**Las Juntas de**	**56.24**	**282**	LR	LR	23 07 20.0	
	comp=Z,19nm,19.0s,baz=188,slow=37						
DAVOX	**Davos/Dischmat**	**56.91**	**31**	LR	LR	23 04 55.1	
	comp=Z,27nm,18.7s,baz=263,slow=34						
BOSA	**Boshof**	**59.74**	**124**	LR	LR	23 03 17.4	
	comp=Z,26nm,21.0s,baz=282,slow=31						
GEC2	**GERESS Array S**	**60.21**	**31**	*e*P	**P**	**22 42 46.1**	**-1.1**
	1.9nm,1.0s						
GERES	**GERESS Array B**	**60.21**	**31**	P	**P**	**22 42 46.1**	**-1.1**
	0.5nm,0.9s,baz=219,slow=8.9,SNR=3.8						
SADO	**Sadowa**	**62.00**	**322**	LR	LR	23 03 07.3	
	comp=Z,23nm,20.6s,baz=357,slow=30						
NOA	**NORSAR Array B**	**67.33**	**20**	LR	LR	23 08 25.2	
	comp=Z,17nm,20.4s,baz=225,slow=32						
HFS	**Hagfors**	**67.58**	**22**	LR	LR	23 07 41.1	
	comp=Z,27nm,20.4s,baz=248,slow=31						
BRTR	**Keskin Array B**	**68.69**	**47**	LR	LR	23 14 30.7	
	comp=Z,18nm,20.1s,baz=272,slow=37						
FINES	**FINESS Array B**	**73.22**	**24**	LR	LR	23 13 25.4	
	comp=Z,28nm,19.9s,baz=240,slow=34						
PDAR	**Pinedale Array**	**82.31**	**313**	LR	LR	23 18 38.1	
	comp=Z,9.4nm,19.8s,baz=88,slow=34						
NRIK	**Noril'sk**	**98.27**	**19**	LR	LR	23 29 45.3	
	comp=Z,18nm,19.3s,baz=72,slow=35						
ASAR	**Alice Springs**	**152.07**	**145**	PKPbc	**PKPbc**	**22 52 37.7**	**+2.2**
	0.2nm,0.4s,baz=193,slow=2.5,SNR=3.0						

IDC ***28*** *23:24:48.9±1.1, 24°.85S×176°.52W, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/24, mbtmp3.9/8, MS3.6/8, Ms1 3.6/8, ms1mx3.3/28, Error ellipse: s-maj=38.5km s-min=28.3km az=133.0*
ISCJB ***28*** *23:24:49.3±0.9, 24°.9S±0°.2×176°.6W±0°.2, h10km, mb3.9/8, MS3.6/7, Error ellipse: s-maj=31.2km s-min=23.2km az=40.9*

ISC 28 23:24:50.3±0.9, 24°.9S±0°.2×176°.5W±0°.2, h10km, n20, σ1§68/12, mb3.9/8, MS3.6/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.78**	**80**	LR	LR	23 33 55.3	
	comp=Z,78nm,19.0s,baz=213,slow=34						
DZM	**Mont Dzumac**	**15.93**	**277**	*e*LR	LR	23 32 35.6	
	comp=Z,326nm,24.1s						
DZM	**Mont Dzumac**	**15.93**	**277**	LR	LR	23 33 54.5	
	comp=Z,298nm,18.3s,baz=99,slow=34						
PPT2	**Papeete2**	**26.05**	**79**	*e*LR	LR	23 36 36.7	
	comp=Z,142nm,27.5s						
PPT	**Papeete**	**26.06**	**79**	LR	LR	23 39 00.1	
	comp=Z,51nm,18.1s,baz=354,slow=33						
HNR	**Honiara**	**27.20**	**300**	LR	LR	23 39 43.2	
	comp=Z,181nm,20.9s,baz=146,slow=33						
ASAR	**Alice Springs**	**45.07**	**261**	P	**P**	**23 33 05.3**	**-1.5**
	0.8nm,0.8s,baz=107,slow=8.2,SNR=5.3						
ASAR				LR	LR	23 51 34.3	
	comp=Z,119nm,18.2s,baz=102,slow=36						
WRA	**Warramunga Arr**	**45.56**	**266**	P	**P**	**23 33 09.8**	**-0.9**
	1.1nm,0.8s,baz=96,slow=7.6,SNR=2.4						
VNDA	**Vanda**	**53.72**	**186**	P	**P**	**23 34 13.3**	**+1.3**
	1.0nm,0.9s,baz=0.0,slow=7.1,SNR=4.6						
FITZ	**Fitzroy Crossi**	**53.97**	**265**	LR	LR	23 56 17.1	
	comp=Z,86nm,18.3s,baz=112,slow=35						
DAV	**Davao City (W)**	**64.72**	**291**	LR	LR	00 01 17.1	
	comp=Z,30nm,18.7s,baz=334,slow=34						
PETK	**Petropavlovsk-**	**80.84**	**345**	P	**P**	**23 37 05.5**	**+1.5**
	3.8nm,0.8s,baz=178,slow=4.3,SNR=3.8						
PETK				LR	LR	00 06 35.2	
	comp=Z,31nm,20.6s,baz=197,slow=31						
KSRS	**Korea Array**	**81.08**	**318**	P	**P**	**23 37 07.2**	**+1.6**
	1.5nm,0.8s,baz=134,slow=6.9,SNR=5.6						
PDAR	**Pinedale Array**	**91.17**	**43**	P	**P**	**23 37 55.3**	**-0.5**
	0.2nm,0.6s,baz=215,slow=3.0,SNR=2.7						
ILAR	**Eielson Array**	**92.25**	**12**	P	**P**	**23 37 59.9**	**0.0**
	0.4nm,0.8s,baz=209,slow=7.2,SNR=3.8						
CMAR	**Chiang Mai Arr**	**92.89**	**289**	P	**P**	**23 38 05.1**	**+1.1**
	0.5nm,0.4s,baz=140,slow=4.3,SNR=5.8						
NB2	**NORSAR Subarra**	**143.46**	**354**	PKP	**PKPdf**	**23 44 22.4**	**-2.3**
	comp=Z,0.6nm,0.8s,baz=16,slow=3.3						
NOA	**NORSAR Array B**	**143.46**	**354**	PKP	**PKPdf**	**23 44 22.0**	**-2.7**
	comp=Z,1.3nm,0.9s,baz=16,slow=5.0,SNR=4.7						
AKASG	**Malin Array Be**	**147.49**	**329**	PKPbc	**PKPbc**	**23 44 33.2**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=44,slow=3.3,SNR=3.0						
BRTR	**Keskin Array B**	**150.73**	**308**	PKPbc	**PKPbc**	**23 44 42.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=70,slow=3.8,SNR=3.2						

ISCJB ***28*** *23:48:48.6±0.3, 64°.87N±0°.03×133°.67W±0°.07, h9km, mb4.0/2, Error ellipse: s-maj=4.9km s-min=3.0km az=43.6*
IDC ***28*** *23:48:50.9±0.8, 64°.97N×133°.88W, h0km, mb3.9/2, mb1 3.9/6, mb1mx3.5/40, mbtmp3.8/6, ML3.7/4, Error ellipse: s-maj=14.0km s-min=10.7km az=48.0*
PGC ***28*** *23:48:52.0±0.0, 64°.89N×133°.72W, h5km, ML3.9/12, 285km Sse of Fort McPherson, Nt Southern Yukon Territory, Canada*

ISC 28 23:48:50.8±0.7, 64°.94N±0°.04×133°.69W±0°.04, h9km, n35, σ2§41/78, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.62**	**253**	Pn	**Pn**	**23 49 33.6**	**+0.4**
DAWY				Sn	**Sn**	**23 50 07.2**	**+2.0**
INK	**Inuvik**	**3.38**	**1**	Pn	**Pn**	**23 49 45.3**	**+1.8**
	1.0nm,0.3s,baz=175,slow=13,SNR=33						
INK				Sn	**Sn**	**23 50 25.1**	**+1.4**
	5.6nm,0.3s,baz=246,slow=17,SNR=3.8						
INK	**Inuvik**	**3.38**	**1**	Pn	**Pn**	**23 49 45.3**	**+1.8**
BVCY	**Beaver Creek**	**4.08**	**235**	Pn	**Pn**	**23 49 53.6**	**+0.4**
BVCY				Sn	**Sn**	**23 50 37.7**	**-3.4**
BVCY				Sg	**Sb**	**23 50 54.0**	**+1.9**
YUK1	**Sand Pete Hill**	**4.15**	**231**	Pn	**Pn**	**23 49 53.7**	**-0.6**
YUK1				Sn	**Sn**	**23 50 41.2**	**-1.8**
YUK1				Sg	**Sb**	**23 50 54.7**	**+0.6**
YUK4	**Talbot Arm**	**4.25**	**214**	Pn	**Pn**	**23 49 54.3**	**-1.6**
YUK4				Sn	**Sn**	**23 50 41.5**	**-4.1**
YUK4				Sg	**Sb**	**23 50 54.8**	**-2.5**
YUK5	**Granite Creek**	**4.27**	**208**	Pn	**Pn**	**23 49 56.1**	**+0.1**
YUK5				Sn	**Sn**	**23 50 45.0**	**-1.0**
YUK5				Sg	**Sb**	**23 50 57.6**	**-0.1**
WHY	**Whitehorse**	**4.34**	**188**	Pn	**Pn**	**23 49 56.9**	**0.0**
WHY				Pg	**Pb**	**23 50 08.8**	**+1.7**
WHY				Sn	**Sn**	**23 50 46.4**	**-1.2**
WHY				Sg	**Sb**	**23 50 59.2**	**-0.3**
YUK3	**Moose Creek**	**4.40**	**227**	Pn	**Pn**	**23 49 57.6**	**-0.3**
YUK3				Sn	**Sn**	**23 50 47.9**	**-1.5**
YUK3				Sg	**Sb**	**23 51 02.7**	**+1.2**
HYT	**Haines Junctio**	**4.49**	**205**	Pn	**Pn**	**23 49 59.1**	**+0.1**
HYT				Sn	**Sn**	**23 50 49.1**	**-2.2**
HYT				Sg	**Sb**	**23 51 03.4**	**-0.5**
YUK2	**White River**	**4.52**	**229**	Pn	**Pn**	**23 49 58.9**	**-0.4**
YUK2				Sn	**Sn**	**23 50 49.7**	**-2.3**
YUK2				Sg	**Sb**	**23 51 06.9**	**+2.2**
YUK6	**Outpost Mounta**	**4.55**	**210**	Pn	**Pn**	**23 49 59.8**	**-0.1**
YUK6				Sn	**Sn**	**23 50 52.8**	**-0.1**
YUK6				Sg	**Sb**	**23 51 08.4**	**+2.7**
DOT	**Dot Lake**	**4.70**	**259**	Pn	**Pn**	**23 50 02.0**	**+0.3**
DOT				Pg	**Pb**	**23 50 16.2**	**+3.0**
DOT				Sn	**Sn**	**23 50 55.3**	**-1.1**
DOT				Sg	**Sb**	**23 51 14.1**	**+4.2**
YUK7	**Dusty Glacier**	**4.88**	**207**	Pn	**Pn**	**23 50 04.7**	**+0.3**
YUK7				Sn	**Sn**	**23 50 59.4**	**-1.7**
YUK7				Sg	**Sb**	**23 51 18.0**	**+2.8**
CTGM	**Chitina Glacie**	**5.30**	**225**	Pn	**Pn**	**23 50 10.7**	**+0.5**
CTGM				Sn	**Sn**	**23 51 09.9**	**-1.4**
PAX	**Paxson**	**5.55**	**254**	Pn	**Pn**	**23 50 14.4**	**+0.8**
PAX				Sn	**Sn**	**23 51 16.1**	**-1.5**
PAX				Sg	**Sg**	**23 51 45.1**	**-3.8**
BALM	**Baldy**	**5.56**	**229**	Pn	**Pn**	**23 50 13.6**	**-0.1**
BALM				Sn	**Sn**	**23 51 14.9**	**-2.7**
ILAR	**Eielson Array**	**5.63**	**274**	Pn	**Pn**	**23 50 13.9**	**-0.6**
	0.6nm,0.3s,baz=84,slow=12,SNR=21						
ILAR				Lg	Lg	23 51 44.0	
	2.1nm,0.3s,baz=62,slow=29,SNR=5.7						
PLBC	**Pleasant Camp**	**5.65**	**194**	Pn	**Pn**	**23 50 15.8**	**+1.1**
PLBC				Sg	**Sb**	**23 51 41.1**	**+4.0**
KIAG	**Kiagna River**	**5.65**	**228**	Pn	**Pn**	**23 50 14.5**	**-0.4**
KIAG				Sn	**Sn**	**23 51 20.1**	**+0.2**
KIAG				Sg	**Sb**	**23 51 43.4**	**+6.1**
SAMH	**Samovar Hills**	**5.84**	**217**	Pn	**Pn**	**23 50 19.2**	**+1.8**
PNL	**Peninsula**	**5.92**	**209**	Pn	**Pn**	**23 50 19.3**	**+0.7**
PNL				Sn	**Sn**	**23 51 19.0**	**-7.5**
PNL				Sg	**Sb**	**23 51 48.6**	**+3.5**
DHRN	**Dharma Camp**	**6.15**	**64**	Pn	**Pn**	**23 50 22.7**	**+1.0**
DHRN				Sn	**Sn**	**23 51 31.1**	**-0.9**
BESE	**Bessie Mountai**	**6.41**	**185**	Pn	**Pn**	**23 50 25.1**	**-0.2**
BESE				Sn	**Sn**	**23 51 35.6**	**-3.0**
BESE				Sg	**Sb**	**23 52 02.7**	**+3.6**
DLBC	**Dease Lake**	**6.76**	**163**	Pn	**Pn**	**23 50 30.5**	**+0.4**
	4.4nm,0.3s,baz=348,slow=8.6,SNR=18						
DLBC				Sn	**Sn**	**23 51 44.7**	**-2.4**
	0.8nm,0.3s,baz=260,slow=24,SNR=3.5						
DLBC				Lg	Lg	23 52 14.2	
	0.9nm,0.3s,baz=263,slow=24,SNR=4.3						
DLBC	**Dease Lake**	**6.76**	**163**	Pn	**Pn**	**23 50 30.3**	**+0.3**
DLBC				Sn	**Sn**	**23 51 48.8**	**+1.7**
DLBC				Sg	**Sb**	**23 52 17.0**	**+7.9**
COLD	**Coldfoot**	**7.08**	**296**	Pn	**Pn**	**23 50 35.0**	**+0.6**
COLD				Sn	**Sn**	**23 51 51.6**	**-3.4**
KUKN	**Kugluktuk,NWT**	**7.99**	**61**	Pn	**Pn**	**23 50 47.6**	**+0.7**
KUKN				Sn	**Sn**	**23 52 11.4**	**-5.9**
YKW3	**Yellowknife Ar**	**8.77**	**97**	Pn	**Pn**	**23 50 57.8**	**+0.2**
YKA	**Yellowknife Ar**	**8.81**	**97**	Pn	**Pn**	**23 50 57.8**	**-0.2**
	1.4nm,0.3s,baz=291,slow=13,SNR=33						
YKA				Sn	Sn	23 52 25.5	-12
	baz=296,slow=15,SNR=2.1						
YKW1	**Yellowknife Ar**	**8.85**	**97**	Pn	**Pn**	**23 50 58.4**	**-0.2**
RES	**Resolute Bay**	**16.16**	**37**	Pn	**Pn**	**23 52 35.5**	**-2.2**
	0.7nm,0.3s,baz=249,slow=12,SNR=21						
RES				Sn	Sn	23 55 28.0	-8.7
	0.1nm,0.3s,baz=302,slow=16,SNR=3.0						
RES	**Resolute Bay**	**16.16**	**37**	Pn	**Pn**	**23 52 36.2**	**-1.4**
FINES	**FINESS Array B**	**53.02**	**12**	P	**P**	**23 58 06.7**	**-0.6**
	0.7nm,0.7s,baz=1.4,slow=11,SNR=4.7						
AKASG	**Malin Array Be**	**63.93**	**12**	P	**P**	**23 59 25.6**	**+2.1**
	1.2nm,0.5s,baz=359,slow=5.7,SNR=3.9						

MAN 29 00:03:08.1, 11°.15N×125°.47E, h24km, mb4.0, ML2.8, MS2.4, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.45**	**356**	*e*P	Pn	00 03 18.7	-0.5
BESP				*e*S	Sn	00 03 27.8	+1.3
PLP	**Palo**	**0.48**	**272

JOW	Kunigami	3.14	219	*e*Pn	Pn	00 49 57.4 -0.6
JOW	Kunigami	3.14	219	P	Pn	00 49 57.3 -0.6
JIH	Iheya	3.17	226	P	Pn	00 49 57.4 -0.9
JIH				*e*S	Sn	00 50 35.0 +0.1
JMZ	Minamidaito 2	3.51	169	P	Pn	00 50 01.3 -1.7
JMZ				S	Sn	00 50 39.2 -4.1
JNTH	Nagotoyohara	3.53	219	P	Pn	00 50 02.7 -0.5
JNU	Nakatsue	3.84	5	*e*Pn	Pn	00 50 06.8 -0.6
JNU	Nakatsue	3.84	5	P	Pn	00 50 07.4 -0.1
	6.2nm,0.3s,baz=215,slow=15,SNR=24					
JNU				S	Sn	00 50 56.2 +4.8
	4.2nm,0.3s,baz=72,slow=16,SNR=4.2					
JNU				LR	LR	00 51 55.3
	comp=Z,709nm,20.1s,baz=180,slow=44					
JAGN	Aguni-jima	3.95	228	P	Pn	00 50 08.5 -0.4
JAGN				*e*S	Sn	00 50 54.8 +0.8
INU	Inuyama	8.18	41	*e*Pn	Pn	00 51 07.8 +0.9
KSRS	Korea Array	8.43	346	P	Pn	00 51 12.1 +1.7
	0.4nm,0.3s,baz=161,slow=15,SNR=11					
KSRS				LR	LR	00 54 43.5
	comp=Z,640nm,18.1s,baz=160,slow=40					
MAT	Matsushiro	9.70	40	P	Pn	00 51 29.8 +1.9
MAT				S	Sn	00 53 16.4 +0.8
MJAR	Matsushiro Arr	9.70	40	P	Pn	00 51 28.2 +0.3
	0.1nm,0.3s,baz=238,slow=15,SNR=3.6					
NJ2	Nanjing	10.41	288	*e*P	Pn	00 51 37.3 -0.3
NJ2				pmax	pmax	
	comp=Z,13nm,0.5s					
NJ2				LR	LR	
	comp=N,440nm,16.3s					
NJ2				LR	LR	
	comp=E,360nm,16.8s					
NJ2				LR	LR	
	comp=Z,700nm,19.0s					
SNY	Shenyang	13.72	338	⇑P	Pn	00 52 23.0 +0.2
SNY				S	Sn	00 54 57.8 +4.1
SNY				pmax	pmax	
	comp=Z,9.0nm,0.5s					
SNY				pmax	pmax	
	comp=Z,310nm,3.8s					
SNY				LR	LR	
	comp=N,690nm,12.4s					
SNY				LR	LR	
	comp=E,320nm,7.9s					
SNY				LR	LR	
	comp=Z,1μm,13.1s					
USRK	Ussuriysk Ar.	14.93	4	P	Pn	00 52 39.6 +0.6
	0.2nm,0.3s,baz=177,slow=9.8,SNR=2.6					
USRK				LR	LR	00 58 21.9
	comp=Z,165nm,21.3s,baz=217,slow=37					
CN2	Changchun	15.04	346	*e*P	P	00 52 48.0 +2.8
CN2				pmax	pmax	
	comp=Z,40nm,0.7s					
CN2				pmax	pmax	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=N,650nm,14.0s					
CN2				LR	LR	
	comp=E,240nm,14.0s					
CN2				LR	LR	
	comp=Z,650nm,15.0s					
ASAJ	Asahikawa	17.66	30	P	P	00 53 15.2 +1.0
	0.5nm,0.3s,baz=170,slow=8.4,SNR=5.9					
XAN	Xi'an	18.97	290	P	Pn	00 53 31.3 +1.6
XAN				pP	sP	00 53 43.5 -0.6
XAN				S	Sn	00 56 54.3 -6.9
XAN				SS	SnSn	00 57 30.0 +15
XAN				pmax	pmax	
	comp=Z,42nm,0.9s					
XAN				pmax	pmax	
	comp=Z,59nm,4.2s					
XAN				LR	LR	
	comp=N,230nm,15.5s					
XAN				LR	LR	
	comp=E,170nm,9.2s					
XAN				LR	LR	
	comp=Z,180nm,15.2s					
XAN	Xi'an	18.97	290	*e*P	P	00 53 28.2 -0.5
	32nm,0.8s					
HHC	Hu-ho-hao-te	19.28	312	*e*P	Pn	00 53 33.0 -0.5
HHC				SS	S	00 57 34.0 +26
HHC				pmax	pmax	
	comp=Z,97nm,0.6s					
HHC				pmax	pmax	
	comp=Z,280nm,3.8s					
HHC				LR	LR	
	comp=N,860nm,8.0s					
HHC				LR	LR	
	comp=E,700nm,7.1s					
HHC				LR	LR	
	comp=Z,950nm,7.0s					
KLR	Kul'dur	19.94	2	P	P	00 53 36.9 -2.2
	0.2nm,0.3s,baz=188,slow=5.1,SNR=12					
QIZ	Qiongzhong	21.41	246	P	P	00 53 54.0 -1.2
QIZ				LR	LR	
	comp=N,210nm,17.5s					
QIZ				LR	LR	
	comp=E,160nm,17.2s					
QIZ				LR	LR	
	comp=Z,150nm,22.1s					
CD2	Chengdu	23.18	281	P	P	00 54 12.0 -2.0
CD2				S	S	00 58 22.3 -0.4
CD2				pmax	pmax	
	comp=Z,130nm,5.5s					
CD2				LR	LR	
	comp=N,520nm,17.6s					
CD2				LR	LR	
	comp=E,310nm,14.2s					
CD2				LR	LR	
	comp=Z,380nm,14.7s					
LZH	Lanzhou	23.40	294	*e*P	P	00 54 17.8 +1.6
LZH				pP	sP	00 54 30.0 -2.1
LZH				sP	pP	00 54 34.8 +7.9
LZH				S	S	00 58 24.3 -2.1
LZH				pmax	pmax	
	comp=Z,30nm,1.1s					
LZH				pmax	pmax	
	comp=Z,160nm,4.3s					
LZH				LR	LR	
	comp=N,440nm,14.6s					
LZH				LR	LR	
	comp=E,570nm,13.8s					
LZH				LR	LR	
	comp=Z,710nm,15.0s					
ULN	Ulaanbaatar	25.92	322	*e*P	P	00 54 38.9 -0.2
SONM	Songino Array	26.25	322	P	P	00 54 41.3 -0.8
	5.0nm,0.7s,baz=137,slow=9.5,SNR=28					
SONM				LR	LR	01 06 19.8
	comp=Z,337nm,20.0s,baz=99,slow=39					
GTA	Gaotai	27.17	300	*e*P	P	00 54 51.8 +1.4
GTA				pP	sP	00 55 06.8 +0.1
GTA				sP	pP	00 55 11.5 +10
GTA				S	S	00 59 24.5 -1.7
GTA				pmax	pmax	
	comp=Z,3.0nm,0.7s					
GTA				pmax	pmax	
	comp=Z,55nm,4.4s					
GTA				LR	LR	
	comp=N,170nm,15.1s					
GTA				LR	LR	
	comp=E,240nm,17.5s					
GTA				LR	LR	
	comp=Z,380nm,16.1s					
CMAR	Chiang Mai Arr	30.72	257	LR	LR	01 09 22.6
	comp=Z,101nm,18.9s,baz=70,slow=39					
PETK	Petropavlovsk-	31.05	32	LR	LR	01 08 04.2
	comp=Z,107nm,21.2s,baz=238,slow=37					
WMQ	Urumqi	36.90	305	*e*P	P	00 56 17.3 +1.7
ODAN	Odare	37.97	277	*e*P	P	00 56 24.1 -0.9
PKI	Pulchoki	39.51	279	*e*P	P	00 56 37.2 -0.9
	26nm,1.0s					
PKIN	Phulchoki	39.52	279	*e*P	P	00 56 37.1 -1.0
	21nm,0.9s					
KKN	Kakani	39.58	279	*e*P	P	00 56 37.8 -0.6
	35nm,1.0s					
DANN	Dangsing	40.76	280	*e*P	P	00 56 47.9 -0.4
	34nm,0.8s					
KOLN	Koldanda	41.03	280	*e*P	P	00 56 49.8 -0.6
	6.7nm,0.6s					
MK31	Makanchi Array	41.10	309	*e*P	P	00 56 50.2 -0.4
	3.6nm,1.5s					
MKAR	Makanchi Array	41.10	309	P	P	00 56 49.4 -1.2
	0.6nm,0.4s,baz=93,slow=9.9,SNR=12					
MKAR				PcP	PcP	00 58 48.5 -1.1
	0.5nm,0.7s,baz=74,slow=5.7,SNR=3.5					
MKAR				LR	LR	01 15 37.3
	comp=Z,86nm,18.7s,baz=106,slow=39					
ZALV	Zalesovo Beam	41.13	320	P	P	00 56 49.4 -1.3
	0.7nm,0.4s,baz=100,slow=8.1,SNR=5.3					
ZALV				PcP	PcP	00 58 48.1 -1.3
	0.7nm,0.5s,baz=83,slow=4.5,SNR=3.4					
ZALV				LR	LR	01 15 48.3
	comp=Z,226nm,18.0s,baz=70,slow=39					
PYUN	Piuthan	41.48	280	*e*P	P	00 56 53.7 -0.4
	24nm,0.8s					
TARG	Taragay, Kyrgy	44.03	301	*e*P	P	00 57 14.8 -0.1
	6.3nm,1.4s					
KURK	Kurchatov	44.08	314	*e*P	P	00 57 13.9 -0.7
	9.0nm,1.0s					
BILL	Bilibino	44.15	18	*e*P	P	00 57 15.4 +0.4
	10nm,1.4s					
KSH	Kashi	45.53	298	P	P	00 57 30.0 +3.4
KSH				sP	sP	00 57 47.3 +4.1
KSH				PP	PP	00 59 16.5 +3.0
KSH				S	S	01 04 08.8 +3.0
KSH				pmax	pmax	
	comp=Z,100nm,3.7s					
KSH				LR	LR	
	comp=N,100nm,8.5s					
KSH				LR	LR	
	comp=E,110nm,8.6s					
KSH				LR	LR	
	comp=Z,380nm,14.6s					
NRIK	Noril'sk	47.01	341	LR	LR	01 20 57.8
	comp=Z,58nm,18.4s,baz=123,slow=41					
NIL	Nilore	48.51	290	*e*P	P	00 57 49.1 -0.6
	8.4nm,0.8s					
WRA	Warramunga Arr	49.08	175	P	P	00 57 54.3 +0.2
	3.2nm,1.0s,baz=356,slow=9.4,SNR=6.1					
KK31	Karatay Array	49.36	303	*e*P	P	00 57 56.0 -0.1
	2.6nm,0.8s					
KKAR	Karatay Array	49.36	303	*e*P	P	00 57 56.0 -0.1
	2.6nm,0.8s					
BRVK	Borovoye	49.47	316	*e*P	P	00 57 55.4 -1.3
	4.9nm,0.8s					
ASAR	Alice Springs	52.75	176	P	P	00 58 22.8 +1.2
	1.3nm,0.8s,baz=9.2,slow=13,SNR=19					
ASAR				PcP	PcP	00 59 31.5 +0.7
	1.4nm,0.8s,baz=0.1,slow=3.7,SNR=4.9					
ABKAR	Akbulak array	56.08	312	*e*P	P	00 58 44.6 -0.9
	6.2nm,0.8s					
ARU	Arti	56.29	321	*e*P	P	00 58 45.9 -1.1
	6.3nm,1.0s					
MLY	Manley	59.14	29	*e*P	P	00 59 07.6 +0.6
	4.1nm,1.0s					
SUA	Susitna One	59.42	33	*e*P	P	00 59 09.8 +0.8
	7.3nm,0.8s					
GEYT	Alibeck	59.54	299	LR	LR	01 29 05.3
	comp=Z,51nm,18.1s,baz=40,slow=40					
FORT	Forrest	59.78	182	*e*P	P	00 59 11.9 +0.4
	51nm,1.4s					
MDM	Murphy Dome	60.21	29	*e*P	P	00 59 14.3 0.0
	10nm,1.0s					
ILAR	Eielson Array	60.80	29	P	P	00 59 15.9 -2.4
	0.5nm,0.7s,baz=297,slow=7.5,SNR=6.0					
ILAR				LR	LR	01 26 28.6
	comp=Z,32nm,19.8s,baz=12,slow=37					
DOT	Dot Lake	62.19	30	*e*P	P	00 59 27.2 -0.5
	6.3nm,1.2s					
INK	Inuvik	65.29	24	P	P	00 59 47.0 -1.0
	0.6nm,0.6s,baz=230,slow=4.4,SNR=3.4					
HYT	Haines Junctio	65.83	32	*e*P	P	00 59 52.3 +0.5
	4.6nm,1.0s					
KBZ	Khabaz	68.80	309	P	P	01 00 10.3 -0.3
	2.6nm,0.8s,baz=87,slow=1.0,SNR=5.7					
FINES	FINESS Array B	71.20	331	P	P	01 00 22.5 -2.6
	1.0nm,0.6s,baz=52,slow=5.0,SNR=10					
FINES				LR	LR	01 35 00.7
	comp=Z,81nm,20.5s,baz=39,slow=39					
RES	Resolute Bay	72.17	11	*e*P	P	01 00 31.2 +0.5
	5.8nm,0.9s					
AKASG	Malin Array Be	74.52	320	P	P	01 00 43.4 -1.6
	0.6nm,0.4s,baz=56,slow=6.2,SNR=4.1					
YKA	Yellowknife Ar	74.91	26	P	P	01 00 46.7 -0.2
	0.5nm,0.7s,baz=303,slow=5.5,SNR=6.0					
BR131	Keskin Array S	76.75	308	*e*P	P	01 00 58.0 -0.2
	3.4nm,0.9s					
BRTR	Keskin Array B	76.75	308	P	P	01 00 57.8 -0.3
	1.9nm,0.8s,baz=101,slow=5.0,SNR=15					
BRTR				LR	LR	01 39 54.2
	comp=Z,30nm,18.5s,baz=86,slow=40					
NB2	NORSAR Subarra	77.46	334	P	P	01 00 59.6 -2.0
	comp=Z,1.4nm,0.7s,baz=52,slow=5.9					
NOA	NORSAR Array B	77.46	334	P	P	01 00 59.0 -2.6
	comp=Z,2.0nm,0.9s,baz=50,slow=5.5,SNR=3.3					
NOA				LR	LR	01 40 02.6
	comp=Z,57nm,19.8s,baz=40,slow=40					
BUR08	Bucovina Ar. S	78.31	318	*e*P	P	01 01 06.4 -0.3
	comp=Z,15nm,1.9s					
KOLS	Kolonicke sedl	79.31	320	*e*P	P	01 01 15.5 +3.5
LANS	Liptovska Anna	80.73	322	*e*P	P	01 01 24.2 +4.5
CLL	Collm	82.78	326	*e*P	P	01 01 32.0 +1.6
	comp=Z,4.0nm,0.9s					
CLL				Lm	MLR	01 42 00.0
	comp=N,100nm,19.9s					
CLL				Lm	MLR	01 42 00.0
	comp=E,100nm,19.0s					
GERES	GERESS Array B	83.97	324	P	P	01 01 35.4 -1.3
	comp=E,0.3nm,0.6s,baz=55,slow=7.1,SNR=2.9					
GERES				LR	LR	01 43 05.6
	comp=E,114nm,21.1s,baz=51,slow=39					
J08A	Circle Bar Ran	84.01	43	*e*P	P	01 01 37.6 +0.5
	comp=E,4.4nm,0.8s					
FCC	Fort Churchill	84.77	22	*e*P	P	01 01 40.4 0.0
	comp=E,4.7nm,0.9s					
BEKR	Beckworth	84.82	47	*e*P	P	01 01 42.1 +0.8
	comp=E,3.9nm,0.9s					
FFC	Flin Flon	84.96	28	*e*P	P	01 01 41.6 +0.1
	comp=E,3.3nm,0.9s					
PAHR	Pah Rah Range	85.53	47	*e*P	P	01 01 45.8 +1.0
	comp=E,4.9nm,0.9s					
HLID	Hailey	86.27	41	*e*P	P	01 01 48.9 +0.4
	comp=E,1.8nm,0.8s					
KVN	Kaiserville	86.72	47	*e*P	P	01 01 51.0 +0.2
	comp=E,3.4nm,0.9s					
NVAR	Mina Array Bea	86.95	47	P	P	01 01 52.8 +0.8
	comp=E,1.4nm,0.7s,baz=310,slow=4.4,SNR=6.6					
PDAR	Pinedale Array	89.53	40	P	P	01 02 03.2 -0.9
	comp=E,0.6nm,0.8s,baz=318,slow=2.0,SNR=5.0					
ULM	Lac du Bonnet	90.79	28	P	P	01 02 08.8 -0.6
	comp=E,2.5nm,1.0s,baz=243,slow=5.2,SNR=3.7					
ULM				LR	LR	01 44 50.2
	comp=E,25nm,20.1s,baz=334,slow=37					
SCHQ	Schefferville	94.91	10	LR	LR	01 47 58.8
	comp=E,27nm,19.5s,baz=4.0,slow=37					

IDC 29 01:15:42.2±164.0, 43°.81S×28°.44W, h0km, Error ellipse: s-maj=407.9km s-min=16.0km az=62.0, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	36.74	23	H	H	02 01 35.4	
	baz=195,slow=75,SNR=9.0						
H10S3	ASCENSION HYDR	36.74	23	H	H	02 01 35.9	
	baz=195,slow=75,SNR=8.9						
H10S1	ASCENSION HYDR	36.76	23	H	H	02 01 36.9	
	baz=195,slow=75,SNR=8.9						
H10N3	ASCENSION HYDR	37.85	23	H	H	02 02 53.7	
	baz=194,slow=76,SNR=29						
H10N1	ASCENSION HYDR	37.85	23	H	H	02 02 54.3	
	baz=194,slow=76,SNR=23						
H10N2	ASCENSION HYDR	37.86	23	H	H	02 02 55.0	
	baz=194,slow=76,SNR=32						
H08N3	Diego Garcia H	92.42	101	H	H	03 11 13.7	
	baz=227,slow=75,SNR=22						
H08N1	Diego Garcia H	92.43	101	H	H	03 11 15.5	
	baz=227,slow=75,SNR=19						
H08N2	Diego Garcia H	92.44	101	H	H	03 11 15.7	
	baz=227,slow=75,SNR=19						

*IDC **29** 01:16:34.5±7.1, 25°.52S×178°.67W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/20, mbtmp4.0/2, Error ellipse: s-maj=303.4km s-min=108.5km az=160.0*
*ISCJB **29** 01:17:11.4±0.8, 29°.57S±0°.07×179°.0W±0°.2, h350km, mb3.2/2, Error ellipse: s-maj=22.9km s-min=8.7km az=13.6*
*WEL **29** 01:17:15.4±1.0, 30°S±12°×17°9W±3°2, h323km±13km*
ISC 29 01:17:12.7±2.0, 29°.7S±0°.1×178°.9W±0°.3, h350km, n31, σ1§31/33, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	0.95	61	P	Pn	01 17 56.8	-1.4
RIZ	Raoul Island	0.95	60	P	Pn	01 17 57.0	-1.3
MXZ	Matakaoa Point	8.17	196	P	P	01 19 12.8	+1.2
WCZ	Waipu Caves	8.43	221	P	P	01 19 17.6	+3.1
HAZ	Te Kaha	8.49	198	P	Pn	01 19 13.5	+1.1
HAZ				S	S	01 20 51.2	+1.0
PKGZ	Pakihiroa	8.53	196	P	Pn	01 19 13.4	+0.3
PKGZ				S	S	01 20 49.4	-2.1
PUZ	Puketiti	8.67	195	P	P	01 19 18.0	+0.8
RUGZ	Raukumara Rang	8.71	198	P	P	01 19 17.6	-0.2
TWGZ	Tauwhareparae	8.83	196	P	P	01 19 20.6	+1.5
TWGZ				S	S	01 20 59.8	+1.8
MWZ	Matawai	9.10	198	P	P	01 19 23.0	+1.0
URZ	Urewera	9.15	200	P	P	01 19 22.8	+0.3
MUGZ	Murupara	9.45	201	P	P	01 19 27.2	+1.3
KNZ	Kokohu	9.71	196	P	P	01 19 29.9	+1.2
ARHZ	Aropaoanui	10.11	199	P	P	01 19 33.9	+0.7
BKZ	Black Stump Fm	10.17	201	P	Pn	01 19 32.8	+0.3
BKZ				S	S	01 21 24.7	-2.6
HIZ	Hauiti	10.19	209	P	Pn	01 19 30.4	-2.4
BHHZ	Black Hill Sta	10.60	202	P	Pn	01 19 36.3	-1.5
KAHZ	Kahuranaki	10.64	198	P	P	01 19 39.7	+0.6
KRHZ	Kereru	10.64	200	P	Pn	01 19 38.4	+0.2
PNHZ	Pukenui	10.94	200	P	Pn	01 19 41.8	0.0
PRWZ	Pori Road	11.60	200	P	P	01 19 50.5	+0.8
BFZ	Birch Farm	11.64	199	P	Pn	01 19 50.2	+0.1
MRZ	Mangatainoka R	11.82	201	P	Pn	01 19 50.5	-1.6
TIWZ	Tintock	11.83	200	P	Pn	01 19 51.7	-0.7
HOWZ	Holdsworth Sta	12.05	201	P	P	01 19 54.5	-0.3
OGWZ	Otaki Gorge	12.09	202	P	P	01 19 54.6	-0.5
TMWZ	Te Maipa	12.13	199	P	Pn	01 19 57.4	+1.4
KIW	Kapiti Island	12.22	203	P	P	01 19 56.8	+0.2
ASAR	Alice Springs	42.39	267	P	P	01 24 34.5	+0.3
	0.9nm,0.5s,baz=103,slow=6.8,SNR=16						
WRA	Warramunga Arr	43.32	272	P	P	01 24 41.4	-0.2
	0.9nm,0.3s,baz=103,slow=8.4,SNR=14						
FINES	FINESS Array B	144.25	340	PKP	PKPab	01 36 04.5	-1.1
	0.8nm,0.3s,baz=53,slow=4.8,SNR=15						

*NIED **29** 01:33:00, 23°.90N×122°.40E, h26km, Mw4.4 Best double couple: M0=4.99000×10^15 NP1:φ=306.00000°, δ32.00000°, λ153.00000°. NP2:φ=59.00000°, δ76.00000°, λ61.00000°.*
*IDC **29** 01:33:55.1±0.6, 24°.17N×122°.53E, h0km, mb4.3/27, mb1 4.4/28, mb1mx4.3/45, mbtmp4.3/28, ML3.2/1, MS3.6/22, Ms1 3.6/22, ms1mx3.5/36, Error ellipse: s-maj=17.2km s-min=14.3km az=72.0*
*BJI **29** 01:33:56.8±0.0, 24°.08N×122°.27E, h6km, mb4.6/40, mB4.5/27, ML4.2/8, Ms4.2/44, Ms7 4.1/41*
*NEIC **29** 01:33:59.0±2.7, 24°.02N×122°.43E, h26km±5km, mb4.7/49, ML5.1(TAP), Error ellipse: s-maj=8.6km s-min=6.3km az=154.0*
NEIC Recorded [1 TAP] in Hualien and Yilan.
*JMA **29** 01:33:58.5±0.2, 23°.93N×122°.36E, h16km±4km, M4.6*
*TAP **29** 01:33:59.5, 24°.01N×122°.37E, h29km, ML4.8, D*
*ISCJB **29** 01:34:00.0±0.2, 23°.99N±0°.01×122°.37E±0°.01, h45km±1km, mb4.5/72, MS3.7/22, Error ellipse: s-maj=2.2km s-min=1.7km az=147.5*
ISC 29 01:33:57.3±0.9, 23°.93N±0°.02×122°.39E±0°.01, h16km±6km, n294, σ1§26/394, mb4.6/72, MS3.8/23, 63C-10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.66	339	⇓P	Pn	01 34 11.2	-0.8
	baz=330						
EOS1				S	Sb	01 34 20.1	+0.7
	baz=330						
ENLB	Shoufeng	0.72	268	⇑P	Pn	01 34 13.1	+0.2
	baz=250						
ENLB				S	Sn	01 34 23.0	-0.6
	baz=250						
JYNG	Yonagunijimaku	0.73	44	P	Pn	01 34 12.6	-0.4
JYNG				S	Sb	01 34 21.5	+0.1
TWD	Chiawan	0.74	282	↑*i*P	Pn	01 34 12.5	-0.6
	baz=276						
TWD				S	Sb	01 34 22.4	+0.8
	baz=276						
NACB	Ninganchiao	0.76	289	*e*Pg	Pn	01 34 13.0	-0.5
NACB				*e*Sn	Sb	01 34 23.1	+0.7
NACB	Ninganchiao	0.76	289	⇑P	Pn	01 34 13.0	-0.5
	baz=270						
NACB				S	Sb	01 34 23.3	+0.9
	baz=270						
NANB	Nanao	0.76	311	⇓P	Pb	01 34 12.7	+0.4
	baz=314						
NANB				S	Sb	01 34 23.3	+0.9
	baz=314						
ENA	Nanau	0.77	310	P	Pn	01 34 12.9	-0.7
	baz=314						
ENA				S	Sb	01 34 23.5	+0.9
	baz=314						
YOJ	Yonaguni jima	0.78	47	*e*Pn	Pn	01 34 13.8	+0.1
YOJ				*e*Sn	Sg	01 34 22.1	-0.7
YOJ	Yonaguni jima	0.78	47	⇓P	Pn	01 34 13.9	+0.2
	baz=58						
YOJ				*e*S	Sb	01 34 23.3	+0.4
	baz=58						
YOJ	Yonaguni jima	0.78	47	P	Pn	01 34 13.6	-0.1
YOJ				*e*S	Sb	01 34 23.4	+0.5
TWC	Suao	0.83	324	⇓*i*P	Pb	01 34 13.5	+0.1
	baz=322						
TWC				S	Sg	01 34 23.4	-1.2
	baz=322						
ETLH	Xiulin Townshi	0.87	289	⇑P	Pn	01 34 14.8	-0.2
	baz=272						
ETLH				*e*S	Sn	01 34 26.9	-0.5
	baz=272						
ESL	Shilin	0.88	263	⇑*i*P	Pn	01 34 14.5	-0.5
	baz=248						
EGFH	Guangfu	0.91	254	*e*P	Pb	01 34 15.0	+0.1
	baz=249						
HGSD	Ruisui	0.98	244	P	Pn	01 34 16.4	-0.1
	baz=239						
HGSD				*e*S	Sg	01 34 28.2	-1.1
	baz=239						
EGS		1.00	336	⇓*i*P	Pn	01 34 16.7	0.0
	baz=326						
EGS				S	Sn	01 34 29.9	-0.6
	baz=326						
ILA	Ilan	1.01	325	P	Pn	01 34 17.0	+0.1
	baz=322						
ILA				*e*S	Sb	01 34 30.2	+0.5
	baz=322						
TWE	Neicheng	1.02	320	⇓*i*P	Pn	01 34 17.2	+0.1
	baz=318						
TWE				*e*S	Sg	01 34 30.1	-0.5
	baz=318						
ENTT	Nioudou	1.03	314	⇑*i*P	Pn	01 34 17.5	+0.4
	baz=298						
NDT	Datong Townshi	1.04	310	↑*i*P	Pn	01 34 17.8	+0.5
	baz=306						
NDT				S	Sg	01 34 30.6	-0.5
	baz=306						
NNSB	Datong	1.04	299	⇑P	Pn	01 34 17.7	+0.3
	baz=283						
NNSB				S	Sg	01 34 30.4	-0.8
	baz=283						
WHF	Hehuan Shan	1.05	282	⇑*i*P	Pn	01 34 17.6	-0.1
	baz=265						
WHF				S	Sg	01 34 30.7	-0.7
	baz=265						
NTC	Toucheng	1.05	331	P	Pn	01 34 17.7	+0.3
	baz=328						
NTC				S	Sn	01 34 31.4	-0.3
	baz=328						
NNS	Nan Shan	1.05	299	⇑*i*P	Pn	01 34 17.9	+0.3
	baz=283						
NNS				S	Sb	01 34 30.8	-0.2
	baz=283						
EHY	Hungye	1.06	247	*e*P	Pn	01 34 18.6	+1.1
	baz=257						
EHY				*e*S	Sn	01 34 32.1	0.0
	baz=257						
SLBB	Yuanshan	1.07	320	⇑*i*P	Pn	01 34 18.6	+0.9
	baz=317						
OWD	Renai	1.11	272	⇑P	Pn	01 34 18.4	+0.1
	baz=267						
OWD				S	Sb	01 34 31.7	-0.7
	baz=267						
CHGB	Renai	1.11	277	⇑P	Pn	01 34 18.9	+0.3

	baz=272						
CHGB			S	Sb	01 34 32.1	-0.6	
	baz=272						
YULB	**Yu-li**	**1.13 242**	*e*Pn	**Pg**	**01 34 19.1**	**-0.1**	
YULB			*e*Sn	**Sn**	**01 34 34.0**	**+0.2**	
YULB	**Yu-li**	**1.13 242**	⇑P	**Pg**	**01 34 19.1**	**-0.1**	
	baz=254						
YULB			*e*S	**Sb**	**01 34 32.8**	**-0.3**	
	baz=254						
TWB1	**Santiao Chiao**	**1.13 341**	⇑*i*P	**Pn**	**01 34 18.5**	**-0.1**	
	baz=323						
TWB1			*e*S	**Sb**	**01 34 32.2**	**-0.8**	
	baz=323						
TWF1	**Yuli**	**1.15 240**	⇑*i*P	**Pg**	**01 34 19.5**	**0.0**	
	baz=226						
TWF1			S	**Sn**	**01 34 34.6**	**+0.3**	
	baz=226						
TWT	**Tachien**	**1.15 286**	⇑*i*P	**Pg**	**01 34 19.7**	**+0.1**	
	baz=270						
TWT			S	**Sn**	**01 34 34.3**	**-0.2**	
	baz=270						
VWDT	**VWDT**	**1.15 261**	⇑P	**Pg**	**01 34 19.5**	**-0.1**	
	baz=257						
VWDT			S	**Sb**	**01 34 33.5**	**-0.1**	
	baz=257						
TIPB	**Shuangxi**	**1.16 334**	⇑*i*P	**Pg**	**01 34 19.2**	**-0.4**	
	baz=331						
TIPB			S	**Sb**	**01 34 32.9**	**-0.9**	
	baz=331						
NWLT	**Wulai**	**1.17 317**	P	**Pg**	**01 34 19.4**	**-0.5**	
	baz=313						
NWLT			*e*S	**Sb**	**01 34 33.8**	**-0.2**	
	baz=313						
TDCB	**Techi**	**1.17 286**	⇑P	**Pg**	**01 34 19.7**	**-0.2**	
	baz=271						
TDCB			*e*S	**Sb**	**01 34 33.9**	**-0.3**	
	baz=271						
YHNB	**Yeheng**	**1.18 309**	*e*Pn	**Pg**	**01 34 19.5**	**-0.7**	
YHNB			*e*Sn	**Sb**	**01 34 33.7**	**-0.8**	
YHNB	**Yeheng**	**1.18 309**	⇑P	**Pg**	**01 34 19.8**	**-0.3**	
	baz=305						
YHNB			S	**Sg**	**01 34 34.9**	**-0.6**	
	baz=305						
NSK	**Sanguang**	**1.20 309**	⇑*i*P	**Pg**	**01 34 19.9**	**-0.5**	
	baz=304						
NSK			*e*S	**Sn**	**01 34 35.5**	**0.0**	
	baz=304						
CHKT	**Chengkung**	**1.25 229**	*e*P	**Pb**	**01 34 20.3**	**-0.3**	
	baz=226						
NWF	**Wu-fen Shan**	**1.26 334**	⇑*i*P	**Pg**	**01 34 20.8**	**-0.9**	
	baz=331						
NWF			*e*S	**Sn**	**01 34 37.2**	**+0.1**	
	baz=331						
WFSB	**Wu-fen Shan**	**1.26 334**	⇑P	**Pg**	**01 34 20.8**	**-0.9**	
	baz=331						
WFSB			S	**Sg**	**01 34 37.8**	**-0.4**	
	baz=331						
TWA	**Mucha**	**1.27 325**	P	**Pg**	**01 34 21.6**	**-0.4**	
	baz=322						
TWA			S	**Sg**	**01 34 38.4**	**-0.2**	
	baz=322						
NHDH	**Xindian Distri**	**1.29 323**	⇑P	**Pg**	**01 34 22.1**	**-0.2**	
	baz=319						
NHDH			*e*S	**Sg**	**01 34 38.7**	**-0.4**	
	baz=319						
IRIF	**Iriomote-Funau**	**1.29 72**	P	**Pg**	**01 34 23.0**	**+0.7**	
IRIF			*e*S	**Sg**	**01 34 41.0**	**+1.8**	
HATJ	**Hateruma jima**	**1.30 84**	P	**Pg**	**01 34 22.8**	**+0.3**	
HATJ			*e*S	**Sg**	**01 34 40.4**	**+0.9**	
SSLB	**Suanglung**	**1.32 264**	*e*Pn	**Pb**	**01 34 21.7**	**0.0**	
SSLB			*e*Sn	**Sn**	**01 34 38.5**	**+0.1**	
SSLB	**Suanglung**	**1.32 264**	⇑P	**Pb**	**01 34 21.6**	**-0.2**	
	baz=260						
SSLB			*e*S	**Sb**	**01 34 36.1**	**-2.3**	
	baz=260						
TATO	**Taipei**	**1.32 322**	*e*Pn	**Pg**	**01 34 22.2**	**-0.6**	
TATO			*e*Sn	**Sb**	**01 34 35.4**	**-3.2**	
TATO	**Taipei**	**1.32 322**	⇑P	**Pg**	**01 34 22.3**	**-0.6**	
	baz=318						
TATO			S	**Sb**	**01 34 38.4**	**-0.1**	
	baz=318						
DPDB	**Guoxing**	**1.34 275**	⇑*i*P	**Pg**	**01 34 22.3**	**-0.9**	
	baz=263						
DPDB			S	**Sb**	**01 34 38.9**	**-0.2**	
	baz=263						
SMLT	**Sun Moon Lake**	**1.36 268**	⇑*i*P	**Pg**	**01 34 22.6**	**-0.9**	
	baz=264						
SMLT			*e*S	**Sb**	**01 34 39.4**	**-0.4**	
	baz=264						
WHP	**Taichung City**	**1.36 285**	⇑*e*P	**Pg**	**01 34 22.9**	**-0.7**	
	baz=272						
TAP	**Taipei**	**1.36 324**	*e*P	**Pg**	**01 34 22.8**	**-0.8**	
	baz=322						
WLTB	**Daxi**	**1.38 312**	⇑P	**Pg**	**01 34 23.5**	**-0.4**	
	baz=296						
WLTB			*e*S	**Sg**	**01 34 41.5**	**-0.4**	
	baz=296						
YUS	**Yu-Shan**	**1.38 252**	*e*P	**Pg**	**01 34 23.7**	**-0.3**	
	baz=249						
TYC	**Yuchr**	**1.40 269**	⇑*i*P	**Pb**	**01 34 23.2**	**+0.1**	
	baz=265						
TYC			*e*S	**Sn**	**01 34 40.1**	**-0.3**	
	baz=265						
YM01	**YM01**	**1.42 329**	⇑P	**Pb**	**01 34 22.9**	**-0.6**	
	baz=342						
WHYT	**Xinyi Township**	**1.42 261**	⇑*i*P	**Pg**	**01 34 24.0**	**-0.8**	
	baz=258						
YM07	**YM07**	**1.42 331**	⇑*i*P	**Pn**	**01 34 22.7**	**+0.1**	
	baz=328						
YM07			S	**Sb**	**01 34 41.9**	**+0.4**	
	baz=328						
YM10	**YM10**	**1.43 329**	⇑P	**Pb**	**01 34 23.1**	**-0.6**	
	baz=341						
YM11	**YM11**	**1.44 329**	⇑P	**Pn**	**01 34 23.1**	**+0.2**	
	baz=342						
LIOB	**Emei**	**1.44 300**	⇑*i*P	**Pg**	**01 34 24.5**	**-0.5**	
	baz=296						
LIOB			S	**Sb**	**01 34 41.9**	**0.0**	
	baz=296						
NSTT	**Nanjuang**	**1.44 299**	⇑*i*P	**Pg**	**01 34 24.6**	**-0.5**	
	baz=284						
NSTT			S	**Sb**	**01 34 42.5**	**+0.5**	
	baz=284						
YM08	**YM08**	**1.45 330**	⇑*i*P	**Pn**	**01 34 22.8**	**-0.1**	
	baz=328						
ELDTW	**Lidau**	**1.46 240**	*e*P	**Pb**	**01 34 23.7**	**-0.4**	
	baz=237						
TWS1	**Kuangyinshan**	**1.46 323**	*e*P	**Pb**	**01 34 24.1**	**0.0**	
	baz=321						
NTST	**Danshui**	**1.50 325**	*e*P	**Pb**	**01 34 24.6**	**-0.2**	
	baz=338						
NCUH	**Zhongli**	**1.50 314**	*e*P	**Pb**	**01 34 24.8**	**-0.1**	
	baz=311						
NCU	**National Centr**	**1.50 314**	*e*P	**Pn**	**01 34 23.9**	**+0.3**	
	baz=311						
ALS	**Alishan**	**1.51 254**	⇑*i*P	**Pb**	**01 34 25.3**	**+0.2**	
	baz=251						
ALS			*e*S	**Sn**	**01 34 43.5**	**0.0**	
	baz=251						
JKRS	**Kuro-shima**	**1.52 78**	P	**Pg**	**01 34 26.2**	**-0.3**	
JKRS			*e*S	**Sg**	**01 34 46.3**	**0.0**	
TWY	**Chenhua**	**1.52 332**	*e*P	**Pb**	**01 34 25.4**	**+0.2**	
	baz=329						
TWY			*e*S	**Sb**	**01 34 44.7**	**+0.5**	
	baz=329						
TWQ1	**Liyutan**	**1.53 286**	P	**Pg**	**01 34 26.3**	**-0.5**	
	baz=282						
TWQ1			S	**Sg**	**01 34 46.0**	**-0.7**	
	baz=282						
SBCB	**Hsinchu**	**1.54 304**	⇑P	**Pb**	**01 34 25.7**	**+0.2**	
	baz=302						
HSN	**Hsinchu**	**1.56 304**	⇑P	**Pb**	**01 34 25.8**	**0.0**	
	baz=303						
WNT	**Mingjian**	**1.56 268**	*e*P	**Pb**	**01 34 26.1**	**+0.3**	
	baz=266						
NSY	**Sanyi**	**1.56 288**	⇑*i*P	**Pg**	**01 34 26.8**	**-0.6**	
	baz=284						
NSY			*e*S	**Sg**	**01 34 46.3**	**-1.4**	
	baz=284						
NMLH	**Miaoli**	**1.57 293**	⇑P	**Pg**	**01 34 26.7**	**-0.9**	
	baz=288						
NMLH			*e*S	**Sg**	**01 34 46.8**	**-1.4**	
	baz=288						
TCU	**Taichung**	**1.58 278**	⇑P	**Pg**	**01 34 27.2**	**-0.5**	
	baz=274						
TCU			*e*S	**Sg**	**01 34 46.9**	**-1.3**	
	baz=274						
CHN5	**Tsauling**	**1.60 258**	⇑*i*P	**Pg**	**01 34 27.1**	**-1.0**	
	baz=245						
CHN5			S	**Sb**	**01 34 46.3**	**-0.3**	
	baz=245						
PTSB	**Yuanli**	**1.62 289**	P	**Pb**	**01 34 27.2**	**+0.3**	
	baz=285						
PTSB			*e*S	**Sn**	**01 34 46.3**	**+0.5**	
	baz=285						
TTN	**Taitung**	**1.63 224**	*e*P	**Pb**	**01 34 27.1**	**0.0**	
	baz=223						
TWGBT	**Beinan**	**1.63 228**	*e*P	**Pn**	**01 34 25.7**	**+0.2**	
	baz=238						
TWG	**Pinlang**	**1.64 228**	*e*Pn	**Pn**	**01 34 25.8**	**+0.3**	
TWG			*e*Sn	**Sn**	**01 34 44.9**	**-1.4**	
TWG	**Pinlang**	**1.64 228**	*e*P	**Pb**	**01 34 26.3**	**-0.9**	
	baz=238						
TWG			*e*S	**Sn**	**01 34 45.1**	**-1.2**	
	baz=238						
WDJ	**Dajia District**	**1.65 285**	P	**Pb**	**01 34 27.5**	**+0.1**	
	baz=281						
WDJ			S	**Sn**	**01 34 47.0**	**+0.5**	
	baz=281						
JIJ	**Ishigaki jima**	**1.66 75**	P	**Pb**	**01 34 27.3**	**-0.3**	
JIJ			S	**Sn**	**01 34 47.6**	**+0.7**	
STYT	**Tauyuan**	**1.68 243**	*e*P	**Pb**	**01 34 27.8**	**-0.1**	
	baz=231						
STYT			*e*S	**Sn**	**01 34 47.2**	**-0.2**	
	baz=231						
WCHH	**Zhanghua**	**1.68 275**	P	**Pg**	**01 34 28.6**	**-1.0**	
	baz=273						
WGK	**Gukeng**	**1.69 262**	*e*P	**Pb**	**01 34 27.6**	**-0.4**	
	baz=260						
WDLH	**Douliu**	**1.71 262**	*e*P	**Pb**	**01 34 28.0**	**-0.3**	
	baz=260						
PCYT	**Pengchaiyu**	**1.72 351**	⇑P	**Pn**	**01 34 26.8**	**+0.2**	
	baz=335						
TPUB	**Ta-pu**	**1.73 249**	*e*Pn	**Pb**	**01 34 28.9**	**+0.2**	
TPUB			*e*Sn	**Sb**	**01 34 50.8**	**+0.5**	
TPUB	**Ta-pu**	**1.73 249**	⇑P	**Pb**	**01 34 28.9**	**+0.2**	
	baz=246						
TPUB			S	**Sb**	**01 34 50.4**	**+0.1**	
	baz=246						
CHN4	**Tsaushan**	**1.74 251**	P	**Pb**	**01 34 29.2**	**+0.3**	
	baz=248						
CHN4			S	**Sb**	**01 34 51.2**	**+0.6**	
	baz=248						
CHN2	**Minshiung**	**1.79 258**	*e*P	**Pg**	**01 34 30.9**	**-0.9**	
	baz=256						
CHY	**Chiayi**	**1.85 257**	*e*P	**Pb**	**01 34 30.9**	**+0.1**	
	baz=255						
SLGT	**Liugui**	**1.85 240**	*e*P	**Pb**	**01 34 31.4**	**+0.6**	
	baz=230						
SLGT			*e*S	**Sb**	**01 34 54.2**	**+0.5**	
	baz=230						
RLNB	**Erlin**	**1.85 269**	P	**Pb**	**01 34 31.0**	**+0.1**	
	baz=279						
RLNB			*e*S	**Sb**	**01 34 53.9**	**+0.1**	
	baz=279						
SGST	**Jiashian**	**1.86 243**	*e*P	**Pb**	**01 34 31.3**	**+0.3**	
	baz=232						
SGST			*e*S	**Sb**	**01 34 54.0**	**+0.1**	
	baz=232						
CHN1	**Nanshi**	**1.86 247**	P	**Pb**	**01 34 31.2**	**+0.2**	
	baz=244						
CHN1			*e*S	**Sb**	**01 34 54.5**	**+0.5**	
	baz=244						
TWK	**Hsinying**	**1.86 250**	P	**Pb**	**01 34 31.4**	**+0.4**	
	baz=247						
TWK			*e*S	**Sb**	**01 34 54.1**	**0.0**	
	baz=247						
ECL	**Taimali**	**1.87 225**	*e*P	**Pb**	**01 34 31.5**	**+0.4**	
	baz=234						
SNST	**Tainan City**	**1.87 248**	*e*P	**Pg**	**01 34 31.9**	**-1.3**	
	baz=247						
JISG	**Ishigakijimahi**	**1.88 69**	P	**Pb**	**01 34 30.6**	**-0.6**	
JISG			*e*S	**Sn**	**01 34 53.0**	**+0.9**	
WMLT	**Mailiao**	**1.98 267**	*e*P	**Pb**	**01 34 32.0**	**-1.0**	
	baz=265						
SSD	**Sandimen**	**2.00 234**	*e*P	**Pb**	**01 34 33.0**	**-0.3**	
	baz=227						
SSD			*e*S	**Sb**	**01 34 57.5**	**-0.4**	
	baz=227						
WSF	**Szhu**	**2.00 262**	*e*P	**Pb**	**01 34 32.1**	**-1.3**	
	baz=259						
WSF			*e*S	**Sb**	**01 34 58.7**	**+0.6**	
	baz=259						
LAY	**Lan-yu**	**2.03 202**	*e*P	**Pn**	**01 34 31.4**	**+0.4**	
	baz=200						
CHN8	**Yiju**	**2.08 254**	*e*P	**Pb**	**01 34 33.1**	**-1.5**	
	baz=252						
CHN8			*e*S	**Sb**	**01 34 59.6**	**-0.6**	
	baz=252						
MASBT	**Mashibuluo**	**2.08 231**	*e*P	**Pb**	**01 34 33.5**	**-1.2**	
	baz=226						
MASBT			*e*S	**Sn**	**01 34 57.7**	**+0.6**	
	baz=226						
TAW	**Tawu**	**2.08 221**	*e*P	**Pb**	**01 34 33.9**	**-0.8**	
	baz=231						
EAST	**Anshuo**	**2.09 223**	*e*P	**Pn**	**01 34 32.3**	**+0.6**	
	baz=222						
TWM1	**Shoushan**	**2.11 239**	*e*P	**Pb**	**01 34 34.7**	**-0.6**	
	baz=237						
SGLT	**Jiouru**	**2.11 236**	*e*P	**Pb**	**01 34 35.0**	**-0.3**	
	baz=235						
SSPT	**Xinbi**	**2.21 230**	*e*P	**Pb**	**01 34 37.0**	**+0.1**	
	baz=223						
SNJT	**Kaohsiung City**	**2.22 239**	*e*P	**Pb**	**01 34 36.7**	**-0.4**	
	baz=238						
JTJ	**Tarama**	**2.23 71**	P	**Pb**	**01 34 35.7**	**-1.6**	
JTJ			*e*S	**Sn**	**01 35 01.9**	**+1.0**	
SCZT	**Fangliau**	**2.25 227**	*e*P	**Pb**	**01 34 36.9**	**-0.7**	
	baz=220						
SCZT			*e*S	**Sb**	**01 35 04.4**	**-0.7**	
	baz=220						
WLCH	**Liuqiu**	**2.42 230**	*e*P	**Pg**	**01 34 42.0**	**-1.9**	
	baz=244						
TWP	**Hsiaoliuchiu**	**2.44 230**	*e*P	**Pb**	**01 34 41.6**	**+0.7**	
	baz=244						
TSEB	**Hengchuen, Pin**	**2.44 214**	*e*P	**Pb**	**01 34 39.1**	**-1.7**	
	baz=216						
TSEB			*e*S	**Sb**	**01 35 08.8**	**-1.9**	
	baz=216						
HEN	**Hengchun**	**2.44 219**	*e*P	**Pb**	**01 34 39.1**	**-1.8**	
	baz=219						
HEN			*e*S	**Sb**	**01 35 08.6**	**-2.2**	
	baz=219						
TWKBT	**Hengchun**	**2.45 217**	*e*P	**Pn**	**01 34 37.7**	**+1.0**	
	baz=217						
TWKBT			*e*S	**Sn**	**01 35 07.8**	**+1.3**	
	baz=217						
TWK1	**Hengchun**	**2.46 217**	*e*P	**Pn**	**01 34 38.3**	**+1.6**	
	baz=217						
TWK1			*e*S	**Sn**	**01 35 07.5**	**+1.1**	
	baz=217						
WDGT	**Dungji**	**2.59 256**	*e*P	**Pn**	**01 34 40.3**	**+1.7**	
	baz=243						
WDGT			*e*S	**Sn**	**01 35 09.5**	**-0.2**	
	baz=243						
PHUB	**P'eng-hu**	**2.61 261**	P	**Pn**	**01 34 40.4**	**+1.5**	
	baz=259						
PHUB			*e*S	**Sn**	**01 35 10.6**	**+0.3**	
	baz=259						
PNG	**Penghu**	**2.62 263**	P	**Pn**	**01 34 40.4**	**+1.4**	
	baz=260						
PNG			*e*S	**Sn**	**01 35 11.3**	**+0.9**	
	baz=260						
JIRB	**Irabujima**	**2.69 70**	P	**Pn**	**01 34 41.8**	**+1.8**	
JIRB			*e*S	**Sn**	**01 35 13.3**	**+0.9**	
JIKM	**Ikemajima**	**2.79 69**	P	**Pb**	**01 34 44.0**	**-2.8**	
JIKM			S	**Sn**	**01 35 17.2**	**+2.5**	
JMJ	**Miyako jima 2**	**2.79 71**	*e*P	**Pn**	**01 34 43.0**	**+1.6**	
	baz=74						
JMJ2	**Miyako jima3**	**2.80 73**	P	**Pb**	**01 34 44.6**	**-2.5**	
JMJ2			*e*S	**Sn**	**01 35 17.0**	**+2.0**	
VCHM	**Qimei**	**2.81 256**	*e*P	**Pn**	**01 34 42.5**	**+0.9**	
	baz=254						
VCHM			*e*S	**Sn**	**01 35 15.9**	**+0.8**	
	baz=254						
PTTC	**Pingtan**	**2.85 304**	*e*P	**Pn**	**01 34 41.8**	**-0.3**	
	baz=302						
VWUC	**VWUC**	**2.88 292**	⇑*e*P	**Pn**	**01 34 42.9**	**+0.4**	
	baz=288						
VWUC			*e*S	**Sn**	**01 35 14.9**	**-1.9**	
	baz=288						
MATB	**Ma-tsu**	**3.13 316**	⇑*e*P	**Pn**	**01 34 45.7**	**-0.3**	
	baz=312						
PTMZ	**Houxiangcun**	**3.17 291**	⇑*e*P	**Pn**	**01 34 47.1**	**+0.4**	
	baz=289						
LYJJ	**Jianjiangzhen**	**3.53 318**	⇑*e*P	**Pn**	**01 34 51.2**	**-0.3**	
	baz=315						
XPSS	**Dashiqiu**	**3.59 327**	⇑*e*P	**Pn**	**01 34 52.2**	**-0.1**	
	baz=334						
QZH	**Quanzhou**	**3.60 287**	⇑*i*Pn	**Pn**	**01 34 53.0**	**+0.5**	
QZH			Sn	**Sn**	**01 35 32.0**	**-2.7**	
QZH			smax	smax			
	comp=N,390nm,0.8s						
QZH			smax	smax			
	comp=E,270nm,0.5s						
KNM	**Kinmen**	**3.64 278**	⇑*e*P	**Pn**	**01 34 55.2**	**+2.2**	
	baz=275						
KNM			*e*S	**Sn**	**01 35 36.2**	**+0.5**	
	baz=275						
KNMB	**Chin-men Tao**	**3.69 279**	*e*Pn	**Pn**	**01 34 54.1**	**+0.4**	
KNMB			*e*Sn	**Sn**	**01 35 35.0**	**-1.9**	
KNMB	**Chin-men Tao**	**3.69 279**	*e*P	**Pn**	**01 34 54.0**	**+0.3**	
	baz=277						
MHZQ	**Yeshan**	**3.73 306**	*e*P	**Pn**	**01 34 53.9**	**-0.4**	
	baz=304						
AXDP	**Jialang**	**4.14 284**	⇑*e*P	**Pn**	**01 35 00.5**	**+0.6**	
	baz=282						
ZPLA	**Ao Xicun**	**4.24 271**	⇑*e*P	**Pn**	**01 35 02.1**	**+0.8**	
	baz=268						
ZPLA			*e*S	**Sn**	**01 35 48.7**	**-1.8**	
	baz=268						
ZZJH	**Jiuhuzhen**	**4.38 278**	*e*P	**Pn**	**01 35 03.4**	**+0.2**	
	baz=275						
ZZJH			*e*S	**Sn**	**01 35 52.1**	**-1.7**	
	baz=275						
JOW	**Kunigami**	**6.06 60**	*e*Pn	**Pn**	**01 35 25.4**	**-0.9**	
JOW	**Kunigami**	**6.06 60**	*e*P	**Pn**	**01 35 25.4**	**-0.9**	
	baz=65						
VDOS	**Pratas Island**	**6.14 240**	*e*P	**Pn**	**01 35 31.4**	**+3.9**	
	baz=242						
SSE	**Sheshan**	**7.22 352**	*e*Pn	**Pn**	**01 35 42.6**	**+0.5**	
NJ2	**Nanjing**	**8.67 340**	*e*P	**Pn**	**01 36 02.5**	**+0.3**	
NJ2			S	**Sn**	**01 37 37.8**	**-1.8**	
NJ2			pmax	pmax			
	comp=Z,40nm,0.6s						
NJ2			pmax	pmax			
	comp=Z,180nm,6.0s						
NJ2			smax	smax			
	comp=N,76nm,1.0s						
NJ2			smax	smax			
	comp=E,72nm,1.0s						
NJ2			LR	LR			
	comp=N,1μm,13.0s						
NJ2			LR	LR			
	comp=E,930nm,11.9s						
NJ2			LR	LR			
	comp=Z,2μm,10.6s						
WHN	**Wuhan**	**9.72 314**	P	**Pn**	**01 36 19.3**	**+2.8**	
WHN			S	**Sn**	**01 38 07.3**	**+1.9**	
WHN			LR	LR			
	comp=N,2μm,11.7s						
WHN			LR	LR			
	comp=E,1μm,11.8s						
WHN			LR	LR			
	comp=Z,2μm,14.2s						
TGY	**Tagaytay City**	**9.87 188**	LR	LR	01 40 21.4		
	comp=Z,284nm,20.9s,baz=72,slow=38						
JNU	**Nakatsue**	**11.81 37**	LR	LR	01 41 36.3		
	comp=Z,288nm,19.3s,baz=189,slow=40						
QIZ	**Qiongzhong**	**12.65 250**	P	**Pn**	**01 36 57.8**	**+1.1**	
QIZ			S	**Sn**	**01 39 20.3**	**+2.9**	
QIZ			LR	LR			
	comp=N,300nm,14.5s						
QIZ			LR	LR			
	comp=E,240nm,16.9s						
QIZ			LR	LR			
	comp=Z,260nm,20.1s						
KS15	**Wonju Array Si**	**14.27 18**	*e*P	**P**	**01 37 24.9**	**-1.1**	
KSRS	**Korea Array**	**14.29 18**	Pn	**Pn**	**01 37 21.6**	**+2.5**	
	1.5nm,0.3s,baz=206,slow=13,SNR=52						
KSRS			LR	LR	01 43 29.7		
	comp=Z,250nm,18.7s,baz=194,slow=41						
GYA	**Guiyang**	**14.45 283**	P	**Pn**	**01 37 22.3**	**+0.8**	
GYA			pP	P	01 37 28.5	+0.3	
GYA			PP	**PnPn**	**01 37 33.8**	**+4.4**	
GYA			S	**Sn**	**01 40 03.0**	**+1.5**	
GYA			sS	S	01 40 12.8	-8.5	
GYA			SS		01 40 22.0		
GYA			pmax	pmax			
	comp=Z,20nm,0.8s						
GYA			pmax	pmax			
	comp=Z,110nm,7.5s						
GYA			LR	LR			
	comp=N,390nm,14.3s						
GYA			LR	LR			
	comp=E,500nm,16.8s						
GYA			LR	LR			
	comp=Z,610nm,17.7s						
XAN	**Xi'an**	**15.48 314**	P	**P**	**01 37 41.3**	**+1.7**	
XAN			pP	pwP	01 37 48.5	+1.3	
XAN			S	**Sn**	**01 40 33.8**	**+7.3**	
XAN	**Xi'an**	**15.48 314**	*e*Pn	**P**	**01 37 41.5**	**+1.9**	
	16nm,0.8s						
DAV	**Davao City (W)**	**17.04 169**	LR	LR	01 44 32.7		
	comp=Z,154nm,20.2s,baz=323,slow=37						
SNY	**Shenyang**	**17.88 3**	⇓P	**P**	**01 38 07.5**	**+1.6**	
SNY			S	**S**	**01 41 28.8**	**-2.0**	
SNY			pmax	pmax			
	comp=Z,13nm,0.5s						
SNY			pmax	pmax			
	comp=Z,190nm,3.9s						
SNY			LR	LR			
	comp=N,550nm,12.0s						
SNY			LR	LR			
	comp=E,320nm,11.6s						
SNY			LR	LR			
	comp=Z,650nm,12.9s						
KMI	**Kunming**	**17.92 278**	P	**P**	**01 38 07.5**	**+0.7**	
KMI			pP	sP	01 38 10.8	-1.1	
KMI			sP	pwP	01 38 14.5	-0.2	
KMI			pmax	pmax			
	comp=Z,15nm,0.5s						
KMI			pmax	pmax			
	comp=Z,110nm,4.0s						
KMI			LR	LR			
	comp=N,860nm,14.2s						
KMI			LR	LR			
	comp=E,600nm,15.3s						
KMI			LR	LR			
	comp=Z,540nm,15.3s						
CD2	**Chengdu**	**17.93 297**	⇓P	**P**	**01 38 07.0**	**+0.4**	
CD2			S	**Sn**	**01 41 26.5**	**+0.7**	
CD2			pmax	pmax			
	comp=Z,30nm,0.7s						
CD2			pmax	pmax			
	comp=Z,140nm,5.7s						
CD2			LR	LR			
	comp=N,430nm,10.8s						
CD2			LR	LR			
	comp=E,640nm,14.7s						
CD2			LR	LR			
	comp=Z,960nm,14.2s						
MAJO	**Matsushiro**	**18.54 44**	*e*P	**P**	**01 38 12.0**	**-1.3**	
MJAR	**Matsushiro Arr**	**18.54 44**	P	**P**	**01 38 12.0**	**-1.3**	
	0.1nm,0.3s,baz=226,slow=12,SNR=4.3						
MJAR			LR	LR	01 45 43.4		
	comp=Z,45nm,21.1s,baz=240,slow=39						
HHC	**Hu-ho-hao-te**	**19.16 334**	*e*P	**Pn**	**01 38 22.5**	**+1.4**	
HHC			SS	S	01 42 18.5	+22	
HHC			pmax	pmax			
	comp=Z,15nm,0.8s						
HHC			pmax	pmax			
	comp=Z,180nm,8.1s						
HHC			LR	LR			
	comp=N,770nm,7.8s						
HHC			LR	LR			
	comp=E,1μm,9.7s						
HHC			LR	LR			
	comp=Z,1μm,8.7s						
CN2	**Changchun**	**19.98 7**	*e*P	**P**	**01 38 29.0**	**0.0**	
CN2			pmax	pmax			
	comp=Z,10.0nm,0.6s						
CN2			LR	LR			
	comp=N,650nm,15.0s						
CN2			LR	LR			
	comp=E,320nm,15.0s						
CN2			LR	LR			
	comp=Z,700nm,14.0s						
LZH	**Lanzhou**	**20.07 311**	*e*P	Pn	01 38 32.5	+0.4	
LZH			pP	pwP	01 38 36.8	-1.4	
LZH			sP	sP	01 38 40.0	+4.5	
LZH			PP	**PnPn**	**01 38 52.0**	**+5.5**	

LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,150nm,4.5s
LZH LR LR
comp=N,630nm,11.9s
LZH LR LR
comp=E,530nm,10.9s
LZH LR LR
comp=Z,740nm,12.3s
CHAI Chaiyaphum 20.76 251 P Pn 01 38 43.1 +3.0
21µm,0.8s
PHRA Phrae 21.34 260 P P 01 38 52.1 +8.2
0.8nm,1.3s
PBKT Sadao Pong 21.37 254 P **P 01 38 50.6 +6.4**
2.4nm,0.4s,692nm
USRK Ussuriysk Ar. 21.70 19 P **P 01 38 45.5 -2.1**
5.1nm,0.7s,baz=203,slow=9.6,SNR=14
USRK LR LR 01 47 51.1
comp=Z,198nm,18.8s,baz=192,slow=39
LAMP Lampang 21.87 260 P **P 01 38 54.1 +4.5**
12µm,0.7s
CM31 Chiang Mai Arr 22.51 260 *eP* **P 01 38 59.3 +2.8**
7.1nm,0.4s
CMAR Chiang Mai Arr 22.51 260 P **P 01 38 59.3 +2.8**
0.9nm,0.3s,baz=52,slow=11,SNR=7.1
CMAR LR LR 01 48 44.8
comp=Z,97nm,18.1s,baz=90,slow=39
ANA2 Anatahan 23.14 105 *eP* **P 01 38 58.2 -5.0**
32nm,0.5s
SBUM Sibu 23.51 206 *eP* **P 01 39 06.8 0.0**
3.7nm,1.0s
GUMO Guam 23.61 112 LR LR 01 48 01.8
comp=Z,124nm,18.1s,baz=257,slow=36
GTA Gaotai 24.54 314 *eP* **P 01 39 16.8 +0.3**
GTA pP sP 01 39 21.3 -0.5
GTA sP pwP 01 39 23.8 -0.8
GTA sS sS 01 43 45.8 +2.7
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,61nm,4.8s
GTA LR LR
comp=N,140nm,14.4s
GTA LR LR
comp=E,240nm,16.1s
GTA LR LR
comp=Z,330nm,14.8s
ASAJ Asahikawa 26.07 34 LR LR 01 49 44.1
comp=Z,113nm,20.7s,baz=342,slow=37
KLR Kul'dur 26.30 14 P **P 01 39 30.1 -2.0**
0.9nm,0.4s,baz=180,slow=12,SNR=5.0
KLR PcP **PcP 01 42 57.5 -0.6**
1.2nm,0.5s,baz=222,slow=2.3,SNR=4.9
KLR LR LR 01 51 29.9
comp=Z,215nm,18.3s,baz=198,slow=40
ULN Ulaanbaatar 26.82 337 *eP* **P 01 39 34.2 -2.8**
17nm,1.1s
SONA0 Songino Array 27.04 336 *eP* **P 01 39 38.2 -0.8**
SONA0 *e*PcP **PcP 01 42 59.9 -0.1**
SONM Songino Array 27.04 336 P **P 01 39 38.2 -0.8**
18nm,0.8s,baz=147,slow=9.7,SNR=111
SONM PcP **PcP 01 42 59.9 -0.1**
0.7nm,0.7s,baz=131,slow=4.0,SNR=4.5
SONM LR LR 01 51 30.3
comp=Z,340nm,19.6s,baz=144,slow=39
KAPI Kappang 28.88 185 LR LR 01 52 39.2
comp=Z,49nm,18.9s,baz=7.0,slow=39
PSI Prapat 30.91 231 LR LR 01 51 04.1
comp=Z,34nm,20.4s,baz=23,slow=33
TLY Talaya 31.23 337 *eP* **P 01 40 14.5 -1.5**
8.8nm,0.9s
WMQ Urumqi 34.62 314 *eP* **P 01 40 46.3 +0.4**
WMQ pP pP 01 40 49.0 -0.7
WMQ pmax pmax
comp=Z,18nm,4.3s
WMQ LR LR
comp=N,560nm,17.9s
WMQ LR LR
comp=E,410nm,15.9s
WMQ LR LR
comp=Z,290nm,17.9s
MK31 Makanchi Array 39.28 316 *eP* **P 01 41 25.3 -0.2**
7.1nm,0.7s
MK32 Makanchi Array 39.28 316 *eP* **P 01 41 25.2 -0.2**
MK32 *e*PcP **PcP 01 43 34.1 +0.1**
MKAR Makanchi Array 39.28 316 P **P 01 41 25.2 -0.2**
5.9nm,0.4s,baz=104,slow=10,SNR=92
MKAR PcP **PcP 01 43 34.1 0.0**
0.8nm,0.7s,baz=82,slow=5.6,SNR=4.8
MKAR LR LR 01 59 08.1
comp=Z,158nm,18.6s,baz=86,slow=39
PETK Petropavlovsk- 39.47 33 LR LR 01 58 31.3
comp=Z,88nm,18.5s,baz=229,slow=38
MAKZ Makanchi 39.49 316 *eP* **P 01 41 27.0 -0.1**
13nm,0.6s
ZAA0 Zalesovo Array 41.06 327 *eP* **P 01 41 38.5 -1.4**
18nm,0.8s
ZALV Zalesovo Beam 41.06 327 P **P 01 41 38.4 -1.5**
18nm,0.7s,baz=112,slow=7.9,SNR=53
ZALV LR LR 02 00 36.1
comp=Z,49nm,19.0s,baz=70,slow=39
ZAA1 Zalesovo Array 41.06 327 *eP* **P 01 41 38.4 -1.5**
KDJ Kajisay 41.48 307 *eP* **P 01 41 45.1 +1.2**
7.4nm,0.9s
KSH Kashi 41.96 303 P **P 01 41 50.8 +3.1**
KSH pmax pmax
comp=Z,10.0nm,0.4s
ULHL Ulahol 42.19 307 P **P 01 41 50.9 +1.1**
SNR=13
NRN Naryn 42.22 306 *eP* **P 01 41 51.4 +1.2**
14nm,0.8s
TKM2 Tokmak 2 42.78 308 P **P 01 41 55.7 +1.2**
SNR=14
COEN Coen 42.79 150 *eP* **P 01 41 52.4 -2.1**
23nm,1.2s
KZA Kyzart 42.88 307 P **P 01 41 57.3 +1.7**
SNR=6.0
KURK Kurchatov 42.99 320 *eP* **P 01 41 55.1 -0.7**
12nm,1.1s
KURBB Kurchatov Arra 43.01 320 P **P 01 41 55.3 -0.7**
3.2nm,0.6s,baz=108,slow=8.1,SNR=27
KURBB PcP **PcP 01 43 45.2 -0.9**
0.5nm,0.6s,baz=109,slow=3.7,SNR=3.7
KBK Karagaybulak 43.21 307 P **P 01 41 59.1 +1.2**
SNR=7.9
UCH Uchtor 43.45 307 P **P 01 42 01.9 +1.7**
SNR=17
AAK Ala-Archa 43.53 307 P **P 01 42 01.7 +1.1**
SNR=5.5
AAK Ala-Archa 43.53 307 *eP* **P 01 42 01.6 +1.1**
4.6nm,0.8s
AAK Ala-Archa 43.53 307 P **P 01 42 00.8 +0.3**
4.2nm,0.8s,baz=99,slow=5.3,SNR=12
USP Ospenovka 43.64 308 P P 01 42 15.6 +14
SNR=5.7
NIL Nilore 43.79 294 *eP* **P 01 42 00.1 -2.5**
6.2nm,0.9s
AML Almayashu 44.04 307 P **P 01 42 05.5 +0.7**
SNR=6.1
EKS2 Erkin-Say 44.06 307 P **P 01 42 05.7 +1.0**
SNR=6.7
WR1 Warramunga Arr 45.14 164 *eP* **P 01 42 14.3 +1.0**
WRA Warramunga Arr 45.14 164 P **P 01 42 14.3 +1.0**
4.1nm,0.8s,baz=340,slow=11,SNR=14
WB2 Warramunga Arr 45.14 164 *eP* **P 01 42 14.1 +0.8**
8.1nm,0.8s
GAR Garm 46.28 302 *eP* **P 01 42 23.5 +1.1**
21nm,0.9s
KK31 Karatay Array 46.50 307 *eP* **P 01 42 24.5 +0.6**
5.8nm,0.7s
KKAR Karatay Array 46.50 307 *eP* **P 01 42 24.5 +0.6**
5.8nm,0.7s
KBL Kabul 47.26 296 *eP* **P 01 42 31.6 +1.3**
10nm,0.8s
TIXI Tiksi 47.89 3 P **P 01 42 31.6 -2.7**
5.7nm,0.9s,baz=156,slow=3.9,SNR=6.2
AS31 Alice Springs 48.62 166 *eP* **P 01 42 44.1 +3.6**
1.1nm,0.6s
ASAR Alice Springs 48.62 166 P **P 01 42 42.5 +2.0**
1.4nm,0.7s,baz=341,slow=7.2,SNR=14
BRVK Borovoye 48.63 321 *eP* **P 01 42 39.8 -0.5**
12nm,0.9s
NRIK Noril'sk 49.93 345 LR LR 02 05 53.7
comp=Z,150nm,19.3s,baz=162,slow=39
ABKAR Akbulak array 54.40 314 *eP* **P 01 43 23.7 +0.1**
14nm,0.8s
GEYT Alibeck 55.87 301 P **P 01 43 35.7 +1.2**
3.7nm,0.6s,baz=64,slow=3.4,SNR=11
GEYT LR LR 02 12 42.1
comp=Z,64nm,18.0s,baz=105,slow=42
GYA0B ALIBECK ARRAY 55.87 301 *eP* **P 01 43 36.1 +1.6**
10nm,1.1s
ARU Arti 55.97 323 *eP* **P 01 43 33.2 -1.6**
7.8nm,0.5s
STKA Stephens Creek 58.45 161 P **P 01 43 54.0 +1.5**
0.8nm,0.4s,baz=336,slow=13,SNR=3.0
DZM Mont Dzumac 62.66 133 *e*LR LR 02 03 02.2
comp=Z,131nm,24.2s
GNI Garni 65.85 305 *eP* **P 01 44 44.0 +1.5**
6.6nm,0.9s
KBZ Khabaz 66.49 309 P **P 01 44 47.0 +0.7**
5.5nm,0.8s,baz=105,slow=5.3,SNR=12
KIV Kislovodsk 66.60 309 *eP* **P 01 44 47.9 +0.8**
18nm,1.1s
MDM Murphy Dome 68.34 27 *eP* **P 01 44 57.7 0.0**
2.9nm,0.9s
ILAR Eielson Array 68.93 27 P **P 01 45 00.1 -1.2**
0.3nm,0.5s,baz=288,slow=7.5,SNR=5.8
ILB Eielson Array 68.93 27 *eP* **P 01 45 00.1 -1.2**
2.9nm,1.2s
SPITS Spitsbergen Ar 69.96 348 P **P 01 45 06.1 -1.4**
4.9nm,0.5s,baz=81,slow=10,SNR=20
ARCES ARCESS Array B 70.18 338 P **P 01 45 08.8 -0.2**
1.3nm,0.6s,baz=65,slow=7.0,SNR=9.6
FIA0 FINESS Array S 72.22 330 *eP* **P 01 45 20.4 -1.0**
FINES FINESS Array B 72.22 330 P **P 01 45 20.4 -1.0**
1.6nm,0.5s,baz=52,slow=6.4,SNR=18
FINES LR LR 02 20 30.2
comp=Z,153nm,19.7s,baz=58,slow=39
DAWY Dawson 72.26 27 *eP* **P 01 45 21.2 -0.5**
2.2nm,0.8s
INK Inuvik 73.05 22 *eP* **P 01 45 25.7 -0.5**
2.1nm,0.6s
INK Inuvik 73.05 22 P **P 01 45 25.5 -0.7**
1.9nm,0.6s,baz=307,slow=8.6,SNR=8.0
AKASG Malin Array Be 73.79 319 P **P 01 45 29.6 -1.4**
2.5nm,0.7s,baz=58,slow=6.6,SNR=7.5
AKASG LR LR 02 21 13.1
comp=Z,32nm,18.3s,baz=150,slow=38
AKBB Malin Array Si 73.79 319 *eP* **P 01 45 29.6 -1.4**
4.6nm,0.9s
BR101 Keskin Array S 74.20 307 *eP* **P 01 45 33.8 0.0**
BR131 Keskin Array S 74.20 307 *eP* **P 01 45 33.5 -0.3**
11nm,0.8s
BRTR Keskin Array B 74.20 307 P **P 01 45 33.8 0.0**
7.4nm,0.8s,baz=109,slow=5.6,SNR=56
BRTR LR LR 02 24 56.5
comp=Z,17nm,18.5s,baz=94,slow=41
CSS Mathiatis 75.97 302 *eP* **P 01 45 44.0 +0.1**
18nm,0.9s
TLB Topalu 76.55 313 ⇓ *i*P **P 01 45 45.5 -1.4**
TESR Tescani 76.79 315 ⇑ *i*P **P 01 45 48.3 0.0**
VRI Vrincioaia 76.97 314 ⇑ *i*P **P 01 45 50.0 +0.7**
BIZ Bicaz 76.99 316 ⇑ *i*P **P 01 45 49.4 0.0**
BUR08 Bucovina Ar. S 77.31 317 *eP* **P 01 45 51.2 -0.1**
2.7nm,1.0s
BURAR Bucovina Array 77.31 317 ⇓ *i*P **P 01 45 51.3 0.0**
MLR Muntele Rosu 77.61 314 *eP* **P 01 45 53.0 -0.1**
7.6nm,1.2s
KWP Kalwaria Pacla 78.09 319 *eP* **P 01 45 55.7 +0.2**
KWP Kalwaria Pacla 78.09 319 *eP* **P 01 45 55.3 -0.2**
197nm,1.4s
ARR Arges 78.52 315 ⇑ *i*P **P 01 45 58.6 +0.6**
NC405 NORSAR Array S 78.71 332 *eP* **P 01 45 57.9 -0.8**
12nm,0.8s
RES Resolute Bay 78.73 9 *eP* **P 01 45 57.2 -1.4**
4.4nm,1.4s
RES Resolute Bay 78.73 9 P **P 01 45 57.2 -1.4**
0.5nm,0.4s,baz=315,slow=4.3,SNR=4.4
NB2 NORSAR Subarra 78.96 332 P **P 01 45 58.4 -1.7**
comp=Z,1.4nm,0.7s,baz=58,slow=5.3
NB200 NORSAR Array S 78.96 332 *eP* **P 01 45 58.6 -1.5**
NOA NORSAR Array B 78.96 332 P **P 01 45 58.6 -1.5**
comp=Z,1.6nm,0.6s,baz=56,slow=5.5,SNR=11
NOA LR LR 02 24 33.3
comp=Z,133nm,18.1s,baz=70,slow=39
OJC Ojcow 79.57 320 *eP* **P 01 46 03.3 -0.3**
NIE Niedzica 79.61 320 *eP* **P 01 46 04.2 +0.3**
VTS Vitosha 80.52 312 *eP* **P 01 46 09.2 +0.1**
comp=Z,4.7nm,0.8s
VTS Vitosha 80.52 312 ⇑ *i*P **P 01 46 09.7 +0.6**
VYHS Vyhne 80.88 319 *eP* **P 01 46 11.2 +0.5**
KSP Ksiaz 81.31 322 *eP* **P 01 46 13.0 0.0**
YKA Yellowknife Ar 82.77 23 P **P 01 46 19.4 -1.0**
comp=Z,1.1nm,0.6s,baz=309,slow=4.9,SNR=18
YKB5 Yellowknife Ar 82.77 23 *eP* **P 01 46 19.4 -1.0**
CLL Collm 82.91 323 *i* P **P 01 46 20.9 -0.5**
comp=Z,10.0nm,1.5s
CLL Lm MLR 02 27 00.0
comp=Z,100nm,19.5s
GEC2 GERESS Array S 83.73 321 *eP* **P 01 46 26.1 +0.4**
comp=Z,3.0nm,0.8s
GERES GERESS Array B 83.73 321 P **P 01 46 25.6 -0.2**
comp=Z,1.6nm,0.7s,baz=55,slow=5.1,SNR=14
KMBO Kilima Mbogo 86.00 267 *eP* **P 01 46 39.1 +1.1**
comp=Z,7.9nm,1.4s
KMBO Kilima Mbogo 86.00 267 P **P 01 46 39.1 +1.1**
comp=Z,0.5nm,0.3s,baz=53,slow=10,SNR=4.3
B08A Colville Reser 89.35 36 *eP* **P 01 46 53.7 +0.5**
comp=Z,9.7nm,0.8s
D08A Wollman Farm, 90.35 37 *eP* **P 01 46 58.7 +0.8**
comp=Z,8.1nm,0.8s
NEW Newport 90.58 35 *eP* **P 01 46 59.6 +0.6**
comp=Z,6.9nm,0.8s
WALA Waterton Lakes 91.73 33 *eP* **P 01 47 05.7 +1.3**
comp=Z,5.7nm,1.0s
FFC Flin Flon 92.92 24 *eP* **P 01 47 09.5 -0.1**
PPT2 Papeete2 95.24 107 *e*LR LR 02 18 11.5
comp=Z,57nm,24.2s
NV01 Mina Array Sit 95.86 44 *eP* **P 01 47 23.4 -0.3**
NVAR Mina Array Bea 95.86 44 P **P 01 47 23.4 -0.3**
comp=Z,0.6nm,0.6s,baz=280,slow=5.0,SNR=3.7
MWC Mount Wilson 98.52 47 *eP* **P 01 47 31.9 -3.9**
comp=Z,39nm,1.4s

ISCJB ***29*** *01:37:45.4±0.7, 23°.94N±0°.02×122°.37E±0°.01, h10km±5km,*
Error ellipse: s-maj=2.7km s-min=2.2km az=154.2
JMA ***29*** *01:37:45.4±0.2, 23°.91N×122°.37E, h12km±4km, M2.9*
TAP ***29*** *01:37:46.5, 24°.00N×122°.36E, h25km, ML3.2, D*
ISC 29 01:37:44.7±1.1, 23°.95N±0°.02×122°.36E±0°.02, h9km±9km,
n77, σ0=55/136**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.63**	**341**	P	**Pb**	**01 37 58.0**	**+0.1**
EOS1	baz=330			S	**Sb**	**01 38 07.0**	**0.0**
ENLB	**Shoufeng**	**0.69**	**266**	*eP*	**Pb**	**01 37 59.8**	**+0.8**
ENLB	baz=250			*e*S	**Sn**	**01 38 10.7**	**-0.9**
TWD	**Chiawan**	**0.71**	**281**	P	**Pb**	**01 37 59.5**	**+0.3**
TWD	baz=276			S	**Sb**	**01 38 09.6**	**+0.6**
NACB	**Ninganchiao**	**0.73**	**288**	*eP*	**Pb**	**01 37 59.8**	**+0.1**
NACB	baz=269			*e*S	**Sb**	**01 38 09.9**	**+0.2**
NANB	**Nanao**	**0.73**	**311**	*eP*	**Pb**	**01 37 59.6**	**0.0**
NANB	baz=315			*e*S	**Sb**	**01 38 10.2**	**+0.4**
ENA	**Nanau**	**0.73**	**310**	P	**Pb**	**01 37 59.7**	**-0.1**
ENA	baz=315			S	**Sb**	**01 38 10.2**	**+0.3**
JYNG	**Yonagunijimaku**	**0.73**	**47**	P	**Pb**	**01 37 59.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.79**	**49**	*eP*	**Pb**	**01 38 00.5**	**-0.1**
YOJ	baz=60			*e*S	**Sb**	**01 38 12.0**	**+0.6**
YOJ	**Yonaguni jima**	**0.79**	**49**	P	**Pb**	**01 38 00.8**	**+0.2**
YOJ				*e*S	**Sn**	**01 38 12.2**	**-1.8**
TWC	**Suao**	**0.80**	**325**	P	**Pb**	**01 38 00.4**	**-0.5**
TWC	baz=322			S	**Sg**	**01 38 10.5**	**-0.2**
ETLH	**Xiulin Townshi**	**0.84**	**288**	P	**Pb**	**01 38 01.7**	**+0.1**
ETLH	baz=272			*e*S	**Sb**	**01 38 13.4**	**+0.4**
ESL	**Shilin**	**0.85**	**261**	*eP*	**Pb**	**01 38 01.7**	**0.0**
ESL	baz=249			*e*S	**Sb**	**01 38 13.3**	**-0.1**
EGFH	**Guangfu**	**0.89**	**252**	*eS*	**Sb**	**01 38 15.3**	**+0.8**
HGSD	**Ruisui**	**0.97**	**242**	*eP*	**Pb**	**01 38 03.7**	**0.0**
HGSD	baz=240			*e*S	**Sg**	**01 38 16.4**	**+0.5**
EGS	**Yilan**	**0.97**	**337**	*eP*	**Pb**	**01 38 03.9**	**+0.1**
EGS	baz=325			*e*S	**Sb**	**01 38 17.4**	**+0.6**
TWE	**Neicheng**	**0.99**	**321**	*eP*	**Pn**	**01 38 04.6**	**-0.3**
ENTT	**Nioudou**	**0.99**	**314**	P	**Pn**	**01 38 04.7**	**-0.3**
ENTT	baz=322			S	**Sb**	**01 38 17.9**	**+0.4**
NDT	**Datong Townshi**	**1.01**	**310**	P	**Pb**	**01 38 04.6**	**+0.2**
NDT	baz=306			*e*S	**Sb**	**01 38 17.8**	**0.0**
NNSB	**Datong**	**1.01**	**298**	P	**Pb**	**01 38 04.5**	**+0.1**
NNSB	baz=282			S	**Sb**	**01 38 18.1**	**+0.2**
WHF	**Hehuan Shan**	**1.01**	**281**	P	**Pb**	**01 38 04.7**	**-0.1**
WHF	baz=265			S	**Sb**	**01 38 18.4**	**0.0**
NTC	**Toucheng**	**1.02**	**332**	*eP*	**Pn**	**01 38 06.2**	**+0.9**
NTC	baz=328			*e*S	**Sb**	**01 38 18.4**	**+0.2**
NNS	**Nan Shan**	**1.02**	**299**	P	**Pb**	**01 38 04.8**	**+0.1**
NNS	baz=282			S	**Sb**	**01 38 18.9**	**+0.6**
SLBB	**Yuanshan**	**1.03**	**321**	P	**Pn**	**01 38 05.5**	**-0.1**
OWD	**Renai**	**1.08**	**270**	*eP*	**Pg**	**01 38 05.4**	**-0.1**
OWD	baz=267			*e*S	**Sg**	**01 38 19.4**	**-0.1**
CHGB	**Renai**	**1.08**	**276**	P	**Pb**	**01 38 05.7**	**-0.2**
CHGB	baz=261			*e*S	**Sb**	**01 38 20.4**	**+0.2**
TWB1	**Santiao Chiao**	**1.10**	**343**	*eP*	**Pn**	**01 38 06.3**	**-0.2**
YULB	**Yu-li**	**1.12**	**240**	*eP*	**Pg**	**01 38 05.9**	**-0.3**
YULB	baz=254			*e*S	**Sg**	**01 38 20.5**	**-0.2**
TWT	**Tachien**	**1.12**	**286**	*eP*	**Pn**	**01 38 07.1**	**+0.3**
TWT	baz=272			*e*S	**Sb**	**01 38 22.1**	**+0.9**
TIPB	**Shuangxi**	**1.13**	**335**	P	**Pb**	**01 38 06.2**	**-0.2**
TIPB	baz=331			S	**Sg**	**01 38 20.7**	**-0.3**
VWDT	**VWDT**	**1.13**	**260**	*eP*	**Pg**	**01 38 06.3**	**-0.1**
VWDT	baz=257			*e*S	**Sg**	**01 38 21.4**	**+0.3**
NWLT	**Wulai**	**1.13**	**317**	*eP*	**Pn**	**01 38 06.8**	**-0.1**
NWLT	baz=313			*e*S	**Sb**	**01 38 21.9**	**+0.5**
TDCB	**Techi**	**1.13**	**286**	*eP*	**Pb**	**01 38 06.8**	**+0.2**
TDCB	baz=272			*e*S	**Sb**	**01 38 22.0**	**+0.4**
TWF1	**Yuli**	**1.14**	**239**	P	**Pg**	**01 38 06.5**	**0.0**
TWF1	baz=237			S	**Sg**	**01 38 21.6**	**+0.2**
YHNB	**Yeheng**	**1.15**	**309**	*eP*	**Pb**	**01 38 06.7**	**-0.1**
NSK	**Sanguang**	**1.16**	**309**	*eP*	**Pb**	**01 38 06.9**	**-0.1**
NSK	baz=305			*e*S	**Sb**	**01 38 22.4**	**+0.1**
NWF	**Wu-fen Shan**	**1.23**	**335**	*eP*	**Pg**	**01 38 07.7**	**-0.7**
NWF	baz=331			*e*S	**Sn**	**01 38 25.3**	**+0.2**
WFSB	**Wu-fen Shan**	**1.23**	**335**	*eP*	**Pg**	**01 38 07.7**	**-0.7**
WFSB	baz=332			*e*S	**Sn**	**01 38 25.5**	**+0.5**
TWA	**Mucha**	**1.24**	**326**	*eP*	**Pn**	**01 38 08.9**	**+0.6**
TWA	baz=322			*e*S	**Sn**	**01 38 25.2**	**-0.1**
NHDH	**Xindian Distri**	**1.26**	**323**	*eP*	**Pn**	**01 38 08.4**	**-0.2**
TATO	**Taipei**	**1.29**	**322**	*eP*	**Pg**	**01 38 09.4**	**-0.1**
TATO	baz=318			*e*S	**Sn**	**01 38 26.5**	**+0.1**
DPDB	**Guoxing**	**1.31**	**274**	*eP*	**Pn**	**01 38 09.4**	**+0.1**
DPDB	baz=262			*e*S	**Sb**	**01 38 26.7**	**+0.2**
IRIF	**Iriomote-Funau**	**1.31**	**73**	P	**Pg**	**01 38 10.6**	**+0.6**
IRIF				*e*S	**Sn**	**01 38 27.7**	**+0.7**
WHP	**Taichung City**	**1.33**	**285**	*eP*	**Pg**	**01 38 11.1**	**+0.9**
HATJ	**Hateruma jima**	**1.33**	**85**	P	**Pg**	**01 38 09.9**	**-0.4**
HATJ				*e*S	**Sn**	**01 38 27.1**	**-0.3**
SMLT	**Sun Moon Lake**	**1.33**	**267**	*eP*	**Pn**	**01 38 09.8**	**+0.1**
YUS	**Yu-Shan**	**1.36**	**251**	*eP*	**Pn**	**01 38 10.5**	**0.0**
YUS	baz=248			*e*S	**Sg**	**01 38 27.2**	**-1.5**
TYC	**Yuchr**	**1.37**	**268**	*eP*	**Pb**	**01 38 10.5**	**-0.1**
TYC	baz=265			*e*S	**Sb**	**01 38 27.7**	**-0.6**
YM01	**YM01**	**1.39**	**329**	*eP*	**Pg**	**01 38 11.1**	**-0.3**
YM07	**YM07**	**1.39**	**331**	*eP*	**Pb**	**01 38 10.6**	**-0.4**
WHYT	**Xinyi Township**	**1.40**	**260**	*eP*	**Pg**	**01 38 11.7**	**+0.1**
WHYT	baz=249			*e*S	**Sb**	**01 38 28.5**	**-0.6**
YM10	**YM10**	**1.40**	**329**	*eP*	**Pn**	**01 38 10.6**	**0.0**
LIOB	**Emei**	**1.40**	**300**	*eP*	**Pg**	**01 38 11.4**	**-0.3**
LIOB	baz=296			*e*S	**Sg**	**01 38 30.1**	**+0.2**
YM11	**YM11**	**1.40**	**330**	*eP*	**Pg**	**01 38 12.7**	**+1.0**
NSTT	**Nanjuang**	**1.41**	**299**	*eP*	**Pg**	**01 38 11.6**	**-0.2**
NSTT	baz=283			*e*S	**Sb**	**01 38 29.4**	**0.0**
YM08	**YM08**	**1.42**	**331**	*eP*	**Pn**	**01 38 10.8**	**0.0**
ELDTW	**Lidau**	**1.44**	**239**	*e*S	**Sn**	**01 38 28.1**	**-2.2**
TWQ1	**Liyutan**	**1.50**	**286**	*eP*	**Pn**	**01 38 12.2**	**+0.4**
TWQ1	baz=282			*e*S	**Sg**	**01 38 33.4**	**+0.5**
JKRS	**Kuro-shima**	**1.54**	**79**	P	**Pn**	**01 38 12.4**	**0.0**
JKRS				*e*S	**Sb**	**01 38 32.6**	**-0.5**
CHN5	**Tsauling**	**1.58**	**257**	*eP*	**Pg**	**01 38 14.8**	**-0.2**
CHN5	baz=244			*e*S	**Sb**	**01 38 34.5**	**+0.2**
TWGBT	**Beinan**	**1.62**	**226**	*eP*	**Pn**	**01 38 13.5**	**-0.1**
TWGBT	baz=238			*e*S	**Sn**	**01 38 33.1**	**-1.6**
TWG	**Pinlang**	**1.63**	**227**	*eP*	**Pn**	**01 38 13.4**	**-0.2**
TWG	baz=238			*e*S	**Sn**	**01 38 33.1**	**-1.6**
JIJ	**Ishigaki jima**	**1.69**	**75**	P	**Pn**	**01 38 14.6**	**+0.2**
JIJ				*e*S	**Sn**	**01 38 36.1**	**-0.1**

TPUB	**Ta-pu** baz=246	**1.71**	**248**	*e*P	**Pb**	**01 38 16.4**	**0.0**
TPUB	baz=246			*e*S	**Sb**	**01 38 38.5**	**+0.5**
CHN4	**Tsaushan** baz=248	**1.72**	**250**	*e*P	**Pg**	**01 38 17.4**	**-0.4**
CHN4	baz=248			*e*S	**Sg**	**01 38 40.2**	**+0.1**
WTP	**Ta-pu** baz=245	**1.74**	**247**	*e*P	**Pg**	**01 38 17.7**	**-0.5**
WTP	baz=245			*e*S	**Sb**	**01 38 39.3**	**+0.3**
SLGT	**Liugui** baz=229	**1.83**	**239**	*e*P	**Pb**	**01 38 18.1**	**-0.4**
SLGT	baz=229			*e*S	**Sb**	**01 38 41.6**	**0.0**
CHN1	**Nanshi** baz=244	**1.84**	**246**	*e*P	**Pb**	**01 38 18.9**	**+0.2**
CHN1	baz=244			*e*S	**Sb**	**01 38 42.7**	**+0.9**
TWK	**Hsinying** baz=247	**1.84**	**249**	*e*P	**Pb**	**01 38 19.4**	**+0.7**
TWK	baz=247			*e*S	**Sb**	**01 38 42.5**	**+0.7**
JISG	**Ishigakijimahi**	**1.90**	**70**	P	**Pn**	**01 38 17.7**	**+0.4**
JISG				S	**Sn**	**01 38 41.3**	**0.0**
SSD	**Sandimen** baz=227	**1.99**	**233**	*e*P	**Pb**	**01 38 21.3**	**+0.2**
SSD	baz=227			*e*S	**Sn**	**01 38 44.1**	**+0.5**
MASBT	**Mashibuluo** baz=224	**2.07**	**230**	*e*P	**Pn**	**01 38 20.9**	**+1.1**
MASBT	baz=224			*e*S	**Sn**	**01 38 46.8**	**+1.1**
SCZT	**Fangliau** baz=219	**2.24**	**226**	*e*P	**Pb**	**01 38 24.8**	**-0.6**
SCZT	baz=219			*e*S	**Sn**	**01 38 50.2**	**+0.4**
TWKBT	**Hengchun** baz=217	**2.45**	**216**	*e*P	**Pn**	**01 38 26.3**	**+1.3**
TWKBT	baz=217			*e*S	**Sn**	**01 38 54.1**	**-1.0**
WDGT	**Dungji** baz=242	**2.56**	**255**	*e*P	**Pn**	**01 38 27.1**	**+0.6**
WDGT	baz=242			*e*S	**Sn**	**01 38 57.7**	**-0.2**
VCHM	**Qimei** baz=253	**2.78**	**255**	*e*S	**Sn**	**01 39 03.4**	**+0.1**
VWUC	**VWUC** baz=289	**2.84**	**292**	*e*P	**Pn**	**01 38 29.9**	**-0.5**
PTMZ	**Houxiangcun** baz=288	**3.14**	**291**	*e*P	**Pn**	**01 38 34.0**	**-0.4**

ISCJB ***29*** *01:39:52.7±0.6, 8°.40N±0°.07×82°.54W±0°.04, h50km±4km, Error ellipse: s-maj=11.9km s-min=4.9km az=22.5*
UCR ***29*** *01:39:52.9±2.6, 8°.33N×82°.57W, h40km±6km, MD4.4, mb4.3(NEIC)*
NEIC ***29*** *01:39:52.4±2.9, 8°.46N×82°.50W, h22km±20km, mb4.3/8, Error ellipse: s-maj=42.9km s-min=8.7km az=194.0*
NEIC Felt at Alanje and Boquete, Panama.

ISC 29 01:39:53.0±1.3, 8°.34N±0°.08×82°.58W±0°.04, h34km±2km, n40, σ1°.44/52, 2C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.16**	**54**	↑*e*P	**Pb**	**01 39 59.5**	**+0.1**
DVD				*e*S	**Sb**	**01 40 05.4**	**+1.7**
TBS2		**0.46**	**351**	*e*P	**Pn**	**01 40 03.5**	**+0.2**
TBS2				*e*S	**Sn**	**01 40 12.3**	**+2.0**
BRU2	**Volcan**	**0.46**	**347**	↓*i*P	**Pb**	**01 40 03.2**	**-0.1**
BRU2				*e*S	**Sn**	**01 40 12.0**	**+1.5**
EDSV	**San Vito**	**0.61**	**321**	*e*P	**Pn**	**01 40 04.5**	**-0.9**
PTJ1	**Puerto Jimnez**	**0.74**	**285**	*e*P	**Pn**	**01 40 06.1**	**-0.9**
PTJ1				*e*S	**Sb**	**01 40 18.9**	**+1.5**
EDPN	**Palmar Norte**	**1.06**	**306**	↑*e*P	**Pn**	**01 40 10.9**	**-0.6**
EDBA	**Buenos Aires**	**1.07**	**320**	*e*P	**Pn**	**01 40 11.8**	**+0.2**
DRK0	**Durika**	**1.13**	**325**	*e*P	**Pn**	**01 40 12.1**	**-0.5**
DRK0				*e*S	**Sn**	**01 40 26.0**	**-0.9**
EDDO	**Dominical**	**1.56**	**306**	*e*P	**Pn**	**01 40 18.4**	**+0.1**
HDC	**Heredia**	**2.24**	**318**	*e*Pn	**Pn**	**01 40 27.0**	**-0.8**
HDC				*e*Sn	**Sb**	**01 40 58.6**	**-1.7**
HDC	**Heredia**	**2.24**	**318**	*e*P	**Pn**	**01 40 28.2**	**+0.4**
HDC				*e*S	**Sn**	**01 40 55.2**	**+0.9**
AZU	**Azuero**	**2.35**	**103**	*e*P	**Pn**	**01 40 29.7**	**+0.5**
AZU				*e*S	**Sn**	**01 40 56.0**	**-0.9**
ZANG	**Zanguenga, Cho**	**2.75**	**77**	*e*P	**Pn**	**01 40 35.4**	**+0.6**
BCIP	**Isla Barro Col**	**2.84**	**73**	*e*Pn	**Pn**	**01 40 36.5**	**+0.6**
BCIP	**Isla Barro Col**	**2.84**	**73**	*e*P	**Pn**	**01 40 36.3**	**+0.4**
FORC	**Fortuna**	**2.95**	**316**	*i* P	**Pn**	**01 40 38.5**	**+1.0**
CASO	**Castillo**	**2.97**	**315**	*i* P	**Pn**	**01 40 38.6**	**+0.8**
JTS	**Las Juntas de**	**3.04**	**310**	*e*Pn	**Pn**	**01 40 38.8**	**0.0**
JTS				*e*Sn	**Sn**	**01 41 12.8**	**-1.1**
JTS	**Las Juntas de**	**3.04**	**310**	*e*P	**Pn**	**01 40 40.1**	**+1.4**
UPA	**Univ. de Panam**	**3.08**	**78**	*e*P	**Pn**	**01 40 43.2**	**+3.9**
UPA				*e*S	**Sb**	**01 41 22.0**	**-2.4**
AMAS	**Alto Masis**	**3.28**	**314**	*i* P	**Pn**	**01 40 43.9**	**+1.7**
ACAL	**Aguas Claras**	**3.32**	**314**	*i* P	**Pn**	**01 40 44.0**	**+1.3**
PTEN	**Parque Tenorio**	**3.34**	**315**	*i* P	**Pn**	**01 40 44.3**	**+1.3**
HORNC	**Hornillas**	**3.48**	**313**	*i* P	**Pn**	**01 40 45.9**	**+1.1**
MESS	**Mesas**	**3.51**	**313**	*e*P	**Pn**	**01 40 47.0**	**+1.8**
GPS2	**Hotel Rincn d**	**3.63**	**312**	*i* P	**Pn**	**01 40 48.0**	**+1.1**
GPS1	**Guardaparques**	**3.65**	**312**	*i* P	**Pn**	**01 40 48.8**	**+1.6**
BUAI	**Buenos Aires**	**3.70**	**313**	*i* P	**Pn**	**01 40 46.8**	**-1.0**
LAPC	**Finca la Perla**	**3.70**	**311**	*i* P	**Pn**	**01 40 48.1**	**+0.2**
ESPN	**Las Esperanzas**	**4.19**	**336**	*e*Pn	**Pn**	**01 40 52.9**	**-1.6**
ESPN				*e*Sn	**Sn**	**01 41 43.0**	**+0.7**
ACON	**Acoyapa**	**4.42**	**325**	*e*Pn	**Pn**	**01 40 57.2**	**-0.4**
ESTN	**Estel**	**6.02**	**322**	*e*Pn	**Pn**	**01 41 21.4**	**+1.6**
ESTN				*e*Sn	**Sn**	**01 42 27.7**	**+0.1**
CSGN	**Cosiguina Volc**	**6.72**	**314**	*e*Pn	**Pn**	**01 41 33.8**	**+4.4**
MTDJ	**Mount Denham**	**10.98**	**26**	*e*Pn	**Pn**	**01 42 27.6**	**-0.3**
GRTK	**Grand Turk** 295nm,1.3s	**17.13**	**39**	*e*Pn	**Pn**	**01 43 47.7**	**-2.1**
060A	**Indiantown** 570nm,1.5s	**18.71**	**6**	*e*P	**P**	**01 44 06.5**	**-2.2**
255A	**Hazlehurst** 66nm,1.5s	**23.47**	**0**	*e*P	**P**	**01 45 00.4**	**+0.8**
KVTX	**Kingsville** 179nm,1.4s	**23.97**	**325**	*e*P	**P**	**01 45 05.3**	**+0.9**
HKT	**Hockley** 9.4nm,1.4s	**24.83**	**332**	*e*P	**P**	**01 45 13.2**	**+1.1**
GOGA	**Godfrey** 2.9nm,1.0s	**24.96**	**358**	*e*P	**P**	**01 45 12.7**	**-0.7**

ISCJB ***29*** *02:05:04.3±0.8, 23°.96N±0°.02×122°.38E±0°.02, h12km±5km, Error ellipse: s-maj=2.9km s-min=2.3km az=139.5*
JMA ***29*** *02:05:04.6±0.1, 23°.95N×122°.37E, h25km±3km, M2.4*
TAP ***29*** *02:05:04.9, 24°.01N×122°.30E, h10km±1km, ML2.9, D*

ISC 29 02:05:04.5±1.2, 23°.97N±0°.02×122°.34E±0°.02, h18km±3km, n66, σ0°.45/125, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=343	**0.61**	**341**	*e*P	**Pg**	**02 05 16.6**	**0.0**
EOS1	baz=343			*e*S	**Sb**	**02 05 25.2**	**+0.6**
ENLB	**Shoufeng** baz=260	**0.68**	**265**	*e*P	**Pb**	**02 05 17.8**	**0.0**
ENLB	baz=260			*e*S	**Sb**	**02 05 28.1**	**+1.3**
TWD	**Chiawan** baz=276	**0.69**	**279**	P	**Pg**	**02 05 18.2**	**+0.1**
TWD	baz=276			*i* S	**Sg**	**02 05 28.3**	**+0.9**
NANB	**Nanao** baz=309	**0.71**	**310**	*e*P	**Pb**	**02 05 18.2**	**-0.1**
NANB	baz=309			*e*S	**Sg**	**02 05 28.8**	**+0.9**
NACB	**Ninganchiao** baz=284	**0.71**	**287**	*e*P	**Pb**	**02 05 18.5**	**+0.1**
NACB	baz=284			*e*S	**Sn**	**02 05 29.3**	**-0.8**
ENA	**Nanau** baz=309	**0.71**	**310**	P	**Pb**	**02 05 18.4**	**0.0**
ENA	baz=309			S	**Sg**	**02 05 28.2**	**+0.1**
TWC	**Suao** baz=325	**0.78**	**325**	*i* P	**Pb**	**02 05 19.0**	**-0.5**
TWC	baz=325			S	**Sb**	**02 05 29.1**	**-0.7**
YOJ	**Yonaguni jima** baz=54	**0.78**	**51**	*e*P	**Pb**	**02 05 19.3**	**-0.2**
YOJ	baz=54			*e*S	**Sn**	**02 05 31.4**	**-0.5**
YOJ	**Yonaguni jima** baz=54	**0.78**	**51**	P	**Pb**	**02 05 19.2**	**-0.4**
YOJ				S	**Sb**	**02 05 29.6**	**-0.2**
ETLH	**Xiulin Townshi** baz=284	**0.82**	**287**	*e*P	**Pb**	**02 05 20.4**	**+0.1**
ETLH	baz=284			*e*S	**Sg**	**02 05 32.0**	**+0.4**
ESL	**Shilin** baz=256	**0.85**	**260**	*e*P	**Pb**	**02 05 20.3**	**-0.4**
ESL	baz=256			S	**Sg**	**02 05 32.5**	**+0.1**
EGS	baz=338	**0.95**	**337**	P	**Pb**	**02 05 22.7**	**+0.3**
EGS	baz=338			S	**Sn**	**02 05 36.2**	**+0.2**
ILA	**Ilan** baz=326	**0.96**	**326**	*e*P	**Pb**	**02 05 22.2**	**-0.4**
ILA	baz=326			*e*S	**Sb**	**02 05 35.1**	**+0.2**
HGSD	**Ruisui** baz=237	**0.97**	**241**	*e*P	**Pg**	**02 05 24.0**	**+0.6**
HGSD	baz=237			*e*S	**Sb**	**02 05 35.3**	**+0.1**
TWE	**Neicheng** baz=321	**0.97**	**321**	*i* P	**Pn**	**02 05 23.2**	**0.0**
TWE	baz=321			S	**Sb**	**02 05 35.0**	**-0.2**
ENTT	**Nioudou** baz=313	**0.97**	**313**	P	**Pb**	**02 05 23.1**	**+0.2**
ENTT	baz=313			S	**Sg**	**02 05 36.3**	**0.0**
NDT	**Datong Townshi** baz=309	**0.98**	**310**	P	**Pb**	**02 05 23.4**	**+0.3**
NDT	baz=309			*e*S	**Sg**	**02 05 36.5**	**-0.2**
NNSB	**Datong** baz=296	**0.99**	**298**	*e*P	**Pb**	**02 05 23.2**	**0.0**
NNSB	baz=296			*e*S	**Sg**	**02 05 36.7**	**-0.1**
NTC	**Toucheng** baz=332	**1.00**	**332**	*e*P	**Pg**	**02 05 24.0**	**+0.1**
NTC	baz=332			*e*S	**Sg**	**02 05 36.6**	**-0.5**
WHF	**Hehuan Shan** baz=278	**1.00**	**280**	*i* P	**Pb**	**02 05 23.5**	**-0.1**
WHF	baz=278			*i* S	**Sb**	**02 05 36.5**	**-0.1**
NNS	**Nan Shan** baz=296	**1.00**	**298**	P	**Pb**	**02 05 23.4**	**0.0**
NNS	baz=296			S	**Sg**	**02 05 36.9**	**-0.4**
SLBB	**Yuanshan** baz=320	**1.01**	**321**	P	**Pg**	**02 05 24.3**	**+0.1**
SLBB	baz=320			*e*S	**Sg**	**02 05 37.3**	**-0.2**
EHY	**Hungye** baz=240	**1.04**	**244**	*e*P	**Pb**	**02 05 24.2**	**+0.2**
EHY	baz=240			S	**Sb**	**02 05 37.6**	**+0.2**
OWD	**Renai** baz=266	**1.07**	**269**	*e*P	**Pb**	**02 05 24.0**	**-0.6**
OWD	baz=266			S	**Sb**	**02 05 38.3**	**+0.1**
CHGB	**Renai** baz=272	**1.07**	**275**	*e*P	**Pb**	**02 05 24.4**	**-0.3**
CHGB	baz=272			*e*S	**Sg**	**02 05 39.1**	**-0.5**
TWB1	**Santiao Chiao** baz=344	**1.08**	**343**	*e*P	**Pb**	**02 05 24.3**	**-0.4**
TWB1	baz=344			*e*S	**Sg**	**02 05 39.8**	**0.0**
TIPB	**Shuangxi** baz=335	**1.10**	**335**	P	**Pb**	**02 05 25.0**	**-0.1**
TIPB	baz=335			S	**Sb**	**02 05 39.5**	**+0.4**
TWT	**Tachien** baz=282	**1.10**	**285**	P	**Pg**	**02 05 25.8**	**-0.1**
TWT	baz=282			S	**Sg**	**02 05 41.1**	**+0.6**
NWLT	**Wulai** baz=316	**1.11**	**316**	*e*P	**Pn**	**02 05 25.3**	**+0.2**
NWLT	baz=316			*e*S	**Sg**	**02 05 40.6**	**-0.1**
YULB	**Yu-li** baz=236	**1.12**	**239**	*e*P	**Pn**	**02 05 24.7**	**-0.6**
YULB	baz=236			*e*S	**Sb**	**02 05 39.3**	**-0.3**
TDCB	**Techi** baz=283	**1.12**	**285**	*e*P	**Pb**	**02 05 25.5**	**+0.1**
TDCB	baz=283			*e*S	**Sg**	**02 05 40.9**	**-0.1**
VWDT	**VWDT** baz=256	**1.12**	**259**	*e*P	**Pn**	**02 05 25.1**	**-0.1**
VWDT	baz=256			*e*S	**Sn**	**02 05 40.2**	**-0.1**
YHNB	**Yeheng** baz=307	**1.12**	**308**	*e*P	**Pb**	**02 05 25.2**	**-0.3**
YHNB	baz=307			*e*S	**Sn**	**02 05 40.5**	**0.0**
TWF1	**Yuli** baz=234	**1.14**	**238**	*e*P	**Pn**	**02 05 25.1**	**-0.5**
TWF1	baz=234			*e*S	**Sb**	**02 05 40.3**	**+0.2**
NSK	**Sanguang** baz=307	**1.14**	**308**	P	**Pn**	**02 05 25.5**	**-0.1**
NSK	baz=307			S	**Sn**	**02 05 40.9**	**0.0**
NWF	**Wu-fen Shan** baz=335	**1.21**	**335**	S	**Sg**	**02 05 43.6**	**-0.3**
WFSB	**Wu-fen Shan** baz=335	**1.21**	**335**	*e*S	**Sg**	**02 05 43.6**	**-0.2**
TATO	**Taipei** baz=322	**1.27**	**322**	*e*P	**Pb**	**02 05 27.7**	**-0.2**
TATO	baz=322			*e*S	**Sg**	**02 05 45.4**	**-0.3**
SSLB	**Suanglung** baz=259	**1.28**	**262**	*e*P	**Pg**	**02 05 28.9**	**-0.4**
SSLB	baz=259			*e*S	**Sn**	**02 05 45.3**	**+1.0**
DPDB	**Guoxing** baz=271	**1.30**	**273**	*e*P	**Pb**	**02 05 28.9**	**+0.5**
DPDB	baz=271			*e*S	**Sg**	**02 05 45.9**	**-0.8**
WHP	**Taichung City** baz=282	**1.31**	**284**	P	**Pg**	**02 05 30.0**	**0.0**
WHP	baz=282			*e*S	**Sg**	**02 05 47.0**	**-0.2**
SMLT	**Sun Moon Lake** baz=264	**1.32**	**267**	P	**Pb**	**02 05 29.5**	**+0.6**
SMLT	baz=264			S	**Sb**	**02 05 46.5**	**+0.9**
HATJ	**Hateruma jima**	**1.34**	**86**	S	**Sn**	**02 05 45.1**	**-0.5**
TYC	**Yuchr** baz=265	**1.36**	**268**	P	**Pb**	**02 05 29.9**	**+0.4**
TYC	baz=265			S	**Sb**	**02 05 47.2**	**+0.7**
YUS	**Yu-Shan** baz=247	**1.36**	**250**	*e*P	**Pn**	**02 05 29.4**	**+0.3**
YUS	baz=247			S	**Sn**	**02 05 46.4**	**-0.4**
YM01	**YM01** baz=329	**1.37**	**329**	P	**Pb**	**02 05 29.5**	**-0.1**
YM01	baz=329			*e*S	**Sg**	**02 05 47.8**	**-1.0**
YM07	**YM07** baz=331	**1.37**	**331**	P	**Pn**	**02 05 29.0**	**+0.3**
YM07	baz=331			*e*S	**Sb**	**02 05 47.7**	**+0.9**
YM11	**YM11** baz=330	**1.38**	**330**	*e*P	**Pb**	**02 05 29.7**	**-0.1**
YM11	baz=330			*e*S	**Sn**	**02 05 46.7**	**0.0**
LIOB	**Emei** baz=298	**1.39**	**299**	P	**Pb**	**02 05 29.9**	**0.0**
LIOB	baz=298			*e*S	**Sg**	**02 05 48.5**	**-0.9**
NSTT	**Nanjuang** baz=297	**1.39**	**298**	P	**Pb**	**02 05 30.1**	**+0.2**
NSTT	baz=297			S	**Sb**	**02 05 48.1**	**+0.7**
WHYT	**Xinyi Township** baz=256	**1.39**	**259**	*e*P	**Pb**	**02 05 30.6**	**+0.6**
WHYT	baz=256			*e*S	**Sb**	**02 05 48.2**	**+0.8**
ELDTW	**Lidau** baz=235	**1.44**	**238**	P	**Pb**	**02 05 31.2**	**+0.2**
TWQ1	**Liyutan** baz=283	**1.48**	**285**	*e*P	**Pb**	**02 05 31.5**	**-0.1**
TWQ1	baz=283			*e*S	**Sb**	**02 05 50.1**	**+0.1**
NSY	**Sanyi** baz=286	**1.51**	**287**	*e*S	**Sb**	**02 05 51.6**	**+0.7**
JKRS	**Kuro-shima**	**1.54**	**80**	*e*S	**Sn**	**02 05 50.1**	**-0.6**
CHN5	**Tsauling** baz=254	**1.57**	**257**	P	**Pb**	**02 05 33.3**	**+0.2**
CHN5	baz=254			S	**Sb**	**02 05 53.1**	**+0.5**
STYT	**Tauyuan** baz=239	**1.66**	**241**	*e*P	**Pb**	**02 05 34.6**	**0.0**
STYT	baz=239			*e*S	**Sb**	**02 05 55.3**	**+0.1**
JIJ	**Ishigaki jima**	**1.69**	**76**	P	**Pn**	**02 05 34.0**	**+0.9**
JIJ				*e*S	**Sn**	**02 05 54.6**	**+0.3**
TPUB	**Ta-pu** baz=245	**1.71**	**247**	*e*P	**Pb**	**02 05 35.7**	**+0.4**
TPUB	baz=245			*e*S	**Sb**	**02 05 56.8**	**+0.3**
CHN4	**Tsaushan** baz=247	**1.72**	**249**	*e*P	**Pb**	**02 05 35.4**	**-0.1**
CHN4	baz=247			S	**Sb**	**02 05 57.4**	**+0.6**
WTP	**Ta-pu** baz=243	**1.74**	**246**	*e*P	**Pb**	**02 05 35.3**	**-0.7**
WTP	baz=243			*e*S	**Sb**	**02 05 57.6**	**+0.1**
RLNB	**Erlin** baz=266	**1.82**	**268**	*e*P	**Pb**	**02 05 36.4**	**-0.9**
RLNB	baz=266			*e*S	**Sb**	**02 05 59.0**	**-0.6**
SLGT	**Liugui** baz=236	**1.84**	**238**	*e*S	**Sb**	**02 05 59.9**	**-0.3**
CHN1	**Nanshi** baz=243	**1.84**	**245**	*e*P	**Pb**	**02 05 37.3**	**-0.4**
CHN1	baz=243			*e*S	**Sb**	**02 05 59.9**	**-0.5**
TWK	**Hsinying** baz=245	**1.84**	**248**	*e*P	**Pb**	**02 05 37.0**	**-0.7**
TWK	baz=245			*e*S	**Sb**	**02 05 59.6**	**-0.8**
JISG	**Ishigakijimahi**	**1.90**	**71**	P	**Pn**	**02 05 36.9**	**+0.9**
JISG				*e*S	**Sn**	**02 05 59.4**	**0.0**

KRSC 29 02:20:00.2±10.0, 55°.04N×162°.49E, h41km±10km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.65**	**223**	*e*P	Pn	02 20 14.1	+1.1
MKZ				*e*S	Sn	02 20 23.2	+1.1
KBTR	**Krutoberegovo**	**1.19**	**9**	*e*P	Pn	02 20 21.6	+1.2
TUMD	**Tumrok D**	**1.21**	**279**	*e*P	Pn	02 20 21.5	+0.8
TUMD				*e*S	Sn	02 20 36.9	+1.0
KBG	**Krutoberegovo**	**1.23**	**6**	*e*P	Pn	02 20 22.7	+1.8
KBG				*e*S	Sn	02 20 38.3	+2.1
KZV	**Kizimen**	**1.27**	**274**	*e*P	Pn	02 20 22.6	+1.0
BZGR	**Bezymyannyi-Gr**	**1.36**	**312**	*e*P	Pn	02 20 24.2	+1.3
TUMR	**Tumrok**	**1.37**	**281**	*e*P	Pn	02 20 24.9	+2.0
TUMR				*e*S	Sn	02 20 42.6	+2.7
CIRR	**Tsirk**	**1.47**	**318**	*e*P	Pn	02 20 26.2	+1.9
LGNR	**Loginova**	**1.47**	**316**	*e*P	Pn	02 20 26.2	+1.8
BZWR	**Bezymyannyi-We**	**1.47**	**310**	*e*P	Pn	02 20 25.7	+1.4
KPT	**Kopyto**	**1.59**	**307**	*e*P	Pn	02 20 27.4	+1.4
KLY	**Klyuchi**	**1.65**	**322**	*e*P	Pn	02 20 27.0	+0.3
SMKR	**Semkarok**	**1.65**	**340**	*e*P	Pn	02 20 28.6	+1.8
BDR	**Baidarnaya**	**1.70**	**335**	*e*P	Pn	02 20 29.5	+2.1
SRKR	**Sorokina**	**1.79**	**336**	*e*P	Pn	02 20 30.5	+1.9
KOZ	**Kozyrevsk**	**1.81**	**306**	*e*P	Pn	02 20 30.7	+1.9
BKI	**Bering**	**2.01**	**84**	*e*P	Pn	02 20 34.5	+2.9
BKI				*e*S	Sn	02 20 57.8	+2.4
SRDR	**Sredinnyy**	**2.03**	**310**	*e*P	Pn	02 20 33.6	+1.7
SPN	**Mys Shipunski**	**2.43**	**218**	*e*P	Pn	02 20 38.4	+1.1
SPN				*e*S	Sn	02 21 06.4	+0.7
NLC	**Nalytchevo**	**2.63**	**226**	*e*P	Pn	02 20 43.8	+3.7
NLC				*e*S	Sn	02 21 13.2	+2.4
SDLR	**Sedlovina**	**2.76**	**232**	*e*P	Pn	02 20 45.9	+3.9
SDLR				*e*S	Sn	02 21 18.5	+4.4
SMAR	**Somma**	**2.80**	**232**	*e*P	Pn	02 20 46.5	+3.8
SMAR				*e*S	Sn	02 21 20.2	+4.8
KRX	**Arik**	**2.81**	**235**	*e*P	Pn	02 20 46.5	+3.7
UGLR	**Uglovaya**	**2.83**	**231**	*e*P	Pn	02 20 46.1	+3.1
AVH	**Avacha**	**2.83**	**233**	*e*P	Pn	02 20 47.3	+4.3
AVH				*e*S	Sn	02 21 20.3	+4.4
KOK	**Koryaka**	**2.86**	**234**	*e*P	Pn	02 20 47.4	+4.0
GNL	**Ganaly**	**2.98**	**245**	*e*P	Pn	02 20 48.3	+3.2
DALK	**Dalny**	**2.98**	**229**	*e*P	Pn	02 20 48.7	+3.8
DALK				*e*S	Sn	02 21 22.4	+3.0
PET	**Petropavlovsk**	**3.03**	**230**	*e*P	Pn	02 20 49.9	+4.3
PET				*e*S	Sn	02 21 24.5	+3.9
KRMR	**Karymshinskiy**	**3.40**	**231**	*e*P	Pn	02 20 54.8	+4.2
KRMR				*e*S	Sn	02 21 33.4	+3.8
RUS	**Russkaya**	**3.52**	**224**	*e*P	Pn	02 20 57.5	+5.2
RUS				*e*S	Sn	02 21 37.9	+5.3
KDTR	**Khodutka, Kamc**	**4.17**	**221**	*e*P	Pn	02 21 04.9	+3.6
KDTR				*e*S	Sn	02 21 51.8	+3.0

IGQ 29 02:31:50.5±0.8, 1°.N±8°.×8°.4W±°., h6km, mB4.9, mb4.6, MLv4.2, Mw(mB)4.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**3.88**	**134**	P	Pn	02 32 49.6	-1.2
MAG1	**Magdalena**	**4.05**	**99**	P	Pn	02 32 52.2	-0.9
MORR	**Playas El Morr**	**4.67**	**133**	P	Pn	02 33 01.6	0.0
PAC1	**Pacto, Paraso**	**4.99**	**93**	P	Pn	02 33 03.2	-3.0
PAC1				S	Sb	02 34 16.1	-2.8
MILO	**Milagro-Astudi**	**5.07**	**124**	P	Pn	02 33 05.8	-1.2
ILLI	**Illinizas Sur**	**5.20**	**104**	P	Pn	02 33 07.8	-1.5
PULU	**Pululahua**	**5.30**	**96**	P	Pn	02 33 09.1	-1.6
CUSE	**Cuicocha Este**	**5.38**	**92**	P	Pn	02 33 10.3	-1.5
COHC	**Cochancay**	**5.42**	**123**	P	Pn	02 33 11.4	-0.5
CUIC	**Cuicocha-Domo**	**5.42**	**92**	P	Pn	02 33 10.8	-1.6
BNAS	**Cotopaxi Volca**	**5.43**	**103**	P	Pn	02 33 12.4	-0.1
BMOR	**Cotopaxi Volca**	**5.47**	**103**	P	Pn	02 33 12.9	-0.2
BREF	**Cotopaxi Volca**	**5.47**	**103**	P	Pn	02 33 13.8	+0.6
BREF				S	Sn	02 34 16.9	+0.1
BVC2	**Cotopaxi Volca**	**5.50**	**102**	P	Pn	02 33 13.9	+0.4
BVC2				S	Sn	02 34 17.1	-0.3
VC1	**Cotopaxi 1**	**5.50**	**102**	P	Pn	02 33 14.3	+0.8
BTAM	**Cotopaxi Volca**	**5.51**	**103**	P	Pn	02 33 13.4	-0.3
BTAM				S	Sn	02 34 18.4	+0.6
URCU	**Urcuqui**	**5.52**	**91**	P	Pn	02 33 12.6	-1.1
IMBA	**Imbabura, San**	**5.58**	**93**	P	Pn	02 33 15.1	+0.5
ANTG	**Antisana-Guama**	**5.62**	**101**	P	Pn	02 33 15.5	+0.4
BMAS	**Trigal station**	**5.67**	**111**	P	Pn	02 33 16.5	+0.8
ARRY	**Arrayan**	**5.70**	**111**	P	Pn	02 33 17.1	+1.0
ANTS	**Antisana-Sarah**	**5.70**	**100**	P	Pn	02 33 16.0	-0.3
YAHU	**Yahuarcocha**	**5.71**	**92**	P	Pn	02 33 16.3	0.0
BPAT	**Tungurahua Vol**	**5.72**	**111**	P	Pn	02 33 19.2	+2.7
BULB	**Ulba Tungurahu**	**5.72**	**110**	P	Pn	02 33 19.2	+2.9
MCRA	**Macar, Loja**	**6.19**	**142**	P	Pn	02 33 19.1	-3.5

NIED ***29*** *02:35:00, 40°.30N×141°.90E, h5km, Mw3.9 Best double couple: M0 8.26000×10^14 NP1:φs=289.00000°, δ36.00000°, λ-124.00000°. NP2:φs=148.00000°, δ61.00000°, λ-68.00000°.*
IDC ***29*** *02:35:24.6±0.8, 40°.20N×142°.04E, h0km, mb4.0/14, mb1 4.1/17, mb1mx3.9/36, mbtmp4.0/17, ML2.8/3, MS2.9/6, Ms1 2.9/6, ms1mx2.6/44, Error ellipse: s-maj=22.1km s-min=16.0km az=89.0*
ISCJB ***29*** *02:35:25.9±0.7, 40°.31N±0°.03×141°.95E±0°.04, h13km±3km, mb4.4/28, MS3.1/2, Error ellipse: s-maj=5.8km s-min=4.1km az=12.2*
JMA ***29*** *02:35:26.3, 40°.34N×141°.93E, h12km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs=281.00000°, δ64.00000°, λ-112.00000°. NP2: φs=144.00000°, δ34.00000°, λ-52.00000°. Principal axes: T Plg16.0000°, Azm27.0000°; N Plg20.0000°, Azm291.0000°; P Plg64.0000°, Azm153.0000°;*
JMA Felt II J1.
NEIC ***29*** *02:35:29.8±2.5, 40°.21N×142°.12E, h37km±5km, mb4.4/16 Error ellipse: s-maj=14.4km s-min=11.9km az=145.0*
NEIC Recorded [2 JMA] in Aomori and Iwate.

ISC 29 02:35:25.7±1.6, 40°.34N±0°.03×141°.98E±0°.06, h1km±9km,

n68,σ1°22/66, mb4.4/28, 4C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.25**	**237**	P	**Pg**	**02 35 31.0**	**+0.6**
JKEN				S	**Sg**	**02 35 34.3**	**+0.7**
JANG	**Nango**	**0.36**	**275**	⇓P	**Pg**	**02 35 32.6**	**+0.1**
JANG				S	**Sg**	**02 35 36.7**	**-0.4**
JTH	**Tanohata**	**0.41**	**193**	⇑P	**Pg**	**02 35 34.2**	**+0.7**
JTH				S	**Sg**	**02 35 39.8**	**+0.9**
JKZ	**Kuzumaki**	**0.61**	**235**	⇑P	**Pg**	**02 35 37.4**	**0.0**
JKZ				S	**Sg**	**02 35 45.1**	**-0.2**
JARK	**Aomorirokkasho**	**0.81**	**325**	P	**Pg**	**02 35 40.9**	**-0.4**
JARK				S	**Sg**	**02 35 51.8**	**0.0**
JTM	**Tenmabayashi**	**0.82**	**303**	⇓P	**Pg**	**02 35 41.4**	**-0.1**
JTM				S	**Sg**	**02 35 51.7**	**-0.5**
JOM	**Ohasama**	**1.02**	**212**	⇑P	**Pg**	**02 35 44.4**	**-0.7**
JOM				S	**Sg**	**02 35 57.3**	**-1.0**
JAH	**Hinai**	**1.04**	**262**	⇑P	**Pg**	**02 35 44.9**	**-0.7**
JAH				S	**Sg**	**02 35 57.9**	**-1.2**
ERM	**Erimo**	**1.89**	**28**	*e*Pn	**Pn**	**02 36 00.1**	**+0.9**
ERM				*e*Sn	**Sn**	**02 36 23.2**	**-0.4**
ASAJ	**Asahikawa**	**3.80**	**7**	Pn	**Pn**	**02 36 25.4**	**+0.1**
	2.1nm,0.3s,baz=207,slow=9.9,SNR=7.4						
ASAJ				Sn	**Sn**	**02 37 12.4**	**+1.8**
	2.6nm,0.3s,baz=100,slow=30,SNR=4.2						
MJAR	**Matsushiro Arr**	**4.81**	**219**	Pn	**Pn**	**02 36 38.1**	**-1.1**
	0.1nm,0.3s,baz=41,slow=15,SNR=4.0						
MJAR				LR	LR	02 38 43.9	
	comp=Z,184nm,19.6s,baz=40,slow=42						
MJB9	**Matsu-Tunnel**	**4.81**	**219**	*e*Pn	**Pn**	**02 36 39.2**	**-0.1**
MAJO	**Matsushiro**	**4.81**	**219**	*e*Pn	**Pn**	**02 36 40.0**	**+0.7**
MAT	**Matsushiro**	**4.81**	**219**	P	**Pn**	**02 36 39.0**	**-0.3**
MAT				*e*S	**Sn**	**02 37 37.8**	**+2.1**
USA0B	**Ussuriysk Arra**	**8.35**	**301**	*e*Pn	**Pn**	**02 37 29.8**	**+2.0**
USRK	**Ussuriysk Ar.**	**8.35**	**301**	Pn	**Pn**	**02 37 30.0**	**+2.2**
	0.2nm,0.3s,baz=119,slow=12,SNR=3.8						
KSRS	**Korea Array**	**11.33**	**260**	Pn	Pn	02 38 13.2	+4.5
	0.2nm,0.3s,baz=70,slow=14,SNR=3.8						
KSRS				LR	LR	02 42 13.7	
	comp=Z,21nm,21.5s,baz=122,slow=36						
KS15	**Wonju Array Si**	**11.36**	**260**	*e*Pn	Pn	02 38 13.2	+4.1
JNU	**Nakatsue**	**11.45**	**234**	*e*Pn	**Pn**	**02 38 10.6**	**+0.3**
KLR	**Kul'dur**	**11.47**	**324**	LR	LR	02 42 39.7	
	comp=Z,26nm,18.3s,baz=98,slow=37						
PETK	**Petropavlovsk-**	**16.66**	**35**	LR	LR	02 45 04.2	
	comp=Z,48nm,21.6s,baz=222,slow=35						
MA2	**Magadan**	**20.03**	**13**	LR	LR	02 47 30.7	
	comp=Z,31nm,18.3s,baz=141,slow=36						
NACB	**Ninganchiao**	**23.52**	**233**	*e*P	**P**	**02 40 34.8**	**-2.4**
	17nm,0.9s						
TWG	**Pinlang**	**24.84**	**232**	*e*P	**P**	**02 40 48.3**	**-1.4**
	53nm,0.4s						
SONA0	**Songino Array**	**26.45**	**298**	*e*P	**P**	**02 41 05.4**	**+1.2**
SONM	**Songino Array**	**26.45**	**298**	P	**P**	**02 41 05.4**	**+1.2**
	0.2nm,0.3s,baz=60,slow=7.4,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**29.61**	**127**	T	T	03 12 41.6	
	baz=320,slow=75,SNR=309						
H11N1	**WAKE ISLAND Hy**	**29.62**	**127**	T	T	03 12 42.4	
	baz=320,slow=75,SNR=362						
H11N3	**WAKE ISLAND Hy**	**29.63**	**127**	T	T	03 12 43.0	
	baz=320,slow=75,SNR=228						
H11S1	**WAKE ISLAND Hy**	**30.43**	**128**	T	T	03 13 42.1	
	baz=322,slow=76,SNR=168						
H11S3	**WAKE ISLAND Hy**	**30.43**	**128**	T	T	03 13 43.0	
	baz=322,slow=76,SNR=91						
H11S2	**WAKE ISLAND Hy**	**30.44**	**128**	T	T	03 13 44.7	
	baz=322,slow=76,SNR=94						
ZAA0	**Zalesovo Array**	**40.08**	**310**	*e*P	**P**	**02 43 01.8**	**-0.7**
	6.1nm,0.6s						
ZAA1	**Zalesovo Array**	**40.08**	**310**	*e*P	**P**	**02 43 03.2**	**+0.8**
ZALV	**Zalesovo Beam**	**40.08**	**310**	P	**P**	**02 43 03.2**	**+0.8**
	6.9nm,0.5s,baz=91,slow=8.0,SNR=18						
MK31	**Makanchi Array**	**42.81**	**299**	*e*P	**P**	**02 43 23.6**	**-1.4**
	2.7nm,1.0s						
MK32	**Makanchi Array**	**42.81**	**299**	*e*P	**P**	**02 43 23.4**	**-1.6**
MKAR	**Makanchi Array**	**42.81**	**299**	P	**P**	**02 43 23.4**	**-1.6**
	2.0nm,0.8s,baz=87,slow=9.1,SNR=16						
MAKZ	**Makanchi**	**43.02**	**299**	*e*P	**P**	**02 43 28.4**	**+1.7**
	3.8nm,1.1s						
KURK	**Kurchatov**	**44.31**	**306**	*e*P	**P**	**02 43 38.1**	**+1.2**
	10nm,0.8s						
KURBB	**Kurchatov Arra**	**44.38**	**305**	P	**P**	**02 43 35.5**	**-2.0**
	11nm,0.7s,baz=80,slow=8.5,SNR=44						
ILAR	**Eielson Array**	**46.49**	**34**	P	**P**	**02 43 54.7**	**+0.7**
	0.2nm,0.7s,baz=282,slow=8.2,SNR=3.0						
ILB	**Eielson Array**	**46.49**	**34**	*e*P	**P**	**02 43 54.7**	**+0.7**
	1.9nm,1.3s						
BVAR	**Borovoye Array**	**48.73**	**310**	P	**P**	**02 44 12.9**	**+1.4**
	1.9nm,0.4s,baz=81,slow=8.7,SNR=11						
INK	**Inuvik**	**51.26**	**28**	P	**P**	**02 44 30.1**	**-0.4**
	0.8nm,0.6s,baz=304,slow=7.0,SNR=4.6						
KK31	**Karatay Array**	**51.91**	**298**	*e*P	**P**	**02 44 37.8**	**+1.9**
	1.8nm,0.6s						
KKAR	**Karatay Array**	**51.91**	**298**	*e*P	**P**	**02 44 37.8**	**+1.9**
	1.8nm,0.6s						
ABKAR	**Akbulak array**	**56.19**	**309**	*e*P	**P**	**02 45 05.2**	**-1.7**
	5.2nm,0.6s						
WR1	**Warramunga Arr**	**60.39**	**188**	*e*P	**P**	**02 45 34.3**	**-2.3**
WRA	**Warramunga Arr**	**60.39**	**188**	P	**P**	**02 45 34.3**	**-2.3**
	137nm,0.3s,baz=2.7,slow=6.7,SNR=1.6						
GEYT	**Alibeck**	**62.66**	**298**	P	**P**	**02 45 51.5**	**-0.4**
	1.8nm,0.5s,baz=48,slow=2.1,SNR=4.4						
AS31	**Alice Springs**	**64.12**	**188**	*e*P	**P**	**02 45 59.9**	**-1.7**
	2.2nm,1.4s						
ASAR	**Alice Springs**	**64.12**	**188**	P	**P**	**02 45 59.9**	**-1.7**
	1.1nm,0.4s,baz=0.3,slow=6.3,SNR=18						
FIA0	**FINESS Array S**	**66.11**	**332**	*e*P	**P**	**02 46 13.6**	**-0.4**
FINES	**FINESS Array B**	**66.11**	**332**	P	**P**	**02 46 13.6**	**-0.4**
	1.7nm,0.6s,baz=46,slow=9.0,SNR=8.4						
KBZ	**Khabaz**	**69.10**	**310**	P	**P**	**02 46 33.8**	**+0.5**
	1.9nm,0.7s,baz=40,slow=4.1,SNR=3.8						
NB2	**NORSAR Subarra**	**71.31**	**337**	P	**P**	**02 46 47.1**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=30,slow=6.5						
NB200	**NORSAR Array S**	**71.31**	**337**	*e*P	**P**	**02 46 46.7**	**+0.1**
NOA	**NORSAR Array B**	**71.31**	**337**	P	**P**	**02 46 46.7**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=39,slow=6.2,SNR=4.2						
BR101	**Keskin Array S**	**77.00**	**311**	*e*P	**P**	**02 47 20.9**	**+0.5**
BRTR	**Keskin Array B**	**77.00**	**311**	P	**P**	**02 47 20.8**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=50,slow=7.7,SNR=3.1						
PV23	**Carpenter Ridg**	**78.24**	**49**	*e*P	P	02 47 22.0	-5.5
PV14	**Lion Creek, Pa**	**78.28**	**49**	*e*P	**P**	**02 47 28.9**	**+1.2**
	comp=Z,37nm,0.8s						
PV11	**David Mesa, Pa**	**78.42**	**49**	*e*P	**P**	**02 47 26.7**	**-1.6**
	comp=Z,14nm,0.5s						
PV12	**Saucer Basin,**	**78.45**	**49**	*e*P	**P**	**02 47 30.0**	**+1.4**
	comp=Z,13nm,0.8s						
VRAC	**Vranov**	**78.59**	**327**	LR	LR	03 28 22.6	
	comp=Z,31nm,21.5s,baz=314,slow=40						
GEC2	**GERESS Array S**	**80.14**	**328**	*e*P	**P**	**02 47 36.5**	**-0.9**
	comp=Z,1.5nm,1.0s						
GERES	**GERESS Array B**	**80.14**	**328**	P	**P**	**02 47 36.5**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=46,slow=3.9,SNR=4.1						

JMA 29 03:05:44.0±0.3, 36°.50N×143°.88E, h55km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.54**	**285**	P	Pn	03 06 24.1	+1.2
ONAJ				*e*S	Sn	03 06 53.8	+1.1
JFK	**Kawauchi**	**2.56**	**291**	P	Pn	03 06 24.2	+1.1
JFK				*e*S	Sn	03 06 54.0	+1.0
JHYU	**Hitachinakayam**	**2.66**	**268**	P	Pn	03 06 25.8	+1.4
JHYU				*e*S	Sn	03 06 56.4	+1.0
BSO1	**Boso 1**	**3.00**	**233**	P	Pn	03 06 29.2	+0.7
JFT	**Otama**	**3.01**	**291**	P	Pn	03 06 31.4	+2.2
JFT				*e*S	Sn	03 07 06.4	+2.3
JMK	**Ichinoseki**	**3.23**	**320**	P	Pn	03 06 33.5	+1.3
JMK				*e*S	Sn	03 07 10.2	+0.8
JAG	**Ashikaga**	**3.57**	**270**	P	Pn	03 06 38.5	+1.6
JOM	**Ohasama**	**3.60**	**326**	P	Pn	03 06 38.6	+1.3
JOM				S	Sn	03 07 18.6	0.0
JRY	**Ryogami san**	**4.05**	**265**	P	Pn	03 06 44.9	+1.4
JRY				*e*S	Sn	03 07 30.4	+0.7
JHJ2	**Mitsune**	**4.75**	**226**	P	Pn	03 06 53.1	0.0
JHJ2				*e*S	Sn	03 07 44.4	-2.5
JOT	**Ohata**	**5.35**	**337**	P	Pn	03 07 02.8	+1.6

IDC 29 03:05:45.4±8.4, 16°.91S×178°.03W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.6/33, mbtmp4.0/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/24, Error ellipse: s-maj=375.3km s-min=37.2km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**27.17**	**96**	LR	LR	03 21 53.8	
	comp=Z,22nm,18.1s,baz=308,slow=36						
WRA	**Warramunga Arr**	**45.18**	**259**	P	P	03 14 04.2	-0.2
	128nm,0.3s,baz=90,slow=8.6,SNR=1.4						
ASAR	**Alice Springs**	**45.42**	**253**	P	P	03 14 06.2	-0.1
	4.9nm,0.6s,baz=88,slow=8.2,SNR=63						
ILAR	**Eielson Array**	**84.84**	**13**	P	P	03 18 21.4	0.0
	0.3nm,0.9s,baz=225,slow=5.3,SNR=5.1						

IDC 29 03:06:04.0±8.8, 5°.42S×129°.03E, h357km±111km, mb2.9/1, mb1 2.9/3, mb1mx2.7/32, mbtmp3.7/3, Error ellipse: s-maj=65.8km s-min=40.1km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.03**	**194**	P	Pn	03 08 58.0	+0.2
	0.1nm,0.3s,baz=18,slow=12,SNR=5.1						
FITZ				S	S	03 11 19.9	0.0
	0.1nm,0.3s,baz=58,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**15.33**	**161**	P	P	03 09 20.5	-1.5
	19nm,0.3s,baz=337,slow=12,SNR=1.4						
WRA				S	S	03 12 06.3	+0.2
	15nm,0.3s,baz=341,slow=23,SNR=1.4						
ASAR	**Alice Springs**	**18.73**	**166**	P	P	03 09 58.9	+0.4
	0.1nm,0.3s,baz=351,slow=12,SNR=10.0						
MKAR	**Makanchi Array**	**66.39**	**327**	P	P	03 16 15.6	-0.1
	0.3nm,0.4s,baz=120,slow=7.4,SNR=4.1						

*IDC **29** 03:16:26.5±1.3, 52°.84N×4°.81W, h0km, mb3.5/5, mb1 3.7/12, mb1mx3.5/62, mbtmp3.6/12, ML3.2/5, MS2.9/7, Ms1 2.9/7, ms1mx2.5/41, Error ellipse: s-maj=21.5km s-min=17.8km az=116.0*

*ISCJB **29** 03:16:26.2±0.2, 52°.81N±0°.01×4°.31W±0°.03, h10km, mb3.6/4, MS3.6/1, Error ellipse: s-maj=3.0km s-min=1.6km az=165.5*

*BGS **29** 03:16:28.9±0.9, 52°.88N×4°.72W, h10km±3km, ML3.8, Fault plane solution: NP1:φs165.74000°, δ79.45000°, λ44.01000°.*

*NEIC **29** 03:16:28.9±0.0, 52°.88N×4°.72W, h10km, ML3.8(BGS), After BGS.*

NEIC Felt [IV] at Pwllheli and [III] at Llanfairpwllgwyngyll. Also felt at Bangor, Caernarfon, Colwyn Bay, Dolgellau, Hyde, Llanfairfechan, Llangefni, Llanrug, Menai Bridge, Pen-y-groes and Porthmadog. Felt at Castlecomer, Dublin, Kilcoole, Naas and Wicklow, Ireland.

*LDG **29** 03:16:29.5±0.1, 52°.91N×4°.72W, h8km, Md4.3/2, Ml4.2/74, Error ellipse: s-maj=3.0km s-min=2.0km az=84.0*

*NAO **29** 03:16:30.9±6.7, 52°.96N×4°.29W, h22km±27km, ML2.9*

ISC 29 03:16:27.0±0.5, 52°.83N±0°.02×4°.63W±0°.03, h10km, n283, σ2°15/412, mb3.6/4, 45C-12D, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLL	**Llanberis**	**0.41**	**41**	⇑*i*P	**Pg**	**03 16 37.2**	**+2.1**
YLL	**Llanberis**	**0.41**	**41**	⇑*i*P	**Pg**	**03 16 37.2**	**+2.1**
YLL	**Llanberis**	**0.41**	**41**	⇑*i*P	**Pg**	**03 16 37.2**	**+2.1**
YRC	**Rhoscolyn**	**0.42**	**4**	P	**Pg**	**03 16 36.3**	**+1.1**
YRC	**Rhoscolyn**	**0.42**	**4**	⇑*i*P	**Pg**	**03 16 36.4**	**+1.1**
YRC	**Rhoscolyn**	**0.42**	**4**	⇑*i*P	**Pg**	**03 16 36.4**	**+1.1**
YRC	**Rhoscolyn**	**0.42**	**4**	⇑*i*P	**Pg**	**03 16 36.4**	**+1.1**
WLF1	**Llynfaes**	**0.48**	**17**	P	**Pg**	**03 16 37.5**	**+1.2**
WLF1	**Llynfaes**	**0.48**	**17**	⇑*i*P	**Pg**	**03 16 37.5**	**+1.2**
WLF1				*e*S	**Sg**	**03 16 43.1**	**+0.4**
WLF1				IAML		03 16 43.7	
	comp=N,5μm,0.2s						
WLF1				IAML		03 16 47.9	
	comp=E,6μm,0.3s					

EKA Sn **Sn** **03 17 41.3 -0.6**
EKA Lg Lg 03 17 50.8
EKA Eskdalemuir Ar 2.65 18 Pn **Pn** **03 17 10.3 +0.5**
baz=199,slow=13,SNR=1167
EKA Sn **Sn** **03 17 40.7 -1.2**
baz=210,slow=25,SNR=9.8
EKA Lg Lg 03 17 52.0
baz=217,slow=29,SNR=10
GDLE Glaisdale, N Y 2.77 53 ⇑/P **Pn** **03 17 12.5 +1.1**
GDLE Glaisdale, N Y 2.77 53 ⇑/P **Pn** **03 17 12.5 +1.1**
GDLE Glaisdale, N Y 2.77 53 ⇑/P **Pn** **03 17 12.5 +1.1**
PGBU Glenifferbraes 2.99 2 eP **Pn** **03 17 14.8 +0.4**
PGBU Glenifferbraes 2.99 2 eP **Pn** **03 17 14.8 +0.4**
PGBU Glenifferbraes 2.99 2 eP **Pn** **03 17 14.8 +0.4**
WACR West Acre 3.19 90 eP **Pn** **03 17 19.5 +2.3**
WACR West Acre 3.19 90 eP **Pn** **03 17 19.5 +2.3**
WACR West Acre 3.19 90 eP **Pn** **03 17 19.5 +2.3**
EDI Edinburgh 3.21 15 eP **Pn** **03 17 17.8 +0.4**
EDI Edinburgh 3.21 15 eP **Pn** **03 17 17.8 +0.4**
EDI Edinburgh 3.21 15 eP **Pn** **03 17 17.8 +0.4**
ESY Stoneypath 3.31 20 eP **Pn** **03 17 19.4 +0.6**
ESY Stoneypath 3.31 20 eP **Pn** **03 17 19.4 +0.6**
ESY Stoneypath 3.31 20 eP **Pn** **03 17 19.4 +0.6**
LAWE Loch Awe, Argy 3.47 353 eP **Pn** **03 17 20.7 -0.2**
LAWE Loch Awe, Argy 3.47 353 eP **Pn** **03 17 20.7 -0.2**
LAWE Loch Awe, Argy 3.47 353 eP **Pn** **03 17 20.7 -0.2**
ROSF Rostrenen 4.58 169 ePn **Pn** **03 17 37.6 +1.3**
ROSF Rostrenen 4.58 169 eP Pn 03 17 42.3 +6.0
ROSF eSn **Sn** **03 18 28.1 -1.4**
comp=E,104nm,0.2s
ROSF eSg **Sg** **03 18 55.9 +1.9**
comp=E,99nm,0.4s
ROSF Rostrenen 4.58 169 ePn **Pn** **03 17 37.6 +1.3**
ROSF eSg **Sg** **03 18 55.9 +1.9**
KAC Achnashellach 4.70 356 eP **Pn** **03 17 37.8 0.0**
KAC Achnashellach 4.70 356 eP **Pn** **03 17 37.8 0.0**
KAC Achnashellach 4.70 356 eP **Pn** **03 17 37.8 0.0**
SGMF Saint Gilles 4.77 163 ePn **Pn** **03 17 39.7 +0.9**
SGMF eSn **Sn** **03 18 32.4 -1.7**
comp=E,27nm,0.3s
SGMF eSg **Sg** **03 19 01.6 +1.6**
comp=E,115nm,0.6s
SGMF Saint Gilles 4.77 163 ePn **Pn** **03 17 39.7 +0.9**
SGMF eSn **Sn** **03 18 32.4 -1.7**
SGMF eSg **Sg** **03 19 01.6 +1.6**
FLN La Foliniere 4.85 146 ePn **Pn** **03 17 41.2 +1.3**
baz=326
FLN La Foliniere 4.85 146 eP Pn 03 17 46.0 +6.1
FLN eSn **Sn** **03 18 34.4 -1.7**
comp=E,68nm,0.3s,baz=325
FLN eSg **Sg** **03 19 03.8 +1.3**
comp=E,116nm,0.5s
FLN La Foliniere 4.85 146 ePn **Pn** **03 17 41.2 +1.3**
FLN eSg **Sg** **03 19 03.8 +1.3**
QUIF Quistinic 5.01 169 ePn **Pn** **03 17 43.3 +1.2**
QUIF Quistinic 5.01 169 eP Pn 03 17 48.3 +6.2
QUIF eSn **Sn** **03 18 40.1 +0.1**
comp=E,34nm,0.2s
QUIF eSg **Sg** **03 19 09.1 +1.4**
comp=E,167nm,0.8s
QUIF Quistinic 5.01 169 ePn **Pn** **03 17 43.3 +1.2**
QUIF eSg **Sg** **03 19 09.1 +1.4**
GRR Gorron 5.05 150 ePn **Pn** **03 17 44.4 +1.6**
GRR eSn **Sn** **03 18 41.0 -0.1**
GRR eSg **Sg** **03 19 10.9 +1.8**
comp=E,56nm,0.4s
GRR Gorron 5.05 150 ePn **Pn** **03 17 44.4 +1.6**
GRR eSn **Sn** **03 18 41.0 -0.1**
GRR eSg **Sg** **03 19 10.9 +1.8**
LDF La Druitiere 5.12 144 ePn **Pn** **03 17 45.0 +1.4**
LDF eSn **Sn** **03 18 41.4 -1.3**
comp=E,49nm,0.3s
LDF eSg **Sg** **03 19 12.7 +1.6**
comp=E,112nm,0.6s
LDF La Druitiere 5.12 144 ePn **Pn** **03 17 45.0 +1.4**
LDF eSn **Sn** **03 18 41.4 -1.3**
LDF eSg **Sg** **03 19 12.7 +1.6**
BSKQ Steenkerk 5.83 109 P **Pn** **03 17 56.2 +2.7**
BBOU Bougnies 5.87 111 P **Pn** **03 17 57.6 +3.6**
UCC Uccle 5.93 106 ePn **Pn** **03 17 56.7 +1.9**
SNF Seneffe 6.01 109 P **Pn** **03 17 58.8 +2.9**
BAIF Baives 6.18 113 ePn **Pn** **03 18 00.5 +2.3**
BAIF eSn **Sn** **03 19 07.9 -1.0**
comp=E,15nm,0.3s
BAIF eSg **Sg** **03 19 46.0 +0.8**
comp=E,60nm,0.7s
BAIF Baives 6.18 113 ePn **Pn** **03 18 00.5 +2.3**
BAIF eSn **Sn** **03 19 07.9 -1.0**
BAIF eSg **Sg** **03 19 46.0 +0.8**
DOU Dourbes 6.38 112 P **Pn** **03 18 03.6 +2.6**
BMRD Maredsous 6.38 110 P **Pn** **03 18 03.5 +2.6**
GIVF Givet 6.51 111 ePn **Pn** **03 18 04.9 +2.2**
GIVF eSn **Sn** **03 19 14.5 -2.4**
GIVF eSg **Sg** **03 19 55.4 -0.3**
comp=E,58nm,0.5s
GIVF Givet 6.51 111 ePn **Pn** **03 18 04.9 +2.2**
GIVF eSn **Sn** **03 19 14.5 -2.4**
GIVF eSg **Sg** **03 19 55.4 -0.3**
CLF Chambon-Foret 6.52 135 ePn **Pn** **03 18 05.0 +2.1**
CLF eSn **Sn** **03 19 14.7 -2.4**
BGES Gesves 6.53 108 P **Pn** **03 18 05.0 +2.0**
BCLA Clavier 6.64 107 P **Pn** **03 18 06.2 +1.7**
RCHB Rochefort 6.71 110 P **Pn** **03 18 04.8 -0.7**
BSTI Sart Tilman 6.72 105 P **Pn** **03 18 08.6 +2.9**
HGN Heimansgroeve 6.87 103 eP **Pn** **03 18 09.1 +1.5**
MFF Saint Martin d 6.88 153 ePn **Pn** **03 19 08.7 +0.9**
MFF eSn **Sn** **03 19 22.1 -4.0**
comp=E,16nm,0.3s
MFF eSg **Sg** **03 20 07.6 0.0**
comp=E,54nm,0.7s
MFF Saint Martin d 6.88 153 ePn **Pn** **03 18 08.7 +0.9**
MFF eSn **Sn** **03 19 22.1 -4.0**
MFF eSg **Sg** **03 20 07.6 0.0**
BHOU Houvegnez 7.07 106 P **Pn** **03 18 12.8 +2.3**
HYF Humbligny 7.27 137 ePn **Pn** **03 18 15.0 +1.8**
HYF eSn **Sn** **03 19 33.5 -2.2**
HYF eSg **Sg** **03 20 20.2 +0.1**
HYF Humbligny 7.27 137 ePn **Pn** **03 18 15.0 +1.8**
HYF eSn **Sn** **03 19 33.5 -2.2**
HYF eSg **Sg** **03 20 20.2 +0.1**
WLF Walferdange 7.47 111 ePn **Pn** **03 18 18.2 +2.3**
WLF eSn **Sn** **03 19 38.4 -2.2**
WLF Walferdange 7.47 111 P Pn 03 18 24.3 +8.4
MEZF Maizieres J'vi 7.52 121 ePn **Pn** **03 18 18.4 +1.8**
baz=302
MEZF eSn **Sn** **03 19 39.8 -2.1**
comp=E,29nm,0.3s,baz=304
MEZF eSg **Sg** **03 20 27.8 -0.4**
comp=E,20nm,0.3s
MEZF Maizieres J'vi 7.52 121 ePn **Pn** **03 18 18.4 +1.8**
MEZF eSn **Sn** **03 19 39.8 -2.1**
MEZF eSg **Sg** **03 20 27.8 -0.4**
SFTF Sexfontaines 7.70 123 ePn **Pn** **03 18 20.8 +1.6**
baz=303
SFTF eSn **Sn** **03 19 42.5 -3.9**
comp=E,26nm,0.3s
SFTF eSg **Sg** **03 20 33.6 -0.5**
comp=E,18nm,0.4s
SFTF Sexfontaines 7.70 123 ePn **Pn** **03 18 20.8 +1.6**
SFTF eSn **Sn** **03 19 42.5 -3.9**
SFTF eSg **Sg** **03 20 33.6 -0.5**
LOR Lormes 7.80 132 ePn **Pn** **03 18 21.1 +0.7**
LOR eSn **Sn** **03 19 43.7 -5.0**
comp=E,55nm,0.4s
LOR eSg **Sg** **03 20 36.6 -0.4**
comp=E,34nm,0.5s
LOR Lormes 7.80 132 ePn **Pn** **03 18 21.1 +0.7**
LOR eSn **Sn** **03 19 43.7 -5.0**
LOR eSg **Sg** **03 20 36.6 -0.4**
SSF Saint Saulge 7.80 135 ePn **Pn** **03 18 21.5 +1.1**
SSF eSn **Sn** **03 19 44.1 -4.6**
comp=E,22nm,0.3s
SSF eSg **Sg** **03 20 36.2 -0.9**
comp=E,46nm,0.6s
SSF Saint Saulge 7.80 135 ePn **Pn** **03 18 21.5 +1.1**
SSF eSn **Sn** **03 19 44.1 -4.6**
SSF eSg **Sg** **03 20 36.2 -0.9**
PAGF Fort de Pagny 7.84 119 ePn **Pn** **03 18 22.6 +1.6**
PAGF eSn **Sn** **03 19 47.0 -2.8**
comp=E,24nm,0.3s
PAGF Fort de Pagny 7.84 119 ePn **Pn** **03 18 22.6 +1.6**
PAGF eSn **Sn** **03 19 47.0 -2.8**
TCF Toulx Ste Croi 7.91 143 ePn **Pn** **03 18 23.0 +1.0**

TCF eSn **Sn** **03 19 47.2 -4.4**
comp=E,25nm,0.2s
TCF eSg **Sg** **03 20 42.5 +1.8**
comp=E,41nm,0.8s
TCF Toulx Ste Croi 7.91 143 ePn **Pn** **03 18 23.0 +1.0**
TCF eSn **Sn** **03 19 47.2 -4.4**
TCF eSg **Sg** **03 20 42.5 +1.8**
BGF Bois d'Agland 7.93 139 ePn **Pn** **03 18 23.1 +0.9**
BGF eSn Sn 03 19 43.7 -8.2
comp=E,103nm,0.4s
BGF eSg **Sg** **03 20 40.3 -0.9**
comp=E,88nm,0.5s
BGF Bois d'Agland 7.93 139 ePn **Pn** **03 18 23.1 +0.9**
BGF eSn Sn 03 19 43.7 -8.2
BGF eSg **Sg** **03 20 40.3 -0.9**
AVF Avril sur Loir 7.95 136 ePn **Pn** **03 18 23.1 +0.7**
AVF eSn Sn 03 19 45.7 -6.6
comp=E,20nm,0.4s
AVF eSg **Sg** **03 20 41.5 -0.3**
comp=E,36nm,0.6s
AVF Avril sur Loir 7.95 136 ePn **Pn** **03 18 23.1 +0.7**
AVF eSn Sn 03 19 45.7 -6.6
AVF eSg **Sg** **03 20 41.5 -0.3**
SMF Signal de Mont 8.27 135 ePn **Pn** **03 18 27.4 +0.5**
SMF eSn Sn 03 19 52.5 -7.8
comp=E,16nm,0.3s
SMF eSg **Sg** **03 20 51.1 -1.0**
comp=E,97nm,0.9s
SMF Signal de Mont 8.27 135 ePn **Pn** **03 18 27.4 +0.5**
SMF eSn Sn 03 19 52.5 -7.8
SMF eSg **Sg** **03 20 51.1 -1.0**
KMY Karmoy 8.45 37 eP **Pn** **03 18 27.6 -1.7**
KMY eS **Sn** **03 19 58.3 -6.2**
KMY IAML 03 20 01.6
comp=Z,9.5nm,0.3s
HAU Haudompre 8.51 120 ePn **Pn** **03 18 30.7 +0.5**
HAU eSn **Sn** **03 20 01.5 -4.7**
comp=Z,13nm,0.2s
HAU eSg **Sg** **03 20 58.4 -1.4**
comp=Z,12nm,0.4s
HAU Haudompre 8.51 120 ePn **Pn** **03 18 30.7 +0.5**
HAU eSn **Sn** **03 20 01.5 -4.7**
HAU eSg **Sg** **03 20 58.4 -1.4**
RJF Les Rejaudoux 8.54 149 ePn **Pn** **03 18 31.0 +0.4**
RJF eSn Sn 03 20 01.3 -5.7
comp=Z,12nm,0.3s
RJF eSg **Sg** **03 20 59.7 -1.2**
comp=Z,84nm,1.0s
RJF Les Rejaudoux 8.54 149 ePn **Pn** **03 18 31.0 +0.4**
RJF eSn Sn 03 20 01.3 -5.7
RJF eSg **Sg** **03 20 59.7 -1.2**
LFF La Frestale 8.65 154 ePn **Pn** **03 18 32.6 +0.5**
LFF eSn **Sn** **03 20 04.7 -4.9**
comp=Z,24nm,0.4s
LFF eSg **Sg** **03 21 03.2 -1.2**
comp=Z,70nm,0.8s
LFF La Frestale 8.65 154 ePn **Pn** **03 18 32.6 +0.5**
LFF eSn **Sn** **03 20 04.7 -4.9**
LFF eSg **Sg** **03 21 03.2 -1.2**
SNART Snartemo 8.68 46 eP **Pn** **03 18 31.6 -0.8**
SNART eS Sn 03 20 01.9 -8.3
SNART IAML 03 20 09.8
comp=Z,25nm,0.3s
CDF Champ du Feu 8.76 116 ePn **Pn** **03 18 35.2 +1.5**
CDF eSn **Sn** **03 20 08.8 -3.7**
comp=Z,14nm,0.4s
CDF eSg **Sg** **03 21 05.8 -2.2**
comp=Z,14nm,0.5s
CDF Champ du Feu 8.76 116 ePn **Pn** **03 18 35.2 +1.5**
CDF eSn **Sn** **03 20 08.8 -3.7**
CDF eSg **Sg** **03 21 05.8 -2.2**
MUD Monsted U'grnd 8.79 60 i P **Pn** **03 18 37.0 +3.1**
ECH Echery 8.81 117 ePn **Pn** **03 18 36.4 +2.0**
HINF Hinteralfeld 8.89 120 ePn **Pn** **03 18 37.1 +1.6**
HINF eSn Sn 03 20 10.2 -5.4
comp=Z,12nm,0.3s
HINF eSg **Sg** **03 21 12.5 +0.4**
comp=Z,76nm,1.2s
HINF Hinteralfeld 8.89 120 ePn **Pn** **03 18 37.1 +1.6**
HINF eSn Sn 03 20 10.2 -5.4
HINF eSg **Sg** **03 21 12.5 +0.4**
BLS5 Blasjo 9.04 39 eP **Pn** **03 18 36.2 -1.3**
BLS5 eS Sn 03 20 11.4 -7.9
BLS5 IAML 03 20 16.9
comp=Z,8.4nm,0.4s
CAF Calviac 9.05 148 ePn **Pn** **03 18 38.5 +0.8**
CAF eSn Sn 03 20 13.8 -5.8
comp=Z,7.9nm,0.2s
CAF eSg 03 21 15.2
comp=Z,46nm,0.8s
CAF Calviac 9.05 148 ePn **Pn** **03 18 38.5 +0.8**
CAF eSn Sn 03 20 13.8 -5.8
CAF eSg 03 21 15.2
HOMB Homborsund 9.22 49 eP **Pn** **03 18 40.0 +0.2**
HOMB eS **Sn** **03 20 17.1 -6.4**
CABF La Chapelle 9.32 128 ePn **Pn** **03 18 41.7 +0.4**
CABF eSn **Sn** **03 20 21.8 -4.4**
comp=Z,28nm,0.6s
CABF eSg 03 21 25.0
comp=Z,150nm,1.3s
CABF La Chapelle 9.32 128 ePn **Pn** **03 18 41.7 +0.4**
CABF eSn **Sn** **03 20 21.8 -4.4**
CABF eSg 03 21 25.0
ASK Askoy 9.38 31 eP **Pn** **03 18 40.7 -1.3**
BFO Black Forest 9.39 114 ePn **Pn** **03 18 44.0 +1.7**
BFO eSn **Sn** **03 20 24.6 -3.3**
ODD1 Odda 9.44 37 eP **Pn** **03 18 42.2 -0.7**
STU Stuttgart 9.65 109 ePn **Pn** **03 18 44.8 -1.0**
SSB Saint Sauveur 9.65 138 ePn **Pn** **03 18 47.4 +1.5**
SSB eSn **Sn** **03 20 27.8 -6.6**
SJPF Ste Jean 9.99 165 ePn **Pn** **03 18 50.8 +0.4**
SJPF eSn Sn 03 20 32.1 -10
comp=Z,14nm,0.4s
SJPF eSg 03 21 44.8
comp=Z,110nm,1.2s
SJPF Ste Jean 9.99 165 ePn **Pn** **03 18 50.8 +0.4**
SJPF eSn Sn 03 20 32.1 -10
SJPF eSg 03 21 44.8
VIVF Saint-Julien-l 10.05 139 ePn **Pn** **03 18 52.9 +1.5**
VIVF eSn **Sn** **03 20 40.4 -3.8**
comp=Z,4.6nm,0.3s
VIVF Saint-Julien-l 10.05 139 ePn **Pn** **03 18 52.9 +1.5**
VIVF eSn **Sn** **03 20 40.4 -3.8**
SENIN Lac Senin/Sane 10.08 125 ePn **Pn** **03 18 53.3 +1.3**
HYA Hoyanger 10.21 31 eP **Pn** **03 18 53.4 -0.1**
HYA eS Sn 03 20 37.0 -11
ETSF Etsaut 10.30 163 ePn **Pn** **03 18 54.5 -0.4**
ETSF eSn Sn 03 20 44.2 -6.2
comp=Z,7.8nm,0.3s
ETSF Etsaut 10.30 163 ePn **Pn** **03 18 54.5 -0.4**
ETSF eSn Sn 03 20 44.2 -6.2
EPF Esparros 10.35 159 ePn **Pn** **03 18 55.4 -0.1**
EPF eSn Sn 03 20 42.8 -8.8
comp=Z,6.1nm,0.2s
EPF eSg 03 21 56.9
comp=Z,32nm,1.0s
EPF Esparros 10.35 159 ePn **Pn** **03 18 55.4 -0.1**
EPF eSn Sn 03 20 42.8 -8.8
EPF eSg 03 21 56.9
LASF Ste Croix 10.41 144 ePn **Pn** **03 18 57.8 +1.6**
LASF eSn **Sn** **03 20 48.2 -4.6**
comp=Z,6.5nm,0.6s
LASF Ste Croix 10.41 144 ePn **Pn** **03 18 57.8 +1.6**
LASF eSn **Sn** **03 20 48.2 -4.6**
LPL La Plagne 10.43 130 ePn **Pn** **03 18 58.1 +1.5**
LPL eSn **Sn** **03 20 48.9 -4.7**
comp=Z,13nm,0.4s
LPL La Plagne 10.43 130 ePn **Pn** **03 18 58.1 +1.5**
LPL eSn **Sn** **03 20 48.9 -4.7**
KONO Kongsberg 10.44 44 ePn **Pn** **03 18 54.7 -1.8**
KONO Kongsberg 10.44 44 eP **Pn** **03 18 56.0 -0.6**
KONO eS Sn 03 20 45.4 -8.0
KONO IAML 03 20 52.5
comp=Z,4.4nm,0.6s
LPG La Plagne 10.45 130 ePn **Pn** **03 18 58.6 +1.6**
LPG eSn **Sn** **03 20 49.9 -4.3**
comp=Z,11nm,0.3s
LPG La Plagne 10.45 130 ePn **Pn** **03 18 58.6 +1.6**
LPG eSn **Sn** **03 20 49.9 -4.3**
ORIF Oris-en-Rattie 10.51 135 ePn **Pn** **03 18 59.1 +1.5**
ORIF eSn **Sn** **03 20 51.2 -4.1**
comp=Z,28nm,0.3s
ORIF Oris-en-Rattie 10.51 135 ePn **Pn** **03 18 59.1 +1.5**

ORIF eSn **Sn** **03 20 51.2 -4.1**
MTLF Montolieu 10.54 152 ePn **Pn** **03 18 58.7 +0.7**
MTLF eSn Sn 03 20 50.4 -5.5
comp=Z,3.8nm,0.3s
MTLF Montolieu 10.54 152 ePn **Pn** **03 18 58.7 +0.7**
MTLF eSn Sn 03 20 50.4 -5.5
SKAR Skarslia 10.58 37 eP **Pn** **03 18 57.5 -1.0**
SKAR eS Sn 03 20 49.2 -7.8
SKAR IAML 03 21 00.1
comp=Z,5.0nm,0.7s
BNI Bardonecchia 10.75 132 ePn **Pn** **03 19 04.6 +3.6**
BNI eSn **Sn** **03 21 00.4 -1.1**
STRU Stroemstad 10.81 49 eP **Pn** **03 19 01.7 +0.1**
DAVA Damuels 10.85 115 ePn **Pn** **03 19 06.0 +3.7**
comp=Z,2.9nm,0.3s
DAVA eSn **Sn** **03 21 02.3 -1.5**
comp=Z,3.6nm,0.3s
CLL Collm 10.96 91 ePg Pn 03 19 56.0 +52
CLL eSb Sn 03 21 20.0 +14
CLL e 03 21 41.0
CLL eSg 03 22 18.0
MBDF Montbardon 11.05 133 ePn **Pn** **03 19 08.8 +3.7**
MBDF eSn **Sn** **03 21 04.1 -4.6**
comp=Z,5.4nm,0.2s
MBDF Montbardon 11.05 133 ePn **Pn** **03 19 08.8 +3.7**
MBDF eSn **Sn** **03 21 04.1 -4.6**
TUE Stuetta 11.06 120 ePn **Pn** **03 19 09.9 +4.6**
TUE eSn **Sn** **03 21 08.7 -0.3**
PBRG Braganca 11.12 188 eP **Pn** **03 19 06.3 +0.3**
PGAV Gavieira, Arco 11.15 194 eP **Pn** **03 19 07.1 +0.7**
SMRF Simiane la Rot 11.15 139 ePn **Pn** **03 19 08.5 +2.2**
SMRF eSn **Sn** **03 21 06.3 -4.6**
comp=Z,7.5nm,0.6s
SMRF Simiane la Rot 11.15 139 ePn **Pn** **03 19 08.5 +2.2**
SMRF eSn **Sn** **03 21 06.3 -4.6**
DAVOX Davos/Dischmat 11.15 117 Pn **Pn** **03 19 09.7 +3.2**
comp=Z,1.7nm,0.3s,baz=171,slow=14,SNR=17
DAVOX Sn **Sn** **03 21 07.4 -3.8**
comp=Z,0.7nm,0.3s,baz=15,slow=20,SNR=3.6
DAVOX LR LR 03 24 12.9
comp=Z,50nm,21.3s,baz=267,slow=42
AKN Aaknes 11.24 29 Pn **Pn** **03 19 06.5 -1.1**
PCAB Cabril 11.36 193 eP **Pn** **03 19 10.5 +1.2**
FUORN Ofenpass-Fuorn 11.46 117 ePn **Pn** **03 19 14.2 +3.4**
FETA Feichten 11.47 114 ePn **Pn** **03 19 14.9 +4.0**
comp=Z,0.6nm,0.2s
FETA Sn **Sn** **03 21 18.4 -0.6**
comp=Z,1.0nm,0.5s
MOTA Moosalm 11.49 112 ePn Pn 03 19 18.9 +7.7
comp=Z,0.2nm,0.2s
SQTA Sankt Quirin 11.62 113 ePn **Pn** **03 19 15.1 +2.2**
comp=Z,2.0nm,0.2s
NAO01 NORSAR Array S 11.66 40 ePn **Pn** **03 19 11.7 -1.6**
POLO Lamas de Olo 11.66 192 eP **Pn** **03 19 15.2 +1.8**
BSD Bornholm Skovb 11.73 71 i P **Pn** **03 19 16.6 +2.4**
NBO00 NORSAR Array S 11.73 39 ePn **Pn** **03 19 13.1 -1.2**
NBO00 NORSAR Array S 11.73 39 eP **Pn** **03 19 13.6 -0.6**
PVRL Vila Real 11.75 192 eP **Pn** **03 19 15.8 +1.2**
MVO Moncorvo 11.79 189 eP **Pn** **03 19 16.9 +1.8**
WTTA Wattenberg 11.84 112 Pn **Pn** **03 19 19.9 +4.0**
comp=Z,1.1nm,0.3s
NC602 NORSAR Array S 11.86 42 ePn **Pn** **03 19 14.5 -1.5**
NRA0 NORESS Array S 11.86 42 Pn **Pn** **03 19 15.5 -0.5**
baz=241,slow=12
NRA0 NORESS Array S 11.86 42 Pn **Pn** **03 19 15.5 -0.5**
baz=241,slow=12
NC204 NORSAR Array S 11.88 39 ePn **Pn** **03 19 16.1 -0.2**
NC204 eSn **Sn** **03 21 24.4 -4.3**
NB2 NORSAR Subarra 11.91 40 Pn **Pn** **03 19 15.3 -1.4**
baz=234,slow=14
NB2 NORSAR Subarra 11.91 40 Pn **Pn** **03 19 15.3 -1.4**
baz=234,slow=14
NOA NORSAR Array B 11.91 40 Pn **Pn** **03 19 15.9 -0.8**
comp=Z,0.1nm,0.3s,baz=229,slow=13,SNR=6.8
NOA Sn Sn 03 21 16.4 -13
comp=Z,0.0nm,0.3s,baz=208,slow=19,SNR=2.9
NOA LR LR 03 23 41.3
comp=Z,14nm,18.6s,baz=235,slow=36
FRF La Foret Royal 11.93 137 ePn **Pn** **03 19 18.4 +1.4**
FRF eSn **Sn** **03 21 25.5 -4.5**
comp=Z,7.5nm,0.5s
FRF La Foret Royal 11.93 137 ePn **Pn** **03 19 18.4 +1.4**
FRF eSn **Sn** **03 21 25.5 -4.5**
NB201 NORSAR Array S 11.94 40 ePn **Pn** **03 19 14.9 -2.2**
SBF Sospel 12.02 133 ePn **Pn** **03 19 21.1 +2.8**
SBF eSn **Sn** **03 21 27.8 -4.6**
comp=Z,8.4nm,0.3s
SBF Sospel 12.02 133 ePn **Pn** **03 19 21.1 +2.8**
SBF eSn **Sn** **03 21 27.8 -4.6**
KHC Kasperske Hory 12.05 101 ePn **Pn** **03 19 22.1 +3.4**
KHC Kasperske Hory 12.05 101 eP **Pn** **03 19 20.0 +1.3**
KHC eS Sn 03 22 02.0 +29
LMR La Mourre 12.06 138 ePn **Pn** **03 19 20.1 +1.4**
LMR eSn **Sn** **03 21 28.4 -4.8**
comp=Z,4.1nm,0.4s
LMR La Mourre 12.06 138 ePn **Pn** **03 19 20.1 +1.4**
LMR eSn **Sn** **03 21 28.4 -4.8**
NC303 NORSAR Array S 12.08 40 ePn **Pn** **03 19 17.3 -1.7**
NC405 NORSAR Array S 12.15 40 ePn Pn 03 19 16.9 -3.0
GERES GERESS Array B 12.25 102 Pn **Pn** **03 19 22.1 +0.7**
comp=Z,0.1nm,0.3s,baz=82,slow=21,SNR=2.3
GERES LR LR 03 24 26.3
comp=Z,38nm,20.3s,baz=212,slow=39
PVIS Viseu 12.32 192 eP **Pn** **03 19 23.6 +1.2**
HFS Hagfors 12.46 47 P **Pn** **03 19 22.7 -1.5**
baz=252,slow=16
HFS Hagfors 12.46 47 Pn Pn 03 19 20.7 -3.4
comp=Z,0.1nm,0.3s,baz=239,slow=14,SNR=7.2
HFS Sn Sn 03 21 34.5 -8.4
comp=Z,0.8nm,0.3s,baz=238,slow=22,SNR=7.9
HFS Hagfors 12.46 47 P **Pn** **03 19 22.7 -1.5**
baz=252,slow=16
MTE Manteigas 12.59 190 eP **Pn** **03 19 27.9 +1.7**
MTE Manteigas 12.59 190 ePn **Pn** **03 19 25.0 -1.1**
ABTA Abfaltersbach 12.62 112 Pn **Pn** **03 19 30.2 +3.7**
comp=Z,1.1nm,0.4s
KBA Koelnbreinsper 12.91 109 Pn **Pn** **03 19 35.3 +4.8**
comp=Z,0.1nm,0.1s
KBA Sn **Sn** **03 21 54.8 +0.5**
comp=Z,1.5nm,0.5s
PCBR Castelo Branco 13.14 190 eP **Pn** **03 19 34.9 +1.4**
ESDC Sonseca Array 13.17 178 Pn **Pn** **03 19 33.4 -0.6**
comp=Z,1.0nm,0.3s,baz=16,slow=12,SNR=11
ESDC Sn Sn 03 21 50.9 -10
comp=Z,1.0nm,0.3s,baz=5.4,slow=23,SNR=8.4
ESLA Sonseca Array 13.17 178 ePn **Pn** **03 19 32.3 -1.7**
ESLA eSn Sn 03 21 50.5 -10
PAB San Pablo 13.29 179 ePn **Pn** **03 19 35.0 -0.7**
PMRV Marv??o 13.54 189 eP **Pn** **03 19 41.1 +2.1**
PMTG Montargil 13.99 192 eP **Pn** **03 19 46.8 +1.7**
SOKA Soboth 14.10 108 Pn **Pn** **03 19 49.9 +3.2**
comp=Z,0.5nm,0.3s
BORG Borgarnes 14.68 331 LR LR 03 25 22.7
comp=Z,33nm,19.0s,baz=106,slow=37
MESJ Messejana 15.20 191 eP **Pn** **03 20 03.2 +1.6**
VYHS Vyhne 15.47 97 ePN **Pn** **03 20 03.3 -1.8**
FIA0 FINESS Array S 18.60 50 P **P** **03 20 44.5 +0.4**
baz=248,slow=11
FIA0 FINESS Array S 18.60 50 P **P** **03 20 44.5 +0.4**
baz=248,slow=11
FINES FINESS Array B 18.60 50 P **P** **03 20 44.9 +0.9**
comp=Z,0.2nm,0.3s,baz=255,slow=13,SNR=7.7
FINES LR LR 03 28 31.9
comp=Z,34nm,20.2s,baz=59,slow=39
KEST Kesra 19.75 144 LR LR 03 28 42.5
comp=Z,39nm,18.8s,baz=261,slow=37
KIEV Kiev 20.94 82 eP **P** **03 21 10.6 +0.9**
AKASG Malin Array Be 20.95 82 P **P** **03 21 10.4 +0.7**
comp=Z,1.0nm,0.5s,baz=284,slow=10,SNR=4.0
AKBB Malin Array Si 20.95 82 eP **P** **03 21 10.7 +1.0**
ARA0 ARCESS Array S 21.77 28 P **P** **03 21 18.1 -0.4**
baz=235,slow=11
ARA0 ARCESS Array S 21.77 28 P **P** **03 21 18.1 -0.4**
baz=235,slow=11
ARCES ARCESS Array B 21.77 28 P **P** **03 21 18.6 +0.1**
comp=Z,1.8nm,0.5s,baz=233,slow=10,SNR=17
ILULI Ilulissat 26.91 325 eP P 03 22 00.7 -7.0
BVAR Borovoye Array 43.26 58 LR LR 03 43 48.4
comp=Z,89nm,20.5s,baz=358,slow=38
ZALV Zalesovo Beam 49.86 51 P **P** **03 25 22.1 +2.2**
comp=Z,0.7nm,0.3s,baz=309,slow=9.1,SNR=3.1
YKA Yellowknife Ar 52.57 327 P **P** **03 25 40.4 +0.3**
comp=Z,0.2nm,0.6s,baz=46,slow=8.7,SNR=4.8
KSH Kashi 54.52 70 P P 03 25 51.5 -3.4
TXAR Lajitas Array 72.29 295 P **P** **03 27 53.9 +1.2**

comp=Z,0.3nm,0.6s,baz=60,slow=4.4,SNR=3.8

NIED ***29*** *03:22:00,42°.90N×145°.50E,h41km,Mw3.8 Best double couple: M0:6.16000×10^14 NP1:φ=241.00000°,δ30.00000°, λ131.00000°. NP2:φ=16.00000°,δ68.00000°,λ69.00000°.*
MOS ***29*** *03:22:20.8±1.4,42°.87N×145°.52E,h54km,mb4.1/4, Error ellipse: s-maj=13.6km s-min=8.6km az=86.4*
JMA ***29*** *03:22:21.6±0.1,42°.92N×145°.48E,h46km±1km,M3.7*
JMA Felt II J1.
ISCJB ***29*** *03:22:21.3±0.8,42°.94N±0°.06×145°.48E±0°.07,h51km±4km, mb3.9/11, Error ellipse: s-maj=11.5km s-min=5.2km az=140.2*
SKHL ***29*** *03:22:22.0±0.6,42°.98N×145°.25E,h50km±2km,mb4.0/5*
IDC ***29*** *03:22:23.7±2.9,42°.73N×145°.44E,h66km±21km,mb3.6/11, mb1 3.7/15,mb1mx3.5/50,mbtmp3.9/15,MS2.7/2, Ms1 2.7/2,ms1mx2.3/31,Error ellipse: s-maj=26.4km s-min=19.6km az=176.0*

ISC 29 03:22:22.7±1.1,42°.96N±0°.07×145°.48E±0°.05,h44km±8km, n47,σ1°.25/55,mb3.9/11,1C-1D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	Kushirohamanak	0.27	298	P	Pn	03 22 30.3	-0.7
JKHN				S	Sn	03 22 36.3	-0.5
NEM2	Nemuro 2	0.45	25	P	Pn	03 22 32.3	-0.7
NEM2				S	Sn	03 22 39.7	-0.6
JAK	Akkeshi	0.58	274	P	Pn	03 22 33.6	-1.0
JAK				S	Sn	03 22 42.7	-0.4
GLVR	Golovnino	0.78	2⇓	ePN	Pn	03 22 36.8	-0.5
GLVR				i S	Sn	03 22 48.0	0.0
GLVR	Golovnino	0.78	2	i P	Pn	03 22 36.0	-1.3
GLVR				AMB	AMB	03 22 37.0	
	20nm,0.3s						
GLVR				AMB	AMB	03 22 37.0	
	90nm,0.3s						
GLVR				AMB	AMB	03 22 37.0	
	130nm,0.3s						
GLVR				i S	Sn	03 22 47.1	-0.9
GLVR				A	A	03 22 48.0	
	540nm,0.2s						
GLVR				A	A	03 22 48.0	
	580nm,0.2s						
JNK	Nakash	0.84	319	P	Pn	03 22 37.4	-0.7
JNK				S	Sn	03 22 48.5	-0.9
JRA	Rausu	1.02	345	P	Pn	03 22 40.1	-0.4
JRA				S	Sn	03 22 53.9	+0.3
GRPR	Tuman	1.06	11⇑	ePN	Pn	03 22 40.5	-0.6
GRPR				i S	Sn	03 22 53.8	-0.8
GRPR	Tuman	1.06	11	i P	Pn	03 22 40.0	-1.1
GRPR				AMB	AMB	03 22 43.0	
	20nm,0.3s						
GRPR				AMB	AMB	03 22 43.0	
	40nm,0.3s						
GRPR				i S	Sn	03 22 53.0	-1.6
GRPR				A	A	03 22 54.0	
	190nm,0.3s						
GRPR				A	A	03 22 54.0	
	600nm,0.3s						
YUK	Yuzh-Kuril'sk	1.11	14	i PN	Pn	03 22 41.5	-0.3
YUK	Yuzh-Kuril'sk	1.11	14	i P	Pn	03 22 41.3	-0.5
YUK				AMB	AMB	03 22 41.9	
	10.0nm,0.3s						
YUK				AMB	AMB	03 22 41.9	
	40nm,0.3s						
YUK				AMB	AMB	03 22 41.9	
	30nm,0.3s						
YUK				i S	Sn	03 22 55.7	-0.3
YUK				A	A	03 23 00.9	
	400nm,0.3s						
YUK				A	A	03 23 00.9	
	450nm,0.3s						
LAGR	Lagunnoye	1.12	11	ePN	Pn	03 22 41.8	-0.1
LAGR				i S	Sn	03 22 56.3	+0.1
LAGR				pmax	pmax		
	comp=Z,437nm,0.1s						
LAGR				smax	smax		
	comp=Z,7μm,0.3s						
LAGR	Lagunnoye	1.12	11	i P	Pn	03 22 41.0	-0.9
LAGR				AMB	AMB	03 22 44.0	
	comp=Z,50nm,0.3s						
LAGR				i S	Sn	03 22 55.6	-0.6
LAGR				A	A	03 22 59.0	
	comp=Z,680nm,0.3s						
LAGR				A	A	03 22 59.0	
	comp=Z,610nm,0.3s						
JOB	Onbets	1.21	268	P	Pn	03 22 42.1	-1.1
JAR	Ashorobuto	1.30	286	P	Pn	03 22 43.7	-0.7
JTKR	Abashiri--Toko	1.53	312	P	Pn	03 22 47.7	+0.2
ERM	Erimo	1.96	242	i PN	Pn	03 22 54.6	+1.2
ASAJ	Asahikawa	2.40	300	P	Pn	03 23 00.6	+1.2
	comp=Z,20nm,0.3s,baz=117,slow=11,SNR=60						
ASAJ				S	Sn	03 23 32.3	+4.7
	comp=Z,9.5nm,0.3s,baz=358,slow=32,SNR=7.0						
ASAJ				LR	LR	03 24 14.8	
	comp=Z,170nm,18.1s,baz=230,slow=44						
KUR	Kuril'sk	2.85	36	ePN	Pn	03 23 06.9	+1.3
KUR				eS	Sn	03 23 39.7	+1.0
KUR				smax	smax		
	comp=E,170nm,0.4s						
KUR				smax	smax		
	comp=N,153nm,0.3s						
KUR	Kuril'sk	2.85	36	eP	Pn	03 23 06.9	+1.3
KUR				AMB	AMB	03 23 09.1	
	comp=N,40nm,0.3s						
KUR				AMB	AMB	03 23 09.1	
	comp=N,20nm,0.3s						
KUR				AMB	AMB	03 23 09.1	
	comp=N,30nm,0.3s						
KUR				i S	Sn	03 23 39.8	+1.0
KUR				A	A	03 23 46.0	
	comp=N,150nm,0.4s						
KUR				A	A	03 23 46.0	
	comp=N,170nm,0.4s						
MJAR	Matsushiro Arr	8.51	224	P	Pn	03 24 21.6	-1.7
	comp=N,0.1nm,0.3s,baz=30,slow=13,SNR=6.0						
USRK	Ussuriysk Ar.	9.87	282	P	Pn	03 24 42.9	+1.0
	comp=N,0.1nm,0.3s,baz=104,slow=15,SNR=2.8						
KLR	Kul'dur	11.41	308	P	Pn	03 25 06.4	+3.5
	comp=N,0.1nm,0.3s,baz=122,slow=11,SNR=5.9						
KSRS	Korea Array	14.49	254	LR	LR	03 30 27.5	
	comp=N,28nm,21.2s,baz=150,slow=34						
SONM	Songino Array	27.67	294	P	P	03 28 06.4	0.0
	comp=N,1.1nm,0.6s,baz=90,slow=7.9,SNR=7.4						
H11N2	WAKE ISLAND Hy 29.34	135		T	T	03 59 17.0	
	baz=328,slow=76,SNR=1118						
H11N1	WAKE ISLAND Hy 29.35	135		T	T	03 59 18.6	
	baz=328,slow=76,SNR=1415						
H11N3	WAKE ISLAND Hy 29.36	135		T	T	03 59 18.4	
	baz=328,slow=76,SNR=1184						
H11S1	WAKE ISLAND Hy 30.27	137		T	T	04 00 17.5	
	baz=329,slow=76,SNR=2802						
H11S3	WAKE ISLAND Hy 30.27	137		T	T	04 00 29.4	
	baz=329,slow=76,SNR=1366						
H11S2	WAKE ISLAND Hy 30.29	137		T	T	04 00 18.7	
	baz=329,slow=76,SNR=920						
ILAR	Eielson Array	42.84	36	eP	P	03 30 17.2	+1.2
ILAR	Eielson Array	42.84	36	P	P	03 30 16.2	+0.2
	comp=N,0.3nm,0.5s,baz=273,slow=9.1,SNR=6.2						
MKAR	Makanchi Array	43.88	298	P	P	03 30 24.4	-0.2
	comp=N,1.5nm,0.8s,baz=80,slow=8.8,SNR=12						
KURK	Kurchatov	44.97	304	P	P	03 30 33.2	0.0
KURK	Kurchatov	44.97	304	eP	P	03 30 33.2	0.0
KURBB	Kurchatov Arra	45.05	304	P	P	03 30 33.1	-0.7
	comp=N,1.2nm,0.7s,baz=76,slow=8.7,SNR=5.3						
INK	Inuvik	47.70	30	P	P	03 30 54.1	-0.3
	comp=N,0.4nm,0.4s,baz=308,slow=9.0,SNR=4.8						
BVAR	Borovoye Array	49.07	309	P	P	03 31 04.8	-0.3
	comp=N,0.6nm,0.4s,baz=81,slow=8.3,SNR=4.4						
RES	Resolute Bay	56.07	16	P	P	03 31 56.2	-0.4
	comp=N,3.4nm,0.7s,baz=318,slow=4.5,SNR=13						
YKA	Yellowknife Ar	57.13	33	P	P	03 32 06.2	+1.9
	comp=N,0.1nm,0.5s,baz=306,slow=6.6,SNR=2.6						
FINES	FINESS Array B	65.02	332	P	P	03 32 57.2	-0.6
	comp=N,1.8nm,0.5s,baz=49,slow=7.1,SNR=21						
NB2	NORSAR Subarra	69.90	338	P	P	03 33 27.9	-0.7
	comp=Z,0.6nm,0.5s,baz=33,slow=6.5						
NOA	NORSAR Array B	69.90	338	P	P	03 33 28.1	-0.6
	comp=Z,1.1nm,0.7s,baz=34,slow=6.2,SNR=7.5						
AKASG	Malin Array Be	71.49	323	eP	P	03 33 35.9	-2.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	Malin Array Be	71.49	323	P	P	03 33 37.8	-0.6
	comp=Z,1.7nm,0.5s,baz=45,slow=5.9,SNR=4.4						
CLL	Collm	77.45	332	eP	P	03 34 11.0	-2.0

ISK ***29*** *03:26:05.9,36°.96N×36°.84E,h7km,ML2.0/8*
ISCJB ***29*** *03:26:06.6±0.6,36°.98N±0°.03×36°.79E±0°.04,h8km±8km, Error ellipse: s-maj=6.1km s-min=5.2km az=25.5*
DDA ***29*** *03:26:06.5,36°.97N×36°.81E,h7km±2km,ML2.5*

ISC 29 03:26:06.5±1.1,36°.97N±0°.03×36°.82E±0°.03,h9km±11km, n14,σ0°.47/19,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMA	Osmaniye	0.25	331	IAML_P			
	comp=Z,4μm,0.1s						
KAMA				i P	Pb	03 26 12.6	-0.7
KAMA				i S	Sg	03 26 15.2	0.0
KUZU	Kuzuini	0.28	133	IAML_P			
	comp=Z,5μm,0.1s						
KUZU				i P	Pb	03 26 13.6	-0.2
KUZU				i S	Sb	03 26 17.9	-0.7
GAZ	Gaziantep	0.38	56	PG	Pg	03 26 13.7	-0.3
GAZ				SG	Sg	03 26 19.2	+0.3
HCB	Kahramanmara	0.38	11	IAML_P			
	comp=Z,1μm,0.1s						
HCB				i P	Pg	03 26 14.2	+0.1
AYKD	Aykdinkavak	0.45	359	i P	Pg	03 26 15.4	+0.1
KMRS	Kahramanmaras	0.54	7	PG	Pg	03 26 17.1	0.0
KMRS				SG	Sb	03 26 25.3	-0.9
GZT	Gaziantep	0.71	57	IAML_P			
	comp=Z,2μm,0.2s						
GZT				i P	Pb	03 26 21.0	-0.1
ANDN	Andirin	0.72	328	IAML_P			
	comp=Z,462nm,0.1s						
ANDN				i P	Pb	03 26 21.1	-0.2
TAHT	Tahtakopru-Hat	0.78	221	PG	Pg	03 26 21.4	-0.1
TAHT				SG	Sb	03 26 32.7	-0.2
CEYT	Ceyhan	0.86	273	PG	Pg	03 26 23.1	0.0
KOZT	Kozan	0.94	303	PG	Pb	03 26 24.9	-0.2
URFA	Urfa	1.67	73	PN	Pn	03 26 36.5	+0.5
DARE	Darende-Malaty	1.69	18	PN	Pn	03 26 36.8	+0.5
BNN	Bunyan	2.04	338	PN	Pn	03 26 41.9	+0.8

ISCJB ***29*** *03:26:39.9±0.5,24°.91N±0°.02×122°.46E±0°.02,h9km±3km, Error ellipse: s-maj=4.0km s-min=2.8km az=26.7*
TAP ***29*** *03:26:39.8,24°.91N×122°.43E,h11km,ML3.0,C*
JMA ***29*** *03:26:40.0±0.1,24°.87N×122°.44E,h3km±3km,M2.2*

ISC 29 03:26:40.0±1.1,24°.90N±0°.03×122°.43E±0°.02,h8km±10km, n50,σ0°.37/92,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.42	285	i P	Pg	03 26 48.5	+0.4
	baz=284						
TWB1				i S	Sb	03 26 55.2	-0.9
	baz=284						
EOS1	EOS1	0.45	219	eP	Pb	03 26 50.1	+0.1
	baz=217						
EOS1				eS	Sb	03 26 56.4	-0.4
	baz=217						
EGS		0.46	263	P	Pb	03 26 49.5	-0.7
	baz=261						
EGS				i S	Sb	03 26 56.7	-0.5
	baz=261						
NTC	Toucheng	0.55	266	eP	Pb	03 26 51.5	-0.3
	baz=264						
NTC				eS	Sb	03 26 60.0	+0.1
	baz=264						
TIPB	Shuangxi	0.56	278	P	Pb	03 26 51.7	-0.3
	baz=276						
TIPB				S	Sb	03 26 59.9	-0.2
	baz=276						
TWC	Suao	0.60	242	i P	Pg	03 26 51.9	+0.3
	baz=240						
TWC				i S	Sb	03 27 00.7	-0.7
	baz=240						
NWF	Wu-fen Shan	0.62	286	i P	Pb	03 26 52.9	-0.1
	baz=285						
NWF				S	Sb	03 27 01.4	-0.5
	baz=285						
WFSB	Wu-fen Shan	0.62	286	eP	Pb	03 26 52.8	-0.2
	baz=285						
WFSB				eS	Sb	03 27 01.8	+0.1
	baz=285						
JYNG	Yonagunijimaku	0.65	134	P	Pg	03 26 52.4	0.0
JYNG				eS	Sg	03 27 00.9	+0.1
YOJ	Yonaguni jima	0.68	130	eP	Pg	03 26 53.1	0.0
	baz=129						
YOJ				eS	Sb	03 27 03.7	+0.1
	baz=129						
YOJ	Yonaguni jima	0.68	130	P	Pg	03 26 53.0	-0.1
YOJ				eS	Sg	03 27 01.8	-0.2
TWE	Neicheng	0.72	256	P	Pb	03 26 54.2	-0.5
	baz=254						
TWE				S	Sb	03 27 04.5	-0.2
	baz=254						
SLBB	Yuanshan	0.74	259	eP	Pb	03 26 55.0	-0.1
	baz=258						
SLBB				eS	Sb	03 27 05.8	+0.4
	baz=258						
NANB	Nanao	0.78	233	eP	Pb	03 26 55.4	-0.4
	baz=232						
NANB				eS	Sb	03 27 06.6	+0.2
	baz=232						
ENA	Nanau	0.79	233	eP	Pb	03 26 55.6	-0.3
	baz=232						
ENA				eS	Sb	03 27 07.2	+0.5
	baz=232						
YM07	YM07	0.79	291	P	Pg	03 26 55.5	+0.3
	baz=290						
YM07				eS	Sb	03 27 07.5	+0.7
	baz=290						
PCYT	Pengchaiyu	0.80	336	P	Pg	03 26 55.0	-0.4
	baz=336						
PCYT				eS	Sb	03 27 07.4	+0.4
	baz=336						
YM08	YM08	0.82	291	eP	Pg	03 26 55.6	-0.2
	baz=290						
YM08				eS	Sb	03 27 07.8	+0.1
	baz=290						
YM01	YM01	0.82	288	P	Pg	03 26 55.9	+0.1
	baz=287						
YM11	YM11	0.82	289	eP	Pb	03 26 56.4	-0.2
	baz=288						
NHDH	Xindian Distri	0.83	275	eP	Pb	03 26 56.5	-0.1
	baz=273						
NHDH				eS	Sb	03 27 08.2	+0.3
	baz=273						
ENTT	Nioudou	0.83	252	P	Pb	03 26 56.4	-0.2
	baz=251						
ENTT				S	Sb	03 27 08.4	+0.5
	baz=251						
YM10	YM10	0.83	288	eP	Pg	03 26 56.1	+0.1
	baz=287						
TWY	Chenhua	0.84	297	P	Pg	03 26 56.3	0.0
	baz=296						
TWY				S	Sb	03 27 08.9	+0.5
	baz=296						
NWLT	Wulai	0.85	262	eP	Pg	03 26 56.5	+0.1
	baz=261						
NWLT				eS	Sb	03 27 09.0	+0.3
	baz=261						
TATO	Taipei	0.86	275	eP	Pb	03 26 56.8	-0.3
	baz=274						
TATO				eS	Sb	03 27 08.9	+0.1
	baz=274						
ANP	Anpu	0.88	289	eP	Pb	03 26 57.5	+0.1
	baz=288						
ANP				eS	Sb	03 27 09.1	-0.3
	baz=288						
NDT	Datong Townshi	0.89	251	eP	Pb	03 26 57.3	-0.3
	baz=250						
NDT				eS	Sb	03 27 10.5	+0.9
	baz=250						
YHNB	Yeheng	0.99	257	eP	Pg	03 26 58.9	-0.1
	baz=256						
YHNB				eS	Sb	03 27 13.1	+0.5
	baz=256						
NSK	Sanguang	1.00	257	P	Pg	03 26 59.3	0.0
	baz=256						
NSK				S	Sg	03 27 12.5	+0.3
	baz=256						
NACB	Ninganchiao	1.05	227	eP	Pg	03 27 00.1	-0.1
	baz=226						
NACB				eS	Sb	03 27 14.5	+0.2
	baz=226						
NNSB	Datong	1.06	244	eP	Pg	03 27 00.1	-0.3
	baz=243						
NNSB				eS	Sb	03 27 15.2	+0.4
	baz=243						
NNS	Nan Shan	1.07	245	eP	Pg	03 26 59.9	-0.6
	baz=243						
NNS				S	Sb	03 27 15.0	+0.1
	baz=243						
ETLH	Xiulin Townshi	1.11	232	eP	Pg	03 27 00.7	-0.5
	baz=231						
ETLH				eS	Sb	03 27 16.6	+0.6
	baz=231						
TWD	Chiawan	1.12	223	eP	Pn	03 27 02.0	+0.2
	baz=222						
TWD				eS	Sn	03 27 16.8	-0.6
	baz=222						
WHF	Hehuan Shan	1.30	235	P	Pn	03 27 04.8	0.0
	baz=234						
WHF				S	Sb	03 27 21.8	-0.2
	baz=234						
IRIF	Iriomote-Funau	1.31	115	P	Pb	03 27 04.6	-0.1
IRIF				eS	Sn	03 27 22.1	0.0
LIOB	Emei	1.31	259	eP	Pn	03 27 04.4	-0.2
	baz=258						
LIOB				eS	Sn	03 27 22.4	+0.1
	baz=258						
TDCB	Techi	1.33	241	eS	Sn	03 27 22.8	0.0
	baz=240						
NSTT	Nanjuang	1.33	259	eP	Pg	03 27 05.3	-0.2
	baz=257						
CHGB	Renai	1.42	234	eP	Pb	03 27 06.5	-0.3
	baz=233						
CHGB				eS	Sn	03 27 25.2	0.0
	baz=233						
OWD	Renai	1.48	231	eP	Pb	03 27 07.7	-0.1
	baz=230						
OWD				eS	Sb	03 27 26.9	+0.1
	baz=230						
WHP	Taichung City	1.49	246	eP	Pb	03 27 08.0	+0.1
	baz=245						
WHP				eS	Sn	03 27 26.8	0.0
	baz=245						
VWDT	VWDT	1.64	226	eP	Pn	03 27 09.6	+0.6
	baz=225						
VWDT				eS	Sn	03 27 30.6	+0.3
	baz=225						
SMLT	Sun Moon Lake	1.73	234	eP	Pn	03 27 09.9	-0.4
	baz=233						
SSLB	Suanglung	1.75	231	eP	Pn	03 27 10.8	+0.3
	baz=230						
SSLB				eS	Sn	03 27 32.7	-0.3
	baz=230						
YULB	Yu-li	1.82	215	eP	Pn	03 27 12.0	+0.4
	baz=214						
TWF1	Yuli	1.86	214	eP	Pn	03 27 12.9	+0.9
	baz=213						
WHYT	Xinyi Township	1.87	231	eP	Pn	03 27 13.0	+0.7
	baz=230						
WHYT				eS	Sn	03 27 36.5	+0.3
	baz=230						
CHN5	Tsauling	2.06	231	eP	Pn	03 27 14.3	-0.6
	baz=230						
CHN5				eS	Sn	03 27 41.0	+0.2
	baz=230						

IDC ***29*** *03:28:26.4±2.9,47°.78N×116°.30E,h0km,mb3.3/4, mb1 3.5/6,mb1mx3.3/40,mbtmp3.4/6,ML3.7/2,MS3.3/1, Ms1 3.3/1,ms1mx2.4/22,Error ellipse: s-maj=83.7km s-min=16.1km az=173.0*
BJI ***29*** *03:28:26.9±0.0,47°.96N×116°.23E,h8km,mb4.1/3,ML4.2/9*
BYKL ***29*** *03:28:30.0±0.8,48°.03N×116°.26E*

ISC 29 03:28:28.5±0.7,48°.16N±0°.04×116°.10E±0°.02,h10km,n47, σ2°.79/49,mb3.4/4,1C-2D,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIA	Hailar	2.65	64⇓	iPn	Pn	03 29 11.9	+0.6
HIA				ePg	Pb	03 29 17.1	+1.0
HIA				e		03 29 38.5	
HIA				eSg	Sb	03 29 51.1	+2.4
KPC	Khapcheranga	2.90	304⇑	iPn	Pn	03 29 17.0	+2.2
KPC				ePg	Pb	03 29 23.7	+3.4
KPC				Pmax		03 29 30.6	
	102nm,0.3s						
KPC				eSn	Sn	03 29 53.4	+3.7
KPC				eSg	Sb	03 30 04.4	+8.5
KPC				e		03 30 07.0	
KPC				max		03 30 07.5	
	2μm,0.4s						
CIT	Chita	4.20	338	ePg	Pb	03 29 47.2	+4.7
CIT				Pmax		03 29 51.5	
	131nm,0.1s						
CIT				e		03 30 18.2	
CIT				eSg	Sb	03 30 44.5	+11
CIT				e		03 30 46.6	
CIT				max		03 30 55.3	
	360nm,0.2s						
ULN	Ulaanbaatar	6.08	271	e	Pn	03 29 58.9	+0.4
ULN				ePg	Pb	03 30 21.3	+6.7
ULN				eSg	Sg	03 31 40.6	-3.0
ULN				e		03 31 43.2	
SONM	Songino Array	6.52	271	Pn	Pn	03 30 05.1	+0.5
	1.7nm,0.3s,baz=88,slow=13,SNR=32						
SONM				Sn	Sn	03 31 23.1	+4.0
	6.8nm,0.3s,baz=85,slow=22,SNR=5.4						
SONM				Lg	Lg	03 31 55.1	
	27nm,0.3s,baz=87,slow=29,SNR=29						
UUDB	Ulan-Yde	6.58	307	e	Pn	03 30 15.4	+10
UUDB				ePg	Pb	03 30 30.4	+7.4
UUDB				Pmax		03 30 33.7	
	12nm,0.1s						
UUDB				eSg	Sg	03 31 58.5	-1.2
UUDB				Smax		03 32 07.4	
	712nm,1.3s						
SYVR	Suvo	6.72	327	ePn	Pn	03 30 10.4	+3.2
SYVR				e		03 30 22.0	
SYVR				e		03 30 33.0	
SYVR				max		03 30 37.8	
	17nm,0.6s						
SYVR				e		03 31 28.0	
SYVR				Sg	Sb	03 32 01.3	+16
SYVR				e		03 32 07.1	
SYVR				max		03 32 14.9	
	248nm,1.2s						
TUP	Tupik	6.72	20⇓	iPn	Pn	03 30 08.3	+1.1
TUP				ePg	Pb	03 30 33.5	+8.1
TUP				Pmax		03 30 40.7	
	19nm,0.6s						
TUP				e		03 30 42.8	
TUP				eSg	Sg	03 32 01.7	-2.4
TUP				Smax		03 32 05.8	
	329nm,1.6s						
TRTB	Turuntaevo	6.79	310	ePn	Pn	03 30 11.0	+2.8
TRTB				Pg	Pb	03 30 34.8	+8.2
TRTB				eSg	Sg	03 32 05.2	-1.2
TRTB				e		03 32 10.4	
HRMR	Khuramsha	6.85	304	ePn	Pn	03 30 11.8	+2.8
HRMR				e		03 30 21.1	
HRMR				e		03 30 34.7	
HRMR				max		03 30 41.4	
	30nm,0.6s						
HRMR				e		03 31 48.2	
HRMR				eSg	Sg	03 32 07.0	-1.3
HRMR				Smax		03 32 13.6	
	1μm,0.9s						
KELR	Kotokel	6.89	315	eSg	Sg	03 32 09.0	-0.3
KELR				e		03 32 13.7	
MXMB	Maximikha	6.92	320	e		03 31 49.8	
MXMB				eSg	Sg	03 32 08.1	-2.4
KAB	Kabansk	7.22	306	eSg	Sg	03 32 18.2	-1.7
KAB				e		03 32 23.8	
KAB				max		03 32 47.3	
	1μm,1.4s						
ZRHB	Zarechye	7.22	311	e	Pb	03 30 44.6	+11
ZRHB				eSg	Sg	03 32 18.7	-1.3
ZRHB				e		03 32 31.6	
YLYR	Ulyunkhan	7.40	337	ePn	Pn	03 30 19.2	+2.8
YLYR				e		03 30 28.1	
YLYR				ePg	Pb	03 30 45.2	+8.4
YLYR				Pmax		03 30 50.2	
	19nm,0.8s						
YLYR				eSg	Sg	03 32 23.0	-2.7
YLYR				Smax		03 32 49.1	

	121nm,1.1s						
STDB	Stepnoy Dvoret	7.43 306	e		Pb	03 30 44.9	+7.5
STDB			eSg		Sg	03 32 25.9	-0.8
UKT	Uakit	7.50 349	Pg		Pb	03 30 47.0	+8.4
UKT			Pmax			03 30 52.6	
	16nm,0.8s						
UKT			e			03 31 42.2	
UKT			eSg		Sg	03 32 26.7	-2.3
UKT			Smax			03 32 51.5	
	123nm,1.4s						
OGRR	Ongureny	7.68 319	e		Pn	03 30 22.1	+1.7
OGRR			ePg		Pb	03 30 50.6	+8.9
OGRR			Pmax			03 30 55.9	
	6.0nm,0.4s						
OGRR			eSn		Sn	03 31 49.4	+2.0
OGRR			eSg		Sg	03 32 33.9	-0.9
OGRR			Smax			03 32 38.1	
	119nm,1.8s						
TRG	Tyrgan	7.74 310	e		Pn	03 30 31.5	+10
TRG			max			03 31 05.1	
	8.0nm,0.8s						
TRG			eSg		Sg	03 32 34.7	-2.0
TRG			e			03 32 43.5	
TRG			max			03 32 44.4	
	221nm,0.9s						
CN2	Changchun	7.83 120	ePg		Pg	03 30 51.5	-6.8
CN2			eSg		Sg	03 32 31.0	-8.7
BGT	Bolshoye Golou	7.90 303	eSg		Sg	03 32 39.9	-1.9
BGT			Smax			03 32 45.9	
	125nm,1.1s						
SVKR	Severomuysk	8.12 350	eSg		Sg	03 32 48.1	-0.8
SVKR			e			03 32 54.0	
SVKR			max			03 33 12.0	
	316nm,1.0s						
LSTR	Listvyanka	8.15 301	e		Pb	03 30 58.6	+8.9
LSTR			eSg		Sg	03 32 48.1	-1.8
LSTR			Smax			03 33 09.5	
	222nm,2.1s						
KMO	Kumora	8.31 341	eSn		Sb	03 32 25.2	-5.9
KMO			eSg		Sg	03 32 51.2	-3.6
KMO			e			03 33 02.5	
KMO			max			03 33 24.8	
	156nm,1.2s						
NLYR	Nelyaty	8.35 358	ePn		Pn	03 30 32.0	+2.5
NLYR			e			03 30 37.3	
NLYR			max			03 31 06.0	
	14nm,0.7s						
NLYR			eSg		Sg	03 32 51.6	-4.6
NLYR			e			03 32 55.6	
NLYR			max			03 33 13.0	
	296nm,1.0s						
IVK	Ivanovka	8.37 300	Pg		Pg	03 31 04.8	-3.8
IVK			Pmax			03 31 10.0	
	2.0nm,0.4s						
IVK			Sg		Sg	03 32 53.8	-3.0
IVK			Smax			03 33 11.6	
	153nm,1.6s						
YOA	Uoyan	8.43 343	eSg		Sg	03 32 57.5	-1.1
YOA			e			03 33 01.4	
YOA			max			03 33 50.6	
	556nm,1.6s						
IRK	Irkutsk	8.62 303	e			03 32 35.5	
IRK			eSg		Sg	03 33 02.1	-2.7
IRK			Smax			03 33 09.8	
	274nm,0.4s						
NIZ	Nizh Angarsk	8.63 335	e		Pn	03 30 43.8	+10
NIZ			e			03 31 07.0	
NIZ			max			03 31 11.0	
	4.0nm,0.4s						
NIZ			eSg		Sg	03 33 04.1	-1.1
NIZ			Smax			03 33 22.2	
	58nm,1.0s						
ZAK	Zakamensk	8.68 290	e		Pn	03 30 26.3	-7.8
ZAK			eSg		Sg	03 33 04.1	-2.6
ZAK			Smax			03 33 11.5	
	154nm,1.6s						
TLY	Talaya	8.78 298	e		Pn	03 30 45.5	+10
TLY			max			03 31 18.1	
	3.0nm,0.4s						
TLY			e			03 32 19.1	
TLY			e			03 32 41.5	
TLY			eSg		Sg	03 33 07.8	-2.1
TLY			Smax			03 33 18.1	
	130nm,1.5s						
TLY			e			03 33 20.3	
CRS	Chara	8.85 8	e		Pn	03 30 36.6	+0.2
CRS			ePg		Pg	03 31 12.3	-5.5
CRS			Pmax			03 31 23.1	
	12nm,0.7s						
CRS			eSg		Sg	03 33 09.3	-3.0
CRS			e			03 33 14.6	
CRS			e			03 33 25.9	
CRS			max			03 33 30.7	
	220nm,1.0s						
ARS	Arshan	9.57 298	e			03 32 11.9	
ARS			eSg		Sn	03 33 31.9	+58
ARS			Smax			03 33 55.2	
	187nm,1.1s						
IENR	Iengra	9.69 30	e			03 32 31.9	
IENR			e			03 33 14.9	
IENR			eSg		Sn	03 33 33.6	+57
IENR			e			03 33 50.4	
BOD	Bodaibo	9.76 353	ePg		Pn	03 31 27.6	+39
BOD			Pmax			03 31 35.1	
	2.0nm,0.1s						
BOD			e			03 33 32.0	
BOD			eSg		Sn	03 33 35.4	+57
BOD			Smax			03 33 52.6	
	78nm,1.1s						
MOY	Mondy	10.36 295	ePg		Pn	03 31 40.1	+43
MOY			Pmax			03 31 50.5	
	2.0nm,0.4s						
MOY			eSg		Sn	03 33 53.8	+61
MOY			Smax			03 34 09.6	
	168nm,1.4s						
KLR	Kul'dur	10.40 78	Pn		Pn	03 30 55.2	-2.4
	0.7nm,0.3s,baz=264,slow=13,SNR=11						
KLR			Sn		Sn	03 32 52.0	-2.2
	0.3nm,0.3s,baz=97,slow=7.1,SNR=4.9						
KLR			Lg		Lg	03 33 55.3	
	0.9nm,0.3s,baz=225,slow=3.1,SNR=6.4						
ORL	Orlik	11.29 299	e			03 34 01.2	
ORL			eSg			03 34 24.6	
ORL			e			03 34 43.3	
ORL			max			03 34 44.4	
	54nm,1.5s						
USRK	Ussuriysk Ar.	11.70 104	Lg		Lg	03 34 31.5	
	0.2nm,0.3s,baz=296,slow=24,SNR=3.4						
GTA	Gaotai	14.64 239	eP		Pn	03 31 53.0	-2.6
GTA			pP		P	03 31 56.3	-5.7
GTA			sP			03 31 59.5	
GTA			pmax		pmax		
	comp=Z,2.0nm,1.0s						
LZH	Lanzhou	15.08 221	eP		Pn	03 32 00.3	-1.4
LZH			pP		P	03 32 04.5	-2.6
LZH			sP		pP	03 32 07.0	-3.1
LZH			pmax		pmax		
	comp=Z,12nm,1.0s						
WMQ	Urumqi	20.15 268	eP		P	03 33 04.8	+2.0
WMQ			pP		sP	03 33 09.8	+2.5
WMQ			sP		pP	03 33 17.0	+11
MKAR	Makanchi Array	22.79 279	P		P	03 33 34.0	+2.9
	0.1nm,0.4s,baz=74,slow=11,SNR=2.6						
JHJ	Hachijo jima 2	23.29 122	LR		LR	03 42 51.0	
	comp=Z,78nm,18.8s,baz=356,slow=38						
KURBB	Kurchatov Arra	24.41 290	P		P	03 33 48.2	+1.3
	0.3nm,0.5s,baz=83,slow=9.2,SNR=2.7						
FINES	FINESS Array B	49.36 321	P		P	03 37 20.1	+2.6
	0.4nm,0.5s,baz=104,slow=8.0,SNR=3.5						
YKA	Yellowknife Ar	62.55 24	P		P	03 38 53.4	+1.5
	0.2nm,0.6s,baz=327,slow=6.5,SNR=3.9						

ISCJB ***29*** *03:47:44.8±0.5,24°.91N±0°.02×122°.47E±0°.02,h12km±3km, Error ellipse: s-maj=4.1km s-min=2.7km az=19.2*
JMA ***29*** *03:47:44.7±0.1,24°.90N×122°.45E,h3km,M2.7*
TAP ***29*** *03:47:44.4,24°.92N×122°.45E,h11km±1km,ML3.3,C*
ISC 29 03:47:44.7±1.1,24°.91N±0°.03×122°.44E±0°.02,h10km±9km, n54,σ0°.39/100,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.42	283	i P	Pg	03 47 53.4	+0.4
	baz=282						
TWB1				i S	Sb	03 47 60.0	-0.8
	baz=282						
EOS1	EOS1	0.46	219	eP	Pb	03 47 55.0	+0.1
	baz=218						
EOS1				eS	Sb	03 48 02.4	+0.6
	baz=218						
EGS		0.47	262	P	Pg	03 47 54.2	+0.4
	baz=261						
EGS				S	Sb	03 48 02.0	-0.1
	baz=261						
NTC	Toucheng	0.56	264	eP	Pb	03 47 56.4	-0.2
	baz=263						
NTC				eS	Sb	03 48 04.7	0.0
	baz=263						
TIPB	Shuangxi	0.56	276	P	Pb	03 47 56.4	-0.4
	baz=275						
TIPB				eS	Sb	03 48 04.9	0.0
	baz=275						
TWC	Suao	0.62	241	i P	Pg	03 47 56.9	+0.2
	baz=240						
TWC				i S	Sb	03 48 05.7	-0.7
	baz=240						
NWF	Wu-fen Shan	0.62	285	i P	Pb	03 47 57.8	0.0
	baz=284						
NWF				S	Sb	03 48 06.9	+0.3
	baz=284						
WFSB	Wu-fen Shan	0.62	285	eP	Pb	03 47 57.6	-0.1
	baz=284						
WFSB				eS	Sb	03 48 06.3	-0.2
	baz=284						
JYNG	Yonagunijimaku	0.65	135	P	Pg	03 47 57.1	-0.1
JYNG				eS	Sg	03 48 05.5	-0.2
YOJ	Yonaguni jima	0.68	131	eP	Pg	03 47 57.9	0.0
	baz=131						
YOJ				eS	Sg	03 48 07.0	+0.2
	baz=131						
YOJ	Yonaguni jima	0.68	131	P	Pg	03 47 57.7	-0.2
YOJ				eS	Sg	03 48 06.8	-0.1
TWE	Neicheng	0.73	255	i P	Pg	03 47 59.2	+0.3
	baz=254						
TWE				i S	Sb	03 48 09.8	+0.2
	baz=254						
SLBB	Yuanshan	0.75	258	eP	Pb	03 47 59.8	-0.1
	baz=257						
SLBB				eS	Sb	03 48 11.2	+0.9
	baz=257						
PCYT	Pengchaiyu	0.79	335	P	Pg	03 47 59.8	-0.2
	baz=334						
YM07	YM07	0.79	290	P	Pg	03 48 00.2	+0.2
	baz=289						
YM07				S	Sb	03 48 12.2	+0.7
	baz=289						
NANB	Nanao	0.79	233	eP	Pg	03 47 59.8	-0.2
	baz=232						
NANB				eS	Sg	03 48 10.5	+0.1
	baz=232						
ENA	Nanau	0.80	233	eP	Pg	03 48 00.3	+0.2
	baz=232						
ENA				i S	Sb	03 48 11.4	-0.2
	baz=232						
YM08	YM08	0.82	290	P	Pg	03 48 00.5	-0.1
	baz=289						
YM08				eS	Sb	03 48 12.6	+0.3
	baz=289						
YM01	YM01	0.83	287	P	Pg	03 48 00.6	0.0
	baz=286						
YM01				eS	Sb	03 48 13.1	+0.7
	baz=286						
YM11	YM11	0.83	288	eP	Pg	03 48 00.9	+0.2
	baz=287						
NHDH	Xindian Distri	0.83	274	eP	Pb	03 48 01.2	-0.2
	baz=273						
NHDH				eS	Sb	03 48 12.8	+0.1
	baz=273						
YM10	YM10	0.84	287	P	Pg	03 48 01.1	+0.2
	baz=286						
ENTT	Nioudou	0.84	251	P	Pg	03 48 01.2	+0.2
	baz=250						
ENTT				S	Sb	03 48 13.3	+0.5
	baz=250						
TWY	Chenhua	0.85	296	P	Pg	03 48 01.0	-0.1
	baz=295						
TWY				S	Sb	03 48 13.1	+0.1
	baz=295						
NWLT	Wulai	0.86	261	eP	Pg	03 48 01.6	+0.2
	baz=260						
NWLT				S	Sb	03 48 14.0	+0.5
	baz=260						
NDT	Datong Townshi	0.90	250	P	Pb	03 48 02.4	-0.1
	baz=249						
NDT				eS	Sb	03 48 15.2	+0.7
	baz=249						
YHNB	Yeheng	1.00	256	eP	Pg	03 48 03.8	-0.2
	baz=255						
YHNB				eS	Sb	03 48 17.5	+0.1
	baz=255						
NSK	Sanguang	1.01	257	P	Pb	03 48 04.5	0.0
	baz=256						
NSK				S	Sb	03 48 18.8	+1.0
	baz=256						
NACB	Ninganchiao	1.07	227	eP	Pb	03 48 05.3	0.0
	baz=226						
NACB				eS	Sg	03 48 18.7	-0.4
	baz=226						
NNSB	Datong	1.08	244	eP	Pg	03 48 05.0	-0.5
	baz=243						
NNSB				eS	Sg	03 48 19.6	+0.2
	baz=243						
NNS	Nan Shan	1.08	244	i P	Pg	03 48 05.1	-0.4
	baz=243						
NNS				S	Sb	03 48 20.0	+0.1
	baz=243						
ETLH	Xiulin Townshi	1.12	232	eP	Pn	03 48 06.6	0.0
	baz=231						
ETLH				eS	Sb	03 48 21.7	+0.7
	baz=231						
TWD	Chiawan	1.13	223	P	Pb	03 48 06.5	+0.1
	baz=222						
TWD				eS	Sb	03 48 21.2	0.0
	baz=222						
IRIF	Iriomote-Funau	1.30	116	P	Pg	03 48 09.7	-0.1
IRIF				eS	Sn	03 48 27.2	+0.7
WHF	Hehuan Shan	1.32	235	eP	Pn	03 48 09.4	-0.2
	baz=234						
WHF				eS	Sg	03 48 26.9	-0.2
	baz=234						
LIOB	Emei	1.32	259	eP	Pn	03 48 08.8	-0.6
	baz=258						
LIOB				eS	Sn	03 48 27.4	+0.4
	baz=258						
NSTT	Nanjuang	1.34	258	eP	Pn	03 48 08.9	-0.6
	baz=257						
NSTT				eS	Sb	03 48 27.0	-0.3
	baz=257						
TDCB	Techi	1.34	241	eP	Pn	03 48 09.4	-0.3
	baz=240						
TDCB				eS	Sg	03 48 27.8	-0.1
	baz=240						
ESL	Shilin	1.43	220	eP	Pb	03 48 11.7	+0.2
	baz=219						
ESL				eS	Sn	03 48 30.2	+0.5
	baz=219						
CHGB	Renai	1.43	234	eP	Pn	03 48 11.5	+0.5
	baz=233						
CHGB				eS	Sb	03 48 30.3	+0.2
	baz=233						
OWD	Renai	1.50	231	eP	Pn	03 48 12.2	+0.3
	baz=230						
OWD				S	Sn	03 48 31.6	+0.1
	baz=230						
WHP	Taichung City	1.50	245	eP	Pn	03 48 12.0	+0.1
	baz=245						
JKRS	Kuro-shima	1.58	115	P	Pn	03 48 13.0	+0.2
JKRS				eS	Sn	03 48 33.2	0.0
DPDB	Guoxing	1.64	238	eP	Pn	03 48 13.8	+0.2
	baz=237						
VWDT	VWDT	1.66	226	eP	Pn	03 48 14.6	+0.7
	baz=225						
VWDT				eS	Sn	03 48 35.8	+0.7
	baz=225						
HGSD	Ruisui	1.69	214	eP	Pn	03 48 14.7	+0.3
	baz=213						
HGSD				eS	Sn	03 48 36.6	+0.5
	baz=213						
EHY	Hungye	1.73	216	eP	Pn	03 48 14.2	-0.7
	baz=215						
EHY				eS	Sn	03 48 37.4	+0.3
	baz=215						
SMLT	Sun Moon Lake	1.74	234	P	Pn	03 48 15.3	+0.2
	baz=233						
SMLT				eS	Sn	03 48 37.1	-0.4
	baz=233						
SSLB	Suanglung	1.76	231	eP	Pn	03 48 15.1	-0.2
	baz=230						
SSLB				eS	Sb	03 48 39.4	+0.1
	baz=230						
TYC	Yuchr	1.76	236	eP	Pn	03 48 15.4	+0.1
	baz=235						
TYC				eS	Sn	03 48 37.5	-0.3
	baz=235						
YULB	Yu-li	1.84	215	eP	Pn	03 48 15.4	-1.0
	baz=214						
YULB				eS	Sn	03 48 39.2	-0.6
	baz=214						
CHN5	Tsauling	2.08	231	eP	Pb	03 48 22.0	-0.6
	baz=230						
TWGBT	Beinan	2.43	211	eS	Sn	03 48 54.1	-0.3
	baz=210						
TWG	Pinlang	2.43	211	eS	Sn	03 48 53.6	-0.8
	baz=210						

MEX 29 03:58:14.4±1.0,18°.85N×104°.21W,h8km±5km,MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		0.85	42	eP	Pg	03 58 28.9	-1.9
EZ5V				eS	Sg	03 58 41.0	-0.9
MMIG	Aquila	0.99	124	eP	Pg	03 58 31.0	-2.4
MMIG				eS	Sg	03 58 43.9	-2.4
CJM	Chamela	1.02	309	eP	Pg	03 58 30.6	-3.4
CJM				i S	Sg	03 58 44.8	-2.5
ANIG	Ahuacatlan	2.21	352	eP	Pn	03 58 48.3	-3.3
ANIG				i S	Sn	03 59 15.2	-4.1

IDC ***29*** *04:06:45.6±0.9,2°.79S×139°.34E,h0km,mb4.0/8, mb1 4.1/8,mb1mx4.0/22,mbtmp4.0/8,ML5.1/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/29,Error ellipse: s-maj=46.2km s-min=17.0km az=95.0*
ISCJB ***29*** *04:06:50.5±0.5,2°.87S±0°.05×139°.06E±0°.06,h46km, mb4.0/10,Error ellipse: s-maj=9.4km s-min=6.8km az=11.1*
NEIC ***29*** *04:06:52.2±2.3,2°.88S×139°.22E,h49km±7km,mb4.1/9, Error ellipse: s-maj=31.5km s-min=12.1km az=94.0*
ISC 29 04:06:52.3±0.7,3°.04S±0°.06×139°.11E±0°.08,h46km,n26, σ2°.79/34,mb3.9/10,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	6.85	271	ePn	Pn	04 08 33.2	+3.0
FAKI				eSn	Sn	04 09 46.7	-0.2
PMG	Port Moresby	10.20	129	LR	LR	04 12 58.2	
	comp=Z,72nm,20.4s,baz=231,slow=37						
COEN	Coen	11.57	160	ePn	Pn	04 09 36.3	+1.4
MTN	Manton Dam	12.53	219	ePn	Pn	04 09 51.0	+3.0
MTN				eSn	Sn	04 12 08.2	+1.9
WRAB	Tennant Creek	17.42	195	ePn	P	04 10 53.9	+1.0
	15nm,1.4s						
WB2	Warramunga Arr	17.43	195	ePn	P	04 10 54.5	+1.6
	14nm,1.1s						
WB2				eSn	Sn	04 14 01.0	-4.4
WR1	Warramunga Arr	17.43	195	ePn	P	04 10 54.8	+1.8
WR1				eSn	Sn	04 13 59.8	-5.6
WRA	Warramunga Arr	17.43	195	P	P	04 10 54.8	+1.8
	6.9nm,0.3s,baz=21,slow=12,SNR=1.9						
WRA				S	Sn	04 13 59.8	-5.6
	8.5nm,0.3s,baz=19,slow=23,SNR=2.6						
FITZ	Fitzroy Crossi	19.95	220	eP	Pn	04 11 23.0	+0.4
	13nm,1.4s						
FITZ				eS	S	04 14 56.3	-6.4
FITZ	Fitzroy Crossi	19.95	220	P	Pn	04 11 23.0	+0.4
	4.0nm,0.8s,baz=52,slow=8.9,SNR=14						
FITZ				S	S	04 14 56.3	-6.4
	3.6nm,0.8s,baz=128,slow=10,SNR=4.1						
AS31	Alice Springs	21.11	193	eP	P	04 11 34.2	+1.0
	1.9nm,0.6s						
AS31				eS	S	04 15 25.3	-0.4
ASAR	Alice Springs	21.11	193	P	P	04 11 35.6	+2.4
	2.4nm,0.4s,baz=20,slow=11,SNR=36						
ASAR				S	S	04 15 25.3	-0.5
	0.7nm,0.8s,baz=20,slow=26,SNR=3.5						
EIDS	Eidsvold	25.01	154	eP	P	04 12 14.3	+2.2
	20nm,1.1s						
STKA	Stephens Creek	28.78	176	eP	P	04 12 47.0	+1.2
	1.7nm,1.5s						
STKA	Stephens Creek	28.78	176	P	P	04 12 47.0	+1.2
	0.7nm,0.4s,baz=346,slow=9.9,SNR=3.3						
KS15	Wonju Array Si	41.61	347	eP	P	04 14 34.7	-1.1
	37nm,1.5s						
KSRS	Korea Array	41.61	347	P	P	04 14 34.7	-1.1
	1.1nm,0.4s,baz=154,slow=9.5,SNR=5.0						
PETK	Petropavlovsk-	58.09	13	P	P	04 16 40.0	-0.8
	3.2nm,0.7s,baz=147,slow=8.6,SNR=4.4						
PEA1	Petropavlovsk-	58.10	13	eP	P	04 16 40.0	-0.9
MK32	Makanchi Array	70.29	322	eP	P	04 18 00.1	-0.9
MKAR	Makanchi Array	70.29	322	P	P	04 18 00.1	-0.9
	0.7nm,0.4s,baz=102,slow=8.5,SNR=9.1						
VNDA	Vanda	75.42	175	P	P	04 18 32.6	+1.8
	0.4nm,0.5s,baz=322,slow=7.0,SNR=9.8						
ILAR	Eielson Array	85.97	24	P	P	04 19 24.5	-2.9
	0.8nm,0.6s,baz=260,slow=4.6,SNR=11						
ILB	Eielson Array	85.97	24	eP	P	04 19 24.5	-2.9
	1.4nm,0.7s						
TORD	Torodi Ar. Bea	136.73	286	PKP	PKPdf	04 26 11.4	+0.6
	0.1nm,0.3s,baz=56,slow=2.6,SNR=4.4						
TOA1	Torodi Ar. Sit	136.73	286	ePKPdf	PKPdf	04 26 11.4	+0.6

SNET ***29*** *04:24:37.3±1.1,14°.50N×89°.15W,h6km±3km,ML3.9*
UCR ***29*** *04:24:37.3±1.4,14°.48N×89°.13W,h3km±3km,MD3.4, ML3.9,mb4.2(NEIC)*
IDC ***29*** *04:24:38.4±1.4,14°.41N×89°.29W,h0km,mb3.6/3, mb1 3.9/7,mb1mx3.6/39,mbtmp3.6/7,ML3.1/4,MS2.9/3, Ms1 2.9/3,ms1mx2.6/25,Error ellipse: s-maj=48.6km s-min=13.2km az=25.0*
NEIC ***29*** *04:24:38.5±2.3,14°.62N×89°.03W,h11km±5km,mb4.2/14, MD3.9(SNET),Error ellipse: s-maj=17.3km s-min=6.0km az=205.0*
NEIC Felt at Copan. Felt [I] at Chalatenango, El Salvador.
ISC 29 04:24:36.8±1.0,14°.53N±0°.03×89°.11W±0°.02,h10km±7km, n87,σ1°.43/130,mb4.2/10,3C-2D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTO3	Montecristo	0.28	242	eP	Pg	04 24 42.4	-0.1
MTO3				eS	Sg	04 24 47.1	+0.8
MTO3	Montecristo	0.28	242	eP	Pg	04 24 42.4	-0.1
MTO3				eS	Sg	04 24 47.1	+0.8
LLGN	La Laguna	0.39	157	eP	Pg	04 24 45.2	+0.7
LLGN				eS	Sg	04 24 51.3	+1.6
LLGN	La Laguna	0.39	157	eP	Pg	04 24 45.2	+0.7
LLGN				eS	Sg	04 24 51.3	+1.6
UNIC	Santa Ana	0.69	219	eP	Pg	04 24 50.1	-0.1
UNIC				eS	Sg	04 24 59.6	+0.4
UNIC	Santa Ana	0.69	219	eP	Pg	04 24 50.1	-0.1
UNIC				eS	Sg	04 24 59.6	+0.4
VICT	Victoria	0.73	141	eP	Pg	04 24 51.1	+0.2
VICT				eS	Sb	04 25 02.5	+0.8
VICT				IAML		04 25 07.3	
	comp=Z,2μm,0.2s						
VICT	Victoria	0.73	141	eP	Pg	04 24 51.1	+0.2
VICT				eS	Sb	04 25 02.5	+0.8
VICT				IAML		04 25 07.3	
	comp=Z,2μm,0.2s						
LFU	La Fuente	0.78	180	eP	Pg	04 24 52.0	+0.2
LFU				eS	Sg	04 25 02.9	+0.9
LFU	La Fuente	0.78	180	eP	Pg	04 24 52.0	+0.2
LFU				eS	Sg	04 25 02.9	+0.9
MRL	Marmol	0.78	315	‖ iP	Pn	04 24 52.1	-1.9
LBRS	Las Brisas	0.79	175	eP	Pg	04 24 52.3	+0.3
UEES	San Salvador	0.81	189	eP	Pg	04 24 52.9	+0.5
UEES				eS	Sb	04 25 04.9	+0.9
UEES	San Salvador	0.81	189	eP	Pg	04 24 52.9	+0.5
UEES				eS	Sb	04 25 04.9	+0.9
OPAM	San Salvador	0.81	186	eP	Pg	04 24 52.4	-0.1
OPAM				eS	Sb	04 25 04.9	+0.8
OPAM	San Salvador	0.81	186	eP	Pg	04 24 52.4	-0.1
OPAM				eS	Sb	04 25 04.9	+0.8

SNJE	**San Jose**	**0.81 216**	*e*P	**Pg**	**04 24 52.6**	**0.0**
SNJE			*e*S	**Sg**	**04 25 04.0**	**+0.8**
SNJE	**San Jose**	**0.81 216**	*e*P	**Pg**	**04 24 52.6**	**0.0**
SNJE			*e*S	**Sg**	**04 25 04.0**	**+0.8**
RTR	**El Retiro**	**0.82 220**	*e*P	**Pb**	**04 24 53.0**	**-0.2**
RTR			*e*S	**Sb**	**04 25 05.1**	**+0.7**
RTR	**El Retiro**	**0.82 220**	*e*P	**Pb**	**04 24 53.0**	**-0.2**
RTR			*e*S	**Sb**	**04 25 05.1**	**+0.7**
PAVA	**Las Pavas**	**0.83 168**	*e*P	**Pg**	**04 24 52.9**	**+0.1**
PAVA			*e*S	**Sg**	**04 25 04.5**	**+0.8**
PAVA	**Las Pavas**	**0.83 168**	*e*P	**Pg**	**04 24 52.9**	**+0.1**
PAVA			*e*S	**Sg**	**04 25 04.5**	**+0.8**
SNET	**Serv Nac Est T**	**0.85 188**	*e*P	**Pg**	**04 24 53.4**	**+0.2**
SNET			*e*S	**Sg**	**04 25 05.3**	**+1.1**
SNET			IAML		04 25 14.1	
	comp=Z,1μm,0.3s					
SNET	**Serv Nac Est T**	**0.85 188**	*e*P	**Pg**	**04 24 53.4**	**+0.2**
SNET			*e*S	**Sg**	**04 25 05.3**	**+1.1**
SNET			IAML		04 25 14.1	
	comp=Z,1μm,0.3s					
SBLS	**San Blas**	**0.85 216**	*e*P	**Pg**	**04 24 53.3**	**+0.1**
SBLS			*e*S	**Sb**	**04 25 05.8**	**+0.5**
SBLS	**San Blas**	**0.85 216**	*e*P	**Pg**	**04 24 53.3**	**+0.1**
SBLS			*e*S	**Sb**	**04 25 05.8**	**+0.5**
CEVE	**Cerro Verde**	**0.86 216**	*e*P	**Pg**	**04 24 53.6**	**+0.2**
CEVE			*e*S	**Sb**	**04 25 06.4**	**+0.8**
CEVE			IAML		04 25 08.0	
	comp=Z,4μm,0.4s					
CEVE	**Cerro Verde**	**0.86 216**	*e*P	**Pg**	**04 24 53.6**	**+0.2**
CEVE			*e*S	**Sb**	**04 25 06.4**	**+0.8**
CEVE			IAML		04 25 08.0	
	comp=Z,4μm,0.4s					
LFRS	**El Faro**	**0.90 177**	*e*P	**Pg**	**04 24 54.2**	**0.0**
LFRS			*e*S	**Sb**	**04 25 07.6**	**+0.9**
SNVI	**San Vicente**	**0.95 164**	*e*P	**Pg**	**04 24 55.5**	**+0.4**
SNVI	**San Vicente**	**0.95 164**	*e*P	**Pg**	**04 24 54.9**	**-0.2**
CAHU	**Cacacuatique**	**1.15 131**	*e*P	**Pb**	**04 24 58.8**	**-0.1**
CAHU			*e*P	**Pg**	**04 24 59.2**	**+0.2**
CAHU			*e*S	**Sn**	**04 25 15.7**	**+0.6**
CAHU			IAML		04 25 22.6	
	comp=Z,4μm,0.5s					
CAHU	**Cacacuatique**	**1.15 131**	*e*P	**Pb**	**04 24 58.8**	**-0.1**
CAHU			*e*S	**Sn**	**04 25 15.7**	**+0.6**
UESV	**Ojushtada**	**1.18 165**	*e*P	Pn	04 24 54.8	-4.6
UESV			*e*S	**Sb**	**04 25 08.1**	**-6.6**
UESV	**Ojushtada**	**1.18 165**	*e*P	Pn	04 24 54.8	-4.6
UESV			*e*S	**Sb**	**04 25 08.1**	**-6.6**
TECA	**Tecapa**	**1.19 150**‖	*e*P	**Pn**	**04 24 59.3**	**-0.3**
TECA			*e*S	**Sn**	**04 25 16.6**	**+0.7**
TECA	**Tecapa**	**1.19 150**‖	*e*P	**Pn**	**04 24 59.3**	**-0.3**
TECA			*e*S	**Sn**	**04 25 16.6**	**+0.7**
NBG	**Las Nubes**	**1.20 273**‖	*e*P	**Pn**	**04 25 00.1**	**+0.2**
NBG			*e*S	**Sn**	**04 25 17.3**	**+1.0**
PACA	**Pacayal**	**1.30 144**	*e*P	**Pn**	**04 25 01.2**	**0.0**
PACA			*e*S	**Sg**	**04 25 19.4**	**+0.7**
PACA			IAML		04 25 27.4	
	comp=Z,13μm,0.6s					
PACA	**Pacayal**	**1.30 144**	*e*P	**Pn**	**04 25 01.2**	**0.0**
PACA			*e*S	**Sg**	**04 25 19.4**	**+0.7**
PACA			IAML		04 25 27.4	
	comp=Z,13μm,0.6s					
LCY	**Lacayo**	**1.35 144**	*e*P	**Pn**	**04 25 02.0**	**+0.1**
LCY	**Lacayo**	**1.35 144**	*e*P	**Pn**	**04 25 02.0**	**+0.1**
VSM	**San Miguel**	**1.36 143**	*e*P	**Pb**	**04 25 02.3**	**-0.3**
VSM	**San Miguel**	**1.36 143**	*e*P	**Pb**	**04 25 02.3**	**-0.3**
APG	**El Apazote**	**1.39 290**	Pg	**Pg**	**04 25 02.1**	**-1.5**
	comp=Z,192nm,0.3s,baz=113,slow=9.4,SNR=1643					
APG			Lg	Lg	04 25 20.7	
	comp=Z,152nm,0.3s,baz=303,slow=5.9,SNR=16					
PCG	**Pacaya**	**1.46 265**‖	*i*P	**Pg**	**04 25 05.2**	**+0.4**
FUG	**Fuego 3**	**1.68 267**	*e*P	**Pg**	**04 25 07.7**	**-1.4**
LCND	**La Caada**	**1.70 136**	*e*P	**Pn**	**04 25 06.9**	**+0.4**
LCND			*e*S	**Sb**	**04 25 30.2**	**+0.7**
LCND			IAML		04 25 34.6	
	comp=Z,3μm,0.4s					
LCND	**La Caada**	**1.70 136**	*e*P	**Pn**	**04 25 06.9**	**+0.4**
LCND			*e*S	**Sb**	**04 25 30.2**	**+0.7**
LCND			IAML		04 25 34.6	
	comp=Z,3μm,0.4s					
CNCH	**Conchagua**	**1.76 135**	*e*P	**Pb**	**04 25 09.0**	**-0.2**
CNCH	**Conchagua**	**1.76 135**	*e*P	**Pb**	**04 25 09.0**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.84 105**	*e*Pn	**Pn**	**04 25 08.8**	**+0.4**
TGUH			*e*Sn	**Sg**	**04 25 34.7**	**-1.3**
TGUH	**Tegucigalpa,Un**	**1.84 105**	*e*P	**Pn**	**04 25 08.9**	**+0.4**
TGUH			*e*S	**Sb**	**04 25 34.4**	**+0.7**
TGUH	**Tegucigalpa,Un**	**1.84 105**	*e*P	**Pn**	**04 25 08.9**	**+0.4**
TGUH			*e*S	**Sb**	**04 25 34.4**	**+0.7**
CSGN	**Cosiguina Volc**	**2.16 136**	*e*Pn	**Pb**	**04 25 14.9**	**-1.2**
CSGN			*e*Sn	**Sb**	**04 25 43.0**	**+0.2**
CRIN	**San Cristobal**	**2.71 132**	IAML		04 26 15.8	
	comp=N,637nm,0.8s					
ESTN	**Estel**	**3.02 118**	*e*Pn	**Pn**	**04 25 25.5**	**+0.8**
ESTN			*e*Sn	**Sn**	**04 26 01.9**	**+0.9**
ESTN	**Estel**	**3.02 118**	*e*P	**Pn**	**04 25 25.6**	**+0.8**
ESTN			IAML		04 26 24.6	
	comp=N,312nm,1.0s					
RCON	**San Juan de Ri**	**3.05 110**	*e*P	**Pn**	**04 25 25.6**	**+0.3**
COPN	**Copaltepe**	**3.39 133**	*e*P	**Pn**	**04 25 30.7**	**+1.0**
CCIG	**Comitan**	**3.40 301**	*e*Pn	**Pn**	**04 25 32.2**	**+2.2**
CCIG			*e*Sn	**Sb**	**04 26 13.4**	**-5.4**
MATN	**Matagalpa**	**3.48 117**	*e*P	**Pn**	**04 25 31.9**	**+0.8**
MATN			IAML		04 26 35.9	
	comp=N,1μm,0.9s					
ACON	**Acoyapa**	**4.60 123**	*e*Pn	**Pn**	**04 25 46.8**	**+0.4**
ACON			*e*Sn	**Sn**	**04 26 40.7**	**+0.7**
ESPN	**Las Esperanzas**	**5.22 116**	*e*Pn	**Pn**	**04 25 56.2**	**+1.2**
ESPN			*e*Sn	**Sn**	**04 26 56.5**	**+1.2**
TEIG	**Tepich**	**5.72 8**	*e*Pn	**Pn**	**04 26 02.2**	**+0.4**
TEIG			*e*Sn	**Sn**	**04 27 04.9**	**-2.6**
JTS	**Las Juntas de**	**5.85 136**	*e*Pn	**Pn**	**04 26 04.0**	**+0.4**
JTS	**Las Juntas de**	**5.85 136**	Pn	**Pn**	**04 26 06.1**	**+2.4**
	comp=N,0.3nm,0.3s,baz=301,slow=18,SNR=2.4					
CMIG	**Matias Romero**	**6.11 295**	Pn	**Pn**	**04 26 06.9**	**-0.3**
	comp=N,0.6nm,0.3s,baz=143,slow=8.3,SNR=11					
CMIG			Sn	**Sn**	**04 27 14.3**	**-3.0**
	comp=N,1.4nm,0.3s,baz=291,slow=21,SNR=6.2					
CMIG			Lg	Lg	04 27 48.4	
	comp=N,1.4nm,0.3s,baz=11,slow=19,SNR=5.6					
CMIG			LR	LR	04 28 06.3	
	comp=N,47nm,18.4s,baz=168,slow=35					
957A	**Wimauma**	**14.56 25**	*e*Pn	**Pn**	**04 28 02.8**	**-0.1**
ROSC	**El Rosal**	**17.46 122**	*e*Pn	**Pn**	**04 28 39.8**	**-1.2**
	comp=N,6.1nm,0.9s					
SDV	**Santo Domingo**	**18.93 105**	*e*P	**Pn**	**04 28 59.8**	**+0.9**
	comp=N,4.5nm,0.8s					
SDV	**Santo Domingo**	**18.93 105**	P	**Pn**	**04 29 02.8**	**+3.9**
	comp=N,0.1nm,0.3s,baz=180,slow=1.5,SNR=6.4					
SDV			LR	LR	04 36 39.4	
	comp=N,43nm,19.2s,baz=258,slow=38					
HPIG		**19.77 311**	*e*P	**P**	**04 29 06.7**	**-0.7**
	comp=N,7.8nm,0.5s					
TXAR	**Lajitas Array**	**19.95 320**	P	**Pn**	**04 29 11.6**	**+0.7**
	comp=N,0.1nm,0.3s,baz=149,slow=12,SNR=14					
MIAR	**Mount Ida**	**20.33 349**	*e*P	Pn	04 29 15.4	+0.2
	comp=N,4.1nm,1.0s					
Y60A	**Bolivia**	**21.75 25**	*e*P	**P**	**04 29 26.5**	**-2.0**
	comp=N,30nm,0.8s					
PARMO	**Parma**	**22.05 359**	*e*P	**P**	**04 29 31.3**	**-0.4**
	comp=N,32nm,0.6s					
LPIG	**La Paz**	**22.13 299**	LR	LR	04 38 57.2	
	comp=N,48nm,20.3s,baz=182,slow=39					
T47A	**Sharon Grove**	**22.44 4**	*e*P	**P**	**04 29 37.9**	**+2.1**
	comp=N,5.6nm,0.8s					
SIUC	**Southern Illin**	**23.09 360**	*e*P	**P**	**04 29 43.2**	**+0.5**
	comp=N,11nm,1.1s					
AMTX	**Amarillo**	**23.22 333**	*e*P	**P**	**04 29 44.3**	**+0.1**
	comp=N,9.7nm,1.2s					
CCM	**Cathedral Cave**	**23.51 356**	*e*P	**P**	**04 29 48.5**	**+1.6**
	comp=N,7.6nm,0.9s					
NVAR	**Mina Array Bea**	**35.09 318**	P	P	04 31 35.2	+4.7
	comp=N,1.5nm,0.9s,baz=123,slow=9.9,SNR=5.9					
YKA	**Yellowknife Ar**	**51.20 345**	P	**P**	**04 33 43.2**	**+3.2**
	comp=N,0.3nm,0.7s,baz=141,slow=7.7,SNR=6.8					
ILAR	**Eielson Array**	**63.48 336**	P	**P**	**04 35 09.8**	**+3.0**
	comp=N,0.6nm,0.8s,baz=104,slow=7.5,SNR=5.5					
MLY	**Manley**	**65.10 336**	*e*P	**P**	**04 35 18.7**	**+1.3**
	comp=N,3.0nm,1.1s					
CMAR	**Chiang Mai Arr**	**146.27 346**	PKPbc	**PKPbc**	**04 44 22.3**	**+3.8**
	comp=N,1.9nm,0.5s,baz=347,slow=4.7,SNR=10					

*ISCJB **29** 04:29:42.7±0.5, 1°.60S±0°.04×77°.93W±0°.07, h150km, mb3.8/13, Error ellipse: s-maj=10.3km s-min=6.0km az=4.5*

*IDC **29** 04:29:44.6±2.0, 1°.55S×77°.74W, h171km±22km, mb3.5/13, mb1 3.7/16, mb1mx3.5/33, mbtmp4.0/16, Error ellipse: s-maj=19.1km s-min=11.7km az=42.0*

ISC 29 04:29:43.0±0.6, 1°.52S±0°.07×77°.85W±0°.07, h150km, n59, σ2§17/59, mb3.8/13, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**1.85**	**341**	*e*P	**Pn**	**04 30 19.9**	**+3.0**
OTAV	**Otavalo**	**1.85**	**341**	*e*P	**Pn**	**04 30 19.9**	**+3.0**
GCUF	**Volcan Galeras**	**2.78**	**10**	*e*P	**Pn**	**04 30 31.7**	**+3.6**
GCUF	**Volcan Galeras**	**2.78**	**10**	*e*P	**Pn**	**04 30 31.7**	**+3.6**
CCUFI	**Cufio, Nario**	**2.78**	**10**	*e*P	**Pn**	**04 30 30.3**	**+2.2**
CCUFI	**Cufio, Nario**	**2.78**	**10**	*e*P	**Pn**	**04 30 30.3**	**+2.2**
CPAS2	**Pasto**	**2.79**	**12**	*e*P	Pn	04 30 33.1	+5.0
CPAS2	**Pasto**	**2.79**	**12**	*e*P	Pn	04 30 33.1	+5.0
CRUC	**La Cruz**	**3.20**	**16**	*e*P	**Pn**	**04 30 36.6**	**+3.3**
CRUC	**La Cruz**	**3.20**	**16**	*e*P	**Pn**	**04 30 36.6**	**+3.3**
PTLC	**Puerto Leguiza**	**3.48**	**61**	*e*P	**Pn**	**04 30 37.3**	**+0.7**
PTLC	**Puerto Leguiza**	**3.48**	**61**	*e*P	**Pn**	**04 30 37.3**	**+0.7**
BBAC	**Balboa, Cauca**	**3.57**	**10**	*e*P	**Pn**	**04 30 40.0**	**+2.1**
BBAC	**Balboa, Cauca**	**3.57**	**10**	*e*P	**Pn**	**04 30 40.0**	**+2.1**
FLOC	**Florencia**	**3.79**	**35**	*e*P	**Pn**	**04 30 42.8**	**+2.3**
FLOC	**Florencia**	**3.79**	**35**	*e*P	**Pn**	**04 30 42.8**	**+2.3**
SOTA	**Rioblanco**	**3.84**	**19**	*e*P	**Pn**	**04 30 44.2**	**+2.6**
SOTA	**Rioblanco**	**3.84**	**19**	*e*P	**Pn**	**04 30 44.2**	**+2.6**
PCON	**Cinco Dias**	**4.09**	**21**	*e*P	**Pn**	**04 30 49.1**	**+4.1**
PCON	**Cinco Dias**	**4.09**	**21**	*e*P	**Pn**	**04 30 49.1**	**+4.1**
POPC	**Popayan, Colom**	**4.20**	**16**	*e*P	**Pn**	**04 30 47.7**	**+1.5**
POPC	**Popayan, Colom**	**4.20**	**16**	*e*P	**Pn**	**04 30 47.7**	**+1.5**
MARP	**Paez Belalcaza**	**4.73**	**24**	*e*P	**Pn**	**04 30 56.0**	**+2.9**
MARP	**Paez Belalcaza**	**4.73**	**24**	*e*P	**Pn**	**04 30 56.0**	**+2.9**
MACC	**Macarena, Meta**	**5.41**	**48**	*e*P	**Pn**	**04 31 04.4**	**+2.5**
MACC	**Macarena, Meta**	**5.41**	**48**	*e*P	**Pn**	**04 31 04.4**	**+2.5**
ATAH	**Atahualpa**	**5.60**	**186**	P	**Pn**	**04 31 07.3**	**+2.5**
	3.1nm,0.3s,baz=0.6,slow=6.7,SNR=26						
ATAH				S	**Sn**	**04 32 09.1**	**+0.4**
	2.8nm,0.3s,baz=148,slow=18,SNR=14						
YOTC	**Yotoco, Valle**	**5.67**	**15**	*e*P	**Pn**	**04 31 04.4**	**-1.1**
YOTC	**Yotoco, Valle**	**5.67**	**15**	*e*P	**Pn**	**04 31 04.4**	**-1.1**
PRAC	**Prado**	**5.99**	**30**	*e*P	**Pn**	**04 31 11.3**	**+1.7**
PRAC	**Prado**	**5.99**	**30**	*e*P	**Pn**	**04 31 11.3**	**+1.7**
VILC	**Villavicencio,**	**6.97**	**37**	*e*P	**Pn**	**04 31 25.9**	**+3.1**
VILC	**Villavicencio,**	**6.97**	**37**	*e*P	**Pn**	**04 31 25.9**	**+3.1**
SOLC	**Bahia Solano**	**7.71**	**3**	*e*P	**Pn**	**04 31 32.9**	**+0.3**
SOLC	**Bahia Solano**	**7.71**	**3**	*e*P	**Pn**	**04 31 32.9**	**+0.3**
RUSC	**La Rusia**	**8.77**	**33**	*e*P	**Pn**	**04 31 50.3**	**+3.1**
RUSC	**La Rusia**	**8.77**	**33**	*e*P	**Pn**	**04 31 50.3**	**+3.1**
UPD2	**Meteti**	**10.01**	**359**	*e*P	**Pn**	**04 32 04.9**	**+1.8**
UPD2	**Meteti**	**10.01**	**359**	*e*P	**Pn**	**04 32 04.9**	**+1.8**
SOCV	**Socops**	**11.98**	**35**	*e*P	**Pn**	**04 32 28.5**	**-0.6**
SOCV	**Socops**	**11.98**	**35**	*e*P	**Pn**	**04 32 28.5**	**-0.6**
SDV	**Santo Domingo**	**12.60**	**35**	P	**Pn**	**04 32 37.0**	**-0.2**
	0.5nm,0.3s,baz=270,slow=15,SNR=4.3						
LPAZ	**La Paz**	**17.52**	**147**	P	**P**	**04 33 39.0**	**+1.2**
	0.1nm,0.3s,baz=318,slow=12,SNR=3.2						
SIV	**San Ignacio**	**21.91**	**132**	P	**P**	**04 34 24.7**	**+0.2**
	0.6nm,0.5s,baz=299,slow=12,SNR=4.5						
CMIG	**Matias Romero**	**24.99**	**318**	P	**P**	**04 34 53.7**	**+0.8**
	4.7nm,0.9s,baz=105,slow=8.9,SNR=4.0						
MDP	**Montagnes des**	**26.03**	**75**	P	**P**	**04 35 01.5**	**-1.0**
	2.7nm,0.6s,baz=280,slow=6.1,SNR=3.0						
BDFB	**Brasilia**	**32.59**	**117**	P	**P**	**04 36 00.9**	**+0.2**
	1.2nm,0.4s,baz=316,slow=4.8,SNR=3.2						
TXAR	**Lajitas Array**	**39.39**	**323**	P	**P**	**04 36 59.2**	**+0.9**
	0.6nm,0.7s,baz=147,slow=8.1,SNR=8.6						
TXAR				PcP	**PcP**	**04 39 03.4**	**-0.2**
	0.4nm,0.8s,baz=140,slow=4.9,SNR=4.0						
ANMO	**Albuquerque**	**45.10**	**326**	P	**P**	**04 37 45.7**	**+1.2**
	8.8nm,0.8s,baz=141,slow=9.7,SNR=39						
PDAR	**Pinedale Array**	**52.53**	**331**	P	**P**	**04 38 41.0**	**-0.2**
	0.5nm,0.6s,baz=120,slow=9.0,SNR=6.1						
ULM	**Lac du Bonnet**	**53.84**	**346**	P	**P**	**04 38 48.2**	**-2.1**
	1.3nm,0.5s,baz=157,slow=11,SNR=3.4						
NVAR	**Mina Array Bea**	**54.47**	**321**	P	**P**	**04 38 56.5**	**+1.1**
	1.0nm,0.7s,baz=131,slow=7.3,SNR=7.4						
YKA	**Yellowknife Ar**	**69.61**	**343**	P	**P**	**04 40 34.6**	**-1.0**
	0.5nm,0.6s,baz=141,slow=5.6,SNR=12						
DBIC	**Dimbokro**	**73.30**	**83**	P	**P**	**04 40 57.9**	**-0.8**
	4.7nm,1.1s,baz=224,slow=5.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**80.17**	**76**	P	**P**	**04 41 34.9**	**-2.3**
	0.5nm,0.4s,baz=283,slow=5.8,SNR=23						
ILAR	**Eielson Array**	**82.56**	**336**	P	**P**	**04 41 48.1**	**-0.8**
	1.2nm,0.7s,baz=129,slow=4.2,SNR=13						
ASAR	**Alice Springs**	**140.25**	**229**	PKP	**PKPdf**	**04 48 53.5**	**-1.4**
	0.6nm,0.7s,baz=122,slow=0.6,SNR=5.1						
WRA	**Warramunga Arr**	**141.90**	**234**	PKP	**PKPdf**	**04 48 59.0**	**+1.1**
	6.6nm,0.3s,baz=168,slow=2.0,SNR=1.4						
FITZ	**Fitzroy Crossi**	**149.75**	**229**	PKPbc	**PKPbc**	**04 49 14.3**	**-1.8**
	2.2nm,0.7s,baz=189,slow=3.0,SNR=5.1						

KRSC 29 04:30:20.7±10.0, 52°.01N×160°.63E, h56km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.15**	**342**	*e*P	Pn	04 30 41.1	+0.4
SPN				*e*S	Sn	04 30 55.1	-0.4
RUS	**Russkaya**	**1.37**	**289**	*e*P	Pn	04 30 44.8	+1.3
RUS				*e*S	Sn	04 31 01.9	+1.3
NLC	**Nalytchevo**	**1.41**	**327**	*e*P	Pn	04 30 46.1	+2.1
NLC				*e*S	Sn	04 31 03.6	+2.1
DALK	**Dalny**	**1.54**	**313**	*e*P	Pn	04 30 47.4	+1.6
DALK				*e*S	Sn	04 31 05.9	+1.2
MTVR	**Mutnovka**	**1.58**	**289**	*e*P	Pn	04 30 48.5	+2.0
MTVR				*e*S	Sn	04 31 07.8	+1.9
KDTR	**Khodutka, Kamc**	**1.59**	**264**	*e*P	Pn	04 30 48.4	+1.9
KDTR				*e*S	Sn	04 31 07.1	+1.1
UGLR	**Uglovaya**	**1.63**	**318**	*e*P	Pn	04 30 49.6	+2.4
UGLR				*e*S	Sn	04 31 10.2	+3.0
SDLR	**Sedlovina**	**1.66**	**321**	*e*P	Pn	04 30 49.9	+2.3
SDLR				*e*S	Sn	04 31 11.3	+3.5
SMAR	**Somma**	**1.68**	**319**	*e*P	Pn	04 30 50.7	+2.7
AVH	**Avacha**	**1.71**	**318**	*e*P	Pn	04 30 50.8	+2.6
ASAK	**Asacha**	**1.72**	**284**	*e*P	Pn	04 30 51.1	+2.7
ASAK				*e*S	Sn	04 31 11.6	+2.3
KRER	**Koryakskii**	**1.73**	**319**	*e*P	Pn	04 30 52.2	+3.6
KRMR	**Karymshinskiy**	**1.74**	**299**	*e*P	Pn	04 30 50.5	+2.0
KRMR				*e*S	Sn	04 31 12.4	+2.8
KOK	**Koryaka**	**1.77**	**317**	*e*P	Pn	04 30 51.5	+2.4
KRX	**Arik**	**1.81**	**319**	*e*P	Pn	04 30 52.7	+3.0
APC	**Apacha**	**2.31**	**295**	*e*P	Pn	04 31 00.3	+4.0
APC				*e*S	Sn	04 31 28.6	+5.0
GNL	**Ganaly**	**2.35**	**317**	*e*P	Pn	04 31 00.3	+3.3
MKZ	**Mys Kozlova**	**2.64**	**14**	*e*S	Sn	04 31 32.1	+0.6
SKR	**Severo-Kuril's**	**3.12**	**247**	S	Sn	04 31 45.5	+2.0
TUMR	**Tumrok**	**3.30**	**355**	*e*P	Pn	04 31 13.2	+3.3
KBTR	**Krutoberegovo**	**4.40**	**16**	*e*P	Pn	04 31 28.4	+3.5

*IDC **29** 04:35:14.0±0.6, 4°.90S×102°.25E, h0km, mb4.8/32, mb1 4.8/34, mb1mx4.7/46, mbtmp4.8/34, ML4.3/2, MS3.7/24, Ms1 3.7/24, ms1mx3.6/34, Error ellipse: s-maj=19.3km s-min=11.4km az=48.0*

*ISCJB **29** 04:35:17.7±0.2, 5°.00S±0°.03×102°.20E±0°.03, h36km, mb5.0/109, MS3.9/32, Error ellipse: s-maj=5.7km s-min=3.0km az=38.1*

*BJI **29** 04:35:17.5±0.0, 5°.10S×102°.10E, h34km, mb5.0/50, mB4.9/32, Ms4.5/25, Ms7 4.3/24*

*MOS **29** 04:35:18.2±0.9, 4°.78S×102°.35E, h33km, mb5.3/48, Error ellipse: s-maj=11.2km s-min=5.4km az=115.3*

*DJA **29** 04:35:19.0±0.5, 5°.S±3°.×10°.2E±°., h30km±4km, M4.8/25, mB5.2/9, mb4.8/25, MLv5.0/12, Mw(mB)4.6/9*

*NEIC **29** 04:35:19.0±1.9, 5°.01S×102°.20E, h34km±4km, mb4.9/48, Error ellipse: s-maj=12.0km s-min=6.0km az=97.0*

*KLM **29** 04:35:25.0, 4°.90S×102°.17E, h90km, mb4.7*

ISC 29 04:35:19.1±0.4, 5°.05S±0°.05×102°.11E±0°.05, h36km, h36km:pP-P, n570, σ1§20/580, mb5.0/109, MS3.8/32, 29C-7D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.08**	**51**	*e*Pn	**Pn**	**04 35 36.6**	**-1.1**
MNAI				*e*Sn	**Sn**	**04 35 48.6**	**-2.9**
MNAI	**Manna**	**1.08**	**51**	P	**Pn**	**04 35 39.0**	**+1.3**
KLSI		**2.63**	**82**	P	**Pn**	**04 36 00.5**	**+1.5**
PPSI	**Pulau Pagai**	**3.09**	**317**	P	**Pn**	**04 36 07.4**	**+2.1**
PMBI	**Palembang**	**3.39**	**52**	P	Pn	04 36 19.7	+10
JAMBI	**JAMBI**	**3.72**	**24**	P	**Pn**	**04 36 15.9**	**+1.9**
CGJI	**Cibinong**	**3.89**	**114**	P	**Pn**	**04 36 16.2**	**-0.1**
CGJI				S	**Sn**	**04 37 00.6**	**-0.1**
PDSI	**Padang**	**4.43**	**338**	P	**Pn**	**04 36 24.9**	**+1.1**
PDSI				S	**Sn**	**04 37 15.7**	**+1.6**
SISI	**Saibi**	**4.77**	**321**	P	**Pn**	**04 36 29.8**	**+1.3**
CBJI	**Citeko**	**4.91**	**106**	P	Pn	04 36 35.6	+5.3
	562nm,0.8s,8μm2.7nm						
DSRI	**Dabo**	**5.16**	**29**	P	**Pn**	**04 36 35.5**	**+1.6**
	9.8nm,0.8s,0.1nm						
BKNI	**Bangkinang**	**5.45**	**349**	*e*Pn	**Pn**	**04 36 38.3**	**+0.6**
BKNI				*e*Sn	**Sn**	**04 37 34.3**	**-4.9**
BKNI	**Bangkinang**	**5.45**	**349**	P	**Pn**	**04 36 38.6**	**+0.9**
	350nm,0.9s,3μm2.9nm						
LEM	**Lembang**	**5.75**	**108**	P	**Pn**	**04 36 43.5**	**+1.4**
LEM	**Lembang**	**5.75**	**108**	Pn	**Pn**	**04 36 43.0**	**+0.9**
	5.7nm,0.3s,baz=211,slow=21,SNR=5.2						
LEM				Sn	**Sn**	**04 37 50.5**	**+3.5**
	4.2nm,0.3s,baz=180,slow=19,SNR=2.1						
LEM				LR	LR	04 39 16.6	
	comp=Z,692nm,19.3s,baz=254,slow=43						
CISI	**Cisompet, Garu**	**6.19**	**114**	*e*Pn	**Pn**	**04 36 47.1**	**-1.0**
CISI				*e*Sn	**Sn**	**04 37 53.6**	**-4.0**
CISI	**Cisompet, Garu**	**6.19**	**114**	P	Pn	04 36 58.3	+10
PBSI	**Pulau Batu**	**6.26**	**322**	P	**Pn**	**04 36 49.6**	**+0.6**
	101nm,0.8s,1.0nm						
TPRI	**Tanjung Pinang**	**6.40**	**22**	P	**Pn**	**04 36 54.7**	**+3.9**
XMIS	**Christmas Isla**	**6.44**	**147**	*e*Pn	**Pn**	**04 36 47.3**	**-4.1**
XMIS				*e*Sn	Sn	04 37 51.3	-12
MYKOM	**Kota Tinggi**	**7.01**	**14**	*e*Pn	**Pn**	**04 37 01.0**	**+1.8**
MYKOM	**Kota Tinggi**	**7.01**	**14**	P	**Pn**	**04 37 02.0**	**+2.8**
GSI	**Gunungsitoli**	**7.77**	**324**	*e*Pn	**Pn**	**04 37 09.5**	**-0.2**
GSI				*e*Sn	**Sn**	**04 38 31.1**	**-5.3**
GSI	**Gunungsitoli**	**7.77**	**324**	P	**Pn**	**04 37 09.8**	**+0.1**
	113nm,0.7s,0.5nm						
PSI	**Prapat**	**8.42**	**338**	*e*Pn	**Pn**	**04 37 17.0**	**-1.8**
PSI	**Prapat**	**8.42**	**338**	*e*P	**Pn**	**04 37 17.0**	**-1.8**
PSI	**Prapat**	**8.42**	**338**	Pn	**Pn**	**04 37 17.0**	**-1.8**
	2.0nm,0.3s,baz=150,slow=9.8,SNR=8.1						
PSI				LR	LR	04 40 56.2	
	comp=Z,1μm,19.6s,baz=138,slow=42						
UGM	**Wanagama**	**8.83**	**109**	*e*Pn	**Pn**	**04 37 25.1**	**+0.9**
UGM				*e*Sn	**Sn**	**04 38 59.1**	**-3.5**
IPM	**Ipoh**	**9.53**	**353**	*e*Pn	**Pn**	**04 37 35.9**	**+2.1**
IPM	**Ipoh**	**9.53**	**353**	P	Pn	04 37 41.0	+7.2
PWJI	**Pagerwojo**	**10.07**	**108**	P	**Pn**	**04 37 41.2**	**0.0**
	56nm,1.2s						
KULM	**Kulim**	**10.37**	**352**	*e*Pn	**Pn**	**04 37 46.6**	**+1.2**
JAGI	**Jajag, Banyuwa**	**12.43**	**107**	*e*Pn	**

KMI LR LR
comp=Z,210nm,13.7s
KMI LR LR
comp=Z,300nm,18.1s
GYA Guiyang 31.63 8 P **P 04 41 38.0 -1.0**
GYA pP pP 04 41 47.5 -1.2
GYA PP **PnPn 04 42 41.0 -2.4**
GYA S **S 04 46 47.3 +1.4**
GYA sS sS 04 46 58.5 -2.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=Z,380nm,14.9s
GYA LR LR
comp=Z,120nm,17.7s
GYA LR LR
comp=Z,460nm,14.9s
SHL Shillong 32.01 342 *e*P **P 04 41 42.5 +0.1**
comp=Z,42nm,0.6s
SHL Shillong 32.01 342 *e*P **P 04 41 42.5 +0.1**
SHL pmax pmax
comp=Z,42nm,0.6s
SHL Shillong 32.01 342⇑ *i*P **P 04 41 41.0 -1.4**
WRKA Warakurna 32.04 131 P **P 04 41 43.3 +0.7**
baz=32,SNR=5.1
WRA Warramunga Arr 34.67 118 P **P 04 42 04.5 -1.0**
comp=Z,12nm,0.3s,baz=294,slow=11,SNR=2.5
WR1 Warramunga Arr 34.67 118 *e*P **P 04 42 04.5 -1.0**
WRAB Tennant Creek 34.68 118 *e*P **P 04 42 05.3 -0.3**
comp=Z,10nm,0.8s
WRAB Tennant Creek 34.68 118⇓ *e*P **P 04 42 04.3 -1.3**
WRAB pmax pmax
comp=Z,21nm,2.5s
ODAN Odare 34.77 337 *e*P **P 04 42 07.6 +1.1**
comp=Z,42nm,0.5s
RAMN Ramite 35.17 336 *e*P **P 04 42 11.3 +1.3**
comp=Z,35nm,0.6s
FORT Forrest 35.37 139 *e*P **P 04 42 12.8 +1.5**
comp=Z,19nm,1.1s
ASAR Alice Springs 35.78 124 P **P 04 42 15.2 0.0**
comp=Z,8.7nm,0.8s,baz=298,slow=8.0,SNR=75
ASAR PcP **PcP 04 44 43.1 +0.6**
comp=Z,2.5nm,0.8s,baz=325,slow=2.2,SNR=8.3
ASAR LR LR 04 57 47.3
comp=Z,158nm,20.8s,baz=298,slow=38
CD2 Chengdu 35.79 2 *e*P **P 04 42 17.0 +2.0**
CD2 S **S 04 47 54.5 +4.4**
CD2 pmax pmax
comp=Z,70nm,5.3s
CD2 LR LR
comp=Z,610nm,18.1s
CD2 LR LR
comp=Z,210nm,14.2s
CD2 LR LR
comp=Z,640nm,18.6s
ENH Enshi 35.82 11 *e*P **P 04 42 14.2 -1.1**
comp=Z,19nm,0.6s
JIRN Jiri 35.97 336 *e*P **P 04 42 18.2 +1.2**
comp=Z,71nm,0.6s
LSA Lhasa 36.12 344 *e*P **P 04 42 19.4 +1.1**
comp=Z,30nm,0.9s
LSA Lhasa 36.12 344 *e*P **P 04 42 19.4 +1.1**
LSA pmax pmax
comp=Z,30nm,0.9s
PKI Pulchoki 36.22 334 *e*P **P 04 42 19.8 +0.7**
comp=Z,16nm,0.7s
DMN Daman 36.38 334 *e*P **P 04 42 21.5 +1.1**
KKN Kakani 36.47 334 *e*P **P 04 42 22.0 +0.9**
comp=Z,35nm,0.6s
KOLN Koldanda 37.20 332 *e*P **P 04 42 28.6 +1.3**
comp=Z,43nm,0.6s
WHN Wuhan 37.28 18 P P 04 42 38.0 +10
DANN Dangsing 37.62 333 *e*P **P 04 42 32.0 +1.1**
comp=Z,61nm,0.5s
PYUN Piuthan 37.76 332 *e*P **P 04 42 33.4 +1.3**
XAN Xi'an 39.41 9 P **P 04 42 43.8 -1.8**
XAN pP pP 04 42 56.3 +0.8
XAN S **S 04 48 41.5 -3.4**
XAN pmax pmax
comp=Z,22nm,0.6s
XAN pmax pmax
comp=Z,61nm,3.9s
XAN LR LR
comp=Z,310nm,16.2s
XAN LR LR
comp=Z,170nm,11.3s
XAN LR LR
comp=Z,460nm,15.2s
XAN Xi'an 39.41 9 *e*P **P 04 42 44.6 -1.0**
comp=Z,18nm,0.6s
XAN Xi'an 39.41 9 *e*P **P 04 42 44.6 -1.0**
XAN pmax pmax
comp=Z,18nm,0.6s
QIS Mount Isa 39.54 116 P **P 04 42 46.9 0.0**
baz=40,SNR=4.7
NJ2 Nanjing 40.19 22 *e*P **P 04 42 54.0 +2.0**
NJ2 pmax pmax
comp=Z,11nm,0.5s
LZH Lanzhou 40.95 2 *e*P **P 04 42 58.3 -0.2**
LZH pP pP 04 43 10.3 +1.9
LZH sP sP 04 43 14.3 +1.3
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.9s
LZH LR LR
comp=Z,300nm,11.9s
LZH LR LR
comp=Z,240nm,13.0s
LZH LR LR
comp=Z,420nm,15.7s
COEN Coen 41.40 105 *e*P **P 04 43 01.1 -1.2**
comp=Z,18nm,1.0s
COEN Coen 41.40 105 P **P 04 43 00.8 -1.5**
baz=41,SNR=5.8
BBOO Buckleboo 42.01 135 *e*P **P 04 43 06.9 -0.2**
comp=Z,11nm,1.1s
GTA Gaotai 44.29 357 P **P 04 43 25.3 -0.2**
GTA pP pP 04 43 35.0 -0.5
GTA sP sP 04 43 38.8 -1.4
GTA PcP **PcP 04 45 10.0 +0.5**
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,67nm,4.8s
GTA LR LR
comp=Z,250nm,18.6s
GTA LR LR
comp=Z,130nm,16.5s
GTA LR LR
comp=Z,390nm,18.5s
PMG Port Moresby 44.87 98 *e*P **P 04 43 29.9 -0.5**
comp=Z,25nm,0.9s
PMG Port Moresby 44.87 98 *e*P **P 04 43 29.9 -0.5**
PMG pmax pmax
comp=Z,25nm,0.9s
STKA Stephens Creek 45.57 131 *e*P **P 04 43 36.5 +0.8**
comp=Z,3.2nm,0.6s
STKA Stephens Creek 45.57 131 P **P 04 43 36.7 +1.0**
baz=46,SNR=7.7
STKA Stephens Creek 45.57 131 *e*P **P 04 43 36.5 +0.8**
STKA pmax pmax
comp=Z,3.0nm,0.6s
STKA Stephens Creek 45.57 131 P **P 04 43 36.5 +0.8**
comp=Z,6.4nm,0.9s,baz=310,slow=8.1,SNR=10
STKA LR LR 05 04 06.9
comp=Z,148nm,19.6s,baz=315,slow=38
HHC Hu-ho-hao-te 46.49 10 *e*P **P 04 43 44.5 +1.6**
HHC sP pP 04 43 55.5 +2.5
HHC S **S 04 50 31.3 +2.5**
HHC pmax pmax
comp=Z,86nm,1.0s
HHC pmax pmax
comp=Z,300nm,4.8s
HHC LR LR
comp=Z,640nm,14.7s
HHC LR LR
comp=Z,860nm,15.5s
HHC LR LR
comp=Z,740nm,15.5s
BJI Beijing 46.70 15 P **P 04 43 43.5 -0.9**
BJI pmax pmax
comp=Z,4.0nm,0.7s
JNU Nakatsue 46.74 34 *e*P **P 04 43 43.6 -1.3**
comp=Z,14nm,0.8s
JNU Nakatsue 46.74 34 P **P 04 43 43.6 -1.3**
comp=Z,12nm,0.8s,baz=260,slow=5.9,SNR=5.5
NIL Nilore 47.19 327 *e*P **P 04 43 48.5 0.0**
comp=Z,28nm,0.9s
NIL Nilore 47.19 327 *e*P **P 04 43 48.5 0.0**
NIL pmax pmax
comp=Z,28nm,0.9s
KS15 Wonju Array Si 48.62 27 *e*P **P 04 43 58.4 -1.0**
comp=Z,7.1nm,1.0s
KSRS Korea Array 48.64 27 P **P 04 43 58.4 -1.2**
comp=Z,4.0nm,0.7s,baz=234,slow=7.1,SNR=16
WMQ Urumqi 50.35 346 *e*P **P 04 44 13.5 +0.9**
WMQ sP sP 04 44 26.5 -0.4
WMQ pmax pmax
comp=Z,300nm,3.7s
WMQ LR LR
comp=Z,710nm,38.9s
WMQ LR LR
comp=Z,1μm,39.2s
WMQ LR LR
comp=Z,420nm,23.9s
WMQ Urumqi 50.35 346 *e*P **P 04 44 14.0 +1.4**
comp=Z,66nm,1.0s
WMQ Urumqi 50.35 346 *e*P **P 04 44 14.0 +1.4**
WMQ pmax pmax
comp=Z,66nm,1.0s
KSH Kashi 50.48 334 P **P 04 44 13.0 -0.7**
KSH pP pP 04 44 26.5 +2.6
KSH PP **PP 04 46 10.5 +0.8**
KSH S **S 04 51 18.8 -6.4**
KSH pmax pmax
comp=Z,32nm,0.8s
KSH LR LR
comp=Z,330nm,12.7s
KSH LR LR
comp=Z,180nm,12.3s
KSH LR LR
comp=Z,240nm,7.8s
NRN Naryn 52.05 335 *e*P **P 04 44 26.2 +0.5**
comp=Z,11nm,0.8s
NRN Naryn 52.05 335 *e*P **P 04 44 26.2 +0.5**
NRN pmax pmax
comp=Z,11nm,0.8s
KDJ Kajisay 52.15 337 *e*P **P 04 44 27.5 +1.2**
comp=Z,39nm,0.8s
KDJ Kajisay 52.15 337 *e*P **P 04 44 27.5 +1.2**
KDJ pmax pmax
comp=Z,39nm,0.8s
ULHL Ulahol 52.63 336 P **P 04 44 30.3 +0.5**
SNR=11
GAR Garm 52.77 329 *e*P **P 04 44 30.8 -0.1**
comp=Z,8.9nm,0.6s
GAR Garm 52.77 329 *e*P **P 04 44 30.8 -0.1**
GAR pmax pmax
comp=Z,9.0nm,0.6s
SONA0 Songino Array 52.79 4 *e*P **P 04 44 31.3 +0.5**
SONM Songino Array 52.79 4 P **P 04 44 31.3 +0.5**
comp=Z,40nm,0.7s,baz=182,slow=8.7,SNR=206
SONM LR LR 05 10 05.3
comp=Z,72nm,18.2s,baz=138,slow=40
ULN Ulaanbaatar 52.87 4 *e*P **P 04 44 31.8 +0.4**
ULN Ulaanbaatar 52.87 4 *c i*P **P 04 44 31.6 +0.2**
ULN pmax pmax
comp=Z,32nm,1.0s
ULN Ulaanbaatar 52.87 4 P **P 04 44 31.9 +0.4**
SNR=14
ULN P **P 04 44 31.9 +0.4**
SNR=14
KZA Kyzart 52.90 335 P **P 04 44 33.2 +1.2**
SNR=13
CN2 Changchun 52.99 21 *e*P **P 04 44 30.3 -1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
UCH Uchtor 53.33 335 P **P 04 44 36.0 +0.7**
SNR=9.9
MAJO Matsushiro 53.38 36 *e*P **P 04 44 32.7 -2.6**
MAJO Matsushiro 53.38 36 *e*P **P 04 44 32.7 -2.6**
MAT Matsushiro 53.38 36 P **P 04 44 32.0 -3.3**
MJAR Matsushiro Arr 53.39 36 P **P 04 44 32.7 -2.6**
comp=Z,3.1nm,0.6s,baz=213,slow=7.6,SNR=8.7
MJAR LR LR 05 08 04.6
comp=Z,31nm,19.6s,baz=235,slow=37
TKM2 Tokmak 2 53.45 336 P **P 04 44 36.2 +0.4**
SNR=29
TKM2 Tokmak 2 53.45 336 *i* P **P 04 44 36.3 +0.4**
TKM2 pmax pmax
comp=Z,26nm,0.9s
KBK Karagaybulak 53.50 335 P **P 04 44 37.7 +1.5**
SNR=8.9
AML Almayashu 53.61 334 P **P 04 44 38.3 +1.0**
SNR=13
AAK Ala-Archa 53.68 335 *e*P **P 04 44 38.3 +0.8**
comp=Z,4.2nm,0.7s
AAK Ala-Archa 53.68 335 *e*P **P 04 44 38.3 +0.8**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 53.68 335 P **P 04 44 38.4 +0.9**
AAK Ala-Archa 53.68 335 P **P 04 44 38.0 +0.6**
comp=Z,4.0nm,0.6s,baz=138,slow=5.5,SNR=8.1
EKS2 Erkin-Say 54.00 334 P **P 04 44 40.9 +1.1**
SNR=19
USP Ospenovka 54.19 335 P **P 04 44 41.4 +0.3**
SNR=7.4
MSHR Mys Shultsa 54.24 26⇑ *e*P **P 04 44 40.9 -0.5**
MK31 Makanchi Array 54.52 343 *e*P **P 04 44 43.4 0.0**
comp=Z,20nm,0.8s
MK31 Makanchi Array 54.52 343 *e*P **P 04 44 43.4 0.0**
MK31 pmax pmax
comp=Z,20nm,0.8s
MK32 Makanchi Array 54.52 343 *e*P **P 04 44 43.5 +0.1**
MKAR Makanchi Array 54.52 343 P **P 04 44 43.5 +0.1**
comp=Z,25nm,0.8s,baz=148,slow=8.1,SNR=161
MKAR LR LR 05 12 51.4
comp=Z,50nm,19.1s,baz=150,slow=42
MAKZ Makanchi 54.63 343 *e*P **P 04 44 44.1 0.0**
comp=Z,12nm,1.0s
MAKZ Makanchi 54.63 343 *e*P **P 04 44 44.1 0.0**
MAKZ pmax pmax
comp=Z,12nm,1.0s
ZAK Zakamensk 55.22 1 *e*P **P 04 44 48.4 0.0**
ZAK pmax pmax
comp=Z,11nm,0.9s
KK31 Karatay Array 55.81 332 *e*P **P 04 44 52.8 0.0**
comp=Z,2.6nm,0.8s
KK31 Karatay Array 55.81 332 *e*P **P 04 44 52.8 0.0**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 55.81 332 *e*P **P 04 44 52.8 0.0**
comp=Z,2.6nm,0.8s
KKAR Karatay Array 55.81 332 *e*P **P 04 44 52.8 0.0**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
USRK Ussuriysk Ar. 55.91 26 P **P 04 44 52.6 -0.7**
comp=Z,14nm,0.7s,baz=210,slow=5.5,SNR=19
DGZ Jazzator, Alta 56.00 349 *i* P **P 04 44 54.6 +0.5**
DGZ pmax pmax
comp=Z,26nm,0.6s
HIA Hailar 56.23 14⇑ *e*P **P 04 44 55.1 -0.5**
HIA pmax pmax
comp=Z,28nm,0.6s
MOY Mondy 56.50 359 *e*P **P 04 44 57.9 +0.3**
MOY pmax pmax
comp=Z,27nm,1.9s
TLY Talaya 56.52 1 *e*P **P 04 44 58.4 +0.7**
comp=Z,20nm,0.9s
TLY Talaya 56.52 1 *c i*P **P 04 44 58.3 +0.6**
TLY Talaya 56.52 1 P **P 04 44 58.6 +1.0**
SNR=10
KURBB Kurchatov Arra 59.06 343 P **P 04 45 15.4 0.0**
comp=Z,14nm,0.8s,baz=159,slow=6.6,SNR=70
KURK Kurchatov 59.11 343 *e*P **P 04 45 15.9 +0.1**
comp=Z,23nm,0.8s
KURK Kurchatov 59.11 343 *c i*P **P 04 45 15.6 -0.2**
KURK pmax pmax
comp=Z,30nm,1.0s
KURK Kurchatov 59.11 343 P **P 04 45 16.0 +0.1**
SNR=10
KURK P **P 04 45 16.0 +0.1**
SNR=10
GEYT Alibeck 59.12 320 P **P 04 45 15.6 -0.7**
comp=Z,11nm,0.8s,baz=147,slow=8.5,SNR=13
GEYT LR LR 05 12 36.1
comp=Z,38nm,21.3s,baz=225,slow=38
OTUK Ortayu 59.14 337 P **P 04 45 15.7 -0.4**
OTUK pmax pmax
comp=Z,19nm,1.0s
KLR Kul'dur 59.90 22⇑ *i*P **P 04 45 19.6 -1.7**
KLR Kul'dur 59.90 22 P **P 04 45 19.7 -1.6**
comp=Z,6.1nm,0.7s,baz=238,slow=6.1,SNR=26
ZALV Zalesovo Beam 60.55 348 P **P 04 45 25.3 -0.3**
comp=Z,32nm,0.8s,baz=172,slow=4.7,SNR=78
ZALV LR LR 05 14 56.0
comp=Z,145nm,19.9s,baz=59,slow=39
ZAA1 Zalesovo Array 60.55 348 *e*P **P 04 45 25.3 -0.4**
ASAJ Asahikawa 60.98 32 P **P 04 45 27.9 -0.8**
comp=Z,5.9nm,0.4s,baz=160,slow=10,SNR=5.1
NVS Novosibirsk 61.71 348 *i* P **P 04 45 29.8 -3.7**
ZEA Zeya 62.26 17 *e*P **P 04 45 37.1 -0.1**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,38nm,1.0s
YSS Yuzh-Sakhalins 62.99 30 *e*P **P 04 45 41.5 -0.7**
YSS *e* 04 45 54.4
YSS pmax pmax
comp=Z,30nm,0.9s
BOD Bodaibo 63.40 7 *e*P **P 04 45 43.4 -1.3**
BOD pmax pmax
comp=Z,19nm,0.9s
BVAR Borovoye Array 63.76 339 P **P 04 45 46.8 -0.3**
comp=Z,12nm,0.7s,baz=134,slow=8.5,SNR=75
BRVK Borovoye 63.82 339 *e*P **P 04 45 47.4 -0.2**
comp=Z,15nm,0.9s
BRVK Borovoye 63.82 339 *c i*P **P 04 45 47.0 -0.6**
BRVK pmax pmax
comp=Z,16nm,1.0s
BRVK Borovoye 63.82 339 P **P 04 45 47.4 -0.2**
SNR=5.2
KMBO Kilima Mbogo 64.86 271 LR LR 05 10 15.5
comp=Z,34nm,19.7s,baz=95,slow=32
AB31 Akbulak array 65.31 331 *i* P **P 04 45 57.3 -0.1**
AB31 pmax pmax
comp=Z,30nm,1.0s
ABKAR Akbulak array 65.31 331 *e*P **P 04 45 57.6 +0.2**
comp=Z,26nm,0.9s
AKTO Aktyubinsk 67.03 331 P **P 04 46 07.7 -0.7**
MAW Mawson 67.89 195 LR LR 05 10 49.7
comp=Z,141nm,18.2s,baz=41,slow=31
GNI Garni 69.17 316⇑ *e*P **P 04 46 24.6 +2.3**
GNI pmax pmax
comp=Z,41nm,1.3s
GROC Groznyy 69.86 320 *e*P **P 04 46 26.1 -0.1**
GROC *e* 04 46 48.1
GROC pmax pmax
comp=Z,26nm,0.7s
SVE Sverdlovsk 70.29 337 *e*P **P 04 46 29.4 +0.8**
SVE pmax pmax
comp=Z,29nm,1.0s
ARU Arti 70.83 336 *e*P **P 04 46 32.1 +0.2**
comp=Z,12nm,0.6s
ARU Arti 70.83 336 P **P 04 46 31.6 -0.3**
comp=Z,2.4nm,0.3s,baz=134,slow=3.1,SNR=17
ZEI Tsey 70.90 319 *e*P **P 04 46 33.5 +0.6**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
NCK Nalchik 71.42 319⇓ *e*P **P 04 46 36.6 +0.8**
NCK pmax pmax
comp=Z,12nm,0.3s
NEY Neytrino 71.88 319⇑ *e*P **P 04 46 40.5 +1.7**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 71.98 319 P **P 04 46 40.2 +1.1**
comp=Z,9.9nm,0.9s,baz=105,slow=3.0,SNR=16
KIV Kislovodsk 72.21 319 *e*P **P 04 46 41.6 +0.9**
KIV pmax pmax
comp=Z,39nm,1.1s
KIV MLR MLR
comp=Z,28nm,18.0s
KIV Kislovodsk 72.21 319 P **P 04 46 41.2 +0.6**
PETK Petropavlovsk- 74.35 31 P **P 04 46 51.6 -1.3**
comp=Z,7.5nm,0.7s,baz=189,slow=4.1,SNR=8.4
PETK LR LR 05 20 51.7
comp=Z,18nm,19.9s,baz=205,slow=37
PEA1 Petropavlovsk- 74.36 31 *e*P **P 04 46 51.6 -1.3**
PET Petropavlovsk 74.80 31 *e*P **P 04 46 54.3 -1.2**
comp=Z,25nm,0.6s
PET Petropavlovsk 74.80 31 *e*P **P 04 46 54.2 -1.3**
PET pmax pmax
comp=Z,39nm,0.7s
NRIK Noril'sk 74.90 355 LR LR 05 22 27.0
comp=Z,52nm,21.7s,baz=196,slow=38
MA2 Magadan 74.95 23 *e*P **P 04 46 55.8 -0.5**
comp=Z,16nm,0.7s
MA2 Magadan 74.95 23 *c e*P **P 04 46 55.7 -0.5**
MA2 pmax pmax
comp=Z,23nm,1.3s
MA2 Magadan 74.95 23 P **P 04 46 55.1 -1.1**
comp=Z,13nm,0.5s,baz=196,slow=5.3,SNR=14
KIRV Kirov 76.01 335 P **P 04 47 02.8 +0.5**
comp=Z,10nm,0.4s,baz=344,slow=0.7,SNR=7.0
VRH Novokhopyorsk 76.01 326 *e*P **P 04 47 02.4 -0.1**
VRH *e**PP **pP 04 47 14.4 +1.2**
VRH pmax pmax
comp=Z,20nm,0.8s
BOSA Boshof 76.07 242 LR LR 05 15 05.6
comp=Z,102nm,18.9s,baz=112,slow=31
BR101 Keskin Array S 76.92 313 *e*P **P 04 47 08.6 +0.4**
BR131 Keskin Array S 76.92 313 *e*P **P 04 47 08.8 +0.6**
comp=Z,6.3nm,0.8s
BR131 Keskin Array S 76.92 313 *e*P **P 04 47 08.8 +0.6**
BR131 pmax pmax
comp=Z,6.0nm,0.8s
BR131 Keskin Array S 76.92 313 P **P 04 47 08.2 0.0**
BRTR Keskin Array B 76.92 313 *c e*P **P 04 47 08.8 +0.6**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 76.92 313 P **P 04 47 08.6 +0.4**
comp=Z,3.5nm,0.8s,baz=134,slow=7.1,SNR=20
BRTR LR LR 05 22 17.0
comp=Z,17nm,18.8s,baz=94,slow=37
VSR Storozhevoye 77.47 325⇓ *i*P **P 04 47 11.0 +0.3**
VSR pmax pmax
comp=Z,26nm,0.8s
SEY Seymchan 77.67 21 P **P 04 47 10.9 -0.7**
comp=Z,13nm,0.7s,baz=229,slow=6.3,SNR=54
LPSR Galich'ya Gora 78.18 326 *e*P **P 04 47 15.1 +0.4**
LPSR *e**PP **pP 04 47 27.5 +2.1**
LPSR pmax pmax
comp=Z,20nm,0.8s
TIXI Tiksi 78.53 8 *e*P **P 04 47 14.5 -1.7**
comp=Z,9.3nm,0.8s
TIXI Tiksi 78.53 8⇑ *i*P **P 04 47 14.4 -1.7**
TIXI pmax pmax
comp=Z,13nm,1.0s
TIXI Tiksi 78.53 8 P **P 04 47 14.6 -1.7**
comp=Z,6.7nm,0.6s,baz=172,slow=2.9,SNR=12
VNDA Vanda 78.78 169 P **P 04 47 18.8 +1.1**
comp=Z,1.0nm,0.8s,baz=334,slow=4.6,SNR=5.5
VNDA LR LR 05 19 34.2
comp=Z,50nm,19.3s,baz=300,slow=34
MDUB Mudurnu 78.93 313 *e*P **P 04 47 20.4 +1.1**
comp=Z,54nm,1.0s
PRGR Permogore 79.29 336 *e*P **P 04 47 20.5 0.0**
PRGR *e**PP **pP 04 47 31.8 +0.5**
PRGR pmax pmax
comp=Z,26nm,0.8s
OBN Obninsk 80.48 328 *e*P **P 04 47 27.2 +0.1**
OBN *e* 04 47 40.5
OBN *e* 04 50 30.7
OBN *e*PPP PPP 04 52 20.2
OBN pmax pmax
comp=Z,27nm,1.7s
KLMR Klimovskoe 81.47 334 *e*P **P 04 47 31.4 -0.9**
KLMR pmax pmax
comp=Z,25nm,1.4s
AKASG Malin Array Be 83.17 322 *c e*P **P 04 47 41.5 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 83.17 322 P **P 04 47 40.6 -0.8**
comp=Z,1.5nm,0.6s,baz=83,slow=4.9,SNR=10
AKBB Malin Array Si 83.17 322 *e*P **P 04 47 42.1 +0.7**
AKBB *e*pP **pP 04 47 54.3 +2.1**
AKBB Malin Array Si 83.17 322 *e*P **P 04 47 42.1 +0.7**
AKBB *e**PP **pP 04 47 54.3 +2.1**
KIEV Kiev 83.18 322⇑ *i*P **P 04 47 41.7 +0.2**
KIEV Kiev 83.18 322 ⇑P **P 04 47 41.7 +0.2**
VRI Vrincioaia 83.51 317⇓ *i*P **P 04 47 45.0 +1.7**
VRI Vrincioaia 83.51 317 ⇓P **P 04 47 45.0 +1.7**
PLOR Plostina 83.56 317⇑ *i*P **P 04 47 44.6 +1.0**
PLOR Plostina 83.56 317 ⇑P **P 04 47 44.6 +1.0**
TMCR Tamitsa 83.56 337 *e*P **P 04 47 43.5 +0.4**

TMCR pmax pmax
comp=Z,15nm,0.9s
TESR Tescani 83.72 316⇑ i P P 04 47 45.9 +1.5
MLR Muntele Rosu 83.95 317 eP P 04 47 47.3 +1.6
comp=Z,12nm,0.9s
MLR Muntele Rosu 83.95 317⇓ i P P 04 47 47.3 +1.6
MLR Muntele Rosu 83.95 317 eP P 04 47 47.3 +1.6
MLR pmax pmax
comp=Z,13nm,0.9s
ARR Arges 84.82 316⇑ i P P 04 47 51.1 +1.0
BURAR Bucovina Array 84.93 319⇑ i P P 04 47 52.6 +2.0
BURAR Bucovina Array 84.93 319 ⇑P P 04 47 52.6 +2.0
VTS Vitosha 85.25 313⇑ i P P 04 47 53.2 +0.8
VTS Vitosha 85.25 313 ⇑P P 04 47 53.2 +0.8
BILL Bilibino 85.28 20 eP P 04 47 50.6 -1.2
comp=Z,4.7nm,0.9s
BILL Bilibino 85.28 20 eP P 04 47 50.6 -1.2
BILL pmax pmax
comp=Z,5.0nm,0.9s
VSU Vasula 86.69 329⇓ eP P 04 47 59.5 +0.6
VSU pmax pmax
comp=Z,66nm,2.5s
UZH Uzhgorod 87.05 319 eP P 04 48 01.0 +0.1
UZH i 04 48 15.2
KOLS Kolonicke sedl 87.12 319 eP P 04 48 03.4 +2.1
KOLS e 04 48 15.9
KOLS pmax pmax
comp=Z,13nm,1.0s
KOLS Kolonicke sedl 87.12 319 eP P 04 48 03.4 +2.1
KOLS esP sP 04 48 15.9 -0.2
SUW Suwalki 87.58 325 eP P 04 48 04.5 +1.2
comp=Z,38nm,0.9s
SUW Suwalki 87.58 325 eP P 04 48 04.5 +1.2
SUW pmax pmax
comp=Z,38nm,0.9s
FIA0 FINESS Array S 87.77 332 eP P 04 48 04.6 +0.5
FIA0 FINESS Array S 87.77 332 eP P 04 48 04.6 +0.5
FINES FINESS Array B 87.77 332 i P P 04 48 05.0 +0.9
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 87.77 332 P P 04 48 04.6 +0.5
comp=Z,8.3nm,1.0s,baz=107,slow=6.4,SNR=10
FINES LR LR 05 32 33.4
comp=Z,42nm,18.9s,baz=157,slow=39
PSZ Piszkesteto 88.51 318⇑ i P P 04 48 09.3 +1.3
PSZ Piszkesteto 88.51 318 ⇑P P 04 48 09.3 +1.3
VYHS Vyhne 89.29 319 eP P 04 48 13.1 +1.4
VYHS pmax pmax
comp=Z,2.0nm,1.2s
VYHS Vyhne 89.29 319 eP P 04 48 13.1 +1.4
ARCES ARCESS Array B 90.04 340 P P 04 48 15.4 +0.8
comp=Z,6.2nm,0.9s,baz=349,slow=19,SNR=8.3
MORC Moravsky Berou 90.31 320⇑ i P P 04 48 18.3 +1.9
MORC Moravsky Berou 90.31 320 ⇑P P 04 48 18.3 +1.9
DPC Dobruska-Polom 91.16 320 eP P 04 48 22.5 +2.1
DPC e 04 48 35.1
DPC Dobruska-Polom 91.16 320 eP P 04 48 22.5 +2.1
DPC esP sP 04 48 35.1 -0.1
GEC2 GERESS Array S 92.72 319 eP P 04 48 28.6 +1.0
comp=Z,2.7nm,0.8s
GEC2 GERESS Array S 92.72 319 eP P 04 48 28.7 +1.0
GEC2 pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 92.72 319 P P 04 48 28.6 +1.0
comp=Z,0.8nm,0.7s,baz=92,slow=4.5,SNR=7.1
NB200 NORSAR Array S 94.82 331 eP P 04 48 37.1 +0.2
NOA NORSAR Array B 94.82 331 P P 04 48 37.1 +0.2
comp=Z,0.8nm,0.8s,baz=94,slow=4.3,SNR=3.0
NOA LR LR 05 36 30.9
comp=Z,20nm,19.3s,baz=25,slow=39
YKA Yellowknife Ar 116.63 18 PKP PKPdf 04 53 58.0 -1.1
comp=Z,0.5nm,0.8s,baz=306,slow=1.5,SNR=5.5
YKB5 Yellowknife Ar 116.63 18 ePKPdf PKPdf 04 53 58.0 -1.1
FCC Fort Churchill 124.97 10 ePKPdf PKPdf 04 54 14.9 -0.3
FCC Fort Churchill 124.97 10 ePKIKP PKPdf 04 54 14.9 -0.3
FFC Flin Flon 126.78 17c i PKIKP PKPdf 04 54 19.8 +1.0
SCHQ Schefferville 129.56 352 ePKPdf PKPdf 04 54 22.7 -1.5
ULM Lac du Bonnet 132.48 16 PKP PKPdf 04 54 29.8 0.0
comp=Z,2.7nm,0.8s,baz=355,slow=5.5,SNR=4.9
Y14A Wickenburg 136.55 44 ePKPpre PKPpre 04 54 23.7
MNTX Cornudas Mount 143.03 41 ePKPdf PKPdf 04 54 51.5 +1.7
N46A Monticello 143.44 11 P PKPab 04 54 47.5 +1.2
baz=345
N48A Decatur 143.77 9 P PKPab 04 54 48.5 +0.9
baz=348
SFIN Lafayette 143.86 12 P PKPab 04 54 48.8 +0.8
baz=344
P43A Skaggs, Pawnee 143.99 15 P PKPab 04 54 49.1 +0.6
baz=340
PAL Palisades 144.02 355 P PKPab 04 54 48.9 +0.4
baz=6.6
N50A Nevada 144.12 7 P PKPab 04 54 49.4 +0.4
baz=351
N52A McGinn's Farm, 144.23 5 P PKPab 04 54 49.6 +0.2
baz=353
N53A Lisbon 144.30 4 P PKPab 04 54 50.1 +0.5
baz=355
O48A Farmland 144.34 10 P PKPab 04 54 49.9 +0.1
baz=347
Q42A Golden Eagle 144.39 17 P PKPab 04 54 49.7 -0.3
baz=338
N55A Marion Center 144.41 1 ePKPdf PKPab 04 54 50.2 +0.2
N55A Marion Center 144.41 1 P PKPab 04 54 49.4 -0.7
baz=358
N57A Milroy 144.45 360 P PKPab 04 54 49.6 -0.5
baz=0.4
P45A Graceland, Par 144.54 13 ePKPdf PKPab 04 54 50.7 +0.1
P45A Graceland, Par 144.54 13 P PKPab 04 54 50.3 -0.2
baz=343
P46A Rosedale 144.57 12 P PKPab 04 54 50.2 -0.5
baz=344
SSPA Standing Stone 144.57 0 P PKPab 04 54 50.2 -0.4
baz=360
ACSO Alum Creek Sta 144.67 7 ePKPdf PKPab 04 54 50.9 -0.1
ACSO Alum Creek Sta 144.67 7 P PKPab 04 54 50.0 -1.0
baz=351,SNR=7.1
O50A Cable 144.68 8 P PKPab 04 54 50.3 -0.8
baz=350
WMOK Wichita Mounta 144.69 31 ePKPdf PKPab 04 54 50.8 -0.6
WMOK Wichita Mounta 144.69 31 P PKPab 04 54 50.6 -0.7
baz=322
O60A Telford 144.81 357 P PKPab 04 54 50.8 -0.7
baz=4.1
O53A New Philadelph 144.83 4 P PKPab 04 54 50.9 -0.7
baz=354
O59A Robesonia 144.86 358 P PKPab 04 54 50.7 -1.0
baz=2.8
P47A Martinsville 144.89 11 P PKPab 04 54 50.9 -0.9
baz=345,SNR=5.1
O52A Adamsville 144.91 5 ePKPdf PKPab 04 54 51.5 -0.3
O52A Adamsville 144.91 5 P PKPab 04 54 50.8 -1.1
baz=353
O56A Blue Knob Stat 144.93 1 ePKPdf PKPbc 04 54 52.0 -0.1
O56A Blue Knob Stat 144.93 1 P PKPbc 04 54 51.3 -0.7
baz=359,SNR=6.1
O54A Avella 144.95 3 P PKPbc 04 54 51.3 -0.8
baz=356
CCM Cathedral Cave 144.96 19 ePKPdf PKPbc 04 54 51.6 -0.6
CCM Cathedral Cave 144.96 19 P PKPbc 04 54 51.2 -1.0
baz=336
O55A Ligonier 144.97 2 P PKPbc 04 54 50.9 -1.3
baz=357
O57A Amberson 144.99 360 P PKPbc 04 54 51.4 -0.9
baz=0.3
Q45A Warren Harvey, 145.04 14 P PKPbc 04 54 52.0 -0.4
baz=342,SNR=7.0
P48A Milroy 145.07 10 P PKPbc 04 54 51.5 -0.9
baz=347,SNR=5.1
P49A Miami Univ. Ec 145.12 9 P PKPbc 04 54 51.6 -1.1
baz=348,SNR=5.9
BLO Bloomington 145.14 12 ePKPbc PKPbc 04 54 52.4 -0.3
TUL1 Leonard 145.14 26 ePKPbc PKPbc 04 54 52.5 -0.3
TUL1 Leonard 145.14 26 P PKPbc 04 54 52.0 -0.9
baz=328
MVL Millersville 145.18 358 ePKPbc PKPbc 04 54 53.1 +0.4
P50A Jamestown 145.18 8 P PKPbc 04 54 52.1 -0.8
baz=350,SNR=18
PSUB Penn St. - Bra 145.21 357 ePKPbc PKPbc 04 54 52.6 -0.2
OLIL Olney 145.21 14 ePKPbc PKPbc 04 54 52.7 -0.2
FVM French Village 145.28 18 ePKPbc PKPbc 04 54 52.5 -0.7
P60A Greenville 145.33 357 P PKPbc 04 54 52.7 -0.6
baz=3.8,SNR=7.0
P52A Corning 145.36 6 P PKPbc 04 54 52.4 -1.0
baz=352
Q47A Bedord North L 145.39 12 P PKPdf 04 54 52.8 -0.9
baz=345,SNR=7.3
P51A Williamsport 145.40 7 ePKPbc PKPbc 04 54 53.0 -0.6
P51A Williamsport 145.40 7 P PKPdf 04 54 52.4 -1.2
baz=351,SNR=5.4
MCWV Mont Chateau 145.50 3 ePKPdf PKPdf 04 54 54.1 +0.3
MCWV Mont Chateau 145.50 3 P PKPdf 04 54 53.3 -0.5
baz=356,SNR=5.1
P54A Burton 145.52 4 P PKPdf 04 54 53.7 -0.2
baz=355,SNR=11
Q48A North Vernon 145.53 11 P PKPdf 04 54 53.5 -0.4
baz=346,SNR=15
P59A Jarrettsville 145.57 358 P PKPdf 04 54 53.5 -0.4
baz=2.4,SNR=6.1
P53A Whipple 145.57 5 ePKPdf PKPdf 04 54 53.8 -0.1
P53A Whipple 145.57 5 P PKPdf 04 54 53.5 -0.4
baz=354,SNR=11
R45A Skylar, Fairfi 145.58 15 P PKPdf 04 54 53.6 -0.4
baz=341,SNR=5.8
HHAR Hobbs 145.59 23 ePKPdf PKPdf 04 54 53.5 -0.6
Q49A Aurora 145.60 10 P PKPdf 04 54 53.2 -0.9
baz=348,SNR=5.9
P55A Reedsville 145.65 3 P PKPdf 04 54 53.8 -0.3
baz=356,SNR=6.9
TX31 Lajitas Ar. Si 145.68 42 ePKPdf PKPdf 04 54 55.5 +0.9
LTX Lajitas 145.68 42 ePKPdf PKPbc 04 54 55.7 +0.8
TXAR Lajitas Array 145.68 42 PKPbc PKPbc 04 54 55.7 +0.8
comp=Z,24nm,0.7s,baz=297,slow=1.3,SNR=317
SDMD Soldier's Deli 145.78 359 ePKPdf PKPdf 04 54 55.0 +0.7
Q51A Peebles 145.82 8 ePKPdf PKPdf 04 54 54.6 +0.2
Q51A Peebles 145.82 8 P PKPdf 04 54 54.1 -0.3
baz=350,SNR=8.1
R46A Gibon Southern 145.84 14 P PKPdf 04 54 54.3 -0.2
baz=343
ABTX Abilene, Hawle 145.86 34 ePKPdf PKPdf 04 54 55.6 +0.9
ABTX Abilene, Hawle 145.86 34 P PKPdf 04 54 55.0 +0.3
baz=319
SIUC Southern Illin 145.88 16 ePKPdf PKPdf 04 54 55.1 +0.6
S44A Carbondale 145.89 16 P PKPdf 04 54 54.5 0.0
baz=340
Q50A Georgetown 145.91 9 P PKPdf 04 54 54.3 -0.3
baz=349
U40A Yellville 145.94 22 P PKPdf 04 54 54.4 -0.3
baz=333,SNR=26
R47A Wooly Knot Far 145.98 12 P PKPdf 04 54 54.6 -0.1
baz=344,SNR=7.9
Q52A Bidwell 146.01 6 P PKPdf 04 54 54.6 -0.1
baz=352,SNR=7.6
R48A Northridge Ran 146.02 11 P PKPdf 04 54 54.8 0.0
baz=346,SNR=10
WCI Wyandotte Cave 146.10 12 ePKPdf PKPdf 04 54 55.7 +0.8
WCI Wyandotte Cave 146.10 12 P PKPdf 04 54 55.2 +0.3
baz=345
Q54A Coxs Mills 146.11 4 ePKPdf PKPab 04 54 57.0 +0.7
Q54A Coxs Mills 146.11 4 P PKPdf 04 54 54.9 0.0
baz=355
Q55A Buckhannon 146.15 3 P PKPdf 04 54 55.4 +0.4
baz=356,SNR=9.5
Q57A Strasburg 146.16 1 P PKPdf 04 54 55.5 +0.6
baz=359,SNR=9.4
Q53A Leroy 146.18 5 P PKPdf 04 54 55.4 +0.3
baz=353,SNR=6.9
R49A Shelbyville 146.25 10 P PKPdf 04 54 55.3 +0.2
baz=347,SNR=11
PBMO Poplar Bluff 146.39 18 ePKPdf PKPdf 04 54 56.2 +0.8
R50A Paris 146.40 9 P PKPdf 04 54 55.7 +0.3
baz=348,SNR=7.7
R51A Hillsboro 146.50 8 P PKPdf 04 54 55.9 +0.4
baz=350
S47A Hartford 146.58 13 P PKPdf 04 54 56.4 +0.7
baz=344
R52A Catlettsburg 146.58 7 P PKPdf 04 54 56.3 +0.5
baz=351,SNR=6.3
W39A Magazine 146.60 24 ePKPdf PKPdf 04 54 57.0 +1.2
W39A Magazine 146.60 24 P PKPdf 04 54 56.5 +0.7
baz=330
R53A Hurricane 146.66 6 ePKPdf PKPbc 04 54 57.5 0.0
R53A Hurricane 146.66 6 P PKPdf 04 54 57.0 +1.1
baz=352,SNR=8.6
S48A Wiedeman Farm, 146.70 12 P PKPdf 04 54 56.8 +0.8
baz=345,SNR=9.4
S49A Springfield 146.72 11 P PKPdf 04 54 57.4 +1.5
baz=346,SNR=6.4
R55A Marlinton 146.86 3 P PKPdf 04 54 57.5 +1.2
baz=356
T46A Princeton 146.86 15 P PKPdf 04 54 57.6 +1.4
baz=342
R54A Victor 146.90 4 P PKPdf 04 54 57.4 +1.1
baz=354
R57A Stanardsville 146.90 1 P PKPbc 04 54 58.0 -0.1
baz=359,SNR=7.0
R58A Rapidan 146.90 0 P PKPdf 04 54 57.7 +1.4
baz=360,SNR=6.9
S50A Richmond 146.98 10 P PKPdf 04 54 57.5 +1.1
baz=348
R59A King George, V 146.99 359 P PKPbc 04 54 58.1 -0.2
baz=1.2
WHAR Wooly Hollow 147.10 22 ePKPdf PKPdf 04 54 58.2 +1.5
T47A Sharon Grove 147.11 14 ePKPdf PKPdf 04 54 58.2 +1.6
T47A Sharon Grove 147.11 14 P PKPdf 04 54 58.1 +1.4
baz=343
S51A Beattyville 147.15 8 ePKPdf PKPdf 04 54 58.5 +1.8
S51A Beattyville 147.15 8 P PKPdf 04 54 58.0 +1.3
baz=349,SNR=6.5
T48A Bowling Green 147.15 13 P PKPdf 04 54 58.1 +1.5
baz=344
W41B Gary Mavity, V 147.22 22 P PKPdf 04 54 58.2 +1.4
baz=333
R58B Mineral 147.24 360 ePKPdf PKPbc 04 54 59.1 +0.1
R58B Mineral 147.24 360 P PKPdf 04 54 58.6 +1.8
baz=360
MIAR Mount Ida 147.25 24 ePKPdf PKPbc 04 54 59.4 +0.2
MIAR Mount Ida 147.25 24 P PKPdf 04 54 58.8 +1.9
baz=330
T49A Edmonton 147.34 11 ePKPbc PKPbc 04 55 00.6 +1.2
T49A Edmonton 147.34 11 P PKPdf 04 54 58.8 +1.8
baz=346
JCT Junction City 147.35 37 ePKPbc PKPbc 04 54 59.9 +0.2
JCT Junction City 147.35 37 P PKPbc 04 54 59.6 -0.1
baz=316
S57A Dark Hollow, R 147.43 2 ePKPbc PKPbc 04 54 59.9 +0.3
S57A Dark Hollow, R 147.43 2 P PKPbc 04 54 59.1 -0.5
baz=358,SNR=6.1
S59A Mechanicsville 147.43 359 P PKPbc 04 54 59.8 +0.2
baz=0.9
U46A Springville 147.44 16 P PKPdf 04 54 59.0 +1.8
baz=341
S60A Water View 147.47 358 P PKPbc 04 54 59.7 0.0
baz=2.1
S56A Natural Bridge 147.49 2 P PKPdf 04 54 58.8 +1.5
baz=357
U47A Clarksville 147.58 14 P PKPbc 04 54 59.5 -0.5
baz=342
S58A Poland Farm, P 147.59 0 ePKPbc PKPbc 04 55 00.3 +0.3
S58A Poland Farm, P 147.59 0 P PKPdf 04 54 59.0 +1.6
baz=360,SNR=7.1
X40A Basin Creek Fa 147.59 23 ePKPbc PKPbc 04 55 00.7 +0.6
X40A Basin Creek Fa 147.59 23 P PKPdf 04 54 59.5 +2.0
baz=331
U48A Cassie Pea, Po 147.69 13 P PKPbc 04 54 60.0 -0.4
baz=344
WVT Waverly 147.74 15 ePKPbc PKPbc 04 55 00.3 -0.2
WVT Waverly 147.74 15 P PKPbc 04 55 00.1 -0.4
baz=341
T51A Gray 147.75 9 P PKPbc 04 54 59.9 -0.6
baz=348
T52A Hallie 147.75 8 ePKPbc PKPbc 04 55 00.7 +0.1
T52A Hallie 147.75 8 P PKPbc 04 55 00.2 -0.4
baz=350
U49A Red Boiling Sp 147.86 12 P PKPbc 04 55 00.2 -0.6
baz=344
BLA Blacksburg 147.90 4 P PKPdf 04 55 00.2 +2.2
baz=355
T54A Tazewell 147.96 6 P PKPbc 04 55 00.5 -0.6
baz=353
T55A Pulaski 147.97 4 P PKPbc 04 55 00.6 -0.6
baz=354
V46A Holladay 147.98 16 P PKPbc 04 55 00.4 -0.7
baz=340,SNR=7.8
V47A Nunnelly 148.11 15 P PKPbc 04 55 00.9 -0.6
baz=342
T56A Rocky Mt 148.11 3 P PKPbc 04 55 01.0 -0.5
baz=356,SNR=7.1
U50A Jamestown 148.13 11 P PKPbc 04 55 01.1 -0.5
baz=347
CLTN Cedars of Leba 148.14 13 ePKPbc PKPbc 04 55 01.5 -0.1
T57A Hurt 148.18 2 ePKPbc PKPbc 04 55 01.7 +0.1
T57A Hurt 148.18 2 P PKPbc 04 55 01.3 -0.3
baz=357
WLAR White Oak Lake 148.18 25 ePKPbc PKPbc 04 55 02.2 +0.5
T59A Double "B" Far 148.23 359 ePKPbc PKPbc 04 55 02.2 +0.5
T59A Double "B" Far 148.23 359 P PKPbc 04 55 01.6 -0.1
baz=0.5,SNR=7.0
TZTN Tazewell 148.23 9 ePKPbc PKPbc 04 55 01.8 -0.1
TZTN Tazewell 148.23 9 P PKPbc 04 55 01.4 -0.4
baz=349
T58A Grand View Acr 148.25 1 P PKPbc 04 55 01.7 -0.1
baz=359
V48A Smith Brothers 148.37 14 ePKPbc PKPbc 04 55 01.6 -0.6
V48A Smith Brothers 148.37 14 P PKPbc 04 55 01.3 -0.9
baz=343
U52A Thorn Hill 148.40 8 P PKPbc 04 55 01.7 -0.6
baz=349
U54A Nelsons Funny 148.47 6 P PKPbc 04 55 01.7 -0.8
baz=352
W46A Michie 148.53 17 P PKPdf 04 55 01.5 +2.5
baz=340
U53A Fall Branch 148.54 7 P PKPbc 04 55 01.6 -1.1
baz=351
V49A McMinnville 148.55 13 P PKPbc 04 55 01.7 -1.0
baz=344
U55A TA2, Sparta 148.56 5 P PKPbc 04 55 02.3 -0.5
baz=354,SNR=6.0
W47A Westpoint 148.63 15 P PKPbc 04 55 02.3 -0.6
baz=341,SNR=13
Z41A Richland Creek 148.68 25 P PKPbc 04 55 02.8 -0.2
baz=330
U60A Pendleton 148.72 359 P PKPbc 04 55 02.8 -0.2
baz=1.2,SNR=5.1
U57A Blanch 148.74 2 P PKPbc 04 55 02.9 -0.2
baz=357,SNR=6.8
PLAL Pickwick Lake 148.76 16 ePKPbc PKPbc 04 55 02.6 -0.6
U56A King 148.77 4 P PKPbc 04 55 02.7 -0.5
baz=355
OXF Oxford 148.80 19 P PKPbc 04 55 02.8 -0.6
baz=337
U58A Oxford 148.80 1 P PKPbc 04 55 03.5 +0.2
baz=359,SNR=6.5
V50A Pikevile 148.81 11 P PKPbc 04 55 02.7 -0.6
baz=346
V51A Loudon 148.82 10 ePKPbc PKPbc 04 55 03.3 0.0
V51A Loudon 148.82 10 P PKPbc 04 55 02.9 -0.5
baz=347
U59A Littleton 148.84 360 ePKPbc PKPbc 04 55 04.0 +0.6
U59A Littleton 148.84 360 P PKPbc 04 55 03.2 -0.2
V52A Sevierville 148.91 9 ePKPbc PKPbc 04 55 03.5 -0.1
V52A Sevierville 148.91 9 P PKPbc 04 55 03.2 -0.4
baz=349,SNR=7.8
W48A Pulaski 148.91 14 P PKPbc 04 55 02.9 -0.7
baz=342,SNR=8.8
X46A Booneville 149.01 17 P PKPbc 04 55 03.1 -0.7
baz=339
SWET Sewanee 149.07 13 ePKPbc PKPbc 04 55 03.5 -0.5
W49A Belvidere 149.09 13 P PKPbc 04 55 03.3 -0.8
baz=344,SNR=9.9
CPCT Cooper Cave 149.13 11 ePKPbc PKPbc 04 55 04.3 +0.2
V53A Saluda 149.19 8 ePKPdf PKPdf 04 55 00.9 +0.8
V53A Saluda 149.19 8 P PKPbc 04 55 04.0 -0.4
baz=350,SNR=10
V54A Nebo 149.19 6 P PKPbc 04 55 03.8 -0.6
baz=352,SNR=5.3
V55A Taylorsville 149.19 5 P PKPbc 04 55 03.8 -0.5
baz=353,SNR=5.2
W50A Signal Mountai 149.22 12 ePKPbc PKPbc 04 55 04.2 -0.2
W50A Signal Mountai 149.22 12 P PKPbc 04 55 03.8 -0.7
baz=345
X47A Russelville 149.25 16 P PKPbc 04 55 04.2 -0.3
baz=340,SNR=5.4
V57A Coltrane Farms 149.26 3 P PKPbc 04 55 03.5 -0.9
baz=356,SNR=5.3
V56A Mocksville 149.29 4 ePKPbc PKPbc 04 55 04.7 +0.1
V56A Mocksville 149.29 4 P PKPbc 04 55 04.4 -0.2
baz=355
W51A Cleveland 149.37 11 P PKPbc 04 55 04.3 -0.5
baz=346
V58A Windy Hill, Pi 149.38 2 P PKPbc 04 55 04.6 -0.2
baz=357
V61A Roper 149.38 358 P PKPbc 04 55 05.1 +0.4
baz=2.4
V60A Jim Taylor Roa 149.43 359 ePKPbc PKPbc 04 55 05.5 +0.6
V60A Jim Taylor Roa 149.43 359 P PKPbc 04 55 05.0 +0.1
baz=1.1
V59A Middlesex 149.43 1 P PKPbc 04 55 05.0 +0.1
baz=359
X48A Hartselle 149.53 15 ePKPbc PKPbc 04 55 03.9 -1.3
X48A Hartselle 149.53 15 P PKPbc 04 55 04.9 -0.3
baz=342
W52A Murphy 149.58 10 ePKPbc PKPbc 04 55 05.3 0.0
W52A Murphy 149.58 10 P PKPbc 04 55 05.0 -0.4
baz=348,SNR=7.2
W53A Cullowhee 149.63 9 P PKPbc 04 55 05.3 -0.2
baz=349,SNR=12
X49A Woodville 149.66 14 P PKPbc 04 55 05.0 -0.5
baz=343,SNR=7.4
BG3 Lake Jocassee 149.84 8 ePKPbc PKPbc 04 55 06.2 +0.3
W54A Cherokee Point 149.85 7 P PKPbc 04 55 05.6 -0.3
baz=351
KMSC Kings Mountain 149.88 6 ePKPbc PKPbc 04 55 05.7 -0.4
KMSC Kings Mountain 149.88 6 P PKPbc 04 55 05.7 -0.4
baz=353,SNR=5.6
CNNC Cliffs of the 149.96 0 P PKPbc 04 55 06.2 0.0
baz=360
W56A Indian Trail 149.96 4 P PKPbc 04 55 05.6 -0.6
baz=354
W57A Gilead 149.98 3 P PKPbc 04 55 06.0 -0.3
baz=356
W61A Ground Anchor 150.01 359 P PKPbc 04 55 06.5 +0.2
baz=1.6
Y48A Jasper 150.01 16 P PKPbc 04 55 05.3 -1.1
baz=341
X52A Dahlonega 150.07 10 P PKPbc 04 55 06.4 -0.1
baz=348
W60A Pink Hill 150.14 360 P PKPbc 04 55 06.5 -0.1
baz=0.2
W58A Raeford 150.15 2 P PKPbc 04 55 07.1 +0.5
baz=357
PAULI Pauline 150.15 7 ePKPbc PKPbc 04 55 06.6 0.0
Y49A Blount Mountai 150.26 14 ePKPbc PKPbc 04 55 06.8 -0.2
Y49A Blount Mountai 150.26 14 P PKPbc 04 55 06.4 -0.6
baz=343
X53A Estanollee 150.26 9 P PKPbc 04 55 06.7 -0.3
baz=349
X54A Belton 150.35 8 P PKPbc 04 55 07.0 -0.2
baz=351
Y50A Piedmont 150.39 13 P PKPbc 04 55 06.7 -0.6
baz=344
BIRD Birdtown, Kers 150.45 4 ePKPbc PKPbc 04 55 07.6 +0.2
VBMS Vicksburg 150.50 22 P PKPbc 04 55 07.2 -0.3
baz=334
X55A Gracelyn & Ava 150.52 6 P PKPbc 04 55 07.0 -0.5
baz=352
X56A White Oak 150.56 5 P PKPbc 04 55 07.3 -0.4
baz=354
X59A McDuffie Farm, 150.61 1 P PKPbc 04 55 07.7 -0.1
baz=358
X60A Albert Glenn T 150.62 0 P PKPbc 04 55 07.7 -0.1
baz=360
X57A Johnson Farm, 150.66 4 P PKPbc 04 55 07.8 -0.1
baz=355
HODGE Hodges 150.68 7 ePKPbc PKPbc 04 55 08.3 +0.3
JSC Jenkinsville 150.74 6 ePKPbc PKPbc 04 55 08.4 +0.3
Y52A Lilburn 150.76 11 ePKPbc PKPbc 04 55 08.8 +0.6
Y52A Lilburn 150.76 11 P PKPbc 04 55 07.8 -0.4
baz=347
Y53A Monroe 150.85 10 P PKPbc 04 55 08.0 -0.4
baz=348
147A Livingston 150.85 18 P PKPbc 04 55 07.9 -0.5
baz=338
Z49A Columbiana 150.86 15 P PKPbc 04 55 07.9 -0.5
baz=342
LRAL Lakeview Retre 150.89 16 P PKPbc 04 55 08.0 -0.5
baz=341
Z50A Ashland 150.95 14 ePKPbc PKPbc 04 55 08.6 -0.1
Z50A Ashland 150.95 14 P PKPbc 04 55 08.0 -0.7
baz=343
Y54A Tignall 150.99 8 P PKPbc 04 55 08.4 -0.3
baz=350
Y55A Saluda 151.02 7 P PKPbc 04 55 08.7 0.0
baz=352
Y57A Sumter 151.08 4 ePKPbc PKPbc 04 55 09.3 +0.4
Y57A Sumter 151.08 4 P PKPbc 04 55 08.6 -0.3
baz=355
148A Greensboro 151.09 17 P PKPbc 04 55 08.7 -0.2
baz=340
Y60A Bolivia 151.19 1 P PKPbc 04 55 08.7 -0.4

baz=359
Y58A Scranton 151.24 3 *e*PKPbc **PKPbc 04 55 09.8 +0.5**
Y58A Scranton 151.24 3 P **PKPbc 04 55 09.2 0.0**
baz=356
GOGA Godfrey 151.31 10 P **PKPbc 04 55 09.1 -0.4**
baz=348
Z52A Williamson 151.35 11 P **PKPbc 04 55 09.6 0.0**
baz=346
Z53A Monticello 151.41 10 P **PKPbc 04 55 09.4 -0.3**
baz=348
150A Eclectic 151.55 15 P **PKPbc 04 55 09.6 -0.5**
baz=343
Z54A Sparta 151.58 9 P **PKPbc 04 55 10.0 -0.1**
baz=350
Z56A Williston 151.68 6 P **PKPbc 04 55 09.9 -0.4**
baz=352
Z57A Bowman 151.77 5 P **PKPbc 04 55 10.1 -0.4**
baz=354
152A Waverly Hall 151.79 12 *e*PKPdf **PKPdf 04 55 05.7 +1.4**
152A Waverly Hall 151.79 12 P **PKPbc 04 55 10.4 -0.2**
baz=345
151A Opelika 151.79 13 P **PKPbc 04 55 10.5 -0.1**
baz=344
Z58A St. Stephen 151.80 3 P **PKPbc 04 55 10.6 0.0**
baz=356
249A Camden 151.85 17 P **PKPbc 04 55 10.8 +0.1**
baz=340
Z59A Georgetown, SC 151.92 2 P **PKPbc 04 55 10.3 -0.5**
baz=357
NHSC New Hope 152.00 4 P **PKPbc 04 55 10.8 -0.2**
baz=355
250A Grady 152.08 15 P **PKPbc 04 55 11.1 -0.1**
baz=342
154A Montrose 152.15 9 P **PKPbc 04 55 11.4 0.0**
baz=349
251A Midway 152.19 14 P **PKPbc 04 55 11.5 0.0**
baz=344
155A Kite 152.24 8 P **PKPbc 04 55 10.7 -0.9**
baz=350
158A Hollywood 152.37 4 P **PKPbc 04 55 11.5 -0.4**
baz=355
252A Lumpkin 152.43 13 P **PKPbc 04 55 12.1 0.0**
baz=345
253A Americus 152.50 12 P **PKPbc 04 55 11.9 -0.3**
baz=346
257A Skidaway Islan 153.05 6 P **PKPbc 04 55 12.6 -0.8**
baz=353
353A Camilla 153.17 12 P **PKPbc 04 55 13.0 -0.6**
baz=346
454A Quitman 153.90 11 P **PKPbc 04 55 14.1 -1.2**
baz=347
557A Orange Park 154.90 8 P **PKPdf 04 55 15.9 +7.2**
baz=351

WEL 29 04:40:51.8±1.3, 35°S±8°×17°8E±1°3, h5km, ML4.1/18, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.82**	**169**	P	Pn	04 41 39.7	+2.2
MXZ				S	Sn	04 42 12.8	+0.9
HAZ	**Te Kaha**	**2.96**	**178**	P	Pn	04 41 41.1	+1.6
PKGZ	**Pakihiroa**	**3.11**	**174**	P	Pn	04 41 42.2	+0.6
RUGZ	**Raukumara Rang**	**3.17**	**180**	P	Pn	04 41 43.5	+1.1
PUZ	**Puketiti**	**3.31**	**172**	P	Pn	04 41 43.8	-0.5
PUZ				S	Sn	04 42 23.9	-0.2
TWGZ	**Tauwhareparae**	**3.39**	**176**	P	Pn	04 41 45.9	+0.5
URZ	**Urewera**	**3.49**	**187**	P	Pn	04 41 47.1	+0.4
MWZ	**Matawai**	**3.54**	**182**	P	Pn	04 41 47.5	0.0
RAHZ	**Arahi**	**4.14**	**186**	P	Pn	04 41 55.2	-0.5
NMHZ	**Naumai**	**4.35**	**189**	P	Pn	04 41 58.4	-0.2
BKZ	**Black Stump Fm**	**4.46**	**192**	P	Pn	04 42 00.5	+0.3
BKZ				S	Sn	04 42 54.7	+2.2
ARHZ	**Aropaoanui**	**4.49**	**186**	P	Pn	04 41 59.7	-0.9
ARHZ				S	Sn	04 42 55.3	+2.1
NGZ	**Ngauruhoe**	**4.67**	**200**	P	Pn	04 42 05.3	+2.2
FWVZ	**Far West T-bar**	**4.76**	**200**	P	Pn	04 42 05.8	+1.4
MOVZ	**Moawhango**	**4.85**	**198**	P	Pn	04 42 06.0	+0.5
BHHZ	**Black Hill Sta**	**4.86**	**195**	P	Pn	04 42 05.0	-0.7
MTVZ	**Mangateitei**	**4.90**	**200**	P	Pn	04 42 07.8	+1.5
KRHZ	**Kereru**	**4.95**	**191**	P	Pn	04 42 04.6	-2.2
KRHZ				S	Sn	04 43 04.6	+0.1
KAHZ	**Kahuranaki**	**5.03**	**187**	P	Pn	04 42 06.1	-1.9
PNHZ	**Pukenui**	**5.24**	**192**	P	Pn	04 42 08.4	-2.5
PXZ	**Pawanui**	**5.27**	**187**	P	Pn	04 42 08.3	-2.9
TSZ	**Takapari Road**	**5.43**	**194**	P	Pn	04 42 11.3	-2.0
PRHZ	**Porangahau**	**5.53**	**188**	P	Pn	04 42 11.5	-3.2
DVHZ	**Dannevirke**	**5.62**	**192**	P	Pn	04 42 12.9	-3.2
PRWZ	**Pori Road**	**5.91**	**193**	P	Pn	04 42 16.8	-3.2
BFZ	**Birch Farm**	**5.98**	**190**	P	Pn	04 42 16.8	-4.2
MRZ	**Mangatainoka R**	**6.08**	**195**	P	Pn	04 42 18.2	-4.2
TIWZ	**Tintock**	**6.13**	**193**	P	Pn	04 42 18.8	-4.4
HOWZ	**Holdsworth Sta**	**6.33**	**195**	P	Pn	04 42 21.0	-4.7
OGWZ	**Otaki Gorge**	**6.33**	**197**	P	Pn	04 42 22.2	-3.6
KIW	**Kapiti Island**	**6.43**	**199**	P	Pn	04 42 23.2	-4.0
TMWZ	**Te Maipa**	**6.46**	**192**	P	Pn	04 42 22.8	-4.7
MTW	**Mount Morrison**	**6.58**	**194**	P	Pn	04 42 24.2	-5.0
CAW	**Cannon Point**	**6.63**	**197**	P	Pn	04 42 25.3	-4.6
TCW	**Tory Channel**	**6.94**	**202**	P	Pn	04 42 30.3	-3.8
PLWZ	**Palliser**	**7.02**	**195**	P	Pn	04 42 29.9	-5.5
TUWZ	**Tuamarina**	**7.24**	**203**	P	Pn	04 42 34.1	-4.1
BSWZ	**Blackbirch Sta**	**7.52**	**202**	P	Pn	04 42 37.7	-4.5
THZ	**Tophouse**	**7.89**	**207**	P	Pn	04 42 43.6	-3.7
KHZ	**Kahutara**	**8.26**	**202**	P	Pn	04 42 46.4	-5.9

IDC 29 04:47:54.1±2.4, 6°23S×130°10E, h0km, mb3.6/1, mb1 4.3/4, mb1mx3.7/36, mbtmp4.1/4, ML4.3/3, Error ellipse: s-maj=93.3km s-min=29.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.57**	**200**	Pn	Pn	04 50 56.2	+1.8
	1.1nm,0.3s,baz=19,slow=9.3,SNR=29						
FITZ				Sn	Sn	04 53 06.5	-8.7
	1.4nm,0.3s,baz=212,slow=23,SNR=5.9						
WRA	**Warramunga Arr**	**14.24**	**164**	Pn	Pn	04 51 16.1	-1.1
	2.9nm,0.3s,baz=340,slow=12,SNR=1.7						
WRA				Sn	Sn	04 53 41.6	-14
	5.0nm,0.3s,baz=333,slow=24,SNR=2.3						
ASAR	**Alice Springs**	**17.72**	**168**	P	Pn	04 52 01.8	-0.7
	0.3nm,0.3s,baz=351,slow=12,SNR=13						
ASAR				S	Sn	04 55 04.1	-17
	0.1nm,0.3s,baz=349,slow=25,SNR=3.4						
MKAR	**Makanchi Array**	**67.64**	**327**	P	P	04 58 53.0	0.0
	0.2nm,0.4s,baz=120,slow=7.2,SNR=3.8						

*ISCJB **29** 04:50:14.3±0.5, 37°.01N±0°.04×71°.17E±0°.06, h100km, Error ellipse: s-maj=7.8km s-min=5.6km az=147.1*
*IDC **29** 04:50:20.9±5.8, 37°.59N×70°.97E, h114km±50km, mb1 3.5/6, mb1mx3.1/49, mbtmp4.0/6, Error ellipse: s-maj=77.3km s-min=18.5km az=152.0*
*NNC **29** 04:50:23.6±12.0, 37°.69N×71°.07E, h129km±277km, mb3.3, mpv4.0, Error ellipse: s-maj=120.5km s-min=73.0km az=170.0*

ISC 29 04:50:16.0±1.0, 37°.13N±0°.08×71°.31E±0°.07, h100km, n29, σ2°09/34, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.32**	**19**	P	Pn	04 51 35.1	+1.8
	SNR=108						
UCH	**Uchtor**	**5.66**	**25**	P	Pn	04 51 39.9	+1.9
	SNR=27						
KZA	**Kyzart**	**5.80**	**30**	P	Pn	04 51 42.1	+2.2
	SNR=24						
EKS2	**Erkin-Say**	**5.84**	**18**	P	Pn	04 51 42.6	+2.4
	SNR=13						
KK31	**Karatay Array**	**6.00**	**354**	P	Pn	04 51 43.8	+1.6
	2.6nm,0.3s,baz=180,slow=13,SNR=76						
KK31				⇑S	Sn	04 52 46.6	-2.8
	6.2nm,0.5s,baz=181,slow=27,SNR=7.4						
AAK	**Ala-Archa**	**6.02**	**23**	P	Pn	04 51 45.0	+2.4
	SNR=24						
AAK	**Ala-Archa**	**6.02**	**23**	⇓P	Pn	04 51 45.0	+2.4
	14nm,0.3s						
AAK				⇑S	Sn	04 52 50.0	-0.3
	5.7nm,0.5s						
AAK	**Ala-Archa**	**6.02**	**23**	P	Pn	04 51 45.0	+2.4
	12nm,0.3s,baz=173,slow=6.1,SNR=63						
AAK				S	Sn	04 52 48.2	-2.0
	1.6nm,0.3s,baz=131,slow=24,SNR=5.7						
KBK	**Karagaybulak**	**6.19**	**26**	P	Pn	04 51 47.4	+2.5
	SNR=7.1						
ULHL	**Ulahol**	**6.37**	**35**	P	Pn	04 51 49.8	+2.4
	SNR=9.2						
CHMS	**Chumysh**	**6.43**	**23**	P	Pn	04 51 50.0	+2.0
	SNR=20						
USP	**Ospenovka**	**6.60**	**21**	P	Pn	04 51 51.9	+1.5
	SNR=8.4						
TKM2	**Tokmak 2**	**6.65**	**28**	P	Pn	04 51 53.6	+2.3
	SNR=8.9						
TKM2	**Tokmak 2**	**6.65**	**28**	⇓P	Pn	04 51 53.0	+1.7
	7.9nm,0.4s						
TKM2				⇑S	Sn	04 53 00.9	-4.8
	2.6nm,0.6s						
GEYT	**Alibeck**	**10.51**	**278**	P	Pn	04 52 43.8	+0.2
	2.6nm,0.3s,baz=101,slow=7.7,SNR=9.6						
GEYT				S	Sn	04 54 36.4	-2.9
	3.4nm,0.3s,baz=81,slow=20,SNR=6.1						
MKAR	**Makanchi Array**	**12.64**	**37**	P	Pn	04 53 13.0	+1.0
	0.5nm,0.3s,baz=226,slow=16,SNR=23						
PYUN	**Piuthan**	**13.33**	**129**	*e*P	Pn	04 53 20.4	-1.0
	18nm,0.4s						
DANN	**Dangsing**	**13.64**	**126**	*e*P	Pn	04 53 25.5	0.0
	14nm,0.4s						
KOLN	**Koldanda**	**13.95**	**128**	*e*P	Pn	04 53 28.5	-0.9
	16nm,0.5s						
KURBB	**Kurchatov Arra**	**14.45**	**19**	P	Pn	04 53 33.9	-1.6
	0.0nm,0.3s,baz=212,slow=12,SNR=2.5						
AB31	**Akbulak array**	**14.66**	**329**	⇓P	Pn	04 53 38.0	-0.2
	0.5nm,0.4s,baz=275,slow=41,SNR=35						
DMN	**Daman**	**15.02**	**125**	*e*P	Pn	04 53 43.1	-0.1
	26nm,0.8s						
PKIN	**Phulchoki**	**15.23**	**125**	*e*P	Pn	04 53 45.5	-0.4
	12nm,0.5s						
PKI	**Pulchoki**	**15.24**	**125**	*e*P	Pn	04 53 45.7	-0.4
	20nm,0.7s						
JIRN	**Jiri**	**15.70**	**123**	*e*P	Pn	04 53 50.9	-1.0
	40nm,0.5s						
BVAR	**Borovoye Array**	**15.91**	**358**	P	Pn	04 53 53.8	-0.1
	0.4nm,0.3s,baz=170,slow=9.0,SNR=4.9						
AKTO	**Aktyubinsk**	**16.37**	**329**	⇑P	P	04 54 04.7	+4.0
	2.2nm,0.5s						
RAMN	**Ramite**	**16.45**	**124**	*e*P	Pn	04 53 58.7	-2.3
	33nm,0.8s						
ZALV	**Zalesovo Beam**	**19.24**	**25**	P	Pn	04 54 33.1	-1.1
	1.0nm,0.3s,baz=217,slow=11,SNR=10						

*UCR **29** 04:57:15.6±0.7, 18°.11N×85°.83W, h200km, ML4.1, mb4.2(NEIC)*
*ISCJB **29** 04:57:31.4±0.2, 16°.87N±0°.02×85°.86W±0°.04, h10km, mb4.0/9, MS3.3/7, Error ellipse: s-maj=5.1km s-min=3.0km az=9.9*
*IDC **29** 04:57:31.9±1.6, 16°.86N×85°.79W, h0km, mb3.5/4, mb1 3.9/8, mb1mx3.6/35, mbtmp3.7/8, ML3.3/4, MS3.3/13, Ms1 3.3/13, ms1mx3.1/26, Error ellipse: s-maj=34.3km s-min=25.2km az=58.0*
*NEIC **29** 04:57:33.0±2.6, 16°.85N×85°.82W, h10km±10km, mb4.2/39, Error ellipse: s-maj=14.9km s-min=6.7km az=56.0*
NEIC Felt at Roatan and Sandy Bay.

ISC 29 04:57:33.0±0.6, 16°.90N±0°.04×85°.87W±0°.05, h10km, n189, σ1°79/195, mb4.1/9, MS3.3/7, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**3.14**	**206**	*e*Pn	Pn	04 58 22.3	-0.2
TGUH				*e*Sn	Sn	04 58 55.9	-4.2
TGUH	**Tegucigalpa,Un**	**3.14**	**206**	*e*P	Pn	04 58 22.8	+0.3
ESTN	**Estel**	**3.81**	**187**	*e*Pn	Pn	04 58 31.2	-0.6
ESTN				*e*Sn	Sn	04 59 14.9	-1.9
ESTN	**Estel**	**3.81**	**187**	*e*P	Pn	04 58 31.5	-0.3
ESTN				*e*S	Sb	04 59 32.0	+5.3
ESTN				IAML		04 59 58.4	
	comp=N,257nm,0.8s						
TEIG	**Tepich**	**4.02**	**326**	*e*Pn	Pn	04 58 35.9	+1.3
TEIG				*e*Sn	Sn	04 59 20.3	-1.5
CSGN	**Cosiguina Volc**	**4.23**	**203**	*e*Pn	Pn	04 58 37.6	-0.1
CRIN	**San Cristobal**	**4.33**	**195**	*e*P	Pn	04 58 38.7	-0.3
CRIN				IAML		05 00 01.5	
	comp=N,460nm,1.1s						
APG	**El Apazote**	**4.81**	**248**	Pn	Pn	04 58 46.1	+0.4
	comp=N,0.6nm,0.3s,baz=104,slow=12,SNR=15						
APG				Sn	Sn	04 59 37.7	-4.0
	comp=N,28nm,0.3s,baz=335,slow=17,SNR=15						
APG				Lg	Lg	04 59 56.5	
	comp=N,16nm,0.3s,baz=327,slow=19,SNR=6.1						
APG				LR	LR	05 00 49.8	
	comp=N,274nm,18.4s,baz=62,slow=41						
ESPN	**Las Esperanzas**	**4.92**	**162**	*e*Pn	Pn	04 58 46.2	-0.8
ESPN				*e*Sn	Sn	04 59 40.6	-3.4
ESPN	**Las Esperanzas**	**4.92**	**162**	*e*P	Pn	04 58 46.5	-0.5
ACON	**Acoyapa**	**4.95**	**172**	*e*Pn	Pn	04 58 46.3	-1.2
ACON				*e*Sn	Sn	04 59 42.2	-2.6
FSCY	**Frank Sound, G**	**5.06**	**61**	*e*Pn	Pn	04 58 48.4	-0.5
FSCY				*e*Sn	Sn	04 59 42.9	-4.5
MYIG	**Mrida**	**5.45**	**318**	*e*Pn	Pn	04 58 53.8	-0.5
MYIG				*e*Sn	Sn	04 59 53.2	-3.9
CCIG	**Comitan**	**6.04**	**265**	*e*Pn	Pn	04 59 04.0	+1.4
CCIG				*e*Sn	Sn	05 00 10.1	-2.0
JTS	**Las Juntas de**	**6.63**	**172**	*e*Pn	Pn	04 59 10.5	-0.1
JTS				*e*Sn	Sn	05 00 22.7	-3.6
JTS	**Las Juntas de**	**6.63**	**172**	Pn	Pn	04 59 10.4	-0.2
	comp=N,1.6nm,0.3s,baz=59,slow=10,SNR=12						
JTS				Sn	Sn	05 00 21.5	-4.8
	comp=N,2.1nm,0.3s,baz=307,slow=19,SNR=6.2						
JTS				Lg	Lg	05 00 55.5	
	comp=N,2.1nm,0.3s,baz=245,slow=9.5,SNR=3.8						
JTS				LR	LR	05 01 19.0	
	comp=N,54nm,20.0s,baz=64,slow=34						
MTDJ	**Mount Denham**	**8.05**	**79**	*e*Pn	Pn	04 59 32.3	+2.1
CMIG	**Matias Romero**	**8.63**	**273**	Pn	Pn	04 59 38.5	+0.4
	comp=N,0.8nm,0.3s,baz=187,slow=16,SNR=7.1						
CMIG				Sn	Sn	05 01 10.6	-5.0
	comp=N,1.2nm,0.3s,baz=115,slow=19,SNR=4.2						
CMIG				LR	LR	05 03 25.7	
	comp=N,455nm,19.7s,baz=94,slow=41						
061Z	**Ochoppi**	**10.04**	**27**	*e*Pn	Pn	04 59 57.3	0.0
059Z	**Ave Maria**	**10.25**	**23**	P	Pn	05 00 01.0	+0.8
	baz=204						
LVIG	**Laguna Verde**	**10.41**	**287**	*e*Pn	Pn	05 00 00.3	-2.0
060Z	**West Palm Beac**	**10.67**	**27**	P	Pn	05 00 06.3	+0.5
	baz=208						
058A	**Arcadia**	**10.78**	**20**	P	Pn	05 00 07.7	+0.2
	baz=201,SNR=6.3						
059A	**Moore Haven**	**10.93**	**23**	*e*Pn	Pn	05 00 09.5	0.0
059A	**Moore Haven**	**10.93**	**23**	P	Pn	05 00 09.8	+0.3
	baz=204						
857A	**Zephyrhills**	**11.80**	**16**	P	Pn	05 00 21.2	-0.1
	baz=197						
DWPF	**Disney Wildern**	**11.88**	**19**	*e*Pn	Pn	05 00 22.6	+0.1
757A	**Oxford**	**12.48**	**16**	P	Pn	05 00 30.4	-0.3
	baz=197						
655A	**Horseshoe Beac**	**12.78**	**10**	P	Pn	05 00 34.7	-0.1
	baz=191						
656A	**Willston**	**12.78**	**13**	*e*Pn	Pn	05 00 33.5	-1.3
656A				*e*Sn	Sn	05 02 46.9	-10
656A	**Willston**	**12.78**	**13**	P	Pn	05 00 34.0	-0.8
	baz=194,SNR=7.5						
657A	**Interlachen**	**13.15**	**15**	P	Pn	05 00 39.3	-0.5
	baz=197						
658A	**Bunnell**	**13.16**	**18**	*e*Pn	Pn	05 00 41.5	+1.6
556A	**Lake Butler**	**13.42**	**13**	P	Pn	05 00 43.4	-0.2
	baz=194						
555A	**McAlpin**	**13.42**	**11**	*e*Pn	Pn	05 00 44.5	+0.9
555A	**McAlpin**	**13.42**	**11**	P	Pn	05 00 43.7	+0.1
	baz=192						
557A	**Orange Park**	**13.59**	**15**	P	Pn	05 00 45.1	-0.7
	baz=197,SNR=5.3						
451A	**Vernon**	**13.65**	**0**	*e*Pn	Pn	05 00 47.2	+0.5
449A	**Pace**	**13.85**	**355**	P	Pn	05 00 49.2	-0.2
	baz=174						
450A	**Crestview**	**13.86**	**357**	P	Pn	05 00 49.0	-0.4
	baz=177						
453A	**Whigham**	**13.96**	**6**	*e*Pn	Pn	05 00 50.7	-0.2
455A	**Stateville**	**14.02**	**10**	P	Pn	05 00 51.6	-0.1
	baz=191						
456A	**Hilliard**	**14.20**	**14**	*e*Pn	Pn	05 00 56.1	+1.9
456A	**Hilliard**	**14.20**	**14**	P	Pn	05 00 53.7	-0.5
	baz=195						
351A	**Pinckard**	**14.31**	**1**	P	Pn	05 00 54.8	-0.9
	baz=181						
349A	**Repton**	**14.44**	**355**	P	Pn	05 00 56.6	-0.8
	baz=175						
353A	**Camilla**	**14.46**	**6**	P	Pn	05 00 57.2	-0.6
	baz=186						
350A	**Dozier**	**14.46**	**358**	P	Pn	05 00 57.2	-0.6
	baz=178						
352A	**Blakely**	**14.54**	**3**	*e*Pn	Pn	05 00 58.2	-0.6
352A	**Blakely**	**14.54**	**3**	P	Pn	05 00 58.5	-0.3
	baz=183						
LNIG	**Linares**	**14.98**	**304**	*e*Pn	Pn	05 01 03.4	-1.6
	comp=N,5.5nm,0.7s						
250A	**Grady**	**15.01**	**359**	*e*Pn	Pn	05 01 05.9	+0.6
	comp=N,36nm,0.6s						
249A	**Camden**	**15.05**	**356**	P	Pn	05 01 05.3	-0.4
	baz=175						
251A	**Midway**	**15.13**	**1**	P	Pn	05 01 06.6	-0.2
	baz=182						
253A	**Americus**	**15.18**	**6**	*e*Pn	Pn	05 01 03.9	-3.6
	comp=N,70nm,1.6s						
255A	**Hazlehurst**	**15.27**	**11**	*e*Pn	Pn	05 01 08.4	-0.3
	comp=N,42nm,0.7s						
151A	**Opelika**	**15.56**	**2**	P	Pn	05 01 12.2	-0.4
	baz=182,SNR=5.7						
150A	**Eclectic**	**15.64**	**360**	P	Pn	05 01 12.8	-0.7
	baz=179,SNR=7.5						
152A	**Waverly Hall**	**15.73**	**4**	*e*Pn	Pn	05 01 15.0	+0.3
	comp=N,7.7nm,0.8s						
152A	**Waverly Hall**	**15.73**	**4**	P	Pn	05 01 14.2	-0.6
	baz=184						
154A	**Montrose**	**15.84**	**9**	*e*Pn	Pn	05 01 14.3	-1.9
	comp=N,37nm,1.4s						
147A	**Livingston**	**15.85**	**353**	*e*Pn	Pn	05 01 18.0	+1.7
	comp=N,15nm,0.8s						
147A	**Livingston**	**15.85**	**353**	P	Pn	05 01 15.7	-0.6
	baz=171						
LRAL	**Lakeview Retre**	**16.10**	**357**	*e*Pn	Pn	05 01 20.8	+1.4
	comp=N,12nm,0.3s						
LRAL	**Lakeview Retre**	**16.10**	**357**	P	Pn	05 01 19.3	-0.1
	baz=176,SNR=14						
Z49A	**Columbiana**	**16.23**	**358**	P	Pn	05 01 20.8	-0.3
	baz=178,SNR=9.9						
Z52A	**Williamson**	**16.27**	**4**	P	Pn	05 01 20.9	-0.8
	baz=185,SNR=5.8						
Z50A	**Ashland**	**16.28**	**360**	*e*Pn	Pn	05 01 22.9	+1.1
	comp=N,10nm,0.3s						
Z50A				*e*Sn	Sn	05 04 07.5	-15
Z50A	**Ashland**	**16.28**	**360**	P	Pn	05 01 21.8	0.0
	baz=180,SNR=7.5						
Z51A	**Franklin**	**16.36**	**2**	P	Pn	05 01 23.2	+0.4
	baz=182,SNR=23						
Z53A	**Monticello**	**16.44**	**7**	P	Pn	05 01 23.3	-0.5
	baz=188						
ROSC	**El Rosal**	**16.48**	**135**	LR	LR	05 07 51.5	
	comp=N,55nm,20.6s,baz=11,slow=38						
GOGA	**Godfrey**	**16.58**	**7**	*e*Pn	Pn	05 01 26.7	+1.1
	comp=N,17nm,1.5s						
GOGA	**Godfrey**	**16.58**	**7**	P	Pn	05 01 25.2	-0.4
	baz=188						
SDV	**Santo Domingo**	**16.84**	**116**	*e*Pn	Pn	05 01 27.2	-2.0
	comp=N,6.8nm,1.1s						
SDV	**Santo Domingo**	**16.84**	**116**	Pn	Pn	05 01 28.5	-0.7
	comp=N,0.3nm,0.3s,baz=261,slow=19,SNR=5.0						
SDV				LR	LR	05 09 21.5	
	comp=N,43nm,19.7s,baz=248,slow=42						
833A	**Chaparral WMA,**	**16.87**	**315**	*e*Pn	Pn	05 01 31.3	+2.0
	comp=N,33nm,0.6s						
833A	**Chaparral WMA,**	**16.87**	**315**	P	Pn	05 01 29.3	0.0
	baz=130,SNR=5.4						
Y49A	**Blount Mountai**	**16.89**	**358**	*e*Pn	Pn	05 01 31.7	+2.1
	comp=N,7.4nm,0.6s						
Y49A				*e*Sn	Sn	05 04 26.0	-11
Y49A	**Blount Mountai**	**16.89**	**358**	P	Pn	05 01 30.9	+1.3
	baz=178						
Y50A	**Piedmont**	**16.92**	**0**	P	Pn	05 01 31.2	+1.3
	baz=180						
NHSC	**New Hope**	**16.93**	**17**	*e*Pn	Pn	05 01 32.2	+2.2
	comp=N,61nm,1.3s						
NHSC	**New Hope**	**16.93**	**17**	P	Pn	05 01 30.8	+0.8
	baz=199						
Y51A	**Rockmart**	**16.94**	**2**	P	Pn	05 01 31.2	+1.0
	baz=182,SNR=5.9						
Y52A	**Lilburn**	**16.97**	**5**	P	Pn	05 01 31.5	+1.0
	baz=186						
Y48A	**Jasper**	**16.98**	**356**	P	Pn	05 01 31.9	+1.2
	baz=176,SNR=6.9						
Y53A	**Monroe**	**17.01**	**7**	P	Pn	05 01 32.0	+1.0
	baz=187						
Y56A	**Pelion**	**17.31**	**13**	P	Pn	05 01 36.2	+1.4
	baz=195						
X49A	**Woodville**	**17.54**	**359**	P	Pn	05 01 39.1	+1.5
	baz=178						
HODGE	**Hodges**	**17.56**	**10**	*e*Pn	Pn	05 01 38.4	+0.5
	comp=N,20nm,1.7s						
X47A	**Russelville**	**17.63**	**355**	P	Pn	05 01 40.1	+1.3
	baz=174,SNR=23						
X53A	**Estanollee**	**17.68**	**7**	P	Pn	05 01 40.4	+1.0
	baz=188						
X52A	**Dahlonega**	**17.72**	**5**	P	Pn	05 01 41.6	+1.8
	baz=186						
JSC	**Jenkinsville**	**17.79**	**13**	*e*Pn	P	05 01 43.8	+2.3
	comp=N,13nm,1.2s						
OXF	**Oxford**	**17.82**	**350**	*e*Pn	Pn	05 01 41.2	+0.1
	comp=N,17nm,0.7s						
Y58A	**Scranton**	**17.82**	**17**	*e*Pn	Pn	05 01 41.5	+0.4
	comp=N,30nm,0.5s						
Y58A	**Scranton**	**17.82**	**17**	P	Pn	05 01 43.0	+1.8
	baz=200						
X56A	**White Oak**	**18.05**	**13**	P	Pn	05 01 45.4	+1.5
	baz=195						
W49A	**Belvidere**	**18.15**	**359**	P	Pn	05 01 46.1	+1.0
	baz=179,SNR=5.4						
W48A	**Pulaski**	**18.19**	**357**	P	Pn	05 01 47.3	+1.7
	baz=177						
W52A	**Murphy**	**18.20**	**5**	P	Pn	05 01 47.8	+2.0
	baz=186						
W51A	**Cleveland**	**18.21**	**3**	P	Pn	05 01 47.3	+1.3
	baz=183,SNR=6.6						
W50A	**Signal Mountai**	**18.23**	**1**	*e*Pn	Pn	05 01 48.5	+2.2
	comp=N,6.6nm,0.5s						
W50A				*e*S	S	05 05 15.0	-0.2
W50A	**Signal Mountai**	**18.23**	**1**	P	Pn	05 01 47.6	+1.4
	baz=182						
X57A	**Johnson Farm,**	**18.24**	**15**	P	Pn	05 01 47.5	+1.3
	baz=198						
SWET	**Sewanee**	**18.24**	**360**	*e*Pn	Pn	05 01 46.5	+0.2
	comp=N,6.0nm,0.5s						
W46A	**Michie**	**18.30**	**353**	P	Pn	05 01 49.3	+2.3
	baz=172,SNR=9.9						
BIRD	**Birdtown, Kers**	**18.32**	**14

V54A	Nebo	19.12	10	P	P	05 01 57.7 +1.5
	baz=191					
WHAR	Wooly Hollow	19.19	344	*e*P	P	05 01 58.1 +1.2
	comp=N,23nm,1.9s					
WVT	Waverly	19.23	355	*e*P	Pn	05 02 00.3 +2.0
	comp=N,6.2nm,0.6s					
WVT	Waverly	19.23	355	P	P	05 01 59.0 +1.7
	baz=174					
V55A	Taylorsville	19.32	11	P	P	05 02 00.1 +1.7
	baz=193					
V56A	Mocksville	19.43	13	P	P	05 02 01.2 +1.7
	baz=195					
U50A	Jamestown	19.46	2	P	P	05 02 01.4 +1.5
	baz=183					
U51A	La Follette	19.47	4	P	P	05 02 01.5 +1.5
	baz=185					
U46A	Springville	19.49	354	P	P	05 02 02.4 +2.2
	baz=173					
U52A	Thorn Hill	19.54	6	P	P	05 02 03.0 +2.2
	baz=187					
U48A	Cassie Pea, Po	19.54	358	P	Pn	05 02 03.8 +1.7
	baz=178					
V57A	Coltrane Farms	19.67	15	P	P	05 02 04.4 +2.3
	baz=197					
V58A	Windy Hill, Pi	19.75	16	P	Pn	05 02 07.8 +3.3
	baz=199					
U56A	King	19.97	13	P	Pn	05 02 13.0 +5.8
	baz=195,SNR=6.0					
T47A	Sharon Grove	20.04	357	*e*P	P	05 02 08.3 +2.2
	comp=N,12nm,0.4s					
T50A	Nancy	20.06	2	P	Pn	05 02 13.7 +5.5
	baz=183,SNR=6.9					
T49A	Edmonton	20.13	1	P	P	05 02 10.1 +2.9
	baz=181					
T48A	Bowling Green	20.14	359	P	P	05 02 08.3 +1.1
	baz=176					
T46A	Princeton	20.14	355	P	P	05 02 09.1 +1.8
	baz=174					
U57A	Blanch	20.30	15	P	P	05 02 11.9 +3.0
	baz=198					
T54A	Tazewell	20.43	10	P	P	05 02 13.0 +2.5
	baz=192					
U58A	Oxford	20.47	17	P	P	05 02 12.6 +1.7
	baz=200					
TX31	Lajitas Ar. Si	20.49	310	*e*P	P	05 02 13.6 +2.3
	comp=N,8.1nm,1.2s					
TX31				*e*S	S	05 05 49.6 -11
TXAR	Lajitas Array	20.49	310	P	P	05 02 13.9 +2.6
	comp=N,4.0nm,0.8s,baz=136,slow=8.5,SNR=44					
TXAR				S	S	05 05 50.5 -10
	comp=N,0.3nm,0.5s,baz=114,slow=18,SNR=4.2					
TXAR				LR	LR	05 10 57.9
	comp=N,46nm,20.6s,baz=0.0,slow=39					
U59A	Littleton	20.66	19	P	P	05 02 14.2 +1.3
	baz=202					
S48A	Wiedeman Farm,	20.68	360	P	P	05 02 15.4 +2.2
	baz=179					
T56A	Rocky Mt	20.70	13	P	P	05 02 15.8 +2.4
	baz=196					
S50A	Richmond	20.74	3	P	P	05 02 16.7 +2.9
	baz=184					
S51A	Beattyville	20.75	5	P	P	05 02 15.9 +1.9
	baz=186					
BLA	Blacksburg	20.80	12	P	P	05 02 16.5 +2.0
	baz=195					
S49A	Springfield	20.81	1	P	P	05 02 16.0 +1.5
	baz=181					
T57A	Hurt	20.86	15	*e*P	P	05 02 16.7 +1.7
	comp=N,6.6nm,0.8s					
T57A	Hurt	20.86	15	P	P	05 02 16.3 +1.3
	baz=198					
U60A	Pendleton	20.97	20	P	P	05 02 17.0 +0.8
	baz=204					
T58A	Grand View Acr	20.99	17	P	P	05 02 16.8 +0.3
	baz=200					
WMOK	Wichita Mounta	21.19	329	*e*P	P	05 02 20.9 +2.2
	comp=N,5.3nm,1.1s					
WCI	Wyandotte Cave	21.25	359	*e*P	P	05 02 21.0 +1.7
	comp=N,6.7nm,0.8s					
WCI	Wyandotte Cave	21.25	359	P	P	05 02 20.4 +1.1
	baz=179					
S55A	Lewisburg	21.32	12	P	P	05 02 21.2 +1.1
	baz=194					
Q53A	Leroy	22.20	9	P	P	05 02 31.3 +1.8
	baz=191					
R57A	Stanardsville	22.27	15	P	P	05 02 31.9 +1.7
	baz=199					
P53A	Whipple	22.84	9	P	P	05 02 37.4 +1.1
	baz=191					
MNTX	Cornudas Mount	23.04	313	*e*P	P	05 02 40.3 +1.8
	comp=N,10nm,1.7s					
MNTX	Cornudas Mount	23.04	313	P	P	05 02 39.1 +0.6
	baz=125					
LPIG	La Paz	23.97	291	LR	LR	05 13 07.6
	comp=N,113nm,18.3s,baz=70,slow=39					
O59A	Robesonia	24.79	18	P	P	05 02 56.6 +1.5
	baz=202					
N56A	West Decatur	24.81	14	P	P	05 02 57.0 +1.7
	baz=197					
ATAH	Atahualpa	25.00	162	LR	LR	05 12 06.4
	comp=N,79nm,18.8s,baz=277,slow=35					
N59A	State Game Lan	25.47	18	*e*P	P	05 03 04.0 +2.7
	comp=N,7.1nm,0.8s					
N59A	State Game Lan	25.47	18	P	P	05 03 02.8 +1.5
	baz=203					
ANMO	Albuquerque	25.71	318	P	P	05 03 05.2 +1.4
	baz=129					
ANMO	Albuquerque	25.71	318	P	P	05 03 04.0 +0.2
	comp=N,0.5nm,0.5s,baz=132,slow=12,SNR=4.2					
PAL	Palisades	26.14	21	P	P	05 03 10.0 +2.6
	baz=206					
KSCO	Kaye Shedlock'	26.45	330	*e*P	P	05 03 07.0 -3.4
	comp=N,52nm,0.7s					
SADO	Sadowa	28.35	10	LR	LR	05 15 20.3
	comp=N,77nm,18.4s,baz=188,slow=38					
NVAR	Mina Array Bea	35.57	314	P	P	05 04 32.6 +1.8
	comp=N,0.5nm,0.6s,baz=122,slow=9.7,SNR=5.6					
LPAZ	La Paz	37.33	151	LR	LR	05 19 47.8
	comp=N,48nm,21.9s,baz=324,slow=36					
MNMC	Minye Minye	39.22	155	*e*P	P	05 05 03.3 +1.3
	comp=N,17nm,0.4s					
SCHQ	Schefferville	40.60	17	LR	LR	05 21 51.3
	comp=N,51nm,19.8s,baz=22,slow=36					
BDFB	Brasilia	49.39	129	LR	LR	05 28 26.3
	comp=N,60nm,18.7s,baz=282,slow=38					
YKA	Yellowknife Ar	49.78	343	P	P	05 06 26.1 +0.5
	comp=N,0.1nm,0.6s,baz=137,slow=8.0,SNR=3.6					

MEX 29 05:15:49.8±0.8, 17°.28N×100°.60W, h29km±11km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.40	126	*e*P	Pb	05 15 56.6	-2.0
CAIG				*e*S	Sb	05 16 03.0	-1.5
ZIIG	Zihuatanejo	0.89	292	*e*P	Pn	05 16 04.0	-2.3
ZIIG				*e*S	Sb	05 16 14.5	-3.6
ARIG	Puente Sto Nin	1.02	14	*e*P	Pn	05 16 05.2	-3.0
ARIG				*i* S	Sn	05 16 18.4	-3.2
PLIG	Platanillo	1.52	43	*e*P	Pn	05 16 12.9	-2.3
PLIG				*i* S	Sn	05 16 31.9	-2.1
TLIG	Tlapa	1.96	82	*e*P	Pn	05 16 19.9	-1.3
TLIG				*i* S	Sn	05 16 42.3	-2.7

IDC 29 05:30:31.7±1.8, 7°.57S×124°.03E, h0km, mb3.7/1, mb1 4.1/4, mb1mx3.7/29, mbtmp3.9/4, ML4.1/3, Error ellipse: s-maj=137.8km s-min=26.5km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.58	172	Pn	Pn	05 33 05.2	+0.5
	0.4nm,0.3s,baz=353,slow=13,SNR=14						
FITZ				Sn	Sn	05 34 50.8	-13
	1.7nm,0.3s,baz=274,slow=19,SNR=12						
WRA	Warramunga Arr	15.85	142	Pn	Pn	05 34 17.5	+1.1
	2.1nm,0.3s,baz=302,slow=13,SNR=4.1						
WRA				Sn	Sn	05 36 57.9	-15
	baz=329,slow=14,SNR=1.0						
ASAR	Alice Springs	18.60	150	P	P	05 34 49.8	-1.0
	0.2nm,0.3s,baz=325,slow=12,SNR=16						
MKAR	Makanchi Array	65.60	330	P	P	05 41 17.5	0.0
	0.4nm,0.5s,baz=139,slow=6.3,SNR=5.1						

MEX 29 05:45:06.9±0.4, 14°.96N×93°.27W, h43km±15km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.74	4	*e*P	Pn	05 45 19.5	-1.5
PCIG				*i* S	Sn	05 45 28.8	-2.3
THIG		0.98	93	*e*P	Pn	05 45 22.2	-1.9
THIG				*i* S	Sn	05 45 34.9	-2.0
CCIG	Comitan	1.71	40	*i* P	Pn	05 45 33.1	-1.2
CCIG				*i* S	Sn	05 45 52.7	-2.4
TGIG		1.81	5	*e*P	Pn	05 45 33.8	-1.9
TGIG				*i* S	Sn	05 45 55.3	-2.1
CMIG	Matias Romero	2.62	324	*e*P	Pn	05 45 44.9	-1.8
CMIG				*i* S	Sn	05 46 15.3	-2.0

IDC 29 05:46:25.1±1.1, 0°.74N×79°.28W, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/31, mbtmp3.7/9, ML3.4/2, MS2.8/5, Ms1 2.8/5, ms1mx2.6/26, Error ellipse: s-maj=31.8km s-min=18.3km az=60.0

IGQ 29 05:46:30.7±0.4, 1°.N±2°.×7°.9W±°, h5km, MLv4.0

ISC 29 05:46:28.5±1.4, 0°.68N±0°.03×79°.22W±0°.05, h17km±9km, n95, σ1§41/101, mb3.7/5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	Pacto, Paraso	0.60	134	P	Pn	05 46 42.0	-0.3
PAC1				S	Sb	05 46 50.3	+1.5
LITE1	Lita	0.87	83	P	Pb	05 46 45.4	+0.2
LITE1				S	Sg	05 46 55.9	-1.0
OTAV	Otavalo	0.89	120	*e*P	Pn	05 46 46.6	-0.1
OTAV				*e*S	Sb	05 46 58.6	+1.1
OTAV				*i*		05 47 02.2	
	comp=Z,526nm,0.5s						
OTAV	Otavalo	0.89	120	*e*P	Pn	05 46 46.6	-0.1
OTAV				*e*S	Sb	05 46 58.6	+1.1
OTAV				*i*		05 47 02.2	
	comp=Z,526nm,0.5s						
CUSE	Cuicocha Este	0.90	114	P	Pn	05 46 46.8	0.0
MAG1	Magdalena	0.93	216	P	Pn	05 46 47.1	+0.3
CUIC	Cuicocha-Domo	0.94	114	P	Pn	05 46 47.3	0.0
COTA	Cotacachi	0.95	111	P	Pn	05 46 47.5	0.0
CUSW	Cuicocha Oeste	0.96	114	P	Pn	05 46 47.7	+0.3
PULU	Pululahua	0.97	132	P	Pn	05 46 48.4	+0.6
PULU				S	Sb	05 47 01.2	+1.3
URCU	Urcuqui	1.00	104	P	Pn	05 46 48.2	+0.1
ACOT	Cotacachi (Cas	1.02	112	P	Pn	05 46 49.2	+0.8
YANA	Yana	1.03	141	P	Pn	05 46 49.0	+0.5
TERV	Terraza Guagua	1.05	144	P	Pn	05 46 49.6	+0.6
GGP	Refugio Guagua	1.06	144	P	Pn	05 46 49.8	+0.8
IMBA	Imbabura, San	1.10	111	P	Pn	05 46 50.9	+1.4
EPNL	EPN Laboratori	1.15	141	P	Pn	05 46 51.3	+1.1
AIB2	Ibarra (Univer	1.17	107	P	Pg	05 46 51.1	0.0
YAHU	Yahuarcocha	1.19	105	P	Pg	05 46 52.0	+0.4
NINA	Atacazo Ninahu	1.22	150	P	Pg	05 46 52.0	-0.3
CAYA	Cayambe	1.37	116	P	Pg	05 46 55.1	+0.1
TULM	Tulcn-Chalpat	1.44	89	P	Pg	05 46 55.8	-0.4
PITA	Cotopaxi Volc	1.46	147	P	Pg	05 46 56.4	-0.4
ILLI	Illinizas Sur	1.47	160	P	Pb	05 46 55.5	-0.2
ILLI				S	Sn	05 47 13.8	0.0
ANTG	Antisana-Guama	1.52	141	P	Pg	05 46 57.2	-0.7
ANTG				S	Sn	05 47 16.0	+0.8
BNAS	Cotopaxi Volca	1.54	151	P	Pg	05 46 57.8	-0.4
ANTI	Antisana	1.54	137	P	Pg	05 46 57.9	-0.4
VC1	Cotopaxi 1	1.55	148	P	Pg	05 46 57.9	-0.5
BREF	Cotopaxi Volca	1.55	150	P	Pg	05 46 59.2	+0.7
BREF				S	Sg	05 47 20.2	+1.4
BVC2	Cotopaxi Volca	1.56	149	P	Pg	05 46 58.2	-0.3
ANTM	Antisana-La Mi	1.57	140	P	Pb	05 46 58.0	+0.6
ANTM				S	Sn	05 47 17.3	+1.0
ANTS	Antisana-Sarah	1.57	138	P	Pg	05 46 58.2	-0.7
ANTS				S	Sg	05 47 18.8	-0.7
BTAM	Cotopaxi Volca	1.58	149	P	Pg	05 46 58.5	-0.5
BMOR	Cotopaxi Volca	1.60	151	P	Pb	05 46 58.5	+0.6
COV1	Cotopaxi Volc	1.60	147	P	Pb	05 46 58.2	+0.2
LAV4	Lava4-Reventad	1.77	116	P	Pg	05 47 02.1	-0.4
REVS	Reventador Sur	1.78	116	P	Pg	05 47 02.8	0.0
PIS1	Pisayambo	1.92	154	P	Pb	05 47 03.9	+0.5
PISA	Pisayambo	1.92	154	P	Pb	05 47 03.8	+0.4
GCUF	Volcan Galeras	1.95	74	*e*P	Pb	05 47 03.5	-0.4
GCUF				*i*		05 47 34.6	
	comp=Z,74nm,0.4s						
GCUF	Volcan Galeras	1.95	74	*e*P	Pb	05 47 03.5	-0.4
GCUF				*i*		05 47 34.6	
	comp=Z,74nm,0.4s						
CASC	Dorado de Casc	1.96	106	P	Pb	05 47 04.3	+0.5
CPAS2	Pasto	2.04	75	*e*Pg	Pb	05 47 05.7	+0.4
CPAS2	Pasto	2.04	75	*e*Pg	Pb	05 47 05.7	+0.4
ARDO	Archidona, Ten	2.19	140	P	Pb	05 47 07.2	-0.5
BBIL	Ulba Tungurahu	2.24	161	P	Pb	05 47 08.6	-0.1
BRUN	Tungurahua Vol	2.24	159	P	Pb	05 47 08.5	-0.3
BULB	Ulba Tungurahu	2.26	159	P	Pb	05 47 08.4	-0.7
RETU	Refugio	2.26	160	P	Pb	05 47 09.2	+0.1
BMAS	Trigal station	2.29	161	P	Pb	05 47 08.9	-0.8
ARRY	Arrayan	2.31	161	P	Pb	05 47 09.7	-0.2
BPAT	Tungurahua Vol	2.31	160	P	Pb	05 47 09.1	-0.9
PAT1	Patacocha	2.31	160	P	Pb	05 47 10.0	-0.1
BBAC	Balboa, Cauca	2.38	56	*e*P	Pn	05 47 07.8	+0.9
BBAC				*e*S	Sn	05 47 36.0	+0.1
BBAC				*i*		05 47 41.3	
	comp=Z,135nm,0.3s						
BBAC	Balboa, Cauca	2.38	56	*e*P	Pn	05 47 07.8	+0.9
BBAC				*e*S	Sn	05 47 36.0	+0.1
BBAC				*i*		05 47 41.3	
	comp=Z,135nm,0.3s						
CRUC	La Cruz	2.44	69	*e*Pg	Pb	05 47 12.1	0.0
CRUC				*i*		05 47 48.3	
	comp=Z,113nm,0.5s						
CRUC	La Cruz	2.44	69	*e*Pg	Pb	05 47 12.1	0.0
CRUC				*i*		05 47 48.3	
	comp=Z,113nm,0.5s						
MILO	Milagro-Astudi	2.96	186	P	Pn	05 47 13.6	-1.1
SOTA	Rioblanco	2.98	61	*e*P	Pn	05 47 17.3	+1.8
SOTA	Rioblanco	2.98	61	*e*P	Pn	05 47 17.3	+1.8
COHC	Cochancay	3.13	181	P	Pn	05 47 16.6	-0.4
POPC	Popayan, Colom	3.14	54	*e*P	Pn	05 47 19.6	+2.1
POPC	Popayan, Colom	3.14	54	*e*P	Pn	05 47 19.6	+2.1
PCON	Cinco Dias	3.26	60	*e*P	Pb	05 47 23.3	-3.0
PCON	Cinco Dias	3.26	60	*e*P	Pb	05 47 23.3	-3.0
SALI	Salinas	3.35	212	P	Pn	05 47 22.0	+1.8
MORR	Playas El Morr	3.48	199	P	Pn	05 47 23.6	+1.7
FLOC	Florencia	3.68	76	*e*P	Pb	05 47 29.2	-3.9
FLOC	Florencia	3.68	76	*e*P	Pb	05 47 29.2	-3.9
MALC	Bahia Malaga	3.81	30	*e*P	Pb	05 47 36.5	+1.3
MALC	Bahia Malaga	3.81	30	*e*P	Pb	05 47 36.5	+1.3
MARP	Paez Belalcaza	3.91	57	*e*P	Pn	05 47 32.6	+4.5
MARP	Paez Belalcaza	3.91	57	*e*P	Pn	05 47 32.6	+4.5
YOTC	Yotoco, Valle	4.36	41	*e*P	Pn	05 47 35.2	+1.1
YOTC	Yotoco, Valle	4.36	41	*e*P	Pn	05 47 35.2	+1.1
PTLC	Puerto Leguiza	4.45	97	*e*P	Pn	05 47 38.5	+3.2
PTLC	Puerto Leguiza	4.45	97	*e*P	Pn	05 47 38.5	+3.2
MCRA	Macar, Loja	5.07	188	P	Pn	05 47 42.7	-1.1
RREF	El Recreo	5.70	43	*e*P	Pb	05 48 02.5	-5.5
RREF	El Recreo	5.70	43	*e*P	Pb	05 48 02.5	-5.5
ROSC	El Rosal	6.41	50	Pn	Pn	05 48 01.6	-0.8
	baz=205,slow=17,SNR=2.4						
PTBC	PUERTO BERRIO,	7.51	39	*e*P	Pn	05 48 20.4	+3.0
PTBC	PUERTO BERRIO,	7.51	39	*e*P	Pn	05 48 20.4	+3.0
ATAH	Atahualpa	7.81	174	Pn	Pn	05 48 23.2	+1.4
	comp=Z,0.7nm,0.3s,baz=0.4,slow=18,SNR=5.1						
ATAH				LR	LR	05 52 06.1	
	comp=Z,58nm,18.6s,baz=337,slow=43						
JTS	Las Juntas de	11.12	329	LR	LR	05 52 48.8	
	comp=Z,52nm,21.3s,baz=194,slow=35						
APG	El Apazote	18.05	323	LR	LR	05 56 06.5	
	comp=Z,32nm,21.1s,baz=220,slow=32						
PTGA	Pitinga	19.31	94	P	Pn	05 50 54.0	0.0
	comp=Z,0.1nm,0.3s,baz=294,slow=19,SNR=3.3						
LPAZ	La Paz	20.10	147	P	P	05 51 03.0	+0.8
	comp=Z,0.9nm,0.4s,baz=330,slow=6.3,SNR=12						
SJG	San Juan	21.56	36	LR	LR	06 01 01.9	
	comp=Z,20nm,19.0s,baz=94,slow=41						
CMIG	Matias Romero	22.44	317	LR	LR	05 57 17.5	
	comp=Z,34nm,19.0s,baz=166,slow=29						
SIV	San Ignacio	24.41	134	P	P	05 51 45.0	-1.4
	comp=Z,1.1nm,0.5s,baz=320,slow=9.6,SNR=10						
BDFB	Brasilia	34.84	119	P	P	05 53 18.5	-0.6
	comp=Z,1.0nm,0.6s,baz=266,slow=13,SNR=2.8						
PLCA	Paso Flores	41.97	170	P	P	05 54 18.3	-0.4
	comp=Z,1.8nm,0.6s,baz=351,slow=9.7,SNR=7.7						
NVAR	Mina Array Bea	51.91	321	P	P	05 55 35.5	-1.2
	comp=Z,0.5nm,0.5s,baz=132,slow=6.6,SNR=3.7						
YKA	Yellowknife Ar	67.11	343	P	P	05 57 19.6	-1.2
	comp=Z,0.1nm,0.5s,baz=141,slow=5.6,SNR=4.7						

ISK 29 05:48:33.9, 39°.14N×28°.99E, h5km, ML2.1/5

ISCJB 29 05:48:34.5±0.8, 39°.15N±0°.04×28°.98E±0°.06, h7km±8km, Error ellipse: s-maj=9.2km s-min=4.8km az=31.0

DDA 29 05:48:34.9, 39°.12N×29°.05E, h7km±2km, ML2.5

ISC 29 05:48:35.0±1.0, 39°.12N±0°.03×29°.03E±0°.05, h13km±9km, n12, σ0§40/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	Saphane-Kutahy	0.18	123	PG	Pg	05 48 39.2	0.0
SHAP				SG	Sg	05 48 42.4	+0.4
GDZ	Gediz	0.35	95	IAML_P			
	comp=Z,4μm,0.1s						
GDZ				*i* P	Pg	05 48 42.3	+0.1
USAK	Uak-Merkez	0.41	182	IAML_P			
	comp=Z,5μm,0.1s						
USAK				*i* P	Pb	05 48 43.6	-0.4
USAK				*i* S	Sb	05 48 49.8	-0.4
TVSB	Tavsanli	0.47	45	PG	Pg	05 48 43.7	-0.6
TVSB				SG	Sg	05 48 50.2	-0.4
DURS	Dursunbey	0.65	318	IAML_P			
	comp=Z,451nm,0.2s						
DURS				*i* P	Pb	05 48 48.5	+0.3
KULA	Kula-Manisa	0.67	206	PG	Pg	05 48 47.9	-0.2
KULA				SG	Sg	05 48 56.7	-0.3
MANT	Manisa	0.73	211	*i* P	Pb	05 48 49.3	-0.4
MANT				*i* S	Sg	05 48 58.9	+0.1
KHAL	Karahalli	0.83	154	IAML_P			
	comp=Z,235nm,0.1s						
KHAL				*i* P	Pn	05 48 53.2	+0.7
KHAL				*i* S	Sb	05 49 02.7	+0.3
ULDT	Uludag	1.02	4	IAML_P			
	comp=Z,517nm,0.2s						
ULDT				*i* P	Pb	05 48 54.7	0.0
BORA	Eskisehir	1.34	55	PN	Pb	05 49 00.0	0.0
ARMT	Armutlu	1.45	355	PN	Pn	05 49 01.3	+0.3
SRCK	Saricakaya, Es	1.54	53	PN	Pb	05 49 02.9	-0.5

ISCJB 29 05:55:28.2±0.8, 12°.72S±0°.08×166°.9E±0°.2, h220km, mb3.9/9, Error ellipse: s-maj=21.2km s-min=11.0km az=179.1

IDC 29 05:55:28.6±4.3, 12°.72S×166°.89E, h210km±39km, mb3.7/9, mb1 3.8/10, mb1mx3.6/29, mbtmp4.2/10, Error ellipse: s-maj=24.1km s-min=19.5km az=28.0

ISC 29 05:55:29.6±0.9, 12°.77S±0°.09×166°.9E±0°.2, h220km, n11, σ1§09/12, mb3.8/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.26	183	P	Pn	05 57 40.5	+1.3
	0.5nm,0.3s,baz=68,slow=16,SNR=3.9						
DZM				S	S	05 59 21.3	-2.1
	0.2nm,0.3s,baz=315,slow=19,SNR=2.2						
CTA	Charters Tower	21.10	247	P	P	05 59 57.0	-0.4
	2.8nm,0.6s,baz=63,slow=6.8,SNR=3.0						
STKA	Stephens Creek	30.04	227	P	P	06 01 19.1	+0.9
	0.5nm,0.3s,baz=51,slow=13,SNR=2.0						
RPZ	Rata Peaks	31.04	174	P	P	06 01 27.1	+0.2
	14nm,0.9s,baz=18,slow=19,SNR=3.1						
WRA	Warramunga Arr	32.02	253	P	P	06 01 35.0	-0.8
	6.5nm,0.3s,baz=80,slow=18,SNR=6.3						
ASAR	Alice Springs	33.10	246	P	P	06 01 44.5	-0.6
	1.9nm,0.7s,baz=73,slow=9.6,SNR=22						
VNDA	Vanda	64.80	181	P	P	06 05 44.8	+0.5
	0.8nm,0.6s,baz=1.8,slow=6.0,SNR=11						
ILAR	Eielson Array	84.78	18	P	P	06 07 38.6	-0.1
	1.3nm,0.6s,baz=242,slow=5.7,SNR=16						
MKAR	Makanchi Array	95.56	317	P	P	06 08 30.5	+0.7
	0.3nm,0.6s,baz=90,slow=5.9,SNR=2.5						
YKA	Yellowknife Ar	95.97	27	P	P	06 08 29.9	-1.2
	0.1nm,0.7s,baz=269,slow=4.0,SNR=4.6						
ARCES	ARCESS Array B	118.28	346	PKP	PKiKP	06 13 50.2	+0.1
	1.0nm,0.6s,baz=82,slow=1.7,SNR=5.2						

IDC 29 05:56:41.0±7.9, 17°.67S×178°.03W, h552km±97km, mb3.4/6, mb1 3.6/7, mb1mx3.2/28, mbtmp4.4/7, Error ellipse: s-maj=103.3km s-min=31.4km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.25	251	P	P	05 59 53.5	+0.4
	0.5nm,0.3s,baz=101,slow=19,SNR=2.5						
CTA	Charters Tower	33.84	260	P	P	06 02 38.8	+0.6
	4.0nm,0.7s,baz=90,slow=11,SNR=3.5						
STKA	Stephens Creek	39.06	241	P	P	06 03 20.6	-0.4
	3.9nm,0.7s,baz=84,slow=13,SNR=7.2						
WRA	Warramunga Arr	45.03	259	P	P	06 04 07.5	-0.6
	7.0nm,0.3s,baz=95,slow=9.6,SNR=4.5						
ASAR	Alice Springs	45.20	254	P	P	06 04 09.2	-0.2
	8.5nm,0.6s,baz=87,slow=8.8,SNR=60						
NVAR	Mina Array Bea	79.00	44	P	P	06 07 47.5	-0.9
	0.6nm,0.7s,baz=220,slow=7.7,SNR=4.0						
TXAR	Lajitas Array	85.56	57	P	P	06 08 22.7	+1.1
	0.5nm,0.7s,baz=216,slow=5.1,SNR=7.2						

ISCJB 29 06:12:02.6±1.1, 1°.4N±0°.2×85°.5W±0°.1, h10km, mb3.5/3, MS3.2/4, Error ellipse: s-maj=25.1km s-min=10.4km az=32.9

IDC 29 06:12:03.4±1.7, 1°.70N×85°.06W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/25, mbtmp3.6/4, ML2.4/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/12, Error ellipse: s-maj=63.7km s-min=27.3km az=48.0

IGQ 29 06:12:14.9±1.6, 1°.N±8°.×8°.5W±°, h5km

ISC 29 06:12:05.1±1.6, 1°.3N±0°.1×85°.4W±0°.1, h10km, n29, σ2§31/27, mb3.5/3, MS3.2/4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MILO	Milagro-Astudi	6.81	121	P	Pn	06 13 44.4	-0.7
ILLI	Illinizas Sur	6.94	106	P	Pn	06 13 46.6	-0.8
YANA	Yana	6.95	101	P	Pn	06 13 48.3	+0.8

ellipse: s-maj=3.5km s-min=1.4km az=113.0
*ISK **29** 06:12:05.6, 36.′30N×27.′70E, h6km, ML2.7/8*
*ISCJB **29** 06:12:06.4±0.5, 36.′27N±0.′03×27.′69E±0.′04, h24km±6km,*
Error ellipse: s-maj=5.4km s-min=4.9km az=136.9
ISC 29 06:12:06.0±1.0, 36.′30N±0.′03×27.′74E±0.′03, h22km±7km, n22, σ2°28/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.32**	**105**	PG	**Pb**	**06 12 12.9**	**-0.3**
ARG				SG	**Sb**	**06 12 18.5**	**+0.4**
ARG	**Arkhangelos**	**0.32**	**105**	P	**Pb**	**06 12 13.0**	**-0.2**
ARG				S	**Sb**	**06 12 19.1**	**+0.9**
ARG	comp=N,2499μm,0.2s			AML	AML	06 12 19.6	
ARG	comp=E,2440μm,0.2s			AML	AML	06 12 20.0	
DAT	**Datca**	**0.45**	**343**	IAML_P			
DAT	comp=Z,1μm,0.1s			*i* P	**Pb**	**06 12 15.0**	**-0.4**
DAT				*i* S	**Sb**	**06 12 22.3**	**+0.7**
NISR	**Nisiros**	**0.58**	**302**	P	**Pb**	**06 12 17.7**	**+0.1**
NISR				S	**Sb**	**06 12 26.1**	**+0.7**
BDRM	**Kayabasi**	**0.80**	**343**	*i* P	**Pb**	**06 12 21.3**	**+0.1**
BDRM				*i* S	**Sn**	**06 12 33.6**	**+0.4**
BODT	**Bodrum**	**0.83**	**336**	PG	**Pb**	**06 12 21.9**	**0.0**
BODT				SG	**Sn**	**06 12 33.9**	**-0.2**
KARP	**Karpathos**	**0.89**	**212**	PG	**Pb**	**06 12 22.7**	**-0.1**
KARP	**Karpathos**	**0.89**	**212**	P	**Pb**	**06 12 21.7**	**-1.1**
KARP				S	**Sb**	**06 12 33.4**	**-0.8**
DALY	**Dalyan (Mula)**	**0.90**	**55**	PG	**Pn**	**06 12 23.8**	**+0.5**
DALY	**Dalyan (Mula)**	**0.90**	**55**	IAML_P			
DALY	comp=Z,509nm,0.1s			*i* P	**Pn**	**06 12 23.2**	**-0.1**
DALY				*i* S	**Sn**	**06 12 35.5**	**-0.1**
TURN	**Turunc**	**0.90**	**50**	PG	**Pb**	**06 12 18.6**	**-4.3**
TURN				SG	**Sb**	**06 12 28.1**	**-6.4**
TURN	**Turunc**	**0.90**	**50**	*i* P	**Pb**	**06 12 21.0**	**-2.0**
TURN				*i* S	**Sb**	**06 12 28.5**	**-5.9**
YKAV	**Yalikavak-Bodr**	**0.90**	**336**	PG	**Pn**	**06 12 23.2**	**-0.1**
FETY	**Fethiye**	**1.13**	**73**	PN	**Pb**	**06 12 28.3**	**+1.3**
FETY	**Fethiye**	**1.13**	**73**	IAML_P			
FETY	comp=Z,1μm,0.1s			*i* P	**Pb**	**06 12 28.5**	**+1.6**
FETY				*i* S	**Sn**	**06 12 45.3**	**+3.8**
AYDN	**Tasoluk**	**1.36**	**5**	IAML_P			
AYDN	comp=Z,957nm,0.2s			*i* P	**Pb**	**06 12 31.7**	**+0.9**
AYDN				*i* S	**Sn**	**06 12 46.9**	**-0.3**
GCAM	**G?zelcaml?**	**1.45**	**344**	PN	**Pb**	**06 12 33.1**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.50**	**39**	IAML_P			
TAVA	comp=Z,169nm,0.2s			*i* P	**Pb**	**06 12 33.9**	**+0.7**
TAVA				*i* S	**Sb**	**06 12 58.2**	**+6.4**
AKAS	**Kas**	**1.51**	**92**	PN	**Pb**	**06 12 34.3**	**+0.9**
SMG	**Samos**	**1.58**	**333**	P	**Pn**	**06 12 32.2**	**-0.5**
SMG				S	**Sn**	**06 12 52.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.65**	**4**	PN	**Pb**	**06 12 36.2**	**+0.4**
ZKR	**Zakros**	**1.71**	**227**	P	**Pn**	**06 12 34.1**	**-0.4**

PRU 29 06:16:12.2±0.0, 49.′24N×18.′85E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.41**	**102**	*e*PG	Pg	06 16 18.0	-2.1
LANS				*e*SG	Sg	06 16 23.3	-2.2
KOLL	**Kolacno**	**0.72**	**204**	*e*PG	Pg	06 16 22.2	-3.9
KOLL				*e*SG	Sg	06 16 31.3	-4.1
VYHS	**Vyhne**	**0.75**	**181**	*e*PG	Pg	06 16 22.7	-3.8
OKC	**Ostrava-Krasne**	**0.75**	**323**	*e*PG	Pg	06 16 26.2	-0.4
OKC				*e*SG	Sg	06 16 36.8	+0.4
JAVC	**Velka Javorina**	**0.86**	**244**	*e*PG	Pg	06 16 26.6	-2.1
MORC	**Moravsky Berou**	**1.01**	**303**	*e*PG	Pg	06 16 30.7	-0.8
MORC				*e*SG	Sg	06 16 43.6	-1.0
MODS	**Modra-Piesok**	**1.35**	**231**	*e*PG	Pg	06 16 34.7	-3.4
MODS				*e*SG	Sg	06 16 53.3	-2.4
VRAC	**Vranov**	**1.48**	**274**	*e*PG	Pn	06 16 37.8	-2.3
VRAC				*e*SG	Sg	06 16 57.0	-2.7
KRLC	**Kraliky**	**1.58**	**303**	*e*SG	Sn	06 17 02.6	-0.2
KRUC	**Moravsky**	**1.62**	**265**	*e*PG	Pn	06 16 39.9	-2.1
KRUC				*e*SG	Sn	06 17 01.4	-2.2
DPC	**Dobruska-Polom**	**1.98**	**305**	*e*PG	Pn	06 16 47.3	+0.3
DPC				*e*SG	Sb	06 17 14.4	+0.1
UPC	**Upice**	**2.23**	**306**	*e*SG	Sg	06 17 23.4	-0.5
KHC	**Kasperske Hory**	**3.46**	**270**	*e*SG	Sg	06 18 02.8	-0.5

*THE **29** 06:16:24.2, 39.′76N×20.′71E, h27km±1km, ML2.0/5, Error ellipse: s-maj=1.9km s-min=0.4km az=148.0*
*ATH **29** 06:16:25.1, 39.′84N×20.′69E, h11km±7km, ML2.0/8, Error ellipse: s-maj=7.4km s-min=1.0km az=144.0*
ISC 29 06:16:24.8±1.1, 39.′81N±0.′03×20.′70E±0.′03, h19km±3km, n27, σ0°82/37, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.19**	**143**	P	**Pg**	**06 16 29.3**	**-0.4**
JAN				S	**Sg**	**06 16 33.4**	**+0.4**
JAN	**Janina**	**0.19**	**143**	P	**Pg**	**06 16 29.3**	**-0.4**
JAN				S	**Sg**	**06 16 33.6**	**+0.6**
JAN	comp=N,4009μm,0.2s			AML	AML	06 16 35.0	
JAN	comp=E,7580μm,0.3s			AML	AML	06 16 35.1	
IGT	**Igoumenitsa**	**0.40**	**226**	P	**Pg**	**06 16 32.3**	**-0.7**
IGT				S	**Sb**	**06 16 38.6**	**-0.5**
IGT	**Igoumenitsa**	**0.40**	**226**	P	**Pg**	**06 16 32.4**	**-0.6**
IGT				S	**Sb**	**06 16 39.3**	**+0.2**
IGT	comp=E,603μm,0.4s			AML	AML	06 16 43.6	
IGT	comp=N,636μm,0.4s			AML	AML	06 16 44.1	
MEV	**Metsovon**	**0.41**	**93**	P	**Pg**	**06 16 33.1**	**-0.2**
PENT	**Pentalofos**	**0.51**	**41**	P	**Pg**	**06 16 34.7**	**-0.5**
PENT				S	**Sb**	**06 16 43.2**	**+0.8**
PENT	**Pentalofos**	**0.51**	**41**	P	**Pg**	**06 16 34.1**	**-1.1**
PENT				S	**Sg**	**06 16 42.2**	**0.0**
PENT	comp=E,328μm,0.3s			AML	AML	06 16 47.4	
PENT	comp=N,306μm,0.3s			AML	AML	06 16 47.7	
KPRO	**Kipourio**	**0.53**	**74**	P	**Pg**	**06 16 34.5**	**-1.0**
KPRO				S	**Sb**	**06 16 43.2**	**+0.4**
KPRO	**Kipourio**	**0.53**	**74**	P	**Pg**	**06 16 34.5**	**-1.0**
KPRO				AML	AML	06 16 47.3	
KPRO	comp=E,429μm,0.3s			AML	AML	06 16 49.5	
KPRO	comp=N,422μm,0.4s			AML	AML	06 16 50.8	
SRN	**Sarande**	**0.55**	**278**	P	**Pb**	**06 16 35.2**	**-0.5**
KASA	**Kassiopi**	**0.59**	**264**	P	**Pb**	**06 16 36.3**	**-0.3**
NEST	**Nestorio**	**0.66**	**23**	P	**Pb**	**06 16 37.6**	**-0.2**
NEST				S	**Sg**	**06 16 47.9**	**+1.1**
NEST	**Nestorio**	**0.66**	**23**	P	**Pb**	**06 16 37.1**	**-0.7**
NEST				S	**Sg**	**06 16 47.4**	**+0.6**
NEST	comp=E,165μm,0.8s			AML	AML	06 16 50.8	
NEST	comp=N,165μm,0.5s			AML	AML	06 16 55.5	
KEK	**Kerkira**	**0.70**	**263**	P	**Pb**	**06 16 38.1**	**-0.3**
KEK				S	**Sn**	**06 16 49.0**	**-1.1**
KEK	comp=N,205μm,0.3s			AML	AML	06 16 53.9	
KEK	comp=E,200μm,0.6s			AML	AML	06 16 54.7	
LKD2	**Lefkada island**	**1.02**	**182**	P	**Pg**	**06 16 45.4**	**+0.8**
THL	**Klokotos Trika**	**1.04**	**103**	P	**Pb**	**06 16 44.0**	**-0.2**
FNA	**Florina**	**1.10**	**28**	P	**Pg**	**06 16 45.8**	**-0.4**
FNA	comp=E,164μm,0.7s			AML	AML	06 17 11.9	
FNA	comp=N,137μm,0.8s			AML	AML	06 17 13.8	
EVGI	**Lefkada island**	**1.19**	**182**	P	**Pg**	**06 16 48.8**	**+1.0**
PDO	**Prodromos**	**1.26**	**163**	P	**Pg**	**06 16 49.2**	**0.0**
PDO	comp=N,215μm,0.6s			AML	AML	06 17 14.0	
PDO	comp=E,228μm,0.9s			AML	AML	06 17 19.3	

OHR	**Ohrid**	**1.30**	**3**	*i* Pn	**Pg**	**06 16 53.0**	**+3.0**
PVO	**Paravola**	**1.35**	**151**	P	**Pg**	**06 16 51.4**	**+0.5**
FSK	**Fiskardo**	**1.35**	**185**	P	**Pg**	**06 16 51.5**	**+0.7**
LIT	**Litokhoron**	**1.40**	**77**	P	**Pg**	**06 16 52.3**	**+0.4**
AGG	**Agios Georgios**	**1.48**	**121**	P	**Pg**	**06 16 53.3**	**-0.1**
ANX	**Ano Chora**	**1.54**	**142**	P	**Pg**	**06 16 54.9**	**+0.4**
KRUS	**Krusevo**	**1.61**	**15**	*i* Pn	**Pg**	**06 16 55.4**	**-0.6**
VLS	**Valsamata**	**1.63**	**183**	P	**Pg**	**06 16 56.5**	**+0.3**

ROM 29 06:17:52.0±0.1, 43.′119N±0.′004×13.′246E±0.′006, h27km, ML2.0/10, Error ellipse: s-maj=0.5km s-min=0.3km az=244.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSP1	**Cessapalombo**	**0.04**	**228**	P	Pb	06 17 56.8	0.0
CSP1				S	Sb	06 18 00.1	0.0
FDMO	**Fiordimonte**	**0.14**	**235**	P	Pb	06 17 57.4	+0.1
FDMO				S	Sb	06 18 01.0	+0.1
FDMO	comp=E,292μm,0.1s			AML	AML		
FDMO	comp=N,216μm,0.1s			AML	AML		
FDMO	comp=E,292μm,0.1s			AML	AML		
FDMO	comp=N,216μm,0.1s			AML	AML		
FDMO	**Fiordimonte**	**0.14**	**235**	P	Pb	06 17 57.4	+0.1
EL6	**Elcito**	**0.23**	**333**	P	Pb	06 17 56.6	-1.8
EL6	**Elcito**	**0.23**	**333**	P	Pb	06 17 58.4	0.0
EL6				S	Sb	06 18 03.1	+0.3
CING	**Cingoli**	**0.26**	**352**	P	Pb	06 17 58.7	0.0
CING				S	Sb	06 18 03.6	+0.3
CING	comp=E,374μm,0.4s			AML	AML		
CING	comp=N,445μm,0.4s			AML	AML		
CING	comp=N,445μm,0.4s			AML	AML		
CING	comp=E,374μm,0.4s			AML	AML		
CING	**Cingoli**	**0.26**	**352**	S	Sb	06 18 03.6	+0.3
SNTG	**Esanatoglia**	**0.26**	**301**	P	Pb	06 17 58.7	0.0
SNTG				S	Sb	06 18 03.7	+0.4
SNTG	**Esanatoglia**	**0.26**	**301**	S	Sb	06 18 03.7	+0.4
CESI	**CESI - Serrava**	**0.28**	**246**	P	Pb	06 17 56.8	-2.1
CESI	**CESI - Serrava**	**0.28**	**246**	P	Pb	06 17 59.0	+0.1
CESI				S	Sb	06 18 04.3	+0.6
CESI	comp=E,65μm,0.3s			AML	AML		
CESI	comp=N,158μm,0.4s			AML	AML		
CESI	comp=N,158μm,0.4s			AML	AML		
CESI	comp=E,65μm,0.3s			AML	AML		
CESI	**CESI - Serrava**	**0.28**	**246**	S	Sb	06 18 04.3	+0.6
NRCA	**Norcia**	**0.30**	**199**	P	Pb	06 17 59.5	+0.2
NRCA				S	Sb	06 18 04.4	+0.2
NRCA	**Norcia**	**0.30**	**199**	P	Pb	06 17 59.5	+0.2
NRCA	**Norcia**	**0.30**	**199**	S	Sb	06 18 04.4	+0.2
FOSV	**Fossato di Vic**	**0.40**	**296**	P	Pb	06 18 00.4	-0.3
FOSV	**Fossato di Vic**	**0.40**	**296**	P	Pb	06 18 00.6	0.0
FOSV				S	Sb	06 18 07.3	+0.8
FOSV	comp=E,324μm,0.3s			AML	AML		
FOSV	comp=N,388μm,0.4s			AML	AML		
FOSV	comp=E,324μm,0.3s			AML	AML		
FOSV	comp=N,388μm,0.4s			AML	AML		
FOSV	**Fossato di Vic**	**0.40**	**296**	S	Sb	06 18 07.3	+0.8
ASSB	**Assisi San Ben**	**0.44**	**260**	P	Pb	06 18 01.2	-0.1
ASSB				S	Sb	06 18 08.3	+0.7
ASSB	comp=E,187μm,0.9s			AML	AML		
ASSB	comp=N,279μm,0.2s			AML	AML		
ASSB	comp=N,279μm,0.2s			AML	AML		
ASSB	comp=E,187μm,0.9s			AML	AML		
ASSB	**Assisi San Ben**	**0.44**	**260**	S	Sb	06 18 08.3	+0.7
ATCC	**AVT- Casa Cast**	**0.45**	**279**	P	Pb	06 18 01.6	+0.1
ATCC				S	Sb	06 18 08.8	+0.9
ATCC	comp=E,272μm,0.9s			AML	AML		
ATCC	comp=N,161μm,1.3s			AML	AML		
ATCC	comp=N,161μm,1.3s			AML	AML		
ATCC	comp=E,272μm,0.9s			AML	AML		
ATCC	**AVT- Casa Cast**	**0.45**	**279**	S	Sb	06 18 08.8	+0.9
SSFR	**Montelago di S**	**0.46**	**313**	P	Pb	06 18 01.8	0.0
SSFR				S	Sn	06 18 09.5	-0.8
SSFR	comp=E,333μm,0.3s			AML	AML		
SSFR	comp=N,336μm,0.2s			AML	AML		
SSFR	comp=E,333μm,0.3s			AML	AML		
SSFR	comp=N,336μm,0.2s			AML	AML		
SSFR	**Montelago di S**	**0.46**	**313**	S	Sn	06 18 09.5	-0.8
SMA1	**SAN MARTINO**	**0.49**	**172**	P	Pb	06 18 02.4	+0.1
SMA1	**SAN MARTINO**	**0.49**	**172**	S	Sn	06 18 10.5	-0.5
GUMA	**Gualdo di Mace**	**0.51**	**96**	P	Pb	06 17 57.2	-5.2
GUMA				S	Sb	06 18 00.8	-8.8
GUMA	comp=E,852μm,0.5s			AML	AML		
GUMA	comp=N,1470μm,0.5s			AML	AML		
GUMA	comp=E,852μm,0.5s			AML	AML		
GUMA	comp=N,1470μm,0.5s			AML	AML		
LNSS	**Leonessa**	**0.54**	**196**	P	Pb	06 18 02.2	-0.8
LNSS	**Leonessa**	**0.54**	**196**	P	Pb	06 18 03.2	+0.2
LNSS	**Leonessa**	**0.54**	**196**	AML	AML		
LNSS	comp=E,137μm,0.3s			AML	AML		
LNSS	comp=N,120μm,0.9s			AML	AML		
LNSS	comp=E,137μm,0.3s			AML	AML		
LNSS	comp=N,120μm,0.9s			AML	AML		
MURB	**Monte Urbino**	**0.55**	**285**	P	Pb	06 18 03.4	+0.3
MURB	**Monte Urbino**	**0.55**	**285**	S	Sn	06 18 13.0	+0.7
MOMA	**Monte Martano**	**0.59**	**238**	P	Pb	06 18 03.9	+0.1
MOMA	**Monte Martano**	**0.59**	**238**	S	Sn	06 18 13.0	-0.4
MOMA	**Monte Martano**	**0.59**	**238**	S	Sn	06 18 14.0	+0.6
PIEI	**Pieia**	**0.67**	**309**	P	Pb	06 18 05.0	-0.1
PIEI	**Pieia**	**0.67**	**309**	S	Sn	06 18 15.6	+0.4
PIEI	**Pieia**	**0.67**	**309**	S	Sn	06 18 16.0	+0.8
ATVO	**AVT- Monte Val**	**0.67**	**293**	P	Pn	06 18 05.4	-0.3
ATVO	**AVT- Monte Val**	**0.67**	**293**	P	Pn	06 18 05.5	-0.2
ATVO	**AVT- Monte Val**	**0.67**	**293**	S	Sn	06 18 15.4	+0.1
ATVO	**AVT- Monte Val**	**0.67**	**293**	AML	AML		
ATVO	comp=E,71μm,0.8s			AML	AML		
ATVO	comp=N,71μm,0.6s			AML	AML		
ATVO	comp=E,71μm,0.8s			AML	AML		
ATVO	comp=N,71μm,0.6s			AML	AML		
PE3	**Peglio**	**0.79**	**317**	P	Pb	06 18 05.5	-1.7
MGAB	**Montegabbione**	**0.86**	**256**	P	Pb	06 18 09.1	+0.8
MGAB	**Montegabbione**	**0.86**	**256**	P	Pb	06 18 09.4	+1.1
MGAB	**Montegabbione**	**0.86**	**256**	AML	AML		
MGAB	comp=N,36μm,0.5s			AML	AML		
MGAB	comp=E,33μm,1.3s			AML	AML		
MGAB	comp=N,36μm,0.5s			AML	AML		
MGAB	comp=E,33μm,1.3s			AML	AML		
IMOL	**Imola, Italy**	**1.65**	**319**	S	Sb	06 18 44.0	+1.9

*TIF **29** 06:21:03.6, 43.′28N×41.′51E, h30km±2km*
*ISCJB **29** 06:21:04.4±0.4, 43.′23N±0.′04×41.′72E±0.′03, h11km±6km,*
Error ellipse: s-maj=6.2km s-min=3.1km az=8.9
*NORS **29** 06:21:05.3±0.0, 43.′20N×41.′74E, h1km, MPVA3.3*
ISC 29 06:21:04.9±0.9, 43.′24N±0.′03×41.′69E±0.′02, h10km±7km, n20, σ1°19/37, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.07**	**319**	*i* Pg	**Pg**	**06 21 07.2**	**-0.2**
DOMR				*i* Sg	**Sg**	**06 21 09.4**	**+0.1**
ARXR	**Arkhyz**	**0.44**	**317**	*e*Pg	**Pb**	**06 21 14.1**	**-0.8**
ARXR				*e*Sg	**Sb**	**06 21 21.4**	**-0.2**
NEY	**Neytrino**	**0.75**	**89**	*e*Pg	**Pg**	**06 21 18.8**	**-0.7**
NEY				*e*Sg	**Sg**	**06 21 28.1**	**-1.2**
SHA1	**Shidzhatmaz**	**0.86**	**54**	*e*Pg	**Pb**	**06 21 21.5**	**-0.6**
SHA1				*e*Sg	**Sb**	**06 21 33.6**	**-0.2**
KIV0	**Kislovodsk Arr**	**1.02**	**45**	*i* Pg	**Pg**	**06 21 24.9**	**+0.3**
KIV0				*e*Sg	**Sg**	**06 21 38.7**	**+0.7**
TKB	**Tkibuli**	**1.31**	**132**	P	**Pb**	**06 21 29.5**	**0.0**
TKB				S	**Sg**	**06 21 48.8**	**+1.9**
PYA1	**Pyatigorsk**	**1.31**	**51**	*e*Pg	**Pn**	**06 21 28.7**	**-0.6**
PYA1				*e*Sg	**Sb**	**06 21 46.9**	**+0.4**
GUZR	**Guzeripl'**	**1.37**	**304**	*e*Pg	**Pg**	**06 21 31.4**	**+0.2**
GUZR				*e*Sg	**Sg**	**06 21 50.8**	**+1.8**
KBTC	**Kuba-Taba**	**1.38**	**65**	*e*Pg	**Pg**	**06 21 33.1**	**+1.8**
KBTC				*e*Sg	**Sg**	**06 21 50.9**	**+1.7**
DIGR	**Digorskoe uzhe**	**1.43**	**103**	*i* Pg	**Pg**	**06 21 33.3**	**+1.0**
DIGR				*e*Sg	**Sg**	**06 21 51.8**	**+1.0**
ONI	**Oni**	**1.45**	**116**	P	**Pb**	**06 21 32.1**	**+0.2**
ONI				S	**Sg**	**06 21 52.8**	**+1.4**
ONI	**Oni**	**1.45**	**116**	*e*Pg	**Pb**	**06 21 32.1**	**+0.2**
ONI				*e*Sg	**Sg**	**06 21 52.8**	**+1.4**
SOC	**Sochi**	**1.48**	**284**	*e*Pg	**Pg**	**06 21 34.5**	**+1.3**
SOC				*e*Sg	**Sg**	**06 21 54.0**	**+1.5**
SRKG	**Sareki**	**1.53**	**126**	P	**Pn**	**06 21 30.4**	**-1.8**
SRKG				S	**Sn**	**06 21 51.6**	**-0.4**
BATM	**Batumi**	**1.63**	**180**	P	**Pn**	**06 21 33.2**	**-0.4**
BATM				S	**Sb**	**06 21 55.7**	**+0.1**
ZEI	**Tsey**	**1.68**	**105**	*i* Pg	**Pg**	**06 21 37.0**	**-0.2**
ZEI				*e*Sg	**Sg**	**06 21 59.2**	**+0.2**
DBOC	**Borcka**	**1.89**	**181**	*i* P	**Pn**	**06 21 33.9**	**-3.3**
LACR	**Lac**	**1.96**	**101**	*e*Pg	**Pg**	**06 21 42.5**	**+0.1**
LACR				*e*Sg	**Sg**	**06 22 09.8**	**+2.1**
ARTV	**Artvin**	**2.06**	**175**	*i* P	**Pn**	**06 21 39.3**	**-0.3**
DBAD	**Bademkaya**	**2.22**	**180**	*i* P	**Pn**	**06 21 41.1**	**-0.6**

*IDC **29** 06:36:59.1±1.9, 34.′13N×141.′79E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/31, mbtmp3.5/4, ML2.8/1, MS2.3/1, Ms1 2.3/1, ms1mx2.0/46, Error ellipse: s-maj=36.5km s-min=22.4km az=68.0*
*ISCJB **29** 06:37:00.0±0.9, 34.′10N±0.′05×141.′87E±0.′08, h21km, mb3.6/3, Error ellipse: s-maj=9.8km s-min=6.4km az=156.1*
*JMA **29** 06:37:00.0±0.4, 34.′03N×141.′86E, h26km±4km, M3.5*
ISC 29 06:37:02.1±1.4, 34.′10N±0.′06×141.′8E±0.′1, h21km, n17, σ0°73/26, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.86**	**310**	P	**Pb**	**06 37 17.5**	**-0.5**
BSO1				X		06 37 30.1	
BSO3	**Boso 3**	**1.26**	**304**	P	**Pn**	**06 37 23.8**	**-0.4**
BSO3				X		06 37 41.9	
BSO4	**Boso 4**	**1.48**	**307**	P	**Pn**	**06 37 27.5**	**+0.1**
BSO4				X		06 37 47.6	
JKUC	**kamogawauchiur**	**1.68**	**310**	P	**Pn**	**06 37 29.8**	**-0.4**
JKUC				S	**Sb**	**06 37 52.5**	**-0.4**
JMKN	**Mikurajimanish**	**1.83**	**264**	P	**Pn**	**06 37 31.7**	**-0.6**
JMKN				S	**Sn**	**06 37 54.8**	**0.0**
JHJ	**Hachijo jima 2**	**1.93**	**240**	Pn	**Pn**	**06 37 34.4**	**+0.7**
JHJ	58nm,0.3s,baz=65,slow=17,SNR=24			Sn	**Sn**	**06 37 57.4**	**+0.1**
JIM2	165nm,0.3s,baz=72,slow=20,SNR=10 **Oshima 3**	**2.04**	**288**	P	**Pn**	**06 37 35.0**	**-0.1**
JOD2	**Odawara 2**	**2.50**	**298**	P	**Pn**	**06 37 40.6**	**-0.9**
JOD2				*e*S	**Sn**	**06 38 12.5**	**+1.1**
JAG	**Ashikaga**	**3.00**	**321**	P	**Pn**	**06 37 48.4**	**0.0**
JAG				S	**Sn**	**06 38 24.8**	**+1.1**
JYN	**Shimob**	**3.00**	**299**	P	**Pn**	**06 37 49.3**	**+0.8**
JYN				S	**Sn**	**06 38 25.8**	**+1.9**
JRY	**Ryogami san**	**3.04**	**310**	P	**Pn**	**06 37 49.0**	**+0.1**
JRY				S	**Sn**	**06 38 25.2**	**+0.5**
MJAR	**Matsushiro Arr**	**3.80**	**311**	Pn	**Pn**	**06 37 59.9**	**+0.5**
MJAR	0.8nm,0.3s,baz=132,slow=14,SNR=17			Sn	**Sn**	**06 38 43.9**	**+0.4**
MJAR	0.5nm,0.3s,baz=206,slow=20,SNR=5.7			LR	LR	06 39 34.3	
MAT	comp=Z,41nm,21.7s,baz=135,slow=41 **Matsushiro**	**3.80**	**311**	P	**Pn**	**06 37 59.6**	**+0.2**
MAT				S	**Sn**	**06 38 43.7**	**+0.2**
SONM	**Songino Array**	**29.75**	**308**	P	**P**	**06 43 07.1**	**0.0**
MKAR	0.7nm,0.6s,baz=119,slow=9.3,SNR=5.3 **Makanchi Array**	**45.98**	**305**	P	**P**	**06 45 22.9**	**-0.7**
WRA	0.3nm,0.4s,baz=68,slow=9.4,SNR=3.8 **Warramunga Arr**	**54.21**	**189**	P	**P**	**06 46 25.5**	**-0.7**
ASAR	34nm,0.3s,baz=354,slow=6.3,SNR=2.3 **Alice Springs**	**57.93**	**189**	P	**P**	**06 46 54.1**	**+1.3**
	0.2nm,0.4s,baz=15,slow=8.9,SNR=4.4						

TRN 29 06:48:49.0, 10.′89N×62.′14W, h64km, MD3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.76**	**108**	*e*P	Pn	06 49 04.1	-0.2
TRN				*e*S	Sn	06 49 16.1	+0.6
TPP	**Pointe-a-Pierr**	**0.88**	**130**	*e*P	Pn	06 49 06.3	+0.5
TPP				*e*S	Sn	06 49 17.8	-0.3
TBH	**Brigand Hill**	**1.13**	**111**	*e*P	Pn	06 49 08.7	-0.2
TBH				*e*S	Sn	06 49 24.0	+0.2
GRHS	**Sauteurs**	**1.41**	**20**	*e*P	Pn	06 49 13.1	+0.4
GRHS				*e*S	Sn	06 49 29.9	-0.5
GRSS	**Sisters**	**1.49**	**20**	*e*P	Pn	06 49 13.9	+0.1
GRSS				*e*S	Sn	06 49 33.0	+0.6
TOSP	**Speyside**	**1.63**	**75**	*e*P	Pn	06 49 15.4	-0.1
TOSP				*e*S	Sn	06 49 36.1	+0.6
FCV	**Fort Charlotte**	**2.42**	**21**	*e*P	Pn	06 49 26.0	-0.3
FCV				*e*S	Sn	06 49 54.6	-0.2
SVB	**Belmont**	**2.52**	**20**	*e*P	Pn	06 49 28.2	+0.5
SVB				*e*S	Sn	06 49 56.5	-0.9
SVCV	**St. Vincent, C**	**2.56**	**22**	*e*P	Pn	06 49 28.2	0.0
SVCV				*e*S	Sn	06 49 57.8	-0.5
SVV	**Soufriere Volc**	**2.58**	**20**	*e*P	Pn	06 49 28.7	+0.2
SVV				*e*S	Sn	06 49 58.1	-0.6
SSV	**Crater Summit**	**2.59**	**21**	*e*P	Pn	06 49 29.8	+1.0
SSV				*e*S	Sn	06 49 58.1	-1.1
SFAN	**Fancy Village**	**2.65**	**21**	*e*S	Sn	06 49 59.1	-1.4
MCLT	**Moule a Chique**	**3.04**	**23**	*e*P	Pn	06 49 35.0	+0.2
MCLT				*e*S	Sn	06 50 08.9	-1.0
SLDE	**Delcer**	**3.08**	**20**	*e*P	Pn	06 49 35.9	+0.5
SLDE				*e*S	Sn	06 50 09.9	-1.1
SLB	**Belfond**	**3.11**	**20**	*e*P	Pn	06 49 36.1	+0.3
SLB				*e*S	Sn	06 50 10.6	-1.3
SLPA	**Patience**	**3.18**	**22**	*e*P	Pn	06 49 37.9	+1.2
SLPA				*e*S	Sn	06 50 12.5	-0.9
SLBI	**Saint Lucia, B**	**3.32**	**20**	*e*P	Pn	06 49 39.6	+1.1
SLBI				*e*S	Sn	06 50 15.3	-1.5
SLW	**Petit Monier**	**3.33**	**21**	*e*P	Pn	06 49 38.4	-0.3
SLW				*e*S

*NEIC **29** 06:59:44.1±1.3,36°.64N×71°.00E,h204km±20km,mb4.2/9, Error ellipse: s-maj=29.6km s-min=14.1km az=99.0*
*BJI **29** 06:59:44.7±0.0,36°.65N×71°.15E,h175km,mb4.3/4, mB4.3/2*
*NNC **29** 06:59:50.0±7.6,37°.17N×71°.00E,h212km±74km,mb3.5, mpv4.5,Error ellipse: s-maj=73.5km s-min=42.4km az=177.0*

ISC 29 06:59:42.6±0.4,36°.60N±0°.04×71°.02E±0°.05,h200km,n121, σ1§97/134,mb4.1/27,11C-13D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.46**	**347**	*e*Pn	**Pn**	**07 00 28.3**	**+2.1**
GAR				*e*Sn	**Sn**	**07 01 00.1**	**-0.2**
GAR	**Garm**	**2.46**	**347**	*e*PN	**Pn**	**07 00 28.3**	**+2.1**
GAR				*e*		07 01 00.1	
KBL	**Kabul**	**2.61**	**219**	*e*Pn	**Pn**	**07 00 30.4**	**+2.5**
KBL				*e*Sn	**Sn**	**07 01 04.6**	**+1.4**
KBL	**Kabul**	**2.61**	**219**	*e*PN	**Pn**	**07 00 30.4**	**+2.5**
KBL				*e*		07 01 04.6	
CEP	**Cherat**	**2.86**	**165**	P	**Pn**	**07 00 33.8**	**+3.0**
CEP				S	**Sn**	**07 01 09.0**	**+0.6**
CHCP	**Chirah Chowk**	**3.46**	**147**	P	**Pn**	**07 00 40.9**	**+3.1**
BTK	**Batken**	**3.46**	**357**	*e*Pn	**Pn**	**07 00 40.5**	**+2.8**
BTK	**Batken**	**3.46**	**357**	*e*PN	**Pn**	**07 00 40.5**	**+2.8**
NIL	**Nilore**	**3.46**	**147**	*e*Pn	**Pn**	**07 00 41.1**	**+3.3**
NIL				*e*Sn	**Sn**	**07 01 21.1**	**+0.1**
NIL	**Nilore**	**3.46**	**147**	*e*PN	**Pn**	**07 00 41.1**	**+3.3**
NIL				*e*		07 01 21.1	
THW	**Thamme Wali**	**3.84**	**171**	P	**Pn**	**07 00 45.0**	**+2.6**
SARP	**Sargodha**	**4.86**	**163**	P	**Pn**	**07 00 56.9**	**+1.7**
KSH	**Kashi**	**4.88**	**52**	P	**Pn**	**07 00 53.0**	**-2.5**
KSH				S	Sn	07 01 39.0	-14
KSH				smax	smax		
	comp=N,320nm,0.6s						
KSH				smax	smax		
	comp=E,360nm,0.4s						
JMU	**Jammu**	**5.02**	**139**	*e*P	Pn	07 01 38.0	+41
AML	**Almayashu**	**5.90**	**20**	P	**Pn**	**07 01 10.0**	**+1.2**
	SNR=269						
NRN	**Naryn**	**6.20**	**37**	*e*Pn	**Pn**	**07 01 13.5**	**+0.9**
NRN	**Naryn**	**6.20**	**37**	*e*PN	**Pn**	**07 01 13.5**	**+0.9**
UCH	**Uchtor**	**6.24**	**25**	P	**Pn**	**07 01 14.6**	**+1.3**
	SNR=89						
KZA	**Kyzart**	**6.38**	**30**	P	**Pn**	**07 01 16.1**	**+1.0**
	SNR=21						
EKS2	**Erkin-Say**	**6.42**	**19**	P	**Pn**	**07 01 16.6**	**+1.3**
	SNR=27						
KK31	**Karatay Array**	**6.51**	**357**	*e*Pn	**Pn**	**07 01 17.2**	**+0.9**
KK31				*e*Sn	**Sn**	**07 02 27.6**	**-3.2**
KK31	**Karatay Array**	**6.51**	**357**	⇓P	**Pn**	**07 01 17.2**	**+0.9**
	18nm,0.5s,baz=179,slow=13						
KK31				⇑S	**Sn**	**07 02 27.7**	**-3.1**
	42nm,0.5s,baz=182,slow=21,SNR=7.2						
KK31	**Karatay Array**	**6.51**	**357**	*e*PN	**Pn**	**07 01 17.3**	**+0.9**
KKAR	**Karatay Array**	**6.51**	**357**	*e*Pn	**Pn**	**07 01 17.2**	**+0.9**
KKAR				*e*Sn	**Sn**	**07 02 27.9**	**-3.0**
KKAR	**Karatay Array**	**6.51**	**357**	*e*PN	**Pn**	**07 01 17.3**	**+0.9**
AAK	**Ala-Archa**	**6.60**	**23**	P	**Pn**	**07 01 19.3**	**+1.6**
	SNR=40						
AAK	**Ala-Archa**	**6.60**	**23**	⇑P	**Pn**	**07 01 19.1**	**+1.4**
	21nm,0.5s						
AAK				⇑S	**Sn**	**07 02 32.0**	**-1.1**
	128nm,1.1s						
AAK	**Ala-Archa**	**6.60**	**23**	*d i*PN	**Pn**	**07 01 19.0**	**+1.3**
AAK				pmax	pmax		
	comp=Z,21nm,0.4s						
AAK	**Ala-Archa**	**6.60**	**23**	P	**Pn**	**07 01 19.6**	**+1.9**
	comp=Z,31μm,0.3s,SNR=14						
AAK				S	**Sn**	**07 02 32.1**	**-1.1**
	baz=232,slow=0.1,SNR=13						
KBK	**Karagaybulak**	**6.77**	**25**	P	**Pn**	**07 01 22.2**	**+2.3**
	SNR=13						
FRU1	**Bishkek**	**6.80**	**23**	*e*Pn	**Pn**	**07 01 22.5**	**+2.3**
FRU1	**Bishkek**	**6.80**	**23**	*e*PN	**Pn**	**07 01 22.5**	**+2.3**
BHK	**Bhakra**	**6.84**	**137**	*e*P	**Pn**	**07 01 24.0**	**+3.3**
ULHL	**Ulahol**	**6.94**	**34**	P	**Pn**	**07 01 23.8**	**+1.7**
	SNR=9.8						
CHMS	**Chumysh**	**7.01**	**23**	P	**Pn**	**07 01 24.5**	**+1.6**
	SNR=6.1						
USP	**Ospenovka**	**7.18**	**21**	P	**Pn**	**07 01 26.0**	**+0.9**
	SNR=12						
TKM2	**Tokmak 2**	**7.23**	**28**	P	**Pn**	**07 01 27.3**	**+1.4**
	SNR=60						
TKM2	**Tokmak 2**	**7.23**	**28**	⇓P	**Pn**	**07 01 27.2**	**+1.2**
	comp=Z,41nm,0.8s						
TKM2				⇑S	**Sn**	**07 02 39.9**	**-8.2**
	comp=Z,32nm,0.8s						
TKM2	**Tokmak 2**	**7.23**	**28**	*i* PN	**Pn**	**07 01 27.2**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,41nm,0.8s						
KDJ	**Kajisay**	**7.30**	**39**	*e*Pn	**Pn**	**07 01 28.4**	**+1.6**
KDJ	**Kajisay**	**7.30**	**39**	*e*PN	**Pn**	**07 01 28.4**	**+1.6**
TARG	**Taragay, Kyrgy**	**7.35**	**44**	*e*Pn	**Pn**	**07 01 28.9**	**+1.2**
TARG				*e*Sn	**Sn**	**07 02 45.7**	**-5.5**
NDI	**New Delhi**	**9.46**	**145**	*e*P	**Pn**	**07 01 54.0**	**-0.8**
NDI				*e*S	**Sn**	**07 03 33.5**	**-7.3**
GEYT	**Alibeck**	**10.37**	**281**	P	**Pn**	**07 02 02.6**	**-4.0**
	comp=Z,0.6nm,0.3s,baz=98,slow=11,SNR=4.4						
GEYT				S	**Sn**	**07 03 56.8**	**-5.6**
	comp=Z,1.1nm,0.3s,baz=125,slow=12,SNR=3.3						
GYA0B	**ALIBECK ARRAY**	**10.37**	**281**	*e*Pn	**Pn**	**07 02 05.8**	**-0.8**
OTUK	**Ortayu**	**11.68**	**4**	⇑P	**Pn**	**07 02 23.4**	**+0.1**
	comp=Z,17nm,0.9s						
OTUK	**Ortayu**	**11.68**	**4**	P	**Pn**	**07 02 23.4**	**+0.1**
OTUK				pmax	pmax		
	comp=Z,17nm,0.9s						
MAKZ	**Makanchi**	**13.07**	**35**	*e*Pn	**Pn**	**07 02 41.3**	**+0.5**
MAKZ	**Makanchi**	**13.07**	**35**	⇑P	**Pn**	**07 02 41.3**	**+0.5**
	comp=Z,4.6nm,0.6s						
MAKZ	**Makanchi**	**13.07**	**35**	*e*P	**Pn**	**07 02 41.3**	**+0.5**
PYUN	**Piuthan**	**13.19**	**127**	*e*P	**Pn**	**07 02 42.4**	**-0.2**
	comp=Z,87nm,0.8s						
MK31	**Makanchi Array**	**13.21**	**36**	*e*Pn	**P**	**07 02 43.2**	**-2.2**
MK31	**Makanchi Array**	**13.21**	**36**	⇑P	**P**	**07 02 43.3**	**-2.2**
	comp=Z,2.0nm,0.6s,baz=209,slow=12,SNR=22						
MK31	**Makanchi Array**	**13.21**	**36**	*i* P	**P**	**07 02 43.2**	**-2.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**13.21**	**36**	P	**P**	**07 02 44.2**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=220,slow=9.4,SNR=14						
DANN	**Dangsing**	**13.53**	**124**	*e*P	**Pn**	**07 02 47.3**	**+0.3**
	comp=Z,77nm,0.9s						
KOLN	**Koldanda**	**13.81**	**126**	*e*P	**Pn**	**07 02 50.7**	**+0.4**
	comp=Z,25nm,0.4s						
DMN	**Daman**	**14.91**	**123**	*e*P	**P**	**07 03 04.6**	**-0.2**
KKN	**Kakani**	**14.91**	**122**	*e*P	**P**	**07 03 04.6**	**-0.2**
	comp=Z,48nm,0.5s						
AB31	**Akbulak array**	**15.01**	**331**	⇑P	**P**	**07 03 04.5**	**-0.8**
	comp=Z,16nm,0.7s						
AB31	**Akbulak array**	**15.01**	**331**	P	**Pn**	**07 03 04.3**	**-0.4**
AB31				pmax	pmax		
	comp=Z,16nm,0.7s						
ABKAR	**Akbulak array**	**15.01**	**331**	*e*Pn	**P**	**07 03 04.7**	**-0.7**
KURBB	**Kurchatov Arra**	**15.03**	**19**	P	**P**	**07 03 05.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=8.3						
PKIN	**Phulchoki**	**15.13**	**122**	*e*P	**P**	**07 03 07.5**	**+0.3**
KURK	**Kurchatov**	**15.14**	**19**	*e*Pn	**P**	**07 03 07.1**	**+0.4**
	comp=Z,2.9nm,0.7s						
KURK	**Kurchatov**	**15.14**	**19**	⇓*e*P	**P**	**07 03 06.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PKI	**Pulchoki**	**15.14**	**122**	*e*P	**P**	**07 03 07.6**	**+0.2**
JIRN	**Jiri**	**15.62**	**120**	*e*P	**Pn**	**07 03 13.8**	**+1.1**
	comp=Z,59nm,0.4s						
RAMN	**Ramite**	**16.35**	**122**	*e*P	**Pn**	**07 03 22.1**	**+0.7**
BVA2	**Borovoye Array**	**16.43**	**359**	⇓P	**Pn**	**07 03 21.8**	**0.0**
	comp=Z,4.8nm,0.7s						
BVAR	**Borovoye Array**	**16.43**	**359**	P	**Pn**	**07 03 21.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=156,slow=11,SNR=20						
BRVK	**Borovoye**	**16.47**	**358**	*e*P	**Pn**	**07 03 22.3**	**0.0**
	comp=Z,5.2nm,0.8s						
BRVK	**Borovoye**	**16.47**	**358**	⇑P	**Pn**	**07 03 23.8**	**+1.6**
	comp=Z,9.8nm,1.1s						
BRVK	**Borovoye**	**16.47**	**358**	⇓*e*P	**Pn**	**07 03 24.0**	**+1.7**
AKTO	**Aktyubinsk**	**16.71**	**330**	⇓P	**Pn**	**07 03 25.5**	**+0.4**
	comp=Z,11nm,0.7s						
AKTO	**Aktyubinsk**	**16.71**	**330**	P	**Pn**	**07 03 26.1**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=137,slow=11,SNR=43						
ODAN	**Odare**	**16.95**	**120**	*e*P	**Pn**	**07 03 30.3**	**+1.7**
	comp=Z,27nm,0.6s						
DGZ	**Jazzator, Alta**	**17.70**	**37**	*c e*P	**Pn**	**07 03 37.0**	**0.0**
ZALV	**Zalesovo Beam**	**19.82**	**25**	P	**Pn**	**07 03 59.1**	**-2.8**
	comp=Z,4.5nm,0.5s,baz=219,slow=12,SNR=13						
SHL	**Shillong**	**20.94**	**116**	*e*P	**P**	**07 04 11.6**	**+1.5**
	comp=Z,12nm,1.0s						
SHL	**Shillong**	**20.94**	**116**	*e*P	**P**	**07 04 11.6**	**+1.5**
SHL				pmax	pmax		
	comp=Z,12nm,1.0s						
ARU	**Arti**	**21.55**	**341**	*d i*P	**P**	**07 04 17.5**	**+1.5**
ARU						07 04 53.6	
ARU				S	**S**	**07 08 03.0**	**+1.8**
ARU				SS		07 09 02.8	
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	**21.55**	**341**	P	**P**	**07 04 16.9**	**+0.9**
	comp=Z,2.2nm,0.2s,baz=181,slow=6.5,SNR=3.7						
KBZ	**Khabaz**	**22.57**	**297**	LR	LR	07 15 35.2	
	comp=Z,23nm,18.0s,baz=299,slow=42						
NEY	**Neytrino**	**22.63**	**296**	⇓*e*P	**P**	**07 04 26.1**	**-0.6**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KIV	**Kislovodsk**	**22.76**	**298**	*e*P	**P**	**07 04 28.2**	**+0.5**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
KIV				MLR	MLR		
	comp=Z,30nm,14.0s						
VSR	**Storozhevoye**	**26.95**	**313**	⇓*e*P	**P**	**07 05 06.4**	**+1.1**
VSR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
SONM	**Songino Array**	**28.27**	**55**	P	**P**	**07 05 18.9**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=230,slow=9.0,SNR=3.7						
BRTR	**Keskin Array B**	**29.42**	**288**	P	**P**	**07 05 27.8**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=96,slow=5.8,SNR=3.4						
OBN	**Obninsk**	**29.88**	**319**	*e*P	**P**	**07 05 31.6**	**+0.5**
OBN				*e*		07 06 32.5	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.4s						
AKASG	**Malin Array Be**	**32.90**	**309**	P	**P**	**07 05 58.4**	**+0.8**
	comp=Z,4.7nm,1.0s,baz=92,slow=7.9,SNR=6.8						
KIEV	**Kiev**	**32.91**	**309**	*de*P	**P**	**07 05 58.5**	**+0.8**
KIEV				pmax	pmax		
	comp=Z,9.0nm,1.8s						
NRIK	**Noril'sk**	**34.03**	**10**	P	**P**	**07 06 08.9**	**+1.7**
	comp=Z,2.8nm,0.5s,baz=199,slow=3.7,SNR=5.6						
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**07 06 36.9**	**+0.9**
	comp=Z,2.5nm,0.4s,baz=117,slow=10.0,SNR=26						
ARCES	**ARCESS Array B**	**41.06**	**338**	*e*P	**P**	**07 07 07.4**	**+1.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**07 07 07.1**	**+1.0**
	comp=Z,3.0nm,0.5s,baz=110,slow=8.8,SNR=21						
CLL	**Collm**	**43.14**	**309**	*i* P	**P**	**07 07 24.6**	**+1.5**
CLL	**Collm**	**43.14**	**309**	*i* P	**P**	**07 07 24.6**	**+1.5**
NC303	**NORSAR Array S**	**44.26**	**323**	*e*P	**P**	**07 07 33.2**	**+1.4**
	comp=Z,12nm,0.8s						
NB2	**NORSAR Subarra**	**44.31**	**323**	P	**P**	**07 07 32.7**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.31**	**323**	*e*P	**P**	**07 07 32.6**	**+0.3**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA	**NORSAR Array B**	**44.31**	**323**	P	**P**	**07 07 32.7**	**+0.3**
	comp=Z,3.5nm,0.8s,baz=96,slow=7.7,SNR=16						
TIXI	**Tiksi**	**45.68**	**22**	⇑*i*P	**P**	**07 07 43.7**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI	**Tiksi**	**45.68**	**22**	P	**P**	**07 07 43.8**	**+0.9**
	comp=Z,2.3nm,0.3s,baz=272,slow=4.2,SNR=6.3						
MBAR	**Mbarara**	**52.57**	**234**	*e*P	**P**	**07 08 37.6**	**+1.5**
	comp=Z,7.6nm,0.7s						
MBAR	**Mbarara**	**52.57**	**234**	*e*P	**P**	**07 08 37.6**	**+1.5**
MBAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MAJO	**Matsushiro**	**52.90**	**69**	⇓*e*P	**P**	**07 08 37.8**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BILL	**Bilibino**	**58.52**	**26**	*e*P	**P**	**07 09 17.9**	**+0.5**
BILL				*e**PP	**PcP**	**07 10 06.1**	**+0.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P	**P**	**07 10 03.0**	**-3.2**
	comp=Z,2.2nm,0.6s,baz=48,slow=6.0,SNR=29						
TOLK	**Toolik Lake Re**	**70.83**	**15**	*e*P	**P**	**07 10 38.2**	**+1.2**
	comp=Z,3.4nm,0.6s						
INK	**Inuvik**	**73.81**	**9**	*e*P	**P**	**07 10 55.7**	**+1.2**
	comp=Z,3.1nm,0.6s						
INK	**Inuvik**	**73.81**	**9**	*e*P	**P**	**07 10 55.7**	**+1.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**73.81**	**9**	P	**P**	**07 10 55.0**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=340,slow=5.3,SNR=24						
COLA	**College**	**74.38**	**16**	⇓*e*P	**P**	**07 10 59.1**	**+1.2**
COLA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ILAR	**Eielson Array**	**74.68**	**16**	*e*P	**P**	**07 11 00.2**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**74.68**	**16**	P	**P**	**07 10 59.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=321,slow=6.9,SNR=9.5						
BOSA	**Boshof**	**77.83**	**220**	P	**P**	**07 11 14.4**	**-3.5**
	comp=Z,3.4nm,0.8s,baz=30,slow=8.5,SNR=4.8						
YKA	**Yellowknife Ar**	**81.15**	**3**	P	**P**	**07 11 36.0**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=352,slow=5.4,SNR=27						
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**	**07 11 37.7**	**-2.8**
	comp=Z,1.14nm,0.3s,baz=306,slow=5.4,SNR=4.8						
ASAR	**Alice Springs**	**84.30**	**125**	P	**P**	**07 11 51.1**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=311,slow=5.0,SNR=15						
FFC	**Flin Flon**	**88.85**	**356**	*i* P	**P**	**07 12 16.3**	**+2.6**

UCR 29 07:08:06.7±2.5,9°.32N×82°.71W,h10km±10km,MD3.5,4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.52**	**178**	⇓*e*P	Pg	07 08 16.6	-0.3
BRU2				*e*S	Sg	07 08 24.6	+0.8
TBS2		**0.52**	**174**	*e*P	Pg	07 08 15.6	-1.3
TBS2				*e*S	Sg	07 08 22.9	-1.0
DRK0	**Durika**	**0.53**	**264**	⇓*i*P	Pg	07 08 16.2	-0.9
DRK0				*e*S	Sg	07 08 23.9	-0.2
EDSV	**San Vito**	**0.56**	**207**	⇓*e*P	Pg	07 08 17.7	+0.1
EDSV				*e*S	Sb	07 08 27.0	+0.3
EDBA	**Buenos Aires**	**0.58**	**255**	⇓*e*P	Pg	07 08 17.8	-0.1
EDBA				*e*S	Sb	07 08 26.6	-0.5
EDPN	**Palmar Norte**	**0.81**	**244**	*e*P	Pg	07 08 22.4	0.0
EDPN				*e*S	Sb	07 08 34.4	+0.4
DVD	**David**	**0.91**	**163**	*e*S	Sg	07 08 35.2	-1.0
PTJ1	**Puerto Jimnez**	**0.97**	**217**	*e*S	Sb	07 08 38.3	-0.1
EDDO	**Dominical**	**1.14**	**267**	*e*P	Pb	07 08 27.4	-1.0
EDDO				*e*S	Sb	07 08 43.3	0.0
HDC	**Heredia**	**1.54**	**296**	*e*P	Pn	07 08 33.5	-0.8
SRA1	**San Ramn**	**1.90**	**294**	*e*P	Pn	07 08 39.2	-0.1
SRA1				*e*S	Sn	07 09 04.3	+1.0
ARE1	**Arenal 1**	**2.28**	**300**	*e*P	Pn	07 08 45.5	+1.0

IDC 29 07:22:23.9±57.0,22°.60S×176°.62W,h0km,mb4.0/2, mb1 4.1/2,mb1mx3.7/19,mbtmp4.0/2,Error ellipse: s-maj=1044.0km s-min=186.0km az=86.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.09**	**247**	P	P	07 29 43.3	-1.2
	0.9nm,0.3s,baz=98,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**45.33**	**259**	P	P	07 30 44.1	+0.2
	1.8nm,0.8s,baz=92,slow=8.1,SNR=16						
WRA	**Warramunga Arr**	**45.62**	**264**	P	P	07 30 46.8	+0.5
	125nm,0.3s,baz=99,slow=8.2,SNR=1.5						

NNC 29 07:29:23.6±0.4,50°.01N×78°.73E,h0km,mb3.6,mpv3.2, 16C-8D,Error ellipse: s-maj=4.5km s-min=2.0km az=61.0,Suspected Mining explosion.,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**347**	⇑P	Pg	07 29 35.2	+0.3
KUR07				⇓S	Sg	07 29 43.9	+1.4
KUR06	**Kurchatov Arra**	**0.61**	**348**	⇑P	Pg	07 29 35.5	+0.3
KUR06				⇓S	Sg	07 29 44.5	+1.4
KUR14	**Kurchatov Arra**	**0.61**	**352**	⇑P	Pg	07 29 35.5	+0.2
KUR14				⇓S	Sg	07 29 44.1	+0.9
KUR15	**Kurchatov Arra**	**0.62**	**350**	⇑P	Pg	07 29 35.8	+0.3
KUR15				⇑S	Sg	07 29 44.5	+1.0
KURBB	**Kurchatov Arra**	**0.62**	**348**	⇑P	Pg	07 29 35.9	+0.3
	28nm,0.3s						
KURBB				⇓S	Sg	07 29 44.9	+1.2
	96nm,0.7s						
KUR16	**Kurchatov Arra**	**0.63**	**347**	⇓P	Pg	07 29 36.3	+0.5
KUR16				⇑S	Sg	07 29 45.0	+1.0
KUR05	**Kurchatov Arra**	**0.64**	**349**	⇓P	Pg	07 29 36.1	+0.1
KUR05				⇑S	Sg	07 29 45.3	+1.0
KUR17	**Kurchatov Arra**	**0.64**	**345**	⇑P	Pg	07 29 36.5	+0.6
KUR17				⇑S	Sg	07 29 45.4	+1.1
KUR04	**Kurchatov Arra**	**0.66**	**350**	⇑P	Pg	07 29 36.5	+0.2
KUR04				⇑S	Sg	07 29 45.9	+0.9
KURK	**Kurchatov**	**0.71**	**354**	⇑P	Pg	07 29 37.3	0.0
	12nm,0.4s						
KURK				⇑S	Sg	07 29 46.0	-0.4
	16nm,0.6s						
SEM	**Semipalatinsk**	**1.05**	**67**	P	Pg	07 29 43.4	-0.5
	4.3nm,0.1s						
SEM				S	Sb	07 29 58.9	-0.5
	120nm,0.4s						
MAKZ	**Makanchi**	**3.87**	**145**	⇑Pg	Pb	07 30 35.0	+2.2
	2.5nm,0.5s						
MAKZ				⇓Lg	Lg	07 31 26.3	
	10nm,0.7s						
MK31	**Makanchi Array**	**4.00**	**142**	Pn	Pn	07 30 28.1	+2.0
	1.1nm,0.2s,baz=14,slow=3.8,SNR=61						
MK31				⇓Pg	Pb	07 30 36.1	+1.2
	0.9nm,0.4s,baz=322,slow=15,SNR=16						
MK31				⇑Lg	Lg	07 31 28.8	
	16nm,0.6s,baz=331,slow=28,SNR=16						
KAPS	**Kapalarasan**	**4.75**	**175**	Pg	Pb	07 30 49.4	+1.6
	1.3nm,0.3s						
KAPS				Lg	Lg	07 31 51.5	
	18nm,0.7s						
ZSN	**Zaisan**	**4.80**	**120**	Pg	Pb	07 30 51.8	+3.2
	1.3nm,0.2s						
ZSN				Lg	Lg	07 31 55.2	
	6.9nm,0.7s						
ARXS	**Arharly**	**5.83**	**186**	Pg	Pb	07 31 10.3	+4.1
	1.2nm,0.3s						
ARXS				Lg	Lg	07 32 27.1	
	3.4nm,0.5s						

*JMA **29** 07:34:43.3±0.2,24°.83N×122°.43E,h1km±2km,M2.3*
*ISCJB **29** 07:34:44.2±0.5,24°.89N±0°.03×122°.46E±0°.02, h15km±10km,Error ellipse: s-maj=5.4km s-min=3.3km az=16.8*
*TAP **29** 07:34:44.1,24°.88N×122°.41E,h17km±1km,ML2.7,C*

ISC 29 07:34:43.7±1.1,24°.86N±0°.03×122°.43E±0°.02,h11km±9km, n31,σ0§41/50,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.41**	**222**	P	**Pb**	**07 34 53.1**	**+0.1**
	baz=218						
EOS1				*e*S	**Sb**	**07 35 00.1**	**+0.8**
	baz=218						
TWB1	**Santiao Chiao**	**0.43**	**291**	P	**Pg**	**07 34 52.4**	**+0.2**
	baz=288						
TWB1				*e*S	**Sb**	**07 34 58.8**	**-1.1**
	baz=288						
TIPB	**Shuangxi**	**0.56**	**282**	P	**Pb**	**07 34 55.4**	**-0.2**
	baz=279						
TIPB				*e*S	**Sb**	**07 35 03.2**	**-0.5**
	baz=279						
TWC	**Suao**	**0.58**	**245**	P	**Pg**	**07 34 55.4**	**+0.3**
	baz=241						
TWC				*e*S	**Sb**	**07 35 03.9**	**-0.4**
	baz=241						
JYNG	**Yonagunijimaku**	**0.62**	**131**	P	**Pg**	**07 34 55.4**	**-0.3**
JYNG				*e*S	**Sg**	**07 35 03.5**	**-0.3**
NWF	**Wu-fen Shan**	**0.63**	**290**	P	**Pb**	**07 34 56.4**	**-0.4**
	baz=288						
NWF				*e*S	**Sb**	**07 35 04.8**	**-0.9**
	baz=288						
WFSB	**Wu-fen Shan**	**0.63**	**290**	P	**Pb**	**07 34 56.8**	**+0.1**
	baz=288						
WFSB				*e*S	**Sg**	**07 35 04.6**	**+0.5**
	baz=288						
YOJ	**Yonaguni jima**	**0.66**	**127**	*e*P	**Pg**	**07 34 56.2**	**-0.3**
	baz=118						
YOJ	**Yonaguni jima**	**0.66**	**127**	P	**Pg**	**07 34 55.9**	**-0.5**
YOJ				*e*S	**Sg**	**07 35 04.8**	**-0.3**
TWE	**Neicheng**	**0.71**	**259**	P	**Pb**	**07 34 58.2**	**+0.1**
	baz=247						
TWE				*e*S	**Sb**	**07 35 07.4**	**-0.4**
	baz=247						
NANB	**Nanao**	**0.75**	**236**	P	**Pb**	**07 34 58.6**	**-0.2**
	baz=233						
NANB				*e*S	**Sb**	**07 35 09.5**	**+0.4**
	baz=233						
ENA	**Nanau**	**0.76**	**236**	P	**Pb**	**07 34 58.6**	**-0.4**
	baz=227						
YM07	**YM07**	**0.80**	**293**	*e*P	**Pb**	**07 34 59.7**	**0.0**
	baz=291						
YM07				*e*S	**Sg**	**07 35 09.9**	**+0.2**
	baz=

GO03				*e*S	**Sn**	**07 42 35.0**	**-1.3**
GO03				IAML		07 42 36.4	
	comp=N,1μm,0.4s						
PB14	**IPOC Station P**	**1.98**	**317**	*e*P	**Pn**	**07 42 12.4**	**+1.3**
PB14				*i* S	**Sn**	**07 42 38.0**	**0.0**
PB14				IAML		07 42 44.1	
	comp=E,1μm,0.2s						
PB15	**IPOC Station P**	**2.91**	**350⇑**	*i*P	**Pn**	**07 42 24.9**	**+2.6**
PB15				*e*S	**Sn**	**07 42 60.0**	**+1.8**
PB10	**IPOC Station P**	**2.96**	**330**	*e*Pn	**Pn**	**07 42 24.4**	**+1.7**
PB10				*e*Sn	**Sn**	**07 42 56.5**	**-2.5**
PB10	**IPOC Station P**	**2.96**	**330⇑**	*e*P	**Pn**	**07 42 24.2**	**+1.5**
PB10				*e*S	**Sn**	**07 42 58.6**	**-0.4**
PB10				IAML		07 43 11.1	
	comp=N,390nm,0.6s						
LCO	**Las Campanas**	**3.32**	**208**	*e*Pn	**Pn**	**07 42 28.7**	**+1.2**
LCO	**Las Campanas**	**3.32**	**208⇓**	*i*P	**Pn**	**07 42 28.9**	**+1.4**
LCO				*i* S	**Sn**	**07 43 08.5**	**+1.0**
LCO				IAML		07 43 10.2	
	comp=E,378nm,0.1s						
PB06	**IPOC Station P**	**3.42**	**350**	*e*P	**Pn**	**07 42 31.0**	**+2.3**
PB06				*i* S	**Sn**	**07 43 10.4**	**+0.7**
PB05	**IPOC Station P**	**3.42**	**340**	*e*P	**Pn**	**07 42 30.4**	**+1.7**
PB05				*e*S	**Sn**	**07 43 10.8**	**+1.1**
LVC	**Limon Verde**	**3.46**	**0**	*e*Pn	**Pn**	**07 42 31.7**	**+2.3**
LVC				*e*Sn	**Sn**	**07 43 05.3**	**-5.6**
PB04	**IPOC Station P**	**3.90**	**343**	*e*Pn	**Pn**	**07 42 36.5**	**+1.5**
PB09	**IPOC Station P**	**4.28**	**356**	*e*P	**Pn**	**07 42 42.4**	**+2.4**
PB09				*e*S	**Sn**	**07 43 31.1**	**+1.3**
LSCH	**La Serena**	**4.33**	**208**	*e*P	**Pn**	**07 42 40.9**	**+0.5**
LSCH				*e*S	**Sn**	**07 43 30.3**	**-0.3**
LSCH				IAML		07 43 54.4	
	comp=E,97nm,0.3s						
GO04	**Tololo Observa**	**4.40**	**202**	*e*Pn	**Pn**	**07 42 42.4**	**+0.9**
GO04	**Tololo Observa**	**4.40**	**202**	*e*P	**Pn**	**07 42 42.3**	**+0.9**
GO04				*e*S	**Sn**	**07 43 33.9**	**+1.2**
PB01	**IPOC Station P**	**5.04**	**354**	*e*Pn	**Pn**	**07 42 51.3**	**+1.3**
PB11	**IPOC Station P**	**6.33**	**354**	*e*Pn	**Pn**	**07 43 07.4**	**+0.3**
GO01	**Chusmiza**	**6.39**	**358**	*e*Pn	**Pn**	**07 43 09.0**	**+0.7**
MNMC	**Minye Minye**	**6.95**	**355**	*e*Pn	**Pn**	**07 43 16.1**	**+0.6**
PEL	**Peldehue**	**7.20**	**192**	*e*Pn	**Pn**	**07 43 19.1**	**+0.5**
GO05	**Huala**	**9.27**	**196**	*e*Pn	**Pn**	**07 43 43.6**	**-2.4**
LPAZ	**La Paz**	**9.78**	**4**	*e*Pn	**Pn**	**07 43 55.8**	**+2.3**
SNOW	**Snow King Moun**	**79.16**	**330**	*e*P	**P**	**07 53 22.1**	**-1.9**
TPAW	**Teton Pass**	**79.27**	**330**	*e*P	**P**	**07 53 21.6**	**-3.0**
FXWY	**Fox Creek**	**79.42**	**330**	*e*P	**P**	**07 53 28.5**	**+3.1**

IDC 29 07:44:15.5±1.3, 15°.31S×166°.81E, h0km, mb3.8/4, mb1 4.2/5, mb1mx3.8/38, mbtmp3.9/5, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/22, Error ellipse: s-maj=48.9km s-min=25.6km az=139.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.74**	**183**	Pn	Pn	07 45 55.3	-0.6
	1.7nm,0.3s,baz=72,slow=14,SNR=29						
DZM				Sn	Sn	07 47 06.5	-7.0
	1.0nm,0.3s,baz=328,slow=18,SNR=3.7						
CTA	**Charters Tower**	**20.14**	**253**	P	P	07 48 52.0	+0.5
	4.6nm,0.8s,baz=82,slow=17,SNR=3.6						
RPZ	**Rata Peaks**	**28.55**	**174**	LR	LR	07 59 27.4	
	comp=Z,65nm,19.1s,baz=32,slow=32						
ASAR	**Alice Springs**	**32.05**	**250**	P	P	07 50 44.2	-0.2
	1.1nm,0.7s,baz=71,slow=9.9,SNR=16						
ILAR	**Eielson Array**	**87.21**	**18**	P	P	07 57 03.7	+0.3
	0.8nm,0.8s,baz=234,slow=6.0,SNR=9.0						
NVAR	**Mina Array Bea**	**87.98**	**49**	P	P	07 57 07.7	-0.3
	0.5nm,0.8s,baz=218,slow=5.5,SNR=2.4						

GUC 29 07:52:50.4±0.5, 29°.87S×71°.21W, h51km±1km, ML3.6, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.05**	**224⇑**	*i*P	Pn	07 52 57.4	-0.8
LSCH				*i* S	Sn	07 53 03.2	-0.6
LSCH				IAML		07 53 03.9	
	comp=E,6μm,0.4s						
GO04	**Tololo Observa**	**0.46**	**130**	*e*P	Pn	07 53 02.6	+1.0
GO04				*e*S	Sn	07 53 09.5	-0.1
LCO	**Las Campanas**	**0.97**	**27⇓**	*i*P	Pn	07 53 08.7	+0.7
LCO				*i* S	Sn	07 53 22.8	+2.0
LCO				IAML		07 53 23.8	
	comp=E,2μm,0.4s						
GO03	**Copiap**	**2.43**	**21**	*e*P	Pn	07 53 28.6	+0.9
GO03				*e*S	Sn	07 54 01.3	+5.1
FCH	**Farellones**	**3.53**	**167**	*e*P	Pn	07 53 44.6	+1.6
FCH				*i* S	Sn	07 54 25.9	+2.2
FCH				IAML		07 54 38.4	
	comp=E,167nm,0.5s						
CLCH	**Cerro Calan**	**3.56**	**171**	*e*P	Pn	07 53 43.9	+0.7
CLCH				*i* S	Sn	07 54 25.1	+1.0

*ISCJB **29** 08:02:51.8±0.6, 17°.98S±0°.06×167°.9E±0°.1, h10km, mb4.3/12, MS3.6/7, Error ellipse: s-maj=14.4km s-min=8.0km az=1.7*
*IDC **29** 08:02:51.4±1.1, 17°.87S×167°.96E, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.0/32, mbtmp4.1/10, ML3.8/1, MS3.6/8, Ms1 3.6/8, ms1mx3.2/22, Error ellipse: s-maj=42.0km s-min=19.5km az=139.0*
*NEIC **29** 08:02:53.6±1.9, 17°.86S×167°.88E, h10km±2km, mb4.2/4, Error ellipse: s-maj=25.0km s-min=19.1km az=102.0*
ISC 29 08:02:53.1±0.7, 17°.97S±0°.07×167°.9E±0°.1, h10km, n33, σ1°.81/30, mb4.1/11, MS3.6/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.50**	**178**	*e*Pn	**Pn**	**08 03 49.4**	**+1.8**
MARNC				*e*Sn	**Sn**	**08 04 26.9**	**-2.1**
DZM	**Mont Dzumac**	**4.31**	**198**	*e*Pn	**Pn**	**08 04 00.3**	**+1.5**
	21nm,0.2s						
DZM				*e*Sn	**Sn**	**08 04 44.0**	**-5.2**
	49nm,0.3s						
DZM				*e*LR	LR	08 04 53.7	
	comp=Z,474nm,23.9s						
DZM	**Mont Dzumac**	**4.31**	**198**	Pn	**Pn**	**08 04 00.8**	**+1.9**
	5.0nm,0.3s,baz=165,slow=2.3,SNR=20						
DZM				Sn	**Sn**	**08 04 46.8**	**-2.5**
	16nm,0.3s,baz=285,slow=20,SNR=8.0						
DZM				LR	LR	08 05 38.8	
	comp=Z,562nm,18.3s,baz=44,slow=38						
PINNC	**Pines Island,**	**4.64**	**185**	*e*Pn	**Pn**	**08 04 07.3**	**+4.0**
HNR	**Honiara**	**11.48**	**317**	LR	LR	08 09 33.7	
	comp=Z,268nm,19.5s,baz=141,slow=35						
CTA	**Charters Tower**	**20.58**	**261**	P	**P**	**08 07 33.7**	**+1.3**
	3.9nm,0.6s,baz=74,slow=10,SNR=2.8						
STKA	**Stephens Creek**	**27.50**	**235**	*e*P	**P**	**08 08 41.1**	**+1.3**
	0.9nm,0.8s						
STKA	**Stephens Creek**	**27.50**	**235**	P	**P**	**08 08 41.1**	**+1.3**
	4.4nm,0.9s,baz=86,slow=6.6,SNR=5.8						
STKA				LR	LR	08 19 31.0	
	comp=Z,160nm,19.3s,baz=27,slow=36						
WR1	**Warramunga Arr**	**31.78**	**261**	*e*P	**P**	**08 09 16.9**	**-1.0**
WRA	**Warramunga Arr**	**31.78**	**261**	P	**P**	**08 09 16.9**	**-1.0**
	140nm,0.3s,baz=102,slow=10,SNR=1.4						
AS31	**Alice Springs**	**32.23**	**254**	*e*P	**P**	**08 09 21.1**	**-0.8**
	1.5nm,0.7s						
ASAR	**Alice Springs**	**32.24**	**254**	P	**P**	**08 09 21.1**	**-0.8**
	1.9nm,0.8s,baz=81,slow=8.3,SNR=13						
ASAR				LR	LR	08 22 03.3	
	comp=Z,223nm,19.2s,baz=106,slow=36						
GUMO	**Guam**	**38.73**	**323**	LR	LR	08 25 27.4	
	comp=Z,36nm,19.8s,baz=139,slow=35						
FITZ	**Fitzroy Crossi**	**40.13**	**263**	*e*P	**P**	**08 10 29.9**	**+0.4**
	8.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.13**	**263**	LR	LR	08 26 29.1	
	comp=Z,165nm,18.3s,baz=100,slow=35						
PPT2	**Papeete2**	**40.42**	**96**	*e*LR	LR	08 21 49.9	
	comp=Z,135nm,23.8s						
PETK	**Petropavlovsk-**	**71.33**	**354**	LR	LR	08 42 19.9	
	comp=Z,20nm,18.9s,baz=116,slow=33						
QSPA	**South Pole Qui**	**72.08**	**180**	*e*P	**P**	**08 14 19.2**	**+1.8**
	7.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**76.83**	**295**	P	**P**	**08 14 46.9**	**+1.2**
	0.8nm,0.4s,baz=132,slow=4.0,SNR=3.6						
SEY	**Seymchan**	**81.55**	**353**	P	**P**	**08 15 09.8**	**-0.7**
	2.6nm,0.8s,baz=148,slow=8.0,SNR=9.3						
SONA0	**Songino Array**	**85.45**	**324**	*e*P	**P**	**08 15 31.3**	**+0.2**
SONM	**Songino Array**	**85.45**	**324**	P	**P**	**08 15 31.3**	**+0.2**
	0.5nm,0.5s,baz=125,slow=5.8,SNR=4.5						
NV01	**Mina Array Sit**	**88.91**	**49**	*e*P	**P**	**08 15 47.6**	**-0.6**
NVAR	**Mina Array Bea**	**88.91**	**49**	P	**P**	**08 15 47.6**	**-0.6**
	0.8nm,0.6s,baz=226,slow=8.7,SNR=7.2						
ILAR	**Eielson Array**	**89.40**	**18**	P	**P**	**08 15 47.9**	**-1.7**
	0.6nm,0.6s,baz=237,slow=5.2,SNR=5.8						
PDAR	**Pinedale Array**	**96.68**	**47**	LR	LR	08 53 43.6	
	comp=Z,13nm,21.5s,baz=228,slow=32						
MK32	**Makanchi Array**	**99.95**	**316**	*e*Pdif	**Pdif**	**08 16 39.1**	**+0.8**
MKAR	**Makanchi Array**	**99.95**	**316**	P	**Pdif**	**08 16 39.1**	**+0.8**
	0.3nm,0.6s,baz=90,slow=5.9,SNR=2.7						
YKA	**Yellowknife Ar**	**100.12**	**27**	P	**Pdif**	**08 16 38.9**	**+0.3**
	0.2nm,0.7s,baz=258,slow=5.1,SNR=3.5						
YKB5	**Yelloknife Ar**	**100.12**	**27**	*e*Pdif	**Pdif**	**08 16 38.9**	**+0.3**
ARCES	**ARCESS Array B**	**123.52**	**345**	PKP	**PKPdf**	**08 21 49.3**	**-0.9**
	2.7nm,0.7s,baz=14,slow=2.5,SNR=8.2						
GERES	**GERESS Array B**	**142.78**	**332**	PKP	**PKPdf**	**08 22 24.4**	**-2.5**
	0.3nm,0.2s,baz=20,slow=3.1,SNR=6.0						
DAVOX	**Davos/Dischmat**	**146.03**	**333**	PKPbc	**PKPbc**	**08 22 33.7**	**+0.2**
	3.8nm,0.4s,baz=274,slow=2.7,SNR=5.3						

*ISN **29** 08:06:39.8±1.0, 36°.27N×45°.42E, h0km±3km, ML3.5*
*TEH **29** 08:06:40.8, 36°.23N×45°.32E, h8km, ML3.7*
*AZER **29** 08:06:43.8±1.6, 36°.28N×45°.29E, h10km, ml3.1/6, Error ellipse: s-maj=28.8km s-min=19.0km az=234.0*
ISC 29 08:06:40.7±1.4, 36°.28N±0°.03×45°.43E±0°.03, h5km±12km, n28, σ2°.09/38, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	**0.54**	**25**	*e*Pg	**Pb**	**08 06 53.7**	**+1.0**
MAHB				*e*Sg	**Sb**	**08 07 01.7**	**+0.9**
MAHB				IAMB	IAmb	08 07 05.7	
	comp=Z,0.0nm,0.4s						
IKRK	**Kirkuk**	**1.24**	**226**	*e*Pg	**Pg**	**08 07 07.4**	**+2.9**
IKRK				AML	AML	08 07 10.8	
	comp=Z,167nm,0.4s						
IKRK				*e*Sg	**Sn**	**08 07 25.4**	**+3.6**
IAZR	**Azarshahr**	**1.47**	**17**	*e*Pg	**Pg**	**08 07 10.6**	**+1.8**
IAZR				IAMB	IAmb	08 07 39.7	
	comp=Z,0.0nm,0.4s						
IDHR	**Dehrash**	**1.76**	**153**	*e*Pn	**Pb**	**08 07 13.8**	**+0.3**
IDHR				IAMB	IAmb	08 07 17.1	
	comp=Z,0.0nm,0.2s						
ILIN	**Lien**	**1.84**	**137**	*e*Pg	**Pg**	**08 07 16.6**	**+0.6**
ILIN				IAMB	IAmb	08 07 46.3	
	comp=Z,0.0nm,0.3s						
MSL	**Mosul**	**1.87**	**274**	*e*Pn	**Pb**	**08 07 14.0**	**-1.4**
MSL				AML	AML	08 07 17.1	
	comp=Z,521nm,0.2s						
MSL				*e*Sn	**Sb**	**08 07 38.0**	**-1.1**
MSL	**Mosul**	**1.87**	**274**	*e*Pn	**Pb**	**08 07 14.0**	**-1.4**
IGHG	**Ghaleghazi**	**2.15**	**154**	*e*Pn	**Pg**	**08 07 21.5**	**-0.5**
KCHF	**Cheshme Sefid,**	**2.39**	**146**	*e*Pn	**Pb**	**08 07 25.2**	**+0.9**
KCHF				IAMB	IAmb	08 08 05.7	
	comp=Z,0.0nm,0.3s						
IHRS	**Heris**	**2.41**	**32**	*e*Pn	**Pb**	**08 07 24.5**	**-0.2**
IHRS				IAMB	IAmb	08 08 05.4	
	comp=Z,0.0nm,0.6s						
IBZA	**Bozab**	**2.68**	**131**	*e*Pn	**Pb**	**08 07 27.6**	**-1.7**
IBZA				IAMB	IAmb	08 08 15.5	
	comp=Z,0.0nm,0.8s						
ORD	**Ordubad**	**2.69**	**9**	P	**Pg**	**08 07 31.0**	**-1.1**
ORD				S	**Sg**	**08 08 06.2**	**-0.8**
IKOM	**Komasi**	**2.70**	**140**	*e*Pn	**Pb**	**08 07 29.4**	**-0.2**
IKOM				IAMB	IAmb	08 08 20.8	
	comp=Z,0.0nm,0.7s						
NAX	**Nakhchivan**	**2.89**	**1**	P	**Pb**	**08 07 33.3**	**+0.5**
NAX				S	**Sb**	**08 08 10.1**	**+1.5**
BHD	**Baghdad**	**3.12**	**196**	*e*Pn	**Pn**	**08 07 31.0**	**+0.5**
BHD				AML	AML	08 07 37.2	
	comp=Z,9μm,0.5s						
BHD				*e*Sn	**Sn**	**08 08 08.0**	**-0.1**
BHD	**Baghdad**	**3.12**	**196**	*e*Pn	**Pn**	**08 07 31.0**	**+0.5**
IBDR	**Badra**	**3.19**	**172**	*e*Pn	**Pn**	**08 07 32.0**	**+0.6**
IBDR				AML	AML	08 07 35.2	
	comp=Z,174nm,0.4s						
IBDR				*e*Sn	**Sn**	**08 08 09.0**	**-0.7**
IBDR	**Badra**	**3.19**	**172**	*e*Pn	**Pn**	**08 07 32.0**	**+0.6**
LRK	**Lerik**	**3.31**	**44**	P	**Pb**	**08 07 39.6**	**-0.4**
HSAM	**Samen**	**3.32**	**127**	*e*Pn	**Pb**	**08 07 36.9**	**-3.2**
IDOB	**Doab**	**3.35**	**137**	*e*Pn	**Pb**	**08 07 38.0**	**-2.8**
HAGD	**Aghdareh**	**3.36**	**115**	*e*Pn	**Pn**	**08 07 37.1**	**+3.1**
IKFM	**Kafar-mosalman**	**3.39**	**143**	*e*Pn	**Pb**	**08 07 38.3**	**-2.9**
IKFM				IAMB	IAmb	08 07 41.3	
	comp=Z,0.0nm,0.2s						
ASTR	**Astara**	**3.52**	**49**	P	**Pb**	**08 07 42.2**	**-1.2**
ASTR				S	**Sb**	**08 08 27.6**	**+1.2**
LKRN	**Lenkeran, Azer**	**3.61**	**47**	S	**Sb**	**08 08 29.5**	**+0.5**
IKMR	**Kamar-syah**	**3.67**	**138**	*e*Pn	**Pb**	**08 07 41.8**	**-4.2**
GDB	**GEDABAY**	**4.45**	**3**	P	**Pb**	**08 07 54.7**	**-4.6**
GDB				S	**Sb**	**08 08 48.4**	**-4.9**
RTB	**Rutbah**	**5.32**	**234**	*e*Pn	**Pn**	**08 08 02.0**	**+1.3**
RTB				AML	AML	08 08 10.8	
	comp=Z,189nm,0.4s						
RTB				*e*Sn	**Sn**	**08 09 00.5**	**-1.9**

*ISCJB **29** 08:07:59.7±0.4, 45°.16N±0°.06×141°.80E±0°.09, h281km±4km, mb3.4/9, Error ellipse: s-maj=10.3km s-min=8.9km az=17.4*
*IDC **29** 08:08:00.7±0.5, 45°.19N×141°.80E, h275km±9km, mb3.2/9, mb1 3.4/15, mb1mx3.2/61, mbtmp3.9/15, Error ellipse: s-maj=23.1km s-min=11.3km az=171.0*
*JMA **29** 08:08:00.3±0.2, 45°.20N×141°.86E, h280km±2km, M3.4*
ISC 29 08:08:00.3±0.7, 45°.11N±0°.07×141°.82E±0°.08, h279km±7km, n28, σ1°.00/37, mb3.5/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.22**	**15**	P	**Pn**	**08 08 36.1**	**+0.2**
JWK2				*e*S	**S**	**08 09 03.4**	**-0.7**
JSE	**Soyaes**	**0.56**	**105**	P	**Pn**	**08 08 36.8**	**+0.1**
JSE				*e*S	**S**	**08 09 04.8**	**-0.7**
ASAJ	**Asahikawa**	**1.13**	**150**	P	**Pn**	**08 08 39.7**	**+0.5**
ASAJ				*e*S	**S**	**08 09 10.8**	**+0.8**
ASAJ	**Asahikawa**	**1.13**	**150**	P	**Pn**	**08 08 39.8**	**+0.6**
	20nm,0.3s,baz=332,slow=3.9,SNR=62						
ASAJ				S	**S**	**08 09 10.6**	**+0.5**
	1.5nm,0.3s,baz=173,slow=33,SNR=9.2						
JKK2	**Kamakawa 2**	**1.40**	**151**	P	**Pn**	**08 08 41.5**	**+0.7**
JMP	**Maruseppu**	**1.56**	**134**	P	**Pn**	**08 08 42.4**	**+0.5**
JTKR	**Abashiri--Toko**	**1.88**	**126**	P	**Pn**	**08 08 44.7**	**+0.5**
JEW	**Eniwo**	**2.28**	**187**	P	**Pn**	**08 08 49.1**	**+1.4**
JEW				*e*S	**S**	**08 09 27.3**	**+1.9**
JAR	**Ashorobuto**	**2.29**	**142**	P	**Pn**	**08 08 48.6**	**+0.8**
JAR				*e*S	**S**	**08 09 26.2**	**+0.7**
JRA	**Rausu**	**2.63**	**115**	P	**Pn**	**08 08 52.0**	**+1.0**
JCH	**Churui**	**2.73**	**155**	P	**Pn**	**08 08 51.0**	**-1.0**
JCH				*e*S	**S**	**08 09 30.4**	**-2.7**
JNBK	**Urakawa-nobuka**	**2.90**	**166**	P	**Pn**	**08 08 54.4**	**+0.7**
JNBK				*e*S	**S**	**08 09 36.4**	**+0.2**
JKB	**Kayabe**	**3.27**	**190**	P	**Pn**	**08 08 57.2**	**-0.3**
JKB				*e*S	**S**	**08 09 40.9**	**-2.1**
USRK	**Ussuriysk Ar.**	**7.07**	**266**	P	**Pn**	**08 09 43.4**	**+1.3**
	0.4nm,0.3s,baz=74,slow=12,SNR=6.5						
KLR	**Kul'dur**	**8.00**	**305**	P	**Pn**	**08 09 52.7**	**-0.9**
	0.2nm,0.3s,baz=118,slow=16,SNR=7.4						
MJAR	**Matsushiro Arr**	**8.98**	**199**	P	**Pn**	**08 10 05.9**	**0.0**
	0.2nm,0.3s,baz=177,slow=30,SNR=9.1						
PETK	**Petropavlovsk-**	**13.11**	**47**	P	**P**	**08 10 56.8**	**-0.6**
	0.2nm,0.3s,baz=256,slow=9.0,SNR=4.5						
MA2	**Magadan**	**15.47**	**17**	P	**Pn**	**08 11 23.8**	**-0.8**
	0.3nm,0.3s,baz=192,slow=11,SNR=5.5						
SEY	**Seymchan**	**18.86**	**15**	P	**P**	**08 12 00.0**	**0.0**
	1.0nm,0.3s,baz=202,slow=7.7,SNR=42						
SONM	**Songino Array**	**24.42**	**289**	P	**P**	**08 12 54.5**	**+0.7**
	1.8nm,0.5s,baz=78,slow=8.3,SNR=11						
MKAR	**Makanchi Array**	**40.56**	**294**	P	**P**	**08 15 13.3**	**+0.6**
	1.3nm,0.7s,baz=81,slow=9.0,SNR=14						
KURBB	**Kurchatov Arra**	**41.67**	**301**	P	**P**	**08 15 21.4**	**-0.2**
	1.2nm,0.5s,baz=71,slow=9.0,SNR=7.5						
ILAR	**Eielson Array**	**42.67**	**37**	P	**P**	**08 15 29.4**	**-0.1**
	0.8nm,0.6s,baz=280,slow=9.1,SNR=12						
BVAR	**Borovoye Array**	**45.66**	**307**	P	**P**	**08 15 52.8**	**-0.4**
	0.6nm,0.4s,baz=60,slow=8.8,SNR=3.8						
INK	**Inuvik**	**47.16**	**30**	P	**P**	**08 16 04.0**	**-0.6**
	0.9nm,0.3s,baz=274,slow=6.1,SNR=19						
YKA	**Yellowknife Ar**	**56.76**	**33**	P	**P**	**08 17 15.0**	**0.0**
	0.5nm,0.6s,baz=303,slow=6.8,SNR=7.9						
NVAR	**Mina Array Bea**	**70.03**	**55**	P	**P**	**08 18 44.2**	**+2.0**
	0.7nm,0.7s,baz=289,slow=5.7,SNR=5.0						
PDAR	**Pinedale Array**	**71.87**	**47**	P	**P**	**08 18 53.9**	**+0.7**
	0.6nm,0.6s,baz=297,slow=1.4,SNR=7.8						

*DDA **29** 08:21:02.1, 39°.69N×29°.51E, h7km±1km, ML2.6*
*ISK **29** 08:21:02.6, 39°.65N×29°.43E, h1km, ML1.9/10, Suspected Mining explosion.*
*ISCJB **29** 08:21:03.5±0.5, 39°.67N±0°.02×29°.44E±0°.04, h0km, Error ellipse: s-maj=4.5km s-min=3.4km az=178.3*
ISC 29 08:21:03.9±1.0, 39°.67N±0°.03×29°.45E±0°.03, h0km, n14, σ0°.56/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.22**	**178**	PG	**Pg**	**08 21 07.4**	**-0.8**
TVSB				SG	**Sg**	**08 21 11.2**	**+0.1**
ULDT	**Uludag**	**0.53**	**333**	IAML_P			
	comp=Z,775nm,0.1s						
ULDT				*i* P	**Pg**	**08 21 13.7**	**-0.4**
ULDT				*i* S	**Sg**	**08 21 20.2**	**-0.7**
GDZ	**Gediz**	**0.58**	**178**	*i* P	**Pg**	**08 21 14.8**	**-0.3**
GDZ				*i* S	**Sg**	**08 21 23.0**	**+0.3**
CAVI	**Cavuskoy**	**0.61**	**30**	PG	**Pg**	**08 21 15.0**	**-0.6**
DURS	**Dursunbey**	**0.76**	**265**	IAML_P			
	comp=Z,723nm,0.1s						
DURS				*i* P	**Pg**	**08 21 18.1**	**-0.4**
DURS				*i* S	**Sg**	**08 21 29.7**	**+1.4**
SRCK	**Saricakaya, Es**	**0.98**	**68**	PG	**Pg**	**08 21 22.9**	**+0.2**
SRCK				SG	**Sb**	**08 21 37.7**	**+0.5**
ARMT	**Armutlu**	**1.00**	**333**	PG	**Pg**	**08 21 23.0**	**-0.1**
ARMT				SG	**Sb**	**08 21 38.1**	**+0.2**
USAK	**Uak-Merkez**	**1.01**	**199**	*i* P	**Pg**	**08 21 23.2**	**-0.2**
USAK				*i* S	**Sg**	**08 21 37.4**	**+0.8**
KCTX	**Karacabey (Bur**	**1.03**	**306**	PG	**Pg**	**08 21 23.6**	**0.0**
GULT	**Gulveren**	**1.11**	**47**	PN	**Pg**	**08 21 25.6**	**+0.3**
BALB	**Balikesir**	**1.21**	**269**	PN	**Pg**	**08 21 26.8**	**-0.4**
SILT	**Sile**	**1.49**	**6**	PN	**Pn**	**08 21 31.7**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.62**	**97**	PN	**Pn**	**08 21 33.5**	**-0.3**
AUSIV	**SIVRIHISAR**	**1.63**	**98**	PN	**Pn**	**08 21 33.8**	**-0.3**

*ISCJB **29** 08:23:53.2±0.3, 3°.72N±0°.05×122°.64E±0°.07, h602km, mb4.4/18, Error ellipse: s-maj=9.5km s-min=5.7km az=155.5*
*DJA **29** 08:23:55.8±0.5, 4°.N±6°×12°.2E±°, h568km±6km, M4.4/12, mb4.3/8, mB4.8/5, MLv4.6/12, Mw(mB)4.0/5*
*IDC **29** 08:23:55.3±1.3, 3°.74N×122°.49E, h599km±16km, mb3.3/12, mb1 3.3/12, mb1mx3.0/34, mbtmp4.3/12, Error ellipse: s-maj=23.5km s-min=7.8km az=66.0*
ISC 29 08:23:55.0±0.5, 3°.75N±0°.08×122°.6E±0°.1, h602km, n45, σ1°.66/52, mb3.9/18, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.96**	**91**	P	**P**	**08 25 10.6**	**-3.6**
MRSI	**Marisa**	**3.31**	**191**	P	**P**	**08 25 13.5**	**-2.7**
MRSI				S	S	08 26 10.9	-11
KMSI	**Cibinong**	**3.46**	**156**	P	**P**	**08 25 13.8**	**-3.3**
CTBH	**Cotabato--PC H**	**3.83**	**26⇓**	*i*P	**P**	**08 25 17.9**	**-1.7**
DDMP	**Don Marcelino,**	**3.91**	**53**	*e*P	**P**	**08 25 15.8**	**-4.3**
MPSI	**Mapaga**	**4.31**	**218**	P	**P**	**08 25 20.1**	**-2.8**
LUWI	**Luwuk**	**4.76**	**178**	P	**P**	**08 25 23.8**	**-2.5**
LUWI				S	S	08 26 17.8	-23
TNTI	**Ternate**	**5.64**	**122**	P	**P**	**08 25 32.2**	**-1.1**
	161nm,1.0s,2μm0.6nm						
SANI	**Sanana**	**6.70**	**149**	P	**P**	**08 25 39.6**	**-2.9**
TTSI	**Tana Toraja**	**7.29**	**202**	P	**P**	**08 25 45.8**	**-2.0**
	19nm,0.9s,1μm0.1nm						
BKB	**Balikpapan**	**7.54**	**229**	P	**P**	**08 25 46.9**	**-3.3**
SPSI	**Sidrap Palu**	**8.15**	**200**	P	**P**	**08 25 53.5**	**-2.5**
BNSI	**Bone**	**8.46**	**197**	P	**P**	**08 25 56.8**	**-2.1**
MTKI	**Muara Teweh, K**	**8.97**	**239**	P	**P**	**08 26 02.2**	**-1.6**
BKSI	**Bulukumba**	**9.33**	**195**	P	**P**	**08 26 05.5**	**-1.9**
PLAI	**Plampang**	**13.37**	**201**	P	**P**	**08 26 47.0**	**-0.7**
TPI	**Tanjungpandan**	**16.24**	**247**	P	**P**	**08 27 15.1**	**+0.

ROM 29 08:55:18.4±0.3, 43°34N±0°01×12°59E±0°01, h5km±1km, ML0.8/2, Error ellipse: s-maj=1.3km s-min=0.5km az=140.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.03**	**329**	P	Pg	08 55 19.9	+0.3
ATFO				S	Sg	08 55 20.3	-0.1
ATFO	comp=E,1445μm,1.2s			AML	AML		
ATFO	comp=N,1655μm,0.3s			AML	AML		
ATFO	comp=N,1655μm,0.3s			AML	AML		
ATFO	comp=E,1445μm,1.2s			AML	AML		
ATFO	**Monte Foce - G**	**0.03**	**329**	P	Pg	08 55 19.9	+0.3
ATFO	**Monte Foce - G**	**0.03**	**329**	S	Sg	08 55 20.3	-0.1
ATVO	**AVT- Monte Val**	**0.14**	**287**	P	Pg	08 55 21.8	+0.5
ATVO				S	Sg	08 55 24.1	+0.9
ATVO	comp=E,66μm,0.5s			AML	AML		
ATVO	comp=N,71μm,1.6s			AML	AML		
ATVO	comp=N,71μm,1.6s			AML	AML		
ATVO	comp=E,66μm,0.5s			AML	AML		
ATVO	**AVT- Monte Val**	**0.14**	**287**	P	Pg	08 55 21.9	+0.6
ATVO	**AVT- Monte Val**	**0.14**	**287**	S	Sg	08 55 24.1	+0.9
ATPI	**Pietralunga -**	**0.18**	**308**	P	Pg	08 55 22.2	+0.3
ATPI				S	Sg	08 55 25.4	+1.1
ATPI	**Pietralunga -**	**0.18**	**308**	P	Pg	08 55 22.3	+0.4
ATPI	**Pietralunga -**	**0.18**	**308**	S	Sg	08 55 25.2	+0.9
PIEI	**Pieia**	**0.20**	**348**	P	Pg	08 55 22.7	+0.4
PIEI				S	Sg	08 55 26.4	+1.5
PIEI	comp=E,69μm,0.3s			AML	AML		
PIEI	comp=N,45μm,0.9s			AML	AML		
PIEI	comp=E,69μm,0.3s			AML	AML		
PIEI	comp=N,45μm,0.9s			AML	AML		
PIEI	**Pieia**	**0.20**	**348**	P	Pg	08 55 22.8	+0.4
PIEI	**Pieia**	**0.20**	**348**	S	Sg	08 55 26.4	+1.5
EL6	**Elcito**	**0.37**	**92**	S	Sg	08 55 24.0	-6.6
NRCA	**Norcia**	**0.64**	**143**	AML	AML		
NRCA	comp=E,1025μm,0.2s			AML	AML		
NRCA	comp=E,1025μm,0.2s			AML	AML		
NRCA	comp=N,724μm,0.6s			AML	AML		
NRCA	comp=N,724μm,0.6s			AML	AML		
FERS	**Ferrara-Casagl**	**1.73**	**334**	P	Pn	08 55 48.4	-0.8
NDIM	**Novi di Modena**	**1.97**	**322**	S	Sg	08 56 22.0	+0.3
STON	**Ston**	**3.77**	**95**	S	Sn	08 57 03.0	+1.1

*ISCJB **29** 08:59:52.7±0.5, 24°.87N±0°.03×122°.46E±0°.02, h2km±6km, Error ellipse: s-maj=5.7km s-min=3.1km az=15.8*
*TAP **29** 08:59:52.6, 24°.88N×122°.45E, h16km±1km, ML2.8, C*
*JMA **29** 08:59:52.6±0.1, 24°.84N×122°.46E, h0km, M2.6*
ISC 29 08:59:52.9±1.1, 24°.86N±0°.04×122°.45E±0°.02, h11km±11km, n29, σ0°35/44, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.43**	**223**	P	**Pb**	**09 00 02.3**	**-0.2**
EOS1	baz=212			S	**Sb**	**09 00 09.3**	**+0.4**
TWB1	**Santiao Chiao**	**0.44**	**289**	*e*P	**Pg**	**09 00 01.4**	**-0.2**
TWB1	baz=286			*i* S	**Sg**	**09 00 07.9**	**+0.4**
EGS	**Suao**	**0.47**	**268**	*e*S	**Sb**	**09 00 09.6**	**-0.6**
NTC	**Toucheng**	**0.56**	**269**	*e*P	**Pg**	**09 00 03.8**	**-0.1**
TIPB	**Shuangxi**	**0.58**	**281**	*i* P	**Pg**	**09 00 04.5**	**+0.3**
TIPB	baz=279			*i* S	**Sb**	**09 00 12.8**	**-0.5**
TWC	**Suao**	**0.60**	**245**	*e*P	**Pg**	**09 00 04.4**	**-0.2**
TWC	baz=243			*e*S	**Sg**	**09 00 13.0**	**+0.4**
JYNG	**Yonagunijimaku**	**0.61**	**132**	P	**Pg**	**09 00 04.4**	**-0.3**
JYNG				*e*S	**Sg**	**09 00 13.0**	**+0.3**
NWF	**Wu-fen Shan**	**0.64**	**289**	*i* P	**Pb**	**09 00 05.7**	**-0.5**
NWF	baz=287			*e*S	**Sb**	**09 00 14.7**	**-0.5**
YOJ	**Yonaguni jima**	**0.65**	**128**	P	**Pg**	**09 00 05.3**	**-0.2**
YOJ	baz=120			S	**Sg**	**09 00 14.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.65**	**128**	P	**Pg**	**09 00 04.9**	**-0.5**
YOJ				*e*S	**Sg**	**09 00 14.0**	**+0.1**
TWE	**Neicheng**	**0.73**	**259**	*e*P	**Pg**	**09 00 07.0**	**+0.1**
NANB	**Nanao**	**0.77**	**236**	P	**Pg**	**09 00 07.6**	**-0.2**
NANB	baz=235			S	**Sb**	**09 00 18.6**	**-0.2**
ENA	**Nanau**	**0.78**	**236**	*i* P	**Pg**	**09 00 07.7**	**-0.2**
ENA	baz=234			S	**Sb**	**09 00 19.1**	**+0.1**
YM07	**YM07**	**0.81**	**293**	*i* P	**Pb**	**09 00 08.9**	**-0.2**
YM07	baz=291			*e*S	**Sb**	**09 00 20.4**	**+0.2**
ENTT	**Nioudou**	**0.83**	**255**	*e*P	**Pb**	**09 00 09.9**	**+0.5**
ENTT	baz=239			*e*S	**Sb**	**09 00 20.8**	**+0.1**
PCYT	**Pengchaiyu**	**0.84**	**336**	*e*P	**Pg**	**09 00 08.5**	**-0.6**
YM08	**YM08**	**0.85**	**293**	P	**Pg**	**09 00 09.2**	**0.0**
YM01	**YM01**	**0.85**	**290**	P	**Pb**	**09 00 09.8**	**+0.1**
YM10	**YM10**	**0.86**	**290**	P	**Pb**	**09 00 10.0**	**+0.2**
NWLT	**Wulai**	**0.87**	**265**	*e*P	**Pb**	**09 00 10.0**	**0.0**
NWLT	baz=263			*e*S	**Sb**	**09 00 21.6**	**0.0**
TATO	**Taipei**	**0.88**	**277**	*e*P	**Pb**	**09 00 10.2**	**0.0**
NNS	**Nan Shan**	**1.07**	**247**	*e*P	**Pn**	**09 00 14.0**	**0.0**
NNS	baz=234			*e*S	**Sg**	**09 00 27.0**	**-0.3**
ETLH	**Xiulin Townshi**	**1.10**	**234**	*e*P	**Pg**	**09 00 13.1**	**-0.9**
IRIF	**Iriomote-Funau**	**1.28**	**114**	P	**Pg**	**09 00 17.2**	**-0.2**
WHF	**Hehuan Shan**	**1.30**	**237**	*e*P	**Pb**	**09 00 17.5**	**0.0**
HATJ	**Hateruma jima**	**1.47**	**123**	P	**Pg**	**09 00 20.6**	**-0.5**
OWD	**Renai**	**1.47**	**232**	P	**Pn**	**09 00 19.7**	**+0.2**
JKRS	**Kuro-shima**	**1.55**	**113**	P	**Pn**	**09 00 20.7**	**+0.3**
JIJ	**Ishigaki jima**	**1.62**	**108**	P	**Pg**	**09 00 24.1**	**+0.2**
JIJ				*e*S	**Sg**	**09 00 45.5**	**+0.5**

*ISCJB **29** 09:00:30.4±0.6, 64°.79N±0°.03×30°.69E±0°.09, h0km, Error ellipse: s-maj=5.7km s-min=4.1km az=15.0*
*KOLA **29** 09:00:31.7, 64°.76N×30°.33E, h0km*
*MOS **29** 09:00:31.0, 64°.81N×30°.85E, M2.4, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*HEL **29** 09:00:31.6±0.3, 64°.79N×30°.80E, h0km, ML2.2, Explosion*
*NAO **29** 09:00:33.3±1.5, 64°.84N×30°.26E, ML2.5*
*UPP **29** 09:00:33.7±2.9, 64°.74N×30°.44E, h0km, ML1.7, Suspected explosion*
*BER **29** 09:00:34.1±4.8, 64°.83N×30°.42E, h0km, ML2.5(NAO), Suspected explosion*
ISC 29 09:00:31.6±1.0, 64°.80N±0°.03×30°.72E±0°.05, h0km, n24, σ1°49/47, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.32**	**329**	*e*P	**Pg**	**09 00 55.7**	**-1.1**
MSF				*e*S	**Sg**	**09 01 12.8**	**-1.2**
JOF	**Joensuu**	**1.91**	**172**	*e*P	**Pn**	**09 01 04.8**	**-0.5**
JOF				*e*S	**Sn**	**09 01 28.7**	**-1.2**
OUL	**Oulu**	**2.07**	**280**	*e*P	**Pn**	**09 01 08.7**	**+1.1**
OUL				*e*S	**Sn**	**09 01 34.7**	**+0.7**
OUL	comp=Z,10nm,0.1s			MSG		09 01 39.5	
RNF	**Rovaniemi**	**2.66**	**315**	MSG		09 01 54.6	
OBF0	**Syolatti, Pyha**	**2.81**	**267**	*e*P	**Pn**	**09 01 18.6**	**+1.0**
OBF0				*e*SB	**Sb**	**09 01 56.0**	**-1.3**
APA0	**Apatity Array**	**2.97**	**17**	Pn	**Pn**	**09 01 20.5**	**+0.7**
APA0	baz=197,slow=14			Sn	**Sn**	**09 01 55.7**	**-0.4**
APA0	**Apatity Array**	**2.97**	**17**	P	**Pn**	**09 01 20.5**	**+0.7**
APA0				S	**Sn**	**09 01 57.1**	**+1.0**
APA0	**Apatity Array**	**2.97**	**17**	Pn	**Pn**	**09 01 20.5**	**+0.7**
APA0	baz=197,slow=14			Sn	**Sn**	**09 01 55.7**	**-0.4**
APA	**Apatity**	**2.99**	**20**	P	**Pn**	**09 01 21.0**	**+0.9**
APA				S	**Sn**	**09 01 57.8**	**+1.2**
PAJU	**Pajala**	**3.84**	**309**	P	**Pn**	**09 01 32.8**	**+1.0**
SJUU	**Sjulsmark**	**3.91**	**285**	P	**Pn**	**09 01 33.0**	**+0.2**
SJUU				S	**Sn**	**09 02 19.1**	**-0.3**
ERTU	**Ertsjaerv**	**3.94**	**300**	P	**Pn**	**09 01 34.0**	**+0.8**
FIA0	**FINESS Array S**	**3.97**	**214**	Pn	**Pn**	**09 01 34.1**	**+0.5**
FIA0	baz=30,slow=14			Pg	**Pb**	**09 01 41.8**	**-0.6**
FIA0	baz=22,slow=16			Sn	**Sn**	**09 02 20.6**	**-0.2**
FIA0	baz=39,slow=22			Lg	Lg	09 02 34.8	
FIA0	baz=34,slow=28						
FIA0	**FINESS Array S**	**3.97**	**214**	Pn	**Pn**	**09 01 34.1**	**+0.5**
FIA0	baz=30,slow=14			Pg	**Pb**	**09 01 41.8**	**-0.6**
FIA0	baz=22,slow=16			Sn	**Sn**	**09 02 20.6**	**-0.2**
FIA0	baz=39,slow=22			Sg	**Sb**	**09 02 34.8**	**+3.9**
FIA0	baz=34,slow=28						
HARU	**Harads**	**4.29**	**293**	P	**Pn**	**09 01 38.9**	**+0.9**
UMAU	**Umeaa**	**4.46**	**263**	P	**Pn**	**09 01 39.4**	**-0.9**
HEF	**Hetta**	**4.59**	**325**	Pn	**Pn**	**09 01 43.3**	**+1.2**
HEF				Pg	**Pb**	**09 01 53.2**	**+0.4**
HEF				Sn	**Sn**	**09 02 36.3**	**+0.2**
HEF				Lg	Lg	09 02 51.7	
HEF	**Hetta**	**4.59**	**325**	Pn	**Pn**	**09 01 43.3**	**+1.2**
HEF				Pg	**Pb**	**09 01 53.2**	**+0.4**
HEF				Sn	**Sn**	**09 02 36.3**	**+0.2**
HEF				Sg	**Sb**	**09 02 51.7**	**+3.1**
LILU	**Lilltraesk**	**4.63**	**281**	P	**Pn**	**09 01 42.7**	**0.0**
ARA0	**ARCESS Array S**	**5.17**	**339**	Pn	**Pn**	**09 01 49.8**	**-0.3**
ARA0	baz=152,slow=14			Sn	**Sn**	**09 02 46.9**	**-3.5**
ARA0	baz=157,slow=28			Lg	Lg	09 03 08.3	
ARA0	baz=156,slow=37						
ARA0	**ARCESS Array S**	**5.17**	**339**	Pn	**Pn**	**09 01 49.8**	**-0.3**
ARA0	baz=152,slow=14			Sn	**Sn**	**09 02 46.9**	**-3.5**
ARA0	baz=157,slow=28			Sg	**Sb**	**09 03 08.3**	**+2.9**
ARA0	baz=156,slow=37						
KEV	**Kevo**	**5.18**	**346**	Pn	**Pn**	**09 01 49.8**	**-0.4**
KEV				Sn	**Sn**	**09 02 47.7**	**-2.9**
KEV	**Kevo**	**5.18**	**346**	Pn	**Pn**	**09 01 49.8**	**-0.4**
KEV				Sn	**Sn**	**09 02 47.7**	**-2.9**
HUSU	**Husum**	**5.26**	**259**	P	**Pn**	**09 01 51.8**	**+0.6**

*IDC **29** 09:34:27.4±0.9, 10°.32N×127°.20E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.8/36, mbtmp3.9/9, MS2.8/5, Ms1 2.9/5, ms1mx2.5/46, Error ellipse: s-maj=45.6km s-min=17.5km az=71.0*
*ISCJB **29** 09:34:28.9±2.9, 10°.38N±0°.05×127°.12E±0°.06, h18km±21km, mb3.9/9, MS2.9/3, Error ellipse: s-maj=10.2km s-min=8.6km az=179.7*
*MAN **29** 09:34:30.2, 10°.62N×126°.53E, h190km, mb4.4, ML3.2, MS3.0*
ISC 29 09:34:30.7±2.6, 10°.48N±0°.05×126°.92E±0°.08, h16km±15km, n21, σ1°82/23, mb4.0/9, MS2.9/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.57**	**244**	*e*P	Pg	09 35 07.1	+6.2
SCPH				*e*S	**Sg**	**09 35 24.0**	**+2.7**
BESP	**Borongan**	**1.83**	**308**	*e*P	**Pb**	**09 35 03.0**	**-0.9**
BESP				*e*S	**Sg**	**09 35 29.1**	**-0.8**
BUTP	**Butuan**	**1.97**	**221**	*e*P	**Pn**	**09 35 02.0**	**-1.4**
BUTP				*e*S	**Sn**	**09 35 26.2**	**-1.6**
PLP	**Palo**	**2.03**	**290**	*e*P	**Pn**	**09 35 05.3**	**+1.1**
PLP				*e*S	**Sb**	**09 35 31.1**	**-1.1**
MSLP	**Maasin**	**2.06**	**261**	*e*P	**Pb**	**09 35 06.7**	**-0.9**
MSLP				*e*S	**Sb**	**09 35 33.2**	**+0.1**
LLP	**Lapu-Lapu**	**2.91**	**267**	*e*P	**Pn**	**09 35 13.8**	**-2.6**
LLP				*e*S	**Sn**	**09 35 49.5**	**-1.6**
BUKP	**Musuan**	**3.17**	**216**	*e*P	**Pn**	**09 35 21.0**	**+1.0**
BUKP				*e*S	**Sn**	**09 36 00.2**	**+2.8**
DAV	**Davao City (W)**	**3.63**	**201**	LR	LR	09 37 15.1	
DDMP	**Don Marcelino,**	**4.50**	**195**	*e*P	Sn	09 36 18.6	-12
GUMO	**Guam**	**17.82**	**78**	LR	LR	09 44 02.2	
JHJ	**Hachijo jima 2**	**25.46**	**26**	LR	LR	09 50 14.2	
KSRS	**Korea Array**	**26.88**	**2**	P	**P**	**09 40 11.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**28.20**	**290**	P	**P**	**09 40 24.8**	**+1.8**
CMAR				LR	LR	09 51 48.2	
WRA	**Warrmunga Arr**	**31.10**	**166**	P	**P**	**09 40 45.1**	**-3.4**
ASAR	**Alice Springs**	**34.61**	**169**	P	**P**	**09 41 17.0**	**-2.3**
ASAR				PcP	**PcP**	**09 43 53.0**	**-0.7**
SONM	**Songino Array**	**41.05**	**339**	P	**P**	**09 42 13.3**	**-0.2**
MKAR	**Makanchi Array**	**52.25**	**322**	P	**P**	**09 43 43.8**	**+2.5**
ILAR	**Eielson Array**	**78.98**	**26**	LR	LR	10 27 15.1	
ARCES	**ARCESS Array B**	**84.22**	**340**	P	**P**	**09 47 02.0**	**+0.8**
BRTR	**Keskin Array B**	**85.90**	**309**	P	**P**	**09 47 10.9**	**+0.5**
FINES	**FINESS Array B**	**86.01**	**332**	P	**P**	**09 47 10.6**	**+0.4**

*ISK **29** 09:34:43.4, 37°.13N×37°.21E, h2km, ML2.0/4*
*ISCJB **29** 09:34:45.3±0.7, 37°.06N±0°.04×37°.23E±0°.04, h10km, Error ellipse: s-maj=5.3km s-min=4.0km az=162.8*
*DDA **29** 09:34:45.7, 37°.13N×37°.24E, h7km±4km, ML2.6*
ISC 29 09:34:44.9±0.9, 37°.11N±0°.04×37°.22E±0°.03, h10km, n15, σ1°40/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.07**	**355**	PG	**Pg**	**09 34 44.6**	**-2.6**
GAZ				SG	**Sg**	**09 34 45.4**	**-3.5**
HCB	**Kahramanmara**	**0.34**	**314**	*i* P	**Pg**	**09 34 51.6**	**-0.2**
HCB				*i* S	**Sb**	**09 34 59.6**	**+0.9**
KUZU	**Kuzuini**	**0.35**	**199**	*i* P	**Pb**	**09 34 53.9**	**+0.6**
KUZU				*i* S	**Sb**	**09 35 00.6**	**+1.7**
GZT	**Gaziantep**	**0.37**	**48**	*i* P	**Pb**	**09 34 52.8**	**-0.9**
GZT				*i* S	**Sg**	**09 34 57.4**	**+0.1**
KAMA	**Osmaniye**	**0.45**	**280**	*i* P	**Pb**	**09 34 54.2**	**-0.8**
KAMA				*i* S	**Sb**	**09 35 00.9**	**-0.8**
AYKD	**Aykdinkavak**	**0.45**	**313**	*i* P	**Pb**	**09 34 54.8**	**-0.2**
AYKD				*i* S	**Sb**	**09 35 01.5**	**-0.3**
KMRS	**Kahramanmaras**	**0.47**	**328**	PG	**Pg**	**09 34 53.3**	**-0.9**
ANDN	**Andirin**	**0.84**	**304**	IAML_P			
	comp=Z,1μm,0.3s						
ANDN				*i* P	**Pn**	**09 35 03.7**	**+0.7**
ANDN				*i* S	**Sn**	**09 35 15.5**	**+0.1**
ATAB	**Bozova**	**0.93**	**67**	IAML_P			
	comp=Z,2μm,0.3s						
ATAB				*i* P	**Pn**	**09 35 04.0**	**-0.1**
ATAB				*i* S	**Sn**	**09 35 17.9**	**+0.4**
TAHT	**Tahtakopru-Hat**	**1.10**	**229**	PN	**Pb**	**09 35 05.5**	**-0.6**
TAHT				SN	**Sn**	**09 35 21.9**	**+0.2**
KOZT	**Kozan**	**1.17**	**289**	PN	**Pb**	**09 35 06.5**	**-0.8**
ELBS	**KAHRAMANMARAS**	**1.22**	**357**	IAML_P			
	comp=Z,264nm,0.2s						
ELBS				*i* P	**Pg**	**09 35 09.1**	**+0.8**
ELBS				*i* S	**Sn**	**09 35 27.8**	**+3.0**
SAIM	**ADANA**	**1.25**	**314**	IAML_P			
	comp=Z,308nm,0.2s						
SAIM				*i* P	**Pg**	**09 35 09.6**	**+0.6**
SAIM				*i* S	**Sn**	**09 35 27.7**	**+2.1**
AKCD	**Akcadag**	**1.31**	**25**	IAML_P			
	comp=Z,669nm,0.3s						
AKCD				*i* P	**Pg**	**09 35 10.9**	**+0.8**
AKCD				*i* S	**Sn**	**09 35 29.1**	**+2.0**
URFA	**Urfa**	**1.32**	**75**	PN	**Pg**	**09 35 09.6**	**-0.7**

*ISCJB **29** 09:57:55.5±0.8, 5°.0S±0°.1×151°.5E±0°.2, h129km, mb3.8/10, Error ellipse: s-maj=22.1km s-min=14.7km az=13.1*
*IDC **29** 09:58:00.8±3.9, 5°.13S×151°.49E, h168km±36km, mb3.6/10, mb1 3.7/11, mb1mx3.4/35, mbtmp4.0/11, Error ellipse: s-maj=25.0km s-min=21.1km az=104.0*
ISC 29 09:57:56.6±0.9, 5°.0S±0°.1×151°.6E±0°.2, h129km, n12, σ1°26/12, mb3.8/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.21**	**225**	P	**Pn**	**09 59 27.9**	**+1.9**
	3.1nm,0.3s,baz=65,slow=11,SNR=6.8						
DZM	**Mont Dzumac**	**22.26**	**141**	P	**P**	**10 02 44.0**	**+0.7**
	19nm,1.0s,baz=306,slow=17,SNR=4.9						
WRA	**Warramunga Arr**	**22.42**	**227**	P	**P**	**10 02 43.7**	**-1.2**
	1.8nm,0.3s,baz=50,slow=8.8,SNR=44						
ASAR	**Alice Springs**	**25.20**	**221**	P	**P**	**10 03 10.4**	**-0.1**
	1.2nm,0.6s,baz=55,slow=8.9,SNR=21						
STKA	**Stephens Creek**	**28.34**	**198**	P	**P**	**10 03 37.9**	**-0.6**
	0.5nm,0.3s,baz=24,slow=10.0,SNR=3.4						
FITZ	**Fitzroy Crossi**	**28.50**	**241**	P	**P**	**10 03 38.7**	**-1.4**
	1.5nm,0.3s,baz=62,slow=7.7,SNR=15						
SONM	**Songino Array**	**65.84**	**328**	P	**P**	**10 08 30.1**	**+1.7**
	0.9nm,0.6s,baz=142,slow=4.8,SNR=6.6						
MKAR	**Makanchi Array**	**79.67**	**319**	P	**P**	**10 09 50.4**	**+0.4**
	0.4nm,0.5s,baz=102,slow=6.5,SNR=5.0						
ZALV	**Zalesovo Beam**	**80.64**	**327**	P	**P**	**10 09 54.6**	**-0.3**
	0.9nm,0.3s,baz=115,slow=6.7,SNR=3.1						
ILAR	**Eielson Array**	**82.79**	**22**	P	**P**	**10 10 06.0**	**0.0**
	0.5nm,0.6s,baz=248,slow=4.8,SNR=8.7						
KURBB	**Kurchatov Arra**	**83.20**	**322**	P	**P**	**10 10 07.8**	**-0.7**
	0.7nm,0.6s,baz=102,slow=3.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.21**	**287**	PKPbc	**PKPbc**	**10 17 29.5**	**-1.7**
	1.6nm,0.6s,baz=83,slow=3.1,SNR=11						

*ISCJB **29** 10:03:52.0±0.5, 15°.88N±0°.07×145°.4E±0°.1, h250km, mb3.9/19, Error ellipse: s-maj=17.3km s-min=9.0km az=1.0*
*IDC **29** 10:03:53.0±0.8, 15°.80N×145°.47E, h251km±8km, mb3.7/19, mb1 3.8/20, mb1mx3.6/50, mbtmp4.2/20, Error ellipse: s-maj=16.1km s-min=11.5km az=76.0*
ISC 29 10:03:53.0±0.7, 15°.83N±0°.09×145°.5E±0°.2, h250km, n21, σ0°89/24, mb3.9/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.29**	**194**	P	**Pn**	**10 04 39.3**	**+1.0**
	33nm,0.3s,baz=138,slow=0.5,SNR=23						
GUMO				S	**S**	**10 05 14.0**	**-0.1**
	51nm,0.3s,baz=21,slow=22,SNR=17						
JOW	**Kunigami**	**19.37**	**307**	P	**P**	**10 08 00.2**	**-0.2**
	0.6nm,0.3s,baz=118,slow=16,SNR=7.0						
JNU	**Nakatsue**	**21.70**	**325**	P	**P**	**10 08 23.9**	**-0.3**
	4.6nm,0.5s,baz=184,slow=5.4,SNR=8.1						
KSRS	**Korea Array**	**26.55**	**328**	P	**P**	**10 09 08.2**	**+0.2**
	4.1nm,0.5s,baz=144,slow=9.1,SNR=19						
WRA	**Warramunga Arr**	**37.19**	**197**	P	**P**	**10 10 40.4**	**-0.2**
	1.3nm,0.5s,baz=21,slow=9.8,SNR=20						
ASAR	**Alice Springs**	**40.84**	**196**	P	**P**	**10 11 10.5**	**-0.3**
	0.7nm,0.6s,baz=17,slow=13,SNR=11						
ASAR				ScP	**ScP**	**10 16 29.4**	**-2.7**
	0.6nm,0.8s,baz=22,slow=3.7,SNR=5.2						
CMAR	**Chiang Mai Arr**	**44.43**	**280**	P	**P**	**10 11 40.0**	**+0.3**
	1.1nm,0.5s,baz=81,slow=6.0,SNR=4.5						
SONM	**Songino Array**	**45.26**	**323**	P	**P**	**10 11 46.9**	**+0.9**
	1.4nm,0.6s,baz=141,slow=8.4,SNR=8.7						
SONM				PcP	**PcP**	**10 13 21.4**	**+0.1**
	0.6nm,0.6s,baz=37,slow=2.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**60.16**	**324**	P	**P**	**10 13 34.4**	**0.0**
	1.2nm,0.4s,baz=104,slow=9.2,SNR=4.5						
MKAR	**Makanchi Array**	**60.30**	**315**	P	**P**	**10 13 36.3**	**+0.8**
	5.5nm,0.4s,baz=91,slow=8.4,SNR=67						
KURBB	**Kurchatov Arra**	**63.31**	**319**	P	**P**	**10 13 55.7**	**+0.3**
	14nm,0.7s,baz=99,slow=6.8,SNR=68						
ILAR	**Eielson Array**	**66.32**	**26**	P	**P**	**10 14 13.9**	**-0.6**
	0.9nm,0.3s,baz=252,slow=5.8,SNR=26						
BVAR	**Borovoye Array**	**68.54**	**321**	P	**P**	**10 14 28.9**	**+0.3**
	4.5nm,0.6s,baz=96,slow=8.2,SNR=28						
INK	**Inuvik**	**72.10**	**23**	P	**P**	**10 14 49.6**	**-0.1**
	1.4nm,0.7s,baz=282,slow=7.6,SNR=8.1						
YKA	**Yellowknife Ar**	**80.62**	**28**	P	**P**	**10 15 38.0**	**+0.3**
	1.0nm,0.5s,baz=289,slow=5.3,SNR=14						
NVAR	**Mina Array Bea**	**85.09**	**52**	P	**P**	**10 16 02.9**	**+1.5**
	0.9nm,0.5s,baz=270,slow=5.4,SNR=4.3						
ARCES	**ARCESS Array B**	**85.14**	**342**	P	**P**	**10 15 59.8**	**-0.9**
	1.4nm,0.6s,baz=60,slow=7.2,SNR=9.5						
KBZ	**Khabaz**	**88.00**	**315**	P	**P**	**10 16 15.2**	**+0.3**
	0.9nm,0.4s,baz=55,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**89.38**	**335**	P	**P**	**10 16 19.8**	**-1.3**
	1.7nm,0.5s,baz=46,slow=5.5,SNR=8.9						
PDAR	**Pinedale Array**	**90.00**	**45**	P	**P**	**10 16 24.9**	**+0.2**
	0.2nm,0.5s,baz=255,slow=2.7,SNR=3.1						
BRTR	**Keskin Array B**	**95.93**	**314**	P	**P**	**10 16 50.8**	**-1.1**
	0.6nm,0.7s,baz=115,slow=5.9,SNR=4.0						

*KRAR **29** 10:13:29.9±0.1, 53°.63N×87°.91E, M2.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC 29 10:13:27.4±2.9, 53°.55N×88°.10E, h0km, mb1 3.2/2, mb1mx3.0/49, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=27.2km s-min=18.9km az=78.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**283**	*i*		10 25 40.2	
	baz=102,slow=339,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.99**	**283**	Pn	Pn	10 14 01.4	-0.9
	8.1nm,0.3s,baz=100,slow=14,SNR=28						
ZALV				Pg	Pb	10 14 04.9	+0.5
	8.1nm,0.3s,baz=96,slow=16,SNR=30						
ZALV				Sn	Sn	10 14 27.7	-0.2
	5.5nm,0.3s,baz=102,slow=27,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.59**	**247**	Pn	Pn	10 15 05.4	0.0
	0.2nm,0.3s,baz=61,slow=14,SNR=6.1						
KURBB				Sn	Sn	10 16 20.8	-0.3
	0.1nm,0.3s,baz=69,slow=25,SNR=3.0						
KURBB				Lg	Lg	10 16 56.1	
	0.1nm,0.3s,baz=60,slow=30,SNR=4.9						
MKAR	**Makanchi Array**	**7.72**	**211**	Pn	Pn	10 15 22.4	+1.4
	0.1nm,0.3s,baz=28,slow=13,SNR=3.0						
MKAR				Sn	Sn	10 16 53.1	+4.0
	0.1nm,0.3s,baz=38,slow=26,SNR=3.4						
MKAR				Lg	Lg	10 17 33.0	
	0.2nm,0.3s,baz=31,slow=30,SNR=7.8						

IDC 29 10:15:06.7±3.1, 53°.54N×87°.78E, h0km, mb1 3.0/2, mb1mx2.9/54, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=28.4km s-min=21.7km az=87.0, Southwestern Siberia

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

3.8nm,0.3s,baz=105,slow=27,SNR=6.8
KURBB Kurchatov Arra 6.41 247 Pn Pn 10 16 42.8 +0.6
0.1nm,0.3s,baz=62,slow=14,SNR=4.9
KURBB Sn Sn 10 17 55.1 -0.9
0.1nm,0.3s,baz=64,slow=25,SNR=3.3
KURBB Lg Lg 10 18 30.6
0.1nm,0.3s,baz=61,slow=33,SNR=3.7
MKAR Makanchi Array 7.62 210 Pn Pn 10 17 00.2 +1.3
0.1nm,0.3s,baz=28,slow=13,SNR=3.6
MKAR Lg Lg 10 19 08.0
0.1nm,0.3s,baz=21,slow=32,SNR=3.9

*ISCJB **29** 10:25:55.9±0.5, 42°.67N±0°.05×143°.45E±0°.06, h116km±3km, mb3.6/7, Error ellipse: s-maj=8.5km s-min=5.7km az=140.1*
*IDC **29** 10:25:56.1±2.4, 42°.71N×143°.70E, h109km±15km, mb3.4/8, mb1 3.4/9, mb1mx3.1/63, mbtmp3.7/9, MS3.0/3, Ms1 3.0/3, ms1mx2.4/27, Error ellipse: s-maj=25.2km s-min=18.0km az=142.0*
*JMA **29** 10:25:57.6±0.1, 42°.69N×143°.36E, h104km±1km, M3.1*
ISC 29 10:25:56.5±0.8, 42°.67N±0°.05×143°.45E±0°.05, h113km±6km, n32, σ0°92/38, mb3.5/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	**0.08**	**231**	P	**Pn**	**10 26 11.9**	**-0.1**
JCH				S	**Sn**	**10 26 22.5**	**-1.2**
JOB	**Onbets**	**0.37**	**50**	P	**Pn**	**10 26 13.6**	**+0.7**
JOB				S	**Sn**	**10 26 25.9**	**+0.6**
JTHR	**Tokachihiroo**	**0.39**	**196**	P	**Pn**	**10 26 13.1**	**+0.1**
JTHR				S	**Sn**	**10 26 24.7**	**-0.7**
JNBK	**Urakawa-nobuka**	**0.64**	**233**	P	**Pn**	**10 26 15.3**	**+0.6**
JNBK				S	**Sn**	**10 26 28.7**	**+0.4**
JAR	**Ashorobuto**	**0.67**	**20**	P	**Pn**	**10 26 15.3**	**+0.4**
JAR				S	**Sn**	**10 26 28.8**	**0.0**
JEM	**Erimo**	**0.69**	**198**	P	**Pn**	**10 26 16.0**	**+1.0**
JBT2	**Biratori 2**	**0.81**	**278**	P	**Pn**	**10 26 15.9**	**-0.1**
JBT2				S	**Sn**	**10 26 30.2**	**-0.6**
JAK	**Akkeshi**	**0.98**	**70**	P	**Pn**	**10 26 18.2**	**+0.6**
JAK				S	**Sn**	**10 26 34.0**	**+0.4**
JAB	**Ashibetsu**	**1.23**	**313**	P	**Pn**	**10 26 20.5**	**+0.2**
JNK	**Nakash**	**1.31**	**45**	P	**Pn**	**10 26 21.6**	**+0.4**
JNK				S	**Sn**	**10 26 40.0**	**0.0**
JKK2	**Kamakawa 2**	**1.31**	**337**	P	**Pn**	**10 26 21.5**	**+0.2**
JMP	**Maruseppu**	**1.34**	**357**	P	**Pn**	**10 26 22.0**	**+0.3**
JMP				S	**Sn**	**10 26 40.7**	**-0.1**
JTKR	**Abashiri--Toko**	**1.35**	**14**	P	**Pn**	**10 26 22.0**	**+0.3**
JTKR				S	**Sn**	**10 26 40.8**	**0.0**
ASAJ	**Asahikawa**	**1.58**	**337**	P	**Pn**	**10 26 24.8**	**+0.4**
	10nm,0.3s,baz=162,slow=15,SNR=59						
ASAJ				S	**Sn**	**10 26 45.8**	**+0.2**
	5.2nm,0.3s,baz=238,slow=30,SNR=9.3						
JRA	**Rausu**	**1.76**	**43**	P	**Pn**	**10 26 27.6**	**+1.0**
JRA				*e*S	**Sn**	**10 26 51.8**	**+2.2**
NEM2	**Nemuro 2**	**1.82**	**67**	P	**Pn**	**10 26 27.3**	**0.0**
NEM2				*e*S	**Sn**	**10 26 49.9**	**-1.0**
MJAR	**Matsushiro Arr**	**7.33**	**215**	P	**Pn**	**10 27 42.0**	**+1.1**
	0.1nm,0.3s,baz=30,slow=12,SNR=5.2						
MJAR				LR	LR	10 31 10.5	
	comp=Z,30nm,19.5s,baz=195,slow=42						
SEY	**Seymchan**	**20.97**	**11**	P	**P**	**10 30 28.1**	**-2.1**
	2.0nm,0.6s,baz=184,slow=14,SNR=9.1						
SONM	**Songino Array**	**26.41**	**294**	P	**P**	**10 31 23.9**	**+1.4**
	0.7nm,0.7s,baz=92,slow=8.9,SNR=3.6						
SONM				LR	LR	10 41 59.6	
	comp=Z,46nm,19.9s,baz=130,slow=36						
H11N2	**WAKE ISLAND Hy 30.23**	**132**		T	T	11 03 33.1	
	baz=326,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy 30.24**	**132**		T	T	11 03 35.5	
	baz=326,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy 30.25**	**132**		T	T	11 03 40.6	
	baz=326,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy 31.12**	**134**		T	T	11 04 42.5	
	baz=328,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy 31.12**	**134**		T	T	11 04 43.9	
	baz=328,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy 31.13**	**134**		T	T	11 04 44.6	
	baz=328,slow=76,SNR=10						
ZALV	**Zalesovo Beam**	**39.50**	**307**	P	**P**	**10 33 16.5**	**+0.8**
	1.2nm,0.4s,baz=70,slow=6.3,SNR=3.5						
MKAR	**Makanchi Array**	**42.68**	**297**	P	**P**	**10 33 42.6**	**+0.7**
	0.4nm,0.6s,baz=83,slow=7.7,SNR=3.6						
ILAR	**Eielson Array**	**43.95**	**35**	P	**P**	**10 33 49.8**	**-2.0**
	0.2nm,0.5s,baz=269,slow=6.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**43.97**	**304**	P	**P**	**10 33 53.6**	**+1.5**
	1.7nm,0.5s,baz=72,slow=8.7,SNR=5.6						
INK	**Inuvik**	**48.69**	**29**	P	**P**	**10 34 29.5**	**+0.7**
	0.4nm,0.6s,baz=286,slow=5.3,SNR=4.2						
RES	**Resolute Bay**	**56.76**	**16**	P	**P**	**10 35 27.1**	**-0.9**
	1.5nm,0.8s,baz=310,slow=9.0,SNR=4.4						
FINES	**FINESS Array B**	**64.58**	**332**	LR	LR	11 10 09.6	
	comp=Z,22nm,19.1s,baz=187,slow=41						

MAN 29 10:27:19.6, 18°.93N×121°.30E, h4km, mb4.3, ML3.1, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**1.06**	**183**	*e*P	Pg	10 27 40.0	0.0
APYP				*e*S	Sn	10 27 58.5	+1.9
CVP	**Callao Caves**	**1.32**	**158**	↓*i*P	Pb	10 27 45.0	0.0
CVP				*i* S	Sn	10 28 03.4	+0.5
ABRA	**Dolores**	**1.39**	**204**	*e*P	Pn	10 27 43.7	-2.1
ABRA				*e*S	Sn	10 28 04.9	+0.2
CAUP	**Cauayan**	**2.04**	**166**	*e*P	Pb	10 27 58.0	+0.7
CAUP				*e*S	Sg	10 28 32.5	+7.4
PALP	**Palanan**	**2.15**	**150**	*e*P	Pg	10 28 07.8	+7.0
PALP				*e*S	Sg	10 28 27.9	-0.8
SMPP	**San Manuel, Pa**	**2.83**	**192**	*e*P	Pn	10 28 04.8	-0.8
SMPP				*e*S	Sb	10 28 45.7	0.0
BOLP	**Bolinao**	**2.86**	**208**	*e*P	Pn	10 28 07.2	+1.2
BOLP				*e*S	Sb	10 28 46.7	+0.1
BALP	**Baler**	**3.18**	**175**	*e*P	Pn	10 28 10.9	+0.4

*ISK **29** 10:29:01.9, 41°.40N×35°.92E, h4km, ML2.2/8*
*DDA **29** 10:29:02.0, 41°.36N×35°.90E, h7km±3km, ML2.8*
ISC 29 10:29:02.3±1.1, 41°.40N±0°.04×35°.89E±0°.04, h14km±11km, n13, σ0°80/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KVT	**Kavak**	**0.34**	**159**	PG	**Pg**	**10 29 08.8**	**-0.4**
KVT				SG	**Sg**	**10 29 14.5**	**+0.6**
HAVZ	**Havza**	**0.35**	**201**	*i* P	**Pg**	**10 29 08.1**	**-1.3**
HAVZ				*i* S	**Sg**	**10 29 14.6**	**+0.4**
DIKM	**Dikmen**	**0.53**	**298**	PG	**Pb**	**10 29 13.4**	**-0.1**
DIKM				SG	**Sb**	**10 29 21.9**	**+0.8**
SNOP	**Sinop**	**0.80**	**321**	PG	**Pb**	**10 29 18.4**	**+0.3**
SNOP				SG	**Sn**	**10 29 30.3**	**-0.7**
SINO	**SINOP_Merkez**	**0.80**	**321**	*i* P	**Pn**	**10 29 19.0**	**-0.3**
ERBA	**Erbaa**	**0.97**	**137**	*i* P	**Pb**	**10 29 20.6**	**-0.3**
TOKT	**Tokat**	**1.19**	**155**	PN	**Pg**	**10 29 25.3**	**+0.1**
COAL	**Corum-Alaca**	**1.33**	**211**	IAML_P			
	comp=Z,187nm,0.2s						
COAL				*i* P	**Pn**	**10 29 26.4**	**-0.2**
COAL				*i* S	**Sg**	**10 29 47.0**	**+1.7**
BZK	**Bozkurt**	**1.52**	**292**	PN	**Pg**	**10 29 30.9**	**-0.5**
ORDU	**Ordu-Boztepe**	**1.54**	**105**	*i* P	**Pg**	**10 29 31.4**	**-0.5**
ORDU				*i* S	**Sg**	**10 29 53.2**	**+1.2**
CORM	**Corum**	**1.55**	**218**	PN	**Pb**	**10 29 31.3**	**+0.5**
SVSK	**Karacayir**	**1.71**	**150**	PN	**Pb**	**10 29 33.3**	**-0.1**
YOZ	**Yozgat**	**1.81**	**194**	PN	**Pb**	**10 29 34.9**	**-0.4**

ISC 29 10:29:08.8±1.3, 48°.78N±0°.06×18°.08E±0°.04, h9km±13km, n5, σ0°48/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVC	**Velka Javorina**	**0.28**	**287**	*e*PG	**Pg**	**10 29 14.9**	**+0.4**
JAVC				*e*SG	**Sb**	**10 29 20.2**	**-0.8**
VYHS	**Vyhne**	**0.57**	**119**	*e*PG	**Pg**	**10 29 20.0**	**+0.1**
VYHS				*e*SG	**Sb**	**10 29 29.0**	**-0.3**
MODS	**Modra-Piesok**	**0.67**	**233**	*e*PG	**Pb**	**10 29 21.6**	**-0.1**
MODS				*e*SG	**Sb**	**10 29 32.0**	**0.0**
MORC	**Moravsky Berou**	**1.06**	**341**	*e*PG	**Pb**	**10 29 28.6**	**+0.2**
MORC				*e*SG	**Sg**	**10 29 42.5**	**-0.5**
VRAC	**Vranov**	**1.11**	**299**	*e*PG	**Pb**	**10 29 30.3**	**+0.1**
VRAC				*e*SG	**Sn**	**10 29 46.5**	**+0.4**

*ISCJB **29** 10:48:56.6±0.5, 25°.08S±0°.03×69°.99W±0°.09, h77km±7km, mb3.5/3, Error ellipse: s-maj=13.0km s-min=4.6km az=4.4*
*GUC **29** 10:48:56.9±0.5, 25°.08S×69°.97W, h64km±7km, ML3.9*
*IDC **29** 10:48:59.6±1.7, 25°.09S×69°.82W, h87km±15km, mb3.3/3, mb1 3.7/8, mb1mx3.5/26, mbtmp3.8/8, Error ellipse: s-maj=32.9km s-min=11.1km az=93.0*
ISC 29 10:48:57.4±0.9, 25°.07S±0°.04×70°.06W±0°.08, h70km±9km, n27, σ0°88/33, mb3.7/3, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**0.54**	**325**	*e*P	**Pn**	**10 49 10.6**	**-0.3**
PB14				*e*S	**Sn**	**10 49 20.9**	**0.0**
PB14				IAML		10 49 23.0	
	comp=N,6μm,0.3s						
PB10	**IPOC Station P**	**1.61**	**344**	*e*P	**Pn**	**10 49 23.7**	**-0.2**
PB10				*e*S	**Sn**	**10 49 44.7**	**+0.8**
PB10				IAML		10 49 50.5	
	comp=E,2μm,0.2s						
PB15	**IPOC Station P**	**1.93**	**16**	*e*P	**Pn**	**10 49 28.2**	**-0.1**
PB15				*e*S	**Sn**	**10 49 51.8**	**0.0**
PB05	**IPOC Station P**	**2.21**	**357**	*e*P	**Pn**	**10 49 30.9**	**-1.2**
PB05				*e*S	**Sn**	**10 49 59.3**	**+0.9**
PB05				IAML		10 50 05.3	
	comp=E,834nm,0.2s						
PB06	**IPOC Station P**	**2.40**	**11**	*e*P	**Pn**	**10 49 34.5**	**-0.1**
PB06				*e*S	**Sn**	**10 50 03.8**	**+0.8**
PB06				IAML		10 50 14.6	
	comp=N,952nm,0.3s						
GO03	**Copiap**	**2.52**	**184**	*e*P	**Pn**	**10 49 36.4**	**+0.3**
GO03				*e*S	**Sn**	**10 50 06.5**	**+0.8**
GO03				IAML		10 50 16.0	
	comp=N,562nm,0.6s						
LVC	**Limon Verde**	**2.67**	**23**	*e*P	**Pn**	**10 49 38.0**	**-0.4**
LVC				*e*S	**Sn**	**10 50 09.9**	**+0.1**
LVC	**Limon Verde**	**2.67**	**23**	P	**Pn**	**10 49 39.8**	**+1.4**
	comp=N,8.9nm,0.3s,baz=158,slow=8.1,SNR=43						
LVC				S	**Sn**	**10 50 11.8**	**+2.0**
	comp=N,64nm,0.3s,baz=109,slow=22,SNR=14						
PB04	**IPOC Station P**	**2.73**	**358**	*e*P	**Pn**	**10 49 37.6**	**-1.5**
PB04				*e*S	**Sn**	**10 50 12.3**	**+1.3**
PB03	**IPOC Station P**	**3.02**	**5**	*e*P	**Pn**	**10 49 43.4**	**+0.3**
PB03				*e*S	**Sn**	**10 50 19.0**	**+0.8**
PB03				IAML		10 50 30.6	
	comp=E,675nm,0.5s						
CFA	**Coronel Fontan**	**6.71**	**167**	P	**Pn**	**10 50 34.0**	**+0.8**
	comp=E,4.8nm,0.3s,baz=247,slow=17,SNR=28						
CFA				S	**Sn**	**10 51 49.3**	**+1.1**
	comp=E,1.8nm,0.3s,baz=117,slow=15,SNR=4.6						
LPAZ	**La Paz**	**8.92**	**12**	P	**Pn**	**10 51 05.0**	**+0.8**
	comp=E,0.2nm,0.3s,baz=225,slow=1.4,SNR=5.6						
SIV	**San Ignacio**	**12.34**	**45**	P	**Pn**	**10 51 49.2**	**-1.1**
	comp=E,3.8nm,0.3s,baz=265,slow=8.0,SNR=61						
SIV				S	**Sn**	**10 54 05.1**	**-1.1**
	comp=E,0.3nm,0.3s,baz=311,slow=20,SNR=4.5						
PLCA	**Paso Flores**	**15.62**	**181**	P	**P**	**10 52 36.4**	**+0.2**
	comp=E,0.2nm,0.3s,baz=20,slow=14,SNR=4.9						
TXAR	**Lajitas Array**	**62.99**	**327**	P	**P**	**10 59 18.1**	**+1.0**
	comp=E,0.2nm,0.7s,baz=150,slow=7.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**79.55**	**70**	P	**P**	**11 00 56.0**	**-1.2**
	comp=E,0.7nm,0.5s,baz=256,slow=4.9,SNR=6.9						
YKA	**Yellowknife Ar**	**94.19**	**341**	P	**P**	**11 02 08.3**	**+0.3**
	comp=E,0.2nm,0.7s,baz=135,slow=5.1,SNR=6.6						
ASAR	**Alice Springs**	**126.27**	**208**	PKP	**PKPdf**	**11 07 52.6**	**-0.2**
	comp=E,0.4nm,0.5s,baz=132,slow=1.6,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**127.20**	**275**	T	T	13 27 55.1	
	baz=107,slow=74,SNR=41						
H11S1	**WAKE ISLAND Hy**	**127.21**	**275**	T	T	13 27 48.0	
	baz=107,slow=74,SNR=22						
H11S3	**WAKE ISLAND Hy**	**127.21**	**275**	T	T	13 27 56.5	
	baz=107,slow=74,SNR=29						
H11N3	**WAKE ISLAND Hy**	**127.38**	**276**	T	T	13 28 04.3	
	baz=166,slow=74						
H11N1	**WAKE ISLAND Hy**	**127.39**	**276**	T	T	13 28 08.0	
H11N2	**WAKE ISLAND Hy**	**127.39**	**276**	T	T	13 28 05.4	
	baz=108,slow=74						
WRA	**Warramunga Arr**	**129.35**	**210**	PKP	**PKPdf**	**11 07 58.7**	**0.0**
	comp=E,0.5nm,0.4s,baz=182,slow=1.7,SNR=8.5						
ZALV	**Zalesovo Beam**	**145.61**	**26**	PKPbc	**PKPbc**	**11 08 27.6**	**0.0**
	comp=E,0.7nm,0.3s,baz=316,slow=4.1,SNR=3.6						
MKAR	**Makanchi Array**	**149.10**	**38**	PKPbc	**PKPbc**	**11 08 37.5**	**-0.1**
	comp=E,0.6nm,0.6s,baz=315,slow=2.2,SNR=7.2						

MEX 29 10:51:16.4±0.6, 16°.48N×98°.63W, h24km±22km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.07**	**3**	*e*P	Pn	10 51 32.8	-3.3
TLIG				*e*S	Sb	10 51 45.4	-4.7
CAIG	**El Cayaco**	**1.67**	**290**	*i* P	Pn	10 51 42.2	-2.0
CAIG				*i* S	Sn	10 52 01.0	-3.8
HUIG	**Huatulco**	**2.53**	**106**	*e*P	Pn	10 51 54.1	-1.9
HUIG				*i* S	Sn	10 52 23.5	-2.6
CMIG	**Matias Romero**	**3.64**	**80**	*i* P	Pn	10 52 08.7	-2.6
CMIG				*e*S	Sn	10 52 49.9	-3.6

TEH 29 10:52:20.9, 36°.09N×58°.58E, h12km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPAY	**Payeh**	**0.50**	**43**	*e*Pg	Pg	10 52 31.0	+0.3
IPAY				IAMB	IAmb	10 52 38.1	
	comp=Z,0.0nm,0.1s						
IAKL	**Akhelmad**	**0.53**	**16**	*e*Pg	Pg	10 52 31.7	+0.3
IAKL				IAMB	IAmb	10 52 39.3	
	comp=Z,0.0nm,0.2s						
IMOG	**Moghan**	**0.62**	**88**	*e*Pg	Pg	10 52 33.0	0.0
IMOG				IAMB	IAmb	10 52 43.7	
	comp=Z,0.0nm,0.2s						
IKRD	**Kardeh**	**0.69**	**356**	*e*Pg	Pn	10 52 40.9	+4.2
IKRD				IAMB	IAmb	10 52 56.0	
	comp=Z,0.0nm,0.2s						
SBZV	**Sabzevar**	**0.84**	**291**	*e*Pg	Pg	10 52 37.3	+0.2
ISFR	**Strayin**	**1.07**	**334**	*e*Pg	Pb	10 52 41.1	-0.4
IMYA	**Miami**	**1.26**	**78**	*e*Pg	Pb	10 52 44.9	+0.2
IMYA				IAMB	IAmb	10 52 45.2	
	comp=Z,0.0nm,0.2s						
IEMG	**Emamgholi**	**1.33**	**3**	*e*Pg	Pb	10 52 46.1	+0.2
IEMG				IAMB	IAmb	10 53 05.9	
	comp=Z,0.0nm,0.2s						
JRKH	**Jarkhoshk**	**1.45**	**97**	*e*Pg	Pn	10 52 47.4	+0.3
JRKH				IAMB	IAmb	10 52 49.7	
	comp=Z,0.0nm,0.2s						
BJRD	**Bojnurd**	**1.86**	**330**	*e*Pg	Pg	10 52 55.8	-0.8
SHRO	**Shahrood**	**2.08**	**268**	*e*Pn	Pn	10 52 56.8	+1.0
MRVT	**Maraveh tapeh**	**2.54**	**309**	*e*Pn	Pn	10 53 03.8	+1.8
TNSJ	**Nastanj**	**2.66**	**218**	*e*Pn	Pn	10 53 05.4	+1.6
TNSJ				IAMB	IAmb	10 54 01.8	
	comp=Z,0.0nm,0.7s						
TABS	**Tabas**	**2.71**	**207**	*e*Pn	Pn	10 53 06.4	+2.0
TKDS	**Koohdasht(Taba**	**2.74**	**206**	IAMB	IAmb	10 53 54.8	
	comp=Z,0.0nm,0.5s						
TKDS				*e*Pn	Pn	10 53 06.3	+1.4
IMON	**Monand**	**3.03**	**162**	*e*Pn	Pn	10 53 11.6	+2.8
IMON				IAMB	IAmb	10 53 25.5	
	comp=Z,0.0nm,0.2s						
TPRV	**Parvadeh(Tabas**	**3.43**	**208**	*e*Pn	Pn	10 53 16.1	+1.9
TPRV				IAMB	IAmb	10 54 18.5	
	comp=Z,0.0nm,0.4s						
IDAH	**Dahanechah**	**3.51**	**162**	*e*Pn	Pn	10 53 17.7	+2.2

MEX 29 10:57:37.6±0.3, 13°.38N×91°.41W, h15km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.73**	**331**	*i* P	Pn	10 58 03.0	-4.1
THIG				*e*S	Sn	10 58 23.7	-5.3
PCIG		**2.90**	**323**	*i* P	Pn	10 58 20.8	-2.5
PCIG				*e*S	Sn	10 58 53.5	-4.4
CCIG	**Comitan**	**2.97**	**346**	*i* P	Pn	10 58 22.6	-1.8
CCIG				*i* S	Sn	10 58 56.8	-3.1
TGIG		**3.76**	**334**	*i* P	Pn	10 58 32.9	-2.3
TGIG				*e*S	Sn	10 59 16.1	-3.2
CMIG	**Matias Romero**	**4.99**	**318**	*e*P	Pn	10 58 50.4	-1.6
CMIG				*i* S	Sn	10 59 46.4	-3.0

*IDC **29** 10:58:00.6±1.5, 50°.44N×157°.83E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/47, mbtmp3.5/5, ML2.5/1, Error ellipse: s-maj=46.9km s-min=26.0km az=102.0*
*MOS **29** 10:58:04.7±0.8, 50°.51N×157°.73E, h45km, mb4.2/1, Error ellipse: s-maj=22.0km s-min=4.4km az=82.4*
*KRSC **29** 10:58:05.0±10.0, 50°.70N×157°.71E, h60km±10km, ML4.2*
ISC 29 10:58:05.0±2.2, 50°.58N±0°.07×157°.68E±0°.05, h31km±16km, n63, σ1°58/93, mb3.6/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.00**	**277**	*e*P	**Pn**	**10 58 23.7**	**+0.9**
SKR				*e*S	**Sb**	**10 58 36.0**	**-0.6**
SKR	**Severo-Kuril's**	**1.00**	**277**	*e*PN	**Pn**	**10 58 23.8**	**+0.9**
SKR				*e*S	**Sb**	**10 58 35.9**	**-0.6**
SKR				pmax	pmax		
	comp=Z,132nm,0.4s						
SKR				smax	smax		
	comp=E,3μm,0.5s						
SKR				smax	smax		
	comp=N,2μm,0.5s						
PAU	**Pauzhetka**	**1.04**	**329**	*e*P	**Pn**	**10 58 23.8**	**+0.3**
PAU				S	**Sn**	**10 58 35.7**	**-1.3**
PAU	**Pauzhetka**	**1.04**	**329**	PN	**Pn**	**10 58 23.8**	**+0.3**
PAU				S	**Sn**	**10 58 35.7**	**-1.3**
KDTR	**Khodutka, Kamc**	**1.26**	**11**	P	**Pn**	**10 58 27.0**	**+0.6**
KDTR				S	**Sn**	**10 58 41.2**	**-1.1**
KDTR	**Khodutka, Kamc**	**1.26**	**11**	PN	**Pn**	**10 58 27.0**	**+0.6**
KDTR				S	**Sn**	**10 58 41.2**	**-1.1**
ASAK	**Asacha**	**1.81**	**4**	*e*P	**Pn**	**10 58 34.6**	**+0.5**
ASAK				*e*S	**Sn**	**10 58 55.3**	**-0.8**
ASAK	**Asacha**	**1.81**	**4**	PN	**Pn**	**10 58 34.6**	**+0.5**
ASAK				S	**Sn**	**10 58 55.3**	**-0.8**
RUS	**Russkaya**	**1.93**	**15**	*e*P	**Pn**	**10 58 36.1**	**+0.5**
RUS				*e*S	**Sn**	**10 58 56.9**	**-1.9**
RUS	**Russkaya**	**1.93**	**15**	PN	**Pn**	**10 58 36.1**	**+0.5**
RUS				S	**Sn**	**10 58 56.9**	**-1.9**
MTVR	**Mutnovka**	**1.93**	**9**	*e*P	**Pn**	**10 58 36.6**	**+0.7**
MTVR				*e*S	**Sn**	**10 58 58.0**	**-1.2**
MTVR	**Mutnovka**	**1.93**	**9**	PN	**Pn**	**10 58 36.6**	**+0.7**
MTVR				S	**Sn**	**10 58 58.0**	**-1.2**
GRL	**Gorelyy**	**1.99**	**7**	*e*P	**Pn**	**10 58 37.7**	**+1.1**
GRL				*e*S	**Sn**	**10 58 59.8**	**-0.8**
GRL	**Gorelyy**	**1.99**	**7**	PN	**Pn**	**10 58 37.7**	**+1.1**
GRL				S	**Sn**	**10 58 59.8**	**-0.8**
KRMR	**Karymshinskiy**	**2.27**	**7**	*e*P	**Pn**	**10 58 41.6**	**+1.2**
KRMR	**Karymshinskiy**	**2.27**	**7**	PN	**Pn**	**10 58 41.6**	**+1.2**
APC	**Apacha**	**2.37**	**352**	*i* P	**Pn**	**10 58 42.6**	**+0.9**
APC				*e*S	**Sn**	**10 59 08.3**	**-1.4**
APC	**Apacha**	**2.37**	**352**	PN	**Pn**	**10 58 42.6**	**+0.9**
APC				S	**Sn**	**10 59 08.3**	**-1.4**
PET	**Petropavlovsk**	**2.52**	**14**	*e*PN	**Pn**	**10 58 45.0**	**+1.2**
PET				*e*S	**Sn**	**10 59 12.9**	**-0.6**
PET				pmax	pmax		
	comp=Z,30nm,0.3s						
PET				smax	smax		
	comp=N,691nm,0.6s						
PET				smax	smax		
	comp=E,480nm,0.5s						
PETK	**Petropavlovsk-**	**2.53**	**0**	Pn	**Pn**	**10 58 45.0**	**+1.1**
	comp=E,4.5nm,0.3s,baz=168,slow=15,SNR=66						
PETK				Sn	**Sb**	**10 59 19.9**	**-0.6**
	comp=E,5.0nm,0.3s,baz=142,slow=15,SNR=5.1						
DALK	**Dalny**	**2.54**	**15**	*e*P	**Pn**	**10 58 45.4**	**+1.3**
DALK				*e*S	**Sn**	**10 59 13.2**	**-0.8**
DALK	**Dalny**	**2.54**	**15**	PN	**Pn**	**10 58 45.4**	**+1.3**
DALK				S	**Sn**	**10 59 13.2**	**-0.8**
UGLR	**Uglovaya**	**2.73**	**15**	P	**Pn**	**10 58 48.6**	**+1.8**
UGLR				*e*S	**Sn**	**10 59 18.8**	**+0.1**
UGLR	**Uglovaya**	**2.73**	**15**	PN	**Pn**	**10 58 48.6**	**+1.8**
UGLR				S	**Sn**	**10 59 18.8**	**+0.1**
AVH	**Avacha**	**2.77**	**13**	*e*P	**Pn**	**10 58 49.6**	**+2.3**
AVH				*e*S	**Sn**	**10 59 21.1**	**+1.4**
AVH	**Avacha**	**2.77**	**13**	PN	**Pn**	**10 58 49.6**	**+2.3**
AVH				S	**Sn**	**10 59 21.1**	**+1.4**
SMAR	**Somma**	**2.78**	**14**	P	**Pn**	**10 58 49.7**	**+2.2**
SMAR				*e*S	**Sn**	**10 59 21.0**	**+0.9**
SMAR	**Somma**	**2.78**	**14**	PN	**Pn**	**10 58 49.7**	**+2.2**
SMAR				S	**Sn**	**10 59 21.0**	**+0.9**
KOK	**Koryaka**	**2.78**	**12**	*e*P	**Pn**	**10 58 50.0**	**+2.5**
KOK	**Koryaka**	**2.78**	**12**	PN	**Pn**	**10 58 50.0**	**+2.5**
NLC	**Nalytchevo**	**2.79**	**21**	*e*P	**Pn**	**10 58 47.7**	**+0.2**
NLC				*e*S	**Sn**	**10 59 17.5**	**-2.6**
NLC	**Nalytchevo**	**2.79**	**21**	PN	**Pn**	**10 58 47.7**	**+0.2**
SDLR	**Sedlovina**	**2.80**	**15**	*e*P	**Pn**	**10 58 49.1**	**+1.3**
SDLR				*e*S	**Sn**	**10 59 18.5**	**-1.1**
SDLR	**Sedlovina**	**2.80**	**15**	PN	**Pn**	**10 58 49.1**	**+1.3**
SDLR				S	**Sn**	**10 59 19.5**	**-1.1**
KRER	**Koryakskii**	**2.81**	**13**	*e

baz=66,slow=76,SNR=554
WRA Warramunga Arr 44.31 122 P **P 11 13 41.5 +0.3**
1.1nm,0.8s,baz=295,slow=10.0,SNR=4.3
MKAR Makanchi Array 45.40 347 P **P 11 13 49.0 -0.5**
2.4nm,0.5s,baz=160,slow=8.1,SNR=33
ASAR Alice Springs 45.69 127 P **P 11 13 52.1 -0.1**
0.2nm,0.9s,baz=300,slow=8.0,SNR=3.9
SONM Songino Array 45.96 10 P **P 11 13 53.9 -0.1**
0.9nm,0.5s,baz=183,slow=8.7,SNR=3.7
GUMO Guam 50.01 75 LR LR 11 34 55.2
comp=Z,24nm,21.1s,baz=314,slow=35
ZALV Zalesovo Beam 51.83 352 P **P 11 14 38.4 -0.4**
3.7nm,0.5s,baz=172,slow=8.3,SNR=11

EAF 29 11:13:05.6±0.3, 5°.56S×35°.37E, h35km±2km, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOND	**Kondoa**	**0.78**	**33**	*i* P	Pn	11 13 20.2	0.0
KOND				*i* S	Sn	11 13 30.8	0.0
KIBA	**Kibaya**	**1.23**	**78**	*i* P	Pn	11 13 26.4	0.0
KIBA				*i* S	Sn	11 13 41.7	-0.2

*ISCJB **29** 11:25:30.6±0.4, 17°.99S±0°.03×167°.79E±0°.08, h10km, mb4.5/24, MS4.1/20, Error ellipse: s-maj=11.0km s-min=4.7km az=3.4*
*IDC **29** 11:25:30.3±0.7, 17°.83S×167°.92E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.2/40, mbtmp4.3/17, ML3.9/1, MS4.1/19, Ms1 4.1/19, ms1mx4.0/22, Error ellipse: s-maj=24.0km s-min=17.2km az=121.0*
*NEIC **29** 11:25:31.9±1.9, 17°.95S×167°.77E, h10km±1km, mb4.5/14, Error ellipse: s-maj=21.7km s-min=15.6km az=100.0*
*BJI **29** 11:25:32.4±0.0, 17°.38S×168°.24E, h12km, mb4.8/13, mB5.0/9, Ms4.9/3, Ms7 4.6/4*
*GCMT **29** 11:25:37.9±0.3, 17°.80S±0°.03×167°.66E±0°.02, h21km±1km, MW5.0/67, Moment Tensor Solution. s43,c56; s67,c93; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}=2.85±.16; $M_{\theta\theta}$=0.30±.10; $M_{\phi\phi}$=-2.55±.11; $M_{r\theta}$=0.69±.21; $M_{\theta\phi}$=0.50±.07; $M_{r\phi}$=-2.53±.20; Best double couple: M_0=3.80100×10^16 NP1:φs=166.00000°,δ67.00000°,λ88.00000°. NP2: φs=350.00000°,δ23.00000°,λ94.00000°. Principal axes: T 3.9000, Plg68.0000°, Azm73.0000°; N -0.1970, Plg1.0000°, Azm166.0000°; P -3.7030, Plg22.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 11:25:32.3±0.4, 17°.93S±0°.05×167°.71E±0°.08, h10km, n99, σ1§84/99, mb4.5/23, MS4.2/20, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.54**	**175**	*e*Pn	**Pn**	**11 26 27.4**	**0.0**
MARNC				*e*Sn	**Sn**	**11 27 05.6**	**-3.7**
DZM	**Mont Dzumac**	**4.29**	**196**	*e*Pn	**Pn**	**11 26 39.2**	**+1.5**
35nm,0.3s							
DZM				*e*Sn	**Sn**	**11 27 25.4**	**-2.5**
56nm,0.3s							
DZM				*e*LR	LR	11 27 35.0	
comp=Z,3μm,23.9s							
DZM	**Mont Dzumac**	**4.29**	**196**	*e*Pn	**Pn**	**11 26 38.7**	**+1.0**
DZM				*e*Sn	**Sn**	**11 27 27.4**	**-0.4**
DZM	**Mont Dzumac**	**4.29**	**196**	Pn	**Pn**	**11 26 39.3**	**+1.5**
5.8nm,0.3s,baz=79,slow=9.7,SNR=28							
DZM				Sn	**Sn**	**11 27 26.3**	**-1.6**
23nm,0.3s,baz=155,slow=18,SNR=11							
DZM				LR	LR	11 28 16.8	
comp=Z,2μm,19.2s,baz=36,slow=38							
ONTNC	**Ouen Toro**	**4.51**	**195**	*e*Pn	**Pn**	**11 26 40.7**	**0.0**
ONTNC				*e*Sn	**Sn**	**11 27 30.9**	**-2.3**
OUENC	**Ouen Island, N**	**4.54**	**190**	*e*Pn	**Pn**	**11 26 39.1**	**-1.9**
OUENC				*e*Sn	**Sn**	**11 27 27.1**	**-6.8**
PINNC	**Pines Island,**	**4.66**	**183**	*e*Pn	**Pn**	**11 26 46.2**	**+3.4**
PINNC				*e*Sn	**Sn**	**11 27 35.1**	**-1.9**
HNR	**Honiara**	**11.32**	**317**	LR	LR	11 32 12.2	
comp=Z,1μm,19.0s,baz=146,slow=35							
EIDS	**Eidsvold**	**17.13**	**242**	P	P	11 29 49.0	+15
baz=23							
ARMA	**Armidale**	**19.20**	**227**	*e*P	**P**	**11 29 55.5**	**-1.1**
24nm,1.1s							
ARMA	**Armidale**	**19.20**	**227**	P	**Pn**	**11 30 03.3**	**+5.8**
baz=25,SNR=4.7							
CTA	**Charters Tower**	**20.40**	**261**	P	Pn	11 30 11.9	+0.2
15nm,0.9s,baz=78,slow=13,SNR=7.4							
CTA				LR	LR	11 37 10.3	
comp=Z,1μm,21.9s,baz=102,slow=34							
CTAO	**Charters Tower**	**20.40**	**261**	*e*P	**P**	**11 30 09.7**	**+0.1**
33nm,1.1s							
URZ	**Urewera**	**21.86**	**160**	P	**P**	**11 30 26.4**	**+1.3**
5.9nm,0.8s,baz=351,slow=13,SNR=4.0							
URZ				LR	LR	11 38 05.9	
comp=Z,691nm,19.1s,baz=348,slow=34							
CNB	**Canberra Magne**	**23.78**	**220**	P	**P**	**11 30 44.9**	**-0.4**
baz=29,SNR=4.8							
CAN	**Canberra**	**24.01**	**220**	*e*P	**P**	**11 30 44.2**	**-3.2**
35nm,1.4s							
CAN	**Canberra**	**24.01**	**220**	P	**P**	**11 30 47.2**	**-0.2**
baz=30							
CMSA	**Cobar Meteorol**	**24.09**	**232**	P	**P**	**11 30 50.6**	**+2.4**
baz=30,SNR=20							
RPZ	**Rata Peaks**	**25.86**	**174**	LR	LR	11 40 47.6	
comp=Z,395nm,19.7s,baz=348,slow=35							
STKA	**Stephens Creek**	**27.37**	**235**	P	**P**	**11 31 20.3**	**+2.4**
baz=33,SNR=7.8							
STKA	**Stephens Creek**	**27.37**	**235**	P	**P**	**11 31 19.5**	**+1.6**
7.8nm,0.9s,baz=77,slow=6.2,SNR=13							
STKA				LR	LR	11 42 09.4	
comp=Z,735nm,18.4s,baz=46,slow=36							
RAR	**Rarotonga**	**30.78**	**101**	LR	LR	11 41 34.3	
comp=Z,280nm,20.9s,baz=280,slow=32							
AS31	**Alice Springs**	**32.06**	**254**	*e*P	**P**	**11 31 59.7**	**+0.1**
1.9nm,0.7s							
ASAR	**Alice Springs**	**32.06**	**254**	P	**P**	**11 32 00.1**	**+0.4**
5.4nm,0.9s,baz=83,slow=8.4,SNR=35							
ASAR				LR	LR	11 45 00.6	
comp=Z,964nm,18.1s,baz=86,slow=36							
WRKA	**Warakurna**	**37.25**	**252**	P	**P**	**11 32 44.1**	**-0.4**
baz=43,SNR=5.0							
FORT	**Forrest**	**38.12**	**243**	*e*P	**P**	**11 32 52.1**	**+0.4**
25nm,0.7s							
FORT	**Forrest**	**38.12**	**243**	P	**P**	**11 32 50.8**	**-0.9**
baz=44,SNR=15							
TBI	**Tubuai**	**40.33**	**105**	*e*S	**S**	**11 39 22.0**	**+3.7**
166nm,29.2s							
TBI				*e*LQ	LQ	11 42 37.7	
624nm,27.8s							
TBI				*e*LR	LR	11 44 18.3	
comp=Z,429nm,27.2s,baz=271							
PPT2	**Papeete2**	**40.61**	**96**	*e*S	**S**	**11 39 30.4**	**+7.7**
174nm,25.0s							
PPT2				*e*LQ	LQ	11 42 45.6	
573nm,28.5s							
PPT2				*e*LR	LR	11 44 27.7	
comp=Z,730nm,25.2s,baz=252							
PPT	**Papeete**	**40.61**	**96**	LR	LR	11 46 10.5	
comp=Z,334nm,18.3s,baz=266,slow=31							
KAPI	**Kappang**	**48.57**	**279**	*e*P	**P**	**11 34 17.0**	**+0.7**
17nm,1.0s							
KAPI	**Kappang**	**48.57**	**279**	P	**P**	**11 34 17.1**	**+0.7**
5.3nm,0.7s,baz=76,slow=4.7,SNR=4.3							
VNDA	**Vanda**	**59.69**	**181**	LR	LR	11 59 26.7	
comp=Z,62nm,18.6s,baz=9.0,slow=34							
MJAR	**Matsushiro Arr**	**60.93**	**333**	LR	LR	12 03 09.1	
comp=Z,31nm,18.8s,baz=150,slow=37							
ASAJ	**Asahikawa**	**65.89**	**340**	P	**P**	**11 36 18.0**	**-0.2**
6.1nm,0.6s,baz=192,slow=9.3,SNR=4.6							
KS15	**Wonju Array Si**	**66.63**	**326**	*e*P	**P**	**11 36 22.5**	**-0.6**
21nm,0.9s							
NJ2	**Nanjing**	**68.27**	**316**	*e*P	**P**	**11 36 34.5**	**+0.9**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
PETK	**Petropavlovsk-**	**71.27**	**354**	P	**P**	**11 36 51.0**	**-0.6**
2.9nm,0.8s,baz=157,slow=8.6,SNR=3.5							
PETK				LR	LR	12 04 27.9	
comp=Z,78nm,20.7s,baz=155,slow=33							
PEA1	**Petropavlovsk-**	**71.28**	**354**	*e*P	**P**	**11 36 51.0**	**-0.6**
QSPA	**South Pole Qui**	**72.11**	**180**	*e*P	**P**	**11 36 56.6**	**-0.3**
14nm,0.8s							
CN2	**Changchun**	**72.60**	**329**	*e*P	**P**	**11 36 56.0**	**-3.8**
KLR	**Kul'dur**	**74.10**	**336**	P	**P**	**11 37 08.7**	**+0.2**
1.3nm,0.7s,baz=118,slow=7.6,SNR=6.1							
CM31	**Chiang Mai Arr**	**76.65**	**295**	*e*P	**P**	**11 37 23.9**	**0.0**
7.1nm,1.1s							
CMAR	**Chiang Mai Arr**	**76.65**	**295**	P	**P**	**11 37 23.9**	**0.0**
1.8nm,0.8s,baz=139,slow=6.0,SNR=6.1							
HHC	**Hu-ho-hao-te**	**78.29**	**320**	*e*P	**P**	**11 37 35.8**	**+3.0**
HHC				pmax	pmax		
comp=Z,56nm,1.2s							
HHC				pmax	pmax		
comp=Z,200nm,7.6s							
CD2	**Chengdu**	**78.30**	**308**	*e*P	**P**	**11 37 35.0**	**+2.1**
MAW	**Mawson**	**79.09**	**202**	P	**P**	**11 37 36.2**	**-0.5**
1.7nm,1.0s,baz=141,slow=6.5,SNR=1.9							
MAW				LR	LR	12 09 55.2	
comp=Z,108nm,18.3s,baz=94,slow=34							
LZH	**Lanzhou**	**80.78**	**313**	*e*P	**P**	**11 37 49.0**	**+2.5**
LZH				pP	pwP	11 37 54.5	+0.9
LZH				sP	PcP	11 37 57.8	+4.6
LZH				pmax	pmax		
comp=Z,17nm,1.0s							
YAK	**Yakutsk**	**85.20**	**343**	*e*P	**P**	**11 38 08.1**	**-0.4**
17nm,0.6s							
YAK	**Yakutsk**	**85.20**	**343**	P	**P**	**11 38 08.2**	**-0.4**
16nm,0.6s,baz=144,slow=1.9,SNR=2.9							
SONA0	**Songino Array**	**85.31**	**324**	*e*P	**P**	**11 38 10.1**	**+0.5**
SONM	**Songino Array**	**85.31**	**324**	P	**P**	**11 38 10.1**	**+0.5**
1.1nm,0.8s,baz=148,slow=8.7,SNR=9.0							
SONM				LR	LR	12 17 31.3	
comp=Z,40nm,18.0s,baz=121,slow=37							
SYO	**Syowa Base**	**85.77**	**197**	*e*P	**P**	**11 38 12.8**	**+1.3**
NV01	**Mina Array Sit**	**89.03**	**49**	*e*P	**P**	**11 38 26.8**	**-1.2**
NVAR	**Mina Array Bea**	**89.03**	**49**	P	**P**	**11 38 26.8**	**-1.2**
0.8nm,0.6s,baz=225,slow=8.2,SNR=8.4							
NVAR				LR	LR	12 14 09.9	
comp=Z,96nm,18.1s,baz=223,slow=33							
ILAR	**Eielson Array**	**89.43**	**18**	P	**P**	**11 38 25.9**	**-3.0**
0.6nm,0.6s,baz=236,slow=5.3,SNR=9.0							
ILAR				LR	LR	12 16 34.6	
comp=Z,80nm,18.3s,baz=249,slow=34							
ILB	**Eielson Array**	**89.43**	**18**	*e*P	**P**	**11 38 28.1**	**-0.8**
4.2nm,1.5s							
SNAA	**Sanae**	**90.39**	**183**	P	**P**	**11 38 34.0**	**+0.4**
VNA3	**Neumayer Olymp**	**91.04**	**181**	P	**P**	**11 38 36.7**	**+0.1**
VNA2	**Neumayer--Watz**	**91.31**	**182**	P	**P**	**11 38 38.8**	**+0.9**
baz=178,slow=3.4							
VNA1	**Neumayer--Stat**	**91.61**	**181**	P	**P**	**11 38 40.5**	**+1.3**
WMQ	**Urumqi**	**95.26**	**314**	*e*P	**P**	**11 38 56.0**	**-0.5**
WMQ				pP	sP	11 39 01.0	+1.6
WMQ				LR	LR		
comp=N,780nm,39.0s							
WMQ				LR	LR		
comp=E,1μm,39.1s							
WMQ				LR	LR		
comp=Z,370nm,27.1s							
PDAR	**Pinedale Array**	**96.80**	**47**	LR	LR	12 16 11.6	
comp=Z,52nm,20.2s,baz=266,slow=32							
LTX	**Lajitas**	**97.42**	**62**	*e*P	**P**	**11 39 04.2**	**-2.5**
TXAR	**Lajitas Array**	**97.42**	**62**	P	**P**	**11 39 04.2**	**-2.5**
0.3nm,0.9s,baz=245,slow=5.8,SNR=2.6							
TXAR				LR	LR	12 17 12.7	
comp=Z,89nm,18.2s,baz=0.0,slow=32							
MK32	**Makanchi Array**	**99.80**	**316**	*e*Pdif	**Pdif**	**11 39 16.9**	**+0.1**
MKAR	**Makanchi Array**	**99.80**	**316**	P	**Pdif**	**11 39 16.9**	**+0.1**
0.2nm,0.6s,baz=94,slow=6.1,SNR=2.5							
MKAR				LR	LR	12 22 05.4	
comp=Z,31nm,22.0s,baz=84,slow=34							
YKA	**Yellowknife Ar**	**100.18**	**27**	P	**Pdif**	**11 39 16.5**	**-1.7**
0.2nm,0.6s,baz=253,slow=4.8,SNR=2.7							
YKB5	**Yellowknife Ar**	**100.18**	**27**	*e*Pdif	**Pdif**	**11 39 16.4**	**-1.7**
KSH	**Kashi**	**102.49**	**308**	P	**Pdif**	**11 39 30.5**	**+1.3**
KSH				pP	sPdif	11 39 35.3	+3.3
KSH				PP	**PKiKP**	**11 43 48.0**	**-2.6**
KSH				S	**Sdif**	**11 51 12.5**	**-1.4**
ARCES	**ARCESS Array B**	**123.44**	**345**	PKP	**PKPdf**	**11 44 28.2**	**-1.0**
2.1nm,0.6s,baz=64,slow=2.8,SNR=10							
FIA0	**FINESS Array S**	**128.83**	**337**	*e*PKPdf	**PKPdf**	**11 44 39.1**	**-0.6**
FINES	**FINESS Array B**	**128.83**	**337**	PKP	**PKPdf**	**11 44 39.1**	**-0.6**
2.1nm,0.9s,baz=29,slow=3.2,SNR=2.3							
AKASG	**Malin Array Be**	**133.59**	**324**	PKP	**PKPdf**	**11 44 48.2**	**-0.9**
0.7nm,0.5s,baz=51,slow=2.7,SNR=2.4							
AKBB	**Malin Array Si**	**133.59**	**324**	*e*PKPdf	**PKPdf**	**11 44 48.1**	**-1.0**
NB2	**NORSAR Subarra**	**133.81**	**344**	PKPdf	**PKPdf**	**11 44 48.9**	**-0.3**
comp=Z,0.4nm,0.6s,baz=30,slow=1.8							
NB200	**NORSAR Array S**	**133.81**	**344**	*e*PKPdf	**PKPdf**	**11 44 48.7**	**-0.5**
NOA	**NORSAR Array B**	**133.81**	**344**	PKP	**PKPdf**	**11 44 48.7**	**-0.5**
comp=Z,0.4nm,0.6s,baz=35,slow=2.2,SNR=3.8							
BR101	**Keskin Array S**	**134.87**	**309**	*e*PKPdf	**PKPdf**	**11 44 52.2**	**+0.2**
BRTR	**Keskin Array B**	**134.87**	**309**	PKP	**PKPdf**	**11 44 52.2**	**+0.2**
comp=Z,0.3nm,0.3s,baz=90,slow=2.9,SNR=2.7							
GEC2	**GERESS Array S**	**142.66**	**331**	*e*PKPpre	PKPpre	11 45 00.7	
GERES	**GERESS Array B**	**142.66**	**331**	PKhKP	PKPpre	11 45 00.7	
comp=Z,0.3nm,0.3s,baz=46,slow=2.8,SNR=3.4							
KBA	**Koelnbreinsper**	**144.10**	**330**	PKPdf	**PKPab**	**11 45 05.6**	**-0.5**
comp=Z,6.9nm,1.2s							
ABTA	**Abfaltersbach**	**144.73**	**330**	*e*PKPdf	**PKPab**	**11 45 07.8**	**-0.5**
comp=Z,6.1nm,0.7s							
WTTA	**Wattenberg**	**144.76**	**331**	*e*pPKPbc	**PKPdf**	**11 45 09.6**	**-0.2**
comp=Z,1nm,0.9s							
MOTA	**Moosalm**	**144.94**	**332**	*e*PKPdf	**PKPdf**	**11 45 09.5**	**-0.5**
comp=Z,7.0nm,0.9s							
RETA	**Reutte**	**144.99**	**332**	*e*PKPdf	**PKPdf**	**11 45 09.5**	**-0.5**
comp=Z,2.6nm,0.5s							
SQTA	**Sankt Quirin**	**144.99**	**332**	*e*PKPdf	**PKPdf**	**11 45 09.4**	**-0.7**
comp=Z,5.9nm,0.6s							
WLF	**Walferdange**	**145.03**	**339**	*e*PKPbc	**PKPbc**	**11 45 10.0**	**+0.8**
BFO	**Black Forest**	**145.34**	**336**	*e*PKPbc	**PKPbc**	**11 45 09.8**	**-0.5**
FETA	**Feichten**	**145.35**	**332**	*e*PKPdf	**PKPab**	**11 45 10.7**	**0.0**
comp=Z,7.9nm,0.7s							
DAVA	**Damuels**	**145.53**	**333**	*e*PKPab	**PKPbc**	**11 45 10.7**	**-0.4**
comp=Z,19nm,1.4s							
FUORN	**Ofenpass-Fuorn**	**145.87**	**332**	*e*PKPdf	**PKPab**	**11 45 12.8**	**+0.1**
ECH	**Echery**	**145.88**	**337**	*e*PKPdf	**PKPbc**	**11 45 11.9**	**-0.1**
DAVOX	**Davos/Dischmat**	**145.92**	**332**	PKPbc	**PKPbc**	**11 45 12.5**	**+0.1**
comp=Z,4.3nm,0.5s,baz=103,slow=4.9,SNR=5.6							
TUE	**Stuetta**	**146.39**	**333**	*e*PKPdf	**PKPab**	**11 45 14.6**	**-0.1**
ESDC	**Sonseca Array**	**157.16**	**343**	PKPab	**PKPab**	**11 45 58.8**	**-0.5**
comp=Z,0.5nm,0.5s,baz=2.4,slow=4.6,SNR=3.4							
TORD	**Torodi Ar. Bea**	**165.71**	**253**	PKP	**PKPdf**	**11 45 37.8**	**-0.6**
comp=Z,0.5nm,0.7s,baz=114,slow=2.2,SNR=4.0							
TORD				PKPab	**PKPab**	**11 46 37.9**	**+0.5**
comp=Z,0.5nm,0.9s,baz=90,slow=3.1,SNR=2.2							
TOA1	**Torodi Ar. Sit**	**165.72**	**253**	*e*PKPdf	**PKPdf**	**11 45 37.8**	**-0.6**
TOA1				*e*PKPab	**PKPab**	**11 46 37.9**	**+0.5**

ATH 29 11:52:03.3, 38°.23N×22°.11E, h12km±2km, ML1.9/8, Error ellipse: s-maj=2.5km s-min=0.8km az=311.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.10**	**274**	P	Pg	11 52 06.0	-0.1
LAKA				S	Sg	11 52 07.9	-0.4
LAKA				AML	AML	11 52 08.1	
comp=E,1429μm,0.2s							
LAKA				AML	AML	11 52 08.3	
comp=N,1627μm,0.3s							
TRIZ	**Trizonia**	**0.14**	**349**	P	Pg	11 52 06.6	0.0
TRIZ				S	Sg	11 52 09.1	+0.1
KALE	**Kalithea**	**0.16**	**9**	P	Pg	11 52 07.1	+0.1
KALE				S	Sg	11 52 09.7	0.0
KALE				AML	AML	11 52 10.5	
comp=E,2913μm,0.2s							
KALE				AML	AML	11 52 10.8	
comp=N,5588μm,0.2s							
SERG	**Sergoula**	**0.18**	**348**	P	Pg	11 52 07.4	0.0
SERG				S	Sg	11 52 10.6	+0.3
SERG				AML	AML	11 52 10.8	
comp=N,3174μm,0.2s							
SERG				AML	AML	11 52 11.0	
comp=E,2990μm,0.3s							
KLV	**Kalavryta, Ach**	**0.19**	**170**	P	Pg	11 52 07.5	-0.1
KLV				S	Sg	11 52 10.7	+0.2
KLV				AML	AML	11 52 11.0	
comp=N,610μm,0.1s							
KLV				AML	AML	11 52 11.7	
comp=E,473μm,0.1s							
EFP	**Efpalio**	**0.25**	**321**	P	Pg	11 52 08.4	-0.1
EFP				S	Sg	11 52 12.2	+0.1
EFP				AML	AML	11 52 12.7	
comp=E,723μm,0.2s							
EFP				AML	AML	11 52 13.8	
comp=N,491μm,0.2s							
UPR	**University Cam**	**0.26**	**281**	P	Pg	11 52 09.0	+0.3
UPR				S	Sg	11 52 12.8	+0.5
GUR	**Goura**	**0.35**	**148**	P	Pg	11 52 10.1	-0.2
DSF	**Desfina**	**0.38**	**62**	P	Pg	11 52 10.8	-0.1
DSF				S	Sg	11 52 16.1	+0.3
DSF				AML	AML	11 52 17.2	
comp=N,405μm,0.2s							
DSF				AML	AML	11 52 17.4	
comp=E,556μm,0.2s							
ANX	**Ano Chora**	**0.39**	**338**	P	Pg	11 52 10.9	-0.2
ANX				S	Sg	11 52 16.8	+0.5
ANX				AML	AML	11 52 18.3	
comp=E,336μm,0.5s							
ANX				AML	AML	11 52 18.6	
comp=N,340μm,0.6s							
DLFA	**Delphi**	**0.39**	**51**	P	Pg	11 52 11.0	-0.1
DRO	**Drossia**	**0.42**	**228**	P	Pg	11 52 11.5	-0.1
DRO				AML	AML	11 52 20.2	
comp=N,586μm,0.2s							
DRO				AML	AML	11 52 21.9	
comp=E,562μm,0.4s							
RLS	**Riolos of Patr**	**0.53**	**251**	P	Pg	11 52 13.4	-0.3
AMT	**Artemida-Makis**	**0.77**	**204**	P	Pg	11 52 18.0	-0.1
AGG	**Agios Georgios**	**0.81**	**12**	P	Pg	11 52 18.4	-0.5
DID	**Didima**	**1.15**	**129**	P	Pg	11 52 25.8	+0.4

*ISCJB **29** 11:53:30.2±0.9, 61°.03N±0°.03×29°.12E±0°.10, h0km, Error ellipse: s-maj=7.6km s-min=3.9km az=27.4*
*HEL **29** 11:53:33.5±0.2, 60°.94N×29°.16E, h0km, ML2.3, Explosion*
*IDC **29** 11:53:35.8±1.9, 60°.94N×28°.92E, h0km, mb1 3.1/3, mb1mx2.9/40, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=16.5km s-min=11.0km az=161.0*
*MOS **29** 11:53:35.4, 60°.95N×29°.00E, M2.1, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

ISC 29 11:53:33.0±1.2, 61°.02N±0°.04×29°.04E±0°.06, h0km, n16, σ1§51/26, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.87**	**237**	PG	**Pg**	**11 53 49.6**	**-0.1**
baz=61							
VJF				SB	**Sg**	**11 54 01.4**	**+0.5**
FINES	**FINESS Array B**	**1.50**	**288**	Pg	**Pn**	**11 54 01.2**	**+0.2**
2.8nm,0.3s,baz=110,slow=16,SNR=51							
FINES				Lg	Lg	11 54 22.1	
4.4nm,0.3s,baz=111,slow=25,SNR=26							
FINES				Rg	Rg	11 54 30.8	
42nm,0.7s,baz=112,slow=32,SNR=22							
PVF	**Pernaja**	**1.63**	**255**	PG	**Pn**	**11 54 02.6**	**-0.3**
PVF				MSG		11 54 23.3	
comp=Z,24nm,0.2s							
PVF				SN	**Sb**	**11 54 25.2**	**+0.3**
KAF	**Kangasniemi**	**1.71**	**311**	PG	**Pg**	**11 54 06.3**	**+0.5**
KAF				MSG		11 54 27.1	
comp=Z,20nm,0.2s							
KAF				SN	**Sg**	**11 54 29.0**	**+1.1**
JOF	**Joensuu**	**2.19**	**28**	PG	**Pb**	**11 54 13.5**	**+0.1**
JOF				SG	**Sb**	**11 54 42.2**	**+1.1**
SUF	**Sumiainen**	**2.19**	**323**	PG	**Pb**	**11 54 14.5**	**+1.0**
SUF				MSG		11 54 41.1	
comp=Z,14nm,0.2s							
SUF				SG	**Sg**	**11 54 44.5**	**+1.2**
ARBE	**Arbavere**	**2.20**	**225**	PG	**Pb**	**11 54 13.2**	**-0.3**
ARBE				SG	**Sg**	**11 54 43.5**	**-0.1**
KEF	**Keuruu**	**2.31**	**302**	PB	**Pb**	**11 54 15.2**	**-0.2**
KEF				SB	**Sb**	**11 54 45.4**	**+1.0**
MEF	**Metsahovi**	**2.43**	**253**	PB	**Pn**	**11 54 15.5**	**+1.7**
RAF	**Rauma**	**3.54**	**273**	PB	**Pn**	**11 54 32.5**	**+3.3**
VAF	**Ylistaro**	**3.63**	**307**	PG	**Pg**	**11 54 41.9**	**-0.5**
VAF				SG	**Sg**	**11 55 29.9**	**+0.5**
OUF	**Merijarvi**	**3.91**	**331**	PG	**Pg**	**11 54 45.9**	**-1.9**
baz=144							
OUL	**Oulu**	**4.33**	**342**	SG	**Sg**	**11 55 52.0**	**0.0**
HFS	**Hagfors**	**7.61**	**270**	Pn	**Pn**	**11 55 26.1**	**+1.1**
comp=Z,0.2nm,0.3s,baz=84,slow=14,SNR=5.0							
HFS				Sn	**Sn**	**11 56 48.8**	**-3.1**
comp=Z,0.1nm,0.3s,baz=75,slow=30,SNR=1.2							
HFS				Lg	Lg	11 57 29.5	
comp=Z,0.3nm,0.3s,baz=83,slow=34,SNR=3.5							
NOA	**NORSAR Array B**	**8.65**	**278**	Pn	**Pn**	**11 55 39.6**	**+0.3**
comp=Z,0.0nm,0.3s,baz=90,slow=11,SNR=2.3							
ARCES	**ARCESS Array B**	**8.68**	**352**	Pn	**Pn**	**11 55 41.4**	**+1.7**
comp=Z,0.2nm,0.3s,baz=169,slow=12,SNR=7.8							
ARCES				Sn	**Sn**	**11 57 14.4**	**-3.7**
comp=Z,0.1nm,0.3s,baz=168,slow=23,SNR=1.6							
ARCES				Lg	Lg	11 57 59.2	
comp=Z,0.3nm,0.3s,baz=169,slow=24,SNR=5.1							

*ISCJB **29** 11:54:46.2±0.4, 45°.71N±0°.02×26°.65E±0°.03, h96km±4km, Error ellipse: s-maj=3.3km s-min=3.0km az=14.0*
*BUC **29** 11:54:47.2±0.4, 45°.72N×26°.65E, h88km±4km, MD3.9/6, Error ellipse: s-maj=4.1km s-min=3.8km az=351.0*
*SOF **29** 11:54:48.2, 45°.29N×26°.45E, h4km*

ISC 29 11:54:46.3±1.2, 45°.72N±0°.03×26°.66E±0°.02, h98km±6km, n97, σ0§98/130, 46C-32D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.14**	**358**	↑*i*P	**Pn**	**11 54 59.7**	**-0.5**
PLOR				*i* S	**Sn**	**11 55 09.3**	**-1.2**
PLOR	**Plostina**	**0.14

ARR	**Arges**	**1.46 257**	⫼	*i*P	**Pn**	**11 55 12.9**	**+0.8**
ARR				*i*S	**Sn**	**11 55 31.8**	**+0.2**
ARR	**Arges**	**1.46 257**	⫼	*i*P	**Pn**	**11 55 12.9**	**+0.8**
TLB	**Topalu**	**1.50 139**	⫼	*i*P	**Pn**	**11 55 12.8**	**+0.4**
TLB				*i*S	**Sn**	**11 55 30.8**	**-1.3**
TLB	**Topalu**	**1.50 139**	⫼	*i*P	**Pn**	**11 55 12.8**	**+0.4**
IAS	**Iasi**	**1.60 23**	⫛	*i*P	**Pn**	**11 55 14.4**	**+0.7**
IAS				*i*S	**Sn**	**11 55 33.7**	**-0.9**
IAS	**Iasi**	**1.60 23**	⫛	*i*P	**Pn**	**11 55 14.4**	**+0.7**
TLCR		**1.61 108**	⫛	*i*P	**Pn**	**11 55 14.7**	**+0.9**
TLCR				*i*S	**Sn**	**11 55 34.7**	**+0.1**
TLCR		**1.61 108**	⫛	*i*P	**Pn**	**11 55 14.7**	**+0.9**
HUMR	**Humele**	**1.68 226**	⫼	*i*P	**Pn**	**11 55 15.1**	**+0.4**
HUMR				*i*S	**Sn**	**11 55 35.5**	**-0.7**
HUMR	**Humele**	**1.68 226**	⫼	*i*P	**Pn**	**11 55 15.1**	**+0.4**
CVDA	**Cernavoda**	**1.69 144**	⫛	*i*P	**Pn**	**11 55 15.4**	**+0.5**
CVDA				*i*S	**Sn**	**11 55 35.3**	**-1.2**
CVDA	**Cernavoda**	**1.69 144**	⫛	*i*P	**Pn**	**11 55 15.4**	**+0.5**
ICOR	**Ion Corvin**	**1.79 153**	⫼	*i*P	**Pn**	**11 55 17.0**	**+0.9**
ICOR				*i*S	**Sn**	**11 55 38.0**	**-0.8**
ICOR	**Ion Corvin**	**1.79 153**	⫼	*i*P	**Pn**	**11 55 17.0**	**+0.9**
MILM	**Milestii Mici**	**1.92 50**	⫼	*i*P	**Pn**	**11 55 18.5**	**+0.8**
MILM				*i*S	**Sn**	**11 55 40.7**	**-1.0**
MILM	**Milestii Mici**	**1.92 50**	⫼	*i*P	**Pn**	**11 55 18.5**	**+0.8**
KIS	**Kishinev**	**1.97 49**		*e*P	**Pn**	**11 55 16.0**	**-2.4**
KIS				*e*S	**Sn**	**11 55 40.0**	**-2.9**
	300nm,0.5s						
MFTR	**Murfatlar**	**1.98 140**	⫛	*i*P	**Pn**	**11 55 19.1**	**+0.5**
MFTR				*i*S	**Sn**	**11 55 43.1**	**-0.1**
MFTR	**Murfatlar**	**1.98 140**	⫛	*i*P	**Pn**	**11 55 19.1**	**+0.5**
LOT	**Lotru**	**2.04 264**	⫼	*i*P	**Pn**	**11 55 19.9**	**+0.4**
LOT				*i*S	**Sn**	**11 55 45.5**	**+0.7**
LOT	**Lotru**	**2.04 264**	⫼	*i*P	**Pn**	**11 55 19.9**	**+0.4**
BURAR	**Bucovina Array**	**2.14 333**	⫼	*i*P	**Pn**	**11 55 21.8**	**+1.1**
BURAR	**Bucovina Array**	**2.14 333**	⫼	*i*P	**Pn**	**11 55 21.8**	**+1.1**
EFOR	**EFORIE**	**2.16 139**		*i*S	**Sn**	**11 55 46.1**	**-1.1**
EFOR	**EFORIE**	**2.16 139**		S	**Sn**	**11 55 46.1**	**-1.1**
PSN	**Preselentsi**	**2.31 151**		P	**Pn**	**11 55 24.1**	**+1.3**
MANR	**Mangalia**	**2.34 143**		*i*S	**Sn**	**11 55 51.4**	**-0.2**
MANR	**Mangalia**	**2.34 143**		S	**Sn**	**11 55 51.4**	**-0.2**
VLAD	**Vladila**	**2.35 224**	⫼	*i*P	**Pn**	**11 55 23.4**	**+0.1**
VLAD				*i*S	**Sn**	**11 55 49.7**	**-2.0**
VLAD	**Vladila**	**2.35 224**	⫼	*i*P	**Pn**	**11 55 23.4**	**+0.1**
VLAD				S	**Sn**	**11 55 49.7**	**-2.0**
SZH	**Strazhica**	**2.50 192**		P	**Pn**	**11 55 23.0**	**-2.4**
PVL	**Pavlikeni**	**2.67 201**		P	**Pn**	**11 55 28.6**	**+1.0**
GZR	**Gura Zlata**	**2.74 265**	⫛	*i*P	**Pn**	**11 55 29.6**	**+1.0**
GZR	**Gura Zlata**	**2.74 265**	⫛	*i*P	**Pn**	**11 55 29.6**	**+1.0**
DRGR		**2.94 293**	⫛	*i*P	**Pn**	**11 55 31.9**	**+0.7**
DRGR				*i*S	**Sn**	**11 56 04.7**	**-1.2**
DRGR		**2.94 293**	⫛	*i*P	**Pn**	**11 55 31.9**	**+0.7**
PUNG	**Punghina**	**3.01 243**	⫛	*i*P	**Pn**	**11 55 31.7**	**-0.4**
PUNG	**Punghina**	**3.01 243**	⫛	*i*P	**Pn**	**11 55 31.7**	**-0.4**
HERR	**Herculane**	**3.11 256**	⫛	*i*P	**Pn**	**11 55 33.8**	**+0.4**
HERR				*i*S	**Sn**	**11 56 08.7**	**-1.0**
HERR	**Herculane**	**3.11 256**	⫛	*i*P	**Pn**	**11 55 33.8**	**+0.4**
MPEP	**Malo Peshtene**	**3.15 222**		P	**Pn**	**11 55 34.4**	**+0.4**
SIRR	**Siria**	**3.53 281**	⫼	*i*P	**Pn**	**11 55 40.0**	**+1.0**
SIRR	**Siria**	**3.53 281**	⫼	*i*P	**Pn**	**11 55 40.0**	**+1.0**
VTS	**Vitosha**	**3.96 220**		*i*S	**Sn**	**11 56 28.2**	**-2.2**
VTS	**Vitosha**	**3.96 220**		S	**Sn**	**11 56 28.2**	**-2.2**
VTS	**Vitosha**	**3.96 220**		P	**Pn**	**11 55 45.7**	**+0.7**
KOLS	**Kolonicke sedl**	**4.39 319**		*e*PN	**Pn**	**11 55 53.1**	**+2.5**
VYHS	**Vyhne**	**6.02 300**		*e*PN	**Pn**	**11 56 13.9**	**+1.2**

*GRAL **29** 11:57:45.7±0.3, 33°.42N×35°.63E, h20km±10km, MD2.6*
*NSSC **29** 11:57:47.3±1.1, 33°.25N×35°.73E, h5km±23km, ML1.1*
ISC 29 11:57:45.8±2.8, 33°.5N±0°.1×35°.6E±0°.1, h16km±9km, n6, σ0°65/11, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRWL	**Qaraoun**	**0.11**	**29**	*e*P	**Pb**	**11 57 49.7**	**0.0**
RCY	**Rachaya**	**0.18**	**77**	*e*P	**Pg**	**11 57 50.4**	**-0.1**
RCY				*e*S	**Sg**	**11 57 53.8**	**+0.3**
DQRL	**Deir Qamar**	**0.26**	**351**	*e*P	**Pg**	**11 57 51.6**	**+0.1**
DQRL				*e*S	**Sb**	**11 57 56.1**	**-0.3**
BRBR	**Barbar**	**0.28**	**99**	*e*P	**Pb**	**11 57 52.4**	**-0.2**
BRBR				*e*S	**Sg**	**11 57 56.0**	**-0.1**
BRBR				AML	AML	11 57 58.1	
	comp=E,12nm,0.6s						
BRBR				AML	AML	11 57 58.5	
	comp=N,40nm,0.6s						
QASN	**Qassioun**	**0.55**	**82**	*e*P	**Pb**	**11 57 57.5**	**+0.2**
QASN				*e*S	**Sb**	**11 58 05.6**	**+0.6**
QASN				AML	AML	11 58 09.6	
	comp=E,17nm,0.4s						
QASN				AML	AML	11 58 12.5	
	comp=N,38nm,0.3s						
TOTH	**TOTAH**	**0.68**	**98**	*e*P	**Pb**	**11 58 00.0**	**+0.6**
TOTH				*e*S	**Sg**	**11 58 06.9**	**-1.4**
TOTH				AML	AML	11 58 16.7	
	comp=E,7.5nm,0.6s						
TOTH				AML	AML	11 58 17.8	
	comp=N,9.4nm,0.3s						

*ISK **29** 12:02:24.7, 39°.09N×34°.24E, h1km, ML2.3/11*
*DDA **29** 12:02:24.8, 39°.11N×34°.27E, h7km±2km, ML2.8*
ISC 29 12:02:25.0±1.3, 39°.09N±0°.03×34°.27E±0°.02, h2km±13km, n21, σ1°17/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIRS	**Kırehir-Merke**	**0.27 278**		*i*P	**Pb**	**12 02 31.1**	**-1.6**
YAYX	**Yaylak**	**0.39 246**		PG	**Pg**	**12 02 32.8**	**+0.4**
YAYX				SG	**Sb**	**12 02 38.9**	**-2.1**
CDAG	**Cicekdag**	**0.54**	**9**	*i*P	**Pg**	**12 02 35.3**	**0.0**
CDAG				*i*S	**Sb**	**12 02 43.8**	**-1.6**
AVNS	**Nevsehir-Avano**	**0.54 122**		IAML_P			
	comp=Z,2μm,0.1s						
AVNS				*i*P	**Pb**	**12 02 36.1**	**-1.0**
SERE	**Sereflikochisa**	**0.57 255**		PG	**Pg**	**12 02 36.3**	**+0.5**
SERE				SG	**Sb**	**12 02 44.8**	**-1.4**
AKSY	**AKSARAY - Alti**	**0.59 222**		*i*P	**Pg**	**12 02 36.7**	**+0.4**
AKSY				*i*S	**Sb**	**12 02 46.4**	**-0.6**
SIRC	**Yozgat**	**0.73**	**70**	IAML_P			
	comp=Z,1μm,0.1s						
SIRC				*i*P	**Pb**	**12 02 39.5**	**-0.9**
SIRC				*i*S	**Sb**	**12 02 50.0**	**-0.9**
DELI	**KIRIKKALE**	**0.94 344**		*i*P	**Pg**	**12 02 43.0**	**0.0**
YOZ	**Yozgat**	**0.98**	**56**	PG	**Pb**	**12 02 44.7**	**-0.1**
KULU	**Kulu**	**0.98 267**		PG	**Pb**	**12 02 44.2**	**-0.6**
AFSR	**Afar-Bala (An**	**0.99 291**		PG	**Pb**	**12 02 44.3**	**-0.6**
KKUL	**Konya-Kulu**	**1.05 275**		*i*P	**Pb**	**12 02 45.8**	**-0.2**
KKUL				*i*S	**Sn**	**12 03 05.5**	**+3.4**
SULT	**Sultanhani-AKS**	**1.07 214**		PG	**Pb**	**12 02 45.9**	**-0.3**
CORM	**Corum**	**1.12**	**14**	PN	**Pn**	**12 02 47.2**	**-0.6**
CHBY	**Cihanbeyli**	**1.19 245**		PN	**Pn**	**12 02 48.1**	**-0.6**
BNN	**Bunyan**	**1.25 101**		PN	**Pn**	**12 02 50.0**	**+0.4**
COAL	**Corum-Alaca**	**1.29**	**25**	*i*P	**Pn**	**12 02 50.4**	**+0.4**
COAL				*i*S	**Sb**	**12 03 06.3**	**-0.6**
LOD	**Lodumlu**	**1.41 305**		PN	**Pg**	**12 02 52.0**	**0.0**
ELDT	**Eldivan**	**1.54 335**		*i*P	**Pg**	**12 02 54.0**	**-0.4**
ELDT				*i*S	**Sg**	**12 03 16.4**	**+2.0**
CUSAR	**Sarkisla-SIVAS**	**1.57**	**77**	*i*P	**Pg**	**12 02 54.9**	**-0.2**
CUSAR				*i*S	**Sg**	**12 03 16.1**	**+0.6**
KIZT	**Kizilcal**	**1.87 264**		PN	**Pb**	**12 02 58.6**	**-1.3**

*ISCJB **29** 12:28:03.6±1.5, 35°.30N±0°.06×32°.3E±0°.1, h56km±13km,*
Error ellipse: s-maj=18.9km s-min=10.7km az=0.6
*NIC **29** 12:28:03.7±0.2, 35°.28N×32°.27E, h55km, ML2.0*
*ISK **29** 12:28:03.8, 35°.35N×32°.24E, h30km, ML2.5/8*
ISC 29 12:28:04.0±2.7, 35°.28N±0°.07×32°.3E±0°.1, h54km±17km, n13, σ0°42/18, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alefka**	**0.30 114**		P	**Pn**	**12 28 13.5**	**-0.1**
	baz=294						
ALFC				S	**Sn**	**12 28 20.9**	**+0.5**
PPCY	**Paphos**	**0.40 170**		P	**Pn**	**12 28 14.4**	**0.0**
	baz=351						
LEF	**Lefka**	**0.54 107**		PG	**Pn**	**12 28 15.7**	**-0.3**
LEF				SG	**Sn**	**12 28 24.5**	**-0.1**
SZAC	**Souni**	**0.73 136**		P	**Pn**	**12 28 18.0**	**-0.3**
	baz=316						
SZAC				S	**Sn**	**12 28 28.9**	**+0.2**
MAMC	**Mammari**	**0.79**	**97**	P	**Pn**	**12 28 18.5**	**-0.6**
	baz=278						
CSS	**Mathiatis**	**0.93 109**		P	**Pn**	**12 28 20.6**	**-0.3**
	baz=290						
CSS				S	**Sn**	**12 28 34.1**	**+0.7**
TEKE	**Tekeli-Mersin**	**1.11**	**38**	PG	**Pn**	**12 28 23.0**	**-0.3**
TEKE				SG	**Sn**	**12 28 36.9**	**-0.7**
BERE	**Bereket-Mersin**	**1.32**	**36**	PN	**Pn**	**12 28 26.1**	**-0.2**
AKKU	**Akkuyu-Mersin**	**1.37**	**50**	PN	**Pn**	**12 28 26.8**	**0.0**
TEVE	**Tevekalti-Mers**	**1.50**	**39**	PN	**Pn**	**12 28 28.7**	**0.0**
IKL	**Isikli**	**1.50**	**50**	PN	**Pn**	**12 28 28.8**	**+0.2**
KEBE	**Keben-Mersin**	**1.66**	**45**	PN	**Pn**	**12 28 30.9**	**+0.1**
KIZK	**Mersin**	**1.94**	**51**	PN	**Pn**	**12 28 35.3**	**+0.7**

*HLW **29** 12:30:58.8, 34°.93N×23°.85E, h10km±23km, Md3.5, Ml3.9*
*ISCJB **29** 12:31:00.1±0.5, 34°.81N±0°.03×23°.41E±0°.05, h64km±5km,*
mb3.7/11, Error ellipse: s-maj=7.5km s-min=3.8km
az=148.0
*IDC **29** 12:31:02.6±2.4, 35°.02N×23°.34E, h56km±20km, mb3.6/10,*
mb1 3.6/14, mb1mx3.5/51, mbtmp3.8/14, ML3.8/4, Error
ellipse: s-maj=21.1km s-min=18.1km az=20.0
*THE **29** 12:31:02.3, 34°.92N×23°.43E, h16km, ML3.6/4, Error*
ellipse: s-maj=0.7km s-min=0.3km az=205.0
*ATH **29** 12:31:03.1, 35°.07N×23°.54E, h45km±2km, ML3.4/6, Error*
ellipse: s-maj=4.9km s-min=1.3km az=218.0
ISC 29 12:31:01.1±1.0, 34°.84N±0°.05×23°.46E±0°.06, h49km±9km, n81, σ1°40/94, mb3.7/11, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.52**	**90**	P	**Pn**	**12 31 13.1**	**+0.6**
GVD				S	**Sn**	**12 31 21.3**	**+0.7**
GVD	**Gavdhos**	**0.52**	**90**	P	**Pn**	**12 31 13.4**	**+0.9**
GVD				S	**Sn**	**12 31 23.2**	**+2.6**
GVD				AML	AML	12 31 25.3	
	comp=N,16005μm,0.3s						
GVD				AML	AML	12 31 25.7	
	comp=E,16586μm,0.2s						
IMMV	**Iera Moni Meta**	**0.75**	**34**	P	**Pn**	**12 31 15.8**	**+0.3**
IMMV				S	**Sn**	**12 31 25.8**	**-0.2**
IMMV	**Iera Moni Meta**	**0.75**	**34**	P	**Pn**	**12 31 15.9**	**+0.4**
IMMV				AML	AML	12 31 31.2	
	comp=N,10292μm,0.4s						
IMMV				AML	AML	12 31 33.5	
	comp=E,8150μm,0.4s						
CHAN	**Chania**	**0.83**	**35**	P	**Pn**	**12 31 16.8**	**+0.3**
VAM	**Vamos**	**0.83**	**47**	P	**Pn**	**12 31 17.2**	**+0.7**
VAM				S	**Sn**	**12 31 29.0**	**+1.2**
VAM	**Vamos**	**0.83**	**47**	P	**Pn**	**12 31 17.2**	**+0.7**
VAM				AML	AML	12 31 32.7	
	comp=N,8252μm,0.7s						
VAM				AML	AML	12 31 33.0	
	comp=E,9097μm,0.4s						
PRNS	**Prines Rethymn**	**1.00**	**58**	P	**Pn**	**12 31 19.3**	**+0.5**
PRNS				S	**Sn**	**12 31 32.3**	**+0.4**
ANKY	**Antikythira Is**	**1.03 353**		P	**Pn**	**12 31 19.8**	**+0.5**
ANKY				S	**Sn**	**12 31 33.1**	**+0.4**
ANKY	**Antikythira Is**	**1.03 353**		P	**Pn**	**12 31 20.0**	**+0.7**
ANKY				AML	AML	12 31 41.7	
	comp=N,2682μm,0.5s						
ANKY				AML	AML	12 31 43.4	
	comp=E,2148μm,0.6s						
SIVA	**Sivas**	**1.12**	**80**	P	**Pn**	**12 31 22.4**	**+1.9**
SIVA				S	**Sn**	**12 31 38.4**	**+3.6**
SIVA	**Sivas**	**1.12**	**80**	P	**Pn**	**12 31 22.3**	**+1.9**
SIVA				AML	AML	12 31 49.5	
	comp=E,8847μm,0.8s						
SIVA				AML	AML	12 31 49.9	
	comp=N,5268μm,0.6s						
IDI	**Anoyia**	**1.26**	**69**	P	**Pn**	**12 31 24.0**	**+1.7**
	comp=N,32nm,0.3s,baz=256,slow=9.2,SNR=269						
IDI				S	**Sn**	**12 31 41.1**	**+2.9**
	comp=N,56nm,0.3s,baz=306,slow=20,SNR=7.9						
IDI				LR	LR	12 32 13.5	
	comp=N,149nm,19.9s,baz=272,slow=54						
IACM	**Heraklion**	**1.40**	**70**	P	**Pn**	**12 31 26.0**	**+1.8**
IACM	**Heraklion**	**1.40**	**70**	P	**Pn**	**12 31 26.1**	**+1.8**
KYTH	**Kithira**	**1.46 347**		P	**Pn**	**12 31 26.2**	**+1.1**
KTHR	**Kythira**	**1.47 345**		P	**Pn**	**12 31 25.6**	**+0.4**
KTHR				S	**Sn**	**12 31 44.0**	**+0.8**
LAST	**Lasithi**	**1.69**	**78**	P	**Pn**	**12 31 30.3**	**+2.1**
LAST	**Lasithi**	**1.69**	**78**	P	**Pn**	**12 31 30.8**	**+2.6**
NPS	**Neapolis**	**1.82**	**76**	P	**Pn**	**12 31 31.7**	**+1.8**
NPS	**Neapolis**	**1.82**	**76**	P	**Pn**	**12 31 32.6**	**+2.6**
VLI	**Veliai**	**1.92 347**		P	**Pn**	**12 31 32.1**	**+0.7**
VLI				S	**Sn**	**12 31 55.8**	**+1.4**
VLI	**Veliai**	**1.92 347**		P	**Pn**	**12 31 32.5**	**+1.1**
VLI				AML	AML	12 32 09.7	
	comp=N,703μm,0.6s						
VLI				AML	AML	12 32 11.2	
	comp=E,792μm,1.3s						
MHLO	**Agia Marina, M**	**2.00**	**22**	P	**Pn**	**12 31 32.3**	**-0.1**
MHLA	**Plaka, Milos I**	**2.06**	**22**	P	**Pn**	**12 31 33.3**	**0.0**
STIA	**Sitia Lasithi**	**2.19**	**80**	P	**Pn**	**12 31 37.1**	**+2.1**
SANT	**Santorini**	**2.23**	**46**	P	**Pn**	**12 31 36.1**	**+0.5**
CMBO	**Columbo, Santo**	**2.27**	**44**	P	**Pn**	**12 31 36.8**	**+0.6**
ZKR	**Zakros**	**2.28**	**82**	P	**Pn**	**12 31 39.1**	**+2.8**
IOSP	**Ios island**	**2.40**	**38**	P	**Pn**	**12 31 37.7**	**-0.2**
SERI	**Serifos**	**2.46**	**19**	P	**Pn**	**12 31 38.5**	**-0.3**
KRND	**KRANIDI**	**2.55 354**		P	**Pn**	**12 31 41.0**	**+1.0**
KRND				S	**Sn**	**12 32 11.3**	**+1.5**
KRND	**KRANIDI**	**2.55 354**		P	**Pn**	**12 31 41.3**	**+1.3**
ITM	**Ithomi**	**2.65 332**		P	**Pn**	**12 31 42.5**	**+1.2**
DID	**Didima**	**2.67 356**		P	**Pn**	**12 31 41.9**	**+0.2**
EPID	**Epidavros**	**2.79 354**		P	**Pn**	**12 31 44.1**	**+0.9**
APE	**Apeiranthos**	**2.79**	**36**	P	**Pn**	**12 31 42.9**	**-0.4**
AMGA	**Amorgos Island**	**2.81**	**44**	P	**Pn**	**12 31 43.5**	**0.0**
VLY	**Voula,Athens**	**3.02**	**5**	P	**Pn**	**12 31 46.4**	**0.0**
KARP	**Karpathos**	**3.11**	**76**	P	**Pn**	**12 31 49.0**	**+1.3**
ATHU	**Athens Univers**	**3.13**	**5**	P	**Pn**	**12 31 48.0**	**0.0**
LOUT	**Loutraki**	**3.17 353**		P	**Pn**	**12 31 49.3**	**+0.8**
GUR	**Goura**	**3.22 344**		P	**Pn**	**12 31 50.1**	**+0.8**
PTL	**Penteli**	**3.22**	**6**	P	**Pn**	**12 31 49.2**	**0.0**
DION	**Dionisos Attik**	**3.26**	**7**	P	**Pn**	**12 31 49.7**	**+0.1**
KLV	**Kalavryta, Ach**	**3.37 342**		P	**Pn**	**12 31 52.2**	**+1.0**
PROD	**Prodromos**	**3.44 353**		P	**Pn**	**12 31 52.6**	**+0.3**
EREA	**Eretria**	**3.59**	**6**	P	**Pn**	**12 31 54.5**	**+0.1**
LAKA	**Lakka**	**3.60 341**		P	**Pn**	**12 31 55.1**	**+0.7**
DSF	**Desfina**	**3.64 348**		P	**Pn**	**12 31 55.7**	**+0.6**
SLUM	**Salum**	**3.65 156**		P	**Pn**	**12 31 55.8**	**+0.8**
	baz=161						
SLUM				AMP		12 32 00.0	
	baz=161						
SLUM				S	**Sn**	**12 32 36.2**	**-0.5**
	baz=161						
KALE	**Kalithea**	**3.70 344**		P	**Pn**	**12 31 56.7**	**+0.9**
MRKA	**Markates**	**3.86**	**1**	P	**Pn**	**12 31 58.3**	**+0.3**
ATAL	**Atalanti**	**3.86 355**		P	**Pn**	**12 31 58.3**	**+0.3**
ARG	**Arkhangelos**	**4.05**	**69**	P	**Pn**	**12 32 01.9**	**+1.4**
CHOS	**Chios island**	**4.11**	**30**	P	**Pn**	**12 32 01.5**	**0.0**
MATC	**Matruh**	**4.71 137**		P	**Pn**	**12 32 10.8**	**+1.2**
	baz=140						
SWA2		**5.83 163**		P	**Pn**	**12 32 25.8**	**+0.9**
	baz=166						
SWA2				AMP		12 33 00.0	
	baz=166						
HBRG	**Burj al `Arab**	**6.85 127**		P	**Pn**	**12 32 37.5**	**-1.5**
	baz=129						
KOT	**Kottamia**	**8.60 122**		P	**Pn**	**12 33 01.7**	**-1.3**
	baz=124						
HFRF	**Wahat Farafira**	**8.72 150**		P	**Pn**	**12 33 05.1**	**+0.4**
	baz=152						
GLL	**Jalalah**	**8.74 125**		P	**Pn**	**12 33 04.0**	**-0.8**
	baz=126						
BRTR	**Keskin Array B**	**9.46**	**56**	P	**Pn**	**12 33 16.3**	**+1.4**
	comp=E,0.2nm,0.3s,baz=245,slow=15,SNR=5.2						
HDK1	**Dakhla**	**10.59 149**		P	**Pn**	**12 33 30.5**	**+0.2**
	baz=151						
EIL	**Elat**	**11.01 115**		P	**Pn**	**12 33 32.9**	**-3.0**
	comp=E,0.4nm,0.3s,baz=350,slow=4.3,SNR=9.6						
EIL				S	**Sn**	**12 35 31.5**	**-6.0**
	comp=E,0.6nm,0.3s,baz=82,slow=16,SNR=2.4						
GERES	**GERESS Array B**	**15.75 336**		P	**Pn**	**12 34 38.7**	**-0.9**
	comp=E,0.2nm,0.3s,baz=149,slow=12,SNR=2.1						
AKASG	**Malin Array Be**	**16.40**	**13**	P	**Pn**	**12 34 47.8**	**0.0**
	comp=E,1.9nm,0.3s,baz=211,slow=9.0,SNR=4.6						
KBZ	**Khabaz**	**17.44**	**54**	P	**Pn**	**12 35 00.7**	**-0.1**
	comp=E,0.1nm,0.3s,baz=246,slow=10,SNR=2.6						
HFS	**Hagfors**	**26.10 349**		P	**P**	**12 36 29.0**	**-1.0**
	comp=E,1.1nm,0.3s,baz=149,slow=11,SNR=9.1						
FINES	**FINESS Array B**	**26.68**	**3**	P	**P**	**12 36 33.7**	**-1.4**
	comp=E,0.9nm,0.5s,baz=171,slow=12,SNR=3.6						
NOA	**NORSAR Array B**	**27.38 347**		P	**P**	**12 36 40.7**	**-0.9**
	comp=E,0.2nm,0.3s,baz=155,slow=12,SNR=2.3						
EKA	**Eskdalemuir Ar**	**27.52 326**		P	**P**	**12 36 45.0**	**+2.2**
	comp=E,0.3nm,0.4s,baz=126,slow=7.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**29.23 228**		P	**P**	**12 36 59.4**	**+1.0**
	comp=E,0.4nm,0.7s,baz=37,slow=9.4,SNR=5.5						
ARCES	**ARCESS Array B**	**34.77**	**1**	P	**P**	**12 37 44.8**	**-1.6**
	comp=E,0.5nm,0.5s,baz=181,slow=7.3,SNR=5.9						
SPITS	**Spitsbergen Ar**	**43.55 358**		P	**P**	**12 38 58.8**	**-0.8**
	comp=E,2.9nm,0.8s,baz=150,slow=12,SNR=9.9						
MKAR	**Makanchi Array**	**45.11**	**56**	P	**P**	**12 39 13.0**	**+0.5**
	comp=E,1.8nm,0.3s,baz=266,slow=7.8,SNR=60						
ZALV	**Zalesovo Beam**	**46.23**	**46**	P	**P**	**12 39 20.8**	**-0.3**
	comp=E,1.0nm,0.3s,baz=260,slow=9.8,SNR=3.6						
SONM	**Songino Array**	**60.77**	**50**	P	**P**	**12 41 08.8**	**+0.8**
	comp=E,0.6nm,0.4s,baz=298,slow=8.0,SNR=3.6						
YKA	**Yellowknife Ar**	**77.32 341**		P	**P**	**12 42 50.6**	**+0.5**
	comp=E,0.1nm,0.3s,baz=34,slow=5.2,SNR=3.9						
WRA	**Warramunga Arr**	**117.94**	**96**	PKP	**PKPdf**	**12 49 43.3**	**+0.6**
	comp=E,1.3nm,1.0s,baz=313,slow=1.7,SNR=3.0						
ASAR	**Alice Springs**	**119.37 100**		PKP	**PKPdf**	**12 49 45.8**	**+0.4**
	comp=E,0.3nm,0.9s,baz=342,slow=1.4,SNR=3.8						

KRSC 29 12:35:31.9±10.0, 52°.36N×160°.90E, h40km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.91 325**		*e*P	**Pn**	**12 35 48.2**	**-0.1**
SPN				*e*S	**Sn**	**12 35 59.8**	**-0.4**
NLC	**Nalytchevo**	**1.25 311**		*e*P	**Pn**	**12 35 53.6**	**+0.8**
RUS	**Russkaya**	**1.46 274**		*e*P	**Pn**	**12 35 57.4**	**+1.6**
RUS				*e*S	**Sn**	**12 36 15.6**	**+1.9**
DALK	**Dalny**	**1.47 298**		*e*P	**Pn**	**12 35 57.3**	**+1.4**
DALK				*e*S	**Sn**	**12 36 15.4**	**+1.6**
PET	**Petropavlovsk**	**1.52 297**		*e*P	**Pn**	**12 35 58.2**	**+1.6**
PET				*e*S	**Sn**	**12 36 16.9**	**+1.8**
UGLR	**Uglovaya**	**1.52 305**		*e*P	**Pn**	**12 35 59.2**	**+2.5**
UGLR				*e*S	**Sn**	**12 36 19.2**	**+3.9**
SDLR	**Sedlovina**	**1.53 308**		*e*P	**Pn**	**12 35 58.8**	**+1.9**
AVH	**Avacha**	**1.59 306**		*e*P	**Pn**	**12 36 00.7**	**+3.0**
KOK	**Koryaka**	**1.66 305**		*e*P	**Pn**	**12 36 01.4**	**+2.8**
MTVR	**Mutnovka**	**1.67 275**		*e*P	**Pn**	**12 36 00.7**	**+1.9**
MTVR				*e*S	**Sn**	**12 36 21.3**	**+2.3**
KRX	**Arik**	**1.69 307**		P	**Pn**	**12 36 01.2**	**+2.1**
KRMR	**Karymshinskiy**	**1.75 287**		*e*S	**Sn**	**12 36 24.1**	**+3.2**
KDTR	**Khodutka, Kamc**	**1.83 254**		*e*P	**Pn**	**12 36 02.2**	**+1.4**
KDTR				*e*S	**Sn**	**12 36 23.2**	**+0.6**
ASAK	**Asacha**	**1.84 272**		*e*P	**Pn**	**12 36 03.8**	**+2.7**
GNL	**Ganaly**	**2.23 308**		*e*P	**Pn**	**12 36 09.7**	**+3.2**
MKZ	**Mys Kozlova**	**2.26**	**12**	*e*S	**Sn**	**12 36 34.4**	**+1.2**
KZV	**Kizimen**	**2.78 353**		*e*P	**Pn**	**12 36 18.0**	**+3.9**

*ISCJB **29** 12:39:02.3±2.3, 6°.6S±0°.1×107°.72E±0°.06, h6km±13km,*
mb3.5/3, Error ellipse: s-maj=20.2km s-min=8.4km
az=19.5
*IDC **29** 12:39:03.1±2.4, 6°.66S×107°.75E, h0km, mb3.6/3,*
mb1 3.7/3, mb1mx3.4/32, mbtmp3.6/3, Error ellipse:
s-maj=50.7km s-min=7.6km az=141.0
*DJA **29** 12:39:04.3±0.4, 7°.S±3°×10°.8E±°, h10km, M4.6/1, ML

H11N3	WAKE ISLAND Hy 28.17 120		T	T	13 30 12.1	
	baz=313,slow=75,SNR=53					
H11S1	WAKE ISLAND Hy 28.86 123		T	T	13 31 15.1	
	baz=314,slow=75,SNR=90					
H11S3	WAKE ISLAND Hy 28.86 123		T	T	13 31 15.3	
	baz=314,slow=75,SNR=46					
H11S2	WAKE ISLAND Hy 28.88 123		T	T	13 31 15.4	
	baz=314,slow=75,SNR=27					
MKAR	Makanchi Array	44.12 302	P	P	13 02 32.5	-1.7
	0.2nm,0.5s,baz=81,slow=9.2,SNR=2.6					
WRA	Warramunga Arr	56.93 188	P	P	13 04 10.6	-0.5
	1.3nm,0.9s,baz=360,slow=6.5,SNR=3.9					
ASAR	Alice Springs	60.66 188	P	P	13 04 37.3	+0.2
	0.4nm,0.9s,baz=12,slow=9.0,SNR=3.9					

MEX 29 13:14:27.7±0.7, 14°.61N×92°.39W, h69km±7km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.32	21	eP	Pn	13 14 37.9	-1.1
THIG				i S	Sn	13 14 45.7	-1.5
PCIG		1.36	324	eP	Pn	13 14 49.7	-1.1
PCIG				eS	Sn	13 15 05.8	-2.2
CCIG	Comitan	1.68	8	i P	Pn	13 14 54.8	-0.5
CCIG				eS	Sn	13 15 14.8	-1.3
TGIG		2.27	342	i P	Pn	13 15 01.4	-1.7
TGIG				i S	Sn	13 15 28.6	-1.6
CMIG	Matias Romero	3.45	316	i P	Pn	13 15 17.7	-1.3
CMIG				i S	Sn	13 15 57.6	-1.1

IDC 29 13:39:19.2±58.0, 19°.18S×177°.04W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/25, mbtmp3.8/3, Error ellipse: s-maj=1070.0km s-min=189.3km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.19	243	P	P	13 46 48.6	-0.6
	0.5nm,0.3s,baz=90,slow=8.1,SNR=2.8						
WRA	Warramunga Arr	45.70	261	P	P	13 47 41.7	-0.7
	0.9nm,0.9s,baz=95,slow=8.2,SNR=1.6						
ASAR	Alice Springs	45.72	255	P	P	13 47 43.0	+0.5
	1.7nm,0.6s,baz=89,slow=8.4,SNR=22						

MAN 29 13:41:30.7, 8°.41N×124°.87E, h159km, mb3.8, ML2.5, MS2.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.56	160	eP	Pn	13 41 54.2	+0.8
BUKP				eS	Sn	13 42 06.5	-4.3
BUTP	Butuan	0.93	53	eP	Pn	13 41 56.0	+0.3
CTBH	Cotabato--PC H	1.33	208	⇓iP	Pn	13 42 00.4	+1.1
CTBH				i S	Sn	13 42 16.6	-4.7
PAGZ	Pagadian	1.58	249	eP	Pn	13 41 58.2	-3.6
TBP	Tagbilaran	1.62	322	eP	Pn	13 42 03.0	+0.8
IPIL	Ipil	2.36	255	eP	Pn	13 42 11.0	+0.4
IPIL				eS	Sn	13 42 31.4	-10

*ISCJB **29** 13:48:22.7±0.3, 45°.35N±0°.02×15°.90E±0°.03, h11km±3km, Error ellipse: s-maj=3.5km s-min=2.8km az=149.7*
*VIE **29** 13:48:24.0±0.5, 45°.41N×15°.91E, h9km±2km, mb2.1/6, ml2.4/6, Error ellipse: s-maj=3.4km s-min=2.6km az=141.0*
*LJU **29** 13:48:23.0, 45°.36N×15°.90E, h15km, ML2.3*
*SAR **29** 13:48:24.4±0.3, 45°.36N×15°.86E, h5km, ML2.5/8*
ISC 29 13:48:22.8±1.1, 45°.36N±0°.02×15°.91E±0°.03, h10km±10km, n37, σ0°96/65, 2C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAG	Zagreb	0.47	6	ePg	Pb	13 48 32.9	-0.3
ZAG				eSg	Sb	13 48 40.1	-0.2
BOJS	Bojanci	0.49	288	⇓iPg	Pb	13 48 33.2	-0.3
BOJS				i Sg	Sb	13 48 39.7	-1.0
	comp=Z,124nm,0.1s						
GCIS	Gornji Cirnik	0.55	339	⇓iPg	Pg	13 48 33.7	+0.2
	comp=Z,41nm,0.1s						
CRES	Cresnjev	0.57	326	⇓iPg	Pg	13 48 34.0	+0.2
CRES				i Sg	Sb	13 48 42.1	-0.9
CRES	Cresnjev	0.57	326	ePg	Pb	13 48 34.2	-0.6
CRES				eSg	Sb	13 48 42.1	-0.9
GOLS	Golise	0.68	343	⇑iPg	Pb	13 48 36.6	-0.3
GOLS				i Sg	Sb	13 48 46.8	+0.4
	comp=Z,39nm,0.1s						
CESS	Cesta pri Krsk	0.69	333	⇑iPg	Pb	13 48 37.1	+0.1
	comp=Z,69nm,0.1s						
LEGS	Legarje	0.72	325	i Pg	Pg	13 48 37.0	+0.2
GBRS	Gornja Briga	0.79	283	i Pg	Pb	13 48 38.7	0.0
	comp=Z,30nm,0.1s						
UDBI	Udbina	0.84	187	i Pg	Pg	13 48 38.8	-0.1
UDBI				Sg	Sb	13 48 50.8	0.0
DOBS	Dobrina	0.85	339	i Pg	Pn	13 48 40.8	-0.1
DOBS				i Sg	Sb	13 48 51.9	+0.8
	comp=Z,30nm,0.1s						
VISS	Visnje	0.88	301	⇓iPg	Pb	13 48 40.4	+0.3
VISS				i Sg	Sn	13 48 53.1	-0.8
	comp=Z,31nm,0.2s						
PDKS	Podkum	0.95	318	i Pg	Pn	13 48 41.9	-0.4
PDKS				i Sg	Sn	13 48 55.2	-0.7
	comp=Z,85nm,0.2s						
RIY	Rijeka	1.01	269	ePg	Pb	13 48 42.3	0.0
RIY				eSg	Sb	13 48 55.4	-0.2
NVLJ	Novalja	1.08	223	ePg	Pn	13 48 44.3	+0.3
NVLJ				Sg	Sn	13 48 59.8	+0.8
BLY	Banja Luka	1.09	124	ePg	Pn	13 48 44.4	+0.3
BLY				eSg	Sn	13 48 59.3	+0.1
CEY	Cerknica	1.11	291	i Pg	Pn	13 48 44.6	+0.1
CEY				i Sg	Sn	13 48 59.8	0.0
	comp=Z,38nm,0.2s						
CEY	Cerknica	1.11	291	ePg	Pn	13 48 44.4	0.0
CEY				eSg	Sb	13 48 58.7	+0.1
KOGS	Kog	1.12	12	i Sg	Sn	13 49 00.9	+0.9
	comp=Z,61nm,0.2s						
VNDS	Vrh nad Dolski	1.13	312	i Pg	Pn	13 48 45.1	+0.4
VNDS				i Sg	Sn	13 49 00.5	+0.3
	comp=Z,35nm,0.2s						
GROS	Grobnik	1.14	346	i Pg	Pb	13 48 44.7	0.0
	comp=Z,14nm,0.1s						
GBAS	Gorenja Brezov	1.18	300	i Pg	Pn	13 48 45.7	+0.3
	comp=Z,27nm,0.2s						
LJU	Ljubljana	1.19	306	ePg	Pg	13 48 45.0	-0.6
LJU				eSg	Sb	13 49 00.9	0.0
MGRS	Mrkonjic Grad	1.26	138	ePg	Pg	13 48 47.9	+1.0
MGRS				eSg	Sn	13 49 04.9	+1.5
BEHE	Becsehely	1.27	28	ePg	Pg	13 48 47.7	+0.6
BEHE				eSg	Sn	13 49 05.8	+2.2
SKDS	Skadanscina	1.35	279	i Pg	Pg	13 48 48.3	-0.4
SKDS				i Sg	Sn	13 49 07.8	+2.2
	comp=Z,21nm,0.1s						
SOKA	Soboth	1.46	335	ePn	Pn	13 48 49.3	+0.1
	comp=Z,4.0nm,0.2s,SNR=12						
SOKA				ePg	Pg	13 48 51.5	+0.7
	comp=Z,12nm,0.2s						
SOKA				Sn	Sg	13 49 09.5	-0.1
	comp=Z,8.8nm,0.2s						
OBKA	Obir	1.49	321	Pg	Pg	13 48 51.6	+0.1
	comp=Z,12nm,0.2s,SNR=19						
OBKA				Sn	Sg	13 49 11.0	+0.2
	comp=Z,38nm,0.5s						
ARSA	Arzberg	1.91	352	Pn	Pn	13 48 55.5	0.0
	comp=Z,2.7nm,0.2s						
MYKA	Terra Mystica	2.03	310	Pg	Pg	13 49 02.0	+0.2
	comp=Z,1.5nm,0.2s						
MYKA				Sg	Sg	13 49 28.1	+0.1
	comp=Z,4.5nm,0.2s						
CONA	Conrad Observa	2.57	359	Pn	Pn	13 49 05.0	+0.4
	comp=Z,2.8nm,0.2s,SNR=11						
CONA				Sg	Sg	13 49 48.4	+3.0
	comp=Z,6.4nm,0.6s						
MOA	Molln	2.74	336	Pn	Pn	13 49 08.3	+1.4
	comp=Z,0.8nm,0.2s,SNR=4.1						
MOA				Sn	Sn	13 49 40.6	+0.6
	comp=Z,3.6nm,0.3s						
STON	Ston	2.80	152	ePn	Pb	13 49 11.2	-1.7
MODS	Modra-Piesok	3.16	17	ePN	Pn	13 49 12.4	-0.2
KRUC	Moravsky	3.72	5	ePN	Pn	13 49 20.1	-0.2
KRUC				eSN	Sg	13 50 20.3	-1.9
VYHS	Vyhne	3.72	32	ePN	Pn	13 49 20.7	+0.4
VYHS				eSN	Sn	13 50 00.5	-3.7
VRAC	Vranov	3.98	6	ePN	Pn	13 49 23.4	-0.5
VRAC				eSN	Sg	13 50 29.1	-1.5

*KRNET **29** 13:50:36.0±0.1, 43°.26N×72°.48E, h18km, mb2.5*
*NNC **29** 13:50:37.4±0.8, 43°.12N×72°.43E, h0km, mb2.5, mpv2.4, Error ellipse: s-maj=26.1km s-min=4.6km az=5.0*
ISC 29 13:50:36.1±1.8, 43°.20N±0°.08×72°.46E±0°.04, h1km±13km, n18, σ0°70/30, 16C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	Erkin-Say	1.11	119	P	Pg	13 50 57.7	+0.3
	SNR=12						
EKS2	Erkin-Say	1.11	119	⇑iP	Pg	13 50 57.2	-0.2
	baz=22						
EKS2				⇑iS	Sb	13 51 12.6	-0.6
	baz=22						
AML	Almayashu	1.41	139	P	Pn	13 51 03.0	-0.2
	SNR=7.7						
AML	Almayashu	1.41	139	⇑iP	Pn	13 51 02.7	-0.5
	baz=41						
AML				⇑iS	Sb	13 51 22.0	0.0
	baz=41						
KK31	Karatay Array	1.43	267	P	Pb	13 51 03.6	0.0
	0.2nm,0.2s,baz=85,slow=15,SNR=7.7						
KK31				⇓S	Sn	13 51 22.7	0.0
	3.9nm,0.3s,baz=87,slow=28,SNR=29						
USP	Ospenovka	1.49	87	P	Pn	13 51 03.5	-0.6
	SNR=7.3						
USP	Ospenovka	1.49	87	⇑iP	Pn	13 51 03.3	-0.8
	baz=89						
USP				⇑iS	Sb	13 51 23.3	-0.9
	baz=89						
AAK	Ala-Archa	1.60	110	P	Pb	13 51 06.1	-0.4
	SNR=11						
AAK	Ala-Archa	1.60	110	⇓P	Pn	13 51 05.9	+0.2
	4.8nm,0.4s						
AAK				⇑S	Sg	13 51 28.3	+0.8
	2.0nm,0.5s						
AAK	Ala-Archa	1.60	110	⇑iP	Pn	13 51 05.6	-0.1
	baz=12						
AAK				⇑iS	Sg	13 51 27.7	+0.2
	baz=12						
CHMS	Chumysh	1.69	96	P	Pn	13 51 07.0	+0.2
	SNR=9.0						
CHMS	Chumysh	1.69	96	⇑iP	Pn	13 51 06.8	-0.1
	baz=98						
CHMS				⇑iS	Sb	13 51 29.6	-0.3
	baz=98						
UCH	Uchtor	1.80	122	P	Pb	13 51 10.3	+0.1
	SNR=11						
UCH	Uchtor	1.80	122	⇑iP	Pb	13 51 09.7	-0.5
	baz=24						
UCH				⇑iS	Sg	13 51 34.3	+0.3
	baz=24						
ARLS	Aral	1.92	134	⇓iP	Pb	13 51 11.6	-0.5
	baz=35						
ARLS				⇓iS	Sg	13 51 37.5	-0.4
	baz=35						
TKM2	Tokmak 2	2.32	96	⇑P	Pb	13 51 18.7	-0.1
	1.5nm,0.6s						
TKM2				⇓S	Sb	13 51 47.7	-0.3
	1.8nm,0.5s						
KZA	Kyzart	2.34	118	⇑iP	Pn	13 51 17.5	+1.3
	baz=19						
KZA				⇑iS	Sb	13 51 47.3	-1.7
	baz=19						
BOOM	Boomskoye usch	2.66	104	⇓iP	Pn	13 51 21.6	+1.3
	baz=6.0						
BOOM				⇓iS	Sn	13 51 54.5	+1.3
	baz=6.0						

ATH 29 13:56:13.3, 38°.23N×22°.09E, h12km±2km, ML1.7/4, Error ellipse: s-maj=2.7km s-min=0.8km az=290.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	Lakka	0.09	277	P	Pg	13 56 16.0	-0.1
LAKA				S	Sg	13 56 17.8	-0.4
LAKA				AML	AML	13 56 18.1	
	comp=E,557μm,0.2s						
LAKA				AML	AML	13 56 18.3	
	comp=N,551μm,0.2s						
TRIZ	Trizonia	0.14	354	P	Pg	13 56 16.6	-0.1
TRIZ				S	Sg	13 56 19.1	0.0
KALE	Kalithea	0.17	13	P	Pg	13 56 17.2	0.0
KALE				S	Sg	13 56 20.1	+0.2
KALE				AML	AML	13 56 20.3	
	comp=N,2208μm,0.2s						
KALE				AML	AML	13 56 20.5	
	comp=E,1242μm,0.1s						
SERG	Sergoula	0.19	352	P	Pg	13 56 17.4	-0.1
SERG				S	Sg	13 56 20.6	+0.2
SERG				AML	AML	13 56 20.8	
	comp=N,1256μm,0.2s						
SERG				AML	AML	13 56 20.9	
	comp=E,1154μm,0.3s						
KLV	Kalavryta, Ach	0.19	166	P	Pg	13 56 17.5	0.0
KLV				S	Sg	13 56 20.7	+0.2
KLV				AML	AML	13 56 21.0	
	comp=N,266μm,0.1s						
KLV				AML	AML	13 56 21.4	
	comp=E,224μm,0.1s						
EFP	Efpalio	0.25	324	P	Pg	13 56 18.5	0.0
EFP				S	Sg	13 56 22.4	+0.4
UPR	University Cam	0.25	283	P	Pg	13 56 18.2	-0.3
GUR	Goura	0.35	146	P	Pg	13 56 20.2	-0.2
GUR				S	Sg	13 56 25.8	+0.6
ANX	Ano Chora	0.39	340	P	Pg	13 56 20.9	-0.2
ANX				S	Sg	13 56 26.8	+0.4
DSF	Desfina	0.39	62	P	Pg	13 56 20.8	-0.3
DSF				S	Sg	13 56 26.6	+0.3
DRO	Drossia	0.41	228	P	Pg	13 56 21.5	+0.1

*NEIC **29** 14:01:19.0±0.6, 28°.16N×62°.63E, h10km, mb4.0/9, ML4.1(THR), MN4.1(TEH), Error ellipse: s-maj=14.5km s-min=8.9km az=141.0*
*MOS **29** 14:01:19.9±1.1, 28°.10N×62°.62E, h33km, mb4.6/15, Error ellipse: s-maj=10.5km s-min=6.4km az=101.1*
*ISCJB **29** 14:01:20.8±0.3, 28°.09N±0°.03×62°.78E±0°.03, h35km, mb4.2/45, MS3.1/5, Error ellipse: s-maj=5.2km s-min=3.7km az=160.6*
*TEH **29** 14:01:23.8, 28°.09N×62°.88E, h80km, ML4.2*
*IDC **29** 14:01:23.1±3.2, 28°.16N×62°.66E, h43km±31km, mb3.7/18, mb1 3.8/20, mb1mx3.7/43, mbtmp3.9/20, ML3.8/2, MS3.0/6, Ms1 3.0/6, ms1mx2.7/37, Error ellipse: s-maj=16.3km s-min=14.9km az=134.0*
*DSN **29** 14:01:32.3±3.1, 27°.41N×62°.19E, h10km, ML4.1/9, Error ellipse: s-maj=85.4km s-min=16.8km az=177.0*
*OMAN **29** 14:01:34.6±0.3, 27°.24N×62°.06E, h10km, ml4.0/1, Error ellipse: s-maj=6.0km s-min=3.5km az=19.0*
ISC 29 14:01:22.1±0.5, 28°.01N±0°.06×62°.80E±0°.04, h35km, n140, σ2°17/139, mb4.2/45, MS3.0/5, 4C-6D, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZD1	Zahaedan-tmp	2.25	311	ePn	Pn	14 01 59.6	+2.7
ZHSF	Zahedan	2.39	312	ePn	Pn	14 02 02.3	+3.4
CHBR	Chabahar	3.17	221	ePn	Pn	14 02 13.3	+3.8
NIAN	Nian	5.30	267	ePn	Pn	14 02 44.3	+5.5
IDAH	Dahanechah	5.35	332	ePn	Pn	14 02 42.7	+3.0
IDAH				IAMB	IAmb	14 04 39.1	
	comp=E,1μm,1.2s						
IKOO	Kooshah	5.49	324	ePn	Pn	14 02 43.4	+1.8
IKOO				IAMB	IAmb	14 02 51.8	
	comp=Z,374nm,0.2s						
KRBR	Kerman	5.64	292	ePn	Pn	14 02 47.0	+3.3
IMON	Monand	5.83	333	ePn	Pn	14 02 48.7	+2.5
IMON				IAMB	IAmb	14 03 26.9	
	comp=E,2μm,0.5s						
GENO	Geno	5.91	266	ePn	Pn	14 02 52.3	+5.0
ITEG	Tejag	5.99	325	ePn	Pn	14 02 50.8	+2.3
ITEG				IAMB	IAmb	14 02 51.6	
	comp=Z,216nm,0.5s						
KHGB	Koh Gabri	6.01	295	ePn	Pn	14 02 53.0	+4.3
KHGB				IAMB	IAmb	14 02 53.3	
	comp=Z,0.0nm,0.4s						
SHRT	Shahrakht	6.02	340	ePn	Pn	14 02 52.0	+3.3
WSAR	Wadi Sarin	6.06	219	P	Pn	14 02 50.5	+1.2
	SNR=33						
WSAR	Wadi Sarin	6.06	219	P	Pn	14 02 50.5	+1.2
	comp=Z,1.4nm,0.3s,baz=75,slow=3.3,SNR=27						
WSAR				S	Sn	14 03 52.5	-4.9
	comp=Z,5.6nm,0.3s,baz=218,slow=20,SNR=20						
BANOM	Banah	6.16	252	i P	Pn	14 02 53.6	+3.0
	SNR=30						
BANOM	Banah	6.16	252	P	Pn	14 02 53.6	+3.0
	SNR=29						
BANOM				S	Sn	14 03 57.3	-2.6
SHME	Shamm	6.25	253	i P	Pn	14 02 55.5	+3.6
	SNR=26						
SHME				S	Sn	14 04 00.5	-1.6
WBK	Wadi Bani Khal	6.40	214	P	Pn	14 02 54.8	+0.9
	SNR=12						
WBK				S	Sn	14 04 00.4	-5.3
MDH	Madha	6.41	247	P	Pn	14 02 56.2	+2.2
MDH	Madha	6.41	247	P	Pn	14 02 56.4	+2.3
	SNR=7.4						
MDH				S	Sn	14 04 01.3	-4.8
MDH	Madha	6.41	247	ePn	Pn	14 02 56.3	+2.2
MSFE	Esma-Masafi	6.50	248	i P	Pn	14 02 58.5	+3.2
	SNR=14						
MSFE	Esma-Masafi	6.50	248	ePn	Pn	14 02 57.0	+1.7
UOSS	Minazif	6.65	244	ePn	Pn	14 02 58.7	+1.4
UOSS	Minazif	6.65	244	i P	Pn	14 02 59.1	+1.8
	SNR=16						
UOSS	Minazif	6.65	244	ePn	Pn	14 02 58.9	+1.6
HATD	Hatta, Dubai	6.77	244	P	Pn	14 03 00.2	+1.3
HATD	Hatta, Dubai	6.77	244	P	Pn	14 03 01.7	+2.8
HATD				S	Sn	14 04 09.1	-5.7
HATD	Hatta, Dubai	6.77	244	ePn	Pn	14 02 59.9	+1.0
SOHO	SOHO	6.83	237	P	Pn	14 03 01.6	+1.8
	SNR=48						
ASHO	Ashiyiah	6.89	243	i P	Pn	14 03 03.2	+2.5
	SNR=24						
ASHO	Ashiyiah	6.89	243	P	Pn	14 03 03.3	+2.5
	SNR=24						
ASHO	Ashiyiah	6.89	243	ePn	Pn	14 03 03.2	+2.5
NAZ	Nazwa, Dubai	7.07	246	i P	Pn	14 03 05.3	+2.2
	SNR=6.2						
NAZ	Nazwa, Dubai	7.07	246	ePn	Pn	14 03 07.3	+4.3
FAQ	Al Faqa, Dubai	7.23	245	i P	Pn	14 03 08.4	+3.1
	SNR=14						
FAQ	Al Faqa, Dubai	7.23	245	P	Pn	14 03 10.1	+4.7
FAQ	Al Faqa, Dubai	7.23	245	ePn	Pn	14 03 09.9	+4.6
TPRV	Parvadeh(Tabas	7.26	315	ePn	Pn	14 03 08.9	+3.1
TKDS	Koohdasht(Taba	7.42	320	ePn	Pn	14 03 11.1	+3.2
TABS	Tabas	7.44	320	ePn	Pn	14 03 11.6	+3.3
ASUD	Al Ashush, Dub	7.50	245	P	Pn	14 03 13.8	+4.8
TNSJ	Nastanj	7.96	320	ePn	Pn	14 03 18.4	+3.0
YZKH	Yazd	8.33	304	ePn	Pn	14 03 24.2	+3.7
IMYA	Miami	8.61	345	ePn	Pn	14 03 26.9	+2.5
THW	Thamme Wali	9.07	56	P	Pn	14 03 31.7	+1.1
CEP	Cherat	9.73	51	P	Pn	14 03 41.5	+1.8
IKAZ	Kazeroun	9.77	283	ePn	Pn	14 03 41.9	+1.5
NIL	Nilore	10.60	55	ePn	Pn	14 03 53.2	+1.8
NIL	Nilore	10.60	55	eP	Pn	14 03 53.3	+1.8
NIL	Nilore	10.60	55	ePn	Pn	14 03 54.1	+2.7
CHCP	Chirah Chowk	10.61	55	P	Pn	14 03 53.5	+1.9
GEYT	Alibeck	10.64	340	P	Pn	14 03 55.3	+3.3
	baz=146,slow=13,SNR=4.2						
GEYT				LR	LR	14 08 31.7	
	comp=Z,52nm,18.7s,baz=30,slow=41						
KK31	Karatay Array	16.30	20	ePn	Pn	14 05 08.4	+0.1
	comp=Z,1.9nm,0.9s						
KK31	Karatay Array	16.30	20	eP	Pn	14 05 08.4	+0.1
KK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KKAR	Karatay Array	16.30	20	ePn	Pn	14 05 08.3	0.0
	comp=Z,1.9nm,0.9s						
KKAR	Karatay Array	16.30	20	eP	Pn	14 05 08.3	0.0
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	Ala-Archa	17.41	30	ePn	Pn	14 05 22.1	-0.2
	comp=Z,2.6nm,0.9s						
AAK	Ala-Archa	17.41	30	⇓eP	Pn	14 05 22.8	+0.5
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	Ala-Archa	17.41	30	P	Pn	14 05 23.1	+0.8
	comp=Z,0.5nm,0.3s,baz=143,slow=22,SNR=4.2						
PYUN	Piuthan	17.82	85	eP	Pn	14 05 27.8	+0.2
GNI	Garni	19.20	314	⇓eP	P	14 05 42.8	-0.3
GNI				pmax	pmax		
	comp=Z,12nm,0.6s						
GNI	Garni	19.20	314	P	Pn	14 05 45.9	+1.7
	comp=Z,0.5nm,0.3s,baz=214,slow=21,SNR=3.0						
DMN	Daman	19.74	86	eP	Pn	14 05 51.5	+0.7
KKN	Kakani	19.87	85	eP	Pn	14 05 52.7	+0.4
PKIN	Phulchoki	20.00	86	eP	Pn	14 05 54.5	+0.6
	comp=Z,12nm,0.5s						
PKI	Pulchoki	20.01	86	eP	Pn	14 05 54.8	+0.7
	comp=Z,19nm,0.6s						
GROC	Groznyy	20.45	322	eP	P	14 05 54.9	-1.6
GROC				e*SP	sP	14 06 17.6	+7.2
GROC				S	S	14 09 38.6	-5.0
GROC				e*SS	sS	14 10 03.7	+5.2
GROC				pmax	pmax		
	comp=Z,29nm,0.6s						
RAMN	Ramite	21.14	87	eP	P	14 06 06.4	+2.1
	comp=Z,39nm,0.8s						
ZEI	Tsey	21.25	319	eP	P	14 06 03.0	-2.4
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ABKAR	Akbulak array	21.33	355	eP	P	14 06 04.3	-1.5
	comp=Z,4.6nm,0.7s						
ODAN	Odare	21.85	87	eP	P	14 06 14.0	+2.0
	comp=Z,34nm,0.8s						
NCK	Nalchik	21.87	320	⇑eP	P	14 06 09.6	-2.1
NCK				pmax	pmax		
	comp=Z,9.0nm,0.2s						
NEY	Neytrino	22.22	318	⇓eP	P	14 06 16.3	+0.6
NEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBZ	Khabaz	22.41	320	P	P	14 06 20.5	+3.0
	comp=Z,4.2nm,0.9s,baz=124,slow=12,SNR=6.9						
KIV	Kislovodsk	22.67	320	eP	P	14 06 21.0	+0.6
KIV				pmax	pmax		
	comp=Z,23nm,1.1s						
AKTO	Aktyubinsk	22.69	352	P	P	14 06 18.7	-1.8
	comp=Z,5.0nm,0.7s,baz=164,slow=10,SNR=17						
MK32	Makanchi Array	24.20	34	eP	P	14 06 35.5	+0.2
MKAR	Makanchi Array	24.20	34	P	P	14 06 35.5	+0.2
	comp=Z,0.7nm,0.7s,baz=214,slow=9.6,SNR=5.4						
KURBB	Kurchatov Arra	25.55	24	P	P	14 06 47.0	-0.4
	comp=Z,0.9nm,0.4s,baz=218,slow=8.8,SNR=6.1						
BVAR	Borovoye Array	25.61	11	P	P	14 06 46.4	-1.6
	comp=Z,1.7nm,0.5s,baz=188,slow=11,SNR=9.5						
BRVK	Borovoye	25.63	10	ceP	P	14 06 47.2	-0.9
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	Kurchatov	25.66	24	P	P	14 06 47.0	-1.4
ANN	Anapa	26.25	316	eP	P	14 06 51.9	-1.9
ANN				e*PP	sP	14 07 10.1	+1.8
ANN				eS	S	14 11 20.0	-3.9
ANN				pmax	pmax		
	comp=Z,33nm,1.3s						
BR101	Keskin Array S	26.77	303	eP	P	14 06 56.0	-2.7
BRTR

KOLS	Kolonicke sedl	37.40	315	eP	P	14 08 32.2	+0.6
SONA0	Songino Array	39.05	48	eP	P	14 08 47.0	+1.4
SONM	Songino Array	39.05	48	P	P	14 08 47.0	+1.4
SONM	Songino Array	39.05	48	P	P	14 08 47.0	+1.4
	comp=Z,0.9nm,0.8s,baz=256,slow=8.8,SNR=4.9						
VYHS	Vyhne	39.45	313	eP	P	14 08 47.9	-0.9
VYHS	Vyhne	39.45	313	eP	P	14 08 47.9	-0.9
ULN	Ulaanbaatar	39.48	48	eP	P	14 08 47.7	-1.6
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FIA0	FINESS Array S	41.39	334	eP	P	14 09 02.9	-1.7
FIA0	FINESS Array S	41.39	334	eP	P	14 09 02.9	-1.7
FINES	FINESS Array B	41.39	334	P	P	14 09 02.9	-1.7
	comp=Z,2.2nm,0.4s,baz=132,slow=9.0,SNR=21						
GEC2	GERESS Array S	42.85	313	eP	P	14 09 15.5	-1.3
	comp=Z,3.7nm,0.7s						
GEC2	GERESS Array S	42.85	313	eP	P	14 09 15.5	-1.3
GEC2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	GERESS Array B	42.85	313	P	P	14 09 16.0	-0.8
	comp=Z,1.2nm,0.5s,baz=100,slow=6.1,SNR=14						
ABTA	Abfaltersbach	43.31	310	iP	P	14 09 19.9	-0.6
	comp=Z,6.3nm,0.6s						
CLL	Collm	43.79	316	eP	P	14 09 24.0	-0.2
CLL	Collm	43.79	316	eP	P	14 09 24.0	-0.2
WTTA	Wattenberg	43.97	310	iP	P	14 09 24.6	-1.4
	comp=Z,8.9nm,0.6s						
MOTA	Moosalm	44.34	310	iP	P	14 09 26.9	-2.0
	comp=Z,3.6nm,0.5s						
FETA	Feichten	44.55	310	iP	P	14 09 29.2	-1.5
	comp=Z,6.5nm,0.9s						
RETA	Reutte	44.59	310	iP	P	14 09 29.2	-1.6
	comp=Z,4.6nm,0.5s						
DAVA	Damuels	45.16	310	eP	P	14 09 34.0	-1.5
	comp=Z,10nm,0.6s						
TUE	Stuetta	45.45	309	eP	P	14 09 36.3	-1.5
	comp=Z,7.1nm,0.8s						
ARCES	ARCESS Array B	46.79	343	P	P	14 09 46.0	-1.8
	comp=Z,1.8nm,0.5s,baz=148,slow=8.8,SNR=20						
NB2	NORSAR Subarra	47.51	329	P	P	14 09 51.1	-2.5
	comp=Z,0.7nm,0.5s,baz=109,slow=7.9						
NB200	NORSAR Array S	47.51	329	eP	P	14 09 51.5	-2.0
NOA	NORSAR Array B	47.51	329	P	P	14 09 51.5	-2.0
	comp=Z,0.9nm,0.6s,baz=110,slow=7.6,SNR=4.8						
NOA				LR	LR	14 32 33.4	
	comp=Z,6.2nm,21.9s,baz=175,slow=40						
KS15	Wonju Array Si	54.60	62	eP	P	14 10 47.2	+0.1
	comp=Z,66nm,1.8s						
KSRS	Korea Array	54.63	62	P	P	14 10 47.2	-0.1
	comp=Z,1.3nm,0.6s,baz=273,slow=7.3,SNR=6.2						
ESDC	Sonseca Array	55.51	301	P	P	14 10 52.7	-1.0
	comp=Z,0.3nm,0.4s,baz=64,slow=10,SNR=4.1						
KLR	Kul'dur	55.88	48	eP	P	14 10 54.7	-1.5
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TOA1	Torodi Ar. Sit	58.55	269	eP	P	14 11 14.8	-0.8
TORD	Torodi Ar. Bea	58.55	269	P	P	14 11 14.8	-0.7
	comp=Z,0.4nm,0.4s,baz=50,slow=6.5,SNR=8.3						
SEY	Seymchan	65.27	30	LR	LR	14 46 00.1	
	comp=Z,86nm,21.1s,baz=56,slow=41						
BOSA	Boshof	66.81	216	P	P	14 12 11.7	+1.3
	comp=Z,1.1nm,0.7s,baz=32,slow=9.5,SNR=2.7						
BILL	Bilibino	69.18	23	eP	P	14 12 24.3	-0.4
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SFJD	Kangerlussuaq	73.05	338	LR	LR	14 43 47.9	
	comp=Z,8.9nm,20.2s,baz=210,slow=35						
FRB	Frobisher Bay	80.87	340	LR	LR	14 49 15.6	
	comp=Z,7.1nm,19.9s,baz=356,slow=36						
WR1	Warramunga Arr	83.97	116	eP	P	14 13 49.2	+0.1
WRA	Warramunga Arr	83.97	116	P	P	14 13 49.2	+0.1
	comp=Z,2.7nm,0.7s,baz=311,slow=4.7,SNR=7.0						
CAST	Castle Rocks	84.78	15	eP	P	14 13 51.7	-0.8
	comp=Z,17nm,2.0s						
ASAR	Alice Springs	85.64	120	P	P	14 13 57.5	+0.1
	comp=Z,0.8nm,0.5s,baz=305,slow=5.1,SNR=27						
AS31	Alice Springs	85.64	120	eP	P	14 13 57.4	0.0
	comp=Z,1.2nm,1.1s						
YKA	Yellowknife Ar	89.79	359	P	P	14 14 16.9	+0.2
	comp=Z,0.3nm,0.7s,baz=358,slow=5.3,SNR=4.3						
YKB5	Yellowknife Ar	89.79	359	eP	P	14 14 16.9	+0.2

*ISCJB **29** 14:33:48.7±0.2, 61°.89N±0°.02×150°.54W±0°.05, h82km±4km, mb3.6/4, Error ellipse: s-maj=4.5km s-min=3.7km az=40.3*
*NEIC **29** 14:33:50.8±0.0, 61°.88N×150°.57W, h67km, ML3.2(AEIC), After AEIC.*
*IDC **29** 14:33:53.6±5.6, 62°.23N×150°.73W, h92km±43km, mb3.5/4, mb1 3.4/7, mb1mx3.1/70, mbtmp3.6/7, Error ellipse: s-maj=45.9km s-min=33.6km az=22.0*

ISC 29 14:33:49.8±0.8, 61°.89N±0°.04×150°.56W±0°.04, h73km±8km, n82, σ0s69/87, mb3.9/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	Susitna One	0.44	192	ePn	Pn	14 34 02.2	-0.3
SUA				eSn	Sn	14 34 11.5	-0.3
PMR	Palmer	0.74	113	ePn	Pn	14 34 04.9	-0.5
PMR				eSn	Sn	14 34 16.4	-0.5
FIB	Fire Island	0.75	166	ePn	Pn	14 34 06.1	+0.6
GHO	Glory Hole Cre	0.79	98	ePn	Pn	14 34 05.9	-0.1
GHO				eSn	Sn	14 34 18.5	+0.5
RC01	Rabbit Creek A	0.90	154	ePn	Pn	14 34 06.6	-0.6
RC01				eSn	Sn	14 34 20.2	+0.1
SPCP	Crater Peak Br	0.99	231	ePn	Pn	14 34 08.2	-0.3
SPCP				eSn	Sn	14 34 21.9	-0.4
SPU	Mount Spurr	1.01	226	ePn	Pn	14 34 08.4	-0.3
SML	Sawmill	1.06	94	ePn	Pn	14 34 09.2	-0.1
KNK	Knik Glacier	1.11	115	ePn	Pn	14 34 10.0	+0.1
SPWE	Spurr West	1.14	238	ePn	Pn	14 34 10.3	0.0
PTE	Portage	1.27	144	ePn	Pn	14 34 11.6	-0.2
SLKM	Skilak Lake	1.40	173	ePn	Pn	14 34 13.0	-0.6
SCM	Sheep Creek Mo	1.53	91	ePn	Pn	14 34 15.2	-0.1
CAST	Castle Rocks	1.69	336	ePn	Pn	14 34 17.1	-0.3
RDJH	Redoubt Jeurge	1.70	221	ePn	Pn	14 34 18.0	+0.4
RND	Reindeer	1.71	27	ePn	Pn	14 34 17.8	0.0
RSO	Redoubt South	1.79	218	ePn	Pn	14 34 19.0	+0.2
RDWB	Redoubt West	1.79	219	ePn	Pn	14 34 19.0	+0.2
SEW	Seward	1.87	163	ePn	Pn	14 34 19.7	0.0
DHY	Denali Highway	1.90	50	ePn	Pn	14 34 20.5	+0.2
GLI	Glacier Island	1.95	120	ePn	Pn	14 34 20.2	-0.7
MCK	McKinley	1.99	21	ePn	Pn	14 34 22.1	+0.6
JPK	Jack Peak	2.08	112	ePn	Pn	14 34 22.2	-0.4
BRLK	Bradley Lake	2.14	184	ePn	Pn	14 34 22.9	-0.5
CHUM	Lake Minchumin	2.15	339	ePn	Pn	14 34 23.5	0.0
BPAW	Bear Paw Mtn.	2.23	355	ePn	Pn	14 34 24.1	-0.4
IVE	Iliamna Volcan	2.23	214	ePn	Pn	14 34 25.1	+0.4
ILS	Iliamna Low So	2.29	213	ePn	Pn	14 34 26.6	+1.0
HOM	Homer	2.30	194	ePn	Pn	14 34 33.9	+8.4
BWN	Browne	2.34	12	ePn	Pn	14 34 26.8	+0.7
CNPM	China Poot	2.40	188	ePn	Pn	14 34 27.8	+0.9
PS11	TAPS Pump St11	2.41	83	ePn	Pn	14 34 27.8	+0.8
DIV	Divide	2.42	106	ePn	Pn	14 34 26.5	-0.7
HARP	HAARP	2.59	76	ePn	Pn	14 34 30.4	+1.0
PAX	Paxson	2.60	63	ePn	Pn	14 34 30.5	+0.8
EYAK	Cordova Ski Ar	2.69	118	ePn	Pn	14 34 31.5	+0.7
TT01	Tatalina	2.74	294	ePn	Pn	14 34 30.8	-0.7
WRH	Wood River Hil	2.82	22	ePn	Pn	14 34 32.5	-0.1
HDA	Harding Lake	3.01	31	ePn	Pn	14 34 35.6	+0.4
CCB	Clear Creek Bu	3.03	23	ePn	Pn	14 34 35.2	-0.3
MLY	Manley	3.15	359	ePn	Pn	14 34 36.9	-0.2
PS08	TAPS Pump Stn8	3.15	31	ePn	Pn	14 34 37.8	+0.8
RIDG	Independent Ri	3.21	52	ePn	Pn	14 34 39.4	+1.4
COLA	College	3.23	21	ePn	Pn	14 34 38.4	+0.3
MDM	Murphy Dome	3.25	18	ePn	Pn	14 34 38.5	0.0
ILAR	Eielson Array	3.33	28	P	Pn	14 34 40.1	+0.6
	2.7nm,0.3s,baz=215,slow=14,SNR=109						
ILAR				S	Sn	14 35 16.6	-1.3
	5.8nm,0.3s,baz=221,slow=26,SNR=10						
ILB	Eielson Array	3.33	28	ePn	Pn	14 34 39.7	+0.2
MENT	Mentasta	3.35	69	ePn	Pn	14 34 40.2	+0.4
HMT	Hamilton	3.43	114	ePn	Pn	14 34 39.6	-1.3
DOT	Dot Lake	3.47	57	ePn	Pn	14 34 42.0	+0.6
NICHA	Nichawak Mount	3.61	114	ePn	Pn	14 34 42.2	-1.0
MCARA	McCarthy VSAT	3.63	95	ePn	Pn	14 34 44.0	+0.3
TGL	Tana Glacier	3.90	104	ePn	Pn	14 34 47.2	-0.1
PS06	TAPS Pump Stn6	4.00	5	ePn	Pn	14 34 48.7	+0.2
BALM	Baldy	4.03	99	ePn	Pn	14 34 48.5	-0.6
BCA3	Beaver Creek A	4.24	70	ePn	Pn	14 34 52.0	0.0
KDAK	Kodiak Island	4.25	195	ePn	Pn	14 34 51.3	-0.7
PRP	Porcupine Dome	4.27	29	ePn	Pn	14 34 51.8	-0.7
IM3	Indian Mountai	4.34	342	ePn	Pn	14 34 53.0	-0.2
CTGM	Chitina Glacie	4.53	98	ePn	Pn	14 34 56.1	+0.2
OHAK	Old Harbor	4.88	198	ePn	Pn	14 34 59.4	-1.3
CHX	Chaix Hills	4.95	108	ePn	Pn	14 35 01.4	-0.3
EGAK	Eagle	5.13	52	ePn	Pn	14 35 04.2	+0.2
FYU	Fort Yukon	5.24	24	ePn	Pn	14 35 05.6	+0.2
COLD	Coldfoot	5.36	1	ePn	Pn	14 35 07.3	+0.2
DAWY	Dawson	5.54	62	ePn	Pn	14 35 09.7	+0.1
YUK4	Talbot Arm	5.71	90	ePn	Pn	14 35 12.4	+0.3
YUK6	Outpost Mounta	5.93	94	ePn	Pn	14 35 14.8	-0.4
BM3	Burnt Mountain	6.11	22	ePn	Pn	14 35 17.4	+0.1
HYT	Haines Junctio	6.37	94	ePn	Pn	14 35 20.2	-0.9
TOLK	Toolik Lake Re	6.79	3	ePn	Pn	14 35 28.0	+1.4
ANM	Nome	7.20	298	ePn	Pn	14 35 33.0	+0.7
INK	Inuvik	9.61	41	P	Pn	14 36 07.5	+2.5
	0.1nm,0.3s,baz=216,slow=11,SNR=3.4						
YKA	Yellowknife Ar	16.65	72	P	Pn	14 37 38.8	+0.7
	0.1nm,0.3s,baz=281,slow=10,SNR=6.9						
YKB5	Yellowknife Ar	16.65	72	ePn	Pn	14 37 38.8	+0.6
SONA0	Songino Array	54.63	306	eP	P	14 43 12.1	+1.5
SONM	Songino Array	54.63	306	P	P	14 43 12.1	+1.5
	1.1nm,0.7s,baz=35,slow=8.1,SNR=4.7						
MK32	Makanchi Array	63.68	322	eP	P	14 44 11.9	-1.1
MKAR	Makanchi Array	63.68	322	P	P	14 44 11.9	-1.1
	0.1nm,0.3s,baz=29,slow=5.8,SNR=2.5						
AKTO	Aktyubinsk	65.72	340	P	P	14 44 25.5	-0.6
	0.8nm,0.4s,baz=21,slow=8.6,SNR=4.4						
AKASG	Malin Array Be	67.76	0	P	P	14 44 38.8	-0.2
	0.4nm,0.4s,baz=3.1,slow=6.0,SNR=3.3						
AKBB	Malin Array Si	67.76	0	eP	P	14 44 38.8	-0.2

JMA 29 14:35:14.1±0.1, 38°.44N×142°.24E, h27km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.62	258	P	Pb	14 35 25.9	-0.5
JIKH				S	Sb	14 35 33.8	-1.0
JIO	Ouri	0.70	271	P	Pb	14 35 27.5	-0.2
JIO				S	Sb	14 35 36.6	-0.4
JKMT	Kesennumamotoy	0.70	302	P	Pb	14 35 27.7	-0.1
JKMT				S	Sb	14 35 36.9	-0.2
OFUJ	Ofunato	0.78	325	P	Pb	14 35 28.7	-0.4
OFUJ				S	Sb	14 35 38.7	-0.6
JMK	Ichinoseki	0.95	303	P	Pn	14 35 31.3	-0.3
JMK				S	Sb	14 35 43.9	-0.2
JOU	Okura	1.24	267	P	Pb	14 35 36.4	-0.5
JOU				S	Sn	14 35 51.7	+0.2
JOM	Ohasama	1.27	325	P	Pn	14 35 36.3	+0.2
JOM				S	Sn	14 35 52.6	+0.4
JMM	Marumori	1.28	244	P	Pn	14 35 35.6	-0.5
JMM				S	Sn	14 35 51.4	-1.0
JFK	Kawauchi	1.52	226	P	Pn	14 35 38.7	-0.9
JFK				eS	Sn	14 35 56.4	-2.1
JYK	Kaneyama	1.55	289	P	Pb	14 35 41.1	-1.0
JYK				eS	Sb	14 36 00.5	-0.8
JRG	Rokugo	1.57	308	P	Pn	14 35 41.3	+1.0
JRG				eS	Sb	14 36 01.9	-0.2

*IDC **29** 14:38:00.9±0.5, 34°.32N×119°.95W, h0km, mb4.6/39, mb1 4.7/48, mb1mx4.6/60, mbtmp4.6/48, ML4.2/9, MS3.9/16, Ms1 3.9/16, ms1mx3.8/32, Error ellipse: s-maj=11.1km s-min=8.1km az=48.0*
*BJI **29** 14:38:00.7±0.0, 34°.40N×120°.32W, h6km, mb4.9/21, mB5.3/13, Ms4.8/6, Ms7 4.6/6*
*NCEDC **29** 14:38:01.1±0.0, 34°.33N×120°.00W, h18km*
*MOS **29** 14:38:01.2±0.8, 34°.43N×119°.85W, h10km, mb5.1/47, Error ellipse: s-maj=6.2km s-min=4.3km az=77.9*
*SCEDC **29** 14:38:02.9, 34°.41N×119°.92W*
*ANF **29** 14:38:02.3±0.4, 34°.37N×119°.92W, h19km±2km, ML5.0/24, Error ellipse: s-maj=3.7km s-min=1.9km az=68.0*
*PAS **29** 14:38:03.2, 34°.41N×119°.93W, h8km, MW4.8, MB4.9(NEIC), MW4.8(BRK)*
*NEIC **29** 14:38:03.2±0.0, 34°.41N×119°.93W, h8km, mb4.9/152, MW4.7, MW4.8(BRK), MW4.8(PAS), Moment Tensor Solution. s49 Moment tensor: Scale 10^{16}Nm; M_{rr}1.23; $M_{\theta\theta}$-1.15; $M_{\phi\phi}$-0.09; $M_{r\theta}$0.54; $M_{\theta\phi}$0.61; $M_{\phi r}$-0.44; Best double couple: $M_0$1.50000×10^{16} NP1:φs122.00000°, δ59.00000°, λ99.00000°. NP2:φs286.00000°, δ32.00000°, λ76.00000°. Principal axes: T 1.4200, Plg75.0000°, Azm56.0000°; N 0.1700, Plg7.0000°, Azm298.0000°; P -1.5900, Plg14.0000°, Azm206.0000°; After PAS.*
NEIC Felt [IV] at Goleta, Santa Barbara and Summerland; [III] at Bakersfield, Buelton, Carpinteria, Lompoc, Moro Bay, Oxnard, Point Mugu NAWC, Port Hueneme, Santa Maria, Santa Ynez and Solvang. Felt in much of the Bakersfield-Los Angeles-San Luis Obispo area.
*ISCJB **29** 14:38:04.8±0.3, 34°.44N±0°.02×119°.68W±0°.02, h43km±2km, mb4.8/182, MS4.0/11 Error ellipse: s-maj=3.9km s-min=2.0km az=42.5*
*GCMT **29** 14:38:06.2±0.6, 34°.45N±0°.04×120°.06W±0°.04, h17km±1km, MW4.9/61, Moment Tensor Solution. s32, c39; s61, c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.45±.17; $M_{\theta\theta}$-1.91±.12; $M_{\phi\phi}$0.46±.11; $M_{r\theta}$1.42±.34; $M_{\theta\phi}$0.94±.08; $M_{\phi r}$-2.18±.50; Best double couple: $M_0$3.26200×10^{16} NP1:φs140.00000°, δ75.00000°, λ115.00000°. NP2: φs258.00000°, δ29.00000°, λ32.00000°. Principal axes: T 3.2510, Plg53.0000°, Azm79.0000°; N 0.0250, Plg24.0000°, Azm313.0000°; P -3.2720, Plg26.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 14:38:03.9±0.7, 34°.41N±0°.03×119°.80W±0°.04, h20km±3km, n875, σ1s61/892, mb4.9/182, MS4.0/11, 13C-7D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBC	Santa Barbara	0.08	64	P	Pg	14 38 07.0	-0.6
	baz=258,SNR=1000						
SBC				S	Sg	14 38 10.3	+0.2
	baz=258						
SCZ2	Santa Cruz Isl	0.43	162	P	Pg	14 38 12.1	-0.8
	baz=330,SNR=518						
PKM	Mcpherson Peak	0.48	358	P	Pg	14 38 12.5	-1.4
	baz=190,SNR=1000						
PKM				S	Sb	14 38 20.9	+0.3
	baz=190						
BLG	Laguna Peak, P	0.68	116	P	Pg	14 38 16.7	-0.6
	baz=293,SNR=396						
BLG				S	Sn	14 38 27.6	-0.8
	baz=293						
OSI	Osito Audit: C	0.91	77	ePg	Pg	14 38 20.8	-0.9
OSI	Osito Audit: C	0.91	77	P	Pg	14 38 21.0	-0.7
	baz=258,SNR=130						
OSI				S	Sn	14 38 34.4	+0.2
	baz=258						
SMMC	Simmler	0.92	350	P	Pb	14 38 19.9	-1.3
	baz=176,SNR=1000						
SMMC				S	Sb	14 38 32.5	-0.5
	baz=176						
ARVC	Arvin	1.07	48	P	Pn	14 38 23.5	-0.3
	baz=231,SNR=934						
ARVC				S	Sg	14 38 39.4	+0.6
	baz=231						
SNCC	San Nicolas Is	1.18	169	ePg	Pn	14 38 23.1	-2.2
SNCC				eSg	Sb	14 38 40.1	-0.3
SNCC	San Nicolas Is	1.18	169	P	Pn	14 38 22.7	-2.6
	baz=344,SNR=56						
DECC	Green Verdugo	1.22	97	P	Pn	14 38 25.4	-0.5
	baz=277,SNR=212						
DECC				S	Sg	14 38 42.9	-0.7
	baz=277						
PASC	Pasadena Art C	1.35	100	ePn	Pn	14 38 27.1	-0.7
PAGB	Antelope Grade	1.37	344	ePn	Pn	14 38 25.8	-2.2
FMP	Fort Macarthur	1.43	119	P	Pn	14 38 27.7	-1.1
	baz=298,SNR=56						
MWC	Mount Wilson	1.45	97	ePn	Pn	14 38 28.9	-0.3
MWC	Mount Wilson	1.45	97	eP	Pn	14 38 28.9	-0.3
CIS	Catalina Islan	1.53	131	P	Pn	14 38 28.7	-1.4
	baz=309,SNR=218						
VES	Vestal, Richgr	1.54	22	P	Pn	14 38 29.4	-0.9
	baz=206,SNR=953						
EDW2	Edwards Air Fo	1.56	72	P	Pn	14 38 30.6	0.0
	baz=254,SNR=1000						
ISA	Isabella, Lake	1.66	41	ePn	Pn	14 38 31.5	-0.5
ISA	Isabella, Lake	1.66	41	eP	Pn	14 38 31.5	-0.5
ISA	Isabella, Lake	1.66	41	P	Pn	14 38 31.8	-0.2
	baz=224,SNR=958						
SCI2	San Clemente I	1.77	143	P	Pn	14 38 32.6	-0.7
	baz=322,SNR=112						
BFSC	Mount Baldy Ra	1.78	95	P	Pn	14 38 33.6	-0.1
	baz=276,SNR=1000						
BFSC				S	Sb	14 38 57.7	-0.1
	baz=276						
VOG	Valley Oaks Go	1.94	10	P	Pn	14 38 34.9	-0.9
	baz=193,SNR=62						
VOG				S	Sn	14 38 59.3	-0.2
	baz=193						
LRMC	Laurel Mtn Rad	2.04	58	P	Pn	14 38 36.8	-0.5
	baz=240,SNR=601						
MURC	Murrieta	2.31	110	P	Pn	14 38 39.9	-0.9
	baz=290,SNR=67						
RRX	Edison Barstow	2.35	78	P	Pn	14 38 41.6	+0.1
	baz=260						
BBRC	Big Bear Solar	2.38	93	P	Pn	14 38 42.5	+0.4
	baz=274,SNR=118						
CWC	Cottonwood Cre	2.46	34	P	Pn	14 38 43.6	+0.5
	baz=217						
MPMC	Manual Prospec	2.51	48	P	Pn	14 38 43.8	+0.1
	baz=231,SNR=691						
DAC	Darwin (Calif)	2.59	43	ePn	Pn	14 38 47.0	+2.0
GSC	Goldstone, Bar	2.62	69	ePn	Pn	14 38 44.9	-0.2
GSC	Goldstone, Bar	2.62	69	eP	Pn	14 38 44.9	-0.2
GSC	Goldstone, Bar	2.62	69	P	Pn	14 38 45.0	-0.1
	baz=252,SNR=266						
SAO	San Andreas Ge	2.71	331	ePn	Pn	14 38 43.1	-3.3
SAO	San Andreas Ge	2.71	331	eP	Pn	14 38 43.1	-3.3
109C	Camp Elliot, M	2.71	123	P	Pn	14 38 45.0	-1.3
	baz=304,SNR=20						
CPE	Camp Elliot	2.71	123	ePn	Pn	14 38 44.7	-1.6
PFO	Pinyon Flats O	2.88	105	ePn	Pn	14 38 48.4	-0.5
PFO	Pinyon Flats O	2.88	105	eP	Pn	14 38 48.4	-0.5
PFO	Pinyon Flats O	2.88	105	P	Pn	14 38 48.7	-0.2
	baz=286,SNR=143						
PFO	Pinyon Flats O	2.88	105	Pn	Pn	14 38 49.7	+0.8
	42nm,0.3s,baz=284,slow=13,SNR=209						
PFO				Sn	Sn	14 39 23.1	0.0
	100nm,0.3s,baz=343,slow=19,SNR=8.9						
PFO				LR	LR	14 40 02.8	
	comp=Z,2μm,20.1s,baz=331,slow=41						
HEC	Hector,Ludlow	2.89	81	P	Pn	14 38 48.7	-0.1
	baz=263,SNR=144						
TIN	Tinemaha, Big	2.93	25	P	Pn	14 38 50.3	+0.7
	baz=208,SNR=46						
BAR	Barrett	3.13	123	ePn	Pn	14 38 51.0	-1.1
FURC	Furnace Creek,	3.16	49	P	Pn	14 38 52.5	0.0
	baz=231,SNR=33						
BELC	Belle Mtn. Jos	3.17	96	P	Pn	14 38 52.8	-0.1
	baz=278,SNR=200						
MONP2	Monument Peak	3.19	117	P	Pn	14 38 52.4	-0.8
	baz=298,SNR=95						
SHOC	Shoshone, Teco	3.25	62	P	Pn	14 38 53.3	-0.5
	baz=244,SNR=7.5						
GRAC	Grapevine Rang	3.25	37	P	Pn	14 38 54.8	+1.0
	baz=219,SNR=126						
OMMB	Old Mammoth Mi	3.26	11	ePn	Pn	14 38 54.6	+0.4
MDPB	Devils Postpil	3.27	10	ePn	Pn	14 38 54.6	+0.2
MLAC	Mammoth, Mammo	3.31	13	P	Pn	14 38 56.0	+1.1
	baz=196,SNR=165						
TUQ	Turquoise Moun	3.34	71	P	Pn	14 38 55.0	-0.2
	baz=254,SNR=142						
GMRC	Granite Mounta	3.43	83	P	Pn	14 38 55.9	-0.6
	baz=265,SNR=79						
IKP	In-Ko-Pah, Jac	3.54	119	P	Pn	14 38 57.4	-0.5
	baz=300,SNR=56						
SWSC	Sam W. Stewart	3.64	113	P	Pn	14 38 58.4	-0.8
	baz=294						
CMB	Columbia Colle	3.65	353	ePn	Pn	14 38 58.8	-0.5
CMB	Columbia Colle	3.65	353	eP	Pn	14 38 58.8	-0.5
BC3	Big Chuckawall	3.68	101	P	Pn	14 38 59.2	-0.7
	baz=283,SNR=33						
TPNV	Topopah Spring	3.84	48	ePn	Pn	14 39 02.8	+0.7
TPNV	Topopah Spring	3.84	48	eP	Pn	14 39 02.8	+0.7
TPNV	Topopah Spring	3.84	48	P	Pn	14 39 02.7	+0.7
	baz=231,SNR=93						
IRM	Iron Mountain	3.86	92	P	Pn	14 39 01.4	-0.8
	baz=275,SNR=65						
LDFC	Landfair	3.92	79	ePn	Pn	14 39 01.9	-1.1
WAKR	Walker	4.10	4	ePn	Pn	14 39 06.3	+0.7
NV01	Mina Array Sit	4.19	16	ePn	Pn	14 39 07.7	+0.7
NV01				ePg	Pg	14 39 21.3	-2.9
NV01				eLg	Lg	14 40 13.5	
NVAR	Mina Array Bea	4.19	16	Pn	Pn	14 39 07.7	+0.7
	8.5nm,0.3s,baz=205,slow=15,SNR=142						
NVAR				Pg	Pg	14 39 21.3	-2.9
	50nm,0.3s,baz=198,slow=17,SNR=47						
NVAR				Lg	Lg	14 40 13.5	
	34nm,0.3s,baz=204,slow=32,SNR=6.2						
NV11	Mina Array Sit	4.23	18	ePn	Pn	14 39 08.1	+0.7
NEE2	Needles Airpor	4.29	84	P	Pn	14 39 07.9	-0.1
	baz=267,SNR=88						
SHPR	Sheep Range	4.33	60	ePn	Pn	14 39 08.9	+0.2
RYN	Ryan	4.33	13	ePn	Pn	14 39 09.6

MOD Modoc Plateau 7.49 357 ePn Pn 14 39 53.4 +1.2
M04C Macdoel 7.54 348 P Pn 14 39 53.6 +0.8
baz=168,SNR=14
YBH Yreka Blue Hor 7.66 343 ePn Pn 14 39 55.8 +1.3
YBH Yreka Blue Hor 7.66 343 eP Pn 14 39 55.8 +1.3
YBH Yreka Blue Hor 7.66 343 Pn Pn 14 39 56.2 +1.7
0.5nm,0.3s,baz=143,slow=6.1,SNR=12
YBH Sn Sn 14 41 26.0 +5.3
0.2nm,0.3s,baz=143,slow=20,SNR=1.7
YBH Lg Lg 14 42 07.9
0.3nm,0.3s,baz=241,slow=20,SNR=2.8
YBH LR LR 14 43 28.9
comp=Z,851nm,20.8s,baz=102,slow=42
KRMB Red Mountain 7.81 337 ePn Pn 14 39 56.7 +0.2
TUC Tucson 7.83 103 ePn Pn 14 39 56.9 +0.2
TUC Tucson 7.83 103 eP Pn 14 39 56.9 +0.2
TUC Tucson 7.83 103 P Pn 14 39 57.1 +0.3
baz=288
DUG Dugway, Tooele 8.02 42 ePn Pn 14 39 59.2 -0.2
DUG Dugway, Tooele 8.02 42 eP Pn 14 39 59.2 -0.2
DUG Dugway, Tooele 8.02 42 P Pn 14 39 59.3 -0.2
baz=226,SNR=14
L04D Klamath Falls 8.04 347 P Pn 14 39 59.8 +0.1
baz=166
WVOR Wild Horse Val 8.06 6 ePn Pn 14 39 59.8 -0.3
X18A Snowflake 8.13 86 ePn Pn 14 40 02.1 +1.0
Q16A Castle Valley 8.26 55 ePn Pn 14 40 03.6 +0.7
L02E Cave Junction 8.29 340 P Pn 14 40 00.1 -3.0
baz=158
W18A Petrified Fore 8.31 82 ePn Pn 14 40 03.8 +0.3
W18A Petrified Fore 8.31 82 P Pn 14 40 03.4 -0.1
baz=268
K05A Summer Lake 8.35 354 ePn Pn 14 40 03.5 -0.5
BGU Big Grassy Mou 8.43 38 ePn Pn 14 40 05.7 +0.6
TMUT Trail Mountain 8.44 52 ePn Pn 14 40 05.8 +0.5
K02D Willamette Mer 8.81 341 P Pn 14 40 08.5 -1.7
baz=159
P17A Butcher Ranch, 8.84 52 ePn Pn 14 40 12.9 +2.3
J05D Fort Rock, OR 8.93 353 P Pn 14 40 11.3 -0.7
baz=173,SNR=12
CTU Camp Tracy 8.95 43 ePn Pn 14 40 14.5 +2.2
J04D Umpqua Nationa 9.00 349 P Pn 14 40 11.0 -1.9
baz=168
SPUT South Promonto 9.01 38 ePn Pn 14 40 16.0 +3.0
HVU Hansel Valley 9.21 35 ePn Pn 14 40 17.0 +1.3
HVU Hansel Valley 9.21 35 eP Pn 14 40 17.0 +1.3
J01E Myrtle Point 9.31 341 P Pn 14 40 15.5 -1.5
baz=159
319A Douglas 9.35 106 ePn Pn 14 40 19.9 +2.2
PV05 Paradox Valley 9.38 64 ePn Pn 14 40 21.6 +3.4
PV09 Paradox Valley 9.51 62 ePn Pn 14 40 21.0 +1.0
PV10 Paradox Valley 9.53 62 ePn Pn 14 40 21.0 +0.7
PV14 Lion Creek, Pa 9.54 62 ePn Pn 14 40 22.5 +2.1
PV19 Morning Glory 9.55 63 ePn Pn 14 40 22.7 +2.2
PV17 East Wray Mesa 9.56 63 ePn Pn 14 40 23.0 +2.4
PV20 West Nyswonger 9.57 63 ePn Pn 14 40 23.3 +2.5
PV18 Skein Mesa, Pa 9.58 63 ePn Pn 14 40 23.5 +2.6
I04A Tendick Farm, 9.59 349 P Pn 14 40 20.0 -0.9
baz=168,SNR=7.3
MVCO Mesa Verde 9.59 70 ePn Pn 14 40 23.5 +2.4
MVCO Mesa Verde 9.59 70 P Pn 14 40 21.6 +0.5
baz=257,SNR=9.2
PV16 Nyswonger Mesa 9.60 63 ePn Pn 14 40 24.0 +2.8
PV13 Radium Mtn., P 9.62 64 ePn Pn 14 40 24.4 +3.0
PV11 David Mesa, Pa 9.63 63 ePn Pn 14 40 24.2 +2.7
PV03 Paradox Valley 9.63 63 ePn Pn 14 40 25.0 +3.4
PV04 Paradox Valley 9.64 62 ePn Pn 14 40 24.5 +2.9
PV21 Cone Mtn., Par 9.65 61 ePn Pn 14 40 23.5 +1.6
I07A Izee 9.66 1 ePn Pn 14 40 23.9 +1.9
I03D Drain, OR 9.68 344 P Pn 14 40 20.6 -1.4
baz=163
PV12 Saucer Basin, 9.69 63 ePn Pn 14 40 23.4 +1.0
PV02 Paradox Valley 9.70 64 ePn Pn 14 40 23.8 +1.3
PV22 Blue Mesa, Par 9.78 62 ePn Pn 14 40 24.3 +0.8
PV01 Paradox Valley 9.80 64 ePn Pn 14 40 25.5 +1.6
PV07 Paradox Valley 9.84 63 ePn Pn 14 40 26.4 +1.9
I05D Terrebonne, OR 9.99 354 P Pn 14 40 25.3 -1.0
baz=173,SNR=14
HLID Hailey 10.05 23 ePn Pn 14 40 28.6 +1.3
HLID Hailey 10.05 23 P Pn 14 40 27.8 +0.5
baz=207,SNR=34
I02D Swisshome 10.18 343 P Pn 14 40 27.7 -1.2
baz=161
121A Cookes Peak, D 10.21 97 P Pn 14 40 29.2 -0.3
baz=284,SNR=13
H04D Lebanon 10.35 348 P Pn 14 40 29.5 -1.8
baz=167
LAZ Ladron 10.46 86 ePn Pn 14 40 35.1 +2.1
BMO Blue Mountains 10.61 10 ePn Pn 14 40 35.9 +1.1
BMO Blue Mountains 10.61 10 eP Pn 14 40 35.9 +1.1
LENM Lemitar 10.61 88 ePn Pn 14 40 36.6 +1.5
AHID Auburn Hatcher 10.76 37 ePn Pn 14 40 37.0 -0.1
O20A White River Ci 10.83 55 ePn Pn 14 40 40.1 +2.0
O20A White River Ci 10.83 55 P Pn 14 40 40.7 +2.7
baz=242,SNR=26
G05D Wamic, OR 10.88 354 P Pn 14 40 38.7 +0.1
baz=174,SNR=15
LPM Los Pinos Moun 10.88 87 ePn Pn 14 40 40.1 +1.3
BNM Barren Site 10.90 88 ePn Pn 14 40 40.3 +1.2
TASM ASL Pad, Albuq 11.00 83 P Pn 14 40 41.7 +1.3
baz=271
TASM ASL Pad, Albuq 11.00 83 P Pn 14 40 41.4 +1.1
baz=271
ANMO Albuquerque 11.00 83⇑ eP Pn 14 40 43.1 +2.8
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 11.00 83 P Pn 14 40 40.5 +0.2
baz=271
ANMO Albuquerque 11.00 83 Pn Pn 14 40 42.7 +2.3
comp=Z,0.2nm,0.3s,baz=285,slow=11,SNR=6.5
ANMO Lg Lg 14 43 54.9
comp=Z,0.0nm,0.3s,baz=341,slow=11,SNR=3.8
ANMO LR LR 14 44 51.3
comp=Z,257nm,19.3s,baz=274,slow=37
S22A 4UR Ranch, Cre 11.01 69 ePn Pn 14 40 43.2 +2.6
S22A 4UR Ranch, Cre 11.01 69 P Pn 14 40 40.9 +0.3
baz=256,SNR=9.1
PLID Pearl Lake 11.06 14 ePn Pn 14 40 43.1 +2.0
G03D McMinnville, O 11.11 347 P Pn 14 40 38.6 -3.0
baz=166
SMCO Snowmass 11.33 61 ePn Pn 14 40 46.3 +1.3
REDW Red Top Meadow 11.33 35 ePn Pn 14 40 46.6 +1.8
F07A Phinny Hill Vi 11.47 360 ePn Pn 14 40 46.5 -0.1
F05D White Salmon 11.53 354 P Pn 14 40 47.1 -0.3
baz=174,SNR=16
BW06 Boulder Array 11.56 41 P Pn 14 40 48.2 +0.2
baz=227,SNR=31
PD31 Pinedale Array 11.56 41 ePn Pn 14 40 49.4 +1.4
PDAR Pinedale Array 11.56 41 Pn Pn 14 40 52.4 +4.4
comp=Z,0.3nm,0.3s,baz=236,slow=11,SNR=62
PDAR LR LR 14 45 27.4
comp=Z,785nm,19.2s,baz=240,slow=38
MOOW Moose Ponds 11.67 34 ePn Pn 14 40 51.4 +1.9
MCMT McKenzie Canyo 11.70 25 ePn Pn 14 40 51.6 +1.7
F04D Rainier, OR 11.91 349 P Pn 14 40 49.4 -3.2
baz=168
FLWY Flagg Ranch 11.95 33 ePn Pn 14 40 55.7 +2.3
HAWA Hanford 11.97 1 ePn Pn 14 40 54.9 +1.5
SDCO Great Sand Dun 12.04 70 P Pn 14 40 53.9 -0.7
baz=258,SNR=9.5
YPP Pitchstone Pla 12.05 33 ePn Pn 14 40 56.7 +1.9
QLMT Earthquake Lak 12.24 29 ePn Pn 14 40 57.7 +0.5
H17A Grant Village 12.25 33 P Pn 14 40 57.0 -0.4
baz=219
YHB Horse Butte 12.27 30 ePn Pn 14 40 59.5 +1.8
RWWY Rawlins 12.29 50 ePn Pn 14 40 59.5 +1.4
E04D Cinebar 12.32 351 P Pn 14 40 57.3 -0.8
baz=170
MNTX Cornudas Mount 12.39 99 ePn Pn 14 41 00.2 +1.0
MNTX Cornudas Mount 12.39 99 P Pn 14 40 59.8 +0.6
baz=286
LON Longmire 12.42 354 ePn Pn 14 40 59.1 -0.5
LON Longmire 12.42 354 eP Pn 14 40 59.1 -0.5
YHH Holmes Hill 12.44 31 ePn Pn 14 41 00.1 -0.1
ISCO Idaho Springs 12.53 60 P Pn 14 41 02.0 +0.6
baz=249,SNR=7.8
Q24A Divide 12.60 65 P Pn 14 41 02.3 -0.1
baz=254
N23A Red Feather La 12.74 55 P Pn 14 41 04.6 +0.4
baz=244,SNR=6.1
T25A Trinidad 12.79 73 ePn Pn 14 41 04.7 -0.2
T25A Trinidad 12.79 73 P Pn 14 41 06.6 +1.8
baz=262,SNR=10
BOZ Bozeman (W) 12.80 27 P Pn 14 41 07.0 +2.2
baz=212,SNR=55
LTY Liberty 12.85 357 ePn Pn 14 41 05.3 -0.2
D04E Lakebay 12.95 351 P Pn 14 41 07.2 +0.4
baz=169
MSO Missoula 13.18 18 ePn Pn 14 41 10.6 +0.7
MSO Missoula 13.18 18 P Pn 14 41 12.0 +2.1
baz=202,SNR=20
LPIG La Paz 13.19 139 LR LR 14 46 09.6
comp=Z,930nm,19.8s,baz=342,slow=37
K22A Casper 13.24 48 ePn Pn 14 41 12.7 +1.7
K22A Casper 13.24 48 P Pn 14 41 13.9 +3.0
baz=236,SNR=20
NLWA Neilton Lookou 13.33 348 ePn Pn 14 41 12.0 0.0
D03D Eldon 13.35 350 P Pn 14 41 09.9 -2.2
baz=169
RLMT Red Lodge 13.41 34 P Pn 14 41 14.0 +0.8
baz=221
C09A Chrisman Ranch 13.43 4 ePn Pn 14 41 14.3 +1.0
C06D Leavenworth 13.53 357 P Pn 14 41 14.4 -0.2
baz=177
HRY Holter Researc 13.69 24 ePn Pn 14 41 18.9 +2.0
B08A Colville Reser 13.94 1 ePn Pn 14 41 21.7 +1.3
B05A Bryant 13.95 354 P Pn 14 41 18.8 -1.6
baz=172,SNR=7.4
NEW Newport 13.99 7 ePn Pn 14 41 22.1 +1.2
NEW Newport 13.99 7 eP Pn 14 41 22.1 +1.2
NEW Newport 13.99 7 P Pn 14 41 19.2 -1.7
baz=190,SNR=36
NEW Newport 13.99 7 Pn Pn 14 41 24.7 +3.7
comp=Z,0.8nm,0.3s,baz=183,slow=13,SNR=52
NEW LR LR 14 46 58.5
comp=Z,922nm,18.2s,baz=195,slow=38
MSTX Muleshoe 14.10 87 ePn Pn 14 41 25.1 +2.4
MSTX Muleshoe 14.10 87 P Pn 14 41 22.9 +0.2
baz=277,SNR=6.8
HPIG 14.25 118 ePn Pn 14 41 26.7 +1.8
A04D Lummi Island 14.46 352 P Pn 14 41 27.3 -0.1
baz=171,SNR=8.7
PGC Sidney 14.49 350 ePn Pn 14 41 28.3 +0.6
KSCO Kaye Shedlock' 14.52 67 ePn Pn 14 41 30.7 +2.4
KSCO Kaye Shedlock' 14.52 67 P Pn 14 41 27.8 -0.5
baz=257
TX31 Lajitas Ar. Si 14.61 106 ePn P 14 41 33.0 -2.8
LTX Lajitas 14.61 106 ePn P 14 41 33.7 -2.2
LTX Lajitas 14.61 106 eP P 14 41 33.7 -2.2
TXAR Lajitas Array 14.61 106 Pn P 14 41 33.7 -2.2
comp=Z,0.2nm,0.3s,baz=283,slow=12,SNR=89
TXAR LR LR 14 47 32.3
comp=Z,411nm,18.5s,baz=0.0,slow=39
AMTX Amarillo 14.92 83 ePn Pn 14 41 35.6 +1.8
comp=Z,29nm,1.0s
AMTX Amarillo 14.92 83 P Pn 14 41 33.4 -0.4
baz=273
OGNE Ogallala 15.49 60 ePn Pn 14 41 42.3 +0.9
comp=Z,196nm,1.4s
OGNE Ogallala 15.49 60 P Pn 14 41 42.0 +0.6
baz=251,SNR=11
EGMT Eagleton 15.54 26 ePn Pn 14 41 43.2 +1.4
comp=Z,62nm,1.2s
EGMT Eagleton 15.54 26 P Pn 14 41 41.2 -0.7
baz=213,SNR=20
RSSD Black Hills 15.57 47 ePn Pn 14 41 43.5 +1.1
comp=Z,53nm,1.1s
RSSD Black Hills 15.57 47 eP Pn 14 41 43.5 +1.1
RSSD pmax pmax
comp=Z,53nm,1.1s
RSSD Black Hills 15.57 47 P Pn 14 41 42.0 -0.4
baz=237
LAO LASA Array 16.00 36 ePn Pn 14 41 49.2 +1.4
comp=Z,87nm,1.1s
LAO LASA Array 16.00 36 P Pn 14 41 46.4 -1.4
baz=225,SNR=35
LLLB Lillooet 16.26 355 ePn Pn 14 41 51.8 +0.7
comp=Z,65nm,1.0s
CBKS Cedar Bluff 16.69 69 P Pn 14 41 55.2 -1.5
baz=261
ABTX Abilene, Hawle 16.90 90 ePn P 14 42 00.2 -1.0
comp=Z,28nm,0.8s
ABTX Abilene, Hawle 16.90 90 P Pn 14 41 57.5 -1.8
baz=282,SNR=6.2
WMOK Wichita Mounta 17.31 83 ePn P 14 42 05.6 -0.2
comp=Z,17nm,0.9s
WMOK Wichita Mounta 17.31 83 eP P 14 42 05.6 -0.2
WMOK pmax pmax
comp=Z,17nm,0.9s
WMOK Wichita Mounta 17.31 83 P Pn 14 42 02.7 -1.7
baz=275,SNR=11
JCT Junction City 17.32 98 ePn P 14 42 06.3 +0.4
comp=Z,16nm,1.0s
JCT Junction City 17.32 98 eP P 14 42 06.3 +0.4
JCT pmax pmax
comp=Z,16nm,1.0s
JCT Junction City 17.32 98 P Pn 14 42 03.0 -1.6
baz=288
DGMT Dagmar 18.23 35 ePn P 14 42 17.2 +1.4
comp=Z,117nm,1.4s
DGMT Dagmar 18.23 35 P P 14 42 16.3 +0.5
baz=226
BGNE Belgrade 18.43 61 P P 14 42 15.8 -2.3
baz=255
833A Chaparral WMA, 18.44 104 eP Pn 14 42 19.9 +1.6
comp=Z,38nm,0.8s
833A Chaparral WMA, 18.44 104 P P 14 42 17.1 -1.1
baz=294
BBB Bella Bella 18.75 344 eP Pn 14 42 22.7 +0.8
comp=Z,76nm,1.5s
BBB Bella Bella 18.75 344 P Pn 14 42 23.5 +1.6
comp=Z,0.3nm,0.3s,baz=164,slow=10,SNR=4.2
BBB LR LR 14 49 56.0
comp=Z,353nm,19.0s,baz=160,slow=38
WHTX Lake Whitney, 18.85 91 eP Pn 14 42 23.5 +0.2
comp=Z,4.3nm,1.3s
WHTX Lake Whitney, 18.85 91 P P 14 42 20.0 -2.6
baz=283
SUSD Miller 18.92 52 P P 14 42 22.7 -0.7
baz=245,SNR=6.8
435B Jarrell 19.05 95 eP Pn 14 42 25.9 0.0
comp=Z,20nm,0.8s
435B Jarrell 19.05 95 P P 14 42 24.1 -0.9
baz=287
KSU1 Kansas State U 19.14 69 P P 14 42 25.5 -0.5
baz=263
TUL1 Leonard 19.68 79 eP Pn 14 42 32.3 -0.9
comp=Z,35nm,1.1s
TUL1 Leonard 19.68 79 P P 14 42 31.2 -0.6
baz=273
LNIG Linares 20.02 113 eP Pn 14 42 36.7 -0.7
comp=Z,19nm,0.9s
X37A Clayton 20.12 83 eP P 14 42 36.8 +0.1
comp=Z,27nm,1.0s
ECSD EROS Data Cent 20.21 56 eP Pn 14 42 38.2 -1.3
comp=Z,40nm,1.0s
ECSD EROS Data Cent 20.21 56 P P 14 42 38.1 +0.5
baz=250,SNR=14
MDND Maddock 20.21 42 P P 14 42 35.9 -1.5
baz=236,SNR=6.6
HKT Hockley 20.75 96 eP Pn 14 42 44.6 -1.2
comp=Z,61nm,1.6s
HKT Hockley 20.75 96 eP Pn 14 42 44.6 -1.2
HKT pmax pmax
comp=Z,61nm,1.6s
HHAR Hobbs 21.16 78 eP P 14 42 48.0 +0.1
NATX Nacogdoches 21.21 90 P P 14 42 48.1 -0.3
baz=284
W39A Magazine 21.36 80 eP P 14 42 50.3 +0.3
comp=Z,32nm,1.3s
W39A Magazine 21.36 80 P P 14 42 49.6 -0.4
baz=276
MIAR Mount Ida 21.60 82 eP P 14 42 53.1 +0.5
comp=Z,39nm,1.0s
MIAR Mount Ida 21.60 82 eP P 14 42 53.1 +0.5
MIAR pmax pmax
comp=Z,39nm,1.0s
MIAR Mount Ida 21.60 82 P P 14 42 53.1 +0.5
baz=277,SNR=22
U40A Yellville 22.03 77 P P 14 42 56.5 -0.7
baz=273
SCIA State Center 22.14 62 eP P 14 42 60.0 +1.6
comp=Z,71nm,1.1s
SCIA State Center 22.14 62 P P 14 42 57.4 -1.0
baz=259
X40A Basin Creek Fa 22.22 82 P P 14 42 57.4 -1.8
baz=278
Z41A Richland Creek 22.43 85 P P 14 42 58.8 -2.7
baz=280
WHAR Wooly Hollow 22.57 80 eP P 14 43 03.5 +0.5
AGMN Agassiz Nation 22.58 45 eP P 14 43 02.6 -0.4
comp=Z,38nm,1.0s
AGMN Agassiz Nation 22.58 45 P P 14 43 02.2 -0.8
baz=241,SNR=8.8
W41B Gary Mavity, V 22.61 80 eP P 14 43 04.0 +0.6
comp=Z,15nm,0.8s
W41B Gary Mavity, V 22.61 80 P P 14 43 03.7 +0.2
baz=276,SNR=8.9
L39A Vinton 23.07 62 P P 14 43 05.4 -2.7
baz=260
N40A Mertquake, Sal 23.20 66 P P 14 43 05.1 -4.4
baz=263
K39A Oelwein 23.27 61 P P 14 43 07.3 -2.9
baz=258,SNR=7.8
SPMN Marine on St. 23.27 54 eP P 14 43 10.5 +0.3
comp=Z,149nm,2.0s
SPMN Marine on St. 23.27 54 P P 14 43 08.7 -1.5
baz=252
CCM Cathedral Cave 23.28 73 eP P 14 43 11.3 +1.0
comp=Z,35nm,1.1s
CCM Cathedral Cave 23.28 73 eP P 14 43 11.3 +1.0
CCM pmax pmax
comp=Z,35nm,1.1s
CCM Cathedral Cave 23.28 73 P P 14 43 08.9 -1.4
baz=270
H38A Maiden Rock 23.46 56 P P 14 43 09.5 -2.6
baz=254
J39A Decorah 23.53 59 P P 14 43 09.8 -2.9
baz=257
F37A Hinrichs Farm, 23.55 53 P P 14 43 09.2 -3.7
baz=251
ULM Lac du Bonnet 23.58 41 eP P 14 43 12.0 -1.2
comp=Z,32nm,0.9s
ULM Lac du Bonnet 23.58 41 eP P 14 43 12.0 -1.2
ULM pmax pmax
comp=Z,32nm,0.9s
ULM Lac du Bonnet 23.58 41 P P 14 43 12.2 -0.9
comp=Z,29nm,0.8s,baz=235,slow=9.7,SNR=50
ULM LR LR 14 53 01.3
comp=Z,457nm,19.9s,baz=234,slow=38
WRAK Wrangell Islan 23.63 342 eP P 14 43 12.4 -1.1
comp=Z,24nm,0.8s
L40A Anamosa 23.64 63 eP P 14 43 14.1 +0.3
comp=Z,40nm,1.0s
L40A Anamosa 23.64 63 P P 14 43 11.4 -2.4
baz=261,SNR=7.4
N41A Harden Midland 23.73 66 eP P 14 43 14.7 0.0
comp=Z,71nm,1.2s
N41A Harden Midland 23.73 66 P P 14 43 11.3 -3.3
baz=264
I39A Houston 23.78 58 eP P 14 43 14.3 -0.8
comp=Z,32nm,1.0s
I39A Houston 23.78 58 P P 14 43 13.1 -2.0
baz=256,SNR=7.4
K40A Colesburg 23.81 61 P P 14 43 12.7 -2.7
baz=259,SNR=13
X43A Marvell 23.81 81 P P 14 43 14.0 -1.5
baz=278
FFC Flin Flon 23.82 26 eP P 14 43 14.2 -1.3
comp=Z,61nm,1.6s
FFC Flin Flon 23.82 26 i P P 14 43 14.5 -0.9
Q42A Golden Eagle 23.85 71 P P 14 43 14.4 -1.4
baz=268
G38A Ridgeland 23.90 55 P P 14 43 16.3 0.0
baz=253,SNR=7.8
PBMO Poplar Bluff 23.96 76 eP P 14 43 17.3 +0.4
comp=Z,30nm,1.1s
M41A Milan 24.04 65 P P 14 43 14.5 -3.1
baz=263
F38A Pierce - Schro 24.12 53 P P 14 43 16.9 -1.5
baz=251,SNR=30
H39A Augusta 24.15 56 P P 14 43 17.5 -1.1
baz=255,SNR=17
J40A Soldiers Grove 24.23 60 P P 14 43 17.1 -2.3
baz=258
G39A Holcombe 24.39 55 P P 14 43 20.3 -0.6
baz=254,SNR=24
I40A Norwalk 24.42 58 P P 14 43 17.3 -3.8
baz=257
JFWS Jewell Farm 24.49 61 eP P 14 43 22.1 +0.4
comp=Z,16nm,0.8s
JFWS Jewell Farm 24.49 61 eP P 14 43 22.1 +0.4
JFWS pmax pmax
comp=Z,16nm,0.8s
JFWS Jewell Farm 24.49 61 P P 14 43 17.5 -4.2
baz=260
VBMS Vicksburg 24.53 87 P P 14 43 21.0 -1.2
baz=283
E38A The Farm, Brul 24.55 52 P P 14 43 19.8 -2.5
baz=250,SNR=6.3
P43A Skaggs, Pawnee 24.66 69 P P 14 43 21.1 -2.2
baz=267
J41A Loganville 24.74 60 P P 14 43 22.6 -1.4
baz=259
F39A Loretta 24.75 54 P P 14 43 23.1 -1.0
baz=253,SNR=29
H40A Chili 24.75 57 P P 14 43 22.8 -1.3
baz=256,SNR=28
L42A Oliver, Polo 24.77 63 eP P 14 43 24.3 0.0
comp=Z,16nm,0.8s
L42A Oliver, Polo 24.77 63 P P 14 43 22.4 -1.9
baz=262
S44A Carbondale 24.86 74 P P 14 43 22.7 -2.4
baz=272
SIUC Southern Illin 24.89 73 eP P 14 43 26.8 +1.4
comp=Z,20nm,0.8s
HDIL Hopedale 24.89 67 eP P 14 43 26.6 +1.2
comp=Z,41nm,1.1s
HDIL Hopedale 24.89 67 P P 14 43 24.2 -1.3
baz=266
I41A Arkdale 24.99 58 P P 14 43 24.4 -1.8
baz=258
DLBC Dease Lake 24.99 347 eP P 14 43 27.4 +1.2
comp=Z,42nm,1.1s
DLBC Dease Lake 24.99 347 P P 14 43 28.2 +2.0
comp=Z,19nm,0.9s,baz=174,slow=7.5,SNR=21
DLBC LR LR 14 53 18.6
comp=Z,459nm,21.2s,baz=134,slow=37
OXF Oxford 25.01 81 P P 14 43 24.1 -2.4
baz=278
N43A Stutzman Famil 25.02 66 P P 14 43 23.8 -2.7
baz=265
G40A Rib Lake 25.05 55 eP P 14 43 26.9 +0.1
comp=Z,17nm,0.9s
G40A Rib Lake 25.05 55 P P 14 43 25.3 -1.5
baz=255,SNR=12
EYMN Ely 25.07 49 eP P 14 43 26.3 -0.6
comp=Z,38nm,1.2s
EYMN Ely 25.07 49 P P 14 43 24.2 -2.7
baz=248,SNR=17
K42A Prairie Point, 25.12 62 P P 14 43 25.2 -2.3
baz=261,SNR=5.5
E39A Mellen 25.13 53 P P 14 43 26.2 -1.3
baz=252,SNR=29
M43A Waltham Townsh 25.23 65 P P 14 43 27.1 -1.3
baz=264
H41A Junction City 25.26 57 eP P 14 43 28.4 -0.3
comp=Z,27nm,0.9s
H41A Junction City 25.26 57 P P 14 43 26.2 -2.5
baz=257
F40A Park Falls 25.28 54 P P 14 43 27.1 -1.7
baz=254,SNR=9.0
J42A Columbus 25.37 60 P P 14 43 26.6 -3.1
baz=260
L43A Garden Prairie 25.48 63 P P 14 43 28.6 -2.1
baz=263
E40A Wakefield 25.58 53 P P 14 43 30.7 -0.9
baz=253,SNR=19
R45A Skylar, Fairfi 25.61 72 P P 14 43 28.9 -3.0
baz=271
I42A Draeger Farm, 25.63 59 eP P 14 43 30.1 -2.0
comp=Z,12nm,0.8s
I42A Draeger Farm, 25.63 59 P P 14 43 30.0 -2.1
baz=259
X46A Booneville 25.68 81 P P 14 43 29.0 -3.5
baz=279
W46A Michie 25.77 79 P P 14 43 29.7 -3.7
baz=278
N44A Piper City 25.79 66 P P 14 43 30.6 -3.0
baz=266
JIS Juneau Island 25.80 342 eP P 14 43 30.9 -2.5
comp=Z,21nm,1.0s
U46A Springville 25.80 77 P P 14 43 31.0 -2.6
baz=275
K43A Burlington 25.85 62 P P 14 43 32.4 -1.7
baz=262
J43A Natural Harves 25.89 60 P P 14 43 32.8 -1.7
baz=260
V46A Holladay 25.90 78 P P 14 43 33.1 -1.5

baz=276,SNR=12
M44A Midewin, Midew 25.91 65 eP P 14 43 32.6 -2.0
comp=Z,24nm,1.1s
M44A Midewin, Midew 25.91 65 P P 14 43 32.1 -2.5
baz=265
F41A Three Lakes 25.91 55 eP P 14 43 34.0 -0.6
comp=Z,28nm,1.3s
F41A Three Lakes 25.91 55 P P 14 43 33.3 -1.4
baz=255,SNR=7.2
COWI Conover 25.99 54 eP P 14 43 34.8 -0.5
comp=Z,26nm,1.1s
H42A Shiocton 26.02 58 eP P 14 43 35.5 -0.1
comp=Z,35nm,1.0s
H42A Shiocton 26.02 58 P P 14 43 33.5 -2.1
baz=258
PLAL Pickwick Lake 26.04 80 eP P 14 43 36.2 +0.4
comp=Z,20nm,0.9s
O45A Potomac 26.07 68 P P 14 43 33.9 -2.1
baz=267
WVT Waverly 26.10 77 eP P 14 43 37.1 +0.7
comp=Z,13nm,0.5s
WVT Waverly 26.10 77 eP P 14 43 37.1 +0.7
WVT pmax pmax
comp=Z,13nm,0.5s
WVT Waverly 26.10 77 P P 14 43 34.6 -1.8
baz=276
I43A Langenfeld Bro 26.17 59 P P 14 43 35.3 -1.7
baz=260
BESE Bessie Mountai 26.18 342 eP P 14 43 37.5 +0.5
comp=Z,39nm,1.1s
E41A Kenton 26.21 53 P P 14 43 36.7 -0.6
baz=254
G42A Mountain 26.25 56 eP P 14 43 37.9 +0.2
comp=Z,50nm,1.4s
G42A Mountain 26.25 56 P P 14 43 35.5 -2.2
baz=257,SNR=7.5
N45A Kentland 26.27 66 P P 14 43 36.8 -1.1
baz=266
X47A Russelville 26.28 81 P P 14 43 37.3 -0.7
baz=279,SNR=5.9
147A Livingston 26.28 85 P P 14 43 36.1 -1.9
baz=283
V47A Nunnelly 26.38 78 P P 14 43 38.0 -0.9
baz=276,SNR=12
W47A Westpoint 26.39 79 P P 14 43 37.3 -1.7
baz=278,SNR=6.5
U47A Clarksville 26.50 76 P P 14 43 37.6 -2.4
baz=275
C40A Isle Royale Na 26.53 50 eP P 14 43 40.0 -0.2
comp=Z,17nm,1.0s
C40A Isle Royale Na 26.53 50 P P 14 43 38.7 -1.4
baz=251
H43A Windswept, Lux 26.55 58 eP P 14 43 39.6 -0.8
comp=Z,46nm,1.2s
H43A Windswept, Lux 26.55 58 P P 14 43 38.0 -2.4
baz=259
SFIN Lafayette 26.56 67 P P 14 43 37.0 -3.4
baz=268
F42A Maple Grove Fa 26.58 55 P P 14 43 39.6 -1.0
baz=256
T47A Sharon Grove 26.60 75 eP P 14 43 41.7 +0.8
comp=Z,38nm,1.1s
T47A Sharon Grove 26.60 75 P P 14 43 39.8 -1.2
baz=274
D41A Chassel 26.64 52 eP P 14 43 41.1 0.0
comp=Z,28nm,0.8s
D41A Chassel 26.64 52 P P 14 43 39.4 -1.7
baz=253
G43A Wallace 26.77 56 eP P 14 43 41.7 -0.6
comp=Z,21nm,1.1s
G43A Wallace 26.77 56 P P 14 43 39.3 -3.0
baz=257
N46A Monticello 26.86 66 P P 14 43 40.4 -2.8
baz=267
148A Greensboro 26.86 85 P P 14 43 40.3 -3.0
baz=283
E42A Champion 26.89 54 P P 14 43 41.1 -2.4
baz=255,SNR=8.4
W48A Pulaski 26.94 79 P P 14 43 40.7 -3.3
baz=278
Y48A Jasper 26.94 82 P P 14 43 42.2 -1.8
baz=280
V48A Smith Brothers 26.95 78 eP P 14 43 44.4 +0.3
comp=Z,25nm,0.8s
V48A Smith Brothers 26.95 78 P P 14 43 41.8 -2.4
baz=277,SNR=8.6
X48A Hartselle 26.95 81 eP P 14 43 44.3 +0.2
comp=Z,27nm,0.8s
X48A Hartselle 26.95 81 P P 14 43 43.0 -1.1
baz=279,SNR=12
R47A Wooly Knot Far 26.99 72 P P 14 43 40.3 -4.2
baz=272
U48A Cassie Pea, Po 27.10 76 P P 14 43 43.1 -2.3
baz=276,SNR=6.1
T48A Bowling Green 27.16 75 P P 14 43 43.9 -2.0
baz=274
M46A Old House Fiel 27.18 65 P P 14 43 43.6 -2.5
baz=266
F43A Flat Rock, Esc 27.25 55 P P 14 43 45.0 -1.7
baz=257
LRAL Lakeview Retre 27.25 84 P P 14 43 44.7 -2.1
baz=282
L46A Eue Claire 27.27 64 P P 14 43 45.1 -1.7
baz=265
249A Camden 27.39 86 P P 14 43 45.6 -2.4
baz=284
W49A Belvidere 27.49 79 P P 14 43 46.9 -2.0
baz=278,SNR=12
E43A Lone Tree Farm 27.50 54 P P 14 43 47.0 -1.9
baz=256
X49A Woodville 27.53 80 P P 14 43 47.9 -1.3
baz=280,SNR=6.7
Y49A Blount Mountai 27.57 82 eP P 14 43 49.9 +0.2
comp=Z,11nm,0.7s
Y49A Blount Mountai 27.57 82 P P 14 43 48.7 -1.0
baz=281
Q48A North Vernon 27.60 71 P P 14 43 47.0 -2.9
baz=271
Z49A Columbiana 27.60 83 P P 14 43 46.8 -3.2
baz=282,SNR=6.2
V49A McMinnville 27.69 77 P P 14 43 47.8 -2.9
baz=277,SNR=13
U49A Red Boiling Sp 27.71 76 P P 14 43 48.2 -2.7
baz=276
K46A Dorr 27.71 62 P P 14 43 47.6 -3.2
baz=264
F44A Big Bay de Noc 27.79 55 P P 14 43 47.9 -3.6
baz=257
P48A Milroy 27.83 69 P P 14 43 48.4 -3.5
baz=270
S49A Springfield 27.99 73 P P 14 43 48.8 -4.6
baz=274
WHY Whitehorse 28.03 344 eP P 14 43 54.0 +0.4
comp=Z,7.4nm,0.9s
O48A Farmland 28.04 68 P P 14 43 49.2 -4.6
baz=269
R49A Shelbyville 28.06 72 P P 14 43 49.6 -4.4
baz=273
L47A Sherwood 28.08 64 P P 14 43 51.3 -2.8
baz=266
X50B Fort Payne 28.09 80 P P 14 43 50.9 -3.4
baz=280,SNR=7.7
Z50A Ashland 28.09 83 eP P 14 43 55.2 +0.9
comp=Z,25nm,0.7s
Z50A Ashland 28.09 83 P P 14 43 51.4 -3.0
baz=282,SNR=13
250A Grady 28.09 85 P P 14 43 51.4 -3.0
baz=284
Y50A Piedmont 28.12 81 P P 14 43 52.6 -2.0
baz=281
150A Eclectic 28.15 84 P P 14 43 51.4 -3.4
baz=283
N48A Decatur 28.15 66 P P 14 43 51.9 -2.9
baz=268
CMIG Matias Romero 28.18 121 P P 14 43 57.3 +2.1
comp=Z,6.9nm,0.8s,baz=319,slow=9.3,SNR=4.6
CMIG LR LR 14 55 42.4
comp=Z,344nm,19.0s,baz=286,slow=38
W50A Signal Mountai 28.25 78 eP P 14 43 56.0 +0.3
comp=Z,30nm,0.8s
W50A Signal Mountai 28.25 78 P P 14 43 53.6 -2.1
baz=278,SNR=13
E44A Grand Marais A 28.27 54 eP P 14 43 57.0 +1.2
comp=Z,106nm,1.7s
E44A Grand Marais A 28.27 54 P P 14 43 53.9 -1.9
baz=257
K47A Vermontville 28.29 63 P P 14 43 54.4 -1.6
baz=265

YKA Yellowknife Ar 28.30 5 P P 14 43 56.4 +0.6
comp=Z,2.3nm,0.9s,baz=186,slow=9.3,SNR=15
YKA PcP PcP 14 47 08.7 +0.3
comp=Z,1.7nm,0.8s,baz=185,slow=2.2,SNR=6.7
YKB5 Yellowknife Ar 28.30 5 eP P 14 43 56.4 +0.6
YKB5 ePcP PcP 14 47 08.7 +0.3
F45A CMU Biological 28.35 56 P P 14 43 54.1 -2.3
baz=259
V50A Pikevile 28.35 77 P P 14 43 55.4 -1.2
baz=278
YKW3 Yellowknife Ar 28.36 5 eP P 14 43 56.0 -0.4
comp=Z,10nm,1.3s
P49A Miami Univ. Ec 28.37 69 P P 14 43 55.0 -1.8
baz=271
U50A Jamestown 28.47 76 P P 14 43 55.4 -2.3
baz=276
L48A N Adams 28.65 64 P P 14 43 57.4 -1.8
baz=267
O49A Covington 28.66 68 P P 14 43 58.4 -1.0
baz=270
Y51A Rockmart 28.67 81 P P 14 43 57.3 -2.1
baz=281,SNR=5.8
Z51A Franklin 28.69 82 P P 14 43 57.8 -1.9
baz=282
W51A Cleveland 28.70 78 P P 14 43 57.5 -2.2
baz=279
X51A Calhoun 28.72 80 eP P 14 44 00.4 +0.6
comp=Z,28nm,0.9s
X51A Calhoun 28.72 80 P P 14 44 00.7 +0.8
baz=280,SNR=6.5
R50A Paris 28.72 72 P P 14 43 58.7 -1.2
baz=273
251A Midway 28.77 85 P P 14 43 59.8 -0.6
baz=284,SNR=9.1
N49A Columbus Grove 28.79 66 P P 14 43 59.0 -1.5
baz=269
HYT Haines Junctio 28.80 342 eP P 14 44 01.9 +1.4
comp=Z,17nm,0.9s
F46A Macinaw City C 28.89 56 P P 14 43 58.5 -2.8
baz=259
V51A Loudon 28.94 77 eP P 14 44 02.6 +0.8
comp=Z,37nm,1.4s
V51A Loudon 28.94 77 P P 14 43 59.1 -2.7
baz=278
K48A Perry 28.94 62 P P 14 43 59.8 -2.0
baz=265
Q50A Georgetown 28.97 71 P P 14 44 00.2 -1.8
baz=272
T51A Gray 29.13 75 P P 14 44 01.4 -2.1
baz=276
U51A La Follette 29.14 76 P P 14 44 01.1 -2.6
baz=277,SNR=6.3
152A Waverly Hall 29.20 83 eP P 14 44 04.9 +0.7
comp=Z,8.8nm,0.6s
152A Waverly Hall 29.20 83 P P 14 44 00.6 -3.6
baz=283
R51A Hillsboro 29.30 72 P P 14 44 04.5 -0.6
baz=274,SNR=5.7
E46A Sault Ste Mari 29.31 55 P P 14 44 04.1 -0.9
baz=259
Z52A Williamson 29.34 82 P P 14 44 05.0 -0.4
baz=282,SNR=6.7
S51A Beattyville 29.34 73 eP P 14 44 06.4 +1.0
comp=Z,26nm,0.8s
S51A Beattyville 29.34 73 P P 14 44 04.2 -1.2
baz=275,SNR=8.6
252A Lumpkin 29.35 85 P P 14 44 04.5 -1.1
baz=284
W52A Murphy 29.38 78 P P 14 44 04.2 -1.6
baz=279
552A Lynn Haven 29.40 89 P P 14 44 03.7 -2.2
baz=288
K49A Clarkson 29.43 63 P P 14 44 05.8 -0.3
baz=266
Q51A Peebles 29.45 70 P P 14 44 05.6 -0.8
baz=272
TZTN Tazewell 29.49 75 eP P 14 44 07.6 +0.8
comp=Z,78nm,1.9s
TZTN Tazewell 29.49 75 P P 14 44 05.3 -1.4
baz=277
Y52A Lilburn 29.49 81 eP P 14 44 07.6 +0.9
comp=Z,31nm,1.3s
Y52A Lilburn 29.49 81 P P 14 44 05.2 -1.6
baz=281
X52A Dahlonega 29.49 79 P P 14 44 04.9 -1.9
baz=280
V52A Sevierville 29.54 77 eP P 14 44 08.1 +0.9
comp=Z,17nm,0.8s
V52A Sevierville 29.54 77 P P 14 44 05.8 -1.4
baz=278,SNR=7.1
N50A Nevada 29.57 67 P P 14 44 06.1 -1.3
baz=270
D46A Sault St. Mari 29.60 54 P P 14 44 07.1 -0.5
baz=258
U52A Thorn Hill 29.65 76 P P 14 44 08.7 +0.5
baz=277,SNR=10
P51A Williamsport 29.66 69 P P 14 44 06.6 -1.5
baz=272
ACSO Alum Creek Sta 29.70 68 eP P 14 44 09.1 +0.6
comp=Z,22nm,1.0s
ACSO Alum Creek Sta 29.70 68 P P 14 44 08.8 +0.3
baz=271
J49A Marlette 29.71 61 P P 14 44 07.3 -1.3
baz=265
FCC Fort Churchill 29.74 27 eP P 14 44 09.0 +0.4
comp=Z,15nm,1.0s
FCC Fort Churchill 29.74 27 eP P 14 44 09.0 +0.4
FCC pmax pmax
comp=Z,15nm,1.0s
L50A Kingsville 29.86 64 P P 14 44 08.3 -1.6
baz=268
T52A Hallie 29.88 74 P P 14 44 09.3 -0.9
baz=276
Y53A Monroe 29.88 81 P P 14 44 08.2 -2.0
baz=281
353A Camilla 29.94 86 P P 14 44 06.3 -4.5
baz=286
CTGM Chitina Glacie 29.98 339 eP P 14 44 11.8 +0.9
comp=Z,17nm,1.1s
X53A Estanolee 29.99 79 P P 14 44 08.7 -2.4
baz=280,SNR=5.5
453A Whigham 29.99 87 P P 14 44 10.3 -0.9
baz=286
Z53A Monticello 30.01 82 P P 14 44 10.1 -1.3
baz=282
E47A Iron Bridge 30.03 55 P P 14 44 09.4 -2.0
baz=260
GOGA Godfrey 30.07 81 eP P 14 44 12.5 +0.6
comp=Z,8.8nm,0.9s
GOGA Godfrey 30.07 81 eP P 14 44 12.5 +0.6
GOGA pmax pmax
comp=Z,9.0nm,0.9s
GOGA Godfrey 30.07 81 P P 14 44 10.2 -1.7
baz=282
N51A Ashland 30.16 66 P P 14 44 11.2 -1.4
baz=270
V53A Saluda 30.20 77 eP P 14 44 13.6 +0.6
comp=Z,12nm,0.7s
V53A Saluda 30.20 77 P P 14 44 11.6 -1.5
baz=279,SNR=7.4
T53A Wise 30.25 74 P P 14 44 12.4 -1.1
baz=276
D47A Chapleau 30.26 54 P P 14 44 11.3 -2.1
baz=259,SNR=6.3
U53A Fall Branch 30.29 75 P P 14 44 10.8 -3.1
baz=278
BALM Baldy 30.34 338 eP P 14 44 14.8 +0.7
comp=Z,13nm,1.0s
BALM Baldy 30.34 338 eP P 14 44 14.8 +0.7
BALM pmax pmax
comp=Z,13nm,1.0s
P52A Corning 30.37 69 P P 14 44 12.1 -2.4
baz=272
F48A Evansville 30.37 57 P P 14 44 11.9 -2.5
baz=261
254A Abbeville 30.55 84 P P 14 44 14.3 -1.8
baz=285
O52A Adamsville 30.58 68 P P 14 44 14.4 -2.0
baz=272
R53A Hurricane 30.58 72 P P 14 44 14.6 -1.8
baz=274
454A Quitman 30.60 87 P P 14 44 14.3 -2.3
baz=287
Y54A Tignall 30.61 80 P P 14 44 14.8 -1.8
baz=282,SNR=7.6
Z54A Sparta 30.62 82 P P 14 44 14.5 -2.2
baz=283,SNR=5.9
X54A Belton 30.74 79 P P 14 44 16.2 -1.5
baz=281

F49A Sandfield 30.76 57 P P 14 44 16.0 -1.9
baz=262
E48A Lockeyer 30.79 56 P P 14 44 16.7 -1.4
baz=261
W54A Cherokee Point 30.80 78 P P 14 44 15.6 -2.7
baz=280,SNR=5.0
U54A Nelsons Funny 30.87 75 P P 14 44 16.9 -2.1
baz=278
V54A Nebo 30.88 76 P P 14 44 17.9 -1.1
baz=279
Q53A Leroy 30.88 70 P P 14 44 17.4 -1.6
baz=274,SNR=5.1
P53A Whipple 30.95 69 eP P 14 44 20.3 +0.7
comp=Z,20nm,1.1s
P53A Whipple 30.95 69 P P 14 44 18.5 -1.0
baz=273
T54A Tazewell 31.00 74 P P 14 44 18.3 -1.9
baz=277
O53A New Philadelph 31.05 68 P P 14 44 19.9 -0.6
baz=272
TOBO Tobermory, Bru 31.05 58 P P 14 44 18.3 -2.1
baz=263
155A Kite 31.06 83 P P 14 44 18.0 -2.7
baz=284
D48A Paudash Townsh 31.15 54 P P 14 44 19.4 -1.9
baz=260
BMRO Meriville Lake 31.20 59 P P 14 44 19.8 -1.9
baz=264
Y55A Saluda 31.27 80 P P 14 44 21.1 -1.4
baz=282,SNR=5.5
N53A Lisbon 31.33 67 P P 14 44 21.9 -1.1
baz=271
R54A Victor 31.35 72 P P 14 44 22.1 -1.1
baz=275
X55A Gracelyn & Ava 31.35 79 P P 14 44 22.1 -1.1
baz=281
Q54A Coxs Mills 31.41 70 eP P 14 44 23.8 +0.2
comp=Z,20nm,1.2s
Q54A Coxs Mills 31.41 70 P P 14 44 21.8 -1.8
baz=274,SNR=5.1
V55A Taylorsville 31.45 76 P P 14 44 23.2 -0.9
baz=279
KMSC Kings Mountain 31.47 78 eP P 14 44 24.5 +0.2
comp=Z,27nm,0.7s
KMSC Kings Mountain 31.47 78 P P 14 44 22.4 -1.9
baz=280,SNR=5.5
U55A TA2, Sparta 31.49 75 P P 14 44 22.7 -1.8
baz=278
DIV Divide 31.51 336 eP P 14 44 24.9 +0.5
comp=Z,17nm,1.0s
T55A Pulaski 31.62 74 P P 14 44 25.4 -0.3
baz=277,SNR=5.1
P54A Burton 31.64 69 P P 14 44 24.3 -1.4
baz=273,SNR=5.1
O54A Avella 31.70 68 P P 14 44 23.7 -2.5
baz=272
E50A Wahnapitae 31.75 56 P P 14 44 25.0 -1.6
baz=262
S55A Lewisburg 31.77 72 P P 14 44 25.2 -1.7
baz=276
GLI Glacier Island 31.79 335 eP P 14 44 27.5 +0.8
comp=Z,40nm,1.3s
556A Lake Butler 31.82 87 P P 14 44 24.9 -2.5
baz=288
BLA Blacksburg 31.90 73 eP P 14 44 29.0 +0.9
comp=Z,21nm,0.9s
BLA Blacksburg 31.90 73 eP P 14 44 29.0 +0.9
BLA pmax pmax
comp=Z,21nm,0.9s
KLBO Killbear Provi 31.99 58 P P 14 44 27.9 -0.8
baz=264
Q55A Buckhannon 31.99 70 P P 14 44 26.2 -2.7
baz=274
DAWY Dawson 32.04 344 eP P 14 44 30.4 +1.5
comp=Z,29nm,0.9s
V56A Mocksville 32.04 76 P P 14 44 27.1 -2.1
baz=279
W56A Indian Trail 32.08 77 P P 14 44 27.3 -2.3
baz=280
SEW Seward 32.14 332 eP P 14 44 30.9 +1.1
comp=Z,22nm,1.0s
P55A Reedsville 32.15 69 P P 14 44 29.7 -0.5
baz=274
MENT Mentasta 32.23 340 eP P 14 44 31.6 +1.0
T56A Rocky Mt 32.23 74 P P 14 44 29.7 -1.3
baz=278
157A Early Branch 32.26 82 P P 14 44 29.2 -1.9
baz=284
F51A Arnstein 32.26 57 P P 14 44 29.5 -1.6
baz=263
657A Interlachen 32.40 88 P P 14 44 28.3 -4.2
baz=289
L54A Sinclairville 32.46 64 P P 14 44 31.3 -1.6
baz=270
CNPM China Poot 32.49 330 eP P 14 44 34.0 +1.1
comp=Z,21nm,1.1s
BRLK Bradley Lake 32.49 331 eP P 14 44 34.5 +1.6
comp=Z,29nm,1.3s
O55A Ligonier 32.52 68 P P 14 44 32.3 -1.1
baz=273,SNR=7.0
857A Zephyrhills 32.53 90 P P 14 44 32.7 -1.0
baz=290
SCM Sheep Creek Mo 32.54 336 eP P 14 44 34.5 +1.1
comp=Z,37nm,1.0s
SCM Sheep Creek Mo 32.54 336 eP P 14 44 34.5 +1.1
SCM pmax pmax
comp=Z,37nm,1.0s
W57A Gilead 32.55 77 P P 14 44 31.6 -2.1
baz=280
KNK Knik Glacier 32.64 335 eP P 14 44 35.4 +1.2
comp=Z,43nm,0.9s
SADO Sadowa 32.69 59 eP P 14 44 35.7 +0.8
comp=Z,11nm,1.2s
SADO ePcP PcP 14 47 20.1 -0.1
SADO Sadowa 32.69 59 P P 14 44 36.0 +1.2
comp=Z,2.2nm,0.5s,baz=288,slow=4.0,SNR=2.9
SADO PcP PcP 14 47 20.6 +0.3
comp=Z,1.7nm,0.3s,baz=266,slow=2.5,SNR=3.9
APG El Apazote 32.73 119 P P 14 44 35.3 -0.4
comp=Z,4.6nm,0.7s,baz=6.1,slow=21,SNR=3.5
N55A Marion Center 32.73 67 eP P 14 44 36.3 +1.0
comp=Z,32nm,1.0s
N55A Marion Center 32.73 67 P P 14 44 33.4 -1.9
baz=272,SNR=8.1
PAX Paxson 32.77 339 eP P 14 44 36.8 +1.3
comp=Z,16nm,1.2s
PAX Paxson 32.77 339 eP P 14 44 36.8 +1.3
PAX pmax pmax
comp=Z,16nm,1.2s
T57A Hurt 32.85 74 eP P 14 44 37.0 +0.7
comp=Z,8.8nm,0.8s
T57A Hurt 32.85 74 P P 14 44 32.2 -4.2
baz=278
SML Sawmill 32.86 335 eP P 14 44 37.4 +1.2
comp=Z,26nm,1.0s
SML Sawmill 32.86 335 eP P 14 44 37.4 +1.2
SML pmax pmax
comp=Z,26nm,1.0s
U57A Blanch 32.87 75 P P 14 44 34.4 -2.1
baz=279
M55A Ridgway 32.88 65 P P 14 44 35.9 -0.7
baz=271
RC01 Rabbit Creek A 32.88 333 eP P 14 44 37.3 +1.0
comp=Z,18nm,0.9s
DOT Dot Lake 32.88 340 eP P 14 44 37.3 +1.0
comp=Z,12nm,0.8s
K54A Basiliko Farm, 32.93 63 P P 14 44 34.3 -2.7
baz=270
658A Bunnell 32.95 88 P P 14 44 34.5 -2.8
baz=289
S57A Dark Hollow, R 32.99 72 P P 14 44 35.0 -2.5
baz=277
PMR Palmer 33.00 335 eP P 14 44 38.7 +1.4
comp=Z,53nm,1.1s
PMR Palmer 33.00 335 eP P 14 44 38.7 +1.4
PMR pmax pmax
comp=Z,53nm,1.1s
GHO Glory Hole Cre 33.05 335 eP P 14 44 39.2 +1.3
comp=Z,30nm,1.0s
EGAK Eagle 33.05 343 eP P 14 44 39.2 +1.5
comp=Z,22nm,0.9s
O56A Blue Knob Stat 33.08 68 eP P 14 44 39.3 +1.0
comp=Z,42nm,1.4s
O56A Blue Knob Stat 33.08 68 P P 14 44 36.2 -2.2
baz=273
RIDG Independent Ri 33.18 340 eP P 14 44 40.2 +1.3
comp=Z,14nm,0.9s

N56A	**West Decatur**	33.25	66	P	P	14 44 37.5	-2.3
	baz=272						
R57A	**Stanardsville**	33.27	71	P	P	14 44 37.9	-2.1
	baz=276						
Q57A	**Strasburg**	33.29	70	P	P	14 44 40.2	+0.1
	baz=275						
M56A	**Emporium**	33.32	65	P	P	14 44 40.1	-0.3
	baz=272						
058A	**Arcadia**	33.32	92	P	P	14 44 38.8	-1.7
	baz=292						
K55A	**Perry**	33.39	63	P	P	14 44 38.9	-2.1
	baz=270						
D52A	**ZEK Kipawa Sen**	33.41	55	P	P	14 44 39.1	-2.0
	baz=263						
T58A	**Grand View Acr**	33.43	74	P	P	14 44 38.4	-3.0
	baz=278,SNR=6.6						
DHY	**Denali Highway**	33.44	338	*e*P	P	14 44 42.4	+1.1
	comp=Z,26nm,0.9s						
SUA	**Susitna One**	33.50	333	*e*P	P	14 44 43.3	+1.4
	comp=Z,36nm,0.8s						
U58A	**Oxford**	33.50	75	P	P	14 44 38.2	-3.8
	baz=279						
EPYK	**Eagle Plains**	33.53	348	*e*P	P	14 44 42.6	+0.7
	comp=Z,11nm,0.7s						
EPYK	**Eagle Plains**	33.53	348	P	P	14 44 38.9	-3.0
	baz=154,SNR=12						
SSPA	**Standing Stone**	33.58	67	P	P	14 44 41.7	-0.9
	baz=273						
RSO	**Redoubt South**	33.66	331	*e*P	P	14 44 44.4	+1.1
R58A	**Rapidan**	33.68	71	P	P	14 44 40.8	-2.8
	baz=276						
I55A	**Frankford**	33.70	60	P	P	14 44 41.6	-2.1
	baz=268						
O57A	**Amberson**	33.79	68	P	P	14 44 44.0	-0.5
	baz=274,SNR=8.4						
SPU	**Mount Spurr**	33.81	332	*e*P	P	14 44 45.8	+1.3
N57A	**Milroy**	33.82	67	P	P	14 44 42.9	-1.9
	baz=273						
V59A	**Middlesex**	33.85	76	P	P	14 44 43.9	-1.2
	baz=280						
D53A	**Lac Vacive, Po**	33.91	55	*e*P	P	14 44 45.4	-0.1
	comp=Z,16nm,1.3s						
D53A	**Lac Vacive, Po**	33.91	55	P	P	14 44 45.0	-0.5
	baz=264						
H55A	**Tweed**	34.08	60	P	P	14 44 44.5	-2.4
	baz=268						
U59A	**Littleton**	34.11	74	*e*P	P	14 44 47.5	+0.2
	comp=Z,9.6nm,0.9s						
U59A	**Littleton**	34.11	74	P	P	14 44 44.6	-2.7
	baz=280						
PLVO	**Plevna**	34.17	59	P	P	14 44 46.2	-1.6
	baz=267						
T59A	**Double "B" Far**	34.20	73	P	P	14 44 45.1	-3.0
	baz=279						
VLDQ	**Val d'Or**	34.20	53	*e*P	P	14 44 46.0	-1.9
	comp=Z,16nm,1.0s						
HDA	**Harding Lake**	34.29	339	*e*P	P	14 44 48.5	0.0
	comp=Z,8.2nm,0.8s						
HDA	**Harding Lake**	34.29	339	P	P	14 44 46.3	-2.3
	baz=138,SNR=8.0						
MATQ	**Matagami**	34.35	50	P	P	14 44 47.3	-1.8
	baz=260						
MCK	**McKinley**	34.40	337	*e*P	P	14 44 49.9	+0.3
	comp=Z,49nm,1.8s						
MCK	**McKinley**	34.40	337	*e*P	P	14 44 49.9	+0.3
MCK				pmax	pmax		
	comp=Z,49nm,1.8s						
ILAR	**Eielson Array**	34.54	340	P	P	14 44 52.0	+1.3
	comp=Z,11nm,0.9s,baz=157,slow=7.7,SNR=96						
ILAR				PcP	PcP	14 47 25.8	+0.6
	comp=Z,1.8nm,0.8s,baz=167,slow=3.0,SNR=7.2						
ILAR				ScP	ScP	14 51 11.6	+2.3
	comp=Z,0.2nm,0.6s,baz=133,slow=3.8,SNR=3.6						
ILAR				LR	LR	14 57 15.1	
	comp=Z,119nm,21.1s,baz=138,slow=33						
ILB	**Eielson Array**	34.54	340	*e*P	P	14 44 50.8	+0.1
	comp=Z,28nm,1.1s						
ILB				*e*PcP	PcP	14 47 25.4	+0.2
D54A	**Lac Fusel, La**	34.63	55	P	P	14 44 50.3	-1.4
	baz=264						
LSQQ	**Lebel-sur-Quev**	34.65	52	P	P	14 44 51.2	-0.7
	baz=261						
WRH	**Wood River Hil**	34.67	339	*e*P	P	14 44 52.2	+0.3
	comp=Z,16nm,1.0s						
CCB	**Clear Creek Bu**	34.72	339	*e*P	P	14 44 52.8	+0.6
	comp=Z,10nm,0.9s						
P59A	**Jarrettsville**	34.76	68	P	P	14 44 49.8	-3.1
	baz=275						
INK	**Inuvik**	34.84	351	*e*P	P	14 44 53.9	+0.8
	comp=Z,27nm,1.2s						
INK	**Inuvik**	34.84	351	*e*P	P	14 44 53.9	+0.8
INK				pmax	pmax		
	comp=Z,27nm,1.2s						
INK	**Inuvik**	34.84	351	P	P	14 44 54.2	+1.1
	comp=Z,11nm,1.0s,baz=152,slow=9.4,SNR=30						
O59A	**Robesonia**	34.89	67	P	P	14 44 51.2	-2.8
	baz=274						
COLA	**College**	34.90	339	*e*P	P	14 44 54.5	+0.8
	comp=Z,14nm,0.9s						
COLA	**College**	34.90	339⇑	*e*P	P	14 44 54.6	+0.8
COLA				pmax	pmax		
	comp=Z,16nm,1.1s						
BINY	**Binghamton**	34.94	64	P	P	14 44 52.3	-2.1
	baz=272						
POKR	**Poker Plat Res**	34.96	340	P	P	14 44 49.3	-5.0
	baz=138						
MDM	**Murphy Dome**	35.07	339	*e*P	P	14 44 55.9	+0.6
	comp=Z,13nm,1.2s						
MDM				*e*PcP	PcP	14 47 27.2	+0.5
N59A	**State Game Lan**	35.16	66	*e*P	P	14 44 57.2	+0.8
	comp=Z,24nm,1.1s						
N59A	**State Game Lan**	35.16	66	P	P	14 44 55.1	-1.3
	baz=274						
CAST	**Castle Rocks**	35.23	335	*e*P	P	14 44 57.2	+0.5
	comp=Z,14nm,1.1s						
BPAW	**Bear Paw Mtn.**	35.32	337	*e*P	P	14 44 58.2	+0.7
	comp=Z,28nm,1.2s						
O60A	**Telford**	35.49	67	P	P	14 44 58.3	-0.8
	baz=275						
LUPA	**Lehigh Univers**	35.49	67	*e*P	P	14 45 00.4	+1.2
	comp=Z,2.9nm,1.2s						
FYU	**Fort Yukon**	35.49	343	*e*P	P	14 45 00.5	+1.6
	comp=Z,45nm,1.1s						
MLY	**Manley**	35.87	338	*e*P	P	14 45 03.3	+1.1
	comp=Z,35nm,1.3s						
MLY				*e*PcP	PcP	14 47 29.6	+0.6
ODNJ	**Ogdensburg**	36.03	66	*e*P	P	14 45 04.8	+1.0
	comp=Z,26nm,1.1s						
CHGQ	**Chibougamau**	36.46	51	P	P	14 45 04.9	-2.5
	baz=262						
PAL	**Palisades**	36.56	66	P	P	14 45 07.8	-0.6
	baz=275						
KSCT	**Kent School, K**	36.83	65	*e*P	P	14 45 11.6	+1.1
	comp=Z,107nm,1.9s						
COLD	**Coldfoot**	37.28	341	*e*P	P	14 45 15.4	+1.3
	comp=Z,6.9nm,1.0s						
TOLK	**Toolik Lake Re**	38.16	343	*e*P	P	14 45 23.4	+1.8
	comp=Z,29nm,0.9s						
TOLK	**Toolik Lake Re**	38.16	343	P	P	14 45 19.5	-2.2
	baz=138,SNR=27						
HRV	**Adam Dziewonsk**	38.20	63	P	P	14 45 20.5	-1.7
	baz=274						
SCHQ	**Schefferville**	41.68	44	*e*P	P	14 45 49.7	-1.2
	comp=Z,22nm,1.0s						
SCHQ	**Schefferville**	41.68	44	P	P	14 45 50.6	-0.3
	comp=Z,17nm,1.1s,baz=283,slow=5.9,SNR=6.6						
SCHQ				LR	LR	15 03 24.6	
	comp=Z,117nm,21.6s,baz=277,slow=36						
RES	**Resolute Bay**	42.13	10	*e*P	P	14 45 55.2	+0.9
	comp=Z,23nm,1.0s						
RES	**Resolute Bay**	42.13	10	*e*P	P	14 45 55.3	+0.9
RES				pmax	pmax		
	comp=Z,23nm,1.0s						
RES	**Resolute Bay**	42.13	10	P	P	14 45 55.1	+0.7
	comp=Z,16nm,0.9s,baz=194,slow=11,SNR=22						
RES				PcP	PcP	14 47 49.0	+0.5
	comp=Z,3.7nm,0.9s,baz=212,slow=9.9,SNR=3.6						
FRB	**Frobisher Bay**	42.78	31	P	P	14 46 01.2	+1.5
	comp=Z,42nm,1.0s,baz=244,slow=9.4,SNR=24						
KULLO	**Kullorsuaq**	49.92	18	*i* P	P	14 46 56.8	+1.1
KULLO				pmax	pmax		
	comp=Z,30nm,1.1s						
KULLO	**Kullorsuaq**	49.92	18	*i* P	P	14 46 56.8	+1.1
	comp=Z,30nm,1.1s						
SJG	**San Juan**	50.22	95	*e*P	P	14 46 59.7	+1.0
	comp=Z,27nm,0.7s						
SJG	**San Juan**	50.22	95	*e*P	P	14 46 59.7	+1.0
SJG				pmax	pmax		
	comp=Z,27nm,0.7s						
SJG	**San Juan**	50.22	95	P	P	14 46 59.8	+1.0
	comp=Z,29nm,0.7s,baz=332,slow=8.0,SNR=8.6						
NORC	**Norcasia**	50.45	114	*e*P	P	14 47 01.9	+1.4
NORC	**Norcasia**	50.45	114	*e*P	P	14 47 01.9	+1.4
MTP	**Monte Pirata**	50.71	94	*e*P	P	14 47 03.2	+0.7
	comp=Z,60nm,0.8s						
SFJD	**Kangerlussuaq**	50.75	28	*e*P	P	14 47 03.3	+1.3
	comp=Z,40nm,1.1s						
SFJD	**Kangerlussuaq**	50.75	28	*i* P	P	14 47 03.8	+1.8
SFJD				pmax	pmax		
	comp=Z,31nm,1.1s						
SFJD	**Kangerlussuaq**	50.75	28	P	P	14 47 03.6	+1.6
	comp=Z,21nm,1.0s,baz=265,slow=5.1,SNR=7.9						
SFJD	**Kangerlussuaq**	50.75	28	*i* P	P	14 47 03.8	+1.8
	comp=Z,31nm,1.1s						
GIRC	**Giron, Santand**	50.76	111	*e*P	P	14 47 02.8	-0.2
GIRC	**Giron, Santand**	50.76	111	*e*P	P	14 47 02.8	-0.2
POPC	**Popayan, Colom**	51.12	119	*e*P	P	14 47 07.8	+1.9
POPC	**Popayan, Colom**	51.12	119	*e*P	P	14 47 07.8	+1.9
ROSC	**El Rosal**	51.33	114	LR	LR	15 11 23.1	
	comp=Z,101nm,18.9s,baz=354,slow=39						
OTAV	**Otavalo**	51.46	122	*e*P	P	14 47 10.0	+1.3
	comp=Z,12nm,0.9s						
OTAV	**Otavalo**	51.46	122	*e*P	P	14 47 11.1	+2.5
OTAV	**Otavalo**	51.46	122	*e*P	P	14 47 10.0	+1.3
OTAV				pmax	pmax		
	comp=Z,12nm,0.9s						
OTAV	**Otavalo**	51.46	122	*e*P	P	14 47 11.1	+2.5
RUSC	**La Rusia**	51.59	112	*e*P	P	14 47 07.8	-1.9
RUSC	**La Rusia**	51.59	112	*e*P	P	14 47 07.8	-1.9
CRUC	**La Cruz**	51.59	120	*e*P	P	14 47 12.0	+2.5
CRUC	**La Cruz**	51.59	120	*e*P	P	14 47 12.0	+2.5
BILL	**Bilibino**	52.61	333	*e*P	P	14 47 16.0	+0.1
	comp=Z,27nm,1.7s						
BILL	**Bilibino**	52.61	333	*c i*P	P	14 47 16.6	+0.6
BILL				*e*		14 48 26.8	
BILL				*e*		14 49 16.8	
BILL				*e*PPP	PPP	14 50 15.1	
BILL				pmax	pmax		
	comp=Z,12nm,1.3s						
SUMG	**Summit**	54.98	21	*e*P	P	14 47 34.3	+0.6
	comp=Z,45nm,1.2s						
SUMG	**Summit**	54.98	21	*e*P	P	14 47 34.3	+0.6
SUMG				pmax	pmax		
	comp=Z,45nm,1.2s						
SUMG	**Summit**	54.98	21	*i* P	P	14 47 34.8	+1.1
	comp=Z,116nm,1.2s						
PMOR	**Pomariorio Ree**	55.94	213	*e*T	T	15 47 19.4	
	comp=Z,12nm,0.2s						
PPT2	**Papeete2**	58.97	214	*e*S	S	14 56 05.7	-2.0
	comp=Z,235nm,24.5s						
PPT2				*e*LR	LR	15 05 15.8	
	comp=Z,254nm,26.5s,baz=27						
RKT	**Rikitea**	59.00	196	*e*T	T	15 51 16.4	
	comp=Z,4.3nm,0.2s						
SEY	**Seymchan**	59.03	328	P	P	14 48 02.9	+0.8
	comp=Z,5.4nm,0.7s,baz=100,slow=6.0,SNR=24						
PEA1	**Petropavlovsk-**	59.08	316	*e*P	P	14 48 02.7	+0.1
PETK	**Petropavlovsk-**	59.08	316	P	P	14 48 02.7	+0.1
	comp=Z,7.7nm,0.8s,baz=80,slow=11,SNR=9.2						
DAG	**Danmarks Havn**	59.30	15	*i* P	P	14 48 03.1	-0.6
DAG				pmax	pmax		
	comp=Z,11nm,1.1s						
DAG	**Danmarks Havn**	59.30	15	*i* P	P	14 48 03.1	-0.6
	comp=Z,8.7nm,1.1s						
MA2	**Magadan**	60.77	324	*e*P	P	14 48 14.5	+0.4
	comp=Z,17nm,1.0s						
MA2	**Magadan**	60.77	324	*c i*P	P	14 48 14.7	+0.6
MA2				pmax	pmax		
	comp=Z,33nm,1.7s						
MA2	**Magadan**	60.77	324	P	P	14 48 14.9	+0.8
	comp=Z,14nm,1.0s,baz=76,slow=8.1,SNR=24						
TBI	**Tubuai**	63.98	210	*e*LR	LR	15 07 26.7	
	comp=Z,177nm,29.2s						
TIXI	**Tiksi**	64.01	341	*e*P	P	14 48 35.1	-0.4
	comp=Z,12nm,1.1s						
TIXI	**Tiksi**	64.01	341⇑	*i*P	P	14 48 35.3	-0.2
TIXI				pmax	pmax		
	comp=Z,14nm,1.3s						
TIXI	**Tiksi**	64.01	341	P	P	14 48 35.4	-0.2
	comp=Z,5.5nm,0.8s,baz=53,slow=6.4,SNR=34						
H11N3	**WAKE ISLAND Hy**	65.63	278	T	T	15 59 44.3	
	baz=60,slow=75,SNR=119						
H11N2	**WAKE ISLAND Hy**	65.64	278	T	T	15 59 35.2	
	baz=60,slow=75,SNR=113						
H11N1	**WAKE ISLAND Hy**	65.65	278	T	T	15 59 46.0	
	baz=60,slow=75,SNR=111						
PTGA	**Pitinga**	65.90	109	*e*P	P	14 48 49.2	+0.5
	comp=Z,21nm,0.9s						
H11S1	**WAKE ISLAND Hy**	66.40	277	T	T	16 00 34.4	
	baz=60,slow=75,SNR=86						
H11S2	**WAKE ISLAND Hy**	66.41	277	T	T	16 00 32.4	
	baz=60,slow=75,SNR=58						
H11S3	**WAKE ISLAND Hy**	66.42	277	T	T	16 00 39.4	
	baz=60,slow=75,SNR=58						
YAK	**Yakutsk**	68.94	332	*e*P	P	14 49 06.7	-0.5
YAK				pmax	pmax		
	comp=Z,57nm,1.0s						
YSS	**Yuzh-Sakhalins**	70.34	314	*e*P	P	14 49 16.1	0.0
YSS				pmax	pmax		
	comp=Z,23nm,1.3s						
LPAZ	**La Paz**	70.39	127	*e*P	P	14 49 17.2	-0.3
	comp=Z,6.0nm,1.0s						
LPAZ	**La Paz**	70.39	127	*e*P	P	14 49 17.2	-0.3
LPAZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LPAZ	**La Paz**	70.39	127	P	P	14 49 17.6	+0.2
	comp=Z,3.3nm,0.8s,baz=335,slow=6.0,SNR=13						
MNMC	**Minye Minye**	71.51	130	*e*P	P	14 49 24.4	+0.6
	comp=Z,13nm,0.9s						
PB11	**IPOC Station P**	71.94	130	*e*P	P	14 49 26.9	+0.6
	comp=Z,18nm,0.8s						
PB01	**IPOC Station P**	73.00	131	*e*P	P	14 49 33.6	+1.1
	comp=Z,18nm,0.8s						
ARCES	**ARCESS Array B**	73.29	12	P	P	14 49 33.9	+0.4
	comp=Z,7.5nm,0.9s,baz=336,slow=5.3,SNR=12						
NRIK	**Noril'sk**	74.62	350	P	P	14 49 41.0	-0.2
	comp=Z,8.4nm,0.9s,baz=18,slow=2.5,SNR=7.5						
NRIK				LR	LR	15 26 46.9	
	comp=Z,75nm,18.4s,baz=42,slow=39						
KLR	**Kul'dur**	75.33	320	*c i*P	P	14 49 45.4	-0.3
KLR				pmax	pmax		
	comp=Z,6.0nm,1.4s						
EKA	**Eskdalemuir Ar**	75.53	32	P	P	14 49 47.4	+0.6
	comp=Z,0.9nm,0.6s,baz=287,slow=5.8,SNR=4.4						
LVZ	**Lovozero**	76.21	10⇓	*e*P	P	14 49 51.7	+1.3
LVZ				pmax	pmax		
	comp=Z,24nm,1.3s						
NB2	**NORSAR Subarra**	76.86	22	P	P	14 49 54.7	+0.5
	comp=Z,1.3nm,0.7s,baz=317,slow=5.9						
NB200	**NORSAR Array S**	76.86	22	*e*P	P	14 49 54.7	+0.5
NOA	**NORSAR Array B**	76.86	22	P	P	14 49 54.7	+0.5
	comp=Z,1.9nm,0.7s,baz=319,slow=5.5,SNR=8.9						
NOA				LR	LR	15 24 52.6	
	comp=Z,97nm,19.6s,baz=185,slow=36						
KONO	**Kongsberg**	77.40	24	*e*P	P	14 49 57.9	+0.6
	comp=Z,14nm,1.1s						
KONO	**Kongsberg**	77.40	24⇑	*e*P	P	14 49 58.0	+0.8
KONO				pmax	pmax		
	comp=Z,19nm,1.7s						
USRK	**Ussuriysk Ar.**	78.17	316	P	P	14 50 01.6	-0.3
	comp=Z,5.7nm,0.8s,baz=62,slow=2.4,SNR=11						
HFS	**Hagfors**	78.34	22	P	P	14 50 03.4	+1.0
	comp=Z,7.3nm,0.8s,baz=222,slow=2.0,SNR=9.5						
MAJO	**Matsushiro**	78.75	307	*e*P	P	14 50 04.5	-0.7
MAJO	**Matsushiro**	78.75	307⇑	*e*P	P	14 50 04.8	-0.4
MAJO				pmax	pmax		
	comp=Z,12nm,1.2s						
MAT	**Matsushiro**	78.75	307	P	P	14 50 04.3	-0.9
MAT				S	S	14 59 55.6	-6.3
MJAR	**Matsushiro Arr**	78.75	307	P	P	14 50 04.5	-0.7
	comp=Z,2.0nm,0.7s,baz=42,slow=4.2,SNR=6.1						
VLA	**Vladivostok**	78.88	315	*de*P	P	14 50 06.5	+0.8
VLA				pmax	pmax		
	comp=Z,73nm,2.1s						
FIA0	**FINESS Array S**	80.53	16	*e*P	P	14 50 15.2	+0.8
FIA0	**FINESS Array S**	80.53	16	*e*P	P	14 50 15.2	+0.8
FIA1	**FINESS Array S**	80.53	16	*e*P	P	14 50 14.8	+0.4
	comp=Z,8.8nm,0.8s						
FINES	**FINESS Array B**	80.53	16	P	P	14 50 15.2	+0.8
	comp=Z,5.9nm,0.7s,baz=356,slow=5.7,SNR=19						
CN2	**Changchun**	82.11	318	*e*P	P	14 50 22.5	-0.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSU	**Vasula**	83.34	17⇓	*e*P	P	14 50 30.3	+1.1
VSU				pmax	pmax		
	comp=Z,55nm,1.6s						
PRGR	**Permogore**	83.56	7	*e*P	P	14 50 29.0	-1.3
PRGR				pmax	pmax		
	comp=Z,18nm,0.9s						
KLMR	**Klimovskoe**	83.58	10	*e*P	P	14 50 27.2	-3.2
KLMR				pmax	pmax		
	comp=Z,19nm,1.7s						
BDFB	**Brasilia**	84.36	113	*e*P	P	14 50 35.0	-0.2
BDFB	**Brasilia**	84.36	113	P	P	14 50 35.0	-0.2
	comp=Z,1.6nm,0.4s,baz=28,slow=8.7,SNR=3.0						
CPUP	**Villa Florida**	84.56	127	P	P	14 50 36.4	+0.6
	comp=Z,4.1nm,0.8s,baz=317,slow=3.0,SNR=7.6						
KSRS	**Korea Array**	84.77	312	P	P	14 50 37.1	+0.2
	comp=Z,4.0nm,0.8s,baz=56,slow=5.1,SNR=13						
KS15	**Wonju Array Si**	84.80	312	*e*P	P	14 50 37.2	+0.2
	comp=Z,78nm,1.8s						
KLNR	**Kaliningrad**	84.90	22⇑	*e*P	P	14 50 38.3	+1.2
KLNR				pmax	pmax		
	comp=Z,46nm,1.0s						
CLL	**Collm**	85.11	28	*e*P	P	14 50 38.9	+0.6
	comp=Z,14nm,1.3s						
CLL	**Collm**	85.11	28	*i* P	P	14 50 39.3	+1.0
CLL				*e*		14 50 45.0	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CLL	**Collm**	85.11	28	*i* P	P	14 50 39.3	+1.0
	comp=Z,9.0nm,1.0s						
CLL				*e*(sP)	pP	14 50 45.0	0.0
CLL				*e*S	S	15 01 07.0	+0.3
CLL				*e*PPS	PPS	15 02 23.0	
CLL				*e*SS	SS	15 07 00.0	+21
CLL				*e*(SSS)		15 10 48.0	
ESDC	**Sonseca Array**	85.43	44	P	P	14 50 40.8	+0.6
	comp=Z,1.0nm,0.5s,baz=308,slow=5.1,SNR=7.5						
BRG	**Berggiesshubel**	85.81	27	*e*P	P	14 50 43.2	+1.3
	comp=Z,15nm,1.3s						
BRG	**Berggiesshubel**	85.81	27	*e*P	P	14 50 43.2	+1.3
BRG				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TLY	**Talaya**	86.19	335	*c e*P	P	14 50 44.6	+0.8
KIRV	**Kirov**	86.92	6	P	P	14 50 47.5	+0.4
	comp=Z,12nm,0.6s,baz=329,slow=6.8,SNR=5.9						
GEC2	**GERESS Array S**	87.34	29	*e*P	P	14 50 50.1	+0.6
	comp=Z,5.6nm,1.3s						
GEC2	**GERESS Array S**	87.34	29	*e*P	P	14 50 50.1	+0.6
GEC2				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GERES	**GERESS Array B**	87.34	29	P	P	14 50 50.1	+0.6
	comp=Z,0.8nm,0.7s,baz=337,slow=3.0,SNR=5.0						
DAVOX	**Davos/Dischmat**	87.37	32	P	P	14 50 51.2	+1.4
	comp=Z,1.8nm,0.5s,baz=229,slow=16,SNR=2.3						
PLCA	**Paso Flores**	87.45	145	P	P	14 50 49.8	0.0
	comp=Z,5.7nm,1.0s,baz=25,slow=3.8,SNR=4.4						
ULN	**Ulaanbaatar**	87.99	331	⇓ *i*P	P	14 50 53.9	+1.2
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
VRAC	**Vranov**	88.08	27	P	P	14 50 54.1	+1.2
	comp=Z,2.3nm,0.4s,baz=301,slow=7.0,SNR=3.6						
SONA0	**Songino Array**	88.28	331	*e*P	P	14 50 55.2	+1.1
SONM	**Songino Array**	88.28	331	P	P	14 50 55.2	+1.1
	comp=Z,1.0nm,0.6s,baz=68,slow=2.2,SNR=9.2						
OBN	**Obninsk**	88.56	13	*e*P	P	14 50 54.1	-0.9
OBN				*e*PPP	PPP	14 56 20.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NVS	**Novosibirsk**	88.93	347	*i* P	P	14 50 57.3	+0.5
MODS	**Modra-Piesok**	89.11	27	*e*P	P	14 50 58.8	+1.0
MODS	**Modra-Piesok**	89.11	27	*e*P	P	14 50 58.8	+1.0
SVE	**Sverdlovsk**	89.12	360	*e*P	P	14 50 58.2	+0.5
SVE				pmax	pmax		
	comp=Z,15nm,1.5s						
ZAA1	**Zalesovo Array**	89.46	346	*e*P	P	14 50 59.5	+0.2
ZAA0	**Zalesovo Array**	89.46	346	*e*P	P	14 50 59.3	0.0
	comp=Z,9.7nm,1.3s						
ZALV	**Zalesovo Beam**	89.46	346	P	P	14 50 59.5	+0.2
	comp=Z,2.5nm,0.6s,baz=2.3,slow=5.6,SNR=9.2						
ARU	**Arti**	89.51	1	*e*P	P	14 50 59.0	-0.5
	comp=Z,14nm,1.2s						
ARU	**Arti**	89.51	1	*d i*P	P	14 50 59.6	+0.1
ARU						14 54 27.0	
ARU				S	SKSac	15 01 29.7	+1.1
ARU				SS	SS	15 07 44.8	+2.1
ARU				pmax	pmax		
	comp=Z,14nm,1.3s						
ARU	**Arti**	89.51	1	P	P	14 50 59.9	+0.4
	comp=Z,0.7nm,0.3s,baz=352,slow=3.7,SNR=9.5						
AKASG	**Malin Array Be**	90.95	19	*i* P	P	14 51 05.4	-0.9
AKASG	**Malin Array Be**	90.95	19	P	P	14 51 05.7	-0.6
	comp=Z,0.3nm,0.3s,baz=341,slow=3.6,SNR=7.6						
AKBB	**Malin Array Si**	90.95	19	*e*P	P	14 51 05.2	-1.1
	comp=Z,19nm,2.0s						
AKBB	**Malin Array Si**	90.95	19	*e*P	P	14 51 05.2	-1.1
AKBB				pmax	pmax		
	comp=Z,19nm,2.0s						
HHC	**Hu-ho-hao-te**	91.44	324	*e*P	P	14 51 10.3	+1.3
HHC				pmax	pmax		
	comp=Z,47nm,1.3s						
HHC				pmax	pmax		
	comp=Z,160nm,7.8s						
BRVK	**Borovoye**	92.46	354	*e*P	P	14 51 13.2	0.0
	comp=Z,4.1nm,0.8s						
BRVK	**Borovoye**	92.46	354	*c i*P	P	14 51 13.8	+0.6
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VSR	**Storozhevoye**	92.75	13⇓	*e*P	P	14 51 15.1	+0.5
VSR				pmax	pmax		
	comp

LBTB Lobatse 148.65 82 PKPbc **PKPbc 14 57 50.7 +0.7**
comp=Z,14nm,0.9s,baz=66,slow=23,SNR=3.8
MATP Matopo 148.75 72 PKPbc **PKPbc 14 57 51.1 +0.7**
comp=Z,9.0nm,0.8s,baz=35,slow=7.0,SNR=3.7
MATP PKPab **PKPab 14 57 54.8 +0.6**
comp=Z,10nm,0.8s,baz=280,slow=5.1,SNR=4.3

*ISK **29** 14:43:31.6, 39°.14N×29°.10E, h4km, ML4.0/49*
*DDA **29** 14:43:31.7, 39°.14N×29°.10E, h7km±2km, ML4.0*
*ISCJB **29** 14:43:32.4±0.4, 39°.12N±0°.01×29°.08E±0°.02, h6km±3km, mb3.4/8, MS2.3/1, Error ellipse: s-maj=2.5km s-min=2.3km az=137.5*
*NEIC **29** 14:43:32.0±0.0, 39°.12N×29°.17E, h2km, mb4.5/2, MD4.0(ISK), After ISK.*
*IDC **29** 14:43:33.4±0.9, 39°.09N×29°.38E, h0km, mb3.5/8, mb1 3.7/16, mb1mx3.6/49, mbtmp3.6/16, ML3.5/8, MS2.4/1, Ms1 2.5/1, ms1mx2.0/39, Error ellipse: s-maj=16.8km s-min=12.8km az=43.0*
*THE **29** 14:43:34.4, 39°.19N×29°.25E, h26km±4km, ML3.6/2, Error ellipse: s-maj=4.5km s-min=0.6km az=130.0*
*SOF **29** 14:43:50.7, 40°.52N×28°.45E, h15km*
ISC 29 14:43:32.9±0.9, 39°.13N±0°.02×29°.10E±0°.02, h6km±7km, n146, σ1§58/169, mb3.5/8, 21C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	**Saphane-Kutahy**	**0.14**	**138**	PG	**Pg**	**14 43 35.5**	**-0.4**
SHAP				SG	**Sg**	**14 43 38.4**	**+0.5**
GEDZ	**Gediz**	**0.26**	**109**	PG	**Pg**	**14 43 37.7**	**-0.2**
GEDZ				SG	**Sg**	**14 43 42.2**	**+0.8**
GDZ	**Gediz**	**0.30**	**97**	IAML_P			
	comp=Z,103μm,0.1s						
GDZ				⇓*i*P	**Pg**	**14 43 38.7**	**-0.1**
GDZ				*i* S	**Sg**	**14 43 43.6**	**+0.8**
USAK	**Uak-Merkez**	**0.42**	**189**	⇑*i*P	**Pg**	**14 43 40.9**	**-0.1**
USAK				*i* S	**Sg**	**14 43 46.6**	**+0.1**
TVSB	**Tavsanli**	**0.43**	**41**	PG	**Pg**	**14 43 40.2**	**-1.0**
TVSB				SG	**Sg**	**14 43 46.5**	**-0.3**
DURS	**Dursunbey**	**0.68**	**314**	IAML_P			
	comp=Z,18μm,0.1s						
DURS				⇑*i*P	**Pg**	**14 43 45.8**	**-0.2**
DURS				*i* S	**Sg**	**14 43 54.8**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**209**	PG	**Pg**	**14 43 45.6**	**-0.8**
MANT	**Manisa**	**0.76**	**214**	*e*Pg	**Pg**	**14 43 46.5**	**-1.1**
MANT	**Manisa**	**0.76**	**214**	⇑*i*P	**Pg**	**14 43 47.0**	**-0.6**
MANT				*i* S	**Sg**	**14 43 56.8**	**-0.7**
KHAL	**Karahalli**	**0.82**	**158**	⇑*i*P	**Pg**	**14 43 48.8**	**+0.2**
KHAL				*i* S	**Sg**	**14 43 58.6**	**-0.6**
KHL	**Karahalli**	**0.87**	**157**	PG	**Pg**	**14 43 49.3**	**-0.3**
ORLT	**Orhaneli**	**0.93**	**350**	PG	**Pg**	**14 43 49.4**	**-1.3**
AFYO	**Afyonkarahisar**	**1.00**	**110**	IAML_P			
	comp=Z,16μm,0.3s						
AFYO				⇓*i*P	**Pg**	**14 43 52.1**	**+0.1**
AFYO				*i* S	**Sg**	**14 44 05.2**	**+0.3**
GOMA	**Golmarmara-Man**	**1.01**	**246**	PG	**Pg**	**14 43 51.9**	**-0.4**
ULDT	**Uludag**	**1.01**	**2**	IAML_P			
	comp=Z,28μm,0.2s						
ULDT				⇑*i*P	**Pg**	**14 43 51.7**	**-0.6**
ULDT				*i* S	**Sb**	**14 44 06.2**	**-0.4**
AKHS	**Akhisar**	**1.03**	**256**	IAML_P			
	comp=Z,28μm,0.3s						
AKHS				*i* P	**Pg**	**14 43 52.5**	**-0.1**
AKHS				*i* S	**Sg**	**14 44 06.1**	**+0.1**
AUBOZ	**BOZOYUK**	**1.06**	**42**	⇑*i*P	**Pg**	**14 43 52.7**	**-0.6**
AUBOZ				*i* S	**Sb**	**14 44 07.5**	**-0.4**
BALB	**Balikesir**	**1.07**	**299**	PN	**Pg**	**14 43 53.1**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.10**	**283**	IAML_P			
	comp=Z,17μm,0.2s						
STEP				⇓*i*P	**Pg**	**14 43 53.3**	**-0.7**
STEP				*i* S	**Sn**	**14 44 10.9**	**+0.6**
AUKIR	**Kırka- Seyitga**	**1.12**	**82**	⇑*i*P	**Pn**	**14 43 55.2**	**0.0**
AUKIR				*i* S	**Sn**	**14 44 12.9**	**+1.9**
KZIL	**AFYON_Kizioren**	**1.19**	**136**	IAML_P			
	comp=Z,21μm,0.2s						
KZIL				⇑*i*P	**Pg**	**14 43 54.4**	**-1.4**
KZIL				*i* S	**Sg**	**14 44 11.0**	**-0.2**
CAVI	**Cavuskoy**	**1.22**	**28**	PN	**Pb**	**14 43 55.3**	**-1.0**
IZI	**Iznik**	**1.24**	**13**	PN	**Pb**	**14 43 55.8**	**-1.0**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	PN	**Pn**	**14 43 55.9**	**-1.0**
SHUT	**Suhut-Afyon**	**1.27**	**116**	PN	**Pn**	**14 43 56.8**	**-0.5**
KCTX	**Karacabey (Bur**	**1.27**	**333**	PN	**Pn**	**14 43 56.6**	**-0.6**
BORA	**Eskisehir**	**1.29**	**54**	IAML_P			
	comp=Z,34μm,0.2s						
BORA				*i* P	**Pn**	**14 43 56.4**	**-1.1**
BORA				*i* S	**Sn**	**14 44 15.0**	**-0.1**
BORA				IAML_P			
	comp=Z,34μm,0.2s						
BALY	**Balya**	**1.30**	**299**	⇑*i*P	**Pn**	**14 43 57.3**	**-0.3**
BALY				*i* S	**Sg**	**14 44 14.6**	**0.0**
DENT	**Denizli**	**1.37**	**182**	PN	**Pn**	**14 43 58.6**	**0.0**
ADVT	**Abdulvahap**	**1.39**	**21**	PN	**Pn**	**14 43 58.5**	**-0.3**
ESKT	**Eskisehir**	**1.41**	**73**	PN	**Pn**	**14 43 58.9**	**-0.3**
GONE	**Gonen-Balikesi**	**1.43**	**310**	PN	**Pn**	**14 43 59.1**	**-0.2**
ARMT	**Armutlu**	**1.45**	**353**	PN	**Pn**	**14 43 59.4**	**-0.2**
SRCK	**Saricakaya, Es**	**1.49**	**52**	PN	**Pn**	**14 43 59.9**	**-0.3**
BOLV	**Bolvadin**	**1.50**	**105**	IAML_P			
	comp=Z,3μm,0.1s						
BOLV				*i* P	**Pn**	**14 44 00.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**219**	PN	**Pn**	**14 44 00.6**	**0.0**
CIFT	**Cifteler, Eski**	**1.54**	**81**	PN	**Pn**	**14 44 00.8**	**-0.2**
EDC	**Edincik**	**1.54**	**322**	PN	**Pn**	**14 44 00.7**	**-0.2**
GEYV	**SAKARYA_Geyve**	**1.64**	**34**	IAML_P			
	comp=Z,11μm,0.3s						
GEYV				*i* P	**Pn**	**14 44 02.3**	**+0.1**
GEYV				*i* S	**Sg**	**14 44 26.7**	**+1.2**
GULT	**Gulveren**	**1.70**	**40**	PN	**Pn**	**14 44 02.9**	**-0.2**
BUY	**Buyukada**	**1.72**	**0**	PN	**Pn**	**14 44 03.3**	**0.0**
HRT	**Hereke**	**1.75**	**14**	PN	**Pn**	**14 44 03.3**	**-0.5**
SPNC	**Sapanca-Adapaz**	**1.81**	**30**	PN	**Pn**	**14 44 04.6**	**0.0**
SAUV	**Serdivan-Sakar**	**1.87**	**30**	PN	**Pn**	**14 44 05.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.91**	**80**	PN	**Pn**	**14 44 06.0**	**0.0**
ISK	**Istanbul-Kandi**	**1.94**	**359**	PN	**Pn**	**14 44 06.2**	**-0.1**
ISK	**Istanbul-Kandi**	**1.94**	**359**	P	**Pn**	**14 44 03.8**	**-2.5**
ISK				S	**Sn**	**14 44 26.4**	**-4.5**
BCK	**Bucak**	**2.04**	**144**	PN	**Pn**	**14 44 08.1**	**+0.4**
GCAM	**G?zelcaml?**	**2.04**	**226**	PN	**Pn**	**14 44 07.9**	**+0.1**
BGKT	**Bogazkoy**	**2.06**	**353**	PN	**Pn**	**14 44 08.4**	**+0.3**
SILT	**Sile**	**2.06**	**11**	PN	**Pn**	**14 44 08.1**	**0.0**
URLA	**Izmir**	**2.10**	**249**	PN	**Pn**	**14 44 08.9**	**+0.3**
KLYT	**Kilyos**	**2.12**	**359**	PN	**Pn**	**14 44 08.9**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.15**	**317**	PN	**Pn**	**14 44 09.4**	**+0.2**
CTKS	**Kestanelik-??a**	**2.15**	**348**	PN	**Pn**	**14 44 09.5**	**+0.2**
KIZT	**Kizilcal**	**2.18**	**96**	PN	**Pn**	**14 44 09.1**	**-0.7**
LPK	**Lapseki**	**2.19**	**305**	PN	**Pn**	**14 44 09.9**	**+0.1**
SLVT	**Silivri**	**2.21**	**342**	PN	**Pn**	**14 44 10.1**	**+0.1**
EZN	**Ezine**	**2.26**	**289**	P	**Pn**	**14 44 10.1**	**-0.6**
EZN				S	**Sn**	**14 44 38.2**	**-0.6**
EZN	**Ezine**	**2.26**	**289**	⇑*i*P	**Sg**	**14 44 47.0**	**+1.6**
SMG	**Samos**	**2.27**	**232**	P	**Pn**	**14 44 11.0**	**+0.1**
TURN	**Turunc**	**2.29**	**190**	PN	**Pb**	**14 44 13.8**	**-0.7**
DALY	**Dalyan (Mula)**	**2.33**	**189**	PN	**Pn**	**14 44 12.3**	**+0.6**
KORT	**Korkueli**	**2.34**	**155**	PN	**Pn**	**14 44 12.4**	**+0.4**
GELI	**Tayfur-Gelibol**	**2.39**	**303**	PN	**Pn**	**14 44 12.7**	**+0.2**
ELL	**Elmali**	**2.46**	**165**	PN	**Pn**	**14 44 14.1**	**+0.5**
BOZC	**Bozcaada**	**2.46**	**288**	PN	**Pn**	**14 44 13.9**	**+0.4**
FETY	**Fethiye**	**2.49**	**180**	P	**Pn**	**14 44 12.9**	**-1.0**
CHOS	**Chios island**	**2.49**	**254**	PN	**Pn**	**14 44 14.5**	**+0.5**
BODT	**Bodrum**	**2.50**	**215**	PN	**Pn**	**14 44 14.7**	**+0.6**
ERIK	**Erikli-Kesan**	**2.52**	**309**	PN	**Pn**	**14 44 14.6**	**+0.4**
SIGR	**SIGRI**	**2.52**	**273**	PN	**Pn**	**14 44 14.9**	**+0.6**
DAT	**Datca**	**2.68**	**207**	PN	**Pn**	**14 44 17.2**	**+0.6**
ENEZ	**Enez**	**2.78**	**306**	PN	**Pn**	**14 44 18.4**	**+0.6**
KONT	**Konya--Tatoy**	**2.82**	**114**	PN	**Pn**	**14 44 18.9**	**+0.4**
KDZE	**Karadeniz Ereo**	**2.83**	**39**	⇑*i*P	**Sg**	**14 45 05.3**	**+1.7**
AKAS	**Kas**	**2.92**	**172**	PN	**Pn**	**14 44 20.4**	**+0.5**
BR231	**Keskin MP Arra**	**2.93**	**75**	*e*Pn	**Pb**	**14 44 23.7**	**-1.9**
ALN	**Alexandroupoli**	**2.94**	**308**	*e*Pn	**Pn**	**14 44 18.9**	**-1.1**
ALN	**Alexandroupoli**	**2.94**	**308**	P	**Pn**	**14 44 18.9**	**-1.1**
ALN				S	**Sn**	**14 44 53.5**	**-2.1**
ANTO	**Ankara**	**2.95**	**74**	⇓*i*P	**Sg**	**14 45 11.4**	**+3.7**
ARG	**Arkhangelos**	**3.01**	**195**	PN	**Pn**	**14 44 21.9**	**+0.9**
SMTH	**Samothraki Isl**	**3.06**	**297**	P	**Pn**	**14 44 21.0**	**-0.7**
SMTH				S	**Sn**	**14 44 57.5**	**-1.1**
AFSR	**Afar-Bala (An**	**3.10**	**83**	PN	**Pn**	**14 44 23.0**	**+0.6**
LIA	**Limnos Island**	**3.12**	**285**	P	**Pn**	**14 44 22.3**	**-0.3**
EDRB	**Edirne**	**3.26**	**327**	P	**Pn**	**14 44 22.9**	**-1.5**
RDO	**Rodhopi**	**3.39**	**308**	P	**Pn**	**14 44 25.5**	**-0.8**
BR131	**Keskin Array S**	**3.57**	**79**	*e*Pn	**Pn**	**14 44 28.5**	**-0.3**
BRTR	**Keskin Array B**	**3.57**	**79**	Pn	**Pn**	**14 44 28.6**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=255,slow=14,SNR=47						
BRTR				Sn	**Sn**	**14 45 09.0**	**-2.4**
	comp=Z,1.4nm,0.3s,baz=275,slow=17,SNR=6.0						
BRTR				Lg	Lg	14 45 29.3	
	comp=Z,1.6nm,0.3s,baz=265,slow=21,SNR=11						
YAYX	**Yaylak**	**3.67**	**91**	PN	**Pn**	**14 44 31.2**	**+0.9**
KDZ	**Kurdzhali**	**3.77**	**313**	P	**Pn**	**14 44 35.1**	**+3.5**
KARP	**Karpathos**	**3.89**	**204**	*e*Pn	**Pn**	**14 44 31.9**	**-1.4**
DIM	**Dimitrovgrad**	**3.99**	**318**	P	**Pn**	**14 44 29.9**	**-4.6**
RZN	**Rozhen**	**4.21**	**309**	P	**Pn**	**14 44 40.5**	**+2.8**
PRD	**Provadia**	**4.26**	**343**	P	**Pb**	**14 44 46.6**	**-1.6**
BERE	**Bereket-Mersin**	**4.29**	**129**	PN	**Pn**	**14 44 40.2**	**+1.4**
TEKE	**Tekeli-Mersin**	**4.36**	**132**	PN	**Pn**	**14 44 41.3**	**+1.6**
PLD	**Plovdiv**	**4.47**	**313**	P	**Pn**	**14 44 39.7**	**-1.5**
BZK	**Bozkurt**	**4.69**	**51**	⇑*i*P	**Pg**	**14 45 02.3**	**-0.3**
IDI	**Anoyia**	**5.10**	**223**	Pn	**Pn**	**14 44 52.0**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=37,slow=12,SNR=6.7						
CSS	**Mathiatis**	**5.36**	**140**	*e*Pn	**Pn**	**14 44 52.3**	**-1.1**
TLB	**Topalu**	**5.51**	**352**	⇓*i*P	**Pn**	**14 44 56.1**	**+0.7**
VTS	**Vitosha**	**5.65**	**310**	*e*Pn	**Pn**	**14 44 57.1**	**-0.4**
VTS	**Vitosha**	**5.65**	**310**	P	**Pn**	**14 44 57.7**	**+0.2**
MPEP	**Malo Peshtene**	**5.84**	**318**	P	**Pn**	**14 45 00.4**	**+0.4**
FNA	**Florina**	**6.16**	**288**	*e*Pn	**Pn**	**14 45 00.4**	**-4.0**
BISRR	**Bisoca**	**6.66**	**345**	⇑*i*P	Pn	14 45 16.1	+4.9
MLR	**Muntele Rosu**	**6.77**	**341**	*e*Pn	**Pn**	**14 45 13.8**	**+0.9**
MLR	**Muntele Rosu**	**6.77**	**341**	⇑*i*P	**Pn**	**14 45 15.8**	**+2.9**
MLR	**Muntele Rosu**	**6.77**	**341**	Pn	**Pn**	**14 45 15.7**	**+2.8**
	comp=Z,0.9nm,0.3s,baz=247,slow=8.1,SNR=12						
MLR				Sn	**Sn**	**14 46 30.3**	**-0.1**
	baz=236,slow=18,SNR=2.0						
MLR				Lg	Lg	14 47 23.6	
	comp=Z,0.3nm,0.3s,baz=21,slow=12,SNR=4.1						
MTUR	**Matau**	**6.79**	**335**	⇑*i*P	**Pn**	**14 45 17.2**	**+4.1**
ODBI	**Odobesti**	**6.80**	**348**	⇓*i*P	Pn	14 45 18.3	+5.2
PLOR	**Plostina**	**6.96**	**346**	⇓*i*P	**Pn**	**14 45 19.1**	**+3.8**
VRI	**Vrincioaia**	**6.96**	**346**	⇓*i*P	**Pn**	**14 45 15.4**	**+0.1**
VOIR		**6.98**	**336**	⇑*i*P	**Pn**	**14 45 17.6**	**+1.9**
ARR	**Arges**	**7.06**	**333**	⇓*i*P	**Pn**	**14 45 20.8**	**+4.1**
DOPR	**Dopca**	**7.36**	**339**	⇑*i*P	**Pn**	**14 45 23.3**	**+2.4**
TESR	**Tescani**	**7.59**	**347**	⇓*i*P	**Pn**	**14 45 26.7**	**+2.7**
HERR	**Herculane**	**7.60**	**321**	⇑*i*P	**Pn**	**14 45 26.9**	**+2.8**
GZR	**Gura Zlata**	**7.82**	**325**	⇓*i*P	**Pn**	**14 45 30.0**	**+2.8**
MDB	**Medias**	**7.82**	**335**	⇓*i*P	Pn	14 45 32.2	+5.0
MDVR	**Moldovita**	**7.88**	**318**	⇑*i*P	**Pn**	**14 45 30.5**	**+2.5**
MMAI	**Mount Meron Ar**	**7.95**	**138**	Pn	**Pn**	**14 45 28.5**	**-0.5**
	comp=Z,2.7nm,0.3s,baz=327,slow=12,SNR=7.8						
BIZ	**Bicaz**	**8.11**	**345**	⇑*i*P	**Pn**	**14 45 34.6**	**+3.5**
BZS	**Buzias**	**8.52**	**322**	⇑*i*P	**Pn**	**14 45 40.0**	**+3.2**
BURAR	**Bucovina Array**	**8.94**	**343**	⇓*i*P	**Pn**	**14 45 44.8**	**+2.2**
BUR08	**Bucovina Ar. S**	**8.97**	**343**	*e*Pn	**Pn**	**14 45 43.1**	**+0.1**
ASF	**Jabal al Asfar**	**9.40**	**135**	Pn	**Pn**	**14 45 47.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=294,slow=18,SNR=1.8						
ASF				Sn	**Sn**	**14 47 32.4**	**-2.6**
	baz=133,slow=5.7,SNR=2.1						
EIL	**Elat**	**10.60**	**151**	Pn	**Pn**	**14 46 06.1**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=35,slow=12,SNR=2.9						
EIL				Sn	**Sn**	**14 48 01.4**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=90,slow=14,SNR=2.9						
KWP	**Kalwaria Pacla**	**11.45**	**339**	*e*Pn	**Pn**	**14 46 17.1**	**+0.3**
AKASG	**Malin Array Be**	**11.57**	**0**	Pn	**Pn**	**14 46 20.5**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=171,slow=10,SNR=3.9						
GERES	**GERESS Array B**	**14.71**	**316**	Pn	**P**	**14 47 05.3**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=130,slow=11,SNR=3.4						
GRA1	**Grafenberg Arr**	**16.53**	**316**	*e*Pn	**Pn**	**14 47 21.9**	**-3.3**
	comp=Z,26nm,0.7s						
GRFO	**Grafenberg**	**16.53**	**316**	*e*Pn	**Pn**	**14 47 21.9**	**-3.3**
	comp=Z,24nm,0.7s						
FINES	**FINESS Array B**	**22.42**	**356**	P	**P**	**14 48 34.5**	**+2.5**
	comp=Z,2.7nm,0.8s,baz=174,slow=15,SNR=3.2						
GEYT	**Alibeck**	**22.70**	**84**	P	**P**	**14 48 35.6**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=284,slow=8.7,SNR=4.8						
AKTO	**Aktyubinsk**	**23.28**	**51**	P	**P**	**14 48 40.8**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=270,slow=13,SNR=4.8						
NOA	**NORSAR Array B**	**24.59**	**339**	P	**P**	**14 48 56.6**	**+3.2**
	comp=Z,0.7nm,0.7s,baz=142,slow=9.2,SNR=3.9						
NOA				LR	LR	14 58 27.1	
	comp=Z,10nm,21.6s,baz=185,slow=36						
EKA	**Eskdalemuir Ar**	**26.92**	**318**	P	**P**	**14 49 18.6**	**+4.0**
	comp=Z,1.1nm,0.7s,baz=109,slow=12,SNR=3.5						
TORD	**Torodi Ar. Bea**	**35.44**	**231**	P	**P**	**14 50 32.3**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=28,slow=7.9,SNR=2.9						
MKAR	**Makanchi Array**	**39.03**	**61**	P	**P**	**14 50 59.3**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=278,slow=10.0,SNR=2.8						
GTA	**Gaotai**	**53.39**	**66**	*e*P	**P**	**14 52 49.3**	**-4.1**
GTA				pP	pP	14 52 53.5	-2.2
GTA				sP	sP	14 52 56.5	-0.1
SONM	**Songino Array**	**54.57**	**54**	P	**P**	**14 53 01.6**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=303,slow=11,SNR=2.8						
LZH	**Lanzhou**	**57.70**	**68**	*e*P	**P**	**14 53 27.0**	**+2.5**
LZH				pP	sP	14 53 31.5	+3.7
LZH				sP	pP	14 53 34.3	+7.4
HHC	**Hu-ho-hao-te**	**60.86**	**59**	*e*P	**P**	**14 53 46.5**	**+0.2**
NJ2	**Nanjing**	**70.44**	**64**	*e*P	**P**	**14 54 48.3**	**+0.2**

*ISCJB **29** 14:47:31.8±0.2, 46°.98S±0°.04×33°.49E±0°.08, h10km, mb5.0/61, MS4.7/34, Error ellipse: s-maj=8.4km s-min=5.6km az=169.3*
*IDC **29** 14:47:32.4±0.4, 47°.04S×33°.70E, h0km, mb4.7/25, mb1 4.7/25, mb1mx4.7/28, mbtmp4.6/25, MS4.5/20, Ms1 4.5/20, ms1mx4.5/21, Error ellipse: s-maj=15.5km s-min=12.4km az=85.0*
*MOS **29** 14:47:32.2±1.5, 46°.96S×33°.51E, h10km, mb5.4/20, Error ellipse: s-maj=20.5km s-min=9.3km az=96.0*
*BJI **29** 14:47:32.3±0.0, 47°.02S×33°.64E, h10km, mb5.3/7, mB5.5/7, Ms5.0/8, Ms7 4.7/9*
*NEIC **29** 14:47:33.6±0.1, 46°.94S×33°.56E, h10km, mb5.2/40, Error ellipse: s-maj=7.2km s-min=5.3km az=85.0*
*GCMT **29** 14:47:36.6±0.2, 46°.84S±0°.01×33°.57E±0°.01, h20km, MW5.2/110, Moment Tensor Solution. s60,c89; s110,c182; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.09±.02; Mθθ0.48±.02; Mφφ-0.56±.02; Mrθ0.02±.03; Mrφ0.71±.02; Mθf-0.07±.03; Best double couple: M0 0.88600×10^17 NP1:φ±18.00000°, δ88.00000°, λ-176.00000°. NP2:φ±288.00000°, δ86.00000°, λ-2.00000°. Principal axes: T 0.8410, Plg1.0000°, Azm153.0000°; N 0.0890, Plg86.0000°, Azm47.0000°; P -0.9310, Plg4.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 14:47:33.7±0.3, 46°.92S±0°.05×33°.42E±0°.07, h10km, n249, σ1§60/246, mb5.1/68, MS4.7/34, 5C-7D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.43**	**322**	*e*Pn	**Pn**	**14 51 34.5**	**-2.6**
	131nm,1.3s						
BOSA	**Boshof**	**19.36**	**338**	*i* P	**Pn**	**14 52 00.2**	**-0.4**
BOSA	**Boshof**	**19.36**	**338**	*i* P	**Pn**	**14 52 00.1**	**-0.4**
BOSA	**Boshof**	**19.36**	**338**	*e*P	**P**	**14 51 58.5**	**-1.0**
	53nm,1.0s						
BOSA	**Boshof**	**19.36**	**338**	*e*P	**P**	**14 51 58.5**	**-1.0**
BOSA				pmax	pmax		
	comp=Z,53nm,1.0s						
BOSA	**Boshof**	**19.36**	**338**	*i* P	**Pn**	**14 52 00.2**	**-0.4**
BOSA	**Boshof**	**19.36**	**338**	P	**P**	**14 51 58.9**	**-0.6**
	comp=Z,3.6nm,0.3s,baz=164,slow=10,SNR=49						
BOSA				LR	LR	14 58 05.0	
	comp=Z,2μm,21.7s,baz=156,slow=32						
SYO	**Syowa Base**	**22.37**	**174**	⇓*i*P	**P**	**14 52 29.0**	**-2.6**
SYO	**Syowa Base**	**22.37**	**174**	⇓*i*P	**P**	**14 52 31.6**	**0.0**
SYO	**Syowa Base**	**22.37**	**174**	⇓*i*pP	pP	14 52 34.5	+1.5
LBTB	**Lobatse**	**22.73**	**341**	*e*P	**P**	**14 52 33.8**	**-2.1**
	comp=Z,86nm,0.9s						
LBTB				S	**S**	**14 56 39.6**	**-4.9**
LBTB	**Lobatse**	**22.73**	**341**	*e*P	**P**	**14 52 33.8**	**-2.1**
LBTB				S	**S**	**14 56 39.7**	**-4.9**
LBTB				pmax	pmax		
	comp=Z,86nm,0.9s						
LBTB	**Lobatse**	**22.73**	**341**	P	**P**	**14 52 35.0**	**-0.9**
	comp=Z,52nm,0.7s,baz=165,slow=10,SNR=53						
LBTB				S	**S**	**14 56 39.6**	**-4.9**
	comp=Z,6.2nm,0.7s,baz=346,slow=23,SNR=4.4						
LBTB				LR	LR	15 00 17.8	
	comp=Z,2μm,18.8s,baz=168,slow=33						
MAW	**Mawson**	**25.68**	**154**	*e*P	**P**	**14 53 02.6**	**-0.8**
	comp=Z,53nm,1.7s						
MAW	**Mawson**	**25.68**	**154**	*e*P	**P**	**14 53 02.6**	**-0.8**
MAW				pmax	pmax		
	comp=Z,53nm,1.7s						
MAW	**Mawson**	**25.68**	**154**	P	**P**	**14 53 02.3**	**-1.0**
	comp=Z,33nm,0.8s,baz=314,slow=9.8,SNR=48						
MAW				LR	LR	15 00 32.7	
	comp=Z,851nm,20.4s,baz=317,slow=31						
MATP	**Matopo**	**26.73**	**350**	*i* P	**P**	**14 53 16.5**	**+3.0**
MATP	**Matopo**	**26.73**	**350**	*i* P	**P**	**14 53 12.0**	**-1.4**
MATP	**Matopo**	**26.73**	**350**	*i* P	**P**	**14 53 16.5**	**+3.0**
MATP	**Matopo**	**26.73**	**350**	P	**P**	**14 53 12.2**	**-1.2**
	comp=Z,5.7nm,0.7s,baz=166,slow=8.7,SNR=9.0						
MATP				LR	LR	15 02 14.9	
	comp=Z,1μm,20.5s,baz=174,slow=33						
BLWY	**Bulawayo**	**27.00**	**350**	⇓*i*P	**P**	**14 53 17.8**	**+1.9**
BLWY	**Bulawayo**	**27.00**	**350**	⇓*i*P	**P**	**14 53 17.8**	**+1.9**
ABPO	**Ambohimpanom**	**30.05**	**27**	*e*P	**P**	**14 53 42.9**	**-0.1**
	comp=Z,35nm,1.3s						
SNAA	**Sanae**	**30.05**	**202**	P	**P**	**14 53 42.5**	**-0.1**
SNAA	**Sanae**	**30.05**	**202**	*e*P	**P**	**14 53 41.9**	**-0.7**
	comp=Z,22nm,1.2s						
SNAA	**Sanae**	**30.05**	**202**	⇑*e*P	**P**	**14 53 42.3**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,1μm,1.1s						
SNAA	**Sanae**	**30.05**	**202**	P	**P**	**14 53 42.3**	**-0.3**
	comp=Z,13nm,1.0s,baz=84,slow=4.3,SNR=19						
SNAA				LR	LR	15 03 49.8	
	comp=Z,332nm,18.6s,baz=12,slow=33						
OPO	**Ambohidratompo**	**30.45**	**26**	P	**P**	**14 53 47.8**	**+1.1**
	comp=Z,4.6nm,0.9s,baz=225,slow=8.3,SNR=5.2						
TSUM	**Tsumeb**	**30.54**	**330**	*e*P	**P**	**14 53 47.4**	**0.0**
	comp=Z,68nm,1.6s						
VNA2	**Neumayer--Watz**	**30.89**	**205**	P	**P**	**14 53 50.4**	**+0.5**
	baz=55,slow=9.0						
VNA1	**Neumayer--Stat**	**31.01**	**205**	P	**P**	**14 53 51.6**	**+0.7**
VNA3	**Neumayer Olymp**	**31.69**	**205**	P	**P**	**14 53 56.6**	**-0.4**
LSZ	**Lusaka**	**31.85**	**350**	*e*P	**P**	**14 53 57.2**	**-1.7**
	comp=Z,23nm,0.8s						
LSZ	**Lusaka**	**31.85**	**350**	*e*P	**P**	**14 53 57.2**	**-1.7**
LSZ				pmax	pmax		
	comp=Z,23nm,0.8s						
HOPE	**Hope Point**	**43.29**	**233**	*e*P	**P**	**14 55 33.7**	**-1.5**
	comp=Z,132nm,1.3s						
QSPA	**South Pole Qui**	**43.30**	**180**	*e*P	**P**	**14 55 33.7**	**-1.7**
	comp=Z,77nm,1.2s						
CASY	**Casey**	**43.31**	**145**	*e*P	**P**	**14 55 34.2**	**-1.0**
	comp=Z,11nm,0.8s						
NAI	**Nairobi**	**45.56**	**5**	*e*P	**P**	**14 55 54.9**	**+0.9**
	comp=Z,78nm,0.7s						
KMBO	**Kilima Mbogo**	**45.73**	**5**	*e*P	**P**	**14 55 54.2**	**-1.2**
	comp=Z,12nm

comp=Z,151nm,18.0s,baz=206,slow=31
AS31 Alice Springs 79.85 114 *e*P **P 14 59 40.5 -2.1**
comp=Z,2.1nm,0.8s
LVC Limon Verde 81.78 246 *e*P **P 14 59 52.6 -0.7**
WRA Warramunga Arr 82.84 111 P **P 14 59 56.7 -1.8**
comp=Z,1.8nm,0.7s,baz=224,slow=5.0,SNR=2.3
WR1 Warramunga Arr 82.84 111 *e*P **P 14 59 56.7 -1.8**
WRAB Tennant Creek 82.85 111⇑*e*P **P 14 59 56.5 -2.0**
WRAB pmax pmax
comp=Z,12nm,1.5s
LTZ Lake Taylor 83.53 151 *e*P **P 15 00 01.1 -0.6**
comp=Z,28nm,0.8s
KAPI Kappang 83.86 91 *e*P **P 15 00 02.0 -1.8**
comp=Z,43nm,1.5s
KAPI Kappang 83.86 91 *e*P **P 15 00 02.0 -1.8**
KAPI pmax pmax
comp=Z,43nm,1.5s
BKSI Bulukumba 83.90 91 P **P 15 00 03.2 -0.7**
SPSI Sidrap Palu 84.63 90 P **P 15 00 07.0 -0.7**
KEST Kesra 85.07 341 *e*P **P 15 00 08.6 -0.8**
comp=Z,16nm,0.9s
KEST Kesra 85.07 341 P **P 15 00 11.6 +2.2**
comp=Z,6.8nm,1.1s,baz=142,slow=4.4,SNR=3.3
KEST LR LR 15 40 21.1
comp=Z,888nm,18.2s,baz=136,slow=37
LPAZ La Paz 85.92 251 *e*P **P 15 00 13.5 -1.4**
comp=Z,20nm,1.5s
LPAZ La Paz 85.92 251 *e*P **P 15 00 13.5 -1.4**
LPAZ La Paz 85.92 251 P **P 15 00 16.3 +1.4**
comp=Z,1.5nm,0.8s,baz=108,slow=4.0,SNR=3.5
LPAZ LR LR 15 35 31.7
comp=Z,245nm,18.9s,baz=125,slow=34
BR101 Keskin Array S 86.26 0 *e*P **P 15 00 15.1 -0.2**
BR131 Keskin Array S 86.26 0 *e*P **P 15 00 13.6 -1.6**
comp=Z,12nm,1.1s
BRTR Keskin Array B 86.26 0 P **P 15 00 15.1 -0.2**
comp=Z,3.1nm,1.0s,baz=172,slow=9.7,SNR=13
BALB Balikesir 86.32 356 *e*P **P 15 00 14.5 -0.9**
comp=Z,150nm,1.0s
GNI Garni 87.27 9⇑*i*P **P 15 00 22.5 +2.3**
GNI pmax pmax
comp=Z,76nm,1.8s
GEYT Alibeck 87.32 19 P **P 15 00 21.6 +1.3**
comp=Z,6.1nm,0.9s,baz=197,slow=3.1,SNR=10
GEYT LR LR 15 39 02.5
comp=Z,106nm,19.4s,baz=10.0,slow=35
GYA0B ALIBECK ARRAY 87.32 19 *e*P **P 15 00 20.9 +0.5**
comp=Z,13nm,0.8s
CM31 Chiang Mai Arr 87.68 60 *e*P **P 15 00 22.2 -0.3**
CMAR Chiang Mai Arr 87.68 60 P **P 15 00 22.2 -0.3**
comp=Z,0.5nm,0.3s,baz=299,slow=29,SNR=2.5
CMAR LR LR 15 35 01.9
comp=Z,234nm,18.0s,baz=206,slow=32
ZEI Tsey 89.80 8 *e*P **P 15 00 32.2 0.0**
ZEI pmax pmax
comp=Z,9.0nm,1.1s
GROC Groznyy 90.40 9 *e*P **P 15 00 35.6 +0.9**
GROC pmax pmax
comp=Z,19nm,0.6s
KBZ Khabaz 90.65 7 P **P 15 00 36.1 +0.3**
comp=Z,3.4nm,0.9s,baz=207,slow=7.8,SNR=6.8
KBZ LR LR 15 40 54.6
comp=Z,192nm,20.3s,baz=165,slow=35
KIV Kislovodsk 90.86 7 *e*P **P 15 00 37.6 +0.7**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,657nm,20.0s
ANN Anapa 91.40 3 *e*P P 15 00 50.1 +11
ANN *e**PP pwP 15 00 55.8 +7.8
ANN pmax pmax
comp=Z,32nm,1.0s
MLR Muntele Rosu 92.26 355 *e*P **P 15 00 44.1 +0.7**
comp=Z,23nm,1.2s
MLR Muntele Rosu 92.26 355 *e*P **P 15 00 44.1 +0.7**
MLR pmax pmax
comp=Z,23nm,1.2s
ESDC Sonseca Array 92.44 332 P **P 15 00 45.6 +1.2**
comp=Z,0.3nm,0.3s,baz=166,slow=5.1,SNR=6.0
ESDC LR LR 15 44 58.5
comp=Z,271nm,18.0s,baz=190,slow=37
KSH Kashi 94.06 32 P **P 15 00 54.0 +2.1**
KSH sP pwP 15 01 00.3 -0.2
KSH PP **PP 15 04 42.0 +3.2**
KSH S **S 15 12 01.5 -0.8**
KSH pmax pmax
comp=Z,92nm,3.4s
KSH LR LR
comp=Z,110nm,6.7s
KSH LR LR
comp=Z,130nm,7.2s
KSH LR LR
comp=Z,210nm,11.2s
BUR08 Bucovina Ar. S 94.45 354 *e*P **P 15 00 54.2 +0.8**
comp=Z,9.8nm,1.1s
OBKA Obir 94.50 347 *i*P P 15 01 00.4 +6.7
comp=Z,7.9nm,1.2s
SOKA Soboth 94.59 347 *i*PcP **P 15 00 57.6 +3.5**
comp=Z,6.7nm,1.2s
QIZ Qiongzhong 94.80 67 P **P 15 00 55.0 -0.6**
QIZ S **S 15 12 08.5 -0.9**
QIZ LR LR
comp=Z,160nm,25.0s
QIZ LR LR
comp=Z,210nm,27.9s
QIZ LR LR
comp=Z,300nm,30.9s
KMI Kunming 95.05 58 P **P 15 00 58.8 +1.9**
KMI pP sP 15 01 01.8 +2.8
KMI sP pwP 15 01 03.5 -2.0
KMI pmax pmax
comp=Z,18nm,0.5s
KMI pmax pmax
comp=Z,72nm,4.1s
ABTA Abfaltersbach 95.06 346 *i*PcP **P 15 00 60.0 +3.7**
comp=Z,8.2nm,1.4s
ARSA Arzberg 95.08 348 *i*pP P 15 01 01.3 +5.1
comp=Z,10.0nm,1.3s
FETA Feichten 95.64 345 *i*pP P 15 01 04.2 +5.2
comp=Z,8.8nm,1.7s
CONA Conrad Observa 95.70 348 *i*PcP **P 15 01 01.5 +2.4**
comp=Z,8.5nm,1.6s
WTTA Wattenberg 95.71 345 *i*pP P 15 01 04.6 +5.2
comp=Z,7.8nm,1.1s
MOA Molln 95.85 347 *i*pP P 15 01 05.4 +5.7
comp=Z,5.9nm,0.8s
VYHS Vyhne 95.87 350 *e*P **P 15 01 04.2 +4.4**
VYHS Vyhne 95.87 350 *e*P **P 15 01 04.2 +4.4**
RETA Reutte 96.08 345 *i*pP P 15 01 05.9 +5.1
comp=Z,8.6nm,0.9s
GERES GERESS Array B 96.91 347 LR LR 15 49 21.7
comp=Z,252nm,18.1s,baz=238,slow=38
TREC Trest 97.09 348 AMS AMS 15 49 10.0
comp=Z,300nm,19.4s
KHC Kasperske Hory 97.21 347 AMS AMS 15 43 40.0
comp=Z,400nm,19.9s
OKC Ostrava-Krasne 97.28 350 AMS AMS 15 48 50.0
comp=Z,300nm,23.1s
AKASG Malin Array Be 97.31 357 P Pdif 15 01 07.2 +0.9
comp=Z,0.4nm,0.4s,baz=176,slow=9.3,SNR=2.9
AKASG LR LR 15 49 07.6
comp=Z,121nm,19.1s,baz=205,slow=38
AKBB Malin Array Si 97.31 357 *e*P Pdif 15 01 07.2 +0.9
comp=Z,4.6nm,1.1s
AKBB Malin Array Si 97.31 357 *e*P Pdif 15 01 07.2 +0.9
AKBB pmax pmax
comp=Z,5.0nm,1.1s
GOPC GO Pecny, Ondr 97.79 348 AMS AMS 15 52 50.0
comp=Z,400nm,19.5s
PRU Pruhonice 97.90 348 AMS AMS 15 50 50.0
comp=Z,400nm,18.7s
UPC Upice 98.20 349 AMS AMS 15 49 20.0
comp=Z,300nm,18.1s
PVCC Panska Ves 98.42 348 AMS AMS 15 49 50.0
comp=Z,200nm,13.1s
NKC Novy Kostel 98.45 347 AMS AMS 15 44 40.0
comp=Z,400nm,22.1s
AKTO Aktyubinsk 99.27 16 P **Pdif 15 01 16.3 +1.3**
baz=215,slow=3.5
CD2 Chengdu 100.02 55 *e*P **Pdif 15 01 20.0 +1.0**
OBN Obninsk 101.69 2 *i*P **Pdif 15 01 27.2 +1.6**
OBN *e* 15 05 37.8
OBN pmax pmax
comp=Z,2.0nm,0.8s
WMQ Urumqi 102.28 37 *e*P **Pdif 15 01 31.0 +2.3**
WMQ LR LR
comp=Z,290nm,24.9s
WMQ LR LR
comp=Z,330nm,24.9s
WMQ LR LR
comp=Z,740nm,33.1s
MKAR Makanchi Array 102.66 32 Pdiff **Pdif 15 01 40.3 +10**
comp=Z,0.4nm,0.7s,baz=212,slow=5.1,SNR=3.5
MKAR PP **PKiKP 15 05 57.0 +5.9**
comp=Z,0.1nm,0.3s,baz=215,slow=8.6,SNR=2.3
TBI Tubuai 110.02 177 *e*LR LR 15 38 34.5
comp=Z,558nm,27.2s,baz=188
HHC Hu-ho-hao-te 111.56 53 *e*PKP **PKiKP 15 06 02.8 -5.1**
HHC LR LR
comp=Z,240nm,19.9s
HHC LR LR
comp=Z,190nm,18.9s
HHC LR LR
comp=Z,240nm,18.2s
PPT2 Papeete2 115.74 177 *e*LR LR 15 41 02.0
comp=Z,459nm,22.8s,baz=191
HIA Hailar 121.42 50⇓*i*PKIKP **PKiKP 15 06 26.9 +0.3**
451A Vernon 131.07 273 *e*PKPdf **PKPdf 15 06 45.7 +0.3**
TIXI Tiksi 135.33 27⇓*e*PKIKP **PKiKP 15 06 53.1 -0.6**
MA2 Magadan 141.91 47⇑*i*PKIKP **PKPdf 15 07 05.7 +1.1**
LTX Lajitas 142.49 258 *e*PKPpre **PKPdf 15 07 03.5 -3.2**
LTX Lajitas 142.49 258 *e*PKIKP **PKPdf 15 07 03.5 -3.2**
TXAR Lajitas Array 142.49 258 PKhKP **PKPdf 15 07 03.5 -3.2**
comp=Z,1.0nm,0.6s,baz=148,slow=5.1,SNR=8.5
TX31 Lajitas Ar. Si 142.49 258 *e*PKPpre PKPpre 15 07 02.8
CLNB Carlsbad 144.45 261 *e*PKPdf **PKPdf 15 07 10.1 0.0**
PETK Petropavlovsk- 144.45 59 PKP PKPbc 15 07 08.2 +0.3
comp=Z,4.3nm,0.9s,baz=226,slow=5.8,SNR=3.7
PEA1 Petropavlovsk- 144.46 59 *e*PKPdf PKPbc 15 07 08.2 +0.3
RES Resolute Bay 144.57 339 *e*PKPdf **PKPdf 15 07 09.6 +0.8**
RES Resolute Bay 144.57 339 *e*PKIKP **PKPdf 15 07 09.6 +0.8**
MSTX Muleshoe 144.69 264 *e*PKPdf PKPbc 15 07 09.9 +0.5
MSTX Muleshoe 144.69 264 P PKPbc 15 07 09.7 +0.3
baz=125
GDL2 Guadalupe Moun 144.74 261 *e*PKPdf **PKPdf 15 07 10.3 -0.3**
MNTX Cornudas Mount 145.12 259 *e*PKPbc **PKPbc 15 07 10.8 +0.1**
MNTX Cornudas Mount 145.12 259 P **PKPdf 15 07 11.0 -0.2**
baz=128
ECSD EROS Data Cent 145.20 283 *e*PKPbc **PKPab 15 07 10.8 +0.1**
ECSD EROS Data Cent 145.20 283 P **PKPdf 15 07 11.8 +0.9**
baz=113
ULM Lac du Bonnet 146.82 295 *e*PKPdf **PKPdf 15 07 14.2 +0.8**
ULM Lac du Bonnet 146.82 295 PKPbc **PKPbc 15 07 14.7 -0.6**
comp=Z,4.2nm,0.7s,baz=54,slow=3.6,SNR=7.4
FCC Fort Churchill 147.02 311 *e*PKPdf **PKPdf 15 07 13.9 +0.5**
FCC Fort Churchill 147.02 311 *e*PKP2 **PKPdf 15 07 13.9 +0.5**
BNM Barren Site 147.42 261 *e*PKPbc **PKPbc 15 07 17.7 -0.1**
T25A Trinidad 147.53 268 *e*PKPbc **PKPbc 15 07 18.1 +0.1**
T25A Trinidad 147.53 268 P **PKPbc 15 07 17.5 -0.5**
baz=121
OGNE Ogallala 147.71 276 *e*PKPbc **PKPbc 15 07 18.5 +0.3**
OGNE Ogallala 147.71 276 P **PKPbc 15 07 17.7 -0.5**
baz=116
ANMO Albuquerque 147.75 263 *e*PKPbc **PKPbc 15 07 17.9 -0.7**
ANMO Albuquerque 147.75 263⇑*i*PKP2 **PKPbc 15 07 18.6 0.0**
TASM ASL Pad, Albuq 147.75 263 P **PKPbc 15 07 18.5 -0.1**
baz=124
LAZ Ladron 147.91 261 *e*PKPbc **PKPbc 15 07 19.0 0.0**
BILL Bilibino 148.21 32 *e*PKPbc **PKPbc 15 07 19.1 +0.6**
BILL Bilibino 148.21 32 *i*PKP2 **PKPbc 15 07 19.0 +0.5**
BILL *e* 15 10 54.8
BILL *e*PPP PPP 15 14 08.1
BILL pmax pmax
comp=Z,27nm,1.8s
SDCO Great Sand Dun 148.59 268 *e*PKPbc **PKPbc 15 07 20.4 -0.4**
SDCO Great Sand Dun 148.59 268 P **PKPbc 15 07 21.0 +0.1**
baz=120
Q24A Divide 148.94 270 *e*PKPdf **PKPdf 15 07 18.4 +0.7**
TUC Tucson 149.10 255 *e*PKPdf **PKPdf 15 07 18.6 +0.7**
TUC Tucson 149.10 255 *e*PKIKP **PKPdf 15 07 18.6 +0.7**
S22A 4UR Ranch, Cre 149.50 267 *e*PKPdf **PKPdf 15 07 18.8 +0.2**
S22A 4UR Ranch, Cre 149.50 267 P **PKiKP 15 07 24.4 +0.2**
baz=120
ISCO Idaho Springs 149.65 272 *e*PKPbc **PKPbc 15 07 23.0 -0.5**
W18A Petrified Fore 150.07 260 P **PKPbc 15 07 22.8 -1.7**
baz=125
SMCO Snowmass 150.29 269 *e*PKPdf **PKPdf 15 07 19.3 -0.7**
RSSD Black Hills 150.32 280 *e*PKPdf **PKPdf 15 07 19.4 -0.2**
RSSD *e*PKPbc **PKPbc 15 07 24.7 -0.1**
RSSD Black Hills 150.32 280 *e*PKIKP **PKPdf 15 07 19.4 -0.2**
RSSD *e* 15 07 24.7
RSSD Black Hills 150.32 280 P **PKPbc 15 07 24.8 -0.1**
baz=111
N23A Red Feather La 150.36 273 *e*PKPbc **PKPbc 15 07 25.4 +0.3**
MVCO Mesa Verde 150.37 265 *e*PKPdf **PKPdf 15 07 19.6 -0.3**
MVCO *e*PKPbc **PKPbc 15 07 25.2 0.0**
X16A Lo Mia Camp, P 150.82 257 *e*PKPbc **PKPbc 15 07 25.7 -0.6**
PV01 Paradox Valley 150.88 266 *e*PKPbc **PKPbc 15 07 27.2 +0.8**
PV13 Radium Mtn., P 151.07 266 *e*PKPbc **PKPbc 15 07 26.8 0.0**
PV07 Paradox Valley 151.09 267 *e*PKPbc **PKPbc 15 07 27.2 +0.4**
PV03 Paradox Valley 151.13 266 *e*PKPbc **PKPbc 15 07 27.1 +0.2**
PV12 Saucer Basin, 151.13 267 *e*PKPbc **PKPbc 15 07 27.3 +0.4**
PV18 Skein Mesa, Pa 151.17 266 *e*PKPbc **PKPbc 15 07 27.8 +0.7**
FFC Flin Flon 151.18 302 *e*PKPbc **PKPbc 15 07 27.3 +1.1**
PV16 Nyswonger Mesa 151.21 266 *e*PKPdf **PKPdf 15 07 20.8 -0.4**
PV16 *e*PKPbc **PKPbc 15 07 27.8 +0.7**
PV17 East Wray Mesa 151.22 266 *e*PKPbc **PKPbc 15 07 27.3 +0.2**
PV22 Blue Mesa, Par 151.23 267 *e*PKPbc **PKPbc 15 07 27.2 0.0**
PV04 Paradox Valley 151.24 267 *e*PKPdf **PKPdf 15 07 21.4 +0.2**
PV04 *e*PKPbc **PKPbc 15 07 27.2 0.0**
PV20 West Nyswonger 151.26 266 *e*PKPbc **PKPbc 15 07 27.7 +0.5**
PV14 Lion Creek, Pa 151.31 266 *e*PKPbc **PKPbc 15 07 27.8 +0.4**
113A Mohawk Valley, 151.35 252 *e*PKPbc **PKPbc 15 07 27.4 0.0**
PV21 Cone Mtn., Par 151.37 267 *e*PKPbc **PKPbc 15 07 27.7 +0.2**
WUAZ Wupatki 151.40 259 *e*PKPdf **PKPdf 15 07 22.1 +0.6**
WUAZ *e*PKPbc **PKPbc 15 07 27.3 -0.3**
WUAZ Wupatki 151.40 259 P **PKPbc 15 07 27.4 -0.2**
baz=124
K22A Casper 151.47 276 *e*PKPbc **PKPbc 15 07 26.8 -0.7**
K22A Casper 151.47 276 P **PKiKP 15 07 28.2 +0.2**
baz=113
Y14A Wickenburg 151.57 255 *e*PKPdf **PKPdf 15 07 21.7 0.0**
Y14A *e*PKPbc **PKPbc 15 07 28.0 +0.1**
O20A White River Ci 151.60 270 *e*PKPbc **PKPbc 15 07 28.4 +0.4**
U15A North Rim 152.53 260 *e*PKPbc **PKPbc 15 07 30.8 +0.5**
PDMCI Parker Dam,Lak 152.54 254 P **PKPbc 15 07 30.1 +0.1**
baz=127
SRU San Rafael Swe 152.69 267 *e*PKPbc **PKPbc 15 07 30.0 -0.5**
W13A Hualapai Mount 152.85 256 *e*PKPdf **PKPdf 15 07 23.9 +0.2**
W13A *e*PKPbc **PKPbc 15 07 31.3 +0.4**
KNB Kanab 153.20 261 *e*PKPdf **PKPdf 15 07 23.4 -0.8**
KNB Kanab 153.20 261 *e*PKIKP **PKPdf 15 07 23.4 -0.8**
MSU Marysvale 153.53 264 *e*PKPbc **PKPbc 15 07 32.6 +0.2**
PD31 Pinedale Array 153.59 275 *e*PKPdf **PKPdf 15 07 25.4 +0.8**
PD31 *e*PKPbc **PKPbc 15 07 32.4 0.0**
PDAR Pinedale Array 153.59 275 PKP **PKPdf 15 07 25.4 +0.8**
comp=Z,0.7nm,0.6s,baz=225,slow=1.5,SNR=3.8
PDAR PKPbc **PKPbc 15 07 33.7 +1.4**
comp=Z,0.8nm,0.6s,baz=121,slow=4.7,SNR=9.1
PDAR PKPab **PKPab 15 07 45.4 +0.4**
comp=Z,2.0nm,0.8s,baz=116,slow=3.4,SNR=9.4
BW06 Boulder Array 153.59 275 *e*PKPbc **PKPbc 15 07 32.2 -0.1**
BW06 Boulder Array 153.59 275 P **PKiKP 15 07 33.1 +0.7**
baz=112
FXWY Fox Creek 154.90 276 *e*PKPdf **PKPdf 15 07 26.4 -0.1**
FXWY *e*PKPbc **PKPbc 15 07 36.0 +0.9**
YKW3 Yellowknife Ar 156.16 323 *e*PKPab **PKPab 15 07 53.2 -1.8**
YKA Yellowknife Ar 156.18 322 PKP **PKPdf 15 07 27.5 +0.3**
comp=Z,0.4nm,0.8s,baz=39,slow=2.3,SNR=4.6
YKA PKPab **PKPab 15 07 56.7 +1.6**
comp=Z,2.5nm,0.8s,baz=52,slow=2.9,SNR=11
YKA PP **PP 15 11 38.4 +5.3**
comp=Z,0.5nm,0.9s,baz=60,slow=6.0,SNR=3.9
YKB5 Yellowknife Ar 156.18 322 *e*PKPdf **PKPdf 15 07 27.4 +0.3**
YKB5 *e*PKPab **PKPab 15 07 56.7 +1.6**
INK Inuvik 157.54 347 *e*PKPab **PKPab 15 08 01.3 +0.6**
NV01 Mina Array Sit 157.64 258 *e*PKPdf **PKPdf 15 07 31.9 +1.8**
NV01 *e*PKPab **PKPab 15 08 03.9 +1.4**
NVAR Mina Array Bea 157.64 258 PKP **PKPdf 15 07 31.9 +1.8**
comp=Z,0.3nm,0.6s,baz=114,slow=3.6,SNR=3.8
NVAR PKPab **PKPab 15 08 03.9 +1.4**
comp=Z,1.1nm,0.8s,baz=130,slow=6.2,SNR=4.6
ILAR Eielson Array 162.10 0 PKP **PKPdf 15 07 36.1 +2.1**
comp=Z,0.3nm,1.0s,baz=345,slow=2.8,SNR=3.5
ILAR PKPab **PKPab 15 08 21.4 +0.7**
comp=Z,1.0nm,0.9s,baz=342,slow=2.9,SNR=6.0
ILB Eielson Array 162.10 0 *e*PKPdf **PKPdf 15 07 36.1 +2.1**
ILB *e*PKPab **PKPab 15 08 21.4 +0.7**
CCB Clear Creek Bu 162.22 2 *e*PKPab **PKPab 15 08 23.0 +1.8**
BPAW Bear Paw Mtn. 162.60 6 *e*PKPab **PKPab 15 08 24.4 +1.4**
HYT Haines Junctio 165.10 343 *e*PKPab **PKPab 15 08 35.3 +1.1**

DDA ***29*** *15:05:52.7, 39.°14N×29.°08E, h7km±3km, ML2.6*
ISK ***29*** *15:05:52.6, 39.°16N×29.°08E, h5km, ML2.0/8*
ISCJB ***29*** *15:05:53.2±0.6, 39.°15N±0.°03×29.°08E±0.°05, h8km±5km,*
Error ellipse: s-maj=6.2km s-min=4.3km az=4.5
ISC 29 15:05:53.1±0.9,**39.°16N**±0.°03×**29.°11E**±0.°04,**h14**km±8km,
n14,σ0°**39**/22,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	**Saphane-Kutahy**	**0.16**	**147**	PG	**Pg**	**15 05 56.7**	**-0.3**
SHAP				SG	**Sg**	**15 05 59.6**	**-0.1**
GDZ	**Gediz**	**0.29**	**103**	*i* P	**Pg**	**15 05 59.5**	**+0.2**
GDZ				*i* S	**Sb**	**15 06 04.8**	**-0.3**
TVSB	**Tavsanli**	**0.40**	**43**	PG	**Pg**	**15 06 01.2**	**+0.1**
TVSB				SG	**Sg**	**15 06 06.9**	**+0.3**
USAK	**Uak-Merkez**	**0.45**	**189**	IAML_P			
	comp=Z,5μm,0.2s						
USAK				*i* P	**Pg**	**15 06 02.1**	**+0.2**
USAK				*i* S	**Sg**	**15 06 08.8**	**+0.8**
DURS	**Dursunbey**	**0.67**	**312**	IAML_P			
	comp=Z,747nm,0.1s						
DURS				*i* P	**Pg**	**15 06 06.1**	**0.0**
DURS				*i* S	**Sg**	**15 06 15.2**	**+0.3**
KULA	**Kula-Manisa**	**0.73**	**209**	PG	**Pg**	**15 06 06.7**	**-0.6**
MANT	**Manisa**	**0.79**	**213**	*i* P	**Pg**	**15 06 08.8**	**+0.2**
MANT				*i* S	**Sg**	**15 06 18.2**	**-0.7**
KHAL	**Karahalli**	**0.84**	**159**	IAML_P			
	comp=Z,381nm,0.2s						
KHAL				*i* P	**Pg**	**15 06 09.4**	**+0.1**
KHAL				*i* S	**Sb**	**15 06 20.8**	**0.0**
ULDT	**Uludag**	**0.98**	**1**	IAML_P			
	comp=Z,832nm,0.2s						
ULDT				*i* P	**Pn**	**15 06 12.7**	**0.0**
ULDT				*i* S	**Sn**	**15 06 26.5**	**-0.1**
CAVI	**Cavuskoy**	**1.19**	**28**	PN	**Pg**	**15 06 15.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.22**	**352**	PN	**Pg**	**15 06 16.5**	**-0.2**
KCTX	**Karacabey (Bur**	**1.25**	**332**	PN	**Pg**	**15 06 16.9**	**-0.3**
ARMT	**Armutlu**	**1.42**	**352**	PN	**Pb**	**15 06 19.7**	**+0.3**
SRCK	**Saricakaya, Es**	**1.47**	**52**	PN	**Pg**	**15 06 20.6**	**-0.7**

NSSC ***29*** *15:11:19.9±0.3, 33.°80N×35.°63E, h14km±2km, ML1.1*
ISCJB ***29*** *15:11:21.1±1.0, 33.°81N±0.°05×35.°72E±0.°07, h10km±9km,*
Error ellipse: s-maj=10.3km s-min=7.0km az=156.0
GRAL ***29*** *15:11:21.5±0.3, 33.°79N×35.°78E, h8km±9km, MD2.7*
ISC 29 15:11:20.7±1.1,**33.°80N**±0.°04×**35.°71E**±0.°06,**h14**km±10km,
n7,σ0°**55**/12,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.11**	**336**	*e*P	**Pb**	**15 11 24.6**	**-0.1**
DQRL	**Deir Qamar**	**0.15**	**231**	*e*P	**Pb**	**15 11 25.2**	**0.0**
DQRL				*e*S	**Sg**	**15 11 28.0**	**+0.8**
RCY	**Rachaya**	**0.32**	**161**	*e*P	**Pg**	**15 11 27.0**	**-0.3**
RCY				*e*S	**Sg**	**15 11 31.2**	**-0.8**
BRBR	**Barbar**	**0.44**	**152**	*e*P	**Pg**	**15 11 29.3**	**-0.2**
BRBR				*e*S	**Sb**	**15 11 36.4**	**-0.3**
BRBR				AML	AML	15 11 37.6	
	comp=N,20nm,0.2s						
BRBR				AML	AML	15 11 42.1	
	comp=E,14nm,0.5s						
HWQ	**Hawqa**	**0.52**	**22**	*e*P	**Pg**	**15 11 30.7**	**-0.2**
QASN	**Qassioun**	**0.54**	**119**	*e*P	**Pb**	**15 11 32.1**	**+0.1**
QASN				*e*S	**Sb**	**15 11 40.3**	**+0.6**
QASN				AML	AML	15 11 43.8	
	comp=E,16nm,0.5s						
QASN				AML	AML	15 11 45.5	
	comp=N,44nm,0.3s						
TOTH	**TOTAH**	**0.74**	**126**	*e*P	**Pb**	**15 11 35.4**	**+0.1**
TOTH				*e*S	**Sb**	**15 11 46.0**	**+0.6**
TOTH				AML	AML	15 11 50.3	
	comp=N,3.8nm,0.4s						
TOTH				AML	AML	15 11 51.8	
	comp=E,4.0nm,0.6s						

ISCJB ***29*** *15:18:07.5±0.6, 35.°08N±0.°05×33.°93E±0.°04, h9km±6km,*
Error ellipse: s-maj=9.2km s-min=4.8km az=158.1
NIC ***29*** *15:18:07.5±0.2, 34.°99N×33.°88E, h2km, ML3.2*
ISK ***29*** *15:18:08.3, 35.°15N×33.°87E, h11km, ML2.6/12*
ISC 29 15:18:07.6±1.0,**35.°07N**±0.°05×**33.°90E**±0.°04,**h8**km±12km,
n17,σ0°**56**/22,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.13**	**121**	P	**Pg**	**15 18 09.9**	**-0.4**
	baz=262						
PHNC				S	**Sg**	**15 18 12.4**	**+0.2**
AKIN	**Akıncılar- Kıb**	**0.36**	**262**	PG	**Pb**	**15 18 15.6**	**-0.6**
AKIN				SG	**Sb**	**15 18 21.8**	**-0.3**
CSS	**Mathiatis**	**0.48**	**257**	P	**Pg**	**15 18 16.8**	**-0.1**
	baz=86						
CSS				S	**Sg**	**15 18 24.1**	**+0.9**
EREN	**Erenkoy**	**0.51**	**26**	PG	**Pg**	**15 18 18.2**	**+0.8**
EREN				SG	**Sg**	**15 18 24.4**	**+0.3**
MAMC	**Mammari**	**0.57**	**280**	P	**Pb**	**15 18 19.3**	**-0.5**
	baz=108						
LEF	**Lefka**	**0.83**	**274**	PG	**Pb**	**15 18 24.8**	**+0.6**
ALFC	**Alefka**	**1.07**	**275**	P	**Pg**	**15 18 27.8**	**-0.3**
	baz=98						
ALFC				S	**Sb**	**15 18 43.1**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.12**	**345**	PG	**Pg**	**15 18 28.8**	**-0.3**
IKL	**Isikli**	**1.18**	**351**	PN	**Pg**	**15 18 29.3**	**-0.9**
TEKE	**Tekeli-Mersin**	**1.25**	**329**	PN	**Pb**	**15 18 31.3**	**-0.1**
KEBE	**Keben-Mersin**	**1.38**	**354**	PN	**Pn**	**15 18 33.1**	**-0.1**
BERE	**Bereket-Mersin**	**1.39**	**337**	PN	**Pn**	**15 18 33.3**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.41**	**345**	PN	**Pn**	**15 18 33.4**	**-0.3**
KIZK	**Mersin**	**1.42**	**8**	PN	**Pn**	**15 18 32.7**	**-1.0**
GAZI	**Gazipasa**	**1.74**	**312**	PN	**Pn**	**15 18 38.5**	**+0.4**
MERS	**Mersin**	**1.86**	**16**	PN	**Pn**	**15 18 39.9**	**0.0**
TAHT	**Tahtakopru-Hat**	**2.27**	**54**	PN	**Pn**	**15 18 45.9**	**+0.5**

IDC 29 15:27:37.8±5.7,**3.°28S**×**139.°61E**,**h0**km,**mb3.0**/2,
mb1 3.1/2,**mb1mx3.0**/24,**mbtmp3.0**/2,**ML4.6**/1,**Error**
ellipse: s-maj=225.7km s-min=30.5km az=87.0,Irian
Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.34**	**197**	P	P	15 31 43.0	0.0
	2.1nm,0.3s,baz=20,slow=14,SNR=4.3						
ASAR	**Alice Springs**	**21.00**	**195**	P	P	15 32 22.7	-0.4
	0.2nm,0.9s,baz=13,slow=10.0,SNR=3.0						
MKAR	**Makanchi Array**	**70.79**	**322**	P	P	15 38 56.2	-0.1
	0.4nm,0.9s,baz=108,slow=4.7,SNR=3.0						

TIF ***29*** *15:52:52.3, 42.°36N×41.°03E, h26km±2km*
DDA ***29*** *15:52:54.6, 41.°77N×40.°49E, h7km±5km, ML2.8*
ISC 29 15:52:52.5±1.5,**42.°37N**±0.°03×**41.°01E**±0.°04,**h21**km±5km,
n15,σ0°**87**/30,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.92**	**146**	P	**Pn**	**15 53 10.3**	**+0.1**
BATM				S	**Sn**	**15 53 23.6**	**+0.8**
DOMR	**Dombai**	**1.02**	**26**	*e*Pg	**Pb**	**15 53 11.3**	**-0.2**
DOMR				*i* Sg	**Sb**	**15 53 23.6**	**-1.0**
DBOC	**Borcka**	**1.14**	**154**	IAML_P			
	comp=Z,1μm,0.1s						
DBOC				*i* P	**Pn**	**15 53 13.2**	**0.0**
DBOC				*i* S	**Sn**	**15 53 29.1**	**+0.9**
ARXR	**Arkhyz**	**1.20**	**9**	*e*Pg	**Pb**	**15 53 14.9**	**+0.3**
ARXR				*i* Sg	**Sb**	**15 53 28.8**	**-1.0**
DBAD	**Bademkaya**	**1.45**	**159**	IAML_P			
	comp=Z,351nm,0.1s						
DBAD				*i* P	**Pb**	**15 53 18.6**	**-0.2**
DBAD				*i* S	**Sn**	**15 53 33.6**	**-2.3**
DAGI	**Agillar**	**1.46**	**152**	*i* P	**Pn**	**15 53 18.0**	**+0.3**
DAGI				*i* S	**Sb**	**15 53 36.9**	**-0.2**
TKB	**Tkibuli**	**1.47**	**90**	P	**Pb**	**15 53 18.9**	**-0.2**
TKB				S	**Sb**	**15 53 38.0**	**+0.7**
NEY	**Neytrino**	**1.53**	**55**	*e*Pg	**Pn**	**15 53 18.7**	**0.0**
NEY				*e*Sg	**Sb**	**15 53 39.0**	**-0.3**
SOC	**Sochi**	**1.54**	**322**	*e*Pg	**Pb**	**15

GUZR	Guzeripl'	1.75	338	*e*Pg	Pb	15 53 22.9	-1.0
GUZR				*e*Sg	Sb	15 53 46.2	+0.8
ONI	Oni	1.82	82	P	Pb	15 53 24.0	-1.1
ONI				S	Sb	15 53 48.2	+0.9
SHA1	Shidzhatmaz	1.82	41	*e*Pg	Pn	15 53 23.8	+1.0
SHA1				*e*Sg	Sb	15 53 47.1	-0.5
ZEI	Tsey	2.17	78	*e*Pg	Pb	15 53 30.9	-0.3
ZEI				*e*Sg	Sb	15 53 57.2	-0.6
LACR	Lac	2.47	78	*e*Pn	Pb	15 53 37.1	+0.9
LACR				*i* Sn	Sb	15 54 07.9	+1.8

IDC 29 15:53:27.8±2.0, 3°43S×128°18E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.3/33, mbtmp3.5/2, ML4.6/1, Error ellipse: s-maj=139.7km s-min=26.7km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.48	160	P	Pn	15 57 31.3	-1.9
	2.0nm,0.3s,baz=339,slow=12,SNR=3.2						
ASAR	Alice Springs	20.86	165	P	P	15 58 12.6	+1.0
	1.8nm,0.6s,baz=342,slow=9.9,SNR=71						
MKAR	Makanchi Array	64.27	327	P	P	16 04 04.9	-0.1
	0.2nm,0.6s,baz=120,slow=8.5,SNR=2.7						

*DDA **29** 15:58:49.9, 39°14N×29°10E, h7km±2km, ML2.9*
*ISCJB **29** 15:58:50.1±0.9, 39°13N±0°04×29°07E±0°08, h8km±7km, Error ellipse: s-maj=9.8km s-min=6.3km az=1.6*
*ISK **29** 15:58:50.1, 39°15N×29°12E, h6km, ML2.2/9*

ISC 29 15:58:50.1±1.0, 39°12N±0°03×29°14E±0°04, h15km±9km, n15, σ0°43/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	Saphane-Kutahy	0.12	148	PG	Pb	15 58 53.7	-0.4
SHAP				SG	Sg	15 58 56.3	+0.3
GDZ	Gediz	0.27	97	*i* P	Pb	15 58 56.6	-0.1
GDZ				*i* S	Sb	15 59 01.6	+0.4
TVSB	Tavsanli	0.41	37	PG	Pg	15 58 58.4	0.0
TVSB				SG	Sg	15 59 04.4	+0.3
USAK	Uak-Merkez	0.42	193	IAML_P			
	comp=Z,6μm,0.1s						
USAK				*i* P	Pb	15 58 59.2	0.0
DURS	Dursunbey	0.70	313	IAML_P			
	comp=Z,919nm,0.1s						
DURS				*i* P	Pg	15 59 03.1	-0.7
KULA	Kula-Manisa	0.71	212	PG	Pg	15 59 03.6	-0.4
MANT	Manisa	0.78	216	IAML_P			
	comp=Z,2μm,0.1s						
MANT				*i* P	Pg	15 59 05.2	0.0
KHAL	Karahalli	0.80	160	IAML_P			
	comp=Z,486nm,0.1s						
KHAL				*i* P	Pb	15 59 06.0	+0.3
KHAL				*i* S	Sb	15 59 16.8	+0.3
ULDT	Uludag	1.02	360	IAML_P			
	comp=Z,2μm,0.2s						
ULDT				*i* P	Pg	15 59 09.2	-0.6
CAVI	Cavuskoy	1.21	26	PN	Pg	15 59 13.2	-0.2
MDNY	Mudanya-Bursa	1.26	351	PN	Pg	15 59 14.1	-0.3
KCTX	Karacabey (Bur	1.29	332	PN	Pb	15 59 14.6	+0.4
ARMT	Armutlu	1.46	352	PN	Pb	15 59 17.3	+0.3
SRCK	Saricakaya, Es	1.47	51	PN	Pg	15 59 17.8	-0.6
GULT	Gulveren	1.68	39	PN	Pb	15 59 20.6	-0.3

IDC 29 16:07:07.0±2.3, 4°43S×144°06E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/30, mbtmp3.4/4, ML1.6/1, Error ellipse: s-maj=47.7km s-min=31.1km az=85.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.82	148	Pn	Pn	16 08 34.5	-0.2
	1.0nm,0.3s,baz=331,slow=13,SNR=4.8						
PMG				Sn	Sn	16 09 36.3	-6.0
	1.6nm,0.3s,baz=307,slow=20,SNR=5.6						
WRA	Warramunga Arr	18.09	211	P	Pn	16 11 18.6	-1.4
	4.8nm,0.3s,baz=31,slow=12,SNR=4.0						
ASAR	Alice Springs	21.48	206	P	P	16 11 57.5	0.0
	0.4nm,0.6s,baz=32,slow=12,SNR=11						
FITZ	Fitzroy Crossi	22.56	232	P	P	16 12 09.6	+0.5
	1.9nm,1.0s,baz=63,slow=11,SNR=4.6						
MKAR	Makanchi Array	74.44	321	P	P	16 18 47.4	+0.2
	0.2nm,0.7s,baz=101,slow=4.6,SNR=2.3						

*NIED **29** 16:07:00.36°50N×140°70E, h53km, Mw3.7 Best double couple: M0=4.71000×10^14 NP1:φs170.00000°, δ18.00000°, λ62.00000°. NP2:φs19.00000°, δ74.00000°, λ99.00000°.*
*ISCJB **29** 16:07:35.9±0.5, 36°46N±0°03×140°76E±0°06, h56km±3km, mb3.8/11, Error ellipse: s-maj=7.9km s-min=5.5km az=15.8*
*JMA **29** 16:07:36.7±0.1, 36°43N×140°69E, h52km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs32.00000°, δ74.00000°, λ85.00000°. NP2:φs231.00000°, δ16.00000°, λ109.00000°. Principal axes: T Plg60.0000°, Azm294.0000°; N Plg5.0000°, Azm33.0000°; P Plg29.0000°, Azm126.0000°;*
JMA Felt II J1.
*IDC **29** 16:07:39.4±2.3, 36°42N×140°56E, h72km±23km, mb3.5/11, mb1 3.6/13, mb1mx3.4/53, mbtmp3.8/13, MS2.7/1, Ms1 2.7/1, ms1mx2.3/36 Error ellipse: s-maj=24.5km s-min=15.4km az=74.0*

ISC 29 16:07:37.0±0.8, 36°49N±0°04×140°67E±0°06, h49km±6km, n35, σ1°71/40, mb3.8/11, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.14	328	⇑P	Pn	16 07 45.3	+0.4
JHO				S	Sn	16 07 51.1	+0.6
JHYU	Hitachinakayam	0.16	203	P	Pn	16 07 44.9	0.0
JHYU				S	Sn	16 07 50.6	0.0
JYT	Yasato	0.46	236	⇓P	Pn	16 07 47.6	-0.1
JYT				S	Sn	16 07 55.0	-0.3
JIHU	Itakohorinouch	0.53	192	P	Pn	16 07 48.4	-0.2
JIHU				S	Sn	16 07 57.1	+0.3
ONAJ	Iwakimizuishiy	0.62	10	⇓P	Pn	16 07 49.8	0.0
ONAJ				S	Sn	16 07 59.1	+0.2
JFK	Kawauchi	0.89	11	P	Pn	16 07 52.9	-0.4
JAG	Ashikaga	0.98	267	⇓P	Pn	16 07 54.7	+0.3
JAG				S	Sn	16 08 07.4	+0.2
JFT	Otama	1.06	346	P	Pn	16 07 56.3	+0.8
JFT				S	Sn	16 08 11.0	+1.8
JKT	Katashina	1.17	284	P	Pn	16 07 57.9	+0.8
JKT				S	Sn	16 08 13.9	+1.9
JFY	Yanaizu	1.20	320	⇓P	Pn	16 07 58.3	+0.9
MJAR	Matsushiro Arr	1.98	272	P	Pn	16 08 08.6	+0.6
	4.3nm,0.3s,baz=101,slow=8.8,SNR=196						
MJAR				S	Sn	16 08 24.1	-7.6
	5.3nm,0.3s,baz=89,slow=16,SNR=24						
MJAR				LR	LR	16 09 04.9	
	comp=Z,100nm,21.0s,baz=240,slow=46						
MAT	Matsushiro	1.98	272	P	Pn	16 08 09.2	+1.1
MAT				S	Sn	16 08 35.0	+3.3
JHJ	Hachijo jima 2	3.44	192	P	Pn	16 08 29.5	+1.5
	6.1nm,0.3s,baz=346,slow=22,SNR=6.3						
JHJ				S	Sn	16 09 08.6	+1.1
	18nm,0.3s,baz=70,slow=23,SNR=4.5						
ASAJ	Asahikawa	7.76	10	P	Pn	16 09 25.8	-1.4
	0.7nm,0.3s,baz=231,slow=12,SNR=5.1						
ASAJ				S	Sn	16 10 50.6	-3.1
	0.6nm,0.3s,baz=97,slow=30,SNR=2.7						
JNU	Nakatsue	8.72	250	P	Pn	16 09 42.0	+1.4
	0.2nm,0.3s,baz=51,slow=15,SNR=2.7						
JNU				LR	LR	16 12 44.4	
	comp=Z,50nm,18.7s,baz=108,slow=35						
USRK	Ussuriysk Ar.	10.15	322	P	Pn	16 09 58.5	-1.5
	0.1nm,0.3s,baz=145,slow=16,SNR=3.0						
KSRS	Korea Array	10.24	279	P	Pn	16 10 05.7	+4.5
	baz=94,slow=14,SNR=4.5						
SEY	Seymchan	27.44	12	P	P	16 13 19.6	+1.7
	0.9nm,0.7s,baz=263,slow=3.1,SNR=4.3						
SONM	Songino Array	27.60	305	P	P	16 13 19.3	-0.3
	0.5nm,0.5s,baz=98,slow=10,SNR=3.6						
H11N2	WAKE ISLAND Hy	28.40	119	T	T	16 43 29.0	
	baz=312,slow=75,SNR=19						
H11N1	WAKE ISLAND Hy	28.41	119	T	T	16 43 29.7	
	baz=312,slow=75,SNR=20						
H11N3	WAKE ISLAND Hy	28.42	119	T	T	16 43 30.1	
	baz=312,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	29.08	121	T	T	16 44 16.5	
	baz=314,slow=76,SNR=35						
H11S3	WAKE ISLAND Hy	29.08	121	T	T	16 44 15.9	
	baz=314,slow=76,SNR=25						
H11S2	WAKE ISLAND Hy	29.10	121	T	T	16 44 20.6	
	baz=314,slow=76,SNR=21						
ZALV	Zalesovo Beam	41.84	313	P	P	16 15 21.9	0.0
	0.7nm,0.5s,baz=88,slow=7.4,SNR=4.2						
MKAR	Makanchi Array	43.90	302	P	P	16 15 39.4	+0.7
	1.0nm,0.8s,baz=89,slow=11,SNR=10						
ILAR	Eielson Array	50.27	32	P	P	16 16 28.6	+0.6
	0.7nm,0.7s,baz=271,slow=6.3,SNR=9.3						
INK	Inuvik	55.15	27	P	P	16 17 04.5	+0.6
	0.6nm,0.6s,baz=287,slow=7.8,SNR=4.0						
ASAR	Alice Springs	60.17	187	P	P	16 17 38.9	-0.8
	0.5nm,0.9s,baz=5.1,slow=8.8,SNR=4.2						
ARCES	ARCESS Array B	64.29	339	P	P	16 18 06.8	0.0
	3.4nm,0.9s,baz=61,slow=9.4,SNR=3.5						
FINES	FINESS Array B	69.02	332	P	P	16 18 36.8	-0.2
	2.0nm,0.8s,baz=49,slow=3.5,SNR=5.0						
AKASG	Malin Array Be	74.36	322	P	P	16 19 08.3	-1.0
	0.6nm,0.5s,baz=46,slow=7.1,SNR=3.9						
NB2	NORSAR Subarra	74.45	337	P	P	16 19 09.3	-0.4
	comp=Z,1.8nm,0.8s,baz=41,slow=6.2						
NOA	NORSAR Array B	74.45	337	P	P	16 19 09.6	-0.2
	comp=Z,1.1nm,0.7s,baz=40,slow=5.8,SNR=6.1						

ISC 29 16:07:57.4±1.4, 49°84N±0°04×16°93E±0°05, h1km±13km, n5, σ0°53/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	Moravsky Berou	0.40	99	*e*PG	Pg	16 08 05.0	-0.1
MORC				*e*SG	Sg	16 08 10.0	-0.3
VRAC	Vranov	0.58	202	*e*PG	Pg	16 08 08.2	-0.2
VRAC				*e*SG	Sg	16 08 16.0	+0.2
KRUC	Moravsky	0.85	204	*e*PG	Pg	16 08 13.4	-0.3
KRUC				*e*SG	Sg	16 08 24.7	-0.1
KSP	Ksiaz	1.08	338	*e*Pg	Pg	16 08 18.5	+0.4
KSP				*e*Sg	Sn	16 08 34.3	-1.0
JAVC	Velka Javorina	1.10	153	*e*PG	Pn	16 08 20.3	+0.4
JAVC				*e*SG	Sn	16 08 36.0	+0.3

MAN 29 16:08:31.5, 10°06N×126°12E, h33km, mb3.8, ML2.5, MS2.1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.68	246	*e*P	Pb	16 08 52.4	+7.4
SCPH				*e*S	Sn	16 09 03.0	+8.8
BUTP	Butuan	1.19	204	*e*P	Pn	16 08 52.5	+0.7
BUTP				*e*S	Sn	16 09 06.8	-0.1
MSLP	Maasin	1.24	274	*e*P	Pn	16 08 53.0	+0.4
MSLP				*e*S	Sn	16 09 08.1	-0.1
BESP	Borongan	1.67	337	*e*P	Pn	16 08 58.8	+0.3
CNP	Cataman	2.82	330	*e*P	Pn	16 09 14.1	-0.3
CNP				*e*S	Sn	16 09 49.3	+2.1

*ISCJB **29** 16:25:24.4±0.7, 36°75N±0°04×4°50W±0°03, h78km±6km, Error ellipse: s-maj=7.4km s-min=3.4km az=172.3*
*SFS **29** 16:25:25.0, 36°61N×4°41W, h75km, ML2.4, TORREMOLINOS (MALAGA)*
*MDD **29** 16:25:25.1±0.7, 36°61N×4°42W, h74km±6km, mb2.7/13, Error ellipse: s-maj=7.4km s-min=3.4km az=165.0, PRXIMO*
*INMG **29** 16:25:25.0±1.5, 36°63N×4°44W, h72km±6km, ML2.1, Error ellipse: s-maj=3.4km s-min=3.0km az=161.0*
*IGIL **29** 16:25:25.4, 36°61N×4°42W, h75km, ML1.7*

ISC 29 16:25:23.5±1.6, 36°64N±0°07×4°43W±0°03, h84km±9km, n48, σ1°42/79, 5C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	Malaga-Limoner	0.12	359	⇓*i*P	Pn	16 25 35.7	+0.2
EMAL				*e*S	Sn	16 25 43.5	-1.0
EMIJ	Mijas	0.29	255	⇑P	Pn	16 25 36.2	-0.1
	17nm,0.1s,SNR=18						
EMIJ				S	Sn	16 25 44.4	-1.3
	43nm,0.1s,SNR=22						
EGOR	Sierra Gorda,	0.54	28	P	Pn	16 25 39.1	+1.0
	8.0nm,0.1s,SNR=7.9						
EGOR				S	Sn	16 25 50.1	+1.1
	6.6nm,0.1s,SNR=7.9						
ELGU	Los Guajares,	0.68	70	⇓P	Pn	16 25 39.1	-0.3
	11nm,0.1s,SNR=18						
ELGU				S	Sn	16 25 50.0	-1.2
	23nm,0.1s,SNR=7.9						
EJIF	Jimena Fronter	0.86	258	⇑P	Pn	16 25 43.4	+2.2
	2.8nm,0.1s,SNR=18						
EQUE	Quentar	0.97	54	⇓P	Pn	16 25 43.9	+1.3
	2.2nm,0.1s,SNR=18						
EQUE				S	Sn	16 25 57.8	+0.9
	3.8nm,0.1s,SNR=8.7						
EBER	Berja	1.26	78	P	Pn	16 25 46.0	-0.2
	1.2nm,0.2s,SNR=7.4						
EBER				S	Sn	16 26 02.9	-0.3
	2.1nm,0.2s,SNR=7.9						
EQES	Quesada	1.59	43	P	Pn	16 25 51.5	+1.3
	1.8nm,0.1s,SNR=11						
EQES				S	Sn	16 26 10.5	0.0
	16nm,0.2s,SNR=14						
ECAB	El Cabril	1.64	331	P	Pn	16 25 51.6	+0.8
	1.4nm,0.1s,SNR=24						
ECAB				S	Sn	16 26 11.3	-0.2
	7.8nm,0.1s,SNR=21						
SESP	Santiago Espad	2.11	45	P	Pn	16 25 58.2	+1.2
	2.0nm,0.1s,SNR=7.9						
SESP				S	Sn	16 26 22.3	-0.3
	20nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	2.12	303	⇑P	Pn	16 25 57.5	+0.5
	1.0nm,0.1s,SNR=18						
EMIN				S	Sn	16 26 21.2	-1.5
	3.2nm,0.1s,SNR=11						
PBAR	Barrancos	2.59	307	*e*S	Sn	16 26 33.8	-0.1
PBAR	Barrancos	2.59	307	S	Sn	16 26 33.8	-0.1
EGRO	El Granado	2.60	291	P	Pn	16 26 05.0	+1.4
	0.9nm,0.1s,SNR=7.9						
EGRO				S	Sn	16 26 33.2	-1.1
	2.2nm,0.1s,SNR=7.9						
PVAQ	Vaqueiros	2.74	287	*e*P	Pn	16 26 06.5	+1.1
PVAQ				*e*S	Sn	16 26 35.7	-2.0
PVAQ				A	A	16 26 38.3	
	5.7nm,0.9s						
PVAQ	Vaqueiros	2.74	287	P	Pn	16 26 06.5	+1.1
PVAQ				S	Sn	16 26 35.7	-2.0
	5.7nm,0.9s						
PBDV	Barranco-do-Ve	2.87	283	*e*S	Sn	16 26 40.9	+0.1
PBDV	Barranco-do-Ve	2.87	283	S	Sn	16 26 40.9	+0.1
PAB	San Pablo	2.90	1	P	Pn	16 26 09.0	+1.4
	0.6nm,0.1s,SNR=7.9						
PAB				S	Sn	16 26 40.1	-1.6
	0.5nm,0.1s,SNR=7.9						
EBAD	Badajoz	2.95	317	⇓P	Pn	16 26 09.1	+1.0
	4.8nm,0.1s,SNR=18						
EBAD				S	Sn	16 26 41.2	-1.3
	8.2nm,0.1s,SNR=7.9						
ETOB	Tobarra	3.04	48	⇑P	Pn	16 26 10.3	+0.8
	1.7nm,0.1s,SNR=18						
ETOB				S	Sn	16 26 42.6	-2.3
	5.4nm,0.1s,SNR=7.9						
PCVE	Castro Verde	3.05	290	*e*P	Pn	16 26 10.8	+1.2
PCVE				*e*S	Sn	16 26 44.5	-0.7
PCVE				A	A	16 26 49.7	
	3.1nm,0.7s						
PCVE	Castro Verde	3.05	290	P	Pn	16 26 10.8	+1.2
PCVE				S	Sn	16 26 44.5	-0.7
	3.1nm,0.7s						
ESDC	Sonseca Array	3.05	7	P	Pn	16 26 11.0	+1.3
	0.2nm,0.3s,baz=187,slow=14,SNR=6.2						
ESDC				S	Sn	16 26 43.6	-1.6
	0.9nm,0.2s,baz=187,slow=24,SNR=12						
PBEJ	Beja	3.07	298	*e*S	Sn	16 26 45.6	0.0
PBEJ				A	A	16 26 47.0	
	2.8nm,0.5s						
PBEJ	Beja	3.07	298	S	Sn	16 26 45.6	0.0
	1.4nm,0.5s						
MESJ	Messejana	3.26	293	*e*P	Pn	16 26 13.1	+0.7
MESJ				*e*S	Sn	16 26 47.8	-2.3
MESJ				AML	AML	16 26 49.9	
	comp=N,2.2nm,0.3s						
MESJ	Messejana	3.26	293	*e*P	Pn	16 26 13.7	+1.4
MESJ				*e*S	Sn	16 26 48.0	-2.1
MESJ	Messejana	3.26	293	P	Pn	16 26 13.1	+0.7
MESJ				S	Sn	16 26 47.8	-2.3
	comp=N,2.2nm,0.3s						
EVO	Evora	3.42	305	*e*S	Sn	16 26 52.4	-1.6
EVO				A	A	16 26 54.3	
	comp=N,5.9nm,0.3s						
EVO	Evora	3.42	305	S	Sn	16 26 52.4	-1.6
	comp=N,5.9nm,0.3s						
PTEO	Sao Teotonio	3.55	286	*e*P	Pn	16 26 17.0	+0.6
PTEO	Sao Teotonio	3.55	286	P	Pn	16 26 17.0	+0.6
PFVI	Vila Bisbo	3.56	279	*e*S	Sn	16 26 56.6	-0.9
PNCL	Nicolau / Gran	3.58	295	*e*P	Pn	16 26 18.4	+1.6
PNCL				*e*S	Sn	16 26 56.5	-1.5
PNCL				A	A	16 27 00.4	
	comp=N,2.5nm,0.7s						
PNCL	Nicolau / Gran	3.58	295	P	Pn	16 26 18.4	+1.6
PNCL				S	Sn	16 26 56.5	-1.5
	comp=N,2.5nm,0.7s						
PMRV	Marv??o	3.64	321	*e*P	Pn	16 26 18.6	+1.0
PMRV				*e*S	Sn	16 26 57.5	-1.9
PMRV				A	A	16 27 00.3	
	comp=N,2.6nm,0.2s						
PMRV	Marv??o	3.64	321	P	Pn	16 26 18.6	+1.0
PMRV				S	Sn	16 26 57.5	-1.9
	comp=N,2.6nm,0.2s						
EPLA	Plasencia	3.66	340	S	Sn	16 26 58.7	-1.2
	SNR=7.9						
PMTG	Montargil	3.86	310	*e*P	Pn	16 26 21.5	+0.9
PMTG				*e*S	Sn	16 27 02.7	-2.1
PMTG				A	A	16 27 14.8	
	comp=N,3.1nm,0.7s						
PMTG	Montargil	3.86	310	P	Pn	16 26 21.5	+0.9
PMTG				S	Sn	16 27 02.7	-2.1
	comp=N,3.1nm,0.7s						
PTOM	Tomar	4.33	315	*e*P	Pn	16 26 28.1	+1.2
PTOM	Tomar	4.33	315	P	Pn	16 26 28.1	+1.2
ETOR	Torete	4.57	23	⇑P	Pn	16 26 31.5	+1.2
	comp=N,1.9nm,0.1s,SNR=18						
ETOR				S	Sn	16 27 18.9	-3.2
	comp=N,0.6nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	4.84	39	P	Pn	16 26 35.9	+1.8
	comp=N,0.2nm,0.1s,SNR=4.0						
EMOS				S	Sn	16 27 26.4	-2.6
	comp=N,1.0nm,0.1s,SNR=7.9						
MVO	Moncorvo	4.96	337	*e*P	Pn	16 26 37.6	+2.1
MVO				*e*S	Sn	16 27 29.9	-1.6
MVO				A	A	16 27 32.6	
	comp=N,2.6nm,0.3s						
PBRG	Braganca	5.46	342	*e*P	Pn	16 26 44.4	+2.0
PBRG	Braganca	5.46	342	P	Pn	16 26 44.4	+2.0

IDC 29 16:31:29.0±2.4, 7°09S×129°38E, h0km, mb3.5/1, mb1 3.4/2, mb1mx3.2/27, mbtmp3.3/2, ML4.8/1, Error ellipse: s-maj=166.5km s-min=32.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.66	160	Pn	Pn	16 34 43.5	-0.6
	4.7nm,0.3s,baz=342,slow=13,SNR=1.5						
WRA				Sn	Sn	16 37 04.4	-12
	7.5nm,0.3s,baz=83,slow=16,SNR=2.2						
ASAR	Alice Springs	17.05	166	P	Pn	16 35 29.6	+0.5
	0.1nm,0.3s,baz=344,slow=8.8,SNR=11						
ASAR				S	Sn	16 38 28.7	-11
	0.1nm,0.3s,baz=358,slow=25,SNR=4.7						
MKAR	Makanchi Array	67.96	327	P	P	16 42 29.9	0.0
	0.3nm,0.5s,baz=117,slow=6.7,SNR=4.9						

IDC 29 16:33:27.2±6.8, 19°08S×168°42E, h116km±68km, mb3.3/3, mb1 3.6/4, mb1mx3.3/32, mbtmp3.7/4, Error ellipse: s-maj=102.3km s-min=35.7km az=153.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.50	212	P	Pn	16 34 19.6	-0.5
	9.5nm,0.3s,baz=60,slow=20,SNR=69						
DZM				S	Sn	16 35 01.6	+0.6
	17nm,0.3s,baz=115,slow=22,SNR=15						
STKA	Stephens Creek	27.28	237	P	P	16 39 00.4	-0.5
	0.5nm,0.4s,baz=66,slow=9.5,SNR=2.9						
ASAR	Alice Springs	32.41	256	P	P	16 39 46.5	+0.1
	0.5nm,0.5s,baz=82,slow=8.2,SNR=6.6						
ASAR				pP	pwP	16 40 14.6	-2.7
	0.5nm,0.7s,baz=84,slow=9.1,SNR=4.9						
NVAR	Mina Array Bea	89.28	49	P	P	16 46 10.9	+0.2
	0.2nm,0.5s,baz=238,slow=5.1,SNR=2.7						
GERES	GERESS Array B	143.99	331	PKhKP	PKPpre	16 52 43.4	
	0.6nm,0.7s,baz=46,slow=4.2,SNR=5.5						

*ISCJB **29** 16:47:56.2±1.3, 14°90S±0°08×167°4E±0°1, h129km, mb3.6/4, Error ellipse: s-maj=21.0km s-min=8.5km az=158.0*
*IDC **29** 16:47:58.2±3.0, 14°90S×167°41E, h134km±24km, mb3.4/4, mb1 3.7/6, mb1mx3.4/30, mbtmp4.1/6, Error ellipse: s-maj=30.5km s-min=16.4km az=73.0*

ISC 29 16:47:57.5±1.2, 14°85S±0°09×167°6E±0°1, h129km, n7, σ1°84/12, mb3.7/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.26	188	P	Pn	16 49 41.5	+0.3
	5.5nm,0.3s,baz=350,slow=11,SNR=31						
DZM				S	Sn	16 51 00.3	-1.9
	1.0nm,0.3s,baz=55,slow=19,SNR=3.1						
HNR	Honiara	9.19	305	P	Pn	16 50 08.3	+1.3
	9.0nm,0.3s,baz=168,slow=9.3,SNR=3.7						
HNR				S	Sn	16 51 46.4	-2.3
	5.6nm,0.3s,baz=58,slow=22,SNR=4.3						
STKA	Stephens Creek	29.13	230	P	P	16 53 46.6	+0.2
	0.8nm,0.4s,baz=63,slow=9.5,SNR=8.0						
STKA				S	S	16 58 31.8	+2.7
	0.2nm,0.3s,baz=125,slow=10,SNR=1.9						
ASAR	Alice Springs	32.90	249	P	P	16 54 17.2	-2.4
	0.5nm,0.5s,baz=77,slow=9.6,SNR=17						
ASAR				pP	pP	16 54 50.5	+2.6
	0.5nm,0.4s,baz=91,slow=8.1,SNR=11						
ASAR				PcP	PcP	16 57 00.9	-0.4
	0.3nm,0.8s,baz=76,slow=2.9,SNR=3.2						
VNDA	Vanda	62.75	181	P	P	16 58 08.4	-0.1
	0.7nm,0.5s,baz=345,slow=6.8,SNR=8.6						
ILAR	Eielson Array	86.55	18	P	P	17 00 25.6	-0.1
	0.5nm,1.0s,baz=221,slow=6.7,SNR=3.8						
ARCES	ARCESS Array B	120.44	345	PKP	PKPdf	17 06 33.2	+0.1
	0.7nm,0.5s,baz=83,slow=1.4,SNR=6.3						

UCR 29 16:50:49.1±2.5, 9°33N×82°76W, h13km±11km, MD3.7, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK0	Durika	0.48	263

APYP	**Conner**	**0.86**	**177**	*e*P	Pb	16 52 03.0	-0.5
APYP				*e*S	Sn	16 52 17.0	-0.8
ABRA	**Dolores**	**1.17**	**203**	*e*P	Pg	16 52 06.9	-1.4
ABRA				*e*S	Sn	16 52 25.7	+0.3
CVP	**Callao Caves**	**1.18**	**150**	⇑*i*P	Pg	16 52 07.8	-0.7
CVP				*i* S	Sn	16 52 26.3	+0.7
CAUP	**Cauayan**	**1.87**	**161**	*e*P	Pb	16 52 20.1	-0.5

*NNC **29** 17:06:26.8±3.6, 36°.88N×70°.36E, h197km±53km, mb2.8, mpv4.0, Error ellipse: s-maj=34.8km s-min=20.7km az=14.0*
*IDC **29** 17:06:28.8±20.0, 36°.49N×70°.70E, h272km±158km, mb3.1/3, mb1 3.0/4, mb1mx2.6/35, mbtmp3.7/4, Error ellipse: s-maj=149.5km s-min=53.6km az=14.0*
ISC 29 17:06:24.4±1.9, 36°.7N±0°.2×70°.4E±0°.1, h204km, n18, σ1§02/22, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.00**	**24**	P	**Pn**	**17 07 52.5**	**+0.5**
	SNR=83						
UCH	**Uchtor**	**6.38**	**29**	P	**Pn**	**17 07 57.6**	**+0.6**
	SNR=49						
KK31	**Karatay Array**	**6.39**	**1**	P	**Pn**	**17 07 56.6**	**-0.2**
	5.3nm,0.5s,baz=181,slow=13,SNR=48						
KK31				⇑S	**S**	**17 09 08.5**	**-1.3**
	2.0nm,0.4s,baz=197,slow=22						
EKS2	**Erkin-Say**	**6.51**	**23**	P	**Pn**	**17 07 59.3**	**+1.0**
	SNR=17						
KZA	**Kyzart**	**6.57**	**34**	P	**Pn**	**17 07 59.4**	**0.0**
	SNR=12						
AAK	**Ala-Archa**	**6.73**	**27**	P	**Pn**	**17 08 01.9**	**+0.7**
	SNR=6.5						
AAK	**Ala-Archa**	**6.73**	**27**	⇑P	**Pn**	**17 08 01.5**	**+0.3**
	3.3nm,0.5s						
AAK				⇓S	**S**	**17 09 17.9**	**0.0**
	9.7nm,0.5s						
KBK	**Karagaybulak**	**6.92**	**29**	P	**Pn**	**17 08 04.9**	**+1.2**
	SNR=6.0						
CHMS	**Chumysh**	**7.14**	**27**	P	**Pn**	**17 08 07.3**	**+0.9**
	SNR=6.4						
USP	**Ospenovka**	**7.28**	**25**	P	**Pn**	**17 08 08.9**	**+0.6**
	SNR=5.1						
TKM2	**Tokmak 2**	**7.40**	**31**	P	**Pn**	**17 08 10.8**	**+0.8**
	SNR=6.9						
TKM2	**Tokmak 2**	**7.40**	**31**	⇑P	**Pn**	**17 08 10.6**	**+0.6**
	10nm,0.5s						
TKM2				⇑S	**S**	**17 09 32.3**	**-1.6**
	3.9nm,0.8s						
MKAR	**Makanchi Array**	**13.44**	**38**	P	**P**	**17 09 29.4**	**-0.2**
	0.2nm,0.3s,baz=219,slow=11,SNR=5.8						
AB31	**Akbulak array**	**14.66**	**332**	P	**P**	**17 09 43.9**	**+0.8**
	0.3nm,0.3s,baz=152,slow=12,SNR=29						
AKTO	**Aktyubinsk**	**16.35**	**331**	⇑P	**P**	**17 10 02.3**	**+0.6**
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**19.95**	**26**	P	**P**	**17 10 41.4**	**+0.7**
	1.1nm,0.3s,baz=210,slow=9.5,SNR=9.0						
FINES	**FINESS Array B**	**37.03**	**326**	P	**P**	**17 13 14.6**	**+0.4**
	0.6nm,0.6s,baz=113,slow=11,SNR=2.9						
FINES				PcP	**PcP**	**17 15 27.6**	**-2.7**
	1.1nm,0.8s,baz=108,slow=3.2,SNR=4.8						
ARCES	**ARCESS Array B**	**40.76**	**338**	P	**P**	**17 13 45.9**	**+0.8**
	2.0nm,0.7s,baz=99,slow=7.7,SNR=6.0						

*ISCJB **29** 17:23:36.8±0.4, 13°.0N±0°.1×87°.09W±0°.10, h189km±7km, mb3.2/4, Error ellipse: s-maj=25.6km s-min=3.6km az=36.6*
*SNET **29** 17:23:36.2±1.4, 12°.64N×87°.33W, h190km±11km, ML4.1*
*IDC **29** 17:23:36.8±0.9, 13°.00N×87°.03W, h178km±23km, mb3.0/4, mb1 3.5/8, mb1mx3.2/38, mbtmp3.8/8, Error ellipse: s-maj=65.7km s-min=9.0km az=40.0*
*UCR **29** 17:23:38.2±2.2, 11°.74N×88°.01W, h5km, MD4.1, ML3.9*
ISC 29 17:23:37.5±0.8, 12°.9N±0°.1×87°.1W±0°.1, h188km±6km, n57, σ0§86/73, mb3.2/4, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.24**	**161**	*e*P	**Pn**	**17 24 02.6**	**+0.1**
CRIN				IAML		17 24 27.2	
	comp=E,4μm,0.2s						
CSGN	**Cosiguina Volc**	**0.42**	**276**	*e*P	**Pn**	**17 24 03.2**	**+0.3**
CSGN				IAML		17 24 30.9	
	comp=E,17μm,0.2s						
CSGN	**Cosiguina Volc**	**0.42**	**276**	*e*P	**Pn**	**17 24 03.2**	**+0.3**
CNGN	**Cerro Negro**	**0.60**	**135**	IAML		17 24 30.0	
	comp=N,503nm,0.3s						
CNCH	**Conchagua**	**0.77**	**297**	*e*P	**Pn**	**17 24 04.3**	**-0.3**
CNCH	**Conchagua**	**0.77**	**297**	*e*P	**Pn**	**17 24 04.3**	**-0.3**
MOMN	**Momotombo**	**0.78**	**132**	*e*P	**Pn**	**17 24 04.7**	**+0.1**
LCND	**La Caada**	**0.83**	**297**	*e*P	**Pn**	**17 24 04.2**	**-0.7**
LCND				IAML		17 24 39.0	
	comp=Z,1μm,0.2s						
LCND	**La Caada**	**0.83**	**297**	*e*P	**Pn**	**17 24 04.2**	**-0.7**
LCND				IAML		17 24 39.0	
	comp=Z,1μm,0.2s						
COPN	**Copaltepe**	**0.91**	**145**	*e*P	**Pn**	**17 24 05.0**	**-0.4**
APYN	**Apoyeque**	**1.03**	**132**	*e*P	**Pn**	**17 24 06.7**	**+0.5**
VSM	**San Miguel**	**1.22**	**294**	*e*P	**Pn**	**17 24 07.3**	**-0.6**
VSM	**San Miguel**	**1.22**	**294**	*e*P	**Pn**	**17 24 07.3**	**-0.6**
PACA	**Pacayal**	**1.28**	**295**	*e*P	**Pn**	**17 24 07.8**	**-0.5**
PACA				*e*S	**Sn**	**17 24 32.0**	**-0.1**
PACA	**Pacayal**	**1.28**	**295**	*e*P	**Pn**	**17 24 07.8**	**-0.5**
PACA				*e*S	**Sn**	**17 24 32.0**	**-0.1**
TECA	**Tecapa**	**1.45**	**293**	*e*P	**Pn**	**17 24 09.3**	**-0.6**
TECA	**Tecapa**	**1.45**	**293**	*e*P	**Pn**	**17 24 09.3**	**-0.6**
VICT	**Victoria**	**1.79**	**305**	*e*P	**Pn**	**17 24 12.8**	**-0.3**
SNVI	**San Vicente**	**1.80**	**292**	*e*P	**Pn**	**17 24 12.7**	**-0.4**
SNVI				*e*S	**Sn**	**17 24 40.1**	**-0.7**
SNVI	**San Vicente**	**1.80**	**292**	*e*P	**Pn**	**17 24 12.7**	**-0.4**
SNVI				*e*S	**Sn**	**17 24 40.6**	**-0.2**
PAVA	**Las Pavas**	**1.92**	**294**	*e*P	**Pn**	**17 24 13.9**	**-0.5**
PAVA				*e*S	**Sn**	**17 24 43.1**	**+0.1**
PAVA	**Las Pavas**	**1.92**	**294**	*e*P	**Pn**	**17 24 13.9**	**-0.5**
PAVA				*e*S	**Sn**	**17 24 43.1**	**+0.1**
CONN	**Concepcion**	**2.00**	**132**	*e*P	**Pn**	**17 24 14.8**	**-0.4**
LFRS	**El Faro**	**2.00**	**290**	⇑*i*P	**Pn**	**17 24 14.3**	**-0.9**
LBRS	**Las Brisas**	**2.03**	**294**	*e*P	**Pn**	**17 24 15.4**	**-0.1**
LFU	**La Fuente**	**2.09**	**293**	*e*P	**Pn**	**17 24 15.6**	**-0.6**
LFU	**La Fuente**	**2.09**	**293**	*e*P	**Pn**	**17 24 15.6**	**-0.6**
SNET	**Serv Nac Est T**	**2.18**	**290**	*e*P	**Pn**	**17 24 16.3**	**-0.8**
SNET				*e*S	**Sn**	**17 24 48.1**	**+0.2**
SNET				IAML		17 24 49.7	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**2.18**	**290**	*e*P	**Pn**	**17 24 16.3**	**-0.8**
SNET				*e*S	**Sn**	**17 24 48.1**	**+0.2**
SNET				IAML		17 24 49.7	
	comp=Z,1μm,0.3s						
BOQS	**Boqueron**	**2.24**	**291**	*e*P	**Pn**	**17 24 17.4**	**-0.6**
CEVE	**Cerro Verde**	**2.58**	**291**	*e*P	**Pn**	**17 24 21.2**	**-0.7**
CEVE	**Cerro Verde**	**2.58**	**291**	*e*P	**Pn**	**17 24 21.2**	**-0.7**
CEVE				*e*S	**Sn**	**17 24 57.4**	**+1.0**
SBLS	**San Blas**	**2.59**	**291**	*e*P	**Pn**	**17 24 21.2**	**-0.7**
SBLS	**San Blas**	**2.59**	**291**	*e*P	**Pn**	**17 24 21.2**	**-0.7**
GBS3	**Finca Las Img**	**2.69**	**142**	*i* P	**Pn**	**17 24 23.1**	**+0.1**
LAPC	**Finca la Perla**	**2.72**	**142**	*i* P	**Pn**	**17 24 23.4**	**+0.2**
HORNC	**Hornillas**	**2.92**	**139**	*i* P	**Pn**	**17 24 26.3**	**+0.6**
CUI	**Cuipilapa**	**2.97**	**139**	*i* P	**Pn**	**17 24 27.0**	**+0.8**
CUI				*i* S	**Sn**	**17 25 03.1**	**-1.1**
PTEN	**Parque Tenorio**	**3.04**	**136**	*i* P	**Pn**	**17 24 28.2**	**+1.1**
ACAL	**Aguas Claras**	**3.07**	**138**	*i* P	**Pn**	**17 24 27.5**	**0.0**
AMAS	**Alto Masis**	**3.11**	**137**	*i* P	**Pn**	**17 24 29.3**	**+1.3**
JTS	**Las Juntas de**	**3.38**	**141**	P	**Pn**	**17 24 31.8**	**+0.6**
	comp=Z,47nm,0.3s,baz=303,slow=18,SNR=50						
JTS				S	**Sn**	**17 25 11.2**	**-2.1**
	comp=Z,38nm,0.3s,baz=349,slow=23,SNR=17						
JTS	**Las Juntas de**	**3.38**	**141**	*e*P	**Pn**	**17 24 32.7**	**+1.5**
JTS				*e*S	**Sn**	**17 25 10.8**	**-2.4**
ARE1	**Arenal 1**	**3.41**	**136**	*e*P	**Pn**	**17 24 32.7**	**+1.2**
PCG	**Pacaya**	**3.68**	**294**	*e*P	**Pn**	**17 24 35.7**	**+0.6**
PCG				*e*S	**Sn**	**17 25 19.2**	**-1.0**
APG	**El Apazote**	**3.84**	**303**	P	**Pn**	**17 24 37.4**	**+0.4**
	comp=Z,3.4nm,0.3s,baz=117,slow=7.8,SNR=16						
APG				S	**Sn**	**17 25 23.5**	**-0.1**
	comp=Z,4.2nm,0.3s,baz=124,slow=7.3,SNR=7.7						
FUG	**Fuego 3**	**3.91**	**293**	*e*P	**Pn**	**17 24 38.5**	**+0.5**
FUG				*e*S	**Sn**	**17 25 25.0**	**-0.2**
EDDO	**Dominical**	**4.86**	**138**	*e*P	**Pn**	**17 24 51.4**	**+1.5**
EDDO				*e*S	**Sn**	**17 25 46.5**	**-0.3**
DRK0	**Durika**	**5.28**	**133**	*e*P	**Pn**	**17 24 57.2**	**+1.8**
CMIG	**Matias Romero**	**8.56**	**300**	P	**Pn**	**17 25 37.3**	**-0.9**
	comp=Z,3.1nm,0.3s,baz=141,slow=13,SNR=31						
SDV	**Santo Domingo**	**16.69**	**102**	P	**Pn**	**17 27 21.0**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=289,slow=8.2,SNR=9.2						
TXAR	**Lajitas Array**	**22.41**	**319**	P	**P**	**17 28 21.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=133,slow=11,SNR=4.8						
TXAR				pP	**pP**	**17 28 57.3**	**+3.0**
	comp=Z,1.1nm,1.0s,baz=141,slow=8.1,SNR=5.7						
PDAR	**Pinedale Array**	**35.50**	**331**	P	**P**	**17 30 17.1**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=140,slow=11,SNR=3.3						
ULM	**Lac du Bonnet**	**37.90**	**351**	P	**P**	**17 30 35.1**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=159,slow=9.8,SNR=3.0						
YKA	**Yellowknife Ar**	**53.23**	**344**	P	**P**	**17 32 35.4**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=137,slow=7.5,SNR=4.8						
WRA	**Warramunga Arr**	**139.70**	**254**	PKP	**PKPdf**	**17 42 43.8**	**-0.1**
	comp=Z,69nm,0.3s,baz=114,slow=1.2,SNR=2.2						
ASAR	**Alice Springs**	**139.73**	**249**	PKP	**PKPdf**	**17 42 43.7**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=96,slow=1.9,SNR=13						

JMA 29 17:30:45.6±0.1, 38°.46N×142°.25E, h27km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.63**	**257**	P	Pb	17 30 57.8	-0.3
JIKH				S	Sb	17 31 05.7	-0.9
JKMT	**Kesennumamotoy**	**0.70**	**300**	P	Pb	17 30 59.1	-0.1
JKMT				S	Sb	17 31 08.2	-0.3
JIO	**Ouri**	**0.71**	**270**	P	Pb	17 30 59.2	-0.1
JIO				*e*S	Sb	17 31 08.0	-0.7
OFUJ	**Ofunato**	**0.77**	**324**	P	Pb	17 31 00.1	-0.3
OFUJ				*e*S	Sb	17 31 10.5	0.0
JMK	**Ichinoseki**	**0.94**	**302**	P	Pn	17 31 02.9	-0.2
JMK				*e*S	Sb	17 31 15.3	-0.1
JOU	**Okura**	**1.25**	**266**	P	Pn	17 31 07.9	+0.6
JOU				*e*S	Sn	17 31 23.7	+0.4
JOM	**Ohasama**	**1.26**	**324**	P	Pn	17 31 07.8	+0.4
JOM				*e*S	Sn	17 31 23.7	+0.3
JMM	**Marumori**	**1.29**	**243**	P	Pn	17 31 07.5	-0.4
JMM				*e*S	Sn	17 31 23.4	-0.9
JFK	**Kawauchi**	**1.54**	**225**	P	Pn	17 31 10.2	-1.1
JFK				*e*S	Sn	17 31 28.0	-2.5
JYK	**Kaneyama**	**1.55**	**288**	P	Pn	17 31 12.2	+0.8
JYK				*e*S	Sb	17 31 32.1	-0.7
JRG	**Rokugo**	**1.57**	**307**	P	Pn	17 31 12.8	+1.1

*ISCJB **29** 17:45:49.7±0.3, 0°.88N±0°.03×126°.69E±0°.04, h39km, mb4.5/40, MS3.2/2, Error ellipse: s-maj=5.2km s-min=3.9km az=18.2*
*BJI **29** 17:45:51.0±0.0, 0°.90N×126°.80E, h40km, mb4.5/7, mB4.6/5, Ms4.3/2, Ms7 4.1/2*
*NEIC **29** 17:45:52.8±1.9, 0°.83N×126°.53E, h53km±7km, mb4.5/27, Error ellipse: s-maj=13.7km s-min=6.2km az=58.0*
NEIC Felt [III] on Pulau Ternate.
*IDC **29** 17:45:53.9±2.2, 0°.79N×126°.58E, h60km±19km, mb4.0/17, mb1 4.1/19, mb1mx4.0/36, mbtmp4.3/19, MS2.7/1, Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=22.0km s-min=8.5km az=84.0*
*DJA **29** 17:45:53.3±0.2, 1°.N±3°.×12°.7E±°, h50km±5km, M4.4/19, mB4.8/8, mb4.8/19, MLv4.5/13, Mw(mB)4.0/8*
ISC 29 17:45:51.9±0.4, 0°.82N±0°.04×126°.65E±0°.04, h39km, n93, σ1§76/106, mb4.5/40, Northern Moluccan Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.72**	**94**	*e*Pn	**Pn**	**17 46 06.9**	**+1.3**
TNTI	**Ternate**	**0.72**	**94**	P	**Pn**	**17 46 07.6**	**+2.0**
TNTI				S	**Sn**	**17 46 18.1**	**+2.6**
KMSI	**Cibinong**	**2.68**	**265**	P	**Pn**	**17 46 33.4**	**+0.9**
KMSI				S	**Sn**	**17 47 05.3**	**+1.6**
SANI	**Sanana**	**2.93**	**193**	P	**Pn**	**17 46 36.8**	**+0.8**
SGSI	**Sangihe**	**3.06**	**339**	P	**Pn**	**17 46 38.7**	**+1.0**
SGSI				S	**Sn**	**17 47 15.1**	**+2.0**
LUWI	**Luwuk**	**4.29**	**244**	*e*Pn	**Pn**	**17 46 55.6**	**+0.8**
LUWI	**Luwuk**	**4.29**	**244**	P	**Pn**	**17 46 56.6**	**+1.9**
LUWI				S	**Sn**	**17 47 46.5**	**+2.3**
MRSI	**Marisa**	**4.72**	**266**	P	**Pn**	**17 47 01.4**	**+0.8**
KDI	**Kendari**	**6.22**	**220**	P	**Pn**	**17 47 21.6**	**+0.3**
FAKI	**Fak Fak**	**6.72**	**124**	*e*Pn	**Pn**	**17 47 31.2**	**+3.1**
FAKI	**Fak Fak**	**6.72**	**124**	P	**Pn**	**17 47 32.5**	**+4.4**
MPSI	**Mapaga**	**6.77**	**266**	P	**Pn**	**17 47 30.3**	**+1.6**
BBSI	**Bau Bau**	**7.47**	**213**	P	**Pn**	**17 47 41.3**	**+2.8**
BBSI				S	**Sn**	**17 49 04.9**	**+2.9**
TTSI	**Tana Toraja**	**7.83**	**241**	P	**Pn**	**17 47 43.9**	**+0.5**
BNSI	**Bone**	**8.34**	**232**	P	**Pn**	**17 47 51.4**	**+1.0**
SPSI	**Sidrap Palu**	**8.36**	**235**	P	**Pn**	**17 47 51.7**	**+1.1**
BKSI	**Bulukumba**	**8.93**	**227**	P	**Pn**	**17 47 59.9**	**+1.5**
KAPI	**Kappang**	**9.00**	**230**	*e*Pn	**Pn**	**17 47 57.3**	**-2.1**
KAPI				*e*Sn	**Sn**	**17 49 38.0**	**-1.5**
KAPI	**Kappang**	**9.00**	**230**	P	**Pn**	**17 48 01.5**	**+2.1**
	8.1nm,0.3s,baz=88,slow=3.5,SNR=12						
KAPI				S	**Sn**	**17 49 38.1**	**-1.5**
	2.1nm,0.3s,baz=313,slow=23,SNR=4.3						
BSSI	**Bau Bau, Buton**	**9.26**	**222**	P	**Pn**	**17 48 04.0**	**+1.1**
MTN	**Manton Dam**	**14.29**	**162**	*e*Pn	**Pn**	**17 49 11.8**	**+0.1**
SBUM	**Sibu**	**14.51**	**277**	*e*Pn	**Pn**	**17 49 14.4**	**-0.3**
KSM	**Kuching**	**16.35**	**272**	*e*Pn	**Pn**	**17 49 39.5**	**+0.8**
	25nm,0.7s						
PWJI	**Pagerwojo**	**17.21**	**239**	P	**P**	**17 49 50.9**	**+0.2**
UGM	**Wanagama**	**18.27**	**241**	P	**P**	**17 50 02.5**	**0.0**
FITZ	**Fitzroy Crossi**	**18.83**	**183**	P	**P**	**17 50 08.5**	**0.0**
	0.3nm,0.3s,baz=350,slow=17,SNR=3.5						
CISI	**Cisompet, Garu**	**20.54**	**246**	*e*P	**P**	**17 50 25.2**	**-2.1**
	103nm,1.4s						
CISI	**Cisompet, Garu**	**20.54**	**246**	P	**P**	**17 50 24.1**	**-3.3**
DLV	**T Lat**	**21.14**	**302**	*e*P	**P**	**17 50 33.1**	**-0.7**
	17nm,1.2s						
WRAB	**Tennant Creek**	**21.97**	**160**	*e*P	**P**	**17 50 42.6**	**0.0**
	29nm,0.4s						
WRA	**Warramunga Arr**	**21.97**	**160**	P	**P**	**17 50 42.3**	**-0.3**
	79nm,0.3s,baz=333,slow=11,SNR=1.7						
WRA				S	**S**	**17 54 41.5**	**-1.7**
	72nm,0.3s,baz=341,slow=18,SNR=2.3						
WR1	**Warramunga Arr**	**21.97**	**160**	*e*P	**P**	**17 50 42.3**	**-0.3**
WR1				*e*S	**S**	**17 54 41.5**	**-1.7**
WB2	**Warramunga Arr**	**21.98**	**160**	*e*P	**P**	**17 50 42.7**	**0.0**
	26nm,0.6s						
CGJI	**Cibinong**	**22.18**	**250**	P	**P**	**17 50 43.1**	**-1.8**
YULB	**Yu-li**	**23.03**	**347**	*e*P	**P**	**17 50 49.6**	**-4.2**
	8.5nm,1.0s						
TPUB	**Ta-pu**	**23.09**	**346**	*e*P	**P**	**17 50 51.1**	**-3.3**
	20nm,0.5s						
PSA00	**Pilbara Seismi**	**23.23**	**196**	*e*P	**P**	**17 50 54.5**	**-1.2**
	12nm,0.6s						
SSLB	**Suanglung**	**23.49**	**347**	*e*P	**P**	**17 50 56.4**	**-1.9**
	9.1nm,0.8s						
XMIS	**Christmas Isla**	**23.71**	**241**	*e*P	**P**	**17 50 58.5**	**-2.1**
	203nm,1.4s						
AS31	**Alice Springs**	**25.34**	**164**	*e*P	**P**	**17 51 15.3**	**-0.1**
	7.4nm,0.3s						
ASAR	**Alice Springs**	**25.34**	**164**	P	**P**	**17 51 15.6**	**+0.2**
	6.8nm,0.3s,baz=344,slow=9.7,SNR=94						
ASAR				PcP	**PcP**	**17 54 47.2**	**-0.4**
	1.0nm,0.4s,baz=346,slow=2.2,SNR=8.6						
ASAR				S	**S**	**17 55 37.1**	**-2.1**
	1.4nm,0.8s,baz=347,slow=17,SNR=5.7						
ASAR				ScP	**ScP**	**17 58 22.7**	**-1.3**
	0.5nm,1.0s,baz=334,slow=2.9,SNR=4.9						
IPM	**Ipoh**	**25.85**	**279**	*e*P	**P**	**17 51 19.1**	**-1.0**
	12nm,1.2s						
JOW	**Kunigami**	**25.91**	**3**	*e*P	**P**	**17 51 21.1**	**+0.7**
	23nm,0.7s						
JOW	**Kunigami**	**25.91**	**3**	P	**P**	**17 51 21.7**	**+1.3**
	2.9nm,0.7s,baz=187,slow=14,SNR=8.5						
GSI	**Gunungsitoli**	**29.07**	**271**	*e*P	**P**	**17 51 46.4**	**-2.5**
	36nm,1.9s						
NANT	**Nan**	**31.10**	**307**	P	**P**	**17 52 09.7**	**+2.9**
	8μm,0.7s						
FORT	**Forrest**	**31.46**	**178**	*e*P	**P**	**17 52 10.2**	**+0.4**
	19nm,0.6s						
WHN	**Wuhan**	**31.78**	**340**	P	**P**	**17 52 15.8**	**+3.1**
CMAR	**Chiang Mai Arr**	**32.35**	**304**	LR	LR	18 07 14.8	
	comp=Z,13nm,20.6s,baz=110,slow=40						
JNU	**Nakatsue**	**32.37**	**7**	P	**P**	**17 52 18.5**	**+0.6**
	7.7nm,0.9s,baz=143,slow=7.7,SNR=4.3						
ENH	**Enshi**	**33.52**	**332**	*e*P	**P**	**17 52 25.7**	**-2.3**
	3.9nm,0.8s						
STKA	**Stephens Creek**	**35.47**	**158**	*e*P	**P**	**17 52 45.3**	**+0.5**
	1.3nm,0.6s						
STKA	**Stephens Creek**	**35.47**	**158**	P	**P**	**17 52 45.1**	**+0.3**
	6.1nm,0.6s,baz=329,slow=10.0,SNR=22						
STKA				PcP	**PcP**	**17 55 13.6**	**-0.3**
	1.3nm,0.5s,baz=289,slow=3.4,SNR=3.0						
KSRS	**Korea Array**	**36.47**	**2**	P	**P**	**17 52 53.4**	**+0.2**
	1.6nm,0.8s,baz=183,slow=12,SNR=7.2						
XAN	**Xi'an**	**36.98**	**335**	P	**P**	**17 52 59.8**	**+2.1**
XAN				pP	pP	17 53 08.0	0.0
XAN				LR	LR		
	comp=N,79nm,16.3s						
XAN				LR	LR		
	comp=E,88nm,11.9s						
XAN				LR	LR		
	comp=Z,120nm,17.7s						
MAJO	**Matsushiro**	**37.12**	**16**	*e*P	**P**	**17 52 57.5**	**-1.4**
MJAR	**Matsushiro Arr**	**37.12**	**16**	P	**P**	**17 52 57.5**	**-1.4**
	1.8nm,0.6s,baz=194,slow=9.8,SNR=5.7						
USRK	**Ussuriysk Ar.**	**43.45**	**6**	P	**P**	**17 53 50.7**	**-0.4**
	3.0nm,0.7s,baz=204,slow=10,SNR=6.4						
SONA0	**Songino Array**	**50.02**	**342**	*e*P	**P**	**17 54 42.7**	**+0.1**
SONM	**Songino Array**	**50.02**	**342**	P	**P**	**17 54 42.7**	**+0.1**
	1.5nm,0.6s,baz=157,slow=8.7,SNR=10						
PETK	**Petropavlovsk-**	**58.14**	**21**	P	**P**	**17 55 42.4**	**+0.8**
	2.4nm,0.6s,baz=175,slow=3.4,SNR=13						
PEA1	**Petropavlovsk-**	**58.15**	**21**	*e*P	**P**	**17 55 42.4**	**+0.8**
MK32	**Makanchi Array**	**59.90**	**326**	*e*P	**P**	**17 55 53.0**	**-1.0**
MK32				*e*PcP	**PcP**	**17 56 39.0**	**-1.0**
MKAR	**Makanchi Array**	**59.90**	**326**	P	**P**	**17 55 53.0**	**-1.0**
	1.8nm,0.4s,baz=119,slow=7.5,SNR=38						
MKAR				PcP	**PcP**	**17 56 39.0**	**-1.0**
	2.4nm,0.6s,baz=127,slow=4.4,SNR=8.2						
KSH	**Kashi**	**60.05**	**316**	P	**P**	**17 55 57.8**	**+2.5**
KSH				pP	sP	17 56 14.8	+4.0
KSH				PP	**PP**	**17 58 14.0**	**+5.9**
KSH				S	**S**	**18 04 07.5**	**+1.8**
KSH				pmax	pmax		
	comp=Z,91nm,3.8s						
KSH				LR	LR		
	comp=N,79nm,9.1s						
KSH				LR	LR		
	comp=E,97nm,7.3s						
KSH				LR	LR		
	comp=Z,150nm,7.4s						
MAKZ	**Makanchi**	**60.08**	**326**	*e*P	**P**	**17 55 53.8**	**-1.3**
	6.4nm,1.4s						
KDJ	**Kajisay**	**60.47**	**319**	*e*P	**P**	**17 55 57.4**	**-0.7**
	4.4nm,1.2s						
ZAA0	**Zalesovo Array**	**63.13**	**334**	*e*P	**P**	**17 56 14.6**	**-1.0**
	3.8nm,1.0s						
ZALV	**Zalesovo Beam**	**63.13**	**334**	P	**P**	**17 56 14.6**	**-0.9**
	2.5nm,0.7s,baz=128,slow=4.3,SNR=10.0						
ZAA1	**Zalesovo Array**	**63.14**	**334**	*e*P	**P**	**17 56 14.6**	**-1.0**
KURK	**Kurchatov**	**64.14**	**328**	*e*P	**P**	**17 56 21.6**	**-0.7**
	7.9nm,0.6s						
KKAR	**Karatay Array**	**65.31**	**318**	*e*P	**P**	**17 56 29.5**	**-0.6**
	2.2nm,1.0s						
BRVK	**Borovoye**	**69.78**	**328**	*e*P	**P**	**17 56 57.9**	**-0.2**
	8.7nm,1.0s						
GEYT	**Alibeck**	**72.65**	**310**	P	**P**	**17 57 15.8**	**-0.1**
	1.8nm,0.6s,baz=142,slow=5.1,SNR=4.1						
NRIK	**Noril'sk**	**73.22**	**346**	P	**P**	**17 57 17.8**	**-0.7**
	2.8nm,0.5s,baz=116,slow=3.2,SNR=2.8						
ABKAR	**Akbulak array**	**74.34**	**321**	*e*P	**P**	**17 57 24.8**	**-0.7**
	3.3nm,0.6s						
VNDA	**Vanda**	**80.57**	**173**	P	**P**	**17 57 59.6**	**-0.2**
	2.0nm,0.5s,baz=318,slow=6.5,SNR=24						
MAW	**Mawson**	**81.02**	**200**	P	**P**	**17 58 02.8**	**+0.5**
	1.9nm,0.9s,baz=7.3,slow=6.3,SNR=5.0						
ILAR	**Eielson Array**	**87.75**	**25**	P	**P**	**17 58 35.3**	**-1.2**
	0.2nm,0.4s,baz=258,slow=5.7,SNR=4.4						
BR101	**Keskin Array S**	**91.80**	**310**	*e*P	**P**	**17 59 00.1**	**+3.9**
BRTR	**Keskin Array B**	**91.80**	**310**	P	**P**	**17 59 00.1**	**+3.9**
	0.6nm,0.7s,baz=98,slow=7.4,SNR=3.9						
ARCES	**ARC

JYA	Atsumi	1.90	295	P	Pn	18 20 21.5	-0.5
MJAR	Matsushiro Arr	3.21	248	Pn	Pn	18 20 41.0	+1.0
0.2nm,0.3s,baz=53,slow=10,SNR=11							
MJAR				Sn	Sn	18 21 23.3	+6.3
0.4nm,0.3s,baz=84,slow=15,SNR=4.5							
MAT	Matsushiro	3.21	248	P	Pn	18 20 41.1	+1.0
MAT				S	Sn	18 21 21.4	+4.3
JHJ	Hachijo jima 2	4.99	201	Pn	Pn	18 21 03.4	-1.0
4.3nm,0.3s,baz=240,slow=20,SNR=2.5							
JHJ				Sn	Sn	18 21 56.7	-4.1
8.1nm,0.3s,baz=252,slow=19,SNR=4.4							
ASAJ	Asahikawa	6.33	5	Pn	Pn	18 21 22.0	-0.8
0.6nm,0.3s,baz=213,slow=12,SNR=7.0							
ASAJ				Sn	Sn	18 22 34.4	+0.7
0.8nm,0.3s,baz=351,slow=19,SNR=4.4							
USRK	Ussuriysk Ar.	9.84	314	Pn	Pn	18 22 11.4	+0.4
0.2nm,0.3s,baz=122,slow=12,SNR=3.6							
H11N2	WAKE ISLAND Hy 28.22	123		T	T	18 56 02.3	
baz=316,slow=75,SNR=64							
H11N1	WAKE ISLAND Hy 28.23	123		T	T	18 56 03.0	
baz=316,slow=75,SNR=43							
H11N3	WAKE ISLAND Hy 28.24	123		T	T	18 56 03.6	
baz=316,slow=75,SNR=51							
H11S1	WAKE ISLAND Hy 28.96	125		T	T	18 56 58.5	
baz=318,slow=76,SNR=29							
H11S3	WAKE ISLAND Hy 28.97	125		T	T	18 57 00.2	
baz=318,slow=76,SNR=33							
H11S2	WAKE ISLAND Hy 28.98	125		T	T	18 57 00.3	
baz=318,slow=76,SNR=26							
MKAR	Makanchi Array	44.04	302	P	P	18 27 57.4	+1.3
0.1nm,0.4s,baz=76,slow=6.1,SNR=2.6							
WRA	Warramunga Arr	57.88	188	P	P	18 29 38.2	-1.9
108nm,0.3s,baz=352,slow=9.3,SNR=1.4							
ASAR	Alice Springs	61.61	188	P	P	18 30 04.5	-1.2
0.4nm,1.0s,baz=15,slow=7.7,SNR=4.3							

*IDC **29** 18:21:44.9±0.5,55°.44N×162°.86E,h0km,mb4.4/30, mb1 4.6/33,mb1mx4.6/42,mbtmp4.5/33,ML4.6/3,MS3.6/25, Ms1 3.7/25,ms1mx3.6/41,Error ellipse: s-maj=15.6km s-min=9.4km az=149.0*

*KRSC **29** 18:21:48.1±10.0,55°.30N×163°.23E,h73km±10km,ML5.3*

*MOS **29** 18:21:50.8±1.1,55°.37N×163°.04E,h67km,mb4.9/44,Error ellipse: s-maj=5.6km s-min=3.7km az=84.7*

*BJI **29** 18:21:50.0±0.0,55°.50N×162°.90E,h72km,mb4.7/27, mB4.8/19,Ms4.2/9,Ms7 3.9/7*

*NEIC **29** 18:21:51.9±0.7,55°.47N×162°.90E,h56km±6km,mb4.8/97, Error ellipse: s-maj=7.0km s-min=3.1km az=156.0*

*ISCJB **29** 18:21:51.0±0.3,55°.34N±0°.02×163°.05E±0°.03,h67km±2km, mb4.8/159,Error ellipse: s-maj=3.8km s-min=2.4km az=42.6*

ISC 29 18:21:50.8±0.8,55°.32N±0°.03×163°.19E±0°.03,h50km±7km, n404,σ1°37/471,mb4.7/159,MS3.7/30,20C-18D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	Krutoberegovo	0.92	347	eP	Pn	18 22 05.7	-1.7
KBTR	Krutoberegovo	0.92	347	PN	Pn	18 22 05.7	-1.7
KBG	Krutoberegovo	0.98	344	eP	Pn	18 22 06.7	-1.5
KBG				eS	Sn	18 22 19.8	-1.2
KBG	Krutoberegovo	0.98	344	PN	Pn	18 22 06.7	-1.5
KBG				S	Sn	18 22 19.8	-1.2
MKZ	Mys Kozlova	1.14	228	eP	Pn	18 22 09.6	-0.7
MKZ				eS	Sn	18 22 23.9	-0.9
MKZ	Mys Kozlova	1.14	228	PN	Pn	18 22 09.6	-0.7
MKZ				S	Sn	18 22 23.9	-0.9
ZLN	Zelenaya	1.52	298	eP	Pn	18 22 17.3	+1.6
ZLN	Zelenaya	1.52	298	PN	Pn	18 22 17.3	+1.6
BZGR	Bezymyannyi-Gr	1.55	295	eP	Pn	18 22 16.4	+0.4
BZGR				eS	Sn	18 22 36.0	+1.0
BZGR	Bezymyannyi-Gr	1.55	295	PN	Pn	18 22 16.4	+0.4
BZGR				S	Sn	18 22 36.0	+1.0
BKI	Bering	1.59	93	eP	Pn	18 22 16.1	-0.4
BKI				eS	Sn	18 22 34.8	-1.1
BKI	Bering	1.59	93	PN	Pn	18 22 16.1	-0.4
BKI				S	Sn	18 22 34.8	-1.1
SMKR	Semkarok	1.60	323	eP	Pn	18 22 16.1	-0.5
SMKR	Semkarok	1.60	323	PN	Pn	18 22 16.1	-0.5
CIRR	Tsirk	1.60	301	eP	Pn	18 22 17.0	+0.3
CIRR	Tsirk	1.60	301	PN	Pn	18 22 17.0	+0.3
TUMD	Tumrok D	1.60	267	eP	Pn	18 22 16.8	+0.1
TUMD				eS	Sn	18 22 36.3	+0.1
LGNR	Loginova	1.61	299	eP	Pn	18 22 17.5	+0.5
LGNR				eS	Sn	18 22 38.4	+1.6
LGNR	Loginova	1.61	299	PN	Pn	18 22 17.5	+0.5
LGNR				S	Sn	18 22 38.4	+1.6
BZMR	Bezymyannaya	1.65	293	eP	Pn	18 22 17.9	+0.4
BZMR				eS	Sn	18 22 39.0	+1.4
BZMR	Bezymyannaya	1.65	293	PN	Pn	18 22 17.9	+0.4
BZMR				S	Sn	18 22 39.0	+1.4
BZWR	Bezymyannyi-We	1.66	294	eP	Pn	18 22 17.7	+0.1
BZWR				eS	Sn	18 22 39.1	+1.3
BZWR	Bezymyannyi-We	1.66	294	PN	Pn	18 22 17.7	+0.1
BZWR				S	Sn	18 22 39.1	+1.3
KZV	Kizimen	1.67	264	eP	Pn	18 22 17.8	0.0
KZV				eS	Sn	18 22 36.5	-1.6
KZV	Kizimen	1.67	264	PN	Pn	18 22 17.8	0.0
KZV				S	Sn	18 22 36.5	-1.6
BDR	Baidarnaya	1.68	319	eP	Pn	18 22 17.8	0.0
BDR				eS	Sn	18 22 39.1	+0.9
BDR	Baidarnaya	1.68	319	PN	Pn	18 22 17.8	0.0
BDR				S	Sn	18 22 39.1	+0.9
KMNR	Kamenistaya	1.74	286	eP	Pn	18 22 19.6	+1.0
KMNR	Kamenistaya	1.74	286	PN	Pn	18 22 19.6	+1.0
KIRR	Kirishev	1.74	293	eP	Pn	18 22 19.3	+0.7
KIRR				eS	Sn	18 22 40.9	+1.2
KIRR	Kirishev	1.74	293	PN	Pn	18 22 19.3	+0.7
KIRR				S	Sn	18 22 40.9	+1.2
KRSR	Krestovskiy	1.74	302	eP	Pn	18 22 18.6	0.0
KRSR				eS	Sn	18 22 39.4	-0.2
KRSR	Krestovskiy	1.74	302	PN	Pn	18 22 18.6	0.0
KRSR				S	Sn	18 22 39.4	-0.2
TUMR	Tumrok	1.74	270	eP	Pn	18 22 19.4	+0.7
TUMR				eS	Sn	18 22 41.1	+1.3
TUMR	Tumrok	1.74	270	PN	Pn	18 22 19.4	+0.7
TUMR				S	Sn	18 22 41.1	+1.3
KLY	Klyuchi	1.75	306	eP	Pn	18 22 17.2	-1.4
KLY				eS	Sn	18 22 38.2	-1.5
KLY	Klyuchi	1.75	306	PN	Pn	18 22 17.2	-1.4
KLY				S	Sn	18 22 38.2	-1.5
SRKR	Sorokina	1.76	321	eP	Pn	18 22 18.8	0.0
SRKR	Sorokina	1.76	321	PN	Pn	18 22 18.8	0.0
KPT	Kopyto	1.81	292	eP	Pn	18 22 20.6	+1.1
KPT				eS	Sn	18 22 43.9	+2.6
KPT	Kopyto	1.81	292	PN	Pn	18 22 20.6	+1.1
KPT				S	Sn	18 22 43.9	+2.6
KOZ	Kozyrevsk	2.02	293	eP	Pn	18 22 23.4	+1.0
KOZ				eS	Sn	18 22 49.2	+2.8
KOZ	Kozyrevsk	2.02	293	PN	Pn	18 22 23.4	+1.0
KOZ				S	Sn	18 22 49.2	+2.8
SRDR	Sredinnyy	2.20	298	eP	Pn	18 22 25.7	+0.8
SRDR				eS	Sn	18 22 51.7	+0.7
SRDR	Sredinnyy	2.20	298	PN	Pn	18 22 25.7	+0.8
SRDR				S	Sn	18 22 51.7	+0.7
ESO	Esso	2.62	285	eP	Pn	18 22 30.7	+0.1
ESO				eS	Sn	18 23 02.1	+1.0
ESO	Esso	2.62	285	PN	Pn	18 22 30.7	+0.1
ESO				S	Sn	18 23 02.1	+1.0
SPN	Mys Shipunski	2.90	221	eP	Pn	18 22 33.5	-0.9
SPN				eS	Sn	18 23 04.9	-3.1
SPN	Mys Shipunski	2.90	221	PN	Pn	18 22 33.5	-0.9
SPN				S	Sn	18 23 04.9	-3.1
NLC	Nalytchevo	3.12	228	eP	Pn	18 22 37.5	+0.1
NLC				eS	Sn	18 23 11.1	-2.2
NLC	Nalytchevo	3.12	228	PN	Pn	18 22 37.5	+0.1
NLC				S	Sn	18 23 11.1	-2.2
SDLR	Sedlovina	3.25	233	eP	Pn	18 22 40.4	+1.1
SDLR				eS	Sn	18 23 15.8	-0.9
SDLR	Sedlovina	3.25	233	PN	Pn	18 22 40.4	+1.1
SDLR				S	Sn	18 23 15.8	-0.9
KRER	Koryakskii	3.29	234	eP	Pn	18 22 41.7	+1.7
KRER				eS	Sn	18 23 18.4	+0.4
KRER	Koryakskii	3.29	234	PN	Pn	18 22 41.7	+1.7
KRER				S	Sn	18 23 18.4	+0.4
SMAR	Somma	3.29	233	eP	Pn	18 22 41.2	+1.2
SMAR				eS	Sn	18 23 18.9	+0.9
SMAR	Somma	3.29	233	PN	Pn	18 22 41.2	+1.2
SMAR				S	Sn	18 23 18.9	+0.9
KRX	Arik	3.31	235	eP	Pn	18 22 41.6	+1.5
KRX				eS	Sn	18 23 19.8	+1.6
KRX	Arik	3.31	235	PN	Pn	18 22 41.6	+1.5
KRX				S	Sn	18 23 19.8	+1.6
UGLR	Uglovaya	3.32	232	eP	Pn	18 22 41.5	+1.2
UGLR				eS	Sn	18 23 19.5	+1.0
UGLR	Uglovaya	3.32	232	PN	Pn	18 22 41.5	+1.2
UGLR				S	Sn	18 23 19.5	+1.0
AVH	Avacha	3.32	234	eP	Pn	18 22 41.8	+1.5
AVH				eS	Sn	18 23 19.2	+0.7
AVH	Avacha	3.32	234	PN	Pn	18 22 41.8	+1.5
AVH				S	Sn	18 23 19.2	+0.7
KOK	Koryaka	3.35	235	eP	Pn	18 22 42.0	+1.3
KOK				eS	Sn	18 23 18.3	-1.0
KOK	Koryaka	3.35	235	PN	Pn	18 22 42.0	+1.3
KOK				S	Sn	18 23 18.3	-1.0
GNL	Ganaly	3.47	244	eP	Pn	18 22 43.7	+1.4
GNL	Ganaly	3.47	244	PN	Pn	18 22 43.7	+1.4
DALK	Dalny	3.47	231	eP	Pn	18 22 43.0	+0.8
DALK				eS	Sn	18 23 21.1	-0.9
DALK	Dalny	3.47	231	PN	Pn	18 22 43.0	+0.8
DALK				S	Sn	18 23 21.1	-0.9
PET	Petropavlovsk	3.52	231	ePn	Pn	18 22 43.5	+0.6
PET	Petropavlovsk	3.52	231	eP	Pn	18 22 43.8	+0.9
PET	Petropavlovsk	3.52	231	ePN	Pn	18 22 43.8	+0.9
PET				eS	Sn	18 23 23.5	+0.3
PET				pmax	pmax		
comp=Z,800nm,0.5s							
PET				pmax	pmax		
comp=Z,878nm,0.4s							
PET				smax	smax		
comp=N,3μm,0.6s							
PET				smax	smax		
comp=E,2μm,0.5s							
PET				MLR	MLR		
comp=Z,1μm,17.0s							
PET				MLR	MLR		
comp=Z,1μm,18.0s							
KRMR	Karymshinskiy	3.89	232	eP	Pn	18 22 49.7	+1.8
KRMR				eS	Sn	18 23 33.1	+0.9
KRMR	Karymshinskiy	3.89	232	PN	Pn	18 22 49.7	+1.8
KRMR				S	Sn	18 23 33.1	+0.9
PEA1	Petropavlovsk-	3.91	238	ePn	Pn	18 22 49.5	+1.2
PEA1				eSn	Sn	18 23 36.6	+3.8
PEA0B	Petropavlovsk-	3.91	238	ePn	Pn	18 22 49.5	+1.3
PETK	Petropavlovsk-	3.91	238	Pn	Pn	18 22 49.5	+1.2
comp=Z,42nm,0.3s,baz=71,slow=17,SNR=184							
PETK				Sn	Sn	18 23 36.6	+3.7
comp=Z,84nm,0.3s,baz=278,slow=21,SNR=14							
OSSR	Ossora	3.94	359	eP	Pn	18 22 48.3	-0.4
OSSR	Ossora	3.94	359	PN	Pn	18 22 48.3	-0.4
RUS	Russkaya	4.00	226	eP	Pn	18 22 49.8	+0.3
RUS	Russkaya	4.00	226	PN	Pn	18 22 49.8	+0.3
GRL	Gorelyy	4.10	230	eP	Pn	18 22 52.6	+1.6
GRL				eS	Sn	18 23 38.9	+1.2
GRL	Gorelyy	4.10	230	PN	Pn	18 22 52.6	+1.6
GRL				S	Sn	18 23 38.9	+1.2
MTVR	Mutnovka	4.10	228	eP	Pn	18 22 52.7	+1.7
MTVR				eS	Sn	18 23 36.7	-1.1
MTVR	Mutnovka	4.10	228	PN	Pn	18 22 52.7	+1.7
MTVR				S	Sn	18 23 36.7	-1.1
PALN	Palana	4.17	336	eP	Pn	18 22 51.2	-0.6
PALN	Palana	4.17	336	PN	Pn	18 22 51.2	-0.6
ASAK	Asacha	4.30	229	eP	Pn	18 22 55.5	+1.9
ASAK				eS	Sn	18 23 44.4	+1.9
ASAK	Asacha	4.30	229	PN	Pn	18 22 55.5	+1.9
ASAK				S	Sn	18 23 44.4	+1.9
KDTR	Khodutka, Kamc	4.65	223	eP	Pn	18 22 58.4	0.0
KDTR				eS	Sn	18 23 47.8	-3.3
KDTR	Khodutka, Kamc	4.65	223	PN	Pn	18 22 58.4	0.0
TILK	Tilichiki	5.38	16	eP	Pn	18 23 09.5	+1.2
TILK				eS	Sn	18 24 08.2	-0.6
TILK	Tilichiki	5.38	16	PN	Pn	18 23 09.5	+1.2
TILK				S	Sn	18 24 08.2	-0.6
PAU	Pauzhetka	5.43	227	eP	Pn	18 23 10.7	+1.7
PAU	Pauzhetka	5.43	227	PN	Pn	18 23 10.7	+1.7
SKR	Severo-Kuril's	6.31	226	eP	Pn	18 23 21.4	+0.3
SKR				eS	Sn	18 24 29.2	-2.5
SKR	Severo-Kuril's	6.31	226	ePN	Pn	18 23 22.2	+1.1
SKR				pmax	pmax		
comp=Z,139nm,0.4s							
SKR				MLR	MLR		
comp=Z,300nm,19.0s							
SKR				MLR	MLR		
comp=Z,600nm,19.0s							
KMSK	Kamenskaya	7.34	11	eP	Pn	18 23 36.2	+1.0
KMSK				eS	Sn	18 24 55.2	-1.7
KMSK	Kamenskaya	7.34	11	PN	Pn	18 23 36.2	+1.0
MA2	Magadan	7.94	308	ePn	Pn	18 23 41.6	-1.9
MA2	Magadan	7.94	308	c iPN	Pn	18 23 45.6	+2.2
MA2				pmax	pmax		
comp=Z,19nm,0.8s							
MA2	Magadan	7.94	308	Pn	Pn	18 23 44.6	+1.2
comp=Z,2.3nm,0.3s,baz=112,slow=10,SNR=44							
MA2				LR	LR	18 27 09.0	
comp=Z,326nm,20.3s,baz=114,slow=42							
SEY	Seynchan	9.43	328	Pn	Pn	18 24 04.3	+0.5
comp=Z,0.1nm,0.3s,baz=150,slow=6.2,SNR=4.7							
BILL	Bilibino	12.85	5	ePn	Pn	18 24 51.0	+0.6
BILL	Bilibino	12.85	5	ePN	Pn	18 24 53.2	+2.8
BILL				pmax	pmax		
comp=Z,77nm,1.3s							
BILL				MLR	MLR		
comp=Z,403nm,21.0s							
YSS	Yuzh-Sakhalins	15.27	245	ePn	Pn	18 25 23.7	+0.8
comp=Z,48nm,0.6s							
YSS	Yuzh-Sakhalins	15.27	245	eP	Pn	18 25 24.8	+1.9
YSS				eS	Sn	18 28 03.1	-7.7
YSS				pmax	pmax		
comp=Z,60nm,0.5s							
YSS				MLR	MLR		
comp=Z,200nm,19.0s							
YSS				MLR	MLR		
comp=E,200nm,17.0s							
GRNR	Gornyy	16.68	265	eP	P	18 25 45.0	+2.5
GRNR				pmax	pmax		
comp=Z,65nm,1.0s							
ASAJ	Asahikawa	17.33	238	P	Pn	18 25 48.1	-0.8
comp=Z,9.4nm,0.3s,baz=58,slow=8.2,SNR=38							
ANM	Nome	18.07	47	ePn	Pn	18 25 58.4	+0.6
comp=Z,36nm,1.6s							
ANM	Nome	18.07	47	eP	Pn	18 25 58.4	+0.6
ANM				pmax	pmax		
comp=Z,36nm,1.6s							
YAK	Yakutsk	18.50	305	P	P	18 26 00.7	-1.8
comp=Z,0.0nm,0.3s,baz=297,slow=0.8,SNR=35							
TEY	Ternei	19.77	250	‖eP	P	18 26 15.1	-1.4
TEY				pmax	pmax		
comp=Z,30nm,1.1s							
TEY				pmax	pmax		
comp=E,20nm,0.9s							
KLR	Kul'dur	20.06	265	‖eP	P	18 26 19.3	-0.3
KLR				pmax	pmax		
comp=Z,18nm,1.6s							
KLR	Kul'dur	20.06	265	P	P	18 26 17.6	-2.1
comp=Z,0.5nm,0.3s,baz=71,slow=9.4,SNR=13							
TIXI	Tiksi	21.91	331	eP	P	18 26 38.8	-0.4
comp=Z,13nm,0.8s							
TIXI	Tiksi	21.91	331	‖eP	P	18 26 38.9	-0.4
TIXI				pmax	pmax		
comp=Z,8.0nm,0.7s							
TIXI	Tiksi	21.91	331	P	P	18 26 38.5	-0.7
comp=Z,6.9nm,0.5s,baz=116,slow=13,SNR=58							
USRK	Ussuriysk Ar.	22.82	254	P	P	18 26 47.5	-1.7
comp=Z,2.1nm,0.4s,baz=56,slow=9.3,SNR=15							
USRK				LR	LR	18 36 04.2	
comp=Z,268nm,21.4s,baz=42,slow=38							
RSO	Redoubt South	23.61	59	eP	P	18 26 57.0	-0.1
CAST	Castle Rocks	23.72	52	eP	P	18 26 58.6	+0.7
comp=Z,74nm,1.7s							
KDAK	Kodiak Island	24.18	66	eP	P	18 27 01.7	-0.3
comp=Z,18nm,0.8s							
KDAK	Kodiak Island	24.18	66	eP	P	18 27 01.7	-0.3
KDAK				pmax	pmax		
comp=Z,18nm,0.8s							
BPAW	Bear Paw Mtn.	24.20	50	eP	P	18 27 03.0	+0.7
comp=Z,17nm,0.7s							
MLY	Manley	24.32	48	eP	P	18 27 03.9	+0.5
comp=Z,9.7nm,0.7s							
MLY				ePcP	PcP	18 30 43.0	+1.4
SUA	Susitna One	24.47	57	eP	P	18 27 04.4	-0.5
comp=Z,35nm,0.8s							
SUA				ePcP	PcP	18 30 43.0	+0.9
CNPM	China Poot	24.51	61	eP	P	18 27 04.9	-0.3
comp=Z,30nm,0.7s							
BRLK	Bradley Lake	24.64	61	eP	P	18 27 05.8	-0.5
comp=Z,16nm,0.7s							
COLD	Coldfoot	24.68	43	eP	P	18 27 07.3	+0.7
comp=Z,38nm,1.3s							
BWN	Browne	24.87	50	eP	P	18 27 09.6	+1.3
comp=Z,59nm,1.0s							
TOLK	Toolik Lake Re	25.09	39	eP	P	18 27 10.7	+0.4
comp=Z,79nm,0.7s							
MCK	McKinley	25.12	51	eP	P	18 27 11.2	+0.6
comp=Z,43nm,1.4s							
MCK	McKinley	25.12	51	eP	P	18 27 11.2	+0.6
MCK				pmax	pmax		
comp=Z,43nm,1.4s							
SEW	Seward	25.30	60	eP	P	18 27 11.5	-0.6
comp=Z,19nm,0.6s							
GHO	Glory Hole Cre	25.30	56	eP	P	18 27 12.6	+0.3
comp=Z,11nm,0.7s							
MJB9	Matsu-Tunnel	25.35	233	eP	P	18 27 13.2	+0.3
comp=Z,79nm,0.7s							
MAJO	Matsushiro	25.35	233	eP	P	18 27 13.2	+0.3
comp=Z,78nm,0.7s							
MAJO	Matsushiro	25.35	233	c iP	P	18 27 13.2	+0.3
MAJO				pmax	pmax		
comp=Z,82nm,0.7s							
MAT	Matsushiro	25.35	233	P	P	18 27 13.1	+0.2
MJAR	Matsushiro Arr	25.35	233	P	P	18 27 13.6	+0.6
comp=Z,47nm,0.7s,baz=17,slow=8.1,SNR=88							
MJAR				LR	LR	18 38 41.0	
comp=Z,103nm,21.4s,baz=65,slow=40							
WRH	Wood River Hil	25.46	49	eP	P	18 27 13.8	+0.2
comp=Z,43nm,0.8s							
COLA	College	25.55	48	eP	P	18 27 15.3	+0.9
comp=Z,22nm,0.8s							
COLA	College	25.55	48	d iP	P	18 27 14.6	+0.2
COLA				pmax	pmax		
comp=Z,19nm,0.8s							
KNK	Knik Glacier	25.57	56	eP	P	18 27 14.5	-0.2
comp=Z,27nm,1.1s							
SML	Sawmill	25.57	55	eP	P	18 27 14.7	0.0
comp=Z,24nm,0.8s							
SML	Sawmill	25.57	55	eP	P	18 27 14.7	0.0
SML				pmax	pmax		
comp=Z,24nm,0.8s							
CCB	Clear Creek Bu	25.57	49	eP	P	18 27 14.9	+0.2
comp=Z,53nm,1.3s							
DHY	Denali Highway	25.87	52	eP	P	18 27 17.4	-0.2
comp=Z,55nm,1.5s							
HDA	Harding Lake	25.95	49	eP	P	18 27 17.8	-0.4
comp=Z,18nm,0.7s							
ILAR	Eielson Array	25.96	49	P	P	18 27 18.2	0.0
comp=Z,18nm,0.8s,baz=266,slow=8.6,SNR=185							
ILAR				LR	LR	18 37 43.3	
comp=Z,134nm,20.4s,baz=280,slow=37							
ILB	Eielson Array	25.96	49	eP	P	18 27 18.2	0.0
comp=Z,21nm,0.8s							
SCM	Sheep Creek Mo	26.04	55	eP	P	18 27 19.3	+0.3
comp=Z,37nm,0.8s							
SCM	Sheep Creek Mo	26.04	55	eP	P	18 27 19.3	+0.3
SCM				pmax	pmax		
comp=Z,37nm,0.8s							
GLI	Glacier Island	26.30	57	eP	P	18 27 21.2	-0.1
comp=Z,9.4nm,0.6s							
PRP	Porcupine Dome	26.51	47	eP	P	18 27 23.9	+0.7
comp=Z,39nm,0.8s							
FYU	Fort Yukon	26.60	44	eP	P	18 27 25.0	+1.1
comp=Z,41nm,0.7s							
BOD	Bodaibo	26.74	296	‖c iP	P	18 27 22.2	-3.0
BOD				pmax	pmax		
comp=Z,6.0nm,0.7s							
PAX	Paxson	26.74	52	eP	P	18 27 25.4	0.0
comp=Z,7.4nm,1.0s							
PAX	Paxson	26.74	52	eP	P	18 27 25.4	0.0
PAX				pmax	pmax		
comp=Z,7.0nm,1.0s							
INU	Inuyama	26.88	233	eP	P	18 27 26.9	+0.2
comp=Z,22nm,0.9s							
DIV	Divide	26.89	57	eP	P	18 27 28.1	+1.4
RIDG	Independent Ri	26.93	51	eP	P	18 27 26.2	-0.8
comp=Z,16nm,0.8s							
DOT	Dot Lake	27.29	51	eP	P	18 27 29.5	-0.7
comp=Z,10nm,0.7s							
MENT	Mentasta	27.54	52	eP	P	18 27 33.0	+0.5
comp=Z,6.0nm,0.7s							
HMT	Hamilton	27.78	58	eP	P	18 27 34.4	-0.2
comp=Z,15nm,0.8s							
BALM	Baldy	28.54	56	eP	P	18 27 41.7	+0.2
comp=Z,6.4nm,1.1s							
BALM	Baldy	28.54	56	eP	P	18 27 41.7	+0.2
BALM				pmax	pmax		
comp=Z,6.0nm,1.1s							
DAWY	Dawson	29.27	49	eP	P	18 27 47.5	-0.3
comp=Z,7.5nm,0.6s							
KSRS	Korea Array	29.74	248	P	P	18 27 51.1	-1.0
comp=Z,4.5nm,0.7s,baz=37,slow=9.0,SNR=20							
KSRS				PcP	PcP	18 30 56.5	+1.7
comp=Z,1.4nm,0.8s,baz=38,slow=2.2,SNR=5.9							
KSRS				LR	LR	18 39 35.2	
comp=Z,127nm,21.1s,baz=80,slow=36							
KS15	Wonju Array Si	29.77	248	eP	P	18 27 49.8	-2.7
comp=Z,91nm,1.9s							
PCA	Pinnacle	29.78	57	eP	P	18 27 53.7	+1.3
comp=Z,23nm,0.6s							
EPYK	Eagle Plains	30.02	44	eP	P	18 27 55.5	+1.0
comp=Z,16nm,0.8s							
TJN	Taejon	30.85	247	‖eP	P	18 28 00.5	-1.4
INK	Inuvik	30.99	40	eP	P	18 28 03.7	+0.8
comp=Z,13nm,0.8s							
INK	Inuvik	30.99	40	eP	P	18 28 03.7	+0.8
INK				pmax	pmax		
comp=Z,13nm,0.8s							
INK	Inuvik	30.99	40	P	P	18 28 03.9	+1.1
comp=Z,14nm,0.6s,baz=286,slow=6.8,SNR=76							
JNU	Nakatsue	31.61	239	eP	P	18 28 08.9	+0.2
comp=Z,18nm,1.1s							
JNU	Nakatsue	31.61	239	P

comp=Z,110nm,19.6s
XAN LR LR
ZAA1 Zalesovo Array 43.12 302 *e*P **P 18 29 45.3 -0.4**
ZAA1 *e*PcP **PcP 18 31 34.6 0.0**
ZALV Zalesovo Beam 43.12 302 P **P 18 29 45.3 -0.4**
comp=Z,1.5nm,0.5s,baz=48,slow=8.3,SNR=6.6
ZALV PcP **PcP 18 31 34.6 0.0**
comp=Z,0.8nm,0.4s,baz=64,slow=3.4,SNR=3.9
ZALV LR LR 18 49 51.3
comp=Z,52nm,18.2s,baz=68,slow=39
NVS Novosibirsk 43.37 304 *i* P **P 18 29 47.0 -0.7**
GTA Gaotai 44.17 276 *e*P **P 18 29 52.5 -2.1**
GTA PcP **PcP 18 31 39.5 +0.9**
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,61nm,6.1s
GTA LR LR
comp=Z,110nm,16.5s
GTA LR LR
comp=Z,80nm,17.2s
GTA LR LR
comp=Z,140nm,17.9s
DGZ Jazzator, Alta 44.33 296*c i*P **P 18 29 54.2 -1.5**
DGZ pmax pmax
comp=Z,7.0nm,0.7s
ENH Enshi 45.23 259 *e*P **P 18 30 00.6 -2.3**
comp=Z,7.6nm,0.8s
B08A Colville Reser 46.05 65 *e*P **P 18 30 11.1 +1.8**
comp=Z,5.4nm,0.9s
NEW Newport 47.25 64 LR LR 18 48 35.2
comp=Z,70nm,20.9s,baz=276,slow=34
KURK Kurchatov 48.11 302 *e*P **P 18 30 22.6 -2.5**
comp=Z,17nm,0.6s
KURK Kurchatov 48.11 302*c i*P **P 18 30 22.7 -2.5**
KURK pmax pmax
comp=Z,23nm,1.0s
WALA Waterton Lakes 48.35 61 *e*P **P 18 30 28.4 +1.1**
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 48.60 74 LR LR 18 48 21.9
comp=Z,48nm,20.8s,baz=342,slow=33
MK31 Makanchi Array 48.83 296 *e*P **P 18 30 28.1 -2.7**
comp=Z,3.9nm,0.8s
MK31 Makanchi Array 48.83 296 *e*P **P 18 30 28.1 -2.7**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK32 Makanchi Array 48.83 296 *e*P **P 18 30 28.7 -2.1**
MKAR Makanchi Array 48.83 296 P **P 18 30 28.7 -2.1**
comp=Z,1.7nm,0.3s,baz=57,slow=6.4,SNR=46
MKAR LR LR 18 52 30.0
comp=Z,89nm,18.8s,baz=55,slow=38
MAKZ Makanchi 48.98 296 *e*P **P 18 30 29.4 -2.6**
comp=Z,6.7nm,0.9s
MAKZ Makanchi 48.98 296 *e*P **P 18 30 29.4 -2.6**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
FFC Flin Flon 50.17 49 *i* P **P 18 30 43.2 +2.3**
BRVK Borovoye 50.45 309⇓*i*P **P 18 30 41.2 -1.8**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 51.73 342 P **P 18 30 51.9 -0.5**
comp=Z,1.1nm,0.5s,baz=30,slow=11,SNR=5.2
ARCES PcP **PcP 18 32 05.0 -0.1**
comp=Z,2.1nm,0.6s,baz=28,slow=5.5,SNR=7.8
WAKR Walker 52.64 74 *e*P **P 18 31 03.7 +3.9**
comp=Z,4.2nm,0.9s
ARU Arti 52.98 318*c i*P **P 18 31 00.0 -1.8**
ARU S **S 18 38 23.5 -3.9**
ARU pmax pmax
comp=Z,7.0nm,1.8s
ARU MLR MLR
comp=Z,116nm,19.0s
NV01 Mina Array Sit 53.32 74 *e*P **P 18 31 07.3 +2.4**
NVAR Mina Array Bea 53.32 74 P **P 18 31 07.3 +2.4**
comp=Z,0.7nm,0.6s,baz=300,slow=7.2,SNR=4.5
NVAR LR LR 18 51 55.4
comp=Z,57nm,18.6s,baz=342,slow=34
RLMT Red Lodge 53.35 62 *e*P **P 18 31 07.3 +2.3**
comp=Z,4.4nm,0.8s
TMCR Tamitsa 53.61 334 *e*P **P 18 31 05.6 -0.6**
TMCR pmax pmax
comp=Z,8.0nm,1.0s
KDJ Kajisay 54.69 295 *e*P **P 18 31 13.3 -1.5**
comp=Z,12nm,1.3s
KDJ Kajisay 54.69 295 *e*P **P 18 31 13.3 -1.5**
KDJ pmax pmax
comp=Z,12nm,1.3s
FRB Frobisher Bay 54.73 25 LR LR 18 58 52.2
comp=Z,43nm,18.2s,baz=298,slow=41
PD31 Pinedale Array 54.88 64 *e*P **P 18 31 16.1 -0.1**
comp=Z,3.3nm,0.8s
PDAR Pinedale Array 54.88 64 P **P 18 31 17.8 +1.7**
comp=Z,1.1nm,0.7s,baz=342,slow=2.0,SNR=11
PDAR LR LR 18 55 47.8
comp=Z,33nm,18.0s,baz=352,slow=37
TKM2 Tokmak 2 54.95 296 P **P 18 31 15.3 -1.3**
SNR=5.8
DUG Dugway, Tooele 55.02 68 *e*P **P 18 31 19.3 +2.2**
comp=Z,4.7nm,1.2s
DUG Dugway, Tooele 55.02 68 *e*P **P 18 31 19.3 +2.2**
DUG pmax pmax
comp=Z,5.0nm,1.2s
USP Ospenovka 55.26 297 P **P 18 31 17.8 -0.9**
SNR=7.5
CHMS Chumysh 55.32 297 P **P 18 31 17.7 -1.4**
SNR=5.1
SLVN Son La 55.32 257 *e*P **P 18 31 19.0 -0.4**
comp=Z,6.9nm,0.9s
SFJD Kangerlussuaq 55.40 15 LR LR 18 56 58.2
comp=Z,39nm,19.4s,baz=336,slow=38
KBK Karagaybulak 55.47 296 P **P 18 31 18.5 -1.8**
SNR=6.2
PSUT Pine Spring 55.66 70 *e*P **P 18 31 24.2 +2.4**
comp=Z,3.6nm,0.9s
AAK Ala-Archa 55.71 297 P **P 18 31 21.1 -0.9**
SNR=7.5
AAK Ala-Archa 55.71 297 *e*P **P 18 31 20.8 -1.2**
comp=Z,8.9nm,0.8s
AAK Ala-Archa 55.71 297⇓*e*P **P 18 31 20.3 -1.8**
AAK pmax pmax
comp=Z,19nm,1.7s
KZA Kyzart 55.73 296 P **P 18 31 21.5 -1.0**
SNR=5.1
NRN Naryn 55.81 295 *e*P **P 18 31 21.6 -1.4**
comp=Z,3.4nm,1.0s
NRN Naryn 55.81 295 *e*P **P 18 31 21.6 -1.4**
NRN pmax pmax
comp=Z,3.0nm,1.0s
KLMR Klimovskoe 55.92 331 *e*P **P 18 31 21.1 -2.0**
KLMR pmax pmax
comp=Z,4.0nm,0.8s
ULM Lac du Bonnet 55.98 50 P **P 18 31 24.3 +0.7**
comp=Z,1.2nm,0.4s,baz=319,slow=12,SNR=2.5
EKS2 Erkin-Say 56.06 297 P **P 18 31 23.7 -0.8**
SNR=14
LSA Lhasa 56.09 274 *e*P **P 18 31 23.9 -1.5**
comp=Z,8.4nm,0.6s
LSA Lhasa 56.09 274 *e*P **P 18 31 23.9 -1.5**
LSA pmax pmax
comp=Z,8.0nm,0.6s
AML Almayashu 56.49 297 P **P 18 31 27.1 -0.8**
SNR=6.0
SRU San Rafael Swe 57.02 68 *e*P **P 18 31 33.3 +1.8**
comp=Z,7.7nm,0.8s
KSH Kashi 57.22 293 P **P 18 31 35.5 +2.7**
KSH S **S 18 39 21.0 -3.7**
KSH pmax pmax
comp=Z,30nm,1.2s
KSH pmax pmax
comp=Z,120nm,6.4s
KSH LR LR
comp=Z,120nm,8.3s
KSH LR LR
comp=Z,110nm,7.6s
KSH LR LR
comp=Z,180nm,7.7s
KK31 Karatay Array 57.38 300 *e*P **P 18 31 32.0 -1.7**
comp=Z,10nm,0.6s
KK31 Karatay Array 57.38 300 *e*P **P 18 31 31.9 -1.8**
KK31 pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 57.38 300 *e*P **P 18 31 32.0 -1.7**
comp=Z,10nm,0.6s
KKAR Karatay Array 57.38 300 *e*P **P 18 31 32.0 -1.7**
KKAR pmax pmax
comp=Z,10.0nm,0.6s

ARSB Arslanbob 57.44 297 *e*P **P 18 31 33.0 -1.3**
comp=Z,4.1nm,0.6s
O20A White River Ci 57.47 65 *e*P **P 18 31 36.8 +2.2**
comp=Z,6.5nm,0.8s
AB31 Akbulak array 57.72 311 *i* P **P 18 31 34.5 -1.5**
AB31 pmax pmax
comp=Z,2.0nm,0.6s
N23A Red Feather La 58.09 63 *e*P **P 18 31 40.9 +1.9**
comp=Z,44nm,0.6s
PV22 Blue Mesa, Par 58.36 67 *e*P **P 18 31 42.6 +1.7**
comp=Z,3.6nm,0.6s
PV04 Paradox Valley 58.40 67 *e*P **P 18 31 42.6 +1.4**
comp=Z,9.5nm,1.3s
PV03 Paradox Valley 58.54 67 *e*P **P 18 31 44.1 +2.0**
comp=Z,5.4nm,0.9s
PV13 Radium Mtn., P 58.62 67 *e*P **P 18 31 42.7 -0.1**
comp=Z,7.1nm,0.7s
FIA0 FINESS Array S 58.78 338 *e*P **P 18 31 42.6 -0.5**
FIA0 FINESS Array S 58.78 338 *e*P **P 18 31 42.6 -0.5**
FINES FINESS Array B 58.78 338 *i* P **P 18 31 42.5 -0.7**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 58.78 338 P **P 18 31 42.6 -0.5**
comp=Z,1.6nm,0.4s,baz=52,slow=6.9,SNR=17
FINES LR LR 18 59 31.8
comp=Z,52nm,21.6s,baz=38,slow=39
PAYA Payao 59.16 259 P **P 18 31 46.8 +0.4**
comp=Z,25μm,0.6s,comp=Z,292μm
BTK Batken 59.48 297 *e*P **P 18 31 46.9 -1.6**
comp=Z,11nm,0.6s
BTK Batken 59.48 297 *e*P **P 18 31 46.9 -1.6**
BTK pmax pmax
comp=Z,11nm,0.6s
EYMN Ely 59.61 49 *e*P **P 18 31 49.7 +0.5**
comp=Z,3.9nm,0.7s
PHRA Phrae 59.65 258 P **P 18 31 50.0 +0.3**
comp=Z,1.8nm,0.6s
KHON Khomkaen 59.95 255 P **P 18 31 55.4 +3.6**
comp=Z,27μm,0.7s
LAMP Lampang 59.96 259 P **P 18 31 52.2 +0.3**
comp=Z,29μm,0.6s,comp=Z,315μm
S22A 4UR Ranch, Cre 59.98 66 *e*P **P 18 31 54.4 +2.2**
comp=Z,3.7nm,0.8s
UTTA Uttaradit 60.07 258 P **P 18 31 53.2 +0.6**
comp=Z,26μm,0.6s,comp=Z,202μm
CMMT Chiang Mai 60.11 260 P **P 18 31 52.9 -0.1**
comp=Z,4.2nm,0.7s
CHTO Chiang Mai 60.12 260 *e*P **P 18 31 52.5 -0.5**
comp=Z,5.5nm,0.6s
CHTO Chiang Mai 60.12 260 *e*P **P 18 31 52.5 -0.5**
CHTO pmax pmax
comp=Z,6.0nm,0.6s
ODAN Odare 60.40 275 *e*P **P 18 31 54.0 -1.1**
comp=Z,32nm,0.6s
CM31 Chiang Mai Arr 60.40 259 *e*P **P 18 31 54.9 0.0**
comp=Z,5.7nm,0.7s
CMAR Chiang Mai Arr 60.40 259 P **P 18 31 54.9 -0.1**
comp=Z,4.0nm,0.7s,baz=26,slow=6.5,SNR=37
CMAR PcP **PcP 18 32 40.4 +0.9**
comp=Z,2.9nm,0.6s,baz=10,slow=3.4,SNR=9.6
CMAR LR LR 19 01 28.1
comp=Z,117nm,18.7s,baz=64,slow=40
JIRN Jiri 60.47 277 *e*P **P 18 31 54.6 -1.1**
comp=Z,41nm,0.4s
CHAI Chaiyaphum 60.77 255 P **P 18 31 57.8 +0.4**
comp=Z,28μm,0.8s,comp=Z,360μm
RAMN Ramite 60.78 276 *e*P **P 18 31 56.3 -1.4**
comp=Z,109nm,0.4s
PBKT Sadao Pong 60.79 256 P **P 18 31 58.1 +0.6**
comp=Z,5.9nm,1.6s
KKN Kakani 60.88 277 *e*P **P 18 31 57.4 -1.0**
comp=Z,93nm,0.4s
PKI Pulchoki 60.98 277 *e*P **P 18 31 58.0 -1.2**
PKIN Phulchoki 60.98 277 *e*P **P 18 31 58.0 -1.1**
comp=Z,60nm,0.5s
GKN Gorkha 61.08 278 *e*P **P 18 31 58.7 -1.0**
comp=Z,54nm,0.3s
DMN Daman 61.12 277 *e*P **P 18 31 59.2 -0.9**
comp=Z,37nm,0.5s
VSU Vasula 61.30 336⇑*e*P **P 18 32 00.2 -0.2**
VSU pmax pmax
comp=Z,41nm,1.7s
DANN Dangsing 61.31 279 *e*P **P 18 32 00.6 -0.8**
comp=Z,187nm,0.7s
OBN Obninsk 61.60 328 *e*P **P 18 32 00.0 -2.5**
OBN *e* 18 32 41.4
OBN *e* 18 34 18.0
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,63nm,20.0s
NC204 NORSAR Array S 61.73 345 *e*P **P 18 32 02.8 -0.6**
comp=Z,13nm,0.9s
KOLN Koldanda 61.85 279 *e*P **P 18 32 03.9 -1.0**
comp=Z,79nm,0.5s
NB201 NORSAR Array S 61.87 345 *e*P **P 18 32 03.8 -0.5**
comp=Z,80nm,1.9s
NB2 NORSAR Subarra 61.89 345 P **P 18 32 03.8 -0.7**
comp=Z,1.9nm,0.5s,baz=18,slow=6.9
NB200 NORSAR Array S 61.89 345 *e*P **P 18 32 04.0 -0.4**
NOA NORSAR Array B 61.89 345 P **P 18 32 04.0 -0.4**
comp=Z,3.5nm,0.6s,baz=18,slow=6.9,SNR=21
NOA LR LR 19 00 31.3
comp=Z,32nm,19.2s,baz=20,slow=38
PYUN Piuthan 61.94 279 *e*P **P 18 32 04.5 -1.0**
UMPA Umpang Tak 62.26 258 P **P 18 32 09.5 +2.0**
comp=Z,32μm,0.7s,comp=Z,899μm
SCHQ Schefferville 62.82 30 *e*P **P 18 32 11.0 +0.2**
comp=Z,33nm,1.8s
SCHQ Schefferville 62.82 30 P **P 18 32 11.0 +0.2**
comp=Z,4.2nm,0.6s,baz=304,slow=7.3,SNR=3.8
SCHQ LR LR 19 01 11.7
comp=Z,56nm,21.1s,baz=290,slow=38
NIL Nilore 63.06 291 *e*P **P 18 32 10.7 -2.0**
comp=Z,29nm,1.0s
NIL Nilore 63.06 291 *e*P **P 18 32 10.7 -2.0**
NIL pmax pmax
comp=Z,29nm,1.0s
VSR Storozhevoye 64.10 325⇓*e*P **P 18 32 18.6 -0.6**
VSR pmax pmax
comp=Z,6.0nm,0.5s
PHET Kaeng Krachan 64.51 255 P **P 18 32 23.4 +1.0**
comp=Z,83μm,0.8s,comp=Z,742μm
KBL Kabul 64.60 294 *e*P **P 18 32 20.1 -2.9**
comp=Z,13nm,0.8s
KBL Kabul 64.60 294 *e*P **P 18 32 20.1 -2.9**
KBL pmax pmax
comp=Z,13nm,0.8s
SBUM Sibu 66.77 238 *e*P **P 18 32 38.5 +1.6**
comp=Z,9.6nm,0.8s
GEYT Alibeck 67.38 304 P **P 18 32 40.2 -0.4**
comp=Z,5.2nm,0.6s,baz=48,slow=2.2,SNR=12
GYA0B ALIBECK ARRAY 67.38 304 *e*P **P 18 32 39.0 -1.6**
comp=Z,8.1nm,0.6s
AKASG Malin Array Be 67.61 330 *i* P **P 18 32 40.7 -1.1**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 67.61 330 P **P 18 32 40.8 -1.0**
comp=Z,4.4nm,0.5s,baz=28,slow=6.6,SNR=15
AKASG LR LR 19 06 35.8
comp=Z,103nm,18.8s,baz=345,slow=40
AKBB Malin Array Si 67.61 330 *e*P **P 18 32 40.7 -1.1**
comp=Z,4.1nm,0.6s
AKBB Malin Array Si 67.61 330 *e*P **P 18 32 40.7 -1.1**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 67.62 330*c i*P **P 18 32 40.7 -1.2**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
LTX Lajitas 68.12 70 *e*P **P 18 32 47.4 +1.9**
LTX Lajitas 68.12 70 *e*P **P 18 32 47.4 +1.9**
TXAR Lajitas Array 68.13 70 P **P 18 32 47.3 +1.8**
comp=Z,0.9nm,0.6s,baz=297,slow=4.8,SNR=20
KSM Kuching 68.55 239 *e*P **P 18 32 49.7 +1.6**
comp=Z,20nm,0.8s
KIV Kislovodsk 69.02 318 *e*P **P 18 32 50.0 -0.9**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,87nm,17.0s
NCK Nalchik 69.06 317⇑*e*P **P 18 32 50.5 -0.6**
NCK pmax pmax
comp=Z,3.0nm,0.2s
KBZ Khabaz 69.14 318 P **P 18 32 51.4 -0.1**
comp=Z,6.0nm,0.9s,baz=76,slow=4.9,SNR=14
KBZ LR LR 19 08 22.4
comp=Z,93nm,18.3s,baz=30,slow=41

ZEI Tsey 69.54 317 *e*P **P 18 32 52.6 -1.7**
ZEI pmax pmax
comp=Z,6.0nm,0.8s
ANN Anapa 70.22 322 *e*P P 18 32 48.8 -9.3
ANN *e**PP pP 18 33 10.9 +0.1
ANN *e* 18 35 28.4
ANN pmax pmax
comp=Z,16nm,1.1s
KULM Kulim 70.27 250 *e*P **P 18 32 58.6 -0.2**
comp=Z,12nm,0.6s
KWP Kalwaria Pacla 70.33 334 *e*P **P 18 32 59.2 +0.5**
comp=Z,270nm,0.5s
KWP Kalwaria Pacla 70.33 334 *e*P **P 18 32 59.2 +0.5**
KWP pmax pmax
comp=Z,270nm,0.5s
IPM Ipoh 70.75 249 *e*P **P 18 33 01.6 -0.1**
comp=Z,11nm,0.5s
CLL Collm 70.89 341 *e*P **P 18 33 01.7 -0.4**
comp=Z,7.6nm,1.2s
CLL Collm 70.89 341 *i* P **P 18 33 01.6 -0.4**
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 70.89 341 *i* P **P 18 33 01.6 -0.4**
comp=Z,7.0nm,1.2s
CLL LmV 19 07 00.0
comp=Z,100nm,18.8s
UPC Upice 71.05 339 *e*P **P 18 33 04.0 +0.9**
UPC Upice 71.05 339 *e*P **P 18 33 04.0 +0.9**
KOLS Kolonicke sedl 71.08 334 *e*P **P 18 33 04.0 +0.7**
KOLS Kolonicke sedl 71.08 334 *e*P **P 18 33 04.0 +0.7**
BRG Berggiesshubel 71.12 340 *e*P **P 18 33 01.4 -2.0**
comp=Z,2.4nm,0.7s
BRG Berggiesshubel 71.12 340 *e*P **P 18 33 01.5 -2.0**
BRG pmax pmax
comp=Z,2.0nm,0.7s
DPC Dobruska-Polom 71.13 338 *e*P **P 18 33 04.2 +0.6**
DPC Dobruska-Polom 71.13 338 *e*P **P 18 33 04.2 +0.6**
UZH Uzhgorod 71.36 334 *e*P **P 18 33 05.2 +0.3**
UZH *e* 18 33 26.1
GNI Garni 71.44 315⇓*e*P **P 18 33 06.8 +1.0**
GNI pmax pmax
comp=Z,42nm,1.3s
BUR08 Bucovina Ar. S 71.50 331 *e*P **P 18 33 05.9 -0.1**
comp=Z,2.8nm,0.9s
BURAR Bucovina Array 71.52 331⇓*i*P **P 18 33 05.7 -0.4**
BURAR Bucovina Array 71.52 331⇓P **P 18 33 05.7 -0.4**
LANS Liptovska Anna 71.56 336 *e*P **P 18 33 07.6 +1.4**
LANS Liptovska Anna 71.56 336 *e*P **P 18 33 07.6 +1.4**
LEOM Leova 71.70 329⇑*i*P P 18 33 21.4 +14
SEVA Sevastopol 71.74 324⇑*i*P P 18 33 25.6 +18
PRU Pruhonice 71.84 339 *e*P **P 18 33 08.5 +0.6**
PRU Pruhonice 71.84 339 *e*P **P 18 33 08.5 +0.6**
VRAC Vranov 72.06 338⇑*i*P **P 18 33 10.6 +1.4**
VRAC Vranov 72.06 338⇑P **P 18 33 10.6 +1.4**
TESR Tescani 72.13 330⇑*i*P **P 18 33 09.3 -0.4**
TREC Trest 72.31 338 *e*P **P 18 33 10.9 +0.2**
TREC Trest 72.31 338 *e*P **P 18 33 10.9 +0.2**
VYHS Vyhne 72.32 336 *e*P **P 18 33 11.3 +0.5**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 72.32 336 *e*P **P 18 33 11.3 +0.5**
PSZ Piszkesteto 72.61 335⇑*i*P P 18 33 22.1 +10
ODBI Odobesti 72.70 329⇓*i*P P 18 33 23.5 +11
VRI Vrincioaia 72.70 330⇓*i*P **P 18 33 16.1 +3.0**
VRI Vrincioaia 72.70 330⇓P **P 18 33 16.1 +3.0**
KHC Kasperske Hory 72.85 340 *e*P **P 18 33 13.3 -0.7**
KHC Kasperske Hory 72.85 340 *e*P **P 18 33 13.3 -0.7**
KHC *e*x x 18 33 22.9
MTN Manton Dam 73.07 213 *e*P **P 18 33 16.6 +1.1**
comp=Z,45nm,1.3s
GEC2 GERESS Array S 73.10 339 *e*P **P 18 33 14.8 -0.7**
comp=Z,13nm,1.7s
GEC2 GERESS Array S 73.10 339 *e*P **P 18 33 14.8 -0.7**
GEC2 pmax pmax
comp=Z,13nm,1.7s
GERES GERESS Array B 73.10 339 P **P 18 33 15.4 -0.1**
comp=Z,1.7nm,0.7s,baz=34,slow=5.0,SNR=14
GERES LR LR 19 10 52.5
comp=Z,65nm,18.5s,baz=63,slow=40
MLR Muntele Rosu 73.26 330 *e*P **P 18 33 17.2 +0.6**
comp=Z,4.9nm,0.8s
MLR Muntele Rosu 73.26 330⇓*i*P **P 18 33 17.5 +0.9**
MLR Muntele Rosu 73.26 330⇓P **P 18 33 17.5 +0.9**
VOIR 73.57 331⇑*i*P **P 18 33 19.2 +0.9**
VOIR 73.57 331⇑P **P 18 33 19.2 +0.9**
ARR Arges 73.75 331⇑*i*P **P 18 33 20.0 +0.7**
LEHL Lehliu 73.94 329⇓*i*P **P 18 33 21.8 +1.5**
KBA Koelnbreinsper 74.86 339 *i* P **P 18 33 27.4 +1.5**
comp=Z,8.3nm,1.0s
RETA Reutte 74.97 341 *i* P **P 18 33 27.4 +1.0**
comp=Z,2.1nm,0.6s
WTTA Wattenberg 75.02 340 *i* P **P 18 33 27.9 +1.1**
comp=Z,8.6nm,1.0s
MOTA Moosalm 75.04 341 *i* P **P 18 33 27.9 +1.0**
comp=Z,5.3nm,0.7s
SQTA Sankt Quirin 75.14 341 *i* P **P 18 33 28.6 +1.1**
comp=Z,7.7nm,0.7s
OBKA Obir 75.15 338 *i* P **P 18 33 28.6 +1.1**
comp=Z,8.3nm,1.2s
GSI Gunungsitoli 75.26 250 *e*P **P 18 33 28.2 -0.1**
comp=Z,15nm,0.7s
ABTA Abfaltersbach 75.34 340 *i* P **P 18 33 29.5 +0.9**
comp=Z,6.5nm,1.0s
FETA Feichten 75.43 341 *i* P **P 18 33 30.3 +1.1**
comp=Z,6.1nm,0.9s
BR101 Keskin Array S 76.02 322 *e*P **P 18 33 32.2 -0.4**
BR131 Keskin Array S 76.02 322 *e*P **P 18 33 32.1 -0.4**
comp=Z,2.2nm,0.6s
BRTR Keskin Array B 76.02 322 P **P 18 33 32.2 -0.4**
comp=Z,2.1nm,0.7s,baz=64,slow=3.2,SNR=13
BRTR LR LR 19 13 10.1
comp=Z,34nm,18.2s,baz=44,slow=41
WRAB Tennant Creek 78.87 208⇑*e*P **P 18 33 49.0 +0.6**
WRAB pmax pmax
comp=Z,13nm,1.2s
WR1 Warramunga Arr 78.88 208 *e*P **P 18 33 48.5 0.0**
WRA Warramunga Arr 78.88 208 P **P 18 33 48.5 0.0**
comp=Z,107nm,0.3s,baz=29,slow=5.7,SNR=1.5
AS31 Alice Springs 82.55 207 *e*P **P 18 34 09.4 +1.4**
comp=Z,2.7nm,1.3s
ASAR Alice Springs 82.55 207 P **P 18 34 09.3 +1.3**
comp=Z,4.3nm,0.7s,baz=15,slow=4.6,SNR=63
ESDC Sonseca Array 84.74 350 P **P 18 34 20.3 +1.0**
comp=Z,3.8nm,0.9s,baz=3.2,slow=4.6,SNR=9.6
KEST Kesra 86.58 339 LR LR 19 17 21.5
comp=Z,48nm,19.2s,baz=292,slow=39
STKA Stephens Creek 88.80 198 P **P 18 34 40.2 +1.4**
comp=Z,0.5nm,0.4s,baz=6.6,slow=17,SNR=2.5
STKA LR LR 19 10 48.7
comp=Z,16nm,21.5s,baz=26,slow=33
PLCA Paso Flores 142.21 90 PKP **PKPdf 18 41 17.9 +1.0**
comp=Z,3.7nm,1.0s,baz=267,slow=3.8,SNR=3.5
MAW Mawson 142.86 219 PKP **PKPdf 18 41 17.4 +0.4**
comp=Z,1.6nm,0.7s,baz=210,slow=16,SNR=3.4
QSPA South Pole Qui 145.07 180 *e*PKPbc **PKPbc 18 41 20.5 -0.1**

SAR 29 18:32:05.8±0.8, 43°.05N×19°.12E, h3km, ML1.1/3,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.22**	**314**	*e*Pg	Pg	18 32 10.2	+0.1
UPM				*e*Sg	Sg	18 32 12.9	-0.1
BRY	**Bratogost**	**0.45**	**251**	*e*Pg	Pg	18 32 14.2	-0.3
BRY				*e*Sg	Sg	18 32 20.2	-0.2
PDG	**Podgorica**	**0.63**	**171**	*e*Sg	Sg	18 32 25.8	-0.1
TREB	**Trebinje**	**0.66**	**240**	*e*Pg	Pg	18 32 17.8	-0.6
TREB				*e*Sg	Sg	18 32 27.4	+0.5
HCY	**Herceg Novi**	**0.76**	**218**	*e*Sg	Sg	18 32 30.0	-0.2
STON	**Ston**	**1.06**	**261**	*e*Pg	Pn	18 32 27.8	+0.3
STON				Sg	Sb	18 32 41.0	0.0
STON	**Ston**	**1.06**	**261**	*e*Sg	Sg	18 32 39.4	-0.4

*CRAAG **29** 18:39:33.7, 36°.08N×1°.89E, Ml3.3*
*LDG **29** 18:39:35.8±0.5, 36°.15N×1°.88E, h30km, Ml3.0/6, Error ellipse: s-maj=10.9km s-min=4.8km az=157.0*
*ISCJB **29** 18:39:36.3±0.6, 36°.17N±0°.04×1°.82E±0°.04, h35km, Error ellipse: s-maj=5.9km s-min=4.2km az=153.3*
*MDD **29** 18:39:36.6±0.7, 36°.11N×1°.84E, h12km±10km, mb4.1/11, Error ellipse: s-maj=11.2km s-min=5.7km az=163.0, PRXIMO*

ISC 29 18:39:36.1±1.4, 36°18N±0°06×1°90E±0°04, h35km, n42, σ3°47/66, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.32**	**292**	P	**Pn**	**18 39 42.0**	**-2.3**
ECHA	**Ech Chlef**	**0.43**	**267**	P	**Pn**	**18 39 44.0**	**-1.7**
ECHF	**Ech Chlef**	**0.45**	**268**	P	**Pn**	**18 39 44.0**	**-2.0**
EANR	**'Ain N'Sour**	**0.68**	**251**	P	**Pn**	**18 39 48.0**	**-1.3**
EANR	**'Ain N'Sour**	**0.68**	**251**	P	**Pn**	**18 39 48.0**	**-1.3**
EMHD	**Djebel Mahouad**	**0.86**	**88**	P	**Pn**	**18 39 52.9**	**+1.1**
EMHD	**Djebel Mahouad**	**0.86**	**88**	P	**Pn**	**18 39 52.9**	**+1.1**
ETRT	**Tiaret**	**0.92**	**212**	P	**Pn**	**18 39 52.0**	**-0.6**
ETRT	**Tiaret**	**0.92**	**212**	P	**Pn**	**18 39 52.0**	**-0.6**
EIBI	**Ibiza**	**2.88**	**351**	P	**Pn**	**18 40 22.0**	**+2.5**
	7.3nm,0.2s,SNR=52						
EIBI				S	**Sn**	**18 40 53.8**	**+0.9**
	24nm,0.2s,SNR=6.6						
EBEN2	**Beniarda presa**	**3.00**	**327**	P	**Pn**	**18 40 23.8**	**+2.7**
	1.0nm,0.0s,SNR=4.0						
EBEN2				S	**Sn**	**18 40 57.2**	**+1.4**
	6.1nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.01**	**304**	P	**Pn**	**18 40 22.2**	**+0.9**
	1.7nm,0.2s,SNR=5.6						
EMUR				S	**Sn**	**18 40 55.9**	**-0.3**
	1.0nm,0.2s,SNR=4.0						
ENIJ	**Nijar**	**3.40**	**285**	S	**Sn**	**18 41 05.2**	**-0.5**
	19nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.66**	**11**	P	**Pn**	**18 40 31.3**	**+1.1**
	0.2nm,0.1s,SNR=12						
ETOS				S	**Sn**	**18 41 12.2**	**0.0**
	0.8nm,0.1s,SNR=8.4						
ETOB	**Tobarra**	**3.69**	**313**	P	**Pn**	**18 40 33.1**	**+2.5**
	3.1nm,0.2s,SNR=15						
ETOB				S	**Sn**	**18 41 15.1**	**+2.2**
	0.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.92**	**282**	P	**Pn**	**18 40 34.9**	**+1.0**
	1.2nm,0.1s,SNR=18						
EBER				S	**Sn**	**18 41 19.0**	**+0.2**
	1.3nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.04**	**300**	P	**Pn**	**18 40 38.5**	**+2.8**
	4.8nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**18 41 24.2**	**+2.4**
	5.2nm,0.2s,SNR=7.9						
ECHE	**Chera**	**4.09**	**327**	P	**Pn**	**18 40 39.0**	**+2.8**
	0.3nm,0.1s,SNR=4.0						
EQES	**Quesada**	**4.29**	**294**	P	**Pn**	**18 40 41.9**	**+2.9**
	2.3nm,0.1s,SNR=9.1						
EQES				S	**Sn**	**18 41 30.2**	**+2.3**
	2.3nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**4.41**	**285**	P	**Pn**	**18 40 42.2**	**+1.7**
	3.7nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**4.50**	**280**	P	**Pn**	**18 40 42.9**	**+1.1**
	0.5nm,0.1s,SNR=4.0						
ELGU				S	**Sn**	**18 41 32.9**	**-0.1**
	1.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.58**	**337**	P	**Pn**	**18 40 46.0**	**+3.0**
	15nm,0.1s,SNR=142						
EMOS				S	**Sn**	**18 41 35.2**	**+0.2**
	0.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.21**	**353**	P	**Pn**	**18 40 53.8**	**+2.3**
	0.2nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**5.39**	**276**	P	**Pn**	**18 40 53.6**	**-0.5**
	0.5nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**18 41 51.1**	**-3.8**
	0.5nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**5.59**	**4**	P	**Pn**	**18 40 59.3**	**+2.5**
	0.7nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**5.74**	**357**	P	**Pn**	**18 41 02.1**	**+3.3**
	2.2nm,0.2s,SNR=7.9						
EMIR				S	**Sn**	**18 42 04.5**	**+1.1**
	3.7nm,0.4s,SNR=7.9						
PAB	**San Pablo**	**5.98**	**306**	P	**Pn**	**18 41 03.6**	**+1.5**
	0.2nm,0.1s,SNR=7.9						
CSOR	**Sort**	**6.22**	**355**	P	**Pn**	**18 41 08.5**	**+3.0**
	1.6nm,0.3s,SNR=7.9						
EPF	**Esparros**	**6.95**	**351**	*e*P	**Pn**	**18 41 18.6**	**+3.2**
EPF				*e*Sn	**Sn**	**18 42 27.6**	**-5.7**
	1.8nm,0.3s						
EPF	**Esparros**	**6.95**	**351**	P	**Pn**	**18 41 18.6**	**+3.2**
EPF				S	**Sn**	**18 42 27.6**	**-5.7**
	0.9nm,0.3s						
ETSF	**Etsaut**	**6.98**	**345**	*e*P	**Pn**	**18 41 18.9**	**+3.1**
ETSF				*e*Sn	**Sn**	**18 42 28.4**	**-5.5**
	0.7nm,0.2s						
ETSF	**Etsaut**	**6.98**	**345**	P	**Pn**	**18 41 18.9**	**+3.1**
ETSF				S	**Sn**	**18 42 28.4**	**-5.5**
	0.3nm,0.2s						
SJPF	**Ste Jean**	**7.33**	**342**	*e*P	**Pn**	**18 41 24.9**	**+4.2**
SJPF				*e*Sn	**Sn**	**18 42 36.5**	**-6.2**
	2.4nm,0.3s						
SJPF	**Ste Jean**	**7.33**	**342**	P	**Pn**	**18 41 24.9**	**+4.2**
SJPF				S	**Sn**	**18 42 36.5**	**-6.2**
	1.2nm,0.3s						
LMR	**La Mourre**	**7.98**	**25**	*e*P	**Pn**	**18 41 32.3**	**+2.8**
LMR				*e*Sn	**Sn**	**18 42 52.7**	**-5.8**
	0.6nm,0.2s						
LMR	**La Mourre**	**7.98**	**25**	P	**Pn**	**18 41 32.3**	**+2.8**
LMR				S	**Sn**	**18 42 52.7**	**-5.8**
	0.3nm,0.2s						
FRF	**La Foret Royal**	**8.23**	**25**	*e*P	**Pn**	**18 41 36.4**	**+3.5**
FRF				*e*Sn	**Sn**	**18 42 58.2**	**-6.4**
	1.2nm,0.2s						
FRF	**La Foret Royal**	**8.23**	**25**	P	**Pn**	**18 41 36.4**	**+3.5**
FRF				S	**Sn**	**18 42 58.2**	**-6.4**
	0.6nm,0.2s						
SMRF	**Simiane la Rot**	**8.29**	**19**	*e*P	**Pn**	**18 41 37.9**	**+4.2**
SMRF				*e*Sn	**Sn**	**18 42 59.7**	**-6.4**
	1.5nm,0.4s						
SMRF	**Simiane la Rot**	**8.29**	**19**	P	**Pn**	**18 41 37.9**	**+4.2**
SMRF				S	**Sn**	**18 42 59.7**	**-6.4**
	1.5nm,0.4s						
LPG	**La Plagne**	**10.01**	**20**	*e*P	**Pn**	**18 42 01.2**	**+3.6**
LPG	**La Plagne**	**10.01**	**20**	P	**Pn**	**18 42 01.2**	**+3.6**

*ISCJB **29** 18:48:59.9±0.3, 36°49N±0°03×51°76E±0°04, h7km, Error ellipse: s-maj=5.8km s-min=2.6km az=146.3*
*TEH **29** 18:49:00.0, 36°50N×51°85E, h8km, ML3.5*
*AZER **29** 18:49:05.5±0.5, 36°43N×51°29E, h13km±17km, ml3.9/22, Error ellipse: s-maj=18.0km s-min=4.2km az=144.0*

ISC 29 18:49:00.6±0.9, 36°39N±0°04×51°77E±0°03, h7km, n58, σ1°77/90, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IALA	**Alasht**	**0.90**	**110**	*e*Pg	**Pg**	**18 49 16.9**	**-0.9**
QALM	**Alamut, Qazvin**	**0.91**	**273**	*e*Pg	**Pb**	**18 49 19.3**	**+0.4**
QALM				*e*Sg	**Sn**	**18 49 33.6**	**+0.1**
QALM				IAMB	IAmb	18 49 36.3	
	comp=Z,0.0nm,0.6s						
IFIR	**Firoozkooh**	**1.09**	**133**	*e*Pg	**Pb**	**18 49 22.1**	**+0.1**
IMHD	**Mahdasht**	**1.14**	**232**	*e*Pg	**Pg**	**18 49 24.7**	**+2.2**
IGZV	**Ghazvin**	**1.25**	**270**	*e*Pg	**Pb**	**18 49 25.1**	**+0.4**
ISHM	**Shahmirzad**	**1.36**	**115**	*e*Pg	**Pg**	**18 49 26.1**	**-0.7**
IVRN	**Varamin**	**1.39**	**181**	*e*Pg	**Pb**	**18 49 28.5**	**+1.5**
IVRN				IAMB	IAmb	18 49 51.6	
	comp=Z,0.0nm,0.4s						
ILAS	**Lasjerd**	**1.40**	**136**	*e*Pg	**Pg**	**18 49 27.8**	**+0.4**
ILAS				IAMB	IAmb	18 49 49.5	
	comp=Z,0.0nm,0.4s						
IKIA	**Kiasar**	**1.56**	**96**	*e*Pg	**Pg**	**18 49 28.8**	**-1.7**
IRAZ	**Razeghan**	**1.79**	**237**	*e*Pn	**Pb**	**18 49 35.4**	**+1.5**
QABG	**Abgarm-Qazvin**	**1.90**	**250**	*e*Pn	**Pb**	**18 49 36.4**	**+0.6**
QABG				IAMB	IAmb	18 50 06.2	
	comp=Z,0.0nm,0.4s						
IANJ	**Anjilo**	**1.97**	**117**	*e*Pn	**Pn**	**18 49 33.8**	**-0.8**
IANJ				IAMB	IAmb	18 50 14.2	
	comp=Z,0.0nm,0.6s						
IKLH	**Kolahrood**	**3.07**	**183**	*e*Pn	**Pn**	**18 49 53.2**	**+3.4**
IKLH				IAMB	IAmb	18 50 40.6	
	comp=Z,0.0nm,0.4s						
ASTR	**Astara**	**3.21**	**313**	*e*Pn	**Pn**	**18 49 51.2**	**-0.2**
ASTR	**Astara**	**3.21**	**313**	P	**Pn**	**18 49 51.3**	**-0.2**
	SNR=9.1						
ASTR				S	**Sn**	**18 50 27.8**	**-2.2**
LKRN	**Lenkeran, Azer**	**3.32**	**315**	*e*Pn	**Pn**	**18 49 52.8**	**-0.1**
LKRN	**Lenkeran, Azer**	**3.32**	**315**	P	**Pn**	**18 49 52.8**	**-0.1**
	SNR=5.9						
LKRN				S	**Sn**	**18 50 30.0**	**-2.6**
IZEF	**Zefreh**	**3.52**	**172**	*e*Pn	**Pn**	**18 49 58.7**	**+2.7**
IZEF				IAMB	IAmb	18 50 54.3	
	comp=Z,0.0nm,0.6s						
LRK	**Lerik**	**3.53**	**311**	*e*Pn	**Pn**	**18 49 55.8**	**-0.3**
LRK	**Lerik**	**3.53**	**311**	P	**Pn**	**18 49 55.8**	**-0.3**
	SNR=14						
LRK				S	**Sn**	**18 50 35.0**	**-3.3**
GLBA	**Clilabad**	**3.91**	**318**	*e*Pn	**Pn**	**18 50 00.9**	**-0.1**
GLBA	**Clilabad**	**3.91**	**318**	P	**Pn**	**18 50 01.0**	**-0.1**
	SNR=13						
GLBA				S	**Sn**	**18 50 44.5**	**-2.6**
ALIB	**Äli-Bayra**	**4.17**	**329**	*e*Pn	**Pn**	**18 50 05.9**	**+1.2**
ALIB	**Äli-Bayra**	**4.17**	**329**	P	**Pn**	**18 50 06.0**	**+1.2**
ALIB				S	**Sn**	**18 50 53.1**	**-0.6**
GALA	**Gala**	**4.21**	**343**	*e*Pn	**Pn**	**18 50 07.6**	**+2.5**
GALA	**Gala**	**4.21**	**343**	P	**Pn**	**18 50 07.6**	**+2.5**
GALA				S	**Sn**	**18 50 56.8**	**+2.3**
GOBA	**Gobu**	**4.31**	**339**	*e*Pn	**Pn**	**18 50 08.7**	**+2.1**
GOBA	**Gobu**	**4.31**	**339**	P	**Pn**	**18 50 08.8**	**+2.1**
GOBA				S	**Sn**	**18 50 58.8**	**+1.6**
SAAT	**Saatly**	**4.35**	**324**	*e*Pn	**Pn**	**18 50 09.0**	**+1.9**
SAAT	**Saatly**	**4.35**	**324**	P	**Pn**	**18 50 09.1**	**+1.9**
SAAT				S	**Sn**	**18 50 59.5**	**+1.4**
NDR	**Nardaran**	**4.41**	**342**	*e*Pn	**Pn**	**18 50 10.2**	**+2.3**
NDR	**Nardaran**	**4.41**	**342**	P	**Pn**	**18 50 10.3**	**+2.3**
NDR				S	**Sn**	**18 51 01.3**	**+1.8**
IRAM	**Ramesheh**	**4.60**	**174**	*e*Pn	**Pn**	**18 50 14.6**	**+3.8**
GBS	**Qobustan**	**4.69**	**333**	P	**Pn**	**18 50 13.3**	**+1.3**
	SNR=5.0						
GBS				S	**Sn**	**18 51 06.6**	**-0.1**
SBZV	**Sabzevar**	**4.71**	**88**	*e*Pn	**Pn**	**18 50 13.5**	**+1.2**
KDMR	**Kurdemir**	**4.87**	**326**	P	**Pn**	**18 50 15.2**	**+0.9**
KDMR				S	**Sn**	**18 51 10.0**	**-1.0**
ATGJ	**Altiaghaj**	**4.98**	**334**	P	**Pn**	**18 50 17.2**	**+1.2**
	SNR=5.7						
ATGJ				S	**Sn**	**18 51 13.9**	**0.0**
ZRD	**Zardab**	**5.04**	**322**	P	**Pn**	**18 50 17.0**	**+0.4**
ZRD				S	**Sn**	**18 51 13.3**	**-1.7**
PQL	**Pirkuli**	**5.05**	**331**	P	**Pn**	**18 50 17.5**	**+0.6**
	SNR=19						
PQL				S	**Sn**	**18 51 14.9**	**-0.6**
SIZA	**Siyzn**	**5.19**	**335**	P	**Pn**	**18 50 20.0**	**+1.3**
SIZA				S	**Sn**	**18 51 19.0**	**+0.1**
IML	**Ismayilli**	**5.22**	**328**	P	**Pn**	**18 50 20.0**	**+0.9**
IML				S	**Sn**	**18 51 18.1**	**-1.5**
ORD	**Ordubad**	**5.24**	**301**	*e*Pn	**Pn**	**18 50 18.2**	**-1.2**
ORD	**Ordubad**	**5.24**	**301**	P	**Pn**	**18 50 18.3**	**-1.2**
ORD				S	**Sn**	**18 51 15.7**	**-4.3**
BRDA	**Brd**	**5.29**	**318**	P	**Pn**	**18 50 20.1**	**+0.1**
BRDA				S	**Sn**	**18 51 19.0**	**-2.2**
QBL	**Gabala**	**5.49**	**327**	P	**Pn**	**18 50 23.5**	**+0.7**
QBL				S	**Sn**	**18 51 24.7**	**-1.5**
XNQ	**Khinaliq**	**5.55**	**330**	P	**Pn**	**18 50 24.0**	**+0.1**
	SNR=3.4						
XNQ				S	**Sn**	**18 51 27.7**	**-0.3**
QUBA	**Quba, Azerbaij**	**5.58**	**334**	P	**Pn**	**18 50 24.9**	**+0.9**
QUBA				S	**Sn**	**18 51 28.5**	**+0.2**
NAX	**Nakhchivan**	**5.69**	**301**	*e*Pn	**Pn**	**18 50 24.3**	**-1.4**
NAX	**Nakhchivan**	**5.69**	**301**	P	**Pn**	**18 50 24.3**	**-1.4**
NAX				S	**Sn**	**18 51 27.5**	**-3.8**
MNGR	**Mingechevir, A**	**5.71**	**321**	P	**Pn**	**18 50 25.9**	**+0.1**
MNGR				S	**Sn**	**18 51 29.9**	**-1.7**
SBZ	**Shahbuz**	**5.76**	**303**	P	**Pn**	**18 50 25.3**	**-1.3**
SBZ				S	**Sn**	**18 51 28.9**	**-4.2**
QSAR	**Qusar**	**5.80**	**333**	P	**Pn**	**18 50 28.0**	**+0.9**
QSAR				S	**Sn**	**18 51 33.2**	**-0.7**
SEKA	**Sheki**	**5.99**	**325**	P	**Pn**	**18 50 29.4**	**-0.3**
	SNR=11						
SEKA				S	**Sn**	**18 51 35.8**	**-2.9**
GANJ	**Ganja**	**6.02**	**316**	P	**Pn**	**18 50 30.2**	**+0.1**
	SNR=5.1						
GANJ				S	**Sn**	**18 51 36.9**	**-2.5**
HYR	**Heyderabad**	**6.39**	**303**	P	**Pn**	**18 50 34.4**	**-0.8**
HYR				S	**Sn**	**18 51 44.0**	**-4.5**
GDB	**GEDABAY**	**6.39**	**314**	P	**Pn**	**18 50 36.1**	**+0.7**
	SNR=7.5						
GDB				S	**Sn**	**18 51 46.0**	**-2.8**
ZKTA	**Zakatala**	**6.59**	**324**	P	**Pn**	**18 50 39.0**	**+1.0**
	SNR=4.0						
ZKTA				S	**Sn**	**18 51 52.0**	**-1.5**
QZX	**Qazax, Azerbai**	**6.83**	**315**	P	**Pn**	**18 50 42.2**	**+0.9**
QZX				S	**Sn**	**18 51 56.7**	**-2.6**

*IDC **29** 18:55:08.2±1.2, 33°69N×141°61E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/32, mbtmp3.5/5, ML2.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/34, Error ellipse: s-maj=23.2km s-min=20.7km az=90.0*
*ISCJB **29** 18:55:11.9±0.8, 33°75N±0°05×141°57E±0°07, h41km, mb4.1/5, MS2.7/1, Error ellipse: s-maj=8.6km s-min=7.3km az=163.8*
*JMA **29** 18:55:12.9±0.3, 33°80N×141°43E, h40km, M3.2*

ISC 29 18:55:14.0±1.1, 33°74N±0°06×141°50E±0°10, h41km, n18, σ0°88/22, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.01**	**335**	P	**Pn**	**18 55 29.8**	**-1.4**
BSO3	**Boso 3**	**1.34**	**323**	P	**Pn**	**18 55 34.7**	**-1.2**
JHJ2	**Mitsune**	**1.54**	**247**	P	**Pn**	**18 55 38.5**	**-0.4**
JHJ	**Hachijo jima 2**	**1.56**	**247**	Pn	**Pn**	**18 55 38.5**	**-0.8**
	124nm,0.3s,baz=119,slow=1.6,SNR=30						
JHJ				Sn	**Sn**	**18 55 59.1**	**+0.9**
	60nm,0.3s,baz=270,slow=20,SNR=6.7						
JHCJ	**Hachijojimakas**	**1.57**	**245**	P	**Pn**	**18 55 38.8**	**-0.5**
BSO4	**Boso 4**	**1.57**	**323**	P	**Pn**	**18 55 39.1**	**-0.2**
JMKN	**Mikurajimanish**	**1.59**	**276**	P	**Pn**	**18 55 38.8**	**-0.9**
JMKN				*e*S	**Sn**	**18 55 58.6**	**-0.5**
JIM2	**Oshima 3**	**1.97**	**300**	P	**Pn**	**18 55 43.1**	**-1.8**
JIZS	**Izushimoda**	**2.38**	**295**	P	**Pn**	**18 55 49.7**	**-0.8**
JIZS				*e*S	**Sn**	**18 56 18.3**	**-0.1**
JOD2	**Odawara 2**	**2.50**	**308**	P	**Pn**	**18 55 51.3**	**-0.9**
MJAR	**Matsushiro Arr**	**3.88**	**317**	Pn	**Pn**	**18 56 11.4**	**+0.2**
	0.4nm,0.3s,baz=163,slow=14,SNR=19						
MJAR				Sn	**Sn**	**18 56 56.5**	**+1.0**
	0.3nm,0.3s,baz=275,slow=29,SNR=6.2						
MAT	**Matsushiro**	**3.89**	**317**	P	**Pn**	**18 56 12.3**	**+1.1**
MAT				S	**Sn**	**18 56 55.9**	**+0.3**
MA2	**Magadan**	**26.57**	**11**	LR	LR	19 12 04.1	
	comp=Z,22nm,18.1s,baz=152,slow=38						
SONM	**Songino Array**	**29.79**	**309**	P	**P**	**19 01 17.9**	**+0.9**
	0.4nm,0.5s,baz=104,slow=6.1,SNR=4.3						
MKAR	**Makanchi Array**	**45.99**	**305**	P	**P**	**19 03 33.2**	**0.0**
	0.6nm,0.6s,baz=86,slow=9.5,SNR=6.7						
ILAR	**Eielson Array**	**52.26**	**31**	P	**P**	**19 04 20.6**	**-0.1**
	0.5nm,0.7s,baz=271,slow=5.5,SNR=7.2						
WRA	**Warramunga Arr**	**53.81**	**188**	P	**P**	**19 04 32.0**	**-0.7**
	122nm,0.3s,baz=352,slow=6.8,SNR=1.5						
ASAR	**Alice Springs**	**57.54**	**188**	P	**P**	**19 04 59.7**	**+0.3**
	0.3nm,0.7s,baz=2.0,slow=6.5,SNR=4.2						

IDC 29 19:07:11.9±2.5, 9°93N×126°24E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/29, mbtmp3.4/3, Error ellipse: s-maj=104.1km s-min=27.9km az=58.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.75**	**291**	P	P	19 13 02.7	0.0
	0.3nm,0.8s,baz=104,slow=9.5,SNR=3.2						
ASAR	**Alice Springs**	**34.22**	**167**	P	P	19 13 59.6	-0.1
	0.5nm,1.0s,baz=342,slow=8.8,SNR=4.1						
MKAR	**Makanchi Array**	**52.27**	**323**	P	P	19 16 25.1	-0.1
	0.5nm,0.7s,baz=126,slow=7.8,SNR=5.9						

IDC 29 19:20:27.6±3.6, 19°93S×175°92W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.6/29, mbtmp3.9/2, Error ellipse: s-maj=179.4km s-min=56.1km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.55**	**256**	P	P	19 28 57.8	+0.3
	1.5nm,0.6s,baz=88,slow=7.9,SNR=29						
ASAR				PcP	PcP	19 30 29.5	-2.3
	0.3nm,0.7s,baz=112,slow=3.3,SNR=4.7						
WRA	**Warramunga Arr**	**46.62**	**261**	P	P	19 28 57.8	-0.2
	131nm,0.3s,baz=93,slow=8.3,SNR=2.3						
CMAR	**Chiang Mai Arr**	**91.77**	**289**	P	P	19 33 37.7	-0.2
	0.3nm,0.5s,baz=101,slow=3.8,SNR=3.3						
AKASG	**Malin Array Be**	**143.42**	**333**	PKP	PKPdf	19 40 03.4	-0.6
	1.1nm,0.5s,baz=38,slow=3.7,SNR=5.9						
BRTR	**Keskin Array B**	**147.87**	**314**	PKPbc	PKPbc	19 40 16.0	+0.8
	0.4nm,0.4s,baz=34,slow=4.6,SNR=2.5						

*ISCJB **29** 19:22:19.6±0.6, 13°8N±0°1×145°1E±0°2, h125km, mb3.9/10, Error ellipse: s-maj=22.4km s-min=15.3km az=0.6*
*IDC **29** 19:22:20.1±0.6, 13°82N×145°12E, h115km±4km, mb3.7/10, mb1 3.8/10, mb1mx3.5/37, mbtmp4.0/10, Error ellipse: s-maj=23.1km s-min=15.7km az=81.0*

ISC 29 19:22:21.0±0.6, 13°8N±0°1×145°1E±0°2, h125km, n25, σ1°07/20, mb3.8/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.29**	**220**	P	**Pn**	**19 22 38.4**	**-0.1**
	3μm,0.3s,baz=77,slow=0.4,SNR=2387						
GUMO				S	**Sn**	**19 22 50.6**	**-1.1**
	540nm,0.3s,baz=344,slow=21,SNR=40						
H11S3	**WAKE ISLAND Hy 21.29**	**74**		T	T	19 49 08.3	
	baz=261,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy 21.30**	**74**		T	T	19 49 04.9	
	baz=261,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy 21.30**	**75**		T	T	19 48 45.2	
	baz=261,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy 21.70**	**71**		T	T	19 49 50.3	
	baz=257,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy 21.71**	**71**		T	T	19 50 04.0	
	baz=257,slow=75,SNR=8.1						
H11N3	**WAKE ISLAND Hy 21.72**	**71**		T	T	19 50 02.5	
	baz=257,slow=75,SNR=16						
ASAR	**Alice Springs**	**38.81**	**196**	P	**P**	**19 29 33.3**	**-0.6**
	0.6nm,0.5s,baz=18,slow=12,SNR=16						
ASAR				PcP	**PcP**	**19 31 43.5**	**+0.7**
	1.2nm,0.9s,baz=33,slow=2.6,SNR=7.8						
DZM	**Mont Dzumac**	**41.37**	**149**	P	**P**	**19 29 55.8**	**+0.7**
	14nm,0.7s,baz=50,slow=3.1,SNR=7.6						
CMAR	**Chiang Mai Arr**	**44.45**	**282**	P	**P**	**19 30 21.2**	**+1.3**
	0.5nm,0.6s,baz=85,slow=6.6,SNR=6.0						
CMAR				PcP	**PcP**	**19 32 03.0**	**+1.5**
	1.3nm,0.6s,baz=98,slow=1.7,SNR=11						
STKA	**Stephens Creek**	**45.55**	**184**	P	**P**	**19 30 27.2**	**-1.1**
	2.2nm,0.5s,baz=358,slow=9.4,SNR=7.7						
MKAR	**Makanchi Array**	**61.46**	**316**	P	**P**	**19 32 25.1**	**+0.8**
	0.8nm,0.5s,baz=92,slow=7.7,SNR=14						
MKAR				pP	**pwP**	**19 32 55.8**	**-2.2**
	1.4nm,0.7s,baz=93,slow=9.5,SNR=8.7						
ZALV	**Zalesovo Beam**	**61.55**	**324**	pP	pP	19 32 55.5	+1.4
	0.6nm,0.6s,baz=113,slow=11,SNR=2.2						
ILAR	**Eielson Array**	**68.29**	**25**	P	**P**	**19 33 06.8**	**-1.4**
	0.4nm,0.4s,baz=256,slow=5.7,SNR=6.7						
YKA	**Yellowknife Ar**	**82.58**	**27**	P	**P**	**19 34 29.6**	**-0.3**
	0.6nm,0.4s,baz=288,slow=5.2,SNR=6.8						
NVAR	**Mina Array Bea**	**86.64**	**51**	P	**P**	**19 34 52.1**	**+0.9**
	0.5nm,0.5s,baz=267,slow=7.2,SNR=3.9						
ARCES	**ARCESS Array B**	**86.93**	**342**	P	**P**	**19 34 51.9**	**+0.3**
	1.1nm,0.8s,baz=58,slow=8.6,SNR=4.1						
FINES	**FINESS Array B**	**91.04**	**335**	P	**P**	**19 35 09.7**	**-1.3**
	1.3nm,0.9s,baz=58,slow=7.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**134.89**	**305**	PKP	**PKPdf**	**19 41 26.0**	**-0.3**
	0.3nm,0.8s,baz=47,slow=0.7,SNR=4.3						
PLCA	**Paso Flores**	**138.97**	**138**	PKP	**PKPdf**	**19 41 34.2**	**+1.1**
	1.1nm,0.6s,baz=270,slow=6.4,SNR=3.4						
DBIC	**Dimbokro**	**143.86**	**302**	PKP	PKPab	19 41 40.3	+0.5
	2.1nm,0.5s,baz=64,slow=3.2,SNR=11						
KIC	**Kosan Boka**	**143.94**	**302**	*e*PKP1	PKPab	19 41 40.5	+0.3
	110nm,2.1s						
TIC	**Toumodi**	**144.01**	**303**	*e*PKP1	**PKPab**	**19 41 40.6**	**+0.1**
LIC	**Lamto**	**144.25**	**302**	*e*PKP1	**PKPab**	**19 41 41.5**	**+0.1**
	35nm,1.0s						
LPAZ	**La Paz**	**147.88**	**99**	PKPbc	**PKPbc**	**19 41 53.8**	**+0.6**
	1.7nm,0.5s,baz=263,slow=4.8,SNR=7.7						

*UCR **29** 19:25:35.9±1.7, 13°66N×91°07W, h22km±8km, MD3.5, ML3.9*
*SNET **29** 19:25:36.0±1.1, 13°66N×90°98W, h10km±7km, ML3.9*
*MEX **29** 19:25:37.6±0.6, 13°55N×91°48W, h19km±12km, MD3.8*

ISC 29 19:25:33.8±2.3, 13°58N±0°09×91°24W±0°05, h26km±17km, n35, σ0°82/53, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.94**	**24**	*i* P	**Pb**	**19 25 51.5**	**-0.1**
PCG	**Pacaya**	**1.01**	**37**	*e*P	**Pn**	**19 25 52.5**	**0.0**
NBG	**Las Nubes**	**1.32**	**41**	*e*P	**Pb**	**19 25 57.6**	**-0.5**
NBG				*e*S	**Sn**	**19

DBOC			*i* P		**Pb**	**19 41 32.8**	**+0.4**
DBOC			*i* S		**Sb**	**19 41 43.0**	**+0.5**
BCA	**Borcka**	**0.82 341**	PG		**Pg**	**19 41 33.5**	**0.0**
KRIK	**Erzurum-spir**	**0.86 248**	*i* P		**Pg**	**19 41 34.4**	**+0.2**
KRIK			*i* S		**Sb**	**19 41 46.4**	**-0.3**
BATM	**Batumi**	**0.96 347**	P		**Pb**	**19 41 36.2**	**-0.3**
BATM			S		**Sb**	**19 41 49.4**	**0.0**
EPOS	**Posof**	**1.02 34**	*i* P		**Pn**	**19 41 38.1**	**-0.1**
EPOS			*i* S		**Sn**	**19 41 53.5**	**+0.7**
BAYT	**Aydıntepe-Bayb**	**1.42 260**	PN		**Pn**	**19 41 43.6**	**-0.3**

IDC 29 20:00:21.8±11.0, 12°.53N×90°.21E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.2/44, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=237.7km s-min=52.4km az=112.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.28**	**54**	Pn	Pn	20 02 50.1	-0.4
	0.1nm,0.3s,baz=240,slow=17,SNR=3.6						
H08S3	**Diego Garcia H**	**26.67**	**222**	T	T	20 36 00.7	
	baz=44,slow=76,SNR=30						
H08S2	**Diego Garcia H**	**26.68**	**222**	T	T	20 36 03.0	
	baz=44,slow=76,SNR=26						
H08S1	**Diego Carcia H**	**26.69**	**222**	T	T	20 36 02.1	
	baz=44,slow=76,SNR=24						
WRA	**Warramunga Arr**	**54.10**	**126**	P	P	20 09 48.3	-0.5
	1.3nm,1.0s,baz=299,slow=8.5,SNR=4.2						
ASAR	**Alice Springs**	**55.85**	**130**	P	P	20 10 02.1	+0.6
	0.4nm,0.9s,baz=306,slow=7.4,SNR=4.1						

*ISCJB **29** 20:05:35.6±0.4, 43°.83N±0°.04×105°.24W±0°.05, h0km, mb3.9/1, MS2.8/1, Error ellipse: s-maj=5.8km s-min=5.0km az=23.1*
*IDC **29** 20:05:37.6±1.6, 43°.88N×105°.61W, h0km, mb3.9/1, mb1 3.7/5, mb1mx3.4/52, mbtmp3.5/5, ML3.3/4, MS2.9/1, Ms1 2.9/1, ms1mx2.1/46, Error ellipse: s-maj=44.2km s-min=7.7km az=146.0*
*NEIC **29** 20:05:37.2±0.3, 43°.82N×105°.25W, h0km, ML3.5, Error ellipse: s-maj=4.3km s-min=3.6km az=118.0, Suspected Mining explosion.*
NEIC 57 km [35 miles] SSE of Gillette.
ISC 29 20:05:36.5±0.9, 43°.81N±0°.06×105°.23W±0°.07, h0km, n37, σ0s93/37, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**70**	*e*Pg	**Pb**	**20 05 54.9**	**-0.6**
K22A	**Casper**	**1.50**	**220**	*e*Pn	**Pn**	**20 06 02.9**	**-1.9**
PHWY	**Pilot Hill**	**2.51**	**184**	*e*Pn	**Pn**	**20 06 19.4**	**+0.5**
RWWY	**Rawlins**	**2.57**	**215**	*e*Pn	**Pn**	**20 06 20.8**	**+1.1**
LAO	**LASA Array**	**2.96**	**347**	*e*Pn	**Pn**	**20 06 25.8**	**+0.9**
N23A	**Red Feather La**	**2.96**	**190**	*e*Pn	**Pn**	**20 06 25.9**	**+0.8**
RLMT	**Red Lodge**	**3.17**	**296**	*e*Pn	**Pn**	**20 06 28.3**	**+0.4**
PD31	**Pinedale Array**	**3.33**	**253**	*e*Pn	**Pn**	**20 06 30.4**	**+0.3**
PDAR	**Pinedale Array**	**3.33**	**253**	Pn	**Pn**	**20 06 30.4**	**+0.3**
	3.6nm,0.3s,baz=75,slow=16,SNR=46						
PDAR				Lg	Lg	20 07 14.4	
	20nm,0.3s,baz=72,slow=33,SNR=14						
BW06	**Boulder Array**	**3.33**	**253**	*e*Pn	**Pn**	**20 06 30.2**	**+0.2**
OGNE	**Ogallala**	**3.72**	**139**	*e*Pn	**Pn**	**20 06 36.2**	**+0.9**
GCMT	**Greycliff**	**3.73**	**304**	*e*Pn	**Pn**	**20 06 36.2**	**+0.8**
FLWY	**Flagg Ranch**	**3.96**	**276**	*e*Pn	**Pn**	**20 06 39.3**	**+0.6**
MOOW	**Moose Ponds**	**3.99**	**271**	*e*Pn	**Pn**	**20 06 40.1**	**+0.9**
ISCO	**Idaho Springs**	**4.02**	**184**	*e*Pn	**Pn**	**20 06 40.7**	**+1.0**
REDW	**Red Top Meadow**	**4.11**	**266**	*e*Pn	**Pn**	**20 06 40.2**	**-0.6**
IMW	**Indian Meadow**	**4.13**	**273**	*e*Pn	**Pn**	**20 06 40.8**	**-0.3**
YHH	**Holmes Hill**	**4.15**	**286**	*e*Pn	**Pn**	**20 06 42.7**	**+1.3**
FXWY	**Fox Creek**	**4.20**	**270**	*e*Pn	**Pn**	**20 06 43.3**	**+1.2**
O20A	**White River Ci**	**4.30**	**212**	*e*Pn	**Pn**	**20 06 43.9**	**+0.4**
DGMT	**Dagmar**	**4.71**	**8**	*e*Pn	**Pn**	**20 06 50.1**	**+1.1**
EGMT	**Eagleton**	**5.26**	**325**	*e*Pn	**Pn**	**20 06 57.2**	**+0.7**
HRY	**Holter Researc**	**5.49**	**304**	*e*Pn	**Pn**	**20 07 00.3**	**+0.7**
LRM	**Limekiln Ridge**	**5.51**	**294**	*e*Pn	**Pn**	**20 07 01.2**	**+1.1**
SRU	**San Rafael Swe**	**6.15**	**222**	*e*Pn	**Pn**	**20 07 08.8**	**-0.1**
PV11	**David Mesa, Pa**	**6.16**	**208**	*e*Pn	**Pn**	**20 07 08.9**	**0.0**
PV16	**Nyswonger Mesa**	**6.16**	**208**	*e*Pn	**Pn**	**20 07 09.5**	**+0.5**
ECSD	**EROS Data Cent**	**6.24**	**88**	*e*Pn	**Pn**	**20 07 11.2**	**+1.4**
PV13	**Radium Mtn., P**	**6.26**	**207**	*e*Pn	**Pn**	**20 07 11.9**	**+1.5**
ELK	**Elko**	**8.03**	**251**	Pn	**Pn**	**20 07 35.6**	**+1.0**
	0.6nm,0.3s,baz=64,slow=9.6,SNR=7.7						
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**20 07 50.0**	**+1.4**
	0.8nm,0.3s,baz=230,slow=13,SNR=5.2						
ULM				Sn	**Sn**	**20 09 30.0**	**-1.3**
	0.8nm,0.3s,baz=201,slow=13,SNR=4.1						
ULM				Lg	Lg	20 10 19.6	
	0.7nm,0.3s,baz=308,slow=23,SNR=4.9						
FFC	**Flin Flon**	**11.13**	**10**	*e*Pn	**Pn**	**20 08 15.8**	**-0.9**
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**P**	**20 10 04.1**	**-0.8**
	0.1nm,0.3s,baz=154,slow=12,SNR=4.0						
YKB5	**Yellowknife Ar**	**19.50**	**347**	*e*P	**P**	**20 10 04.1**	**-0.8**
INK	**Inuvik**	**28.67**	**338**	LR	LR	20 23 36.3	
	comp=Z,26nm,20.5s,baz=60,slow=38						
MK32	**Makanchi Array**	**89.53**	**355**	*e*P	**P**	**20 18 35.9**	**+0.3**
MKAR	**Makanchi Array**	**89.53**	**355**	P	**P**	**20 18 35.9**	**+0.3**
	0.6nm,0.8s,baz=350,slow=4.1,SNR=5.7						

*NEIC **29** 20:06:55.1±0.0, 50°.41N×176°.97W, h41km, mb3.9/10, ML3.9(AEIC), After AEIC.*
*IDC **29** 20:07:00.1±7.2, 52°.12N×178°.16W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/59, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=152.5km s-min=35.5km az=180.0*
ISC 29 20:06:56.5±1.5, 50°.5N±0°.1×177°.02W±0°.07, h25km, n52, σ0s89/49, mb3.9/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.24**	**354**	*e*Pn	**Pn**	**20 07 18.1**	**-0.2**
KIWB	**Kanaga Island**	**1.33**	**356**	*e*Pn	**Pn**	**20 07 19.0**	**-0.5**
KIKV	**Kanaga Island**	**1.36**	**356**	*e*Pn	**Pn**	**20 07 19.8**	**-0.1**
ADK	**Adak**	**1.37**	**9**	*e*Pn	**Pn**	**20 07 19.2**	**-0.9**
ADK				*e*		20 07 19.4	
KIRH	**Kanaga Island**	**1.37**	**358**	*e*Pn	**Pn**	**20 07 20.2**	**0.0**
TAPA	**Tanaga Point A**	**1.38**	**339**	*e*Pn	**Pn**	**20 07 20.3**	**0.0**
ETKA	**Kagalaska Isla**	**1.39**	**16**	*e*Pn	**Pn**	**20 07 19.7**	**-0.6**
ETKA				*e*Sn	**Sb**	**20 07 38.9**	**-0.2**
KICM	**Kanaga Island**	**1.40**	**355**	*e*Pn	**Pn**	**20 07 20.5**	**+0.1**
KINC	**Kanaga Island**	**1.41**	**357**	*e*Pn	**Pn**	**20 07 20.4**	**-0.1**
KINC				*e*Sn	**Sb**	**20 07 40.7**	**+1.1**
TASE	**Tanaga Southea**	**1.46**	**334**	*e*Pn	**Pn**	**20 07 21.1**	**-0.2**
ADAG	**Mount Adagdak**	**1.48**	**10**	*e*Pn	**Pn**	**20 07 21.7**	**+0.1**
TAFP	**Tanaga Falls P**	**1.50**	**337**	*e*Pn	**Pn**	**20 07 21.6**	**-0.3**
TAFP				*e*Sn	**Sb**	**20 07 42.4**	**0.0**
TANO	**Tanaga North**	**1.55**	**334**	*e*Pn	**Pn**	**20 07 22.6**	**+0.1**
GSTD	**Great Sitkin T**	**1.62**	**19**	*e*Pn	**Pn**	**20 07 23.5**	**-0.1**
GSTD				*e*Sn	**Sb**	**20 07 45.8**	**-0.2**
GSMY	**Great Sitkin M**	**1.63**	**21**	*e*Pn	**Pn**	**20 07 23.5**	**-0.2**
GALAA	**Gareloi Lava P**	**1.66**	**319**	*e*Pn	**Pn**	**20 07 24.1**	**+0.1**
GAEA	**Gareloi East**	**1.66**	**320**	*e*Pn	**Pn**	**20 07 23.9**	**-0.2**
GSTR	**Great Sitkin T**	**1.68**	**21**	*e*Pn	**Pn**	**20 07 24.2**	**-0.2**
ATKA	**Atka Island**	**2.44**	**45**	*e*Pn	**Pn**	**20 07 33.4**	**-1.3**
KOKL	**Mount Kliuchef**	**2.52**	**43**	*e*Pn	**Pn**	**20 07 35.8**	**-0.1**
KOWE	**Korovin West**	**2.53**	**42**	*e*Pn	**Pn**	**20 07 35.9**	**-0.1**
KOFP	**Korovin Flat P**	**2.53**	**45**	*e*Pn	**Pn**	**20 07 35.7**	**-0.3**
NIKH	**Nikolski High**	**5.63**	**61**	*e*Pn	**Pn**	**20 08 17.8**	**-0.7**
OKAK	**Okmok**	**6.15**	**57**	*e*Pn	**Pn**	**20 08 25.4**	**-0.3**
OKWE	**Okmok W'ng Wal**	**6.17**	**58**	*e*Pn	**Pn**	**20 08 26.9**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**6.24**	**59**	*e*Pn	**Pn**	**20 08 27.8**	**+0.8**
MSW	**Makushin Switc**	**7.14**	**58**	*e*Pn	**Pn**	**20 08 39.8**	**+0.5**
AKRB	**Akutan Reef Bi**	**7.62**	**58**	*e*Pn	**Pn**	**20 08 46.7**	**+0.9**
AKMO	**Akutan Morgan**	**7.63**	**58**	*e*Pn	**Pn**	**20 08 47.1**	**+1.1**
ZRO	**Akutan Zero**	**7.65**	**58**	*e*Pn	**Pn**	**20 08 47.2**	**+0.9**
SDPT	**Sand Point**	**11.08**	**58**	*e*Pn	**Pn**	**20 09 31.8**	**-1.4**
BPAW	**Bear Paw Mtn.**	**19.35**	**36**	*e*P	**P**	**20 11 20.4**	**+0.5**
	4.1nm,0.8s						
RND	**Reindeer**	**19.83**	**39**	*e*P	**P**	**20 11 24.6**	**-0.6**
	4.6nm,0.7s						
MLY	**Manley**	**19.96**	**33**	*e*P	**P**	**20 11 27.0**	**+0.5**
	3.4nm,0.7s						
DHY	**Denali Highway**	**20.29**	**40**	*e*P	**P**	**20 11 29.1**	**-1.1**
	4.9nm,0.6s						
SEY	**Seymchan**	**20.63**	**319**	P	P	20 11 21.1	-13
	0.3nm,0.3s,baz=316,slow=7.6,SNR=6.9						
CCB	**Clear Creek Bu**	**20.82**	**36**	*e*P	**P**	**20 11 35.1**	**-0.7**
	3.0nm,0.7s						
HDA	**Harding Lake**	**21.04**	**37**	*e*P	**P**	**20 11 39.7**	**+1.5**
	5.8nm,0.7s						
PAX	**Paxson**	**21.05**	**42**	*e*P	**P**	**20 11 41.2**	**+2.8**
	3.9nm,0.6s						
ILAR	**Eielson Array**	**21.23**	**36**	P	**P**	**20 11 39.2**	**-1.0**
	0.9nm,0.5s,baz=238,slow=10.0,SNR=16						
ILB	**Eielson Array**	**21.23**	**36**	*e*P	**P**	**20 11 39.0**	**-1.2**
	2.6nm,1.0s						
RIDG	**Independent Ri**	**21.60**	**40**	*e*P	**P**	**20 11 41.8**	**-2.4**
	4.5nm,0.8s						
DOT	**Dot Lake**	**21.89**	**41**	*e*P	**P**	**20 11 47.6**	**+0.3**
	4.3nm,0.7s						
INK	**Inuvik**	**27.53**	**34**	P	**P**	**20 12 40.1**	**-0.5**
	0.3nm,0.3s,baz=235,slow=6.5,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**33.27**	**208**	T	T	20 50 21.4	
	baz=17						
H11N3	**WAKE ISLAND Hy**	**33.28**	**208**	T	T	20 50 25.0	
	baz=17						
H11N1	**WAKE ISLAND Hy**	**33.29**	**208**	T	T	20 50 28.3	
	baz=17						
H11S1	**WAKE ISLAND Hy**	**34.49**	**208**	T	T	20 51 59.4	
	baz=19						
H11S2	**WAKE ISLAND Hy**	**34.50**	**208**	T	T	20 51 58.7	
	baz=19						
H11S3	**WAKE ISLAND Hy**	**34.50**	**208**	T	T	20 52 06.8	
	baz=19						
YKA	**Yellowknife Ar**	**35.01**	**46**	P	**P**	**20 13 47.8**	**+1.3**
	0.8nm,0.7s,baz=279,slow=7.7,SNR=10						
AKASG	**Malin Array Be**	**76.70**	**343**	P	**P**	**20 18 44.0**	**-1.0**
	0.2nm,0.3s,baz=21,slow=5.9,SNR=3.4						

MAN 29 20:42:35.8, 9°.98N×122°.88E, h63km, mb3.8, ML2.5, MS2.1, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.70**	**336**	*e*P	Pn	20 42 51.8	+1.6
GUIM				*e*S	Sn	20 43 03.9	+3.0
SNPH	**Sibulan**	**0.72**	**151**	*i* P	Pn	20 42 52.2	+1.6
SNPH				*i* S	Sn	20 43 04.2	+2.8
MSLP	**Maasin**	**1.96**	**85**	*e*P	Pn	20 43 07.6	+0.9
IPIL	**Ipil**	**2.20**	**188**	*e*S	Sn	20 43 30.9	-5.2

*DDA **29** 20:42:38.7, 40°.22N×27°.04E, h7km±2km, ML2.6*
*ISK **29** 20:42:38.9, 40°.24N×27°.03E, h6km, ML1.8/10*
*ISCJB **29** 20:42:39.3±0.5, 40°.24N±0°.03×27°.03E±0°.04, h0km±7km, Error ellipse: s-maj=5.0km s-min=4.1km az=151.3*
ISC 29 20:42:39.4±1.0, 40°.24N±0°.03×27°.03E±0°.03, h12km±9km, n17, σ0s66/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.25**	**303**	PG	**Pg**	**20 42 44.4**	**-0.2**
LPK				SG	**Sg**	**20 42 48.4**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.46**	**291**	PG	**Pg**	**20 42 48.3**	**-0.1**
GELI				SG	**Sb**	**20 42 55.1**	**-1.1**
RKY	**Sarkoy-Tekirda**	**0.46**	**14**	PG	**Pg**	**20 42 48.5**	**0.0**
RKY				SG	**Sg**	**20 42 55.4**	**+0.7**
SART	**Tekirdag**	**0.46**	**14**	IAML_P			
	comp=Z,2μm,0.1s						
SART				*i* P	**Pb**	**20 42 49.1**	**-0.6**
SART				*i* S	**Sg**	**20 42 55.4**	**+0.7**
ERIK	**Erikli-Kesan**	**0.58**	**318**	PG	**Pg**	**20 42 50.5**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.62**	**217**	*i* P	**Pb**	**20 42 51.4**	**-0.9**
BAYC				*i* S	**Sb**	**20 43 00.5**	**-0.5**
EDC	**Edincik**	**0.65**	**80**	PG	**Pb**	**20 42 51.9**	**-0.8**
BALY	**Balya**	**0.67**	**138**	*i* P	**Pb**	**20 42 52.9**	**-0.3**
BALY				*i* S	**Sb**	**20 43 01.4**	**-1.1**
ENEZ	**Enez**	**0.83**	**307**	PG	**Pg**	**20 42 55.2**	**-0.4**
BOZC	**Bozcaada**	**0.85**	**242**	PG	**Pb**	**20 42 55.7**	**-0.5**
BALB	**Balikesir**	**0.89**	**132**	PG	**Pb**	**20 42 56.1**	**-0.7**
ALN	**Alexandroupoli**	**1.00**	**311**	PG	**Pb**	**20 42 58.5**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.01**	**148**	IAML_P			
	comp=Z,397nm,0.1s						
STEP				*i* P	**Pg**	**20 42 58.3**	**-0.7**
STEP				*i* S	**Sn**	**20 43 14.5**	**+0.8**
ZEDA	**zmir-Bergama**	**1.27**	**178**	IAML_P			
	comp=Z,437nm,0.1s						
ZEDA				*i* P	**Pg**	**20 43 05.0**	**+1.1**
ZEDA				*i* S	**Sn**	**20 43 20.4**	**+0.4**
DURS	**Dursunbey**	**1.28**	**119**	IAML_P			
	comp=Z,488nm,0.1s						
DURS				*i* P	**Pg**	**20 43 03.9**	**-0.1**
DURS				*i* S	**Sn**	**20 43 20.8**	**+0.4**
RDO	**Rodhopi**	**1.45**	**309**	PN	**Pb**	**20 43 06.2**	**-0.2**
EDRB	**Edirne**	**1.62**	**352**	PN	**Pn**	**20 43 08.6**	**+0.7**

*ISCJB **29** 20:43:09.4±1.5, 11°.72N±0°.05×87°.56W±0°.06, h15km±12km, Error ellipse: s-maj=12.3km s-min=5.6km az=141.0*
*SNET **29** 20:43:09.5±1.8, 12°.26N×87°.09W, h138km±20km, ML3.7*
*UCR **29** 20:43:09.9±3.0, 11°.82N×87°.54W, h3km±10km, MD4.1, ML3.6*
ISC 29 20:43:10.9±1.5, 11°.75N±0°.05×87°.44W±0°.05, h23km±15km, n26, σ1s38/40, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.01**	**22**	*e*P	**Pb**	**20 43 29.5**	**-0.3**
CRIN				*e*S	**Sn**	**20 43 44.9**	**+1.5**
CRIN				IAML		20 43 46.1	
	comp=N,2μm,0.5s						
TELN	**Telica**	**1.03**	**35**	*e*P	**Pb**	**20 43 29.3**	**-0.9**
TELN				*e*S	**Sn**	**20 43 46.2**	**+2.3**
CNGN	**Cerro Negro**	**1.04**	**44**	*e*P	**Pn**	**20 43 28.4**	**-1.6**
CNGN				*e*S	**Sn**	**20 43 48.1**	**+4.2**
CNGN				IAML		20 43 50.9	
	comp=N,310nm,0.3s						
CNGN	**Cerro Negro**	**1.04**	**44**	*e*P	**Pn**	**20 43 28.4**	**-1.6**
MOMN	**Momotombo**	**1.09**	**53**	*e*P	**Pb**	**20 43 30.1**	**-1.1**
APYN	**Apoyeque**	**1.17**	**66**	*e*P	**Pb**	**20 43 31.7**	**-0.7**
CSGN	**Cosiguina Volc**	**1.22**	**355**	*e*P	**Pb**	**20 43 33.0**	**-0.4**
CSGN				*e*S	**Sb**	**20 43 50.4**	**+1.6**
CSGN				IAML		20 43 54.5	
	comp=N,10μm,0.3s						
CSGN	**Cosiguina Volc**	**1.22**	**355**	*e*P	**Pb**	**20 43 33.0**	**-0.4**
CSGN				*e*S	**Sb**	**20 43 50.4**	**+1.6**
MGAN	**Managua**	**1.23**	**71**	*e*S	**Sb**	**20 43 49.6**	**+0.6**
CNCH	**Conchagua**	**1.56**	**346**	*e*P	**Pn**	**20 43 37.0**	**-0.3**
CNCH				*e*S	**Sn**	**20 43 57.2**	**+0.3**
CNCH	**Conchagua**	**1.56**	**346**	*e*P	**Pn**	**20 43 37.0**	**-0.3**
CNCH				*e*S	**Sn**	**20 43 57.2**	**+0.3**
LCND	**La Caada**	**1.61**	**344**	*e*P	**Pn**	**20 43 36.2**	**-1.7**
LCND				*e*S	**Sn**	**20 43 57.1**	**-0.8**
LCND				IAML		20 44 02.3	
	comp=Z,384nm,0.3s						
LCND	**La Caada**	**1.61**	**344**	*e*P	**Pn**	**20 43 36.2**	**-1.7**
LCND				*e*S	**Sn**	**20 43 57.1**	**-0.8**
LCND				IAML		20 44 02.3	
	comp=Z,384nm,0.3s						
ESTN	**Estel**	**1.70**	**38**	*e*P	Pn	20 43 33.6	-5.6
CONN	**Concepcion**	**1.79**	**96**	*e*P	**Pb**	**20 43 40.9**	**-2.0**
PACA	**Pacayal**	**1.91**	**333**	*e*P	**Pn**	**20 43 41.0**	**-1.2**
PACA				*e*S	**Sn**	**20 44 06.6**	**+1.0**
PACA	**Pacayal**	**1.91**	**333**	*e*P	**Pn**	**20 43 41.0**	**-1.2**
PACA				*e*S	**Sn**	**20 44 06.6**	**+1.0**
TECA	**Tecapa**	**2.02**	**329**	*e*P	**Pn**	**20 43 44.0**	**+0.3**
TECA				*e*S	**Sn**	**20 44 08.3**	**0.0**
TECA	**Tecapa**	**2.02**	**329**	*e*P	**Pn**	**20 43 44.0**	**+0.3**
TECA				*e*S	**Sn**	**20 44 08.3**	**0.0**
NY14	**Universidad de**	**2.17**	**120**	*i* P	**Pb**	**20 43 50.8**	**+1.3**
NY14				*i* S	**Sb**	**20 44 18.3**	**+2.3**
LAPC	**Finca la Perla**	**2.20**	**116**	*i* P	**Pb**	**20 43 49.0**	**-1.1**
BUEV	**Buena Vista**	**2.21**	**115**	*i* P	**Pb**	**20 43 50.2**	**0.0**
LFRS	**El Faro**	**2.44**	**320**	*e*P	**Pn**	**20 43 48.9**	**-0.6**
LFRS				*e*S	**Sn**	**20 44 19.2**	**+0.6**
CUI	**Cuipilapa**	**2.48**	**116**	*i* P	**Pb**	**20 43 52.9**	**-2.0**
SBLS	**San Blas**	**2.97**	**314**	*e*P	**Pn**	**20 43 57.0**	**+0.1**
SBLS	**San Blas**	**2.97**	**314**	*e*P	**Pn**	**20 43 57.0**	**+0.1**

KRSC 29 21:07:46.8±10.0, 59°.93N×163°.73E, h1km±10km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.76**	**207**	*e*P	Pb	21 08 02.9	+0.2
OSSR				*e*S	Sb	21 08 14.9	+1.3
TILK	**Tilichiki**	**1.31**	**66**	*e*P	Pn	21 08 12.3	+0.1
TILK				*e*S	Sn	21 08 30.6	+0.3
PALN	**Palana**	**2.10**	**248**	*e*P	Pb	21 08 24.2	-1.3
PALN				*e*S	Sg	21 08 53.0	-1.0
KMSK	**Kamenskaya**	**2.81**	**24**	*e*P	Pb	21 08 35.6	-2.1
KMSK				S	Sb	21 09 11.3	-1.4

*ISCJB **29** 21:09:04.6±0.6, 28°.49N±0°.06×87°.81E±0°.03, h63km±10km, mb3.7/9, Error ellipse: s-maj=9.9km s-min=4.3km az=8.4*
*NDI **29** 21:09:05.7±3.3, 28°.27N×87°.75E, h25km±18km, ML3.7*
*IDC **29** 21:09:06.6±6.0, 28°.35N×87°.69E, h62km±57km, mb3.4/9, mb1 3.5/12, mb1mx3.3/44, mbtmp3.7/12, ML3.7/3, Error ellipse: s-maj=36.7km s-min=19.4km az=50.0*
*DMN **29** 21:09:06.4±0.0, 28°.42N×87°.77E, h60km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 29 21:09:04.6±1.1, 28°.47N±0°.07×87°.79E±0°.04, h43km±15km, n43, σ2s21/60, mb3.8/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**1.11**	**183**	*e*Pg	**Pn**	**21 09 26.8**	**+2.8**
TAPN	**Taplejung**	**1.11**	**183**	*e*Pg	**Pn**	**21 09 27.0**	**+3.0**
TAPN				*e*Sg	**Sn**	**21 09 41.6**	**+3.3**
	19μm,0.4s						
GTK	**Tadong**	**1.35**	**147**	*e*P	**Pn**	**21 09 29.4**	**+2.3**
GTK				*e*S	**Sn**	**21 09 44.4**	**+0.4**
GTK				IAML		21 09 50.0	
	comp=E,3μm,0.2s						
GTK				IAML		21 09 51.0	
	comp=N,2μm,0.2s						
JIRN	**Jiri**	**1.62**	**241**	*e*Pg	**Pn**	**21 09 34.0**	**+3.0**
ODAN	**Odare**	**1.64**	**192**	*e*Pg	**Pn**	**21 09 33.2**	**+2.1**
ODAN	**Odare**	**1.64**	**192**	*e*Pg	**Pn**	**21 09 33.3**	**+2.1**
ODAN				*e*Sg	**Sn**	**21 09 52.1**	**+1.0**
	comp=N,4μm,0.3s						
ODAN				*e*Sg		21 09 52.2	
RAMN	**Ramite**	**1.84**	**215**	*e*Pg	**Pn**	**21 09 35.6**	**+1.7**
RAMN	**Ramite**	**1.84**	**215**	*e*Pg	**Pn**	**21 09 35.7**	**+1.8**
RAMN				*e*Sg	**Sn**	**21 09 56.5**	**+0.4**
	comp=N,1μm,0.3s						
RAMN				*e*Sg		21 09 56.9	
	comp=N,1μm,0.3s						
PKI	**Pulchoki**	**2.28**	**248**	*e*Pn	**Pn**	**21 09 42.5**	**+2.4**
PKI				*e*Sn	**Sn**	**21 10 08.4**	**+1.3**
	comp=N,525nm,0.2s						
PKIN	**Phulchoki**	**2.29**	**248**	*e*Pn	**Pn**	**21 09 42.6**	**+2.5**
PKIN				*e*Sn	**Sn**	**21 10 08.5**	**+1.3**
	comp=N,896nm,0.2s						
KKN	**Kakani**	**2.31**	**254**	*e*Pn	**Pn**	**21 09 43.0**	**+2.6**
KKN				*e*Sn	**Sn**	**21 10 09.8**	**+2.1**
DMN	**Daman**	**2.52**	**251**	*e*Pn	**Pn**	**21 09 46.2**	**+3.0**
GKN	**Gorkha**	**2.81**	**261**	*e*Pn	**Pn**	**21 09 48.9**	**+1.6**
DANN	**Dangsing**	**3.55**	**269**	*e*Pn	**Pn**	**21 09 57.7**	**+0.3**
TAWA	**Tawang**	**3.71**	**103**	*e*P	**Pn**	**21 10 02.8**	**+3.1**
TAWA				*e*x	x	21 10 46.2	
KOLN	**Koldanda**	**3.76**	**260**	*e*Pn	**Pn**	**21 10 01.2**	**+0.9**
KOLN				*e*Sn	**Sn**	**21 10 42.2**	**-1.2**
	comp=N,358nm,0.2s						
PYUN	**Piuthan**	**4.24**	**266**	*e*Pn	**Pn**	**21 10 06.8**	**-0.1**
PYUN				*e*Sn	**Sn**	**21 10 54.1**	**-1.2**
	comp=N,640nm,0.4s						
SHL	**Shillong**	**4.66**	**127**	*e*P	**Pn**	**21 10 12.8**	**+0.2**
SHL				*e*S	**Sn**	**21 11 02.2**	**-3.3**
SHL				IAML		21 11 32.4	
	comp=E,118nm,0.2s						
SHL				IAML		21 11 34.8	
	comp=N,115nm,0.6s						
TEZP	**TEZPUR**	**4.82**	**111**	*e*P	**Pn**	**21 10 14.3**	**-0.3**
TEZP				*e*S	**Sn**	**21 11 07.0**	**-2.1**
TEZP				IAML		21 11 09.1	
	comp=E,254nm,0.1s						
TEZP				IAML		21 11 09.5	
	comp=N,186nm,0.1s						
BOK	**Bokaro**	**4.95**	**201**	*e*P	**Pn**	**21 10 16.7**	**+0.1**
BOK				*e*S	**Sn**	**21 11 07.1**	**-5.4**
ZIRO	**ZIRO**	**5.44**	**98**	*e*P	**Pn**	**21 10 25.5**	**+2.1**
ZIRO				*e*S	**Sn**	**21 11 24.5**	**-0.3**
KOHI	**KOHIMA**	**6.26**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.47**	**212**	P	Pn	21 29 08.1	+0.2
MXZ				S	Sn	21 29 39.4	+1.0
PKGZ	**Pakihiroa**	**2.84**	**211**	P	Pn	21 29 13.8	+0.8
HAZ	**Te Kaha**	**2.87**	**217**	P	Pn	21 29 15.1	+1.8
HAZ				S	Sb	21 29 51.3	-2.7
PUZ	**Puketiti**	**2.93**	**207**	P	Pn	21 29 15.1	+0.9
RUGZ	**Raukumara Rang**	**3.09**	**215**	P	Pn	21 29 17.2	+0.8
RUGZ				S	Sb	21 29 57.5	-2.9
TWGZ	**Tauwhareparae**	**3.13**	**210**	P	Pn	21 29 17.8	+0.8
TWGZ				S	Sn	21 29 54.6	-0.1
CNGZ	**Carnagh Statio**	**3.32**	**204**	P	Pn	21 29 20.0	+0.5
CNGZ				S	Sn	21 29 59.2	-0.1
WHRZ	**Whale Island**	**3.37**	**224**	P	Pn	21 29 22.2	+1.9
MWZ	**Matawai**	**3.46**	**213**	P	Pn	21 29 21.1	-0.3
MWZ				S	Sn	21 30 06.0	+3.2
URZ	**Urewera**	**3.59**	**218**	P	Pn	21 29 22.2	-1.1
URZ				S	Sn	21 30 05.1	-1.0
OPRZ	**Ohinepanea**	**3.61**	**228**	P	Pn	21 29 22.6	-0.9
KUZ	**Kuaotunu**	**3.65**	**248**	P	Pn	21 29 19.9	-4.1
RIGZ	**Rimuhau**	**3.67**	**208**	P	Pn	21 29 25.0	+0.5
GRZ	**Great Barrier**	**3.72**	**257**	P	Pn	21 29 28.2	+3.1
TGRZ	**Tauranga**	**3.72**	**232**	P	Pn	21 29 23.4	-1.6
OMRZ	**Omania**	**3.89**	**226**	P	Pn	21 29 28.7	+1.3
TARZ	**Mount Tarawera**	**3.90**	**224**	P	Pn	21 29 29.8	+2.2
KARZ	**Kaharoa**	**3.91**	**228**	P	Pn	21 29 26.9	-0.8
MUGZ	**Murupara**	**3.93**	**219**	P	Pn	21 29 26.6	-1.4
MUGZ				S	Sn	21 30 18.7	+4.2
RTZ	**Ruatahuna**	**3.94**	**216**	P	Pn	21 29 26.2	-1.9
RRRZ	**Republican Roa**	**3.97**	**223**	P	Pn	21 29 30.6	+2.1
KNZ	**Kokohu**	**3.98**	**206**	P	Pn	21 29 27.0	-1.6
KMRZ	**Kaimai**	**4.00**	**232**	P	Pn	21 29 27.9	-0.9
MHGZ	**Mahia Peninsul**	**4.02**	**203**	P	Pn	21 29 28.8	-0.3
MTHZ	**Maungataniwha**	**4.19**	**215**	P	Pn	21 29 30.7	-0.8
MTHZ				S	Sn	21 30 16.9	-4.0
TOZ	**Tahuroa Road**	**4.23**	**236**	P	Pn	21 29 31.9	-0.1
MRHZ	**Matea Rd**	**4.38**	**219**	P	Pn	21 29 31.8	-2.4
MRHZ				S	Sn	21 30 25.1	-0.6
EPAZ	**Eden Park BICE**	**4.43**	**250**	P	Pn	21 29 39.0	+4.2
TLZ	**Tolley Road**	**4.54**	**230**	P	Pn	21 29 34.5	-1.9
BKZ	**Black Stump Fm**	**4.60**	**216**	P	Pn	21 29 35.0	-2.2
KAHZ	**Kahuranaki**	**4.96**	**208**	P	Pn	21 29 39.7	-2.3
KRVZ	**Karewarewa**	**4.99**	**222**	P	Pn	21 29 45.4	+2.8
WTVZ	**West Tongariro**	**5.03**	**222**	P	Pn	21 29 43.7	+0.5
KRHZ	**Kereru**	**5.04**	**213**	P	Pn	21 29 40.0	-3.3
BHHZ	**Black Hill Sta**	**5.06**	**216**	P	Pn	21 29 40.2	-3.3
NGZ	**Ngauruhoe**	**5.07**	**222**	P	Pn	21 29 46.4	+2.7
TWVZ	**Taurewa**	**5.08**	**244**	P	Pn	21 29 45.3	+1.4
TUVZ	**Tukino**	**5.10**	**221**	P	Pn	21 29 43.7	-0.5
FWVZ	**Far West T-bar**	**5.15**	**221**	P	Pn	21 29 47.2	+2.3
WHVZ	**Whangaehu Hut**	**5.15**	**221**	P	Pn	21 29 47.3	+2.4
MOVZ	**Moawhango**	**5.16**	**219**	P	Pn	21 29 47.2	+2.4
PXZ	**Pawanui**	**5.17**	**207**	P	Pn	21 29 42.0	-2.9
TRVZ	**Turoa**	**5.18**	**221**	P	Pn	21 29 47.6	+2.2
MTVZ	**Mangateitei**	**5.29**	**221**	P	Pn	21 29 49.6	+2.9
PNHZ	**Pukenui**	**5.34**	**213**	P	Pn	21 29 43.3	-4.0
VRZ	**Vera Road**	**5.51**	**227**	P	Pn	21 29 51.0	+1.3
BFZ	**Birch Farm**	**5.97**	**208**	P	Pn	21 29 51.8	-4.1
KHEZ	**Kahui Hut**	**6.07**	**229**	P	Pn	21 30 00.7	+3.3

MEX 29 21:38:27.6±0.7, 14°.89N×92°.57W, h94km±6km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.30**	**87**	*i* P	Pn	21 38 40.6	-0.8
THIG				*i* S	Sn	21 38 50.1	-1.6
PCIG		**1.02**	**322**	*e*P	Pn	21 38 46.3	-1.5
PCIG				*i* S	Sn	21 39 01.4	-1.5
CCIG	**Comitan**	**1.44**	**17**	*i* P	Pn	21 38 52.0	-1.0
CCIG				*e*S	Sn	21 39 11.1	-1.1
TGIG		**1.95**	**344**	*i* P	Pn	21 38 58.0	-1.4
TGIG				*i* S	Sn	21 39 22.2	-1.3
CMIG	**Matias Romero**	**3.12**	**315**	*i* P	Pn	21 39 13.6	-1.2
CMIG				*e*S	Sn	21 39 50.2	-1.0

*DRS **29** 21:44:57.5±0.0, 43°.54N×45°.50E, h16km, ML2.6/2*
*ISCJB **29** 21:44:58.7±0.6, 43°.45N±0°.04×45°.77E±0°.03, h3km±4km, Error ellipse: s-maj=6.6km s-min=2.3km az=20.9*
*TIF **29** 21:44:59.3, 43°.40N×45°.75E, h23km±1km*
*NORS **29** 21:45:00.3±0.0, 43°.19N×45°.70E, h17km, MPVA3.6*
ISC 29 21:45:01.4±1.0, 43°.29N±0°.04×45°.69E±0°.02, h13km±7km, n38, σ1°.08/69, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.12**	**136**	*i* Pg	**Pg**	**21 45 04.1**	**-0.7**
GROC				*e*Sg	**Sb**	**21 45 07.9**	**-0.3**
DVE	**Vedeno**	**0.46**	**136**	*e*Pg	**Pg**	**21 45 09.7**	**-0.8**
DVE				*e*Sg	**Sb**	**21 45 18.1**	**-0.1**
KMGR	**Komgaron**	**0.64**	**249**	*e*Pg	**Pb**	**21 45 14.3**	**-0.2**
KMGR				*e*Sg	**Sn**	**21 45 25.0**	**-1.3**
BTLR	**Botlikh**	**0.74**	**148**	*e*Pg	**Pg**	**21 45 14.6**	**-1.1**
BTLR	12nm,0.3s			⇑*e*Sg	**Sg**	**21 45 25.2**	**-0.2**
	54nm,0.5s						
VLKR	**Vladikavkaz**	**0.78**	**252**	*e*Pg	**Pn**	**21 45 16.9**	**-1.2**
VLKR				*e*Sg	**Sn**	**21 45 29.6**	**0.0**
BTKR	**Batakoyurt**	**0.84**	**276**	*i* Pg	**Pn**	**21 45 17.8**	**-1.2**
BTKR				*e*Sg	**Sn**	**21 45 30.9**	**-0.3**
UNCR	**Uncukul**	**0.99**	**125**	*e*Pg	**Pb**	**21 45 19.5**	**-1.0**
UNCR				*e*Sg	**Sn**	**21 45 35.0**	**0.0**
KRNR	**Karanay**	**1.01**	**117**	*e*Pg	**Pb**	**21 45 19.5**	**-1.2**
KRNR				*e*Sg	**Sn**	**21 45 34.5**	**-0.9**
ARNR	**Ardon**	**1.03**	**265**	*e*Pg	**Pg**	**21 45 20.9**	**-0.4**
ARNR				*i* Sg	**Sn**	**21 45 37.2**	**+1.4**
XNZR	**Khunzakh**	**1.06**	**135**	*e*Pg	**Pg**	**21 45 21.6**	**-0.2**
XNZR				*e*Sg	**Sn**	**21 45 38.7**	**+2.0**
LACR	**Lac**	**1.12**	**246**	*e*Pg	**Pn**	**21 45 22.2**	**-0.6**
LACR				*e*Sg	**Sn**	**21 45 38.0**	**-0.1**
PRTR	**Priterechnaya**	**1.12**	**295**	*e*Pg	**Pg**	**21 45 22.8**	**-0.2**
PRTR				*e*Sg	**Sg**	**21 45 40.5**	**+2.9**
ARKR	**Arakani**	**1.18**	**125**	*e*Pg	**Pn**	**21 45 23.0**	**-0.6**
ARKR				*e*Sg	**Sg**	**21 45 41.0**	**+1.5**
STDR	**Stavd-Durt**	**1.19**	**274**	*e*Pg	**Pg**	**21 45 23.7**	**-0.5**
STDR				*e*Sg	**Sg**	**21 45 42.0**	**+2.3**
KORR	**Kora**	**1.20**	**261**	*e*Pg	**Pb**	**21 45 23.5**	**-0.5**
KORR				*e*Sg	**Sg**	**21 45 41.1**	**+1.0**
GNBR	**Gunib**	**1.30**	**133**	*i* Pg	**Pb**	**21 45 25.8**	**+0.1**
GNBR	20nm,0.1s			⇓*e*Sg	**Sg**	**21 45 44.4**	**+1.1**
	244nm,0.5s						
LSNR	**Lesken**	**1.36**	**270**	*e*Pg	**Pb**	**21 45 25.9**	**-0.8**
LSNR				*e*Sg	**Sg**	**21 45 45.9**	**+0.7**
MAK	**Makhachkala**	**1.37**	**103**	*e*Pg	**Pg**	**21 45 27.2**	**-0.5**
ZEI	**Tsey**	**1.40**	**250**	*e*Pg	**Pn**	**21 45 26.0**	**-0.8**
ZEI				*e*Sg	**Sn**	**21 45 44.5**	**-0.7**
LGD	**Lagodekhi**	**1.51**	**164**	P	**Pb**	**21 45 28.6**	**-0.7**
LGD				S	**Sg**	**21 45 49.3**	**-0.7**
LGD	**Lagodekhi**	**1.51**	**164**	*e*Pg	**Pb**	**21 45 28.6**	**-0.7**
LGD				*e*Sg	**Sg**	**21 45 49.3**	**-0.7**
NCK	**Nalchik**	**1.54**	**278**	*e*Pg	**Pg**	**21 45 32.4**	**+1.4**
NCK				*e*Sg	**Sg**	**21 45 51.4**	**+0.5**
KMKR	**Kumukh**	**1.56**	**137**	*e*Pg	**Pb**	**21 45 30.0**	**-0.2**
KMKR				*i* Sg	**Sg**	**21 45 52.0**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.59**	**257**	*e*Pg	**Pn**	**21 45 29.1**	**-0.3**
DIGR				*e*Sg	**Sn**	**21 45 49.5**	**-0.5**
TBLG	**Delisi**	**1.71**	**205**	P	**Pb**	**21 45 31.7**	**-0.9**
TBLG				S	**Sg**	**21 45 55.9**	**-0.3**
TBLG	**Delisi**	**1.71**	**205**	*e*Pg	**Pb**	**21 45 31.7**	**-0.9**
BTNK	**Botanikuri**	**1.73**	**203**	P	**Pb**	**21 45 32.4**	**-0.7**
KBTC	**Kuba-Taba**	**1.74**	**288**	*e*Pg	**Pb**	**21 45 32.4**	**-0.8**
KBTC				*e*Sg	**Sg**	**21 45 56.0**	**-1.3**
ONI	**Oni**	**1.78**	**248**	P	**Pb**	**21 45 32.7**	**-1.2**
ONI				S	**Sb**	**21 45 56.9**	**+0.7**
ONI	**Oni**	**1.78**	**248**	*e*Pg	**Pb**	**21 45 32.7**	**-1.2**
ONI				*e*Sg	**Sb**	**21 45 56.9**	**+0.7**
URKR	**Urkarakh**	**1.82**	**127**	*e*Pg	**Pb**	**21 45 34.6**	**0.0**
DDFL	**Dedoflistskaro**	**1.87**	**170**	P	**Pn**	**21 45 33.6**	**+0.5**
DDFL				S	**Sg**	**21 46 05.1**	**+3.7**
SRKG	**Sareki**	**1.97**	**242**	P	**Pn**	**21 45 34.4**	**0.0**
PYA1	**Pyatigorsk**	**2.03**	**293**	*i* Pg	**Pb**	**21 45 36.5**	**-1.7**
KZRT	**Kazreti**	**2.13**	**207**	P	**Pn**	**21 45 37.4**	**+0.8**
KZRT				S	**Sb**	**21 46 06.7**	**+0.7**
NEY	**Neytrino**	**2.17**	**270**	*e*Pg	**Pn**	**21 45 37.5**	**+0.2**
NEY				*e*Sg	**Sn**	**21 46 04.5**	**+0.5**
DRN	**Derbent**	**2.32**	**122**	*e*Pn	**Pn**	**21 45 40.5**	**+1.3**
BGD	**Bogdanovka**	**2.55**	**218**	P	**Pb**	**21 45 45.6**	**-1.5**
BGD				S	**Sb**	**21 46 19.7**	**+1.4**

JMA 29 21:47:56.3±0.1, 36°.34N×141°.07E, h46km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.39**	**270**	P	Pn	21 48 06.2	+0.2
JHYU				S	Sn	21 48 12.9	0.0
JHO	**Hitachi**	**0.49**	**304**	P	Pn	21 48 06.9	-0.3
JHO				S	Sn	21 48 14.3	-0.6
JIHU	**Itakohorinouch**	**0.58**	**230**	P	Pn	21 48 08.9	+0.6
JIHU				S	Sn	21 48 18.0	+1.2
CHOJ	**Chosi**	**0.66**	**195**	P	Pn	21 48 09.3	0.0
CHOJ				S	Sn	21 48 18.5	-0.2
JYT	**Yasato**	**0.72**	**261**	P	Pn	21 48 10.1	0.0
JYT				S	Sn	21 48 19.3	-0.8
ONAJ	**Iwakimizuishiy**	**0.79**	**344**	P	Pn	21 48 10.8	-0.4
ONAJ				S	Sn	21 48 20.8	-1.2
JSMT	**Sammumatsuo**	**0.86**	**216**	S	Sn	21 48 24.2	+0.7
JFK	**Kawauchi**	**1.04**	**351**	P	Pn	21 48 14.0	-0.5
JFK				S	Sn	21 48 26.5	-1.4
JAG	**Ashikaga**	**1.31**	**274**	P	Pn	21 48 18.5	+0.4
JFT	**Otama**	**1.31**	**334**	P	Pn	21 48 19.6	+1.4
JFT				S	Sn	21 48 35.7	+1.1
JFY	**Yanaizu**	**1.53**	**315**	P	Pn	21 48 22.3	+1.1
JKT	**Katashina**	**1.53**	**287**	P	Pn	21 48 22.4	+1.2
JKT				S	Sn	21 48 41.1	+1.2
JMM	**Marumori**	**1.54**	**352**	P	Pn	21 48 21.7	+0.4
JMM				S	Sn	21 48 40.1	0.0
MAT	**Matsushiro**	**2.32**	**276**	P	Pn	21 48 33.5	+1.5
MAT				S	Sn	21 49 01.2	+1.9

*ISCJB **29** 22:10:21.8±0.5, 31°.90N±0°.05×104°.62E±0°.05, h15km, mb4.0/11, MS3.5/3, Error ellipse: s-maj=7.0km s-min=5.5km az=151.6*
*IDC **29** 22:10:21.8±0.9, 31°.78N×104°.16E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.7/48, mbtmp3.8/12, ML3.6/1, MS3.2/5, Ms1 3.2/5, ms1mx2.7/41, Error ellipse: s-maj=29.2km s-min=16.1km az=51.0*
*BJI **29** 22:10:26.0±0.0, 31°.90N×104°.20E, h25km, mb4.2/4, mB4.1/1, ML4.0/20, Ms3.6/9, Ms7 3.4/9*
ISC 29 22:10:24.5±0.6, 31°.95N±0°.04×104°.43E±0°.05, h15km, n25, σ2°.26/29, mb4.1/11, MS3.8/3, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.19**	**209**	⇓*i* Pg	**Pn**	**22 10 44.5**	**-2.2**
CD2				Sg	**Sb**	**22 10 59.0**	**-3.1**
CD2				smax	smax		
	comp=N,11μm,0.5s						
CD2				smax	smax		
	comp=E,5μm,0.5s						
LZH	**Lanzhou**	**4.15**	**353**	*e*Pg	**Pb**	**22 11 35.8**	**-1.6**
LZH				Sn	**Sb**	**22 12 24.5**	**-2.9**
LZH				Sg	**Sg**	**22 12 39.0**	**+1.1**
LZH				smax	smax		
	comp=N,190nm,1.0s						
LZH				smax	smax		
	comp=E,230nm,1.1s						
LZH				LR	LR		
	comp=N,540nm,7.1s						
LZH				LR	LR		
	comp=E,470nm,7.6s						
LZH				LR	LR		
	comp=Z,580nm,8.1s						
XAN	**Xi'an**	**4.31**	**60**	Pn	**Pn**	**22 11 33.8**	**+4.2**
XAN				Pg	**Pg**	**22 11 45.5**	**-1.5**
XAN				Sg	**Sg**	**22 12 40.5**	**-2.3**
XAN				smax	smax		
	comp=N,300nm,0.6s						
XAN				smax	smax		
	comp=E,320nm,1.0s						
GYA	**Guiyang**	**5.81**	**160**	Pn	**Pn**	**22 11 50.5**	**+0.1**
GYA				Sg	**Sb**	**22 13 21.5**	**+6.3**
GYA				smax	smax		
	comp=N,70nm,0.9s						
GYA				smax	smax		
	comp=E,120nm,0.9s						
GTA	**Gaotai**	**8.33**	**335**	*e*P	**Pn**	**22 12 24.8**	**-0.1**
GTA				pmax	pmax		
	comp=Z,48nm,6.5s						
GTA				LR	LR		
	comp=N,130nm,11.3s						
GTA				LR	LR		
	comp=E,98nm,12.4s						
GTA				LR	LR		
	comp=Z,150nm,14.8s						
WHN	**Wuhan**	**8.61**	**97**	P	**Pn**	**22 12 25.8**	**-2.8**
WHN				S	**Sn**	**22 14 02.0**	**-3.4**
CMAR	**Chiang Mai Arr**	**14.32**	**202**	Pn	**Pn**	**22 13 47.3**	**+0.4**
	baz=14,slow=11,SNR=3.3						
CMAR				LR	LR	22 20 07.9	
	comp=Z,20nm,18.8s,baz=235,slow=42						
SONM	**Songino Array**	**15.93**	**5**	Pn	**Pn**	**22 14 09.5**	**+1.3**
	0.2nm,0.3s,baz=195,slow=10,SNR=3.2						
SONM				LR	LR	22 21 02.6	
	comp=Z,61nm,18.8s,baz=185,slow=40						
WMQ	**Urumqi**	**17.71**	**317**	*e*P	**Pn**	**22 14 32.5**	**+1.9**
WMQ				LR	LR		
	comp=N,710nm,39.3s						
WMQ				LR	LR		
	comp=E,1μm,39.0s						
WMQ				LR	LR		
	comp=Z,740nm,22.9s						
KSRS	**Korea Array**	**20.06**	**68**	P	**Pn**	**22 15 00.2**	**+1.2**
	1.9nm,0.8s,baz=265,slow=9.8,SNR=5.6						
MKAR	**Makanchi Array**	**22.53**	**317**	P	**P**	**22 15 24.1**	**+0.3**
	1.3nm,0.8s,baz=114,slow=12,SNR=11						
USRK	**Ussuriysk Ar.**	**24.77**	**53**	P	**P**	**22 15 49.1**	**+3.4**
	3.1nm,0.7s,baz=228,slow=11,SNR=4.8						
AAK	**Ala-Archa**	**25.97**	**303**	LR	LR	22 27 56.3	
	comp=Z,25nm,18.1s,baz=114,slow=41						
ZALV	**Zalesovo Beam**	**26.09**	**333**	P	**P**	**22 15 57.9**	**+0.5**
	0.8nm,0.4s,baz=130,slow=10,SNR=6.2						
KURBB	**Kurchatov Arra**	**26.74**	**322**	P	**P**	**22 16 03.5**	**+0.2**
	0.8nm,0.7s,baz=134,slow=8.1,SNR=6.8						
ARCES	**ARCESS Array B**	**56.60**	**336**	P	**P**	**22 20 06.3**	**-0.1**
	2.6nm,1.0s,baz=74,slow=8.9,SNR=9.3						
FINES	**FINESS Array B**	**57.02**	**326**	P	**P**	**22 20 09.3**	**-0.1**
	2.0nm,0.5s,baz=84,slow=6.7,SNR=30						
WRA	**Warramunga Arr**	**59.03**	**147**	P	**P**	**22 20 23.1**	**-0.8**
	140nm,0.3s,baz=325,slow=8.4,SNR=1.4						
ASAR	**Alice Springs**	**62.07**	**149**	P	**P**	**22 20 44.5**	**-0.2**
	0.7nm,0.5s,baz=338,slow=6.8,SNR=12						
NB2	**NORSAR Subarra**	**64.10**	**327**	P	**P**	**22 20 56.7**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=73,slow=6.9						
NOA	**NORSAR Array B**	**64.10**	**327**	P	**P**	**22 20 56.9**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=75,slow=5.1,SNR=9.8						
ILAR	**Eielson Array**	**68.95**	**26**	P	**P**	**22 21 28.7**	**0.0**
	comp=Z,0.6nm,1.0s,baz=262,slow=6.3,SNR=5.6						
DLBC	**Dease Lake**	**79.16**	**26**	LR	LR	23 02 21.3	
	comp=Z,42nm,19.2s,baz=342,slow=39						
YKA	**Yellowknife Ar**	**80.80**	**17**	P	**P**	**22 22 37.7**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=329,slow=5.1,SNR=11						
TORD	**Torodi Ar. Bea**	**93.64**	**288**	LR	LR	23 08 46.5	
	comp=Z,31nm,18.4s,baz=335,slow=38						

IDC 29 22:49:54.9±14.0, 17°.87S×178°.05W, h569km±127km, mb3.0/2, mb1 3.2/2, mb1mx2.8/30, mbtmp3.9/2, Error ellipse: s-maj=186.5km s-min=43.3km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.98**	**259**	P	P	22 57 19.8	-0.6
	23nm,0.4s,baz=88,slow=8.0,SNR=2.3						
WRA				PcP	PcP	22 58 48.0	-1.4
	14nm,0.3s,baz=81,slow=5.3,SNR=1.3						
ASAR	**Alice Springs**	**45.13**	**254**	P	P	22 57 21.7	+0.1
	2.5nm,0.6s,baz=85,slow=8.8,SNR=23						
ASAR				PcP	PcP	22 58 48.7	-1.2
	0.3nm,0.3s,baz=104,slow=3.9,SNR=4.1						
ILAR	**Eielson Array**	**85.78**	**13**	P	P	23 01 34.4	+0.5
	0.2nm,0.4s,baz=223,slow=4.3,SNR=3.8						
BVAR	**Borovoye Array**	**117.03**	**321**	PKP	PKPdf	23 07 34.1	-1.3
	0.2nm,0.4s,baz=135,slow=2.3,SNR=3.9						
BRTR	**Keskin Array B**	**145.00**	**315**	PKPbc	PKPbc	23 08 28.4	-0.6
	0.6nm,0.6s,baz=103,slow=3.5,SNR=4.4						
MMAI	**Mount Meron Ar**	**146.41**	**303**	PKPbc	PKPbc	23 08 33.1	0.0
	0.7nm,0.5s,baz=72,slow=4.7,SNR=5.6						
GERES	**GERESS Array B**	**147.66**	**345**	PKPbc	PKPbc	23 08 35.8	-0.2
	0.4nm,0.5s,baz=33,slow=3.2,SNR=5.5						

*NEIC **29** 23:02:32.9±0.0, 16°.02N×98°.51W, h1km, MD4.0(MEX), After MEX.*
MEX 29 23:02:32.9±0.5, 16°.02N×98°.51W, h1km±3km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**45**	*e*Pg	Pg	23 02 42.5	-0.5
PNIG				*e*Sg	Sg	23 02 50.1	+0.4
PNIG	**Pinotepa**	**0.52**	**45**	*i* P	Pg	23 02 42.5	-0.5
PNIG				*i* S	Sg	23 02 50.1	+0.4
TLIG	**Tlapa**	**1.54**	**358**	*e*Pn	Pn	23 02 57.9	-3.6
TLIG				*e*Sn	Sn	23 03 17.4	-4.8
TLIG	**Tlapa**	**1.54**	**358**	*e*P	Pn	23 02 57.7	-3.9
TLIG				*i* S	Sn	23 03 17.8	-4.4
HMTT	**Tlapaneco**	**1.77**	**358**	*i* P	Pn	23 03 01.5	-3.3
HMTT				*i* S	Sn	23 03 23.4	-4.6
CAIG	**El Cayaco**	**1.97**	**301**	*e*Pn	Pn	23 03 03.4	-4.0
CAIG				*e*Sn	Sn	23 03 27.9	-4.9
CAIG	**El Cayaco**	**1.97**	**301**	*i* P	Pn	23 03 03.4	-4.0
CAIG				*i* S	Sn	23 03 27.9	-4.9
MEIG	**Mezcala**	**2.17**	**331**	*e*Sn	Sn	23 03 32.9	-5.0
MEIG	**Mezcala**	**2.17**	**331**	*i* S	Sn	23 03 32.9	-5.0
HUIG	**Huatulco**	**2.32**	**96**	*e*Pn	Pn	23 03 09.3	-3.0
HUIG				*e*Sn	Sn	23 03 36.3	-5.2
HUIG	**Huatulco**	**2.32**	**96**	*i* P	Pn	23 03 09.3	-3.0
HUIG				*i* S	Sn	23 03 36.3	-5.2
PLIG	**Platanillo**	**2.54**	**338**	*e*Pn	Pn	23 03 12.0	-3.4
PLIG				*e*Sn	Sn	23 03 43.3	-3.8
PLIG	**Platanillo**	**2.54**	**338**	*i* P	Pn	23 03 12.0	-3.4
PLIG				*i* S	Sn	23 03 43.3	-3.8
TPIG	**Tehuac#an**	**2.63**	**25**	*e*Pn	Pn	23 03 14.0	-2.6
TPIG				*e*Sn	Sn	23 03 44.9	-4.3
TPIG	**Tehuac#an**	**2.63**	**25**	*e*P	Pn	23 03 14.0	-2.6
TPIG				*i* S	Sn	23 03 44.9	-4.3
ARIG	**Puente Sto Nin**	**2.85**	**322**	*i* P	Pn	23 03 16.6	-3.0
ARIG				*i* S	Sn	23 03 50.9	-3.8
LVIG	**Laguna Verde**	**4.19**	**28**	*e*Pn	Pn	23 03 34.0	-3.9
LVIG				*e*Sn	Sn	23 04 18.9	-8.6
CCIG	**Comitan**	**6.13**	**87**	*e*Pn	Pn	23 04 01.7	-3.1

*IDC **29** 23:04:13.9±7.9, 36°.65N×71°.60E, h84km±34km, mb3.6/3, mb1 3.4/9, mb1mx3.0/55, mbtmp3.6/9, Error ellipse: s-maj=103.3km s-min=24.4km az=158.0*
*NNC **29** 23:04:26.8±2.7, 37°.71N×71°.53E, h154km±46km, mb2.6, mpv3.3, Error ellipse: s-maj=25.6km s-min=16.3km az=9.0*
ISC 29 23:04:20.9±2.0, 37°.4N±0°.2×71°.3E±0°.1, h106km, n14, σ1°.50/19, mb4.1/3, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.78**	**354**	P	**Pn**	**23 05 45.9**	**+1.7**
	2.6nm,0.2s,baz=178,slow=14,SNR=35						
KK31				⇑S	**Sn**	**23 06 48.8**	**-0.3**
	2.7nm,0.3s,baz=168,slow=21,SNR=13						
AAK	**Ala-Archa**	**5.81**	**24**	P	**Pn**	**23 05 46.6**	**+1.9**
	1.0nm,0.4s						
AAK				⇓S	**Sn**	**23 06 47.9**	**-2.2**
	4.2nm,0.4s						
AAK	**Ala-Archa**	**5.81**	**24**	P	**Pn**	**23 05 45.9**	**+1.2**
	0.6nm,0.3s,baz=208,slow=18,SNR=3.3						
AAK				S	**Sn**	**23 06 48.5**	**-1.5**
	0.6nm,0.3s,baz=350,slow=21,SNR=9.9						
TKM2	**Tokmak 2**	**6.45**	**29**	⇑P	**Pn**	**23 05 53.9**	**+0.5**
	1.3nm,0.8s						
TKM2				⇓S	**Sn**	**23 07 03.8**	**-1.9**
	2.2nm,0.8s						
GEYT	**Alibeck**	**10.50**	**277**	P	**Pn**	**23 06 47.3**	**-1.0**
	0.3nm,0.3s,baz=97,slow=11,SNR=5.5						
GEYT				S	**Sn**	**23 08 41.7**	**-2.2**
	0.8nm,0.3s,baz=110,slow=13,SNR=6.3						
KURBB	**Kurchatov Arra**	**14.23**	**19**	P	**P**	**23 07 40.5**	**-0.9**
	0.1nm,0.3s,baz=205,slow=11,SNR=4.7						
AB31	**Akbulak array**	**14.48**	**329**	⇑P	**Pn**	**23 07 40.6**	**+0.1**
	0.2nm,0.3s,baz=134,slow=16,SNR=20						
BVAR	**Borovoye Array**	**15.69**	**358**	P	**P**	**23 07 58.8**	**+1.2**
	0.2nm,0.3s,baz=173,slow=10,SNR=4.6						
AKTO	**Akty

GO05	Huala	23.72	97	eP	P	23 38 36.2	-2.3
	19nm,1.1s						
PLCA	Paso Flores	24.39	111	LR	LR	23 46 02.1	
	comp=Z,92nm,18.6s,baz=298,slow=30						
GO03	Copiap	27.38	81	eP	P	23 39 11.5	-0.3
	8.8nm,1.1s						
CFA	Coronel Fontan	27.55	91	LR	LR	23 46 50.2	
	comp=Z,72nm,21.9s,baz=40,slow=29						
GO01	Chusmiza	32.26	69	eP	P	23 39 55.0	-0.6
	4.6nm,0.8s						
MNMC	Minye Minye	32.28	67	eP	P	23 39 56.2	+0.6
	17nm,0.9s						
LPAZ	La Paz	35.14	65	eP	P	23 40 21.3	+0.5
	15nm,1.1s						
LPAZ	La Paz	35.14	65	P	P	23 40 25.4	+4.6
	11nm,1.1s,baz=219,slow=7.2,SNR=18						
LPAZ				LR	LR	23 51 25.6	
	comp=Z,81nm,18.9s,baz=216,slow=30						
CPUP	Villa Florida	38.36	88	LR	LR	23 54 58.0	
	comp=Z,58nm,18.3s,baz=236,slow=33						
TBI	Tubuai	43.49	273	eLR	LR	23 52 46.8	
	comp=Z,141nm,26.5s						
PPT2	Papeete2	46.48	280	eLR	LR	23 54 16.8	
	comp=Z,84nm,25.2s						
PPT	Papeete	46.50	280	LR	LR	23 54 49.7	
	comp=Z,55nm,18.5s,baz=186,slow=28						
ROSC	El Rosal	47.55	37	LR	LR	23 58 55.0	
	comp=Z,92nm,19.3s,baz=210,slow=32						
BDFB	Brasilia	51.17	81	LR	LR	00 02 11.6	
	comp=Z,58nm,19.6s,baz=267,slow=34						
VNDA	Vanda	56.89	195	LR	LR	00 01 14.6	
	comp=Z,54nm,20.2s,baz=112,slow=29						
TXAR	Lajitas Array	64.81	357	LR	LR	00 07 23.3	
	comp=Z,40nm,18.1s,baz=0.0,slow=32						
WMOK	Wichita Mounta	70.18	2	eP	P	23 44 36.6	-2.3
	2.6nm,0.8s						
CCUT	Cedar City	73.84	350	eP	P	23 45 01.2	+0.1
	4.2nm,1.1s						
NV01	Mina Array Sit	75.54	346	eP	P	23 45 13.1	+2.1
NVAR	Mina Array Bea	75.54	346	P	P	23 45 13.1	+2.1
	0.3nm,0.3s,baz=161,slow=8.6,SNR=4.9						
RWWY	Rawlins	77.30	355	eP	P	23 45 17.5	-3.4
	17nm,0.8s						
PD31	Pinedale Array	78.55	354	eP	P	23 45 27.2	-0.6
	3.4nm,1.0s						
PDAR	Pinedale Array	78.55	354	P	P	23 45 29.1	+1.3
	1.7nm,0.9s,baz=152,slow=8.1,SNR=8.4						
HLID	Hailey	79.89	350	eP	P	23 45 36.9	+1.9
	3.2nm,0.8s						
SCHQ	Schefferville	94.91	19	LR	LR	00 25 00.4	
	comp=Z,36nm,18.7s,baz=200,slow=33						
CLL	Collm	131.39	50	ePKPdf	PKiKP	23 52 39.0	-0.2
BRTR	Keskin Array B	144.25	70	PKP	PKiKP	23 53 04.5	-1.5
	1.5nm,0.9s,baz=229,slow=1.9,SNR=9.3						
BR101	Keskin Array S	144.25	70	ePKPdf	PKiKP	23 53 04.5	-1.5
KBZ	Khabaz	151.34	63	PKPbc	PKPbc	23 53 23.6	+3.8
	0.9nm,0.5s,baz=239,slow=5.9,SNR=4.4						

*ISK **29** 23:35:41.9, 38.°82N×43.°59E, h8km, ML2.2/8*
*DDA **29** 23:35:42.6, 38.°83N×43.°60E, h7km±3km, ML2.7*
*ISCJB **29** 23:35:43.1±0.6, 38.°82N±0.°03×43.°63E±0.°06, h11km±4km, Error ellipse: s-maj=8.7km s-min=4.4km az=27.1*
ISC 29 23:35:42.9±1.1, 38.°84N±0.°04×43.°61E±0.°05, h18km±4km, n16, σ0.°57/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.15	349	iP	Pg	23 35 47.5	+0.1
VMUR				iS	Sg	23 35 51.3	+0.8
ERCV	ERCIS-VAN	0.28	311	PG	Pg	23 35 48.2	-1.0
VANB	Van	0.30	215	PG	Pg	23 35 49.2	-0.2
VANB				SG	Sb	23 35 54.5	+0.3
TVAN	Van	0.35	207	iP	Pg	23 35 49.7	-0.7
TVAN				iS	Sb	23 35 55.9	0.0
CLDR	Caldiran	0.39	38	PG	Pg	23 35 50.4	-0.7
CLDR				SG	Sg	23 35 56.8	+0.2
CLDR	Caldiran	0.39	38	iP	Pg	23 35 50.2	-0.9
CLDR				IAML_P			
	comp=Z,4μm,0.1s						
ADCV	BITLIS_Adilcev	0.69	268	iP	Pb	23 35 56.4	-0.1
ADCV				iS	Sn	23 36 07.8	-0.4
ADCV				IAML_P			
	comp=Z,938nm,0.3s						
TUTA	Tutak	0.84	313	iP	Pb	23 35 58.3	-0.7
AGRB	Hanur-Agry	0.88	327	PG	Pb	23 35 59.4	-0.3
MLAZ	Malazgirt-MUS	0.88	291	PG	Pb	23 35 59.2	-0.5
IGDI	IGDIR	1.09	19	iP	Pg	23 36 04.2	+0.1
EATA	Eleskirt	1.34	320	iP	Pg	23 36 08.9	+0.1
GNI	Garni	1.58	33	PN	Pb	23 36 11.3	-0.3
DIGO	Kars	1.59	354	iP	Pg	23 36 13.4	-0.1
CUKT	Cukurca	1.59	180	PN	Pn	23 36 10.8	+0.6
SIRT	Sirnak	1.62	215	PN	Pn	23 36 11.2	+0.6

*IDC **29** 23:44:51.4±3.2, 21.°11S×69.°98W, h80km±26km, mb3.4/2, mb1 3.6/4, mb1mx3.3/18, mbtmp3.7/4, Error ellipse: s-maj=59.4km s-min=29.8km az=91.0*
*GUC **29** 23:44:54.8±0.5, 20.°91S×69.°20W, h113km±4km, ML3.9*
*SJA **29** 23:44:54.1±0.8, 20.°90S×69.°27W, h108km±9km, MD2.8*
*ISCJB **29** 23:44:55.1±0.7, 20.°92S±0.°03×69.°3W±0.°1, h111km±6km, mb3.5/2, Error ellipse: s-maj=16.2km s-min=5.6km az=3.8*
ISC 29 23:44:54.7±0.8, 20.°94S±0.°04×69.°25W±0.°10, h103km±7km, n18, σ1.°52/28, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.25	246	eP	Pn	23 45 10.1	+0.5
PB01				eS	Sn	23 45 21.9	+1.2
PB01				IAML		23 45 22.7	
	comp=E,6μm,0.2s						
PB02	IPOC Station P	0.71	238	eP	Pn	23 45 14.1	+1.4
PB02	IPOC Station P	0.71	238	eP	Pn	23 45 13.9	+1.2
PB02				eS	Sn	23 45 28.2	+2.0
PB02				IAML		23 45 29.7	
	comp=N,4μm,0.2s						
PB08	IPOC Station P	0.80	6	eP	Pn	23 45 14.1	+0.3
PB08				eS	Sn	23 45 28.8	+0.7
PB09	IPOC Station P	0.85	180	eS	Sn	23 45 30.6	+1.9
PB07	IPOC Station P	0.98	217	eP	Pn	23 45 15.9	+0.5
PB07				eS	Sn	23 45 32.5	+1.5
PB03	IPOC Station P	1.20	203	eP	Pn	23 45 12.0	-5.8
PB03				eS	Sn	23 45 36.1	+0.9
PB11	IPOC Station P	1.24	342	‖eP	Pn	23 45 18.5	+0.2
PB11	IPOC Station P	1.24	342	eP	Pn	23 45 18.4	+0.1
PB11				eS	Sn	23 45 36.7	+0.8
PB11				IAML		23 45 38.0	
	comp=N,3μm,0.5s						
GO01	Chusmiza	1.27	2	eP	Pn	23 45 19.3	+0.3
GO01				eS	Sn	23 45 38.0	+0.9
GO01				IAML		23 45 39.0	
	comp=E,4μm,0.1s						
PSGC	Pisagua	1.57	328	eP	Pn	23 45 22.0	-0.1
PSGC				eS	Sn	23 45 43.3	+0.4
PSGCX	Pisagua	1.57	328	eP	Pn	23 45 22.0	-0.1
PSGCX				eS	Sn	23 45 43.0	0.0
MNMC	Minye Minye	1.83	350	eP	Pn	23 45 25.8	+0.2
MNMC				eS	Sn	23 45 50.2	+1.2
MNMC				IAML		23 45 51.9	
	comp=N,1μm,0.2s						
LPAZ	La Paz	4.75	13	P	Pn	23 46 05.9	+1.3
	comp=N,1.3nm,0.3s,baz=201,slow=9.0,SNR=31						
LPAZ				S	Sn	23 46 47.4	-12
	comp=N,0.5nm,0.3s,baz=305,slow=1.8,SNR=3.7						
CFA	Coronel Fontan	10.66	175	P	Pn	23 47 19.9	-4.4
	comp=N,0.5nm,0.3s,baz=347,slow=16,SNR=13						
TORD	Torodi Ar. Bea	77.47	71	P	P	23 56 42.8	+3.5
	comp=N,0.3nm,0.4s,baz=253,slow=5.1,SNR=13						
TORD				pP	pP	23 57 05.9	-1.2
	comp=N,0.7nm,0.7s,baz=253,slow=5.9,SNR=5.2						
YKA	Yellowknife Ar	90.56	341	P	P	23 57 44.1	-0.6
	comp=N,0.2nm,0.5s,baz=139,slow=4.7,SNR=5.3						
MKAR	Makanchi Array	145.36	35	PKPbc	PKPbc	00 04 20.0	-0.5
	comp=N,0.4nm,0.7s,baz=330,slow=2.8,SNR=2.8						

*ISCJB **29** 23:52:34.0±0.2, 47.°50N±0.°01×10.°98E±0.°02, h4km±2km, Error ellipse: s-maj=2.1km s-min=1.8km az=169.3*
*VIE **29** 23:52:36.1±0.2, 47.°40N×11.°00E, h8km, mb1.4/7, ml2.3/13, Error ellipse: s-maj=1.5km s-min=1.0km az=5.0, felt 3-4 ems98 at Ehrwald / Tyrol*
*ROM **29** 23:52:36.4±0.3, 47.°39N±0.°02×11.°05E±0.°02, h10km, ML1.9/13, Error ellipse: s-maj=2.2km s-min=1.3km az=356.0*
*PRU **29** 23:52:37.1±0.0, 47.°45N×11.°04E, h0km, Ehrwald*
*BGR **29** 23:52:38.1±0.2, 47.°45N×11.°00E, h10km, ML2.3/15, Error ellipse: s-maj=4.4km s-min=2.2km az=163.0*
BGR Vibrations of objects are reported. Some people awoke by rumbling.
*LDG **29** 23:52:38.1±0.1, 47.°44N×11.°00E, h10km, Md2.7/2, Ml2.6/9, Error ellipse: s-maj=2.3km s-min=1.1km az=156.0*
ISC 29 23:52:35.8±0.9, 47.°44N±0.°02×10.°98E±0.°01, h9km±6km, n88, σ1.°37/138, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOTA	Moosalm	0.13	140	iPg	Pg	23 52 38.5	-0.4
	247nm,0.1s						
MOTA				iSg	Sg	23 52 40.3	-0.7
	462nm,0.1s						
RETA	Reutte	0.15	286	iPg	Pg	23 52 39.8	+0.6
	30nm,0.0s,SNR=106						
RETA				iSg	Sg	23 52 42.6	+1.0
	195nm,0.1s						
SQTA	Sankt Quirin	0.27	145	iPg	Pg	23 52 40.9	-0.4
	106nm,0.1s,SNR=306						
SQTA				iSg	Sg	23 52 44.4	-0.6
	168nm,0.1s						
WATA	Walderalm	0.42	105	ePg	Pg	23 52 43.4	-0.6
	12nm,0.1s,SNR=20						
WATA				iSg	Sg	23 52 49.8	+0.2
	22nm,0.1s						
FETA	Feichten	0.46	202	iPg	Pg	23 52 44.2	-0.5
	1.1nm,0.0s,SNR=28						
FETA				eSg	Sg	23 52 50.1	-0.6
	5.6nm,0.1s						
WTTA	Wattenberg	0.48	112	ePg	Pg	23 52 44.7	-0.5
	2.0nm,0.1s,SNR=10						
WTTA				eSg	Sg	23 52 51.5	0.0
	33nm,0.2s,SNR=16						
WTTA	Wattenberg	0.48	112	ePg	Pg	23 52 44.7	-0.5
	SNR=6.6						
WTTA				eSg	Sg	23 52 51.8	+0.3
	SNR=10						
WTTA	Wattenberg	0.48	112	P	Pg	23 52 44.6	-0.5
WTTA	Wattenberg	0.48	112	P	Pg	23 52 44.6	-0.5
WTTA				S	Sg	23 52 51.5	0.0
WTTA				AML	AML		
	comp=E,86μm,1.0s						
WTTA				AML	AML		
	comp=N,112μm,0.7s						
WTTA				AML	AML		
	comp=E,86μm,1.0s						
WTTA				AML	AML		
	comp=N,112μm,0.7s						
WTTA				AML	AML		
	comp=N,112μm,0.7s						
WTTA				AML	AML		
	comp=E,86μm,1.0s						
ROSI	Rosskopf	0.59	150	P	Pg	23 52 46.7	-0.7
ROSI				S	Sg	23 52 54.5	-0.7
ROSI				AML	AML		
	comp=E,113μm,0.2s						
ROSI				AML	AML		
	comp=N,118μm,1.2s						
ROSI				AML	AML		
	comp=E,113μm,0.2s						
ROSI				AML	AML		
	comp=N,118μm,1.2s						
ROSI				AML	AML		
	comp=E,113μm,0.2s						
ROSI				AML	AML		
	comp=N,118μm,1.2s						
ROSI	Rosskopf	0.59	150	P	Pg	23 52 46.7	-0.7
UBR	Ueberruh	0.64	292	ePg	Pb	23 52 50.0	+0.8
	SNR=6.4						
UBR				eSg	Sn	23 52 59.8	-1.6
	SNR=10.0						
FUR	Furstenfeldbru	0.75	15	ePg	Pn	23 52 52.1	-0.6
	SNR=3.9						
FUR				eSg	Sn	23 53 02.9	-1.2
	SNR=9.4						
ABSI	Aberstueckl	0.75	162	P	Pg	23 52 49.8	-0.5
ABSI				S	Sg	23 52 59.3	-0.8
ABSI				AML	AML		
	comp=E,108μm,1.1s						
ABSI				AML	AML		
	comp=N,58μm,0.2s						
ABSI				AML	AML		
	comp=E,108μm,1.1s						
ABSI				AML	AML		
	comp=N,58μm,0.2s						
ABSI				AML	AML		
	comp=E,108μm,1.1s						
ABSI				AML	AML		
	comp=N,58μm,0.2s						
ABSI	Aberstueckl	0.75	162	P	Pg	23 52 49.9	-0.5
DAVA	Damuels	0.77	259	ePg	Pb	23 52 51.2	-0.2
	comp=N,2.7nm,0.2s,SNR=10						
DAVA				eSg	Sg	23 53 00.9	+0.4
	comp=N,3.9nm,0.2s						
DAVA				eS	Sn	23 53 03.7	-1.0
	comp=N,49nm,0.5s						
DAVA	Damuels	0.77	259	ePg	Pb	23 52 51.2	-0.2
	SNR=6.9						
DAVA				eSg	Sn	23 53 03.7	-1.0
	SNR=7.0						
MOSI	Grossmontoni	0.88	200	P	Pg	23 52 52.2	-0.5
MOSI				AML	AML		
	comp=E,60μm,1.5s						
MOSI				AML	AML		
	comp=N,89μm,1.2s						
MOSI				AML	AML		
	comp=E,60μm,1.5s						
MOSI				AML	AML		
	comp=N,89μm,1.2s						
MOSI				AML	AML		
	comp=E,60μm,1.5s						
MOSI				AML	AML		
	comp=N,89μm,1.2s						
MOSI	Grossmontoni	0.88	200	P	Pg	23 52 52.3	-0.4
RISI	Rein	0.90	123	P	Pg	23 52 52.3	-0.8
RISI				AML	AML		
	comp=E,81μm,0.5s						
RISI				AML	AML		
	comp=N,113μm,1.3s						
RISI				AML	AML		
	comp=E,81μm,0.5s						
RISI				AML	AML		
	comp=N,113μm,1.3s						
RISI				AML	AML		
	comp=N,113μm,1.3s						
RISI				AML	AML		
	comp=E,81μm,0.5s						
RISI	Rein	0.90	123	P	Pg	23 52 52.3	-0.8
BRES	Bressanone	0.91	145	P	Pg	23 52 52.8	-0.5
BRES	Bressanone	0.91	145	P	Pg	23 52 52.8	-0.5
BRES				AML	AML		
	comp=E,49μm,0.5s						
BRES				AML	AML		
	comp=N,50μm,0.2s						
BRES				AML	AML		
	comp=E,49μm,0.5s						
BRES				AML	AML		
	comp=N,51μm,0.2s						
BRES				AML	AML		
	comp=N,51μm,0.2s						
BRES				AML	AML		
	comp=E,49μm,0.5s						
FUORN	Ofenpass-Fuorn	0.96	211	P	Pg	23 52 53.4	-0.9
FUORN				AML	AML		
	comp=E,83μm,0.2s						
FUORN				AML	AML		
	comp=N,66μm,0.6s						
FUORN				AML	AML		
	comp=E,83μm,0.2s						
FUORN				AML	AML		
	comp=N,66μm,0.6s						
FUORN	Ofenpass-Fuorn	0.96	211	P	Pg	23 52 53.5	-0.7
APPI	Appiano	0.98	170	P	Pg	23 52 54.3	-0.3
APPI				AML	AML		
	comp=E,59μm,0.2s						
APPI				AML	AML		
	comp=N,64μm,0.9s						
APPI				AML	AML		
	comp=E,59μm,0.2s						
APPI				AML	AML		
	comp=N,64μm,0.9s						
APPI	Appiano	0.98	170	P	Pg	23 52 54.5	-0.2
DAVOX	Davos/Dischmat	1.00	229	P	Pg	23 52 54.4	-0.7
DAVOX				AML	AML		
	comp=E,125μm,0.9s						
DAVOX				AML	AML		
	comp=N,146μm,0.5s						
DAVOX				AML	AML		
	comp=E,125μm,0.9s						
DAVOX				AML	AML		
	comp=N,146μm,0.5s						
DAVOX	Davos/Dischmat	1.00	229	P	Pg	23 52 54.9	-0.2
KOSI	Kohlern	1.02	164	P	Pg	23 52 54.8	-0.5
KOSI	Kohlern	1.02	164	P	Pg	23 52 54.9	-0.5
KOSI				AML	AML		
	comp=E,60μm,1.1s						
KOSI				AML	AML		
	comp=N,78μm,0.4s						
KOSI				AML	AML		
	comp=E,60μm,1.1s						
KOSI				AML	AML		
	comp=N,78μm,0.4s						
PLONS	Plons/SG	1.16	251	ePg	Pn	23 53 00.4	+2.1
	SNR=18						
PLONS				eSn	Sn	23 53 17.9	+3.6
PLONS	Plons/SG	1.16	251	P	Pn	23 52 59.1	+0.8
PLONS				AML	AML		
	comp=E,140μm,0.5s						
PLONS				AML	AML		
	comp=N,110μm,0.4s						
PLONS				AML	AML		
	comp=E,140μm,0.5s						
PLONS				AML	AML		
	comp=N,110μm,0.4s						
PLONS	Plons/SG	1.16	251	P	Pn	23 53 00.4	+2.1
PLONS	Plons/SG	1.16	251	S	Sn	23 53 19.0	+4.7
ABTA	Abfaltersbach	1.26	123	ePg	Pn	23 52 59.2	-0.5
	comp=N,1.3nm,0.2s						
ABTA				iSg	Sn	23 53 16.4	-0.3
	comp=N,1.4nm,0.1s						
ABTA				iS	Sg	23 53 22.7	+6.5
	comp=N,3.9nm,0.1s						
RJOB	Jochberg	1.26	76	ePg	Pg	23 53 01.9	+1.8
	SNR=12						
RJOB				eSg	Sn	23 53 21.0	+4.2
	SNR=4.9						
WILA	Wila	1.41	270	eSg	Sg	23 53 23.4	+2.3
	SNR=12						
CTI	Castel Tesino	1.47	162	P	Pg	23 53 05.2	+1.2
CTI	Castel Tesino	1.47	162	AML	AML		
	comp=E,59μm,1.1s						
CTI				AML	AML		
	comp=N,65μm,0.3s						
CTI				AML	AML		
	comp=N,65μm,0.3s						
CTI				AML	AML		
	comp=E,59μm,1.1s						
KBA	Koelnbreinsper	1.65	102	ePn	Pg	23 53 07.8	+0.4
	comp=E,0.6nm,0.1s						
KBA				eSg	Sg	23 53 31.4	+2.5
	comp=E,0.9nm,0.2s						
CGRP	Cima Grappa	1.66	160	P	Pg	23 53 08.4	+0.7
CGRP	Cima Grappa	1.66	160	AML	AML		
	comp=E,67μm,1.3s						
CGRP				AML	AML		
	comp=N,64μm,0.9s						
CGRP				AML	AML		
	comp=N,64μm,0.9s						
CGRP				AML	AML		
	comp=E,67μm,1.3s						
SLE	Schleitheim	1.71	282	eSg	Sg	23 53 32.6	+1.6
	SNR=9.6						
POLC	Polcenigo	1.76	143	P	Pg	23 53 10.6	+1.0
SULZ	Cheisacher	1.95	274	eSg	Sg	23 53 39.9	+1.5
	SNR=7.2						
MYKA	Terra Mystica	1.99	113	Sg	Sg	23 53 40.0	+0.1
	comp=E,5.4nm,0.4s,SNR=4.7						
BFO	Black Forest	1.99	297	eSg	Sg	23 53 41.3	+1.5
	SNR=6.7						
WET	Wettzell	2.12	36	eSg	Sg	23 53 44.1	+0.2
	SNR=2.4						
BALST	Balsthal	2.24	268	eSn	Sn	23 53 40.8	0.0
BALST				eSg	Sg	23 53 48.3	+0.7
	SNR=4.4						
GRF	Grafenberg Arr	2.26	4	eSg	Sg	23 53 49.3	+1.0
	SNR=4.8						
MOA	Molln	2.26	78	iPn	Pb	23 53 17.6	+0.8
	comp=E,0.9nm,0.2s						
MOA				iSg	Sg	23 53 48.4	+0.1
	comp=E,5.4nm,0.2s						
GEC2	GERESS Array S	2.30	51	ePg	Pg	23 53 19.0	-0.9
	SNR=3.6						
GEC2				eSn	Sn	23 53 43.5	+1.1
GEC2				eSg	Sg	23 53 49.3	-0.3
	SNR=3.3						
KHC	Kasperske Hory	2.42	45	ePG	Pb	23 53 20.0	+0.5
KHC				eSG	Sg	23 53 52.4	-1.1
	comp=E,5.7nm,0.4s						
ROTZ	Rotzenmuhle	2.46	19	ePg	Pg	23 53 23.8	+0.7
	SNR=2.9						
ROTZ				eSg	Sg	23 53 55.0	+0.1
	SNR=4.8						
MANZ	Manzenberg	2.65	16	eSn	Sn	23 53 50.4	-0.7
MANZ				eSg	Sg	23 54 00.1	-0.8
	SNR=3.1						
CDF	Champ du Feu	2.67	293	ePn	Pn	23 53 19.7	+0.6
CDF	Champ du Feu	2.67	293	ePg	Pg	23 53 27.7	+0.7
CDF				eSn	Sn	23 53 50.6	-1.1
CDF				eSg	Sg	23 54 02.1	+0.4
	comp=E,2.9nm,0.2s						
HINF	Hinteralfeld	2.82	279	ePn	Pn	23 53 21.6	+0.5
HINF	Hinteralfeld	2.82	279	ePg	Pg	23 53 30.3	+0.5
HINF				eSn	Sn	23 53 53.1	-2.1
HINF				eSg	Sg	23 54 06.8	+0.5
	comp=E,11nm,0.4s						
NKC	Novy Kostel	2.96	19	eSG	Sg	23 54 11.0	+0.3
	comp=E,6.7nm,0.3s						
WERN	Wernitzgruen	2.99	17	eSn	Sn	23 53 59.2	-0.2
WERN				eSg	Sg	23 54 11.8	-0.1
	SNR=3.4						
GUNZ	Gunzen	3.06	16	eSn	Sn	23 53 59.7	-1.3
TANN	Tannenbergstha	3.13	18	eSn	Sn	23 54 02.4	-0.5
TANN				eSg	Sg	23 54 17.1	+0.7
	SNR=3.3						
HAU	Haudompre	3.18	282	ePn	Pn	23 53 26.6	+0.6
HAU	Haudompre	3.18	282	ePg	Pg	23 53 37.3	+0.6
HAU				eSn	Sn	23 54 02.4	-1.6
HAU				eSg	Sg	23 54 18.1	+0.2
	comp=E,8.3nm,0.3s						
CONA	Conrad Observa	3.33	80	Pg	Pg	23 53 38.6	-1.0
	comp=E,0.4nm,0.2s						
CONA				iSn	Sn	23 54 09.4	+1.5
	comp=E,1.0nm,0.4s						
CONA				iSg	Sg	23 54 22.4	-0.4
	comp=E,1.0nm,0.2s						
CABF	La Chapelle	3.45	258	ePn	Pn	23 53 30.3	+0.5
CABF	La Chapelle	3.45	258	ePg	Pg	23 53 42.2	+0.3
CABF				eSn	Sn	23 54 08.9	-1.9
CABF				eSg	Sg	23 54 26.5	-0.1
	comp=E,2.1nm,0.3s						
PRU	Pruhonice	3.47	41	eSG	Sg	23 54 27.0	-0.2
	comp=E,2.9nm,0.5s						
GOPC	GO Pecny, Ondr	3.53	44	eSG	Sg	23 54 27.6	-1.6
	comp=E,3.9nm,0.6s						
PAGF	Fort de Pagny	3.70	289	ePn	Pn	23 53 33.7	+0.5
PAGF	Fort de Pagny	3.70	289	ePg	Pg	23 53 46.7	0.0
PAGF				eSn	Sn	23 54 14.8	-2.1
PAGF				eSg	Sg	23 54 34.4	-0.2
	comp=E,2.7nm,0.2s,baz=110						
BRG	Berggiesshubel	3.94	28	SG	Sg	23 54 42.0	-0.5
	comp=E,1.6nm,0.4s						
KRUC	Moravsky	3.96	64	ePN	Pn	23 53 39.3	+2.5
KRUC				ePG	Pg	23 53 50.1	-1.6
KRUC				eSN	Sn	23 54 23.7	+0.4
KRUC				eSG	Sg	23 54 40.8	-2.2
SFTF	Sexfontaines	4.08	283	eSg	Sg	23 54 46.4	-0.2
	comp=E,2.0nm,0.2s						
CLL	Collm	4.09	18	eSg	Sg	23 54 48.0	+1.0
VRAC	Vranov	4.18	61	ePN	Pn	23 53 41.0	+1.2
VRAC				ePG	Pg	23 53 54.1	-1.7
VRAC				eSN	Sn	23 54 26.4	-2.3
VRAC				eSG	Sg	23 54 47.4	-2.6
MMUR	Monte Murano	4.25	160	P	Pb	23 53 52.4	+1.7
DPC	Dobruska-Polom	4.57	48	eSG	Sg	23 55 01.2	-1.2
LOR	Lormes	4.84	271	ePn	Pn	23 53 49.1	+0.2
	baz=90						
LOR	Lormes	4.84	271	ePg	Pg	23 54 08.0	-0.6
	baz=89						

LOR				*e*Sn	**Sn**	**23 54 42.1**	**-3.0**
LOR				*e*Sg	**Sg**	**23 55 10.0**	**-1.3**
	comp=E,1.1nm,0.2s						
MORC	**Moravsky Berou**	**4.94**	**59**	*e*SG	**Sg**	**23 55 13.4**	**-0.9**
SMF	**Signal de Mont**	**4.95**	**263**	*e*Pn	**Pn**	**23 53 50.7**	**+0.4**
SMF	**Signal de Mont**	**4.95**	**263**	*e*Pg	**Pg**	**23 54 09.6**	**-0.9**
SMF				*e*Sn	**Sn**	**23 54 44.3**	**-3.3**
SMF				*e*Sg	**Sg**	**23 55 13.3**	**-1.3**
	comp=E,1.7nm,0.4s						
SSF	**Saint Saulge**	**5.11**	**268**	*e*Pg	**Pg**	**23 54 12.7**	**-0.9**
SSF				*e*Sg	**Sg**	**23 55 18.0**	**-1.7**
	comp=E,1.8nm,0.4s						
FIAM	**Fiamignano**	**5.39**	**163**	P	**Pb**	**23 54 08.8**	**-1.4**
GIUL	**Giuliano Di Ro**	**6.10**	**164**	P	**Pn**	**23 54 05.0**	**-1.3**

*ISCJB **30** 00:30:14.7±0.8, 17°.79S±0°.05×69°.99W±0°.10, h127km±6km, mb3.4/2, Error ellipse: s-maj=16.0km s-min=7.3km az=18.1*
*GUC **30** 00:30:15.7±0.6, 17°.75S×69°.91W, h107km±4km, ML3.1*
*IDC **30** 00:30:19.7±6.6, 17°.59S×69°.56W, h147km±39km, mb3.2/2, mb1 3.4/2, mb1mx3.1/18, mbtmp3.7/2, Error ellipse: s-maj=91.6km s-min=47.0km az=13.0*

ISC 30 00:30:15.0±1.2, 17°.79S±0°.06×70°.0W±0°.1, h124km±8km, n21, σ1°.41/36, 6C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.73**	**138**	⇑*i*P	**Pn**	**00 30 35.4**	**-0.2**
PB16				*e*S	**Sn**	**00 30 50.0**	**-1.1**
PB16				IAML		00 30 52.4	
	comp=N,603nm,0.7s						
PB12	**IPOC Station P**	**0.87**	**200**	⇑*i*P	**Pn**	**00 30 36.2**	**-0.1**
PB12				*e*S	**Sn**	**00 30 52.3**	**-0.1**
PB12				IAML		00 30 53.4	
	comp=N,897nm,0.2s						
MNMC	**Minye Minye**	**1.39**	**163**	⇑*i*P	**Pn**	**00 30 42.3**	**+0.5**
MNMC				*e*S	**Sn**	**00 31 02.2**	**+0.1**
MNMCX	**Minye Minye**	**1.39**	**163**	*e*P	**Pn**	**00 30 42.3**	**+0.5**
MNMCX				*e*S	**Sn**	**00 31 02.3**	**+0.1**
PSGC	**Pisagua**	**1.80**	**183**	⇑*i*P	**Pn**	**00 30 46.3**	**0.0**
PSGC				*e*S	**Sn**	**00 31 10.2**	**0.0**
PSGC				IAML		00 31 15.8	
	comp=N,146nm,0.1s						
PSGCX	**Pisagua**	**1.80**	**183**	*e*P	**Pn**	**00 30 46.3**	**0.0**
PSGCX				*e*S	**Sn**	**00 31 10.2**	**-0.1**
PB11	**IPOC Station P**	**1.99**	**170**	*e*P	**Pn**	**00 30 49.4**	**+0.7**
PB11				*e*S	**Sn**	**00 31 14.7**	**+0.2**
PB11	**IPOC Station P**	**1.99**	**170**	⇑*i*P	**Pn**	**00 30 49.4**	**+0.7**
PB11				*e*S	**Sn**	**00 31 15.1**	**+0.5**
PB11				IAML		00 31 16.8	
	comp=E,301nm,0.4s						
GO01	**Chusmiza**	**2.03**	**158**	⇑*i*P	**Pn**	**00 30 50.4**	**+0.9**
GO01				*e*S	**Sn**	**00 31 16.9**	**+1.1**
LPAZ	**La Paz**	**2.34**	**51**	⇓*i*P	**Pn**	**00 30 53.6**	**+0.1**
LPAZ	**La Paz**	**2.34**	**51**	P	**Pn**	**00 30 53.9**	**+0.4**
	comp=E,1.8nm,0.3s,baz=235,slow=2.4,SNR=54						
LPAZ				S	**Sn**	**00 31 20.5**	**-2.4**
	comp=E,1.1nm,0.3s,baz=256,slow=4.9,SNR=3.6						
PB08	**IPOC Station P**	**2.48**	**161**	*e*P	**Pn**	**00 30 55.8**	**+0.8**
PB08				*e*S	**Sn**	**00 31 26.1**	**+0.4**
PB02	**IPOC Station P**	**3.52**	**178**	*e*P	**Pn**	**00 31 09.1**	**+0.9**
PB02				*e*S	**Sn**	**00 31 46.7**	**-2.8**
PB07	**IPOC Station P**	**3.92**	**178**	*e*P	**Pn**	**00 31 15.2**	**+1.4**
PB07				*e*S	**Sn**	**00 31 55.1**	**-4.1**
PB09	**IPOC Station P**	**4.05**	**170**	*e*P	**Pn**	**00 31 16.7**	**+1.2**
PB09				*e*S	**Sn**	**00 32 00.5**	**-1.9**
PB03	**IPOC Station P**	**4.25**	**177**	*e*P	**Pn**	**00 31 18.4**	**+0.3**
PB03				*e*S	**Sn**	**00 32 03.1**	**-3.9**
PB04	**IPOC Station P**	**4.52**	**182**	*e*P	**Pn**	**00 31 22.0**	**+0.2**
PB06	**IPOC Station P**	**4.91**	**175**	*e*P	**Pn**	**00 31 26.7**	**-0.2**
PB05	**IPOC Station P**	**5.04**	**182**	*e*P	**Pn**	**00 31 28.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**77.14**	**72**	P	**P**	**00 41 54.9**	**-0.6**
	comp=E,0.4nm,0.5s,baz=256,slow=5.4,SNR=15						
YKA	**Yellowknife Ar**	**87.36**	**341**	P	**P**	**00 42 49.3**	**+1.7**
	comp=E,0.2nm,0.4s,baz=131,slow=4.6,SNR=6.8						

*DDA **30** 00:34:09.9, 37°.32N×37°.11E, h7km±2km, ML3.1*
*ISK **30** 00:34:09.4, 37°.33N×37°.14E, h1km, ML2.2/9*
*ISCJB **30** 00:34:10.7±0.6, 37°.28N±0°.04×37°.11E±0°.04, h7km±6km, Error ellipse: s-maj=7.6km s-min=5.1km az=19.9*

ISC 30 00:34:10.4±1.0, 37°.31N±0°.04×37°.11E±0°.03, h9km±8km, n19, σ0°.64/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.16**	**150**	PG	**Pg**	**00 34 13.6**	**-0.2**
GAZ				SG	**Sg**	**00 34 16.5**	**+0.3**
HCB	**Kahramanmara**	**0.17**	**282**	IAML_P			
	comp=Z,22μm,0.1s						
HCB				*i* P	**Pg**	**00 34 14.5**	**+0.6**
KMRS	**Kahramanmaras**	**0.26**	**319**	PG	**Pg**	**00 34 15.4**	**-0.2**
AYKD	**Aykdinkavak**	**0.26**	**293**	IAML_P			
	comp=Z,10μm,0.1s						
AYKD				*i* P	**Pb**	**00 34 16.9**	**-0.5**
AYKD				*i* S	**Sg**	**00 34 19.9**	**+0.6**
GZT	**Gaziantep**	**0.36**	**83**	IAML_P			
	comp=Z,4μm,0.1s						
GZT				*i* P	**Pg**	**00 34 17.4**	**-0.2**
KAMA	**Osmaniye**	**0.37**	**251**	IAML_P			
	comp=Z,8μm,0.1s						
KAMA				*i* P	**Pb**	**00 34 18.2**	**-1.1**
KAMA				*i* S	**Sg**	**00 34 23.1**	**+0.4**
KUZU	**Kuzuini**	**0.54**	**183**	IAML_P			
	comp=Z,7μm,0.3s						
KUZU				*i* P	**Pg**	**00 34 21.0**	**+0.2**
ANDN	**Andirin**	**0.67**	**294**	IAML_P			
	comp=Z,1μm,0.1s						
ANDN				*i* P	**Pg**	**00 34 22.6**	**-0.7**
ATAB	**Bozova**	**0.96**	**80**	IAML_P			
	comp=Z,11μm,0.2s						
ATAB				*i* P	**Pn**	**00 34 29.1**	**-0.9**
ELBS	**KAHRAMANMARAS**	**1.01**	**1**	IAML_P			
	comp=Z,1μm,0.2s						
ELBS				*i* P	**Pn**	**00 34 31.2**	**+0.2**
ELBS				*i* S	**Sn**	**00 34 46.3**	**+0.8**
KOZT	**Kozan**	**1.04**	**280**	PG	**Pn**	**00 34 30.7**	**-0.5**
KOZT				SG	**Sn**	**00 34 46.4**	**+0.6**
SAIM	**ADANA**	**1.05**	**309**	*i* P	**Pn**	**00 34 31.0**	**-0.5**
CEYT	**Ceyhan**	**1.13**	**255**	PN	**Pn**	**00 34 32.4**	**0.0**
AKCD	**Akcadag**	**1.18**	**33**	IAML_P			
	comp=Z,986nm,0.1s						
AKCD				*i* P	**Pn**	**00 34 33.9**	**+0.6**
AKCD				*i* S	**Sn**	**00 34 50.1**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.19**	**219**	PN	**Pn**	**00 34 34.0**	**+0.7**
DARE	**Darende-Malaty**	**1.29**	**13**	PN	**Pn**	**00 34 34.8**	**0.0**
DARE				SN	**Sn**	**00 34 53.1**	**+0.8**
URFA	**Urfa**	**1.37**	**84**	PN	**Pb**	**00 34 35.6**	**-0.7**
BNN	**Bunyan**	**1.83**	**327**	PN	**Pb**	**00 34 43.4**	**-0.8**
SVRC	**Sivrice-ELAZID**	**2.04**	**58**	PN	**Pn**	**00 34 45.8**	**+0.7**

*STR **30** 00:44:45.5±0.7, 50°.N±6°.×°.±1°.4, h5km±4km, M1.9/7, MLv1.9/7*

LDG 30 00:44:44.8±0.1, 49°.78N×7°.43E, h10km, Md2.1/2, Ml2.1/8, 1C-1D, Error ellipse: s-maj=1.4km s-min=1.3km az=85.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABH	**Alteburg**	**0.12**	**37**	Pg	Pg	00 44 47.5	-0.3
ABH				Sg	Sg	00 44 49.2	-0.8
WLF	**Walferdange**	**0.84**	**262**	⇑P	Pg	00 45 00.7	-0.2
WLF	**Walferdange**	**0.84**	**262**	S	Sb	00 45 13.0	+0.3
	comp=N,7.8nm,0.2s						
WLF	**Walferdange**	**0.84**	**262**	P	Pb	00 45 01.2	-0.2
LKLB	**Kalborn**	**0.91**	**291**	⇓P	Pb	00 45 02.6	0.0
LKLB				S	Sg	00 45 14.1	-0.1
	comp=N,4.4nm,0.2s						
BHOU	**Houvegnez**	**1.08**	**302**	P	Pg	00 45 05.0	-0.6
BHOU				S	Sg	00 45 18.9	-0.7
MEM	**Membach**	**1.23**	**313**	P	Pn	00 45 06.5	-1.6
MEM				S	Sb	00 45 23.4	-0.7
MEM	**Membach**	**1.23**	**313**	P	Pn	00 45 07.8	-0.3
CDF	**Champ du Feu**	**1.38**	**184**	*e*Pg	Pn	00 45 10.3	+0.2
CDF				*e*Sg	Sb	00 45 28.2	-0.1
	comp=N,3.9nm,0.3s						
OPP	**Oppenau**	**1.38**	**159**	Pg	Pg	00 45 11.5	+0.2
OPP				Sg	Sn	00 45 28.8	+0.4
BCLA	**Clavier**	**1.51**	**296**	S	Sn	00 45 30.4	-1.3
ECH	**Echery**	**1.58**	**187**	Pn	Pb	00 45 14.2	+0.1
PAGF	**Fort de Pagny**	**1.66**	**223**	*e*Pg	Pn	00 45 14.2	+0.2
	baz=41						
PAGF				*e*Sg	Sn	00 45 35.8	+0.4
	comp=N,1.3nm,0.2s,baz=50						
GIVF	**Givet**	**1.71**	**282**	*e*Pg	Pb	00 45 16.1	-0.3
GIVF				*e*Sg	Sg	00 45 39.2	-0.7
	comp=N,6.3nm,0.3s						
HAU	**Haudompre**	**1.92**	**202**	*e*Pn	Pn	00 45 15.6	-1.9
HAU	**Haudompre**	**1.92**	**202**	*e*Pg	Pb	00 45 19.7	-0.1
HAU				*e*Sn	Sn	00 45 38.4	-3.3
HAU				*e*Sg	Sb	00 45 44.8	+1.0
	comp=N,1.6nm,0.2s						
HINF	**Hinteralfeld**	**2.00**	**191**	*e*Pg	Pb	00 45 21.4	0.0
HINF				*e*Sg	Sg	00 45 47.9	-1.3
	comp=N,1.8nm,0.2s						
MEZF	**Maizieres J'vi**	**2.02**	**232**	*e*Pg	Pb	00 45 20.4	-1.2
	baz=50						
MEZF				*e*Sg	Sb	00 45 46.5	-0.3
	comp=N,1.1nm,0.2s,baz=57						
BAIF	**Baives**	**2.10**	**279**	*e*P	Pn	00 45 20.0	0.0
BAIF	**Baives**	**2.10**	**279**	*e*Pg	Pb	00 45 23.9	+0.9
BAIF				*e*Sg	Sb	00 45 50.3	+1.2
	comp=N,2.0nm,0.3s						
SFTF	**Sexfontaines**	**2.23**	**226**	*e*Pg	Pb	00 45 25.6	+0.4
SFTF				*e*Sg	Sb	00 45 54.6	+1.8
	comp=N,2.2nm,0.3s,baz=59						

*DDA **30** 01:00:35.8, 40°.58N×36°.81E, h6km±2km, ML2.7*
*ISK **30** 01:00:36.0, 40°.56N×36°.82E, h8km, ML1.9/6*

ISC 30 01:00:36.1±0.9, 40°.58N±0°.04×36°.82E±0°.03, h17km±8km, n13, σ0°.82/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBA	**Erbaa**	**0.11**	**333**	IAML_P			
	comp=Z,39μm,0.1s						
ERBA				*i* P	**Pg**	**01 00 39.7**	**-0.1**
ERBA				*i* S	**Sb**	**01 00 41.0**	**-1.2**
TOKT	**Tokat**	**0.34**	**218**	PG	**Pg**	**01 00 42.5**	**-0.7**
TOKT				SG	**Sg**	**01 00 47.9**	**-0.2**
TOKA	**Tokat**	**0.37**	**225**	IAML_P			
	comp=Z,3μm,0.1s						
TOKA				*i* P	**Pg**	**01 00 43.0**	**-0.7**
RSDY	**Resadiye-TOKAT**	**0.43**	**116**	PG	**Pg**	**01 00 44.9**	**0.0**
RSDY				SG	**Sg**	**01 00 50.9**	**+0.1**
SVSK	**Karacayir**	**0.68**	**168**	PG	**Pb**	**01 00 49.2**	**-0.3**
SVSK				SG	**Sg**	**01 00 59.1**	**+0.6**
KVT	**Kavak**	**0.77**	**310**	PG	**Pg**	**01 00 51.6**	**+0.5**
ORDU	**Ordu-Boztepe**	**0.89**	**62**	IAML_P			
	comp=Z,189nm,0.1s						
ORDU				*i* P	**Pn**	**01 00 53.9**	**+0.1**
SUSE	**Susehri**	**1.12**	**109**	IAML_P			
	comp=Z,749nm,0.1s						
SUSE				*i* P	**Pb**	**01 00 57.2**	**+0.1**
SUSE				*i* S	**Sg**	**01 01 13.2**	**+0.7**
CUSAR	**Sarkisla-SIVAS**	**1.25**	**201**	*i* P	**Pb**	**01 00 59.1**	**-0.1**
CUSAR				*i* S	**Sg**	**01 01 18.0**	**+1.5**
CUKAN	**kangal_SIVAS**	**1.36**	**158**	*i* P	**Pg**	**01 01 02.1**	**-0.2**
CUKAN				*i* S	**Sg**	**01 01 21.9**	**+1.8**
YOZ	**Yozgat**	**1.49**	**231**	PN	**Pb**	**01 01 03.3**	**0.0**
CORM	**Corum**	**1.72**	**257**	PN	**Pb**	**01 01 07.8**	**+0.5**
KELT	**Kelkit**	**1.91**	**102**	IAML_P			
	comp=Z,134nm,0.2s						
KELT				*i* P	**Pb**	**01 01 11.1**	**+0.4**
KELT				*i* S	**Sg**	**01 01 36.4**	**-1.3**

*GII **30** 01:04:35.2±0.0, 33°.49N×38°.74E, h32km, MD3.6/8*
*NSSC **30** 01:04:37.6±1.3, 32°.59N×37°.99E, h10km±16km, ML3.6*
*GRAL **30** 01:04:40.5±0.5, 33°.21N×38°.07E, h0km±11km, MD3.9*

ISC 30 01:04:37.6±3.4, 33°.22N±0°.05×38°.24E±0°.08, h4km±26km, n50, σ1°.24/65, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOTH	**TOTAH**	**1.52**	**276**	*e*P	**Pn**	**01 05 04.9**	**-0.8**
TOTH				*e*S	**Sn**	**01 05 24.7**	**-1.3**
TOTH				*e*S	**Sb**	**01 05 25.0**	**-1.2**
TOTH				AML	AML	01 05 26.6	
	comp=N,1μm,0.2s						
TOTH				AML	AML	01 05 28.4	
	comp=E,442nm,0.4s						
ASF	**Jabal al Asfar**	**1.54**	**228**	Pn	**Pn**	**01 05 06.0**	**+0.1**
QASN	**Qassioun**	**1.67**	**281**	*e*P	**Pn**	**01 05 07.7**	**-0.1**
QASN				*e*S	**Sn**	**01 05 29.7**	**0.0**
QASN				AML	AML	01 05 31.2	
	comp=E,1μm,0.3s						
QASN				AML	AML	01 05 31.4	
	comp=N,3μm,0.4s						
BRBR	**Barbar**	**1.93**	**276**	*e*P	**Pn**	**01 05 11.0**	**-0.4**
BRBR				*e*S	**Sn**	**01 05 33.4**	**-2.7**
BRBR				AML	AML	01 05 38.1	
	comp=N,821nm,0.4s						
BRBR				AML	AML	01 05 38.3	
	comp=E,596nm,0.3s						
RCY	**Rachaya**	**2.03**	**279**	*e*P	**Pn**	**01 05 12.8**	**+0.1**
HSUJ	**Al Zarqa**	**2.05**	**238**	P	**Pn**	**01 05 13.3**	**+0.4**
	comp=E,416nm,0.7s						
KSHT	**Keshet**	**2.05**	**264**	Pn	**Pn**	**01 05 12.6**	**-0.3**
SHBL	**Chebaa**	**2.10**	**274**	*e*P	**Pn**	**01 05 13.7**	**0.0**
SHBL				*e*S	**Sn**	**01 05 38.2**	**-1.9**
NATI	**Neve Ativ**	**2.10**	**272**	Pn	**Pn**	**01 05 13.0**	**-0.5**
NATI				Sn	**Sn**	**01 05 41.3**	**+1.3**
SHMJ	**Saham**	**2.14**	**257**	P	**Pn**	**01 05 14.8**	**+0.7**
GEM	**Giv'at Ha'Em**	**2.16**	**271**	Pn	**Pn**	**01 05 13.5**	**-0.9**
GEM				Sn	**Sn**	**01 05 43.5**	**+1.9**
KSDI	**Kefar Szold**	**2.16**	**270**	Pn	**Pn**	**01 05 13.7**	**-0.7**
KSDI				Sn	**Sn**	**01 05 43.6**	**+1.9**
QRWL	**Qaraoun**	**2.17**	**279**	*e*P	**Pn**	**01 05 14.6**	**+0.1**
QRWL				*e*S	**Sn**	**01 05 40.0**	**-1.8**
HWQ	**Hawqa**	**2.18**	**300**	*e*P	**Pn**	**01 05 15.2**	**+0.3**
BHL	**Bhannes**	**2.27**	**288**	*e*P	**Pn**	**01 05 16.2**	**+0.3**
DQRL	**Deir Qamar**	**2.29**	**283**	*e*P	**Pn**	**01 05 16.3**	**+0.2**
DQRL				*e*S	**Sn**	**01 05 42.8**	**-2.0**
MMA0B	**Mount Meron ar**	**2.39**	**266**	Pn	**Pn**	**01 05 17.0**	**-0.6**
MMA0B				Sn	**Sn**	**01 05 49.5**	**+2.2**
HMDT	**Nahal Hemdat**	**2.48**	**248**	Pn	**Pn**	**01 05 18.9**	**+0.1**
HMDT				Sn	**Sb**	**01 05 54.0**	**+0.4**
MMLI	**Mount Malkishu**	**2.50**	**253**	*e*P	**Pb**	**01 05 22.1**	**-0.9**
MMLI	**Mount Malkishu**	**2.50**	**253**	Pn	**Pn**	**01 05 19.1**	**+0.1**
HNTI	**Hanita**	**2.58**	**268**	Pn	**Pn**	**01 05 19.0**	**-1.1**
HNTI				Sn	**Sn**	**01 05 53.5**	**+1.7**
WALJ	**Wala**	**2.64**	**232**	P	**Pn**	**01 05 21.1**	**+0.2**
	comp=E,235nm,0.5s						
UJAP	**Al Uja**	**2.66**	**242**	Pn	**Pn**	**01 05 21.1**	**-0.1**
UJAP				Sn	**Sb**	**01 05 57.9**	**-0.9**
SWQJ	**Swaqa**	**2.70**	**224**	P	**Pn**	**01 05 20.3**	**-1.6**
	comp=E,347nm,0.7s						
OFRI	**`Ofer**	**2.80**	**259**	Pn	**Pn**	**01 05 23.2**	**0.0**
OFRI				Sn	**Sn**	**01 05 59.7**	**+2.2**
SLTI	**Sal'it**	**2.87**	**251**	Pn	**Pn**	**01 05 24.3**	**+0.2**
SLTI				Sn	**Sn**	**01 06 01.8**	**+2.8**
DSI	**Dead Sea**	**2.92**	**237**	Pn	**Pn**	**01 05 24.8**	**-0.1**
GHAJ	**Ghor Haditha**	**2.96**	**231**	P	**Pn**	**01 05 26.2**	**+0.8**
	comp=E,196nm,0.4s						
GHAJ	**Ghor Haditha**	**2.96**	**231**	Pn	**Pn**	**01 05 25.0**	**-0.4**
LISJ	**El Lisan**	**3.06**	**231**	P	**Pn**	**01 05 27.3**	**+0.6**
	comp=E,43nm,0.5s						
MZDA	**Masada**	**3.09**	**233**	Pn	**Pn**	**01 05 27.6**	**+0.5**
MDBI	**Mazsada**	**3.09**	**233**	Pn	**Pn**	**01 05 27.3**	**+0.2**
YTIR	**Yattir**	**3.23**	**236**	Pn	**Pn**	**01 05 29.0**	**-0.1**
YTIR				Sn	**Sb**	**01 06 12.4**	**-2.8**
AMAZ	**Amatzia**	**3.28**	**240**	P	**Pb**	**01 05 38.2**	**+1.9**
AMAZ	**Amatzia**	**3.28**	**240**	Pn	**Pn**	**01 05 29.0**	**-0.7**
JDRJ	**Daraweish**	**3.31**	**222**	P	**Pn**	**01 05 29.4**	**-0.9**
TAHT	**Tahtakopru-Hat**	**3.58**	**332**	*e*P	**Pn**	**01 05 33.6**	**-0.2**
PRNI	**Paran**	**3.97**	**225**	Pn	**Pn**	**01 05 39.1**	**-0.2**
KZIT	**Kziot**	**4.00**	**236**	Pn	**Pn**	**01 05 39.5**	**-0.1**
KRTS	**Karatas**	**4.09**	**326**	*e*P	**Pn**	**01 05 44.9**	**+4.0**
HRFI	**Mount Harif**	**4.19**	**222**	Pn	**Pn**	**01 05 42.2**	**0.0**
URFA	**Urfa**	**4.24**	**6**	*e*P	**Pn**	**01 05 42.1**	**-0.9**
KRMI	**Paran Flat**	**4.30**	**225**	Pn	**Pn**	**01 05 43.7**	**-0.2**
MBRI	**Mt Berech**	**4.44**	**221**	Pn	**Pn**	**01 05 46.1**	**+0.3**
EIL	**Elat**	**4.52**	**219**	Pn	**Pn**	**01 05 47.2**	**+0.4**
KARA	**Karaisali**	**4.80**	**328**	*e*P	**Pn**	**01 05 51.7**	**+1.0**
IKL	**Isikli**	**4.81**	**310**	*e*P	Pn	01 05 57.1	+6.3
BERE	**Bereket-Mersin**	**5.18**	**308**	*e*P	Pn	01 06 00.5	+4.5
SVRC	**Sivrice-ELAZID**	**5.22**	**9**	*e*P	**Pn**	**01 05 55.8**	**-0.8**
SVAN	**Silvan-Diyarba**	**5.48**	**25**	*e*P	**Pn**	**01 05 59.5**	**-0.5**

TAP 30 01:07:26.1, 22°.44N×120°.53E, h23km, ML2.3, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSPT	**Xinbi**	**0.06**	**40**	P	Pb	01 07 30.2	-0.1
	baz=39						
SSPT				*e*S	Sb	01 07 34.0	+0.9
	baz=39						
SCZT	**Fangliau**	**0.11**	**125**	P	Pb	01 07 30.9	+0.3
	baz=123						
SCZT				*e*S	Sb	01 07 34.5	+0.9
	baz=123						
WLCH	**Liuqiu**	**0.16**	**238**	P	Pb	01 07 31.7	+0.6
	baz=238						
WLCH				S	Sb	01 07 35.5	+1.0
	baz=238						
TWP	**Hsiaoliuchiu**	**0.17**	**240**	*e*P	Pb	01 07 31.7	+0.4
	baz=238						
TWP				*e*S	Sb	01 07 35.9	+1.1
	baz=238						
MASBT	**Mashibuluo**	**0.20**	**29**	P	Pb	01 07 31.7	0.0
	baz=29						
MASBT				*e*S	Sb	01 07 36.8	+1.4
	baz=29						
KAU	**Kaohsiung**	**0.24**	**303**	*e*P	Pb	01 07 32.3	+0.2
	baz=304						
KAU				*e*S	Sb	01 07 37.2	+0.9
	baz=304						
EAST	**Anshuo**	**0.30**	**100**	P	Pb	01 07 33.9	+0.8
	baz=99						
EAST				*e*S	Sb	01 07 39.3	+1.4
	baz=99						
SSD	**Sandimen**	**0.33**	**18**	*e*P	Pb	01 07 33.9	+0.5
	baz=19						
SSD				*e*S	Sb	01 07 39.7	+1.3
	baz=19						
TAW	**Tawu**	**0.35**	**103**	*e*P	Pb	01 07 34.4	+0.6
	baz=102						
TAW				*e*S	Sb	01 07 40.5	+1.5
	baz=102						
SNJT	**Kaohsiung City**	**0.36**	**331**	*e*P	Pb	01 07 34.5	+0.5
	baz=331						
SNJT				*e*S	Sn	01 07 40.9	-1.5
	baz=331						
TWM1	**Shoushan**	**0.40**	**346**	*e*P	Pb	01 07 34.9	+0.3
	baz=347						
TWM1				*e*S	Sb	01 07 41.7	+1.3
	baz=347						
ECL	**Taimali**	**0.43**	**68**	*e*P	Pb	01 07 35.8	+0.7
	baz=68						
ECL				*e*S	Sn	01 07 42.7	-1.3
	baz=68						
HEN	**Hengchun**	**0.47**	**155**	*e*P	Pb	01 07 36.4	+0.6
	baz=154						
HEN				*e*S	Sn	01 07 44.3	-0.8
	baz=154						
TWK1	**Hengchun**	**0.55**	**152**	*e*P	Pn	01 07 37.9	-0.7
	baz=151						
TWK1				*e*S	Sn	01 07 46.3	-0.8
	baz=151						
TWKBT	**Hengchun**	**0.56**	**152**	*e*P	Pb	01 07 37.9	+0.6
	baz=151						
TWKBT				*e*S	Sn	01 07 46.2	-1.1
	baz=151						
SLGT	**Liugui**	**0.57**	**11**	*e*P	Pb	01 07 37.9	+0.5
	baz=11						
SLGT				*e*S	Sn	01 07 46.9	-0.6
	baz=11						
TWG	**Pinlang**	**0.64**	**53**	P	Pn	01 07 39.2	-0.5
	baz=53						
TWG				*e*S	Sn	01 07 48.9	-0.2
	baz=53						
TSEB	**Hengchuen, Pin**	**0.64**	**147**	*e*P	Pb	01 07 38.8	+0.2
	baz=150						
TSEB				*e*S	Sb	01 07 48.0	+1.0
	baz=150						
TWGBT	**Beinan**	**0.64**	**53**	P	Pb	01 07 39.1	+0.4
	baz=53						
TWGBT				*e*S	Sn	01 07 48.9	-0.3
	baz=53						
SGST	**Jiashian**	**0.65**	**5**	*e*P	Pb	01 07 39.4	+0.5
	baz=5.0						
SGST				*e*S	Sn	01 07 48.8	-0.7
	baz=5.0						
TTN	**Taitung**	**0.66**	**61**	*e*P	Pb	01 07 39.4	+0.4
	baz=61						
TTN				*e*S	Sn	01 07 49.4	-0.3
	baz=61						
TAI1	**Yung-k'ang**	**0.66**	**336**	*e*P	Pn	01 07 39.6	-0.5
	baz=336						
TAI1				*e*S	Sn	01 07 49.2	-0.6
	baz=336						
CHN1	**Nanshi**	**0.75**	**0**	*e*P	Pb	01 07 40.8	+0.3
CHN1				*e*S	Sn	01 07 51.6	-0.3
STYT	**Tauyuan**	**0.76**	**16**	*e*P	Pn	01 07 41.2	-0.2
	baz=17						
STYT				*e*S	Sn	01 07 52.2	0.0
	baz=17						
SNST	**Tainan City**	**0.78**	**358**	*e*P	Pn	01 07 41.6	-0.2
	baz=358						
SNST				*e*S	Sn	01 07 52.6	-0.2
	baz=358						
SCLT	**Jiali**	**0.80**	**338**	*e*P	Pb	01 07 41.6	+0.2
	baz=337						
SCLT				*e*S	Sn	01 07 52.9	-0.3
	baz=337						
WTP	**Ta-pu**	**0.81**	**6**	*e*P	Pb	01 07 41.9	+0.2
	baz=6.0						
WTP				*e*S	Sn	01 07 53.8	+0.2

	baz=13						
TYC	**Yuchr**	**1.49**	**12**	*e*P	Pn	01 07 52.1	+0.5
	baz=12						
TYC				*e*S	Sn	01 08 10.6	+0.3
	baz=12						
CHGB	**Renai**	**1.72**	**20**	*e*P	Pb	01 07 56.2	-1.1
	baz=20						
CHGB				*e*S	Sn	01 08 16.9	+0.5
	baz=20						
ENLB	**Shoufeng**	**1.77**	**34**	*e*P	Pn	01 07 55.5	+0.1
	baz=34						
ENLB				*e*S	Sn	01 08 17.7	+0.6
	baz=34						
WHF	**Hehuan Shan**	**1.83**	**22**	*e*P	Pn	01 07 57.2	+0.6
	baz=21						
WHF				*e*S	Sn	01 08 19.0	-0.3
	baz=21						
TDCB	**Techi**	**1.90**	**18**	*e*P	Pn	01 07 58.0	+0.7
	baz=17						
TDCB				*e*S	Sn	01 08 20.7	+0.1
	baz=17						
TWQ1	**Liyutan**	**1.92**	**7**	*e*P	Pn	01 07 58.1	+0.7
	baz=6.0						
TWQ1				*e*S	Sn	01 08 21.3	+0.4
	baz=6.0						
ETLH	**Xiulin Townshi**	**1.97**	**26**	*e*S	Sn	01 08 22.3	0.0
	baz=26						

*ISCJB **30** 01:07:28.0±0.4,24°.48N×0°.03×122°.88E±0°.02,h58km,*
Error ellipse: s-maj=4.5km s-min=2.9km az=5.6
*TAP **30** 01:07:27.6,24°.47N×122°.91E,h47km,ML3.0,C*
*JMA **30** 01:07:27.8±0.2,24°.78N×122°.91E,h30km±3km,M1.9*

ISC 30 01:07:28.3±1.2,24°.49N±0°.04×122°.89E±0°.03,h58km,n44,
σ0s87/84,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.06**	**125**	P	**Pn**	**01 07 35.3**	**-1.6**
JYNG				S	**Sn**	**01 07 41.1**	**-2.1**
YOJ	**Yonaguni jima**	**0.11**	**102**	P	**Pn**	**01 07 35.4**	**-1.7**
	baz=89						
YOJ				S	**Sn**	**01 07 40.8**	**-2.6**
	baz=89						
YOJ	**Yonaguni jima**	**0.11**	**102**	P	**Pn**	**01 07 35.4**	**-1.7**
YOJ				*e*S	**Sn**	**01 07 40.5**	**-2.9**
EOS1	**EOS1**	**0.70**	**275**	P	**Pn**	**01 07 42.0**	**-0.3**
	baz=276						
EOS1				*e*S	**Sn**	**01 07 52.8**	**+0.2**
	baz=276						
IRIF	**Iriomote-Funau**	**0.78**	**101**	P	**Pn**	**01 07 43.8**	**+0.5**
HATJ	**Hateruma jima**	**0.94**	**117**	P	**Pn**	**01 07 47.4**	**+2.0**
EGS		**0.95**	**293**	*e*P	**Pn**	**01 07 44.5**	**-1.0**
	baz=292						
EGS				*e*S	**Sn**	**01 07 58.8**	**+0.6**
	baz=292						
TWC	**Suao**	**0.96**	**278**	*e*P	**Pn**	**01 07 45.8**	**+0.1**
	baz=278						
TWC				*e*S	**Sn**	**01 07 58.7**	**+0.2**
	baz=278						
TWB1	**Santiao Chiao**	**0.97**	**303**	*e*P	**Pn**	**01 07 45.7**	**-0.2**
	baz=302						
TWB1				*e*S	**Sn**	**01 07 58.4**	**-0.5**
	baz=302						
NTC	**Toucheng**	**1.04**	**291**	*e*P	**Pn**	**01 07 46.6**	**-0.1**
	baz=291						
NTC				*e*S	**Sn**	**01 08 00.8**	**+0.5**
	baz=291						
JKRS	**Kuro-shima**	**1.05**	**103**	P	**Pn**	**01 07 47.5**	**+0.7**
JKRS				S	**Sn**	**01 08 02.4**	**+1.8**
ENA	**Nanau**	**1.05**	**267**	*e*P	**Pn**	**01 07 47.6**	**+0.7**
	baz=267						
ENA				*e*S	**Sn**	**01 08 00.9**	**+0.2**
	baz=267						
TIPB	**Shuangxi**	**1.09**	**297**	*e*P	**Pn**	**01 07 47.5**	**+0.1**
	baz=296						
TIPB				*e*S	**Sn**	**01 08 02.5**	**+0.9**
	baz=296						
TWE	**Neicheng**	**1.14**	**282**	*e*P	**Pn**	**01 07 47.4**	**-0.7**
	baz=282						
TWE				*e*S	**Sn**	**01 08 02.9**	**+0.1**
	baz=282						
JIJ	**Ishigaki jima**	**1.15**	**96**	P	**Pn**	**01 07 48.5**	**+0.4**
ENTT	**Nioudou**	**1.22**	**278**	*e*P	**Pn**	**01 07 48.7**	**-0.5**
	baz=277						
ENTT				*e*S	**Sn**	**01 08 04.8**	**0.0**
	baz=277						
NACB	**Ninganchiao**	**1.23**	**256**	*e*P	**Pn**	**01 07 49.8**	**+0.6**
	baz=256						
NACB				*e*S	**Sn**	**01 08 04.8**	**0.0**
	baz=256						
TWD	**Chiawan**	**1.25**	**251**	*e*P	**Pn**	**01 07 49.3**	**-0.2**
	baz=252						
TWD				*e*S	**Sn**	**01 08 05.3**	**-0.1**
	baz=252						
NDT	**Datong Townshi**	**1.26**	**276**	*e*P	**Pn**	**01 07 50.2**	**+0.5**
	baz=275						
NDT				*e*S	**Sn**	**01 08 06.1**	**+0.3**
	baz=275						
TWA	**Mucha**	**1.29**	**293**	*e*P	**Pn**	**01 07 50.2**	**+0.1**
	baz=292						
TWA				*e*S	**Sn**	**01 08 06.6**	**+0.2**
	baz=292						
JISG	**Ishigakijimahi**	**1.29**	**85**	P	**Pn**	**01 07 51.0**	**+0.9**
NWLT	**Wulai**	**1.30**	**283**	*e*P	**Pn**	**01 07 50.3**	**+0.1**
	baz=283						
NWLT				*e*S	**Sn**	**01 08 07.0**	**+0.3**
	baz=283						
ENLB	**Shoufeng**	**1.31**	**244**	*e*P	**Pn**	**01 07 49.2**	**-1.2**
	baz=244						
ENLB				*e*S	**Sn**	**01 08 07.0**	**0.0**
	baz=244						
ETLH	**Xiulin Townshi**	**1.32**	**258**	*e*P	**Pn**	**01 07 49.8**	**-0.8**
	baz=258						
ETLH				*e*S	**Sn**	**01 08 07.1**	**0.0**
	baz=258						
YM07	**YM07**	**1.35**	**301**	*e*P	**Pn**	**01 07 51.0**	**+0.2**
	baz=300						
YM07				*e*S	**Sn**	**01 08 07.8**	**0.0**
	baz=300						
PCYT	**Pengchaiyu**	**1.36**	**327**	*e*P	**Pn**	**01 07 51.0**	**-0.1**
	baz=326						
PCYT				*e*S	**Sn**	**01 08 08.4**	**+0.3**
	baz=326						
YM01	**YM01**	**1.37**	**299**	*e*P	**Pn**	**01 07 51.2**	**0.0**
	baz=298						
YM01				*e*S	**Sn**	**01 08 07.9**	**-0.6**
	baz=298						
NNSB	**Datong**	**1.38**	**268**	*e*P	**Pn**	**01 07 51.0**	**-0.3**
	baz=268						
NNSB				*e*S	**Sn**	**01 08 09.1**	**+0.5**
	baz=268						
NNS	**Nan Shan**	**1.39**	**268**	*e*P	**Pn**	**01 07 50.3**	**-1.2**
	baz=268						
NNS				*e*S	**Sn**	**01 08 09.0**	**+0.1**
	baz=268						
YHNB	**Yeheng**	**1.39**	**278**	*e*P	**Pn**	**01 07 52.3**	**+0.8**
	baz=278						
YHNB				*e*S	**Sn**	**01 08 11.0**	**+2.0**
	baz=278						
NSK	**Sanguang**	**1.41**	**278**	*e*P	**Pn**	**01 07 51.8**	**0.0**
	baz=278						
NSK				*e*S	**Sn**	**01 08 09.6**	**+0.2**
	baz=278						
ANP	**Anpu**	**1.43**	**300**	*e*P	**Pn**	**01 07 52.0**	**-0.1**
	baz=299						
ANP				*e*S	**Sn**	**01 08 09.9**	**0.0**
	baz=299						
WHF	**Hehuan Shan**	**1.52**	**258**	*e*P	**Pn**	**01 07 55.0**	**+1.4**
	baz=257						
WHF				*e*S	**Sn**	**01 08 11.9**	**-0.8**
	baz=257						
TDCB	**Techi**	**1.60**	**262**	*e*P	**Pn**	**01 07 53.1**	**-1.3**
	baz=262						
TDCB				*e*S	**Sn**	**01 08 14.3**	**+0.2**
	baz=262						
CHGB	**Renai**	**1.62**	**255**	*e*P	**Pn**	**01 07 54.9**	**+0.1**
	baz=255						
CHGB				*e*S	**Sn**	**01 08 15.0**	**+0.2**
	baz=255						
OWD	**Renai**	**1.66**	**252**	*e*P	**Pn**	**01 07 55.8**	**+0.7**
	baz=252						
OWD				*e*S	**Sn**	**01 08 16.1**	**+0.7**
	baz=252						
HGSD	**Ruisui**	**1.67**	**234**	*e*P	**Pn**	**01 07 55.1**	**-0.1**
	baz=234						
HGSD				*e*S	**Sn**	**01 08 15.0**	**-0.5**
	baz=234						
NSTT	**Nanjuang**	**1.73**	**275**	*e*P	**Pn**	**01 07 56.0**	**0.0**
	baz=275						
NSTT				*e*S	**Sn**	**01 08 17.4**	**+0.3**
	baz=275						
VWDT	**VWDT**	**1.76**	**246**	*e*P	**Pn**	**01 07 56.5**	**+0.1**
	baz=246						
VWDT				*e*S	**Sn**	**01 08 17.0**	**-0.7**
	baz=246						
SBCB	**Hsinchu**	**1.76**	**280**	*e*P	**Pn**	**01 07 57.8**	**+1.3**
	baz=280						
SBCB				*e*S	**Sn**	**01 08 18.6**	**+0.8**
	baz=280						
HSN	**Hsinchu**	**1.78**	**281**	*e*P	**Pn**	**01 07 56.0**	**-0.7**
	baz=281						
HSN				*e*S	**Sn**	**01 08 17.2**	**-1.0**
	baz=281						
YULB	**Yu-li**	**1.82**	**234**	*e*P	**Pn**	**01 07 57.8**	**+0.5**
	baz=234						
YULB				*e*S	**Sn**	**01 08 19.4**	**+0.1**
	baz=234						
CHN5	**Tsauling**	**2.21**	**247**	*e*P	**Pn**	**01 08 02.7**	**+0.1**
	baz=247						
CHN5				*e*S	**Sn**	**01 08 28.7**	**-0.2**
	baz=247						
SGST	**Jiashian**	**2.54**	**237**	*e*P	**Pn**	**01 08 07.3**	**+0.3**
	baz=237						
SGST				*e*S	**Sn**	**01 08 36.0**	**-0.7**
	baz=237						

*ISK **30** 01:07:42.6,37°.33N×37°.14E,h8km±3km,ML2.0/4*
*ISCJB **30** 01:07:43.2±1.7,37°.32N±0°.09×37°.1E±0°.1,h6km±10km,*
Error ellipse: s-maj=21.7km s-min=5.8km az=141.2
*DDA **30** 01:07:43.0,37°.33N×37°.11E,h7km±2km,ML2.6*

ISC 30 01:07:43.3±1.1,37°.32N±0°.05×37°.13E±0°.04,h8km±9km,
n11,σ0s44/15,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.17**	**156**	PG	**Pg**	**01 07 46.4**	**-0.4**
GAZ				SG	**Sg**	**01 07 49.3**	**+0.1**
HCB	**Kahramanmara**	**0.18**	**277**	IAML_P			
	comp=Z,6μm,0.1s						
HCB				*i* P	**Pg**	**01 07 46.9**	**-0.1**
KMRS	**Kahramanmaras**	**0.26**	**315**	PG	**Pg**	**01 07 48.4**	**0.0**
KMRS				SG	**Sg**	**01 07 52.5**	**+0.6**
AYKD	**Aykdinkavak**	**0.27**	**290**	IAML_P			
	comp=Z,6μm,0.1s						
AYKD				*i* P	**Pg**	**01 07 49.0**	**+0.3**
AYKD				*i* S	**Sg**	**01 07 52.8**	**+0.4**
GZT	**Gaziantep**	**0.35**	**85**	IAML_P			
	comp=Z,1μm,0.1s						
GZT				*i* P	**Pg**	**01 07 50.5**	**+0.3**
KAMA	**Osmaniye**	**0.39**	**250**	*i* P	**Pg**	**01 07 51.0**	**0.0**
KUZU	**Kuzuini**	**0.55**	**184**	IAML_P			
	comp=Z,3μm,0.2s						
KUZU				*i* P	**Pb**	**01 07 54.9**	**-0.3**
ANDN	**Andirin**	**0.67**	**293**	IAML_P			
	comp=Z,668nm,0.1s						
ANDN				*i* P	**Pg**	**01 07 56.1**	**-0.2**
KOZT	**Kozan**	**1.05**	**279**	PG	**Pb**	**01 08 03.2**	**-0.5**
SAIM	**ADANA**	**1.05**	**309**	IAML_P			
	comp=Z,246nm,0.1s						
SAIM				*i* P	**Pn**	**01 08 03.9**	**-0.6**
TAHT	**Tahtakopru-Hat**	**1.21**	**219**	PN	**Pn**	**01 08 06.8**	**+0.3**
TAHT				SN	**Sn**	**01 08 23.7**	**+0.7**

*DDA **30** 01:13:59.6,37°.31N×37°.10E,h7km±2km,ML2.9*
*ISK **30** 01:13:59.4,37°.32N×37°.13E,h5km,ML2.0/9*
*ISCJB **30** 01:14:00.2±0.6,37°.30N±0°.03×37°.10E±0°.04,h6km±5km,*
Error ellipse: s-maj=5.7km s-min=4.9km az=30.3

ISC 30 01:13:59.9±0.9,37°.30N±0°.03×37°.11E±0°.03,h9km±7km,
n19,σ0s61/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**149**	PG	**Pg**	**01 14 03.2**	**0.0**
GAZ				SG	**Sg**	**01 14 05.8**	**+0.2**
HCB	**Kahramanmara**	**0.17**	**284**	IAML_P			
	comp=Z,9μm,0.1s						
HCB				*i* P	**Pg**	**01 14 03.3**	**-0.1**
KMRS	**Kahramanmaras**	**0.26**	**320**	PG	**Pg**	**01 14 05.2**	**0.0**
KMRS				SG	**Sg**	**01 14 09.2**	**+0.4**
AYKD	**Aykdinkavak**	**0.27**	**295**	IAML_P			
	comp=Z,7μm,0.1s						
AYKD				*i* P	**Pg**	**01 14 05.3**	**0.0**
AYKD				*i* S	**Sg**	**01 14 09.2**	**+0.3**
GZT	**Gaziantep**	**0.36**	**82**	IAML_P			
	comp=Z,2μm,0.1s						
GZT				*i* P	**Pb**	**01 14 07.7**	**-0.9**
KAMA	**Osmaniye**	**0.37**	**252**	IAML_P			
	comp=Z,6μm,0.2s						
KAMA				*i* P	**Pg**	**01 14 07.5**	**+0.2**
KAMA				*i* S	**Sb**	**01 14 13.4**	**-1.3**
KUZU	**Kuzuini**	**0.53**	**183**	IAML_P			
	comp=Z,5μm,0.3s						
KUZU				*i* P	**Pb**	**01 14 11.2**	**-0.2**
ANDN	**Andirin**	**0.67**	**295**	IAML_P			
	comp=Z,1μm,0.1s						
ANDN				*i* P	**Pb**	**01 14 13.1**	**-0.7**
ELBS	**KAHRAMANMARAS**	**1.02**	**1**	*i* P	**Pn**	**01 14 21.2**	**+0.7**
KOZT	**Kozan**	**1.04**	**280**	PG	**Pb**	**01 14 19.7**	**-0.3**
KOZT				SG	**Sn**	**01 14 34.8**	**-0.5**
SAIM	**ADANA**	**1.06**	**310**	*i* P	**Pb**	**01 14 20.1**	**-0.3**
CEYT	**Ceyhan**	**1.13**	**255**	PN	**Pn**	**01 14 21.7**	**-0.1**
AKCD	**Akcadag**	**1.18**	**33**	IAML_P			
	comp=Z,1μm,0.2s						
AKCD				*i* P	**Pn**	**01 14 23.4**	**+0.7**
AKCD				*i* S	**Sn**	**01 14 39.8**	**+0.8**
TAHT	**Tahtakopru-Hat**	**1.19**	**219**	PN	**Pn**	**01 14 23.2**	**+0.6**
TAHT				SN	**Sn**	**01 14 40.0**	**+1.1**
SURC	**SANLIURFA_SURC**	**1.27**	**109**	IAML_P			
	comp=Z,298nm,0.1s						
SURC				*i* P	**Pg**	**01 14 24.0**	**-0.3**
DARE	**Darende-Malaty**	**1.30**	**13**	PN	**Pn**	**01 14 23.9**	**-0.4**
URFA	**Urfa**	**1.37**	**84**	PN	**Pg**	**01 14 26.1**	**0.0**
BNN	**Bunyan**	**1.84**	**328**	PN	**Pn**	**01 14 32.5**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.04**	**58**	PN	**Pn**	**01 14 35.2**	**+0.6**

KRSC 30 01:35:35.7±10.0,52°.04N×160°.19E,h19km±10km,ML3.7,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.07**	**355**	*e*P	Pn	01 35 55.8	+0.2
SPN				*e*S	Sg	01 36 10.4	0.0
RUS	**Russkaya**	**1.10**	**292**	*e*P	Pn	01 35 55.9	-0.2
RUS				*e*S	Sb	01 36 09.7	-0.5
NLC	**Nalytchevo**	**1.25**	**336**	*e*P	Pb	01 35 58.7	+0.1
NLC				*e*S	Sg	01 36 15.4	-0.7
MTVR	**Mutnovka**	**1.31**	**291**	*e*P	Pb	01 35 59.5	-0.3
MTVR				*e*S	Sn	01 36 16.1	-0.1
DALK	**Dalny**	**1.33**	**319**	*e*P	Pn	01 35 59.1	-0.1
DALK				*e*S	Sn	01 36 15.5	-0.8
KDTR	**Khodutka, Kamc**	**1.33**	**261**	*e*P	Pb	01 35 59.9	-0.1
KDTR				*e*S	Sb	01 36 16.8	+0.2
PET	**Petropavlovsk**	**1.36**	**317**	*e*P	Pb	01 36 00.3	-0.3
PET				*e*S	Sn	01 36 17.4	+0.2
GRL	**Gorelyy**	**1.40**	**292**	*e*P	Pg	01 36 02.1	-0.6
UGLR	**Uglovaya**	**1.44**	**325**	*e*P	Pb	01 36 01.8	-0.2
UGLR				*e*S	Sg	01 36 21.6	-0.7
ASAK	**Asacha**	**1.45**	**285**	*e*P	Pb	01 36 02.2	+0.1
ASAK				*e*S	Sb	01 36 20.6	+0.4
SDLR	**Sedlovina**	**1.48**	**328**	*e*P	Pn	01 36 01.8	+0.4
SDLR				*e*S	Sb	01 36 21.6	+0.6
KRMR	**Karymshinskiy**	**1.49**	**303**	*e*P	Pb	01 36 02.2	-0.5
KRMR				*e*S	Sn	01 36 20.7	+0.4
SMAR	**Somma**	**1.49**	**326**	*e*P	Pb	01 36 02.3	-0.6
SMAR				*e*S	Sb	01 36 22.1	+0.6
AVH	**Avacha**	**1.52**	**325**	*e*P	Pb	01 36 02.8	-0.4
KRER	**Koryakskii**	**1.54**	**326**	*e*P	Pn	01 36 02.1	-0.3
KRER				*e*S	Sn	01 36 21.9	-0.1
KOK	**Koryaka**	**1.57**	**324**	*e*P	Pb	01 36 03.9	-0.3
KRX	**Arik**	**1.62**	**325**	*e*P	Pb	01 36 04.3	-0.8
KRX				*e*S	Sb	01 36 25.4	+0.2
APC	**Apacha**	**2.06**	**297**	*e*P	Pb	01 36 11.8	-0.6
APC				*e*S	Sb	01 36 37.1	-0.4
GNL	**Ganaly**	**2.15**	**322**	*e*P	Pb	01 36 12.7	-1.3
GNL				*e*S	Sb	01 36 40.5	+0.2
KZV	**Kizimen**	**3.08**	**1**	*e*P	Pb	01 36 27.3	-2.7
KZV				*e*S	Sb	01 37 04.1	-3.1
TUMD	**Tumrok D**	**3.17**	**2**	*e*P	Pn	01 36 26.5	+1.9
TUMD				*e*S	Sn	01 37 03.7	+1.8
TUMR	**Tumrok**	**3.25**	**360**	*e*P	Pn	01 36 29.1	+3.3

*BJI **30** 02:24:14.9±0.0,17°.83N×120°.83E,h9km,mb5.0/68,*
mB5.2/62,ML5.1/3,Ms5.0/82,Ms7 4.9/76
*MAN **30** 02:24:14.2,17°.99N×120°.53E,h9km,MS4.6*
MAN INTENSITY IV - BANGUED ABRA; SANTO DOMINGO BANTAY VIGAN CAOAYAN SAN VICENTE STA CATLINA AND NARVACAN ILOCOS SUR INTENSITY III - SINAIT MAGSINGAL AND SAN ILDEFONSO ILOCOS SUR;PENABLANCA CAGAYAN; LAOAG ILOCOS NORTE; INTENSITY II - BUCAY ABRA.
*KLM **30** 02:24:15.0,17°.55N×120°.97E,h6km,mb5.3*
*IDC **30** 02:24:16.8±1.7,17°.66N×120°.87E,h21km±10km,mb4.9/41,*
mb1 5.0/44,mb1mx4.9/50,mbtmp5.0/44,ML4.2/3,MS4.5/37,
Ms1 4.5/37,ms1mx4.4/49,Error ellipse: s-maj=11.6km
s-min=8.1km az=85.0
*NEIC **30** 02:24:17.1±2.1,17°.70N×120°.86E,h20km±3km,mb5.3/172,*
MW5.1,Error ellipse: s-maj=11.7km s-min=9.8km
az=119.0,Moment Tensor Solution. s15 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.28; $M_{\theta\theta}$5.68; $M_{\phi\phi}$-2.39; $M_{r\theta}$-0.32;
$M_{\theta\phi}$1.53; $M_{\phi r}$-1.78; Best double couple: $M_0$5.50000×10^{16}
NP1:ϕ_s293.00000°,δ54.00000°,λ-38.00000°. NP2:
ϕ_s48.00000°,δ60.00000°,λ-137.00000°. Principal axes:
T 6.0000, Plg4.0000°, Azm169.0000°; N -1.2800,
Plg39.0000°, Azm76.0000°; P -4.7200, Plg50.0000°,
Azm264.0000°;
NEIC Felt [IV PIVS] at Bangued, Bantay, Caoayan, Narvacan, San Vicente, Santa, Santa Catalina, Santo Domingo and Vigan; [III PIVS] at Callao, Laoag, Magsingal, Penablanca, San Ildefonso and Sinait; [II PIVS] at Bucay. Also felt at Tuguegarao.
*ISCJB **30** 02:24:17.3±0.4,17°.81N±0°.02×120°.79E±0°.02,h29km±3km,*
mb5.3/262,MS4.7/80 Error ellipse: s-maj=3.3km
s-min=2.6km az=9.9
*MOS **30** 02:24:17.3±1.0,17°.71N×120°.80E,h33km,mb5.6/90,*
MS4.8/22,Error ellipse: s-maj=7.9km s-min=4.2km
az=115.0
*GCMT **30** 02:24:18.1±0.2,17°.81N±0°.01×120°.75E±0°.01,h24km,*
MW5.2/100,Moment Tensor Solution. s79,c123;
s100,c182; Duration: 1s0 Moment tensor: Scale 10^{17}
Nm; M_{rr}-0.40±.02; $M_{\theta\theta}$0.80±.01; $M_{\phi\phi}$-0.40±.01;
$M_{r\theta}$-0.22±.02; $M_{\theta\phi}$0.01±.01; $M_{\phi r}$-0.40±.02; Best double
couple: $M_0$0.82900×10^{17} NP1:ϕ_s54.00000°,δ68.00000°,
λ-136.00000°. NP2:ϕ_s305.00000°,δ50.00000°,
λ-29.00000°. Principal axes: T 0.8460, Plg11.0000°,
Azm176.0000°; N -0.0340, Plg42.0000°, Azm76.0000°; P
-0.8120, Plg46.0000°, Azm277.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function

ISC 30 02:24:18.1±0.5,17°.72N±0°.02×120°.82E±0°.03,h24km±3km,
n858,σ1s73/971,mb5.3/274,MS4.8/81,70C-51D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.12**	**236**	*e*P	**Pb**	**02 24 21.8**	**-1.0**
ABRA				*e*S	**Sb**	**02 24 25.4**	**-0.6**
APYP	**Conner**	**0.43**	**70**	*e*P	**Pb**	**02 24 26.9**	**-0.2**
APYP				*e*S	**Sn**	**02 24 35.6**	**-0.2**
CAUP	**Cauayan**	**1.23**	**129**	*e*P	**Pb**	**02 24 42.6**	**+2.0**
CAUP				*e*S	**Sb**	**02 25 04.3**	**+8.2**
SGCP	**Mt. Cagua**	**1.28**	**66**	*e*P	**Pb**	**02 24 41.1**	**-0.4**
SGCP				*e*S	**Sb**	**02 24 58.8**	**+1.3**
SMPP	**San Manuel, Pa**	**1.56**	**185**	*e*P	**Pn**	**02 24 42.9**	**-1.5**
SMPP				*e*S	**Sb**	**02 25 08.6**	**+2.9**
BOLP	**Bolinao**	**1.59**	**213**	*e*P	**Pn**	**02 24 44.5**	**-0.2**
BOLP				*e*S	**Sb**	**02 25 09.1**	**+2.7**
PALP	**Palanan**	**1.67**	**113**	*e*P	**Pb**	**02 24 48.7**	**+0.6**
PALP				*e*S	**Sb**	**02 25 14.1**	**+5.5**
BALP	**Baler**	**2.10**	**160**	*e*P	**Pb**	**02 24 54.2**	**-1.2**
BALP				*e*S	**Sb**	**02 25 24.6**	**+3.6**
SCZP	**Santa Cruz**	**2.12**	**204**	*e*P	**Pn**	**02 24 52.1**	**+0.2**
SCZP				*e*S	**Sb**	**02 25 27.2**	**+5.6**
BBP	**Basco**	**2.92**	**22**	*e*P	**Pn**	**02 25 00.3**	**-2.7**
BBP				*e*S	**Sn**	**02 25 39.4**	**+2.1**
POLP	**Polilio Island**	**3.16**	**160**	*e*P	**Pb**	**02 25 09.9**	**-3.7**
POLP				*e*S	**Sb**	**02 25 53.7**	**+2.0**
TGY	**Tagaytay City**	**3.60**	**178**	Pn	**Pn**	**02 25 10.7**	**-1.7**
	69nm,0.3s,baz=25,slow=17,SNR=1.9						
TGY				Lg	Lg	02 26 08.5	
	240nm,0.3s,baz=318,slow=22,SNR=6.3						
TGY				LR	LR	02 27 09.7	
	comp=Z,8μm,21.6s,baz=19,slow=49						
TGY	**Tagaytay City**	**3.60**	**178**	*e*P	**Pb**	**02 25 19.9**	**-1.1**
TGY				*e*S	**Sb**	**02 26 11.0**	**+6.7**
LUBP	**Lubang**	**4.00**	**188**	*e*P	**Pn**	**02 25 19.3**	**+1.4**
LUBP				*e*S	**Sn**	**02 26 09.5**	**+5.5**
BOAC	**Boac**	**4.35**	**167**	*e*P	**Pn**	**02 25 25.5**	**+2.9**
BOAC				*e*S	**Sb**	**02 26 28.4**	**+2.6**
AUQP	**San Andres**	**4.72**	**157**	*e*P	**Pb**	**02 25 35.9**	**-4.2**
AUQP				*e*S	**Sb**	**02 26 43.9**	**+7.3**
TWG	**Pinlang**	**5.08**	**3**	*e*Pn	**Pn**	**02 25 32.3**	**-0.5**
TWG				*e*Sn	**Sn**	**02 26 28.2**	**-2.5**
PVCP	**Virac**	**5.21**	**141**	*e*P	**Pn**	**02 25 35.3**	**+0.8**
PVCP				*e*S	**Sn**	**02 26 35.6**	**+1.8**
SJMP	**San Jose**	**5.23**	**177**	*e*P	**Pn**	**02 25 37.6**	**+2.7**
SJMP				*e*S	**Sb**	**02 26 54.4**	**+3.0**
OTRP	**Odiongan**	**5.45**	**168**	*e*P	**Pn**	**02 25 39.2**	**+1.4**
TPUB	**Ta-pu**	**5.56**	**358**	*e*Pn	**Pn**	**02 25 37.8**	**-1.5**
TPUB				*e*Sn	**Sn**	**02 26 38.2**	**-4.3**
YULB	**Yu-li**	**5.66**	**4**	*e*Pn	**Pn**	**02 25 40.5**	**-0.3**
YULB				*e*Sn	**Sn**	**02 26 40.6**	**-4.4**
BUSP	**Coron**	**5.71**	**186**	*e*P	**Pn**	**02 25 41.9**	**+0.4**
BUSP				*e*S	**Sn**	**02 26 50.7**	**+4.4**
SSLB	**Suanglung**	**6.04**	**1**	*e*Pn	**Pn**	**02 25 44.3**	**-1.7**
SSLB				*e*Sn	**Sn**	**02 26 51.2**	**-3.2**
CNP	**Cataman**	**6.37**	**144**	*e*P	**Pn**	**02 25 54.0**	**+3.5**
NACB	**Ninganchiao**	**6.46**	**6**	*e*Pn	**Pn**	**02 25 52.0**	**+0.2**
YHNB	**Yeheng**	**6.94**	**4**	*e*Pn	**Pn**	**02 25 59.0**	**+0.7**
YOJ	**Yonaguni jima**	**7.01**	**17**	*e*Pn	**Pn**	**02 26 00.0**	**+0.7**
YOJ	**Yonaguni jima**	**7.01**	**17**	*e*P	**Pn**	**02 26 00.0**	**+0.7**
KNMB	**Chin-men Tao**	**7.09**	**342**	*e*Pn	**Pn**	**02 26 00.9**	**+0.6**
KNMB				*e*Sn	**Sn**	**02 27 15.5**	**-4.6**
TATO	**Taipei**	**7.25**	**5**	*e*Pn	**Pn**	**02 26 05.5**	**+3.0**
QZH	**Quanzhou**	**7.48**	**344**	↑*i*Pn	**

DDMP	Don Marcelino,	12.49 157	*e*P	Pn	02 27 08.2	-6.3
DLV	T Lat	13.23 246	*e*Pn	**Pn**	**02 27 23.9**	**-0.8**
DLV			*e*Sn	**Sn**	**02 29 57.6**	**+6.3**
SSE	Sheshan	13.32 1	P	**Pn**	**02 27 29.0**	**+3.3**
SSE			S	**Sn**	**02 29 52.3**	**-0.8**
SSE			pmax	pmax		
	comp=Z,110nm,0.5s					
SSE			pmax	pmax		
	comp=Z,280nm,3.6s					
WHN	Wuhan	14.06 336	P	**Pn**	**02 27 36.0**	**+0.2**
WHN			S	**Sn**	**02 30 06.0**	**-5.1**
WHN			pmax	pmax		
	comp=Z,1μm,4.7s					
WHN			LR	LR		
	comp=N,10μm,20.8s					
WHN			LR	LR		
	comp=E,11μm,16.7s					
WHN			LR	LR		
	comp=Z,11μm,14.2s					
NJ2	Nanjing	14.38 353	*e*P	**P**	**02 27 45.8**	**-1.1**
NJ2			pP	Pn	02 27 50.5	+10
NJ2			sP		02 27 53.3	
NJ2			S	**S**	**02 30 33.5**	**-5.1**
NJ2			sS	Sn	02 30 41.0	+22
PANO	Nakornpanom	15.48 270	P	**P**	**02 27 57.4**	**-1.8**
	1.1nm,1.2s					
GYA	Guiyang	15.73 306 ⇑	*i*P	**Pn**	**02 27 57.0**	**-1.3**
GYA			pP	P	02 28 01.3	-0.8
GYA			PP	**sP**	**02 28 11.5**	**-0.5**
GYA			S	**Sn**	**02 30 57.8**	**+5.8**
GYA			sS	S	02 31 02.0	-4.5
GYA			pmax	pmax		
	comp=Z,30nm,1.1s					
GYA			pmax	pmax		
	comp=Z,330nm,6.8s					
GYA			LR	LR		
	comp=N,3μm,15.2s					
GYA			LR	LR		
	comp=E,3μm,18.3s					
GYA			LR	LR		
	comp=Z,3μm,19.3s					
ENH	Enshi	16.21 322	*e*Pn	**Pn**	**02 28 04.8**	**+0.4**
	134nm,1.2s					
SLVN	Son La	16.34 285	*e*Pn	**Pn**	**02 28 05.6**	**-0.6**
	80nm,1.2s					
GTOI	Gorontalo	17.11 173	P	**Pn**	**02 28 14.1**	**-1.7**
	593nm,0.8s,9μm470μm					
MRSI	Marisa	17.17 176	P	**P**	**02 28 20.0**	**+2.1**
	33nm,0.8s,702nm					
KHON	Khomkaen	17.27 268	P	**P**	**02 28 20.2**	**+1.2**
	80μm,1.5s					
MPSI	Mapaga	17.30 183	P	**P**	**02 28 19.3**	**-0.1**
	13nm,1.1s,279nm					
SBUM	Sibu	17.36 210	*e*Pn	**P**	**02 28 19.8**	**-0.4**
	45nm,1.1s					
JNU	Nakatsue	17.81 29	*e*Pn	**Pn**	**02 28 24.0**	**-0.3**
	94nm,1.0s					
JNU	Nakatsue	17.81 29	P	**Pn**	**02 28 24.5**	**+0.1**
	1.3nm,0.3s,baz=180,slow=5.6,SNR=24					
JNU			LR	LR	02 35 20.9	
	comp=Z,1μm,20.6s,baz=210,slow=37					
TNTI	Ternate	18.03 158	*e*Pn	**Pn**	**02 28 26.9**	**-0.3**
	58nm,0.7s					
TNTI	Ternate	18.03 158	P	**Pn**	**02 28 26.7**	**-0.4**
	83nm,0.8s,1μm					
CHAI	Chaiyaphum	18.12 267	P	**P**	**02 28 31.2**	**+2.7**
	52μm,1.0s,585μm					
KMI	Kunming	18.36 297	P	**Pn**	**02 28 33.5**	**+2.1**
KMI			pP	pP	02 28 35.8	-2.4
KMI			sP	sP	02 28 38.3	-3.0
KMI			PP	**PnPn**	**02 28 49.0**	**+5.9**
KMI			S	**Sn**	**02 31 56.0**	**-0.1**
KMI			sS	S	02 32 02.5	+2.3
KMI			SS	**SnSn**	**02 32 16.5**	**+6.5**
KMI			pmax	pmax		
	comp=Z,27nm,0.5s					
KMI			pmax	pmax		
	comp=Z,740nm,6.2s					
KMI			LR	LR		
	comp=N,4μm,16.8s					
KMI			LR	LR		
	comp=E,4μm,17.4s					
KMI			LR	LR		
	comp=Z,5μm,17.4s					
TIA	Tai'an	18.71 351	P	**Pn**	**02 28 36.5**	**+1.2**
TIA			S	**S**	**02 32 08.5**	**+2.1**
TIA			pmax	pmax		
	comp=Z,26nm,0.9s					
TIA			pmax	pmax		
	comp=Z,2μm,5.4s					
TIA			LR	LR		
	comp=N,3μm,16.2s					
TIA			LR	LR		
	comp=E,1μm,10.3s					
TIA			LR	LR		
	comp=Z,4μm,15.9s					
LUWI	Luwuk	18.74 174	*e*P	**P**	**02 28 29.5**	**-5.8**
	169nm,1.2s					
LUWI	Luwuk	18.74 174	P	**Pn**	**02 28 38.4**	**+2.6**
	231nm,1.3s,3μm					
PBKT	Sadao Pong	19.00 270	P	**Pn**	**02 28 40.3**	**+1.3**
	57nm,1.2s,853nm					
NANT	Nan	19.14 276	P	**Pn**	**02 28 40.2**	**-0.5**
	151μm,0.9s					
KSM	Kuching	19.16 214	*e*P	**Pn**	**02 28 41.9**	**+0.9**
	57nm,0.9s					
BKB	Balikpapan	19.25 192	P	**Pn**	**02 28 43.3**	**+1.3**
	227nm,0.6s,3μm					
UTTA	Uttaradit	19.31 273	P	**Pn**	**02 28 44.1**	**+1.5**
	27μm,0.6s					
XAN	Xi'an	19.43 329	P	**P**	**02 28 43.5**	**+0.6**
XAN			S	**S**	**02 32 18.3**	**-2.9**
XAN			pmax	pmax		
	comp=Z,52nm,1.3s					
XAN			pmax	pmax		
	comp=Z,2μm,5.8s					
XAN			LR	LR		
	comp=N,3μm,16.3s					
XAN			LR	LR		
	comp=E,3μm,17.4s					
XAN			LR	LR		
	comp=Z,4μm,14.7s					
XAN	Xi'an	19.43 329	*e*P	**P**	**02 28 43.5**	**+0.6**
	62nm,1.1s					
XAN	Xi'an	19.43 329	*e*P	**P**	**02 28 43.5**	**+0.6**
XAN			pmax	pmax		
	comp=Z,62nm,1.1s					
TJN	Taejon	19.47 16	‖*e*P	**P**	**02 28 43.5**	**+0.4**
PHRA	Phrae	19.59 275	P	**Pn**	**02 28 46.4**	**+0.4**
	comp=Z,23nm,1.2s,comp=Z,3μm					
PAYA	Payao	19.93 278	P	**Pn**	**02 28 50.6**	**+0.5**
	comp=Z,159μm,1.2s					
SANI	Sanana	20.29 165	P	**P**	**02 28 50.0**	**-2.3**
	comp=Z,100nm,1.1s,comp=Z,1μm					
CD2	Chengdu	20.32 313	P	**P**	**02 28 52.8**	**+0.3**
CD2			sP	pP	02 28 58.3	-1.0
CD2			pP	sP	02 29 00.0	-2.5
CD2			S	**S**	**02 32 37.8**	**-1.5**
CD2			sS	sS	02 32 47.0	-3.1
CD2			pmax	pmax		
	comp=Z,80nm,0.9s					
CD2			pmax	pmax		
	comp=Z,2μm,6.1s					
CD2			LR	LR		
	comp=Z,7μm,16.7s					
CD2			LR	LR		
	comp=Z,8μm,13.7s					
CD2			LR	LR		
	comp=Z,7μm,18.6s					
KS15	Wonju Array Si	20.61 16	*e*P	**P**	**02 28 55.9**	**+0.3**
	comp=Z,34nm,0.8s					
KS15			*e*PcP	**PcP**	**02 33 05.3**	**-0.5**
KSRS	Korea Array	20.63 16	P	**P**	**02 28 55.5**	**-0.3**
	comp=Z,17nm,0.8s,baz=196,slow=11,SNR=62					
KSRS			PcP	**PcP**	**02 33 05.3**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=212,slow=1.9,SNR=4.5					
KSRS			LR	LR	02 37 59.1	
	comp=Z,1μm,18.5s,baz=194,slow=40					
TTSI	Tana Toraja	20.66 183	P	Pn	02 28 59.9	+1.3
	comp=Z,57nm,1.0s					
CMMT	Chiang Mai	20.80 276	P	**P**	**02 28 58.7**	**+0.9**
	comp=Z,29nm,1.1s,comp=Z,458nm					
CHTO	Chiang Mai	20.80 276	*e*P	**P**	**02 28 58.6**	**+0.7**
	comp=Z,79nm,1.2s					
CHTO	Chiang Mai	20.80 276	*e*P	**P**	**02 28 58.6**	**+0.7**
CHTO			pmax	pmax		
	comp=Z,79nm,1.2s					
CHTO	Chiang Mai	20.80 276	P	**P**	**02 28 58.5**	**+0.7**
	SNR=22					
CM31	Chiang Mai Arr	20.81 275	*e*P	Pn	02 28 59.6	-0.9
	comp=Z,101nm,1.1s					
CM31			*e*PcP	**PcP**	**02 33 06.8**	**+0.3**
CM31			*e*ScP	**ScP**	**02 36 42.1**	**+0.3**
CM31	Chiang Mai Arr	20.81 275	P	**P**	**02 28 59.0**	**+1.1**
	SNR=29					
CMAR	Chiang Mai Arr	20.81 275	*c*e*P	**P**	**02 28 59.0**	**+1.1**
CMAR			pmax	pmax		
	comp=Z,55nm,1.1s					
CMAR	Chiang Mai Arr	20.81 275	P	**P**	**02 28 59.0**	**+1.1**
	comp=Z,55nm,1.1s,baz=79,slow=9.1,SNR=57					
CMAR			PcP	**PcP**	**02 33 06.8**	**+0.3**
	comp=Z,7.1nm,0.9s,baz=62,slow=0.8,SNR=12					
CMAR			ScP	**ScP**	**02 36 42.1**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=80,slow=1.1,SNR=4.6					
CMAR			LR	LR	02 37 01.4	
	comp=Z,1μm,19.7s,baz=92,slow=37					
PHET	Kaeng Krachan	20.98 260	P	Pn	02 29 02.1	-0.3
	comp=Z,138μm,0.9s					
UMPA	Umpang Tak	21.06 269	P	**P**	**02 29 03.1**	**+2.5**
	comp=Z,199μm,1.2s					
SRDT	SRDT	21.12 264	P	**P**	**02 29 03.3**	**+2.0**
	comp=Z,43nm,1.3s					
DL2	Dalian	21.12 2	P	**P**	**02 29 02.5**	**+1.4**
DL2			S	**S**	**02 32 56.0**	**+1.1**
DL2			pmax	pmax		
	comp=Z,83nm,1.0s					
DL2			pmax	pmax		
	comp=Z,370nm,4.5s					
DL2			LR	LR		
	comp=Z,1μm,15.6s					
DL2			LR	LR		
	comp=Z,2μm,13.3s					
DL2			LR	LR		
	comp=Z,2μm,13.9s					
TIY	Taiyuan	21.24 341	*e*P	**P**	**02 29 03.8**	**+1.4**
TIY			PP	**PnPn**	**02 29 29.3**	**+7.0**
TIY			S	**S**	**02 32 59.8**	**+2.4**
TIY			SS	**SnSn**	**02 33 29.3**	**+9.0**
TIY			pmax	pmax		
	comp=Z,23nm,0.8s					
TIY			pmax	pmax		
	comp=Z,820nm,5.1s					
TIY			LR	LR		
	comp=Z,2μm,12.6s					
TIY			LR	LR		
	comp=Z,1μm,12.3s					
TIY			LR	LR		
	comp=Z,3μm,14.9s					
SPSI	Sidrap Palu	21.57 183	P	**P**	**02 29 08.3**	**+2.3**
	comp=Z,16nm,1.0s					
BNSI	Bone	21.99 182	P	**P**	**02 29 16.2**	**+5.7**
	comp=Z,43nm,1.4s,comp=Z,876nm					
SKLT	Songkhla	22.31 244	P	**P**	**02 29 16.4**	**+2.3**
	comp=Z,32nm,1.3s,comp=Z,512nm					
BJT	Baijiatuau	22.59 351	*e*P	**P**	**02 29 17.4**	**+0.7**
	comp=Z,130nm,1.1s					
BJT	Baijiatuau	22.59 351	*e*P	**P**	**02 29 17.4**	**+0.7**
BJT			pmax	pmax		
	comp=Z,130nm,1.1s					
BJI	Beijing	22.61 351 ‖	*i*P	**P**	**02 29 16.8**	**-0.2**
BJI			S	**S**	**02 33 25.5**	**+2.2**
BJI			pmax	pmax		
	comp=Z,470nm,1.5s					
BJI			pmax	pmax		
	comp=Z,480nm,5.5s					
BJI			LR	LR		
	comp=Z,860nm,16.5s					
BJI			LR	LR		
	comp=Z,510nm,15.5s					
KAPI	Kappang	22.61 183	P	**P**	**02 29 17.7**	**+0.5**
KAPI			P	**P**	**02 29 17.7**	**+0.5**
KAPI	Kappang	22.61 183	P	**P**	**02 29 16.1**	**-1.2**
	comp=Z,2.2nm,0.4s,baz=3.8,slow=8.4,SNR=5.7					
KAPI			PcP	**PcP**	**02 33 10.3**	**+0.3**
	comp=Z,4.1nm,0.3s,baz=155,slow=18,SNR=3.8					
INU	Inuyama	22.71 36	*e*P	**P**	**02 29 19.3**	**+1.1**
	comp=Z,48nm,0.9s					
TRTT	Trang	22.80 247	P	**P**	**02 29 21.1**	**+1.8**
	comp=Z,43nm,1.3s					
BKSI	Bulukumba	22.90 182	P	**P**	**02 29 19.8**	**-0.5**
MYKOM	Kota Tinggi	22.99 228	*e*P	**P**	**02 29 21.3**	**+0.1**
	comp=Z,104nm,1.1s					
MYKOM	Kota Tinggi	22.99 228	P	**P**	**02 29 22.0**	**+0.8**
KRAB	Krabi	23.07 249	P	**P**	**02 29 23.8**	**+1.8**
	comp=Z,328μm,0.7s					
TPRI	Tanjung Pinang	23.14 226	P	**P**	**02 29 26.0**	**+3.3**
KULM	Kulim	23.27 240	*e*P	**P**	**02 29 24.5**	**+0.4**
	comp=Z,135nm,1.2s					
KULM	Kulim	23.27 240	P	**P**	**02 29 24.0**	**-0.1**
IPM	Ipoh	23.42 238	*e*P	**P**	**02 29 25.2**	**-0.5**
	comp=Z,73nm,0.8s					
GUMO	Guam	23.51 97	P	**P**	**02 29 25.7**	**-0.7**
	comp=Z,12nm,0.2s,baz=229,slow=20,SNR=2.6					
GUMO			LR	LR	02 37 01.6	
	comp=Z,1μm,20.1s,baz=280,slow=33					
LZH	Lanzhou	23.68 324	*e*P	**P**	**02 29 29.0**	**+0.9**
LZH			pP	pP	02 29 33.5	-1.8
LZH			sP	sP	02 29 36.3	-2.1
LZH			PP	**PnPn**	**02 30 02.0**	**+6.2**
LZH			S	**S**	**02 33 45.5**	**+3.7**
LZH			sS	sS	02 33 53.0	-0.7
LZH			pmax	pmax		
	comp=Z,74nm,1.2s					
LZH			pmax	pmax		
	comp=Z,340nm,4.3s					
LZH			LR	LR		
	comp=Z,3μm,14.6s					
LZH			LR	LR		
	comp=Z,3μm,15.2s					
LZH			LR	LR		
	comp=Z,3μm,16.9s					
PKDT	Phuket	23.98 249	P	**P**	**02 29 32.8**	**+1.9**
	comp=Z,47nm,1.1s,comp=Z,7μm					
TPI	Tanjungpandan	24.13 214	P	**P**	**02 29 35.5**	**+3.2**
	comp=Z,40nm,1.5s,comp=Z,484nm					
SNY	Shenyang	24.15 5 ‖	*i*P	**P**	**02 29 31.3**	**-0.9**
SNY			S	**S**	**02 33 55.0**	**+6.3**
SNY			pmax	pmax		
	comp=Z,49nm,1.2s					
SNY			pmax	pmax		
	comp=Z,880nm,5.7s					
SNY			LR	LR		
	comp=Z,740nm,15.9s					
SNY			LR	LR		
	comp=Z,2μm,13.7s					
SNY			LR	LR		
	comp=Z,2μm,14.0s					
MAJO	Matsushiro	24.24 36	*e*P	**P**	**02 29 31.9**	**-1.3**
MAJO	Matsushiro	24.24 36 ‖	*e*P	**P**	**02 29 33.3**	**+0.1**
MAJO			pmax	pmax		
	comp=Z,16nm,1.1s					
MAT	Matsushiro	24.24 36	P	**P**	**02 29 32.7**	**-0.5**
MAT			S	**S**	**02 33 48.2**	**-2.2**
MJAR	Matsushiro Arr	24.24 36	P	**P**	**02 29 31.9**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=203,slow=6.9,SNR=7.0					
MJAR			LR	LR	02 39 21.4	
	comp=Z,371nm,19.4s,baz=230,slow=37					
HHC	Hu-ho-hao-te	24.39 343	*e*P	**P**	**02 29 36.0**	**+1.3**
HHC			sP	pP	02 29 43.3	+1.3
HHC			PP	**PnPn**	**02 30 08.0**	**+2.5**
HHC			S	**S**	**02 33 55.3**	**+2.3**
HHC			sS	sS	02 34 05.0	+0.2
HHC			PcS	**PcS**	**02 36 56.5**	**+3.0**
HHC			pmax	pmax		
	comp=Z,390nm,0.7s					
HHC			pmax	pmax		
	comp=Z,2μm,3.9s					
HHC			LR	LR		
	comp=Z,3μm,10.6s					
HHC			LR	LR		
	comp=Z,2μm,11.2s					
HHC			LR	LR		
	comp=Z,4μm,10.1s					
BTO	Baotou	24.64 340	*e*P	**P**	**02 29 38.8**	**+1.9**
KMMI	Kalianget	25.52 196	P	**P**	**02 29 50.0**	**+5.1**
	comp=Z,33nm,0.7s					
JMBI	JAMBI	25.62 223	P	**P**	**02 29 47.7**	**+1.9**
BKNI	Bangkinang	26.02 230	*e*P	**P**	**02 29 50.4**	**+0.8**
	comp=Z,347nm,1.2s					
BKNI	Bangkinang	26.02 230	P	**P**	**02 29 51.5**	**+2.0**
	comp=Z,262nm,1.1s					
PSI	Prapat	26.10 238	*e*P	**P**	**02 29 50.2**	**-0.2**
	comp=Z,177nm,1.5s					
PSI			*e*PcP	**PcP**	**02 33 18.1**	**+0.2**
PSI	Prapat	26.10 238	*e*P	**P**	**02 29 50.2**	**-0.2**
PSI			*e*		02 33 18.1	
PSI			pmax	pmax		
	comp=Z,177nm,1.5s					
PSI	Prapat	26.10 238	P	**P**	**02 29 49.7**	**-0.7**
	comp=Z,34nm,0.7s,baz=36,slow=4.7,SNR=26					
PSI			PcP	**PcP**	**02 33 16.8**	**-1.1**
	comp=Z,3.7nm,0.4s,baz=252,slow=6.6,SNR=4.0					
PSI			ScP	**ScP**	**02 36 56.3**	**+0.1**
	comp=Z,2.7nm,0.4s,baz=261,slow=1.8,SNR=4.2					
PSI			LR	LR	02 40 13.2	
	comp=Z,719nm,18.7s,baz=52,slow=57					
CN2	Changchun	26.30 8	*e*P	**P**	**02 29 49.0**	**-2.7**
CN2			*e*S	**S**	**02 34 27.0**	**+4.0**
CN2			pmax	pmax		
	comp=Z,20nm,1.1s					
CN2			pmax	pmax		
	comp=Z,100nm,3.3s					
CN2			LR	LR		
	comp=Z,1μm,14.0s					
CN2			LR	LR		
	comp=Z,2μm,14.0s					
CN2			LR	LR		
	comp=Z,1μm,19.0s					
MSHR	Mys Shultsa	26.30 17	*c*e*P	**P**	**02 29 55.4**	**+3.6**
LHMI	Lhok Sumawe	26.44 245	*e*P	**P**	**02 29 54.7**	**+1.4**
	comp=Z,162nm,1.0s					
LHMI	Lhok Sumawe	26.44 245	P	**P**	**02 29 55.1**	**+1.8**
	comp=Z,183nm,1.2s,comp=Z,3μm					
PLAI	Plampang	26.55 187	P	**P**	**02 29 55.0**	**+0.8**
NGJI	Ngawi	26.59 201	P	**P**	**02 29 55.8**	**+1.2**
WOJI	Wonogiri, Jawa	27.21 202	P	**P**	**02 30 00.0**	**-0.2**
UGM	Wanagama	27.42 203	*e*P	**P**	**02 30 04.1**	**+2.0**
	comp=Z,79nm,0.9s					
BRDH	Bariadhala	27.80 285	P	**P**	**02 30 05.1**	**-0.4**
	comp=Z,53nm,0.3s,baz=161,slow=11,SNR=3.9					
BRDH			LR	LR	02 42 29.8	
	comp=Z,1μm,18.6s,baz=162,slow=39					
MDJ	Mudanjiang	27.81 14	P	**P**	**02 30 04.5**	**-0.8**
MDJ			sP	pP	02 30 10.3	-2.6
MDJ			S	**S**	**02 34 53.5**	**+6.6**
MDJ			ScP	**ScP**	**02 36 56.5**	**-4.1**
MDJ			pmax	pmax		
	comp=Z,14nm,0.8s					
MDJ			LR	LR		
	comp=Z,1μm,13.9s					
MDJ			LR	LR		
	comp=Z,2μm,15.9s					
MDJ			LR	LR		
	comp=Z,1μm,15.1s					
MDJ	Mudanjiang	27.81 14	*e*P	**P**	**02 30 05.7**	**+0.4**
	comp=Z,14nm,0.7s					
SHL	Shillong	27.96 291	*e*P	**P**	**02 30 06.8**	**-0.3**
	comp=Z,116nm,1.1s					
SHL	Shillong	27.96 291	*e*P	**P**	**02 30 06.9**	**-0.3**
SHL			pmax	pmax		
	comp=Z,116nm,1.1s					
SHL	Shillong	27.96 291	*e*P	**P**	**02 30 08.0**	**+0.8**
USA0B	Ussuriysk Arra	28.03 17	*e*P	**P**	**02 30 08.3**	**+1.0**
	comp=Z,15nm,0.8s					
USRK	Ussuriysk Ar.	28.03 17	P	**P**	**02 30 06.8**	**-0.4**
	comp=Z,10nm,0.9s,baz=198,slow=9.2,SNR=12					
USRK			LR	LR	02 41 22.2	
	comp=Z,766nm,20.8s,baz=188,slow=36					
GSI	Gunungsitoli	28.07 237	*e*P	**P**	**02 30 06.6**	**-1.4**
	comp=Z,37nm,0.8s					
GSI			*e*PcP	**PcP**	**02 33 22.6**	**+0.2**
GSI	Gunungsitoli	28.07 237	P	**P**	**02 30 06.8**	**-1.1**
	comp=Z,48nm,1.0s					
GTA	Gaotai	28.28 324	P	**P**	**02 30 10.5**	**+0.7**
GTA			pP	pP	02 30 17.8	+0.6
GTA			sP	sP	02 30 20.8	+0.6
GTA			S	**S**	**02 35 00.3**	**+5.5**
GTA			sS	sS	02 35 05.8	-1.0
GTA			pmax	pmax		
	comp=Z,140nm,7.7s					
GTA			LR	LR		
	comp=Z,1μm,13.1s					
GTA			LR	LR		
	comp=Z,2μm,15.5s					
GTA			LR	LR		
	comp=Z,2μm,14.8s					
SISI	Saibi	28.57 231	P	**P**	**02 30 12.7**	**+0.3**
	comp=Z,48nm,1.3s					
LSA	Lhasa	29.58 299	*e*P	**P**	**02 30 23.4**	**+1.6**
	comp=Z,156nm,1.3s					
LSA	Lhasa	29.58 299	*i* P	**P**	**02 30 23.6**	**+1.8**
	SNR=21					
LSA	Lhasa	29.58 299	*e*P	**P**	**02 30 23.4**	**+1.6**
LSA			pmax	pmax		
	comp=Z,156nm,1.3s					
HIA	Hailar	31.48 359 ‖	*e*P	**P**	**02 30 38.3**	**+0.4**
HIA			pmax	pmax		
	comp=Z,123nm,1.3s					
ASAJ	Asahikawa	32.08 30	P	**P**	**02 30 42.6**	**-0.5**
	comp=Z,11nm,0.9s,baz=238,slow=19,SNR=2.2					
ULN	Ulaanbaatar	32.11 342	*e*P	**P**	**02 30 44.2**	**+0.6**
	comp=Z,20nm,0.9s					
ULN	Ulaanbaatar	32.11 342	*d i*P	**P**	**02 30 44.0**	**+0.4**
ULN			pmax	pmax		
	comp=Z,42nm,1.7s					
ULN	Ulaanbaatar	32.11 342	P	**P**	**02 30 44.1**	**+0.4**
	SNR=14					
ODAN	Odare	32.16 292	*e*P	**P**	**02 30 44.4**	**0.0**
	comp=Z,319nm,1.1s					
SONA0	Songino Array	32.28 342	*e*P	**P**	**02 30 45.3**	**+0.3**
SONA0			*e*ScP	**ScP**	**02 37 14.6**	**-0.6**
SONM	Songino Array	32.28 342	P	**P**	**02 30 45.3**	**+0.3**
	comp=Z,12nm,0.8s,baz=158,slow=9.7,SNR=81					
SONM			ScP	**ScP**	**02 37 14.6**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=215,slow=1.8,SNR=6.6					
SONM			LR	LR	02 44 43.4	
	comp=Z,2μm,20.1s,baz=154,slow=38					
KLR	Kul'dur	32.66 13	*d i*P	**P**	**02 30 47.9**	**-0.2**
KLR			pmax	pmax		
	comp=Z,37nm,1.0s					
KLR	Kul'dur	32.66 13	P	**P**	**02 30 48.0**	**-0.1**
	comp=Z,21nm,0.8s,baz=213,slow=7.7,SNR=50					
KLR			LR	LR	02 44 34.6	
	comp=Z,905nm,20.3s,baz=194,slow=37					
RAMN	Ramite	32.87 292	*e*P	**P**	**02 30 50.7**	**+0.1**
	comp=Z,208nm,0.7s					
JIRN	Jiri	33.35 294	*e*P	**P**	**02 30 55.0**	**+0.1**
	comp=Z,590nm,1.2s					
YUK	Yuzh-Kuril'sk	33.66 33	*e*P	**P**	**02 30 55.8**	**-1.1**
YUK			*e*S	**S**	**02 36 21.1**	**+2.7**
YUK			MLR	MLR		
	comp=Z,617nm,18.0s					
PKI	Pulchoki	34.02 293	*e*P	**P**	**02 30 59.9**	**-0.8**
	comp=Z,164nm,1.2s					
PKIN	Phulchoki	34.03 293	*e*P	**P**	**02 31 00.0**	**-0.7**
	comp=Z,59nm,0.8s					
KKN	Kakani	34.16 294	*e*P	**P**	**02 31 01.4**	**-0.4**
	comp=Z,220nm,1.3s					
DMN	Daman	34.29 293	*e*P	**P**	**02 31 02.5**	**-0.5**
	comp=Z,169nm,0.9s					
GRNR	Gornyy	35.25 17	*e*P	**P**	**02 31 11.7**	**+1.0**
GRNR			pmax	pmax		
	comp=Z,21nm,1.0s					
ZAK	Zakamensk	35.49 341	*e*P	**P**	**02 31 12.0**	**-0.8**
ZAK			pmax	pmax		
	comp=Z,18nm,1.3s					
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.1s					
DANN	Dangsing	35.58 294	*e*P	**P**	**02 31 13.5**	**-0.7**
	comp=Z,181nm,1.0s					
KOLN	Koldanda	35.63 293	*e*P	**P**	**02 31 13.9**	**-0.6**
	comp=Z,78nm,0.9s					
FITZ	Fitzroy Crossi	35.91 172	*e*P	**P**	**02 31 14.6**	**-2.0**
	comp=Z,9.5nm,1.0s					
PYUN	Piuthan	36.22 293	*e*P	**P**	**02 31 19.0**	**-0.5**
	comp=Z,351nm,1.2s					
ZEA	Zeya	36.29 6	*e*P	**P**	**02 31 20.0**	**+0.5**
ZEA			*e*		02 37 04.0	
ZEA			pmax	pmax		
	comp=E,25nm,0.7s					
ZEA			pmax	pmax		
	comp=N,47nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,64nm,1.2s					
ZEA			MLR	MLR		
	comp=Z,2μm,14.0s					
ZEA			MLR	MLR		
	comp=N,2μm,15.0s					
TLY	Talaya	36.52 342	*e*P	**P**	**02 31 22.3**	**+0.8**

comp=N,24nm,1.0s
TLY Talaya 36.52 342 *e*P **P 02 31 21.2 -0.3**
TLY *e* 02 32 51.5
TLY *e*S **S 02 37 02.2 -0.1**
TLY *e*SS **SnSn 02 39 32.8 +0.7**
TLY pmax pmax
comp=Z,84nm,1.3s
TLY MLR MLR
comp=Z,3μm,17.0s
TLY Talaya 36.52 342 P **P 02 31 22.1 +0.6**
SNR=22
TLY P **P 02 31 22.1 +0.6**
SNR=22
IRK Irkutsk 36.84 343 *e*P **P 02 31 24.2 0.0**
IRK pmax pmax
comp=Z,87nm,2.0s
MOY Mondy 37.34 340 *e*P **P 02 31 29.4 +0.8**
MOY pmax pmax
comp=Z,59nm,1.9s
PMG Port Moresby 37.46 134 LR LR 02 47 07.6
comp=Z,326nm,20.2s,baz=299,slow=37
WMQ Urumqi 38.14 320 *e*P **P 02 31 37.3 +1.8**
WMQ pP pP 02 31 43.5 +0.5
WMQ sP sP 02 31 46.5 +0.5
WMQ S **S 02 37 35.5 +8.2**
WMQ pmax pmax
comp=Z,130nm,1.5s
WMQ pmax pmax
comp=Z,700nm,4.3s
WMQ LR LR
comp=Z,7μm,13.3s
WMQ LR LR
comp=Z,4μm,16.3s
WMQ LR LR
comp=Z,4μm,13.3s
WMQ Urumqi 38.14 320 *e*P **P 02 31 37.5 +2.0**
comp=Z,86nm,1.4s
WMQ Urumqi 38.14 320 *e*P **P 02 31 37.5 +2.0**
WMQ pmax pmax
comp=Z,86nm,1.4s
NKL Nikolayevsk 38.61 19 *e*P **P 02 31 38.5 -0.6**
NKL pmax pmax
comp=Z,34nm,0.9s
NKL MLR MLR
comp=N,1μm,16.0s
PSA00 Pilbara Seismi 39.06 181 *e*P **P 02 31 42.2 -1.1**
comp=N,17nm,1.0s
WRAB Tennant Creek 39.70 160 *e*P **P 02 31 46.0 -2.7**
comp=N,25nm,1.1s
WRAB Tennant Creek 39.70 160 *ce*P **P 02 31 46.3 -2.4**
WRAB pmax pmax
comp=Z,22nm,1.0s
WR1 Warramunga Arr 39.71 160 *e*P **P 02 31 45.3 -3.4**
WR1 *e*PcP **PcP 02 33 55.6 +0.5**
WR1 *e*ScP **ScP 02 37 42.0 -0.7**
WRA Warramunga Arr 39.71 160 P **P 02 31 45.3 -3.4**
comp=Z,129nm,0.3s,baz=337,slow=9.9,SNR=2.0
WRA PcP **PcP 02 33 55.6 +0.4**
comp=Z,121nm,0.3s,baz=356,slow=3.7,SNR=1.7
WRA ScP **ScP 02 37 42.0 -0.7**
comp=Z,2.3nm,0.9s,baz=352,slow=5.0,SNR=0.7
WB2 Warramunga Arr 39.71 160 *e*P **P 02 31 46.2 -2.5**
comp=Z,17nm,0.8s
HYB Hyderabad 40.23 276 *i*P **P 02 31 53.0 -0.3**
BOD Bodaibo 40.36 354 *e*P **P 02 31 53.3 -0.4**
BOD pmax pmax
comp=Z,27nm,1.3s
PALK Pallekele 40.43 260 P **P 02 31 59.1 +4.1**
DGZ Jazzator, Alta 41.69 328 *d*iP **P 02 32 05.8 +0.8**
DGZ pmax pmax
comp=Z,35nm,1.3s
MK31 Makanchi Array 42.94 321 *e*P **P 02 32 15.6 +0.5**
comp=Z,66nm,1.1s
MK31 Makanchi Array 42.94 321 *e*P **P 02 32 15.6 +0.5**
MK31 pmax pmax
comp=Z,66nm,1.1s
MK32 Makanchi Array 42.94 321 *e*P **P 02 32 15.7 +0.6**
MK32 *e*PcP **PcP 02 34 04.7 -0.8**
MK32 *e*ScP **ScP 02 37 54.2 -0.9**
MKAR Makanchi Array 42.94 321 P **P 02 32 15.7 +0.6**
comp=Z,47nm,1.0s,baz=113,slow=9.3,SNR=162
MKAR PcP **PcP 02 34 04.7 -0.8**
comp=Z,9.5nm,0.8s,baz=107,slow=4.9,SNR=4.2
MKAR ScP **ScP 02 37 54.2 -0.9**
comp=Z,1.4nm,0.9s,baz=116,slow=3.4,SNR=5.7
MKAR LR LR 02 50 50.0
comp=Z,916nm,20.2s,baz=122,slow=37
AS31 Alice Springs 43.07 162 *e*P **P 02 32 13.7 -2.6**
comp=Z,5.2nm,0.8s
AS31 *e*ScP **ScP 02 37 54.5 -1.4**
AS31 *e*S **S 02 38 34.9 -6.2**
ASAR Alice Springs 43.07 162 P **P 02 32 13.8 -2.5**
comp=Z,12nm,0.5s,baz=339,slow=6.8,SNR=91
ASAR ScP **ScP 02 37 54.5 -1.4**
comp=Z,0.9nm,0.8s,baz=332,slow=2.4,SNR=5.2
ASAR S **S 02 38 34.9 -6.2**
comp=Z,2.1nm,1.0s,baz=336,slow=11,SNR=7.3
MAKZ Makanchi 43.13 321 *e*P **P 02 32 17.2 +0.6**
comp=Z,72nm,1.3s
MAKZ Makanchi 43.13 321 *e*P **P 02 32 17.2 +0.6**
MAKZ pmax pmax
comp=Z,72nm,1.3s
SKR Severo-Kuril's 43.26 32 *e*P P 02 32 07.6 -10
SKR pmax pmax
comp=Z,300nm,2.8s
SKR pmax pmax
comp=Z,100nm,3.5s
SKR MLR MLR
comp=Z,200nm,16.0s
SKR MLR MLR
comp=Z,300nm,15.0s
H11S3 WAKE ISLAND Hy 43.51 82 T T 03 17 53.2
baz=276,slow=74,SNR=632
H11S1 WAKE ISLAND Hy 43.52 82 T T 03 17 53.5
baz=276,slow=74,SNR=249
H11S2 WAKE ISLAND Hy 43.53 82 T T 03 17 54.5
baz=276,slow=74,SNR=373
H11N1 WAKE ISLAND Hy 43.58 80 T T 03 18 00.6
baz=275,slow=74,SNR=137
H11N2 WAKE ISLAND Hy 43.58 80 T T 03 17 59.6
baz=275,slow=74,SNR=117
H11N3 WAKE ISLAND Hy 43.60 80 T T 03 17 58.8
baz=275,slow=74,SNR=110
KDJ Kajisay 44.34 313 *e*P **P 02 32 27.7 +1.1**
comp=Z,26nm,1.0s
KSH Kashi 44.40 309 P **P 02 32 29.5 +2.4**
KSH PP **PP 02 34 15.3 +4.5**
KSH S **S 02 38 57.8 -2.7**
KSH pmax pmax
comp=Z,62nm,0.9s
KSH pmax pmax
comp=Z,390nm,2.8s
KSH LR LR
comp=Z,2μm,14.3s
KSH LR LR
comp=Z,2μm,14.0s
KSH LR LR
comp=Z,2μm,12.0s
YAK Yakutsk 44.70 6 *e*P **P 02 32 27.7 -1.2**
comp=Z,78nm,1.1s
YAK Yakutsk 44.70 6⇑ *i*P **P 02 32 28.1 -0.8**
YAK pmax pmax
comp=Z,135nm,0.7s
YAK Yakutsk 44.70 6 P **P 02 32 27.7 -1.2**
comp=Z,12nm,0.3s,baz=98,slow=2.3,SNR=5.8
ULHL Ulahol 45.03 313 P **P 02 32 33.0 +0.8**
SNR=44
NIL Nilore 45.31 300 *e*P **P 02 32 33.8 -0.5**
comp=Z,82nm,0.9s
NIL Nilore 45.31 300 *e*P **P 02 32 33.8 -0.5**
NIL pmax pmax
comp=Z,82nm,0.9s
PETK Petropavlovsk- 45.49 30 P **P 02 32 35.2 -0.2**
comp=Z,12nm,0.8s,baz=211,slow=4.8,SNR=15
PETK LR LR 02 52 03.1
comp=Z,382nm,20.7s,baz=222,slow=37
PEA1 Petropavlovsk- 45.50 30 *e*P **P 02 32 35.2 -0.2**
ZAA0 Zalesovo Array 45.59 331 *e*P **P 02 32 35.7 -0.4**
comp=Z,31nm,1.1s
ZALV Zalesovo Beam 45.59 331 P **P 02 32 35.5 -0.6**
comp=Z,19nm,1.0s,baz=116,slow=6.8,SNR=38
ZALV PcP **PcP 02 34 13.8 -0.4**
comp=Z,2.9nm,0.7s,baz=90,slow=4.3,SNR=2.5
ZALV LR LR 02 52 14.2
comp=Z,679nm,20.7s,baz=66,slow=37
ZAA1 Zalesovo Array 45.59 331 *e*P **P 02 32 35.5 -0.6**
ZAA1 *e*PcP **PcP 02 34 13.8 -0.4**
KZA Kyzart 45.68 312 P **P 02 32 38.8 +1.3**
SNR=18
TKM2 Tokmak 2 45.70 313 P **P 02 32 38.2 +0.8**
SNR=15
PET Petropavlovsk 45.91 31 *e*P **P 02 32 38.6 0.0**
PET *e*S **S 02 39 19.3 -2.3**
PET pmax pmax
comp=Z,30nm,0.9s
PET MLR MLR
comp=Z,300nm,18.0s
PET MLR MLR
comp=Z,300nm,19.0s
KBK Karagaybulak 46.07 313 P **P 02 32 41.3 +1.0**
SNR=14
UCH Uchtor 46.24 312 P **P 02 32 43.4 +1.4**
SNR=71
CHMS Chumysh 46.31 313 P **P 02 32 42.5 +0.5**
SNR=9.9
AAK Ala-Archa 46.38 313 P **P 02 32 43.7 +0.9**
SNR=8.5
AAK Ala-Archa 46.38 313 *e*P **P 02 32 43.7 +0.9**
comp=Z,20nm,1.3s
AAK Ala-Archa 46.38 313 *i*P **P 02 32 43.7 +0.9**
SNR=9.6
AAK Ala-Archa 46.38 313 *d*iP **P 02 32 43.3 +0.5**
AAK pmax pmax
comp=Z,16nm,1.3s
AAK Ala-Archa 46.38 313 P **P 02 32 43.2 +0.5**
SNR=8.2
AAK P **P 02 32 43.2 +0.5**
SNR=8.2
AAK Ala-Archa 46.38 313 LR LR 02 54 11.1
comp=Z,2μm,21.0s,baz=84,slow=39
USP Ospenovka 46.57 313 P **P 02 32 44.6 +0.5**
SNR=11
AML Almayashu 46.80 312 P **P 02 32 47.4 +1.1**
SNR=37
NVS Novosibirsk 46.87 331 *e*P **P 02 32 46.0 -0.1**
NVS *e* 02 34 16.4
NVS pmax pmax
comp=Z,38nm,1.4s
NVS pmax pmax
comp=N,25nm,1.5s
NVS pmax pmax
comp=E,34nm,1.6s
EKS2 Erkin-Say 46.89 312 P **P 02 32 47.6 +0.8**
SNR=21
KURK Kurchatov 46.97 324 *e*P **P 02 32 47.1 +0.1**
comp=E,96nm,1.1s
KURK Kurchatov 46.97 324 *d*iP **P 02 32 47.1 +0.1**
KURK pmax pmax
comp=Z,118nm,1.3s
KURK Kurchatov 46.97 324 P **P 02 32 47.1 +0.1**
SNR=52
KURK P **P 02 32 47.1 +0.1**
SNR=52
KURBB Kurchatov Arra 46.98 324 P **P 02 32 47.1 0.0**
comp=Z,46nm,1.0s,baz=122,slow=7.5,SNR=190
KURBB ScP **ScP 02 38 08.4 -3.2**
comp=Z,0.5nm,0.8s,baz=113,slow=6.1,SNR=2.9
ARSB Arslanbob 47.09 310 *e*P **P 02 32 48.8 +0.5**
comp=Z,27nm,0.9s
MA2 Magadan 47.10 20 *e*P **P 02 32 47.6 -0.3**
comp=Z,18nm,1.0s
MA2 Magadan 47.10 20 *de*P **P 02 32 47.0 -0.9**
MA2 pmax pmax
comp=Z,22nm,1.3s
MA2 Magadan 47.10 20 P **P 02 32 47.0 -0.9**
comp=Z,10nm,0.7s,baz=205,slow=7.0,SNR=8.7
BTK Batken 48.38 308 *e*P **P 02 32 58.5 +0.2**
comp=Z,23nm,1.0s
BTK Batken 48.38 308 *e*P **P 02 32 58.5 +0.2**
BTK pmax pmax
comp=Z,23nm,1.0s
GAR Garm 48.55 307 *e*P **P 02 32 59.6 0.0**
comp=Z,127nm,1.0s
GAR Garm 48.55 307 *e*P **P 02 32 59.6 0.0**
GAR pmax pmax
comp=Z,127nm,1.0s
FORT Forrest 48.72 172 *e*P **P 02 32 59.7 -1.0**
comp=Z,68nm,0.9s
KBL Kabul 48.89 301 *e*P **P 02 33 02.4 0.0**
comp=Z,66nm,1.1s
KBL Kabul 48.89 301 *e*P **P 02 33 02.4 0.0**
KBL pmax pmax
comp=Z,66nm,1.1s
KK31 Karatay Array 49.32 312 *e*P **P 02 33 05.4 0.0**
comp=Z,37nm,0.9s
KK31 Karatay Array 49.32 312 *i*P **P 02 33 05.2 -0.2**
KK31 pmax pmax
comp=Z,27nm,0.9s
KKAR Karatay Array 49.32 312 *e*P **P 02 33 05.4 0.0**
comp=Z,37nm,0.9s
KKAR Karatay Array 49.32 312 *e*P **P 02 33 05.4 0.0**
KKAR pmax pmax
comp=Z,37nm,0.9s
SEY Seymchan 50.17 18 P **P 02 33 11.2 -0.2**
comp=Z,14nm,0.8s,baz=224,slow=6.2,SNR=32
BBOO Buckleboo 52.31 164 *e*P **P 02 33 25.6 -2.3**
comp=Z,26nm,0.8s
BVAR Borovoye Array 52.57 324 P **P 02 33 29.5 -0.1**
comp=Z,9.9nm,0.9s,baz=115,slow=10.0,SNR=40
BVAR PcP **PcP 02 34 39.3 -0.4**
comp=Z,6.3nm,0.9s,baz=132,slow=2.2,SNR=4.5
BRVK Borovoye 52.64 324 *e*P **P 02 33 30.1 0.0**
comp=Z,70nm,1.3s
BRVK Borovoye 52.64 324 *d*iP **P 02 33 29.9 -0.2**
BRVK Borovoye 52.64 324 P **P 02 33 30.2 0.0**
SNR=28
BRVK P **P 02 33 30.2 0.0**
SNR=28
STKA Stephens Creek 53.19 158 *e*P **P 02 33 33.2 -1.1**
comp=Z,1.6nm,0.8s
STKA Stephens Creek 53.19 158 *e*P **P 02 33 33.2 -1.1**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 53.19 158 P **P 02 33 32.1 -2.2**
comp=Z,4.7nm,0.8s,baz=336,slow=9.1,SNR=8.8
STKA LR LR 02 58 35.7
comp=Z,223nm,20.2s,baz=341,slow=39
TIXI Tiksi 54.14 3 *e*P **P 02 33 38.6 -2.1**
comp=Z,12nm,0.8s
TIXI Tiksi 54.14 3⇓ *e*P **P 02 33 39.1 -1.7**
TIXI pmax pmax
comp=Z,20nm,1.7s
TIXI Tiksi 54.14 3 P **P 02 33 39.3 -1.5**
comp=Z,3.2nm,0.3s,baz=160,slow=5.9,SNR=11
NRIK Noril'sk 55.55 346 P **P 02 33 50.8 -0.3**
comp=Z,47nm,0.9s,baz=132,slow=7.4,SNR=24
NRIK LR LR 02 59 20.3
comp=Z,1μm,19.8s,baz=152,slow=38
AB31 Akbulak array 57.83 317 *i*P **P 02 34 07.2 -0.4**
AB31 pmax pmax
comp=Z,33nm,1.1s
ABKAR Akbulak array 57.83 317 *e*P **P 02 34 07.3 -0.2**
comp=Z,30nm,1.0s
BILL Bilibino 57.88 18 *e*P **P 02 34 07.0 -0.6**
comp=Z,9.7nm,0.7s
BILL Bilibino 57.88 18 *d*iP **P 02 34 06.7 -0.9**
BILL *e* 02 35 00.7
BILL *e* 02 36 12.3
BILL *e*PPP PPP 02 37 33.8
BILL *e*S **S 02 42 09.5 +3.8**
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,491nm,19.0s
GEYT Alibeck 57.94 304 P **P 02 34 09.2 +0.5**
comp=Z,52nm,1.0s,baz=106,slow=4.8,SNR=89
GEYT LR LR 03 02 39.9
comp=Z,1μm,19.3s,baz=50,slow=40
GYA0B ALIBECK ARRAY 57.94 304 *e*P **P 02 34 09.4 +0.7**
comp=Z,74nm,1.0s
WSAR Wadi Sarin 58.15 287 LR LR 03 00 08.7
comp=Z,194nm,21.0s,baz=98,slow=37
BIDO Bidbid 58.57 287 P **P 02 34 12.6 -0.6**
SNR=6.8
BIDO P **P 02 34 12.6 -0.6**
SNR=6.8
SVE Sverdlovsk 59.12 326 *ce*P **P 02 34 16.3 -0.2**
SVE *e*S S 02 42 31.6 +9.4
SVE pmax pmax
comp=Z,77nm,1.0s
SVE MLR MLR
comp=Z,576nm,21.0s
AKTO Aktyubinsk 59.26 319 P **P 02 34 16.4 -1.2**
AKTO pmax pmax
comp=Z,30nm,1.2s
DZM Mont Dzumac 59.65 130 *e*LR LR 02 51 55.6
comp=Z,887nm,23.8s
DZM Mont Dzumac 59.65 130 LR LR 02 56 21.6
comp=Z,316nm,21.2s,baz=324,slow=32
BANOM Banah 59.95 290 *i*P **P 02 34 22.7 0.0**
SNR=9.9
BANOM Banah 59.95 290 P **P 02 34 22.8 0.0**
BANOM P **P 02 34 22.8 0.0**
ARU Arti 60.13 325 *e*P **P 02 34 22.3 -1.2**
comp=Z,37nm,0.9s
ARU Arti 60.13 325 *d*iP **P 02 34 22.5 -0.9**
ARU 02 35 07.4
ARU 02 36 34.2
ARU S **S 02 42 38.7 +3.4**
ARU SS **SS 02 46 31.9 -0.3**
ARU pmax pmax
comp=Z,46nm,1.0s
ARU MLR MLR
comp=Z,552nm,17.0s
ARU Arti 60.13 325 P **P 02 34 22.5 -0.9**
comp=Z,12nm,0.8s,baz=104,slow=5.0,SNR=40
MSFE Esma-Masafi 60.14 289 P **P 02 34 24.6 +0.5**
UOSS Minazif 60.15 289 P **P 02 34 23.7 -0.4**
HATD Hatta, Dubai 60.23 289 P **P 02 34 24.6 -0.1**
ASHO Ashiyiah 60.31 289 *i*P **P 02 34 24.7 -0.6**
SNR=16
ASHO Ashiyiah 60.31 289 P **P 02 34 24.6 -0.6**
SNR=8.2
ASHO P **P 02 34 24.6 -0.6**
SNR=8.2
NAZ Nazwa, Dubai 60.63 289 *i*P **P 02 34 26.9 -0.5**
SNR=6.4
FAQ Al Faqa, Dubai 60.72 289 P **P 02 34 27.4 -0.6**
ASUD Al Ashush, Dub 60.97 289 P **P 02 34 29.4 -0.3**
NIKH Nikolski High 64.22 39 *e*P **P 02 34 50.9 0.0**
comp=Z,105nm,1.1s
KIRV Kirov 65.36 327 P **P 02 34 57.2 -1.1**
comp=Z,52nm,0.8s,baz=122,slow=1.7,SNR=30
MAK Makhachkala 66.03 310 *e*P P 02 34 57.5 -5.3
MAK *e*S **S 02 43 45.4 -4.1**
MAK pmax pmax
comp=Z,43nm,0.9s
MAK MLR MLR
comp=Z,574nm,19.0s
ANM Nome 67.19 27 *e*P **P 02 35 11.5 +1.6**
comp=Z,24nm,1.0s
ANM Nome 67.19 27 *e*P **P 02 35 11.5 +1.6**
ANM pmax pmax
comp=Z,24nm,1.0s
GROC Groznyy 67.27 310 *e*P **P 02 35 08.2 -2.6**
GROC *e* 02 35 34.9
GROC *e* 02 37 38.4
GROC pmax pmax
comp=Z,88nm,1.4s
PRGR Permogore 67.54 330 *e*P P 02 35 07.0 -5.1
PRGR *e* 02 37 39.3
PRGR pmax pmax
comp=Z,27nm,0.9s
GNI Garni 68.28 307 *e*P **P 02 35 18.0 +0.5**
comp=Z,78nm,1.1s
GNI Garni 68.28 307 *i*P **P 02 35 17.8 +0.3**
SNR=23
GNI Garni 68.28 307 *d*iP **P 02 35 17.7 +0.3**
GNI pmax pmax
comp=Z,422nm,1.3s
GNI Garni 68.28 307 P **P 02 35 17.8 +0.3**
SNR=22
GNI P **P 02 35 17.8 +0.3**
SNR=22
ZEI Tsey 68.68 310 *e*P **P 02 35 15.8 -4.2**
ZEI pmax pmax
comp=Z,58nm,1.1s
NCK Nalchik 68.85 310⇑ *e*P **P 02 35 20.3 -0.4**
NCK pmax pmax
comp=Z,36nm,1.1s
CLDR Caldiran 69.01 306 *e*P **P 02 35 22.8 +0.7**
SDPT Sand Point 69.21 37 *e*P **P 02 35 21.7 -1.0**
comp=Z,59nm,0.9s
KBZ Khabaz 69.33 311 P **P 02 35 23.3 -0.4**
comp=Z,43nm,1.0s,baz=96,slow=5.1,SNR=55
KBZ LR LR 03 09 07.4
comp=Z,780nm,19.6s,baz=69,slow=39
KVAR Kislovodsk Arr 69.46 311 P **P 02 35 25.3 +0.7**
comp=Z,22nm,0.7s,baz=267,slow=24,SNR=36
KIV Kislovodsk 69.47 311 *e*P **P 02 35 24.0 -0.7**
comp=Z,80nm,0.9s
KIV Kislovodsk 69.47 311⇑ *i*P **P 02 35 24.6 -0.1**
KIV Kislovodsk 69.47 311 *i*P **P 02 35 24.5 -0.2**
SNR=23
KIV Kislovodsk 69.47 311 *e*P **P 02 35 24.4 -0.2**
KIV pmax pmax
comp=Z,304nm,1.1s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 69.47 311 P **P 02 35 24.4 -0.2**
SNR=25
KIV P **P 02 35 24.4 -0.2**
SNR=25
CUKT Cukurca 69.47 304 *e*P **P 02 35 24.7 -0.2**
KARS Kars 69.50 307 *e*P **P 02 35 26.4 +1.4**
KARS Kars 69.50 307 *e*P **P 02 35 25.9 +0.9**
comp=Z,124nm,1.0s
KARS Kars 69.50 307 *e*P **P 02 35 25.9 +0.9**
KARS pmax pmax
comp=Z,124nm,1.0s
NEY Neytrino 69.50 310⇑ *e*P **P 02 35 25.5 +0.5**
NEY pmax pmax
comp=Z,7.0nm,0.8s
VRH Novokhopyorsk 69.60 319 *e*P **P 02 35 23.7 -1.5**
VRH pmax pmax
comp=Z,80nm,0.8s
VRH MLR MLR
comp=Z,560nm,16.0s
AGRB Hanur-Agry 69.68 306 *e*P **P 02 35 26.8 +0.6**
MLAZ Malazgirt-MUS 70.07 306 *e*P **P 02 35 29.9 +1.3**
CHGN Chignik 70.34 36 *e*P **P 02 35 28.8 -0.8**
comp=Z,26nm,1.0s
SIRT Sirnak 70.36 304 *e*P **P 02 35 30.5 +0.2**
KLMR Klimovskoe 70.47 329⇓ *i*P **P 02 35 28.6 -1.7**
KLMR *e* 02 38 05.5
KLMR pmax pmax
comp=Z,47nm,1.1s
VRTB Varto-Mus 70.91 306 *e*P **P 02 35 35.8 +2.1**
TMCR Tamitsa 71.07 333 *e*P **P 02 35 32.8 -1.1**
TMCR pmax pmax
comp=Z,43nm,1.0s
VORD Divnogorie 71.15 319 *e*P **P 02 35 33.0 -1.6**
VORD pmax pmax
comp=Z,20nm,0.8s
VORD MLR MLR
comp=Z,4μm,22.0s
VSR Storozhevoye 71.20 319 *e*P **P 02 35 33.3 -1.7**
VSR pmax pmax
comp=Z,50nm,0.9s
VSR MLR MLR
comp=Z,410nm,16.0s
LPSR Galich'ya Gora 71.23 320 *e*P **P 02 35 33.8 -1.3**
LPSR pmax pmax
comp=Z,60nm,0.8s
LPSR MLR MLR
comp=Z,460nm,19.0s
BNGB Bingl 71.53 306 *e*P **P 02 35 37.9 +0.5**
SOC Sochi 71.64 311 *e*P **P 02 35 36.1 -1.7**
SOC *e* 02 38 16.2
SOC *e*PPP PPP 02 39 53.4
SOC *e*S **S 02 44 55.8 -0.3**
SOC *e*SS **SS 02 49 29.9 -1.5**
SOC *e*SSS SSS 02 52 41.3
SOC pmax pmax
comp=Z,256nm,0.7s
SOC MLR MLR
comp=Z,6μm,17.0s
MOS Moscow 71.74 324 *e*P **P 02 35 36.0 -2.1**
MOS pmax pmax
comp=Z,43nm,0.8s
MOS MLR MLR
comp=Z,700nm,19.0s
MAZI Mazidag 71.94 304 *e*P **P 02 35 39.9 0.0**
DYBB Diyarbakir 72.11 305 *e*P **P 02 35 41.5 +0.7**
LVZ Lovozero 72.30 337⇓ *e*P **P 02 35 41.0 -0.3**
LVZ pmax pmax
comp=Z,12nm,1.0s
OBN Obninsk 72.40 323 *e*P **P 02 35 41.1 -0.9**

comp=Z,28nm,0.8s
OBN Obninsk 72.40 323⇑*i*P P 02 35 40.5 -1.5
OBN Obninsk 72.40 323*d*i P P 02 35 40.6 -1.5
OBN *e* 02 36 01.4
OBN *e* 02 38 25.1
OBN *e*S **PnS 02 45 36.4 +0.2**
OBN pmax pmax
comp=Z,62nm,1.7s
OBN MLR MLR
comp=Z,584nm,18.0s
SII Sitkinak Islan 72.67 35 *e*P P 02 35 43.9 +0.2
comp=Z,67nm,1.0s
SVRC Sivrice-ELAZID 72.69 305 *e*P P 02 35 44.7 +0.3
MRIV Mauritius Mete 72.70 241 *e*P P 02 35 44.7 +0.2
comp=Z,38nm,1.5s
APA Apatity 72.79 336⇓*i*P P 02 35 42.4 -1.8
APA pmax pmax
comp=Z,9.0nm,0.7s
APA MLR MLR
comp=Z,500nm,20.0s
RSO Redoubt South 73.01 31 *e*P P 02 35 46.5 +0.6
CAST Castle Rocks 73.03 28 *e*P P 02 35 46.3 +0.5
comp=Z,69nm,0.7s
OHAK Old Harbor 73.08 35 *e*P P 02 35 46.1 0.0
comp=Z,44nm,0.9s
ANN Anapa 73.11 312 *e*P P 02 35 45.3 -1.2
ANN *e*S **S 02 45 09.5 -3.2**
ANN *e* 02 45 50.4
ANN pmax pmax
comp=Z,89nm,1.2s
ANN MLR MLR
comp=Z,682nm,22.0s
URFA Urfa 73.22 305 *e*P P 02 35 47.9 +0.4
KDAK Kodiak Island 73.40 34 *e*P P 02 35 47.8 -0.2
comp=Z,41nm,0.9s
KDAK Kodiak Island 73.40 34*ce*P P 02 35 47.6 -0.4
COLD Coldfoot 73.43 24 *e*P P 02 35 49.1 +1.1
comp=Z,8.9nm,0.9s
BPAW Bear Paw Mtn. 73.44 27 *e*P P 02 35 48.5 +0.3
comp=Z,56nm,0.9s
MLY Manley 73.45 26 *e*P P 02 35 48.8 +0.5
comp=Z,45nm,0.9s
TOLK Toolik Lake Re 73.51 22 *e*P P 02 35 49.0 +0.4
comp=Z,23nm,0.8s
TOLK Toolik Lake Re 73.51 22 P P 02 35 48.7 +0.1
baz=276
SUA Susitna One 73.87 30 *e*P P 02 35 50.5 -0.3
comp=Z,161nm,0.6s
CNPM China Poot 73.88 32 *e*P P 02 35 50.2 -0.6
comp=Z,18nm,0.8s
BRLK Bradley Lake 74.02 32 *e*P P 02 35 51.4 -0.3
comp=Z,34nm,0.9s
DARE Darende-Malaty 74.07 306 *e*P P 02 35 53.2 +0.8
BWN Browne 74.10 27 *e*P P 02 35 53.4 +1.4
comp=Z,67nm,0.8s
SVSK Karacayir 74.20 307 *e*P P 02 35 53.4 +0.4
MCK McKinley 74.39 28 *e*P P 02 35 53.8 0.0
comp=Z,74nm,1.0s
MCK McKinley 74.39 28 *e*P P 02 35 53.8 0.0
MCK pmax pmax
comp=Z,74nm,1.0s
RC01 Rabbit Creek A 74.40 30 *e*P P 02 35 53.4 -0.4
comp=Z,325nm,0.2s
TOKT Tokat 74.47 308 *e*P P 02 35 53.7 -1.0
MDM Murphy Dome 74.52 26 *e*P P 02 35 54.4 -0.1
comp=Z,36nm,0.7s
GAZ Gaziantep 74.53 305 *e*P P 02 35 55.2 +0.1
PMR Palmer 74.62 30 *e*P P 02 35 54.4 -0.6
comp=Z,62nm,0.4s
PMR Palmer 74.62 30 *e*P P 02 35 54.4 -0.6
PMR pmax pmax
comp=Z,62nm,0.4s
WRH Wood River Hil 74.65 27 *e*P P 02 35 54.6 -0.5
comp=Z,29nm,0.7s
TCOL CIGO, UAF Yank 74.68 26 P P 02 35 55.5 +0.1
baz=279
COLA College 74.69 26 *e*P P 02 35 55.7 +0.4
comp=Z,22nm,0.8s
COLA College 74.69 26*c i*P P 02 35 55.2 -0.2
COLA pmax pmax
comp=Z,17nm,0.7s
GHO Glory Hole Cre 74.69 30 *e*P P 02 35 55.4 -0.1
comp=Z,33nm,0.8s
SEW Seward 74.69 31 *e*P P 02 35 55.6 +0.1
comp=Z,38nm,1.0s
KMRS Kahramanmaras 74.71 305 *e*P P 02 35 56.2 +0.1
KVT Kavak 74.71 309 *e*P P 02 35 56.2 +0.1
CCB Clear Creek Bu 74.74 26 *e*P P 02 35 54.8 -0.9
comp=Z,17nm,0.9s
POKR Poker Plat Res 74.82 26 P P 02 35 56.6 +0.3
baz=279
SML Sawmill 74.96 29 *e*P P 02 35 57.2 +0.1
comp=Z,134nm,1.4s
SML Sawmill 74.96 29 *e*P P 02 35 57.2 +0.1
SML pmax pmax
comp=Z,134nm,1.4s
KNK Knik Glacier 74.96 30 *e*P P 02 35 56.9 -0.2
comp=Z,47nm,0.8s
ILAR Eielson Array 75.11 26 P P 02 35 56.6 -1.2
comp=Z,9.5nm,0.6s,baz=265,slow=4.4,SNR=86
ILAR LR LR 03 11 30.7
comp=Z,132nm,18.9s,baz=312,slow=38
ILB Eielson Array 75.11 26 *e*P P 02 35 56.7 -1.2
comp=Z,12nm,0.6s
PUL Pulkovo 75.13 328⇓*e*P P 02 35 59.5 +1.5
PUL pmax pmax
comp=Z,32nm,0.3s
HDA Harding Lake 75.15 27 *e*P P 02 35 57.0 -1.1
comp=Z,22nm,0.8s
HDA Harding Lake 75.15 27 P P 02 35 56.8 -1.3
baz=280
DHY Denali Highway 75.19 28 *e*P P 02 35 58.1 -0.5
comp=Z,19nm,0.8s
BNN Bunyan 75.28 306 *e*P P 02 35 59.4 -0.1
ARCES ARCESS Array B 75.40 339 P P 02 35 58.8 -0.6
comp=Z,12nm,1.0s,baz=65,slow=7.2,SNR=14
ARCES LR LR 03 12 23.0
comp=Z,336nm,19.2s,baz=86,slow=38
ARE0 ARCESS Array S 75.40 339 *e*P P 02 35 59.0 -0.4
SIM Simferopol' 75.41 313*de*P P 02 35 59.4 -0.6
SIM *e* 02 38 53.0
SIM S **S 02 45 39.0 +0.4**
SIM pmax pmax
comp=Z,69nm,0.8s
SIM pmax pmax
comp=Z,46nm,1.8s
SCM Sheep Creek Mo 75.42 29 *e*P P 02 35 59.9 +0.1
comp=Z,84nm,0.9s
SCM Sheep Creek Mo 75.42 29 *e*P P 02 35 59.9 +0.1
SCM pmax pmax
comp=Z,84nm,0.9s
FYU Fort Yukon 75.46 24 *e*P P 02 36 00.8 +1.0
comp=Z,41nm,1.2s
PRP Porcupine Dome 75.55 25 *e*P P 02 35 59.8 -0.7
comp=Z,8.5nm,0.6s
KOZT Kozan 75.56 305 *e*P P 02 36 00.8 -0.2
SPA0 Spitsbergen Ar 75.70 348 *e*P P 02 36 01.0 -0.1
SPITS Spitsbergen Ar 75.70 348 P P 02 36 00.8 -0.2
comp=Z,27nm,0.9s,baz=77,slow=7.8,SNR=20
GLI Glacier Island 75.71 30 *e*P P 02 36 01.4 +0.1
comp=Z,55nm,0.9s
CEYT Ceyhan 75.71 305 *e*P P 02 36 02.2 +0.4
HAMF Hammerfest 75.78 340 *e*P P 02 36 01.0 -0.5
CORM Corum 75.94 308 *e*P P 02 36 03.4 +0.1
PAX Paxson 76.06 28 *e*P P 02 36 03.4 -0.1
comp=Z,21nm,0.8s
PAX Paxson 76.06 28 *e*P P 02 36 03.4 -0.1
PAX pmax pmax
comp=Z,21nm,0.8s
KARA Karaisali 76.20 305 *e*P P 02 36 04.6 -0.1
HSPB Hornsund (broa 76.25 347 *e*P P 02 36 04.0 -0.1
DIV Divide 76.29 30 *e*P P 02 36 05.2 +0.5
comp=Z,46nm,1.0s
KTK1 Kautokeino 76.30 338 *e*P P 02 36 03.8 -0.8
EYAK Cordova Ski Ar 76.42 30 *e*P P 02 36 06.1 +0.7
comp=Z,22nm,0.8s
ILGA Ilgaz 76.45 309 *e*P P 02 36 06.4 +0.1
comp=Z,30nm,1.1s
RPZ Rata Peaks 76.48 145 LR LR 03 08 22.9
comp=Z,192nm,18.2s,baz=306,slow=35
SCRK Sand Creek 76.50 27 *e*P P 02 36 05.4 -0.6
comp=Z,21nm,0.6s
DOT Dot Lake 76.54 27 *e*P P 02 36 05.6 -0.5
comp=Z,29nm,1.0s
MERS Mersin 76.70 305 *e*P P 02 36 07.5 -0.1
URZ Urewera 76.71 138 LR LR 03 09 44.2
comp=Z,158nm,19.1s,baz=314,slow=36
BR101 Keskin Array S 76.78 308 *e*P P 02 36 07.0 -1.1
BR101 *e*PP **PP 02 39 05.2 +4.6**
BR131 Keskin Array S 76.78 308 *e*P P 02 36 07.1 -1.0
comp=Z,16nm,1.1s
BR131 Keskin Array S 76.78 308 P P 02 36 07.0 -1.0
SNR=8.3
BRTR Keskin Array B 76.78 308*ce*P P 02 36 07.0 -1.0
BRTR pmax pmax
comp=Z,12nm,1.1s
BRTR Keskin Array B 76.78 308 P P 02 36 07.0 -1.1
comp=Z,12nm,1.1s,baz=130,slow=6.7,SNR=31
BRTR PP **PP 02 39 05.2 +4.6**
comp=Z,1.4nm,1.1s,baz=61,slow=5.8,SNR=3.5
BRTR LR LR 03 14 39.8
comp=Z,268nm,21.5s,baz=66,slow=39
MENT Mentasta 76.85 28 *e*P P 02 36 08.3 +0.5
comp=Z,24nm,0.6s
FIA1 FINESS Array S 76.85 331 *e*P P 02 36 07.3 -0.5
comp=Z,47nm,1.1s
FIA0 FINESS Array S 76.86 331 *e*P P 02 36 06.5 -1.3
FIA0 FINESS Array S 76.86 331 *e*P P 02 36 06.5 -1.3
FINES FINESS Array B 76.86 331*ce*P P 02 36 07.1 -0.7
FINES pmax pmax
comp=Z,18nm,0.9s
FINES FINESS Array B 76.86 331 P P 02 36 06.5 -1.3
comp=Z,18nm,0.9s,baz=94,slow=5.9,SNR=50
FINES LR LR 03 12 50.9
comp=Z,791nm,19.8s,baz=78,slow=38
HMT Hamilton 77.19 31 *e*P P 02 36 10.3 +0.5
comp=Z,30nm,0.8s
VSU Vasula 77.19 327*d i*P P 02 36 08.6 -1.2
VSU pmax pmax
comp=Z,240nm,1.3s
VSU Vasula 77.19 327 *e*P P 02 36 08.1 -1.7
VSU IAmb IAmb 02 36 10.1
comp=Z,194nm,1.1s
SULT Sultanhani-AKS 77.20 306 *e*P P 02 36 10.2 -0.2
AFSR Afar-Bala (An 77.27 308 *e*P P 02 36 10.2 -0.6
ANTO Ankara 77.39 308 *e*P P 02 36 11.0 -0.4
comp=Z,44nm,1.1s
ANTO Ankara 77.39 308 P P 02 36 10.6 -0.8
SNR=7.9
ANTO P **P 02 36 10.6 -0.8**
SNR=7.9
LOD Lodumlu 77.40 308 *e*P P 02 36 10.9 -0.6
KEBE Keben-Mersin 77.43 304 *e*P P 02 36 11.3 -0.4
MICGM Minsk 77.45 323 *e* P 02 36 11.0 -0.3
MNK Minsk 77.45 323 *e*P P 02 36 11.0 -0.3
AKASG Malin Array Be 77.49 319*ce*P P 02 36 10.0 -1.6
AKASG pmax pmax
comp=Z,24nm,0.9s
AKASG Malin Array Be 77.49 319 P P 02 36 10.0 -1.6
comp=Z,12nm,0.7s,baz=63,slow=5.7,SNR=59
AKASG LR LR 03 12 04.6
comp=Z,346nm,19.3s,baz=105,slow=37
AKBB Malin Array Si 77.49 319 *e*P P 02 36 10.2 -1.4
comp=Z,28nm,1.0s
AKBB Malin Array Si 77.49 319 *e*P P 02 36 10.2 -1.4
AKBB pmax pmax
comp=Z,28nm,1.0s
IKL Isikli 77.49 304 *e*P P 02 36 11.2 -0.7
KIEV Kiev 77.50 319⇑*i*P P 02 36 10.5 -1.2
KIEV Kiev 77.50 319 *i* P P 02 36 10.1 -1.6
SNR=13
KIEV Kiev 77.50 319*d i*P P 02 36 10.0 -1.6
KIEV pmax pmax
comp=Z,32nm,1.1s
EGAK Eagle 77.51 26 *e*P P 02 36 11.3 -0.2
comp=Z,30nm,1.0s
TRO Tromso 77.61 339 *e*P P 02 36 10.6 -1.3
BERE Bereket-Mersin 77.83 304 *e*P P 02 36 13.5 -0.5
IDID Didziasalis 77.91 324 *e*P P 02 36 12.7 -1.2
IDID IAmb IAmb 02 36 14.3
comp=Z,23nm,0.9s
BALM Baldy 77.94 30 *e*P P 02 36 14.6 +0.5
comp=Z,19nm,0.8s
BALM Baldy 77.94 30 *e*P P 02 36 14.6 +0.5
BALM pmax pmax
comp=Z,19nm,0.8s
TEKE Tekeli-Mersin 77.97 304 *e*P P 02 36 13.9 -0.7
NACGM Naroch 77.98 324 *e* P 02 36 13.0 -1.3
NACGM *e*LQ LQ 03 05 06.0
NACGM *e*LR LR 03 10 04.0
IZAR Zarasai 78.08 325 *e*P P 02 36 14.4 -0.4
IZAR IAmb IAmb 02 36 15.2
comp=Z,13nm,0.9s
HPAH Hawaii Prepara 78.19 73 *e*P P 02 36 15.4 -0.8
comp=Z,120nm,0.6s
IIGN Ignalina 78.19 324 *e*P P 02 36 14.7 -0.7
IIGN IAmb IAmb 02 36 15.8
comp=Z,16nm,1.1s
ISAL Salakas 78.19 325 *e*P P 02 36 14.1 -1.3
ISAL IAmb IAmb 02 36 15.8
comp=Z,16nm,1.1s
KIZT Kizilcal 78.30 307 *e*P P 02 36 15.6 -0.9
LEF Lefka 78.38 303 *e*P P 02 36 16.6 -0.3
LEF Lefka 78.38 303⇑*i*P P 02 36 16.7 -0.2
SVRH Sivrihisar-ESK 78.44 308 *e*P P 02 36 16.6 -0.6
DAWY Dawson 78.44 26 *e*P P 02 36 17.3 +0.6
comp=Z,22nm,0.8s
MDUB Mudurnu 78.44 309 *e*P P 02 36 16.6 -0.7
MDUB Mudurnu 78.44 309 *e*P P 02 36 16.9 -0.4
comp=Z,179nm,0.8s
KIS Kishinev 78.60 316 *e*P P 02 36 16.0 -1.8
comp=Z,110nm,1.2s
KIS Kishinev 78.60 316 *e*PcP PcP 02 36 26.0 -0.8
KIS *e*L L 03 07 00.0
KIS LQM 03 08 15.0
comp=Z,600nm,22.0s
KIS LRM MLR 03 13 58.0
comp=Z,900nm,22.0s
KIS Kishinev 78.60 316 *e*P P 02 36 16.0 -1.8
KIS *e* 02 36 26.0
KIS pmax pmax
comp=Z,110nm,1.2s
KIS MLR MLR
comp=Z,900nm,22.0s
CIFT Cifteler, Eski 78.80 308 *e*P P 02 36 19.1 -0.2
EPYK Eagle Plains 78.82 24 *e*P P 02 36 18.3 -0.4
comp=Z,24nm,0.9s
EPYK Eagle Plains 78.82 24 P P 02 36 18.2 -0.6
baz=288
GULT Gulveren 78.96 309 *e*P P 02 36 19.8 -0.3
TLCR 79.03 314⇑*i*P P 02 36 19.8 -0.4
INK Inuvik 79.33 21 *e*P P 02 36 20.9 -0.5
comp=Z,21nm,0.9s
INK Inuvik 79.33 21 *e*P P 02 36 20.9 -0.5
INK pmax pmax
comp=Z,21nm,0.9s
INK Inuvik 79.33 21 P P 02 36 20.9 -0.5
comp=Z,17nm,0.8s,baz=190,slow=3.5,SNR=9.9
SHUT Suhut-Afyon 79.38 307 *e*P P 02 36 21.9 -0.6
PABE Paberze 79.39 325 *e*P P 02 36 21.0 -1.0
PABE IAmb IAmb 02 36 23.2
comp=Z,103nm,1.0s
STEI Steigen 79.44 338 *e*P P 02 36 21.0 -1.0
CFR Carcaliu 79.50 314⇑*i*P P 02 36 21.7 -1.1
SLIT Slitere, Latvi 79.69 327 *e*P P 02 36 21.6 -2.0
SLIT IAmb IAmb 02 36 23.0
comp=Z,300nm,1.2s
LOF Lofoten 79.96 339 *e*P P 02 36 24.7 -0.1
ICOR Ion Corvin 80.00 313⇑*i*P P 02 36 25.6 +0.1
ODBI Odobesti 80.08 315⇓*i*P P 02 36 26.3 +0.3
ARMT Armutlu 80.15 309 *e*P P 02 36 25.4 -1.1
TESR Tescani 80.16 316⇑*i*P P 02 36 26.0 -0.4
PRAR RASCA 80.22 317⇑*i*P P 02 36 26.0 -0.7
SUW Suwalki 80.25 324 *e*P P 02 36 25.2 -1.5
SUW Suwalki 80.25 324 *e*P P 02 36 25.4 -1.3
comp=Z,169nm,1.1s
SUW Suwalki 80.25 324 *e*P P 02 36 25.4 -1.3
SUW pmax pmax
comp=Z,169nm,1.1s
HYT Haines Junctio 80.26 29 *e*P P 02 36 28.0 +1.2
comp=Z,21nm,0.9s
VRI Vrincioaia 80.28 315⇑*i*P P 02 36 27.4 +0.3
ELL Elmali 80.33 305 *e*P P 02 36 27.6 -0.1
PLOR Plostina 80.33 315⇑*i*P P 02 36 27.4 0.0
PBUR Paburg 80.35 326 *e*P P 02 36 26.2 -1.0
PBUR IAmb IAmb 02 36 27.4
comp=Z,136nm,1.1s
MOR8 Moi Rana 80.38 337 *e*P P 02 36 25.2 -1.9
BIZ Bicaz 80.41 316⇑*i*P P 02 36 27.5 -0.2
BURAR Bucovina Array 80.81 317⇑*i*P P 02 36 29.9 -0.1
BUR08 Bucovina Ar. S 80.81 317 *e*P P 02 36 29.5 -0.5
comp=Z,28nm,0.9s
PHSR Pinarhisar 80.84 311⇑*i*P P 02 36 29.4 -0.8
OZUR 80.85 315⇑*i*P P 02 36 30.1 -0.1
MLR Muntele Rosu 80.91 315 *e*P P 02 36 28.8 -1.8
comp=Z,35nm,0.9s
MLR Muntele Rosu 80.91 315⇑*i*P P 02 36 30.3 -0.3
MLR Muntele Rosu 80.91 315 *e*P P 02 36 28.8 -1.8
MLR pmax pmax
comp=Z,35nm,0.9s
MANT Manisa 80.91 307 *e*P P 02 36 30.7 -0.1
LVV L'vov 80.94 319 *e*P P 02 36 29.7 -0.8
LVV *e* 02 39 37.8
LVV *e*S **S 02 46 43.0 +5.1**
FETY Fethiye 81.00 306 *e*P P 02 36 30.5 -0.6
BALB Balikesir 81.11 309 *e*P P 02 36 29.4 -2.2
BALB Balikesir 81.11 309 *e*P P 02 36 31.7 +0.1
comp=Z,162nm,1.0s
DOPR Dopca 81.15 315⇑*i*P P 02 36 31.7 -0.1
ARCR ARCALIA 81.52 317⇑*i*P P 02 36 34.0 +0.3
VOIR 81.53 315⇓*i*P P 02 36 32.9 -0.9
WHY Whitehorse 81.53 29 *e*P P 02 36 34.4 +0.8
comp=Z,22nm,1.1s
KLNR Kaliningrad 81.73 325*de*P P 02 36 33.1 -1.4
KLNR pmax pmax
comp=Z,110nm,1.5s
KWP Kalwaria Pacla 81.82 319 *e*P P 02 36 34.6 -0.5
KWP Kalwaria Pacla 81.82 319 *e*P P 02 36 34.7 -0.5
comp=Z,731nm,1.0s
KWP Kalwaria Pacla 81.82 319 *e*P P 02 36 34.6 -0.5
ARR Arges 81.83 315⇑*i*P P 02 36 35.2 -0.2
HUMR Humele 81.83 314⇑*i*P P 02 36 34.8 -0.6
ERIK Erikli-Kesan 81.84 310 *e*P P 02 36 34.9 -0.5
NSS Namsos 81.98 336 *e*P P 02 36 33.9 -1.7
ALN Alexandroupoli 82.12 310 *e*P P 02 36 35.9 -1.0
comp=Z,30nm,1.2s
ALN Alexandroupoli 82.12 310 P P 02 36 32.6 -4.3
ALN Alexandroupoli 82.12 310 *e*P P 02 36 35.9 -1.0
ALN pmax pmax
comp=Z,30nm,1.2s
CJR Cluj-Napoca 82.12 316⇓*i*P P 02 36 37.6 +0.7
EZN Ezine 82.22 309 *e*P P 02 36 37.2 -0.2
EZN Ezine 82.22 309 P P 02 36 35.9 -1.5
EZN Ezine 82.22 309⇑*i*P P 02 36 36.7 -0.7
BEL Belsk 82.29 322 *e*P P 02 36 37.0 -0.6
BEL Belsk 82.29 322 *e*P P 02 36 37.0 -0.6
BESE Bessie Mountai 82.29 31 *e*P P 02 36 39.5 +1.9
comp=Z,24nm,1.0s
KOLS Kolonicke sedl 82.30 319 *e*P P 02 36 37.3 -0.4
KOLS pmax pmax
comp=Z,11nm,1.4s
KOLS Kolonicke sedl 82.30 319 *e*P P 02 36 37.3 -0.4
TRPA Tarpa 82.38 318⇑*i*P P 02 36 37.4 -0.7
TRPA Tarpa 82.38 318⇓*e*P P 02 36 37.0 -1.1
UZH Uzhgorod 82.38 319*ce*P P 02 36 37.5 -0.6
UZH *i* 02 36 46.8
UZH *e* 02 36 54.8
LOT Lotru 82.39 315⇑*i*P P 02 36 38.2 -0.2
SIT Sitka 82.61 32 *e*P P 02 36 40.9 +1.8
comp=Z,28nm,0.9s
SIT Sitka 82.61 32 *e*P P 02 36 40.9 +1.8
SIT pmax pmax
comp=Z,28nm,0.9s
DAG Danmarks Havn 82.67 351⇓*i*P P 02 36 37.9 -1.2
DAG pmax pmax
comp=Z,59nm,1.0s
DAG Danmarks Havn 82.67 351⇓*i*P P 02 36 37.9 -1.2
comp=Z,59nm,1.0s
DRGR 82.68 317⇑*i*P P 02 36 39.9 0.0
DEV Deva 82.83 316⇑*i*P P 02 36 40.9 +0.3
RZN Rozhen 82.85 311 P P 02 36 39.0 -2.0
LTVH Ltavrtes, Hu 83.02 317 *e*P P 02 36 45.1 +3.6
GZR Gura Zlata 83.07 315⇑*i*P P 02 36 41.5 -0.4
TBLU Trondheim 83.21 335 *e*P P 02 36 40.4 -1.7
PUNG Punghina 83.31 314⇑*i*P P 02 36 43.2 +0.2
NIE Niedzica 83.37 320 *e*P P 02 36 43.2 -0.1
NIE Niedzica 83.37 320 *e*P P 02 36 43.2 -0.1
OJC Ojcow 83.41 321 *e*P P 02 36 42.9 -0.6
OJC Ojcow 83.41 321 *e*P P 02 36 42.6 -0.8
comp=Z,48nm,1.1s
OJC Ojcow 83.41 321 *e*P P 02 36 42.6 -0.8
OJC pmax pmax
comp=Z,49nm,1.1s
HERR Herculane 83.47 315⇑*i*P P 02 36 43.7 -0.2
NC405 NORSAR Array S 83.52 332 *e*P P 02 36 42.6 -1.2
comp=Z,57nm,0.8s
SIRR Siria 83.53 316⇓*i*P P 02 36 42.8 -1.4
MMB Musomiste 83.58 311 P P 02 36 43.0 -1.6
VTS Vitosha 83.62 313 *e*P P 02 36 43.7 -1.2
comp=Z,61nm,1.1s
VTS Vitosha 83.62 313 P P 02 36 44.3 -0.6
VTS Vitosha 83.62 313⇓*i*P P 02 36 44.8 -0.1
VTS Vitosha 83.62 313 *e*P P 02 36 43.7 -1.2
VTS pmax pmax
comp=Z,61nm,1.1s
VTS Vitosha 83.62 313 P P 02 36 44.0 -0.9
NC303 NORSAR Array S 83.62 333 *e*P P 02 36 43.0 -1.3
comp=Z,41nm,0.9s
NB201 NORSAR Array S 83.73 333 *e*P P 02 36 43.5 -1.4
comp=Z,66nm,1.4s
NC602 NORSAR Array S 83.75 332 *e*P P 02 36 43.5 -1.5
comp=Z,13nm,0.9s
NC602 NORSAR Array S 83.75 332 *e*P P 02 36 43.0 -2.0
NB2 NORSAR Subarra 83.77 333 P P 02 36 43.2 -1.9
comp=Z,71nm,2.0s,baz=64,slow=4.6
NB2 NORSAR Subarra 83.77 333 P P 02 36 43.2 -1.9
baz=64,slow=4.6
NB200 NORSAR Array S 83.77 333 *e*P P 02 36 43.5 -1.6
NOA NORSAR Array B 83.77 333 P P 02 36 43.5 -1.6
comp=Z,6.6nm,0.7s,baz=64,slow=4.9,SNR=61
NOA LR LR 03 18 02.9
comp=Z,671nm,18.1s,baz=65,slow=38
BZS Buzias 83.77 316⇑*i*P P 02 36 44.6 -0.8
GKP Gorka Klasztor 83.83 324 *e*P P 02 36 44.7 -0.8
GKP Gorka Klasztor 83.83 324 *e*P P 02 36 44.7 -0.8
NC204 NORSAR Array S 83.86 333 *e*P P 02 36 44.4 -1.3
comp=Z,36nm,0.8s
KKB Krupnik 83.96 312 P P 02 36 44.0 -2.5
NBO00 NORSAR Array S 83.96 333 *e*P P 02 36 45.0 -1.1
comp=Z,31nm,1.1s
LANS Liptovska Anna 83.97 320 *e*P P 02 36 47.0 +0.6
LANS Liptovska Anna 83.97 320 *e*P P 02 36 47.0 +0.6
MDVR Moldovita 83.98 315⇓*i*P P 02 36 46.2 -0.4
NAO01 NORSAR Array S 84.00 332 *e*P P 02 36 45.0 -1.2
comp=Z,24nm,0.9s
CASY Casey 84.10 184 *e*P P 02 36 46.9 +0.5
comp=Z,26nm,0.8s
PSZ Piszkesteto 84.13 318 *e*P P 02 36 46.6 -0.7
comp=Z,26nm,1.1s
PSZ Piszkesteto 84.13 318⇑*i*P P 02 36 46.9 -0.4
PSZ Piszkesteto 84.13 318 *e*P P 02 36 46.6 -0.7
PSZ pmax pmax
comp=Z,26nm,1.1s
PSZ Piszkesteto 84.13 318⇓*e*P P 02 36 45.1 -2.2
PAIG Paliouri 84.13 310 P P 02 36 45.6 -1.7
KMBO Kilima Mbogo 84.21 267 *e*P P 02 36 49.6 +1.1
comp=Z,36nm,1.2s
KMBO Kilima Mbogo 84.21 267 *i* P P 02 36 49.2 +0.6
SNR=15
KMBO Kilima Mbogo 84.21 267*ce*P P 02 36 49.2 +0.6
KMBO pmax pmax
comp=Z,21nm,1.1s
KMBO Kilima Mbogo 84.21 267 P P 02 36 49.1 +0.6
SNR=5.2
KMBO P **P 02 36 49.1 +0.6**
SNR=5.2
KMBO Kilima Mbogo 84.21 267 P P 02 36 48.1 -0.4
comp=Z,21nm,1.1s,baz=46,slow=6.7,SNR=20
KMBO LR LR 03 10 43.2
comp=Z,155nm,21.7s,baz=86,slow=33
DOMB Dombas 84.24 334 *e*P P 02 36 46.5 -1.1
KNT Kendrikon 84.31 311 P P 02 36 46.3 -2.0
WRAK Wrangell Islan 84.37 32 *e*P P 02 36 49.7 +1.5
comp=Z,20nm,1.1s
BSD Bornholm Skovb 84.41 326⇓*i*P P 02 36 47.2 -1.2
BSD pmax pmax
comp=Z,75nm,1.0s
BSD Bornholm Skovb 84.41 326⇓*i*P P 02 36 47.2 -1.2
comp=Z,75nm,1.0s
OSL Oslo 84.47 332 *e*P P 02 36 47.7 -0.9
OKC Ostrava-Krasne 84.54 321 *e*P P 02 36 48.7 -0.5
OKC *e* 02 36 56.2
OKC MLR MLR
comp=Z,300nm,17.5s
OKC Ostrava-Krasne 84.54 321 *e*P P 02 36 48.7 -0.5

OKC *ep*P **pP** **02 36 56.2 -1.1**
OKC AMS AMS 03 20 20.0
comp=Z,300nm,17.5s
VYHS Vyhne 84.59 319 *e*P **P** **02 36 49.5 -0.1**
VYHS pmax pmax
comp=Z,21nm,1.2s
VYHS Vyhne 84.59 319 *e*P **P** **02 36 49.5 -0.1**
MOL Molde 84.62 335 *e*P **P** **02 36 48.5 -0.9**
STIP Stip 84.65 312 *i* P **P** **02 36 47.5 -2.5**
DLBC Dease Lake 84.68 30 *e*P **P** **02 36 51.3 +1.4**
comp=Z,16nm,1.0s
MORC Moravsky Berou 84.93 321 *e*P **P** **02 36 50.3 -0.9**
comp=Z,26nm,1.1s
MORC Moravsky Berou 84.93 321 ⇑*i*P **P** **02 36 51.2 -0.1**
MORC Moravsky Berou 84.93 321 *e*P **P** **02 36 50.3 -0.9**
MORC pmax pmax
comp=Z,26nm,1.1s
MORC Moravsky Berou 84.93 321 ⇓*i*P **P** **02 36 50.8 -0.5**
AKN Aaknes 85.04 334 *e*P **P** **02 36 51.2 -0.3**
RES Resolute Bay 85.07 9 *e*P **P** **02 36 51.3 0.0**
comp=Z,15nm,0.9s
RES Resolute Bay 85.07 9 P **P** **02 36 51.0 -0.4**
comp=Z,13nm,0.9s,baz=303,slow=5.7,SNR=31
KONO Kongsberg 85.10 332 *e*P **P** **02 36 50.9 -0.9**
comp=Z,29nm,1.0s
KONO Kongsberg 85.10 332 *d i*P **P** **02 36 50.1 -1.7**
KONO pmax pmax
comp=Z,50nm,1.7s
KONO Kongsberg 85.10 332 *e*P **P** **02 36 50.3 -1.5**
FRGS Fruska Gora 85.13 316 *e*P **P** **02 36 51.7 -0.6**
SRO Srobarova 85.16 319 *e*P **P** **02 36 52.6 +0.2**
SRO Srobarova 85.16 319 *e*P **P** **02 36 52.6 +0.2**
JAVC Velka Javorina 85.19 320 ⇓*i*P **P** **02 36 53.5 +0.9**
SKAR Skarsila 85.20 333 *e*P **P** **02 36 52.0 -0.4**
KRLC Kraliky 85.28 321 *e*P **P** **02 36 52.5 -0.5**
KRLC Kraliky 85.28 321 *e*P **P** **02 36 52.5 -0.5**
KSP Ksiaz 85.28 322 *e*P **P** **02 36 52.5 -0.4**
KSP Ksiaz 85.28 322 *e*P **P** **02 36 52.5 -0.4**
CSKK Cskako 85.36 318 *e*P **P** **02 36 53.0 -0.4**
DIVS Divibare 85.37 315 *e*P **P** **02 36 52.8 -0.8**
AGG Agios Georgios 85.41 309 *e*P **P** **02 36 51.5 -2.4**
comp=Z,31nm,1.0s
AGG Agios Georgios 85.41 309 *e*P **P** **02 36 51.5 -2.4**
AGG pmax pmax
comp=Z,31nm,1.0s
KRUS Krusevo 85.42 312 *i* P **P** **02 36 52.0 -1.9**
DPC Dobruska-Polom 85.45 322 *e*P **P** **02 36 53.6 -0.2**
DPC *e* 02 47 15.5
DPC MLR MLR
comp=Z,400nm,17.1s
DPC Dobruska-Polom 85.45 322 *e*P **P** **02 36 53.6 -0.2**
DPC *e*SKS **SKSac** **02 47 15.5 -2.1**
DPC AMS AMS 03 17 20.0
comp=Z,400nm,17.1s
BIA Bitola 85.48 312 *i* P **P** **02 36 52.3 -1.9**
FNA Florina 85.52 311 P **P** **02 36 52.0 -2.4**
UPC Upice 85.57 322 *e*P **P** **02 36 54.3 -0.1**
UPC MLR MLR
comp=Z,400nm,17.4s
UPC Upice 85.57 322 *e*P **P** **02 36 54.3 -0.1**
UPC AMS AMS 03 17 30.0
comp=Z,400nm,17.4s
DIB Dawson Inlet, 85.59 35 *e*P **P** **02 36 55.1 +0.7**
comp=Z,29nm,1.3s
MODS Modra-Piesok 85.61 319 *e*P **P** **02 36 53.8 -0.8**
MODS pmax pmax
comp=Z,23nm,1.2s
MODS Modra-Piesok 85.61 319 *e*P **P** **02 36 53.8 -0.8**
VRAC Vranov 85.68 320 ⇓*i*P **P** **02 36 55.3 +0.3**
VRAC Vranov 85.68 320 ⇓*i*P **P** **02 36 54.9 -0.1**
TIH Tihany 85.76 318 *e*P **P** **02 36 53.1 -2.3**
OHR Ohrid 85.83 312 *i* P **P** **02 36 53.9 -2.0**
BBLS Lazići 85.85 315 *e*P **P** **02 36 55.7 -0.3**
IVA Berane 85.86 314 ⇑*i*P **P** **02 36 54.1 -2.0**
HYA Hoyanger 85.87 334 *e*P **P** **02 36 55.1 -0.5**
PHP Peshkopia 85.88 312 P **P** **02 36 54.2 -2.0**
KRUC Moravsky 85.89 320 ⇓*i*P **P** **02 36 55.7 -0.3**
PVY Plav 85.91 313 ⇑*i*P **P** **02 36 55.0 -1.4**
PLE Pljevlja 86.05 314 ⇑*i*P **P** **02 36 55.4 -1.6**
RUE Ruedersdorf 86.07 324 *e*P **P** **02 36 56.1 -0.6**
RUE IAmb IAmb 02 36 58.5
comp=Z,46nm,1.0s
HAPS Han Pijesak,Bl 86.08 315 *e*P **P** **02 36 56.0 -1.2**
KOME Kolasin 86.13 314 ⇑*i*P **P** **02 36 56.2 -1.2**
ODD1 Odda 86.30 333 *e*P **P** **02 36 57.7 -0.1**
ITM Ithomi 86.31 308 *e*P **P** **02 36 56.7 -1.7**
comp=Z,120nm,1.3s
SOP Sopron 86.31 319 ⇓*e*P **P** **02 36 56.1 -2.0**
TREC Trest 86.35 321 *e*P **P** **02 36 58.0 -0.3**
TREC MLR MLR
comp=Z,700nm,15.1s
TREC Trest 86.35 321 *e*P **P** **02 36 58.0 -0.3**
TREC AMS AMS 03 18 40.0
comp=Z,700nm,15.1s
TIR Tirane 86.41 312 *e*P **P** **02 36 57.9 -0.8**
comp=Z,62nm,1.1s
TIR Tirane 86.41 312 ⇑*i*P **P** **02 36 58.0 -0.8**
PVCC Panska Ves 86.41 322 AMS AMS 03 19 10.0
comp=Z,400nm,16.6s
UPM Unac-Piva 86.42 314 ⇑*i*P **P** **02 36 57.4 -1.6**
PDG Podgorica 86.45 313 ⇑*i*P **P** **02 36 57.2 -1.7**
PDG Podgorica 86.45 313 *e*P **P** **02 36 57.4 -1.5**
TTG Podgorica 86.45 313 ⇑*i*P **P** **02 36 57.6 -1.3**
TTG Podgorica 86.45 313 *e*P **P** **02 36 57.4 -1.5**
comp=Z,29nm,1.1s
TTG Podgorica 86.45 313 *e*P **P** **02 36 57.4 -1.5**
TTG pmax pmax
comp=Z,29nm,1.1s
NKY Niksic 86.50 314 ⇑*i*P **P** **02 36 58.0 -1.3**
SUE Sulen 86.53 334 *e*P **P** **02 36 58.5 -0.3**
GOPC GO Pecny, Ondr 86.53 322 *e*P **P** **02 36 58.7 -0.5**
GOPC *e* 02 37 05.5
GOPC MLR MLR
comp=Z,500nm,16.3s
GOPC GO Pecny, Ondr 86.53 322 *e*P **P** **02 36 58.7 -0.5**
GOPC *ep*P **pP** **02 37 05.5 -1.7**
GOPC AMS AMS 03 21 30.0
comp=Z,500nm,16.3s
NKME Niksic 86.54 314 ⇑*i*P **P** **02 36 58.1 -1.3**
DRME Dracevica, Mon 86.59 313 ⇑*i*P **P** **02 36 58.5 -1.1**
DRME Dracevica, Mon 86.59 313 *e*P **P** **02 36 58.7 -0.9**
BLS5 Blasjo 86.62 332 *e*P **P** **02 36 59.1 -0.3**
ULC Ulcinj 86.62 313 ⇑*i*P **P** **02 36 58.5 -1.3**
BER Bergen 86.63 333 *e*P **P** **02 36 58.7 -0.7**
BEHE Becsehely 86.63 318 ⇓*e*P **P** **02 36 58.1 -1.6**
BRG Berggiesshubel 86.64 323 *e*P **P** **02 36 58.9 -0.7**
comp=Z,30nm,1.3s
BRG PP **PP** **02 40 21.0 -0.3**
BRG S **S** **02 47 34.0 -1.2**
BRG Berggiesshubel 86.64 323 *e*P **P** **02 36 58.9 -0.7**
BRG 02 40 21.0
BRG S **S** **02 47 34.0 -1.2**
BRG pmax pmax
comp=Z,2.0nm,1.3s
BRG MLR MLR
comp=N,30μm,18.4s
BRG MLR MLR
comp=E,313nm,18.2s
BRG MLR MLR
comp=Z,294nm,15.3s
ASK Askoy 86.64 333 *e*P **P** **02 36 58.8 -0.6**
PRU Pruhonice 86.64 322 *e*P **P** **02 36 59.0 -0.7**
PRU *e* 02 47 23.2
PRU MLR MLR
comp=Z,500nm,17.6s
PRU Pruhonice 86.64 322 *e*P **P** **02 36 59.0 -0.7**
PRU *e*SKS **SKSac** **02 47 23.2 -1.8**
PRU AMS AMS 03 21 40.0
comp=Z,500nm,17.6s
CEME Cevo 86.64 314 ⇑*i*P **P** **02 36 58.5 -1.4**
CONA Conrad Observa 86.65 319 *i* P **P** **02 36 59.6 -0.3**
comp=Z,32nm,1.2s,SNR=18
MUD Monsted U'grnd 86.77 329 *i* P **P** **02 36 59.1 -1.0**
MUD pmax pmax
comp=Z,44nm,1.1s
MUD Monsted U'grnd 86.77 329 *i* P **P** **02 36 59.1 -1.0**
comp=Z,44nm,1.1s
BRY Bratogost 86.78 314 ⇑*i*P **P** **02 36 59.2 -1.5**
BRY Bratogost 86.78 314 *e*P **P** **02 36 59.7 -1.0**
SNART Snartemo 86.81 331 *e*P **P** **02 36 58.8 -1.5**
HCY Herceg Novi 86.97 314 ⇑*i*P **P** **02 37 00.0 -1.5**
CLL Collm 87.00 323 *e*P **P** **02 37 00.7 -0.7**
comp=Z,12nm,1.0s
CLL Collm 87.00 323 ⇓*i*P **P** **02 37 00.0 -1.4**
CLL *e*S **SKSac** **02 47 22.0 -5.1**
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL MLR MLR
comp=Z,500nm,20.0s
CLL Collm 87.00 323 ⇓*i*P **P** **02 37 00.0 -1.4**
comp=Z,18nm,1.2s
CLL *e*PP **PP** **02 40 23.0 -1.2**
CLL *e*SKSac **SKSac** **02 47 25.0 -2.1**
CLL *e*PS **PnS** **02 48 37.0 -2.8**
CLL *e*SS **SS** **02 53 24.0 +3.1**
CLL *e*SSS SSS 02 56 54.0
CLL *e* 02 58 12.0
CLL *e*SSSS 02 59 54.0
CLL LmV 03 19 00.0
comp=Z,500nm,20.0s
CLL Lm MLR 03 21 00.0
comp=N,300nm,18.0s
CLL Lm MLR 03 21 00.0
comp=E,400nm,19.1s
BLY Banja Luka 87.01 316 *e*P **P** **02 37 01.1 -0.5**
comp=E,23nm,1.0s
BLY Banja Luka 87.01 316 ⇑*i*P **P** **02 37 01.0 -0.6**
BLY Banja Luka 87.01 316 *e*P **P** **02 37 01.5 -0.1**
ARSA Arzberg 87.13 319 *i* P **P** **02 37 01.6 -0.5**
comp=E,20nm,1.2s,SNR=8.6
MGRS Mrkonjic Grad 87.20 316 *e*P **P** **02 37 00.3 -2.3**
KMY Karmoy 87.26 332 *e*P **P** **02 37 02.2 -0.2**
KHC Kasperske Hory 87.56 321 *e*P **P** **02 37 02.8 -1.4**
comp=E,1.7nm,0.9s
KHC Kasperske Hory 87.56 321 *e*P **P** **02 37 03.4 -0.8**
KHC MLR MLR
comp=Z,500nm,19.0s
KHC Kasperske Hory 87.56 321 *e*P **P** **02 37 03.4 -0.8**
KHC *ex* x 02 37 31.5
KHC AMS AMS 03 19 30.0
comp=Z,500nm,19.0s
GEC2 GERESS Array S 87.61 321 *e*P **P** **02 37 04.1 -0.4**
comp=Z,11nm,1.1s
GEC2 GERESS Array S 87.61 321 *e*P **P** **02 37 04.1 -0.4**
GEC2 pmax pmax
comp=Z,11nm,1.1s
GERES GERESS Array B 87.61 321 P **P** **02 37 03.7 -0.8**
comp=Z,3.5nm,0.8s,baz=69,slow=4.5,SNR=33
GERES PP **PP** **02 40 31.8 +2.5**
comp=Z,0.2nm,0.4s,baz=51,slow=3.1,SNR=3.7
GERES LR LR 03 20 08.0
comp=Z,462nm,19.6s,baz=75,slow=38
PERS Pernice 87.62 318 *i* P **P** **02 37 03.8 -0.8**
SOKA Soboth 87.66 318 *i* P **P** **02 37 03.9 -0.9**
comp=Z,19nm,1.1s,SNR=7.9
MOA Molln 87.67 320 *i* PcP **P** **02 37 04.5 -0.3**
comp=Z,30nm,1.2s,SNR=18
CRES Cresnjev 87.73 318 *e*P **P** **02 37 04.8 -0.3**
NKC Novy Kostel 87.77 322 *e*P **P** **02 37 04.4 -0.8**
NKC MLR MLR
comp=Z,700nm,19.9s
NKC Novy Kostel 87.77 322 *e*P **P** **02 37 04.4 -0.8**
NKC AMS AMS 03 19 10.0
comp=Z,700nm,19.9s
KULLO Kullorsuaq 87.90 359 ⇓*i*P **P** **02 37 04.4 -0.9**
KULLO pmax pmax
comp=Z,20nm,1.0s
KULLO Kullorsuaq 87.90 359 ⇓*i*P **P** **02 37 04.4 -0.9**
comp=Z,20nm,1.0s
BOJS Bojanci 87.99 317 *i* P **P** **02 37 05.8 -0.5**
OBKA Obir 88.03 318 *i* P **P** **02 37 05.7 -0.9**
comp=Z,18nm,1.5s
VISS Visnje 88.13 318 *e*P **P** **02 37 06.4 -0.6**
SCO Scoresbysund 88.29 348 *e*P **P** **02 37 06.9 -0.3**
comp=Z,15nm,1.3s
SCO Scoresbysund 88.29 348 *i* P **P** **02 37 06.8 -0.3**
SCO pmax pmax
comp=Z,14nm,1.3s
SCO Scoresbysund 88.29 348 *i* P **P** **02 37 06.8 -0.3**
comp=Z,14nm,1.3s
CEY Cerknica 88.42 318 *e*P **P** **02 37 07.7 -0.7**
KBA Koelnbreinsper 88.56 319 *i* P **P** **02 37 07.8 -1.4**
comp=Z,14nm,1.1s
MYKA Terra Mystica 88.56 319 *i* PcP **P** **02 37 08.8 -0.3**
comp=Z,6.2nm,0.7s
JAVS Javornik 88.59 318 *i* P **P** **02 37 08.1 -1.1**
SUMG Summit 88.86 354 *e*P **P** **02 37 09.9 -0.5**
comp=Z,21nm,1.1s
SUMG Summit 88.86 354 *i* P **P** **02 37 09.7 -0.7**
SUMG pmax pmax
comp=Z,54nm,1.1s
SUMG Summit 88.86 354 *i* P **P** **02 37 09.7 -0.7**
comp=Z,54nm,1.1s
YKW3 Yellowknife Ar 88.99 22 *e*P **P** **02 37 10.0 -0.6**
comp=Z,8.2nm,1.0s
YKA Yellowknife Ar 89.04 22 P **P** **02 37 10.5 -0.3**
comp=Z,4.5nm,0.9s,baz=314,slow=4.6,SNR=54
YKA PKKPbc **PKKPdf** **02 54 47.3 +2.8**
comp=Z,1.0nm,1.0s,baz=128,slow=2.3,SNR=7.5
YKB5 Yellowknife Ar 89.04 22 *e*P **P** **02 37 10.6 -0.3**
ABTA Abfaltersbach 89.21 319 *i* P **P** **02 37 10.3 -1.8**
comp=Z,24nm,1.3s,SNR=6.1
TIP Timpagrande 89.41 311 *e*P **P** **02 37 12.1 -1.1**
comp=Z,25nm,1.3s
TIP Timpagrande 89.41 311 ⇑*i*P **P** **02 37 12.6 -0.6**
WTTA Wattenberg 89.53 320 *i* P **P** **02 37 12.8 -1.0**
comp=Z,30nm,0.8s,SNR=12
WATA Walderalm 89.54 320 *i* P **P** **02 37 12.5 -1.2**
comp=Z,13nm,0.8s,SNR=12
SQTA Sankt Quirin 89.81 320 *i* P **P** **02 37 14.0 -1.0**
comp=Z,28nm,0.9s,SNR=12
MOTA Moosalm 89.82 320 *i* P **P** **02 37 14.0 -1.1**
comp=Z,27nm,1.1s,SNR=16
RETA Reutte 89.97 320 *i* P **P** **02 37 14.6 -1.1**
comp=Z,5.6nm,0.9s
FETA Feichten 90.19 320 *i* PcP **P** **02 37 16.0 -0.8**
comp=Z,30nm,1.0s,SNR=9.0
CEL Celeste 90.39 310 *e*P **P** **02 37 18.1 +0.3**
comp=Z,64nm,1.0s
AQU L'Aquila 90.48 315 *e*P **P** **02 37 14.2 -3.9**
DAVA Damuels 90.59 321 *i* PcP **P** **02 37 17.7 -1.0**
comp=Z,25nm,1.2s
FUORN Ofenpass-Fuorn 90.66 320 *e*P **P** **02 37 18.6 -0.5**
comp=Z,50nm,1.1s
BFO Black Forest 91.03 322 *e*P **P** **02 37 19.6 -1.0**
comp=Z,19nm,1.4s
BFO Black Forest 91.03 322 *ce*P **P** **02 37 20.2 -0.3**
TUE Stuetta 91.29 320 *e*P **P** **02 37 21.7 -0.3**
comp=Z,61nm,1.5s
WLF Walferdange 91.64 324 *e*P **P** **02 37 23.2 -0.1**
comp=Z,82nm,1.0s
VAE Valguarnera 91.77 310 P **P** **02 37 24.1 -0.1**
comp=Z,9.7nm,0.6s,baz=88,slow=23,SNR=6.7
ECH Echery 91.78 322 *e*P **P** **02 37 23.0 -1.0**
comp=Z,9.7nm,1.1s
ECH Echery 91.78 322 *e*P **P** **02 37 23.0 -1.0**
ECH pmax pmax
comp=Z,10.0nm,1.1s
SENIN Lac Senin/Sane 92.59 321 *e*P **P** **02 37 27.4 -0.6**
comp=Z,20nm,1.2s
LLLB Lillooet 92.60 35 *e*P **P** **02 37 29.5 +1.7**
comp=Z,7.0nm,0.8s
ESK Eskdalemuir 93.25 332 *e*P **P** **02 37 30.3 -0.3**
comp=Z,29nm,1.1s
ESK Eskdalemuir 93.25 332 *ce*P **P** **02 37 30.8 +0.2**
BNI Bardonecchia 93.61 320 *e*P **P** **02 37 31.4 -1.2**
comp=Z,18nm,1.0s
BNI Bardonecchia 93.61 320 *e*P **P** **02 37 31.5 -1.2**
BNI pmax pmax
comp=Z,18nm,1.0s
CLF Chambon-Foret 94.69 324 *e*P **P** **02 37 37.1 -0.2**
comp=Z,51nm,1.4s
PPT Papeete 94.84 107 LR LR 03 13 49.4
comp=Z,122nm,20.5s,baz=320,slow=31
PPT2 Papeete2 94.85 107 *e*S **S** **02 48 51.8 +0.1**
comp=Z,87nm,25.2s
PPT2 Papeete2 94.85 107 *e*LR LR 03 08 15.7
comp=Z,472nm,26.5s,baz=290
MAW Mawson 94.91 199 *e*P **P** **02 37 39.5 +1.8**
comp=Z,1.8nm,1.0s
MAW Mawson 94.91 199 *e*P **P** **02 37 39.5 +1.8**
MAW pmax pmax
comp=Z,2.0nm,1.0s
MAW Mawson 94.91 199 P **P** **02 37 38.0 +0.3**
comp=Z,4.3nm,0.9s,baz=324,slow=12,SNR=5.8
MAW LR LR 03 18 48.7
comp=Z,58nm,18.9s,baz=46,slow=34
KEST Kesra 96.20 310 LR LR 03 29 15.8
comp=Z,184nm,18.1s,baz=326,slow=40
TBI Tubuai 96.60 112 *e*LR LR 03 09 06.7
comp=Z,350nm,33.5s,baz=297
LSZ Lusaka 96.97 256 *e*P **P** **02 37 47.9 -0.6**
comp=Z,9.1nm,1.3s
LSZ Lusaka 96.97 256 *e*P **P** **02 37 47.9 -0.6**
LSZ pmax pmax
comp=Z,9.0nm,1.3s
VNDA Vanda 97.98 172 P **P** **02 37 49.8 -1.7**
comp=Z,1.8nm,1.0s,baz=304,slow=4.1,SNR=6.1
VNDA LR LR 03 22 26.2
comp=Z,104nm,20.9s,baz=338,slow=36
TAOE Nuku Hiva Isla 101.19 96 *e*LR LR 03 11 10.0
comp=Z,534nm,23.6s,baz=292
NV01 Mina Array Sit 101.36 43 *e*Pdif **Pdif** **02 38 07.8 0.0**
NVAR Mina Array Bea 101.36 43 P **Pdif** **02 38 07.8 0.0**
comp=Z,0.3nm,0.3s,baz=281,slow=6.1,SNR=4.4
SYO Syowa Base 103.28 201 ⇑*e*PP **PKiKP** **02 42 33.0 -1.3**
SYO Syowa Base 103.28 201 ⇑*e*PKiKP **PKiKP** **02 42 36.2 +1.9**
PDAR Pinedale Array 104.06 36 PKKPbc PKKPbc 02 54 07.6 -2.1
comp=Z,1.5nm,1.0s,baz=123,slow=5.5,SNR=6.7
ANMO Albuquerque 111.02 40 ⇓*i*PKIKP **PKiKP** **02 42 50.1 -0.1**
TOA1 Torodi Ar. Sit 112.55 293 *e*PKiKP **PKiKP** **02 42 51.2 -2.0**
TOA1 *e*PP **PP** **02 43 33.6 -6.0**
TORD Torodi Ar. Bea 112.55 293 PKiKP **PKiKP** **02 42 51.2 -2.0**
comp=Z,2.2nm,0.9s,baz=48,slow=2.0,SNR=9.8
TORD PP **PP** **02 43 33.6 -6.0**
comp=Z,3.5nm,1.2s,baz=104,slow=8.2,SNR=7.3
TORD PKKPbc **PKKPbc** **02 53 40.6 -1.3**
comp=Z,0.6nm,0.5s,baz=287,slow=3.3,SNR=12
LTX Lajitas 116.51 43 *e*PKPdf **PKPdf** **02 43 00.4 -0.3**
LTX *e*PP **PP** **02 44 09.0 +2.1**
TX31 Lajitas Ar. Si 116.51 43 *e*PKPdf **PKiKP** **02 43 00.9 +0.2**
TXAR Lajitas Array 116.51 43 PKP **PKPdf** **02 43 00.4 -0.3**
comp=Z,1.3nm,0.9s,baz=238,slow=1.7,SNR=3.4
TXAR PP **PP** **02 44 09.0 +2.1**
comp=Z,0.8nm,0.9s,baz=290,slow=3.6,SNR=3.6
TXAR PKKPbc **PKKPbc** **02 53 27.9 -1.0**
comp=Z,0.5nm,1.0s,baz=160,slow=4.0,SNR=3.7
SNAA Sanae 117.01 197 *e*PKPdf **PKPdf** **02 42 59.8 -0.5**
SNAA Sanae 117.01 197 *i* PKIKP **PKPdf** **02 42 59.3 -1.0**
U40A Yellville 117.50 30 P **PKPdf** **02 43 01.3 -1.0**
baz=324
JCT Junction City 118.16 40 *e*PKPdf **PKPdf** **02 43 03.7 -0.1**
JCT Junction City 118.16 40 *e*PKIKP **PKPdf** **02 43 03.7 -0.1**
MIAR Mount Ida 118.59 32 *e*PKPdf **PKiKP** **02 43 04.5 0.0**
MIAR Mount Ida 118.59 32 *e*PKIKP **PKiKP** **02 43 04.5 0.0**
MIAR Mount Ida 118.59 32 P **PKiKP** **02 43 04.4 0.0**
baz=322
VNA2 Neumayer--Watz 118.65 197 PKPdf **PKiKP** **02 43 03.4 0.0**
baz=23,slow=0.3
VNA1 Neumayer--Stat 119.04 197 PKPdf **PKiKP** **02 43 04.3 +0.1**
VNA3 Neumayer Olymp 119.11 196 PKPdf **PKPdf** **02 43 04.0 -0.3**
S48A Wiedeman Farm, 119.39 24 P **PKPdf** **02 43 05.0 -0.8**
baz=330
WVT Waverly 119.97 27 *e*PKPdf **PKPdf** **02 43 06.6 -0.5**
WVT Waverly 119.97 27 *e*PKIKP **PKPdf** **02 43 06.6 -0.5**
WVT Waverly 119.97 27 P **PKPdf** **02 43 06.2 -0.8**
baz=328
Q55A Buckhannon 120.29 19 P **PKPdf** **02 43 06.7 -0.9**
baz=337
T50A Nancy 120.42 24 P **PKPdf** **02 43 06.8 -1.1**
baz=332
U50A Jamestown 120.95 24 P **PKPdf** **02 43 08.1 -0.9**
baz=331
DBIC Dimbokro 121.15 289 PKP **PKPdf** **02 43 08.4 -1.5**
comp=Z,3.8nm,0.7s,baz=52,slow=1.2,SNR=7.4
KIC Kosan Boka 121.18 289 *e*PKP1 **PKPdf** **02 43 08.7 -1.2**
comp=Z,15nm,0.9s
TIC Toumodi 121.31 290 *e*PKP1 **PKPdf** **02 43 08.4 -1.8**
LIC Lamto 121.49 289 *e*PKP1 **PKPdf** **02 43 09.2 -1.3**
comp=Z,61nm,1.4s
V52A Sevierville 121.93 23 P **PKPdf** **02 43 10.6 -0.3**
baz=332
V53A Saluda 122.37 23 *e*PKPdf **PKPdf** **02 43 11.6 -0.2**
W53A Cullowhee 122.69 23 P **PKPdf** **02 43 12.2 -0.3**
baz=333
CODC Agustn Codazz 149.12 28 *e*P **PKPab** **02 44 09.2 -0.3**
CODC Agustn Codazz 149.12 28 *e*P **PKPab** **02 44 09.2 -0.3**
SMLC San Martn de 149.82 30 *e*P **PKPab** **02 44 12.5 +0.1**
SMLC San Martn de 149.82 30 *e*P **PKPab** **02 44 12.5 +0.1**
UREC San Jos de Ur 149.98 34 *e*P **PKPdf** **02 44 01.9 -0.7**
UREC San Jos de Ur 149.98 34 *e*P **PKPdf** **02 44 01.9 -0.7**
OCAC Ocana 150.67 30 *e*P **PKiKP** **02 44 09.9 -0.2**
OCAC Ocana 150.67 30 *e*P **PKiKP** **02 44 09.9 -0.2**
SDV Santo Domingo 151.25 24 *e*PKPdf **PKPdf** **02 44 05.4 +0.6**
SDV Santo Domingo 151.25 24 *e*P **PKPbc** **02 44 09.9 -0.9**
SDV Santo Domingo 151.25 24 *e*P **PKPbc** **02 44 09.9 -0.9**
HELC Santa Helena 151.28 36 *e*P **PKiKP** **02 44 13.2 +1.6**
HELC Santa Helena 151.28 36 *e*P **PKiKP** **02 44 13.2 +1.6**
BRRC Barranca, Sant 151.46 31 *e*P **PKiKP** **02 44 11.9 +0.4**
BRRC Barranca, Sant 151.46 31 *e*P **PKiKP** **02 44 11.9 +0.4**
PTBC PUERTO BERRIO 151.56 33 *e*P **PKPbc** **02 44 09.2 -2.1**
PTBC PUERTO BERRIO 151.56 33 *e*P **PKPbc** **02 44 09.2 -2.1**
PAMC Pamplona, Colo 151.75 29 *e*P **PKiKP** **02 44 15.2 +2.5**
PAMC Pamplona, Colo 151.75 29 *e*P **PKiKP** **02 44 15.2 +2.5**
NORC Norcasia 152.16 35 ⇑*e*P **PKPbc** **02 44 11.2 -1.5**
NORC Norcasia 152.16 35 ⇑*e*P **PKPbc** **02 44 11.2 -1.5**
GUY2C Guyana, Caldas 152.16 36 *e*P **PKPbc** **02 44 12.5 -0.7**
GUY2C Guyana, Caldas 152.16 36 *e*P **PKPbc** **02 44 12.5 -0.7**
BARC Barichara 152.17 31 *e*P **PKPbc** **02 44 11.2 -1.7**
BARC Barichara 152.17 31 *e*P **PKPbc** **02 44 11.2 -1.7**
RREF El Recreo 152.44 37 *e*P **PKiKP** **02 44 17.2 +2.9**
RREF *e*P **pPKPbc** **02 44 20.5 -1.9**
RREF El Recreo 152.44 37 *e*P **PKiKP** **02 44 17.2 +2.9**
RREF *e*P **pPKPbc** **02 44 20.5 -1.9**
YOTC Yotoco, Valle 152.58 40 *e*P **PKPdf** **02 44 07.2 +0.5**
YOTC Yotoco, Valle 152.58 40 *e*P **PKPdf** **02 44 07.2 +0.5**
ROSC El Rosal 153.06 35 PKP **PKPdf** **02 44 04.8 -3.0**
comp=Z,3.3nm,0.5s,baz=139,slow=20,SNR=2.2
POPC Popayan, Colom 153.49 42 *e*P **PKPbc** **02 44 15.2 -0.7**
POPC Popayan, Colom 153.49 42 *e*P **PKPbc** **02 44 15.2 -0.7**
CHIC Chingaza 153.56 34 *e*P **PKPdf** **02 44 09.2 +0.7**
CHIC Chingaza 153.56 34 *e*P **PKPdf** **02 44 09.2 +0.7**
PRAC Prado 153.66 38 *e*P **PKPbc** **02 44 13.9 -2.1**
PRAC Prado 153.66 38 *e*P **PKPbc** **02 44 13.9 -2.1**
OTAV Otavalo 153.96 49 *e*P **PKPbc** **02 44 15.8 -1.3**
OTAV Otavalo 153.96 49 *e*P **PKPbc** **02 44 15.8 -1.3**
FLOC Florencia 154.88 42 *e*P **PKiKP** **02 44 20.5 +1.9**
FLOC Florencia 154.88 42 *e*P **PKiKP** **02 44 20.5 +1.9**
PLCA Paso Flores 155.06 159 PKP **PKPdf** **02 44 05.9 -3.5**
comp=Z,8.5nm,1.2s,baz=38,slow=19,SNR=1.8
PLCA PKPbc PKPbc 02 44 19.0
comp=Z,7.7nm,0.8s,baz=215,slow=2.4,SNR=10
TRQA Tornquist 159.59 174 *e*PKPab **PKPab** **02 44 53.7 +0.5**
BDFB Brasilia 169.10 279 PKP **PKPdf** **02 44 22.6 -1.7**
comp=Z,3.8nm,0.9s,baz=110,slow=1.8,SNR=4.7
CPUP Villa Florida 171.26 191 *e*PKPab **PKPab** **02 45 45.7 +0.9**
CPUP Villa Florida 171.26 191 PKPab **PKPab** **02 45 44.6 -0.2**
comp=Z,7.1nm,0.8s,baz=153,slow=4.0,SNR=13
LPAZ La Paz 171.32 82 *e*PKPdf **PKPdf** **02 44 26.9 +0.7**
LPAZ *e*PKPab **PKPab** **02 45 46.6 +0.1**
LPAZ *e*PP PP 02 49 45.4 +7.7
LPAZ La Paz 171.32 82 *e*PKIKP **PKPdf** **02 44 26.9 +0.7**
LPAZ La Paz 171.32 82 PKP **PKPdf** **02 44 24.8 -1.4**
comp=Z,4.4nm,0.9s,baz=337,slow=2.8,SNR=12
LPAZ PKPab **PKPab** **02 45 46.6 +0.1**
comp=Z,3.1nm,0.8s,baz=31,slow=1.8,SNR=6.2
LPAZ PP **PP** **02 49 42.7 +5.1**
comp=Z,1.7nm,1.1s,baz=198,slow=6.8,SNR=4.7

SOME ***30*** *02:38:47.6, 41°.75N×81°.47E, h10km*
KRNET ***30*** *02:38:53.8±0.1, 40°.15N×80°.72E, mb2.8*
ISC 30 02:38:50.0±3.0, 41°.79N±0°.09×81°.3E±0°.1, h8km±13km, n12,
σ1§50/24, 8C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Time ISC	Res ISC
KTMS	**Ketmen**	**1.79**	**338**	*e*P	**Pg**	**02 39 23.1 -1.3**
	14nm,0.2s					
KTMS				*e*S	**Sg**	**02 39 48.6 +1.0**
	48nm,0.3s					
SHLS	**Shalkode**	**1.92**	**316**	*e*P	**Pn**	**02 39 22.7 -0.4**
	15nm,0.2s					
SHLS				*e*S	**Sn**	**02 39 47.9 +0.4**
	88nm,0.2s					
UZB	**Uzynbulak**	**2.15**	**310**	*e*P	**Pg**	**02 39 30.2 -1.0**
	2.4nm,0.3s					
UZB				*e*S	**Sg**	**02 40 01.1 +2.0**
	21nm,0.4s					
SATY	**Saty**	**2.48**	**302**	*e*P	**Pb**	**02 39 36.0 +1.1**
	4.4nm,0.2s					
SATY				*e*S	**Sg**	**02 40 11.0 +1.4**
	23nm,0.3s					

ZHN	**Zhinishke**	**2.52**	**304**	*e*P	**Pg**	**02 39 37.0**	**-1.3**
	3.4nm,0.2s						
ZHN				*e*S	**Sg**	**02 40 12.3**	**+1.5**
	14nm,0.2s						
KPKS	**Kokpek**	**2.54**	**312**	*e*P	**Pb**	**02 39 36.8**	**+0.8**
	5.8nm,0.1s						
KPKS				*e*S	**Sg**	**02 40 12.1**	**+0.3**
	62nm,0.3s						
TARG	**Taragay, Kyrgy**	**2.60**	**270**	⇑*i*P	**Pb**	**02 39 37.8**	**+0.7**
	baz=6.0						
TARG				⇑*i*S	**Sb**	**02 40 10.0**	**+0.6**
	baz=6.0						
DJR	**Jarkent**	**2.77**	**337**	*e*P	**Pb**	**02 39 40.5**	**+0.7**
	1.2nm,0.2s						
DJR				*e*S	**Sg**	**02 40 18.4**	**-0.4**
	6.4nm,0.3s						
KURS	**Kuram**	**2.85**	**308**	*e*P	**Pb**	**02 39 42.1**	**+0.9**
	2.8nm,0.7s						
KURS				*e*S	**Sg**	**02 40 21.1**	**-0.6**
	8.5nm,0.5s						
KDJ	**Kajisay**	**3.08**	**278**	⇑*i*P	**Pb**	**02 39 46.0**	**+0.9**
	baz=8.0						
KDJ				⇑*i*S	**Sb**	**02 40 24.3**	**+1.4**
	baz=8.0						
ULHL	**Ulahol**	**3.78**	**279**	⇑*i*P	**Pb**	**02 39 55.3**	**-1.8**
	baz=3.0						
ULHL				⇑*i*S	**Sb**	**02 40 40.2**	**-3.0**
	baz=3.0						
NRN	**Naryn**	**3.97**	**267**	⇑*i*P	**Pn**	**02 39 53.9**	**+2.3**
	baz=91						
NRN				⇑*i*S	**Sn**	**02 40 36.1**	**-2.4**
	baz=91						

IDC 30 02:51:13.1±2.4, 10°.21N×144°.01E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/50, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=88.8km s-min=27.9km az=97.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.46**	**14**	Pn	Pn	02 52 08.3	0.0
	6.7nm,0.3s,baz=216,slow=19,SNR=3.5						
GUMO				Sn	Sn	02 52 40.2	-10
	60nm,0.3s,baz=261,slow=19,SNR=7.5						
MJAR	**Matsushiro Arr**	**26.73**	**350**	P	P	02 56 54.3	-0.2
	0.6nm,0.4s,baz=165,slow=9.1,SNR=1.6						
ASAR	**Alice Springs**	**35.09**	**196**	P	P	02 58 08.3	-0.1
	0.4nm,0.7s,baz=20,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**63.36**	**317**	P	P	03 01 44.3	0.0
	1.1nm,0.7s,baz=106,slow=8.3,SNR=10.0						

NIED ***30*** *03:14:00, 23°.90N×121°.60E, h38km, Mw4.1 Best double couple: M₀1.75000×10¹⁵ NP1:φs323.00000°, δ83.00000°, λ-4.00000°. NP2:φs54.00000°, δ86.00000°, λ-173.00000°.*
BJI ***30*** *03:14:40.4±0.0, 23°.95N×121°.69E, h40km, mb4.2/13, mB4.3/6, ML4.1/9, Ms3.9/4, Ms7 3.7/5*
NEIC ***30*** *03:14:41.7±2.4, 23°.86N×121°.69E, h60km±6km, mb4.3/13, ML4.6(TAP), ML4.3(TAP), Error ellipse: s-maj=8.9km s-min=5.6km az=145.0*
NEIC Recorded [3 TAP] in Hualien; [2 TAP] in Changhua, Nantou, Taitung, Yilan and Yunlin; [1 TAP] in Chiayi, Hsinchu, Miaoli and Taoyuan.
ISCJB ***30*** *03:14:42.8±0.1, 23°.91N±0°.01×121°.69E±0°.01, h57km±2km, mb4.1/23, MS3.5/4, Error ellipse: s-maj=2.1km s-min=1.4km az=37.4*
JMA ***30*** *03:14:42.5, 23°.87N×121°.64E, h47km±1km, M4.2*
ASIES ***30*** *03:14:43.3, 23°.90N×121°.71E, h41km, MW3.8*
IDC ***30*** *03:14:43.4±3.5, 23°.92N×121°.87E, h61km±35km, mb3.5/10, mb1 3.6/11, mb1mx3.4/54, mbtmp3.8/11, ML2.9/1, MS3.3/3, Ms1 3.4/3, ms1mx2.9/37, Error ellipse: s-maj=21.5km s-min=16.2km az=59.0*
TAP ***30*** *03:14:43.4, 23°.92N×121°.64E, h47km, ML4.8, B*
ISC 30 03:14:41.9±0.6, 23°.89N±0°.02×121°.70E±0°.02, h47km±4km, n190, σ2°.03/312, mb4.0/23, MS3.6/4, 25C-42D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.09**	**278**	⇓P	**Pn**	**03 14 51.3**	**+2.0**
	baz=252						
ENLB				S	**Sn**	**03 14 57.4**	**+2.9**
	baz=252						
HWA	**Hwalien**	**0.12**	**315**	P	**Pn**	**03 14 51.2**	**+1.8**
	baz=326						
HWA				*e*S	**Sn**	**03 14 57.6**	**+2.9**
	baz=326						
TWD	**Chiawan**	**0.21**	**333**	⇓*i*P	**Pn**	**03 14 51.2**	**+1.3**
	baz=336						
TWD				S	**Sn**	**03 14 56.7**	**+1.0**
	baz=336						
ESL	**Shilin**	**0.26**	**253**	⇓*i*P	**Pn**	**03 14 51.2**	**+0.9**
	baz=249						
ESL				*e*S	**Sn**	**03 14 56.5**	**+0.2**
	baz=249						
NACB	**Ninganchiao**	**0.30**	**341**	*e*Pn	**Pn**	**03 14 51.5**	**+0.8**
NACB				*e*Sn	**Sn**	**03 14 57.4**	**+0.4**
EGFH	**Guangfu**	**0.33**	**229**	*e*P	**Pn**	**03 14 52.2**	**+1.2**
	baz=227						
EGFH				*e*S	**Sn**	**03 14 58.3**	**+0.8**
	baz=227						
ETLH	**Xiulin Townshi**	**0.37**	**328**	⇓P	**Pn**	**03 14 52.4**	**+0.8**
	baz=326						
ETLH				S	**Sn**	**03 14 58.6**	**+0.1**
	baz=326						
HGSD	**Ruisui**	**0.47**	**213**	⇑P	**Pn**	**03 14 54.5**	**+1.9**
	baz=216						
HGSD				S	**Sn**	**03 15 02.8**	**+2.6**
	baz=216						
WHF	**Hehuan Shan**	**0.47**	**303**	⇓*i*P	**Pn**	**03 14 53.8**	**+0.7**
	baz=300						
WHF				S	**Sn**	**03 15 01.2**	**+0.2**
	baz=300						
OWD	**Renai**	**0.48**	**278**	⇓P	**Pn**	**03 14 54.0**	**+1.1**
	baz=274						
OWD				S	**Sn**	**03 15 01.1**	**+0.4**
	baz=274						
CHGB	**Renai**	**0.51**	**289**	⇓P	**Pn**	**03 14 54.5**	**+1.2**
	baz=288						
CHGB				S	**Sn**	**03 15 01.6**	**+0.2**
	baz=288						
EHY	**Hungye**	**0.52**	**222**	*e*P	**Pn**	**03 14 53.7**	**+0.6**
	baz=215						
EHY				*e*S	**Sn**	**03 15 01.1**	**-0.2**
	baz=215						
VWDT	**VWDT**	**0.53**	**255**	⇓P	**Pn**	**03 14 54.7**	**+1.4**
	baz=247						
VWDT				S	**Sn**	**03 15 02.3**	**+0.8**
	baz=247						
ENA	**Nanau**	**0.54**	**4**	⇑P	**Pn**	**03 14 54.7**	**+1.3**
	baz=3.0						
ENA				*e*S	**Sn**	**03 15 03.6**	**+1.9**
	baz=3.0						
NNSB	**Datong**	**0.61**	**332**	*e*P	**Pn**	**03 14 54.9**	**+0.5**
	baz=337						
NNSB				S	**Sn**	**03 15 03.7**	**+0.2**
	baz=337						
TDCB	**Techi**	**0.61**	**306**	⇓P	**Pn**	**03 14 55.8**	**+1.3**
	baz=307						
TDCB				S	**Sn**	**03 15 03.9**	**+0.3**
	baz=307						
YULB	**Yu-li**	**0.62**	**217**	*e*Pn	**Pn**	**03 14 54.9**	**+0.4**
YULB				*e*Sn	**Sn**	**03 15 03.3**	**-0.2**
YULB	**Yu-li**	**0.62**	**217**	⇑*e*P	**Pn**	**03 14 54.9**	**+0.4**
	baz=218						
TWF1	**Yuli**	**0.65**	**215**	⇑*e*P	**Pn**	**03 14 55.4**	**+0.5**
	baz=217						
TWF1				*e*S	**Sn**	**03 15 04.7**	**+0.5**
	baz=217						
SSLB	**Suanglung**	**0.69**	**262**	*e*Pn	**Pn**	**03 14 55.5**	**0.0**
SSLB				*e*Sn	**Sn**	**03 15 04.7**	**-0.5**
SSLB	**Suanglung**	**0.69**	**262**	⇓P	**Pn**	**03 14 56.5**	**+1.1**
	baz=261						
SSLB				*e*S	**Sn**	**03 15 05.1**	**-0.1**
	baz=261						
DPDB	**Guoxing**	**0.72**	**282**	P	**Pn**	**03 14 57.1**	**+1.3**
	baz=277						
NDT	**Datong Townshi**	**0.73**	**347**	⇑*e*P	**Pn**	**03 14 57.1**	**+1.2**
	baz=342						
NDT				*e*S	**Sn**	**03 15 07.0**	**+0.9**
	baz=342						
TWC	**Suao**	**0.73**	**11**	⇑*e*P	**Pn**	**03 14 57.7**	**+1.8**
	baz=21						
TWC				S	**Sn**	**03 15 08.5**	**+2.5**
	baz=21						
SMLT	**Sun Moon Lake**	**0.73**	**270**	⇓*i*P	**Pn**	**03 14 57.2**	**+1.2**
	baz=267						
SMLT				S	**Sn**	**03 15 06.6**	**+0.3**
	baz=267						
ENTT	**Nioudou**	**0.76**	**351**	⇑P	**Pn**	**03 14 57.4**	**+1.1**
	baz=353						
ENTT				*e*S	**Sn**	**03 15 07.1**	**+0.4**
	baz=353						
EOS1	**EOS1**	**0.76**	**31**	⇑*e*P	**Pn**	**03 14 58.8**	**+2.5**
	baz=46						
EOS1				S	**Sn**	**03 15 10.3**	**+3.5**
	baz=46						
WHP	**Taichung City**	**0.79**	**299**	⇓*e*P	**Pn**	**03 14 58.2**	**+1.4**
	baz=301						
WHP				*e*S	**Sn**	**03 15 09.3**	**+1.7**
	baz=301						
YUS	**Yu-Shan**	**0.79**	**240**	P	**Pn**	**03 14 58.6**	**+1.4**
	baz=233						
YUS				S	**Sn**	**03 15 09.1**	**+0.8**
	baz=233						
WHYT	**Xinyi Township**	**0.80**	**256**	⇓*e*P	**Pn**	**03 14 58.7**	**+1.8**
	baz=246						
WHYT				S	**Sn**	**03 15 09.4**	**+1.6**
	baz=246						
TWE	**Neicheng**	**0.83**	**358**	⇑P	**Pn**	**03 14 58.4**	**+1.2**
	baz=353						
TWE				S	**Sn**	**03 15 09.2**	**+0.8**
	baz=353						
YHNB	**Yeheng**	**0.83**	**339**	*e*Pn	**Pn**	**03 14 58.6**	**+1.3**
YHNB				*e*Sn	**Sn**	**03 15 09.2**	**+0.6**
YHNB	**Yeheng**	**0.83**	**339**	⇑P	**Pn**	**03 14 58.6**	**+1.3**
	baz=345						
YHNB				S	**Sn**	**03 15 08.8**	**+0.3**
	baz=345						
NSK	**Sanguang**	**0.84**	**338**	⇑*i*P	**Pn**	**03 14 58.8**	**+1.3**
	baz=345						
NSK				S	**Sn**	**03 15 09.2**	**+0.4**
	baz=345						
CHKT	**Chengkung**	**0.84**	**201**	*e*P	**Pn**	**03 14 58.9**	**+1.5**
	baz=188						
SLBB	**Yuanshan**	**0.86**	**356**	*e*P	**Pn**	**03 14 59.0**	**+1.3**
	baz=357						
SLBB				*e*S	**Sn**	**03 15 10.0**	**+0.7**
	baz=357						
ILA	**Ilan**	**0.87**	**3**	*e*P	**Pn**	**03 14 59.9**	**+2.1**
	baz=356						
ILA				*e*S	**Sn**	**03 15 11.6**	**+2.1**
	baz=356						
WJS	**Zhushan**	**0.89**	**266**	⇓P	**Pn**	**03 15 00.3**	**+2.2**
	baz=264						
WJS				*e*S	**Sn**	**03 15 12.2**	**+2.3**
	baz=264						
NWLT	**Wulai**	**0.90**	**349**	⇑P	**Pn**	**03 14 59.4**	**+1.2**
	baz=349						
NWLT				*e*S	**Sn**	**03 15 11.3**	**+1.1**
	baz=349						
ALS	**Alishan**	**0.90**	**245**	⇑P	**Pn**	**03 15 00.4**	**+1.9**
	baz=237						
ALS				S	**Sn**	**03 15 12.2**	**+1.5**
	baz=237						
WNT	**Mingjian**	**0.93**	**269**	⇓P	**Pn**	**03 15 00.9**	**+2.3**
	baz=268						
WNT				S	**Sn**	**03 15 13.6**	**+2.8**
	baz=268						
ELDTW	**Lidau**	**0.94**	**222**	*e*P	**Pn**	**03 14 59.4**	**+0.6**
	baz=220						
ELDTW				*e*S	**Sn**	**03 15 12.0**	**+0.8**
	baz=220						
TWQ1	**Liyutan**	**0.96**	**298**	⇓*i*P	**Pn**	**03 15 00.9**	**+1.9**
	baz=297						
TWQ1				S	**Sn**	**03 15 13.4**	**+1.8**
	baz=297						
NTC	**Toucheng**	**0.97**	**7**	*e*P	**Pn**	**03 15 01.6**	**+2.5**
	baz=356						
NTC				*e*S	**Sn**	**03 15 14.7**	**+3.0**
	baz=356						
TCU	**Taichung**	**0.97**	**286**	⇓P	**Pn**	**03 15 01.5**	**+2.4**
	baz=284						
TCU				*e*S	**Sn**	**03 15 14.3**	**+2.5**
	baz=284						
EGS		**0.97**	**13**	P	**Pn**	**03 15 01.6**	**+2.4**
	baz=21						
EGS				*e*S	**Sn**	**03 15 14.5**	**+2.6**
	baz=21						
NSTT	**Nanjuang**	**0.97**	**319**	⇓*i*P	**Pn**	**03 15 01.3**	**+2.1**
	baz=307						
NSTT				S	**Sn**	**03 15 13.9**	**+2.0**
	baz=307						
LIOB	**Emei**	**0.98**	**320**	⇓P	**Pn**	**03 15 01.5**	**+2.3**
	baz=308						
LIOB				S	**Sn**	**03 15 13.7**	**+1.7**
	baz=308						
CHN5	**Tsauling**	**0.98**	**253**	⇓P	**Pn**	**03 15 01.2**	**+1.9**
	baz=245						
CHN5				S	**Sn**	**03 15 14.7**	**+2.5**
	baz=245						
NSY	**Sanyi**	**1.00**	**302**	⇓P	**Pn**	**03 15 01.6**	**+2.0**
	baz=300						
NSY				*e*S	**Sn**	**03 15 14.7**	**+2.0**
	baz=300						
NMLH	**Miaoli**	**1.05**	**308**	⇓*e*P	**Pn**	**03 15 02.0**	**+1.8**
	baz=306						
NMLH				*e*S	**Sn**	**03 15 15.2**	**+1.4**
	baz=306						
WCHH	**Zhanghua**	**1.06**	**280**	⇓*e*P	**Pn**	**03 15 02.5**	**+2.2**
	baz=289						
WCHH				*e*S	**Sn**	**03 15 17.0**	**+3.0**
	baz=289						
WGK	**Gukeng**	**1.06**	**259**	*e*P	**Pn**	**03 15 02.5**	**+2.2**
	baz=258						
WGK				*e*S	**Sn**	**03 15 17.0**	**+3.0**
	baz=258						
WDJ	**Dajia District**	**1.07**	**295**	⇓P	**Pn**	**03 15 02.2**	**+1.8**
	baz=294						
WDJ				*e*S	**Sn**	**03 15 16.0**	**+1.8**
	baz=294						
NHDH	**Xindian Distri**	**1.08**	**352**	*e*P	**Pn**	**03 15 02.4**	**+1.7**
	baz=353						
NHDH				*e*S	**Sn**	**03 15 15.6**	**+1.1**
	baz=353						
WDLH	**Douliu**	**1.08**	**260**	⇓*e*P	**Pn**	**03 15 02.8**	**+2.2**
	baz=250						
WDLH				*e*S	**Sn**	**03 15 18.0**	**+3.5**
	baz=250						
TIPB	**Shuangxi**	**1.08**	**6**	⇑P	**Pn**	**03 15 02.5**	**+1.8**
	baz=358						
TIPB				S	**Sn**	**03 15 16.8**	**+2.1**
	baz=358						
TWA	**Mucha**	**1.09**	**354**	*e*P	**Pn**	**03 15 02.4**	**+1.6**
	baz=354						
TWA				*e*S	**Sn**	**03 15 15.9**	**+1.2**
	baz=354						
TATO	**Taipei**	**1.10**	**350**	*e*Pn	**Pn**	**03 15 02.4**	**+1.5**
TATO				*e*Sn	**Sn**	**03 15 15.9**	**+1.0**
TATO	**Taipei**	**1.10**	**350**	⇑P	**Pn**	**03 15 02.3**	**+1.5**
	baz=358						
TATO				S	**Sn**	**03 15 15.9**	**+1.0**
	baz=358						
SBCB	**Hsinchu**	**1.11**	**324**	⇓P	**Pn**	**03 15 03.2**	**+2.2**
	baz=323						
SBCB				S	**Sn**	**03 15 17.6**	**+2.4**
	baz=323						
HSN	**Hsinchu**	**1.13**	**324**	*e*P	**Pn**	**03 15 03.3**	**+2.1**
	baz=325						
HSN				S	**Sn**	**03 15 18.2**	**+2.6**
	baz=325						
TPUB	**Ta-pu**	**1.14**	**239**	*e*Pn	**Pn**	**03 15 02.8**	**+1.3**
TPUB				*e*Sn	**Sn**	**03 15 16.0**	**-0.1**
TPUB	**Ta-pu**	**1.14**	**239**	⇑P	**Pn**	**03 15 03.8**	**+2.3**
	baz=238						
TPUB				S	**Sn**	**03 15 18.6**	**+2.5**
	baz=238						
TWB1	**Santiao Chiao**	**1.14**	**13**	⇑P	**Pn**	**03 15 03.9**	**+2.4**
	baz=24						
TWB1				*e*S	**Sn**	**03 15 19.1**	**+3.1**
	baz=24						
CHN4	**Tsaushan**	**1.15**	**242**	*e*P	**Pn**	**03 15 04.1**	**+2.5**
	baz=233						
CHN4				*e*S	**Sn**	**03 15 19.1**	**+2.9**
	baz=233						
NCUH	**Zhongli**	**1.17**	**336**	*e*P	**Pn**	**03 15 03.7**	**+1.9**
	baz=335						
NCUH				*e*S	**Sn**	**03 15 19.8**	**+3.1**
	baz=335						
NCU	**National Centr**	**1.17**	**337**	*e*P	**Pn**	**03 15 04.0**	**+2.1**
	baz=335						
NCU				S	**Sn**	**03 15 19.9**	**+3.1**
	baz=335						
NWF	**Wu-fen Shan**	**1.18**	**4**	*e*P	**Pn**	**03 15 03.8**	**+1.7**
	baz=349						
NWF				S	**Sn**	**03 15 19.5**	**+2.5**
	baz=349						
WFSB	**Wu-fen Shan**	**1.18**	**4**	⇑P	**Pn**	**03 15 03.8**	**+1.8**
	baz=352						
WFSB				S	**Sn**	**03 15 19.2**	**+2.3**
	baz=352						
WTP	**Ta-pu**	**1.19**	**237**	⇑P	**Pn**	**03 15 04.4**	**+2.3**
	baz=237						
WTP				*e*S	**Sn**	**03 15 20.5**	**+3.4**
	baz=237						
TWGBT	**Beinan**	**1.21**	**208**	⇑P	**Pn**	**03 15 02.4**	**0.0**
	baz=199						
TWGBT				*e*S	**Sn**	**03 15 17.5**	**-0.2**
	baz=199						
TWG	**Pinlang**	**1.21**	**209**	*e*Pn	**Pn**	**03 15 02.5**	**0.0**
TWG				*e*Sn	**Sn**	**03 15 16.9**	**-0.8**
TWG	**Pinlang**	**1.21**	**209**	*e*P	**Pn**	**03 15 02.4**	**0.0**
	baz=197						
RLNB	**Erlin**	**1.23**	**270**	⇓P	**Pn**	**03 15 04.7**	**+2.2**
	baz=279						
RLNB				S	**Sn**	**03 15 20.8**	**+2.8**
	baz=279						
TWS1	**Kuangyinshan**	**1.23**	**348**	*e*P	**Pn**	**03 15 04.4**	**+1.7**
	baz=358						
TWS1				S	**Sn**	**03 15 20.4**	**+2.2**
	baz=358						
CHY	**Chiayi**	**1.23**	**252**	*e*P	**Pn**	**03 15 04.9**	**+2.2**
	baz=251						
CHY				*e*S	**Sn**	**03 15 21.4**	**+3.2**
	baz=251						
TTN	**Taitung**	**1.24**	**204**	*e*P	**Pn**	**03 15 05.3**	**+2.5**
	baz=205						
TTN				*e*S	**Sn**	**03 15 21.0**	**+2.6**
	baz=205						
YM01	**YM01**	**1.26**	**355**	*e*P	**Pn**	**03 15 04.3**	**+1.2**
	baz=353						
YM01				*e*S	**Sn**	**03 15 19.7**	**+0.9**
	baz=353						
YM10	**YM10**	**1.27**	**354**	*e*P	**Pn**	**03 15 04.4**	**+1.2**
	baz=352						
YM10				*e*S	**Sn**	**03 15 20.1**	**+1.0**
	baz=352						
JYNG	**Yonaguni jima**	**1.27**	**64**	P	**Pn**	**03 15 05.3**	**+2.1**
JYNG				S	**Sn**	**03 15 21.7**	**+2.7**
TWK	**Hsinying**	**1.27**	**241**	⇑P	**Pn**	**03 15 05.6**	**+2.3**
	baz=241						
TWK				S	**Sn**	**03 15 21.7**	**+2.4**
	baz=241						
YM11	**YM11**	**1.27**	**355**	*e*P	**Pn**	**03 15 04.4**	**+1.0**
	baz=353						
YM11				*e*S	**Sn**	**03 15 20.0**	**+0.6**
	baz=353						
YM07	**YM07**	**1.28**	**357**	*e*P	**Pn**	**03 15 04.5**	**+1.1**
	baz=343						
YM07				*e*S	**Sn**	**03 15 20.3**	**+0.9**
	baz=343						
CHN1	**Nanshi**	**1.28**	**237**	*e*P	**Pn**	**03 15 05.7**	**+2.3**
	baz=237						
CHN1				*e*S	**Sn**	**03 15 22.2**	**+2.7**
	baz=237						
NTST	**Danshui**	**1.29**	**350**	*e*P	**Pn**	**03 15 05.4**	**+2.0**
	baz=348						
NTST				*e*S	**Sn**	**03 15 21.7**	**+2.2**
	baz=348						
SNST	**Tainan City**	**1.29**	**239**	*e*P	**Pn**	**03 15 06.5**	**+3.1**
	baz=239						
SNST				*e*S	**Sn**	**03 15 22.3**	**+2.7**
	baz=239						
YM08	**YM08**	**1.30**	**356**	⇑*e*P	**Pn**	**03 15 04.4**	**+0.8**
	baz=354						
YM08				*e*S	**Sn**	**03 15 20.4**	**+0.7**
	baz=354						
WTCT	**Ta-ch'eng**	**1.30**	**269**	P	**Pn**	**03 15 05.6**	**+2.0**
	baz=268						
WTCT				S	**Sn**	**03 15 22.9**	**+3.1**
	baz=268						
SGST	**Jiashian**	**1.30**	**232**	⇑*i*P	**Pn**	**03 15 06.5**	**+2.9**
	baz=225						
SGST				*e*S	**Sn**	**03 15 23.3**	**+3.3**
	baz=225						
SLGT	**Liugui**	**1.32**	**227**	P	**Pn**	**03 15 06.8**	**+2.9**
	baz=228						
SLGT				*e*S	**Sn**	**03 15 23.9**	**+3.7**
	baz=228						
YOJ	**Yonaguni jima**	**1.33**	**64**	*e*Pn	**Pn**	**03 15 05.6**	**+1.6**
YOJ				*e*Sn	**Sn**	**03 15 20.6**	**+0.2**
YOJ	**Yonaguni jima**	**1.33**	**64**	⇓P	**Pn**	**03 15 06.1**	**+2.2**
	baz=66						
YOJ				S	**Sn**	**03 15 22.7**	**+2.3**
	baz=66						
YOJ	**Yonaguni jima**	**1.33**	**64**	P	**Pn**	**03 15 06.1**	**+2.2**
YOJ				S	**Sn**	**03 15 22.8**	**+2.3**
WMLT	**Mailiao**	**1.35**	**267**	*e*P	**Pn**	**03 15 06.4**	**+2.1**
	baz=277						
WMLT				*e*S	**Sn**	**03 15 24.3**	**+3.2**
	baz=277						
WSF	**Szhu**	**1.38**	**260**	P	**Pn**	**03 15 06.7**	**+2.0**
	baz=249						
WSF				S	**Sn**	**03 15 24.9**	**+3.2**
	baz=249						
TWY	**Chenhua**	**1.38**	**356**	*e*P	**Pn**	**03 15 06.2**	**+1.5**
	baz=354						
TWY				*e*S	**Sn**	**03 15 23.3**	**+1.5**
	baz=354						
ECL	**Taimali**	**1.46**	**208**	*e*P	**Pn**	**03 15 06.9**	**+1.1**
	baz=202						
ECL				*e*S	**Sn**	**03 15 24.7**	**+1.0**
	baz=202						
CHN3	**Shinhua**	**1.47**	**237**	*e*P	**Pn**	**03 15 09.2**	**+3.3**
	baz=249						
CHN3				*e*S	**Sn**	**03 15 28.6**	**+4.6**
	baz=249						
CHN8	**Yiju**	**1.47**	**249**	P	**Pn**	**03 15 07.9**	**+2.0**
	baz=248						
CHN8				S	**Sn**	**03 15 26.3**	**+2.3**
	baz=248						
SSD	**Sandimen**	**1.50**	**221**	*e*P	**Pn**	**03 15 08.6**	**+2.2**
	baz=222						
SSD				*e*S	**Sn**	**03 15 28.0**	**+3.2**
	baz=222						
SCLT	**Jiali**	**1.55**	**243**	*e*P	**Pn**	**03 15 09.1**	**+2.0**
	baz=244						
SCLT				*e*S	**Sn**	**03 15 29.2**	**+3.1**
	baz=244						
TWM1	**Shoushan**	**1.58**	**228**	*e*P	**Pn**	**03 15 11.5**	**+4.0**
	baz=230						
TWM1				*e*S	**Sn**	**03 15 32.4**	**+5.5**
	baz=230						
SGLT	**Jiouru**	**1.61**	**224**	*e*P	**Pn**	**03 15 12.0**	**+4.2**
	baz=226						
SGLT				*e*S	**Sn**	**03 15 32.9**	**+5.5**
	baz=226						
MASBT	**Mashibuluo**	**1.61**	**218**	⇑*e*P	**Pn**	**03 15 09.5**	**+1.7**
	baz=220						
MASBT				*e*S	**Sn**	**03 15 30.4**	**+3.1**
	baz=220						
SNJT	**Kaohsiung City**	**1.69**	**228**	*e*P	**Pn**	**03 15 11.4**	**+2.5**
	baz=227						
EAST	**Anshuo**	**1.69**	**208**	⇑*e*P	**Pn**	**03 15 09.3**	**+0.2**
	baz=204						
EAST				*e*S	**Sn**	**03 15 32.2**	**+2.7**
	baz=204						
TAW	**Tawu**	**1.69**	**206**	*e*P	**Pn**	**03 15 11.1**	**+2.1**
	baz=197						
SSPT	**Xinbi**	**1.75**	**217**	*e*P	**Pn**	**03 15 12.9**	**+3.2**
	baz=205						
PCYT	**Pengchaiyu**	**1.76**	**11**	*e*P	**Pn**	**03 15 11.7**	**+1.7**
	baz=355						
PCYT				*e*S	**Sn**	**03 15 32.7**	**+1.5**
	baz=355						
SCZT	**Fangliau**	**1.81**	**214**	*e*P	**Pn**	**03 15 13.4**	**+2.8**
	baz=229						
SCZT				*e*S	**Sn**	**03 15 36.4**	**+4.1**
	baz=229						
LAY	**Lan-yu**	**1.85**	**184**	*e*P	**Pn**	**03 15 12.0**	**+0.9**
	baz=177						
IRIF	**Iriomote-Funau**	**1.91**	**76**	P	**Pn**	**03 15 14.2**	**+2.3**
IRIF				S	**Sn**	**03 15 37.6**	**+2.9**
HATJ	**Hateruma jima**	**1.93**	**85**	P	**Pn**	**03 15 14.8**	**+2.5**
HATJ				S	**Sn**	**03 15 38.1**	**+2.7**
WLCH	**Liuqiu**	**1.96**	**219**	*e*P	Pn	03 15 17.9	+5.3
	baz=219						
TWP	**Hsiaoliuchiu**	**1.97**	**219**	*e*P	Pn	03 15 18.0	+5.3

baz=253
WDGT eS Sn 03 15 36.3 -0.1
baz=253
PHUB P'eng-hu 1.99 260 ⇓P Pn 03 15 14.1 +1.1
baz=272
PHUB S Sn 03 15 37.1 +0.5
baz=272
PNG Penghu 1.99 261 ⇓P Pn 03 15 14.0 +1.0
baz=261
PNG S Sn 03 15 37.7 +0.9
baz=261
HEN Hengchun 2.08 205 eP Pn 03 15 17.1 +2.9
baz=198
HEN eS Sn 03 15 42.1 +3.2
baz=198
TWK1 Hengchun 2.11 203 eP Pn 03 15 16.9 +2.3
baz=198
TWK1 eS Sn 03 15 41.7 +2.1
baz=198
TWKBT Hengchun 2.11 203 P Pn 03 15 16.7 +2.0
baz=198
TWKBT eS Sn 03 15 41.4 +1.7
baz=198
TSEB Hengchuen, Pin 2.11 201 P Pn 03 15 17.3 +2.6
baz=197
TSEB S Sn 03 15 42.7 +2.9
baz=197
JKRS Kuro-shima 2.14 80 P Pn 03 15 17.8 +2.7
JKRS S Sn 03 15 43.6 +3.2
VCHM Qimei 2.19 252 P Pn 03 15 17.0 +1.2
baz=254
VCHM eS Sn 03 15 41.5 -0.2
baz=254
JIJ Ishigaki jima 2.28 78 P Pn 03 15 19.1 +2.0
JIJ S Sn 03 15 45.2 +1.2
PTTC Pingtan 2.38 313⇓eP Pn 03 15 18.5 +0.2
baz=312
JISG Ishigakijimahi 2.48 73 P Pn 03 15 21.9 +2.1
JISG eS Sn 03 15 50.2 +1.3
PTMZ Houxiangcun 2.61 296⇓eP Pn 03 15 21.8 +0.2
baz=295
MATB Ma-tsu 2.76 325⇓eP Pn 03 15 23.6 +0.1
baz=324
JTJ Tarama 2.84 74 P Pn 03 15 26.9 +2.2
JTJ eS Sn 03 15 59.0 +1.3
QZH Quanzhou 3.02 291 ⇓iP Pn 03 15 27.0 -0.2
QZH S Sn 03 15 59.5 -2.6
QZH smax smax
comp=N,370nm,0.6s
QZH smax smax
comp=E,190nm,0.8s
QZH LR LR
comp=Z,270nm,5.9s
KNM Kinmen 3.03 281⇓eP Pn 03 15 29.3 +2.0
baz=279
KNM eS Sn 03 16 03.4 +1.1
baz=279
KNMB Chin-men Tao 3.08 281 ePn Pn 03 15 28.2 +0.3
KNMB eSn Sn 03 16 02.6 -1.0
KNMB Chin-men Tao 3.08 281⇓eP Pn 03 15 28.3 +0.3
baz=280
LYJJ Jianjiangzhen 3.18 327⇓eP Pn 03 15 29.4 0.0
baz=326
MHZQ Yeshan 3.27 313⇓eP Pn 03 15 30.6 0.0
baz=312
JIRB Irabujima 3.30 73 P Pn 03 15 33.0 +1.9
JIRB S Sn 03 16 11.1 +2.0
XPSS Dashiqiu 3.32 336⇓eP Pn 03 15 31.4 +0.1
baz=344
JIKM Ikemajima 3.39 72 P Pn 03 15 34.7 +2.4
JIKM S Sn 03 16 13.3 +1.9
JMJ Miyako jima 2 3.41 74 eP Pn 03 15 35.0 +2.6
baz=78
JMJ S Sn 03 16 13.7 +2.0
baz=78
JMJ2 Miyako jima3 3.42 75 P Pn 03 15 35.0 +2.4
JMJ2 S Sn 03 16 14.4 +2.5
JOGS Gusukube 3.49 75 P Pn 03 15 36.2 +2.5
JOGS S Sn 03 16 16.4 +2.7
AXDP Jialang 3.55 287⇓eP Pn 03 15 34.9 +0.5
baz=284
AXDP eS Sn 03 16 14.3 -0.7
baz=284
ZPLA Ao Xicun 3.61 271⇓eP Pn 03 15 35.9 +0.5
baz=270
ZZJH Jiuhuzhen 3.76 280 eP Pn 03 15 37.7 +0.4
baz=278
ZZJH eS Sn 03 16 18.7 -1.7
baz=278
JOW Kunigami 6.63 62 ePn Pn 03 16 16.8 +0.1
JOW eSn Sn 03 17 30.1 -1.0
JOW Kunigami 6.63 62 eP Pn 03 16 17.2 +0.5
baz=78
JOW Kunigami 6.63 62 P Pn 03 16 16.7 -0.1
0.6nm,0.3s,baz=139,slow=13,SNR=14
JOW S Sn 03 17 28.6 -2.4
0.9nm,0.3s,baz=210,slow=16,SNR=3.0
NJ2 Nanjing 8.51 343 eP Pn 03 16 44.0 +1.5
NJ2 S Sn 03 18 17.3 +0.1
NJ2 pmax pmax
comp=Z,18nm,0.5s
NJ2 smax smax
comp=N,100nm,0.8s
NJ2 smax smax
comp=E,83nm,0.8s
NJ2 LR LR
comp=N,410nm,8.5s
NJ2 LR LR
comp=E,460nm,8.6s
NJ2 LR LR
comp=Z,340nm,14.1s
WHN Wuhan 9.31 317 P Pn 03 16 53.5 +0.1
WHN S Sn 03 18 33.5 -3.3
WHN LR LR
comp=N,860nm,5.9s
WHN LR LR
comp=E,520nm,8.1s
WHN LR LR
comp=Z,420nm,4.3s
KSRS Korea Array 14.54 20 P P 03 18 07.9 -2.3
baz=194,slow=11,SNR=1.9
XAN Xi'an 15.06 315 P Pn 03 18 13.5 +1.8
XAN pP P 03 18 18.5 +2.3
XAN S Sn 03 20 58.5 +1.1
XAN pmax pmax
comp=Z,8.0nm,1.2s
XAN LR LR
comp=E,180nm,8.8s
XAN Xi'an 15.06 315 ePn Pn 03 18 08.7 -3.0
8.0nm,1.0s
MAJO Matsushiro 19.00 45 eP P 03 18 53.5 -6.2
9.3nm,1.4s
CMAR Chiang Mai Arr 21.89 260 P P 03 19 33.9 +2.9
2.0nm,0.3s,baz=66,slow=9.4,SNR=7.5
CMAR LR LR 03 27 56.2
comp=Z,33nm,18.2s,baz=40,slow=36
GTA Gaotai 24.13 315 eP P 03 19 56.0 +2.5
GTA pP pP 03 20 01.0 -5.2
GTA sP sP 03 20 04.3 -7.8
GTA pmax pmax
comp=Z,3.0nm,1.5s
ERM Erimo 25.39 39 eP P 03 20 00.5 -4.3
214nm,1.4s
ULN Ulaanbaatar 26.61 338 eP P 03 20 15.2 -0.8
2.1nm,0.5s
SONM Songino Array 26.82 337 P P 03 20 18.7 +0.9
1.1nm,0.7s,baz=152,slow=9.9,SNR=6.1
YSS Yuzh-Sakhalins 28.53 31 eP P 03 20 33.0 +0.1
36nm,1.3s
WMQ Urumqi 34.20 314 eP P 03 21 24.5 +1.6
WMQ pP pP 03 21 34.8 -1.0
WMQ LR LR
comp=Z,240nm,21.5s
MK31 Makanchi Array 38.88 316 eP P 03 22 05.3 +2.6
2.8nm,1.1s
MKAR Makanchi Array 38.88 316 P P 03 22 03.6 +0.9
1.5nm,0.7s,baz=104,slow=9.5,SNR=11
MAKZ Makanchi 39.08 316 eP P 03 22 02.9 -1.5
2.5nm,0.9s
ZAA0 Zalesovo Array 40.75 327 eP P 03 22 16.7 -1.4
7.4nm,1.4s
ZALV Zalesovo Beam 40.75 327 P P 03 22 17.9 -0.2
0.9nm,0.3s,baz=112,slow=7.7,SNR=4.5
PMG Port Moresby 41.40 140 eP P 03 22 20.8 -3.1
51nm,1.5s
H11N1 WAKE ISLAND Hy 42.03 87 T T 04 07 56.9
baz=283,slow=74,SNR=20
H11N2 WAKE ISLAND Hy 42.03 87 T T 04 07 59.2
baz=283,slow=74,SNR=26
H11N3 WAKE ISLAND Hy 42.05 87 T T 04 08 02.1
baz=283,slow=74,SNR=24
H11S3 WAKE ISLAND Hy 42.16 88 T T 04 08 03.5
baz=284,slow=75,SNR=37
H11S1 WAKE ISLAND Hy 42.16 88 T T 04 08 03.1
baz=284,slow=75,SNR=22
H11S2 WAKE ISLAND Hy 42.17 88 T T 04 08 04.9
baz=284,slow=75,SNR=24
KURBB Kurchatov Arra 42.63 320 P P 03 22 34.5 +0.9
0.4nm,0.4s,baz=111,slow=9.9,SNR=7.2
WRA Warramunga Arr 45.28 163 P P 03 22 54.8 -0.3
6.5nm,0.3s,baz=353,slow=10,SNR=2.1
WB2 Warramunga Arr 45.28 163 eP P 03 22 53.4 -1.7
12nm,1.4s
KK31 Karatay Array 46.02 308 eP P 03 22 59.7 -1.1
1.9nm,1.1s
BVAR Borovoye Array 48.20 321 P P 03 23 17.8 +0.2
0.6nm,0.5s,baz=81,slow=9.2,SNR=2.6
ASAR Alice Springs 48.74 165 P P 03 23 21.7 -0.3
0.4nm,0.3s,baz=339,slow=6.8,SNR=9.0
ABKAR Akbulak array 53.98 314 eP P 03 24 02.3 +1.3
2.4nm,1.3s
ARMA Armidale 61.16 151 eP P 03 24 51.4 -0.4
16nm,0.8s
ILAR Eielson Array 69.26 27 LR LR 03 56 05.4
comp=Z,18nm,21.2s,baz=336,slow=36
BRTR Keskin Array B 73.72 307 P P 03 26 11.2 -0.1
0.8nm,0.8s,baz=78,slow=4.5,SNR=3.7
DLBC Dease Lake 78.96 31 LR LR 04 07 20.7
comp=Z,54nm,18.1s,baz=26,slow=40
VYHS Vyhne 80.49 319 eP P 03 26 51.9 +2.9
YKA Yellowknife Ar 83.06 23 P P 03 27 02.6 +0.5
0.4nm,0.5s,baz=312,slow=4.8,SNR=8.3
GERES GERESS Array B 83.37 321 P P 03 27 04.4 +0.2
0.2nm,0.4s,baz=90,slow=5.2,SNR=3.0
DGMT Dagmar 97.09 29 eS S 03 39 24.1 -4.4
JLU Jordanelle 99.03 38 epP pP 03 28 33.5 +2.5

*ISCJB **30** 03:19:47.8±0.5, 28°.20N±0°.04×51°.59E±0°.05, h16km, mb3.8/14, Error ellipse: s-maj=7.6km s-min=4.3km az=148.6*
*TEH **30** 03:19:49.9, 28°.38N×51°.77E, h14km, ML3.7*
*IDC **30** 03:19:52.8±3.5, 28°.24N×51°.79E, h44km±36km, mb3.6/14, mb1 3.7/16, mb1mx3.5/44, mbtmp3.8/16, ML3.8/2, Error ellipse: s-maj=22.0km s-min=17.8km az=164.0*
*OMAN **30** 03:19:54.1±3.2, 27°.93N×51°.86E, h10km, ml3.7/3, Error ellipse: s-maj=36.9km s-min=14.9km az=9.0*
*DSN **30** 03:19:54.3±0.9, 28°.27N×52°.18E, h10km, ML3.8/8, Error ellipse: s-maj=20.9km s-min=8.6km az=50.0*
ISC 30 03:19:49.3±0.6, 28°.26N±0°.06×51°.72E±0°.06, h16km, n57, σ1§75/61, mb3.8/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.11**	**89**	*e*Pg	**Pg**	**03 20 11.4**	**+0.5**
IKAZ	**Kazeroun**	**1.51**	**4**	*e*Pg	**Pn**	**03 20 15.9**	**-0.1**
IKAZ				IAMB	IAmb	03 20 47.5	
comp=Z,0.0nm,0.6s							
JHRM	**Jahrom**	**1.65**	**81**	*e*Pg	**Pb**	**03 20 20.0**	**+0.6**
IPAR	**Pars**	**1.95**	**36**	*e*Pn	**Pb**	**03 20 23.7**	**-1.0**
IPAR				IAMB	IAmb	03 20 53.2	
comp=Z,0.0nm,0.8s							
IMEH	**Mehriz**	**4.00**	**38**	*e*Pn	**Pn**	**03 20 52.5**	**+2.3**
IMEH				IAMB	IAmb	03 20 59.1	
comp=Z,0.0nm,0.6s							
JHBN	**Jahan bin**	**4.06**	**347**	*e*Pn	**Pn**	**03 20 53.2**	**+2.2**
IGAR	**Gharneh**	**4.13**	**4**	*e*Pn	**Pn**	**03 20 52.9**	**+0.9**
SHME	**Shamm**	**4.51**	**118**	P	**Pn**	**03 20 58.5**	**+1.5**
SHME	**Shamm**	**4.51**	**118**	*e*Pn	**Pn**	**03 20 58.5**	**+1.5**
NIAN	**Nian**	**4.58**	**98**	*e*Pn	**Pn**	**03 20 59.7**	**+1.8**
NGRK	**Negar Kerman**	**4.60**	**71**	*e*Pn	**Pn**	**03 21 00.1**	**+1.6**
NGRK				IAMB	IAmb	03 22 03.5	
comp=Z,0.0nm,0.4s							
KHGB	**Koh Gabri**	**4.65**	**62**	*e*Pn	**Pn**	**03 21 00.4**	**+1.3**
KHGB				IAMB	IAmb	03 21 57.8	
comp=Z,0.0nm,0.5s							
BANOM	**Banah**	**4.70**	**119**	*i* P	**Pn**	**03 21 00.8**	**+1.1**
SNR=5.7							
BANOM	**Banah**	**4.70**	**119**	P	**Pn**	**03 21 00.7**	**+1.1**
SNR=26							
BANOM				S	**Sn**	**03 21 50.7**	**-3.1**
IBAF	**Bafgh**	**4.70**	**44**	*e*Pn	**Pn**	**03 21 01.2**	**+1.5**
KRBR	**Kerman**	**4.73**	**68**	*e*Pn	**Pn**	**03 21 02.7**	**+2.5**
YZKH	**Yazd**	**4.80**	**30**	*e*Pn	**Pn**	**03 21 03.1**	**+2.1**
NAZ	**Nazwa, Dubai**	**4.80**	**132**	*i* P	**Pn**	**03 21 02.9**	**+1.9**
SNR=5.3							
NAZ	**Nazwa, Dubai**	**4.80**	**132**	*e*Pn	**Pn**	**03 21 03.5**	**+2.5**
ASUD	**Al Ashush, Dub**	**4.86**	**137**	P	**Pn**	**03 21 04.2**	**+2.5**
ASUD	**Al Ashush, Dub**	**4.86**	**137**	*e*Pn	**Pn**	**03 21 04.4**	**+2.7**
MSFE	**Esma-Masafi**	**4.91**	**125**	P	**Pn**	**03 21 02.9**	**+0.4**
MSFE	**Esma-Masafi**	**4.91**	**125**	*e*Pn	**Pn**	**03 21 04.5**	**+2.0**
FAQ	**Al Faqa, Dubai**	**4.93**	**134**	P	**Pn**	**03 21 04.9**	**+2.2**
FAQ	**Al Faqa, Dubai**	**4.93**	**134**	*e*Pn	**Pn**	**03 21 05.0**	**+2.2**
IKLH	**Kolahrood**	**5.04**	**359**	*e*Pn	**Pn**	**03 21 05.6**	**+1.1**
MDH	**Madha**	**5.04**	**125**	*e*Pn	**Pn**	**03 21 07.0**	**+2.7**
UOSS	**Minazif**	**5.20**	**128**	*i* P	**Pn**	**03 21 07.9**	**+1.5**
SNR=7.1							
UOSS	**Minazif**	**5.20**	**128**	P	**Pn**	**03 21 07.9**	**+1.5**
SNR=7.3							
UOSS	**Minazif**	**5.20**	**128**	*e*Pn	**Pn**	**03 21 08.0**	**+1.5**
HATD	**Hatta, Dubai**	**5.23**	**130**	P	**Pn**	**03 21 08.6**	**+1.8**
HATD	**Hatta, Dubai**	**5.23**	**130**	*e*Pn	**Pn**	**03 21 08.7**	**+1.9**
ASHO	**Ashiyiah**	**5.27**	**132**	*i* P	**Pn**	**03 21 09.1**	**+1.6**
SNR=17							
ASHO				S	**Sn**	**03 22 08.1**	**+0.1**
ASHO	**Ashiyiah**	**5.27**	**132**	P	**Pn**	**03 21 09.3**	**+1.8**
SNR=17							
ASHO				S	**Sn**	**03 22 08.1**	**+0.1**
ASHO	**Ashiyiah**	**5.27**	**132**	*e*Pn	**Pn**	**03 21 10.0**	**+2.5**
CHMN	**Cheshme madani**	**5.33**	**71**	*e*Pn	**Pn**	**03 21 10.2**	**+1.6**
MZR	**Muzera**	**5.47**	**163**	*e*Pn	Pn	03 21 15.8	+5.6
HOQ	**Hoqain**	**6.86**	**132**	*e*Pn	**Pn**	**03 21 31.9**	**+2.7**
WSAR	**Wadi Sarin**	**7.99**	**127**	P	**Pn**	**03 21 45.5**	**+0.7**
comp=Z,0.9nm,0.3s,baz=338,slow=8.9,SNR=8.3							
WSAR				S	**Sn**	**03 23 11.2**	**-3.7**
comp=Z,0.3nm,0.3s,baz=119,slow=19,SNR=2.3							
MHTO	**MHTO**	**9.21**	**141**	P	**Pn**	**03 22 02.5**	**+1.1**
SNR=6.0							
MHTO				S	**Sn**	**03 23 40.1**	**-4.7**
DMTO	**DMTO**	**10.91**	**164**	P	**Pn**	**03 22 24.9**	**+0.1**
SNR=12							
BRTR	**Keskin Array B**	**18.82**	**312**	P	**Pn**	**03 24 09.2**	**+0.3**
comp=Z,0.4nm,0.3s,baz=136,slow=12,SNR=15							
AKTO	**Aktyubinsk**	**22.65**	**10**	P	**P**	**03 24 51.0**	**+1.4**
comp=Z,1.5nm,0.7s,baz=184,slow=11,SNR=4.2							
BVAR	**Borovoye Array**	**28.33**	**24**	P	**P**	**03 25 42.3**	**+0.1**
comp=Z,0.6nm,0.6s,baz=219,slow=8.8,SNR=4.9							
KURBB	**Kurchatov Arra**	**30.16**	**35**	P	**P**	**03 25 57.9**	**-0.6**
comp=Z,0.4nm,0.7s,baz=234,slow=9.3,SNR=4.1							
MKAR	**Makanchi Array**	**30.22**	**44**	P	**P**	**03 25 58.6**	**-0.4**
comp=Z,0.4nm,0.6s,baz=232,slow=9.1,SNR=4.3							
ZALV	**Zalesovo Beam**	**35.24**	**34**	P	**P**	**03 26 43.5**	**+0.8**
comp=Z,1.0nm,0.5s,baz=265,slow=8.1,SNR=2.4							
FINES	**FINESS Array B**	**37.32**	**340**	P	**P**	**03 27 00.3**	**-0.2**
comp=Z,1.9nm,0.7s,baz=156,slow=8.6,SNR=8.3							
NB2	**NORSAR Subarra**	**42.45**	**332**	P	**P**	**03 27 42.0**	**-1.1**
comp=Z,0.3nm,0.4s,baz=120,slow=8.6							
NOA	**NORSAR Array B**	**42.45**	**332**	P	**P**	**03 27 42.0**	**-1.1**
comp=Z,0.4nm,0.5s,baz=129,slow=8.8,SNR=5.5							
ARCES	**ARCESS Array B**	**44.00**	**347**	P	**P**	**03 27 56.2**	**+0.6**
comp=Z,1.4nm,0.9s,baz=157,slow=6.6,SNR=4.5							
TORD	**Torodi Ar. Bea**	**48.82**	**263**	P	**P**	**03 28 34.6**	**+0.5**
comp=Z,0.9nm,0.6s,baz=77,slow=7.3,SNR=9.7							
SPITS	**Spitsbergen Ar**	**52.46**	**351**	P	**P**	**03 29 01.2**	**+0.4**
comp=Z,1.4nm,0.6s,baz=133,slow=8.1,SNR=4.7							
DBIC	**Dimbokro**	**57.52**	**259**	P	**P**	**03 29 38.5**	**+0.3**
comp=Z,4.1nm,0.8s,baz=17,slow=7.9,SNR=4.6							
KSRS	**Korea Array**	**63.08**	**60**	P	**P**	**03 30 14.5**	**-1.5**
comp=Z,0.5nm,0.4s,baz=280,slow=7.0,SNR=3.3							
YKA	**Yellowknife Ar**	**88.90**	**354**	P	**P**	**03 32 43.0**	**+0.5**
comp=Z,0.4nm,0.7s,baz=5.4,slow=4.2,SNR=7.8							
ASAR	**Alice Springs**	**94.47**	**114**	P	**P**	**03 33 08.4**	**-0.8**
comp=Z,0.4nm,0.8s,baz=293,slow=4.0,SNR=4.3							

*SNET **30** 03:37:50.2±0.4, 13°.49N×91°.19W, h10km±5km, ML3.1*
*MEX **30** 03:37:51.9±0.6, 13°.90N×91°.76W, h23km±15km, MD3.8*
ISC 30 03:37:47.5±2.1, 14°.1N±0°.2×91°.42W±0°.09, h15km±14km, n11, σ1§15/16, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.13**	**314**	*i* P	**Pg**	**03 38 09.0**	**-0.3**
THIG				*i* S	**Sb**	**03 38 22.5**	**-0.6**
RTR	**El Retiro**	**1.74**	**97**	*e*P	**Pn**	**03 38 18.1**	**+0.8**
SBLS	**San Blas**	**1.77**	**99**	*e*P	**Pn**	**03 38 18.3**	**+0.5**
SBLS				*e*S	**Sn**	**03 38 40.3**	**+0.2**
CEVE	**Cerro Verde**	**1.77**	**99**	IAML		03 38 45.9	
comp=Z,664nm,0.3s							
SNJE	**San Jose**	**1.78**	**98**	*e*P	**Pn**	**03 38 18.6**	**+0.7**
UNIC	**Santa Ana**	**1.81**	**94**	*e*P	**Pn**	**03 38 19.0**	**+0.8**
UNIC				*e*S	**Sb**	**03 38 42.0**	**-0.9**
SNET	**Serv Nac Est T**	**2.17**	**101**	IAML		03 38 54.9	
comp=Z,224nm,0.2s							
CCIG	**Comitan**	**2.25**	**342**	*e*P	**Pb**	**03 38 27.8**	**-0.1**
CCIG				*i* S	**Sb**	**03 38 54.9**	**-0.8**
PCIG		**2.34**	**312**	*e*P	**Pn**	**03 38 26.5**	**+1.1**
PCIG				*i* S	**Sn**	**03 38 52.3**	**-1.5**
TGIG		**3.10**	**328**	*i* P	**Pn**	**03 38 37.6**	**+1.6**
TGIG				*e*S	**Sn**	**03 39 13.9**	**+1.0**
CMIG	**Matias Romero**	**4.45**	**312**	*i* P	**Pn**	**03 38 55.8**	**+1.3**
CMIG				*e*S	**Sn**	**03 39 44.3**	**-1.7**

*ISCJB **30** 04:34:05.0±0.3, 43°.82S±0°.03×168°.95E±0°.05, h10km, mb4.0/2, Error ellipse: s-maj=6.4km s-min=2.9km az=32.7*
*WEL **30** 04:34:05.2, 44°.S±2°.×16°.9E±°., h5km, ML4.5/19*
*IDC **30** 04:34:13.2±2.5, 43°.59S×169°.21E, h58km±25km, mb3.7/2, mb1 4.0/3, mb1mx3.6/25, mbtmp4.0/3, ML3.4/1, Error ellipse: s-maj=31.9km s-min=20.4km az=21.0*
ISC 30 04:34:05.7±0.7, 43°.93S±0°.05×169°.00E±0°.04, h10km, n98, σ1§38/97, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.21**	**227**	P	**Pg**	**04 34 10.9**	**+0.6**
JCZ				S	**Sg**	**04 34 13.3**	**0.0**
FOZ	**Fox Glacier**	**0.71**	**56**	P	**Pb**	**04 34 20.2**	**0.0**
WKZ	**Wanaka**	**0.90**	**179**	P	**Pg**	**04 34 23.1**	**0.0**
LBZ	**Lake Benmore**	**0.96**	**119**	P	**Pb**	**04 34 25.1**	**+0.5**
MSZ	**Milford Sound**	**1.07**	**226**	P	**Pg**	**04 34 25.6**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**1.14**	**58**	P	**Pn**	**04 34 27.9**	**+0.2**
EAZ	**Earnscleugh**	**1.32**	**171**	P	**Pn**	**04 34 30.7**	**+0.4**
RPZ	**Rata Peaks**	**1.50**	**82**	P	**Pg**	**04 34 35.0**	**+0.5**
205nm,0.3s,baz=256,slow=8.0,SNR=343							
RPZ				S	**Sn**	**04 34 52.7**	**+0.4**
320nm,0.3s,baz=103,slow=18,SNR=44							
RPZ	**Rata Peaks**	**1.50**	**82**	P	**Pg**	**04 34 35.0**	**+0.5**
WVZ	**Waitaha Valley**	**1.52**	**56**	P	**Pn**	**04 34 33.0**	**0.0**
MLZ	**Mavora Lakes**	**1.57**	**203**	P	**Pb**	**04 34 34.6**	**-0.3**
ODZ	**Otahua Downs**	**1.62**	**134**	P	**Pb**	**04 34 35.5**	**-0.3**
DCZ	**Deep Cove**	**2.02**	**220**	P	**Pb**	**04 34 41.8**	**-0.8**
TUZ	**Tuapeka**	**2.07**	**168**	P	**Pn**	**04 34 42.3**	**+1.7**
WHZ	**Wether Hill Ro**	**2.10**	**201**	P	**Pn**	**04 34 42.4**	**+1.4**
INZ	**Inchbonnie**	**2.15**	**57**	P	**Pn**	**04 34 41.7**	**+0.1**
HHSZ	**Highcliff Hill**	**2.26**	**150**	P	**Pb**	**04 34 46.6**	**-0.1**
OXZ	**Oxford**	**2.29**	**76**	P	**Pn**	**04 34 44.3**	**+0.8**
SYZ	**Scrubby Hill**	**2.61**	**178**	P	**Pn**	**04 34 48.4**	**+0.4**
LTZ	**Lake Taylor**	**2.65**	**65**	P	**Pn**	**04 34 49.6**	**+1.1**
MQZ	**McQueen's Vall**	**2.65**	**86**	P	**Pn**	**04 34 49.2**	**+0.7**
AMCZ	**Amberley**	**2.76**	**75**	P	**Pn**	**04 34 51.4**	**+1.4**
AKCZ	**Akaroa Harbour**	**2.82**	**90**	P	**Pn**	**04 34 52.3**	**+1.3**
OKCZ	**Okains Bay**	**2.94**	**87**	P	**Pn**	**04 34 53.9**	**+1.3**
APZ	**The Paps**	**2.99**	**193**	P	**Pn**	**04 34 56.1**	**+2.9**
DSZ	**Denniston Nort**	**3.00**	**44**	P	**Pn**	**04 34 53.3**	**-0.1**
THZ	**Tophouse**	**3.59**	**54**	P	**Pn**	**04 35 02.5**	**+0.9**
KHZ	**Kahutara**	**3.65**	**67**	P	**Pn**	**04 35 02.7**	**+0.5**
QRZ	**Quartz Range**	**4.05**	**41**	P	**Pn**	**04 35 07.9**	**+0.1**
BSWZ	**Blackbirch Sta**	**4.21**	**60**	P	**Pn**	**04 35 10.4**	**+0.4**
NNZ	**Nelson**	**4.22**	**52**	P	**Pn**	**04 35 11.1**	**+1.0**
CMWZ	**Cape Campbell**	**4.41**	**62**	P	**Pn**	**04 35 15.0**	**+2.3**
TUWZ	**Tuamarina**	**4.42**	**57**	P	**Pn**	**04 35 14.4**	**+1.7**
TCW	**Tory Channel**	**4.75**	**57**	P	**Pn**	**04 35 18.5**	**+1.2**
DUWZ	**D'Urville Isla**	**4.80**	**51**	P	**Pn**	**04 35 19.4**	**+1.3**
BHW	**Baring Head**	**5.01**	**62**	P	**Pn**	**04 35 22.5**	**+1.6**
PLWZ	**Palliser**	**5.17**	**65**	P	**Pn**	**04 35 23.1**	**-0.1**
MSWZ	**Moikau Station**	**5.25**	**64**	P	**Pn**	**04 35 23.3**	**-0.9**
CAW	**Cannon Point**	**5.29**	**60**	P	**Pn**	**04 35 23.8**	**-1.0**
KIW	**Kapiti Island**	**5.34**	**57**	P	**Pn**	**04 35 25.3**	**-0.2**
PAWZ	**Paruwai Farm**	**5.38**	**64**	P	**Pn**	**04 35 25.0**	**-1.0**
OGWZ	**Otaki Gorge**	**5.53**	**58**	P	**Pn**	**04 35 27.8**	**-0.2**
MTW	**Mount Morrison**	**5.54**	**62**	P	**Pn**	**04 35 27.2**	**-1.1**
HOWZ	**Holdsworth Sta**	**5.69**	**60**	P	**Pn**	**04 35 30.4**	**0.0**
NMEZ	**Namu Road**	**5.80**	**41**	P	**Pn**	**04 35 33.2**	**+1.4**
TMWZ	**Te Maipa**	**5.82**	**63**	P	**Pn**	**04 35 30.5**	**-1.6**
MRZ	**Mangatainoka R**	**5.87**	**58**	P	**Pn**	**04 35 31.9**	**-0.8**
NBEZ	**Newall Road No**	**5.91**	**40**	P	**Pn**	**04 35 33.9**	**+0.5**
KHEZ	**Kahui Hut**	**5.96**	**41**	P	**Pn**	**04 35 35.1**	**+1.0**
LREZ	**Lake Rotokare**	**6.02**	**44**	P	**Pn**	**04 35 36.6**	**+1.7**
PKE	**Pukeiti**	**6.03**	**40**	P	**Pn**	**04 35 36.1**	**+1.1**
WAZ	**Wanganui**	**6.11**	**49**	P	**Pn**	**04 35 38.2**	**+2.1**
DREZ	**Durham Road**	**6.13**	**41**	P	**Pn**	**04 35 37.4**	**+1.0**
POWZ	**Post Office Ro**	**6.14**	**57**	P	Pn	04 35 42.2	+5.7
PRWZ	**Pori Road**	**6.17**	**59**	P	**Pn**	**04 35 36.1**	**-0.8**
BFZ	**Birch Farm**	**6.27**	**61**	P	**Pn**	**04 35 37.0**	**-1.3**
MHEZ	**Mangahewa**	**6.28**	**41**	P	**Pn**	**04 35 42.8**	**+4.4**
MTVZ	**Mangateitei**	**6.64**	**49**	P	**Pn**	**04 35 46.6**	**+3.2**
PKVZ	**Pokaka**	**6.64**	**48**	P	**Pn**	**04 35 42.4**	**-1.0**
PNHZ	**Pukenui**	**6.70**	**56**	P	**Pn**	**04 35 43.4**	**-0.8**
TRVZ	**Turoa**	**6.74**	**49**	P	**Pn**	**04 35 46.8**	**+1.9**
FWVZ	**Far West T-bar**	**6.77**	**49**	P	**Pn**	**04 35 46.7**	**+1.3**
WHVZ	**Whangaehu Hut**	**6.77**	**49**	P	**Pn**	**04 35 47.8**	**+2.4**
MOVZ	**Moawhango**	**6.78**	**50**	P	**Pn**	**04 35 45.8**	**+0.5**
TUVZ	**Tukino**	**6.82**	**49**	P	**Pn**	**04 35 47.4**	**+1.4**
TWVZ	**Taurewa**	**6.85**	**47**	P	**Pn**	**04 35 48.0**	**+1.7**
NGZ	**Ngauruhoe**	**6.86**	**48**	P	**Pn**	**04 35 48.2**	**+1.7**
WTVZ	**West Tongariro**	**6.89**	**48**	P	**Pn**	**04 35 48.5**	**+1.6**
BHHZ	**Black Hill Sta**	**6.90**	**52**	P	**Pn**	**04 35 46.2**	**-0.7**
KRHZ	**Kereru**	**6.97**	**55**	P	**Pn**	**04 35 47.8**	**-0.2**
HIZ	**Hauiti**	**6.98**	**41**	P	**Pn**	**04 35 48.9**	**+0.9**
BKZ	**Black Stump Fm**	**7.36**	**52**	P	**Pn**	**04 35 53.5**	**+0.2**
TLZ	**Tolley Road**	**7.46**	**44**	P	**Pn**	**04 35 55.2**	**+0.6**
NMHZ	**Naumai**	**7.59**	**53**	P	**Pn**	**04 35 54.9**	**-1.5**
MTHZ	**Maungataniwha**	**7.77**	**52**	P	**Pn**	**04 35 58.3**	**-0.7**
TOZ	**Tahuroa Road**	**7.91**	**41**	P	**Pn**	**04 36 01.5**	**+0.7**
AWAZ	**Awhitu Peninsu**	**8.09**	**34**	P	**Pn**	**04 36 03.7**	**+0.5**
MKAZ	**Moumakai**	**8.27**	**37**	P	**Pn**	**04 36 07.0**	**+1.3**
URZ	**Urewera**	**8.34**	**50**	P	**Pn**	**04 36 06.6**	**0.0**
0.5nm,0.3s,baz=226,slow=12,SNR=4.3							
URZ				S	**Sn**	**04 37 34.7**	**-6.1**
2.7nm,0.3s,baz=81,slow=17,SNR=4.4							
URZ	**Urewera**	**8.34**	**50**	P	**Pn**	**04 36 07.3**	**+0.7**
MBAZ	**Motutapu North**	**8.45**	**34**	P	**Pn**	**04 36 08.9**	**+0.7**
WIAZ	**Waiheke Island**	**8.52**	**35**	P	**Pn**	**04 36 11.0**	**+1.8**
ABAZ	**Army Bay**	**8.57**	**33**	P	**Pn**	**04 36 10.6**	**+0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.55**	**152**	**P**	**Pn**	**04 55 15.2**	**+2.8**
JYNG				S	**Sn**	**04 55 24.1**	**+2.4**
YOJ	**Yonaguni jima**	**0.57**	**147**	*e*P	**Pn**	**04 55 15.7**	**+3.1**
	baz=128						
YOJ				S	**Sn**	**04 55 25.0**	**+2.8**
	baz=128						
YOJ	**Yonaguni jima**	**0.57**	**147**	P	**Pn**	**04 55 15.8**	**+3.1**
YOJ				S	**Sn**	**04 55 24.9**	**+2.6**
TWB1	**Santiao Chiao**	**0.62**	**276**	P	**Pb**	**04 55 11.9**	**+0.6**
	baz=287						
TWB1				S	**Sg**	**04 55 17.9**	**-0.3**
	baz=287						
EOS1	**EOS1**	**0.62**	**232**	*e*P	**Pb**	**04 55 12.6**	**+1.2**
	baz=221						
EOS1				*e*S	**Sg**	**04 55 20.2**	**+1.9**
	baz=221						
EGS		**0.67**	**262**	*e*S	**Sg**	**04 55 19.0**	**-0.9**
	baz=265						
TIPB	**Shuangxi**	**0.76**	**272**	*e*P	**Pb**	**04 55 14.5**	**+0.7**
	baz=279						
TIPB				*e*S	**Sg**	**04 55 22.6**	**-0.2**
	baz=279						
NTC	**Toucheng**	**0.76**	**264**	*e*S	**Sg**	**04 55 21.6**	**-1.2**
	baz=267						
TWC	**Suao**	**0.81**	**246**	P	**Pb**	**04 55 15.0**	**+0.4**
	baz=243						
TWC				*e*S	**Sg**	**04 55 23.3**	**-1.0**
	baz=243						
NWF	**Wu-fen Shan**	**0.81**	**279**	*e*P	**Pb**	**04 55 15.5**	**+0.8**
	baz=287						
NWF				*e*S	**Sg**	**04 55 24.5**	**+0.1**
	baz=287						
WFSB	**Wu-fen Shan**	**0.81**	**279**	*e*P	**Pb**	**04 55 15.5**	**+0.9**
	baz=287						
WFSB				*e*S	**Sg**	**04 55 24.6**	**+0.2**
	baz=287						
PCYT	**Pengchaiyu**	**0.87**	**322**	P	**Pn**	**04 55 19.4**	**+2.6**
	baz=336						
TWE	**Neicheng**	**0.93**	**257**	P	**Pb**	**04 55 17.2**	**+0.6**
	baz=256						
TWE				*e*S	**Sg**	**04 55 27.1**	**-1.2**
	baz=256						
YM07	**YM07**	**0.98**	**284**	*e*P	**Pn**	**04 55 18.9**	**+0.6**
	baz=291						
YM07				*e*S	**Sg**	**04 55 30.1**	**+0.5**
	baz=291						
ENA	**Nanau**	**0.98**	**239**	P	**Pg**	**04 55 18.1**	**+1.0**
	baz=234						
ENA				*e*S	**Sg**	**04 55 28.7**	**-1.2**
	baz=234						
YM08	**YM08**	**1.01**	**284**	*e*P	**Pn**	**04 55 19.5**	**+0.8**
	baz=291						
YM08				*e*S	**Sg**	**04 55 29.8**	**-0.8**
	baz=291						
YM01	**YM01**	**1.01**	**282**	P	**Pn**	**04 55 19.8**	**+1.0**
	baz=288						
YM01				*e*S	**Sg**	**04 55 31.0**	**+0.1**
	baz=288						
YM11	**YM11**	**1.01**	**283**	*e*P	**Pn**	**04 55 20.0**	**+1.1**
	baz=289						
YM11				*e*S	**Sg**	**04 55 31.4**	**+0.5**
	baz=289						
TWY	**Chenhua**	**1.02**	**289**	*e*P	**Pn**	**04 55 19.6**	**+0.7**
	baz=297						
TWY				S	**Sg**	**04 55 31.2**	**+0.1**
	baz=297						
YM10	**YM10**	**1.02**	**282**	*e*P	**Pn**	**04 55 20.0**	**+1.0**
	baz=288						
YM10				*e*S	**Sg**	**04 55 31.6**	**+0.4**
	baz=288						
NHDH	**Xindian Distri**	**1.03**	**271**	*e*S	**Sg**	**04 55 30.2**	**-1.3**
	baz=275						
ENTT	**Nioudou**	**1.04**	**254**	*e*P	**Pg**	**04 55 18.8**	**+0.6**
	baz=253						
ENTT				*e*S	**Sg**	**04 55 30.6**	**-1.1**
	baz=253						
NWLT	**Wulai**	**1.07**	**261**	*e*P	**Pg**	**04 55 19.2**	**+0.5**
	baz=263						
NWLT				*e*S	**Sg**	**04 55 30.5**	**-2.1**
	baz=263						
NDT	**Datong Townshi**	**1.10**	**252**	*e*P	**Pb**	**04 55 20.5**	**+1.0**
	baz=252						
NDT				*e*S	**Sg**	**04 55 32.9**	**-0.8**
	baz=252						
IRIF	**Iriomote-Funau**	**1.14**	**122**	P	**Pg**	**04 55 19.4**	**-0.7**
YHNB	**Yeheng**	**1.20**	**257**	*e*P	**Pn**	**04 55 22.4**	**+0.9**
	baz=257						
YHNB				*e*S	**Sg**	**04 55 35.4**	**-1.5**
	baz=257						
NSK	**Sanguang**	**1.22**	**258**	P	**Pg**	**04 55 21.8**	**+0.3**
	baz=258						
NSK				*e*S	**Sg**	**04 55 35.1**	**-2.2**
	baz=258						
NACB	**Ninganchiao**	**1.24**	**232**	*e*P	**Pg**	**04 55 22.4**	**+0.4**
	baz=227						
NACB				*e*S	**Sg**	**04 55 36.2**	**-1.8**
	baz=227						
NNSB	**Datong**	**1.27**	**247**	*e*P	**Pg**	**04 55 22.8**	**+0.1**
	baz=245						
NNSB				*e*S	**Sg**	**04 55 37.7**	**-1.5**
	baz=245						
NNS	**Nan Shan**	**1.28**	**247**	*e*S	**Sg**	**04 55 37.1**	**-2.2**
	baz=245						
ETLH	**Xiulin Townshi**	**1.30**	**236**	P	**Pb**	**04 55 24.0**	**+1.0**
	baz=232						
ETLH				*e*S	**Sg**	**04 55 38.7**	**-1.4**
	baz=232						
JKRS	**Kuro-shima**	**1.41**	**120**	P	**Pn**	**04 55 22.3**	**-1.9**
JKRS				*e*S	**Sb**	**04 55 36.6**	**-6.3**
WHF	**Hehuan Shan**	**1.50**	**238**	*e*P	**Pb**	**04 55 27.6**	**+1.0**
	baz=235						
WHF				*e*S	**Sn**	**04 55 44.2**	**-1.7**
	baz=235						
TWT	**Tachien**	**1.52**	**244**	*e*S	**Sn**	**04 55 44.9**	**-1.0**
	baz=241						
TDCB	**Techi**	**1.53**	**244**	*e*P	**Pb**	**04 55 27.6**	**+0.7**
	baz=241						
TDCB				*e*S	**Sn**	**04 55 44.5**	**-1.8**
	baz=241						
CHGB	**Renai**	**1.62**	**237**	*e*P	**Pb**	**04 55 29.4**	**+0.9**
	baz=234						
CHGB				*e*S	**Sn**	**04 55 48.2**	**-0.3**
	baz=234						
OWD	**Renai**	**1.68**	**234**	*e*P	**Pb**	**04 55 30.4**	**+1.0**
	baz=231						
OWD				*e*S	**Sn**	**04 55 49.6**	**-0.2**
	baz=231						
VWDT	**VWDT**	**1.82**	**230**	*e*P	**Pb**	**04 55 32.4**	**+0.5**
	baz=226						
YUS	**Yu-Shan**	**2.13**	**228**	*e*P	**Pn**	**04 55 36.7**	**+2.1**
	baz=224						

TAP 30 04:56:35.2, 24°.46N×121°.99E, h17km, ML1.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.15**	**56**	*e*P	Pb	04 56 39.8	+0.2
	baz=47						
EOS1				S	Sb	04 56 43.3	+0.7
	baz=47						
TWC	**Suao**	**0.19**	**319**	P	Pb	04 56 40.2	-0.2
	baz=321						
TWC				S	Sg	04 56 43.0	-0.3
	baz=321						
ENA	**Nanau**	**0.23**	**261**	*i* P	Pg	04 56 40.5	0.0
	baz=267						
ENA				*i* S	Sg	04 56 44.2	0.0
	baz=267						
ENTT	**Nioudou**	**0.42**	**295**	*e*P	Pb	04 56 44.3	0.0
	baz=295						
ENTT				*e*S	Sg	04 56 50.0	+0.2
	baz=295						
NDT	**Datong Townshi**	**0.46**	**288**	*e*P	Pb	04 56 44.8	0.0
	baz=288						
NDT				S	Sb	04 56 51.0	-0.3
	baz=288						
NACB	**Ninganchiao**	**0.46**	**231**	*e*S	Sg	04 56 49.5	-1.4
	baz=232						
TIPB	**Shuangxi**	**0.53**	**344**	*e*P	Pg	04 56 45.9	0.0
	baz=349						
NWLT	**Wulai**	**0.54**	**305**	*e*S	Sb	04 56 54.2	+0.4
	baz=300						
YHNB	**Yeheng**	**0.59**	**290**	*e*P	Pg	04 56 47.2	+0.1
	baz=296						
YHNB				*e*S	Sg	04 56 54.5	-0.6
	baz=296						

TAP 30 04:56:40.5, 23°.91N×121°.66E, h44km, ML2.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.05**	**268**	*e*P	Pn	04 56 47.9	+0.5
	baz=271						
ENLB				*e*S	Sn	04 56 53.8	+1.6
	baz=271						
HWA	**Hwalien**	**0.09**	**326**	*e*P	Pn	04 56 47.8	+0.3
	baz=329						
TWD	**Chiawan**	**0.18**	**342**	P	Pn	04 56 48.2	+0.1
	baz=333						
TWD				*e*S	Sn	04 56 53.7	+0.3
	baz=333						
ESL	**Shilin**	**0.22**	**246**	P	Pn	04 56 48.2	-0.2
	baz=255						
ESL				*e*S	Sn	04 56 53.8	-0.2
	baz=255						
NACB	**Ninganchiao**	**0.27**	**348**	*e*P	Pn	04 56 48.4	-0.4
	baz=335						
NACB				*e*S	Sn	04 56 54.6	-0.1
	baz=335						
EGFH	**Guangfu**	**0.32**	**222**	*e*P	Pn	04 56 49.0	-0.2
	baz=231						
EGFH				S	Sn	04 56 55.1	-0.2
	baz=231						
ETLH	**Xiulin Townshi**	**0.34**	**332**	P	Pn	04 56 49.2	-0.4
	baz=323						
ETLH				*e*S	Sn	04 56 55.4	-0.7
	baz=323						
WHF	**Hehuan Shan**	**0.43**	**304**	*e*P	Pn	04 56 51.0	0.0
	baz=300						
WHF				*e*S	Sn	04 56 58.5	+0.1
	baz=300						
OWD	**Renai**	**0.44**	**276**	P	Pn	04 56 50.8	0.0
	baz=277						
OWD				*e*S	Sn	04 56 58.2	0.0
	baz=277						
HGSD	**Ruisui**	**0.46**	**208**	*e*P	Pn	04 56 51.0	+0.1
	baz=221						
HGSD				*e*S	Sn	04 56 59.7	+1.3
	baz=221						
CHGB	**Renai**	**0.47**	**289**	P	Pn	04 56 51.4	+0.2
	baz=292						
CHGB				*e*S	Sn	04 56 58.8	-0.1
	baz=292						
VWDT	**VWDT**	**0.50**	**252**	*e*P	Pn	04 56 51.3	-0.1
	baz=247						
VWDT				*e*S	Sn	04 56 58.9	-0.1
	baz=247						
EHY	**Hungye**	**0.50**	**218**	*e*P	Pn	04 56 51.0	-0.5
	baz=217						
EHY				*e*S	Sn	04 56 59.0	-0.2
	baz=217						
ENA	**Nanau**	**0.53**	**8**	*e*P	Pn	04 56 52.1	+0.3
	baz=16						
ENA				*e*S	Sn	04 57 00.6	+0.8
	baz=16						
TDCB	**Techi**	**0.57**	**307**	*e*P	Pn	04 56 52.8	+0.3
	baz=307						
TDCB				*e*S	Sn	04 57 01.1	0.0
	baz=307						
NNSB	**Datong**	**0.58**	**334**	*e*P	Pn	04 56 52.6	0.0
	baz=333						
NNSB				*e*S	Sn	04 57 01.0	-0.1
	baz=333						
NNS	**Nan Shan**	**0.59**	**334**	*e*P	Pn	04 56 52.9	+0.1
	baz=333						
NNS				*e*S	Sn	04 57 01.7	+0.2
	baz=333						
YULB	**Yu-li**	**0.61**	**213**	*e*P	Pn	04 56 51.8	-1.0
	baz=221						
YULB				*e*S	Sn	04 57 00.8	-0.8
	baz=221						
TWF1	**Yuli**	**0.64**	**211**	*e*P	Pn	04 56 52.8	-0.5
	baz=220						
TWF1				*e*S	Sn	04 57 01.9	-0.6
	baz=220						
SSLB	**Suanglung**	**0.65**	**260**	*e*P	Pn	04 56 53.9	+0.4
	baz=263						
SSLB				*e*S	Sn	04 57 02.5	-0.3
	baz=263						
SMLT	**Sun Moon Lake**	**0.69**	**268**	*e*P	Pn	04 56 54.2	+0.1
	baz=271						
SMLT				*e*S	Sn	04 57 04.4	+0.6
	baz=271						
NDT	**Datong Townshi**	**0.71**	**349**	S	Sn	04 57 04.3	+0.3
	baz=340						
TWC	**Suao**	**0.72**	**14**	P	Pn	04 56 55.0	+0.6
	baz=20						
TWC				*e*S	Sn	04 57 05.0	+0.7
	baz=20						
TYC	**Yuchr**	**0.73**	**270**	P	Pn	04 56 54.5	+0.1
	baz=273						
TYC				S	Sn	04 57 06.0	+1.5
	baz=273						
ENTT	**Nioudou**	**0.74**	**354**	*e*P	Pn	04 56 54.7	+0.1
	baz=352						
ENTT				*e*S	Sn	04 57 04.3	-0.4
	baz=352						
WHP	**Taichung City**	**0.75**	**300**	*e*P	Pn	04 56 55.8	+1.0
	baz=301						
WHP				*e*S	Sn	04 57 06.0	+0.9
	baz=301						
WHYT	**Xinyi Township**	**0.77**	**254**	*e*P	Pn	04 56 55.7	+0.7
	baz=254						
WHYT				*e*S	Sn	04 57 06.4	+1.0
	baz=254						
YUS	**Yu-Shan**	**0.77**	**238**	*e*P	Pn	04 56 55.3	-0.1
	baz=233						
YUS				*e*S	Sn	04 57 06.3	+0.1
	baz=233						
YHNB	**Yeheng**	**0.80**	**341**	P	Pn	04 56 55.6	0.0
	baz=339						
YHNB				*e*S	Sn	04 57 06.0	-0.4
	baz=339						
NSK	**Sanguang**	**0.81**	**340**	*e*S	Pn	04 56 56.2	+0.5
	baz=291						
NSK	**Sanguang**	**0.81**	**340**	P	Pn	04 56 56.2	+0.5
	baz=339						
NSK				*e*S	Sn	04 57 07.1	+0.4
	baz=339						
CHKT	**Chengkung**	**0.85**	**199**	*e*P	Pn	04 56 56.7	+0.7
	baz=191						
CHKT				*e*S	Sn	04 57 09.2	+1.9
	baz=191						
NWLT	**Wulai**	**0.88**	**351**	*e*S	Sn	04 57 08.2	0.0
	baz=343						
WNT	**Mingjian**	**0.89**	**268**	*e*S	Sn	04 57 11.0	+2.6
	baz=269						
ELDTW	**Lidau**	**0.92**	**220**	*e*P	Pn	04 56 57.1	-0.1
	baz=217						
ELDTW				*e*S	Sn	04 57 09.2	-0.1
	baz=217						
NSTT	**Nanjuang**	**0.94**	**320**	P	Pn	04 56 58.8	+1.5
	baz=306						
NSTT				S	Sn	04 57 11.3	+1.7
	baz=306						
LIOB	**Emei**	**0.94**	**322**	*e*P	Pn	04 56 58.1	+0.8
	baz=307						
LIOB				*e*S	Sn	04 57 11.7	+2.0
	baz=307						
WDLH	**Douliu**	**1.05**	**258**	*e*S	Sn	04 57 15.9	+3.7
	baz=260						
TIPB	**Shuangxi**	**1.07**	**8**	*e*P	Pn	04 57 00.5	+1.3
	baz=356						
TIPB				*e*S	Sn	04 57 14.5	+1.5
	baz=356						
TPUB	**Ta-pu**	**1.12**	**238**	*e*P	Pn	04 57 00.4	+0.7
	baz=238						
TPUB				*e*S	Sn	04 57 15.4	+1.4
	baz=238						
WTP	**Ta-pu**	**1.16**	**236**	*e*P	Pn	04 57 01.6	+1.3
	baz=238						
WTP				*e*S	Sn	04 57 17.4	+2.3
	baz=238						
TWGBT	**Beinan**	**1.21**	**206**	*e*P	Pn	04 57 00.2	-0.7
	baz=199						
TWGBT				*e*S	Sn	04 57 15.9	-0.2
	baz=199						
TWG	**Pinlang**	**1.21**	**207**	*e*P	Pn	04 57 00.7	-0.2
	baz=199						
TWG				*e*S	Sn	04 57 15.9	-0.2
	baz=199						
TWK	**Hsinying**	**1.25**	**240**	*e*S	Sn	04 57 20.1	+2.9
	baz=242						
CHN1	**Nanshi**	**1.26**	**236**	*e*S	Sn	04 57 19.9	+2.5
	baz=238						
SGST	**Jiashian**	**1.28**	**230**	*e*S	Sn	04 57 21.1	+3.1
	baz=233						
YOJ	**Yonaguni jima**	**1.35**	**66**	*e*S	Sn	04 57 19.8	0.0
	baz=67						
MASBT	**Mashibuluo**	**1.59**	**216**	*e*P	Pn	04 57 07.1	+0.8
	baz=220						
MASBT				*e*S	Sn	04 57 27.0	+1.3
	baz=220						
PHUB	**P'eng-hu**	**1.95**	**259**	*e*S	Sn	04 57 34.2	-0.2
	baz=261						
VCHM	**Qimei**	**2.16**	**252**	*e*S	Sn	04 57 40.5	+0.9
	baz=255						

UCR 30 05:05:34.5±2.3, 9°.31N×82°.76W, h3km±7km, MD4.3, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK0	**Durika**	**0.48**	**265**	⇓*e*P	Pg	05 05 43.8	0.0
DRK0				*e*S	Sg	05 05 51.1	+1.0
BRU2	**Volcan**	**0.51**	**173**	*i* P	Pg	05 05 45.0	+0.6
BRU2				*e*S	Sb	05 05 53.5	-0.7
EDSV	**San Vito**	**0.53**	**204**	*e*P	Pb	05 05 45.9	-0.6
EDBA	**Buenos Aires**	**0.53**	**254**	*e*P	Pb	05 05 45.6	-0.9
EDPN	**Palmar Norte**	**0.77**	**244**	*e*P	Pb	05 05 50.2	-0.3
DVD	**David**	**0.92**	**161**	⇑*i*P	Pg	05 05 52.0	-0.1
DVD				*e*S	Sb	05 06 06.4	+0.8
PTJ1	**Puerto Jimnez**	**0.94**	**215**	*e*P	Pg	05 05 51.2	-1.3
EDDO	**Dominical**	**1.09**	**267**	*e*P	Pg	05 05 55.2	-0.3
HDC	**Heredia**	**1.50**	**297**	*e*P	Pn	05 06 01.2	-1.3
HDC				*e*S	Sn	05 06 20.3	-2.4
CASO	**Castillo**	**2.25**	**300**	*i* P	Pn	05 06 13.1	+0.4
CASO				*i* S	Sn	05 06 42.3	+1.4
ARE1	**Arenal 1**	**2.25**	**301**	*e*P	Pn	05 06 13.0	+0.4
JTS	**Las Juntas de**	**2.37**	**295**	*e*P	Pn	05 06 14.2	-0.1
ACAL	**Aguas Claras**	**2.60**	**301**	*i* P	Pn	05 06 17.9	+0.3
LIM1	**Limonal**	**2.82**	**300**	*i* P	Pn	05 06 21.7	+1.2
AZU	**Azuero**	**2.88**	**121**	*e*P	Pn	05 06 21.7	+0.4
AZU				*e*P	Pb	05 06 22.2	-4.4
AZU				*e*S	Sn	05 06 55.8	-0.7
BCIP	**Isla Barro Col**	**2.89**	**93**	*e*P	Pn	05 06 18.8	-2.6

*ANF **30** 05:34:57.8±0.2, 45°.76N×76°.35W, h13km±1km, ML3.5/31, Error ellipse: s-maj=2.2km s-min=1.4km az=45.0*
*ISCJB **30** 05:34:58.2±0.3, 45°.75N±0°.02×76°.36W±0°.02, h16km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=27.2*
*OTT **30** 05:34:58.7±0.0, 45°.75N×76°.35W, h13km, MN3.7/12*
OTT 19km northeast from Shawville, Qc. Aftershock. Felt Western Quebec Seismic Zone. Felt at Shawville, La Peche, Davidson, Qc.
*NEIC **30** 05:34:58.0±0.0, 45°.75N×76°.35W, h13km, ML3.5(LDO), MN3.7(OTT), After OTT.*
NEIC Felt at Renfrew. Also felt at Shawville, Quebec.
*LDO **30** 05:35:00.1±0.0, 45°.77N×76°.37W, h13km*

ISC 30 05:34:58.2±0.8, 45°.76N±0°.02×76°.36W±0°.02, h17km±4km, n98, σ0°.94/130, 2C-11D, Southern Ontario

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDSQ	**Shawville**	**0.04**	**168**	⇑PG	**Pg**	**05 35 01.1**	**-0.1**
LDSQ				SG	**Sg**	**05 35 02.5**	**-0.7**
LDSQ				Trac		05 35 02.7	
	comp=Z,1μm,0.0s						
F55A	**Otter Lake**	**0.08**	**5**	*e*Pg	**Pg**	**05 35 01.5**	**0.0**
F55A	**Otter Lake**	**0.08**	**5**	P	**Pg**	**05 35 01.5**	**0.0**
	baz=180,SNR=1000						
F55A				S	**Sg**	**05 35 03.2**	**-0.4**
	baz=180						
F55A	**Otter Lake**	**0.08**	**5**	⇑PG	**Pg**	**05 35 01.5**	**0.0**
F55A				SG	**Sg**	**05 35 03.3**	**-0.4**
F55A				Trac		05 35 05.3	
	comp=Z,18μm,0.2s						
G55A	**Calabogie**	**0.56**	**207**	*e*Pg	**Pg**	**05 35 08.8**	**-0.5**
G55A	**Calabogie**	**0.56**	**207**	P	**Pg**	**05 35 08.9**	**-0.5**
	baz=27,SNR=227						
G55A				S	**Sg**	**05 35 16.4**	**-0.5**
	baz=27						
OTT	**Ottawa**	**0.58**	**128**	⇓PG	**Pg**	**05 35 09.2**	**-0.4**
OTT				SG	**Sg**	**05 35 16.9**	**-0.4**
OTT				Trac		05 35 17.5	
	comp=Z,458nm,0.1s						
GAC	**Glen Almond**	**0.62**	**95**	⇓PG	**Pg**	**05 35 09.9**	**-0.5**
GAC				SG	**Sg**	**05 35 18.1**	**-0.6**
GAC				Trac		05 35 18.4	
	comp=Z,1μm,0.1s						
PEMO	**Pembroke**	**0.63**	**263**	P	**Pg**	**05 35 10.3**	**-0.2**
	baz=83,SNR=661						
PEMO	**Pembroke**	**0.63**	**263**	⇓PG	**Pg**	**05 35 10.3**	**-0.2**
PEMO				SG	**Sg**	**05 35 18.6**	**-0.3**
PEMO				Trac		05 35 21.1	
	comp=Z,165nm,0.0s						
ORHO	**Orleans, Herit**	**0.65**	**117**	P	**Pg**	**05 35 10.3**	**-0.6**
	baz=297,SNR=7.0						
ORHO				S	**Sg**	**05 35 19.1**	**-0.5**
	baz=297						
ORHO	**Orleans, Herit**	**0.65**	**117**	⇓PG	**Pg**	**05 35 10.4**	**-0.5**
ORHO				SG	**Sg**	**05 35 19.4**	**-0.2**
ORHO				Trac		05 35 22.7	
	comp=Z,396nm,0.0s						
ORIO	**Orleans, Innes**	**0.67**	**117**	P	**Pg**	**05 35 10.7**	**-0.6**
	baz=297,SNR=149						
ORIO				S	**Sg**	**05 35 19.3**	**-0.9**
	baz=297						
ORIO	**Orleans, Innes**	**0.67**	**117**	⇓PG	**Pg**	**05 35 10.7**	**-0.6**
ORIO				SG	**Sg**	**05 35 19.4**	**-0.8**
ORIO				Trac		05 35 19.8	
	comp=Z,122nm,0.1s						
CRLO	**Chalk River**	**0.77**	**292**	⇓PG	**Pg**	**05 35 12.8**	**-0.4**
CRLO				SG	**Sg**	**05 35 22.9**	**-0.4**
CRLO				Trac		05 35 23.0	
	comp=Z,580nm,0.2s						
PLVO	**Plevna**	**0.88**	**215**	*e*Pg	**Pg**	**05 35 14.5**	**-0.7**
PLVO				*e*Sg	**Sg**	**05 35 25.8**	**-0.9**
PLVO	**Plevna**	**0.88**	**215**	P	**Pg**	**05 35 14.3**	**-0.9**
	baz=36,SNR=410						
PLVO	**Plevna**	**0.88**	**215**	⇓PG	**Pg**	**05 35 14.3**	**-0.9**
PLVO				SG	**Sg**	**05 35 25.6**	**-1.2**
PLVO				Trac		05 35 30.4	
	comp=Z,324nm,0.1s						
E54A	**Lac Daplat, Po**	**0.89**	**320**	P	**Pg**	**05 35 14.8**	**-0.7**
	baz=140						
E54A				S	**Sg**	**05 35 26.2**	**-1.0**
	baz=140						
ALFO	**Alfred**	**1.04**	**97**	P	**Pg**	**05 35 17.2**	**-1.2**
	baz=277,SNR=426						
ALFO				S	**Sg**	**05 35 30.6**	**-1.4**
	baz=277						
ALFO	**Alfred**	**1.04**	**97**	⇓PG	**Pg**	**05 35 17.2**	**-1.2**
ALFO				SG	**Sg**	**05 35 30.9**	**-1.1**
ALFO				Trac		05 35 34.8	
	comp=Z,318nm,0.1s						
E53A	**Dumoine, Ponti**	**1.10**	**305**	P	**Pg**	**05 35 18.4**	**-1.0**
	baz=124						
E53A				S	**Sg**	**05 35 32.5**	**-1.3**
	baz=124						
H56A	**Elgin**	**1.17**	**176**	P	**Pg**	**05 35 19.6**	**-1.1**
	baz=357,SNR=119						
H56A				S	**Sg**	**05 35 34.7**	**-1.2**
	baz=357						
ALGO	**Algonquin Park**	**1.20**	**280**	P	**Pg**	**05 35 20.0**	**-1.3**
	baz=99						
ALGO				S	**Sg**	**05 35 36.0**	**-0.9**
	baz=99						
ALGO	**Algonquin Park**	**1.20**	**280**	⇓PG	**Pg**	**05 35 20.0**	**-1.3**
ALGO				SG	**Sg**	**05 35 36.2**	**-0.7**
BANO	**Bancroft**	**1.33**	**237**	P	**Pn**	**05 35 22.3**	**+0.3**
	baz=56,SNR=227						
BANO	**Bancroft**	**1.33**	**237**	⇓PG	**Pn**	**05 35 22.3**	**+0.3**
BANO				SG	**Sn**	**05 35 40.9**	**+1.6**
BANO				Trac		05 35 42.8	
	comp=Z,325nm,0.1s						
H55A	**Tweed**	**1.34**	**206**	P	**Pn**	**05 35 22.2**	**+0.1**
	baz=26,SNR=201						
H55A				S	**Sb**	**05 35 39.3**	**-0.4**
	baz=26						
D54A	**Lac Fusel, La**	**1.41**	**352**	P	**Pn**	**05 35 23.8**	**+0.7**
	baz=171,SNR=124						
D54A				S	**Sb**	**05 35 42.1**	**+0.3**
	baz=171						
DELO	**Deloro Mine**	**1.53**	**216**	P	**Pn**	**05 35 25.4**	**+0.8**

baz=36,SNR=59
DELO Deloro Mine 1.53 216 ⇓PG **Pn 05 35 25.4 +0.8**
DELO SG **Sn 05 35 45.7 +1.6**
DELO Trac 05 35 48.3
comp=Z,130nm,0.1s
KGNO Kingston 1.53 184 PN **Pn 05 35 25.3 +0.5**
KGNO SG **Sn 05 35 45.7 +1.4**
KGNO Trac 05 35 47.6
comp=Z,115nm,0.1s
D53A Lac Vacive, Po 1.61 325 *e*Pn **Pb 05 35 27.3 -0.3**
D53A *e*Sn **Sb 05 35 48.1 +0.4**
D53A Lac Vacive, Po 1.61 325 P **Pn 05 35 27.0 +1.0**
baz=145,SNR=145
D53A S **Sn 05 35 47.9 +1.5**
baz=145
E52A Mattawa 1.69 289 P **Pn 05 35 27.8 +0.9**
baz=108,SNR=59
LONY Lake Ozonia 1.69 131 *e*Pn **Pn 05 35 28.0 +1.0**
LONY *e*Sn **Sn 05 35 50.1 +1.7**
LONY Lake Ozonia 1.69 131 P **Pn 05 35 27.4 +0.4**
baz=313,SNR=72
LONY S **Sn 05 35 49.2 +0.9**
baz=313
G53A Haliburton 1.71 249 P **Pn 05 35 28.3 +1.0**
baz=68,SNR=160
G53A S **Sn 05 35 50.2 +1.4**
baz=68
I55A Frankford 1.80 212 P **Pn 05 35 29.2 +0.8**
baz=31,SNR=59
D52A ZEK Kipawa Sen 1.87 311 P **Pn 05 35 30.8 +1.4**
baz=130,SNR=110
PECO Prince Edward 1.88 194 P **Pn 05 35 30.5 +1.0**
baz=14,SNR=18
PECO Prince Edward 1.88 194 PN **Pn 05 35 30.5 +1.0**
MNTQ Montreal, Queb 1.94 97 PN **Pn 05 35 31.9 +1.6**
MNTQ LG Lg 05 35 57.9
MNTQ Trac 05 36 01.2
comp=Z,50nm,0.1s
F52A Sundridge 2.07 272 P **Pn 05 35 33.4 +1.1**
baz=90,SNR=42
EEO Eldee 2.08 296 PN **Pn 05 35 33.6 +1.3**
EEO LG Lg 05 36 02.7
EEO Trac 05 36 04.0
comp=Z,136nm,0.2s
BUKO Buck Lake 2.16 263 P **Pn 05 35 34.1 +0.8**
baz=81,SNR=16
BUKO Buck Lake 2.16 263 PN **Pn 05 35 34.2 +0.8**
FRNY Flat Rock 2.16 114 *e*Pn **Pn 05 35 34.4 +0.9**
FRNY Flat Rock 2.16 114 PN **Pn 05 35 34.2 +0.8**
FRNY Trac 05 36 08.2
comp=Z,106nm,0.2s
SADO Sadowa 2.20 244 *e*Pn **Pn 05 35 34.9 +1.0**
SADO Sadowa 2.20 244 PN **Pn 05 35 34.6 +0.7**
SADO LG Lg 05 36 05.4
SADO Trac 05 36 06.8
comp=Z,93nm,0.1s
E51A G1948 Merrick 2.31 291 P **Pn 05 35 36.3 +0.8**
baz=109,SNR=41
WLVO Wesleyville 2.34 219 P **Pn 05 35 36.6 +0.8**
baz=38
WLVO Wesleyville 2.34 219 PN **Pn 05 35 36.6 +0.8**
WLVO LG Lg 05 36 09.8
STUQ Sainte-Ursule 2.34 75 PN **Pb 05 35 38.3 -1.6**
NCB Newcomb 2.34 139 *e*Pn **Pn 05 35 36.8 +0.8**
NCB *e*Sn **Sn 05 36 06.8 +2.4**
NCB Newcomb 2.34 139 PN **Pn 05 35 36.7 +0.8**
VLDQ Val d'Or 2.47 343 *e*Pn **Pb 05 35 40.8 -1.4**
VLDQ Val d'Or 2.47 343 PN **Pb 05 35 40.8 -1.4**
VLDQ Trac 05 36 20.4
comp=Z,33nm,0.2s
F51A Arnstein 2.49 275 P **Pn 05 35 39.4 +1.4**
baz=93,SNR=61
PKRO Pickering 2.63 228 Pb **Pb 05 35 44.5 -0.4**
baz=46
J55A Hilton 2.70 203 *e*Pn **Pn 05 35 41.9 +1.1**
J55A Hilton 2.70 203 P **Pn 05 35 41.5 +0.7**
baz=22,SNR=8.8
KLBO Killbear Provi 2.74 263 P **Pn 05 35 41.8 +0.5**
baz=80,SNR=18
MOQ Mont Orford 2.92 97 *e*Pn **Pn 05 35 45.1 +1.1**
VT1 Waterbury 2.93 118 *e*Pn **Pn 05 35 45.3 +1.3**
J54A Appleton 2.97 214 *e*Pn **Pb 05 35 50.3 -0.4**
MEDO Medina 2.99 211 *e*Pn **Pn 05 35 45.9 +1.0**
MEDO Medina 2.99 211 P **Pn 05 35 45.5 +0.6**
baz=29,SNR=6.0
ACCN Adirondack Com 3.05 140 *e*Pn **Pn 05 35 47.0 +1.3**
E50A Wahnapitae 3.12 284 P **Pn 05 35 47.5 +0.9**
baz=101,SNR=7.0
MMNY Mt. Morris Dam 3.22 201 *e*Pn **Pn 05 35 49.6 +1.6**
K55A Perry 3.27 203 P **Pn 05 35 49.4 +0.8**
baz=22
LBNH Lisbon 3.49 114 *e*Pn **Pn 05 35 53.2 +1.4**
BINY Binghamton 3.57 176 *e*Pn **Pn 05 35 52.5 -0.3**
BINY Binghamton 3.57 176 P **Pn 05 35 53.9 +1.1**
baz=356,SNR=7.1
TOBO Tobermory, Bru 3.67 264 P **Pn 05 35 54.9 +0.8**
baz=80,SNR=16
D49A Beulah Townshi 3.77 296 P **Pn 05 35 55.7 +0.2**
baz=112,SNR=14
I51A Listowel 3.85 241 P **Pn 05 35 57.2 +0.5**
baz=58,SNR=12
F49A Sandfield 3.98 272 P **Pn 05 35 59.2 +0.8**
baz=88,SNR=13
D48A Paudash Townsh 4.02 293 P **Pn 05 35 59.3 +0.3**
baz=109
FFD Franklin Falls 4.07 123 *e*Pn **Pn 05 36 00.2 +0.7**
MATQ Matagami 4.10 348 P **Pn 05 36 00.3 +0.2**
baz=167
E48A Lockeyer 4.10 282 P **Pn 05 36 00.9 +0.8**
baz=98,SNR=9.6
KSPA Keystone Colle 4.22 174 *e*Pn **Pn 05 36 02.9 +1.1**
F48A Evansville 4.38 273 P **Pn 05 36 04.7 +0.8**
baz=89,SNR=14
KSCT Kent School, K 4.54 152 *e*Pn **Pn 05 36 07.4 +1.4**
L53A Girard 4.73 218 P **Pn 05 36 09.2 +0.4**
baz=35
K51A Iona Station 4.78 232 P **Pn 05 36 09.3 -0.1**
baz=49
ODNJ Ogdensburg 4.84 164 *e*Pn **Pn 05 36 11.3 +1.0**
N59A State Game Lan 4.86 175 *e*Pn **Pn 05 36 11.8 +1.2**
N59A State Game Lan 4.86 175 P **Pn 05 36 11.5 +0.9**
baz=355,SNR=7.7
M54A Oil Creek Stat 4.88 211 *e*Pn **Pn 05 36 12.0 +1.2**
I49A Point Hope 4.94 251 *e*Pn **Pn 05 36 12.8 +1.2**
I49A Point Hope 4.94 251 P **Pn 05 36 12.2 +0.5**
baz=66
PKME Peaks-Kenny Pk 4.99 93 *e*Pn **Pn 05 36 13.3 +1.0**
H48A Harrisville 5.03 260 *e*Pn **Pn 05 36 13.1 +0.2**
N56A West Decatur 5.04 197 P **Pn 05 36 13.3 +0.3**
baz=16

ISCJB ***30*** *05:59:32.9±0.9, 10°.55N±0°.05×126°.63E±0°.08, h20km, mb3.7/5, Error ellipse: s-maj=11.6km s-min=7.8km az=176.1*
IDC ***30*** *05:59:32.5±3.5, 10°.43N×126°.31E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/39, mbtmp3.7/5, Error ellipse: s-maj=341.7km s-min=23.1km az=67.0*
MAN ***30*** *05:59:49.5, 9°.64N×125°.46E, h1km*
ISC 30 05:59:34.2±1.3, 10°.60N±0°.07×126°.79E±0°.09, h20km, n10, σ2°.85/15, mb3.6/5, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.51 238**	⇓	*i*P	**Pb**	06 00 04.8	**+3.1**
SCPH				*i* S	**Sb**	06 00 23.1	**+2.6**
PLP	**Palo**	**1.87 288**	⇓	*e*P	**Pn**	06 00 03.4	**-1.7**
PLP				*e*S	**Sn**	06 00 23.4	**-4.7**
MSLP	**Maasin**	**1.95 257**		*e*P	**Pn**	06 00 03.9	**-2.3**
MSLP				*e*S	**Sb**	06 00 35.9	**+2.8**
BUTP	**Butuan**	**1.98 216**		*e*P	**Pn**	06 00 02.8	**-3.9**
BUTP				*e*S	**Sn**	06 00 27.3	**-3.7**
BUKP	**Musuan**	**3.19 212**		*e*P	**Pn**	06 00 22.0	**-1.4**
BUKP				*e*S	**Sn**	06 00 58.5	**-2.4**
WRA	**Warramunga Arr**	**31.24 166**		P	**P**	06 05 54.9	**+2.2**
	0.9nm,0.9s,baz=349,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**34.76 169**		P	**P**	06 06 23.0	**-0.4**
	0.3nm,0.7s,baz=342,slow=7.1,SNR=1.8						
MKAR	**Makanchi Array**	**52.08 322**		P	**P**	06 08 43.2	**+0.3**
	0.3nm,0.4s,baz=116,slow=8.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**54.59 331**		P	**P**	06 09 01.9	**+0.7**
	0.7nm,0.3s,baz=104,slow=6.1,SNR=1.8						
KURBB	**Kurchatov Arra**	**56.10 325**		P	**P**	06 09 12.6	**+0.5**
	0.5nm,0.4s,baz=126,slow=6.9,SNR=5.2						

IDC 30 06:14:58.2±3.4, 30°.19S×138°.59E, h0km, mb1 3.2/3, mb1mx3.1/22, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=90.1km s-min=15.0km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.08 124**		Pn	Pn	06 15 49.4	+1.2
	0.3nm,0.3s,baz=302,slow=13,SNR=8.1						
STKA				Sn	Sn	06 16 26.5	+0.9
	1.2nm,0.3s,baz=39,slow=14,SNR=5.8						
STKA				Lg	Lg	06 16 34.7	
	1.6nm,0.3s,baz=18,slow=20,SNR=4.9						
ASAR	**Alice Springs**	**7.73 326**		Pn	Pn	06 16 51.6	-0.5
	0.1nm,0.3s,baz=151,slow=12,SNR=5.2						
ASAR				Sn	Sn	06 18 19.8	-0.7
	0.1nm,0.3s,baz=153,slow=21,SNR=4.7						
ASAR				Lg	Lg	06 19 04.1	
	baz=147,slow=28,SNR=3.4						
WRA	**Warramunga Arr**	**10.91 338**		Pn	Pn	06 17 36.2	+0.5
	0.1nm,0.3s,baz=154,slow=12,SNR=4.3						
WRA				Sn	Sn	06 19 34.3	-4.3
	0.0nm,0.3s,baz=142,slow=23,SNR=2.6						

ISCJB ***30*** *06:39:52.8±1.2, 6°.1S±0°.2×151°.2E±0°.2, h43km, mb3.8/6, Error ellipse: s-maj=41.1km s-min=12.5km az=41.6*
IDC ***30*** *06:39:56.1±5.8, 6°.15S×151°.21E, h62km±49km, mb3.6/6, mb1 3.9/7, mb1mx3.5/33, mbtmp4.0/7, ML2.0/1, Error ellipse: s-maj=54.0km s-min=28.8km az=111.0*
ISC 30 06:39:54.1±1.4, 6°.1S±0°.2×151°.2E±0°.3, h43km, n8, σ1°.11/9, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21 231**		P	**Pn**	**06 41 11.3**	**+1.7**
	4.0nm,0.3s,baz=350,slow=6.1,SNR=4.2						
PMG				S	**Sn**	**06 42 07.2**	**-1.2**
	4.4nm,0.3s,baz=78,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**21.43 228**		P	**P**	**06 44 37.8**	**-0.8**
	4.1nm,0.8s,baz=55,slow=9.7,SNR=24						
ASAR	**Alice Springs**	**24.15 222**		P	**P**	**06 45 06.0**	**-0.3**
	3.5nm,0.8s,baz=55,slow=8.9,SNR=30						
STKA	**Stephens Creek**	**27.19 198**		P	**P**	**06 45 34.1**	**+0.4**
	0.7nm,0.3s,baz=5.2,slow=14,SNR=2.7						
FITZ	**Fitzroy Crossi**	**27.68 242**		P	**P**	**06 45 37.6**	**-0.7**
	2.5nm,0.8s,baz=69,slow=10.0,SNR=5.0						
MKAR	**Makanchi Array**	**80.29 319**		P	**P**	**06 52 01.3**	**+0.7**
	0.3nm,0.8s,baz=95,slow=6.1,SNR=2.5						
ILAR	**Eielson Array**	**83.94 22**		P	**P**	**06 52 18.9**	**-0.4**
	0.8nm,0.7s,baz=250,slow=5.6,SNR=9.0						
TORD	**Torodi Ar. Bea**	**149.19 285**		PKPbc	**PKPbc**	**06 59 38.2**	**-0.9**
	0.4nm,0.4s,baz=60,slow=2.2,SNR=8.4						

IDC 30 06:42:55.3±11.0, 4°.91S×145°.19E, h138km±116km, mb3.3/3, mb1 3.7/5, mb1mx3.3/34, mbtmp4.0/5, ML1.8/1, Error ellipse: s-maj=137.2km s-min=28.0km az=140.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.88 156**		P	Pn	06 44 07.0	+0.2
	2.9nm,0.3s,baz=333,slow=6.8,SNR=3.7						
PMG				S	Sn	06 44 59.2	-3.4
	2.0nm,0.3s,baz=308,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**18.30 214**		P	P	06 46 58.2	-0.5
	2.2nm,0.3s,baz=31,slow=9.8,SNR=6.7						
ASAR	**Alice Springs**	**21.59 209**		P	P	06 47 34.1	-0.2
	0.6nm,0.6s,baz=38,slow=9.6,SNR=5.2						
FITZ	**Fitzroy Crossi**	**23.17 234**		P	P	06 47 50.2	+0.4
	7.0nm,0.6s,baz=51,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**85.20 23**		P	P	06 55 15.7	-0.2
	0.3nm,0.7s,baz=246,slow=6.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**143.07 285**		PKP	PKPdf	07 02 13.6	-0.3
	0.3nm,0.6s,baz=86,slow=2.5,SNR=2.9						

IDC 30 06:45:16.9±4.1, 14°.63S×166°.87E, h0km, mb4.2/4, mb1 4.4/5, mb1mx3.7/38, mbtmp4.2/5, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/17, Error ellipse: s-maj=80.6km s-min=41.0km az=78.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.41 183**		Pn	Pn	06 47 06.2	-0.3
	2.3nm,0.3s,baz=20,slow=12,SNR=16						
PMG	**Port Moresby**	**19.96 283**		LR	LR	06 55 04.6	
	comp=Z,56nm,20.3s,baz=266,slow=29						
WRA	**Warramunga Arr**	**31.48 256**		P	P	06 51 41.2	+0.5
	6.6nm,0.3s,baz=84,slow=9.3,SNR=5.4						
ASAR	**Alice Springs**	**32.35 249**		P	P	06 51 47.5	-0.8
	0.9nm,0.7s,baz=77,slow=9.5,SNR=14						
FITZ	**Fitzroy Crossi**	**39.66 259**		P	P	06 52 51.1	+0.2
	0.8nm,0.4s,baz=82,slow=8.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**74.56 294**		P	P	06 56 58.2	0.0
	0.8nm,0.3s,baz=104,slow=3.8,SNR=3.1						

ISCJB ***30*** *06:45:58.7±0.6, 17°.9S±0°.1×178°.3W±0°.2, h450km, mb3.7/11, Error ellipse: s-maj=22.0km s-min=14.5km az=38.1*
IDC ***30*** *06:45:58.4±5.5, 17°.86S×178°.26W, h432km±60km, mb3.4/12, mb1 3.7/12, mb1mx3.3/37, mbtmp4.2/12, Error ellipse: s-maj=21.9km s-min=19.0km az=177.0*
ISC 30 06:45:59.5±0.7, 17°.8S±0°.1×178°.3W±0°.2, h450km, n29, σ0°.91/30, mb3.7/11, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.74 190**		P	**P**	**06 50 05.8**	**-1.7**
	5.0nm,0.6s,baz=357,slow=3.4,SNR=5.5						
WRA	**Warramunga Arr**	**44.73 259**		P	**P**	**06 53 32.3**	**+0.7**
	6.6nm,0.3s,baz=93,slow=7.8,SNR=2.2						
ASAR	**Alice Springs**	**44.89 254**		P	**P**	**06 53 33.7**	**+0.9**
	5.1nm,0.8s,baz=88,slow=8.2,SNR=32						
ASAR				PcP	**PcP**	**06 55 04.9**	**-0.4**
	0.6nm,0.8s,baz=97,slow=4.2,SNR=3.6						
FITZ	**Fitzroy Crossi**	**53.12 260**		P	**P**	**06 54 35.1**	**+0.9**
	1.7nm,0.8s,baz=90,slow=6.1,SNR=3.1						
VNDA	**Vanda**	**60.52 185**		P	**P**	**06 55 25.3**	**+1.0**
	0.4nm,0.8s,baz=354,slow=9.2,SNR=3.6						
MJAR	**Matsushiro Arr**	**67.90 323**		P	**P**	**06 56 12.7**	**+0.6**
	1.0nm,0.3s,baz=161,slow=5.4,SNR=5.0						
NVAR	**Mina Array Bea**	**79.31 44**		P	**P**	**06 57 18.7**	**+1.0**
	1.7nm,0.7s,baz=224,slow=9.0,SNR=13						
SEY	**Seymchan**	**83.73 347**		P	**P**	**06 57 39.8**	**+0.3**
	1.6nm,0.6s,baz=158,slow=8.0,SNR=6.4						
ILAR	**Eielson Array**	**85.80 13**		P	**P**	**06 57 49.0**	**-0.7**
	0.6nm,0.4s,baz=220,slow=5.5,SNR=10						
TXAR	**Lajitas Array**	**85.88 58**		P	**P**	**06 57 52.8**	**+1.7**
	1.3nm,0.8s,baz=216,slow=5.5,SNR=13						
PDAR	**Pinedale Array**	**87.24 43**		P	**P**	**06 57 57.8**	**+0.4**
	0.4nm,0.5s,baz=234,slow=3.2,SNR=5.4						
YKA	**Yellowknife Ar**	**94.23 25**		P	**P**	**06 58 28.1**	**-0.8**
	0.5nm,0.8s,baz=245,slow=4.5,SNR=9.2						
ARCES	**ARCESS Array B**	**126.26 350**		PKP	**PKiKP**	**07 04 08.9**	**-1.0**
	1.8nm,0.8s,baz=29,slow=2.1,SNR=4.7						
BRTR	**Keskin Array B**	**144.79 315**		PKP	**PKPab**	**07 04 45.0**	**-0.3**
	2.4nm,0.7s,baz=143,slow=5.4,SNR=12						
CLL	**Collm**	**145.41 347**	⇓	*i*PKPbc	**PKPab**	**07 04 46.2**	**-0.9**
	comp=Z,9.0nm,0.8s						
UPC	**Upice**	**145.45 344**		*e*P	**PKPab**	**07 04 46.6**	**-0.7**
DPC	**Dobruska-Polom**	**145.51 343**		*e*P	**PKPab**	**07 04 46.9**	**-0.7**
BRG	**Berggiesshubel**	**145.62 346**		*e*PKP	**PKPbc**	**07 04 46.3**	**-0.5**
	comp=Z,4.6nm,0.7s						
PVCC	**Panska Ves**	**145.79 345**		*e*P	**PKPab**	**07 04 48.3**	**-0.3**
GERES	**GERESS Array B**	**147.57 345**		PKPbc	**PKPbc**	**07 04 52.4**	**+0.1**
	comp=Z,2.8nm,0.5s,baz=22,slow=3.2,SNR=32						
CONA	**Conrad Observa**	**147.82 342**		*i* PKPbc	**PKiKP**	**07 04 53.7**	**-0.8**
	comp=Z,4.6nm,0.6s						
KBA	**Koelnbreinsper**	**149.30 344**		*i* PKPbc	**PKiKP**	**07 04 56.7**	**-1.0**
	comp=Z,3.5nm,0.6s						
WATA	**Walderalm**	**149.48 347**		*i* PKPbc	**PKiKP**	**07 04 56.8**	**-1.2**
	comp=Z,2.8nm,0.6s						
WTTA	**Wattenberg**	**149.53 347**		*i* PKPbc	**PKiKP**	**07 04 57.5**	**-0.7**
	comp=Z,6.4nm,0.6s						
MOTA	**Moosalm**	**149.57 347**		*i* PKPbc	**PKiKP**	**07 04 57.4**	**-0.9**
	comp=Z,2.9nm,0.9s						
MYKA	**Terra Mystica**	**149.63 344**		*i* PKPbc	**PKiKP**	**07 04 57.0**	**-1.3**
	comp=Z,4.8nm,0.8s						
SQTA	**Sankt Quirin**	**149.67 347**		*i* PKPbc	**PKiKP**	**07 04 57.7**	**-0.7**
	comp=Z,4.9nm,0.6s						
ABTA	**Abfaltersbach**	**149.81 345**		*i* PKPbc	**PKiKP**	**07 04 57.5**	**-1.1**
	comp=Z,5.3nm,0.7s						
FETA	**Feichten**	**149.96 348**		*i* PKPbc	**PKiKP**	**07 04 58.6**	**-0.5**
	comp=Z,6.2nm,1.1s						

DRS ***30*** *06:50:56.9±0.0, 43°.04N×45°.49E, h24km, ML2.8/2*
ISCJB ***30*** *06:50:57.1±0.6, 42°.98N±0°.04×46°.00E±0°.04, h82km±6km, Error ellipse: s-maj=8.1km s-min=3.2km az=27.2*
NORS ***30*** *06:50:57.1±0.0, 42°.81N×45°.94E, h73km±2km, MPVA3.5*
ISC 30 06:50:58.1±1.4, 42°.94N±0°.05×45°.97E±0°.04, h75km±9km, n26, σ1°.05/52, 2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.29 334**		*i* Pg	**Pn**	**06 51 10.6**	**+0.8**
GROC				*e*Sg	**Sn**	**06 51 20.9**	**+2.4**
BTLR	**Botlikh**	**0.34 147**		*i* Pg	**Pn**	**06 51 09.8**	**-0.4**
	71nm,0.4s						
BTLR				⇓*e*Sg	**Sn**	**06 51 18.8**	**-0.3**
	343nm,0.2s						
DLMR	**Dylym**	**0.50 75**		*i* Pg	**Pn**	**06 51 10.5**	**-0.9**
DLMR				*e*Sg	**Sn**	**06 51 20.5**	**-0.8**
UNCR	**Uncukul**	**0.65 111**		*e*Pg	**Pn**	**06 51 12.0**	**-0.9**
UNCR				*e*Sg	**Sn**	**06 51 22.5**	**-1.4**
XNZR	**Khunzakh**	**0.67 126**		*e*Pg	**Pn**	**06 51 13.0**	**-0.3**
XNZR				*e*Sg	**Sn**	**06 51 23.9**	**-0.7**
KRNR	**Karanay**	**0.70 99**		*e*Pg	**Pn**	**06 51 12.5**	**-1.0**
KRNR				*i* Sg	**Sn**	**06 51 24.0**	**-0.9**
ARKR	**Arakani**	**0.83 114**		*e*Pg	**Pn**	**06 51 15.0**	**+0.1**
ARKR				*e*Sg	**Sn**	**06 51 28.0**	**+0.6**
BUJR	**Buynaksk**	**0.84 98**		*e*Pg	**Pn**	**06 51 15.0**	**-0.1**
BUJR				*e*Sg	**Sn**	**06 51 28.5**	**+0.8**
GNBR	**Gunib**	**0.92 127**		*e*Pg	**Pn**	**06 51 15.6**	**-0.4**
	31nm,0.5s						
GNBR				⇓*e*Sg	**Sn**	**06 51 28.7**	**-0.5**
	521nm,0.4s						
LGD	**Lagodekhi**	**1.13 170**		P	**Pn**	**06 51 18.6**	**+0.2**
LGD				S	**Sn**	**06 51 35.1**	**+1.4**
KMKR	**Kumukh**	**1.16 134**		*e*Pg	**Pn**	**06 51 19.5**	**+0.4**
KMKR				*i* Sg	**Sn**	**06 51 35.5**	**+0.6**
TRKR	**Terskaya**	**1.19 311**		*e*Pg	**Pn**	**06 51 20.0**	**+0.7**
TRKR				*e*Sg	**Sn**	**06 51 36.8**	**+1.6**
LACR	**Lac**	**1.24 265**		*i* Pg	**Pn**	**06 51 20.0**	**0.0**
LACR				*e*Sg	**Sn**	**06 51 36.8**	**+0.5**
ARNR	**Ardon**	**1.26 281**		*e*Pg	**Pn**	**06 51 18.7**	**-1.4**
ARNR				*e*Sg	**Sn**	**06 51 35.7**	**-1.0**
KORR	**Kora**	**1.40 276**		*e*Pg	**Pn**	**06 51 21.8**	**-0.3**
KORR				*e*Sg	**Sn**	**06 51 40.5**	**+0.5**
STDR	**Stavd-Durt**	**1.46 288**		*e*Pg	**Pn**	**06 51 22.5**	**-0.2**
STDR				*e*Sg	**Sn**	**06 51 41.4**	**+0.2**
PRTR	**Priterechnaya**	**1.47 304**		*e*Pg	**Pn**	**06 51 22.3**	**-0.5**
PRTR				*e*Sg	**Sn**	**06 51 42.2**	**+0.7**
DDFL	**Dedoflistskaro**	**1.50 176**		P	**Pn**	**06 51 21.0**	**-2.3**
DDFL				S	**Sn**	**06 51 44.2**	**+1.8**
ZEI	**Tsey**	**1.53 265**		*e*Pg	**Pn**	**06 51 23.3**	**-0.5**
ZEI				*e*Sg	**Sn**	**06 51 43.6**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.76 269**		*e*Pg	**Pn**	**06 51 25.9**	**-0.9**
DIGR				*e*Sg	**Sn**	**06 51 48.7**	**+0.1**
DRN	**Derbent**	**1.97 117**		*e*Pg	**Pn**	**06 51 28.5**	**-0.9**
DRN				*e*Sg	**Sn**	**06 51 52.6**	**-0.7**
KBTC	**Kuba-Taba**	**2.06 296**		*e*Pg	**Pn**	**06 51 31.2**	**+0.5**
KBTC				*e*Sg	**Sn**	**06 51 56.7**	**+1.1**
KSMR	**Kasumkent**	**2.09 129**		*e*Pg	**Pn**	**06 51 33.0**	**+1.9**
KSMR				*i* Sg	**Sn**	**06 51 59.0**	**+2.7**
PYA1	**Pyatigorsk**	**2.37 299**		*e*Pn	**Pn**	**06 51 33.8**	**-1.1**
PYA1				*e*Sn	**Sn**	**06 52 02.2**	**-0.9**
NEY	**Neytrino**	**2.40 278**		*e*Pn	**Pn**	**06 51 35.0**	**-0.4**
NEY				*e*Sn	**Sn**	**06 52 04.3**	**+0.4**
SHA1	**Shidzhatmaz**	**2.54 289**		*e*Pn	**Pn**	**06 51 36.2**	**-1.2**
SHA1				*e*Sn	**Sn**	**06 52 07.2**	**-0.3**

KRSC ***30*** *06:54:22.6±10.0, 52°.30N×161°.03E, h51km±10km, ML4.4*
IDC ***30*** *06:54:22.3±0.8, 52°.49N×160°.89E, h0km, mb3.6/10, mb1 3.9/12, mb1mx3.6/40, mbtmp3.6/12, ML3.1/2, MS2.7/3, Ms1 2.7/3, ms1mx2.5/33, Error ellipse: s-maj=27.0km s-min=14.1km az=165.0*
ISCJB ***30*** *06:54:23.7±1.2, 52°.35N±0°.04×160°.99E±0°.06, h22km±8km, mb3.5/10, Error ellipse: s-maj=6.9km s-min=4.9km az=144.4*
MOS ***30*** *06:54:25.2±0.6, 52°.39N×161°.00E, h34km, mb4.1/1, Error ellipse: s-maj=10.7km s-min=6.7km az=127.8*
ISC 30 06:54:22.7±1.9, 52°.39N±0°.05×160°.96E±0°.05, h7km±11km, n65, σ0°.98/78, mb3.6/10, 2C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.91 322**		*e*P	**Pg**	**06 54 40.5**	**+0.3**
SPN				*e*S	**Sg**	**06 54 52.5**	**+0.4**
SPN	**Mys Shipunski**	**0.91 322**		PN	**Pg**	**06 54 40.5**	**+0.3**
SPN				S	**Sg**	**06 54 52.5**	**+0.4**
NLC	**Nalytchevo**	**1.26 309**		*e*P	**Pn**	**06 54 45.9**	**-0.8**
NLC	**Nalytchevo**	**1.26 309**		PN	**Pn**	**06 54 45.9**	**-0.8**
DALK	**Dalny**	**1.49 296**		*e*P	**Pn**	**06 54 49.8**	**-0.1**
DALK				*e*S	**Sn**	**06 55 09.0**	**-0.6**
DALK	**Dalny**	**1.49 296**		PN	**Pn**	**06 54 49.8**	**-0.1**
DALK				S	**Sn**	**06 55 09.0**	**-0.6**
RUS	**Russkaya**	**1.50 273**		*e*P	**Pn**	**06 54 50.3**	**+0.3**
RUS				*e*S	**Sn**	**06 55 09.1**	**-0.8**
RUS	**Russkaya**	**1.50 273**		PN	**Pn**	**06 54 50.3**	**+0.3**
RUS				S	**Sn**	**06 55 09.1**	**-0.8**
UGLR	**Uglovaya**	**1.54 303**		*e*P	**Pn**	**06 54 50.8**	**+0.1**
UGLR	**Uglovaya**	**1.54 303**		PN	**Pn**	**06 54 50.8**	**+0.1**
PET	**Petropavlovsk**	**1.54 295**	α	*i*PN	**Pn**	**06 54 50.7**	**+0.1**
PET				*e*S	**Sn**	**06 55 09.9**	**-1.0**
PET				pmax	pmax		
	comp=Z,308nm,0.7s						
PET				smax	smax		
	comp=E,2μm,1.1s						
PET				smax	smax		
	comp=E,1μm,0.8s						
PET				smax	smax		
	comp=N,1μm,0.5s						
SDLR	**Sedlovina**	**1.54 306**		*e*P	**Pn**	**06 54 51.2**	**+0.4**
SDLR	**Sedlovina**	**1.54 306**		PN	**Pn**	**06 54 51.2**	**+0.4**
SMAR	**Somma**	**1.58 305**		*i* P	**Pn**	**06 54 51.2**	**-0.1**
SMAR	**Somma**	**1.58 305**		PN	**Pn**	**06 54 51.2**	**-0.1**
AVH	**Avacha**	**1.61 304**		*e*P	**

SKR			eS	Sn	06 55 56.2	-2.3
SKR	**Severo-Kuril's**	**3.47 242**	ePN	**Pn**	**06 55 18.0**	**+0.9**
SKR			pmax	pmax		
	comp=Z,52nm,0.9s					
SKR			MLR	MLR		
	comp=Z,200nm,11.0s					
MA2	**Magadan**	**9.19 326**	LR	LR	07 00 35.2	
	comp=Z,32nm,19.1s,baz=144,slow=41					
KLR	**Kul'dur**	**16.67 272**	P	**Pn**	**06 58 41.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=45,slow=10.0,SNR=3.2					
YAK	**Yakutsk**	**19.30 312**	LR	LR	07 06 28.6	
	comp=Z,133nm,20.0s,baz=178,slow=38					
MJAR	**Matsushiro Arr**	**22.54 234**	P	**P**	**06 59 25.3**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=11,slow=11,SNR=3.4					
ILAR	**Eielson Array**	**28.94 44**	P	**P**	**07 00 21.9**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=264,slow=6.9,SNR=3.2					
H11N2	**WAKE ISLAND Hy**	**32.92 170**	T	T	07 37 11.7	
	baz=352,slow=74					
H11N3	**WAKE ISLAND Hy**	**32.94 170**	T	T	07 37 06.2	
	baz=352					
H11N1	**WAKE ISLAND Hy**	**32.94 170**	T	T	07 37 21.0	
	baz=352,slow=74					
H11S1	**WAKE ISLAND Hy**	**34.11 170**	T	T	07 38 56.1	
	baz=352,slow=74					
H11S3	**WAKE ISLAND Hy**	**34.12 170**	T	T	07 38 55.1	
	baz=352,slow=74					
H11S2	**WAKE ISLAND Hy**	**34.13 170**	T	T	07 38 50.0	
	baz=352					
YKA	**Yellowknife Ar**	**43.33 42**	P	**P**	**07 02 25.0**	**+0.2**
YKA	**Yellowknife Ar**	**43.33 42**	P	**P**	**07 02 25.0**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=292,slow=7.9,SNR=3.0					
MKAR	**Makanchi Array**	**48.94 297**	P	**P**	**07 03 07.8**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=52,slow=6.3,SNR=3.5					
NVAR	**Mina Array Bea**	**55.48 70**	P	**P**	**07 03 60.0**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=295,slow=7.4,SNR=6.6					
PDAR	**Pinedale Array**	**57.41 61**	P	**P**	**07 04 12.7**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=293,slow=4.6,SNR=3.1					
CMAR	**Chiang Mai Arr**	**58.56 259**	P	**P**	**07 04 19.9**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=33,slow=8.6,SNR=5.0					
FINES	**FINESS Array B**	**60.98 337**	P	**P**	**07 04 36.3**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=41,slow=7.3,SNR=3.5					
TXAR	**Lajitas Array**	**70.42 67**	P	**P**	**07 05 38.3**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=301,slow=5.5,SNR=9.7					
ASAR	**Alice Springs**	**79.34 205**	P	**P**	**07 06 29.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=23,slow=5.0,SNR=3.7					

KRSC 30 06:55:49.9±10.0, 52°31'N×160°94'E, h21km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97**	**325**	eS	Sb	06 56 19.0	-1.3
NLC	**Nalytchevo**	**1.30**	**312**	eS	Sb	06 56 31.8	+2.0
RUS	**Russkaya**	**1.49**	**276**	eP	Pb	06 56 16.7	-0.1
RUS				eS	Sb	06 56 35.6	+0.3
DALK	**Dalny**	**1.52**	**299**	eS	Sb	06 56 37.8	+1.8
MTVR	**Mutnovka**	**1.70**	**277**	eP	Pb	06 56 20.0	-0.4
MTVR				eS	Sb	06 56 41.2	-0.2
KRMR	**Karymshinskiy**	**1.79**	**288**	eS	Sb	06 56 43.8	-0.2
KDTR	**Khodutka, Kamc**	**1.84**	**255**	eS	Sn	06 56 43.3	+0.6
ASAK	**Asacha**	**1.87**	**274**	eP	Pb	06 56 23.1	-0.2

*NNC **30** 07:03:53.3±1.9, 44°27'N×77°78'E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=19.5km s-min=7.4km az=0.0*
*SOME **30** 07:03:53.1, 44°25'N×77°80'E, h0km*
ISC 30 07:03:53.3±1.5, 44°26'N±0°05×77°77'E±0°03, h1km±12km, n10, σ0°78/18, 3C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.82**	**159**	eP	**Pg**	**07 04 09.2**	**+0.2**
	9.9nm,0.3s						
KURS				eS	**Sb**	**07 04 20.9**	**-1.1**
	15nm,0.3s						
KPKS	**Kokpek**	**1.03**	**140**	eP	**Pg**	**07 04 12.8**	**-0.2**
	2.0nm,0.1s						
KPKS				eS	**Sg**	**07 04 26.8**	**+0.5**
	20nm,0.4s						
KUU	**Kurty**	**1.10**	**251**	eP	**Pg**	**07 04 14.4**	**+0.1**
	1.1nm,0.1s						
KUU				eS	**Sb**	**07 04 29.9**	**0.0**
	22nm,0.3s						
UZB	**Uzynbulak**	**1.43**	**140**	eP	**Pn**	**07 04 20.4**	**-0.2**
	4.2nm,0.3s						
UZB				eS	**Sn**	**07 04 40.1**	**-0.1**
	5.0nm,0.3s						
MTBS	**Maitube**	**1.49**	**221**	eP	**Pb**	**07 04 22.1**	**+0.3**
	4.1nm,0.2s						
MTBS				eS	**Sn**	**07 04 43.1**	**+1.6**
	37nm,0.3s						
KAPS	**Kapalarasan**	**1.53**	**47**	eP	**Pb**	**07 04 21.9**	**-0.5**
	2.6nm,0.4s						
KAPS				eS	**Sn**	**07 04 42.5**	**+0.1**
	7.2nm,0.4s						
PDGK	**Podgornoye**	**1.55**	**126**	⇓P	**Pn**	**07 04 21.8**	**-0.5**
	1.3nm,0.4s						
PDGK				⇑S	**Sn**	**07 04 43.2**	**+0.1**
	2.2nm,0.4s						
TKM2	**Tokmak 2**	**2.07**	**231**	⇓Pn	**Pn**	**07 04 28.9**	**-0.5**
	5.1nm,0.8s						
TKM2				⇑Sn	**Sb**	**07 04 57.7**	**-0.5**
	1.7nm,0.3s						
MK31	**Makanchi Array**	**4.06**	**50**	⇓Pg	**Pb**	**07 05 07.3**	**+1.6**
	0.4nm,0.7s						
MK31				⇑Lg	Lg	07 06 01.4	
	0.5nm,0.5s,baz=229,slow=27,SNR=6.9						
KK31	**Karatay Array**	**5.39**	**260**	⇓Pg	**Pg**	**07 05 35.7**	**-0.9**
	0.9nm,0.6s,baz=198,slow=15,SNR=12						
KK31				⇓Lg	Lg	07 06 08.5	
	0.7nm,0.3s,baz=197,slow=28,SNR=7.3						

*ISCJB **30** 07:03:56.6±1.1, 18°1S±0°4×178°1W±0°2, h590km, mb3.6/9, Error ellipse: s-maj=55.1km s-min=12.6km az=149.8*
*IDC **30** 07:03:57.7±2.8, 18°24S×178°04W, h594km±32km, mb3.0/8, mb1 3.3/9, mb1mx3.2/24, mbtmp4.0/9, Error ellipse: s-maj=47.9km s-min=13.3km az=150.0*
ISC 30 07:03:57.3±1.2, 18°2S±0°4×178°1W±0°2, h590km, n14, σ0°72/16, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.07**	**253**	P	**P**	**07 07 06.6**	**+0.1**
	0.4nm,0.3s,baz=64,slow=18,SNR=3.1						
STKA	**Stephens Creek**	**38.80**	**242**	P	**P**	**07 10 32.9**	**+0.2**
	1.4nm,0.4s,baz=97,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**44.92**	**260**	P	**P**	**07 11 20.8**	**-0.2**
	14nm,0.3s,baz=91,slow=8.0,SNR=1.9						
ASAR	**Alice Springs**	**45.05**	**254**	P	**P**	**07 11 22.1**	**+0.2**
	2.6nm,0.6s,baz=91,slow=8.8,SNR=27						
ASAR				PcP	**PcP**	**07 12 49.6**	**-0.3**
	0.7nm,0.5s,baz=98,slow=3.9,SNR=8.5						
ASAR				S	**S**	**07 17 19.0**	**+0.1**
	0.6nm,0.6s,baz=91,slow=15,SNR=7.5						
PETK	**Petropavlovsk-**	**74.04**	**345**	P	**P**	**07 14 34.6**	**+1.0**
	2.4nm,0.7s,baz=120,slow=7.3,SNR=3.7						
NVAR	**Mina Array Bea**	**79.39**	**44**	P	**P**	**07 15 03.9**	**+0.5**
	0.5nm,0.7s,baz=224,slow=8.4,SNR=3.8						
TXAR	**Lajitas Array**	**85.86**	**57**	P	**P**	**07 15 36.9**	**+1.1**
	1.0nm,0.8s,baz=212,slow=6.6,SNR=9.7						
ILAR	**Eielson Array**	**86.08**	**13**	P	**P**	**07 15 35.5**	**-0.4**
	0.3nm,0.4s,baz=217,slow=5.2,SNR=6.4						
PDAR	**Pinedale Array**	**87.32**	**43**	P	**P**	**07 15 42.6**	**0.0**
	0.2nm,0.6s,baz=197,slow=1.9,SNR=3.2						
YKA	**Yellowknife Ar**	**94.44**	**25**	P	**P**	**07 16 13.1**	**-1.5**
	0.2nm,0.7s,baz=249,slow=5.2,SNR=3.9						
MKAR	**Makanchi Array**	**109.58**	**314**	PKiKP	**PKiKP**	**07 21 20.6**	**-1.1**
	0.3nm,0.6s,baz=85,slow=3.1,SNR=3.1						
ARCES	**ARCESS Array B**	**126.65**	**350**	PKP	**PKPdf**	**07 21 53.4**	**-0.4**
	0.6nm,0.7s,baz=7.6,slow=2.7,SNR=5.0						
BRTR	**Keskin Array B**	**145.22**	**315**	PKPbc	**PKPbc**	**07 22 30.5**	**+0.4**
	0.6nm,0.7s,baz=36,slow=5.4,SNR=3.3						
GERES	**GERESS Array B**	**147.97**	**345**	PKPbc	**PKPbc**	**07 22 37.6**	**+0.5**
	0.6nm,0.7s,baz=25,slow=3.5,SNR=6.1						

UCR 30 07:17:37.3±2.4, 9°27'N×82°71'W, h11km±7km, MD4.4, 1C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.48**	**178**	⇓iP	Pg	07 17 46.7	0.0
BRU2				eS	Sb	07 17 54.2	-0.7
TBS2		**0.48**	**174**	⇓eP	Pg	07 17 45.5	-1.2
TBS2				eS	Sg	07 17 52.6	-0.5
EDSV	**San Vito**	**0.52**	**210**	iP	Pb	07 17 48.1	-0.5
DRK0	**Durika**	**0.53**	**269**	iP	Pg	07 17 46.9	-0.9
DRK0				eS	Sg	07 17 55.2	+0.3
EDBA	**Buenos Aires**	**0.57**	**259**	eP	Pg	07 17 48.6	+0.1
EDBA				eS	Sb	07 17 57.9	+0.4
EDPN	**Palmar Norte**	**0.80**	**247**	eP	Pb	07 17 53.1	-0.1
DVD	**David**	**0.87**	**163**	⇑iP	Pg	07 17 53.5	-0.6
DVD				eS	Sb	07 18 06.6	+0.6
HDC	**Heredia**	**1.57**	**298**	eP	Pn	07 18 04.7	-0.5
HDC				eS	Sn	07 18 25.7	+0.1
ARE1	**Arenal 1**	**2.31**	**301**	eP	Pn	07 18 16.0	+0.7
CASO	**Castillo**	**2.31**	**300**	iP	Pn	07 18 16.0	+0.7
JTS	**Las Juntas de**	**2.43**	**295**	eP	Pn	07 18 17.7	+0.7
AZU	**Azuero**	**2.82**	**121**	eP	Pn	07 18 22.4	+0.1
AZU				eS	Sn	07 18 57.8	+1.5

MEX 30 07:33:47.3±0.4, 18°21'N×101°92'W, h19km±14km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.74**	**144**	iP	Pb	07 33 59.1	-2.5
ZIIG				eS	Sb	07 34 08.5	-2.7
ARIG	**Puente Sto Nin**	**1.49**	**87**	eP	Pn	07 34 10.0	-3.1
ARIG				iS	Sn	07 34 27.7	-4.4
CAIG	**El Cayaco**	**1.95**	**126**	iP	Pn	07 34 15.7	-3.8
CAIG				iS	Sn	07 34 39.0	-4.4
MEIG	**Mezcala**	**2.20**	**97**	iP	Pn	07 34 20.8	-2.2
MEIG				iS	Sn	07 34 46.6	-3.2
PLIG	**Platanillo**	**2.30**	**85**	iP	Pn	07 34 22.6	-1.7
PLIG				iS	Sn	07 34 48.0	-4.1
TLIG	**Tlapa**	**3.25**	**101**	eP	Pn	07 34 35.5	-2.0
TLIG				iS	Sn	07 35 12.2	-3.5

IDC 30 07:34:18.7±2.6, 6°45S×129°16E, h0km, mb3.9/1, mb1 3.8/2, mb1mx3.5/20, mbtmp3.7/2, ML4.6/2, Error ellipse: s-maj=224.0km s-min=31.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.32**	**160**	Pn	Pn	07 37 42.3	-0.7
	6.5nm,0.3s,baz=332,slow=14,SNR=2.2						
WRA				Sn	Sn	07 40 10.7	-12
	12nm,0.3s,baz=333,slow=22,SNR=2.0						
ASAR	**Alice Springs**	**17.71**	**166**	P	Pn	07 38 27.4	+0.4
	0.3nm,0.3s,baz=350,slow=11,SNR=13						
ASAR				S	Sn	07 41 32.1	-13
	0.1nm,0.3s,baz=349,slow=26,SNR=3.0						
MKAR	**Makanchi Array**	**67.31**	**327**	P	P	07 45 15.5	0.0
	0.6nm,0.4s,baz=119,slow=7.6,SNR=6.6						

*ISCJB **30** 07:37:16.3±0.5, 24°89N±0°03×122°47E±0°02, h8km±3km, Error ellipse: s-maj=4.9km s-min=2.7km az=22.8*
*JMA **30** 07:37:16.5±0.1, 24°82N×122°45E, h0km, M2.3*
*TAP **30** 07:37:16.0, 24°91N×122°46E, h18km, ML2.7, C*
ISC 30 07:37:15.8±1.1, 24°93N±0°05×122°49E±0°03, h19km±3km, n31, σ0°41/57, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.46**	**280**	P	**Pg**	**07 37 25.2**	**-0.1**
	baz=282						
TWB1				S	**Sb**	**07 37 31.8**	**-0.1**
	baz=282						
EOS1	**EOS1**	**0.50**	**221**	eP	**Pg**	**07 37 25.6**	**-0.3**
	baz=220						
EOS1				eS	**Sb**	**07 37 33.6**	**+0.8**
	baz=220						
TIPB	**Shuangxi**	**0.61**	**274**	P	**Pg**	**07 37 28.0**	**+0.1**
	baz=276						
TIPB				eS	**Sb**	**07 37 36.2**	**+0.4**
	baz=276						
JYNG	**Yonagunijimaku**	**0.63**	**139**	P	**Pg**	**07 37 28.2**	**-0.1**
JYNG				S	**Sb**	**07 37 36.5**	**+0.1**
NWF	**Wu-fen Shan**	**0.66**	**283**	eP	**Pn**	**07 37 29.6**	**-0.6**
	baz=284						
NWF				S	**Sg**	**07 37 38.6**	**+0.9**
	baz=284						
WFSB	**Wu-fen Shan**	**0.66**	**283**	eP	**Pn**	**07 37 29.5**	**-0.6**
	baz=284						
WFSB				eS	**Sg**	**07 37 38.7**	**+1.0**
	baz=284						
YOJ	**Yonaguni jima**	**0.66**	**134**	P	**Pg**	**07 37 28.8**	**-0.1**
	baz=123						
YOJ				S	**Sb**	**07 37 37.6**	**+0.1**
	baz=123						
YOJ	**Yonaguni jima**	**0.66**	**134**	P	**Pg**	**07 37 28.8**	**-0.1**
YOJ				eS	**Sb**	**07 37 37.5**	**+0.1**
TWC	**Suao**	**0.66**	**242**	P	**Pb**	**07 37 28.3**	**-0.4**
	baz=241						
TWC				eS	**Sb**	**07 37 36.7**	**-0.8**
	baz=241						
TWE	**Neicheng**	**0.78**	**255**	eP	**Pb**	**07 37 30.6**	**0.0**
	baz=255						
PCYT	**Pengchaiyu**	**0.80**	**332**	eP	**Pn**	**07 37 31.8**	**-0.2**
	baz=317						
YM07	**YM07**	**0.83**	**288**	eP	**Pg**	**07 37 32.1**	**0.0**
	baz=289						
YM07				eS	**Sg**	**07 37 43.0**	**0.0**
	baz=289						
ENA	**Nanau**	**0.84**	**234**	eP	**Pb**	**07 37 31.7**	**-0.2**
	baz=233						
ENA				eS	**Sb**	**07 37 42.0**	**-0.8**
	baz=233						
YM08	**YM08**	**0.86**	**288**	eP	**Pn**	**07 37 33.5**	**+0.6**
	baz=275						
YM08				eS	**Sg**	**07 37 43.5**	**-0.4**
	baz=275						
YM01	**YM01**	**0.86**	**285**	eP	**Pn**	**07 37 33.1**	**+0.1**
	baz=272						
YM01				eS	**Sg**	**07 37 43.9**	**-0.2**
	baz=272						
YM11	**YM11**	**0.86**	**286**	eP	**Pn**	**07 37 33.6**	**+0.6**
	baz=287						
YM10	**YM10**	**0.87**	**285**	eP	**Pg**	**07 37 32.7**	**-0.2**
	baz=273						
YM10				eS	**Sg**	**07 37 44.6**	**+0.1**
	baz=273						
TWY	**Chenhua**	**0.88**	**293**	eP	**Pn**	**07 37 33.0**	**-0.2**
	baz=295						
TWY				S	**Sn**	**07 37 45.2**	**-0.2**
	baz=295						
NWLT	**Wulai**	**0.91**	**261**	eP	**Pb**	**07 37 32.8**	**-0.2**
	baz=261						
NDT	**Datong Townshi**	**0.95**	**250**	eP	**Pb**	**07 37 33.5**	**-0.1**
	baz=237						
NDT				eS	**Sb**	**07 37 46.0**	**+0.2**
	baz=237						
YHNB	**Yeheng**	**1.04**	**256**	eP	**Pb**	**07 37 35.3**	**-0.1**
	baz=270						
YHNB				eS	**Sb**	**07 37 47.8**	**-0.9**
	baz=270						
NSK	**Sanguang**	**1.06**	**257**	P	**Pg**	**07 37 36.5**	**0.0**
	baz=270						
NSK				eS	**Sb**	**07 37 49.5**	**+0.4**
	baz=270						
NACB	**Ninganchiao**	**1.11**	**228**	eS	**Sb**	**07 37 50.2**	**-0.2**
	baz=238						
NNSB	**Datong**	**1.12**	**244**	eP	**Pn**	**07 37 35.9**	**-0.7**
	baz=233						
NNSB				eS	**Sb**	**07 37 51.3**	**+0.3**
	baz=233						
ETLH	**Xiulin Townshi**	**1.17**	**232**	eP	**Pn**	**07 37 37.2**	**0.0**
	baz=231						
ETLH				eS	**Sn**	**07 37 52.7**	**+0.1**
	baz=231						
IRIF	**Iriomote-Funau**	**1.27**	**117**	P	**Pg**	**07 37 40.7**	**+0.3**
IRIF				eS	**Sg**	**07 37 57.5**	**+0.4**
WHF	**Hehuan Shan**	**1.36**	**235**	eP	**Pb**	**07 37 41.1**	**+0.2**
	baz=234						
WHF				eS	**Sb**	**07 37 58.8**	**+0.7**
	baz=234						
TDCB	**Techi**	**1.39**	**241**	eP	**Pn**	**07 37 40.6**	**+0.3**
	baz=240						
TDCB				eS	**Sn**	**07 37 58.1**	**0.0**
	baz=240						
CHGB	**Renai**	**1.48**	**235**	eP	**Pb**	**07 37 42.8**	**0.0**
	baz=246						
CHGB				eS	**Sb**	**07 38 01.7**	**+0.5**
	baz=246						
HATJ	**Hateruma jima**	**1.48**	**126**	P	**Pg**	**07 37 44.0**	**-0.3**
HATJ				S	**Sg**	**07 38 03.5**	**-0.1**
OWD	**Renai**	**1.54**	**231**	eP	**Pb**	**07 37 43.4**	**-0.4**
	baz=237						
OWD				eS	**Sb**	**07 38 03.4**	**+0.4**
	baz=237						

*IDC **30** 08:01:08.5±1.0, 26°54S×69°55W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.5/6, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/16, Error ellipse: s-maj=44.1km s-min=32.8km az=55.0*
*ISCJB **30** 08:01:19.0±0.5, 26°19S±0°04×69°61W±0°08, h85km±6km, mb3.4/5, Error ellipse: s-maj=12.3km s-min=6.0km az=179.8*
*SJA **30** 08:01:18.5±0.7, 26°21S×69°72W, h95km±21km, ML3.2, MW3.5*
*GUC **30** 08:01:18.6±0.5, 26°19S×69°77W, h85km±15km, ML3.8*
ISC 30 08:01:20.0±0.9, 26°18S±0°04×69°69W±0°07, h79km±9km, n39, σ0°95/39, mb3.4/5, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.02**	**5**	eP	**Pn**	**08 01 39.1**	**-0.4**
GO02				eS	**Sn**	**08 01 53.9**	**-0.1**
GO02				IAML		08 01 56.3	
	comp=E,5μm,0.1s						
GO03	**Copiap**	**1.49**	**199**	eP	**Pn**	**08 01 45.1**	**-0.2**
GO03				eS	**Sn**	**08 02 04.9**	**+0.6**
GO03	**Copiap**	**1.49**	**199**	eP	**Pn**	**08 01 45.0**	**-0.2**
GO03				eS	**Sn**	**08 02 04.4**	**+0.1**
GO03				IAML		08 02 06.3	
	comp=N,3μm,0.6s						
PB14	**IPOC Station P**	**1.68**	**337**	eP	**Pn**	**08 01 48.6**	**+0.7**
PB14				eS	**Sn**	**08 02 10.3**	**+1.4**
PB14	**IPOC Station P**	**1.68**	**337**	eP	**Pn**	**08 01 48.1**	**+0.2**
PB14				eS	**Sn**	**08 02 10.1**	**+1.2**
PB14				IAML		08 02 13.3	
	comp=E,1μm,0.5s						
PB10	**IPOC Station P**	**2.77**	**343**	eP	**Pn**	**08 02 02.5**	**+0.2**
PB10	**IPOC Station P**	**2.77**	**343**	eP	**Pn**	**08 02 01.8**	**-0.5**
PB10				IAML		08 02 27.2	
	comp=N,201nm,0.6s						
LCO	**Las Campanas**	**2.96**	**197**	eP	**Pn**	**08 02 06.2**	**+1.2**
LCO				eS	Sn	08 02 26.4	-13
LCO	**Las Campanas**	**2.96**	**197**	eP	**Pn**	**08 02 05.0**	**0.0**
LCO				IAML		08 02 58.8	
	comp=E,360nm,0.6s						
PB15	**IPOC Station P**	**2.96**	**4**	eP	**Pn**	**08 02 06.0**	**+1.0**
PB15	**IPOC Station P**	**2.96**	**4**	eP	**Pn**	**08 02 05.6**	**+0.6**
PB15				eS	Sn	08 02 29.9	-10
PB05	**IPOC Station P**	**3.34**	**352**	eP	**Pn**	**08 02 09.3**	**-0.9**
PB05	**IPOC Station P**	**3.34**	**352**	eP	**Pn**	**08 02 09.4**	**-0.8**
PB06	**IPOC Station P**	**3.46**	**2**	eP	**Pn**	**08 02 12.3**	**+0.5**
PB06	**IPOC Station P**	**3.46**	**2**	eP	**Pn**	**08 02 11.8**	**+0.1**
LVC	**Limon Verde**	**3.62**	**11**	eP	**Pn**	**08 02 14.8**	**+0.6**
LVC				IAML		08 03 25.8	
	comp=Z,92nm,0.5s						
PB04	**IPOC Station P**	**3.85**	**354**	eP	**Pn**	**08 02 16.1**	**-1.0**
AHML	**Horco Molle**	**3.95**	**100**	IAML		08 02 36.5	
	comp=Z,14nm,0.5s						
PB03	**IPOC Station P**	**4.11**	**359**	⇑eP	**Pn**	**08 02 19.5**	**-1.2**
CYA	**Choya**	**4.13**	**124**	eP	**Pn**	**08 02 20.3**	**-0.4**
CYA				IAML		08 02 22.9	
	comp=Z,16nm,0.5s						
PB09	**IPOC Station P**	**4.38**	**5**	eP	**Pn**	**08 02 24.9**	**+0.6**
PB07	**IPOC Station P**	**4.44**	**358**	eP	**Pn**	**08 02 23.8**	**-1.2**
HJA	**Humahuaca**	**4.89**	**54**	eP	**Pn**	**08 02 33.0**	**+1.7**
HJA				IAML		08 02 37.5	
	comp=Z,26nm,0.5s						
YJA	**Yavi**	**5.51**	**45**	eP	**Pn**	**08 02 41.2**	**+1.2**
YJA				IAML		08 02 44.7	
	comp=Z,3.3nm,0.5s						
TCA	**Tanti**	**6.81**	**140**	eP	**Pn**	**08 02 55.3**	**-2.0**
TCA				IAML		08 02 56.9	
	comp=Z,7.8nm,0.5s						
LPAZ	**La Paz**	**9.95**	**9**	Pn	**Pn**	**08 03 39.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=180,slow=7.1,SNR=6.6						
CPUP	**Villa Florida**	**11.10**	**94**	LR	LR	08 08 47.3	
	comp=Z,49nm,20.5s,baz=242,slow=42						
TXAR	**Lajitas Array**	**64.10**	**327**	P	**P**	**08 11 46.8**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=144,slow=7.8,SNR=3.2						
PDAR	**Pinedale Array**	**77.82**	**331**	P	**P**	**08 13 10.0**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=117,slow=5.2,SNR=2.5						
NVAR	**Mina Array Bea**	**78.76**	**323**	P	**P**	**08 13 15.5**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=143,slow=7.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**79.61**	**70**	P	**P**	**08 13 17.6**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=257,slow=5.5,SNR=5.4						
YKA	**Yellowknife Ar**	**95.35**	**341**	P	**P**	**08 14 34.6**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=139,slow=4.5,SNR=7.7						
ASAR	**Alice Springs**	**125.44**	**207**	PKP	**PKPdf**	**08 20 11.4**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=130,slow=1.4,SNR=3.2						
H11S2	**WAKE ISLAND Hy**	**127.61**	**274**	T	T	10 40 35.8	
	baz=108,slow=75,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**127.62**	**274**	T	T	10 40 34.8	
	baz=108,slow=75,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**127.63**	**274**	T	T	10 40 36.4	
	baz=108,slow=75,SNR=4.2						
WRA	**Warramunga Arr**	**128.56**	**209**	PKP	**PKPdf**	**08 20 18.0**	**-0.7**
	comp=Z,135nm,0.3s,baz=161,slow=1.8,SNR=1.6						
ZALV	**Zalesovo Beam**	**146.45**	**27**	PKPbc	**PKPbc**	**08 20 51.8**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=304,slow=3.3,SNR=3.3						
MKAR	**Makanchi Array**	**149.75**	**40**	PKPbc	**PKPbc**	**08 21 00.7**	**0.0**
	comp=Z,0.9nm,0.7s,baz=323,slow=2.4,SNR=7.8						

*IDC **30** 08:23:48.0±2.0, 1°16S×97°42E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.6/34, mbtmp3.9/6, ML4.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/40, Error ellipse: s-maj=73.6km s-min=19.7km az=63.0*
*ISCJB **30** 08:23:49.9±1.5, 1°0S±0°1×97°6E±0°3, h23km, mb4.3/5, MS3.0/1, Error ellipse: s-maj=42.9km s-min=13.9km az=161.0*
ISC 30 08:23:52.3±1.8, 1°0S±0°2×97°7E±0°4, h23km, n11, σ0°46/8, mb4.0/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.98**	**18**	Pn	**Pn**	**08 24 51.7**	**-0.3**
	2.4nm,0.3

*IDC **30** 08:52:16.1±11.0, 6°.86S×129°.23E, h112km±110km, mb3.6/2, mb1 3.8/3, mb1mx3.3/40, mbtmp4.1/3, ML4.9/2, Error ellipse: s-maj=155.2km s-min=37.7km az=61.0*
*NEIC **30** 08:52:17.3±1.0, 6°.63S×130°.06E, h146km±15km, mb4.3/4, Error ellipse: s-maj=13.5km s-min=12.6km az=77.0*
ISC 30 08:52:16.6±0.8, 6°.65S±0°.06×130°.09E±0°.07, h146km, n19, σ2§70/28, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.28**	**30**	*e*Pn	**Pn**	**08 53 21.2**	**+0.6**
FAKI				*e*Sn	**Sn**	08 54 05.3	-4.9
MTN	**Manton Dam**	**6.24**	**171**	*e*Pn	**Pn**	08 53 50.3	+3.7
MTN				*e*Sn	**Sn**	08 54 57.9	+0.9
SOEI	**Soe**	**6.54**	**241**	*e*Pn	**Pn**	08 53 52.7	+2.0
SOEI				*e*Sn	**Sn**	08 55 03.3	-1.0
MMRI	**Maumere**	**8.03**	**255**	*e*Pn	**Pn**	08 54 09.3	-1.2
FITZ	**Fitzroy Crossi**	**12.18**	**200**	*e*Pn	**Pn**	08 55 05.5	0.0
FITZ				*e*Sn	**Sn**	08 57 15.7	-4.4
WRAB	**Tennant Creek**	**13.84**	**163**	*e*Pn	**Pn**	08 55 27.3	+0.5
WR1	**Warramunga Arr**	**13.85**	**163**	*e*Pn	**Pn**	08 55 26.9	+0.1
WR1				*e*Sn	**Sn**	08 57 54.9	-5.3
WRA	**Warramunga Arr**	**13.85**	**163**	P	**Pn**	**08 55 26.9**	**+0.1**
	11nm,0.3s,baz=341,slow=12,SNR=1.6						
WRA				S	**Sn**	08 57 54.9	-5.3
	26nm,0.3s,baz=339,slow=21,SNR=1.7						
WB2	**Warramunga Arr**	**13.85**	**163**	*e*Pn	**Pn**	08 55 27.4	+0.5
WB2				*e*Sn	**Sn**	08 57 56.8	-3.6
WC3	**Warramunga Arr**	**13.87**	**163**	*e*Pn	**Pn**	08 55 27.7	+0.5
COEN	**Coen**	**14.78**	**120**	*e*Pn	**Pn**	08 55 38.4	-0.2
AS31	**Alice Springs**	**17.32**	**168**	*e*P	**Pn**	**08 56 13.4**	**+3.8**
	3.3nm,0.6s						
AS31				*e*S	**S**	08 59 22.3	+0.4
ASAR	**Alice Springs**	**17.32**	**168**	P	**Pn**	**08 56 11.9**	**+2.3**
	1.5nm,0.3s,baz=344,slow=10,SNR=80						
ASAR				S	**S**	08 59 20.6	-1.3
	0.6nm,0.3s,baz=348,slow=27,SNR=5.3						
PSA00	**Pilbara Seismi**	**17.84**	**213**	*e*P	**P**	08 56 13.9	-0.7
	62nm,1.8s						
BBOO	**Buckleboo**	**26.62**	**169**	*e*P	**P**	08 57 44.0	+2.5
	53nm,1.8s						
STKA	**Stephens Creek**	**27.31**	**158**	*e*P	**P**	08 57 49.4	+1.7
	3.5nm,1.6s						
STKA	**Stephens Creek**	**27.31**	**158**	P	**P**	**08 57 51.3**	**+3.6**
	1.1nm,0.5s,baz=334,slow=9.5,SNR=5.8						
MK32	**Makanchi Array**	**67.98**	**327**	*e*P	**P**	09 03 01.3	+1.3
MKAR	**Makanchi Array**	**67.98**	**327**	P	**P**	09 03 01.3	+1.3
	0.8nm,0.5s,baz=124,slow=7.3,SNR=8.4						

*ISCJB **30** 08:55:30.1±0.2, 18°.89S±0°.04×169°.45E±0°.05, h246km, mb4.4/63, Error ellipse: s-maj=6.6km s-min=4.6km az=33.8*
*NEIC **30** 08:55:32.8±1.5, 18°.93S×169°.45E, h261km±7km, mb4.5/65, Error ellipse: s-maj=16.6km s-min=14.5km az=109.0*
*IDC **30** 08:55:33.5±2.3, 18°.95S×169°.48E, h273km±23km, mb3.8/12, mb1 4.0/14, mb1mx3.8/29, mbtmp4.5/14, Error ellipse: s-maj=17.0km s-min=13.8km az=63.0*
ISC 30 08:55:31.2±0.5, 18°.92S±0°.06×169°.53E±0°.07, h246km, n96, σ1§12/100, mb4.4/63, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.91**	**209**	*e*Pn	**Pn**	**08 56 23.7**	**+1.3**
MARNC				*e*S	**S**	08 57 03.9	+0.9
PINNC	**Pines Island,**	**4.16**	**208**	*e*Pn	**Pn**	08 56 38.3	+1.6
PINNC				*e*S	**S**	08 57 31.4	+2.8
DZM	**Mont Dzumac**	**4.26**	**222**	*e*Pn	**Pn**	08 56 40.5	+2.4
DZM				*e*S	**S**	08 57 27.3	-3.8
DZM	**Mont Dzumac**	**4.26**	**222**	P	**Pn**	**08 56 39.9**	**+1.9**
	10nm,0.3s,baz=50,slow=17,SNR=75						
OUENC	**Ouen Island, N**	**4.29**	**215**	*e*Pn	**Pn**	08 56 40.3	+2.1
HNR	**Honiara**	**13.23**	**314**	*e*Pn	**Pn**	08 58 30.4	+0.1
HNR	**Honiara**	**13.23**	**314**	P	**P**	08 58 32.6	+0.8
	7.7nm,0.3s,baz=217,slow=1.3,SNR=11						
RAO	**Raoul Island**	**15.38**	**134**	*e*P	**P**	08 58 55.1	-0.3
	748nm,1.3s						
OUZ	**Omahuta**	**16.63**	**168**	*e*P	**Pn**	08 59 10.4	-0.3
	35nm,0.9s						
EIDS	**Eidsvold**	**18.24**	**246**	*e*P	**Pn**	08 59 28.4	-1.5
	28nm,1.4s						
ARMA	**Armidale**	**19.86**	**231**	*e*P	**P**	08 59 44.0	-0.1
	13nm,0.8s						
HIZ	**Hauiti**	**20.06**	**168**	*e*P	**P**	08 59 47.4	+1.3
	89nm,1.4s						
MXZ	**Matakaoa Point**	**20.09**	**159**	*e*P	**P**	08 59 47.8	+1.4
	142nm,1.5s						
URZ	**Urewera**	**20.37**	**163**	*e*P	**P**	08 59 49.2	-0.2
	14nm,0.9s						
URZ	**Urewera**	**20.37**	**163**	P	**P**	08 59 50.3	+0.9
	6.9nm,0.5s,baz=28,slow=2.0,SNR=8.8						
BKZ	**Black Stump Fm**	**21.05**	**165**	*e*P	**P**	08 59 57.3	+0.7
	14nm,0.8s						
CTA	**Charters Tower**	**21.97**	**263**	P	**P**	09 00 06.2	+0.8
	2.1nm,0.4s,baz=85,slow=12,SNR=7.1						
CTAO	**Charters Tower**	**21.97**	**263**	*e*P	**P**	09 00 05.3	-0.1
	12nm,0.8s						
BFZ	**Birch Farm**	**22.44**	**167**	*e*P	**P**	09 00 09.5	0.0
	21nm,1.1s						
SNZO	**South Karori**	**22.75**	**170**	*e*P	**P**	09 00 11.5	-0.7
	33nm,1.0s						
THZ	**Tophouse**	**22.95**	**174**	*e*P	**P**	09 00 14.9	+0.8
	13nm,0.9s						
PMG	**Port Moresby**	**23.64**	**291**	*e*P	**P**	09 00 19.3	-1.3
	31nm,1.1s						
CAN	**Canberra**	**24.43**	**224**	*e*P	**P**	09 00 28.3	+0.6
	14nm,1.3s						
RPZ	**Rata Peaks**	**24.75**	**177**	*e*P	**P**	09 00 28.9	-1.5
	30nm,1.2s						
RPZ	**Rata Peaks**	**24.75**	**177**	P	**P**	09 00 30.4	0.0
	6.7nm,0.8s,baz=0.6,slow=7.3,SNR=3.2						
LBZ	**Lake Benmore**	**25.39**	**179**	*e*P	**P**	09 00 35.8	-0.4
	58nm,1.5s						
TOO	**Toolangi**	**28.04**	**224**	*e*P	**P**	09 01 00.4	+0.5
	8.7nm,1.2s						
STKA	**Stephens Creek**	**28.24**	**237**	*e*P	**P**	09 01 02.0	+0.3
	2.3nm,0.8s						
STKA	**Stephens Creek**	**28.24**	**237**	P	**P**	09 01 02.2	+0.4
	9.9nm,0.8s,baz=69,slow=8.1,SNR=19						
STKA				pP	**pwP**	09 01 53.4	-1.7
	3.3nm,0.8s,baz=50,slow=10,SNR=1.8						
BBOO	**Buckleboo**	**32.98**	**239**	*e*P	**P**	09 01 43.3	+0.1
	11nm,1.1s						
WB2	**Warramunga Arr**	**33.15**	**262**	*e*P	**P**	09 01 43.6	-1.3
	7.6nm,1.1s						
WRAB	**Tennant Creek**	**33.16**	**262**	*e*P	**P**	09 01 43.8	-1.1
	8.3nm,1.3s						
WR1	**Warramunga Arr**	**33.16**	**262**	*e*P	**P**	09 01 43.4	-1.6
WRA	**Warramunga Arr**	**33.16**	**262**	P	**P**	09 01 43.4	-1.6
	73nm,0.3s,baz=96,slow=8.5,SNR=2.0						
AS31	**Alice Springs**	**33.47**	**256**	*e*P	**P**	09 01 46.6	-1.0
	14nm,0.4s						
ASAR	**Alice Springs**	**33.47**	**256**	P	**P**	09 01 47.1	-0.5
	23nm,0.6s,baz=84,slow=8.9,SNR=50						
ASAR				pP	**pP**	09 02 36.0	+0.6
	3.5nm,0.7s,baz=82,slow=9.1,SNR=3.9						
MCQ	**Macquarie Isla**	**36.42**	**190**	*e*P	**P**	09 02 11.8	-0.5
	171nm,1.3s						
MTN	**Manton Dam**	**37.37**	**274**	*e*P	**P**	09 02 20.5	-0.3
	9.6nm,0.9s						
FORT	**Forrest**	**39.23**	**244**	*e*P	**P**	09 02 35.6	-0.5
	17nm,1.1s						
FAKI	**Fak Fak**	**39.78**	**289**	*e*P	**P**	09 02 40.3	-0.4
	61nm,1.5s						
FITZ	**Fitzroy Crossi**	**41.55**	**264**	*e*P	**P**	09 02 55.0	-0.1
	8.5nm,0.8s						
PSA00	**Pilbara Seismi**	**46.53**	**258**	*e*P	**P**	09 03 34.6	0.0
	31nm,1.5s						
HPAH	**Hawaii Prepara**	**51.59**	**43**	*e*P	**P**	09 04 12.5	-0.3
	91nm,1.1s						
VNDA	**Vanda**	**58.75**	**182**	*e*P	**P**	09 05 03.1	+0.1
	4.7nm,1.3s						
VNDA	**Vanda**	**58.75**	**182**	P	**P**	09 05 01.9	-1.1
	2.1nm,1.1s,baz=351,slow=8.3,SNR=5.5						
SBA	**Scott Base**	**58.98**	**181**	*e*P	**P**	09 05 04.7	+0.1
	7.5nm,0.9s						
MJAR	**Matsushiro Arr**	**62.60**	**332**	P	**P**	09 05 28.4	-1.1
	2.3nm,1.0s,baz=161,slow=7.9,SNR=3.6						
MAJO	**Matsushiro**	**62.60**	**332**	*e*P	**P**	09 05 28.4	-1.1
QSPA	**South Pole Qui**	**71.13**	**180**	*e*P	**P**	09 06 21.8	-1.1
	4.5nm,0.8s						
WHN	**Wuhan**	**72.34**	**312**	P	**P**	09 06 34.0	+3.6
PETK	**Petropavlovsk-**	**72.46**	**353**	P	**P**	09 06 31.2	+0.6
	5.1nm,0.8s,baz=153,slow=8.4,SNR=5.9						
PEA1	**Petropavlovsk-**	**72.46**	**353**	*e*P	**P**	09 06 31.2	+0.6
HHC	**Hu-ho-hao-te**	**80.16**	**319**	*e*P	**P**	**09 07 17.3**	**+3.0**
GAMB	**Gambell**	**83.72**	**8**	*e*P	**P**	**09 07 32.4**	**+0.4**
	17nm,1.3s						
CMB	**Columbia Colle**	**86.74**	**48**	*e*P	**P**	**09 07 47.2**	**-0.5**
	7.4nm,0.9s						
AFDM	**Forest Hills D**	**86.75**	**47**	*e*P	**P**	**09 07 47.7**	**0.0**
	5.5nm,0.9s						
ISA	**Isabella, Lake**	**87.07**	**51**	*e*P	**P**	**09 07 49.6**	**+0.2**
	8.1nm,1.0s						
SONA0	**Songino Array**	**87.13**	**323**	*e*P	**P**	**09 07 49.8**	**+0.4**
SONM	**Songino Array**	**87.13**	**323**	P	**P**	**09 07 49.8**	**+0.4**
	1.7nm,0.9s,baz=129,slow=3.9,SNR=5.2						
CAST	**Castle Rocks**	**87.37**	**16**	*e*P	**P**	**09 07 48.3**	**-1.7**
	3.6nm,0.9s						
BEKR	**Beckworth**	**87.59**	**46**	*e*P	**P**	**09 07 51.7**	**-0.2**
	4.2nm,0.9s						
WAKR	**Walker**	**87.62**	**48**	*e*P	**P**	**09 07 51.3**	**-0.8**
	9.0nm,1.2s						
PNTR	**Pine Nut**	**87.77**	**47**	*e*P	**P**	**09 07 52.0**	**-0.8**
	6.0nm,1.0s						
PAHR	**Pah Rah Range**	**88.19**	**47**	*e*P	**P**	**09 07 54.7**	**0.0**
	4.0nm,1.1s						
NV01	**Mina Array Sit**	**88.39**	**48**	*e*P	**P**	**09 07 55.9**	**+0.1**
NVAR	**Mina Array Bea**	**88.39**	**48**	P	**P**	**09 07 55.9**	**+0.1**
	2.3nm,0.9s,baz=230,slow=8.7,SNR=13						
NV11	**Mina Array Sit**	**88.49**	**48**	*e*P	**P**	**09 07 56.1**	**-0.1**
	0.9nm,1.4s						
K05A	**Summer Lake**	**88.54**	**44**	*e*P	**P**	**09 07 56.7**	**+0.4**
	18nm,1.2s						
MOD	**Modoc Plateau**	**88.55**	**45**	*e*P	**P**	**09 07 56.6**	**+0.3**
	9.3nm,1.1s						
KVN	**Kaiserville**	**88.80**	**48**	*e*P	**P**	**09 07 57.9**	**+0.2**
	3.1nm,0.9s						
PINE	**Pine Mountain**	**89.00**	**43**	*e*P	**P**	**09 07 59.1**	**+0.7**
	9.9nm,0.9s						
TPNV	**Topopah Spring**	**89.24**	**50**	*e*P	**P**	**09 08 00.4**	**+0.7**
	6.5nm,0.9s						
ILAR	**Eielson Array**	**89.85**	**17**	P	**P**	**09 07 59.8**	**-1.8**
	1.5nm,0.9s,baz=232,slow=5.4,SNR=14						
ILB	**Eielson Array**	**89.85**	**17**	*e*P	**P**	**09 07 59.7**	**-2.0**
	1.4nm,0.8s						
SHPR	**Sheep Range**	**89.86**	**51**	*e*P	**P**	**09 08 03.0**	**+0.4**
	3.6nm,1.0s						
WVOR	**Wild Horse Val**	**89.90**	**45**	*e*P	**P**	**09 08 03.1**	**+0.6**
	7.2nm,1.1s						
D05A	**Enumclaw**	**89.94**	**39**	*e*P	**P**	**09 08 02.8**	**+0.3**
	23nm,1.2s						
I07A	**Izee**	**90.06**	**43**	*e*P	**P**	**09 08 04.1**	**+0.9**
	5.9nm,0.9s						
W13A	**Hualapai Mount**	**90.25**	**53**	*e*P	**P**	**09 08 04.4**	**-0.1**
	3.4nm,0.8s						
J08A	**Circle Bar Ran**	**90.41**	**44**	*e*P	**P**	**09 08 04.8**	**-0.2**
	5.9nm,0.8s						
G08A	**Pilot Rock**	**90.94**	**42**	*e*P	**P**	**09 08 07.7**	**+0.4**
	5.0nm,1.0s						
LCMT	**Little Creek M**	**91.47**	**51**	*e*P	**P**	**09 08 10.3**	**+0.3**
	4.8nm,1.0s						
EGAK	**Eagle**	**91.54**	**19**	*e*P	**P**	**09 08 09.1**	**-0.3**
	3.6nm,0.9s						
CCUT	**Cedar City**	**91.59**	**51**	*e*P	**P**	**09 08 11.4**	**+0.7**
	3.7nm,1.1s						
TUC	**Tucson**	**91.60**	**56**	*e*P	**P**	**09 08 11.2**	**+0.6**
	4.8nm,1.0s						
KNB	**Kanab**	**91.79**	**51**	*e*P	**P**	**09 08 12.4**	**+0.8**
	2.9nm,0.9s						
U15A	**North Rim**	**91.96**	**52**	*e*P	**P**	**09 08 13.1**	**+0.6**
	5.2nm,0.9s						
WUAZ	**Wupatki**	**92.31**	**53**	*e*P	**P**	**09 08 13.7**	**-0.3**
	4.6nm,0.9s						
MTPU	**Mount Pierson**	**92.64**	**51**	*e*P	**P**	**09 08 16.3**	**+0.6**
	1.0nm,0.7s						
INK	**Inuvik**	**96.16**	**18**	*e*P	**P**	**09 08 29.1**	**-1.5**
	2.3nm,1.0s						
INK	**Inuvik**	**96.16**	**18**	P	**P**	**09 08 29.8**	**-0.7**
	0.8nm,0.9s,baz=215,slow=6.6,SNR=3.5						
WMQ	**Urumqi**	**97.19**	**314**	*e*P	Pdif	09 08 37.0	+1.1
YKA	**Yellowknife Ar**	**100.26**	**27**	P	**Pdif**	**09 08 49.8**	**+0.8**
	0.7nm,0.9s,baz=254,slow=4.9,SNR=7.6						
YKB5	**Yellowknife Ar**	**100.26**	**27**	*e*Pdif	**Pdif**	**09 08 49.9**	**+0.8**
ARCES	**ARCESS Array B**	**124.83**	**345**	PKP	**PKPdf**	**09 13 59.5**	**-1.6**
	1.2nm,0.8s,baz=98,slow=3.7,SNR=5.4						
GERES	**GERESS Array B**	**144.34**	**332**	PKP	**PKPab**	**09 14 36.0**	**-0.7**
	1.5nm,0.7s,baz=30,slow=4.5,SNR=12						

*IDC **30** 09:02:40.0±1.2, 13°.62N×88°.07W, h0km, mb3.4/6, mb1 3.8/9, mb1mx3.6/36, mbtmp3.5/9, ML3.4/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/27, Error ellipse: s-maj=59.5km s-min=15.9km az=46.0*
*NEIC **30** 09:02:43.0±2.8, 12°.91N×88°.82W, h10km±3km, mb4.2/5, MD4.1(MEX), MD4.3(SNET), Error ellipse: s-maj=28.4km s-min=9.1km az=194.0*
NEIC Felt [II] at San Salvador.
*ISCJB **30** 09:02:44.5±0.5, 12°.86N±0°.05×88°.80W±0°.03, h66km±5km, mb3.6/9, Error ellipse: s-maj=9.9km s-min=3.0km az=27.7*
*SNET **30** 09:02:45.7±1.0, 12°.90N×88°.81W, h44km±16km, ML4.3*
*UCR **30** 09:02:45.9±2.1, 12°.89N×88°.78W, h36km±119km, MD3.9, ML4.2, mb4.2(NEIC)*
*MEX **30** 09:02:51.4±0.3, 13°.31N×88°.86W, h30km, MD4.1*
ISC 30 09:02:46.5±1.0, 12°.96N±0°.07×88°.78W±0°.03, h68km±7km, n101, σ1§52/131, mb3.4/9, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UESV	**Ojushtada**	**0.42**	**359**	*e*P	**Pn**	**09 03 00.2**	**+1.8**
UESV				*e*S	**Sn**	09 03 11.3	+4.1
UESV	**Ojushtada**	**0.42**	**359**	*e*P	**Pn**	**09 03 00.2**	**+1.8**
UESV				*e*S	**Sn**	09 03 11.3	+4.1
AIES	**Las Flores**	**0.56**	**332**	*e*P	**Pn**	**09 02 58.1**	**-1.6**
AIES				IAML		09 03 07.3	
	comp=Z,8μm,0.1s						
AIES				*e*S	**Sn**	09 03 07.6	-1.8
AIES	**Las Flores**	**0.56**	**332**	*e*P	**Pn**	**09 02 58.1**	**-1.6**
AIES				IAML		09 03 07.3	
	comp=Z,8μm,0.1s						
AIES				*e*S	**Sn**	09 03 07.6	-1.8
TECA	**Tecapa**	**0.60**	**27**	*e*P	**Pn**	09 02 59.3	-1.1
TECA	**Tecapa**	**0.60**	**27**	*e*P	**Pn**	09 02 59.3	-1.1
SNVI	**San Vicente**	**0.65**	**355**	*e*P	**Pn**	09 02 59.8	-1.1
SNVI	**San Vicente**	**0.65**	**355**	*e*P	**Pn**	09 02 59.8	-1.1
LCY	**Lacayo**	**0.66**	**46**	*e*P	**Pn**	09 02 59.9	-1.1
LCY	**Lacayo**	**0.66**	**46**	*e*P	**Pn**	09 02 59.9	-1.1
PACA	**Pacayal**	**0.68**	**41**	*e*P	**Pn**	09 03 00.2	-0.9
PACA				*e*S	**Sn**	09 03 11.4	-0.5
PACA	**Pacayal**	**0.68**	**41**	*e*P	**Pn**	09 03 00.2	-0.9
PACA				*e*S	**Sn**	09 03 11.4	-0.5
VSM	**San Miguel**	**0.68**	**47**	*e*P	**Pn**	09 03 00.3	-1.0
VSM	**San Miguel**	**0.68**	**47**	*e*P	**Pn**	09 03 00.3	-1.0
LFRS	**El Faro**	**0.72**	**338**	*e*P	**Pn**	09 03 00.3	-1.3
PAVA	**Las Pavas**	**0.77**	**349**	*e*P	**Pn**	09 03 01.4	-0.7
PAVA				*e*S	**Sn**	09 03 13.3	-0.3
PAVA				IAML		09 03 14.8	
	comp=Z,11μm,0.2s						
PAVA	**Las Pavas**	**0.77**	**349**	*e*P	**Pn**	09 03 01.4	-0.7
PAVA				*e*S	**Sn**	09 03 13.3	-0.3
PAVA				IAML		09 03 14.8	
	comp=Z,11μm,0.2s						
LBRS	**Las Brisas**	**0.82**	**342**	*e*P	**Pn**	**09 03 02.0**	**-0.8**
UTEC	**San Salvador**	**0.84**	**331**	IAML		09 03 16.6	
	comp=Z,7μm,0.2s						
UTEC	**San Salvador**	**0.84**	**331**	IAML		09 03 16.6	
	comp=Z,7μm,0.2s						
UDBS	**Soyapango**	**0.85**	**334**	*e*P	**Pn**	**09 03 02.0**	**-1.1**
UDBS				*e*S	**Sn**	09 03 13.6	-1.6
UDBS	**Soyapango**	**0.85**	**334**	*e*P	**Pn**	**09 03 02.0**	**-1.1**
UDBS				*e*S	**Sn**	09 03 13.6	-1.6
SNET	**Serv Nac Est T**	**0.85**	**329**	*e*S	**Sn**	**09 03 14.1**	**-1.2**
SNET				IAML		09 03 14.9	
	comp=Z,8μm,0.3s						
SNET	**Serv Nac Est T**	**0.85**	**329**	*e*S	**Sn**	**09 03 14.1**	**-1.2**
SNET				IAML		09 03 14.9	
	comp=Z,8μm,0.3s						
UESS	**San Salvador**	**0.85**	**331**	IAML		09 03 17.4	
	comp=Z,8μm,0.3s						
UESS	**San Salvador**	**0.85**	**331**	IAML		09 03 17.4	
	comp=Z,8μm,0.3s						
LFU	**La Fuente**	**0.85**	**338**	*e*P	**Pn**	**09 03 02.4**	**-0.7**
LFU	**La Fuente**	**0.85**	**338**	*e*P	**Pn**	**09 03 02.4**	**-0.7**
OPAM	**San Salvador**	**0.86**	**332**	*e*P	**Pn**	**09 03 02.1**	**-1.1**
OPAM				*e*S	**Sn**	**09 03 14.3**	**-1.2**
OPAM				IAML		09 03 16.9	
	comp=Z,6μm,0.2s						
OPAM	**San Salvador**	**0.86**	**332**	*e*P	**Pn**	**09 03 02.1**	**-1.1**
OPAM				*e*S	**Sn**	**09 03 14.3**	**-1.2**
OPAM				IAML		09 03 16.9	
	comp=Z,6μm,0.2s						
UEES	**San Salvador**	**0.89**	**330**	IAML		09 03 18.1	
	comp=Z,7μm,0.2s						
UEES	**San Salvador**	**0.89**	**330**	IAML		09 03 18.1	
	comp=Z,7μm,0.2s						
BOQS	**Boqueron**	**0.91**	**328**	*e*P	**Pn**	**09 03 03.0**	**-1.0**
BOQS				*e*S	**Sn**	09 03 15.2	-1.7
LCND	**La Caada**	**0.94**	**68**	*e*P	**Pn**	**09 03 03.1**	**-1.0**
LCND				*e*S	**Sn**	**09 03 16.4**	**-0.7**
LCND				IAML		09 03 23.1	
	comp=Z,7μm,0.4s						
LCND	**La Caada**	**0.94**	**68**	*e*P	**Pn**	**09 03 03.1**	**-1.0**
LCND				*e*S	**Sn**	**09 03 16.4**	**-0.7**
LCND				IAML		09 03 23.1	
	comp=Z,7μm,0.4s						
CNCH	**Conchagua**	**0.98**	**71**	*e*P	**Pn**	**09 03 03.7**	**-1.0**
CNCH				*e*S	**Sn**	**09 03 18.4**	**+0.2**
CNCH	**Conchagua**	**0.98**	**71**	*e*P	**Pn**	**09 03 04.2**	**-0.5**
CNCH				*e*S	**Sn**	**09 03 18.4**	**+0.2**
CAHU	**Cacacuatique**	**0.98**	**34**	*e*P	**Pn**	**09 03 04.5**	**-0.4**
CAHU				*e*S	**Sn**	**09 03 18.6**	**+0.1**
CAHU				IAML		09 03 20.1	
	comp=Z,3μm,0.4s						
CAHU	**Cacacuatique**	**0.98**	**34**	*e*P	**Pn**	**09 03 04.8**	**0.0**
CEVE	**Cerro Verde**	**1.19**	**317**	*e*S	**Sn**	**09 03 22.9**	**-0.4**
CEVE	**Cerro Verde**	**1.19**	**317**	*e*S	**Sn**	**09 03 22.9**	**-0.4**
CSGN	**Cosiguina Volc**	**1.19**	**89**	*e*Pn	**Pn**	**09 03 06.9**	**-0.5**
CSGN				*e*Sn	**Sn**	09 03 21.9	-1.1
CSGN	**Cosiguina Volc**	**1.19**	**89**	*e*P	**Pn**	**09 03 07.1**	**-0.3**
CSGN				*e*S	**Sn**	**09 03 23.8**	**+0.7**
SBLS	**San Blas**	**1.20**	**317**	*e*P	**Pn**	**09 03 07.0**	**-0.7**
SBLS	**San Blas**	**1.20**	**317**	*e*P	**Pn**	**09 03 07.0**	**-0.7**
SNJE	**San Jose**	**1.21**	**319**	*e*P	**Pn**	**09 03 07.0**	**-0.7**
SNJE	**San Jose**	**1.21**	**319**	*e*P	**Pn**	**09 03 07.0**	**-0.7**
LLGN	**La Laguna**	**1.22**	**352**	*e*P	**Pn**	**09 03 07.6**	**-0.2**
LLGN	**La Laguna**	**1.22**	**352**	*e*P	**Pn**	**09 03 07.6**	**-0.2**
RTR	**El Retiro**	**1.26**	**318**	*e*P	**Pn**	**09 03 07.9**	**-0.4**
RTR	**El Retiro**	**1.26**	**318**	*e*P	**Pn**	**09 03 07.9**	**-0.4**
UNIC	**Santa Ana**	**1.27**	**324**	*e*P	**Pn**	**09 03 07.8**	**-0.7**
UNIC				*e*S	**Sn**	**09 03 24.9**	**0.0**
UNIC	**Santa Ana**	**1.27**	**324**	*e*P	**Pn**	**09 03 07.8**	**-0.7**
UNIC				*e*S	**Sn**	**09 03 24.9**	**0.0**
CRIN	**San Cristobal**	**1.71**	**98**	*e*P	**Pn**	**09 03 13.3**	**-0.9**
CRIN				IAML		09 03 43.0	
	comp=N,2μm,0.3s						
TGUH	**Tegucigalpa,Un**	**1.83**	**53**	*e*Pn	**Pn**	**09 03 15.8**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.83**	**53**	*e*P	**Pn**	**09 03 15.8**	**0.0**
TGUH				IAML		09 03 40.8	
	comp=Z,2μm,0.3s						
TELN	**Telica**	**1.94**	**100**	*e*P	**Pn**	**09 03 16.0**	**-1.3**
CNGN	**Cerro Negro**	**2.08**	**102**	*e*P	**Pn**	**09 03 16.8**	**-2.4**
SOMN	**Somoto**	**2.16**	**77**	*e*P	**Pn**	**09 03 21.1**	**+0.7**
NBG	**Las Nubes**	**2.22**	**317**	*e*P	**Pn**	**09 03 23.1**	**+1.7**
MOMN	**Momotombo**	**2.25**	**104**	*e*P	**Pn**	**09 03 19.8**	**-1.7**
COPN	**Copaltepe**	**2.27**	**110**	*e*P	**Pn**	**09 03 19.8**	**-2.0**
PCG	**Pacaya**	**2.28**	**309**	*e*P	**Pn**	**09 03 23.8**	**+1.7**
PCG				*e*S	**Sn**	**09 03 52.4**	**+3.2**
MRL	**Marmol**	**2.29**	**338**	*e*P	**Pn**	**09 03 23.9**	**+1.7**
ESTN	**Estel**	**2.36**	**86**	*e*Pn	**Pn**	**09 03 22.3**	**-0.7**
ESTN	**Estel**	**2.36**	**86**	*e*P	**Pn**	**09 03 22.3**	**-0.7**
ESTN				*e*S	**Sn**	**09 03 50.4**	**-0.6**
APYN	**Apoyeque**	**2.48**	**107**	*e*P	**Pn**	**09 03 23.5**	**-1.1**
FUG	**Fuego 3**	**2.49**	**307**	*e*P	**Pn**	**09 03 26.4**	**+1.5**
FUG				*e*S	**Sn**	**09 03 56.6**	**+2.2**
MGAN	**Managua**	**2.60**	**108**	*e*P	**Pn**	**09 03 24.6**	**-1.7**
APG	**El Apazote**	**2.61**	**321**	Pn

KURB ⇓Sn Sn 09 19 56.5 -4.0
4.2nm,0.5s
KURB ⇓Lg Lg 09 20 30.7
5.8nm,0.6s
KURBB Kurchatov Arra 6.41 247 Pn Pn 09 18 47.0 +0.3
0.2nm,0.3s,baz=62,slow=14,SNR=8.0
KURB Sn Sn 09 20 00.5 0.0
0.1nm,0.3s,baz=65,slow=28,SNR=4.6
KURBB Lg Lg 09 20 35.5
0.1nm,0.3s,baz=62,slow=32,SNR=4.6
MK31 Makanchi Array 7.60 210 ⇑Pn Pn 09 19 03.5 +0.4
0.5nm,0.6s,baz=27,slow=14,SNR=13
MK31 ⇓Sn Sn 09 20 28.1 -1.7
1.3nm,0.7s,baz=35,slow=24,SNR=3.9
MK31 ⇓Lg Lg 09 21 08.5
2.6nm,0.8s,baz=28,slow=31,SNR=4.0
MKAR Makanchi Array 7.60 210 Pn Pn 09 19 03.7 +0.7
0.4nm,0.3s,baz=25,slow=12,SNR=11
MKAR Sn Sn 09 20 30.4 +0.6
0.2nm,0.3s,baz=32,slow=31,SNR=8.0
MKAR Lg Lg 09 21 11.4
0.1nm,0.3s,baz=37,slow=31,SNR=5.4
BVAR Borovoye Array 10.45 274 Pn Pn 09 19 42.4 +0.4
0.6nm,0.3s,baz=89,slow=15,SNR=3.7

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*ISCJB **30** 09:18:13.8±1.8, 36°.92N±0°.08×37°.35E±0°.06, h14km±6km, Error ellipse: s-maj=13.4km s-min=8.0km az=9.2*
*DDA **30** 09:18:14.9, 37°.08N×37°.47E, h7km±6km, ML2.7*
*ISK **30** 09:18:15.6, 37°.30N×37°.39E, h2km±1km, ML1.8/4*
ISC 30 09:18:15.9±1.7, 37°.07N±0°.10×37°.42E±0°.04, h13km±7km, n10, σ1s62/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.20**	**301**	PG	**Pg**	**09 18 20.2**	**-0.2**
GAZ				SG	**Sg**	**09 18 23.8**	**+0.3**
GZT	**Gaziantep**	**0.30**	**22**	IAML_P			
	comp=Z,5μm,0.2s						
GZT				*i* P	**Pg**	**09 18 20.1**	**-2.2**
GZT				*i* S	**Sg**	**09 18 30.2**	**+3.6**
HCB	**Kahramanmara**	**0.49**	**304**	*i* P	**Pg**	**09 18 24.7**	**-1.0**
HCB				*i* S	**Sb**	**09 18 33.7**	**+0.2**
AYKD	**Aykdinkavak**	**0.60**	**305**	IAML_P			
	comp=Z,654nm,0.2s						
AYKD				*i* P	**Pb**	**09 18 27.6**	**-0.6**
AYKD				*i* S	**Sb**	**09 18 35.8**	**-0.8**
KMRS	**Kahramanmaras**	**0.60**	**316**	PG	**Pg**	**09 18 26.0**	**-1.7**
ANDN	**Andirin**	**1.00**	**301**	IAML_P			
	comp=Z,666nm,0.3s						
ANDN				*i* P	**Pn**	**09 18 36.0**	**+0.3**
ANDN				*i* S	**Sn**	**09 18 51.1**	**+1.5**
URFA	**Urfa**	**1.18**	**71**	PN	**Pn**	**09 18 38.1**	**0.0**
URFA				SN	**Sn**	**09 18 55.5**	**+1.5**
ELBS	**KAHRAMANMARAS**	**1.27**	**350**	IAML_P			
	comp=Z,557nm,0.2s						
ELBS				*i* P	**Pn**	**09 18 40.8**	**+1.3**
ELBS				*i* S	**Sn**	**09 18 57.7**	**+1.3**
AKCD	**Akcadag**	**1.28**	**18**	IAML_P			
	comp=Z,756nm,0.2s						
AKCD				*i* P	**Pn**	**09 18 40.1**	**+0.5**
AKCD				*i* S	**Sn**	**09 18 56.9**	**+0.1**
DARE	**Darende-Malaty**	**1.50**	**2**	PN	**Pn**	**09 18 40.1**	**-2.5**

GUC 30 09:26:37.1±0.5, 23°.98S×67°.23W, h240km±11km, ML3.5, 7C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**2.19**	**290**	⇑*i* P	Pn	09 27 21.1	+0.2
PB15				*i* S	S	09 27 54.3	-0.8
GO02	**Mina Guanaco**	**2.45**	**241**	⇑*i* P	Pn	09 27 23.6	+0.1
GO02				*i* S	S	09 27 59.5	-0.4
GO02				IAML		09 28 00.1	
	comp=N,119nm,0.3s						
PB06	**IPOC Station P**	**2.50**	**300**	⇑*i* P	Pn	09 27 24.1	+0.2
PB06				*i* S	S	09 27 59.5	-1.0
PB06				IAML		09 28 01.3	
	comp=E,124nm,0.1s						
PB09	**IPOC Station P**	**2.85**	**319**	⇑*i* P	Pn	09 27 27.9	+0.3
PB09				*i* S	S	09 28 06.3	-1.1
PB09				IAML		09 28 09.6	
	comp=E,41nm,0.4s						
PB05	**IPOC Station P**	**2.95**	**292**	⇑*i* P	Pn	09 27 29.2	+0.6
PB05				*i* S	S	09 28 07.9	-1.2
PB05				IAML		09 28 11.8	
	comp=E,48nm,0.2s						
PB14	**IPOC Station P**	**2.97**	**257**	⇓*i* P	Pn	09 27 29.6	+0.7
PB14				*i* S	S	09 28 09.1	-0.7
PB14				IAML		09 28 12.1	
	comp=E,50nm,0.7s						
PB03	**IPOC Station P**	**3.01**	**309**	⇑*i* P	Pn	09 27 29.4	0.0
PB03				*i* S	S	09 28 08.5	-2.0
PB04	**IPOC Station P**	**3.15**	**301**	⇓*i* P	Pn	09 27 31.3	+0.5
PB04				*i* S	S	09 28 11.8	-1.3
PB07	**IPOC Station P**	**3.32**	**312**	⇑*i* P	Pn	09 27 32.8	0.0
PB07				*i* S	S	09 28 14.3	-2.3

MEX 30 09:45:38.4±0.6, 16°.10N×98°.24W, h2km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**20**	*e*P	Pg	09 45 44.4	-0.1
PNIG				*e*S	Sg	09 45 48.6	+0.1
TLIG	**Tlapa**	**1.49**	**348**	*e*P	Pn	09 46 02.7	-3.6
TLIG				*e*S	Sg	09 46 21.1	-5.3
CAIG	**El Cayaco**	**2.16**	**296**	*i* P	Pn	09 46 12.3	-3.1
CAIG				*i* S	Sn	09 46 37.9	-4.9
CMIG	**Matias Romero**	**3.37**	**72**	*i* P	Pn	09 46 28.7	-3.4
CMIG				*i* S	Sn	09 47 08.6	-4.1

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*IDC **30** 09:48:10.6±0.6, 10°.22N×126°.96E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/44, mbtmp4.1/16, MS3.1/4, Ms1 3.1/4, ms1mx2.7/31, Error ellipse: s-maj=37.1km s-min=13.5km az=74.0*
*ISCJB **30** 09:48:11.7±2.1, 10°.30N±0°.03×127°.07E±0°.04, h18km±15km, mb4.3/28, MS3.0/4, Error ellipse: s-maj=7.6km s-min=5.3km az=155.0*
*BJI **30** 09:48:11.0±0.0, 10°.40N×127°.20E, h10km, mb4.5/13, mB4.8/6*
*MAN **30** 09:48:12.3, 10°.40N×127°.12E, h95km, MS3.7*
*NEIC **30** 09:48:20.6±2.6, 9°.67N×125°.81E, h65km±8km, mb4.4/12, Error ellipse: s-maj=15.9km s-min=7.9km az=159.0*
ISC 30 09:48:15.2±2.1, 10°.37N±0°.04×127°.12E±0°.08, h29km±14km, n58, σ1s75/66, mb4.3/28, MS2.9/4, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.71**	**250**	⇓*i* P	**Pb**	**09 48 48.1**	**+2.1**
SCPH				*i* S	**Sb**	**09 49 08.0**	**+0.9**
BUTP	**Butuan**	**2.03**	**227**	*e*P	**Pn**	**09 48 45.1**	**-2.3**
BUTP				*e*S	**Sn**	**09 49 08.5**	**-3.4**
BESP	**Borongan**	**2.05**	**307**	*e*P	**Pn**	**09 48 45.2**	**-2.5**
BESP				*e*S	**Sn**	**09 49 10.9**	**-1.5**
MSLP	**Maasin**	**2.23**	**264**	*e*P	**Pn**	**09 48 48.8**	**-1.5**
MSLP				*e*S	**Sn**	**09 49 15.4**	**-1.5**
PLP	**Palo**	**2.24**	**291**	⇓*e*P	**Pn**	**09 48 47.8**	**-2.6**
PLP				*e*S	**Sn**	**09 49 13.6**	**-3.5**
CGP	**Cagayan de Oro**	**3.06**	**232**	*e*P	**Pn**	**09 49 04.2**	**+2.5**
LLP	**Lapu-Lapu**	**3.10**	**269**	*e*P	**Pn**	**09 49 00.6**	**-1.6**
LLP				*e*S	**Sn**	**09 49 37.1**	**-1.2**
BUKP	**Musuan**	**3.20**	**219**	*e*P	**Pn**	**09 49 04.2**	**+0.5**
BUKP				*e*S	**Sn**	**09 49 42.8**	**+1.9**
CNP	**Catarman**	**3.21**	**312**	*e*P	**Pn**	**09 49 01.4**	**-2.3**
CNP				*e*S	**Sn**	**09 49 40.3**	**-0.7**
TBP	**Tagbilaran**	**3.28**	**258**	*e*P	**Pn**	**09 49 05.8**	**+1.2**
DAV	**Davao City (W)**	**3.62**	**205**	*e*Pn	Pn	09 48 55.8	-13
DCPH	**Dipolog City**	**4.12**	**245**	⇑*e*P	**Sn**	**09 50 02.9**	**-0.5**
DDMP	**Don Marcelino,**	**4.46**	**198**	*e*P	**Pn**	**09 49 20.2**	**-0.8**
DDMP				*e*S	**Sn**	**09 50 10.2**	**-1.8**
OTRP	**Odiongan**	**5.37**	**292**	*e*P	**Pn**	**09 49 31.8**	**-1.7**
OTRP				*e*S	**Pb**	**09 49 45.5**	**-2.9**
TNTI	**Ternate**	**9.54**	**178**	*e*Pn	**Pn**	**09 50 27.7**	**-3.0**
KAPI	**Kappang**	**16.95**	**206**	*e*Pn	Pn	09 51 53.1	-17
	15nm,0.4s						
JNU	**Nakatsue**	**22.91**	**8**	P	**P**	**09 53 19.0**	**+2.2**
	6.6nm,1.0s,baz=142,slow=9.0,SNR=4.7						
WHN	**Wuhan**	**23.32**	**331**	P	**P**	**09 53 27.8**	**+6.8**
MTN	**Manton Dam**	**23.41**	**170**	*e*P	**P**	**09 53 19.4**	**-2.5**
	17nm,0.9s						
MANU	**Manus Island**	**23.63**	**120**	*e*P	P	09 53 33.9	+10
	228nm,0.2s						
KSRS	**Korea Array**	**26.97**	**1**	P	**P**	**09 53 55.5**	**+1.1**
	1.9nm,0.8s,baz=181,slow=11,SNR=6.7						
KSRS				LR	LR	10 05 11.1	
	comp=Z,30nm,19.2s,baz=155,slow=38						
MJAR	**Matsushiro Arr**	**27.92**	**19**	LR	LR	10 05 59.5	
	comp=Z,27nm,18.1s,baz=175,slow=38						
CMAR	**Chiang Mai Arr**	**28.41**	**290**	LR	LR	10 05 21.2	
	comp=Z,55nm,18.3s,baz=141,slow=36						
XAN	**Xi'an**	**28.86**	**328**	P	**P**	**09 54 12.5**	**+1.1**
XAN				pP	sP	09 54 18.3	-2.4
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WRA	**Warramunga Arr**	**30.95**	**167**	P	**P**	**09 54 27.9**	**-2.1**
	1.2nm,0.5s,baz=348,slow=11,SNR=12						
WRA				PcP	**PcP**	**09 57 26.0**	**-0.1**
	1.9nm,1.0s,baz=300,slow=1.8,SNR=4.2						
WR1	**Warramunga Arr**	**30.95**	**167**	*e*P	**P**	**09 54 27.9**	**-2.1**
WR1				*e*PcP	**PcP**	**09 57 26.0**	**-0.1**
AS31	**Alice Springs**	**34.47**	**169**	*e*P	**P**	**09 54 59.5**	**-1.3**
	1.2nm,1.0s						
ASAR	**Alice Springs**	**34.48**	**169**	P	**P**	**09 54 59.2**	**-1.5**
	1.1nm,0.4s,baz=352,slow=6.6,SNR=42						
ASAR				PcP	**PcP**	**09 57 36.0**	**+0.2**
	0.7nm,0.6s,baz=349,slow=2.4,SNR=8.5						
GTA	**Gaotai**	**37.78**	**325**	P	**P**	**09 55 30.5**	**+1.5**
GTA				pP	sP	09 55 37.5	-1.0
GTA				sP	pwP	09 55 41.3	-2.8
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
SONA0	**Songino Array**	**41.22**	**339**	*e*P	**P**	**09 55 58.1**	**+0.5**
SONM	**Songino Array**	**41.22**	**339**	P	**P**	**09 55 58.1**	**+0.5**
	2.5nm,1.2s,baz=149,slow=6.7,SNR=2.8						
BBOO	**Buckleboo**	**43.78**	**169**	*e*P	**P**	**09 56 18.2**	**-0.2**
	15nm,0.7s						
STKA	**Stephens Creek**	**44.24**	**162**	*e*P	**P**	**09 56 21.4**	**-0.6**
	0.7nm,0.9s						
STKA	**Stephens Creek**	**44.24**	**162**	P	**P**	**09 56 21.1**	**-0.9**
	2.8nm,1.0s,baz=344,slow=12,SNR=4.5						
PETK	**Petropavlovsk-**	**49.20**	**24**	LR	LR	10 20 48.4	
	comp=Z,13nm,18.1s,baz=138,slow=40						
MK31	**Makanchi Array**	**52.45**	**322**	*e*P	**P**	**09 57 26.0**	**+0.7**
	4.1nm,0.9s						
MK32	**Makanchi Array**	**52.45**	**322**	*e*P	**P**	**09 57 26.1**	**+0.7**
MKAR	**Makanchi Array**	**52.45**	**322**	P	**P**	**09 57 26.1**	**+0.7**
	3.0nm,0.6s,baz=120,slow=8.3,SNR=34						
MKAR				PcP	**PcP**	**09 58 36.0**	**+0.2**
	1.6nm,0.8s,baz=112,slow=6.7,SNR=5.0						
MAKZ	**Makanchi**	**52.65**	**322**	*e*P	**P**	**09 57 27.7**	**+0.9**
	4.4nm,1.0s						
KSH	**Kashi**	**53.78**	**312**	P	**P**	**09 57 37.8**	**+2.4**
ZALV	**Zalesovo Beam**	**54.94**	**331**	P	**P**	**09 57 42.8**	**-0.6**
	1.1nm,0.4s,baz=95,slow=7.4,SNR=3.7						
ZAA1	**Zalesovo Array**	**54.94**	**331**	*e*P	**P**	**09 57 42.8**	**-0.6**
KURK	**Kurchatov**	**56.46**	**325**	*e*P	**P**	**09 57 55.1**	**+0.8**
	18nm,1.0s						
BRVK	**Borovoye**	**62.13**	**325**	*e*P	**P**	**09 58 32.7**	**-0.8**
	8.9nm,1.0s						
ABKAR	**Akbulak array**	**67.34**	**319**	*e*P	**P**	**09 59 07.3**	**-0.2**
	3.0nm,0.6s						
AKTO	**Aktyubinsk**	**68.78**	**320**	P	**P**	**09 59 16.7**	**+0.1**
	1.9nm,0.7s,baz=87,slow=8.6,SNR=7.6						
ARU	**Arti**	**69.60**	**327**	*e*P	**P**	**09 59 21.5**	**-0.1**
	12nm,0.4s						
KBZ	**Khabaz**	**78.75**	**313**	P	**P**	**10 00 15.4**	**+0.2**
	2.7nm,0.9s,baz=108,slow=6.9,SNR=6.4						
ILAR	**Eielson Array**	**78.99**	**26**	P	**P**	**10 00 16.5**	**+0.4**
	0.3nm,0.8s,baz=263,slow=7.2,SNR=3.6						
ARCES	**ARCESS Array B**	**84.39**	**340**	P	**P**	**10 00 44.3**	**-0.2**
	1.0nm,0.7s,baz=87,slow=7.5,SNR=8.5						
BR101	**Keskin Array S**	**86.11**	**310**	*e*P	**P**	**10 00 53.2**	**-0.7**
BRTR	**Keskin Array B**	**86.11**	**310**	P	**P**	**10 00 53.2**	**-0.7**
	1.6nm,0.8s,baz=83,slow=3.5,SNR=7.3						
FIA0	**FINESS Array S**	**86.19**	**332**	*e*P	**P**	**10 00 53.7**	**0.0**
FINES	**FINESS Array B**	**86.19**	**332**	P	**P**	**10 00 53.7**	**0.0**
	0.9nm,0.4s,baz=70,slow=4.1,SNR=13						
VNDA	**Vanda**	**89.93**	**173**	P	**P**	**10 01 10.9**	**-0.2**
	0.5nm,0.6s,baz=329,slow=6.3,SNR=5.8						
YKA	**Yellowknife Ar**	**93.32**	**24**	P	**P**	**10 01 28.1**	**+0.9**
	0.4nm,0.7s,baz=296,slow=4.7,SNR=5.6						
TORD	**Torodi Ar. Bea**	**121.00**	**292**	PKP	**PKPdf**	**10 07 05.5**	**-0.5**
	0.4nm,0.6s,baz=20,slow=4.6,SNR=2.7						
PLCA	**Paso Flores**	**145.96**	**156**	PKPbc	**PKPbc**	**10 07 52.2**	**-0.3**
	2.5nm,0.7s,baz=344,slow=0.4,SNR=4.5						

SJA 30 09:56:32.6±0.6, 26°.57S×65°.22W, h8km±4km, ML3.3, MW3.8, Tucuman Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**0.24**	**206**	*i* P	Pg	09 56 38.6	+1.1
AHML				*i* S	Sg	09 56 42.2	+1.4
AHML				IAML		09 56 42.2	
	comp=Z,8μm,0.2s						
SLA	**San Lorenzo**	**1.85**	**352**	*i* P	Pb	09 57 07.4	+0.5
SLA				IAML		09 57 38.8	
	comp=E,284nm,0.4s						
CYA	**Choya**	**1.94**	**195**	*i* P	Pb	09 57 07.8	-0.4
CYA				*i* S	Sg	09 57 34.4	-0.6
CYA				IAML		09 57 35.1	
	comp=Z,267nm,0.1s						
HJA	**Humahuaca**	**3.35**	**357**	*i* P	Pn	09 57 28.8	+3.2
HJA				IAML		09 57 46.6	
	comp=Z,27nm,0.5s						

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*WEL **30** 10:04:56.0±1.6, 35°.S±9°.×17°.9E±1°.4, h33km, ML4.2/20*
ISC 30 10:04:56.3±2.1, 34°.6S±0°.1×179°.3E±0°.1, h35km, n36, σ1s76/39, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.12**	**195**	P	**Pn**	**10 05 39.9**	**-3.0**
HAZ	**Te Kaha**	**3.43**	**201**	P	**Pn**	**10 05 44.3**	**-2.9**
PKGZ	**Pakihiroa**	**3.48**	**196**	P	**Pn**	**10 05 46.2**	**-1.8**
PUZ	**Puketiti**	**3.62**	**193**	P	**Pn**	**10 05 49.8**	**-0.1**
PUZ				S	**Sn**	**10 06 31.9**	**+0.6**
KUZ	**Kuaotunu**	**3.65**	**232**	P	**Pn**	**10 05 47.9**	**-2.3**
RUGZ	**Raukumara Rang**	**3.66**	**201**	P	**Pn**	**10 05 49.5**	**-0.9**
TWGZ	**Tauwhareparae**	**3.78**	**196**	P	**Pn**	**10 05 52.7**	**+0.7**
TWGZ				S	**Sn**	**10 06 36.3**	**+1.0**
OPRZ	**Ohinepanea**	**3.97**	**213**	P	**Pn**	**10 05 57.1**	**+2.4**
MWZ	**Matawai**	**4.04**	**200**	P	**Pn**	**10 05 54.9**	**-0.8**
URZ	**Urewera**	**4.11**	**205**	P	**Pn**	**10 05 55.2**	**-1.3**
URZ				S	**Sn**	**10 06 40.9**	**-2.4**
MKAZ	**Moumakai**	**4.23**	**232**	P	**Pn**	**10 05 57.1**	**-1.0**
KARZ	**Kaharoa**	**4.26**	**215**	P	**Pn**	**10 06 01.1**	**+2.5**
OMRZ	**Omania**	**4.27**	**213**	P	**Pn**	**10 05 59.1**	**+0.3**
WCZ	**Waipu Caves**	**4.29**	**250**	P	**Pn**	**10 05 57.5**	**-1.5**
RIGZ	**Rimuhau**	**4.33**	**196**	P	**Pn**	**10 05 58.0**	**-1.7**
RRRZ	**Republican Roa**	**4.40**	**210**	P	**Pn**	**10 06 01.1**	**+0.4**
MUGZ	**Murupara**	**4.42**	**207**	P	**Pn**	**10 05 59.8**	**-1.1**
TOZ	**Tahuroa Road**	**4.43**	**223**	P	**Pn**	**10 06 01.0**	**+0.2**
SNGZ	**Shannon Statio**	**4.51**	**200**	P	**Pn**	**10 06 02.0**	**-0.1**
RAHZ	**Arahi**	**4.71**	**202**	P	**Pn**	**10 06 05.0**	**+0.1**
MTHZ	**Maungataniwha**	**4.73**	**204**	P	**Pn**	**10 06 05.7**	**+0.6**
OUZ	**Omahuta**	**4.74**	**260**	P	**Pn**	**10 06 03.6**	**-1.7**
NMHZ	**Naumai**	**4.97**	**203**	P	**Pn**	**10 06 07.8**	**-0.6**
BKZ	**Black Stump Fm**	**5.13**	**205**	P	**Pn**	**10 06 10.1**	**-0.5**
MCHZ	**McNeill Hill**	**5.32**	**202**	P	**Pn**	**10 06 12.2**	**-0.9**
HIZ	**Hauiti**	**5.34**	**221**	P	**Pn**	**10 06 13.6**	**+0.2**
TWVZ	**Taurewa**	**5.48**	**213**	P	**Pn**	**10 06 17.9**	**+2.4**
TUVZ	**Tukino**	**5.55**	**211**	P	**Pn**	**10 06 20.3**	**+3.9**
FWVZ	**Far West T-bar**	**5.58**	**212**	P	**Pn**	**10 06 16.4**	**-0.6**
KAHZ	**Kahuranaki**	**5.59**	**200**	P	**Pn**	**10 06 15.5**	**-1.4**
KRHZ	**Kereru**	**5.60**	**204**	P	**Pn**	**10 06 14.7**	**-2.4**
PXZ	**Pawanui**	**5.81**	**199**	P	**Pn**	**10 06 16.1**	**-3.8**
SNAA	**Sanae**	**74.07**	**179**	Pdiff	**P**	**10 16 29.1**	**+0.9**
VNA3	**Neumayer Olymp**	**74.31**	**177**	Pdiff	**P**	**10 16 31.0**	**+1.5**
VNA2	**Neumayer--Watz**	**74.72**	**178**	Pdiff	**P**	**10 16 33.2**	**+1.3**
	baz=177,slow=4.0						
VNA1	**Neumayer--Stat**	**74.96**	**177**	Pdiff	**P**	**10 16 34.7**	**+1.4**

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*ISCJB **30** 10:31:11.7±0.6, 18°.78N±0°.10×95°.62E±0°.08, h13km, mb4.1/21, MS3.1/2, Error ellipse: s-maj=15.7km s-min=8.8km az=30.6*
*IDC **30** 10:31:11.4±0.7, 18°.77N×95°.66E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.0/36, mbtmp4.1/16, ML3.1/1, MS2.9/3, Ms1 3.0/3, ms1mx2.6/34, Error ellipse: s-maj=24.6km s-min=12.4km az=30.0*
*NEIC **30** 10:31:20.5±1.1, 18°.84N×95°.64E, h67km±8km, mb4.3/9, Error ellipse: s-maj=27.4km s-min=16.2km az=215.0*
ISC 30 10:31:13.4±0.7, 18°.8N±0°.1×95°.65E±0°.07, h13km, n37, σ0s80/38, mb4.1/21, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**3.12**	**89**	*e*Pn	**Pn**	**10 32 02.5**	**+0.1**
CHTO				*e*Sn	**Sb**	**10 32 47.9**	**+1.1**
CM31	**Chiang Mai Arr**	**3.14**	**95**	*e*Pn	**Pb**	**10 32 07.2**	**-1.9**
CM31				*e*Sn	**Sb**	**10 32 47.1**	**-0.3**
CM31				*e*		10 33 44.1	
CMAR	**Chiang Mai Arr**	**3.14**	**95**	Pn	**Pn**	**10 32 01.8**	**-0.9**
	0.6nm,0.3s,baz=271,slow=15,SNR=9.7						
CMAR				Pg	**Pb**	**10 32 10.2**	**+1.1**
	9.2nm,0.3s,baz=271,slow=18,SNR=60						
CMAR				Lg	Lg	10 32 49.4	
	23nm,0.3s,baz=273,slow=32,SNR=6.7						
CMAR				LR	LR	10 33 44.1	
	comp=Z,76nm,18.3s,baz=275,slow=49						
SHL	**Shillong**	**7.60**	**333**	*e*Pn	**Pn**	**10 33 02.7**	**-1.4**
XAN	**Xi'an**	**19.26**	**35**	*e*P	**Pn**	**10 35 39.5**	**+0.7**
	11nm,0.8s						
AAK	**Ala-Archa**	**29.78**	**328**	*e*P	**P**	**10 37 21.1**	**+1.1**
	5.4nm,1.0s						
AAK	**Ala-Archa**	**29.78**	**328**	P	**P**	**10 37 20.8**	**+0.8**
	3.6nm,0.7s,baz=159,slow=2.8,SNR=8.2						
MK32	**Makanchi Array**	**30.02**	**341**	*e*P	**P**	**10 37 22.5**	**+0.5**
MKAR	**Makanchi Array**	**30.02**	**341**	P	**P**	**10 37 22.5**	**+0.5**
	2.1nm,0.6s,baz=153,slow=9.4,SNR=22						
KSRS	**Korea Array**	**33.77**	**50**	LR	LR	10 52 23.5	
	comp=Z,21nm,19.3s,baz=155,slow=38						
KURK	**Kurchatov**	**34.62**	**341**	*e*P	**P**	**10 38 01.5**	**-0.7**
	4.4nm,0.6s						
ZAA0	**Zalesovo Array**	**36.08**	**349**	*e*P	**P**	**10 38 14.8**	**+0.1**
	3.7nm,0.8s						
ZALV	**Zalesovo Beam**	**36.08**	**349**	P	**P**	**10 38 15.3**	**+0.6**
	4.5nm,0.7s,baz=169,slow=7.8,SNR=13						
ZAA1	**Zalesovo Array**	**36.09**	**349**	*e*P	**P**	**10 38 15.3**	**+0.5**
GEYT	**Alibeck**	**37.82**	**308**	P	**P**	**10 38 31.3**	**+1.6**
	2.5nm,0.3s,baz=156,slow=11,SNR=5.5						
BVAR	**Borovoye Array**	**39.41**	**336**	P	**P**	**10 38 42.6**	**-0.3**
	0.7nm,0.6s,baz=112,slow=11,SNR=3.9						
ABKAR	**Akbulak array**	**41.77**	**325**	*e*P	**P**	**10 39 03.3**	**+0.9**
	4.1nm,0.8s						
ASAR	**Alice Springs**	**56.33**	**137**	P	**P**	**10 40 55.1**	**+0.7**
	0.4nm,0.6s,baz=316,slow=7.1,SNR=8.8						
BR101	**Keskin Array S**	**56.87**	**306**	*e*P	**P**	**10 40 58.4**	**+0.2**
BRTR	**Keskin Array B**	**56.87**	**306**	P	**P**	**10 40 58.4**	**+0.2**
	1.0nm,0.8s,baz=120,slow=7.4,SNR=4.8						
PETK	**Petropavlovsk-**	**58.46**	**39**	LR	LR	11 08 36.7	
	comp=Z,26nm,19.8s,baz=258,slow=38						
AKASG	**Malin Array Be**	**60.80**	**318**	P	**P**	**10 41 24.8**	**-0.3**
	0.8nm,0.5s,baz=75,slow=7.1,SNR=5.4						
FIA0	**FINESS Array S**	**63.93**	**330**	*e*P	**P**	**10 41 46.0**	**+0.2**
FINES	**FINESS Array B**	**63.93**	**330**	P	**P**	**10 41 46.0**	**+0.2**
	1.9nm,0.8s,baz=58,slow=7.2,SNR=6.6						
ARCES	**ARCESS Array B**	**65.62**	**339**	P	**P**	**10 41 57.1**	**+0.2**
	1.0nm,0.7s,baz=80,slow=8.7,SNR=5.2						
STKA	**Stephens Creek**	**66.90**	**138**	*e*P	**P**	**10 42 06.0**	**+0.4**
	0.4nm,1.0s						
STKA	**Stephens Creek**	**66.90**	**138**	P	**P**	**10 42 06.0**	**+0.4**
	1.3nm,0.7s,baz=323,slow=7.1,SNR=4.8						
GERES	**GERESS Array B**	**70.86**	**316**	P	**P**	**10 42 30.4**	**+0.2**
	1.1nm,0.7s,baz=77,slow=6.0,SNR=12						
NB2	**NORSAR Subarra**	**71.08**	**329**	P	**P**	**10 42 30.8**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=86,slow=6.5						
NB200	**NORSAR Array S**	**71.08**	**329**	*e*P	**P**	**10 42 30.7**	**-0.5**
NOA	**NORSAR Array B**	**71.08**	**329**	P	**P**	**10 42 30.7**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=86,slow=6.1,SNR=4.5						
BOSA	**Boshof**	**82.70**	**237**	P	**P**	**10 43 36.2**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=3.6,slow=7.8,SNR=5.5						
MDM	**Murphy Dome**	**83.57**	**23**	*e*P	**P**	**10 43 40.6**	**-0.5**
	comp=Z,3.5nm,0.9s						
ILAR	**Eielson Array**	**84.15**	**22**	P	**P**	**10 43 42.5**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=301,slow=5.1,SNR=7.0						
PRP	**Porcupine Dome**	**84.23**	**22**	*e*P	**P**	**10 43 44.2**	**-0.4**
	comp=Z,3.7nm,0.9s						
YKA	**Yellowknife Ar**	**95.54**	**14**	P	**P**	**10 44 37.8**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=321,slow=4.0,SNR=5.8						
YKB5	**Yellowknife Ar**	**95.54**	**14**	*e*P	**P**	**10 44 37.9**	**-0.2**

MEX 30 10:55:13.4±0.9, 17°.27N×100°.49W, h29km±9km, MD3.8, Guerrero

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AKCD	**Akcadag**	**0.54**	**267**	*i* P	**Pg**	**11 08 31.2**	**-0.5**
AKCD				*i* S	**Sg**	**11 08 39.0**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.56**	**84**	PG	**Pg**	**11 08 32.2**	**+0.1**
SVRC				SG	**Sb**	**11 08 42.1**	**+0.8**
HEKM	**Malatya_Hekimh**	**0.75**	**318**	IAML_P			
	comp=Z,1μm,0.2s						
HEKM				*i* P	**Pb**	**11 08 36.9**	**+0.4**
HEKM				*i* S	**Sn**	**11 08 48.9**	**-0.8**
URFA	**Urfa**	**0.90**	**169**	PG	**Pb**	**11 08 38.5**	**-0.4**
URFA				SG	**Sn**	**11 08 52.3**	**-0.8**
KEMA	**Kemaliye**	**0.95**	**355**	*i* P	**Pg**	**11 08 39.4**	**-0.1**
GZT	**Gaziantep**	**1.27**	**221**	*i* P	**Pg**	**11 08 45.9**	**+0.3**
GZT				*i* S	**Sn**	**11 09 03.4**	**+1.1**
KMRS	**Kahramanmaras**	**1.57**	**239**	PN	**Pb**	**11 08 50.1**	**-0.3**
MAZI	**Mazidag**	**1.69**	**120**	PN	**Pb**	**11 08 52.3**	**-0.2**

IDC 30 11:37:43.8±2.1, 6°42.S×129°07.E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.4/38, mbtmp3.5/3, ML3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/7, Error ellipse: s-maj=146.3km s-min=30.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.38**	**160**	Pn	Pn	11 41 09.4	+0.5
	0.2nm,0.3s,baz=339,slow=11,SNR=12						
WRA				Sn	Sn	11 43 33.8	-15
	0.3nm,0.3s,baz=323,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**17.77**	**165**	P	Pn	11 41 52.5	-0.3
	0.2nm,0.3s,baz=334,slow=9.4,SNR=9.7						
KSRS	**Korea Array**	**43.66**	**359**	LR	LR	12 02 51.8	
	comp=Z,29nm,21.5s,baz=165,slow=35						
MKAR	**Makanchi Array**	**67.24**	**327**	P	P	11 48 40.1	0.0
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.6						

*SJA **30** 11:58:03.3±0.9, 23°.87S×66°.80W, h208km±14km, ML2.5, MW2.5*
*ISCJB **30** 11:58:04.6±1.3, 23°.85S±0°.06×66°.92W±0°.05, h198km±15km, Error ellipse: s-maj=9.5km s-min=6.7km az=175.2*
*GUC **30** 11:58:04.2±0.5, 23°.88S×67°.09W, h235km±12km, ML3.6*
ISC 30 11:58:03.0±3.1, 23°.87S±0°.07×66°.86W±0°.06, h213km±27km, n18, σ0°92/31, 4C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.48**	**64**	*e*P	**Pn**	**11 58 38.1**	**-0.2**
HJA				IAML		11 58 39.0	
	comp=Z,32nm,0.5s						
SLA	**San Lorenzo**	**1.50**	**125**	*e*P	**Pn**	**11 58 38.3**	**+0.3**
SLA				IAML		11 58 40.1	
	comp=E,26nm,0.7s						
YJA	**Yavi**	**2.09**	**36**	*e*P	**Pn**	**11 58 44.7**	**+0.7**
YJA				*e*S	**S**	**11 59 15.3**	**-0.3**
YJA				IAML		11 59 16.2	
	comp=E,5.6nm,0.5s						
LVC	**Limon Verde**	**2.27**	**303**	*e*P	**Pn**	**11 58 46.5**	**+0.8**
LVC				IAML		11 59 21.9	
	comp=E,23nm,0.2s						
PB15	**IPOC Station P**	**2.49**	**285**	*e*P	**Pn**	**11 58 49.5**	**+1.6**
PB15				*e*S	**S**	**11 59 22.6**	**+0.1**
PB15	**IPOC Station P**	**2.49**	**285⇑**	*e*P	**Pn**	**11 58 48.6**	**+0.8**
PB15				*e*S	**S**	**11 59 22.1**	**-0.4**
PB06	**IPOC Station P**	**2.75**	**294**	*e*P	**Pn**	**11 58 51.5**	**+0.7**
PB06				*e*S	**S**	**11 59 27.1**	**-0.6**
PB06				IAML		11 59 30.3	
	comp=E,136nm,0.2s						
GO02	**Mina Guanaco**	**2.80**	**242⇑**	*e*P	**Pn**	**11 58 52.3**	**+0.9**
GO02				*i* S	**S**	**11 59 29.3**	**+0.4**
GO02				IAML		11 59 30.4	
	comp=E,204nm,0.3s						
PB09	**IPOC Station P**	**3.02**	**313**	*e*P	**Pn**	**11 58 55.1**	**+1.3**
PB09	**IPOC Station P**	**3.02**	**313**	*e*P	**Pn**	**11 58 55.0**	**+1.2**
PB09				*e*S	**S**	**11 59 33.6**	**+0.5**
PB09				IAML		11 59 37.5	
	comp=N,39nm,0.4s						
PB03	**IPOC Station P**	**3.23**	**304⇑**	*e*P	**Pn**	**11 58 56.8**	**+0.5**
PB03				*e*S	**S**	**11 59 36.4**	**-1.1**
PB03				IAML		11 59 38.5	
	comp=N,104nm,0.2s						
PB05	**IPOC Station P**	**3.24**	**288⇓**	*e*P	**Pn**	**11 58 57.0**	**+0.7**
PB05	**IPOC Station P**	**3.24**	**288**	*e*P	**Pn**	**11 58 56.8**	**+0.6**
PB05				*e*S	**S**	**11 59 36.1**	**-1.5**
PB05				IAML		11 59 40.5	
	comp=E,37nm,0.3s						
PB14	**IPOC Station P**	**3.32**	**256**	*e*P	**Pn**	**11 58 57.9**	**+0.4**
PB14				*e*S	**S**	**11 59 38.3**	**-1.4**
PB04	**IPOC Station P**	**3.40**	**296**	*e*P	**Pn**	**11 58 59.0**	**+0.8**
PB04				*e*S	**S**	**11 59 40.1**	**-1.0**
PB10	**IPOC Station P**	**3.41**	**275**	*e*P	**Pn**	**11 58 58.2**	**+0.1**
PB10				*e*S	**S**	**11 59 39.7**	**-1.3**
PB07	**IPOC Station P**	**3.52**	**307⇑**	*i*P	**Pn**	**11 59 00.0**	**+0.4**
PB07				*e*S	**S**	**11 59 41.9**	**-1.8**
PB01	**IPOC Station P**	**3.72**	**319**	*e*P	**Pn**	**11 59 02.4**	**+0.3**
PB01				*e*S	**S**	**11 59 47.5**	**-0.6**

*IDC **30** 12:11:41.8±0.7, 12°.16N×143°.61E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.0/37, mbtmp4.1/14, MS3.2/9, Ms1 3.3/9, ms1mx3.1/24, Error ellipse: s-maj=22.1km s-min=16.6km az=114.0*
*ISCJB **30** 12:11:43.3±0.4, 12°.04N±0°.07×143°.65E±0°.08, h25km, mb4.3/37, MS3.2/9, Error ellipse: s-maj=12.5km s-min=7.4km az=38.7*
*NEIC **30** 12:11:47.1±1.3, 12°.05N×143°.77E, h40km±7km, mb4.4/27, Error ellipse: s-maj=22.8km s-min=7.5km az=132.0*
ISC 30 12:11:45.3±0.7, 12°.1N±0°.1×143°.7E±0°.1, h25km, n64, σ0°91/56, mb4.4/37, MS3.2/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.91**	**38**	*e*Pn	**Pn**	**12 12 16.4**	**0.0**
GUMO				*e*Sn	**Sn**	**12 12 40.0**	**+0.4**
GUMO	**Guam**	**1.91**	**38**	Pn	**Pn**	**12 12 15.5**	**-0.8**
	305nm,0.3s,baz=257,slow=1.1,SNR=165						
GUMO				Sn	**Sn**	**12 12 39.6**	**0.0**
	565nm,0.3s,baz=169,slow=23,SNR=12						
GUMO				LR	LR	12 12 48.6	
	comp=Z,131nm,18.8s,baz=230,slow=36						
ANA2	**Anatahan**	**4.68**	**25**	*e*Pn	**Pn**	**12 12 54.9**	**+0.4**
SARN	**Sarigan**	**5.04**	**24**	*e*Pn	**Pn**	**12 13 00.5**	**+1.2**
H11S3	**WAKE ISLAND Hy**	**23.11**	**71**	T	T	12 40 45.7	
	baz=239,slow=78,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**23.12**	**71**	T	T	12 40 49.7	
	baz=239,slow=78,SNR=3.5						
H11S2	**WAKE ISLAND Hy**	**23.12**	**71**	T	T	12 40 54.1	
	baz=239,slow=78,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**23.59**	**68**	T	T	12 41 28.4	
	baz=255,slow=75,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**23.60**	**68**	T	T	12 41 29.2	
	baz=255,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**23.61**	**68**	T	T	12 41 27.4	
	baz=255,slow=75,SNR=5.2						
JNU	**Nakatsue**	**23.99**	**333**	*e*P	**P**	**12 16 58.7**	**+0.6**
	6.5nm,0.9s						
JNU	**Nakatsue**	**23.99**	**333**	P	**P**	**12 16 58.7**	**+0.6**
	8.1nm,1.2s,baz=180,slow=3.7,SNR=4.6						
MJAR	**Matsushiro Arr**	**24.84**	**350**	P	**P**	**12 17 06.3**	**+0.5**
	1.4nm,0.6s,baz=167,slow=7.4,SNR=3.5						
MJAR				LR	LR	12 25 56.0	
	comp=Z,84nm,18.0s,baz=190,slow=34						
MAJO	**Matsushiro**	**24.85**	**350**	*e*P	**P**	**12 17 06.3**	**+0.5**
KSRS	**Korea Array**	**28.93**	**334**	LR	LR	12 28 08.2	
	comp=Z,20nm,19.2s,baz=120,slow=34						
WR1	**Warramunga Arr**	**33.12**	**196**	*e*P	**P**	**12 18 19.6**	**0.0**
WRA	**Warramunga Arr**	**33.12**	**196**	P	**P**	**12 18 19.6**	**0.0**
	2.7nm,0.8s,baz=14,slow=10,SNR=6.9						
USRK	**Ussuriysk Ar.**	**33.54**	**345**	LR	LR	12 30 12.8	
	comp=Z,38nm,20.3s,baz=156,slow=33						
ASAR	**Alice Springs**	**36.78**	**195**	P	**P**	**12 18 52.8**	**+1.5**
	0.6nm,0.9s,baz=18,slow=11,SNR=5.4						
ASAR				LR	LR	12 35 14.8	
	comp=Z,37nm,18.1s,baz=40,slow=38						
PETK	**Petropavlovsk-**	**42.44**	**13**	LR	LR	12 37 51.7	
	comp=Z,22nm,19.0s,baz=195,slow=37						
CMAR	**Chiang Mai Arr**	**43.51**	**284**	P	**P**	**12 19 45.4**	**-1.8**
	0.5nm,0.5s,baz=87,slow=6.4,SNR=3.3						
CMAR				LR	LR	12 37 50.4	
	comp=Z,25nm,19.2s,baz=180,slow=36						
SONA0	**Songino Array**	**47.30**	**326**	*e*P	**P**	**12 20 17.1**	**+0.2**
SONM	**Songino Array**	**47.30**	**326**	P	**P**	**12 20 17.1**	**+0.2**
	0.9nm,0.5s,baz=150,slow=7.3,SNR=3.7						
MK32	**Makanchi Array**	**61.76**	**317**	*e*P	**P**	**12 22 02.2**	**+0.3**
MKAR	**Makanchi Array**	**61.76**	**317**	P	**P**	**12 22 02.2**	**+0.3**
	0.7nm,0.6s,baz=95,slow=9.3,SNR=7.3						
ZALV	**Zalesovo Beam**	**62.16**	**325**	P	**P**	**12 22 04.0**	**-0.4**
	0.7nm,0.4s,baz=35,slow=5.4,SNR=3.9						
ZALV				LR	LR	12 49 32.1	
	comp=Z,30nm,19.2s,baz=68,slow=37						
ZAA1	**Zalesovo Array**	**62.16**	**325**	*e*P	**P**	**12 22 04.0**	**-0.4**
KURK	**Kurchatov**	**64.97**	**321**	*e*P	**P**	**12 22 23.8**	**+0.7**
	5.0nm,0.8s						
BPAW	**Bear Paw Mtn.**	**68.54**	**25**	*e*P	**P**	**12 22 44.9**	**-0.7**
	2.2nm,0.8s						
PMR	**Palmer**	**68.67**	**28**	*e*P	**P**	**12 22 45.8**	**-0.6**
	3.2nm,0.7s						
MLY	**Manley**	**68.92**	**24**	*e*P	**P**	**12 22 47.9**	**-0.1**
	2.1nm,0.7s						
SML	**Sawmill**	**69.09**	**28**	*e*P	**P**	**12 22 48.1**	**-1.0**
	7.3nm,0.9s						
SCM	**Sheep Creek Mo**	**69.56**	**28**	*e*P	**P**	**12 22 51.8**	**-0.2**
	12nm,1.1s						
MDM	**Murphy Dome**	**69.92**	**25**	*e*P	**P**	**12 22 53.7**	**-0.4**
	2.0nm,0.8s						
CCB	**Clear Creek Bu**	**70.02**	**25**	*e*P	**P**	**12 22 53.5**	**-1.1**
	1.6nm,0.9s						
ILAR	**Eielson Array**	**70.43**	**25**	P	**P**	**12 22 55.9**	**-1.3**
	1.6nm,0.5s,baz=248,slow=5.9,SNR=41						
ILB	**Eielson Array**	**70.43**	**25**	*e*P	**P**	**12 22 55.9**	**-1.3**
	2.4nm,0.7s						
BRVK	**Borovoye**	**70.44**	**322**	*e*P	**P**	**12 22 58.5**	**+1.0**
	2.6nm,0.9s						
TOLK	**Toolik Lake Re**	**70.44**	**21**	*e*P	**P**	**12 22 55.6**	**-1.6**
	3.7nm,0.9s						
PAX	**Paxson**	**70.65**	**27**	*e*P	**P**	**12 22 58.4**	**-0.3**
	3.6nm,1.0s						
DOT	**Dot Lake**	**71.41**	**27**	*e*P	**P**	**12 23 02.8**	**-0.4**
	3.9nm,0.8s						
SCRK	**Sand Creek**	**71.50**	**26**	*e*P	**P**	**12 23 03.7**	**-0.2**
	2.6nm,1.0s						
DAWY	**Dawson**	**73.51**	**27**	*e*P	**P**	**12 23 16.6**	**+0.8**
	5.8nm,1.1s						
EPYK	**Eagle Plains**	**74.86**	**24**	*e*P	**P**	**12 23 23.9**	**+0.3**
	3.2nm,0.8s						
WHY	**Whitehorse**	**75.38**	**30**	*e*P	**P**	**12 23 24.7**	**-2.1**
	3.3nm,1.0s						
INK	**Inuvik**	**76.21**	**22**	*e*P	**P**	**12 23 31.1**	**0.0**
	6.5nm,0.9s						
ABKAR	**Akbulak array**	**76.86**	**318**	*e*P	**P**	**12 23 36.0**	**+0.8**
	1.4nm,0.8s						
YKW3	**Yellowknife Ar**	**84.71**	**27**	*e*P	**P**	**12 24 16.8**	**-0.1**
	2.7nm,0.6s						
YKA	**Yellowknife Ar**	**84.74**	**27**	P	**P**	**12 24 17.4**	**+0.4**
	1.9nm,0.5s,baz=286,slow=5.1,SNR=38						
YKB5	**Yellowknife Ar**	**84.74**	**27**	*e*P	**P**	**12 24 17.4**	**+0.4**
B08A	**Colville Reser**	**85.69**	**42**	*e*P	**P**	**12 24 21.3**	**-0.9**
	4.1nm,0.8s						
NEW	**Newport**	**87.14**	**41**	*e*P	**P**	**12 24 28.4**	**-1.0**
	5.1nm,0.8s						
BMO	**Blue Mountains**	**87.89**	**45**	*e*P	**P**	**12 24 31.7**	**-1.5**
	2.0nm,0.8s						
ARCES	**ARCESS Array B**	**88.14**	**342**	P	**P**	**12 24 33.6**	**-0.1**
	1.4nm,0.5s,baz=66,slow=7.2,SNR=18						
NV01	**Mina Array Sit**	**88.79**	**51**	*e*P	**P**	**12 24 39.1**	**+1.4**
NVAR	**Mina Array Bea**	**88.79**	**51**	P	**P**	**12 24 39.1**	**+1.4**
	1.8nm,0.7s,baz=259,slow=6.0,SNR=12						
FIA0	**FINESS Array S**	**92.02**	**335**	*e*P	**P**	**12 24 51.4**	**-0.5**
FINES	**FINESS Array B**	**92.02**	**335**	P	**P**	**12 24 51.4**	**-0.5**
	2.7nm,0.6s,baz=76,slow=4.7,SNR=14						
TCRU	**Three Creeks R**	**93.15**	**50**	*e*P	**P**	**12 24 55.8**	**-2.2**
	5.3nm,0.5s						
PDAR	**Pinedale Array**	**93.87**	**45**	P	**P**	**12 25 00.1**	**-1.0**
	0.3nm,0.5s,baz=245,slow=3.8,SNR=2.5						
PDAR				LR	LR	13 05 43.1	
	comp=Z,14nm,18.1s,baz=262,slow=34						
NOA	**NORSAR Array B**	**98.02**	**339**	LR	LR	13 13 13.5	
	comp=Z,11nm,18.9s,baz=355,slow=38						
TOA1	**Torodi Ar. Sit**	**134.70**	**302**	*e*PKPdf	**PKiKP**	**12 31 03.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**134.70**	**302**	PKP	**PKiKP**	**12 31 03.9**	**-0.4**
	0.3nm,0.6s,baz=66,slow=4.9,SNR=2.3						
LPAZ	**La Paz**	**148.93**	**101**	PKPbc	**PKPbc**	**12 31 34.2**	**+1.4**
	2.1nm,0.6s,baz=304,slow=7.0,SNR=11						

*ZUR **30** 12:32:04.5, 48°.07N×7°.40E, h10km±1km, MLh2.4/17, Error ellipse: s-maj=1.8km s-min=0.8km az=276.0*
*STR **30** 12:32:05.1±0.2, 48°.1N±0°.9×°.±°, h0km, M2.7/6, MLv2.7/6*
*LDG **30** 12:32:05.0±0.0, 48°.05N×7°.37E, h6km, Md3.1/4, Ml3.0/18, Error ellipse: s-maj=0.8km s-min=0.6km az=146.0*
*PRU **30** 12:32:06.1±0.0, 48°.08N×7°.46E, h7km*
*BGR **30** 12:32:06.3±0.4, 48°.09N×7°.40E, h10km, ML2.6/13, Error ellipse: s-maj=6.7km s-min=4.4km az=32.0*
*BNS **30** 12:32:08.1±0.5, 48°.10N×7°.42E, h10km, ML2.2*
ISC 30 12:32:05.3±0.8, 48°.07N±0°.01×7°.39E±0°.01, h12km±6km, n129, σ1°51/217, 10C-16D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.22**	**314**	Pg	**Pg**	**12 32 09.4**	**-0.6**
ECH	**Echery**	**0.22**	**314**	⇓Pg	**Pg**	**12 32 09.4**	**-0.6**
ECH				Sg	**Sg**	**12 32 12.5**	**-0.7**
ECH	**Echery**	**0.22**	**314**	⇓*i*P*	**Pg**	**12 32 09.4**	**-0.6**
ECH				S*	**Sg**	**12 32 12.5**	**-0.7**
MOF	**Molkenrain**	**0.28**	**220**	Pg	**Pg**	**12 32 10.3**	**-0.8**
MOF	**Molkenrain**	**0.28**	**220**	⇑P*	**Pg**	**12 32 10.2**	**-0.8**
MOF				S*	**Sg**	**12 32 13.9**	**-1.0**
FBB	**Freiburg im Br**	**0.31**	**101**	P*	**Pg**	**12 32 11.3**	**-0.4**
FBB				S*	**Sg**	**12 32 15.6**	**-0.3**
WLS	**Welschbruch**	**0.35**	**356**	Pg	**Pg**	**12 32 12.2**	**-0.2**
WLS	**Welschbruch**	**0.35**	**356**	⇑P*	**Pg**	**12 32 12.2**	**-0.2**
WLS				S*	**Sg**	**12 32 17.3**	**+0.1**
CDF	**Champ du Feu**	**0.36**	**347**	*e*Pg	**Pg**	**12 32 12.1**	**-0.4**
CDF				*e*Sg	**Sg**	**12 32 16.8**	**-0.5**
	76nm,0.3s						
KIZ	**Kirchzarten**	**0.37**	**107**	Pg	**Pg**	**12 32 12.1**	**-0.6**
KIZ	**Kirchzarten**	**0.37**	**107**	⇓Pg	**Pg**	**12 32 12.1**	**-0.6**
KIZ				Sg	**Sg**	**12 32 16.9**	**-0.7**
KIZ	**Kirchzarten**	**0.37**	**107**	⇓P*	**Pg**	**12 32 12.1**	**-0.6**
KIZ				S*	**Sg**	**12 32 16.9**	**-0.7**
ENDD	**Endenburg**	**0.42**	**146**	⇓*i*P*	**Pg**	**12 32 12.8**	**-0.7**
ENDD				S*	**Sg**	**12 32 18.7**	**-0.5**
ENDD				SmS		12 32 23.9	
HINF	**Hinteralfeld**	**0.44**	**236**	*e*Pg	**Pg**	**12 32 12.8**	**-1.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**12 32 18.6**	**-1.3**
	198nm,0.2s,SNR=1.0						
OTER2	**Otterbach 2 (B**	**0.51**	**164**	Pg	**Pg**	**12 32 14.3**	**-0.9**
MATTE	**Schuetzenmatte**	**0.53**	**167**	Pg	**Pg**	**12 32 15.1**	**-0.5**
SBIS2	**Binningen**	**0.54**	**166**	Pg	**Pg**	**12 32 15.5**	**-0.3**
BERGE	**Lenzkirch (DE)**	**0.56**	**110**	Pg	**Pg**	**12 32 15.6**	**-0.6**
BERGE				Sg	**Sg**	**12 32 23.0**	**-0.7**
BERGE	**Lenzkirch (DE)**	**0.56**	**110**	⇓*e*P*	**Pg**	**12 32 15.6**	**-0.6**
BERGE				PmP		12 32 17.4	
BERGE				S*	**Sg**	**12 32 23.1**	**-0.7**
BERGE				SmS		12 32 26.3	
SKAF	**Kaiseraugst-Fr**	**0.57**	**157**	Pg	**Pg**	**12 32 15.7**	**-0.7**
BFO	**Black Forest**	**0.68**	**67**	⇑Pg	**Pg**	**12 32 17.9**	**-0.6**
BFO	**Black Forest**	**0.68**	**67**	⇑*i*P*	**Pg**	**12 32 17.9**	**-0.6**
BFO				PmP		12 32 19.2	
BFO				S*	**Sg**	**12 32 27.3**	**-0.1**
BFO				SmS		12 32 29.4	
BOURR	**Bourrignon**	**0.68**	**189**	Pg	**Pg**	**12 32 18.0**	**-0.5**
BOURR	**Bourrignon**	**0.68**	**189**	⇓Pg	**Pg**	**12 32 18.0**	**-0.5**
BOURR				Sg	**Sg**	**12 32 27.1**	**-0.3**
BOURR	**Bourrignon**	**0.68**	**189**	⇓*e*P*	**Pg**	**12 32 18.0**	**-0.5**
BOURR				PmP		12 32 19.4	
BOURR				S*	**Sg**	**12 32 27.2**	**-0.2**
BOURR				SmS		12 32 30.3	
OPP	**Oppenau**	**0.68**	**50**	Pg	**Pg**	**12 32 18.2**	**-0.4**
OPP	**Oppenau**	**0.68**	**50**	⇑P*	**Pg**	**12 32 18.1**	**-0.5**
OPP				PmP		12 32 19.4	
OPP				SmS		12 32 29.9	
ROTHE	**Rothenfluh**	**0.69**	**149**	Pg	**Pg**	**12 32 17.9**	**-0.8**
HAU	**Haudompre**	**0.70**	**266**	*e*Pg	**Pg**	**12 32 18.2**	**-0.8**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**12 32 26.3**	**-1.9**
	242nm,0.4s,SNR=1.0						
SULZ	**Cheisacher**	**0.72**	**138**	Pg	**Pg**	**12 32 18.5**	**-0.7**
SULZ	**Cheisacher**	**0.72**	**138**	⇓Pg	**Pg**	**12 32 18.6**	**-0.7**
SULZ	**Cheisacher**	**0.72**	**138**	⇓P*	**Pg**	**12 32 18.6**	**-0.7**
ACHB	**Acheberg**	**0.75**	**129**	Pg	**Pg**	**12 32 19.1**	**-0.7**
EMMET	**Emmethof**	**0.75**	**146**	⇓Pg	**Pg**	**12 32 19.3**	**-0.6**
BALST	**Balsthal**	**0.76**	**164**	Pg	**Pg**	**12 32 19.2**	**-0.7**
BALST	**Balsthal**	**0.76**	**164**	⇓Pg	**Pg**	**12 32 19.3**	**-0.7**
BALST	**Balsthal**	**0.76**	**164**	⇓P*	**Pg**	**12 32 19.3**	**-0.7**
BALST				PmP		12 32 20.4	
BALST				SmS		12 32 31.9	
SLE	**Schleitheim**	**0.80**	**112**	Pg	**Pg**	**12 32 20.1**	**-0.6**
SLE	**Schleitheim**	**0.80**	**112**	⇓Pg	**Pg**	**12 32 20.0**	**-0.7**
SLE				Sg	**Sg**	**12 32 30.7**	**-0.4**
SLE	**Schleitheim**	**0.80**	**112**	⇓P*	**Pg**	**12 32 20.0**	**-0.7**
SLE				S*	**Sg**	**12 32 30.7**	**-0.4**
SLE				SmS		12 32 32.6	
LOMF	**Lomont**	**0.81**	**208**	Pg	**Pg**	**12 32 20.3**	**-0.6**
LOMF				Sg	**Sg**	**12 32 32.0**	**+0.5**
LOMF	**Lomont**	**0.81**	**208**	⇓*e*P*	**Pg**	**12 32 20.4**	**-0.6**
LOMF				SmS		12 32 33.2	
SUBF	**Surbourg**	**0.90**	**19**	Pg	**Pg**	**12 32 22.6**	**-0.1**
SUBF				Sg	**Sb**	**12 32 35.8**	**+0.9**
DAGMA	**Lutertal, Dagm**	**0.93**	**153**	Pn	**Pg**	**12 32 22.7**	**-0.6**
LANF	**Langenberg**	**0.96**	**16**	Pg	**Pg**	**12 32 23.2**	**-0.5**
LANF				Sg	**Sb**	**12 32 36.9**	**+0.4**
LANF	**Langenberg**	**0.96**	**16**	P	**Pg**	**12 32 23.1**	**-0.6**
LANF				S	**Sb**	**12 32 36.8**	**+0.4**
THEF	**They Montfort**	**0.96**	**280**	Pg	**Pg**	**12 32 23.1**	**-0.6**
THEF	**They Montfort**	**0.96**	**280**	P*	**Pg**	**12 32 23.1**	**-0.6**
THEF				PmP		12 32 23.9	
CHMF	**Charmoille**	**0.96**	**212**	Pg	**Pg**	**12 32 22.9**	**-0.9**
CHMF	**Charmoille**	**0.96**	**212**	Pn	**Pg**	**12 32 22.8**	**-0.9**
CHMF				Sg	**Sg**	**12 32 35.4**	**-0.8**
PEB	**Petersbachel**	**1.03**	**12**	⇑P	**Pg**	**12 32 24.0**	**-1.1**
PEB				Sg	**Sg**	**12 32 38.0**	**-0.4**
LBG	**Lerchenberg**	**1.11**	**57**	P	**Pg**	**12 32 25.1**	**-1.5**
LBG				PmP		12 32 25.5	
LBG				SmS		12 32 41.7	
SISB	**Singen-Schiene**	**1.12**	**109**	⇑Pg	**Pb**	**12 32 26.7**	**+0.1**
GUT	**Gutenstein**	**1.15**	**89**	P	**Pb**	**12 32 26.2**	**-1.0**
GUT				Pg	**Pg**	**12 32 27.1**	**-0.4**
GUT				PmP		12 32 27.4	
GUT				S	**Sb**	**12 32 40.7**	**-1.4**
GUT				SmS		12 32 42.7	
WILA	**Wila**	**1.21**	**122**	Pg	**Pb**	**12 32 28.1**	**0.0**
WILA				Sg	**Sb**	**12 32 44.4**	**+0.7**
TUBL	**Tuebingen-Lenn**	**1.22**	**67**	Sg	**Sb**	**12 32 44.6**	**+0.7**
PAGF	**Fort de Pagny**	**1.22**	**294**	*e*Pg	**Pn**	**12 32 27.5**	**-0.6**
PAGF	**Fort de Pagny**	**1.22**	**294**	*e*P	**Pn**	**12 32 28.5**	**+0.4**
	baz=110						
PAGF				*e*Sg	**Sb**	**12 32 42.0**	**-1.9**
	48nm,0.2s						
BRET	**Bretten**	**1.28**	**42**	P	**Pn**	**12 32 27.5**	**-1.5**
BRET				Pg	**Pb**	**12 32 29.3**	**0.0**
BRET				Sg	**Sn**	**12 32 46.9**	**+0.8**
BRANT	**Les Verrieres**	**1.29**	**209**	Sg	**Sb**	**12 32 46.5**	**+0.5**
TORNY	**Torny/Romont**	**1.32**	**193**	Pg	**Pn**	**12 32 30.0**	**+0.3**
TORNY				Sg	**Sb**	**12 32 47.5**	**+0.5**
KTD	**Kalmit**	**1.34**	**20**	Sg	**Sg**	**12 32 48.9**	**+0.5**
BUCH	**Bad Urach**	**1.36**	**73**	⇑P	**Pn**	**12 32 28.9**	**-1.2**
BUCH				Pg	**Pb**	**12 32 31.3**	**+0.5**
BUCH				Sg	**Sn**	**12 32 49.3**	**+1.1**
STU	**Stuttgart**	**1.39**	**59**	Pg	**Pn**	**12 32 31.4**	**+0.9**
STU				Sg	**Sn**	**12 32 49.7**	**+0.9**
DUP	**Duppenweiler**	**1.41**	**344**	Pg	**Pb**	**12 32 32.3**	**+0.8**
IMS	**Imsbach**	**1.57**	**12**	P	**Pn**	**12 32 31.4**	**-1.6**
IMS				Pg	**Pb**	**12 32 35.0**	**+0.8**
IMS				Sg	**Sg**	**12 32 55.9**	**+0.2**
SFTF	**Sexfontaines**	**1.58**	**276**	*e*Pn	**Pn**	**12 32 32.1**	**-1.1**
SFTF	**Sexfontaines**	**1.58**	**276**	*e*Pg	**Pb**	**12 32 35.3**	**+0.8**
	baz=96						
SFTF				*e*Sg	**Sn**	**12 32 54.6**	**+1.0**
	24nm,0.2s						
LIENZ	**Kamor/St.Gall**	**1.61**	**118**	⇑P	**Pn**	**12 32 33.6**	**-0.1**
LIENZ				S	**Sn**	**12 32 53.2**	**-1.3**
LIENZ				Sg	**Sb**	**12 32 57.2**	**+1.8**
MEZF	**Maizieres J'vi**	**1.62**	**286**	*e*Pn	**Pn**	**12 32 31.8**	**

BAIF	**Baives**	**2.89**	**315**	*e*P		**Pn**		**12 32 52.4**	**+1.3**
WATA	**Walderalm**	**2.92**	**103**	Pn		**Pn**		**12 32 53.1**	**+1.5**
	1.1nm,0.2s								
WATA				*e*Sg		**Sg**		**12 33 38.4**	**-0.5**
	3.7nm,0.2s								
WTTA	**Wattenberg**	**2.98**	**104**	*i* Pn		**Pn**		**12 32 54.0**	**+1.6**
	1.1nm,0.1s								
WTTA				*e*Sn		**Sg**		**12 33 40.0**	**-0.9**
GRFO	**Grafenberg**	**3.00**	**56**	*e*Pg		**Pb**		**12 33 01.3**	**+2.6**
	SNR=3.8								
GRFO				*e*Sg		**Sg**		**12 33 39.6**	**-2.2**
	SNR=3.0								
AVF	**Avril sur Loir**	**3.02**	**247**	*e*Pn		**Pn**		**12 32 50.4**	**-2.5**
	SNR=1.0								
AVF	**Avril sur Loir**	**3.02**	**247**	*e*Pg		**Pb**		**12 33 01.0**	**+2.0**
AVF				*e*Sn		**Sn**		**12 33 25.0**	**-4.1**
	3.7nm,0.2s,SNR=1.0								
AVF				*e*Sg		**Sb**		**12 33 38.1**	**+2.2**
	SNR=1.0								
ORIF	**Oris-en-Rattie**	**3.32**	**199**	*e*Pn		**Pn**		**12 32 55.6**	**-1.4**
ORIF	**Oris-en-Rattie**	**3.32**	**199**	*e*Pg		**Pb**		**12 33 06.2**	**+2.1**
ORIF				*e*Sg		**Sb**		**12 33 48.6**	**+4.2**
	4.5nm,0.3s,SNR=1.0								
MBDF	**Montbardon**	**3.37**	**188**	*e*Pg		**Pb**		**12 33 07.7**	**+2.8**
BGF	**Bois d'Agland**	**3.44**	**246**	*e*Pn		**Pn**		**12 32 56.4**	**-2.3**
	SNR=1.0								
BGF	**Bois d'Agland**	**3.44**	**246**	*e*Pg		**Pb**		**12 33 08.1**	**+2.0**
BGF				*e*Sg		**Sb**		**12 33 51.7**	**+3.8**
	40nm,0.5s,SNR=1.0								
ROTZ	**Rotzenmuhle**	**3.60**	**60**	*e*Pg		**Pg**		**12 33 13.2**	**-1.1**
	SNR=2.7								
ROTZ				*e*Sn		**Sn**		**12 33 40.8**	**-2.5**
	SNR=2.0								
ROTZ				*e*Sg		**Sg**		**12 33 58.9**	**-2.0**
	SNR=2.7								
RJOB	**Jochberg**	**3.65**	**93**	*e*Sn		**Sn**		**12 33 46.3**	**+1.7**
	SNR=1.8								
RJOB				*e*Sg		**Sg**		**12 34 02.3**	**-0.1**
	SNR=3.0								
MANZ	**Manzenberg**	**3.65**	**56**	*e*Pg		**Pg**		**12 33 13.5**	**-1.7**
	SNR=1.9								
MANZ				*e*Sn		**Sn**		**12 33 41.6**	**-2.9**
	SNR=2.6								
MANZ				*e*Sg		**Sg**		**12 33 59.8**	**-2.7**
	SNR=2.0								
VIVF	**Saint-Julien-l**	**3.72**	**211**	*e*Pn		**Pn**		**12 33 00.8**	**-1.7**
VIVF				*e*Sn		**Sn**		**12 33 41.8**	**-4.5**
VIVF				*e*Sg		**Sb**		**12 34 00.1**	**+4.2**
	4.9nm,0.3s,SNR=1.0								
WET	**Wettzell**	**3.80**	**71**	*e*Sn		**Sn**		**12 33 46.4**	**-1.8**
	SNR=3.7								
WET				*e*Sg		**Sg**		**12 34 04.8**	**-2.3**
	SNR=2.4								
WERN	**Wernitzgruen**	**3.95**	**54**	*e*Sn		**Sn**		**12 33 49.2**	**-2.8**
	SNR=1.8								
WERN				*e*Sg		**Sg**		**12 34 09.0**	**-3.2**
	SNR=3.5								
TCF	**Toulx Ste Croi**	**3.96**	**245**	*e*Pn		**Pn**		**12 33 04.4**	**-1.4**
TCF	**Toulx Ste Croi**	**3.96**	**245**	*e*Pg		**Pb**		**12 33 17.8**	**+2.9**
TCF				*e*Sn		**Sn**		**12 33 48.1**	**-4.0**
	SNR=1.0								
TCF				*e*Sg		**Sb**		**12 34 08.1**	**+5.4**
	15nm,0.6s,SNR=1.0								
NKC	**Novy Kostel**	**3.96**	**55**	*e*SG		**Sg**		**12 34 09.7**	**-2.8**
	comp=Z,8.1nm,0.7s								
GUNZ	**Gunzen**	**3.97**	**53**	*e*Sn		**Sn**		**12 33 50.0**	**-2.4**
	SNR=1.3								
GUNZ				*e*Sg		**Sg**		**12 34 11.2**	**-1.5**
	SNR=3.5								
KHC	**Kasperske Hory**	**4.24**	**73**	*e*PN		**Pn**		**12 33 09.9**	**+0.2**
KHC				*e*PG		**Pb**		**12 33 22.8**	**+3.0**
KHC				*e*SN		**Sn**		**12 33 57.9**	**-1.2**
KHC				*e*SG		**Sg**		**12 34 18.5**	**-2.9**
	comp=Z,9.4nm,0.9s								
GEC2	**GERESS Array S**	**4.27**	**77**	*e*Sn		**Sn**		**12 33 58.2**	**-1.7**
	SNR=3.3								
BRG	**Berggiesshubel**	**5.11**	**54**	SG		**Sg**		**12 34 49.2**	**-0.1**
	2.0nm,0.5s								

*NORS **30** 12:43:21.3±0.0, 42°.88N×45°.71E, h5km, MPVA3.3*
*ISCJB **30** 12:43:23.4±0.5, 42°.92N±0°.04×45°.63E±0°.03, h10km, Error ellipse: s-maj=6.3km s-min=3.2km az=5.7*
ISC 30 12:43:23.3±0.8, 42°.83N±0°.05×45°.71E±0°.03, h10km, n10, σ2°33/22, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.33**	**68**	*e*Pg	**Pg**	**12 43 29.2**	**-0.7**
DVE				*e*Sg	**Sb**	**12 43 35.5**	**-1.3**
GROC	**Groznyy**	**0.38**	**10**	*e*Pg	**Pg**	**12 43 29.9**	**-0.8**
GROC				*e*Sg	**Sb**	**12 43 35.5**	**-2.5**
BTLR	**Botlikh**	**0.42**	**114**	*e*Pg	**Pb**	**12 43 32.5**	**-0.3**
BTLR				*e*Sg	**Sb**	**12 43 41.4**	**+2.2**
GNBR	**Gunib**	**1.03**	**115**	*e*Pg	**Pn**	**12 43 47.2**	**+3.4**
GNBR				*e*Sg	**Sn**	**12 44 00.7**	**+2.4**
LACR	**Lac**	**1.04**	**270**	*i* Pg	**Pn**	**12 43 43.3**	**-0.7**
LACR				*e*Sg	**Sn**	**12 43 59.6**	**+1.0**
LGD	**Lagodekhi**	**1.07**	**158**	P	**Pn**	**12 43 45.7**	**+1.3**
LGD				S	**Sg**	**12 43 50.9**	**-6.9**
KORR	**Kora**	**1.23**	**282**	*e*Pg	**Pg**	**12 43 46.5**	**-0.4**
KORR				*e*Pg	**Pg**	**12 43 46.5**	**-0.4**
KORR				*e*Sg	**Sn**	**12 44 06.1**	**+2.9**
KORR				*e*Sg	**Sn**	**12 44 06.1**	**+2.9**
ZEI	**Tsey**	**1.33**	**269**	*e*Pg	**Pg**	**12 43 48.6**	**-0.2**
ZEI				*i* Sg	**Sg**	**12 44 07.0**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.56**	**273**	*e*Pg	**Pg**	**12 43 51.9**	**-1.4**
DIGR				*e*Sg	**Sg**	**12 44 13.0**	**-0.6**
NEY	**Neytrino**	**2.23**	**282**	*e*Pg	**Pb**	**12 44 02.8**	**-0.9**
NEY				*i* Sg	**Sb**	**12 44 31.8**	**+0.4**

IDC 30 12:47:34.0±94.0, 14°.47S×167°.53E, h0km, mb4.5/3, mb1 4.7/3, mb1mx3.8/20, mbtmp4.5/3, Error ellipse: s-maj=1584.0km s-min=114.7km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.35**	**229**	P	P	12 53 38.9	+0.1
	5.0nm,0.3s,baz=67,slow=9.6,SNR=12						
WRA	**Warramunga Arr**	**32.13**	**256**	P	P	12 54 03.5	0.0
	1.1nm,0.5s,baz=78,slow=7.9,SNR=16						
ASAR	**Alice Springs**	**33.00**	**249**	P	P	12 54 10.9	-0.2
	4.2nm,0.4s,baz=78,slow=9.2,SNR=72						

*ISCJB **30** 13:08:25.9±1.0, 34°.57N±0°.08×82°.9E±0°.4, h33km, mb3.2/2, MS2.9/3, Error ellipse: s-maj=53.3km s-min=9.0km az=173.2*
*IDC **30** 13:08:26.2±8.4, 34°.86N×84°.80E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/34, mbtmp3.4/3, ML3.3/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/21, Error ellipse: s-maj=309.7km s-min=76.9km az=66.0*
ISC 30 13:08:28.1±1.2, 34°.6N±0°.1×82°.8E±0°.3, h35km, n13, σ1°11/10, MS2.8/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.25**	**172**	*e*P	**Pn**	**13 09 58.8**	**+0.7**
	11nm,0.3s						
PYUN	**Piuthan**	**6.45**	**179**	*e*P	**Pn**	**13 10 00.0**	**-0.8**
	7.1nm,0.3s						
KOLN	**Koldanda**	**6.81**	**174**	*e*P	**Pn**	**13 10 05.8**	**+0.1**
	6.1nm,0.3s						
PKIN	**Phulchoki**	**7.31**	**162**	*e*P	**Pn**	**13 10 13.6**	**+1.0**
	11nm,0.6s						
PKI	**Pulchoki**	**7.32**	**162**	*e*P	**Pn**	**13 10 13.8**	**+1.0**
	6.9nm,0.6s						
JIRN	**Jiri**	**7.46**	**156**	*e*P	**Pn**	**13 10 15.6**	**+0.8**
	14nm,0.3s						
RAMN	**Ramite**	**8.26**	**156**	*e*P	**Pn**	**13 10 24.0**	**-1.6**
	11nm,0.6s						
MKAR	**Makanchi Array**	**12.22**	**358**	Pn	**Pn**	**13 11 19.9**	**+0.4**
	0.2nm,0.3s,baz=177,slow=15,SNR=6.7						
GEYT	**Alibeck**	**20.20**	**287**	LR	LR	13 22 43.9	
	comp=Z,40nm,19.1s,baz=155,slow=40						
KSRS	**Korea Array**	**36.32**	**72**	LR	LR	13 31 43.4	
	comp=Z,16nm,21.6s,baz=180,slow=40						
USRK	**Ussuriysk Ar.**	**38.68**	**61**	LR	LR	13 32 23.2	
	comp=Z,40nm,18.7s,baz=213,slow=39						
ILAR	**Eielson Array**	**73.64**	**20**	P	**P**	**13 19 56.3**	**-1.3**
	0.3nm,0.8s,baz=309,slow=5.7,SNR=4.1						
YKA	**Yellowknife Ar**	**82.26**	**8**	P	**P**	**13 20 46.2**	**+0.8**
	0.1nm,0.4s,baz=338,slow=5.5,SNR=4.8						

*NEIC **30** 13:08:37.8±0.0, 16°.92N×94°.08W, h145km, MD4.0(MEX), After MEX.*
MEX 30 13:08:37.9±0.4, 16°.92N×94°.08W, h144km±3km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.79**	**282**	*e*Pn	Pn	13 08 59.0	-1.3
CMIG				*e*Sn	Sn	13 09 15.7	-1.8
CMIG	**Matias Romero**	**0.79**	**282**	*e*P	Pn	13 08 59.0	-1.3
CMIG				*e*S	Sn	13 09 15.7	-1.8
TGIG		**0.93**	**99**	*e*Pn	Pn	13 09 00.2	-1.3
TGIG				*e*Sn	Sn	13 09 17.3	-2.1
TGIG		**0.93**	**99**	*e*P	Pn	13 09 00.2	-1.3
TGIG				*e*S	Sn	13 09 17.3	-2.1
PCIG		**1.47**	**146**	*e*Pn	Pn	13 09 05.5	-1.2
PCIG				*e*Sn	Sn	13 09 26.6	-2.0
PCIG		**1.47**	**146**	*e*P	Pn	13 09 05.5	-1.2
PCIG				*e*S	Sn	13 09 26.6	-2.0
CCIG	**Comitan**	**1.97**	**109**	*e*Pn	Pn	13 09 11.4	-1.1
CCIG				*e*Sn	Sn	13 09 37.5	-1.5
CCIG	**Comitan**	**1.97**	**109**	*e*P	Pn	13 09 11.4	-1.1
CCIG				*i* S	Sn	13 09 37.5	-1.5
TPIG	**Tehuac#an**	**3.47**	**296**	*e*Pn	Pn	13 09 30.0	-1.2
TPIG				*e*Sn	Sn	13 10 09.9	-2.6
TPIG	**Tehuac#an**	**3.47**	**296**	*i* P	Pn	13 09 30.0	-1.2
TPIG				*i* S	Sn	13 10 09.9	-2.6
LVIG	**Laguna Verde**	**3.56**	**322**	*e*Pn	Pn	13 09 30.5	-1.7
PNIG	**Pinotepa**	**3.92**	**263**	*e*Pn	Pn	13 09 34.6	-2.4
PNIG				*e*Sn	Sn	13 10 21.1	-1.6
PNIG	**Pinotepa**	**3.92**	**263**	*i* P	Pn	13 09 35.1	-1.9
PNIG				*e*S	Sn	13 10 21.1	-1.6
TLIG	**Tlapa**	**4.34**	**279**	*e*Pn	Pn	13 09 37.5	-5.0
MYIG	**Mrida**	**5.74**	**45**	*e*Pn	Pn	13 09 55.1	-5.9
TGUH	**Tegucigalpa,Un**	**7.15**	**113**	*e*Pn	Pn	13 10 21.9	+1.9
LNIG	**Linares**	**9.39**	**329**	*e*Pn	Pn	13 10 53.1	+3.2
TX31	**Lajitas Ar. Si**	**15.17**	**326**	*e*Pn	Pn	13 11 58.8	-6.0
957A	**Wimauma**	**15.30**	**44**	*e*Pn	Pn	13 11 60.0	-6.3
WHTX	**Lake Whitney,**	**15.31**	**349**	*e*Pn	Pn	13 12 00.3	-6.1

WEL 30 13:13:26.7±1.4, 34°S±32°×17°8W±4°1, h5km, ML4.3/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.44**	**217**	P	Pn	13 14 34.5	-0.2
PKGZ	**Pakihiroa**	**4.81**	**216**	P	Pn	13 14 39.0	-0.8
HAZ	**Te Kaha**	**4.86**	**219**	P	Pn	13 14 40.6	+0.2
HAZ				S	Sn	13 15 37.9	+0.9
PUZ	**Puketiti**	**4.87**	**213**	P	Pn	13 14 39.4	-1.2
RUGZ	**Raukumara Rang**	**5.07**	**218**	P	Pn	13 14 42.7	-0.7
RUGZ				S	Sn	13 15 44.1	+1.7
TWGZ	**Tauwhareparae**	**5.08**	**215**	P	Pn	13 14 43.7	+0.1
TWGZ				S	Sn	13 15 43.7	+1.0
CNGZ	**Carnagh Statio**	**5.23**	**211**	P	Pn	13 14 46.6	+1.0
MWZ	**Matawai**	**5.43**	**217**	P	Pn	13 14 47.9	-0.4
MWZ				S	Sn	13 15 51.5	+0.3
URZ	**Urewera**	**5.58**	**220**	P	Pn	13 14 50.7	+0.3
OPRZ	**Ohinepanea**	**5.61**	**226**	P	Pn	13 14 51.2	+0.5
RIGZ	**Rimuhau**	**5.61**	**213**	P	Pn	13 14 51.1	+0.3
SNGZ	**Shannon Statio**	**5.87**	**215**	P	Pn	13 14 54.8	+0.5
MUGZ	**Murupara**	**5.93**	**220**	P	Pn	13 14 54.4	-0.7
RAHZ	**Arahi**	**6.10**	**216**	P	Pn	13 14 57.6	+0.1
MTHZ	**Maungataniwha**	**6.17**	**218**	P	Pn	13 15 00.2	+1.7

IDC 30 13:46:50.5±13.0, 7°.22S×157°.13E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=408.4km s-min=48.0km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.46**	**238**	P	P	13 52 20.9	+0.4
	1.2nm,0.9s,baz=66,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**27.65**	**231**	P	P	13 52 39.8	-0.5
	0.3nm,0.8s,baz=57,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**84.97**	**318**	P	P	13 59 27.9	0.0
	0.2nm,0.6s,baz=102,slow=6.3,SNR=3.5						

IDC 30 13:47:09.8±7.8, 7°.91S×158°.06E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, Error ellipse: s-maj=233.1km s-min=48.9km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.90**	**240**	P	P	13 52 43.2	-0.5
	1.0nm,0.7s,baz=68,slow=9.1,SNR=2.2						
ASAR	**Alice Springs**	**27.95**	**233**	P	P	13 53 02.6	+0.4
	0.5nm,0.9s,baz=59,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**86.10**	**318**	P	P	13 59 52.8	0.0
	0.3nm,0.5s,baz=106,slow=5.0,SNR=3.3						

KRSC 30 13:51:02.3±10.0, 52°.13N×158°.73E, h111km±10km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.33**	**337**	*e*P	Pn	13 51 19.6	+1.4
RUS				*e*S	Sn	13 51 30.8	+0.6
MTVR	**Mutnovka**	**0.49**	**317**	*e*P	Pn	13 51 21.3	+2.0
MTVR				*e*S	Sn	13 51 33.4	+1.3
KDTR	**Khodutka, Kamc**	**0.51**	**232**	*e*P	Pn	13 51 20.6	+1.4
KDTR				*e*S	Sn	13 51 32.6	+0.6
ASAK	**Asacha**	**0.57**	**297**	*e*P	Pn	13 51 21.3	+1.6
ASAK				*e*S	Sn	13 51 34.4	+1.5
KRMR	**Karymshinskiy**	**0.79**	**333**	*e*P	Pn	13 51 22.8	+1.4
KRMR				*e*S	Sn	13 51 37.8	+1.9
PET	**Petropavlovsk**	**0.90**	**357**	*e*P	Pn	13 51 23.9	+1.5
PET				*e*S	Sn	13 51 38.4	+0.7
DALK	**Dalny**	**0.91**	**1**	*e*P	Pn	13 51 24.1	+1.6
DALK				*e*S	Sn	13 51 38.8	+1.0
UGLR	**Uglovaya**	**1.08**	**3**	*e*P	Pn	13 51 26.5	+2.0
UGLR				*e*S	Sn	13 51 43.0	+1.7
NLC	**Nalytchevo**	**1.11**	**20**	*e*P	Pn	13 51 25.8	+1.2
NLC				*e*S	Sn	13 51 42.0	+0.5
SMAR	**Somma**	**1.14**	**2**	*e*P	Pn	13 51 26.8	+1.6
SMAR				*e*S	Sn	13 51 43.4	+0.9
AVH	**Avacha**	**1.14**	**0**	*e*P	Pn	13 51 27.2	+2.2
AVH				*e*S	Sn	13 51 44.7	+2.4
SDLR	**Sedlovina**	**1.16**	**5**	*e*P	Pn	13 51 26.8	+1.5
SDLR				*e*S	Sn	13 51 43.4	+0.7
KOK	**Koryaka**	**1.17**	**357**	*e*P	Pn	13 51 27.6	+2.2
KOK				*e*S	Sn	13 51 45.0	+2.1
KRER	**Koryakskii**	**1.18**	**1**	*e*P	Pn	13 51 27.7	+2.1
KRER				*e*S	Sn	13 51 45.0	+1.7
KRX	**Arik**	**1.23**	**358**	*e*P	Pn	13 51 28.0	+1.8
KRX				*e*S	Sn	13 51 45.7	+1.4
SPN	**Mys Shipunski**	**1.25**	**39**	*e*P	Pn	13 51 28.4	+2.2
SPN				*e*S	Sn	13 51 45.8	+1.5
PAU	**Pauzhetka**	**1.36**	**242**	*e*P	Pn	13 51 29.2	+1.8
PAU				*e*S	Sn	13 51 47.7	+1.2
GNL	**Ganaly**	**1.64**	**343**	*e*P	Pn	13 51 32.0	+1.1
GNL				*e*S	Sn	13 51 53.0	+0.3
SKR	**Severo-Kuril's**	**2.18**	**230**	*e*P	Pn	13 51 39.4	+1.9
SKR				*e*S	Sn	13 52 05.2	+0.7
MKZ	**Mys Kozlova**	**3.03**	**35**	*e*P	Pn	13 51 50.2	+1.7
MKZ				*e*S	Sn	13 52 23.8	-0.4
KZV	**Kizimen**	**3.13**	**17**	*e*P	Pn	13 51 53.4	+3.3
KZV				*e*S	Sn	13 52 29.3	+2.3
TUMD	**Tumrok D**	**3.24**	**17**	S	Sn	13 52 30.7	+1.4
TUMR	**Tumrok**	**3.27**	**14**	P	Pn	13 51 55.6	+3.7
KBTR	**Krutoberegovo**	**4.74**	**29**	*e*P	Pn	13 52 13.2	+1.7
KBTR				S	Sn	13 53 04.1	-1.2

*NSSC **30** 13:53:35.5±0.9, 33°.78N×35°.71E, h5km±113km, ML1.7*
*ISCJB **30** 13:53:36.3±0.8, 33°.78N±0°.04×35°.76E±0°.07, h6km±9km, Error ellipse: s-maj=11.3km s-min=5.3km az=150.5*
*GRAL **30** 13:53:37.0±0.3, 33°.78N×35°.77E, h0km±22km, MD2.8*
ISC 30 13:53:36.3±1.6, 33°.78N±0°.04×35°.76E±0°.06, h10km±17km, n8, σ6°30/13, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.15**	**326**	*e*P	**Pg**	**13 53 39.7**	**0.0**
BHL				*e*S	**Sg**	**13 53 41.8**	**-0.2**
DQRL	**Deir Qamar**	**0.17**	**244**	*e*P	**Pg**	**13 53 40.2**	**+0.2**
BEYL	**Beirut**	**0.23**	**292**	*e*P	**Pg**	**13 53 41.4**	**+0.3**
RCY	**Rachaya**	**0.29**	**167**	*e*P	**Pg**	**13 53 42.1**	**-0.2**
RCY				*e*S	**Sg**	**13 53 45.9**	**-0.3**
BRBR	**Barbar**	**0.40**	**156**	*e*P	**Pg**	**13 53 44.2**	**-0.1**
BRBR				*e*S	**Sg**	**13 53 49.6**	**-0.1**
BRBR				AML	AML	13 53 52.5	
	comp=N,41nm,0.2s						
BRBR				AML	AML	13 53 54.4	
	comp=E,61nm,0.5s						
QASN	**Qassioun**	**0.50**	**120**	*e*P	**Pg**	**13 53 46.0**	**0.0**
QASN				*e*S	**Sg**	**13 53 53.3**	**+0.6**
QASN				AML	AML	13 53 59.8	
	comp=E,65nm,0.4s						
QASN				AML	AML	13 54 01.1	
	comp=N,173nm,0.5s						
HWQ	**Hawqa**	**0.52**	**18**	*e*P	**Pg**	**13 53 46.3**	**-0.1**
TOTH	**TOTAH**	**0.70**	**127**	*e*P	**Pg**	**13 53 50.2**	**+0.3**
TOTH				*e*S	**Sb**	**13 54 00.2**	**-0.2**
TOTH				AML	AML	13 54 04.2	
	comp=N,20nm,0.4s						
TOTH				AML	AML	13 54 07.1	
	comp=E,15nm,0.5s						

*JMA **30** 13:59:08.8±0.1, 24°.07N×122°.88E, h38km±3km, M2.4*
*TAP **30** 13:59:09.0, 24°.10N×122°.96E, h38km, ML2.9, D*
ISC 30 13:59:06.1±1.2, 24°.01N±0°.04×122°.94E±0°.02, h9km±10km, n52, σ1°31/79, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.44**	**1**	P	**Pn**	**13 59 17.7**	**-0.9**
JYNG				S	**Sb**	**13 59 24.2**	**+1.4**
YOJ	**Yonaguni jima**	**0.45**	**9**	P	**Pn**	**13 59 18.1**	**-0.7**
	baz=3.0						
YOJ				*e*S	**Sb**	**13 59 24.7**	**+1.5**
	baz=3.0						
YOJ	**Yonaguni jima**	**0.45**	**9**	P	**Pn**	**13 59 18.1**	**-0.7**
YOJ				*e*S	**Sb**	**13 59 24.8**	**+1.6**
IRIF	**Iriomote-Funau**	**0.79**	**66**	P	**Pn**	**13 59 23.6**	**+0.1**
IRIF				S	**Sn**	**13 59 35.7**	**+0.2**
HATJ	**Hateruma jima**	**0.80**	**87**	P	**Pn**	**13 59 24.6**	**+1.1**
HATJ				*e*S	**Sn**	**13 59 35.1**	**-0.5**
EOS1	**EOS1**	**0.91**	**306**	P	**Pn**	**13 59 25.3**	**+0.2**
	baz=310						
EOS1				*e*S	**Sn**	**13 59 39.1**	**+0.7**
	baz=310						
JKRS	**Kuro-shima**	**1.01**	**77**	P	**Pn**	**13 59 27.3**	**+0.9**
JKRS				*e*S	**Sn**	**13 59 41.0**	**+0.2**
TWC	**Suao**	**1.16**	**301**	*e*P	**Pn**	**13 59 29.7**	**+1.2**
	baz=311						
TWC				*e*S	**Sg**	**13 59 43.8**	**+0.4**
	baz=311						
JIJ	**Ishigaki jima**	**1.16**	**72**	P	**Pn**	**13 59 29.3**	**+0.8**
JIJ				S	**Sn**	**13 59 44.9**	**+0.4**
ENA	**Nanau**	**1.17**	**291**	P	**Pn**	**13 59 29.6**	**+0.9**
	baz=287						
NACB	**Ninganchiao**	**1.24**	**278**	*e*P	**Pg**	**13 59 29.8**	**0.0**
	baz=261						
NTC	**Toucheng**	**1.31**	**310**	*e*P	**Pn**	**13 59 30.1**	**-0.6**
	baz=307						
ETLH	**Xiulin Townshi**	**1.34**	**279**	*e*P	**Pn**	**13 59 31.1**	**0.0**
	baz=276						
TWE	**Neicheng**	**1.36**	**302**	*e*P	**Pg**	**13 59 32.3**	**+0.2**
	baz=311						
TWE				*e*S	**Sb**	**13 59 49.7**	**+0.5**
	baz=311						
JISG	**Ishigakijimahi**	**1.38**	**65**	P	**Pg**	**13 59 32.1**	**-0.5**
JISG				S	**Sn**	**13 59 50.2**	**+0.2**
TIPB	**Shuangxi**	**1.39**	**314**	*e*P	**Pn**	**13 59 32.0**	**+0.2**
	baz=312						
TIPB				*e*S	**Sb**	**13 59 48.8**	**-1.4**
	baz=312						
SLBB	**Yuanshan**	**1.40**	**302**	P	**Pg**	**13 59 32.6**	**-0.3**
	baz=309						
EGFH	**Guangfu**	**1.42**	**256**	*e*S	**Sn**	**13 59 48.7**	**-2.3**
	baz=242						
NDT	**Datong Townshi**	**1.43**	**295**	*e*P	**Pg**	**13 59 34.7**	**+1.2**
	baz=280						
NDT				*e*S	**Sg**	**13 59 52.2**	**+0.3**
	baz=280						
NNSB	**Datong**	**1.48**	**287**	*e*P	**Pn**	**13 59 33.1**	**0.0**
	baz=284						
HGSD	**Ruisui**	**1.48**	**250**	P	**Pn**	**13 59 33.6**	**+0.7**
	baz=247						
HGSD				*e*S	**Sn**	**13 59 49.4**	**-3.0**
	baz=247						
NNS	**Nan Shan**	**1.49**	**287**	*e*P	**Pg**	**13 59 35.9**	**+1.2**
	baz=284						
NWF	**Wu-fen Shan**	**1.49**	**315**	P	**Pb**	**13 59 33.6**	**-0.4**
	baz=314						
WFSB	**Wu-fen Shan**	**1.49**	**315**	*e*P	**Pb**	**13 59 33.6**	**-0.4**
	baz=314						
NWLT	**Wulai**	**1.51**	**301**	*e*P	**Pb**	**13 59 34.4**	**0.0**
	baz=311						
WHF	**Hehuan Shan**	**1.53**	**275**	*e*P	**Pb**	**13 59 34.9**	**0.0**
	baz=274						
WHF				*e*S	**Sn**	**13 59 53.4**	**-0.9**
	baz=274						
EHY	**Hungye**	**1.56**	**252**	*e*P	**Pn**	**13 59 32.5**	**-1.6**
	baz=248						
EHY				*e*S	**Sn**	**13 59 52.2**	**-2.2**
	baz=248						
YHNB	**Yeheng**	**1

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      baz=250
TWK                                   eS      Sn     14 00 15.9 +1.5
      baz=250
EAST  Anshuo          2.51 230  eP              Pn     13 59 48.3 +1.1
      baz=236
MASBT Mashibuluo      2.53 237  eP              Pn     13 59 48.4 +1.0
      baz=228
```

ISCJB ***30*** *14:30:36.4±1.6, 13°.01N±0°.06×89°.57W±0°.04, h9km±11km, Error ellipse: s-maj=11.6km s-min=5.7km az=22.1*
SNET ***30*** *14:30:38.5±1.6, 13°.10N×89°.51W, h13km±9km, ML3.6*
UCR ***30*** *14:30:38.6±1.8, 13°.11N×89°.53W, h16km±7km, MD3.5, ML3.6*

ISC 30 14:30:37.6±2.1, 13°.07N±0°.08×89°.53W±0°.05, h13km±10km, n30, σ0.9 46/47, 7D, El Salvador

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Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC             h  m  s    ISC
SNET  Serv Nac Est T    0.68  25  eP              Pb     14 30 51.6 +0.3
SNET                                eS              Sb     14 31 01.5 +0.9
SNET  Serv Nac Est T    0.68  25  eP              Pb     14 30 51.6 +0.3
SNET                                eS              Sb     14 31 01.5 +0.9
BOQS  Boqueron          0.70  20  eP              Pb     14 30 52.0 +0.2
LFRS  El Faro           0.71  40  i/P             Pb     14 30 52.5 +0.5
CEVE  Cerro Verde       0.76 353  i P             Pg     14 30 52.8 +0.5
CEVE                                eS              Sn     14 31 04.7 -1.0
CEVE                                  IAML                 14 31 06.9
      comp=Z,3μm,0.2s
CEVE  Cerro Verde       0.76 353  i P             Pg     14 30 52.8 +0.5
CEVE                                eS              Sn     14 31 04.7 -1.0
CEVE                                  IAML                 14 31 06.9
      comp=Z,3μm,0.2s
SBLS  San Blas          0.77 353  i/P             Pg     14 30 52.8 +0.3
SBLS  San Blas          0.77 353  i/P             Pg     14 30 52.8 +0.3
LFU   La Fuente         0.79  31  eP              Pg     14 30 52.8 -0.1
LFU   La Fuente         0.79  31  eP              Pg     14 30 52.8 -0.1
SNJE  San Jose          0.79 355  i/P             Pg     14 30 52.9 -0.1
SNJE  San Jose          0.79 355  i/P             Pg     14 30 52.9 -0.1
LBRS  Las Brisas        0.81  36  eP              Pg     14 30 53.0 -0.4
RTR   El Retiro         0.83 352  i/P             Pg     14 30 53.5 -0.1
RTR   El Retiro         0.83 352  i/P             Pg     14 30 53.5 -0.1
PAVA  Las Pavas         0.86  42  eP              Pg     14 30 53.8 -0.4
PAVA                                eS              Sg     14 31 05.4 -0.1
PAVA  Las Pavas         0.86  42  eP              Pg     14 30 53.8 -0.4
PAVA                                eS              Sg     14 31 05.4 -0.1
SNVI  San Vicente       0.86  51  eP              Pg     14 30 54.3  0.0
SNVI                                eS              Sb     14 31 06.2 +0.2
SNVI  San Vicente       0.86  51  eP              Pg     14 30 54.3  0.0
SNVI                                eS              Sb     14 31 06.2 +0.2
TECA  Tecapa            1.08  67  eP              Pb     14 30 58.2 -0.1
TECA                                eS              Sb     14 31 12.8 +0.3
TECA  Tecapa            1.08  67  eP              Pb     14 30 58.2 -0.1
TECA                                eS              Sb     14 31 12.8 +0.3
PACA  Pacayal           1.24  71  eP              Pn     14 31 00.1 -0.6
PACA                                eS              Sb     14 31 17.0 +0.1
PACA  Pacayal           1.24  71  eP              Pn     14 31 00.1 -0.6
PACA                                eS              Sb     14 31 17.0 +0.1
LCY   Lacayo            1.25  74  eP              Pn     14 31 01.0  0.0
LCY   Lacayo            1.25  74  eP              Pn     14 31 01.0  0.0
LCND  La Caada          1.61  81  eP              Pn     14 31 05.1 -0.7
LCND                                eS              Sn     14 31 27.1 +0.6
LCND                                  IAML                 14 31 31.4
      comp=Z,474nm,0.3s
LCND  La Caada          1.61  81  eP              Pn     14 31 05.1 -0.7
LCND                                eS              Sn     14 31 27.1 +0.6
LCND                                  IAML                 14 31 31.4
      comp=Z,474nm,0.3s
CNCH  Conchagua         1.66  83  eP              Pn     14 31 07.2 +0.6
CNCH                                eS              Sg     14 31 31.0 -0.2
CNCH                                  IAML                 14 31 31.9
      comp=Z,3μm,0.4s
CNCH  Conchagua         1.66  83  eP              Pn     14 31 07.2 +0.6
CNCH                                eS              Sg     14 31 31.0 -0.2
CNCH                                  IAML                 14 31 31.9
      comp=Z,3μm,0.4s
FUG   Fuego 3           1.87 317  eP              Pn     14 31 09.6 +0.1
FUG                                 eS              Sn     14 31 32.4 -0.7
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BJI ***30*** *14:38:21.0±0.0, 3°.34S×128°.39E, h68km, mb4.9/50, mB5.0/38, Ms4.4/32, Ms7 4.1/29*
ISCJB ***30*** *14:38:21.3±0.2, 2°.96S±0°.02×128°.11E±0°.03, h38km, mb4.8/60, MS4.1/37, Error ellipse: s-maj=4.4km s-min=3.1km az=158.7*
IDC ***30*** *14:38:22.6±2.7, 3°.13S×127°.98E, h35km±21km, mb4.3/28, mb1 4.3/30, mb1mx4.3/43, mbtmp4.4/30, ML4.2/2, MS4.1/28, Ms1 4.1/28, ms1mx4.0/43, Error ellipse: s-maj=17.8km s-min=8.0km az=71.0*
NEIC ***30*** *14:38:23.6±0.7, 3°.04S×128°.02E, h48km±7km, mb4.8/29, Error ellipse: s-maj=6.1km s-min=4.6km az=53.0*
NEIC Felt [III] at Piru.
GCMT ***30*** *14:38:23.6±0.2, 2°.88S±0°.01×127°.92E±0°.02, h28km, MW5.0/83, Moment Tensor Solution. s57,c83; s83,c119; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.87±.15; Mθθ-4.10±.10; Mφφ0.23±.12; Mrθ-0.24±.15; Mφθ0.59±.08; Mφr0.24±.24; Best double couple: M0=4.04000×10^16 NP1:φs281.00000°, δ47.00000°, λ94.00000°. NP2: φs94.00000°, δ43.00000°, λ85.00000°. Principal axes: T 3.8910, Plg86.0000°, Azm247.0000°; N 0.3010, Plg3.0000°, Azm98.0000°; P -4.1890, Plg2.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***30*** *14:38:25.2±0.2, 3°.5S±2°×12°.8E±°, h42km±3km, M5.0/42, mB5.5/25, mb5.1/42, MLv5.3/16, Mw(mB)4.9/25*

ISC 30 14:38:23.4±0.3, 3°.01S±0°.04×127°.99E±0°.05, h38km, n165, σ1.9 75/167, mb4.7/60, MS4.1/38, 3C, Seram

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Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC             h  m  s    ISC
SANI  Sanana            2.22 295  P               Pn     14 38 55.9 -1.7
SANI                                S               Sn     14 39 21.4 -2.4
BNDI  Bandanaira        2.43 128  P               Pn     14 39 03.5 +2.9
TNTI  Ternate           3.81 351  ePn             Pn     14 39 20.2 +0.7
TNTI  Ternate           3.81 351  P               Pn     14 39 20.5 +1.0
TNTI                                S               Sn     14 40 01.2 -1.9
FAKI  Fak Fak           4.25  89  ePn             Pn     14 39 25.5 -0.1
FAKI  Fak Fak           4.25  89  P               Pn     14 39 26.7 +1.0
FAKI                                S               Sn     14 40 17.4 +3.3
KMSI  Cibinong          5.36 312  P               Pn     14 39 39.6 -1.3
KDI   Kendari           5.44 260  P               Pn     14 39 43.7 +1.7
LUWI  Luwuk             5.57 290  ePn             Pn     14 39 43.9 +0.2
LUWI  Luwuk             5.57 290  P               Pn     14 39 44.2 +0.5
KMPI  Kaimana, Papua    5.74  97  P               Pn     14 39 46.8 +0.7
SAUI  Saumlaki          5.94 146  P               Pn     14 39 53.3 +4.5
BBSI  Bau Bau           5.94 245  P               Pn     14 39 53.3 +4.5
MRSI  Marisa            6.97 300  P               Pn     14 40 02.5 -0.5
      129nm,0.5s,2μm1.4nm
SGSI  Sangihe           7.09 340  P               Pn     14 40 04.0 -0.7
SOEI  Soe               7.65 209  ePn             Pn     14 40 15.6 +3.1
SOEI  Soe               7.65 209  P               Pn     14 40 16.9 +4.4
BNSI  Bone              7.99 260  P               Pn     14 40 20.5 +3.5
MMRI  Maumere           8.00 225  P               Pn     14 40 22.3 +5.2
BSSI  Bau Bau, Buton    8.10 247  P               Pn     14 40 21.1 +2.6
TTSI  Tana Toraja       8.16 270  P               Pn     14 40 21.5 +2.2
BKSI  Bulukumba         8.18 253  P               Pn     14 40 23.0 +3.5
      164nm,1.3s,2μm0.7nm
SPSI  Sidrap Palu       8.26 263  P               Pn     14 40 23.0 +2.3
BATI  Baumata           8.34 211  ePn             Pn     14 40 27.2 +5.3
BATI                                ePn             Pn     14 40 27.2 +5.3
BATI  Baumata           8.34 211  Pn              Pn     14 40 27.2 +5.3
      12nm,0.3s,baz=115,slow=2.2,SNR=11
BATI                                LR              LR     14 43 42.3
      comp=Z,4μm,21.2s,baz=18,slow=39
KAPI  Kappang           8.46 256  Pn              Pn     14 40 26.4 +3.0
      2.8nm,0.3s,baz=88,slow=6.8,SNR=41
KAPI                                Sn              Sn     14 41 58.3 +0.7
      baz=77,slow=18,SNR=1.5
KAPI                                LR              LR     14 43 57.1
      comp=Z,3μm,20.2s,baz=72,slow=40
MPSI  Mapaga            8.74 292  P               Pn     14 40 29.0 +1.6
      73nm,0.6s,888nm
DDMP  Don Marcelino,    9.34 346  eP              Pn     14 40 35.2 -0.3
SKMP  Bagumbayan, Su   10.07 340  eP              Pn     14 40 45.5 -0.1
MTN   Manton Dam       10.25 163  ePn             Pn     14 40 51.4 +3.3
DAV   Davao City (W)   10.30 346  LR              LR     14 45 26.3
      comp=Z,793nm,20.4s,baz=178,slow=41
CTBH  Cotabato--PC H   10.83 340  i/P             Pn     14 40 54.8 -1.1
BUKP  Musuan           11.20 345  eP              Pn     14 40 58.6 -2.5
BUKP                                eS                     14 41 12.6
PLAI  Plampang         11.68 240  P               Pn     14 41 12.1 +4.4
PAGZ  Pagadian         11.72 337  eP              Pn     14 41 06.3 -1.9
IPIL  Ipil             12.01 333  eP              Pn     14 41 11.5 -0.7
GENI  Genyem           12.17  88  P               Pn     14 41 17.1 +2.8
SRBI  Singaraja        13.68 248  P               Pn     14 41 37.3 +2.4
KMMI  Kalianget        14.53 253  P               P      14 41 55.8 +3.3
JAGI  Jajag, Banyuwa   14.79 248  P               P      14 41 55.6 +0.1
FITZ  Fitzroy Crossi   15.17 189  ePn             Pn     14 41 53.7 -1.3
      16nm,0.9s
FITZ  Fitzroy Crossi   15.17 189  Pn              Pn     14 41 53.1 -1.9
      0.1nm,0.3s,baz=12,slow=15,SNR=3.8
FITZ                                LR              LR     14 48 33.6
      comp=Z,2μm,19.1s,baz=16,slow=41
PWJI  Pagerwojo        16.86 252  P               P      14 42 19.5 +1.1
WOJI  Wonogiri, Jawa   17.65 254  P               P      14 42 29.0 +1.9
WRAB  Tennant Creek    17.93 160  ePn             Pn     14 42 27.5 -2.4
      68nm,1.3s
WR1   Warramunga Arr   17.93 160  ePn             Pn     14 42 28.4 -1.5
WR1                                eSn             Sn     14 45 45.1 -4.0
WRA   Warramunga Arr   17.93 160  P               Pn     14 42 28.4 -1.5
      2.6nm,0.3s,baz=335,slow=13,SNR=140
WRA                                 S                      14 45 45.1 -4.0
      0.2nm,0.3s,baz=346,slow=23,SNR=2.4
WB2   Warramunga Arr   17.94 160  ePn             Pn     14 42 29.4 -0.7
      68nm,1.3s
UGM   Wanagama         18.05 254  P               P      14 42 44.9 +13
KSM   Kuching          18.23 284  eP              Pn     14 42 34.3 +0.7
      38nm,0.9s
TGY   Tagaytay City    18.38 338  P               P      14 42 35.2 -0.1
      18nm,0.3s,baz=174,slow=18,SNR=3.4
COEN  Coen             18.53 127  eP              P      14 42 35.7 -1.1
      61nm,0.9s
PMG   Port Moresby     20.08 109  P               P      14 42 53.0 -0.8
      6.5nm,0.6s,baz=292,slow=16,SNR=3.3
PMG                                 LR              LR     14 52 46.1
      comp=Z,424nm,19.9s,baz=300,slow=43
PSA00 Pilbara Seismi   20.08 203  eP              P      14 42 53.0 -0.7
      30nm,1.0s
CISI  Cisompet, Garu   20.59 257  eP              P      14 42 59.5 +0.2
      113nm,0.7s
CISI  Cisompet, Garu   20.59 257  P               Pn     14 43 01.9 +0.1
LEM   Lembang          20.64 259  P               Pn     14 43 02.9 +0.3
LEM   Lembang          20.64 259  P               P      14 42 59.0 -1.1
      18nm,0.3s,baz=311,slow=20,SNR=3.3
LEM                                 LR              LR     14 52 04.3
      comp=Z,2μm,19.2s,baz=87,slow=40
AS31  Alice Springs    21.32 165  eP              P      14 43 07.0 -0.1
      25nm,0.8s
ASAR  Alice Springs    21.32 165  P               P      14 43 06.2 -0.9
      27nm,0.8s,baz=346,slow=13,SNR=252
ASAR                                S               S      14 46 57.4 -4.7
      2.9nm,0.8s,baz=348,slow=21,SNR=3.1
ASAR                                ScP             ScP    14 50 45.6 +0.6
      1.1nm,1.0s,baz=344,slow=2.5,SNR=4.5
ASAR                                LR              LR     14 52 07.2
      comp=Z,1μm,20.1s,baz=346,slow=39
CBJI  Citeko           21.34 260  P               P      14 43 09.4 +2.0
PPBI  Pangkal Pinang   21.85 272  P               P      14 43 15.6 +2.7
PMBI  Palembang        23.19 270  P               P      14 43 25.6 -1.4
      763nm,0.6s
DSRI  Dabo             23.53 276  P               P      14 43 32.3 +1.9
TPRI  Tanjung Pinang   23.78 279  P               P      14 43 34.5 +1.8
CTA   Charters Tower   24.61 135  P               P      14 43 39.9 -0.5
      5.4nm,1.0s,baz=305,slow=12,SNR=2.9
TPUB  Ta-pu            27.12 345  eP              P      14 44 02.1 -0.8
      45nm,1.3s
SSLB  Suanglung        27.50 346  eP              P      14 44 05.3 -1.2
      15nm,1.0s
PDSI  Padang           27.59 274  P               P      14 44 07.7 +0.3
FORT  Forrest          27.62 180  eP              P      14 44 07.1 -0.3
      25nm,0.8s
QIZ   Qiongzhong       28.26 322  P               P      14 44 13.3 +0.1
QIZ                                 S               S      14 48 58.0 +1.1
QIZ                                 pmax            pmax
      comp=Z,14nm,1.5s
QIZ                                 LR              LR
      comp=N,160nm,11.3s
QIZ                                 LR              LR
      comp=E,250nm,15.2s
QIZ                                 LR              LR
      comp=Z,220nm,12.4s
QZH   Quanzhou         29.25 342  P               P      14 44 20.5 -1.4
QZH                                 S               S      14 49 07.0 -5.3
QZH                                 LR              LR
      comp=N,190nm,17.5s
QZH                                 LR              LR
      comp=E,190nm,17.1s
PSI   Prapat           29.62 281  eP              P      14 44 24.8 -0.8
      14nm,0.9s
PSI   Prapat           29.62 281  P               P      14 44 24.8 -0.8
      4.5nm,0.5s,baz=121,slow=9.4,SNR=4.4
PBSI  Pulau Batu       29.84 275  P               P      14 44 29.4 +2.0
PANO  Nakornpanom      30.56 312  P               P      14 44 35.1 +1.5
      0.5nm,1.2s
BBOO  Buckleboo        30.60 167  eP              P      14 44 32.6 -1.2
      61nm,1.7s
GSI   Gunungsitoli     30.70 278  eP              P      14 44 34.3 -0.8
      28nm,0.9s
GSI   Gunungsitoli     30.70 278  P               P      14 44 34.2 -0.8
SKNT  Sakolnakorn      30.92 311  P               P      14 44 38.6 +1.7
      14nm,1.5s
NWAO  Narrogin (SRO)   31.42 198  P               P      14 44 39.7 -1.4
      12nm,0.9s,baz=12,slow=9.3,SNR=3.0
NWAO                                LR              LR     14 58 06.3
      comp=Z,438nm,19.5s,baz=12,slow=38
STKA  Stephens Creek   31.44 157  eP              P      14 44 40.2 -1.1
      4.0nm,1.2s
STKA  Stephens Creek   31.44 157  P               P      14 44 40.5 -0.8
      3.0nm,0.5s,baz=328,slow=8.5,SNR=14
STKA                                LR              LR     14 58 40.1
      comp=Z,1μm,18.1s,baz=333,slow=39
CHAI  Chaiyaphum       31.85 307  P               P      14 44 46.6 +1.6
      18μm,0.8s
NANT  Nan              34.51 310  P               P      14 45 10.7 +2.4
      17μm,0.5s
CM31  Chiang Mai Arr   35.68 308  eP              P      14 45 19.1 +0.7
      25nm,1.6s
CMAR  Chiang Mai Arr   35.68 308  P               P      14 45 19.1 +0.7
      1.3nm,0.7s,baz=136,slow=6.7,SNR=12
CMAR                                PcP             PcP    14 47 47.2 +0.9
      0.5nm,0.3s,baz=176,slow=2.9,SNR=4.2
CMAR                                LR              LR     15 02 28.9
      comp=Z,258nm,19.3s,baz=136,slow=40
WHN   Wuhan            35.82 340  P               P      14 45 15.5 -3.8
WHN                                 S               S      14 50 54.0 -0.4
WHN                                 LR              LR
      comp=N,760nm,19.3s
WHN                                 LR              LR
      comp=E,690nm,19.6s
WHN                                 LR              LR
      comp=Z,440nm,23.0s
GYA   Guiyang          35.83 326  P               P      14 45 20.8 +1.2
GYA                                 pP              sP     14 45 38.8 +5.3
GYA                                 sP              pwP    14 45 47.5 +15
GYA                                 PP              PP     14 46 40.5 -1.0
GYA                                 S               S      14 50 56.5 +1.6
GYA                                 sS              ScP    14 51 28.5 -1.6
GYA                                 pmax            pmax
      comp=Z,20nm,0.8s
GYA                                 pmax            pmax
      comp=Z,120nm,6.2s
GYA                                 LR              LR
      comp=N,180nm,17.0s
GYA                                 LR              LR
      comp=E,160nm,16.0s
CMMT  Chiang Mai       35.88 308  P               P      14 45 21.5 +1.5
      7.2nm,1.4s
CHTO  Chiang Mai       35.88 308  eP              P      14 45 16.8 -3.3
      22nm,1.4s
NJ2   Nanjing          35.93 347  eP              P      14 45 22.0 +1.7
NJ2                                 pmax            pmax
      comp=Z,18nm,0.6s
JNU   Nakatsue         36.04  4   P               P      14 45 21.7 +0.5
      4.8nm,0.8s,baz=207,slow=4.5,SNR=4.8
KMI   Kunming          37.18 320  P               P      14 45 33.5 +2.2
KMI                                 pP              sP     14 45 49.5 +4.5
KMI                                 sP              pwP    14 45 57.5 +13
KMI                                 pmax            pmax
      comp=Z,21nm,0.7s
KMI                                 pmax            pmax
      comp=Z,110nm,4.1s
ENH   Enshi            37.52 333  eP              P      14 45 34.1 +0.2
      8.2nm,0.8s
KSRS  Korea Array      40.26 360  P               P      14 45 56.8 +0.2
      3.1nm,0.8s,baz=178,slow=9.5,SNR=12
KSRS                                LR              LR     15 01 42.7
      comp=Z,164nm,22.0s,baz=158,slow=35
MJAR  Matsushiro Arr   40.49  13  P               P      14 45 58.7 +0.1
      1.6nm,0.8s,baz=192,slow=9.4,SNR=4.5
MJAR                                LR              LR     15 00 55.1
      comp=Z,408nm,20.8s,baz=190,slow=33
MAJO  Matsushiro       40.49  13  eP              P      14 45 58.7 +0.1
CD2   Chengdu          40.88 327  eP              P      14 46 02.5 +0.5
CD2                                 S               S      14 52 11.0 -0.1
CD2                                 pmax            pmax
      comp=Z,120nm,4.6s
CD2                                 LR              LR
      comp=N,230nm,22.6s
CD2                                 LR              LR
      comp=E,350nm,21.6s
CD2                                 LR              LR
      comp=Z,280nm,21.6s
XAN   Xi'an            41.00 336  P               P      14 46 02.5 -0.4
XAN                                 pP              sP     14 46 15.0 -1.6
XAN                                 S               S      14 52 12.8  0.0
XAN                                 pmax            pmax
      comp=Z,12nm,0.8s
XAN                                 pmax            pmax
      comp=Z,48nm,6.9s
XAN                                 LR              LR
      comp=N,170nm,18.6s
XAN                                 LR              LR
      comp=E,130nm,17.6s
XAN                                 LR              LR
      comp=Z,230nm,19.6s
XAN   Xi'an            41.00 336  eP              P      14 46 01.7 -1.2
      9.8nm,0.8s
DZM   Mont Dzumac      41.85 120  eLR             LR     14 57 45.6
      comp=Z,257nm,23.4s
LZH   Lanzhou          44.97 332  eP              P      14 46 36.5 +1.4
LZH                                 pP              pwP    14 46 55.5 +6.1
LZH                                 sP              sP     14 47 03.5 +15
LZH                                 SS              SS     14 56 23.5 -10
LZH                                 pmax            pmax
      comp=Z,27nm,1.2s
LZH                                 pmax            pmax
      comp=Z,140nm,4.3s
LZH                                 LR              LR
      comp=N,350nm,14.2s
LZH                                 LR              LR
      comp=E,310nm,13.3s
LZH                                 LR              LR
      comp=Z,390nm,14.8s
SHL   Shillong         45.06 311  eP              P      14 46 37.0 +0.9
HHC   Hu-ho-hao-te     46.16 343  eP              P      14 46 47.3 +2.9
HHC                                 S               S      14 53 30.3 +2.2
HHC                                 pmax            pmax
      comp=Z,65nm,0.9s
HHC                                 pmax            pmax
      comp=Z,260nm,4.6s
HHC                                 LR              LR
      comp=N,640nm,14.9s
HHC                                 LR              LR
      comp=E,920nm,15.1s
HHC                                 LR              LR
      comp=Z,890nm,15.1s
USRK  Ussuriysk Ar.    47.13  4   P               P      14 46 52.2 +0.4
      3.1nm,0.5s,baz=179,slow=7.5,SNR=16
LSA   Lhasa            47.96 315  eP              P      14 46 59.1  0.0
      16nm,0.8s
ODAN  Odare            49.16 310  eP              P      14 47 08.7 +0.5
      35nm,0.7s
GTA   Gaotai           49.53 331  ⇑P              P      14 47 11.0 +0.4
GTA                                 pP              sP     14 47 27.5 +3.3
GTA                                 sP              pP     14 47 37.5 +16
GTA                                 pmax            pmax
      comp=Z,9.0nm,1.2s
GTA                                 pmax            pmax
      comp=Z,38nm,4.9s
GTA                                 LR              LR
      comp=N,120nm,20.6s
GTA                                 LR              LR
      comp=E,140nm,18.2s
GTA                                 LR              LR
      comp=Z,180nm,19.6s
RAMN  Ramite           49.82 309  eP              P      14 47 14.0 +0.8
      64nm,0.7s
JIRN  Jiri             50.49 310  eP              P      14 47 18.9 +0.5
      27nm,0.8s
PKI   Pulchoki         51.04 309  eP              P      14 47 22.6 +0.1
      44nm,1.5s
PKIN  Phulchoki        51.06 309  eP              P      14 47 22.5  0.0
      5.2nm,0.6s
KKN   Kakani           51.25 310  eP              P      14 47 24.3 +0.4
      27nm,0.9s
KOLN  Koldanda         52.54 309  eP              P      14 47 33.9 +0.3
      59nm,0.8s
DANN  Dangsing         52.70 309  eP              P      14 47 34.9 +0.1
      76nm,0.8s
PYUN  Piuthan          53.17 309  eP              P      14 47 38.8 +0.6
      81nm,0.9s
ULN   Ulaanbaatar      53.88 343  eP              P      14 47 42.6 -0.3
      6.6nm,0.7s
SONA0 Songino Array    54.05 342  eP              P      14 47 44.2  0.0
SONM  Songino Array    54.05 342  P               P      14 47 44.2  0.0
      2.9nm,0.7s,baz=150,slow=10.0,SNR=4.4
SONM                                LR              LR     15 15 04.6
      comp=Z,99nm,18.5s,baz=89,slow=41
URZ   Urewera          56.86 135  LR              LR     15 14 07.7
      comp=Z,287nm,18.6s,baz=320,slow=38
WMQ   Urumqi           58.98 327  eP              P      14 48 20.0 +0.7
WMQ                                 pP              sP     14 48 35.5 +2.5
WMQ                                 pmax            pmax
      comp=Z,33nm,1.1s
WMQ                                 pmax            pmax
      comp=Z,200nm,3.8s
WMQ                                 LR              LR
      comp=N,490nm,30.5s
WMQ                                 LR              LR
      comp=E,2μm,39.2s
WMQ                                 LR              LR
      comp=Z,350nm,27.5s
PETK  Petropavlovsk-   61.23  20  P               P      14 48 34.8 +0.4
      5.5nm,0.8s,baz=191,slow=7.2,SNR=5.2
PEA1  Petropavlovsk-   61.23  20  eP              P      14 48 34.8 +0.3
KSH   Kashi            63.75 317  P               P      14 48 53.0 +1.3
KSH                                 sP              PcP    14 49 17.5  -10
KSH                                 PP              PP     14 51 17.3 +5.0
KSH                                 S               S      14 57 21.0 -3.0
KSH                                 pmax            pmax
      comp=Z,16nm,0.4s
KSH                                 pmax            pmax
      comp=Z,87nm,4.6s
KSH                                 LR              LR
      comp=N,95nm,9.5s
KSH                                 LR              LR
      comp=E,130nm,7.7s
KSH                                 LR              LR
      comp=Z,240nm,15.7s
MK31  Makanchi Array   63.81 327  eP              P      14 48 51.6 -0.2
      8.1nm,0.8s
MKAR  Makanchi Array   63.81 327  P               P      14 48 51.7 -0.1
      9.2nm,0.8s,baz=126,slow=7.6,SNR=79
MKAR                                LR              LR     15 18 51.7
      comp=Z,48nm,19.4s,baz=108,slow=38
MAKZ  Makanchi         63.99 327  eP              P      14 48 51.5 -1.5
      15nm,1.2s
KDJ   Kajisay          64.24 320  eP              P      14 48 54.3 -0.7
      7.2nm,1.1s
YAK   Yakutsk          64.87  1   eP              P      14 48 58.7 +0.3
      33nm,0.7s
AAK   Ala-Archa        66.22 320  P               P      14 49 08.1 +0.4
      1.4nm,0.5s,baz=110,slow=8.8,SNR=6.8
ZAA0  Zalesovo Array   67.14 334  eP              P      14 49 11.7 -1.4
      9.9nm,1.1s
ZALV  Zalesovo Beam    67.14 334  P               P      14 49 12.4 -0.8
      4.5nm,0.8s,baz=107,slow=5.0,SNR=16
ZALV                                LR              LR     15 21 15.6
      comp=Z,80nm,20.5s,baz=70,slow=38
GAR   Garm             67.45 315  eP              P      14 49 15.2 -0.5
      15nm,1.0s
KURBB Kurchatov Arra   68.08 329  P               P      14 49 18.9 -0.3
      10nm,0.8s,baz=131,slow=5.7,SNR=77
BVAR  Borovoye Array   73.64 328  P               P      14 49 52.7 -0.2
      baz=126,slow=6.2
BRVK  Borovoye         73.71 328  eP              P      14 49 53.1 -0.2
      9.5nm,1.1s
TIXI  Tiksi            74.53  0   P               P      14 49 57.6 -0.1
      7.3nm,0.6s,baz=173,slow=5.0,SNR=38
GEYT  Alibeck          76.12 310  P               P      14 50 07.5 -0.1
      3.7nm,0.8s,baz=144,slow=5.5,SNR=7.6
```

GEYT LR LR 15 29 58.6
comp=Z,57nm,19.8s,baz=150,slow=41
VNDA Vanda 76.63 173 *e*P **P 14 50 07.9 -1.8**
VNDA Vanda 76.63 173 P **P 14 50 09.3 -0.3**
0.4nm,0.6s,baz=331,slow=4.4,SNR=3.1
VNDA LR LR 15 24 35.8
comp=Z,226nm,18.2s,baz=341,slow=36
NRIK Noril'sk 77.23 346 P **P 14 50 13.2 +0.1**
6.5nm,0.8s,baz=135,slow=11,SNR=6.5
NRIK LR LR 15 26 22.0
comp=Z,140nm,20.1s,baz=158,slow=37
MAW Mawson 77.92 201 LR LR 15 20 53.1
comp=Z,256nm,21.7s,baz=58,slow=33
AKTO Aktyubinsk 79.71 322 LR LR 15 28 52.6
comp=Z,72nm,21.4s,baz=113,slow=38
PPT2 Papeete2 81.89 107 *e*LR LR 15 16 23.0
comp=Z,113nm,24.5s
PPT Papeete 81.89 107 LR LR 15 27 21.7
comp=Z,40nm,18.6s,baz=276,slow=36
TBI Tubuai 81.98 113 *e*LR LR 15 16 23.0
comp=Z,103nm,24.0s
SYO Syowa Base 86.63 201 *e*X P 14 51 09.0 +6.4
GNI Garni 86.76 310 LR LR 15 37 56.0
comp=Z,19nm,18.8s,baz=63,slow=41
KBZ Khabaz 88.51 314 P **P 14 51 12.2 +0.1**
1.8nm,0.7s,baz=162,slow=6.5,SNR=5.8
ILAR Eielson Array 90.62 25 P **P 14 51 20.4 -1.1**
1.1nm,0.9s,baz=250,slow=5.1,SNR=8.5
ILAR LR LR 15 28 59.1
comp=Z,56nm,20.5s,baz=278,slow=34
ILB Eielson Array 90.62 25 *e*P **P 14 51 20.4 -1.1**
14nm,0.5s
KMBO Kilima Mbogo 90.68 269 P **P 14 51 23.0 -0.3**
1.0nm,0.5s,baz=302,slow=2.7,SNR=3.7
KMBO LR LR 15 28 00.1
comp=Z,97nm,21.5s,baz=94,slow=33
OBN Obninsk 93.26 325 LR LR 15 36 37.1
comp=Z,10nm,20.9s,baz=331,slow=37
BR101 Keskin Array S 95.26 309 *e*P **P 14 51 42.7 -1.0**
BRTR Keskin Array B 95.26 309 P **P 14 51 42.7 -1.0**
0.7nm,0.8s,baz=108,slow=6.6,SNR=3.7
BRTR LR LR 15 43 55.4
comp=Z,29nm,18.3s,baz=86,slow=41
INK Inuvik 95.93 22 P **P 14 51 45.2 -0.7**
1.0nm,0.8s,baz=281,slow=5.2,SNR=3.7
ARCES ARCESS Array B 97.17 340 P **P 14 51 51.1 -0.5**
2.1nm,0.9s,baz=72,slow=6.0,SNR=4.3
ARCES LR LR 15 43 05.8
comp=Z,80nm,18.5s,baz=91,slow=40
LTX Lajitas 124.50 56 *e*PKPdf **PKPdf 14 57 19.5 0.0**
TXAR Lajitas Array 124.50 56 PKP **PKPdf 14 57 19.5 0.0**
0.4nm,0.7s,baz=225,slow=1.1,SNR=3.8
TORD Torodi Ar. Bea 125.99 284 PKP **PKPdf 14 57 22.0 -0.5**
1.8nm,0.8s,baz=30,slow=2.9,SNR=9.8
TOA1 Torodi Ar. Sit 125.99 284 *e*PKPdf **PKPdf 14 57 22.0 -0.5**
CPUP Villa Florida 150.38 170 PKPbc **PKPbc 14 58 11.2 -0.4**
3.7nm,0.8s,baz=198,slow=1.6,SNR=6.1
NNA Nana 151.17 122 PKPab **PKPab 14 58 21.3 -0.3**
8.8nm,0.6s,baz=286,slow=4.1,SNR=5.5
SIV San Ignacio 159.10 155 PKPab **PKPab 14 58 54.6 -0.5**
1.1nm,0.6s,baz=263,slow=3.2,SNR=5.1

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*ISCJB **30** 14:45:21.5±0.8, 13°.33N±0°.07×90°.49W±0°.04, h53km±12km, mb4.3/2, Error ellipse: s-maj=12.3km s-min=4.1km az=27.8*
*NEIC **30** 14:45:22.2±1.5, 13°.18N×90°.55W, h88km±13km, mb4.2/4, MD3.8(SNET), MD4.0(MEX), Error ellipse: s-maj=38.4km s-min=7.7km az=209.0*
NEIC Felt [I] at Ahuachapan, El Salvador.
*SNET **30** 14:45:23.1±1.3, 13°.61N×90°.42W, h49km±13km, ML3.8*
*UCR **30** 14:45:23.6±2.2, 13°.47N×90°.35W, h27km±6km, MD3.4, ML3.8, mb4.2(NEIC)*
*MEX **30** 14:45:25.4±0.3, 13°.19N×90°.81W, h15km, MD4.0*
ISC 30 14:45:21.8±1.3, 13°.39N±0°.08×90°.45W±0°.04, h46km±22km, n47, σ1.190/68, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.92**	**62**	*e*P	**Pn**	**14 45 38.6**	**+0.1**
CEVE				*e*S	**Sn**	**14 45 50.6**	**-0.1**
CEVE				IAML		14 45 51.9	
	comp=Z,8μm,0.2s						
CEVE	**Cerro Verde**	**0.92**	**62**	*e*P	**Pn**	**14 45 38.6**	**+0.1**
CEVE				*e*S	**Sn**	**14 45 50.6**	**-0.1**
CEVE				IAML		14 45 51.9	
	comp=Z,8μm,0.2s						
SBLS	**San Blas**	**0.92**	**61**	*e*P	**Pn**	**14 45 38.6**	**+0.1**
SBLS	**San Blas**	**0.92**	**61**	*e*P	**Pn**	**14 45 38.6**	**+0.1**
RTR	**El Retiro**	**0.93**	**57**	*e*P	**Pn**	**14 45 38.9**	**+0.2**
RTR	**El Retiro**	**0.93**	**57**	*e*P	**Pn**	**14 45 38.9**	**+0.2**
SNJE	**San Jose**	**0.95**	**60**	*e*P	**Pn**	**14 45 39.0**	**+0.1**
SNJE	**San Jose**	**0.95**	**60**	*e*P	**Pn**	**14 45 39.0**	**+0.1**
FUG	**Fuego 3**	**1.12**	**340**	*e*P	**Pn**	**14 45 42.7**	**+1.5**
BOQS	**Boqueron**	**1.19**	**73**	*e*P	**Pn**	**14 45 42.8**	**+0.6**
NBG	**Las Nubes**	**1.19**	**5**	*e*P	**Pn**	**14 45 44.4**	**+2.0**
NBG				*e*S	**Sn**	**14 46 01.1**	**+3.6**
SNET	**Serv Nac Est T**	**1.22**	**76**	*e*P	**Pn**	**14 45 43.3**	**+0.8**
SNET				*e*S	**Sn**	**14 45 58.2**	**+0.2**
SNET				IAML		14 46 01.1	
	comp=Z,1μm,0.2s						
SNET	**Serv Nac Est T**	**1.22**	**76**	*e*P	**Pn**	**14 45 43.3**	**+0.8**
SNET				*e*S	**Sn**	**14 45 58.2**	**+0.2**
SNET				IAML		14 46 01.1	
	comp=Z,1μm,0.2s						
LFU	**La Fuente**	**1.35**	**75**	*e*P	**Pn**	**14 45 45.1**	**+0.8**
LFU	**La Fuente**	**1.35**	**75**	*e*P	**Pn**	**14 45 45.1**	**+0.8**
LFRS	**El Faro**	**1.37**	**86**	*e*P	**Pn**	**14 45 45.3**	**+0.8**
LBRS	**Las Brisas**	**1.41**	**76**	*e*P	**Pn**	**14 45 46.0**	**+0.9**
MTO3	**Montecristo**	**1.46**	**46**	*e*P	**Pn**	**14 45 45.9**	**0.0**
MTO3				*e*S	**Sn**	**14 46 03.5**	**-0.5**
MTO3	**Montecristo**	**1.46**	**46**	*e*P	**Pn**	**14 45 45.9**	**0.0**
MTO3				*e*S	**Sn**	**14 46 03.5**	**-0.5**
VICT	**Victoria**	**1.85**	**72**	*e*P	**Pn**	**14 45 51.3**	**+0.2**
VICT	**Victoria**	**1.85**	**72**	*e*P	**Pn**	**14 45 51.3**	**+0.2**
TECA	**Tecapa**	**1.90**	**87**	*e*P	**Pn**	**14 45 53.0**	**+1.1**
TECA	**Tecapa**	**1.90**	**87**	*e*P	**Pn**	**14 45 53.0**	**+1.1**
PACA	**Pacayal**	**2.07**	**88**	*e*P	**Pn**	**14 45 56.1**	**+1.9**
PACA				*e*S	**Sn**	**14 46 22.2**	**+3.3**
PACA	**Pacayal**	**2.07**	**88**	*e*P	**Pn**	**14 45 56.1**	**+1.9**
PACA				*e*S	**Sn**	**14 46 22.2**	**+3.3**
THIG		**2.32**	**311**	*e*Pn	**Pn**	**14 45 57.6**	**+0.2**
THIG				*e*Sn	**Sn**	**14 46 24.2**	**-0.5**
THIG		**2.32**	**311**	*i* P	**Pn**	**14 45 57.6**	**+0.2**
THIG				*i* S	**Sn**	**14 46 24.2**	**-0.5**
CNCH	**Conchagua**	**2.55**	**92**	*e*P	**Pn**	**14 46 03.0**	**+2.2**
CNCH				*e*S	**Sn**	**14 46 32.9**	**+2.2**
CNCH				IAML		14 46 36.8	
	comp=Z,4μm,0.3s						
CNCH	**Conchagua**	**2.55**	**92**	*e*P	**Pn**	**14 46 03.0**	**+2.2**
CNCH				*e*S	**Sn**	**14 46 32.9**	**+2.2**
CNCH				IAML		14 46 36.8	
	comp=Z,4μm,0.3s						
CSGN	**Cosiguina Volc**	**2.85**	**98**	*e*Pn	**Pn**	**14 46 06.9**	**+2.1**
TGUH	**Tegucigalpa,Un**	**3.16**	**78**	*e*Pn	**Pn**	**14 46 12.1**	**+3.1**
CCIG	**Comitan**	**3.30**	**331**	*e*Pn	**Pn**	**14 46 14.0**	**+2.8**
CCIG				*e*Sn	**Sn**	**14 46 53.1**	**+3.8**
CCIG	**Comitan**	**3.30**	**331**	*e*P	**Pn**	**14 46 14.0**	**+2.8**
CCIG				*i* S	**Sn**	**14 46 53.1**	**+3.8**
PCIG		**3.53**	**311**	*e*Pn	**Pn**	**14 46 15.9**	**+1.8**
PCIG				*e*Sn	**Sn**	**14 46 54.3**	**-0.3**
PCIG		**3.53**	**311**	*i* P	**Pn**	**14 46 15.9**	**+1.8**
PCIG				*i* S	**Sn**	**14 46 54.3**	**-0.3**
ESTN	**Estel**	**3.99**	**94**	*e*Pn	**Pn**	**14 46 21.8**	**+1.4**
TGIG		**4.24**	**323**	*e*Pn	**Pn**	**14 46 27.6**	**+3.7**
TGIG				*e*Sn	**Sn**	**14 47 15.0**	**+2.7**
TGIG		**4.24**	**323**	*i* P	**Pn**	**14 46 27.6**	**+3.7**
TGIG				*i* S	**Sn**	**14 47 15.0**	**+2.7**
ACON	**Acoyapa**	**5.34**	**105**	*e*Pn	**Pn**	**14 46 39.5**	**+0.6**
CMIG	**Matias Romero**	**5.64**	**311**	*e*Pn	**Pn**	**14 46 45.7**	**+2.6**
CMIG				*e*Sn	**Sn**	**14 47 48.0**	**+1.4**
CMIG	**Matias Romero**	**5.64**	**311**	*i* P	**Pn**	**14 46 45.7**	**+2.6**
CMIG				*i* S	**Sn**	**14 47 48.0**	**+1.4**
JTS	**Las Juntas de**	**6.20**	**119**	*e*Pn	**Pn**	**14 46 51.5**	**+0.6**
LNIG	**Linares**	**14.26**	**325**	*e*Pn	**Pn**	**14 48 37.3**	**-3.7**
WHTX	**Lake Whitney,**	**19.60**	**342**	*e*P	**P**	**14 49 43.6**	**-2.6**
	comp=Z,10nm,0.9s						
ABTX	**Abilene, Hawle**	**20.91**	**338**	*e*P	**P**	**14 49 57.6**	**-2.8**
	comp=Z,12nm,1.2s						
TUL1	**Leonard**	**22.93**	**349**	*e*P	**P**	**14 50 22.5**	**+0.6**
	comp=Z,6.7nm,0.6s						
HHAR	**Hobbs**	**23.01**	**353**	*e*P	**P**	**14 50 22.1**	**-0.6**
	comp=Z,10nm,0.8s						

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*IDC **30** 15:07:19.7±13.0, 15°.56S×165°.45E, h0km, mb4.4/3, mb1 4.6/4, mb1mx3.8/32, mbtmp4.4/4, ML4.4/1, Error ellipse: s-maj=226.0km s-min=35.1km az=53.0*
*ISCJB **30** 15:07:20.5±0.9, 15°.68S±0°.07×165°.7E±0°.1, h36km, mb4.8/19, Error ellipse: s-maj=17.4km s-min=6.6km az=151.0*
*NEIC **30** 15:07:23.8±1.7, 15°.66S×165°.83E, h57km±10km, mb4.8/19, Error ellipse: s-maj=34.1km s-min=9.1km az=77.0*
ISC 30 15:07:19.6±1.2, 15°.44S±0°.09×166°.2E±0°.2, h36km, n28, σ2.992/33, mb4.9/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**6.25**	**164**	*e*Pn	**Pn**	**15 08 46.7**	**-2.6**
MARNC				*e*Sn	**Sn**	**15 09 51.6**	**-8.0**
DZM	**Mont Dzumac**	**6.60**	**178**	*e*Pn	**Pn**	**15 08 58.0**	**+3.7**
DZM				*e*Sn	**Sn**	**15 10 13.6**	**+5.3**
DZM	**Mont Dzumac**	**6.60**	**178**	Pn	**Pn**	**15 08 57.5**	**+3.2**
	7.2nm,0.3s,baz=41,slow=9.3,SNR=86						
DZM				Sn	**Sn**	**15 10 14.4**	**+6.0**
	9.2nm,0.3s,baz=118,slow=23,SNR=16						
ONTNC	**Ouen Toro**	**6.84**	**178**	*e*Pn	**Pn**	**15 09 01.4**	**+4.0**
ONTNC				*e*Sn	Sn	15 10 20.9	+6.9
OUENC	**Ouen Island, N**	**6.97**	**175**	*e*Pn	**Pn**	**15 09 01.4**	**+2.1**
OUENC				*e*Sn	**Sn**	**15 10 16.7**	**-0.6**
PINNC	**Pines Island,**	**7.23**	**171**	*e*Pn	**Pn**	**15 09 03.9**	**+1.0**
PINNC				*e*Sn	**Sn**	**15 10 23.8**	**+0.1**
CTAO	**Charters Tower**	**19.57**	**253**	*e*P	**P**	**15 11 41.9**	**-2.7**
	22nm,1.3s						
KWAJ	**Kwajalein Atol**	**24.12**	**3**	*e*P	**P**	**15 12 37.2**	**+5.0**
	197nm,1.1s						
STKA	**Stephens Creek**	**27.77**	**230**	*e*P	**P**	**15 13 04.6**	**-0.6**
	1.0nm,0.5s						
STKA	**Stephens Creek**	**27.77**	**230**	P	**P**	**15 13 04.5**	**-0.6**
	2.9nm,0.3s,baz=54,slow=9.3,SNR=19						
CRLZ	**Canterbury Las**	**28.57**	**170**	*e*P	**P**	**15 13 12.7**	**+0.5**
	179nm,1.8s						
WC3	**Warramunga Arr**	**30.65**	**257**	*e*P	**P**	**15 13 29.5**	**-1.4**
	37nm,1.8s						
WB2	**Warramunga Arr**	**30.67**	**257**	*e*P	**P**	**15 13 29.8**	**-1.2**
	13nm,1.4s						
WRAB	**Tennant Creek**	**30.67**	**257**	*e*P	**P**	**15 13 29.7**	**-1.4**
	23nm,1.8s						
WR1	**Warramunga Arr**	**30.68**	**257**	*e*P	**P**	**15 13 29.6**	**-1.5**
WRA	**Warramunga Arr**	**30.68**	**257**	P	**P**	**15 13 29.7**	**-1.5**
	1.0nm,0.5s,baz=82,slow=8.0,SNR=16						
AS31	**Alice Springs**	**31.48**	**250**	*e*P	**P**	**15 13 37.1**	**-1.1**
	2.2nm,0.5s						
ASAR	**Alice Springs**	**31.48**	**250**	P	**P**	**15 13 37.0**	**-1.2**
	3.4nm,0.4s,baz=78,slow=9.1,SNR=193						
BBOO	**Buckleboo**	**32.35**	**232**	*e*P	**P**	**15 13 44.9**	**-0.8**
	61nm,1.9s						
FORT	**Forrest**	**38.07**	**240**	*e*P	**P**	**15 14 33.5**	**-1.5**
	27nm,1.4s						
FITZ	**Fitzroy Crossi**	**38.90**	**260**	*e*P	**P**	**15 14 40.7**	**-1.4**
	10nm,1.3s						
PSAD2	**Pilbara Seismi**	**44.17**	**255**	*e*P	**P**	**15 15 23.3**	**-2.0**
	60nm,1.8s						
PSAC2	**Pilbara Seismi**	**44.23**	**255**	*e*P	**P**	**15 15 24.3**	**-1.4**
	60nm,1.8s						
PSA00	**Pilbara Seismi**	**44.28**	**255**	*e*P	**P**	**15 15 24.1**	**-2.0**
	53nm,1.8s						
PSAD1	**Pilbara Seismi**	**44.29**	**255**	*e*P	**P**	**15 15 24.4**	**-1.9**
	57nm,1.9s						
PSAB1	**Pilbara Seismi**	**44.30**	**255**	*e*P	**P**	**15 15 23.7**	**-2.6**
	98nm,1.9s						
PSAC1	**Pilbara Seismi**	**44.31**	**255**	*e*P	**P**	**15 15 24.6**	**-1.8**
	22nm,1.4s						
QIZ	**Qiongzhong**	**65.20**	**300**	*e*P	**P**	**15 17 59.0**	**+1.2**
	11nm,1.0s						

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*ISCJB **30** 15:10:13.1±0.4, 24°.43N±0°.01×122°.02E±0°.02, h5km±3km, Error ellipse: s-maj=2.8km s-min=2.0km az=37.4*
*JMA **30** 15:10:13.6, 24°.39N×121°.95E, h32km, M2.1*
*TAP **30** 15:10:13.5, 24°.46N×121°.94E, h10km, ML2.6, B*
ISC 30 15:10:13.4±0.9, 24°.45N±0°.02×121°.99E±0°.02, h13km±6km, n61, σ0.972/112, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.16**	**52**	P	**Pg**	**15 10 17.8**	**+0.7**
	baz=63						
EOS1				S	**Sb**	**15 10 21.8**	**+0.4**
	baz=63						
TWC	**Suao**	**0.20**	**320**	*i* P	**Pg**	**15 10 18.0**	**+0.1**
	baz=334						
TWC				*i* S	**Sg**	**15 10 20.7**	**-0.2**
	baz=334						
NANB	**Nanao**	**0.22**	**263**	P	**Pg**	**15 10 18.1**	**-0.1**
	baz=259						
NANB				S	**Sg**	**15 10 21.5**	**0.0**
	baz=259						
ENA	**Nanau**	**0.23**	**264**	*i* P	**Pg**	**15 10 18.1**	**-0.2**
	baz=258						
ENA				*i* S	**Sg**	**15 10 21.5**	**-0.2**
	baz=258						
ILA	**Ilan**	**0.38**	**325**	*e*S	**Sb**	**15 10 27.5**	**-0.4**
	baz=331						
EGS		**0.39**	**352**	P	**Pg**	**15 10 21.8**	**+0.5**
	baz=1.0						
EGS				*e*S	**Sb**	**15 10 29.4**	**+1.2**
	baz=1.0						
TWE	**Neicheng**	**0.40**	**312**	*i* P	**Pg**	**15 10 21.6**	**+0.2**
	baz=318						
TWE				*e*S	**Sg**	**15 10 26.9**	**+0.2**
	baz=318						
NTC	**Toucheng**	**0.43**	**340**	*e*P	**Pb**	**15 10 22.6**	**-0.2**
	baz=346						
NTC				*e*S	**Sb**	**15 10 28.7**	**-0.4**
	baz=346						
NACB	**Ninganchiao**	**0.46**	**233**	P	**Pg**	**15 10 21.9**	**-0.5**
	baz=227						
NACB				*e*S	**Sg**	**15 10 28.5**	**0.0**
	baz=227						
NDT	**Datong Townshi**	**0.46**	**289**	*i* P	**Pg**	**15 10 22.9**	**+0.4**
	baz=290						
NDT				*i* S	**Sg**	**15 10 28.9**	**+0.2**
	baz=290						
TWD	**Chiawan**	**0.52**	**224**	P	**Pg**	**15 10 23.7**	**+0.1**
	baz=218						
TWD				*e*S	**Sg**	**15 10 30.4**	**-0.1**
	baz=218						
ETLH	**Xiulin Townshi**	**0.53**	**242**	P	**Pg**	**15 10 23.5**	**-0.3**
	baz=238						
ETLH				*e*S	**Sg**	**15 10 31.2**	**+0.5**
	baz=238						
TIPB	**Shuangxi**	**0.54**	**344**	*i* P	**Pg**	**15 10 24.3**	**+0.3**
	baz=348						
TIPB				S	**Sb**	**15 10 32.5**	**0.0**
	baz=348						
NWLT	**Wulai**	**0.55**	**306**	*i* P	**Pg**	**15 10 24.7**	**+0.5**
	baz=308						
NWLT				S	**Sg**	**15 10 31.9**	**+0.3**
	baz=308						
TWB1	**Santiao Chiao**	**0.55**	**360**	*e*P	**Pb**	**15 10 25.1**	**+0.1**
	baz=5.0						
TWB1				*e*S	**Sb**	**15 10 33.0**	**+0.2**
	baz=5.0						
NNSB	**Datong**	**0.56**	**268**	P	**Pg**	**15 10 24.1**	**-0.2**
	baz=266						
NNSB				*e*S	**Sg**	**15 10 32.0**	**+0.2**
	baz=266						
NNS	**Nan Shan**	**0.56**	**269**	*i* P	**Pg**	**15 10 24.3**	**-0.2**
	baz=267						
NNS				S	**Sg**	**15 10 31.7**	**-0.3**
	baz=267						
YHNB	**Yeheng**	**0.60**	**291**	P	**Pg**	**15 10 25.4**	**+0.3**
	baz=292						
YHNB				S	**Sg**	**15 10 32.9**	**-0.3**
	baz=292						
NSK	**Sanguang**	**0.62**	**291**	*i* P	**Pg**	**15 10 25.6**	**+0.1**
	baz=292						
NSK				S	**Sg**	**15 10 33.4**	**-0.3**
	baz=292						
TWA	**Mucha**	**0.64**	**325**	P	**Pg**	**15 10 26.2**	**+0.3**
	baz=328						
TWA				*i* S	**Sb**	**15 10 35.2**	**-0.2**
	baz=328						
NWF	**Wu-fen Shan**	**0.64**	**343**	P	**Pb**	**15 10 27.0**	**+0.4**
	baz=346						
NWF				S	**Sb**	**15 10 35.7**	**+0.1**
	baz=346						
WFSB	**Wu-fen Shan**	**0.64**	**343**	P	**Pb**	**15 10 27.0**	**+0.5**
	baz=346						
WFSB				S	**Sb**	**15 10 35.8**	**+0.3**
	baz=346						
NHDH	**Xindian Distri**	**0.66**	**320**	*e*P	**Pn**	**15 10 29.1**	**+0.6**
	baz=323						
NHDH				S	**Sg**	**15 10 35.6**	**+0.6**
	baz=323						
TATO	**Taipei**	**0.69**	**319**	*e*P	**Pn**	**15 10 29.1**	**+0.2**
	baz=322						
TATO				S	**Sg**	**15 10 36.4**	**+0.3**
	baz=322						
WHF	**Hehuan Shan**	**0.73**	**245**	*i* P	**Pg**	**15 10 27.3**	**-0.4**
	baz=242						
WHF				*i* S	**Sg**	**15 10 37.6**	**+0.3**
	baz=242						
TWT	**Tachien**	**0.77**	**255**	*e*P	**Pn**	**15 10 30.0**	**-0.1**
	baz=253						
TWT				*e*S	**Sb**	**15 10 39.7**	**+0.5**
	baz=253						
WLTB	**Daxi**	**0.78**	**301**	*e*P	**Pn**	**15 10 29.7**	**-0.4**
	baz=302						
WLTB				S	**Sn**	**15 10 40.4**	**-1.3**
	baz=302						
TDCB	**Techi**	**0.79**	**255**	*e*P	**Pn**	**15 10 30.0**	**-0.3**
	baz=253						
TDCB				*e*S	**Sb**	**15 10 39.4**	**-0.3**
	baz=253						
YM01	**YM01**	**0.79**	**331**	P	**Pn**	**15 10 29.7**	**-0.6**
	baz=334						
YM01				*e*S	**Sb**	**15 10 39.9**	**+0.2**
	baz=334						
YM07	**YM07**	**0.79**	**335**	*i* P	**Pg**	**15 10 29.6**	**+0.8**
	baz=338						
YM07				*i* S	**Sg**	**15 10 39.6**	**+0.4**
	baz=338						
YM10	**YM10**	**0.80**	**331**	*i* P	**Pn**	**15 10 29.9**	**-0.5**
	baz=333						
YM10				*e*S	**Sb**	**15 10 40.6**	**+0.6**
	baz=333						
YM11	**YM11**	**0.80**	**332**	*i* P	**Pn**	**15 10 30.0**	**-0.6**
	baz=334						
YM11				*e*S	**Sb**	**15 10 40.3**	**+0.1**
	baz=334						
ESL	**Shilin**	**0.82**	**219**	*e*P	**Pg**	**15 10 29.6**	**+0.4**
	baz=215						
ESL				*e*S	**Sg**	**15 10 40.4**	**+0.4**
	baz=215						
YM08	**YM08**	**0.82**	**334**	*i* P	**Pn**	**15 10 30.2**	**-0.5**
	baz=336						
YM08				*e*S	**Sn**	**15 10 42.4**	**-0.2**
	baz=336						
TWS1	**Kuangyinshan**	**0.83**	**321**	*e*P	**Pn**	**15 10 31.4**	**+0.6**
	baz=323						
TWS1				*e*S	**Sn**	**15 10 43.5**	**+0.6**
	baz=323						
CHGB	**Renai**	**0.84**	**242**	P	**Pb**	**15 10 29.7**	**-0.3**
	baz=240						
CHGB				*e*S	**Sb**	**15 10 41.6**	**+0.2**
	baz=240						
NTST	**Danshui**	**0.86**	**325**	*e*S	**Sn**	**15 10 44.4**	**+0.6**
	baz=327						
JYNG	**Yonaguni jimaku**	**0.87**	**90**	P	**Pb**	**15 10 30.1**	**-0.3**
TWY	**Chenhua**	**0.89**	**337**	*e*P	**Pg**	**15 10 31.0**	**+0.4**
	baz=339						
TWY				*e*S	**Sg**	**15 10 43.5**	**+1.1**
	baz=339						
NCU	**National Centr**	**0.89**	**305**	*e*P	**Pb**	**15 10 30.2**	**-0.6**
	baz=306						
OWD	**Renai**	**0.90**	**236**	*i* P	**Pb**	**15 10 30.4**	**-0.5**
	baz=234						
OWD				*e*S	**Sb**	**15 10 41.9**	**-0.9**
	baz=234						
LIOB	**Emei**	**0.91**	**282**	*e*P	**Pn**	**15 10 31.8**	**-0.1**
	baz=282						
LIOB				*e*S	**Sg**	**15 10 43.6**	**+0.7**
	baz=282						
NSTT	**Nanjuang**	**0.92**	**281**	P	**Pn**	**15 10 31.9**	**-0.1**
	baz=281						
NSTT				S	**Sg**	**15 10 43.5**	**+0.3**
	baz=281						
YOJ	**Yonaguni jima**	**0.93**	**89**	*e*P	**Pb**	**15 10 30.6**	**-0.7**
	baz=89						
YOJ	**Yonaguni jima**	**0.93**	**89**	P	**Pb**	**15 10 31.1**	**-0.3**
YOJ				*e*S	**Sg**	**15 10 43.7**	**+0.2**
EGFH	**Guangfu**	**0.94**	**214**	P	**Pn**	**15 10 32.1**	**-0.1**
	baz=210						
EGFH				*e*S	**Sn**	**15 10 45.2**	**-0.3**
	baz=210						
WHP	**Taichung City**	**0.97**	**260**	*e*P	**Pn**	**15 10 32.7**	**-0.1**
	baz=258						
WHP				S	**Sn**	**15 10 45.7**	**-0.8**
	baz=258						
VWDT	**VWDT**	**1.04**	**228**	P	**Pg**	**15 10 33.8**	**+0.2**
	baz=225						
VWDT				S	**Sn**	**15 10 47.7**	**-0.4**
	baz=225						
DPDB	**Guoxing**	**1.06**	**247**	*e*P	**Pg**	**15 10 34.3**	**+0.5**
	baz=245						
DPDB				S	**Sg**	**15 10 47.8**	**+0.2**
	baz=245						
HGSD	**Ruisui**	**1.09**	**209**	*e*P	**Pg**	**15 10 36.3**	**+1.9**
	baz=205						
EHY	**Hungye**	**1.12**	**213**	*e*P	**Pg**	**15 10 36.9**	**+1.8**
	baz=210						
SMLT	**Sun Moon Lake**	**1.15**	**241**	*e*P	**Pb**	**15 10 35.0**	**-0.2**
	baz=238						
SMLT				*e*S	**Sg**	**15 10 51.5**	**+1.0**
	baz=238						
SSLB	**Suanglung**	**1.16**	**235**	P	**Pb**	**15 10 35.4**	**+0.1**
	baz=233						
SSLB				S	**Sb**	**15 10 49.5**	**-0.7**
	baz=233						
TYC	**Yuchr**	**1.17**	**242**	*e*P	**Pg**	**15 10 36.6**	**+0.6**
	baz=240						
TYC				*e*S	**Sg**	**15 10 52.2**	**+1.0**
	baz=240						
YULB	**Yu-li**	**1.23**	**211**	*e*S	**Sg**	**15 10 57.4**	**+4.2**
	baz=208						
YUS	**Yu-Shan**	**1.35**	**225**	*e*P	**Pg**	**15 10 39.8**	**+0.3**
	baz=222						
CHN5	**Tsauling**	**1.47**	**235**	*e*S	**Sg**	**15 11 02.6**	**+1.7**
	baz=233						
IRIF	**Iriomote-Funau**	**1.59**	**94**	P	**Pn**	**15 10 40.5**	**-0.7**
IRIF				S	**Sn**	**15 11 00.7**	**-1.0**
JKRS	**Kuro-shima**	**1.85**	**96**	P	**Pn**	**15 10 44.8**	**-0.1**
JKRS				S	**Sn**	**15 11 07.6**	**-0.6**
JIJ	**Ishigaki jima**	**1.96**	**92**	P	**Pn**	**15 10 45.8**	**-0.6**
JIJ				*e*S	**Sn**	**15 11 08.8**	**-2.1**
JISG	**Ishigakijimahi**	**2.12**	**86**	P	**Pn**	**15 10 47.7**	**-0.8**
JISG				*e*S	**Sn**	**15 11 14.0**	**-0.7**

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*DDA **30** 15:26:05.9, 37°.02N×39°.25E, h7km±3km, ML2.8*
*ISK **30** 15:26:07.4, 37°.19N×39°.26E, h6km, ML2.4/9*
**ISC 30 15:26:06.6±1.2, 37°.06N±0°.05×39°.26E±0°.03, h9km±10km, n19, σ0.990/30

HANI	**Diyarbakir_Han**	**1.62**	**33**	IAML_P			
	comp=Z,347nm,0.3s						
HANI				*i* P	**Pg**	**15 26 37.1**	**-0.7**
HANI				*i* S	**Sg**	**15 26 58.8**	**-0.1**
AKCD	**Akcadag**	**1.63**	**320**	IAML_P			
	comp=Z,490nm,0.3s						
AKCD				*i* P	**Pg**	**15 26 37.7**	**-0.2**
AKCD				*i* S	**Sg**	**15 26 59.9**	**+0.8**
GAZ	**Gaziantep**	**1.64**	**275**	PN	**Pb**	**15 26 37.5**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.88**	**54**	PN	**Pn**	**15 26 40.1**	**+1.0**
HCB	**Kahramanmara**	**1.90**	**279**	IAML_P			
	comp=Z,241nm,0.2s						
HCB				*i* P	**Pg**	**15 26 43.7**	**+0.6**
KMRS	**Kahramanmaras**	**1.94**	**284**	PN	**Pb**	**15 26 41.1**	**-1.0**
AYKD	**Aykdinkavak**	**1.99**	**281**	IAML_P			
	comp=Z,398nm,0.2s						
AYKD				*i* P	**Pg**	**15 26 44.8**	**0.0**
AYKD				*i* S	**Sg**	**15 27 10.0**	**-0.7**
DARE	**Darende-Malaty**	**2.06**	**317**	PN	**Pn**	**15 26 41.3**	**-0.3**
TAHT	**Tahtakopru-Hat**	**2.57**	**255**	PN	**Pb**	**15 26 51.1**	**-1.7**
SIRT	**Sirnak**	**2.57**	**79**	PN	**Pb**	**15 26 51.1**	**-1.9**

*IDC **30** 15:49:22.6±3.2, 13°.65N×92°.36W, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/36, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=54.6km s-min=28.7km az=3.0*
*MEX **30** 15:49:24.8±0.4, 13°.64N×92°.44W, h19km±18km, MD3.9*
ISC 30 15:49:24.7±3.9, **13°.9N**±0°.1×**92°.45W**±0°.06, **h5**km±25km, **n10**, σ**1**§**22**/17, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.00**	**10**	*i* P	**Pb**	**15 49 44.6**	**+0.1**
THIG				*e*S	**Sn**	**15 50 00.2**	**+0.3**
PCIG		**1.93**	**337**	*i* P	**Pn**	**15 49 57.4**	**-0.8**
PCIG				*i* S	**Sn**	**15 50 22.9**	**+0.1**
APG	**El Apazote**	**2.21**	**60**	Pn	**Pn**	**15 50 02.0**	**-0.3**
	2.7nm,0.3s,baz=228,slow=8.8,SNR=12						
APG				Sn	**Sb**	**15 50 32.1**	**-0.9**
	6.6nm,0.3s,baz=67,slow=23,SNR=4.2						
CCIG	**Comitan**	**2.37**	**7**	*e*P	**Pn**	**15 50 04.4**	**0.0**
CCIG				*e*S	**Sn**	**15 50 35.1**	**+1.1**
TGIG		**2.92**	**347**	*i* P	**Pn**	**15 50 12.3**	**+0.4**
TGIG				*e*S	**Sn**	**15 50 48.1**	**+0.7**
CMIG	**Matias Romero**	**3.93**	**324**	*e*P	**Pn**	**15 50 24.6**	**-1.2**
CMIG				*i* S	**Sn**	**15 51 12.3**	**-0.1**
CMIG	**Matias Romero**	**3.93**	**324**	Pn	**Pn**	**15 50 27.6**	**+1.8**
	0.5nm,0.3s,baz=150,slow=14,SNR=4.1						
CMIG				Sn	**Sb**	**15 51 20.6**	**-1.9**
	2.2nm,0.3s,baz=34,slow=20,SNR=5.7						
TXAR	**Lajitas Array**	**18.53**	**328**	P	**Pn**	**15 53 44.9**	**+2.5**
	0.0nm,0.3s,baz=153,slow=13,SNR=2.4						
YKA	**Yellowknife Ar**	**51.01**	**347**	P	**P**	**15 58 26.4**	**-1.0**
	0.4nm,0.6s,baz=149,slow=7.4,SNR=5.5						
CMAR	**Chiang Mai Arr**	**145.93**	**340**	PKPbc	**PKPbc**	**16 09 06.2**	**-0.1**
	0.3nm,0.7s,baz=331,slow=3.3,SNR=2.2						

MEX 30 15:55:56.2±0.6, **13°.84N**×**92°.15W**, **h17**km±115km, **MD3.7**, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.07**	**354**	*i* P	Pb	15 56 13.0	-3.4
THIG				*i* S	Sb	15 56 26.3	-3.8
PCIG		**2.13**	**331**	*e*P	Pn	15 56 27.3	-3.7
PCIG				*i* S	Sn	15 56 52.9	-4.2
CCIG	**Comitan**	**2.43**	**0**	*i* P	Pn	15 56 32.1	-3.3
CCIG				*i* S	Sn	15 57 01.3	-3.6
TGIG		**3.07**	**342**	*i* P	Pn	15 56 41.3	-2.8
TGIG				*i* S	Sn	15 57 17.4	-3.2
CMIG	**Matias Romero**	**4.17**	**321**	*i* P	Pn	15 56 56.9	-2.4
CMIG				*i* S	Sn	15 57 44.1	-3.6

*NSSC **30** 16:07:15.9±0.8, 33°.93N×35°.60E, h8km±148km, ML1.5*
*ISCJB **30** 16:07:17.3±2.1, 33°.82N±0°.08×35°.6E±0°.2, h38km±17km, Error ellipse: s-maj=23.7km s-min=10.8km az=157.9*
*GRAL **30** 16:07:18.8±0.3, 33°.82N×35°.75E, h28km±4km, MD2.6*
ISC 30 16:07:18.1±1.3, **33°.86N**±0°.07×**35°.7E**±0°.1, **h29**km±12km, **n8**, σ**0**§**76**/13, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.07**	**310**	*e*P	**Pb**	**16 07 23.7**	**+0.4**
DQRL	**Deir Qamar**	**0.20**	**220**	*e*P	**Pb**	**16 07 24.4**	**+0.1**
DQRL				*e*S	**Sb**	**16 07 28.5**	**0.0**
QRWL	**Qaraoun**	**0.31**	**186**	*e*P	**Pb**	**16 07 25.3**	**-0.4**
RCY	**Rachaya**	**0.37**	**165**	*e*P	**Pb**	**16 07 26.2**	**-0.5**
RCY				*e*S	**Sb**	**16 07 31.6**	**-0.9**
HWQ	**Hawqa**	**0.46**	**24**	*e*P	**Pn**	**16 07 28.3**	**-0.7**
BRBR	**Barbar**	**0.48**	**157**	*e*P	**Pb**	**16 07 28.0**	**-0.4**
BRBR				*e*S	**Sb**	**16 07 35.7**	**+0.3**
BRBR				AML	AML	16 07 37.9	
	comp=N,43nm,0.7s						
BRBR				AML	AML	16 07 38.2	
	comp=E,14nm,0.3s						
QASN	**Qassioun**	**0.56**	**125**	*e*P	**Pb**	**16 07 29.4**	**-0.2**
QASN				*e*S	**Sn**	**16 07 39.1**	**+0.3**
QASN				AML	AML	16 07 40.1	
	comp=E,30nm,0.4s						
QASN				AML	AML	16 07 47.7	
	comp=N,65nm,0.4s						
TOTH	**TOTAH**	**0.77**	**130**	*e*P	**Pn**	**16 07 33.2**	**+0.1**
TOTH				*e*S	**Sn**	**16 07 45.5**	**+1.7**
TOTH				AML	AML	16 07 54.8	
	comp=E,10.0nm,0.6s						
TOTH				AML	AML	16 07 59.8	
	comp=N,8.8nm,0.4s						

*OMAN **30** 16:14:53.6±0.1, 26°.70N×55°.05E, h10km±2km, ml3.2/9, Error ellipse: s-maj=5.5km s-min=1.7km az=11.0*
*DSN **30** 16:14:54.2±0.9, 26°.63N×55°.08E, h10km, ML3.2/9, Error ellipse: s-maj=10.4km s-min=3.0km az=3.0*
*ISCJB **30** 16:14:55.8±1.3, 26°.54N±0°.03×54°.96E±0°.07, h17km±12km, Error ellipse: s-maj=11.1km s-min=4.8km az=161.4*
*TEH **30** 16:14:55.8, 26°.53N×55°.06E, h19km, ML3.5*
ISC 30 16:14:56.8±1.5, **26°.53N**±0°.03×**55°.11E**±0°.05, **h11**km±11km, **n35**, σ**1**§**00**/42, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.05**	**117**	*e*P	**Pb**	**16 15 15.5**	**-1.4**
	SNR=64						
SHME				S	**Sn**	**16 15 31.3**	**-0.6**
SHME	**Shamm**	**1.05**	**117**	*e*Pn	**Pb**	**16 15 16.0**	**-0.9**
UMQ	**Umm Al-Quwin**	**1.12**	**153**	P	**Pn**	**16 15 17.0**	**-1.3**
UMQ	**Umm Al-Quwin**	**1.12**	**153**	P	**Pb**	**16 15 17.6**	**-0.5**
UMQ				S	**Sn**	**16 15 36.1**	**+2.4**
UMQ	**Umm Al-Quwin**	**1.12**	**153**	*e*Pn	**Pb**	**16 15 17.6**	**-0.5**
BANOM	**Banah**	**1.23**	**119**	*e*P	**Pn**	**16 15 18.9**	**-1.0**
	SNR=25						
BANOM	**Banah**	**1.23**	**119**	P	**Pn**	**16 15 18.7**	**-1.3**
	SNR=141						
BANOM				S	**Sg**	**16 15 38.8**	**+2.3**
	SNR=6.7						
GENO	**Geno**	**1.29**	**47**	*e*Pg	**Pg**	**16 15 20.7**	**-0.8**
GENO				*e*Sg	**Sn**	**16 15 38.9**	**+0.8**
MSFE	**Esma-Masafi**	**1.50**	**141**	*e*P	**Pn**	**16 15 22.4**	**-1.2**
	SNR=17						
MSFE	**Esma-Masafi**	**1.50**	**141**	*e*Pn	**Pn**	**16 15 22.9**	**-0.8**
NAZ	**Nazwa, Dubai**	**1.62**	**162**	*e*P	**Pn**	**16 15 24.4**	**-0.8**
	SNR=8.9						
NAZ	**Nazwa, Dubai**	**1.62**	**162**	*e*Pn	**Pn**	**16 15 25.0**	**-0.2**
MDH	**Madha**	**1.63**	**139**	P	**Pn**	**16 15 24.3**	**-1.1**
MDH	**Madha**	**1.63**	**139**	P	**Pn**	**16 15 25.2**	**-0.2**
MDH				S	**Sn**	**16 15 47.3**	**+0.9**
FAQ	**Al Faqa, Dubai**	**1.83**	**166**	P	**Pn**	**16 15 27.5**	**-0.6**
FAQ	**Al Faqa, Dubai**	**1.83**	**166**	P	**Pn**	**16 15 27.6**	**-0.6**
FAQ	**Al Faqa, Dubai**	**1.83**	**166**	*e*Pn	**Pg**	**16 15 32.5**	**+0.6**
NIAN	**Nian**	**1.85**	**56**	*e*Pg	**Pg**	**16 15 32.5**	**+0.2**
NIAN				IAMB	IAmb	16 16 13.9	
	comp=Z,0.0nm,0.4s						
UOSS	**Minazif**	**1.86**	**148**	*e*P	**Pn**	**16 15 27.3**	**-1.3**
	SNR=7.9						
UOSS	**Minazif**	**1.86**	**148**	*e*Pn	**Pb**	**16 15 30.2**	**-0.6**
ASUD	**Al Ashush, Dub**	**1.91**	**174**	*e*P	**Pn**	**16 15 28.6**	**-0.6**
	SNR=8.1						
ASUD	**Al Ashush, Dub**	**1.91**	**174**	P	**Pb**	**16 15 29.8**	**-1.8**
	SNR=8.1						
ASUD				S	**Sb**	**16 15 56.8**	**+1.4**
ASUD	**Al Ashush, Dub**	**1.91**	**174**	*e*Pn	**Pg**	**16 15 32.8**	**-0.6**
HATD	**Hatta, Dubai**	**1.93**	**151**	P	**Pn**	**16 15 29.1**	**-0.4**
HATD	**Hatta, Dubai**	**1.93**	**151**	*e*Pn	**Pn**	**16 15 29.3**	**-0.3**
ASHO	**Ashiyiah**	**2.03**	**155**	*e*P	**Pn**	**16 15 30.1**	**-0.9**
	SNR=8.7						
ASHO	**Ashiyiah**	**2.03**	**155**	P	**Pn**	**16 15 30.2**	**-0.7**
	SNR=20						
ASHO				S	**Sb**	**16 15 58.8**	**-0.2**
NGRK	**Negar Kerman**	**3.42**	**24**	*e*Pn	**Pn**	**16 15 50.0**	**-0.3**
NGRK				IAMB	IAmb	16 15 52.5	
	comp=Z,0.0nm,0.3s						
TVBK	**TV Kerman**	**3.74**	**23**	*e*Pn	**Pn**	**16 15 54.0**	**-0.7**
TVBK				IAMB	IAmb	16 15 56.7	
	comp=Z,0.0nm,0.2s						
KHGB	**Koh Gabri**	**4.02**	**17**	*e*Pn	**Pn**	**16 15 59.0**	**+0.6**
KHGB				IAMB	IAmb	16 16 50.3	
	comp=Z,0.0nm,0.4s						
IKAZ	**Kazeroun**	**4.33**	**319**	*e*Pn	**Pn**	**16 16 02.1**	**-0.8**
IMEH	**Mehriz**	**4.86**	**355**	*e*Pn	**Pn**	**16 16 10.3**	**+0.2**
IBAF	**Bafgh**	**5.06**	**4**	*e*Pn	**Pn**	**16 16 12.3**	**-0.4**
ISAD	**Sadrabad**	**5.50**	**347**	*e*Pn	**Pn**	**16 16 19.3**	**+0.4**
ISAD				IAMB	IAmb	16 16 20.5	
	comp=Z,0.0nm,0.4s						
IRAM	**Ramesheh**	**5.77**	**336**	*e*Pn	**Pn**	**16 16 22.2**	**-0.4**

MEX 30 16:19:47.7±0.9, **15°.12N**×**93°.16W**, **h80**km±9km, **MD3.8**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.58**	**355**	*e*P	Pn	16 20 00.7	-1.5
PCIG				*e*S	Sn	16 20 11.4	-1.5
THIG		**0.89**	**104**	*e*P	Pn	16 20 04.5	-1.0
THIG				*i* S	Sn	16 20 16.9	-1.7
CCIG	**Comitan**	**1.52**	**40**	*e*P	Pn	16 20 12.9	-0.6
CCIG				*i* S	Sn	16 20 31.4	-1.4
TGIG		**1.65**	**1**	*e*P	Pn	16 20 13.8	-1.2
TGIG				*e*S	Sn	16 20 33.1	-2.6
CMIG	**Matias Romero**	**2.57**	**320**	*e*P	Pn	16 20 26.7	-0.5
CMIG				*i* S	Sn	16 20 56.7	-0.8

*IDC **30** 16:20:54.5±2.6, 17°.32S×178°.95W, h501km±28km, mb3.1/13, mb1 3.4/14, mb1mx3.3/29, mbtmp4.0/14, Error ellipse: s-maj=19.7km s-min=15.8km az=123.0*
*ISCJB **30** 16:20:56.8±0.5, 17°.4S±0°.1×179°.1W±0°.1, h539km, mb3.5/13, Error ellipse: s-maj=17.5km s-min=12.2km az=136.6*
ISC 30 16:20:57.7±0.6, **17°.3S**±0°.1×**179°.1W**±0°.1, **h539**km, **n31**, σ**0**§**93**/34, **mb3.5**/13, **1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.42**	**249**	P	**P**	**16 24 01.3**	**-0.2**
	0.3nm,0.3s,baz=46,slow=17,SNR=3.2						
URZ	**Urewera**	**21.10**	**188**	P	**P**	**16 25 02.1**	**-2.0**
	2.8nm,0.3s,baz=304,slow=1.9,SNR=9.2						
STKA	**Stephens Creek**	**38.35**	**240**	P	**P**	**16 27 33.4**	**+0.6**
	0.8nm,0.5s,baz=84,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**44.11**	**259**	P	**P**	**16 28 18.5**	**-0.2**
	0.6nm,0.5s,baz=90,slow=8.9,SNR=13						
ASAR	**Alice Springs**	**44.33**	**254**	P	**P**	**16 28 20.8**	**+0.5**
	2.0nm,0.6s,baz=88,slow=8.1,SNR=44						
ASAR				PcP	**PcP**	**16 29 53.1**	**+0.4**
	1.2nm,0.7s,baz=99,slow=4.3,SNR=7.8						
ASAR				ScP	**ScP**	**16 32 56.9**	**+3.2**
	0.6nm,0.7s,baz=86,slow=4.3,SNR=4.3						
ASAR				S	**S**	**16 34 13.4**	**-2.2**
	0.6nm,0.8s,baz=83,slow=15,SNR=4.0						
VNDA	**Vanda**	**60.95**	**185**	P	**P**	**16 30 19.1**	**+1.0**
	0.3nm,0.5s,baz=4.4,slow=7.4,SNR=3.7						
MJAR	**Matsushiro Arr**	**67.08**	**324**	P	**P**	**16 30 57.8**	**+0.1**
	1.9nm,0.7s,baz=163,slow=6.2,SNR=6.6						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**16 32 09.1**	**+0.4**
	0.5nm,0.7s,baz=231,slow=8.3,SNR=3.6						
MAW	**Mawson**	**84.17**	**200**	P	**P**	**16 32 32.7**	**+0.8**
	2.1nm,0.6s,baz=122,slow=6.2,SNR=9.4						
ILAR	**Eielson Array**	**85.49**	**13**	P	**P**	**16 32 37.4**	**-0.8**
	0.5nm,0.4s,baz=219,slow=5.4,SNR=6.7						
TXAR	**Lajitas Array**	**86.23**	**58**	P	**P**	**16 32 42.4**	**-0.4**
	0.4nm,0.7s,baz=209,slow=9.3,SNR=5.4						
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**16 32 48.0**	**0.0**
	0.4nm,0.5s,baz=242,slow=2.5,SNR=6.0						
CMAR	**Chiang Mai Arr**	**88.09**	**290**	P	**P**	**16 32 52.6**	**+1.1**
	0.7nm,0.9s,baz=128,slow=3.1,SNR=5.9						
SNAA	**Sanae**	**91.17**	**179**	Pdiff	**P**	**16 33 04.3**	**-0.6**
VNA3	**Neumayer Olymp**	**91.34**	**177**	Pdiff	**P**	**16 33 05.5**	**-0.1**
VNA2	**Neumayer--Watz**	**91.77**	**177**	Pdiff	**P**	**16 33 07.3**	**-0.3**
	baz=189,slow=3.8						
YKA	**Yellowknife Ar**	**94.09**	**25**	P	**P**	**16 33 17.9**	**-0.3**
	0.3nm,0.6s,baz=246,slow=4.6,SNR=6.6						
ARCES	**ARCESS Array B**	**125.65**	**350**	PKP	**PKPdf**	**16 38 57.5**	**+0.1**
	1.1nm,0.7s,baz=90,slow=1.2,SNR=6.2						
BRTR	**Keskin Array B**	**143.94**	**315**	PKP	**PKPdf**	**16 39 32.2**	**-0.1**
	1.7nm,0.9s,baz=141,slow=8.0,SNR=7.9						
CLL	**Collm**	**144.78**	**347**	PKPbc	**PKPab**	**16 39 33.9**	**-0.3**
	comp=Z,10.0nm,0.9s						
BRG	**Berggiesshubel**	**144.97**	**346**	*e*PKP	**PKPab**	**16 39 34.6**	**-0.4**
	comp=Z,3.4nm,0.8s						
GERES	**GERESS Array B**	**146.90**	**344**	PKPbc	**PKPbc**	**16 39 40.2**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=19,slow=3.2,SNR=19						
CONA	**Conrad Observa**	**147.13**	**341**	*i* PKPbc	**PKiKP**	**16 39 41.3**	**-0.9**
	comp=Z,4.6nm,0.6s						
KBA	**Koelnbreinsper**	**148.62**	**344**	*i* PKPbc	**PKPbc**	**16 39 44.8**	**+0.4**
	comp=Z,2.9nm,0.5s						
WATA	**Walderalm**	**148.83**	**346**	*i* PKPbc	**PKPbc**	**16 39 44.2**	**-0.6**
	comp=Z,2.2nm,0.5s						
RETA	**Reutte**	**148.87**	**347**	*i* PKPbc	**PKPbc**	**16 39 44.9**	**+0.1**
	comp=Z,1.7nm,0.5s						
WTTA	**Wattenberg**	**148.88**	**346**	*i* PKPbc	**PKPbc**	**16 39 45.3**	**+0.3**
	comp=Z,6.2nm,0.5s						
MOTA	**Moosalm**	**148.93**	**347**	*i* PKPbc	**PKPbc**	**16 39 45.3**	**+0.2**
	comp=Z,1.4nm,0.4s						
MYKA	**Terra Mystica**	**148.95**	**343**	*i* PKPbc	**PKPbc**	**16 39 44.9**	**-0.2**
	comp=Z,4.1nm,0.5s						
SQTA	**Sankt Quirin**	**149.02**	**346**	*i* PKPbc	**PKiKP**	**16 39 45.8**	**-0.5**
	comp=Z,4.9nm,0.5s						
ABTA	**Abfaltersbach**	**149.15**	**344**	*i* PKPbc	**PKPbc**	**16 39 45.4**	**-0.1**
	comp=Z,5.2nm,0.6s						

MEX 30 17:09:15.5±0.5, **15°.82N**×**98°.61W**, **h5**km, **MD3.7**, **Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.73**	**39**	*e*P	Pg	17 09 28.4	-1.2
PNIG				*e*S	Sg	17 09 38.3	-0.9
TLIG	**Tlapa**	**1.73**	**1**	*e*P	Pn	17 09 43.3	-3.1
TLIG				*e*S	Sn	17 10 04.5	-4.5

IDC 30 17:17:43.1±2.8, **2°.12S**×**139°.06E**, **h0**km, **mb3.6**/3, **mb1 3.9**/4, **mb1mx3.6**/23, **mbtmp3.7**/4, **ML4.1**/1, **Error ellipse: s-maj=117.8km s-min=26.6km az=82.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.30**	**194**	P	P	17 21 59.2	+0.3
	0.7nm,0.3s,baz=17,slow=11,SNR=37						
ASAR	**Alice Springs**	**21.99**	**193**	P	P	17 22 38.6	-0.4
	0.9nm,0.7s,baz=15,slow=11,SNR=26						
STKA	**Stephens Creek**	**29.70**	**176**	P	P	17 23 51.0	+0.1
	0.9nm,0.6s,baz=340,slow=15,SNR=2.9						
MKAR	**Makanchi Array**	**69.54**	**322**	P	P	17 28 53.9	0.0
	0.7nm,0.8s,baz=120,slow=7.2,SNR=5.3						

*OMAN **30** 17:18:24.7±0.4, 26°.78N×57°.92E, h10km, ml4.1/15, Error ellipse: s-maj=7.8km s-min=3.2km az=19.0*
*IDC **30** 17:18:25.9±1.0, 26°.64N×57°.60E, h0km, mb3.8/19, mb1 3.9/21, mb1mx3.8/47, mbtmp3.9/21, ML4.1/2, MS3.2/8, Ms1 3.2/8, ms1mx2.9/30, Error ellipse: s-maj=20.8km s-min=15.7km az=173.0*
*TEH **30** 17:18:26.2, 26°.71N×57°.72E, h8km, ML4.2*
*DSN **30** 17:18:27.8±1.7, 26°.38N×57°.81E, h10km, ML4.1/10, Error ellipse: s-maj=20.1km s-min=11.0km az=3.0*
*NEIC **30** 17:18:27.1±0.0, 26°.69N×57°.78E, h16km, mb4.0/7, MN4.0(TEH), After TEH.*
ISC 30 17:18:28.8±0.5, **26°.64N**±0°.03×**57°.70E**±0°.04, **h21**km±3km, **n123**, σ**1**§**45**/124, **mb4.0**/30, **MS3.1**/7, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**1.00**	**177**	*e*Pg	**Pb**	**17 18 47.3**	**-0.1**
JSK1				IAMB	IAmb	17 19 20.1	
	comp=Z,0.0nm,0.9s						
NIAN	**Nian**	**1.20**	**320**	*e*Pg	**Pb**	**17 18 49.8**	**-1.0**
KHNJ	**Kahnooj**	**1.30**	**0**	*e*Pg	**Pn**	**17 18 50.1**	**-1.7**
KHNJ				IAMB	IAmb	17 19 16.7	
	comp=Z,0.0nm,1.1s						
BANOM	**Banah**	**1.45**	**241**	*e*P	**Pn**	**17 18 53.0**	**-0.9**
	SNR=478						
BANOM				S	**Sb**	**17 19 14.3**	**+1.2**
BANOM	**Banah**	**1.45**	**241**	P	**Pn**	**17 18 53.7**	**-0.1**
	SNR=478						
BANOM				S	**Sb**	**17 19 15.1**	**+2.0**
	SNR=9.9						
SHME	**Shamm**	**1.52**	**248**	*e*P	**Pn**	**17 18 55.0**	**+0.2**
	SNR=70						
SHME				S	**Sb**	**17 19 15.8**	**+0.7**
SHME	**Shamm**	**1.52**	**248**	*e*Pn	**Pn**	**17 18 55.2**	**+0.4**
GENO	**Geno**	**1.56**	**299**	*e*Pn	**Pb**	**17 18 56.1**	**-1.0**
GENO				IAMB	IAmb	17 19 35.4	
	comp=Z,0.0nm,1.0s						
BNDS	**Bandar-Abbas**	**1.56**	**299**	*e*Pn	**Pn**	**17 18 52.7**	**-2.8**
MDH	**Madha**	**1.84**	**224**	P	**Pn**	**17 18 57.1**	**-2.1**
MDH				S	**Sn**	**17 19 20.6**	**-1.2**
MDH	**Madha**	**1.84**	**224**	P	**Pn**	**17 18 57.2**	**-2.0**
MSFE	**Esma-Masafi**	**1.89**	**228**	*e*P	**Pn**	**17 18 57.8**	**-2.0**
	SNR=17						
MSFE	**Esma-Masafi**	**1.89**	**228**	*e*Pn	**Pn**	**17 18 58.3**	**-1.5**
UMQ	**Umm Al-Quwin**	**2.15**	**239**	P	**Pb**	**17 19 05.9**	**-1.0**
UMQ	**Umm Al-Quwin**	**2.15**	**239**	*e*Pn	**Pb**	**17 19 06.0**	**-0.9**
UOSS	**Minazif**	**2.16**	**219**	*e*P	**Pn**	**17 19 00.6**	**-3.0**
	SNR=34						
UOSS	**Minazif**	**2.16**	**219**	P	**Pn**	**17 19 01.2**	**-2.4**
	SNR=11						
UOSS	**Minazif**	**2.16**	**219**	*e*Pn	**Pn**	**17 19 01.0**	**-2.6**
HATD	**Hatta, Dubai**	**2.30**	**218**	*e*P	**Pn**	**17 19 03.0**	**-2.5**
	SNR=21						
HATD	**Hatta, Dubai**	**2.30**	**218**	*e*Pn	**Pn**	**17 19 03.1**	**-2.4**
ASHO	**Ashiyiah**	**2.45**	**218**	*e*P	**Pn**	**17 19 06.3**	**-1.3**
	SNR=37						
ASHO	**Ashiyiah**	**2.45**	**218**	P	**Pn**	**17 19 08.1**	**+0.5**
	SNR=36						
ASHO	**Ashiyiah**	**2.45**	**218**	*e*Pn	**Pn**	**17 19 06.0**	**-1.6**
NAZ	**Nazwa, Dubai**	**2.47**	**229**	*e*P	**Pn**	**17 19 08.3**	**+0.5**
	SNR=28						
NAZ	**Nazwa, Dubai**	**2.47**	**229**	P	**Pn**	**17 19 09.3**	**+1.4**
	SNR=7.6						
NAZ				S	**Sb**	**17 19 44.1**	**+1.7**
NAZ	**Nazwa, Dubai**	**2.47**	**229**	*e*Pn	**Pn**	**17 19 09.2**	**+1.4**
FAQ	**Al Faqa, Dubai**	**2.68**	**226**	*e*P	**Pn**	**17 19 11.1**	**+0.3**
	SNR=15						
FAQ	**Al Faqa, Dubai**	**2.68**	**226**	P	**Pn**	**17 19 12.0**	**+1.3**
	SNR=15						
FAQ				S	**Sb**	**17 19 49.4**	**+0.9**
FAQ	**Al Faqa, Dubai**	**2.68**	**226**	*e*Pn	**Pn**	**17 19 12.2**	**+1.5**
CHBR	**Chabahar**	**2.71**	**112**	*e*Pn	**Pb**	**17 19 14.9**	**-1.6**
SOHO	**SOHO**	**2.71**	**203**	P	**Pn**	**17 19 08.3**	**-2.8**
	SNR=57						
ASUD	**Al Ashush, Dub**	**2.94**	**227**	*e*P	**Pn**	**17 19 15.5**	**+1.3**
	SNR=29						
ASUD	**Al Ashush, Dub**	**2.94**	**227**	P	**Pn**	**17 19 16.0**	**+1.8**
	SNR=29						
ASUD	**Al Ashush, Dub**	**2.94**	**227**	*e*Pn	**Pn**	**17 19 16.1**	**+1.9**
HOQ	**Hoqain**	**3.06**	**187**	P	**Pn**	**17 19 13.9**	**-2.1**
	SNR=16						
HOQ	**Hoqain**	**3.06**	**187**	*e*Pn	**Pn**	**17 19 14.0**	**-2.1**
NGRK	**Negar Kerman**	**3.11**	**344**	*e*Pn	**Pn**	**17 19 18.6**	**+1.6**
ALNE	**Al Ain**	**3.12**	**215**	*e*P	**Pn**	**17 19 16.4**	**-0.4**
	SNR=16						
ALNE	**Al Ain**	**3.12**	**215**	*e*Pn	**Pn**	**17 19 17.9**	**+1.1**
BIDO	**Bidbid**	**3.13**	**173**	P	**Pn**	**17 19 15.0**	**-1.9**
	SNR=5.2						
BIDO	**Bidbid**	**3.13**	**173**	*e*Pn	**Pn**	**17 19 15.1**	**-1.8**
AJN	**Ajban**	**3.21**	**230**	*e*Pn	**Pn**	**17 19 19.3**	**+1.3**
CHMN	**Cheshme madani**	**3.21**	**357**	*e*Pn	**Pb**	**17 19 21.8**	**-3.5**
TVBK	**TV Kerman**	**3.44**	**346**	*e*Pn	**Pn**	**17 19 24.1**	**+2.7**
TVBK				IAMB	IAmb	17 19 38.8	
	comp=Z,0.0nm,0.4s						
ARQ	**Araqi**	**3.46**	**198**	P	**Pn**	**17 19 22.5**	**+1.0**
	SNR=16						
ARQ				S	**Sn**	**17 20 03.7**	**+1.8**
WSAR	**Wadi Sarin**	**3.49**	**166**	P	**Pn**	**17 19 21.3**	**-0.6**
	SNR=5.9						
WSAR	**Wadi Sarin**	**3.49**	**166**	P

GTA			pP	sP	17 25 55.8	+7.4
GTA			sP	pP	17 25 59.5	+14
OJC	**Ojcow**	**37.30 319**	*eP*	**P**	**17 25 38.6**	**-0.7**
	comp=Z,8.1nm,0.8s					
MODS	**Modra-Piesok**	**38.12 316**	*eP*	**P**	**17 25 46.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.81 93**	LR	LR	17 43 47.4	
	comp=Z,34nm,21.7s,baz=280,slow=39					
CONA	**Conrad Observa**	**38.88 314**	*i P*	**P**	**17 25 52.6**	**-0.2**
	comp=Z,0.9nm,0.5s					
MOA	**Molln**	**39.88 314**	*i P*	**P**	**17 26 00.7**	**-0.3**
	comp=Z,1.6nm,0.4s					
GEC2	**GERESS Array S**	**40.52 315**	*eP*	**P**	**17 26 05.7**	**-0.7**
GERES	**GERESS Array B**	**40.52 315**	P	**P**	**17 26 05.7**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=108,slow=8.8,SNR=12					
GERES			LR	LR	17 44 57.5	
	comp=Z,27nm,20.3s,baz=242,slow=39					
KHC	**Kasperske Hory**	**40.69 315**	*eP*	**P**	**17 26 07.3**	**-0.4**
	comp=Z,2.3nm,0.8s					
KHC	**Kasperske Hory**	**40.69 315**	*eP*	**P**	**17 26 07.0**	**-0.7**
FIA0	**FINESS Array S**	**40.77 337**	*eP*	**P**	**17 26 07.4**	**-0.7**
FINES	**FINESS Array B**	**40.77 337**	P	**P**	**17 26 07.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=131,slow=10,SNR=9.1					
WTTA	**Wattenberg**	**41.45 312**	*i P*	**P**	**17 26 13.7**	**-0.5**
	comp=Z,3.1nm,0.5s					
CLL	**Collm**	**41.71 318**	*eP*	**P**	**17 26 15.0**	**-1.0**
	comp=Z,2.0nm,0.6s					
SQTA	**Sankt Quirin**	**41.73 312**	*i P*	**P**	**17 26 15.5**	**-0.9**
	comp=Z,4.7nm,0.5s					
MOTA	**Moosalm**	**41.83 312**	*i P*	**P**	**17 26 16.4**	**-0.9**
	comp=Z,2.8nm,0.5s					
FETA	**Feichten**	**42.01 312**	*i P*	**P**	**17 26 18.3**	**-0.4**
	comp=Z,2.3nm,0.6s					
DAVA	**Damuels**	**42.63 312**	*i P*	**P**	**17 26 23.0**	**-0.7**
	comp=Z,7.6nm,0.4s					
NRIK	**Noril'sk**	**46.17 14**	LR	LR	17 49 50.7	
	comp=Z,39nm,19.0s,baz=160,slow=41					
NB200	**NORSAR Array S**	**46.41 331**	*eP*	**P**	**17 26 52.2**	**-1.4**
NOA	**NORSAR Array B**	**46.41 331**	P	**P**	**17 26 52.2**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=116,slow=7.7,SNR=2.9					
NOA			LR	LR	17 48 40.6	
	comp=Z,18nm,21.1s,baz=95,slow=39					
ARCES	**ARCESS Array B**	**46.85 345**	P	**P**	**17 26 56.8**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=155,slow=11,SNR=3.7					
TORD	**Torodi Ar. Bea**	**53.97 267**	P	**P**	**17 27 50.7**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=46,slow=8.5,SNR=10					
TORD			LR	LR	17 54 24.4	
	comp=Z,32nm,19.5s,baz=315,slow=40					
TOA1	**Torodi Ar. Sit**	**53.97 267**	*eP*	**P**	**17 27 50.7**	**-0.8**
KS15	**Wonju Array Si**	**59.23 61**	*eP*	**P**	**17 28 30.8**	**+2.1**
KSRS	**Korea Array**	**59.26 61**	P	**P**	**17 28 30.8**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=264,slow=5.7,SNR=2.3					
ASAR	**Alice Springs**	**88.98 117**	P	**P**	**17 31 23.8**	**+1.4**
	comp=Z,0.1nm,0.6s,baz=303,slow=4.9,SNR=3.6					

*TIF **30** 17:50:12.7, 42.°37N×41.°02E, h25km±3km*
*DDA **30** 17:50:15.0, 42.°04N×40.°78E, h7km±3km, ML2.6*
ISC 30 17:50:13.2±3.5, 42.°42N±0.°10×41.°0E±0.°1, h19km±6km, n8, σ0§60/16, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.96**	**148**	P	**Pb**	**17 50 31.3**	**+0.1**
BATM				S	**Sg**	**17 50 44.7**	**+0.1**
DBOC	**Borcka**	**1.18**	**156**	IAML_P			
	comp=Z,629nm,0.1s						
DBOC				*i P*	**Pb**	**17 50 34.8**	**-0.2**
DBOC				*i S*	**Sb**	**17 50 49.7**	**-0.2**
ARTV	**Artvin**	**1.41**	**151**	IAML_P			
	comp=Z,898nm,0.1s						
ARTV				*i P*	**Pn**	**17 50 38.3**	**+0.3**
ARTV				*i S*	**Sn**	**17 50 55.4**	**-0.8**
TKB	**Tkibuli**	**1.46**	**92**	P	**Pb**	**17 50 39.4**	**-0.5**
TKB				S	**Sb**	**17 50 58.6**	**+0.6**
DBAD	**Bademkaya**	**1.49**	**160**	IAML_P			
	comp=Z,379nm,0.1s						
DBAD				*i P*	**Pn**	**17 50 39.3**	**+0.2**
DBAD				*i S*	**Sn**	**17 50 57.3**	**-0.7**
DAGI	**Agillar**	**1.50**	**153**	IAML_P			
	comp=Z,98nm,0.1s						
DAGI				*i P*	**Pn**	**17 50 39.6**	**+0.4**
DAGI				*i S*	**Sn**	**17 50 57.7**	**-0.5**
DDEM	**Demirkent**	**1.62**	**160**	IAML_P			
	comp=Z,316nm,0.1s						
DDEM				*i P*	**Pn**	**17 50 41.5**	**+0.7**
DDEM				*i S*	**Sn**	**17 51 01.3**	**0.0**
ONI	**Oni**	**1.81**	**84**	P	**Pb**	**17 50 44.9**	**-0.7**
ONI				S	**Sb**	**17 51 08.9**	**+0.9**

MEX 30 18:02:49.5±0.8, 17.°00N×100.°37W, h14km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.11**	**65**	*eP*	Pg	18 02 51.8	-1.0
CAIG				*eS*	Sg	18 02 54.8	-0.2
ZIIG	**Zihuatanejo**	**1.21**	**300**	*eP*	Pn	18 03 08.9	-3.1
ZIIG				*i S*	Sb	18 03 23.2	-4.4
ARIG	**Puente Sto Nin**	**1.27**	**1**	*eP*	Pn	18 03 08.5	-4.5
ARIG				*i S*	Sb	18 03 24.8	-4.9
PLIG	**Platanillo**	**1.62**	**31**	*eP*	Pn	18 03 14.3	-3.5
PLIG				*i S*	Sn	18 03 33.9	-4.6
TLIG	**Tlapa**	**1.82**	**72**	*eP*	Pn	18 03 16.8	-3.7
TLIG				*eS*	Sn	18 03 39.0	-4.4
YAIG	**Yautepec**	**2.23**	**34**	*i P*	Pn	18 03 22.8	-3.5
YAIG				*i S*	Sn	18 03 49.3	-4.5

*TIF **30** 18:20:41.5, 41.°56N×42.°13E, h19km±1km*
*ISK **30** 18:20:41.9, 41.°56N×42.°14E, h9km, ML2.2/5*
*ISCJB **30** 18:20:42.4±0.5, 41.°58N±0.°03×42.°15E±0.°03, h7km±5km, Error ellipse: s-maj=5.9km s-min=3.7km az=150.9*
*DDA **30** 18:20:42.1, 41.°56N×42.°13E, h18km±1km, ML3.0*
ISC 30 18:20:41.7±1.0, 41.°58N±0.°04×42.°17E±0.°03, h14km±10km, n19, σ0§68/32, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.36**	**274**	PG	**Pg**	**18 20 49.2**	**+0.1**
BATM	**Batumi**	**0.36**	**274**	P	**Pg**	**18 20 49.2**	**+0.1**
BATM				S	**Sg**	**18 20 54.2**	**+0.2**
EPOS	**Posof**	**0.42**	**101**	*i P*	**Pn**	**18 20 52.1**	**-1.5**
EPOS				*i S*	**Sb**	**18 20 58.6**	**+1.2**
BCA	**Borcka**	**0.44**	**252**	PG	**Pg**	**18 20 50.5**	**+0.1**
BCA				SG	**Sg**	**18 20 56.4**	**+0.1**
ARTV	**Artvin**	**0.44**	**205**	IAML_P			
	comp=Z,8μm,0.1s						
ARTV				*i P*	**Pb**	**18 20 51.8**	**+0.4**
ARTV				*i S*	**Sb**	**18 20 57.3**	**-0.6**
DBOC	**Borcka**	**0.45**	**238**	IAML_P			
	comp=Z,5μm,0.1s						
DBOC				*i P*	**Pb**	**18 20 51.6**	**+0.2**
DBOC				*i S*	**Sb**	**18 20 57.5**	**-0.5**
DAGI	**Agillar**	**0.54**	**201**	IAML_P			
	comp=Z,636nm,0.1s						
DAGI				*i P*	**Pb**	**18 20 53.2**	**+0.1**
DAGI				*i S*	**Sb**	**18 21 00.9**	**+0.2**
DBAD	**Bademkaya**	**0.67**	**213**	IAML_P			
	comp=Z,4μm,0.1s						
DBAD				*i P*	**Pb**	**18 20 55.5**	**+0.3**
DBAD				*i S*	**Sg**	**18 21 03.4**	**-0.2**
DDEM	**Demirkent**	**0.76**	**205**	IAML_P			
	comp=Z,3μm,0.1s						
DDEM				*i P*	**Pb**	**18 20 56.4**	**-0.4**
DDEM				*i S*	**Sb**	**18 21 06.9**	**-0.1**
TKB	**Tkibuli**	**0.98**	**38**	P	**Pn**	**18 21 00.9**	**-0.3**
TKB				S	**Sn**	**18 21 14.5**	**-0.4**
AKH	**Akhalkalaki**	**1.01**	**99**	PG	**Pn**	**18 21 01.9**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.03**	**172**	PG	**Pn**	**18 21 01.7**	**-0.2**
BGD	**Bogdanovka**	**1.12**	**106**	P	**Pg**	**18 21 03.8**	**+0.5**
BGD				S	**Sn**	**18 21 19.2**	**+0.8**
ONI	**Oni**	**1.39**	**43**	PN	**Pg**	**18 21 08.4**	**0.0**
ONI	**Oni**	**1.39**	**43**	P	**Pg**	**18 21 08.0**	**-0.4**
ONI				S	**Sg**	**18 21 26.9**	**+0.4**
KOPR	**Koprukoy-ERZUR**	**1.61**	**189**	PN	**Pb**	**18 21 10.7**	**-0.6**
BAYT	**Aydıntepe-Bayb**	**1.94**	**233**	PN	**Pb**	**18 21 15.5**	**-1.5**
BAYB	**BAYBURT**	**1.96**	**228**	IAML_P			
	comp=Z,857nm,0.2s						
BAYB				*i P*	**Pb**	**18 21 17.9**	**+0.5**
BAYB				*i S*	**Sg**	**18 21 43.7**	**-1.2**
KELT	**Kelkit**	**2.64**	**238**	IAML_P			
	comp=Z,63nm,0.1s						
KELT				*i P*	**Pn**	**18 21 25.4**	**+1.4**
KELT				*i S*	**Sb**	**18 22 01.6**	**+0.5**

*ATH **30** 18:24:19.6, 38.°94N×26.°32E, h31km±1km, ML3.3/16, Error ellipse: s-maj=1.8km s-min=0.9km az=91.0*
*ISK **30** 18:24:19.9, 38.°94N×26.°20E, h12km, ML3.8/18*
*DDA **30** 18:24:20.2, 38.°95N×26.°30E, h26km, ML3.9*
*ISCJB **30** 18:24:21.0±0.3, 38.°95N±0.°01×26.°21E±0.°02, h23km±3km, Error ellipse: s-maj=2.6km s-min=2.1km az=158.0*
*THE **30** 18:24:21.1, 38.°95N×26.°22E, h15km±1km, ML3.5/6, Error ellipse: s-maj=1.9km s-min=0.6km az=89.0*
*BEO **30** 18:24:26.4±1.1, 39.°14N×25.°93E, h15km, ML3.2/3*
ISC 30 18:24:20.4±0.9, 38.°95N±0.°01×26.°22E±0.°02, h16km±8km, n171, σ1§18/204, 13C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.30**	**7**	P	**Pb**	**18 24 27.6**	**+0.2**
PRK				S	**Sb**	**18 24 32.3**	**+0.2**
PRK	**Paraskevi**	**0.30**	**7**	P	**Pb**	**18 24 27.6**	**+0.2**
PRK				S	**Sb**	**18 24 32.2**	**+0.1**
PRK				AML	AML	18 24 36.5	
	comp=E,40454μm,0.8s						
PRK				AML	AML	18 24 39.2	
	comp=N,28568μm,0.5s						
KRBN	**Karaburun**	**0.44**	**144**	PG	**Pg**	**18 24 29.2**	**-0.1**
KRBN				SG	**Sg**	**18 24 35.6**	**+0.3**
CAND	**Candarli**	**0.45**	**89**	PG	**Pb**	**18 24 29.8**	**-0.2**
AYVA	**Ayvalik**	**0.51**	**45**	*i P*	**Pg**	**18 24 30.7**	**+0.1**
AYVA				*i S*	**Sg**	**18 24 36.5**	**-0.9**
CHOS	**Chios island**	**0.58**	**193**	PG	**Pg**	**18 24 31.7**	**-0.2**
CHOS	**Chios island**	**0.58**	**193**	P	**Pg**	**18 24 31.9**	**0.0**
CHOS				S	**Sb**	**18 24 40.9**	**+0.7**
CHOS	**Chios island**	**0.58**	**193**	P	**Pb**	**18 24 32.1**	**-0.1**
CHOS				S	**Sb**	**18 24 40.3**	**+0.1**
CHOS				AML	AML	18 24 44.2	
	comp=E,13532μm,0.2s						
CHOS				AML	AML	18 24 45.2	
	comp=N,13556μm,0.4s						
CESE	**eme**	**0.62**	**175**	PG	**Pg**	**18 24 32.1**	**-0.6**
URLA	**Izmir**	**0.66**	**154**	PG	**Pg**	**18 24 32.9**	**-0.4**
URLA	**Izmir**	**0.66**	**154**	IAML_P			
	comp=Z,66μm,0.1s						
URLA				*i P*	**Pb**	**18 24 33.7**	**+0.2**
URLA				*i S*	**Sb**	**18 24 42.3**	**-0.1**
PSRA	**Psara**	**0.66**	**232**	P	**Pn**	**18 24 34.6**	**-0.5**
PSRA				S	**Sn**	**18 24 44.6**	**-0.4**
PSRA				AML	AML	18 24 47.8	
	comp=E,14914μm,0.3s						
PSRA				AML	AML	18 24 48.7	
	comp=N,17885μm,0.2s						
ZEDA	**zmir-Bergama**	**0.67**	**88**	IAML_P			
	comp=Z,22μm,0.1s						
ZEDA				*i P*	**Pg**	**18 24 33.5**	**0.0**
ZEDA				*i S*	**Sg**	**18 24 41.7**	**-0.6**
ZEY	**zmir**	**0.74**	**163**	IAML_P			
	comp=Z,98μm,0.3s						
ZEY				*i P*	**Pb**	**18 24 35.1**	**+0.2**
ZEY				*i S*	**Sn**	**18 24 46.6**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.83**	**17**	IAML_P			
	comp=Z,42μm,0.1s						
BAYC				*i P*	**Pb**	**18 24 36.2**	**-0.3**
BAYC				*i S*	**Sn**	**18 24 49.2**	**-0.2**
EZN	**Ezine**	**0.88**	**5**	PG	**Pg**	**18 24 37.4**	**-0.1**
EZN				SG	**Sn**	**18 24 50.7**	**+0.2**
EZN	**Ezine**	**0.88**	**5**	P	**Pb**	**18 24 36.7**	**-0.6**
EZN				S	**Sg**	**18 24 49.3**	**+0.2**
BOZC	**Bozcaada**	**0.90**	**352**	PG	**Pg**	**18 24 37.9**	**-0.1**
BOZC	**Bozcaada**	**0.90**	**352**	IAML_P			
	comp=Z,37μm,0.2s						
BOZC				*i P*	**Pg**	**18 24 37.8**	**-0.1**
BOZC				*i S*	**Sn**	**18 24 51.3**	**+0.2**
GMLD	**Gumuldur**	**1.03**	**148**	PG	**Pg**	**18 24 40.2**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.24**	**69**	IAML_P			
	comp=Z,25μm,0.2s						
STEP				*i P*	**Pn**	**18 24 43.1**	**0.0**
STEP				*i S*	**Sg**	**18 25 00.1**	**-0.4**
AKS	**Akhisar**	**1.24**	**93**	PN	**Pg**	**18 24 44.1**	**-0.3**
AKHS	**Akhisar**	**1.24**	**93**	IAML_P			
	comp=Z,7μm,0.2s						
AKHS				*i P*	**Pb**	**18 24 43.5**	**0.0**
AKHS				*i S*	**Sb**	**18 24 59.1**	**-0.2**
LIA	**Limnos Island**	**1.24**	**320**	P	**Pb**	**18 24 43.7**	**+0.2**
LIA				S	**Sn**	**18 24 59.7**	**+0.2**
LIA	**Limnos Island**	**1.24**	**320**	P	**Pg**	**18 24 43.9**	**-0.5**
LIA				S	**Sg**	**18 25 00.1**	**-0.6**
LIA				AML	AML	18 25 03.8	
	comp=N,3635μm,0.3s						
LIA				AML	AML	18 25 06.2	
	comp=E,2834μm,0.4s						
SKY	**Skiros Island**	**1.31**	**267**	P	**Pg**	**18 24 46.2**	**+0.6**
SKY				S	**Sg**	**18 25 03.9**	**+1.2**
SKY				AML	AML	18 25 07.2	
	comp=E,3122μm,0.2s						
SKY				AML	AML	18 25 09.5	
	comp=N,2091μm,0.5s						
SMG	**Samos**	**1.33**	**159**	P	**Pn**	**18 24 43.8**	**-0.5**
SMG				S	**Sg**	**18 25 03.0**	**-0.4**
SMG	**Samos**	**1.33**	**159**	P	**Pn**	**18 24 43.9**	**-0.4**
SMG				S	**Sn**	**18 25 01.0**	**-0.7**
SMG				AML	AML	18 25 06.1	
	comp=E,5892μm,0.3s						
SMG				AML	AML	18 25 06.9	
	comp=N,6943μm,0.4s						
GOMA	**Golmarmara-Man**	**1.34**	**100**	PN	**Pb**	**18 24 45.6**	**+0.4**
BALB	**Balikesir**	**1.46**	**61**	PN	**Pn**	**18 24 46.6**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.46**	**8**	PN	**Pb**	**18 24 46.9**	**-0.3**
GCAM	**G?zelcaml?**	**1.48**	**147**	PN	**Pb**	**18 24 47.5**	**0.0**
GCAM	**G?zelcaml?**	**1.48**	**147**	IAML_P			
	comp=Z,5μm,0.2s						
GCAM				*i P*	**Pb**	**18 24 48.0**	**+0.5**
GCAM				*i S*	**Sg**	**18 25 08.3**	**+0.2**
LPK	**Lapseki**	**1.48**	**16**	PN	**Pb**	**18 24 47.7**	**+0.2**
GONE	**Gonen-Balikesi**	**1.57**	**45**	PN	**Pb**	**18 24 48.8**	**-0.3**
SMTH	**Samothraki Isl**	**1.61**	**341**	P	**Pn**	**18 24 48.5**	**+0.3**
SMTH				S	**Sn**	**18 25 08.2**	**-0.4**
SMTH	**Samothraki Isl**	**1.61**	**341**	P	**Pn**	**18 24 48.6**	**+0.4**
SMTH				S	**Sn**	**18 25 08.8**	**+0.2**
SMTH				AML	AML	18 25 13.5	
	comp=N,1200μm,0.3s						
SMTH				AML	AML	18 25 15.8	
	comp=E,1593μm,0.5s						
TNSA	**Tinos**	**1.64**	**211**	P	**Pn**	**18 24 49.3**	**+0.8**
TNSA				AML	AML	18 25 19.3	
	comp=E,834μm,0.3s						
TNSA				AML	AML	18 25 23.5	
	comp=N,1146μm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.65**	**127**	PN	**Pb**	**18 24 50.0**	**-0.5**
KNL	**Balıkesir**	**1.66**	**37**	IAML_P			
	comp=Z,16μm,0.3s						
KNL				*i P*	**Pg**	**18 24 51.7**	**-0.7**
DIDI	**Didim-Aydin**	**1.76**	**153**	PN	**Pb**	**18 24 51.4**	**-0.9**
AYDN	**Tasoluk**	**1.83**	**134**	IAML_P			
	comp=Z,1μm,0.2s						
AYDN				*i P*	**Pn**	**18 24 52.1**	**+0.8**
DURS	**Dursunbey**	**1.86**	**69**	IAML_P			
	comp=Z,3μm,0.3s						
DURS				*i P*	**Pb**	**18 24 53.0**	**-1.2**
DURS				*i S*	**Sn**	**18 25 16.1**	**+1.1**
MANT	**Manisa**	**1.88**	**103**	*i P*	**Pn**	**18 24 53.3**	**+1.2**
MANT				*i S*	**Sb**	**18 25 19.1**	**+1.2**
EDC	**Edincik**	**1.88**	**42**	PN	**Pn**	**18 24 52.6**	**+0.7**
SART	**Tekirdag**	**1.89**	**23**	*i P*	**Pb**	**18 24 54.3**	**-0.2**
KESN	**Edirne-Kesan**	**1.91**	**10**	IAML_P			
	comp=Z,779nm,0.2s						
KESN				*i P*	**Pb**	**18 24 54.0**	**-1.1**
ALN	**Alexandroupoli**	**1.95**	**356**	P	**Pn**	**18 24 53.4**	**+0.6**
ALN				S	**Sn**	**18 25 17.0**	**0.0**
ALN	**Alexandroupoli**	**1.95**	**356**	P	**Pn**	**18 24 53.8**	**+0.9**
ALN				S	**Sb**	**18 25 18.8**	**-0.8**
ALN				AML	AML	18 25 23.3	
	comp=E,674μm,0.4s						
ALN				AML	AML	18 25 26.5	
	comp=N,871μm,0.8s						
APE	**Apeiranthos**	**1.96**	**196**	PN	**Pn**	**18 24 53.0**	**0.0**
APE	**Apeiranthos**	**1.96**	**196**	P	**Pn**	**18 24 52.5**	**-0.5**
APE	**Apeiranthos**	**1.96**	**196**	P	**Pn**	**18 24 52.7**	**-0.2**
DION	**Dionisos Attik**	**2.00**	**245**	P	**Pn**	**18 24 53.6**	**+0.1**
DION				AML	AML	18 25 29.8	
	comp=N,540μm,0.5s						
DION				AML	AML	18 25 31.7	
	comp=E,667μm,0.5s						
YKAV	**Yalikavak-Bodr**	**2.00**	**155**	PN	**Pn**	**18 24 54.6**	**+1.0**
THAS	**Thassos island**	**2.02**	**325**	P	**Pn**	**18 24 54.2**	**+0.4**
THAS	**Thassos island**	**2.02**	**325**	P	**Pn**	**18 24 54.4**	**+0.6**
THAS				AML	AML	18 25 28.8	
	comp=E,704μm,0.4s						
THAS				AML	AML	18 25 33.4	
	comp=N,842μm,0.5s						
PTL	**Penteli**	**2.06**	**245**	P	**Pn**	**18 24 54.3**	**-0.1**
PTL	**Penteli**	**2.06**	**245**	P	**Pn**	**18 24 54.6**	**+0.2**
PTL				AML	AML	18 25 35.3	
	comp=N,589μm,1.2s						
PTL				AML	AML	18 25 41.0	
	comp=E,403μm,0.6s						
BODT	**Bodrum**	**2.07**	**155**	PN	**Pn**	**18 24 54.7**	**+0.2**
BODT	**Bodrum**	**2.07**	**155**	P	**Pn**	**18 24 54.5**	**0.0**
MRKA	**Markates**	**2.07**	**264**	P	**Pn**	**18 24 54.9**	**+0.3**
MRKA				AML	AML	18 25 30.9	
	comp=E,593μm,0.5s						
MRKA				AML	AML	18 25 38.1	
	comp=N,478μm,0.9s						
KCTX	**Karacabey (Bur**	**2.11**	**51**	PN	**Pn**	**18 24 55.3**	**+0.3**
BDRM	**Kayabasi**	**2.11**	**153**	*i P*	**Pn**	**18 24 55.1**	**0.0**
BDRM				*i S*	**Sg**	**18 25 30.0**	**+1.5**
AMGA	**Amorgos Island**	**2.13**	**187**	P	**Pn**	**18 24 54.6**	**-0.7**
AMGA	**Amorgos Island**	**2.13**	**187**	P	**Pn**	**18 24 54.7**	**-0.7**
USAK	**Uak-Merkez**	**2.19**	**95**	*i P*	**Pn**	**18 24 57.6**	**+1.3**
PAIG	**Paliouri**	**2.20**	**297**	P	**Pn**	**18 24 56.7**	**+0.4**
PAIG	**Paliouri**	**2.20**	**297**	P	**Pn**	**18 24 57.0**	**+0.7**
VLY	**Voula,Athens**	**2.20**	**241**	P	**Pn**	**18 24 56.6**	**+0.3**
OUR	**Ouranopolis**	**2.22**	**309**	P	**Pn**	**18 24 57.5**	**+1.0**
SERI	**Serifos**	**2.25**	**218**	P	**Pn**	**18 24 56.9**	**-0.1**
SERI				AML	AML	18 25 38.4	
	comp=E,538μm,0.4s						
SERI				AML	AML	18 25 44.6	
	comp=N,288μm,0.9s						
RDO	**Rodhopi**	**2.26**	**347**	P	**Pn**	**18 24 58.1**	**+1.1**
RDO	**Rodhopi**	**2.26**	**347**	P	**Pn**	**18 24 58.2**	**+1.1**
RDO				S	**Sn**	**18 25 23.9**	**-0.6**
RDO				AML	AML	18 25 40.1	
	comp=E,508μm,0.6s						
RDO				AML	AML	18 25 43.1	
	comp=N,435μm,0.7s						
SHAP	**Saphane-Kutahy**	**2.34**	**87**	PN	**Pn**	**18 25 00.0**	**+1.7**
ORLT	**Orhaneli**	**2.34**	**61**	PN	**Pn**	**18 24 59.6**	**+1.4**
IOSP	**Ios island**	**2.34**	**199**	P	**Pn**	**18 24 57.3**	**-0.9**
IOSP	**Ios island**	**2.34**	**199**	P	**Pn**	**18 24 57.6**	**-0.7**
SMIA	**Simia**	**2.35**	**269**	P	**Pb**	**18 25 00.7**	**-1.8**
XOR	**Xorichti**	**2.39**	**281**	P	**Pn**	**18 24 58.6**	**-0.4**
KAVA	**Kavala**	**2.43**	**328**	P	**Pn**	**18 25 00.2**	**+0.8**
KAVA	**Kavala**	**2.43**	**328**	P	**Pn**	**18 25 00.3**	**+0.8**
KAVA				AML	AML	18 25 39.0	
	comp=N,373μm,0.5s						
KAVA				AML	AML	18 25 41.3	
	comp=E,503μm,0.3s						
KVLA	**Kavala**	**2.44**	**325**	P	**Pn**	**18 25 00.1**	**+0.6**
DAT	**Datca**	**2.46**	**154**	PN	**Pn**	**18 25 00.2**	**+0.2**
DAT	**Datca**	**2.46**	**154**	*i P*	**Pn**	**18 25 00.6**	**+0.6**
DATC	**Datca-Mugla**	**2.46**	**152**	PN	**Pn**	**18 25 00.9**	**+1.0**
ATAL	**Atalanti**	**2.52**	**265**	P	**Pn**	**18 25 00.8**	**+0.2**
GDZ	**Gediz**	**2.54**	**86**	*i P*	**Pn**	**18 25 02.3**	**+1.2**
ULDT	**Uludag**	**2.55**	**61**	*i P*	**Pn**	**18 25 01.1**	**-0.1**
TVSB	**Tavsanli**	**2.56**	**78**	PN	**Pn**	**18 25 02.8**	**+1.4**
PLG	**Polygyros**	**2.57**	**304**	P	**Pn**	**18 25 02.3**	**+0.8**
TAVA	**DENİZLİ_Tavas**	**2.58**	**124**	*i P*	**Pn**	**18 25 03.0**	**+1.4**
ANAF	**Anafi Island**	**2.61**	**188**	P	**Pn**	**18 25 01.4**	**-0.6**
ANAF	**Anafi Island**	**2.61**	**188**	P	**Pn**	**18 25 01.3**	**-0.6**
KHAL	**Karahalli**	**2.62**	**102**	*i P*	**Pn**	**18 25 03.0**	**+0.8**
DID	**Didima**	**2.76**	**239**	P	**Pn**	**18 25 04.4**	**+0.4**
KDZ	**Kurdzhali**	**2.77**	**347**	*i P*	**Pb**	**18 25 09.0**	**-0.5**
TURN	**Turunc**	**2.80**	**137**	PN	**Pn**	**18 25 04.6**	**+0.1**
TURN	**Turunc**	**2.80**	**137**	*i P*	**Pn**	**18 25 04.1**	**-0.4**
PHSR	**Pinarhisar**	**2.86**	**20** ⇑	*i P*	**Pg**	**18 25 13.2**	**-2.0**
DALY	**Dalyan (Mula)**	**2.87**	**137**	PN	**Pn**	**18 25 07.1**	**+1.7**
DALY	**Dalyan (Mula)**	**2.87**	**137**	*i P*	**Pn**	**18 25 07.6**	**+2.2**
SOH	**Sokhos**	**2.89**	**311**	P	**Pn**	**18 25 07.2**	**+1.3**
KIRK	**Kırklareli**	**2.91**	**13**	*i P*	**Pn**	**18 25 07.9**	**+1.9**
HORT	**Hortiatis**	**2.92**	**305**	P	**Pn**	**18 25 07.5**	**+1.3**
EDRB	**Edirne**	**2.92**	**8**	P	**Pn**	**18 25 06.9**	**+0.7**
BUY	**Buyukada**	**2.93**	**49**	*i P*	**Pn**	**18 25 08.5**	**+2.2**
DSF	**Desfina**	**2.94**	**261**	P	**Pn**	**18 25 06.6**	**+0.1**
SRS	**Serrai**	**2.96**	**318**	*ePn*	**Pn**	**18 25 07.7**	**+0.9**
SRS				*eSn*	**Sn**	**18 25 39.8**	**-2.2**
SRS	**Serrai**	**2.96**	**318**	P	**Pn**	**18 25 07.5**	**+0.7**
RZN	**Rozhen**	**2.97**	**338**	*i P*	**Pn**	**18 25 08.3**	**+1.3**
NVR	**Nevrokopi**	**3.00**	**324**	P	**Pn**	**18 25 08.4**	**+1.0**
NVR	**Nevrokopi**	**3.00**	**324**	P	**Pn**	**18 25 08.5**	**+1.1**
AGG	**Agios Georgios**	**3.04**	**273**	P	**Pn**	**18 25 08.8**	**+1.0**
AUBOZ	**BOZOYUK**	**3.10**	**71**	*i P*	**Pg**	**18 25 17.9**	**-1.9**
**LI

Error ellipse: s-maj=13.9km s-min=11.1km az=58.0
*DJA **30** 18:37:00.2±0.9,4˚S±2˚×10˚0E±˚,h14km±6km,M4.9/52, mB5.3/24,mb5.1/52,MLv5.5/12,Mw(mB)4.8/24*
*MOS **30** 18:37:01.7±1.0,3˚.68S×99˚.44E,h33km,mb5.6/72, MS4.7/8,Error ellipse: s-maj=9.4km s-min=4.6km az=107.9*
*GCMT **30** 18:37:02.9±0.2,3˚.96S±0˚.02×99˚.45E±0˚.02,h31km, MW5.1/84,Moment Tensor Solution. s58,c83; s84,c131; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-4.85±.18; $M_{\theta\theta}$2.57±.13; $M_{\phi\phi}$2.28±.15; $M_{r\theta}$-3.30±.18; $M_{\theta\phi}$-3.16±.09; $M_{\phi r}$0.14±.20; Best double couple: $M_0$6.20900×10^16^ NP1:ϕ_s113.00000°,δ61.00000°,λ-113.00000°. NP2: ϕ_s334.00000°,δ36.00000°,λ-55.00000°. Principal axes: T 6.1830, Plg13.0000°, Azm219.0000°; N 0.0530, Plg20.0000°, Azm124.0000°; P -6.2360, Plg66.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **30** 18:37:03.0,3˚.91S×99˚.50E,h42km,mb5.1*
ISC 30 18:37:02.1±0.7,**3˚.97S**±0˚.04×**99˚.47E**±0˚.04,**h34**km±2km, **n861**,σ1**522**/898,**mb5.3**/207,**MS4.4**/56,**28C-23D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.32**	**24**	P	**Pn**	**18 37 23.8**	**-0.3**
PPSI				S	**Sn**	**18 37 40.5**	**0.0**
SISI	**Saibi**	**2.66**	**352**	P	**Pn**	**18 37 41.2**	**-1.3**
PDSI	**Padang**	**3.20**	**18**	P	**Pn**	**18 37 49.4**	**-0.6**
MNAI	**Manna**	**3.50**	**96**	*e*Pn	**Pn**	**18 37 53.5**	**-0.7**
MNAI	**Manna**	**3.50**	**96**	P	**Pn**	**18 37 53.6**	**-0.5**
MNAI				S	**Sn**	**18 38 34.7**	**+0.3**
LHSI	**Lahat**	**4.05**	**88**	P	**Pn**	**18 38 02.7**	**+1.0**
BKNI	**Bangkinang**	**4.55**	**20**	*e*Pn	**Pn**	**18 38 07.5**	**-1.1**
BKNI	**Bangkinang**	**4.55**	**20**	P	**Pn**	**18 38 08.3**	**-0.3**
JMBI	**JAMBI**	**4.77**	**61**	P	**Pn**	**18 38 12.3**	**+0.7**
PMBI	**Palembang**	**5.39**	**79**	P	**Pn**	**18 38 19.7**	**-0.5**
GSI	**Gunungsitoli**	**5.57**	**340**	*e*Pn	**Pn**	**18 38 21.1**	**-1.6**
GSI	**Gunungsitoli**	**5.57**	**340**	P	**Pn**	**18 38 21.9**	**-0.8**
DSRI	**Dabo**	**6.17**	**56**	P	**Pn**	**18 38 30.2**	**-0.7**
CGJI	**Cibinong**	**6.73**	**113**	P	**Pn**	**18 38 36.9**	**-1.6**
	387nm,0.7s,6μm2.7nm						
PSI	**Prapat**	**6.75**	**355**	*e*Pn	**Pn**	**18 38 35.5**	**-3.5**
PSI	**Prapat**	**6.75**	**355**	*e*P	**Pn**	**18 38 35.5**	**-3.5**
PSI	**Prapat**	**6.75**	**355**	Pn	**Pn**	**18 38 36.1**	**-2.8**
	8.3nm,0.3s,baz=161,slow=13,SNR=16						
PSI				Sn	**Sn**	**18 39 48.6**	**-6.2**
	8.9nm,0.3s,baz=141,slow=14,SNR=2.8						
PPBI	**Pangkal Pinang**	**6.90**	**75**	P	**Pn**	**18 38 40.5**	**-0.3**
TPRI	**Tanjung Pinang**	**7.01**	**46**	P	**Pn**	**18 38 42.0**	**-0.4**
MYKOM	**Kota Tinggi**	**7.21**	**37**	*e*Pn	**Pn**	**18 38 44.0**	**-1.1**
MYKOM	**Kota Tinggi**	**7.21**	**37**	P	**Pn**	**18 38 45.0**	**-0.1**
SKJI	**Sukabumi**	**7.67**	**113**	P	**Pn**	**18 38 51.1**	**-0.4**
TPI	**Tanjungpandan**	**8.26**	**82**	P	**Pn**	**18 38 58.7**	**-0.9**
	77nm,0.8s,627nm						
IPM	**Ipoh**	**8.54**	**11**	*e*Pn	**Pn**	**18 39 03.1**	**-0.3**
IPM	**Ipoh**	**8.54**	**11**	P	**Pn**	**18 39 04.0**	**+0.6**
LEM	**Lembang**	**8.59**	**110**	P	**Pn**	**18 39 03.3**	**-1.0**
LEM	**Lembang**	**8.59**	**110**	Pn	**Pn**	**18 39 04.7**	**+0.4**
	12nm,0.3s,baz=227,slow=14,SNR=36						
LEM				Sn	**Sn**	**18 40 37.6**	**-2.6**
	13nm,0.3s,baz=344,slow=20,SNR=3.0						
XMIS	**Christmas Isla**	**8.91**	**137**	*e*Pn	**Pn**	**18 39 06.2**	**-2.3**
CISI	**Cisompet, Garu**	**9.03**	**114**	*e*Pn	**Pn**	**18 39 08.4**	**-1.9**
CISI	**Cisompet, Garu**	**9.03**	**114**	P	**Pn**	**18 39 08.3**	**-1.9**
KULM	**Kulim**	**9.28**	**7**	*e*Pn	**Pn**	**18 39 11.8**	**-1.7**
LHMI	**Lhok Sumawe**	**9.48**	**345**	*e*Pn	**Pn**	**18 39 17.1**	**+0.8**
LHMI	**Lhok Sumawe**	**9.48**	**345**	P	**Pn**	**18 39 16.4**	**+0.1**
UGM	**Wanagama**	**11.67**	**110**	*e*Pn	**Pn**	**18 39 44.8**	**-1.6**
UGM	**Wanagama**	**11.67**	**110**	P	**Pn**	**18 39 44.6**	**-1.7**
TRTT	**Trang**	**11.73**	**1**	P	**Pn**	**18 39 50.9**	**+3.7**
	21nm,0.6s						
WOJI	**Wonogiri, Jawa**	**12.02**	**109**	P	**Pn**	**18 39 49.9**	**-1.2**
KSM	**Kuching**	**12.11**	**64**	*e*Pn	**Pn**	**18 39 52.3**	**0.0**
KSM	**Kuching**	**12.11**	**64**	P	**Pn**	**18 39 53.0**	**+0.7**
KRAB	**Krabi**	**12.12**	**359**	P	**Pn**	**18 39 51.9**	**-0.5**
	201μm,0.8s						
PBKI	**Pangkalan Bun**	**12.25**	**84**	P	**Pn**	**18 39 52.9**	**-1.3**
PWJI	**Pagerwojo**	**12.91**	**109**	P	**Pn**	**18 40 01.6**	**-1.6**
SBUM	**Sibu**	**14.25**	**64**	*e*Pn	**Pn**	**18 40 22.3**	**+0.7**
KMMI	**Kalianget**	**14.75**	**103**	P	**Pn**	**18 40 26.9**	**-1.5**
JAGI	**Jajag, Banyuwa**	**15.26**	**108**	*e*Pn	**Pn**	**18 40 28.4**	**-6.7**
	41nm,0.9s						
JAGI	**Jajag, Banyuwa**	**15.26**	**108**	P	**Pn**	**18 40 33.9**	**-1.3**
MTKI	**Muara Teweh, K**	**15.70**	**79**	P	**P**	**18 40 44.8**	**+0.2**
SRBI	**Singaraja**	**16.18**	**105**	P	**Pn**	**18 40 46.9**	**-0.1**
PHET	**Kaeng Krachan**	**16.77**	**1**	P	**P**	**18 40 59.3**	**+2.8**
DLV	**T Lat**	**18.18**	**29**	*e*Pn	**Pn**	**18 41 09.4**	**-2.7**
	119nm,1.9s						
SRDT	**SRDT**	**18.21**	**359**	P	**P**	**18 41 15.1**	**+2.8**
	28nm,1.3s						
SGKI	**Sangatta, Kali**	**18.44**	**80**	P	**P**	**18 41 14.7**	**-0.2**
PLAI	**Plampang**	**18.82**	**106**	P	**P**	**18 41 18.2**	**-0.8**
CHAI	**Chaiyaphum**	**19.91**	**7**	P	**Pn**	**18 41 33.3**	**+0.6**
	62μm,0.8s,540μm						
UMPA	**Umpang Tak**	**20.06**	**358**	P	**P**	**18 41 32.9**	**+0.3**
	110μm,1.2s						
KAPI	**Kappang**	**20.25**	**94**	*e*P	**P**	**18 41 34.5**	**-0.2**
	107nm,1.1s						
KAPI	**Kappang**	**20.25**	**94**	P	**P**	**18 41 34.5**	**-0.2**
	SNR=11						
KAPI	**Kappang**	**20.25**	**94**	P	**P**	**18 41 34.6**	**-0.2**
	71nm,0.9s,baz=272,slow=8.9,SNR=26						
KAPI				S	**S**	**18 45 18.6**	**-1.6**
	2.1nm,0.4s,baz=233,slow=20,SNR=2.2						
SPSI	**Sidrap Palu**	**20.25**	**91**	P	**P**	**18 41 34.9**	**+0.2**
	21nm,0.8s						
TTSI	**Tana Toraja**	**20.33**	**88**	P	**P**	**18 41 35.8**	**+0.2**
	38nm,0.9s						
KHON	**Khomkaen**	**20.45**	**9**	P	Pn	18 41 39.2	+0.1
	72μm,0.8s						
PBKT	**Sadao Pong**	**20.47**	**4**	P	Pn	18 41 38.9	-0.4
	22nm,0.8s,342nm						
PCI	**Palu**	**20.57**	**82**	P	Pn	18 41 48.5	+7.9
BNSI	**Bone**	**20.59**	**92**	P	**P**	**18 41 39.3**	**+0.9**
	121nm,1.0s,1μm						
BKSI	**Bulukumba**	**20.63**	**95**	P	**P**	**18 41 38.5**	**-0.3**
	60nm,1.1s,579nm						
MPSI	**Mapaga**	**20.86**	**79**	P	**P**	**18 41 42.1**	**+0.8**
	43nm,0.9s,502nm						
BSSI	**Bau Bau, Buton**	**21.05**	**97**	P	**P**	**18 41 42.9**	**-0.5**
SKNT	**Sakolnakorn**	**21.29**	**12**	P	**P**	**18 41 46.7**	**+0.8**
	61nm,1.2s						
WSI	**Waingapu**	**21.43**	**106**	P	**P**	**18 41 47.4**	**-0.1**
	241nm,0.8s,10μm						
PANO	**Nakornpanom**	**21.59**	**13**	P	**P**	**18 41 51.7**	**+2.6**
	1.4nm,1.0s						
UTTA	**Uttaradit**	**21.61**	**3**	P	**P**	**18 41 50.8**	**+1.5**
	65μm,0.8s,607μm						
PALK	**Pallekele**	**21.81**	**301**	P	**P**	**18 41 54.0**	**+2.5**
PALK	**Pallekele**	**21.81**	**301**	P	**P**	**18 41 51.4**	**-0.1**
	30nm,1.1s,baz=116,slow=11,SNR=3.8						
CM31	**Chiang Mai Arr**	**22.30**	**359**	*e*P	**P**	**18 41 57.2**	**+0.5**
	86nm,0.9s						
CM31	**Chiang Mai Arr**	**22.30**	**359**	P	**P**	**18 41 58.4**	**+1.7**
	SNR=42						
CMAR	**Chiang Mai Arr**	**22.30**	**359**	P	**P**	**18 41 58.0**	**+1.3**
	44nm,0.8s,baz=188,slow=10,SNR=244						
CMAR				PcP	**PcP**	**18 45 53.1**	**+1.2**
	3.0nm,0.8s,baz=216,slow=3.5,SNR=5.7						
CMAR				LR	LR	18 51 58.8	
	comp=Z,1μm,18.3s,baz=181,slow=40						
LAMP	**Lampang**	**22.36**	**0**	P	**P**	**18 41 58.9**	**+1.6**
	77μm,0.9s,629μm						
CMMT	**Chiang Mai**	**22.65**	**359**	P	**P**	**18 42 01.8**	**+1.3**
	33nm,1.1s,445nm						
CHTO	**Chiang Mai**	**22.65**	**359**	*e*P	**P**	**18 42 01.5**	**+1.0**
	40nm,0.8s						
CHTO	**Chiang Mai**	**22.65**	**359**	*e*P	**P**	**18 42 01.5**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,40nm,0.8s						
CHTO	**Chiang Mai**	**22.65**	**359**	P	**P**	**18 42 02.0**	**+1.5**
	SNR=15						
MRSI	**Marisa**	**22.89**	**79**	P	**P**	**18 42 03.0**	**0.0**
	comp=Z,38nm,0.8s,comp=Z,403nm						
BBSI	**Bau Bau**	**23.07**	**95**	P	**P**	**18 42 04.4**	**-0.5**
MMRI	**Maumere**	**23.09**	**103**	P	**P**	**18 42 04.0**	**-1.2**
PAYA	**Payao**	**23.19**	**1**	P	**P**	**18 42 07.6**	**+1.5**
	comp=Z,89μm,0.7s						
LUWI	**Luwuk**	**23.46**	**83**	*e*P	**P**	**18 42 08.2**	**-0.6**
	comp=Z,110nm,1.1s						
LUWI	**Luwuk**	**23.46**	**83**	P	**P**	**18 42 08.2**	**-0.6**
KMSI	**Cibinong**	**24.91**	**80**	P	**P**	**18 42 22.1**	**-0.1**
QIZ	**Qiongzhong**	**25.04**	**24**	P	**P**	**18 42 24.8**	**+1.5**
QIZ				sP	**sP**	**18 42 33.0**	**-2.4**
QIZ				S	**S**	**18 46 48.3**	**+2.9**
QIZ				sS	**sS**	**18 46 59.8**	**-0.8**
QIZ				pmax	pmax		
	comp=Z,25nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,210nm,3.1s						
QIZ				LR	LR		
	comp=Z,1μm,13.7s						
QIZ				LR	LR		
	comp=Z,660nm,21.9s						
QIZ				LR	LR		
	comp=Z,910nm,17.1s						
QIZ	**Qiongzhong**	**25.04**	**24**	*e*P	**P**	**18 42 24.1**	**+0.9**
	comp=Z,131nm,1.8s						
SOEI	**Soe**	**25.27**	**104**	*e*P	**P**	**18 42 25.0**	**-0.6**
	comp=Z,91nm,1.2s						
SOEI	**Soe**	**25.27**	**104**	P	**P**	**18 42 25.5**	**-0.1**
SLVN	**Son La**	**25.52**	**10**	*e*P	**P**	**18 42 28.2**	**+0.5**
	comp=Z,55nm,0.9s						
SANI	**Sanana**	**26.55**	**87**	P	**P**	**18 42 36.9**	**-0.2**
PAGZ	**Pagadian**	**26.59**	**64**	*e*P	**P**	**18 42 38.3**	**+0.9**
SJMP	**San Jose**	**27.01**	**53**	*e*P	P	18 42 48.8	+7.7
H08S2	**Diego Garcia H**	**27.08**	**261**	T	T	19 10 51.4	
	baz=82,slow=75,SNR=212						
H08S3	**Diego Garcia H**	**27.09**	**261**	T	T	19 10 51.4	
	baz=82,slow=75,SNR=336						
H08S1	**Diego Carcia H**	**27.10**	**261**	T	T	19 10 51.4	
	baz=82,slow=75,SNR=406						
CTBH	**Cotabato--PC H**	**27.11**	**66**	⇑*i*P	**P**	**18 42 40.5**	**-1.6**
SGSI	**Sangihe**	**27.13**	**74**	P	**P**	**18 42 41.8**	**-0.5**
OTRP	**Odiongan**	**27.67**	**54**	*e*P	P	18 42 55.9	+8.7
TGY	**Tagaytay City**	**27.86**	**49**	P	**P**	**18 42 50.8**	**+1.9**
	comp=Z,162nm,0.4s,baz=254,slow=7.4,SNR=2.0						
DDMP	**Don Marcelino,**	**28.05**	**69**	*e*P	**P**	**18 42 49.5**	**-1.1**
BUKP	**Musuan**	**28.12**	**65**	*e*P	**P**	**18 42 51.1**	**-0.1**
KMI	**Kunming**	**29.10**	**6**	P	**P**	**18 43 02.5**	**+2.5**
KMI				pP	sP	18 43 08.5	-3.6
KMI				sP	pwP	18 43 11.8	-3.1
KMI				PP	**PP**	**18 44 00.3**	**-5.8**
KMI				S	**S**	**18 47 54.0**	**+4.2**
KMI				sS	sS	18 48 02.8	-1.5
KMI				SS	ScP	18 49 18.8	-28
KMI				pmax	pmax		
	comp=Z,25nm,0.6s						
KMI				pmax	pmax		
	comp=Z,200nm,4.5s						
KMI				LR	LR		
	comp=Z,490nm,19.4s						
KMI				LR	LR		
	comp=Z,800nm,21.2s						
FITZ	**Fitzroy Crossi**	**29.21**	**121**	P	**P**	**18 43 01.0**	**+0.2**
	baz=29,SNR=10						
FITZ	**Fitzroy Crossi**	**29.21**	**121**	P	**P**	**18 43 00.9**	**+0.2**
	comp=Z,6.4nm,0.4s,baz=309,slow=7.0,SNR=33						
FITZ				LR	LR	18 53 46.2	
	comp=Z,373nm,21.9s,baz=315,slow=34						
HYB	**Hyderabad**	**29.63**	**316**	*i* P	**P**	**18 43 06.0**	**+1.4**
SHL	**Shillong**	**30.27**	**346**	*e*P	**P**	**18 43 10.3**	**0.0**
	comp=Z,46nm,1.0s						
SHL	**Shillong**	**30.27**	**346**	*e*P	**P**	**18 43 10.3**	**0.0**
SHL				pmax	pmax		
	comp=Z,46nm,1.0s						
SHL	**Shillong**	**30.27**	**346**	*e*P	**P**	**18 43 12.0**	**+1.7**
GYA	**Guiyang**	**31.05**	**13**	⇑*i*P	**P**	**18 43 18.3**	**+1.2**
GYA				pP	pP	18 43 24.5	-0.8
GYA				PP	**PnPn**	**18 44 18.0**	**-1.0**
GYA				S	**S**	**18 48 19.5**	**-0.7**
GYA				sS	sS	18 48 32.8	-2.6
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,150nm,8.1s						
GYA				LR	LR		
	comp=Z,1μm,16.8s						
GYA				LR	LR		
	comp=Z,510nm,18.6s						
GYA				LR	LR		
	comp=Z,1μm,18.0s						
KNRA	**Kununurra**	**31.07**	**114**	P	**P**	**18 43 16.8**	**-0.5**
	baz=31,SNR=4.3						
ODAN	**Odare**	**32.80**	**340**	*e*P	**P**	**18 43 34.0**	**+1.4**
	comp=Z,64nm,0.8s						
RAMN	**Ramite**	**33.16**	**339**	*e*P	**P**	**18 43 37.0**	**+1.2**
	comp=Z,94nm,0.6s						
NWAO	**Narrogin (SRO)**	**33.25**	**152**	LR	LR	18 54 48.9	
	comp=Z,802nm,21.1s,baz=327,slow=32						
KDU	**Kakadu**	**33.75**	**107**	P	**P**	**18 43 39.3**	**-1.4**
	baz=34,SNR=4.8						
JIRN	**Jiri**	**33.96**	**339**	*e*P	**P**	**18 43 43.8**	**+0.9**
	comp=Z,176nm,0.6s						
TPUB	**Ta-pu**	**34.08**	**36**	*e*P	**P**	**18 43 43.4**	**-0.2**
	comp=Z,19nm,0.9s						
PKI	**Pulchoki**	**34.17**	**337**	*e*P	**P**	**18 43 45.0**	**+0.3**
	comp=Z,30nm,0.7s						
PKIN	**Phulchoki**	**34.18**	**337**	*e*P	**P**	**18 43 45.0**	**+0.3**
	comp=Z,14nm,0.6s						
QZH	**Quanzhou**	**34.23**	**32**	P	P	18 43 49.5	+4.7
QZH				S	**S**	**18 49 18.0**	**+8.5**
QZH				pmax	pmax		
	comp=Z,150nm,6.9s						
QZH				LR	LR		
	comp=Z,500nm,17.3s						
QZH				LR	LR		
	comp=Z,750nm,17.0s						
QZH				LR	LR		
	comp=Z,1μm,17.5s						
DMN	**Daman**	**34.32**	**337**	*e*P	**P**	**18 43 46.5**	**+0.6**
	comp=Z,44nm,1.0s						
KKN	**Kakani**	**34.42**	**337**	*e*P	**P**	**18 43 47.1**	**+0.4**
	comp=Z,70nm,0.8s						
LSA	**Lhasa**	**34.42**	**347**	*e*P	**P**	**18 43 46.9**	**-0.1**
	comp=Z,47nm,0.8s						
LSA	**Lhasa**	**34.42**	**347**	*i* P	**P**	**18 43 48.2**	**+1.3**
	SNR=42						
LSA	**Lhasa**	**34.42**	**347**	*e*P	**P**	**18 43 46.9**	**-0.1**
LSA				pmax	pmax		
	comp=Z,47nm,0.8s						
YULB	**Yu-li**	**34.54**	**37**	*e*P	**P**	**18 43 46.5**	**-1.1**
	comp=Z,9.3nm,0.8s						
SSLB	**Suanglung**	**34.64**	**36**	*e*P	**P**	**18 43 48.0**	**-0.5**
	comp=Z,15nm,1.1s						
WRKA	**Warakurna**	**34.73**	**130**	P	**P**	**18 43 49.9**	**+0.6**
	baz=35,SNR=8.1						
GKN	**Gorkha**	**34.86**	**337**	*e*P	**P**	**18 43 50.9**	**+0.5**
	comp=Z,146nm,1.0s						
CD2	**Chengdu**	**34.93**	**6**	P	**P**	**18 43 51.5**	**+0.6**
CD2				pP	sP	18 43 59.0	-4.2
CD2				S	**S**	**18 49 21.5**	**+1.2**
CD2				pmax	pmax		
	comp=Z,50nm,0.6s						
CD2				pmax	pmax		
	comp=Z,200nm,5.9s						
CD2				LR	LR		
	comp=Z,1μm,17.7s						
CD2				LR	LR		
	comp=Z,1μm,23.5s						
CD2				LR	LR		
	comp=Z,950nm,20.1s						
KOLN	**Koldanda**	**35.07**	**335**	*e*P	**P**	**18 43 53.2**	**+0.9**
	comp=Z,262nm,0.7s						
ENH	**Enshi**	**35.38**	**15**	*e*P	**P**	**18 43 54.6**	**-0.1**
	comp=Z,133nm,1.3s						
DANN	**Dangsing**	**35.52**	**336**	*e*P	**P**	**18 43 56.8**	**+0.5**
	comp=Z,92nm,0.6s						
PYUN	**Piuthan**	**35.62**	**335**	*e*P	**P**	**18 43 57.5**	**+0.4**
	comp=Z,114nm,0.8s						
WHN	**Wuhan**	**37.16**	**22**	P	**P**	**18 44 08.3**	**-1.5**
WHN				PP	**PnPn**	**18 45 41.3**	**+5.7**
WHN				S	**S**	**18 49 53.5**	**-0.7**
WHN				pmax	pmax		
	comp=Z,310nm,2.2s						
WHN				LR	LR		
	comp=Z,4μm,17.6s						
WHN				LR	LR		
	comp=Z,2μm,15.3s						
WHN				LR	LR		
	comp=Z,5μm,16.7s						
WRA	**Warramunga Arr**	**37.50**	**118**	P	**P**	**18 44 13.1**	**0.0**
	comp=Z,20nm,0.3s,baz=298,slow=10,SNR=3.3						
WRAB	**Tennant Creek**	**37.51**	**118**	*e*P	**P**	**18 44 13.0**	**0.0**
	comp=Z,16nm,0.7s						
WRAB	**Tennant Creek**	**37.51**	**118**	*c*e*P	**P**	**18 44 12.3**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WB2	**Warramunga Arr**	**37.51**	**118**	*e*P	**P**	**18 44 13.3**	**+0.2**
	comp=Z,16nm,0.7s						
FORT	**Forrest**	**37.91**	**138**	*e*P	**P**	**18 44 16.9**	**+0.6**
	comp=Z,22nm,0.7s						
ASAR	**Alice Springs**	**38.56**	**124**	P	**P**	**18 44 22.2**	**+0.3**
	comp=Z,7.6nm,0.8s,baz=298,slow=7.6,SNR=155						
ASAR				PcP	**PcP**	**18 46 34.2**	**0.0**
	comp=Z,3.4nm,0.9s,baz=286,slow=5.0,SNR=5.0						
ASAR				S	S	18 50 27.0	+11
	comp=Z,1.5nm,1.0s,baz=299,slow=16,SNR=3.1						
ASAR				LR	LR	19 00 52.2	
	comp=Z,230nm,20.5s,baz=333,slow=37						
AS31	**Alice Springs**	**38.57**	**124**	*e*P	**P**	**18 44 22.1**	**+0.1**
	comp=Z,3.8nm,0.6s						
XAN	**Xi'an**	**38.85**	**13**	P	**P**	**18 44 24.0**	**-0.2**
XAN				pP	pP	18 44 30.3	-2.3
XAN				PP	**PnPn**	**18 45 58.3**	**+2.2**
XAN				S	**S**	**18 50 16.3**	**-3.6**
XAN				pmax	pmax		
	comp=Z,62nm,1.1s						
XAN				pmax	pmax		
	comp=Z,190nm,4.0s						
XAN				LR	LR		
	comp=Z,420nm,19.8s						
XAN				LR	LR		
	comp=Z,1μm,19.0s						
XAN				LR	LR		
	comp=Z,1μm,16.7s						
XAN	**Xi'an**	**38.85**	**13**	*e*P	**P**	**18 44 23.8**	**-0.4**
	comp=Z,54nm,0.9s						
XAN	**Xi'an**	**38.85**	**13**	*e*P	**P**	**18 44 23.8**	**-0.4**
XAN				pmax	pmax		
	comp=Z,54nm,0.9s						
LZH	**Lanzhou**	**40.06**	**6**	*e*P	**P**	**18 44 36.0**	**+1.6**
LZH				pP	pP	18 44 41.3	-1.5
LZH				sP	sP	18 44 43.3	-3.6
LZH				PP	**PnPn**	**18 46 15.3**	**+4.7**
LZH				S	**S**	**18 50 39.0**	**+0.7**
LZH				SS	**SS**	**18 53 37.0**	**+0.4**
LZH				pmax	pmax		
	comp=Z,85nm,1.2s						
LZH				pmax	pmax		
	comp=Z,150nm,4.6s						
LZH				LR	LR		
	comp=Z,710nm,12.5s						
LZH				LR	LR		
	comp=Z,800nm,13.0s						
LZH				LR	LR		
	comp=Z,920nm,14.2s						
NJ2	**Nanjing**	**40.29**	**26**	*e*P	**P**	**18 44 38.0**	**+1.9**
NJ2				S	**S**	**18 50 45.0**	**+3.5**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,17.1s						
NJ2				LR	LR		
	comp=Z,860nm,14.2s						
NJ2				LR	LR		
	comp=Z,1μm,16.9s						
SSE	**Sheshan**	**40.56**	**29**	P	**P**	**18 44 40.5**	**+2.1**
SSE				S	**S**	**18 50 49.5**	**+3.9**
SSE				pmax	pmax		
	comp=Z,38nm,0.8s						
SSE				LR	LR		
	comp=Z,210nm,17.2s						
SSE				LR	LR		
	comp=Z,250nm,18.0s						
GENI	**Genyem**	**40.65**	**89**	P	**P**	**18 44 39.0**	**-0.5**
	comp=Z,31nm,1.3s						
QIS	**Mount Isa**	**42.38**	**116**	P	**P**	**18 44 54.1**	**+0.6**
	baz=42,SNR=5.1						
GTA	**Gaotai**	**43.17**	**0**	⇓P	**P**	**18 45 00.5**	**+0.7**
GTA				pP	pP	18 45 05.5	-2.8
GTA				sP	sP	18 45 09.0	-3.4
GTA				PcP	**PcP**	**18 46 49.5**	**+0.5**
GTA				S	**S**	**18 51 30.0**	**+5.8**
GTA				SS	**SS**	**18 54 38.8**	**+0.8**
GTA				pmax	pmax		
	comp=Z,22nm,1.4s						
GTA				pmax	pmax		
	comp=Z,220nm,5.7s						
GTA				LR	LR		
	comp=Z,440nm,15.8s						
GTA				LR	LR		
	comp=Z,380nm,17.9s						
GTA				LR	LR		
	comp=Z,480nm,16.5s						
TIY	**Taiyuan**	**43.19**	**15**	*e*P	**P**	**18 45 01.3**	**+1.4**
TIY				PcP	**PcP**	**18 46 50.8**	**+1.8**
TIY				S	**S**	**18 51 25.0**	**+0.5**
TIY				pmax	pmax		
	comp=Z,43nm,0.9s						
TIY				pmax	pmax		
	comp=Z,200nm,5.6s						
TIY				LR	LR		
	comp=Z,410nm,15.5s						
TIY				LR	LR		
	comp=Z,370nm,16.6s						
BBOO	**Buckleboo**	**44.63**	**134**	*e*P	**P**	**18 45 11.7**	**+0.2**
	comp=Z,22nm,1.2s						
BBOO	**Buckleboo**	**44.63**	**134**	P	**P**	**18 45 11.8**	**+0.2**
	baz=45,SNR=14						
NIL	**Nilore**	**44.88**	**329**	*e*P	**P**	**18 45 12.6**	**-0.9**
	comp=Z,29nm,0.9s						
NIL	**Nilore**	**44.88**	**329**	*e*P	**P**	**18 45 12.6**	**-0.9**
NIL				pmax	pmax		
	comp=Z,29nm,0.9s						
BTO	**Baotou**	**45.41**	**11**	*e*P	**P**	**18 45 19.3**	**+1.7**
HHC	**Hu-ho-hao-te**	**45.96**	**13**	*e*P	**P**	**18 45 24.0**	**+2.0**
HHC				S	**S**	**18 52 06.5**	**+1.8**
HHC				sS	sS	18 52 18.5	-1.0
HHC				pmax	pmax		
	comp=Z,150nm,1.0s						
HHC				pmax	pmax		
	comp=Z,420nm,5.3s						
HHC				LR	LR		
	comp=Z,830nm,15.2s						
HHC				LR	LR		
	comp=Z,830nm,14.6s						
HHC				LR	LR		
	comp=Z,1μm,15.3s						
BJT	**Baijiatuau**	**46.39**	**18**	*e*P	**P**	**18 45 25.9**	**+0.7**
	comp=Z,31nm,0.9s						

WMQ	**Urumqi**	**48.74**	**349**	*e*P	**P**	**18 45 45.8**	**+2.2**
WMQ				sP	sP	18 45 53.5	-2.4
WMQ				S	**S**	**18 52 49.5**	**+5.4**
WMQ				sS	sS	18 52 55.0	-3.1
WMQ				SS	**SS**	**18 56 12.3**	**-2.8**
WMQ				pmax	pmax		
	comp=Z,400nm,3.7s						
WMQ				LR	LR		
	comp=Z,690nm,10.9s						
WMQ				LR	LR		
	comp=Z,500nm,16.9s						
WMQ				LR	LR		
	comp=Z,920nm,27.7s						
WMQ	**Urumqi**	**48.74**	**349**	*e*P	**P**	**18 45 44.3**	**+0.7**
	comp=Z,120nm,0.9s						
WMQ	**Urumqi**	**48.74**	**349**	*e*P	**P**	**18 45 44.3**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,120nm,0.9s						
KS15	**Wonju Array Si**	**48.95**	**30**	*e*P	**P**	**18 45 44.9**	**-0.3**
	comp=Z,40nm,1.1s						
KSRS	**Korea Array**	**48.98**	**30**	P	**P**	**18 45 45.6**	**+0.2**
	comp=Z,19nm,1.0s,baz=221,slow=7.9,SNR=64						
KSRS				LR	LR	19 08 56.7	
	comp=Z,309nm,18.1s,baz=236,slow=39						
NRN	**Naryn**	**50.01**	**337**	*e*P	**P**	**18 45 53.4**	**-0.2**
	comp=Z,38nm,1.0s						
NRN	**Naryn**	**50.01**	**337**	*e*P	**P**	**18 45 53.4**	**-0.2**
NRN				pmax	pmax		
	comp=Z,38nm,1.0s						
KDJ	**Kajisay**	**50.16**	**338**	*e*P	**P**	**18 45 55.2**	**+0.6**
	comp=Z,85nm,0.9s						
KDJ	**Kajisay**	**50.16**	**338**	*e*P	**P**	**18 45 55.2**	**+0.6**
KDJ				pmax	pmax		
	comp=Z,85nm,0.9s						
GAR	**Garm**	**50.52**	**331**	*e*P	**P**	**18 45 56.5**	**-0.7**
	comp=Z,32nm,0.9s						
GAR	**Garm**	**50.52**	**331**	*e*P	**P**	**18 45 56.6**	**-0.7**
GAR				pmax	pmax		
	comp=Z,32nm,0.9s						
ULHL	**Ulahol**	**50.61**	**338**	P	**P**	**18 45 59.0**	**+1.0**
	SNR=26						
KZA	**Kyzart**	**50.85**	**337**	P	**P**	**18 46 00.9**	**+0.9**
	SNR=28						
ALNE	**Al Ain**	**50.86**	**305**	*i* P	**P**	**18 46 01.5**	**+1.5**
	SNR=8.4						
ASHO	**Ashiyiah**	**50.90**	**306**	P	**P**	**18 46 01.8**	**+1.5**
ASHO				P	**P**	**18 46 02.2**	**+1.9**
MDH	**Madha**	**51.00**	**307**	P	**P**	**18 46 01.2**	**+0.2**
BTK	**Batken**	**51.11**	**332**	*e*P	**P**	**18 46 01.4**	**-0.3**
	comp=Z,53nm,1.2s						
BTK	**Batken**	**51.11**	**332**	*e*P	**P**	**18 46 01.4**	**-0.3**
BTK				pmax	pmax		
	comp=Z,53nm,1.2s						
MSFE	**Esma-Masafi**	**51.14**	**307**	P	**P**	**18 46 03.4**	**+1.4**
ARSB	**Arslanbob**	**51.15**	**334**	*e*P	**P**	**18 46 02.0**	**0.0**
	comp=Z,123nm,1.3s						
UCH	**Uchtor**	**51.27**	**336**	P	**P**	**18 46 03.3**	**0.0**
	SNR=21						
BANOM	**Banah**	**51.30**	**308**	P	**P**	**18 46 03.6**	**+0.4**
FAQ	**Al Faqa, Dubai**	**51.30**	**306**	P	**P**	**18 46 04.3**	**+1.0**
CMSA	**Cobar Meteorol**	**51.30**	**128**	P	**P**	**18 46 04.2**	**+1.0**
	baz=51,SNR=48						
TKM2	**Tokmak 2**	**51.43**	**338**	P	**P**	**18 46 04.2**	**0.0**
	SNR=50						
KBK	**Karagaybulak**	**51.46**	**337**	P	**P**	**18 46 05.9**	**+1.6**
	SNR=23						
ASUD	**Al Ashush, Dub**	**51.46**	**306**	P	**P**	**18 46 06.3**	**+1.9**
AML	**Almayashu**	**51.52**	**336**	P	**P**	**18 46 05.5**	**+0.5**
	SNR=19						
AAK	**Ala-Archa**	**51.62**	**337**	P	**P**	**18 46 06.8**	**+1.3**
	SNR=8.9						
AAK	**Ala-Archa**	**51.62**	**337**	*e*P	**P**	**18 46 06.2**	**+0.7**
	comp=Z,10.0nm,0.8s						
AAK	**Ala-Archa**	**51.62**	**337**	*i* P	**P**	**18 46 06.2**	**+0.7**
	SNR=12						
AAK	**Ala-Archa**	**51.62**	**337**	*i* P	**P**	**18 46 05.6**	**+0.1**
AAK				pmax	pmax		
	comp=Z,11nm,1.0s						
AAK	**Ala-Archa**	**51.62**	**337**	P	**P**	**18 46 06.3**	**+0.7**
	SNR=11						
AAK				P	**P**	**18 46 06.3**	**+0.7**
	SNR=11						
FRU1	**Bishkek**	**51.71**	**337**	*e*P	**P**	**18 46 07.1**	**+1.0**
	comp=Z,29nm,0.8s						
FRU1	**Bishkek**	**51.71**	**337**	*e*P	**P**	**18 46 07.1**	**+1.0**
FRU1				pmax	pmax		
	comp=Z,29nm,0.8s						
CHMS	**Chumysh**	**51.83**	**337**	P	**P**	**18 46 06.8**	**-0.1**
	SNR=19						
EKS2	**Erkin-Say**	**51.93**	**336**	P	**P**	**18 46 08.3**	**+0.5**
	SNR=42						
SONM	**Songino Array**	**51.95**	**6**	P	**P**	**18 46 08.9**	**+1.1**
	comp=Z,25nm,0.7s,baz=190,slow=8.5,SNR=54						
SONM				PcP	**PcP**	**18 47 20.0**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=196,slow=4.2,SNR=3.6						
SONM				LR	LR	19 11 05.2	
	comp=Z,328nm,18.3s,baz=235,slow=39						
ULN	**Ulaanbaatar**	**52.05**	**6**	*e*P	**P**	**18 46 09.4**	**+0.8**
	comp=Z,48nm,1.0s						
ULN	**Ulaanbaatar**	**52.05**	**6**	*ce*P	**P**	**18 46 09.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,68nm,1.3s						
ULN	**Ulaanbaatar**	**52.05**	**6**	P	**P**	**18 46 09.7**	**+1.1**
	SNR=22						
ULN				P	**P**	**18 46 09.7**	**+1.1**
	SNR=22						
RMQ	**Roma**	**52.14**	**121**	P	**P**	**18 46 11.1**	**+1.6**
	baz=52,SNR=10						
USP	**Ospenovka**	**52.15**	**337**	P	**P**	**18 46 10.2**	**+0.9**
	SNR=27						
MK31	**Makanchi Array**	**52.78**	**345**	*e*P	**P**	**18 46 13.6**	**-0.3**
	comp=Z,30nm,1.0s						
MK31	**Makanchi Array**	**52.78**	**345**	*e*P	**P**	**18 46 13.6**	**-0.3**
MK31				pmax	pmax		
	comp=Z,31nm,1.0s						
MKAR	**Makanchi Array**	**52.78**	**345**	*ce*P	**P**	**18 46 13.8**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,30nm,0.8s						
MKAR	**Makanchi Array**	**52.78**	**345**	P	**P**	**18 46 14.2**	**+0.3**
	comp=Z,29nm,0.8s,baz=153,slow=8.4,SNR=214						
MKAR				LR	LR	19 12 24.2	
	comp=Z,152nm,21.1s,baz=154,slow=40						
MAKZ	**Makanchi**	**52.88**	**345**	*e*P	**P**	**18 46 14.7**	**+0.1**
	comp=Z,53nm,1.5s						
MAKZ	**Makanchi**	**52.88**	**345**	P	**P**	**18 46 13.9**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2	**Changchun**	**53.00**	**23**	*e*P	**P**	**18 46 15.0**	**-0.5**
CN2				*e*S	**S**	**18 53 46.5**	**+3.6**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,500nm,18.0s						
KK31	**Karatay Array**	**53.67**	**334**	*e*P	**P**	**18 46 20.2**	**-0.3**
	comp=Z,72nm,1.9s						
KK31	**Karatay Array**	**53.67**	**334**	*e*P	**P**	**18 46 20.2**	**-0.3**
KK31				pmax	pmax		
	comp=Z,72nm,1.9s						
KKAR	**Karatay Array**	**53.67**	**334**	*e*P	**P**	**18 46 20.1**	**-0.4**
	comp=Z,72nm,1.9s						
KKAR	**Karatay Array**	**53.67**	**334**	*e*P	**P**	**18 46 20.1**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,72nm,1.9s						
EIDS	**Eidsvold**	**53.86**	**119**	*e*P	**P**	**18 46 22.6**	**+0.3**
	comp=Z,68nm,1.4s						
EIDS	**Eidsvold**	**53.86**	**119**	P	**P**	**18 46 23.9**	**+1.7**
	baz=54,SNR=5.1						
MAJO	**Matsushiro**	**54.14**	**38**	*e*P	**P**	**18 46 23.5**	**-0.5**
	comp=Z,23nm,1.2s						
MAJO	**Matsushiro**	**54.14**	**38**	*i* P	**P**	**18 46 23.2**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,16nm,1.2s						
MAT	**Matsushiro**	**54.14**	**38**	P	**P**	**18 46 22.3**	**-1.7**
MAT				S	**S**	**18 53 54.8**	**-3.9**
MJAR	**Matsushiro Arr**	**54.14**	**38**	P	**P**	**18 46 23.9**	**-0.1**
	comp=Z,11nm,1.1s,baz=220,slow=8.4,SNR=19						
MJAR				LR	LR	19 11 21.0	
	comp=Z,233nm,19.0s,baz=235,slow=38						
MJB9	**Matsu-Tunnel**	**54.14**	**38**	*e*P	**P**	**18 46 23.4**	**-0.6**
	comp=Z,24nm,1.2s						
ZAK	**Zakamensk**	**54.24**	**3**	*e*P	**P**	**18 46 24.0**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,11nm,0.9s						
DGZ	**Jazzator, Alta**	**54.47**	**350**	*d* P	**P**	**18 46 26.7**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,38nm,1.0s						
MSHR	**Mys Shultsa**	**54.51**	**28**	*i* P	**P**	**18 46 26.4**	**-0.2**
CAN	**Canberra**	**55.31**	**131**	*e*P	**P**	**18 46 32.7**	**0.0**
	comp=Z,16nm,1.0s						
CAN	**Canberra**	**55.31**	**131**	P	**P**	**18 46 33.8**	**+1.2**
	baz=55						
CAN	**Canberra**	**55.31**	**131**	*e*P	**P**	**18 46 32.7**	**0.0**
CAN				pmax	pmax		
	comp=Z,16nm,1.0s						
MDJ	**Mudanjiang**	**55.38**	**26**	P	**P**	**18 46 32.8**	**-0.1**
MDJ				PcS	**PcS**	**18 51 35.3**	**+2.3**
MDJ				S	**S**	**18 54 13.0**	**-2.1**
MDJ				ScS	**ScS**	**18 56 21.0**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,20nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,150nm,4.5s						
MDJ				LR	LR		
	comp=Z,540nm,19.9s						
MDJ				LR	LR		
	comp=Z,570nm,19.9s						
MDJ				LR	LR		
	comp=Z,720nm,21.1s						
MDJ	**Mudanjiang**	**55.38**	**26**	*e*P	**P**	**18 46 33.6**	**+0.7**
	comp=Z,22nm,1.2s						
MOY	**Mondy**	**55.44**	**1**	*e*P	**P**	**18 46 34.5**	**+1.2**
MOY				pmax	pmax		
	comp=Z,30nm,2.9s						
TLY	**Talaya**	**55.56**	**3**	*e*P	**P**	**18 46 34.9**	**+0.9**
TLY				pmax	pmax		
	comp=Z,41nm,0.8s						
TLY				MLR	MLR		
	comp=Z,975nm,15.0s						
ARMA	**Armidale**	**55.71**	**124**	*e*P	**P**	**18 46 37.2**	**+1.5**
	comp=Z,35nm,1.3s						
ARMA	**Armidale**	**55.71**	**124**	P	**P**	**18 46 38.1**	**+2.4**
	baz=56,SNR=3.7						
HIA	**Hailar**	**55.88**	**16**	*e*P	**P**	**18 46 37.0**	**+0.7**
	comp=Z,25nm,1.1s						
HIA	**Hailar**	**55.88**	**16**	*e*P	**P**	**18 46 37.0**	**+0.7**
HIA				pmax	pmax		
	comp=Z,25nm,1.1s						
USA0B	**Ussuriysk Arra**	**56.14**	**28**	*e*P	**P**	**18 46 38.9**	**+0.6**
	comp=Z,42nm,0.9s						
USRK	**Ussuriysk Ar.**	**56.14**	**28**	P	**P**	**18 46 38.7**	**+0.4**
	comp=Z,27nm,0.8s,baz=224,slow=6.3,SNR=42						
USRK				LR	LR	19 13 08.0	
	comp=Z,376nm,18.3s,baz=211,slow=39						
GEYT	**Alibeck**	**56.63**	**321**	P	**P**	**18 46 42.2**	**+0.2**
	comp=Z,26nm,0.8s,baz=147,slow=8.3,SNR=59						
GYA0B	**ALIBECK ARRAY**	**56.63**	**321**	*e*P	**P**	**18 46 41.8**	**-0.1**
	comp=Z,35nm,0.9s						
OTUK	**Ortayu**	**57.16**	**339**	P	**P**	**18 46 44.3**	**-1.2**
OTUK				pmax	pmax		
	comp=Z,49nm,1.0s						
KURK	**Kurchatov**	**57.35**	**344**	*e*P	**P**	**18 46 46.3**	**-0.5**
	comp=Z,35nm,0.9s						
KURK	**Kurchatov**	**57.35**	**344**	*ce*P	**P**	**18 46 46.1**	**-0.6**
KURK				pmax	pmax		
	comp=Z,36nm,0.8s						
KURK	**Kurchatov**	**57.35**	**344**	P	**P**	**18 46 46.8**	**+0.1**
	SNR=16						
KURK				P	**P**	**18 46 46.8**	**+0.1**
	SNR=16						
DAMY	**Dhamar**	**57.60**	**290**	*e*P	**P**	**18 46 51.4**	**+1.8**
	comp=Z,56nm,1.3s						
ZAA0	**Zalesovo Array**	**59.00**	**350**	*e*P	**P**	**18 46 57.8**	**-0.4**
	comp=Z,66nm,0.9s						
ZALV	**Zalesovo Beam**	**59.00**	**350**	*i* P	**P**	**18 46 58.0**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,39nm,0.6s						
ZALV	**Zalesovo Beam**	**59.00**	**350**	P	**P**	**18 46 58.1**	**-0.2**
	comp=Z,40nm,0.7s,baz=187,slow=5.1,SNR=156						
ZALV				LR	LR	19 16 20.3	
	comp=Z,152nm,18.4s,baz=68,slow=40						
KLR	**Kul'dur**	**59.94**	**24**	*d* P	**P**	**18 47 04.7**	**-0.1**
KLR				pmax	pmax		
	comp=Z,39nm,1.0s						
NVS	**Novosibirsk**	**60.14**	**349**	*e*P	**P**	**18 47 05.7**	**-0.4**
NVS				*e*		18 47 50.3	
NVS				*e*S	**S**	**18 55 17.1**	**+0.1**
NVS				pmax	pmax		
	comp=Z,33nm,1.2s						
NVS				pmax	pmax		
	comp=N,22nm,1.1s						
NVS				pmax	pmax		
	comp=E,13nm,1.1s						
NVS				smax	smax		
	comp=N,4.0nm,1.1s						
NVS				smax	smax		
	comp=E,10.0nm,1.5s						
BVA0	**Borovoye Array**	**61.85**	**341**	*i* P	P	18 47 10.9	-6.9
BVA0				pmax	pmax		
	comp=Z,21nm,1.1s						
BRVK	**Borovoye**	**61.91**	**341**	*e*P	**P**	**18 47 16.7**	**-1.5**
	comp=Z,42nm,1.3s						
BRVK	**Borovoye**	**61.91**	**341**	P	**P**	**18 47 16.2**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,14nm,0.6s						
BRVK	**Borovoye**	**61.91**	**341**	P	**P**	**18 47 17.8**	**-0.4**
	SNR=9.8						
BRVK				P	**P**	**18 47 17.8**	**-0.4**
	SNR=9.8						
ZEA	**Zeya**	**62.03**	**18**	*e*P	**P**	**18 47 18.8**	**-0.2**
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,17.0s						
ZEA				MLR	MLR		
	comp=N,500nm,16.0s						
KMBO	**Kilima Mbogo**	**62.21**	**271**	P	**P**	**18 47 21.5**	**+0.3**
	comp=N,1.3nm,0.5s,baz=43,slow=18,SNR=3.8						
KMBO				LR	LR	19 13 26.2	
	comp=N,118nm,18.1s,baz=93,slow=35						
BOD	**Bodaibo**	**62.70**	**9**	*e*P	**P**	**18 47 23.2**	**-0.1**
BOD				pmax	pmax		
	comp=Z,54nm,1.4s						
GRNR	**Gornyy**	**63.06**	**25**	*e*P	**P**	**18 47 27.8**	**+1.9**
AB31	**Akbulak array**	**63.12**	**332**	*i* P	**P**	**18 47 25.4**	**-0.9**
AB31				pmax	pmax		
	comp=Z,43nm,0.9s						
ABKAR	**Akbulak array**	**63.12**	**332**	*e*P	**P**	**18 47 25.0**	**-1.3**
	comp=Z,56nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**63.35**	**36**	*e*P	**P**	**18 47 26.4**	**-1.5**
YUK				*e*S	**S**	**18 55 58.8**	**+0.8**
YSS	**Yuzh-Sakhalins**	**63.43**	**32**	*e*P	**P**	**18 47 27.4**	**-0.9**
	comp=Z,96nm,1.4s						
YSS	**Yuzh-Sakhalins**	**63.43**	**32**	*e*P	**P**	**18 47 28.0**	**-0.4**
YSS				*e*		18 47 44.6	
YSS				pmax	pmax		
	comp=Z,30nm,1.3s						
YSS				MLR	MLR		
	comp=Z,400nm,11.0s						
AKTO	**Aktyubinsk**	**64.83**	**332**	P	**P**	**18 47 35.8**	**-1.8**
AKTO				pmax	pmax		
	comp=Z,41nm,1.3s						
TYV	**Tymovskoe**	**65.94**	**28**	*e*P	**P**	**18 47 43.5**	**-1.2**
TYV				*e*		18 56 30.1	
TYV				pmax	pmax		
	comp=Z,29nm,1.4s						
TYV				MLR	MLR		
	comp=Z,1μm,23.0s						
MAK	**Makhachkala**	**66.14**	**321**	*e*P	**P**	**18 47 45.2**	**-0.9**
MAK				*e*S	**S**	**18 56 33.6**	**+1.1**
MAK				pmax	pmax		
	comp=Z,65nm,1.3s						
GNI	**Garni**	**66.59**	**317**	*e*P	**P**	**18 47 49.5**	**+0.2**
	comp=Z,34nm,1.3s						
GNI	**Garni**	**66.59**	**317**	*i* P	**P**	**18 47 49.8**	**+0.5**
	SNR=6.6						
GNI	**Garni**	**66.59**	**317**	*ce*P	**P**	**18 47 49.4**	**+0.1**
GNI				pmax	pmax		
	comp=Z,156nm,1.3s						
GNI	**Garni**	**66.59**	**317**	P	**P**	**18 47 49.9**	**+0.5**
	SNR=7.4						
TBLG	**Delisi**	**67.32**	**319**	*e*P	**P**	**18 47 54.5**	**+0.7**
	comp=Z,59nm,1.1s						
TBLG	**Delisi**	**67.32**	**319**	*e*P	**P**	**18 47 54.5**	**+0.7**
TBLG				pmax	pmax		
	comp=Z,59nm,1.1s						
GROC	**Groznyy**	**67.34**	**320**	*e*P	**P**	**18 47 53.3**	**-0.5**
GROC				*e*		18 48 22.3	
GROC				*e*		18 50 21.0	
GROC				pmax	pmax		
	comp=Z,96nm,1.1s						
AKH	**Akhalkalaki**	**68.00**	**318**	*e*P	**P**	**18 47 58.5**	**+0.2**
	comp=Z,14nm,1.1s						
AKH	**Akhalkalaki**	**68.00**	**318**	*e*P	**P**	**18 47 58.5**	**+0.2**
AKH				pmax	pmax		
	comp=Z,14nm,1.1s						
MAW	**Mawson**	**68.25**	**194**	*e*P	**P**	**18 47 59.9**	**+0.8**
	comp=Z,3.6nm,1.3s						
MAW	**Mawson**	**68.25**	**194**	*e*P	**P**	**18 47 59.9**	**+0.8**
MAW				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MAW	**Mawson**	**68.25**	**194**	P	**P**	**18 48 00.0**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=66,slow=11,SNR=4.0						
MAW				LR	LR	19 11 15.0	
	comp=Z,424nm,21.0s,baz=36,slow=30						
SVE	**Sverdlovsk**	**68.30**	**338**	*ce*P	**P**	**18 47 59.2**	**-0.4**
SVE				pmax	pmax		
	comp=Z,59nm,1.2s						
ZEI	**Tsey**	**68.37**	**319**	*e*P	**P**	**18 48 00.6**	**0.0**
ZEI				pmax	pmax		
	comp=Z,18nm,0.8s						
MBAR	**Mbarara**	**68.74**	**271**	*e*P	**P**	**18 48 02.6**	**-0.8**
	comp=Z,28nm,1.8s						
ARU	**Arti**	**68.80**	**337**	*e*P	**P**	**18 48 02.2**	**-0.5**
	comp=Z,57nm,1.4s						
ARU	**Arti**	**68.80**	**337**	*d i*P	**P**	**18 48 02.2**	**-0.5**
ARU						18 50 30.9	
ARU				S	**S**	**18 57 07.3**	**+3.4**
ARU				SS	**SS**	**19 01 23.9**	**-5.6**
ARU				pmax	pmax		
	comp=Z,53nm,1.6s						
ARU				MLR	MLR		
	comp=Z,178nm,19.0s						
NCK	**Nalchik**	**68.89**	**320**	*i* P	**P**	**18 48 03.9**	**+0.3**
NCK				pmax	pmax		
	comp=Z,31nm,0.9s						
KBZ	**Khabaz**	**69.45**	**320**	P	**P**	**18 48 07.6**	**+0.6**
	comp=Z,24nm,0.8s,baz=121,slow=4.8,SNR=60						
KIV	**Kislovodsk**	**69.69**	**320**	*e*P	**P**	**18 48 08.3**	**-0.2**
	comp=Z,32nm,1.0s						
KIV	**Kislovodsk**	**69.69**	**320**	*i* P	**P**	**18 48 08.4**	**-0.2**
	SNR=6.9						
KIV	**Kislovodsk**	**69.69**	**320**	*e*P	**P**	**18 48 09.3**	**+0.7**
KIV				pmax	pmax		
	comp=Z,90nm,1.0s						
KIV	**Kislovodsk**	**69.69**	**320**	P	**P**	**18 48 09.4**	**+0.8**
	SNR=15						
KIV				P	**P**	**18 48 09.4**	**+0.8**
	SNR=15						
YAK	**Yakutsk**	**69.77**	**15**	*e*P	**P**	**18 48 07.5**	**-1.1**
	comp=Z,249nm,0.9s						
YAK	**Yakutsk**	**69.77**	**15**	*e*P	**P**	**18 48 07.5**	**-1.1**
YAK				pmax	pmax		
	comp=Z,249nm,0.9s						
SOC	**Sochi**	**71.46**	**319**	*e*P	**P**	**18 48 17.8**	**-1.5**
SOC				*e*		18 51 06.2	
SOC				*e*PPP	PPP	18 52 37.3	
SOC				*e*S	**S**	**18 57 34.7**	**-0.9**
SOC				*e*SS	**SS**	**19 02 10.7**	**-0.4**
SOC				pmax	pmax		
	comp=Z,257nm,0.7s						
SOC				MLR	MLR		
	comp=Z,773nm,14.0s						
CSS	**Mathiatis**	**73.01**	**308**	*e*P	**P**	**18 48 29.5**	**+0.7**
	comp=Z,73nm,1.2s						
NRIK	**Noril'sk**	**73.62**	**356**	P	**P**	**18 48 31.1**	**-0.5**
	comp=Z,13nm,0.5s,baz=157,slow=4.5,SNR=23						
NRIK				LR	LR	19 22 58.2	
	comp=Z,225nm,21.3s,baz=192,slow=38						
VRH	**Novokhopyorsk**	**73.66**	**326**	*e*P	**P**	**18 48 31.2**	**-0.9**
VRH				pmax	pmax		
	comp=Z,70nm,0.9s						
KIRV	**Kirov**	**73.93**	**335**	LR	LR	19 25 28.1	
	comp=Z,109nm,19.4s,baz=116,slow=39						
BOSA	**Boshof**	**74.25**	**242**	*e*P	**P**	**18 48 37.0**	**+0.7**
	comp=Z,12nm,0.7s						
BOSA	**Boshof**	**74.25**	**242**	P	**P**	**18 48 36.7**	**+0.3**
	comp=Z,11nm,0.6s,baz=94,slow=4.4,SNR=26						
BOSA				LR	LR	19 19 02.9	
	comp=Z,218nm,18.3s,baz=92,slow=34						
BR131	**Keskin Array S**	**74.26**	**313**	*e*P	**P**	**18 48 35.1**	**-1.1**
	comp=Z,22nm,0.8s						
BR131	**Keskin Array S**	**74.26**	**313**	P	**P**	**18 48 35.7**	**-0.5**
	SNR=8.2						
BRTR	**Keskin Array B**	**74.26**	**313**	*ce*P	**P**	**18 48 35.2**	**-1.0**
BRTR				pmax	pmax		
	comp=Z,19nm,0.7s						
BRTR	**Keskin Array B**	**74.26**	**313**	P	**P**	**18 48 35.2**	**-1.0**
	comp=Z,18nm,0.7s,baz=134,slow=7.0,SNR=108						
ILGA	**Ilgaz**	**74.64**	**314**	*e*P	**P**	**18 48 38.7**	**+0.2**
	comp=Z,58nm,1.3s						
PETK	**Petropavlovsk-**	**74.83**	**32**	P	**P**	**18 48 39.1**	**+0.2**
	comp=Z,9.7nm,0.7s,baz=68,slow=0.5,SNR=18						
PETK				LR	LR	19 23 53.4	
	comp=Z,95nm,18.3s,baz=241,slow=38						
VORD	**Divnogorie**	**74.91**	**325**	*e*P	**P**	**18 48 38.2**	**-1.2**
VORD				pmax	pmax		
	comp=Z,20nm,1.0s						
ANTO	**Ankara**	**74.93**	**313**	*e*P	**P**	**18 48 39.3**	**-0.6**
	comp=Z,26nm,0.8s						
ANTO	**Ankara**	**74.93**	**313**	*e*P	**P**	**18 48 39.3**	**-0.6**
ANTO				pmax	pmax		
	comp=Z,26nm,0.8s						
BR231	**Keskin MP Arra**	**74.93**	**313**	*e*P	**P**	**18 48 39.8**	**-0.2**
	comp=Z,28nm,0.8s						
MA2	**Magadan**	**75.04**	**24**	*e*P	**P**	**18 48 40.0**	**-0.1**
	comp=Z,42nm,1.0s						
MA2	**Magadan**	**75.04**	**24**	*ce*P	**P**	**18 48 41.5**	**+1.5**
MA2				pmax	pmax		
	comp=Z,47nm,1.7s						
VSR	**Storozhevoye**	**75.09**	**326**	*e*P	**P**	**18 48 39.1**	**-1.4**
VSR				pmax	pmax		
	comp=Z,40nm,1.0s						
PET	**Petropavlovsk**	**75.30**	**32**	*e*P	**P**	**18 48 41.3**	**-0.3**
PET				*e*		18 51 30.3	
PET				*e*S	**S**	**18 58 14.3**	**-4.3**
PET				pmax	pmax		
	comp=Z,53nm,0.6s						
PET				pmax	pmax		
	comp=Z,200nm,18.3s						
PET				pmax	pmax		
	comp=Z,100nm,21.7s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
SIM	**Simferopol'**	**75.70**	**318**	*e*P	**P**	**18 48 44.3**	**+0.1**
SIM				pmax	pmax		
	comp=Z,26nm,0.9s						
LPSR	**Galich'ya Gora**	**75.84**	**327**	*e*P	**P**	**18 48 44.4**	**-0.4**
LPSR				pmax	pmax		
	comp=Z,40nm,1.0s						
SYO	**Syowa Base**	**75.84**	**199⇑**	*ep*P	pP	18 48 49.6	-3.9
MDUB	**Mudurnu**	**76.28**	**313**	*e*P	**P**	**18 48 47.7**	**0.0**
	comp=Z,236nm,1.0s						
PRGR	**Permogore**	**77.26**	**337**	*e*P	**P**	**18 48 50.5**	**-2.1**
PRGR				pmax	pmax		
	comp=Z,49nm,0.7s						
BKZ	**Black Stump Fm**	**77.44

KLMR pmax pmax
comp=Z,52nm,1.3s
SANT Santorini 79.56 308 *eP* **P 18 49 05.8 -0.2**
comp=Z,79nm,1.2s
SANT Santorini 79.56 308⇑ *iP* **P 18 49 05.1 -0.9**
TLB Topalu 79.69 316⇑ *iP* **P 18 49 05.8 -0.6**
IDI Anoyia 79.78 307 LR LR 19 24 45.3
comp=Z,75nm,21.7s,baz=93,slow=36
CFR Carcaliu 79.80 317⇑ *iP* **P 18 49 06.8 -0.2**
KIS Kishinev 79.86 319 *eP* **P 18 49 06.0 -1.3**
comp=Z,110nm,1.5s
KIS LRM MLR 19 31 40.0
comp=Z,300nm,20.0s
KIS Kishinev 79.86 319 *eP* **P 18 49 06.0 -1.3**
KIS pmax pmax
comp=Z,110nm,1.5s
KIS MLR MLR
comp=Z,300nm,20.0s
LEOM Leova 80.08 318⇓ *iP* **P 18 49 08.6 +0.1**
VNDA Vanda 80.34 169 *eP* **P 18 49 09.9 +0.5**
comp=Z,16nm,1.4s
VNDA Vanda 80.34 169 *eP* **P 18 49 09.9 +0.5**
VNDA pmax pmax
comp=Z,17nm,1.4s
VNDA Vanda 80.34 169 P **P 18 49 09.8 +0.5**
comp=Z,4.4nm,1.1s,baz=292,slow=5.6,SNR=12
VNDA LR LR 19 19 04.0
comp=Z,115nm,19.8s,baz=316,slow=31
AKASG Malin Array Be 80.72 323 P **P 18 49 11.3 -0.5**
comp=Z,8.9nm,0.7s,baz=83,slow=5.0,SNR=45
AKASG LR LR 19 30 40.0
comp=Z,28nm,18.4s,baz=65,slow=40
AKBB Malin Array Si 80.72 323 *eP* **P 18 49 10.7 -1.1**
comp=Z,18nm,1.0s
AKBB Malin Array Si 80.72 323 *eP* **P 18 49 10.7 -1.1**
AKBB pmax pmax
comp=Z,18nm,1.0s
KIEV Kiev 80.72 323 *eP* **P 18 49 10.7 -1.1**
comp=Z,16nm,1.0s
KIEV Kiev 80.72 323 *i* P **P 18 49 11.0 -0.9**
SNR=6.4
VRI Vrincioaia 80.93 317⇑ *iP* **P 18 49 14.1 +1.0**
SULR 80.95 316⇑ *iP* **P 18 49 10.0 -3.2**
PLOR Plostina 80.98 317⇓ *iP* **P 18 49 14.4 +1.0**
TESR Tescani 81.16 318⇑ *iP* **P 18 49 14.7 +0.4**
MLR Muntele Rosu 81.37 317 *eP* **P 18 49 15.5 -0.1**
comp=Z,45nm,1.0s
MLR Muntele Rosu 81.37 317⇑ *iP* **P 18 49 16.6 +1.0**
MLR Muntele Rosu 81.37 317 *eP* **P 18 49 15.5 -0.1**
MLR pmax pmax
comp=Z,45nm,1.0s
TMCR Tamitsa 81.54 337 *eP* **P 18 49 16.2 +0.3**
TMCR pmax pmax
comp=Z,39nm,0.7s
BIZ Bicaz 81.63 318⇓ *iP* **P 18 49 17.6 +0.8**
VOIR 81.97 317⇑ *iP* **P 18 49 18.6 -0.1**
ARR Arges 82.23 317⇓ *iP* **P 18 49 20.1 0.0**
BURAR Bucovina Array 82.39 319⇓ *iP* **P 18 49 22.3 +1.4**
ITM Ithomi 82.50 308 *eP* **P 18 49 20.6 -1.0**
comp=Z,62nm,1.5s
VTS Vitosha 82.60 314 *eP* **P 18 49 21.9 -0.3**
comp=Z,24nm,1.0s
VTS Vitosha 82.60 314⇓ *iP* **P 18 49 22.5 +0.3**
LIT Litokhoron 82.63 311 *eP* **P 18 49 21.5 -0.7**
comp=Z,42nm,0.7s
LIT Litokhoron 82.63 311 *eP* **P 18 49 21.5 -0.7**
LIT pmax pmax
comp=Z,42nm,0.7s
VAY Valandovo 82.82 312 *i* P **P 18 49 21.7 -1.4**
PUL Pulkovo 83.09 332 *eP* **P 18 49 24.3 +0.2**
STIP Stip 83.17 313 *i* P **P 18 49 23.5 -1.5**
CJR Cluj-Napoca 83.25 318⇑ *iP* **P 18 49 26.3 +1.0**
GZR Gura Zlata 83.51 316⇑ *iP* **P 18 49 27.2 +0.5**
IDID Didziasalis 83.52 327 *eP* **P 18 49 27.3 +0.9**
IDID IAmb IAmb 18 49 27.9
comp=Z,16nm,1.0s
HERR Herculane 83.66 316⇓ *iP* **P 18 49 27.6 +0.2**
LVV L'vov 83.68 321 *eP* **P 18 49 27.3 -0.1**
KRUS Krusevo 83.80 312 *i* P **P 18 49 27.2 -1.1**
IIGN Ignalina 83.81 327 *eP* **P 18 49 28.7 +0.8**
IIGN IAmb IAmb 18 49 29.4
comp=Z,26nm,1.1s
IZAR Zarasai 83.91 327 *eP* **P 18 49 28.9 +0.5**
IZAR IAmb IAmb 18 49 29.8
comp=Z,7.5nm,0.8s
ISAL Salakas 83.93 327 *eP* **P 18 49 29.2 +0.7**
ISAL IAmb IAmb 18 49 29.9
comp=Z,16nm,1.1s
MDVR Moldovita 84.13 316⇑ *iP* **P 18 49 30.3 +0.5**
TRPA Tarpa 84.26 319⇓ *iP* **P 18 49 30.8 +0.5**
TRPA Tarpa 84.26 319⇓ *eP* **P 18 49 30.1 -0.3**
BZS Buzias 84.36 316⇓ *iP* **P 18 49 31.6 +0.7**
VSU Vasula 84.43 330 *ceP* **P 18 49 31.8 +0.8**
VSU pmax pmax
comp=Z,187nm,2.5s
VSU Vasula 84.43 330 *eP* **P 18 49 30.6 -0.4**
VSU IAmb IAmb 18 49 32.3
comp=Z,76nm,0.8s
LVZ Lovozero 84.44 340 *eP* **P 18 49 30.7 -0.2**
comp=Z,15nm,0.7s
LVZ Lovozero 84.44 340 *ceP* **P 18 49 32.0 +1.1**
LVZ pmax pmax
comp=Z,15nm,1.7s
KWP Kalwaria Pacla 84.48 321 *eP* **P 18 49 32.2 +0.8**
KWP Kalwaria Pacla 84.48 321 *eP* **P 18 49 32.3 +0.8**
comp=Z,434nm,1.4s
KWP Kalwaria Pacla 84.48 321 *eP* **P 18 49 32.3 +0.8**
LTVH Ltavrtes, Hu 84.52 318⇓ *eP* **P 18 49 32.1 +0.3**
UZH Uzhgorod 84.53 319 *eP* **P 18 49 35.9 +4.2**
UZH *e* 18 49 42.9
KOLS Kolonicke sedl 84.60 320 *eP* **P 18 49 33.7 +1.6**
KOLS pmax pmax
comp=Z,40nm,1.0s
KOLS Kolonicke sedl 84.60 320 *eP* **P 18 49 33.7 +1.6**
PABE Paberze 85.10 326 *eP* **P 18 49 34.1 -0.3**
PABE IAmb IAmb 18 49 35.4
comp=Z,56nm,1.1s
BILL Bilibino 85.18 20 *eP* **P 18 49 34.5 -0.1**
comp=Z,15nm,1.3s
BILL Bilibino 85.18 20 *dP* **P 18 49 33.9 -0.7**
BILL *e* 18 52 48.9
BILL *eS* **S 18 59 55.8 -6.1**
BILL pmax pmax
comp=Z,18nm,2.5s
SUW Suwalki 85.18 325 *eP* **P 18 49 35.1 +0.3**
SUW Suwalki 85.18 325 *eP* **P 18 49 34.3 -0.6**
comp=Z,94nm,1.0s
SUW Suwalki 85.18 325 *eP* **P 18 49 34.3 -0.6**
SUW pmax pmax
comp=Z,94nm,1.0s
PDG Podgorica 85.45 313⇓ *iP* **P 18 49 34.5 -2.0**
FIA1 FINESS Array S 85.60 332 *eP* **P 18 49 36.9 +0.1**
comp=Z,76nm,1.4s
FINES FINESS Array B 85.61 332 P **P 18 49 36.7 -0.1**
comp=Z,11nm,0.6s,baz=112,slow=5.2,SNR=43
FINES LR LR 19 31 39.2
comp=Z,74nm,20.5s,baz=102,slow=38
KECS Kecovo 85.67 319 *eP* **P 18 49 38.6 +1.1**
KECS pmax pmax
comp=Z,28nm,0.8s
KECS Kecovo 85.67 319 *eP* **P 18 49 38.6 +1.1**
PSZ Piszkesteto 85.96 318 *eP* **P 18 49 39.6 +0.6**
comp=Z,16nm,1.0s
PSZ Piszkesteto 85.96 318 *eP* **P 18 49 39.6 +0.6**
PSZ pmax pmax
comp=Z,16nm,1.0s
PSZ Piszkesteto 85.96 318⇓ *eP* **P 18 49 39.0 0.0**
BEL Belsk 86.13 322 *eP* **P 18 49 40.7 +1.1**
BEL Belsk 86.13 322 *eP* **P 18 49 40.7 +1.1**
PBUR Paburg 86.34 327 *eP* **P 18 49 40.4 -0.1**
PBUR IAmb IAmb 18 49 41.7
comp=Z,110nm,1.2s
OJC Ojcow 86.44 321 *eP* **P 18 49 42.0 +0.8**
OJC Ojcow 86.44 321 *eP* **P 18 49 40.8 -0.4**
comp=Z,14nm,1.1s
OJC Ojcow 86.44 321 *eP* **P 18 49 40.8 -0.4**
OJC pmax pmax
comp=Z,14nm,1.1s
LANS Liptovska Anna 86.46 320 *eP* **P 18 49 42.4 +1.0**
LANS Liptovska Anna 86.46 320 *eP* **P 18 49 42.4 +1.0**
SLIT Slitere, Latvi 86.50 328 *eP* **P 18 49 40.1 -1.2**
SLIT IAmb IAmb 18 49 41.9
comp=Z,142nm,1.0s
VYHS Vyhne 86.75 319 *eP* **P 18 49 43.3 +0.4**
VYHS pmax pmax
comp=Z,11nm,1.4s
VYHS Vyhne 86.75 319 *eP* **P 18 49 43.2 +0.4**
CSKK Cskako 86.95 318 *eP* **P 18 49 44.0 +0.2**
BLY Banja Luka 87.30 315 *eP* **P 18 49 46.1 +0.6**
comp=Z,25nm,1.0s
BLY Banja Luka 87.30 315⇑ *iP* **P 18 49 44.9 -0.6**
OKC Ostrava-Krasne 87.42 320 *eP* **P 18 49 46.9 +0.9**
OKC Ostrava-Krasne 87.42 320 *eP* **P 18 49 46.9 +0.9**
JAVC Velka Javorina 87.58 319 *eP* **P 18 49 48.4 +1.5**
KEV Kevo 87.70 341 *eP* **P 18 49 47.6 +0.8**
comp=Z,17nm,1.0s
KEV Kevo 87.70 341 *eP* **P 18 49 47.7 +0.8**
KEV pmax pmax
comp=Z,17nm,1.0s
MODS Modra-Piesok 87.76 319 *eP* **P 18 49 47.6 -0.1**
MODS pmax pmax
comp=Z,40nm,1.4s
MODS Modra-Piesok 87.76 319 *eP* **P 18 49 47.6 -0.1**
MORC Moravsky Berou 87.80 320 *eP* **P 18 49 48.4 +0.5**
comp=Z,20nm,1.2s
MORC Moravsky Berou 87.80 320⇓ *iP* **P 18 49 49.0 +1.1**
MORC Moravsky Berou 87.80 320 *eP* **P 18 49 48.4 +0.5**
MORC pmax pmax
comp=Z,20nm,1.2s
MORC Moravsky Berou 87.80 320 *eP* **P 18 49 48.7 +0.8**
BEHE Becsehely 87.83 317⇓ *eP* **P 18 49 48.0 0.0**
ZST Bratislava 87.85 318 *eP* **P 18 49 48.2 +0.1**
ZST Bratislava 87.85 318 *eP* **P 18 49 48.2 +0.1**
ARCES ARCESS Array B 88.14 340 P **P 18 49 49.8 +0.8**
comp=Z,9.9nm,0.8s,baz=104,slow=4.4,SNR=34
ARCES LR LR 19 33 03.7
comp=Z,131nm,20.1s,baz=94,slow=38
KRLC Kraliky 88.33 320 *eP* **P 18 49 51.6 +1.2**
KRLC Kraliky 88.33 320 *eP* **P 18 49 51.6 +1.2**
VRAC Vranov 88.34 319 *eP* **P 18 49 51.0 +0.6**
VRAC Vranov 88.34 319 LR LR 19 31 18.4
comp=Z,31nm,20.3s,baz=96,slow=37
KRUC Moravsky 88.44 319 *eP* **P 18 49 51.5 +0.6**
GKP Gorka Klasztor 88.51 323 *eP* **P 18 49 52.0 +0.9**
GKP Gorka Klasztor 88.51 323 *eP* **P 18 49 52.0 +0.9**
CONA Conrad Observa 88.64 318 *i* PcP **P 18 49 52.6 +0.6**
comp=Z,9.5nm,1.5s
DPC Dobruska-Polom 88.66 320 *eP* **P 18 49 53.0 +1.1**
DPC MLR MLR
comp=Z,100nm,19.9s
DPC Dobruska-Polom 88.66 320 *eP* **P 18 49 53.0 +1.1**
DPC AMS AMS 19 35 30.0
comp=Z,100nm,19.9s
KSP Ksiaz 88.74 321 *eP* **P 18 49 53.3 +1.0**
KSP Ksiaz 88.74 321 *eP* **P 18 49 53.3 +1.0**
BOJS Bojanci 88.75 316 *i* P **P 18 49 53.2 +0.7**
ARSA Arzberg 88.78 317 *i* PcP **P 18 49 53.8 +1.2**
comp=Z,23nm,1.1s,SNR=13
UPC Upice 88.88 321 *eP* **P 18 49 53.0 +0.1**
UPC Upice 88.88 321 *eP* **P 18 49 53.0 +0.1**
PERS Pernice 88.98 317 *i* P **P 18 49 54.2 +0.6**
SOKA Soboth 89.05 317 *i* PcP **P 18 49 55.1 +1.2**
comp=Z,31nm,1.0s,SNR=12
VISS Visnje 89.08 316 *i* P **P 18 49 54.3 +0.3**
OBKA Obir 89.36 317 *i* PcP **P 18 49 56.6 +1.2**
comp=Z,16nm,1.1s
GOPC GO Pecny, Ondr 89.58 320 *eP* **P 18 49 57.2 +0.9**
GOPC GO Pecny, Ondr 89.58 320 *eP* **P 18 49 57.2 +0.9**
JAVS Javornik 89.62 316 *eP* **P 18 49 57.0 +0.3**
MOA Molln 89.70 318 *i* PcP **P 18 49 57.3 +0.5**
comp=Z,16nm,1.6s,SNR=6.3
AQU L'Aquila 89.74 312 *eP* **P 18 49 58.0 +0.8**
comp=Z,36nm,0.9s
AQU L'Aquila 89.74 312 *eP* **P 18 49 58.0 +0.8**
AQU pmax pmax
comp=Z,36nm,0.9s
PRU Pruhonice 89.75 320 *eP* **P 18 49 58.1 +1.1**
PRU Pruhonice 89.75 320 *eP* **P 18 49 58.1 +1.1**
PVCC Panska Ves 89.79 321 *eP* **P 18 49 58.8 +1.6**
PVCC Panska Ves 89.79 321 *eP* **P 18 49 58.8 +1.6**
MYKA Terra Mystica 89.99 317 *i* PcP **P 18 49 59.1 +0.8**
comp=Z,26nm,1.6s,SNR=6.3
SNAA Sanae 90.11 198 P P 18 50 08.0 +10
SNAA Sanae 90.11 198 *eP* **P 18 49 59.2 +0.8**
comp=Z,21nm,1.6s
GEC2 GERESS Array S 90.17 319 *eP* **P 18 49 59.2 +0.1**
comp=Z,44nm,1.3s
GEC2 GERESS Array S 90.17 319 *eP* **P 18 49 59.2 +0.1**
GEC2 pmax pmax
comp=Z,44nm,1.3s
GERES GERESS Array B 90.17 319 P **P 18 49 59.2 +0.1**
comp=Z,8.6nm,0.9s,baz=104,slow=4.3,SNR=56
BRG Berggiesshubel 90.23 321 *eP* **P 18 50 00.2 +1.0**
comp=Z,31nm,1.4s
BRG *e* 18 50 21.6
comp=Z,12nm,1.4s
BRG Berggiesshubel 90.23 321 *eP* **P 18 50 00.2 +1.0**
BRG pmax pmax
comp=Z,3.0nm,1.4s
BRG pmax pmax
comp=Z,31nm,1.4s
KBA Koelnbreinsper 90.24 317 *i* PcP **P 18 50 00.3 +0.7**
comp=Z,9.3nm,1.0s
KHC Kasperske Hory 90.28 319 *eP* **P 18 50 00.1 +0.5**
comp=Z,7.6nm,1.5s
KHC Kasperske Hory 90.28 319 *eP* **P 18 50 00.3 +0.7**
KHC Kasperske Hory 90.28 319 *eP* **P 18 50 00.3 +0.7**
RUE Ruedersdorf 90.49 322 *eP* **P 18 50 00.4 +0.1**
ABTA Abfaltersbach 90.78 317 *i* PcP **P 18 50 02.2 +0.2**
comp=Z,10nm,0.9s
CLL Collm 90.86 321 *eP* **P 18 50 02.4 +0.3**
comp=Z,15nm,1.1s
CLL Collm 90.86 321⇓ *iP* **P 18 50 02.0 -0.1**
CLL *i* 18 50 07.5
CLL pmax pmax
comp=Z,2.0nm,1.1s
CLL Collm 90.86 321⇓ *iP* **P 18 50 02.0 -0.1**
comp=Z,17nm,1.1s
CLL *i* 18 50 07.5
CLL *ePS* **PnS 19 02 12.0 +3.1**
CLL LmV 19 36 00.0
comp=Z,100nm,21.6s
NKC Novy Kostel 91.12 320 *eP* **P 18 50 04.5 +1.1**
NKC Novy Kostel 91.12 320 *eP* **P 18 50 04.5 +1.1**
HFS Hagfors 91.31 330 LR LR 19 34 31.0
comp=Z,96nm,21.1s,baz=82,slow=38
WTTA Wattenberg 91.42 317 *i* PcP **P 18 50 05.4 +0.3**
comp=Z,16nm,1.1s
WATA Walderalm 91.46 317 *i* PcP **P 18 50 05.3 0.0**
comp=Z,9.9nm,1.0s,SNR=5.8
SQTA Sankt Quirin 91.70 317 *i* P **P 18 50 06.2 -0.1**
comp=Z,9.8nm,0.9s
VNA2 Neumayer--Watz 91.73 198 P **P 18 50 06.9 +1.1**
baz=84,slow=3.5
MOTA Moosalm 91.78 317 *i* PcP **P 18 50 06.9 +0.1**
comp=Z,16nm,1.1s,SNR=6.6
GRA1 Grafenberg Arr 91.86 319 *eP* **P 18 50 07.9 +1.0**
comp=Z,29nm,1.2s
GRFO Grafenberg 91.86 319 *eP* **P 18 50 07.8 +0.9**
comp=Z,26nm,1.2s
GRFO Grafenberg 91.86 319 *eP* **P 18 50 07.8 +0.9**
GRFO pmax pmax
comp=Z,27nm,1.2s
FETA Feichten 92.02 317 *i* PcP **P 18 50 08.4 +0.6**
comp=Z,15nm,1.3s,SNR=5.6
RETA Reutte 92.02 317 *i* PcP **P 18 50 08.4 +0.6**
comp=Z,19nm,1.3s
FUORN Ofenpass-Fuorn 92.31 316 *eP* **P 18 50 10.1 +0.8**
comp=Z,23nm,1.2s
NC405 NORSAR Array S 92.36 331 *eP* **P 18 50 09.2 +0.3**
comp=Z,17nm,1.0s
KEST Kesra 92.39 305 *eP* **P 18 50 11.3 +1.6**
comp=Z,26nm,0.9s
KEST Kesra 92.39 305 P **P 18 50 11.1 +1.4**
comp=Z,22nm,0.8s,baz=236,slow=1.1,SNR=16
KEST LR LR 19 35 43.7
comp=Z,34nm,18.2s,baz=286,slow=38
NC602 NORSAR Array S 92.42 331 *eP* **P 18 50 08.7 -0.4**
comp=Z,16nm,0.9s
SPITS Spitsbergen Ar 92.44 348 LR LR 19 38 22.0
comp=Z,112nm,20.0s,baz=55,slow=40
NB2 NORSAR Subarra 92.60 331 P **P 18 50 09.5 -0.5**
comp=Z,12nm,1.1s,baz=93,slow=4.8
NB2 NORSAR Subarra 92.60 331 P **P 18 50 09.5 -0.5**
baz=93,slow=4.8
NOA NORSAR Array B 92.60 331 P **P 18 50 10.1 +0.1**
comp=Z,4.8nm,0.9s,baz=94,slow=4.6,SNR=15
NOA LR LR 19 34 22.6
comp=Z,50nm,20.5s,baz=60,slow=37
DAVA Damuels 92.61 317 *i* PcP **P 18 50 11.5 +0.9**
comp=Z,17nm,1.1s,SNR=5.1
NAO01 NORSAR Array S 92.75 331 *eP* **P 18 50 10.9 +0.2**
comp=Z,18nm,1.1s
NBO00 NORSAR Array S 92.81 331 *eP* **P 18 50 11.5 +0.5**
comp=Z,18nm,1.0s
NC204 NORSAR Array S 92.83 331 *eP* **P 18 50 11.3 +0.2**
comp=Z,17nm,0.9s
KONO Kongsberg 93.33 329 *eP* **P 18 50 13.7 +0.3**
comp=Z,13nm,1.0s
KONO Kongsberg 93.33 329 *ceP* **P 18 50 14.2 +0.8**
KONO pmax pmax
comp=Z,24nm,1.7s
TORD Torodi Ar. Bea 98.45 283 P Pdif 18 50 38.0 +0.3
comp=Z,2.1nm,1.1s,baz=116,slow=5.8,SNR=6.6
TORD LR LR 19 33 26.7
comp=Z,98nm,19.1s,baz=35,slow=34
JMIC Jan Mayen 99.55 342 LR LR 19 41 42.9
comp=Z,55nm,18.9s,baz=70,slow=39
CAST Castle Rocks 101.74 26 *e*Pdif **Pdif 18 50 51.8 +0.5**
ILAR Eielson Array 103.51 24 PKKPbc PKKPbc 19 06 52.5 -2.4
comp=Z,0.7nm,0.9s,baz=155,slow=3.0,SNR=5.1
TBI Tubuai 107.61 116 *e*LR LR 19 26 55.0
comp=Z,225nm,34.8s
PPT2 Papeete2 108.64 110 *e*LR LR 19 27 24.3
comp=Z,85nm,23.5s
YKA Yellowknife Ar 116.40 17 PKP **PKiKP 18 55 41.2 -0.7**
comp=Z,0.9nm,0.8s,baz=334,slow=1.8,SNR=11
YKA PKKPbc **PKKPbc 19 06 09.7 -3.2**
comp=Z,0.3nm,0.8s,baz=142,slow=3.5,SNR=4.2
D04E Lakebay 123.65 33 P **PKPdf 18 55 55.8 -0.6**
baz=306
H04D Lebanon 125.22 36 P **PKPdf 18 55 59.1 -0.4**
baz=305
K02D Willamette Mer 125.68 38 P **PKPdf 18 56 00.1 -0.4**
baz=303
I04A Tendick Farm, 125.83 37 P **PKPdf 18 56 00.0 -0.7**
baz=305
NEW Newport 125.91 29 P **PKPdf 18 56 00.8 +0.1**
baz=313
L02E Cave Junction 126.01 39 P **PKPdf 18 56 01.0 -0.1**
baz=303
HUMO Hull Mountain 126.17 38 *e*PKPdf **PKiKP 18 56 02.3 +0.5**
J04D Umpqua Nationa 126.33 37 P **PKPdf 18 56 01.7 -0.2**
baz=305
FFC Flin Flon 126.49 15 *e*PKPdf **PKPdf 18 56 01.0 -0.5**
FFC Flin Flon 126.49 15 *e*PKIKP **PKPdf 18 56 01.0 -0.5**
L04D Klamath Falls 126.78 38 P **PKPdf 18 56 02.4 -0.3**
baz=304
J05D Fort Rock, OR 126.82 37 P **PKPdf 18 56 02.5 -0.2**
baz=306
M02C Callahan 126.89 39 P **PKPdf 18 56 02.6 -0.3**
baz=303
M04C Macdoel 127.31 38 P **PKPdf 18 56 03.1 -0.6**
baz=304
K05A Summer Lake 127.35 37 *e*PKPdf **PKPdf 18 56 04.1 +0.2**
F10A Beach Ranch, E 127.39 32 *e*PKPdf **PKPdf 18 56 02.4 -1.3**
O02D Mt. Diablo Mer 127.59 41 P **PKPdf 18 56 03.8 -0.4**
baz=302
O03E Paynes Creek 128.16 40 P **PKPdf 18 56 05.2 -0.1**
baz=303
MOD Modoc Plateau 128.19 37 *e*PKPdf **PKPdf 18 56 04.9 -0.5**
J08A Circle Bar Ran 128.38 35 *e*PKPdf **PKPdf 18 56 04.2 -1.5**
MSO Missoula 128.45 29 P **PKPdf 18 56 05.8 +0.1**
baz=316
PLID Pearl Lake 128.62 32 *e*PKPdf **PKPdf 18 56 04.6 -1.7**
EGMT Eagleton 129.46 25 P **PKPdf 18 56 07.7 +0.2**
baz=321
DLMT Dillon 130.16 29 *e*PKPdf **PKPdf 18 56 07.9 -1.2**
MCMT McKenzie Canyo 130.41 30 *e*PKPdf **PKPdf 18 56 09.3 -0.4**
BOZ Bozeman (W) 130.45 28 *e*PKPdf **PKPdf 18 56 09.0 -0.6**
BOZ Bozeman (W) 130.45 28 *e*PKIKP **PKPdf 18 56 09.0 -0.6**
BOZ Bozeman (W) 130.45 28 P **PKPdf 18 56 10.0 +0.4**
baz=318,SNR=6.2
NVAR Mina Array Bea 131.45 40 PKP **PKiKP 18 56 13.6 +0.8**
comp=Z,1.5nm,0.8s,baz=281,slow=1.7,SNR=6.4
ELK Elko 131.90 36 *e*PKPdf **PKPdf 18 56 11.8 -0.8**
ELK Elko 131.90 36 *e*PKIKP **PKPdf 18 56 11.8 -0.8**
REDW Red Top Meadow 132.47 30 *e*PKPdf **PKPdf 18 56 13.2 -0.4**
HVU Hansel Valley 132.59 33 *e*PKPdf **PKPdf 18 56 13.3 -0.5**
HVU Hansel Valley 132.59 33 *e*PKIKP **PKPdf 18 56 13.3 -0.5**
BGU Big Grassy Mou 133.04 34 *e*PKPdf **PKPdf 18 56 14.9 +0.3**
R11A Troy Canyon, C 133.21 38 *e*PKPdf **PKPdf 18 56 14.0 -1.1**
PDAR Pinedale Array 133.55 30 PKP **PKPdf 18 56 15.7 0.0**
comp=Z,0.6nm,0.6s,baz=272,slow=0.7,SNR=6.1
TPNV Topopah Spring 133.64 40 P **PKPdf 18 56 16.6 +0.7**
baz=306
HEC Hector,Ludlow 134.81 43 P **PKPdf 18 56 18.0 0.0**
baz=305
RSSD Black Hills 134.96 24 *e*PKPdf **PKPdf 18 56 18.1 -0.2**
RSSD Black Hills 134.96 24 *e*PKIKP **PKPdf 18 56 18.1 -0.2**
MSU Marysvale 135.15 36 *e*PKPdf **PKPdf 18 56 19.5 +0.7**
MSU Marysvale 135.15 36 *e*PKIKP **PKPdf 18 56 19.5 +0.7**
GMRC Granite Mounta 135.29 42 P **PKPdf 18 56 19.7 +0.6**
baz=305
PV22 Blue Mesa, Par 137.04 33 *e*PKPdf **PKPdf 18 56 20.5 -1.7**
PV03 Paradox Valley 137.21 33 *e*PKPdf **PKPdf 18 56 23.1 +0.4**
F39A Loretta 137.25 11 P **PKiKP 18 56 23.2 -0.8**
baz=345
PV13 Radium Mtn., P 137.30 33 *e*PKPdf **PKPdf 18 56 20.9 -1.9**
F40A Park Falls 137.39 10 P **PKPdf 18 56 22.3 -0.2**
baz=346
PV01 Paradox Valley 137.45 33 *e*PKPdf **PKPdf 18 56 20.7 -2.4**
E48A Lockeyer 137.63 2 P **PKPdf 18 56 23.0 +0.1**
baz=358
ISCO Idaho Springs 137.73 29 P **PKPdf 18 56 23.4 -0.2**
baz=321
F43A Flat Rock, Esc 137.91 7 P **PKPdf 18 56 23.7 +0.3**
baz=350
ECSD EROS Data Cent 137.93 17 *e*PKPdf **PKPdf 18 56 23.5 0.0**
ECSD EROS Data Cent 137.93 17 P **PKPdf 18 56 23.8 +0.3**
baz=336
G40A Rib Lake 138.01 10 P **PKPdf 18 56 23.8 +0.2**
baz=346
F51A Arnstein 138.21 359 P **PKPdf 18 56 24.2 +0.3**
baz=0.9
X16A Lo Mia Camp, P 138.28 40 *e*PKPdf **PKPdf 18 56 23.0 -1.6**
PEMO Pembroke 138.36 357 P **PKPdf 18 56 25.0 +0.8**
baz=4.9
H40A Chili 138.60 11 P **PKPdf 18 56 25.0 +0.3**
baz=345
BUKO Buck Lake 138.69 359 P **PKPdf 18 56 25.7 +0.9**
baz=1.7
G53A Haliburton 138.98 358 P **PKPdf 18 56 25.8 +0.4**
baz=2.9
BANO Bancroft 139.06 357 P **PKPdf 18 56 25.6 +0.1**
baz=3.9
H56A Elgin 139.37 355 P **PKPdf 18 56 26.7 +0.6**
baz=6.5
319A Douglas 141.61 41 *e*PKPdf **PKPdf 18 56 28.8 -1.9**
BDFB Brasilia 142.38 238 PKP **PKPdf 18 56 31.6 -0.8**
comp=Z,4.2nm,0.7s,baz=53,slow=5.7,SNR=5.8
MNTX Cornudas Mount 143.87 37 *e*PKPdf PKPbc 18 56 32.9 +0.7
P48A Milroy 144.40 7 P **PKPab 18 56 32.7 -0.6**
baz=352
P49A Miami Univ. Ec 144.40 6 P **PKPab 18 56 32.9 -0.4**
baz=353
P50A Jamestown 144.41 4 P **PKPab 18 56 33.3 -0.1**
baz=354
MCWV Mont Chateau 144.47 359 P **PKPab 18 56 33.5 -0.1**
baz=1.1
P52A Corning 144.47 2 P **PKPab 18 56 33.5 -0.1**
baz=357
P54A Burton 144.53 360 P **PKPab 18 56 33.4 -0.4**
Q45A Warren Harvey, 144.56 10 P **PKPab 18 56 33.5 -0.4**
baz=347
P51A Williamsport 144.58 3 *e*PKPdf **PKPab 18 56 33.2 -0.8**
P55A Reedsville 144.62 359 P **PKPab 18 56 33.7 -0.5**
baz=1.2
P53A Whipple 144.64 1 *e*PKPdf **PKPab 18 56 33.8 -0.4**
P53A Whipple 144.64 1 P **PKPab 18 56 33.6 -0.6**
baz=358
CCM Cathedral Cave 144.69 15 *e*PKPdf **PKPab 18 56 33.3 -1.1**
CCM Cathedral Cave 144.69 15 *e*PKIKP **PKPab 18 56 33.3 -1.1**
CCM Cathedral Cave 144.69 15 P **PKPab 18 56 33.7 -0.8**
baz=341
OLIL Olney 144.72 10 *e*PKPdf **PKPab 18 56 34.0 -0.5**
Q47A Bedord North L 144.79 8 P **PKPab 18 56 34.2 -0.5**
baz=350,SNR=9.1
GO04 Tololo Observa 144.79 195 *e*PKPdf **PKPdf 18 56 36.3 -0.2**
Q48A North Vernon 144.89 7 P **PKPab 18 56 34.5 -0.6**
baz=351,SNR=8.0
Q49A Aurora 144.91 6 P **PKPab 18 56 34.4 -0.8**
baz=352
FVM French Village 144.96 14 *e*PKPdf **PKPab 18 56 34.7 -0.7**
FVM French Village 144.96 14 *e*PKIKP **PKPab 18 56 34.7 -0.7**
Q51A Peebles 145.02 4 *e*PKPbc **PKPbc 18 56 34.8 -0.8**
Q51A Peebles 145.02 4 P **PKPab 18 56 34.7 -0.9**

baz=355,SNR=16
WMOK Wichita Mounta 145.02 27 *e*PKPbc PKPbc 18 56 35.3 -0.5
WMOK Wichita Mounta 145.02 27 *e*PKIKP PKPbc 18 56 35.3 -0.5
WMOK Wichita Mounta 145.02 27 P PKPab 18 56 34.9 -0.9
baz=327
Q57A Strasburg 145.05 357 P PKPbc 18 56 35.1 -0.6
baz=3.6,SNR=22
Q59A Harwood 145.09 355 P PKPbc 18 56 35.3 -0.6
baz=6.7
R45A Skylar, Fairfi 145.12 11 P PKPbc 18 56 35.1 -0.9
baz=346,SNR=6.9
Q52A Bidwell 145.14 2 P PKPbc 18 56 35.0 -1.0
baz=357,SNR=8.3
Q55A Buckhannon 145.14 359 P PKPbc 18 56 35.4 -0.7
baz=0.7,SNR=18
Q54A Coxs Mills 145.15 0 *e*PKPbc PKPbc 18 56 35.7 -0.3
Q54A Coxs Mills 145.15 0 P PKPbc 18 56 35.0 -1.0
baz=359,SNR=13
TUL1 Leonard 145.24 22 *e*PKPbc PKPbc 18 56 35.5 -1.0
TUL1 Leonard 145.24 22 P PKPbc 18 56 36.0 -0.4
baz=333,SNR=7.1
Q53A Leroy 145.26 1 P PKPbc 18 56 35.8 -0.6
baz=358,SNR=13
R46A Gibon Southern 145.33 10 P PKPbc 18 56 35.7 -1.0
baz=348,SNR=6.5
R48A Northridge Ran 145.39 7 P PKPbc 18 56 36.1 -0.7
baz=351,SNR=9.4
R47A Wooly Knot Far 145.40 8 P PKPbc 18 56 36.2 -0.6
baz=349,SNR=21
SIUC Southern Illin 145.49 12 *e*PKPdf PKPbc 18 56 36.9 -0.3
WCI Wyandotte Cave 145.50 8 *e*PKPdf PKPbc 18 56 36.5 -0.7
WCI Wyandotte Cave 145.50 8 *e*PKIKP PKPbc 18 56 36.5 -0.7
WCI Wyandotte Cave 145.50 8 P PKPbc 18 56 36.7 -0.5
baz=350
S44A Carbondale 145.50 12 P PKPbc 18 56 36.5 -0.7
baz=344,SNR=11
SLBS Sierra La Lagu 145.51 53 *e*PKPdf PKPdf 18 56 36.8 -0.9
HHAR Hobbs 145.56 19 *e*PKPdf PKPdf 18 56 36.6 -0.7
R49A Shelbyville 145.58 6 P PKPdf 18 56 36.5 -0.8
baz=352,SNR=17
R60A Leonardtown, M 145.68 354 P PKPdf 18 56 36.9 -0.5
baz=6.9
R50A Paris 145.68 5 P PKPdf 18 56 36.6 -0.9
baz=353,SNR=17
R51A Hillsboro 145.72 4 P PKPdf 18 56 36.7 -0.9
baz=355,SNR=7.8
R52A Catlettsburg 145.74 3 P PKPdf 18 56 36.9 -0.7
baz=356,SNR=7.0
R58A Rapidan 145.76 356 P PKPdf 18 56 37.2 -0.4
baz=4.4,SNR=12
R53A Hurricane 145.78 2 P PKPdf 18 56 37.4 -0.3
baz=357,SNR=9.6
R57A Stanardsville 145.79 357 P PKPbc 18 56 37.9 -0.2
baz=3.5,SNR=16
R59A King George, V 145.79 355 P PKPdf 18 56 37.7 +0.1
baz=6.0
CBN Corbin Frederi 145.81 356 P PKPbc 18 56 38.0 -0.1
baz=5.5
S46A Don Dixon Farm 145.81 10 P PKPdf 18 56 37.5 -0.2
baz=347
U40A Yellville 145.83 18 P PKPdf 18 56 37.7 -0.1
baz=338
R54A Victor 145.95 1 P PKPdf 18 56 37.5 -0.4
baz=359,SNR=6.1
S47A Hartford 146.04 9 P PKPdf 18 56 37.8 -0.2
baz=349
S49A Springfield 146.07 7 P PKPdf 18 56 37.6 -0.5
baz=352
R58B Mineral 146.08 356 *e*PKPdf PKPdf 18 56 37.2 -0.9
R58B Mineral 146.08 356 P PKPdf 18 56 38.3 +0.2
baz=4.7,SNR=8.4
S48A Wiedeman Farm, 146.10 8 P PKPdf 18 56 38.4 +0.2
baz=350,SNR=23
S60A Water View 146.24 354 P PKPdf 18 56 38.9 +0.5
baz=7.4
S59A Mechanicsville 146.24 355 P PKPbc 18 56 39.1 -0.4
baz=6.0
S50A Richmond 146.27 6 P PKPdf 18 56 38.5 0.0
baz=353,SNR=10
T45A Paducah 146.28 12 P PKPdf 18 56 38.8 +0.3
baz=345
S54A Dingess, Beckl 146.33 1 P PKPdf 18 56 39.1 +0.5
baz=359
S57A Dark Hollow, R 146.34 358 *e*PKPdf PKPdf 18 56 37.8 -0.8
S57A Dark Hollow, R 146.34 358 P PKPbc 18 56 39.2 -0.5
baz=2.8,SNR=6.8
ABTX Abilene, Hawle 146.35 30 *e*PKPdf PKPdf 18 56 37.9 -0.9
ABTX Abilene, Hawle 146.35 30 P PKPdf 18 56 39.4 +0.6
baz=324
S55A Lewisburg 146.36 360 P PKPdf 18 56 39.1 +0.4
S52A Salyersville 146.37 4 P PKPdf 18 56 39.2 +0.5
baz=355
S51A Beattyville 146.38 4 *e*PKPdf PKPdf 18 56 38.5 -0.2
S51A Beattyville 146.38 4 P PKPdf 18 56 39.1 +0.4
baz=354,SNR=16
T46A Princeton 146.40 11 P PKPbc 18 56 39.4 -0.6
baz=347,SNR=11
S53A Williamson 146.42 2 P PKPdf 18 56 39.2 +0.4
baz=357
S58A Poland Farm, P 146.44 356 *e*PKPdf PKPdf 18 56 38.8 0.0
S58A Poland Farm, P 146.44 356 P PKPdf 18 56 39.1 +0.3
baz=4.4,SNR=5.4
S56A Natural Bridge 146.44 359 P PKPdf 18 56 39.3 +0.5
baz=1.7
X37A Clayton 146.56 23 *e*PKPdf PKPdf 18 56 38.6 -0.5
TX31 Lajitas Ar. Si 146.57 39 *e*PKPdf PKPdf 18 56 39.8 +0.4
TXAR Lajitas Array 146.57 39 PKPbc PKPbc 18 56 40.5 -0.4
comp=Z,12nm,0.7s,baz=264,slow=0.4,SNR=92
T48A Bowling Green 146.59 9 P PKPdf 18 56 39.6 +0.6
baz=349,SNR=20
T47A Sharon Grove 146.59 10 *e*PKPdf PKPdf 18 56 39.3 +0.2
T47A Sharon Grove 146.59 10 P PKPdf 18 56 39.7 +0.6
baz=348,SNR=6.0
W39A Magazine 146.60 20 *e*PKPdf PKPdf 18 56 39.5 +0.4
W39A Magazine 146.60 20 P PKPdf 18 56 39.8 +0.7
baz=336,SNR=9.8
T49A Edmonton 146.71 7 *e*PKPdf PKPdf 18 56 39.1 -0.2
T49A Edmonton 146.71 7 P PKPdf 18 56 39.7 +0.5
baz=351,SNR=7.4
T60A Surry 146.81 354 P PKPbc 18 56 40.3 -0.8
baz=6.8
T50A Nancy 146.88 6 P PKPdf 18 56 40.1 +0.6
baz=352,SNR=9.3
T52A Hallie 146.95 4 P PKPbc 18 56 40.8 -0.8
baz=356,SNR=6.7
WHAR Wooly Hollow 146.99 18 *e*PKPdf PKPdf 18 56 40.0 +0.2
U46A Springville 147.01 11 P PKPbc 18 56 41.3 -0.5
baz=346
T55A Pulaski 147.01 0 P PKPbc 18 56 41.0 -0.9
baz=360,SNR=8.0
T51A Gray 147.02 5 P PKPbc 18 56 40.8 -1.0
baz=354,SNR=12
T59A Double "B" Far 147.05 356 P PKPbc 18 56 41.4 -0.5
baz=5.4,SNR=8.3
T54A Tazewell 147.06 2 P PKPbc 18 56 41.2 -0.8
baz=358,SNR=8.7
GO03 Coplap 147.08 197 *e*PKPdf PKPdf 18 56 37.5 -2.8
U47A Clarksville 147.10 10 P PKPbc 18 56 41.4 -0.6
baz=348,SNR=12
T53A Wise 147.10 3 P PKPbc 18 56 41.5 -0.6
baz=356
T56A Rocky Mt 147.10 359 P PKPbc 18 56 41.1 -0.9
baz=0.9,SNR=7.1
W41B Gary Mavity, V 147.11 18 *e*PKPdf PKPdf 18 56 39.1 -0.8
W41B Gary Mavity, V 147.11 18 P PKPbc 18 56 41.3 -0.8
baz=338,SNR=6.1
T57A Hurt 147.11 358 P PKPbc 18 56 41.4 -0.6
baz=2.3,SNR=9.5
T58A Grand View Acr 147.14 357 P PKPbc 18 56 42.0 -0.1
baz=3.6,SNR=6.8
U48A Cassie Pea, Po 147.15 9 P PKPbc 18 56 41.3 -0.8
baz=349,SNR=13
MIAR Mount Ida 147.26 20 *e*PKPdf PKPbc 18 56 41.5 -1.0
MIAR Mount Ida 147.26 20 P PKPbc 18 56 42.3 -0.2
baz=336,SNR=24
U49A Red Boiling Sp 147.26 8 P PKPdf 18 56 41.3 +1.1
baz=350,SNR=9.8
WVT Waverly 147.30 11 *e*PKPbc PKPbc 18 56 41.9 -0.7
WVT Waverly 147.30 11 P PKPbc 18 56 42.1 -0.5
baz=346
UALR University of 147.45 18 *e*PKPdf PKPdf 18 56 40.0 -0.5
TZTN Tazewell 147.47 5 *e*PKPdf PKPdf 18 56 41.0 +0.5
TZTN Tazewell 147.47 5 P PKPbc 18 56 42.1 -1.0
baz=354,SNR=8.9
U50A Jamestown 147.47 6 P PKPbc 18 56 42.2 -0.9
baz=352,SNR=20
U60A Pendleton 147.51 355 P PKPbc 18 56 42.5 -0.6
baz=6.2
X40A Basin Creek Fa 147.56 19 *e*PKPdf PKPdf 18 56 41.0 +0.2
X40A Basin Creek Fa 147.56 19 P PKPbc 18 56 42.8 -0.6
baz=337,SNR=7.8
V46A Holladay 147.56 12 P PKPbc 18 56 42.5 -0.8
baz=346,SNR=14
U54A Nelsons Funny 147.59 2 P PKPbc 18 56 42.5 -1.0
baz=358
U51A La Follette 147.59 5 P PKPbc 18 56 42.8 -0.7
baz=354
U55A TA2, Sparta 147.63 1 P PKPbc 18 56 42.7 -0.9
baz=359,SNR=9.5
U52A Thorn Hill 147.63 4 P PKPbc 18 56 42.8 -0.7
baz=355
V47A Nunnelly 147.65 11 P PKPbc 18 56 42.8 -0.8
baz=347,SNR=11
U59A Littleton 147.68 356 P PKPbc 18 56 43.4 -0.2
baz=2.7
U57A Blanch 147.68 358 P PKPbc 18 56 43.1 -0.6
baz=2.2,SNR=9.8
U58A Oxford 147.69 357 P PKPbc 18 56 43.1 -0.5
baz=3.6,SNR=8.7
U53A Fall Branch 147.71 3 P PKPbc 18 56 42.7 -1.1
baz=356
U56A King 147.78 360 P PKPbc 18 56 43.4 -0.5
baz=0.2
V48A Smith Brothers 147.86 10 *e*PKPbc PKPbc 18 56 43.9 -0.2
V48A Smith Brothers 147.86 10 P PKPbc 18 56 43.1 -1.0
baz=348,SNR=12
WHTX Lake Whitney, 147.92 28 P PKPbc 18 56 44.2 -0.2
baz=327
JCT Junction City 147.97 32 *e*PKPdf PKPdf 18 56 41.3 -0.3
JCT Junction City 147.97 32 *e*PKIKP PKPdf 18 56 41.3 -0.3
JCT Junction City 147.97 32 P PKPbc 18 56 44.6 -0.1
baz=322
V49A McMinnville 147.98 8 P PKPbc 18 56 43.3 -1.2
baz=350,SNR=10
X43A Marvell 148.12 16 P PKPbc 18 56 44.7 -0.2
baz=340
V61A Roper 148.13 354 P PKPbc 18 56 44.6 -0.2
baz=7.4
V51A Loudon 148.13 6 *e*PKPdf PKPdf 18 56 41.9 +0.3
V51A Loudon 148.13 6 P PKPbc 18 56 44.1 -0.8
baz=353,SNR=6.1
W46A Michie 148.15 12 P PKPbc 18 56 43.6 -1.3
baz=345
V52A Sevierville 148.16 5 *e*PKPdf PKPdf 18 56 41.9 +0.2
V52A Sevierville 148.16 5 P PKPbc 18 56 44.2 -0.8
baz=354,SNR=9.4
V50A Pikevile 148.18 7 P PKPbc 18 56 44.1 -0.9
baz=351,SNR=12
WLAR White Oak Lake 148.19 20 *e*PKPbc PKPbc 18 56 44.1 -0.9
W47A Westpoint 148.20 11 P PKPbc 18 56 44.3 -0.8
baz=347,SNR=20
V60A Jim Taylor Roa 148.22 355 P PKPbc 18 56 44.7 -0.4
baz=6.1
V57A Coltrane Farms 148.24 359 P PKPbc 18 56 44.5 -0.6
baz=1.4,SNR=8.9
V55A Taylorsville 148.27 1 P PKPbc 18 56 44.6 -0.6
baz=359,SNR=7.3
V62A Hyde County Ai 148.28 353 P PKPbc 18 56 45.2 0.0
baz=8.6
V59A Middlesex 148.29 356 P PKPbc 18 56 45.1 -0.2
baz=4.3,SNR=8.3
V58A Windy Hill, Pi 148.31 358 P PKPbc 18 56 44.9 -0.5
baz=2.6,SNR=7.9
V56A Mocksville 148.32 360 *e*PKPbc PKPbc 18 56 44.5 -0.9
V56A Mocksville 148.32 360 P PKPbc 18 56 44.7 -0.7
SNR=5.5
V54A Nebo 148.33 2 P PKPbc 18 56 44.5 -0.9
baz=357,SNR=6.3
PLAL Pickwick Lake 148.36 12 *e*PKPbc PKPbc 18 56 44.6 -0.9
V53A Saluda 148.39 4 *e*PKPbc PKPbc 18 56 44.6 -1.0
V53A Saluda 148.39 4 P PKPbc 18 56 44.8 -0.8
baz=356,SNR=14
W48A Pulaski 148.43 10 P PKPbc 18 56 44.7 -0.9
baz=348,SNR=16
CPCT Cooper Cave 148.46 6 *e*PKPdf PKPdf 18 56 42.7 +0.5
SWET Sewanee 148.51 8 *e*PKPbc PKPbc 18 56 45.2 -0.7
OXF Oxford 148.52 14 P PKPbc 18 56 45.1 -0.7
baz=343
W49A Belvidere 148.56 9 P PKPbc 18 56 45.0 -1.0
baz=349,SNR=20
W50A Signal Mountai 148.62 8 *e*PKPbc PKPbc 18 56 44.9 -1.3
W50A Signal Mountai 148.62 8 P PKPbc 18 56 45.2 -1.0
baz=351,SNR=8.6
X46A Booneville 148.66 13 P PKPbc 18 56 45.4 -0.9
baz=344,SNR=5.6
W51A Cleveland 148.72 7 P PKPbc 18 56 45.8 -0.7
baz=352,SNR=13
CNNC Cliffs of the 148.79 356 P PKPbc 18 56 46.5 -0.1
baz=5.0
X47A Russelville 148.86 12 P PKPbc 18 56 45.6 -1.2
baz=346,SNR=7.2
435B Jarrell 148.86 29 *e*PKPbc PKiKP 18 56 47.7 -0.6
435B Jarrell 148.86 29 P PKPbc 18 56 46.3 -0.6
baz=326
W53A Cullowhee 148.86 4 P PKPbc 18 56 46.5 -0.5
baz=355,SNR=11
W52A Murphy 148.88 5 *e*PKPbc PKPbc 18 56 46.4 -0.5
W52A Murphy 148.88 5 P PKPbc 18 56 46.1 -0.7
baz=353
V59A Clinton 148.90 357 P PKPbc 18 56 46.6 -0.2
baz=4.0
W60A Pink Hill 148.97 356 P PKPbc 18 56 46.4 -0.6
baz=5.4
W57A Gilead 148.97 359 *e*PKPbc PKPbc 18 56 46.3 -0.7
W57A Gilead 148.97 359 P PKPbc 18 56 46.2 -0.7
baz=1.0,SNR=6.9
KMSC Kings Mountain 148.98 1 *e*PKPbc PKPbc 18 56 46.4 -0.7
KMSC Kings Mountain 148.98 1 P PKPbc 18 56 46.2 -0.9
baz=358,SNR=8.0
W56A Indian Trail 148.99 0 P PKPbc 18 56 46.4 -0.7
baz=360
W54A Cherokee Point 149.00 3 P PKPbc 18 56 46.1 -1.0
baz=357,SNR=5.6
BG3 Lake Jocassee 149.06 4 *e*PKPbc PKPbc 18 56 46.2 -1.1
X48A Hartselle 149.08 11 *e*PKPbc PKPbc 18 56 46.0 -1.2
X48A Hartselle 149.08 11 P PKPbc 18 56 46.1 -1.2
baz=347,SNR=10.0
W58A Raeford 149.08 358 P PKPbc 18 56 46.9 -0.5
baz=2.5,SNR=5.2
X49A Woodville 149.14 9 P PKPbc 18 56 46.8 -0.7
baz=349,SNR=15
GO02 Mina Guanaco 149.15 200 *e*PKPbc PKPbc 18 56 48.6 +0.4
X50B Fort Payne 149.29 8 P PKPbc 18 56 47.1 -0.9
baz=350
X51A Calhoun 149.30 7 *e*PKPbc PKPbc 18 56 47.1 -0.8
X51A Calhoun 149.30 7 P PKPbc 18 56 47.4 -0.5
baz=352,SNR=7.6
NATX Nacogdoches 149.34 24 P PKPbc 18 56 48.1 +0.1
baz=332
X52A Dahlonega 149.37 5 P PKPbc 18 56 47.5 -0.6
baz=353,SNR=8.2
X60A Albert Glenn T 149.46 356 P PKPbc 18 56 47.7 -0.5
baz=4.9
BIRD Birdtown, Kers 149.48 360 *e*PKPbc PKPbc 18 56 47.6 -0.8
X59A McDuffie Farm, 149.50 357 P PKPbc 18 56 47.6 -0.8
baz=3.7
X53A Estanollee 149.51 5 P PKPbc 18 56 47.9 -0.5
baz=354,SNR=6.9
X54A Belton 149.53 3 P PKPbc 18 56 47.9 -0.6
baz=356,SNR=7.7
X58A Rowland 149.55 358 P PKPbc 18 56 47.8 -0.7
baz=2.3
Y48A Jasper 149.58 11 P PKPbc 18 56 47.1 -1.5
baz=347,SNR=5.6
X56A White Oak 149.63 1 P PKPbc 18 56 47.7 -1.0
baz=359,SNR=6.5
X55A Gracelyn & Ava 149.64 2 P PKPbc 18 56 48.0 -0.7
baz=358,SNR=6.5
X57A Johnson Farm, 149.66 359 P PKPbc 18 56 48.1 -0.7
baz=0.8
Y49A Blount Mountai 149.77 10 *e*PKPbc PKPbc 18 56 48.4 -0.7
Y49A Blount Mountai 149.77 10 P PKPbc 18 56 48.3 -0.8
baz=348,SNR=10
JSC Jenkinsville 149.84 1 *e*PKPbc PKPbc 18 56 48.1 -1.1
Y50A Piedmont 149.84 9 P PKPbc 18 56 48.3 -1.0
baz=350
HODGE Hodges 149.85 3 *e*PKPbc PKPbc 18 56 49.5 +0.2
833A Chaparral WMA, 149.86 35 *e*PKPdf PKPdf 18 56 45.9 +1.3
Y51A Rockmart 149.93 8 P PKPbc 18 56 48.9 -0.6
baz=351,SNR=5.9
Y60A Bolivia 150.04 356 P PKPbc 18 56 49.3 -0.4
baz=4.5
Y52A Lilburn 150.08 6 *e*PKPbc PKPbc 18 56 49.3 -0.6
Y52A Lilburn 150.08 6 P PKPbc 18 56 49.8 -0.1
baz=353,SNR=5.8
Y57A Sumter 150.11 360 P PKPbc 18 56 49.5 -0.3
baz=0.2
Y53A Monroe 150.13 5 P PKPbc 18 56 49.4 -0.6
baz=354
Y55A Saluda 150.16 2 P PKPbc 18 56 49.5 -0.5
baz=357
Y54A Tignall 150.20 4 P PKPbc 18 56 49.9 -0.2
baz=356,SNR=6.6
Y58A Scranton 150.21 359 P PKPbc 18 56 49.6 -0.5
baz=1.7
VBMS Vicksburg 150.38 17 P PKPbc 18 56 50.1 -0.5
baz=340
HKT Hockley 150.38 28 *e*PKPbc PKPbc 18 56 49.6 -0.9
Z49A Columbiana 150.39 10 P PKPbc 18 56 49.8 -0.8
baz=348,SNR=8.5
Z50A Ashland 150.44 9 *e*PKPbc PKPbc 18 56 49.6 -1.1
Z50A Ashland 150.44 9 P PKPbc 18 56 50.0 -0.7
baz=349,SNR=6.0
LRAL Lakeview Retre 150.46 11 *e*PKPbc PKPbc 18 56 49.6 -1.2
LRAL Lakeview Retre 150.46 11 P PKPbc 18 56 50.0 -0.7
baz=347
147A Livingston 150.54 13 P PKPbc 18 56 50.5 -0.4
baz=344,SNR=5.9
GOGA Godfrey 150.59 5 *e*PKPdf PKPdf 18 56 45.2 -0.4
GOGA Godfrey 150.59 5 *e*PKIKP PKPdf 18 56 45.2 -0.4
GOGA Godfrey 150.59 5 P PKPbc 18 56 50.3 -0.8
baz=354
Z53A Monticello 150.71 5 P PKPbc 18 56 50.6 -0.7
baz=354,SNR=5.6
Z52A Williamson 150.71 7 P PKPbc 18 56 50.9 -0.5
baz=352,SNR=7.1
148A Greensboro 150.72 12 P PKPbc 18 56 50.8 -0.5
baz=346
Z58A St. Stephen 150.78 359 P PKPbc 18 56 51.1 -0.4
baz=1.4,SNR=6.3
Z54A Sparta 150.81 4 P PKPbc 18 56 51.3 -0.2
baz=355,SNR=9.2
Z57A Bowman 150.83 0 P PKPbc 18 56 51.0 -0.7
baz=360,SNR=6.5
Z59A Georgetown, SC 150.86 358 P PKPbc 18 56 51.1 -0.6
baz=2.5
Z55A Blythe 150.86 3 P PKPbc 18 56 51.5 -0.2
baz=357
149A Jones 150.93 11 P PKPbc 18 56 51.3 -0.5
baz=347
NHSC New Hope 151.01 359 P PKPbc 18 56 51.7 -0.4
baz=0.7
150A Eclectic 151.06 10 P PKPbc 18 56 51.8 -0.4
baz=349,SNR=8.0
152A Waverly Hall 151.19 7 *e*PKPdf PKPdf 18 56 46.8 +0.2
152A *e*PKPbc PKiKP 18 56 52.9 -0.1
152A Waverly Hall 151.19 7 P PKPbc 18 56 52.0 -0.5
baz=351,SNR=6.4
LVC Limon Verde 151.24 203 *e*PKPbc PKPbc 18 56 54.6 +1.2
151A Opelika 151.24 8 P PKPbc 18 56 52.2 -0.4
baz=350,SNR=6.8
153A Fort Valley 151.31 6 P PKPbc 18 56 52.7 -0.1
baz=353
158A Hollywood 151.38 359 P PKPbc 18 56 52.8 -0.2
baz=0.7
154A Montrose 151.41 5 P PKPbc 18 56 52.7 -0.3
baz=355
155A Kite 151.44 3 P PKPbc 18 56 53.0 0.0
baz=356,SNR=6.0
156A Sylvania 151.45 2 P PKPbc 18 56 52.7 -0.3
baz=358
249A Camden 151.47 12 P PKPbc 18 56 52.9 -0.2
baz=346
250A Grady 151.63 10 P PKPbc 18 56 53.1 -0.5
baz=348
251A Midway 151.66 9 P PKPbc 18 56 53.4 -0.2
baz=350,SNR=13
252A Lumpkin 151.85 8 P PKPbc 18 56 53.3 -0.7
baz=351,SNR=5.3
253A Americus 151.86 6 *e*PKPbc PKPbc 18 56 54.0 0.0
253A Americus 151.86 6 P PKPbc 18 56 53.6 -0.5
baz=352
254A Abbeville 152.05 5 P PKPbc 18 56 54.0 -0.5
baz=354
349A Repton 152.06 12 P PKiKP 18 56 55.0 +0.2
baz=346
256A Glennville 152.11 2 P PKPbc 18 56 54.6 0.0
baz=357
255A Hazlehurst 152.13 4 P PKPbc 18 56 54.5 -0.2
baz=356
BRAL Brewton 152.26 12 P PKPbc 18 56 54.8 -0.2
baz=346
LNIG Linares 152.35 39 *e*PKPbc PKPbc 18 56 55.3 -0.1
LPAZ La Paz 156.43 211 *e*PKPdf PKPdf 18 56 54.6 -0.7
LPAZ La Paz 156.43 211 *e*PKIKP PKPdf 18 56 54.6 -0.7
LPAZ La Paz 156.43 211 PKP PKPdf 18 56 55.1 -0.1
comp=Z,3.1nm,1.1s,baz=157,slow=4.3,SNR=6.2
OTAV Otavalo 175.75 209 *e*PKPdf PKPdf 18 57 10.4 0.0
OTAV Otavalo 175.75 209 *e*PKIKP PKPdf 18 57 10.4 0.0

NEIC 30 18:42:27.3±0.0, 34°.41N×119°.94W, h9km, ML2.1(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGB	Antelope Grade	1.35	349	*e*Pn	Pn	18 42 48.8	-3.5
MWC	Mount Wilson	1.57	96	*e*Pn	Pn	18 42 53.4	-2.1
ISA	Isabella, Lake	1.74	43	*e*Pn	Pn	18 42 54.2	-3.5
ISA				*e*Sn	Sn	18 43 18.6	-1.4
CCCA	Chr Cany lake	2.39	61	*e*Pn	Pn	18 43 07.9	+1.3

*ISCJB **30** 18:49:29.1±0.3, 6°.54S±0°.05×154°.62E±0°.05, h48km, mb4.7/53, MS4.2/4, Error ellipse: s-maj=7.3km s-min=6.2km az=40.5*
*BJI **30** 18:49:32.0±0.0, 6°.40S×154°.60E, h70km, mb4.9/21, mB5.0/11, Ms4.7/4, Ms7 4.4/4*
*IDC **30** 18:49:33.2±2.5, 6°.57S×154°.55E, h74km±22km, mb4.1/15, mb1 4.3/19, mb1mx4.1/31, mbtmp4.5/19, MS4.1/7, Ms1 4.1/7, ms1mx3.6/27, Error ellipse: s-maj=15.2km s-min=14.0km az=78.0*
*NEIC **30** 18:49:33.3±1.2, 6°.53S×154°.53E, h72km±5km, mb4.7/36, Error ellipse: s-maj=17.3km s-min=5.3km az=76.0*
ISC 30 18:49:31.3±0.4, 6°.49S±0°.06×154°.53E±0°.06, h48km, n97, σ1§83/104, mb4.7/53, MS4.2/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.28	314	*e*Pn	Pn	18 50 21.2	+1.0
HNR	Honiara	6.11	119	*e*P	Pn	18 51 02.0	+2.9
HNR				*e*S	Sn	18 52 13.0	+5.2
HNR	Honiara	6.11	119	*e*Pn	Pn	18 51 00.0	+0.9
HNR	Honiara	6.11	119	P	Pn	18 51 00.9	+1.8
9.9nm,0.3s,baz=302,slow=1.5,SNR=14							
HNR				S	Sn	18 52 14.0	+6.2
5.8nm,0.3s,baz=42,slow=14,SNR=2.6							
HNR				LR	LR	18 53 22.7	
comp=Z,2μm,18.2s,baz=271,slow=38							
PMG	Port Moresby	7.85	248	*e*Pn	Pn	18 51 24.1	+1.1
PMG				*e*		18 54 49.0	
PMG	Port Moresby	7.85	248	P	Pn	18 51 25.1	+2.2
2.6nm,0.3s,baz=62,slow=6.7,SNR=12							
PMG				S	Sn	18 52 55.2	+4.6
1.1nm,0.3s,baz=77,slow=20,SNR=7.2							
PMG				LR	LR	18 54 49.0	
comp=Z,993nm,18.9s,baz=55,slow=40							
JAY	Jayapura	14.33	285	LR	LR	18 59 23.1	
comp=Z,608nm,18.1s,slow=41							
CTA	Charters Tower	15.72	210	P	P	18 53 11.0	-2.0
0.5nm,0.3s,baz=35,slow=14,SNR=15							
CTAO	Charters Tower	15.72	210	*e*Pn	P	18 53 12.3	-0.7
32nm,0.8s							
DZM	Mont Dzumac	19.30	145	P	P	18 53 50.7	-1.8
0.6nm,0.3s,baz=266,slow=19,SNR=3.7							
DZM				LR	LR	19 00 36.2	
comp=Z,428nm,18.1s,baz=348,slow=34							
WRAB	Tennant Creek	23.72	234	*e*P	P	18 54 38.3	-0.8
21nm,1.0s							
WB2	Warramunga Arr	23.72	234	*e*P	P	18 54 38.5	-0.7
26nm,1.0s							
WR1	Warramunga Arr	23.73	234	*e*P	P	18 54 37.5	-1.7
WRA	Warramunga Arr	23.73	234	P	P	18 54 37.5	-1.7
27nm,0.3s,baz=61,slow=11,SNR=2.3							
ARMA	Armidale	23.96	186	*e*P	P	18 54 40.7	-0.7
28nm,1.2s							
AS31	Alice Springs	26.16	227	*e*P	P	18 55 00.2	-1.2
2.0nm,0.7s							

ASAR Alice Springs 26.17 227 P P 18 55 00.0 -1.4
9.3nm,1.1s,baz=59,slow=8.6,SNR=22
ASAR ScP **ScP** 19 02 05.5 +1.8
1.4nm,0.9s,baz=63,slow=2.7,SNR=9.8
STKA Stephens Creek 28.00 204 *e*P **P 18 55 17.3 -0.4**
1.2nm,0.8s
STKA Stephens Creek 28.00 204 P **P 18 55 15.3 -2.4**
4.7nm,0.8s,baz=33,slow=13,SNR=7.9
FITZ Fitzroy Crossi 30.44 245 *e*P **P 18 55 38.8 -0.7**
FITZ Fitzroy Crossi 30.44 245 P **P 18 55 38.5 -1.0**
5.1nm,0.8s,baz=92,slow=10,SNR=6.3
RPZ Rata Peaks 39.82 161 P **P 18 56 57.0 -2.9**
4.1nm,0.8s,baz=307,slow=20,SNR=1.9
YULB Yu-li 44.00 314 *e*P **P 18 57 35.3 +1.0**
16nm,0.8s
TPUB Ta-pu 44.43 313 *e*P **P 18 57 38.0 +0.2**
14nm,0.8s
SSLB Suanglung 44.49 314 *e*P **P 18 57 38.9 +0.7**
14nm,0.8s
YHNB Yeheng 44.74 315 *e*P **P 18 57 40.7 +0.4**
25nm,1.0s
JNU Nakatsue 45.35 332 *e*P **P 18 57 44.8 -0.1**
7.6nm,0.8s
JNU Nakatsue 45.35 332 P **P 18 57 43.7 -1.2**
7.6nm,0.8s,baz=169,slow=4.5,SNR=9.3
DLV T Lat 49.31 292 *e*P **P 18 58 16.1 -0.2**
15nm,0.9s
NJ2 Nanjing 51.23 321 *e*P **P 18 58 29.3 -0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
WHN Wuhan 53.26 316 P **P 18 58 47.0 +1.7**
ENH Enshi 56.56 313 *e*P **P 18 59 09.6 +0.3**
20nm,1.0s
GSI Gunungsitoli 57.37 276 *e*P **P 18 59 14.3 -0.9**
19nm,1.2s
NANT Nan 58.69 296 P **P 18 59 27.4 +3.0**
16μm,0.7s,202μm
XAN Xi'an 59.02 316 P **P 18 59 27.3 +0.8**
XAN pP sP 18 59 42.5 -0.4
XAN pmax pmax
comp=Z,4.0nm,0.8s
XAN LR LR
comp=N,86nm,12.3s
XAN LR LR
comp=E,100nm,16.7s
XAN LR LR
comp=Z,100nm,14.1s
PETK Petropavlovsk- 59.43 2 P **P 18 59 28.6 -0.3**
5.3nm,0.9s,baz=175,slow=8.1,SNR=2.7
PEA1 Petropavlovsk- 59.44 2 *e*P **P 18 59 28.6 -0.3**
LAMP Lampang 59.55 296 P **P 18 59 34.7 +4.3**
16μm,0.8s
CM31 Chiang Mai Arr 60.15 295 *e*P **P 18 59 33.6 -0.9**
8.0nm,0.9s
CMAR Chiang Mai Arr 60.15 295 P **P 18 59 34.4 -0.2**
4.3nm,0.8s,baz=117,slow=5.1,SNR=33
GTA Gaotai 68.06 317 *e*P **P 19 00 27.5 +1.3**
GTA pmax pmax
comp=Z,4.0nm,1.4s
SHL Shillong 68.64 301 *e*P **P 19 00 30.0 -0.2**
37nm,0.9s
SHL Shillong 68.64 301 *e*P **P 19 00 31.0 +0.8**
SONA0 Songino Array 68.66 327 *e*P **P 19 00 29.8 0.0**
SONM Songino Array 68.66 327 P **P 19 00 29.8 0.0**
0.9nm,0.6s,baz=148,slow=8.5,SNR=2.9
LSA Lhasa 70.61 304 *e*P **P 19 00 42.2 -0.4**
17nm,0.8s
VNDA Vanda 71.10 178 *e*P **P 19 00 43.0 -1.1**
VNDA Vanda 71.10 178 P **P 19 00 43.2 -0.9**
1.9nm,0.8s,baz=326,slow=6.4,SNR=12
ODAN Odare 72.88 301 *e*P **P 19 00 56.9 +0.9**
92nm,0.8s
JIRN Jiri 74.13 301 *e*P **P 19 01 04.5 +1.0**
58nm,0.8s
PKI Pulchoki 74.77 301 *e*P **P 19 01 07.6 +0.4**
77nm,1.1s
PKIN Phulchoki 74.78 301 *e*P **P 19 01 07.6 +0.4**
69nm,1.2s
BILL Bilibino 74.82 5 *e*P **P 19 01 06.3 +0.2**
7.0nm,0.6s
KKN Kakani 74.94 301 *e*P **P 19 01 08.7 +0.7**
54nm,0.8s
DMN Daman 75.04 301 *e*P **P 19 01 09.0 +0.4**
98nm,0.8s
GKN Gorkha 75.54 301 *e*P **P 19 01 12.0 +0.6**
116nm,0.9s
KOLN Koldanda 76.37 300 *e*P **P 19 01 16.5 +0.3**
58nm,0.7s
DANN Dangsing 76.38 301 *e*P **P 19 01 16.5 +0.1**
65nm,0.8s
PYUN Piuthan 76.97 301 *e*P **P 19 01 19.4 -0.2**
80nm,0.9s
CAST Castle Rocks 80.42 21 *e*P **P 19 01 36.1 -1.5**
4.7nm,1.0s
MLY Manley 81.84 20 *e*P **P 19 01 44.2 -0.9**
11nm,1.7s
MK31 Makanchi Array 82.72 319 *e*P **P 19 01 49.7 -0.4**
2.7nm,0.7s
MK32 Makanchi Array 82.72 319 *e*P **P 19 01 49.5 -0.6**
MKAR Makanchi Array 82.72 319 P **P 19 01 49.5 -0.6**
3.8nm,0.8s,baz=104,slow=5.3,SNR=38
MAKZ Makanchi 82.93 319 *e*P **P 19 01 51.1 0.0**
4.4nm,0.8s
ILAR Eielson Array 83.08 22 P **P 19 01 49.5 -2.0**
1.1nm,1.0s,baz=263,slow=5.5,SNR=7.7
ILAR LR LR 19 37 38.1
comp=Z,129nm,19.6s,baz=293,slow=35
QSPA South Pole Qui 83.48 180 *e*P **P 19 01 52.6 -1.2**
31nm,1.5s
ZAA0 Zalesovo Array 83.50 326 *e*P **P 19 01 53.2 -0.7**
3.6nm,0.9s
ZALV Zalesovo Beam 83.50 326 P **P 19 01 52.7 -1.2**
2.2nm,0.8s,baz=106,slow=5.3,SNR=9.6
ZAA1 Zalesovo Array 83.50 326 *e*P **P 19 01 52.7 -1.2**
DOT Dot Lake 83.58 23 *e*P **P 19 01 53.0 -1.1**
5.0nm,1.0s
MAW Mawson 84.68 203 *e*P **P 19 01 59.3 -0.3**
2.9nm,1.4s
MAW Mawson 84.68 203 P **P 19 01 58.9 -0.8**
3.8nm,0.8s,baz=86,slow=7.1,SNR=9.2
MAW LR LR 19 35 45.8
comp=Z,54nm,21.2s,baz=60,slow=33
KDJ Kajisay 85.02 313 *e*P **P 19 02 02.8 +0.7**
5.0nm,0.8s
HYT Haines Junctio 85.14 27 *e*P **P 19 02 02.0 -0.2**
4.7nm,0.9s
KSH Kashi 85.33 310 P **P 19 02 06.8 +3.1**
KSH pP pwP 19 02 27.5 +5.0
KSH PP **PP** **19 05 28.5 +6.3**
KSH S **S** **19 12 31.3 +0.2**
KSH sS sS 19 13 06.5 +15
KSH pmax pmax
comp=Z,17nm,0.6s
KSH pmax pmax
comp=Z,100nm,3.8s
KSH LR LR
comp=N,190nm,7.7s
KSH LR LR
comp=E,200nm,7.6s
KSH LR LR
comp=Z,220nm,9.0s
AAK Ala-Archa 87.07 313 *e*P **P 19 02 11.8 -0.5**
2.8nm,1.0s
EPYK Eagle Plains 87.57 22 *e*P **P 19 02 13.3 -0.6**
9.3nm,1.3s
INK Inuvik 89.41 21 LR LR 19 40 47.1
comp=Z,98nm,19.7s,baz=235,slow=34
RYN Ryan 91.63 51 *e*P **P 19 02 33.8 +0.1**
5.9nm,1.1s
NV01 Mina Array Sit 91.77 52 *e*P **P 19 02 34.1 -0.4**
NVAR Mina Array Bea 91.77 52 P **P 19 02 34.1 -0.4**
4.6nm,0.9s,baz=254,slow=6.5,SNR=20
NV11 Mina Array Sit 91.89 52 *e*P **P 19 02 34.6 -0.4**
0.7nm,1.1s
KVN Kaiserville 92.00 51 *e*P **P 19 02 35.1 -0.4**
3.5nm,0.9s
TPNV Topopah Spring 93.23 53 *e*P **P 19 02 41.2 0.0**
4.9nm,1.1s
YKA Yellowknife Ar 96.11 28 P **P 19 02 52.7 -0.9**
0.9nm,0.8s,baz=269,slow=4.6,SNR=9.7
YKB5 Yellowknife Ar 96.11 28 *e*P **P 19 02 52.7 -0.9**
REDW Red Top Meadow 97.77 47 *e*P **P 19 02 57.8 -4.0**
5.0nm,0.8s
NB200 NORSAR Array S 119.07 341 *e*PKPdf **PKPdf 19 08 14.0 -0.6**
NOA NORSAR Array B 119.07 341 PKP **PKPdf 19 08 14.0 -0.6**
0.1nm,0.4s,baz=73,slow=1.8,SNR=2.9
VYHS Vyhne 123.84 326 *e*PDIF **Pdif 19 04 55.2 -2.2**
VYHS Vyhne 123.84 326 *e*PKP **PKiKP 19 08 30.7 +6.3**
GERES GERESS Array B 126.38 329 PKP **PKPdf 19 08 28.6 -0.5**
0.2nm,0.5s,baz=48,slow=1.5,SNR=2.7
LPAZ La Paz 132.11 119 PKP **PKPdf 19 08 41.2 -0.4**
0.5nm,0.4s,baz=272,slow=2.3,SNR=3.8
BDFB Brasilia 148.66 135 PKP **PKPdf 19 09 09.1 -1.5**
4.0nm,0.7s,baz=127,slow=4.5,SNR=6.4
BDFB PKPbc **PKPbc 19 09 13.0 -1.4**
8.9nm,0.8s,baz=181,slow=2.4,SNR=11
TORD Torodi Ar. Bea 152.44 286 PKP **PKPdf 19 09 15.1 -1.3**
1.5nm,0.9s,baz=20,slow=4.7,SNR=7.4
TORD PKPbc **PKPbc 19 09 20.9 -2.4**
8.4nm,0.9s,baz=337,slow=3.4,SNR=35
TOA1 Torodi Ar. Sit 152.44 286 *e*PKPdf **PKPdf 19 09 15.1 -1.3**
TOA1 *e*PKPbc **PKPbc 19 09 20.9 -2.4**

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*DSN **30** 19:15:27.1±3.2,26°.59N×58°.08E,h10km,ML4.4/12,Error ellipse: s-maj=43.9km s-min=15.1km az=10.0*
*NEIC **30** 19:15:28.5±0.0,26°.73N×57°.88E,h6km,mb4.2/25, ML4.0(THR),MN4.1(TEH),After TEH.*
*OMAN **30** 19:15:29.6±0.2,26°.64N×57°.81E,h10km,ml4.2/16,Error ellipse: s-maj=4.1km s-min=2.4km az=19.0*
*IDC **30** 19:15:29.3±0.9,26°.66N×57°.54E,h0km,mb3.8/21, mb1 4.0/23,mb1mx3.8/55,mbtmp3.9/23,ML3.6/2,MS3.4/7, Ms1 3.4/7,ms1mx3.0/46,Error ellipse: s-maj=19.3km s-min=16.8km az=136.0*
*MOS **30** 19:15:30.5±1.2,26°.71N×57°.89E,h25km,mb4.6/10,Error ellipse: s-maj=9.6km s-min=5.5km az=109.1*
*TEH **30** 19:15:30.0,26°.73N×57°.74E,h10km,ML4.3*
ISC 30 19:15:28.0±0.4,**26°.36N**±0°.04×**57°.84E**±0°.03,**h10**km,**n185,**
σ1§**50**/183,**mb4.1/47,MS3.4/6,2C,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JSK1	**Jask**	**0.72**	**185**	*e*Pg		ISC	19 15 51.5	+7.2
JSK1					IAMB	IAmb	19 16 25.3	
comp=N,0.0nm,0.9s								
BANOM	**Banah**	**1.45**	**253**	*e*P		**Pg**	**19 15 56.5**	**+0.7**
SNR=1310								
BANOM	**Banah**	**1.45**	**253**	P		**Pg**	**19 15 56.6**	**+0.7**
SNR=1309								
BANOM					S	**Sg**	**19 16 17.4**	**+2.7**
NIAN	**Nian**	**1.49**	**323**	*e*Pg		**Pn**	**19 15 53.7**	**-1.2**
NIAN					IAMB	IAmb	19 16 20.1	
comp=Z,0.0nm,0.3s								
SHME	**Shamm**	**1.56**	**259**	*e*P		**Pg**	**19 15 58.5**	**+0.6**
SNR=462								
SHME					S	**Sg**	**19 16 22.5**	**+4.4**
SHME	**Shamm**	**1.56**	**259**	*e*Pn		**Pg**	**19 15 58.5**	**+0.6**
KHNJ	**Kahnooj**	**1.59**	**356**	*e*Pg		**Pn**	**19 15 53.2**	**-3.0**
KHNJ					IAMB	IAmb	19 16 18.4	
comp=N,0.0nm,0.8s								
MDH	**Madha**	**1.75**	**233**	P		**Pb**	**19 16 00.6**	**+0.5**
MDH	**Madha**	**1.75**	**233**	P		**Pb**	**19 16 00.7**	**+0.5**
MDH					S	**Sg**	**19 16 24.4**	**+0.3**
MSFE	**Esma-Masafi**	**1.81**	**237**	*e*P		**Pb**	**19 16 01.2**	**-0.1**
SNR=196								
MSFE	**Esma-Masafi**	**1.81**	**237**	*e*Pn		**Pb**	**19 16 01.2**	**-0.1**
GENO	**Geno**	**1.81**	**305**	*e*Pn		**Pn**	**19 15 59.8**	**+0.3**
GENO					IAMB	IAmb	19 16 28.8	
comp=Z,0.0nm,0.5s								
BNDS	**Bandar-Abbas**	**1.81**	**305**	*e*Pn		**Pn**	**19 15 56.1**	**-3.4**
UOSS	**Minazif**	**2.04**	**227**	*e*Pn		**Pb**	**19 16 04.2**	**-1.0**
UOSS	**Minazif**	**2.04**	**227**	*e*P		**Pb**	**19 16 04.4**	**-0.7**
SNR=91								
UOSS	**Minazif**	**2.04**	**227**	P		**Pb**	**19 16 04.6**	**-0.6**
SNR=90								
UOSS	**Minazif**	**2.04**	**227**	*e*Pn		**Pb**	**19 16 04.6**	**-0.6**
UMQ	**Umm Al-Quwin**	**2.13**	**247**	*e*P		**Pg**	**19 16 07.8**	**-1.1**
SNR=16								
UMQ	**Umm Al-Quwin**	**2.13**	**247**	*e*Pn		**Pg**	**19 16 09.3**	**+0.5**
HATD	**Hatta, Dubai**	**2.17**	**226**	*e*P		**Pb**	**19 16 06.2**	**-1.2**
SNR=70								
HATD	**Hatta, Dubai**	**2.17**	**226**	P		**Pb**	**19 16 06.6**	**-0.8**
SNR=70								
HATD	**Hatta, Dubai**	**2.17**	**226**	*e*Pn		**Pb**	**19 16 05.8**	**-1.6**
ASHO	**Ashiyiah**	**2.32**	**224**	*e*P		**Pb**	**19 16 10.5**	**+0.5**
SNR=24								
ASHO	**Ashiyiah**	**2.32**	**224**	P		**Pg**	**19 16 11.2**	**-1.3**
SNR=22								
ASHO	**Ashiyiah**	**2.32**	**224**	*e*Pn		**Pb**	**19 16 09.6**	**-0.4**
NAZ	**Nazwa, Dubai**	**2.39**	**236**	*e*P		**Pb**	**19 16 11.9**	**+0.7**
SNR=123								
NAZ	**Nazwa, Dubai**	**2.39**	**236**	P		**Pb**	**19 16 12.3**	**+1.1**
SNR=8.8								
NAZ	**Nazwa, Dubai**	**2.39**	**236**	*e*Pn		**Pg**	**19 16 12.5**	**-1.4**
CHBR	**Chabahar**	**2.50**	**107**	*e*Pn		**Pg**	**19 16 16.3**	**+0.4**
SOHO	**SOHO**	**2.51**	**208**	P		**Pb**	**19 16 11.9**	**-1.3**
SNR=76								
FAQ	**Al Faqa, Dubai**	**2.59**	**232**	*e*P		**Pb**	**19 16 15.3**	**+0.7**
SNR=128								
FAQ	**Al Faqa, Dubai**	**2.59**	**232**	P		**Pb**	**19 16 15.5**	**+1.0**
SNR=12								
FAQ	**Al Faqa, Dubai**	**2.59**	**232**	*e*Pn		**Pb**	**19 16 15.5**	**+1.0**
HOQ	**Hoqain**	**2.81**	**190**	P		**Pb**	**19 16 17.2**	**-1.1**
SNR=7.1								
HOQ	**Hoqain**	**2.81**	**190**	*e*Pn		**Pb**	**19 16 17.2**	**-1.1**
BIDO	**Bidbid**	**2.84**	**175**	P		**Pb**	**19 16 18.6**	**-0.3**
SNR=13								
BIDO	**Bidbid**	**2.84**	**175**	*e*Pn		**Pb**	**19 16 18.5**	**-0.3**
ASUD	**Al Ashush, Dub**	**2.85**	**233**	*i* P		**Pb**	**19 16 18.4**	**-0.6**
SNR=35								
ASUD	**Al Ashush, Dub**	**2.85**	**233**	P		**Pb**	**19 16 19.6**	**+0.6**
SNR=35								
ASUD					S	**Sg**	**19 16 56.8**	**-2.8**
ASUD	**Al Ashush, Dub**	**2.85**	**233**	*e*Pn		**Pb**	**19 16 19.5**	**+0.5**
ALNE	**Al Ain**	**2.97**	**220**	*i* P		**Pb**	**19 16 19.9**	**-1.2**
SNR=62								
ALNE	**Al Ain**	**2.97**	**220**	*e*Pn		**Pb**	**19 16 21.0**	**-0.1**
AJN	**Ajban**	**3.14**	**236**	*i* P		**Pb**	**19 16 21.2**	**-2.7**
SNR=6.8								
AJN	**Ajban**	**3.14**	**236**	P		**Pb**	**19 16 21.9**	**-2.0**
AJN	**Ajban**	**3.14**	**236**	*e*Pn		**Pb**	**19 16 22.7**	**-1.2**
WSAR	**Wadi Sarin**	**3.19**	**167**	P		**Pb**	**19 16 24.1**	**-0.7**
SNR=13								
WSAR	**Wadi Sarin**	**3.19**	**167**	Pn		**Pb**	**19 16 24.7**	**-0.1**
comp=Z,20nm,0.3s,baz=332,slow=4.9,SNR=183								
WSAR					Sn	**Sb**	**19 17 02.1**	**-1.7**
comp=Z,90nm,0.3s,baz=66,slow=23,SNR=24								
ARQ	**Araqi**	**3.24**	**202**	P		**Pb**	**19 16 25.6**	**0.0**
SNR=6.5								
ARQ					S	**Sb**	**19 17 07.8**	**+2.6**
SMDO	**Samad**	**3.29**	**177**	P		**Pb**	**19 16 25.7**	**-0.9**
SNR=32								
SMDO					S	**Sb**	**19 17 07.3**	**+0.5**
NGRK	**Negar Kerman**	**3.42**	**344**	*e*Pn		**Pn**	**19 16 21.7**	**0.0**
NGRK					IAMB	IAmb	19 17 21.2	
comp=E,0.0nm,0.9s								
CHMN	**Cheshme madani**	**3.50**	**356**	*e*Pn		**Pn**	**19 16 23.5**	**+0.7**
CHMN					IAMB	IAmb	19 17 22.4	
comp=N,0.0nm,0.8s								
BSY	**Bisya**	**3.65**	**189**	P		**Pb**	**19 16 31.7**	**-0.9**
SNR=30								
BSY					S	**Sb**	**19 17 17.9**	**+1.0**
TVBK	**TV Kerman**	**3.74**	**345**	*e*Pn		**Pn**	**19 16 26.7**	**+0.6**
TVBK					IAMB	IAmb	19 16 38.6	
comp=Z,0.0nm,1.2s								
ZHSF	**Zahedan**	**4.15**	**38**	*e*Pn		**Pn**	**19 16 33.2**	**+1.6**
KHGB	**Koh Gabri**	**4.18**	**344**	*e*Pn		**Pn**	**19 16 32.6**	**+0.5**
KHGB					IAMB	IAmb	19 16 45.5	
comp=Z,0.0nm,0.6s								
GHIR	**Ghir-Karzin**	**4.72**	**295**	*e*Pn		**Pn**	**19 16 37.8**	**-1.7**
IPAR	**Pars**	**5.47**	**310**	*e*Pn		**Pn**	**19 16 49.1**	**-0.8**
IBAF	**Bafgh**	**5.58**	**340**	*e*Pn		**Pn**	**19 16 50.8**	**-0.4**
IMEH	**Mehriz**	**5.75**	**331**	*e*Pn		**Pn**	**19 16 52.9**	**-0.8**
IKOO	**Kooshah**	**6.13**	**9**	*e*Pn		**Pn**	**19 16 58.7**	**-0.2**
IKAZ	**Kazeroun**	**6.30**	**304**	*e*Pn		**Pn**	**19 16 59.7**	**-1.6**
ITEG	**Tejag**	**6.56**	**7**	*e*Pn		**Pn**	**19 17 05.0**	**+0.2**
ISAD	**Sadrabad**	**6.62**	**328**	*e*Pn		**Pn**	**19 17 05.1**	**-0.6**
IMON	**Monand**	**6.99**	**13**	*e*Pn		**Pn**	**19 17 11.1**	**+0.4**
IRAM	**Ramesheh**	**7.23**	**320**	*e*Pn		**Pn**	**19 17 13.0**	**-1.0**
TKDS	**Koohdasht(Taba**	**7.26**	**355**	*e*Pn		**Pn**	**19 17 15.0**	**+0.7**
ZNGN	**Zangian**	**8.37**	**315**	*e*Pn		**Pn**	**19 17 28.3**	**-1.5**
IPIR	**Pirpir**	**8.73**	**318**	*e*Pn		**Pn**	**19 17 33.5**	**-1.2**
GEYT	**Alibeck**	**11.54**	**1**	Pn		**Pn**	**19 18 12.8**	**-0.1**
comp=Z,0.1nm,0.3s,baz=159,slow=8.9,SNR=4.1								
GEYT					LR	LR	19 23 55.1	
comp=Z,52nm,20.6s,baz=185,slow=45								
THW	**Thamme Wali**	**13.69**	**59**	P		**Pn**	**19 18 44.5**	**+2.2**
CEP	**Cherat**	**14.26**	**55**	P		**Pn**	**19 18 52.2**	**+2.0**
NIL	**Nilore**	**15.19**	**58**	*e*Pn		**Pn**	**19 19 02.9**	**+0.2**
NIL	**Nilore**	**15.19**	**58**	*e*P		**Pn**	**19 19 02.9**	**+0.2**
NIL	**Nilore**	**15.19**	**58**	*e*Pn		**P**	**19 19 05.4**	**-2.4**
GAR	**Garm**	**16.39**	**37**	*e*Pn		**Pn**	**19 19 16.1**	**-2.2**
comp=Z,16nm,1.3s								
GAR	**Garm**	**16.39**	**37**	*e*P		**Pn**	**19 19 16.1**	**-2.2**
GAR				pmax		pmax		
comp=Z,16nm,1.3s								
SIRT	**Sirnak**	**17.13**	**314**	*e*Pn		**Pn**	**19 19 23.3**	**-4.3**
comp=Z,38nm,0.8s								
DAMY	**Dhamar**	**17.19**	**230**	*e*Pn		**P**	**19 19 29.9**	**-0.5**
comp=Z,40nm,1.0s								
BTK	**Batken**	**17.42**	**35**	*e*Pn		**Pn**	**19 19 29.5**	**-1.8**
comp=Z,6.6nm,0.9s								
BTK	**Batken**	**17.42**	**35**	*e*P		**Pn**	**19 19 29.5**	**-1.8**
BTK				pmax		pmax		
comp=Z,7.0nm,0.9s								
GNI	**Garni**	**17.55**	**325**	*e*Pn		**Pn**	**19 19 31.5**	**-1.4**
comp=Z,11nm,0.8s								
GNI	**Garni**	**17.55**	**325**	*c*eP		**P**	**19 19 33.7**	**-0.4**
GNI				pmax		pmax		
comp=Z,85nm,1.0s								
GNI	**Garni**	**17.55**	**325**	P		**P**	**19 19 33.7**	**-0.4**
comp=Z,0.5nm,0.3s,baz=246,slow=10,SNR=8.4								
GNBR	**Gunib**	**18.31**	**334**	*i* P		**P**	**19 19 42.9**	**+0.6**
ASF	**Jabal al Asfar**	**19.16**	**293**	P		**Pn**	**19 19 53.6**	**+1.0**
comp=Z,0.5nm,0.3s,baz=230,slow=10,SNR=4.3								
GROC	**Groznyy**	**19.46**	**333**	*e*P		**P**	**19 19 53.5**	**-1.3**
GROC				*e*S		**Sn**	**19 23 32.6**	**-1.8**
GROC				pmax		pmax		
comp=Z,16nm,1.1s								
ARSB	**Arslanbob**	**19.47**	**36**	*e*P		**P**	**19 19 53.9**	**-1.3**
comp=Z,8.2nm,0.9s								
KK31	**Karatay Array**	**19.64**	**29**	*e*P		**P**	**19 19 54.6**	**-2.2**
comp=Z,9.2nm,0.9s								
KK31	**Karatay Array**	**19.64**	**29**	*e*P		**P**	**19 19 54.7**	**-2.2**
KK31				pmax		pmax		
comp=Z,9.0nm,0.9s								
KKAR	**Karatay Array**	**19.64**	**29**	*e*P		**P**	**19 19 54.6**	**-2.3**
comp=Z,9.2nm,0.9s								
KKAR	**Karatay Array**	**19.64**	**29**	*e*P		**P**	**19 19 54.6**	**-2.3**
KKAR				pmax		pmax		
comp=Z,9.0nm,0.9s								
ZEI	**Tsey**	**19.96**	**329**	*e*P		**P**	**19 20 01.1**	**+0.5**
ZEI				pmax		pmax		
comp=Z,3.0nm,0.4s								
ATD	**Arta Tunnel**	**20.43**	**227**	P		Pn	19 20 10.2	+2.5
comp=Z,8.2nm,0.7s,baz=25,slow=4.5,SNR=6.6								
EIL	**Elat**	**20.47**	**285**	P		Pn	19 20 08.2	+0.1
comp=Z,6.6nm,0.7s,baz=94,slow=7.6,SNR=5.9								
MMAI	**Mount Meron Ar**	**20.57**	**294**	P		Pn	19 20 08.4	-1.0
comp=Z,3.6nm,0.7s,baz=87,slow=14,SNR=5.1								
NCK	**Nalchik**	**20.65**	**329**	*i* P		Pn	19 20 08.8	-1.3
NCK				pmax		pmax		
comp=Z,8.0nm,0.9s								
NEY	**Neytrino**	**20.87**	**328**	*i* P		Pn	19 20 12.0	-0.9
NEY				pmax		pmax		
comp=Z,1.0nm,0.8s								
KBZ	**Khabaz**	**21.15**	**329**	P		**P**	**19 20 13.2**	**0.0**
comp=Z,0.8nm,0.4s,baz=129,slow=6.6,SNR=2.6								
AAK	**Ala-Archa**	**21.20**	**36**	*e*P		**P**	**19 20 12.5**	**-1.5**
comp=Z,4.6nm,0.9s								
AAK	**Ala-Archa**	**21.20**	**36**	*c*eP		**P**	**19 20 16.5**	**+2.6**
AAK				pmax		pmax		
comp=Z,8.0nm,1.3s								
AAK	**Ala-Archa**	**21.20**	**36**	P		**P**	**19 20 16.9**	**+3.0**
comp=Z,3.4nm,0.7s,baz=231,slow=7.5,SNR=8.5								
NRN	**Naryn**	**21.23**	**40**	*e*P		**P**	**19 20 13.7**	**-0.7**
comp=Z,8.9nm,1.3s								
NRN	**Naryn**	**21.23**	**40**	*e*P		**P**	**19 20 13.7**	**-0.7**
NRN				pmax		pmax		
comp=Z,9.0nm,1.3s								
SHA1	**Shidzhatmaz**	**21.27**	**328**	*i* P		**P**	**19 20 13.9**	**-0.9**
KIV	**Kislovodsk**	**21.43**	**329**	*e*P		**P**	**19 20 13.7**	**-2.5**
comp=Z,12nm,1.0s								
KIV	**Kislovodsk**	**21.43**	**329**	*e*P		**P**	**19 20 18.0**	**+1.7**
KIV				pmax		pmax		
comp=Z,38nm,1.1s								
DOMR	**Dombai**	**21.44**	**326**	*i* P		**P**	**19 20 16.6**	**+0.1**
KDJ	**Kajisay**	**22.35**	**40**	*e*P		**P**	**19 20 25.6**	**-0.7**
comp=Z,15nm,1.0s								
KDJ	**Kajisay**	**22.35**	**40**	*e*P		**P**	**19 20 25.6**	**-0.7**
KDJ				pmax		pmax		
comp=Z,15nm,1.0s								
TARG	**Taragay, Kyrgy**	**22.48**	**42**	*e*P		**P**	**19 20 26.6**	**-1.3**
comp=Z,6.7nm,1.1s								
ABKAR	**Akbulak array**	**22.92**	**4**	*e*P		**P**	**19 20 30.9**	**-1.2**
comp=Z,7.2nm,0.8s								
AKTO	**Aktyubinsk**	**24.04**	**0**	P		**P**	**19 20 42.7**	**-0.4**
comp=Z,3.5nm,0.6s,baz=166,slow=9.8,SNR=8.2								
AKTO					LR	LR	19 30 34.4	
comp=Z,124nm,20.6s,baz=171,slow=38								
BR101	**Keskin Array S**	**24.18**	**309**	*e*P		**P**	**19 20 44.5**	**-0.3**
BR131	**Keskin Array S**	**24.18**	**309**	*e*P		**P**	**19 20 43.4**	**-1.4**
comp=Z,6.3nm,0.9s								
BRTR	**Keskin Array B**	**24.18**	**309**	P		**P**	**19 20 44.5**	**-0.3**
comp=Z,4.7nm,0.8s,baz=126,slow=9.8,SNR=25								
BRTR					LR	LR	19 32 23.3	
comp=Z,68nm,19.1s,baz=100,slow=43								
MK31	**Makanchi Array**	**28.11**	**37**	*e*P		**P**	**19 21 23.2**	**+3.2**
comp=Z,1.9nm,1.0s								
MK32	**Makanchi Array**	**28.11**	**37**	*e*P		**P**	**19 21 23.7**	**+3.7**
MKAR	**Makanchi Array**	**28.11**	**37**	P		**P**	**19 21 23.7**	**+3.6**
comp=Z,0.6nm,0.9s,baz=219,slow=7.5,SNR=4.6								
BVAR	**Borovoye Array**	**28.24**	**16**	P		**P**	**19 21 21.1**	**0.0**
comp=Z,0.8nm,0.5s,baz=204,slow=5.8,SNR=4.7								
BRVK	**Borovoye**	**28.25**	**16**	*e*P		**P**	**19 21 20.1**	**-1.0**
comp=Z,2.7nm,0.9s								
BRVK	**Borovoye**	**28.25**	**16**	*e*P		**P**	**19 21 20.1**	**-1.0**
BRVK				pmax		pmax		
comp=Z,3.0nm,0.9s								
KURBB	**Kurchatov Arra**	**28.95**	**28**	P		**P**	**19 21 28.9**	**+1.5**
comp=Z,0.3nm,0.4s,baz=224,slow=8.3,SNR=5.8								
KURK	**Kurchatov**	**29.05**	**28**	P		**P**	**19 21 28.9**	**+0.6**
DGZ	**Jazzator, Alta**	**32.60**	**37**	*i* P		**P**	**19 22 04.3**	**+4.4**
DGZ				pmax		pmax		
comp=Z,1.0nm,0.9s								
AKASG	**Malin Array Be**	**32.68**	**326**	P		**P**	**19 21 59.3**	**-1.0**
comp=Z,2.0nm,0.5s,baz=130,slow=8.5,SNR=6.1								
AKBB	**Malin Array Si**	**32.68**	**326**	*e*P		**P**	**19 21 59.1**	**-1.2**
comp=Z,6.8nm,0.7s								
AKBB	**Malin Array Si**	**32.68**	**326**	*e*P		**P**	**19 21 59.1**	**-1.2**
AKBB				pmax		pmax		
comp=Z,7

GEC2	**GERESS Array S**	**40.81 315**	*e*P		**P**	**19 23 08.9**	**-0.8**
	comp=Z,3.9nm,0.8s						
GEC2	**GERESS Array S**	**40.81 315**	*e*P		**P**	**19 23 08.9**	**-0.8**
GEC2			pmax	pmax			
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**40.81 315**	P		**P**	**19 23 08.8**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=108,slow=8.3,SNR=20						
KHC	**Kasperske Hory**	**40.97 316**	*e*P		**P**	**19 23 10.6**	**-0.4**
	comp=Z,2.7nm,0.7s						
KHC	**Kasperske Hory**	**40.97 316**	*e*P		**P**	**19 23 10.0**	**-1.0**
KHC	**Kasperske Hory**	**40.97 316**	*e*P		**P**	**19 23 10.0**	**-1.0**
FIA0	**FINESS Array S**	**41.08 337**	*e*P		**P**	**19 23 10.5**	**-1.1**
FIA0	**FINESS Array S**	**41.08 337**	*e*P		**P**	**19 23 10.5**	**-1.1**
FINES	**FINESS Array B**	**41.08 337**	P		**P**	**19 23 10.5**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=128,slow=12,SNR=12						
WTTA	**Wattenberg**	**41.73 312**	*i* P		**P**	**19 23 16.6**	**-0.8**
	comp=Z,6.1nm,0.5s						
WATA	**Walderalm**	**41.79 312**	*i* pP		**P**	**19 23 17.3**	**-0.5**
	comp=Z,3.3nm,0.7s						
SQTA	**Sankt Quirin**	**42.00 312**	*i* P		**P**	**19 23 19.0**	**-0.6**
	comp=Z,6.7nm,0.5s						
MOTA	**Moosalm**	**42.10 312**	*i* P		**P**	**19 23 19.8**	**-0.7**
	comp=Z,3.2nm,0.6s						
FETA	**Feichten**	**42.28 312**	*i* pP		**P**	**19 23 21.4**	**-0.5**
	comp=Z,6.0nm,0.7s						
RETA	**Reutte**	**42.36 313**	*i* P		**P**	**19 23 21.3**	**-1.1**
	comp=Z,2.4nm,0.5s						
DAVOX	**Davos/Dischmat**	**42.80 311**	P		**P**	**19 23 25.5**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=161,slow=6.7,SNR=6.0						
DAVA	**Damuels**	**42.90 312**	*i* P		**P**	**19 23 26.3**	**-0.6**
	comp=Z,11nm,0.5s						
HFS	**Hagfors**	**45.21 331**	P		**P**	**19 23 44.1**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=122,slow=7.7,SNR=4.5						
NB200	**NORSAR Array S**	**46.71 331**	*e*P		**P**	**19 23 55.7**	**-1.2**
NOA	**NORSAR Array B**	**46.71 331**	P		**P**	**19 23 55.7**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=119,slow=7.3,SNR=3.3						
ARCES	**ARCESS Array B**	**47.15 345**	P		**P**	**19 24 00.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=157,slow=6.6,SNR=4.6						
WHN	**Wuhan**	**49.43 71**	P		**P**	**19 24 19.0**	**+0.7**
BOD	**Bodaibo**	**50.18 35**	*e*P		**P**	**19 24 22.6**	**-1.0**
BOD			pmax	pmax			
	comp=Z,8.0nm,2.0s						
EKA	**Eskdalemuir Ar**	**52.34 321**	P		**P**	**19 24 40.0**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=112,slow=8.8,SNR=3.2						
ESDC	**Sonseca Array**	**52.55 301**	P		**P**	**19 24 42.0**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=74,slow=7.0,SNR=4.7						
TOA1	**Torodi Ar. Sit**	**54.08 267**	*e*P		**P**	**19 24 53.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**54.08 267**	P		**P**	**19 24 53.9**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=61,slow=7.4,SNR=8.8						
KS15	**Wonju Array Si**	**59.27 61**	*e*P		**P**	**19 25 27.4**	**-2.5**
	comp=Z,26nm,1.6s						
KSRS	**Korea Array**	**59.29 60**	LR		LR	19 55 09.6	
	comp=Z,30nm,18.2s,baz=260,slow=40						
BOSA	**Boshof**	**62.98 212**	LR		LR	19 55 02.1	
	comp=Z,81nm,18.9s,baz=95,slow=38						
CAST	**Castle Rocks**	**87.44 13**	*e*P		**P**	**19 28 16.5**	**+1.0**
	comp=Z,3.0nm,1.0s						
ASAR	**Alice Springs**	**88.75 117**	P		**P**	**19 28 26.2**	**+3.9**
	comp=Z,0.2nm,0.5s,baz=318,slow=5.2,SNR=4.0						
YKA	**Yellowknife Ar**	**91.25 356**	P		**P**	**19 28 36.1**	**+2.8**
	comp=Z,0.4nm,0.8s,baz=348,slow=5.2,SNR=3.3						
YKB5	**Yellowknife Ar**	**91.25 356**	*e*P		**P**	**19 28 36.1**	**+2.8**

*ISK **30** 19:17:30.7, 42°.36N×41°.02E, h8km, ML2.2/2*
*DDA **30** 19:18:21.7, 42°.39N×40°.92E, h5km, ML2.9*
ISC 30 19:17:29.1±1.2, 42°.38N±0°.02×41°.01E±0°.04, h6km±11km, n23, σ0°48/42, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.93**	**146**	PG	**Pn**	**19 17 48.6**	**0.0**
BATM				SG	**Sn**	**19 18 01.7**	**-0.6**
BATM	**Batumi**	**0.93**	**146**	P	**Pn**	**19 17 49.0**	**+0.3**
BATM				S	**Sn**	**19 18 02.2**	**-0.1**
DOMR	**Dombai**	**1.02**	**26**	*i* Pg	**Pb**	**19 17 49.5**	**+0.3**
DOMR				*i* Sg	**Sg**	**19 18 02.0**	**+0.1**
BCA	**Borcka**	**1.04**	**154**	PG	**Pn**	**19 17 50.4**	**+0.2**
DBOC	**Borcka**	**1.15**	**154**	IAML_P			
	comp=Z,1μm,0.1s						
DBOC				*i* P	**Pn**	**19 17 52.5**	**+0.8**
DBOC				*i* S	**Sn**	**19 18 07.7**	**+0.1**
ARXR	**Arkhyz**	**1.20**	**9**	*e*Pg	**Pg**	**19 17 51.9**	**-0.2**
ARXR				*i* Sg	**Sg**	**19 18 07.3**	**-0.3**
ARTV	**Artvin**	**1.38**	**150**	IAML_P			
	comp=Z,1μm,0.2s						
ARTV				*i* P	**Pg**	**19 17 55.8**	**+0.3**
ARTV				*i* S	**Sb**	**19 18 12.8**	**-0.5**
DBAD	**Bademkaya**	**1.46**	**159**	IAML_P			
	comp=Z,536nm,0.1s						
DBAD				*i* P	**Pb**	**19 17 56.7**	**+0.1**
DBAD				*i* S	**Sn**	**19 18 15.3**	**-0.1**
DAGI	**Agillar**	**1.47**	**152**	IAML_P			
	comp=Z,188nm,0.1s						
DAGI				*i* P	**Pb**	**19 17 56.6**	**-0.3**
DAGI				*i* S	**Sn**	**19 18 15.4**	**-0.3**
TKB	**Tkibuli**	**1.47**	**90**	P	**Pb**	**19 17 57.0**	**+0.2**
TKB				S	**Sb**	**19 18 16.1**	**+0.3**
SOC	**Sochi**	**1.53**	**322**	*e*Pg	**Pg**	**19 17 58.2**	**-0.2**
SOC				*e*Sg	**Sg**	**19 18 18.9**	**+0.6**
NEY	**Neytrino**	**1.53**	**55**	*i* Pg	**Pb**	**19 17 58.0**	**0.0**
NEY				*e*Sg	**Sn**	**19 18 17.3**	**-0.2**
EPOS	**Posof**	**1.56**	**124**	*i* P	**Pg**	**19 17 59.1**	**+0.2**
EPOS				*i* S	**Sg**	**19 18 19.4**	**+0.4**
DDEM	**Demirkent**	**1.59**	**159**	IAML_P			
	comp=Z,633nm,0.1s						
DDEM				*i* P	**Pg**	**19 17 59.9**	**+0.4**
DDEM				*i* S	**Sn**	**19 18 18.2**	**-0.5**
GUZR	**Guzeripl'**	**1.74**	**338**	*e*Pg	**Pg**	**19 18 02.1**	**-0.3**
GUZR				*e*Sg	**Sg**	**19 18 24.3**	**-0.7**
SHA1	**Shidzhatmaz**	**1.82**	**41**	*e*Pg	**Pg**	**19 18 03.7**	**-0.2**
SHA1				*e*Sg	**Sb**	**19 18 26.8**	**+0.8**
ONI	**Oni**	**1.82**	**83**	PN	**Pb**	**19 18 02.8**	**0.0**
ONI	**Oni**	**1.82**	**83**	P	**Pb**	**19 18 02.6**	**-0.2**
ONI				S	**Sg**	**19 18 27.1**	**-0.5**
KIV	**Kislovodsk**	**2.00**	**37**	PN	**Pb**	**19 18 06.1**	**+0.2**
KIV0	**Kislovodsk Arr**	**2.00**	**38**	*e*Pg	**Pb**	**19 18 06.0**	**+0.1**
KIV0				*i* Sg	**Sb**	**19 18 31.7**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.08**	**150**	PN	**Pb**	**19 18 06.6**	**-0.7**
ZEI	**Tsey**	**2.18**	**78**	*e*Pg	**Pb**	**19 18 09.6**	**+0.6**
ZEI				*i* Sg	**Sb**	**19 18 36.5**	**+0.2**
LACR	**Lac**	**2.47**	**78**	*e*Pn	**Pb**	**19 18 12.4**	**-1.5**
LACR				*e*Sn	**Sb**	**19 18 44.0**	**-0.7**

*ROM **30** 19:21:04.8±0.3, 44°.081N±0°.009×8°.657E±0°.009, h10km±1km, ML1.7/6, Error ellipse: s-maj=0.9km s-min=0.5km az=343.0*
*LDG **30** 19:21:04.5±0.1, 44°.01N×8°.71E, h2km, Md2.3/1, Ml2.1/10, Error ellipse: s-maj=1.7km s-min=1.5km az=168.0*
*GEN **30** 19:21:04.7, 44°.05N×8°.69E, h2km±1km, Ml1.5*
*ISCJB **30** 19:21:05.4±0.5, 44°.08N±0°.03×8°.60E±0°.03, h10km±3km, Error ellipse: s-maj=4.6km s-min=3.4km az=167.6*
ISC 30 19:21:05.0±0.9, 44°.04N±0°.02×8°.66E±0°.02, h14km±7km, n72, σ1°09/98, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINB	**Finale Ligure**	**0.28**	**299**	P	**Pg**	**19 21 10.6**	**-0.3**
FINB				S	**Sg**	**19 21 14.9**	**+0.1**
FINB				AML	AML		
	comp=E,128μm,0.5s						
FINB				AML	AML		
	comp=N,94μm,1.2s						
FINB	**Finale Ligure**	**0.28**	**299**	P	**Pg**	**19 21 10.6**	**-0.3**
FINB	**Finale Ligure**	**0.28**	**299**	S	**Sg**	**19 21 15.0**	**+0.1**
QLNO	**Quiliano**	**0.36**	**321**	P	**Pg**	**19 21 11.8**	**-0.6**
QLNO				S	**Sg**	**19 21 17.5**	**+0.1**
QLNO				AML	AML		
	comp=E,130μm,0.4s						
QLNO				AML	AML		
	comp=N,187μm,0.3s						
QLNO				AML	AML		
	comp=E,130μm,0.4s						
QLNO				AML	AML		
	comp=N,187μm,0.3s						
QLNO				AML	AML		
	comp=N,187μm,0.3s						
QLNO				AML	AML		
	comp=E,130μm,0.4s						
QLNO	**Quiliano**	**0.36**	**321**	P	**Pg**	**19 21 11.9**	**-0.6**
QLNO	**Quiliano**	**0.36**	**321**	S	**Sg**	**19 21 17.7**	**+0.3**
RORO	**Rocca Rossa**	**0.44**	**279**	P	**Pg**	**19 21 13.4**	**-0.3**
RORO				S	**Sg**	**19 21 19.6**	**-0.1**
RORO	**Rocca Rossa**	**0.44**	**279**	P	**Pg**	**19 21 13.4**	**-0.3**
RORO	**Rocca Rossa**	**0.44**	**279**	P	**Pg**	**19 21 13.4**	**-0.3**
RORO				S	**Sg**	**19 21 20.0**	**+0.4**
RORO				AML	AML		
	comp=E,198μm,0.9s						
RORO				AML	AML		
	comp=N,146μm,0.9s						
RORO				AML	AML		
	comp=E,198μm,0.9s						
RORO				AML	AML		
	comp=N,146μm,0.9s						
RORO				AML	AML		
	comp=N,146μm,0.9s						
RORO				AML	AML		
	comp=E,198μm,0.9s						
RORO	**Rocca Rossa**	**0.44**	**279**	P	**Pg**	**19 21 13.5**	**-0.3**
RORO	**Rocca Rossa**	**0.44**	**279**	S	**Sg**	**19 21 19.5**	**-0.1**
PCP	**Piancastagn**	**0.51**	**350**	P	**Pg**	**19 21 14.2**	**-0.8**
PCP				S	**Sg**	**19 21 21.2**	**-0.6**
PCP	**Piancastagn**	**0.51**	**350**	P	**Pg**	**19 21 14.1**	**-0.8**
PCP				S	**Sg**	**19 21 21.2**	**-0.6**
PCP				AML	AML		
	comp=E,136μm,0.2s						
PCP				AML	AML		
	comp=N,142μm,0.2s						
PCP	**Piancastagn**	**0.51**	**350**	P	**Pg**	**19 21 14.3**	**-0.8**
IMI	**Imperia**	**0.57**	**257**	P	**Pg**	**19 21 16.1**	**-0.1**
IMI				S	**Sg**	**19 21 23.8**	**-0.1**
IMI	**Imperia**	**0.57**	**257**	P	**Pg**	**19 21 16.1**	**-0.1**
IMI				AML	AML		
	comp=E,91μm,1.5s						
IMI				AML	AML		
	comp=N,93μm,0.6s						
IMI				AML	AML		
	comp=E,91μm,1.5s						
IMI				AML	AML		
	comp=N,93μm,0.6s						
IMI				AML	AML		
	comp=E,91μm,1.5s						
IMI				AML	AML		
	comp=N,93μm,0.6s						
IMI	**Imperia**	**0.57**	**257**	P	**Pg**	**19 21 16.2**	**-0.1**
IMI	**Imperia**	**0.57**	**257**	P	**Pg**	**19 21 16.2**	**0.0**
IMI	**Imperia**	**0.57**	**257**	S	**Sg**	**19 21 24.6**	**+0.7**
MGRO	**Montegrosso**	**0.62**	**270**	P	**Pg**	**19 21 16.9**	**-0.3**
MGRO				S	**Sg**	**19 21 25.6**	**+0.3**
MGRO	**Montegrosso**	**0.62**	**270**	P	**Pg**	**19 21 16.8**	**-0.3**
MGRO				S	**Sg**	**19 21 25.7**	**+0.3**
MGRO	**Montegrosso**	**0.62**	**270**	P	**Pg**	**19 21 16.9**	**-0.3**
MGRO	**Montegrosso**	**0.62**	**270**	P	**Pg**	**19 21 16.9**	**-0.3**
MGRO	**Montegrosso**	**0.62**	**270**	S	**Sg**	**19 21 25.6**	**+0.3**
GBOS	**Grotte di Boss**	**0.63**	**289**	P	**Pg**	**19 21 16.8**	**-0.4**
GBOS				S	**Sg**	**19 21 25.4**	**-0.2**
GBOS	**Grotte di Boss**	**0.63**	**289**	P	**Pg**	**19 21 16.8**	**-0.4**
GBOS				S	**Sg**	**19 21 25.0**	**-0.6**
GBOS				AML	AML		
	comp=E,37μm,1.1s						
GBOS				AML	AML		
	comp=N,56μm,1.1s						
GBOS				AML	AML		
	comp=E,37μm,1.1s						
GBOS				AML	AML		
	comp=N,56μm,1.1s						
GBOS				AML	AML		
	comp=E,37μm,1.1s						
GBOS				AML	AML		
	comp=N,56μm,1.1s						
GBOS	**Grotte di Boss**	**0.63**	**289**	P	**Pg**	**19 21 16.8**	**-0.4**
GBOS	**Grotte di Boss**	**0.63**	**289**	P	**Pg**	**19 21 16.9**	**-0.4**
GBOS	**Grotte di Boss**	**0.63**	**289**	S	**Sg**	**19 21 25.1**	**-0.5**
MSSA	**Maissana**	**0.67**	**66**	P	**Pg**	**19 21 17.3**	**-0.8**
MSSA	**Maissana**	**0.67**	**66**	P	**Pg**	**19 21 17.4**	**-0.8**
MSSA				S	**Sb**	**19 21 27.2**	**-0.7**
MSSA	**Maissana**	**0.67**	**66**	S	**Sb**	**19 21 27.1**	**-0.7**
NEGI	**Seborga**	**0.72**	**255**	P	**Pg**	**19 21 19.0**	**0.0**
NEGI				S	**Sg**	**19 21 28.6**	**+0.1**
NEGI	**Seborga**	**0.72**	**255**	P	**Pg**	**19 21 19.0**	**0.0**
NEGI	**Seborga**	**0.72**	**255**	P	**Pg**	**19 21 19.0**	**0.0**
NEGI				S	**Sg**	**19 21 29.0**	**+0.5**
NEGI				AML	AML		
	comp=E,79μm,1.6s						
NEGI				AML	AML		
	comp=N,91μm,1.6s						
NEGI				AML	AML		
	comp=E,79μm,1.6s						
NEGI				AML	AML		
	comp=N,91μm,1.6s						
NEGI	**Seborga**	**0.72**	**255**	S	**Sg**	**19 21 29.3**	**+0.8**
SAOF	**Saorge**	**0.80**	**266**	P	**Pg**	**19 21 20.6**	**0.0**
SAOF	**Saorge**	**0.80**	**266**	S	**Sg**	**19 21 31.9**	**+0.8**
SBF	**Sospel**	**0.91**	**259**	*e*Pg	**Pg**	**19 21 22.1**	**-0.4**
SBF	**Sospel**	**0.91**	**259**	*e*P	**Pb**	**19 21 24.1**	**+1.5**
SBF				*e*Sn	**Sb**	**19 21 36.1**	**+1.6**
	comp=N,15nm,0.2s						
ENR	**Entracque**	**0.91**	**282**	P	**Pg**	**19 21 22.7**	**0.0**
ENR	**Entracque**	**0.91**	**282**	S	**Sg**	**19 21 34.7**	**0.0**
BOB	**Bobbio (Coli)**	**0.92**	**38**	P	**Pg**	**19 21 22.1**	**-0.6**
STV	**Sant Anna di V**	**0.98**	**282**	P	**Pg**	**19 21 23.6**	**-0.4**
DOI	**San Damiano**	**1.12**	**295**	P	**Pg**	**19 21 25.9**	**-0.7**
PZZ	**Stroppo**	**1.21**	**293**	P	**Pg**	**19 21 27.3**	**-0.9**
PZZ				AML	AML		
	comp=E,46μm,1.6s						
PZZ				AML	AML		
	comp=N,50μm,0.7s						
PZZ				AML	AML		
	comp=E,46μm,1.6s						
PZZ				AML	AML		
	comp=N,50μm,0.7s						
PZZ	**Stroppo**	**1.21**	**293**	P	**Pg**	**19 21 27.6**	**-0.6**
PZZ	**Stroppo**	**1.21**	**293**	P	**Pg**	**19 21 27.7**	**-0.6**
BHB	**Bricherasio**	**1.28**	**309**	P	**Pg**	**19 21 28.5**	**-1.1**
BHB	**Bricherasio**	**1.28**	**309**	P	**Pg**	**19 21 28.6**	**-1.1**
BHB	**Bricherasio**	**1.28**	**309**	P	**Pg**	**19 21 28.9**	**-0.8**
PGF	**Pioggiola**	**1.51**	**171**	*e*Pn	**Pn**	**19 21 29.6**	**-2.2**
PGF				*e*Sn	**Sb**	**19 21 48.6**	**-3.4**
	comp=N,1.6nm,0.3s						
MBDF	**Montbardon**	**1.52**	**297**	*e*Pn	**Pn**	**19 21 32.0**	**0.0**
MBDF				*e*Sn	**Sn**	**19 21 51.7**	**0.0**
	comp=N,3.0nm,0.2s						
FRF	**La Foret Royal**	**1.54**	**252**	*e*Pn	**Pn**	**19 21 31.5**	**-0.6**
FRF	**La Foret Royal**	**1.54**	**252**	*e*Pg	**Pn**	**19 21 33.7**	**+1.6**
FRF				*e*Sn	**Sn**	**19 21 51.5**	**-0.4**
	comp=N,2.2nm,0.3s						
LMR	**La Mourre**	**1.72**	**246**	*e*Pn	**Pn**	**19 21 33.1**	**-1.4**
LMR	**La Mourre**	**1.72**	**246**	*e*Pg	**Pb**	**19 21 36.8**	**+0.5**
LMR				*e*Sn	**Sn**	**19 21 54.9**	**-1.3**
	comp=N,1.5nm,0.3s						
LPG	**La Plagne**	**1.99**	**318**	*e*P	**Pn**	**19 21 40.8**	**+2.2**
LPG				*e*Sn	**Sn**	**19 22 03.1**	**-0.4**
LPG				*e*Sg	**Sg**	**19 22 08.9**	**-0.3**
	comp=N,0.6nm,0.2s						
LPL	**La Plagne**	**2.02**	**318**	*e*P	**Pb**	**19 21 41.4**	**-0.2**
LPL				*e*Sn	**Sn**	**19 22 03.4**	**-0.6**
LPL				*e*Sg	**Sg**	**19 22 09.6**	**-0.3**
	comp=N,1.9nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.18**	**295**	*e*Pn	**Pn**	**19 21 40.7**	**-0.2**
ORIF	**Oris-en-Rattie**	**2.18**	**295**	*e*P	**Pn**	**19 21 42.9**	**+2.0**
ORIF				*e*Sn	**Sn**	**19 22 06.8**	**-1.0**
ORIF				*e*Sg	**Sg**	**19 22 14.5**	**-0.5**
	comp=N,1.4nm,0.3s						
SMRF	**Simiane la Rot**	**2.23**	**269**	*e*P	**Pn**	**19 21 43.5**	**+1.9**
SMRF				*e*Sg	**Sg**	**19 22 15.9**	**-0.8**
	comp=N,4.1nm,0.3s						
VIVF	**Saint-Julien-l**	**2.97**	**287**	*e*Pn	**Pn**	**19 21 52.5**	**+0.7**
VIVF				*e*Sn	**Sn**	**19 22 26.3**	**-1.0**
	comp=N,1.6nm,0.3s						
FOSV	**Fossato di Vic**	**3.06**	**103**	S	**Sg**	**19 22 46.0**	**+2.5**
ASSB	**Assisi San Ben**	**3.07**	**108**	S	**Sb**	**19 22 35.0**	**-1.9**
MMUR	**Monte Murano**	**3.20**	**99**	P	**Pb**	**19 22 03.1**	**+1.5**
MMUR	**Monte Murano**	**3.20**	**99**	S	**Sg**	**19 22 49.0**	**+1.3**
PIO1	**Pioraco**	**3.25**	**104**	P	**Pg**	**19 22 06.7**	**-0.6**
CSP1	**Cessapalombo**	**3.43**	**104**	S	**Sn**	**19 22 44.0**	**+5.2**
SAMA	**S.Maria delle**	**3.67**	**127**	S	**Sg**	**19 22 60.0**	**-2.7**
CDRU	**Civita di Ruta**	**6.07**	**124**	P	**Pb**	**19 22 51.5**	**+0.9**
IACL	**Alicudi**	**6.97**	**140**	P	Pn	19 22 54.6	+7.8

*ISCJB **30** 19:24:34.4±0.3, 43°.01N±0°.03×46°.09E±0°.03, h101km±3km, Error ellipse: s-maj=4.8km s-min=2.1km az=31.3*
*DRS **30** 19:24:34.3±0.0, 43°.60N×45°.68E, h30km, ML3.4/3*
*MOS **30** 19:24:34.6±0.6, 43°.06N×46°.14E, h88km, mb3.8/1, Error ellipse: s-maj=11.0km s-min=6.1km az=26.7*

*NORS **30** 19:24:35.0±0.0, 42°.94N×46°.06E, h85km±2km, MPVA4.1*
*AZER **30** 19:24:35.6±0.4, 42°.78N×46°.11E, h30km±16km, ml3.2/19, Error ellipse: s-maj=31.2km s-min=6.0km az=342.0*
ISC 30 19:24:34.6±0.8, 43°.02N±0°.03×46°.10E±0°.02, h93km±5km, n97, σ1°34/176, 12C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.06**	**161**	⇑*i*P	**Pn**	**19 24 47.7**	**-0.1**
DVE				*e*S	**Sn**	**19 24 57.0**	**-0.6**
DVE	**Vedeno**	**0.06**	**161**	*i* Pg	**Pn**	**19 24 47.6**	**-0.1**
DVE				*e*Sg	**Sn**	**19 24 56.9**	**-0.6**
GROC	**Groznyy**	**0.29**	**310**	⇓*i*P	**Pn**	**19 24 48.8**	**+0.4**
GROC				*e*		19 24 59.8	
GROC				pmax	pmax		
	comp=Z,274nm,0.2s						
GROC				smax	smax		
	comp=E,872nm,0.2s						
GROC				smax	smax		
	comp=N,1μm,0.4s						
GROC				smax	smax		
	comp=N,864nm,0.4s						
BTLR	**Botlikh**	**0.36**	**165**	⇑*e*P	**Pn**	**19 24 49.1**	**+0.2**
BTLR				*i*		19 24 59.7	
BTLR				pmax	pmax		
	comp=Z,520nm,0.5s						
BTLR				smax	smax		
	comp=N,803nm,0.5s						
BTLR	**Botlikh**	**0.36**	**165**	*i* Pg	**Pn**	**19 24 49.1**	**+0.2**
	comp=N,520nm,0.5s						
BTLR				*i* Sg	**Sn**	**19 24 59.8**	**+0.3**
	comp=N,2μm,0.6s						
DLMR	**Dylym**	**0.39**	**82**	*i* P	**Pn**	**19 24 49.0**	**0.0**
DLMR				*e*S	**Sn**	**19 24 59.0**	**-0.7**
DLMR				pmax	pmax		
	comp=Z,160nm,0.2s						
DLMR	**Dylym**	**0.39**	**82**	*i* Pg	**Pn**	**19 24 49.0**	**0.0**
	comp=Z,160nm,0.2s						
DLMR				⇓*i*Sg	**Sn**	**19 24 59.0**	**-0.7**
	comp=Z,693nm,0.3s						
UNCR	**Uncukul**	**0.59**	**120**	*e*P	**Pn**	**19 24 50.5**	**0.0**
UNCR				*e*S	**Sn**	**19 25 02.5**	**+0.1**
UNCR				pmax	pmax		
	comp=Z,143nm,0.2s						
UNCR	**Uncukul**	**0.59**	**120**	*e*Pg	**Pn**	**19 24 50.5**	**0.0**
	comp=Z,143nm,0.2s						
UNCR				*e*Sg	**Sn**	**19 25 02.5**	**+0.1**
	comp=Z,443nm,0.4s						
KRNR	**Karanay**	**0.62**	**107**	⇑*i*P	**Pn**	**19 24 50.0**	**-0.8**
KRNR				*i* S	**Sn**	**19 25 02.0**	**-0.9**
KRNR	**Karanay**	**0.62**	**107**	*i* Pg	**Pn**	**19 24 50.0**	**-0.8**
KRNR				*i* Sg	**Sn**	**19 25 02.0**	**-0.9**
XNZR	**Khunzakh**	**0.65**	**137**	⇑*e*P	**Pn**	**19 24 51.6**	**+0.4**
XNZR				*e*		19 25 04.5	
XNZR	**Khunzakh**	**0.65**	**137**	*e*Pg	**Pn**	**19 24 51.6**	**+0.4**
XNZR				*e*Sg	**Sn**	**19 25 04.3**	**+0.8**
BUJR	**Buynaksk**	**0.77**	**104**	⇑*i*P	**Pn**	**19 24 52.0**	**-0.1**
BUJR				*e*S	**Sn**	**19 25 05.0**	**-0.1**
BUJR				pmax	pmax		
	comp=Z,122nm,0.2s						
BUJR	**Buynaksk**	**0.77**	**104**	*i* Pg	**Pn**	**19 24 52.0**	**-0.1**
	comp=Z,122nm,0.2s						
BUJR				*e*Sg	**Sn**	**19 25 05.0**	**-0.1**
	comp=Z,342nm,0.3s						
ARKR	**Arakani**	**0.78**	**122**	⇑*i*P	**Pn**	**19 24 52.5**	**+0.3**
ARKR				*e*S	**Sn**	**19 25 06.0**	**+0.6**
ARKR				pmax	pmax		
	comp=Z,149nm,0.2s						
ARKR	**Arakani**	**0.78**	**122**	*i* Pg	**Pn**	**19 24 52.5**	**+0.3**
	comp=Z,149nm,0.2s						
ARKR				*e*Sg	**Sn**	**19 25 06.0**	**+0.6**
	comp=Z,289nm,0.0s						
GNBR	**Gunib**	**0.89**	**134**	⇑*e*P	**Pn**	**19 24 54.5**	**+1.0**
GNBR				*e*		19 25 09.5	
GNBR				pmax	pmax		
	comp=Z,227nm,0.5s						
GNBR				smax	smax		
	comp=N,669nm,0.2s						
GNBR	**Gunib**	**0.89**	**134**	*e*Pg	**Pn**	**19 24 54.4**	**+1.0**
	comp=N,211nm,0.4s						
GNBR				⇓*e*Sg	**Sn**	**19 25 08.9**	**+1.3**
	comp=N,742nm,0.2s						
KMGR	**Komgaron**	**0.91**	**273**	⇑*i*P	**Pn**	**19 24 55.0**	**+1.5**
KMGR				*e*S	**Sn**	**19 25 10.6**	**+2.8**
KMGR	**Komgaron**	**0.91**	**273**	*i* Pg	**Pn**	**19 24 55.0**	**+1.5**
KMGR				*e*Sg	**Sn**	**19 25 10.6**	**+2.8**
MAK	**Makhachkala**	**1.03**	**93**	*e*P	**Pn**	**19 24 55.1**	**+0.2**
MAK				*e*		19 25 12.2	
MAK				pmax	pmax		
	comp=Z,102nm,0.3s						
MAK				smax	smax		
	comp=E,1μm,0.4s						
MAK				smax	smax		
	comp=E,2μm,0.4s						
MAK	**Makhachkala**	**1.03**	**93**	*e*Pg	**Pn**	**19 24 55.9**	**+1.0**
MAK				*e*Sg	**Sn**	**19 25 12.2**	**+2.1**
VLKR	**Vladikavkaz**	**1.04**	**272**	*e*P	**Pn**	**19 24 57.1**	**+2.0**
VLKR				*e*S	**Sn**	**19 25 13.2**	**+2.8**
VLKR	**Vladikavkaz**	**1.04**	**272**	*e*Pg	**Pn**	**19 24 55.6**	**+0.6**
VLKR				*e*Sg	**Sn**	**19 25 12.4**	**+2.0**
KMKR	**Kumukh**	**1.15**	**140**	*i* P	**Pn**	**19 24 58.0**	**+1.5**
KMKR				*i* S	**Sn**	**19 25 15.0**	**+2.

DIGR				*e*S		**Sn**	**19 25 27.8**	**-0.7**
DIGR	**Digorskoe uzhe**	**1.85**	**267**	*e*Pg		**Pn**	**19 25 05.9**	**+0.7**
DIGR				*e*Sg		**Sn**	**19 25 27.4**	**-1.0**
NCK	**Nalchik**	**1.89**	**286**	*e*P		**Pn**	**19 25 06.6**	**+1.1**
NCK				*e*S		**Sn**	**19 25 30.0**	**+1.0**
NCK	**Nalchik**	**1.89**	**286**	*e*Pg		**Pn**	**19 25 06.0**	**+0.5**
NCK				*e*Sg		**Sn**	**19 25 29.7**	**+0.7**
DRN	**Derbent**	**1.92**	**120**	*e*P		**Pn**	**19 25 07.7**	**+1.8**
DRN				*e*S		**Sn**	**19 25 32.4**	**+2.7**
DRN				pmax	pmax			
	comp=Z,47nm,0.4s							
DRN	**Derbent**	**1.92**	**120**	*e*Pg		**Pn**	**19 25 07.7**	**+1.8**
	comp=Z,47nm,0.4s							
DRN				⇓*e*Sg		**Sn**	**19 25 31.8**	**+2.1**
	comp=Z,276nm,0.5s							
SEKA	**Sheki**	**1.98**	**155**	P		**Pn**	**19 25 07.4**	**+0.6**
	SNR=21							
SEKA				S		**Sn**	**19 25 31.3**	**0.0**
QZX	**Qazax, Azerbai**	**2.03**	**196**	P		**Pn**	**19 25 08.0**	**+0.7**
	SNR=7.7							
QZX				S		**Sn**	**19 25 33.4**	**+1.1**
KBTC	**Kuba-Taba**	**2.12**	**293**	*e*P		**Pn**	**19 25 09.1**	**+0.6**
KBTC				*e*S		**Sn**	**19 25 34.4**	**0.0**
KBTC	**Kuba-Taba**	**2.12**	**293**	*e*Pg		**Pn**	**19 25 08.7**	**+0.2**
KBTC				*e*Sg		**Sn**	**19 25 34.3**	**-0.1**
QSAR	**Qusar**	**2.20**	**132**	P		**Pn**	**19 25 11.8**	**+2.2**
	SNR=5.8							
QSAR				S		**Sn**	**19 25 38.2**	**+1.9**
GDB	**GEDABAY**	**2.31**	**187**	P		**Pn**	**19 25 11.3**	**+0.1**
	SNR=18							
GDB				S		**Sn**	**19 25 37.9**	**-1.2**
MNGR	**Mingechevir, A**	**2.36**	**161**	P		**Pn**	**19 25 11.6**	**0.0**
MNGR				S		**Sn**	**19 25 39.6**	**-0.4**
GANJ	**Ganja**	**2.37**	**176**	P		**Pn**	**19 25 12.0**	**+0.1**
	SNR=35							
GANJ				S		**Sn**	**19 25 39.9**	**-0.6**
XNQ	**Khinaliq**	**2.39**	**140**	P		**Pn**	**19 25 13.7**	**+1.5**
	SNR=6.9							
XNQ				S		**Sn**	**19 25 42.0**	**+0.9**
PYA1	**Pyatigorsk**	**2.42**	**297**	*i* P		**Pn**	**19 25 12.4**	**-0.1**
PYA1	**Pyatigorsk**	**2.42**	**297**	*e*Pn		**Pn**	**19 25 12.8**	**+0.3**
PYA1				*e*Sn		**Sn**	**19 25 39.7**	**-1.8**
QUBA	**Quba, Azerbaij**	**2.43**	**132**	P		**Pn**	**19 25 14.8**	**+2.1**
	SNR=4.5							
QUBA				S		**Sn**	**19 25 43.4**	**+1.5**
QBL	**Gabala**	**2.44**	**147**	P		**Pn**	**19 25 14.5**	**+1.7**
	SNR=7.5							
QBL				S		**Sn**	**19 25 44.2**	**+2.2**
NEY	**Neytrino**	**2.48**	**277**	*i* P		**Pn**	**19 25 14.4**	**+1.0**
NEY	**Neytrino**	**2.48**	**277**	*e*Pn		**Pn**	**19 25 14.3**	**+0.8**
NEY				*e*Sn		**Sn**	**19 25 42.7**	**-0.5**
SHA1	**Shidzhatmaz**	**2.61**	**287**	*e*P		**Pn**	**19 25 15.2**	**0.0**
SHA1				*e*S		**Sn**	**19 25 44.5**	**-1.8**
SHA1	**Shidzhatmaz**	**2.61**	**287**	*e*Pn		**Pn**	**19 25 15.1**	**0.0**
SHA1				*e*Sn		**Sn**	**19 25 44.4**	**-1.9**
KIV	**Kislovodsk**	**2.66**	**292**	*i* P		**Pn**	**19 25 15.4**	**-0.2**
IML	**Ismayilli**	**2.71**	**144**	P		**Pn**	**19 25 16.6**	**+0.2**
IML				S		**Sn**	**19 25 49.4**	**+0.9**
SIZA	**Siyzn**	**2.85**	**132**	P		**Pn**	**19 25 19.4**	**+1.2**
	SNR=4.8							
SIZA				S		**Sn**	**19 25 53.5**	**+1.7**
PQL	**Pirkuli**	**2.90**	**139**	P		**Pn**	**19 25 20.5**	**+1.5**
	SNR=3.4							
PQL				S		**Sn**	**19 25 54.0**	**+0.8**
ZRD	**Zardab**	**2.98**	**156**	P		**Pn**	**19 25 21.2**	**+1.3**
ZRD				S		**Sn**	**19 25 55.5**	**+0.6**
ATGJ	**Altiaghaj**	**3.02**	**135**	P		**Pn**	**19 25 21.3**	**+0.7**
	SNR=16							
ATGJ				S		**Sn**	**19 25 56.5**	**+0.5**
GNI	**Garni**	**3.04**	**200**	*i* P		**Pn**	**19 25 21.7**	**+0.8**
ARXR	**Arkhyz**	**3.56**	**280**	*e*Pn		**Pn**	**19 25 28.5**	**+0.6**
ARXR				*e*Sn		**Sn**	**19 26 09.4**	**+0.3**
GLBA	**Cilabad**	**4.15**	**155**	P		**Pn**	**19 25 36.7**	**+1.0**
GLBA				S		**Sn**	**19 26 22.1**	**-1.0**
LRK	**Lerik**	**4.69**	**158**	P		**Pn**	**19 25 43.9**	**+0.7**
LRK				S		**Sn**	**19 26 36.1**	**-0.3**
LKRN	**Lenkeran, Azer**	**4.76**	**154**	P		**Pn**	**19 25 43.5**	**-0.5**
LKRN				S		**Sn**	**19 26 35.3**	**-2.5**
ASTR	**Astara**	**4.90**	**154**	P		**Pn**	**19 25 46.2**	**+0.4**
ASTR				S		**Sn**	**19 26 38.6**	**-2.6**
VSR	**Storozhevoye**	**9.46**	**332**	*e*P		Pn	19 26 40.2	-7.7
VSR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
AB31	**Akbulak array**	**11.45**	**52**	Pn		**Pn**	**19 27 13.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=247,slow=12,SNR=10							
AB31				⇑Pg			19 27 34.4	
	comp=Z,0.3nm,0.4s,baz=244,slow=11,SNR=5.4							
AB31				⇑Lg	Lg		19 29 09.9	
	comp=Z,0.7nm,0.6s,baz=248,slow=25,SNR=4.0							
KIEV	**Kiev**	**13.86**	**309**	*i* P		**Pn**	**19 27 45.2**	**-1.5**
AAK	**Ala-Archa**	**20.79**	**81**	*i* P		**P**	**19 29 09.7**	**+1.3**
KURK	**Kurchatov**	**23.38**	**59**	*i* P		**P**	**19 29 34.7**	**-0.2**

*ISK **30** 19:25:12.8,38.°97N×26.°24E, h6km, ML2.5/21*
*DDA **30** 19:25:12.9,38.°95N×26.°28E, h7km±4km, ML2.5*
*ATH **30** 19:25:12.8,38.°99N×26.°17E, h30km±1km, ML2.1/3, Error ellipse: s-maj=3.3km s-min=1.5km az=72.0*
*ISCJB **30** 19:25:13.1±0.4,38.°96N±0.°02×26.°22E±0.°04, h6km±4km, Error ellipse: s-maj=4.8km s-min=2.9km az=166.6*
*THE **30** 19:25:13.9,38.°95N×26.°19E, h4km±1km, ML2.0/4, Error ellipse: s-maj=1.8km s-min=0.3km az=285.0*

ISC 30 19:25:13.2±1.0, 38.°97N±0.°02×26.°24E±0.°03, h9km±9km, n44, σ0.°62/60, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.28**	**5**	P		**Pb**	**19 25 19.9**	**-0.6**
PRK				S		**Sb**	**19 25 24.7**	**-0.6**
PRK	**Paraskevi**	**0.28**	**5**	P		**Pb**	**19 25 19.9**	**-0.6**
PRK				S		**Sb**	**19 25 25.**	**-0.1**
PRK				AML	AML		19 25 28.8	
	comp=E,851μm,0.6s							
PRK				AML	AML		19 25 30.6	
	comp=N,679μm,0.2s							
SIGR	**SIGRI**	**0.39**	**309**	PG		**Pg**	**19 25 21.1**	**+0.3**
SIGR				SG		**Sg**	**19 25 26.5**	**+0.6**
SIGR	**SIGRI**	**0.39**	**309**	P		**Pg**	**19 25 21.1**	**+0.3**
SIGR				S		**Sg**	**19 25 26.9**	**+0.9**
SIGR	**SIGRI**	**0.39**	**309**	P		**Pg**	**19 25 21.1**	**+0.3**
SIGR				S		**Sg**	**19 25 26.8**	**+0.9**
SIGR				AML	AML		19 25 27.4	
	comp=E,738μm,0.5s							
SIGR				AML	AML		19 25 29.0	
	comp=N,355μm,0.4s							
CAND	**Candarli**	**0.44**	**91**	PG		**Pg**	**19 25 21.8**	**+0.1**
KRBN	**Karaburun**	**0.45**	**147**	PG		**Pg**	**19 25 21.4**	**-0.4**
FOCM	**Foa**	**0.46**	**123**	PG		**Pg**	**19 25 22.1**	**0.0**
AYVA	**Ayvalik**	**0.49**	**45**	*i* P		**Pg**	**19 25 22.6**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.50**	**350**	PG		**Pg**	**19 25 22.9**	**+0.1**
CHOS	**Chios island**	**0.60**	**194**	PG		**Pg**	**19 25 24.9**	**+0.2**
CHOS	**Chios island**	**0.60**	**194**	P		**Pg**	**19 25 24.5**	**-0.2**
CHOS				S		**Sb**	**19 25 33.5**	**-0.9**
CHOS	**Chios island**	**0.60**	**194**	P		**Pg**	**19 25 24.6**	**-0.2**
CESE	**eme**	**0.64**	**176**	PG		**Pg**	**19 25 25.7**	**+0.2**
ZEDA	**zmir-Bergama**	**0.65**	**90**	IAML_P				
	comp=Z,1μm,0.1s							
ZEDA				*i* P		**Pb**	**19 25 26.3**	**-0.4**
ZEDA				*i* S		**Sb**	**19 25 35.8**	**-0.2**
URLA	**Izmir**	**0.67**	**155**	PG		**Pg**	**19 25 25.9**	**-0.1**
URLA	**Izmir**	**0.67**	**155**	IAML_P				
	comp=Z,2μm,0.2s							
URLA				*i* P		**Pg**	**19 25 25.5**	**-0.5**
URLA				*i* S		**Sg**	**19 25 34.5**	**-0.2**
PSRA	**Psara**	**0.68**	**232**	P		**Pb**	**19 25 26.7**	**-0.5**
ZEY	**zmir**	**0.76**	**164**	*i* P		**Pg**	**19 25 27.7**	**0.0**
ZEY				*i* S		**Sb**	**19 25 39.3**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.81**	**17**	*i* P		**Pb**	**19 25 29.4**	**-0.1**
BAYC				*i* S		**Sb**	**19 25 41.4**	**+0.8**
EZN	**Ezine**	**0.86**	**4**	PG		**Pg**	**19 25 29.8**	**0.0**
EZN	**Ezine**	**0.86**	**4**	P		**Pb**	**19 25 30.7**	**+0.4**
EZN				S		**Sn**	**19 25 43.4**	**-0.9**
BOZC	**Bozcaada**	**0.89**	**351**	PG		**Pg**	**19 25 30.2**	**-0.1**
BOZC	**Bozcaada**	**0.89**	**351**	IAML_P				
	comp=Z,1μm,0.2s							
BOZC				*i* P		**Pn**	**19 25 31.3**	**-0.6**
BOZC				*i* S		**Sb**	**19 25 43.7**	**+0.9**
STEP	**BALIKESIR_Sava**	**1.22**	**70**	*i* P		**Pn**	**19 25 36.7**	**+0.2**
STEP				*i* S		**Sn**	**19 25 52.9**	**-0.2**
LIA	**Limnos Island**	**1.24**	**319**	P		**Pb**	**19 25 36.1**	**-0.7**
LIA				S		**Sg**	**19 25 50.6**	**-2.5**
SMG	**Samos**	**1.34**	**159**	P		**Pn**	**19 25 37.9**	**-0.2**
SMG				S		**Sn**	**19 25 57.2**	**+1.1**
SMG	**Samos**	**1.34**	**159**	P		**Pn**	**19 25 37.7**	**-0.5**
SMG				S		**Sn**	**19 25 57.2**	**+1.1**
SMG				AML	AML		19 25 58.4	
	comp=E,134μm,0.5s							
SMG				AML	AML		19 25 59.3	
	comp=N,168μm,0.3s							
BALB	**Balikesir**	**1.44**	**62**	PN		**Pn**	**19 25 39.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.44**	**7**	PN		**Pb**	**19 25 39.8**	**-0.4**
LPK	**Lapseki**	**1.46**	**16**	PN		**Pn**	**19 25 39.9**	**+0.1**
GCAM	**G?zelcaml?**	**1.48**	**148**	PN		**Pn**	**19 25 40.4**	**+0.3**
GONE	**Gonen-Balikesi**	**1.55**	**46**	PN		**Pb**	**19 25 41.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.65**	**128**	PN		**Pn**	**19 25 42.5**	**0.0**
ERIK	**Erikli-Kesan**	**1.71**	**7**	PN		**Pn**	**19 25 43.3**	**0.0**
DURS	**Dursunbey**	**1.84**	**69**	IAML_P				
	comp=Z,137nm,0.2s							
DURS				*i* P		**Pn**	**19 25 45.1**	**-0.1**
EDC	**Edincik**	**1.86**	**42**	PN		**Pn**	**19 25 46.1**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.86**	**22**	PN		**Pn**	**19 25 45.7**	**+0.3**
KESN	**Edirne-Kesan**	**1.89**	**10**	IAML_P				
	comp=Z,7.8nm,0.1s							
KESN				*i* P		**Pn**	**19 25 46.0**	**0.0**
ALN	**Alexandroupoli**	**1.94**	**356**	PN		**Pn**	**19 25 46.3**	**0.0**
APE	**Apeiranthos**	**1.98**	**197**	PN		**Pn**	**19 25 47.5**	**+0.6**
BODT	**Bodrum**	**2.08**	**156**	PN		**Pn**	**19 25 49.3**	**+1.0**
KCTX	**Karacabey (Bur**	**2.09**	**51**	PN		**Pn**	**19 25 49.3**	**+0.9**
ARMT	**Armutlu**	**2.58**	**51**	PN		**Pn**	**19 25 56.0**	**+0.9**

*IDC **30** 19:25:36.6±4.0, 10.°26N×125.°73E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.3/53, mbtmp3.6/4, Error ellipse: s-maj=387.9km s-min=27.1km az=68.0*
*ISCJB **30** 19:25:37.8±1.1, 10.°53N±0.°05×126.°7E±0.°1, h35km, mb3.6/4, Error ellipse: s-maj=14.7km s-min=6.6km az=0.6*
*MAN **30** 19:25:37.9, 10.°47N×126.°61E, h34km, MS3.7*

ISC 30 19:25:40.1±1.4, 10.°51N±0.°05×126.°6E±0.°2, h35km, n10, σ1.°18/13, mb3.5/4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.56**	**314**	*e*P		**Pn**	**19 26 05.2**	**-0.1**
PLP	**Palo**	**1.70**	**293**	⇓*e*P		**Pn**	**19 26 06.4**	**-0.9**
BUTP	**Butuan**	**1.79**	**212**	*e*P		**Pn**	**19 26 06.0**	**-2.6**
CNP	**Catarman**	**2.73**	**317**	*e*P		**Pn**	**19 26 20.2**	**-1.3**
CNP				*e*S		**Sn**	**19 26 53.8**	**+0.5**
CGP	**Cagayan de Oro**	**2.76**	**222**	⇑*e*P		**Pn**	**19 26 21.6**	**-0.2**
CGP				*e*S		**Sn**	**19 26 54.7**	**+0.7**
BUKP	**Musuan**	**3.01**	**210**	*e*P		**Pn**	**19 26 24.8**	**-0.6**
BUKP				*e*S		**Sn**	**19 27 01.6**	**+1.3**
ASAR	**Alice Springs**	**34.71**	**168**	P		**P**	**19 32 28.0**	**+1.0**
	0.2nm,0.3s,baz=344,slow=7.3,SNR=5.3							
MKAR	**Makanchi Array**	**52.02**	**323**	P		**P**	**19 34 45.6**	**-0.6**
	0.3nm,0.6s,baz=119,slow=9.2,SNR=5.0							
ZALV	**Zalesovo Beam**	**54.56**	**331**	P		**P**	**19 35 04.8**	**+0.1**
	0.6nm,0.4s,baz=112,slow=7.0,SNR=4.1							
KURBB	**Kurchatov Arra**	**56.05**	**325**	P		**P**	**19 35 15.5**	**0.0**
	0.3nm,0.6s,baz=128,slow=6.7,SNR=4.7							

*IDC **30** 19:37:26.4±1.7, 29.°97N×47.°73E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.3/48, mbtmp3.6/7, ML3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/23, Error ellipse: s-maj=36.8km s-min=26.7km az=7.0*
*ISCJB **30** 19:37:27.9±0.4, 29.°78N±0.°04×47.°74E±0.°04, h33km, mb3.3/4, Error ellipse: s-maj=6.5km s-min=3.0km az=135.5*
*TEH **30** 19:37:28.9, 29.°99N×47.°84E, h18km, ML3.9*
*ISN **30** 19:37:29.6±0.8, 29.°71N×47.°20E, h17km±3km, ML3.8*
*DSN **30** 19:37:35.7±0.9, 30.°08N×48.°68E, h10km, ML3.9/10, Error ellipse: s-maj=29.0km s-min=6.3km az=21.0*
*OMAN **30** 19:37:36.9±1.2, 30.°04N×48.°47E, h36km, ms2.3/1, Error ellipse: s-maj=34.7km s-min=10.8km az=36.0*

ISC 30 19:37:29.8±0.8, 29.°80N±0.°07×47.°74E±0.°06, h35km, n56, σ1.°86/69, mb3.4/4, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**1.71**	**27**	*e*Pg		**Pn**	**19 37 56.9**	**-0.3**
AHWZ				*e*Sg		**Sn**	**19 38 18.6**	**+0.7**
NSR	**Nassriya**	**1.83**	**312**	*e*Pg		**Pn**	**19 37 58.0**	**-0.8**
NSR				*e*Sg		**Sn**	**19 38 19.0**	**-1.8**
JHBN	**Jahan bin**	**3.49**	**45**	*e*Pn		**Pn**	**19 38 22.3**	**+0.4**
JHBN				IAMB	IAmb		19 39 31.8	
	comp=Z,0.0nm,0.4s							
ZNGN	**Zangian**	**3.54**	**48**	*e*Pn		**Pn**	**19 38 22.5**	**0.0**
ZNGN				IAMB	IAmb		19 38 40.9	
	comp=Z,0.0nm,0.4s							
IKAZ	**Kazeroun**	**3.56**	**89**	*e*Pn		**Pn**	**19 38 23.2**	**+0.3**
IKAZ				IAMB	IAmb		19 39 37.2	
	comp=Z,0.0nm,0.4s							
IBDR	**Badra**	**3.65**	**335**	*e*Pn		**Pn**	**19 38 26.0**	**+2.3**
IBDR				*e*Sn		**Sn**	**19 39 08.0**	**+2.5**
IKFM	**Kafar-mosalman**	**3.72**	**1**	*e*Pn		**Pn**	**19 38 25.4**	**+0.7**
IKFM				IAMB	IAmb		19 39 38.8	
	comp=Z,0.0nm,0.6s							
IKMR	**Kamar-syah**	**3.75**	**8**	*e*Pn		**Pn**	**19 38 25.1**	**0.0**
IKMR				IAMB	IAmb		19 39 39.3	
	comp=Z,0.0nm,1.0s							
ROKH	**ROKH**	**3.80**	**47**	*e*Pn		**Pn**	**19 38 26.2**	**+0.1**
ROKH				IAMB	IAmb		19 39 32.7	
	comp=Z,0.0nm,0.6s							
IPIR	**Pirpir**	**3.95**	**42**	*e*Pn		**Pn**	**19 38 28.6**	**+0.4**
IPIR				IAMB	IAmb		19 39 43.3	
	comp=Z,0.0nm,0.6s							
KHMZ	**Khomeyn**	**4.36**	**25**	*e*Pn		**Pn**	**19 38 34.5**	**+0.7**
IKOM	**Komasi**	**4.37**	**358**	*e*Pn		**Pn**	**19 38 33.8**	**0.0**
IRAM	**Ramesheh**	**4.47**	**62**	*e*Pn		**Pn**	**19 38 35.6**	**+0.3**
IRAM				IAMB	IAmb		19 38 54.6	
	comp=Z,0.0nm,0.5s							
BHD	**Baghdad**	**4.50**	**321**	*e*Pn		**Pn**	**19 38 36.0**	**+0.6**
BHD				*e*Sn		**Sn**	**19 39 24.5**	**-1.9**
IPAR	**Pars**	**4.61**	**88**	*e*Pn		**Pn**	**19 38 36.3**	**-1.0**
IPAR				IAMB	IAmb		19 39 37.0	
	comp=Z,0.0nm,0.6s							
IGHG	**Ghaleghazi**	**4.63**	**348**	*e*Pn		**Pn**	**19 38 36.9**	**-0.5**
IVIS	**Veis**	**4.78**	**351**	*e*Pn		**Pn**	**19 38 38.8**	**-0.6**
IKLH	**Kolahrood**	**4.80**	**42**	*e*Pn		**Pn**	**19 38 40.0**	**+0.1**
GHIR	**Ghir-Karzin**	**4.83**	**107**	*e*Pn		**Pn**	**19 38 43.4**	**+3.2**
IZEF	**Zefreh**	**5.00**	**51**	*e*Pn		**Pn**	**19 38 42.4**	**-0.1**
IZEF				IAMB	IAmb		19 38 59.4	
	comp=Z,0.0nm,0.6s							
IDHR	**Dehrash**	**5.02**	**347**	*e*Pn		**Pn**	**19 38 42.3**	**-0.5**
ASAO	**Ashtian**	**5.12**	**22**	*e*Pn		**Pn**	**19 38 44.7**	**+0.5**
ILIN	**Lien**	**5.15**	**353**	*e*Pn		**Pn**	**19 38 44.5**	**-0.1**
NASN	**Na'in**	**5.27**	**54**	*e*Pn		**Pn**	**19 38 46.3**	**-0.1**
SNGE	**Sanandaj**	**5.29**	**357**	*e*Pn		**Pn**	**19 38 46.8**	**+0.3**
ISAD	**Sadrabad**	**5.53**	**66**	*e*Pn		**Pn**	**19 38 49.6**	**-0.3**
ISAD				IAMB	IAmb		19 39 12.8	
	comp=Z,0.0nm,0.5s							
KRSH	**Karshahi**	**5.59**	**41**	*e*Pn		**Pn**	**19 38 50.2**	**-0.5**
IMEH	**Mehriz**	**6.13**	**73**	*e*Pn		**Pn**	**19 38 56.9**	**-1.3**
IKRK	**Kirkuk**	**6.28**	**334**	*e*Pn		**Pn**	**19 39 02.0**	**+2.1**
IKRK				*e*Sn		**Sn**	**19 40 10.0**	**-0.5**
RTB	**Rutbah**	**7.12**	**299**	*e*Pn		**Pn**	**19 39 11.0**	**-0.5**
RTB				*e*Sn		**Sn**	**19 40 24.0**	**-7.3**
MSL	**Mosul**	**7.64**	**331**	*e*Pn		**Pn**	**19 39 21.0**	**+2.4**
MSL				*e*Sn		**Sn**	**19 40 42.0**	**-2.0**
NIAN	**Nian**	**8.29**	**103**	*e*Pn		**Pn**	**19 39 28.3**	**+0.7**
SHME	**Shamm**	**8.32**	**115**	*i* P		**Pn**	**19 39 27.8**	**-0.2**
	SNR=5.4							
SHME				S		**Sn**	**19 40 56.8**	**-3.9**
ASUD	**Al Ashush, Dub**	**8.49**	**126**	*i* P		**Pn**	**19 39 32.8**	**+2.4**
	SNR=22							
ASUD	**Al Ashush, Dub**	**8.49**	**126**	P		**Pn**	**19 39 32.8**	**+2.4**
	SNR=22							
ASUD				S		**Sn**	**19 41 05.1**	**+0.1**
BANOM	**Banah**	**8.50**	**115**	*i* P		**Pn**	**19 39 30.8**	**+0.3**
	SNR=26							
BANOM	**Banah**	**8.50**	**115**	P		**Pn**	**19 39 31.7**	**+1.2**
	SNR=26							
BANOM				S		**Sn**	**19 41 00.7**	**-4.5**
NAZ	**Nazwa, Dubai**	**8.52**	**122**	P		**Pn**	**19 39 32.4**	**+1.8**
FAQ	**Al Faqa, Dubai**	**8.61**	**124**	P		**Pn**	**19 39 33.6**	**+1.7**
MSFE	**Esma-Masafi**	**8.68**	**119**	P		**Pn**	**19 39 34.2**	**+1.3**
MDH	**Madha**	**8.82**	**119**	P		**Pn**	**19 39 35.8**	**+1.0**
MDH	**Madha**	**8.82**	**119**	P		**Pn**	**19 39 35.9**	**+1.1**
UOSS	**Minazif**	**8.94**	**121**	P		**Pn**	**19 39 37.3**	**+0.7**
UOSS	**Minazif**	**8.94**	**121**	P		**Pn**	**19 39 37.8**	**+1.3**
	SNR=7.4							
HATD	**Hatta, Dubai**	**8.96**	**122**	*i* P		**Pn**	**19 39 38.3**	**+1.6**
	SNR=9.3							
HATD	**Hatta, Dubai**	**8.96**	**122**	P		**Pn**	**19 39 38.4**	**+1.6**
	SNR=9.4							
HATD				S		**Sn**	**19 41 16.3**	**-0.1**
ASHO	**Ashiyiah**	**8.98**	**123**	*i* P		**Pn**	**19 39 38.5**	**+1.3**
	SNR=15							
ASHO	**Ashiyiah**	**8.98**	**123**	P		**Pn**	**19 39 38.5**	**+1.3**
	SNR=15							
ASHO				S		**Sn**	**19 41 14.1**	**-3.1**
ALNE	**Al Ain**	**9.15**	**127**	*i* P		**Pn**	**19 39 41.6**	**+2.2**
	SNR=7.8							
WSAR	**Wadi Sarin**	**11.73**	**121**	Pn		**Pn**	**19 40 15.3**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=309,slow=10,SNR=9.6							
WSAR				Sn		**Sn**	**19 42 18.9**	**-5.7**
	comp=Z,0.7nm,0.3s,baz=240,slow=20,SNR=4.5							
GEYT	**Alibeck**	**11.83**	**44**	Pn		**Pn**	**19 40 15.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=4.0							
GEYT				LR	LR		19 45 22.4	
	comp=Z,67nm,20.0s,baz=120,slow=41							
BRTR	**Keskin Array B**	**15.22**	**314**	Pn		**Pn**	**19 41 02.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=127,slow=14,SNR=3.0							
AKASG	**Malin Array Be**	**25.08**	**332**	P		**P**	**19 42 51.1**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=133,slow=9.1,SNR=6.4							
MKAR	**Makanchi Array**	**31.67**	**48**	P		**P**	**19 43 50.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=243,slow=9.5,SNR=2.7							
HFS	**Hagfors**	**37.95**	**333**	P		**P**	**19 44 43.6**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=115,slow=9.7,SNR=2.6							
TORD	**Torodi Ar. Bea**	**45.62**	**259**	P		**P**	**19 45 49.4**	**+2.4**
	comp=Z,0.2nm,0.6s,baz=74,slow=8.8,SNR=2.1							

IDC 30 19:40:40.9±9.3, 7.°53S×155.°20E, h0km, mb3.4/2, mb1 3.4/2, mb1mx3.3/27, mbtmp3.4/2, Error ellipse: s-maj=287.4km s-min=43.4km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.69**	**236**	P		P	19 45 54.2	-0.3
	62nm,0.3s,baz=64,slow=10,SNR=2.7							
ASAR	**Alice Springs**	**25.98**	**229**	P		P	19 46 15.9	+0.4
	0.2nm,0.6s,baz=63,slow=9.6,SNR=4.4							
MKAR	**Makanchi Array**	**83.94**	**319**	P		P	19 53 12.9	-0.1
	0.2nm,0.4s,baz=90,slow=7.0,SNR=4.3							

NSSC 30 19:42:08.9±2.8, 31.°68N×40.°48E, h0km±999km, ML2.5, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOTH	**TOTAH**	**3.81**	**297**	*e*P		Pn	19 43 10.6	+1.7
TOTH				*e*S		Sn	19 43 51.2	-3.2
QASN	**Qassioun**	**4.00**	**299**	*e*P		Pn	19 43 12.8	+1.3
QASN				*e*S		Sn	19 43 57.8	-1.3
BRBR	**Barbar**	**4.19**	**296**	*e*P		Pn	19 43 13.1	-1.2
BRBR				*e*S		Sn	19 44 03.7	-0.4

IDC 30 20:27:23.7±2.3, 3.°09N×125.°26E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/33, mbtmp3.4/3, Error ellipse: s-maj=242.9km s-min=26.6km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.57**	**159**	P		P	20 32 46.0	+0.4
	1.5nm,0.8s,baz=338,slow=13,SNR=0.1							
ASAR	**Alice Springs**	**27.90**	**163**	P		P	20 33 15.2	-0.4
	0.2nm,0.6s,baz=343,slow=8.4,SNR=2.9							
MKAR	**Makanchi Array**	**57.25**	**326**	P		P	20 37 13.0	-0.1
	0.2nm,0.4s,baz=114,slow=7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	145.05	348	ePKPbc	PKPbc	20 48 49.7	-0.1
PDAR	Pinedale Array	147.21	355	PKPbc	PKPbc	20 48 53.5	-2.9
	0.3nm,0.4s,baz=349,slow=1.9,SNR=3.5						
NV01	Mina Array Sit	151.41	8	ePKPbc	PKPbc	20 49 07.2	+0.1
NVAR	Mina Array Bea	151.41	8	PKPbc	PKPbc	20 49 07.2	+0.1
	1.2nm,0.8s,baz=264,slow=2.4,SNR=5.3						
LTX	Lajitas	158.68	336	ePKPab	PKPab	20 49 46.4	+0.2
TXAR	Lajitas Array	158.68	336	PKPab	PKPab	20 49 46.4	+0.2
	0.3nm,0.7s,baz=49,slow=5.8,SNR=4.1						

*IDC **30** 20:39:22.3±5.2, 18°.90N×108°.54W, h0km, mb3.3/5, mb1 3.8/5, mb1mx3.6/34, mbtmp3.4/5, MS2.9/6, Ms1 3.0/6, ms1mx2.7/28, Error ellipse: s-maj=91.5km s-min=19.8km az=148.0*

ISC 30 20:39:23.3±3.7, 18°.8N±0°.4×108°.6W±0°.2, h10km, n12, σ2°29/11, mb3.4/5, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS	2.21	270	Pn	Pn	20 40 01.5	+1.4
H06E1				Sn	Sb	20 40 32.2	+1.5
H06E1				T	T	20 42 04.5	
	SNR=15						
H06S1	SOCORRO T	2.24	269	Pn	Pn	20 40 00.6	+0.1
H06S1				Sn	Sn	20 40 22.6	-5.6
	SNR=30						
H06S1				T	T	20 42 08.6	
	SNR=9.2						
H06N1	SOCORRO T-PHAS	2.27	272	Pn	Pn	20 40 01.8	+1.0
H06N1				Sn	Sn	20 40 30.3	+1.5
H06N1				T	T	20 42 06.7	
	SNR=10.0						
LPIG	La Paz	5.50	343	LR	LR	20 42 23.6	
	comp=Z,147nm,18.7s,baz=226,slow=33						
TXAR	Lajitas Array	11.40	22	LR	LR	20 45 19.4	
	comp=Z,32nm,19.9s,baz=0.0,slow=32						
CMIG	Matias Romero	13.16	95	LR	LR	20 47 24.0	
	comp=Z,42nm,18.8s,baz=60,slow=37						
ANMO	Albuquerque	16.19	6	LR	LR	20 48 53.1	
	comp=Z,57nm,20.3s,baz=234,slow=36						
NVAR	Mina Array Bea	21.30	339	P	P	20 44 10.7	+0.3
	1.6nm,0.8s,baz=158,slow=11,SNR=8.4						
NVAR				LR	LR	20 51 53.7	
	comp=Z,52nm,18.8s,baz=263,slow=36						
ELK	Elko	22.60	347	P	P	20 44 23.2	-1.1
	0.7nm,0.6s,baz=145,slow=9.4,SNR=3.1						
ELK				LR	LR	20 52 23.2	
	comp=Z,42nm,19.2s,baz=220,slow=35						
PDAR	Pinedale Array	23.90	358	P	P	20 44 36.6	-0.8
	0.5nm,0.7s,baz=171,slow=10,SNR=4.4						
YKA	Yellowknife Ar	43.85	356	P	P	20 47 28.8	-0.5
	0.5nm,0.7s,baz=172,slow=7.7,SNR=7.2						
ILAR	Eielson Array	52.54	340	P	P	20 48 37.5	+0.9
	0.3nm,0.5s,baz=142,slow=7.0,SNR=4.4						

*IDC **30** 20:44:19.4±1.4, 53°.76N×163°.04W, h0km, mb3.7/14, mb1 3.8/15, mb1mx3.7/59, mbtmp3.7/15, ML2.7/1, MS2.7/3, Ms1 2.6/3, ms1mx2.4/38, Error ellipse: s-maj=35.7km s-min=19.2km az=178.0*

*ISCJB **30** 20:44:22.2±0.6, 53°.74N±0°.07×162°.62W±0°.05, h25km, mb3.7/14, Error ellipse: s-maj=9.6km s-min=3.4km az=165.7*

*NEIC **30** 20:44:25.0±0.0, 53°.92N×162°.90W, h12km, ML3.4(AEIC), After AEIC.*

ISC 30 20:44:23.6±0.8, 53°.81N±0°.09×162°.77W±0°.04, h25km, n58, σ1°38/56, mb3.7/14, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	Brown Peak	1.01	326	ePg	Pn	20 44 41.8	-0.4
FALS	False Pass	1.11	340	ePg	Pn	20 44 43.3	-0.2
DRIA	Deer Island	1.19	14	ePg	Pb	20 44 45.0	-0.5
DT1	Dutton Round H	1.33	12	ePn	Pn	20 44 46.8	+0.3
WESP	Westdahl Peak	1.33	301	ePn	Pb	20 44 47.8	-0.2
WESP				eSn	Sb	20 45 05.5	+0.8
DOL	Dolgoi Island	1.44	21	ePn	Pb	20 44 48.9	-0.8
PS4A	Pavlof South-4	1.62	19	ePn	Pb	20 44 52.3	-0.6
PVV	Pavlof Volcano	1.66	20	ePn	Pb	20 44 52.8	-0.8
AKSA	Akutan Strait	1.76	282	ePn	Pn	20 44 53.7	+1.3
AKSA				eSn	Sn	20 45 15.5	+1.5
AKUT	Akutan	1.80	281	ePn	Pn	20 44 53.7	+0.7
AHB	Akutan Harbor	1.83	281	ePn	Pn	20 44 54.4	+1.0
ZRO	Akutan Zero	1.92	280	ePn	Pn	20 44 55.9	+1.2
AKMO	Akutan Morgan	1.94	280	ePn	Pn	20 44 56.0	+1.2
AKRB	Akutan Reef Bi	1.98	281	ePn	Pn	20 44 57.0	+1.6
AKRB				eSn	Sb	20 45 21.7	-1.3
SDPT	Sand Point	2.04	40	ePn	Pb	20 44 58.4	-1.5
UNV	Unalaska Valle	2.21	272	ePn	Pn	20 44 59.3	+0.7
MSW	Makushin Switc	2.38	274	ePn	Pn	20 45 02.0	+1.0
MSW				eSn	Sn	20 45 31.2	+1.9
MCIR	Makushin Cirqu	2.44	275	ePn	Pn	20 45 03.6	+1.7
VNWF	Veniaminof 8	2.98	37	ePn	Pn	20 45 12.5	+3.1
OKTU	Okmok Mt. Tuli	3.17	264	ePn	Pn	20 45 14.1	+2.2
VNHG	Veniaminof 1	3.18	39	ePn	Pn	20 45 15.5	+3.4
OKWE	Okmok W'ng Wal	3.27	266	ePn	Pn	20 45 15.1	+1.8
OKAK	Okmok	3.33	268	ePn	Pn	20 45 16.1	+2.1
CHGN	Chignik	3.53	43	ePn	Pn	20 45 19.1	+2.3
NIKH	Nikolski High	3.74	259	ePn	Pn	20 45 20.7	+1.1
SPIA	Saint Paul Isl	5.42	311	ePn	Pn	20 45 45.2	+2.5
SII	Sitkinak Islan	5.63	57	ePn	Pn	20 45 47.6	+1.9
OHAK	Old Harbor	6.38	54	ePn	Pn	20 45 56.6	+0.8
KDAK	Kodiak Island	6.98	51	ePn	Pn	20 46 05.4	+1.3
SVW2	Sparrevohn	8.26	25	ePn	Pn	20 46 23.7	+2.0
CNPM	China Poot	8.54	43	ePn	Pn	20 46 27.6	+2.0
SUA	Susitna One	10.00	35	ePn	Pn	20 46 47.0	+1.4
GLI	Glacier Island	11.01	44	ePn	Pn	20 46 59.4	0.0
SCM	Sheep Creek Mo	11.48	39	ePn	Pn	20 47 05.8	0.0
KLU	Klutina	11.83	43	ePn	Pn	20 47 10.9	+0.4
DHY	Denali Highway	12.26	35	ePn	Pn	20 47 15.5	-1.0
RIDG	Independent Ri	13.56	36	ePn	Pn	20 47 34.2	+0.1
ILAR	Eielson Array	13.60	30	Pn	Pn	20 47 34.0	-0.6
	0.0nm,0.3s,baz=229,slow=12,SNR=2.3						
PETK	Petropavlovsk-	23.34	284	P	P	20 49 28.2	-1.4
	4.5nm,0.8s,baz=83,slow=13,SNR=7.0						
PETK				LR	LR	20 59 20.0	
	comp=Z,25nm,19.6s,baz=65,slow=39						
YKA	Yellowknife Ar	26.26	51	P	P	20 49 57.6	+1.2
	0.3nm,0.6s,baz=274,slow=9.5,SNR=3.0						
YKA				LR	LR	21 01 38.2	
	comp=Z,5.2nm,18.8s,baz=169,slow=39						
PDAR	Pinedale Array	36.27	86	P	P	20 51 26.0	+1.1
	0.1nm,0.3s,baz=331,slow=5.4,SNR=2.5						
H11N2	WAKE ISLAND Hy	41.20	226	T	T	21 36 14.1	
	baz=26,slow=76,SNR=86						
H11N3	WAKE ISLAND Hy	41.21	226	T	T	21 36 14.1	
	baz=26,slow=76,SNR=101						
H11N1	WAKE ISLAND Hy	41.22	226	T	T	21 36 15.0	
	baz=26,slow=76,SNR=80						
H11S1	WAKE ISLAND Hy	42.38	226	T	T	21 37 44.8	
	baz=26,slow=76,SNR=90						
H11S2	WAKE ISLAND Hy	42.39	226	T	T	21 37 43.0	
	baz=26,slow=76,SNR=64						
H11S3	WAKE ISLAND Hy	42.39	226	T	T	21 37 43.1	
	baz=26,slow=76,SNR=72						
TXAR	Lajitas Array	48.83	95	P	P	20 53 07.3	+0.5
	0.4nm,0.7s,baz=298,slow=4.0,SNR=2.8						
SONM	Songino Array	53.90	304	P	P	20 53 44.5	-0.1
	0.8nm,0.4s,baz=45,slow=8.6,SNR=3.5						
ARCES	ARCESS Array B	56.81	357	P	P	20 54 04.0	-1.1
	2.3nm,1.1s,baz=9.5,slow=9.4,SNR=6.9						
ZALV	Zalesovo Beam	58.95	320	P	P	20 54 18.3	-2.0
	0.5nm,0.3s,baz=38,slow=6.6,SNR=2.6						
FINES	FINESS Array B	64.87	355	P	P	20 54 59.9	-0.1
	1.0nm,0.6s,baz=14,slow=6.2,SNR=6.9						
NOA	NORSAR Array B	65.39	3	P	P	20 55 03.0	-0.5
	0.4nm,0.7s,baz=356,slow=6.5,SNR=3.5						
MKAR	Makanchi Array	65.59	317	P	P	20 55 05.1	+0.1
	0.3nm,0.5s,baz=37,slow=5.7,SNR=5.4						
AKASG	Malin Array Be	75.37	352	P	P	20 56 04.5	0.0
	0.4nm,0.4s,baz=5.6,slow=5.4,SNR=3.0						
GERES	GERESS Array B	77.67	2	P	P	20 56 17.2	-0.4
	0.3nm,0.5s,baz=312,slow=6.1,SNR=2.9						
GERES				LR	LR	21 32 45.5	
	comp=Z,7.8nm,18.1s,baz=308,slow=37						
CMAR	Chiang Mai Arr	80.08	288	P	P	20 56 30.1	-1.1
	0.4nm,0.8s,baz=26,slow=6.5,SNR=3.5						
BRTR	Keskin Array B	85.77	347	P	P	20 57 00.4	-0.1
	0.6nm,1.0s,baz=339,slow=7.7,SNR=2.9						

IDC 30 20:45:30.8±1.2, 19°.50N×145°.13E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/39, mbtmp3.8/4, Error ellipse: s-maj=73.7km s-min=26.6km az=102.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.60	196	P	P	20 53 13.1	+0.7
	158nm,0.4s,baz=14,slow=7.4,SNR=2.1						
ASAR	Alice Springs	44.28	195	P	P	20 53 42.5	+0.1
	0.4nm,0.4s,baz=19,slow=7.0,SNR=9.9						
STKA	Stephens Creek	51.20	184	P	P	20 54 34.2	-1.8
	0.4nm,0.3s,baz=8.3,slow=9.5,SNR=3.7						
NVAR	Mina Array Bea	83.07	52	P	P	20 57 58.7	-0.1
	0.2nm,0.4s,baz=260,slow=6.0,SNR=3.6						
FINES	FINESS Array B	85.94	335	P	P	20 58 12.9	+0.4
	0.4nm,0.3s,baz=67,slow=5.6,SNR=6.7						

*ISCJB **30** 20:47:28.8±0.5, 7°.59S±0°.06×30°.30E±0°.06, h10km, mb3.6/6, Error ellipse: s-maj=11.1km s-min=5.3km az=38.2*

*IDC **30** 20:47:30.0±0.9, 7°.47S×30°.04E, h0km, mb3.7/6, mb1 3.9/12, mb1mx3.6/41, mbtmp3.9/12, ML3.0/4, Error ellipse: s-maj=34.5km s-min=14.6km az=105.0*

ISC 30 20:47:30.6±0.6, 7°.49S±0°.05×30°.13E±0°.07, h10km, n18, σ2°99/27, mb3.8/6, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOND	Kondoa	6.19	66	i P	Pn	20 49 03.5	+1.2
KOND				i S	Sn	20 50 09.8	-3.5
KIBA	Kibaya	6.77	72	i P	Pn	20 49 11.3	+1.1
KIBA				i S	Sn	20 50 22.9	-4.7
MBAR	Mbarara	6.87	5	Pn	Pn	20 49 12.5	+0.8
	6.8nm,0.3s,baz=211,slow=18,SNR=13						
MBAR				Sn	Sn	20 50 22.0	-8.1
	11nm,0.3s,baz=253,slow=19,SNR=1.9						
MBAR				Lg	Lg	20 50 54.2	
	15nm,0.3s,baz=162,slow=13,SNR=8.5						
LSZ	Lusaka	7.96	194	Pn	Pn	20 49 29.2	+2.6
	2.2nm,0.3s,baz=358,slow=13,SNR=11						
LSZ				Sn	Sn	20 50 55.1	-1.8
	2.6nm,0.3s,baz=103,slow=19,SNR=4.4						
LSZ				Lg	Lg	20 51 42.1	
	8.2nm,0.3s,baz=292,slow=23,SNR=14						
KMBO	Kilima Mbogo	9.51	49	i P	Pn	20 49 49.7	+1.8
KMBO				i S	Sn	20 51 34.0	-1.1
KMBO	Kilima Mbogo	9.51	49	i P	Pn	20 49 49.7	+1.8
KMBO				i S	Sn	20 51 34.0	-1.1
KMBO	Kilima Mbogo	9.51	49	Pn	Pn	20 49 49.3	+1.3
	0.5nm,0.3s,baz=219,slow=16,SNR=5.2						
KMBO				Sn	Sn	20 51 25.6	-10
	0.8nm,0.3s,baz=190,slow=17,SNR=5.1						
KMBO				Lg	Lg	20 52 22.2	
	2.4nm,0.3s,baz=315,slow=19,SNR=5.4						
MATP	Matopo	12.95	187	i P	Pn	20 50 37.8	+2.9
MATP				i S	Sn	20 52 55.5	-3.8
MATP	Matopo	12.95	187	i P	Pn	20 50 37.8	+2.9
MATP				i S	Sn	20 52 55.5	-3.8
MATP	Matopo	12.95	187	Pn	Pn	20 50 35.0	+0.1
	0.4nm,0.3s,baz=3.1,slow=15,SNR=7.7						
MATP				Sn	Sn	20 52 53.1	-6.2
	0.5nm,0.3s,baz=37,slow=20,SNR=2.7						
MATP				Lg	Lg	20 54 18.0	
	0.9nm,0.3s,baz=89,slow=19,SNR=4.1						
TSUM	Tsumeb	16.85	225	Pn	Pn	20 51 26.2	-0.7
	0.4nm,0.3s,baz=53,slow=13,SNR=4.2						
TSUM				Sn	Sn	20 54 19.2	-15
	0.1nm,0.3s,baz=102,slow=14,SNR=1.6						
LBTB	Lobatse	17.95	193	P	Pn	20 51 39.9	-0.7
	0.3nm,0.3s,baz=12,slow=12,SNR=4.5						
BOSA	Boshof	21.50	192	P	P	20 52 21.8	+1.9
	2.2nm,1.0s,baz=0.0,slow=20,SNR=2.0						
DBIC	Dimbokro	37.62	291	P	P	20 54 46.0	+0.1
	1.6nm,0.8s,baz=108,slow=20,SNR=2.2						
BRTR	Keskin Array B	47.09	4	P	P	20 56 04.5	+1.6
	0.9nm,0.7s,baz=174,slow=11,SNR=7.5						
AKASG	Malin Array Be	57.96	359	P	P	20 57 23.3	+0.2
	0.2nm,0.2s,baz=176,slow=6.3,SNR=4.7						
MKAR	Makanchi Array	71.11	35	P	P	20 58 50.0	+0.7
	0.5nm,0.7s,baz=228,slow=4.7,SNR=5.4						
ARCES	ARCESS Array B	76.92	358	P	P	20 59 23.7	+1.0
	0.4nm,0.7s,baz=178,slow=9.2,SNR=3.9						

*TIF **30** 20:47:45.9, 43°.28N×41°.54E, h36km±3km*

*ISCJB **30** 20:47:46.7±0.5, 43°.23N±0°.04×41°.73E±0°.03, h10km±7km, Error ellipse: s-maj=7.0km s-min=3.4km az=3.9*

*NORS **30** 20:47:47.1±0.0, 43°.18N×41°.78E, h9km, MPVA2.8*

ISC 30 20:47:47.4±1.0, 43°.23N±0°.04×41°.71E±0°.03, h7km±7km, n14, σ1°04/28, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	Dombai	0.09	313	i Pg	Pg	20 47 49.5	-0.2
DOMR				i Sg	Sg	20 47 51.7	+0.4
ARXR	Arkhyz	0.46	316	ePg	Pg	20 47 56.4	0.0
ARXR				eSg	Sb	20 48 03.9	-1.1
NEY	Neytrino	0.74	88	ePg	Pg	20 48 00.5	-1.2
NEY				eSg	Sg	20 48 09.7	-1.6
SHA1	Shidzhatmaz	0.85	53	i Pg	Pg	20 48 03.6	-0.3
SHA1				i Sg	Sg	20 48 15.3	+0.3
KIV0	Kislovodsk Arr	1.02	44	i Pg	Pb	20 48 06.7	-0.7
KIV0				i Sg	Sb	20 48 20.6	-0.4
TKB	Tkibuli	1.29	133	P	Pn	20 48 11.0	-0.9
TKB				S	Sg	20 48 31.1	+2.1
PYA1	Pyatigorsk	1.30	50	ePg	Pn	20 48 11.6	-0.4
PYA1				i Sg	Sb	20 48 29.2	0.0
KBTC	Kuba-Taba	1.37	64	ePg	Pg	20 48 15.2	+1.5
KBTC				eSg	Sn	20 48 31.8	+0.5
GUZR	Guzeripl'	1.39	304	ePg	Pb	20 48 13.6	-0.1
GUZR				eSg	Sg	20 48 33.1	+1.1
DIGR	Digorskoe uzhe	1.41	103	ePg	Pn	20 48 14.0	+0.3
DIGR				eSg	Sg	20 48 35.1	+2.3
ONI	Oni	1.43	116	P	Pn	20 48 13.9	0.0
ONI				S	Sn	20 48 33.8	+0.9
ONI	Oni	1.43	116	ePg	Pn	20 48 13.9	0.0
ONI				eSg	Sn	20 48 33.8	+0.9
SOC	Sochi	1.49	284	ePg	Pg	20 48 16.7	+0.6
SOC				eSg	Sg	20 48 36.5	+1.1
BATM	Batumi	1.63	180	P	Pn	20 48 15.5	-1.0
BATM				S	Sn	20 48 36.6	-1.1

*ISCJB **30** 20:55:53.2±0.2, 6°.83N±0°.02×73°.10W±0°.03, h159km±2km, mb4.1/36, Error ellipse: s-maj=5.2km s-min=3.4km az=24.9*

*IDC **30** 20:55:53.7±0.7, 6°.70N×72°.89W, h166km±6km, mb3.6/11, mb1 3.9/17, mb1mx3.6/38, mbtmp4.2/17, Error ellipse: s-maj=15.5km s-min=7.8km az=134.0*

*RSNC **30** 20:55:54.9±1.3, 6°.80N×73°.15W, h152km±4km, ML4.2, Mw4.4*

*NEIC **30** 20:55:54.4±1.1, 6°.81N×72°.94W, h162km±19km, mb4.3/28, Error ellipse: s-maj=35.2km s-min=18.5km az=137.0*

ISC 30 20:55:53.7±0.6, 6°.82N±0°.03×73°.08W±0°.04, h160km±5km, n98, σ1°29/121, mb4.2/36, 2C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.24	205	i P	Pn	20 56 15.4	-0.2
BARC				eS	Sn	20 56 30.5	-1.8
BARC				i		20 56 33.6	
	comp=Z,2μm,0.4s						
GIRC	Giron, Santand	0.28	337	eP	Pn	20 56 15.5	-0.1
GIRC				eS	Sn	20 56 30.8	-1.5
PAMC	Pamplona, Colo	0.64	36	eP	Pn	20 56 18.2	+0.7
PAMC				eS	Sn	20 56 35.4	-0.3
PAMC				i		20 56 37.7	
	comp=Z,5μm,0.6s						
BRRC	Barranca, Sant	0.69	295	i P	Pn	20 56 17.3	+0.1
BRRC				eS	Sn	20 56 34.6	-0.5
BRRC				i		20 56 37.8	
	comp=Z,2μm,0.4s						
RUSC	La Rusia	0.92	180	i P	Pn	20 56 19.2	-0.1
RUSC				eS	Sn	20 56 37.5	-1.5
RUSC				i		20 56 39.9	
	comp=Z,2μm,0.4s						
CBRI	Barrientos, No	0.94	17	eP	Pn	20 56 21.4	+2.2
GUEC	Guerrero, Nort	1.02	9	eP	Pn	20 56 20.5	+0.5
TAMC	Tame, Arauca	1.33	106	i P	Pn	20 56 23.6	+1.2
TAMC				eS	Sn	20 56 45.0	+0.5
PTBC	PUERTO BERRIO,	1.40	259	eP	Pn	20 56 22.1	-0.9
PTBC				eS	Sn	20 56 42.9	-2.6
PTBC				i		20 56 50.8	
	comp=Z,2μm,0.6s						
OCAC	Ocana	1.43	350	eP	Pn	20 56 23.5	-0.1
OCAC				eS	Sn	20 56 45.0	-1.5
OCAC				i		20 56 51.0	
	comp=Z,2μm,0.3s						
YOPC	Yopal, Colombi	1.59	156	i P	Pn	20 56 26.0	+0.8
YOPC				eS	Sn	20 56 49.3	0.0
YOPC				i		20 56 53.0	
	comp=Z,2μm,0.3s						
CTAU	Tausa, Cundina	1.87	211	eP	Pn	20 56 30.2	+1.7
ZARC	Zaragoza, Cauc	1.89	291	eP	Pn	20 56 27.6	-0.6
ZARC				eS	Sn	20 56 53.5	-1.3
ZARC				i		20 57 00.8	
	comp=Z,1μm,0.6s						
NORC	Norcasia	2.17	235	eP	Pn	20 56 31.1	-0.4
NORC				eS	Sn	20 56 58.7	-1.9
NORC				i		20 57 03.8	
	comp=Z,1μm,0.2s						
SMLC	San Martn de	2.20	334	eP	Pn	20 56 31.7	-0.1
SMLC				eS	Sn	20 57 01.6	+0.3
CHIC	Chingaza	2.27	197	eP	Pn	20 56 33.2	+0.2
CHIC				eS	Sn	20 57 02.6	-0.6
CHIC				i		20 57 08.4	
	comp=Z,856nm,0.4s						
ROSC	El Rosal	2.32	212	ePn	Pn	20 56 34.9	+1.3
ROSC	El Rosal	2.32	212	P	Pn	20 56 35.1	+1.5
	comp=Z,204nm,0.3s,baz=300,slow=20,SNR=233						
ROSC				S	Sn	20 57 05.3	+1.0
	comp=Z,196nm,0.3s,baz=71,slow=19,SNR=7.5						
HELC	Santa Helena	2.51	256	eP	Pn	20 56 35.3	-0.5
HELC				eS	Sn	20 57 06.9	-1.4
HELC				i		20 57 13.5	
	comp=Z,774nm,0.5s						
UREC	San Jos de Ur	2.60	291	eP	Pn	20 56 35.2	-1.4
UREC				i		20 57 18.8	
	comp=Z,955nm,0.2s						
VILC	Villavicencio,	2.75	193	eP	Pn	20 56 38.3	-0.3
VILC				eS	Sn	20 57 12.6	-0.8
VILC				i		20 57 18.8	
	comp=Z,1μm,0.5s						
GUY2C	Guyana, Caldas	2.77	235	eP	Pn	20 56 39.4	+0.3
GUY2C				eS	Sn	20 57 12.1	-2.0
GUY2C				i		20 57 23.2	
	comp=Z,1μm,0.6s						
RREF	El Recreo	2.95	230	eP	Pn	20 56 41.3	-0.2
RREF				i		20 57 26.5	
	comp=Z,1μm,0.3s						
CODC	Agustn Codazz	3.12	353	eP	Pn	20 56 42.4	-0.6
CODC				eS	Sn	20 57 17.7	-3.6
SDV	Santo Domingo	3.18	50	ePn	Pn	20 56 44.5	+0.6
SDV	Santo Domingo	3.18	50	eP	Pn	20 56 44.8	+0.8
SDV	Santo Domingo	3.18	50	P	Pn	20 56 44.8	+0.8
	comp=Z,77nm,0.3s,baz=216,slow=3.4,SNR=304						
SDV				S	Sn	20 57 22.2	-0.7
	comp=Z,153nm,0.3s,baz=266,slow=19,SNR=30						
ARGC	Ariguani, Magd	3.24	339	eP	Pn	20 56 45.5	+1.0
ARGC				i		20 57 31.6	
	comp=Z,389nm,0.3s						
PRAC	Prado	3.57	210	eP	Pn	20 56 48.7	0.0
PRAC				eS	Sn	20 57 30.5	-1.0
PRAC				i		20 57 35.6	
	comp=Z,641nm,0.3s						
PLMC	San Jos del P	3.71	239	eP	Pn	20 56 50.9	+0.4
GUVC	San Jose del G	4.27	174	eP	Pn	20 56 57.0	-0.8
GUVC				i		20 57 50.9	
	comp=Z,620nm,0.2s						
YOTC	Yotoco, Valle	4.30	229	eP	Pn	20 56 57.6	-0.7
SMRC	Santa Marta, M	4.47	345	eP	Pn	20 56 59.7	-0.7
MACC	Macarena, Meta	4.70	189	eP	Pn	20 57 02.0	-1.5
MACC				i		20 58 00.5	
	comp=Z,148nm,0.7s						
URIC	Uribia, Colomb	4.97	12	eP	Pn	20 57 05.4	-1.5
PCON	Cinco Dias	5.55	217	eP	Pn	20 57 15.6	+0.5
POPC	Popayan, Colom	5.56	220	eP	Pn	20 57 14.7	-0.2
FLOC	Florencia	5.80	206	eP	Pn	20 57 17.5	-0.5
SOTA	Rioblanco	5.83	217	eP	Pn	20 57 19.6	+0.8
BCIP	Isla Barro Col	7.09	290	ePn	Pn	20 57 35.5	+0.5
OTAV	Otavalo	8.45	220	ePn	Pn	20 57 53.2	-0.3
MTDJ	Mount Denham	12.14	339	ePn	Pn	20 58 43.5	+1.8
SDDR	Presa de Saban	12.22	8	ePn	Pn	20 58 43.3	+0.7
JTS	Las Juntas de	12.24	287	P	Pn	20 58 46.2	+3.3
	comp=Z,0.6nm,0.3s,baz=159,slow=18,SNR=2.6						
AOPR	Arecibo Observ	13.01	28	ePn	Pn	20 58 51.5	-1.3
SJG	San Juan	13.10	30	ePn	Pn	20 58 53.2	-0.7
SJG	San Juan	13.10	30	P	Pn	20 58 53.4	-0.6
	comp=Z,5.8nm,0.3s,baz=204,slow=20,SNR=9.3						
GTBY	Guantanamo Bay	13.18	352	ePn	Pn	20 58 57.7	+2.8
HUMP	Col San Antoni	13.28	31	ePn	Pn	20 58 55.4	-0.9
CBYP	Canovanas	13.39	31	ePn	Pn	20 58 57.3	-0.4
MTP	Monte Pirata	13.40	33	ePn	Pn	20 58 57.1	-0.7
CUPR	Culebra, Puert	13.72	33	ePn	Pn	20 59 01.9	+0.2
PTGA	Pitinga	15.08	119	P	Pn	20 59 15.3	-3.6
	comp=Z,0.3nm,0.3s,baz=315,slow=19,SNR=2.6						
APG	El Apazote	18.90	297	P	P	21 00 02.7	+0.2
	comp=Z,0.6nm,0.3s,baz=156,slow=20,SNR=4.1						
TEIG	Tepich	19.87	314	eP	P	21 00 15.8	+3.1
	comp=Z,25nm,0.9s						
V48A	Smith Brothers	31.43	338	eP	P	21 01 55.4	-4.5

INK	Inuvik	73.05	340	P		P	21 07 06.0	+0.2
	comp=Z,1.0nm,0.5s,baz=147,slow=8.3,SNR=3.6							
TORD	Torodi Ar. Bea	73.70	78	P		P	21 07 08.1	-2.6
	comp=Z,0.2nm,0.3s,baz=286,slow=6.9,SNR=5.3							
ILAR	Eielson Array	76.98	335	P		P	21 07 28.4	-0.1
	comp=Z,0.4nm,0.6s,baz=100,slow=4.4,SNR=5.0							
NOA	NORSAR Array B	81.31	29	P		P	21 07 52.4	+0.3
	comp=Z,1.5nm,0.7s,baz=265,slow=5.3,SNR=3.3							
ARCES	ARCESS Array B	86.66	20	P		P	21 08 19.1	+0.1
	comp=Z,1.5nm,0.9s,baz=288,slow=6.6,SNR=3.4							
ZALV	Zalesovo Beam	116.66	14	PKP		PKPdf	21 14 18.4	-0.5
	comp=Z,0.5nm,0.4s,baz=249,slow=1.7,SNR=3.8							
MKAR	Makanchi Array	122.31	20	PKP		PKPdf	21 14 28.8	-1.2
	comp=Z,0.2nm,0.3s,baz=327,slow=2.5,SNR=5.9							
ASAR	Alice Springs	149.14	234	PKP		PKPdf	21 15 19.4	-0.4
	comp=Z,2.5nm,0.6s,baz=117,slow=3.5,SNR=7.4							
ASAR				PKPbc		PKPbc	21 15 23.4	-0.7
	comp=Z,2.7nm,0.6s,baz=116,slow=1.9,SNR=7.4							
WRA	Warramunga Arr	150.37	241	PKP		PKPdf	21 15 20.8	-0.9
	comp=Z,1.1nm,0.9s,baz=105,slow=2.6,SNR=2.7							
WRA				PKPbc		PKPbc	21 15 26.6	-0.6
	comp=Z,3.7nm,0.4s,baz=103,slow=2.6,SNR=50							
CMAR	Chiang Mai Arr	153.68	17	PKPbc		PKPbc	21 15 31.8	-2.9
	comp=Z,0.5nm,0.5s,baz=318,slow=3.3,SNR=4.4							

IDC 30 21:08:05.5±2.6, 3°.41N×125°.44E, h0km, mb3.3/2, mb1 3.4/2, mb1mx3.2/26, mbtmp3.3/2, Error ellipse: s-maj=291.4km s-min=26.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.80	160	P	P	21 13 28.5	-0.9
	153nm,0.4s,baz=341,slow=12,SNR=1.3						
ASAR	Alice Springs	28.15	163	P	P	21 14 00.5	+0.9
	0.1nm,0.3s,baz=345,slow=9.6,SNR=3.2						
MKAR	Makanchi Array	57.09	326	P	P	21 17 53.6	-0.1
	0.2nm,0.4s,baz=116,slow=7.6,SNR=5.3						

*NEIC **30** 21:08:34.5±0.0, 40°.18N×121°.10W, h5km, MW3.6(BRK), After NCEDC.*
NEIC Felt [II] at Greenville and Magalia. Also felt at Chester and Westwood.
*IDC **30** 21:08:34.7±3.1, 40°.09N×121°.26W, h0km, mb2.7/1, mb1 3.5/3, mb1mx3.3/39, mbtmp3.1/3, ML3.6/2, MS2.6/2, Ms1 2.6/2, ms1mx2.4/5, Error ellipse: s-maj=73.0km s-min=13.7km az=48.0*
*NCEDC **30** 21:08:34.5, 40°.18N×121°.10W, h5km, MW3.6(BRK)*
*ANF **30** 21:08:35.7±0.7, 40°.08N×121°.27W, h14km±4km, ML3.5/13, Error ellipse: s-maj=7.5km s-min=4.2km az=37.0*
ISC 30 21:08:34.5±1.6, 40°.12N±0°.03×121°.20W±0°.03, h3km±13km, n51, σ1°13/55, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O03E	Paynes Creek	0.49	291	P	Pg	21 08 44.8	+0.8
	baz=101,SNR=666						
O03E				S	Sb	21 08 51.8	-1.8
	baz=101						
ORV	Oroville	0.61	203	ePg	Pb	21 08 47.2	-0.6
BEKR	Beckworth	0.69	111	ePg	Pg	21 08 46.8	-1.0
WDC	Whiskeytown Da	1.12	295	ePg	Pb	21 08 55.3	-1.3
AFDM	Forest Hills D	1.18	171	ePg	Pb	21 08 56.6	-0.9
O02D	Mt. Diablo Mer	1.22	273	P	Pb	21 08 57.6	-0.6
	baz=89,SNR=464						
O02D				S	Sn	21 09 14.6	-1.0
	baz=89						
RUBR	Rubicon Trail	1.34	143	ePn	Pn	21 08 59.4	-0.9
N02D	Trinity Center	1.43	307	P	Pn	21 09 00.1	-1.3
	baz=122,SNR=149						
N02D				S	Sn	21 09 19.7	-1.2
	baz=122						
VCNR	Virginia City	1.45	124	ePn	Pn	21 09 00.9	-0.9
PAHR	Pah Rah Range	1.46	106	ePn	Pn	21 09 00.4	-1.4
PNTR	Pine Nut	1.61	129	ePn	Pn	21 09 04.0	0.0
M04C	Macdoel	1.73	344	P	Pn	21 09 05.2	-0.4
	baz=160,SNR=85						
M04C				S	Sb	21 09 28.8	-0.4
	baz=160						
M02C	Callahan	1.79	316	P	Pn	21 09 06.2	-0.2
	baz=132,SNR=71						
M02C				S	Sb	21 09 30.1	-0.7
	baz=132						
GDXM	Geysers	1.80	224	ePn	Pb	21 09 08.4	+0.3
HOPS	Hopland Field	1.83	233	ePn	Pb	21 09 08.2	-0.5
KCPM	Cahto Peak	1.89	257	ePn	Pb	21 09 08.9	-0.7
YERR	Yerington	1.89	126	ePn	Pn	21 09 07.2	-0.6
MOD	Modoc Plateau	1.91	21	ePn	Pn	21 09 06.5	-1.5
KMRM	Mail Ridge	1.93	274	ePn	Pb	21 09 10.2	-0.1
YBH	Yreka Blue Hor	1.98	325	ePn	Pn	21 09 09.3	+0.3
KHMM	Horse Mountain	2.07	292	ePn	Pb	21 09 12.2	-0.6
CMB	Columbia Colle	2.18	163	ePn	Pn	21 09 11.7	+0.1
L04D	Klamath Falls	2.26	339	P	Pn	21 09 13.1	+0.3
	baz=156,SNR=38						
JCC	Jacoby Creek,	2.27	289	ePn	Pb	21 09 16.1	0.0
MCCM	Marconi Confer	2.37	214	ePn	Pb	21 09 15.8	-2.0
K04D	Chiloquin, OR	2.54	351	P	Pn	21 09 18.2	+1.5
	baz=168,SNR=8.0						
RYN	Ryan	2.55	125	ePn	Pn	21 09 17.1	+0.2
K05A	Summer Lake	2.61	5	ePn	Pn	21 09 18.7	+0.9
KVN	Kaiserville	2.62	113	ePn	Pn	21 09 17.8	-0.1
L02E	Cave Junction	2.73	319	P	Pb	21 09 21.4	-2.5
	baz=136,SNR=10						
NVAR	Mina Array Bea	2.81	126	Pn	Pn	21 09 21.0	+0.5
	12nm,0.3s,baz=301,slow=14,SNR=158						
NVAR				Lg	Lg	21 10 03.8	
	19nm,0.3s,baz=313,slow=33,SNR=8.3						
NVAR				LR	LR	21 10 53.0	
	comp=Z,59nm,19.9s,baz=270,slow=47						
HUMO	Hull Mountain	2.82	333	ePn	Pn	21 09 21.8	+1.4
MDPB	Devils Postpil	2.98	146	ePn	Pn	21 09 25.0	+2.1
WVOR	Wild Horse Val	3.01	39	ePn	Pn	21 09 21.8	-1.4
J05D	Fort Rock, OR	3.16	360	P	Pn	21 09 26.8	+1.5
	baz=178,SNR=75						
J05D				Sb	Sb	21 10 12.5	+2.1
	baz=178						
K02D	Willamette Mer	3.17	325	S	Sn	21 10 03.0	-0.8
	baz=142						
SAO	San Andreas Ge	3.36	183	ePn	Pn	21 09 30.4	+2.6
PINE	Pine Mountain	3.67	3	ePn	Pn	21 09 33.7	+1.3
I04A	Tendick Farm,	3.78	347	P	Pn	21 09 34.9	+1.2
	baz=164						
ELK	Elko	4.59	80	ePg	Pb	21 09 50.9	-4.9
H04A	Detroit Lake	4.62	351	ePn	Pn	21 09 50.2	+5.0
R11A	Troy Canyon, C	4.70	110	ePn	Pn	21 09 46.6	+0.1
R11A	Troy Canyon, C	4.70	110	P	Pn	21 09 46.5	-0.1
	baz=295,SNR=14						
DAC	Darwin (Calif)	4.77	142	ePg	Pb	21 09 59.3	+0.4
TPNV	Topopah Spring	5.01	128	P	Pn	21 09 51.2	+0.5
	baz=312,SNR=8.9						
BMO	Blue Mountains	5.54	30	ePg	Pb	21 10 12.8	+1.0
SHPR	Sheep Range	5.96	125	ePn	Pn	21 10 05.4	+1.6
LTX	Lajitas	17.95	121	ePn	P	21 12 46.2	+0.4
TXAR	Lajitas Array	17.95	121	P	P	21 12 46.2	+0.4
	0.0nm,0.3s,baz=292,slow=9.5,SNR=3.8						
TXAR				LR	LR	21 20 16.2	
	comp=Z,26nm,18.3s,baz=0.0,slow=39						
YKA	Yellowknife Ar	22.76	8	P	P	21 13 38.6	+1.0
	0.1nm,0.5s,baz=196,slow=11,SNR=3.0						
YKB5	Yellowknife Ar	22.76	8	eP	P	21 13 38.5	+1.0

WEL 30 21:13:41.4, 45°.S±3°.×16°.7E±°, h84km±3km, ML4.3/12, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.08	231	P	Pn	21 13 53.8	+0.4
DCZ				S	Sn	21 14 02.7	+0.4
MLZ	Mavora Lakes	0.62	86	P	Pn	21 13 57.4	+0.7
MLZ				S	Sn	21 14 08.4	+0.4
WHZ	Wether Hill Ro	0.69	134	P	Pn	21 13 58.4	+1.1
WHZ				S	Sn	21 14 10.5	+1.3
MSZ	Milford Sound	0.88	33	P	Pn	21 13 59.8	+0.4
MSZ				S	Sn	21 14 12.7	-0.1
WKZ	Wanaka	1.39	66	P	Pn	21 14 06.3	+0.8
WKZ				S	Sn	21 14 23.4	-0.2
EAZ	Earnscleugh	1.47	84	P	Pn	21 14 07.3	+0.8
APZ	The Paps	1.51	160	P	Pn	21 14 08.3	+1.2
JCZ	Jackson Bay	1.73	40	P	Pn	21 14 10.1	+0.1
SYZ	Scrubby Hill	1.73	131	P	Pn	21 14 11.0	+1.1
TUZ	Tuapeka	1.76	109	P	Pn	21 14 11.0	+0.8
LBZ	Lake Benmore	2.33	65	P	Pn	21 14 16.8	-1.1

HHSZ	Highcliff Hill	2.40	103	P		Pn	21 14 19.3	+0.6
ODZ	Otahua Downs	2.43	82	P		Pn	21 14 18.5	-0.6
FOZ	Fox Glacier	2.63	45	P		Pn	21 14 20.7	-1.1
GCSZ	Gaunt Creek Bo	3.05	48	P		Pn	21 14 25.5	-2.0
RPZ	Rata Peaks	3.21	59	P		Pn	21 14 27.9	-1.8
WVZ	Waitaha Valley	3.43	48	P		Pn	21 14 30.8	-1.8
OXZ	Oxford	4.02	60	P		Pn	21 14 37.5	-3.1
INZ	Inchbonnie	4.05	50	P		Pn	21 14 38.7	-2.3
MQZ	McQueen's Vall	4.23	68	P		Pn	21 14 41.8	-1.7
LTZ	Lake Taylor	4.47	56	P		Pn	21 14 44.6	-2.3
AMCZ	Amberley	4.48	62	P		Pn	21 14 44.6	-2.3
OKCZ	Okains Bay	4.49	70	P		Pn	21 14 47.1	+0.1
DSZ	Denniston Nort	4.94	44	P		Pn	21 14 50.6	-2.6
KHZ	Kahutara	5.45	59	P		Pn	21 14 57.7	-2.4
QRZ	Quartz Range	6.00	42	P		Pn	21 15 05.0	-2.6
NNZ	Nelson	6.13	49	P		Pn	21 15 08.9	-0.5
DUWZ	D'Urville Isla	6.72	49	P		Pn	21 15 16.6	-0.8
KHEZ	Kahui Hut	7.91	42	P		Pn	21 15 33.3	-0.3
PKE	Pukeiti	7.97	41	P		Pn	21 15 34.5	0.0
VRZ	Vera Road	8.39	44	P		Pn	21 15 39.9	-0.3
HIZ	Hauiti	8.92	42	P		Pn	21 15 45.2	-2.2
OUZ	Omahuta	11.27	28	P		Pn	21 16 18.9	-0.6

*ISCJB **30** 21:17:13.0±1.3, 23°.63S±0°.04×71°.08W±0°.06, h12km±7km, mb3.8/3, MS3.2/1, Error ellipse: s-maj=9.9km s-min=6.3km az=23.4*
*IDC **30** 21:17:12.9±1.1, 23°.74S×70°.91W, h0km, mb3.8/3, mb1 4.0/8, mb1mx3.8/27, mbtmp3.8/8, ML3.8/5, MS2.8/3, Ms1 2.8/3, ms1mx2.5/21, Error ellipse: s-maj=27.6km s-min=15.8km az=147.0*
*GUC **30** 21:17:15.6±0.5, 23°.63S×71°.00W, h23km±4km, ML3.8*
ISC 30 21:17:14.8±3.1, 23°.67S±0°.05×70°.93W±0°.10, h13km±18km, n24, σ0°82/24, mb4.0/3, 2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	IPOC Station P	0.38	66	↓iP	Pb	21 17 23.6	+0.2
PB10				eS	Sb	21 17 28.8	-0.3
PB10				IAML		21 17 30.6	
	comp=N,10μm,0.7s						
PB05	IPOC Station P	1.05	40	eP	Pb	21 17 34.4	-0.5
PB05				eS	Sb	21 17 48.3	-0.3
PB05				IAML		21 17 50.7	
	comp=N,5μm,0.2s						
PB14	IPOC Station P	1.07	153	↓iP	Pn	21 17 36.0	+0.3
PB14				eS	Sn	21 17 50.9	+0.3
PB14				IAML		21 17 54.7	
	comp=N,2μm,0.2s						
PB15	IPOC Station P	1.42	72	iP	Pb	21 17 40.9	-0.3
PB15				eS	Sg	21 18 00.4	-0.1
PB04	IPOC Station P	1.51	29	eP	Pn	21 17 41.3	-0.3
PB04				IAML		21 18 08.7	
	comp=N,3μm,0.6s						
PB06	IPOC Station P	1.57	53	iP	Pn	21 17 42.9	+0.4
PB06				eS	Sb	21 18 03.9	+0.2
PB06				IAML		21 18 06.9	
	comp=E,4μm,0.5s						
PB03	IPOC Station P	1.94	34	eP	Pn	21 17 47.4	-0.2
PB03				eS	Sn	21 18 10.5	-1.4
LVC	Limon Verde	2.14	61	Pn	Pn	21 17 51.4	+1.0
	comp=E,113nm,0.3s,baz=219,slow=6.7,SNR=304						
LVC				Pg	Pb	21 17 53.9	+0.4
	comp=E,113nm,0.3s,baz=248,slow=14,SNR=317						
LVC				Lg	Lg	21 18 20.0	
	comp=E,284nm,0.3s,baz=152,slow=16,SNR=44						
LVC				LR	LR	21 18 23.6	
	comp=E,79nm,21.8s,baz=209,slow=33						
LPAZ	La Paz	7.80	20	Pn	Pn	21 19 10.6	+2.1
	comp=E,0.5nm,0.3s,baz=177,slow=6.3,SNR=8.9						
LPAZ				LR	LR	21 22 42.1	
	comp=E,44nm,18.3s,baz=250,slow=42						
CFA	Coronel Fontan	8.26	164	Pn	Pn	21 19 14.1	-0.2
	comp=E,1.2nm,0.3s,baz=333,slow=7.6,SNR=8.7						
CFA				Lg	Lg	21 21 08.8	
	comp=E,0.7nm,0.3s,baz=267,slow=19,SNR=7.4						
SIV	San Ignacio	12.01	52	Pn	Pn	21 20 05.5	-0.3
	comp=E,0.4nm,0.3s,baz=241,slow=8.6,SNR=5.0						
PLCA	Paso Flores	17.02	179	Pn	Pn	21 21 10.8	-1.7
	comp=E,0.1nm,0.3s,baz=93,slow=18,SNR=2.5						
PTGA	Pitinga	25.16	27	LR	LR	21 33 13.2	
	comp=E,82nm,19.7s,baz=92,slow=38						
TXAR	Lajitas Array	61.39	327	P	P	21 27 31.6	+0.8
	comp=E,0.3nm,0.6s,baz=150,slow=10,SNR=4.2						
TORD	Torodi Ar. Bea	79.83	71	P	P	21 29 23.2	-0.3
	comp=E,1.0nm,0.6s,baz=272,slow=4.9,SNR=13						
YKA	Yellowknife Ar	92.61	341	P	P	21 30 25.1	-0.4
	comp=E,0.4nm,0.6s,baz=142,slow=4.4,SNR=7.2						
H11S2	WAKE ISLAND Hyt	26.27	276	T	T	23 55 35.3	
	baz=106,slow=75,SNR=14						
H11S1	WAKE ISLAND Hyt	26.28	276	T	T	23 55 37.4	
	baz=106,slow=75,SNR=15						
H11S3	WAKE ISLAND Hyt	26.29	276	T	T	23 55 37.1	
	baz=106,slow=75,SNR=18						
H11N3	WAKE ISLAND Hyt	26.42	278	T	T	23 55 44.8	
	baz=110,slow=74,SNR=3.6						
H11N2	WAKE ISLAND Hyt	26.43	278	T	T	23 55 48.9	
	baz=110,slow=74,SNR=4.6						
H11N1	WAKE ISLAND Hyt	26.43	278	T	T	23 55 50.0	
	baz=110						
ZALV	Zalesovo Beam	144.70	25	PKP	PKPdf	21 36 51.0	+0.2
	comp=E,0.7nm,0.6s,baz=1.9,slow=4.3,SNR=4.0						
MKAR	Makanchi Array	148.48	36	PKPbc	PKPbc	21 37 01.9	+0.8
	comp=E,1.2nm,0.7s,baz=311,slow=3.2,SNR=13						

IDC 30 21:47:37.1±1.5, 7°.18S×129°.19E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/24, mbtmp3.8/4, ML4.9/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/24, Error ellipse: s-maj=49.4km s-min=24.1km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.23	241	Pn	Pn	21 49 11.4	+1.0
	1.3nm,0.3s,baz=90,slow=6.1,SNR=1.7						
BATI				Sn	Sn	21 50 14.8	-7.7
	0.8nm,0.3s,baz=135,slow=10.0,SNR=1.7						
WRA	Warramunga Arr	13.63	159	Pn	Pn	21 50 51.0	-0.9
	17nm,0.3s,baz=336,slow=12,SNR=1.4						
WRA				Sn	Sn	21 53 15.3	-8.9
	21nm,0.3s,baz=331,slow=22,SNR=1.5						
ASAR	Alice Springs	17.00	165	P	Pn	21 51 35.6	-0.9
	0.4nm,0.3s,baz=332,slow=9.4,SNR=19						
ASAR				S	Sn	21 54 32.6	-14
	0.1nm,0.3s,baz=359,slow=20,SNR=3.3						
ASAR				LR	LR	21 58 31.3	
	comp=Z,57nm,18.9s,baz=69,slow=38						
STKA	Stephens Creek	27.16	156	P	P	21 53 22.6	+0.3
	0.3nm,0.2s,baz=328,slow=13,SNR=1.4						
MKAR	Makanchi Array	67.94	327	P	P	21 58 37.7	-0.1
	0.8nm,0.6s,baz=122,slow=7.9,SNR=13						

IDC 30 21:55:25.2±5.4, 30°.54S×179°.26W, h0km, mb3.3/1, mb1 3.4/1, mb1mx3.3/21, mbtmp3.3/1, Error ellipse: s-maj=349.3km s-min=68.0km az=168.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.02	268	P	P	22 03 18.1	-0.6
	0.2nm,0.4s,baz=106,slow=8.0,SNR=2.9						
WRA	Warramunga Arr	43.02	273	P	P	22 03 27.2	+0.4
	28nm,0.3s,baz=111,slow=8.8,SNR=3.9						
FINES	FINESS Array B	144.89	339	PKP	PKPbc	22 15 02.8	0.0
	0.4nm,0.4s,baz=41,slow=4.4,SNR=7.5						

*ISCJB **30** 22:10:48.3±0.4, 11°.39N×62°.42W, h139km±6km, mb3.6/14, mb1 3.7/16, mb1mx3.5/38, mbtmp4.0/16, MS2.2/2, Ms1 2.2/2, ms1mx2.1/24, Error ellipse: s-maj=16.0km s-min=10.4km az=95.0*
*TRN **30** 22:10:49.8, 11°.35N×62°.06W, h125km, MD4.0*
ISC 30 22:10:48.3±0.6, 11°.35N±0°.03×62°.24W±0°.05, h131km±5km, n85, σ1°76/100, mb3.9/16, 3C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGR	Grenville	0.96	36	eP	Pn	22 11 11.0	0.0
GRGR				eS	Sn	22 11 27.3	-0.9

GRHS	Sauteurs	1.05	34	↑iP		Pn	22 11 12.4	+0.6
GRHS				eS		Sn	22 11 28.7	-0.9
TRN	Trinidad (W)	1.07	130	eP		Pn	22 11 12.1	0.0
TRN				eS		Sn	22 11 27.0	-3.0
GRSS	Sisters	1.12	33	↑iP		Pn	22 11 13.2	+0.7
GRSS				eS		Sn	22 11 29.7	-1.1
TPP	Pointe-a-Pierr	1.28	143	↑iP		Pn	22 11 14.8	+0.7
TPP				eS		Sn	22 11 31.9	-1.9
TBH	Brigand Hill	1.44	127	eP		Pn	22 11 16.0	+0.2
TBH				eS		Sn	22 11 33.8	-2.9
TOSP	Speyside	1.67	92	eP		Pn	22 11 17.1	-1.3
TOSP				eS		Sn	22 11 39.0	-2.4
FCV	Fort Charlotte	2.04	28	eP		Pn	22 11 23.6	+0.8
FCV				eS		Sn	22 11 47.8	-1.6
SVB	Belmont	2.14	27	eP		Pn	22 11 24.0	-0.1
SVB				eS		Sn	22 11 49.9	-1.7
SVCV	St. Vincent, C	2.19	29	eP		Pn	22 11 24.4	-0.3
SVCV				eS		Sn	22 11 50.3	-2.3
SVV	Soufriere Volc	2.19	27	eP		Pn	22 11 25.5	+0.7
SVV				eS		Sn	22 11 50.5	-2.2
SSV	Crater Summit	2.21	27	eP		Pn	22 11 26.1	+1.0
SSV				eS		Sn	22 11 51.2	-2.1
SFAN	Fancy Village	2.27	27	eP		Pn	22 11 26.7	+1.0
SFAN				eS		Sn	22 11 53.2	-1.2
MCLT	Moule a Chique	2.66	28	eP		Pn	22 11 30.6	-0.1
MCLT				eS		Sn	22 12 01.4	-1.9
SLDE	Delcer	2.70	25	eP		Pn	22 11 32.2	+1.1
SLDE				eS		Sn	22 12 02.0	-2.0
SLB	Belfond	2.73	25	eS		Sn	22 12 02.5	-2.2
SLPA	Patience	2.80	27	eP		Pn	22 11 33.4	+1.0
SLPA				eS		Sn	22 12 03.5	-2.9
SLBI	Saint Lucia, B	2.93	25	eP		Pn	22 11 33.9	-0.1
SLBI				eS		Sn	22 12 07.6	-1.8
SLW	Petit Monier	2.94	25	eP		Pn	22 11 35.1	+0.9
SLW				eS		Sn	22 12 08.2	-1.5
BBGH	Gun Hill	3.17	55	eP		Pn	22 11 37.5	+0.3
BBGH				eS		Sn	22 12 11.2	-3.7
BBSP	Saint Philip	3.23	57	eP		Pn	22 11 37.7	-0.2
BBSP				eS		Sn	22 12 12.6	-3.6
BIM	Bigot	3.35	20	eP		Pn	22 11 40.0	+0.4
MPOM	Morne Pois Mar	3.36	23	eP		Pn	22 11 40.0	+0.4
TRMF	Trois Ilets	3.37	20	eP		Pn	22 11 40.4	+0.6
ZAM	Aeronautique	3.41	20	eP		Pn	22 11 41.0	+0.6
LPMF	Morne Lapointe	3.44	21	eP		Pn	22 11 41.1	+0.4
MVM	Montagne Vaucl	3.44	22	eP		Pn	22 11 40.0	-0.8
FDF	Fort de France	3.52	17	eP		Pn	22 11 42.0	+0.1
FDF				eS		Sn	22 12 20.5	-2.9
PML	Morne Lenard	3.56	17	eP		Pn	22 11 43.0	+0.7
GBMF	Grand Be	3.58	17	eP		Pn	22 11 43.1	+0.4
PCM	Pelee Case Pet	3.59	16	eP		Pn	22 11 43.1	+0.4
BAMF	Morne Balai	3.60	17	eP		Pn	22 11 43.7	+0.7
DLPL	La Plaine	4.07	14	eP		Pn	22 11 50.0	+0.8
BBL	Barber's Block	4.22	10	eP		Pn	22 11 51.7	+0.6
BBL	Barber's Block	4.22	10	eS		Sn	22 12 38.1	-1.7
DWS	Wesley	4.29	12	eP		Pn	22 11 52.5	+0.5
DWS	Wesley	4.29	12	eS		Sn	22 12 39.0	-2.4
TBG	Guadaloupe-3	4.51	7	eP		Pn	22 11 55.7	+0.8
TBG	Guadaloupe-3	4.51	7	eS		Sn	22 12 44.1	-2.6
MLYT	Lee's Yard	5.34	0	eP		Pn	22 12 07.5	+1.4
MLYT	Lee's Yard	5.34	0	eS		Sn	22 13 03.5	-3.1
BPA	Boggy Peak	5.67	4	eP		Pn	22 12 12.6	+2.1
BPA	Boggy Peak	5.67	4	eS		Sn	22 13 11.6	-3.1
NVBH	Bath Hotel, Ne	5.75	356	eP		Pn	22 12 13.7	+2.3
NVBH	Bath Hotel, Ne	5.75	356	eS		Sn	22 13 14.7	-1.6
NEV	Hard Times	5.76	357	eP		Pn	22 12 13.6	+1.9
NEV	Hard Times	5.76	357	eS		Sn	22 13 14.8	-1.9
SKI	Saint Kitts	5.97	355	eP		Pn	22 12 15.6	+1.1
SKI	Saint Kitts	5.97	355	eS		Sn	22 13 19.7	-2.0
BSK	Brimstone Hill	5.99	354	eP		Pn	22 12 15.8	+1.0
BSK	Brimstone Hill	5.99	354	eS		Sn	22 13 19.5	-2.7
SEUS	St. Eustatius	6.15	353	eP		Pn	22 12 18.3	+1.4
SEUS	St. Eustatius	6.15	353	eS		Sn	22 13 23.2	-2.8
ANWB	Willy Bob	6.30	4	eP		Pn	22 12 20.5	+1.7
ANWB	Willy Bob	6.30	4	eS		Sn	22 13 26.0	-3.6
SMRT	St. Maarten	6.71	353	eP		Pn	22 12 26.3	+1.9
SMRT	St. Maarten	6.71	353	eS		Sn	22 13 37.0	-2.6
SJG	San Juan	7.71	331	P		Pn	22 12 38.4	+0.4
	0.4nm,0.3s,baz=144,slow=5.6,SNR=2.0							
SJG				LR		LR	22 15 51.9	
	comp=Z,13nm,18.7s,baz=142,slow=40							
SDV	Santo Domingo	8.62	254	P		Pn	22 12 49.2	-1.2
	1.0nm,0.3s,baz=106,slow=16,SNR=3.8							
SDV				S		Sn	22 14 22.1	-4.1
	5.1nm,0.3s,baz=38,slow=14,SNR=6.4							
SDV				LR		LR	22 17 00.2	
	comp=Z,18nm,20.0s,baz=246,slow=44							
MDP	Montagnes des	11.34	122	P		Pn	22 13 22.0	-4.7
	2.2nm,0.3s,baz=308,slow=16,SNR=26							
MDP				S		Sn	22 15 20.1	-12
	8.0nm,0.3s,baz=39,slow=17,SNR=17							

YUK	**Yuzh-Kuril'sk**	**0.92**	**304**	*i* P	**Pn**	**22 52 29.0**	**-1.0**
YUK				AMB	AMB	22 52 31.0	
	30nm,0.2s						
YUK				*i* S	**Sn**	**22 52 42.0**	**0.0**
YUK				A	A	22 52 43.0	
	520nm,0.3s						
YUK				A	A	22 52 43.0	
	370nm,0.3s						
GRPR	**Tuman**	**0.95**	**300**	*i* P	**Pn**	**22 52 30.0**	**-0.5**
GRPR				AMB	AMB	22 52 30.0	
	20nm,0.2s						
GRPR				*i* S	**Sn**	**22 52 43.0**	**+0.1**
GRPR				A	A	22 52 44.0	
	180nm,0.2s						
GRPR				A	A	22 52 44.0	
	330nm,0.2s						
LAGR	**Lagunnoye**	**0.98**	**303**	*e*P	**Pn**	**22 52 30.0**	**-0.8**
LAGR				*e*S	**Sn**	**22 52 44.0**	**+0.6**
JRA	**Rausu**	**1.37**	**288**	P	**Pn**	**22 52 36.1**	**0.0**
JRA				*e*S	**Sn**	**22 52 53.9**	**+0.9**
JNK	**Nakash**	**1.60**	**273**	P	**Pn**	**22 52 38.9**	**-0.5**
JNK				*e*S	**Sn**	**22 52 58.8**	**0.0**
KUR	**Kuril'sk**	**1.84**	**21**	*e*P	**Pn**	**22 52 42.8**	**+0.2**
KUR				*e*S	**Sn**	**22 53 04.5**	**-0.1**
KUR				A	A	22 53 07.6	
	180nm,0.3s						
KUR				A	A	22 53 07.6	
	150nm,0.3s						
JAR	**Ashorobuto**	**2.31**	**265**	P	**Pn**	**22 52 49.8**	**+0.7**
JAR				*e*S	**Sn**	**22 53 17.9**	**+1.7**

WEL 30 23:05:45.0, 40°.3S±0°.9×17°.7E±°, h14km±1km, ML3.5/13, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.10**	**312**	P	Pg	23 05 48.5	+0.4
PRHZ				S	Sg	23 05 51.5	+1.2
ANWZ	**Angora Road**	**0.23**	**236**	P	Pb	23 05 51.4	+0.4
ANWZ				S	Sb	23 05 56.7	+1.7
PXZ	**Pawanui**	**0.32**	**19**	P	Pb	23 05 52.5	0.0
PXZ				S	Sb	23 05 58.4	+1.1
WPHZ	**Waipukurau**	**0.35**	**320**	P	Pb	23 05 52.8	-0.1
WPHZ				S	Sb	23 05 59.1	+0.8
DVHZ	**Dannevirke**	**0.43**	**274**	P	Pb	23 05 54.5	+0.1
DVHZ				S	Sb	23 06 01.9	+1.1
BFZ	**Birch Farm**	**0.51**	**226**	P	Pb	23 05 56.5	+0.7
KAHZ	**Kahuranaki**	**0.55**	**12**	P	Pb	23 05 57.0	+0.6
PNHZ	**Pukenui**	**0.58**	**316**	P	Pb	23 05 57.0	0.0
PRWZ	**Pori Road**	**0.62**	**249**	P	Pn	23 05 58.5	-0.9
PRWZ				S	Sn	23 06 09.4	+0.3
TSZ	**Takapari Road**	**0.65**	**295**	P	Pb	23 05 58.0	-0.1
TSZ				S	Sb	23 06 08.2	+1.2
CKHZ	**Cape Kidnapper**	**0.72**	**22**	P	Pb	23 05 59.9	+0.5
POWZ	**Post Office Ro**	**0.74**	**265**	P	Pb	23 06 00.1	+0.5
KRHZ	**Kereru**	**0.74**	**338**	P	Pb	23 05 59.7	0.0
TIWZ	**Tintock**	**0.78**	**235**	P	Pb	23 06 00.7	+0.3
MCHZ	**McNeill Hill**	**0.89**	**358**	P	Pb	23 06 02.4	+0.3
KWHZ	**Kaweka Forest**	**0.94**	**345**	P	Pb	23 06 03.0	-0.1
MRZ	**Mangatainoka R**	**0.94**	**249**	P	Pg	23 06 02.3	-0.7
MRZ				S	Sb	23 06 15.4	-0.2
BHHZ	**Black Hill Sta**	**0.98**	**328**	P	Pb	23 06 03.3	-0.6
TMWZ	**Te Maipa**	**1.00**	**219**	P	Pb	23 06 03.4	-0.8
HOWZ	**Holdsworth Sta**	**1.08**	**238**	P	Pb	23 06 04.1	-1.5
OHWZ	**Ohakea**	**1.09**	**276**	P	Pg	23 06 06.4	+0.4
BKZ	**Black Stump Fm**	**1.18**	**351**	P	Pn	23 06 05.9	-1.1
MOVZ	**Moawhango**	**1.19**	**321**	P	Pn	23 06 07.1	-0.2
MTW	**Mount Morrison**	**1.25**	**228**	P	Pn	23 06 06.0	-2.0
OGWZ	**Otaki Gorge**	**1.28**	**247**	P	Pn	23 06 07.1	-1.4
TUVZ	**Tukino**	**1.35**	**322**	P	Pb	23 06 10.3	+0.2
MTVZ	**Mangateitei**	**1.35**	**314**	P	Pb	23 06 10.4	+0.2
WHVZ	**Whangaehu Hut**	**1.37**	**320**	P	Pb	23 06 10.5	0.0
TRVZ	**Turoa**	**1.38**	**318**	P	Pb	23 06 10.5	-0.1
FWVZ	**Far West T-bar**	**1.41**	**319**	P	Pn	23 06 10.7	+0.3
NGZ	**Ngauruhoe**	**1.45**	**323**	P	Pb	23 06 11.6	-0.1
WAZ	**Wanganui**	**1.46**	**293**	P	Pb	23 06 11.8	-0.1
CAW	**Cannon Point**	**1.48**	**238**	P	Pn	23 06 09.5	-1.8
PKVZ	**Pokaka**	**1.49**	**314**	P	Pb	23 06 12.0	-0.4
KRVZ	**Karewarewa**	**1.49**	**325**	P	Pb	23 06 12.4	-0.1
WTVZ	**West Tongariro**	**1.50**	**324**	P	Pb	23 06 12.6	-0.1
TWVZ	**Taurewa**	**1.60**	**321**	P	Pb	23 06 13.8	-0.7
SNGZ	**Shannon Static**	**1.62**	**17**	P	Pn	23 06 11.9	-1.2
RATZ	**Rangitukua**	**1.64**	**333**	P	Pg	23 06 15.8	-0.7
MUGZ	**Murupara**	**1.85**	**1**	P	Pn	23 06 15.4	-0.9
VRZ	**Vera Road**	**1.94**	**308**	P	Pg	23 06 21.8	-0.4
MWZ	**Matawai**	**2.09**	**18**	P	Pn	23 06 17.3	-2.3
URZ	**Urewera**	**2.09**	**8**	P	Pn	23 06 17.7	-1.8
HIZ	**Hauiti**	**2.32**	**321**	P	Pb	23 06 25.8	-0.8
PKGZ	**Pakihiroa**	**2.66**	**24**	P	Pn	23 06 25.1	-2.3

IDC 30 23:21:46.1±51.0, 19°.30S×177°.15W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/21, mbtmp4.1/3, Error ellipse: s-maj=935.8km s-min=169.2km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.04**	**243**	P	P	23 29 14.4	-0.4
	1.2nm,0.5s,baz=81,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**45.58**	**261**	P	P	23 30 08.1	-0.2
	0.6nm,0.3s,baz=95,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**45.59**	**255**	P	P	23 30 08.3	+0.1
	3.6nm,0.5s,baz=95,slow=8.3,SNR=46						

*NIED **30** 23:31:00, 39°.90N×143°.60E, h14km, Mw3.6 Best double couple: M0:2.84000×10^14 NP1:φ0=202.00000°, δ37.00000°, λ99.00000°. NP2:φ0=11.00000°, δ54.00000°, λ83.00000°.*

JMA 30 23:31:11.3±0.3, 39°.91N×143°.62E, h15km±5km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.35**	**272**	P	Pn	23 31 35.5	-0.1
JTH				*e*S	Sb	23 31 53.8	+0.4
MIYJ	**Miyakonagasawa**	**1.43**	**257**	P	Pn	23 31 36.9	+0.2
MIYJ				*e*S	Sb	23 31 55.5	-0.1
JKEN	**Kujiedanarisaw**	**1.50**	**282**	P	Pn	23 31 37.9	+0.3
JKEN				*e*S	Sb	23 31 57.2	-0.3
JANG	**Nango**	**1.68**	**287**	P	Pn	23 31 40.4	+0.3
JOM	**Ohasama**	**1.85**	**257**	P	Pn	23 31 43.6	+1.1
JOM				*e*S	Sb	23 32 07.0	-0.7
JMK	**Ichinoseki**	**2.09**	**244**	P	Pn	23 31 46.3	+0.5
JMK				*e*S	Sn	23 32 12.1	+0.6
JOT	**Ohata**	**2.45**	**308**	P	Pn	23 31 52.1	+1.4
JOT				*e*S	Sn	23 32 21.1	+0.8
JNBK	**Urakawa-nobuka**	**2.46**	**345**	P	Pb	23 31 53.4	-1.8
JCH	**Churui**	**2.71**	**356**	P	Pn	23 31 55.3	+1.0
JCH				*e*S	Sn	23 32 27.1	+0.3
JYK	**Kaneyama**	**2.71**	**250**	P	Pn	23 31 55.9	+1.6
JKB	**Kayabe**	**2.78**	**316**	*e*S	Sn	23 32 29.8	+1.2
JAK	**Akkeshi**	**3.19**	**14**	*e*S	Sn	23 32 38.3	-0.3
JFR	**Furan**	**3.34**	**347**	*e*S	Sn	23 32 42.9	+0.5
JAR	**Ashorobuto**	**3.39**	**2**	P	Pn	23 32 04.0	+0.4
JAR				S	Sn	23 32 42.3	-1.2

*HEL **30** 23:37:40.6, 67°.83N×19°.93E, h0km, ML2.0, Explosion*

UPP 30 23:37:42.0±0.0, 67°.84N×20°.20E, h0km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**24**	P	Pg	23 37 44.6	+0.3
KUA				S	Sg	23 37 46.3	+0.4
KUA	**Kurravaara**	**0.12**	**24**	*i* P	Pg	23 37 44.6	+0.3
KUA				*i* S	Sg	23 37 46.3	+0.4
RATU	**Laukkuluspa**	**0.23**	**265**	P	Pg	23 37 46.7	+0.3
RATU	**Laukkuluspa**	**0.23**	**265**	*i* P	Pg	23 37 46.7	+0.3
NIKU	**Nikkaluokta**	**0.44**	**274**	P	Pg	23 37 50.6	+0.1
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	23 37 50.6	+0.1
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	23 37 55.4	-0.1
LANU	**Lannavaara**	**0.70**	**72**	*i* P	Pg	23 37 55.4	-0.1
DUNU	**Dundret**	**0.74**	**169**	P	Pg	23 37 55.9	-0.2
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	23 37 55.9	-0.2
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	23 37 56.9	-0.2
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	23 37 56.9	-0.2
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	23 37 57.1	-0.2
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	23 37 57.1	-0.2
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pb	23 38 05.5	+0.1
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pg	23 38 03.2	-1.5
KIF				MSG		23 38 18.7	
	comp=Z,22nm,0.2s						
KIF				*e*SB	Sg	23 38 20.4	+0.3
PAJU	**Pajala**	**1.39**	**125**	P	Pg	23 38 07.6	-1.1
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	23 38 07.6	-1.1
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	23 38 08.1	-0.9
HEF	**Hetta**	**1.41**	**65**	*e*PG	Pn	23 38 08.0	-0.9
	baz=249						
HEF				MSG		23 38 26.0	
	comp=Z,9.2nm,0.2s						
HEF				*e*SB	Sg	23 38 26.4	-0.9
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	23 38 09.5	-0.7
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	23 38 09.5	-0.7
HARU	**Harads**	**1.71**	**169**	P	Pn	23 38 13.1	0.0
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	23 38 13.1	0.0
TOF	**Tornio**	**2.40**	**136**	*e*PB	Pn	23 38 23.9	+1.5
	baz=315						
TOF				MSG		23 38 53.7	
	comp=Z,6.0nm,0.2s						
TOF				*e*SB	Sb	23 38 55.9	-0.2
SGF	**Sodankyl**	**2.45**	**97**	*e*PB	Pb	23 38 25.2	-1.6
SGF				*e*SG	Sb	23 38 58.5	+0.9
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P	Pn	23 38 26.2	+1.3
	baz=227						
ARE0				*e*SB	Sn	23 38 59.0	+2.1
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pb	23 38 27.0	-2.0
RNF				*e*SB	Sb	23 39 00.7	-0.5
KEV	**Kevo**	**3.13**	**49**	*e*PB	Pb	23 38 37.2	-1.2
KEV				*e*S	Sn	23 39 11.5	+1.0
KEV				MSG		23 39 15.2	
	comp=Z,2.9nm,0.2s						
OUL	**Oulu**	**3.59**	**138**	*e*SB	Sb	23 39 30.8	+0.5
MSF	**Maaselka**	**3.99**	**115**	*e*P	Pn	23 38 46.4	+2.1
	baz=306						

UPP 30 23:37:54.5±0.1, 67°.85N×20°.27E, h0km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**14**	P	Pg	23 37 56.8	+0.3
KUA				S	Sg	23 37 58.5	+0.5
RATU	**Laukkuluspa**	**0.26**	**265**	P	Pg	23 37 59.6	+0.2
LANU	**Lannavaara**	**0.68**	**72**	P	Pg	23 38 07.3	-0.2

*LDG **31** 00:06:13.9±0.2, 43°.11N×0°.08W, h2km, Md1.8/3, Ml1.9/2, Error ellipse: s-maj=10.0km s-min=2.6km az=172.0*

MDD 31 00:06:14.6±0.5, 43°.01N×0°.07W, h14km±9km, mbLg0.7/4, Error ellipse: s-maj=7.2km s-min=3.0km az=5.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.30**	**86**	*e*Pg	Pg	00 06 20.4	-0.5
EPF				*e*Sg	Sg	00 06 24.9	-0.2
	1.7nm,0.1s						
EPF	**Esparros**	**0.30**	**86**	Pg	Pg	00 06 20.4	-0.5
EPF				Lg	Lg	00 06 24.9	
	0.9nm,0.1s						
ETSF	**Etsaut**	**0.38**	**253**	*e*Pg	Pg	00 06 22.1	-0.2
ETSF				*e*Sg	Sg	00 06 27.4	-0.1
	1.8nm,0.1s						
ETSF	**Etsaut**	**0.38**	**253**	Pg	Pg	00 06 22.1	-0.2
ETSF				Lg	Lg	00 06 27.4	
	0.9nm,0.1s						
ECHI	**Chisagues Biel**	**0.40**	**151**	Pg	Pg	00 06 22.6	0.0
	SNR=7.9						
ECHI				Lg	Lg	00 06 27.0	
	2.4nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.47**	**279**	Pg	Pg	00 06 23.2	-0.7
	SNR=7.9						
ATE				Lg	Lg	00 06 30.3	
	2.0nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.85**	**277**	*e*Pg	Pg	00 06 29.7	-1.5
SJPF				*e*Sg	Sg	00 06 40.6	-1.8
	0.5nm,0.3s						
SJPF	**Ste Jean**	**0.85**	**277**	Pg	Pg	00 06 29.7	-1.5
SJPF				Lg	Lg	00 06 40.6	
	0.2nm,0.3s						
MTLF	**Montolieu**	**1.70**	**78**	*e*Pn	Pn	00 06 42.6	-1.3
MTLF				*e*Sn	Sn	00 07 03.7	-1.7
	1.2nm,0.2s						
MTLF	**Montolieu**	**1.70**	**78**	Pn	Pn	00 06 42.6	-1.3
MTLF				Sn	Sn	00 07 03.7	-1.7
	0.6nm,0.2s						

*IDC **31** 00:07:58.8±3.0, 51°.47N×160°.34E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/33, mbtmp3.6/4, ML2.6/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/32, Error ellipse: s-maj=79.6km s-min=45.2km az=30.0*

*KRSC **31** 00:08:05.4±10.0, 52°.17N×160°.73E, h42km±10km, ML4.3*

*ISCJB **31** 00:08:06.6±1.0, 52°.13N±0°.06×160°.69E±0°.09, h48km±11km, mb3.7/3, MS2.8/1, Error ellipse: s-maj=11.3km s-min=7.0km az=137.6*

*MOS **31** 00:08:06.9±0.5, 52°.19N×160°.68E, h48km, mb4.0/1, Error ellipse: s-maj=14.5km s-min=6.5km az=118.3*

ISC 31 00:08:07.9±1.9, 52°.17N±0°.07×160°.63E±0°.09, h42km±18km, n47, σ0°.99/66, mb3.4/3, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.00**	**338**	*e*P	**Pn**	**00 08 24.1**	**-1.4**
SPN				*e*S	**Sn**	**00 08 37.0**	**-1.4**
SPN	**Mys Shipunski**	**1.00**	**338**	PN	**Pn**	**00 08 24.1**	**-1.4**
SPN				S	**Sn**	**00 08 37.0**	**-1.4**
NLC	**Nalytchevo**	**1.27**	**322**	*e*P	**Pn**	**00 08 28.6**	**-0.6**
NLC				*e*S	**Sn**	**00 08 46.1**	**+1.1**
NLC	**Nalytchevo**	**1.27**	**322**	PN	**Pn**	**00 08 28.6**	**-0.6**
NLC				S	**Sn**	**00 08 46.1**	**+1.1**
RUS	**Russkaya**	**1.33**	**282**	*e*P	**Pn**	**00 08 29.3**	**-0.6**
RUS				*e*S	**Sn**	**00 08 46.4**	**0.0**
RUS	**Russkaya**	**1.33**	**282**	PN	**Pn**	**00 08 29.3**	**-0.6**
RUS				S	**Sn**	**00 08 46.4**	**0.0**
DALK	**Dalny**	**1.43**	**308**	*e*P	**Pn**	**00 08 30.8**	**-0.6**
DALK				*e*S	**Sn**	**00 08 48.6**	**-0.4**
DALK	**Dalny**	**1.43**	**308**	PN	**Pn**	**00 08 30.8**	**-0.6**
DALK				S	**Sn**	**00 08 48.6**	**-0.4**
PET	**Petropavlovsk**	**1.48**	**306**	*e*P	**Pn**	**00 08 31.5**	**-0.6**
PET				*e*S	**Sn**	**00 08 50.4**	**+0.3**
PET	**Petropavlovsk**	**1.48**	**306**	⊓/PN	**Pn**	**00 08 31.4**	**-0.6**
PET				*e*S	**Sn**	**00 08 50.3**	**+0.2**
PET				pmax	pmax		
	comp=Z,302nm,0.8s						
PET				smax	smax		
	comp=E,973nm,0.8s						
PET				smax	smax		
	comp=N,2μm,0.6s						
UGLR	**Uglovaya**	**1.51**	**314**	*i* P	**Pn**	**00 08 32.7**	**+0.1**
UGLR				*e*S	**Sn**	**00 08 52.7**	**+1.5**
UGLR	**Uglovaya**	**1.51**	**314**	PN	**Pn**	**00 08 32.7**	**+0.1**
UGLR				S	**Sn**	**00 08 52.7**	**+1.5**
MTVR	**Mutnovka**	**1.54**	**283**	*e*P	**Pn**	**00 08 32.9**	**0.0**
MTVR				*e*S	**Sn**	**00 08 52.7**	**+1.0**
MTVR	**Mutnovka**	**1.54**	**283**	PN	**Pn**	**00 08 32.9**	**0.0**
MTVR				S	**Sn**	**00 08 52.7**	**+1.0**
SDLR	**Sedlovina**	**1.54**	**317**	*i* P	**Pn**	**00 08 32.7**	**-0.2**
SDLR	**Sedlovina**	**1.54**	**317**	PN	**Pn**	**00 08 32.7**	**-0.2**
SMAR	**Somma**	**1.56**	**315**	*i* P	**Pn**	**00 08 33.1**	**-0.3**
SMAR	**Somma**	**1.56**	**315**	PN	**Pn**	**00 08 33.1**	**-0.3**
AVH	**Avacha**	**1.59**	**314**	*i* P	**Pn**	**00 08 33.8**	**+0.2**
AVH	**Avacha**	**1.59**	**314**	PN	**Pn**	**00 08 33.8**	**+0.2**
KRER	**Koryakskii**	**1.61**	**315**	*e*P	**Pn**	**00 08 34.3**	**+0.2**
KRER	**Koryakskii**	**1.61**	**315**	PN	**Pn**	**00 08 34.3**	**+0.2**
GRL	**Gorelyy**	**1.61**	**285**	*e*P	**Pn**	**00 08 35.7**	**+1.7**
GRL	**Gorelyy**	**1.61**	**285**	PN	**Pn**	**00 08 35.7**	**+1.7**
KDTR	**Khodutka, Kamc**	**1.62**	**258**	*e*P	**Pn**	**00 08 33.6**	**-0.3**
KDTR				*e*S	**Sn**	**00 08 53.2**	**-0.4**
KDTR	**Khodutka, Kamc**	**1.62**	**258**	PN	**Pn**	**00 08 33.6**	**-0.3**
KDTR				S	**Sn**	**00 08 53.2**	**-0.4**
KOK	**Koryaka**	**1.65**	**314**	*i* P	**Pn**	**00 08 34.7**	**+0.2**
KOK	**Koryaka**	**1.65**	**314**	PN	**Pn**	**00 08 34.7**	**+0.2**
KRMR	**Karymshinskiy**	**1.67**	**294**	*e*P	**Pn**	**00 08 34.4**	**-0.2**
KRMR				*e*S	**Sn**	**00 08 55.7**	**+1.0**
KRMR	**Karymshinskiy**	**1.67**	**294**	PN	**Pn**	**00 08 34.4**	**-0.2**
KRMR				S	**Sn**	**00 08 55.7**	**+1.0**
KRX	**Arik**	**1.69**	**315**	*e*P	**Pn**	**00 08 35.6**	**+0.5**
KRX	**Arik**	**1.69**	**315**	PN	**Pn**	**00 08 35.6**	**+0.5**
PETK	**Petropavlovsk-**	**2.02**	**299**	Pn	**Pn**	**00 08 39.2**	**-0.2**
	comp=N,8.1nm,0.3s,baz=106,slow=19,SNR=87						
PETK				Sn	**Sn**	**00 09 06.1**	**+2.6**
	comp=N,17nm,0.3s,baz=74,slow=41,SNR=20						
PETK				LR	LR	00 09 36.6	
	comp=N,224nm,18.5s,baz=41,slow=42						
GNL	**Ganaly**	**2.23**	**314**	*i* P	**Pn**	**00 08 43.3**	**+0.8**
GNL	**Ganaly**	**2.23**	**314**	PN	**Pn**	**00 08 43.3**	**+0.8**
KZV	**Kizimen**	**2.96**	**356**	*e*P	**Pn**	**00 08 53.9**	**+1.5**
KZV	**Kizimen**	**2.96**	**356**	PN	**Pn**	**00 08 53.9**	**+1.5**
TUMD	**Tumrok D**	**3.04**	**357**	*e*P	**Pn**	**00 08 53.6**	**+0.1**
TUMR	**Tumrok**	**3.13**	**355**	*e*P	**Pn**	**00 08 56.1**	**+1.3**
TUMR	**Tumrok**	**3.13**	**355**	PN	**Pn**	**00 08 53.6**	**-1.2**
SKR	**Severo-Kuril's**	**3.19**	**244**	*e*PN	**Pn**	**00 08 57.7**	**+2.1**
SKR				*e*S	**Sn**	**00 09 30.7**	**-1.6**
SKR				smax	smax		
	comp=E,93nm,0.4s						
SKR				smax	smax		
	comp=N,188nm,0.5s						
KBTR	**Krutoberegovo**	**4.24**	**17**	*i* P	**Pn**	**00 09 11.0**	**+1.0**
KBTR	**Krutoberegovo**	**4.24**	**17**	PN	**Pn**	**00 09 11.0**	**+1.0**
ILAR	**Eielson Array**	**29.24**	**44**	LR	LR	00 27 33.1	
	comp=N,19nm,18.4s,baz=132,slow=39						
MKAR	**Makanchi Array**	**48.86**	**297**	P	**P**	**00 16 46.7**	**-2.3**
	comp=N,0.2nm,0.5s,baz=60,slow=8.9,SNR=3.2						
FINES	**FINESS Array B**	**61.10**	**337**	P	**P**	**00 18 17.9**	**+0.8**
	comp=N,1.9nm,0.7s,baz=31,slow=8.4,SNR=10						
NOA	**NORSAR Array B**	**64.52**	**344**	P	**P**	**00 18 40.9**	**+0.9**
	comp=N,0.2nm,0.5s,baz=210,slow=8.8,SNR=3.1						

ROM 31 00:08:25.5±0.1, 43°.401N±0°.001×12°.509E±0°.001, h6km, Md1.0/4, ML0.4/1, Error ellipse: s-maj=0.9km s-min=0.1km az=40.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.06**	**127**	P	Pg	00 08 27.3	+0.2
ATFO				S	Sg	00 08 28.6	+0.3
ATFO				END			
ATFO	**Monte Foce - G**	**0.06**	**127**	P	Pg	00 08 27.3	+0.2
ATFO	**Monte Foce - G**	**0.06**	**127**	S	Sg	00 08 28.6	+0.3
ATVO	**AVT- Monte Val**	**0.08**	**256**	P	Pg	00 08 27.6	+0.2
ATVO	**AVT- Monte Val**	**0.08**	**256**	P	Pg	00 08 27.6	+0.2
ATVO				S	Sg	00 08 29.2	+0.5
ATVO				END			
ATVO	**AVT- Monte Val**	**0.08**	**256**	S	Sg	00 08 29.2	+0.5
ATPI	**Pietralunga -**	**0.09**	**303**	P	Pg	00 08 27.9	+0.2
ATPI				S	Sg	00 08 29.6	+0.5
ATPI				AML	AML		
	comp=E,40μm,1.6s						
ATPI				AML	AML		
	comp=N,36μm,1.5s						
ATPI				AML	AML		
	comp=N,36μm,1.5s						
ATPI				AML	AML		
	comp=E,40μm,1.6s						
ATPI				AML	AML		
	comp=N,36μm,1.5s						
ATPI				AML	AML		
	comp=E,40μm,1.6s						
ATPI				END			
ATPI	**Pietralunga -**	**0.09**	**303**	S	Sg	00 08 29.7	+0.5
PIEI	**Pieia**	**0.14**	**8**	P	Pg	00 08 28.8	+0.4
PIEI				S	Sg	00 08 31.2	+0.9
PIEI				END			
PIEI	**Pieia**	**0.14**	**8**	S	Sg	00 08 31.1	+0.7
PE3	**Peglio**	**0.29**	**358**	P	Pg	00 08 27.5	-3.8
CSP1	**Cessapalombo**	**0.59**	**121**	P	Pg	00 08 32.2	-4.8
CSP1	**Cessapalombo**	**0.59**	**121**	AML	AML		
	comp=N,300μm,1.6s						
CSP1				AML	AML		
	comp=E,122μm,1.6s						
CSP1				AML	AML		
	comp=N,300μm,1.6s						
CSP1				AML	AML		
	comp=E,122μm,1.6s						
CSP1				AML	AML		
	comp=N,300μm,1.6s						
CSP1				AML	AML		
	comp=E,122μm,1.6s						

KRSC 31 00:10:59.2±10.0, 50°.80N×157°.46E, h61km±10km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.78**	**329**	*e*P	Pn	00 11 15.9	+1.5
PAU				*e*S	Sn	00 11 27.7	+2.1
SKR	**Severo-Kuril's**	**0.86**	**262**	*e*P	Pn	00 11 16.9	+1.5
SKR				*e*S	Sn	00 11 28.5	+1.1
KDTR	**Khodutka, Kamc**	**1.08**	**21**	*e*P	Pn	00 11 20.3	+2.1
KDTR				*e*S	Sn	00 11 34.6	+2.2
ALID	**Alaid**	**1.21**	**274**	*e*P	Pn	00 11 20.5	+0.3
MTVR	**Mutnovka**	**1.74**	**15**	*e*P	Pn	00 11 29.4	+2.2
MTVR				*e*S	Sn	00 11 50.8	+2.3
RUS	**Russkaya**	**1.76**	**22**	*e*P	Pn	00 11 29.1	+1.8
RUS				*e*S	Sn	00 11 49.8	+1.1
KRMR	**Karymshinskiy**	**2.07**	**11**	*e*P	Pn	00 11 34.5	+2.9
KRMR				*e*S	Sn	00 12 00.5	+4.3
APC	**Apacha**	**2.13**	**355**	*e*P	Pn	00 11 33.6	+1.2
DALK	**Dalny**	**2.37**	**19**	*e*P	Pn	00 11 38.2	+2.6
DALK				*e*S	Sn	00 12 06.1	+2.6
UGLR	**Uglovaya**	**2.55**	**19**	*e*P	Pn

DWS				*e*S	Sb	00 17 30.2	-1.0
BBL	**Barber's Block**	**2.07**	**173**	*e*P	Pb	00 17 04.6	-1.8
BBL				*e*S	Sb	00 17 30.9	-0.8

JMA 31 00:21:27.2±0.3, 39°.92N×143°.56E, h24km, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.30**	**271**	P	Pn	00 21 50.2	+0.3
MIYJ	**Miyakonagasawa**	**1.39**	**256**	P	Pn	00 21 51.5	+0.5
JKEN	**Kujiedanarisaw**	**1.45**	**282**	P	Pn	00 21 52.5	+0.6
JKEN				*e*S	Sb	00 22 10.8	-0.7
JANG	**Nango**	**1.63**	**287**	P	Pn	00 21 54.9	+0.5
JOM	**Ohasama**	**1.81**	**256**	P	Pn	00 21 57.9	+1.1
JMK	**Ichinoseki**	**2.05**	**243**	P	Pn	00 22 00.8	+0.6
JNBK	**Urakawa-nobuka**	**2.44**	**346**	P	Pn	00 22 07.7	+2.2
JYK	**Kaneyama**	**2.67**	**249**	P	Pn	00 22 10.4	+1.7
JCH	**Churui**	**2.70**	**357**	P	Pn	00 22 09.9	+0.9
JCH				*e*S	Sn	00 22 41.9	+1.0
JAR	**Ashorobuto**	**3.38**	**3**	P	Pn	00 22 18.4	0.0
JAR				*e*S	Sn	00 22 59.2	+1.5

*IDC **31** 00:21:27.8±1.4, 39°.57N×143°.70E, h0km, mb3.8/11, mb1 3.7/16, mb1mx3.6/39, mbtmp3.7/16, ML3.0/5, MS3.0/1, Ms1 3.0/1, ms1mx2.2/38, Error ellipse: s-maj=28.0km s-min=21.9km az=118.0*
*ISCJB **31** 00:21:30.1±0.7, 39°.90N±0°.04×143°.70E±0°.06, h10km, mb3.7/11, MS2.9/1, Error ellipse: s-maj=7.5km s-min=4.7km az=37.3*
*JMA **31** 00:21:32.9±0.2, 39°.92N×143°.64E, h29km, M3.9*
ISC 31 00:21:31.6±1.1, 39°.88N±0°.07×143°.62E±0°.09, h10km, n36, σ0s97/32, mb3.9/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.35**	**273**	P	**Pn**	**00 21 56.6**	**0.0**
MIYJ	**Miyakonagasawa**	**1.42**	**258**	P	**Pn**	**00 21 57.6**	**+0.1**
MIYJ				*e*S	**Sn**	**00 22 16.3**	**0.0**
JKEN	**Kujiedanarisaw**	**1.50**	**283**	*e*S	**Sn**	**00 22 17.8**	**-0.5**
JANG	**Nango**	**1.69**	**288**	P	**Pn**	**00 22 01.1**	**-0.1**
JOM	**Ohasama**	**1.84**	**258**	P	**Pn**	**00 22 04.2**	**+0.9**
JOM				*e*S	**Sn**	**00 22 26.7**	**0.0**
JMK	**Ichinoseki**	**2.08**	**244**	P	**Pn**	**00 22 07.8**	**+1.2**
JOT	**Ohata**	**2.47**	**308**	*e*S	**Sn**	**00 22 42.1**	**0.0**
JNBK	**Urakawa-nobuka**	**2.48**	**345**	*e*S	**Sn**	**00 22 42.8**	**+0.3**
JYK	**Kaneyama**	**2.71**	**250**	P	**Pn**	**00 22 16.4**	**+1.2**
JCH	**Churui**	**2.74**	**356**	*e*S	**Sn**	**00 22 47.6**	**-1.1**
JKB	**Kayabe**	**2.81**	**316**	*e*S	**Sn**	**00 22 50.5**	**+0.1**
JEW	**Eniwo**	**3.38**	**332**	*e*S	**Sn**	**00 23 05.0**	**+0.5**
JAR	**Ashorobuto**	**3.41**	**2**	P	**Pn**	**00 22 25.5**	**+0.6**
JAR				*e*S	**Sn**	**00 23 03.9**	**-1.5**
ASAJ	**Asahikawa**	**4.30**	**350**	Pn	**Pn**	**00 22 37.4**	**+0.3**
ASAJ	2.4nm,0.3s,baz=184,slow=19,SNR=3.0			Sn	**Sn**	**00 23 30.1**	**+2.8**
MAT	**Matsushiro**	**5.41**	**234**	P	Pn	00 22 48.0	-4.4
MAT	2.5nm,0.3s,baz=270,slow=20,SNR=4.1			S	**Pb**	**00 23 06.7**	**+0.4**
MJAR	**Matsushiro Arr**	**5.41**	**234**	Pn	Pn	00 22 47.1	-5.3
MJAR	0.1nm,0.3s,baz=42,slow=12,SNR=4.9						
USRK	**Ussuriysk Ar.**	**9.67**	**300**	Pn	**Pn**	**00 23 51.4**	**+0.6**
KSRS	**Korea Array**	**12.51**	**264**	Pn	**Pn**	**00 24 27.5**	**-2.2**
KLR	**Kul'dur**	**12.60**	**322**	Pn	**Pn**	**00 24 31.8**	**+1.0**
SEY	**Seymchan**	**23.68**	**10**	P	**P**	**00 26 43.0**	**-0.1**
SONM	**Songino Array**	**27.78**	**299**	P	**P**	**00 27 20.8**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**28.33**	**128**	T	T	00 57 08.4	
H11N1	**WAKE ISLAND Hy**	**28.34**	**128**	T	T	00 57 03.5	
H11N3	**WAKE ISLAND Hy**	**28.35**	**128**	T	T	00 57 12.4	
H11S1	**WAKE ISLAND Hy**	**29.16**	**130**	T	T	00 58 05.1	
H11S3	**WAKE ISLAND Hy**	**29.16**	**130**	T	T	00 58 09.8	
H11S2	**WAKE ISLAND Hy**	**29.18**	**130**	T	T	00 58 15.4	
TIXI	**Tiksi**	**32.70**	**351**	P	**P**	**00 28 04.8**	**+1.0**
TIXI	1.9nm,0.4s,baz=253,slow=0.8,SNR=5.1			LR	LR	00 42 29.4	
ZALV	**Zalesovo Beam**	**41.35**	**310**	P	**P**	**00 29 17.2**	**-0.2**
MKAR	**Makanchi Array**	**44.14**	**300**	P	**P**	**00 29 39.0**	**-1.3**
KURBB	**Kurchatov Arra**	**45.67**	**306**	P	**P**	**00 29 51.6**	**-0.8**
ILAR	**Eielson Array**	**46.16**	**34**	P	**P**	**00 29 55.5**	**-0.5**
BVAR	**Borovoye Array**	**49.98**	**311**	P	**P**	**00 30 25.8**	**+0.1**
ASAR	**Alice Springs**	**63.87**	**190**	P	P	00 32 00.1	-4.2
FINES	**FINESS Array B**	**67.10**	**332**	P	**P**	**00 32 25.4**	**+0.5**
NOA	**NORSAR Array B**	**72.22**	**338**	P	**P**	**00 32 55.4**	**-1.1**
	0.5nm,0.8s,baz=34,slow=5.9,SNR=2.6						

NNC 31 00:24:52.6±7.5, 36°.55N×69°.56E, h0km, mb3.8, mpv3.4, 3C-2D, Error ellipse: s-maj=63.7km s-min=48.2km az=160.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.59**	**6**	Pn	Pn	00 26 32.5	+1.8
KK31	0.8nm,0.2s,baz=197,slow=14,SNR=29			⇑Sn	Sn	00 27 48.8	+2.2
AAK	**Ala-Archa**	**7.18**	**31**	⇑Pn	Pn	00 26 39.0	+0.1
AAK	1.6nm,0.8s			⇑Sn	Sn	00 28 01.3	+0.1
TKM2	**Tokmak 2**	**7.88**	**34**	⇓Pn	Pn	00 26 47.6	-1.1
TKM2	2.7nm,1.3s			⇓Sn	Sn	00 28 18.9	+0.3
AB31	**Akbulak array**	**14.51**	**334**	Pn	Pn	00 28 17.9	-1.2
	1.8nm,0.9s						
	3.1nm,0.6s,baz=157,slow=13,SNR=28						

*IDC **31** 00:30:21.4±5.0, 51°.14N×161°.49E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.3/32, mbtmp3.5/3, ML2.1/1, Error ellipse: s-maj=111.6km s-min=36.8km az=17.0*
*KRSC **31** 00:30:38.4±10.0, 52°.23N×160°.46E, h16km±10km, ML3.5*
ISC 31 00:30:36.1±2.4, 52°.2N±0°.1×160°.5E±0°.1, h1km±18km, n26, σ1s35/29, mb3.4/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.98**	**344**	*e*P	**Pn**	**00 30 55.4**	**-1.7**
SPN				*e*S	Sn	00 31 07.4	-4.3
NLC	**Nalytchevo**	**1.23**	**326**	*e*P	**Pn**	**00 30 58.5**	**-1.9**
NLC				*e*S	Sn	00 31 14.1	-3.6
RUS	**Russkaya**	**1.24**	**284**	*e*P	**Pn**	**00 31 00.1**	**-0.5**
RUS				*e*S	**Sn**	**00 31 15.7**	**-2.2**
DALK	**Dalny**	**1.37**	**310**	*e*P	**Pn**	**00 31 02.1**	**-0.3**
DALK				*e*S	**Sn**	**00 31 19.3**	**-1.9**
MTVR	**Mutnovka**	**1.45**	**284**	*e*P	**Pn**	**00 31 03.8**	**+0.2**
MTVR				*e*S	**Sn**	**00 31 22.2**	**-1.1**
UGLR	**Uglovaya**	**1.46**	**317**	*e*P	**Pn**	**00 31 03.9**	**+0.2**
UGLR				*e*S	**Sn**	**00 31 22.3**	**-1.3**
SDLR	**Sedlovina**	**1.49**	**320**	*e*P	**Pn**	**00 31 03.9**	**-0.2**
SMAR	**Somma**	**1.51**	**318**	*e*P	**Pn**	**00 31 04.4**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.53**	**258**	*e*P	**Pg**	**00 31 05.1**	**-0.3**
KDTR				*e*S	**Sn**	**00 31 24.8**	**-0.2**
AVH	**Avacha**	**1.54**	**317**	*e*P	**Pn**	**00 31 05.1**	**+0.3**
KRER	**Koryakskii**	**1.56**	**318**	P	**Pn**	**00 31 05.6**	**+0.4**
KRMR	**Karymshinskiy**	**1.59**	**296**	*e*P	**Pn**	**00 31 05.5**	**+0.1**
KRMR				*e*S	**Sn**	**00 31 25.2**	**-1.3**
KOK	**Koryaka**	**1.60**	**316**	*e*P	**Pn**	**00 31 07.0**	**+1.4**
ASAK	**Asacha**	**1.60**	**279**	*e*P	**Pb**	**00 31 06.7**	**+0.1**
KRX	**Arik**	**1.64**	**318**	*e*P	**Pn**	**00 31 07.9**	**+1.6**
PETK	**Petropavlovsk-**	**1.95**	**300**	Pn	**Pn**	**00 31 10.9**	**+0.6**
	1.3nm,0.3s,baz=107,slow=20,SNR=41						
PETK				Sn	**Sn**	**00 31 35.8**	**+0.4**
	2.1nm,0.3s,baz=123,slow=19,SNR=6.2						
APC	**Apacha**	**2.17**	**292**	*e*S	**Sn**	**00 31 44.1**	**+3.2**
GNL	**Ganaly**	**2.18**	**316**	*e*P	**Pn**	**00 31 15.5**	**+1.9**
GNL				*e*S	**Sn**	**00 31 43.1**	**+1.8**
MKZ	**Mys Kozlova**	**2.52**	**17**	S	**Sn**	**00 31 49.3**	**-0.1**
KZV	**Kizimen**	**2.97**	**358**	P	Pn	00 31 27.2	+2.7
TUMD	**Tumrok D**	**3.05**	**359**	*e*P	**Pn**	**00 31 27.1**	**+1.6**
TUMD				*e*S	**Sn**	**00 32 02.2**	**-0.5**
TUMR	**Tumrok**	**3.14**	**356**	*e*P	Pn	00 31 29.7	+2.9
KBTR	**Krutoberegovo**	**4.29**	**18**	P	Pb	00 31 46.4	-5.8
ILAR	**Eielson Array**	**29.32**	**44**	P	P	00 36 29.3	-11
	0.3nm,0.5s,baz=264,slow=9.0,SNR=3.8						
YKA	**Yellowknife Ar**	**43.70**	**42**	P	P	00 38 28.7	-13
	0.1nm,0.4s,baz=288,slow=8.4,SNR=3.1						
TXAR	**Lajitas Array**	**70.79**	**67**	P	P	00 41 38.9	-15
	0.3nm,0.7s,baz=306,slow=6.2,SNR=3.7						

IDC 31 00:50:03.5±3.4, 21°.20S×175°.73W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/41, mbtmp3.9/5, Error ellipse: s-maj=327.5km s-min=32.1km az=162.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.53**	**265**	P	P	00 57 02.9	+0.4
	4.3nm,1.0s,baz=90,slow=15,SNR=3.2						
ASAR	**Alice Springs**	**46.42**	**257**	P	P	00 58 32.4	+0.1
	0.9nm,0.6s,baz=94,slow=8.1,SNR=14						
WRA	**Warramunga Arr**	**46.60**	**262**	P	P	00 58 32.9	-0.9
	0.7nm,0.4s,baz=89,slow=7.1,SNR=13						
FITZ	**Fitzroy Crossi**	**55.03**	**262**	P	P	00 59 37.2	-0.1
	2.9nm,0.9s,baz=90,slow=20,SNR=2.6						
TXAR	**Lajitas Array**	**85.66**	**56**	P	P	01 02 44.6	0.0
	0.2nm,0.6s,baz=215,slow=6.1,SNR=3.9						

*ISCJB **31** 01:26:39.7±0.6, 23°.27S±0°.06×66°.87W±0°.05, h219km±8km, mb3.3/1, Error ellipse: s-maj=9.6km s-min=7.9km az=7.4*
*IDC **31** 01:26:39.9±1.7, 23°.21S×66°.71W, h200km±22km, mb3.2/1, mb1 3.2/5, mb1mx3.0/30, mbtmp3.7/5, Error ellipse: s-maj=33.5km s-min=21.9km az=131.0*
*SJA **31** 01:26:41.0±0.6, 23°.21S×66°.76W, h195km±19km, ML2.5, MW3.4*
*GUC **31** 01:26:42.4±0.5, 23°.22S×67°.53W, h257km±8km, ML3.9*
ISC 31 01:26:39.8±1.0, 23°.27S±0°.07×66°.79W±0°.06, h210km±9km, n22, σ1s28/34, 3C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.27**	**87**	*i* P	**Pn**	**01 27 13.8**	**+0.9**
HJA				IAML		01 27 15.3	
	comp=Z,62nm,0.6s						
YJA	**Yavi**	**1.60**	**47**	*i* P	**Pn**	**01 27 16.0**	**+0.2**
AZAP	**Zapla**	**1.84**	**121**	*i* P	**Pn**	**01 27 18.7**	**+0.9**
AZAP				IAML		01 27 19.5	
	comp=Z,13nm,0.5s						
LVC	**Limon Verde**	**2.06**	**288**	P	**Pn**	**01 27 21.3**	**+1.3**
	comp=Z,19nm,0.3s,baz=130,slow=5.3,SNR=166						
LVC				S	**S**	**01 27 51.0**	**0.0**
	comp=Z,13nm,0.3s,baz=214,slow=22,SNR=20						
PB15	**IPOC Station P**	**2.47**	**271**	*i* P	**Pn**	**01 27 25.3**	**+1.2**
PB15	**IPOC Station P**	**2.47**	**271**	⇑*e*P	**Pn**	**01 27 25.6**	**+1.4**
PB15				*i* S	**S**	**01 27 58.4**	**+0.1**
PB06	**IPOC Station P**	**2.62**	**282**	*e*P	**Pn**	**01 27 27.1**	**+1.3**
PB06				*e*S	**S**	**01 28 00.9**	**-0.4**
PB06				IAML		01 28 03.5	
	comp=E,233nm,0.2s						
PB09	**IPOC Station P**	**2.70**	**302**	⇑*e*P	**Pn**	**01 27 28.5**	**+1.7**
PB09				*e*S	**S**	**01 28 04.0**	**+1.1**
PB09				IAML		01 28 07.9	
	comp=N,106nm,0.2s						
PB03	**IPOC Station P**	**3.00**	**293**	⇑*e*P	**Pn**	**01 27 31.0**	**+0.9**
PB03				*i* S	**S**	**01 28 07.9**	**-1.0**
PB03				IAML		01 28 08.6	
	comp=N,318nm,0.4s						
PB05	**IPOC Station P**	**3.17**	**277**	*e*P	**Pn**	**01 27 32.9**	**+0.9**
PB05				*e*S	**S**	**01 28 10.2**	**-2.3**
PB04	**IPOC Station P**	**3.24**	**286**	*e*P	**Pn**	**01 27 33.4**	**+0.5**
PB04				*e*S	**S**	**01 28 12.1**	**-1.9**
PB04				IAML		01 28 15.9	
	comp=N,220nm,0.2s						
PB07	**IPOC Station P**	**3.25**	**298**	*e*P	**Pn**	**01 27 33.9**	**+0.8**
PB07				*e*S	**S**	**01 28 12.8**	**-1.5**
PB07				IAML		01 28 13.6	
	comp=N,456nm,0.3s						
PB01	**IPOC Station P**	**3.34**	**311**	*e*P	**Pn**	**01 27 35.0**	**+1.0**
PB01				*e*S	**S**	**01 28 15.4**	**-0.7**
PB10	**IPOC Station P**	**3.47**	**265**	*e*P	**Pn**	**01 27 36.1**	**+0.6**
PB10				*e*S	**S**	**01 28 16.3**	**-2.4**
PB02	**IPOC Station P**	**3.47**	**303**	*e*P	**Pn**	**01 27 36.4**	**+0.8**
PB14	**IPOC Station P**	**3.57**	**247**	*e*P	**Pn**	**01 27 37.9**	**+0.9**
PB14				*e*S	**S**	**01 28 20.1**	**-1.3**
MNMCX	**Minye Minye**	**4.88**	**327**	*i* P	**Pn**	**01 27 54.5**	**+1.2**
LPAZ	**La Paz**	**7.06**	**349**	P	**Pn**	**01 28 23.0**	**+1.4**
	comp=N,0.9nm,0.3s,baz=176,slow=9.5,SNR=42						
LPAZ				S	**S**	**01 29 40.5**	**-1.7**
	comp=N,0.1nm,0.3s,baz=21,slow=14,SNR=2.2						
SIV	**San Ignacio**	**9.02**	**38**	P	**Pn**	**01 28 44.7**	**-1.8**
	comp=N,0.5nm,0.3s,baz=239,slow=19,SNR=8.9						
BDFB	**Brasilia**	**19.25**	**70**	P	**P**	**01 30 49.1**	**+0.4**
	comp=N,0.2nm,0.3s,baz=242,slow=13,SNR=4.8						
TORD	**Torodi Ar. Bea**	**76.13**	**69**	P	**P**	**01 38 04.5**	**-0.6**
	comp=N,0.4nm,0.6s,baz=258,slow=7.2,SNR=6.4						
MKAR	**Makanchi Array**	**145.84**	**39**	PKPbc	**PKPbc**	**01 45 55.5**	**+1.2**
	comp=N,0.4nm,0.6s,baz=316,slow=2.7,SNR=4.9						

*IDC **31** 01:40:52.5±0.5, 57°.92S×25°.54W, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.4/23, mbtmp4.5/16, ML4.8/1, MS3.4/10, Ms1 3.4/10, ms1mx3.3/20, Error ellipse: s-maj=18.8km s-min=14.1km az=36.0*
*ISCJB **31** 01:40:57.7±0.3, 57°.91S±0°.06×25°.6W±0°.1, h49km, mb4.6/23, MS3.5/8, Error ellipse: s-maj=11.2km s-min=7.4km az=159.6*
*NEIC **31** 01:40:59.5±1.6, 57°.90S×25°.62W, h49km±14km, mb4.7/14, Error ellipse: s-maj=8.2km s-min=6.7km az=223.0*
ISC 31 01:40:59.4±0.4, 57°.94S±0°.08×25°.64W±0°.10, h49km, n75, σ0s77/69, mb4.6/23, MS3.4/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.72**	**157**	P	**Pn**	**01 44 23.6**	**-0.6**
VNA3	**Neumayer Olymp**	**14.92**	**160**	P	**Pn**	**01 44 26.0**	**-0.8**
VNA2	**Neumayer--Watz**	**15.12**	**157**	P	**Pn**	**01 44 28.6**	**-0.8**
	baz=322,slow=14						
SNAA	**Sanae**	**16.66**	**155**	P	**Pn**	**01 44 49.5**	**+0.4**
SNAA	**Sanae**	**16.66**	**155**	*e*Pn	**Pn**	**01 44 49.4**	**+0.2**
	11nm,0.8s						
SNAA				Sn	Sn	01 47 38.9	-14
SNAA	**Sanae**	**16.66**	**155**	Pn	**Pn**	**01 44 48.6**	**-0.6**
	3.2nm,0.3s,baz=318,slow=15,SNR=72						
SNAA				Sn	Sn	01 47 38.9	-14
	0.2nm,0.3s,baz=342,slow=20,SNR=2.4						
SNAA				LR	LR	01 51 06.2	
	comp=Z,39nm,18.4s,baz=308,slow=37						
PMSA	**Palmer Station**	**19.37**	**233**	LR	LR	01 51 42.4	
	comp=Z,200nm,21.6s,baz=91,slow=34						
USHA	**Ushuaia**	**23.60**	**259**	P	**P**	**01 46 04.9**	**-0.5**
	5.3nm,0.8s,baz=150,slow=17,SNR=2.4						
QSPA	**South Pole Qui**	**32.30**	**180**	*e*P	**P**	**01 47 24.1**	**+0.7**
	28nm,1.4s						
PLCA	**Paso Flores**	**33.19**	**281**	*e*P	**P**	**01 47 31.0**	**-0.2**
	40nm,1.6s						
PLCA	**Paso Flores**	**33.19**	**281**	P	**P**	**01 47 31.0**	**-0.2**
	4.4nm,0.8s,baz=157,slow=8.5,SNR=5.3						
PLCA				LR	LR	02 00 46.5	
	comp=Z,73nm,18.8s,baz=158,slow=36						
MAW	**Mawson**	**38.13**	**142**	P	**P**	**01 48 12.8**	**-0.2**
	1.7nm,0.5s,baz=270,slow=16,SNR=4.0						
MAW				LR	LR	02 01 46.3	
	comp=Z,69nm,20.1s,baz=262,slow=33						
CPUP	**Villa Florida**	**38.70**	**311**	*e*P	**P**	**01 48 18.1**	**-0.2**
	10nm,1.1s						
CPUP	**Villa Florida**	**38.70**	**311**	P	**P**	**01 48 18.1**	**-0.2**
	4.1nm,0.8s,baz=140,slow=8.9,SNR=6.6						
CPUP				LR	LR	02 02 57.9	
	comp=Z,45nm,19.3s,baz=163,slow=34						
CFA	**Coronel Fontan**	**39.09**	**294**	P	**P**	**01 48 21.3**	**-0.3**
	1.6nm,0.6s,baz=139,slow=3.0,SNR=3.9						
CFA				LR	LR	02 03 51.7	
	comp=Z,87nm,21.9s,baz=144,slow=35						
SBA	**Scott Base**	**44.25**	**184**	*e*P	**P**	**01 49 04.7**	**+1.6**
	9.2nm,1.0s						
VNDA	**Vanda**	**44.72**	**182**	*e*P	**P**	**01 49 08.8**	**+1.9**
	9.5nm,0.8s						
VNDA	**Vanda**	**44.72**	**182**	P	**P**	**01 49 07.8**	**+0.9**
	8.5nm,0.8s,baz=187,slow=7.0,SNR=50						
VNDA				LR	LR	02 06 47.2	
	comp=Z,29nm,19.5s,baz=160,slow=35						
BDFB	**Brasilia**	**45.43**	**329**	*e*P	**P**	**01 49 13.9**	**+0.6**
	11nm,0.9s						
BDFB	**Brasilia**	**45.43**	**329**	P	**P**	**01 49 14.8**	**+1.5**
	7.9nm,0.7s,baz=135,slow=4.4,SNR=12						
BDFB				LR	LR	02 07 25.5	
	comp=Z,41nm,19.6s,baz=338,slow=35						
BOSA	**Boshof**	**45.67**	**73**	P	**P**	**01 49 15.1**	**-0.1**
	3.4nm,0.7s,baz=198,slow=6.7,SNR=6.1						
BOSA				LR	LR	02 04 18.8	
	comp=Z,95nm,20.8s,baz=186,slow=31						
LBTB	**Lobatse**	**48.80**	**70**	*e*P	**P**	**01 49 39.4**	**-0.1**
	60nm,1.9s						
LBTB	**Lobatse**	**48.80**	**70**	P	**P**	**01 49 39.4**	**-0.1**
	1.8nm,0.6s,baz=222,slow=7.4,SNR=5.9						
SIV	**San Ignacio**	**49.49**	**313**	P	**P**	**01 49 44.3**	**-0.5**
	1.1nm,0.3s,baz=182,slow=8.4,SNR=13						
H10S2	**ASCENSION HYDR**	**49.60**	**14**	T	T	02 44 21.0	
	baz=188,slow=75						
H10S3	**ASCENSION HYDR**	**49.60**	**14**	T	T	02 44 21.3	
	baz=188,slow=75						
H10S1	**ASCENSION HYDR**	**49.62**	**14**	T	T	02 44 22.3	
	baz=188,slow=75						
H10N1	**ASCENSION HYDR**	**50.72**	**14**	T	T	02 45 45.3	
	baz=187,slow=75						
H10N3	**ASCENSION HYDR**	**50.72**	**14**	T	T	02 45 45.2	
	baz=187,slow=75						
H10N2	**ASCENSION HYDR**	**50.73**	**14**	T	T	02 45 43.3	
	baz=187,slow=75						
LPAZ	**La Paz**	**52.16**	**305**	*e*P	**P**	**01 50 05.8**	**+0.2**
	3.3nm,0.8s						
LPAZ	**La Paz**	**52.16**	**305**	P	**P**	**01 50 05.3**	**-0.2**
	3.1nm,0.7s,baz=168,slow=6.5,SNR=18						
LSZ	**Lusaka**	**58.31**	**66**	*e*P	**P**	**01 50 49.6**	**+0.3**
	4.4nm,0.8s						
LIC	**Lamto**	**66.10**	**23**	*e*PKIKP	**P**	**01 51 42.4**	**+1.2**
	71nm,1.4s						
KIC	**Kosan Boka**	**66.29**	**23**	*e*PKIKP	**P**	**01 51 42.8**	**+0.4**
	23nm,0.9s						
TIC	**Toumodi**	**66.51**	**22**	*e*PKIKP	**P**	**01 51 42.6**	**-1.2**
DBIC	**Dimbokro**	**66.56**	**23**	*e*P	**P**	**01 51 44.4**	**+0.3**
	40nm,1.5s						
DBIC	**Dimbokro**	**66.56**	**23**	P	**P**	**01 51 44.4**	**+0.3**
	8.3nm,0.8s,baz=158,slow=7.8,SNR=6.2						
DBIC				LR	LR	02 15 05.5	
	comp=Z,36nm,18.7s,baz=159,slow=31						
TOA0	**Torodi Ar. Sit**	**74.31**	**28**	*e*P	**P**	**01 52 31.8**	**+0.4**
	9.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**74.31**	**28**	P	**P**	**01 52 30.4**	**-1.0**
	7.9nm,0.8s,baz=202,slow=5.2,SNR=39						
TOA1	**Torodi Ar. Sit**	**74.32**	**28**	*e*P	**P**	**01 52 30.4**	**-1.0**
TAM	**Tamanrasset**	**84.53**	**29**	*e*P	**P**	**01 53 28.6**	**+1.7**
	8.6nm,1.6s						
STKA	**Stephens Creek**	**89.89**	**169**	P	**P**	**01 53 53.0**	**+0.1**
	1.5nm,0.7s,baz=304,slow=6.7,SNR=5.3						
ASAR	**Alice Springs**	**96.92**	**161**	P	**P**	**01 54 24.7**	**-0.7**
	2.1nm,0.8s,baz=191,slow=4.8,SNR=13						
AS31	**Alice Springs**	**96.92**	**161**	*e*P	**P**	**01 54 24.7**	**-0.7**
	3.1nm,1.3s						
RSSD	**Black Hills**	**120.64**	**305**	*e*Pdif	**Pdif**	**01 56 08.2**	**-2.2**
RSSD				*e*PKPdf	**PKPdf**	**01 59 43.0**	**-1.9**
PD31	**Pinedale Array**	**122.05**	**300**	*e*PKPdf	**PKPdf**	**01 59 47.1**	**-0.6**
PDAR	**Pinedale Array**	**122.05**	**300**	PKP	**PKPdf**	**01 59 47.1**	**-0.6**
	1.4nm,0.9s,baz=124,slow=4.8,SNR=3.5						
NVAR	**Mina Array Bea**	**122.89**	**291**	PKP	**PKiKP**	**01 59 50.6**	**+0.9**
	1.6nm,0.8s,baz=103,slow=3.9,SNR=4.2						
CM31	**Chiang Mai Arr**	**123.61**	**110**	*e*PKPdf	**PKPdf**	**01 59 51.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**123.61**	**110**	PKP	**PKPdf**	**01 59 51.1**	**-0.1**
	1.4nm,0.3s,baz=236,slow=3.5,SNR=6.9						
GAR	**Garm**	**124.98**	**71**	*e*Pdif	**Pdif**	**01 56 29.9**	**+0.1**
FIA0	**FINESS Array S**	**125.67**	**28**	*e*PKPdf	**PKPdf**	**01 59 53.3**	**-0.4**
FINES	**FINESS Array B**	**125.67**	**28**	PKP	**PKPdf**	**01 59 53.3**	**-0.4**
	1.8nm,0.6s,baz=120,slow=2.2,SNR=6.4						
ARCES	**ARCESS Array B**	**132.39**	**22**	PKP	**PKPdf**	**02 00 06.2**	**-0.1**
	1.0nm,0.6s,baz=222,slow=1.2,SNR=4.9						
MK32	**Makanchi Array**	**136.67**	**72**	*e*PKPdf	**PKiKP**	**02 00 15.9**	**-0.9**
MKAR	**Makanchi Array**	**136.67**	**72**	PKP	**PKiKP**	**02 00 15.9**	**-0.9**
	1.3nm,0.9s,baz=256,slow=3.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**137.33**	**66**	PKP	**PKPdf**	**02 00 15.3**	**-0.8**
	0.6nm,0.7s,baz=237,slow=2.3,SNR=4.2						
YKA	**Yellowknife Ar**	**138.13**	**316**	PKP	**PKPdf**	**02 00 17.3**	**+0.2**
	4.2nm,0.8s,baz=126,slow=2.4,SNR=29						
YKB5	**Yellowknife Ar**	**138.13**	**316**	*e*PKPdf	**PKPdf**	**02 00 17.3**	**+0.2**
INK	**Inuvik**	**147.79**	**318**	*e*PKPbc	**PKPbc**	**02 00 37.1**	**+0.1**
INK	**Inuvik**	**147.79**	**318**	PKPbc	**PKPbc**	**02 00 37.4**	**+0.4**
	19nm,0.9s,baz=88,slow=3.9,SNR=35						
DAWY	**Dawson**	**148.67**	**309**	*e*PKPbc

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKB	Kayabe	2.78	316	eS	Sn	01 46 03.0	+0.1
JAK	Akkeshi	3.20	14	eS	Sn	01 46 10.1	-2.9
JAR	Ashorobuto	3.39	2	P	Pn	01 45 37.0	-0.4
JAR				eS	Sn	01 46 14.9	-3.0
ASAJ	Asahikawa	4.28	350	Pn	Pn	01 45 50.2	+0.6
	0.9nm,0.3s,baz=170,slow=18,SNR=3.2						
ASAJ				Sn	Sn	01 46 42.1	+2.3
	0.8nm,0.3s,baz=225,slow=20,SNR=3.8						
MJAR	Matsushiro Arr	5.42	233	Pn	Pn	01 46 05.4	+0.2
	0.3nm,0.3s,baz=41,slow=11,SNR=20						
MAJO	Matsushiro	5.42	233	ePn	Pn	01 46 05.7	+0.4
MAT	Matsushiro	5.42	233	P	Pn	01 46 06.7	+1.5
MAT				S	Sn	01 47 06.6	-1.3
MJB9	Matsu-Tunnel	5.42	233	ePn	Pn	01 46 06.0	+0.7
USA0B	Ussuriysk Arra	9.65	300	ePn	Pn	01 47 04.5	+1.2
USRK	Ussuriysk Ar.	9.65	300	Pn	Pn	01 47 03.6	+0.3
	baz=99,slow=14,SNR=3.2						
KSRS	Korea Array	12.50	264	Pn	Pn	01 47 42.7	+0.4
	0.3nm,0.3s,baz=62,slow=11,SNR=2.5						
KS15	Wonju Array Si	12.54	264	ePn	Pn	01 47 42.7	0.0
KSAR	Wonju Array Be	12.54	264	Pn	Pn	01 47 42.7	0.0
KLR	Kul'dur	12.57	322	Pn	Pn	01 47 43.5	+0.3
	0.1nm,0.3s,baz=137,slow=12,SNR=6.5						
SEY	Seymchan	23.66	10	P	P	01 49 55.2	-0.5
	6.8nm,1.0s,baz=192,slow=7.6,SNR=7.2						
SONA0	Songino Array	27.76	299	eP	P	01 50 33.0	-0.4
SONM	Songino Array	27.76	299	P	P	01 50 33.0	-0.4
	2.0nm,0.8s,baz=84,slow=9.3,SNR=12						
ZAA1	Zalesovo Array	41.32	310	eP	P	01 52 29.4	-0.7
ZALV	Zalesovo Beam	41.32	310	P	P	01 52 29.4	-0.7
	0.8nm,0.3s,baz=333,slow=39,SNR=4.0						
MK31	Makanchi Array	44.12	300	eP	P	01 52 53.3	+0.3
	1.8nm,0.9s						
MK32	Makanchi Array	44.12	300	eP	P	01 52 52.6	-0.4
MKAR	Makanchi Array	44.12	300	P	P	01 52 52.6	-0.4
	1.8nm,0.9s,baz=84,slow=9.2,SNR=12						
MAKZ	Makanchi	44.32	300	eP	P	01 52 55.4	+0.8
	1.9nm,0.9s						
KURK	Kurchatov	45.58	306	eP	P	01 53 04.6	+0.2
	5.3nm,0.8s						
KURBB	Kurchatov Arra	45.65	306	P	P	01 53 05.1	+0.1
	3.4nm,0.9s,baz=80,slow=8.4,SNR=24						
ILAR	Eielson Array	46.15	34	P	P	01 53 09.3	+0.4
	0.4nm,0.7s,baz=264,slow=6.8,SNR=6.6						
ILB	Eielson Array	46.15	34	eP	P	01 53 09.3	+0.4
	1.8nm,1.0s						
BRDH	Bariadhala	46.95	265	LR	LR	02 14 47.1	
	comp=Z,256nm,20.0s,baz=134,slow=38						
BVAR	Borovoye Array	49.96	311	P	P	01 53 37.6	-0.8
	0.8nm,0.5s,baz=90,slow=7.2,SNR=5.2						
ABKAR	Akbulak array	57.43	309	eP	P	01 54 33.7	+0.5
	1.6nm,0.6s						
AKTO	Aktyubinsk	58.06	311	P	P	01 54 37.6	0.0
	0.9nm,0.6s,baz=85,slow=16,SNR=4.8						
WR1	Warramunga Arr	60.16	190	eP	P	01 54 51.6	-0.8
WRA	Warramunga Arr	60.16	190	P	P	01 54 51.6	-0.8
	140nm,0.3s,baz=1.9,slow=7.6,SNR=1.6						
YKA	Yellowknife Ar	60.46	31	P	P	01 54 54.0	0.0
	0.1nm,0.5s,baz=303,slow=5.7,SNR=3.4						
YKB5	Yellowknife Ar	60.46	31	eP	P	01 54 54.0	0.0
AS31	Alice Springs	63.88	190	eP	P	01 55 17.0	-0.4
	0.7nm,0.4s						
ASAR	Alice Springs	63.89	190	P	P	01 55 17.0	-0.4
	0.7nm,0.9s,baz=4.7,slow=5.9,SNR=3.8						
ASAR				LR	LR	02 24 41.7	
	comp=Z,67nm,19.2s,baz=27,slow=38						
FIA0	FINESS Array S	67.08	332	eP	P	01 55 37.4	-0.2
FINES	FINESS Array B	67.08	332	P	P	01 55 37.4	-0.2
	1.7nm,0.7s,baz=52,slow=9.0,SNR=7.3						
KIV	Kislovodsk	70.33	311	eP	P	01 55 59.6	+1.2
	6.6nm,1.0s						
KBZ	Khabaz	70.34	311	P	P	01 55 59.5	+1.2
	2.6nm,0.9s,baz=17,slow=5.4,SNR=6.3						
NV01	Mina Array Sit	71.91	55	eP	P	01 56 09.3	+1.0
NVAR	Mina Array Bea	71.91	55	P	P	01 56 09.3	+1.0
	0.3nm,0.3s,baz=291,slow=5.7,SNR=3.5						
HFS	Hagfors	72.17	336	P	P	01 56 08.6	-0.5
	1.0nm,0.7s,baz=188,slow=8.7,SNR=3.5						
NB2	NORSAR Subarra	72.20	338	P	P	01 56 09.4	+0.1
	comp=Z,0.4nm,0.7s,baz=36,slow=5.9						
NB200	NORSAR Array S	72.20	338	eP	P	01 56 09.1	-0.3
NOA	NORSAR Array B	72.20	338	P	P	01 56 09.1	-0.3
	comp=Z,1.1nm,0.9s,baz=36,slow=5.9,SNR=4.9						
AKASG	Malin Array Be	73.07	323	P	P	01 56 14.8	+0.1
	comp=Z,0.7nm,0.4s,baz=46,slow=6.6,SNR=4.3						
AKBB	Malin Array Si	73.07	323	eP	P	01 56 14.8	+0.1
	comp=Z,1.8nm,0.5s						
PD31	Pinedale Array	74.44	47	eP	P	01 56 23.3	+0.1
	comp=Z,0.4nm,0.8s						
PDAR	Pinedale Array	74.44	47	P	P	01 56 23.3	+0.1
	comp=Z,0.3nm,0.6s,baz=240,slow=3.0,SNR=2.7						
BUR08	Bucovina Ar. S	77.10	322	eP	P	01 56 38.8	+0.7
	comp=Z,2.7nm,1.0s						
LTX	Lajitas	87.02	54	eP	P	01 57 30.6	0.0
TXAR	Lajitas Array	87.02	54	P	P	01 57 30.6	0.0
	comp=Z,0.4nm,0.8s,baz=305,slow=3.2,SNR=2.7						
SIV	San Ignacio	147.91	49	PKPbc	PKPbc	02 04 30.0	-0.4
	comp=Z,0.7nm,0.7s,baz=236,slow=3.6,SNR=3.0						

IDC ***31*** *01:45:57.9±0.5, 39°.81N×143°.63E, h0km, mb4.6/43, mb1 4.7/50, mb1mx4.6/66, mbtmp4.6/50, ML3.8/6, MS4.2/14, Ms1 4.2/14, ms1mx3.9/31, Error ellipse: s-maj=12.7km s-min=11.2km az=149.0*

ISCJB ***31*** *01:45:59.5±0.8, 39°.90N±0°.02×143°.57E±0°.03, h14km±5km, mb4.9/149, MS4.7/43, Error ellipse: s-maj=4.3km s-min=3.0km az=135.7*

NIED ***31*** *01:46:00, 39°.90N×143°.60E, h11km, Mw4.9 Best double couple: M0:2.29000×10^16 NP1:φ=174.00000°, δ=33.00000°, λ=49.00000°. NP2:φ=40.00000°, δ=66.00000°, λ=113.00000°.*

JMA ***31*** *01:46:01.6±0.3, 39°.94N×143°.58E, h33km, M4.9*

JMA Felt I J1.

MOS ***31*** *01:46:02.2±1.1, 39°.95N×143°.51E, h33km, mb5.2/50, MS4.9/15, Error ellipse: s-maj=6.8km s-min=3.7km az=107.1*

BJI ***31*** *01:46:02.1±0.0, 39°.86N×143°.37E, h31km, mb5.0/59, mB5.1/46, Ms4.8/63, Ms7 4.6/57*

NEIC ***31*** *01:46:03.3±1.1, 39°.81N×143°.57E, h33km±8km, mb4.9/60, Error ellipse: s-maj=4.7km s-min=3.1km az=123.0*

NEIC Recorded [1 JMA] in Iwate and Miyagi.

GCMT ***31*** *01:46:05.3±0.4, 39°.91N±0°.03×143°.83E±0°.03, h19km±1km, MW4.9/71, Moment Tensor Solution. s20,c25; s71,c103; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.00±.15; Mθθ -0.28±.08; Mφφ -1.72±.10; Mrθ 0.91±.19; Mφθ -0.52±.05; Mφr 2.45±.26; Best double couple: M0:3.25700×10^16 NP1:φs20.00000°, δ72.00000°, λ91.00000°. NP2: φs196.00000°, δ18.00000°, λ87.00000°. Principal axes: T 3.3140, Plg63.0000°, Azm292.0000°; N -0.1100, Plg1.0000°, Azm200.0000°; P -3.2010, Plg27.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 01:46:01.8±0.6, 39°.89N±0°.04×143°.60E±0°.04, h23km±4km, h23km:pP-P, n420, σ1§48/460, mb4.9/161, MS4.8/44, 44C-14D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	Tanohata	1.33	273	P	Pn	01 46 24.6	-0.4
MIYJ	Miyakonagasawa	1.40	258	P	Pn	01 46 25.1	-0.9
MIYJ				eS	Sn	01 46 42.3	-1.5
JKEN	Kujiedanarisaw	1.48	283	P	Pn	01 46 26.5	-0.6
JANG	Nango	1.67	288	P	Pn	01 46 29.1	-0.5
JANG				eS	Sn	01 46 48.8	-1.5
JOM	Ohasama	1.82	258	P	Pn	01 46 32.1	+0.3
JOM				eS	Sn	01 46 54.7	+0.5
JMK	Ichinoseki	2.06	244	P	Pn	01 46 34.9	-0.2
ERM	Erimo	2.15	351	ePn	Pb	01 46 38.8	-1.2
ERM	Erimo	2.15	351	iP	Pn	01 46 35.1	-1.2
JOT	Ohata	2.45	308	P	Pn	01 46 40.7	+0.4
JOT				eS	Sn	01 47 08.9	-0.6
JYK	Kaneyama	2.69	250	P	Pn	01 46 44.4	+0.7
JYK				eS	Sn	01 47 16.6	+1.1
JCH	Churui	2.73	356	eS	Sn	01 47 14.8	-1.7
JKB	Kayabe	2.79	317	eS	Sn	01 47 18.2	+0.3
JAK	Akkeshi	3.21	15	eS	Sn	01 47 25.4	-3.1
JFR	Furan	3.36	347	eS	Sn	01 47 32.7	+0.6
JAR	Ashorobuto	3.41	2	P	Pn	01 46 53.1	-0.5
JAR				eS	Sn	01 47 30.2	-3.1
GLVR	Golovnino	4.11	20	eP	Pn	01 47 02.1	-1.1
GLVR				iS	Sn	01 47 47.5	-3.0
GLVR				smax	smax		
	comp=N,2μm,0.3s						
GLVR				smax	smax		
	comp=E,3μm,0.3s						
ASAJ	Asahikawa	4.29	350	Pn	Pn	01 47 06.8	+1.2
	comp=E,6.5nm,0.3s,baz=168,slow=13,SNR=5.2						
ASAJ				Sn	Sn	01 47 53.0	-2.1
	comp=E,12nm,0.3s,baz=206,slow=31,SNR=4.6						
GRPR	Tuman	4.41	21	ciP	Pn	01 47 05.5	-1.9
GRPR				iS	Sn	01 47 53.2	-4.8
GRPR				pmax	pmax		
	comp=Z,383nm,0.5s						
GRPR				pmax	pmax		
	comp=E,191nm,0.2s						
GRPR				pmax	pmax		
	comp=N,324nm,0.3s						
GRPR				smax	smax		
	comp=E,3μm,0.6s						
GRPR				smax	smax		
	comp=N,3μm,0.5s						
YUK	Yuzh-Kuril'sk	4.47	21	ciP	Pn	01 47 06.7	-1.5
YUK				iS	Sn	01 47 55.4	-4.1
YUK				pmax	pmax		
	comp=Z,552nm,0.2s						
YUK				pmax	pmax		
	comp=N,176nm,0.3s						
YUK				pmax	pmax		
	comp=E,148nm,0.2s						
YUK				smax	smax		
	comp=N,2μm,0.6s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
YUK				MLR	MLR		
	comp=Z,1μm,13.0s						
MAJO	Matsushiro	5.40	233	ePn	Pn	01 47 21.8	+0.8
MAJO	Matsushiro	5.40	233	iP	Pn	01 47 21.4	+0.4
MAT	Matsushiro	5.40	233	P	Pn	01 47 21.9	+0.9
MAT				eS	Sn	01 48 22.1	-0.3
MJAR	Matsushiro Arr	5.40	233	Pn	Pn	01 47 20.1	-0.8
	comp=Z,1.6nm,0.3s,baz=42,slow=11,SNR=24						
MJAR				LR	LR	01 49 26.9	
	comp=Z,1μm,19.7s,baz=85,slow=39						
MJB9	Matsu-Tunnel	5.40	234	ePn	Pn	01 47 21.3	+0.3
KUR	Kuril'sk	6.20	29	ciP	Pn	01 47 30.6	-1.3
KUR				iS	Sn	01 48 37.3	-4.8
KUR				pmax	pmax		
	comp=N,64nm,0.5s						
KUR				pmax	pmax		
	comp=Z,226nm,0.5s						
KUR				pmax	pmax		
	comp=E,122nm,0.3s						
KUR				smax	smax		
	comp=E,350nm,0.6s						
KUR				smax	smax		
	comp=N,348nm,0.4s						
KUR				MLR	MLR		
	comp=Z,2μm,13.0s						
INU	Inuyama	6.91	231	ePn	Pn	01 47 42.5	+0.8
YSS	Yuzh-Sakhalins	7.09	355	ePn	Pn	01 47 45.8	+1.7
YSS	Yuzh-Sakhalins	7.09	355	⇑iP	Pn	01 47 44.2	+0.1
YSS				eS	Sn	01 49 03.6	-0.3
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				MLR	MLR		
	comp=Z,2μm,17.0s						
YSS				MLR	MLR		
	comp=N,2μm,18.0s						
YSS				MLR	MLR		
	comp=E,4μm,18.0s						
TEY	Ternei	7.29	317	⇑eP	Pn	01 47 49.7	+2.8
TEY				eS	Sn	01 49 09.7	+0.8
TEY				pmax	pmax		
	comp=E,30nm,1.9s						
TEY				pmax	pmax		
	comp=N,20nm,2.3s						
TEY				pmax	pmax		
	comp=Z,20nm,1.6s						
TEY				MLR	MLR		
	comp=E,2μm,12.0s						
TEY				MLR	MLR		
	comp=N,4μm,13.0s						
TEY				MLR	MLR		
	comp=Z,5μm,13.0s						
JHJ2	Mitsune	7.41	205	ePn	Pn	01 47 46.2	-2.4
JHJ	Hachijo jima 2	7.42	206	Pn	Pn	01 47 46.9	-1.8
	comp=Z,23nm,0.3s,baz=107,slow=24,SNR=6.3						
JHJ				Sn	Sn	01 49 04.2	-8.0
	comp=Z,62nm,0.3s,baz=239,slow=23,SNR=9.3						
JHJ				LR	LR	01 50 47.4	
	comp=Z,846nm,21.9s,baz=48,slow=39						
UGL	Uglegorsk	9.25	354	eP	Pn	01 48 08.1	-5.7
UGL				S	Sn	01 49 51.7	-5.4
UGL				pmax	pmax		
	comp=Z,92nm,0.7s						
UGL				smax	smax		
	comp=E,87nm,1.0s						
UGL				MLR	MLR		
	comp=Z,2μm,22.0s						
UGL				MLR	MLR		
	comp=N,2μm,18.0s						
UGL				MLR	MLR		
	comp=E,4μm,15.0s						
VLA	Vladivostok	9.36	294	iP	Pn	01 48 17.7	+2.5
USA0B	Ussuriysk Arra	9.65	300	ePn	Pn	01 48 20.9	+1.7
USRK	Ussuriysk Ar.	9.65	300	Pn	Pn	01 48 20.5	+1.3
	comp=E,1.0nm,0.3s,baz=98,slow=14,SNR=38						
USRK				LR	LR	01 52 05.2	
	comp=E,1μm,18.4s,baz=105,slow=38						
MSHR	Mys Shultsa	9.75	290	eP	Pn	01 48 22.3	+1.7
TYV	Tymovskoe	11.00	357	eP	Pn	01 48 31.4	-6.2
TYV				pmax	pmax		
	comp=Z,300nm,3.7s						
TYV				pmax	pmax		
	comp=Z,20nm,1.4s						
TYV				MLR	MLR		
	comp=E,2μm,21.0s						
TYV				MLR	MLR		
	comp=Z,2μm,21.0s						
MDJ	Mudanjiang	11.40	299	ePn	Pn	01 48 44.4	+1.2
GRNR	Gornyy	11.99	338	eP	Pn	01 48 54.8	+3.6
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
JNU	Nakatsue	12.25	241	ePn	Pn	01 48 54.0	-1.0
JNU	Nakatsue	12.25	241	Pn	Pn	01 48 53.6	-1.3
	comp=Z,0.9nm,0.3s,baz=138,slow=5.4,SNR=6.8						
JNU				LR	LR	01 54 05.2	
	comp=Z,3μm,18.1s,baz=49,slow=40						
KSRS	Korea Array	12.49	264	LR	LR	01 53 20.3	
	comp=Z,1μm,19.0s,baz=74,slow=35						
KLR	Kul'dur	12.58	322	ciP	Pn	01 48 58.7	-0.6
KLR	Kul'dur	12.58	322	Pn	Pn	01 49 00.0	+0.7
	comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=26						
KLR				LR	LR	01 54 12.2	
	comp=Z,2μm,18.1s,baz=131,slow=39						
TJN	Taejon	13.25	260	ceP	Pn	01 49 08.2	-0.3
NKL	Nikolayevsk	13.42	352	eP	Pn	01 49 10.2	-0.4
NKL				MLR	MLR		
	comp=N,1μm,15.0s						
NKL				MLR	MLR		
	comp=E,1μm,15.0s						
OKH	Okha	13.68	358	deP	Pn	01 49 15.5	+1.3
OKH				MLR	MLR		
	comp=Z,2μm,18.0s						
SKR	Severo-Kuril's	13.91	35	eP	Pn	01 49 08.9	-8.6
SKR				pmax	pmax		
	comp=Z,132nm,1.0s						
SKR				pmax	pmax		
	comp=Z,600nm,4.2s						
SKR				pmax	pmax		
	comp=Z,300nm,4.8s						
SKR				MLR	MLR		
	comp=Z,2μm,13.0s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
CN2	Changchun	14.08	292	eP	Pn	01 49 20.5	+0.7
CN2				eS	Sn	01 51 50.3	-4.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,230nm,5.0s						
CN2				LR	LR		
	comp=Z,2μm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,13.0s						
CN2				LR	LR		
	comp=Z,1μm,17.0s						
SNY	Shenyang	15.27	284	⇑P	Pn	01 49 37.5	+1.6
SNY				pmax	pmax		
	comp=Z,29nm,1.0s						
SNY				pmax	pmax		
	comp=Z,480nm,12.9s						
SNY				LR	LR		
	comp=Z,1μm,14.2s						
SNY				LR	LR		
	comp=Z,1μm,19.6s						
SNY				LR	LR		
	comp=Z,2μm,16.7s						
PETK	Petropavlovsk-	16.36	31	Pn	P	01 49 51.4	-1.2
	comp=Z,0.1nm,0.3s,baz=204,slow=10,SNR=3.5						
PETK				LR	LR	01 55 38.7	
	comp=Z,443nm,19.8s,baz=216,slow=35						
PEA1	Petropavlovsk-	16.37	31	ePn	P	01 49 51.4	-1.2
DL2	Dalian	17.01	274	⇑iP	Pn	01 49 57.3	-0.8
DL2				sP	pP	01 50 07.0	+1.4
DL2				S	Sn	01 53 06.0	-0.4
DL2				pmax	pmax		
	comp=Z,80nm,0.7s						
DL2				pmax	pmax		
	comp=Z,370nm,4.0s						
DL2				LR	LR		
	comp=Z,900nm,14.7s						
DL2				LR	LR		
	comp=Z,800nm,14.6s						
DL2				LR	LR		
	comp=Z,1μm,15.1s						
ZEA	Zeya	17.74	327	eP	Pn	01 50 04.2	-3.0
ZEA				pmax	pmax		
	comp=N,59nm,1.0s						
ZEA				pmax	pmax		
	comp=E,35nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,64nm,1.0s						
ZEA				MLR	MLR		
	comp=E,2μm,15.0s						
ZEA				MLR	MLR		
	comp=Z,3μm,15.0s						
ZEA				MLR	MLR		
	comp=N,1μm,14.0s						
HIA	Hailar	19.34	307	eP	P	01 50 24.7	-0.8
	comp=N,31nm,0.9s						
HIA	Hailar	19.34	307	eP	P	01 50 24.7	-0.8
HIA				pmax	pmax		
	comp=Z,31nm,0.9s						
SSE	Sheshan	20.20	251	P	P	01 50 35.0	0.0
SSE				S	S	01 54 21.0	+0.3
SSE				pmax	pmax		
	comp=Z,18nm,0.6s						
SSE				pmax	pmax		
	comp=Z,77nm,3.0s						
SSE				LR	LR		
	comp=Z,550nm,13.3s						
SSE				LR	LR		
	comp=Z,410nm,14.2s						
MA2	Magadan	20.22	11	eP	P	01 50 35.7	+0.7
	comp=Z,48nm,1.0s						
MA2	Magadan	20.22	11	ceP	P	01 50 33.9	-1.1
MA2				pmax	pmax		
	comp=Z,27nm,1.0s						
MA2	Magadan	20.22	11	P	P	01 50 34.8	-0.2
	comp=Z,27nm,0.8s,baz=172,slow=9.6,SNR=8.5						
MA2				LR	LR	01 59 13.4	
	comp=Z,722nm,18.9s,baz=122,slow=39						
BJI	Beijing	20.99	279	⇑iP	P	01 50 41.3	-2.2
BJI				LR	LR		
	comp=Z,390nm,15.1s						
BJI				LR	LR		
	comp=Z,430nm,15.6s						
BJT	Baijiatuau	21.00	279	eP	P	01 50 42.5	-1.1
	comp=Z,41nm,1.3s						
BJT	Baijiatuau	21.00	279	eP	P	01 50 42.5	-1.1
BJT				pmax	pmax		
	comp=Z,41nm,1.3s						
TIA	Tai'an	21.14	268	P	P	01 50 43.5	-1.6
TIA				S	S	01 54 30.5	-8.7
TIA				pmax	pmax		
	comp=Z,45nm,1.2s						
TIA				LR	LR		
	comp=Z,230nm,11.0s						
TIA				LR	LR		
	comp=Z,2μm,14.5s						
TIA				LR	LR		
	comp=Z,3μm,13.9s						
NJ2	Nanjing	21.45	256	eP	P	01 50 47.0	-1.5
NJ2				pmax	pmax		
	comp=Z,24nm,0.8s						
SEY	Seymchan	23.68	10	P	P	01 51 11.1	-0.4
	comp=Z,35nm,1.0s,baz=204,slow=6.5,SNR=20						
SEY				LR	LR	02 01 23.4	
	comp=Z,824nm,20.1s,baz=161,slow=39						
YAK	Yakutsk	23.74	344	eP	P	01 51 11.5	-0.5
	comp=Z,392nm,0.9s						
YAK	Yakutsk	23.74	344	eP	P	01 51 11.5	-0.5
YAK				pmax	pmax		
	comp=Z,392nm,0.9s						
HHC	Hu-ho-hao-te	24.36	283	eP	P	01 51 17.5	-0.7
HHC				S	S	01 55 31.3	-5.0
HHC				pmax	pmax		
	comp=Z,110nm,0.7s						
HHC				pmax	pmax		
	comp=Z,380nm,4.1s						
HHC				LR	LR		
	comp=Z,710nm,12.9s						
HHC				LR	LR		
	comp=Z,1μm,11.9s						
HHC				LR	LR		
	comp=Z,1μm,10.3s						
SSLB	Suanglung	24.95	237	eP	P	01 51 23.1	-0.4
	comp=Z,27nm,1.1s						
YULB	Yu-li	25.01	236	eP	P	01 51 23.5	-0.6
	comp=Z,17nm,0.8s						
TPUB	Ta-pu	25.50	236	eP	P	01 51 28.1	-0.4
	comp=Z,42nm,1.0s						
WHN	Wuhan	25.55	258	⇑P	P	01 51 29.3	+0.4
WHN				S	S	01 55 57.0	+1.7
WHN				pmax	pmax		
	comp=Z,270nm,1.0s						
WHN				pmax	pmax		
	comp=Z,560nm,9.0s						
WHN				LR	LR		
	comp=Z,4μm,15.5s						
WHN				LR	LR		
	comp=Z,2μm,14.7s						
WHN				LR	LR		
	comp=Z,3μm,15.8s						
TWG	Pinlang	25.57	235	eP	P	01 51 28.4	-0.7
	comp=Z,275nm,1.0s						
QZH	Quanzhou	25.72	242	⇑iP	P	01 51 30.5	0.0
QZH				S	S	01 56 01.0	+2.9
QZH				pmax	pmax		
	comp=Z,190nm,7.6s						
QZH				LR	LR		
	comp=Z,780nm,14.5s						
QZH				LR	LR		
	comp=Z,330nm,12.3s						
QZH				LR	LR		
	comp=Z,790nm,13.9s						
BOD	Bodaibo	26.15	323	eP	P	01 51 34.2	+0.1
BOD				pmax	pmax		
	comp=Z,37nm,1.3s						
GUMO	Guam	26.22	177	LR	LR	01 59 38.7	
	comp=Z,213nm,21.3s,baz=6.5,slow=31						
ULN	Ulaanbaatar	27.32	299	eP	P	01 51 45.9	+1.0
	comp=Z,57nm,1.2s						
ULN	Ulaanbaatar	27.32	299	ceP	P	01 51 45.9	+1.0
ULN				pmax	pmax		
	comp=Z,57nm,1.3s						
ULN	Ulaanbaatar	27.32	299	P	P	01 51 45.8	+0.9
	SNR=22						
SONA0	Songino Array	27.76	299	eP	P	01 51 49.0	+0.2
SONM	Songino Array	27.76	299	P	P	01 51 49.0	+0.2
	comp=Z,15nm,0.8s,baz=89,slow=7.4,SNR=36						
XAN	Xi'an	28.19	269	P	P	01 51 52.3	-0.5
XAN				pP	sP	01 52 07.0	+5.6
XAN				pmax	pmax		
	comp=Z,32nm,1.4s						
XAN				pmax	pmax		
	comp=Z,240nm,5.7s						
XAN				LR	LR		
	comp=Z,630nm,14.7s						
XAN				LR	LR		
	comp=Z,1μm,15.7s						
XAN				LR	LR		

comp=Z,1μm,14.7s
XAN Xi'an 28.19 269 eP P 01 51 52.5 -0.3
comp=Z,27nm,0.9s
XAN Xi'an 28.19 269 eP P 01 51 52.5 -0.3
XAN pmax pmax
comp=Z,27nm,0.9s
H11N2 WAKE ISLAND Hy 28.35 128 T T 02 21 28.4
baz=321
H11N1 WAKE ISLAND Hy 28.36 128 T T 02 21 28.2
baz=321
H11N3 WAKE ISLAND Hy 28.37 128 T T 02 21 25.1
baz=321
H11S1 WAKE ISLAND Hy 29.18 130 T T 02 22 31.7
baz=322,slow=76
H11S3 WAKE ISLAND Hy 29.18 130 T T 02 22 29.5
baz=322,slow=76
H11S2 WAKE ISLAND Hy 29.20 130 T T 02 22 28.4
baz=322,slow=76
ENH Enshi 29.36 262 eP P 01 52 03.2 0.0
comp=Z,36nm,1.1s
TLY Talaya 29.88 307 eP P 01 52 08.8 +1.3
comp=Z,12nm,0.9s
TLY Talaya 29.88 307 eP P 01 52 07.3 -0.2
TLY pmax pmax
comp=Z,43nm,1.5s
TLY MLR MLR
comp=Z,3μm,14.0s
TLY Talaya 29.88 307 P P 01 52 08.4 +0.9
SNR=6.3
ZAK Zakamensk 29.97 304 eP P 01 52 08.6 +0.2
ZAK pmax pmax
comp=Z,16nm,1.3s
BILL Bilibino 30.81 16 eP P 01 52 16.1 +0.6
comp=Z,12nm,1.0s
BILL Bilibino 30.81 16 deP P 01 52 16.2 +0.7
BILL e 01 53 19.1
BILL eS S 01 57 06.3 -11
BILL pmax pmax
comp=Z,11nm,1.3s
BILL MLR MLR
comp=Z,381nm,17.0s
LZH Lanzhou 31.38 276 ⇓P P 01 52 22.5 +1.4
LZH pP sP 01 52 32.0 +2.3
LZH sP pwP 01 52 36.8 +6.9
LZH S **S 01 57 31.8 +4.5**
LZH pmax pmax
comp=Z,59nm,1.4s
LZH pmax pmax
comp=Z,200nm,4.3s
LZH LR LR
comp=Z,790nm,14.1s
LZH LR LR
comp=Z,1μm,13.6s
LZH LR LR
comp=Z,2μm,14.1s
MOY Mondy 31.52 306 eP P 01 52 23.1 +1.0
MOY pmax pmax
comp=Z,33nm,1.6s
TIXI Tiksi 32.70 351 ceP P 01 52 31.3 -0.7
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 32.70 351 P P 01 52 31.4 -0.6
comp=Z,2.1nm,0.3s,baz=291,slow=0.4,SNR=2.7
GYA Guiyang 33.45 258 ⇑iP P 01 52 38.5 -0.7
GYA pP pwP 01 52 47.5 -0.4
GYA sP sP 01 52 52.8 +4.9
GYA PP **PnPn 01 53 52.0 +1.6**
GYA S **S 01 57 59.5 0.0**
GYA sS sS 01 58 17.0 +7.2
GYA SS **SnSn 01 59 59.5 -2.4**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,100nm,5.6s
GYA LR LR
comp=Z,720nm,15.2s
GYA LR LR
comp=Z,510nm,15.8s
GYA LR LR
comp=Z,450nm,15.6s
CD2 Chengdu 33.46 267 ⇑iP P 01 52 38.0 -1.2
CD2 sP sP 01 52 50.3 +2.4
CD2 PP **PnPn 01 53 50.3 -0.1**
CD2 S **S 01 57 57.5 -2.0**
CD2 pmax pmax
comp=Z,90nm,1.0s
CD2 pmax pmax
comp=Z,310nm,8.4s
CD2 LR LR
comp=Z,3μm,16.1s
CD2 LR LR
comp=Z,2μm,15.1s
CD2 LR LR
comp=Z,4μm,14.3s
GTA Gaotai 33.46 284 P **P 01 52 40.8 +1.5**
GTA pP sP 01 52 50.3 +2.4
GTA sP pwP 01 52 54.8 +6.7
GTA PP **PP 01 53 54.5 -0.5**
GTA PcP **PcP 01 55 21.5 +1.4**
GTA S **S 01 58 00.5 +0.9**
GTA sS sS 01 58 14.5 +4.7
GTA PcS **PcS 01 59 07.5 +1.6**
GTA pmax pmax
comp=Z,46nm,1.4s
GTA pmax pmax
comp=Z,140nm,5.8s
GTA LR LR
comp=Z,470nm,17.2s
GTA LR LR
comp=Z,1μm,16.8s
GTA LR LR
comp=Z,2μm,16.1s
KMI Kunming 37.13 259 P **P 01 53 11.0 -0.1**
KMI pP pP 01 53 17.8 +0.4
KMI sP pwP 01 53 20.3 +0.4
KMI PP **PP 01 54 36.8 +1.0**
KMI S **S 01 58 55.0 -1.4**
KMI sS sS 01 59 06.5 -0.3
KMI SS **SnSn 02 01 25.5 -5.9**
KMI pmax pmax
comp=Z,24nm,1.0s
KMI pmax pmax
comp=Z,210nm,4.5s
KMI LR LR
comp=Z,850nm,16.7s
KMI LR LR
comp=Z,380nm,16.5s
KMI LR LR
comp=Z,850nm,16.0s
SLVN Son La 38.46 253 eP P 01 53 22.8 +0.6
comp=Z,9.5nm,1.0s
DGZ Jazzator, Alta 40.19 303 ciP P 01 53 37.6 +1.2
DGZ pmax pmax
comp=Z,13nm,1.0s
WMQ Urumqi 41.15 294 P **P 01 53 46.0 +1.7**
WMQ pP pP 01 53 51.5 +0.7
WMQ pmax pmax
comp=Z,100nm,1.1s
WMQ pmax pmax
comp=Z,230nm,4.3s
WMQ LR LR
comp=Z,1μm,17.3s
WMQ LR LR
comp=Z,1μm,10.5s
WMQ LR LR
comp=Z,960nm,19.7s
SKNT Sakolnakorn 41.19 248 P **P 01 53 45.7 +0.9**
comp=Z,32nm,1.5s
ZAA1 Zalesovo Array 41.33 310 eP P 01 53 45.4 -0.1
ZAA1 ePcP **PcP 01 55 44.2 +0.6**
ZALV Zalesovo Beam 41.33 310 P **P 01 53 45.4 -0.1**
comp=Z,10nm,0.8s,baz=86,slow=7.6,SNR=16
ZALV PcP **PcP 01 55 44.2 +0.6**
comp=Z,3.6nm,0.7s,baz=72,slow=4.7,SNR=4.3
NRIK Noril'sk 41.44 334 P **P 01 53 46.1 -0.1**
comp=Z,8.3nm,0.9s,baz=112,slow=9.2,SNR=9.8
NVS Novosibirsk 42.17 312 eP P 01 53 52.2 -0.2
KHON Khomkaen 42.44 248 P **P 01 53 56.1 +1.1**
comp=Z,63μm,0.6s
UTTA Uttaradit 43.16 252 P **P 01 54 02.1 +1.2**
PBKT Sadao Pong 43.62 250 P **P 01 54 05.6 +1.1**
comp=Z,6.8nm,1.1s
CMMT Chiang Mai 43.67 255 P **P 01 54 06.1 +1.1**
comp=Z,7.7nm,0.9s,comp=Z,242nm
CHTO Chiang Mai 43.68 255 eP P 01 54 05.3 +0.2
comp=Z,10nm,0.9s
CHTO Chiang Mai 43.68 255 P **P 01 54 05.3 +0.2**
CHTO pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 43.68 255 P **P 01 54 05.2 +0.1**
LSA Lhasa 43.70 273 eP P 01 54 06.1 +0.4
comp=Z,26nm,1.3s
LSA Lhasa 43.70 273 eP P 01 54 06.1 +0.4
LSA pmax pmax
comp=Z,26nm,1.3s
CM31 Chiang Mai Arr 43.90 254 eP P 01 54 06.3 -0.5
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 43.90 254 P **P 01 54 06.3 -0.5**
comp=Z,2.6nm,0.8s,baz=42,slow=6.9,SNR=10
MRSI Marisa 43.91 212 P **P** 01 54 12.8 +5.9
MK31 Makanchi Array 44.12 300 iP P 01 54 08.5 +0.2
MK31 pmax pmax
comp=Z,20nm,1.0s
MKAR Makanchi Array 44.12 300 P **P 01 54 08.5 +0.2**
comp=Z,11nm,0.9s,baz=82,slow=9.9,SNR=26
MAKZ Makanchi 44.32 300 eP P 01 54 10.5 +0.5
comp=Z,18nm,1.0s
MAKZ Makanchi 44.32 300 P **P 01 54 10.1 +0.2**
MAKZ pmax pmax
comp=Z,19nm,1.0s
MLY Manley 44.53 33 eP P 01 54 12.9 +1.5
comp=Z,10nm,1.1s
SHL Shillong 45.19 268 eP P 01 54 16.0 -1.3
KURK Kurchatov 45.58 306 eP P 01 54 20.3 +0.4
comp=Z,28nm,0.8s
KURK Kurchatov 45.58 306 ceP P 01 54 19.8 0.0
KURK pmax pmax
comp=Z,49nm,1.3s
KURK Kurchatov 45.58 306 P **P 01 54 20.2 +0.4**
SNR=11
KURBB Kurchatov Arra 45.65 306 P **P 01 54 20.4 0.0**
comp=Z,22nm,0.9s,baz=80,slow=8.7,SNR=32
COLA College 45.76 34 iP P 01 54 21.0 0.0
COLA pmax pmax
comp=Z,4.0nm,1.0s
CCB Clear Creek Bu 45.78 34 eP P 01 54 22.8 +1.5
comp=Z,8.1nm,1.3s
ILAR Eielson Array 46.17 34 P **P 01 54 24.5 +0.2**
comp=Z,2.8nm,0.9s,baz=259,slow=6.5,SNR=12
ILB Eielson Array 46.17 34 eP P 01 54 25.1 +0.7
comp=Z,7.8nm,0.8s
PHET Kaeng Krachan 47.02 248 P **P 01 54 33.6 +2.1**
comp=Z,42μm,0.9s
ODAN Odare 47.98 272 eP P 01 54 40.1 +0.9
comp=Z,132nm,1.1s
JIRN Jiri 48.50 274 eP P 01 54 44.4 +1.0
comp=Z,90nm,0.9s
RAMN Ramite 48.54 273 eP P 01 54 44.4 +0.8
comp=Z,160nm,1.1s
KSM Kuching 48.75 227 eP P 01 54 45.4 +0.5
comp=Z,23nm,1.1s
KSM Kuching 48.75 227 P **P 01 54 46.0 +1.0**
KKN Kakani 49.13 275 eP P 01 54 48.9 +0.8
comp=Z,75nm,0.8s
PKI Pulchoki 49.15 274 eP P 01 54 48.5 +0.2
comp=Z,85nm,1.3s
PKIN Phulchoki 49.15 274 eP P 01 54 48.5 +0.2
comp=Z,91nm,1.6s
PMG Port Moresby 49.15 175 iP P 01 54 49.8 +1.9
PMG pmax pmax
comp=Z,94nm,1.0s
DMN Daman 49.36 274 eP P 01 54 50.7 +0.8
comp=Z,55nm,1.1s
ULHL Ulahol 49.62 296 P **P 01 54 52.4 +0.7**
SNR=7.6
TKM2 Tokmak 2 49.82 297 P **P 01 54 54.4 +1.3**
SNR=27
BVAR Borovoye Array 49.96 311 P **P 01 54 54.3 +0.5**
comp=Z,5.0nm,0.7s,baz=80,slow=9.2,SNR=18
BVAR ScP **ScP 02 00 09.0 +1.1**
comp=Z,1.0nm,0.6s,baz=45,slow=0.2,SNR=3.4
BRVK Borovoye 50.01 311 eP P 01 54 55.1 +0.9
comp=Z,32nm,1.4s
BRVK Borovoye 50.01 311 iP P 01 54 53.9 -0.3
BRVK pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye 50.01 311 P **P 01 54 55.2 +1.0**
SNR=9.3
DANN Dangsing 50.02 276 eP P 01 54 55.9 +1.0
comp=Z,151nm,0.9s
OTUK Ortayu 50.18 305 P **P 01 54 55.2 -0.4**
OTUK pmax pmax
comp=Z,20nm,1.3s
KBK Karagaybulak 50.36 297 P **P 01 54 58.1 +0.9**
SNR=15
KZA Kyzart 50.37 296 P **P 01 54 59.1 +1.6**
SNR=12
KOLN Koldanda 50.43 275 eP P 01 54 58.6 +0.6
comp=Z,75nm,1.3s
USP Ospenovka 50.45 298 P **P 01 54 58.4 +0.7**
SNR=7.9
TRTT Trang 50.52 243 P **P 01 55 00.8 +2.3**
comp=Z,17nm,1.0s
KRAB Krabi 50.59 244 P **P 01 55 00.7 +1.8**
comp=Z,156μm,1.0s
AAK Ala-Archa 50.68 297 P **P 01 55 00.3 +0.7**
SNR=6.3
AAK Ala-Archa 50.68 297 eP P 01 55 00.2 +0.7
comp=Z,16nm,1.3s
AAK Ala-Archa 50.68 297 iP P 01 54 58.9 -0.7
AAK pmax pmax
comp=Z,14nm,1.1s
AAK Ala-Archa 50.68 297 P **P 01 54 59.5 -0.1**
SNR=7.9
AAK Ala-Archa 50.68 297 P **P 01 54 59.5 -0.1**
comp=Z,10nm,1.1s,baz=82,slow=5.0,SNR=16
PYUN Piuthan 50.73 276 eP P 01 55 01.0 +0.8
comp=Z,143nm,1.1s
UCH Uchtor 50.82 296 P **P 01 55 01.9 +0.9**
SNR=5.6
KSH Kashi 50.85 293 P P 01 55 05.8 +5.0
KSH sP sP 01 55 19.5 +10
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,290nm,5.3s
KSH LR LR
comp=Z,690nm,13.9s
KSH LR LR
comp=Z,650nm,12.6s
KSH LR LR
comp=Z,780nm,13.6s
INK Inuvik 51.07 28 eP P 01 55 03.2 +1.3
comp=Z,7.3nm,0.9s
INK Inuvik 51.07 28 P **P 01 55 02.6 +0.7**
comp=Z,4.2nm,0.8s,baz=296,slow=7.3,SNR=8.8
EKS2 Erkin-Say 51.16 297 P **P 01 55 03.9 +0.7**
SNR=9.4
HNR Honiara 51.36 159 LR LR 02 12 20.8
comp=Z,117nm,21.4s,baz=335,slow=31
AML Almayashu 51.42 297 P **P 01 55 06.8 +1.4**
SNR=14
KULM Kulim 51.73 240 eP P 01 55 07.6 +0.1
comp=Z,24nm,1.2s
KULM Kulim 51.73 240 P **P 01 55 08.0 +0.5**
IPM Ipoh 52.09 239 eP P 01 55 10.0 -0.2
comp=Z,26nm,1.3s
IPM Ipoh 52.09 239 P **P 01 55 11.0 +0.8**
MYKOM Kota Tinggi 52.33 234 P **P 01 55 13.0 +1.0**
KK31 Karatay Array 53.21 299 eP P 01 55 18.2 -0.1
comp=Z,23nm,1.3s
KK31 Karatay Array 53.21 299 iP P 01 55 18.1 -0.1
KK31 pmax pmax
comp=Z,8.0nm,0.8s
SVE Sverdlovsk 54.17 318 ⇓eP P 01 55 26.3 +1.3
SVE pmax pmax
comp=Z,41nm,1.2s
SVE MLR MLR
comp=Z,2μm,14.0s
PSI Prapat 54.72 239 eP P 01 55 30.3 +0.6
comp=Z,13nm,0.9s
PSI Prapat 54.72 239 eP P 01 55 30.3 +0.6
PSI pmax pmax
comp=Z,13nm,0.9s
DLBC Dease Lake 55.33 40 P **P 01 55 34.5 +1.0**
comp=Z,0.7nm,0.4s,baz=252,slow=9.6,SNR=2.9
NIL Nilore 55.38 287 eP P 01 55 34.8 +0.6
comp=Z,66nm,1.1s
ARU Arti 55.38 318 eP P 01 55 34.5 +0.7
comp=Z,42nm,1.2s
ARU Arti 55.38 318 diP P 01 55 34.5 +0.7
ARU 01 56 33.0
ARU 01 57 37.0
ARU S **S 02 03 18.1 +1.4**
ARU SS **SS 02 06 56.0 -4.8**
ARU pmax pmax
comp=Z,40nm,1.2s
ARU MLR MLR
comp=Z,1μm,15.0s
ARU Arti 55.38 318 P **P 01 55 34.2 +0.4**
comp=Z,3.9nm,0.7s,baz=92,slow=14
GSI Gunungsitoli 56.73 239 eP P 01 55 44.7 +0.7
comp=Z,60nm,1.3s
AB31 Akbulak array 57.43 309 iP P 01 55 48.8 +0.3
AB31 pmax pmax
comp=Z,9.0nm,0.7s
KBL Kabul 58.02 290 eP P 01 55 53.4 +0.3
comp=Z,20nm,1.0s
AKTO Aktyubinsk 58.06 311 P **P 01 55 52.1 -0.9**
AKTO pmax pmax
comp=Z,14nm,0.9s
AKTO Aktyubinsk 58.06 311 P **P 01 55 53.1 +0.2**
comp=Z,7.0nm,0.9s,baz=69,slow=13,SNR=14
KBS Kingsbay 58.14 350 ceP P 01 55 53.9 +0.8
KBS pmax pmax
comp=Z,58nm,1.7s
HSPB Hornsund (broa 59.02 348 eP P 01 56 01.2 +2.0
KIRV Kirov 59.02 322 P **P 01 55 59.6 +0.2**
comp=Z,11nm,0.7s,baz=239,slow=23,SNR=12
PRGR Permogore 59.32 327 eP P 01 56 00.3 -1.2
PRGR e 01 58 09.4
PRGR pmax pmax
comp=Z,22nm,1.0s
RES Resolute Bay 59.41 15 P **P 01 56 02.1 +0.2**
comp=Z,4.0nm,0.8s,baz=310,slow=7.1,SNR=7.8
FITZ Fitzroy Crossi 60.07 200 eP P 01 56 07.1 0.0
WRAB Tennant Creek 60.13 190 eP P 01 56 06.7 -0.8
comp=Z,12nm,0.7s
WRAB Tennant Creek 60.13 190 iP P 01 56 12.4 +4.9
WRAB pmax pmax
comp=Z,11nm,0.9s
WB2 Warramunga Arr 60.14 190 eP P 01 56 06.8 -0.8
comp=Z,13nm,0.8s
WRA Warramunga Arr 60.14 190 P **P 01 56 06.3 -1.3**
comp=Z,136nm,0.3s,baz=7.0,slow=7.6,SNR=1.4
YKA Yellowknife Ar 60.48 31 P **P 01 56 09.2 -0.2**
comp=Z,1.2nm,0.6s,baz=302,slow=6.4,SNR=14
YKA LR LR 02 24 14.9
comp=Z,6.0nm,19.6s,baz=303,slow=38
TMCR Tamitsa 61.07 331 eP P 01 56 13.8 +0.4
TMCR pmax pmax
comp=Z,27nm,1.0s
KEV Kevo 61.38 339 eP P 01 56 16.5 +1.0
comp=Z,14nm,1.0s
KEV Kevo 61.38 339 eP P 01 56 16.5 +1.0
KEV pmax pmax
comp=Z,14nm,1.0s
ARCES ARCESS Array B 61.93 339 P **P 01 56 19.2 0.0**
comp=Z,3.8nm,0.8s,baz=39,slow=7.8,SNR=10
DAG Danmarks Havn 63.08 355 iP P 01 56 26.9 +0.2
DAG i 01 56 36.0
DAG pmax pmax
comp=Z,15nm,1.1s
DAG Danmarks Havn 63.08 355 iP P 01 56 26.9 +0.2
comp=Z,12nm,1.1s
DAG i 01 56 36.0
AS31 Alice Springs 63.87 190 eP P 01 56 32.5 -0.1
comp=Z,3.1nm,1.3s
ASAR Alice Springs 63.87 190 P **P 01 56 31.9 -0.7**
comp=Z,2.6nm,0.7s,baz=7.1,slow=5.6,SNR=15
ASAR pP **pP 01 56 39.8 +0.7**
comp=Z,4.1nm,0.6s,baz=9.8,slow=6.4,SNR=12
GEYT Alibeck 63.96 299 P **P 01 56 32.9 -0.4**
comp=Z,11nm,1.0s,baz=45,slow=2.3,SNR=22
MOS Moscow 65.98 323 eP P 01 56 45.1 -0.9
MOS pmax pmax
comp=Z,36nm,1.4s
MOS MLR MLR
comp=Z,700nm,15.0s
VRH Novokhopyorsk 66.61 318 eP P 01 56 49.9 -0.2
VRH pmax pmax
comp=Z,30nm,1.0s
VRH MLR MLR
comp=Z,1μm,15.0s
OBN Obninsk 66.84 323 eP P 01 56 52.1 +0.6
comp=Z,34nm,1.3s
OBN Obninsk 66.84 323 ceP P 01 56 51.6 +0.1
OBN e 01 57 17.4
OBN e 01 59 22.3
OBN eS **S 02 05 44.7 +2.3**
OBN pmax pmax
comp=Z,31nm,1.3s
OBN MLR MLR
comp=Z,771nm,15.0s
OBN Obninsk 66.84 323 P **P 01 56 52.1 +0.6**
comp=Z,1.8nm,0.4s,baz=82,slow=2.2,SNR=9.9
FIA0 FINESS Array S 67.08 332 eP P 01 56 52.9 0.0
FIA0 FINESS Array S 67.08 332 eP P 01 56 52.9 0.0
FINES FINESS Array B 67.08 332 P **P 01 56 52.9 0.0**
comp=Z,10.0nm,0.8s,baz=55,slow=7.2,SNR=22
LPSR Galich'ya Gora 67.21 320 eP P 01 56 53.2 -0.7
LPSR pmax pmax
comp=Z,20nm,1.2s
LPSR MLR MLR
comp=Z,900nm,14.0s
SUMG Summit 67.83 1 eP P 01 56 58.6 +0.6
comp=Z,13nm,1.0s
SUMG Summit 67.83 1 eP P 01 56 58.6 +0.6
SUMG pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 67.83 1 iP P 01 56 58.8 +0.8
comp=Z,30nm,0.9s
VSR Storozhevoye 67.91 319 eP P 01 56 57.7 -0.7
VSR pmax pmax
comp=Z,20nm,1.4s
VSR MLR MLR
comp=Z,680nm,15.0s
MAK Makhachkala 68.05 308 eP P 01 56 58.6 -0.8
MAK e 01 59 25.7
MAK eS **S 02 05 56.6 -0.8**
MAK pmax pmax
comp=Z,79nm,1.9s
VSU Vasula 68.86 330 ceP P 01 57 04.7 +0.6
VSU pmax pmax
comp=Z,67nm,1.3s
VSU Vasula 68.86 330 eP P 01 57 04.3 +0.1
VSU IAmb IAmb 01 57 05.4
comp=Z,55nm,1.0s
GROC Groznyy 68.94 309 eP P 01 57 02.8 -2.1
GROC e 01 57 27.7
GROC e 01 59 33.0
GROC pmax pmax
comp=Z,13nm,1.0s
ZEI Tsey 70.31 310 eP P 01 57 11.8 -1.9
ZEI pmax pmax
comp=Z,23nm,1.3s
KIV Kislovodsk 70.33 311 eP P 01 57 14.8 +1.1
comp=Z,73nm,1.1s
KIV Kislovodsk 70.33 311 ⇑iP P 01 57 15.0 +1.4
KIV Kislovodsk 70.33 311 eP P 01 57 15.2 +1.6
KIV pmax pmax
comp=Z,202nm,1.1s
KIV Kislovodsk 70.33 311 P **P 01 57 14.9 +1.3**
SNR=16
KIV P **P 01 57 14.9 +1.3**
SNR=16
KBZ Khabaz 70.34 311 P **P 01 57 14.3 +0.7**
comp=Z,21nm,0.9s,baz=62,slow=4.0,SNR=28
FFC Flin Flon 70.38 34 eP P 01 57 14.7 +1.0
comp=Z,7.4nm,1.0s
FFC Flin Flon 70.38 34 eP P 01 57 14.7 +1.0
FFC pmax pmax
comp=Z,7.0nm,1.0s
NEY Neytrino 70.73 311 iP P 01 57 15.4 -0.8
NEY pmax pmax
comp=Z,3.0nm,1.1s
IZAR Zarasai 70.91 328 eP P 01 57 17.6 +0.7
IZAR IAmb IAmb 01 57 18.3
comp=Z,8.0nm,0.8s
IDID Didziasalis 71.01 327 eP P 01 57 18.3 +0.9
IDID IAmb IAmb 01 57 19.9
comp=Z,13nm,1.1s
ISAL Salakas 71.09 328 eP P 01 57 19.1 +1.2
ISAL IAmb IAmb 01 57 20.4
comp=Z,11nm,1.0s
IIGN Ignalina 71.20 328 eP P 01 57 19.6 +1.0
IIGN IAmb IAmb 01 57 21.1
comp=Z,16nm,1.1s
GNI Garni 71.37 307 eP P 01 57 22.3 +2.2

comp=Z,19nm,1.0s
GNI Garni 71.37 307 *c*eP **P 01 57 21.7 +1.6**
GNI pmax pmax
comp=Z,123nm,1.3s
GNI Garni 71.37 307 P **P 01 57 21.6 +1.4**
SNR=6.6
GNI Garni 71.37 307 P **P 01 57 20.7 +0.5**
comp=Z,7.2nm,1.0s,baz=186,slow=1.8,SNR=11
AKH Akhalkalaki 71.37 309 ⇑*i*P **P 01 57 21.6 +1.4**
STKA Stephens Creek 71.43 182 *e*P **P 01 57 19.6 -0.5**
comp=Z,6.2nm,2.0s
STKA Stephens Creek 71.43 182 P **P 01 57 19.6 -0.5**
comp=Z,1.8nm,0.6s,baz=334,slow=8.7,SNR=3.9
RYN Ryan 71.67 55 *e*P **P 01 57 22.9 +0.9**
comp=Z,5.4nm,0.9s
EPOS Posof 71.78 309 *i*P **P 01 57 25.4 +2.8**
WSAR Wadi Sarin 71.78 285 P **P 01 57 23.5 +0.8**
NVAR Mina Array Bea 71.93 55 P **P 01 57 23.5 -0.1**
comp=Z,3.5nm,0.7s,baz=291,slow=6.4,SNR=14
PABE Paberze 72.01 329 *e*P **P 01 57 23.6 +0.2**
PABE IAmb IAmb 01 57 25.6
comp=Z,51nm,1.2s
NV11 Mina Array Sit 72.02 55 *e*P **P 01 57 24.9 +0.9**
comp=Z,0.4nm,1.1s
HFS Hagfors 72.18 336 P **P 01 57 24.0 -0.4**
HFS Hagfors 72.18 336 P **P 01 57 24.0 -0.4**
comp=Z,14nm,1.0s,baz=38,slow=7.5,SNR=19
NB2 NORSAR Subarra 72.21 338 P **P 01 57 24.8 +0.2**
comp=Z,30nm,1.2s,baz=36,slow=6.2
NB2 NORSAR Subarra 72.21 338 P **P 01 57 24.8 +0.2**
baz=36,slow=6.2
NOA NORSAR Array B 72.21 338 P **P 01 57 24.1 -0.5**
comp=Z,7.9nm,0.9s,baz=36,slow=6.0,SNR=19
SOC Sochi 72.26 312 *e*P **P 01 57 23.2 -2.0**
SOC *e* 02 00 01.6
SOC *e*PPP PPP 02 01 45.0
SOC *e*S **S 02 06 44.3 -2.4**
SOC *e*SS **SS 02 11 26.0 +2.2**
SOC MLR MLR
comp=Z,1μm,14.0s
ELK Elko 72.42 51 *e*P **P 01 57 27.7 +1.2**
comp=Z,2.1nm,0.8s
ELK Elko 72.42 51 *e*P **P 01 57 27.7 +1.2**
ELK pmax pmax
comp=Z,2.0nm,0.8s
BCA Borcka 72.47 310 ⇑*i*P **P 01 57 27.7 +1.2**
UOSS Minazif 72.56 288 *e*P **P 01 57 27.8 +0.5**
comp=Z,14nm,1.0s
ANN Anapa 72.78 314 *e*P **P 01 57 28.2 0.0**
ANN *e*S **S 02 06 52.3 -0.2**
ANN pmax pmax
comp=Z,54nm,1.2s
AKASG Malin Array Be 73.08 323 P **P 01 57 29.8 -0.1**
comp=Z,8.5nm,0.8s,baz=41,slow=6.6,SNR=23
AKASG LR LR 02 31 30.5
comp=Z,233nm,18.3s,baz=50,slow=37
KIEV Kiev 73.09 323 *e*P **P 01 57 30.2 +0.2**
comp=Z,15nm,1.0s
KIEV Kiev 73.09 323 ⇓*i*P **P 01 57 30.6 +0.6**
KIEV Kiev 73.09 323 *c i*P **P 01 57 30.1 +0.2**
KIEV pmax pmax
comp=Z,13nm,1.0s
TPAW Teton Pass 73.21 47 *e*P **P 01 57 32.9 +1.7**
comp=Z,12nm,1.4s
SUW Suwalki 73.40 328 *e*P **P 01 57 32.4 +0.7**
SUW Suwalki 73.40 328 *e*P **P 01 57 32.4 +0.7**
PDAR Pinedale Array 74.46 47 P **P 01 57 38.5 0.0**
comp=Z,1.0nm,0.6s,baz=275,slow=2.6,SNR=9.5
SIM Simferopol' 74.48 316 *d i*P **P 01 57 39.8 +1.5**
SIM S **S 02 07 10.0 -1.8**
SIM pmax pmax
comp=Z,14nm,1.1s
CAN Canberra 75.00 175 *e*P **P 01 57 38.4 -2.8**
comp=Z,28nm,1.5s
CAN Canberra 75.00 175 *e*P **P 01 57 38.4 -2.8**
CAN pmax pmax
comp=Z,28nm,1.5s
SHPR Sheep Range 75.08 55 *e*P **P 01 57 43.4 +1.3**
comp=Z,3.2nm,0.8s
KIS Kishinev 75.82 320 *e*P P 01 57 54.0 +8.1
KIS Kishinev 75.82 320 *e*PcP PcP 01 58 10.0 +12
KIS LRM MLR 02 34 38.0
comp=Z,600nm,16.0s
KIS Kishinev 75.82 320 *e*P P 01 57 54.0 +8.1
KIS *e* 01 58 10.0
KIS *e* 02 07 20.0
KIS MLR MLR
comp=Z,600nm,16.0s
KIS MLR MLR
comp=N,400nm,20.0s
BEL Belsk 75.98 327 *e*P **P 01 57 48.4 +1.7**
BEL Belsk 75.98 327 *e*P **P 01 57 48.4 +1.7**
LVV L'vov 76.07 325 *e*P **P 01 57 48.6 +1.3**
ULM Lac du Bonnet 76.18 35 P **P 01 57 47.7 -0.3**
comp=N,2.9nm,0.6s,baz=318,slow=3.6,SNR=3.2
KWP Kalwaria Pacla 76.79 325 *e*P **P 01 57 52.8 +1.4**
KWP Kalwaria Pacla 76.79 325 *e*P **P 01 57 52.8 +1.4**
BUR08 Bucovina Ar. S 77.11 322 *e*P **P 01 57 54.2 +0.8**
comp=N,9.8nm,0.9s
BURAR Bucovina Array 77.12 322 ⇑*i*P **P 01 57 54.4 +1.0**
BIZ Bicaz 77.18 321 ⇑*i*P **P 01 57 54.9 +1.2**
TESR Tescani 77.22 321 ⇑*i*P **P 01 57 54.6 +0.7**
KOLS Kolonicke sedl 77.50 325 *e*P **P 01 57 56.1 +0.7**
KOLS pmax pmax
comp=Z,8.0nm,1.1s
KOLS Kolonicke sedl 77.50 325 *e*P **P 01 57 56.1 +0.7**
OJC Ojcow 77.61 327 *e*P **P 01 57 57.2 +1.3**
OJC Ojcow 77.61 327 *e*P **P 01 57 57.2 +1.2**
VRI Vrincioaia 77.64 320 ⇓*i*P **P 01 57 56.3 0.0**
UZH Uzhgorod 77.72 325 *e*P **P 01 57 56.7 +0.1**
UZH *e* 01 58 05.1
UZH *e* 01 58 09.5
ARCR ARCALIA 77.91 322 ⇓*i*P **P 01 57 58.0 +0.3**
OZUR 77.94 321 ⇑*i*P **P 01 57 59.8 +1.8**
TRPA Tarpa 77.98 324 ⇑*i*P **P 01 57 59.3 +1.3**
TRPA Tarpa 77.98 324 ⇑*e*P **P 01 57 59.0 +1.0**
BR131 Keskin Array S 78.22 312 *e*P **P 01 58 00.2 +0.4**
comp=Z,12nm,1.4s
BRTR Keskin Array B 78.22 312 P **P 01 57 59.1 -0.6**
comp=Z,4.3nm,1.1s,baz=72,slow=4.0,SNR=18
BRTR LR LR 02 39 30.7
comp=Z,108nm,18.0s,baz=6.5,slow=41
ISR Istrita 78.27 320 ⇓*i*P **P 01 58 01.5 +1.7**
MLR Muntele Rosu 78.30 320 P **P 01 57 59.4 -0.6**
comp=Z,2.9nm,0.9s,baz=323,slow=15,SNR=3.4
KSP Ksiaz 78.56 329 *e*P **P 01 58 02.9 +1.6**
KSP Ksiaz 78.56 329 *e*P **P 01 58 02.9 +1.7**
LANS Liptovska Anna 78.56 326 *e*P **P 01 58 03.3 +2.0**
LANS Liptovska Anna 78.56 326 *e*P **P 01 58 03.3 +2.0**
OKC Ostrava-Krasne 78.59 327 *e*P **P 01 58 02.9 +1.5**
OKC Ostrava-Krasne 78.59 327 *e*P **P 01 58 02.9 +1.5**
KECS Kecovo 78.62 325 *e*P **P 01 58 03.1 +1.4**
KECS pmax pmax
comp=Z,24nm,0.9s
KECS Kecovo 78.62 325 *e*P **P 01 58 03.1 +1.4**
VOIR 78.77 321 ⇓*i*P **P 01 58 04.1 +1.5**
MORC Moravsky Berou 78.89 328 ⇑*i*P **P 01 58 04.2 +1.1**
MORC Moravsky Berou 78.89 328 *e*P **P 01 58 04.3 +1.1**
DPC Dobruska-Polom 78.93 329 *e*P **P 01 58 04.9 +1.5**
DPC *e* 01 58 13.3
DPC *e*S **S 02 08 03.9 +3.5**
DPC MLR MLR
comp=Z,400nm,17.1s
DPC Dobruska-Polom 78.93 329 *e*P **P 01 58 04.9 +1.5**
DPC *e*PCP **pwP 01 58 13.3 +0.7**
DPC *e*S **S 02 08 03.9 +3.5**
DPC AMS AMS 02 38 00.0
comp=Z,400nm,17.1s
UPC Upice 78.93 329 *e*P **P 01 58 04.7 +1.4**
UPC *e*S **S 02 08 00.2 -0.1**
UPC MLR MLR
comp=Z,600nm,14.5s
UPC Upice 78.93 329 *e*P **P 01 58 04.7 +1.4**
UPC *e*S **S 02 08 00.2 -0.1**
UPC AMS AMS 02 38 00.0
comp=Z,600nm,14.5s
KRLC Kraliky 78.96 328 *e*P **P 01 58 03.6 +0.1**
KRLC Kraliky 78.96 328 *e*P **P 01 58 03.6 +0.1**
PSZ Piszkesteto 79.31 325 *e*P **P 01 58 06.9 +1.4**
comp=Z,20nm,1.0s
PSZ Piszkesteto 79.31 325 ⇑*i*P **P 01 58 06.9 +1.4**
PSZ Piszkesteto 79.31 325 *e*P **P 01 58 06.9 +1.4**
PSZ pmax pmax
comp=Z,20nm,1.0s
PSZ Piszkesteto 79.31 325 ⇑*e*P **P 01 58 06.1 +0.6**
VYHS Vyhne 79.33 326 *e*P **P 01 58 06.9 +1.4**
VYHS pmax pmax
comp=Z,7.0nm,1.3s
VYHS Vyhne 79.33 326 *e*P **P 01 58 06.9 +1.4**
BRG Berggiesshubel 79.45 330 *e*P **P 01 58 06.9 +0.8**
comp=Z,11nm,1.2s
BRG *e* 01 58 15.3
comp=Z,6.5nm,0.9s
BRG S **S 02 08 09.0 +3.2**
BRG Berggiesshubel 79.45 330 *e*P **P 01 58 06.9 +0.8**
BRG *e* 01 58 15.4
BRG S **S 02 08 09.0 +3.2**
BRG pmax pmax
comp=Z,11nm,1.2s
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG MLR MLR
comp=N,318nm,13.1s
BRG MLR MLR
comp=E,288nm,12.6s
BRG MLR MLR
comp=Z,475nm,12.8s
CLL Collm 79.46 331 ⇑*i*P **P 01 58 06.7 +0.6**
CLL *i* 01 58 14.9
CLL *e*S **S 02 08 02.0 -3.8**
CLL pmax pmax
comp=Z,16nm,1.1s
CLL MLR MLR
comp=Z,400nm,19.9s
CLL Collm 79.46 331 ⇑*i*P **P 01 58 06.7 +0.6**
comp=Z,16nm,1.1s
CLL *i* PcP **PcP 01 58 14.9 +0.8**
CLL *e*S **S 02 08 02.0 -3.8**
CLL *e* 02 14 06.0
CLL LmH 02 31 00.0
comp=N,400nm,19.9s
CLL LmH 02 31 00.0
comp=E,600nm,22.0s
CLL LmV 02 36 00.0
comp=Z,400nm,19.9s
SILT Sile 79.46 315 ⇓*i*P **P 01 58 05.6 -0.7**
PVCC Panska Ves 79.48 330 *e*P **P 01 58 07.8 +1.5**
PVCC *e* 01 58 16.3
PVCC MLR MLR
comp=Z,600nm,17.0s
PVCC Panska Ves 79.48 330 *e*P **P 01 58 07.8 +1.5**
PVCC *e*PCP **pwP 01 58 16.3 +0.7**
PVCC AMS AMS 02 36 20.0
comp=Z,600nm,17.0s
JAVC Velka Javorina 79.54 327 *e*P **P 01 58 08.8 +2.1**
VRAC Vranov 79.64 328 ⇓*i*P **P 01 58 08.7 +1.5**
VRAC Vranov 79.64 328 *e*P **P 01 58 08.7 +1.5**
VRAC Vranov 79.64 328 P **P 01 58 07.2 0.0**
comp=Z,11nm,1.0s,baz=37,slow=4.7,SNR=15
GOPC GO Pecny, Ondr 79.89 329 *e*P **P 01 58 09.4 +0.9**
GOPC *e* 01 58 17.8
GOPC MLR MLR
comp=Z,400nm,14.8s
GOPC GO Pecny, Ondr 79.89 329 *e*P **P 01 58 09.4 +0.9**
GOPC *e*PCP **pwP 01 58 17.8 0.0**
GOPC AMS AMS 02 36 40.0
comp=Z,400nm,14.8s
GZR Gura Zlata 79.89 322 ⇑*i*P **P 01 58 09.6 +0.9**
KRUC Moravsky 79.91 328 *e*P **P 01 58 09.7 +1.0**
PRU Pruhonice 79.92 329 *e*P **P 01 58 10.1 +1.4**
PRU *e* 01 58 17.7
PRU *e*S **S 02 08 12.0 +1.2**
PRU MLR MLR
comp=N,400nm,16.1s
PRU Pruhonice 79.92 329 *e*P **P 01 58 10.1 +1.4**
PRU *e*PCP **pwP 01 58 17.7 -0.3**
PRU *e*S **S 02 08 12.0 +1.2**
PRU AMS AMS 02 36 40.0
SRO Srobarova 80.08 326 *e*P **P 01 58 11.3 +1.7**
SRO Srobarova 80.08 326 *e*P **P 01 58 11.3 +1.7**
MODS Modra-Piesok 80.08 327 *e*P **P 01 58 10.0 +0.4**
MODS pmax pmax
comp=Z,15nm,1.2s
MODS Modra-Piesok 80.08 327 *e*P **P 01 58 10.0 +0.4**
TREC Trest 80.10 328 *e*P **P 01 58 11.2 +1.5**
TREC *e* 01 58 18.9
TREC Trest 80.10 328 *e*P **P 01 58 11.2 +1.5**
TREC *e*PCP **pwP 01 58 18.9 -0.1**
BZS Buzias 80.27 323 ⇓*i*P **P 01 58 11.0 +0.3**
ZST Bratislava 80.30 327 *e*P **P 01 58 11.6 +0.9**
ZST Bratislava 80.30 327 *e*P **P 01 58 11.6 +0.9**
HERR Herculane 80.44 322 ⇑*i*P **P 01 58 12.9 +1.3**
NKC Novy Kostel 80.53 331 *e*P **P 01 58 13.3 +1.3**
NKC MLR MLR
comp=Z,400nm,15.9s
NKC Novy Kostel 80.53 331 *e*P **P 01 58 13.3 +1.3**
NKC AMS AMS 02 40 00.0
comp=Z,400nm,15.9s
ECSD EROS Data Cent 80.62 40 *e*P **P 01 58 13.9 +1.3**
comp=Z,4.4nm,1.0s
MDVR Moldovita 80.85 322 ⇑*i*P **P 01 58 14.6 +0.7**
SOP Sopron 80.92 327 ⇑*e*P **P 01 58 15.0 +0.9**
KHC Kasperske Hory 80.99 329 *e*P **P 01 58 14.8 +0.3**
comp=Z,6.6nm,1.1s
KHC Kasperske Hory 80.99 329 *e*P **P 01 58 15.6 +1.1**
KHC *e* 01 58 23.3
KHC MLR MLR
comp=Z,500nm,17.9s
KHC Kasperske Hory 80.99 329 *e*P **P 01 58 15.6 +1.1**
KHC *ex* x 01 58 23.3
KHC AMS AMS 02 37 30.0
comp=Z,500nm,17.9s
EKA Eskdalemuir Ar 81.00 342 P **P 01 58 14.3 -0.1**
comp=Z,2.0nm,0.8s,baz=34,slow=7.6,SNR=4.6
CONA Conrad Observa 81.02 327 *i*P **P 01 58 16.4 +1.7**
comp=Z,13nm,1.3s,SNR=5.3
GERES GERESS Array B 81.17 329 P **P 01 58 15.7 +0.1**
comp=Z,2.4nm,0.9s,baz=40,slow=4.4,SNR=12
ASF Jabal al Asfar 81.31 305 P **P 01 58 16.6 0.0**
comp=Z,3.9nm,1.0s,baz=102,slow=3.5,SNR=4.8
GRFO Grafenberg 81.44 331 *e*P **P 01 58 18.0 +1.2**
comp=Z,26nm,1.2s
GRFO Grafenberg 81.44 331 *e*P **P 01 58 18.0 +1.2**
GRFO pmax pmax
comp=Z,26nm,1.2s
ANMO Albuquerque 81.45 51 *e*P **P 01 58 18.1 +0.6**
comp=Z,3.4nm,0.8s
ANMO Albuquerque 81.45 51 *c e*P **P 01 58 18.8 +1.3**
ANMO pmax pmax
comp=Z,5.0nm,1.3s
MMAI Mount Meron Ar 81.69 306 P **P 01 58 19.4 +0.8**
comp=Z,15nm,1.0s,baz=351,slow=3.8,SNR=8.1
ARSA Arzberg 81.70 327 *i*P **P 01 58 19.6 +1.3**
comp=Z,8.3nm,1.2s
VTS Vitosha 81.73 320 ⇑*i*P **P 01 58 19.5 +0.8**
MOA Molln 81.74 328 *i* PcP **P 01 58 21.0 +2.5**
comp=Z,12nm,1.8s
SOKA Soboth 82.36 327 *i*P **P 01 58 22.9 +1.1**
comp=Z,19nm,1.1s,SNR=6.5
KBA Koelnbreinsper 82.73 328 *i* PcP **P 01 58 25.5 +1.6**
comp=Z,14nm,1.2s
MYKA Terra Mystica 82.97 328 *i*P **P 01 58 25.2 +0.2**
comp=Z,13nm,1.5s
WATA Walderalm 83.23 329 *i* PcP **P 01 58 28.2 +1.8**
comp=Z,4.4nm,0.8s
WTTA Wattenberg 83.26 329 *i*P **P 01 58 26.4 -0.2**
comp=Z,11nm,1.2s
ABTA Abfaltersbach 83.33 329 *i*P **P 01 58 27.1 +0.2**
comp=Z,9.6nm,1.2s
MOTA Moosalm 83.40 330 *i* PcP **P 01 58 28.9 +1.6**
comp=Z,15nm,1.0s,SNR=6.7
RETA Reutte 83.42 330 *i* PcP **P 01 58 28.4 +1.1**
comp=Z,21nm,1.2s,SNR=5.2
SQTA Sankt Quirin 83.47 330 *i*P **P 01 58 28.3 +0.7**
comp=Z,11nm,1.3s
BFO Black Forest 83.63 332 *i*P **P 01 58 30.0 +1.7**
PMOR Pomariorio Ree 83.80 115 *e*T T 03 30 32.0
comp=Z,3.9nm,0.2s
FETA Feichten 83.81 330 *i* PcP **P 01 58 30.1 +0.7**
comp=Z,10nm,1.0s
DAVA Damuels 83.92 330 *i* PcP **P 01 58 30.9 +0.9**
comp=Z,19nm,1.1s,SNR=6.0
EIL Elat 84.23 304 P **P 01 58 32.2 +0.6**
comp=Z,7.9nm,0.9s,baz=352,slow=5.3,SNR=7.2
MNTX Cornudas Mount 84.33 53 *e*P **P 01 58 33.0 +0.8**
comp=Z,2.5nm,0.7s
DAVOX Davos/Dischmat 84.34 330 P **P 01 58 32.5 +0.3**
comp=Z,6.7nm,1.0s,baz=301,slow=3.8,SNR=7.0
PPT2 Papeete2 84.44 118 *e*LR LR 02 24 42.0
comp=Z,278nm,23.2s
TAOE Nuku Hiva Isla 85.24 106 *e*LR LR 02 24 55.6
comp=Z,213nm,20.2s
LTX Lajitas 87.04 54 *e*P **P 01 58 46.0 +0.2**
LTX Lajitas 87.04 54 *e*P **P 01 58 46.0 +0.2**
TXAR Lajitas Array 87.04 54 P **P 01 58 46.0 +0.2**
comp=Z,2.3nm,0.9s,baz=302,slow=3.7,SNR=14
CCM Cathedral Cave 87.58 40 *e*P **P 01 58 48.6 +0.5**
comp=Z,9.0nm,0.8s
CCM Cathedral Cave 87.58 40 *e*P **P 01 58 48.6 +0.5**
CCM pmax pmax
comp=Z,9.0nm,0.8s
KEST Kesra 93.75 324 LR LR 02 46 34.0
comp=Z,144nm,18.9s,baz=324,slow=39
Z50A Ashland 94.01 40 *e*P **P 01 59 21.1 +3.0**
comp=Z,8.7nm,1.1s
TORD Torodi Ar. Bea 116.45 318 PP PP 02 05 48.1 -1.8
comp=Z,2.1nm,1.1s,baz=26,slow=7.9,SNR=6.1
LPAZ La Paz 143.76 59 PKP PKPbc 02 05 33.8 0.0
comp=Z,1.5nm,1.0s,baz=15,slow=3.6,SNR=3.3
SNAA Sanae 143.98 197 PKPdf PKPbc 02 05 32.7 +0.6
SNAA Sanae 143.98 197 *e*PKPpre **PKPdf 02 05 32.8 -1.5**
SNAA Sanae 143.98 197 *e*PKIKP PKPbc 02 05 32.8 +0.6
MNMC Minye Minye 144.77 64 *e*PKPdf **PKPdf 02 05 37.5 +0.1**
GO01 Chusmiza 145.41 64 *e*PKPdf **PKPab 02 05 39.6 +0.6**
VNA2 Neumayer--Watz 145.53 196 PKPdf **PKPdf 02 05 33.3 -3.6**
baz=127,slow=3.9
VNA3 Neumayer Olymp 145.76 195 PKPdf **PKiKP 02 05 40.1 -1.2**
VNA1 Neumayer--Stat 145.93 196 PKPdf **PKPab 02 05 38.9 +0.1**
LVC Limon Verde 147.54 68 PKPbc **PKPbc 02 05 43.9 -0.9**
comp=Z,3.9nm,0.7s,baz=244,slow=6.6,SNR=1.9
SIV San Ignacio 147.93 49 PKPbc **PKPbc 02 05 45.0 -0.6**
comp=Z,5.1nm,0.9s,baz=321,slow=4.0,SNR=11
CFA Coronel Fontan 152.98 82 PKPbc **PKPbc 02 05 56.6 -0.8**
comp=Z,1.2nm,0.4s,baz=258,slow=9.3,SNR=3.0
BDFB Brasilia 153.80 26 PKPbc **PKPbc 02 05 59.8 +0.2**
comp=Z,2.8nm,0.8s,baz=55,slow=8.0,SNR=3.1

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*SJA **31** 01:50:41.9±0.3,23°.97S×67°.07W,h200km±8km,ML3.0, MW3.6*
*ISCJB **31** 01:50:43.7±0.8,23°.96S±0°.07×67°.21W±0°.05,h178km, Error ellipse: s-maj=9.9km s-min=6.3km az=15.0*
*GUC **31** 01:50:44.1±0.6,23°.91S×67°.73W,h233km±10km,ML3.4*
ISC 31 01:50:43.4±1.5,**23°.98S**±0°.08×**67°.16W**±0°.06,**h178**km,**n17,**
σ1§01/28,1C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.78**	**65**	*i* P	**Pn**	**01 51 18.7**	**+0.3**
AZAP	**Zapla**	**1.93**	**98**	*i* P	**Pn**	**01 51 20.0**	**+0.1**
AZAP				IAML		01 51 20.5	
comp=Z,73nm,0.4s							
PB15	**IPOC Station P**	**2.26**	**290**	*i* P	**Pn**	**01 51 24.8**	**+1.3**
PB15				*i* S	**Sn**	**01 51 56.4**	**+2.0**
PB15	**IPOC Station P**	**2.26**	**290**	⇑*i*P	**Pn**	**01 51 24.6**	**+1.2**
PB15				*e*S	**Sn**	**01 51 55.5**	**+1.0**
YJA	**Yavi**	**2.35**	**40**	*i* P	**Pn**	**01 51 25.2**	**+0.4**
PB06	**IPOC Station P**	**2.56**	**299**	*i* P	**Pn**	**01 51 27.9**	**+1.0**
PB06	**IPOC Station P**	**2.56**	**299**	*i* P	**Pn**	**01 51 27.9**	**+1.0**
PB06				*i* S	**Sn**	**01 52 00.9**	**+0.3**
PB06				IAML		01 52 02.2	
comp=E,121nm,0.3s							
PB09	**IPOC Station P**	**2.90**	**318**	*e*P	**Pn**	**01 51 32.2**	**+1.1**
PB09				*i* S	**Sn**	**01 52 09.2**	**+1.2**
PB09				IAML		01 52 10.2	
comp=N,65nm,0.5s							
PB05	**IPOC Station P**	**3.01**	**291**	*e*P	**Pn**	**01 51 32.7**	**+0.4**
PB05				*e*S	**Sn**	**01 52 08.8**	**-1.5**
PB05				IAML		01 52 13.0	
comp=N,38nm,0.2s							
PB14	**IPOC Station P**	**3.03**	**257**	*e*P	**Pn**	**01 51 32.8**	**+0.1**
PB14				*i* S	**Sn**	**01 52 09.8**	**-1.2**
PB14				IAML		01 52 15.6	
comp=N,95nm,0.5s							
PB03	**IPOC Station P**	**3.07**	**308**	*e*P	**Pn**	**01 51 33.4**	**+0.4**
PB03				*i* S	**Sn**	**01 52 11.0**	**-0.7**
PB03				IAML		01 52 11.6	
comp=N,91nm,0.3s							
PB10	**IPOC Station P**	**3.15**	**278**	*e*P	**Pn**	**01 51 33.4**	**-0.4**
PB04	**IPOC Station P**	**3.21**	**300**	*e*P	**Pn**	**01 51 34.9**	**+0.2**
PB04				*i* S	**Sn**	**01 52 13.4**	**-1.2**
PB04				IAML		01 52 18.6	
comp=N,81nm,0.3s							
PB07	**IPOC Station P**	**3.37**	**311**	*e*P	**Pn**	**01 51 37.0**	**+0.2**
PB07				*i* S	**Sn**	**01 52 16.9**	**-1.5**
PB01	**IPOC Station P**	**3.63**	**323**	*e*P	**Pn**	**01 51 39.8**	**-0.2**
PB01				*e*S	**Sn**	**01 52 23.2**	**-0.9**
PB02	**IPOC Station P**	**3.66**	**316**	*e*P	**Pn**	**01 51 40.2**	**-0.2**
PB02				*i* S	**Sn**	**01 52 22.9**	**-1.9**
PB08	**IPOC Station P**	**4.25**	**334**	*e*P	**Pn**	**01 51 48.6**	**+0.6**

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*IDC **31** 01:58:48.5±1.1,28°.44N×51°.94E,h0km,mb3.6/15, mb1 3.8/19,mb1mx3.7/56,mbtmp3.7/19,ML3.7/4,MS3.0/1, Ms1 3.0/1,ms1mx2.5/32,Error ellipse: s-maj=24.1km s-min=16.2km az=5.0*
*ISCJB **31** 01:58:51.3±0.4,28°.28N±0°.03×51°.56E±0°.04,h24km, mb3.5/15,Error ellipse: s-maj=6.3km s-min=3.0km az=143.0*
*TEH **31** 01:58:51.3,28°.34N×51°.65E,h12km,ML3.9*
*DSN **31** 01:58:51.8±1.0,28°.62N×51°.95E,h10km,ML4.3/11,Error ellipse: s-maj=19.3km s-min=7.1km az=18.0*
*OMAN **31** 01:58:55.5±0.2,28°.46N×51°.95E,h25km,ml4.2/9,Error ellipse: s-maj=5.6km s-min=3.1km az=227.0*
ISC 31 01:58:52.2±0.6,**28°.36N**±0°.05×**51°.65E**±0°.05,**h24**km,**n80,**
σ1§88/85,mb3.6/15,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.18**	**93**	*e*Pn	**Pb**	**01 59 14.4**	**+0.4**
IKAZ	**Kazeroun**	**1.42**	**7**	*e*Pg	**Pb**	**01 59 18.3**	**0.0**
IKAZ				IAMB	IAmb	01 59 42.4	
comp=Z,0.0nm,0.5s							
SHI	**Shiraz**	**1.48**	**30**	*e*Pg	**Pb**	**01 59 19.7**	**+0.5**
SHI				IAMB	IAmb	01 59 21.0	
comp=Z,0.0nm,0.5s							
ISRV	**Sarvestan**	**1.63**	**51**	*e*Pg	**Pb**	**01 59 22.8**	**+0.9**
ISRV				IAMB	IAmb	01 59 51.4	
comp=Z,0.0nm,0.5s							
LMD1	**Lamerd**	**1.68**	**127**	*e*Pg	**Pb**	**01 59 22.2**	**-0.3**
JHRM	**Jahrom**	**1.70**	**85**	*e*Pg	**Pb**	**01 59 22.9**	**0.0**
IPAR	**Pars**	**1.91**	**39**	*e*Pn	**Pb**	**01 59 26.4**	**-0.3**
IPAR				IAMB	IAmb	02 00 00.4	
comp=Z,0.0nm,0.9s							
IRAM	**Ramesheh**	**3.49**	**10**	*e*Pn	**Pn**	**01 59 47.0**	**+1.7**
JHBN	**Jahan bin**	**3.95**	**348**	*e*Pn	**Pn**	**01 59 54.4**	**+2.8**
ISAD	**Sadrabad**	**3.95**	**26**	*e*Pn	**Pn**	**01 59 54.1**	**+2.4**
IMEH	**Mehriz**	**3.96**	**40**	*e*Pn	**Pn**	**01 59 55.0**	**+3.2**
ROKH	**ROKH**	**4.00**	**352**	*e*Pn	**Pn**	**01 59 54.3**	**+2.0**
IPIR	**Pirpir**	**4.36**	**352**	*e*Pn	**Pn**	**01 59 58.9**	**+1.7**
NASN	**Na'in**	**4.53**	**12**	*e*Pn	**Pn**	**02 00 01.0**	**+1.3**
SHME	**Shamm**	**4.61**	**119**	P	**Pn**	**01 59 59.9**	**-0.6**
SHME				S	**Sn**	**02 00 54.1**	**+0.7**
SHME	**Shamm**	**4.61**	**119**	*e*Pn	**Pn**	**02 00 02.4**	**+1.9**
NGRK	**Negar Kerman**	**4.63**	**73**	*e*Pn	**Pn**	**02 00 02.8**	**+1.8**
NGRK				IAMB	IAmb	02 01 24.6	
comp=Z,0.0nm,0.5s							
NIAN	**Nian**	**4.65**	**99**	*e*Pn	**Pn**	**02 00 02.9**	**+1.9**
NIAN				IAMB	IAmb	02 01 04.0	
comp=Z,0.0nm,0.3s							
KHGB	**Koh Gabri**	**4.66**	**63**	*e*Pn	**Pn**	**02 00 03.1**	**+1.7**
KHGB				IAMB	IAmb	02 01 04.4	
comp=Z,0.0nm,0.4s							
IBAF	**Bafgh**	**4.68**	**46**	*e*Pn	**Pn**	**02 00 04.1**	**+2.6**
YZKH	**Yazd**	**4.75**	**32**	*e*Pn	**Pn**	**02 00 04.5**	**+2.1**
TVBK	**TV Kerman**	**4.75**	**69**	*e*Pn	**Pn**	**02 00 04.7**	**+2.0**
BANOM	**Banah**	**4.80**	**119**	*i* P	**Pn**	**02 00 03.6**	**+0.6**
SNR=77							
BANOM	**Banah**	**4.80**	**119**	P	**Pn**	**02 00 04.0**	**+0.9**
SNR=77							
AJN	**Ajban**	**4.82**	**141**	*i* P	**Pn**	**02 00 04.9**	**+1.6**
SNR=18							
AJN	**Ajban**	**4.82**	**141**	P	**Pn**	**02 00 05.7**	**+2.3**
SNR=18							
AJN				S	**Sn**	**02 01 00.5**	**+2.1**
AJN	**Ajban**	**4.82**	**141**	*e*Pn	**Pn**	**02 00 06.1**	**+2.8**
NAZ	**Nazwa, Dubai**	**4.92**	**132**	*i* P	**Pn**	**02 00 06.4**	**+1.8**
SNR=14							
NAZ	**Nazwa, Dubai**	**4.92**	**132**	P	**Pn**	**02 00 06.6**	**+2.0**
SNR=9.8							
NAZ				S	**Sn**	**02 01 02.6**	**+1.8**

NAZ	Nazwa, Dubai	4.92 132	*e*Pn	Pn	02 00 06.7 +2.0
IKLH	Kolahrood	4.94 359	*e*Pn	Pn	02 00 07.5 +2.3
ASUD	Al Ashush, Dub	4.97 138	*i* P	Pn	02 00 07.4 +2.0
	SNR=17				
ASUD	Al Ashush, Dub	4.97 138	P	Pn	02 00 07.7 +2.3
	SNR=17				
ASUD			S	Sn	02 01 03.9 +1.8
ASUD	Al Ashush, Dub	4.97 138	*e*Pn	Pn	02 00 08.2 +2.8
MSFE	Esma-Masafi	5.01 126	*i* P	Pn	02 00 06.7 +0.7
	SNR=26				
MSFE	Esma-Masafi	5.01 126	*e*Pn	Pn	02 00 07.4 +1.4
FAQ	Al Faqa, Dubai	5.04 135	*i* P	Pn	02 00 06.9 +0.6
	SNR=6.1				
FAQ	Al Faqa, Dubai	5.04 135	P	Pn	02 00 08.1 +1.7
	SNR=7.3				
FAQ	Al Faqa, Dubai	5.04 135	*e*Pn	Pn	02 00 08.5 +2.1
MDH	Madha	5.15 125	P	Pn	02 00 08.4 +0.5
MDH	Madha	5.15 125	P	Pn	02 00 08.9 +1.0
UOSS	Minazif	5.31 129	*i* P	Pn	02 00 10.6 +0.6
	SNR=38				
UOSS	Minazif	5.31 129	*e*Pn	Pn	02 00 10.8 +0.8
HATD	Hatta, Dubai	5.34 130	*i* P	Pn	02 00 11.6 +1.2
	SNR=10				
HATD	Hatta, Dubai	5.34 130	*e*Pn	Pn	02 00 12.1 +1.6
CHMN	Cheshme madani	5.36 72	*e*Pn	Pn	02 00 13.0 +1.9
ASHO	Ashiyiah	5.38 132	*i* P	Pn	02 00 12.0 +0.9
	SNR=43				
ASHO	Ashiyiah	5.38 132	P	Pn	02 00 12.3 +1.2
	SNR=43				
ASHO	Ashiyiah	5.38 132	*e*Pn	Pn	02 00 12.6 +1.5
KRSH	Karshahi	5.60 4	*e*Pn	Pn	02 00 15.8 +1.6
ALNE	Al Ain	5.65 138	*i* P	Pn	02 00 16.4 +1.6
	SNR=16				
ALNE	Al Ain	5.65 138	*e*Pn	Pn	02 00 16.8 +2.0
SOHO	SOHO	6.08 133	P	Pn	02 00 21.6 +1.0
	SNR=11				
IKOM	Komasi	6.79 330	*e*Pn	Pn	02 00 33.4 +2.9
HOQ	Hoqain	6.97 132	*e*Pn	Pn	02 00 34.3 +1.4
TKDS	Koohdasht(Taba	7.03 41	*e*Pn	Pn	02 00 35.6 +1.8
ILIN	Lien	7.66 330	*e*Pn	Pn	02 00 44.1 +1.5
IDHR	Dehrash	7.75 326	*e*Pn	Pn	02 00 44.6 +0.8
WSAR	Wadi Sarin	8.10 127	Pn	Pn	02 00 47.3 -1.1
	comp=Z,3.0nm,0.3s,baz=318,slow=7.2,SNR=64				
WSAR			Sn	Sn	02 02 13.7 -5.5
	comp=Z,0.8nm,0.3s,baz=102,slow=18,SNR=3.8				
GEYT	Alibeck	10.97 28	Pn	Pn	02 01 28.7 +1.1
	comp=Z,0.5nm,0.3s,baz=209,slow=15,SNR=5.1				
GNI	Garni	13.07 336	LR	LR	02 08 02.0
	comp=Z,56nm,18.8s,baz=356,slow=42				
ASF	Jabal al Asfar	13.30 290	Pn	Pn	02 02 01.6 +1.8
	comp=Z,0.1nm,0.3s,baz=52,slow=18,SNR=1.9				
ASF			Sn	Sn	02 04 21.2 -5.7
	comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.8				
KBZ	Khabaz	16.87 338	Pn	P	02 02 47.5 -1.2
	comp=Z,0.2nm,0.3s,baz=175,slow=8.6,SNR=3.7				
BRTR	Keskin Array B	18.70 312	P	Pn	02 03 09.9 +0.4
	comp=Z,0.5nm,0.3s,baz=137,slow=13,SNR=24				
AKTO	Aktyubinsk	22.57 11	P	P	02 03 49.3 -1.3
	comp=Z,1.0nm,0.5s,baz=204,slow=14,SNR=2.9				
AAK	Ala-Archa	23.33 46	P	P	02 03 55.2 -3.5
	comp=Z,0.6nm,0.3s,baz=202,slow=11,SNR=1.9				
IDI	Anoyia	23.72 294	P	P	02 04 04.7 +2.1
	comp=Z,5.3nm,0.9s,baz=101,slow=19,SNR=3.2				
MLR	Muntele Rosu	26.56 317	P	P	02 04 30.5 +2.1
	comp=Z,1.7nm,0.8s,baz=128,slow=19,SNR=3.0				
AKASG	Malin Array Be	28.02 329	P	P	02 04 40.8 -0.5
	comp=Z,0.2nm,0.3s,baz=126,slow=6.9,SNR=3.1				
BVAR	Borovoye Array	28.27 24	P	P	02 04 41.5 -2.0
	comp=Z,0.3nm,0.3s,baz=234,slow=4.8,SNR=2.7				
KURBB	Kurchatov Arra	30.11 35	P	P	02 04 57.9 -2.0
	comp=Z,0.2nm,0.7s,baz=238,slow=7.9,SNR=2.5				
MKAR	Makanchi Array	30.19 44	P	P	02 04 58.1 -2.6
	comp=Z,0.1nm,0.3s,baz=232,slow=7.9,SNR=2.4				
GERES	GERESS Array B	35.53 316	P	P	02 05 48.1 +0.8
	comp=Z,0.3nm,0.4s,baz=98,slow=13,SNR=2.6				
FINES	FINESS Array B	37.21 340	P	P	02 06 02.5 +1.2
	comp=Z,1.6nm,0.5s,baz=141,slow=9.8,SNR=13				
NB2	NORSAR Subarra	42.33 332	P	P	02 06 44.5 +0.5
	comp=Z,0.7nm,0.6s,baz=123,slow=8.6				
NOA	NORSAR Array B	42.33 332	P	P	02 06 44.4 +0.4
	comp=Z,0.8nm,0.6s,baz=122,slow=8.3,SNR=8.6				
EKA	Eskdalemuir Ar	47.31 321	P	P	02 07 24.0 +0.3
	comp=Z,0.3nm,0.4s,baz=104,slow=8.2,SNR=6.2				
TORD	Torodi Ar. Bea	48.77 263	P	P	02 07 36.4 +0.9
	comp=Z,0.5nm,0.6s,baz=67,slow=10.0,SNR=6.2				
YKA	Yellowknife Ar	88.79 354	P	P	02 11 43.8 +0.1
	comp=Z,0.1nm,0.5s,baz=12,slow=5.4,SNR=2.3				
ASAR	Alice Springs	94.57 114	P	P	02 12 10.3 -0.9
	comp=Z,0.3nm,0.5s,baz=305,slow=5.1,SNR=3.5				

IDC ***31*** *02:06:46.2±1.0, 1°.36N×121°.79E, h0km, mb4.1/4, mb1 4.2/6, mb1mx3.8/35, mbtmp4.1/6, ML4.1/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/48, Error ellipse: s-maj=50.9km s-min=16.7km az=72.0*

ISCJB ***31*** *02:06:49.5±0.5, 1°.40N±0°.05×121°.65E±0°.08, h33km, mb4.3/10, MS3.5/2, Error ellipse: s-maj=11.7km s-min=7.3km az=173.8*

DJA ***31*** *02:06:50.9±1.1, 1°.N±11°×12°.1E±°, h10km, M4.5/9, mb4.6/4, mB4.7/2, MLv4.4/9, Mw(mB)4.0/2*

NEIC ***31*** *02:06:55.6±1.0, 1°.17N×121°.47E, h78km±10km, mb4.3/8, Error ellipse: s-maj=18.4km s-min=6.2km az=61.0*

ISC 31 02:06:51.7±0.8, 1°.38N±0°.07×121°.49E±0°.07, h35km, n31, σ1§**69**/31, **mb4.2**/10, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.00	153	P	Pn	02 07 08.4	-0.9
MPSI	Mapaga	1.90	237	P	Pn	02 07 21.8	+0.1
KMSI	Cibinong	2.62	108	P	Pn	02 07 39.1	+7.6
LUWI	Luwuk	2.73	152	*e*Pn	Pn	02 07 34.9	+1.9
LUWI	Luwuk	2.73	152	P	Pn	02 07 35.5	+2.5
TTSI	Tana Toraja	4.70	201	P	Pn	02 08 03.3	+3.1
SPSI	Sidrap Palu	5.58	198	P	Pn	02 08 14.0	+1.7
	37nm,0.7s,488nm0.1nm						
SANI	Sanana	5.64	127	P	Pn	02 08 16.0	+2.8
	52nm,0.7s,0.2nm						
BNSI	Bone	5.91	194	P	Pn	02 08 19.7	+2.9
	69nm,0.7s,849nm0.2nm						
KAPI	Kappang	6.59	195	*e*Pn	Pn	02 08 27.1	+1.0
KAPI				*e*Sn	Sn	02 09 41.6	+1.5
KAPI	Kappang	6.59	195	Pn	Pn	02 08 25.9	-0.3
	1.9nm,0.3s,baz=37,slow=5.1,SNR=9.7						
KAPI				Sn	Sn	02 09 41.6	+1.5
	baz=102,slow=19,SNR=1.7						
BKSI	Bulukumba	6.80	192	P	Pn	02 08 35.1	+6.1
MTN	Manton Dam	17.07	146	*e*Pn	Pn	02 10 47.6	-0.1
	70nm,1.8s						
FITZ	Fitzroy Crossi	19.78	168	*e*P	P	02 11 17.3	-1.8
	12nm,1.3s						
FITZ	Fitzroy Crossi	19.78	168	P	P	02 11 17.3	-1.8
	0.7nm,0.3s,baz=4.7,slow=8.0,SNR=18						
WRAB	Tennant Creek	24.65	150	*e*P	P	02 12 07.8	-1.6
	11nm,0.6s						
WRA	Warramunga Arr	24.66	150	P	P	02 12 08.0	-1.4
	128nm,0.3s,baz=328,slow=11,SNR=1.4						
WR1	Warramunga Arr	24.66	150	*e*P	P	02 12 08.0	-1.4
WB2	Warramunga Arr	24.66	150	*e*P	P	02 12 07.7	-1.8
	10nm,0.6s						
WC3	Warramunga Arr	24.69	150	*e*P	P	02 12 07.7	-1.9
	14nm,0.6s						
AS31	Alice Springs	27.67	155	*e*P	P	02 12 35.1	-1.5
	1.4nm,0.6s						
ASAR	Alice Springs	27.67	155	P	P	02 12 34.4	-2.2
	2.1nm,0.6s,baz=328,slow=8.6,SNR=47						
KSRS	Korea Array	36.38	9	LR	LR	02 29 53.7	
	comp=Z,30nm,19.0s,baz=170,slow=38						
STKA	Stephens Creek	38.18	152	*e*P	P	02 14 06.5	-1.6
	5.9nm,1.9s						
STKA	Stephens Creek	38.18	152	P	P	02 14 06.5	-1.6
	3.6nm,0.6s,baz=324,slow=7.6,SNR=6.8						
SONA0	Songino Array	48.09	346	*e*P	P	02 15 28.8	+0.8
SONM	Songino Array	48.09	346	P	P	02 15 28.8	+0.8
	1.0nm,0.8s,baz=168,slow=8.5,SNR=4.3						
MK32	Makanchi Array	56.65	329	*e*P	P	02 16 32.5	+0.9
MK32				*e*PcP	PcP	02 17 27.1	-0.4
MKAR	Makanchi Array	56.65	329	P	P	02 16 32.5	+0.9
	0.7nm,0.4s,baz=131,slow=8.7,SNR=11						
MKAR				PcP	PcP	02 17 27.1	-0.4
	0.6nm,0.7s,baz=114,slow=4.9,SNR=3.8						
ABKAR	Akbulak array	70.72	322	*e*P	P	02 18 04.2	-0.1
	1.6nm,0.8s						
ASF	Jabal al Asfar	84.69	302	LR	LR	03 02 44.4	
	comp=Z,59nm,19.9s,baz=132,slow=40						

ISK ***31*** *02:17:12.6, 43°.26N×41°.53E, h5km, ML2.9/3*

TIF ***31*** *02:17:12.7, 43°.27N×41°.53E, h27km±4km*

DDA ***31*** *02:17:17.7, 42°.82N×41°.56E, h13km±1km, ML3.1*

ISC 31 02:17:14.7±0.9, 43°.21N±0°.03×41°.69E±0°.02, h10km±7km, n33, σ1§**11**/58, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	Dombai	0.10	329	*i* Pg	Pg	02 17 17.2	-0.2
DOMR				*e*Sg	Sg	02 17 19.2	-0.1
ARXR	Arkhyz	0.46	319	*e*Pg	Pg	02 17 24.2	+0.3
ARXR				*e*Sg	Sb	02 17 31.8	-0.3
NEY	Neytrino	0.76	87	*e*Pg	Pg	02 17 28.0	-1.3
NEY				*e*Sg	Sg	02 17 37.4	-1.9
SHA1	Shidzhatmaz	0.88	53	*i* Pg	Pg	02 17 31.3	-0.5
SHA1				*i* Sg	Sg	02 17 43.1	-0.1
KIV0	Kislovodsk Arr	1.04	44	*i* Pg	Pg	02 17 34.4	-0.4
KIV0				*i* Sg	Sg	02 17 48.4	0.0
TKB	Tkibuli	1.29	131	P	Pn	02 17 38.2	-0.6
TKB				S	Sn	02 17 57.9	+1.7
PYA1	Pyatigorsk	1.33	50	*e*Pg	Pn	02 17 39.1	-0.4
PYA1				*e*Sg	Sb	02 17 56.9	-0.1
GUZR	Guzeripl'	1.39	305	*e*Pg	Pb	02 17 40.9	+0.1
GUZR				*e*Sg	Sg	02 18 00.8	+1.5
NVNR	Nevinnomyssk	1.42	8	*e*Pg	Pn	02 17 41.0	+0.4
NVNR				*e*Sg	Sg	02 18 00.5	+0.1
DIGR	Digorskoe uzhe	1.42	102	*e*Pg	Pg	02 17 42.6	+0.6
DIGR				*e*Sg	Sg	02 18 00.9	+0.5
ONI	Oni	1.44	115	PN	Pb	02 17 41.8	+0.2
ONI	Oni	1.44	115	P	Pn	02 17 41.4	+0.5
ONI				S	Sg	02 18 01.4	+0.5
ONI	Oni	1.44	115	*e*Pg	Pn	02 17 41.4	+0.5
ONI				*e*Sg	Sg	02 18 01.4	+0.5
SOC	Sochi	1.49	285	*e*Pg	Pn	02 17 42.2	+0.6
SOC				*e*Sg	Sg	02 18 03.4	+0.9
LSNR	Lesken	1.56	87	*e*Pg	Pb	02 17 44.5	+0.7
LABN	Labinsk	1.59	334	*e*Pg	Pg	02 17 46.3	+1.0
LABN				*e*Sg	Sg	02 18 08.1	+2.2
BATM	Batumi	1.61	180	PN	Pn	02 17 42.9	-0.3
BATM				SN	Sb	02 18 05.5	+0.7
BCA	Borcka	1.77	182	PN	Pn	02 17 45.4	0.0
DBOC	Borcka	1.86	181	IAML_P			
	comp=Z,1μm,0.1s						
DBOC				*i* P	Pn	02 17 45.9	-0.9
DBOC				*i* S	Sn	02 18 08.6	-1.8
EPOS	Posof	1.87	155	*i* P	Pn	02 17 47.9	+0.9
EPOS				*i* S	Sb	02 18 13.1	+0.4
ARTV	Artvin	2.03	175	*i* P	Pn	02 17 48.4	-0.8
DAGI	Agillar	2.14	175	IAML_P			
	comp=Z,645nm,0.2s						
DAGI				*i* P	Pn	02 17 50.7	0.0
GUDG	Gudauri	2.18	109	P	Pg	02 17 56.1	-0.5
GUDG				S	Sg	02 18 28.4	+3.5
DBAD	Bademkaya	2.19	180	IAML_P			
	comp=Z,1μm,0.1s						
DBAD				*i* P	Pn	02 17 51.6	+0.3
AKH	Akhalkalaki	2.24	143	PN	Pn	02 17 53.1	+1.0
AKH				SN	Sb	02 18 22.6	-0.7
DDEM	Demirkent	2.32	179	*i* P	Pn	02 17 54.0	+0.9
BGD	Bogdanovka	2.41	143	P	Pn	02 17 56.7	+2.3
BGD				S	Sb	02 18 27.6	-0.5
ERBR	Yeremizino-Bor	2.65	341	*e*Pn	Pg	02 18 04.7	-0.8
ERBR				*i* Sn	Sg	02 18 38.1	-1.7
MACK	Trabzon	2.68	213	*i* P	Pn	02 17 56.1	-1.9
MACK				*i* S	Sn	02 18 28.7	-1.8
TBLG	Delisi	2.70	122	P	Sb	02 18 35.0	-1.3
BAYT	Aydıntepe-Bayb	3.04	203	PN	Pn	02 18 03.5	+0.4
BAYT				SN	Sn	02 18 39.8	+0.1
BAYB	BAYBURT	3.14	200	IAML_P			
	comp=Z,168nm,0.2s						
BAYB				*i* P	Pn	02 18 05.3	+0.9
BAYB				*i* S	Sn	02 18 42.3	+0.2
KELT	Kelkit	3.56	212	IAML_P			
	comp=Z,52nm,0.2s						
KELT				*i* P	Pn	02 18 10.1	-0.2
KELT				*i* S	Sn	02 18 50.1	-2.5

MEX 31 02:43:03.0±0.8, 15°.94N×98°.21W, h5km, MD3.5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.46	9	*e*P	Pg	02 43 10.9	-1.0
PNIG				*i* S	Sg	02 43 17.8	0.0
TLIG	Tlapa	1.65	348	*i* P	Pn	02 43 29.2	-3.6
TLIG				*e*S	Sn	02 43 50.3	-4.2

IDC ***31*** *02:43:16.4±0.6, 20°.30S×168°.99E, h0km, mb4.4/19, mb1 4.5/21, mb1mx4.5/31, mbtmp4.4/21, ML4.1/2, MS4.6/20, Ms1 4.6/20, ms1mx4.5/26, Error ellipse: s-maj=19.6km s-min=15.9km az=118.0*

BJI ***31*** *02:43:17.0±0.0, 20°.40S×168°.80E, h5km, mb5.0/26, mB5.2/23, Ms4.8/17, Ms7 4.5/16*

NEIC ***31*** *02:43:18.7±0.2, 20°.33S×168°.85E, h10km, mb4.9/42, Error ellipse: s-maj=7.3km s-min=5.1km az=131.0*

ISCJB ***31*** *02:43:20.4±0.2, 20°.41S±0°.04×168°.82E±0°.04, h31km, mb4.7/60, MS4.7/33, Error ellipse: s-maj=6.5km s-min=4.8km az=136.2*

GCMT ***31*** *02:43:23.7±0.2, 20°.36S±0°.01×168°.72E±0°.01, h33km, MW5.3/90, Moment Tensor Solution. s78,c114; s90,c136; Duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr0.72±.02; Mθθ0.03±.02; Mφφ-0.75±.02; Mrθ0.25±.03; Mθφ0.27±.01; Mφr-0.60±.03; Best double couple: M0 1.01600×10^17 NP1:φs159.00000°, δ65.00000°, λ86.00000°. NP2:φs347.00000°, δ25.00000°, λ98.00000°. Principal axes: T 0.9600, Plg70.0000°, Azm62.0000°; N 0.1120, Plg3.0000°, Azm161.0000°; P -1.0720, Plg20.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 02:43:21.9±0.4, 20°.49S±0°.06×168°.94E±0°.06, h31km, n171, σ1§**38**/169, **mb4.8**/59, **MS4.8**/35, **3C-6D, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.30	220	*e*Pn	Pn	02 43 42.2	-1.7
PINNC	Pines Island,	2.53	213	*e*Pn	Pn	02 44 00.4	-0.4
DZM	Mont Dzumac	2.81	235	*e*Pn	Pn	02 44 03.8	-1.0
	361nm,0.2s						
DZM				*e*Sn	Sn	02 44 37.0	-0.6
	984nm,0.3s						
DZM				*e*LR	LR	02 44 41.7	
	comp=Z,19μm,25.1s						
DZM	Mont Dzumac	2.81	235	*e*Pn	Pn	02 44 03.0	-1.8
DZM				*e*Sn	Sn	02 44 37.8	+0.2
DZM	Mont Dzumac	2.81	235	Pn	Pn	02 44 03.8	-1.0
	32nm,0.3s,baz=89,slow=5.1,SNR=409						
DZM				Sn	Sn	02 44 37.8	+0.2
	298nm,0.3s,baz=120,slow=21,SNR=12						
DZM				LR	LR	02 44 44.9	
	comp=Z,7μm,20.3s,baz=65,slow=30						
ONTNC	Ouen Toro	2.94	232	*e*Pn	Pn	02 44 05.8	-0.6
HNR	Honiara	14.00	320	LR	LR	02 51 16.6	
	comp=Z,842nm,20.5s,baz=142,slow=35						
OUZ	Omahuta	15.24	165	*e*Pn	Pn	02 46 56.0	+1.1
	18nm,0.9s						
EIDS	Eidsvold	17.14	250	*e*Pn	P	02 47 19.7	-1.0
	60nm,1.4s						
ARMA	Armidale	18.47	234	*e*P	P	02 47 34.8	-0.6
	56nm,1.3s						
URZ	Urewera	19.07	160	*e*P	Pn	02 47 44.5	+1.8
	208nm,2.0s						
URZ	Urewera	19.07	160	P	Pn	02 47 43.8	+1.1
	0.6nm,0.3s,baz=0.0,slow=2.0,SNR=3.3						
URZ				LR	LR	02 54 16.6	
	comp=Z,3μm,19.4s,baz=348,slow=34						
BKZ	Black Stump Fm	19.72	162	*e*P	Pn	02 47 51.6	+1.1
	70nm,1.3s						
CTA	Charters Tower	21.28	267	P	P	02 48 06.2	+0.2
	25nm,0.8s,baz=97,slow=11,SNR=14						
CTA				LR	LR	02 55 52.1	
	comp=Z,2μm,21.1s,baz=84,slow=35						
CTAO	Charters Tower	21.28	267	*e*P	P	02 48 05.5	-0.4
	71nm,1.2s						
CAN	Canberra	22.93	226	*e*P	P	02 48 25.0	+1.5
	60nm,1.2s						
RPZ	Rata Peaks	23.23	176	LR	LR	02 57 21.4	
	comp=Z,4μm,18.0s,baz=348,slow=36						

PMG	Port Moresby	23.72	294	*e*P	P	02 48 30.5	-0.9
	94nm,1.3s						
PMG	Port Moresby	23.72	294	P	P	02 48 30.6	-0.8
	33nm,1.0s,baz=59,slow=5.4,SNR=4.5						
PMG				LR	LR	02 57 18.9	
	comp=Z,2μm,18.1s,baz=128,slow=36						
COEN	Coen	25.43	281	*e*P	P	02 48 47.9	+0.8
	45nm,1.1s						
TOO	Toolangi	26.53	225	*e*P	P	02 48 58.3	+1.4
	42nm,1.3s						
STKA	Stephens Creek	26.95	240	*e*P	P	02 49 01.8	+1.0
	24nm,1.9s						
STKA	Stephens Creek	26.95	240	P	P	02 49 01.4	+0.6
	6.1nm,0.8s,baz=76,slow=8.8,SNR=13						
STKA				LR	LR	02 59 36.9	
	comp=Z,2μm,19.0s,baz=79,slow=36						
RAR	Rarotonga	29.23	97	LR	LR	02 58 10.4	
	comp=Z,1μm,21.9s,baz=269,slow=31						
WB2	Warramunga Arr	32.42	265	*e*P	P	02 49 48.5	-0.9
	14nm,1.1s						
WRAB	Tennant Creek	32.42	265	*e*P	P	02 49 48.6	-0.8
	12nm,1.0s						
WR1	Warramunga Arr	32.43	265	*e*P	P	02 49 47.7	-1.8
WRA	Warramunga Arr	32.43	265	P	P	02 49 47.7	-1.8
	6.7nm,1.0s,baz=89,slow=7.7,SNR=3.0						
AS31	Alice Springs	32.57	258	*e*P	P	02 49 48.8	-1.9
AS31				*e*pP	P	02 49 50.2	-0.5
ASAR	Alice Springs	32.57	258	P	P	02 49 49.5	-1.1
	14nm,0.7s,baz=83,slow=9.0,SNR=114						
ASAR				LR	LR	03 03 40.5	
	comp=Z,3μm,18.0s,baz=97,slow=38						
GENI	Genyem	33.22	299	P	P	02 49 58.4	+2.0
TBI	Tubuai	38.61	102	*e*S	S	02 56 39.3	+2.3
	396nm,29.5s						
TBI				*e*LQ	LQ	02 59 35.7	
	2μm,30.0s						
TBI				*e*LR	LR	03 01 14.3	
	comp=Z,901nm,25.5s,baz=263						
PPT2	Papeete2	39.25	93	*e*S	S	02 56 48.9	+1.9
	511nm,26.0s						
PPT2				*e*LQ	LQ	02 59 50.0	
	2μm,29.5s						
PPT2				*e*LR	LR	03 01 31.3	
	comp=Z,2μm,24.2s,baz=253						
PPT	Papeete	39.26	93	LR	LR	03 03 01.7	
	comp=Z,867nm,21.9s,baz=267,slow=30						
SANI	Sanana	45.72	288	P	P	02 51 41.0	+0.4
BNSI	Bone	50.07	282	P	P	02 52 13.0	-1.3
MPSI	Mapaga	52.23	287	P	P	02 52 32.3	+1.8
VNDA	Vanda	57.18	182	P	P	02 53 05.6	+0.2
	0.6nm,0.5s,baz=5.9,slow=5.6,SNR=9.4						
VNDA				LR	LR	03 14 04.5	
	comp=Z,270nm,20.9s,baz=22,slow=32						
SBA	Scott Base	57.42	181	*e*P	P	02 53 08.8	+1.6
	19nm,1.0s						
MJAR	Matsushiro Arr	63.72	333	P	P	02 53 48.6	-2.1
	3.1nm,0.8s,baz=168,slow=7.3,SNR=6.5						
MAJO	Matsushiro	63.72	333	*e*P	P	02 53 48.6	-2.1
MAT	Matsushiro	63.72	333	P	P	02 53 48.7	-2.0
JNU	Nakatsue	64.52	325	*e*P	P	02 53 53.9	-2.1
	52nm,1.8s						
JNU	Nakatsue	64.52	325	P	P	02 53 53.9	-2.1
	5.7nm,0.8s,baz=195,slow=14,SNR=4.4						
QZH	Quanzhou	66.60	310	*i* P	P	02 54 13.5	+4.0
QZH				S	S	03 03 01.5	+2.6
QZH				pmax	pmax		
	comp=Z,120nm,5.3s						
QZH				LR	LR		
	comp=N,130nm,13.9s						
QZH				LR	LR		
	comp=E,140nm,12.9s						
QZH				LR	LR		
	comp=Z,150nm,18.2s						
KSRS	Korea Array	69.38	326	P	P	02 54 24.8	-2.0
	1.1nm,0.9s,baz=142,slow=5.0,SNR=4.7						
KSRS				LR	LR	03 23 06.6	
	comp=Z,141nm,19.8s,baz=138,slow=34						
KS15	Wonju Array Si	69.39	326	*e*P	P	02 54 24.8	-2.0
	20nm,1.4s						
KSAR	Wonju Array Be	69.39	326	P	P	02 54 24.8	-2.0
QSPA	South Pole Qui	69.57	180	*e*P	P	02 54 28.1	+0.3
	16nm,1.1s						
NJ2	Nanjing	70.91	316	*e*P	P	02 54 37.5	+1.3
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
USA0B	Ussuriysk Arra	72.72	333	*e*P	P	02 54 47.4	+0.5
	21nm,1.4s						
USRK	Ussuriysk Ar.	72.72	333	P	P	02 54 46.5	-0.3
	5.4nm,0.8s,baz=108,slow=4.7,SNR=12						
USRK				LR	LR	03 24 11.3	
	comp=Z,210nm,20.4s,baz=146,slow=34						
PETK	Petropavlovsk-	73.94	353	P	P	02 54 51.7	-2.1
	3.5nm,0.7s,baz=170,slow=8.8,SNR=4.4						
PEA1	Petropavlovsk-	73.94	353	*e*P	P	02 54 51.7	-2.1
TIA	Tai'an	74.69	319	P	P	02 54 58.5	-0.1
TIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CN2	Changchun	75.38	329	*e*P	P	02 55 00.5	-1.9
GYA	Guiyang	76.30	305	*e*P	P	02 55 05.0	-3.3
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	Kul'dur	76.89	336	P	P	02 55 09.8	-1.1
	2.4nm,0.5s,baz=148,slow=4.0,SNR=9.3						
MAW	Mawson	77.17	202	*e*P	P	02 55 13.0	+0.6
	2.9nm,1.2s						
MAW	Mawson	77.17	202	P	P	02 55 13.0	+0.6
	2.1nm,0.7s,baz=50,slow=6.4,SNR=4.1						
MAW				LR	LR	03 26 20.3	
	comp=Z,481nm,19

LZH				pP	pP	02 55 52.8	-1.8
LZH				sP	sP	02 55 55.3	-2.3
LZH				PP	**PP**	**02 58 59.3**	**+0.6**
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,140nm,4.3s						
OHAK	**Old Harbor**	**83.62**	**20**	*eP*	**P**	**02 55 48.0**	**+1.1**
	13nm,1.0s						
SYO	**Syowa Base**	**83.66**	**196**	⇓*eP*	**P**	**02 55 47.4**	**+0.3**
ULN	**Ulaanbaatar**	**87.69**	**324**	*eP*	**P**	**02 56 07.8**	**+0.1**
	10nm,1.0s						
GTA	**Gaotai**	**87.78**	**314**	*eP*	P	02 56 14.3	+6.1
GTA				pP	sP	02 56 19.5	0.0
GTA				sP	pwP	02 56 22.8	-0.1
GTA	**Gaotai**	**87.78**	**314**	SKS	**SKSac**	**03 06 33.8**	**-0.5**
GTA	**Gaotai**	**87.78**	**314**	S	**S**	**03 06 53.5**	**+4.7**
SNAA	**Sanae**	**87.91**	**183**	P	**P**	**02 56 08.7**	**+0.4**
SNAA	**Sanae**	**87.91**	**183**	*eP*	**P**	**02 56 07.8**	**-0.5**
	21nm,1.3s						
SONA0	**Songino Array**	**88.05**	**323**	*eP*	**P**	**02 56 08.1**	**-1.2**
SONM	**Songino Array**	**88.05**	**323**	P	**P**	**02 56 08.1**	**-1.2**
	1.3nm,0.7s,baz=134,slow=4.2,SNR=8.8						
SONM				LR	LR	03 36 41.9	
	comp=Z,124nm,18.5s,baz=92,slow=36						
CMB	**Columbia Colle**	**88.20**	**48**	*eP*	**P**	**02 56 10.3**	**+0.1**
	5.4nm,1.0s						
VNA3	**Neumayer Olymp**	**88.50**	**180**	P	**P**	**02 56 10.2**	**-0.9**
VNA2	**Neumayer--Watz**	**88.79**	**181**	P	**P**	**02 56 11.1**	**-1.3**
	baz=175,slow=4.1						
CAST	**Castle Rocks**	**89.02**	**16**	*eP*	**P**	**02 56 14.2**	**+0.8**
	2.6nm,0.7s						
VNA1	**Neumayer--Stat**	**89.08**	**181**	P	**P**	**02 56 13.1**	**-0.7**
YERR	**Yerington**	**89.43**	**48**	*eP*	**P**	**02 56 17.6**	**+1.4**
	11nm,0.9s						
NVAR	**Mina Array Bea**	**89.84**	**49**	P	**P**	**02 56 15.4**	**-2.7**
	1.7nm,0.6s,baz=229,slow=6.6,SNR=6.0						
NVAR				LR	LR	03 28 11.0	
	comp=Z,599nm,21.0s,baz=269,slow=30						
NV11	**Mina Array Sit**	**89.94**	**49**	*eP*	**P**	**02 56 20.3**	**+1.9**
	0.8nm,1.4s						
K05A	**Summer Lake**	**90.05**	**44**	*eP*	**P**	**02 56 19.4**	**+0.5**
	16nm,1.3s						
MOD	**Modoc Plateau**	**90.06**	**45**	*eP*	**P**	**02 56 20.4**	**+1.5**
	3.5nm,0.8s						
KVN	**Kaiserville**	**90.26**	**48**	*eP*	**P**	**02 56 19.6**	**-0.4**
	4.7nm,1.0s						
PINE	**Pine Mountain**	**90.53**	**43**	*eP*	**P**	**02 56 20.8**	**-0.3**
	7.1nm,0.8s						
TPNV	**Topopah Spring**	**90.66**	**51**	*eP*	**P**	**02 56 21.1**	**-0.8**
	4.0nm,0.8s						
HDA	**Harding Lake**	**91.21**	**18**	*eP*	**P**	**02 56 24.1**	**+0.5**
	2.9nm,0.7s						
WVOR	**Wild Horse Val**	**91.40**	**45**	*eP*	**P**	**02 56 25.2**	**+0.1**
	6.1nm,1.1s						
ILAR	**Eielson Array**	**91.50**	**17**	P	**P**	**02 56 23.1**	**-1.9**
	1.3nm,0.7s,baz=238,slow=5.2,SNR=14						
ILB	**Eielson Array**	**91.50**	**17**	*eP*	**P**	**02 56 25.7**	**+0.8**
	2.2nm,0.8s						
I07A	**Izee**	**91.58**	**43**	*eP*	**P**	**02 56 26.0**	**+0.1**
	4.4nm,1.0s						
R11A	**Troy Canyon, C**	**91.73**	**50**	*eP*	**P**	**02 56 27.2**	**+0.4**
	10.0nm,1.9s						
J08A	**Circle Bar Ran**	**91.92**	**44**	*eP*	**P**	**02 56 27.0**	**-0.5**
	4.3nm,0.8s						
G08A	**Pilot Rock**	**92.47**	**42**	*eP*	**P**	**02 56 29.8**	**-0.2**
	2.7nm,0.8s						
WHY	**Whitehorse**	**92.63**	**24**	*eP*	**P**	**02 56 30.5**	**+0.1**
	2.3nm,0.9s						
LCMT	**Little Creek M**	**92.88**	**52**	*eP*	**P**	**02 56 32.6**	**+0.4**
	2.9nm,0.9s						
ELK	**Elko**	**92.97**	**48**	*eP*	**P**	**02 56 34.4**	**+1.8**
	8.2nm,1.8s						
ELK	**Elko**	**92.97**	**48**	LR	LR	03 30 06.4	
	comp=Z,330nm,21.6s,baz=234,slow=30						
X16A	**Lo Mia Camp, P**	**93.22**	**55**	*eP*	**P**	**02 56 33.2**	**-0.6**
	4.5nm,1.0s						
LTX	**Lajitas**	**97.61**	**62**	*eP*	**P**	**02 56 52.4**	**-1.5**
TXAR	**Lajitas Array**	**97.61**	**62**	P	**P**	**02 56 52.4**	**-1.5**
	0.2nm,0.6s,baz=238,slow=5.0,SNR=2.9						
TXAR				LR	LR	03 34 04.5	
	comp=Z,488nm,18.8s,baz=0.0,slow=31						
PDAR	**Pinedale Array**	**97.67**	**47**	P	Pdif	02 56 54.1	+0.1
	0.3nm,0.8s,baz=251,slow=2.8,SNR=2.4						
PDAR				LR	LR	03 33 09.9	
	comp=Z,154nm,22.0s,baz=265,slow=31						
PLCA	**Paso Flores**	**97.79**	**139**	LR	LR	03 31 51.2	
	comp=Z,110nm,21.2s,baz=261,slow=30						
WMQ	**Urumqi**	**97.86**	**314**	*eP*	Pdif	02 56 56.5	+1.9
WMQ				sP	pP	02 57 03.3	+0.3
WMQ				LR	LR		
	comp=E,2μm,39.0s						
WMQ				LR	LR		
	comp=Z,850nm,26.5s						
MK32	**Makanchi Array**	**102.42**	**315**	*e*Pdif	**Pdif**	**02 57 13.7**	**-1.1**
MKAR	**Makanchi Array**	**102.42**	**315**	P	**Pdif**	**02 57 13.7**	**-1.1**
	0.2nm,0.7s,baz=109,slow=7.2,SNR=2.5						
ARCES	**ARCESS Array B**	**126.20**	**345**	PKP	**PKPdf**	**03 02 18.9**	**-1.7**
	1.2nm,0.6s,baz=80,slow=1.1,SNR=13						
FIA0	**FINESS Array S**	**131.63**	**337**	*e*PKPdf	**PKPdf**	**03 02 29.8**	**-1.3**
FINES	**FINESS Array B**	**131.63**	**337**	PKP	**PKPdf**	**03 02 29.8**	**-1.3**
	1.7nm,0.8s,baz=23,slow=4.5,SNR=4.2						
NB2	**NORSAR Subarra**	**136.57**	**344**	PKPdf	PKPpre	03 02 28.4	
	comp=Z,0.9nm,0.8s,baz=39,slow=1.9						
NB200	**NORSAR Array S**	**136.57**	**344**	*e*PKPdf	**PKPdf**	**03 02 39.7**	**-0.8**
NOA	**NORSAR Array B**	**136.57**	**344**	PKP	**PKPdf**	**03 02 39.7**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=32,slow=1.9,SNR=4.3						
OKC	**Ostrava-Krasne**	**142.66**	**329**	AMS	AMS	04 08 00.0	
	comp=Z,200nm,21.6s						
DPC	**Dobruska-Polom**	**143.18**	**331**	*e*PKP	**PKPdf**	**03 02 51.8**	**-1.1**
DPC				AMS	AMS	04 06 50.0	
	comp=Z,300nm,21.3s						
UPC	**Upice**	**143.21**	**331**	AMS	AMS	04 07 00.0	
	comp=Z,300nm,19.2s						
PVCC	**Panska Ves**	**143.84**	**332**	AMS	AMS	04 06 50.0	
	comp=Z,200nm,22.6s						
BRG	**Berggiesshubel**	**143.85**	**333**	*e*PKP	PKPab	03 02 50.7	-0.3
	comp=Z,8.5nm,1.0s						
CLL	**Collm**	**143.92**	**334**	*i* PKPdf	PKPab	03 02 50.0	-1.3
	comp=Z,30nm,1.9s						
CLL				*i*		03 02 58.4	
CLL				*e*PP	**PP**	**03 06 08.0**	**+0.7**
CLL				Lm	MLR	04 14 00.0	
	comp=Z,200nm,19.2s						
GOPC	**GO Pecny, Ondr**	**144.18**	**331**	*e*PKP	PKPbc	03 02 52.9	+0.1
GOPC				AMS	AMS	04 04 40.0	
	comp=Z,200nm,20.1s						
PRU	**Pruhonice**	**144.24**	**331**	*e*PKP	**PKPab**	**03 02 52.0**	**-0.5**
PRU				AMS	AMS	04 04 30.0	
	comp=Z,200nm,18.3s						
TREC	**Trest**	**144.30**	**330**	AMS	AMS	04 07 20.0	
	comp=Z,300nm,22.0s						
NKC	**Novy Kostel**	**144.97**	**333**	*e*PKP	**PKPab**	**03 02 54.6**	**-0.6**
NKC				AMS	AMS	04 08 50.0	
	comp=Z,200nm,21.8s						
CONA	**Conrad Observa**	**145.05**	**328**	*i* PKPdf	**PKPdf**	**03 02 56.0**	**-0.3**
	comp=Z,15nm,1.3s,SNR=6.3						
DIVS	**Divibare**	**145.08**	**320**	*eP*	**PKPdf**	**03 02 56.4**	**0.0**
KHC	**Kasperske Hory**	**145.29**	**331**	*e*PKPbc	**PKPbc**	**03 02 55.5**	**-0.8**
KHC	**Kasperske Hory**	**145.29**	**331**	*e*PKP	**PKPbc**	**03 02 56.0**	**-0.4**
KHC				*ex*	x	03 03 04.0	
KHC				AMS	AMS	04 07 50.0	
	comp=Z,300nm,21.4s						
GEC2	**GERESS Array S**	**145.45**	**331**	*e*PKPbc	**PKPbc**	**03 02 56.2**	**-0.8**
GERES	**GERESS Array B**	**145.45**	**331**	PKPbc	**PKPbc**	**03 02 54.7**	**-2.2**
	comp=Z,4.2nm,0.7s,baz=54,slow=3.4,SNR=22						
ARSA	**Arzberg**	**145.68**	**327**	*i* PKPab	**PKPab**	**03 02 57.7**	**-0.2**
	comp=Z,4.3nm,0.8s						
HAPS	**Han Pijesak,BI**	**145.72**	**320**	*eP*	**PKiKP**	**03 03 00.2**	**-1.4**
MOA	**Molln**	**145.89**	**329**	*i* PKPab	**PKPbc**	**03 02 58.0**	**-0.3**
	comp=Z,7.2nm,0.7s,SNR=6.8						
GRA1	**Grafenberg Arr**	**145.89**	**334**	*e*PKPdf	**PKPbc**	**03 02 57.8**	**-0.4**
GRFO	**Grafenberg**	**145.89**	**334**	*e*PKPdf	**PKPbc**	**03 02 58.0**	**-0.2**
SOKA	**Soboth**	**146.31**	**327**	*i* PKPab	**PKPbc**	**03 02 59.8**	**+0.1**
	comp=Z,2.5nm,0.5s						
BLY	**Banja Luka**	**146.37**	**322**	*e*PKPdf	**PKPbc**	**03 02 59.5**	**-0.2**
BLY	**Banja Luka**	**146.37**	**322**	*eP*	**PKiKP**	**03 03 02.0**	**-0.8**
PDG	**Podgorica**	**146.41**	**317**	*eP*	**PKPbc**	**03 02 59.2**	**-0.7**
BRY	**Bratogost**	**146.61**	**319**	*eP*	**PKPbc**	**03 03 00.2**	**-0.5**
CRES	**Cresnjev**	**146.65**	**325**	*eP*	**PKPdf**	**03 02 59.3**	**+0.3**
KBA	**Koelnbreinsper**	**146.88**	**329**	*i* PKPab	**PKPbc**	**03 03 01.0**	**-0.3**
	comp=Z,2.9nm,0.5s						
LJU	**Ljubljana**	**146.99**	**326**	*eP*	**PKPdf**	**03 03 00.1**	**+0.6**
MYKA	**Terra Mystica**	**147.04**	**328**	*i* pPKPdf	**PKPab**	**03 03 02.5**	**-0.8**
	comp=Z,7.6nm,0.7s						
MEM	**Membach**	**147.06**	**340**	⇓PKPbc	**PKPbc**	**03 03 00.5**	**-1.0**
MEM				⇓pPKPbc	**pPKPdf**	**03 03 06.8**	**-1.6**
STU	**Stuttgart**	**147.44**	**335**	*e*PKPbc	**PKPbc**	**03 03 02.3**	**-0.4**
BCLA	**Clavier**	**147.45**	**340**	⇓PKPbc	**PKPbc**	**03 03 01.6**	**-1.1**
ABTA	**Abfaltersbach**	**147.51**	**329**	*i* pPKPdf	**PKPbc**	**03 03 02.3**	**-0.8**
	comp=Z,5.6nm,0.6s						
WATA	**Walderalm**	**147.52**	**331**	*i* PKPab	**PKPbc**	**03 03 03.6**	**+0.5**
	comp=Z,2.8nm,0.4s						
WTTA	**Wattenberg**	**147.55**	**331**	*i* PKPab	**PKPbc**	**03 03 03.4**	**+0.1**
	comp=Z,15nm,0.9s						
SNF	**Seneffe**	**147.68**	**342**	⇑PKPbc	**PKiKP**	**03 03 04.6**	**-0.6**
MOTA	**Moosalm**	**147.73**	**331**	*i* pPKPdf	**PKPbc**	**03 03 02.8**	**-0.9**
	comp=Z,8.8nm,0.6s						
RETA	**Reutte**	**147.78**	**332**	*i* PKPbc	**PKPbc**	**03 03 02.7**	**-1.0**
	comp=Z,2.3nm,0.7s						
SQTA	**Sankt Quirin**	**147.78**	**331**	*i* pPKPdf	**PKPbc**	**03 03 03.2**	**-0.6**
	comp=Z,9.1nm,0.7s						
WLF	**Walferdange**	**147.82**	**339**	*e*PKPbc	**PKPbc**	**03 03 03.4**	**-0.3**
WLF	**Walferdange**	**147.82**	**339**	⇓PKPbc	**PKPbc**	**03 03 03.2**	**-0.4**
WLF				⇑pPKPab	**pPKPbc**	**03 03 11.2**	**-1.4**
DOU	**Dourbes**	**147.95**	**341**	⇑PKPbc	**PKPbc**	**03 03 03.0**	**-1.0**
BFO	**Black Forest**	**148.13**	**335**	*e*PKPbc	**PKPbc**	**03 03 03.6**	**-1.0**
FETA	**Feichten**	**148.14**	**331**	*i* PKPbc	**PKPbc**	**03 03 03.6**	**-1.3**
	comp=Z,7.3nm,0.6s						
DAVA	**Damuels**	**148.32**	**332**	*i* P	**PKPbc**	**03 03 05.6**	**+0.3**
	comp=Z,14nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**148.66**	**331**	*e*PKPbc	**PKPbc**	**03 03 04.9**	**-1.4**
ECH	**Echery**	**148.68**	**336**	*e*PKPbc	**PKPbc**	**03 03 06.2**	**+0.1**
TUE	**Stuetta**	**149.18**	**332**	*e*PKPbc	**PKPbc**	**03 03 06.5**	**-1.1**
AQU	**L'Aquila**	**150.01**	**322**	*eP*	**PKPdf**	**03 03 02.8**	**-1.8**
SENIN	**Lac Senin/Sane**	**150.13**	**334**	*e*PKPbc	**PKPbc**	**03 03 11.0**	**+1.1**
ESDC	**Sonseca Array**	**159.93**	**344**	PKPab	**PKPab**	**03 03 55.7**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=9.7,slow=3.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**165.78**	**241**	PKP	**PKPdf**	**03 03 24.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=22,slow=1.4,SNR=3.1						
TOA1	**Torodi Ar. Sit**	**165.78**	**241**	*e*PKPdf	**PKPdf**	**03 03 24.8**	**+0.3**

NNC ***31*** *02:44:20.7*±*3.0, 36°.85N*×*70°.56E, h0km, mb4.7, mpv4.8, Error ellipse: s-maj=25.0km s-min=20.3km az=170.0*
IDC ***31*** *02:44:22.8*±*2.1, 36°.43N*×*70°.99E, h170km*±*18km, mb3.9/19, mb1 3.9/27, mb1mx3.7/54, mbtmp4.4/27, Error ellipse: s-maj=14.2km s-min=10.1km az=166.0*
ISCJB ***31*** *02:44:24.5*±*0.2, 36°.58N*±*0°.02*×*70°.94E*±*0°.03, h188km, mb4.2/56, Error ellipse: s-maj=3.5km s-min=2.8km az=140.5*
MOS ***31*** *02:44:25.9*±*1.0, 36°.62N*×*71°.06E, h207km, mb4.3/22, Error ellipse: s-maj=8.5km s-min=5.1km az=104.4*
BJI ***31*** *02:44:25.8*±*0.0, 36°.79N*×*70°.87E, h192km, mb4.6/16, mB4.5/10*
NEIC ***31*** *02:44:25.9*±*0.4, 36°.56N*×*70°.98E, h195km*±*4km, mb4.3/29, Error ellipse: s-maj=5.8km s-min=4.7km az=142.0*
ISC 31 02:44:25.5±0.4,**36°.60N**±0°.04×**70°.99E**±0°.04,**h188**km,**n195,**
σ1$**82**/214,**mb4.2**/56,**16C-8D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.46**	**348**	*e*Pn	**Pn**	**02 45 10.2**	**+2.0**
GAR	**Garm**	**2.46**	**348**	*e*PN	**Pn**	**02 45 10.2**	**+2.0**
KBL	**Kabul**	**2.60**	**218**	*e*Pn	**Pn**	**02 45 12.0**	**+2.0**
KBL	**Kabul**	**2.60**	**218**	*e*PN	**Pn**	**02 45 12.0**	**+2.0**
CEP	**Cherat**	**2.87**	**165**	⇑P	**Pn**	**02 45 15.8**	**+2.6**
CEP				S	**Sn**	**02 45 52.0**	**+1.7**
CHCP	**Chirah Chowk**	**3.48**	**147**	P	**Pn**	**02 45 23.0**	**+2.6**
NIL	**Nilore**	**3.48**	**147**	*e*Pn	**Pn**	**02 45 23.1**	**+2.7**
NIL	**Nilore**	**3.48**	**147**	*e*PN	**Pn**	**02 45 23.1**	**+2.7**
THW	**Thamme Wali**	**3.85**	**171**	⇑P	**Pn**	**02 45 27.2**	**+2.2**
SARP	**Sargodha**	**4.87**	**163**	P	**Pn**	**02 45 39.2**	**+1.2**
KSH	**Kashi**	**4.89**	**52**	P	**Pn**	**02 45 35.3**	**-3.0**
KSH				S	**Sn**	**02 46 28.3**	**-7.2**
ARSB	**Arslanbob**	**4.96**	**18**	*e*Pn	**Pn**	**02 45 40.3**	**+1.0**
AML	**Almayashu**	**5.91**	**20**	P	**Pn**	**02 45 53.0**	**+1.3**
	SNR=586						
DHRM	**DHARAMSHALA**	**6.17**	**133**	*e*P	**Pn**	**02 45 56.0**	**+1.0**
DHRM				*e*S	**Sn**	**02 47 02.8**	**-2.9**
DHRM				IAML		02 47 05.1	
	comp=E,987nm,0.4s						
DHRM				IAML		02 47 06.3	
	comp=N,1μm,0.5s						
NRN	**Naryn**	**6.20**	**37**	*e*Pn	**Pn**	**02 45 55.1**	**-0.4**
NRN	**Naryn**	**6.20**	**37**	*e*PN	**Pn**	**02 45 55.1**	**-0.4**
UCH	**Uchtor**	**6.25**	**25**	P	**Pn**	**02 45 57.5**	**+1.4**
	SNR=111						
KZA	**Kyzart**	**6.39**	**30**	P	**Pn**	**02 45 58.6**	**+0.6**
	SNR=75						
EKS2	**Erkin-Say**	**6.42**	**19**	P	**Pn**	**02 45 59.4**	**+1.3**
	SNR=76						
KK31	**Karatay Array**	**6.51**	**357**	*e*Pn	**Pn**	**02 46 00.2**	**+1.1**
KK31	**Karatay Array**	**6.51**	**357**	P	**Pn**	**02 45 56.4**	**-2.7**
	comp=N,3.8nm,0.2s,baz=186,slow=15,SNR=147						
KK31				⇓S	**Sn**	**02 47 08.8**	**-4.4**
	comp=N,34nm,0.4s,baz=191,slow=26,SNR=4.3						
KK31	**Karatay Array**	**6.51**	**357**	*e*PN	**Pn**	**02 46 00.2**	**+1.1**
KKAR	**Karatay Array**	**6.51**	**357**	*e*Pn	**Pn**	**02 46 00.0**	**+0.9**
KKAR	**Karatay Array**	**6.51**	**357**	*e*PN	**Pn**	**02 46 00.0**	**+0.9**
AAK	**Ala-Archa**	**6.61**	**23**	P	**Pn**	**02 46 01.9**	**+1.4**
	SNR=68						
AAK	**Ala-Archa**	**6.61**	**23**	⇑P	**Pn**	**02 45 59.2**	**-1.4**
	comp=N,36nm,0.6s						
AAK				⇑S	**Sn**	**02 47 14.3**	**-1.5**
	comp=N,80nm,0.6s						
AAK	**Ala-Archa**	**6.61**	**23**	*ce*PN	**Pn**	**02 46 01.8**	**+1.2**
AAK				pmax	pmax		
	comp=Z,52nm,0.8s						
AAK	**Ala-Archa**	**6.61**	**23**	P	**Pn**	**02 46 01.7**	**+1.2**
	comp=Z,24nm,0.3s,baz=168,slow=6.1,SNR=99						
AAK				S	**Sn**	**02 47 13.6**	**-2.1**
	comp=Z,6.9nm,0.3s,baz=136,slow=22,SNR=15						
KBK	**Karagaybulak**	**6.77**	**26**	P	**Pn**	**02 46 04.2**	**+1.5**
	SNR=86						
ULHL	**Ulahol**	**6.95**	**34**	P	**Pn**	**02 46 06.9**	**+1.8**
	SNR=36						
CHMS	**Chumysh**	**7.01**	**23**	P	**Pn**	**02 46 06.9**	**+1.1**
	SNR=20						
USP	**Ospenovka**	**7.18**	**21**	P	**Pn**	**02 46 09.3**	**+1.3**
	SNR=18						
TKM2	**Tokmak 2**	**7.24**	**28**	P	**Pn**	**02 46 10.2**	**+1.3**
	SNR=266						
TKM2	**Tokmak 2**	**7.24**	**28**	⇓P	**Pn**	**02 46 09.8**	**+0.9**
	comp=Z,226nm,0.7s						
TKM2				⇓S	**Sn**	**02 47 29.4**	**-1.4**
	comp=Z,37nm,0.8s						
KDJ	**Kajisay**	**7.31**	**39**	*e*Pn	**Pn**	**02 46 10.4**	**+0.7**
KDJ	**Kajisay**	**7.31**	**39**	*e*PN	**Pn**	**02 46 10.5**	**+0.7**
SMLA	**Simla**	**7.49**	**135**	*e*P	**Pn**	**02 46 12.7**	**+0.6**
SMLA				*e*S	**Sn**	**02 47 31.8**	**-4.7**
SMLA				IAML		02 47 36.7	
	comp=E,355nm,0.8s						
SMLA				IAML		02 47 37.3	
	comp=N,250nm,0.6s						
DDI	**Dehra Dun**	**8.60**	**135**	*e*P	**Pn**	**02 46 26.9**	**+0.2**
DDI				*e*S	**Sn**	**02 47 55.9**	**-7.3**
JOSI	**Joshimath**	**9.35**	**128**	*e*P	**Pn**	**02 46 37.5**	**+0.9**
JOSI				*e*S	**Sn**	**02 48 16.5**	**-4.6**
JOSI				IAML		02 48 19.5	
	comp=N,423nm,0.8s						
JOSI				IAML		02 48 22.0	
	comp=E,222nm,1.0s						
PDGK	**Podgornoye**	**9.36**	**42**	⇓P	**Pn**	**02 46 35.7**	**-0.9**
	comp=E,20nm,0.9s						
PDGK				⇑S	**Sn**	**02 48 26.6**	**+5.4**
	comp=E,12nm,1.1s						
KUDL	**Kundal**	**9.62**	**150**	*e*P	Pn	02 46 30.9	-9.1
KUDL				*e*S	Sn	02 48 12.2	-15
KUDL				IAML		02 48 16.5	
	comp=E,32nm,0.2s						
KUDL				IAML		02 48 18.3	
	comp=N,22nm,0.7s						
SONA	**Sohna**	**9.79**	**147**	*e*S	**Sn**	**02 48 22.7**	**-8.5**
SONA				IAML		02 48 29.2	
	comp=E,62nm,0.5s						
SONA				IAML		02 48 30.0	
	comp=N,34nm,0.3s						
GEYT	**Alibeck**	**10.35**	**281**	P	**Pn**	**02 46 48.2**	**-1.2**
	comp=N,1.8nm,0.3s,baz=102,slow=12,SNR=16						
GEYT				S	**Sn**	**02 48 41.6**	**-3.1**
	comp=N,1.3nm,0.3s,baz=100,slow=31,SNR=3.0						
GYA0B	**ALIBECK ARRAY**	**10.35**	**281**	*e*Pn	**Pn**	**02 46 48.7**	**-0.7**
OTUK	**Ortayu**	**11.68**	**4**	⇓P	**Pn**	**02 47 06.0**	**-0.4**
	comp=N,5.6nm,0.8s						
OTUK				⇓S	**Sn**	**02 49 14.0**	**-2.3**
	comp=N,14nm,0.9s						
MAKZ	**Makanchi**	**13.08**	**35**	*e*Pn	**Pn**	**02 47 23.6**	**-0.6**
MAKZ	**Makanchi**	**13.08**	**35**	*e*P	**Pn**	**02 47 23.6**	**-0.6**
PYUN	**Piuthan**	**13.21**	**127**	*e*P	**Pn**	**02 47 25.7**	**-0.5**
	comp=N,21nm,0.3s						
MK31	**Makanchi Array**	**13.21**	**36**	*e*Pn	**Pn**	**02 47 25.9**	**0.0**
MK31	**Makanchi Array**	**13.21**	**36**	P	**P**	**02 47 27.9**	**-1.3**
	comp=N,5.7nm,0.6s,baz=211,slow=13,SNR=46						
MK31	**Makanchi Array**	**13.21**	**36**	*e*P	**Pn**	**02 47 25.9**	**0.0**
MK32	**Makanchi Array**	**13.21**	**36**	*e*Pn	**Pn**	**02 47 25.6**	**-0.3**
MKAR	**Makanchi Array**	**13.21**	**36**	*ce*P	**Pn**	**02 47 26.0**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**13.21**	**36**	P	**Pn**	**02 47 25.6**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=219,slow=9.4,SNR=27						
DANN	**Dangsing**	**13.55**	**124**	*e*P	**Pn**	**02 47 29.8**	**-0.8**
	comp=Z,22nm,0.3s						
KOLN	**Koldanda**	**13.83**	**126**	*e*P	**Pn**	**02 47 34.2**	**+0.2**
	comp=Z,25nm,0.4s						
BHPL	**Bhopal**	**14.43**	**156**	*e*P	**P**	**02 47 46.1**	**+3.2**
BHPL				*ex*	x	02 50 11.9	
WMQ	**Urumqi**	**14.64**	**55**	*e*P	**P**	**02 47 44.5**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,49nm,1.1s						
DMN	**Daman**	**14.93**	**123**	*e*P	**Pn**	**02 47 47.5**	**-0.2**
KKN	**Kakani**	**14.94**	**122**	*e*P	**Pn**	**02 47 47.9**	**+0.2**
	comp=Z,36nm,0.4s						
AB31	**Akbulak array**	**14.99**	**331**	P	**Pn**	**02 47 47.4**	**-0.5**
	comp=Z,11nm,0.7s,baz=142,slow=12,SNR=90						
AB31				⇓S	**Sn**	**02 50 28.9**	**-6.5**
	comp=Z,2.8nm,0.7s,baz=154,slow=23,SNR=2.6						
ABKAR	**Akbulak array**	**14.99**	**331**	*e*Pn	**Pn**	**02 47 47.5**	**-0.4**
	comp=Z,14nm,0.8s						
KURBB	**Kurchatov Arra**	**15.03**	**19**	⇓P	**P**	**02 47 52.2**	**+3.0**
	comp=Z,3.4nm,0.6s						
KURBB	**Kurchatov Arra**	**15.03**	**19**	P	**Pn**	**02 47 47.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=202,slow=11,SNR=23						
KURBB				S	**S**	**02 50 37.6**	**+1.3**
	baz=225,slow=23,SNR=6.5						
KURK	**Kurchatov**	**15.14**	**19**	*e*Pn	**Pn**	**02 47 49.0**	**-0.7**
	comp=Z,3.9nm,0.8s						
KURK	**Kurchatov**	**15.14**	**19**	⇑P	**P**	**02 47 51.6**	**+1.2**
	comp=Z,5.3nm,1.0s						
KURK	**Kurchatov**	**15.14**	**19**	*ce*P	**Pn**	**02 47 49.1**	**-0.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PKIN	**Phulchoki**	**15.15**	**122**	*e*P	**Pn**	**02 47 49.8**	**-0.5**
	comp=Z,15nm,0.2s						
PKI	**Pulchoki**	**15.16**	**122**	*e*P	**Pn**	**02 47 50.2**	**-0.4**
	comp=Z,27nm,0.5s						
JIRN	**Jiri**	**15.64**	**120**	*e*P	**P**	**02 47 56.8**	**+0.1**
	comp=Z,82nm,0.4s						
BVAR	**Borovoye Array**	**16.43**	**359**	P	**Pn**	**02 48 05.5**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=152,slow=10,SNR=26						
BVAR				S	**S**	**02 51 03.5**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=164,slow=21,SNR=4.0						
BRVK	**Borovoye**	**16.46**	**358**	*e*P	**Pn**	**02 48 05.7**	**0.0**
	comp=Z,11nm,1.0s						
BRVK	**Borovoye**	**16.46**	**358**	⇑P	**Pn**	**02 48 08.0**	**+2.3**
	comp=Z,11nm,1.0s						
BRVK	**Borovoye**	**16.46**	**358**	*i* P	**Pn**	**02 48 06.3**	**+0.6**
AKTO	**Aktyubinsk**	**16.69**	**330**	⇑P

AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 32.88 309 P **P 02 50 41.7 +0.3**
comp=Z,3.1nm,0.6s,baz=82,slow=6.9,SNR=18
AKBB Malin Array Si 32.88 309 *eP* **P 02 50 42.4 +0.9**
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 32.88 309 *eP* **P 02 50 42.4 +0.9**
AKBB pmax pmax
comp=Z,5.0nm,0.7s
KIEV Kiev 32.89 309 *i* P **P 02 50 40.3 -1.2**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
VSU Vasula 36.10 321 *ceP* **P 02 51 08.7 -0.3**
VSU pmax pmax
comp=Z,21nm,0.8s
WHN Wuhan 36.39 87 P 02 51 25.5 +14
KOLS Kolonicke sedl 37.21 305 *eP* **P 02 51 20.4 +1.8**
KOLS Kolonicke sedl 37.21 305 *eP* **P 02 51 20.4 +1.8**
FIA0 FINESS Array S 37.40 326 *eP* **P 02 51 20.4 +0.5**
FIA0 FINESS Array S 37.40 326 *eP* **P 02 51 20.4 +0.5**
FIA1 FINESS Array S 37.40 326 *eP* **P 02 51 20.7 +0.8**
comp=Z,8.8nm,0.8s
FINES FINESS Array B 37.40 326 *i* P **P 02 51 20.7 +0.8**
FINES pmax pmax
comp=Z,5.0nm,0.4s
FINES FINESS Array B 37.40 326 P **P 02 51 20.4 +0.5**
comp=Z,4.8nm,0.5s,baz=118,slow=9.2,SNR=43
VYHS Vyhne 39.50 304 *eP* **P 02 51 39.0 +1.4**
VYHS Vyhne 39.50 304 *eP* **P 02 51 39.0 +1.4**
ARCES ARCESS Array B 41.05 338 P **P 02 51 51.0 +1.0**
ARCES ARCESS Array B 41.05 338 P **P 02 51 51.0 +1.0**
comp=Z,8.3nm,0.6s,baz=112,slow=8.4,SNR=78
ARE0 ARCESS Array S 41.05 338 *eP* **P 02 51 51.1 +1.1**
comp=Z,0.6nm,0.8s
ARE0 ARCESS Array S 41.05 338 *eP* **P 02 51 51.1 +1.1**
KTK1 Kautokeino 41.52 336 *eP* **P 02 51 54.4 +0.5**
HAMF Hammerfest 42.13 339 *eP* **P 02 51 60.0 +1.2**
BRG Berggiesshubel 42.56 308 *e*(P) **P 02 52 04.1 +1.6**
comp=Z,4.1nm,0.9s
BRG Berggiesshubel 42.56 308 *eP* **P 02 52 04.1 +1.6**
BRG pmax pmax
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 42.87 305 *eP* **P 02 52 05.5 +0.3**
comp=Z,10nm,1.8s
GEC2 GERESS Array S 42.87 305 *eP* **P 02 52 05.5 +0.3**
GEC2 pmax pmax
comp=Z,11nm,1.8s
GERES GERESS Array B 42.87 305 P **P 02 52 06.1 +1.0**
comp=Z,0.1nm,0.3s,baz=141,slow=3.8,SNR=2.6
CLL Collm 43.12 309 *i* P **P 02 52 08.1 +1.1**
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 43.12 309 *i* P **P 02 52 08.1 +1.1**
comp=Z,3.0nm,0.8s
TRO Tromso 43.17 336 *eP* **P 02 52 08.2 +1.0**
MOR8 Moi Rana 43.73 331 *eP* **P 02 52 12.0 +0.3**
STEI Steigen 43.88 333 *eP* **P 02 52 13.8 +1.0**
NC405 NORSAR Array S 44.06 323 *eP* **P 02 52 15.1 +0.7**
comp=Z,21nm,0.9s
NC602 NORSAR Array S 44.11 323 *eP* **P 02 52 14.9 +0.2**
NC303 NORSAR Array S 44.24 323 *eP* **P 02 52 16.5 +0.7**
comp=Z,21nm,0.6s
NB201 NORSAR Array S 44.26 323 *eP* **P 02 52 15.7 -0.3**
comp=Z,8.1nm,0.6s
NB2 NORSAR Subarra 44.30 323 P **P 02 52 16.3 0.0**
comp=Z,3.8nm,0.5s,baz=94,slow=7.9
NB2 NORSAR Subarra 44.30 323 P **P 02 52 16.3 0.0**
baz=94,slow=7.9
NB200 NORSAR Array S 44.30 323 *eP* **P 02 52 16.2 0.0**
NOA NORSAR Array B 44.30 323 P **P 02 52 16.2 0.0**
comp=Z,6.9nm,0.7s,baz=96,slow=7.7,SNR=53
KONS Konsvik 44.32 331 *eP* **P 02 52 17.1 +0.7**
NBO00 NORSAR Array S 44.51 323 *eP* **P 02 52 18.3 +0.3**
comp=Z,13nm,0.8s
NC204 NORSAR Array S 44.54 323 *eP* **P 02 52 18.6 +0.4**
comp=Z,10nm,0.7s
LOF Lofoten 44.55 333 *eP* **P 02 52 18.1 0.0**
KONO Kongsberg 45.00 321 *eP* **P 02 52 22.0 +0.2**
comp=Z,5.3nm,0.8s
KONO Kongsberg 45.00 321 *eP* **P 02 52 22.0 +0.2**
KONO pmax pmax
comp=Z,5.0nm,0.8s
KONO Kongsberg 45.00 321 *eP* **P 02 52 21.2 -0.6**
TIXI Tiksi 45.68 22 *eP* **P 02 52 27.6 +0.7**
comp=Z,4.7nm,0.5s
TIXI Tiksi 45.68 22 *ceP* **P 02 52 26.6 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 45.68 22 P **P 02 52 27.2 +0.2**
comp=Z,2.9nm,0.3s,baz=286,slow=5.4,SNR=7.5
AKN Aaknes 46.39 324 *eP* **P 02 52 33.0 +0.3**
JNU Nakatsue 48.57 76 *eP* **P 02 52 50.5 +0.6**
comp=Z,52nm,1.8s
JNU Nakatsue 48.57 76 P **P 02 52 50.5 +0.6**
comp=Z,4.7nm,0.8s,baz=211,slow=5.9,SNR=2.8
SKR Severo-Kuril's 59.90 47 *eP* P 02 54 20.4 +9.1
SUMG Summit 60.97 341 *eP* **P 02 54 19.4 +0.7**
comp=Z,5.2nm,0.7s
SUMG Summit 60.97 341 *eP* **P 02 54 19.4 +0.7**
SUMG pmax pmax
comp=Z,5.0nm,0.7s
TOA1 Torodi Ar. Sit 65.71 269 *eP* **P 02 54 47.9 -2.4**
TORD Torodi Ar. Bea 65.72 269 P **P 02 54 47.9 -2.4**
comp=Z,1.4nm,0.5s,baz=52,slow=5.8,SNR=29
TOLK Toolik Lake Re 70.83 15 *eP* **P 02 55 21.9 +0.7**
comp=Z,7.2nm,0.8s
COLD Coldfoot 71.88 16 *eP* **P 02 55 28.3 +0.9**
comp=Z,5.4nm,1.0s
INK Inuvik 73.81 9 *eP* **P 02 55 38.5 -0.2**
comp=Z,5.8nm,0.8s
INK Inuvik 73.81 9 P **P 02 55 38.9 +0.2**
comp=Z,4.5nm,0.6s,baz=13,slow=6.5,SNR=8.7
MDM Murphy Dome 74.22 16 *eP* **P 02 55 42.0 +0.7**
comp=Z,4.9nm,1.0s
BPAW Bear Paw Mtn. 74.30 18 *eP* **P 02 55 42.1 +0.4**
comp=Z,5.3nm,1.2s
CAST Castle Rocks 74.59 19 *eP* **P 02 55 43.6 +0.2**
comp=Z,8.9nm,1.0s
ILAR Eielson Array 74.68 16 P **P 02 55 43.3 -0.6**
comp=Z,1.6nm,0.9s,baz=317,slow=4.5,SNR=15
ILB Eielson Array 74.68 16 *eP* **P 02 55 43.3 -0.6**
comp=Z,2.2nm,0.8s
DHY Denali Highway 76.03 17 *eP* **P 02 55 52.2 +0.4**
comp=Z,3.8nm,0.8s
PAX Paxson 76.56 16 *eP* **P 02 55 55.0 +0.3**
comp=Z,3.4nm,0.7s
PAX Paxson 76.56 16 *eP* **P 02 55 55.0 +0.3**
PAX pmax pmax
comp=Z,3.0nm,0.7s
DAWY Dawson 76.83 13 *eP* **P 02 55 56.7 +0.6**
comp=Z,3.7nm,1.0s
BOSA Boshof 77.82 220 P **P 02 56 01.2 -0.9**
comp=Z,2.6nm,0.8s,baz=11,slow=2.6,SNR=4.2
YKA Yellowknife Ar 81.14 3 P **P 02 56 19.5 0.0**
comp=Z,1.4nm,0.5s,baz=350,slow=5.4,SNR=35
YKB5 Yellowknife Ar 81.14 3 *eP* **P 02 56 19.5 0.0**
WR1 Warramunga Arr 82.05 122 *eP* **P 02 56 23.3 -1.6**
WRA Warramunga Arr 82.05 122 P **P 02 56 23.3 -1.6**
comp=Z,1.2nm,0.3s,baz=312,slow=5.0,SNR=1.9
AS31 Alice Springs 84.32 125 *eP* **P 02 56 35.0 -1.5**
comp=Z,1.0nm,0.5s
ASAR Alice Springs 84.32 125 P **P 02 56 35.0 -1.5**
ASAR Alice Springs 84.32 125 P **P 02 56 35.0 -1.5**
comp=Z,3.1nm,0.7s,baz=309,slow=4.9,SNR=26
FFC Flin Flon 88.84 356 *i* P **P 02 56 59.8 +1.9**

MAN 31 02:48:00.2, 7°.36N×126°.64E, h39km, mb4.3, ML3.1, MS2.9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.56**	**223**	*eP*	Pn	02 48 12.9	+1.1
MATI				*eS*	Sn	02 48 22.4	+2.6
DMPH	**Davao City--Mi**	**1.15**	**256**	⇑*i*/*P*	Pn	02 48 20.4	+0.5
DMPH				*i* S	Sn	02 48 34.2	-0.2
DDMP	**Don Marcelino,**	**1.55**	**217**	*eP*	Pn	02 48 25.9	+0.7
DDMP				*eS*	Sn	02 48 45.1	+1.0
BUKP	**Musuan**	**1.65**	**289**	*eP*	Pn	02 48 20.0	-6.7
BUKP				*eS*	Sn	02 48 36.6	-10
BUTP	**Butuan**	**1.89**	**328**	*eP*	Pn	02 48 31.4	+1.3
BUTP				*eS*	Sn	02 48 47.2	-5.4
CGP	**Cagayan de Oro**	**2.21**	**300**⇓	*eP*	Pn	02 48 40.8	+6.4

IDC 31 03:21:38.2±3.2, 33°.73S×178°.97W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/22, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=73.7km s-min=36.6km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.53**	**214**	Pn	Pn	03 23 01.9	+0.2
	3.3nm,0.3s,baz=277,slow=4.4,SNR=24						
URZ				Sn	Sn	03 24 04.6	-1.3
	3.5nm,0.3s,baz=214,slow=22,SNR=9.2						
ASAR	**Alice Springs**	**42.23**	**271**	P	P	03 29 33.4	+0.1
	0.4nm,0.5s,baz=114,slow=7.3,SNR=5.3						
WRA	**Warramunga Arr**	**43.52**	**276**	P	P	03 29 43.7	0.0
	0.9nm,0.4s,baz=113,slow=8.3,SNR=8.9						
FINES	**FINESS Array B**	**147.94**	**337**	PKPbc	PKPbc	03 41 23.7	-0.9
	0.7nm,0.7s,baz=51,slow=4.4,SNR=4.3						

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*IDC **31** 03:34:44.7±2.8, 13°.62S×176°.82W, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.7/31, mbtmp3.9/3, MS3.9/18, Ms1 3.9/18, ms1mx3.8/21, Error ellipse: s-maj=325.7km s-min=31.7km az=153.0*

*GCMT **31** 03:34:48.0±0.4, 14°.84S±0°.03×175°.98W±0°.03, h19km±1km, MW4.9/75, Moment Tensor Solution. s32,c36; s75,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.75±.19; $M_{\theta\theta}$1.68±.14; $M_{\phi\phi}$1.07±.12; $M_{r\theta}$-0.31±.28; $M_{\theta\phi}$0.89±.08; $M_{r\phi}$0.25±.27; Best double couple: $M_0$2.55800×10^{16} NP1:ϕ_s61.00000°, δ47.00000°, λ-81.00000°. NP2: ϕ_s228.00000°, δ44.00000°, λ-100.00000°. Principal axes: T 2.3180, Plg1.0000°, Azm145.0000°; N 0.4800, Plg7.0000°, Azm235.0000°; P -2.7980, Plg83.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 31 03:34:50.8±2.8, 13°S±2°×177°W±°, h35km, n22, σ0°43/4, mb3.6/3, MS4.0/19, North of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.01**	**238**	*e*LR	LR	03 43 50.6	
	comp=Z,341nm,27.8s						
RAR	**Rarotonga**	**18.55**	**119**	LR	LR	03 43 12.6	
	comp=Z,817nm,21.1s,baz=300,slow=28						
HNR	**Honiara**	**22.68**	**277**	LR	LR	03 48 00.5	
	comp=Z,503nm,20.4s,baz=144,slow=34						
URZ	**Urewera**	**25.68**	**190**	LR	LR	03 48 48.9	
	comp=Z,486nm,20.3s,baz=43,slow=34						
PPT	**Papeete**	**27.03**	**103**	LR	LR	03 47 47.7	
	comp=Z,187nm,19.6s,baz=296,slow=30						
PPT2	**Papeete2**	**27.03**	**103**	*e*LQ	LQ	03 45 22.4	
	658nm,27.0s						
PPT2				*e*LR	LR	03 46 32.4	
	comp=Z,740nm,26.8s,baz=278						
TBI	**Tubuai**	**28.25**	**115**	*e*LQ	LQ	03 45 48.6	
	462nm,28.5s						
TBI				*e*LR	LR	03 47 03.5	
	comp=Z,1μm,27.0s,baz=288						
RPZ	**Rata Peaks**	**32.25**	**196**	LR	LR	03 52 53.6	
	comp=Z,371nm,20.8s,baz=50,slow=34						
ASAR	**Alice Springs**	**47.41**	**250**	P	**P**	**03 43 22.4**	**+0.1**
	3.4nm,0.6s,baz=84,slow=8.1,SNR=28						
ASAR				LR	LR	04 01 46.7	
	comp=Z,134nm,19.6s,baz=78,slow=34						
MJAR	**Matsushiro Arr**	**64.74**	**321**	LR	LR	04 09 30.9	
	comp=Z,70nm,21.8s,baz=140,slow=32						
VNDA	**Vanda**	**65.42**	**185**	LR	LR	04 10 17.1	
	comp=Z,36nm,18.1s,baz=334,slow=33						
PETK	**Petropavlovsk-**	**69.26**	**344**	LR	LR	04 11 08.9	
	comp=Z,111nm,21.7s,baz=138,slow=31						
KSRS	**Korea Array**	**71.87**	**317**	LR	LR	04 15 30.1	
	comp=Z,52nm,18.8s,baz=138,slow=34						
USRK	**Ussuriysk Ar.**	**73.26**	**324**	LR	LR	04 15 01.2	
	comp=Z,138nm,20.3s,baz=124,slow=33						
ILAR	**Eielson Array**	**80.85**	**13**	LR	LR	04 15 48.5	
	comp=Z,49nm,21.5s,baz=234,slow=30						
TXAR	**Lajitas Array**	**82.39**	**58**	P	**P**	**03 47 09.8**	**-0.1**
	0.5nm,0.9s,baz=203,slow=5.9,SNR=3.9						
TXAR				LR	LR	04 16 27.2	
	comp=Z,51nm,20.5s,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**82.99**	**43**	P	**P**	**03 47 13.1**	**+0.2**
	0.4nm,0.8s,baz=219,slow=1.9,SNR=3.7						
PDAR				LR	LR	04 16 06.5	
	comp=Z,21nm,21.0s,baz=294,slow=30						
CMAR	**Chiang Mai Arr**	**88.35**	**289**	LR	LR	04 23 01.0	
	comp=Z,55nm,20.6s,baz=102,slow=33						
MAW	**Mawson**	**88.86**	**199**	LR	LR	04 25 28.9	
	comp=Z,58nm,18.2s,baz=87,slow=34						
SONM	**Songino Array**	**90.60**	**319**	LR	LR	04 24 34.4	
	comp=Z,80nm,21.6s,baz=78,slow=33						
PLCA	**Paso Flores**	**93.85**	**133**	LR	LR	04 21 03.6	
	comp=Z,70nm,20.9s,baz=274,slow=30						
BRTR	**Keskin Array B**	**141.95**	**320**	PKP	**PKPdf**	**03 54 19.2**	**-0.4**
	1.4nm,0.8s,baz=74,slow=3.7,SNR=9.2						

DJA 31 03:58:22.2±3.5, 2°N±10°.9°8E±°, h18km±54km, M2.9/4, MLv2.9/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.83**	**204**	P	Pb	03 58 38.2	+0.1
GSI				S	Sn	03 58 50.3	-0.5
TPTI		**1.39**	**328**	P	Pn	03 58 46.6	-0.1
TPTI				S	Sn	03 59 01.0	-3.6

JMA 31 04:17:52.0±0.1, 38°.46N×142°.23E, h26km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.62**	**256**	P	Pb	04 18 03.8	-0.4
JIKH				S	Sb	04 18 11.4	-1.1
JKMT	**Kesennumamotoy**	**0.69**	**301**	P	Pb	04 18 05.3	-0.1
JKMT				S	Sb	04 18 14.3	-0.2
JIO	**Ouri**	**0.69**	**270**	P	Pb	04 18 05.3	-0.1
JIO				S	Sb	04 18 14.0	-0.6
OFUJ	**Ofunato**	**0.76**	**325**	P	Pb	04 18 06.3	-0.3
OFUJ				S	Sb	04 18 16.3	-0.2
JMK	**Ichinoseki**	**0.93**	**302**	P	Pn	04 18 09.1	-0.3
JMK				S	Sb	04 18 21.4	0.0
JOU	**Okura**	**1.23**	**266**	P	Pn	04 18 14.0	+0.4
JOU				S	Sb	04 18 29.8	-0.4
JOM	**Ohasama**	**1.25**	**324**	P	Pn	04 18 13.9	+0.1
JOM				S	Sn	04 18 29.7	0.0
JMM	**Marumori**	**1.28**	**243**	P	Pn	04 18 13.6	-0.6
JMM				S	Sn	04 18 29.6	-0.9
JFK	**Kawauchi**	**1.53**	**225**	P	Pn	04 18 16.6	-1.1
JFK				S	Sn	04 18 34.5	-2.2
JYK	**Kaneyama**	**1.53**	**288**	P	Pn	04 18 18.6	+0.9
JYK				S	Sb	04 18 38.3	-0.5

IDC 31 04:28:00.7±1.9, 14°.96S×175°.96W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/33, mbtmp3.8/3, Error ellipse: s-maj=118.8km s-min=31.7km az=149.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.90**	**252**	P	P	04 36 41.0	-0.1
	2.2nm,0.5s,baz=84,slow=8.2,SNR=39						
TXAR	**Lajitas Array**	**82.43**	**57**	P	P	04 40 25.4	+0.1
	0.5nm,1.0s,baz=200,slow=4.3,SNR=2.4						
ILAR	**Eielson Array**	**82.52**	**12**	P	P	04 40 24.9	+0.1
	0.4nm,1.0s,baz=213,slow=6.5,SNR=3.2						
BRTR	**Keskin Array B**	**144.24**	**319**	PKP	PKPbc	04 47 38.2	+0.9
	1.4nm,0.9s,baz=7.1,slow=3.0,SNR=5.4						

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*IDC **31** 04:41:33.4±8.4, 35°.39N×23°.14E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.2/45, mbtmp3.4/4, ML2.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/35, Error ellipse: s-maj=158.4km s-min=54.9km az=21.0*

*HLW **31** 04:41:36.2, 35°.46N×23°.45E, h33km±28km, Ml3.7*

*ISCJB **31** 04:41:38.3±0.5, 35°.07N±0°.04×23°.08E±0°.06, h72km±6km, mb3.4/3, Error ellipse: s-maj=9.9km s-min=4.3km az=148.9*

*ATH **31** 04:41:39.5, 35°.20N×23°.12E, h43km±2km, ML3.3/6, Error ellipse: s-maj=3.9km s-min=1.3km az=39.0*

*THE **31** 04:41:39.0, 35°.14N×23°.04E, h6km±3km, ML3.4/6, Error ellipse: s-maj=3.0km s-min=0.8km az=38.0*

ISC 31 04:41:39.1±1.1, 35°.10N±0°.05×23°.15E±0°.07, h63km±11km, n58, σ1°56/70, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMMV	**Iera Moni Meta**	**0.77**	**62**	P	**Pn**	**04 41 54.8**	**+0.4**
IMMV				S	**Sn**	**04 42 06.5**	**+0.9**
	4μm,0.7s						
IMMV	**Iera Moni Meta**	**0.77**	**62**	P	**Pn**	**04 41 54.7**	**+0.4**
IMMV				S	**Sn**	**04 42 06.6**	**+0.9**
IMMV				AML	AML	04 42 07.9	
	comp=N,7117μm,0.8s						
IMMV				AML	AML	04 42 10.2	
	comp=E,5441μm,0.8s						
ANKY	**Antikythira Is**	**0.78**	**9**	P	**Pn**	**04 41 53.0**	**-1.5**
ANKY				S	**Sn**	**04 42 04.9**	**-0.8**
	comp=E,2μm,0.8s						
ANKY	**Antikythira Is**	**0.78**	**9**	P	**Pn**	**04 41 53.0**	**-1.5**
ANKY				S	**Sn**	**04 42 04.9**	**-0.8**
ANKY				AML	AML	04 42 08.8	
	comp=N,3455μm,0.8s						
ANKY				AML	AML	04 42 11.2	
	comp=E,4210μm,0.8s						
GVD	**Gavdhos**	**0.81**	**108**	P	**Pn**	**04 41 56.6**	**+1.7**
GVD	**Gavdhos**	**0.81**	**108**	P	**Pn**	**04 41 56.6**	**+1.7**
GVD				S	**Sn**	**04 42 08.3**	**+1.8**
GVD				AML	AML	04 42 13.3	
	comp=E,4626μm,0.4s						
GVD				AML	AML	04 42 15.9	
	comp=N,3469μm,0.4s						
CHAN	**Chania**	**0.85**	**60**	P	**Pn**	**04 41 56.1**	**+0.8**
CHAN				S	**Sn**	**04 42 09.2**	**+2.0**
VAM	**Vamos**	**0.92**	**70**	P	**Pn**	**04 41 57.2**	**+1.0**
VAM				S	**Sn**	**04 42 11.7**	**+2.9**
	comp=N,2μm,0.7s						
VAM	**Vamos**	**0.92**	**70**	P	**Pn**	**04 41 57.4**	**+1.2**
VAM				S	**Sn**	**04 42 10.2**	**+1.4**
VAM				AML	AML	04 42 17.6	
	comp=N,5482μm,0.9s						
VAM				AML	AML	04 42 19.5	
	comp=E,3961μm,0.6s						
KTHR	**Kythira**	**1.17**	**354**	P	**Pn**	**04 41 59.4**	**0.0**
KYTH	**Kíthira**	**1.17**	**356**	P	**Pn**	**04 41 59.7**	**+0.2**
KYTH				S	**Sn**	**04 42 15.4**	**+0.7**
	comp=E,670nm,0.5s						
KYTH	**Kíthira**	**1.17**	**356**	P	**Pn**	**04 41 59.6**	**+0.1**
KYTH				S	**Sn**	**04 42 13.1**	**-1.6**
KYTH				AML	AML	04 42 17.9	
	comp=N,986μm,0.7s						
KYTH				AML	AML	04 42 19.8	
	comp=E,1654μm,0.6s						
SIVA	**Sivas**	**1.37**	**93**	P	**Pn**	**04 42 04.7**	**+2.7**
IDI	**Anoyia**	**1.44**	**82**	P	**Pn**	**04 42 03.9**	**+0.8**
VLI	**Veliai**	**1.63**	**354**	P	**Pn**	**04 42 07.2**	**+1.6**
VLI	**Veliai**	**1.63**	**354**	P	**Pn**	**04 42 05.5**	**0.0**
VLI				AML	AML	04 42 35.1	
	comp=N,873μm,0.7s						
VLI				AML	AML	04 42 36.5	
	comp=E,934μm,1.1s						
DYR	**Agios Nikonas**	**1.79**	**339**	P	**Pn**	**04 42 08.8**	**+1.1**
MHLO	**Agia Marina, M**	**1.89**	**32**	P	**Pn**	**04 42 10.5**	**+1.4**
LAST	**Lasithi**	**1.91**	**87**	P	**Pn**	**04 42 11.9**	**+2.4**
LAST	**Lasithi**	**1.91**	**87**	P	**Pn**	**04 42 12.0**	**+2.5**
MHLA	**Plaka, Milos I**	**1.94**	**32**	P	**Pn**	**04 42 11.5**	**+1.6**
NPS	**Neapolis**	**2.03**	**85**	P	**Pn**	**04 42 13.7**	**+2.7**
NPS	**Neapolis**	**2.03**	**85**	P	**Pn**	**04 42 13.6**	**+2.7**
PYL	**PYLOS**	**2.12**	**328**	P	**Pn**	**04 42 13.2**	**+0.9**
YDRA	**Hydra**	**2.26**	**6**	P	**Pn**	**04 42 14.4**	**+0.2**
KRND	**KRANIDI**	**2.28**	**0**	P	**Pn**	**04 42 15.9**	**+1.5**
ITM	**Ithomi**	**2.30**	**335**	P	**Pn**	**04 42 15.0**	**+0.3**
SERI	**Serifos**	**2.33**	**27**	P	**Pn**	**04 42 15.1**	**0.0**
IOSP	**Ios island**	**2.38**	**46**	P	**Pn**	**04 42 15.9**	**+0.1**
DID	**Didima**	**2.41**	**2**	P	**Pn**	**04 42 17.6**	**+1.5**
DID	**Didima**	**2.41**	**2**	P	**Pn**	**04 42 17.4**	**+1.3**
ANAF	**Anafi Island**	**2.48**	**59**	P	**Pn**	**04 42 17.8**	**+0.7**
EPID	**Epidavros**	**2.51**	**360**	P	**Pn**	**04 42 18.8**	**+1.2**
ZKR	**Zakros**	**2.52**	**89**	P	**Pn**	**04 42 20.0**	**+2.3**
VLY	**Voula,Athens**	**2.80**	**11**	P	**Pn**	**04 42 21.7**	**+0.2**
AMGA	**Amorgos Island**	**2.82**	**51**	P	**Pn**	**04 42 22.3**	**+0.5**
GUR	**Goura**	**2.91**	**347**	P	**Pn**	**04 42 23.0**	**0.0**
LTK	**Loutraki**	**2.92**	**357**	P	**Pn**	**04 42 23.7**	**+0.5**
PTL	**Penteli**	**3.00**	**11**	P	**Pn**	**04 42 24.7**	**+0.4**
DION	**Dionisos Attik**	**3.04**	**12**	P	**Pn**	**04 42 24.9**	**+0.1**
LAKA	**Lakka**	**3.27**	**344**	P	**Pn**	**04 42 29.6**	**+1.6**
KALE	**Kalithea**	**3.38**	**346**	P	**Pn**	**04 42 30.4**	**+0.9**
ATAL	**Atalanti**	**3.59**	**358**	P	**Pn**	**04 42 32.9**	**+0.7**
MRKA	**Markates**	**3.62**	**5**	P	**Pn**	**04 42 33.4**	**+0.7**
PDO	**Prodromos**	**3.83**	**336**	P	**Pn**	**04 42 37.0**	**+1.4**
EVR	**Evrytania**	**3.96**	**345**	P	**Pn**	**04 42 38.7**	**+1.3**
SLUM	**Salum**	**3.99**	**154**	P	**Pn**	**04 42 38.6**	**+0.8**
	baz=159						
SLUM				S	**Sn**	**04 43 23.4**	**+0.1**
	baz=159						
SWA2		**6.16**	**161**	P	**Pn**	**04 43 09.2**	**+1.8**
	baz=164						
HNAT	**Natroun**	**8.34**	**129**	P	**Pn**	**04 43 36.0**	**-1.3**
	baz=131						
HFRF	**Wahat Farafira**	**9.07**	**149**	P	**Pn**	**04 43 48.2**	**+0.8**
	baz=152						
HFRF				S	**Sn**	**04 45 24.6**	**-3.4**
	baz=152						
NBNS	**Bani Suef**	**9.47**	**131**	P	**Pn**	**04 43 52.1**	**-0.7**
	baz=133						
NBNS				S	**Sn**	**04 45 31.9**	**-5.7**
	baz=133						
BRTR	**Keskin Array B**	**9.54**	**58**	Pn	**Pn**	**04 43 51.8**	**-2.0**
	comp=E,0.1nm,0.3s,baz=240,slow=12,SNR=4.5						
GRB	**Gharib**	**10.66**	**127**	P	**Pn**	**04 44 08.7**	**-0.4**
	baz=129						
HDK1	**Dakhla**	**10.95**	**149**	P	**Pn**	**04 44 14.1**	**+1.1**
	baz=151						
KEST	**Kesra**	**11.28**	**277**	LR	LR	04 48 42.0	
	comp=E,82nm,18.3s,baz=242,slow=38						
ARCES	**ARCESS Array B**	**34.52**	**1**	P	**P**	**04 48 20.2**	**-0.8**
	comp=E,0.4nm,0.7s,baz=172,slow=7.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**42.44**	**51**	P	**P**	**04 49 28.4**	**+0.9**
	comp=E,0.3nm,0.4s,baz=276,slow=7.9,SNR=4.4						
MKAR	**Makanchi Array**	**45.18**	**56**	P	**P**	**04 49 50.5**	**+0.8**
	comp=E,0.3nm,0.4s,baz=268,slow=8.2,SNR=4.9						

ROM 31 04:41:54.3±0.1, 42°.766N±0°.003×12°.532E±0°.005, h8km, ML1.0/3, Error ellipse: s-maj=0.4km s-min=0.2km az=267.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMA	**Monte Martano**	**0.05**	**37**	P	Pg	04 41 56.3	+0.2
MOMA	**Monte Martano**	**0.05**	**37**	P	Pg	04 41 56.4	+0.2
MOMA				S	Sg	04 41 57.5	0.0
MOMA	**Monte Martano**	**0.05**	**37**	S	Sg	04 41 57.3	-0.2
CESX	**Cesi**	**0.16**	**167**	P	Pg	04 41 58.4	+0.7
CESX	**Cesi**	**0.16**	**167**	P	Pg	04 41 58.4	+0.7
CESX				S	Sg	04 42 01.2	+1.3
CESX				AML	AML		
	comp=E,62μm,1.4s						
CESX				AML	AML		
	comp=N,76μm,0.7s						
CESX				AML	AML		
	comp=E,62μm,1.4s						
CESX				AML	AML		
	comp=N,76μm,0.7s						
CESX				AML	AML		
	comp=E,62μm,1.4s						
CESX				AML	AML		
	comp=N,76μm,0.7s						
CESX	**Cesi**

MGAB	**Montegabbione**	**0.34 296**	P	Pg	04 42 01.9	+0.8
MGAB			S	Sb	04 42 07.7	-0.6
MGAB	**Montegabbione**	**0.34 296**	P	Pb	04 42 01.9	-0.8
MGAB	**Montegabbione**	**0.34 296**	S	Sb	04 42 07.6	-0.7
CESI	**CESI - Serrava**	**0.36 49**	P	Pg	04 42 02.1	+0.6
CESI	**CESI - Serrava**	**0.36 49**	P	Pg	04 42 02.2	+0.7
CESI			S	Sb	04 42 08.3	-0.7
CESI	**CESI - Serrava**	**0.36 49**	P	Pg	04 42 02.3	+0.8
LNSS	**Leonessa**	**0.41 113**	P	Pg	04 42 02.9	+0.5
LNSS			S	Sb	04 42 09.5	-0.8
LNSS	**Leonessa**	**0.41 113**	P	Pg	04 42 02.9	+0.5
LNSS	**Leonessa**	**0.41 113**	P	Pb	04 42 03.5	-0.4
LNSS	**Leonessa**	**0.41 113**	S	Sb	04 42 09.2	-1.1
FDMO	**Fiordimonte**	**0.49 56**	P	Pg	04 42 04.5	+0.6
FDMO			S	Sb	04 42 12.4	-0.2
FDMO			AML	AML		
	comp=E,35μm,1.5s					
FDMO			AML	AML		
	comp=N,36μm,1.6s					
FDMO			AML	AML		
	comp=E,35μm,1.5s					
FDMO			AML	AML		
	comp=N,36μm,1.6s					
FDMO			AML	AML		
	comp=E,35μm,1.5s					
FDMO			AML	AML		
	comp=N,36μm,1.6s					
FDMO	**Fiordimonte**	**0.49 56**	P	Pb	04 42 04.5	-0.7
CPGN	**Carpegna, Ital**	**1.05 352**	S	Sg	04 42 26.0	-2.1
PTF	**Prato**	**1.60 319**	P	Pg	04 42 24.9	-0.1
CAVE	**Cavezzo**	**2.37 333**	S	Sg	04 43 12.0	+1.4
SALB	**San Lorenzo Be**	**4.07 134**	P	Pg	04 43 12.8	+0.5
VLO	**Vlora**	**5.70 111**	P	Pg	04 43 42.2	-1.3
HAGA	**Augusta**	**5.83 159**	P	Pg	04 43 44.9	-1.1

KRSC 31 04:51:50.0±10.0, 53°.75N×161°.08E, h47km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.89**	**25**	*eP*		Pn	04 52 08.0	+1.8
MKZ				*eS*		Sn	04 52 18.9	+0.9
SPN	**Mys Shipunski**	**0.91**	**224**	*eP*		Pn	04 52 08.0	+1.6
SPN				*eS*		Sn	04 52 19.3	+0.9
NLC	**Nalytchevo**	**1.19**	**241**	*eP*		Pn	04 52 11.8	+1.6
NLC				*eS*		Sn	04 52 26.3	+1.2
SDLR	**Sedlovina**	**1.39**	**251**	*eP*		Pn	04 52 15.0	+1.9
SDLR				*eS*		Sn	04 52 31.7	+1.3
KZV	**Kizimen**	**1.44**	**342**	*eP*		Pn	04 52 15.7	+1.9
KZV				*eS*		Sn	04 52 33.3	+1.7
SMAR	**Somma**	**1.45**	**251**	*eP*		Pn	04 52 15.9	+2.0
UGLR	**Uglovaya**	**1.45**	**249**	*eP*		Pn	04 52 16.3	+2.4
UGLR				*eS*		Sn	04 52 33.8	+2.0
KRER	**Koryakskii**	**1.46**	**253**	*eP*		Pn	04 52 16.6	+2.5
AVH	**Avacha**	**1.48**	**252**	*eP*		Pn	04 52 16.7	+2.5
AVH				*eS*		Sn	04 52 34.5	+2.1
KRX	**Arik**	**1.50**	**256**	*eP*		Pn	04 52 16.7	+2.1
KRX				*eS*		Sn	04 52 34.6	+1.5
TUMD	**Tumrok D**	**1.51**	**345**	*eP*		Pn	04 52 16.3	+1.7
TUMD				*eS*		Sn	04 52 34.2	+1.1
KOK	**Koryaka**	**1.53**	**253**	*eP*		Pn	04 52 17.2	+2.3
DALK	**Dalny**	**1.57**	**244**	*eP*		Pn	04 52 17.6	+2.3
DALK				*eS*		Sn	04 52 36.1	+1.7
TUMR	**Tumrok**	**1.63**	**341**	*eP*		Pn	04 52 18.8	+2.5
TUMR				*eS*		Sn	04 52 37.9	+1.8
KRMR	**Karymshinskiy**	**2.00**	**244**	*eP*		Pn	04 52 22.7	+1.5
KRMR				*eS*		Sn	04 52 46.8	+1.9
RUS	**Russkaya**	**2.03**	**231**	*eP*		Pn	04 52 23.7	+2.0
MTVR	**Mutnovka**	**2.16**	**235**	*eP*		Pn	04 52 26.3	+2.7
MTVR				*eS*		Sn	04 52 50.8	+1.6
LGNR	**Loginova**	**2.35**	**355**	*eP*		Pn	04 52 30.0	+3.7
ASAK	**Asacha**	**2.36**	**236**	*eP*		Pn	04 52 30.3	+4.1
APC	**Apacha**	**2.49**	**252**	*eP*		Pn	04 52 30.9	+2.9
ESO	**Esso**	**2.58**	**329**	*eP*		Pn	04 52 31.5	+2.3
KBTR	**Krutoberegovo**	**2.66**	**21**	*eP*		Pn	04 52 33.7	+3.4
KDTR	**Khodutka, Kamc**	**2.67**	**224**	*eP*		Pn	04 52 34.9	+4.5
KDTR				*eS*		Sn	04 53 05.1	+3.7
KBG	**Krutoberegovo**	**2.68**	**20**	*eS*		Sn	04 53 07.0	+5.3
SRDR	**Sredinnyy**	**2.69**	**344**	*eP*		Pn	04 52 32.9	+2.1
BDR	**Baidarnaya**	**2.82**	**1**	*eP*		Pn	04 52 36.1	+3.4
SMKR	**Semkarok**	**2.85**	**4**	*eP*		Pn	04 52 37.1	+4.2
SRKR	**Sorokina**	**2.91**	**1**	*eP*		Pn	04 52 38.0	+4.2
BKI	**Bering**	**3.21**	**61**	*eP*		Pn	04 52 41.0	+3.2
BKI				*eS*		Sn	04 53 15.2	+0.6

NDI 31 04:52:34.8±2.4, 27°.33N×92°.67E, h10km, ML3.6, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TEZP	**TEZPUR**	**0.72**	**171**	*eP*		Pg	04 52 47.8	-1.0
TEZP				*eS*		Sg	04 52 57.5	-0.7
TEZP					IAML		04 52 58.6	
	comp=E,1μm,0.1s							
TEZP					IAML		04 52 59.1	
	comp=N,950nm,0.1s							
TAWA	**Tawang**	**0.76**	**290**	*eP*		Pg	04 52 48.2	-1.3
TAWA				*eS*		Sg	04 52 59.2	-0.2
TAWA					IAML		04 53 02.9	
	comp=N,3μm,0.2s							
TAWA					IAML		04 53 02.9	
	comp=E,2μm,0.0s							
ZIRO	**ZIRO**	**1.07**	**79**	*eP*		Pg	04 52 54.5	-0.9
GUWA	**GUWAHATI**	**1.43**	**218**	*eP*		Pn	04 53 00.2	-0.6
GUWA				*eS*		Sb	04 53 20.0	+0.2
GUWA					IAML		04 53 23.4	
	comp=N,302nm,0.1s							
GUWA					IAML		04 53 23.6	
	comp=E,365nm,0.1s							
JORH	**JORHAT**	**1.53**	**112**	*eP*		Pb	04 53 02.9	-0.4
JORH				*eS*		Sb	04 53 22.7	0.0
JORH					IAML		04 53 26.9	
	comp=E,3μm,0.1s							
JORH					IAML		04 53 27.2	
	comp=N,3μm,0.1s							
SHL	**Shillong**	**1.89**	**202**	*eP*		Pn	04 53 07.7	+0.3
SHL				*eS*		Sb	04 53 32.6	-0.7
MOKO	**MOKOCHONG**	**1.94**	**121**	*eP*		Pn	04 53 08.8	+0.8
MOKO				*eS*		Sn	04 53 33.1	+0.8
MOKO					IAML		04 53 38.1	
	comp=N,1μm,0.3s							
MOKO					IAML		04 53 38.8	
	comp=E,869nm,0.3s							
DIBR	**DIBRUGARH**	**2.00**	**86**	*eP*		Pn	04 53 09.7	+1.1
DIBR				*eS*		Sn	04 53 34.9	+1.1
KOHI	**KOHIMA**	**2.06**	**141**	*eP*		Pb	04 53 12.4	0.0
KOHI				*ex*		x	04 53 38.3	
KOHI					IAML		04 53 39.2	
	comp=E,437nm,0.2s							
KOHI					IAML		04 53 39.2	
	comp=N,586nm,0.2s							
DHUB	**DHUBRI**	**2.72**	**242**	*eP*		Pn	04 53 19.4	+0.8
DHUB				*eS*		Sn	04 53 53.0	+1.4
IMP	**Imphal**	**2.74**	**155**	*eP*		Pn	04 53 19.8	+0.9
IMP				*eS*		Sn	04 53 53.5	+1.3
GTK	**Tadong**	**3.62**	**271**	*eP*		Pn	04 53 31.4	+0.3
GTK				*eS*		Sn	04 54 14.0	+0.1

IDC 31 05:05:00.8±2.0, 6°.86S×129°.10E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/36, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=116.0km s-min=31.6km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.97**	**159**	Pn		Pn	05 08 19.1	-1.0
	0.5nm,0.3s,baz=337,slow=13,SNR=35							
WRA				Sn		Sn	05 10 40.8	-15
	0.8nm,0.3s,baz=232,slow=14,SNR=11							
ASAR	**Alice Springs**	**17.34**	**165**	P		P	05 09 05.2	-0.6
	0.1nm,0.3s,baz=356,slow=12,SNR=5.1							
ASAR				S		Sn	05 12 09.4	-8.7
	0.1nm,0.3s,baz=294,slow=26,SNR=4.3							
MKAR	**Makanchi Array**	**67.62**	**327**	P		P	05 15 59.5	0.0
	0.3nm,0.4s,baz=112,slow=7.0,SNR=2.6							

*NNC **31** 05:10:59.1±2.4, 54°.33N×86°.92E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=25.3km s-min=12.1km az=177.0, Suspected Mining explosion.*

*IDC **31** 05:11:00.6±2.8, 54°.34N×86°.90E, h0km, mb1 3.1/2, mb1mx2.9/52, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=22.8km s-min=15.8km az=59.0*

ISC 31 05:10:59.1±4.2, 54°.5N±0°.2×86°.8E±0°.2, h0km, n9, σ1§84/14, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**246**	*i*			05 19 10.0	
	baz=75,slow=327,SNR=3.0							
ZAA0	**Zalesovo Array**	**1.25**	**246**	⇑P		**Pg**	**05 11 22.8**	**-0.2**
	0.4nm,0.4s							
ZAA0				⇑S		**Sn**	**05 11 41.3**	**0.0**
	5.9nm,1.4s							
ZALV	**Zalesovo Beam**	**1.25**	**246**	Pg		**Pb**	**05 11 23.2**	**-0.3**
	1.2nm,0.3s,baz=74,slow=18,SNR=8.8							
ZALV				Lg		Lg	05 11 42.4	
	2.2nm,0.3s,baz=70,slow=27,SNR=17							
KURK	**Kurchatov**	**6.22**	**236**	⇓Pn		**Pn**	**05 12 33.5**	**+1.4**
	3.7nm,1.0s							
KURK				⇓Sn		**Sn**	**05 13 44.4**	**+0.7**
	2.3nm,1.0s							
KURK				⇑Lg		Lg	05 14 17.0	
	9.0nm,1.3s							
KURBB	**Kurchatov Arra**	**6.32**	**236**	⇑Pn		**Pn**	**05 12 35.6**	**+2.1**
	4.6nm,0.9s							
KURBB				⇑Sn		**Sn**	**05 13 47.6**	**+1.4**
	3.5nm,0.5s							
KURBB				⇓Lg		Lg	05 14 19.5	
	8.4nm,0.8s							
KURBB	**Kurchatov Arra**	**6.32**	**236**	Pn		**Pn**	**05 12 36.2**	**+2.7**
	0.1nm,0.3s,baz=54,slow=14,SNR=15							
KURBB				Sn		**Sn**	**05 13 46.0**	**-0.3**
	0.1nm,0.3s,baz=38,slow=20,SNR=4.0							
KURBB				Lg		Lg	05 14 22.3	
	0.1nm,0.3s,baz=50,slow=32,SNR=5.8							
MK31	**Makanchi Array**	**8.19**	**202**	⇑Pn		**Pn**	**05 12 59.8**	**+0.6**
	0.2nm,0.4s,baz=28,slow=13,SNR=4.0							
MK31				⇓Sn		**Sn**	**05 14 30.4**	**-1.9**
	0.4nm,0.4s							
MK31				⇑Lg		Lg	05 15 16.4	
	5.0nm,1.1s,baz=21,slow=30,SNR=4.1							
MKAR	**Makanchi Array**	**8.19**	**202**	Pn		**Pn**	**05 13 00.1**	**+1.0**
	0.1nm,0.3s,baz=22,slow=14,SNR=5.3							
MKAR				Sn		**Sn**	**05 14 31.7**	**-0.6**
	0.2nm,0.3s,baz=15,slow=26,SNR=4.3							
MKAR				Lg		Lg	05 15 19.3	
	0.1nm,0.3s,baz=15,slow=30,SNR=5.9							
BVAR	**Borovoye Array**	**9.80**	**268**	Sn		**Sn**	**05 15 07.9**	**-4.0**
	0.2nm,0.3s,baz=73,slow=21,SNR=4.7							

*DSN **31** 05:20:02.3±2.8, 26°.45N×58°.13E, h10km, ML4.7/11, Error ellipse: s-maj=36.6km s-min=12.7km az=16.0*
*NEIC **31** 05:20:02.0±0.0, 26°.62N×57°.66E, h14km, mb4.6/56, ML4.6(THR), MN4.8(TEH), After THR.*
*IDC **31** 05:20:02.3±0.9, 26°.69N×57°.73E, h0km, mb4.2/23, mb1 4.3/27, mb1mx4.2/57, mbtmp4.2/27, ML4.3/3, MS3.6/27, Ms1 3.6/27, ms1mx3.4/51, Error ellipse: s-maj=19.2km s-min=13.2km az=162.0*
*ISCJB **31** 05:20:02.5±0.2, 26°.69N±0°.02×57°.82E±0°.02, h10km, mb4.5/87, MS3.7/35, Error ellipse: s-maj=3.1km s-min=2.3km az=9.7*
*TEH **31** 05:20:03.0, 26°.74N×57°.86E, h11km, ML4.8*
*OMAN **31** 05:20:03.1±1.9, 26°.68N×57°.88E, h10km, ml4.6/18, Error ellipse: s-maj=20.8km s-min=7.3km az=17.0*
*BJI **31** 05:20:04.8±0.0, 26°.69N×57°.81E, h18km, mb4.6/28, mB4.7/18, Ms4.2/16, Ms7 3.9/14*
*MOS **31** 05:20:05.3±1.2, 26°.67N×57°.87E, h33km, mb4.8/31, Error ellipse: s-maj=7.1km s-min=4.3km az=105.7*

ISC 31 05:20:03.7±0.3, 26°.59N±0°.03×57°.80E±0°.03, h10km, n336, σ1§34/328, mb4.6/104, MS3.7/37, 20C-9D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**0.94**	**182**	*e*Pg		**Pn**	**05 20 24.8**	**+1.8**
JSK1					IAMB	IAmb	05 21 28.3	
	comp=Z,0.0nm,1.1s							
NIAN	**Nian**	**1.30**	**319**	*e*Pn		**Pg**	**05 20 28.2**	**-0.5**
NIAN	**Nian**	**1.30**	**319**	*e*Pg		**Pb**	**05 20 27.8**	**-0.5**
NIAN					IAMB	IAmb	05 20 53.1	
	comp=Z,0.0nm,0.4s							
KHNJ	**Kahnooj**	**1.36**	**356**	*e*Pg		**Pn**	**05 20 26.3**	**-2.5**
KHNJ					IAMB	IAmb	05 20 51.0	
	comp=Z,0.0nm,0.9s							
BANOM	**Banah**	**1.50**	**244**	*e*P		**Pg**	**05 20 32.9**	**+0.3**
	SNR=45							
BANOM	**Banah**	**1.50**	**244**	P		**Pg**	**05 20 32.9**	**+0.3**
	SNR=192							
BANOM				S		**Sg**	**05 20 54.8**	**+2.7**
SHME	**Shamm**	**1.58**	**251**	*e*P		**Pb**	**05 20 33.1**	**0.0**
	SNR=199							
SHME				S		**Sg**	**05 20 57.9**	**+3.2**
SHME	**Shamm**	**1.58**	**251**	*e*Pn		**Pg**	**05 20 33.6**	**-0.5**
GENO	**Geno**	**1.67**	**300**	*e*Pn		**Pb**	**05 20 34.2**	**-0.4**
GENO	**Geno**	**1.67**	**300**	*e*Pn		**Pb**	**05 20 34.1**	**-0.5**
GENO					IAMB	IAmb	05 21 01.7	
	comp=Z,0.0nm,0.5s							
BNDS	**Bandar-Abbas**	**1.67**	**299**	*e*Pg		**Pn**	**05 20 30.3**	**-2.9**
MDH	**Madha**	**1.86**	**227**	P		**Pn**	**05 20 35.2**	**-0.5**
MDH	**Madha**	**1.86**	**227**	P		**Pn**	**05 20 35.4**	**-0.3**
MSFE	**Esma-Masafi**	**1.92**	**231**	*e*P		**Pn**	**05 20 36.0**	**-0.5**
	SNR=48							
MSFE	**Esma-Masafi**	**1.92**	**231**	*e*Pn		**Pn**	**05 20 36.0**	**-0.5**
UOSS	**Minazif**	**2.18**	**222**	*e*Pn		**Pn**	**05 20 39.0**	**-1.1**
UOSS	**Minazif**	**2.18**	**222**	*e*P		**Pn**	**05 20 38.9**	**-1.1**
	SNR=104							
UOSS	**Minazif**	**2.18**	**222**	*e*Pn		**Pn**	**05 20 39.0**	**-1.1**
UMQ	**Umm Al-Quwin**	**2.19**	**242**	*e*P		**Pb**	**05 20 42.4**	**-1.2**
	SNR=14							
UMQ	**Umm Al-Quwin**	**2.19**	**242**	*e*Pn		**Pb**	**05 20 44.3**	**+0.8**
HATD	**Hatta, Dubai**	**2.31**	**221**	*e*P		**Pn**	**05 20 41.1**	**-0.8**
	SNR=62							
HATD	**Hatta, Dubai**	**2.31**	**221**	P		**Pn**	**05 20 41.1**	**-0.8**
HATD				S		**Sb**	**05 21 13.1**	**-1.1**
HATD	**Hatta, Dubai**	**2.31**	**221**	*e*Pn		**Pn**	**05 20 41.2**	**-0.7**
ASHO	**Ashiyiah**	**2.46**	**220**	*e*P		**Pn**	**05 20 43.8**	**-0.1**
	SNR=28							
ASHO	**Ashiyiah**	**2.46**	**220**	P		**Pn**	**05 20 45.1**	**+1.1**
	SNR=21							
ASHO				S		**Sn**	**05 21 16.4**	**+2.2**
ASHO	**Ashiyiah**	**2.46**	**220**	*e*Pn		**Pn**	**05 20 43.7**	**-0.3**
NAZ	**Nazwa, Dubai**	**2.50**	**231**	*e*P		**Pn**	**05 20 46.1**	**+1.6**
	SNR=150							
NAZ	**Nazwa, Dubai**	**2.50**	**231**	P		**Pb**	**05 20 47.0**	**-1.8**
NAZ	**Nazwa, Dubai**	**2.50**	**231**	*e*Pn		**Pb**	**05 20 47.1**	**-1.6**
CHBR	**Chabahar**	**2.60**	**112**	*e*Pn		**Pn**	**05 20 47.0**	**+1.1**
CHBR	**Chabahar**	**2.60**	**112**	*e*Pn		**Pn**	**05 20 47.5**	**+1.6**
SOHO	**SOHO**	**2.70**	**205**	P		**Pn**	**05 20 46.2**	**-0.9**
	SNR=119							
FAQ	**Al Faqa, Dubai**	**2.71**	**228**	*e*P		**Pn**	**05 20 49.7**	**+2.4**
	SNR=157							
FAQ	**Al Faqa, Dubai**	**2.71**	**228**	P		**Pb**	**05 20 50.2**	**-2.1**
	SNR=16							
FAQ	**Al Faqa, Dubai**	**2.71**	**228**	*e*Pn		**Pb**	**05 20 50.0**	**-2.3**
ASUD	**Al Ashush, Dub**	**2.96**	**229**	P		**Pb**	**05 20 54.1**	**-2.6**
	SNR=32							
ASUD				S		**Sb**	**05 21 33.6**	**+0.7**
ASUD	**Al Ashush, Dub**	**2.96**	**229**	*e*Pn		**Pb**	**05 20 54.2**	**-2.5**
HOQ	**Hoqain**	**3.02**	**189**	*e*Pn		**Pn**	**05 20 51.5**	**-0.2**
BIDO	**Bidbid**	**3.06**	**174**	P		**Pn**	**05 20 52.3**	**0.0**
	SNR=37							
BIDO				S		**Sn**	**05 21 28.7**	**-0.3**
BIDO	**Bidbid**	**3.06**	**174**	*e*Pn		**Pn**	**05 20 52.3**	**0.0**
ALNE	**Al Ain**	**3.13**	**217**	*i* P		**Pn**	**05 20 54.1**	**+1.0**
	SNR=12							
ALNE	**Al Ain**	**3.13**	**217**	*e*Pn		**Pn**	**05 20 55.5**	**+2.4**
NGRK	**Negar Kerman**	**3.19**	**343**	*e*Pn		**Pn**	**05 20 55.6**	**+1.3**
NGRK	**Negar Kerman**	**3.19**	**343**	*e*Pn		**Pn**	**05 20 55.1**	**+0.8**
NGRK					IAMB	IAmb	05 21 49.3	
	comp=Z,0.0nm,0.5s							
AJN	**Ajban**	**3.24**	**232**	*i* P		**Pn**	**05 20 55.9**	**+1.2**
	SNR=12							
AJN	**Ajban**	**3.24**	**232**	P		**Pn**	**05 20 57.0**	**+2.3**
AJN	**Ajban**	**3.24**	**232**	*e*Pn		**Pn**	**05 20 57.6**	**+2.9**
CHMN	**Cheshme madani**	**3.27**	**356**	*e*Pn		**Pn**	**05 20 57.4**	**+2.0**
CHMN					IAMB	IAmb	05 22 06.9	
	comp=Z,0.0nm,0.7s							
WSAR	**Wadi Sarin**	**3.42**	**167**	P		**Pn**	**05 20 57.9**	**+0.8**
WSAR	**Wadi Sarin**	**3.42**	**167**	Pn		**Pn**	**05 20 57.8**	**+0.8**
	comp=Z,65nm,0.3s,baz=344,slow=6.3,SNR=462							
WSAR				Sn		**Sn**	**05 21 36.9**	**-0.8**
	comp=Z,72nm,0.3s,baz=3.3,slow=14,SNR=15							
ARQ	**Araqi**	**3.44**	**200**	P		**Pn**	**05 21 00.2**	**+2.8**
TVBK	**TV Kerman**	**3.51**	**345**	*e*Pn		**Pn**	**05 21 00.9**	**+2.2**
TVBK					IAMB	IAmb	05 22 11.9	
	comp=Z,0.0nm,0.6s							
SMDO	**Samad**	**3.52**	**176**	P		**Pn**	**05 20 59.5**	**+0.9**
BSY	**Bisya**	**3.86**	**188**	P		**Pn**	**05 21 05.6**	**+2.4**
BSY				S		**Sn**	**05 21 52.6**	**+3.9**
KHGB	**Koh Gabri**	**3.95**	**343**	*e*Pn		**Pn**	**05 21 06.6**	**+1.9**
KHGB					IAMB	IAmb	05 22 19.0	
	comp=Z,0.0nm,0.8s							
ZHSF	**Zahedan**	**4.00**	**40**	*e*Pn		**Pn**	**05 21 05.0**	**-0.2**
ZHSF	**Zahedan**	**4.00**	**40**	*e*Pn		**Pn**	**05 21 05.7**	**+0.5**
WBK	**Wadi Bani Khal**	**4.10**	**165**	P		**Pn**	**05 21 08.1**	**+1.6**
WBK				S		**Sn**	**05 21 53.4**	**-1.1**
JMDO	**Jabal Madar**	**4.21**	**176**	P		**Pn**	**05 21 10.2**	**+2.2**
JMDO				S		**Sn**	**05 22 00.5**	**+3.4**
GHIR	**Ghir-Karzin**	**4.60**	**293**	*e*Pn		**Pn**	**05 21 11.0**	**-2.5**
GHIR	**Ghir-Karzin**	**4.60**	**293**	*e*Pn		**Pn**	**05 21 11.3**	**-2.2**
JLN	**Jalan Bani Buh**	**4.65**	**161**	P		**Pn**	**05 21 15.4**	**+1.3**
JLN				S		**Sn**	**05 22 06.9**	**-1.3**
IPAR	**Pars**	**5.30**	**309**	*e*Pn		**Pn**	**05 21 23.6**	**+0.3**
MZR	**Muzera**	**5.31**	**229**	P		**Pn**	**05 21 23.9**	**+0.9**
MZR	**Muzera**	**5.31**	**229**	*e*Pn		**Pn**	**05 21 24.2**	**+1.1**
IBAF	**Bafgh**	**5.36**	**339**	*e*Pn		**Pn**	**05 21 24.1**	**+0.2**
BSRN	**Basiran**	**5.48**	**12**	*e*Pn		**Pn**	**05 21 25.5**	**-0.1**
IMEH	**Mehriz**	**5.54**	**330**	*e*Pn		**Pn**	**05 21 26.5**	**0.0**
MHTO	**MHTO**	**5.58**	**178**	P		**Pn**	**05 21 28.2**	**+1.5**
IKOO	**Kooshah**	**5.91**	**10**	*e*Pn		**Pn**	**05 21 31.8**	**+0.2**
IKAZ	**Kazeroun**	**6.15**	**303**	*e*Pn		**Pn**	**05 21 34.5**	**-0.5**
ITEG	**Tejag**	**6.34**	**7**	*e*Pn		**Pn**	**05 21 37.3**	**-0.2**
IDAH	**Dahanechah**	**6.39**	**16**	*e*Pn		**Pn**	**05 21 38.7**	**+0.5**
ISAD	**Sadrabad**	**6.41**	**327**	*e*Pn		**Pn**	**05 21 39.1**	**+0.6**
TPRV	**Parvadeh(Tabas**	**6.49**	**352**	*e*Pn		**Pn**	**05 21 39.5**	**0.0**
TKDS	**Koohdasht(Taba**	**7.03**	**355**	*e*Pn		**Pn**	**05 21 48.2**	**+1.4**
IRAM	**Ramesheh**	**7.04**	**319**	*e*Pn		**Pn**	**05 21 46.4**	**-0.7**
IGAR	**Gharneh**	**7.67**	**320**	*e*Pn		**Pn**	**05 21 55.4**	**-0.3**
IZEF	**Zefreh**	**7.88**	**324**	*e*Pn		**Pn**	**05 21 58.4**	**-0.3**
ZNGN	**Zangian**	**8.19**	**314**	*e*Pn		**Pn**	**05 22 03.2**	**+0.2**
ROKH	**ROKH**	**8.23**	**316**	*e*Pn		**Pn**	**05 22 02.7**	**-0.7**
IPIR	**Pirpir**	**8.55**	**317**	*e*Pn		**Pn**	**05 22 07.3**	**-0.6**
IKLH	**Kolahrood**	**8.61**	**323**	*e*Pn		**Pn**	**05 22 08.3**	**-0.4**
ISFB	**Sefidab**	**9.11**	**330**	*e*Pn		**Pn**	**05 22 15.6**	**+0.3**
ISHM	**Shahmirzad**	**9.97**	**338**	*e*Pn		**Pn**	**05 22 27.9**	**+0.6**
IKMR	**Kamar-syah**	**10.69**	**312**	*e*Pn		**Pn**	**05 22 35.2**	**-1.7**
HSAM	**Samen**	**10.99**	**316**	*e*Pn		**Pn**	**05 22 39.7**	**-1.6**
IDOB	**Doab**	**10.99**	**313**	*e*Pn		**Pn**	**05 22 39.0**	**-2.2**
GEYT	**Alibeck**	**11.31**	**1**	Pn		**Pn**	**05 22 44.6**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=208,slow=15,SNR=2.6							
GEYT					LR	LR	05 28 11.0	
	comp=Z,155nm,19.3s,baz=180,slow=44							
IBZA	**Bozab**	**11.62**	**315**	*e*Pn		**Pn**	**05 22 48.8**	**-1.1**
IKOM	**Komasi**	**11.66**	**313**	*e*Pn		**Pn**	**05 22 47.9**	**-2.5**
IVIS	**Veis**	**12.31**	**313**	*e*Pn		**Pn**	**05 22 56.2**	**-3.0**
ILIN	**Lien**	**12.48**	**314**	*e*Pn		**Pn**	**05 22 59.0**	**-2.6**
IDHR	**Dehrash**	**12.72**	**312**	*e*Pn		**Pn**	**05 23 01.5**	**-3.4**
NIL	**Nilore**	**15.10**	**59**	*e*Pn		**Pn**	**05 23 36.0**	**-1.2**
NIL				*e*P		**P**	**05 23 41.2**	**-1.3**
NIL	**Nilore**	**15.10**	**59**	*e*P		**Pn**	**05 23 36.0**	**-1.2**
CHGR	**Chuyangaron**	**15.36**	**36**	*e*Pn		**Pn**	**05 23 39.0**	**-1.7**
	comp=Z,14nm,0.7s							
GAR	**Garm**	**16.23**	**37**	*e*Pn		**Pn**	**05 23 48.7**	**-3.2**
	comp=Z,21nm,0.8s							
GAR	**Garm**	**16.23**	**37**	*e*P		**Pn**	**05 23 48.7**	**-3.2**
GAR					pmax	pmax		
	comp=Z,21nm,0.8s							
SIRT	**Sirnak**	**16.95**	**314**	*e*Pn		**Pn**	**05 23 57.3**	**-3.8**
	comp=Z,87nm,0.5s							
BTK	**Batken**	**17.26**	**36**	*e*Pn		**Pn**	**05 24 04.3**	**-0.7**
	comp=Z,17nm,0.8s							
BTK	**Batken**	**17.26**	**36**	*e*P		**Pn**	**05 24 04.3**	**-0

KBZ **Khabaz** 20.94 329 P P 05 24 46.5 -0.1
comp=Z,2.1nm,0.7s,baz=102,slow=14,SNR=2.9
AAK **Ala-Archa** 21.04 36 *e*P P 05 24 48.4 +0.5
comp=Z,17nm,0.8s
AAK **Ala-Archa** 21.04 36*ce*P P 05 24 46.9 -1.0
AAK pmax pmax
comp=Z,14nm,1.7s
AAK **Ala-Archa** 21.04 36 P P 05 24 48.7 +0.9
comp=Z,3.2nm,0.4s,baz=184,slow=8.2,SNR=12
AAK LR LR 05 33 12.9
comp=Z,96nm,19.6s,baz=220,slow=38
SHA1 **Shidzhatmaz** 21.06 328 *i* P P 05 24 49.3 +1.1
NRN **Naryn** 21.08 41 *e*P P 05 24 48.6 +0.1
comp=Z,12nm,0.8s
NRN **Naryn** 21.08 41 *e*P P 05 24 48.6 +0.1
NRN pmax pmax
comp=Z,12nm,0.8s
CUKAN **kangal_SIVAS** 21.21 312 *i* P P 05 24 50.9 +1.1
KIV **Kislovodsk** 21.22 329 *e*P P 05 24 51.6 +1.9
KIV *e* 05 28 50.3
KIV pmax pmax
comp=Z,54nm,1.0s
TKM2 **Tokmak 2** 21.82 37 P P 05 24 56.8 +0.4
TKM2 pmax pmax
comp=Z,12nm,0.8s
CUSAR **Sarkisla-SIVAS** 22.08 311 *i* P P 05 25 00.2 +1.1
KDJ **Kajisay** 22.20 41 *e*P P 05 25 00.4 0.0
comp=Z,20nm,0.8s
KDJ **Kajisay** 22.20 41 *e*P P 05 25 00.4 0.0
KDJ pmax pmax
comp=Z,20nm,0.8s
RPOR **Krasnaya Polya** 22.22 325 *i* P P 05 25 01.5 +1.1
TARG **Taragay, Kyrgy** 22.33 42 *e*P P 05 25 01.5 -0.6
comp=Z,6.6nm,0.7s
SOC **Sochi** 22.43 324 *e*P P 05 25 02.0 -0.6
SOC *e* 05 25 28.4
SOC *e*S S 05 29 09.6 +0.7
SOC *e*SS SnSn 05 29 41.8 +4.7
SOC pmax pmax
comp=Z,90nm,0.6s
SOC MLR MLR
comp=Z,2μm,14.0s
CSS **Mathiatis** 22.58 298 *e*P P 05 25 03.9 -0.5
comp=Z,30nm,1.0s
AB31 **Akbulak array** 22.69 4 P P 05 25 02.9 -2.5
AB31 pmax pmax
comp=Z,9.0nm,0.7s
ABKAR **Akbulak array** 22.69 4 *e*P P 05 25 03.5 -1.9
comp=Z,14nm,0.8s
AKTO **Aktyubinsk** 23.82 0 P P 05 25 15.4 -1.3
comp=Z,12nm,0.6s,baz=175,slow=9.2,SNR=29
AKTO LR LR 05 35 07.4
comp=Z,181nm,21.6s,baz=171,slow=38
BR101 **Keskin Array S** 24.01 309 *e*P P 05 25 18.4 -0.6
BR131 **Keskin Array S** 24.01 309 *e*P P 05 25 18.8 -0.1
comp=Z,20nm,0.8s
BRTR **Keskin Array B** 24.01 309*ce*P P 05 25 19.0 +0.1
BRTR pmax pmax
comp=Z,18nm,0.7s
BRTR **Keskin Array B** 24.01 309 P P 05 25 18.4 -0.6
comp=Z,18nm,0.7s,baz=126,slow=11,SNR=70
BRTR LR LR 05 36 30.0
comp=Z,256nm,18.9s,baz=100,slow=41
PDGK **Podgornoye** 24.28 41 P P 05 25 20.3 -1.0
PDGK pmax pmax
comp=Z,7.0nm,0.7s
OTUK **Ortayu** 24.43 24 P P 05 25 19.1 -3.4
OTUK pmax pmax
comp=Z,6.0nm,0.7s
ANN **Anapa** 24.46 323 *e*P P 05 25 22.9 +0.1
ANN *e* 05 25 57.0
ANN *e*S S 05 29 44.2 +1.4
ANN pmax pmax
comp=Z,38nm,1.0s
ANN MLR MLR
comp=Z,145nm,14.0s
ILGA **Ilgaz** 24.57 312 *e*P P 05 25 24.2 +0.1
comp=Z,36nm,1.5s
ANTO **Ankara** 24.66 309 *e*P P 05 25 25.8 +1.0
comp=Z,18nm,0.8s
ANTO **Ankara** 24.66 309 *e*P P 05 25 25.8 +1.0
ANTO pmax pmax
comp=Z,18nm,0.8s
MDUB **Mudurnu** 26.03 309 *e*P P 05 25 38.6 +1.5
comp=Z,206nm,0.8s
SIM **Simferopol'** 26.40 320*d* *i*P P 05 25 40.7 +0.4
SIM pmax pmax
comp=Z,31nm,0.7s
SEVA **Sevastopol** 26.41 319⇑*i*P P 05 25 40.5 +0.1
VRH **Novokhopyorsk** 27.46 338 *e*P P 05 25 50.6 +0.8
VRH pmax pmax
comp=Z,5.0nm,0.4s
MK31 **Makanchi Array** 27.95 37 *e*P P 05 25 56.9 +2.6
comp=Z,2.4nm,0.8s
MKAR **Makanchi Array** 27.95 37 P P 05 25 54.8 +0.4
comp=Z,0.4nm,0.6s,baz=229,slow=5.5,SNR=5.3
BVAR **Borovoye Array** 28.04 16 P P 05 25 54.0 -1.0
comp=Z,2.1nm,0.5s,baz=200,slow=7.9,SNR=13
BRVK **Borovoye** 28.04 16 *e*P P 05 25 55.0 0.0
BRVK **Borovoye** 28.04 16 *e*P P 05 25 55.0 0.0
VSR **Storozhevoye** 28.39 335 *i* P P 05 25 56.5 -1.6
VSR pmax pmax
comp=Z,6.0nm,0.9s
KURBB **Kurchatov Arra** 28.76 28 P P 05 26 00.7 -0.8
comp=Z,1.6nm,0.8s,baz=226,slow=8.2,SNR=8.7
KURK **Kurchatov** 28.87 28 *e*P P 05 26 03.3 +0.9
comp=Z,2.3nm,0.8s
KURK **Kurchatov** 28.87 28 P P 05 26 00.7 -1.7
PALK **Pallekele** 29.04 127*ce*P P 05 25 56.3 -8.0
PALK **Pallekele** 29.04 127 LR LR 05 37 09.3
comp=Z,124nm,19.8s,baz=296,slow=35
IDI **Anoyia** 29.43 295 P P 05 26 06.9 -0.7
comp=Z,8.6nm,0.6s,baz=91,slow=9.1,SNR=11
WMQ **Urumqi** 29.65 47 *e*P P 05 26 11.3 +1.8
WMQ LR LR
comp=Z,1μm,27.7s
WMQ LR LR
comp=Z,2μm,37.9s
WMQ LR LR
comp=Z,650nm,19.1s
ARU **Arti** 29.82 1 P P 05 26 13.5 +2.7
ARU 05 27 10.9
ARU **Arti** 29.82 1 LR LR 05 39 32.3
comp=Z,180nm,18.9s,baz=199,slow=39
VRI **Vrincioaia** 31.31 316⇓*i*P P 05 26 24.1 0.0
PLOR **Plostina** 31.35 316⇑*i*P P 05 26 25.1 +0.6
MLR **Muntele Rosu** 31.64 315 *e*P P 05 26 27.2 +0.1
comp=Z,7.4nm,0.9s
MLR **Muntele Rosu** 31.64 315⇓*i*P P 05 26 27.4 +0.3
MLR **Muntele Rosu** 31.64 315 *e*P P 05 26 27.2 +0.1
MLR pmax pmax
comp=Z,7.0nm,0.9s
TESR **Tescani** 31.66 317⇓*i*P P 05 26 26.9 -0.2
ITM **Ithomi** 32.07 298 *e*P P 05 26 30.6 -0.3
comp=Z,11nm,0.6s
VOIR 32.18 314⇑*i*P P 05 26 32.8 +0.9
ARR **Arges** 32.42 314⇑*i*P P 05 26 34.3 +0.4
DGZ **Jazzator, Alta** 32.44 37 *i* P P 05 26 32.2 -2.0
DGZ pmax pmax
comp=Z,1.0nm,0.9s
OBN **Obninsk** 32.45 337 *i* P P 05 26 33.6 -0.3
OBN pmax pmax
comp=Z,8.0nm,1.0s
AKASG **Malin Array Be** 32.48 325 P P 05 26 32.8 -1.5
comp=Z,4.0nm,0.5s,baz=131,slow=8.2,SNR=16
AKASG LR LR 05 42 32.2
comp=Z,95nm,21.4s,baz=175,slow=42
AKBB **Malin Array Si** 32.48 325 *e*P P 05 26 32.8 -1.4
comp=Z,8.8nm,0.6s
AKBB **Malin Array Si** 32.48 325 *e*P P 05 26 32.8 -1.4
AKBB pmax pmax
comp=Z,9.0nm,0.6s
KIEV **Kiev** 32.48 325 *e*P P 05 26 32.5 -1.8
comp=Z,8.2nm,0.7s
KIEV **Kiev** 32.48 325⇑*i*P P 05 26 33.5 -0.8
KIEV **Kiev** 32.48 325*c* *i*P P 05 26 32.7 -1.6
KIEV pmax pmax
comp=Z,6.0nm,0.8s
BURAR **Bucovina Array** 33.04 318⇑*i*P P 05 26 39.3 -0.1
BUR08 **Bucovina Ar. S** 33.07 318 *e*P P 05 26 38.9 -0.7
comp=Z,8.8nm,1.5s
FNA **Florina** 33.20 305 *e*P P 05 26 40.9 +0.1
comp=Z,15nm,0.7s
FNA **Florina** 33.20 305 *e*P P 05 26 40.9 +0.1
FNA pmax pmax
comp=Z,15nm,0.7s

GZR **Gura Zlata** 33.64 313⇓*i*P P 05 26 43.1 -1.5
HERR **Herculane** 33.69 312⇑*i*P P 05 26 45.0 +0.1
NVS **Novosibirsk** 33.81 27 *e*P P 05 26 47.6 +1.8
ZAA0 **Zalesovo Array** 33.84 29 *e*P P 05 26 48.4 +2.3
comp=Z,5.0nm,0.8s
ZALV **Zalesovo Beam** 33.84 29 P P 05 26 44.1 -2.0
comp=Z,1.4nm,0.3s,baz=234,slow=16,SNR=5.9
ZALV LR LR 05 40 01.2
comp=Z,25nm,18.4s,baz=246,slow=36
KMBO **Kilima Mbogo** 33.94 219 LR LR 05 40 05.5
comp=Z,89nm,20.4s,baz=92,slow=35
MDVR **Moldovita** 34.12 312⇑*i*P P 05 26 48.9 +0.1
DRGR 34.22 315⇑*i*P P 05 26 49.8 +0.2
BZS **Buzias** 34.48 313⇓*i*P P 05 26 52.2 +0.4
SIRR **Siria** 34.69 314⇓*i*P P 05 26 54.2 +0.6
KOLS **Kolonicke sedl** 35.39 319 *e*P P 05 27 00.2 +0.6
KOLS pmax pmax
comp=Z,26nm,0.8s
KOLS **Kolonicke sedl** 35.39 319 *e*P P 05 27 00.2 +0.6
KWP **Kalwaria Pacla** 35.45 320 *e*P P 05 26 59.5 -0.7
comp=Z,116nm,0.7s
KWP **Kalwaria Pacla** 35.45 320 *e*P P 05 26 59.5 -0.7
KWP pmax pmax
comp=Z,116nm,0.7s
KECS **Kecovo** 36.28 317 *e*P P 05 27 07.5 +0.3
KECS pmax pmax
comp=Z,26nm,0.7s
KECS **Kecovo** 36.28 317 *e*P P 05 27 07.5 +0.3
PSZ **Piszkesteto** 36.43 316 *e*P P 05 27 08.4 -0.2
comp=Z,7.6nm,0.8s
PSZ **Piszkesteto** 36.43 316 *e*P P 05 27 08.4 -0.2
PSZ pmax pmax
comp=Z,8.0nm,0.8s
PSZ **Piszkesteto** 36.43 316 *e*P P 05 27 08.0 -0.6
KLMR **Klimovskoe** 36.45 345 *e*P P 05 27 01.8 -6.7
KLMR pmax pmax
comp=Z,12nm,1.5s
LANS **Liptovska Anna** 37.16 318 *e*P P 05 27 15.3 +0.5
LANS **Liptovska Anna** 37.16 318 *e*P P 05 27 15.3 +0.5
GTA **Gaotai** 37.16 59 *e*P P 05 27 18.8 +3.7
GTA pP sP 05 27 28.5 +8.6
GTA sP pP 05 27 32.3 +14
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA pmax pmax
comp=Z,76nm,4.6s
GTA LR LR
comp=Z,160nm,18.9s
GTA LR LR
comp=Z,220nm,18.9s
GTA LR LR
comp=Z,140nm,15.5s
VYHS **Vyhne** 37.30 316 *e*P P 05 27 15.6 -0.3
VYHS pmax pmax
comp=Z,3.0nm,1.2s
VYHS **Vyhne** 37.30 316 *e*P P 05 27 15.6 -0.3
TIH **Tihany** 37.34 314 *e*P P 05 27 15.1 -1.2
OJC **Ojcow** 37.40 319 *e*P P 05 27 16.3 -0.5
comp=Z,19nm,0.7s
OJC **Ojcow** 37.40 319 *e*P P 05 27 16.3 -0.5
OJC pmax pmax
comp=Z,19nm,0.7s
BEHE **Becsehely** 37.95 312⇑*e*P P 05 27 21.0 -0.4
JAVC **Velka Javorina** 38.15 316 *e*P P 05 27 23.7 +0.5
OKC **Ostrava-Krasne** 38.22 318 AMS AMS 05 47 50.0
comp=Z,300nm,17.2s
MODS **Modra-Piesok** 38.23 316 *e*P P 05 27 23.2 -0.6
MODS pmax pmax
comp=Z,15nm,1.3s
MODS **Modra-Piesok** 38.23 316 *e*P P 05 27 23.2 -0.6
KOGS **Kog** 38.29 312 *i* P P 05 27 24.2 0.0
SOP **Sopron** 38.45 314 *e*P P 05 27 25.0 -0.6
MORC **Moravsky Berou** 38.56 318 *e*P P 05 27 25.7 -0.9
VSU **Vasula** 38.57 334*ce*P P 05 27 27.6 +1.1
VSU pmax pmax
comp=Z,22nm,1.3s
CMAR **Chiang Mai Arr** 38.72 93 LR LR 05 45 29.0
comp=Z,128nm,19.2s,baz=253,slow=39
VRAC **Vranov** 38.97 317 *e*P P 05 27 29.7 -0.3
VRAC **Vranov** 38.97 317 LR LR 05 45 20.5
comp=Z,58nm,20.6s,baz=113,slow=39
CONA **Conrad Observa** 38.98 314 *i* pP P 05 27 29.8 -0.4
comp=Z,6.7nm,0.7s,SNR=6.8
ARSA **Arzberg** 38.99 313 *i* pP P 05 27 30.0 -0.3
comp=Z,10nm,0.7s,SNR=5.5
KRUC **Moravsky** 39.01 316 *e*P P 05 27 30.1 -0.2
PERS **Pernice** 39.09 312 *i* P P 05 27 30.7 -0.4
SOKA **Soboth** 39.16 312 *i* pP P 05 27 31.5 -0.2
comp=Z,7.2nm,0.8s
GBAS **Gorenja Brezov** 39.36 311 *i* P P 05 27 33.4 +0.1
OBKA **Obir** 39.43 312 *i* pP P 05 27 35.0 +0.9
comp=Z,7.8nm,0.9s
DPC **Dobruska-Polom** 39.50 318 *e*P P 05 27 33.9 -0.6
DPC **Dobruska-Polom** 39.50 318 *e*P P 05 27 33.9 -0.6
MOA **Molln** 39.98 314 *i* pP P 05 27 38.4 -0.1
comp=Z,19nm,0.7s,SNR=8.5
MYKA **Terra Mystica** 40.07 312 *i* pP P 05 27 39.0 -0.3
comp=Z,6.0nm,0.6s
LZH **Lanzhou** 40.14 65 *e*P P 05 27 42.3 +2.2
LZH pP sP 05 27 49.5 +4.6
LZH sP pP 05 27 56.0 +12
LZH PP PnPn 05 29 18.8 +3.0
LZH pmax pmax
comp=Z,11nm,1.2s
LZH pmax pmax
comp=Z,91nm,4.3s
LZH LR LR
comp=Z,200nm,16.8s
LZH LR LR
comp=Z,220nm,16.8s
LZH LR LR
comp=Z,230nm,17.3s
GOPC **GO Pecny, Ondr** 40.28 317 AMS AMS 05 48 10.0
comp=Z,100nm,22.2s
CD2 **Chengdu** 40.31 73 *e*P P 05 27 41.0 -0.4
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,590nm,23.5s
CD2 LR LR
comp=Z,340nm,16.2s
CD2 LR LR
comp=Z,460nm,14.1s
KMI **Kunming** 40.31 82 P P 05 27 40.5 -1.2
KMI pmax pmax
comp=Z,12nm,0.9s
KBA **Koelnbreinsper** 40.38 312 *i* pP P 05 27 41.8 -0.2
comp=Z,14nm,0.7s,SNR=7.5
PRU **Pruhonice** 40.46 317 AMS AMS 05 48 00.0
comp=Z,100nm,18.8s
GEC2 **GERESS Array S** 40.63 315 *e*P P 05 27 43.2 -0.7
comp=Z,10nm,0.8s
GEC2 **GERESS Array S** 40.63 315 *e*P P 05 27 43.2 -0.7
GEC2 pmax pmax
comp=Z,11nm,0.8s
GERES **GERESS Array B** 40.63 315 P P 05 27 43.5 -0.4
comp=Z,6.0nm,0.7s,baz=113,slow=8.8,SNR=45
GERES LR LR 05 47 55.3
comp=Z,66nm,18.8s,baz=90,slow=41
KHC **Kasperske Hory** 40.79 315 *e*P P 05 27 44.0 -1.2
comp=Z,6.6nm,0.7s
KHC **Kasperske Hory** 40.79 315 *e*P P 05 27 44.0 -1.2
KHC pmax pmax
comp=Z,7.0nm,0.7s
KHC **Kasperske Hory** 40.79 315 *e*P P 05 27 44.2 -1.0
KHC *es*P sP 05 27 55.2 +5.1
KHC AMS AMS 05 47 40.0
comp=Z,100nm,19.0s
ABTA **Abfaltersbach** 40.85 312 *i* pP P 05 27 45.6 -0.2
comp=Z,17nm,0.6s,SNR=6.4
FIA1 **FINESS Array S** 40.86 337 *e*P P 05 27 44.0 -1.5
comp=Z,5.1nm,0.7s
FINES **FINESS Array B** 40.86 337 P P 05 27 43.7 -1.8
comp=Z,2.9nm,0.5s,baz=140,slow=9.0,SNR=16
WTTA **Wattenberg** 41.55 312 *i* pP P 05 27 50.9 -0.7
comp=Z,38nm,0.6s,SNR=13
WATA **Walderalm** 41.61 312 *i* pP P 05 27 51.2 -0.9
comp=Z,14nm,0.5s,SNR=7.3
CLL **Collm** 41.81 318 *e*P P 05 27 53.2 -0.3
comp=Z,9.2nm,1.1s
CLL **Collm** 41.81 318⇓*i*P P 05 27 53.2 -0.3
CLL pmax pmax
comp=Z,12nm,1.2s
CLL **Collm** 41.81 318⇓*i*(P) P 05 27 53.2 -0.3
comp=Z,12nm,1.2s
SQTA **Sankt Quirin** 41.83 312 *i* pP P 05 27 53.1 -0.7
comp=Z,48nm,0.5s,SNR=18
MOTA **Moosalm** 41.93 312 *i* pP P 05 27 53.7 -1.0
comp=Z,24nm,0.6s,SNR=17
KEST **Kesra** 42.10 295 P P 05 27 55.8 -0.4
comp=Z,5.0nm,0.8s,baz=64,slow=4.7,SNR=5.1
KEST LR LR 05 48 46.9
comp=Z,78nm,19.5s,baz=217,slow=41
FETA **Feichten** 42.11 312 *i* pP P 05 27 55.6 -0.6
comp=Z,48nm,1.0s,SNR=15
RETA **Reutte** 42.18 312 *i* pP P 05 27 55.5 -1.2
comp=Z,13nm,0.6s
FUORN **Ofenpass-Fuorn** 42.34 311 *e*P P 05 27 58.1 0.0
comp=Z,14nm,0.6s
TLY **Talaya** 42.55 41 *i* P P 05 27 58.8 -0.7
DAVOX **Davos/Dischmat** 42.63 311 LR LR 05 50 47.3
comp=Z,51nm,18.9s,baz=82,slow=43
DAVA **Damuels** 42.73 312 *i* pP P 05 28 00.4 -0.8
comp=Z,70nm,0.5s,SNR=23
TUE **Stuetta** 42.93 311 *e*P P 05 28 02.7 -0.3
comp=Z,7.0nm,0.6s
SONA0 **Songino Array** 43.28 47 *e*P P 05 28 05.8 +0.2
SONM **Songino Array** 43.28 47 P P 05 28 05.8 +0.2
comp=Z,0.8nm,0.8s,baz=264,slow=9.7,SNR=3.5
SONM LR LR 05 48 29.0
comp=Z,115nm,18.8s,baz=222,slow=39
ULN **Ulaanbaatar** 43.72 48 *i* P P 05 28 07.7 -1.6
ULN pmax pmax
comp=Z,1.0nm,0.9s
BFO **Black Forest** 43.96 313*ce*P P 05 28 11.8 +0.8
SENIN **Lac Senin/Sane** 44.31 310 *e*P P 05 28 13.4 -0.7
comp=Z,13nm,1.1s
XAN **Xi'an** 44.38 68 P P 05 28 20.5 +5.9
XAN pP sP 05 28 26.0 +6.6
XAN S S 05 34 48.5 -0.7
XAN pmax pmax
comp=Z,5.0nm,1.0s
XAN LR LR
comp=Z,100nm,19.5s
XAN LR LR
comp=Z,130nm,19.5s
XAN LR LR
comp=Z,150nm,15.7s
ECH **Echery** 44.71 313 *e*P P 05 28 16.2 -0.8
comp=Z,15nm,0.9s
ECH **Echery** 44.71 313 *e*P P 05 28 16.2 -0.8
ECH pmax pmax
comp=Z,15nm,0.9s
HFS **Hagfors** 44.99 330 LR LR 05 49 22.2
comp=Z,65nm,21.6s,baz=130,slow=39
WLF **Walferdange** 45.62 315 ⇑P P 05 28 24.2 +0.1
NRIK **Noril'sk** 46.21 14 LR LR 05 51 33.9
comp=Z,138nm,19.0s,baz=214,slow=41
HHC **Hu-ho-hao-te** 46.24 58 *e*P P 05 28 31.3 +1.9
HHC pmax pmax
comp=Z,58nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.3s
HHC LR LR
comp=Z,680nm,15.1s
HHC LR LR
comp=Z,480nm,14.8s
HHC LR LR
comp=Z,590nm,14.1s
NC405 **NORSAR Array S** 46.31 331 *e*P P 05 28 28.2 -1.3
comp=Z,12nm,1.1s
NB2 **NORSAR Subarra** 46.50 331 P P 05 28 28.7 -2.3
comp=Z,0.7nm,0.6s,baz=113,slow=7.9
NB200 **NORSAR Array S** 46.50 331 *e*P P 05 28 29.1 -1.9
NOA **NORSAR Array B** 46.50 331 P P 05 28 29.1 -1.9
comp=Z,1.3nm,0.7s,baz=116,slow=7.8,SNR=8.4
NOA LR LR 05 51 00.1
comp=Z,41nm,18.5s,baz=115,slow=40
ARCES **ARCESS Array B** 46.93 345 P P 05 28 32.9 -1.3
comp=Z,2.4nm,0.8s,baz=141,slow=8.8,SNR=9.2
TAM **Tamanrasset** 47.39 277 *e*P P 05 28 38.6 0.0
comp=Z,5.5nm,1.0s
TAM **Tamanrasset** 47.39 277 *e*P P 05 28 38.6 0.0
TAM pmax pmax
comp=Z,6.0nm,1.0s
WHN **Wuhan** 49.39 71 P P 05 29 12.5 +19
BOD **Bodaibo** 50.01 35 *e*P P 05 28 57.1 -1.0
BOD pmax pmax
comp=Z,10.0nm,1.6s
ESDC **Sonseca Array** 52.41 301 P P 05 29 16.3 -0.2
comp=Z,1.4nm,0.5s,baz=65,slow=7.5,SNR=17
NJ2 **Nanjing** 52.91 69 *e*P P 05 29 20.0 -0.2
NJ2 pmax pmax
comp=Z,12nm,0.5s
TOA0 **Torodi Ar. Sit** 54.05 267 *e*P P 05 29 28.1 -0.7
comp=Z,6.6nm,0.7s
TORD **Torodi Ar. Bea** 54.05 267 P P 05 29 27.1 -1.7
comp=Z,3.2nm,0.5s,baz=62,slow=6.5,SNR=32
TOA1 **Torodi Ar. Sit** 54.05 267 *e*P P 05 29 27.1 -1.7
YAK **Yakutsk** 58.41 32 *i* P P 05 30 00.3 +1.1
YAK pmax pmax
comp=Z,35nm,0.8s
TIXI **Tiksi** 59.05 20 *i* P P 05 30 04.6 +1.1
TIXI pmax pmax
comp=Z,1.0nm,0.9s
KS15 **Wonju Array Si** 59.18 61 *e*P P 05 30 04.7 -0.3
comp=Z,4.7nm,1.0s
KSRS **Korea Array** 59.21 61 P P 05 30 05.3 +0.2
comp=Z,1.2nm,0.7s,baz=274,slow=6.7,SNR=5.7
KSRS LR LR 05 59 22.0
comp=Z,59nm,20.6s,baz=155,slow=40
KLR **Kul'dur** 60.10 47 *i* P P 05 30 09.0 -2.2
KLR pmax pmax
comp=Z,2.0nm,0.9s
KLR **Kul'dur** 60.10 47 P P 05 30 11.6 +0.4
comp=Z,0.9nm,0.4s,baz=207,slow=9.0,SNR=2.5
DAG **Danmarks Havn** 61.22 345 *i* P P 05 30 16.9 -1.4
DAG pmax pmax
comp=Z,2.0nm,0.7s
DAG **Danmarks Havn** 61.22 345 *i* P P 05 30 16.9 -1.4
comp=Z,2.6nm,0.7s
DBIC **Dimbokro** 62.62 264 LR LR 05 58 28.8
comp=Z,49nm,20.9s,baz=41,slow=37
BOSA **Boshof** 63.15 212 P P 05 30 35.5 +3.4
comp=Z,2.1nm,0.8s,baz=55,slow=16,SNR=2.6
BOSA LR LR 05 58 54.5
comp=Z,43nm,18.7s,baz=38,slow=37
SUMG **Summit** 66.73 341 *e*P P 05 30 55.2 +0.1
comp=Z,9.7nm,0.7s
SUMG **Summit** 66.73 341 *e*P P 05 30 55.2 +0.1
SUMG pmax pmax
comp=Z,10.0nm,0.7s
SUMG **Summit** 66.73 341 *i* P P 05 30 55.0 -0.1
comp=Z,25nm,0.6s
BILL **Bilibino** 72.20 22 *i* P P 05 31 27.7 -0.8
BILL pmax pmax
comp=Z,2.0nm,1.0s
PETK **Petropavlovsk-** 74.79 38 LR LR 06 06 51.7
comp=Z,39nm,18.3s,baz=255,slow=38
TOLK **Toolik Lake Re** 82.94 10 *e*P P 05 32 28.8 +0.2
comp=Z,3.5nm,0.8s
MLY **Manley** 86.04 12 *e*P P 05 32 44.1 -0.2
comp=Z,1.9nm,0.9s
BPAW **Bear Paw Mtn.** 86.83 12 *e*P P 05 32 48.0 -0.2
comp=Z,3.9nm,1.0s
ILAR **Eielson Array** 86.93 10 P P 05 32 48.5 -0.2
comp=Z,0.5nm,0.6s,baz=319,slow=4.3,SNR=5.2
ILAR LR LR 06 17 30.1
comp=Z,34nm,19.1s,baz=338,slow=40
CAST **Castle Rocks** 87.23 13 *e*P P 05 32 50.3 +0.2
comp=Z,5.1nm,0.9s
YKA **Yellowknife Ar** 91.02 356 P P 05 33 08.4 +0.4
comp=Z,0.3nm,0.6s,baz=4.8,slow=5.2,SNR=6.7
YKB5 **Yellowknife Ar** 91.02 356 *e*P P 05 33 08.4 +0.4
STKA **Stephens Creek** 98.72 121 LR LR 06 15 12.1
comp=Z,54nm,20.8s,baz=2.2,slow=34

IDC ***31*** *05:24:00.1±1.1,2.°51S×128.°86E,h0km,mb4.1/6,*
mb1 4.4/8,mb1mx3.9/37,mbtmp4.2/8,ML4.4/3,MS3.1/2,
Ms1 3.1/2,ms1mx2.7/27,Error ellipse: s-maj=49.1km
s-min=17.7km az=68.0
DJA ***31*** *05:24:10.3±0.3,3.°S×3.°×12.°9E±.°,h10km,M4.3/6,MLv4.3/6*
BJI ***31*** *05:24:20.7±0.0,3.°50S×130.°40E,h73km,mb4.9/12,*
mB4.9/9,Ms4.8/4,Ms7 4.6/4
NEIC ***31*** *05:24:21.6±2.1,3.°56S×130.°33E,h77km±5km,mb4.5/13,*
Error ellipse: s-maj=20.8km s-min=11.2km az=83.0
ISC 31 05:24:11.4±0.7,2.°80S±0.°06×129.°40E±0.°06,h100km,n46,
σ1§81/25,mb4.7/18,Seram

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

BNDI	**Bandanaira**	**1.78**	**164**	P	**Pn**	**05 24 41.1**	**-0.1**
BNDI				S	**Sn**	**05 25 04.3**	**+0.5**
SWI	**Sorong**	**2.68**	**44**	P	**Pn**	**05 24 53.7**	**+0.8**
SWI				S	**Sn**	**05 25 26.5**	**+1.8**
FAKI	**Fak Fak**	**2.84**	**92**	*e*Pn	**Pn**	**05 24 53.8**	**-1.3**
FAKI	**Fak Fak**	**2.84**	**92**	P	**Pn**	**05 24 55.4**	**+0.3**
SANI	**Sanana**	**3.49**	**282**	P	**Pn**	**05 25 04.8**	**+1.0**
SANI				S	Sn	05 25 57.7	+13
TNTI	**Ternate**	**4.09**	**330**	*e*Pn	Pn	05 25 38.2	+26
TNTI				*e*		05 26 22.3	
TNTI	**Ternate**	**4.09**	**330**	P	**Pn**	**05 25 13.3**	**+1.4**
KMPI	**Kaimana, Papua**	**4.38**	**101**	P	**Pn**	**05 25 16.2**	**+0.5**
SOEI	**Soe**	**8.59**	**216**	*e*Pn	Pn	05 26 19.1	+6.1
KAPI	**Kappang**	**9.88**	**257**	Pn	Pn	05 26 17.6	-13
	25nm,0.3s,baz=12,slow=5.4,SNR=43						
KAPI				LR	LR	05 30 40.1	
	comp=Z,138nm,20.1s,baz=88,slow=42						
MTN	**Manton Dam**	**10.12**	**170**	*e*Pn	**Pn**	**05 26 33.6**	**-0.2**
JAY	**Jayapura**	**11.29**	**89**	LR	LR	05 32 27.4	
	comp=Z,83nm,18.9s,baz=356,slow=43						
FITZ	**Fitzroy Crossi**	**15.64**	**193**	*e*Pn	**P**	**05 27 47.8**	**-0.5**
	19nm,1.4s						
FITZ	**Fitzroy Crossi**	**15.64**	**193**	Pn	**Pn**	**05 27 44.2**	**-2.1**
	0.1nm,0.3s,baz=42,slow=14,SNR=3.3						
WRAB	**Tennant Creek**	**17.70**	**165**	*e*Pn	**Pn**	**05 28 08.5**	**-3.1**
	30nm,1.3s						
WR1	**Warramunga Arr**	**17.70**	**165**	*e*P	**Pn**	**05 28 12.1**	**+0.5**
WRA	**Warramunga Arr**	**17.70**	**165**	P	**Pn**	**05 28 12.1**	**+0.4**
	2.2nm,0.3s,baz=346,slow=13,SNR=60						
WB2	**Warramunga Arr**	**17.71**	**165**	*e*P	**Pn**	**05 28 11.3**	**-0.4**
	16nm,0.9s						
MANU	**Manus Island**	**17.96**	**88**	*e*P	**Pn**	**05 28 15.0**	**+0.2**
	90nm,0.1s						
AS31	**Alice Springs**	**21.19**	**169**	*e*P	**P**	**05 28 52.7**	**+3.7**
	13nm,0.8s						
ASAR	**Alice Springs**	**21.19**	**169**	P	**P**	**05 28 52.0**	**+2.9**
	35nm,0.7s,baz=348,slow=9.9,SNR=197						
ASAR				S	Sn	05 32 44.5	-8.2
	4.4nm,1.1s,baz=347,slow=18,SNR=7.2						
BBOO	**Buckleboo**	**30.50**	**169**	*e*P	P	05 30 19.3	+4.3
	13nm,1.1s						
STKA	**Stephens Creek**	**31.11**	**160**	*e*P	P	05 30 25.7	+5.2
	0.8nm,1.0s						
STKA	**Stephens Creek**	**31.11**	**160**	P	P	05 30 25.2	+4.7
	1.1nm,0.4s,baz=327,slow=8.0,SNR=4.3						
NJ2	**Nanjing**	**36.08**	**345**	*e*P	P	05 31 26.8	+23
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KS15	**Wonju Array Si**	**40.07**	**358**	*e*P	P	05 31 57.4	+20
	13nm,1.3s						
CD2	**Chengdu**	**41.49**	**326**	*e*P	P	05 32 11.0	+22
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
LZH	**Lanzhou**	**45.46**	**331**	*e*P	P	05 32 44.5	+24
LZH				pP	sP	05 33 02.5	+7.4
LZH				sP	pwP	05 33 08.3	+24
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,67nm,4.9s						
LZH				LR	LR		
	comp=N,210nm,17.4s						
LZH				LR	LR		
	comp=E,220nm,16.7s						
LZH				LR	LR		
	comp=Z,230nm,18.2s						
HHC	**Hu-ho-hao-te**	**46.40**	**341**	*e*P	P	05 32 51.0	+23
HHC				pmax	pmax		
	comp=Z,60nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
HHC				LR	LR		
	comp=N,790nm,14.5s						
HHC				LR	LR		
	comp=E,360nm,14.5s						
HHC				LR	LR		
	comp=Z,630nm,12.8s						
LBZ	**Lake Benmore**	**54.82**	**145**	*e*P	P	05 33 38.9	+7.7
	22nm,1.2s						
BFZ	**Birch Farm**	**56.56**	**138**	*e*P	P	05 33 48.3	+4.6
	38nm,1.2s						
WMQ	**Urumqi**	**59.59**	**326**	*e*P	P	05 34 28.0	+23
WMQ				sP	PcP	05 34 55.5	+4.4
WMQ				pmax	pmax		
	comp=Z,45nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,220nm,4.1s						
WMQ				LR	LR		
	comp=E,4μm,38.9s						
WMQ				LR	LR		
	comp=Z,3μm,29.3s						
MKAR	**Makanchi Array**	**64.42**	**326**	P	**P**	**05 34 33.8**	**-3.3**
	0.6nm,0.3s,baz=126,slow=8.2,SNR=10						
KSH	**Kashi**	**64.56**	**317**	P	**P**	**05 34 36.0**	**-2.3**
KURBB	**Kurchatov Arra**	**68.65**	**328**	P	**P**	**05 35 01.8**	**-2.1**
	1.1nm,0.7s,baz=133,slow=5.8,SNR=12						
TIXI	**Tiksi**	**74.32**	**360**	*e*P	P	05 35 53.9	+16
	11nm,0.2s						
VNDA	**Vanda**	**76.66**	**173**	*e*P	P	05 35 58.9	+8.0
	5.6nm,1.5s						
VNDA	**Vanda**	**76.66**	**173**	P	P	05 35 54.6	+3.8
	0.5nm,0.8s,baz=323,slow=7.5,SNR=3.3						
MAW	**Mawson**	**78.62**	**201**	*e*P	P	05 36 08.9	+7.0
	2.2nm,1.4s						
MAW	**Mawson**	**78.62**	**201**	P	P	05 36 06.7	+4.8
	2.3nm,0.8s,baz=98,slow=7.1,SNR=5.0						
AKTO	**Aktyubinsk**	**80.41**	**322**	P	**P**	**05 36 11.6**	**-0.4**
	0.6nm,0.3s,baz=73,slow=11,SNR=3.7						
GO02	**Mina Guanaco**	**146.65**	**148**	*e*PKPdf	PKiKP	05 43 52.0	+6.5
LVC	**Limon Verde**	**149.05**	**146**	*e*PKPbc	PKPbc	05 43 58.9	+10
PB01	**IPOC Station P**	**149.93**	**143**	*e*PKPdf	**PKPab**	**05 43 57.2**	**+0.3**
CPUP	**Villa Florida**	**150.31**	**168**	*e*PKPdf	**PKPab**	**05 44 00.5**	**+2.3**
GO01	**Chusmiza**	**151.15**	**141**	*e*PKPbc	PKPbc	05 44 04.2	+10

*ISCJB **31** 05:24:44.8±0.5, 0°.21S±0°.05×123°.89E±0°.05, h110km, Error ellipse: s-maj=8.0km s-min=5.9km az=44.5*
*DJA **31** 05:24:46.7±0.3, 0°.5S±°.2×12°.4E±°, h83km±7km, M4.6/16, mb4.8/6, mB5.1/6, MLv4.6/16, Mw(mB)4.5/6*
*IDC **31** 05:25:53.0±5.2, 4°.69S×125°.97E, h369km±59km, mb3.3/3, mb1 3.6/6, mb1mx3.1/38, mbtmp4.3/6, Error ellipse: s-maj=93.9km s-min=16.3km az=55.0*

ISC 31 05:24:45.7±1.0, 0°.23S±0°.05×123°.96E±0°.05, h110km, n20, σ1§61/24, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.80**	**2**	P	**Pn**	**05 25 05.0**	**+0.1**
KMSI				S	**Sn**	**05 25 17.7**	**-1.7**
LUWI	**Luwuk**	**1.44**	**236**	P	**Pn**	**05 25 10.6**	**-1.2**
LUWI				S	**Sn**	**05 25 29.5**	**-2.0**
MRSI	**Marisa**	**2.13**	**289**	P	**Pn**	**05 25 18.1**	**-2.3**
SANI	**Sanana**	**2.72**	**132**	P	**Pn**	**05 25 27.4**	**-0.6**
SANI				S	**Sn**	**05 25 55.6**	**-5.0**
TNTI	**Ternate**	**3.55**	**74**	P	**Pn**	**05 25 39.6**	**+0.6**
KDI	**Kendari**	**3.94**	**200**	P	**Pn**	**05 25 44.8**	**+0.5**
MPSI	**Mapaga**	**4.10**	**278**	P	**Pn**	**05 25 46.3**	**-0.1**
SGSI	**Sangihe**	**4.19**	**22**	P	**Pn**	**05 25 49.0**	**+1.4**
TTSI	**Tana Toraja**	**5.00**	**236**	P	**Pn**	**05 25 58.7**	**+0.2**
TTSI				S	**Sn**	**05 26 54.0**	**-1.1**
BBSI	**Bau Bau**	**5.41**	**195**	P	**Pn**	**05 26 04.4**	**+0.3**
SPSI	**Sidrap Palu**	**5.60**	**228**	P	**Pn**	**05 26 06.9**	**+0.3**
	229nm,0.5s,3μm0.9nm						
BNSI	**Bone**	**5.66**	**223**	P	**Pn**	**05 26 07.4**	**0.0**
KAPI	**Kappang**	**6.35**	**221**	P	**Sn**	**05 27 26.6**	**-1.3**
	4.6nm,0.3s,baz=55,slow=23,SNR=7.8						
BKSI	**Bulukumba**	**6.35**	**217**	P	**Pn**	**05 26 17.1**	**+0.3**
SGKI	**Sangatta, Kali**	**6.36**	**267**	P	**Pn**	**05 26 16.7**	**-0.3**
BSSI	**Bau Bau, Buton**	**6.82**	**210**	P	**Pn**	**05 26 23.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**17.84**	**175**	P	**Pn**	**05 28 47.2**	**+0.2**
	0.7nm,0.3s,baz=355,slow=7.9,SNR=12						
WRA	**Warramunga Arr**	**22.08**	**153**	P	**P**	**05 29 31.8**	**-0.2**
	2.3nm,0.3s,baz=334,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**25.22**	**158**	P	**P**	**05 30 04.2**	**+2.8**
	3.0nm,0.4s,baz=345,slow=15,SNR=4.6						
STKA	**Stephens Creek**	**35.63**	**154**	P	**P**	**05 31 34.5**	**+1.4**
	9.7nm,0.5s,baz=334,slow=8.4,SNR=24						

*SOME **31** 05:50:02.2, 44°.72N×82°.03E, h15km*
*NNC **31** 05:50:02.6±1.0, 44°.78N×81°.83E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=13.6km s-min=3.7km az=128.0*

ISC 31 05:49:59.7±1.6, 44°.67N±0°.06×82°.15E±0°.06, h4km±13km, n22, σ2§04/35, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.72**	**260**	*e*P	**Pg**	**05 50 33.3**	**+0.7**
	16nm,0.2s						
DJR				*e*S	**Sg**	**05 50 55.8**	**+0.9**
	19nm,0.3s						
KTMS	**Ketmen**	**1.78**	**227**	*e*P	**Pg**	**05 50 34.3**	**+0.6**
	14nm,0.3s						
KTMS				*e*S	**Sg**	**05 50 57.6**	**+0.9**
	65nm,0.4s						
KAPS	**Kapalarasan**	**2.08**	**288**	*e*P	**Pb**	**05 50 38.2**	**+0.3**
	7.9nm,0.3s						
KAPS				*e*S	**Sb**	**05 51 04.2**	**+0.1**
	22nm,0.2s						
MK31	**Makanchi Array**	**2.13**	**3**	⇓Pn	**Pb**	**05 50 38.6**	**-0.2**
	9.9nm,0.2s,baz=180,slow=14,SNR=76						
MK31				⇑Lg	Lg	05 51 06.3	
	10.0nm,0.3s,baz=185,slow=29,SNR=19						
MAKZ	**Makanchi**	**2.15**	**357**	⇓Pn	**Pb**	**05 50 38.6**	**-0.5**
	9.7nm,0.6s						
MAKZ				⇑Lg	Lg	05 51 06.4	
	11nm,0.4s						
PDGK	**Podgornoye**	**2.34**	**236**	⇑Pg	**Pb**	**05 50 42.0**	**-0.4**
	2.6nm,0.3s						
PDGK				⇑Lg	Lg	05 51 14.0	
	35nm,0.7s						
SHLS	**Shalkode**	**2.46**	**233**	*e*P	**Pn**	**05 50 40.6**	**0.0**
	19nm,0.3s						
SHLS				*e*S	**Sn**	**05 51 08.1**	**-3.1**
	78nm,0.3s						
UZB	**Uzynbulak**	**2.72**	**237**	*e*P	**Pb**	**05 50 48.8**	**-0.2**
	6.5nm,0.3s						
UZB				*e*S	**Sb**	**05 51 22.3**	**-0.4**
	11nm,0.4s						
MNBS	**Baschi**	**2.75**	**259**	Pg	**Pb**	**05 50 49.9**	**+0.4**
	6.9nm,0.2s						
MNBS				Lg	Lg	05 51 24.1	
	36nm,0.3s						
MNBS	**Baschi**	**2.75**	**259**	*e*P	**Pb**	**05 50 49.9**	**+0.4**
	6.9nm,0.2s						
MNBS				*e*S	**Sb**	**05 51 24.1**	**+0.6**
	36nm,0.3s						
ARXS	**Arharly**	**3.13**	**263**	Pg	**Pb**	**05 50 57.2**	**+1.3**
	4.2nm,0.3s						
ARXS				Lg	Lg	05 51 36.6	
	28nm,0.3s						
ARXS	**Arharly**	**3.13**	**263**	*e*P	**Pb**	**05 50 57.2**	**+1.3**
	4.2nm,0.3s						
ARXS				*e*S	**Sb**	**05 51 36.6**	**+2.3**
	28nm,0.3s						
SATY	**Saty**	**3.15**	**241**	*e*P	**Pb**	**05 50 56.6**	**+0.4**
	9.4nm,0.2s						
SATY				*e*S	**Sb**	**05 51 35.3**	**+0.3**
	32nm,0.2s						
ZSN	**Zaisan**	**3.37**	**33**	*e*P	**Pb**	**05 51 00.6**	**+0.7**
	2.1nm,0.2s						
ZSN				*e*S	**Sb**	**05 51 43.1**	**+1.8**
	3.7nm,0.3s						
KOTS	**Kotyrbulak**	**3.91**	**250**	Pg	**Pb**	**05 51 11.4**	**+2.1**
	5.1nm,0.3s						
KOTS				Lg	Lg	05 52 00.9	
	17nm,0.4s						
KOTS	**Kotyrbulak**	**3.91**	**250**	*e*P	**Pb**	**05 51 11.4**	**+2.1**
	5.1nm,0.3s						
KOTS				*e*S	**Sg**	**05 52 00.9**	**-4.3**
	17nm,0.4s						
KTBS	**Karatobe**	**4.04**	**258**	Pg	**Pb**	**05 51 12.9**	**+1.5**
	2.2nm,0.5s						
KTBS				Lg	Lg	05 52 03.5	
	14nm,0.4s						
KTBS	**Karatobe**	**4.04**	**258**	*e*P	**Pb**	**05 51 12.9**	**+1.5**
	2.2nm,0.5s						
KTBS				*e*S	**Sb**	**05 52 03.5**	**+2.8**
	14nm,0.4s						
KUU	**Kurty**	**4.24**	**262**	Pg	**Pb**	**05 51 16.5**	**+1.7**
	2.8nm,0.1s						
KUU				Lg	Lg	05 52 09.6	
	10nm,0.4s						
KUU	**Kurty**	**4.24**	**262**	*e*P	**Pb**	**05 51 16.5**	**+1.7**
	2.8nm,0.1s						
KUU				*e*S	**Sb**	**05 52 09.6**	**+3.3**
	10nm,0.4s						
DGS	**Degeres**	**4.82**	**255**	Pg	**Pb**	**05 51 26.9**	**+2.2**
	2.4nm,0.3s						
DGS				Lg	Lg	05 52 28.3	
	6.6nm,0.6s						
DGS	**Degeres**	**4.82**	**255**	*e*P	**Pb**	**05 51 26.9**	**+2.2**
	2.4nm,0.3s						
DGS				*e*S	**Sg**	**05 52 28.3**	**-6.1**
	6.6nm,0.6s						

*JSO **31** 05:52:24.9±4.4, 31°.N±19°×3°.4E±3°.0, h10km, M2.8/6, Mjma2.8/6, MLv2.9/6*
*NSSC **31** 05:52:40.7±0.3, 35°.10N×35°.88E, h8km±4km, ML1.9*

ISC 31 05:52:29.1±7.0, 31°.2N±0°.3×34°.6E±0°.4, h10km, n8, σ2§35/8, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMAZ	**Amatzia**	**0.42**	**42**	P	**Pg**	**05 52 38.3**	**+1.0**
LISJ	**El Lisan**	**0.77**	**88**	P	**Pn**	**05 52 46.2**	**+0.3**
GHAJ	**Ghor Haditha**	**0.84**	**84**	P	**Pb**	**05 52 46.5**	**+0.7**
WALJ	**Wala**	**1.10**	**72**	P	**Pn**	**05 52 47.2**	**-3.3**
SHMJ	**Saham**	**1.81**	**33**	P	**Pn**	**05 52 58.2**	**-2.1**
BRBR	**Barbar**	**2.47**	**28**	*e*P	**Pn**	**05 53 10.6**	**+1.0**
BRBR				*e*S	Sn	05 53 32.5	-7.5
BRBR				AML	AML	05 53 36.9	
	comp=N,16nm,0.7s						
BRBR				AML	AML	05 53 39.1	
	comp=E,12nm,0.4s						
TOTH	**TOTAH**	**2.65**	**36**	*e*P	**Pn**	**05 53 12.7**	**+0.9**
TOTH				*e*S	Sn	05 53 34.7	-9.3
TOTH				AML	AML	05 53 40.4	
	comp=N,25nm,0.8s						
TOTH				AML	AML	05 53 41.4	
	comp=E,17nm,0.5s						
QASN	**Qassioun**	**2.71**	**31**	*e*P	**Pn**	**05 53 09.8**	**-3.0**
QASN				*e*S	Sn	05 53 30.2	-16
QASN				AML	AML	05 53 31.2	
	comp=E,25nm,0.9s						
QASN				AML	AML	05 53 32.8	
	comp=N,46nm,0.4s						

JMA 31 05:53:19.5, 36°.83N×140°.63E, h8km±1km, M3.6, 3C-1D Broadband fault plane solution: P waves. NP1: ϕ_s=347.00000°, δ54.00000°, λ-111.00000°. **NP2:** ϕ_s=199.00000°, δ41.00000°, λ-64.00000°. **Principal axes:** T Plg7.0000°, Azm91.0000°; N Plg17.0000°, Azm359.0000°; P Plg72.0000°, Azm203.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.22**	**193**	P	Pg	05 53 24.0	0.0
JFFD	**Fukushimafurud**	**0.27**	**348**	⇓P	Pg	05 53 24.9	+0.1
JFFD				S	Sg	05 53 28.5	+0.1
ONAJ	**Iwakimizuishiy**	**0.30**	**26**	P	Pg	05 53 25.5	0.0
ONAJ				S	Sg	05 53 30.1	+0.5
JFK	**Kawauchi**	**0.57**	**20**	P	Pg	05 53 30.2	-0.3
JFK				S	Sg	05 53 37.9	-0.1
JSB	**Shiboa**	**0.59**	**284**	⇑P	Pg	05 53 31.4	+0.6
JYT	**Yasato**	**0.70**	**210**	P	Pg	05 53 32.6	-0.3
JYT				S	Sg	05 53 41.9	-0.1
JFT	**Otama**	**0.73**	**341**	P	Pg	05 53 33.4	-0.1
JFT				S	Sg	05 53 43.2	+0.2
JFY	**Yanaizu**	**0.94**	**308**	⇑P	Pg	05 53 37.0	-0.5
JFY				S	Sg	05 53 49.4	-0.3
JAG	**Ashikaga**	**1.03**	**247**	⇑P	Pg	05 53 38.2	-1.1
JMM	**Marumori**	**1.04**	**7**	P	Pg	05 53 38.6	-0.9
JMM				S	Sg	05 53 52.6	-0.5
MAT	**Matsushiro**	**1.97**	**262**	P	Pn	05 53 53.9	+0.7
MAT				S	Sb	05 54 20.2	-0.1

*DMN **31** 06:04:33.3±0.4, 29°.74N×81°.60E, h2km, Ml4.5/8 Error ellipse: s-maj=11.1km s-min=6.8km az=36.0*

ISC 31 06:04:32.6±2.3, 29°.8N±0°.2×81°.80E±0°.06, h7km±16km, n13, σ1§29/23, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.40**	**256**	*e*P	**Pg**	**06 05 01.2**	**+1.8**
LGTI				*e*S	**Sn**	**06 05 18.8**	**+1.6**
PTH	**Pithoragarh**	**1.40**	**260**	*e*P	**Pg**	**06 04 57.0**	**-2.5**
PTH				*e*S	**Sn**	**06 05 15.7**	**-1.9**
PYUN	**Piuthan**	**1.99**	**148**	*e*Pn	**Pn**	**06 05 06.9**	**0.0**
PYUN				*e*Sn	**Sn**	**06 05 31.4**	**-0.8**
	882nm,0.4s						
DANN	**Dangsing**	**2.24**	**130**	*e*Pn	**Pn**	**06 05 11.6**	**+1.2**
DANN				*e*Sn	**Sn**	**06 05 38.4**	**-0.1**
	909nm,0.5s						
KOLN	**Koldanda**	**2.57**	**142**	*e*Pn	**Pn**	**06 05 15.5**	**+0.7**
KOLN				*e*Sn	**Sn**	**06 05 46.5**	**+0.1**
	804nm,0.4s						
GKN	**Gorkha**	**3.06**	**125**	*e*Pn	**Pn**	**06 05 23.2**	**+1.6**
DMN	**Daman**	**3.63**	**126**	*e*Pn	**Pn**	**06 05 30.3**	**+0.8**
DMN				*e*Sn	**Sn**	**06 06 12.7**	**-0.1**
	106nm,0.3s						
KKN	**Kakani**	**3.65**	**122**	*e*Pn	**Pn**	**06 05 30.9**	**+1.1**
PKIN	**Phulchoki**	**3.86**	**124**	*e*Pn	**Pn**	**06 05 33.3**	**+0.7**
PKI	**Pulchoki**	**3.87**	**124**	*e*Pn	**Pn**	**06 05 33.4**	**+0.5**
PKI				*e*Sn	**Sn**	**06 06 18.5**	**-0.3**
	69nm,0.2s						
JIRN	**Jiri**	**4.41**	**118**	*e*Pn	**Pn**	**06 05 41.2**	**+0.9**
JIRN				*e*Sn	**Sn**	**06 06 31.9**	**-0.1**
	221nm,0.2s						
RAMN	**Ramite**	**5.09**	**123**	*e*Pn	**Pn**	**06 05 49.9**	**+0.3**
RAMN				*e*Sn	**Sn**	**06 06 46.6**	**-2.2**
	177nm,0.3s						
ODAN	**Odare**	**5.73**	**119**	*e*Pn	**Pn**	**06 05 59.1**	**+0.7**
ODAN				*e*Sn	**Sn**	**06 07 03.1**	**-1.4**
	79nm,0.2s						

*ISCJB **31** 06:05:19.1±0.2, 18°.19N±0°.02×68°.35W±0°.02, h97km±2km, mb4.4/52, Error ellipse: s-maj=3.0km s-min=2.3km az=31.4*
*IDC **31** 06:05:20.1±1.5, 18°.19N×68°.38W, h92km±14km, mb4.0/26, mb1 4.2/30, mb1mx4.1/40, mbtmp4.4/30, MS3.2/18, Ms1 3.2/18, ms1mx3.0/42, Error ellipse: s-maj=11.2km s-min=9.4km az=63.0*
*NEIC **31** 06:05:21.2±0.0, 18°.06N×68°.36W, h79km, mb4.6/218, MW4.6, MD4.2(RSPR), Moment Tensor Solution. s24 Moment tensor: Scale 10^{15}Nm; M_{rr}2.62; $M_{\theta\theta}$-8.68; $M_{\phi\phi}$6.07; $M_{r\theta}$1.16; $M_{r\phi}$-4.29; $M_{\theta\phi}$4.26; Best double couple: $M_0$9.90000×10^{15} NP1:ϕ_s297.00000°, δ61.00000°, λ165.00000°. NP2:ϕ_s34.00000°, δ77.00000°, λ30.00000°. Principal axes: T 9.4000, Plg30.0000°, Azm259.0000°; N 0.8000, Plg58.0000°, Azm56.0000°; P -10.2000, Plg1.0000°, Azm16.0000°; After RSPR.*
NEIC Felt [III] at Santo Domingo. Also felt at Higuey and Santiago. Felt at Adjuntas, Aguada, Anasco, Arecibo, Bayamon, Cidra, Guaynabo, Gurabo, Humacao, Las Piedras, Maricao, Mayaguez, Moca, Rincon, Rio Grande and San Juan, Puerto Rico.
*RSPR **31** 06:05:21.2, 18°.06N×68°.36W, h79km±1km, MD4.2/19*

ISC 31 06:05:19.7±0.6, 18°.04N±0°.04×68°.39W±0°.04, h91km±5km, n659, σ1§47/678, mb4.4/52, 28C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.47**	**1**	⇑*e*P	**Pn**	**06 05 33.4**	**-0.9**
PCDR				*e*S	**Sn**	**06 05 44.0**	**-1.2**
PCDR	**Punta Cana, DR**	**0.47**	**1**	⇑*e*P	**Pn**	**06 05 33.6**	**-0.7**
PCDR	**Punta Cana, DR**	**0.47**	**1**	*e*S	**Sn**	**06 05 43.9**	**-1.3**
PCDR	**Punta Cana, DR**	**0.47**	**1**	*e*Pn	**Pn**	**06 05 33.2**	**-1.1**
PCDR				*e*Sn	**Sn**	**06 05 43.8**	**-1.3**
MPR	**Mayaguez**	**1.20**	**82**	⇑*e*P	**Pn**	**06 05 41.7**	**-0.1**
MPR	**Mayaguez**	**1.20**	**82**	⇑*e*P	**Pn**	**06 05 41.7**	**-0.1**
MPR	**Mayaguez**	**1.20**	**82**	*e*Pn	**Pn**	**06 05 41.6**	**-0.1**
MPR				*e*Sn	**Sn**	**06 05 57.4**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.22**	**92**	⇑*e*P	**Pn**	**06 05 42.2**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.22**	**92**	*e*S	**Sn**	**06 05 57.5**	**-1.4**
CRPR	**Cabo Rojo, PR**	**1.22**	**92**	*e*Pn	**Pn**	**06 05 42.2**	**+0.3**
CRPR				*e*Sn	**Sn**	**06 05 58.5**	**-0.3**
AGP	**Aguadilla**	**1.24**	**73**	*e*Pn	**Pn**	**06 05 43.0**	**+0.7**
AGP				*e*Sn	**Sn**	**06 06 01.1**	**+1.8**
LSP	**Las Mesas**	**1.25**	**84**	⇑*e*P	**Pn**	**06 05 42.6**	**+0.2**
LSP	**Las Mesas**	**1.25**	**84**	*e*Pn	**Pn**	**06 05 42.6**	**+0.2**
AGPR	**Aguadilla, PR**	**1.29**	**71**	⇑*e*P	**Pn**	**06 05 43.1**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.44**	**92**	⇓*e*P	**Pn**	**06 05 45.1**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.44**	**92**	*e*S	**Sn**	**06 06 02.8**	**-0.9**
GBPR	**Guanica, Bosqu**	**1.44**	**92**	*e*Pn	**Pn**	**06 05 45.1**	**+0.4**
GBPR				*e*Sn	**Sn**	**06 06 02.8**	**-0.9**
SDD	**Santo Domingo**	**1.51**	**286**	*e*Pn	**Pn**	**06 05 45.6**	**+0.1**
SDD				*e*Sn	**Sn**	**06 06 05.2**	**0.0**
AOPR	**Arecibo Observ**	**1.58**	**79**	⇑*e*P	**Pn**	**06 05 46.5**	**-0.1**
AOPR				*e*S	**Sn**	**06 06 06.1**	**-0.8**
AOPR	**Arecibo Observ**	**1.58**	**79**	⇑*e*P	**Pn**	**06 05 46.5**	**-0.1**
AOPR	**Arecibo Observ**	**1.58**	**79**	*e*Pn	**Pn**	**06 05 46.6**	**0.0**
AOPR				*e*Sn	**Sn**	**06 06 07.3**	**+0.4**
OBIP	**Obispado Ponce**	**1.70**	**90**	⇑*e*P	**Pn**	**06 05 48.3**	**+0.3**
OBIP	**Obispado Ponce**	**1.70**	**90**	*e*S	**Sn**	**06 06 09.1**	**-0.4**
OBIP	**Obispado Ponce**	**1.70**	**90**	*e*Pn	**Pn**	**06 05 48.1**	**+0.1**
OBIP				*e*Sn	**Sn**	**06 06 09.2**	**-0.4**
CELP	**Cerrillos**	**1.72**	**89**	⇑*e*P	**Pn**	**06 05 48.4**	**0.0**
CELP	**Cerrillos**	**1.72**	**89**	*e*Pn	**Pn**	**06 05 48.4**	**0.0**
ICMP	**Isla Caja de M**	**1.78**	**95**	⇑*e*P	**Pn**	**06 05 49.2**	**+0.2**
ICMP	**Isla Caja de M**	**1.78**	**95**	*e*S	**Sn**	**06 06 10.8**	**-0.6**
ICMP	**Isla Caja de M**	**1.78**	**95**	*e*Pn	**Pn**	**06 05 49.0**	**0.0**
ICMP				*e*Sn	**Sn**	**06 06 11.2**	**-0.2**
EMPR	**Esperanza - Ma**	**1.82**	**76**	⇑*e*P	**Pn**	**06 05 49.9**	**+0.3**
EMPR	**Esperanza -

SEUS eSn Sn 06 07 34.7 +1.4
SEUS St. Eustatius 5.18 95 eP Pn 06 06 35.1 +0.3
SEUS St. Eustatius 5.18 95 eS Sn 06 07 34.2 +0.9
BSK Brimstone Hill 5.33 97 eS Sn 06 07 38.6 +1.6
SKI Saint Kitts 5.43 97 ePn Pn 06 06 37.8 -0.4
SKI Saint Kitts 5.43 97 eP Pn 06 06 37.9 -0.4
SKI Saint Kitts 5.43 97 eS Sn 06 07 35.7 -3.8
NVBH Bath Hotel, Ne 5.58 99 eP Pn 06 06 40.7 +0.4
NVBH Bath Hotel, Ne 5.58 99 eS Sn 06 07 39.7 -3.4
NVRH Round Hill, Ne 5.59 98 eP Pn 06 06 39.4 -0.9
NVRH Round Hill, Ne 5.59 98 eS Sn 06 07 38.3 -4.9
NEV Hard Times 5.62 98 eP Pn 06 06 41.9 +1.1
NEV Hard Times 5.62 98 eS Sn 06 07 39.0 -5.0
MLYT Lee's Yard 6.06 102 eP Pn 06 06 46.7 -0.1
MLYT Lee's Yard 6.06 102 eS Sn 06 07 53.3 -1.6
ANWB Willy Bob 6.30 92 ePn Pn 06 06 49.2 -0.8
ANWB Willy Bob 6.30 92 eP Pn 06 06 48.9 -1.2
ANWB Willy Bob 6.30 92 eS Sn 06 07 58.3 -2.3
BPA Boggy Peak 6.31 98 eP Pn 06 06 51.3 +1.1
BPA Boggy Peak 6.31 98 eS Sn 06 07 60.0 -0.9
GTBY Guantanamo Bay 6.63 287 ePn Pn 06 06 52.3 -2.2
TBG Guadaloupe-3 6.81 108 eP Pn 06 06 57.9 +0.8
TBG Guadaloupe-3 6.81 108 eS Sn 06 08 05.5 -7.5
BBL Barber's Block 7.08 110 eP Pn 06 07 01.5 +0.7
BBL Barber's Block 7.08 110 eS Sn 06 08 17.2 -2.6
URIC Uribia, Colomb 7.20 209 eP Pn 06 07 03.3 +1.0
URIC Uribia, Colomb 7.20 209 eP Pn 06 07 03.3 +1.0
DWS Wesley 7.21 109 eP Pn 06 07 02.7 +0.2
DWS Wesley 7.21 109 eS Sn 06 08 20.0 -2.8
MDN Morne-Daniel 7.23 111 eP Pn 06 07 05.1 +2.4
DPMT Pointe Michel 7.27 111 eP Pn 06 07 05.1 +1.9
DBCT Belle View Cho 7.29 111 eP Pn 06 07 05.9 +2.3
DLPL La Plaine 7.36 110 eP Pn 06 07 05.3 +0.8
DLPL La Plaine 7.36 110 eS Sn 06 08 22.5 -3.9
FDF Fort de France 7.69 114 ePn Pn 06 07 09.6 +0.6
FDF Fort de France 7.69 114 eP Pn 06 07 09.5 +0.5
FDF Fort de France 7.69 114 eS Sn 06 08 31.9 -2.6
HOJ Hope 7.95 271 ||iP Pn 06 07 12.9 +0.3
STH Stony Hill 8.01 272 ||iP Pn 06 07 12.9 -0.5
SLBI Saint Lucia, B 8.17 118 eP Pn 06 07 16.3 +0.8
SLBI Saint Lucia, B 8.17 118 eS Sn 06 08 40.9 -5.4
SLW Petit Monier 8.20 118 eP Pn 06 07 17.8 +1.8
SLW Petit Monier 8.20 118 eS Sn 06 08 41.0 -6.1
SLDE Delcer 8.21 120 eP Pn 06 07 18.2 +2.1
SLDE Delcer 8.21 120 eS Sn 06 08 43.6 -3.8
SLB Belfond 8.22 120 eP Pn 06 07 18.6 +2.4
SLB Belfond 8.22 120 eS Sn 06 08 44.3 -3.2
SLPA Patience 8.30 119 eP Pn 06 07 18.7 +1.3
SLPA Patience 8.30 119 eS Sn 06 08 44.6 -5.0
SFAN Fancy Village 8.35 123 eP Pn 06 07 21.7 +3.7
SFAN Fancy Village 8.35 123 eS Sn 06 08 48.7 -2.0
SVB Belmont 8.35 124 ePn Pn 06 07 18.6 +0.5
SVB Belmont 8.35 124 eP Pn 06 07 19.4 +1.4
SVB Belmont 8.35 124 eS Sn 06 08 45.6 -5.1
SVV Soufriere Volc 8.35 123 eS Sn 06 08 47.0 -3.8
MCLT Moule a Chique 8.36 120 eP Pn 06 07 20.2 +2.1
MCLT Moule a Chique 8.36 120 eS Sn 06 08 42.8 -8.2
SSV Crater Summit 8.37 123 eP Pn 06 07 21.4 +3.1
SSV Crater Summit 8.37 123 eS Sn 06 08 49.0 -2.2
FCV Fort Charlotte 8.42 124 eP Pn 06 07 21.4 +2.4
FCV Fort Charlotte 8.42 124 eS Sn 06 08 48.7 -3.7
SVCV St. Vincent, C 8.44 123 eP Pn 06 07 20.0 +0.8
SVCV St. Vincent, C 8.44 123 eS Sn 06 08 46.6 -6.2
BBJ Bamboo Saint A 8.44 274 i P Pn 06 07 19.0 -0.3
GRSS Sisters 8.68 130 eP Pn 06 07 24.9 +2.4
GRSS Sisters 8.68 130 eS Sn 06 08 54.4 -4.4
GRHS Sauteurs 8.71 131 eP Pn 06 07 22.5 -0.4
GRHS Sauteurs 8.71 131 eS Sn 06 08 56.1 -3.4
SMRC Santa Marta, M 8.87 220 eP Sn 06 08 57.0 -6.3
SMRC Santa Marta, M 8.87 220 eP Sn 06 08 57.0 -6.3
SDV Santo Domingo 9.36 194 ePn Pn 06 07 34.9 +2.9
SDV Santo Domingo 9.36 194 eP Pn 06 07 35.2 +3.3
SDV Santo Domingo 9.36 194 eP Pn 06 07 35.2 +3.3
SDV Santo Domingo 9.36 194 P Pn 06 07 35.3 +3.3
10nm,0.3s,baz=330,slow=14,SNR=53
SDV S Sn 06 09 14.9 -0.7
3.8nm,0.3s,baz=305,slow=22,SNR=6.1
SDV LR LR 06 11 18.9
comp=Z,92nm,21.4s,baz=64,slow=38
CODC Agustn Codazz 9.43 212 eP Sn 06 09 13.6 -3.5
CODC Agustn Codazz 9.43 212 eP Sn 06 09 13.6 -3.5
BBGH Gun Hill 9.80 119 eP Pn 06 07 41.8 +4.0
BBGH Gun Hill 9.80 119 eS Sn 06 09 21.2 -4.9
BBSP Saint Philip 9.91 118 eP Pn 06 07 44.3 +5.1
ARGC Ariguani, Magd 9.92 216 eP Sn 06 09 25.5 -3.5
ARGC Ariguani, Magd 9.92 216 eP Sn 06 09 25.5 -3.5
TRN Trinidad (W) 9.99 136 eP Pn 06 07 44.2 +3.9
TRN Trinidad (W) 9.99 136 eS Sn 06 09 23.6 -7.1
TOSP Speyside 10.13 130 eP Pn 06 07 49.7 +7.5
TOSP Speyside 10.13 130 eS Sn 06 09 21.8 -12
TPP Pointe-a-Pierr 10.21 138 eP Pn 06 07 46.3 +3.0
TPP Pointe-a-Pierr 10.21 138 eS Sn 06 09 30.5 -5.5
SMLC San Martn de 10.72 212 eP Sn 06 09 44.8 -3.6
SMLC San Martn de 10.72 212 eP Sn 06 09 44.8 -3.6
PAMC Pamplona, Colo 11.44 202 eP Pn 06 08 01.8 +1.3
PAMC Pamplona, Colo 11.44 202 eP Pn 06 08 01.8 +1.3
GIRC Giron, Santand 11.86 204 eP Pn 06 08 08.4 +2.6
GIRC Giron, Santand 11.86 204 eP Pn 06 08 08.4 +2.6
BRRC Barranca, Sant 12.04 206 eP Pn 06 08 09.8 +1.6
BRRC Barranca, Sant 12.04 206 eP Pn 06 08 09.8 +1.6
BARC Barichara 12.30 203 eP Pn 06 08 13.8 +1.9
BARC Barichara 12.30 203 eP Pn 06 08 13.8 +1.9
UREC San Jos de Ur 12.37 215 eP Pn 06 08 14.4 +1.9
UREC San Jos de Ur 12.37 215 eP Pn 06 08 14.4 +1.9
PTBC PUERTO BERRIO, 12.88 208 eP Pn 06 08 19.7 +0.4
PTBC PUERTO BERRIO, 12.88 208 eP Pn 06 08 19.7 +0.4
RUSC La Rusia 12.92 201 eP Pn 06 08 22.4 +2.1
RUSC La Rusia 12.92 201 eP Pn 06 08 22.4 +2.1
YOPC Yopal, Colombi 13.21 198 eP Pn 06 08 27.1 +3.2
YOPC Yopal, Colombi 13.21 198 eP Pn 06 08 27.1 +3.2
HELC Santa Helena 13.69 211 eP Pn 06 08 33.7 +3.4
HELC Santa Helena 13.69 211 eP Pn 06 08 33.7 +3.4
NORC Norcasia 13.93 208 eP P 06 08 37.0 -1.2
NORC Norcasia 13.93 208 eP P 06 08 37.0 -1.2
BCIP Isla Barro Col 14.19 233 ePn Pn 06 08 36.6 +0.1
ROSC El Rosal 14.35 205 P P 06 08 42.9 -0.4
3.5nm,0.3s,baz=305,slow=12,SNR=8.3
ROSC S Sn 06 11 18.5 +1.4
1.6nm,0.3s,baz=150,slow=20,SNR=3.6
GUY2C Guyana, Caldas 14.45 209 eP P 06 08 43.7 -0.8
GUY2C Guyana, Caldas 14.45 209 eP P 06 08 43.7 -0.8
BBSR BB Station 14.65 12 ePn Pn 06 08 39.1 -3.2
VILC Villavicencio, 14.79 201 eP Pn 06 08 43.7 -0.6
VILC Villavicencio, 14.79 201 eP Pn 06 08 43.7 -0.6
058A Arcadia 15.29 308 P Pn 06 08 49.1 -1.3
baz=123
PRAC Prado 15.60 205 eP P 06 08 58.3 +1.5
PRAC Prado 15.60 205 eP P 06 08 58.3 +1.5
GUVC San Jose del G 15.95 196 eP P 06 09 00.9 +0.2
GUVC San Jose del G 15.95 196 eP P 06 09 00.9 +0.2
658A Bunnell 16.33 316 P Pn 06 09 02.1 -1.4
baz=131
ESPN Las Esperanzas 16.42 251 ePn P 06 09 06.6 +0.8
32nm,1.1s
757A Oxford 16.57 313 P Pn 06 09 05.1 -1.4
baz=128
657A Interlachen 16.84 316 P Pn 06 09 09.5 -0.3
baz=130
557A Orange Park 17.03 317 P Pn 06 09 11.6 -0.5
baz=132
ACON Acoyapa 17.30 252 ePn Pn 06 09 17.7 +2.2
37nm,1.0s
457A Yulee 17.32 319 P Pn 06 09 15.1 -0.5
baz=133
POPC Popayan, Colom 17.42 209 eP Pn 06 09 20.2 +3.0
POPC Popayan, Colom 17.42 209 eP Pn 06 09 20.2 +3.0
556A Lake Butler 17.46 316 P P 06 09 16.9 -0.4
baz=130
456A Hilliard 17.69 318 P P 06 09 19.5 -0.3
baz=132
655A Horseshoe Beac 17.74 313 P P 06 09 20.2 -0.1
baz=127
JTS Las Juntas de 17.80 247 eP Pn 06 09 23.2 +1.5
133nm,1.1s
JTS Las Juntas de 17.80 247 P P 06 09 21.6 +0.4
0.5nm,0.3s,baz=214,slow=3.6,SNR=5.2
FLOC Florencia 17.84 204 eP Pn 06 09 25.5 +3.4
FLOC Florencia 17.84 204 eP Pn 06 09 25.5 +3.4
455A Stateville 18.35 316 P P 06 09 27.4 +0.4
baz=130
Z58A St. Stephen 18.36 328 P Pn 06 09 27.6 -0.6
baz=143
CRUC La Cruz 18.41 208 eP Pn 06 09 32.8 +3.6
CRUC La Cruz 18.41 208 eP Pn 06 09 32.8 +3.6
157A Early Branch 18.47 324 P P 06 09 28.4 +0.1
baz=139
256A Glennville 18.47 321 P P 06 09 27.5 -0.8
baz=136
X60A Albert Glenn T 18.56 334 P P 06 09 28.7 -0.5
baz=150
355A Pearson 18.63 318 P Pn 06 09 30.8 -0.7
baz=132
W61A Ground Anchor 18.70 338 P P 06 09 30.2 -0.6
baz=154
454A Quitman 18.73 315 P P 06 09 30.2 -1.0
baz=129
156A Sylvania 18.73 323 P P 06 09 31.1 -0.1
baz=138
Y58A Scranton 18.75 330 P P 06 09 31.0 -0.3
baz=145
Z57A Bowman 18.79 326 P P 06 09 31.5 -0.3
baz=141
255A Hazlehurst 18.79 320 P P 06 09 31.8 0.0
baz=134
X59A McDuffie Farm, 18.82 333 P P 06 09 31.8 -0.2
baz=148
W60A Pink Hill 18.86 336 P P 06 09 32.4 -0.2
baz=152
TEIG Tepich 18.91 280 eP P 06 09 33.8 +0.5
42nm,1.4s
X58A Rowland 19.13 331 P P 06 09 35.4 -0.1
baz=146
TIGA Tifton 19.16 317 P P 06 09 36.1 +0.1
baz=131
Z56A Williston 19.16 325 P P 06 09 35.7 -0.2
baz=139
Y57A Sumter 19.19 328 P P 06 09 36.0 -0.2
baz=143
W59A Clinton 19.26 334 P P 06 09 36.7 -0.2
baz=150
155A Kite 19.27 322 P P 06 09 36.9 -0.2
baz=136
254A Abbeville 19.31 319 P P 06 09 37.5 0.0
baz=132
V60A Jim Taylor Roa 19.33 338 eP P 06 09 37.3 -0.3
19nm,0.6s
V60A Jim Taylor Roa 19.33 338 P P 06 09 37.4 -0.3
baz=154
X57A Johnson Farm, 19.41 330 P P 06 09 38.6 0.0
baz=144
W58A Raeford 19.47 332 P P 06 09 39.5 +0.2
baz=148
Z55A Blythe 19.51 323 P P 06 09 39.2 -0.5
baz=137
353A Camilla 19.52 316 P P 06 09 40.1 +0.3
baz=129
154A Montrose 19.65 320 eP P 06 09 40.8 -0.4
35nm,0.8s
154A Montrose 19.65 320 P P 06 09 41.0 -0.2
baz=134
V59A Middlesex 19.69 336 P P 06 09 41.7 +0.1
baz=151
BIRD Birdtown, Kers 19.73 329 eP P 06 09 41.4 -0.6
12nm,0.5s
JSC Jeninsville 19.84 327 eP P 06 09 42.2 -1.0
24nm,1.2s
452A Marianna 19.87 313 P P 06 09 43.7 +0.1
baz=126
X56A White Oak 19.89 328 P P 06 09 43.2 -0.6
baz=142,SNR=6.7
Y55A Saluda 19.89 325 P P 06 09 43.1 -0.7
baz=139,SNR=7.2
253A Americus 19.92 317 P P 06 09 43.8 -0.3
baz=131
W57A Gilead 19.92 331 eP P 06 09 43.3 -0.8
6.3nm,0.8s
W57A Gilead 19.92 331 P P 06 09 43.8 -0.3
baz=146
Z54A Sparta 19.93 322 P P 06 09 43.8 -0.4
baz=136,SNR=5.1
MDP Montagnes des 20.06 128 P Pn 06 09 47.6 -0.8
18nm,0.7s,baz=317,slow=11,SNR=9.4
MDP S S 06 13 24.7 -1.8
13nm,0.8s,baz=315,slow=7.1,SNR=3.8
MDP LR LR 06 18 15.2
comp=Z,22nm,19.9s,baz=285,slow=38
V58A Windy Hill, Pi 20.07 334 P P 06 09 45.3 -0.5
baz=149
352A Blakely 20.08 315 eP P 06 09 46.3 +0.5
22nm,0.8s
352A Blakely 20.08 315 P P 06 09 45.7 -0.2
baz=128
451A Vernon 20.14 312 P P 06 09 46.4 -0.1
baz=124
X55A Gracelyn & Ava 20.18 327 P P 06 09 46.3 -0.6
baz=141
W56A Indian Trail 20.18 330 P P 06 09 46.5 -0.5
baz=144
252A Lumpkin 20.27 316 P P 06 09 47.6 -0.3
baz=129
OTAV Otavalo 20.27 210 eP Pn 06 09 52.8 +1.5
18nm,1.0s
Y54A Tignall 20.30 324 P P 06 09 47.4 -0.8
baz=137,SNR=6.7
U58A Oxford 20.36 336 P P 06 09 48.6 -0.3
baz=151
Z53A Monticello 20.39 321 P P 06 09 48.8 -0.5
baz=134,SNR=7.9
PTGA Pitinga 20.41 155 eP Pn 06 09 52.5 -0.1
43nm,1.1s
PTGA Pitinga 20.41 155 P Pn 06 09 52.3 -0.2
6.7n,0.5s,baz=351,slow=11,SNR=15
351A Pinckard 20.42 313 P P 06 09 49.3 -0.2
baz=126,SNR=5.8
GOGA Godfrey 20.42 321 P P 06 09 49.2 -0.3
baz=135,SNR=6.0
V57A Coltrane Farms 20.44 333 P P 06 09 49.2 -0.5
baz=148
T59A Double "B" Far 20.51 339 P P 06 09 50.0 -0.4
baz=154
KMSC Kings Mountain 20.56 328 P P 06 09 50.2 -0.8
baz=143,SNR=7.7
X54A Belton 20.63 326 P P 06 09 51.2 -0.7
baz=139,SNR=14
152A Waverly Hall 20.69 318 P P 06 09 52.3 -0.1
baz=131,SNR=14
V56A Mocksville 20.70 331 P P 06 09 51.9 -0.6
baz=146,SNR=7.8
U57A Blanch 20.71 334 P P 06 09 52.0 -0.7
baz=149,SNR=7.6
251A Midway 20.78 316 P P 06 09 53.1 -0.3
baz=128,SNR=17
Y53A Monroe 20.81 322 P P 06 09 53.1 -0.6
baz=135
450A Crestview 20.84 311 P P 06 09 54.0 -0.1
baz=123
T58A Grand View Acr 20.84 337 P P 06 09 53.6 -0.4
baz=152
Z52A Williamson 20.85 319 P P 06 09 54.0 -0.2
baz=132
W54A Cherokee Point 20.95 327 P P 06 09 54.8 -0.4
baz=141
151A Opelika 20.99 317 P P 06 09 55.5 -0.2
baz=129,SNR=17
350A Dozier 21.01 313 P P 06 09 55.8 -0.1
baz=125
V55A Taylorsville 21.07 330 P P 06 09 56.0 -0.5
baz=144,SNR=6.0
U56A King 21.09 332 P P 06 09 56.3 -0.5
baz=147,SNR=5.2
Y52A Lilburn 21.09 321 eP P 06 09 56.0 -0.8
6.9nm,0.8s
Y52A Lilburn 21.09 321 P P 06 09 56.4 -0.3
baz=134
X53A Estanollee 21.11 324 P P 06 09 56.4 -0.6
baz=137,SNR=6.8
T57A Hurt 21.17 335 P P 06 09 57.5 0.0
baz=150
S58A Poland Farm, P 21.26 338 P P 06 09 57.9 -0.6
baz=154
449A Pace 21.27 310 P P 06 09 58.1 -0.6
baz=122
250A Grady 21.29 314 P P 06 09 58.1 -0.7
baz=126,SNR=6.0
V54A Nebo 21.36 328 P P 06 09 58.9 -0.8
baz=142,SNR=7.3
APG El Apazote 21.38 265 P P 06 10 01.5 +1.3
11nm,0.7s,baz=360,slow=10,SNR=8.7
Z51A Franklin 21.41 319 P P 06 09 59.8 -0.3
baz=131
150A Eclectic 21.50 316 P P 06 10 00.7 -0.4
baz=128,SNR=6.6
T56A Rocky Mt 21.51 334 P P 06 10 00.7 -0.5
baz=148
R58B Mineral 21.52 339 eP P 06 10 01.3 +0.1
18nm,1.1s
R58B Mineral 21.52 339 P P 06 10 00.3 -0.9
baz=155,SNR=7.4
U55A TA2, Sparta 21.52 331 P P 06 10 01.1 -0.3
baz=145,SNR=9.3
X52A Dahlonega 21.52 323 P P 06 10 00.5 -0.8
baz=136
W53A Cullowhee 21.53 325 P P 06 10 01.2 -0.3
baz=139
CBN Corbin Frederi 21.57 340 P P 06 10 01.5 -0.3
baz=156
349A Repton 21.57 311 P P 06 10 01.6 -0.3
baz=124
S57A Dark Hollow, R 21.72 337 P P 06 10 04.2 +0.8
baz=152,SNR=5.2
V53A Saluda 21.72 327 P P 06 10 03.2 -0.3
baz=140,SNR=12
Y51A Rockmart 21.72 320 P P 06 10 03.3 -0.2
baz=132
BLA Blacksburg 21.83 333 P P 06 10 04.0 -0.6
baz=148
Z50A Ashland 21.84 317 eP P 06 10 04.8 0.0
22nm,1.2s
Z50A Ashland 21.84 317 P P 06 10 04.3 -0.5
baz=130,SNR=6.0
R58A Rapidan 21.86 339 P P 06 10 04.2 -0.7
baz=155
Q60A Greensboro 21.87 344 P P 06 10 04.6 -0.3
baz=161
249A Camden 21.88 313 P P 06 10 04.7 -0.5
baz=125,SNR=5.9
S56A Natural Bridge 21.88 336 P P 06 10 04.8 -0.4
baz=150,SNR=7.1
U54A Nelsons Funny 21.89 330 P P 06 10 04.7 -0.7
baz=144
W52A Murphy 21.89 324 P P 06 10 04.7 -0.6
baz=137
T55A Pulaski 21.91 333 P P 06 10 05.1 -0.4
baz=147
149A Jones 22.01 315 P P 06 10 05.8 -0.7
baz=127,SNR=6.4
X51A Calhoun 22.05 321 P P 06 10 06.4 -0.6
baz=134
Y50A Piedmont 22.13 319 P P 06 10 07.4 -0.4
baz=131,SNR=13
U53A Fall Branch 22.14 328 P P 06 10 07.4 -0.5
baz=142
Z49A Columbiana 22.20 316 P P 06 10 08.1 -0.5
baz=128,SNR=12
T54A Tazewell 22.22 331 P P 06 10 08.1 -0.7
baz=145
V52A Sevierville 22.27 326 P P 06 10 08.8 -0.5
baz=139
S55A Lewisburg 22.34 334 P P 06 10 09.3 -0.8
baz=148
LRAL Lakeview Retre 22.41 315 P P 06 10 10.3 -0.6
baz=127,SNR=10
W51A Cleveland 22.41 323 P P 06 10 10.4 -0.4
baz=135
X50B Fort Payne 22.46 320 P P 06 10 10.7 -0.7
baz=132
Y49A Blount Mountai 22.54 318 P P 06 10 11.5 -0.6
baz=130
U52A Thorn Hill 22.56 327 P P 06 10 11.8 -0.6
baz=140
148A Greensboro 22.57 314 P P 06 10 11.3 -1.2
baz=126
P59A Jarrettsville 22.59 344 P P 06 10 12.1 -0.5
baz=160
T53A Wise 22.61 329 P P 06 10 12.0 -0.9
baz=143
V51A Loudon 22.65 325 P P 06 10 12.3 -1.0
baz=137
Q57A Strasburg 22.66 339 P P 06 10 12.7 -0.7
baz=155
S54A Dingess, Beckl 22.71 333 P P 06 10 13.4 -0.5
baz=147
CCIG Comitan 22.75 269 eP P 06 10 15.1 +0.4
21nm,0.8s
W50A Signal Mountai 22.76 322 P P 06 10 13.7 -0.8
baz=134,SNR=6.6
TZTN Tazewell 22.77 327 P P 06 10 13.8 -0.7
baz=140
R54A Victor 22.89 334 P P 06 10 15.0 -0.7
baz=148
U51A La Follette 22.89 326 P P 06 10 15.1 -0.7
baz=139
X49A Woodville 22.91 319 P P 06 10 15.4 -0.5
baz=131
T52A Hallie 22.93 329 P P 06 10 15.5 -0.6
baz=142
V50A Pikevile 22.97 323 P P 06 10 16.0 -0.5
baz=136
O60A Telford 23.01 346 P P 06 10 16.2 -0.5
baz=163
Y48A Jasper 23.06 317 P P 06 10 16.3 -1.1
baz=129
147A Livingston 23.07 313 P P 06 10 16.5 -1.0
baz=124,SNR=5.3
O59A Robesonia 23.19 345 P P 06 10 18.1 -0.4
baz=161
Q55A Buckhannon 23.23 336 P P 06 10 18.2 -0.7
baz=151
P56A Dayton Farm, R 23.23 339 P P 06 10 18.1 -0.8
baz=154
W49A Belvidere 23.28 320 P P 06 10 18.8 -0.6
baz=132,SNR=6.1
X48A Hartselle 23.32 318 eP P 06 10 19.5 -0.4
8.4nm,0.6s
X48A Hartselle 23.32 318 P P 06 10 19.1 -0.7
baz=130,SNR=5.2
U50A Jamestown 23.37 325 P P 06 10 19.7 -0.5
baz=137,SNR=6.8
R53A Hurricane 23.43 332 P P 06 10 20.3 -0.4
baz=146
O57A Amberson 23.49 342 P P 06 10 21.3 0.0
baz=157
V49A McMinnville 23.50 322 P P 06 10 21.0 -0.5
baz=134,SNR=5.4
Q54A Coxs Mills 23.51 335 P P 06 10 21.3 -0.1
baz=149,SNR=5.7
S51A Beattyville 23.64 329 P P 06 10 22.6 -0.1
baz=142
N59A State Game Lan 23.66 346 P P 06 10 22.2 -0.7
baz=162
Q53A Leroy 23.69 334 P P 06 10 22.1 -1.0
baz=148,SNR=5.6
W48A Pulaski 23.70 320 P P 06 10 22.6 -0.6
baz=131,SNR=7.9
MCWV Mont Chateau 23.72 338 P P 06 10 22.7 -0.6
baz=152
R52A Catlettsburg 23.75 331 P P 06 10 23.4 -0.2
baz=144
T50A Nancy 23.81 326 P P 06 10 23.5 -0.7
baz=138,SNR=5.5
O56A Blue Knob Stat 23.83 340 P P 06 10 24.1 -0.3
baz=155
X47A Russelville 23.89 317 P P 06 10 24.7 -0.1
baz=128,SNR=23
P54A Burton 23.91 336 P P 06 10 25.0 0.0
baz=151
SSPA Standing Stone 23.96 342 P P 06 10 25.2 -0.3
baz=157
U49A Red Boiling Sp 23.96 324 P P 06 10 25.4 -0.1
baz=136
N57A Milroy 23.97 343 P P 06 10 25.2 -0.3
baz=158
V48A Smith Brothers 24.03 321 P P 06 10 26.0 -0.2
baz=132
S50A Richmond 24.08 328 P P 06 10 25.5 -1.1
baz=140
Q52A Bidwell 24.09 333 P P 06 10 25.7 -1.0
baz=146,SNR=6.5
R51A Hillsboro 24.16 330 P P 06 10 27.1 -0.2
baz=142
P53A Whipple 24.16 335 P P 06 10 27.2 -0.1
baz=148
W47A Westpoint 24.18 319 P P 06 10 27.1 -0.4
baz=130,SNR=5.3
N56A West Decatur 24.34 342 P P 06 10 28.6 -0.3
baz=157
O54A Avella 24.37 337 P P 06 10 28.9 -0.3
baz=151

X46A	Booneville	24.38	316	P	P	06 10 29.1 -0.3
	baz=127,SNR=5.6					
U48A	Cassie Pea, Po	24.39	323	P	P	06 10 29.1 -0.4
	baz=134					
N55A	Marion Center	24.43	340	P	P	06 10 29.4 -0.4
	baz=155					
R50A	Paris	24.50	329	P	P	06 10 30.3 -0.2
	baz=141,SNR=6.6					
V47A	Nunnelly	24.51	320	P	P	06 10 30.2 -0.3
	baz=131,SNR=13					
W46A	Michie	24.60	318	P	P	06 10 30.9 -0.5
	baz=129					
S49A	Springfield	24.62	326	P	P	06 10 30.3 -1.2
	baz=138					
Q51A	Peebles	24.63	331	P	P	06 10 31.1 -0.4
	baz=144					
U47A	Clarksville	24.78	321	P	P	06 10 32.5 -0.5
	baz=133					
M56A	Emporium	24.82	342	P	P	06 10 33.0 -0.4
	baz=157					
V46A	Holladay	24.86	319	P	P	06 10 32.9 -0.8
	baz=130,SNR=6.8					
P51A	Williamsport	24.87	332	P	P	06 10 33.5 -0.2
	baz=145					
O52A	Adamsville	24.88	335	P	P	06 10 33.1 -0.7
	baz=148					
WVT	Waverly	24.90	320	eP	P	06 10 33.5 -0.6
	18nm,0.6s					
WVT	Waverly	24.90	320	P	P	06 10 33.5 -0.6
	baz=131					
OXF	Oxford	24.90	315	P	P	06 10 33.9 -0.3
	baz=126,SNR=7.4					
N54A	Moraine State	24.92	339	P	P	06 10 34.4 +0.1
	baz=153					
BINY	Binghamton	24.93	347	P	P	06 10 34.0 -0.3
	baz=163					
S48A	Wiedeman Farm,	24.93	325	P	P	06 10 34.1 -0.3
	baz=137					
M55A	Ridgway	24.98	341	P	P	06 10 34.7 -0.1
	baz=156					
T47A	Sharon Grove	25.05	323	P	P	06 10 35.2 -0.2
	baz=134					
U46A	Springville	25.26	320	P	P	06 10 37.0 -0.3
	baz=131					
M54A	Oil Creek Stat	25.30	340	P	P	06 10 37.8 +0.1
	baz=154					
S47A	Hartford	25.34	324	P	P	06 10 38.2 +0.1
	baz=135					
R48A	Northridge Ran	25.38	327	P	P	06 10 38.4 -0.1
	baz=138					
ACSO	Alum Creek Sta	25.45	333	P	P	06 10 38.7 -0.4
	baz=146					
WCI	Wyandotte Cave	25.48	326	eP	P	06 10 39.3 0.0
	9.5nm,0.8s					
WCI	Wyandotte Cave	25.48	326	P	P	06 10 39.1 -0.2
	baz=137					
T46A	Princeton	25.55	322	P	P	06 10 39.4 -0.5
	baz=133,SNR=5.9					
O50A	Cable	25.66	332	P	P	06 10 40.7 -0.3
	baz=145					
Q48A	North Vernon	25.71	328	P	P	06 10 41.2 -0.2
	baz=139					
L54A	Sinclairville	25.85	341	P	P	06 10 42.3 -0.4
	baz=156					
S46A	Don Dixon Farm	25.88	323	P	P	06 10 42.4 -0.5
	baz=134					
O49A	Covington	26.01	331	P	P	06 10 43.5 -0.7
	baz=143					
P47A	Martinsville	26.40	328	P	P	06 10 47.0 -0.6
	baz=139					
R45A	Skylar, Fairfi	26.62	323	P	P	06 10 49.3 -0.3
	baz=134,SNR=6.8					
S44A	Carbondale	26.79	321	P	P	06 10 50.7 -0.4
	baz=131,SNR=7.4					
TYNO	Tyneside	26.80	341	P	P	06 10 50.7 -0.5
	baz=155					
OLIL	Olney	26.83	324	eP	P	06 10 50.6 -0.9
	28nm,0.9s					
N48A	Decatur	26.87	331	P	P	06 10 50.8 -1.0
	baz=143					
ATAH	Atahualpa	26.90	202	LR	LR	06 23 20.3
	comp=Z,59nm,20.7s,baz=32,slow=40					
O47A	Sheridan	26.92	329	P	P	06 10 51.6 -0.7
	baz=140					
Q45A	Warren Harvey,	26.97	324	P	P	06 10 52.6 -0.1
	baz=135,SNR=8.1					
P46A	Rosedale	26.98	327	P	P	06 10 52.8 0.0
	baz=138					
J52A	Paris	27.12	340	P	P	06 10 53.6 -0.5
	baz=154					
N47A	Urbana	27.19	330	P	P	06 10 54.2 -0.5
	baz=142,SNR=8.5					
P45A	Graceland, Par	27.20	326	eP	P	06 10 55.0 +0.2
	25nm,0.9s					
P45A	Graceland, Par	27.20	326	P	P	06 10 54.6 -0.2
	baz=136,SNR=7.8					
W41B	Gary Mavity, V	27.20	314	P	P	06 10 54.7 -0.1
	baz=123					
M48A	Edgerton	27.23	333	P	P	06 10 54.6 -0.4
	baz=144					
X40A	Basin Creek Fa	27.25	312	P	P	06 10 55.1 -0.2
	baz=121					
H56A	Elgin	27.28	348	P	P	06 10 55.1 -0.3
	baz=164					
ACTO	Acton	27.33	341	P	P	06 10 55.5 -0.4
	baz=155					
L49A	Milan	27.34	335	P	P	06 10 55.9 -0.1
	baz=147					
H55A	Tweed	27.44	346	P	P	06 10 57.0 +0.1
	baz=162					
L48A	N Adams	27.48	333	P	P	06 10 56.9 -0.4
	baz=145					
SFIN	Lafayette	27.49	328	P	P	06 10 56.9 -0.5
	baz=139					
DELO	Deloro Mine	27.51	346	P	P	06 10 57.0 -0.4
	baz=161					
FVM	French Village	27.68	320	eP	P	06 11 00.0 +0.9
	5.5nm,0.7s					
N46A	Monticello	27.70	329	P	P	06 10 59.0 -0.2
	baz=140					
MIAR	Mount Ida	27.81	311	P	P	06 10 59.9 -0.4
	baz=120					
L47A	Sherwood	27.84	332	P	P	06 10 60.0 -0.5
	baz=144					
PLVO	Plevna	27.88	347	P	P	06 11 00.2 -0.6
	baz=162					
M46A	Old House Fiel	27.91	330	P	P	06 11 01.2 +0.1
	baz=141					
O44A	Mansfield	28.04	326	P	P	06 11 02.1 -0.2
	baz=136					
N45A	Kentland	28.05	328	P	P	06 11 01.9 -0.5
	baz=138					
BANO	Bancroft	28.06	346	P	P	06 11 01.9 -0.5
	baz=160					
K48A	Perry	28.07	335	P	P	06 11 02.0 -0.5
	baz=147					
SADO	Sadowa	28.13	344	P	P	06 11 02.6 -0.4
	2.2nm,0.7s,baz=236,slow=5.6,SNR=2.5					
CCM	Cathedral Cave	28.23	320	eP	P	06 11 02.9 -1.0
	8.0nm,0.6s					
CCM	Cathedral Cave	28.23	320	P	P	06 11 03.2 -0.7
	baz=129					
P43A	Skaggs, Pawnee	28.25	324	P	P	06 11 03.5 -0.7
	baz=134,SNR=6.1					
U40A	Yellville	28.26	315	P	P	06 11 03.7 -0.7
	baz=124					
W39A	Magazine	28.29	312	P	P	06 11 04.6 0.0
	baz=121,SNR=7.6					
K47A	Vermontville	28.32	334	P	P	06 11 04.1 -0.6
	baz=145					
N44A	Piper City	28.33	327	P	P	06 11 04.5 -0.4
	baz=137					
PEMO	Pembroke	28.52	347	P	P	06 11 05.8 -0.7
	baz=162					
M44A	Midewin, Midew	28.72	328	P	P	06 11 07.7 -0.6
	baz=136					
HDIL	Hopedale	28.77	326	P	P	06 11 08.0 -0.8
	baz=135					
M43A	Waltham Townsh	29.22	327	P	P	06 11 12.3 -0.5
	baz=137					
E53A	Dumoine, Ponti	29.28	347	P	P	06 11 12.7 -0.6
	baz=162					
435B	Jarrell	29.36	301	P	P	06 11 13.5 -0.6
	baz=109					
F51A	Arnstein	29.41	344	P	P	06 11 13.6 -0.7
	baz=157					
H47A	Mio	29.61	337	P	P	06 11 15.4 -0.8
	baz=148					
L43A	Garden Prairie	29.66	329	P	P	06 11 15.9 -0.8
	baz=138					
WHTX	Lake Whitney,	29.66	303	P	P	06 11 16.6 -0.2
	baz=111					
D54A	Lac Fusel, La	29.82	349	P	P	06 11 17.5 -0.5
	baz=164,SNR=5.1					
F49A	Sandfield	29.88	341	P	P	06 11 17.9 -0.6
	baz=153					
D53A	Lac Vacive, Po	29.96	347	P	P	06 11 18.9 -0.3
	baz=162					
L42A	Oliver, Polo	30.00	327	P	P	06 11 19.0 -0.6
	baz=136					
M41A	Milan	30.01	325	P	P	06 11 18.6 -1.1
	baz=134					
TUL1	Leonard	30.06	312	P	P	06 11 20.1 -0.1
	baz=119,SNR=12					
E50A	Wahnapitae	30.09	343	P	P	06 11 19.3 -1.1
	baz=156					
N40A	Mertquake, Sal	30.25	324	P	P	06 11 20.7 -1.2
	baz=132,SNR=6.6					
H45A	Beulah	30.35	335	P	P	06 11 21.4 -1.3
	baz=145					
K42A	Prairie Point,	30.40	329	P	P	06 11 22.5 -0.7
	baz=138					
J43A	Natural Harves	30.41	330	P	P	06 11 21.9 -1.3
	baz=140					
I43A	Langenfeld Bro	30.67	331	P	P	06 11 24.6 -0.9
	baz=141					
J42A	Columbus	30.70	330	P	P	06 11 25.1 -0.7
	baz=139					
L40A	Anamosa	30.86	326	P	P	06 11 26.4 -0.8
	baz=134					
JFWS	Jewell Farm	30.95	328	P	P	06 11 27.0 -1.0
	baz=136,SNR=7.2					
NNA	Nana	30.98	196	P	P	06 11 30.3 +1.7
	3.4nm,0.3s,baz=300,slow=8.1,SNR=2.6					
JCT	Junction City	31.09	299	P	P	06 11 28.6 -0.9
	baz=106,SNR=5.9					
J41A	Loganville	31.17	329	P	P	06 11 28.9 -1.0
	baz=137					
K40A	Colesburg	31.26	327	P	P	06 11 29.7 -1.0
	baz=135					
L39A	Vinton	31.32	325	P	P	06 11 30.1 -1.2
	baz=133,SNR=7.8					
J40A	Soldiers Grove	31.55	328	P	P	06 11 32.3 -1.0
	baz=136					
ABTX	Abilene, Hawle	31.62	303	eP	P	06 11 34.2 +0.2
	26nm,0.9s					
ABTX	Abilene, Hawle	31.62	303	P	P	06 11 33.0 -1.1
	baz=110,SNR=5.1					
K39A	Oelwein	31.66	326	P	P	06 11 32.8 -1.5
	baz=134					
WMOK	Wichita Mounta	31.73	308	P	P	06 11 34.1 -0.9
	baz=114,SNR=14					
F43A	Flat Rock, Esc	31.80	335	P	P	06 11 34.7 -0.7
	baz=144					
I40A	Norwalk	31.85	329	P	P	06 11 34.7 -1.2
	baz=137,SNR=5.1					
SCIA	State Center	31.85	324	P	P	06 11 34.5 -1.5
	baz=131					
G42A	Mountain	31.86	333	P	P	06 11 34.3 -1.6
	baz=142					
J39A	Decorah	32.00	327	P	P	06 11 36.0 -1.2
	baz=135					
KSU1	Kansas State U	32.25	316	P	P	06 11 38.3 -1.2
	baz=123					
I39A	Houston	32.28	328	P	P	06 11 38.6 -1.1
	baz=136					
H40A	Chili	32.28	330	P	P	06 11 39.1 -0.6
	baz=138					
MATQ	Matagami	32.51	349	P	P	06 11 41.3 -0.2
	baz=163					
F41A	Thunder Lakes	32.54	333	P	P	06 11 41.3 -0.7
	baz=141					
E42A	Champion	32.59	335	P	P	06 11 41.8 -0.5
	baz=144					
G40A	Rib Lake	32.67	331	P	P	06 11 42.0 -1.1
	baz=139					
H39A	Augusta	32.75	329	P	P	06 11 42.9 -0.9
	baz=137					
G39A	Holcombe	33.14	330	P	P	06 11 46.1 -1.1
	baz=138					
H38A	Maiden Rock	33.24	328	P	P	06 11 47.3 -0.8
	baz=135					
D41A	Chassel	33.36	335	P	P	06 11 48.9 -0.2
	baz=143					
G38A	Ridgeland	33.39	329	P	P	06 11 48.9 -0.4
	baz=136					
E40A	Wakefield	33.44	333	P	P	06 11 49.3 -0.5
	baz=141					
F39A	Loretta	33.49	331	P	P	06 11 49.6 -0.7
	baz=139					
E39A	Mellen	33.68	332	P	P	06 11 51.3 -0.5
	baz=140,SNR=5.4					
SPMN	Marine on St.	33.89	328	P	P	06 11 52.7 -1.0
	baz=135					
F38A	Pierce - Schro	33.97	330	P	P	06 11 54.1 -0.3
	baz=137					
AMTX	Amarillo	33.99	306	P	P	06 11 54.0 -0.8
	baz=111					
LTX	Lajitas	34.08	296	ePcP	PcP	06 14 31.9 +0.5
LTX				eScP	ScP	06 18 08.3 +0.1
TXAR	Lajitas Array	34.08	296	P	P	06 11 55.8 +0.1
	1.9nm,0.4s,baz=120,slow=8.5,SNR=75					
TXAR				PcP	PcP	06 14 31.9 +0.5
	0.8nm,0.6s,baz=133,slow=5.0,SNR=4.4					
TXAR				ScP	ScP	06 18 08.3 +0.1
	0.9nm,1.0s,baz=120,slow=7.4,SNR=6.1					
LPAZ	La Paz	34.12	180	eP	P	06 11 58.4 +1.9
	4.6nm,1.2s					
LPAZ	La Paz	34.12	180	P	P	06 11 59.0 +2.4
	1.3nm,0.4s,baz=0.7,slow=4.9,SNR=10					
LPAZ				LR	LR	06 28 15.7
	comp=Z,33nm,18.2s,baz=110,slow=40					
F37A	Hinrichs Farm,	34.16	329	P	P	06 11 55.4 -0.6
	baz=136					
CBKS	Cedar Bluff	34.21	314	P	P	06 11 56.2 -0.5
	baz=118,SNR=14					
C40A	Isle Royale Na	34.28	335	P	P	06 11 56.6 -0.4
	baz=143					
E38A	The Farm, Brul	34.30	331	P	P	06 11 56.3 -1.0
	baz=138					
MSTX	Muleshoe	34.54	304	P	P	06 11 58.9 -0.7
	baz=109,SNR=7.0					
SIV	San Ignacio	34.58	168	P	P	06 12 01.3 +1.4
	3.6nm,0.6s,baz=356,slow=8.9,SNR=25					
SIV				LR	LR	06 27 10.6
	comp=Z,47nm,18.3s,baz=77,slow=38					
ECSD	EROS Data Cent	34.94	323	P	P	06 12 02.0 -0.8
	baz=128,SNR=18					
EYMN	Ely	35.29	333	P	P	06 12 04.5 -1.2
	baz=140					
HPIG		35.45	291	eP	P	06 12 07.5 -0.2
	3.3nm,0.9s					
MNTX	Cornudas Mount	36.03	299	P	P	06 12 11.8 -0.5
	baz=103,SNR=11					
KSCO	Kaye Shedlock'	36.31	312	P	P	06 12 13.9 -0.9
	baz=115,SNR=6.2					
SCHQ	Schefferville	36.74	2	LR	LR	06 27 41.8
	comp=Z,27nm,18.5s,baz=346,slow=37					
OGNE	Ogallala	36.78	315	P	P	06 12 17.8 -0.8
	baz=118					
T25A	Trinidad	36.87	308	P	P	06 12 19.0 -0.6
	baz=111,SNR=9.0					
MNMC	Minye Minye	36.96	182	eP	P	06 12 20.3 -0.2
	24nm,1.2s					
AGMN	Agassiz Nation	37.55	330	P	P	06 12 23.4 -1.5
	baz=134,SNR=13					
ANMO	Albuquerque	37.73	304	eP	P	06 12 26.9 0.0
	7.2nm,0.8s					
ANMO	Albuquerque	37.73	304	P	P	06 12 27.1 +0.1
	baz=107					
ANMO	Albuquerque	37.73	304	LR	LR	06 30 42.2
	comp=Z,44nm,19.9s,baz=90,slow=40					
TASM	ASL Pad, Albuq	37.73	304	P	P	06 12 26.9 0.0
	baz=107,SNR=9.8					
TASM	ASL Pad, Albuq	37.73	304	P	P	06 12 27.1 +0.1
	baz=107,SNR=9.9					
SDCO	Great Sand Dun	37.90	309	P	P	06 12 28.3 0.0
	baz=111,SNR=34					
LAZ	Ladron	38.12	303	eP	P	06 12 30.6 +0.4
H07S1	FLORES T-PHASE	38.55	49	T	T	06 52 48.5
	SNR=24					
H07N1	FLORES T-PHASE	38.74	48	T	T	06 52 58.5
	SNR=23					
ISCO	Idaho Springs	38.75	312	P	P	06 12 35.5 0.0
	baz=113,SNR=11					
S22A	4UR Ranch, Cre	38.88	308	P	P	06 12 36.5 -0.2
	baz=110,SNR=13					
ULM	Lac du Bonnet	38.93	332	P	P	06 12 35.1 -1.4
	4.4nm,0.6s,baz=114,slow=7.4,SNR=7.4					
BDFB	Brasilia	39.03	148	P	P	06 12 38.8 +1.0
	2.4nm,0.6s,baz=300,slow=11,SNR=5.9					
BDFB				LR	LR	06 30 05.2
	comp=Z,48nm,18.5s,baz=95,slow=38					
N23A	Red Feather La	39.41	313	P	P	06 12 40.4 -0.6
	baz=114					
RSSD	Black Hills	39.61	319	P	P	06 12 41.9 -0.6
	baz=120					
MVCO	Mesa Verde	39.97	307	eP	P	06 12 45.8 +0.1
	3.7nm,0.7s					
MVCO	Mesa Verde	39.97	307	P	P	06 12 45.4 -0.3
	baz=108					
LVC	Limon Verde	40.41	181	LR	LR	06 31 39.9
	comp=Z,33nm,18.5s,baz=335,slow=39					
K22A	Casper	40.54	316	P	P	06 12 49.7 -0.4
	baz=115,SNR=6.4					
PV18	Skein Mesa, Pa	40.60	308	eP	P	06 12 51.6 +0.8
	23nm,0.8s					
PV22	Blue Mesa, Par	40.60	309	eP	P	06 12 51.2 +0.4
	19nm,0.8s					
TUC	Tucson	40.65	299	eP	P	06 12 52.1 +1.0
TUC	Tucson	40.65	299	P	P	06 12 51.1 0.0
	baz=100					
O20A	White River Ci	40.74	311	P	P	06 12 51.9 -0.1
	baz=111					
WUAZ	Wupatki	41.77	303	P	P	06 13 01.1 +0.8
	baz=103,SNR=5.7					
DGMT	Dagmar	41.99	324	P	P	06 13 01.8 0.0
	baz=124					
BW06	Boulder Array	42.63	314	P	P	06 13 06.9 -0.5
	baz=112					
PD31	Pinedale Array	42.63	314	ePcP	PcP	06 14 57.7 -0.2
	0.9nm,1.1s					
PDAR	Pinedale Array	42.63	314	P	P	06 13 06.7 -0.7
	1.4nm,0.5s,baz=116,slow=10,SNR=24					
PDAR				PcP	PcP	06 14 57.7 -0.2
	0.7nm,0.6s,baz=118,slow=4.4,SNR=3.6					
PDAR				LR	LR	06 31 14.6
	comp=Z,37nm,18.3s,baz=34,slow=36					
RLMT	Red Lodge	43.39	318	P	P	06 13 13.1 -0.3
	baz=115					
PDMCI	Parker Dam,Lak	43.76	301	P	P	06 13 16.3 +0.1
	baz=100					
H17A	Grant Village	43.94	316	P	P	06 13 18.0 +0.1
	baz=113					
Y12C	Blythe	43.98	300	P	P	06 13 18.5 +0.5
	baz=99					
DUG	Dugway, Tooele	44.08	310	P	P	06 13 19.1 +0.2
	baz=107,SNR=5.6					
GLA	Glamis	44.13	299	P	P	06 13 19.4 +0.1
	baz=98,SNR=5.0					
IRM	Iron Mountain	44.55	301	P	P	06 13 23.7 +1.0
	baz=99,SNR=12					
FFC	Flin Flon	44.72	333	eP	P	06 13 21.8 -1.8
	5.5nm,0.6s					
BC3	Big Chuckawall	44.73	300	P	P	06 13 24.5 +0.3
	baz=98					
FCC	Fort Churchill	44.80	341	eP	P	06 13 23.0 -1.1
	10.0nm,0.6s					
EGMT	Eagleton	44.97	321	P	P	06 13 25.9 +0.2
	baz=117,SNR=7.1					
GMRC	Granite Mounta	45.07	301	P	P	06 13 27.6 +0.7
	baz=99,SNR=5.7					
BOZ	Bozeman (W)	45.10	317	P	P	06 13 27.0 0.0
	baz=113,SNR=25					
BELC	Belle Mtn. Jos	45.23	300	P	P	06 13 28.9 +0.8
	baz=98					
CPUP	Villa Florida	45.40	166	eP	P	06 13 29.4 +0.2
	0.8nm,1.1s					
CPUP	Villa Florida	45.40	166	P	P	06 13 29.4 +0.2
	3.0nm,0.8s,baz=331,slow=9.0,SNR=6.3					
CPUP				LR	LR	06 33 16.2
	comp=Z,26nm,18.7s,baz=41,slow=37					
MONP2	Monument Peak	45.44	299	P	P	06 13 30.8 +0.9
	baz=97,SNR=5.7					
PFO	Pinyon Flats O	45.56	300	P	P	06 13 32.1 +1.3
	baz=98					
R11A	Troy Canyon, C	45.69	306	P	P	06 13 32.8 +1.0
	baz=103,SNR=17					
SHOC	Shoshone, Teco	45.75	303	P	P	06 13 33.3 +1.2
	baz=100					
TPNV	Topopah Spring	45.92	304	P	P	06 13 34.9 +1.3
	baz=101,SNR=24					
109C	Camp Elliot, M	46.01	299	P	P	06 13 34.9 +0.8
	baz=96					
ELK	Elko	46.01	310	LR	LR	06 35 04.1
	comp=Z,33nm,19.2s,baz=54,slow=39					
GSC	Goldstone, Bar	46.08	302	P	P	06 13 35.7 +0.9
	baz=99,SNR=5.7					
MURC	Murrieta	46.17	299	P	P	06 13 36.0 +0.6
	baz=97					
HLID	Hailey	46.24	314	P	P	06 13 36.1 +0.1
	baz=109,SNR=11					
FURC	Furnace Creek,	46.32	303	P	P	06 13 37.5 +1.0
	baz=100,SNR=7.8					
BFSC	Mount Baldy Ra	46.63	300	P	P	06 13 39.7 +0.5
	baz=97					
MPMC	Manual Prospec	46.75	303	P	P	06 13 40.5 +0.4
	baz=99,SNR=5.3					
GRAC	Grapevine Rang	46.81	304	P	P	06 13 40.9 +0.5
	baz=100					
EDW2	Edwards Air Fo	46.99	301	P	P	06 13 41.6 -0.3
	baz=98,SNR=5.5					
MSO	Missoula	47.06	318	P	P	06 13 42.2 0.0
	baz=112,SNR=5.8					
CWC	Cottonwood Cre	47.28	303	P	P	06 13 45.1 +0.9
	baz=99					
ARVC	Arvin	47.70	301	P	P	06 13 47.6 +0.3
	baz=97					
NV01	Mina Array Sit	47.80	306	eScP	ScP	06 19 02.2 +0.1
NVAR	Mina Array Bea	47.80	306	P	P	06 13 48.9 +0.7
	4.0nm,0.6s,baz=91,slow=6.3,SNR=31					
NVAR				ScP	ScP	06 19 02.2 +0.1
	0.3nm,0.3s,baz=79,slow=4.7,SNR=3.8					
VES	Vestal, Richgr	48.00	302	P	P	06 13 49.9 +0.4
	baz=98					
MLAC	Mammoth, Mammo	48.07	305	P	P	06 13 50.4 0.0
	baz=100					
NEW	Newport	49.58	319	P	P	06 14 00.9 -0.7
	baz=110,SNR=20					
NEW	Newport	49.58	319	LR	LR	06 35 40.2
	comp=Z,34nm,18.8s,baz=100,slow=37					
O03E	Paynes Creek	50.80	308	P	P	06 14 10.4 -0.5
	baz=100					
J05D	Fort Rock, OR	50.95	311	P	P	06 14 11.7 -0.5
	baz=102					
M04C	Macdoel	51.09	309	P	P	06 14 12.6 -0.6
	baz=101					
K04D	Chiloquin, OR	51.19	311	P	P	06 14 13.9 0.0
	baz=102					
I05D	Terrebonne, OR	51.26	313	P	P	06 14 14.6 +0.3
	baz=103					
G05D	Wamic, OR	51.46	314	P	P	06 14 15.5 -0.2
	baz=104					
L04D	Klamath Falls	51.51	310	P	P	06 14 15.9 -0.4
	baz=101,SNR=8.1					
O02D	Mt. Diablo Mer	51.52	307	P	P	06 14 15.2 -1.2
	baz=99					
J04D	Umpqua Nationa	51.57	311	P	P	06 14 16.3 -0.5
	baz=102,SNR=9.6					
N02D	Trinity Center	51.59	308	P	P	06 14 15.6 -1.2
	baz=100					
F05D	White Salmon	51.71	315	P	P	06 14 17.5 0.0
	baz=104					
M02C	Callahan	51.77	309	P	P	06 14 17.3 -0.8
	baz=100					
I04A	Tendick Farm,	51.90	312	P	P	06 14 18.3 -0.7
	baz=102					
H04D	Lebanon	52.28	313	P	P	06 14 21.0 -0.8
	baz=102					
I03D	Drain, OR	52.54	312	P	P	06 14 23.1 -0.7
	baz=101					
K02D	Willamette Mer	52.59	310	P	P	06 14 23.4 -0.8
	baz=100					
B05A	Bryant	52.75	317	P	P	06 14 23.4 -1.7
	baz=106					
J01E	Myrtle Point	52.86	311	P	P	06 14 26.0 -0.1
	baz=100					
I02D	Swisshome	52.98	312	P	P	06 14 26.7 -0.2
	baz=101					
YKA	Yellowknife Ar	54.67	336	P	P	06 14 37.3 -1.6
	2.9nm,0.8s,baz=112,slow=7.3,SNR=36					
SUMG	Summit	57.18	10	eP	P	06 14 56.6 -0.6
	15nm,1.5s					
SUMG	Summit	57.18	10	iP	P	06 14 57.7 +0.5

8.5nm,0.7s
SUMG *i* 06 15 19.7
BBB Bella Bella 57.46 321 LR LR 06 39 49.4
comp=Z,35nm,18.3s,baz=182,slow=36
PLCA Paso Flores 58.51 182 P **P 06 15 07.5 +1.0**
1.1nm,0.6s,baz=25,slow=8.2,SNR=4.6
ESDC Sonseca Array 59.15 54 P **P 06 15 12.0 +0.9**
2.4nm,0.5s,baz=271,slow=7.1,SNR=20
DLBC Dease Lake 60.03 328 *e*P **P 06 15 17.1 +0.3**
6.3nm,0.7s
DBIC Dimbokro 62.82 92 P **P 06 15 36.4 +0.2**
5.7nm,0.6s,baz=272,slow=10,SNR=7.5
DBIC LR LR 06 43 35.0
comp=Z,11nm,18.0s,baz=24,slow=36
HYT Haines Junctio 64.24 329 *e*P **P 06 15 46.2 +1.2**
3.2nm,1.2s
INK Inuvik 64.24 338 P **P 06 15 43.1 -1.6**
0.5nm,0.3s,baz=100,slow=9.7,SNR=5.9
EPYK Eagle Plains 64.95 336 P **P 06 15 48.7 -0.7**
baz=103
TOA0 Torodi Ar. Sit 67.34 83 *e*P **P 06 16 05.4 -0.1**
6.7nm,0.8s
TORD Torodi Ar. Bea 67.34 83 P **P 06 16 03.8 -1.8**
3.9nm,0.6s,baz=285,slow=6.1,SNR=23
MENT Mentasta 67.42 331 *e*P **P 06 16 05.1 -0.1**
5.4nm,0.6s
DOT Dot Lake 67.63 332 *e*P **P 06 16 06.9 +0.4**
3.8nm,0.9s
ILAR Eielson Array 68.93 333 P **P 06 16 14.1 -0.6**
1.5nm,0.5s,baz=103,slow=4.6,SNR=22
ILAR LR LR 06 47 39.4
comp=Z,31nm,18.1s,baz=130,slow=37
ILB Eielson Array 68.93 333 *e*P **P 06 16 13.7 -0.9**
1.6nm,1.1s
HDA Harding Lake 68.94 333 P **P 06 16 14.4 -0.3**
baz=92
POKR Poker Plat Res 69.18 334 P **P 06 16 15.7 -0.5**
baz=92
NOA NORSAR Array B 69.36 31 LR LR 06 41 38.3
comp=Z,11nm,21.4s,baz=55,slow=32
FUORN Ofenpass-Fuorn 69.39 46 *e*P **P 06 16 18.8 +0.7**
5.8nm,0.7s
KEST Kesra 69.91 58 P **P 06 16 22.1 +0.8**
2.3nm,0.6s,baz=263,slow=4.8,SNR=4.3
TOLK Toolik Lake Re 70.13 337 P **P 06 16 20.8 -1.2**
baz=91
GERES GERESS Array B 71.48 44 P **P 06 16 31.6 +0.9**
0.4nm,0.4s,baz=256,slow=5.4,SNR=4.0
ARCES ARCESS Array B 74.61 21 P **P 06 16 48.4 -0.2**
1.3nm,0.6s,baz=296,slow=3.9,SNR=12
FIA0 FINESS Array S 76.44 30 *e*P **P 06 16 59.3 +0.2**
FINES FINESS Array B 76.44 30 P **P 06 16 59.3 +0.2**
0.7nm,0.5s,baz=289,slow=3.8,SNR=8.9
MLR Muntele Rosu 80.31 45 *e*P **P 06 17 22.3 +1.3**
12nm,1.3s
BR131 Keskin Array S 87.53 49 *e*P **P 06 17 58.1 +0.3**
3.0nm,0.9s
BRTR Keskin Array B 87.53 49 P **P 06 17 57.8 -0.1**
2.0nm,0.8s,baz=256,slow=2.9,SNR=8.7
NRIK Noril'sk 91.18 8 LR LR 07 01 09.3
comp=Z,14nm,19.2s,baz=114,slow=37
KBZ Khabaz 92.20 43 P **P 06 18 20.4 +1.1**
1.6nm,0.7s,baz=186,slow=9.2,SNR=4.0
MDJ Mudanjiang 115.52 346 *e*PKPdf **PKPdf 06 23 55.8 +4.6**
LZH Lanzhou 125.67 8 *e*PKP **PKPdf 06 24 10.5 -0.7**
LZH pPKP pPKPdf 06 24 35.0 -1.0
LZH sPKP 06 24 47.0
CD2 Chengdu 130.75 9 PKP **PKPdf 06 24 19.5 -1.4**
WHN Wuhan 131.62 357 PKP **PKPdf 06 24 22.8 +0.4**
GUMO Guam 134.57 312 *e*PKPdf **PKiKP 06 24 31.7 +1.9**
CMAR Chiang Mai Arr 141.65 20 SKPbc **SKPbc 06 28 10.2 -0.3**
0.7nm,0.3s,baz=322,slow=4.3,SNR=6.1
STKA Stephens Creek 149.64 237 PKP **PKPdf 06 24 54.2 -0.3**
1.1nm,0.5s,baz=0.0,slow=2.0,SNR=3.4
STKA PKPbc **PKPbc 06 24 59.5 +0.3**
1.4nm,0.6s,baz=326,slow=3.6,SNR=3.7
WR1 Warramunga Arr 158.43 261 *e*P **PKPab 06 25 41.7 -0.6**
WRA Warramunga Arr 158.43 261 PKPab **PKPab 06 25 41.7 -0.6**
1.8nm,0.9s,baz=86,slow=2.6,SNR=4.2
AS31 Alice Springs 158.44 251 *e*PKPdf **PKPdf 06 25 05.9 -1.3**
ASAR Alice Springs 158.44 251 PKP **PKPdf 06 25 05.9 -1.3**
0.3nm,0.8s,baz=96,slow=0.9,SNR=2.9
ASAR PKPab **PKPab 06 25 41.5 -0.8**
0.5nm,0.6s,baz=102,slow=3.9,SNR=5.4

IDC 31 06:41:36.7±3.2, 53°.43N×87°.44E, h0km, mb1 2.9/2, mb1mx2.8/37, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=31.7km s-min=16.1km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64 289**		*i*		06 52 13.4	
	baz=106,slow=335,SNR=10						
ZALV	**Zalesovo Beam**	**1.64 289**		Pg	Pn	06 42 06.9	+0.1
	1.0nm,0.3s,baz=107,slow=16,SNR=14						
ZALV				Lg	Lg	06 42 29.2	
	0.9nm,0.3s,baz=110,slow=26,SNR=4.9						
KURBB	**Kurchatov Arra**	**6.18 246**		Pn	Pn	06 43 08.4	-0.7
	0.1nm,0.3s,baz=61,slow=13,SNR=4.2						
MKAR	**Makanchi Array**	**7.42 209**		Pn	Pn	06 43 28.2	+1.9
	0.1nm,0.3s,baz=29,slow=13,SNR=5.5						

MEX 31 06:55:00.8±0.6, 16°.19N×98°.52W, h1km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.43**	**62**	*e*P	Pg	06 55 08.8	-0.3
PNIG				*e*S	Sg	06 55 14.8	+0.1
TLIG	**Tlapa**	**1.37**	**358**	*e*P	Pg	06 55 23.4	-3.6
TLIG				*i* S	Sg	06 55 40.5	-4.3
CAIG	**El Cayaco**	**1.88**	**297**	*e*P	Pn	06 55 30.5	-3.6
CAIG				*i* S	Sn	06 55 53.5	-4.9
HUIG	**Huatulco**	**2.36**	**100**	*i* P	Pn	06 55 38.3	-2.4
HUIG				*i* S	Sn	06 56 06.0	-4.3
YAIG	**Yautepec**	**2.71**	**349**	*i* P	Pn	06 55 43.2	-2.5
YAIG				*i* S	Sn	06 56 14.4	-4.8
CMIG	**Matias Romero**	**3.60**	**75**	*i* P	Pn	06 55 54.2	-3.5
CMIG				*i* S	Sn	06 56 37.4	-3.6

IDC 31 07:04:17.7±1.9, 0°.96N×125°.24E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.6/24, mbtmp4.0/3, Error ellipse: s-maj=192.1km s-min=24.1km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.61 157**		P	P	07 09 19.8	-0.5
	6.4nm,0.3s,baz=335,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**25.89 162**		P	P	07 09 52.0	+0.4
	0.5nm,0.4s,baz=348,slow=13,SNR=17						
MKAR	**Makanchi Array**	**59.01 327**		P	P	07 14 19.2	-0.2
	0.4nm,0.4s,baz=126,slow=7.9,SNR=9.6						

*IDC **31** 07:29:00.8±1.6, 37°.76N×142°.89E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.5/45, mbtmp3.8/6, ML3.2/2, Error ellipse: s-maj=38.7km s-min=24.0km az=80.0*
*NIED **31** 07:29:00, 37°.80N×142°.60E, h14km, Mw3.5 Best double couple: M0=2.24000×10^14 NP1:ϕs=56.00000°, δ46.00000°, λ-106.00000°. NP2:ϕs=258.00000°, δ46.00000°, λ-74.00000°.*
*ISCJB **31** 07:29:03.2±1.4, 37°.73N±0°.04×142°.66E±0°.07, h22km±9km, mb4.1/5, Error ellipse: s-maj=9.5km s-min=7.1km az=173.3*
*JMA **31** 07:29:03.4±0.2, 37°.75N×142°.65E, h25km±3km, M4.1*
ISC 31 07:29:02.6±2.2, 37°.73N±0°.04×142°.56E±0°.08, h6km±12km, n26, σ1§39/30, mb3.9/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.04**	**304**	P	**Pg**	**07 29 22.9**	**+0.4**
JIKH				*e*S	**Sb**	**07 29 37.1**	**+0.3**
JIO	**Ouri**	**1.20**	**307**	P	**Pg**	**07 29 25.4**	**-0.1**
JIO				*e*S	**Sg**	**07 29 41.1**	**+0.1**
JKMT	**Kesennumamotoy**	**1.37**	**322**	P	**Pn**	**07 29 27.7**	**-0.6**
JKMT				*e*S	**Sb**	**07 29 45.5**	**-1.0**
JFK	**Kawauchi**	**1.39**	**255**	P	**Pn**	**07 29 28.7**	**+0.2**
JMM	**Marumori**	**1.41**	**276**	P	**Pn**	**07 29 28.7**	**0.0**
JMM				*e*S	**Sb**	**07 29 46.6**	**-0.8**
JMK	**Ichinoseki**	**1.61**	**320**	P	**Pn**	**07 29 31.7**	**+0.2**
JFT	**Otama**	**1.78**	**264**	P	**Pn**	**07 29 35.0**	**+1.1**
JFT				*e*S	**Sb**	**07 29 58.1**	**0.0**
JOM	**Ohasama**	**2.00**	**331**	P	**Pn**	**07 29 37.2**	**+0.3**
JOM				*e*S	**Sn**	**07 30 02.1**	**-0.2**
JYS	**Shiratake**	**2.03**	**285**	P	**Pb**	**07 29 39.0**	**-0.9**
JYK	**Kaneyama**	**2.10**	**305**	P	**Pn**	**07 29 39.1**	**+0.9**
JYK				*e*S	**Sn**	**07 30 05.8**	**+1.2**
JANG	**Nango**	**2.76**	**343**	P	**Pn**	**07 29 49.0**	**+1.6**
JAG	**Ashikaga**	**2.81**	**243**	P	**Pn**	**07 29 49.4**	**+1.4**
MJAR	**Matsushiro Arr**	**3.67**	**252**	Pn	**Pn**	**07 30 02.6**	**+2.6**
	0.4nm,0.3s,baz=94,slow=16,SNR=9.5						
MJAR				Sn	**Sb**	**07 30 49.1**	**-3.6**
	0.1nm,0.3s,baz=108,slow=36,SNR=1.7						
MAT	**Matsushiro**	**3.67**	**252**	P	**Pn**	**07 30 03.3**	**+3.3**
MAT				S	**Sn**	**07 30 44.8**	**+1.2**
JHJ	**Hachijo jima 2**	**5.13**	**207**	Pn	**Pn**	**07 30 21.3**	**+1.3**
	10nm,0.3s,baz=82,slow=21,SNR=5.4						
JHJ				Sn	**Sn**	**07 31 17.7**	**-1.8**
	13nm,0.3s,baz=62,slow=18,SNR=1.4						
H11N2	**WAKE ISLAND Hy 27.75**	**124**		T	T	08 03 50.7	
	baz=316,slow=75,SNR=101						
H11N1	**WAKE ISLAND Hy 27.75**	**124**		T	T	08 03 51.8	
	baz=316,slow=75,SNR=82						
H11N3	**WAKE ISLAND Hy 27.76**	**124**		T	T	08 03 52.0	
	baz=316,slow=75,SNR=82						
H11S1	**WAKE ISLAND Hy 28.50**	**126**		T	T	08 04 43.9	
	baz=318,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy 28.50**	**126**		T	T	08 04 47.3	
	baz=318,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy 28.51**	**126**		T	T	08 04 47.1	
	baz=318,slow=76,SNR=31						
ZALV	**Zalesovo Beam**	**42.12**	**312**	P	**P**	**07 36 56.3**	**+0.9**
	0.6nm,0.3s,baz=65,slow=6.8,SNR=2.3						
MKAR	**Makanchi Array**	**44.52**	**302**	P	**P**	**07 37 14.9**	**0.0**
	0.4nm,0.7s,baz=81,slow=8.9,SNR=3.9						
WRA	**Warramunga Arr**	**57.89**	**189**	P	**P**	**07 38 54.6**	**-0.8**
	19nm,0.3s,baz=355,slow=8.4,SNR=2.9						
ASAR	**Alice Springs**	**61.61**	**189**	P	**P**	**07 39 20.7**	**-0.3**
	0.6nm,0.7s,baz=14,slow=7.5,SNR=6.2						
FINES	**FINESS Array B**	**68.62**	**332**	P	**P**	**07 40 06.1**	**0.0**
	1.0nm,0.7s,baz=72,slow=6.2,SNR=4.0						

*IDC **31** 07:35:38.4±1.1, 20°.50S×169°.10E, h0km, mb4.4/12, mb1 4.6/13, mb1mx4.4/24, mbtmp4.4/13, ML3.8/1, MS4.1/20, Ms1 4.1/20, ms1mx4.0/29, Error ellipse: s-maj=38.2km s-min=17.6km az=145.0*
*ISCJB **31** 07:35:41.8±2.8, 20°.39S±0°.05×168°.87E±0°.06, h26km±19km, mb4.5/30, MS4.2/24, Error ellipse: s-maj=9.7km s-min=7.9km az=28.9*
*NEIC **31** 07:35:43.9±1.6, 20°.41S×168°.97E, h33km±5km, mb4.6/25, Error ellipse: s-maj=17.8km s-min=11.4km az=106.0*
*GCMT **31** 07:35:44.9±0.3, 20°.49S±0°.03×168°.76E±0°.03, h31km±1km, MW5.0/57, Moment Tensor Solution. s29,c35; s57,c74; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.71±.19; Mθθ-0.39±.14; Mφφ-2.32±.13; Mre1.04±.19; Mθφ1.18±.07; Mφr-2.08±.16; Best double couple: M0=3.63500×10^16 NP1:ϕs154.00000°, δ65.00000°, λ89.00000°. NP2: ϕs336.00000°, δ25.00000°, λ92.00000°. Principal axes: T 3.5510, Plg70.0000°, Azm62.0000°; N 0.1730, Plg1.0000°, Azm154.0000°; P -3.7190, Plg20.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 07:35:44.0±4.0, 20°.43S±0°.07×168°.91E±0°.08, h31km±27km, n106, σ1§18/95, mb4.6/30, MS4.2/24, 3C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.33**	**218**	*e*Pn	**Pn**	**07 36 04.1**	**-2.4**
MARNC				*e*Sn	**Sn**	**07 36 21.1**	**-2.0**
PINNC	**Pines Island,**	**2.57**	**212**	*e*Pn	**Pn**	**07 36 22.4**	**-1.0**
PINNC				*e*Sn	**Sn**	**07 36 54.4**	**+0.8**
DZM	**Mont Dzumac**	**2.82**	**234**	*e*Pn	**Pn**	**07 36 25.9**	**-1.1**
	302nm,0.3s						
DZM				*e*Sn	**Sn**	**07 36 56.4**	**-3.6**
	302nm,0.3s						
DZM				*e*LR	LR	07 37 00.5	
	comp=Z,5μm,26.0s						
DZM	**Mont Dzumac**	**2.82**	**234**	*e*Pn	**Pn**	**07 36 25.7**	**-1.3**
DZM				*e*Sn	**Sn**	**07 36 59.7**	**-0.4**
DZM	**Mont Dzumac**	**2.82**	**234**	Pn	**Pn**	**07 36 25.9**	**-1.1**
	15nm,0.3s,baz=106,slow=9.4,SNR=297						
DZM				Sn	**Sn**	**07 36 58.6**	**-1.4**
	80nm,0.3s,baz=178,slow=22,SNR=5.1						
DZM				LR	LR	07 37 07.1	
	comp=Z,2μm,20.9s,baz=5.0,slow=30						
HNR	**Honiara**	**13.94**	**320**	LR	LR	07 43 49.2	
	comp=Z,403nm,21.1s,baz=141,slow=35						
OUZ	**Omahuta**	**15.31**	**165**	*e*P	**P**	**07 39 21.2**	**-1.1**
	14nm,1.1s						
EIDS	**Eidsvold**	**17.14**	**250**	*e*P	**P**	**07 39 45.2**	**+2.5**
	31nm,1.5s						
ARMA	**Armidale**	**18.49**	**234**	*e*Pn	**Pn**	**07 40 01.2**	**+3.3**
	17nm,1.2s						
URZ	**Urewera**	**19.14**	**160**	*e*Pn	**Pn**	**07 40 08.2**	**+2.5**
	20nm,1.1s						
BKZ	**Black Stump Fm**	**19.79**	**162**	*e*P	**Pn**	**07 40 14.0**	**+0.5**
	26nm,1.2s						
CTA	**Charters Tower**	**21.25**	**267**	P	**P**	**07 40 28.8**	**+1.0**
	17nm,0.9s,baz=83,slow=12,SNR=9.3						
CTAO	**Charters Tower**	**21.25**	**267**	*e*P	**P**	**07 40 29.9**	**+2.1**
	20nm,0.9s						
RPZ	**Rata Peaks**	**23.29**	**176**	LR	LR	07 49 35.5	
	comp=Z,855nm,18.1s,baz=349,slow=36						
PMG	**Port Moresby**	**23.66**	**294**	LR	LR	07 49 41.2	
	comp=Z,730nm,18.0s,baz=120,slow=35						
COEN	**Coen**	**25.39**	**281**	*e*P	**P**	**07 41 10.2**	**+1.5**
	20nm,1.0s						
STKA	**Stephens Creek**	**26.96**	**239**	*e*P	**P**	**07 41 24.0**	**+1.1**
	1.4nm,0.8s						
STKA	**Stephens Creek**	**26.96**	**239**	P	**P**	**07 41 24.1**	**+1.2**
	6.1nm,0.7s,baz=69,slow=8.5,SNR=10						
STKA				LR	LR	07 51 58.9	
	comp=Z,585nm,19.7s,baz=58,slow=36						
RAR	**Rarotonga**	**29.26**	**97**	LR	LR	07 51 37.1	
	comp=Z,199nm,18.5s,baz=278,slow=33						
BBOO	**Buckleboo**	**31.72**	**240**	*e*P	**P**	**07 42 04.8**	**-0.3**
	13nm,1.2s						
WB2	**Warramunga Arr**	**32.40**	**265**	*e*P	**P**	**07 42 10.9**	**-0.4**
	11nm,1.1s						
WRAB	**Tennant Creek**	**32.41**	**265**	*e*P	**P**	**07 42 10.1**	**-1.2**
	7.4nm,1.1s						
WRA	**Warramunga Arr**	**32.41**	**265**	P	**P**	**07 42 10.7**	**-0.7**
	27nm,0.3s,baz=85,slow=8.1,SNR=2.2						
AS31	**Alice Springs**	**32.55**	**258**	*e*P	**P**	**07 42 12.6**	**0.0**
	5.5nm,0.7s						
ASAR	**Alice Springs**	**32.55**	**258**	P	**P**	**07 42 12.5**	**-0.1**
	16nm,0.8s,baz=86,slow=8.8,SNR=94						
ASAR				PP	**PnPn**	**07 43 20.7**	**+0.1**
	2.8nm,0.7s,baz=83,slow=9.0,SNR=4.3						
ASAR				LR	LR	07 55 53.4	
	comp=Z,852nm,18.2s,baz=94,slow=37						
MTN	**Manton Dam**	**36.90**	**276**	*e*P	**P**	**07 42 51.1**	**+0.9**
	11nm,0.8s						
TBI	**Tubuai**	**38.65**	**102**	*e*LQ	LQ	07 51 57.1	
	533nm,31.2s						
TBI				*e*LR	LR	07 53 36.4	
	comp=Z,320nm,28.2s						
PPT2	**Papeete2**	**39.28**	**93**	*e*S	**S**	**07 49 11.6**	**+2.2**
	138nm,26.8s						
PPT2				*e*LQ	LQ	07 52 13.4	
	463nm,26.0s						
PPT2				*e*LR	LR	07 53 55.2	
	comp=Z,597nm,24.5s,baz=247						
PPT	**Papeete**	**39.29**	**93**	LR	LR	07 55 32.0	
	comp=Z,372nm,18.8s,baz=297,slow=30						
FITZ	**Fitzroy Crossi**	**40.83**	**266**	*e*P	**P**	**07 43 23.9**	**+0.9**
	6.3nm,0.9s						
VNDA	**Vanda**	**57.24**	**182**	LR	LR	08 06 27.6	
	comp=Z,85nm,21.4s,baz=29,slow=32						
CASY	**Casey**	**58.92**	**204**	*e*P	**P**	**07 45 39.9**	**+0.1**
	5.2nm,1.1s						
MJAR	**Matsushiro Arr**	**63.65**	**333**	P	**P**	**07 46 12.4**	**+0.2**
	2.1nm,0.8s,baz=162,slow=8.3,SNR=5.3						
MJAR				LR	LR	08 12 05.0	
	comp=Z,37nm,21.0s,baz=200,slow=34						
MAJO	**Matsushiro**	**63.66**	**333**	*e*P	**P**	**07 46 12.4**	**+0.2**
KSRS	**Korea Array**	**69.31**	**326**	P	**P**	**07 46 49.0**	**+0.7**
	0.9nm,0.6s,baz=126,slow=6.3,SNR=3.9						
KS15	**Wonju Array Si**	**69.32**	**326**	*e*P	**P**	**07 46 48.1**	**-0.3**
	13nm,1.4s						
QSPA	**South Pole Qui**	**69.63**	**180**	*e*P	**P**	**07 46 50.3**	**+0.1**
	13nm,1.3s						
NJ2	**Nanjing**	**70.84**	**316**	*e*P	**P**	**07 46 59.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**72.64**	**333**	P	**P**	**07 47 09.3**	**+0.9**
	5.9nm,0.9s,baz=159,slow=5.1,SNR=9.3						
PETK	**Petropavlovsk-**	**73.87**	**353**	P	**P**	**07 47 14.7**	**-0.8**
	4.8nm,0.9s,baz=179,slow=5.8,SNR=3.3						
PETK				LR	LR	08 13 52.6	
	comp=Z,105nm,22.0s,baz=168,slow=31						
PEA1	**Petropavlovsk-**	**73.87**	**353**	*e*P	**P**	**07 47 14.7**	**-0.8**
NIKH	**Nikolski High**	**75.60**	**14**	*e*P	**P**	**07 47 24.5**	**-0.9**
	43nm,1.2s						
KLR	**Kul'dur**	**76.82**	**336**	LR	LR	08 18 37.0	
	comp=Z,103nm,20.8s,baz=122,slow=34						
MAW	**Mawson**	**77.22**	**202**	LR	LR	08 19 09.9	
	comp=Z,118nm,18.3s,baz=76,slow=34						
KMI	**Kunming**	**78.64**	**302**	P	**P**	**07 47 44.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**78.71**	**295**	P	**P**	**07 47 44.9**	**+1.1**
	1.3nm,0.3s,baz=134,slow=5.2,SNR=2.3						
CD2	**Chengdu**	**80.71**	**308**	*e*P	**P**	**07 47 54.5**	**+0.1**
HHC	**Hu-ho-hao-te**	**80.92**	**320**	*e*P	**P**	**07 47 57.0**	**+1.6**
LZH	**Lanzhou**	**83.29**	**312**	*e*P	**P**	**07 48 09.8**	**+1.8**
LZH				pP	pwP	07 48 19.5	-2.8
LZH				sP	sP	07 48 22.0	+2.5
LZH				PP	PP	07 50 27.5	-53
SNAA	**Sanae**	**87.97**	**183**	P	**P**	**07 48 29.9**	**-0.7**
SONA0	**Songino Array**	**87.98**	**323**	*e*P	**P**	**07 48 31.2**	**+0.2**
SONM	**Songino Array**	**87.98**	**323**	P	**P**	**07 48 31.2**	**+0.2**
	1.9nm,0.9s,baz=146,slow=4.1,SNR=6.9						
SONM				LR	LR	08 25 53.4	
	comp=Z,58nm,21.6s,baz=90,slow=34						
VNA3	**Neumayer Olymp**	**88.57**	**180**	P	**P**	**07 48 32.1**	**-1.3**
VNA2	**Neumayer--Watz**	**88.86**	**181**	P	**P**	**07 48 34.3**	**-0.5**
	baz=178,slow=5.0						
VNA1	**Neumayer--Stat**	**89.15**	**181**	P	**P**	**07 48 37.0**	**+0.9**
NV01	**Mina Array Sit**	**89.82**	**49**	*e*P	**P**	**07 48 39.3**	**-0.7**
NVAR	**Mina Array Bea**	**89.82**	**49**	P	**P**	**07 48 39.3**	**-0.7**
	2.7nm,0.9s,baz=226,slow=8.6,SNR=11						
NVAR				LR	LR	08 20 44.6	
	comp=Z,169nm,20.7s,baz=246,slow=30						
NV11	**Mina Array Sit**	**89.92**	**49**	*e*P	**P**	**07 48 40.4**	**0.0**
	0.3nm,1.0s						
MOD	**Modoc Plateau**	**90.03**	**45**	*e*P	**P**	**07 48 40.2**	**-0.6**
	3.3nm,1.0s						
KVN	**Kaiserville**	**90.23**	**48**	*e*P	**P**	**07 48 40.7**	**-1.2**
	3.2nm,1.0s						
PINE	**Pine Mountain**	**90.50**	**43**	*e*P	**P**	**07 48 41.2**	**-1.8**
	8.7nm,1.0s						
TPNV	**Topopah Spring**	**90.64**	**51**	*e*P	**P**	**07 48 43.4**	**-0.5**
	5.5nm,1.1s						
ILAR	**Eielson Array**	**91.45**	**17**	P	**P**	**07 48 46.5**	**-0.2**
	0.8nm,0.8s,baz=236,slow=5.6,SNR=8.6						
ILAR				LR	LR	08 28 01.7	
	comp=Z,129nm,18.4s,baz=220,slow=34						
ILB	**Eielson Array**	**91.45**	**17**	*e*P	**P**	**07 48 46.5**	**-0.2**
	4.3nm,1.4s						
J08A	**Circle Bar Ran**	**91.89**	**44**	*e*P	**P**	**07 48 48.7**	**-0.6**
	4.8nm,1.0s						
TIXI	**Tiksi**	**95.83**	**348**	LR	LR	08 27 57.8	
	comp=Z,78nm,21.6s,baz=174,slow=33						
LTX	**Lajitas**	**97.60**	**62**	*e*P	**P**	**07 49 15.2**	**-0.7**
TXAR	**Lajitas Array**	**97.60**	**62**	P	**P**	**07 49 15.2**	**-0.7**
	0.3nm,0.8s,baz=231,slow=6.9,SNR=3.4						
TXAR				LR	LR	08 27 13.9	
	comp=Z,153nm,18.7s,baz=0.0,slow=32						
PDAR	**Pinedale Array**	**97.65**	**47**	LR	LR	08 26 05.7	
	comp=Z,43nm,21.3s,baz=268,slow=31						
WMQ	**Urumqi**	**97.80**	**314**	*e*P	**P**	**07 49 15.5**	**-0.8**
PLCA	**Paso Flores**	**97.86**	**139**	LR	LR	08 23 52.8	
	comp=Z,37nm,21.4s,baz=245,slow=30						
SPITS	**Spitsbergen Ar**	**120.74**	**354**	PKP	**PKPdf**	**07 54 31.1**	**-1.0**
	0.8nm,0.6s,baz=89,slow=4.3,SNR=5.4						
ARCES	**ARCESS Array B**	**126.13**	**345**	PKP	**PKPdf**	**07 54 41.7**	**-0.8**
	1.3nm,0.8s,baz=73,slow=1.6,SNR=9.7						
VYHS	**Vyhne**	**143.10**	**326**	*e*PKP	**PKPdf**	**07 55 16.0**	**+1.2**
DPC	**Dobruska-Polom**	**143.11**	**331**	*e*PKP	PKPbc	07 55 13.2	+1.5
DPC				AMS	AMS	08 58 40.0	
	comp=Z,100nm,19.6s						
UPC	**Upice**	**143.14**	**331**	AMS	AMS	09 00 00.0	
	comp=Z,100nm,24.0s						
PVCC	**Panska Ves**	**143.77**	**332**	AMS	AMS	09 00 30.0	
	comp=Z,100nm,17.5s						
CLL	**Collm**	**143.85**	**334**	*e*PKPdf	PKPab	07 55 13.0	0.0
PRU	**Pruhonice**	**144.17**	**332**	*e*PKP	PKPbc	07 55 15.0	+0.3
EKA	**Eskdalemuir Ar**	**144.64**	**352**	PKP	**PKPab**	**07 55 14.8**	**-1.1**
	1.1nm,0.5s,baz=337,slow=1.7,SNR=6.5						
NKC	**Novy Kostel**	**144.90**	**334**	*e*PKP	**PKPdf**	**07 55 17.9**	**0.0**
CONA	**Conrad Observa**	**144.98**	**328**	*i* PKPbc	**PKPab**	**07 55 14.3**	**-3.2**
	5.2nm,0.9s						
KHC	**Kasperske Hory**	**145.23**	**331**	*e*PKPbc	**PKPbc**	**07 55 17.5**	**-0.7**
KHC	**Kasperske Hory**	**145.23**	**331**	*e*PKP	**PKPbc**	**07 55 18.4**	**+0.2**
KHC				*ep*PKP	pPKPab	07 55 24.4	-2.3
KHC				*ex*	x	07 56 27.5	
KHC				*ex*	x	07 57 54.0	
KHC				AMS	AMS	09 00 10.0	
	comp=Z,100nm,20.9s						
GEC2	**GERESS Array S**	**145.38**	**331**	*e*PKPbc	**PKPbc**	**07 55 18.6**	**-0.2**
GERES	**GERESS Array B**	**145.38**	**331**	PKPbc	**PKPbc**	**07 55 18.2**	**-0.5**
	3.5nm,0.9s,baz=354,slow=1.3,SNR=17						
ARSA	**Arzberg**	**145.61**	**327**	*i* PKPab	**PKPdf**	**07 55 18.3**	**-0.9**
	4.8nm,1.1s						
MOA	**Molln**	**145.82**	**329**	*i* PKPab	**PKPdf**	**07 55 20.0**	**+0.5**
	5.9nm,1.0s						
SOKA	**Soboth**	**146.24**	**327**	*i* PKiKP	**PKiKP**	**07 55 25.5**	**+0.9**
	4.4nm,0.9s						
OBKA	**Obir**	**146.60**	**327**	*i* pPKPdf	**PKiKP**	**07 55 27.6**	**+2.3**
	1.8nm,0.6s						
KBA	**Koelnbreinsper**	**146.81**	**329**	*i* PKPab	**PKPbc**	**07 55 23.1**	**-0.1**
	3.1nm,0.7s						
**MYK

WR1	Warramunga Arr	32.64	265	*e*P	P	07 44 45.0	-1.3
WRA	Warramunga Arr	32.64	265	P	P	07 44 45.0	-1.3
	22nm,0.3s,baz=90,slow=8.3,SNR=3.1						
AS31	Alice Springs	32.74	258	*e*P	P	07 44 47.2	0.0
	2.6nm,0.7s						
ASAR	Alice Springs	32.74	258	P	P	07 44 46.9	-0.3
	6.4nm,0.9s,baz=82,slow=9.0,SNR=6.0						
PPT	Papeete	39.02	93	*e*P	P	07 45 39.6	-1.5
FITZ	Fitzroy Crossi	41.05	266	*e*P	P	07 45 58.6	+0.7
	5.6nm,1.0s						
USRK	Ussuriysk Ar.	73.03	333	P	P	07 49 43.8	+0.1
	3.4nm,0.9s,baz=156,slow=7.6,SNR=5.0						
RPN	Rapa Nui	73.56	113	*e*P	P	07 49 46.1	-1.3
	234nm,1.4s						
CMAR	Chiang Mai Arr	79.06	295	P	P	07 50 19.6	+0.9
	0.8nm,0.3s,baz=149,slow=4.2,SNR=2.4						
SNAA	Sanae	87.68	183	P	P	07 51 04.1	+1.9
VNA3	Neumayer Olymp	88.27	180	P	P	07 51 06.6	+1.6
SONA0	Songino Array	88.37	323	*e*P	P	07 51 05.5	-0.3
SONM	Songino Array	88.37	323	P	P	07 51 05.5	-0.3
	1.4nm,0.9s,baz=141,slow=5.0,SNR=4.0						
VNA2	Neumayer--Watz	88.56	181	P	P	07 51 08.6	+2.2
	baz=188,slow=3.5						
VNA1	Neumayer--Stat	88.85	181	P	P	07 51 07.9	+0.2
NVAR	Mina Array Bea	89.83	49	P	P	07 51 14.2	+1.2
	1.2nm,0.9s,baz=223,slow=8.0,SNR=4.2						
NV01	Mina Array Sit	89.83	49	*e*P	P	07 51 14.2	+1.2
ILAR	Eielson Array	91.66	17	P	P	07 51 19.9	-0.7
	0.4nm,0.9s,baz=221,slow=6.7,SNR=3.3						
CLL	Collm	144.23	334	*e*PKPdf	PKPdf	07 57 51.0	+1.4
EKA	Eskdalemuir Ar	144.97	352	PKP	PKPab	07 57 49.4	-0.6
	0.7nm,0.5s,baz=349,slow=1.4,SNR=3.7						
GEC2	GERESS Array S	145.76	331	*e*PKPdf	PKPab	07 57 53.3	0.0
GERES	GERESS Array B	145.76	331	PKPbc	PKPdf	07 57 52.0	-0.5
	2.4nm,1.0s,baz=28,slow=3.2,SNR=4.6						
STU	Stuttgart	147.74	335	*e*PKPbc	PKPbc	07 58 01.5	+3.0
WLF	Walferdange	148.12	339	*e*PKPbc	PKPbc	07 58 00.9	+1.4
BFO	Black Forest	148.44	335	*e*PKPbc	PKPbc	07 58 01.4	+0.9
ESDC	Sonseca Array	160.22	344	PKPab	PKPab	07 58 53.3	-0.5
	0.2nm,0.3s,baz=348,slow=5.6,SNR=3.3						
TORD	Torodi Ar. Bea	165.85	240	PKPab	PKPab	07 59 19.8	+0.6
	0.4nm,0.7s,baz=122,slow=3.3,SNR=2.5						
TOA1	Torodi Ar. Sit	165.86	240	*e*PKPab	PKPab	07 59 19.8	+0.6

*MEX **31** 07:46:11.7±0.5, 15°.60N×91°.25W, h16km±21km, MD3.6*
*ISCJB **31** 07:46:13.5±2.1, 15°.62N±0°.05×91°.62W±0°.04, h12km±15km, Error ellipse: s-maj=9.4km s-min=5.0km az=34.8*
*SNET **31** 07:46:18.7±1.0, 14°.91N×91°.85W, h34km±999km, ML3.5*

ISC 31 07:46:08.9±1.5, 15°.61N±0°.07×91°.49W±0°.05, h1km±13km, n12, σ0°95/18, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.92	317	*e*P	Pn	07 46 28.4	-0.7
CCIG				*i* S	Sn	07 46 42.0	-1.0
THIG		1.02	227	*e*P	Pn	07 46 30.4	0.0
THIG				*e*S	Sn	07 46 44.0	-1.4
PCIG		1.67	274	*i* P	Pg	07 46 40.9	0.0
PCIG				*e*S	Sg	07 47 02.3	-0.2
TGIG		1.95	307	*i* P	Pn	07 46 43.1	-0.1
TGIG				*i* S	Sb	07 47 09.0	-1.2
UNIC	Santa Ana	2.46	130	*e*P	Pg	07 46 55.5	-0.6
UNIC				IAML		07 47 32.1	
	comp=Z,109nm,0.4s						
RTR	El Retiro	2.46	133	*e*P	Pg	07 46 55.4	-0.7
RTR				*e*S	Sb	07 47 25.1	0.0
SNJE	San Jose	2.51	133	*e*P	Pg	07 46 56.6	-0.5
SBLS	San Blas	2.52	134	*e*P	Pg	07 46 57.0	-0.2
CEVE	Cerro Verde	2.53	134	*e*P	Pg	07 46 57.0	-0.3
CEVE				IAML		07 47 40.6	
	comp=Z,292nm,0.4s						
PAVA	Las Pavas	3.11	127	*e*P	Pb	07 47 05.8	+0.8
PAVA				IAML		07 47 52.4	
	comp=Z,186nm,0.5s						
VICT	Victoria	3.21	120	*e*P	Pb	07 47 07.6	+0.8
VICT				IAML		07 47 53.2	
	comp=Z,105nm,0.3s						
CMIG	Matias Romero	3.58	295	*e*P	Pn	07 47 07.6	+2.1
CMIG				*i* S	Sn	07 47 49.5	+1.0

MEX 31 07:55:11.0±0.9, 14°.78N×92°.35W, h96km±6km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.15	34	*e*P	Pn	07 55 23.4	-1.2
THIG				*e*S	Sn	07 55 33.6	-1.1
PCIG		1.24	318	*e*P	Pn	07 55 33.0	-1.0
PCIG				*e*S	Sn	07 55 49.8	-1.5
CCIG	Comitan	1.50	8	*e*P	Pn	07 55 37.0	-0.4
CCIG				*i* S	Sn	07 55 55.6	-1.7
TGIG		2.12	340	*i* P	Pn	07 55 43.4	-1.6
TGIG				*e*S	Sn	07 56 09.4	-1.6
CMIG	Matias Romero	3.35	314	*e*P	Pn	07 56 00.6	-0.8
CMIG				*e*S	Sn	07 56 38.7	-1.5

*ASRS **31** 08:07:23.9, 53°.68N×91°.09E, M3.4, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*IDC **31** 08:07:27.1±3.1, 53°.76N×90°.59E, h0km, mb1 3.2/3, mb1mx3.0/46, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=26.5km s-min=21.5km az=56.0*
*NNC **31** 08:07:35.1±3.3, 53°.44N×90°.18E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=26.0km s-min=19.5km az=88.0, Suspected Mining explosion.*

ISC 31 08:07:27.3±4.0, 53°.8N±0°.1×90°.6E±0°.2, h0km, n10, σ1°06/14, 7C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.42	275	*i*		08 29 40.0	
	baz=96,slow=332,SNR=6.3						
ZAA0	Zalesovo Array	3.42	275	⇑Pn	Pb	08 08 28.3	-0.4
	4.8nm,0.8s						
ZAA0				⇓Lg	Lg	08 09 17.0	
	14nm,1.3s						
ZALV	Zalesovo Beam	3.42	275	Pn	Pn	08 08 21.8	-0.1
	0.4nm,0.3s,baz=98,slow=11,SNR=3.2						
ZALV				Pg	Pb	08 08 28.4	-0.4
	2.2nm,0.3s,baz=91,slow=14,SNR=28						
ZALV				Lg	Lg	08 09 14.2	
	1.5nm,0.3s,baz=93,slow=25,SNR=4.6						
KURK	Kurchatov	7.96	252	⇓Pn	Pn	08 09 26.3	+2.2
	4.2nm,0.7s						
KURK				⇑Sn	Sn	08 10 56.4	+1.5
	23nm,1.1s						
KURK				⇑Lg	Lg	08 11 37.0	
	83nm,1.0s						
KURBB	Kurchatov Arra	8.06	252	⇓Pn	Pn	08 09 26.1	+0.6
	8.0nm,0.9s						
KURBB				⇑Sn	Sn	08 10 56.8	-0.4
	67nm,1.0s						
KURBB				⇓Lg	Lg	08 11 39.1	
	79nm,0.9s						
KURBB	Kurchatov Arra	8.06	252	Pn	Pn	08 09 25.2	-0.3
	0.3nm,0.3s,baz=64,slow=14,SNR=11						
KURBB				Sn	Sn	08 10 55.8	-1.4
	0.1nm,0.3s,baz=66,slow=26,SNR=7.2						
KURBB				Lg	Lg	08 11 44.6	
	0.1nm,0.3s,baz=66,slow=43,SNR=4.2						
MK31	Makanchi Array	8.78	221	⇓Pn	Pn	08 09 35.6	+0.1
	2.0nm,0.8s,baz=29,slow=13,SNR=16						
MK31				⇑Sn	Sn	08 11 14.0	-1.0
	9.5nm,1.2s,baz=252,slow=42,SNR=2.8						
MK31				⇓Lg	Lg	08 12 03.0	
	24nm,0.9s,baz=39,slow=30,SNR=5.2						
MKAR	Makanchi Array	8.78	221	Pn	Pn	08 09 35.6	+0.1
	0.3nm,0.3s,baz=32,slow=12,SNR=12						
MKAR				Sn	Sn	08 11 14.4	-0.7
	0.2nm,0.3s,baz=34,slow=11,SNR=7.3						
MKAR				Lg	Lg	08 12 03.5	
	0.1nm,0.3s,baz=30,slow=22,SNR=6.1						
MAKZ	Makanchi	8.89	222	⇑Sn	Sn	08 11 18.8	+1.1
	7.0nm,0.8s						
MAKZ				⇑Lg	Lg	08 12 05.6	
	30nm,1.0s						
SONM	Songino Array	11.62	114	Lg	Lg	08 13 22.3	
	0.2nm,0.3s,baz=300,slow=24,SNR=9.6						

IDC 31 08:27:43.7±3.9, 3°.49N×126°.17E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/55, mbtmp3.4/2, Error ellipse: s-maj=221.8km s-min=33.8km az=88.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.63	161	P	P	08 33 06.9	+0.8
	140nm,0.3s,baz=341,slow=12,SNR=1.0						
ASAR	Alice Springs	28.03	165	P	P	08 33 36.0	-0.7
	0.2nm,0.4s,baz=343,slow=7.2,SNR=5.4						
ILAR	Eielson Array	85.56	25	P	P	08 40 23.6	0.0
	0.2nm,0.5s,baz=270,slow=4.9,SNR=5.8						

*NNC **31** 08:28:03.8±1.7, 53°.50N×87°.59E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.5km s-min=6.3km az=57.0, Suspected Mining explosion.*

ASRS 31 08:27:58.4, 53°.68N×87°.80E, M2.9, 9C-7D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	1.79	280	⇑P	Pg	08 28 33.8	+1.1
	2.4nm,0.5s						
ZAA0				⇓S	Sg	08 28 57.7	+2.0
	13nm,0.7s						
KURK	Kurchatov	6.38	246	⇑Pn	Pn	08 29 37.3	+3.8
	3.9nm,0.6s						
KURK				⇓Sn	Sn	08 30 49.7	+2.7
	6.7nm,0.6s						
KURK				⇓Lg	Lg	08 31 22.7	
	19nm,0.8s						
KURBB	Kurchatov Arra	6.47	246	⇑Pn	Pn	08 29 38.4	+3.6
	5.3nm,0.3s						
KURBB				⇓Sn	Sn	08 30 49.7	+0.4
	11nm,0.5s						
KURBB				⇓Lg	Lg	08 31 23.0	
	21nm,0.6s						
MK31	Makanchi Array	7.74	209	⇑Pn	Pn	08 29 56.3	+4.0
	0.4nm,0.2s,baz=29,slow=13,SNR=78						
MK31				⇑Sn	Sn	08 31 21.6	+0.9
	3.3nm,0.8s,baz=29,slow=26,SNR=4.8						
MK31				⇓Lg	Lg	08 32 00.6	
	9.2nm,0.8s,baz=35,slow=28,SNR=8.8						
MAKZ	Makanchi	7.82	211	⇓Pn	Pn	08 29 56.7	+3.2
	2.2nm,0.7s						
MAKZ				⇑Sn	Sn	08 31 22.1	-0.6
	2.2nm,0.8s						
MAKZ				⇑Lg	Lg	08 32 06.0	
	7.2nm,0.9s						
BRVK	Borovoye	10.49	274	⇑Pn	Pn	08 30 35.6	+5.7
	1.1nm,0.5s						
BRVK				⇑Sn	Sn	08 32 33.1	+5.1
	3.1nm,1.2s						

SJA 31 08:29:04.5±0.5, 22°.03S×68°.60W, h106km±5km, ML2.1, MW3.8, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.64	291	*i* P	Pn	08 29 23.2	+1.0
LVC	Limon Verde	0.65	206	*i* P	Pn	08 29 22.9	+0.4
LVC				*i* S	Sn	08 29 37.1	+1.1
PB03	IPOC Station P	1.07	269	*i* P	Pn	08 29 27.0	+0.7
PB03				*i* S	Sn	08 29 44.2	+1.4
PB06	IPOC Station P	1.13	233	*i* P	Pn	08 29 27.7	+0.7
PB06				*i* S	Sn	08 29 45.2	+1.4
PB07	IPOC Station P	1.23	284	*i* P	Pn	08 29 29.0	+0.8
PB07				*i* S	Sn	08 29 47.3	+1.3
PB02	IPOC Station P	1.40	300	*i* P	Pn	08 29 30.9	+1.0
PB15	IPOC Station P	1.43	214	*i* P	Pn	08 29 31.6	+1.1
AZAP	Zapla	3.92	125	*i* P	Pn	08 30 04.8	+1.9
AZAP				IAML		08 30 34.2	
	comp=Z,2.8nm,0.3s						

*IDC **31** 08:29:58.5±1.1, 28°.34N×51°.65E, h0km, mb3.9/11, mb1 4.0/15, mb1mx3.8/50, mbtmp3.9/15, ML3.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/41, Error ellipse: s-maj=23.9km s-min=21.3km az=25.0*
*ISCJB **31** 08:30:00.8±0.4, 28°.36N±0°.03×51°.57E±0°.04, h24km, mb3.9/16, Error ellipse: s-maj=6.1km s-min=3.7km az=137.3*
*TEH **31** 08:30:01.1, 28°.46N×51°.68E, h14km, ML3.8*
*NEIC **31** 08:30:03.0±0.0, 28°.66N×51°.73E, h15km, mb4.0/7, ML3.7(THR), MN3.8(TEH), After THR.*
*DSN **31** 08:30:08.4±0.8, 28°.29N×52°.30E, h10km, ML3.6/8, Error ellipse: s-maj=17.5km s-min=6.8km az=34.0*

ISC 31 08:30:02.5±0.6, 28°.40N±0°.06×51°.66E±0°.06, h24km, n67, σ1°30/72, mb4.0/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.18	95	*e*Pn	Pn	08 30 24.0	+0.4
GHIR				*e*Sn	Sn	08 30 40.0	+1.1
IKAZ	Kazeroun	1.38	7	*e*Pn	Pn	08 30 26.7	+0.1
IKAZ	Kazeroun	1.38	7	*e*Pg	Pn	08 30 25.7	-0.9
IKAZ				IAMB	IAmb	08 30 49.8	
	comp=Z,0.0nm,0.4s						
SHI	Shiraz	1.45	31	*e*Pg	Pn	08 30 27.4	+0.1
SHI				*e*Sg	Sb	08 30 48.0	+1.1
SHI				IAMB	IAmb	08 30 51.5	
	comp=Z,0.0nm,0.6s						
JHRM	Jahrom	1.69	86	*e*Pg	Pn	08 30 31.5	+0.9
JHRM				IAMB	IAmb	08 31 04.0	
	comp=Z,0.0nm,0.5s						
LMD1	Lamerd	1.70	128	*e*Pg	Pb	08 30 34.0	+0.9
LMD1				IAMB	IAmb	08 31 14.0	
	comp=Z,0.0nm,0.8s						
IPAR	Pars	1.88	40	*e*Pn	Pn	08 30 34.2	+0.8
IPAR	Pars	1.88	40	*e*Pg	Pn	08 30 34.0	+0.6
IPAR				IAMB	IAmb	08 31 04.4	
	comp=Z,0.0nm,0.8s						
IRAM	Ramesheh	3.46	10	*e*Pn	Pn	08 30 55.4	+0.4
JHBN	Jahan bin	3.91	348	*e*Pn	Pn	08 31 02.5	+1.1
JHBN				IAMB	IAmb	08 32 15.5	
	comp=Z,0.0nm,0.7s						
ISAD	Sadrabad	3.92	26	*e*Pn	Pn	08 31 03.5	+2.1
IMEH	Mehriz	3.93	40	*e*Pn	Pn	08 31 02.4	+0.8
IPIR	Pirpir	4.32	351	*e*Pn	Pn	08 31 07.4	+0.4
SHME	Shamm	4.63	119	P	Pn	08 31 11.3	+0.3
SHME	Shamm	4.63	119	*e*Pn	Pn	08 31 10.3	-0.6
KHGB	Koh Gabri	4.64	64	*e*Pn	Pn	08 31 12.0	+0.7
KHGB				IAMB	IAmb	08 32 40.9	
	comp=Z,0.0nm,0.9s						
IBAF	Bafgh	4.65	46	*e*Pn	Pn	08 31 12.9	+1.6
NIAN	Nian	4.65	99	*e*Pn	Pn	08 31 12.7	+1.4
BANOM	Banah	4.81	120	*i* P	Pn	08 31 13.9	+0.3
	SNR=11						
IKLH	Kolahrood	4.90	359	*e*Pn	Pn	08 31 15.4	+0.5
NAZ	Nazwa, Dubai	4.94	133	P	Pn	08 31 16.5	+1.4
NAZ	Nazwa, Dubai	4.94	133	*e*Pn	Pn	08 31 17.0	+1.8
ASUD	Al Ashush, Dub	4.99	138	*i* P	Pn	08 31 17.7	+1.8
	SNR=20						
MSFE	Esma-Masafi	5.03	126	P	Pn	08 31 16.8	+0.3
MSFE				S	Sn	08 32 10.7	-3.2
MSFE	Esma-Masafi	5.03	126	*e*Pn	Pn	08 31 17.7	+1.2
FAQ	Al Faqa, Dubai	5.07	135	P	Pn	08 31 18.3	+1.4
UOSS	Minazif	5.33	129	*e*Pn	Pn	08 31 21.3	+0.8
UOSS				*e*Sn	Sn	08 32 23.9	+2.7
UOSS	Minazif	5.33	129	*i* P	Pn	08 31 20.7	+0.1
	SNR=15						
UOSS	Minazif	5.33	129	*e*Pn	Pn	08 31 22.5	+2.0
HATD	Hatta, Dubai	5.36	131	P	Pn	08 31 21.6	+0.6
HATD	Hatta, Dubai	5.36	131	*e*Pn	Pn	08 31 22.7	+1.7
ASHO	Ashiyiah	5.41	132	*i* P	Pn	08 31 22.2	+0.6
	SNR=23						
ASHO	Ashiyiah	5.41	132	*e*Pn	Pn	08 31 22.7	+1.0
KHMZ	Khomeyn	5.52	345	*e*Pn	Pn	08 31 24.0	+0.7
TPRV	Parvadeh(Tabas	6.33	42	*e*Pn	Pn	08 31 35.1	+0.8
IKOM	Komasi	6.76	329	*e*Pn	Pn	08 31 41.7	+1.3
TKDS	Koohdasht(Taba	7.00	41	*e*Pn	Pn	08 31 44.1	+0.5
IDHR	Dehrash	7.72	326	*e*Pn	Pn	08 31 53.3	-0.3
WSAR	Wadi Sarin	8.12	128	Pn	Pn	08 31 58.1	-0.8
	comp=Z,0.7nm,0.3s,baz=320,slow=6.7,SNR=13						
WSAR				Sn	Sn	08 33 27.1	-2.8
	comp=Z,0.5nm,0.3s,baz=354,slow=5.6,SNR=1.4						
GEYT	Alibeck	10.93	28	Pn	Pn	08 32 36.9	-0.6
	comp=Z,0.6nm,0.3s,baz=215,slow=19,SNR=2.9						
GEYT				LR	LR	08 37 30.8	
	comp=Z,82nm,20.2s,baz=30,slow=41						
KBZ	Khabaz	16.84	338	Pn	Pn	08 33 58.1	+1.6
	comp=Z,0.2nm,0.3s,baz=161,slow=11,SNR=5.0						
CHGR	Chuyangaron	17.79	50	*e*Pn	Pn	08 34 02.6	-5.9
	comp=Z,22nm,1.4s						
BR101	Keskin Array S	18.68	312	*e*P	P	08 34 19.4	+0.4
BRTR	Keskin Array B	18.68	312	P	P	08 34 19.4	+0.4
	comp=Z,0.1nm,0.3s,baz=137,slow=12,SNR=11						
BTK	Batken	19.61	49	*e*P	Pn	08 34 30.9	+0.3
	comp=Z,6.8nm,1.2s						
KKAR	Karatay Array	21.13	41	*e*P	P	08 34 45.0	-0.5
	comp=Z,4.8nm,0.9s						
ARSB	Arslanbob	21.66	48	*e*P	P	08 34 51.5	0.0
	comp=Z,7.2nm,1.0s						
ABKAR	Akbulak array	21.78	15	*e*P	P	08 34 51.7	-0.6
	comp=Z,1.7nm,0.8s						
KARP	Karpathos	21.94	295	*e*P	P	08 34 54.3	0.0
	comp=Z,37nm,1.1s						
AKTO	Aktyubinsk	22.53	11	P	P	08 35 00.9	+0.4
	comp=Z,1.7nm,0.5s,baz=200,slow=12,SNR=8.1						
FNA	Florina	27.68	304	*e*P	P	08 35 50.5	+1.8
	comp=Z,3.8nm,0.7s						
AKASG	Malin Array Be	28.00	329	P	P	08 35 50.4	-0.9
	comp=Z,0.2nm,0.3s,baz=132,slow=9.1,SNR=2.9						
BVAR	Borovoye Array	28.23	24	P	P	08 35 53.8	+0.4
	comp=Z,0.8nm,0.6s,baz=210,slow=8.6,SNR=4.5						
KURBB	Kurchatov Arra	30.08	35	P	P	08 36 09.9	+0.1
	comp=Z,0.6nm,0.7s,baz=236,slow=9.4,SNR=4.1						
ZALV	Zalesovo Beam	35.16	34	P	P	08 36 54.0	-0.1
	comp=Z,0.9nm,0.3s,baz=263,slow=10,SNR=3.5						
ZAA1	Zalesovo Array	35.16	34	*e*P	P	08 36 54.0	-0.2
FIA0	FINESS Array S	37.18	340	*e*P	P	08 37 11.3	0.0
FINES	FINESS Array B	37.18	340	P	P	08 37 11.3	0.0
	comp=Z,2.6nm,0.5s,baz=145,slow=9.2,SNR=6.3						
NB2	NORSAR Subarra	42.30	332	P	P	08 37 53.2	-0.8
	comp=Z,1.4nm,0.8s,baz=122,slow=8.6						
NB200	NORSAR Array S	42.30	332	*e*P	P	08 37 53.3	-0.8
NOA	NORSAR Array B	42.30	332	P	P	08 37 53.3	-0.8
	comp=Z,1.1nm,0.8s,baz=125,slow=8.2,SNR=4.7						
TOA1	Torodi Ar. Sit	48.78	263	*e*P	P	08 38 45.6	-0.2
TORD	Torodi Ar. Bea	48.78	263	P	P	08 38 45.6	-0.2
	comp=Z,1.1nm,0.7s,baz=52,slow=7.9,SNR=7.9						
SPITS	Spitsbergen Ar	52.32	351	P	P	08 39 12.0	+0.2
	comp=Z,0.3nm,0.4s,baz=141,slow=9.3,SNR=3.1						
YKA	Yellowknife Ar	88.76	354	P	P	08 42 54.6	+0.8
	comp=Z,0.8nm,0.9s,baz=5.7,slow=5.1,SNR=8.9						
YKB5	Yellowknife Ar	88.76	354	*e*P	P	08 42 54.6	+0.8
ASAR	Alice Springs	94.58	114	P	P	08 43 20.6	-0.9
	comp=Z,0.9nm,0.7s,baz=304,slow=4.3,SNR=12						

*ISCJB **31** 08:33:26.7±0.3, 38°.94N±0°.02×26°.17E±0°.03, h6km±3km, Error ellipse: s-maj=3.5km s-min=2.5km az=157.3*
*ATH **31** 08:33:26.7, 38°.95N×26°.19E, h28km±1km, ML2.8/7, Error ellipse: s-maj=1.9km s-min=0.9km az=269.0*
*ISK **31** 08:33:26.5, 38°.95N×26°.26E, h8km, ML3.3/14*
*DDA **31** 08:33:27.0, 38°.94N×26°.28E, h6km±5km, ML3.3*
*THE **31** 08:33:27.8, 38°.95N×26°.19E, h10km±1km, ML2.8/5, Error ellipse: s-maj=1.5km s-min=0.7km az=359.0*

ISC 31 08:33:27.1±0.9, 38°.95N±0°.02×26°.25E±0°.02, h13km±8km, n55, σ0°55/80, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.30	4	P	Pb	08 33 34.1	-0.3
PRK				S	Sb	08 33 39.0	-0.2
PRK	Paraskevi	0.30	4	P	Pb	08 33 34.1	-0.3
PRK				S	Sb	08 33 39.3	+0.1
PRK				AML	AML	08 33 43.1	
	comp=E,6543μm,0.7s						
PRK				AML	AML	08 33 44.8	
	comp=N,6820μm,0.6s						
SIGR	SIGRI	0.40	311	PG	Pg	08 33 35.2	0.0
SIGR				SG	Sg	08 33 41.1	+0.5
SIGR	SIGRI	0.40	311	P	Pg	08 33 35.2	0.0
SIGR				S	Sg	08 33 40.8	+0.2
SIGR	SIGRI	0.40	311	P	Pg	08 33 35.2	0.0
SIGR				S	Sg	08 33 41.1	+0.5
SIGR				AML	AML	08 33 41.5	
	comp=E,4859μm,0.4s						
SIGR				AML	AML	08 33 43.1	
	comp=N,3028μm,0.4s						
KRBN	Karaburun	0.43	145	PG	Pg	08 33 35.6	0.0
KRBN				SG	Sg	08 33 41.8	+0.5
CAND	Candarli	0.43	89	PG	Pb	08 33 36.2	-0.4
FOCM	Foa	0.45	121	PG	Pg	08 33 35.5	-0.4
FOCM				SG	Sg	08 33 41.7	-0.1
AYVA	Ayvalik	0.50	44	*i* P	Pb	08 33 37.5	-0.3
AYVA				*i* S	Sb	08 33 44.8	-0.2
GPNR	Gulpinar-Canak	0.52	350	PG	Pg	08 33 37.3	0.0
CHOS	Chios island	0.58	195	PG	Pg	08 33 38.1	-0.3
CHOS	Chios island	0.58	195	P	Pg	08 33 38.2	-0.2
CHOS				S	Sb	08 33 48.0	+0.8
CHOS	Chios island	0.58	195	P	Pg	08 33 38.2	-0.2
CHOS				S	Sb	08 33 47.2	0.0
CHOS				AML	AML	08 33 49.6	
	comp=E,2219μm,0.3s						
CHOS				AML	AML	08 33 53.1	
	comp=N,1805μm,0.4s						
CESE	eme	0.61	176	PG	Pg	08 33 38.9	-0.2
URLA	Izmir	0.65	155	PG	Pg	08 33 39.2	-0.5
URLA	Izmir	0.65	155	IAML_P			
	comp=Z,14μm,0.1s						
URLA				*i* P	Pb	08 33 40.4	+0.1
URLA				*i* S	Sb	08 33 48.8	-0.4
ZEDA	zmir-Bergama	0.65	88	IAML_P			
	comp=Z,6μm,0.1s						
ZEDA				*i* P	Pb	08 33 40.0	-0.3
ZEDA				*i* S	Sb	08 33 49.9	+0.7
PSRA	Psara	0.67	233	P	Pg	08 33 39.8	-0.3
ZEY	zmir	0.73	164	*i* P	Pb	08 33 41.6	-0.1
ZEY				*i* S	Sb	08

AYDN *i* S **Sg** **08 34 24.3 -1.2**
DURS Dursunbey 1.85 69 IAML_P
comp=Z,479nm,0.3s
DURS *i* P **Pn** **08 33 59.2 +0.6**
DURS *i* S **Sg** **08 34 25.1 -1.5**
MANT Manisa 1.86 103 IAML_P
comp=Z,682nm,0.2s
MANT *i* P **Pg** **08 34 03.0 +0.1**
MANT *i* S **Sg** **08 34 27.3 +0.2**
ALN Alexandroupoli 1.96 356 P **Pn** **08 34 00.1 +0.1**
ALN Alexandroupoli 1.96 356 P **Pn** **08 34 00.1 +0.1**
ALN AML AML 08 34 29.7
comp=E,178μm,0.4s
ALN AML AML 08 34 33.8
comp=N,155μm,0.4s
APE Apeiranthos 1.96 197 P **Pn** **08 33 59.0 -1.1**
DION Dionisos Attik 2.01 245 P **Pn** **08 33 59.8 -1.0**
THAS Thassos island 2.03 325 P **Pn** **08 34 00.7 -0.3**
MRKA Markates 2.09 264 P **Pn** **08 34 01.6 -0.2**
AMGA Amorgos Island 2.13 188 P **Pn** **08 34 00.9 -1.5**
PAIG Paliouri 2.21 297 P **Pn** **08 34 03.3 -0.2**
OUR Ouranopolis 2.23 309 P **Pn** **08 34 03.2 -0.5**
SERI Serifos 2.26 218 P **Pn** **08 34 05.1 +1.0**
RDO Rodhopi 2.26 346 P **Pn** **08 34 04.4 +0.2**
IOSP Ios island 2.34 199 P **Pn** **08 34 03.8 -1.5**
KAVA Kavala 2.44 328 P **Pn** **08 34 06.5 -0.1**
SRS Serrai 2.98 318 P **Pn** **08 34 14.2 +0.2**

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*ISCJB **31** 08:34:57.6±0.6, 54°.69N±0°.09×153°.8E±0°.1, h600km, mb3.0/7, Error ellipse: s-maj=11.8km s-min=10.1km az=19.2*
*IDC **31** 08:34:57.1±1.2, 54°.43N×153°.37E, h613km±16km, mb2.5/7, mb1 2.8/10, mb1mx2.5/50, mbtmp3.5/10, Error ellipse: s-maj=26.3km s-min=16.6km az=148.0*
*KRSC **31** 08:34:57.8±10.0, 54°.41N×154°.54E, h634km±10km, ML4.3*
ISC 31 08:34:56.8±0.7,**54°.5N**±0°.1×**153°.67E**±0°.09,**h600**km,**n25,**
σ2º**09**/29,**mb3.0/7,Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**2.65**	**107**	*e*P	**P**	**08 36 16.8**	**+2.7**
PETK	**Petropavlovsk-**	**2.79**	**119**	P	**P**	**08 36 16.6**	**+1.9**
	0.7nm,0.3s,baz=282,slow=2.8,SNR=12						
KRX	**Arik**	**3.17**	**110**	*e*P	**P**	**08 36 19.4**	**+2.4**
AVH	**Avacha**	**3.26**	**111**	*e*P	**P**	**08 36 20.4**	**+2.9**
SMAR	**Somma**	**3.29**	**111**	*e*P	**P**	**08 36 20.8**	**+3.0**
ASAK	**Asacha**	**3.33**	**129**	*e*P	**P**	**08 36 20.5**	**+2.6**
UGLR	**Uglovaya**	**3.33**	**111**	*e*P	**P**	**08 36 20.4**	**+2.5**
SDLR	**Sedlovina**	**3.33**	**110**	*e*P	**P**	**08 36 20.6**	**+2.6**
DALK	**Dalny**	**3.37**	**114**	*e*S	**S**	**08 37 24.4**	**0.0**
RUS	**Russkaya**	**3.58**	**124**	*e*S	**S**	**08 37 27.4**	**+0.6**
NLC	**Nalytchevo**	**3.63**	**110**	*e*S	**S**	**08 37 27.4**	**0.0**
KDTR	**Khodutka, Kamc**	**3.81**	**134**	*e*P	**P**	**08 36 21.4**	**+0.5**
KDTR				*e*S	**S**	**08 37 27.6**	**-1.9**
SPN	**Mys Shipunski**	**4.03**	**108**	*e*P	**P**	**08 36 23.4**	**+1.1**
SPN				*e*S	**S**	**08 37 29.3**	**-3.0**
MKZ	**Mys Kozlova**	**4.70**	**86**	*e*P	**P**	**08 36 27.7**	**+0.6**
MKZ				*e*S	**S**	**08 37 38.6**	**-2.5**
KBTR	**Krutoberegovo**	**5.48**	**68**	*e*P	**P**	**08 36 33.4**	**+0.1**
KBTR				*e*S	**S**	**08 37 49.2**	**-3.3**
BKI	**Bering**	**7.14**	**80**	*e*S	**S**	**08 38 15.0**	**-3.9**
SEY	**Seymchan**	**8.45**	**356**	P	**P**	**08 37 01.6**	**+1.6**
	0.2nm,0.3s,baz=168,slow=14,SNR=3.0						
KLR	**Kul'dur**	**14.51**	**258**	P	**P**	**08 37 59.2**	**-1.1**
	0.2nm,0.3s,baz=59,slow=7.8,SNR=6.2						
INK	**Inuvik**	**35.08**	**38**	P	**P**	**08 41 01.5**	**+0.9**
	0.6nm,0.3s,baz=292,slow=8.3,SNR=7.7						
MKAR	**Makanchi Array**	**44.08**	**291**	P	**P**	**08 42 11.4**	**-1.4**
	0.3nm,0.5s,baz=56,slow=6.5,SNR=4.5						
YKA	**Yellowknife Ar**	**44.64**	**41**	P	**P**	**08 42 17.2**	**+0.4**
	0.3nm,0.5s,baz=305,slow=7.2,SNR=6.9						
NVAR	**Mina Array Bea**	**58.75**	**67**	P	**P**	**08 43 59.6**	**+1.1**
	0.4nm,0.8s,baz=294,slow=4.8,SNR=2.3						
PDAR	**Pinedale Array**	**60.06**	**58**	P	**P**	**08 44 08.1**	**+0.9**
	0.2nm,0.4s,baz=343,slow=2.8,SNR=3.4						
TXAR	**Lajitas Array**	**73.47**	**63**	P	**P**	**08 45 30.0**	**+0.6**
	0.3nm,0.6s,baz=301,slow=4.8,SNR=6.7						
ASAR	**Alice Springs**	**79.72**	**198**	P	**P**	**08 46 01.4**	**-1.8**
	0.3nm,0.8s,baz=12,slow=5.1,SNR=2.9						

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*KRNET **31** 08:40:03.7±0.1, 40°.84N×69°.17E, mb3.2*
*SOME **31** 08:40:04.1, 40°.95N×69°.60E, h5km*
*NNC **31** 08:40:07.0±2.7, 41°.08N×69°.70E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=19.4km s-min=10.1km az=25.0*
ISC 31 08:40:05.0±1.4,**41°.06N**±0°.04×**69°.63E**±0°.06,**h10**km,**n24,**
σ3º**09**/38,**12C-9D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHM	**Chimkent**	**1.26**	**359**	*e*P	**Pn**	**08 40 28.9**	**+0.2**
	241nm,0.1s						
CHM				*e*S	**Sb**	**08 40 46.6**	**+1.5**
	515nm,0.5s						
BTK	**Batken**	**1.35**	**138**	⇑*e*P	**Pg**	**08 40 30.9**	**0.0**
	baz=21						
BTK				⇑*i*S	**Sn**	**08 40 50.8**	**+2.8**
	baz=21						
ARK	**Arkit**	**1.90**	**66**	⇓*i*P	**Pg**	**08 40 43.8**	**+2.3**
	baz=65						
ARK				⇓*i*S	**Sg**	**08 41 13.1**	**+7.0**
	baz=65						
KK31	**Karatay Array**	**2.15**	**17**	Pg	**Pb**	**08 40 45.7**	**+1.8**
	2.7nm,0.3s,baz=200,slow=17,SNR=62						
KK31				⇑Lg	Lg	08 41 15.5	
	21nm,0.5s,baz=200,slow=27,SNR=24						
DRK	**Karamyk**	**2.29**	**133**	⇓*i*P	**Pb**	**08 40 45.5**	**-1.1**
	baz=23						
DRK				⇓*e*S	**Sg**	**08 41 16.0**	**-2.6**
	baz=23						
MRKS	**Merke**	**3.17**	**57**	Pg	**Pb**	**08 41 04.0**	**+2.6**
	5.0nm,0.7s						
MRKS				Lg	Lg	08 41 41.5	
	13nm,0.5s						
MRKS	**Merke**	**3.17**	**57**	*e*P	**Pb**	**08 41 04.0**	**+2.6**
	4.7nm,0.5s						
MRKS				*e*S	**Sb**	**08 41 44.5**	**+4.3**
	12nm,0.5s						
AML	**Almayashu**	**3.23**	**69**	⇓*i*P	**Pb**	**08 41 04.1**	**+1.4**
	baz=68						
AML				⇓*i*S	**Sg**	**08 41 47.8**	**-0.9**
	baz=68						
EKS2	**Erkin-Say**	**3.48**	**61**	⇑*i*P	**Pb**	**08 41 08.0**	**+1.1**
	baz=61						
EKS2				⇑*i*S	**Sb**	**08 41 54.3**	**+5.0**
	baz=61						
UCH	**Uchtor**	**3.84**	**71**	⇑*e*P	**Pb**	**08 41 13.3**	**+0.2**
	baz=69						
UCH				⇑*i*S	**Sb**	**08 42 02.4**	**+2.6**
	baz=69						
AAK	**Ala-Archa**	**3.96**	**65**	⇑Pg	**Pb**	**08 41 17.4**	**+2.4**
	2.9nm,0.6s						
AAK				⇓Lg	Lg	08 42 11.9	
	10nm,0.8s						
USP	**Ospenovka**	**4.24**	**57**	⇑*i*P	**Pb**	**08 41 18.5**	**-1.1**
	baz=57						
USP				⇑*i*S	**Sb**	**08 42 12.4**	**+1.5**
	baz=57						
KZA	**Kyzart**	**4.33**	**75**	⇓*i*P	**Pb**	**08 41 19.3**	**-2.2**
	baz=73						
KZA				⇓*i*S	**Sb**	**08 42 13.8**	**-0.2**
	baz=73						
TKM2	**Tokmak 2**	**4.82**	**65**	⇑Pg	**Pb**	**08 41 32.5**	**+2.9**
	2.9nm,0.8s						
TKM2				⇑Lg	Lg	08 42 38.2	
	7.6nm,0.6s						
DGS	**Degeres**	**5.06**	**62**	Pg	**Pg**	**08 41 39.9**	**-2.0**
	4.0nm,0.6s						
DGS				Lg	Lg	08 42 44.3	
	8.9nm,0.7s						
DGS	**Degeres**	**5.06**	**62**	*e*P	**Pg**	**08 41 39.9**	**-2.0**
	4.0nm,0.6s						
DGS				*e*S	**Sg**	**08 42 44.3**	**-3.1**
	8.9nm,0.7s						
KST	**Kastek**	**5.11**	**65**	Pg	**Pg**	**08 41 39.7**	**-3.2**
KST				Lg	Lg	08 42 45.0	
KST	**Kastek**	**5.11**	**65**	*e*P	**Pg**	**08 41 39.8**	**-3.2**
	5.8nm,0.4s						
KST				*e*S	**Sg**	**08 42 44.8**	**-4.4**
	11nm,0.8s						
BTLS	**Baital**	**5.13**	**38**	Pg	**Pg**	**08 41 40.6**	**-2.6**
	3.1nm,0.7s						
BTLS				Lg	Lg	08 42 46.2	
	9.3nm,0.8s						
BTLS	**Baital**	**5.13**	**38**	*e*P	**Pg**	**08 41 40.6**	**-2.6**
	3.1nm,0.7s						
BTLS				*e*S	**Sg**	**08 42 46.2**	**-3.4**
	9.3nm,0.8s						
KTBS	**Karatobe**	**5.85**	**61**	Pg	**Pg**	**08 41 53.5**	**-3.6**
	1.4nm,0.6s						
KTBS				Lg	Lg	08 43 08.8	
	8.0nm,0.6s						
KTBS	**Karatobe**	**5.85**	**61**	*e*P	**Pg**	**08 41 53.5**	**-3.6**
	1.4nm,0.6s						
KTBS				*e*S	**Sg**	**08 43 08.8**	**-4.1**
	8.0nm,0.6s						
ARXS	**Arharly**	**6.81**	**60**	Pg	Pb	08 42 09.9	+6.3
	1.9nm,0.8s						
ARXS				Lg	Lg	08 43 38.1	
	4.0nm,1.0s						
ARXS	**Arharly**	**6.81**	**60**	*e*P	**Pg**	**08 42 11.8**	**-3.7**
	1.9nm,0.8s						
ARXS				*e*S	**Sg**	**08 43 38.1**	**-5.6**
	4.0nm,1.0s						

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*NORS **31** 08:42:21.0±0.0, 42°.84N×45°.60E, h17km, MPVA4.3*
*DRS **31** 08:42:21.1±0.0, 42°.92N×45°.42E, h14km, ML3.2/3*
*TIF **31** 08:42:21.3, 42°.94N×45°.61E, h9km±2km*
*AZER **31** 08:42:22.5±0.2, 42°.79N×45°.43E, h10km, ml3.1/15, Error ellipse: s-maj=5.0km s-min=2.0km az=333.0*
*MOS **31** 08:42:22.8±1.3, 42°.98N×45°.62E, h12km, mb4.0/1, Error ellipse: s-maj=6.0km s-min=4.2km az=33.6*
ISC 31 08:42:23.1±0.9,**42°.92N**±0°.02×**45°.62E**±0°.01,**h19**km±2km,
n111,σ1º**44**/196,**14C-6D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.32**	**25**	*e*PG	**Pb**	**08 42 29.7**	**-0.4**
GROC				*e*		08 42 34.7	
GROC				pmax	pmax		
	comp=Z,773nm,0.6s						
GROC				smax	smax		
	comp=N,4μm,0.4s						
GROC				smax	smax		
	comp=N,5μm,0.4s						
GROC				smax	smax		
	comp=E,4μm,0.7s						
DVE	**Vedeno**	**0.38**	**84**	⇓*i*PG	**Pg**	**08 42 30.4**	**-0.7**
DVE				*e*S	**Sb**	**08 42 36.7**	**-0.1**
DVE	**Vedeno**	**0.38**	**84**	*i*Pg	**Pg**	**08 42 30.3**	**-0.7**
DVE				*e*Sg	**Sb**	**08 42 36.6**	**-0.1**
BTLR	**Botlikh**	**0.51**	**119**	⇓*e*PG	**Pg**	**08 42 32.7**	**-0.8**
BTLR				*e*		08 42 41.1	
BTLR				pmax	pmax		
	comp=Z,145nm,0.4s						
BTLR				smax	smax		
	comp=N,541nm,0.3s						
BTLR	**Botlikh**	**0.51**	**119**	*e*Pg	**Pg**	**08 42 32.7**	**-0.8**
	comp=N,131nm,0.2s						
BTLR				⇑*e*Sg	**Sb**	**08 42 41.1**	**+0.5**
	comp=N,714nm,0.3s						
KMGR	**Komgaron**	**0.57**	**285**	*e*PG	**Pb**	**08 42 34.1**	**-0.2**
KMGR				*e*S	**Sn**	**08 42 44.3**	**-0.7**
KMGR	**Komgaron**	**0.57**	**285**	*e*Pg	**Pb**	**08 42 34.1**	**-0.2**
KMGR				*e*Sg	**Sn**	**08 42 44.3**	**-0.7**
VLKR	**Vladikavkaz**	**0.70**	**281**	*e*PG	**Pn**	**08 42 37.2**	**-0.8**
VLKR				*e*S	**Sn**	**08 42 48.5**	**+0.2**
VLKR	**Vladikavkaz**	**0.70**	**281**	*e*Pg	**Pn**	**08 42 38.4**	**+0.4**
VLKR				*e*Sg	**Sn**	**08 42 47.8**	**-0.5**
DLMR	**Dylym**	**0.76**	**78**	⇑*i*PG	**Pg**	**08 42 37.0**	**-1.0**
DLMR				*e*S	**Sn**	**08 42 49.0**	**-0.7**
DLMR				pmax	pmax		
	comp=Z,160nm,0.2s						
DLMR	**Dylym**	**0.76**	**78**	*i*Pg	**Pg**	**08 42 37.0**	**-1.0**
	comp=Z,160nm,0.2s						
DLMR				*e*Sg	**Sn**	**08 42 49.0**	**-0.7**
	comp=Z,520nm,0.3s						
XNZR	**Khunzakh**	**0.89**	**115**	⇓*e*PG	**Pb**	**08 42 38.9**	**-1.0**
XNZR				*e*		08 42 53.3	
XNZR	**Khunzakh**	**0.89**	**115**	*e*Pg	**Pg**	**08 42 40.2**	**-0.2**
XNZR				*e*Sg	**Sn**	**08 42 53.5**	**+0.5**
UNCR	**Uncukul**	**0.89**	**103**	*e*PG	**Pg**	**08 42 40.0**	**-0.5**
UNCR				*e*S	**Sn**	**08 42 54.0**	**+1.0**
UNCR				pmax	pmax		
	comp=Z,171nm,0.3s						
UNCR	**Uncukul**	**0.89**	**103**	*e*Pg	**Pg**	**08 42 40.0**	**-0.5**
UNCR				*e*Sg	**Sn**	**08 42 54.0**	**+1.0**
BTKR	**Batakoyurt**	**0.91**	**300**	*e*PG	**Pn**	**08 42 41.3**	**+0.5**
BTKR				*e*S	**Sn**	**08 42 55.0**	**+1.6**
BTKR	**Batakoyurt**	**0.91**	**300**	*e*Pg	**Pn**	**08 42 41.3**	**+0.5**
BTKR				*e*Sg	**Sn**	**08 42 55.0**	**+1.6**
GUDG	**Gudauri**	**0.95**	**242**	P	**Pb**	**08 42 40.5**	**-0.6**
GUDG				S	**Sb**	**08 42 52.5**	**-0.9**
LACR	**Lac**	**0.97**	**265**	*e*PG	**Pb**	**08 42 39.8**	**-1.6**
LACR				*e*S	**Sb**	**08 42 53.5**	**-0.3**
LACR	**Lac**	**0.97**	**265**	*e*Pg	**Pb**	**08 42 39.7**	**-1.6**
LACR				*e*Sg	**Sb**	**08 42 53.5**	**-0.3**
ARNR	**Ardon**	**1.01**	**286**	*e*PG	**Pn**	**08 42 42.8**	**+0.6**
ARNR				*e*S	**Sn**	**08 42 58.1**	**+2.2**
ARNR	**Ardon**	**1.01**	**286**	*e*Pg	**Pn**	**08 42 42.1**	**-0.1**
ARNR				*e*Sg	**Sn**	**08 42 57.8**	**+1.9**
TRKR	**Terskaya**	**1.03**	**322**	*e*PG	**Pn**	**08 42 43.3**	**+0.8**
TRKR				*e*S	**Sn**	**08 42 59.3**	**+2.9**
TRKR	**Terskaya**	**1.03**	**322**	*e*Pg	**Pn**	**08 42 43.3**	**+0.8**
TRKR				*e*Sg	**Sn**	**08 42 59.3**	**+2.9**
ARKR	**Arakani**	**1.06**	**107**	*e*PG	**Pn**	**08 42 43.0**	**0.0**
ARKR				*e*S	**Sn**	**08 43 00.0**	**+2.7**
ARKR				pmax	pmax		
	comp=Z,96nm,0.3s						
ARKR	**Arakani**	**1.06**	**107**	*e*Pg	**Pn**	**08 42 43.0**	**0.0**
ARKR				*e*Sg	**Sn**	**08 43 00.0**	**+2.7**
BUJR	**Buynaksk**	**1.10**	**94**	*e*PG	**Pg**	**08 42 44.0**	**-0.4**
BUJR				*e*S	**Sn**	**08 43 02.0**	**+3.8**
BUJR				pmax	pmax		
	comp=Z,108nm,0.2s						
BUJR	**Buynaksk**	**1.10**	**94**	*e*Pg	**Pg**	**08 42 44.0**	**-0.4**
BUJR				*e*Sg	**Sn**	**08 43 02.0**	**+3.8**
GNBR	**Gunib**	**1.13**	**117**	⇑*e*PG	**Pg**	**08 42 44.4**	**-0.5**
GNBR				*e*		08 43 00.1	
GNBR				pmax	pmax		
	comp=Z,153nm,0.4s						
GNBR				smax	smax		
	comp=N,530nm,0.4s						
GNBR	**Gunib**	**1.13**	**117**	*e*Pg	**Pg**	**08 42 44.4**	**-0.5**
	comp=N,153nm,0.4s						
GNBR				⇑*e*Sg	**Sn**	**08 43 00.8**	**+1.9**
	comp=N,1μm,0.2s						
KORR	**Kora**	**1.15**	**279**	*e*PG	**Pg**	**08 42 44.5**	**-0.8**
KORR				*e*S	**Sg**	**08 43 01.8**	**+1.4**
KORR	**Kora**	**1.15**	**279**	*e*Pg	**Pg**	**08 42 44.5**	**-0.8**
KORR				*e*Sg	**Sg**	**08 43 01.8**	**+1.4**
LGD	**Lagodekhi**	**1.18**	**157**	P	**Pb**	**08 42 44.9**	**+0.1**
LGD				S	**Sb**	**08 42 59.9**	**+0.3**
LGD	**Lagodekhi**	**1.18**	**157**	*e*PG	**Pb**	**08 42 44.8**	**+0.1**
LGD				*e*S	**Sb**	**08 42 59.9**	**+0.3**
LGD	**Lagodekhi**	**1.18**	**157**	*e*Pg	**Pb**	**08 42 44.9**	**+0.1**
LGD				*e*Sg	**Sb**	**08 42 59.9**	**+0.3**
STDR	**Stavd-Durt**	**1.22**	**292**	*e*PG	**Pg**	**08 42 46.2**	**-0.5**
STDR				*e*S	**Sg**	**08 43 04.7**	**+2.0**
STDR	**Stavd-Durt**	**1.22**	**292**	*e*Pg	**Pg**	**08 42 46.2**	**-0.5**
STDR				*e*Sg	**Sg**	**08 43 04.7**	**+2.0**
ZEI	**Tsey**	**1.27**	**265**	*e*PG	**Pn**	**08 42 45.2**	**-0.7**
ZEI				*e*S	**Sb**	**08 43 02.0**	**-0.4**
ZEI	**Tsey**	**1.27**	**265**	*e*Pg	**Pn**	**08 42 45.1**	**-0.7**
ZEI				*e*Sg	**Sb**	**08 43 02.4**	**0.0**
PRTR	**Priterechnaya**	**1.28**	**311**	*e*PG	**Pg**	**08 42 47.3**	**-0.5**
PRTR				*e*S	**Sg**	**08 43 06.0**	**+1.4**
PRTR	**Priterechnaya**	**1.28**	**311**	*e*Pg	**Pg**	**08 42 47.3**	**-0.5**
PRTR				*e*Sg	**Sg**	**08 43 06.0**	**+1.4**
KMKR	**Kumukh**	**1.35**	**125**	*i*PG	**Pb**	**08 42 48.0**	**+0.2**
KMKR				*i*S	**Sg**	**08 43 08.0**	**+1.2**
KMKR				pmax	pmax		
	comp=Z,59nm,0.2s						
KMKR	**Kumukh**	**1.35**	**125**	*i*Pg	**Pb**	**08 42 48.0**	**+0.2**
KMKR				*i*Sg	**Sg**	**08 43 08.0**	**+1.2**
TBLG	**Delisi**	**1.35**	**209**	P	**Pb**	**08 42 48.1**	**+0.3**
TBLG				S	**Sg**	**08 43 06.2**	**-0.6**
TBLG	**Delisi**	**1.35**	**209**	*e*PG	**Pb**	**08 42 48.1**	**+0.3**
TBLG				*e*S	**Sg**	**08 43 06.2**	**-0.6**
TBLG	**Delisi**	**1.35**	**209**	*e*Pg	**Pb**	**08 42 48.1**	**+0.3**
TBLG				*e*Sg	**Sg**	**08 43 06.2**	**-0.6**
LSNR	**Lesken**	**1.36**	**286**	*e*PG	**Pb**	**08 42 47.7**	**-0.2**
LSNR				*e*S	**Sg**	**08 43 07.5**	**+0.4**
LSNR	**Lesken**	**1.36**	**286**	*e*Pg	**Pb**	**08 42 47.5**	**-0.4**
LSNR				*e*Sg	**Sg**	**08 43 06.3**	**-0.8**
BTNK	**Botanikuri**	**1.37**	**206**	P	**Pb**	**08 42 48.3**	**+0.1**
BTNK				S	**Sg**	**08 43 07.7**	**+0.1**
BTNK	**Botanikuri**	**1.37**	**206**	PG	**Pb**	**08 42 48.2**	**+0.1**
MAK	**Makhachkala**	**1.39**	**88**	*e*PG	**Pg**	**08 42 49.2**	**-0.7**
MAK				*e*		08 43 10.0	
MAK				pmax	pmax		
	comp=Z,240nm,0.3s						
MAK				smax	smax		
	comp=N,936nm,0.5s						
MAK				smax	smax		
	comp=N,1μm,0.5s						
MAK	**Makhachkala**	**1.39**	**88**	*e*Pg	**Pg**	**08 42 50.7**	**+0.8**
MAK				*e*Sg	**Sg**	**08 43 11.4**	**+3.4**
ZKTA	**Zakatala**	**1.48**	**149**	P	**Pg**	**08 42 51.0**	**-0.6**
	SNR=8.6						
ZKTA				S	**Sg**	**08 43 11.4**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.49**	**270**	⇓*i*PG	**Pn**	**08 42 49.5**	**+0.5**
DIGR				*e*S	**Sb**	**08 43 08.9**	**-0.1**
DDFL	**Dedoflistskaro**	**1.52**	**166**	P	**Pn**	**08 42 49.6**	**+0.3**
DDFL				S	**Sg**	**08 43 12.7**	**+0.6**
DDFL	**Dedoflistskaro**	**1.52**	**166**	PG	**Pn**	**08 42 49.5**	**+0.3**
SGKR	**Sergokala**	**1.57**	**106**	*e*PG	**Pg**	**08 42 52.5**	**-0.9**
SGKR				*e*S	**Sg**	**08 43 13.5**	**-0.4**
SGKR	**Sergokala**	**1.57**	**106**	*e*Pg	**Pg**	**08 42 52.5**	**-0.9**
SGKR				*e*Sg	**Sg**	**08 43 13.5**	**-0.4**
NCK	**Nalchik**	**1.58**	**292**	*e*PG	**Pb**	**08 42 51.7**	**0.0**
NCK				*e*S	**Sg**	**08 43 14.3**	**0.0**
NCK	**Nalchik**	**1.58**	**292**	*e*Pg	**Pg**	**08 42 52.4**	**-1.2**
NCK				*e*Sg	**Sg**	**08 43 13.8**	**-0.5**
ONI	**Oni**	**1.63**	**259**	P	**Pb**	**08 42 51.7**	**-0.7**
ONI				S	**Sb**	**08 43 13.7**	**+1.1**
ONI	**Oni**	**1.63**	**259**	*e*PN	**Pb**	**08 42 51.7**	**-0.7**
ONI				*e*S	**Sb**	**08 43 13.7**	**+1.1**
ONI	**Oni**	**1.63**	**259**	*e*Pg	**Pb**	**08 42 51.7**	**-0.7**
ONI				*e*Sg	**Sb**	**08 43 13.7**	**+1.1**
URKR	**Urkarakh**	**1.67**	**116**	*e*PN	**Pg**	**08 42 54.1**	**-1.1**
URKR				*e*S	**Sg**	**08 43 16.6**	**-0.4**
URKR	**Urkarakh**	**1.67**	**116**	*e*Pg	**Pg**	**08 42 54.2**	**-1.1**
URKR				*e*Sg	**Sg**	**08 43 16.7**	**-0.4**
KZRT	**Kazreti**	**1.78**	**211**	P	**Pb**	**08 42 54.7**	**-0.4**
KZRT	**Kazreti**	**1.78**	**211**	PN	**Pb**	**08 42 54.6**	**-0.4**
QZX	**Qazax, Azerbai**	**1.87**	**186**	P	**Pb**	**08 42 56.2**	**-0.3**
	SNR=25						
QZX				S	**Sg**	**08 43 22.0**	**-1.3**
TKB	**Tkibuli**	**2.02**	**255**	P	**Pb**	**08 42 59.4**	**+0.3**
TKB				S	**Sg**	**08 43 26.6**	**-1.3**
TKB	**Tkibuli**	**2.02**	**255**	PN	**Pb**	**08 42 59.3**	**+0.3**
SEKA	**Sheki**	**2.07**	**145**	PN	**Pb**	**08 43 00.2**	**+0.1**
SEKA	**Sheki**	**2.07**	**145**	P	**Pb**	**08 43 00.3**	**+0.1**
	SNR=7.5						
SEKA				S	**Sg**	**08 43 29.6**	**-0.2**
AKT	**Akhty**	**2.13**	**132**	⇓*e*PN	**Pb**	**08 43 01.2**	**+0.1**
AKT				*e*		08 43 30.9	
AKT				pmax	pmax		
	comp=Z,48nm,0.4s						
AKT				smax	smax		
	comp=N,124nm,0.6s						
AKT	**Akhty**	**2.13**	**132**	*e*Pg	**Pb**	**08 43 01.1**	**+0.1**
	comp=N,51nm,0.7s						
AKT				⇑*e*Sg	**Sg**	**08 43 31.5**	**-0.1**
	comp=N,166nm,0.6s						
NEY	**Neytrino**	**2.15**	**280**	*e*PN	**Pn**	**08 42 59.3**	**+1.3**
NEY				*e*S	**Sb**	**08 43 27.3**	**-0.4**
NEY	**Neytrino**	**2.15**	**280**	*e*Pg	**Pn**	**08 42 58.7**	**+0.8**
NEY				*e*Sg	**Sb**	**08 43 27.6**	**-0.1**
PYA1	**Pyatigorsk**	**2.16**	**303**	*i*PN	**Pn**	**08 42 57.6**	**-0.5**
AKH	**Akhalkalaki**	**2.18**	**227**	P	**Pb**	**08 43 01.3**	**-0.7**
AKH				S	**Sb**	**08 43 29.6**	**+0.9**
AKH	**Akhalkalaki**	**2.18**	**227**	*e*PN	**Pb**	**08 43 01.2**	**-0.7**
AKH				*e*S	**Sb**	**08 43 29.5**	**+0.9**
AKH	**Akhalkalaki**	**2.18**	**227**	*e*Pg	**Pb**	**08 43 01.3**	**-0.7**
AKH				*e*Sg	**Sb**	**08 43 29.6**	**+0.9**
DRN	**Derbent**	**2.20**	**113**	*e*PN	**Pg**	**08 43 04.0**	**-1.2**
DRN				*e*S	**Sg**	**08 43 33.1**	**-0.6**
DRN	**Derbent**	**2.20**	**113**	*e*Pg	**Pg**	**08 43 04.0**	**-1.2**
	comp=N,63nm,0.7s						
DRN				*i*Sg	**Sg**	**08 43 34.4**	**+0.7**
	comp=N,158nm,0.5s						
GDB	**GEDABAY**	**2.20**	**177**	P	**Pb**	**08 43 01.0**	**-1.3**
	SNR=29						
GDB				S	**Sb**	**08 43 28.5**	**-0.6**
BGD	**Bogdanovka**	**2.23**	**223**	P	**Pn**	**08 43 00.9**	**+1.7**
BGD				S	**Sb**	**08 43 31.1**	**+1.0**
KSMR	**Kasumkent**	**2.28**	**124**	*e*PN	**Pg**	**08 43 05.0**	**-1.9**
KSMR				*e*S	**Sg**	**08 43 40.0**	**+3.5**
KSMR	**Kasumkent**	**2.28**	**124**	*e*Pn	**Pg**	**08 43 05.0**	**-1.9**
SHA1	**Shidzhatmaz**	**2.31**	**292**	*e*PN	**Pb**	**08 43 00.8**	**+0.5**
SHA1				*e*S	**Sb**	**08 43 33.3**	**+0.9**
SHA1	**Shidzhatmaz**	**2.31**	**292**	*e*Pn	**Pb**	**08 43 03.2**	**-1.0**
SHA1				*i*Sn	**Sb**	**08 43 33.2**	**+0.8**
GANJ	**Ganja**	**2.33**	**167**	PN	**Pb**	**08 43 02.9**	**-1.5**
GANJ	**Ganja**	**2.33**	**167**	P	**Pb**	**08 43 02.9**	**-1.5**
	SNR=7.9

2.7nm,0.3s,baz=204,slow=20,SNR=4.0
OUZ Omahuta 7.35 245 *e*Pn Pn 08 45 45.7 +5.3
BKZ Black Stump Fm 8.00 211 *e*Pn **Pn 08 45 47.3 -2.0**
BKZ *e*Sn **Sn 08 47 20.0 +1.4**
BFZ Birch Farm 9.39 207 *e*Pn **Pn 08 46 09.7 +1.4**
BFZ *e*Sn **Sn 08 47 49.6 -3.0**
SNZO South Karori 10.54 210 *e*Pn Pn 08 46 28.8 +4.7
THZ Tophouse 11.72 214 *e*Pn **Pn 08 46 42.2 +1.9**
THZ *e*Sn **Sn 08 48 45.7 -4.1**
KHZ Kahutara 11.94 211 *e*Pn **Pn 08 46 42.2 -1.0**
RPZ Rata Peaks 14.09 214 Pn **Pn 08 47 10.3 -2.3**
0.5nm,0.3s,baz=145,slow=23,SNR=1.6
RPZ Sn Sn 08 49 35.5 -12
0.5nm,0.3s,baz=349,slow=12,SNR=2.2
RPZ LR LR 08 52 33.7
comp=Z,122nm,18.3s,baz=10,slow=37
MLZ Mavora Lakes 16.72 215 *e*Pn **P 08 47 50.2 +1.1**
24nm,1.3s
DCZ Deep Cove 17.27 217 *e*Pn **P 08 47 57.8 +2.7**
47nm,1.4s
STKA Stephens Creek 33.87 260 *e*P **P 08 50 37.3 +2.4**
0.9nm,1.3s
STKA Stephens Creek 33.87 260 P **P 08 50 34.7 -0.3**
1.9nm,0.7s,baz=130,slow=7.9,SNR=4.3
STKA LR LR 09 02 31.6
comp=Z,28nm,19.5s,baz=25,slow=33
BBOO Buckleboo 38.26 257 *e*P **P 08 51 12.6 +0.1**
10nm,1.1s
AS31 Alice Springs 42.82 269 *e*P **P 08 51 50.1 -0.3**
0.7nm,0.8s
ASAR Alice Springs 42.82 269 P **P 08 51 50.0 -0.3**
1.1nm,0.6s,baz=107,slow=7.5,SNR=24
WB2 Warramunga Arr 43.98 274 *e*P **P 08 51 59.3 -0.4**
12nm,1.3s
WRAB Tennant Creek 43.98 274 *e*P **P 08 51 58.9 -0.9**
11nm,1.4s
WR1 Warramunga Arr 43.99 274 *e*P **P 08 51 59.0 -0.8**
WRA Warramunga Arr 43.99 274 P **P 08 51 59.0 -0.8**
126nm,0.3s,baz=112,slow=8.5,SNR=2.1
FORT Forrest 45.36 257 *e*P **P 08 52 10.4 -0.1**
24nm,1.1s
MAW Mawson 70.38 201 LR LR 09 26 16.2
comp=Z,28nm,18.2s,baz=107,slow=36
LEM Lembang 72.98 273 LR LR 09 30 52.0
comp=Z,27nm,18.5s,baz=52,slow=39
FIA0 FINESS Array S 146.92 339 *e*PKPdf **PKPdf 09 03 31.2 -0.4**
FINES FINESS Array B 146.92 339 PKPbc **PKPdf 09 03 31.2 -0.4**
1.4nm,0.5s,baz=46,slow=4.0,SNR=7.9

INMG ***31*** *08:46:24.7±2.9, 32°.25N×5°.33W, h0km, ML3.7, Error ellipse: s-maj=14.6km s-min=7.5km az=146.0*
IDC ***31*** *08:46:25.4±0.9, 32°.35N×5°.24W, h0km, mb3.7/9, mb1 4.0/11, mb1mx3.7/38, mbtmp3.8/11, ML4.7/2, Error ellipse: s-maj=22.2km s-min=9.9km az=137.0*
MDD ***31*** *08:46:25.0±1.4, 32°.33N×5°.60W, h0km, mb4.8/37, Error ellipse: s-maj=14.1km s-min=10.1km az=16.0, PRXIMO*
ISCJB ***31*** *08:46:26.4±0.4, 32°.65N±0°.03×5°.63W±0°.03, h7km, mb4.0/19, Error ellipse: s-maj=4.6km s-min=3.7km az=136.7*
NEIC ***31*** *08:46:26.7±2.5, 32°.42N×5°.38W, h10km±3km, mb4.5/11, Error ellipse: s-maj=16.6km s-min=14.4km az=92.0*
IGIL ***31*** *08:46:27.6, 32°.55N×5°.32W, h0km, ML3.7*
LDG ***31*** *08:46:28.6±0.5, 32°.88N×5°.61W, h2km, Ml3.7/3, Error ellipse: s-maj=9.8km s-min=6.2km az=13.0*
SFS ***31*** *08:46:38.0, 33°.36N×5°.69W, h10km, ML4.7, AZROU (MARRUECOS)*

ISC 31 08:46:26.0±0.6, 32°.47N±0°.05×5°.52W±0°.04, h7km, n172, σ1§99/246, mb3.9/20, 7C-6D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**0.84**	**66**	Pg	**Pg**	**08 46 39.4**	**-2.7**
	baz=239,slow=10						
MDT				Lg	Lg	08 46 48.9	
	340nm,0.3s,baz=230,slow=7.7,SNR=30						
IFR	**Ifrane**	**1.09**	**17**	*e*Pn	**Pb**	**08 46 46.8**	**-0.6**
IFR	**Ifrane**	**1.09**	**17**	*e*Pg	**Pn**	**08 46 47.9**	**0.0**
IFR				*e*S	**Sn**	**08 47 02.8**	**-0.6**
PVLZ	**Peæn de**	**2.88**	**20**	P	**Pn**	**08 47 13.7**	**+1.5**
PVLZ				S	**Sn**	**08 47 48.0**	**+0.8**
PVLZ	**Peæn de**	**2.88**	**20**	*e*P	**Pn**	**08 47 13.7**	**+1.5**
PVLZ				*e*S	**Sn**	**08 47 48.0**	**+0.8**
ECEU	**Ceuta**	**3.42**	**2**	P	**Pn**	**08 47 21.4**	**+1.6**
	7.0nm,0.2s,SNR=14						
CEU	**Ceuta**	**3.42**	**2**	P	**Pn**	**08 47 21.3**	**+1.6**
CEU				S	**Sn**	**08 48 01.2**	**+0.7**
CEU	**Ceuta**	**3.42**	**2**	*i* P	**Pn**	**08 47 21.3**	**+1.6**
CEU				*e*S	**Sn**	**08 48 01.2**	**+0.7**
EMEL	**Melilla**	**3.54**	**36**	P	**Pn**	**08 47 22.1**	**+0.8**
	30nm,0.1s,SNR=7.9						
MELI	**Melilla**	**3.54**	**37**	P	**Pn**	**08 47 22.0**	**+0.6**
	39nm,0.2s,SNR=7.9						
MELI	**Melilla**	**3.54**	**37**	*e*P	**Pb**	**08 47 27.9**	**-1.0**
MELI				*e*S	**Sb**	**08 48 14.1**	**+1.9**
CNIL	**Conil**	**3.92**	**354**	P	**Pn**	**08 47 30.0**	**+3.5**
CNIL	**Conil**	**3.92**	**354**	*e*P	**Pn**	**08 47 30.0**	**+3.5**
EJIF	**Jimena Fronter**	**3.97**	**1**	⇑P	**Pn**	**08 47 28.7**	**+1.4**
	4.5nm,0.2s,SNR=18						
REAL	**Reales**	**4.01**	**4**	P	**Pn**	**08 47 30.2**	**+2.2**
REAL	**Reales**	**4.01**	**4**	*e*P	**Pn**	**08 47 30.2**	**+2.2**
EALB	**Alboran**	**4.03**	**30**	P	**Pn**	**08 47 28.5**	**+0.5**
	3.2nm,0.2s,SNR=31						
EALB				S	**Sn**	**08 48 15.8**	**+0.3**
	4.0nm,0.8s						
ALJ	**Aljibe**	**4.05**	**358**	P	**Pn**	**08 47 30.7**	**+2.3**
ALJ	**Aljibe**	**4.05**	**358**	*e*P	**Pn**	**08 47 30.7**	**+2.3**
EMIJ	**Mijas**	**4.13**	**8**	P	**Pn**	**08 47 28.0**	**-1.5**
	7.1nm,0.2s,SNR=9.5						
EMIJ				S	**Sn**	**08 48 17.1**	**-1.0**
	24nm,0.3s						
GIBL	**Gibalbin**	**4.37**	**355**	P	**Pn**	**08 47 34.2**	**+1.4**
GIBL	**Gibalbin**	**4.37**	**355**	*e*P	**Pn**	**08 47 34.2**	**+1.4**
EMAL	**Malaga-Limoner**	**4.38**	**12**	*e*P	**Pn**	**08 47 31.9**	**-1.0**
EMAL				*e*s	Sn	08 48 12.8	-11
ESPR	**Espera**	**4.40**	**356**	P	**Pn**	**08 47 33.2**	**+0.1**
	13nm,0.3s,SNR=21						
ESPR				S	**Sn**	**08 48 24.6**	**0.0**
	33nm,0.3s						
LIJA	**Lijar**	**4.43**	**1**	P	**Pn**	**08 47 34.9**	**+1.2**
LIJA				S	**Sn**	**08 48 28.0**	**+2.5**
LIJA	**Lijar**	**4.43**	**1**	*e*P	**Pn**	**08 47 34.9**	**+1.2**
LIJA				*e*S	**Sn**	**08 48 28.0**	**+2.5**
ELGU	**Los Guajares,**	**4.66**	**19**	P	**Pn**	**08 47 36.3**	**-0.5**
	5.7nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**08 48 30.1**	**-1.0**
	70nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**4.77**	**14**	P	**Pn**	**08 47 38.1**	**-0.4**
	2.1nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**08 48 38.2**	**+4.1**
	19nm,0.4s,SNR=7.9						
EBER	**Berja**	**4.92**	**25**	P	**Pn**	**08 47 40.7**	**+0.2**
	3.5nm,0.3s,SNR=11						
EBER				S	**Sn**	**08 48 36.6**	**-1.2**
	53nm,0.4s,SNR=4.8						
EQUE	**Quentar**	**5.02**	**19**	P	**Pn**	**08 47 43.0**	**+1.1**
	9.2nm,0.5s,SNR=21						
EQUE				S	**Sn**	**08 48 41.1**	**+0.9**
	8.1nm,0.3s						
PBDV	**Barranco-do-Ve**	**5.16**	**338**	⇓*e*Pn	**Pn**	**08 47 43.6**	**0.0**
PBDV				*e*Sn	**Sn**	**08 48 43.4**	**0.0**
PBDV				A	A	08 48 47.4	
	34nm,0.5s						
PBDV	**Barranco-do-Ve**	**5.16**	**338**	P	**Pn**	**08 47 43.6**	**0.0**
PBDV				S	**Sn**	**08 48 43.4**	**0.0**
	34nm,0.5s						
PVAQ	**Vaqueiros**	**5.24**	**340**	*e*Pn	**Pn**	**08 47 44.7**	**-0.1**
PVAQ				*e*Sn	**Sn**	**08 48 44.0**	**-1.5**
PVAQ				A	A	08 48 51.6	
	54nm,0.4s						
PVAQ	**Vaqueiros**	**5.24**	**340**	*e*Pn	**Pn**	**08 47 44.8**	**-0.1**
PVAQ				*e*Sn	**Sn**	**08 48 42.0**	**-3.5**
PVAQ	**Vaqueiros**	**5.24**	**340**	P	**Pn**	**08 47 44.7**	**-0.1**
PVAQ				S	**Sn**	**08 48 44.0**	**-1.5**
	54nm,0.4s						
ENIJ	**Nijar**	**5.25**	**30**	P	**Pn**	**08 47 47.0**	**+2.1**
	7.1nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**5.30**	**343**	⇓P	**Pn**	**08 47 45.7**	**+0.1**
	50nm,0.3s,SNR=18						
EGRO				S	**Sn**	**08 48 43.4**	**-3.5**
	24nm,0.4s						
EMIN	**Mina Concepcio**	**5.37**	**350**	⇓P	**Pn**	**08 47 46.0**	**-0.5**
	12nm,0.2s,SNR=18						
EMIN				S	**Sn**	**08 48 46.6**	**-2.0**
	26nm,0.4s						
PFVI	**Vila Bisbo**	**5.39**	**331**	*e*Pn	**Pn**	**08 47 47.2**	**+0.4**
PFVI				*e*Sn	**Sn**	**08 48 51.2**	**+2.1**
PFVI				A	A	08 49 01.0	
	35nm,0.5s						
PFVI	**Vila Bisbo**	**5.39**	**331**	*e*Pn	**Pn**	**08 47 46.9**	**+0.1**
PFVI	**Vila Bisbo**	**5.39**	**331**	P	**Pn**	**08 47 47.1**	**+0.4**
	13nm,0.3s,SNR=22						
PFVI				S	**Sn**	**08 48 47.3**	**-1.8**
	8.6nm,0.3s,SNR=7.4						
GORA	**Gorafe**	**5.39**	**21**	P	**Pn**	**08 47 49.8**	**+2.9**
	16nm,0.2s,SNR=4.0						
GORA				S	**Sn**	**08 48 47.2**	**-2.1**
	2.6nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**5.47**	**333**	*e*P	**Pn**	**08 47 48.0**	**+0.1**
MORF				*e*S	**Sn**	**08 48 47.3**	**-3.9**
MORF				AML	AML	08 48 57.3	
	comp=N,124nm,0.2s						
MORF	**Marmelete**	**5.47**	**333**	⇓*e*Pn	**Pn**	**08 47 48.0**	**+0.1**
MORF				*e*Sn	**Sn**	**08 48 51.8**	**+0.7**
MORF				A	A	08 48 58.4	
	comp=N,46nm,0.4s						
MORF	**Marmelete**	**5.47**	**333**	P	**Pn**	**08 47 48.0**	**+0.1**
MORF				S	**Sn**	**08 48 47.3**	**-3.9**
	comp=N,124nm,0.2s						
PCVE	**Castro Verde**	**5.55**	**339**	⇓*e*Pn	**Pn**	**08 47 49.0**	**0.0**
PCVE				*e*Sn	**Sn**	**08 48 52.1**	**-0.9**
PCVE				A	A	08 48 55.5	
	comp=N,61nm,0.5s						
PCVE	**Castro Verde**	**5.55**	**339**	P	**Pn**	**08 47 49.0**	**0.0**
PCVE				S	**Sn**	**08 48 52.1**	**-0.9**
	comp=N,61nm,0.5s						
ECAB	**El Cabril**	**5.59**	**1**	P	**Pn**	**08 47 48.7**	**-0.9**
	comp=N,3.2nm,0.4s,SNR=60						
ECAB				S	**Sn**	**08 48 50.8**	**-3.4**
	comp=N,29nm,0.3s						
EQES	**Quesada**	**5.69**	**20**	P	**Pn**	**08 47 52.9**	**+2.0**
	comp=N,6.8nm,0.2s,SNR=17						
EQES				S	**Sn**	**08 48 57.7**	**+1.1**
	comp=N,19nm,0.5s						
PTEO	**Sao Teotonio**	**5.71**	**333**	⇓*e*Pn	**Pn**	**08 47 51.5**	**+0.4**
PTEO				*e*Sn	**Sn**	**08 48 56.4**	**-0.5**
PTEO				A	A	08 49 07.7	
	comp=N,52nm,0.4s						
PTEO	**Sao Teotonio**	**5.71**	**333**	P	**Pn**	**08 47 51.5**	**+0.4**
PTEO				S	**Sn**	**08 48 56.4**	**-0.5**
	comp=N,26nm,0.4s						
MESJ	**Messejana**	**5.80**	**338**	*e*P	**Pn**	**08 47 52.3**	**0.0**
MESJ				*e*S	**Sn**	**08 48 54.3**	**-4.8**
MESJ				AML	AML	08 49 02.7	
	comp=N,75nm,0.2s						
MESJ	**Messejana**	**5.80**	**338**	*e*Pn	**Pn**	**08 47 52.4**	**0.0**
MESJ				*e*Sn	**Sn**	**08 48 57.5**	**-1.6**
MESJ				A	A	08 49 02.7	
	comp=N,45nm,0.4s						
MESJ	**Messejana**	**5.80**	**338**	P	**Pn**	**08 47 52.4**	**0.0**
MESJ				S	**Sn**	**08 48 57.5**	**-1.6**
	comp=N,45nm,0.4s						
PBAR	**Barrancos**	**5.83**	**348**	*e*Pn	**Pn**	**08 47 52.7**	**-0.1**
PBAR				*e*Sn	**Sn**	**08 48 59.0**	**-0.8**
PBAR				A	A	08 49 03.7	
	comp=N,46nm,0.6s						
PBAR	**Barrancos**	**5.83**	**348**	P	**Pn**	**08 47 52.7**	**-0.1**
PBAR				S	**Sn**	**08 48 59.0**	**-0.8**
	comp=N,46nm,0.6s						
PBEJ	**Beja**	**5.87**	**342**	⇑*e*Pn	**Pn**	**08 47 54.3**	**+0.9**
PBEJ				*e*Sn	**Sn**	**08 49 01.4**	**+0.5**
PBEJ				A	A	08 49 03.1	
	comp=N,34nm,0.8s						
PBEJ	**Beja**	**5.87**	**342**	P	**Pn**	**08 47 54.3**	**+0.9**
PBEJ				S	**Sn**	**08 49 01.4**	**+0.5**
	comp=N,17nm,0.8s						
PNCL	**Nicolau / Gran**	**6.14**	**337**	*e*Pn	**Pn**	**08 47 57.0**	**-0.1**
PNCL				*e*Sn	**Sn**	**08 49 07.0**	**-0.7**
PNCL				A	A	08 49 08.2	
	comp=N,23nm,1.1s						
PNCL	**Nicolau / Gran**	**6.14**	**337**	P	**Pn**	**08 47 57.0**	**-0.1**
PNCL				S	**Sn**	**08 49 07.0**	**-0.7**
	comp=N,23nm,1.1s						
EBAD	**Badajoz**	**6.39**	**349**	⇑P	**Pn**	**08 48 00.0**	**-0.5**
	comp=N,33nm,0.2s,SNR=18						
EBAD				S	**Sn**	**08 49 10.7**	**-3.0**
	comp=N,32nm,0.2s						
EMUR	**La Murta**	**6.40**	**32**	P	**Pn**	**08 48 01.3**	**+0.5**
	comp=N,7.2nm,0.4s,SNR=4.6						
PESTR	**Estremoz**	**6.60**	**346**	*e*Pn	**Pn**	**08 48 04.0**	**+0.5**
PESTR				*e*Sn	**Sn**	**08 49 17.7**	**-1.3**
PMTG	**Montargil**	**6.94**	**342**	*e*Pn	**Pn**	**08 48 07.9**	**-0.2**
PMTG				*e*Sn	**Sn**	**08 49 26.3**	**-1.0**
PMTG				A	A	08 49 44.2	
	comp=N,30nm,0.5s						
PMTG	**Montargil**	**6.94**	**342**	P	**Pn**	**08 48 07.9**	**-0.2**
PMTG				S	**Sn**	**08 49 26.3**	**-1.0**
	comp=N,30nm,0.5s						
ETOB	**Tobarra**	**6.96**	**27**	P	**Pn**	**08 48 10.2**	**+1.9**
	comp=N,6.6nm,0.5s,SNR=6.3						
PMRV	**Marv??o**	**7.11**	**348**	⇑*e*Pn	**Pn**	**08 48 10.3**	**-0.1**
PMRV				*e*Sn	**Sn**	**08 49 28.7**	**-2.7**
PMRV				A	A	08 49 48.2	
	comp=N,24nm,0.4s						
PMRV	**Marv??o**	**7.11**	**348**	P	**Pn**	**08 48 10.3**	**-0.1**
PMRV				S	**Sn**	**08 49 28.7**	**-2.7**
	comp=N,24nm,0.4s						
PAB	**San Pablo**	**7.12**	**7**	*e*Pn	**Pn**	**08 48 09.7**	**-1.0**
PAB				*e*Sn	**Sn**	**08 49 28.7**	**-3.2**
PAB	**San Pablo**	**7.12**	**7**	⇑P	**Pn**	**08 48 09.7**	**-1.0**
	comp=N,8.3nm,0.3s,SNR=18						
PAB				S	**Sn**	**08 49 26.3**	**-5.6**
	comp=N,6.9nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**7.16**	**336**	*e*Pn	**Pn**	**08 48 11.4**	**+0.3**
PMAFR				*e*Sn	**Sn**	**08 49 31.0**	**-1.7**
PMAFR				A	A	08 49 40.7	
	comp=N,53nm,0.4s						
PMAFR	**Mafra**	**7.16**	**336**	P	**Pn**	**08 48 11.7**	**+0.6**
	comp=N,40nm,0.2s,SNR=22						
PMAFR				S	**Sn**	**08 49 29.9**	**-2.7**
	comp=N,84nm,0.3s						
ESDC	**Sonseca Array**	**7.30**	**9**	⇑P	**Pn**	**08 48 12.3**	**-0.7**
	comp=N,24nm,0.4s,baz=196,slow=13,SNR=18						
ESDC				S	**Sn**	**08 49 32.0**	**-4.2**
	comp=N,2.2nm,0.4s,baz=193,slow=23,SNR=4.4						
ESDC	**Sonseca Array**	**7.30**	**9**	Pn	**Pn**	**08 48 12.4**	**-0.7**
	comp=N,9.5nm,0.3s,baz=196,slow=13,SNR=92						
ESDC				Sn	**Sn**	**08 49 31.1**	**-5.1**
	comp=N,3.7nm,0.3s,baz=194,slow=24,SNR=6.4						
ESLA	**Sonseca Array**	**7.30**	**9**	*e*Pn	**Pn**	**08 48 12.5**	**-0.6**
PTOM	**Tomar**	**7.51**	**343**	*e*Pn	**Pn**	**08 48 16.0**	**+0.1**
PTOM	**Tomar**	**7.51**	**343**	P	**Pn**	**08 48 16.0**	**+0.1**
PCBR	**Castelo Branco**	**7.52**	**348**	*e*Pn	**Pn**	**08 48 16.2**	**+0.1**
PCBR				*e*Sn	**Sn**	**08 49 37.7**	**-3.9**
PCBR				A	A	08 49 44.9	
	comp=N,21nm,0.4s						
PCBR	**Castelo Branco**	**7.52**	**348**	P	**Pn**	**08 48 16.2**	**+0.1**
PCBR				S	**Sn**	**08 49 37.7**	**-3.9**
	comp=N,10nm,0.4s						
EPLA	**Plasencia**	**7.59**	**357**	⇑P	**Pn**	**08 48 16.5**	**-0.6**
	comp=N,41nm,0.4s,SNR=18						
EPLA				S	**Sn**	**08 49 37.8**	**-5.6**
	comp=N,32nm,0.4s						
PCAS	**Casmilo, Conde**	**7.94**	**343**	*e*Pn	**Pn**	**08 48 21.7**	**-0.1**
PCAS	**Casmilo, Conde**	**7.94**	**343**	P	**Pn**	**08 48 21.7**	**-0.1**
UCM	**Universidad Co**	**8.03**	**13**	*i* P	**Pn**	**08 48 22.8**	**-0.3**
UCM				*e*S	**Sn**	**08 49 48.8**	**-5.4**
COI	**Coimbra**	**8.07**	**344**	*e*Pn	**Pn**	**08 48 23.4**	**-0.1**
COI	**Coimbra**	**8.07**	**344**	*e*Pn	**Pn**	**08 48 23.1**	**-0.4**
COI	**Coimbra**	**8.07**	**344**	P	**Pn**	**08 48 23.4**	**-0.1**
MTE	**Manteigas**	**8.08**	**349**	*e*Pn	**Pn**	**08 48 23.6**	**-0.2**
MTE				*e*Sn	**Sn**	**08 49 52.7**	**-2.7**
MTE				A	A	08 50 10.4	
	comp=N,35nm,0.5s						
MTE	**Manteigas**	**8.08**	**349**	*e*Pn	**Pn**	**08 48 22.9**	**-0.9**
MTE	**Manteigas**	**8.08**	**349**	P	**Pn**	**08 48 23.6**	**-0.2**
MTE				S	**Sn**	**08 49 52.7**	**-2.7**
	comp=N,17nm,0.5s						
GUD	**Guadarrama**	**8.23**	**7**	P	**Pn**	**08 48 25.8**	**-0.1**
	comp=N,3.3nm,0.3s,SNR=11						
PVIS	**Viseu**	**8.45**	**348**	*e*Pn	**Pn**	**08 48 28.6**	**-0.2**
PVIS	**Viseu**	**8.45**	**348**	P	**Pn**	**08 48 28.6**	**-0.2**
EIBI	**Ibiza**	**8.59**	**39**	P	**Pn**	**08 48 30.6**	**-0.2**
	comp=N,0.2nm,0.0s,SNR=7.9						
MVO	**Moncorvo**	**8.76**	**352**	*e*Pn	**Pn**	**08 48 32.4**	**-0.7**
MVO				*e*Sn	**Sn**	**08 50 08.7**	**-3.5**
MVO				A	A	08 50 11.2	
	comp=N,24nm,0.5s						
MVO	**Moncorvo**	**8.76**	**352**	P	**Pn**	**08 48 32.5**	**-0.6**
	comp=N,23nm,0.2s,SNR=64						
MVO				S	**Sn**	**08 50 09.0**	**-3.2**
	comp=N,11nm,0.2s,SNR=7.9						
ETOR	**Torete**	**8.78**	**17**	P	**Pn**	**08 48 33.2**	**-0.2**
	comp=N,5.4nm,0.3s,SNR=19						
ETOR				S	**Sn**	**08 50 10.5**	**-2.3**
	comp=N,0.8nm,0.2s						
EMOS	**Mosqueruela**	**8.86**	**26**	P	**Pn**	**08 48 36.2**	**+1.6**
	comp=N,0.1nm,0.0s,SNR=7.9						
PVRL	**Vila Real**	**8.96**	**349**	*e*Pn	**Pn**	**08 48 35.9**	**0.0**
PVRL				*e*Sn	**Sn**	**08 50 13.7**	**-3.4**
PVRL				A	A	08 50 37.8	
	comp=N,18nm,0.3s						
PVRL	**Vila Real**	**8.96**	**349**	P	**Pn**	**08 48 35.9**	**0.0**
PVRL				S	**Sn**	**08 50 13.7**	**-3.4**
	comp=N,9.0nm,0.3s						
POLO	**Lamas de Olo**	**9.07**	**349**	*e*Pn	**Pn**	**08 48 37.3**	**-0.1**
POLO				*e*Sn	**Sn**	**08 50 16.0**	**-3.8**
POLO				A	A	08 50 19.5	
	comp=N,5.8nm,0.3s						
POLO	**Lamas de Olo**	**9.07**	**349**	P	**Pn**	**08 48 37.3**	**-0.1**
POLO				S	**Sn**	**08 50 16.0**	**-3.8**
	comp=N,5.8nm,0.3s						
PBRG	**Braganca**	**9.37**	**354**	*e*Pn	**Pn**	**08 48 41.4**	**0.0**
PBRG				*e*Sn	**Sn**	**08 50 23.3**	**-3.8**
PBRG				A	A	08 50 25.1	
	comp=N,8.5nm,0.3s						
PBRG	**Braganca**	**9.37**	**354**	P	**Pn**	**08 48 41.4**	**0.0**
PBRG				S	**Sn**	**08 50 23.3**	**-3.8**
	comp=N,4.2nm,0.3s						
ECAL	**Calabor**	**9.50**	**354**	P	**Pn**	**08 48 43.1**	**-0.3**
	comp=N,26nm,0.4s,SNR=31						
ECAL				S	**Sn**	**08 50 25.2**	**-5.3**
	comp=N,23nm,0.6s						
ELOB	**Lobios**	**9.60**	**349**	P	**Pn**	**08 48 44.4**	**-0.1**
	comp=N,20nm,0.3s,SNR=28						
ELOB				S	**Sn**	**08 50 26.6**	**-6.1**
	comp=N,18nm,0.6s						
PGAV	**Gavieira, Arco**	**9.73**	**348**	*e*Pn	**Pn**	**08 48 45.9**	**-0.5**
PGAV				*e*Sn	**Sn**	**08 50 30.4**	**-5.6**
PGAV				A	A	08 50 33.5	
	comp=N,9.0nm,0.7s						
PGAV	**Gavieira, Arco**	**9.73**	**348**	P	**Pn**	**08 48 45.9**	**-0.5**
PGAV				S	**Sn**	**08 50 30.4**	**-5.6**
	comp=N,9.0nm,0.7s						
PMOZ	**Porto Moniz, M**	**9.86**	**275**	*e*Pn	**Pn**	**08 48 51.4**	**+3.2**
EZAM	**Zamans**	**9.99**	**346**	P	**Pn**	**08 48 49.8**	**-0.1**
	comp=N,3.3nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**10.51**	**350**	P	**Pn**	**08 48 57.2**	**+0.1**
	comp=N,12nm,0.3s,SNR=7.9						
EAGO				S	**Sn**	**08 50 48.6**	**-6.5**
	comp=N,1.8nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**10.81**	**346**	P	**Pn**	**08 49 01.2**	**+0.1**
	comp=N,7.5nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**10.82**	**1**	P	**Pn**	**08 48 59.6**	**-1.6**
	comp=N,4.7nm,0.5s,SNR=7.2						
EARI				S	**Sn**	**08 50 55.7**	**-6.9**
	comp=N,0.9nm,0.4s						
ELAN	**Lanestosa**	**10.87**	**8**	P	**Pn**	**08 49 01.8**	**-0.2**
	comp=N,1.5nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**10.91**	**354**	P	**Pn**	**08 49 02.8**	**+0.2**
	comp=N,3.0nm,0.2s,SNR=12						
ETSF	**Etsaut**	**11.12**	**19**	*e*P	**Pn**	**08 49 07.2**	**+1.7**
ETSF				*e*Sn	Sn	08 50 53.9	-16
	comp=N,1.4nm,0.2s						
ETSF	**Etsaut**	**11.12**	**19**	P	**Pn**	**08 49 07.2**	**+1.7**
ETSF				S	Sn	08 50 53.9	-16
	comp=N,0.7nm,0.2s						
SJPF	**Ste Jean**	**11.15**	**16**	*e*P	**Pn**	**08 49 07.5**	**+1.7**
SJPF				*e*Sn	Sn	08 50 54.3	-16
	comp=N,1.6nm,0.3s						
SJPF	**Ste Jean**	**11.15**	**16**	P	**Pn**	**08 49 07.5**	**+1.7**
SJPF				S	Sn	08 50 54.3	-16
	comp=N,0.8nm,0.3s						
EALK	**Alkurruntz**	**11.19**	**15**	P	**Pn**	**08 49 07.3**	**+1.0**
	comp=N,9.4nm,0.3s,SNR=7.9						
ATE	**Arette**	**11.26**	**18**	P	**Pn**	**08 49 09.3**	**+2.0**
	comp=N,2.0nm,0.1s,SNR=7.9						
EPF	**Esparros**	**11.51**	**22**	*e*P	**Pn**	**08 49 13.0**	**+2.2**
EPF				*e*Sn	Sn	08 51 03.5	-16
	comp=N,4.8nm,0.5s						
EPF	**Esparros**	**11.51**	**22**	P	**Pn**	**08 49 13.0**	**+2.2**
EPF				S	Sn	08 51 03.5	-16
	comp=N,2.4nm,0.5s						
TAM	**Tamanrasset**	**13.73**	**132**	*e*Pn	**Pn**	**08 49 39.2**	**-2.0**
QUIF	**Quistinic**	**15.53**	**6**	*e*P	**Pn**	**08 50 04.3**	**-1.0**
QUIF	**Quistinic**	**15.53**	**6**	P	**Pn**	**08 50 04.3**	**-1.0**
ROSF	**Rostrenen**	**15.94**	**5**	*e*P	**Pn**	**08 50 10.7**	**+0.1**
ROSF	**Rostrenen**	**15.94**	**5**	P	**Pn**	**08 50 10.7**	**+0.1**
DAVOX	**Davos/Dischmat**	**18.52**	**35**	P	**Pn**	**08 50 43.2**	**0.0**
	comp=N,0.3nm,0.3s,baz=210,slow=16,SNR=3.5						
DAVA	**Damuels**	**18.88**	**34**	*i* pP	**Pn**	**08 50 48.9**	**+1.4**
	comp=N,4.0nm,0.6s						
BFO	**Black Forest**	**18.98**

ILAR	**Eielson Array**	**78.48**	**344**	P	**P**	**08 58 29.6**	**+2.2**
	comp=N,0.4nm,0.7s,baz=18,slow=4.4,SNR=4.1						
QSPA	**South Pole Qui**	**122.36**	**180**	*e*PKPdf	**PKPdf**	**09 05 21.1**	**0.0**
SARN	**Sarigan**	**123.91**	**34**	*e*PKPdf	**PKPdf**	**09 05 24.6**	**-0.9**

WEL 31 08:52:50.5,38°S±9°×17°9W±°, h33km, ML4.2/32, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**1.79**	**276**	P	Pn	08 53 19.3	+0.2
PUZ				S	Sn	08 53 39.6	-1.2
CNGZ	**Carnagh Statio**	**1.83**	**263**	P	Pn	08 53 20.5	+0.9
MXZ	**Matakaoa Point**	**1.89**	**291**	P	Pn	08 53 19.4	-1.0
MXZ				S	Sn	08 53 40.2	-2.9
TWGZ	**Tauwhareparae**	**2.00**	**272**	P	Pn	08 53 22.9	+0.9
TWGZ				S	Sn	08 53 46.4	+0.5
TKGZ	**Te Karaka**	**2.10**	**265**	P	Pn	08 53 24.5	+1.1
TKGZ				S	Sn	08 53 48.5	+0.1
PRGZ	**Paritu Road**	**2.16**	**252**	P	Pn	08 53 25.7	+1.4
RIGZ	**Rimuhau**	**2.21**	**258**	P	Pn	08 53 26.3	+1.5
RIGZ				S	Sn	08 53 52.9	+1.9
HAZ	**Te Kaha**	**2.22**	**283**	P	Pn	08 53 25.0	0.0
HAZ				S	Sn	08 53 49.1	-2.1
MHGZ	**Mahia Peninsul**	**2.22**	**246**	P	Pn	08 53 26.5	+1.5
RUGZ	**Raukumara Rang**	**2.26**	**277**	P	Pn	08 53 25.6	-0.1
KNZ	**Kokohu**	**2.35**	**251**	P	Pn	08 53 28.0	+1.2
MWZ	**Matawai**	**2.35**	**268**	P	Pn	08 53 27.5	+0.7
SNGZ	**Shannon Statio**	**2.54**	**257**	P	Pn	08 53 30.9	+1.5
URZ	**Urewera**	**2.68**	**269**	P	Pn	08 53 32.8	+1.5
WHHZ	**Waihua**	**2.69**	**252**	P	Pn	08 53 33.6	+2.1
RAHZ	**Arahi**	**2.76**	**255**	P	Pn	08 53 34.7	+2.2
RTZ	**Ruatahuna**	**2.80**	**262**	P	Pn	08 53 34.3	+1.3
WHRZ	**Whale Island**	**2.83**	**277**	P	Pn	08 53 34.2	+0.8
ARHZ	**Aropaoanui**	**2.92**	**249**	P	Pn	08 53 36.8	+2.1
MTHZ	**Maungataniwha**	**2.94**	**257**	P	Pn	08 53 36.6	+1.6
MUGZ	**Murupara**	**2.95**	**265**	P	Pn	08 53 36.6	+1.5
NMHZ	**Naumai**	**3.02**	**253**	P	Pn	08 53 38.2	+2.2
RRRZ	**Republican Roa**	**3.15**	**268**	P	Pn	08 53 39.0	+1.1
OPRZ	**Ohinepanea**	**3.16**	**277**	P	Pn	08 53 37.9	0.0
TARZ	**Mount Tarawera**	**3.16**	**269**	P	Pn	08 53 39.1	+1.1
MCHZ	**McNeill Hill**	**3.20**	**247**	P	Pn	08 53 41.0	+2.4
KAHZ	**Kahuranaki**	**3.22**	**241**	P	Pn	08 53 40.3	+1.6
MRHZ	**Matea Rd**	**3.26**	**259**	P	Pn	08 53 40.7	+1.3
BKZ	**Black Stump Fm**	**3.27**	**253**	P	Pn	08 53 41.2	+1.7
ALRZ	**Allen Road**	**3.29**	**264**	P	Pn	08 53 40.9	+1.1
PXZ	**Pawanui**	**3.34**	**237**	P	Pn	08 53 40.9	+0.5
HSRZ	**Hossack Road**	**3.36**	**268**	P	Pn	08 53 41.7	+1.0
KARZ	**Kaharoa**	**3.38**	**273**	P	Pn	08 53 41.1	+0.2
TGRZ	**Tauranga**	**3.41**	**278**	P	Pn	08 53 40.9	-0.4
KRHZ	**Kereru**	**3.51**	**246**	P	Pn	08 53 44.6	+1.8
WPHZ	**Waipukurau**	**3.64**	**239**	P	Pn	08 53 45.5	+1.0
BHHZ	**Black Hill Sta**	**3.68**	**249**	P	Pn	08 53 46.8	+1.6
PNHZ	**Pukenui**	**3.74**	**243**	P	Pn	08 53 46.6	+0.7
ANWZ	**Angora Road**	**3.82**	**234**	P	Pn	08 53 47.6	+0.6
MOVZ	**Moawhango**	**3.89**	**252**	P	Pn	08 53 49.5	+1.5
TUVZ	**Tukino**	**3.93**	**254**	P	Pn	08 53 50.7	+2.1
TSZ	**Takapari Road**	**3.96**	**242**	P	Pn	08 53 50.0	+0.9
WHVZ	**Whangaehu Hut**	**3.98**	**254**	P	Pn	08 53 51.8	+2.4
TRVZ	**Turoa**	**4.02**	**254**	P	Pn	08 53 51.4	+1.4
KUZ	**Kuaotunu**	**4.11**	**290**	P	Pn	08 53 50.0	-1.0
PRWZ	**Pori Road**	**4.19**	**236**	P	Pn	08 53 53.3	+1.2
POWZ	**Post Office Ro**	**4.25**	**239**	P	Pn	08 53 54.3	+1.4
TIWZ	**Tintock**	**4.37**	**234**	P	Pn	08 53 55.5	+0.9

ROM 31 08:54:03.7±0.1, 40°055N±0°007×16°216E±0°009, h10km, ML2.3/14, Error ellipse: s-maj=0.7km s-min=0.7km az=83.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0701	**Viggianello (P**	**0.10**	**228**	P	Pg	08 54 07.0	+0.5
T0701				S	Sg	08 54 09.3	+0.9
T0701				AML	AML		
	comp=E,5700μm,0.3s						
T0701				AML	AML		
	comp=N,3440μm,0.2s						
T0701				AML	AML		
	comp=E,5700μm,0.3s						
T0701				AML	AML		
	comp=N,3440μm,0.2s						
T0701				AML	AML		
	comp=E,5700μm,0.3s						
T0701				AML	AML		
	comp=N,3440μm,0.2s						
T0701	**Viggianello (P**	**0.10**	**228**	S	Sg	08 54 09.2	+0.8
ORI	**Oriolo Calabro**	**0.18**	**87**	P	Pg	08 54 08.3	+0.7
ORI				AML	AML		
	comp=E,4935μm,0.5s						
ORI				AML	AML		
	comp=N,4425μm,0.3s						
ORI				AML	AML		
	comp=E,4935μm,0.5s						
ORI				AML	AML		
	comp=N,4425μm,0.3s						
ORI				AML	AML		
	comp=N,4425μm,0.3s						
ORI				AML	AML		
	comp=E,4935μm,0.5s						
SCHR	**S. Chirico Rap**	**0.18**	**323**	P	Pg	08 54 07.5	-0.2
SCHR				S	Sg	08 54 11.9	+1.5
SCHR				AML	AML		
	comp=E,936μm,1.2s						
SCHR				AML	AML		
	comp=N,960μm,0.7s						
SCHR				AML	AML		
	comp=E,933μm,1.2s						
SCHR				AML	AML		
	comp=N,961μm,0.7s						
SCHR				AML	AML		
	comp=N,961μm,0.7s						
SCHR				AML	AML		
	comp=E,933μm,1.2s						
SCHR	**S. Chirico Rap**	**0.18**	**323**	S	Sg	08 54 11.8	+1.4
SALB	**San Lorenzo Be**	**0.20**	**151**	P	Pg	08 54 08.2	+0.2
SALB				S	Sg	08 54 12.0	+1.0
SALB				AML	AML		
	comp=E,1355μm,0.3s						
SALB				AML	AML		
	comp=N,1215μm,0.6s						
SALB				AML	AML		
	comp=E,1425μm,0.3s						
SALB				AML	AML		
	comp=N,1260μm,0.7s						
SALB				AML	AML		
	comp=E,1355μm,0.3s						
SALB				AML	AML		
	comp=N,1215μm,0.6s						
SALB				AML	AML		
	comp=E,1425μm,0.3s						
SALB				AML	AML		
	comp=E,1355μm,0.3s						
SALB	**San Lorenzo Be**	**0.20**	**151**	P	Pg	08 54 08.4	+0.3
SALB	**San Lorenzo Be**	**0.20**	**151**	S	Sg	08 54 12.3	+1.2
T0721	**Laino Castello**	**0.22**	**237**	P	Pb	08 54 09.8	0.0
T0721	**Laino Castello**	**0.22**	**237**	P	Pb	08 54 10.8	+1.0
SIRI	**Monte Sirino -**	**0.30**	**296**	P	Pg	08 54 09.8	+0.1
SIRI				S	Sb	08 54 15.4	-0.8
SIRI				AML	AML		
	comp=E,1485μm,0.3s						
SIRI				AML	AML		
	comp=N,1250μm,0.3s						
SIRI				AML	AML		
	comp=E,1525μm,0.3s						
SIRI				AML	AML		
	comp=N,1280μm,0.3s						
SIRI				AML	AML		
	comp=E,1480μm,0.3s						
SIRI				AML	AML		
	comp=N,1255μm,0.3s						
SIRI				AML	AML		
	comp=N,1280μm,0.3s						
SIRI				AML	AML		
	comp=E,1525μm,0.3s						
SIRI	**Monte Sirino -**	**0.30**	**296**	P	Pg	08 54 10.0	+0.3
SIRI	**Monte Sirino -**	**0.30**	**296**	S	Sb	08 54 15.2	-1.0
CUC	**Castrocucco**	**0.31**	**259**	P	Pg	08 54 10.5	+0.4
CUC				AML	AML		
	comp=E,470μm,0.6s						
CUC				AML	AML		
	comp=N,449μm,0.5s						
CUC				AML	AML		
	comp=E,576μm,0.6s						
CUC				AML	AML		
	comp=N,536μm,0.5s						
CUC				AML	AML		
	comp=E,470μm,0.6s						
CUC				AML	AML		
	comp=N,449μm,0.5s						
CUC				AML	AML		
	comp=E,576μm,0.6s						
CUC				AML	AML		
	comp=N,536μm,0.5s						
CUC				AML	AML		
	comp=N,536μm,0.5s						
CUC				AML	AML		
	comp=N,449μm,0.5s						
CUC				AML	AML		
	comp=E,576μm,0.6s						
CUC				AML	AML		
	comp=E,470μm,0.6s						
CUC	**Castrocucco**	**0.31**	**259**	S	Sb	08 54 16.2	-0.4
T0702	**Acquaformosa (**	**0.35**	**197**	P	Pg	08 54 08.4	-2.3
T0702	**Acquaformosa (**	**0.35**	**197**	P	Pg	08 54 11.1	+0.4
CRAC	**Craco**	**0.35**	**28**	P	Pb	08 54 11.8	-0.3
CRAC	**Craco**	**0.35**	**28**	P	Pb	08 54 11.9	-0.2
MTSN	**Montesano sull**	**0.41**	**301**	P	Pg	08 54 11.8	-0.2
MTSN				S	Sb	08 54 18.8	-0.8
MTSN				AML	AML		
	comp=E,454μm,1.2s						
MTSN				AML	AML		
	comp=N,462μm,0.6s						
MTSN				AML	AML		
	comp=E,454μm,1.2s						
MTSN				AML	AML		
	comp=N,462μm,0.6s						
MCEL	**Monticello**	**0.42**	**311**	P	Pg	08 54 11.8	-0.2
MCEL				AML	AML		
	comp=E,318μm,0.2s						
MCEL				AML	AML		
	comp=N,471μm,0.8s						
MCEL				AML	AML		
	comp=E,333μm,0.2s						
MCEL				AML	AML		
	comp=N,483μm,0.8s						
MCEL				AML	AML		
	comp=N,483μm,0.8s						
MCEL				AML	AML		
	comp=N,471μm,0.8s						
MCEL				AML	AML		
	comp=E,333μm,0.2s						
MCEL				AML	AML		
	comp=E,318μm,0.2s						
MCEL	**Monticello**	**0.42**	**311**	S	Sb	08 54 19.0	-0.6
PTRP	**Pietrapertosa**	**0.48**	**346**	P	Pb	08 54 13.9	-0.5
MGR	**Morigerati**	**0.52**	**279**	P	Pg	08 54 13.6	-0.2
MGR				S	Sb	08 54 21.8	-0.6
MGR				AML	AML		
	comp=E,479μm,0.3s						
MGR				AML	AML		
	comp=N,366μm,0.2s						
MGR				AML	AML		
	comp=E,480μm,0.3s						
MGR				AML	AML		
	comp=N,366μm,0.2s						
MGR				AML	AML		
	comp=N,366μm,0.2s						
MGR				AML	AML		
	comp=E,480μm,0.3s						
MGR	**Morigerati**	**0.52**	**279**	S	Sb	08 54 21.6	-0.7
SLCN	**Sala Consilina**	**0.56**	**307**	P	Pg	08 54 14.9	+0.3
SLCN				AML	AML		
	comp=E,496μm,1.1s						
SLCN				AML	AML		
	comp=N,317μm,0.4s						
SLCN				AML	AML		
	comp=E,496μm,1.1s						
SLCN				AML	AML		
	comp=N,317μm,0.4s						
SLCN	**Sala Consilina**	**0.56**	**307**	P	Pg	08 54 14.9	+0.3
MIGL	**Miglionico**	**0.57**	**17**	P	Pg	08 54 14.7	-0.2
MIGL				S	Sb	08 54 23.8	-0.4
MIGL				AML	AML		
	comp=E,632μm,0.8s						
MIGL				AML	AML		
	comp=N,707μm,0.4s						
MIGL				AML	AML		
	comp=E,632μm,0.8s						
MIGL				AML	AML		
	comp=N,707μm,0.4s						
BULG	**Bulgheria - Ca**	**0.64**	**272**	P	Pg	08 54 16.2	0.0
BULG				AML	AML		
	comp=E,317μm,0.3s						
BULG				AML	AML		
	comp=N,290μm,0.3s						
BULG				AML	AML		
	comp=E,317μm,0.3s						
BULG				AML	AML		
	comp=N,290μm,0.3s						
CELI	**Celico**	**0.69**	**161**	P	Pb	08 54 18.0	+0.1
CELI				AML	AML		
	comp=E,109μm,1.1s						
CELI				AML	AML		
	comp=N,134μm,0.8s						
CELI				AML	AML		
	comp=N,134μm,0.8s						
CELI				AML	AML		
	comp=E,109μm,1.1s						
CELI	**Celico**	**0.69**	**161**	P	Pn	08 54 18.8	-0.8
SG1	**Sgolgore (BA)**	**0.86**	**24**	*e*Pg	Pg	08 54 20.0	-0.3
SG1				(Sg)	Sn	08 54 34.4	-0.2
NOCI	**Noci**	**0.98**	**41**	P	Pn	08 54 23.7	+0.2
NOCI	**Noci**	**0.98**	**41**	AML	AML		
	comp=N,146μm,0.8s						
NOCI				AML	AML		
	comp=E,113μm,1.0s						
NOCI				AML	AML		
	comp=N,146μm,0.8s						
NOCI				AML	AML		
	comp=E,113μm,1.0s						

*ATH **31** 08:56:38.9, 38°23N×22°12E, h16km±2km, ML3.3/8, Error ellipse: s-maj=2.0km s-min=0.7km az=318.0*
*IDC **31** 08:56:38.5±1.1, 38°25N×22°19E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/37, mbtmp3.6/8, ML2.8/2, MS3.4/2, Ms1 3.4/2, ms1mx2.4/48, Error ellipse: s-maj=26.5km s-min=20.8km az=161.0*
*ISCJB **31** 08:56:39.3±0.2, 38°24N±0°01×22°12E±0°02, h10km±2km, mb3.5/5, MS3.4/2, Error ellipse: s-maj=2.6km s-min=2.3km az=17.3*
*THE **31** 08:56:39.4, 38°23N×22°12E, h9km, ML3.1/15, Error ellipse: s-maj=0.6km s-min=0.3km az=303.0*

ISC 31 08:56:39.4±0.7, 38°23N±0°01×22°11E±0°02, h11km±4km, n91, σ0=63/119, mb4.0/5, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIK	**Aliki, Aigiali**	**0.03**	**3**	P	**Pg**	**08 56 41.2**	**-0.1**
ALIK				S	**Sg**	**08 56 42.8**	**+0.1**
LAKA	**Lakka**	**0.10**	**274**	P	**Pg**	**08 56 42.1**	**-0.1**
LAKA				S	**Sg**	**08 56 43.8**	**-0.3**
LAKA	**Lakka**	**0.10**	**274**	P	**Pg**	**08 56 42.1**	**-0.1**
TRIZ	**Trizonia**	**0.14**	**348**	P	**Pg**	**08 56 42.5**	**-0.1**
TRIZ				S	**Sg**	**08 56 44.7**	**-0.1**
TRIZ	**Trizonia**	**0.14**	**348**	P	**Pg**	**08 56 42.3**	**-0.3**
KALE	**Kalithea**	**0.16**	**9**	P	**Pg**	**08 56 43.1**	**+0.1**
KALE				S	**Sg**	**08 56 45.8**	**+0.2**
KALE	**Kalithea**	**0.16**	**9**	P	**Pg**	**08 56 43.1**	**+0.1**
SERG	**Sergoula**	**0.18**	**347**	P	**Pg**	**08 56 43.4**	**0.0**
SERG				S	**Sg**	**08 56 46.1**	**-0.1**
SERG	**Sergoula**	**0.18**	**347**	P	**Pg**	**08 56 43.4**	**0.0**
KLV	**Kalavryta, Ach**	**0.19**	**170**	P	**Pg**	**08 56 43.4**	**-0.2**
KLV				S	**Sg**	**08 56 46.3**	**-0.1**
KLV	**Kalavryta, Ach**	**0.19**	**170**	P	**Pg**	**08 56 43.4**	**-0.2**
KLV				S	**Sg**	**08 56 46.2**	**-0.1**
KLV				AML	AML	08 56 47.1	
	comp=N,20313μm,0.2s						
KLV				AML	AML	08 56 49.0	
	comp=E,21958μm,0.3s						
EFP	**Efpalio**	**0.25**	**320**	P	**Pg**	**08 56 44.5**	**-0.1**
EFP				S	**Sg**	**08 56 48.5**	**+0.5**
EFP	**Efpalio**	**0.25**	**320**	P	**Pg**	**08 56 44.4**	**-0.1**
UPR	**University Cam**	**0.26**	**281**	P	**Pg**	**08 56 45.0**	**+0.3**
GUR	**Goura**	**0.35**	**148**	P	**Pg**	**08 56 46.1**	**-0.3**
GUR				S	**Sg**	**08 56 51.4**	**+0.4**
GUR	**Goura**	**0.35**	**148**	P	**Pg**	**08 56 46.1**	**-0.3**
GUR				S	**Sg**	**08 56 51.1**	**0.0**
GUR				AML	AML	08 56 52.1	
	comp=E,41653μm,0.5s						
GUR				AML	AML	08 56 52.2	
	comp=N,48085μm,0.6s						
DSF	**Desfina**	**0.37**	**61**	P	**Pg**	**08 56 46.6**	**-0.2**
DSF				S	**Sg**	**08 56 52.0**	**+0.1**
DSF	**Desfina**	**0.37**	**61**	P	**Pg**	**08 56 46.7**	**-0.2**
DSF				S	**Sg**	**08 56 51.9**	**+0.1**
DSF				AML	AML	08 56 53.4	
	comp=N,12218μm,0.2s						
DSF				AML	AML	08 56 53.7	
	comp=E,11027μm,0.2s						
ANX	**Ano Chora**	**0.39**	**338**	P	**Pg**	**08 56 46.7**	**-0.4**
ANX				S	**Sg**	**08 56 52.9**	**+0.6**
ANX	**Ano Chora**	**0.39**	**338**	P	**Pg**	**08 56 46.9**	**-0.2**
DLFA	**Delphi**	**0.39**	**51**	P	**Pg**	**08 56 46.8**	**-0.3**
DLFA				S	**Sg**	**08 56 52.3**	**0.0**
DLFA				AML	AML	08 56 52.9	
	comp=E,12407μm,0.4s						
DLFA				AML	AML	08 56 53.3	
	comp=N,5835μm,0.5s						
DRO	**Drossia**	**0.42**	**228**	P	**Pg**	**08 56 47.4**	**-0.3**
DRO				S	**Sb**	**08 56 54.4**	**-0.9**
DRO	**Drossia**	**0.42**	**228**	P	**Pg**	**08 56 47.5**	**-0.3**
RLS	**Riolos of Patr**	**0.54**	**251**	P	**Pg**	**08 56 49.3**	**-0.5**
RLS				S	**Sb**	**08 56 57.9**	**-0.7**
RLS	**Riolos of Patr**	**0.54**	**251**	P	**Pg**	**08 56 49.7**	**-0.1**
AXS	**Araxos**	**0.58**	**267**	P	**Pg**	**08 56 50.4**	**-0.2**
AXS				S	**Sb**	**08 56 59.3**	**-0.5**
AXS	**Araxos**	**0.58**	**267**	P	**Pg**	**08 56 50.6**	**-0.1**
PVO	**Paravola**	**0.60**	**310**	P	**Pg**	**08 56 50.7**	**-0.3**
PVO	**Paravola**	**0.60**	**310**	P	**Pg**	**08 56 51.2**	**+0.1**
PROD	**Prodromos**	**0.62**	**87**	P	**Pg**	**08 56 51.7**	**+0.2**
PROD				AML	AML	08 57 06.1	
	comp=N,4172μm,0.4s						
PROD				AML	AML	08 57 07.8	
	comp=E,4126μm,0.3s						
TRIP	**Tripoli**	**0.72**	**170**	P	**Pg**	**08 56 52.7**	**-0.5**
TRIP				S	**Sb**	**08 57 03.8**	**0.0**
TRIP	**Tripoli**	**0.72**	**170**	P	**Pg**	**08 56 52.4**	**-0.8**
EVR	**Evrytania**	**0.72**	**341**	P	**Pg**	**08 56 53.0**	**-0.4**
EVR				S	**Sb**	**08 57 03.8**	**-0.3**
EVR	**Evrytania**	**0.72**	**341**	P	**Pg**	**08 56 52.8**	**-0.5**
LOUT	**Loutraki**	**0.72**	**109**	P	**Pg**	**08 56 53.1**	**-0.3**
AMT	**Artemida-Makis**	**0.77**	**204**	P	**Pg**	**08 56 53.6**	**-0.6**
AMT				S	**Sb**	**08 57 05.8**	**+0.5**
AMT	**Artemida-Makis**	**0.77**	**204**	P	**Pg**	**08 56 53.8**	**-0.5**
AGG	**Agios Georgios**	**0.81**	**12**	P	**Pg**	**08 56 53.9**	**-1.1**
AGG				S	**Sb**	**08 57 06.7**	**+0.3**
AGG	**Agios Georgios**	**0.81**	**12**	P	**Pg**	**08 56 53.9**	**-1.1**
LKR	**Lokris**	**0.81**	**59**	P	**Pg**	**08 56 54.0**	**-1.1**
LKR				S	**Sb**	**08 57 06.1**	**-0.5**
LKR	**Lokris**	**0.81**	**59**	P	**Pg**	**08 56 54.3**	**-0.8**
PDO	**Prodromos**	**0.81**	**297**	P	**Pg**	**08 56 55.1**	**0.0**
ATAL	**Atalanti**	**0.85**	**57**	P	**Pg**	**08 56 54.6**	**-1.2**
ATAL				S	**Sb**	**08 57 07.5**	**-0.1**
ATAL	**Atalanti**	**0.85**	**57**	P	**Pg**	**08 56 54.7**	**-1.2**
ATAL				AML	AML	08 57 11.1	
	comp=N,2216μm,0.7s						
ATAL				AML	AML	08 57 14.0	
	comp=E,1872μm,0.5s						
VLX	**Vlachokerasia**	**0.89**	**166**	P	**Pg**	**08 56 55.6**	**-0.9**
VLX				S	**Sb**	**08 57 09.4**	**+0.6**
VLX	**Vlachokerasia**	**0.89**	**166**	P	**Pg**	**08 56 55.6**	**-0.9**
EPID	**Epidavros**	**1.01**	**127**	P	**Pg**	**08 56 57.9**	**-0.9**
EPID				S	**Sb**	**08 57 11.9**	**-0.3**
MES3	**Kyparissia**	**1.04**	**200**	P	**Pb**	**08 56 58.9**	**-0.5**
KFL	**Anninata**	**1.05**	**264**	P	**Pg**	**08 56 59.6**	**+0.1**
ITM	**Ithomi**	**1.06**	**188**	P	**Pb**	**08 56 58.8**	**-1.0**
ITM				S	**Sn**	**08 57 14.9**	**-0.1**
ITM	**Ithomi**	**1.06**	**188**	P	**Pb**	**08 56 58.7**	**-1.1**
ITM				S	**Sb**	**08 57 14.0**	**+0.3**
ITM				AML	AML	08 57 18.3	
	comp=N,2576μm,0.4s						
ITM				AML	AML	08 57 19.1	
	comp=E,2312μm,0.5s						
SMIA	**Simia**	**1.08**	**53**	P	**Pb**	**08 56 59.9**	**-0.2**
SMIA	**Simia**	**1.08**	**53**	P	**Pb**	**08 56 59.3**	**-0.8**
DID	**Didima**	**1.15**	**129**	P	**Pb**	**08 57 00.6**	**-0.7**
DID				S	**Sn**	**08 57 17.1**	**-0.2**
DID	**Didima**	**1.15**	**129**	P	**Pb**	**08 57 00.7**	**-0.7**
KRND	**KRANIDI**	**1.18**	**136**	P	**Pb**	**08 57 01.4**	**-0.5**
KRND	**KRANIDI**	**1.18**	**136**	P	**Pb**	**08 57 01.4**	**-0.5**
KRND				S	**Sb**	**08 57 17.1**	**-0.1**
KRND				AML	AML	08 57 22.4	
	comp=E,5039μm,0.5s						
KRND				AML	AML	08 57 23.9	
	comp=N,4634μm,0.4s						
VLS	**Valsamata**	**1.20**	**268**	P	**Pn**	**08 57 01.1**	**-1.0**
VLS				S	**Sn**	**08 57 19.3**	**+0.9**
VLS	**Valsamata**	**1.20**	**268**	P	**Pn**	**08 57 01.6**	**-0.6**
EVGI	**Lefkada island**	**1.21**	**289**	P	**Pn**	**08 57 01.5**	**-0.7**
MRKA	**Markates**	**1.25**	**67**	P	**Pg**	**08 57 03.5**	**0.0**
LKD2	**Lefkada island**	**1.27**	**296**	P	**Pn**	**08 57 02.9**	**-0.2**
THL	**Klokotos Trika**	**1.33**	**357**	P	**Pn**	**08 57 03.9**	**-0.1**
THL	**Klokotos Trika**	**1.33**	**357**	P	**Pb**	**08 57 04.3**	**-0.1**
FYTO	**Fytoko, Volos**	**1.34**	**29**	P	**Pn**	**08 57 04.0**	**-0.1**
FYTO	**Fytoko, Volos**	**1.34**	**29**	P	**Pb**	**08 57 04.3**	**-0.3**
ATHU	**Athens Univers**	**1.35**	**101**	P	**Pb**	**08 57 04.3**	**-0.4**
PYL	**PYLOS**	**1.37**	**192**	P	**Pn**	**08 57 04.2**	**-0.3**
PYL	**PYLOS**	**1.37**	**192**	P	**Pn**	**08 57 04.1**	**-0.3**
NEO	**Neokhori**	**1.38**	**39**	P	**Pn**	**08 57 04.8**	**+0.1**
VLY	**Voula,Athens**	**1.38**	**105**	P	**Pg**	**08 57 05.5**	**-0.4**
PTL	**Penteli**	**1.40**	**97**	P	**Pb**	**08 57 05.2**	**-0.4**
XOR	**Xorichti**	**1.41**	**36**	P	**Pn**	**08 57 04.8**	**-0.3**
XOR	**Xorichti**	**1.41**	**36**	P	**Pn**	**08 57 05.0**	**-0.1**
MES2	**Methoni**	**1.44**	**193**	P	**Pb**	**08 57 05.7**	**-0.6**
EREA	**Eretria**	**1.45**	**82**	P	**Pb**	**08 57 05.8**	**-0.5**
DION	**Dionisos Attik**	**1.45**	**96**	P	**Pn**	**08 57 05.4**	**-0.2**
DION				S	**Sb**	**08 57 24.8**	**0.0**
DYR	**Agios Nikonas**	**1.48**	**173**	P	**Pn**	**08 57 05.7**	**-0.3**
VLI	**Veliai**	**1.65**	**156**	P	**Pn**	**08 57 08.3**	**0.0**
VLI	**Veliai**	**1.65**	**156**	P	**Pn**	**08 57 08.7**	**+0.3**
STIP	**Stip**	**3.46**	**1**	*i* Pn	**Pb**	**08 57 37.5**	**-3.2**
IDI	**Anoyia**	**3.69**	**142**	Pn	**Pn**	**08 57 36.6**	**+0.1**
	comp=N,0.7nm,0.3s,baz=309,slow=17,SNR=3.6						
BRTR	**Keskin Array B**	**9.10**	**77**	Pn	**Pn**	**08 58 53.8**	**+3.0**
	comp=N,0.1nm,0.3s,baz=258,slow=13,SNR=4.7						
ESDC	**Sonseca Array**	**20.31**	**282**	P	Pn	09 01 17.4	0.0
	comp=N,1.2nm,0.7s,baz=77,slow=10,SNR=5.5						
NOA	**NORSAR Array B**	**23.83**	**347**	P	**P**	**09 01 53.0**	**+0.7**
	comp=N,0.1nm,0.4s,baz=156,slow=8.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**30.88**	**221**	P	**P**	**09 02 56.8**	**+0.8**
	comp=N,0.3nm,0.7s,baz=47,slow=7.0,SNR=2.7						
MKAR	**Makanchi Array**	**44.20**	**59**	P	**P**	**09 04 48.2**	**-0.2**
	comp=N,1.5nm,0.7s,baz=278,slow=7.2,SNR=14						
ZALV	**Zalesovo Beam**	**44.72**	**48**	P	**P**	**09 04 52.1**	**-0.3**
	comp=N,1.6nm,0.5s,baz=289,slow=9.2,SNR=4.1						
SFJD	**Kangerlussuaq**	**48.81**	**330**	LR	LR	09 25 15.3	
	comp=N,16nm,21.5s,baz=8.0,slow=35						
BOSA	**Boshof**	**66.56**	**177**	LR	LR	09 39 06.6	
	comp=N,72nm,19.1s,baz=30,slow=38						
CMAR	**Chiang Mai Arr**	**68.64**	**83**	P	**P**	**09 07 43.7**	**+0.7**

*IDC **31** 08:57:29.0±5.5, 38.°33N×22.°27E, h29km±41km, mb3.6/11, mb1 3.8/14, mb1mx3.6/38, mbtmp3.8/14, ML3.6/3, MS2.6/2, Ms1 2.6/2, ms1mx2.3/46, Error ellipse: s-maj=18.8km s-min=17.6km az=41.0*

ISC 31 08:57:25.9±0.7, 38.°23N±0.°01×22.°12E±0.°01, h10km±4km, n138, σ1°06/186, mb3.7/10, 11C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.11**	**277**	P	**Pg**	**08 57 28.4**	**-0.3**
LAKA				S	**Sg**	**08 57 30.2**	**-0.5**
LAKA	**Lakka**	**0.11**	**277**	P	**Pg**	**08 57 28.3**	**-0.4**
LAKA				S	**Sg**	**08 57 30.3**	**-0.5**
LAKA				AML	AML	08 57 30.4	
LAKA				AML	AML	08 57 30.6	
TRIZ	**Trizonia**	**0.14**	**345**	P	**Pg**	**08 57 28.8**	**-0.3**
TRIZ				S	**Sg**	**08 57 31.3**	**-0.1**
TRIZ	**Trizonia**	**0.14**	**345**	P	**Pg**	**08 57 28.8**	**-0.3**
TRIZ				S	**Sg**	**08 57 31.4**	**-0.1**
KALE	**Kalithea**	**0.16**	**5**	P	**Pg**	**08 57 29.3**	**-0.3**
KALE				S	**Sg**	**08 57 31.9**	**-0.2**
KALE	**Kalithea**	**0.16**	**5**	P	**Pg**	**08 57 29.3**	**-0.3**
KALE				AML	AML	08 57 32.2	
KALE				S	**Sg**	**08 57 32.2**	**+0.1**
KALE				AML	AML	08 57 32.5	
KLV	**Kalavryta, Ach**	**0.18**	**173**	P	**Pg**	**08 57 29.7**	**-0.1**
KLV				S	**Sg**	**08 57 32.4**	**-0.2**
KLV	**Kalavryta, Ach**	**0.18**	**173**	P	**Pg**	**08 57 29.7**	**-0.1**
KLV				S	**Sg**	**08 57 32.5**	**0.0**
KLV				AML	AML	08 57 33.1	
	comp=N,34612μm,0.4s						
KLV				AML	AML	08 57 34.0	
	comp=E,52806μm,0.3s						
SERG	**Sergoula**	**0.19**	**345**	P	**Pg**	**08 57 29.7**	**-0.3**
SERG				S	**Sg**	**08 57 32.9**	**+0.1**
SERG	**Sergoula**	**0.19**	**345**	P	**Pg**	**08 57 29.6**	**-0.3**
SERG				S	**Sg**	**08 57 32.9**	**+0.1**
SERG				AML	AML	08 57 33.1	
SERG				AML	AML	08 57 33.2	
EFP	**Efpalio**	**0.26**	**320**	P	**Pg**	**08 57 30.7**	**-0.5**
EFP				S	**Sg**	**08 57 35.1**	**+0.3**
EFP	**Efpalio**	**0.26**	**320**	P	**Pg**	**08 57 30.8**	**-0.4**
EFP				S	**Sg**	**08 57 34.6**	**-0.2**
EFP				AML	AML	08 57 35.5	
	comp=E,74986μm,0.3s						
EFP				AML	AML	08 57 36.7	
	comp=N,53634μm,0.3s						
UPR	**University Cam**	**0.27**	**282**	P	**Pg**	**08 57 31.2**	**-0.1**
UPR				S	**Sg**	**08 57 35.4**	**+0.4**
GUR	**Goura**	**0.34**	**149**	P	**Pg**	**08 57 32.2**	**-0.5**
GUR				S	**Sg**	**08 57 37.8**	**+0.6**
GUR	**Goura**	**0.34**	**149**	P	**Pg**	**08 57 32.3**	**-0.3**
GUR				S	**Sg**	**08 57 37.5**	**+0.4**
GUR				AML	AML	08 57 39.0	
GUR				AML	AML	08 57 41.9	
	comp=E,56384μm,0.4s						
DSF	**Desfina**	**0.37**	**60**	P	**Pg**	**08 57 32.8**	**-0.4**
DSF				S	**Sg**	**08 57 37.8**	**-0.3**
DSF	**Desfina**	**0.37**	**60**	P	**Pg**	**08 57 32.9**	**-0.4**
DSF				S	**Sg**	**08 57 37.8**	**-0.3**
DSF				AML	AML	08 57 39.4	
	comp=E,19290μm,0.2s						
DSF				AML	AML	08 57 41.1	
	comp=N,17543μm,0.4s						
ANX	**Ano Chora**	**0.40**	**337**	P	**Pg**	**08 57 33.1**	**-0.6**
ANX				S	**Sg**	**08 57 39.1**	**0.0**
ANX	**Ano Chora**	**0.40**	**337**	P	**Pg**	**08 57 33.1**	**-0.6**
ANX				S	**Sg**	**08 57 39.0**	**0.0**
ANX				AML	AML	08 57 39.9	
	comp=E,67359μm,0.4s						
ANX				AML	AML	08 57 41.0	
	comp=N,53180μm,0.2s						
DRO	**Drossia**	**0.42**	**230**	P	**Pg**	**08 57 33.9**	**-0.3**
DRO				S	**Sb**	**08 57 40.9**	**-1.0**
DRO	**Drossia**	**0.42**	**230**	P	**Pg**	**08 57 33.9**	**-0.3**
DRO				S	**Sg**	**08 57 40.6**	**+0.8**
DRO				AML	AML	08 57 42.3	
	comp=E,41535μm,0.2s						
DRO				AML	AML	08 57 45.1	
	comp=N,36818μm,0.3s						
RLS	**Riolos of Patr**	**0.54**	**252**	P	**Pg**	**08 57 36.2**	**-0.2**
RLS				S	**Sg**	**08 57 44.0**	**+0.4**
RLS	**Riolos of Patr**	**0.54**	**252**	P	**Pg**	**08 57 35.9**	**-0.5**
RLS				S	**Sg**	**08 57 44.1**	**+0.6**
RLS				AML	AML	08 57 46.5	
	comp=N,13829μm,0.4s						
RLS				AML	AML	08 57 48.5	
	comp=E,11544μm,0.4s						
AXS	**Araxos**	**0.59**	**267**	P	**Pg**	**08 57 36.7**	**-0.6**
AXS				S	**Sg**	**08 57 45.2**	**+0.2**
AXS	**Araxos**	**0.59**	**267**	P	**Pg**	**08 57 36.8**	**-0.4**
AXS				S	**Sg**	**08 57 45.1**	**+0.1**
AXS				AML	AML	08 57 47.8	
	comp=E,7969μm,0.3s						
AXS				AML	AML	08 57 47.9	
	comp=N,10203μm,0.4s						
PVO	**Paravola**	**0.61**	**310**	P	**Pg**	**08 57 37.1**	**-0.5**
PVO				S	**Sb**	**08 57 46.5**	**-0.7**
PVO	**Paravola**	**0.61**	**310**	P	**Pg**	**08 57 37.2**	**-0.5**
PVO				S	**Sg**	**08 57 45.2**	**-0.5**
PVO				AML	AML	08 57 51.4	
	comp=N,12752μm,0.4s						
PVO				AML	AML	08 57 53.9	
	comp=E,15122μm,0.5s						
PROD	**Prodromos**	**0.61**	**87**	P	**Pg**	**08 57 38.1**	**+0.3**
PROD	**Prodromos**	**0.61**	**87**	P	**Pg**	**08 57 38.1**	**+0.3**
TRIP	**Tripoli**	**0.71**	**170**	P	**Pg**	**08 57 38.9**	**-0.6**
TRIP				S	**Sg**	**08 57 49.2**	**+0.4**
TRIP	**Tripoli**	**0.71**	**170**	P	**Pg**	**08 57 39.0**	**-0.6**
TRIP				S	**Sb**	**08 57 49.5**	**-0.7**
TRIP				AML	AML	08 57 53.2	
	comp=E,13750μm,0.3s						
TRIP				AML	AML	08 57 54.3	
	comp=N,10584μm,0.6s						
LOUT	**Loutraki**	**0.71**	**109**	P	**Pg**	**08 57 39.2**	**-0.5**
EVR	**Evrytania**	**0.73**	**341**	P	**Pg**	**08 57 39.2**	**-0.8**
EVR				S	**Sb**	**08 57 50.4**	**-0.4**
EVR	**Evrytania**	**0.73**	**341**	P	**Pg**	**08 57 39.4**	**-0.6**
EVR				S	**Sg**	**08 57 48.5**	**-1.1**
EVR				AML	AML	08 57 53.1	
	comp=N,14475μm,0.3s						
EVR				AML	AML	08 57 55.5	
	comp=E,7897μm,0.3s						
AMT	**Artemida-Makis**	**0.77**	**205**	P	**Pg**	**08 57 40.3**	**-0.4**
AMT				S	**Sb**	**08 57 52.0**	**+0.2**
AMT	**Artemida-Makis**	**0.77**	**205**	P	**Pg**	**08 57 40.2**	**-0.4**
AMT				S	**Sg**	**08 57 50.9**	**+0.2**
AMT				AML	AML	08 57 55.3	
	comp=N,23557μm,0.4s						
AMT				AML	AML	08 57 57.5	
	comp=E,15516μm,0.5s						
VTN	**Vitineika**	**0.80**	**247**	P	**Pg**	**08 57 41.1**	**-0.2**
LKR	**Lokris**	**0.81**	**58**	P	**Pg**	**08 57 40.6**	**-0.9**
LKR	**Lokris**	**0.81**	**58**	P	**Pg**	**08 57 40.5**	**-0.9**
LKR				S	**Sg**	**08 57 52.2**	**+0.2**
LKR				AML	AML	08 57 56.6	
	comp=N,8100μm,0.3s						
LKR				AML	AML	08 57 58.1	
	comp=E,13035μm,0.3s						
AGG	**Agios Georgios**	**0.81**	**12**	P	**Pg**	**08 57 40.4**	**-1.1**
AGG				S	**Sb**	**08 57 52.8**	**-0.3**
AGG	**Agios Georgios**	**0.81**	**12**	P	**Pg**	**08 57 40.5**	**-1.1**
AGG				S	**Sg**	**08 57 51.7**	**-0.4**
AGG				AML	AML	08 57 54.6	
	comp=E,9052μm,0.4s						
AGG				AML	AML	08 57 56.4	
	comp=N,9206μm,0.5s						
PDO	**Prodromos**	**0.82**	**297**	P	**Pg**	**08 57 41.3**	**-0.4**
PDO				S	**Sg**	**08 57 51.8**	**-0.8**
PDO				AML	AML	08 57 54.9	
	comp=E,14505μm,0.3s						
PDO				AML	AML	08 57 56.7	
	comp=N,33827μm,0.3s						
ATAL	**Atalanti**	**0.85**	**56**	P	**Pg**	**08 57 41.2**	**-1.0**
ATAL				S	**Sb**	**08 57 54.2**	**+0.1**
ATAL	**Atalanti**	**0.85**	**56**	P	**Pg**	**08 57 41.1**	**-1.0**
ATAL				S	**Sg**	**08 57 52.1**	**-1.2**
ATAL				AML	AML	08 57 58.6	
	comp=N,4222μm,0.5s						
ATAL				AML	AML	08 57 58.8	
	comp=E,4727μm,0.6s						
VLX	**Vlachokerasia**	**0.88**	**166**	P	**Pg**	**08 57 41.9**	**-0.9**
VLX				S	**Sb**	**08 57 55.1**	**0.0**
VLX	**Vlachokerasia**	**0.88**	**166**	P	**Pg**	**08 57 42.0**	**-0.9**
VLX				S	**Sb**	**08 57 55.0**	**0.0**
VLX				AML	AML	08 57 56.5	
	comp=N,19599μm,0.4s						
VLX				AML	AML	08 58 01.5	
	comp=E,19477μm,0.7s						
EPID	**Epidavros**	**1.00**	**127**	P	**Pg**	**08 57 44.5**	**-0.6**
MES3	**Kyparissia**	**1.04**	**200**	P	**Pg**	**08 57 45.5**	**-0.4**
MES3				S	**Sb**	**08 58 00.1**	**+0.5**
KFL	**Anninata**	**1.06**	**264**	P	**Pg**	**08 57 45.5**	**-0.7**
KFL	**Anninata**	**1.06**	**264**	P	**Pg**	**08 57 45.6**	**-0.6**
ITM	**Ithomi**	**1.06**	**188**	P	**Pg**	**08 57 45.0**	**-1.1**
ITM				S	**Sn**	**08 58 00.9**	**-0.6**
ITM	**Ithomi**	**1.06**	**188**	P	**Pg**	**08 57 45.1**	**-1.1**
ITM				S	**Sn**	**08 58 00.8**	**-0.6**
ITM				AML	AML	08 58 05.3	
	comp=N,6198μm,0.4s						
ITM				AML	AML	08 58 05.4	
	comp=E,5668μm,0.3s						
SMIA	**Simia**	**1.07**	**52**	P	**Pg**	**08 57 45.9**	**-0.6**
SMIA	**Simia**	**1.07**	**52**	P	**Pg**	**08 57 46.0**	**-0.5**
DID	**Didima**	**1.14**	**129**	P	**Pb**	**08 57 47.6**	**-0.1**
DID				S	**Sn**	**08 58 03.5**	**-0.1**
DID	**Didima**	**1.14**	**129**	P	**Pb**	**08 57 47.4**	**-0.3**
KRND	**KRANIDI**	**1.17**	**136**	P	**Pb**	**08 57 47.6**	**-0.6**
KRND	**KRANIDI**	**1.17**	**136**	P	**Pb**	**08 57 47.7**	**-0.5**
VLS	**Valsamata**	**1.21**	**268**	P	**Pb**	**08 57 47.5**	**-1.3**
VLS				S	**Sn**	**08 58 05.7**	**+0.5**
VLS	**Valsamata**	**1.21**	**268**	P	**Pb**	**08 57 47.5**	**-1.3**
VLS				AML	AML	08 58 10.3	
	comp=N,7808μm,0.5s						
VLS				AML	AML	08 58 12.3	
	comp=E,3517μm,0.3s						
EVGI	**Lefkada island**	**1.22**	**289**	P	**Pn**	**08 57 48.1**	**-0.8**
FSK	**Fiskardo**	**1.25**	**281**	P	**Pn**	**08 57 48.0**	**-1.3**
FSK	**Fiskardo**	**1.25**	**281**	P	**Pn**	**08 57 48.1**	**-1.2**
MRKA	**Markates**	**1.25**	**67**	P	**Pb**	**08 57 49.4**	**-0.1**
LKD2	**Lefkada island**	**1.28**	**296**	P	**Pn**	**08 57 48.9**	**-0.9**
LKD2	**Lefkada island**	**1.28**	**296**	P	**Pn**	**08 57 48.8**	**-1.0**
ATH	**Athens Observa**	**1.28**	**101**	P	**Pg**	**08 57 50.4**	**-0.1**
TSLK	**Tsoukalades, L**	**1.29**	**298**	P	**Pn**	**08 57 49.3**	**-0.7**
THL	**Klokotos Trika**	**1.34**	**357**	P	**Pn**	**08 57 50.6**	**0.0**
THL	**Klokotos Trika**	**1.34**	**357**	P	**Pn**	**08 57 50.6**	**0.0**
ATHU	**Athens Univers**	**1.34**	**101**	P	**Pn**	**08 57 50.5**	**-0.1**
FYTO	**Fytoko, Volos**	**1.34**	**28**	P	**Pn**	**08 57 50.3**	**-0.4**
FYTO	**Fytoko, Volos**	**1.34**	**28**	P	**Pn**	**08 57 50.2**	**-0.5**
PYL	**PYLOS**	**1.36**	**193**	P	**Pn**	**08 57 50.9**	**0.0**
PYL	**PYLOS**	**1.36**	**193**	P	**Pn**	**08 57 50.7**	**-0.2**
VLY	**Voula,Athens**	**1.37**	**105**	P	**Pn**	**08 57 50.7**	**-0.4**
NEO	**Neokhori**	**1.38**	**38**	P	**Pn**	**08 57 50.8**	**-0.4**
PTL	**Penteli**	**1.39**	**97**	P	**Pn**	**08 57 51.0**	**-0.3**
PTL				S	**Sn**	**08 58 09.7**	**0.0**
PTL				AML	AML	08 58 15.3	
	comp=E,3422μm,0.5s						
PTL				AML	AML	08 58 15.6	
	comp=N,2764μm,0.6s						
XOR	**Xorichti**	**1.41**	**36**	P	**Pn**	**08 57 51.1**	**-0.6**
XOR	**Xorichti**	**1.41**	**36**	P	**Pn**	**08 57 51.3**	**-0.3**
DION	**Dionisos Attik**	**1.44**	**95**	P	**Pn**	**08 57 51.4**	**-0.6**
EREA	**Eretria**	**1.44**	**82**	P	**Pn**	**08 57 52.2**	**+0.2**
MES2	**Methoni**	**1.44**	**193**	P	**Pn**	**08 57 52.1**	**+0.2**
MES2				S	**Sg**	**08 58 12.6**	**+0.5**
MES2				AML	AML	08 58 19.2	
	comp=E,7532μm,0.5s						
MES2				AML	AML	08 58 20.1	
	comp=N,4965μm,0.5s						
DYR	**Ágios Nikonas**	**1.47**	**173**	P	**Pn**	**08 57 52.5**	**0.0**
VLI	**Veliai**	**1.64**	**156**	P	**Pn**	**08 57 55.0**	**+0.3**
VLI	**Veliai**	**1.64**	**156**	P	**Pn**	**08 57 55.2**	**+0.4**
JAN	**Janina**	**1.74**	**326**	P	**Pb**	**08 57 58.1**	**+0.3**
KPRO	**Kipourio**	**1.82**	**341**	P	**Pb**	**08 57 59.1**	**-0.2**
KZN	**Kozani**	**2.09**	**353**	P	**Pn**	**08 58 01.8**	**+0.8**
KEK	**Kerkira**	**2.34**	**310**	P	**Pn**	**08 58 05.7**	**+1.3**
APE	**Apeiranthos**	**2.94**	**112**	↑P	**Pn**	**08 58 12.7**	**0.0**
APE	**Apeiranthos**	**2.94**	**112**	S	**Sn**	**08 58 46.8**	**-1.3**
TIR	**Tirane**	**3.57**	**332**	↑P	**Pn**	**08 58 25.0**	**+3.8**
TIR	**Tirane**	**3.57**	**332**	S	**Sb**	**08 59 10.4**	**-2.0**
MMB	**Musomiste**	**3.58**	**20**	eP	**Pn**	**08 58 21.0**	**-0.4**
EZN	**Ezine**	**3.64**	**63**	↑P	**Pn**	**08 58 24.0**	**+1.7**
EZN	**Ezine**	**3.64**	**63**	S	**Sn**	**08 59 06.0**	**+0.7**
IDI	**Anoyia**	**3.68**	**142**	Pn	**Pn**	**08 58 23.0**	**+0.1**
	comp=N,8.6nm,0.3s,baz=343,slow=8.9,SNR=12						
IDI				Sn	**Sn**	**08 59 06.5**	**+0.1**
	comp=N,3.9nm,0.3s,baz=76,slow=21,SNR=1.5						
IDI				LR	LR	09 00 23.9	
	comp=N,36nm,18.7s,baz=74,slow=47						
KKB	**Krupnik**	**3.71**	**11**	eP	**Pn**	**08 58 24.6**	**+1.4**
RZN	**Rozhen**	**3.99**	**29**	eP	**Pn**	**08 58 27.4**	**+0.2**
TIP	**Timpagrande**	**4.30**	**284**	↑↑P	**Pn**	**08 58 33.8**	**+2.4**
VTS	**Vitosha**	**4.47**	**11**	↑↑P	**Pn**	**08 58 37.2**	**+3.4**
VTS	**Vitosha**	**4.47**	**11**	eP	**Pn**	**08 58 34.9**	**+1.1**
DRME	**Dracevica, Mon**	**4.55**	**331**	ePn	**Pn**	**08 58 36.7**	**+2.0**
PDG	**Podgorica**	**4.73**	**333**	↑↑P	**Pn**	**08 58 40.0**	**+2.7**
PDG	**Podgorica**	**4.73**	**333**	ePn	**Pn**	**08 58 39.6**	**+2.3**
MATE	**Matera**	**4.84**	**302**	↑↑P	**Pg**	**08 58 59.8**	**+1.3**
SG1	**Sgolgore (BA)**	**4.95**	**304**	ePn	**Pn**	**08 58 41.8**	**+1.5**
SG1				Sn	**Sn**	**08 59 38.1**	**+0.5**
BAI	**Bari**	**4.96**	**307**	ePn	**Pn**	**08 58 42.2**	**+1.8**
TREB	**Trebinje**	**5.33**	**329**	ePn	**Pn**	**08 58 46.2**	**+0.8**
BRY	**Bratogost**	**5.41**	**331**	ePn	**Pn**	**08 58 48.4**	**+1.8**
STON	**Ston**	**5.73**	**325**	ePn	**Pn**	**08 58 52.0**	**+1.1**
DIVS	**Divibare**	**6.08**	**345**	ePn	**Pn**	**08 58 57.3**	**+1.4**
HAPS	**Han Pijesak,Bl**	**6.32**	**339**	ePn	**Pn**	**08 58 58.6**	**-0.6**
MDVR	**Moldovita**	**6.56**	**357**	↓↓P	**Pn**	**08 59 05.1**	**+2.8**
GZR	**Gura Zlata**	**7.18**	**4**	↑↑P	**Pn**	**08 59 14.6**	**+3.7**
VOIR		**7.53**	**16**	↑↑P	**Pn**	**08 59 19.1**	**+3.4**
MLR	**Muntele Rosu**	**7.80**	**20**	↑↑P	**Pn**	**08 59 23.0**	**+3.5**
MLR	**Muntele Rosu**	**7.80**	**20**	Pn	**Pn**	**08 59 19.8**	**+0.4**
	comp=N,0.2nm,0.3s,baz=201,slow=8.6,SNR=2.1						
VRI	**Vrincioaia**	**8.37**	**23**	↑↑P	**Pn**	**08 59 30.7**	**+3.6**
CRES	**Cresnjev**	**9.06**	**329**	ePn	**Pn**	**08 59 37.3**	**+0.6**
BRTR	**Keskin Array B**	**9.10**	**77**	Pn	**Pn**	**08 59 39.3**	**+2.0**
	comp=N,0.6nm,0.3s,baz=258,slow=12,SNR=12						
CEY	**Cerknica**	**9.44**	**325**	ePn	**Pn**	**08 59 42.8**	**+1.0**
VYHS	**Vyhne**	**10.54**	**348**	esPN	**Pn**	**08 59 59.4**	**+2.5**
GERES	**GERESS Array B**	**12.23**	**333**	LR	LR	09 05 46.1	
	comp=N,79nm,21.7s,baz=73,slow=41						
ESDC	**Sonseca Array**	**20.32**	**282**	P	Pn	09 02 03.1	-1.0
	comp=N,5.1nm,0.7s,baz=75,slow=11,SNR=18						
HFS	**Hagfors**	**22.57**	**349**	P	**P**	**09 02 25.8**	**-0.2**
	comp=N,1.1nm,0.6s,baz=146,slow=9.0,SNR=5.0						
FINES	**FINESS Array B**	**23.37**	**5**	P	**P**	**09 02 33.8**	**-0.5**
	comp=N,0.8nm,0.5s,baz=178,slow=13,SNR=3.9						
NB2	**NORSAR Subarra**	**23.84**	**347**	P	**P**	**09 02 37.3**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=159,slow=10						
NOA	**NORSAR Array B**	**23.84**	**347**	P	**P**	**09 02 37.9**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=161,slow=10,SNR=4.9						
EKA	**Eskdalemuir Ar**	**24.13**	**323**	P	**P**	**09 02 41.9**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=127,slow=11,SNR=6.1						
TORD	**Torodi Ar. Bea**	**30.88**	**221**	P	**P**	**09 03 45.2**	**+2.7**
	comp=Z,0.8nm,0.6s,baz=28,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**44.20**	**59**	P	**P**	**09 05 34.3**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=277,slow=6.8,SNR=21						
ZALV	**Zalesovo Beam**	**44.72**	**48**	P	**P**	**09 05 37.9**	**-1.0**
	comp=Z,2.2nm,0.3s,baz=263,slow=8.1,SNR=7.2						
SONM	**Songino Array**	**59.45**	**51**	P	**P**	**09 07 27.6**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=283,slow=8.4,SNR=3.0						
YKA	**Yellowknife Ar**	**73.77**	**341**	P	**P**	**09 08 59.6**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=32,slow=5.2,SNR=5.5						
TXAR	**Lajitas Array**	**95.84**	**315**	P	**P**	**09 10 53.6**	**+0.7**
	comp=Z,0.2nm,0.8s,baz=66,slow=5.0,SNR=2.4						
ASAR	**Alice Springs**	**120.93**	**97**	PKP	**PKPdf**	**09 16 17.7**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=293,slow=2.0,SNR=3.7						

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*ISCJB **31** 09:03:26.6±1.0, 39.°63N±0.°05×29.°40E±0.°06, h0km, Error ellipse: s-maj=7.7km s-min=6.4km az=30.4*
*DDA **31** 09:03:26.4, 39.°61N×29.°37E, h7km±5km, ML2.5*
*ISK **31** 09:03:26.4, 39.°65N×29.°41E, h5km, ML2.0/5, Suspected Mining explosion.*

ISC 31 09:03:26.2±1.1, 39.°67N±0.°04×29.°50E±0.°04, h0km, n9, σ0°48/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.23**	**187**	PG	**Pg**	**09 03 31.1**	**+0.6**
ULDT	**Uludag**	**0.54**	**329**	IAML_P			
	comp=Z,694nm,0.1s						
ULDT				*i* P	**Pg**	**09 03 37.4**	**+0.7**
ULDT				*i* S	**Sb**	**09 03 47.0**	**-0.2**
GDZ	**Gediz**	**0.58**	**181**	IAML_P			
	comp=Z,926nm,0.1s						
GDZ				*i* P	**Pg**	**09 03 37.1**	**-0.3**
CAVI	**Cavuskoy**	**0.59**	**27**	PG	**Pb**	**09 03 38.9**	**-0.6**
CAVI				SG	**Sb**	**09 03 48.6**	**+0.2**
BORA	**Eskisehir**	**0.77**	**74**	PG	**Pb**	**09 03 42.8**	**+0.3**
BORA	**Eskisehir**	**0.77**	**74**	IAML_P			
	comp=Z,527nm,0.1s						
BORA				*i* P	**Pg**	**09 03 40.9**	**0.0**
BORA				*i* S	**Sn**	**09 03 56.0**	**-0.6**
SRCK	**Saricakaya, Es**	**0.94**	**67**	PG	**Pn**	**09 03 47.0**	**+0.3**
ARMT	**Armutlu**	**1.02**	**332**	PG	**Pb**	**09 03 46.4**	**-0.3**
KCTX	**Karacabey (Bur**	**1.06**	**304**	PG	**Pg**	**09 03 46.5**	**0.0**

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*IDC **31** 09:05:09.0±2.0, 19.°34S×179.°00W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/25, mbtmp3.9/3, Error ellipse: s-maj=166.2km s-min=33.0km az=157.0*
*ISCJB **31** 09:06:07.3±0.5, 21.°1S±0.°2×179.°45W±0.°08, h600km, mb4.4/12, Error ellipse: s-maj=21.8km s-min=8.0km az=166.9*
*NEIC **31** 09:06:08.4±1.7, 21.°15S×179.°31W, h609km±15km, mb4.6/11, Error ellipse: s-maj=33.8km s-min=18.6km az=166.0*

ISC 31 09:06:08.2±0.8, 21.°1S±0.°2×179.°35W±0.°10, h600km, n19, σ0°73/20, mb4.5/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**9.09**	**79**	*e*P	**P**	**09 08 19.0**	**+1.0**
NIUE				*e*S	**S**	**09 10 05.0**	**+0.6**
OUZ	**Omahuta**	**15.34**	**202**	*e*P	**P**	**09 09 20.4**	**+1.2**
	39nm,1.7s						
RAR	**Rarotonga**	**18.26**	**94**	*e*P	**P**	**09 09 45.0**	**-1.2**
	209nm,1.6s						
WHZ	**Wether Hill Ro**	**26.79**	**200**	*e*P	**P**	**09 11 01.6**	**-0.3**
	100nm,1.8s						
EIDS	**Eidsvold**	**27.46**	**255**	*e*P	**P**	**09 11 08.7**	**+0.6**
	45nm,1.6s						
CTAO	**Charters Tower**	**32.18**	**266**	*e*P	**P**	**09 11 49.5**	**+0.9**
	64nm,1.8s						
STKA	**Stephens Creek**	**36.38**	**245**	*e*P	**P**	**09 12 23.9**	**+0.5**
	4.3nm,1.6s						
STKA	**Stephens Creek**	**36.38**	**245**	P	**P**	**09 12 23.7**	**+0.3**
	1.0nm,0.4s,baz=80,slow=11,SNR=4.8						
BBOO	**Buckleboo**	**41.13**	**244**	*e*P	**P**	**09 13 01.4**	**-0.2**
	72nm,1.9s						
AS31	**Alice Springs**	**43.15**	**258**	*e*P	**P**	**09 13 17.5**	**-0.1**
	0.9nm,0.7s						
ASAR	**Alice Springs**	**43.15**	**258**	P	**P**	**09 13 17.4**	**-0.2**
	3.0nm,0.6s,baz=93,slow=7.9,SNR=45						
WB2	**Warramunga Arr**	**43.26**	**263**	*e*P	**P**	**09 13 17.9**	**-0.6**
	32nm,1.9s						
WRAB	**Tennant Creek**	**43.26**	**263**	*e*P	**P**	**09 13 17.7**	**-0.7**
	25nm,1.6s						
WR1	**Warramunga Arr**	**43.27**	**263**	*e*P	**P**	**09 13 17.9**	**-0.6**
WRA	**Warramunga Arr**	**43.27**	**263**	P	**P**	**09 13 17.9**	**-0.6**
	38nm,0.3s,baz=94,slow=7.4,SNR=1.6						
QSPA	**South Pole Qui**	**68.93**	**180**	*e*P	**P**	**09 16 13.2**	**-0.9**
	26nm,2.0s						
LTX	**Lajitas**	**88.46**	**58**	*e*P	**P**	**09 17 57.9**	**-0.2**
TXAR	**Lajitas Array**	**88.46**	**58**	P	**P**	**09 17 57.9**	**-0.2**
	0.3nm,0.8s,baz=205,slow=5.5,SNR=3.7						
CLL	**Collm**	**148.38**	**345**	*e*PKPbc	**PKPbc**	**09 24 47.0**	**-0.8**

HEL 31 09:08:14.9±0.6, 67.°66N×33.°86E, h0km, ML1.8, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.62**	**275**	PG	Pn	09 08 43.8	-0.9
	baz=93						
VRF				MSG		09 09 03.4	
	comp=Z,8.4nm,0.2s						
VRF				SN	Sn	09 09 05.7	-0.6
SGF	**Sodankyl**	**2.82**	**269**	PG	Pb	09 09 05.6	-0.5
SGF				SG	Sb	09 09 40.5	-0.7
RNF	**Rovaniemi**	**3.24**	**255**	PN	Pn	09 09 06.0	-0.9
KEV	**Kevo**	**3.27**	**313**	PN	Pn	09 09 07.1	-0.2
KEV				SG	Sb	09 09 55.1	+1.2
ARE0	**ARCESS Array S**	**3.59**	**305**	PN	Pn	09 09 10.9	-0.9
	baz=122						
ARE0				SN	Sn	09 09 54.1	-0.8
HEF	**Hetta**	**3.91**	**286**	SN	Sn	09 10 02.0	-0.5
TOF	**Tornio**	**4.08**	**252**	SG	Sb	09 10 21.0	+3.7
OUL	**Oulu**	**4.12**	**235**	SG	Sb	09 10 22.2	+3.9
LANU	**Lannavaara**	**4.51**	**280**	SN	Sn

SPITS	**Spitsbergen Ar**	**11.58 342**	Pn	**Pn**	**09 11 52.2**	**+0.6**
	baz=148,slow=14,SNR=7.6					
SPITS			Sn	**Sn**	**09 13 57.9**	**-3.4**
	baz=149,slow=32,SNR=6.1					
HFS	**Hagfors**	**11.71 239**	Pn	**Pn**	**09 11 51.1**	**-2.3**
	0.1nm,0.3s,baz=37,slow=9.8,SNR=2.1					
HFS			Sn	Sn	09 13 53.1	-12
	0.3nm,0.3s,baz=36,slow=29,SNR=2.1					
HFS			Lg	Lg	09 15 05.5	
	0.3nm,0.3s,baz=34,slow=33,SNR=1.7					
NB2	**NORSAR Subarra**	**11.88 246**	Pn	**Pn**	**09 11 53.9**	**-2.0**
NB2	**NORSAR Subarra**	**11.88 246**	Pn	**Pn**	**09 11 53.9**	**-2.0**
NOA	**NORSAR Array B**	**11.88 246**	Pn	**Pn**	**09 11 53.0**	**-2.8**
	0.0nm,0.3s,baz=40,slow=11,SNR=2.5					
NOA			Lg	Lg	09 15 14.5	
	0.0nm,0.3s,baz=87,slow=8.5,SNR=3.5					

*NEIC **31** 09:16:02.1±3.0, 33.°90N×85.°04E, h15km±6km, mb4.3/15, Error ellipse: s-maj=24.1km s-min=12.7km az=214.0*
*BJI **31** 09:16:04.5±0.0, 34.°18N×85.°04E, h19km, mb4.5/15, mB4.5/11, Ms4.1/14, Ms7 4.0/11*
*ISCJB **31** 09:16:06.9±0.3, 34.°37N±0.°03×84.°99E±0.°05, h33km, mb4.1/29, MS3.5/12, Error ellipse: s-maj=6.5km s-min=4.1km az=162.9*
*IDC **31** 09:16:09.5±4.8, 34.°43N×85.°01E, h34km±38km, mb3.6/18, mb1 3.8/21, mb1mx3.7/53, mbtmp3.8/21, ML3.3/3, MS3.5/16, Ms1 3.5/16, ms1mx3.4/35, Error ellipse: s-maj=24.4km s-min=15.0km az=36.0*

ISC 31 09:16:08.5±0.5, 34.°32N±0.°07×84.°95E±0.°06, h35km, n74, σ2=09/64, mb4.0/29, MS3.5/13, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.04**	**190**	*e*P	**Pn**	**09 17 36.4**	**+0.9**
	28nm,0.5s						
PYUN	**Piuthan**	**6.42**	**196**	*e*P	**Pn**	**09 17 39.7**	**-1.1**
	33nm,0.7s						
GUN	**Gumba**	**6.44**	**173**	*e*P	**Pn**	**09 17 43.6**	**+2.5**
	41nm,0.5s						
KKN	**Kakani**	**6.51**	**177**	*e*P	**Pn**	**09 17 44.0**	**+2.0**
	29nm,0.6s						
KOLN	**Koldanda**	**6.63**	**190**	*e*P	**Pn**	**09 17 44.1**	**+0.5**
	26nm,0.7s						
DMN	**Daman**	**6.69**	**179**	*e*P	**Pn**	**09 17 46.6**	**+2.1**
	13nm,0.5s						
JIRN	**Jiri**	**6.72**	**171**	*e*P	**Pn**	**09 17 48.1**	**+3.1**
	43nm,0.4s						
PKIN	**Phulchoki**	**6.73**	**177**	*e*P	**Pn**	**09 17 46.6**	**+1.6**
	39nm,0.6s						
PKI	**Pulchoki**	**6.74**	**177**	*e*P	**Pn**	**09 17 47.1**	**+1.9**
	26nm,0.5s						
LSA	**Lhasa**	**6.99**	**129**	*e*Pn	Pn	09 17 41.3	-7.5
ODAN	**Odare**	**7.72**	**164**	*e*P	**Pn**	**09 17 59.8**	**+1.1**
	26nm,0.5s						
TARG	**Taragay, Kyrgy**	**9.30**	**325**	*e*Pn	**Pn**	**09 18 21.5**	**+1.1**
WMQ	**Urumqi**	**9.73**	**12**	*e*P	**Pn**	**09 18 28.0**	**+2.1**
WMQ				sP		09 18 34.5	
WMQ				pmax	pmax		
	comp=Z,36nm,0.8s						
WMQ				LR	LR		
	comp=E,830nm,11.1s						
WMQ				LR	LR		
	comp=Z,1μm,15.7s						
NIL	**Nilore**	**9.74**	**269**	*e*Pn	**Pn**	**09 18 23.9**	**-2.2**
KDJ	**Kajisay**	**9.90**	**324**	*e*Pn	**Pn**	**09 18 28.9**	**+0.5**
AAK	**Ala-Archa**	**11.66**	**319**	Pn	**Pn**	**09 18 54.6**	**+2.1**
	0.3nm,0.3s,baz=143,slow=8.3,SNR=5.3						
AAK				Lg	Lg	09 22 16.3	
	0.1nm,0.3s,baz=87,slow=15,SNR=1.1						
AAK				LR	LR	09 23 47.1	
	comp=Z,185nm,22.0s,baz=126,slow=39						
MK31	**Makanchi Array**	**12.62**	**352**	*e*Pn	**Pn**	**09 19 06.4**	**+0.9**
MKAR	**Makanchi Array**	**12.62**	**352**	Pn	**Pn**	**09 19 04.8**	**-0.7**
	0.2nm,0.3s,baz=178,slow=13,SNR=25						
MKAR				Lg	Lg	09 22 51.0	
	0.0nm,0.3s,baz=162,slow=25,SNR=2.8						
MKAR				LR	LR	09 24 58.1	
	comp=Z,234nm,21.4s,baz=172,slow=42						
BTK	**Batken**	**12.64**	**301**	*e*Pn	**Pn**	**09 19 04.0**	**-1.8**
GAR	**Garm**	**12.64**	**296**	*e*Pn	**Pn**	**09 19 03.1**	**-2.8**
MAKZ	**Makanchi**	**12.68**	**351**	*e*Pn	**Pn**	**09 19 06.5**	**+0.3**
BRDH	**Bariadhala**	**13.00**	**151**	LR	LR	09 25 46.9	
	comp=Z,199nm,19.1s,baz=332,slow=44						
KBL	**Kabul**	**13.14**	**275**	*e*Pn	**Pn**	**09 19 08.4**	**-4.3**
CHGR	**Chuyangaron**	**13.42**	**293**	*e*Pn	**Pn**	**09 19 14.3**	**-2.2**
LZH	**Lanzhou**	**15.55**	**78**	*e*P	**Pn**	**09 19 44.0**	**-1.2**
LZH				pP	P	09 19 48.5	-0.6
LZH				sP	pP	09 19 52.0	-7.7
LZH				PP	**PnPn**	**09 19 56.8**	**+3.2**
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,95nm,4.9s						
LZH				LR	LR		
	comp=N,540nm,13.6s						
LZH				LR	LR		
	comp=E,260nm,11.4s						
LZH				LR	LR		
	comp=Z,630nm,13.4s						
CD2	**Chengdu**	**16.21**	**97**	*e*P	**Pn**	**09 19 48.8**	**-4.8**
CD2				pmax	pmax		
	comp=Z,40nm,0.4s						
CD2				LR	LR		
	comp=N,890nm,15.7s						
CD2				LR	LR		
	comp=E,890nm,11.6s						
CD2				LR	LR		
	comp=Z,800nm,11.0s						
KURBB	**Kurchatov Arra**	**16.96**	**346**	Pn	**P**	**09 20 04.3**	**-0.1**
	0.1nm,0.3s,baz=163,slow=11,SNR=22						
KURK	**Kurchatov**	**17.03**	**346**	*e*Pn	**P**	**09 20 05.3**	**+0.1**
	11nm,1.0s						
KMI	**Kunming**	**17.94**	**116**	P	**Pn**	**09 20 12.0**	**-3.4**
KMI				pP	P	09 20 15.5	-0.3
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
KMI				pmax	pmax		
	comp=Z,23nm,3.1s						
KMI				LR	LR		
	comp=E,310nm,13.7s						
KMI				LR	LR		
	comp=Z,320nm,9.0s						
ZAA0	**Zalesovo Array**	**19.63**	**360**	*e*P	**P**	**09 20 34.3**	**+0.5**
	14nm,1.4s						
ZALV	**Zalesovo Beam**	**19.63**	**360**	P	**P**	**09 20 34.3**	**+0.5**
	0.3nm,0.3s,baz=192,slow=10,SNR=12						
ZALV				LR	LR	09 29 16.1	
	comp=Z,158nm,18.5s,baz=54,slow=40						
XAN	**Xi'an**	**19.83**	**84**	P	**Pn**	**09 20 39.3**	**+1.3**
XAN				S	**S**	**09 24 11.0**	**-6.7**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
XAN				LR	LR		
	comp=N,220nm,7.8s						
XAN				LR	LR		
	comp=E,220nm,12.3s						
XAN				LR	LR		
	comp=Z,220nm,13.6s						
CMAR	**Chiang Mai Arr**	**20.13**	**138**	P	Pn	09 20 41.3	-0.3
	0.8nm,0.4s,baz=308,slow=11,SNR=7.6						
SONM	**Songino Array**	**20.97**	**43**	P	**P**	**09 20 49.2**	**+0.6**
	0.8nm,0.6s,baz=229,slow=10,SNR=4.4						
ENH	**Enshi**	**21.11**	**94**	*e*P	**P**	**09 20 45.4**	**-4.8**
	21nm,1.0s						
ULN	**Ulaanbaatar**	**21.37**	**44**	*e*P	**P**	**09 20 52.2**	**-0.6**
	3.9nm,0.8s						
BVAR	**Borovoye Array**	**21.39**	**335**	P	**P**	**09 20 52.3**	**-0.5**
	0.8nm,0.5s,baz=123,slow=10,SNR=4.5						
BRVK	**Borovoye**	**21.45**	**335**	*e*P	**P**	**09 20 53.1**	**-0.5**
	4.3nm,1.0s						
GEYT	**Alibeck**	**21.94**	**287**	P	**P**	**09 21 00.6**	**+1.6**
	1.5nm,0.4s,baz=138,slow=11,SNR=4.8						
GEYT				LR	LR	09 31 10.3	
	comp=Z,291nm,19.5s,baz=125,slow=41						
GYA0B	**ALIBECK ARRAY**	**21.94**	**287**	*e*P	**P**	**09 20 56.4**	**-2.6**
	22nm,1.5s						
HHC	**Hu-ho-hao-te**	**22.03**	**65**	*e*P	**P**	**09 20 59.3**	**-0.7**
HHC				pmax	pmax		
	comp=Z,53nm,0.7s						
HHC				pmax	pmax		
	comp=Z,200nm,4.3s						
HHC				LR	LR		
	comp=E,300nm,10.2s						
HHC				LR	LR		
	comp=Z,630nm,9.1s						
ABKAR	**Akbulak array**	**23.73**	**317**	*e*P	**P**	**09 21 17.9**	**+0.7**
	14nm,1.5s						
WHN	**Wuhan**	**25.06**	**90**	P	**P**	**09 21 35.5**	**+6.0**
AKTO	**Aktyubinsk**	**25.40**	**318**	P	**P**	**09 21 33.5**	**+1.1**
	2.5nm,0.6s,baz=115,slow=10,SNR=8.8						
WSAR	**Wadi Sarin**	**25.50**	**251**	LR	LR	09 34 10.6	
	comp=Z,103nm,18.5s,baz=90,slow=42						
PALK	**Pallekele**	**27.20**	**189**	LR	LR	09 32 13.9	
	comp=Z,104nm,21.5s,baz=296,slow=35						
KBZ	**Khabaz**	**33.69**	**299**	LR	LR	09 37 34.8	
	comp=Z,98nm,20.3s,baz=82,slow=38						
KSRS	**Korea Array**	**34.74**	**72**	LR	LR	09 38 22.2	
	comp=Z,64nm,21.1s,baz=150,slow=38						
NRIK	**Noril'sk**	**35.10**	**2**	LR	LR	09 39 03.7	
	comp=Z,76nm,19.3s,slow=39						
BR131	**Keskin Array S**	**40.87**	**293**	*e*P	**P**	**09 23 47.3**	**+0.1**
	2.0nm,1.0s						
BRTR	**Keskin Array B**	**40.87**	**293**	P	**P**	**09 23 47.9**	**+0.7**
	1.6nm,1.1s,baz=86,slow=7.6,SNR=4.6						
BRTR				LR	LR	09 44 31.8	
	comp=Z,35nm,20.9s,baz=86,slow=42						
AKASG	**Malin Array Be**	**43.16**	**310**	P	**P**	**09 24 05.8**	**+0.3**
	0.4nm,0.4s,baz=77,slow=7.6,SNR=3.1						
MLR	**Muntele Rosu**	**45.68**	**303**	P	**P**	**09 24 27.0**	**+1.1**
	2.2nm,0.6s,baz=224,slow=2.5,SNR=3.9						
FINES	**FINESS Array B**	**45.75**	**325**	P	**P**	**09 24 26.6**	**+0.5**
	1.5nm,0.8s,baz=117,slow=11,SNR=5.6						
ARCES	**ARCESS Array B**	**47.68**	**336**	P	**P**	**09 24 42.0**	**+0.9**
	1.1nm,0.6s,baz=83,slow=9.9,SNR=6.0						
PSZ	**Piszkesteto**	**49.45**	**307**	*e*P	**P**	**09 24 53.2**	**-1.9**
	3.2nm,0.9s						
LUWI	**Luwuk**	**49.94**	**127**	*e*P	P	09 24 52.5	-6.6
	59nm,0.4s						
VRAC	**Vranov**	**51.38**	**309**	LR	LR	09 49 43.9	
	comp=Z,94nm,20.7s,baz=82,slow=39						
HFS	**Hars**	**51.76**	**323**	LR	LR	09 47 48.8	
	comp=Z,20nm,19.3s,baz=72,slow=37						
NC405	**NORSAR Array S**	**52.66**	**324**	*e*P	**P**	**09 25 19.5**	**+0.5**
	6.9nm,0.8s						
NC303	**NORSAR Array S**	**52.82**	**324**	*e*P	**P**	**09 25 20.8**	**+0.7**
	11nm,1.1s						
NB201	**NORSAR Array S**	**52.87**	**324**	*e*P	**P**	**09 25 21.1**	**+0.6**
	17nm,1.4s						
NB2	**NORSAR Subarra**	**52.91**	**324**	P	**P**	**09 25 20.8**	**0.0**
	comp=Z,1.5nm,0.7s,baz=84,slow=7.4						
NOA	**NORSAR Array B**	**52.91**	**324**	P	**P**	**09 25 21.4**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=85,slow=7.3,SNR=13						
NOA				LR	LR	09 48 56.1	
	comp=Z,42nm,18.7s,baz=105,slow=37						
NC204	**NORSAR Array S**	**53.11**	**324**	*e*P	**P**	**09 25 22.3**	**+0.1**
	comp=Z,6.1nm,0.7s						
GERES	**GERESS Array B**	**53.34**	**309**	P	**P**	**09 25 25.1**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=115,slow=5.0,SNR=4.3						
GERES				LR	LR	09 52 09.6	
	comp=Z,76nm,18.8s,baz=86,slow=40						
KHC	**Kasperske Hory**	**53.36**	**309**	*e*P	**P**	**09 25 23.9**	**-0.3**
	comp=Z,0.9nm,0.7s						
DAVOX	**Davos/Dischmat**	**56.34**	**307**	LR	LR	09 52 09.3	
	comp=Z,85nm,20.1s,baz=85,slow=38						
KEST	**Kesra**	**60.42**	**295**	P	**P**	**09 26 15.7**	**+1.2**
	comp=Z,1.9nm,0.5s,baz=29,slow=6.4,SNR=3.1						
WRA	**Warramunga Arr**	**71.54**	**131**	P	**P**	**09 27 27.9**	**+1.8**
	comp=Z,2.0nm,1.1s,baz=305,slow=6.0,SNR=4.0						
ILAR	**Eielson Array**	**73.27**	**21**	P	**P**	**09 27 35.8**	**0.0**
	comp=Z,0.7nm,0.8s,baz=319,slow=4.4,SNR=6.3						
ASAR	**Alice Springs**	**74.08**	**134**	P	**P**	**09 27 42.0**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=318,slow=5.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**77.20**	**277**	P	**P**	**09 28 00.4**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=37,slow=6.0,SNR=2.9						
YKA	**Yellowknife Ar**	**82.25**	**9**	P	**P**	**09 28 25.6**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=349,slow=4.7,SNR=4.3						

ATH 31 09:23:28.1, 38.°23N×22.°11E, h12km±3km, ML1.6/4, Error ellipse: s-maj=3.3km s-min=0.8km az=271.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.10**	**278**	P	Pg	09 23 31.1	+0.1
LAKA				S	Sg	09 23 32.8	-0.2
LAKA				AML	AML	09 23 33.4	
	comp=N,920μm,0.2s						
LAKA				AML	AML	09 23 33.5	
	comp=E,820μm,0.3s						
TRIZ	**Trizonia**	**0.14**	**349**	P	Pg	09 23 31.5	0.0
TRIZ				S	Sg	09 23 33.9	-0.1
KALE	**Kalithea**	**0.17**	**9**	P	Pg	09 23 31.9	-0.1
KALE				S	Sg	09 23 34.9	+0.2
KALE				AML	AML	09 23 35.3	
	comp=E,662μm,0.2s						
KALE				AML	AML	09 23 35.5	
	comp=N,932μm,0.3s						
KLV	**Kalavryta, Ach**	**0.18**	**169**	P	Pg	09 23 32.1	-0.1
KLV				S	Sg	09 23 35.2	+0.1
KLV				AML	AML	09 23 35.8	
	comp=N,254μm,0.2s						
KLV				AML	AML	09 23 36.6	
	comp=E,262μm,0.1s						
SERG	**Sergoula**	**0.19**	**348**	P	Pg	09 23 32.4	0.0
SERG				S	Sg	09 23 35.3	+0.1
SERG				AML	AML	09 23 37.8	
	comp=E,550μm,0.2s						
SERG				AML	AML	09 23 37.9	
	comp=N,739μm,0.2s						
EFP	**Efpalio**	**0.26**	**322**	P	Pg	09 23 33.5	0.0
GUR	**Goura**	**0.34**	**147**	P	Pg	09 23 34.9	-0.2
GUR				S	Sg	09 23 40.3	+0.6
DSF	**Desfina**	**0.38**	**61**	P	Pg	09 23 35.4	-0.3
ANX	**Ano Chora**	**0.40**	**338**	P	Pg	09 23 35.8	-0.2
DRO	**Drossia**	**0.41**	**229**	P	Pg	09 23 36.3	0.0

ROM 31 09:25:59.1±0.1, 42.°465N±0.°003×13.°272E±0.°004, h15km, ML1.5/3, Error ellipse: s-maj=0.3km s-min=0.0km az=218.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.12**	**55**	P	Pb	09 26 03.1	-0.1
CAMP				S	Sg	09 26 05.6	+0.4
LNSS	**Leonessa**	**0.22**	**309**	P	Pg	09 26 04.4	+0.3
LNSS				S	Sb	09 26 08.2	-0.6
LNSS				AML	AML		
	comp=E,210μm,0.4s						
LNSS				AML	AML		
	comp=N,197μm,0.6s						
LNSS				AML	AML		
	comp=N,197μm,0.6s						
LNSS				AML	AML		
	comp=E,210μm,0.4s						
LNSS	**Leonessa**	**0.22**	**309**	P	Pg	09 26 04.4	+0.3
LNSS	**Leonessa**	**0.22**	**309**	S	Sb	09 26 08.3	-0.4
FIAM	**Fiamignano**	**0.23**	**210**	P	Pg	09 26 03.4	-0.9
FIAM	**Fiamignano**	**0.23**	**210**	P	Pg	09 26 03.6	-0.6
FIAM	**Fiamignano**	**0.23**	**210**	P	Pg	09 26 04.5	+0.3
FIAM				S	Sb	09 26 08.4	-0.5
TERO	**Teramo**	**0.29**	**57**	P	Pg	09 26 05.4	+0.2
TERO				S	Sb	09 26 10.2	-0.5
TERO				AML	AML		
	comp=E,35μm,0.4s						
TERO				AML	AML		
	comp=N,38μm,1.3s						
TERO				AML	AML		
	comp=E,35μm,0.4s						
TERO				AML	AML		
	comp=N,38μm,1.3s						
TERO	**Teramo**	**0.29**	**57**	P	Pg	09 26 05.5	+0.2
TERO	**Teramo**	**0.29**	**57**	S	Sb	09 26 10.2	-0.5
NRCA	**Norcia**	**0.39**	**343**	P	Pg	09 26 07.2	+0.2
NRCA	**Norcia**	**0.39**	**343**	P	Pg	09 26 07.2	+0.2
NRCA				S	Sb	09 26 13.0	-0.5
NRCA				AML	AML		
	comp=E,182μm,1.2s						
NRCA				AML	AML		
	comp=N,150μm,0.1s						
NRCA				AML	AML		
	comp=N,150μm,0.1s						
NRCA				AML	AML		
	comp=E,182μm,1.2s						
NRCA	**Norcia**	**0.39**	**343**	S	Sb	09 26 13.2	-0.3
ARRO	**Arrone**	**0.39**	**287**	P	Pg	09 26 07.2	+0.2
ARRO				S	Sb	09 26 13.2	-0.3
ARRO	**Arrone**	**0.39**	**287**	P	Pg	09 26 07.2	+0.2

PGC 31 09:31:29.8±0.0, 61.°37N×140.°96W, h1km, ML2.1/10, 196km west of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK2	**White River**	**0.42**	**7**	P	Pg	09 31 37.5	-0.4
YUK2				S	Sg	09 31 44.0	+0.6
CTGM	**Chitina Glacie**	**0.44**	**204**	P	Pg	09 31 37.3	-0.9
CTGM				S	Sg	09 31 43.6	-0.4
YUK3	**Moose Creek**	**0.47**	**30**	P	Pg	09 31 38.3	-0.6
YUK3				S	Sg	09 31 45.5	+0.5
BALM	**Baldy**	**0.75**	**244**	P	Pg	09 31 42.9	-1.2
BALM				S	Sg	09 31 54.0	+0.2
KIAG	**Kiagna River**	**0.81**	**237**	P	Pg	09 31 44.0	-1.4
KIAG				S	Sg	09 31 55.4	-0.5
BVCY	**Beaver Creek**	**1.05**	**2**	P	Pg	09 31 48.8	-1.1
BVCY				S	Sg	09 32 04.1	+0.5
RKAV	**Rock Avalanche**	**1.09**	**190**	P	Pg	09 31 48.8	-1.8
RKAV				S	Sg	09 32 03.6	-1.1
YUK4	**Talbot Arm**	**1.11**	**90**	P	Pg	09 31 50.1	-1.0
YUK4				S	Sg	09 32 05.4	-0.2
SAMH	**Samovar Hills**	**1.25**	**176**	Pn	Pg	09 31 52.0	-1.6
SAMH				Sn	Sg	09 32 09.2	-0.5
MESA	**MESA**	**1.29**	**203**	Pn	Pg	09 31 53.4	-1.1
MESA				Sn	Sg	09 32 11.3	+0.1
PCA	**Pinnacle**	**1.32**	**165**	Pn	Pg	09 31 53.3	-1.8
PCA				Sn	Sg	09 32 11.0	-1.2
YUK6	**Outpost Mounta**	**1.33**	**108**	Pn	Pg	09 31 52.8	-2.4
YUK6				Sn	Sg	09 32 10.5	-1.9
YUK5	**Granite Creek**	**1.52**	**98**	Pn	Pn	09 31 56.1	-2.1
YUK5				Sn	Sg	09 32 15.7	-2.8
YUK7	**Dusty Glacier**	**1.61**	**120**	Pn	Pn	09 31 58.2	-1.4
YUK7				Sn	Sn	09 32 19.3	-1.7
YUK7				Sg	Sg	09 32 22.1	+0.6
HYT	**Haines Junctio**	**1.76**	**106**	Pn	Pn	09 32 00.2	-1.4
HYT				Sn	Sn	09 32 24.5	-0.2
PNL	**Peninsula**	**1.87**	**155**	Pn	Pn	09 32 02.4	-0.5
PNL				Sg	Sb	09 32 29.1	+0.5
DIV	**Divide**	**2.34**	**266**	Pg	Pn	09 32 10.9	+1.5
DIV				Sg	Sb	09 32 43.2	+1.0
DOT	**Dot Lake**	**2.71**	**329**	Pn	Pn	09 32 13.5	-0.9
DOT				Sg	Sb	09 32 54.2	+1.6
DAWY	**Dawson**	**2.80**	**14**	Pn	Pn	09 32 15.2	-0.6
DAWY				Sn	Sn	09 32 50.5	+0.3
DAWY				Sg	Sb	09 32 56.4	+1.0
WHY	**Whitehorse**	**3.04**	**101**	Pg	Pb	09 32 24.1	-0.7
WHY				Sg	Sb	09 33 04.7	+2.3

*IDC **31** 09:37:31.6±1.4, 7.°09S×128.°45E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/29, mbtmp4.0/6, ML4.1/2, MS3.3/2, Ms1 3.4/2, ms1mx2.7/26, Error ellipse: s-maj=107.4km s-min=28.4km az=69.0*
*ISCJB **31** 09:37:44.4±0.4, 7.°57S±0.°04×128.°75E±0.°05, h150km, Error ellipse: s-maj=7.5km s-min=5.4km az=152.3*
*NEIC **31** 09:37:46.4±0.9, 7.°51S×128.°89E, h158km±10km, mb4.4/4, Error ellipse: s-maj=13.7km s-min=9.9km az=82.0*

ISC 31 09:37:45.4±0.7, 7.°59S±0.°06×128.°81E±0.°06, h150km, n23, σ2=45/31, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.49**	**99**	*e*Pn	**Pn**	**09 38 26.6**	**+0.1**
SAUI				*e*Sn	**Sn**	**09 38 59.9**	**+1.8**
SOEI	**Soe**	**4.98**	**244**	*e*Pn	**Pn**	**09 39 00.5**	**+1.8**
SOEI				*e*Sn	**Sn**	**09 39 53.2**	**-2.6**
MTN	**Manton Dam**	**5.70**	**157**	*e*Pn	**Pn**	**09 39 11.5**	**+3.4**
MTN				*e*Sn	**Sn**	**09 40 14.4**	**+1.7**
FAKI	**Fak Fak**	**5.76**	**37**	*e*Pn	**Pn**	**09 39 09.8**	**+0.8**
FAKI				*e*Sn	**Sn**	**09 40 10.8**	**-3.6**
WRAB	**Tennant Creek**	**13.39**	**157**	*e*Pn	**Pn**	**09 40 50.6**	**+1.0**
WRAB				*e*Sn	**Sn**	**09 43 13.8**	**-4.2**
WR1	**Warramunga Arr**	**13.40**	**157**	*e*Pn	**Pn**	**09 40 50.8**	**+1.1**
WR1				*e*Sn	**Sn**	**09 43 12.6**	**-5.5**
WRA	**Warramunga Arr**	**13.40**	**157**	Pn	**Pn**	**09 40 50.8**	**+1.1**
	0.7nm,0.3s,baz=336,slow=13,SNR=4.3						
WRA				Sn	**Sn**	**09 43 12.6**	**-5.5**
	1.5nm,0.3s,baz=329,slow=24,SNR=8.7						
WB2	**Warramunga Arr**	**13.40**	**157**	*e*Pn	**Pn**	**09 40 50.2**	**+0.4**
WB2				*e*Sn	**Sn**	**09 43 14.2**	**-4.0**
AS31	**Alice Springs**	**16.71**	**164**	*e*P	**Pn**	**09 41 32.5**	**+1.6**
	1.8nm,0.6s						
AS31				*e*S	**Sn**	**09 44 38.4**	**+0.7**
ASAR	**Alice Springs**	**16.71**	**164**	P	**Pn**	**09 41 35.4**	**+4.4**
	0.9nm,0.3s,baz=339,slow=11,SNR=100						
ASAR				S	**S**	**09 44 36.5**	**-0.4**
	0.6nm,0.3s,baz=346,slow=26,SNR=10						
PMG	**Port Moresby**	**18.23**	**97**	*e*P	**P**	**09 41 46.2**	**-1.2**
	29nm,1.0s						
CMAR	**Chiang Mai Arr**	**39.22**	**312**	LR	LR	10 02 32.6	
	comp=Z,41nm,18.6s,baz=21,slow=39						
USRK	**Ussuriysk Ar.**	**51.63**	**3**	LR	LR	10 07 48.2	
	comp=Z,26nm,21.6s,baz=165,slow=36						
SONA0	**Songino Array**	**58.64**	**342**	*e*P	**P**	**09 47 27.9**	**+1.0**
SONM	**Songino Array**	**58.64**	**342**	P	**P**	**09 47 27.9**	**+1.0**
	0.6nm,0.6s,baz=163,slow=5.4,SNR=3.0						
MK32	**Makanchi Array**	**68.08**	**327**	*e*P	**P**	**09 48 29.7**	**+0.8**
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**09 48 29.7**	**+0.8**
	0.7nm,0.5s,baz=114,slow=7.1,SNR=5.0						
ZALV	**Zalesovo Beam**	**71.60**	**334**	P	**P**	**09 48 50.0**	**-0.2**
	0.6nm,0.4s,baz=117,slow=5.0,SNR=3.3						
ZAA1	**Zalesovo Array**	**71.60**	**334**	*e*P	**P**	**09 48 50.0**	**-0.2**
VNDA	**Vanda**	**72.01**	**173**	*e*P	**P**	**09 48 52.8**	**+0.5**
	19nm,2.0s						
KURBB	**Kurchatov Arra**	**72.40**	**329**	P	**P**	**09 48 55.6**	**+0.6**
	0.5nm,0.5s,baz=129,slow=5.2,SNR=6.0						
KURK	**Kurchatov**	**72.41**	**329**	*e*P	**P**	**09 48 56.0**	**+0.9**
	14nm,1.8s						
RSO	**Redoubt South**	**90.89**	**29**	*e*P	**P**	**09 50 31.7**	**-0.4**

**NNC 31 09:42:39.8±0.7, 51.°52N×75.°65E, h0km, mb3.5, mpv3.1, 6C-2D, Error ellipse: s-maj=10.6km s-min=4.6km az=25.0, Suspected Mining explosion.,

IRIF	**Iriomote-Funau**	**0.68 149**	P	Pb	09 43 59.8	-0.2
IRIF			S	Sb	09 44 08.9	-0.1
JKRS	**Kuro-shima**	**0.91 138**	P	Pb	09 44 03.9	0.0
JKRS			S	Sb	09 44 15.5	-0.1
JIJ	**Ishigaki jima**	**0.91 127**	P	Pb	09 44 03.5	-0.5
JIJ			*e*S	Sb	09 44 14.9	-0.8
JISG	**Ishigakijimahi**	**0.93 111**	P	Pb	09 44 04.1	-0.3
JISG			S	Sb	09 44 16.0	-0.4
HATJ	**Hateruma jima**	**0.95 154**	P	Pb	09 44 04.5	-0.3
HATJ			*e*S	Sb	09 44 16.4	-0.5

*ISCJB **31** 09:44:24.6±1.4, 67°.77N±0°.05×34°.4E±0°.2, h0km, Error ellipse: s-maj=10.8km s-min=7.2km az=23.4*
*KOLA **31** 09:44:27.9, 67°.66N×34°.24E, h0km*
*IDC **31** 09:44:30.7±1.8, 67°.78N×33°.72E, h0km, mb1 3.2/5, mb1mx3.0/41, mbtmp3.2/5, ML2.7/5, Error ellipse: s-maj=20.5km s-min=9.2km az=82.0*

ISC 31 09:44:25.4±1.8, 67°.79N±0°.04×34°.1E±0°.1, h0km, n12, σ2§31/22, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.34 230**		P	**Pb**	**09 44 33.9**	**-0.5**
APA				S	**Sb**	**09 44 38.2**	**-2.1**
APA0	**Apatity Array**	**0.46 247**		P	**Pb**	**09 44 36.5**	**+0.2**
APA0				S	**Sb**	**09 44 42.8**	**-0.8**
KEV	**Kevo**	**3.25 311**		*e*P	**Pb**	**09 45 21.9**	**-1.9**
KEV				*e*S	**Sb**	**09 46 01.9**	**-1.9**
ARCES	**ARCESS Array B**	**3.59 303**		Pn	**Pn**	**09 45 26.0**	**+3.7**
	1.8nm,0.3s,baz=121,slow=14,SNR=122						
ARCES				Pg	**Pg**	**09 45 33.7**	**-0.5**
	2.0nm,0.3s,baz=115,slow=17,SNR=9.2						
ARCES				Sn	**Sn**	**09 46 06.1**	**+0.7**
	2.6nm,0.3s,baz=120,slow=24,SNR=17						
ARCES				Lg	Lg	09 46 19.0	
	5.3nm,0.3s,baz=118,slow=25,SNR=7.1						
ARCES				Rg	Rg	09 46 37.7	
	4.0nm,0.4s,baz=114,slow=29,SNR=1.9						
ARE0	**ARCESS Array S**	**3.59 303**		*e*P	**Pn**	**09 45 26.0**	**+3.7**
ARE0				*e*S	**Sn**	**09 46 08.9**	**+3.5**
HEF	**Hetta**	**3.96 284**		*e*P	**Pn**	**09 45 30.1**	**+2.9**
HEF				*e*S	**Sn**	**09 46 16.2**	**+1.8**
KTK1	**Kautokeino**	**4.20 292**		*e*P	**Pn**	**09 45 33.8**	**+3.2**
KTK1				IAML		09 46 39.1	
	comp=Z,22nm,0.4s						
KIF	**Kilpisjarvi**	**5.06 290**		*e*P	**Pn**	**09 45 44.6**	**+2.2**
KIF				*e*S	**Sn**	**09 46 39.9**	**-1.5**
FINES	**FINESS Array B**	**7.23 212**		Pn	**Pn**	**09 46 13.7**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=27,slow=12,SNR=5.4						
FINES				Sn	**Sn**	**09 47 34.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=28,slow=24,SNR=4.2						
FINES				Lg	Lg	09 48 05.4	
	comp=Z,0.6nm,0.3s,baz=28,slow=25,SNR=7.2						
SPITS	**Spitsbergen Ar**	**11.56 342**		Pn	**Pn**	**09 47 12.3**	**+0.8**
	baz=146,slow=16,SNR=5.5						
SPITS				Sn	**Sn**	**09 49 17.2**	**-3.8**
	baz=140,slow=23,SNR=2.5						
HFS	**Hagfors**	**11.74 239**		Pn	**Pn**	**09 47 12.7**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=45,slow=16,SNR=2.8						
NOA	**NORSAR Array B**	**11.91 246**		Pn	**Pn**	**09 47 16.0**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=45,slow=11,SNR=1.8						

*ISK **31** 09:58:41.9, 39°.52N×28°.13E, h1km, ML2.1/5*
*DDA **31** 09:58:42.9, 39°.38N×28°.11E, h7km±4km, ML2.6*
*ISCJB **31** 09:58:43.4±0.6, 39°.47N±0°.05×28°.13E±0°.04, h10km, Error ellipse: s-maj=6.7km s-min=4.4km az=1.4*

ISC 31 09:58:43.0±0.8, 39°.45N±0°.04×28°.15E±0°.03, h10km, n13, σ1§25/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.28 312**		PG	**Pg**	**09 58 47.8**	**-0.9**
DURS	**Dursunbey**	**0.29 59**		IAML_P			
	comp=Z,3μm,0.4s						
DURS				*i* P	**Pg**	**09 58 47.8**	**-1.1**
DURS				*i* S	**Sb**	**09 58 56.9**	**+1.6**
STEP	**BALIKESIR_Sava**	**0.34 257**		IAML_P			
	comp=Z,5μm,0.4s						
STEP				*i* P	**Pg**	**09 58 49.2**	**-0.6**
STEP				*i* S	**Sb**	**09 58 58.1**	**+1.4**
AKHS	**Akhisar**	**0.63 205**		*i* P	**Pg**	**09 58 54.3**	**-0.9**
KCTX	**Karacabey (Bur**	**0.83 11**		PG	**Pg**	**09 58 57.2**	**-1.8**
ZEDA	**zmir-Bergama**	**0.96 240**		IAML_P			
	comp=Z,2μm,0.4s						
ZEDA				*i* P	**Pn**	**09 59 02.0**	**-0.6**
ZEDA				*i* S	**Sn**	**09 59 17.3**	**+0.9**
MANT	**Manisa**	**1.01 162**		IAML_P			
	comp=Z,2μm,0.5s						
MANT				*i* P	**Pb**	**09 59 02.3**	**-0.5**
MANT				*i* S	**Sg**	**09 59 15.2**	**-0.4**
TVSB	**Tavsanli**	**1.01 90**		PG	**Pg**	**09 59 01.9**	**-0.6**
TVSB				SG	**Sn**	**09 59 18.4**	**+0.6**
ULDT	**Uludag**	**1.02 47**		IAML_P			
	comp=Z,2μm,0.4s						
ULDT				*i* P	**Pn**	**09 59 03.9**	**+0.3**
ULDT				*i* S	**Sn**	**09 59 20.6**	**+2.4**
GDZ	**Gediz**	**1.09 109**		IAML_P			
	comp=Z,3μm,0.3s						
GDZ				*i* P	**Pn**	**09 59 04.5**	**-0.1**
GDZ				*i* S	**Sn**	**09 59 20.6**	**+0.8**
ARMT	**Armutlu**	**1.24 26**		PN	**Pn**	**09 59 05.5**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**1.27 284**		*i* P	**Pn**	**09 59 06.1**	**-0.8**
BAYC				*i* S	**Sn**	**09 59 26.6**	**+2.6**
EZN	**Ezine**	**1.46 285**		PN	**Pb**	**09 59 09.8**	**-0.4**

IDC 31 10:03:56.9±1.8, 0°.72N×127°.08E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/39, mbtmp3.6/4, Error ellipse: s-maj=177.3km s-min=21.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74 161**		P	P	10 08 49.2	-0.9
	1.1nm,0.7s,baz=340,slow=13,SNR=5.4						
ASAR	**Alice Springs**	**25.14 165**		P	P	10 09 24.5	+0.6
	0.6nm,0.6s,baz=345,slow=8.3,SNR=11						
MKAR	**Makanchi Array**	**60.22 326**		P	P	10 14 06.6	-0.3
	0.3nm,0.7s,baz=123,slow=5.3,SNR=2.3						
KURBB	**Kurchatov Arra**	**64.45 328**		P	P	10 14 35.4	+0.2
	0.5nm,0.2s,baz=125,slow=6.3,SNR=4.6						

*KRAR **31** 10:07:43.9±0.2, 53°.32N×87°.45E, M2.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*IDC **31** 10:07:55.4±2.7, 53°.52N×87°.68E, h0km, mb1 3.4/2, mb1mx3.0/42, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=22.6km s-min=14.0km az=60.0*

NNC 31 10:07:55.9±1.9, 53°.48N×87°.55E, h0km, mb3.0, mpv2.8, 7C-4D, Error ellipse: s-maj=15.0km s-min=6.8km az=59.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.69 287**		*i*		10 19 20.0	
	baz=102,slow=336,SNR=2.6						
ZAA0	**Zalesovo Array**	**1.69 287**		⇑P	Pn	10 08 26.0	-0.7
	0.9nm,0.4s						
ZAA0				⇑S	Sb	10 08 49.5	-0.2
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**1.69 287**		Pg	Pn	10 08 26.5	-0.2
	5.4nm,0.3s,baz=105,slow=15,SNR=38						
ZALV				Lg	Lg	10 08 51.3	
	6.6nm,0.3s,baz=100,slow=26,SNR=16						
KURK	**Kurchatov**	**6.16 247**		⇓Lg	Lg	10 11 15.0	
	8.7nm,1.1s						
KURBB	**Kurchatov Arra**	**6.26 246**		⇑Pn	Pn	10 09 30.4	+1.1
	1.7nm,0.3s						
KURBB				⇑Sn	Sn	10 10 41.1	-0.4
	3.4nm,0.7s						
KURBB				⇑Lg	Lg	10 11 15.1	
	11nm,1.1s						
KURBB	**Kurchatov Arra**	**6.26 246**		Pn	Pn	10 09 30.9	+1.5
	0.4nm,0.3s,baz=60,slow=14,SNR=9.2						
KURBB				Sn	Sn	10 10 42.5	+1.1
	baz=57,slow=24,SNR=3.1						
KURBB				Lg	Lg	10 11 15.2	
	0.1nm,0.3s,baz=65,slow=33,SNR=4.9						
MK31	**Makanchi Array**	**7.49 209**		⇑Pn	Pn	10 09 47.7	+1.4
	0.1nm,0.3s,baz=30,slow=13,SNR=11						
MK31				⇓Sn	Sn	10 11 13.7	+1.7
	0.9nm,0.8s						
MK31				⇓Lg	Lg	10 11 51.3	
	1.2nm,0.6s,baz=33,slow=28,SNR=5.2						
MKAR	**Makanchi Array**	**7.49 209**		Pn	Pn	10 09 48.2	+1.9
	0.3nm,0.3s,baz=31,slow=14,SNR=12						
MKAR				Sn	Sn	10 11 13.1	+1.1
	0.2nm,0.3s,baz=29,slow=27,SNR=5.4						
MKAR				Lg	Lg	10 11 53.1	
	0.1nm,0.3s,baz=31,slow=28,SNR=4.3						
MAKZ	**Makanchi**	**7.57 210**		⇓Sn	Sn	10 11 15.0	+1.1
	1.1nm,0.6s						
MAKZ				⇑Lg	Lg	10 11 54.8	
	4.8nm,1.4s						

*IDC **31** 10:14:39.2±2.8, 14°.13N×91°.57W, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.6/45, mbtmp3.6/7, ML3.5/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/28, Error ellipse: s-maj=121.4km s-min=17.9km az=37.0*
*ISCJB **31** 10:14:42.2±1.1, 13°.91N±0°.09×91°.98W±0°.07, h35km±12km, mb3.6/4, MS3.5/2, Error ellipse: s-maj=17.8km s-min=4.6km az=37.0*
*MEX **31** 10:14:43.4±0.5, 13°.89N×91°.93W, h58km±17km, MD3.8*
*SNET **31** 10:14:44.2±1.2, 13°.79N×91°.83W, h35km±514km, ML3.8*
*UCR **31** 10:14:44.3±2.0, 13°.79N×91°.77W, h21km±27km, MD3.4, ML3.6*

ISC 31 10:14:42.7±2.5, 13°.90N±0°.10×91°.95W±0°.07, h28km±18km, n37, σ1§05/43, mb3.5/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.05 343**		*e*P	**Pn**	**10 15 00.9**	**-0.7**
THIG				*e*S	**Sn**	**10 15 14.1**	**-1.2**
FUG	**Fuego 3**	**1.21 63**		*e*P	**Pn**	**10 15 04.9**	**+0.9**
PCG	**Pacaya**	**1.40 69**		*e*P	**Pn**	**10 15 07.8**	**+1.2**
NBG	**Las Nubes**	**1.70 66**		*e*P	**Pb**	**10 15 13.5**	**0.0**
PCIG		**2.17 326**		*i* P	**Pn**	**10 15 16.1**	**-0.9**
PCIG				*e*S	**Sn**	**10 15 42.3**	**-0.8**
RTR	**El Retiro**	**2.24 90**		*e*P	**Pn**	**10 15 17.9**	**-0.2**
RTR	**El Retiro**	**2.24 90**		*e*P	**Pn**	**10 15 17.9**	**-0.2**
CEVE	**Cerro Verde**	**2.26 91**		*e*P	**Pn**	**10 15 19.2**	**+0.7**
CEVE				*e*S	**Sn**	**10 15 46.0**	**+0.3**
CEVE				IAML		10 16 00.5	
	comp=Z,806nm,0.4s						
CEVE	**Cerro Verde**	**2.26 91**		*e*P	**Pn**	**10 15 19.2**	**+0.7**
CEVE				*e*S	**Sn**	**10 15 46.0**	**+0.3**
CEVE				IAML		10 16 00.5	
	comp=Z,806nm,0.4s						
SBLS	**San Blas**	**2.27 91**		*e*P	**Pn**	**10 15 18.0**	**-0.6**
SBLS	**San Blas**	**2.27 91**		*e*P	**Pn**	**10 15 18.0**	**-0.6**
SNJE	**San Jose**	**2.28 90**		*e*P	**Pn**	**10 15 18.6**	**-0.1**
SNJE	**San Jose**	**2.28 90**		*e*P	**Pn**	**10 15 18.6**	**-0.1**
CCIG	**Comitan**	**2.38 356**		*i* P	**Pn**	**10 15 19.1**	**-1.0**
CCIG				*i* S	**Sn**	**10 15 47.2**	**-1.2**
MTO3	**Montecristo**	**2.56 78**		*e*P	**Pn**	**10 15 22.9**	**+0.2**
MTO3	**Montecristo**	**2.56 78**		*e*P	**Pn**	**10 15 22.9**	**+0.2**
UEES	**San Salvador**	**2.64 93**		*e*P	**Pn**	**10 15 23.7**	**+0.1**
UEES				IAML		10 16 02.6	
	comp=Z,370nm,0.3s						
UEES	**San Salvador**	**2.64 93**		*e*P	**Pn**	**10 15 23.7**	**+0.1**
UEES				IAML		10 16 02.6	
	comp=Z,370nm,0.3s						
SNET	**Serv Nac Est T**	**2.65 94**		IAML		10 16 04.4	
	comp=Z,327nm,0.3s						
SNET	**Serv Nac Est T**	**2.65 94**		IAML		10 16 04.4	
	comp=Z,327nm,0.3s						
LFU	**La Fuente**	**2.76 93**		*e*P	**Pn**	**10 15 24.6**	**-0.6**
LFU	**La Fuente**	**2.76 93**		*e*P	**Pn**	**10 15 24.6**	**-0.6**
LFRS	**El Faro**	**2.82 95**		*e*P	**Pn**	**10 15 26.3**	**+0.2**
LFRS				*e*S	**Sn**	**10 15 57.6**	**-1.7**
TGIG		**3.08 339**		*i* P	**Pn**	**10 15 28.9**	**-0.7**
TGIG				*e*S	**Sn**	**10 16 03.8**	**-1.7**
LCND	**La Caada**	**3.99 98**		*e*P	**Pn**	**10 15 41.2**	**-0.9**
LCND	**La Caada**	**3.99 98**		*e*P	**Pn**	**10 15 41.2**	**-0.9**
CMIG	**Matias Romero**	**4.25 319**		*i* P	**Pn**	**10 15 45.0**	**-0.6**
CMIG				*i* S	**Sn**	**10 16 33.3**	**-1.0**
CMIG	**Matias Romero**	**4.25 319**		Pn	**Pn**	**10 15 45.0**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=149,slow=15,SNR=20						
CMIG				Sn	**Sn**	**10 16 36.7**	**+2.3**
	comp=Z,7.3nm,0.3s,baz=102,slow=12,SNR=5.7						
JTS	**Las Juntas de**	**7.73 117**		Pn	**Pn**	**10 16 31.1**	**-2.3**
	baz=240,slow=20,SNR=1.4						
JTS				Sn	**Sn**	**10 17 58.1**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=255,slow=13,SNR=2.4						
JTS				Lg	Lg	10 18 36.1	
	comp=Z,0.2nm,0.3s,baz=274,slow=6.1,SNR=4.4						
TXAR	**Lajitas Array**	**18.81 327**		P	**Pn**	**10 19 02.1**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=154,slow=12,SNR=11						
ANMO	**Albuquerque**	**24.71 331**		P	**P**	**10 20 03.1**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=151,slow=12,SNR=8.4						
NNA	**Nana**	**29.76 149**		LR	LR	10 31 15.9	
	comp=Z,35nm,20.3s,baz=216,slow=34						
NVAR	**Mina Array Bea**	**33.78 321**		P	**P**	**10 21 24.3**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=136,slow=8.8,SNR=5.8						
YKA	**Yellowknife Ar**	**51.14 347**		P	**P**	**10 23 41.8**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=149,slow=7.8,SNR=6.4						
ILAR	**Eielson Array**	**62.95 337**		P	**P**	**10 25 06.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=126,slow=5.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**90.36 76**		LR	LR	11 04 28.7	
	comp=Z,55nm,21.4s,baz=20,slow=33						
CMAR	**Chiang Mai Arr**	**146.10 341**		PKPbc	**PKPbc**	**10 34 20.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=335,slow=3.4,SNR=4.7						

*ISCJB **31** 10:19:25.6±0.2, 0°.84N±0°.05×25°.69W±0°.04, h10km, mb4.7/132, MS4.3/47, Error ellipse: s-maj=7.7km s-min=5.1km az=164.1*
*IDC **31** 10:19:25.5±0.5, 0°.72N×25°.63W, h0km, mb4.4/23, mb1 4.5/23, mb1mx4.3/45, mbtmp4.4/23, MS4.2/37, Ms1 4.2/37, ms1mx4.2/40, Error ellipse: s-maj=19.1km s-min=11.4km az=146.0*
*BJI **31** 10:19:26.1±0.0, 0°.90N×25°.80W, h10km, Ms5.0/2, Ms7 4.7/2*
*NEIC **31** 10:19:27.4±2.2, 0°.83N×25°.81W, h10km, mb4.8/124, Error ellipse: s-maj=16.5km s-min=14.0km az=180.0*
*GCMT **31** 10:19:30.4±0.2, 0°.89N±0°.01×25°.64W±0°.01, h14km±1km, MW5.0/104, Moment Tensor Solution. s36,c45; s104,c160; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.34±.11; Mθθ 1.09±.12; Mφφ=0.75±.11; Mrθ 0.42±.23; Mθφ=-4.64±.14; Mφr 0.20±.24; Best double couple: M0=4.75500×10^16^ NP1φs=264.00000°, δ88.00000°, λ=-174.00000°. NP2φs=174.00000°, δ84.00000°, λ=-2.00000°. Principal axes: T 4.9050, Plg2.0000°, Azm39.0000°; N -0.3020, Plg84.0000°, Azm288.0000°; P -4.6050, Plg6.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 10:19:27.0±0.4, 0°.89N±0°.07×25°.76W±0°.07, h10km, n216, σ1§41/188, mb4.8/132, MS4.3/47, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.12 237**		*e*Pn	**Pn**	**10 22 16.2**	**-3.8**
RCBR				*e*Sn	Sn	10 24 19.9	-16
SACV	**Santiago Islan**	**14.15 9**		*e*Pn	**Pn**	**10 22 47.5**	**-0.2**
SACV				*e*Sn	**Sn**	**10 25 20.9**	**-4.1**
H10N3	**ASCENSION HYDR**	**14.19 128**		T	T	10 37 11.3	
	baz=306,slow=74,SNR=645						
H10N2	**ASCENSION HYDR**	**14.19 128**		T	T	10 37 11.6	
	baz=306,slow=74,SNR=443						
H10N1	**ASCENSION HYDR**	**14.21 128**		T	T	10 37 12.8	
	baz=306,slow=74,SNR=1111						
H10S3	**ASCENSION HYDR**	**14.76 132**		T	T	10 37 50.2	
	baz=310,slow=74,SNR=138						
H10S1	**ASCENSION HYDR**	**14.76 132**		T	T	10 37 50.6	
	baz=310,slow=74,SNR=202						
H10S2	**ASCENSION HYDR**	**14.78 132**		T	T	10 37 53.3	
	baz=310,slow=74,SNR=145						
LIC	**Lamto**	**21.36 75**		*e*P	**P**	**10 24 13.6**	**-1.1**
	274nm,1.8s						
TIC	**Toumodi**	**21.46 74**		*e*P	**P**	**10 24 14.8**	**-1.1**
DBIC	**Dimbokro**	**21.63 74**		P	**P**	**10 24 16.7**	**-1.0**
	36nm,0.9s,baz=239,slow=13,SNR=18						
DBIC				LR	LR	10 30 45.9	
	comp=Z,788nm,20.9s,baz=232,slow=32						
KIC	**Kosan Boka**	**21.66 75**		*e*P	**P**	**10 24 16.9**	**-1.1**
	92nm,1.0s						
MDP	**Montagnes des**	**27.16 279**		LR	LR	10 34 04.3	
	comp=Z,237nm,20.6s,baz=93,slow=32						
BDFB	**Brasilia**	**27.44 232**		P	**P**	**10 25 12.4**	**-1.1**
	5.8nm,0.7s,baz=60,slow=6.4,SNR=6.5						
BDFB				LR	LR	10 34 54.5	
	comp=Z,2μm,20.2s,baz=76,slow=34						
TOA0	**Torodi Ar. Sit**	**29.80 65**		*e*P	**P**	**10 25 33.2**	**-1.2**
	7.2nm,0.8s						
TOA1	**Torodi Ar. Sit**	**29.80 65**		*e*P	**P**	**10 25 32.5**	**-2.0**
TORD	**Torodi Ar. Bea**	**29.80 65**		P	**P**	**10 25 32.5**	**-2.0**
	5.6nm,0.9s,baz=258,slow=9.5,SNR=21						
TORD				LR	LR	10 36 17.3	
	comp=Z,1μm,18.9s,baz=280,slow=34						
PTGA	**Pitinga**	**34.24 267**		*e*P	**P**	**10 26 13.5**	**0.0**
	8.4nm,1.0s						
PTGA	**Pitinga**	**34.24 267**		P	**P**	**10 26 13.5**	**0.0**
	2.8nm,0.7s,baz=89,slow=14,SNR=5.3						
TAM	**Tamanrasset**	**37.39 52**		*e*P	**P**	**10 26 41.0**	**+0.5**
	18nm,1.1s						
MDT	**Midelt**	**37.48 30**		P	**P**	**10 26 42.8**	**+1.7**
	4.5nm,0.8s,baz=223,slow=7.8,SNR=8.2						
SIV	**San Ignacio**	**38.69 243**		P	**P**	**10 26 51.5**	**+0.1**
	5.4nm,0.8s,baz=91,slow=10,SNR=24						
CPUP	**Villa Florida**	**40.73 226**		*e*P	**P**	**10 27 07.3**	**-1.0**
	19nm,1.4s						
CPUP	**Villa Florida**	**40.73 226**		P	**P**	**10 27 08.1**	**-0.2**
	4.5nm,1.0s,baz=56,slow=7.2,SNR=4.5						
CPUP				LR	LR	10 43 41.9	
	comp=Z,925nm,18.3s,baz=53,slow=36						
ESDC	**Sonseca Array**	**43.42 25**		P	**P**	**10 27 31.8**	**+1.6**
	3.3nm,0.8s,baz=220,slow=8.2,SNR=14						
ESDC				LR	LR	10 43 22.0	
	comp=Z,120nm,21.9s,baz=185,slow=33						
AOPR	**Arecibo Observ**	**43.81 296**		*e*P	**P**	**10 27 33.2**	**-0.3**
	32nm,1.0s						
LPAZ	**La Paz**	**45.16 246**		*e*P	**P**	**10 27 45.6**	**+0.6**
	17nm,0.8s						
LPAZ	**La Paz**	**45.16 246**		P	**P**	**10 27 45.4**	**+0.4**
	14nm,0.8s,baz=68,slow=5.6,SNR=47						
LPAZ				LR	LR	10 45 58.0	
	comp=Z,621nm,19.9s,baz=84,slow=35						
TSUM	**Tsumeb**	**46.99 117**		P	**P**	**10 27 58.1**	**-0.8**
	2.2nm,0.7s,baz=315,slow=9.5,SNR=4.1						
TSUM				LR	LR	10 43 16.1	
	comp=Z,528nm,21.3s,baz=320,slow=31						
KEST	**Kesra**	**47.59 39**		LR	LR	10 47 59.8	
	comp=Z,1μm,21.7s,baz=168,slow=36						
ROSC	**El Rosal**	**48.64 276**		*e*P	**P**	**10 28 11.5**	**-0.7**
	8.2nm,0.8s						
ROSC	**El Rosal**	**48.64 276**		P	**P**	**10 28 13.3**	**+1.2**
	7.6nm,0.5s,baz=38,slow=22,SNR=3.8						
ROSC				LR	LR	10 48 05.5	
	comp=Z,302nm,18.7s,baz=99,slow=35						
PRAC	**Prado**	**49.16 274**		*e*P	**P**	**10 28 15.9**	**+0.2**
PRAC	**Prado**	**49.16 274**		*e*P	**P**	**10 28 15.9**	**+0.2**
NORC	**Norcasia**	**49.23 277**		*e*P	**P**	**10 28 14.2**	**-2.0**
NORC	**Norcasia**	**49.23 277**		*e*P	**P**	**10 28 14.2**	**-2.0**
GO02	**Mina Guanaco**	**49.67 235**		*e*P	**P**	**10 28 20.1**	**+0.4**
	67nm,1.2s						
GUY2C	**Guyana, Caldas**	**49.70 276**		*e*P	**P**	**10 28 18.4**	**-1.9**
GUY2C	**Guyana, Caldas**	**49.70 276**		*e*P	**P**	**10 28 18.4**	**-1.9**
SOTA	**Rioblanco**	**50.84 272**		*e*P	**P**	**10 28 29.4**	**+0.3**
SOTA	**Rioblanco**	**50.84 272**		*e*P	**P**	**10 28 29.4**	**+0.3**
GCUF	**Volcan Galeras**	**51.57 271**		*e*P	**P**	**10 28 33.6**	**-1.0**
GCUF	**Volcan Galeras**	**51.57 271**		*e*P	**P**	**10 28 33.6**	**-1.0**
GO04	**Tololo Observa**	**52.83 230**		*e*P	**P**	**10 28 42.3**	**-1.0**
	16nm,0.8s						
LSZ	**Lusaka**	**55.68 109**		*e*P	**P**	**10 29 04.4**	**+0.2**
	19nm,1.4s						
LSZ	**Lusaka**	**55.68 109**		LR	LR	10 49 03.7	
	comp=Z,220nm,18.2s,baz=306,slow=32						
LBTB	**Lobatse**	**55.94 121**		LR	LR	10 48 09.5	
	comp=Z,277nm,19.8s,baz=276,slow=31						
BOSA	**Boshof**	**56.93 125**		LR	LR	10 48 59.5	
	comp=Z,367nm,20.7s,baz=260,slow=31						
MATP	**Matopo**	**57.15 115**		LR	LR	10 50 20.7	
	comp=Z,312nm,18.5s,baz=275,slow=33						
GRFO	**Grafenberg**	**57.97 27**		*e*P	**P**	**10 29 16.9**	**-2.7**
	10nm,0.6s						
GRA1	**Grafenberg Arr**	**57.97 27**		*e*P	**P**	**10 29 17.0**	**-2.8**
	11nm,0.6s						
GO06	**Curarrehue**	**58.01 221**		*e*P	**P**	**10 29 20.5**	**+0.2**
	14nm,1.0s						
PLCA	**Paso Flores**	**58.04 219**		LR	LR	10 53 23.5	
	comp=Z,274nm,20.2s,baz=74,slow=35						
GEC2	**GERESS Array S**	**58.57 29**		*e*P	**P**	**10 29 24.6**	**+0.6**
	3.9nm,1.0s						
GERES	**GERESS Array B**	**58.57 29**		P	**P**	**10 29 24.0**	**0.0**
	0.2nm,0.4s,baz=48,slow=2.0,SNR=6.1						
GERES				LR	LR	10 54 33.7	
	comp=Z,176nm,18.7s,baz=234,slow=36						
KHC	**Kasperske Hory**	**58.70 29**		*e*P	**P**	**10 29 27.5**	**+2.6**
KHC				*e*x	x	10 29 33.5	
KHC				*e*S	**S**	**10 37 23.6**	**-6.1**
KHC				AMS	AMS	10 54 10.0	
	comp=Z,200nm,19.0s						
NKC	**Novy Kostel**	**58.91 28**		AMS	AMS	10 54 00.0	
	comp=Z,200nm,15.7s						
PRU	**Pruhonice**	**59.74 29**		*e*S	**S**	**10 37 42.8**	**-0.2**
PRU				AMS	AMS	10 54 40.0	
	comp=Z,200nm,17.1s						
TREC	**Trest**	**59.75 30**		AMS	AMS	10 59 30.0	
	comp=Z,300nm,16.1s						
GOPC	**GO Pecny, Ondr**	**59.81 29**		*e*S

comp=Z,12nm,1.0s
AKASG **Malin Array Be** 67.87 34 P P 10 30 25.6 0.0
comp=Z,5.6nm,0.7s,baz=241,slow=5.9,SNR=16
AKASG LR LR 11 01 12.2
comp=Z,110nm,19.3s,baz=215,slow=37
AKBB **Malin Array Si** 67.87 34 eP P 10 30 25.8 +0.2
comp=Z,12nm,1.0s
SFIN **Lafayette** 67.89 314 eP P 10 30 26.8 +0.8
comp=Z,7.1nm,0.9s
SFJD **Kangerlussuaq** 68.24 350 LR LR 10 53 35.6
comp=Z,80nm,20.2s,baz=159,slow=30
FRB **Frobisher Bay** 70.12 341 LR LR 10 55 42.6
comp=Z,55nm,21.0s,baz=194,slow=31
CCM **Cathedral Cave** 70.31 310 eP P 10 30 43.1 +2.1
comp=Z,8.0nm,1.1s
UALR **University of** 70.38 307 eP P 10 30 43.0 +1.5
comp=Z,16nm,1.0s
W41B **Gary Mavity, V** 70.39 307 eP P 10 30 42.1 +0.6
comp=Z,8.9nm,1.0s
I41A **Arkdale** 71.01 317 eP P 10 30 45.9 +0.8
comp=Z,6.7nm,0.9s
W39A **Magazine** 71.62 307 eP P 10 30 50.1 +1.1
comp=Z,8.4nm,0.9s
NATX **Nacogdoches** 71.66 303 eP P 10 30 49.6 +0.3
comp=Z,20nm,1.0s
FIA0 **FINESS Array S** 71.92 23 eP P 10 30 51.1 +0.8
FINES **FINESS Array B** 71.92 23 P P 10 30 51.1 +0.8
comp=Z,4.1nm,0.9s,baz=204,slow=4.2,SNR=10
FINES LR LR 11 01 02.2
comp=Z,145nm,19.2s,baz=228,slow=35
FIA1 **FINESS Array S** 71.92 23 eP P 10 30 51.0 +0.8
comp=Z,8.9nm,1.1s
SUMG **Summit** 72.03 356 eP P 10 30 52.1 +0.9
comp=Z,14nm,1.4s
SUMG **Summit** 72.03 356 iP P 10 30 55.9 +4.6
VNA1 **Neumayer--Stat** 72.34 174 P P 10 30 54.9 +2.3
VNA2 **Neumayer--Watz** 72.69 174 P P 10 30 55.4 +0.7
baz=339,slow=6.5
VNA3 **Neumayer Olymp** 72.77 175 P P 10 30 55.7 +0.5
TUL1 **Leonard** 73.37 307 eP P 10 31 00.4 +0.9
comp=Z,13nm,0.9s
SNAA **Sanae** 73.93 173 P P 10 31 03.7 +1.6
SNAA **Sanae** 73.93 173 eP P 10 31 04.0 +1.8
comp=Z,4.7nm,1.0s
SNAA **Sanae** 73.93 173 P P 10 31 02.6 +0.5
comp=Z,2.0nm,0.8s,baz=329,slow=5.9,SNR=7.0
AKH **Akhalkalaki** 73.95 47 eP P 10 31 03.9 +0.9
comp=Z,7.7nm,1.3s
435B **Jarrell** 73.96 302 eP P 10 31 03.3 +0.2
comp=Z,14nm,0.9s
KIV **Kislovodsk** 73.98 44 eP P 10 31 04.3 +1.2
comp=Z,7.4nm,0.6s
WHTX **Lake Whitney,** 74.04 303 eP P 10 31 04.2 +0.7
comp=Z,12nm,0.9s
KBZ **Khabaz** 74.08 45 P P 10 31 03.8 +0.4
comp=Z,5.4nm,1.0s,baz=199,slow=0.8,SNR=7.0
KBZ LR LR 11 06 05.3
comp=Z,98nm,21.1s,baz=252,slow=38
833A **Chaparral WMA,** 75.19 299 eP P 10 31 11.4 +1.1
comp=Z,18nm,0.9s
WMOK **Wichita Mounta** 75.57 306 eP P 10 31 13.6 +1.3
comp=Z,3.6nm,0.9s
ECSD **EROS Data Cent** 75.62 315 eP P 10 31 12.7 +0.3
comp=Z,6.2nm,1.0s
JCT **Junction City** 75.81 301 eP P 10 31 14.7 +0.8
comp=Z,12nm,0.8s
DAG **Danmarks Havn** 75.91 2 iP P 10 31 15.1 +1.7
comp=Z,9.4nm,0.8s
ABTX **Abilene, Hawle** 75.97 303 eP P 10 31 14.4 -0.3
comp=Z,9.4nm,0.9s
AGMN **Agassiz Nation** 76.19 320 eP P 10 31 16.0 +0.4
comp=Z,5.7nm,0.9s
ARCES **ARCESS Array B** 76.44 16 LR LR 11 00 37.1
comp=Z,153nm,20.3s,baz=262,slow=32
ULM **Lac du Bonnet** 76.69 322 LR LR 10 59 09.4
comp=Z,193nm,21.4s,baz=71,slow=31
AMTX **Amarillo** 77.95 305 eP P 10 31 26.1 +0.2
comp=Z,3.3nm,0.8s
FCC **Fort Churchill** 78.14 330 eP P 10 31 26.6 +0.4
comp=Z,7.7nm,0.9s
MSTX **Muleshoe** 78.74 304 eP P 10 31 30.0 -0.3
comp=Z,18nm,1.0s
LTX **Lajitas** 79.02 300 eP P 10 31 33.7 +1.8
TXAR **Lajitas Array** 79.02 300 P P 10 31 33.7 +1.8
comp=Z,4.8nm,0.9s,baz=121,slow=6.7,SNR=40
TXAR LR LR 11 06 54.2
comp=Z,40nm,18.7s,baz=0.0,slow=36
TX31 **Lajitas Ar. Si** 79.02 300 eP P 10 31 31.7 -0.2
comp=Z,6.7nm,1.0s
OGNE **Ogallala** 79.06 311 eP P 10 31 32.2 +0.3
comp=Z,12nm,0.8s
KSCO **Kaye Shedlock'** 79.24 309 eP P 10 31 34.8 +1.8
comp=Z,22nm,1.1s
GDL2 **Guadalupe Moun** 79.88 302 eP P 10 31 38.3 +1.8
SPITS **Spitsbergen Ar** 80.33 8 LR LR 11 01 37.1
comp=Z,147nm,18.1s,baz=225,slow=32
T25A **Trinidad** 80.42 307 eP P 10 31 41.1 +1.7
comp=Z,7.8nm,1.0s
HPIG 80.59 297 eP P 10 31 40.4 -0.2
comp=Z,4.1nm,0.9s
MNTX **Cornudas Mount** 80.70 302 eP P 10 31 38.2 -2.7
comp=Z,4.8nm,1.0s
Q24A **Divide** 81.19 309 eP P 10 31 45.4 +1.7
comp=Z,7.1nm,0.8s
SDCO **Great Sand Dun** 81.34 308 eP P 10 31 46.4 +1.9
comp=Z,7.4nm,1.0s
ISCO **Idaho Springs** 81.63 310 eP P 10 31 45.5 -0.5
comp=Z,6.9nm,1.3s
ANMO **Albuquerque** 81.86 305 eP P 10 31 48.0 +0.8
comp=Z,8.3nm,1.3s
ANMO **Albuquerque** 81.86 305 P P 10 31 49.3 +2.1
comp=Z,1.8nm,0.8s,baz=103,slow=6.3,SNR=11
BNM **Barren Site** 81.94 304 eP P 10 31 46.6 -1.1
N23A **Red Feather La** 81.99 311 eP P 10 31 45.8 -2.1
comp=Z,7.4nm,1.1s
LAZ **Ladron** 82.38 304 eP P 10 31 48.4 -1.5
S22A **4UR Ranch, Cre** 82.39 308 eP P 10 31 49.8 -0.3
comp=Z,4.1nm,0.9s
O20A **White River Ci** 83.67 310 eP P 10 31 56.0 -0.5
comp=Z,6.0nm,1.0s
MVCO **Mesa Verde** 83.67 307 eP P 10 31 57.4 +0.7
comp=Z,8.5nm,1.3s
RES **Resolute Bay** 83.72 346 LR LR 11 05 35.6
comp=Z,44nm,18.1s,baz=264,slow=33
PV12 **Saucer Basin,** 83.98 308 eP P 10 31 57.5 -0.7
comp=Z,5.5nm,1.1s
PV22 **Blue Mesa, Par** 83.99 308 eP P 10 31 58.3 +0.1
comp=Z,2.9nm,0.9s
PV13 **Radium Mtn., P** 83.99 308 eP P 10 31 57.6 -0.6
comp=Z,8.5nm,1.1s
PV03 **Paradox Valley** 84.02 308 eP P 10 31 59.4 +1.1
comp=Z,7.2nm,1.3s
PV11 **David Mesa, Pa** 84.04 308 eP P 10 31 57.8 -0.7
comp=Z,4.1nm,1.1s
PV18 **Skein Mesa, Pa** 84.06 308 eP P 10 31 58.6 0.0
comp=Z,8.0nm,1.1s
PV04 **Paradox Valley** 84.07 308 eP P 10 31 57.6 -0.9
comp=Z,3.3nm,1.2s
PV16 **Nyswonger Mesa** 84.07 308 eP P 10 32 00.3 +1.6
comp=Z,7.0nm,1.2s
PV17 **East Wray Mesa** 84.11 308 eP P 10 31 59.6 +0.8
comp=Z,7.2nm,1.1s
PV20 **West Nyswonger** 84.12 308 eP P 10 31 58.2 -0.7
comp=Z,4.7nm,0.9s
PV19 **Morning Glory** 84.13 308 eP P 10 31 59.3 +0.4
comp=Z,6.0nm,1.1s
PV21 **Cone Mtn., Par** 84.14 309 eP P 10 31 58.1 -0.9
comp=Z,5.2nm,1.1s
PV23 **Carpenter Ridg** 84.16 308 eP P 10 31 58.5 -0.6
comp=Z,6.6nm,1.1s
PV10 **Paradox Valley** 84.17 308 eP P 10 31 59.4 +0.2
comp=Z,26nm,1.5s
PV05 **Paradox Valley** 84.20 308 eP P 10 31 58.4 -0.9
comp=Z,17nm,1.2s
PV09 **Paradox Valley** 84.25 308 eP P 10 31 59.7 0.0
W18A **Petrified Fore** 84.56 305 eP P 10 32 02.8 +1.6
comp=Z,8.0nm,1.0s
GEYT **Alibeck** 84.62 52 LR LR 11 12 35.1
comp=Z,82nm,20.3s,baz=210,slow=38
X18A **Snowflake** 84.71 304 eP P 10 32 01.6 -0.3
comp=Z,7.0nm,1.0s
BW06 **Boulder Array** 84.84 313 eP P 10 32 03.9 +1.4
comp=Z,2.8nm,1.0s
PD31 **Pinedale Array** 84.84 313 eP P 10 32 01.9 -0.6
comp=Z,2.5nm,0.9s
PDAR **Pinedale Array** 84.84 313 P P 10 32 04.1 +1.7
comp=Z,2.4nm,1.0s,baz=98,slow=7.6,SNR=11
PDAR LR LR 11 04 18.4
comp=Z,206nm,21.8s,baz=140,slow=32
TUC **Tucson** 85.32 302 eP P 10 32 06.0 +1.1
comp=Z,2.6nm,0.9s
SRU **San Rafael Swe** 85.37 309 eP P 10 32 06.5 +1.3
comp=Z,8.1nm,1.3s
LOHW **Long Hollow** 85.65 313 eP P 10 32 07.3 +0.8
comp=Z,8.9nm,1.2s
FLWY **Flagg Ranch** 85.74 314 eP P 10 32 08.1 +1.1
comp=Z,9.3nm,1.0s
SNOW **Snow King Moun** 85.75 313 eP P 10 32 07.1 +0.1
comp=Z,9.3nm,1.1s
MOOW **Moose Ponds** 85.76 314 eP P 10 32 08.0 +1.0
comp=Z,5.7nm,1.2s
REDW **Red Top Meadow** 85.82 313 eP P 10 32 07.9 +0.6
comp=Z,9.9nm,1.1s
YHH **Holmes Hill** 85.89 315 eP P 10 32 08.9 +1.2
comp=Z,6.9nm,1.0s
TPAW **Teton Pass** 85.90 313 eP P 10 32 07.7 -0.1
comp=Z,6.6nm,0.9s
IMW **Indian Meadow** 85.91 314 eP P 10 32 09.0 +1.2
comp=Z,5.0nm,1.0s
X16A **Lo Mia Camp, P** 85.93 304 eP P 10 32 09.5 +1.5
comp=Z,4.1nm,1.0s
FXWY **Fox Creek** 85.96 314 eP P 10 32 08.8 +0.8
comp=Z,6.4nm,1.3s
YMR **Madison River** 85.96 315 eP P 10 32 05.9 -2.1
comp=Z,13nm,1.2s
JLU **Jordanelle** 86.15 310 eP P 10 32 07.7 -1.3
comp=Z,6.1nm,1.1s
QLMT **Earthquake Lak** 86.30 315 eP P 10 32 09.0 -0.6
ABKAR **Akbulak array** 86.52 41 eP P 10 32 10.8 +0.5
comp=Z,3.0nm,1.2s
MTPU **Mount Pierson** 86.64 308 eP P 10 32 13.2 +1.6
comp=Z,9.7nm,1.0s
MSU **Marysvale** 86.64 308 eP P 10 32 11.5 0.0
U15A **North Rim** 86.68 306 eP P 10 32 09.1 -2.7
comp=Z,2.6nm,1.0s
DLMT **Dillon** 87.14 315 eP P 10 32 11.6 -2.1
comp=Z,8.8nm,1.4s
DUG **Dugway, Tooele** 87.17 310 eP P 10 32 15.8 +1.8
comp=Z,6.7nm,1.1s
SZCU **Shurtz Canyon** 87.34 307 eP P 10 32 15.8 +0.9
comp=Z,9.9nm,1.2s
CCUT **Cedar City** 87.56 307 eP P 10 32 17.4 +1.4
comp=Z,4.7nm,1.0s
W13A **Hualapai Mount** 87.96 305 eP P 10 32 17.1 -0.8
comp=Z,3.4nm,1.1s
HLID **Hailey** 88.42 313 eP P 10 32 21.6 +1.7
comp=Z,4.2nm,1.2s
YKA **Yellowknife Ar** 88.68 332 P P 10 32 21.5 +1.1
comp=Z,0.7nm,0.8s,baz=93,slow=5.1,SNR=12
YKA LR LR 11 07 18.8
comp=Z,22nm,21.5s,baz=82,slow=32
YKB5 **Yellowknife Ar** 88.68 332 eP P 10 32 21.6 +1.1
R11A **Troy Canyon, C** 89.32 308 eP P 10 32 26.4 +2.1
comp=Z,3.3nm,1.2s
MAW **Mawson** 90.29 157 eP P 10 32 29.0 +1.2
comp=Z,1.8nm,1.2s
MAW **Mawson** 90.29 157 LR LR 11 04 16.8
comp=Z,50nm,20.4s,baz=259,slow=30
BMO **Blue Mountains** 90.48 315 eP P 10 32 30.2 +0.8
comp=Z,8.0nm,1.5s
QSPA **South Pole Qui** 90.95 180 eP P 10 32 32.0 +0.9
comp=Z,24nm,1.3s
NVAR **Mina Array Bea** 91.45 308 LR LR 11 08 39.5
comp=Z,106nm,21.4s,baz=178,slow=32
NRIK **Noril'sk** 97.25 19 LR LR 11 18 31.2
comp=Z,118nm,18.2s,baz=230,slow=36
KSH **Kashi** 98.49 50 P P 10 33 05.0 -1.2
LZH **Lanzhou** 120.48 46 ePKP PKPdf 10 38 16.3 -3.4
LZH LR LR
comp=Z,130nm,18.5s
LZH LR LR
comp=Z,120nm,18.4s
LZH LR LR
comp=Z,170nm,20.1s
CD2 **Chengdu** 122.62 52 PKP PKPdf 10 38 23.5 -0.3
HHC **Hu-ho-hao-te** 123.21 38 ePKP PKPdf 10 38 21.5 -3.2
HHC LR LR
comp=Z,64nm,18.8s
HHC LR LR
comp=Z,130nm,17.9s
HHC LR LR
comp=Z,150nm,19.5s
CAN **Canberra** 145.40 172 ePKPbc PKPbc 10 39 07.6 +1.8
ASAR **Alice Springs** 149.97 140 PKPbc PKPbc 10 39 18.4 -0.4
comp=Z,2.1nm,0.7s,baz=205,slow=2.1,SNR=25
WR1 **Warramunga Arr** 152.84 135 ePKPbc PKPbc 10 39 23.8 -1.6
WRA **Warramunga Arr** 152.84 135 PKPbc PKPbc 10 39 23.8 -1.7
comp=Z,1.5nm,1.0s,baz=248,slow=3.2,SNR=4.5

JMA 31 10:24:02.8±0.2, 35°.80N×141°.00E, h16km±1km, M3.5, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.15	230	↑P	Pg	10 24 06.7	-0.1
CHOJ				S	Sg	10 24 09.3	-0.2
JIHU	Itakohorinouch	0.42	293	P	Pb	10 24 11.8	0.0
JIHU				S	Sb	10 24 18.4	+0.5
JSMT	Sammumatsuo	0.48	251	P	Pb	10 24 12.8	0.0
JSMT				S	Sb	10 24 19.2	-0.3
JHYU	Hitachinakayam	0.64	328	P	Pg	10 24 15.4	+0.1
JHYU				S	Sb	10 24 24.1	-0.1
JYT	Yasato	0.78	303	P	Pb	10 24 17.1	-0.9
JYT				S	Sg	10 24 27.3	-1.0
JHO	Hitachi	0.88	337	P	Pb	10 24 18.7	-1.0
MAT	Matsushiro	2.38	289	P	Pn	10 24 41.2	0.0
MAT				S	Sn	10 25 07.9	-2.1

GUC 31 10:51:45.9±0.5, 34°.74S×71°.91W, h40km±3km, ML3.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Huala	0.27	184	↑iP	Pn	10 51 54.0	0.0
GO05				i S	Sn	10 52 00.0	+0.5
GO05				IAML		10 52 01.8	
comp=N,7μm,0.1s							
ANTU	Antumapu	1.57	43	eP	Pn	10 52 13.6	+2.2
ANTU				eS	Sn	10 52 34.3	+3.7
ANTU				IAML		10 52 38.1	
comp=N,1μm,0.4s							
LMEL	Las Melosas	1.67	58	eP	Pn	10 52 14.4	+1.6
LMEL				i S	Sn	10 52 35.2	+2.2
LMEL				IAML		10 52 39.1	
comp=N,902nm,0.4s							
CLCH	Cerro Calan	1.76	41	eP	Pn	10 52 15.0	+1.1
CLCH				i S	Sn	10 52 37.5	+2.3
CLCH				IAML		10 52 42.5	
comp=N,1μm,0.5s							
CCHI	Chillan	1.86	184	eP	Pn	10 52 16.4	+1.0
CCHI				IAML		10 52 49.4	
comp=E,1μm,0.2s							
PEL	Peldehue	1.89	33	eP	Pn	10 52 17.0	+1.3
PEL				i S	Sn	10 52 40.2	+1.9
PEL				IAML		10 52 45.9	
comp=N,641nm,0.6s							
ROCH	El Roble	1.91	23	eP	Pn	10 52 17.6	+1.4
ROCH				i S	Sn	10 52 41.1	+1.9
ROCH				IAML		10 52 47.0	
comp=N,899nm,0.5s							
FCH	Farellones	1.95	44	eP	Pn	10 52 17.8	+1.0
FCH				i S	Sn	10 52 42.4	+2.3
FCH				IAML		10 52 48.2	
comp=N,488nm,0.2s							

ISCJB ***31*** *11:11:06.8±0.3, 6°.59S±0°.04×121°.92W±0°.04, h10km, mb5.2/272, MS4.2/30, Error ellipse: s-maj=5.8km s-min=4.3km az=137.1*
IDC ***31*** *11:11:06.2±0.7, 6°.59S×122°.28W, h0km, mb4.8/12, mb1 5.0/12, mb1mx4.7/24, mbtmp4.8/12, MS4.0/18, Ms1 4.0/18, ms1mx4.0/19, Error ellipse: s-maj=29.7km s-min=17.3km az=77.0*
GCMT ***31*** *11:11:07.8±0.2, 6°.45S±0°.02×122°.20W±0°.01, h14km, MW5.0/100, Moment Tensor Solution. s48,c55; s100,c147; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}3.87±.17; $M_{\theta\theta}$-0.44±.10; $M_{\phi\phi}$-3.43±.11; $M_{r\theta}$-1.94±.28; $M_{\theta\phi}$-1.20±.07; $M_{\phi r}$-0.37±.20; Best double couple: M_0=4.30300×10^16 NP1:φ220.00000°, δ56.00000°, λ114.00000°. NP2:φ1.00000°, δ41.00000°, λ59.00000°.*

Principal axes: T 4.6160, Plg69.0000°, Azm182.0000°; N -0.6240, Plg19.0000°, Azm26.0000°; P -3.9900, Plg8.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
MOS ***31*** *11:11:07.0±0.8, 6°.52S×122°.11W, h10km, mb5.3/56 Error ellipse: s-maj=15.2km s-min=5.7km az=83.7*
NEIC ***31*** *11:11:08.8±1.4, 6°.48S×122°.12W, h10km, mb5.3/281, Error ellipse: s-maj=20.4km s-min=18.0km az=280.0*
BJI ***31*** *11:11:09.0±0.0, 6°.50S×122°.10W, h20km, mB5.4/2, Ms5.2/8, Ms7 4.9/9*
ISC 31 11:11:08.7±0.3, 6°.51S±0°.07×122°.07W±0°.08, h10km, n906, σ1°.05/910, mb5.3/272, MS4.2/31, 13C-3D, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAOE	Nuku Hiva Isla	18.06	261	eP	P	11 15 27.1	+6.6
236nm,1.4s							
TAOE				eLR	LR	11 19 05.6	
comp=Z,2μm,26.5s,baz=76							
RPN	Rapa Nui	23.81	151	LR	LR	11 22 30.7	
comp=Z,58nm,18.3s,baz=332,slow=29							
PPT	Papeete	29.01	245	LR	LR	11 25 26.7	
comp=Z,232nm,20.7s,baz=94,slow=30							
PPT2	Papeete2	29.02	245	eLQ	LQ	11 23 20.6	
822nm,25.0s							
PPT2				eLR	LR	11 24 11.7	
comp=Z,1μm,27.2s,baz=63							
TBI	Tubuai	31.21	235	eLR	LR	11 25 21.9	
comp=Z,595nm,29.5s,baz=58							
SLBS	Sierra La Lagu	32.27	21	eP	P	11 17 37.6	-0.2
50nm,0.9s							
HPIG		36.85	25	eP	P	11 18 17.1	-0.5
19nm,1.2s							
HSIG		36.92	16	eP	P	11 18 17.9	0.0
36nm,1.1s							
LNIG	Linares	38.20	34	eP	P	11 18 28.3	-0.5
13nm,1.2s							
214A	Organ Pipe Nat	39.26	12	P	P	11 18 39.5	+1.8
baz=195,SNR=8.7							
RAR	Rarotonga	39.28	244	LR	LR	11 30 31.3	
comp=Z,325nm,20.0s,baz=120,slow=30							
BAR	Barrett	39.31	7	eP	P	11 18 37.7	-0.4
66nm,1.4s							
IKP	In-Ko-Pah, Jac	39.36	8	P	P	11 18 41.0	+2.5
baz=189,SNR=10							
SCI2	San Clemente I	39.42	5	P	P	11 18 41.1	+2.2
baz=186							
109C	Camp Elliot, M	39.47	7	P	P	11 18 41.7	+2.4
baz=188							
CPE	Camp Elliot	39.47	7	eP	P	11 18 39.0	-0.3
37nm,1.4s							
MONP2	Monument Peak	39.55	7	P	P	11 18 42.7	+2.4
baz=189,SNR=12							
319A	Douglas	39.61	17	eP	P	11 18 40.6	0.0
33nm,0.9s							
SNCC	San Nicolas Is	39.62	3	P	P	11 18 43.0	+2.4
baz=184							
SWSC	Sam W. Stewart	39.69	8	P	P	11 18 43.3	+2.2
baz=190							
TXAR	Lajitas Array	39.80	26	P	P	11 18 43.8	+1.5
4.2nm,0.9s,baz=198,slow=12,SNR=33							
TXAR				LR	LR	11 31 37.5	
comp=Z,157nm,19.4s,baz=0.0,slow=31							
CIS	Catalina Islan	39.85	5	P	P	11 18 44.6	+2.0
baz=186							
113A	Mohawk Valley,	39.85	11	eP	P	11 18 42.6	+0.1
53nm,1.4s							
GLA	Glamis	39.94	9	eP	P	11 18 43.6	+0.3
61nm,1.4s							
GLA	Glamis	39.94	9	eP	P	11 18 43.6	+0.3
GLA				pmax	pmax		
comp=Z,61nm,1.4s							
GLA	Glamis	39.94	9	P	P	11 18 45.6	+2.3
baz=191,SNR=6.1							
TUC	Tucson	40.08	15	eP	P	11 18 44.3	-0.2
comp=Z,23nm,1.2s							
TUC	Tucson	40.08	15	eP	P	11 18 44.3	-0.2
TUC				pmax	pmax		
comp=Z,23nm,1.2s							
TUC	Tucson	40.08	15	P	P	11 18 46.1	+1.6
baz=198							
MURC	Murrieta	40.16	6	P	P	11 18 47.2	+2.1
baz=188							
FMP	Fort Macarthur	40.17	5	P	P	11 18 47.3	+2.2
baz=186							
PFO	Pinyon Flats O	40.26	7	eP	P	11 18 46.2	+0.2
comp=Z,22nm,1.0s							
PFO	Pinyon Flats O	40.26	7	eP	P	11 18 46.3	+0.2
PFO				pmax	pmax		
comp=Z,22nm,1.0s							
PFO	Pinyon Flats O	40.26	7	P	P	11 18 48.2	+2.2
baz=189,SNR=8.5							
SCZ2	Santa Cruz Isl	40.35	3	P	P	11 18 48.6	+1.9
baz=184							
BC3	Big Chuckawall	40.44	9	P	P	11 18 49.9	+2.3
baz=190,SNR=27							
BLG	Laguna Peak, P	40.50	4	P	P	11 18 50.2	+2.3
baz=185							
PASC	Pasadena Art C	40.63	5	eP	P	11 18 49.0	+0.1
comp=Z,70nm,1.6s							
Y12C	Blythe	40.68	10	eP	P	11 18 49.7	+0.4
comp=Z,22nm,1.1s							
Y12C	Blythe	40.68	10	P	P	11 18 51.5	+2.2
baz=192,SNR=5.7							
MWC	Mount Wilson	40.69	5	eP	P	11 18 50.1	+0.4
comp=Z,65nm,1.4s							
MWC	Mount Wilson	40.69	5	eP	P	11 18 50.1	+0.4
MWC				pmax	pmax		
comp=Z,65nm,1.4s							
DECC	Green Verdugo	40.70	5	P	P	11 18 52.1	+2.5
baz=186							
BELC	Belle Mtn. Jos	40.70	8	P	P	11 18 52.1	+2.4
baz=189,SNR=9.5							
BFSC	Mount Baldy Ra	40.74	6	P	P	11 18 52.3	+2.2
baz=187,SNR=9.2							
SBC	Santa Barbara	40.79	3	P	P	11 18 52.9	+2.7
baz=184							
BBRC	Big Bear Solar	40.85	7	P	P	11 18 53.4	+2.4
baz=188							
833A	Chaparral WMA,	40.97	31	eP	P	11 18 52.6	+0.7
comp=Z,17nm,1.1s							
833A	Chaparral WMA,	40.97	31	P	P	11 18 53.3	+1.5
baz=216							
IRM	Iron Mountain	40.98	9	P	P	11 18 54.0	+2.1
baz=191,SNR=26							
OSI	Osito Audit: C	41.03	4	P	P	11 18 54.2	+1.9
baz=185							
Y14A	Wickenburg	41.14	11	eP	P	11 18 53.7	+0.4
comp=Z,30nm,1.1s							
121A	Cookes Peak, D	41.14	18	P	P	11 18 55.3	+1.9
baz=202,SNR=25							
MNTX	Cornudas Mount	41.20	22	P	P	11 18 55.3	+1.5
baz=206,SNR=17							
PDMCI	Parker Dam,Lak	41.28	10	P	P	11 18 56.3	+2.0
baz=192,SNR=8.6							
EDW2	Edwards Air Fo	41.35	5	P	P	11 18 56.9	+2.0
baz=186,SNR=9.7							
RRX	Edison Barstow	41.44	6	P	P	11 18 57.7	+2.1
baz=188							
HEC	Hector,Ludlow	41.48	7	P	P	11 18 58.1	+2.1
baz=189							
GMRC	Granite Mounta	41.52	8	P	P	11 18 58.7	+2.3
baz=190,SNR=23							
ARVC	Arvin	41.53	4	P	P	11 18 58.5	+2.2
baz=185							
SMMC	Simmler	41.65	3	P	P	11 18 59.9	+2.5
baz=183							
NEE2	Needles Airpor	41.66	9	P	P	11 18 59.4	+2.0
baz=191							
GSC	Goldstone, Bar	41.89	6	eP	P	11 18 59.2	-0.1
comp=Z,39nm,1.0s							
GSC	Goldstone, Bar	41.89	6	eP	P	11 18 59.3	-0.1
GSC				pmax	pmax		
comp=Z,39nm,1.0s							
GSC	Goldstone, Bar	41.89	6	P	P	11 19 01.4	+2.0
baz=188,SNR=22							
LDFC	Landfair	41.89	9	eP	P	11 18 60.0	+0.5
comp=Z,119nm,1.5s							
X16A	Lo Mia Camp, P	41.93	13	eP	P	11 19 00.3	+0.4
comp=Z,20nm,1.1s							
LRMC	Laurel Mtn Rad	41.97	5	P	P	11 19 02.2	+2.1
baz=187							
GDL2	Guadalupe Moun	42.04	23	eP	P	11 19 01.1	+0.4
PAGB	Antelope Grade	42.05	2	eP	P	11 19 00.7	+0.1
comp=Z,56nm,1.3s							

ISA	Isabella, Lake	42.09	4	eP	P	11 19 01.5 +0.5
	comp=Z,15nm,1.1s					
ISA	Isabella, Lake	42.09	4	eP	P	11 19 01.5 +0.5
ISA				pmax	pmax	
	comp=Z,15nm,1.1s					
ISA	Isabella, Lake	42.09	4	P	P	11 19 03.4 +2.4
	baz=185,SNR=9.0					
W13A	Hualapai Mount	42.10	10	eP	P	11 19 01.7 +0.4
	comp=Z,11nm,0.9s					
TUQ	Turquoise Moun	42.12	7	P	P	11 19 03.5 +2.2
	baz=189,SNR=11					
VES	Vestal, Richgr	42.22	4	P	P	11 19 03.9 +1.9
	baz=184,SNR=5.3					
X18A	Snowflake	42.40	15	eP	P	11 19 04.2 +0.5
	comp=Z,57nm,1.1s					
X18A				ePcP	PcP	11 20 57.0 0.0
SHOC	Shoshone, Teco	42.54	7	P	P	11 19 06.3 +1.7
	baz=189,SNR=7.1					
MPMC	Manual Prospec	42.56	5	P	P	11 19 07.0 +1.9
	baz=187,SNR=11					
VOG	Valley Oaks Go	42.68	3	P	P	11 19 07.7 +1.9
	baz=184					
DAC	Darwin (Calif)	42.77	5	eP	P	11 19 06.4 -0.3
	comp=Z,15nm,1.0s					
DAC	Darwin (Calif)	42.77	5	eP	P	11 19 06.4 -0.3
DAC				pmax	pmax	
	comp=Z,15nm,1.0s					
CWC	Cottonwood Cre	42.89	5	P	P	11 19 09.8 +2.2
	baz=186					
LENM	Lemitar	42.91	18	eP	P	11 19 08.1 +0.2
WUAZ	Wupatki	43.00	13	eP	P	11 19 08.9 +0.3
	comp=Z,43nm,1.3s					
WUAZ	Wupatki	43.00	13	P	P	11 19 10.6 +2.1
	baz=196,SNR=13					
BNM	Barren Site	43.00	19	eP	P	11 19 09.1 +0.4
W18A	Petrified Fore	43.01	15	P	P	11 19 10.1 +1.5
	baz=198,SNR=7.7					
FURC	Furnace Creek,	43.03	6	P	P	11 19 10.6 +2.1
	baz=188,SNR=13					
SAO	San Andreas Ge	43.05	1	eP	P	11 19 09.8 +1.0
	comp=Z,46nm,1.0s					
SAO	San Andreas Ge	43.05	1	eP	P	11 19 09.8 +1.0
SAO				pmax	pmax	
	comp=Z,46nm,1.0s					
LAZ	Ladron	43.08	18	eP	P	11 19 08.7 -0.5
SHPR	Sheep Range	43.28	8	eP	P	11 19 11.6 +0.8
	comp=Z,42nm,1.1s					
TIN	Tinemaha, Big	43.49	4	P	P	11 19 14.6 +2.2
	baz=186					
GRAC	Grapevine Rang	43.51	5	P	P	11 19 14.9 +2.4
	baz=187,SNR=6.9					
TPNV	Topopah Spring	43.58	7	eP	P	11 19 14.1 +0.9
	comp=Z,55nm,1.4s					
TPNV	Topopah Spring	43.58	7	eP	P	11 19 14.1 +0.9
TPNV				pmax	pmax	
	comp=Z,55nm,1.4s					
TPNV	Topopah Spring	43.58	7	P	P	11 19 15.4 +2.2
	baz=188,SNR=16					
U15A	North Rim	43.69	11	eP	P	11 19 14.4 +0.2
	comp=Z,40nm,1.5s					
TASM	ASL Pad, Albuq	43.79	19	P	P	11 19 16.5 +1.5
	baz=203,SNR=8.5					
TASM	ASL Pad, Albuq	43.79	19	P	P	11 19 16.4 +1.5
	baz=203,SNR=8.5					
ANMO	Albuquerque	43.79	19	ceP	P	11 19 16.5 +1.5
ANMO				pmax	pmax	
	comp=Z,23nm,1.3s					
ANMO	Albuquerque	43.79	19	P	P	11 19 16.5 +1.5
	baz=203					
435B	Jarrell	43.88	31	P	P	11 19 17.1 +1.6
	baz=216					
MDPB	Devils Postpil	44.01	3	eP	P	11 19 17.5 +0.8
	comp=Z,12nm,1.0s					
MLAC	Mammoth, Mammo	44.02	4	P	P	11 19 18.6 +1.8
	baz=185					
OTAV	Otavalo	44.04	83	eP	P	11 19 18.0 +0.3
	comp=Z,17nm,1.4s					
OTAV	Otavalo	44.04	83	eP	P	11 19 18.0 +0.3
OTAV				pmax	pmax	
	comp=Z,17nm,1.4s					
OTAV	Otavalo	44.04	83	eP	P	11 19 17.7 0.0
LCMT	Little Creek M	44.08	10	eP	P	11 19 18.2 +1.0
	comp=Z,53nm,1.1s					
HKT	Hockley	44.15	33	eP	P	11 19 18.1 +0.5
	comp=Z,40nm,1.4s					
HKT	Hockley	44.15	33	eP	P	11 19 18.1 +0.5
HKT				pmax	pmax	
	comp=Z,40nm,1.4s					
KNB	Kanab	44.16	11	eP	P	11 19 18.7 +0.8
	comp=Z,38nm,1.5s					
MSTX	Muleshoe	44.22	23	P	P	11 19 19.3 +1.0
	baz=208,SNR=5.1					
CMB	Columbia Colle	44.35	2	eP	P	11 19 20.2 +1.0
	comp=Z,41nm,1.4s					
CMB	Columbia Colle	44.35	2	eP	P	11 19 20.2 +1.0
CMB				pmax	pmax	
	comp=Z,41nm,1.4s					
ABTX	Abilene, Hawle	44.39	27	P	P	11 19 20.5 +0.9
	baz=213					
CCUT	Cedar City	44.58	10	eP	P	11 19 22.4 +1.1
	comp=Z,32nm,1.2s					
PKCU	Pink Cliffs	44.67	11	eP	P	11 19 23.3 +1.1
	comp=Z,48nm,1.1s					
SZCU	Shurtz Canyon	44.67	10	eP	P	11 19 23.0 +0.9
	comp=Z,35nm,1.3s					
NV01	Mina Array Sit	44.85	4	eP	P	11 19 24.7 +1.3
NV01				ePcP	PcP	11 21 05.1 -0.1
NVAR	Mina Array Bea	44.85	4	P	P	11 19 24.7 +1.3
	comp=Z,18nm,0.9s,baz=190,slow=10,SNR=76					
NVAR				PcP	PcP	11 21 05.1 -0.1
	comp=Z,3.2nm,0.9s,baz=194,slow=5.9,SNR=3.9					
NVAR				LR	LR	11 34 17.1
	comp=Z,300nm,18.1s,baz=182,slow=31					
NV11	Mina Array Sit	44.86	4	eP	P	11 19 24.5 +1.0
	comp=Z,3.0nm,1.1s					
WHTX	Lake Whitney,	44.91	30	P	P	11 19 24.6 +0.9
	baz=216					
RYN	Ryan	45.03	4	eP	P	11 19 26.1 +1.3
	comp=Z,34nm,1.1s					
R11A	Troy Canyon, C	45.04	7	eP	P	11 19 25.9 +1.0
	comp=Z,30nm,1.4s					
R11A	Troy Canyon, C	45.04	7	P	P	11 19 27.0 +2.1
	baz=189,SNR=26					
AFDM	Forest Hills D	45.24	1	eP	P	11 19 27.8 +1.4
	comp=Z,34nm,1.3s					
MTPU	Mount Pierson	45.27	11	eP	P	11 19 28.4 +1.4
	comp=Z,41nm,1.5s					
MVCO	Mesa Verde	45.31	15	eP	P	11 19 27.9 +0.8
	comp=Z,44nm,1.1s					
MVCO	Mesa Verde	45.31	15	P	P	11 19 28.6 +1.5
	baz=199,SNR=25					
YERR	Yerington	45.34	3	eP	P	11 19 28.3 +1.0
	comp=Z,49nm,1.4s					
PNTR	Pine Nut	45.43	3	eP	P	11 19 29.4 +1.4
	comp=Z,33nm,0.9s					
AMTX	Amarillo	45.45	24	P	P	11 19 28.9 +0.8
	baz=209					
PSUT	Pine Spring	45.46	9	eP	P	11 19 29.2 +0.9
	comp=Z,36nm,1.0s					
KVN	Kaiserville	45.48	4	eP	P	11 19 29.5 +1.1
	comp=Z,29nm,1.2s					
KVN	Kaiserville	45.48	4	eP	P	11 19 29.5 +1.1
KVN				pmax	pmax	
	comp=Z,29nm,1.2s					
MSU	Marysvale	45.73	11	eP	P	11 19 31.8 +1.4
MSU	Marysvale	45.73	11	eP	P	11 19 31.8 +1.4
ORV	Oroville	45.84	1	eP	P	11 19 32.2 +1.2
	comp=Z,29nm,1.5s					
ORV	Oroville	45.84	1	eP	P	11 19 32.2 +1.2
ORV				pmax	pmax	
	comp=Z,29nm,1.5s					
PAHR	Pah Rah Range	46.05	3	eP	P	11 19 34.1 +1.2
	comp=Z,38nm,1.4s					
PV01	Paradox Valley	46.16	15	eP	P	11 19 34.8 +0.9
	comp=Z,40nm,1.6s					
BEKR	Beckworth	46.17	2	eP	P	11 19 35.1 +1.3
	comp=Z,23nm,1.2s					
NATX	Nacogdoches	46.18	33	P	P	11 19 35.3 +1.4
	baz=219					
S22A	4UR Ranch, Cre	46.27	17	P	P	11 19 36.3 +1.5
	baz=201,SNR=14					
PV23	Carpenter Ridg	46.35	14	eP	P	11 19 36.2 +0.8
	comp=Z,89nm,1.2s					
PCON	Cinco Dias	46.44	81	eP	P	11 19 39.7 +2.8
PCON	Cinco Dias	46.44	81	eP	P	11 19 39.7 +2.8
T25A	Trinidad	46.46	20	P	P	11 19 37.9 +1.7
	baz=205,SNR=17					
O02D	Mt. Diablo Mer	46.46	359	P	P	11 19 38.7 +2.8
	baz=179,SNR=9.1					
KMRM	Mail Ridge	46.53	358	eP	P	11 19 37.0 +0.5
	comp=Z,60nm,1.0s					
O03E	Paynes Creek	46.58	0	P	P	11 19 38.0 +1.1
	baz=180					
SRU	San Rafael Swe	46.64	12	eP	P	11 19 37.9 +0.4
	comp=Z,11nm,1.0s					
SRU	San Rafael Swe	46.64	12	eP	P	11 19 37.9 +0.4
SRU				pmax	pmax	
	comp=Z,11nm,1.0s					
SDCO	Great Sand Dun	46.66	18	eP	P	11 19 38.0 +0.1
	comp=Z,41nm,1.3s					
SDCO	Great Sand Dun	46.66	18	P	P	11 19 39.6 +1.8
	baz=203,SNR=20					
WDC	Whiskeytown Da	46.86	360	eP	P	11 19 39.5 +0.5
	comp=Z,37nm,1.1s					
WDC	Whiskeytown Da	46.86	360	eP	P	11 19 39.5 +0.5
WDC				pmax	pmax	
	comp=Z,37nm,1.1s					
BMN	Battle Mountai	46.92	5	eP	P	11 19 40.6 +0.9
	comp=Z,8.3nm,1.0s					
BMN	Battle Mountai	46.92	5	eP	P	11 19 40.6 +0.9
BMN				pmax	pmax	
	comp=Z,8.0nm,1.0s					
P17A	Butcher Ranch,	46.94	12	eP	P	11 19 40.8 +0.9
	comp=Z,45nm,1.2s					
NLU	North Lily Min	47.15	10	eP	P	11 19 42.5 +0.9
	comp=Z,46nm,1.3s					
KHMM	Horse Mountain	47.18	358	eP	P	11 19 42.5 +0.8
	comp=Z,59nm,1.2s					
DUG	Dugway, Tooele	47.25	10	eP	P	11 19 43.2 +0.9
	comp=Z,50nm,1.2s					
DUG	Dugway, Tooele	47.25	10	eP	P	11 19 43.2 +0.9
DUG				pmax	pmax	
	comp=Z,50nm,1.2s					
DUG	Dugway, Tooele	47.25	10	P	P	11 19 44.5 +2.2
	baz=193,SNR=35					
N02D	Trinity Center	47.26	359	P	P	11 19 44.4 +2.2
	baz=179,SNR=13					
ELK	Elko	47.44	7	eP	P	11 19 44.8 +1.0
	comp=Z,22nm,1.0s					
ELK	Elko	47.44	7	eP	P	11 19 44.8 +1.0
ELK				pmax	pmax	
	comp=Z,22nm,1.0s					
SMCO	Snowmass	47.56	16	eP	P	11 19 45.7 +0.7
	comp=Z,24nm,1.0s					
M02C	Callahan	47.68	359	P	P	11 19 47.9 +2.5
	baz=179,SNR=9.5					
Q24A	Divide	47.89	18	eP	P	11 19 48.0 +0.5
	comp=Z,24nm,1.3s					
BGU	Big Grassy Mou	47.93	9	eP	P	11 19 48.4 +0.9
	comp=Z,14nm,1.0s					
RREF	El Recreo	48.00	77	eP	P	11 19 49.5 +0.4
RREF	El Recreo	48.00	77	eP	P	11 19 49.5 +0.4
YBH	Yreka Blue Hor	48.02	359	eP	P	11 19 48.9 +0.8
	comp=Z,23nm,1.2s					
YBH	Yreka Blue Hor	48.02	359	eP	P	11 19 48.9 +0.8
YBH				pmax	pmax	
	comp=Z,23nm,1.2s					
GUY2C	Guyana, Caldas	48.06	77	eP	P	11 19 51.4 +2.1
GUY2C	Guyana, Caldas	48.06	77	eP	P	11 19 51.4 +2.1
M04C	Macdoel	48.06	0	P	P	11 19 50.6 +2.1
	baz=180,SNR=14					
O20A	White River Ci	48.14	14	eP	P	11 19 49.9 +0.6
	comp=Z,62nm,1.1s					
O20A	White River Ci	48.14	14	P	P	11 19 51.0 +1.8
	baz=199,SNR=36					
MOD	Mcoc Plateau	48.21	2	eP	P	11 19 50.5 +0.9
	comp=Z,48nm,1.3s					
Z41A	Richland Creek	48.34	33	P	P	11 19 51.7 +1.2
	baz=220					
L02E	Cave Junction	48.46	358	P	P	11 19 53.6 +2.2
	baz=178					
L04D	Klamath Falls	48.50	360	P	P	11 19 53.4 +1.6
	baz=180,SNR=9.7					
ISCO	Idaho Springs	48.53	17	eP	P	11 19 53.1 +0.7
	comp=Z,41nm,1.2s					
ISCO	Idaho Springs	48.53	17	eP	P	11 19 53.1 +0.7
ISCO				pmax	pmax	
	comp=Z,41nm,1.2s					
ISCO	Idaho Springs	48.53	17	P	P	11 19 54.0 +1.6
	baz=202,SNR=17					
KSCO	Kaye Shedlock'	48.75	20	P	P	11 19 55.2 +1.3
	baz=206					
HVU	Hansel Valley	48.81	9	eP	P	11 19 55.0 +0.7
	comp=Z,50nm,1.5s					
WVOR	Wild Horse Val	48.81	3	eP	P	11 19 54.8 +0.5
	comp=Z,45nm,1.1s					
WVOR	Wild Horse Val	48.81	3	eP	P	11 19 54.8 +0.5
WVOR				pmax	pmax	
	comp=Z,45nm,1.1s					
HWUT	Hardware Ranch	48.84	10	eP	P	11 19 55.5 +0.9
	comp=Z,20nm,1.1s					
VBMS	Vicksburg	48.86	36	P	P	11 19 55.2 +0.5
	baz=224					
HUMO	Hull Mountain	48.89	359	eP	P	11 19 55.9 +1.2
	comp=Z,59nm,1.3s					
TUL1	Leonard	48.89	28	P	P	11 19 55.2 +0.4
	baz=216					
K04D	Chiloquin, OR	48.90	0	P	P	11 19 56.8 +1.9
	baz=180					
MIAR	Mount Ida	48.91	32	P	P	11 19 55.1 +0.1
	baz=219					
ROSC	El Rosal	48.98	78	LR	LR	11 37 04.8
	comp=Z,121nm,19.9s,baz=244,slow=32					
K02D	Willamette Mer	48.99	358	P	P	11 19 57.9 +2.3
	baz=178,SNR=7.9					
K05A	Summer Lake	49.02	1	eP	P	11 19 56.6 +0.7
	comp=Z,49nm,1.1s					
PTBC	PUERTO BERRIO,	49.25	76	eP	P	11 19 57.3 -0.7
PTBC	PUERTO BERRIO,	49.25	76	eP	P	11 19 57.3 -0.7
X40A	Basin Creek Fa	49.26	32	P	P	11 19 57.8 +0.1
	baz=220					
W39A	Magazine	49.31	31	P	P	11 19 58.5 +0.5
	baz=218					
N23A	Red Feather La	49.45	16	eP	P	11 20 00.2 +0.8
	comp=Z,52nm,1.3s					
N23A	Red Feather La	49.45	16	P	P	11 20 00.9 +1.6
	baz=201,SNR=10					
J01E	Myrtle Point	49.47	358	P	P	11 20 01.3 +2.2
	baz=178					
J04D	Umpqua Nationa	49.52	360	P	P	11 20 01.5 +1.7
	baz=180,SNR=6.9					
J05D	Fort Rock, OR	49.57	1	P	P	11 20 02.2 +2.1
	baz=181,SNR=28					
CBKS	Cedar Bluff	49.63	23	P	P	11 20 01.2 +0.6
	baz=210					
J08A	Circle Bar Ran	49.74	3	eP	P	11 20 02.5 +1.1
	comp=Z,64nm,1.1s					
I03D	Drain, OR	49.99	359	P	P	11 20 04.8 +1.8
	baz=178,SNR=6.1					
AHID	Auburn Hatcher	50.05	11	eP	P	11 20 04.5 +0.6
	comp=Z,17nm,1.4s					
AHID				ePcP	PcP	11 21 23.7 +0.1
I04A	Tendick Farm,	50.07	360	P	P	11 20 05.3 +1.6
	baz=180,SNR=10					
PINE	Pine Mountain	50.08	1	eP	P	11 20 05.0 +1.0
	comp=Z,38nm,1.1s					
W41B	Gary Mavity, V	50.09	32	P	P	11 20 04.2 +0.2
	baz=220					
HLID	Hailey	50.32	7	eP	P	11 20 07.1 +1.2
	comp=Z,12nm,0.9s					
HLID				ePcP	PcP	11 21 24.8 +0.2
HLID	Hailey	50.32	7	P	P	11 20 07.5 +1.6
	baz=190,SNR=22					
X43A	Marvell	50.34	34	P	P	11 20 06.7 +0.9
	baz=222					
BW06	Boulder Array	50.35	12	P	P	11 20 06.7 +0.5
	baz=196,SNR=13					
PD31	Pinedale Array	50.35	12	eP	P	11 20 06.4 +0.2
	comp=Z,8.6nm,1.0s					
PD31				ePcP	PcP	11 21 24.1 -0.7
PDAR	Pinedale Array	50.35	12	P	P	11 20 06.7 +0.5
	comp=Z,5.5nm,1.0s,baz=181,slow=5.9,SNR=30					
PDAR				PcP	PcP	11 21 23.9 -0.9
	comp=Z,3.4nm,1.1s,baz=174,slow=5.4,SNR=6.0					
PDAR				LR	LR	11 37 49.1
	comp=Z,189nm,18.9s,baz=212,slow=32					
I02D	Swisshome	50.41	358	P	P	11 20 08.2 +2.0
	baz=178					
I07A	Izee	50.41	2	eP	P	11 20 07.4 +0.9
	comp=Z,30nm,1.2s					
RUSC	La Rusia	50.42	77	eP	P	11 20 07.4 -0.1
RUSC	La Rusia	50.42	77	eP	P	11 20 07.4 -0.1
147A	Livingston	50.52	37	P	P	11 20 08.3 +1.0
	baz=226					
I05D	Terrebonne, OR	50.62	1	P	P	11 20 10.1 +2.1
	baz=181,SNR=13					
REDW	Red Top Meadow	50.67	11	eP	P	11 20 08.9 +0.4
	comp=Z,41nm,1.4s					
OGNE	Ogallala	50.69	20	P	P	11 20 09.5 +1.0
	baz=206					
U40A	Yellville	50.69	31	P	P	11 20 08.5 0.0
	baz=219					
552A	Lynn Haven	50.72	42	P	P	11 20 10.3 +1.5
	baz=230					
451A	Vernon	50.73	41	P	P	11 20 09.6 +0.7
	baz=229					
249A	Camden	50.74	39	P	P	11 20 10.0 +1.0
	baz=227,SNR=5.2					
TPAW	Teton Pass	50.78	10	eP	P	11 20 10.2 +0.7
	comp=Z,22nm,1.1s					
H04D	Lebanon	50.80	359	P	P	11 20 10.8 +1.5
	baz=179,SNR=6.4					
350A	Dozier	50.87	40	P	P	11 20 10.5 +0.5
	baz=228					
COR	Corvallis	50.88	359	eP	P	11 20 10.8 +1.1
	comp=Z,88nm,1.2s					
COR	Corvallis	50.88	359	eP	P	11 20 10.8 +1.1
COR				pmax	pmax	
	comp=Z,88nm,1.2s					
FXWY	Fox Creek	50.91	10	eP	P	11 20 11.0 +0.6
	comp=Z,27nm,1.2s					
FXWY				ePcP	PcP	11 21 27.4 +0.6
148A	Greensboro	50.92	38	P	P	11 20 10.9 +0.5
	baz=226					
K22A	Casper	50.94	15	eP	P	11 20 10.5 0.0
K22A	Casper	50.94	15	P	P	11 20 11.1 +0.6
	baz=200,SNR=14					
H04A	Detroit Lake	50.96	360	eP	P	11 20 11.5 +1.0
	comp=Z,46nm,1.1s					
MOOW	Moose Ponds	51.07	11	eP	P	11 20 12.3 +0.8
	comp=Z,12nm,1.0s					
KSU1	Kansas State U	51.15	25	P	P	11 20 12.6 +0.6
	baz=213					
OXF	Oxford	51.16	35	eP	P	11 20 12.6 +0.5
	comp=Z,101nm,1.2s					
OXF	Oxford	51.16	35	eP	P	11 20 12.6 +0.5
OXF				pmax	pmax	
	comp=Z,101nm,1.2s					
OXF	Oxford	51.16	35	P	P	11 20 12.2 +0.2
	baz=224					
IMW	Indian Meadow	51.18	10	eP	P	11 20 13.3 +0.9
	comp=Z,65nm,1.0s					
452A	Marianna	51.25	41	P	P	11 20 13.5 +0.7
	baz=230					
351A	Pinckard	51.25	41	P	P	11 20 13.5 +0.7
	baz=229					
250A	Grady	51.28	40	eP	P	11 20 13.9 +0.9
	comp=Z,94nm,1.3s					
250A	Grady	51.28	40	P	P	11 20 13.8 +0.7
	baz=228,SNR=5.5					
BMO	Blue Mountains	51.31	4	eP	P	11 20 14.2 +1.1
	comp=Z,17nm,1.1s					
BMO	Blue Mountains	51.31	4	eP	P	11 20 14.3 +1.1
BMO				pmax	pmax	
	comp=Z,17nm,1.1s					
149A	Jones	51.37	39	P	P	11 20 14.4 +0.7
	baz=227					
FLWY	Flagg Ranch	51.40	10	eP	P	11 20 14.8 +0.8
	comp=Z,83nm,1.0s					
G03D	McMinnville, O	51.50	359	P	P	11 20 16.0 +1.6
	baz=179					
G05D	Wamic, OR	51.52	1	P	P	11 20 16.4 +1.7
	baz=181					
LRAL	Lakeview Retre	51.54	38	P	P	11 20 15.7 +0.7
	baz=227					
YPP	Pitchstone Pla	51.56	10	eP	P	11 20 16.4 +1.0
	comp=Z,20nm,1.4s					
G08A	Pilot Rock	51.64	3	eP	P	11 20 16.8 +1.1
	comp=Z,42nm,1.2s					
PLID	Pearl Lake	51.66	5	eP	P	11 20 16.4 +0.5
	comp=Z,24nm,0.9s					
X46A	Booneville	51.66	35	P	P	11 20 15.8 0.0
	baz=224					
H17A	Grant Village	51.72	10	eP	P	11 20 17.4 +0.9
	comp=Z,11nm,1.0s					
H17A	Grant Village	51.72	10	P	P	11 20 18.0 +1.5
	baz=195					
YFT	Old Faithful	51.73	10	eP	P	11 20 17.5 +1.0
	comp=Z,14nm,1.1s					
YFT				ePcP	PcP	11 21 31.5 +1.6
MCMT	McKenzie Canyo	51.77	8	eP	P	11 20 18.1 +1.2
MCMT				ePcP	PcP	11 21 30.9 +0.9
352A	Blakely	51.82	41	P	P	11 20 17.3 +0.2
	baz=230					
453A	Whigham	51.82	42	P	P	11 20 17.6 +0.5
	baz=231					
150A	Eclectic	51.86	39	P	P	11 20 18.0 +0.6
	baz=228					
251A	Midway	51.91	40	P	P	11 20 18.0 +0.3
	baz=229,SNR=7.7					
Z49A	Columbiana	51.94	38	P	P	11 20 18.2 +0.3
	baz=227					
QLMT	Earthquake Lak	52.00	10	eP	P	11 20 18.9 +0.4
Y48A	Jasper	52.04	37	P	P	11 20 18.5 -0.2
	baz=226					
X47A	Russelville	52.06	36	P	P	11 20 18.4 -0.4
	baz=225					
F05D	White Salmon	52.17	1	P	P	11 20 20.7 +1.3
	baz=181					
454A	Quitman	52.20	43	P	P	11 20 20.4 +0.5
	baz=231					
F07A	Phinny Hill Vi	52.21	2	eP	P	11 20 20.5 +0.8
151A	Opelika	52.24	40	P	P	11 20 20.5 +0.2
	baz=229					
252A	Lumpkin	52.28	41	P	P	11 20 20.7 +0.2
	baz=230					
DLMT	Dillon	52.34	8	eP	P	11 20 21.3 +0.4
	comp=Z,25nm,1.1s					
DLMT				ePcP	PcP	11 21 32.3 +0.4
Z50A	Ashland	52.35	39	eP	P	11 20 21.3 +0.2
	comp=Z,35nm,1.6s					
Z50A	Ashland	52.35	39	P	P	11 20 21.1 0.0
	baz=228					
F10A	Beach Ranch, E	52.43	4	eP	P	11 20 21.9 +0.4
	comp=Z,15nm,0.9s					
X48A	Hartselle	52.49	37	eP	P	11 20 21.9 -0.1
	comp=Z,10nm,1.1s					
X48A	Hartselle	52.49	37	P	P	11 20 21.5 -0.6
	baz=226					
MNMC	Minye Minye	52.49	109	eP	P	11 20 23.7 +1.0
	comp=Z,21nm,1.2s					
BOZ	Bozeman (W)	52.71	9	eP	P	11 20 24.2 +0.5
	comp=Z,27nm,1.5s					
BOZ	Bozeman (W)	52.71	9	eP	P	11 20 24.2 +0.5
BOZ				pmax	pmax	
	comp=Z,27nm,1.5s					
BOZ	Bozeman (W)	52.71	9	P	P	11 20 24.6 +0.9
	baz=193,SNR=16					
253A	Americus	52.71	41	P	P	11 20 23.7 0.0
	baz=230					
HAWA	Hanford	52.72	2	eP	P	11 20 24.3 +0.8
	comp=Z,53nm,1.6s					
152A	Waverly Hall	52.72	40	P	P	11 20 24.0 +0.2
	baz=229					
W47A	Westpoint	52.73	36	P	P	11 20 23.5 -0.3
	baz=225					
V46A	Holladay	52.82	35	P	P	11 20 23.5 -0.9
	baz=224					
PB01	IPOC Station P	52.83	111	eP	P	11 20 25.6 +0.7
	comp=Z,78nm,1.4s					
E04D	Cinebar	52.84	360	P	P	11 20 25.7 +1.3
	baz=179,SNR=6.4					
Y50A	Piedmont	52.90	38	P	P	11 20 25.0 -0.1
	baz=228					
E09A	Wood Farm, Sta	52.91	3	eP	P	11 20 25.9 +1.0
	comp=Z,33nm,1.0s					
X49A	Woodville	52.96	37	P	P	11 20 25.5 -0.1
	baz=227,SNR=5.9					
RSSD	Black Hills	52.97	16	eP	P	11 20 25.5 -0.2
	comp=Z,16nm,1.1s					
RSSD	Black Hills	52.97	16	eP	P	11 20 25.5 -0.2
RSSD				pmax	pmax	
	comp=Z,16nm,1.1s					
RSSD	Black Hills	52.97	16	P	P	11 20 25.7 0.0
	baz=203					
W48A	Pulaski	53.03	36	P	P	11 20 25.6 -0.5
	baz=226					
V47A	Nunnelly	53.18	35	P	P	11 20 26.6 -0.5
	baz=225					
254A	Abbeville	53.19	42	P	P	11 20 27.1 -0.2
	baz=231					
Z52A	Williamson	53.26

baz=229,SNR=5.9
D08A Wollman Farm, 53.41 3 eP P 11 20 29.2 +0.6
comp=Z,32nm,1.2s
D04E Lakebay 53.46 359 P P 11 20 30.8 +1.9
baz=179
SDV Santo Domingo 53.51 74 eP P 11 20 30.4 +0.2
comp=Z,26nm,1.1s
SDV Santo Domingo 53.51 74 eP P 11 20 30.8 +0.6
LTY Liberty 53.55 1 eP P 11 20 29.9 +0.2
comp=Z,18nm,1.0s
LVC Limon Verde 53.59 113 eP P 11 20 32.0 +1.1
MSO Missoula 53.60 7 eP P 11 20 30.8 +0.6
comp=Z,54nm,1.0s
MSO ePcP PcP 11 21 36.6 0.0
MSO Missoula 53.60 7 P P 11 20 31.5 +1.4
baz=190,SNR=51
LPAZ La Paz 53.62 105 eP P 11 20 31.8 +0.3
comp=Z,12nm,1.4s
LPAZ La Paz 53.62 105 eP P 11 20 31.8 +0.3
LPAZ pmax pmax
comp=Z,12nm,1.4s
LPAZ La Paz 53.62 105 P P 11 20 32.2 +0.7
comp=Z,4.3nm,1.1s,baz=300,slow=4.3,SNR=7.0
LPAZ LR LR 11 38 04.6
comp=Z,259nm,19.8s,baz=304,slow=30
LPAZ La Paz 53.62 105 eP P 11 20 32.5 +1.1
NLWA Neilton Lookou 53.69 358 eP P 11 20 31.7 +1.0
comp=Z,67nm,1.3s
U47A Clarksville 53.74 35 P P 11 20 30.7 -0.5
baz=225
HRY Holter Researc 53.77 9 eP P 11 20 32.0 +0.6
D03D Eldon 53.82 359 P P 11 20 32.8 +1.3
baz=179,SNR=8.0
T46A Princeton 53.83 34 P P 11 20 32.3 +0.4
baz=224
Z53A Monticello 53.85 40 P P 11 20 32.0 -0.1
baz=230,SNR=8.5
Y52A Lilburn 53.92 39 eP P 11 20 32.8 +0.2
comp=Z,15nm,1.0s
Y52A Lilburn 53.92 39 P P 11 20 32.8 +0.2
baz=229
GOGA Godfrey 54.01 40 eP P 11 20 33.5 +0.3
GOGA Godfrey 54.01 40 eP P 11 20 33.5 +0.3
GOGA pmax pmax
comp=Z,31nm,1.2s
GOGA Godfrey 54.01 40 P P 11 20 33.2 0.0
baz=230,SNR=8.0
W50A Signal Mountai 54.04 37 P P 11 20 32.9 -0.6
baz=227
V49A McMinnville 54.07 36 P P 11 20 33.2 -0.5
baz=226
155A Kite 54.16 42 P P 11 20 34.0 -0.4
baz=231,SNR=8.4
C09A Chrisman Ranch 54.18 3 eP P 11 20 34.8 +0.5
comp=Z,11nm,1.0s
Y53A Monroe 54.22 40 P P 11 20 34.5 -0.2
baz=230
U48A Cassie Pea, Po 54.22 35 P P 11 20 34.2 -0.5
baz=225
T47A Sharon Grove 54.23 34 eP P 11 20 35.0 +0.2
comp=Z,45nm,1.5s
T47A Sharon Grove 54.23 34 P P 11 20 34.6 -0.2
baz=224
Z54A Sparta 54.30 41 P P 11 20 35.2 -0.2
baz=231,SNR=5.1
X52A Dahlonega 54.51 39 P P 11 20 36.8 -0.1
baz=229
R45A Skylar, Fairfi 54.53 33 P P 11 20 37.1 +0.1
baz=223
B05A Bryant 54.54 360 P P 11 20 37.7 +0.9
baz=180,SNR=9.5
B08A Colville Reser 54.69 2 eP P 11 20 38.6 +0.7
comp=Z,57nm,1.0s
NEW Newport 54.72 4 eP P 11 20 38.8 +0.6
comp=Z,10nm,1.0s
NEW Newport 54.72 4 eP P 11 20 38.8 +0.6
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 54.72 4 P P 11 20 39.1 +1.0
baz=186,SNR=7.4
T48A Bowling Green 54.72 35 P P 11 20 37.9 -0.5
baz=225
Y54A Tignall 54.79 40 P P 11 20 38.6 -0.3
baz=230
S47A Hartford 54.79 34 P P 11 20 38.7 -0.2
baz=224
W52A Murphy 54.81 38 P P 11 20 39.0 -0.1
baz=229
X53A Estanollee 54.81 39 P P 11 20 39.0 -0.1
baz=230
N40A Mertquake, Sal 54.85 28 P P 11 20 39.0 -0.2
baz=218,SNR=5.7
R46A Gibon Southern 54.89 33 P P 11 20 39.4 -0.2
baz=224
P43A Skaggs, Pawnee 54.89 31 P P 11 20 39.2 -0.4
baz=221
PGC Sidney 54.94 359 eP P 11 20 40.6 +0.9
comp=Z,38nm,1.0s
OLIL Olney 54.95 32 eP P 11 20 39.9 -0.1
comp=Z,48nm,1.4s
A04D Lummi Island 55.00 359 P P 11 20 40.8 +0.7
baz=179
V51A Loudon 55.02 37 P P 11 20 40.2 -0.4
baz=228
Q45A Warren Harvey, 55.04 32 P P 11 20 40.6 -0.1
baz=222,SNR=7.3
N41A Harden Midland 55.06 29 eP P 11 20 40.6 -0.1
comp=Z,45nm,0.8s
ECSD EROS Data Cent 55.06 22 P P 11 20 40.7 -0.1
baz=211,SNR=14
T49A Edmonton 55.21 35 P P 11 20 41.5 -0.4
baz=226,SNR=6.5
S48A Wiedeman Farm, 55.30 35 P P 11 20 42.2 -0.3
baz=225
W53A Cullowhee 55.33 39 P P 11 20 42.7 -0.3
baz=229
BG3 Lake Jocassee 55.36 39 eP P 11 20 42.8 -0.3
comp=Z,24nm,1.2s
BG3 ePcP PcP 11 21 43.7 +0.1
Y55A Saluda 55.38 41 P P 11 20 42.9 -0.3
baz=231
X54A Belton 55.43 40 P P 11 20 43.4 -0.1
baz=230
R47A Wooly Knot Far 55.49 34 P P 11 20 43.7 -0.2
baz=224,SNR=9.7
T50A Nancy 55.56 36 P P 11 20 43.8 -0.6
baz=227,SNR=5.2
WCI Wyandotte Cave 55.57 34 P P 11 20 44.0 -0.4
baz=225
U51A La Follette 55.61 37 P P 11 20 44.3 -0.6
baz=228
L39A Vinton 55.64 27 P P 11 20 44.3 -0.6
baz=217,SNR=5.1
HDIL Hopedale 55.70 30 eP P 11 20 45.2 -0.2
comp=Z,59nm,1.3s
HDIL Hopedale 55.70 30 P P 11 20 44.9 -0.5
baz=221
M41A Milan 55.72 28 P P 11 20 44.9 -0.6
baz=219
P45A Graceland, Par 55.72 32 eP P 11 20 45.5 0.0
comp=Z,41nm,1.0s
P45A Graceland, Par 55.72 32 P P 11 20 45.5 0.0
baz=223,SNR=8.6
WALA Waterton Lakes 55.80 6 eP P 11 20 46.0 -0.1
comp=Z,30nm,1.0s
S49A Springfield 55.82 35 P P 11 20 45.3 -1.0
baz=226
X55A Gracelyn & Ava 55.85 40 P P 11 20 46.9 +0.3
baz=231
V53A Saluda 55.87 38 P P 11 20 46.4 -0.4
baz=229
W54A Cherokee Point 55.89 39 P P 11 20 46.9 +0.1
baz=230
R48A Northridge Ran 55.92 34 P P 11 20 46.5 -0.6
baz=225
L40A Anamosa 55.95 27 eP P 11 20 46.7 -0.4
comp=Z,48nm,1.3s
L40A Anamosa 55.95 27 P P 11 20 46.4 -0.6
baz=218
JSC Jenkinsville 55.98 41 eP P 11 20 46.9 -0.6
comp=Z,18nm,1.2s
JSC Jenkinsville 55.98 41 eP P 11 20 46.9 -0.6
JSC pmax pmax
comp=Z,18nm,1.2s
NHSC New Hope 55.98 43 eP P 11 20 47.7 +0.2
comp=Z,80nm,1.0s
NHSC New Hope 55.98 43 P P 11 20 47.6 +0.1
baz=233
TZTN Tazewell 56.00 37 eP P 11 20 47.5 -0.2
comp=Z,29nm,1.4s
TZTN Tazewell 56.00 37 P P 11 20 46.9 -0.7
baz=228
U52A Thorn Hill 56.01 37 P P 11 20 47.2 -0.5
baz=228,SNR=5.3
GO06 Curarrehue 56.02 134 eP P 11 20 48.0 +0.1
comp=Z,45nm,1.6s
T51A Gray 56.04 37 P P 11 20 47.4 -0.5
baz=228,SNR=5.8
N43A Stutzman Famil 56.05 30 P P 11 20 47.5 -0.4
baz=221,SNR=8.1
P46A Rosedale 56.07 32 P P 11 20 47.8 -0.3
baz=223
SDDR Presa de Saban 56.08 62 eP P 11 20 48.6 +0.1
comp=Z,22nm,1.0s
R49A Shelbyville 56.24 35 P P 11 20 48.5 -0.8
baz=226
X56A White Oak 56.26 41 P P 11 20 49.1 -0.4
baz=232
S50A Richmond 56.26 36 P P 11 20 48.8 -0.7
baz=227,SNR=7.2
Q48A North Vernon 56.38 34 P P 11 20 49.5 -0.8
baz=225
N44A Piper City 56.46 31 P P 11 20 50.3 -0.5
baz=222
KMSC Kings Mountain 56.47 40 P P 11 20 50.3 -0.7
baz=231
V54A Nebo 56.48 39 P P 11 20 50.7 -0.4
baz=230
K40A Colesburg 56.48 27 P P 11 20 50.7 -0.2
baz=218,SNR=8.0
M43A Waltham Townsh 56.53 29 P P 11 20 50.7 -0.6
baz=221
L42A Oliver, Polo 56.62 29 eP P 11 20 51.5 -0.5
comp=Z,37nm,1.0s
L42A Oliver, Polo 56.62 29 P P 11 20 51.4 -0.5
baz=220,SNR=7.6
SFIN Lafayette 56.69 32 P P 11 20 52.1 -0.3
baz=223,SNR=6.6
S51A Beattyville 56.70 36 eP P 11 20 51.9 -0.8
comp=Z,28nm,1.2s
S51A Beattyville 56.70 36 P P 11 20 52.1 -0.5
baz=228,SNR=5.5
T52A Hallie 56.71 37 P P 11 20 52.1 -0.6
baz=228
R50A Paris 56.71 35 P P 11 20 51.7 -1.0
baz=227
BIRD Birdtown, Kers 56.72 41 eP P 11 20 52.7 -0.1
comp=Z,19nm,1.2s
Y58A Scranton 56.80 42 P P 11 20 52.3 -1.0
baz=233
N45A Kentland 56.81 31 P P 11 20 52.9 -0.4
baz=222
LLLB Lillooet 56.89 0 eP P 11 20 53.9 +0.1
comp=Z,20nm,1.5s
Q49A Aurora 56.89 34 P P 11 20 53.3 -0.6
baz=226
T53A Wise 56.90 37 P P 11 20 53.4 -0.7
baz=229
P48A Milroy 56.92 33 P P 11 20 52.9 -1.2
baz=225
W56A Indian Trail 56.94 40 P P 11 20 53.7 -0.6
baz=232
M44A Midewin, Midew 56.95 30 P P 11 20 53.6 -0.6
baz=222,SNR=5.8
DGMT Dagmar 56.96 14 eP P 11 20 54.0 -0.3
comp=Z,72nm,1.1s
DGMT Dagmar 56.96 14 P P 11 20 54.7 +0.4
baz=201,SNR=6.2
V55A Taylorsville 56.99 39 P P 11 20 54.3 -0.4
baz=231
U54A Nelsons Funny 57.04 38 P P 11 20 54.7 -0.4
baz=230
JFWS Jewell Farm 57.06 27 eP P 11 20 54.7 -0.3
comp=Z,40nm,1.3s
JFWS Jewell Farm 57.06 27 eP P 11 20 54.7 -0.3
JFWS pmax pmax
comp=Z,40nm,1.3s
JFWS Jewell Farm 57.06 27 P P 11 20 54.7 -0.3
baz=219
O47A Sheridan 57.07 32 P P 11 20 54.4 -0.7
baz=224
PLCA Paso Flores 57.11 135 eP P 11 20 56.5 +0.9
comp=Z,36nm,1.4s
PLCA Paso Flores 57.11 135 eP P 11 20 56.5 +0.9
PLCA pmax pmax
comp=Z,36nm,1.4s
PLCA Paso Flores 57.11 135 P P 11 20 56.4 +0.8
comp=Z,20nm,1.3s,baz=283,slow=8.0,SNR=4.5
PLCA LR LR 11 39 26.6
comp=Z,273nm,19.2s,baz=315,slow=30
PLCA Paso Flores 57.11 135 eP P 11 20 57.1 +1.5
R51A Hillsboro 57.16 36 P P 11 20 54.8 -1.0
baz=227,SNR=5.1
L43A Garden Prairie 57.20 29 P P 11 20 55.4 -0.6
baz=220,SNR=9.6
J40A Soldiers Grove 57.21 27 P P 11 20 55.7 -0.5
baz=218,SNR=6.3
I39A Houston 57.23 26 eP P 11 20 55.9 -0.3
comp=Z,37nm,1.0s
I39A ePcP PcP 11 21 49.5 -1.1
I39A Houston 57.23 26 P P 11 20 55.9 -0.3
baz=217,SNR=7.5
N46A Monticello 57.25 31 P P 11 20 55.8 -0.6
baz=223
P49A Miami Univ. Ec 57.36 34 P P 11 20 56.4 -0.8
baz=226
X58A Rowland 57.40 42 P P 11 20 57.2 -0.4
baz=233
V56A Mocksville 57.42 40 eP P 11 20 57.8 +0.1
comp=Z,19nm,1.4s
V56A Mocksville 57.42 40 P P 11 20 57.1 -0.6
baz=231
U55A TA2, Sparta 57.50 39 P P 11 20 57.7 -0.7
baz=231,SNR=5.4
J41A Loganville 57.52 27 P P 11 20 57.8 -0.4
baz=219
T54A Tazewell 57.53 38 P P 11 20 57.8 -0.8
baz=230
H38A Maiden Rock 57.57 25 P P 11 20 58.1 -0.5
baz=216
L44A Lake County Fo 57.60 30 P P 11 20 58.3 -0.6
baz=221
O48A Farmland 57.63 33 P P 11 20 58.2 -0.9
baz=225
MDND Maddock 57.64 18 eP P 11 20 58.8 -0.4
comp=Z,78nm,1.0s
MDND Maddock 57.64 18 P P 11 20 58.7 -0.4
baz=207
I40A Norwalk 57.66 27 P P 11 20 58.7 -0.5
baz=218
R52A Catlettsburg 57.73 36 P P 11 20 58.8 -1.0
baz=228
N47A Urbana 57.78 32 P P 11 20 59.0 -1.2
baz=224,SNR=5.1
Q51A Peebles 57.78 35 eP P 11 20 59.3 -0.9
comp=Z,14nm,1.1s
Q51A ePcP PcP 11 21 52.6 -0.3
Q51A Peebles 57.78 35 P P 11 20 59.4 -0.9
baz=227
K43A Burlington 57.80 29 eP P 11 20 59.9 -0.3
comp=Z,33nm,1.1s
K43A Burlington 57.80 29 P P 11 20 59.7 -0.6
baz=221
SPMN Marine on St. 57.80 24 eP P 11 20 59.8 -0.4
comp=Z,16nm,1.0s
SPMN Marine on St. 57.80 24 P P 11 20 59.8 -0.4
baz=215
U56A King 57.82 39 P P 11 20 59.9 -0.6
baz=231
Y60A Bolivia 57.83 43 P P 11 20 59.9 -0.7
baz=234
J42A Columbus 57.89 28 P P 11 21 00.3 -0.6
baz=220
V57A Coltrane Farms 57.92 40 P P 11 21 00.6 -0.6
baz=232
H39A Augusta 58.00 26 P P 11 21 01.1 -0.5
baz=217,SNR=6.3
O49A Covington 58.03 34 P P 11 21 01.0 -0.9
baz=226
T55A Pulaski 58.06 38 P P 11 21 01.6 -0.6
baz=230
N48A Decatur 58.12 33 P P 11 21 01.6 -0.9
baz=225
I41A Arkdale 58.12 27 eP P 11 21 02.2 -0.4
comp=Z,36nm,1.3s
I41A ePcP PcP 11 21 53.7 -0.4
I41A Arkdale 58.12 27 P P 11 21 01.9 -0.6
baz=219
R53A Hurricane 58.13 37 P P 11 21 02.2 -0.5
baz=229
M47A Cromwell 58.16 32 P P 11 21 02.2 -0.6
baz=224,SNR=6.1
S54A Dingess, Beckl 58.17 37 P P 11 21 02.7 -0.4
baz=230
P51A Williamsport 58.26 35 P P 11 21 02.5 -1.0
baz=227
J43A Natural Harves 58.27 28 P P 11 21 03.3 -0.3
baz=220,SNR=5.8
F37A Hinrichs Farm, 58.28 24 P P 11 21 02.8 -0.8
baz=215
V58A Windy Hill, Pi 58.29 41 P P 11 21 03.4 -0.5
baz=233,SNR=6.1
H40A Chili 58.34 26 P P 11 21 03.0 -1.0
baz=218
Q52A Bidwell 58.36 36 P P 11 21 03.1 -1.2
baz=228
I42A Draeger Farm, 58.43 28 eP P 11 21 04.3 -0.3
comp=Z,57nm,1.3s
I42A Draeger Farm, 58.43 28 P P 11 21 04.4 -0.3
baz=220,SNR=7.6
T56A Rocky Mt 58.47 39 P P 11 21 04.8 -0.3
baz=231
G39A Holcombe 58.53 25 P P 11 21 04.6 -0.8
baz=217,SNR=7.7
U57A Blanch 58.54 40 P P 11 21 05.5 -0.1
baz=232,SNR=8.1
R54A Victor 58.61 37 P P 11 21 05.5 -0.6
baz=230
N49A Columbus Grove 58.62 33 eP P 11 21 05.7 -0.3
comp=Z,48nm,1.1s
N49A ePcP PcP 11 21 55.5 -0.7
N49A Columbus Grove 58.62 33 P P 11 21 05.5 -0.5
baz=226,SNR=9.1
S55A Lewisburg 58.65 38 P P 11 21 05.7 -0.6
baz=230
H41A Junction City 58.66 27 eP P 11 21 06.0 -0.3
comp=Z,23nm,1.0s
H41A Junction City 58.66 27 P P 11 21 05.5 -0.7
baz=219
BBB Bella Bella 58.70 356 eP P 11 21 06.4 +0.1
comp=Z,59nm,1.3s
Q53A Leroy 58.73 36 P P 11 21 05.9 -1.0
baz=229
F38A Pierce - Schro 58.78 24 P P 11 21 06.6 -0.4
baz=216,SNR=5.1
I43A Langenfeld Bro 58.78 28 P P 11 21 07.1 0.0
baz=220,SNR=9.5
ACSO Alum Creek Sta 58.81 34 P P 11 21 06.3 -1.1
baz=227
L47A Sherwood 58.83 32 P P 11 21 06.5 -0.9
baz=224,SNR=6.5
V59A Middlesex 58.84 41 P P 11 21 07.1 -0.6
baz=234
P52A Corning 58.89 35 P P 11 21 06.9 -1.0
baz=228
G40A Rib Lake 58.93 26 eP P 11 21 07.9 -0.2
comp=Z,28nm,1.1s
G40A Rib Lake 58.93 26 P P 11 21 07.7 -0.5
baz=218,SNR=10
T57A Hurt 58.94 39 eP P 11 21 08.3 -0.1
comp=Z,20nm,1.1s
T57A Hurt 58.94 39 P P 11 21 08.0 -0.3
baz=232,SNR=6.9
U58A Oxford 59.02 40 P P 11 21 08.1 -0.8
baz=233
K46A Dorr 59.04 31 P P 11 21 08.2 -0.7
baz=223
H42A Shiocton 59.08 27 eP P 11 21 09.3 +0.2
comp=Z,48nm,1.2s
H42A Shiocton 59.08 27 P P 11 21 08.9 -0.3
baz=220
N50A Nevada 59.08 34 P P 11 21 08.5 -0.8
baz=227
M49A Liberty Center 59.12 33 P P 11 21 08.9 -0.6
baz=226
F39A Loretta 59.14 25 P P 11 21 08.7 -0.9
baz=217,SNR=6.5
S56A Natural Bridge 59.16 39 P P 11 21 09.4 -0.5
baz=231
L48A N Adams 59.21 32 P P 11 21 09.4 -0.7
baz=225
Q54A Coxs Mills 59.22 37 P P 11 21 09.6 -0.7
baz=230
P53A Whipple 59.22 36 eP P 11 21 10.0 -0.2
comp=Z,30nm,1.3s
P53A ePcP PcP 11 21 58.4 -0.2
P53A Whipple 59.22 36 P P 11 21 09.4 -0.9
baz=229
AGMN Agassiz Nation 59.24 20 eP P 11 21 09.8 -0.5
comp=Z,71nm,1.5s
AGMN Agassiz Nation 59.24 20 P P 11 21 09.9 -0.3
baz=211,SNR=11
W61A Ground Anchor 59.33 42 P P 11 21 10.9 -0.1
baz=235
T58A Grand View Acr 59.36 40 P P 11 21 10.6 -0.7
baz=233
K47A Vermontville 59.43 31 P P 11 21 10.8 -0.8
baz=224,SNR=6.2
E38A The Farm, Brul 59.43 24 P P 11 21 11.1 -0.5
baz=216
F40A Park Falls 59.48 25 P P 11 21 11.6 -0.3
baz=218,SNR=12
U59A Littleton 59.48 41 eP P 11 21 11.7 -0.5
comp=Z,17nm,1.1s
M50A Fremont 59.58 33 eP P 11 21 12.6 0.0
comp=Z,57nm,1.1s
M50A Fremont 59.58 33 P P 11 21 12.1 -0.5
baz=226
J46A Howard City 59.59 30 P P 11 21 12.1 -0.6
baz=223
S57A Dark Hollow, R 59.59 39 eP P 11 21 12.1 -0.7
comp=Z,33nm,1.5s
S57A Dark Hollow, R 59.59 39 P P 11 21 12.5 -0.3
baz=232,SNR=5.7
N51A Ashland 59.61 34 eP P 11 21 12.4 -0.5
comp=Z,34nm,1.0s
N51A ePcP PcP 11 21 59.2 -0.9
N51A Ashland 59.61 34 P P 11 21 12.0 -0.9
baz=227
E39A Mellen 59.66 25 P P 11 21 12.8 -0.4
baz=217
L49A Milan 59.67 32 P P 11 21 12.9 -0.4
baz=226
G42A Mountain 59.69 27 eP P 11 21 13.1 -0.2
comp=Z,40nm,1.0s
G42A Mountain 59.69 27 P P 11 21 13.1 -0.2
baz=220,SNR=10
F41A Three Lakes 59.78 26 eP P 11 21 13.8 -0.2
comp=Z,50nm,1.0s
F41A Three Lakes 59.78 26 P P 11 21 13.9 -0.1
baz=219,SNR=19
O53A New Philadelph 59.82 35 P P 11 21 13.7 -0.7
baz=229
P54A Burton 59.83 36 P P 11 21 14.0 -0.5
baz=230,SNR=8.8
J47A Sunmer 59.93 31 eP P 11 21 14.8 -0.3
comp=Z,51nm,0.9s
J47A Sunmer 59.93 31 P P 11 21 14.7 -0.3
baz=224
U60A Pendleton 59.97 41 P P 11 21 15.3 -0.1
baz=234
K48A Perry 59.98 32 P P 11 21 15.2 -0.2
baz=225,SNR=8.7
E40A Wakefield 59.99 25 P P 11 21 15.3 -0.1
baz=218,SNR=5.4
T59A Double "B" Far 60.01 40 eP P 11 21 15.1 -0.5
comp=Z,21nm,1.1s
T59A Double "B" Far 60.01 40 P P 11 21 15.4 -0.2
baz=234,SNR=5.4
PLIO Pelee Island, 60.04 33 P P 11 21 15.4 -0.4
baz=227
G43A Wallace 60.04 27 eP P 11 21 15.5 -0.3
comp=Z,60nm,1.4s
G43A Wallace 60.04 27 P P 11 21 15.5 -0.3
baz=220
COWI Conover 60.05 26 eP P 11 21 15.3 -0.5
comp=Z,32nm,1.0s
COWI ePcP PcP 11 22 00.9 -0.8
S58A Poland Farm, P 60.07 40 P P 11 21 15.8 -0.3
baz=233
DIB Dawson Inlet, 60.14 353 eP P 11 21 15.9 -0.3
comp=Z,28nm,1.3s
L50A Kingsville 60.14 33 P P 11 21 16.0 -0.5

baz=226
R57A **Stanardsville** 60.19 39 P P 11 21 16.4 -0.5
baz=232
F42A **Maple Grove Fa** 60.22 27 P P 11 21 16.6 -0.4
baz=220
O54A **Avella** 60.26 36 P P 11 21 16.8 -0.6
baz=230
E41A **Kenton** 60.40 26 P P 11 21 18.0 -0.2
baz=219,SNR=11
N53A **Lisbon** 60.41 35 *e*P P 11 21 17.8 -0.6
comp=Z,28nm,1.1s
N53A *e*PcP PcP 11 22 03.0 -0.3
N53A **Lisbon** 60.41 35 P P 11 21 17.6 -0.8
baz=229,SNR=5.5
R58A **Rapidan** 60.52 39 P P 11 21 19.2 0.0
baz=232,SNR=6.1
EYMN **Ely** 60.55 23 *e*P P 11 21 18.9 -0.3
comp=Z,33nm,1.1s
EYMN **Ely** 60.55 23 P P 11 21 18.7 -0.5
baz=216,SNR=6.3
GO09 **Cerro Castillo** 60.59 147 *e*P P 11 21 20.7 +1.2
comp=Z,44nm,1.3s
M52A **Chesterland** 60.60 34 *e*P P 11 21 19.5 -0.2
comp=Z,25nm,1.0s
M52A **Chesterland** 60.60 34 P P 11 21 19.3 -0.4
baz=228
I47A **Gladwin** 60.65 30 *e*P P 11 21 19.9 0.0
comp=Z,58nm,1.1s
I47A **Gladwin** 60.65 30 P P 11 21 19.7 -0.3
baz=224
H46A **Fife Lake** 60.68 29 P P 11 21 19.6 -0.6
baz=223
F43A **Flat Rock, Esc** 60.71 27 P P 11 21 20.0 -0.3
baz=221,SNR=7.8
Q57A **Strasburg** 60.72 38 P P 11 21 21.0 +0.5
baz=232,SNR=6.0
P56A **Dayton Farm, R** 60.75 37 P P 11 21 20.4 -0.3
baz=231
E42A **Champion** 60.84 26 P P 11 21 20.7 -0.5
baz=220
J49A **Marlette** 60.88 32 P P 11 21 21.4 -0.2
baz=226,SNR=6.0
O55A **Ligonier** 60.91 37 P P 11 21 21.7 -0.2
baz=230
M53A **Wt Miller and** 60.91 35 P P 11 21 21.4 -0.5
baz=229
ULM **Lac du Bonnet** 60.92 19 *e*P P 11 21 21.1 -0.6
comp=Z,71nm,1.5s
ULM **Lac du Bonnet** 60.92 19 *e*P P 11 21 21.1 -0.6
ULM pmax pmax
comp=Z,71nm,1.5s
ULM **Lac du Bonnet** 60.92 19 P P 11 21 20.6 -1.1
comp=Z,19nm,1.0s,baz=213,slow=7.7,SNR=13
ULM LR LR 11 44 48.1
comp=Z,92nm,18.0s,baz=54,slow=33
N54A **Moraine State** 60.99 35 P P 11 21 22.0 -0.4
baz=230
D41A **Chassel** 61.04 26 *e*P P 11 21 22.4 -0.2
comp=Z,29nm,1.0s
D41A **Chassel** 61.04 26 P P 11 21 22.0 -0.5
baz=219
F44A **Big Bay de Noc** 61.16 28 P P 11 21 23.1 -0.3
baz=221
I48A **Sherman Twp** 61.17 31 P P 11 21 23.2 -0.3
baz=225
E43A **Lone Tree Farm** 61.20 27 *e*P P 11 21 23.1 -0.6
comp=Z,24nm,1.0s
E43A **Lone Tree Farm** 61.20 27 P P 11 21 23.4 -0.3
baz=221,SNR=6.2
P57A **Homestead Farm** 61.23 38 P P 11 21 24.1 +0.1
baz=232
O56A **Blue Knob Stat** 61.39 37 *e*P P 11 21 24.9 -0.2
comp=Z,10nm,1.0s
O56A **Blue Knob Stat** 61.39 37 P P 11 21 24.9 -0.2
baz=231
N55A **Marion Center** 61.46 36 *e*P P 11 21 25.3 -0.3
comp=Z,53nm,1.5s
N55A **Marion Center** 61.46 36 P P 11 21 25.2 -0.4
baz=231,SNR=5.7
C40A **Isle Royale Na** 61.46 25 P P 11 21 25.1 -0.3
baz=218
L53A **Girard** 61.49 34 P P 11 21 25.4 -0.3
baz=229,SNR=6.0
M54A **Oil Creek Stat** 61.53 35 *e*P P 11 21 25.6 -0.4
comp=Z,39nm,1.1s
M54A **Oil Creek Stat** 61.53 35 P P 11 21 26.0 0.0
baz=230,SNR=8.6
H48A **Harrisville** 61.73 30 P P 11 21 27.5 +0.2
baz=225
ERPA **Erie** 61.75 34 *e*P P 11 21 27.2 -0.3
comp=Z,32nm,1.0s
ERPA **Erie** 61.75 34 P P 11 21 27.3 -0.3
baz=229
F46A **Macinaw City C** 61.80 29 P P 11 21 28.0 +0.3
baz=223
G47A **Hillman** 61.80 30 P P 11 21 28.3 +0.5
baz=224,SNR=11
E44A **Grand Marais A** 61.88 27 P P 11 21 28.6 +0.3
baz=222
O57A **Amberson** 61.91 37 P P 11 21 28.8 +0.2
baz=232,SNR=5.9
N56A **West Decatur** 61.95 36 P P 11 21 29.0 +0.1
baz=231
SSPA **Standing Stone** 62.02 37 *e*P P 11 21 29.1 -0.2
comp=Z,29nm,1.0s
SSPA **Standing Stone** 62.02 37 P P 11 21 29.6 +0.2
baz=232
E45A **Wooded Hills,** 62.02 28 P P 11 21 29.5 +0.3
baz=222
M55A **Ridgway** 62.03 36 P P 11 21 29.0 -0.4
baz=230,SNR=5.5
BASO **Ashfield** 62.10 32 P P 11 21 30.3 +0.5
baz=227
L54A **Sinclairville** 62.20 35 P P 11 21 30.2 -0.3
baz=230
PTGA **Pitinga** 62.21 87 *e*P P 11 21 30.6 -0.6
comp=Z,13nm,0.9s
PTGA **Pitinga** 62.21 87 *e*P P 11 21 30.5 -0.6
J52A **Paris** 62.22 33 P P 11 21 30.5 -0.1
baz=228
P59A **Jarrettsville** 62.28 39 P P 11 21 31.2 +0.1
baz=233,SNR=5.8
N57A **Milroy** 62.30 37 P P 11 21 31.2 +0.1
baz=232,SNR=6.2
I51A **Listowel** 62.30 32 P P 11 21 31.5 +0.3
baz=227,SNR=12
M56A **Emporium** 62.38 36 P P 11 21 31.7 0.0
baz=231
E46A **Sault Ste Mari** 62.44 29 *e*P P 11 21 32.0 -0.1
comp=Z,61nm,1.5s
E46A **Sault Ste Mari** 62.44 29 P P 11 21 32.3 +0.3
baz=223,SNR=5.9
BWLO **Walkerton** 62.45 32 P P 11 21 32.5 +0.3
baz=227,SNR=9.5
TYNO **Tyneside** 62.45 34 P P 11 21 32.0 -0.2
baz=229
PAGS **Pennsylvania G** 62.48 38 *e*P P 11 21 32.3 -0.1
comp=Z,29nm,1.0s
MVL **Millersville** 62.57 38 *e*P P 11 21 33.3 +0.3
comp=Z,27nm,1.1s
TRQA **Tornquist** 62.60 130 *e*P P 11 21 34.6 +1.2
L55A **Hinsdale** 62.67 35 P P 11 21 34.0 +0.3
baz=230,SNR=6.1
ACTO **Acton** 62.69 33 P P 11 21 33.7 0.0
baz=228
BMRO **Meriville Lake** 62.74 32 P P 11 21 34.3 +0.3
baz=227
K54A **Basiliko Farm,** 62.80 35 P P 11 21 34.4 -0.2
baz=230
O59A **Robesonia** 62.85 38 P P 11 21 35.4 +0.4
baz=233
F48A **Evansville** 62.88 30 P P 11 21 35.1 +0.2
baz=225
P60A **Greenville** 62.90 39 P P 11 21 35.3 +0.1
baz=234
D46A **Sault St. Mari** 62.95 28 P P 11 21 35.6 +0.2
baz=223,SNR=12
E47A **Iron Bridge** 63.00 29 P P 11 21 36.3 +0.5
baz=224,SNR=8.8
TOBO **Tobermory, Bru** 63.01 31 P P 11 21 36.2 +0.3
baz=226
F49A **Sandfield** 63.12 30 P P 11 21 36.7 +0.2
baz=226
URZ **Urewera** 63.20 230 *e*P P 11 21 36.8 -0.5
comp=Z,32nm,1.4s
URZ **Urewera** 63.20 230 LR LR 11 42 03.0
comp=Z,82nm,22.0s,baz=82,slow=30
K55A **Perry** 63.23 35 P P 11 21 37.4 0.0
baz=231
J54A **Appleton** 63.25 34 P P 11 21 37.3 -0.2
baz=230
FFC **Flin Flon** 63.29 13 *e*P P 11 21 37.2 -0.3
comp=Z,23nm,1.4s
FFC **Flin Flon** 63.29 13 *ce*P P 11 21 37.6 +0.1
O60A **Telford** 63.34 38 P P 11 21 38.7 +0.6
baz=234,SNR=7.1
N59A **State Game Lan** 63.47 38 *e*P P 11 21 38.8 -0.2
comp=Z,25nm,1.3s
N59A **State Game Lan** 63.47 38 P P 11 21 39.5 +0.5
baz=233
D47A **Chapleau** 63.51 29 P P 11 21 39.4 +0.3
baz=224,SNR=14
LUPA **Lehigh Univers** 63.52 38 *e*P P 11 21 39.4 0.0
comp=Z,3.3nm,1.2s
E48A **Lockeyer** 63.56 30 P P 11 21 40.0 +0.6
baz=225,SNR=16
J55A **Hilton** 63.71 35 *e*P P 11 21 40.1 -0.4
comp=Z,21nm,1.0s
J55A **Hilton** 63.71 35 P P 11 21 40.3 -0.2
baz=231
KLBO **Killbear Provi** 63.78 32 P P 11 21 40.8 -0.1
baz=228
WLVO **Wesleyville** 63.81 34 P P 11 21 41.1 0.0
baz=230,SNR=5.3
SADO **Sadowa** 63.95 33 *e*P P 11 21 41.9 -0.2
comp=Z,32nm,1.2s
BINY **Binghamton** 64.11 37 *e*P P 11 21 43.3 +0.1
comp=Z,16nm,0.9s
BINY **Binghamton** 64.11 37 P P 11 21 43.6 +0.4
baz=233
E50A **Wahnapitae** 64.23 30 P P 11 21 44.3 +0.4
baz=227,SNR=22
BUKO **Buck Lake** 64.26 32 P P 11 21 44.1 0.0
baz=228,SNR=8.6
F51A **Arnstein** 64.32 31 P P 11 21 44.3 -0.1
baz=228,SNR=7.0
I55A **Frankford** 64.39 34 P P 11 21 44.8 -0.1
baz=230,SNR=7.0
G53A **Haliburton** 64.46 33 P P 11 21 45.5 0.0
baz=229,SNR=9.0
D49A **Beulah Townshi** 64.51 29 P P 11 21 45.4 -0.4
baz=226,SNR=5.6
CPUP **Villa Florida** 64.52 116 *e*P P 11 21 46.5 +0.3
comp=Z,15nm,1.3s
CPUP **Villa Florida** 64.52 116 *e*P P 11 21 46.5 +0.3
CPUP pmax pmax
comp=Z,15nm,1.3s
CPUP **Villa Florida** 64.52 116 P P 11 21 46.0 -0.2
comp=Z,6.8nm,1.0s,baz=279,slow=7.8,SNR=6.9
CPUP LR LR 11 44 12.7
comp=Z,173nm,20.5s,baz=270,slow=31
CPUP **Villa Florida** 64.52 116 *e*P P 11 21 46.9 +0.6
F52A **Sundridge** 64.53 32 P P 11 21 45.6 -0.3
baz=228
PECO **Prince Edward** 64.60 34 P P 11 21 46.0 -0.3
baz=231,SNR=8.6
DELO **Deloro Mine** 64.62 34 P P 11 21 46.3 -0.2
baz=230,SNR=5.8
BANO **Bancroft** 64.77 33 P P 11 21 47.6 +0.2
baz=230,SNR=7.7
H55A **Tweed** 64.88 34 P P 11 21 48.0 -0.2
baz=231,SNR=7.7
E51A **G1948 Merrick** 64.94 31 P P 11 21 48.6 +0.1
baz=228,SNR=5.5
DLBC **Dease Lake** 65.05 355 *e*P P 11 21 49.2 +0.1
comp=Z,42nm,1.0s
E52A **Mattawa** 65.21 32 P P 11 21 50.2 0.0
baz=229,SNR=10
PLVO **Plevna** 65.25 34 *e*P P 11 21 50.6 0.0
comp=Z,19nm,1.0s
PLVO **Plevna** 65.25 34 P P 11 21 50.6 0.0
baz=231,SNR=7.7
ALGO **Algonquin Park** 65.31 32 P P 11 21 50.6 -0.4
baz=229,SNR=5.7
JIS **Juneau Island** 65.34 353 *e*P P 11 21 50.6 -0.2
comp=Z,33nm,1.2s
KSCT **Kent School, K** 65.34 38 *e*P P 11 21 51.2 0.0
comp=Z,22nm,1.0s
H56A **Elgin** 65.42 34 P P 11 21 51.8 +0.2
baz=232,SNR=8.4
CLDB **Colider** 65.56 99 *e*P P 11 21 52.2 -1.0
PEMO **Pembroke** 65.56 33 P P 11 21 52.5 0.0
baz=230,SNR=7.6
G55A **Calabogie** 65.58 33 P P 11 21 52.5 -0.1
baz=231
AQDB **Aquidauana** 65.63 109 *e*P P 11 21 54.2 +0.6
BESE **Bessie Mountai** 65.69 353 *e*P P 11 21 53.5 +0.3
comp=Z,46nm,1.1s
D52A **ZEK Kipawa Sen** 65.79 31 P P 11 21 54.3 +0.2
baz=229,SNR=12
E53A **Dumoine, Ponti** 65.79 32 P P 11 21 54.1 +0.1
baz=230,SNR=6.9
E54A **Lac Daplat, Po** 66.08 32 P P 11 21 56.3 +0.4
baz=230,SNR=20
F55A **Otter Lake** 66.14 33 P P 11 21 56.2 -0.1
baz=231
D53A **Lac Vacive, Po** 66.22 31 *e*P P 11 21 57.0 +0.2
comp=Z,59nm,1.2s
D53A **Lac Vacive, Po** 66.22 31 P P 11 21 57.5 +0.7
baz=229,SNR=20
LONY **Lake Ozonia** 66.38 35 *e*P P 11 21 57.9 -0.1
comp=Z,22nm,1.1s
LONY **Lake Ozonia** 66.38 35 P P 11 21 57.8 -0.1
baz=233,SNR=6.8
SKAG **Skagway** 66.61 353 *e*P P 11 21 59.0 0.0
comp=Z,19nm,1.1s
D54A **Lac Fusel, La** 66.82 32 P P 11 22 00.6 0.0
baz=230,SNR=19
HRV **Adam Dziewonsk** 66.96 38 P P 11 22 01.3 -0.3
baz=236
VLDQ **Val d'Or** 67.03 31 *e*P P 11 22 01.1 -0.8
comp=Z,24nm,1.2s
FRNY **Flat Rock** 67.08 35 *e*P P 11 22 02.0 -0.3
comp=Z,8.3nm,0.9s
THZ **Tophouse** 67.13 227 *e*P P 11 22 02.5 -0.4
comp=Z,24nm,1.2s
HNH **Hanover** 67.19 37 *e*P P 11 22 03.5 +0.4
comp=Z,51nm,1.5s
LBNH **Lisbon** 67.71 37 P P 11 22 05.6 -0.7
baz=236
WHY **Whitehorse** 67.72 353 *e*P P 11 22 05.8 -0.4
comp=Z,44nm,1.0s
LSQQ **Lebel-sur-Quev** 67.88 30 P P 11 22 07.2 -0.1
baz=229
PCA **Pinnacle** 67.95 350 *e*P P 11 22 07.6 0.0
comp=Z,54nm,1.0s
MATQ **Matagami** 68.02 29 P P 11 22 07.8 -0.3
baz=229,SNR=12
SII **Sitkinak Islan** 68.15 342 *e*P P 11 22 08.3 -0.6
comp=Z,88nm,1.0s
HYT **Haines Junctio** 68.22 352 *e*P P 11 22 09.5 +0.1
comp=Z,42nm,1.0s
OHAK **Old Harbor** 68.43 342 *e*P P 11 22 10.5 -0.1
comp=Z,50nm,1.2s
KDAK **Kodiak Island** 68.69 343 *e*P P 11 22 12.2 0.0
comp=Z,56nm,1.1s
KDAK **Kodiak Island** 68.69 343 *ce*P P 11 22 13.1 +0.9
FCC **Fort Churchill** 68.83 15 *e*P P 11 22 12.8 -0.2
comp=Z,51nm,1.0s
FCC **Fort Churchill** 68.83 15 *e*P P 11 22 12.8 -0.2
FCC pmax pmax
comp=Z,51nm,1.0s
RPZ **Rata Peaks** 68.86 226 LR LR 11 44 08.8
comp=Z,89nm,20.1s,baz=48,slow=29
HMT **Hamilton** 68.91 348 *e*P P 11 22 14.2 +0.7
comp=Z,59nm,1.0s
CTGM **Chitina Glacie** 68.95 350 *e*P P 11 22 14.4 +0.5
comp=Z,41nm,1.0s
LATQ **La Tuque** 69.04 33 P P 11 22 14.6 +0.1
baz=234
YKA **Yellowknife Ar** 69.05 4 P P 11 22 14.2 -0.1
comp=Z,12nm,0.8s,baz=182,slow=6.2,SNR=238
YKA LR LR 11 48 30.7
comp=Z,6.8nm,18.9s,baz=190,slow=32
YKB5 **Yellowknife Ar** 69.05 4 *e*P P 11 22 14.2 -0.1
YKW3 **Yellowknife Ar** 69.11 4 *e*P P 11 22 14.4 -0.3
comp=Z,16nm,0.9s
PTGB **Pitanga** 69.16 114 *e*P P 11 22 17.7 +1.7
BALM **Baldy** 69.19 350 *e*P P 11 22 15.0 -0.4
comp=Z,32nm,1.2s
BALM *e*PcP PcP 11 22 39.8 +0.7
BALM **Baldy** 69.19 350 *e*P P 11 22 15.0 -0.4
BALM *e* 11 22 39.8
BALM pmax pmax
comp=Z,32nm,1.2s
ITAB **Concordia** 69.22 117 *e*P P 11 22 17.8 +1.6
WVL **Waterville** 69.24 37 *e*P P 11 22 16.0 +0.1
comp=Z,24nm,1.1s
CHGN **Chignik** 69.36 339 *e*P P 11 22 16.0 -0.3
comp=Z,71nm,1.2s
EYAK **Cordova Ski Ar** 69.41 348 *e*P P 11 22 16.6 +0.1
comp=Z,28nm,1.2s
CHGQ **Chibougamau** 69.73 31 P P 11 22 18.6 -0.3
baz=232,SNR=17
PKME **Peaks-Kenny Pk** 69.84 37 P P 11 22 19.8 +0.2
baz=237
SEW **Seward** 69.85 346 *e*P P 11 22 19.1 -0.2
comp=Z,42nm,1.0s
BRLK **Bradley Lake** 69.92 345 *e*P P 11 22 19.8 0.0
comp=Z,60nm,1.0s
GLI **Glacier Island** 69.99 347 *e*P P 11 22 19.9 -0.4
comp=Z,54nm,1.0s
DZM **Mont Dzumac** 70.44 249 *e*LR LR 11 43 46.6
comp=Z,177nm,31.2s
CNLB **Canela** 70.47 119 *e*P P 11 22 24.6 +0.6
ITRB **Iturama** 70.64 109 *e*P P 11 22 25.7 +0.6
EMMW **East Machias** 70.66 38 *e*P P 11 22 24.9 +0.4
comp=Z,34nm,1.4s
UNV **Unalaska Valle** 70.75 334 *e*P P 11 22 24.5 -0.4
comp=Z,51nm,1.0s
KNK **Knik Glacier** 70.77 347 *e*P P 11 22 25.1 +0.1
comp=Z,75nm,1.0s
RC01 **Rabbit Creek A** 70.78 346 *e*P P 11 22 24.5 -0.5
comp=Z,117nm,1.6s
SCM **Sheep Creek Mo** 70.90 348 *e*P P 11 22 25.4 -0.5
comp=Z,54nm,1.0s
SCM **Sheep Creek Mo** 70.90 348 *e*P P 11 22 25.4 -0.5
SCM pmax pmax
comp=Z,55nm,1.0s
RSO **Redoubt South** 71.00 344 *e*P P 11 22 26.4 -0.3
PMR **Palmer** 71.08 347 *e*P P 11 22 26.4 -0.4
comp=Z,72nm,1.2s
PMR **Palmer** 71.08 347 *e*P P 11 22 26.4 -0.4
PMR pmax pmax
comp=Z,73nm,1.2s
SML **Sawmill** 71.09 347 *e*P P 11 22 26.6 -0.4
comp=Z,59nm,1.1s
SML **Sawmill** 71.09 347 *e*P P 11 22 26.6 -0.4
SML pmax pmax
comp=Z,59nm,1.1s
GHO **Glory Hole Cre** 71.19 347 *e*P P 11 22 27.3 -0.3
comp=Z,54nm,1.0s
MENT **Mentasta** 71.20 350 *e*P P 11 22 27.5 -0.1
comp=Z,43nm,1.1s
GGN **Saint George** 71.24 38 *e*P P 11 22 28.4 +0.2
comp=Z,38nm,1.4s
PQI **Presque Isle** 71.34 36 *e*P P 11 22 28.5 -0.2
comp=Z,28nm,1.3s
SPU **Mount Spurr** 71.43 345 *e*P P 11 22 28.4 -0.6
PAX **Paxson** 71.55 349 *e*P P 11 22 28.8 -1.0
comp=Z,19nm,1.0s
PAX **Paxson** 71.55 349 *e*P P 11 22 28.8 -1.0
PAX pmax pmax
comp=Z,19nm,1.0s
DAWY **Dawson** 71.58 352 *e*P P 11 22 29.9 0.0
comp=Z,62nm,1.1s
DOT **Dot Lake** 71.92 350 *e*P P 11 22 31.4 -0.5
comp=Z,24nm,0.9s
DHY **Denali Highway** 72.03 348 *e*P P 11 22 32.1 -0.7
comp=Z,25nm,1.3s
SVW2 **Sparrevohn** 72.30 344 *e*P P 11 22 33.3 -0.9
comp=Z,49nm,1.4s
EGAK **Eagle** 72.51 352 *e*P P 11 22 35.0 -0.3
comp=Z,51nm,1.0s
LMN **Caledonia Moun** 72.85 38 *e*P P 11 22 37.4 -0.4
comp=Z,27nm,1.1s
MCK **McKinley** 72.93 348 *e*P P 11 22 37.3 -0.6
comp=Z,45nm,1.1s
MCK **McKinley** 72.93 348 *e*P P 11 22 37.3 -0.6
MCK pmax pmax
comp=Z,45nm,1.1s
BDFB **Brasilia** 72.95 104 LR LR 11 50 43.3
comp=Z,235nm,19.9s,baz=288,slow=32
HDA **Harding Lake** 73.14 349 *e*P P 11 22 38.5 -0.7
comp=Z,34nm,1.1s
HDA **Harding Lake** 73.14 349 P P 11 22 38.9 -0.3
baz=154
CAST **Castle Rocks** 73.36 346 *e*P P 11 22 39.7 -0.7
comp=Z,62nm,1.2s
WRH **Wood River Hil** 73.42 349 *e*P P 11 22 40.3 -0.5
comp=Z,76nm,1.1s
BWN **Browne** 73.43 348 *e*P P 11 22 40.3 -0.5
comp=Z,146nm,1.0s
ILAR **Eielson Array** 73.46 349 P P 11 22 40.2 -0.7
comp=Z,3.6nm,0.8s,baz=164,slow=4.3,SNR=35
ILAR LR LR 11 49 21.4
comp=Z,84nm,18.2s,baz=141,slow=31
ILB **Eielson Array** 73.46 349 *e*P P 11 22 40.3 -0.7
comp=Z,9.2nm,1.0s
EPYK **Eagle Plains** 73.48 354 *e*P P 11 22 41.0 -0.2
comp=Z,87nm,1.1s
EPYK **Eagle Plains** 73.48 354 P P 11 22 40.9 -0.2
baz=165
CCB **Clear Creek Bu** 73.52 349 *e*P P 11 22 41.0 -0.3
comp=Z,63nm,1.0s
BPAW **Bear Paw Mtn.** 73.69 347 *e*P P 11 22 41.8 -0.6
comp=Z,82nm,1.2s
COLA **College** 73.73 349 *e*P P 11 22 42.3 -0.3
comp=Z,53nm,1.0s
COLA **College** 73.73 349 *c i*P P 11 22 41.9 -0.7
COLA pmax pmax
comp=Z,42nm,1.0s
TCOL **CIGO, UAF Yank** 73.73 349 P P 11 22 42.4 -0.2
baz=153
POKR **Poker Plat Res** 73.87 349 P P 11 22 43.3 -0.1
baz=154
MDM **Murphy Dome** 73.88 349 *e*P P 11 22 43.2 -0.3
comp=Z,85nm,1.1s
H11S2 **WAKE ISLAND Hy** 74.45 291 T T 12 44 07.6
baz=103,slow=74,SNR=20
MLY **Manley** 74.45 348 *e*P P 11 22 46.2 -0.7
comp=Z,46nm,1.0s
H11S1 **WAKE ISLAND Hy** 74.46 291 T T 12 44 06.1
baz=103,slow=74,SNR=11
H11S3 **WAKE ISLAND Hy** 74.47 291 T T 12 44 08.6
baz=103,slow=74,SNR=12
H11N3 **WAKE ISLAND Hy** 74.53 292 T T 12 44 11.2
baz=103,slow=74,SNR=8.2
H11N2 **WAKE ISLAND Hy** 74.55 292 T T 12 44 10.1
baz=103,slow=74,SNR=6.0
H11N1 **WAKE ISLAND Hy** 74.55 292 T T 12 44 17.6
baz=103,slow=74,SNR=7.9
GBN **Guysborough** 74.69 39 *e*P P 11 22 48.4 -0.2
comp=Z,36nm,1.0s
FYU **Fort Yukon** 74.81 351 *e*P P 11 22 48.8 0.0
comp=Z,57nm,1.2s
INK **Inuvik** 75.08 356 *e*P P 11 22 50.1 -0.2
comp=Z,72nm,1.3s
INK **Inuvik** 75.08 356 *e*P P 11 22 50.1 -0.2
INK pmax pmax
comp=Z,72nm,1.3s
BSCB **Bom Sucesso** 75.86 110 *e*P P 11 22 56.3 +0.3
COLD **Coldfoot** 76.27 349 *e*P P 11 22 57.8 +0.6
comp=Z,29nm,1.1s
SCHQ **Schefferville** 76.36 29 *e*P P 11 22 57.6 -0.4
comp=Z,53nm,1.0s
SCHQ **Schefferville** 76.36 29 P P 11 22 57.7 -0.3
comp=Z,37nm,1.0s,baz=242,slow=4.0,SNR=15
MCI8 **Montes Claros** 76.84 106 *e*P P 11 23 03.0 +1.4
MCI6 **Montes Claros** 76.86 106 *e*P P 11 23 02.7 +1.0
MCI9 **Montes Claros** 76.86 106 *e*P P 11 23 02.9 +1.1
TOLK **Toolik Lake Re** 77.41 350 *e*P P 11 23 03.7 0.0
comp=Z,35nm,1.2s
TOLK **Toolik Lake Re** 77.41 350 P P 11 23 04.4 +0.7
baz=152
ANM **Nome** 77.84 342 *e*P P 11 23 06.4 +0.3
comp=Z,85nm,1.4s
ANM **Nome** 77.84 342 *e*P P 11 23 06.4 +0.3
ANM pmax pmax
comp=Z,85nm,1.4s
DUB01 **Friburgo-RJ** 78.06 111 *e*P P 11 23 10.2 +1.9
CAM01 **Campos-RJ** 78.73 111 *e*P P 11 23 13.9 +1.9
DRLN **Deer Lake** 78.79 37 *e*P P 11 23 11.4 -0.3
comp=Z,45nm,1.3s
SJMB **Sao Joao De Ma** 79.33 108 *e*P P 11 23 16.8 +1.4
GAMB **Gambell** 79.34 340 *e*P P 11 23 14.6 +0.3
comp=Z,49nm,1.4s
BSFB **Barra de Sao F** 79.65 108 *e*P P 11 23 18.1 +1.0
ALF01 **Guarapari-ES** 79.66 110 *e*P P 11 23 18.5 +1.5
RDOG **Red Dog Mine** 79.74 346 *e*P P 11 23 16.6 +0.2
comp=Z,62nm,1.3s
VNDA **Vanda** 80.68 192 *e*P P 11 23 21.8 +0.3
comp=Z,12nm,1.3s

VNDA	**Vanda**	**80.68**	**192**	*e*P	**P**	**11 23 21.8**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,13nm,1.3s						
VNDA	**Vanda**	**80.68**	**192**	P	**P**	**11 23 21.4**	**-0.1**
	comp=Z,4.8nm,1.1s,baz=66,slow=5.9,SNR=11						
VNDA				LR	LR	11 50 59.6	
	comp=Z,89nm,19.4s,baz=20,slow=30						
RES	**Resolute Bay**	**82.75**	**7**	*e*P	**P**	**11 23 32.0**	**-0.3**
	comp=Z,24nm,1.0s						
RES	**Resolute Bay**	**82.75**	**7**	*e*P	**P**	**11 23 32.0**	**-0.3**
RES				pmax	pmax		
	comp=Z,24nm,1.0s						
QSPA	**South Pole Qui**	**83.53**	**180**	*e*P	**P**	**11 23 37.3**	**+0.5**
	comp=Z,24nm,1.4s						
RABL	**Rabaul**	**85.33**	**266**	*e*P	**P**	**11 23 46.1**	**-0.8**
	comp=Z,50nm,0.4s						
CAN	**Canberra**	**85.41**	**235**	*e*P	**P**	**11 23 46.8**	**-0.1**
	comp=Z,22nm,1.1s						
CAN	**Canberra**	**85.41**	**235**	*e*P	**P**	**11 23 46.8**	**-0.1**
CAN				pmax	pmax		
	comp=Z,22nm,1.1s						
RCBR	**Riachuelo**	**85.56**	**95**	*e*P	**P**	**11 23 49.1**	**+1.1**
BILL	**Bilibino**	**89.24**	**339**	*e*P	**P**	**11 24 04.2**	**-0.4**
	comp=Z,14nm,1.1s						
BILL	**Bilibino**	**89.24**	**339**	⇑*i*P	**P**	**11 24 03.8**	**-0.8**
BILL				*e*		11 27 31.8	
BILL				*i*S	**S**	**11 34 55.2**	**+1.4**
BILL				pmax	pmax		
	comp=Z,23nm,1.7s						
BILL				MLR	MLR		
	comp=Z,98nm,17.0s						
PEA0B	**Petropavlovsk-**	**89.33**	**324**	*e*P	**P**	**11 24 04.7**	**-0.6**
	comp=Z,83nm,1.4s						
PETK	**Petropavlovsk-**	**89.33**	**324**	P	**P**	**11 24 04.0**	**-1.3**
	comp=Z,18nm,0.9s,baz=97,slow=12,SNR=13						
PETK				LR	LR	11 56 19.6	
	comp=Z,80nm,21.3s,baz=88,slow=30						
PMG	**Port Moresby**	**89.70**	**261**	⇓*e*P	**P**	**11 24 06.0**	**-1.9**
PMG				pmax	pmax		
	comp=Z,74nm,0.8s						
STKA	**Stephens Creek**	**91.95**	**238**	LR	LR	11 57 56.1	
	comp=Z,36nm,20.4s,baz=31,slow=31						
SNAA	**Sanae**	**92.67**	**164**	⇑*e*P	**P**	**11 24 19.6**	**-1.0**
FIA0	**FINESS Array S**	**120.29**	**17**	*e*PKPdf	**PKPdf**	**11 29 58.6**	**-1.2**
FIA0	**FINESS Array S**	**120.29**	**17**	*e*PKIKP	**PKPdf**	**11 29 58.7**	**-1.2**
FINES	**FINESS Array B**	**120.29**	**17**	PKP	**PKPdf**	**11 29 58.7**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=156,slow=24,SNR=3.8						
HHC	**Hu-ho-hao-te**	**121.36**	**314**	*e*PKP	**PKPdf**	**11 29 59.0**	**-3.7**
HHC				LR	LR		
	comp=Z,120nm,18.5s						
HHC				LR	LR		
	comp=Z,170nm,18.1s						
HHC				LR	LR		
	comp=Z,290nm,19.1s						
ULN	**Ulaanbaatar**	**121.41**	**323**	*c i*PKIKP	**PKPdf**	**11 30 01.3**	**-1.4**
ULN				pmax	pmax		
	comp=Z,8.0nm,2.5s						
SONA0	**Songino Array**	**121.81**	**324**	*e*PKPdf	**PKPdf**	**11 30 02.2**	**-1.3**
SONM	**Songino Array**	**121.81**	**324**	PKP	**PKPdf**	**11 30 02.2**	**-1.3**
	comp=Z,2.0nm,0.9s,baz=84,slow=1.6,SNR=9.4						
WHN	**Wuhan**	**122.08**	**302**	PKP	**PKiKP**	**11 30 11.0**	**+6.6**
TOA0	**Torodi Ar. Sit**	**124.30**	**79**	*e*PKPdf	**PKPdf**	**11 30 07.2**	**-1.7**
TORD	**Torodi Ar. Bea**	**124.30**	**79**	PKP	**PKPdf**	**11 30 06.3**	**-2.6**
	comp=Z,3.3nm,0.9s,baz=332,slow=6.1,SNR=13						
MODS	**Modra-Piesok**	**125.92**	**32**	*e*PKIKP	**PKiKP**	**11 30 13.1**	**+1.5**
MODS	**Modra-Piesok**	**125.92**	**32**	*e*PKP	**PKiKP**	**11 30 13.0**	**+1.5**
VYHS	**Vyhne**	**126.67**	**32**	*e*P	**Pdif**	**11 26 56.4**	**+3.6**
VYHS				*e*		11 30 12.6	
VYHS	**Vyhne**	**126.67**	**32**	*e*PDIF	**Pdif**	**11 26 56.4**	**+3.6**
VYHS	**Vyhne**	**126.67**	**32**	*e*PKP	**PKPdf**	**11 30 12.6**	**0.0**
TAM	**Tamanrasset**	**127.07**	**66**	*e*PKPdf	**PKPdf**	**11 30 12.7**	**-1.6**
TAM	**Tamanrasset**	**127.07**	**66**	*e*PKIKP	**PKPdf**	**11 30 12.7**	**-1.6**
ZAA1	**Zalesovo Array**	**127.93**	**340**	*e*PKPdf	**PKPdf**	**11 30 12.5**	**-2.2**
ZALV	**Zalesovo Beam**	**127.93**	**340**	PKP	**PKPdf**	**11 30 12.5**	**-2.2**
	comp=Z,3.0nm,1.0s,baz=5.7,slow=3.0,SNR=5.5						
OBN	**Obninsk**	**128.60**	**16**	⇑*i*PKIKP	**PKPdf**	**11 30 15.8**	**-0.2**
OBN				*e*		11 32 22.7	
OBN				pmax	pmax		
	comp=Z,12nm,0.4s						
OBN				MLR	MLR		
	comp=Z,47nm,16.0s						
LZH	**Lanzhou**	**128.76**	**312**	*e*PKP	**PKPdf**	**11 30 13.5**	**-3.6**
LZH				sPKP		11 30 27.3	
LZH				LR	LR		
	comp=Z,260nm,17.4s						
LZH				LR	LR		
	comp=Z,260nm,18.0s						
LZH				LR	LR		
	comp=Z,340nm,20.1s						
AKASG	**Malin Array Be**	**129.88**	**23**	PKP	**PKPdf**	**11 30 17.1**	**-1.5**
	comp=Z,2.3nm,0.7s,baz=331,slow=2.1,SNR=12						
AKBB	**Malin Array Si**	**129.88**	**23**	*e*PKPdf	**PKPdf**	**11 30 16.5**	**-2.1**
AKBB	**Malin Array Si**	**129.88**	**23**	*e*PKIKP	**PKPdf**	**11 30 16.5**	**-2.1**
GTA	**Gaotai**	**130.11**	**317**	PKP	**PKPdf**	**11 30 19.8**	**+0.2**
GTA				sPKP		11 30 27.0	
GTA				LR	LR		
	comp=Z,59nm,18.2s						
GTA				LR	LR		
	comp=Z,89nm,18.9s						
GTA				LR	LR		
	comp=Z,87nm,23.7s						
ARU	**Arti**	**130.22**	**360**	*i* PKIKP	**PKPdf**	**11 30 17.9**	**-1.1**
ARU						11 32 31.9	
ARU				SS	SS	11 49 50.8	-5.9
DGZ	**Jazzator, Alta**	**130.33**	**335**	⇑*i*PKIKP	**PKPdf**	**11 30 18.9**	**-0.8**
CD2	**Chengdu**	**130.74**	**306**	PKP	**PKPdf**	**11 30 19.8**	**-1.1**
BRVK	**Borovoye**	**132.51**	**350**	*e*PKPdf	**PKPdf**	**11 30 22.6**	**-0.9**
BRVK	**Borovoye**	**132.51**	**350**	*c i*PKIKP	**PKPdf**	**11 30 23.6**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KURK	**Kurchatov**	**132.68**	**342**	*e*PKPdf	**PKPdf**	**11 30 23.0**	**-0.9**
KURK	**Kurchatov**	**132.68**	**342**	⇓*i*PKIKP	**PKPdf**	**11 30 22.8**	**-1.1**
KURK				pmax	pmax		
	comp=Z,11nm,1.3s						
TSUM	**Tsumeb**	**132.75**	**124**	*e*PKPdf	**PKPdf**	**11 30 24.5**	**-0.6**
KMI	**Kunming**	**133.36**	**299**	PKP	**PKPdf**	**11 30 23.8**	**-2.4**
KMI				LR	LR		
	comp=Z,130nm,26.3s						
WMQ	**Urumqi**	**134.59**	**330**	*e*PKP	**PKPdf**	**11 30 27.8**	**0.0**
WMQ				LR	LR		
	comp=Z,1μm,39.3s						
WMQ				LR	LR		
	comp=Z,870nm,39.5s						
WMQ				LR	LR		
	comp=Z,450nm,27.3s						
MK31	**Makanchi Array**	**134.73**	**336**	*e*PKPdf	**PKPdf**	**11 30 26.7**	**-1.2**
MK31	**Makanchi Array**	**134.73**	**336**	*e*PKIKP	**PKPdf**	**11 30 26.7**	**-1.2**
MKAR	**Makanchi Array**	**134.73**	**336**	*ce*PKIKP	**PKPdf**	**11 30 26.7**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**134.73**	**336**	PKP	**PKPdf**	**11 30 26.3**	**-1.6**
	comp=Z,2.1nm,0.9s,baz=38,slow=2.2,SNR=12						
MAKZ	**Makanchi**	**134.84**	**337**	*e*PKPdf	**PKPdf**	**11 30 26.9**	**-1.2**
MAKZ	**Makanchi**	**134.84**	**337**	*e*PKIKP	**PKPdf**	**11 30 26.9**	**-1.2**
PBKT	**Sadao Pong**	**136.75**	**287**	P	**PKiKP**	**11 30 34.7**	**+0.5**
PHRA	**Phrae**	**137.13**	**290**	P	**PKiKP**	**11 30 35.6**	**+0.6**
ABKAR	**Akbulak array**	**137.37**	**358**	*e*PKPdf	**PKPdf**	**11 30 31.8**	**-0.9**
CMMT	**Chiang Mai**	**138.26**	**291**	P	**PKiKP**	**11 30 36.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**138.34**	**290**	*ce*PKIKP	**PKPdf**	**11 30 34.2**	**-1.2**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**138.34**	**290**	PKhKP	PKPpre	11 30 27.4	
	comp=Z,0.5nm,0.4s,baz=28,slow=1.1,SNR=6.7						
CMAR				PKP	**PKPdf**	**11 30 35.0**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=20,slow=1.4,SNR=12						
BR101	**Keskin Array S**	**140.37**	**30**	*e*PKPpre	PKPpre	11 30 31.1	
BR131	**Keskin Array S**	**140.37**	**30**	*e*PKPdf	**PKPdf**	**11 30 37.5**	**-1.2**
BRTR	**Keskin Array B**	**140.37**	**30**	PKhKP	PKPpre	11 30 31.1	
	comp=Z,0.4nm,0.3s,baz=172,slow=2.5,SNR=6.1						
BRTR				PKP	**PKPdf**	**11 30 38.2**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=176,slow=0.9,SNR=13						
KIV	**Kislovodsk**	**140.38**	**17**	*i* PKIKP	**PKPdf**	**11 30 36.7**	**-1.8**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV				MLR	MLR		
	comp=Z,150nm,24.0s						
KDJ	**Kajisay**	**140.63**	**337**	*e*PKPdf	**PKPdf**	**11 30 37.6**	**-1.6**
KDJ	**Kajisay**	**140.63**	**337**	*e*PKIKP	**PKPdf**	**11 30 37.6**	**-1.6**
AAK	**Ala-Archa**	**141.15**	**340**	*e*PKPdf	**PKPdf**	**11 30 38.9**	**-1.2**
AAK	**Ala-Archa**	**141.15**	**340**	⇓*e*PKIKP	**PKPdf**	**11 30 39.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
KSH	**Kashi**	**143.34**	**336**	PKP	**PKPdf**	**11 30 44.3**	**+0.3**
KSH				pPKP	PKiKP	11 30 54.5	+7.2
KSH				PP	**PP**	**11 34 01.0**	**+7.1**
KSH				SKS	**SKSdf**	**11 37 47.5**	**-6.6**
KSH				AMB	AMB		
	comp=Z,190nm,4.9s						
KSH				LR	LR		
	comp=Z,220nm,10.3s						
KSH				LR	LR		
	comp=Z,170nm,8.8s						
KSH				LR	LR		
	comp=Z,310nm,9.7s						
LSZ	**Lusaka**	**143.43**	**127**	PKP	PKPbc	11 30 41.9	0.0
	comp=Z,2.0nm,0.3s,baz=254,slow=9.4,SNR=5.6						
GNI	**Garni**	**144.48**	**18**	*e*PKPdf	PKPbc	11 30 44.6	+0.2
GNI	**Garni**	**144.48**	**18**	*c i*PKIKP	PKPbc	11 30 44.4	-0.1
GNI				pmax	pmax		
	comp=Z,815nm,1.7s						
BTK	**Batken**	**144.65**	**343**	*e*PKPdf	**PKPab**	**11 30 43.8**	**-1.0**
BTK	**Batken**	**144.65**	**343**	*e*PKIKP	**PKPab**	**11 30 43.8**	**-1.0**
ODAN	**Odare**	**145.44**	**309**	*e*P	**PKPbc**	**11 30 47.3**	**-0.8**
	comp=Z,405nm,1.1s						
GAR	**Garm**	**145.78**	**343**	*e*PKPdf	**PKPdf**	**11 30 46.8**	**-1.5**
GAR	**Garm**	**145.78**	**343**	*e*PKP2	**PKPdf**	**11 30 46.8**	**-1.5**
JIRN	**Jiri**	**145.93**	**311**	*e*P	**PKPdf**	**11 30 48.4**	**-0.7**
	comp=Z,123nm,1.1s						
RAMN	**Ramite**	**145.99**	**310**	*e*P	**PKPdf**	**11 30 48.7**	**-0.4**
GUN	**Gumba**	**146.02**	**312**	*e*P	**PKPdf**	**11 30 48.7**	**-0.6**
	comp=Z,143nm,1.0s						
CHGR	**Chuyangaron**	**146.43**	**344**	*e*PKPdf	**PKPdf**	**11 30 48.7**	**-0.7**
KKN	**Kakani**	**146.53**	**312**	*e*P	**PKPdf**	**11 30 49.9**	**-0.1**
	comp=Z,79nm,1.0s						
PKI	**Pulchoki**	**146.55**	**312**	*e*P	**PKPdf**	**11 30 49.8**	**-0.4**
	comp=Z,52nm,1.0s						
PKIN	**Phulchoki**	**146.56**	**312**	*e*P	**PKPdf**	**11 30 49.6**	**-0.5**
	comp=Z,31nm,0.9s						
DMN	**Daman**	**146.76**	**312**	*e*P	**PKPdf**	**11 30 50.5**	**+0.1**
DANN	**Dangsing**	**147.30**	**315**	*e*P	**PKPbc**	**11 30 52.5**	**-1.1**
	comp=Z,238nm,1.1s						
KOLN	**Koldanda**	**147.75**	**314**	*e*P	**PKPdf**	**11 30 53.1**	**+1.1**
	comp=Z,72nm,1.0s						
PYUN	**Piuthan**	**147.99**	**315**	*e*P	**PKPbc**	**11 30 54.4**	**-1.0**
	comp=Z,258nm,1.1s						
GEYT	**Alibeck**	**148.73**	**360**	PKPbc	**PKPbc**	**11 30 56.5**	**-0.4**
	comp=Z,6.4nm,0.7s,baz=294,slow=4.7,SNR=18						
GYA0B	**ALIBECK ARRAY**	**148.73**	**360**	*e*PKPdf	**PKPdf**	**11 30 52.4**	**-0.7**
NIL	**Nilore**	**149.49**	**334**	*e*PKPdf	**PKPdf**	**11 30 54.1**	**-0.3**
KBL	**Kabul**	**150.28**	**341**	*e*PKPdf	**PKPdf**	**11 30 55.1**	**-0.8**
KBL	**Kabul**	**150.28**	**341**	*e*PKIKP	**PKPdf**	**11 30 55.1**	**-0.8**
ABPO	**Ambohimpanom**	**152.53**	**158**	*e*PKPdf	**PKPdf**	**11 30 59.1**	**-0.5**
ABPO	**Ambohimpanom**	**152.53**	**158**	*e*PKIKP	**PKPdf**	**11 30 59.1**	**-0.5**

*IDC **31** 11:26:38.2±2.0, 36°.59N×141°.93E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/40, mbtmp3.6/6, ML3.3/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/31, Error ellipse: s-maj=45.0km s-min=23.0km az=57.0*
*JMA **31** 11:26:44.1±0.2, 36°.53N×141°.50E, h46km±4km, M3.4*
ISC 31 11:26:41.6±1.8, 36°.52N±0°.04×141°.63E±0°.08, h16km±10km, n25, σ1°09/23, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.86**	**276**	P	**Pg**	**11 26 58.5**	**+0.2**
JHYU	**Hitachinakayam**	**0.86**	**258**	P	**Pg**	**11 26 59.0**	**+0.7**
JHYU				*e*S	**Sg**	11 27 08.5	-1.2
ONAJ	**Iwakimizuishiy**	**0.89**	**311**	P	**Pg**	**11 26 58.8**	**0.0**
CHOJ	**Chosi**	**1.03**	**218**	P	**Pg**	**11 27 01.4**	**-0.1**
CHOJ				*e*S	**Sg**	**11 27 14.7**	**-0.3**
JFK	**Kawauchi**	**1.04**	**324**	P	**Pg**	**11 27 01.3**	**-0.4**
JFT	**Otama**	**1.44**	**314**	P	**Pn**	**11 27 07.8**	**+0.8**
JMM	**Marumori**	**1.50**	**334**	P	**Pn**	**11 27 07.8**	**0.0**
JMM				*e*S	**Sn**	**11 27 26.3**	**-0.7**
JAG	**Ashikaga**	**1.76**	**268**	P	**Pn**	**11 27 11.9**	**+0.5**
JFY	**Yanaizu**	**1.78**	**300**	P	**Pn**	**11 27 13.0**	**+1.3**
JKT	**Katashina**	**1.93**	**278**	P	**Pn**	**11 27 15.1**	**+1.3**
MJAR	**Matsushiro Arr**	**2.76**	**271**	Pn	**Pn**	**11 27 26.7**	**+1.6**
	1.8nm,0.3s,baz=84,slow=8.9,SNR=48						
MJAR				Sn	**Sb**	**11 28 04.3**	**+0.3**
	1.4nm,0.3s,baz=122,slow=14,SNR=7.4						
MJAR				LR	LR	11 28 51.4	
	comp=Z,97nm,18.5s,baz=145,slow=45						
MAT	**Matsushiro**	**2.76**	**271**	P	**Pn**	**11 27 26.8**	**+1.7**
MAT				S	**Sn**	**11 27 55.3**	**-2.9**
JHJ	**Hachijo jima 2**	**3.72**	**205**	Pn	**Pn**	**11 27 38.5**	**+0.2**
	15nm,0.3s,baz=15,slow=20,SNR=7.0						
JHJ				Sn	**Sn**	**11 28 20.6**	**-1.2**
	17nm,0.3s,baz=253,slow=19,SNR=4.0						
USRK	**Ussuriysk Ar.**	**10.62**	**319**	LR	LR	11 33 08.3	
	comp=Z,121nm,20.8s,baz=322,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.73**	**120**	T	T	12 01 50.2	
	baz=313,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**27.74**	**120**	T	T	12 01 53.6	
	baz=313,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**27.75**	**120**	T	T	12 01 54.2	
	baz=313,slow=75,SNR=18						
SONM	**Songino Array**	**28.22**	**305**	P	**P**	**11 32 34.1**	**+0.5**
	0.3nm,0.4s,baz=105,slow=8.8,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**28.43**	**122**	T	T	12 02 49.5	
	baz=314,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.43**	**122**	T	T	12 02 51.7	
	baz=314,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.45**	**122**	T	T	12 02 42.1	
	baz=314,slow=75,SNR=9.1						
MKAR	**Makanchi Array**	**44.54**	**303**	P	**P**	**11 34 52.6**	**+0.1**
	0.2nm,0.4s,baz=94,slow=8.8,SNR=2.8						
WRA	**Warramunga Arr**	**56.58**	**188**	P	**P**	**11 36 23.0**	**-0.5**
	0.7nm,0.6s,baz=7.0,slow=7.6,SNR=5.2						
ASAR	**Alice Springs**	**60.30**	**188**	P	**P**	**11 36 50.0**	**+0.5**
	0.2nm,0.5s,baz=0.3,slow=6.3,SNR=4.6						
GERES	**GERESS Array B**	**83.24**	**328**	LR	LR	12 17 54.6	
	comp=Z,30nm,18.4s,baz=310,slow=37						

ISC 31 11:57:59.4±1.0, 48°.75N±0°.04×17°.74E±0°.05, h15km±7km, n8, σ2°00/14, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.12**	**337**	*e*PG	**Pg**	**11 58 02.5**	**-0.5**
JAVC				*e*SG	**Sg**	**11 58 05.7**	**+0.3**
KOLL	**Kolacno**	**0.47**	**111**	*e*PG	**Pg**	**11 58 09.0**	**+0.3**
KOLL				*e*SG	**Sg**	**11 58 14.8**	**-0.2**
MODS	**Modra-Piesok**	**0.48**	**220**	*e*PG	**Pg**	**11 58 08.1**	**-0.9**
MODS				*e*SG	**Sb**	**11 58 16.0**	**-0.5**
MODS				eLG	Lg	11 58 20.1	
VYHS	**Vyhne**	**0.77**	**109**	*e*PG	**Pb**	**11 58 15.2**	**+0.8**
MORC	**Moravsky Berou**	**1.04**	**353**	*e*PG	**Pg**	**11 58 20.5**	**+1.0**
MORC				*e*SG	**Sn**	**11 58 36.2**	**+2.3**
LANS	**Liptovska Anna**	**1.21**	**70**	*e*PG	**Pn**	**11 58 23.0**	**+1.2**
CHZP	**Chorzow**	**1.75**	**27**	*e*Pg	**Sn**	**11 58 47.7**	**-3.5**
CHZP				*e*Sg	**Sb**	**11 58 49.0**	**-4.0**
OJC	**Ojcow**	**1.99**	**41**	*e*Pg	**Sn**	**11 58 56.6**	**-0.6**
OJC				*e*Sg	**Sg**	**11 59 04.6**	**+1.2**

*SJA **31** 12:04:43.0±0.4, 32°.49S×69°.64W, h138km±4km, ML2.8, MW3.8*
*ISCJB **31** 12:04:44.3±1.2, 32°.51S±0°.06×69°.65W±0°.06, h128km±11km, Error ellipse: s-maj=11.5km s-min=6.9km az=142.0*
*GUC **31** 12:04:45.1±0.5, 32°.56S×69°.83W, h135km±7km, ML2.9*
ISC 31 12:04:44.7±2.3, 32°.51S±0°.08×69°.65W±0°.06, h128km±19km, n10, σ0°82/17, 1C-4D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAL	**Salagasta**	**0.69**	**97**	*i* P	**Pn**	**12 05 04.7**	**-0.1**
ASAL				*i* S	**Sn**	**12 05 21.1**	**+1.1**
FCH	**Farellones**	**0.98**	**214**	⇓*i*P	**Pn**	**12 05 07.7**	**+0.2**
FCH				*i* S	**Sn**	**12 05 24.6**	**-0.2**
FCH				IAML		12 05 25.9	
	comp=E,206nm,0.2s						
PEL	**Peldehue**	**1.08**	**234**	⇓*i*P	**Pn**	**12 05 07.8**	**-0.4**
PEL				*i* S	**Sn**	**12 05 24.8**	**-1.2**
PEL				IAML		12 05 26.2	
	comp=N,227nm,0.2s						
CLCH	**Cerro Calan**	**1.16**	**220**	⇓*i*P	**Pn**	**12 05 09.2**	**+0.3**
CLCH				*i* S	**Sn**	**12 05 27.0**	**-0.4**
CLCH				IAML		12 05 28.6	
	comp=N,364nm,0.5s						
ROCH	**El Roble**	**1.24**	**248**	⇓*i*P	**Pn**	**12 05 09.6**	**-0.3**
ROCH				*i* S	**Sn**	**12 05 27.9**	**-1.3**
ROCH				IAML		12 05 31.7	
	comp=N,409nm,0.3s						
ANTU	**Antumapu**	**1.34**	**218**	*e*P	**Pn**	**12 05 12.2**	**+1.4**
ANTU				*e*S	**Sn**	**12 05 31.9**	**+1.1**
ANTU				IAML		12 05 33.0	
	comp=N,250nm,0.4s						
LMEL	**Las Melosas**	**1.41**	**199**	IAML		12 05 40.8	
	comp=N,176nm,0.2s						
CFA	**Coronel Fontan**	**1.50**	**53**	*i* P	**Pn**	**12 05 12.4**	**-0.2**
CFA				*i* S	**Sn**	**12 05 33.9**	**-0.1**
GO04	**Tololo Observa**	**2.53**	**337**	⇑*i*P	**Pn**	**12 05 25.9**	**+0.4**
GO04				*i* S	**Sn**	**12 05 57.3**	**+0.5**
TCA	**Tanti**	**4.45**	**76**	*i* P	**Pn**	**12 05 49.9**	**-0.6**
TCA				IAML		12 05 50.3	
	comp=Z,8.9nm,0.4s						

*SJA **31** 12:13:08.7±0.7, 22°.43S×66°.06W, h282km±8km, ML3.5, MW3.8*
*ISCJB **31** 12:13:10.0±0.5, 22°.51S±0°.05×66°.21W±0°.04, h271km±4km, mb3.7/3, Error ellipse: s-maj=7.6km s-min=5.2km az=21.8*
*IDC **31** 12:13:10.9±1.4, 22°.39S×66°.02W, h263km±15km, mb3.5/3, mb1 3.5/8, mb1mx3.3/27, mbtmp4.0/8, Error ellipse: s-maj=22.7km s-min=16.4km az=112.0*
*GUC **31** 12:13:10.5±0.4, 22°.45S×66°.54W, h282km±13km, ML4.1*
ISC 31 12:13:10.2±0.7, 22°.51S±0°.06×66°.20W±0°.05, h265km±6km, n33, σ0°97/51, mb3.9/3, 7C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.71**	**63**	*i* P	**Pn**	**12 13 46.5**	**+0.4**
YJA				IAML		12 13 47.2	
	comp=Z,505nm,0.3s						
YJA				*i* S	**S**	**12 14 14.2**	**-0.1**
HJA	**Humahuaca**	**1.01**	**134**	*i* P	**Pn**	**12 13 48.0**	**+0.7**
HJA				IAML		12 13 48.5	
	comp=Z,338nm,0.3s						
HJA				*i* S	**S**	**12 14 17.1**	**+0.5**
AZAP	**Zapla**	**2.00**	**149**	*i* P	**Pn**	**12 13 54.3**	**+0.1**
AZAP				*i* S	**S**	**12 14 28.8**	**-0.2**
AZAP				IAML		12 14 30.2	
	comp=Z,35nm,0.7s						
SLA	**San Lorenzo**	**2.29**	**164**	*e*P	**Pn**	**12 13 57.5**	**+0.8**
LVC	**Limon Verde**	**2.51**	**267**	*i* P	**Pn**	**12 14 00.5**	**+1.4**
LVC	**Limon Verde**	**2.51**	**267**	P	**Pn**	**12 14 00.2**	**+1.2**
	comp=Z,37nm,0.3s,baz=98,slow=5.7,SNR=351						
LVC				S	**S**	**12 14 37.7**	**0.0**
	comp=Z,10nm,0.3s,baz=314,slow=22,SNR=18						
PB15	**IPOC Station P**	**3.10**	**256**	*i* P	**Pn**	**12 14 06.5**	**+1.6**
PB15	**IPOC Station P**	**3.10**	**256**	*e*P	**Pn**	**12 14 05.9**	**+1.0**
PB15				*e*S	**S**	**12 14 48.1**	**-0.2**
PB06	**IPOC Station P**	**3.13**	**266**	*i* P	**Pn**	**12 14 06.1**	**+0.9**
PB06	**IPOC Station P**	**3.13**	**266**	⇑*e*P	**Pn**	**12 14 05.9**	**+0.8**
PB06				*e*S	**S**	**12 14 48.1**	**-0.6**
PB06				IAML		12 14 50.9	
	comp=E,168nm,0.1s						
PB03	**IPOC Station P**	**3.33**	**277**	⇑*e*P	**Pn**	**12 14 08.1**	**+0.9**
PB03				*e*S	**S**	**12 14 51.8**	**-0.8**
PB01	**IPOC Station P**	**3.39**	**295**	⇑*e*P	**Pn**	**12 14 08.7**	**+0.8**
PB01				*e*S	**S**	**12 14 52.4**	**-1.4**
PB07	**IPOC Station P**	**3.51**	**282**	⇑*e*P	**Pn**	**12 14 10.2**	**+0.9**
PB07				*i* S	**S**	**12 14 54.7**	**-1.6**
PB08	**IPOC Station P**	**3.62**	**310**	*i* P	**Pn**	**12 14 11.7**	**+0.8**
PB08	**IPOC Station P**	**3.62**	**310**	⇑*e*P	**Pn**	**12 14 12.4**	**+1.5**
PB08				*i* S	**S**	**12 14 59.2**	**+0.1**
PB02	**IPOC Station P**	**3.63**	**288**	*i* P	**Pn**	**12 14 11.2**	**+0.5**
PB02	**IPOC Station P**	**3.63**	**288**	*e*P	**Pn**	**12 14 11.3**	**+0.7**
PB02				*e*S	**S**	**12 14 57.6**	**-1.1**
PB04	**IPOC Station P**	**3.66**	**272**	*i* P	**Pn**	**12 14 11.7**	**+0.7**
PB04	**IPOC Station P**	**3.66**	**272**	⇑*e*P	**Pn**	**12 14 11.9**	**+0.9**
PB04				*i* S	**S**	**12 14 58.9**	**-0.5**
PB05	**IPOC Station P**	**3.72**	**264**	*e*P	**Pn**	**12 14 12.2**	**+0.7**
PB05				*e*S	**S**	**12 14 59.4**	**-1.0**
PB10	**IPOC Station P**	**4.14**	**255**	*e*P	**Pn**	**12 14 16.9**	**+0.6**
PB10	

0.5nm,0.4s,baz=113,slow=4.4,SNR=3.6
AKASG **Malin Array Be 143.83 329** PKP PKPbc 12 45 13.6 -1.2
1.7nm,0.4s,baz=40,slow=4.9,SNR=13
BRTR **Keskin Array B 146.88 309** PKPbc **PKPbc 12 45 23.7 -0.6**
1.8nm,0.7s,baz=140,slow=5.1,SNR=11
CLL **Collm 149.46 344** ⇓*i* PKPbc **PKPbc 12 45 29.9 -0.2**
CLL comp=Z,8.0nm,0.6s ⇑*i* PKPab **PKPab 12 45 37.0 -0.5**
comp=Z,4.0nm,0.7s
BRG **Berggiesshubel 149.61 343** *i* PKP **PKPbc 12 45 30.4 0.0**
comp=Z,7.5nm,0.6s
GERES **GERESS Array B 151.50 341** PKPbc **PKPbc 12 45 34.6 -0.4**
comp=Z,0.7nm,0.5s,baz=2.7,slow=1.3,SNR=5.4
GERES PKPab **PKPab 12 45 46.0 -0.2**
comp=Z,0.4nm,0.6s,baz=347,slow=3.1,SNR=2.6

IDC 31 12:43:21.5±3.8, 20°.20S×168°.52E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/33, mbtmp3.9/4, ML3.2/1, MS3.0/1, Ms1 2.9/1, ms1mx2.6/34, Error ellipse: s-maj=108.3km s-min=29.8km az=127.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.69**	**226**	Pn	Pn	12 44 06.0	-0.1
	4.1nm,0.3s,baz=114,slow=15,SNR=163						
DZM				Sn	Sn	12 44 39.1	-0.3
	29nm,0.3s,baz=170,slow=22,SNR=8.1						
STKA	**Stephens Creek**	**26.77**	**239**	LR	LR	12 58 08.1	
	comp=Z,33nm,19.8s,baz=25,slow=33						
WRA	**Warramunga Arr**	**32.07**	**264**	P	P	12 49 49.6	-0.9
	1.8nm,1.1s,baz=93,slow=8.5,SNR=3.5						
ASAR	**Alice Springs**	**32.25**	**257**	P	P	12 49 52.9	+0.9
	1.9nm,0.9s,baz=85,slow=9.0,SNR=12						
SONM	**Songino Array**	**87.58**	**323**	P	P	12 56 11.7	+0.1
	1.0nm,0.9s,baz=116,slow=3.4,SNR=3.8						
GERES	**GERESS Array B**	**145.00**	**331**	PKPbc	PKPbc	13 02 59.1	-1.1
	0.7nm,0.7s,baz=64,slow=3.1,SNR=4.4						

IDC 31 13:01:48.6±6.0, 4°.85S×143°.44E, h106km±52km, mb3.1/3, mb1 3.3/5, mb1mx3.1/40, mbtmp3.5/5, Error ellipse: s-maj=65.0km s-min=21.6km az=87.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.58**	**310**	P	Pn	13 02 42.2	-0.1
	1.5nm,0.3s,baz=145,slow=8.1,SNR=8.2						
JAY				S	Sn	13 03 24.4	+0.5
	2.4nm,0.3s,baz=252,slow=20,SNR=5.5						
WRA	**Warramunga Arr**	**17.42**	**210**	P	Pn	13 05 45.1	-0.1
	0.2nm,0.3s,baz=25,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**20.84**	**205**	P	P	13 06 21.9	-0.1
	0.4nm,0.7s,baz=33,slow=7.7,SNR=4.8						
BVAR	**Borovoye Array**	**83.77**	**324**	P	P	13 14 06.2	+0.3
	0.4nm,0.5s,baz=130,slow=4.5,SNR=3.7						
ILAR	**Eielson Array**	**85.85**	**24**	P	P	13 14 15.8	-0.3
	0.4nm,0.6s,baz=263,slow=5.3,SNR=4.7						

IDC 31 13:02:14.4±3.5, 3°.72S×11°.49W, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.3/35, mbtmp3.5/2, Error ellipse: s-maj=178.0km s-min=65.1km az=115.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**5.05**	**216**	T	T	13 09 42.7	
	baz=24,slow=74,SNR=60						
H10N1	**ASCENSION HYDR**	**5.06**	**216**	T	T	13 09 40.4	
	baz=24,slow=74,SNR=86						
H10N3	**ASCENSION HYDR**	**5.07**	**216**	T	T	13 09 35.0	
	baz=24,slow=74,SNR=49						
H10S1	**ASCENSION HYDR**	**6.06**	**211**	T	T	13 11 02.8	
	baz=22,slow=74						
H10S2	**ASCENSION HYDR**	**6.07**	**211**	T	T	13 11 02.3	
	baz=22,slow=74						
H10S3	**ASCENSION HYDR**	**6.08**	**211**	T	T	13 11 01.6	
	baz=22						
TORD	**Torodi Ar. Bea**	**21.27**	**38**	P	P	13 07 02.5	0.0
	1.0nm,0.7s,baz=224,slow=10,SNR=6.8						
GERES	**GERESS Array B**	**56.76**	**20**	P	P	13 12 00.3	0.0
	0.5nm,0.7s,baz=201,slow=7.1,SNR=4.0						
ASAR	**Alice Springs**	**136.67**	**131**	PKP	PKPdf	13 21 39.3	-0.5
	0.2nm,0.8s,baz=224,slow=2.6,SNR=3.5						

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*IDC **31** 13:06:44.6±0.5, 20°.41S×169°.11E, h0km, mb4.8/23, mb1 4.9/26, mb1mx4.9/32, mbtmp4.8/26, ML4.0/2, MS4.5/24, Ms1 4.5/24, ms1mx4.4/35, Error ellipse: s-maj=16.2km s-min=13.6km az=126.0*

*NEIC **31** 13:06:46.4±0.2, 20°.30S×168°.95E, h10km, mb5.1/45, Error ellipse: s-maj=7.1km s-min=5.5km az=117.0*

*ISCJB **31** 13:06:46.7±2.2, 20°.37S±0°.03×168°.97E±0°.04, h15km±14km, mb4.9/83, MS4.7/46, Error ellipse: s-maj=6.4km s-min=4.8km az=139.0*

*MOS **31** 13:06:48.6±1.0, 20°.32S×169°.10E, h33km, mb5.2/24, MS4.7/9, Error ellipse: s-maj=17.0km s-min=11.2km az=93.1*

*BJI **31** 13:06:49.1±0.0, 20°.30S×169°.00E, h34km, mb5.0/49, mB5.1/38, Ms4.8/34, Ms7 4.5/35*

*GCMT **31** 13:06:52.4±0.2, 20°.54S±0°.01×168°.78E±0°.01, h32km, MW5.2/87, Moment Tensor Solution. s83,c131; s87,c132; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.60±.02; $M_{\theta\theta}$-0.11±.01; $M_{\phi\phi}$-0.49±.01; $M_{r\theta}$0.16±.02; $M_{\theta\phi}$0.39±.01; $M_{\phi r}$-0.55±.02; Best double couple: $M_0$0.87900×10^{17} NP1:ϕ_s159.00000°, δ66.00000°, λ101.00000°. NP2:ϕ_s314.00000°, δ27.00000°, λ67.00000°. Principal axes: T 0.8250, Plg68.0000°, Azm90.0000°; N 0.1090, Plg10.0000°, Azm335.0000°; P -0.9340, Plg20.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 13:06:49.9±0.7, 20°.46S±0°.05×168°.99E±0°.05, h31km±4km, n382, σ1§73/392, mb5.0/83, MS4.7/48, 20C-8D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.35**	**221**	*e*Pn	**Pn**	**13 07 10.1**	**-2.6**
MARNC				*e*Sn	**Sn**	**13 07 26.1**	**-3.5**
PINNC	**Pines Island,**	**2.58**	**214**	*e*Pn	**Pn**	**13 07 28.1**	**-1.4**
PINNC				*e*Sn	**Sn**	**13 08 00.1**	**+0.3**
DZM	**Mont Dzumac**	**2.86**	**236**	*e*Pn	**Pn**	**13 07 31.7**	**-1.8**
	305nm,0.3s						
DZM				*e*Sn	**Sn**	**13 07 59.6**	**-7.4**
	696nm,0.2s						
DZM				*e*LR	LR	13 08 01.7	
	comp=Z,13μm,26.3s						
DZM	**Mont Dzumac**	**2.86**	**236**	*e*Pn	**Pn**	**13 07 31.4**	**-2.1**
DZM	**Mont Dzumac**	**2.86**	**236**	Pn	**Pn**	**13 07 31.7**	**-1.8**
	16nm,0.3s,baz=116,slow=13,SNR=109						
DZM				Sn	**Sn**	**13 08 04.6**	**-2.4**
	134nm,0.3s,baz=330,slow=20,SNR=6.2						
DZM				LR	LR	13 08 13.3	
	comp=Z,7μm,20.3s,baz=353,slow=30						
ONTNC	**Ouen Toro**	**2.99**	**232**	*e*Pn	**Pn**	**13 07 34.3**	**-0.9**
ONTNC				*e*Sn	**Sn**	**13 08 06.3**	**-3.7**
NFK	**Norfolk Island**	**8.60**	**186**	P	**Pn**	**13 08 53.6**	**+1.4**
	baz=8.8,SNR=6.8						
HNR	**Honiara**	**14.02**	**320**	*e*P	Pn	13 09 53.0	-13
HNR	**Honiara**	**14.02**	**320**	Pn	**Pn**	**13 10 06.4**	**0.0**
	baz=196,slow=7.4,SNR=2.8						
HNR				LR	LR	13 14 24.8	
	comp=Z,940nm,21.8s,baz=145,slow=33						
OUZ	**Omahuta**	**15.25**	**166**	*e*Pn	**Pn**	**13 10 23.9**	**+0.9**
	32nm,0.8s						
FUNA	**Funafuti**	**15.43**	**41**	*e*Pn	**Pn**	**13 10 23.7**	**-1.8**
	236nm,1.3s						
EIDS	**Eidsvold**	**17.20**	**250**	*e*Pn	**Pn**	**13 10 47.0**	**-0.9**
	45nm,1.3s						
EIDS	**Eidsvold**	**17.20**	**250**	P	**P**	**13 10 48.7**	**-0.6**
	baz=17,SNR=3.9						
ARMA	**Armidale**	**18.53**	**234**	*e*P	**Pn**	**13 11 06.1**	**+1.7**
	39nm,1.1s						
ARMA	**Armidale**	**18.53**	**234**	P	**Pn**	**13 11 04.8**	**+0.4**
	baz=19,SNR=8.4						
URZ	**Urewera**	**19.08**	**160**	*e*P	**Pn**	**13 11 13.2**	**+2.4**
	60nm,0.9s						
URZ	**Urewera**	**19.08**	**160**	P	**P**	**13 11 10.8**	**+0.9**
	0.7nm,0.3s,baz=14,slow=7.5,SNR=15						
URZ				LR	LR	13 17 45.2	
	comp=Z,3μm,18.9s,baz=346,slow=35						
RMQ	**Roma**	**19.49**	**248**	P	**Pn**	**13 11 16.3**	**+0.4**
	baz=20,SNR=20						
BKZ	**Black Stump Fm**	**19.73**	**162**	*e*P	**P**	**13 11 20.0**	**+2.9**
	47nm,0.9s						
MGCD	**Mangrove Creek**	**20.35**	**228**	P	Pn	13 11 26.1	+0.1
	baz=20,SNR=4.7						
RIV	**Riverview**	**20.67**	**226**	P	Pn	13 11 30.6	+0.9
	baz=21,SNR=6.0						
BFZ	**Birch Farm**	**21.08**	**165**	*e*P	**P**	**13 11 33.3**	**+1.6**
	50nm,0.8s						
CTA	**Charters Tower**	**21.33**	**267**	P	**P**	**13 11 35.7**	**+1.2**
	60nm,0.9s,baz=99,slow=12,SNR=26						
CTA				LR	LR	13 19 29.9	
	comp=Z,2μm,20.2s,baz=88,slow=36						
KHZ	**Kahutara**	**22.22**	**171**	*e*P	**P**	**13 11 45.4**	**+1.6**
	56nm,1.4s						
CNB	**Canberra Magne**	**22.74**	**225**	P	**P**	**13 11 51.5**	**+2.0**
	baz=23,SNR=13						
YNG	**Young**	**22.84**	**229**	P	**P**	**13 11 52.4**	**+1.8**
	baz=23,SNR=6.8						
OXZ	**Oxford**	**22.94**	**174**	*e*P	**P**	**13 11 52.8**	**+1.3**
	28nm,0.8s						
CAN	**Canberra**	**22.98**	**226**	*e*P	**P**	**13 11 53.1**	**+1.0**
	95nm,1.4s						
CAN	**Canberra**	**22.98**	**226**	*e*P	**P**	**13 11 53.1**	**+1.0**
CAN				pmax	pmax		
	comp=Z,95nm,1.4s						
RPZ	**Rata Peaks**	**23.25**	**176**	P	**P**	**13 11 59.5**	**+4.9**
	comp=Z,8.3nm,0.8s,baz=49,slow=19,SNR=3.3						
RPZ				LR	LR	13 20 41.6	
	comp=Z,3μm,18.0s,baz=348,slow=36						
CMSA	**Cobar Meteorol**	**23.62**	**237**	P	**P**	**13 11 59.2**	**+0.9**
	baz=24,SNR=55						
PMG	**Port Moresby**	**23.75**	**294**	*e*P	**P**	**13 11 59.5**	**-0.2**
	comp=Z,106nm,1.3s						
PMG	**Port Moresby**	**23.75**	**294**	*ce*P	**P**	**13 12 00.1**	**+0.4**
PMG				pmax	pmax		
	comp=Z,276nm,1.0s						
PMG	**Port Moresby**	**23.75**	**294**	P	**P**	**13 11 58.5**	**-1.2**
	comp=Z,55nm,1.0s,baz=113,slow=2.9,SNR=6.1						
PMG				LR	LR	13 20 47.4	
	comp=Z,2μm,18.0s,baz=130,slow=35						
MILA	**Mila**	**23.91**	**222**	P	**P**	**13 12 02.7**	**+1.6**
	baz=24,SNR=5.4						
COEN	**Coen**	**25.47**	**281**	*e*P	**P**	**13 12 16.2**	**+0.7**
	comp=Z,83nm,1.1s						
COEN	**Coen**	**25.47**	**281**	P	**P**	**13 12 16.8**	**+1.3**
	baz=26,SNR=9.6						
KNTN	**Kanton**	**25.75**	**49**	*e*P	**P**	**13 12 15.7**	**-2.3**
	comp=Z,107nm,1.2s						
TOO	**Toolangi**	**26.59**	**225**	*e*P	**P**	**13 12 26.9**	**+1.5**
	comp=Z,30nm,1.0s						
TOO	**Toolangi**	**26.59**	**225**	P	**P**	**13 12 27.6**	**+2.1**
	baz=27,SNR=4.1						
TOO	**Toolangi**	**26.59**	**225**	*e*P	**P**	**13 12 26.9**	**+1.5**
TOO				pmax	pmax		
	comp=Z,30nm,1.0s						
STKA	**Stephens Creek**	**27.01**	**240**	*e*P	**P**	**13 12 30.1**	**+0.8**
	comp=Z,4.4nm,0.9s						
STKA	**Stephens Creek**	**27.01**	**240**	P	**P**	**13 12 30.1**	**+0.8**
	baz=27,SNR=10						
STKA	**Stephens Creek**	**27.01**	**240**	*e*P	**P**	**13 12 30.1**	**+0.8**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
STKA	**Stephens Creek**	**27.01**	**240**	P	**P**	**13 12 29.6**	**+0.4**
	comp=Z,16nm,0.9s,baz=79,slow=9.4,SNR=22						
STKA				LR	LR	13 23 05.5	
	comp=Z,1μm,19.0s,baz=90,slow=36						
QIS	**Mount Isa**	**27.51**	**265**	P	**P**	**13 12 36.7**	**+2.8**
	baz=28,SNR=3.7						
ARPS	**Mount Arapiles**	**28.71**	**230**	P	**P**	**13 12 45.4**	**+1.1**
	baz=29,SNR=6.1						
RAR	**Rarotonga**	**29.18**	**97**	LR	LR	13 22 11.9	
	comp=Z,591nm,20.7s,baz=258,slow=32						
HTT	**Hailett**	**29.64**	**238**	P	**P**	**13 12 53.4**	**+0.7**
	baz=30,SNR=5.1						
WB2	**Warramunga Arr**	**32.48**	**265**	*e*P	**P**	**13 13 16.8**	**-1.1**
	comp=Z,38nm,1.3s						
WRAB	**Tennant Creek**	**32.48**	**265**	*e*P	**P**	**13 13 15.9**	**-2.0**
	comp=Z,21nm,1.0s						
WRAB	**Tennant Creek**	**32.48**	**265**	*ce*P	**P**	**13 13 15.4**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,22nm,1.0s						
WRA	**Warramunga Arr**	**32.49**	**265**	P	**P**	**13 13 16.9**	**-1.1**
	comp=Z,18nm,1.0s,baz=90,slow=7.9,SNR=20						
AS31	**Alice Springs**	**32.62**	**258**	*e*P	**P**	**13 13 18.3**	**-0.8**
	comp=Z,12nm,0.8s						
AS31				*e*PcP	**PcP**	**13 16 05.3**	**+0.3**
ASAR	**Alice Springs**	**32.62**	**258**	P	**P**	**13 13 18.2**	**-1.0**
	comp=Z,32nm,0.8s,baz=84,slow=8.7,SNR=202						
ASAR				PcP	**PcP**	**13 16 05.3**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=85,slow=4.0,SNR=5.3						
ASAR				ScP	**ScP**	**13 19 49.2**	**+2.4**
	comp=Z,2.5nm,0.9s,baz=92,slow=3.0,SNR=7.7						
ASAR				LR	LR	13 26 60.0	
	comp=Z,2μm,18.1s,baz=94,slow=37						
MTN	**Manton Dam**	**36.98**	**276**	*e*P	**P**	**13 13 56.1**	**-0.7**
	comp=Z,18nm,0.8s						
MTN	**Manton Dam**	**36.98**	**276**	P	**P**	**13 13 56.5**	**-0.4**
	baz=37,SNR=3.7						
WRKA	**Warakurna**	**37.70**	**255**	P	**P**	**13 14 02.4**	**-0.5**
	baz=38,SNR=10.0						
FORT	**Forrest**	**38.12**	**246**	*e*P	**P**	**13 14 06.1**	**-0.3**
	comp=Z,26nm,0.8s						
KNRA	**Kununurra**	**38.47**	**270**	P	**P**	**13 14 09.0**	**-0.4**
	baz=38,SNR=5.5						
TBI	**Tubuai**	**38.56**	**102**	*e*S	S	13 20 20.3	+16
	comp=Z,271nm,28.5s						
TBI				*e*LQ	LQ	13 23 04.7	
	comp=Z,2μm,30.0s						
TBI				*e*LR	LR	13 25 02.3	
	comp=Z,911nm,25.8s,baz=266						
PPT2	**Papeete2**	**39.20**	**93**	*e*S	S	13 20 29.7	+15
	comp=Z,332nm,23.7s						
PPT2				*e*LQ	LQ	13 23 34.8	
	comp=Z,2μm,30.5s						
PPT2				*e*LR	LR	13 25 18.6	
	comp=Z,2μm,24.5s,baz=256						
PPT	**Papeete**	**39.21**	**93**	LR	LR	13 26 29.0	
	comp=Z,811nm,21.2s,baz=259,slow=30						
FAKI	**Fak Fak**	**39.82**	**291**	*e*P	**P**	**13 14 19.9**	**-0.8**
	comp=Z,24nm,0.9s						
FAKI	**Fak Fak**	**39.82**	**291**	P	**P**	**13 14 19.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**40.90**	**266**	*e*P	**P**	**13 14 29.9**	**+0.3**
	comp=Z,58nm,1.4s						
FITZ	**Fitzroy Crossi**	**40.90**	**266**	P	**P**	**13 14 30.0**	**+0.4**
	baz=41,SNR=29						
FITZ	**Fitzroy Crossi**	**40.90**	**266**	P	**P**	**13 14 29.6**	**0.0**
	comp=Z,16nm,0.6s,baz=118,slow=6.9,SNR=36						
FITZ				LR	LR	13 31 08.5	
	comp=Z,999nm,20.8s,baz=98,slow=36						
BATI	**Baumata**	**44.76**	**276**	P	**P**	**13 15 01.5**	**+0.5**
	comp=Z,9.5nm,0.5s,baz=270,slow=1.4,SNR=4.8						
KLBR	**Kellerberrin**	**46.98**	**246**	P	**P**	**13 15 17.6**	**-0.8**
	baz=47,SNR=8.8						
NWAO	**Narrogin (SRO)**	**47.45**	**244**	P	**P**	**13 15 21.8**	**-0.2**
	baz=48,SNR=4.4						
KAPI	**Kappang**	**50.20**	**281**	P	**P**	**13 15 43.6**	**+0.3**
	comp=Z,4.2nm,0.3s,baz=249,slow=3.8,SNR=4.9						
SPSI	**Sidrap Palu**	**50.59**	**282**	P	**P**	**13 15 43.5**	**-2.7**
MPSI	**Mapaga**	**52.27**	**287**	P	**P**	**13 15 59.1**	**+0.3**
VNDA	**Vanda**	**57.21**	**182**	*e*P	**P**	**13 16 34.5**	**+0.9**
	comp=Z,9.2nm,1.4s						
VNDA	**Vanda**	**57.21**	**182**	*e*P	**P**	**13 16 34.5**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
VNDA	**Vanda**	**57.21**	**182**	P	**P**	**13 16 33.5**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=11,slow=5.2,SNR=11						
VNDA				LR	LR	13 37 33.6	
	comp=Z,283nm,20.7s,baz=24,slow=32						
SBA	**Scott Base**	**57.44**	**181**	*e*P	**P**	**13 16 37.3**	**+2.0**
	comp=Z,25nm,0.9s						
SBA	**Scott Base**	**57.44**	**181**	*e*P	**P**	**13 16 37.3**	**+2.0**
SBA				pmax	pmax		
	comp=Z,25nm,0.9s						
CASY	**Casey**	**58.91**	**204**	*e*P	**P**	**13 16 45.6**	**-0.1**
	comp=Z,7.2nm,0.9s						
LEM	**Lembang**	**60.85**	**274**	LR	LR	13 44 15.7	
	comp=Z,356nm,19.7s,baz=123,slow=37						
KSM	**Kuching**	**61.42**	**283**	*e*P	**P**	**13 17 03.5**	**-0.3**
	comp=Z,19nm,0.8s						
MJAR	**Matsushiro Arr**	**63.72**	**333**	P	**P**	**13 17 17.6**	**-1.1**
	comp=Z,8.7nm,0.8s,baz=170,slow=7.7,SNR=21						
MAJO	**Matsushiro**	**63.73**	**333**	*e*P	**P**	**13 17 17.3**	**-1.4**
	comp=Z,11nm,0.8s						
MAJO	**Matsushiro**	**63.73**	**333**	*c i*P	**P**	**13 17 17.6**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MAT	**Matsushiro**	**63.73**	**333**	P	**P**	**13 17 17.7**	**-1.0**
MAT				S	**S**	**13 25 54.4**	**+3.1**
MJB9	**Matsu-Tunnel**	**63.73**	**333**	*e*P	**P**	**13 17 17.1**	**-1.6**
	comp=Z,11nm,0.8s						
JNU	**Nakatsue**	**64.53**	**325**	*e*P	**P**	**13 17 23.2**	**-0.8**
	comp=Z,14nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**67.59**	**342**	*e*P	P	13 17 38.9	-4.5
YUK				*e*S	**S**	**13 26 38.7**	**+0.6**
YUK				*e*		13 27 29.6	
YUK				*e*SS	**SS**	**13 30 57.5**	**-2.3**
YUK				*e*SSS	SSS	13 33 56.0	
YUK				pmax	pmax		
	comp=Z,103nm,2.0s						
YUK				pmax	pmax		
	comp=Z,97nm,1.4s						
YUK				pmax	pmax		
	comp=N,46nm,0.6s						
YUK				pmax	pmax		
	comp=E,78nm,0.6s						
ASAJ	**Asahikawa**	**68.66**	**340**	P	**P**	**13 17 49.5**	**-0.6**
	comp=E,21nm,0.9s,baz=222,slow=11,SNR=12						
TJN	**Taejon**	**68.88**	**325**	*c i*P	**P**	**13 17 51.5**	**-0.1**
KSRS	**Korea Array**	**69.38**	**326**	P	**P**	**13 17 55.2**	**+0.5**
	comp=E,1.9nm,0.7s,baz=142,slow=5.0,SNR=13						
KSRS				LR	LR	13 46 34.6	
	comp=E,128nm,19.9s,baz=136,slow=34						
BKNI	**Bangkinang**	**69.51**	**278**	P	**P**	**13 17 55.4**	**-0.7**
QSPA	**South Pole Qui**	**69.60**	**180**	*e*P	**P**	**13 17 56.3**	**+0.4**
	comp=E,26nm,0.8s						
NJ2	**Nanjing**	**70.92**	**316**	*e*P	**P**	**13 18 04.8**	**+0.5**
NJ2				pmax	pmax		
	comp=E,10.0nm,0.5s						
IPM	**Ipoh**	**71.11**	**282**	*e*P	**P**	**13 18 04.0**	**-1.9**
	comp=E,18nm,0.8s						
YSS	**Yuzh-Sakhalins**	**71.16**	**341**	⇓*i*P	**P**	**13 18 06.5**	**+1.1**
YSS				*e*		13 18 26.4	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
PSI	**Prapat**	**72.40**	**280**	LR	LR	13 52 01.1	
	comp=Z,323nm,20.1s,baz=130,slow=38						
USRK	**Ussuriysk Ar.**	**72.71**	**333**	P	**P**	**13 18 15.2**	**+0.4**
	comp=Z,17nm,0.8s,baz=146,slow=4.2,SNR=33						
USRK				LR	LR	13 47 29.2	
	comp=Z,183nm,20.5s,baz=163,slow=34						
WHN	**Wuhan**	**73.00**	**313**	P	**P**	**13 18 20.5**	**+3.7**
WHN				pmax	pmax		
	comp=Z,26nm,0.4s						
WHN				LR	LR		
	comp=Z,250nm,11.8s						
WHN				LR	LR		
	comp=Z,450nm,19.7s						
WHN				LR	LR		
	comp=Z,630nm,16.7s						
GSI	**Gunungsitoli**	**73.09**	**278**	*e*P	**P**	**13 18 17.0**	**-0.8**
	comp=Z,33nm,1.3s						
GSI	**Gunungsitoli**	**73.09**	**278**	P	**P**	**13 18 18.7**	**+0.9**
PET	**Petropavlovsk**	**73.73**	**354**	*e*P	**P**	**13 18 18.5**	**-2.1**
PET				*e*S	**SKiKP**	**13 27 45.2**	**-2.8**
PET				*e*SS	**SS**	**13 32 29.4**	**-4.4**
PET				pmax	pmax		
	comp=Z,100nm,10.5s						
SKNT	**Sakolnakorn**	**73.84**	**295**	P	**P**	**13 18 23.2**	**+1.1**
	comp=Z,16nm,0.8s						
DL2	**Dalian**	**73.85**	**323**	P	**P**	**13 18 22.0**	**+0.4**
DL2				*e*S	**S**	**13 27 53.0**	**+1.8**
DL2				pmax	pmax		
	comp=Z,52nm,0.8s						
DL2				pmax	pmax		
	comp=Z,120nm,7.7s						
DL2				LR	LR		
	comp=Z,280nm,20.0s						
DL2				LR	LR		
	comp=Z,230nm,26.9s						
DL2				LR	LR		
	comp=Z,210nm,16.5s						
PETK	**Petropavlovsk-**	**73.92**	**353**	P	**P**	**13 18 21.6**	**-0.2**
	comp=Z,5.6nm,0.7s,baz=142,slow=7.2,SNR=6.4						
PETK				LR	LR	13 44 47.2	
	comp=Z,250nm,21.6s,baz=166,slow=31						
MDJ	**Mudanjiang**	**74.08**	**332**	P	**P**	**13 18 23.3**	**+0.4**
MDJ				PcP	**sP**	**13 18 36.3**	**+1.6**
MDJ				PP	**PP**	**13 21 12.5**	**+3.6**
MDJ				S	**S**	**13 27 56.0**	**+2.4**
MDJ				ScS	**SKSac**	**13 28 27.0**	**-1.0**
MDJ				pmax	pmax		
	comp=Z,28nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,170nm,5.3s						
MDJ				LR	LR		
	comp=Z,190nm,15.9s						
MDJ				LR	LR		
	comp=Z,91nm,20.7s						
MDJ				LR	LR		
	comp=Z,230nm,24.7s						
MDJ	**Mudanjiang**	**74.08**	**332**	*e*P	**P**	**13 18 21.3**	**-1.6**
	comp=Z,19nm,0.8s						
TIA	**Tai'an**	**74.70**	**319**	P	**P**	**13 18 27.3**	**+0.6**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TYV	**Tymovskoe**	**74.71**	**343**	*e*P	**P**	**13 18 26.4**	**0.0**
TYV				pmax	pmax		
	comp=Z,100nm,2.3s						
TYV				pmax	pmax		
	comp=Z,18nm,1.0s						
CN2	**Changchun**	**75.38**	**329**	*e*P	**P**	**13 18 30.5**	**+0.1**
CN2				*e*S	**S**	**13 28 14.5**	**+6.4**
CN2				pmax	pmax		
	comp=Z,30nm,0.9s						
CN2				LR	LR		
	comp=Z,100nm,13.0s						
CN2				LR	LR		
	comp=Z,180nm,13.0s						
ENH	**Enshi**	**76.27**	**310**	*e*P	**P**	**13 18 33.5**	**-2.4**
	comp=Z,14nm,0.9s						
GRNR	**Gornyy**	**76.51**	**339**	*e*P	**P**	**13 18 39.2**	**+2.5**
GRNR				pmax	pmax		
	comp=Z,65nm,1.0s						
KLR	**Kul'dur**	**76.89**	**336**	*c i*P	**P**	**13 18 38.9**	**0.0**
KLR				pmax	pmax		
	comp=Z,12nm,1.0s						
KLR	**Kul'dur**	**76.89**	**336**	P	**P**	**13 18 39.4**	**+0.5**
	comp=Z,9.1nm,0.8s,baz=131,slow=3.1,SNR=26						
KLR				LR	LR	13 49 52.2	
	comp=Z,281nm,20.4s,baz=126,slow

XAN LR LR
comp=Z,130nm,18.6s
XAN LR LR
comp=Z,190nm,19.6s
XAN Xi'an 78.76 313 *e*P **P 13 18 48.6 -1.1**
comp=Z,9.7nm,0.8s
XAN Xi'an 78.76 313 *e*P **P 13 18 48.6 -1.1**
XAN pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 78.79 295 P **P 13 18 51.6 +1.5**
comp=Z,5.2nm,0.8s,baz=135,slow=4.2,SNR=19
CD2 Chengdu 80.79 308 P **P 13 19 00.5 -0.3**
CD2 sP sP 13 19 14.8 +2.3
CD2 S **S 13 29 09.3 +2.2**
CD2 sS ScS 13 29 27.3 +1.3
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,240nm,8.0s
CD2 LR LR
comp=Z,290nm,13.1s
CD2 LR LR
comp=Z,420nm,28.0s
CD2 LR LR
comp=Z,440nm,15.9s
HHC Hu-ho-hao-te 81.00 320 *e*P **P 13 19 03.0 +1.2**
HHC S **S 13 29 12.8 +3.9**
HHC pmax pmax
comp=Z,67nm,1.2s
HHC pmax pmax
comp=Z,210nm,7.6s
HHC LR LR
comp=Z,340nm,16.8s
HHC LR LR
comp=Z,280nm,17.5s
HHC LR LR
comp=Z,370nm,17.3s
ZEA Zeya 82.18 336 *e*P **P 13 19 07.8 +0.3**
ZEA pmax pmax
comp=Z,29nm,1.0s
LZH Lanzhou 83.37 312 *e*P **P 13 19 16.5 +2.1**
LZH pP pP 13 19 25.5 +2.2
LZH sP pwP 13 19 30.5 +3.5
LZH S **S 13 29 37.0 +3.3**
LZH sS sS 13 29 52.3 +4.9
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,180nm,4.3s
LZH LR LR
comp=Z,350nm,16.8s
LZH LR LR
comp=Z,360nm,17.9s
LZH LR LR
comp=Z,480nm,19.5s
OHAK Old Harbor 83.58 20 *e*P **P 13 19 13.7 -1.0**
comp=Z,32nm,1.1s
SYO Syowa Base 83.70 196⇓ *e*P **P 13 19 13.4 -1.9**
SYO Syowa Base 83.70 196⇓ *e*PcP **P 13 19 18.2 +2.9**
SEY Seymchan 84.15 352 P **P 13 19 16.6 -0.8**
comp=Z,2.0nm,0.6s,baz=219,slow=7.0,SNR=6.7
KDAK Kodiak Island 84.26 20 *e*P **P 13 19 17.6 -0.5**
comp=Z,31nm,1.3s
KDAK Kodiak Island 84.26 20 *i*P **P 13 19 17.2 -1.0**
CNPM China Poot 86.08 19 *e*P **P 13 19 27.2 -0.1**
comp=Z,27nm,1.2s
O02D Mt. Diablo Mer 87.52 45 P **P 13 19 35.2 +0.3**
baz=241
ULN Ulaanbaatar 87.70 324 *c i*P **P 13 19 35.7 0.0**
ULN pmax pmax
comp=Z,26nm,1.3s
SHL Shillong 87.72 298 *e*P **P 13 19 38.0 +1.7**
GTA Gaotai 87.80 314 P **P 13 19 36.5 +0.2**
GTA pP pP 13 19 46.5 +1.3
GTA sP sP 13 19 50.0 +2.0
GTA SKS **SKSac 13 30 00.5 -1.9**
GTA S **S 13 30 13.8 -3.2**
GTA SS **SS 13 36 05.5 +0.7**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=Z,93nm,17.9s
GTA LR LR
comp=Z,120nm,17.9s
GTA LR LR
comp=Z,140nm,18.9s
SNAA Sanae 87.93 183 P **P 13 19 36.0 -0.4**
SNAA Sanae 87.93 183 *e*P **P 13 19 34.9 -1.5**
comp=Z,23nm,1.4s
SNAA Sanae 87.93 183 *de*P **P 13 19 36.2 -0.2**
N02D Trinity Center 87.97 45 P **P 13 19 37.2 +0.2**
baz=241
SONM Songino Array 88.06 323 P **P 13 19 37.7 +0.4**
comp=Z,6.0nm,1.0s,baz=136,slow=4.8,SNR=31
SONM LR LR 14 00 37.3
comp=Z,90nm,18.2s,baz=114,slow=37
M02C Callahan 88.08 44 P **P 13 19 37.8 +0.3**
baz=241,SNR=6.8
AFDM Forest Hills D 88.17 47 *e*P **P 13 19 36.5 -1.4**
comp=Z,19nm,1.2s
K02D Willamette Mer 88.20 43 P **P 13 19 37.8 -0.2**
baz=240
O03E Paynes Creek 88.24 46 P **P 13 19 38.0 -0.3**
baz=241
J01E Myrtle Point 88.26 42 P **P 13 19 37.9 -0.3**
baz=240
BILL Biilibino 88.27 359⇑ *i*P **P 13 19 36.3 -1.4**
BILL *e* 13 23 05.4
BILL pmax pmax
comp=Z,8.0nm,1.0s
YBH Yreka Blue Hor 88.34 44 *e*P **P 13 19 37.5 -1.3**
comp=Z,28nm,1.4s
YBH Yreka Blue Hor 88.34 44 *e*P **P 13 19 37.5 -1.3**
YBH pmax pmax
comp=Z,28nm,1.4s
ISA Isabella, Lake 88.43 51 P **P 13 19 38.9 -0.4**
baz=244,SNR=6.4
EDW2 Edwards Air Fo 88.44 52 P **P 13 19 38.9 -0.5**
baz=244
MURC Murrieta 88.47 53 P **P 13 19 39.1 -0.4**
baz=244
VNA3 Neumayer Olymp 88.53 180 P **P 13 19 38.7 -0.5**
MONP2 Monument Peak 88.75 54 P **P 13 19 40.7 -0.4**
baz=245,SNR=5.1
I02D Swisshome 88.79 42 P **P 13 19 40.8 +0.1**
baz=240
VNA2 Neumayer--Watz 88.82 181 P **P 13 19 40.2 -0.3**
baz=184,slow=4.3
L04D Klamath Falls 88.84 44 P **P 13 19 40.7 -0.5**
baz=241,SNR=5.8
IKP In-Ko-Pah, Jac 88.89 55 P **P 13 19 41.1 -0.5**
baz=245
I03D Drain, OR 88.90 42 P **P 13 19 41.2 0.0**
baz=240
LRMC Laurel Mtn Rad 88.93 51 P **P 13 19 41.4 -0.4**
baz=244
M04C Macdoel 88.93 44 P **P 13 19 41.0 -0.6**
baz=241
PFO Pinyon Flats O 89.03 54 P **P 13 19 41.6 -0.7**
baz=245
CWC Cottonwood Cre 89.06 50 P **P 13 19 41.7 -0.7**
baz=244
VNA1 Neumayer--Stat 89.11 181 P **P 13 19 41.3 -0.6**
SWSC Sam W. Stewart 89.25 54 P **P 13 19 42.8 -0.3**
baz=245
MPMC Manual Prospec 89.32 51 P **P 13 19 43.0 -0.6**
baz=244,SNR=6.9
J04D Umpqua Nationa 89.46 43 P **P 13 19 43.7 -0.5**
baz=241,SNR=5.8
GSC Goldstone, Bar 89.50 52 P **P 13 19 43.9 -0.5**
baz=244
I04A Tendick Farm, 89.54 42 P **P 13 19 44.0 -0.3**
baz=241
BELC Belle Mtn. Jos 89.54 53 P **P 13 19 44.3 -0.4**
baz=245,SNR=7.3
HEC Hector,Ludlow 89.64 53 P **P 13 19 44.3 -0.7**
baz=245
H04D Lebanon 89.69 42 P **P 13 19 44.6 -0.4**
baz=241
G03D McMinnville, O 89.70 41 P **P 13 19 44.6 -0.4**
baz=240
NVAR Mina Array Bea 89.78 49 P **P 13 19 45.5 -0.3**
comp=Z,8.8nm,1.0s,baz=228,slow=7.6,SNR=34
NVAR LR LR 13 51 38.8
comp=Z,483nm,21.2s,baz=216,slow=30

BC3 Big Chuckawall 89.81 54 P **P 13 19 45.7 -0.2**
baz=245
GRAC Grapevine Rang 89.82 50 P **P 13 19 45.5 -0.3**
baz=244
NV11 Mina Array Sit 89.89 49 *e*P **P 13 19 45.8 -0.5**
comp=Z,1.0nm,1.1s
FURC Furnace Creek, 89.95 51 P **P 13 19 45.8 -0.5**
baz=244,SNR=6.4
K05A Summer Lake 90.00 44 *e*P **P 13 19 46.9 +0.2**
comp=Z,21nm,1.2s
MOD Modoc Plateau 90.00 45 *e*P **P 13 19 46.2 -0.5**
comp=Z,15nm,1.1s
GLA Glamis 90.03 55 P **P 13 19 46.8 -0.1**
baz=246,SNR=7.8
J05D Fort Rock, OR 90.04 43 P **P 13 19 46.5 -0.3**
baz=242,SNR=21
GMRC Granite Mounta 90.12 53 P **P 13 19 46.7 -0.7**
baz=245
SHOC Shoshone, Teco 90.14 52 P **P 13 19 46.5 -0.8**
baz=245
TUQ Turquoise Moun 90.20 52 P **P 13 19 46.9 -0.8**
baz=245
IRM Iron Mountain 90.25 54 P **P 13 19 47.4 -0.4**
baz=245,SNR=5.9
F04D Rainier, OR 90.29 40 P **P 13 19 47.6 0.0**
baz=240
BOD Bodaibo 90.33 334 *e*P **P 13 19 46.7 -0.8**
BOD pmax pmax
comp=Z,19nm,1.8s
I05D Terrebonne, OR 90.48 42 P **P 13 19 48.0 -0.6**
baz=242,SNR=5.2
Y12C Blythe 90.55 54 P **P 13 19 48.8 -0.4**
baz=246
TPNV Topopah Spring 90.61 51 P **P 13 19 49.0 -0.6**
baz=245,SNR=12
E04D Cinebar 90.79 40 P **P 13 19 49.9 -0.1**
baz=241
G05D Wamic, OR 90.92 42 P **P 13 19 49.8 -0.9**
baz=242
D03D Eldon 90.96 39 P **P 13 19 50.4 -0.3**
baz=240
PDMCI Parker Dam,Lak 91.07 54 P **P 13 19 51.7 +0.2**
baz=246
F05D White Salmon 91.14 41 P **P 13 19 51.0 -0.7**
baz=242
214A Organ Pipe Nat 91.15 56 P **P 13 19 52.1 0.0**
baz=247
ZAK Zakamensk 91.15 324 *e*P **P 13 19 50.0 -1.7**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
HDA Harding Lake 91.17 18 P **P 13 19 51.7 +0.4**
baz=221
COLA College 91.28 17⇑ *e*P P 13 19 49.8 -2.0
COLA pmax pmax
comp=Z,5.0nm,1.0s
LON Longmire 91.34 40 *e*P P 13 19 50.5 -2.1
comp=Z,11nm,1.4s
LON Longmire 91.34 40 *e*P P 13 19 50.5 -2.1
LON pmax pmax
comp=Z,11nm,1.4s
ILAR Eielson Array 91.46 17 P P 13 19 50.2 -2.5
comp=Z,1.8nm,0.8s,baz=240,slow=4.8,SNR=12
ILAR LR LR 13 59 07.0
comp=Z,322nm,18.2s,baz=224,slow=34
R11A Troy Canyon, C 91.67 50 P **P 13 19 53.6 -0.9**
baz=245,SNR=10
A04D Lummi Island 91.77 38 P **P 13 19 53.9 -0.5**
baz=241
B05A Bryant 91.90 39 P **P 13 19 54.8 -0.3**
baz=241
TUC Tucson 92.87 57 P **P 13 20 00.0 -0.1**
baz=248
WUAZ Wupatki 93.64 54 P **P 13 20 02.9 -0.8**
baz=248
DUG Dugway, Tooele 94.39 49 P **P 13 20 06.8 -0.2**
baz=247
HLID Hailey 94.63 45 P **P 13 20 07.4 -0.6**
baz=246
EPYK Eagle Plains 95.59 19 P **P 13 20 10.3 -1.4**
baz=230
TIXI Tiksi 95.89 348⇓ *e*P **P 13 20 10.8 -2.1**
TIXI pmax pmax
comp=Z,7.0nm,2.4s
BOZ Bozeman (W) 97.25 44 P **P 13 20 19.6 -0.3**
baz=248
TXAR Lajitas Array 97.55 62 P **P 13 20 20.5 -1.1**
comp=Z,0.4nm,0.5s,baz=231,slow=5.8,SNR=6.2
TXAR PKKPbc **PKKPbc 13 36 58.4 -0.2**
comp=Z,0.3nm,0.8s,baz=77,slow=2.7,SNR=4.8
TXAR LR LR 13 57 41.6
comp=Z,392nm,18.8s,baz=0.0,slow=31
PDAR Pinedale Array 97.61 47 P P 13 20 19.9 -1.8
comp=Z,0.6nm,0.9s,baz=238,slow=5.1,SNR=4.8
PDAR LR LR 13 57 10.0
comp=Z,118nm,20.9s,baz=250,slow=31
S22A 4UR Ranch, Cre 97.85 53 P **P 13 20 22.2 -0.8**
baz=250
WMQ Urumqi 97.88 314 *e*P **P 13 20 23.5 +0.8**
WMQ pP sP 13 20 35.0 +0.6
WMQ PP **PP 13 24 25.8 +4.1**
WMQ pmax pmax
comp=Z,140nm,4.1s
WMQ LR LR
comp=Z,660nm,20.5s
YKA Yellowknife Ar 101.86 27 P **Pdif 13 20 38.6 -1.3**
comp=Z,0.5nm,0.7s,baz=255,slow=4.4,SNR=8.2
YKA PKiKP **PKiKP 13 25 00.9 -1.7**
comp=Z,0.3nm,0.7s,baz=247,slow=1.6,SNR=5.4
YKA PKKPbc **PKKPbc 13 36 48.2 +0.8**
comp=Z,0.3nm,0.8s,baz=43,slow=5.3,SNR=4.5
YKB5 Yellowknife Ar 101.86 27 *e*Pdif **Pdif 13 20 38.6 -1.3**
MK32 Makanchi Array 102.44 315 *e*Pdif **Pdif 13 20 43.6 +0.7**
MKAR Makanchi Array 102.44 315 P **Pdif 13 20 43.6 +0.7**
comp=Z,0.5nm,0.7s,baz=354,slow=1.2,SNR=5.3
KSH Kashi 104.98 307 Pdif **Pdif 13 20 58.0 +3.5**
KSH PP **PP 13 25 20.0 +4.6**
T49A Edmonton 114.13 58 P PKPdf 13 25 23.9 -2.5
baz=262
U50A Jamestown 114.58 58 P PKPdf 13 25 25.2 -2.1
baz=262
F45A CMU Biological 115.05 48 P **PKPdf 13 25 27.5 -0.4**
baz=266
X52A Dahlonega 115.09 61 P **PKPdf 13 25 26.7 -1.7**
baz=262
S50A Richmond 115.10 57 P **PKPdf 13 25 26.4 -1.8**
baz=263
Y53A Monroe 115.24 61 P **PKPdf 13 25 27.4 -1.2**
baz=262
E45A Wooded Hills, 115.33 47 P **PKPdf 13 25 27.1 -1.3**
baz=266
556A Lake Butler 115.62 66 P **PKPdf 13 25 28.1 -1.3**
baz=260
S51A Beattyville 115.73 57 P **PKPdf 13 25 27.9 -1.6**
baz=263
U52A Thorn Hill 115.76 59 P **PKPdf 13 25 27.5 -2.1**
baz=263
DWPF Disney Wildern 116.13 68 P **PKPdf 13 25 28.4 -2.1**
baz=260
D46A Sault St. Mari 116.15 47 P **PKPdf 13 25 27.7 -2.3**
baz=268
U53A Fall Branch 116.39 59 P **PKPdf 13 25 28.9 -1.9**
baz=263
T53A Wise 116.50 58 P **PKPdf 13 25 28.5 -2.5**
baz=264
X55A Gracelyn & Ava 116.92 61 P **PKPdf 13 25 29.9 -1.9**
baz=263
KMSC Kings Mountain 117.25 60 P **PKPdf 13 25 30.2 -2.3**
baz=263
E48A Lockeyer 117.42 47 P **PKPdf 13 25 29.9 -2.5**
baz=269
X56A White Oak 117.42 61 P **PKPdf 13 25 30.2 -2.6**
baz=263
Q53A Leroy 117.47 56 P **PKPdf 13 25 30.0 -2.7**
baz=265
U55A TA2, Sparta 117.63 59 P **PKPdf 13 25 31.3 -2.0**
baz=264
Q54A Coxs Mills 118.02 56 P **PKPdf 13 25 31.6 -2.3**
baz=266
ARU Arti 118.09 324 *i* PKIKP **PKPdf 13 25 31.6 -1.8**
ARU 13 26 46.9
ARU 13 32 40.9
ARU SS SS 13 42 57.0 -4.3
ARU MLR MLR
comp=Z,142nm,19.0s
M53A WI Miller and 118.30 53 P **PKPdf 13 25 32.5 -1.8**
baz=267
W57A Gilead 118.34 60 P **PKPdf 13 25 31.8 -2.7**
baz=264

E50A Wahnapitae 118.41 48 P **PKPdf 13 25 31.8 -2.5**
baz=270
O54A Avella 118.46 55 P **PKPdf 13 25 32.6 -2.0**
baz=267
GEYT Alibeck 118.48 303 PKP **PKPdf 13 25 34.4 -0.4**
comp=Z,1.9nm,0.4s,baz=52,slow=7.5,SNR=3.3
T56A Rocky Mt 118.49 58 P **PKPdf 13 25 32.0 -2.8**
baz=265
F51A Arnstein 118.98 48 P **PKPdf 13 25 32.7 -2.8**
baz=270
T57A Hurt 119.11 58 P **PKPdf 13 25 33.4 -2.5**
baz=266
V58A Windy Hill, Pi 119.12 60 P **PKPdf 13 25 33.7 -2.4**
baz=265
E51A G1948 Merrick 119.27 47 P **PKPdf 13 25 33.7 -2.3**
baz=271
BUKO Buck Lake 119.34 49 P **PKPdf 13 25 34.0 -2.1**
baz=270
F52A Sundridge 119.39 48 P **PKPdf 13 25 33.9 -2.4**
baz=270
S57A Dark Hollow, R 119.41 57 P **PKPdf 13 25 34.0 -2.6**
baz=266
P56A Dayton Farm, R 119.60 55 P **PKPdf 13 25 34.3 -2.6**
baz=267
T58A Grand View Acr 119.68 58 P **PKPdf 13 25 33.8 -3.3**
baz=266
K54A Basilko Farm, 119.82 52 P **PKPdf 13 25 34.7 -2.5**
baz=269
V59A Middlesex 119.83 60 P **PKPdf 13 25 35.2 -2.1**
baz=265
O56A Blue Knob Stat 119.85 55 P **PKPdf 13 25 34.8 -2.6**
baz=268
E52A Mattawa 119.85 48 P **PKPdf 13 25 34.8 -2.3**
baz=271
J54A Appleton 119.87 51 P **PKPdf 13 25 34.8 -2.4**
baz=269
G53A Haliburton 119.89 49 P **PKPdf 13 25 34.9 -2.4**
baz=270
D52A ZEK Kipawa Sen 120.00 47 P **PKPdf 13 25 34.6 -2.8**
baz=272
L55A Hinsdale 120.00 52 P **PKPdf 13 25 34.2 -3.4**
baz=269
S58A Poland Farm, P 120.11 58 P **PKPdf 13 25 35.3 -2.6**
baz=267
M56A Emporium 120.18 53 P **PKPdf 13 25 35.7 -2.3**
baz=269
P57A Homestead Farm 120.24 56 P **PKPdf 13 25 35.8 -2.3**
baz=268
R58B Mineral 120.27 57 P **PKPdf 13 25 35.6 -2.6**
baz=267
ALGO Algonquin Park 120.28 48 P **PKPdf 13 25 35.6 -2.3**
baz=271
SSPA Standing Stone 120.38 54 P **PKPdf 13 25 35.8 -2.5**
baz=268
BANO Bancroft 120.38 49 P **PKPdf 13 25 35.8 -2.4**
baz=271
MATQ Matagami 120.38 44 P **PKPdf 13 25 35.8 -2.2**
baz=274
T59A Double "B" Far 120.47 58 P **PKPdf 13 25 36.7 -1.9**
baz=266
J55A Hilton 120.47 51 P **PKPdf 13 25 36.4 -1.9**
baz=270
D53A Lac Vacive, Po 120.48 47 P **PKPdf 13 25 36.0 -2.3**
baz=272
E53A Dumoine, Ponti 120.53 48 P **PKPdf 13 25 35.8 -2.6**
baz=272
I55A Frankford 120.57 50 P **PKPdf 13 25 35.7 -2.8**
baz=271
N57A Milroy 120.64 54 P **PKPdf 13 25 36.1 -2.7**
baz=269
PEMO Pembroke 120.85 48 P **PKPdf 13 25 36.2 -2.8**
baz=272
LSQQ Lebel-sur-Quev 120.86 44 P **PKPdf 13 25 36.2 -2.7**
baz=274
E54A Lac Daplat, Po 120.86 47 P **PKPdf 13 25 36.5 -2.6**
baz=272
R59A King George, V 120.88 57 P **PKPdf 13 25 37.2 -2.1**
baz=267
H55A Tweed 120.92 50 P **PKPdf 13 25 36.6 -2.6**
baz=271
PLVO Plevna 120.98 49 P **PKPdf 13 25 37.2 -2.2**
baz=272
PECO Prince Edward 121.06 50 P **PKPdf 13 25 37.1 -2.4**
baz=271
D54A Lac Fusel, La 121.19 47 P **PKPdf 13 25 37.1 -2.6**
baz=273
G55A Calabogie 121.23 49 P **PKPdf 13 25 37.1 -2.7**
baz=272
H56A Elgin 121.58 50 P **PKPdf 13 25 38.3 -2.2**
baz=272
O59A Robesonia 121.67 55 P **PKPdf 13 25 38.6 -2.2**
baz=269
BINY Binghamton 121.82 52 P **PKPdf 13 25 39.1 -2.0**
baz=271
N59A State Game Lan 121.99 54 P **PKPdf 13 25 39.3 -2.1**
baz=270
ORIO Orleans, Innes 122.07 49 P **PKPdf 13 25 39.1 -2.3**
baz=273
CHGQ Chibougamau 122.47 43 P **PKPdf 13 25 39.3 -2.8**
baz=277
LONY Lake Ozonia 122.77 50 P **PKPdf 13 25 40.8 -2.0**
baz=273
LBNH Lisbon 124.70 50 P **PKPdf 13 25 44.7 -1.8**
baz=275
ARCES ARCESS Array B 126.19 345 PKP **PKPdf 13 25 47.1 -1.5**
comp=Z,3.9nm,0.6s,baz=64,slow=1.4,SNR=30
PKME Peaks-Kenny Pk 126.46 48 P **PKPdf 13 25 48.0 -1.8**
baz=278
GNI Garni 128.88 306⇓ *i*PKIKP **PKPdf 13 25 55.3 +0.4**
BDFB Brasilia 128.93 132 PKP **PKPdf 13 25 54.7 -0.9**
comp=Z,4.4nm,0.7s,baz=38,slow=2.8,SNR=5.0
KIV Kislovodsk 129.89 311 *i* PKIKP **PKPdf 13 25 58.1 +1.5**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,297nm,24.0s
NEY Neytrino 129.98 310⇓ *i*PKIKP **PKPdf 13 25 54.8 -2.1**
OBN Obninsk 130.38 326⇑ *i*PKIKP **PKPdf 13 25 56.7 -0.2**
OBN *e* 13 28 09.8
OBN *e*SS SS 13 45 42.4 +6.3
OBN pmax pmax
comp=Z,8.0nm,0.4s
OBN MLR MLR
comp=Z,156nm,21.0s
FIA0 FINESS Array S 131.62 337 *e*PKPdf **PKPdf 13 25 58.3 -0.8**
FIA0 FINESS Array S 131.62 337 *e*PKIKP **PKPdf 13 25 58.3 -0.8**
FINES FINESS Array B 131.62 337 *c i*PKIKP **PKPdf 13 25 58.9 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 131.62 337 PKhKP PKPpre 13 25 52.1
comp=Z,0.7nm,0.7s,baz=54,slow=3.3,SNR=5.2
FINES PKP **PKPdf 13 25 58.3 -0.8**
comp=Z,1.8nm,0.7s,baz=4.8,slow=4.2,SNR=7.7
FINES SKPbc **SKPbc 13 29 22.1 -0.3**
comp=Z,4.7nm,0.7s,baz=64,slow=4.4,SNR=14
AKASG Malin Array Be 136.34 323 PKhKP PKPpre 13 26 04.8
comp=Z,0.3nm,0.3s,baz=52,slow=3.7,SNR=5.6
AKASG PKP **PKPdf 13 26 09.2 +0.9**
comp=Z,0.7nm,0.4s,baz=53,slow=2.7,SNR=4.2
AKASG SKPbc **SKPbc 13 29 39.0 +0.7**
comp=Z,1.4nm,0.6s,baz=46,slow=4.1,SNR=6.2
NB2 NORSAR Subarra136.56 344 PKPdf PKPpre 13 25 56.2
comp=Z,0.6nm,0.6s,baz=31,slow=1.9
NB200 NORSAR Array S 136.56 344 *e*PKPdf **PKPdf 13 26 07.4 -1.1**
NOA NORSAR Array B 136.56 344 PKhKP PKPpre 13 25 55.9
comp=Z,0.9nm,0.8s,baz=67,slow=1.9,SNR=5.2
NOA PKP **PKPdf 13 26 07.4 -1.1**
comp=Z,1.1nm,0.6s,baz=37,slow=2.1,SNR=6.2
NOA SKPbc **SKPbc 13 29 42.1 +3.3**
comp=Z,1.5nm,0.8s,baz=29,slow=3.3,SNR=6.1
BR101 Keskin Array S 137.37 307 *e*PKPdf **PKPdf 13 26 10.0 -0.8**
BRTR Keskin Array B 137.37 307 *c i*PKIKP **PKPdf 13 26 11.8 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 137.37 307 PKP **PKPdf 13 26 10.0 -0.8**
comp=Z,0.9nm,0.8s,baz=178,slow=4.4,SNR=3.7
OKC Ostrava-Krasne 142.66 329 AMS AMS 14 31 20.0
comp=Z,200nm,21.6s
MORC Moravsky Berou 142.99 329 *e*PKP **PKPdf 13 26 16.9 -3.6**
DPC Dobruska-Polom 143.18 331 *e*PKIKP PKPab 13 26 18.5 +2.0
DPC *e* 13 26 24.3
DPC MLR MLR
comp=Z,300nm,20.5s
DPC Dobruska-Polom 143.18 331 *e*PKP PKPab 13 26 18.5 +2.0
DPC *ex* x 13 26 24.3
DPC AMS AMS 14 30 30.0
comp=Z,300nm,20.5s

VYHS	**Vyhne**	**143.18**	**326**	*e*PKIKP	PKPbc	13 26 19.9	+2.1
VYHS	**Vyhne**	**143.18**	**326**	*e*PKP	PKPbc	13 26 19.9	+2.1
UPC	**Upice**	**143.21**	**331**	AMS	AMS	14 30 20.0	
	comp=Z,300nm,20.0s						
JAVC	**Velka Javorina**	**143.54**	**328**	*e*PKP	PKPab	13 26 20.0	+2.0
VRAC	**Vranov**	**143.77**	**329**	*e*PKP	PKPab	13 26 19.5	+0.7
PVCC	**Panska Ves**	**143.84**	**332**	*e*PKIKP	PKPab	13 26 19.3	+0.3
PVCC				MLR	MLR		
	comp=Z,200nm,20.0s						
PVCC	**Panska Ves**	**143.84**	**332**	*e*PKP	PKPab	13 26 19.3	+0.3
PVCC				AMS	AMS	14 30 20.0	
	comp=Z,200nm,20.0s						
BRG	**Berggiesshubel**	**143.85**	**333**	*e*PKP	PKPab	13 26 19.4	+0.4
	comp=Z,29nm,1.2s						
BRG				*i*		13 26 25.0	
	comp=Z,14nm,1.0s						
BRG				*i*		13 26 28.0	
	comp=Z,12nm,0.8s						
BRG	**Berggiesshubel**	**143.85**	**333**	*e*PKIKP	PKPab	13 26 19.4	+0.4
BRG				*i*		13 26 28.0	
BRG				pmax	pmax		
	comp=Z,29nm,1.2s						
BRG				pmax	pmax		
	comp=Z,14nm,1.0s						
BRG				pmax	pmax		
	comp=Z,12nm,0.8s						
CLL	**Collm**	**143.92**	**334**	*i* PKIKP	PKPab	13 26 19.1	-0.1
CLL				*e*		13 26 28.0	
CLL				pmax	pmax		
	comp=Z,14nm,1.0s						
CLL	**Collm**	**143.92**	**334**	*i* PKPdf	PKPab	13 26 19.1	-0.1
	comp=Z,14nm,1.0s						
CLL				*i*		13 26 21.0	
	comp=Z,16nm,1.0s						
CLL				*e*(pPKPdf)		13 26 28.0	
CLL				*e*PP	**PP**	**13 29 36.0**	**+0.7**
CLL				Lm	MLR	14 38 00.0	
	comp=Z,100nm,18.8s						
KRUC	**Moravsky**	**144.03**	**329**	*e*PKP	PKPab	13 26 19.9	+0.1
GOPC	**GO Pecny, Ondr**	**144.19**	**331**	*e*PKIKP	**PKPab**	**13 26 21.4**	**+1.1**
GOPC				*e*		13 26 25.9	
GOPC				MLR	MLR		
	comp=Z,200nm,21.7s						
GOPC	**GO Pecny, Ondr**	**144.19**	**331**	*e*PKP	**PKPab**	**13 26 21.4**	**+1.1**
GOPC				*ex*	x	13 26 25.9	
GOPC				AMS	AMS	14 28 00.0	
	comp=Z,200nm,21.7s						
PRU	**Pruhonice**	**144.24**	**332**	*e*PKIKP	**PKPab**	**13 26 20.9**	**+0.4**
PRU				*e*		13 26 26.6	
PRU				MLR	MLR		
	comp=Z,200nm,21.4s						
PRU	**Pruhonice**	**144.24**	**332**	*e*PKP	**PKPab**	**13 26 20.9**	**+0.4**
PRU				*ex*	x	13 26 26.6	
PRU				AMS	AMS	14 28 00.0	
	comp=Z,200nm,21.4s						
TREC	**Trest**	**144.30**	**330**	AMS	AMS	14 31 00.0	
	comp=Z,300nm,20.6s						
ESK	**Eskdalemuir**	**144.71**	**352**	*e*PKPdf	**PKPab**	**13 26 21.1**	**-1.0**
ESK	**Eskdalemuir**	**144.71**	**352**	*i* PKIKP	**PKPab**	**13 26 22.9**	**+0.9**
VAY	**Valandovo**	**144.79**	**314**	*i* P	**PKPab**	**13 26 22.2**	**-0.6**
NKC	**Novy Kostel**	**144.97**	**334**	*e*PKIKP	**PKPab**	**13 26 23.2**	**0.0**
NKC				MLR	MLR		
	comp=Z,200nm,20.9s						
NKC	**Novy Kostel**	**144.97**	**334**	*e*PKP	**PKPab**	**13 26 23.2**	**0.0**
NKC				AMS	AMS	14 34 20.0	
	comp=Z,200nm,20.9s						
CONA	**Conrad Observa**	**145.06**	**328**	*i* PKPdf	**PKPbc**	**13 26 24.1**	**+0.4**
	comp=Z,39nm,1.3s,SNR=20						
SKO	**Skopje**	**145.25**	**315**	*i* P	**PKPbc**	**13 26 24.5**	**+0.1**
KHC	**Kasperske Hory**	**145.30**	**331**	*e*PKIKP	**PKPbc**	**13 26 24.2**	**-0.2**
KHC				*e*		13 26 30.1	
KHC				MLR	MLR		
	comp=Z,200nm,21.4s						
KHC	**Kasperske Hory**	**145.30**	**331**	*e*PKP	**PKPbc**	**13 26 24.2**	**-0.2**
KHC				*ex*	x	13 26 30.1	
KHC				AMS	AMS	14 30 10.0	
	comp=Z,200nm,21.4s						
GERES	**GERESS Array B**	**145.45**	**331**	PKPbc	**PKPbc**	**13 26 24.5**	**-0.4**
	comp=Z,6.7nm,0.7s,baz=46,slow=3.9,SNR=54						
KRUS	**Krusevo**	**145.65**	**315**	*i* P	**PKPdf**	**13 26 25.1**	**-0.4**
ARSA	**Arzberg**	**145.68**	**327**	*i* pPKPbc	**PKPdf**	**13 26 26.1**	**+0.8**
	comp=Z,16nm,1.1s,SNR=7.2						
MOA	**Molln**	**145.89**	**329**	*i* PKPab	**PKPdf**	**13 26 26.3**	**+0.7**
	comp=Z,36nm,1.4s,SNR=10						
OHR	**Ohrid**	**146.07**	**314**	*i* P	**PKPdf**	**13 26 26.5**	**+0.3**
PERS	**Pernice**	**146.30**	**327**	*i* PKPdf	**PKPdf**	**13 26 26.9**	**+0.5**
SOKA	**Soboth**	**146.32**	**327**	*i* PKPbc	**PKPdf**	**13 26 25.8**	**-0.6**
	comp=Z,6.7nm,0.7s						
OBKA	**Obir**	**146.68**	**327**	pPKPbc	**PKPdf**	**13 26 30.0**	**+3.0**
	comp=Z,4.6nm,0.6s						
KBA	**Koelnbreinsper**	**146.88**	**329**	*i* PKPab	**PKPdf**	**13 26 28.4**	**+0.8**
	comp=Z,13nm,1.1s						
LJU	**Ljubljana**	**147.00**	**327**	*i* PKPdf	**PKPdf**	**13 26 29.3**	**+1.8**
MYKA	**Terra Mystica**	**147.05**	**328**	*i* PKPbc	**PKPdf**	**13 26 28.5**	**+0.8**
	comp=Z,7.5nm,0.6s						
MEM	**Membach**	**147.05**	**340**	⇑PKPbc	**PKPdf**	**13 26 29.0**	**+1.6**
UCC	**Uccle**	**147.39**	**342**	⇑PKP	**PKPdf**	**13 26 29.8**	**+1.8**
BCLA	**Clavier**	**147.44**	**340**	⇑PKPbc	**PKPdf**	**13 26 29.9**	**+1.8**
ABTA	**Abfaltersbach**	**147.52**	**329**	*i* PKPbc	**PKPdf**	**13 26 29.7**	**+1.2**
	comp=Z,23nm,1.2s,SNR=6.0						
WATA	**Walderalm**	**147.53**	**331**	*i* PKPbc	**PKPdf**	**13 26 29.9**	**+1.4**
	comp=Z,8.2nm,0.6s						
WTTA	**Wattenberg**	**147.55**	**331**	*i* pPKPdf	**PKPdf**	**13 26 31.0**	**+2.4**
	comp=Z,23nm,1.3s						
SNF	**Seneffe**	**147.67**	**342**	⇑PKPbc	**PKPdf**	**13 26 29.1**	**+0.7**
SNF				⇑PKPab	**PKPbc**	**13 26 31.7**	**+0.5**
MOTA	**Moosalm**	**147.73**	**331**	*i* pPKPdf	**PKPdf**	**13 26 31.2**	**+2.3**
	comp=Z,22nm,0.9s,SNR=11						
RETA	**Reutte**	**147.78**	**332**	*i* pPKPdf	**PKPdf**	**13 26 31.1**	**+2.2**
	comp=Z,6.1nm,0.5s						
SQTA	**Sankt Quirin**	**147.78**	**331**	*i* pPKPdf	**PKPdf**	**13 26 31.3**	**+2.4**
	comp=Z,22nm,0.6s,SNR=9.2						
WLF	**Walferdange**	**147.81**	**339**	⇑PKP	**PKPdf**	**13 26 32.1**	**+3.4**
DOU	**Dourbes**	**147.94**	**341**	⇑PKP	**PKPdf**	**13 26 29.4**	**+0.5**
DOU				⇑PKPbc	**PKPbc**	**13 26 31.5**	**-0.4**
DOU				⇓pPKPbc	**pPKPbc**	**13 26 41.8**	**+1.1**
BFO	**Black Forest**	**148.13**	**335**	*e*PKPbc	**PKPbc**	**13 26 31.4**	**-1.1**
BFO	**Black Forest**	**148.13**	**335**	*i* PKP2	**PKPdf**	**13 26 32.1**	**+2.7**
FETA	**Feichten**	**148.14**	**331**	*i* P	**PKPdf**	**13 26 32.5**	**+2.9**
	comp=Z,19nm,0.7s,SNR=9.9						
DAVA	**Damuels**	**148.32**	**332**	*i* P	**PKPdf**	**13 26 32.7**	**+2.8**
	comp=Z,11nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**148.66**	**331**	*e*PKPbc	**PKPbc**	**13 26 34.3**	**0.0**
TIP	**Timpagrande**	**149.72**	**314**	*e*PKPbc	**PKPbc**	**13 26 37.1**	**+0.2**
ESDC	**Sonseca Array**	**159.92**	**344**	PKPab	**PKPab**	**13 27 24.6**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=15,slow=2.9,SNR=14						
TORD	**Torodi Ar. Bea**	**165.83**	**241**	PKP	**PKPdf**	**13 26 51.7**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=259,slow=1.5,SNR=3.1						
TORD				PKPab	**PKPab**	**13 27 50.3**	**-1.9**
	comp=Z,1.5nm,1.1s,baz=104,slow=6.3,SNR=4.0						
TOA1	**Torodi Ar. Sit**	**165.84**	**241**	*e*PKPdf	**PKPdf**	**13 26 51.7**	**-0.9**
TOA1				*e*PKPab	**PKPab**	**13 27 50.3**	**-1.9**

*ISK **31** 13:06:51.8, 39°.78N×32°.55E, h14km, ML1.9/5*
*DDA **31** 13:06:52.9, 39°.74N×32°.62E, h7km±6km, ML2.6*
ISC 31 13:06:53.0±1.2, 39°.74N±0°.04×32°.62E±0°.05, h8km±9km, n10, σ1.9±0.00/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.19**	**46**	PG	**Pg**	**13 06 56.6**	**-0.4**
ANTO				SG	**Sg**	**13 07 00.4**	**+0.7**
LOD	**Lodumlu**	**0.19**	**36**	PG	**Pg**	**13 06 56.5**	**-0.5**
LOD				SG	**Sg**	**13 07 00.3**	**+0.6**
KULU	**Kulu**	**0.75**	**157**	PG	**Pb**	**13 07 07.9**	**-0.5**
KULU				SG	**Sn**	**13 07 20.2**	**-1.5**
KIBS	**BOLU**	**0.90**	**320**	*i* P	**Pn**	**13 07 11.8**	**-0.3**
KIBS				*i* S	**Sn**	**13 07 27.1**	**+1.8**
ELDT	**Eldivan**	**0.98**	**39**	IAML_P			
	comp=Z,698nm,0.1s						
ELDT				*i* P	**Pb**	**13 07 11.4**	**-0.9**
KIZT	**Kizilcal**	**1.03**	**214**	PG	**Pb**	**13 07 12.7**	**-0.4**
DELI	**KIRIKKALE**	**1.04**	**75**	IAML_P			
	comp=Z,550nm,0.1s						
DELI				*i* P	**Pn**	**13 07 13.6**	**-0.4**
DELI				*i* S	**Sn**	**13 07 29.7**	**+0.9**
KIRS	**Kırehir-Merke**	**1.17**	**120**	*i* P	**Pg**	**13 07 16.7**	**+1.2**
KIRS				*i* S	**Sn**	**13 07 32.5**	**+0.5**
YAYX	**Yaylak**	**1.22**	**130**	PN	**Pn**	**13 07 16.1**	**-0.4**
CDAG	**Cicekdag**	**1.36**	**94**	IAML_P			
	comp=Z,244nm,0.1s						
CDAG				*i* P	**Pg**	**13 07 18.7**	**-0.4**
CDAG				*i* S	**Sg**	**13 07 38.1**	**+1.4**

IDC 31 13:21:57.0±1.8, 2°.58S×138°.78E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/36, mbtmp3.5/4, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx3.1/17, Error ellipse: s-maj=116.5km s-min=28.4km az=112.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.79**	**194**	P	Pn	13 26 05.9	-0.4
	0.2nm,0.3s,baz=22,slow=13,SNR=8.8						
KAPI	**Kappang**	**19.14**	**262**	LR	LR	13 35 31.2	
	comp=Z,165nm,21.5s,baz=124,slow=42						
FITZ	**Fitzroy Crossi**	**20.09**	**219**	P	P	13 26 32.0	-0.4
	2.1nm,0.9s,baz=38,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**21.49**	**192**	P	P	13 26 48.1	+0.6
	0.6nm,0.7s,baz=9.7,slow=11,SNR=17						
ILAR	**Eielson Array**	**85.69**	**24**	P	P	13 34 37.5	-0.1
	0.4nm,0.6s,baz=259,slow=4.3,SNR=5.4						

*NEIC **31** 13:22:13.0±0.0, 16°.81N×95°.04W, h108km, MD4.0(MEX), After MEX.*
MEX 31 13:22:13.1±0.5, 16°.81N×95°.04W, h107km±4km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.32**	**27**	*e*Pn	Pn	13 22 27.8	-0.9
CMIG				*e*Sn	Sn	13 22 38.0	-2.3
CMIG	**Matias Romero**	**0.32**	**27**	*e*P	Pn	13 22 27.8	-0.9
CMIG				*e*S	Sn	13 22 38.0	-2.3
HUIG	**Huatulco**	**1.46**	**225**	*e*Pn	Pn	13 22 37.9	-1.3
HUIG				*e*Sn	Sn	13 22 57.8	-1.3
HUIG	**Huatulco**	**1.46**	**225**	*e*P	Pn	13 22 37.9	-1.3
HUIG				*e*S	Sn	13 22 57.8	-1.3
TGIG		**1.83**	**91**	*e*Pn	Pn	13 22 42.7	-1.2
TGIG				*e*Sn	Sn	13 23 05.3	-2.1
TGIG		**1.83**	**91**	*e*P	Pn	13 22 42.7	-1.2
TGIG				*e*S	Sn	13 23 05.3	-2.1
PCIG		**2.06**	**122**	*e*Pn	Pn	13 22 45.5	-1.2
PCIG				*e*Sn	Sn	13 23 10.6	-1.9
PCIG		**2.06**	**122**	*e*P	Pn	13 22 45.5	-1.2
PCIG				*e*S	Sn	13 23 10.6	-1.9
CCIG	**Comitan**	**2.83**	**100**	*e*Pn	Pn	13 22 55.1	-1.8
CCIG				*e*Sn	Sn	13 23 28.1	-2.6
CCIG	**Comitan**	**2.83**	**100**	*e*P	Pn	13 22 55.1	-1.8
PNIG	**Pinotepa**	**2.99**	**263**	*e*Pn	Pn	13 22 58.1	-0.9
PNIG	**Pinotepa**	**2.99**	**263**	*e*P	Pn	13 22 58.1	-0.9
LVIG	**Laguna Verde**	**3.18**	**336**	*e*Pn	Pn	13 22 59.7	-1.8
LVIG				*e*Sn	Sn	13 23 28.3	-11
TLIG	**Tlapa**	**3.46**	**283**	*e*Pn	Pn	13 23 06.7	+1.4
TLIG				*e*Sn	Sn	13 23 43.6	-2.0
TEIG	**Tepich**	**7.26**	**61**	*e*Pn	Pn	13 23 54.1	-2.4
TGUH	**Tegucigalpa,Un**	**7.97**	**109**	*e*Pn	Pn	13 24 03.8	-2.4
LNIG	**Linares**	**9.05**	**334**	*e*Pn	Pn	13 24 22.4	+1.5
TX31	**Lajitas Ar. Si**	**14.78**	**329**	*e*Pn	Pn	13 25 29.7	-7.1
NATX	**Nacogdoches**	**14.89**	**1**	*e*Pn	Pn	13 25 31.0	-7.1

*HLW **31** 13:22:35.1, 35°.37N×26°.72E, h25km±13km, Md4.0, Ml3.7*
*ATH **31** 13:22:36.1, 35°.65N×26°.54E, h57km±11km, ML2.7/4, Error ellipse: s-maj=11.6km s-min=1.4km az=144.0*
*ISK **31** 13:22:36.4, 35°.76N×26°.50E, h16km, ML2.8/7*
*THE **31** 13:22:38.5, 35°.67N×26°.53E, h29km±6km, ML2.9/6, Error ellipse: s-maj=6.4km s-min=0.8km az=127.0*
*DDA **31** 13:23:39.5, 35°.70N×26°.99E, h29km, ML3.0*
ISC 31 13:22:35.2±1.2, 35°.64N±0°.03×26°.62E±0°.02, h33km±13km, n46, σ2.9±37/71, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.45**	**101**	PG	**Pn**	**13 22 48.4**	**+3.0**
KARP				SG	**Sn**	**13 22 56.9**	**+4.4**
KARP	**Karpathos**	**0.45**	**101**	P	**Pn**	**13 22 48.5**	**+3.0**
KARP				S	**Sn**	**13 22 57.3**	**+4.8**
KARP	**Karpathos**	**0.45**	**101**	P	**Pn**	**13 22 48.6**	**+3.1**
KARP				S	**Sn**	**13 22 57.1**	**+4.6**
KARP				AML	AML	13 22 57.5	
	comp=E,1948μm,0.1s						
KARP				AML	AML	13 22 58.2	
	comp=N,2055μm,0.1s						
STIA	**Sitia Lasithi**	**0.61**	**225**	P	**Pn**	**13 22 50.1**	**+2.5**
ZKR	**Zakros**	**0.61**	**212**	PG	**Pn**	**13 22 50.1**	**+2.5**
ZKR				SG	**Sn**	**13 23 00.0**	**+3.5**
ZKR	**Zakros**	**0.61**	**212**	P	**Pn**	**13 22 50.2**	**+2.5**
ZKR				S	**Sn**	**13 22 59.9**	**+3.5**
ZKR	**Zakros**	**0.61**	**212**	P	**Pn**	**13 22 50.2**	**+2.5**
ZKR				S	**Sn**	**13 22 59.9**	**+3.5**
ZKR				AML	AML	13 23 00.6	
	comp=E,2205μm,0.3s						
ZKR				AML	AML	13 23 00.7	
	comp=N,493μm,0.4s						
NPS	**Neapolis**	**0.90**	**246**	P	**Pn**	**13 22 52.8**	**+1.1**
NPS				S	**Sn**	**13 23 04.6**	**+1.1**
NPS	**Neapolis**	**0.90**	**246**	P	**Pn**	**13 22 52.7**	**+1.1**
NPS				S	**Sn**	**13 23 03.9**	**+0.3**
NPS				AML	AML	13 23 04.7	
	comp=N,903μm,0.4s						
NPS				AML	AML	13 23 04.9	
	comp=E,1517μm,0.2s						
ANAF	**Anafi Island**	**0.99**	**317**	P	**Pb**	**13 22 54.7**	**+0.7**
ANAF				S	**Sn**	**13 23 07.2**	**+1.4**
ANAF	**Anafi Island**	**0.99**	**317**	P	**Pb**	**13 22 54.6**	**+0.7**
LAST	**Lasithi**	**1.04**	**243**	P	**Pb**	**13 22 54.9**	**0.0**
LAST				S	**Sn**	**13 23 08.5**	**+1.4**
LAST	**Lasithi**	**1.04**	**243**	P	**Pb**	**13 22 54.8**	**0.0**
LAST				S	**Sn**	**13 23 07.8**	**+0.7**
LAST				AML	AML	13 23 08.6	
	comp=E,340μm,0.4s						
LAST				AML	AML	13 23 08.9	
	comp=N,365μm,0.4s						
NISR	**Nisiros**	**1.06**	**23**	P	**Pb**	**13 22 55.9**	**+0.9**
NISR	**Nisiros**	**1.06**	**23**	P	**Pb**	**13 22 55.7**	**+0.7**
NISR				S	**Sn**	**13 23 10.2**	**+2.8**
SANT	**Santorini**	**1.19**	**308**	PG	**Pb**	**13 22 56.9**	**-0.4**
SANT				SG	**Sb**	**13 23 11.9**	**-0.5**
SANT	**Santorini**	**1.19**	**308**	P	**Pb**	**13 22 56.9**	**-0.4**
THR8	**Santorini-Mono**	**1.20**	**310**	P	**Pb**	**13 22 57.7**	**+0.3**
THR6	**Thira Island,**	**1.22**	**306**	P	**Pb**	**13 22 57.6**	**-0.2**
SAP1	**Santorini-Akro**	**1.22**	**306**	P	**Pb**	**13 22 57.5**	**-0.3**
CMBO	**Columbo, Santo**	**1.29**	**311**	P	**Pb**	**13 22 58.5**	**-0.4**
CMBO				S	**Sn**	**13 23 14.3**	**+1.3**
AMGA	**Amorgos Island**	**1.33**	**334**	P	**Pb**	**13 22 59.0**	**-0.6**
AMGA				S	**Sn**	**13 23 15.5**	**+1.4**
AMGA	**Amorgos Island**	**1.33**	**334**	P	**Pb**	**13 22 59.0**	**-0.6**
DAT	**Datca**	**1.34**	**35**	PN	**Pb**	**13 22 59.7**	**-0.1**
DAT	**Datca**	**1.34**	**35**	*i* P	**Pb**	**13 22 59.9**	**+0.1**
DAT				*i* S	**Sb**	**13 23 16.8**	**+0.1**
ARG	**Arkhangelos**	**1.35**	**64**	P	**Pb**	**13 23 00.5**	**+0.5**
IOSP	**Ios island**	**1.53**	**316**	P	**Pn**	**13 23 01.4**	**+1.2**
IOSP				S	**Sn**	**13 23 19.6**	**+0.7**
BODT	**Bodrum**	**1.53**	**21**	PN	**Pn**	**13 23 02.2**	**+1.9**
APE	**Apeiranthos**	**1.68**	**329**	PN	**Pn**	**13 23 04.1**	**+1.8**
APE				SN	**Sn**	**13 23 23.8**	**+1.1**
APE	**Apeiranthos**	**1.68**	**329**	P	**Pn**	**13 23 03.9**	**+1.6**
APE				S	**Sn**	**13 23 23.8**	**+1.1**
APE	**Apeiranthos**	**1.68**	**329**	P	**Pn**	**13 23 03.9**	**+1.6**
TURN	**Turunc**	**2.02**	**52**	IAML_P			
	comp=Z,724nm,0.1s						
TURN				*i* P	**Pn**	**13 23 05.2**	**-1.8**
TURN				*i* S	**Sn**	**13 23 26.1**	**-5.1**
DALY	**Dalyan (Mula)**	**2.02**	**54**	PN	**Pb**	**13 23 10.8**	**-0.5**
DALY	**Dalyan (Mula)**	**2.02**	**54**	IAML_P			
	comp=Z,836nm,0.3s						
DALY				*i* P	**Pb**	**13 23 10.8**	**-0.5**
DALY				*i* S	**Sn**	**13 23 34.2**	**+3.1**
AKAS	**Kas**	**2.50**	**75**	IAML_P			
	comp=Z,2μm,0.2s						
AKAS				*i* P	**Pn**	**13 23 16.2**	**+2.5**
AKAS				*i* S	**Sn**	**13 23 35.9**	**-7.2**
TAVA	**DENIZLI_Tavas**	**2.60**	**45**	*i* P	**Pn**	**13 23 18.1**	**+3.0**
TAVA				*i* S	**Sn**	**13 23 47.5**	**+2.0**
AKUM	**Antalya-Kumluc**	**3.10**	**76**	IAML_P			
	comp=Z,541nm,0.2s						
AKUM				*i* P	**Pn**	**13 23 22.9**	**+1.1**
AKUM				*i* S	**Sn**	**13 23 56.8**	**-0.9**
KEPZ	**Antalya-Kepez**	**4.22**	**71**	IAML_P			
	comp=Z,5.8nm,0.2s						
KEPZ				*i* P	**Pn**	**13 23 38.3**	**+0.9**
KEPZ				*i* S	**Sn**	**13 24 24.7**	**-0.8**
SLUM	**Salum**	**4.30**	**196**	P	**Pn**	**13 23 36.3**	**-2.1**
	baz=199						
SLUM				S	**Sn**	**13 24 20.9**	**-6.4**
	baz=199						
SWA2		**6.45**	**189**	P	**Pn**	**13 24 06.0**	**-1.9**
	baz=191						
HNAT	**Natroun**	**6.87**	**149**	P	**Pn**	**13 24 11.3**	**-2.4**
	baz=149						
HNAT				S	Sn	13 25 22.3	-8.5
	baz=149						
GLL	**Jalalah**	**7.41**	**143**	P	**Pn**	**13 24 19.0**	**-2.2**
	baz=142						
RSH		**7.56**	**126**	P	**Pn**	**13 24 21.5**	**-1.6**
	baz=124						
SUZ	**Suez**	**7.80**	**136**	P	**Pn**	**13 24 24.5**	**-1.9**
	baz=135						
HFRF	**Wahat Farafira**	**8.59**	**170**	S	Sn	13 26 02.4	-11
	baz=170						
HFRF				AMP		13 26 00.0	
	baz=170						
HDK1	**Dakhla**	**10.34**	**166**	P	**Pn**	**13 25 00.2**	**-1.2**
	baz=166						

*NEIC **31** 13:25:49.1±1.3, 28°.47S×178°.52W, h213km±12km, mb5.3/61, Error ellipse: s-maj=9.2km s-min=7.7km az=123.0*
*MOS **31** 13:25:52.3±1.0, 28°.29S×178°.57W, h249km, mb5.4/22, Error ellipse: s-maj=10.1km s-min=9.1km az=118.7*
*BJI **31** 13:25:53.5±0.0, 28°.08S×178°.36W, h262km, mb5.3/53, mB5.1/37*
*ISCJB **31** 13:25:54.5±0.3, 28°.59S±0°.03×178°.61W±0°.03, h276km±3km, mb5.2/104, Error ellipse: s-maj=5.5km s-min=3.4km az=139.6*
*IDC **31** 13:25:54.5±1.1, 28°.32S×178°.50W, h261km±9km, mb4.8/27, mb1 4.8/28, mb1mx4.8/31, mbtmp5.4/28, Error ellipse: s-maj=10.6km s-min=9.9km az=115.0*
*GCMT **31** 13:25:57.1±0.2, 28°.23S±0°.01×178°.35W±0°.01, h264km±1km, MW5.4/104, Moment Tensor Solution. s90,c139; s104,c167; Duration: 1±2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.59±.03; $M_{\theta\theta}$-0.86±.03; $M_{\phi\phi}$1.45±.03; $M_{r\theta}$-0.59±.03; $M_{\theta\phi}$-0.37±.03; $M_{\phi r}$-0.61±.03; Best double couple: $M_0$1.55900×10^{17} NP1:ϕ_s28.00000°, δ74.00000°, λ-40.00000°. NP2:ϕ_s132.00000°, δ52.00000°, λ-159.00000°. Principal axes: T 1.6340, Plg14.0000°, Azm85.0000°; N -0.1550, Plg47.0000°, Azm190.0000°; P -1.4830, Plg40.0000°, Azm343.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 13:25:50.9±0.5, 28°.49S±0°.04×178°.52W±0°.05, h235km±4km, n802, σ1.9±51/850, mb5.3/104, 31C-44D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.91**	**146**	P	Pn	13 26 33.3	+10
RIZ				S	S	13 27 01.5	+12
RAO	**Raoul Island**	**0.92**	**146**	*e*Pn	Pn	13 26 32.8	+8.9
RAO	**Raoul Island**	**0.92**	**146**	*e*P	Pn	13 26 32.8	+9.0
GLKZ	**Green Lake**	**0.93**	**146**	P	Pn	13 26 33.3	+9.4
GLKZ				S	S	13 27 03.0	+13
GRZ	**Great Barrier**	**9.26**	**212**	P	**P**	**13 28 06.7**	**-1.1**
MXZ	**Matakaoa Point**	**9.43**	**196**	*e*Pn	**Pn**	**13 28 01.3**	**-1.1**
MXZ	**Matakaoa Point**	**9.43**	**196**	P	**Pn**	**13 28 02.5**	**+0.2**
MXZ	**Matakaoa Point**	**9.43**	**196**	P	**Pn**	**13 28 01.3**	**-1.1**
OUZ	**Omahuta**	**9.48**	**223**	*e*Pn	**P**	**13 28 11.3**	**+1.0**
OUZ	**Omahuta**	**9.48**	**223**	P	**P**	**13 28 11.0**	**+0.7**
KUZ	**Kuaotunu**	**9.56**	**209**	P	**P**	**13 28 09.0**	**-2.1**
WCZ	**Waipu Caves**	**9.57**	**217**	P	**P**	**13 28 11.8**	**+0.5**
WMGZ	**Waiomatatini S**	**9.65**	**195**	P	**Pn**	**13 28 04.8**	**-0.3**
WMGZ	**Waiomatatini S**	**9.65**	**195**	P	**Pn**	**13 28 06.6**	**+1.4**
WIZ	**White Island**	**9.71**	**201**	P	**P**	**13 28 15.8**	**+3.1**
HAZ	**Te Kaha**	**9.75**	**198**	P	**Pn**	**13 28 06.3**	**-0.1**
HAZ	**Te Kaha**	**9.75**	**198**	P	**Pn**	**13 28 07.2**	**+0.8**
PKGZ	**Pakihiroa**	**9.80**	**196**	P	**Pn**	**13 28 05.8**	**-1.3**
PKGZ	**Pakihiroa**	**9.80**	**196**	P	**Pn**	**13 28 07.2**	**+0.1**
WIAZ	**Waiheke Island**	**9.86**	**211**	P	**P**	**13 28 13.8**	**-0.6**
PUZ	**Puketiti**	**9.93**	**195**	P	**Pn**	**13 28 06.9**	**-1.9**
PUZ	**Puketiti**	**9.93**	**195**	P	**Pn**	**13 28 06.8**	**-1.9**
RUGZ	**Raukumara Rang**	**9.97**	**198**	P	**Pn**	**13 28 09.0**	**-0.3**
RUGZ	**Raukumara Rang**	**9.97**	**198**	P	**Pn**	**13 28 09.4**	**0.0**
WHRZ	**Whale Island**	**10.07**	**201**	P	**P**	**13 28 19.3**	**+2.4**
ETAZ	**East Tamaki Re**	**10.08**	**212**	P	**P**	**13 28 16.4**	**-0.6**
TWGZ	**Tauwhareparae**	**10.10**	**196**	P	**Pn**	**13 28 10.3**	**-0.5**
**T

TWVZ **Taurewa** 11.69 204 P P 13 28 34.1 -0.8
TWVZ **Taurewa** 11.69 204 P P 13 28 32.6 -2.4
CKHZ **Cape Kidnapper** 11.72 197 P P 13 28 35.4 +0.2
NGZ **Ngauruhoe** 11.72 203 P P 13 28 34.4 -1.0
TUVZ **Tukino** 11.79 203 P P 13 28 34.6 -1.5
FWVZ **Far West T-bar** 11.81 203 P P 13 28 34.5 -1.9
FWVZ **Far West T-bar** 11.81 203 P Pn 13 28 30.7 -2.0
WHVZ **Whangaehu Hut** 11.82 203 P P 13 28 35.0 -1.6
TRVZ **Turoa** 11.85 203 P P 13 28 35.5 -1.5
MOVZ **Moawhango** 11.88 202 P Pn 13 28 33.9 +0.6
KAHZ **Kahuranaki** 11.90 197 P Pn 13 28 30.8 -2.8
KAHZ **Kahuranaki** 11.90 197 P S 13 30 41.0 -4.6
KRHZ **Kereru** 11.90 199 P Pn 13 28 30.8 -2.8
PKVZ **Pokaka** 11.91 204 P P 13 28 35.5 -1.9
MTVZ **Mangateitei** 11.96 203 P P 13 28 36.3 -1.6
MHEZ **Mangahewa** 12.12 208 P P 13 28 51.7 +12
PXZ **Pawanui** 12.13 197 P Pn 13 28 34.8 -1.5
PNHZ **Pukenui** 12.20 200 P Pn 13 28 35.1 -2.3
NIUE **Niue** 12.22 42 *e*Pn Pn 13 28 34.8 -3.0
WPHZ **Waipukurau** 12.27 199 P P 13 28 41.0 -0.3
PRHZ **Porangahau** 12.41 198 P P 13 28 41.3 -1.5
LREZ **Lake Rotokare** 12.41 206 P P 13 28 45.0 +2.1
DVHZ **Dannevirke** 12.57 199 P Pn 13 28 42.1 +0.3
ANWZ **Angora Road** 12.63 198 P P 13 28 43.7 -1.6
POWZ **Post Office Ro** 12.77 200 P P 13 28 45.0 -1.8
PRWZ **Pori Road** 12.86 199 P Pn 13 28 45.9 +0.4
BFZ **Birch Farm** 12.90 198 *e*Pn Pn 13 28 42.5 -3.5
BFZ **Birch Farm** 12.90 198 P Pn 13 28 43.3 -2.7
TIWZ **Tintock** 13.09 199 P Pn 13 28 48.2 -0.2
CPWZ **Castlepoint** 13.13 198 P P 13 28 50.6 -0.2
TMWZ **Te Maipa** 13.40 199 P Pn 13 28 50.6 -1.5
TRWZ **Traveller** 13.72 199 P P 13 28 56.6 -0.8
PAWZ **Paruwai Farm** 13.78 199 P Pn 13 28 55.9 -1.0
MSWZ **Moikau Station** 13.87 200 P Pn 13 28 55.1 -2.8
MSWZ S S 13 31 20.1 -11
SNZO **South Karori** 13.94 202 *e*Pn Pn 13 28 55.0 -3.7
BHW **Baring Head** 13.98 201 P Pn 13 28 53.0 -6.1
BHW S S 13 31 19.3 -14
PLWZ **Palliser** 14.01 200 P Pn 13 28 55.1 -4.4
PLWZ S S 13 31 23.5 -11
TUWZ **Tuamarina** 14.30 204 P Pn 13 28 59.4 -3.7
TUWZ S S 13 31 29.5 -12
NNZ **Nelson** 14.32 205 P Pn 13 29 01.4 -2.1
NNZ S S 13 31 33.0 -8.9
QRZ **Quartz Range** 14.33 209 P Pn 13 29 02.5 -1.0
QRZ S S 13 31 31.2 -11
CMWZ **Cape Campbell** 14.50 202 P P 13 29 05.3 -0.6
CMWZ S S 13 31 35.5 -10
BSWZ **Blackbirch Sta** 14.58 203 P Pn 13 29 05.7 -0.8
BSWZ S S 13 31 36.4 -11
THZ **Tophouse** 14.98 206 *e*P Pn 13 29 09.7 -1.7
51nm,0.5s
THZ **Tophouse** 14.98 206 P Pn 13 29 09.7 -1.7
DZM **Mont Dzumac** 15.03 292 *e*P P 13 29 14.3 +2.2
402nm,0.9s
DZM **Mont Dzumac** 15.03 292 P P 13 29 17.6 +5.5
4.2nm,0.3s,baz=113,slow=12,SNR=34
KHZ **Kahutara** 15.32 203 *e*P Pn 13 29 11.9 -3.6
139nm,0.5s
KHZ **Kahutara** 15.32 203 P Pn 13 29 11.8 -3.6
DSZ **Denniston Nort** 15.40 208 P P 13 29 13.8 -2.3
LTZ **Lake Taylor** 16.09 205 *e*P P 13 29 22.3 -1.3
26nm,0.8s
AMCZ **Amberley** 16.30 204 P P 13 29 24.3 -1.5
OXZ **Oxford** 16.65 205 *e*P P 13 29 28.1 -1.5
70nm,0.7s
MQZ **McQueen's Vall** 16.76 203 *e*P P 13 29 28.9 -2.0
34nm,1.1s
RPZ **Rata Peaks** 17.35 206 *e*P P 13 29 36.2 -1.1
29nm,0.8s
RPZ **Rata Peaks** 17.35 206 P P 13 29 37.7 +0.4
2.1nm,0.3s,baz=34,slow=1.7,SNR=11
RPZ S S 13 32 38.3 -7.2
26nm,0.3s,baz=327,slow=23,SNR=24
RAR **Rarotonga** 18.47 71 *e*P Pn 13 29 51.5 -1.4
332nm,1.0s
RAR **Rarotonga** 18.47 71 *e*P Pn 13 29 51.5 -1.4
RAR pmax pmax
comp=Z,332nm,1.0s
RAR **Rarotonga** 18.47 71 P P 13 29 50.4 +0.7
comp=Z,4.5nm,0.3s,baz=239,slow=6.1,SNR=8.7
ODZ **Otahua Downs** 18.64 205 *e*P P 13 29 49.4 -1.9
comp=Z,162nm,2.0s
WKZ **Wanaka** 19.09 208 *e*P P 13 29 54.8 -1.3
comp=Z,107nm,1.5s
ARMA **Armidale** 26.04 258 *e*P P 13 31 07.3 +4.4
comp=Z,66nm,1.5s
KNTN **Kanton** 26.38 15 *e*P P 13 31 04.5 -1.5
comp=Z,324nm,1.4s
TBI **Tubuai** 26.59 86 *e*P P 13 31 09.0 +1.2
comp=Z,120nm,0.9s
TBI **Tubuai** 26.59 86 *e*T T 13 58 07.8
comp=Z,24nm,0.3s
EIDS **Eidsvold** 27.25 269 *e*P P 13 31 16.3 +2.7
comp=Z,64nm,1.0s
HNR **Honiara** 27.73 309 *e*P P 13 31 17.0 -1.0
HNR **Honiara** 27.73 309 *e*P P 13 31 18.3 +0.3
comp=Z,126nm,1.0s
HNR **Honiara** 27.73 309 *e*P P 13 31 18.3 +0.3
HNR pmax pmax
comp=Z,126nm,1.0s
HNR **Honiara** 27.73 309 P P 13 31 17.7 -0.3
comp=Z,101nm,0.8s,baz=211,slow=3.2,SNR=6.8
CAN **Canberra** 28.32 248 *e*P P 13 31 25.6 +2.5
comp=Z,39nm,1.3s
CAN **Canberra** 28.32 248 *e*P P 13 31 25.6 +2.5
CAN pmax pmax
comp=Z,39nm,1.3s
PAE **Paea** 28.65 74 *e*P P 13 31 26.6 +0.5
comp=Z,8.3nm,0.8s
PAE **Paea** 28.65 74 *e*T T 14 00 30.2
comp=Z,5.2nm,0.3s
PPT2 **Papeete2** 28.68 74 *e*T T 14 00 31.7
comp=Z,3.6nm,0.3s
TVO **Taravao** 28.87 75 *e*P P 13 31 28.6 +0.5
comp=Z,26nm,0.8s
TIAR **Tiarei** 28.89 74 *e*P P 13 31 29.0 +0.7
comp=Z,40nm,0.8s
TAU **Tasmania Unive** 31.02 233 *e*P P 13 31 49.7 +3.0
comp=Z,58nm,1.0s
TAU **Tasmania Unive** 31.02 233 *e*P P 13 31 49.7 +3.0
TAU pmax pmax
comp=Z,58nm,1.0s
TOO **Toolangi** 31.35 244 *e*P P 13 31 52.0 +2.2
comp=Z,51nm,1.3s
TOO **Toolangi** 31.35 244 *e*P P 13 31 52.0 +2.2
TOO pmax pmax
comp=Z,51nm,1.3s
VAH **Vaihoa** 31.45 72 *e*P P 13 31 51.2 +0.5
comp=Z,174nm,1.0s
VAH **Vaihoa** 31.45 72 *e*T T 14 04 41.8
comp=Z,30nm,0.3s
CTAO **Charters Tower** 33.09 277 *e*P P 13 32 06.9 +1.9
comp=Z,51nm,0.8s
CTAO **Charters Tower** 33.09 277 *e*P P 13 32 06.9 +1.9
CTAO pmax pmax
comp=Z,51nm,0.8s
STKA **Stephens Creek** 34.52 254 *e*P P 13 32 19.5 +2.3
comp=Z,5.4nm,0.9s
STKA *e*PcP PcP 13 34 47.5 +1.0
STKA **Stephens Creek** 34.52 254 P P 13 32 19.7 +2.5
comp=Z,4.0nm,0.5s,baz=77,slow=9.1,SNR=11
STKA PcP PcP 13 34 47.5 +1.0
comp=Z,10nm,0.8s,baz=82,slow=5.2,SNR=3.6
STKA ScP ScP 13 38 06.8 -2.4
comp=Z,11nm,1.0s,baz=117,slow=5.6,SNR=6.0
PMG **Port Moresby** 37.41 294 *e*P P 13 32 42.4 +0.6
comp=Z,42nm,1.1s
PMG **Port Moresby** 37.41 294⇑ *e*P P 13 32 43.7 +1.9
PMG pmax pmax
comp=Z,116nm,1.0s
COEN **Coen** 38.34 284 *e*P P 13 32 51.9 +2.2
comp=Z,70nm,1.0s
BBOO **Buckleboo** 39.09 252 *e*P P 13 32 56.7 +1.0
comp=Z,40nm,1.0s
RKT **Rikitea** 39.40 92 *e*P P 13 32 59.7 +1.4
comp=Z,48nm,0.9s
PATS **Pohnpei** 41.63 324 *e*P P 13 33 14.7 -1.9
comp=Z,134nm,0.9s
ASAR **Alice Springs** 42.79 265 P P 13 33 26.8 +0.9
comp=Z,18nm,0.9s,baz=97,slow=6.7,SNR=102
ASAR PcP PcP 13 35 13.1 +0.3
comp=Z,7.8nm,0.6s,baz=120,slow=3.8,SNR=6.3
ASAR ScP ScP 13 38 37.8 -3.4
comp=Z,15nm,0.8s,baz=108,slow=4.2,SNR=14
ASAR S S 13 39 27.8 -4.5
comp=Z,3.7nm,1.0s,baz=97,slow=15,SNR=6.6
WRAB **Tennant Creek** 43.60 270 *e*P P 13 33 33.4 +1.0
comp=Z,106nm,0.9s
WRAB **Tennant Creek** 43.60 270 *d*P P 13 33 33.1 +0.7
WRAB pmax pmax
comp=Z,121nm,0.9s
WR1 **Warramunga Arr** 43.60 270 *e*PcP PcP 13 35 14.2 -1.4
WR1 *e*ScP ScP 13 38 41.2 -3.3
WRA **Warramunga Arr** 43.60 270 P P 13 33 33.7 +1.2
comp=Z,108nm,0.9s,baz=101,slow=8.5,SNR=272
WRA PcP PcP 13 35 14.2 -1.4
comp=Z,42nm,1.0s,baz=134,slow=2.4,SNR=6.3
WRA ScP ScP 13 38 41.2 -3.3
comp=Z,10nm,0.7s,baz=103,slow=3.8,SNR=10
WRA S S 13 39 39.5 -4.5
comp=Z,11nm,1.0s,baz=100,slow=14,SNR=7.2
JAY **Jayapura** 46.64 296 P P 13 33 56.2 -0.1
comp=Z,369nm,1.0s
GENI **Genyem** 47.02 296 P P 13 33 59.6 +0.4
WAKE **Wake Island** 49.61 341 *e*P P 13 34 19.0 +0.3
comp=Z,774nm,1.3s
SBA **Scott Base** 49.90 184 *e*P P 13 34 25.4 +5.2
comp=Z,51nm,0.9s
VNDA **Vanda** 49.95 185 *e*P P 13 34 24.6 +4.0
VNDA *e*PcP PcP 13 35 38.5 +1.5
VNDA **Vanda** 49.95 185 P P 13 34 24.1 +3.5
comp=Z,7.3nm,0.7s,baz=4.6,slow=8.1,SNR=61
VNDA PcP PcP 13 35 38.0 +1.0
comp=Z,8.0nm,0.9s,baz=324,slow=3.6,SNR=5.1
VNDA ScP ScP 13 39 08.2 -1.8
comp=Z,4.1nm,0.9s,baz=350,slow=4.8,SNR=5.4
SRPI **Serui, Papua** 50.59 293 P P 13 34 26.6 +0.3
FITZ **Fitzroy Crossi** 51.93 269 P P 13 34 36.9 +0.7
comp=Z,76nm,0.9s,baz=131,slow=6.0,SNR=62
FITZ PcP PcP 13 35 45.9 +0.5
comp=Z,26nm,0.9s,baz=133,slow=5.3,SNR=4.8
FITZ S S 13 41 35.6 -5.3
comp=Z,3.9nm,1.0s,baz=60,slow=22,SNR=5.7
MLH **Mauna Loa** 52.68 28 *e*P P 13 34 42.6 +0.8
comp=Z,290nm,1.8s
MLH **Mauna Loa** 52.68 28 *e*P P 13 34 42.6 +0.8
MLH pmax pmax
comp=Z,290nm,1.8s
HMH **Humu'ula Sheep** 52.74 28 *e*P P 13 34 43.4 +1.0
comp=Z,144nm,0.9s
POHA **Pohakuloa** 52.86 27 *e*P P 13 34 44.3 +1.2
comp=Z,341nm,1.8s
HPAH **Hawaii Prepara** 53.04 27 *e*P P 13 34 44.3 +0.1
comp=Z,88nm,0.8s
FAKI **Fak Fak** 53.27 289 *e*P P 13 34 45.6 -0.4
comp=Z,62nm,0.9s
FAKI **Fak Fak** 53.27 289 P P 13 34 45.8 -0.3
KIP **Kipapa** 53.42 24⇓ *i*P P 13 34 47.8 +0.9
KIP pmax pmax
comp=Z,140nm,1.4s
GUMO **Guam** 54.82 315 *e*P P 13 34 56.7 -0.3
comp=Z,300nm,0.6s
GUMO **Guam** 54.82 315 *e*P P 13 34 56.7 -0.3
GUMO pmax pmax
comp=Z,300nm,0.6s
SWI **Sorong** 55.24 291 P P 13 35 00.3 +0.1
CASY **Casey** 56.62 207 *e*P P 13 35 09.7 +0.5
comp=Z,19nm,0.6s
SOEI **Soe** 56.66 277 P P 13 35 12.2 +1.8
MORW **Morawa** 56.66 252 *e*P P 13 35 09.9 -0.2
comp=Z,103nm,1.8s
SARN **Sarigan** 56.67 318 *e*P P 13 35 09.0 -1.2
comp=Z,48nm,1.0s
BATI **Baumata** 56.98 276 P P 13 35 14.1 +1.6
comp=Z,51nm,1.2s
MMRI **Maumere** 58.95 277 P P 13 35 25.7 -0.5
TNTI **Ternate** 59.37 290 P P 13 35 28.6 -0.4
EDFI **Ende, Flores** 59.37 277 P P 13 35 28.8 -0.4
BASI **Baing, Sumba** 59.67 275 P P 13 35 32.1 +1.0
WSI **Waingapu** 60.17 275 P P 13 35 35.1 +0.6
GIRL **Giralia** 60.26 259 *e*P P 13 35 35.3 +0.3
comp=Z,496nm,1.4s
KDI **Kendari** 60.88 282 P P 13 35 39.2 -0.1
WBSI **Waikabubak, Su** 60.98 275 P P 13 35 39.8 -0.2
QSPA **South Pole Qui** 61.61 180 *e*P P 13 35 46.6 +3.1
comp=Z,50nm,0.8s
KMSI **Cibinong** 62.09 287 P P 13 35 47.1 -0.2
LUWI **Luwuk** 62.25 285 P P 13 35 48.6 +0.2
BKSI **Bulukumba** 62.37 279 P P 13 35 49.3 +0.1
PLAI **Plampang** 62.76 275 P P 13 35 51.8 0.0
BNSI **Bone** 62.83 280 P P 13 35 52.4 +0.1
SPSI **Sidrap Palu** 63.34 281 P P 13 35 54.6 -1.0
MRSI **Marisa** 63.75 286 P P 13 35 57.2 -1.1
TTSI **Tana Toraja** 63.75 281 P P 13 35 58.2 -0.1
SKMP **Bagumbayan, Su** 64.94 293 *e*P P 13 36 05.4 -0.6
BUKP **Musuan** 65.31 295 *e*P P 13 36 08.8 +0.5
SRBI **Singaraja** 65.35 274 P P 13 36 08.9 +0.3
MPSI **Mapaga** 65.41 285 P P 13 36 08.5 -0.5
CTBH **Cotabato--PC H** 65.58 294⇑ *i*P P 13 36 03.4 -6.7
JAGI **Jajag, Banyuwa** 66.11 273 *e*P P 13 36 13.3 -0.2
comp=Z,104nm,0.8s
JAGI **Jajag, Banyuwa** 66.11 273 P P 13 36 12.5 -1.0
PAGZ **Pagadian** 66.64 294 *e*P P 13 36 17.0 +0.2
MSLP **Maasin** 66.81 297 *e*P P 13 36 17.3 -0.5
KMMI **Kalianget** 66.92 275 P P 13 36 19.8 +1.2
BESP **Borongan** 67.24 298 *e*P P 13 36 20.9 +0.4
GRJI **Gresik** 68.29 274 P P 13 36 27.8 +0.6
PWJI **Pagerwojo** 68.38 273 P P 13 36 28.0 +0.3
UGM **Wanagama** 69.55 272 *e*P P 13 36 35.8 +0.8
comp=Z,808nm,1.7s
ENPP **El Nido** 71.76 294 *e*P P 13 36 47.9 -0.2
CISI **Cisompet, Garu** 72.10 271 *e*P P 13 36 50.2 -0.1
comp=Z,97nm,0.6s
LEM **Lembang** 72.61 272 P P 13 36 54.3 +0.9
LEM **Lembang** 72.61 272 P P 13 36 53.9 +0.4
comp=Z,109nm,0.7s,baz=36,slow=3.4,SNR=27
SBUM **Sibu** 73.07 282 *e*P P 13 36 56.2 +0.2
comp=Z,58nm,1.3s
SBUM **Sibu** 73.07 282 P P 13 36 57.0 +1.1
MAW **Mawson** 73.93 200 *e*P P 13 37 01.7 +1.7
comp=Z,2.6nm,0.8s
MAW **Mawson** 73.93 200 *e*P P 13 37 01.7 +1.7
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW **Mawson** 73.93 200 P P 13 37 01.6 +1.7
comp=Z,9.3nm,0.7s,baz=129,slow=7.2,SNR=19
KSM **Kuching** 74.23 281 *e*P P 13 37 03.2 +0.6
comp=Z,129nm,1.2s
KSM **Kuching** 74.23 281 P P 13 37 03.0 +0.3
CGJI **Cibinong** 74.40 271 P P 13 37 03.1 -0.6
JOW **Kunigami** 75.05 312 *e*P P 13 37 07.5 +0.4
comp=Z,81nm,1.0s
KASI **Kota Agung** 75.96 271 P P 13 37 10.7 -1.8
PPBI **Pangkal Pinang** 76.10 275 P P 13 37 13.9 +0.6
MJAR **Matsushiro Arr** 76.42 325 P P 13 37 14.1 -0.5
comp=Z,85nm,1.0s,baz=167,slow=5.9,SNR=93
MAJO **Matsushiro** 76.42 325 *e*P P 13 37 14.8 +0.1
comp=Z,184nm,1.3s
MAJO **Matsushiro** 76.42 325 *d*P P 13 37 13.9 -0.7
MAJO pmax pmax
comp=Z,108nm,1.0s
MAT **Matsushiro** 76.42 325 P P 13 37 13.9 -0.7
MJB9 **Matsu-Tunnel** 76.43 325 *e*P P 13 37 14.3 -0.4
comp=Z,188nm,1.3s
MDSI **Maura Dua** 76.72 272 P P 13 37 15.9 -0.9
GO09 **Cerro Castillo** 77.58 142 *e*P P 13 37 23.3 +2.3
comp=Z,48nm,1.3s
YULB **Yu-li** 77.60 305 *e*P P 13 37 20.1 -1.4
comp=Z,22nm,0.9s
LHSI **Lahat** 77.61 272 P P 13 37 20.4 -1.3
JNU **Nakatsue** 77.83 318 *e*P P 13 37 23.1 +0.5
comp=Z,199nm,1.0s
JNU **Nakatsue** 77.83 318 P P 13 37 22.4 -0.1
comp=Z,105nm,0.8s,baz=79,slow=1.7,SNR=61
TPUB **Ta-pu** 78.02 305 *e*P P 13 37 22.9 -0.9
comp=Z,87nm,0.9s
SSLB **Sunglung** 78.09 305 *e*P P 13 37 23.1 -1.0
comp=Z,60nm,0.7s
DSRI **Dabo** 78.27 276 P P 13 37 25.5 +0.1
ERM **Erimo** 78.57 332 *e*P P 13 37 28.1 +1.8
comp=Z,112nm,1.3s
ERM **Erimo** 78.57 332 *d*P P 13 37 27.3 +1.0
ERM pmax pmax
comp=Z,59nm,1.2s
SYO **Syowa Base** 78.87 193⇓ *i*P P 13 37 27.0 -0.6
SYO **Syowa Base** 78.87 193⇓ *i*PcP PcP 13 37 34.4 -1.1
SYO **Syowa Base** 78.87 193⇓ *e*sP sP 13 38 57.5 +10
TPRI **Tanjung Pinang** 78.99 277 P P 13 37 29.7 +0.4
MYKOM **Kota Tinggi** 80.00 278 *e*P P 13 37 34.7 0.0
comp=Z,149nm,0.9s
MYKOM **Kota Tinggi** 80.00 278 P P 13 37 35.0 +0.3
ADK **Adak** 80.04 1 *e*P P 13 37 33.9 -0.1
comp=Z,226nm,1.6s
ADK **Adak** 80.04 1 *e*P P 13 37 33.9 -0.1
ADK pmax pmax
comp=Z,226nm,1.6s
SNAA **Sanae** 80.07 179 P P 13 37 35.4 +1.3
SNAA **Sanae** 80.07 179 *e*P P 13 37 35.5 +1.3
comp=Z,35nm,0.9s
SNAA **Sanae** 80.07 179 *d*P P 13 37 35.1 +0.9
SNAA **Sanae** 80.07 179 P P 13 37 35.5 +1.3
comp=Z,29nm,0.8s,baz=206,slow=6.7,SNR=107
VNA3 **Neumayer Olymp** 80.23 176 P P 13 37 36.2 +1.2
KRJI **Kerinci** 80.23 273 P P 13 37 35.7 -0.4
QZH **Quanzhou** 80.50 305⇓ *i*P P 13 37 37.5 +0.4
QZH pmax pmax
comp=Z,130nm,0.9s
ASAJ **Asahikawa** 80.54 333 P P 13 37 38.5 +1.7
comp=Z,46nm,0.7s
VNA2 **Neumayer--Watz** 80.67 177 P P 13 37 38.8 +1.5
VNA1 **Neumayer--Stat** 80.90 177 P P 13 37 40.1 +1.7
PDSI **Padang** 81.67 273 P P 13 37 42.1 -1.5
BKNI **Bangkinang** 81.75 275 P P 13 37 43.9 -0.1
TJN **Taejon** 82.18 319 *de*P P 13 37 45.9 +0.3
KSRS **Korea Array** 82.60 320 P P 13 37 48.6 +0.9
comp=Z,53nm,1.0s,baz=139,slow=5.8,SNR=174
KSRS PP PP 13 41 02.5 +1.2
comp=Z,1.5nm,1.0s,baz=127,slow=9.0,SNR=4.5
YSS **Yuzh-Sakhalins** 82.84 334 *e*P P 13 37 50.0 +1.3
comp=Z,151nm,0.8s
YSS **Yuzh-Sakhalins** 82.84 334⇓ *i*P P 13 37 50.0 +1.3
YSS pmax pmax
comp=Z,160nm,0.8s
YSS MLR MLR
comp=Z,200nm,15.0s
MNSI **Mandailing Nat** 83.26 275 P P 13 37 50.4 -1.4
SCZ2 **Santa Cruz Isl** 83.46 46 P P 13 37 53.6 +1.2
baz=229
PET **Petropavlovsk** 83.58 346 *e*P P 13 37 51.1 -1.2
comp=Z,23nm,0.7s
PET **Petropavlovsk** 83.58 346 *e*P P 13 37 50.4 -1.9
PET pmax pmax
comp=Z,36nm,0.7s
PETK **Petropavlovsk-** 83.86 346 P P 13 37 53.8 0.0
comp=Z,67nm,0.8s,baz=119,slow=6.4,SNR=53
BLG **Laguna Peak, P** 83.89 46 P P 13 37 55.3 +0.8
baz=230
PKM **Mcpherson Peak** 83.93 45 P P 13 37 55.9 +1.0
baz=229
SMMC **Simmler** 84.10 45 P P 13 37 56.9 +1.4
baz=229
FMP **Fort Macarthur** 84.13 47 P P 13 37 56.5 +0.9
baz=230
PLCA **Paso Flores** 84.14 133 *e*P P 13 37 57.9 +2.0
comp=Z,41nm,1.4s
PLCA **Paso Flores** 84.14 133 P P 13 37 57.9 +2.0
comp=Z,3.3nm,0.8s,baz=267,slow=5.8,SNR=6.1
MSHR **Mys Shultsa** 84.54 325⇓ *i*P P 13 37 58.1 +0.6
NJ2 **Nanjing** 84.66 311⇓ *i*P P 13 37 59.5 +1.1
NJ2 pmax pmax
comp=Z,120nm,0.5s
ARVC **Arvin** 84.70 45 P P 13 37 59.2 +0.7
baz=230
MURC **Murrieta** 84.77 47 P P 13 37 60.0 +1.0
baz=231,SNR=6.9
PSI **Prapat** 84.79 276 P P 13 37 58.6 -1.0
comp=Z,92nm,1.0s,baz=161,slow=4.4,SNR=46
MONP2 **Monument Peak** 84.83 48 P P 13 38 00.7 +1.2
baz=231,SNR=14
BFSC **Mount Baldy Ra** 84.87 47 P P 13 38 00.1 +0.6
baz=231,SNR=8.8
IKP **In-Ko-Pah, Jac** 84.88 49 P P 13 38 00.8 +1.2
baz=232,SNR=13
VES **Vestal, Richgr** 85.00 45 P P 13 38 00.5 +0.5
baz=230,SNR=5.6
EDW2 **Edwards Air Fo** 85.07 46 P P 13 38 01.4 +1.0
baz=230,SNR=16
VOG **Valley Oaks Go** 85.13 44 P P 13 38 01.1 +0.5
baz=229
PFO **Pinyon Flats O** 85.25 48 *e*P P 13 38 02.6 +1.1
comp=Z,26nm,1.0s
PFO **Pinyon Flats O** 85.25 48 *e*P P 13 38 02.6 +1.1
PFO pmax pmax
comp=Z,26nm,1.0s
PFO **Pinyon Flats O** 85.25 48 P P 13 38 02.4 +1.0
baz=231,SNR=14
ISA **Isabella, Lake** 85.27 45 P P 13 38 02.3 +0.9
baz=230,SNR=21
SWSC **Sam W. Stewart** 85.27 49 P P 13 38 02.3 +0.9
baz=232,SNR=7.7
USRK **Ussuriysk Ar.** 85.32 327 P P 13 38 02.1 +0.8
comp=Z,48nm,1.0s,baz=142,slow=2.9,SNR=69
BBRC **Big Bear Solar** 85.36 47 P P 13 38 03.1 +1.0
baz=231
SKLT **Songkhla** 85.42 281 P P 13 38 03.8 +1.2
LRMC **Laurel Mtn Rad** 85.64 46 P P 13 38 04.3 +0.9
baz=230,SNR=7.2
RRX **Edison Barstow** 85.70 46 P P 13 38 04.1 +0.6
baz=231
O02D **Mt. Diablo Mer** 85.71 39 P P 13 38 05.0 +1.5
baz=227,SNR=24
BELC **Belle Mtn. Jos** 85.79 48 P P 13 38 05.4 +1.2
baz=232,SNR=30
BC3 **Big Chuckawall** 85.94 48 P P 13 38 06.1 +1.3
baz=232,SNR=20
GLA **Glamis** 85.98 49 P P 13 38 06.3 +1.4
baz=232,SNR=12
CWC **Cottonwood Cre** 86.01 45 P P 13 38 05.7 +0.6
baz=230
GSC **Goldstone, Bar** 86.09 46 P P 13 38 06.4 +0.9
baz=231,SNR=22
HEC **Hector,Ludlow** 86.09 47 P P 13 38 06.4 +0.9
baz=231,SNR=18
WDC **Whiskeytown Da** 86.12 39 *e*P P 13 38 06.6 +1.2
comp=Z,34nm,1.0s
WDC **Whiskeytown Da** 86.12 39 *e*P P 13 38 06.6 +1.2
WDC pmax pmax
comp=Z,34nm,1.0s
TYV **Tymovskoe** 86.13 337 *e*P P 13 38 06.3 +1.2
TYV pmax pmax
comp=Z,49nm,0.9s
TYV pmax pmax
comp=Z,300nm,3.2s
MPMC **Manual Prospec** 86.13 45 P P 13 38 06.6 +0.8
baz=231,SNR=16
N02D **Trinity Center** 86.30 39 P P 13 38 07.6 +1.2
baz=227,SNR=12
TIN **Tinemaha, Big** 86.31 44 P P 13 38 07.5 +1.0
baz=230
MLAC **Mammoth, Mammo** 86.31 43 P P 13 38 07.6 +0.9
baz=230
O03E **Paynes Creek** 86.34 40 P P 13 38 06.9 +0.3
baz=228,SNR=9.4
IRM **Iron Mountain** 86.45 48 P P 13 38 08.6 +1.4
baz=232,SNR=28
GMRC **Granite Mounta** 86.50 47 P P 13 38 08.3 +0.8
baz=232,SNR=16
M02C **Callahan** 86.50 38 P P 13 38 08.6 +1.3
baz=227,SNR=12
TRTT **Trang** 86.55 281 P P 13 38 09.0 +0.9
Y12C **Blythe** 86.61 49 P P 13 38 09.2 +1.3
baz=232,SNR=7.9
L02E **Cave Junction** 86.62 38 P P 13 38 08.9 +1.1
baz=226
214A **Organ Pipe Nat** 86.68 51 P P 13 38 09.6 +1.2
baz=234
TUQ **Turquoise Moun** 86.73 47 P P 13 38 09.6 +1.0
baz=232,SNR=15
FURC **Furnace Creek,** 86.78 45 P P 13 38 09.4 +0.8
baz=231,SNR=6.7
SHOC **Shoshone, Teco** 86.80 46 P P 13 38 09.6 +0.8
baz=231,SNR=12
MDJ **Mudanjiang** 86.80 326 P P 13 38 09.5 +0.9
MDJ pmax pmax
comp=Z,73nm,1.1s
MDJ pmax pmax
comp=Z,460nm,3.2s
GRAC **Grapevine Rang** 86.81 45 P P 13 38 09.9 +1.0
baz=231,SNR=13
WHN **Wuhan** 86.84 307 P P 13 38 09.8 +0.7
K02D **Willamette Mer** 86.96 37 P P 13 38 10.6 +1.1
baz=226
PANO **Nakornpanom** 87.01 291 P P 13 38 11.4 +1.2
J01E **Myrtle Point** 87.14 37 P P 13 38 11.3 +1.1
baz=226
NVAR **Mina Array Bea** 87.15 43 P P 13 38 11.5 +0.8

comp=Z,23nm,0.8s,baz=222,slow=8.5,SNR=114
NVAR PKKPbc **PKKPbc** 13 56 03.2 +1.0
comp=Z,0.4nm,0.6s,baz=88,slow=4.7,SNR=3.7
KRAB Krabi 87.16 281 P **P** 13 38 12.1 +1.1
NEE2 Needles Airpor 87.16 48 P **P** 13 38 11.7 +1.1
baz=232
PDMCI Parker Dam,Lak 87.19 48 P **P** 13 38 11.9 +1.2
baz=233,SNR=11
DL2 Dalian 87.25 318⇓ *i*P **P** 13 38 11.8 +1.0
DL2 S **S** 13 48 28.0 -2.4
DL2 pmax pmax
comp=Z,91nm,0.9s
DL2 pmax pmax
comp=Z,410nm,5.4s
M04C Macdoel 87.32 39 P **P** 13 38 12.1 +0.7
baz=228,SNR=7.7
L04D Klamath Falls 87.36 38 P **P** 13 38 12.2 +0.7
baz=227,SNR=5.9
SKNT Sakolnakorn 87.44 291 P **P** 13 38 13.4 +1.1
TPNV Topopah Spring 87.47 45 P **P** 13 38 13.2 +1.0
baz=231,SNR=21
PKDT Phuket 87.75 280 P **P** 13 38 15.4 +1.6
I03D Drain, OR 87.82 37 P **P** 13 38 14.4 +1.0
baz=226
I02D Swisshome 87.84 36 P **P** 13 38 14.2 +0.7
baz=226
K04D Chiloquin, OR 87.94 38 P **P** 13 38 14.8 +0.6
baz=228
KHON Khonkaen 88.08 290 P **P** 13 38 16.9 +1.6
J04D Umpqua Nationa 88.17 38 P **P** 13 38 16.2 +0.8
baz=227,SNR=14
TUC Tucson 88.28 52 *e*P **P** 13 38 17.7 +1.7
comp=Z,31nm,1.0s
TUC Tucson 88.28 52 P **P** 13 38 17.7 +1.7
baz=235
TIA Tai'an 88.34 313 P **P** 13 38 17.3 +1.2
TIA pmax pmax
comp=Z,110nm,1.1s
CN2 Changchun 88.35 323 *e*P **P** 13 38 16.3 +0.4
CN2 pmax pmax
comp=Z,120nm,1.0s
GRNR Gornyy 88.38 333 *e*P **P** 13 38 19.2 +3.3
GRNR pmax pmax
comp=Z,81nm,1.0s
I04A Tendick Farm, 88.38 37 P **P** 13 38 16.6 +0.5
baz=227,SNR=11
CHAI Chaiyaphum 88.56 289 P **P** 13 38 18.5 +1.0
KDAK Kodiak Island 88.66 14 *e*P **P** 13 38 17.1 +0.1
comp=Z,51nm,1.3s
KDAK Kodiak Island 88.66 14 *i*P **P** 13 38 17.5 +0.5
J05D Fort Rock, OR 88.67 38 P **P** 13 38 18.5 +0.9
baz=228,SNR=25
H04D Lebanon 88.71 36 P **P** 13 38 18.7 +1.1
baz=227,SNR=8.8
NKL Nikolayevsk 88.71 337 *e*P **P** 13 38 18.0 +0.7
NKL pmax pmax
comp=N,40nm,0.9s
NKL pmax pmax
comp=E,16nm,0.9s
NKL pmax pmax
comp=Z,180nm,0.9s
R11A Troy Canyon, C 88.75 44 P **P** 13 38 18.5 +0.3
baz=232,SNR=12
G03D McMinnville, O 88.91 36 P **P** 13 38 19.4 +0.9
baz=226,SNR=5.4
PHET Kaeng Krachan 89.07 285 P **P** 13 38 22.2 +2.2
KLR Kul'dur 89.16 330*d* *i*P **P** 13 38 20.4 +0.8
KLR pmax pmax
comp=Z,34nm,0.9s
KLR Kul'dur 89.16 330 P **P** 13 38 20.1 +0.5
comp=Z,30nm,0.7s,baz=116,slow=3.4,SNR=98
I05D Terrebonne, OR 89.32 37 P **P** 13 38 21.4 +0.8
baz=228,SNR=14
F04D Rainier, OR 89.64 35 P **P** 13 38 23.2 +1.3
baz=227
PBKT Sadao Pong 89.74 289 P **P** 13 38 24.8 +1.8
WUAZ Wupatki 89.74 49 P **P** 13 38 24.0 +1.1
baz=234
G05D Wamic, OR 89.94 36 P **P** 13 38 24.1 +0.7
baz=229
E04D Cinebar 90.19 35 P **P** 13 38 25.6 +1.2
baz=227,SNR=7.8
SRDT SRDT 90.20 286 P **P** 13 38 27.3 +2.1
GYA Guiyang 90.21 300⇓ *i*P **P** 13 38 26.0 +0.8
GYA pP pwP 13 39 27.0 +5.1
GYA sP sP 13 39 54.0 +7.8
GYA PP **PP** 13 42 06.3 +3.5
GYA SKS **SKSac** 13 48 32.5 -1.4
GYA S **S** 13 48 54.0 -4.9
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.0s
F05D White Salmon 90.30 36 P **P** 13 38 25.8 +0.8
baz=228
121A Cookes Peak, D 90.49 53 P **P** 13 38 27.7 +1.2
baz=236,SNR=7.8
D04E Lakebay 90.51 34 P **P** 13 38 27.6 +1.7
baz=227,SNR=5.8
D03D Eldon 90.60 34 P **P** 13 38 27.4 +1.1
baz=227,SNR=8.5
W18A Petrified Fore 90.61 50 P **P** 13 38 28.0 +1.1
baz=235
MTPU Mount Pierson 90.70 46 *e*P **P** 13 38 29.2 +1.7
comp=Z,30nm,0.9s
NANT Nan 91.06 291 P **P** 13 38 31.0 +1.8
BJI Beijing 91.25 316⇓ *i*P **P** 13 38 30.3 +0.8
BJI S **S** 13 49 07.0 -0.4
BJI pmax pmax
comp=Z,23nm,0.9s
PHRA Phrae 91.30 290 P **P** 13 38 31.9 +1.6
UMPA Umpang Tak 91.32 288 P **P** 13 38 32.3 +1.9
MA2 Magadan 91.34 345⇓ *e*P **P** 13 38 29.2 -0.2
MA2 pmax pmax
comp=Z,64nm,2.9s
MA2 Magadan 91.34 345 P **P** 13 38 29.3 -0.2
comp=Z,12nm,0.8s,baz=133,slow=7.1,SNR=5.1
DUG Dugway, Tooele 91.58 44 P **P** 13 38 31.4 +0.1
baz=234
B05A Bryant 91.59 34 P **P** 13 38 31.5 +0.7
baz=227,SNR=6.0
A04D Lummi Island 91.60 33 P **P** 13 38 31.8 +0.9
baz=227
BBB Bella Bella 91.63 28 P **P** 13 38 31.5 +0.6
comp=Z,19nm,0.9s,baz=240,slow=3.0,SNR=4.8
TXAR Lajitas Array 91.74 57 P **P** 13 38 33.2 +1.0
comp=Z,3.4nm,0.9s,baz=216,slow=6.2,SNR=25
TXAR PKKPbc **PKKPbc** 13 55 50.5 +0.5
comp=Z,0.3nm,0.7s,baz=90,slow=5.0,SNR=3.6
MNTX Cornudas Mount 91.74 55 P **P** 13 38 32.5 +0.5
baz=238
LAMP Lampang 91.80 290 P **P** 13 38 34.6 +2.0
PAYA Payao 92.02 291 P **P** 13 38 35.3 +1.7
TIY Taiyuan 92.26 312 *e*P **P** 13 38 36.0 +1.6
TIY pmax pmax
comp=Z,25nm,0.8s
CMAR Chiang Mai Arr 92.34 290 P **P** 13 38 36.8 +1.7
comp=Z,17nm,0.9s,baz=141,slow=3.7,SNR=77
CMAR PP **PP** 13 42 19.8 +0.3
comp=Z,1.4nm,0.7s,baz=127,slow=5.6,SNR=5.0
CMMT Chiang Mai 92.51 290 P **P** 13 38 37.2 +1.3
CHTO Chiang Mai 92.52 290 *e*P **P** 13 38 37.4 +1.5
comp=Z,32nm,0.9s
CHTO Chiang Mai 92.52 290 *e*P **P** 13 38 37.4 +1.5
CHTO pmax pmax
comp=Z,32nm,0.9s
KMI Kunming 92.56 297 P **P** 13 38 37.5 +1.3
KMI S **S** 13 49 15.0 -5.3
KMI SS **SS** 13 55 41.0 +2.3
KMI pmax pmax
comp=Z,40nm,1.0s
KMI pmax pmax
comp=Z,140nm,5.5s
XAN Xi'an 92.60 308 P **P** 13 38 37.0 +1.0
XAN S **S** 13 49 19.5 -0.4
XAN pmax pmax
comp=Z,51nm,1.4s
XAN pmax pmax
comp=Z,190nm,3.7s
MVCO Mesa Verde 92.61 49 P **P** 13 38 36.7 +0.4
baz=236
HLID Hailey 92.66 41 P **P** 13 38 36.7 +0.5
baz=232
TASM ASL Pad, Albuq 92.74 51 P **P** 13 38 37.4 +0.6
baz=237,SNR=7.6
TASM ASL Pad, Albuq 92.74 51 P **P** 13 38 37.4 +0.6
baz=237,SNR=7.6
ANMO Albuquerque 92.74 51*d* *i*P **P** 13 38 37.5 +0.7
ANMO pmax pmax
comp=Z,11nm,1.3s
ANMO Albuquerque 92.74 51 P **P** 13 38 37.6 +0.7
baz=237
S22A 4UR Ranch, Cre 94.01 49 P **P** 13 38 43.1 +0.4
baz=237
SEY Seymchan 94.02 347 P **P** 13 38 41.6 -0.1
comp=Z,18nm,1.0s,baz=152,slow=4.6,SNR=24
SEY PKKPbc **PKKPdf** 13 55 44.4 -0.4
comp=Z,2.8nm,1.0s,baz=38,slow=4.3,SNR=9.5
NEW Newport 94.10 36 P **P** 13 38 42.1 -0.4
baz=231
ZEA Zeya 94.36 331 *e*P **P** 13 38 43.8 +0.3
ZEA pmax pmax
comp=Z,35nm,1.0s
O20A White River Ci 94.41 46 P **P** 13 38 44.5 +0.2
baz=236
HHC Hu-ho-hao-te 94.58 314 *e*P **P** 13 38 47.5 +2.5
HHC S **S** 13 49 40.0 +3.0
HHC pmax pmax
comp=Z,62nm,1.2s
HHC pmax pmax
comp=Z,210nm,7.5s
CD2 Chengdu 94.69 303⇑ *i*P **P** 13 38 46.3 +0.6
CD2 S S 13 49 30.0 -8.3
CD2 pmax pmax
comp=Z,130nm,0.9s
CD2 pmax pmax
comp=Z,180nm,6.9s
CD2 LR LR
comp=Z,270nm,10.7s
CD2 LR LR
comp=Z,370nm,16.5s
CD2 LR LR
comp=Z,270nm,11.0s
MSTX Muleshoe 94.80 54 P **P** 13 38 46.1 -0.1
baz=239
SDCO Great Sand Dun 94.90 50 P **P** 13 38 47.0 +0.2
baz=238,SNR=6.5
BW06 Boulder Array 95.06 44 P **P** 13 38 46.9 -0.4
baz=236
PDAR Pinedale Array 95.06 44 P **P** 13 38 47.3 0.0
comp=Z,6.1nm,0.9s,baz=205,slow=3.4,SNR=35
PDAR PKKPbc **PKKPbc** 13 55 41.6 -0.6
comp=Z,0.7nm,0.7s,baz=81,slow=3.8,SNR=7.2
BOZ Bozeman (W) 95.47 40 P **P** 13 38 49.3 +0.3
baz=234,SNR=10
DLBC Dease Lake 95.55 23 P **P** 13 38 49.5 +0.6
comp=Z,2.1nm,0.7s,baz=242,slow=10,SNR=4.4
Q24A Divide 95.78 49 P **P** 13 38 51.0 +0.2
baz=238
HDA Harding Lake 95.84 13 P **P** 13 38 49.2 -0.8
baz=208
TCOL CIGO, UAF Yank 96.07 13 P **P** 13 38 49.8 -1.2
baz=207
COLA College 96.07 13*d* *i*P **P** 13 38 49.7 -1.3
COLA pmax pmax
comp=Z,17nm,1.1s
ILAR Eielson Array 96.17 13 P **P** 13 38 50.5 -1.0
comp=Z,7.6nm,1.1s,baz=225,slow=5.2,SNR=25
N23A Red Feather La 96.29 47 P **P** 13 38 50.8 -2.2
baz=238
POKR Poker Plat Res 96.37 13 P **P** 13 38 51.3 -1.2
baz=207
K22A Casper 96.87 45 P **P** 13 38 55.4 0.0
baz=238
BILL Bilibino 96.90 354⇑ *i*P **P** 13 38 54.0 -0.7
BILL *i* *PP **pwP** 13 39 55.5 +0.9
BILL pmax pmax
comp=Z,6.0nm,1.0s
LZH Lanzhou 97.22 307 *e*P Pdif 13 38 58.8 +1.6
LZH pP pwP 13 40 00.8 +6.8
LZH sP sP 13 40 26.0 +7.7
LZH PP **PP** 13 43 00.0 +2.8
LZH pmax pmax
comp=Z,30nm,1.6s
LZH pmax pmax
comp=Z,120nm,4.3s
TOLK Toolik Lake Re 99.17 10 P **Pdif** 13 39 05.2 +0.3
baz=206
RSSD Black Hills 99.18 45 P **Pdif** 13 39 05.8 0.0
baz=239
EPYK Eagle Plains 99.77 16 P **Pdif** 13 39 08.3 +0.7
baz=217
SONM Songino Array 101.42 318 P **Pdif** 13 39 15.5 -0.1
comp=Z,1.6nm,0.7s,baz=134,slow=4.3,SNR=6.1
SONM PP **PP** 13 43 23.6 -5.2
comp=Z,1.0nm,0.6s,baz=127,slow=5.7,SNR=5.1
GTA Gaotai 101.61 309 P **Pdif** 13 39 17.5 +0.9
GTA pP pwP 13 40 17.5 +1.4
GTA sP sPdif 13 40 43.3 +5.8
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,70nm,4.2s
GTA LR LR
comp=Z,85nm,18.9s
GTA LR LR
comp=Z,77nm,20.3s
GTA LR LR
comp=Z,90nm,20.3s
INK Inuvik 102.07 16 P **Pdif** 13 39 17.3 -0.4
comp=Z,2.0nm,0.9s,baz=236,slow=5.6,SNR=5.8
PALK Pallekele 102.89 271 *i*P **Pdif** 13 39 23.4 +0.6
ECSD EROS Data Cent 103.71 48 P **Pdif** 13 39 26.9 +1.2
baz=244
YKA Yellowknife Ar 103.92 25 Pdiff **Pdif** 13 39 24.8 -1.3
comp=Z,0.7nm,0.8s,baz=236,slow=4.2,SNR=14
YKA PKiKP **PKiKP** 13 43 41.4 -0.9
comp=Z,0.9nm,0.6s,baz=260,slow=1.5,SNR=15
YKA PKKPbc **PKKPbc** 13 55 15.6 -1.9
comp=Z,1.3nm,0.8s,baz=44,slow=2.8,SNR=12
YKA PKPPKP **P'P'df** 14 03 37.2 +2.6
comp=Z,0.3nm,0.8s,baz=47,slow=2.0,SNR=4.6
YKB5 Yellowknife Ar 103.92 25 *e*Pdif **Pdif** 13 39 24.8 -1.3
ZAK Zakamensk 104.44 320 *e*P **Pdif** 13 39 31.5 +2.6
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TIXI Tiksi 106.31 345 PKiKP **PKiKP** 13 43 45.1 -1.4
comp=Z,1.8nm,0.6s,baz=160,slow=1.3,SNR=6.0
251A Midway 106.94 62 P **PKiKP** 13 43 49.2 +0.4
baz=247
WMQ Urumqi 111.69 309 *e*PKP **PKiKP** 13 43 57.5 0.0
WMQ LR LR
comp=Z,1μm,29.9s
WMQ LR LR
comp=Z,760nm,39.2s
WMQ LR LR
comp=Z,230nm,29.9s
M54A Oil Creek Stat 114.52 55 P PKPdf 13 44 01.8 -1.2
baz=253
S58A Poland Farm, P 114.54 59 P PKPdf 13 44 02.0 -1.1
baz=252
N55A Marion Center 114.80 56 P PKPdf 13 44 02.4 -1.1
baz=253
O56A Blue Knob Stat 114.95 56 P PKPdf 13 44 03.0 -0.9
baz=253
M55A Ridgway 115.16 55 P **PKPdf** 13 44 02.9 -1.3
baz=254
SSPA Standing Stone 115.56 56 P **PKPdf** 13 44 03.6 -1.4
baz=254
F51A Arnstein 115.58 50 P **PKPdf** 13 44 03.9 -0.9
baz=255
M56A Emporium 115.58 55 P **PKPdf** 13 44 04.2 -0.8
baz=254
L55A Hinsdale 115.59 54 P **PKPdf** 13 44 04.1 -0.9
baz=254
O57A Amberson 115.62 57 P **PKPdf** 13 44 04.1 -1.0
baz=254
N57A Milroy 115.83 56 P **PKPdf** 13 44 04.7 -0.8
baz=254
WLVO Wesleyville 116.09 52 P **PKPdf** 13 44 05.4 -0.4
baz=255
MK31 Makanchi Array 116.19 311 *i*PKIKP **PKPdf** 13 44 04.4 -1.6
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 116.19 311 PKIKP **PKPdf** 13 44 05.0 -1.1
MKAR Makanchi Array 116.19 311 PKP **PKPdf** 13 44 05.0 -1.1
comp=Z,8.5nm,0.8s,baz=87,slow=1.2,SNR=45
MKAR PKKPbc **PKKPbc** 13 54 37.6 +0.4
comp=Z,0.3nm,0.5s,baz=262,slow=4.3,SNR=3.9
G53A Haliburton 116.24 51 P **PKPdf** 13 44 05.6 -0.6
baz=255
ZALV Zalesovo Beam 116.31 319 PKP **PKPdf** 13 44 04.8 -1.1
comp=Z,4.2nm,0.7s,baz=163,slow=1.2,SNR=17
MAKZ Makanchi 116.41 311 PKIKP **PKPdf** 13 44 04.8 -1.6
MAKZ pmax pmax
comp=Z,16nm,1.1s
E52A Mattawa 116.51 50 P **PKPdf** 13 44 05.4 -1.2
baz=256
BANO Bancroft 116.69 51 P **PKPdf** 13 44 06.3 -0.7
baz=256
DELO Deloro Mine 116.78 52 P **PKPdf** 13 44 06.1 -1.1
baz=256
ALGO Algonquin Park 116.84 50 P **PKPdf** 13 44 06.2 -1.0
baz=256
D52A ZEK Kipawa Sen 116.84 49 P **PKPdf** 13 44 06.0 -1.2
baz=256
E53A Dumoine, Ponti 117.20 50 P **PKPdf** 13 44 06.6 -1.3
baz=257
PLVO Plevna 117.28 51 P **PKPdf** 13 44 06.8 -1.4
baz=256
PEMO Pembroke 117.32 51 P **PKPdf** 13 44 07.1 -1.1
baz=256
D53A Lac Vacive, Po 117.34 49 P **PKPdf** 13 44 06.9 -1.2
baz=257
NVS Novosibirsk 117.40 320 *e*PKIKP **PKPdf** 13 44 06.7 -1.3
NVS pmax pmax
comp=Z,12nm,1.0s
NVS pmax pmax
comp=N,3.0nm,0.8s
E54A Lac Daplat, Po 117.54 50 P **PKPdf** 13 44 07.1 -1.5
baz=257
NRIK Noril'sk 117.71 336 PKP **PKPdf** 13 44 07.5 -0.7
comp=N,9.1nm,0.8s,baz=101,slow=3.0,SNR=13
D54A Lac Fusel, La 118.05 49 P **PKPdf** 13 44 07.8 -1.7
baz=258
LSQQ Lebel-sur-Quev 118.24 47 P **PKPdf** 13 44 08.7 -1.2
baz=258
BOSA Boshof 118.83 204 PKP **PKPdf** 13 44 12.7 +0.8
comp=N,5.3nm,0.6s,baz=162,slow=2.4,SNR=19
KSH Kashi 118.87 302 PKP **PKPdf** 13 44 11.5 -0.1
KSH PP **PP** 13 45 38.8 +4.4
KSH PKS **PKSdf** 13 47 46.0 -2.3
KSH SKS **SKSdf** 13 50 53.5 -7.7
KSH AMB AMB
comp=N,94nm,5.0s
KSH LR LR
comp=N,65nm,7.2s
KSH LR LR
comp=N,76nm,7.8s
LONY Lake Ozonia 118.92 52 P **PKPdf** 13 44 10.2 -1.1
baz=256
ULHL Ulahol 119.32 305 P **PKPdf** 13 44 12.7 +0.3
SNR=12
KURK Kurchatov 119.40 315*d* *i*PKIKP **PKPdf** 13 44 11.0 -1.0
KURK pmax pmax
comp=Z,29nm,0.8s
KURBB Kurchatov Arra 119.44 315 PKP **PKPdf** 13 44 11.1 -1.0
comp=Z,19nm,0.8s,baz=109,slow=2.0,SNR=92
KURBB PP **sPKPdf** 13 45 29.8 -4.9
comp=Z,1.1nm,0.4s,baz=103,slow=8.0,SNR=7.3
TKM2 Tokmak 2 119.93 305 P **PKPdf** 13 44 13.2 -0.4
SNR=14
TKM2 Tokmak 2 119.93 305 PKIKP **PKPdf** 13 44 12.1 -1.5
TKM2 pmax pmax
comp=Z,11nm,0.7s
KZA Kyzart 120.00 304 P **PKPdf** 13 44 14.0 0.0
SNR=21
CHGQ Chibougamau 120.07 46 P **PKPdf** 13 44 11.8 -1.6
baz=261
KBK Karagaybulak 120.34 305 P **PKPdf** 13 44 14.1 -0.3
SNR=8.6
CHMS Chumysh 120.56 305 P **PKPdf** 13 44 14.1 -0.4
SNR=12
UCH Uchtor 120.57 304 P **PKPdf** 13 44 15.2 0.0
SNR=31
AAK Ala-Archa 120.67 305 P **PKPdf** 13 44 14.9 0.0
SNR=6.0
AAK Ala-Archa 120.67 305*d* *i*PKIKP **PKPdf** 13 44 14.4 -0.6
AAK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 120.67 305 P **PKPdf** 13 44 14.6 -0.4
SNR=5.7
AAK Ala-Archa 120.67 305 PKP **PKPdf** 13 44 14.5 -0.4
comp=Z,6.7nm,0.7s,baz=147,slow=4.1,SNR=18
LBNH Lisbon 120.70 53 P **PKPdf** 13 44 13.9 -0.9
baz=259
USP Ospenovka 120.79 306 P **PKPdf** 13 44 14.6 -0.5
SNR=15
AML Almayashu 121.14 304 P **PKPdf** 13 44 16.4 +0.2
SNR=21
EKS2 Erkin-Say 121.19 305 P **PKPdf** 13 44 15.8 -0.1
SNR=9.7
LBTB Lobatse 121.97 206 *e*PKPdf **PKPdf** 13 44 18.8 +0.8
LBTB Lobatse 121.97 206 *e*PKIKP **PKPdf** 13 44 18.8 +0.8
PKME Peaks-Kenny Pk 122.73 52 P **PKPdf** 13 44 17.7 -0.9
baz=261
GAR Garm 123.03 300 *e*PKPdf **PKPdf** 13 44 19.6 +0.1
GAR Garm 123.03 300 *e*PKIKP **PKPdf** 13 44 19.6 +0.1
KBL Kabul 123.04 294 *e*PKPdf **PKPdf** 13 44 20.3 +0.5
KBL Kabul 123.04 294 *e*PKIKP **PKPdf** 13 44 20.3 +0.5
OTUK Ortayu 123.09 311 PKIKP **PKPdf** 13 44 17.6 -1.6
OTUK pmax pmax
comp=Z,32nm,1.0s
KK31 Karatay Array 123.63 305 *i*PKIKP **PKPdf** 13 44 19.8 -0.6
KK31 pmax pmax
comp=Z,25nm,0.8s
PQI Presque Isle 123.80 51 *e*PKPdf **PKPdf** 13 44 19.8 -0.8
BRVK Borovoye 124.78 317 *e*PKPdf **PKPdf** 13 44 22.0 -0.4
BRVK Borovoye 124.78 317*d* *i*PKIKP **PKPdf** 13 44 21.4 -0.9
BRVK Borovoye 124.78 317 P **PKPdf** 13 44 21.9 -0.4
SNR=12
SCHQ Schefferville 125.11 41 PKP **PKPdf** 13 44 21.6 -1.3
comp=Z,14nm,0.9s,baz=249,slow=6.7,SNR=9.1
KULLO Kullorsuaq 125.42 16 *i*PKIKP **PKPdf** 13 44 22.0 -0.9
KULLO pmax pmax
comp=Z,21nm,0.9s
KULLO Kullorsuaq 125.42 16 *i*P **PKPdf** 13 44 22.0 -0.9
comp=Z,21nm,0.9s
GBN Guysborough 128.19 53 *e*PKPdf **PKPdf** 13 44 29.0 0.0
WSAR Wadi Sarin 128.71 278 PKP **PKPdf** 13 44 31.3 +0.6
comp=Z,3.6nm,0.6s,baz=230,slow=5.2,SNR=5.2
KBS Kingsbay 129.27 357*d* *i*PKIKP **PKPdf** 13 44 29.6 -0.6
KBS pmax pmax
comp=Z,88nm,1.0s
KBS Kingsbay 129.27 357 *e*PKPdf **PKPdf** 13 44 31.1 +0.9
ILULI Ilulissat 129.36 22 *i*PKIKP **PKPdf** 13 44 30.0 -0.5
ILULI pmax pmax
comp=Z,23nm,0.7s
ILULI Ilulissat 129.36 22 *i*P **PKPdf** 13 44 30.0 -0.5
comp=Z,23nm,0.7s
SPA0 Spitsbergen Ar 129.77 356 *e*PKPdf **PKPdf** 13 44 30.8 -0.4
SVE Sverdlovsk 130.13 322 *e*PKIKP **PKPdf** 13 44 32.1 -0.3
SVE pmax pmax
comp=Z,24nm,1.2s
DAG Danmarks Havn 130.70 6 *i*PKIKP **PKPdf** 13 44 31.3 -1.6
DAG pmax pmax
comp=Z,17nm,1.1s
DAG Danmarks Havn 130.70 6 *i*P **PKPdf** 13 44 31.3 -1.6
comp=Z,14nm,1.1s
SOHO SOHO 130.82 278 P **PKPdf** 13 44 34.3 -0.4
SNR=6.9
HSPB Hornsund (broa 130.96 356 *e*PKPdf **PKPdf** 13 44 33.9 +0.5
SUMG Summit 130.98 15 *i*PKIKP **PKPdf** 13 44 34.3 +0.2
SUMG pmax pmax
comp=Z,43nm,0.9s
SUMG Summit 130.98 15 *i*P **PKPdf** 13 44 34.3 +0.2
comp=Z,43nm,0.9s
AB31 Akbulak array 131.31 312 *i*PKIKP **PKPdf** 13 44 32.4 -2.4
AB31 pmax pmax
comp=Z,14nm,1.0s
ARU Arti 131.33 322 *i*PKIKP **PKPdf** 13 44 33.8 -0.8
ARU 13 46 53.2
ARU Arti 131.33 322 PKP **PKPdf** 13 44 34.4 -0.2
comp=Z,5.8nm,0.4s,baz=105,slow=1.3,SNR=24
ARU SKPbc **SKPbc** 13 47 34.3 -3.2
comp=Z,5.7nm,0.6s,baz=100,slow=2.5,SNR=8.7
UOSS Minazif 131.34 279 PKPdf **PKPdf** 13 44 35.2 -0.4
MDH Madha 131.36 280 PKPdf **PKPdf** 13 44 35.5 -0.2
MDH Madha 131.36 280 P **PKPdf** 13 44 36.1 +0.4
HATD Hatta, Dubai 131.37 279 *i*PKPdf **PKPdf** 13 44 35.5 -0.2
SNR=10
HATD Hatta, Dubai 131.37 279 P **PKPdf** 13 44 35.5 -0.2
ASHO Ashiyiah 131.39 279 *i*PKPdf **PKPdf** 13 44 35.6 -0.3
SNR=12
ASHO Ashiyiah 131.39 279 P **PKPdf** 13 44 35.2 -0.6
ALNE Al Ain 131.48 278 *i*PKiKP **PKPdf** 13 44 36.7 +0.7
SNR=5.8
MSFE Esma-Masafi 131.50 280 PKPdf **PKPdf** 13 44 35.3 -0.7
FAQ Al Faqa, Dubai 131.82 279 PKPdf **PKPdf** 13 44 36.1 -0.4

FAQ Al Faqa, Dubai 131.82 279 P PKPdf 13 44 36.3 -0.3
NAZ Nazwa, Dubai 131.83 279 PKPdf PKPdf 13 44 36.7 +0.1
ASUD Al Ashush, Dub 132.01 279 PKPdf PKPdf 13 44 36.9 0.0
GEYT Alibeck 132.32 297 PKP PKPdf 13 44 37.3 +0.1
comp=Z,5.1nm,0.9s,baz=90,slow=1.5,SNR=6.4
GEYT SKPbc SKPbc 13 47 39.0 -2.6
comp=Z,19nm,0.9s,baz=186,slow=1.5,SNR=20
AKTO Aktyubinsk 132.47 314 PKP PKPdf 13 44 36.6 -0.4
comp=Z,16nm,0.7s,baz=69,slow=1.8,SNR=48
AKTO SKPbc SKPbc 13 47 39.2 -2.5
comp=Z,16nm,1.1s,baz=106,slow=4.7,SNR=11
KMBO Kilima Mbogo 134.81 235 PKP PKPdf 13 44 43.1 +0.2
comp=Z,5.7nm,0.9s,baz=8.9,slow=3.3,SNR=8.3
KIRV Kirov 135.49 326 PKP PKPdf 13 44 41.8 -0.5
comp=Z,22nm,0.5s,baz=130,slow=2.0,SNR=9.1
PRGR Permogore 135.94 331 ePKHKP PKPpre 13 44 33.1
PRGR pmax pmax
comp=Z,9.0nm,0.5s
HAMF Hammerfest 135.98 350 ePKPdf PKPdf 13 44 42.3 -0.7
ARCES ARCESS Array B 136.63 348 PKIKP PKPdf 13 44 44.0 -0.3
ARCES ARCESS Array B 136.63 348 PKhKP PKPpre 13 44 34.5
comp=Z,3.2nm,0.7s,baz=33,slow=1.8,SNR=13
ARCES PKP PKPdf 13 44 44.0 -0.3
comp=Z,20nm,0.8s,baz=75,slow=1.4,SNR=20
ARCES SKPbc SKPbc 13 47 50.3 -4.1
comp=Z,6.7nm,1.0s,baz=46,slow=3.5,SNR=6.5
ARE0 ARCESS Array S 136.63 348 ePKPdf PKPdf 13 44 45.4 +1.1
TMCR Tamitsa 137.42 337 ePKIKP PKPdf 13 44 46.4 +0.6
KTK1 Kautokeino 137.49 349 ePKPdf PKPdf 13 44 46.0 +0.1
TRO Tromso 137.60 351 ePKPdf PKPdf 13 44 47.0 +1.0
KLMR Klimovskoe 138.87 333 ePKHKP PKPpre 13 44 36.6
KLMR pmax pmax
comp=Z,16nm,0.7s
STEI Steigen 139.68 352 e PKPdf 13 44 41.4 -8.4
STEI ePKPdf PKiKP 13 44 51.0 -1.2
MOR8 Moi Rana 141.45 352 e PKPdf 13 44 47.7 -5.5
VRH Novokhopyorsk 142.34 318 ePKIKP PKPdf 13 44 51.4 -3.7
VRH pmax pmax
comp=Z,30nm,0.7s
MOS Moscow 142.50 327 ePKHKP PKPpre 13 44 49.7
MOS e 13 48 09.3
MOS pmax pmax
comp=Z,53nm,1.3s
GNI Garni 142.76 300 cePKIKP PKPdf 13 44 53.6 -2.9
ZEI Tsey 143.09 304 i PKHKP PKPpre 13 44 52.1
ZEI pmax pmax
comp=Z,25nm,0.7s
NCK Nalchik 143.19 305⇓ ePKIKP PKPbc 13 44 55.1 +0.4
FINES FINESS Array B 143.20 340 PKhKP PKPpre 13 44 52.7
comp=Z,60nm,0.9s,baz=60,slow=4.6,SNR=149
NSS Namsos 143.33 352 e PKPab 13 44 52.5 -0.6
OBN Obninsk 143.34 326 PKP PKPab 13 44 54.0 +0.7
comp=Z,9.0nm,0.5s,baz=14,slow=5.3,SNR=17
LPSR Galich'ya Gora 143.35 322 ePKIKP PKPab 13 44 53.8 +0.3
LPSR pmax pmax
comp=Z,30nm,1.0s
AKH Akhalkalaki 143.58 302⇑ iP PKPab 13 44 55.2 +0.2
KBZ Khabaz 143.65 306 PKP PKPab 13 44 55.6 +0.6
comp=Z,30nm,1.0s,baz=141,slow=1.8,SNR=54
KVAR Kislovodsk Arr 143.75 306 PKP PKPbc 13 44 57.0 +0.6
comp=Z,13nm,0.7s,baz=90,slow=24,SNR=19
KIV Kislovodsk 143.76 306⇑ iP PKPab 13 44 56.4 +0.8
KIV Kislovodsk 143.76 306 i PKPdf PKPab 13 44 56.1 +0.6
SNR=7.3
KIV Kislovodsk 143.76 306 i PKIKP PKPab 13 44 55.9 +0.3
KIV pmax pmax
comp=Z,154nm,1.0s
KIV Kislovodsk 143.76 306 P PKPab 13 44 56.4 +0.8
SNR=16
VSR Storozhevoye 143.81 319 ePKIKP PKPab 13 44 55.0 -0.4
VSR pmax pmax
comp=Z,100nm,0.7s
VORD Divnogorie 143.84 319 ePKIKP PKPab 13 44 55.2 -0.3
VORD pmax pmax
comp=Z,50nm,0.7s
TBLU Trondheim 144.77 353 ePKPbc PKPbc 13 44 57.6 -1.0
BATM Batumi 144.89 303⇑ iP PKPbc 13 44 59.1 -0.6
BCA Borcka 144.97 302⇑ iP PKPbc 13 45 00.2 +0.2
VSU Vasula 145.30 337 cePKP2 PKPdf 13 44 59.9 -0.1
VSU pmax pmax
comp=Z,1μm,0.8s
VSU Vasula 145.30 337 eP PKPdf 13 44 59.5 -0.5
VSU IAmb IAmb 13 45 01.1
comp=Z,1μm,0.8s
MOL Molde 145.68 355 ePKPdf PKPdf 13 45 01.1 +0.5
SOC Sochi 145.94 307 ePKIKP PKPdf 13 45 01.4 -0.2
SOC i 13 45 04.8
SOC e 13 48 21.4
SOC ePPP PPP 13 51 52.7
SOC eSSS SSS 14 12 29.1
SOC pmax pmax
comp=Z,887nm,0.8s
SOC pmax pmax
comp=Z,357nm,1.0s
DOMB Dombas 146.07 354 ePKPdf PKPdf 13 45 02.0 +0.6
AKN Aaknes 146.11 355 ePKPdf PKPdf 13 45 02.2 +0.8
KTUT Trabzon 146.42 302⇑ iP PKPbc 13 45 05.1 +0.8
NC204 NORSAR Array S 146.63 352 ePKPdf PKPdf 13 45 03.5 +1.1
NB2 NORSAR Subarra146.80 351 PKP PKPdf 13 45 03.7 +1.1
comp=Z,72nm,0.8s,baz=11,slow=2.9
NB2 NORSAR Subarra146.80 351 PKPab PKPdf 13 45 03.7 +1.1
baz=11,slow=2.9
NOA NORSAR Array B 146.80 351 PKPbc PKPbc 13 45 03.9 -0.9
comp=Z,60nm,0.8s,baz=16,slow=4.5,SNR=189
NC602 NORSAR Array S 147.05 351 ePKPdf PKPdf 13 45 04.3 +1.3
HYA Hoyanger 147.17 356 ePKPbc PKPbc 13 45 05.2 -0.5
ANN Anapa 147.20 310 d iPKP2 PKPbc 13 45 06.1 -0.2
ANN pmax pmax
comp=Z,290nm,1.1s
HFS Hagfors 147.29 349 PKPbc PKPbc 13 45 05.0 -1.0
comp=Z,104nm,0.8s,baz=22,slow=1.6,SNR=154
SUE Sulen 147.36 357 ePKPbc PKPbc 13 45 05.7 -0.5
SLIT Slitere, Latvi 147.42 339 eP PKPdf 13 45 04.9 +1.3
SLIT IAmb IAmb 13 45 06.2
comp=Z,280nm,0.6s
SKAR Skarslia 147.48 354 ePKPbc PKPbc 13 45 06.4 -0.3
IZAR Zarasai 147.49 334 eP PKPbc 13 45 06.6 -0.2
IZAR IAmb IAmb 13 45 07.8
comp=Z,92nm,1.0s
IDID Didziasalis 147.61 333 eP PKPbc 13 45 06.5 -0.6
IDID IAmb IAmb 13 45 09.0
comp=Z,51nm,0.9s
ISAL Salakas 147.67 334 eP PKPbc 13 45 07.0 -0.2
ISAL IAmb IAmb 13 45 08.2
comp=Z,61nm,1.0s
MICGM Minsk 147.71 331⇓ eP PKPbc 13 45 07.0 -0.4
MICGM PM 13 45 08.0
comp=Z,0.7nm,1.0s
MNK Minsk 147.71 331⇓ ePKP2 PKPbc 13 45 07.0 -0.4
MNK pmax pmax
comp=Z,730nm,1.0s
NACGM Naroch 147.89 332 e PKPbc 13 45 08.0 +0.2
ASK Askoy 147.91 357 ePKPbc PKPbc 13 45 07.5 -0.2
BER Bergen 148.00 356 ePKPbc PKPbc 13 45 07.9 -0.1
KONO Kongsberg 148.35 352 ePKPbc PKPbc 13 45 08.3 -0.6
ODD1 Odda 148.39 355 ePKPbc PKPbc 13 45 09.2 +0.2
PABE Paberze 148.54 335 eP PKPbc 13 45 08.9 -0.6
PABE IAmb IAmb 13 45 10.2
comp=Z,239nm,0.7s
PBUR Paburg 148.84 338 eP PKPbc 13 45 09.5 -0.7
PBUR IAmb IAmb 13 45 10.8
comp=Z,156nm,0.9s
BLS5 Blasjo 148.89 355 ePKPbc PKPbc 13 45 09.9 -0.4
KMY Karmoy 149.18 356 ePKPbc PKPbc 13 45 11.1 +0.2
ASF Jabal al Asfar 149.30 286 PKPbc PKPbc 13 45 13.2 +1.0
comp=Z,51nm,0.9s,baz=48,slow=1.8,SNR=58
SIM Simferopol' 149.37 311⇓ iPKP2 PKPbc 13 45 12.8 +0.9
SIM pmax pmax
comp=Z,82nm,0.7s
AKASG Malin Array Be 149.50 324 PKPbc PKPbc 13 45 11.9 -0.1
comp=Z,147nm,0.8s,baz=45,slow=3.1,SNR=313
AKBB Malin Array Si 149.50 324 ePKPbc PKPbc 13 45 11.9 -0.1
AKBB Malin Array Si 149.50 324 ePKP2 PKPbc 13 45 11.9 -0.1
KIEV Kiev 149.51 324 i PKPbc PKPbc 13 45 11.7 -0.4
SNR=56
DIKM Dikmen 149.60 305⇑ iP PKPbc 13 45 13.3 +0.7
HOMB Homborsund 149.83 353 ePKPbc PKPbc 13 45 12.3 -0.2
SNART Snartemo 149.90 354 ePKPbc PKPbc 13 45 12.8 +0.1
SUW Suwalki 149.97 334 ePKPbc PKPbc 13 45 13.3 +0.2
SUW ePKPab PKPab 13 45 19.3 -0.3
SUW Suwalki 149.97 334 ePKP2 PKPab 13 45 19.3 -0.3
RCY Rachaya 150.22 288 eP PKPbc 13 45 15.2 +0.7
QRWL Qaraoun 150.35 288 eP PKPbc 13 45 15.6 +0.9
BHL Bhannes 150.37 289 eP PKPbc 13 45 15.4 +0.6

BZK Bozkurt 150.42 306⇑ iP PKPbc 13 45 15.5 +1.0
DQRL Deir Qamar 150.44 289 eP PKPbc 13 45 15.9 +0.9
MMAI Mount Meron Ar 150.58 287 PKPbc PKPbc 13 45 16.3 +1.0
comp=Z,167nm,0.8s,baz=79,slow=4.3,SNR=191
EIL Elat 150.78 281 PKP PKPdf 13 45 09.8 -0.1
comp=Z,8.9nm,1.0s,baz=8.9,slow=1.5,SNR=10
EIL PKPbc PKPbc 13 45 16.4 +0.6
comp=Z,131nm,0.8s,baz=78,slow=1.2,SNR=139
BR131 Keskin Array S 151.26 301 P PKPbc 13 45 16.6 -0.2
SNR=38
BRTR Keskin Array B 151.26 301 PKPbc PKPbc 13 45 16.6 -0.2
comp=Z,41nm,0.9s,baz=141,slow=2.6,SNR=56
BRTR PKPab PKPab 13 45 26.7 +1.0
comp=Z,13nm,0.6s,baz=79,slow=3.3,SNR=13
BRTR PP PP 13 48 56.2 -1.6
comp=Z,2.9nm,1.0s,baz=112,slow=3.3,SNR=4.3
MUD Monsted U'grnd 151.52 351⇓ iPKIKP PKPbc 13 45 16.3 -0.2
MUD pmax pmax
comp=Z,110nm,1.2s
MUD Monsted U'grnd 151.52 351⇓ iP PKPbc 13 45 16.3 -0.2
comp=Z,108nm,1.2s
BSD Bornholm Skovb 151.68 344 i PKIKP PKPbc 13 45 16.5 -0.5
BSD pmax pmax
comp=Z,95nm,0.9s
BSD Bornholm Skovb 151.68 344 i P PKPbc 13 45 16.5 -0.5
comp=Z,95nm,0.9s
COP Copenhagen 151.71 347 i PKIKP PKPbc 13 45 16.4 -0.6
COP Copenhagen 151.71 347 i P PKPbc 13 45 16.4 -0.6
KIS Kishinev 151.78 318 eP PKPbc 13 45 16.5 -1.0
comp=Z,110nm,1.0s
KIS Kishinev 151.78 318 ePKIKP PKPbc 13 45 16.5 -1.0
KIS pmax pmax
comp=Z,110nm,1.0s
ANTO Ankara 151.86 302 ePKPbc PKPbc 13 45 18.4 +0.3
ANTO Ankara 151.86 302 ePKIKP PKPbc 13 45 18.4 +0.3
ANTO Ankara 151.86 302 P PKPbc 13 45 18.0 0.0
SNR=20
CSS Mathiatis 152.23 292 ePKPbc PKPbc 13 45 19.0 +0.1
BEL Belsk 152.57 334 ePKPbc PKPbc 13 45 19.5 +0.4
BEL Belsk 152.57 334 ePKIKP PKPbc 13 45 19.5 +0.4
LVV L'vov 152.64 327 ePKIKP PKPbc 13 45 19.1 -0.2
LVV e 13 45 30.4
GKP Gorka Klasztor 152.65 339 ePKPbc PKPbc 13 45 19.6 +0.5
GKP ePKPab PKPab 13 45 31.2 +0.4
GKP Gorka Klasztor 152.65 339 ePKIKP PKPbc 13 45 19.7 +0.5
TLCR 152.69 315⇓ iP PKPbc 13 45 19.0 -0.6
EKA Eskdalemuir Ar 152.97 6 PKP PKPdf 13 45 11.7 -0.7
comp=Z,1.2nm,0.7s,baz=318,slow=1.1,SNR=5.0
EKA PKPbc PKPbc 13 45 19.2 -0.6
comp=Z,7.2nm,0.7s,baz=327,slow=0.7,SNR=21
EKA PKPab PKPab 13 45 31.5 -0.6
comp=Z,20nm,0.7s,baz=330,slow=4.8,SNR=19
ESK Eskdalemuir 152.98 6 ePKPbc PKPbc 13 45 19.4 -0.5
ESK Eskdalemuir 152.98 6 ePKIKP PKPbc 13 45 19.4 -0.5
CFR Carcaliu 153.11 315⇑ iP PKPbc 13 45 19.6 -0.9
TESR Tescani 153.31 319⇑ iP PKPbc 13 45 18.9 -2.0
BIZ Bicaz 153.37 320⇓ iP PKPbc 13 45 19.6 -1.4
KWP Kalwaria Pacla 153.39 328 ePKPdf PKPdf 13 45 13.2 0.0
KWP ePKPbc PKPbc 13 45 21.0 0.0
KWP ePKPab PKPab 13 45 34.6 +0.5
KWP ePP PP 13 49 06.7 -2.1
KWP Kalwaria Pacla 153.39 328 ePKP2 PKPab 13 45 34.6 +0.5
KWP e 13 49 06.7
MFTR Murfatlar 153.40 313⇓ iP PKPbc 13 45 21.6 +0.4
TLB Topalu 153.46 314⇓ iP PKPbc 13 45 21.5 +0.2
MANR Mangalia 153.46 312⇑ iP PKiKP 13 45 22.1 +0.7
HARR Harsova 153.47 315⇑ iP PKPdf 13 45 12.3 -1.1
VRI Vrincioaia 153.61 318⇑ iP PKPbc 13 45 20.4 -1.2
PLOR Plostina 153.66 318⇑ iP PKPbc 13 45 21.1 -0.7
PSN Preselentsi 153.78 312 eP PKPab 13 45 36.5 +0.5
ICOR Ion Corvin 153.83 314⇑ iP PKiKP 13 45 23.0 +0.9
KOLS Kolonicke sedl 154.08 328 ePKIKP PKPdf 13 45 14.3 +0.1
KOLS e 13 45 37.2
KOLS Kolonicke sedl 154.08 328 ePKP PKPdf 13 45 14.3 +0.1
KOLS e 13 45 23.2
KOLS e 13 45 37.2
OJC Ojcow 154.22 332 ePKPdf PKPdf 13 45 14.1 -0.3
OJC ePKPbc PKPbc 13 45 22.6 -0.2
OJC ePKPab PKPab 13 45 37.7 +0.1
OJC Ojcow 154.22 332 ePKP2 PKPab 13 45 37.7 +0.1
ARCR ARCALIA 154.25 322⇓ iP PKPbc 13 45 22.8 -0.1
MLR Muntele Rosu 154.28 318 PKPbc PKPbc 13 45 23.1 -0.1
comp=Z,7.7nm,0.8s,baz=38,slow=3.8,SNR=9.3
MLR PKPab PKPab 13 45 37.8 -0.4
comp=Z,13nm,0.9s,baz=47,slow=4.8,SNR=8.2
UZH Uzhgorod 154.28 327 ePKIKP PKPbc 13 45 22.6 -0.3
UZH i 13 45 37.5
PRD Provadia 154.51 312 eP PKPab 13 45 40.1 +1.0
TRPA Tarpa 154.51 326⇓ eP PKPab 13 45 38.0 -0.9
NIE Niedzica 154.62 331 ePKPdf PKPdf 13 45 15.2 +0.1
NIE ePKPbc PKiKP 13 45 24.5 +0.9
NIE ePKPab PKPab 13 45 40.0 +0.6
NIE Niedzica 154.62 331 ePKIKP PKPdf 13 45 15.1 +0.1
VOIR 154.83 319⇓ iP PKiKP 13 45 25.0 +0.7
KSP Ksiaz 155.03 337 ePKPdf PKPdf 13 45 15.7 +0.2
KSP ePKPbc PKPbc 13 45 25.2
KSP ePKPab PKPab 13 45 41.6 +0.6
KSP Ksiaz 155.03 337 ePKIKP PKPdf 13 45 15.6 +0.2
ARR Arges 155.11 319⇓ iP PKPdf 13 45 26.3 +10
LANS Liptovska Anna 155.18 331 ePKP2 PKPab 13 45 42.6 +0.8
LANS Liptovska Anna 155.18 331 ePKP PKPab 13 45 42.6 +0.8
OKC Ostrava-Krasne 155.18 334 ePKP2 PKPab 13 45 41.7 0.0
OKC Ostrava-Krasne 155.18 334 ePKPAB PKPab 13 45 41.7 0.0
KECS Kecovo 155.23 329 ePKP2 PKPab 13 45 42.6 +0.6
KECS Kecovo 155.23 329 ePKP PKPab 13 45 42.6 +0.6
DRGR 155.31 323⇓ iP PKPdf 13 45 24.6 +8.5
LTVH Ltavrtes, Hu 155.33 325 eP PKPab 13 45 43.0 +0.6
JMB Yambol 155.37 311 eP PKPab 13 45 43.7 +0.9
UPC Upice 155.41 337 ePKIKP PKPdf 13 45 25.2 +9.2
UPC Upice 155.41 337⇑ ePKP PKPdf 13 45 25.2 +9.2
UPC ePKPAB PKPab 13 45 43.3 +0.6
DPC Dobruska-Polom 155.43 337 ePKIKP PKPdf 13 45 15.2 -0.9
DPC Dobruska-Polom 155.43 337 ePKPDF PKPdf 13 45 15.2 -0.9
DPC ⇑ ePKP PKPab 13 45 26.3 -17
DPC ePKPAB PKPab 13 45 43.6 +0.8
MORC Moravsky Berou 155.46 334 ePKP PKPdf 13 45 15.9 -0.2
MORC e 13 45 25.9
MORC e 13 45 43.1
KRLC Kraliky 155.50 336 ePKP2 PKPab 13 45 43.4 +0.3
KRLC Kraliky 155.50 336 ePKPAB PKPab 13 45 43.4 +0.3
CLL Collm 155.62 342⇓ iPKIKP PKPdf 13 45 15.2 -1.0
CLL i 13 45 42.7
CLL pmax pmax
comp=Z,14nm,1.4s
CLL pmax pmax
comp=Z,20nm,0.9s
CLL pmax pmax
comp=Z,50nm,1.1s
CLL Collm 155.62 342 i PKPdf PKPdf 13 45 15.2 -1.0
comp=Z,14nm,1.4s
CLL i PKPbc PKPbc 13 45 25.5
comp=Z,20nm,0.9s
CLL ⇓ iPKPab PKPab 13 45 42.7 -0.8
comp=Z,50nm,1.1s
CLL ePP PP 13 49 27.0 +6.2
BRG Berggiesshubel 155.74 341 ePKP PKPdf 13 45 16.2 -0.1
comp=Z,33nm,1.7s
BRG Berggiesshubel 155.74 341 ePKP PKPdf 13 45 26.0 +10
comp=Z,12nm,0.8s
BRG Berggiesshubel 155.74 341 i P PKPab 13 45 44.1 0.0
comp=Z,44nm,1.0s
BRG epPKP sPKPdf 13 46 28.7 -11
comp=Z,13nm,1.3s
BRG Berggiesshubel 155.74 341 i PKP2 PKPab 13 45 44.1 0.0
BRG pmax pmax
comp=Z,45nm,1.0s
BRG pmax pmax
comp=Z,13nm,1.3s
PVCC Panska Ves 155.86 339 ePKIKP PKPdf 13 45 27.1 +11
PVCC e 13 45 44.8
PVCC Panska Ves 155.86 339⇑ ePKP PKPdf 13 45 27.1 +11
PVCC ePKPAB PKPab 13 45 44.8 +0.2
PSZ Piszkesteto 155.91 329⇓ eP PKPab 13 45 44.1 -0.9
VYHS Vyhne 155.95 331 ePKIKP PKPdf 13 45 17.8 +1.0
VYHS e 13 45 45.6
VYHS Vyhne 155.95 331 ePKP PKPdf 13 45 17.8 +1.0
VYHS e 13 45 45.6
JAVC Velka Javorina 156.15 333 ePKP PKPdf 13 45 17.6 +0.5
JAVC e 13 45 28.4
JAVC e 13 45 47.2
VRAC Vranov 156.20 335 ePKP PKPdf 13 45 16.5 -0.6
VRAC e 13 45 46.5
VRAC Vranov 156.20 335 PKP PKPdf 13 45 16.2 -0.9
comp=Z,2.3nm,0.3s,baz=109,slow=0.6,SNR=7.1
VRAC PKPab PKPab 13 45 45.9 -0.2
comp=Z,23nm,0.8s,baz=37,slow=4.0,SNR=19
WTSB Winterswijk 156.21 352 eP PKPab 13 45 45.0 -1.0
GOPC GO Pecny, Ondr 156.32 338 ePKIKP PKPdf 13 45 16.2 -1.0
GOPC e 13 45 46.8
GOPC GO Pecny, Ondr 156.32 338 ePKPDF PKPdf 13 45 16.2 -1.0
GOPC ePKPAB PKPab 13 45 46.8 +0.2
PRU Pruhonice 156.34 339 ePKIKP PKPdf 13 45 16.5 -0.7
PRU Pruhonice 156.34 339 ePKPDF PKPdf 13 45 16.5 -0.7
PRU ePKPAB PKPab 13 45 46.9 +0.2
ALN Alexandroupoli 156.40 308 ePKPab PKPab 13 45 47.9 +0.5
KRUC Moravsky 156.48 335 ePKP PKPdf 13 45 16.7 -0.7
KRUC e 13 45 27.7
KRUC e 13 45 47.6
MODS Modra-Piesok 156.69 333 ePKIKP PKPdf 13 45 16.8 -1.0
MODS Modra-Piesok 156.69 333 ePKP PKPdf 13 45 16.8 -1.0
MODS e 13 45 48.0
NKC Novy Kostel 156.74 342 ePKP2 PKPab 13 45 48.5 +0.1
NKC Novy Kostel 156.74 342 ePKPAB PKPab 13 45 48.5 +0.1
PGB Panagyurishte 156.91 313 eP PKPab 13 45 50.3 +0.8
LIC Lamto 157.01 163 ePKP1 PKPdf 13 45 19.4 +0.2
comp=Z,44nm,0.8s
KIC Kosan Boka 157.21 164 ePKP1 PKPdf 13 45 19.5 0.0
comp=Z,72nm,1.0s
KHC Kasperske Hory 157.39 339 ePKIKP PKPdf 13 45 18.1 -0.5
KHC Kasperske Hory 157.39 339 ePKPDF PKPdf 13 45 18.1 -0.5
KHC ePKPAB PKPab 13 45 51.7 +0.4
TIC Toumodi 157.42 163 ePKP1 PKPdf 13 45 20.3 +0.6
VTS Vitosha 157.46 314 eP PKPab 13 45 52.6 +0.6
DBIC Dimbokro 157.48 163 PKP PKPdf 13 45 19.7 0.0
comp=Z,18nm,0.8s,baz=165,slow=1.3,SNR=11
DBIC PKPab PKPab 13 45 53.0 +0.5
comp=Z,4.0nm,0.7s,baz=180,slow=4.0,SNR=2.8
HGN Heimansgroeve 157.50 353 eP PKPab 13 45 50.4 -1.2
comp=Z,49nm,1.0s
SOP Sopron 157.54 333⇓ eP PKPab 13 45 51.1 -0.9
GERES GERESS Array B 157.60 338 PKP PKPdf 13 45 18.3 -0.7
comp=Z,2.2nm,0.9s,baz=122,slow=1.7,SNR=11
GERES PKPab PKPab 13 45 52.2 -0.1
comp=Z,12nm,0.9s,baz=51,slow=2.6,SNR=7.9
UCC Uccle 157.61 355 ⇑PKPab PKPab 13 45 51.5 -0.6
CONA Conrad Observa 157.61 334 ePKPdf PKPdf 13 45 18.3 -0.7
comp=Z,4.0nm,0.9s
CONA i PKPab PKPab 13 45 53.1 +0.7
comp=Z,33nm,1.1s,SNR=7.1
MEM Membach 157.64 352 ⇑PKPdf PKPdf 13 45 18.4 -0.4
MEM ⇑PKPab PKPab 13 45 51.4 -0.9
MMB Musomiste 157.66 312 eP PKPab 13 45 53.3 +0.5
SNF Seneffe 157.91 355 ⇑PKPdf PKPdf 13 45 19.3 +0.2
SNF ⇑PKPab PKPab 13 45 52.9 -0.5
KKB Krupnik 157.94 313 eP PKPab 13 45 54.5 +0.5
MOA Molln 158.27 336 ePKPdf PKPdf 13 45 19.1 -0.6
comp=Z,5.0nm,0.9s
MOA i PKPab PKPab 13 45 55.4 +0.2
comp=Z,20nm,1.0s,SNR=5.5
DOU Dourbes 158.29 355 ⇑PKPab PKPab 13 45 54.3 -0.8
ARSA Arzberg 158.30 333 ePKPdf PKPdf 13 45 19.4 -0.4
comp=Z,4.6nm,1.1s
ARSA i PKPab PKPab 13 45 55.5 +0.2
comp=Z,10.0nm,0.9s,SNR=5.2
VAY Valandovo 158.55 312 i P PKPab 13 45 56.9 +0.3
WLF Walferdange 158.55 352 ⇑PKPab PKPab 13 45 56.7 +0.5
STIP Stip 158.61 313 i P PKPab 13 45 56.4 -0.4
SKO Skopje 158.93 315 i P PKPab 13 45 59.4 +1.1
SOKA Soboth 158.96 333 i PKPdf PKPdf 13 45 19.4 -1.3
comp=Z,8.5nm,1.1s
SOKA i PKPab PKPab 13 45 58.0 -0.2
comp=Z,23nm,1.2s,SNR=8.2
PERS Pernice 158.96 333 i PKPab PKPab 13 45 58.0 -0.2
IDI Anoyia 159.03 295 PKPab PKPab 13 45 59.0 -0.1
comp=Z,15nm,0.5s,baz=121,slow=4.4,SNR=9.7
KBA Koelnbreinsper 159.25 337 i PKPdf PKPdf 13 45 20.7 -0.4
comp=Z,7.5nm,1.1s
KBA i PKPab PKPab 13 45 60.0 +0.3
comp=Z,14nm,0.6s
OBKA Obir 159.29 334 i PKPab PKPab 13 45 59.2 -0.5
comp=Z,9.8nm,0.7s
KRUS Krusevo 159.38 314 i P PKPab 13 46 00.5 +0.2
MYKA Terra Mystica 159.53 335 i PKPab PKPab 13 46 00.1 -0.6
comp=Z,22nm,0.7s,SNR=5.9
WATA Walderalm 159.60 340 i PKPab PKPab 13 46 00.9 -0.2
comp=Z,24nm,0.9s,SNR=6.7
WTTA Wattenberg 159.65 340 i PKPab PKPab 13 46 01.7 +0.4
comp=Z,70nm,1.2s,SNR=11
RETA Reutte 159.70 342 i PKPab PKPab 13 46 01.6 +0.2
comp=Z,40nm,1.0s,SNR=14
MOTA Moosalm 159.73 341 i PKPdf PKPdf 13 45 22.6 +1.0
comp=Z,4.1nm,0.8s
MOTA i PKPab PKPab 13 46 02.1 +0.4
comp=Z,39nm,1.0s,SNR=11
SQTA Sankt Quirin 159.82 341 i PKPab PKPab 13 46 02.2 +0.2
comp=Z,36nm,0.9s,SNR=9.4
ABTA Abfaltersbach 159.83 338 i PKPdf PKPdf 13 45 20.9 -0.8
comp=Z,11nm,1.1s
ABTA i PKPab PKPab 13 46 01.4 -0.7
comp=Z,37nm,0.8s,SNR=9.4
CEY Cerknica 159.97 333 i PKPab PKPab 13 46 02.1 -0.5
PDG Podgorica 159.98 319⇑ iP PKPab 13 46 03.2 +0.5
JAVS Javornik 159.99 334 i PKPab PKPab 13 46 01.9 -0.9
DAVA Damuels 160.12 343 i PKPdf PKPdf 13 45 22.8 +0.7
comp=Z,2.7nm,0.6s
DAVA i PKPab PKPab 13 46 03.3 0.0
comp=Z,18nm,0.9s
FETA Feichten 160.13 341 i PKPdf PKPdf 13 45 21.7 -0.4
comp=Z,4.7nm,1.0s
FETA i PKPab PKPab 13 46 03.4 -0.1
comp=Z,23nm,1.3s,SNR=5.6
DAVOX Davos/Dischmat 160.59 342 PKP PKPdf 13 45 23.0 +0.4
comp=Z,3.2nm,0.7s,baz=135,slow=11,SNR=3.7
DAVOX PKPab PKPab 13 46 05.2 -0.3
comp=Z,16nm,0.8s,baz=37,slow=4.4,SNR=12
FUORN Ofenpass-Fuorn 160.63 342 ePKPab PKPab 13 46 06.3 +0.6
TOA0 Torodi Ar. Sit 164.73 181 ePKPdf PKPdf 13 45 27.1 -0.2
TOA0 ePKPab PKPab 13 46 25.0 +1.0
TORD Torodi Ar. Bea 164.73 181 PKP PKPdf 13 45 26.4 -0.9
comp=Z,15nm,0.9s,baz=336,slow=3.0,SNR=54
TORD PKPab pPKPdf 13 46 23.6 -3.6
comp=Z,27nm,0.9s,baz=184,slow=2.1,SNR=28
TOA1 Torodi Ar. Sit 164.74 181 ePKPab PKPab 13 46 23.6 -0.5
PAB San Pablo 167.96 22 ePKPdf PKPdf 13 45 30.3 +1.0
PAB San Pablo 167.96 22 ePKIKP PKPdf 13 45 30.3 +1.0
ESDC Sonseca Array 167.97 21 PKP PKPdf 13 45 29.6 +0.3
comp=Z,3.0nm,0.8s,baz=354,slow=2.4,SNR=17
ESDC PKPab PKPab 13 46 37.5 -0.4
comp=Z,8.3nm,1.0s,baz=331,slow=4.3,SNR=15
KEST Kesra 170.18 319 PKP PKPdf 13 45 31.0 +0.2
comp=Z,8.3nm,1.0s,baz=260,slow=6.5,SNR=5.2
KEST PKPab PKPab 13 46 48.6 +0.6
comp=Z,16nm,0.8s,baz=331,slow=2.7,SNR=10

JMA ***31*** *13:26:31.9±0.1, 24°.87N×122°.94E, h27km±2km, M1.9*
TAP ***31*** *13:26:34.6, 24°.42N×122°.75E, h2km, ML2.6, C*
ISCJB ***31*** *13:26:35.1±0.4, 24°.51N±0°.07×122°.95E±0°.02, h38km±6km,*
Error ellipse: s-maj=11.9km s-min=3.3km az=7.1
ISC 31 13:26:34.9±1.7, 24°.53N±0°.08×122°.96E±0°.03, h38km±1km,
n32, σ1°18/48, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.08	188	P	Pn	13 26 40.6	-0.6
JYNG				eS	Sn	13 26 46.9	+1.5
YOJ	Yonaguni jima	0.09	145	eP	Pn	13 26 40.5	-0.7
YOJ	baz=79			eS	Sn	13 26 44.9	-0.5
YOJ	Yonaguni jima	0.09	145	P	Pn	13 26 40.5	-0.7
YOJ	baz=79			S	Sn	13 26 46.3	+0.8
IRIF	Iriomote-Funau	0.73	105	P	Pn	13 26 48.2	-0.5
IRIF				eS	Sn	13 27 00.0	+1.4
EOS1	EOS1	0.76	272	eP	Pn	13 26 46.9	-2.1
EOS1	baz=282			eS	Sn	13 26 57.2	-1.9
HATJ	Hateruma jima	0.91	121	P	Pn	13 26 52.0	+0.9
JKRS	Kuro-shima	1.00	107	P	Pn	13 26 52.7	+0.3
JKRS				eS	Sn	13 27 07.8	+2.6
TWC	Suao	1.01	275	P	Pn	13 26 52.1	-0.4
TWC	baz=282			eS	Sn	13 27 05.2	-0.3
NTC	Toucheng	1.08	288	eP	Pn	13 26 54.6	+1.2
NTC	baz=297			eS	Sn	13 27 07.9	+0.9

	baz=297						
JIJ	Ishigaki jima	1.09	99	P	Pn	13 26 53.0	-0.6
JIJ				S	Sn	13 27 09.2	+1.7
ENA	Nanau	1.11	265	P	Pn	13 26 53.6	-0.3
	baz=270						
ENA				eS	Sn	13 27 06.6	-1.4
	baz=270						
TIPB	Shuangxi	1.12	293	eP	Pn	13 26 55.2	+1.2
	baz=303						
TIPB				eS	Sn	13 27 10.4	+2.2
	baz=303						
TWE	Neicheng	1.19	279	eP	Pn	13 26 55.2	+0.2
	baz=286						
TWE				eS	Sn	13 27 10.7	+0.8
	baz=286						
SLBB	Yuanshan	1.22	281	eP	Pn	13 26 56.4	+0.9
	baz=287						
SLBB				eS	Sn	13 27 12.1	+1.3
	baz=287						
JISG	Ishigakijimahi	1.23	87	P	Pn	13 26 54.1	-1.4
JISG				eS	Sn	13 27 11.0	+0.1
NACB	Ninganchiao	1.29	254	eP	Pn	13 26 56.3	-0.1
	baz=256						
NACB				eS	Sn	13 27 12.7	+0.2
	baz=256						
NDT	Datong Townshi	1.32	273	eP	Pn	13 26 57.5	+0.7
	baz=278						
NDT				eS	Sn	13 27 13.7	+0.6
	baz=278						
NWLT	Wulai	1.35	281	eP	Pn	13 26 59.2	+2.0
	baz=287						
YM07	YM07	1.37	298	eP	Pn	13 26 59.1	+1.6
	baz=306						
ETLH	Xiulin Townshi	1.39	257	eP	Pn	13 26 58.6	+0.9
	baz=259						
NNSB	Datong	1.44	266	eP	Pn	13 26 58.6	+0.1
	baz=270						
NNS	Nan Shan	1.45	267	eP	Pn	13 26 59.6	+1.0
	baz=270						
YHNB	Yeheng	1.45	276	eP	Pn	13 26 59.8	+1.2
	baz=281						
NSK	Sanguang	1.46	276	P	Pn	13 26 59.9	+1.1
	baz=281						
ESL	Shilin	1.57	243	eP	Pn	13 27 00.3	+0.2
	baz=242						
WHF	Hehuan Shan	1.59	256	eP	Pn	13 27 01.7	+0.8
	baz=258						
CHGB	Renai	1.69	254	eP	Pn	13 27 03.1	+1.0
	baz=255						
OWD	Renai	1.73	251	eP	Pn	13 27 02.8	+0.3
	baz=251						
HGSD	Ruisui	1.74	234	eP	Pn	13 27 03.4	+0.8
	baz=232						
VWDT	VWDT	1.83	245	eP	Pn	13 27 05.0	+1.2
	baz=245						
YULB	Yu-li	1.90	234	eP	Pn	13 27 06.2	+1.4
	baz=232						
WHYT	Xinyi Township	2.10	247	eP	Pn	13 27 08.9	+1.4
	baz=247						

*SOME **31** 13:29:06.8, 44.°67N×82.°12E, h15km*
*NNC **31** 13:29:07.6±1.2, 44.°77N×81.°87E, h0km, mb4.1, mpv3.7,*
Error ellipse: s-maj=15.6km s-min=4.1km az=128.0
ISC 31 13:29:07.9±2.0, 44.°62N±0.°05×81.°91E±0.°07, h6km±15km, n24, σ1§70/39, 4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.54	260	eP	Pg	13 29 37.9	+0.4
	28nm,0.2s						
DJR				eS	Sg	13 30 00.4	+2.9
	38nm,0.3s						
KTMS	Ketmen	1.62	224	eP	Pg	13 29 39.3	+0.2
	5.5nm,0.3s						
KTMS				eS	Sg	13 30 02.9	+2.8
	138nm,0.5s						
KAPS	Kapalarasan	1.93	291	eP	Pg	13 29 44.4	-0.5
	14nm,0.2s						
KAPS				eS	Sg	13 30 11.3	+1.5
	42nm,0.4s						
MAKZ	Makanchi	2.19	1	⇓Pn	Pn	13 29 43.7	-1.2
	4.4nm,0.2s						
MAKZ				⇓Lg	Lg	13 30 11.7	
	29nm,0.6s						
MK31	Makanchi Array	2.19	7	⇓Pn	Pn	13 29 43.6	-1.3
	11nm,0.2s,baz=181,slow=13,SNR=933						
MK31				⇓Lg	Lg	13 30 11.4	
	14nm,0.3s,baz=186,slow=28,SNR=28						
SHLS	Shalkode	2.30	231	eP	Pn	13 29 46.5	0.0
	28nm,0.2s						
SHLS				eS	Sn	13 30 15.2	+0.1
	96nm,0.6s						
TDK	Taldyqorghan	2.52	280	eP	Pg	13 29 55.2	-0.9
	72nm,0.3s						
TDK				eS	Sg	13 30 29.9	+1.1
	136nm,0.4s						
UZB	Uzynbulak	2.55	236	Pg	Pb	13 29 54.7	+0.4
	14nm,0.2s						
UZB				Lg	Lg	13 30 29.0	
	20nm,0.4s						
UZB	Uzynbulak	2.55	236	eP	Pb	13 29 54.7	+0.4
	14nm,0.2s						
UZB				eS	Sg	13 30 29.0	-1.0
	20nm,0.4s						
MNBS	Baschi	2.57	259	Pg	Pb	13 29 55.6	+1.0
	20nm,0.3s						
MNBS				Lg	Lg	13 30 30.7	
	45nm,0.4s						
MNBS	Baschi	2.57	259	eP	Pb	13 29 55.6	+1.0
	20nm,0.3s						
MNBS				eS	Sg	13 30 30.6	+0.1
	45nm,0.4s						
ARXS	Arharly	2.95	263	Pg	Pb	13 30 02.4	+1.5
	10nm,0.3s						
ARXS				Lg	Lg	13 30 42.6	
	43nm,0.4s						
ARXS	Arharly	2.95	263	eP	Pb	13 30 02.5	+1.5
	10nm,0.3s						
ARXS				eS	Sg	13 30 42.6	-0.1
	43nm,0.4s						
SATY	Saty	2.98	239	Pg	Pb	13 30 02.0	+0.5
	13nm,0.3s						
SATY				Lg	Lg	13 30 41.8	
	63nm,0.3s						
SATY	Saty	2.98	239	eP	Pb	13 30 01.9	+0.5
	14nm,0.2s						
SATY				eS	Sg	13 30 42.8	-0.7
	60nm,0.4s						
ZSN	Zaisan	3.50	35	eP	Pn	13 30 03.4	+0.5
	2.2nm,0.2s						
ZSN				eS	Sn	13 30 44.2	-0.4
	7.4nm,0.3s						
KOTS	Kotyrbulak	3.73	250	Pg	Pg	13 30 16.9	-2.5
	13nm,0.4s						
KOTS				Lg	Lg	13 31 06.8	
	28nm,0.3s						
KOTS	Kotyrbulak	3.73	250	eP	Pg	13 30 16.9	-2.5
	13nm,0.4s						
KOTS				eS	Sg	13 31 06.8	-1.0
	28nm,0.3s						
MDOK	Medeo	3.80	249	eP	Pb	13 30 17.6	+2.1
	7.7nm,0.4s						
MDOK				eS	Sg	13 31 08.2	-1.9
	7.1nm,0.7s						
KTBS	Karatobe	3.87	258	Pg	Pb	13 30 18.2	+1.6
	5.4nm,0.5s						
KTBS				Lg	Lg	13 31 09.2	
	28nm,0.5s						
KTBS	Karatobe	3.87	258	eP	Pb	13 30 18.2	+1.6
	5.4nm,0.5s						
KTBS				eS	Sg	13 31 09.2	-2.9
	28nm,0.5s						
TNSS	Tian-Shan	3.92	248	eP	Pb	13 30 20.1	+2.4
	3.3nm,0.4s						
TNSS				eS	Sg	13 31 12.4	-1.5
	6.2nm,0.4s						
DGS	Degeres	4.64	255	Pg	Pb	13 30 32.8	+2.9
	4.2nm,0.3s						
DGS				Lg	Lg	13 31 34.1	
	16nm,0.6s						
DGS	Degeres	4.64	255	eP	Pb	13 30 32.8	+2.9
	4.2nm,0.3s						
DGS				eS	Sg	13 31 34.1	-2.8
	16nm,0.6s						

MAN 31 13:29:56.5, 18.°88N×121.°13E, h8km, mb5.1, ML4.0, MS4.1, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	1.02	174	eP	Pg	13 30 15.0	-1.1
APYP				eS	Sg	13 30 29.0	-0.4
SGCP	Mt. Cagua	1.08	126	eP	Pn	13 30 17.7	-0.2
SGCP				eS	Sn	13 30 32.9	-0.2
ABRA	Dolores	1.29	198	eP	Pn	13 30 18.2	-2.5
ABRA				eS	Sn	13 30 38.8	+0.6
CVP	Callao Caves	1.35	150	⇓iP	Pn	13 30 21.4	-0.2
CVP				iS	Sb	13 30 38.3	-1.0
BBP	Basco	1.74	27	⇓eP	Pb	13 30 27.9	-0.8
BBP				eS	Sg	13 30 51.9	-0.6
CAUP	Cauayan	2.04	161	eP	Pb	13 30 32.9	-0.9
CAUP				eS	Sg	13 31 03.8	+1.8
PALP	Palanan	2.19	145	eP	Pb	13 30 37.0	+0.6
PALP				eS	Sg	13 31 09.8	+2.8
BOLP	Bolinao	2.74	205	eP	Pn	13 30 41.6	+0.9
BOLP				eS	Sb	13 31 18.6	-1.0
SMPP	San Manuel, Pa	2.75	189	eP	Pn	13 30 39.3	-1.6
SMPP				eS	Sn	13 31 15.3	+0.9
BALP	Baler	3.15	172	eP	Pn	13 30 47.1	+0.7

IDC 31 13:38:49.4±1.4, 2.°66S×136.°92E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/39, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=64.9km s-min=27.8km az=93.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.36	188	P	Pn	13 42 51.4	-1.9
	0.1nm,0.3s,baz=7.6,slow=12,SNR=4.3						
ASAR	Alice Springs	21.09	188	P	P	13 43 36.2	+0.7
	2.1nm,0.6s,baz=15,slow=12,SNR=12						
MKAR	Makanchi Array	68.67	323	P	P	13 49 56.0	+1.3
	0.4nm,0.6s,baz=106,slow=8.1,SNR=3.6						
ILAR	Eielson Array	86.53	25	P	P	13 51 33.0	-1.0
	0.2nm,0.6s,baz=260,slow=4.5,SNR=2.8						

*ISK **31** 13:39:39.7, 39.°47N×33.°50E, h2km, ML2.4/8*
*DDA **31** 13:39:40.3, 39.°48N×33.°49E, h7km±2km, ML2.8*
ISC 31 13:39:41.0±1.0, 39.°46N±0.°04×33.°47E±0.°03, h14km±10km, n17, σ1§04/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAL	Bala	0.28	287	iP	Pg	13 39 47.0	-0.1
BBAL				iS	Sg	13 39 51.9	+0.8
AFSR	Afar-Bala (An	0.31	268	PG	Pg	13 39 47.3	-0.2
AFSR				SG	Sg	13 39 52.7	+0.7
KIRS	Kırehir-Merke	0.47	133	IAML_P			
	comp=Z,6μm,0.2s						
KIRS				iP	Pb	13 39 50.5	-0.7
KIRS				iS	Sb	13 39 57.9	-0.2
SERE	Sereflikochisa	0.52	172	PG	Pb	13 39 50.8	-1.2
SERE				SG	Sb	13 39 58.8	-0.6
KKUL	Konya-Kulu	0.52	237	IAML_P			
	comp=Z,674nm,0.1s						
KKUL				iP	Pb	13 39 51.7	-0.3
KKUL				iS	Sb	13 40 00.1	+0.7
KULU	Kulu	0.55	221	PG	Pb	13 39 51.9	-0.7
KULU				SG	Sb	13 40 01.0	+0.6
YAYX	Yaylak	0.58	153	PG	Pb	13 39 51.9	-1.2
YAYX				SG	Sb	13 40 00.9	-0.3
DELI	KIRIKKALE	0.64	33	IAML_P			
	comp=Z,2μm,0.2s						
DELI				iP	Pg	13 39 52.9	-0.7
DELI				iS	Sg	13 40 01.4	-0.7
ANTO	Ankara	0.67	308	PG	Pg	13 39 53.7	-0.4
CDAG	Cicekdag	0.71	76	IAML_P			
	comp=Z,2μm,0.1s						
CDAG				iP	Pb	13 39 54.9	-0.4
CDAG				iS	Sb	13 40 05.2	+0.1
AKSY	AKSARAY - Alti	0.84	164	IAML_P			
	comp=Z,330nm,0.2s						
AKSY				iP	Pb	13 39 56.5	-0.9
AKSY				iS	Sn	13 40 09.1	-1.6
CORM	Corum	1.15	51	PN	Pb	13 40 01.9	-0.8
AVNS	Nevsehir-Avano	1.25	121	iP	Pg	13 40 06.7	+1.5
AVNS				iS	Sn	13 40 23.4	+2.5
SIRC	Yozgat	1.30	95	iP	Pg	13 40 05.5	-0.6
SIRC				iS	Sn	13 40 23.4	+1.1
KIZT	Kizilcal	1.37	245	PN	Pg	13 40 07.1	-0.2
COAL	Corum-Alaca	1.41	55	IAML_P			
	comp=Z,267nm,0.4s						
COAL				iP	Pb	13 40 06.8	-0.4
COAL				iS	Sg	13 40 28.8	+2.2
YOZ	Yozgat	1.44	82	PN	Pg	13 40 07.5	-1.2

*ISCJB **31** 13:40:40.8±0.4, 60.°64N±0.°02×147.°74W±0.°03, h14km±3km, mb3.8/2, Error ellipse: s-maj=3.9km s-min=2.8km az=178.8*
*NEIC **31** 13:40:43.3±0.0, 60.°68N×147.°69W, h13km, ML3.3(AEIC), After AEIC.*
*IDC **31** 13:40:47.5±7.5, 60.°69N×147.°83W, h74km±66km, mb3.4/2, mb1 3.5/5, mb1mx3.1/60, mbtmp3.6/5, ML3.2/3, Error ellipse: s-maj=66.0km s-min=36.6km az=45.0*
ISC 31 13:40:42.0±1.1, 60.°66N±0.°03×147.°71W±0.°02, h18km±8km, n75, σ1§03/86, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLI	Glacier Island	0.38	53	ePg	Pg	13 40 50.5	+0.7
GLI				eSg	Sb	13 40 56.2	+0.5
JPK	Jack Peak	0.68	53	ePg	Pg	13 40 55.1	-0.2
PTE	Portage	0.68	289	ePg	Pg	13 40 55.7	+0.4
VMT	TAPS Tl Valdez	0.79	56	ePg	Pg	13 40 56.7	-0.6
VMT				eSn	Sg	13 41 07.2	-0.5
KNK	Knik Glacier	0.84	335	ePg	Pg	13 40 57.7	-0.7
KNK				eSg	Sg	13 41 08.7	-0.9
EYAK	Cordova Ski Ar	0.97	95	ePg	Pb	13 41 00.7	+0.4
EYAK				eSg	Sg	13 41 14.8	+1.1
SEW	Seward	1.03	238	ePg	Pb	13 41 01.6	+0.4
SEW				eSg	Sb	13 41 14.9	+0.6
DIV	Divide	1.06	62	ePg	Pb	13 41 01.0	-0.8
RC01	Rabbit Creek A	1.08	295	ePg	Pb	13 41 02.2	0.0
RC01				eSg	Sb	13 41 16.4	+0.4
PMR	Palmer	1.17	324	ePg	Pb	13 41 02.8	-0.8
PMR				eSg	Sb	13 41 18.1	-0.2
SML	Sawmill	1.20	346	ePn	Pb	13 41 03.5	-0.7
SCM	Sheep Creek Mo	1.20	9	ePn	Pb	13 41 03.4	-0.8
SCM				eSn	Sg	13 41 21.1	+0.3
KLU	Klutina	1.21	45	ePn	Pn	13 41 03.5	-0.6
SLKM	Skilak Lake	1.25	264	ePn	Pn	13 41 04.8	+0.2
GHO	Glory Hole Cre	1.27	333	ePn	Pn	13 41 04.5	-0.3
GHO				eSn	Sb	13 41 21.4	+0.1
FIB	Fire Island	1.31	294	ePn	Pn	13 41 06.2	+0.8
MID	Middleton Isla	1.41	150	ePn	Pn	13 41 07.2	+0.5
PS12	TAPS Pump St12	1.50	55	ePn	Pn	13 41 08.2	+0.2
SUA	Susitna One	1.68	300	ePn	Pn	13 41 10.9	+0.2
HMT	Hamilton	1.74	99	ePn	Pn	13 41 11.2	-0.1
PS11	TAPS Pump St11	1.79	36	ePn	Pn	13 41 13.2	+1.2
BRLK	Bradley Lake	1.82	242	ePn	Pn	13 41 13.1	+0.7
NICHA	Nichawak Mount	1.90	101	ePn	Pn	13 41 13.3	-0.3
CNPM	China Poot	2.10	239	ePn	Pn	13 41 16.8	+0.5
HARP	HAARP	2.14	34	ePn	Pn	13 41 18.2	+1.3
SPU	Mount Spurr	2.19	286	ePn	Pn	13 41 17.2	-0.3
HOM	Homer	2.21	245	ePn	Pn	13 41 18.8	+1.1
SPCP	Crater Peak Br	2.25	288	ePn	Pn	13 41 18.6	+0.1
MCARA	McCarthy VSAT	2.40	70	ePn	Pn	13 41 20.3	0.0
TGL	Tana Glacier	2.40	85	ePn	Pn	13 41 20.3	-0.2
DHY	Denali Highway	2.44	4	ePn	Pn	13 41 22.5	+1.5
DHY				eSn	Sn	13 41 53.6	+3.2
SPWE	Spurr West	2.44	287	ePn	Pn	13 41 22.2	+1.2
RSO	Redoubt South	2.50	268	ePn	Pn	13 41 21.9	0.0
RDJH	Redoubt Jeurge	2.51	271	ePn	Pn	13 41 21.8	-0.2
RDWB	Redoubt West	2.54	268	ePn	Pn	13 41 22.2	-0.2
PAX	Paxson	2.56	24	ePn	Pn	13 41 23.9	+1.3
BALM	Baldy	2.65	79	ePn	Pn	13 41 24.1	+0.1
RND	Reindeer	2.81	349	ePn	Pn	13 41 27.5	+1.4
YAH	Yahtse	2.96	93	ePn	Pn	13 41 28.4	+0.1
CTGM	Chitina Glacie	3.14	82	ePn	Pn	13 41 31.7	+1.0
MCK	McKinley	3.14	350	ePn	Pn	13 41 31.5	+0.9
CHX	Chaix Hills	3.33	97	ePn	Pn	13 41 33.4	+0.2
RIDG	Independent Ri	3.38	22	ePn	Pn	13 41 35.0	+1.2
DOT	Dot Lake	3.46	28	ePn	Pn	13 41 35.5	+0.6
BCA3	Beaver Creek A	3.71	47	ePn	Pn	13 41 39.4	+1.1
PCA	Pinnacle	3.74	95	ePn	Pn	13 41 38.8	-0.1
BPAW	Bear Paw Mtn.	3.78	338	ePn	Pn	13 41 39.8	+0.5
HDA	Harding Lake	3.79	5	ePn	Pn	13 41 40.3	+0.9
KDAK	Kodiak Island	3.82	223	ePn	Pn	13 41 40.1	+0.3
WRH	Wood River Hil	3.83	358	ePn	Pn	13 41 41.2	+1.1
SVW2	Sparrevohn	3.87	280	ePn	Pn	13 41 40.4	-0.2
CHUM	Lake Minchumin	3.89	328	ePn	Pn	13 41 40.5	-0.3
PS08	TAPS Pump Stn8	3.92	6	ePn	Pn	13 41 41.7	+0.4
ILAR	Eielson Array	4.15	5	P	Pn	13 41 47.4	+3.0
	5.6nm,0.3s,baz=188,slow=13,SNR=46						
ILAR				S	Sn	13 42 35.8	+3.4
	3.5nm,0.3s,baz=185,slow=16,SNR=4.7						
COLA	College	4.24	359	ePn	Pn	13 41 46.6	+1.1
PNL	Peninsula	4.27	100	ePn	Pn	13 41 45.9	-0.2
MDM	Murphy Dome	4.33	357	ePn	Pn	13 41 47.3	+0.5
YUK4	Talbot Arm	4.47	77	ePn	Pn	13 41 49.8	+0.9
OHAK	Old Harbor	4.49	222	ePn	Pn	13 41 48.7	-0.4
TT01	Tatalina	4.55	303	ePn	Pn	13 41 48.9	-0.9
MLY	Manley	4.61	344	ePn	Pn	13 41 51.7	+1.0
HYT	Haines Junctio	5.01	84	ePn	Pn	13 41 57.1	+0.8
DAWY	Dawson	5.17	45	ePn	Pn	13 41 58.9	+0.5
IM3	Indian Mountai	6.00	336	ePn	Pn	13 42 10.4	+0.7
WHY	Whitehorse	6.31	84	ePn	Pn	13 42 14.5	+0.4
BM3	Burnt Mountain	6.93	10	ePn	Pn	13 42 22.6	+0.1
SIT	Sitka	7.36	114	ePn	Pn	13 42 27.9	-0.5
TOLK	Toolik Lake Re	8.06	355	ePn	Pn	13 42 40.1	+2.0
INK	Inuvik	9.79	32	P	Pn	13 43 03.8	+2.1
	0.1nm,0.3s,baz=194,slow=11,SNR=3.0						
YKA	Yellowknife Ar	15.77	69	P	P	13 44 26.6	0.0
	0.1nm,0.3s,baz=279,slow=10,SNR=11						
YKB5	Yellowknife Ar	15.77	69	ePn	P	13 44 26.6	0.0
SONA0	Songino Array	56.48	309	eP	P	13 50 21.8	-0.8
SONM	Songino Array	56.48	309	P	P	13 50 21.8	-0.8
	0.6nm,0.7s,baz=36,slow=7.6,SNR=3.5						
MK32	Makanchi Array	65.49	325	eP	P	13 51 21.4	-2.3
MKAR	Makanchi Array	65.49	325	P	P	13 51 21.4	-2.3
	0.4nm,0.4s,baz=33,slow=5.4,SNR=5.0						

*DDA **31** 13:50:23.6, 39.°89N×33.°10E, h7km±1km, ML2.5*
*ISK **31** 13:50:23.9, 39.°84N×33.°03E, h12km, ML2.1/4, Suspected Mining explosion.*
*ISCJB **31** 13:50:24.1±0.7, 39.°91N±0.°05×33.°06E±0.°04, h0km, Error ellipse: s-maj=7.2km s-min=3.9km az=175.9*
ISC 31 13:50:24.0±1.0, 39.°82N±0.°07×33.°07E±0.°03, h0km, n8, σ0§53/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	Ankara	0.22	282	PG	Pg	13 50 27.9	-0.3
ANTO				SG	Sg	13 50 31.6	+0.5
LOD	Lodumlu	0.25	285	PG	Pg	13 50 28.7	-0.1
LOD				SG	Sg	13 50 32.7	+0.7
KKUL	Konya-Kulu	0.66	191	IAML_P			
	comp=Z,200nm,0.2s						
KKUL				iP	Pb	13 50 38.1	-0.4
KKUL				iS	Sb	13 50 48.6	+0.3
DELI	KIRIKKALE	0.67	75	IAML_P			
	comp=Z,637nm,0.2s						
DELI				iP	Pg	13 50 36.5	-0.5
DELI				iS	Sg	13 50 46.6	+1.0
KULU	Kulu	0.78	184	PG	Pb	13 50 40.1	-0.5
KIRS	Kırehir-Merke	0.95	136	IAML_P			
	comp=Z,611nm,0.3s						
KIRS				iP	Pb	13 50 42.8	-0.6
KIRS				iS	Sn	13 50 59.2	+0.3
CDAG	Cicekdag	1.02	101	IAML_P			
	comp=Z,1μm,0.1s						
CDAG				iP	Pg	13 50 43.7	+0.1
CORM	Corum	1.25	73	PN	Pg	13 50 47.9	0.0
CORM				SN	Sn	13 51 06.1	-0.3

*ISCJB **31** 13:51:57.5±0.8, 39.°93N±0.°04×143.°72E±0.°07, h6km, mb3.4/6, Error ellipse: s-maj=8.8km s-min=4.4km az=25.5*
*JMA **31** 13:51:59.3±0.2, 39.°93N×143.°69E, h19km±5km, M3.4*
*IDC **31** 13:52:07.0±2.2, 40.°18N×142.°37E, h0km, mb3.6/6, mb1 3.5/9, mb1mx3.4/41, mbtmp3.5/9, ML2.6/3, Error ellipse: s-maj=41.2km s-min=23.2km az=137.0*
ISC 31 13:51:59.4±1.3, 39.°96N±0.°05×143.°55E±0.°07, h6km, n24, σ1§65/29, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.29	270	P	Pg	13 52 24.0	-0.2
MIYJ	Miyakonagasawa	1.38	255	P	Pn	13 52 25.5	+0.3
JKEN	Kujiedanarisaw	1.43	280	P	Pg	13 52 26.0	-0.8
JANG	Nango	1.61	286	P	Pn	13 52 29.0	+0.7
JANG				eS	Sg	13 52 50.5	-0.6
JOM	Ohasama	1.80	255	P	Pn	13 52 31.9	+0.9
JOM				eS	Sb	13 52 55.6	-0.1
JMK	Ichinoseki	2.06	242	P	Pn	13 52 34.6	+0.1
JOT	Ohata	2.37	308	P	Pn	13 52 40.6	+1.8
JOT				eS	Sb	13 53 10.9	-1.1
JCH	Churui	2.66	357	P	Pn	13 52 43.1	+0.4
JCH				eS	Sn	13 53 15.3	+0.1
JYK	Kaneyama	2.68	248	P	Pn	13 52 43.8	+0.8
JKB	Kayabe	2.71	316	eS	Sb	13 53 18.8	-2.9
JAK	Akkeshi	3.15	16	P	Pn	13 52 49.0	-0.6
JAK				eS	Sn	13 53 26.0	-1.5
JFR	Furan	3.28	348	eS	Sn	13 53 32.3	+1.6
JEW	Eniwo	3.28	332	eS	Sb	13 53 33.7	-4.5
JAR	Ashorobuto	3.34	3	P	Pn	13 52 51.8	-0.3
JAR				eS	Sn	13 53 30.2	-1.9
JFT	Otama	3.50	227	P	Pn	13 52 53.9	-0.4
JFT				eS	Sn	13 53 34.3	-1.7
ASAJ	Asahikawa	4.21	351	Pn	Pn	13 53 08.0	+3.9
	0.8nm,0.3s,baz=147,slow=17,SNR=5.7						
ASAJ				Sn	Sn	13 53 54.8	+1.1
	1.6nm,0.3s,baz=135,slow=19,SNR=3.5						
MJAR	Matsushiro Arr	5.41	233	Pn	Pn	13 53 21.5	+0.9
	0.1nm,0.3s,baz=39,slow=12,SNR=12						
USRK	Ussuriysk Ar.	9.58	300	Pn	Pn	13 54 13.3	-4.4
	0.2nm,0.3s,baz=99,slow=18,SNR=2.8						
SEY	Seymchan	23.61	10	P	P	13 57 20.7	+10
	0.7nm,0.5s,baz=201,slow=8.4,SNR=4.3						
SONM	Songino Array	27.69	299	P	P	13 57 49.2	+0.9
	0.4nm,0.3s,baz=90,slow=10,SNR=5.2						
ZALV	Zalesovo Beam	41.25	310	P	P	13 59 46.5	+1.5
	0.4nm,0.3s,baz=80,slow=7.9,SNR=3.1						
MKAR	Makanchi Array	44.05	300	P	P	14 00 09.2	+1.4
	0.1nm,0.3s,baz=79,slow=8.5,SNR=4.0						
KURBB	Kurchatov Arra	45.58	306	P	P	14 00 20.8	+0.8
	0.6nm,0.6s,baz=81,slow=9.1,SNR=4.2						
INK	Inuvik	51.02	28	P	P	14 01 11.1	+9.4
	0.4nm,0.6s,baz=284,slow=4.2,SNR=2.9						

*ISCJB **31** 14:10:40.3±0.5, 41.°90N±0.°03×142.°49E±0.°05, h71km±5km, mb3.7/4, Error ellipse: s-maj=6.8km s-min=4.5km az=43.5*
*JMA **31** 14:10:40.9±0.1, 41.°90N×142.°50E, h61km±2km, M3.3*
*Broadband fault plane solution: P waves. NP1: ϕ_s=29.00000°, δ79.00000°, λ105.00000°. NP2: ϕ_s=156.00000°, δ19.00000°, $\lambda

JEW				eS		Sn	14 11 18.1	+0.9
JNB	Noboribetsu	1.20	298	⇓P		Pn	14 11 01.2	-0.6
JNB				eS		Sn	14 11 16.9	-0.3
JFR	Furan	1.25	4	⇓P		Pn	14 11 02.4	-0.1
JOB	Onbets	1.42	45	P		Pn	14 11 05.7	+1.1
JTM	Tenmabayashi	1.54	224	P		Pn	14 11 07.2	+0.8
JISS	Ishikarishitsu	1.57	331	P		Pn	14 11 06.9	+0.2
JISS				eS		Sn	14 11 26.7	+0.7
JYM2	Yakumo 2	1.58	278	P		Pn	14 11 06.8	0.0
JYM2				eS		Sn	14 11 27.5	+1.2
JSR	Shiriuchi	1.58	257	P		Pn	14 11 07.0	+0.1
JSR				eS		Sn	14 11 27.2	+0.8
JAB	Ashibetsu	1.60	354	P		Pn	14 11 08.0	+0.8
JAB				eS		Sn	14 11 28.8	+1.9
JAR	Ashorobuto	1.69	34	P		Pn	14 11 08.6	+0.3
JAR				eS		Sn	14 11 29.1	+0.3
JANG	Nango	1.70	205	⇑P		Pn	14 11 08.9	+0.4
JANG				eS		Sn	14 11 31.1	+1.9
ASAJ	Asahikawa	2.21	2	P		Pn	14 11 16.2	+0.8
	12nm,0.3s,baz=204,slow=9.2,SNR=72							
ASAJ				S		Sn	14 11 42.7	+1.2
	5.0nm,0.3s,baz=123,slow=32,SNR=10							
MJAR	Matsushiro Arr	6.30	213	P		Pn	14 12 16.8	+5.4
	0.0nm,0.3s,baz=25,slow=12,SNR=3.4							
H11N2	WAKE ISLAND Hy 30.29		129	T		T	14 48 15.1	
	baz=323,slow=75,SNR=12							
H11N1	WAKE ISLAND Hy 30.30		129	T		T	14 48 10.7	
	baz=323,slow=75,SNR=12							
H11N3	WAKE ISLAND Hy 30.30		129	T		T	14 48 15.9	
	baz=323,slow=75,SNR=11							
H11S1	WAKE ISLAND Hy 31.14		131	T		T	14 49 19.0	
	baz=324,slow=76,SNR=14							
H11S3	WAKE ISLAND Hy 31.15		131	T		T	14 49 15.0	
	baz=324,slow=76,SNR=11							
H11S2	WAKE ISLAND Hy 31.16		131	T		T	14 49 19.0	
	baz=324,slow=76,SNR=9.0							
ZALV	Zalesovo Beam	39.39	308	P		P	14 18 03.7	-0.8
	0.5nm,0.4s,baz=77,slow=9.0,SNR=2.5							
MKAR	Makanchi Array	42.39	298	P		P	14 18 29.2	-0.1
	0.6nm,0.8s,baz=82,slow=9.4,SNR=5.1							
WRA	Warramunga Arr	62.00	189	P		P	14 20 54.3	-0.6
	1.2nm,0.9s,baz=7.5,slow=7.1,SNR=4.6							
FINES	FINESS Array B	64.90	332	P		P	14 21 13.0	-0.5
	0.9nm,0.5s,baz=57,slow=7.0,SNR=5.0							

*SJA **31** 14:36:49.8±0.6,21°.06S×69°.05W,h123km±4km,ML2.3, MW3.5*
*ISCJB **31** 14:36:50.8±0.7,21°.07S±0°.03×69°.09W±0°.08,h120km±8km, Error ellipse: s-maj=12.3km s-min=5.4km az=4.1*
*GUC **31** 14:36:50.6±0.6,21°.05S×69°.03W,h112km±3km,ML3.3*
ISC 31 14:36:51.5±1.7,21°.06S±0°.04×69°.08W±0°.07, h115km±12km,n27,σ0°44/37,6C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.38	273	⇑iP		Pn	14 37 07.7 -0.6
PB01				eS		Sn	14 37 20.4 -0.5
PB01				IAML			14 37 21.4
	comp=E,2μm,0.3s						
PB09	IPOC Station P	0.75	192	eP		Pn	14 37 11.1 +0.2
PB09				eS		Sn	14 37 26.2 +0.7
PB09	IPOC Station P	0.75	192	eP		Pn	14 37 10.6 -0.3
PB09				eS		Sn	14 37 25.7 +0.2
PB09				IAML			14 37 26.9
	comp=E,460nm,0.2s						
PB02	IPOC Station P	0.81	251	eP		Pn	14 37 11.6 +0.3
PB02				eS		Sn	14 37 27.1 +0.8
PB02	IPOC Station P	0.81	251	⇑iP		Pn	14 37 11.4 +0.1
PB02				eS		Sn	14 37 26.7 +0.4
PB02				IAML			14 37 27.3
	comp=N,2μm,0.2s						
PB08	IPOC Station P	0.92	356	eP		Pn	14 37 12.7 -0.1
PB08	IPOC Station P	0.92	356	⇑iP		Pn	14 37 12.4 -0.3
PB08				eS		Sn	14 37 28.4 -0.2
PB08				IAML			14 37 29.9
	comp=E,1μm,0.3s						
PB07	IPOC Station P	1.00	228	eP		Pn	14 37 13.2 -0.1
PB07	IPOC Station P	1.00	228	⇑eP		Pn	14 37 13.1 -0.2
PB07				eS		Sn	14 37 29.8 +0.1
PB07				IAML			14 37 30.7
	comp=N,462nm,0.2s						
PB03	IPOC Station P	1.17	212	eP		Pn	14 37 14.8 -0.1
PB03	IPOC Station P	1.17	212	⇑eP		Pn	14 37 14.6 -0.4
PB03				eS		Sn	14 37 32.4 -0.4
PB03				IAML			14 37 36.4
	comp=E,291nm,0.1s						
GO01	Chusmiza	1.39	356	eP		Pn	14 37 17.4 -0.4
GO01				eS		Sn	14 37 38.2 +0.5
GO01				IAML			14 37 39.4
	comp=E,610nm,0.1s						
PB11	IPOC Station P	1.40	337	eP		Pn	14 37 17.5 -0.2
PB11	IPOC Station P	1.40	337	⇑iP		Pn	14 37 17.4 -0.2
PB11				eS		Sn	14 37 37.8 +0.3
PB11				IAML			14 37 38.9
	comp=E,818nm,0.3s						
LVC	Limon Verde	1.55	174	eP		Pn	14 37 19.4 -0.2
LVC				IAML			14 37 45.7
	comp=Z,28nm,0.3s						
PB04	IPOC Station P	1.61	218	eP		Pn	14 37 20.2 +0.1
PB04	IPOC Station P	1.61	218	eP		Pn	14 37 20.0 -0.1
PB06	IPOC Station P	1.70	196	eP		Pn	14 37 21.1 -0.1
PSGCX	Pisagua	1.75	326	eP		Pn	14 37 21.4 -0.3
MNMCX	Minye Minye	1.98	346	eP		Pn	14 37 24.9 +0.1
PB05	IPOC Station P	2.07	210	eP		Pn	14 37 25.5 -0.1
PB15	IPOC Station P	2.17	190	eP		Pn	14 37 27.1 +0.1
PB12	IPOC Station P	2.70	334	eP		Pn	14 37 32.7 -1.2
PB16	IPOC Station P	2.74	351	eP		Pn	14 37 35.9 +1.0
PB10	IPOC Station P	2.80	209	eP		Pn	14 37 34.4 -0.6
YJA	Yavi	3.50	109	eP		Pn	14 37 44.3 -0.3
HJA	Humahuaca	4.02	123	eP		Pn	14 37 51.4 -0.1

MAN 31 14:45:22.4,11°.26N×121°.86E,h5km,mb4.0,ML2.8,MS2.4, 1D,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAP	San Jose, Anti	0.52	171	⇓iP		Pb	14 45 33.5 -0.4
CUYO	Cuyo Island	0.92	244	eP		Pg	14 45 40.4 +0.3
CUYO				eS		Sn	14 45 55.1 -0.6
GUIM	Jordan	0.95	131	eP		Pg	14 45 39.9 -0.7
GUIM				eS		Sn	14 45 56.9 +0.5
OTRP	Odiongan	1.11	8	eP		Pg	14 45 42.8 -0.8
OTRP				eS		Sg	14 45 58.1 +0.1
SJMP	San Jose	1.40	329	eP		Pn	14 45 47.4 -1.2
SJMP				eS		Sn	14 46 08.2 +0.8

*ISCJB **31** 14:45:47.3±1.1,21°.76S±0°.05×176°.28W±0°.05, h111km±10km,mb4.7/37,Error ellipse: s-maj=9.1km s-min=6.4km az=36.9*
*BJI **31** 14:45:47.0±0.0,21°.90S×176°.10W,h110km,mb4.9/15, mB5.3/11*
*NEIC **31** 14:45:47.6±1.3,21°.85S×176°.25W,h102km±12km, mb4.8/23,Error ellipse: s-maj=12.9km s-min=6.0km az=131.0*
*IDC **31** 14:45:54.3±0.5,21°.68S×176°.39W,h155km±3km,mb4.0/16, mb1 4.3/17,mb1mx4.2/21,mbtmp4.5/17,Error ellipse: s-maj=15.9km s-min=10.8km az=151.0*
ISC 31 14:45:53.3±0.5,21°.85S±0°.06×176°.19W±0°.07, h154km±4km,h154km:pP-P,n219,σ1°36/228,mb4.7/37, 36C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.49	66	ePn		Pn	14 47 22.1 -4.5
NIUE	Niue	6.49	66	P		Pn	14 47 20.9 -5.7
	baz=6.5,SNR=16						
RIZ	Raoul Island	7.53	192	S		Sn	14 49 04.4 -0.2
GLKZ	Green Lake	7.54	192	S		Sn	14 49 02.5 -2.4
RAR	Rarotonga	15.29	91	ePn		Pn	14 49 18.2 -3.1
	62nm,0.9s						
RAR	Rarotonga	15.29	91	P		Pn	14 49 18.8 -2.5
	3.2nm,0.3s,baz=12,slow=15,SNR=3.4						
RAR				S		Sn	14 52 01.7 -10
	6.4nm,0.3s,baz=114,slow=18,SNR=7.1						
OUZ	Omahuta	16.05	212	ePn		P	14 49 32.2 +1.5
	39nm,0.8s						
OUZ	Omahuta	16.05	212	P		Pn	14 49 31.9 +1.6
GRZ	Great Barrier	16.09	205	P		Pn	14 49 30.8 -0.1
DZM	Mont Dzumac	16.11	266	eP		P	14 49 35.5 +3.8
	157nm,1.1s						
DZM	Mont Dzumac	16.11	266	P		P	14 49 30.6 -1.1
	0.1nm,0.3s,baz=156,slow=11,SNR=2.0						
WCZ	Waipu Caves	16.29	208	P		Pn	14 49 34.0 +0.7
MXZ	Matakaoa Point	16.37	196	P		P	14 49 32.5 -1.8
MXZ				S		S	14 52 19.9 -16
KUZ	Kuaotunu	16.42	204	P		P	14 49 35.0 +0.1
WMGZ	Waiomatatini S	16.58	195	P		P	14 49 28.9 -7.8
WMGZ				S		S	14 52 24.9 -16
HAZ	Te Kaha	16.69	197	P		P	14 49 33.4 -4.4
WIAZ	Waiheke Island	16.69	205	P		P	14 49 39.2 +1.3
PKGZ	Pakihiroa	16.73	196	P		P	14 49 32.3 -6.1
PUZ	Puketiti	16.86	195	P		P	14 49 37.7 -2.1
PUZ				S		S	14 52 28.8 -19
ETAZ	East Tamaki Re	16.91	205	P		P	14 49 42.0 +1.8
RUGZ	Raukumara Rang	16.91	197	P		P	14 49 37.5 -2.9
MKAZ	Moumakai	16.95	204	P		P	14 49 41.0 +0.3
TWGZ	Tauwhareparae	17.03	196	P		P	14 49 39.6 -2.1
WTAZ	Waiatarua	17.03	206	P		P	14 49 42.1 +0.4
CNGZ	Carnagh Statio	17.27	195	P		P	14 49 39.6 -4.6
MWZ	Matawai	17.30	197	P		P	14 49 40.8 -3.8
TKGZ	Te Karaka	17.31	196	P		P	14 49 41.3 -3.4
URZ	Urewera	17.34	198	ePn		P	14 49 42.7 -2.3
	103nm,0.9s						
URZ	Urewera	17.34	198	P		P	14 49 40.1 -4.9
	9.4nm,0.3s,baz=31,slow=2.9,SNR=69						
URZ				S		S	14 52 40.6 -17
	1.1nm,0.3s,baz=77,slow=10,SNR=4.9						
URZ	Urewera	17.34	198	P		P	14 49 42.7 -2.3
TOZ	Tahuroa Road	17.38	203	P		P	14 49 46.5 +1.2
OMRZ	Omania	17.43	200	P		P	14 49 47.6 +1.7
MUGZ	Murupara	17.64	198	P		P	14 49 44.4 -4.0
PRGZ	Paritu Road	17.76	195	P		P	14 49 48.8 -0.8
PRRZ	Plateau Road	17.78	199	P		P	14 49 48.2 -1.6
ALRZ	Allen Road	17.85	199	P		P	14 49 48.6 -2.0
TLZ	Tolley Road	17.90	202	P		P	14 49 52.1 +0.9
MHGZ	Mahia Peninsul	17.97	195	P		P	14 49 51.7 -0.2
BKZ	Black Stump Fm	18.36	198	eP		P	14 49 53.1 -3.1
	20nm,0.6s						
BFZ	Birch Farm	19.84	197	eP		P	14 50 09.2 -2.9
	55nm,1.1s						
THZ	Tophouse	21.87	202	eP		P	14 50 31.6 -2.3
	32nm,0.8s						
KHZ	Kahutara	22.24	200	eP		P	14 50 34.9 -2.6
	33nm,0.9s						
LTZ	Lake Taylor	22.99	202	eP		P	14 50 43.6 -1.0
	44nm,1.0s						
RPZ	Rata Peaks	24.24	203	eP		P	14 50 54.9 -1.0
	34nm,0.7s						
RPZ	Rata Peaks	24.24	203	P		P	14 50 54.0 -1.9
	41nm,0.7s,baz=280,slow=1.5,SNR=25						
RPZ				S		S	14 55 04.2 +1.0
	4.4nm,0.8s,baz=87,slow=18,SNR=1.9						
FOZ	Fox Glacier	24.55	205	eP		P	14 50 58.3 -0.4
	77nm,0.7s						
TBI	Tubuai	24.71	99	eT		T	15 15 50.1
	6.3nm,0.3s						
LBZ	Lake Benmore	25.14	203	eP		P	14 51 03.4 -0.7
	27nm,1.0s						
PAE	Paea	25.38	85	eT		T	15 16 18.1
	12nm,0.3s						
PPT2	Papeete2	25.40	85	eLR		LR	14 57 26.1
	comp=Z,67nm,21.5s						
PPT2	Papeete2	25.40	85	eT		T	15 16 20.0
	6.3nm,0.3s						
TIAR	Tiarei	25.62	85	eT		T	15 16 36.2
	4.0nm,0.3s						
TVO	Taravao	25.65	86	eT		T	15 16 39.8
	2.3nm,0.3s						
HNR	Honiara	26.04	295	P		P	14 51 11.2 -1.2
	77nm,0.7s,baz=161,slow=4.3,SNR=9.5						
MEH	Mehetia	26.73	87	eT		T	15 18 00.3
	15nm,0.2s						
ARMA	Armidale	30.04	247	eP		P	14 51 47.8 -0.3
	9.6nm,0.8s						
ARMA	Armidale	30.04	247	P		P	14 51 48.9 +0.9
	baz=30,SNR=10.0						
EIDS	Eidsvold	30.15	257	P		P	14 51 49.3 +0.4
	baz=30,SNR=4.5						
MGCD	Mangrove Creek	31.00	242	P		P	14 51 56.6 +0.2
	baz=31,SNR=4.9						
RMQ	Roma	32.25	255	P		P	14 52 08.5 +1.2
	baz=32,SNR=4.6						
CNB	Canberra Magne	32.91	238	P		P	14 52 13.1 0.0
	baz=33,SNR=6.0						
MILA	Mila	33.55	235	P		P	14 52 18.9 +0.2
	baz=34,SNR=7.9						
CTAO	Charters Tower	35.06	266	eP		P	14 52 32.1 +0.3
	44nm,0.8s						
CMSA	Cobar Meteorol	35.24	246	P		P	14 52 32.8 -0.3
	baz=35,SNR=31						
TOO	Toolangi	36.50	236	eP		P	14 52 43.4 -0.5
	9.3nm,0.8s						
TOO	Toolangi	36.50	236	P		P	14 52 44.6 +0.7
	baz=36,SNR=8.7						
PMG	Port Moresby	37.29	284	P		P	14 52 49.9 -0.8
	48nm,0.9s,baz=100,slow=3.8,SNR=5.0						
STKA	Stephens Creek	38.75	246	eP		P	14 53 02.5 -0.4
	3.7nm,1.0s						
STKA	Stephens Creek	38.75	246	P		P	14 53 02.4 -0.4
	baz=39,SNR=31						
STKA	Stephens Creek	38.75	246	P		P	14 53 02.2 -0.6
	6.5nm,0.4s,baz=101,slow=7.8,SNR=33						
ARPS	Mount Arapiles	39.18	238	P		P	14 53 06.4 +0.1
	baz=39,SNR=5.1						
COEN	Coen	39.36	275	P		P	14 53 08.4 +0.3
	baz=39,SNR=8.3						
HTT	Hallett	41.12	244	P		P	14 53 21.7 -0.7
	baz=41,SNR=17						
QIS	Mount Isa	41.13	263	P		P	14 53 21.7 -0.8
	baz=41,SNR=4.0						
BBOO	Buckleboo	43.48	245	eP		P	14 53 40.5 -1.0
	28nm,0.8s						
BBOO	Buckleboo	43.48	245	P		P	14 53 40.1 -1.4
	baz=44,SNR=31						
ASAR	Alice Springs	45.87	258	P		P	14 53 59.6 -0.9
	44nm,0.8s,baz=92,slow=8.6,SNR=264						
ASAR				pP		pP	14 54 34.6 +0.3
	4.4nm,0.9s,baz=92,slow=9.3,SNR=1.5						
ASAR				PcP		PcP	14 55 35.5 +0.3
	13nm,0.8s,baz=107,slow=3.7,SNR=18						
JAY	Jayapura	46.07	289	P		P	14 54 01.5 -0.7
WRAB	Tennant Creek	46.09	263	eP		P	14 54 01.0 -1.2
	21nm,0.9s						
WRA	Warramunga Arr	46.10	263	P		P	14 54 00.8 -1.5
	8.8nm,0.3s,baz=96,slow=8.5,SNR=127						
WRA				pP		pP	14 54 36.8 +0.8
	5.4nm,0.9s,baz=94,slow=7.6,SNR=1.9						
WRA				PcP		PcP	14 55 36.4 +0.3
	6.7nm,0.8s,baz=84,slow=2.9,SNR=5.2						
WRA				S		S	15 00 35.1 -1.5
	0.9nm,0.6s,baz=83,slow=27,SNR=7.5						
KDU	Kakadu	49.67	272	P		P	14 54 28.4 -1.4
	baz=50,SNR=27						
FORT	Forrest	50.33	248	eP		P	14 54 33.3 -1.4
	66nm,0.8s						
FORT	Forrest	50.33	248	P		P	14 54 33.2 -1.4
	baz=50,SNR=10						
WRKA	Warakurna	50.73	255	P		P	14 54 36.5 -1.3
	baz=51,SNR=26						
MTN	Manton Dam	50.87	271	P		P	14 54 37.5 -1.4
	baz=51,SNR=15						
KNRA	Kununurra	52.26	267	P		P	14 54 48.4 -0.8
	baz=52,SNR=8.5						
FITZ	Fitzroy Crossi	54.53	263	P		P	14 55 05.7 0.0
	baz=54,SNR=6.7						
PALU	Palau	56.39	295	P		P	14 55 18.9 -0.1
	baz=56,SNR=3.9						
VNDA	Vanda	56.73	186	P		P	14 55 22.8 +2.4
	1.8nm,0.8s,baz=352,slow=8.6,SNR=9.9						
SOEI	Soe	58.23	272	P		P	14 55 31.6 -0.5
KLBR	Kellerberrin	59.02	245	P		P	14 55 36.6 -0.6
	baz=59,SNR=6.6						
MORW	Morawa	60.88	248	P		P	14 55 48.9 -1.1
	baz=61,SNR=6.6						
EDFI	Ende, Flores	60.96	272	P		P	14 55 49.6 -1.2
GIRL	Giralia	63.82	255	P		P	14 56 10.3 +0.8
	baz=64,SNR=3.8						
QSPA	South Pole Qui	68.23	180	eP		P	14 56 39.2 +2.0
	11nm,1.0s						
MJAR	Matsushiro Arr	72.29	323	P		P	14 57 01.1 -1.0
	3.3nm,0.6s,baz=162,slow=6.2,SNR=12						
MAT	Matsushiro	72.30	323	P		P	14 57 00.7 -1.4
PETK	Petropavlovsk-	78.01	344	P		P	14 57 32.3 -2.0
	5.3nm,0.8s,baz=137,slow=4.4,SNR=7.4						
PETK				pP		pwP	14 58 14.2 -0.5
	7.4nm,0.8s,baz=119,slow=8.2,SNR=5.5						
PEA1	Petropavlovsk-	78.01	344	eP		P	14 57 32.3 -2.0
KSRS	Korea Array	79.01	318	P		P	14 57 40.0 -0.2
	1.2nm,0.7s,baz=135,slow=6.1,SNR=6.0						
NVAR	Mina Array Bea	80.86	42	P		P	14 57 50.9 +0.5
	0.4nm,0.7s,baz=230,slow=7.0,SNR=2.8						
NVAR				pP		pP	14 58 28.5 +0.5
	4.8nm,1.0s,baz=229,slow=9.8,SNR=9.6						
NV01	Mina Array Sit	80.86	42	eP		P	14 57 50.9 +0.5
MAW	Mawson	80.87	199	P		P	14 57 49.6 -0.1
	baz=81,SNR=9.8						
MAW	Mawson	80.87	199	P		P	14 57 50.8 +1.1
	6.1nm,0.7s,baz=132,slow=7.8,SNR=14						
USRK	Ussuriysk Ar.	81.03	325	P		P	14 57 50.6 -0.2
	3.6nm,0.8s,baz=165,slow=6.0,SNR=6.8						
NJ2	Nanjing	82.03	309	eP		P	14 57 58.5 +2.1
NJ2				pmax		pmax	
	comp=Z,14nm,0.5s						
WHN	Wuhan	84.60	306	P		P	14 58 13.0 +3.4
SYO	Syowa Base	85.78	192	⇑eP		P	14 58 13.6 -1.2
LTX	Lajitas	86.37	57	eP		P	14 58 20.1 +1.6
TXAR	Lajitas Array	86.37	57	P		P	14 58 20.1 +1.5
	0.9nm,0.8s,baz=210,slow=7.9,SNR=9.9						
TXAR				pP		pP	14 58 57.2 +0.4
	2.4nm,1.0s,baz=217,slow=6.1,SNR=5.0						
SNAA	Sanae	86.61	178	P		P	14 58 19.8 +0.8
VNA3	Neumayer Olymp	86.68	176	P		P	14 58 20.3 +1.0
GSI	Gunungsitoli	86.98	273	eP		P	14 58 21.4 -0.4
	24nm,0.8s						
VNA2	Neumayer--Watz	87.14	176	P		P	14 58 22.9 +1.4
	baz=185,slow=4.2						
VNA1	Neumayer--Stat	87.36	176	P		P	14 58 24.0 +1.5
MLY	Manley	88.79	11	eP		P	14 58 29.0 -0.2
	7.1nm,1.4s						
PDAR	Pinedale Array	88.80	43	P		P	14 58 31.5 +1.5
	0.2nm,0.4s,baz=240,slow=4.3,SNR=2.8						
PDAR				pP		pP	14 59 08.5 +0.3
	0.3nm,0.6s,baz=190,slow=4.5,SNR=2.8						
MDM	Murphy Dome	89.17	12	eP		P	14 58 31.0 0.0
	6.3nm,1.1s						
ILAR	Eielson Array	89.26	12	P		P	14 58 31.4 0.0
	2.1nm,0.9s,baz=224,slow=5.3,SNR=14						
GCMT	Greycliff	90.31	40	eP		P	14 58 37.2 +0.4
EGAK	Eagle	90.48	14	eP		P	14 58 37.2 +0.3
	5.8nm,0.9s						
HHC	Hu-ho-hao-te	91.50	314	eP		P	14 58 44.0 +1.5
HHC				pmax		pmax	
	comp=Z,53nm,1.2s						
HHC				pmax		pmax	
	comp=Z,210nm,5.2s						
HHC				LR		LR	
	comp=N,170nm,17.4s						
HHC				LR		LR	
	comp=E,100nm,17.0s						
HHC				LR		LR	
	comp=Z,290nm,18.1s						
CMAR	Chiang Mai Arr	92.15	289	P		P	14 58 46.0 +0.1
	1.8nm,0.8s,baz=118,slow=3.2,SNR=11						
CD2	Chengdu	92.93	302	eP		P	14 59 03.0 +14
LZH	Lanzhou	94.92	307	eP		P	14 59 02.0 +3.6
LZH				pP		pP	14 59 28.0 -8.7
LZH				sP		pwP	14 59 39.8 +0.3
LZH				PP		PP	15 02 46.5 -3.4
LZH				pmax		pmax	
	comp=Z,29nm,1.4s						
LZH				pmax		pmax	
	comp=Z,50nm,4.9s						
YKA	Yellowknife Ar	97.03	24	P		P	14 59 06.4 -0.7
	0.3nm,0.9s,baz=230,slow=3.8,SNR=4.3						
YKA				PKKPbc		PKKPbc	15 15 48.8 -0.8
	0.1nm,0.4s,baz=44,slow=1.9,SNR=3.5						
ZALV	Zalesovo Beam	112.60	321	PKiKP		PKiKP	15 04 10.4 -0.6
	1.0nm,0.6s,baz=325,slow=1.1,SNR=4.1						
MKAR	Makanchi Array	113.35	313	PKiKP		PKiKP	15 04 11.7 -1.1
	0.8nm,0.5s,baz=285,slow=0.1,SNR=7.5						
KURBB	Kurchatov Arra	116.18	317	PKP		PKPdf	15 04 17.2 -0.8
	1.0nm,0.6s,baz=96,slow=1.7,SNR=13						
KSH	Kashi	117.04	304	PKP		PKPdf	15 04 20.3 +0.1
BVAR	Borovoye Array	121.19	320	PKP		PKPdf	15 04 27.4 -0.2
	1.5nm,0.4s,baz=151,slow=2.0,SNR=17						
ARU	Arti	127.27	325	PKP		PKPdf	15 04 39.1 0.0
	1.1nm,0.4s,baz=11,slow=1.9,SNR=5.6						
AKTO	Aktyubinsk	129.19	318	PKP		PKPdf	15 04 43.2 +0.2
	1.5nm,0.6s,baz=87,slow=5.2,SNR=4.9						
ARCES	ARCESS Array B	130.54	350	PKP		PKPdf	15 04 45.2 +0.1
	2.0nm,0.6s,baz=45,slow=0.6,SNR=12						
GEYT	Alibeck	130.93	302	PKP		PKPdf	15 04 46.8 0.0
	1.3nm,0.6s,baz=235,slow=5.2,SNR=4.5						
GEYT				SKPbc		SKPab	15 07 57.1 -0.1
	0.6nm,0.5s,baz=82,slow=2.9,SNR=4.7						
KIRV	Kirov	130.97	330	SKPbc		SKPab	15 07 57.2 +0.7
	3.8nm,0.5s,baz=138,slow=8.1,SNR=4.4						
FIA0	FINESS Array S	137.53	344	ePKPpre		PKPpre	15 04 47.0
FIA0				ePKPdf		PKPdf	15 04 57.9 -0.4
FINES	FINESS Array B	137.53	344	PKhKP		PKPpre	15 04 47.0
	0.7nm,0.6s,baz=48,slow=2.1,SNR=3.0						
FINES				PKP		PKPdf	15 04 57.9 -0.4
	2.9nm,0.7s,baz=83,slow=4.3,SNR=10						
KMBO	Kilima Mbogo	140.16	239	PKhKP		PKPpre	15 04 59.7
	0.9nm,0.3s,baz=84,slow=7.4,SNR=3.8						
NB2	NORSAR Subarra	140.50	354	PKP		PKPdf	15 04 55.3 -8.5
	comp=Z,0.3nm,0.5s,baz=8,7,slow=3.1						
NOA	NORSAR Array B	140.50	354	PKhKP		PKPpre	15 04 55.6
	comp=Z,1.2nm,0.9s,baz=0.0,slow=2.4,SNR=3.8						
NOA				PKP		PKPdf	15 05 03.6 -0.2
	comp=Z,0.7nm,0.7s,baz=17,slow=4.1,SNR=3.5						
HFS	Hagfors	141.11	352	PKhKP		PKPpre	15 04 57.6
	comp=Z,1.3nm,0.3s,baz=56,slow=3.7,SNR=17				

LANS	**Liptovska Anna**	**150.04 339**	*e*PKP	**PKiKP**	**15 05 27.2**	**+0.8**
MORC	**Moravsky Berou**	**150.09 342**	*e*PKPbc	**PKPbc**	**15 05 26.6**	**+0.9**
MORC	**Moravsky Berou**	**150.09 342** ⇑	*i*P	**PKiKP**	**15 05 26.9**	**+0.4**
MORC	**Moravsky Berou**	**150.09 342**	*e*PKP	**PKPbc**	**15 05 26.6**	**+0.9**
MORC			*e*		15 05 32.4	
PVCC	**Panska Ves**	**150.15 346** ⇑	*e*PKP	**PKiKP**	**15 05 27.0**	**+0.5**
MLR	**Muntele Rosu**	**150.26 328** ⇑	*i*P	**PKPbc**	**15 05 26.7**	**+0.3**
MLR	**Muntele Rosu**	**150.26 328**	PKPbc	**PKPbc**	**15 05 26.3**	**0.0**
	comp=Z,9.0nm,0.7s,baz=96,slow=2.5,SNR=9.3					
PRU	**Pruhonice**	**150.67 346** ⇑	*e*PKP	**PKiKP**	**15 05 27.8**	**+0.2**
GOPC	**GO Pecny, Ondr**	**150.68 345** ⇑	*e*PKP	**PKPbc**	**15 05 27.7**	**+0.6**
GOPC			*ex*	x	15 06 09.9	
VOIR		**150.74 329** ⇑	*i*P	**PKiKP**	**15 05 28.7**	**+0.7**
VRAC	**Vranov**	**150.78 343** ⇑	*i*P	**PKPab**	**15 05 34.8**	**-0.1**
VRAC	**Vranov**	**150.78 343**	*e*PKP	**PKiKP**	**15 05 28.2**	**+0.3**
VRAC			*e*		15 05 35.4	
VRAC	**Vranov**	**150.78 343**	PKPbc	**PKPbc**	**15 05 27.6**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=237,slow=4.6,SNR=4.4					
VRAC			PKPab	**PKPab**	**15 05 35.8**	**+1.0**
	comp=Z,7.4nm,0.9s,baz=41,slow=1.9,SNR=7.4					
VRAC			pPKPbc	**pPKPbc**	**15 06 09.1**	**+2.1**
	comp=Z,1.8nm,0.5s,baz=59,slow=3.3,SNR=1.8					
VYHS	**Vyhne**	**150.82 339**	*e*PKP	**PKiKP**	**15 05 28.2**	**+0.2**
VYHS			*e*		15 05 35.7	
NKC	**Novy Kostel**	**150.87 349** ⇑	*e*PKP	**PKiKP**	**15 05 28.4**	**+0.3**
JAVC	**Velka Javorina**	**150.87 341**	*e*PKP	**PKiKP**	**15 05 29.7**	**+1.5**
JAVC			*e*		15 05 37.0	
EIL	**Elat**	**150.96 292**	PKPbc	**PKPbc**	**15 05 28.9**	**+0.5**
	comp=Z,23nm,0.8s,baz=353,slow=4.0,SNR=27					
EIL			pPKPbc	**pPKPbc**	**15 06 09.9**	**+1.8**
	comp=Z,5.8nm,0.9s,baz=64,slow=2.5,SNR=2.3					
ARR	**Arges**	**150.99 329** ⇑	*i*P	**PKiKP**	**15 05 28.7**	**+0.2**
KRUC	**Moravsky**	**151.06 343**	*e*PKP	**PKiKP**	**15 05 28.7**	**+0.2**
KRUC			*e*		15 05 36.4	
MEM	**Membach**	**151.24 357** ⇑	PKP	**PKPbc**	**15 05 27.8**	**-0.5**
LEF	**Lefka**	**151.34 304** ⇑	*i*P	**PKPbc**	**15 05 29.4**	**+0.4**
MODS	**Modra-Piesok**	**151.42 341**	*e*PKP	**PKPbc**	**15 05 29.1**	**+0.3**
SIRR	**Siria**	**151.64 333** ⇑	*i*P	**PKiKP**	**15 05 30.3**	**+0.5**
KHC	**Kasperske Hory**	**151.69 346** ⇑	*e*PKP	**PKiKP**	**15 05 30.1**	**+0.3**
KHC			*e*PKPAB	**PKPab**	**15 05 39.3**	**+0.6**
KHC			*ex*	x	15 06 11.4	
DOU	**Dourbes**	**151.80 359** ⇑	PKP	**PKiKP**	**15 05 30.6**	**+0.7**
GZR	**Gura Zlata**	**151.84 331** ⇑	*i*P	**PKPbc**	**15 05 30.2**	**+0.3**
GERES	**GERESS Array B**	**151.93 346**	PKPbc	**PKPbc**	**15 05 30.7**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=29,slow=3.0,SNR=19					
GERES			pPKPbc	**pPKPbc**	**15 06 11.7**	**+1.9**
	comp=Z,1.5nm,0.9s,baz=57,slow=4.9,SNR=2.3					
BZS	**Buzias**	**152.17 333** ⇑	*i*P	**PKPbc**	**15 05 31.0**	**+0.4**
CONA	**Conrad Observa**	**152.23 342**	*i* PKiKP	**PKiKP**	**15 05 31.7**	**+0.6**
	comp=Z,8.4nm,1.1s					
HERR	**Herculane**	**152.40 331** ⇑	*i*P	**PKPbc**	**15 05 31.4**	**+0.3**
MOA	**Molin**	**152.73 345**	*i* PKPdf	**PKPdf**	**15 05 24.3**	**-0.3**
	comp=Z,9.7nm,1.6s					
SOKA	**Soboth**	**153.61 342**	*i* PKPbc	**PKPbc**	**15 05 30.9**	**-2.9**
	comp=Z,5.7nm,1.1s					
KBA	**Koelnbreinsper**	**153.67 345**	*i* PKPab	**PKPab**	**15 05 47.6**	**+0.3**
	comp=Z,6.6nm,0.7s					
EZN	**Ezine**	**153.76 318** ⇑	*i*P	**PKPbc**	**15 05 31.1**	**-3.1**
WATA	**Walderalm**	**153.81 348**	*i* PKPab	**PKPab**	**15 05 47.3**	**-0.5**
	comp=Z,4.5nm,0.8s					
RETA	**Reutte**	**153.81 349**	*i* PKPab	**PKPab**	**15 05 47.6**	**-0.1**
	comp=Z,5.9nm,1.0s					
WTTA	**Wattenberg**	**153.87 348**	*i* PKPbc	**PKPbc**	**15 05 33.9**	**-0.6**
	comp=Z,7.2nm,0.8s					
MOTA	**Moosalm**	**153.89 349**	*i* PKPab	**PKPab**	**15 05 48.6**	**+0.4**
	comp=Z,6.2nm,0.9s					
SQTA	**Sankt Quirin**	**153.99 348**	*i* PKPdf	**PKPdf**	**15 05 27.3**	**+0.8**
	comp=Z,5.8nm,1.1s					
MYKA	**Terra Mystica**	**154.02 344**	*i* PKPdf	**PKPdf**	**15 05 24.7**	**-1.8**
	comp=Z,4.6nm,0.6s					
DAVA	**Damuels**	**154.15 350**	*i* PKPdf	**PKPdf**	**15 05 25.6**	**-1.3**
	comp=Z,5.9nm,1.0s					
ABTA	**Abfaltersbach**	**154.18 346**	*i* PKPbc	**PKPbc**	**15 05 34.9**	**-0.1**
	comp=Z,2.8nm,0.6s					
TORD	**Torodi Ar. Bea**	**171.12 167**	PKPab	**PKPab**	**15 07 04.8**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=168,slow=7.4,SNR=4.2					
TOA1	**Torodi Ar. Sit**	**171.12 167**	*e*PKPab	**PKPab**	**15 07 04.8**	**+0.9**

*MDD **31** 14:46:02.6±1.9, 32°.46N×5°.50W, h0km, mb4.4/10, Error ellipse: s-maj=19.9km s-min=16.7km az=63.0, PRXIMO*
*INMG **31** 14:46:03.0±1.2, 32°.43N×5°.29W, h21km±7km, ML2.9, Error ellipse: s-maj=4.3km s-min=3.9km az=129.0*
*IGIL **31** 14:46:04.8, 32°.46N×5°.24W, h26km, ML2.9*
ISC 31 14:46:11.9±3.5, **33°.1N**±0°.2×**5°.50W**±0°.07, **h7**km, **n47,** σ**1**º**95**/89, **2C, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**3.48**	**10**	P	**Pn**	**14 47 05.4**	**-1.1**
	8.1nm,0.7s,SNR=7.9						
EMIJ				S	**Sb**	**14 47 52.7**	**-3.6**
	2.1nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.74**	**356**	P	**Pn**	**14 47 10.1**	**+0.1**
	0.6nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**14 47 56.4**	**+2.1**
	2.7nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**4.03**	**22**	P	**Pn**	**14 47 14.0**	**-0.2**
	1.9nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**14 48 05.6**	**+4.0**
	3.0nm,0.3s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.56**	**335** ⇑	*e*Pn	**Pn**	**14 47 19.9**	**-1.4**
PBDV				*e*Sn	**Sn**	**14 48 17.6**	**+3.1**
PBDV				A	A	14 48 25.3	
	9.6nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.56**	**335**	P	**Pn**	**14 47 19.9**	**-1.4**
PBDV				S	**Sn**	**14 48 17.6**	**+3.1**
	9.6nm,0.3s						
PVAQ	**Vaqueiros**	**4.63**	**338**	*e*Pn	**Pn**	**14 47 20.8**	**-1.5**
PVAQ				*e*Sn	**Sn**	**14 48 18.6**	**+2.3**
PVAQ				A	A	14 48 24.1	
	12nm,0.3s						
PVAQ	**Vaqueiros**	**4.63**	**338**	P	**Pn**	**14 47 20.8**	**-1.5**
PVAQ				S	**Sn**	**14 48 18.6**	**+2.3**
	12nm,0.3s						
EGRO	**El Granado**	**4.68**	**340**	P	**Pn**	**14 47 21.9**	**-1.1**
	1.9nm,0.1s,SNR=26						
EGRO				S	**Sn**	**14 48 19.3**	**+1.8**
	5.6nm,0.2s						
EMIN	**Mina Concepcio**	**4.72**	**349**	P	**Pn**	**14 47 22.3**	**-1.3**
	1.0nm,0.1s,SNR=13						
EMIN				S	**Sn**	**14 48 21.7**	**+3.1**
	1.0nm,0.1s						
PFVI	**Vila Bisbo**	**4.83**	**327**	*e*Pn	**Pn**	**14 47 24.4**	**-0.6**
PFVI				*e*Sn	**Sn**	**14 48 24.3**	**+3.1**
PFVI				A	A	14 48 28.1	
	10.0nm,0.5s						
PFVI	**Vila Bisbo**	**4.83**	**327**	P	**Pn**	**14 47 22.5**	**-2.5**
	3.0nm,0.1s,SNR=4.0						
PFVI				S	**Sn**	**14 48 24.3**	**+3.1**
	4.1nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**4.90**	**329**	*e*P	**Pn**	**14 47 24.3**	**-1.6**
MORF	**Marmelete**	**4.90**	**329**	*e*Pn	**Pn**	**14 47 24.4**	**-1.6**
MORF				*e*Sn	**Sn**	**14 48 25.9**	**+3.0**
MORF				A	A	14 48 32.1	
	9.4nm,0.2s						
MORF	**Marmelete**	**4.90**	**329**	P	**Pn**	**14 47 24.3**	**-1.6**
MORF				S	**Sn**	**14 48 25.9**	**+3.0**
	9.4nm,0.2s						
ECAB	**El Cabril**	**4.93**	**1**	P	**Pn**	**14 47 25.6**	**-0.8**
	0.9nm,0.2s,SNR=13						
ECAB				S	**Sn**	**14 48 26.7**	**+2.9**
	4.4nm,0.2s,SNR=7.0						
PCVE	**Castro Verde**	**4.95**	**336**	*e*Pn	**Pn**	**14 47 25.4**	**-1.2**
PCVE				*e*Sn	**Sn**	**14 48 26.4**	**+2.4**
PCVE				A	A	14 48 34.1	
	11nm,0.3s						
PCVE	**Castro Verde**	**4.95**	**336**	P	**Pn**	**14 47 25.4**	**-1.2**
PCVE				S	**Sn**	**14 48 26.4**	**+2.4**
	11nm,0.3s						
EQES	**Quesada**	**5.07**	**22**	P	**Pn**	**14 47 29.9**	**+1.5**
	0.1nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.13**	**330**	*e*Pn	**Pn**	**14 47 27.9**	**-1.2**
PTEO				*e*Sn	**Sn**	**14 48 31.3**	**+2.7**
PTEO				A	A	14 48 33.6	
	9.4nm,0.7s						
PTEO	**Sao Teotonio**	**5.13**	**330**	P	**Pn**	**14 47 27.9**	**-1.2**
PTEO				S	**Sn**	**14 48 31.3**	**+2.7**
	4.7nm,0.7s						
PBAR	**Barrancos**	**5.19**	**346**	*e*Pn	**Pn**	**14 47 29.5**	**-0.4**
PBAR				*e*Sn	**Sn**	**14 48 32.9**	**+2.9**
PBAR	**Barrancos**	**5.19**	**346**	P	**Pn**	**14 47 29.5**	**-0.4**
PBAR				S	**Sn**	**14 48 32.9**	**+2.9**
MESJ	**Messejana**	**5.20**	**336**	*e*P	**Pn**	**14 47 28.5**	**-1.5**
MESJ				*e*S	**Sn**	**14 48 29.7**	**-0.4**
MESJ				AML	AML	14 48 37.7	
	comp=N,14nm,0.5s						
MESJ	**Messejana**	**5.20**	**336**	*e*Pn	**Pn**	**14 47 28.9**	**-1.1**
MESJ				*e*Sn	**Sn**	**14 48 33.5**	**+3.3**
MESJ				A	A	14 48 38.8	
	comp=N,8.3nm,0.3s						
MESJ	**Messejana**	**5.20**	**336**	P	**Pn**	**14 47 28.5**	**-1.5**
MESJ				S	**Sn**	**14 48 33.5**	**+3.3**
	comp=N,8.3nm,0.3s						
PBEJ	**Beja**	**5.25**	**339**	*e*Pn	**Pn**	**14 47 31.3**	**+0.5**
PBEJ				*e*Sn	**Sn**	**14 48 34.9**	**+3.3**
PBEJ				A	A	14 48 40.0	
	comp=N,7.1nm,0.6s						
PBEJ	**Beja**	**5.25**	**339**	P	**Pn**	**14 47 31.3**	**+0.5**
PBEJ				S	**Sn**	**14 48 34.9**	**+3.3**
	comp=N,3.6nm,0.6s						
PNCL	**Nicolau / Gran**	**5.55**	**334**	*e*Pn	**Pn**	**14 47 33.4**	**-1.4**
PNCL				*e*Sn	**Sn**	**14 48 41.0**	**+2.2**
PNCL				A	A	14 48 46.8	
	comp=N,5.4nm,0.4s						
PNCL	**Nicolau / Gran**	**5.55**	**334**	P	**Pn**	**14 47 33.4**	**-1.4**
PNCL				S	**Sn**	**14 48 41.0**	**+2.2**
	comp=N,5.4nm,0.4s						
EBAD	**Badajoz**	**5.75**	**348** ⇑	P	**Pn**	**14 47 36.8**	**-0.8**
	comp=N,5.7nm,0.2s,SNR=18						
EBAD				S	**Sn**	**14 48 45.6**	**+1.9**
	comp=N,5.6nm,0.2s						
PMTG	**Montargil**	**6.32**	**340**	*e*Pn	**Pn**	**14 47 44.4**	**-1.1**
PMTG				*e*Sn	**Sn**	**14 49 01.0**	**+3.1**
PMTG				A	A	14 49 20.2	
	comp=N,5.5nm,0.7s						
PMTG	**Montargil**	**6.32**	**340**	P	**Pn**	**14 47 44.4**	**-1.1**
PMTG				S	**Sn**	**14 49 01.0**	**+3.1**
	comp=N,5.5nm,0.7s						
PMRV	**Marv??o**	**6.47**	**347**	*e*Pn	**Pn**	**14 47 46.7**	**-0.8**
PMRV				*e*Sn	**Sn**	**14 49 03.6**	**+2.1**
PMRV				A	A	14 49 10.5	
	comp=N,5.2nm,0.8s						
PMRV	**Marv??o**	**6.47**	**347**	P	**Pn**	**14 47 46.7**	**-0.8**
PMRV				S	**Sn**	**14 49 03.6**	**+2.1**
	comp=N,5.2nm,0.8s						
PAB	**San Pablo**	**6.47**	**8**	P	**Pn**	**14 47 46.1**	**-1.5**
	comp=N,0.1nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**14 49 03.3**	**+1.6**
	comp=N,0.9nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**6.65**	**10**	P	**Pn**	**14 47 48.6**	**-1.4**
	comp=N,0.8nm,0.3s,baz=197,slow=13,SNR=11						
ESDC				S	**Sn**	**14 49 06.9**	**+0.9**
	comp=N,0.4nm,0.3s,baz=195,slow=23,SNR=3.9						
PCBR	**Castelo Branco**	**6.88**	**347**	*e*Pn	**Pn**	**14 47 52.5**	**-0.7**
PCBR				*e*Sn	**Sn**	**14 49 12.6**	**+0.9**
PCBR				A	A	14 49 15.3	
	comp=N,5.3nm,0.2s						
PCBR	**Castelo Branco**	**6.88**	**347**	P	**Pn**	**14 47 52.5**	**-0.7**
PCBR				S	**Sn**	**14 49 12.6**	**+0.9**
	comp=N,2.7nm,0.2s						
EPLA	**Plasencia**	**6.94**	**356**	P	**Pn**	**14 47 52.8**	**-1.1**
	comp=N,1.6nm,0.1s,SNR=7.5						
MTE	**Manteigas**	**7.44**	**348**	*e*Pn	**Pn**	**14 48 00.1**	**-0.8**
MTE				*e*Sn	**Sn**	**14 49 27.0**	**+1.5**
MTE	**Manteigas**	**7.44**	**348**	P	**Pn**	**14 48 00.1**	**-0.8**
MTE				S	**Sn**	**14 49 27.0**	**+1.5**
MVO	**Moncorvo**	**8.11**	**352**	*e*Pn	**Pn**	**14 48 09.4**	**-0.7**
MVO				*e*Sn	**Sn**	**14 49 43.6**	**+1.5**
MVO				A	A	14 50 08.2	
	comp=N,4.6nm,0.7s						
MVO	**Moncorvo**	**8.11**	**352**	P	**Pn**	**14 48 09.6**	**-0.5**
	comp=N,2.6nm,0.1s,SNR=12						
MVO				S	**Sn**	**14 49 42.0**	**0.0**
	comp=N,0.6nm,0.2s,SNR=5.9						
POLO	**Lamas de Olo**	**8.43**	**348**	*e*Pn	**Pn**	**14 48 13.6**	**-0.9**
POLO	**Lamas de Olo**	**8.43**	**348**	P	**Pn**	**14 48 13.6**	**-0.9**
ECAL	**Calabor**	**8.85**	**354**	P	**Pn**	**14 48 18.1**	**-2.1**
	comp=N,2.0nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**14 49 59.8**	**-0.4**
	comp=N,1.0nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**8.95**	**348**	P	**Pn**	**14 48 20.4**	**-1.3**
	comp=N,2.0nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**14 50 01.9**	**-1.0**
	comp=N,0.5nm,0.2s,SNR=7.9						

*DDA **31** 14:55:50.4, 38°.94N×29°.89E, h7km±2km, ML2.8*
*ISK **31** 14:55:50.3, 38°.97N×29°.86E, h3km, ML2.4/12*
ISC 31 14:55:51.1±1.0, **38°.95N**±0°.03×**29°.87E**±0°.02, **h12**km±11km, **n22,** σ**0**º**51**/29, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.34**	**295**	IAML_P			
	comp=Z,5μm,0.1s						
GDZ				*i* P	**Pg**	**14 55 57.9**	**-0.1**
GDZ				*i* S	**Sg**	**14 56 02.8**	**+0.3**
AFYO	**Afyonkarahisar**	**0.37**	**116**	IAML_P			
	comp=Z,3μm,0.2s						
AFYO				*i* P	**Pg**	**14 55 58.3**	**-0.2**
SHAP	**Saphane-Kutahy**	**0.51**	**279**	PG	**Pg**	**14 56 00.9**	**-0.3**
TVSB	**Tavsanli**	**0.59**	**328**	PG	**Pg**	**14 56 02.0**	**-0.7**
KHAL	**Karahalli**	**0.65**	**207**	*i* P	**Pg**	**14 56 03.8**	**0.0**
KHAL				*i* S	**Sb**	**14 56 12.8**	**-0.6**
SHUT	**Suhut-Afyon**	**0.66**	**126**	PG	**Pb**	**14 56 04.9**	**+0.3**
SHUT				SG	**Sb**	**14 56 13.4**	**-0.4**
KHL	**Karahalli**	**0.68**	**204**	PG	**Pg**	**14 56 04.1**	**-0.3**
USAK	**Uak-Merkez**	**0.71**	**251**	*i* P	**Pg**	**14 56 04.8**	**0.0**
USAK				*i* S	**Sg**	**14 56 14.3**	**+0.1**
KZIL	**AFYON_Kizioren**	**0.72**	**163**	IAML_P			
	comp=Z,2μm,0.2s						
KZIL				*i* P	**Pg**	**14 56 04.0**	**-1.1**
KZIL				*i* S	**Sb**	**14 56 14.9**	**-0.6**
AUBOZ	**BOZOYUK**	**0.97**	**7**	PG	**Pg**	**14 56 09.4**	**-0.4**
BORA	**Eskisehir**	**1.03**	**26**	PG	**Pg**	**14 56 10.3**	**-0.7**
BORA	**Eskisehir**	**1.03**	**26**	*i* P	**Pg**	**14 56 10.9**	**-0.1**
MANT	**Manisa**	**1.13**	**246**	*i* P	**Pb**	**14 56 12.7**	**+0.1**
MANT				*i* S	**Sb**	**14 56 27.5**	**+0.3**
SRCK	**Saricakaya, Es**	**1.24**	**28**	PN	**Pn**	**14 56 14.3**	**+0.1**
CAVI	**Cavuskoy**	**1.25**	**359**	PN	**Pn**	**14 56 14.4**	**0.0**
DURS	**Dursunbey**	**1.27**	**301**	*i* P	**Pg**	**14 56 15.3**	**-0.2**
ULDT	**Uludag**	**1.32**	**335**	IAML_P			
	comp=Z,1μm,0.2s						
ULDT				*i* P	**Pg**	**14 56 16.4**	**-0.1**
AUSIV	**SIVRIHISAR**	**1.39**	**69**	PN	**Pg**	**14 56 17.4**	**-0.3**
AUSIV				SN	**Sg**	**14 56 36.9**	**+1.2**
GULT	**Gulveren**	**1.56**	**18**	PN	**Pb**	**14 56 19.8**	**-0.2**
KIZT	**Kizilcal**	**1.57**	**92**	PN	**Pb**	**14 56 20.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.76**	**319**	PN	**Pb**	**14 56 22.7**	**-0.6**
ARMT	**Armutlu**	**1.79**	**335**	PN	**Pn**	**14 56 22.7**	**+0.9**

*DDA **31** 15:15:37.7, 38°.95N×26°.30E, h7km±1km, ML2.6*
*ATH **31** 15:15:37.4, 38°.96N×26°.25E, h25km±3km, ML2.1/3, Error ellipse: s-maj=4.3km s-min=1.4km az=289.0*
*ISK **31** 15:15:37.5, 38°.94N×26°.26E, h5km, ML2.5/12*
*ISCJB **31** 15:15:38.2±0.4, 38°.94N±0°.02×26°.26E±0°.03, h5km±4km, Error ellipse: s-maj=4.4km s-min=2.8km az=171.6*
*THE **31** 15:15:39.1, 38°.96N×26°.18E, h10km±1km, ML2.0/3, Error ellipse: s-maj=2.0km s-min=0.7km az=97.0*
ISC 31 15:15:38.1±0.9, **38°.96N**±0°.02×**26°.26E**±0°.02, **h12**km±8km, **n34,** σ**0**º**50**/53, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.29**	**1**	P	**Pb**	**15 15 44.9**	**-0.3**
PRK				S	**Sb**	**15 15 50.1**	**+0.2**
PRK	**Paraskevi**	**0.29**	**1**	P	**Pb**	**15 15 44.9**	**-0.3**
PRK				S	**Sb**	**15 15 49.5**	**-0.4**
PRK				AML	AML	15 15 53.8	
	comp=E,964μm,0.6s						
PRK				AML	AML	15 15 55.8	
	comp=N,1026μm,0.6s						
SIGR	**SIGRI**	**0.41**	**309**	PG	**Pg**	**15 15 45.9**	**-0.2**
SIGR	**SIGRI**	**0.41**	**309**	P	**Pg**	**15 15 46.0**	**-0.2**
SIGR				S	**Sg**	**15 15 51.7**	**+0.1**
SIGR	**SIGRI**	**0.41**	**309**	P	**Pg**	**15 15 46.0**	**-0.2**
SIGR				S	**Sg**	**15 15 51.6**	**0.0**
SIGR				AML	AML	15 15 52.4	
	comp=E,1063μm,0.4s						
SIGR				AML	AML	15 15 54.3	
	comp=N,473μm,0.4s						
KRBN	**Karaburun**	**0.43**	**148**	PG	**Pg**	**15 15 46.3**	**-0.2**
KRBN				SG	**Sg**	**15 15 52.3**	**+0.1**
FOCM	**Foa**	**0.44**	**124**	PG	**Pg**	**15 15 46.3**	**-0.4**
AYVA	**Ayvalik**	**0.48**	**43**	*i* P	**Pb**	**15 15 48.1**	**-0.4**
AYVA				*i* S	**Sg**	**15 15 54.5**	**+0.5**
GPNR	**Gulpinar-Canak**	**0.51**	**349**	PG	**Pg**	**15 15 48.1**	**+0.1**
CHOS	**Chios island**	**0.59**	**196**	PG	**Pg**	**15 15 49.5**	**-0.2**
CHOS	**Chios island**	**0.59**	**196**	P	**Pg**	**15 15 49.4**	**-0.2**
CHOS				S	**Sb**	**15 15 59.6**	**+0.9**
CHOS	**Chios island**	**0.59**	**196**	P	**Pg**	**15 15 48.8**	**-0.9**
CHOS				S	**Sg**	**15 15 57.8**	**+0.3**
CHOS				AML	AML	15 16 01.4	
	comp=E,566μm,0.2s						
CHOS				AML	AML	15 16 02.4	
	comp=N,369μm,0.3s						
ZEDA	**zmir-Bergama**	**0.63**	**89**	IAML_P			
	comp=Z,1μm,0.1s						
ZEDA				*i* P	**Pg**	**15 15 50.4**	**0.0**
URLA	**Izmir**	**0.65**	**156**	PG	**Pg**	**15 15 50.5**	**-0.2**
URLA				SG	**Sg**	**15 15 59.6**	**+0.3**
URLA	**Izmir**	**0.65**	**156**	IAML_P			
	comp=Z,2μm,0.2s						
URLA				*i* P	**Pg**	**15 15 50.3**	**-0.4**
URLA				*i* S	**Sb**	**15 15 59.9**	**-0.4**
PSRA	**Psara**	**0.69**	**233**	P	**Pb**	**15 15 52.3**	**+0.4**
PSRA				S	**Sb**	**15 16 02.0**	**+0.7**
ZEY	**zmir**	**0.74**	**165**	*i* P	**Pg**	**15 15 51.9**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.81**	**16**	*i* P	**Pb**	**15 15 54.1**	**-0.1**
BAYC				*i* S	**Sn**	**15 16 07.4**	**+0.1**
EZN	**Ezine**	**0.87**	**3**	PG	**Pb**	**15 15 55.3**	**+0.3**
EZN				SG	**Sn**	**15 16 08.0**	**-0.6**
EZN	**Ezine**	**0.87**	**3**	P	**Pn**	**15 15 55.5**	**-0.6**
EZN				S	**Sn**	**15 16 08.2**	**-0.4**
BOZC	**Bozcaada**	**0.90**	**350**	PG	**Pg**	**15 15 55.2**	**-0.3**
BOZC	**Bozcaada**	**0.90**	**350**	*i* P	**Pg**	**15 15 55.1**	**-0.3**
BOZC				*i* S	**Sb**	**15 16 08.2**	**+0.7**
STEP	**BALIKESIR_Sava**	**1.21**	**69**	*i* P	**Pb**	**15 16 00.0**	**-0.8**
STEP				*i* S	**Sn**	**15 16 17.1**	**+0.1**
LIA	**Limnos Island**	**1.26**	**319**	P	**Pn**	**15 16 01.1**	**-0.3**
LIA				S	**Sn**	**15 16 18.3**	**+0.1**
LIA	**Limnos Island**	**1.26**	**319**	P	**Pn**	**15 16 01.3**	**-0.1**
BALY	**Balya**	**1.31**	**53**	IAML_P			
	comp=Z,662nm,0.2s						
BALY				*i* P	**Pg**	**15 16 02.8**	**-0.4**
BALY				*i* S	**Sg**	**15 16 22.0**	**+1.7**
SMG	**Samos**	**1.32**	**160**	P	**Pn**	**15 16 02.4**	**0.0**
SMG				S	**Sg**	**15 16 20.9**	**+0.2**
BALB	**Balikesir**	**1.43**	**61**	PN	**Pg**	**15 16 04.9**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.45**	**6**	PN	**Pg**	**15 16 05.3**	**-0.6**
LPK	**Lapseki**	**1.47**	**15**	PN	**Pb**	**15 16 05.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.63**	**128**	PN	**Pb**	**15 16 07.8**	**-0.3**
ENEZ	**Enez**	**1.78**	**357**	PN	**Pb**	**15 16 10.4**	**-0.2**
ALN	**Alexandroupoli**	**1.94**	**355**	PN	**Pb**	**15 16 12.7**	**-0.7**
KCTX	**Karacabey (Bur**	**2.08**	**50**	PN	**Pn**	**15 16 13.9**	**+1.2**

*JMA **31** 15:25:27.8±0.3, 21°.62N×120°.83E, h64km, M3.8*
*TAP **31** 15:25:30.5, 21°.70N×121°.09E, h42km, ML3.4, D*
*ISCJB **31** 15:25:32.0±0.5, 21°.81N±0°.03×121°.25E±0°.03, h22km±3km, Error ellipse: s-maj=4.9km s-min=3.6km az=28.3*
ISC 31 15:25:31.7±1.4, **21°.83N**±0°.05×**121°.26E**±0°.03, **h20**km±3km, **n94,** σ**1**º**51**/162, **1C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.34**	**282** ⇑	*i* P	**Pb**	**15 25 39.5**	**+0.2**
	baz=305						
TSEB				*i* S	**Sn**	**15 25 46.2**	**-1.7**
	baz=305						
LAY	**Lan-yu**	**0.34**	**52** ⇓	*i* P	**Pn**	**15 25 42.2**	**+0.6**
	baz=52						
LAY				*e*S	**Sn**	**15 25 51.7**	**+3.6**
	baz=52						
TWKBT	**Hengchun**	**0.43**	**285**	P	**Pg**	**15 25 40.1**	**-0.5**
	baz=309						
TWKBT				*e*S	**Sb**	**15 25 47.0**	**+0.2**
	baz=309						
TWK1	**Hengchun**	**0.44**	**285

TPUB	baz=345				eS	Sb	15 26 20.6	+0.8
TWK	**Hsinying**	**1.60**	**334**	eP	Pb	15 26 00.5	-0.2
TWK	baz=341				eS	Sn	15 26 19.8	+0.6
CHN4	**Tsaushan**	**1.64**	**338**	eP	Pb	15 26 01.5	+0.3
CHN4	baz=344				eS	Sb	15 26 21.1	-0.4
HGSD	**Ruisui**	**1.66**	**5**	eP	Pn	15 26 00.4	+0.6
HGSD	baz=10.0				eS	Sb	15 26 22.2	-0.1
EHY	**Hungye**	**1.67**	**2**	eP	Pn	15 25 59.2	-0.8
YUS	baz=7.0 **Yu-Shan**	**1.68**	**350**	eP	Pn	15 26 00.6	+0.2
YUS	baz=3.0				eS	Sn	15 26 22.6	+0.9
ALS	**Alishan**	**1.73**	**346**	eP	Pn	15 26 01.7	+0.8
ALS	baz=339				eS	Sn	15 26 23.3	+0.7
CHY	**Chiayi**	**1.83**	**335**	eS	Sn	15 26 26.0	+1.3
EGFH	baz=341 **Guangfu**	**1.84**	**5**	eP	Pn	15 26 03.0	+0.8
EGFH	baz=9.0				eS	Sn	15 26 25.3	+0.4
CHN2	**Minshiung**	**1.84**	**337**	eS	Sb	15 26 27.3	-0.1
WHYT	baz=343 **Xinyi Township**	**1.90**	**349**	eP	Pn	15 26 04.0	+0.9
VWDT	baz=354 **VWDT**	**1.92**	**357**	eP	Pn	15 26 03.5	+0.2
VWDT	baz=1.0				eS	Sb	15 26 28.7	-0.9
WGK	**Gukeng**	**1.96**	**341**	eS	Sn	15 26 29.3	+1.5
WDLH	baz=346 **Douliu**	**1.97**	**340**	eP	Pn	15 26 04.5	+0.5
WDLH	baz=346				eS	Sn	15 26 29.3	+1.2
SSLB	**Suanglung**	**1.97**	**352**	eP	Pn	15 26 05.0	+0.9
SSLB	baz=8.0				eS	Sb	15 26 30.5	-0.7
ESL	**Shilin**	**1.98**	**5**	eP	Pn	15 26 04.5	+0.3
ESL	baz=9.0				eS	Sn	15 26 29.5	+1.0
WJS	baz=9.0 **Zhushan**	**2.04**	**346**	eP	Pn	15 26 06.5	+1.4
WJS	baz=351				eS	Sn	15 26 31.3	+1.3
SMLT	**Sun Moon Lake**	**2.07**	**351**	eP	Pn	15 26 06.5	+0.9
SMLT	baz=356				eS	Sb	15 26 32.9	-1.3
TYC	**Yuchr**	**2.10**	**350**	eP	Pn	15 26 07.2	+1.4
TYC	baz=355				eS	Sn	15 26 33.0	+1.6
WNT	baz=355 **Mingjian**	**2.11**	**346**	eP	Pb	15 26 08.1	-1.2
WNT	baz=350				eS	Sn	15 26 32.4	+0.8
OWD	baz=350 **Renai**	**2.12**	**358**	eP	Pn	15 26 06.5	+0.3
OWD	baz=2.0				eS	Sn	15 26 32.8	+0.7
RLNB	baz=2.0 **Erlin**	**2.21**	**338**	eS	Sn	15 26 35.4	+1.2
DPDB	baz=343 **Guoxing**	**2.22**	**352**	eP	Pb	15 26 09.6	-1.6
DPDB	baz=356				eS	Sn	15 26 35.5	+1.2
CHGB	baz=356 **Renai**	**2.22**	**358**	eP	Pn	15 26 08.6	+0.8
CHGB	baz=2.0				eS	Sn	15 26 36.5	+1.7
PHUB	**P'eng-hu**	**2.29**	**317**	eP	Pn	15 26 06.3	-2.2
WHF	baz=322 **Hehuan Shan**	**2.31**	**0**	eP	Pn	15 26 09.6	+0.5
WHF	baz=13				eS	Sn	15 26 37.6	+0.5
NACB	baz=13 **Ninganchiao**	**2.35**	**8**	eP	Pn	15 26 10.5	+1.2
NACB	baz=11				eS	Sn	15 26 38.6	+0.9
ETLH	baz=11 **Xiulin Townshi**	**2.38**	**5**	P	Pn	15 26 10.5	+0.8
TWT	baz=16 **Tachien**	**2.41**	**358**	eS	Sn	15 26 40.3	+0.9
TDCB	baz=2.0 **Techi**	**2.42**	**358**	eS	Sn	15 26 40.7	+1.3
WHP	baz=2.0 **Taichung City**	**2.45**	**353**	eP	Pn	15 26 11.4	+0.6
TWQ1	baz=357 **Liyutan**	**2.55**	**350**	eP	Pn	15 26 12.3	+0.3
TWQ1	baz=354				eS	Sn	15 26 44.0	+1.5
NNSB	baz=354 **Datong**	**2.59**	**3**	eP	Pn	15 26 14.1	+1.4
NNSB	baz=14				eS	Sn	15 26 44.7	+1.0
NSY	baz=14 **Sanyi**	**2.62**	**350**	eP	Pn	15 26 13.5	+0.5
NSY	baz=354				eS	Sn	15 26 45.0	+0.8
ENA	baz=354 **Nanau**	**2.62**	**10**	eP	Pn	15 26 13.9	+0.9
ENA	baz=1.0				eS	Sn	15 26 44.9	+0.5
NDT	baz=1.0 **Datong Townshi**	**2.77**	**5**	eP	Pn	15 26 16.2	+1.1
NDT	baz=16				eS	Sn	15 26 49.7	+1.7
NSTT	baz=16 **Nanjuang**	**2.80**	**355**	eS	Sn	15 26 50.4	+1.7
LIOB	baz=359 **Emei**	**2.81**	**355**	eP	Pn	15 26 17.4	+1.8
TWC	baz=359 **Suao**	**2.82**	**11**	eP	Pn	15 26 18.4	+2.6
TWC	baz=4.0				eS	Sn	15 26 51.1	+1.9
EOS1	baz=4.0 **EOS1**	**2.82**	**16**	eP	Pn	15 26 17.8	+2.1
EOS1	baz=28				eS	Sn	15 26 51.1	+1.9
YHNB	baz=28 **Yeheng**	**2.83**	**2**	eP	Pn	15 26 17.1	+1.1
YHNB	baz=352				eS	Sn	15 26 50.7	+1.2
NSK	baz=352 **Sanguang**	**2.84**	**2**	eP	Pn	15 26 18.0	+2.0
NSK	baz=352				eS	Sn	15 26 51.3	+1.6
TWE	baz=352 **Neicheng**	**2.90**	**7**	eP	Pn	15 26 18.5	+1.7
TWE	baz=11				eS	Sn	15 26 52.4	+1.1
SLBB	baz=11 **Yuanshan**	**2.93**	**7**	eP	Pn	15 26 18.0	+0.7
SLBB	baz=10.0				eS	Sn	15 26 54.4	+2.3
NWLT	baz=10.0 **Wulai**	**2.94**	**4**	eP	Pn	15 26 18.5	+1.1
NWLT	baz=16				eS	Sn	15 26 53.3	+1.0
SBCB	baz=16 **Hsinchu**	**2.96**	**355**	eS	Sn	15 26 53.1	+0.4
JYNG	baz=359 **Yonagunijimaku**	**3.04**	**30**	P	Pn	15 26 20.6	+1.9
JYNG				eS	Sb	15 26 59.3	-2.5
YOJ	**Yonaguni jima**	**3.08**	**31**	eP	Pn	15 26 20.7	+1.5
YOJ	baz=43				eS	Sn	15 26 56.4	+0.9
YOJ	baz=43 **Yonaguni jima**	**3.08**	**31**	P	Pn	15 26 21.2	+1.9
YOJ				eS	Sb	15 27 01.2	-1.8
TIPB	**Shuangxi**	**3.17**	**9**	eP	Pn	15 26 21.3	+0.7
HATJ	baz=12 **Hateruma jima**	**3.23**	**46**	P	Pn	15 26 23.6	+2.2
HATJ				eS	Sb	15 27 05.1	-2.3
YM01	**YM01**	**3.31**	**5**	eP	Pn	15 26 22.4	-0.2
YM01	baz=354				eS	Sn	15 27 02.0	+0.6
YM04	**YM04**	**3.32**	**4**	eP	Pn	15 26 23.6	+1.0
YM04	baz=353				eS	Sn	15 27 03.0	+1.4
YM10	**YM10**	**3.32**	**5**	eP	Pn	15 26 24.8	+2.0
NTST	baz=354 **Danshui**	**3.33**	**3**	eS	Sn	15 27 02.2	+0.6
YM07	baz=353 **YM07**	**3.35**	**6**	eP	Pn	15 26 24.6	+1.5
YM07	baz=9.0				eS	Sn	15 27 03.7	+1.4
YM08	baz=9.0 **YM08**	**3.36**	**5**	eS	Sn	15 27 03.3	+0.8
IRIF	baz=8.0 **Iriomote-Funau**	**3.38**	**42**	P	Pn	15 26 25.6	+2.2
JKRS	**Kuro-shima**	**3.49**	**46**	P	Pn	15 26 27.2	+2.3
JKRS				eS	Sb	15 27 10.9	-3.9
JIJ	**Ishigaki jima**	**3.66**	**46**	P	Pn	15 26 29.0	+1.7
JIJ				S	Sb	15 27 15.2	-4.7
JISG	**Ishigakijimahi**	**3.93**	**45**	P	Pn	15 26 32.7	+1.7
JISG				eS	Sb	15 27 21.9	-5.6
JTJ	**Tarama**	**4.23**	**48**	P	Pn	15 26 37.0	+1.9
JTJ				eS	Sb	15 27 29.8	-6.3
JIRB	**Irabujima**	**4.67**	**50**	P	Pn	15 26 43.4	+2.2
JMJ2	**Miyako jima3**	**4.73**	**51**	eS	Sn	15 27 42.8	+6.4
JMJ	**Miyako jima 2**	**4.75**	**51**	eP	Pn	15 26 43.0	+0.7
JMJ	baz=52				eS	Sn	15 27 37.7	+0.8
JIKM	baz=52 **Ikemajima**	**4.79**	**49**	P	Pn	15 26 45.0	+2.2

IDC 31 15:31:05.5±1.9, 6°49S×125°94E, h0km, mb3.4/1, mb1 4.3/3, mb1mx3.6/24, mbtmp4.0/3, ML4.3/2, Error ellipse: s-maj=327.3km s-min=29.1km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.67**	**149**	Pn	Pn	15 34 49.4	+1.6
	1.1nm,0.3s,baz=329,slow=13,SNR=100						
ASAR	**Alice Springs**	**18.72**	**157**	P	P	15 35 25.0	-0.9
	0.9nm,0.3s,baz=339,slow=9.9,SNR=80						
MKAR	**Makanchi Array**	**65.64**	**329**	P	P	15 41 51.6	0.0
	0.3nm,0.6s,baz=120,slow=8.3,SNR=4.7						

*ISCJB **31** 15:39:16.7±0.9, 38°7S±0°1×78°1E±0°2, h10km, mb3.8/8, MS3.7/10, Error ellipse: s-maj=27.5km s-min=20.1km az=14.2*
*IDC **31** 15:39:16.5±1.0, 38°63S×78°03E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/28, mbtmp3.8/8, MS3.7/10, Ms1 3.7/10, ms1mx3.5/23, Error ellipse: s-maj=32.8km s-min=23.5km az=102.0*

ISC 31 15:39:18.2±1.0, 38°6S±0°2×78°0E±0°2, h10km, n17, σ0°86/9, mb3.8/8, MS3.7/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**30.23**	**191**	LR	LR	15 55 13.0	
	comp=Z,163nm,20.0s,baz=36,slow=32						
H08S2	**Diego Garcia H**	**31.26**	**349**	T	T	16 18 30.2	
	baz=171,slow=76,SNR=728						
H08S1	**Diego Carcia H**	**31.26**	**349**	T	T	16 18 34.2	
	baz=171,slow=76,SNR=563						
H08S3	**Diego Garcia H**	**31.28**	**349**	T	T	16 18 31.7	
	baz=171,slow=76,SNR=1022						
BOSA	**Boshof**	**44.55**	**267**	LR	LR	16 02 53.7	
	comp=Z,90nm,18.9s,baz=69,slow=32						
ASAR	**Alice Springs**	**49.37**	**89**	P	**P**	**15 48 08.3**	**+0.3**
	1.1nm,1.0s,baz=241,slow=5.6,SNR=6.4						
ASAR				LR	LR	16 07 13.1	
	comp=Z,62nm,18.1s,baz=256,slow=34						
SNAA	**Sanae**	**51.01**	**204**	P	**P**	**15 48 19.9**	**+0.1**
	1.5nm,1.1s,baz=231,slow=1.6,SNR=2.5						
VNDA	**Vanda**	**51.29**	**164**	P	**P**	**15 48 22.1**	**+0.3**
	0.9nm,1.1s,baz=238,slow=11,SNR=2.9						
VNDA				LR	LR	16 08 37.7	
	comp=Z,114nm,18.5s,baz=269,slow=34						
STKA	**Stephens Creek**	**51.42**	**103**	P	**P**	**15 48 23.6**	**+0.2**
	2.2nm,0.9s,baz=298,slow=7.8,SNR=3.9						
STKA				LR	LR	16 05 48.7	
	comp=Z,112nm,20.5s,baz=211,slow=31						
WRA	**Warramunga Arr**	**51.71**	**86**	P	**P**	**15 48 24.8**	**-0.9**
	1.6nm,0.9s,baz=226,slow=7.7,SNR=6.4						
KMBO	**Kilima Mbogo**	**52.78**	**305**	LR	LR	16 05 49.1	
	comp=Z,88nm,21.5s,baz=93,slow=30						
CMAR	**Chiang Mai Arr**	**60.08**	**23**	P	**P**	**15 49 26.1**	**+0.5**
	0.2nm,0.2s,baz=202,slow=6.8,SNR=3.1						
CMAR				LR	LR	16 11 08.4	
	comp=Z,42nm,20.1s,baz=178,slow=32						
GEYT	**Alibeck**	**78.37**	**344**	LR	LR	16 20 52.1	
	comp=Z,18nm,19.2s,baz=255,slow=32						
MKAR	**Makanchi Array**	**85.14**	**3**	P	**P**	**15 51 54.4**	**+0.4**
	0.6nm,0.7s,baz=166,slow=6.1,SNR=6.0						
MKAR				LR	LR	16 27 21.0	
	comp=Z,41nm,20.4s,baz=198,slow=34						
SONM	**Songino Array**	**89.72**	**19**	P	**P**	**15 52 16.4**	**+0.1**
	0.3nm,0.5s,baz=184,slow=4.3,SNR=2.1						
ZALV	**Zalesovo Beam**	**92.40**	**4**	LR	LR	16 32 21.4	
	comp=Z,33nm,20.0s,baz=68,slow=34						
YKA	**Yellowknife Ar**	**154.90**	**14**	PKPbc	**PKPbc**	**15 59 17.1**	**-1.7**
	0.1nm,0.4s,baz=311,slow=2.4,SNR=3.4						

*IPEC **31** 15:55:10.9±0.2, 49°81N×18°53E, h0km, ML1.2/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*

PRU 31 15:55:11.9±0.0, 49°82N×18°47E, h0km, 5C-1D, Mining Induced Event Darkov, E=2.2e+04, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.21**	**275**	⇓ i PG	Pg	15 55 16.2	+0.3
OKC				eSG	Sg	15 55 19.4	+0.8
MORC	**Moravsky Berou**	**0.60**	**266**	ePG	Pg	15 55 23.2	-0.2
MORC				eSG	Sg	15 55 30.9	-0.3
MORC	**Moravsky Berou**	**0.60**	**266**	ePg	Pg	15 55 23.2	-0.2
	baz=86						
MORC				eSg	Sg	15 55 30.8	-0.4
	5.3nm,0.2s,baz=86						
LANS	**Liptovska Anna**	**0.93**	**135**	ePG	Pg	15 55 29.3	-0.5
LANS				eSG	Sg	15 55 42.1	+0.2
OJC	**Ojcow**	**0.95**	**64**	ePg	Pg	15 55 28.9	-1.1
OJC				eSg	Sg	15 55 41.6	-0.7
JAVC	**Velka Javorina**	**1.09**	**209**	ePG	Pg	15 55 33.0	+0.1
KRLC	**Kraliky**	**1.12**	**284** ⇑	ePG	Pg	15 55 31.6	-1.8
KRLC				eSG	Sg	15 55 48.3	+0.4
	comp=Z,2.4nm,0.5s						
NIE	**Niedzica**	**1.26**	**108**	ePg	Pg	15 55 35.2	-0.7
NIE				eSg	Sb	15 55 53.3	+0.1
VRAC	**Vranov**	**1.32**	**248**	ePG	Pg	15 55 36.3	-1.0
VRAC				eSG	Sg	15 55 53.7	-0.7
VRAC	**Vranov**	**1.32**	**248**	ePg	Pg	15 55 36.2	-1.1
	baz=68						
VRAC				eSg	Sg	15 55 53.7	-0.7
	4.2nm,0.3s,baz=68						
VYHS	**Vyhne**	**1.35**	**170**	ePG	Pg	15 55 36.0	-1.7
VYHS				eSG	Sg	15 55 54.9	-0.3
DPC	**Dobruska-Polom**	**1.48**	**292** ⇑	ePG	Pn	15 55 38.7	-1.2
DPC				eSG	Sg	15 55 58.5	-1.0
	comp=Z,5.1nm,0.3s						
KRUC	**Moravsky**	**1.55**	**242**	ePG	Pn	15 55 39.6	-1.2
KRUC				eSG	Sn	15 56 00.6	-1.0
KRUC	**Moravsky**	**1.55**	**242**	ePg	Pn	15 55 39.6	-1.2
	baz=61						
KRUC				eSg	Sn	15 56 00.6	-1.0
	2.3nm,0.2s,baz=61						
UPC	**Upice**	**1.72**	**294** ⇑	ePG	Pn	15 55 43.1	-0.1
UPC				eSG	Sb	15 56 06.7	+0.1
	comp=Z,5.5nm,0.5s						
PRU	**Pruhonice**	**2.54**	**275** ⇑	eSG	Sg	15 56 32.2	-1.4
	comp=Z,1.8nm,0.5s						
KHC	**Kasperske Hory**	**3.26**	**260** ⇑	eSG	Sg	15 56 54.5	-2.2
	comp=Z,1.6nm,0.4s						
CLL	**Collm**	**3.79**	**295**	eSg	Sg	15 57 13.0	-0.6

MEX 31 15:56:25.2±0.6, 14°97N×93°10W, h60km±11km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.74**	**351**	eP	Pn	15 56 38.9	-1.1
PCIG				eS	Sn	15 56 48.5	-2.2
THIG		**0.81**	**94**	eP	Pn	15 56 39.0	-1.7
THIG				eS	Sn	15 56 51.0	-1.1
CCIG	**Comitan**	**1.60**	**35**	i P	Pn	15 56 50.6	-0.9
CCIG				eS	Sn	15 57 09.1	-2.1
TGIG		**1.80**	**359**	eP	Pn	15 56 52.9	-1.1
TGIG				eS	Sn	15 57 13.5	-2.3
CMIG	**Matias Romero**	**2.72**	**321**	eP	Pn	15 57 04.8	-1.7
CMIG				i S	Sn	15 57 36.7	-1.6
HUIG	**Huatulco**	**3.01**	**286**	i P	Pn	15 57 08.5	-2.0
HUIG				eS	Sn	15 57 42.9	-2.4

*IDC **31** 15:56:41.7±1.8, 2°60S×142°60E, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.5/20, mbtmp3.7/3, ML4.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/13, Error ellipse: s-maj=236.5km s-min=30.2km az=113.0*
*ISCJB **31** 15:56:44.6±0.6, 2°71S±0°08×142°8E±0°1, h33km, mb4.1/1, Error ellipse: s-maj=18.8km s-min=9.2km az=26.7*
*NEIC **31** 15:56:46.6±0.6, 2°70S×142°78E, h35km, mb4.0/8, Error ellipse: s-maj=16.8km s-min=8.5km az=116.0*

ISC 31 15:56:46.0±0.8, 2°7S±0°1×142°7E±0°1, h35km, n16, σ0°78/14, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**4.68**	**83**	ePn	**Pn**	**15 57 54.4**	**+0.1**
GUMO	**Guam**	**16.28**	**7**	ePn	**P**	**16 00 33.6**	**-1.2**
	48nm,1.1s						
WRAB	**Tennant Creek**	**19.02**	**205**	eP	**Pn**	**16 01 06.5**	**+0.6**
	5.7nm,0.8s						
WB2	**Warramunga Arr**	**19.02**	**205**	eP	**Pn**	**16 01 06.5**	**+0.4**
	4.7nm,0.6s						
WR1	**Warramunga Arr**	**19.03**	**205**	eP	**Pn**	**16 01 06.0**	**-0.1**
WRA	**Warramunga Arr**	**19.03**	**205**	P	**Pn**	**16 01 06.0**	**-0.1**
	0.7nm,0.3s,baz=28,slow=11,SNR=39						
AS31	**Alice Springs**	**22.56**	**201**	eP	**P**	**16 01 43.5**	**+0.1**
	1.4nm,1.1s						
ASAR	**Alice Springs**	**22.56**	**201**	P	**P**	**16 01 43.5**	**+0.1**
	1.2nm,0.7s,baz=29,slow=12,SNR=10						
FITZ	**Fitzroy Crossi**	**22.71**	**226**	eP	**P**	**16 01 44.7**	**-0.3**
	2.9nm,0.6s						
EIDS	**Eidsvold**	**23.97**	**161**	eP	**P**	**16 01 56.0**	**-1.4**
	8.2nm,0.8s						
BBOO	**Buckleboo**	**30.64**	**191**	eP	**P**	**16 02 57.5**	**+0.3**
	13nm,1.1s						
JHJ2	**Mitsune**	**35.68**	**356**	eP	**P**	**16 03 41.0**	**-0.1**
	276nm,1.0s						
SONM	**Songino Array**	**59.46**	**332**	LR	LR	16 32 05.6	
	comp=Z,17nm,19.3s,baz=104,slow=36						
PPT	**Papeete**	**67.95**	**108**	LR	LR	16 33 13.5	
	comp=Z,30nm,19.6s,baz=94,slow=32						
ILAR	**Eielson Array**	**84.14**	**24**	P	**P**	**16 09 14.4**	**+1.1**
	0.3nm,0.7s,baz=244,slow=5.9,SNR=4.2						
ILB	**Eielson Array**	**84.14**	**24**	eP	**P**	**16 09 14.4**	**+1.1**
	1.0nm,0.6s						

*IPEC **31** 15:56:50.5±0.2, 49°80N×18°55E, h0km±3km, ML1.8/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*

PRU 31 15:56:53.4±0.0, 49°82N×18°36E, h0km, Mining Induced Event Darkov, E=2.6e+04, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.14**	**277**	ePG	Pg	15 56 56.0	-0.1
OKC				eSG	Sg	15 56 59.2	+1.4
	comp=Z,25nm,0.2s						
MORC	**Moravsky Berou**	**0.53**	**266**	ePG	Pg	15 57 03.2	-0.4
MORC				eSG	Sg	15 57 11.1	+0.7
MORC	**Moravsky Berou**	**0.53**	**266**	ePg	Pg	15 57 03.1	-0.5
	baz=87						
MORC				eSg	Sg	15 57 11.0	+0.6
	19nm,0.2s,baz=87						
LANS	**Liptovska Anna**	**0.98**	**132**	ePG	Pg	15 57 09.5	-2.8
LANS				eSG	Sg	15 57 22.1	-2.9
OJC	**Ojcow**	**1.01**	**66**	ePg	Pg	15 57 08.2	-4.6
OJC				eSg	Sg	15 57 22.4	-3.4
KRLC	**Kraliky**	**1.05**	**285**	ePG	Pg	15 57 11.6	-1.9
KRLC				eSG	Sg	15 57 27.2	+0.1
	comp=Z,4.0nm,0.3s						
JAVC	**Velka Javorina**	**1.06**	**205**	ePG	Pg	15 57 12.5	-1.2
VRAC	**Vranov**	**1.26**	**247**	ePG	Pg	15 57 16.0	-1.5
VRAC	**Vranov**	**1.26**	**247**	ePg	Pg	15 57 16.0	-1.5
	baz=68						
VRAC				eSg	Sg	15 57 33.4	-0.4
	14nm,0.3s,baz=68						
NIE	**Niedzica**	**1.32**	**107**	ePg	Pg	15 57 14.8	-4.0
NIE				eSg	Sg	15 57 32.9	-3.0
VYHS	**Vyhne**	**1.36**	**167**	ePG	Pg	15 57 16.1	-3.4
VYHS				eSG	Sg	15 57 34.2	-3.0
DPC	**Dobruska-Polom**	**1.42**	**293**	ePG	Pn	15 57 18.9	-1.6
DPC				eSG	Sg	15 57 38.6	-0.3
	comp=Z,11nm,0.4s						
KRUC	**Moravsky**	**1.49**	**240**	ePG	Pn	15 57 19.4	-2.0
KRUC				eSG	Sg	15 57 40.3	-0.9
KRUC	**Moravsky**	**1.49**	**240**	ePg	Pn	15 57 19.4	-2.0
	baz=61						
KRUC				eSg	Sg	15 57 40.2	-1.0
	9.0nm,0.2s,baz=61						
UPC	**Upice**	**1.66**	**295**	eSG	Sn	15 57 45.6	-0.2
PRU	**Pruhonice**	**2.47**	**275**	eSG	Sb	15 58 10.9	+1.2
	comp=Z,2.4nm,0.5s						
KHC	**Kasperske Hory**	**3.19**	**259**	ePG	Pb	15 57 51.4	+0.4
KHC				eSG	Sb	15 58 32.8	+2.3
	comp=Z,3.9nm,0.7s						
VINO	**Villanova**	**4.93**	**226**	S	Sg	15 59 32.0	+0.3
CTI	**Castel Tesino**	**5.88**	**233**	S	Sn	15 59 37.0	+7.1
ASOL	**Asolo**	**5.92**	**230**	P	Pg	15 58 51.1	+4.3
STON	**Ston**	**6.96**	**184**	P	Pb	15 58 59.8	+4.6
STON	**Ston**	**6.96**	**184**	S	Sn	15 59 49.0	-7.5

ROM 31 15:58:26.7±0.1, 43°389N±0°004×12°485E±0°004, h7km, Md1.0/4, Error ellipse: s-maj=0.3km s-min=0.2km az=11.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.06**	**264**	P	Pg	15 58 28.7	+0.3
ATVO				S	Sg	15 58 30.1	+0.4
ATVO				END			
ATVO				END			
ATVO				END			
ATVO				END			
ATVO	**AVT- Monte Val**	**0.06**	**264**	S	Sg	15 58 29.0	-0.7
ATVO	**AVT- Monte Val**	**0.06**	**264**	S	Sg	15 58 30.1	+0.4
ATFO	**Monte Foce - G**	**0.07**	**109**	P	Pg	15 58 28.8	+0.2
ATFO				S	Sg	15 58 30.2	+0.3
ATFO				END			
ATFO				END			
ATFO	**Monte Foce - G**	**0.07**	**109**	S	Sg	15 58 29.0	-0.9
ATFO	**Monte Foce - G**	**0.07**	**109**	S	Sg	15 58 30.2	+0.3
ATPI	**Pietralunga -**	**0.09**	**316**	P	Pg	15 58 29.1	+0.2
ATPI				S	Sg	15 58 30.8	+0.4
ATPI				END			
ATPI				END			
ATPI				END			
ATPI				END			
ATPI	**Pietralunga -**	**0.09**	**316**	S	Sg	15 58 30.0	-0.4
ATPI	**Pietralunga -**	**0.09**	**316**	S	Sg	15 58 30.8	+0.4
PIEI	**Pieia**	**0.15**	**14**	P	Pg	15 58 30.3	+0.4
PIEI				S	Sg	15 58 33.2	+1.1
PIEI				END			
PIEI				END			
PIEI	**Pieia**	**0.15**	**14**	S	Sg	15 58 31.0	-1.1
PIEI	**Pieia**	**0.15**	**14**	S	Sg	15 58 33.2	+1.1
EL6	**Elcito**	**0.45**	**97**	AML	AML		
	comp=E,99μm,1.6s						
EL6				AML	AML		
	comp=E,99μm,1.6s						
EL6				AML	AML		
	comp=N,118μm,1.6s						
EL6				AML	AML		
	comp=N,118μm,1.6s						
ARCI	**Arcidosso**	**0.91**	**234**	S	Sg	15 58 53.0	-3.1
IMOL	**Imola, Italy**	**1.11**	**331**	S	Sg	15 58 56.0	-6.4
PTF	**Prato**	**1.18**	**300**	S	Sg	15 59 04.0	-0.5
CARD	**Cardoso**	**1.59**	**294**	S	Sn	15 59 16.0	0.0
QLNO	**Quiliano**	**3.14**	**289**	S	Sn	15 59 50.0	-4.3

GBOS	Grotte di Boss	3.47 286	S	Sn	16 00 01.0	-1.5
BHB	Bricherasio	4.03 293	P	Pn	15 59 25.4	-3.4

IDC 31 16:03:49.0±2.4, 11°.32S×123°.57E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.7/21, mbtmp4.0/4, ML4.1/2, Error ellipse: s-maj=160.1km s-min=30.8km az=54.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.45**	**131**	Pn	Pn	16 07 00.6	-0.7
	1.2nm,0.3s,baz=304,slow=13,SNR=60						
WRA				Sn	Sn	16 09 16.8	-15
	0.4nm,0.3s,baz=315,slow=25,SNR=2.4						
ASAR	**Alice Springs**	**15.74**	**143**	Pn	Pn	16 07 33.0	+0.9
	0.6nm,0.3s,baz=321,slow=12,SNR=31						
ASAR				Sn	Sn	16 10 18.0	-9.4
	0.4nm,0.3s,baz=319,slow=22,SNR=8.6						
SONM	**Songino Array**	**60.84**	**347**	P	P	16 14 03.0	-0.3
	0.5nm,0.5s,baz=168,slow=7.4,SNR=4.2						
MKAR	**Makanchi Array**	**68.61**	**331**	P	P	16 14 54.0	+0.2
	1.3nm,0.8s,baz=139,slow=7.8,SNR=12						

*ISCJB **31** 16:15:48.8±0.5, 38°.58S±0°.10×78°.5E±0°.1, h10km, mb4.1/15, MS3.9/16, Error ellipse: s-maj=14.6km s-min=11.4km az=149.5*
*IDC **31** 16:15:48.8±0.7, 38°.55S×78°.43E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/33, mbtmp3.9/9, MS3.9/16, Ms1 3.9/16, ms1mx3.7/20, Error ellipse: s-maj=23.3km s-min=20.3km az=1.0*
*NEIC **31** 16:15:50.4±0.5, 38°.52S×78°.46E, h10km, mb4.3/10, Error ellipse: s-maj=17.2km s-min=12.0km az=143.0*
ISC 31 16:15:50.5±0.6, 38°.6S±0°.1×78°.5E±0°.1, h10km, n36, σ19°00/24, mb4.1/15, MS4.0/16, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**21.07**	**239**	*eP*	**P**	**16 20 35.3**	**+0.6**
	76nm,0.6s						
MAW	**Mawson**	**30.39**	**192**	*eP*	**P**	**16 22 02.1**	**-0.1**
	1.1nm,1.1s						
MAW	**Mawson**	**30.39**	**192**	LR	LR	16 32 02.9	
	comp=Z,290nm,18.4s,baz=32,slow=32						
H08S2	**Diego Garcia H**	**31.23**	**349**	T	T	16 55 03.1	
	baz=171,slow=76,SNR=594						
H08S1	**Diego Carcia H**	**31.24**	**348**	T	T	16 55 03.3	
	baz=171,slow=76,SNR=346						
H08S3	**Diegci Garcia H**	**31.25**	**349**	T	T	16 55 04.6	
	baz=171,slow=76,SNR=712						
BOSA	**Boshof**	**44.89**	**266**	*eP*	**P**	**16 24 06.5**	**+1.2**
	4.9nm,1.0s						
BOSA	**Boshof**	**44.89**	**266**	P	**P**	**16 24 05.0**	**-0.4**
	2.0nm,0.9s,baz=146,slow=7.3,SNR=2.5						
BOSA				LR	LR	16 38 09.8	
	comp=Z,171nm,21.3s,baz=108,slow=30						
ASAR	**Alice Springs**	**49.03**	**89**	P	**P**	**16 24 37.2**	**-0.6**
	2.1nm,1.0s,baz=236,slow=7.9,SNR=8.6						
ASAR				LR	LR	16 43 27.8	
	comp=Z,54nm,18.5s,baz=247,slow=34						
AS31	**Alice Springs**	**49.04**	**89**	*eP*	**P**	**16 24 37.2**	**-0.6**
	1.2nm,1.0s						
STKA	**Stephens Creek**	**51.12**	**103**	*eP*	**P**	**16 24 54.1**	**+0.6**
	1.2nm,0.8s						
STKA	**Stephens Creek**	**51.12**	**103**	P	**P**	**16 24 54.1**	**+0.6**
	4.1nm,0.8s,baz=270,slow=10,SNR=3.1						
STKA				LR	LR	16 42 20.5	
	comp=Z,179nm,21.4s,baz=208,slow=31						
SNAA	**Sanae**	**51.23**	**204**	*eP*	**P**	**16 24 52.9**	**-0.8**
	3.7nm,1.1s						
SNAA	**Sanae**	**51.23**	**204**	P	**P**	**16 24 52.9**	**-0.8**
	0.9nm,0.9s,baz=108,slow=6.4,SNR=2.7						
VNDA	**Vanda**	**51.29**	**164**	*eP*	**P**	**16 24 54.8**	**+0.7**
	2.9nm,1.0s						
VNDA	**Vanda**	**51.29**	**164**	P	**P**	**16 24 54.7**	**+0.7**
	0.8nm,0.7s,baz=287,slow=11,SNR=3.9						
VNDA				LR	LR	16 44 59.8	
	comp=Z,165nm,18.2s,baz=268,slow=34						
WR1	**Warramunga Arr**	**51.37**	**85**	*eP*	**P**	**16 24 56.2**	**+0.7**
WRA	**Warramunga Arr**	**51.37**	**85**	P	**P**	**16 24 56.2**	**+0.8**
	4.4nm,0.9s,baz=239,slow=9.6,SNR=7.6						
WB2	**Warramunga Arr**	**51.38**	**85**	*eP*	**P**	**16 24 56.3**	**+0.8**
	5.8nm,0.9s						
QSPA	**South Pole Qui**	**51.61**	**180**	*eP*	**P**	**16 24 56.8**	**0.0**
	7.7nm,1.0s						
KMBO	**Kilima Mbogo**	**53.00**	**304**	P	**P**	**16 25 08.7**	**+0.8**
	0.3nm,0.3s,baz=67,slow=18,SNR=2.7						
KMBO				LR	LR	16 42 40.9	
	comp=Z,136nm,20.9s,baz=100,slow=30						
CM31	**Chiang Mai Arr**	**59.87**	**23**	*eP*	**P**	**16 25 57.4**	**+1.0**
	2.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**59.87**	**23**	P	**P**	**16 25 57.3**	**+1.0**
	0.6nm,0.8s,baz=206,slow=7.5,SNR=3.5						
CMAR				LR	LR	16 47 28.8	
	comp=Z,54nm,21.0s,baz=188,slow=32						
GEYT	**Alibeck**	**78.38**	**344**	LR	LR	16 58 19.2	
	comp=Z,22nm,18.1s,baz=270,slow=32						
MK32	**Makanchi Array**	**85.03**	**3**	*eP*	**P**	**16 28 25.0**	**-0.8**
MKAR	**Makanchi Array**	**85.03**	**3**	P	**P**	**16 28 25.0**	**-0.8**
	1.2nm,0.9s,baz=168,slow=6.3,SNR=5.6						
MKAR				LR	LR	17 03 52.1	
	comp=Z,78nm,20.6s,baz=186,slow=34						
KBZ	**Khabaz**	**88.00**	**335**	LR	LR	17 06 17.5	
	comp=Z,29nm,18.0s,baz=150,slow=34						
TORD	**Torodi Ar. Bea**	**88.02**	**288**	LR	LR	17 05 01.9	
	comp=Z,124nm,21.5s,baz=65,slow=34						
BRTR	**Keskin Array B**	**88.06**	**327**	LR	LR	17 03 58.7	
	comp=Z,20nm,19.2s,baz=103,slow=33						
DBIC	**Dimbokro**	**88.92**	**279**	LR	LR	17 06 29.3	
	comp=Z,75nm,18.0s,baz=112,slow=34						
SONM	**Songino Array**	**89.53**	**18**	LR	LR	17 08 35.8	
	comp=Z,48nm,18.1s,baz=146,slow=35						
ZALV	**Zalesovo Beam**	**92.29**	**4**	LR	LR	17 08 42.0	
	comp=Z,47nm,20.3s,baz=72,slow=34						
KEST	**Kesra**	**97.67**	**310**	LR	LR	17 11 56.0	
	comp=Z,93nm,19.3s,baz=281,slow=34						
INK	**Inuvik**	**145.42**	**20**	PKPbc	**PKPbc**	**16 35 26.2**	**-1.2**
	0.8nm,0.7s,baz=302,slow=2.2,SNR=2.3						
YKA	**Yellowknife Ar**	**154.73**	**14**	PKPbc	**PKPbc**	**16 35 48.8**	**-2.0**
	0.2nm,0.7s,baz=19,slow=2.6,SNR=2.8						
YKB5	**Yellowknife Ar**	**154.73**	**14**	*e*PKPbc	**PKPbc**	**16 35 48.8**	**-2.0**

*ISK **31** 16:17:59.4, 37°.43N×23°.27E, h8km, ML3.5/7*
*ATH **31** 16:18:00.6, 37°.36N×23°.17E, h18km±1km, ML3.4/14, Error ellipse: s-maj=1.4km s-min=0.7km az=86.0*
*ISCJB **31** 16:18:01.3±0.3, 37°.35N±0°.02×23°.22E±0°.02, h20km±2km, Error ellipse: s-maj=2.8km s-min=2.6km az=167.4*
*THE **31** 16:18:01.1, 37°.34N×23°.21E, h11km, ML3.4/20, Error ellipse: s-maj=0.7km s-min=0.4km az=352.0*
*DDA **31** 16:18:36.1, 36°.96N×22°.82E, h6km, ML3.1*
ISC 31 16:18:00.5±0.8, 37°.36N±0°.02×23°.18E±0°.02, h18km±3km, n77, σ0°66/117, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRND	**KRANIDI**	**0.04**	**312**	P	**Pg**	**16 18 03.7**	**0.0**
KRND				S	**Sg**	**16 18 05.9**	**0.0**
KRND	**KRANIDI**	**0.04**	**312**	P	**Pg**	**16 18 03.7**	**0.0**
KRND				S	**Sg**	**16 18 05.8**	**0.0**
KRND				AML	AML	16 18 06.3	
	comp=N,44660μm,0.2s						
KRND				AML	AML	16 18 06.6	
	comp=E,82998μm,0.4s						
DID	**Didima**	**0.15**	**16**	P	**Pg**	**16 18 04.8**	**0.0**
DID				S	**Sg**	**16 18 08.0**	**+0.2**
DID	**Didima**	**0.15**	**16**	P	**Pg**	**16 18 04.8**	**0.0**
DID				S	**Sg**	**16 18 07.9**	**+0.1**
DID				AML	AML	16 18 08.5	
	comp=E,48305μm,0.2s						
DID				AML	AML	16 18 08.5	
	comp=N,56985μm,0.1s						
YDRA	**Hydra**	**0.22**	**92**	P	**Pb**	**16 18 06.4**	**+0.5**
YDRA				S	**Sg**	**16 18 10.5**	**+1.1**
YDRA				AML	AML	16 18 11.0	
	comp=N,61221μm,0.5s						
YDRA				AML	AML	16 18 13.3	
	comp=E,56705μm,0.5s						
EPID	**Epidavros**	**0.26**	**349**	P	**Pb**	**16 18 06.7**	**+0.1**
EPID				S	**Sb**	**16 18 10.8**	**+0.1**
VLX	**Vlachokerasia**	**0.64**	**271**	P	**Pg**	**16 18 13.1**	**-0.1**
VLX				S	**Sn**	**16 18 23.1**	**-1.5**
VLX	**Vlachokerasia**	**0.64**	**271**	P	**Pg**	**16 18 13.1**	**-0.1**
VLX				S	**Sg**	**16 18 22.0**	**+0.2**
VLX				AML	AML	16 18 25.1	
	comp=E,14257μm,0.7s						
VLX				AML	AML	16 18 25.2	
	comp=N,12057μm,0.8s						
LOUT	**Loutraki**	**0.65**	**345**	P	**Pg**	**16 18 13.7**	**+0.3**
VLI	**Veliai**	**0.67**	**197**	P	**Pb**	**16 18 13.6**	**-0.1**
VLI				S	**Sg**	**16 18 22.7**	**+0.1**
VLI	**Veliai**	**0.67**	**197**	P	**Pb**	**16 18 13.5**	**-0.1**
VLI				S	**Sg**	**16 18 22.5**	**-0.2**
VLI				AML	AML	16 18 26.1	
	comp=N,12548μm,0.4s						
VLI				AML	AML	16 18 26.3	
	comp=E,8222μm,0.5s						
VLY	**Voula,Athens**	**0.69**	**44**	P	**Pb**	**16 18 14.0**	**0.0**
VLY				S	**Sn**	**16 18 25.0**	**-0.7**
VLY	**Voula,Athens**	**0.69**	**44**	P	**Pb**	**16 18 13.6**	**-0.5**
VLY				S	**Sn**	**16 18 24.8**	**-0.9**
VLY				AML	AML	16 18 26.7	
	comp=N,8313μm,0.6s						
VLY				AML	AML	16 18 26.9	
	comp=E,20377μm,0.5s						
ATH	**Athens Observa**	**0.74**	**34**	P	**Pg**	**16 18 15.4**	**+0.3**
ATH				S	**Sn**	**16 18 26.7**	**-0.3**
ATH	**Athens Observa**	**0.74**	**34**	P	**Pg**	**16 18 15.2**	**+0.1**
ATH				S	**Sg**	**16 18 25.2**	**+0.2**
ATH				AML	AML	16 18 27.5	
	comp=E,6745μm,1.3s						
ATH				AML	AML	16 18 28.5	
	comp=N,4395μm,0.9s						
TRIP	**Tripoli**	**0.75**	**283**	P	**Pb**	**16 18 14.9**	**-0.2**
TRIP				S	**Sn**	**16 18 27.2**	**0.0**
TRIP	**Tripoli**	**0.75**	**283**	P	**Pb**	**16 18 14.8**	**-0.2**
TRIP				S	**Sb**	**16 18 24.5**	**-0.4**
TRIP				AML	AML	16 18 28.4	
	comp=E,7578μm,0.6s						
TRIP				AML	AML	16 18 29.2	
	comp=N,3157μm,0.6s						
ATHU	**Athens Univers**	**0.77**	**38**	P	**Pb**	**16 18 15.7**	**+0.2**
ATHU				S	**Sn**	**16 18 27.6**	**-0.1**
ATHU	**Athens Univers**	**0.77**	**38**	P	**Pb**	**16 18 15.6**	**+0.2**
ATHU				S	**Sg**	**16 18 26.1**	**+0.2**
ATHU				AML	AML	16 18 28.9	
	comp=N,2250μm,0.5s						
ATHU				AML	AML	16 18 28.9	
	comp=E,1741μm,1.0s						
PTL	**Penteli**	**0.88**	**38**	P	**Pg**	**16 18 17.7**	**+0.1**
PTL				S	**Sg**	**16 18 29.9**	**+0.7**
PTL	**Penteli**	**0.88**	**38**	P	**Pb**	**16 18 17.4**	**+0.2**
PTL				S	**Sn**	**16 18 30.0**	**-0.3**
PTL				AML	AML	16 18 31.8	
	comp=E,5826μm,0.8s						
PTL				AML	AML	16 18 31.8	
	comp=N,3433μm,0.6s						
GUR	**Goura**	**0.88**	**311**	P	**Pn**	**16 18 18.9**	**+0.7**
GUR	**Goura**	**0.88**	**311**	P	**Pb**	**16 18 17.0**	**-0.3**
GUR				S	**Sn**	**16 18 30.4**	**-0.2**
GUR				AML	AML	16 18 37.1	
	comp=E,4172μm,0.5s						
GUR				AML	AML	16 18 37.3	
	comp=N,5146μm,0.7s						
DYR	**Agios Nikonas**	**0.90**	**229**	P	**Pg**	**16 18 18.0**	**-0.1**
DION	**Dionisos Attik**	**0.93**	**39**	P	**Pg**	**16 18 18.8**	**+0.1**
DION				S	**Sn**	**16 18 32.0**	**+0.3**
DION	**Dionisos Attik**	**0.93**	**39**	P	**Pg**	**16 18 18.7**	**+0.1**
DION				S	**Sg**	**16 18 31.2**	**+0.2**
DION				AML	AML	16 18 32.3	
	comp=E,3792μm,1.0s						
DION				AML	AML	16 18 35.2	
	comp=N,3163μm,0.6s						
ITM	**Ithomi**	**1.02**	**260**	P	**Pg**	**16 18 20.0**	**-0.3**
ITM				S	**Sn**	**16 18 35.2**	**+1.4**
ITM	**Ithomi**	**1.02**	**260**	P	**Pg**	**16 18 20.0**	**-0.3**
SERI	**Serifos**	**1.06**	**100**	P	**Pb**	**16 18 20.2**	**-0.1**
SERI				S	**Sb**	**16 18 34.4**	**+0.6**
SERI	**Serifos**	**1.06**	**100**	P	**Pb**	**16 18 20.3**	**-0.1**
KLV	**Kalavryta, Ach**	**1.07**	**310**	P	**Pg**	**16 18 21.2**	**0.0**
KLV				S	**Sg**	**16 18 37.6**	**+2.3**
KLV	**Kalavryta, Ach**	**1.07**	**310**	P	**Pn**	**16 18 20.8**	**+0.1**
KLV				S	**Sg**	**16 18 35.1**	**-0.1**
KLV				AML	AML	16 18 38.4	
	comp=E,1004μm,0.6s						
KLV				AML	AML	16 18 39.9	
	comp=N,2001μm,0.7s						
KTHR	**Kythira**	**1.10**	**188**	P	**Pg**	**16 18 21.7**	**-0.2**
KTHR				S	**Sg**	**16 18 37.1**	**+0.7**
DSF	**Desfina**	**1.17**	**334**	P	**Pg**	**16 18 23.4**	**+0.2**
DSF	**Desfina**	**1.17**	**334**	P	**Pb**	**16 18 22.5**	**+0.2**
MHLO	**Agia Marina, M**	**1.18**	**124**	P	**Pg**	**16 18 23.1**	**-0.2**
MHLO				S	**Sn**	**16 18 38.1**	**+0.3**
MHLO	**Agia Marina, M**	**1.18**	**124**	P	**Pg**	**16 18 23.2**	**-0.2**
AMT	**Artemida-Makis**	**1.19**	**279**	P	**Pg**	**16 18 23.1**	**-0.4**
AMT				S	**Sg**	**16 18 39.9**	**+0.9**
AMT	**Artemida-Makis**	**1.19**	**279**	P	**Pg**	**16 18 23.1**	**-0.4**
AMT				S	**Sg**	**16 18 38.5**	**-0.5**
AMT				AML	AML	16 18 42.8	
	comp=N,3987μm,0.5s						
AMT				AML	AML	16 18 44.8	
	comp=E,2480μm,0.8s						
EREA	**Eretria**	**1.21**	**29**	P	**Pb**	**16 18 23.1**	**+0.1**
EREA				S	**Sg**	**16 18 39.8**	**-0.1**
EREA	**Eretria**	**1.21**	**29**	P	**Pb**	**16 18 23.1**	**+0.1**
ALIK	**Aliki, Aigiali**	**1.24**	**317**	P	**Pg**	**16 18 24.2**	**-0.2**
PYL	**PYLOS**	**1.24**	**249**	P	**Pg**	**16 18 24.1**	**-0.4**
LAKA	**Lakka**	**1.30**	**313**	P	**Pb**	**16 18 24.4**	**0.0**
LAKA				S	**Sg**	**16 18 42.5**	**-0.1**
LKR	**Lokris**	**1.30**	**354**	P	**Pb**	**16 18 24.4**	**0.0**
DRO	**Drossia**	**1.31**	**297**	P	**Pg**	**16 18 25.2**	**-0.6**
DRO				S	**Sg**	**16 18 43.7**	**+0.7**
DRO	**Drossia**	**1.31**	**297**	P	**Pb**	**16 18 25.1**	**+0.4**
KALE	**Kalithea**	**1.32**	**322**	P	**Pg**	**16 18 25.5**	**-0.5**
KALE	**Kalithea**	**1.32**	**322**	P	**Pb**	**16 18 25.1**	**+0.2**
TRIZ	**Trizonia**	**1.34**	**319**	P	**Pb**	**16 18 25.4**	**+0.4**
ATAL	**Atalanti**	**1.34**	**355**	P	**Pb**	**16 18 25.1**	**0.0**
ATAL				S	**Sg**	**16 18 44.5**	**+0.7**
SERG	**Sergoula**	**1.38**	**320**	P	**Pg**	**16 18 26.8**	**-0.4**
MRKA	**Markates**	**1.38**	**13**	P	**Pn**	**16 18 25.2**	**+0.2**
MRKA				S	**Sb**	**16 18 44.0**	**+0.8**
EFP	**Efpalio**	**1.47**	**317**	P	**Pb**	**16 18 27.9**	**+0.6**
ANKY	**Antikythira Is**	**1.49**	**176**	P	**Pb**	**16 18 27.4**	**-0.3**
ANKY				S	**Sb**	**16 18 46.9**	**+0.6**
SMIA	**Simia**	**1.52**	**1**	P	**Pb**	**16 18 27.6**	**-0.6**
SMIA				S	**Sg**	**16 18 49.0**	**-0.6**
RLS	**Riolos of Patr**	**1.53**	**298**	P	**Pb**	**16 18 28.3**	**-0.1**
ANX	**Ano Chora**	**1.59**	**321**	P	**Pb**	**16 18 29.2**	**-0.2**
ANX	**Ano Chora**	**1.59**	**321**	P	**Pb**	**16 18 29.2**	**-0.2**
AGG	**Agios Georgios**	**1.79**	**338**	P	**Pb**	**16 18 32.4**	**-0.4**
AGG				S	**Sb**	**16 18 54.4**	**-0.6**
PVO	**Paravola**	**1.81**	**314**	P	**Pb**	**16 18 32.7**	**-0.5**
SKY	**Skiros Island**	**1.86**	**35**	P	**Pn**	**16 18 31.6**	**+0.1**
APE	**Apeiranthos**	**1.90**	**98**	PN	**Pn**	**16 18 32.2**	**+0.2**
IMMV	**Iera Moni Meta**	**2.00**	**161**	P	**Pn**	**16 18 34.9**	**+1.5**
XOR	**Xorichti**	**2.00**	**0**	P	**Pn**	**16 18 34.4**	**+0.9**
CHOS	**Chios island**	**2.49**	**65**	PN	**Pn**	**16 18 40.4**	**+0.1**
ZEY	**zmir**	**2.77**	**71**	*i* P	**Pn**	**16 18 44.0**	**0.0**
SIGR	**SIGRI**	**2.80**	**48**	PN	**Pn**	**16 18 44.4**	**0.0**
URLA	**Izmir**	**2.88**	**69**	PN	**Pn**	**16 18 45.5**	**0.0**
URLA	**Izmir**	**2.88**	**69**	IAML_P			
	comp=Z,1μm,0.3s						
URLA				*i* P	**Pn**	**16 18 46.7**	**+1.2**
URLA				*i* S	Sn	16 19 01.5	-18
OUR	**Ouranopolis**	**3.04**	**12**	PN	**Pn**	**16 18 48.1**	**+0.5**
OUR				SN	**Sn**	**16 19 23.4**	**-0.1**
BODT	**Bodrum**	**3.31**	**94**	PN	**Pn**	**16 18 52.2**	**+0.8**
ZEDA	**zmir-Bergama**	**3.46**	**61**	*i* P	**Pg**	**16 19 06.1**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**3.55**	**47**	*i* P	**Pn**	**16 18 53.9**	**-0.9**
DAT	**Datca**	**3.57**	**99**	PN	**Pn**	**16 18 55.9**	**+0.8**
DAT	**Datca**	**3.57**	**99**	IAML_P			
	comp=Z,24nm,0.1s						
DAT				*i* P	**Pn**	**16 18 52.0**	**-3.1**
AYDN	**Tasoluk**	**3.75**	**84**	IAML_P			
	comp=Z,71nm,0.2s						
AYDN				*i* P	**Pn**	**16 18 54.5**	**-2.9**

JMA 31 16:18:10.7, 36°.76N×140°.57E, h8km, M0.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.15**	**180**	P	Pg	16 18 13.9	0.0
JHO				S	Sg	16 18 16.2	+0.2
JFFD	**Fukushimafurud**	**0.33**	**359**	P	Pg	16 18 17.4	+0.2
JFFD				S	Sg	16 18 22.0	+0.4
ONAJ	**Iwakimizuishiy**	**0.39**	**28**	*e*S	Sg	16 18 23.4	0.0

JMA 31 16:18:40.9±0.1, 36°.62N×137°.83E, h16km±1km, M0.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.30**	**134**	P	Pg	16 18 46.9	-0.5
JNG				S	Sg	16 18 50.8	-1.0
MAT	**Matsushiro**	**0.31**	**104**	P	Pg	16 18 46.8	-0.7
MAT				S	Sg	16 18 50.9	-1.1
MAT	**Matsushiro**	**0.31**	**104**	P	Pg	16 18 46.8	-0.7
MAT				S	Sg	16 18 50.9	-1.1

KRSC 31 16:30:32.4±10.0, 52°.14N×160°.38E, h59km±10km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.98**	**347**	*e*P	Pn	16 30 51.3	+1.2
SPN				*e*S	Sn	16 31 04.1	+0.8
RUS	**Russkaya**	**1.18**	**285**	*e*P	Pn	16 30 54.0	+1.2
NLC	**Nalytchevo**	**1.21**	**329**	*e*P	Pn	16 30 54.9	+1.8
NLC				*e*S	Sn	16 31 10.1	+1.6
DALK	**Dalny**	**1.33**	**313**	*e*P	Pn	16 30 56.3	+1.5
DALK				*e*S	Sn	16 31 12.2	+0.7
MTVR	**Mutnovka**	**1.39**	**285**	*e*P	Pn	16 30 57.6	+1.9
MTVR				*e*S	Sn	16 31 14.5	+1.3
UGLR	**Uglovaya**	**1.43**	**319**	*e*P	Pn	16 30 58.4	+2.2
UGLR				*e*S	Sn	16 31 16.1	+2.1
SDLR	**Sedlovina**	**1.46**	**322**	*e*P	Pn	16 30 58.8	+2.2
KDTR	**Khodutka, Kamc**	**1.46**	**258**	*e*P	Pn	16 30 58.7	+2.2
KDTR				*e*S	Sn	16 31 16.3	+1.7
SMAR	**Somma**	**1.48**	**320**	*e*P	Pn	16 30 58.9	+2.0
AVH	**Avacha**	**1.50**	**319**	*e*P	Pn	16 30 59.5	+2.3
AVH				*e*S	Sn	16 31 17.5	+1.7
KRER	**Koryakskii**	**1.53**	**320**	*e*P	Pn	16 30 59.9	+2.3
KRMR	**Karymshinskiy**	**1.54**	**297**	*e*P	Pn	16 30 59.6	+2.1
KRMR				*e*S	Sn	16 31 18.2	+1.7
ASAK	**Asacha**	**1.54**	**280**	*e*P	Pn	16 31 00.2	+2.5
ASAK				*e*S	Sn	16 31 19.1	+2.4
KOK	**Koryaka**	**1.56**	**318**	*e*P	Pn	16 31 00.2	+2.2
KRX	**Arik**	**1.61**	**320**	*e*P	Pn	16 31 01.0	+2.3
APC	**Apacha**	**2.12**	**293**	*e*P	Pn	16 31 09.3	+3.9
APC				*e*S	Sn	16 31 35.4	+4.9
GNL	**Ganaly**	**2.14**	**317**	*e*P	Pn	16 31 09.5	+3.6
PAU	**Pauzhetka**	**2.31**	**254**	*i* P	Pn	16 31 10.7	+2.6
PAU				*e*S	Sn	16 31 37.4	+2.0
MKZ	**Mys Kozlova**	**2.55**	**18**	*e*P	Pn	16 31 14.3	+3.0
MKZ				*e*S	Sn	16 31 43.1	+2.0
SKR	**Severo-Kuril's**	**3.04**	**243**	*e*S	Sn	16 31 54.7	+1.5
TUMD	**Tumrok D**	**3.07**	**0**	*e*P	Pn	16 31 22.2	+3.8
TUMD				*e*S	Sn	16 31 57.9	+4.1
TUMR	**Tumrok**	**3.15**	**358**	*e*P	Pn	16 31 24.5	+4.9
KBTR	**Krutoberegovo**	**4.32**	**18**	*e*P	Pn	16 31 39.3	+3.8
BKI	**Bering**	**4.52**	**45**	*e*S	Sn	16 32 29.1	-0.4

MEX 31 16:49:50.6±0.6, 15°.62N×93°.58W, h84km±6km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.36**	**77**	*e*P	Pn	16 50 02.3	-1.4
PCIG				*i* S	Sn	16 50 11.9	-1.6
THIG		**1.46**	**119**	*i* P	Pn	16 50 14.8	-0.7
THIG				*e*S	Sn	16 50 32.1	-2.3
CCIG	**Comitan**	**1.54**	**64**	*e*P	Pn	16 50 16.2	-0.6
CCIG				*i* S	Sn	16 50 34.8	-1.7
CMIG	**Matias Romero**	**1.92**	**320**	*e*P	Pn	16 50 20.2	-1.4
CMIG				*i* S	Sn	16 50 43.4	-1.9
HUIG	**Huatulco**	**2.44**	**274**	*e*P	Pn	16 50 26.5	-1.9
HUIG				*i* S	Sn	16 50 55.4	-2.1

IDC 31 17:31:30.8±8.6, 2°.95N×128°.64E, h228km±86km, mb3.1/7, mb1 3.3/7, mb1mx3.0/45, mbtmp3.7/7, Error ellipse: s-maj=54.1km s-min=15.7km az=63.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.43**	**166**	P	P	17 36 19.7	-0.1
	0.6nm,0.3s,baz=338,slow=10,SNR=20						
ASAR	**Alice Springs**	**26.95**	**169**	P	P	17 36 51.4	-0.2
	0.4nm,0.5s,baz=351,slow=7.3,SNR=27						
ASAR				PcP	PcP	17 40 07.6	+0.3
	0.2nm,0.7s,baz=349,slow=1.8,SNR=2.8						
CMAR	**Chiang Mai Arr**	**32.91**	**300**	P	P	17 37 45.2	+1.2
	0.2nm,0.4s,baz=111,slow=5.5,SNR=4.4						
MKAR	**Makanchi Array**	**59.28**	**325**	P	P	17 41 08.4	-0.2
	0.2nm,0.3s,baz=110,slow=7.7,SNR=8.7						
KURBB	**Kurchatov Arra**	**63.42**	**327**	P	P	17 41 36.2	0.0
	0.7nm,0.6s,baz=125,slow=5.7,SNR=8.0						
TIXI	**Tiksi**	**68.60**	**0**	P	P	17 42 08.1	-0.6
	0.5nm,0.5s,baz=121,slow=5.9,SNR=4.5						
BVAR	**Borovoye Array**	**69.01**	**327**	P	P	17 42 11.6	-0.1
	0.4nm,0.4s,baz=120,slow=5.8,SNR=3.5						

*ISCJB **31** 17:31:38.2±0.7, 69°.32N±0°.04×30°.39E±0°.10, h0km, Error ellipse: s-maj=6.7km s-min=3.2km az=40.3*
*UPP **31** 17:31:38.6±2.4, 69°.56N×30°.44E, h0km, ML1.8, Suspected explosion*
*IDC **31** 17:31:39.8±1.2, 69°.41N×30°.47E, h0km, mb1 3.1/4, mb1mx2.9/48, mbtmp3.1/4, ML2.3/4, Error ellipse: s-maj=11.3km s-min=8.6km az=68.0*
*HEL **31** 17:31:39.6±0.3, 69°.34N×30°.55E, h0km, ML2.3, Explosion*
*NAO **31** 17:31:39.8±1.3, 69°.30N×30°.41E, ML2.5*
*KOLA **31** 17:31:40.2±0.0, 69°.32N±0°.01×30°

SGF			SG	Sb	17 32 53.1	-0.4
KTK1	Kautokeino	2.66 266	ePg	Pb	17 32 26.6	-0.2
KTK1			eSg	Sb	17 33 00.7	+0.6
KTK1			IAML		17 33 01.2	
	comp=Z,13nm,0.3s					
HEF	Hetta	2.69 253	eP	Pn	17 32 23.9	+1.0
HEF	Hetta	2.69 253	PN	Pn	17 32 23.7	+0.8
HEF			MSG		17 32 58.1	
	comp=Z,11nm,0.2s					
HEF			SG	Sb	17 33 00.9	0.0
HAMF	Hammerfest	2.72 302	eP	Pn	17 32 24.4	+1.1
HAMF			eS	Sn	17 32 57.2	+0.4
HAMF			IAML		17 33 02.1	
	comp=Z,16nm,0.4s					
RNF	Rovaniemi	3.25 215	PN	Pn	17 32 30.9	+0.4
	baz=32					
LANU	Lannavaara	3.41 252	P	Pn	17 32 33.0	+0.3
LANU			S	Sn	17 33 14.8	+1.0
LANU	Lannavaara	3.41 252	PN	Pn	17 32 33.1	+0.4
MSF	Maaselka	3.50 191	PN	Pn	17 32 36.3	+2.3
MSF			SG	Sb	17 33 25.9	+1.8
KIF	Kilpisjarvi	3.53 269	Pn	Pn	17 32 34.8	+0.5
KIF			Sn	Sn	17 33 16.3	-0.4
KIF			Lg	Lg	17 33 27.1	
KIF	Kilpisjarvi	3.53 269	Pn	Pn	17 32 34.8	+0.5
KIF			Sn	Sn	17 33 16.3	-0.4
KIF			Sg	Sb	17 33 27.1	+2.3
KIF	Kilpisjarvi	3.53 269	PB	Pn	17 32 36.7	+2.4
PAJU	Pajala	3.65 234	P	Pn	17 32 37.5	+1.5
PAJU			S	Sn	17 33 20.8	+1.2
MASU	Masugnsbyn	3.71 243	P	Pn	17 32 37.0	+0.2
MASU			S	Sn	17 33 21.5	+0.3
TOF	Tornio	4.06 219	PN	Pn	17 32 42.2	+0.5
TOF			SN	Sn	17 33 32.0	+2.3
TRO	Tromso	4.13 280	ePg	Pb	17 32 53.8	+2.0
ERTU	Ertsjaerv	4.24 233	P	Pn	17 32 45.0	+1.0
ERTU			S	Sn	17 33 34.8	+0.7
ERTU	Ertsjaerv	4.24 233	PN	Pn	17 32 45.1	+1.0
ERTU			SN	Sn	17 33 35.1	+1.0
DUNU	Dundret	4.36 244	P	Pn	17 32 46.3	+0.6
DUNU			S	Sn	17 33 37.1	-0.1
OUL	Oulu	4.65 206	PN	Pn	17 32 50.3	+0.6
	baz=19					
OUL			SN	Sn	17 33 43.6	-0.8
HARU	Harads	4.86 234	P	Pn	17 32 52.5	-0.1
FIA0	FINESS Array S	8.15 196	Pn	Pn	17 33 37.9	+0.2
FIA0			Sn	Sn	17 35 07.5	-3.0
FIA0			Lg	Lg	17 35 48.2	
	baz=21,slow=28					
FIA0	FINESS Array S	8.15 196	Pn	Pn	17 33 37.9	+0.2
FIA0			Sn	Sn	17 35 07.5	-3.0
FINES	FINESS Array B	8.15 196	Pn	Pn	17 33 37.5	-0.3
	comp=Z,0.1nm,0.3s,baz=14,slow=14,SNR=3.2					
FINES			Sn	Sn	17 35 07.3	-3.2
	comp=Z,0.1nm,0.3s,baz=19,slow=22,SNR=3.6					
FINES			Lg	Lg	17 35 44.5	
	comp=Z,0.4nm,0.3s,baz=22,slow=26,SNR=9.1					
SPA0	Spitsbergen Ar	9.69 342	Pn	Pn	17 33 57.8	-0.9
	baz=144,slow=14					
SPA0	Spitsbergen Ar	9.69 342	Pn	Pn	17 33 57.8	-0.9
	baz=144,slow=14					
SPITS	Spitsbergen Ar	9.69 342	Pn	Pn	17 33 57.6	-1.1
	baz=142,slow=16,SNR=4.1					
SPITS			Sn	Sn	17 35 38.5	-9.5
	baz=151,slow=21,SNR=1.9					
NOA	NORSAR Array B	11.59 234	Pn	Pn	17 34 24.6	-0.2
	comp=Z,0.0nm,0.3s,baz=38,slow=11,SNR=2.6					
HFS	Hagfors	11.68 226	Pn	Pn	17 34 23.0	-3.0
	baz=39,slow=12					
HFS	Hagfors	11.68 226	Pn	Pn	17 34 23.0	-3.0
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=4.3					
HFS	Hagfors	11.68 226	Pn	Pn	17 34 23.0	-3.0
	baz=39,slow=12					

NEIC ***31*** *17:36:02.1±0.0, 43°.36S×172°.95E, h20km, ML4.0(WEL), After WEL.*
NEIC Felt at Christchurch.
WEL 31 17:36:02.2, 43°.S±1°.×17°.3E±°., h32km±1km, ML4.0/21, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMCZ	Amberley	0.30	307	P	Pn	17 36 10.3	-0.1
AMCZ				S	Sb	17 36 14.8	-0.2
CRLZ	Canterbury Las	0.34	230	ePg	Pn	17 36 11.0	0.0
CRLZ				eSg	Sb	17 36 16.0	+0.2
CRLZ	Canterbury Las	0.34	230	P	Pn	17 36 11.1	+0.2
CRLZ				S	Sb	17 36 16.0	+0.2
OKCZ	Okains Bay	0.37	171	P	Pn	17 36 11.7	+0.3
OKCZ				S	Sn	17 36 17.9	+0.4
MQZ	McQueen's Vall	0.42	214	ePg	Pb	17 36 11.8	+0.3
MQZ				eSg	Sb	17 36 17.4	-0.5
MQZ	McQueen's Vall	0.42	214	P	Pb	17 36 11.8	+0.3
MQZ				S	Sb	17 36 18.0	+0.1
EYCZ	Eyrewell	0.46	262	P	Pn	17 36 12.6	0.0
AKCZ	Akaroa Harbour	0.52	186	P	Pn	17 36 13.5	+0.1
OXZ	Oxford	0.69	272	ePn	Pn	17 36 15.7	-0.1
OXZ	Oxford	0.69	272	P	Pn	17 36 15.7	-0.1
LTZ	Lake Taylor	0.78	318	ePn	Pb	17 36 17.2	-0.1
LTZ	Lake Taylor	0.78	318	P	Pb	17 36 17.2	-0.1
KHZ	Kahutara	1.03	24	ePg	Pn	17 36 20.4	0.0
KHZ	Kahutara	1.03	24	P	Pn	17 36 20.9	+0.5
INZ	Inchbonnie	1.29	299	P	Pn	17 36 24.7	+0.7
RPZ	Rata Peaks	1.45	255	ePn	Pn	17 36 26.6	+0.4
RPZ	Rata Peaks	1.45	255	P	Pn	17 36 26.8	+0.6
THZ	Tophouse	1.60	358	ePn	Pn	17 36 28.7	+0.4
THZ	Tophouse	1.60	358	P	Pn	17 36 28.7	+0.4
WVZ	Waitaha Valley	1.67	279	P	Pb	17 36 30.9	-1.3
BSWZ	Blackbirch Sta	1.77	22	P	Pn	17 36 31.5	+0.8
DSZ	Denniston Nort	1.83	331	P	Pn	17 36 32.5	+1.0
CMWZ	Cape Campbell	1.85	30	P	Pn	17 36 32.6	+0.8
TUWZ	Tuamarina	2.06	21	P	Pn	17 36 34.9	+0.4
NNZ	Nelson	2.16	8	P	Pn	17 36 36.9	+1.0
LBZ	Lake Benmore	2.27	242	ePn	Pn	17 36 38.4	+0.9
LBZ	Lake Benmore	2.27	242	P	Pn	17 36 38.6	+1.1
FOZ	Fox Glacier	2.31	265	ePn	Pn	17 36 40.0	+1.9
FOZ	Fox Glacier	2.31	265	P	Pn	17 36 40.4	+2.3
TCW	Tory Channel	2.35	25	P	Pn	17 36 38.6	0.0
ODZ	Otahua Downs	2.38	224	ePn	Pn	17 36 39.6	+0.5
ODZ	Otahua Downs	2.38	224	P	Pn	17 36 39.5	+0.5
BHW	Baring Head	2.40	36	P	Pn	17 36 39.2	0.0
SNZO	South Karori	2.41	33	ePn	Pn	17 36 39.1	-0.3
PLWZ	Palliser	2.46	44	P	Pn	17 36 39.9	-0.2
QRZ	Quartz Range	2.55	352	P	Pn	17 36 42.3	+0.9
MSWZ	Moikau Station	2.57	42	P	Pn	17 36 41.1	-0.6
DUWZ	D'Urville Isla	2.65	16	P	Pn	17 36 43.4	+0.7
CAW	Cannon Point	2.73	35	P	Pn	17 36 43.8	-0.1
TRWZ	Traveller	2.80	47	P	Pn	17 36 44.3	-0.6
KIW	Kapiti Island	2.88	31	P	Pn	17 36 46.0	+0.1
MTW	Mount Morrison	2.89	41	P	Pn	17 36 45.4	-0.6
OGWZ	Otaki Gorge	3.02	33	P	Pn	17 36 47.7	-0.1
HHSZ	Highcliff Hill	3.05	213	P	Pn	17 36 48.7	+0.5
HOWZ	Holdsworth Sta	3.10	38	P	Pn	17 36 49.4	+0.5
TMWZ	Te Maipa	3.12	45	P	Pn	17 36 50.4	+1.2
WKZ	Wanaka	3.21	241	ePn	Pn	17 36 51.0	+0.6
WKZ	Wanaka	3.21	241	P	Pn	17 36 51.3	+0.9
EAZ	Earnscleugh	3.23	233	P	Pn	17 36 51.4	+0.6
MRZ	Mangatainoka R	3.32	37	P	Pn	17 36 51.5	-0.4
TIWZ	Tintock	3.37	41	P	Pn	17 36 54.3	+1.7
TUZ	Tuapeka	3.53	221	P	Pn	17 36 55.3	+0.5
PRWZ	Pori Road	3.58	40	P	Pn	17 36 57.1	+1.6
BFZ	Birch Farm	3.62	43	ePn	Pn	17 36 55.0	-1.0
BFZ				eSn	Sn	17 37 35.4	-2.2
BFZ	Birch Farm	3.62	43	P	Pn	17 36 55.2	-0.8
POWZ	Post Office Ro	3.62	36	P	Pn	17 36 57.3	+1.2
ANWZ	Angora Road	3.90	43	P	Pn	17 37 01.4	+1.5
WAZ	Wanganui	3.90	23	P	Pn	17 37 02.3	+2.3
TSZ	Takapari Road	3.98	35	P	Pn	17 37 00.3	-0.7
NMEZ	Namu Road	4.00	10	P	Pn	17 37 05.2	+4.0
MLZ	Mavora Lakes	4.02	238	ePn	Pn	17 37 02.1	+0.5
MLZ	Mavora Lakes	4.02	238	P	Pn	17 37 02.9	+1.3
LREZ	Lake Rotokare	4.04	16	P	Pn	17 37 07.1	+5.2
PRHZ	Porangahau	4.12	43	P	Pn	17 37 04.2	+1.2
KHEZ	Kahui Hut	4.13	11	P	Pn	17 37 06.0	+2.7
NBEZ	Newall Road No	4.14	10	P	Pn	17 37 06.1	+2.9
SYZ	Scrubby Hill	4.19	219	P	Pn	17 37 04.9	+1.1
PNHZ	Pukenui	4.20	36	P	Pn	17 37 04.7	+0.5
PKE	Pukeiti	4.23	11	P	Pn	17 37 07.4	+2.9
DREZ	Durham Road	4.27	13	P	Pn	17 37 08.2	+3.2
MTVZ	Mangateitei	4.39	26	P	Pn	17 37 08.9	+2.1
WHZ	Wether Hill Ro	4.40	233	ePn	Pn	17 37 06.2	-0.5
WHZ	Wether Hill Ro	4.40	233	P	Pn	17 37 06.5	-0.3
VRZ	Vera Road	4.44	18	P	Pn	17 37 09.1	+1.8
PKVZ	Pokaka	4.44	24	P	Pn	17 37 09.6	+2.2
MOVZ	Moawhango	4.46	29	P	Pn	17 37 09.1	+1.3
TRVZ	Turoa	4.49	26	P	Pn	17 37 10.5	+2.2
KRHZ	Kereru	4.50	36	P	Pn	17 37 07.8	-0.4
BHHZ	Black Hill Sta	4.51	32	P	Pn	17 37 09.3	+1.0
WHVZ	Whangaehu Hut	4.52	27	P	Pn	17 37 10.9	+2.2
FWVZ	Far West T-bar	4.53	26	P	Pn	17 37 11.0	+2.2
TUVZ	Tukino	4.55	27	P	Pn	17 37 10.2	+1.1
KAHZ	Kahuranaki	4.61	41	P	Pn	17 37 10.0	+0.3
NGZ	Ngauruhoe	4.62	26	P	Pn	17 37 12.0	+2.0
TWVZ	Taurewa	4.67	24	P	Pn	17 37 12.0	+1.5
DCZ	Deep Cove	4.68	241	ePn	Pn	17 37 11.4	+0.9
BKZ	Black Stump Fm	4.95	33	ePn	Pn	17 37 14.2	-0.2
BKZ	Black Stump Fm	4.95	33	P	Pn	17 37 14.1	-0.4
APZ	The Paps	4.96	224	P	Pn	17 37 15.6	+1.2
HIZ	Hauiti	5.04	17	ePn	Pn	17 37 16.9	+1.3
HIZ	Hauiti	5.04	17	P	Pn	17 37 17.3	+1.7
MRHZ	Matea Rd	5.21	31	P	Pn	17 37 17.5	-0.5
MTHZ	Maungataniwha	5.36	34	P	Pn	17 37 22.8	+2.7
TLZ	Tolley Road	5.38	22	P	Pn	17 37 21.1	+0.7
RAHZ	Arahi	5.41	36	P	Pn	17 37 23.0	+2.2
MUGZ	Murupara	5.66	32	P	Pn	17 37 23.9	-0.2
RIGZ	Rimuhau	5.89	39	P	Pn	17 37 26.9	-0.4
TOZ	Tahuroa Road	5.94	20	P	Pn	17 37 28.4	+0.5
URZ	Urewera	5.98	33	ePn	Pn	17 37 26.8	-1.7
URZ				eSn	Sn	17 38 31.1	-4.7
MWZ	Matawai	6.09	36	P	Pn	17 37 28.3	-1.8
TKGZ	Te Karaka	6.14	39	P	Pn	17 37 32.4	+1.7
AWAZ	Awhitu Peninsu	6.41	12	P	Pn	17 37 35.8	+1.3
TWGZ	Tauwhareparae	6.42	38	P	Pn	17 37 35.0	+0.4
RUGZ	Raukumara Rang	6.46	35	P	Pn	17 37 34.5	-0.7
WTAZ	Waiatarua	6.53	11	P	Pn	17 37 40.9	+4.8
ETAZ	East Tamaki Re	6.57	14	P	Pn	17 37 38.0	+1.4
PUZ	Puketiti	6.63	39	P	Pn	17 37 40.8	+3.3
HAZ	Te Kaha	6.68	35	P	Pn	17 37 39.1	+0.9
MBAZ	Motutapu North	6.74	13	P	Pn	17 37 41.9	+2.9
WIAZ	Waiheke Island	6.76	15	P	Pn	17 37 40.9	+1.7
MXZ	Matakaoa Point	7.07	37	ePn	Pn	17 37 43.2	-0.3
OUZ	Omahuta	8.14	4	ePn	Pn	17 37 59.4	+1.3
OUZ				eSn	Sn	17 39 23.8	-5.3

MEX 31 17:51:31.1±0.5, 16°.27N×98°.00W, h2km±10km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.17	316	i P	Pg	17 51 34.1	-0.3
PNIG				eS	Sg	17 51 36.9	+0.3

MAN 31 18:04:03.0, 6°.59N×128°.02E, h5km, mb4.4, ML3.2, MS3.0, 1D, East of Philippine Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	2.35	258	eP	Pn	18 04 42.9	+0.6
DDMP				eS	Sn	18 05 12.4	+0.9
SKMP	Bagumbayan, Su	3.46	269	eP	Pn	18 04 58.2	+0.6
CTBH	Cotabato--PC H	3.80	280	i,iP	Pb	18 05 11.5	+0.9
IPIL	Ipil	5.54	283	eP	Pn	18 05 28.4	+2.2

ISCJB ***31*** *18:10:10.1±0.8, 5°.7S±0°.2×125°.0E±0°.3, h600km, mb3.5/3, Error ellipse: s-maj=51.2km s-min=10.8km az=142.6*
IDC ***31*** *18:10:12.2±3.8, 5°.87S×124°.83E, h606km±48km, mb2.7/3, mb1 3.2/6, mb1mx2.7/45, mbtmp4.0/6, Error ellipse: s-maj=152.9km s-min=13.6km az=54.0*
ISC 31 18:10:11.7±1.1, 5°.8S±0°.3×124°.9E±0°.3, h600km, n13, σ0°53/14, mb3.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	5.16	279	P	P	18 11 46.0	+0.1
	3.5nm,0.3s,baz=137,slow=8.2,SNR=7.4						
WRA	Warramunga Arr	16.80	148	P	P	18 13 36.6	+0.2
	1.1nm,0.3s,baz=334,slow=9.4,SNR=99						
ASAR	Alice Springs	19.77	155	P	P	18 14 03.1	-0.3
	1.9nm,0.3s,baz=333,slow=8.5,SNR=113						
ASAR				PcP	PcP	18 17 51.8	-1.1
	baz=353,slow=1.5,SNR=2.8						
STKA	Stephens Creek	30.29	151	P	P	18 15 36.2	+0.4
	2.9nm,0.4s,baz=325,slow=8.8,SNR=18						
CMAR	Chiang Mai Arr	35.15	314	P	P	18 16 17.4	+0.4
	0.3nm,0.5s,baz=146,slow=6.9,SNR=5.6						
JIRN	Jiri	50.03	314	eP	P	18 18 12.7	-0.4
	5.3nm,0.3s						
GUN	Gumba	50.40	314	eP	P	18 18 15.4	-0.4
	7.1nm,0.4s						
PKI	Pulchoki	50.54	313	eP	P	18 18 16.2	-0.6
PKIN	Phulchoki	50.55	313	eP	P	18 18 16.2	-0.6
	4.3nm,0.4s						
GKN	Gorkha	51.35	313	eP	P	18 18 22.1	-0.3
	12nm,0.3s						
KOLN	Koldanda	51.98	312	eP	P	18 18 26.7	-0.3
	4.3nm,0.3s						
PYUN	Piuthan	52.61	312	eP	P	18 18 31.3	-0.2
KURBB	Kurchatov Arra	68.90	330	P	P	18 20 17.9	+0.4
	0.3nm,0.5s,baz=142,slow=5.0,SNR=4.0						

BGS ***31*** *18:34:32.0±0.2, 48°.71N×0°.75W, h5km, ML1.7*
LDG ***31*** *18:34:33.1±0.1, 48°.97N×0°.66W, h3km, Md2.8/2, Ml2.6/17, Error ellipse: s-maj=2.9km s-min=1.3km az=4.0*
ISC 31 18:34:32.9±1.1, 48°.92N±0°.04×0°.67W±0°.03, h17km±4km, n31, σ1°85/53, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLN	La Foliniere	0.20	142	ePg	Pg	18 34 38.3	+0.5
	baz=337,SNR=1.0						
FLN				eSg	Sg	18 34 41.9	+0.8
	80nm,0.2s,baz=327						
LDF	La Druitiere	0.49	132	ePg	Pg	18 34 43.0	+0.3
	SNR=1.0						
LDF				eSg	Sg	18 34 50.2	+0.8
	15nm,0.2s						
GRR	Gorron	0.55	193	ePg	Pb	18 34 45.3	+1.3
	SNR=1.0						
GRR				eSg	Sb	18 34 54.0	+2.4
	53nm,0.2s						
JQE	Queens East	0.94	288	eP	Pg	18 34 49.9	-1.4
JRS	Jersey	0.97	287	eP	Pg	18 34 50.3	-1.5
JRS				eS	Sg	18 35 03.6	-1.0
JLP	Les Platons	1.00	289	eP	Pg	18 34 50.9	-1.4
JSA	Saint Aubin	1.02	286	eP	Pg	18 34 51.2	-1.5
JSA				eS	Sg	18 35 05.0	-1.1
JSA				IAML		18 35 06.9	
	comp=N,11nm,0.2s						
JSA				IAML		18 35 08.3	
	comp=E,10nm,0.3s						
JVM	Valle D.L. Mar	1.05	287	eP	Pg	18 34 51.4	-1.9
SGMF	Saint Gilles	1.42	243	ePn	Pn	18 34 58.6	+0.7
	SNR=1.0						
SGMF	Saint Gilles	1.42	243	ePg	Pb	18 35 00.4	+1.5
	SNR=1.0						
SGMF				eSg	Sb	18 35 18.5	+1.8
	comp=E,11nm,0.2s,SNR=1.0						
ROSF	Rostrenen	1.82	252	ePn	Pn	18 35 03.6	+0.1
ROSF	Rostrenen	1.82	252	ePg	Pb	18 35 07.2	+1.4
	SNR=1.0						
ROSF				eSg	Sb	18 35 30.0	+1.7
	comp=E,10nm,0.2s,SNR=1.0						
QUIF	Quistinic	1.94	240	ePn	Pn	18 35 05.1	0.0
	SNR=1.0						
QUIF	Quistinic	1.94	240	ePg	Pg	18 35 10.1	-0.1
QUIF				eSn	Sn	18 35 29.2	+0.2
QUIF				eSg	Sb	18 35 35.0	+3.3
	comp=E,8.8nm,0.2s,SNR=1.0						
MFF	Saint Martin d	2.35	171	ePn	Pn	18 35 11.0	+0.3
MFF	Saint Martin d	2.35	171	ePg	Pb	18 35 17.3	+2.6
MFF				eSn	Sn	18 35 39.2	+0.2
MFF				eSg	Sg	18 35 48.0	-0.4
	comp=E,3.3nm,0.2s,SNR=1.0						
DYA	Yadsworthy	2.60	307	eS	Sn	18 35 46.5	+1.1
DYA				IAML		18 35 58.5	
	comp=N,4.8nm,0.3s						
DYA				IAML		18 35 59.1	
	comp=E,7.2nm,0.9s						
HYF	Humbligny	2.77	125	ePg	Pb	18 35 24.6	+2.7
HYF				eSg	Sg	18 35 59.9	-1.9
TCF	Toulx Ste Croi	3.28	142	ePg	Pg	18 35 34.3	-1.4
TCF				eSg	Sg	18 36 16.5	-1.6
	comp=E,1.0nm,0.2s						
BGF	Bois d'Agland	3.35	134	ePg	Pb	18 35 35.1	+3.3
BGF				eSg	Sg	18 36 18.6	-1.9
	comp=E,8.0nm,0.4s,SNR=1.0						
SSF	Saint Saulge	3.37	122	ePn	Pn	18 35 24.8	+0.1
SSF	Saint Saulge	3.37	122	ePg	Pg	18 35 35.7	-1.7
SSF				eSg	Sg	18 36 18.1	-2.9
	comp=E,3.0nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	3.45	127	ePn	Pn	18 35 26.4	+0.6
	SNR=1.0						
AVF				eSn	Sn	18 36 05.2	-1.0
	SNR=1.0						
AVF				eSg	Sg	18 36 21.5	-2.1
	comp=E,1.2nm,0.3s,SNR=1.0						
LOR	Lormes	3.46	117	eP	Pn	18 35 29.1	+3.2
LOR	Lormes	3.46	117	ePg	Pg	18 35 37.4	-1.7
LOR				eSn	Sn	18 36 04.5	-2.0
	SNR=1.0						
LOR				eSg	Sg	18 36 21.1	-2.8
	comp=E,2.2nm,0.2s,SNR=1.0						
SMF	Signal de Mont	3.80	125	eSg	Sg	18 36 32.8	-2.1
	comp=E,0.9nm,0.2s,SNR=1.0						
MEZF	Maizieres J'vi	3.81	94	eSg	Sg	18 36 34.2	-1.1
	comp=E,8.4nm,0.3s,SNR=1.0						
RJF	Les Rejaudoux	3.91	157	ePn	Pn	18 35 32.5	+0.3
RJF	Les Rejaudoux	3.91	157	ePg	Pg	18 35 45.8	-2.1
RJF				eSn	Sn	18 36 16.5	-1.2
RJF				eSg	Sg	18 36 36.2	-2.4
	comp=E,2.8nm,0.3s						
LFF	La Frestale	4.10	166	ePn	Pn	18 35 35.4	+0.7
LFF				eSg	Sg	18 36 42.1	-2.4
	comp=E,3.5nm,0.3s						
LASF	Ste Croix	5.76	146	eSg	Sg	18 37 33.4	-4.5
	comp=E,6.9nm,0.9s,SNR=1.0						

ISCJB ***31*** *18:35:47.4±0.4, 24°.34N±0°.03×122°.70E±0°.02, h52km±6km, Error ellipse: s-maj=4.2km s-min=2.5km az=176.4*
TAP ***31*** *18:35:47.2, 24°.39N×122°.69E, h60km, ML2.5, C*
JMA ***31*** *18:35:47.2, 24°.29N×122°.69E, h57km±1km, M1.5*
ISC 31 18:35:47.9±1.2, 24°.34N±0°.04×122°.70E±0°.02, h52km±9km, n71, σ1°10/132, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.25	64	P	Pn	18 35 56.9	+0.1
JYNG				eS	Sn	18 36 03.8	+0.7
YOJ	Yonaguni jima	0.31	67	S	Sn	18 36 04.9	+0.9
	baz=66						
YOJ	Yonaguni jima	0.31	67	P	Pn	18 35 57.3	0.0
YOJ				S	Sn	18 36 04.5	+0.5
EOS1	EOS1	0.56	292	S	Sn	18 36 09.1	+0.5
	baz=295						
TWC	Suao	0.82	289	i P	Pn	18 36 02.7	-0.6
	baz=293						
TWC				i S	Sn	18 36 13.2	-1.3
	baz=293						
ENA	Nanau	0.88	276	P	Pn	18 36 03.9	-0.1
	baz=281						
ENA				S	Sn	18 36 16.4	+0.5
	baz=281						
TWB1	Santiao Chiao	0.93	316	eP	Pn	18 36 03.4	-1.3
	baz=322						
TWB1				eS	Sn	18 36 16.0	-1.1
	baz=322						
IRIF	Iriomote-Funau	0.94	90	P	Pn	18 36 04.6	-0.3
IRIF				eS	Sn	18 36 17.4	+0.1
NTC	Toucheng	0.94	303	P	Pn	18 36 04.5	-0.4
	baz=301						
NTC				S	Sn	18 36 16.5	-0.8
	baz=301						
TIPB	Shuangxi	1.01	309	P	Pn	18 36 05.2	-0.7
	baz=306						
TIPB				S	Sn	18 36 17.4	-1.8
	baz=306						
TWE	Neicheng	1.01	292	P	Pn	18 36 05.5	-0.3
	baz=295						
TWE				S	Sn	18 36 18.7	-0.4
	baz=295						
NACB	Ninganchiao	1.02	261	P	Pn	18 36 05.3	-0.7
	baz=258						
NACB				eS	Sn	18 36 19.1	-0.2
	baz=258						
TWD	Chiawan	1.04	256	eP	Pn	18 36 05.2	-1.0
	baz=253						
NDT	Datong Townshi	1.11	284	P	Pn	18 36 07.3	+0.1
	baz=288						
NDT				S	Sn	18 36 22.0	+0.5
	baz=288						
ETLH	Xiulin Townshi	1.12	263	P	Pn	18 36 06.6	-0.7
	baz=253						
ETLH				S	Sn	18 36 22.5	+0.7
	baz=253						
NWLT	Wulai	1.17	292	P	Pn	18 36 08.3	+0.3
	baz=297						
NWLT				eS	Sn	18 36 22.6	-0.4
	baz=297						
JKRS	Kuro-shima	1.20	95	P	Pn	18 36 08.6	+0.3
JKRS				S	Sn	18 36 24.2	+0.6
NNSB	Datong	1.20	274	eP	Pn	18 36 08.3	-0.2
	baz=272						
NNS	Nan Shan	1.21	275	eP	Pn	18 36 07.7	-0.9
	baz=272						
YHNB	Yeheng	1.25	285	P	Pn	18 36 09.4	+0.3
	baz=293						
YHNB				S	Sn	18 36 25.2	+0.3
	baz=293						
NSK	Sanguang	1.27	286	P	Pn	18 36 09.4	+0.1
	baz=293						
NSK				S	Sn	18 36 25.3	0.0
	baz=293						
ESL	Shilin	1.27	246	P	Pn	18 36 08.3	-1.0
	baz=236						
ESL				eS	Sn	18 36 24.4	-0.9
	baz=236				

WHP	**Taichung City**	**1.60 268**	*e*P		**Pn**	**18 36 15.0**	**+1.1**
	baz=259						
TWF1	**Yuli**	**1.62 233**	P		**Pn**	**18 36 13.4**	**-0.7**
	baz=243						
TWF1			S		**Sn**	**18 36 32.8**	**-1.0**
	baz=243						
DPDB	**Guoxing**	**1.65 260**	P		**Pn**	**18 36 14.8**	**+0.3**
	baz=252						
DPDB			*e*S		**Sn**	**18 36 34.8**	**+0.2**
	baz=252						
SSLB	**Suanglung**	**1.69 251**	P		**Pn**	**18 36 14.9**	**-0.2**
	baz=250						
SSLB			S		**Sn**	**18 36 35.5**	**0.0**
	baz=250						
SMLT	**Sun Moon Lake**	**1.71 255**	*i* P		**Pn**	**18 36 15.5**	**+0.2**
	baz=247						
SMLT			*e*S		**Sn**	**18 36 35.6**	**-0.5**
	baz=247						
CHKT	**Chengkung**	**1.74 225**	*e*P		**Pn**	**18 36 14.2**	**-1.5**
	baz=224						
CHKT			S		**Sn**	**18 36 34.3**	**-2.4**
	baz=224						
TYC	**Yuchr**	**1.74 256**	P		**Pn**	**18 36 15.9**	**+0.2**
	baz=248						
TYC			S		**Sn**	**18 36 37.1**	**+0.4**
	baz=248						
WHYT	**Xinyi Township**	**1.81 250**	P		**Pn**	**18 36 17.4**	**+0.7**
	baz=242						
WHYT			*e*S		**Sn**	**18 36 39.2**	**+0.8**
	baz=242						
YUS	**Yu-Shan**	**1.81 242**	P		**Pn**	**18 36 17.3**	**+0.2**
	baz=232						
YUS			*e*S		**Sn**	**18 36 38.6**	**-0.6**
	baz=232						
JTJ	**Tarama**	**1.85 80**	P		**Pn**	**18 36 17.4**	**+0.2**
JTJ			*e*S		**Sn**	**18 36 39.2**	**-0.2**
WJS	**Zhushan**	**1.87 254**	P		**Pn**	**18 36 18.9**	**+1.4**
	baz=248						
WJS			S		**Sn**	**18 36 42.4**	**+2.4**
	baz=248						
WNT	**Mingjian**	**1.90 256**	*e*P		**Pn**	**18 36 18.8**	**+1.0**
	baz=255						
WNT			*e*S		**Sn**	**18 36 43.1**	**+2.5**
	baz=255						
ELDTW	**Lidau**	**1.92 234**	*i* P		**Pn**	**18 36 17.5**	**-0.8**
	baz=225						
ELDTW			S		**Sn**	**18 36 39.2**	**-2.2**
	baz=225						
CHN5	**Tsauling**	**1.99 249**	P		**Pn**	**18 36 20.3**	**+1.0**
	baz=239						
CHN5			S		**Sn**	**18 36 44.5**	**+1.4**
	baz=239						
WDLH	**Douliu**	**2.08 252**	P		**Pn**	**18 36 21.5**	**+1.2**
	baz=242						
WDLH			S		**Sn**	**18 36 46.9**	**+1.8**
	baz=242						
TWGBT	**Beinan**	**2.12 225**	*e*P		**Pn**	**18 36 19.9**	**-1.1**
	baz=233						
TWGBT			*e*S		**Sn**	**18 36 44.5**	**-1.7**
	baz=233						
TWG	**Pinlang**	**2.13 225**	*e*P		**Pn**	**18 36 20.0**	**-1.0**
	baz=233						
TWG			*e*S		**Sn**	**18 36 45.1**	**-1.1**
	baz=233						
STYT	**Tauyuan**	**2.13 237**	P		**Pn**	**18 36 21.7**	**+0.6**
	baz=236						
STYT			S		**Sn**	**18 36 47.3**	**+0.9**
	baz=236						
TPUB	**Ta-pu**	**2.16 242**	P		**Pn**	**18 36 22.5**	**+1.0**
	baz=241						
TPUB			*e*S		**Sn**	**18 36 48.6**	**+1.5**
	baz=241						
CHN4	**Tsaushan**	**2.17 243**	P		**Pn**	**18 36 23.1**	**+1.6**
	baz=236						
CHN4			*e*S		**Sn**	**18 36 49.2**	**+2.0**
	baz=236						
RLNB	**Erlin**	**2.18 259**	*e*P		**Pn**	**18 36 22.0**	**+0.3**
	baz=258						
RLNB			*e*S		**Sn**	**18 36 49.1**	**+1.5**
	baz=258						
WTP	**Ta-pu**	**2.20 241**	P		**Pn**	**18 36 22.9**	**+0.9**
	baz=240						
WTP			*e*S		**Sn**	**18 36 49.6**	**+1.5**
	baz=240						
TWK	**Hsinying**	**2.29 243**	P		**Pn**	**18 36 24.6**	**+1.3**
	baz=242						
TWK			*e*S		**Sn**	**18 36 52.3**	**+2.0**
	baz=242						
CHN1	**Nanshi**	**2.30 240**	*e*P		**Pn**	**18 36 25.4**	**+2.0**
	baz=240						
CHN1			*e*S		**Sn**	**18 36 52.5**	**+2.0**
	baz=240						
SNST	**Tainan City**	**2.31 241**	*e*P		**Pn**	**18 36 24.9**	**+1.5**
	baz=241						
SNST			S		**Sn**	**18 36 53.2**	**+2.6**
	baz=241						
SGST	**Jiashian**	**2.31 238**	*e*P		**Pn**	**18 36 25.5**	**+2.0**
	baz=237						
SGST			*e*S		**Sn**	**18 36 53.5**	**+2.8**
	baz=237						
SLGT	**Liugui**	**2.31 235**	P		**Pn**	**18 36 24.4**	**+0.9**
	baz=229						
SLGT			S		**Sn**	**18 36 52.4**	**+1.6**
	baz=229						
ECL	**Taimali**	**2.36 223**	*e*P		**Pn**	**18 36 24.0**	**-0.2**
	baz=230						
ECL			S		**Sn**	**18 36 49.7**	**-2.3**
	baz=230						
WSF	**Szhu**	**2.37 253**	*e*S		**Sn**	**18 36 54.4**	**+2.1**
	baz=266						
SSD	**Sandimen**	**2.47 230**	*e*P		**Pn**	**18 36 26.2**	**+0.4**
	baz=226						
SSD			S		**Sn**	**18 36 55.1**	**+0.4**
	baz=226						
MASBT	**Mashibuluo**	**2.56 228**	*e*P		**Pn**	**18 36 27.5**	**+0.6**
	baz=226						
MASBT			S		**Sn**	**18 36 57.9**	**+0.9**
	baz=226						
EAST	**Anshuo**	**2.59 221**	*e*P		**Pn**	**18 36 26.3**	**-1.0**
	baz=227						
EAST			*e*S		**Sn**	**18 36 56.0**	**-1.6**
	baz=227						
SCZT	**Fangliau**	**2.74 225**	*e*P		**Pn**	**18 36 29.8**	**+0.4**
	baz=220						
SCZT			*e*S		**Sn**	**18 37 01.4**	**+0.2**
	baz=220						
VCHM	**Qimei**	**3.20 250**	*e*P		**Pn**	**18 36 35.0**	**-0.6**
	baz=250						
VCHM			*e*S		**Sn**	**18 37 11.6**	**-1.0**
	baz=250						

MAN 31 19:12:20.2, 9°68N×126°20E, h22km, mb4.4, ML3.3, MS3.1, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.90**	**219**	*e*P	Pb	19 12 36.5	-0.8
BUTP				*e*S	Sb	19 12 48.8	-0.1
MSLP	**Maasin**	**1.39**	**289**	*e*P	Pn	19 12 44.2	-0.1
MSLP				*e*S	Sn	19 13 01.8	-0.3
PLP	**Palo**	**1.90**	**321**	*e*P	Pn	19 12 50.6	-0.8
PLP				*e*S	Sn	19 13 15.0	+0.4
CGP	**Cagayan de Oro**	**1.92**	**231**	*e*P	Pn	19 12 51.4	-0.2
CGP				*e*S	Sn	19 13 15.7	+0.6
BESP	**Borongan**	**2.05**	**339**	*e*P	Pn	19 12 53.6	+0.1
BESP				*e*S	Sb	19 13 22.1	+0.2
OCLP	**Ormoc**	**2.07**	**311**	*e*P	Pn	19 12 54.7	+1.0
BUKP	**Musuan**	**2.11**	**212**	*e*P	Pb	19 12 56.2	-1.6
BUKP				*e*S	Sn	19 13 19.4	-0.5
LLP	**Lapu-Lapu**	**2.29**	**286**	*e*P	Pn	19 12 57.4	+0.8
LLP				*e*S	Sn	19 13 26.3	+2.1
TBP	**Tagbilaran**	**2.30**	**271**	*e*P	Pn	19 12 57.6	+0.7
TBP				*i* S	Sn	19 13 26.0	+1.5
CNP	**Catarman**	**3.19**	**332**	*e*P	Pn	19 13 06.6	-2.5
CNP				*e*S	Sn	19 13 47.3	+0.8
PAGZ	**Pagadian**	**3.32**	**237**	*e*P	Pn	19 13 12.6	+1.6
IPIL	**Ipil**	**4.04**	**243**	*e*P	Pn	19 13 23.2	+2.3

NEIC 31 19:13:52.1±0.0, 56°14N×160°72W, h184km, ML2.8(AEIC), After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNWF	**Veniaminof 8**	**0.65**	**88**	*e*Pn	Pn	19 14 17.6	-0.5
VNWF				*e*Sn	Sn	19 14 37.8	-0.4
SDPT	**Sand Point**	**0.80**	**170**	*e*Pn	Pn	19 14 17.9	-0.9
SDPT				*e*Sn	Sn	19 14 38.9	-0.5
VNHG	**Veniaminof 1**	**0.87**	**84**	*e*Pn	Pn	19 14 18.5	-0.8
DOL	**Dolgoi Island**	**1.19**	**214**	*e*Pn	Pn	19 14 22.0	+0.3
DOL				*e*Sn	Sn	19 14 43.4	-1.1
CHGN	**Chignik**	**1.30**	**82**	*e*Pn	Pn	19 14 21.6	-0.9
CHGN				*e*Sn	Sn	19 14 44.3	-1.7
ANNW	**Aniakchak Nort**	**1.61**	**58**	*e*Pn	Pn	19 14 25.2	-0.3
ANNW				*e*Sn	Sn	19 14 49.7	-1.8
WEBT	**Westdahl Beart**	**2.78**	**238**	*e*Pn	Pn	19 14 38.1	-0.1
AKSA	**Akutan Strait**	**3.49**	**237**	*e*Pn	Pn	19 14 46.8	0.0
AKUT	**Akutan**	**3.53**	**237**	*e*Pn	Pn	19 14 47.1	-0.2
SII	**Sitkinak Islan**	**3.66**	**81**	*e*Pn	Pn	19 14 48.1	-0.8
SII				*e*Sn	Sn	19 15 30.6	-2.9
UNV	**Unalaska Valle**	**4.05**	**238**	*e*Pn	Pn	19 14 52.9	-0.9
MSW	**Makushin Switc**	**4.14**	**240**	*e*Pn	Pn	19 14 53.9	-1.1
OHAK	**Old Harbor**	**4.24**	**72**	*e*Pn	Pn	19 14 54.8	-1.4
OKTU	**Okmok Mt. Tuli**	**5.06**	**240**	*e*Pn	Pn	19 15 05.8	-1.0
SPIA	**Saint Paul Isl**	**5.36**	**285**	*e*Pn	Pn	19 15 11.7	+1.0
NIKH	**Nikolski High**	**5.70**	**240**	*e*Pn	Pn	19 15 14.6	-0.5
RSO	**Redoubt South**	**6.03**	**41**	*e*Pn	Pn	19 15 18.5	-1.1
CNPM	**China Poot**	**6.10**	**52**	*e*Pn	Pn	19 15 18.8	-1.4
BRLK	**Bradley Lake**	**6.37**	**51**	*e*Pn	Pn	19 15 21.9	-1.9
BRLK				*e*Pn	Pn	19 15 23.0	-0.8
SEW	**Seward**	**7.17**	**52**	*e*Pn	Pn	19 15 32.7	-1.5
GHO	**Glory Hole Cre**	**8.30**	**42**	*e*Pn	Pn	19 15 43.0	-6.2
GLI	**Glacier Island**	**8.56**	**51**	*e*Pn	Pn	19 15 49.5	-3.0
SCM	**Sheep Creek Mo**	**8.95**	**45**	*e*Pn	Pn	19 15 55.5	-2.2
DIV	**Divide**	**9.25**	**51**	*e*Pn	Pn	19 15 59.4	-2.2
BPAW	**Bear Paw Mtn.**	**9.33**	**27**	*e*Pn	Pn	19 16 01.6	-1.0
KLU	**Klutina**	**9.35**	**49**	*e*Pn	Pn	19 15 59.8	-3.1
HMT	**Hamilton**	**9.63**	**57**	*e*Pn	Pn	19 16 04.3	-2.3
GCMT	**Greycliff**	**33.05**	**86**	*e*P	P	19 20 09.8	-0.1

IDC 31 19:29:14.1±4.4, 6°23S×128°34E, h386km±54km, mb2.8/1, mb1 3.3/3, mb1mx2.8/27, mbtmp4.0/3, Error ellipse: s-maj=167.4km s-min=15.8km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.83**	**157**	P	P	19 32 24.7	-0.6
	0.7nm,0.3s,baz=332,slow=13,SNR=2.1						
WRA				S	S	19 35 03.5	-0.2
	2.0nm,0.3s,baz=336,slow=22,SNR=2.9						
ASAR	**Alice Springs**	**18.15**	**163**	P	P	19 33 01.2	+0.3
	1.1nm,0.3s,baz=346,slow=11,SNR=125						
ASAR				S	S	19 36 09.5	+0.9
	0.1nm,0.3s,baz=344,slow=22,SNR=5.9						
MKAR	**Makanchi Array**	**66.69**	**327**	P	P	19 39 24.8	0.0
	0.2nm,0.4s,baz=118,slow=6.7,SNR=5.6						

IDC 31 19:31:21.8±31.0, 20°43S×178°05W, h507km±281km, mb2.9/4, mb1 3.2/4, mb1mx2.8/19, mbtmp3.8/4, Error ellipse: s-maj=207.0km s-min=101.0km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.77**	**244**	P	P	19 37 54.5	+0.3
	0.8nm,0.4s,baz=75,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**44.49**	**257**	P	P	19 38 47.8	0.0
	0.9nm,0.6s,baz=90,slow=8.3,SNR=16						
ASAR				PcP	pP	19 40 19.8	-0.5
	0.2nm,0.7s,baz=98,slow=4.2,SNR=4.1						
WRA	**Warramunga Arr**	**44.56**	**262**	P	P	19 38 47.7	-0.7
	0.9nm,0.8s,baz=88,slow=7.8,SNR=1.5						
CMAR	**Chiang Mai Arr**	**90.05**	**290**	P	P	19 43 28.6	+1.0
	0.3nm,0.9s,baz=155,slow=3.8,SNR=4.6						
AKASG	**Malin Array Be**	**142.93**	**331**	PKhKP	PKPpre	19 49 53.1	
	1.0nm,0.4s,baz=43,slow=4.3,SNR=8.8						
BRTR	**Keskin Array B**	**146.76**	**312**	PKPbc	PKPbc	19 50 06.1	-0.9
	0.4nm,0.6s,baz=112,slow=5.5,SNR=3.0						

*TIF **31** 19:40:49.0, 41°18N×43°90E, h18km±2km*
*ISCJB **31** 19:40:50.1±0.7, 41°19N±0°04×43°90E±0°05, h11km±7km, Error ellipse: s-maj=8.2km s-min=5.0km az=139.7*
*DDA **31** 19:40:51.7, 41°15N×43°48E, h7km±3km, ML2.5*
ISC 31 19:40:49.8±1.2, 41°20N±0°05×43°88E±0°04, h19km±4km, n8, σ0°30/15, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.22**	**288**	P	**Pg**	**19 40 55.2**	**-0.1**
BGD				S	**Sg**	**19 40 59.5**	**+0.4**
AKH	**Akhalkalaki**	**0.36**	**306**	P	**Pg**	**19 40 57.4**	**-0.1**
AKH				S	**Sg**	**19 41 02.7**	**-0.1**
KZRT	**Kazreti**	**0.43**	**64**	P	**Pg**	**19 40 58.6**	**-0.1**
KZRT				S	**Sg**	**19 41 04.7**	**-0.1**
EAK	**Akyaka**	**0.55**	**202**	IAML_P			
	comp=Z,2μm,0.2s						
EAK				*i* P	**Pb**	**19 41 00.5**	**-0.4**
EAK				*i* S	**Sb**	**19 41 08.9**	**+0.5**
TBLG	**Delisi**	**0.84**	**50**	P	**Pb**	**19 41 05.8**	**+0.1**
TBLG				S	**Sg**	**19 41 17.8**	**+0.5**
BTNK	**Botanikuri**	**0.84**	**55**	P	**Pb**	**19 41 05.8**	**-0.1**
BTNK				S	**Sg**	**19 41 17.6**	**+0.1**
DIGO	**Kars**	**0.87**	**206**	IAML_P			
	comp=Z,834nm,0.1s						
DIGO				*i* P	**Pg**	**19 41 07.0**	**+0.2**
DIGO				*i* S	**Sb**	**19 41 17.6**	**-0.2**
LGD	**Lagodekhi**	**1.89**	**69**	P	**Sg**	**19 41 50.4**	**-0.2**

*ISCJB **31** 19:51:12.1±0.3, 34°46N±0°02×28°76E±0°03, h31km, Error ellipse: s-maj=4.3km s-min=2.7km az=138.2*
*HLW **31** 19:51:14.8, 34°45N×28°56E, h31km±29km, Md4.0, Ml3.2*
*ISK **31** 19:51:15.1, 34°88N×28°35E, h11km, ML2.9/10*
*GII **31** 19:51:19.3±0.4, 34°29N×29°01E, h40km, MD2.8/3*
*DDA **31** 19:51:26.5, 35°82N×28°53E, h7km±6km, ML2.8*
*NSSC **31** 19:51:37.4±1.1, 36°62N×32°28E, h3km, ML2.2*
ISC 31 19:51:12.0±1.0, 34°49N±0°03×28°59E±0°04, h31km, n57, σ2°06/86, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**1.77**	**348**	PN	**Pn**	**19 51 40.4**	**0.0**
AKAS	**Kas**	**1.93**	**25**	PN	**Pb**	**19 51 45.3**	**-1.2**
AKAS				SN	**Sn**	**19 52 07.9**	**+1.9**
AKAS	**Kas**	**1.93**	**25**	IAML_P			
	comp=Z,1μm,0.2s						
AKAS				*i* P	**Pb**	**19 51 45.3**	**-1.2**
ZKR	**Zakros**	**2.05**	**288**	PN	**Pn**	**19 51 46.4**	**+2.1**
ZKR				SN	**Sn**	**19 52 09.3**	**+0.4**
FETY	**Fethiye**	**2.18**	**10**	PN	**Pn**	**19 51 47.1**	**+1.0**
FETY				SN	**Sn**	**19 52 11.1**	**-1.0**
FETY	**Fethiye**	**2.18**	**10**	*i* P	**Pn**	**19 51 46.8**	**+0.7**
BBRN	**Bozburun-Marma**	**2.23**	**349**	PN	**Pn**	**19 51 46.6**	**-0.2**
DALY	**Dalyan (Mula)**	**2.32**	**1**	PN	**Pn**	**19 51 49.1**	**+1.0**
DALY	**Dalyan (Mula)**	**2.32**	**1**	IAML_P			
	comp=Z,968nm,0.2s						
DALY				*i* P	**Pn**	**19 51 49.4**	**+1.4**
TURN	**Turunc**	**2.38**	**0**	PN	**Pn**	**19 51 48.3**	**-0.5**
TURN	**Turunc**	**2.38**	**0**	IAML_P			
	comp=Z,1μm,0.2s						
TURN				*i* P	**Pn**	**19 51 49.2**	**+0.4**
TURN				*i* S	**Sn**	**19 52 14.0**	**-2.9**
DAT	**Datca**	**2.38**	**340**	PN	**Pn**	**19 51 49.8**	**+0.8**
DAT	**Datca**	**2.38**	**340**	IAML_P			
	comp=Z,461nm,0.3s						
DAT				*i* P	**Pn**	**19 51 50.8**	**+1.8**
ELL	**Elmali**	**2.50**	**25**	PN	**Pn**	**19 51 53.4**	**+2.8**
BDRM	**Kayabasi**	**2.73**	**340**	IAML_P			
	comp=Z,525nm,0.1s						
BDRM				*i* P	**Pn**	**19 51 54.3**	**+0.5**
BDRM				*i* S	**Sn**	**19 52 23.9**	**-1.8**
BODT	**Bodrum**	**2.77**	**338**	PN	**Pn**	**19 51 54.6**	**+0.4**
KORT	**Korkueli**	**2.89**	**29**	PN	**Pn**	**19 51 59.2**	**+3.3**
TAVA	**DENIZLI_Tavas**	**2.98**	**5**	*i* P	**Pn**	**19 51 59.6**	**+2.4**
AYDN	**Tasoluk**	**3.22**	**350**	*i* P	**Pn**	**19 52 02.1**	**+1.7**
MATC	**Matruh**	**3.34**	**200**	P	**Pn**	**19 52 03.8**	**+1.8**
	baz=201						
MATC				S	**Sn**	**19 52 39.9**	**-0.7**
	baz=201						
AYDB	**Zeytinkoy-Aydi**	**3.50**	**351**	PN	**Pn**	**19 52 05.5**	**+1.2**
APE	**Apeiranthos**	**3.58**	**317**	PN	**Pn**	**19 52 06.0**	**+0.6**
APE				SN	**Sn**	**19 52 44.3**	**-2.4**
CSS	**Mathiatis**	**3.93**	**82**	Pn	**Pn**	**19 52 12.9**	**+2.7**
CSS				Sn	**Sn**	**19 52 55.0**	**-0.3**
SLUM	**Salum**	**4.12**	**224**	P	**Pn**	**19 52 15.6**	**+2.8**
	baz=225						
SLUM				S	**Sn**	**19 52 58.3**	**-1.6**
	baz=225						
HNAT	**Natroun**	**5.14**	**160**	P	**Pn**	**19 52 28.7**	**+1.9**
	baz=159						
HNAT				S	**Sn**	**19 53 23.6**	**-1.4**
	baz=159						
KOT	**Kottamia**	**5.31**	**148**	P	**Pn**	**19 52 31.4**	**+2.2**
	baz=147						
KOT				AMP		19 53 00.0	
	baz=147						
KOT				S	**Sn**	**19 53 28.2**	**-1.2**
	baz=147						
HHAG	**Hagoal**	**5.41**	**146**	P	Pn	19 52 35.8	+5.2
	baz=145						
HSAF	**As Saff**	**5.47**	**152**	P	**Pn**	**19 52 33.9**	**+2.5**
	baz=151						
OFRI	**`Ofer**	**5.65**	**107**	Pn	**Pn**	**19 52 36.7**	**+2.8**
OFRI				Sn	**Sn**	**19 53 36.4**	**-1.4**
HNTI	**Hanita**	**5.66**	**103**	Pn	**Pn**	**19 52 36.0**	**+2.1**
HNTI				Sn	**Sn**	**19 53 36.1**	**-1.8**
SLTI	**Sal'it**	**5.84**	**111**	Pn	**Pn**	**19 52 38.5**	**+2.0**
SLTI				Sn	**Sn**	**19 53 40.3**	**-2.1**
MMA0B	**Mount Meron ar**	**5.86**	**103**	Pn	**Pn**	**19 52 39.1**	**+2.3**
MMA0B				Sn	**Sn**	**19 53 41.4**	**-1.6**
SWA2		**5.87**	**208**	P	**Pn**	**19 52 39.1**	**+2.3**
	baz=208						
GEM	**Giv'at Ha'Em**	**6.02**	**100**	Pn	**Pn**	**19 52 40.7**	**+1.8**
GEM				Sn	**Sn**	**19 53 44.9**	**-1.9**
KSDI	**Kefar Szold**	**6.02**	**100**	Pn	**Pn**	**19 52 41.5**	**+2.6**
KSDI				Sn	**Sn**	**19 53 45.2**	**-1.6**
KZIT	**Kziot**	**6.06**	**125**	Pn	**Pn**	**19 52 41.1**	**+1.7**
KZIT				Sn	**Sn**	**19 53 46.0**	**-1.7**
MMLI	**Mount Malkishu**	**6.06**	**108**	Pn	**Pn**	**19 52 41.2**	**+1.7**
MMLI				Sn	**Sn**	**19 53 46.2**	**-1.7**
NATI	**Neve Ativ**	**6.07**	**100**	Pn	**Pn**	**19 52 41.9**	**+2.4**
NATI				Sn	**Sn**	**19 53 46.7**	**-1.2**
AMAZ	**Amatzia**	**6.08**	**117**	Pn	**Pn**	**19 52 41.7**	**+2.0**
AMAZ				Sn	**Sn**	**19 53 45.8**	**-2.4**
ZAF	**Zafarana**	**6.19**	**146**	P	**Pn**	**19 52 44.1**	**+3.0**
	baz=145						
BRBR	**Barbar**	**6.21**	**98**	*e*P	**Pn**	**19 52 44.7**	**+3.0**
BRBR				*e*S	Sn	19 53 35.2	-16
BRBR				AML	AML	19 53 53.4	
	comp=E,7.4nm,0.7s						
BRBR				AML	AML	19 53 53.5	
	comp=N,13nm,0.3s						
HMDT	**Nahal Hemdat**	**6.21**	**109**	Pn	**Pn**	**19 52 43.8**	**+2.2**
HMDT				Sn	**Sn**	**19 53 49.6**	**-2.0**
ZNM	**Zenema**	**6.26**	**143**	P	**Pn**	**19 52 45.1**	**+2.8**
	baz=142						
NBNS	**Bani Suef**	**6.29**	**158**	P	**Pn**	**19 52 45.5**	**+2.9**
	baz=157						
NBNS				AMP		19 53 00.0	
	baz=157						
YTIR	**Yattir**	**6.31**	**118**	Pn	**Pn**	**19 52 44.8**	**+1.8**
YTIR				Sn	**Sn**	**19 53 51.9**	**-2.1**
DSI	**Dead Sea**	**6.40**	**115**	Pn	**Pn**	**19 52 45.8**	**+1.7**
DSI				Sn	**Sn**	**19 53 54.1**	**-2.1**
QASN	**Qassioun**	**6.45**	**96**	*e*P	**Pn**	**19 52 47.2**	**+2.3**
QASN				*e*S	Sn	19 53 37.3	-20
QASN				AML	AML	19 54 04.5	
	comp=N,18nm,0.4s						
QASN				AML	AML	19 54 04.7	
	comp=E,9.2nm,0.5s						
MZDA	**Masada**	**6.52**	**117**	Pn	**Pn**	**19 52 47.8**	**+2.1**
TOTH	**TOTAH**	**6.61**	**98**	*e*P	**Pn**	**19 52 51.0**	**+3.9**
TOTH				*e*S	Sn	19 53 41.4	-20
TOTH				AML	AML	19 54 07.1	
	comp=N,6.3nm,0.6s						
TOTH				AML	AML	19 54 14.4	
	comp=E,5.0nm,0.5s						
GHAJ	**Ghor Haditha**	**6.67**	**117**	Pn	**Pn**	**19 52 49.6**	**+1.8**
GHAJ				Sn	**Sn**	**19 54 01.2**	**-1.6**
KRMI	**Paran Flat**	**6.78**	**128**	Pn	**Pn**	**19 52 51.6**	**+2.2**
KRMI				Sn	**Sn**	**19 54 02.9**	**-2.6**
ZFRI	**Zfri**	**6.81**	**123**	Sn	**Sn**	**19 54 03.5**	**-2.6**
PRNI	**Paran**	**6.81**	**126**	Pn	**Pn**	**19 52 51.7**	**+1.9**
PRNI				Sn	**Sn**	**19 54 04.0**	**-2.3**
HRFI	**Mount Harif**	**7.04**	**127**	Pn	**Pn**	**19 52 55.4**	**+2.5**
HRFI				Sn	**Sn**	**19 54 09.6**	**-2.2**
MBRI	**Mt Berech**	**7.12**	**129**	Pn	**Pn**	**19 52 56.8**	**+2.8**
MBRI				Sn	**Sn**	**19 54 11.7**	**-2.2**
EIL	**Elat**	**7.22**	**130**	Pn	**Pn**	**19 52 57.8**	**+2.4**
EIL				Sn	**Sn**	**19 54 13.4**	**-3.0**
HKAT	**Jabal Katrina**	**7.53**	**141**	P	**Pn**	**19 53 02.3**	**+2.6**
	baz=140						

*ISCJB **31** 19:54:04.7±0.6, 36°56N±0°03×140°91E±0°06, h56km±4km, mb3.5/5, Error ellipse: s-maj=8.4km s-min=5.0km az=18.9*
*IDC **31** 19:54:05.5±1.7, 36°56N×141°01E, h49km±18km, mb3.3/5, mb1 3.5/8, mb1mx3.3/36, mbtmp3.6/8, ML3.5/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/29, Error ellipse: s-maj=15.8km s-min=12.1km az=75.0*
*JMA **31** 19:54:06.1±0.1, 36°56N×140°81E, h53km±1km, M3.6*
JMA Felt II J1.
ISC 31 19:54:05.9±1.1, 36°57N±0°05×140°88E±0°07, h48km±7km, n27, σ0°73/34, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.25**	**279**	P	**Pn**	**19 54 14.8**	**+0.4**
JHO				S	**Sn**	**19 54 20.6**	**+0.2**
JHYU	**Hitachinakayam**	**0.33**	**226**	P	**Pn**	**19 54 15.5**	**+0.4**
JHYU				S	**Sn**	**19 54 21.8**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.53**	**353**	P	**Pn**	**19 54 17.6**	**+0.1**
ONAJ				S	**Sn**	**19 54 25.8**	**0.0**
JYT	**Yasato**	**0.65**	**238**	P	**Pn**	**19 54 18.6**	**-0.3**
JYT				S	**Sn**	**19 54 27.1**	**-1.2**
JFK	**Kawauchi**	**0.79**	**360**	P	**Pn**	**19 54 20.8**	**0.0**
JFK				S	**Sn**	**19 54 31.3**	**-0.4**
JSB	**Shiboa**	**0.86**	**297**	P	**Pn**	**19 54 21.8**	**0.0**
JSB				S	**Sn**	**19 54 33.5**	**+0.1**
JFT	**Otama**	**1.04**	**336**	P	**Pn**	**19 54 24.7**	**+0.6**
JFT				S	**Sn**	**19 54 38.1**	**+0.5**
JAG	**Ashikaga**	**1.16**	**263**	P	**Pn**	**19 54 25.4**	**-0.3**
JFY	**Yanaizu**

MEX 31 20:02:22.5±0.3, 16°.36N×98°.01W, h4km±2km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.12**	**286**	*eP*	Pg	20 02 24.6	-0.3
PNIG				*eS*	Sg	20 02 26.4	-0.1
TLIG	**Tlapa**	**1.31**	**336**	*eP*	Pg	20 02 43.9	-3.8
TLIG				*eS*	Sg	20 03 00.8	-3.9
MEIG	**Mezcala**	**2.19**	**316**	*eP*	Pn	20 02 56.5	-3.4
MEIG				*eS*	Sn	20 03 23.1	-4.4
CAIG	**El Cayaco**	**2.27**	**288**	*eP*	Pn	20 02 57.7	-3.2
CAIG				*eS*	Sn	20 03 25.1	-4.3
PLIG	**Platanillo**	**2.48**	**325**	*eP*	Pn	20 03 00.3	-3.5
PLIG				*eS*	Sn	20 03 30.1	-4.4

*SNET **31** 20:06:26.3±1.2, 15°.71N×86°.65W, h35km±174km, ML4.2*
*UCR **31** 20:06:31.0±2.9, 15°.67N×87°.25W, h15km, ML3.8*
ISC 31 20:06:25.0±3.1, 15°.7N±0°.1×86°.8W±0°.1, h5km±23km, n27, σ1§17/35, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**1.71**	**197**	*eP*	**Pn**	**20 06 54.2**	**-1.2**
TGUH				*eS*	**Sn**	**20 07 15.4**	**-2.2**
TGUH				IAML		20 07 18.3	
	comp=Z,4μm,0.2s						
TGUH	**Tegucigalpa,Un**	**1.71**	**197**	*eP*	**Pn**	**20 06 54.0**	**-1.4**
TGUH				*eS*	**Sn**	**20 07 15.4**	**-2.2**
CAHU	**Cacacuatique**	**2.37**	**216**	*eP*	**Pn**	**20 07 04.4**	**-0.4**
CAHU				IAML		20 07 37.8	
	comp=Z,618nm,0.6s						
CAHU	**Cacacuatique**	**2.37**	**216**	*eP*	**Pn**	**20 07 04.4**	**-0.4**
ESTN	**Estel**	**2.61**	**171**	*eP*	**Pb**	**20 07 11.5**	**-0.9**
ESTN				*eS*	**Sb**	**20 07 47.6**	**+2.8**
CNCH	**Conchagua**	**2.62**	**203**	*eP*	**Pn**	**20 07 08.3**	**+0.2**
CNCH				*eS*	**Sn**	**20 07 40.4**	**0.0**
CNCH				IAML		20 07 47.1	
	comp=E,1μm,0.4s						
CNCH	**Conchagua**	**2.62**	**203**	*eP*	**Pn**	**20 07 08.3**	**+0.2**
CNCH				*eS*	**Sn**	**20 07 40.4**	**0.0**
CNCH				IAML		20 07 47.1	
	comp=E,1μm,0.4s						
PACA	**Pacayal**	**2.68**	**214**	*eP*	**Pn**	**20 07 08.3**	**-0.7**
PACA				IAML		20 07 52.1	
	comp=Z,2μm,0.7s						
PACA	**Pacayal**	**2.68**	**214**	*eP*	**Pn**	**20 07 08.3**	**-0.7**
PACA				IAML		20 07 52.1	
	comp=Z,2μm,0.7s						
TECA	**Tecapa**	**2.76**	**218**	*eP*	**Pn**	**20 07 10.4**	**+0.2**
TECA	**Tecapa**	**2.76**	**218**	*eP*	**Pn**	**20 07 10.4**	**+0.2**
CSGN	**Cosiguina Volc**	**2.81**	**196**	*eP*	**Pn**	**20 07 13.0**	**+2.2**
MTO3	**Montecristo**	**2.82**	**243**	*eP*	**Pn**	**20 07 10.6**	**-0.4**
MTO3				IAML		20 07 44.6	
	comp=Z,210nm,0.4s						
MTO3	**Montecristo**	**2.82**	**243**	*eP*	**Pn**	**20 07 10.6**	**-0.4**
MTO3				IAML		20 07 44.6	
	comp=Z,210nm,0.4s						
MATN	**Matagalpa**	**2.87**	**163**	*eP*	**Pb**	**20 07 17.0**	**+0.2**
MATN				*eS*	**Sg**	**20 07 56.6**	**-0.8**
LFU	**La Fuente**	**2.99**	**230**	*eP*	**Pn**	**20 07 13.1**	**-0.1**
LFU	**La Fuente**	**2.99**	**230**	*eP*	**Pn**	**20 07 13.1**	**-0.1**
CRIN	**San Cristobal**	**2.99**	**185**	*eP*	**Pb**	**20 07 20.2**	**+1.3**
CRIN				*eS*	**Sb**	**20 07 56.9**	**+1.0**
CRIN				IAML		20 08 03.1	
	comp=N,470nm,0.5s						
LFRS	**El Faro**	**3.03**	**227**	*eP*	**Pn**	**20 07 13.8**	**0.0**
CNGN	**Cerro Negro**	**3.18**	**179**	*eP*	**Pb**	**20 07 21.4**	**-0.8**
CNGN				*eS*	**Sb**	**20 08 02.3**	**+1.1**
CNGN				IAML		20 08 07.6	
	comp=N,124nm,0.6s						
MOMN	**Momotombo**	**3.28**	**176**	*eP*	**Pb**	**20 07 22.3**	**-1.5**
SNJE	**San Jose**	**3.29**	**237**	*eP*	**Pn**	**20 07 18.1**	**+0.6**
SNJE	**San Jose**	**3.29**	**237**	*eP*	**Pn**	**20 07 18.1**	**+0.6**
SBLS	**San Blas**	**3.33**	**237**	*eP*	**Pn**	**20 07 19.2**	**+1.2**
SBLS	**San Blas**	**3.33**	**237**	*eP*	**Pn**	**20 07 19.2**	**+1.2**
COPN	**Copaltepe**	**3.50**	**177**	*eS*	**Sb**	**20 08 12.4**	**+2.0**
ACON	**Acoyapa**	**4.02**	**157**	*eP*	**Pb**	**20 07 36.5**	**+0.1**

*IDC **31** 20:16:28.4±1.3, 36°.85N×78°.98E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.2/50, mbtmp3.5/5, ML3.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/30, Error ellipse: s-maj=36.5km s-min=20.0km az=63.0*
*ISCJB **31** 20:16:29.6±0.5, 36°.89N±0°.04×79°.3E±0°.1, h16km, mb3.3/3, Error ellipse: s-maj=13.7km s-min=4.3km az=160.4*
*BJI **31** 20:16:31.8±0.0, 36°.93N×79°.11E, h6km, ML3.6/7*
*NNC **31** 20:16:36.9±1.3, 37°.28N×80°.34E, h0km, mb4.0, mpv4.1, Error ellipse: s-maj=22.7km s-min=9.2km az=85.0*
ISC 31 20:16:31.4±0.8, 36°.92N±0°.06×79°.26E±0°.10, h16km, n21, σ1§53/25, mb3.5/3, 2C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.67**	**316**	Pg	**Pb**	**20 17 35.0**	**-0.9**
KSH				Sn	**Sn**	**20 18 11.0**	**+0.4**
KSH				smax	smax		
	comp=N,260nm,0.5s						
KSH				smax	smax		
	comp=E,52nm,0.4s						
PDGK	**Podgornoye**	**6.41**	**2**	⇓Pn	**Pn**	**20 18 07.8**	**+2.5**
	7.0nm,0.4s						
PDGK				⇑Sn	**Sn**	**20 19 20.0**	**+1.8**
	18nm,0.6s						
PDGK				⇓Lg	Lg	20 19 48.6	
	11nm,0.5s						
AAK	**Ala-Archa**	**6.79**	**329**	Pg	**Pb**	**20 18 31.0**	**+1.9**
	1.5nm,0.3s,baz=114,slow=16,SNR=5.4						
AAK				Lg	Lg	20 20 00.5	
	0.8nm,0.3s,baz=180,slow=20,SNR=3.5						
PYUN	**Piuthan**	**9.34**	**159**	*eP*	**Pn**	**20 18 45.8**	**+0.2**
	7.2nm,0.3s						
PYUN				*eS*	**Sn**	**20 20 29.3**	**-1.1**
DANN	**Dangsing**	**9.34**	**155**	*eP*	**Pn**	**20 18 46.0**	**+0.3**
	7.4nm,0.3s						
WMQ	**Urumqi**	**9.43**	**40**	*eP*	Pn	20 18 55.0	+8.3
KOLN	**Koldanda**	**9.83**	**157**	*eP*	**Pn**	**20 18 52.7**	**+0.4**
	6.1nm,0.4s						
MAKZ	**Makanchi**	**10.09**	**11**	⇓Pn	**Pn**	**20 18 56.3**	**+0.6**
	1.5nm,0.7s						
MAKZ				⇑Sn	**Sn**	**20 20 45.9**	**-2.6**
	3.7nm,1.1s						
MK31	**Makanchi Array**	**10.12**	**12**	⇓Pn	**Pn**	**20 18 56.8**	**+0.7**
	0.3nm,0.2s,baz=190,slow=12,SNR=54						
MK31				⇓Sn	**Sn**	**20 20 46.7**	**-2.6**
	1.9nm,0.6s,baz=188,slow=23,SNR=6.1						
MKAR	**Makanchi Array**	**10.12**	**12**	Pn	**Pn**	**20 18 56.9**	**+0.8**
	0.8nm,0.3s,baz=197,slow=12,SNR=41						
MKAR				Sn	**Sn**	**20 20 46.4**	**-2.9**
	0.7nm,0.3s,baz=189,slow=23,SNR=6.5						
MKAR				LR	LR	20 23 34.5	
	comp=Z,29nm,18.4s,baz=74,slow=42						
KKN	**Kakani**	**10.42**	**149**	*eP*	**Pn**	**20 19 01.6**	**+1.1**
	12nm,0.5s						
DMN	**Daman**	**10.51**	**150**	*eP*	**Pn**	**20 19 02.3**	**+0.6**
	8.9nm,0.5s						
PKIN	**Phulchoki**	**10.66**	**149**	*eP*	**Pn**	**20 19 04.6**	**+0.9**
	10nm,0.4s						
PKI	**Pulchoki**	**10.67**	**149**	*eP*	**Pn**	**20 19 05.0**	**+1.1**
	15nm,0.5s						
JIRN	**Jiri**	**10.93**	**146**	*eP*	**Pn**	**20 19 09.4**	**+1.9**
	34nm,0.4s						
KURBB	**Kurchatov Arra**	**13.71**	**358**	Pn	**Pn**	**20 19 44.4**	**-0.7**
	0.0nm,0.3s,baz=183,slow=13,SNR=5.7						
BVAR	**Borovoye Array**	**17.27**	**342**	P	**P**	**20 20 33.8**	**+0.6**
	0.1nm,0.3s,baz=160,slow=14,SNR=4.2						
AKTO	**Aktyubinsk**	**20.37**	**318**	P	Pn	20 21 09.4	+0.1
	0.4nm,0.3s,baz=135,slow=10.0,SNR=2.2						
CMAR	**Chiang Mai Arr**	**25.25**	**131**	P	**P**	**20 21 57.4**	**+0.6**
	0.3nm,0.6s,baz=311,slow=9.5,SNR=5.6						
FINES	**FINESS Array B**	**40.95**	**324**	P	**P**	**20 24 12.8**	**-0.1**
	0.4nm,0.4s,baz=108,slow=13,SNR=4.5						
TORD	**Torodi Ar. Bea**	**72.34**	**273**	P	**P**	**20 27 54.7**	**-2.1**
	0.2nm,0.4s,baz=46,slow=6.2,SNR=3.0						

*UCR **31** 20:16:41.8±1.2, 11°.98N×87°.79W, h27km±19km, ML3.4*
*SNET **31** 20:16:42.1±1.1, 11°.96N×87°.78W, h13km±22km, ML3.5*
ISC 31 20:16:42.1±2.1, 12°.0N±0°.1×87°.75W±0°.07, h22km±11km, n26, σ0§68/35, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.98**	**45**	*eP*	**Pb**	**20 17 00.3**	**-0.2**
CRIN				IAML		20 17 21.2	
	comp=N,2μm,0.3s						
CSGN	**Cosiguina Volc**	**0.99**	**11**	*eP*	**Pb**	**20 17 00.7**	**+0.1**
CSGN				*eS*	**Sn**	**20 17 14.8**	**+0.7**
CSGN	**Cosiguina Volc**	**0.99**	**11**	*eP*	**Pb**	**20 17 00.7**	**+0.1**
CSGN				*eS*	**Sn**	**20 17 14.8**	**+0.7**
CNGN	**Cerro Negro**	**1.14**	**64**	*eP*	**Pn**	**20 17 01.6**	**-1.3**
CNGN				*eS*	**Sn**	**20 17 19.4**	**+1.5**
CNGN				IAML		20 17 21.1	
	comp=N,354nm,0.3s						
CNGN	**Cerro Negro**	**1.14**	**64**	*eP*	**Pn**	**20 17 01.6**	**-1.3**
COPN	**Copaltepe**	**1.15**	**81**	*eP*	**Pn**	**20 17 02.4**	**-0.5**
COPN				*eP*	**Pn**	**20 17 02.5**	**-0.5**
COPN				IAML		20 17 24.7	
	comp=Z,836nm,0.4s						
COPN	**Copaltepe**	**1.15**	**81**	*eP*	**Pn**	**20 17 02.4**	**-0.5**
MOMN	**Momotombo**	**1.25**	**71**	*eP*	**Pn**	**20 17 03.9**	**-0.5**
CNCH	**Conchagua**	**1.27**	**356**	*eP*	**Pn**	**20 17 03.9**	**-0.9**
CNCH				*eS*	**Sn**	**20 17 21.6**	**+0.3**
CNCH	**Conchagua**	**1.27**	**356**	⇓*eP*	**Pn**	**20 17 03.9**	**-0.9**
CNCH				*eS*	**Sn**	**20 17 21.6**	**+0.3**
LCND	**La Caada**	**1.31**	**354**	*eP*	**Pn**	**20 17 04.7**	**-0.4**
LCND				*eS*	**Sn**	**20 17 22.2**	**+0.2**
LCND				IAML		20 17 29.4	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**1.31**	**354**	*eP*	**Pn**	**20 17 04.7**	**-0.4**
LCND				*eS*	**Sn**	**20 17 22.2**	**+0.2**
LCND				IAML		20 17 29.4	
	comp=Z,1μm,0.3s						
MGAN	**Managua**	**1.48**	**84**	*eP*	**Pn**	**20 17 07.8**	**+0.3**
PACA	**Pacayal**	**1.56**	**339**	*eP*	**Pn**	**20 17 08.3**	**-0.5**
PACA	**Pacayal**	**1.56**	**339**	*eP*	**Pn**	**20 17 08.3**	**-0.5**
TECA	**Tecapa**	**1.66**	**334**	*eP*	**Pn**	**20 17 09.6**	**-0.5**
TECA	**Tecapa**	**1.66**	**334**	*eP*	**Pn**	**20 17 09.6**	**-0.5**
ESTN	**Estel**	**1.74**	**51**	*eP*	**Pn**	**20 17 10.8**	**-0.3**
CAHU	**Cacacuatique**	**1.82**	**346**	*eP*	**Pn**	**20 17 12.4**	**0.0**
CAHU	**Cacacuatique**	**1.82**	**346**	*eP*	**Pn**	**20 17 12.9**	**+0.6**
MATN	**Matagalpa**	**2.01**	**62**	*eP*	**Pn**	**20 17 14.7**	**-0.2**
MATN				*eS*	**Sn**	**20 17 40.2**	**+0.8**
LFRS	**El Faro**	**2.06**	**322**	*eP*	**Pn**	**20 17 15.1**	**-0.5**
TGUH	**Tegucigalpa,Un**	**2.10**	**13**	*eP*	**Pn**	**20 17 14.7**	**-1.3**
CONN	**Concepcion**	**2.13**	**102**	*eP*	**Pn**	**20 17 15.7**	**-0.8**
VICT	**Victoria**	**2.13**	**336**	*eP*	**Pn**	**20 17 16.6**	**+0.1**
VICT	**Victoria**	**2.13**	**336**	*eP*	**Pn**	**20 17 16.6**	**+0.1**

*IDC **31** 20:17:09.6±0.6, 10°.35S×161°.67E, h50km±4km, mb3.8/14, mb1 4.0/15, mb1mx3.8/37, mbtmp4.1/15, MS3.3/5, Ms1 3.3/5, ms1mx2.9/19, Error ellipse: s-maj=15.4km s-min=8.5km az=27.0*
*NEIC **31** 20:17:11.0±1.9, 10°.28S×161°.56E, h59km±6km, mb4.7/40, Error ellipse: s-maj=18.4km s-min=10.7km az=75.0*
*ISCJB **31** 20:17:12.2±1.2, 10°.30S±0°.05×161°.50E±0°.06, h85km±9km, mb4.5/46, Error ellipse: s-maj=10.7km s-min=7.3km az=16.0*
ISC 31 20:17:10.2±0.6, 10°.29S±0°.06×161°.67E±0°.07, h52km±5km, h52km:pP-P, n69, σ1§20/77, mb4.6/46, MS3.3/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.90**	**297**	*i* P	**Pn**	**20 17 41.0**	**+0.8**
HNR				*i* S	**Sn**	**20 18 06.0**	**+3.0**
HNR	**Honiara**	**1.90**	**297**	*e*Pn	**Pn**	**20 17 40.9**	**+0.6**
HNR	**Honiara**	**1.90**	**297**	P	**Pn**	**20 17 41.4**	**+1.2**
	84nm,0.3s,baz=192,slow=2.8,SNR=30						
HNR				S	**Sn**	**20 18 03.6**	**+0.6**
	390nm,0.3s,baz=160,slow=21,SNR=23						
HNR				LR	LR	20 18 41.8	
	comp=Z,298nm,18.8s,baz=67,slow=48						
RABL	**Rabaul**	**11.21**	**302**	*e*Sn	Sn	20 22 07.8	+16
DZM	**Mont Dzumac**	**12.57**	**159**	*e*Pn	**Pn**	**20 20 08.2**	**+1.6**
DZM	**Mont Dzumac**	**12.57**	**159**	P	**Pn**	**20 20 09.8**	**+3.3**
	1.4nm,0.3s,baz=30,slow=9.4,SNR=16						
DZM				S	**Sn**	**20 22 22.4**	**-2.9**
	0.3nm,0.3s,baz=123,slow=17,SNR=2.5						
DZM				LR	LR	20 24 08.2	
	comp=Z,107nm,19.7s,baz=26,slow=33						
PATS	**Pohnpei**	**17.34**	**349**	*e*Pn	**P**	**20 21 09.7**	**+0.2**
	106nm,1.3s						
CTA	**Charters Tower**	**17.77**	**235**	P	**P**	**20 21 13.8**	**-0.4**
	0.5nm,0.3s,baz=48,slow=16,SNR=4.7						
CTAO	**Charters Tower**	**17.77**	**235**	*e*Pn	**P**	**20 21 14.6**	**+0.4**
	69nm,2.0s						
EIDS	**Eidsvold**	**18.05**	**212**	*eP*	**Pn**	**20 21 18.9**	**+1.6**
	35nm,1.5s						
COEN	**Coen**	**18.44**	**257**	*eP*	**Pn**	**20 21 23.7**	**+1.5**
	17nm,1.0s						
ARMA	**Armidale**	**22.10**	**204**	*eP*	**P**	**20 22 01.3**	**-0.1**
	9.7nm,1.1s						
WRAB	**Tennant Creek**	**28.02**	**247**	*eP*	**P**	**20 22 56.0**	**-0.7**
	33nm,1.8s						
WB2	**Warramunga Arr**	**28.02**	**247**	*eP*	**P**	**20 22 55.3**	**-1.4**
	29nm,1.8s						
WR1	**Warramunga Arr**	**28.03**	**247**	*eP*	**P**	**20 22 55.9**	**-0.9**
WRA	**Warramunga Arr**	**28.03**	**247**	P	**P**	**20 22 55.9**	**-0.9**
	7.5nm,0.3s,baz=75,slow=9.4,SNR=3.9						
STKA	**Stephens Creek**	**28.40**	**218**	*eP*	**P**	**20 22 59.1**	**-0.7**
	6.6nm,1.9s						
STKA	**Stephens Creek**	**28.40**	**218**	LR	LR	20 33 50.7	
	comp=Z,87nm,19.7s,baz=24,slow=35						
AS31	**Alice Springs**	**29.62**	**240**	*eP*	**P**	**20 23 09.0**	**-1.9**
	2.8nm,1.4s						
ASAR	**Alice Springs**	**29.62**	**240**	P	**P**	**20 23 09.4**	**-1.5**
	0.5nm,0.3s,baz=64,slow=10,SNR=16						
ASAR				LR	LR	20 34 28.3	
	comp=Z,44nm,19.6s,baz=90,slow=35						
WAKE	**Wake Island**	**29.80**	**10**	*eP*	**P**	**20 23 12.4**	**+0.1**
	269nm,1.4s						
TOO	**Toolangi**	**30.82**	**206**	*eP*	**P**	**20 23 21.2**	**-0.1**
	27nm,1.6s						
URZ	**Urewera**	**31.10**	**156**	*eP*	**P**	**20 23 24.4**	**+0.7**
	22nm,1.3s						
BKZ	**Black Stump Fm**	**31.65**	**158**	*eP*	**P**	**20 23 30.8**	**+2.2**
	12nm,1.2s						
BBOO	**Buckleboo**	**32.54**	**223**	*eP*	**P**	**20 23 36.4**	**0.0**
	139nm,1.9s						
FITZ	**Fitzroy Crossi**	**35.73**	**253**	*eP*	**P**	**20 24 02.9**	**-1.3**
	8.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**35.73**	**253**	P	**P**	**20 24 03.1**	**-1.1**
	5.0nm,0.7s,baz=68,slow=8.2,SNR=17						
PSAD2	**Pilbara Seismi**	**41.52**	**249**	*eP*	**P**	**20 24 52.0**	**-0.9**
	62nm,1.4s						
PSAC2	**Pilbara Seismi**	**41.57**	**249**	*eP*	**P**	**20 24 52.6**	**-0.6**
	79nm,1.6s						
PSAB2	**Pilbara Seismi**	**41.61**	**249**	*eP*	**P**	**20 24 52.9**	**-0.7**
	82nm,1.8s						
PSAD1	**Pilbara Seismi**	**41.62**	**249**	*eP*	**P**	**20 24 53.6**	**0.0**
	112nm,1.8s						
PSAA2	**Pilbara Seismi**	**41.62**	**249**	*eP*	**P**	**20 24 51.7**	**-2.0**
	123nm,2.0s						
PSA00	**Pilbara Seismi**	**41.63**	**249**	*eP*	**P**	**20 24 52.5**	**-1.2**
	75nm,1.6s						
PSAA1	**Pilbara Seismi**	**41.63**	**249**	*eP*	**P**	**20 24 52.6**	**-1.2**
	68nm,1.4s						
PSAB1	**Pilbara Seismi**	**41.65**	**249**	*eP*	**P**	**20 24 52.9**	**-1.0**
	28nm,1.3s						
PSAC3	**Pilbara Seismi**	**41.65**	**249**	*eP*	**P**	**20 24 52.3**	**-1.6**
	71nm,1.8s						
PSAC1	**Pilbara Seismi**	**41.65**	**249**	*eP*	**P**	**20 24 53.4**	**-0.5**
	76nm,1.7s						
PSAD3	**Pilbara Seismi**	**41.70**	**249**	*eP*	**P**	**20 24 53.6**	**-0.7**
	63nm,1.5s						
MJAR	**Matsushiro Arr**	**51.55**	**336**	P	**P**	**20 26 09.8**	**-1.4**
	1.4nm,0.6s,baz=168,slow=8.0,SNR=4.7						
MAJO	**Matsushiro**	**51.55**	**336**	*eP*	**P**	**20 26 09.8**	**-1.4**
ASAJ	**Asahikawa**	**56.85**	**344**	P	**P**	**20 26 49.6**	**+0.1**
	6.5nm,0.7s,baz=216,slow=29,SNR=5.9						
KSRS	**Korea Array**	**57.06**	**328**	P	**P**	**20 26 51.0**	**-0.1**
	0.9nm,0.8s,baz=143,slow=7.4,SNR=5.7						
KSRS				pP	**pP**	**20 27 05.2**	**+0.3**
	1.1nm,0.6s,baz=146,slow=7.3,SNR=4.9						
KS15	**Wonju Array Si**	**57.07**	**328**	*eP*	**P**	**20 26 50.9**	**-0.4**
	5.2nm,1.0s						
USRK	**Ussuriysk Ar.**	**60.55**	**336**	P	**P**	**20 27 15.8**	**+0.6**
	5.1nm,0.9s,baz=130,slow=7.7,SNR=5.1						
PETK	**Petropavlovsk-**	**63.24**	**357**	LR	LR	20 53 11.1	
	comp=Z,17nm,19.3s,baz=178,slow=34						
GSI	**Gunungsitoli**	**64.80**	**276**	*eP*	**P**	**20 27 42.8**	**-1.4**
	18nm,1.4s						
VNDA	**Vanda**	**67.21**	**180**	*eP*	**P**	**20 27 58.5**	**0.0**
VNDA				*e*		20 27 58.6	
VNDA	**Vanda**	**67.21**	**180**	P	**P**	**20 27 59.0**	**+0.5**
	0.5nm,0.8s,baz=342,slow=7.7,SNR=4.2						
VNDA				pP	**pP**	**20 28 12.5**	**-0.6**
	0.9nm,0.8s,baz=343,slow=6.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**68.15**	**295**	P	**P**	**20 28 06.3**	**+0.9**
	0.3nm,0.6s,baz=121,slow=5.1,SNR=4.1						
CMAR				pP	**pP**	**20 28 19.1**	**-0.9**
	1.0nm,0.7s,baz=132,slow=5.2,SNR=7.6						
SONA0	**Songino Array**	**75.73**	**325**	*eP*	**P**	**20 28 50.6**	**+0.1**
SONA0				*e*pP	**pP**	**20 29 05.1**	**+0.3**
SONM	**Songino Array**	**75.73**	**325**	P	**P**	**20 28 50.6**	**+0.1**
	1.9nm,0.6s,baz=134,slow=5.7,SNR=11						
SONM				pP	**pP**	**20 29 05.1**	**+0.3**
	4.3nm,0.8s,baz=137,slow=6.0,SNR=15						
OHAK	**Old Harbor**	**76.75**	**23**	*eP*	**P**	**20 28 56.6**	**+0.8**
	20nm,1.9s						
KDAK	**Kodiak Island**	**77.41**	**23**	*eP*	**P**	**20 29 00.5**	**+1.0**
	3.2nm,0.8s						
SVW2	**Sparrevohn**	**78.70**	**20**	*eP*	**P**	**20 29 08.0**	**+1.3**
	7.0nm,0.9s						
CNPM	**China Poot**	**79.12**	**22**	*eP*	**P**	**20 29 08.6**	**-0.4**
	5.2nm,0.9s						
QSPA	**South Pole Qui**	**79.70**	**180**	*eP*	**P**	**20 29 12.2**	**-0.1**
	20nm,1.6s						
MDM	**Murphy Dome**	**83.80**	**19**	*eP*	**P**	**20 29 33.1**	**-0.5**
	3.3nm,0.8s						
HDA	**Harding Lake**	**83.87**	**20**	*eP*	**P**	**20 29 34.2**	**+0.2**
	5.2nm,1.0s						
MENT	**Mentasta**	**84.10**	**22**	*eP*	**P**	**20 29 36.3**	**+1.1**
	3.7nm,1.0s						
ILAR	**Eielson Array**	**84.12**	**20**	P	**P**	**20 29 35.2**	**-0.1**
	1.3nm,0.7s,baz=245,slow=5.4,SNR=11						
ILAR				pP	**pP**	**20 29 50.5**	**+0.5**
	0.6nm,0.7s,baz=245,slow=6.5,SNR=3.4						
ILB	**Eielson Array**	**84.12**	**20**	*eP*	**P**	**20 29 34.5**	**-0.8**
	8.3nm,1.6s						
NV01	**Mina Array Sit**	**88.63**	**51**	*eP*	**P**	**20 29 59.0**	**+0.7**
NVAR	**Mina Array Bea**	**88.63**	**51**	P	**P**	**20 29 59.0**	**+0.7**
	1.0nm,0.8s,baz=243,slow=6.5,SNR=4.8						
MK32	**Makanchi Array**	**90.25**	**318**	*eP*	**P**	**20 30 04.0**	**-1.5**
MK32				*e*pP	**pP**	**20 30 18.8**	**-1.7**
MKAR	**Makanchi Array**	**90.25**	**318**	P	**P**	**20 30 04.0**	**-1.5**
	0.6nm,0.6s,baz=90,slow=6.3,SNR=8.7						
MKAR				pP	**pP**	**20 30 18.8**	**-1.7**
	0.7nm,0.6s,baz=98,slow=6.1,SNR=5.5						
KURBB	**Kurchatov Arra**	**93.55**	**321**	P	**P**	**20 30 18.7**	**-1.8**
	0.6nm,0.8s,baz=106,slow=3.8,SNR=5.5						
KURBB				pP	**pP**	**20 30 33.0**	**-2.5**
	0.6nm,0.8s,baz=111,slow=3.3,SNR=4.4						
NRIK	**Noril'sk**	**94.03**	**340**	LR	LR	21 12 42.8	
	comp=Z,14nm,20.7s,baz=119,slow=35						
YKA	**Yellowknife Ar**	**96.16**	**28**	P	**P**	**20 30 32.2**	**0.0**
	0.8nm,1.0s,baz=261,slow=4.5,SNR=6.1						
YKB5	**Yellowknife Ar**	**96.16**	**28**	*eP*	**P**	**20 30 32.2**	**0.0**

*ISCJB **31** 21:36:57.0±0.4, 24°.41N±0°.03×122°.84E±0°.02, h65km±5km, Error ellipse: s-maj=5.2km s-min=2.5km az=171.9*
*JMA **31** 21:36:56.8±0.1, 24°.46N×122°.85E, h69km±1km, M2.2*
*TAP **31** 21:36:57.2, 24°.40N×122°.82E, h66km, ML2.9, C*
ISC 31 21:36:57.3±1.3, 24°.43N±0°.05×122°.84E±0°.02, h65km±7km, n64, σ0§57/104, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.10**	**75**	P	**Pn**	**21 37 07.0**	**+0.1**
JYNG				S	**Sn**	**21 37 14.3**	**+0.4**
YOJ	**Yonaguni jima**	**0.16**	**77**	*eP*	**Pn**	**21 37 07.1**	**0.0**
	baz=66						
YOJ				*eS*	**Sn**	**21 37 14.5**	**+0.3**
	baz=66						
YOJ	**Yonaguni jima**	**0.16**	**77**	P	**Pn**	**21 37 07.1**	**0.0**
YOJ				S	**Sn**	**21 37 14.3**	**0.0**
EOS1	**EOS1**	**0.66**	**281**	P	**Pn**	**21 37 11.4**	**+0.1**
	baz=283						
IRIF	**Iriomote-Funau**	**0.82**	**96**	P	**Pn**	**21 37 13.1**	**-0.2**
IRIF				S	**Sn**	**21 37 25.1**	**+0.1**
TWC	**Suao**	**0.92**	**282**	*eP*	**Pn**	**21 37 14.1**	**-0.4**
	baz=283						
TWC				*eS*	**Sn**	**21 37 26.9**	**-0.3**
	baz=283						
HATJ	**Hateruma jima**	**0.96**	**112**	P	**Pn**	**21 37 15.4**	**+0.4**
HATJ				*eS*	**Sn**	**21 37 28.5**	**+0.4**
ENA	**Nanau**	**1.00**	**270**	*eP*	**Pn**	**21 37 15.9**	**+0.4**
	baz=271	

	baz=234								
HGSD				eS		Sn	21 37 42.5	-0.5	
	baz=234								
LIOB	**Emei**	**1.67**	**278**	eP		**Pn**	**21 37 25.0**	**+0.6**	
	baz=278								
LIOB				eS		**Sn**	**21 37 45.2**	**+0.2**	
	baz=278								
VWDT	**VWDT**	**1.69**	**247**	eP		**Pn**	**21 37 25.0**	**+0.3**	
	baz=247								
VWDT				eS		**Sn**	**21 37 45.3**	**0.0**	
	baz=247								
JTJ	**Tarama**	**1.71**	**82**	P		**Pn**	**21 37 24.9**	**0.0**	
JTJ				S		**Sn**	**21 37 46.1**	**+0.2**	
WHP	**Taichung City**	**1.73**	**266**	eP		**Pn**	**21 37 26.3**	**+1.0**	
	baz=266								
YULB	**Yu-li**	**1.74**	**234**	eP		**Pn**	**21 37 25.1**	**-0.3**	
	baz=234								
YULB				eS		**Sn**	**21 37 45.6**	**-1.1**	
	baz=234								
TWF1	**Yuli**	**1.77**	**233**	eP		**Pn**	**21 37 25.5**	**-0.2**	
	baz=233								
TWF1				eS		**Sn**	**21 37 46.6**	**-0.7**	
	baz=233								
DPDB	**Guoxing**	**1.79**	**258**	eP		**Pn**	**21 37 26.6**	**+0.6**	
	baz=258								
SSLB	**Suanglung**	**1.83**	**250**	eP		**Pn**	**21 37 26.8**	**+0.2**	
	baz=250								
SSLB				eS		**Sn**	**21 37 48.6**	**-0.3**	
	baz=250								
SMLT	**Sun Moon Lake**	**1.85**	**253**	eP		**Pn**	**21 37 27.5**	**+0.6**	
	baz=253								
SMLT				eS		**Sn**	**21 37 49.3**	**-0.1**	
	baz=253								
TYC	**Yuchr**	**1.88**	**254**	eP		**Pn**	**21 37 27.7**	**+0.5**	
	baz=254								
TYC				eS		**Sn**	**21 37 49.7**	**-0.3**	
	baz=254								
CHKT	**Chengkung**	**1.89**	**226**	eS		**Sn**	**21 37 48.2**	**-2.0**	
	baz=225								
WHYT	**Xinyi Township**	**1.95**	**249**	eP		**Pn**	**21 37 29.3**	**+1.0**	
	baz=248								
YUS	**Yu-Shan**	**1.96**	**242**	eP		**Pn**	**21 37 29.1**	**+0.3**	
	baz=241								
YUS				eS		**Sn**	**21 37 51.8**	**-0.8**	
	baz=241								
WJS	**Zhushan**	**2.02**	**253**	eP		**Pn**	**21 37 29.9**	**+0.8**	
	baz=253								
ELDTW	**Lidau**	**2.07**	**234**	eP		**Pn**	**21 37 29.6**	**-0.3**	
	baz=233								
ELDTW				eS		**Sn**	**21 37 53.8**	**-1.0**	
	baz=233								
JIRB	**Irabujima**	**2.16**	**79**	P		**Pn**	**21 37 31.0**	**0.0**	
JIRB				eS		**Sn**	**21 37 57.0**	**+0.2**	
TWGBT	**Beinan**	**2.27**	**226**	eP		**Pn**	**21 37 33.1**	**+0.6**	
	baz=225								
TWGBT				eS		**Sn**	**21 37 58.8**	**-0.7**	
	baz=225								
TWG	**Pinlang**	**2.27**	**226**	eP		**Pn**	**21 37 33.2**	**+0.6**	
	baz=225								
TWG				eS		**Sn**	**21 37 58.8**	**-0.8**	
	baz=225								
STYT	**Tauyuan**	**2.28**	**237**	eP		**Pn**	**21 37 33.8**	**+1.0**	
	baz=236								
STYT				eS		**Sn**	**21 37 59.9**	**+0.1**	
	baz=236								
TPUB	**Ta-pu**	**2.31**	**241**	eP		**Pn**	**21 37 34.4**	**+1.3**	
	baz=241								
TPUB				eS		**Sn**	**21 38 01.2**	**+0.7**	
	baz=241								
CHN4	**Tsaushan**	**2.32**	**243**	eP		**Pn**	**21 37 34.9**	**+1.7**	
	baz=242								
CHN4				eS		**Sn**	**21 37 59.7**	**-0.9**	
	baz=242								
WTP	**Ta-pu**	**2.35**	**241**	eP		**Pn**	**21 37 34.3**	**+0.6**	
	baz=240								
TWK	**Hsinying**	**2.44**	**242**	eP		**Pn**	**21 37 35.9**	**+1.0**	
	baz=242								
TWK				eS		**Sn**	**21 38 04.2**	**+0.5**	
	baz=242								
CHN1	**Nanshi**	**2.45**	**240**	eP		**Pn**	**21 37 35.4**	**+0.4**	
	baz=240								
SLGT	**Liugui**	**2.46**	**235**	eP		**Pn**	**21 37 36.2**	**+1.1**	
	baz=234								
SLGT				eS		**Sn**	**21 38 04.8**	**+0.7**	
	baz=234								
MASBT	**Mashibuluo**	**2.71**	**229**	eP		**Pn**	**21 37 38.9**	**+0.4**	
	baz=228								
MASBT				eS		**Sn**	**21 38 10.4**	**+0.2**	
	baz=228								

SJA 31 21:37:22.6±0.8, 23°.99S×67°.06W, h244km±17km, MD3.5, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**2.34**	**289**	eP	Pn	21 38 08.2	+0.1
PB15				eS	S	21 38 41.8	-2.1
PB06	**IPOC Station P**	**2.63**	**298**	eP	Pn	21 38 11.3	+0.2
PB09	**IPOC Station P**	**2.96**	**317**	eP	Pn	21 38 15.5	+0.9
PB09				eS	S	21 38 54.1	-1.4
PB05	**IPOC Station P**	**3.10**	**291**	eP	Pn	21 38 16.4	+0.4
PB14	**IPOC Station P**	**3.11**	**258**	eP	Pn	21 38 16.7	+0.4
PB14				eS	S	21 38 56.9	-1.7
PB03	**IPOC Station P**	**3.14**	**307**	eP	Pn	21 38 16.7	+0.2
PB03				eS	S	21 38 56.7	-2.3
PB10	**IPOC Station P**	**3.23**	**278**	eP	Pn	21 38 18.2	+0.9
PB07	**IPOC Station P**	**3.44**	**310**	eP	Pn	21 38 20.1	+0.2
PB07				eS	S	21 39 03.3	-1.8
PB02	**IPOC Station P**	**3.73**	**315**	eP	Pn	21 38 23.4	+0.3
PB02				eS	S	21 39 08.2	-2.7
PB08	**IPOC Station P**	**4.29**	**333**	eP	Pn	21 38 31.7	+1.6
PB08				eS	S	21 39 22.4	-1.1
PB11	**IPOC Station P**	**4.84**	**330**	eP	Pn	21 38 36.7	+0.1
PB11				eS	S	21 39 31.8	-3.5

NNC 31 21:40:56.1±4.1, 37°.43N×71°.00E, h0km, mb3.9, mpv3.6, 3C-7D, Error ellipse: s-maj=32.5km s-min=22.9km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.68**	**356**	⇓P	Pn	21 42 24.0	+2.2
	3.7nm,0.3s,baz=176,slow=12,SNR=45						
KK31				⇓S	Sn	21 43 29.9	+2.2
	4.2nm,0.4s,baz=185,slow=25,SNR=6.4						
AAK	**Ala-Archa**	**5.85**	**26**	⇑P	Pn	21 42 25.1	+0.8
	2.3nm,0.3s						
AAK				⇓S	Sn	21 43 33.1	+0.9
	8.5nm,0.6s						
TKM2	**Tokmak 2**	**6.52**	**31**	⇓P	Pn	21 42 33.1	-0.3
	2.8nm,0.8s						
TKM2				⇑S	Sn	21 43 48.3	-0.3
	3.3nm,0.8s						
AB31	**Akbulak array**	**14.28**	**329**	⇓P	Pn	21 44 16.6	-2.8
	0.7nm,0.4s,baz=134,slow=13,SNR=38						
AB31				⇓S	Sn	21 46 58.0	-0.5
	1.9nm,0.8s,baz=151,slow=23,SNR=5.3						
AKTO	**Aktyubinsk**	**15.98**	**329**	⇓P	Pn	21 44 39.3	-2.9
	3.1nm,1.4s						
AKTO				⇑S	Sn	21 47 39.3	-0.6
	1.6nm,1.0s						

MAN 31 21:55:39.0, 7°.69N×124°.98E, h34km, mb3.5, ML2.1, MS1.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.20**	**23**	eP	Pb	21 55 47.0	+1.2
BUKP				eS	Sb	21 55 52.7	+2.2
CGP	**Cagayan de Oro**	**0.81**	**339**	⇑iP	Pb	21 55 55.2	+0.4
CGP				iS	Sb	21 56 05.8	+0.3
CTBH	**Cotabato--PC H**	**0.87**	**237**	⇑iP	Pb	21 55 56.1	+0.3
CTBH				iS	Sb	21 56 06.8	-0.2

JSN 31 22:04:41.9±7.7, 17°.58N×78°.65W, h27km±999km, MD4.0, 1C-2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEJ	**Negril**	**0.74**	**25**	⇓iP	Pb	22 04 55.4	-0.8
MCJ	**Malvern**	**0.98**	**69**	⇓iP	Pn	22 04 58.8	-1.2
MCJ				iS	Sb	22 05 11.3	-1.7
MBJ	**Montego Bay**	**1.11**	**42**	iS	Sn	22 05 15.1	-1.2
CVJ	**Coleyville**	**1.25**	**59**	eP	Pn	22 05 02.1	-1.5
PCJ	**Portland Cotta**	**1.44**	**83**	⇑iP	Pn	22 05 06.6	+0.5
BBJ	**Bamboo Saint A**	**1.54**	**59**	iP	Pn	22 05 06.6	-1.1
STH	**Stony Hill**	**1.82**	**74**	eP	Pn	22 05 10.2	-1.4
HOJ	**Hope**	**1.86**	**77**	iP	Pn	22 05 02.9	-9.1
GWJ	**Greenwich**	**1.90**	**75**	eP	Pn	22 05 11.4	-1.3
YHJ	**Yallahs**	**2.08**	**81**	iP	Pb	22 05 18.6	-0.4
CMJ	**Castle Mountai**	**2.24**	**75**	iP	Pb	22 05 20.2	-1.6

KRSC 31 22:10:59.0±10.0, 49°.66N×157°.04E, h50km±10km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**330**	eP	Pn	22 11 19.0	-0.1
SKR				eS	Sn	22 11 33.4	-0.7
ALID	**Alaid**	**1.54**	**322**	eP	Pn	22 11 25.6	+1.4
PAU	**Pauzhetka**	**1.81**	**356**	eP	Pn	22 11 30.2	+2.5
PAU				eS	Sn	22 11 52.5	+3.0
KDTR	**Khodutka, Kamc**	**2.25**	**17**	eP	Pn	22 11 36.8	+3.1
KDTR				eS	Sn	22 12 04.4	+4.2
ASAK	**Asacha**	**2.78**	**11**	eP	Pn	22 11 44.5	+3.5
MTVR	**Mutnovka**	**2.92**	**14**	eP	Pn	22 11 46.6	+3.6
MTVR				eS	Sn	22 12 21.0	+4.2
RUS	**Russkaya**	**2.93**	**18**	eP	Pn	22 11 45.9	+2.9
RUS				eS	Sn	22 12 20.8	+4.0
KRMR	**Karymshinskiy**	**3.25**	**12**	eS	Sn	22 12 29.7	+5.0
DALK	**Dalny**	**3.54**	**17**	eP	Pn	22 11 54.6	+3.2
DALK				eS	Sn	22 12 36.7	+4.8
UGLR	**Uglovaya**	**3.72**	**17**	eP	Pn	22 11 57.9	+3.9
AVH	**Avacha**	**3.76**	**16**	eP	Pn	22 11 59.0	+4.5
AVH				eS	Sn	22 12 43.2	+5.7
KOK	**Koryaka**	**3.77**	**15**	eP	Pn	22 11 59.4	+4.8
SMAR	**Somma**	**3.77**	**16**	eP	Pn	22 11 58.5	+3.8
KRER	**Koryakskii**	**3.80**	**16**	eP	Pn	22 11 59.0	+3.9
SDLR	**Sedlovina**	**3.80**	**17**	eP	Pn	22 11 58.5	+3.4
SPN	**Mys Shipunski**	**3.92**	**27**	eP	Pn	22 12 00.5	+4.0
SPN				eS	Sn	22 12 45.8	+4.6
GNL	**Ganaly**	**4.08**	**8**	eP	Pn	22 12 02.9	+4.0
BKI	**Bering**	**7.78**	**41**	eS	Sn	22 14 15.6	-0.5

*ISCJB **31** 22:13:29.4±0.5, 28°.79N±0°.05×128°.67E±0°.08, h133km±7km, mb3.2/2, Error ellipse: s-maj=13.9km s-min=3.4km az=30.2*
*IDC **31** 22:13:29.9±0.8, 28°.66N×128°.90E, h139km±12km, mb3.2/2, mb1 3.4/5, mb1mx3.0/33, mbtmp3.7/5, MS2.8/1, Ms1 2.8/1, ms1mx2.2/23, Error ellipse: s-maj=40.2km s-min=10.2km az=110.0*
*JMA **31** 22:13:29.8±0.1, 28°.81N×128°.61E, h130km±2km, M3.6*
ISC 31 22:13:30.2±0.9, 28°.77N±0°.06×128°.68E±0°.08, h133km±9km, n25, σ0°.79/45, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.59**	**50**	P	**Pn**	**22 13 49.9**	**-0.2**
JTAJ				eS	**Sn**	**22 14 04.7**	**-0.5**
JAMN	**Amaminishikomi**	**0.68**	**140**	P	**Pn**	**22 13 50.6**	**-0.1**
JAMN				eS	**Sn**	**22 14 06.0**	**-0.3**
JAM	**Amami Oshima**	**0.89**	**114**	P	**Pn**	**22 13 52.1**	**-0.2**
JAM				eS	**Sn**	**22 14 08.7**	**-0.4**
JTK	**Tokunoshima**	**1.01**	**166**	P	**Pn**	**22 13 53.6**	**+0.1**
JTK				eS	**Sn**	**22 14 11.4**	**+0.2**
JZK	**Kikaishima**	**1.22**	**112**	P	**Pn**	**22 13 56.7**	**+1.2**
JZK				eS	**Sn**	**22 14 17.1**	**+2.3**
JOKE	**Okinoerabujima**	**1.41**	**184**	P	**Pn**	**22 13 57.6**	**+0.1**
JOKE				eS	**Sn**	**22 14 18.6**	**+0.3**
JNN	**Nakanoshima**	**1.49**	**44**	P	**Pn**	**22 13 58.2**	**-0.2**
JNN				eS	**Sn**	**22 14 19.8**	**-0.1**
JYRO	**Yoronjima**	**1.75**	**187**	P	**Pn**	**22 14 01.2**	**-0.2**
JYRO				eS	**Sn**	**22 14 24.4**	**-0.8**
JIH	**Iheya**	**1.84**	**200**	P	**Pn**	**22 14 02.6**	**+0.2**
JIH				eS	**Sn**	**22 14 27.1**	**0.0**
JOW	**Kunigami**	**1.97**	**191**	P	**Pn**	**22 14 03.7**	**-0.2**
JOW				eS	**Sn**	**22 14 29.3**	**-0.5**
JOW	**Kunigami**	**1.97**	**191**	P	**Pn**	**22 14 03.9**	**0.0**
	6.2nm,0.3s,baz=91,slow=19,SNR=210						
JOW				S	**Sn**	**22 14 28.9**	**-0.8**
	21nm,0.3s,baz=83,slow=21,SNR=20						
JKC	**Kuchinoerabu**	**2.14**	**38**	P	**Pn**	**22 14 05.8**	**-0.2**
JKC				eS	**Sn**	**22 14 33.6**	**+0.2**
JYAK	**Yakushimahirau**	**2.16**	**47**	P	**Pn**	**22 14 05.7**	**-0.5**
JYAK				eS	**Sn**	**22 14 32.3**	**-1.7**
JNTH	**Nagotoyohara**	**2.32**	**195**	P	**Pn**	**22 14 08.3**	**0.0**
JNTH				eS	**Sn**	**22 14 37.2**	**-0.3**
JMTN	**Minamitane**	**2.52**	**50**	P	**Pn**	**22 14 10.3**	**-0.4**
JMTN				eS	**Sn**	**22 14 40.4**	**-1.6**
JAGN	**Aguni-jima**	**2.52**	**211**	P	**Pn**	**22 14 10.6**	**-0.2**
JAGN				eS	**Sn**	**22 14 41.6**	**-0.4**
JJT3	**Tamagusuku3**	**2.74**	**197**	P	**Pn**	**22 14 13.9**	**+0.3**
JJT3				eS	**Sn**	**22 14 46.9**	**0.0**
JTN	**Tanegashima 3**	**2.74**	**46**	P	**Pn**	**22 14 12.9**	**-0.7**
JTN				eS	**Sn**	**22 14 45.9**	**-1.1**
JKE	**Kume jima 2**	**2.96**	**215**	P	**Pn**	**22 14 16.0**	**-0.4**
JKE				eS	**Sn**	**22 14 52.1**	**0.0**
JSJ	**Shimokoshiki**	**3.03**	**17**	P	**Pn**	**22 14 17.2**	**-0.1**
JNU	**Nakatsue**	**4.73**	**23**	P	**Pn**	**22 14 41.0**	**+1.3**
	16nm,0.3s,baz=357,slow=2.9,SNR=122						
JNU				S	**Sn**	**22 15 34.2**	**+0.4**
	baz=272,slow=18,SNR=1.6						
KSRS	**Korea Array**	**8.68**	**356**	P	**Pn**	**22 15 33.9**	**+1.2**
	0.4nm,0.3s,baz=177,slow=14,SNR=16						
KSRS				LR	LR	22 19 31.3	
	comp=Z,51nm,18.9s,baz=128,slow=41						
MJAR	**Matsushiro Arr**	**11.15**	**44**	P	**Pn**	**22 16 06.6**	**+0.8**
	0.1nm,0.3s,baz=241,slow=14,SNR=5.5						
SONM	**Songino Array**	**25.69**	**324**	P	**P**	**22 18 49.5**	**+1.6**
	0.4nm,0.4s,baz=126,slow=9.7,SNR=3.8						
YKA	**Yellowknife Ar**	**76.06**	**25**	P	**P**	**22 25 01.4**	**-1.2**
	0.1nm,0.3s,baz=312,slow=5.8,SNR=3.3						

IDC 31 22:17:46.0±2.9, 0°.69S×127°.57E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/33, mbtmp3.9/3, MS2.7/1, Ms1 2.9/1, ms1mx2.2/32, Error ellipse: s-maj=278.7km s-min=26.5km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.25**	**161**	P	P	22 22 21.4	-1.7
	7.9nm,0.3s,baz=342,slow=13,SNR=2.1						
ASAR	**Alice Springs**	**23.66**	**165**	P	P	22 23 00.6	+1.3
	0.5nm,0.4s,baz=350,slow=10,SNR=6.9						
CMAR	**Chiang Mai Arr**	**33.96**	**306**	LR	LR	22 38 36.4	
	comp=Z,13nm,20.9s,baz=170,slow=37						
MKAR	**Makanchi Array**	**61.65**	**326**	P	P	22 28 05.7	-0.1
	0.5nm,0.7s,baz=119,slow=7.5,SNR=5.6						

*MOS **31** 22:21:52.2±1.0, 21°.67N×143°.04E, h300km, mb4.4/31, Error ellipse: s-maj=12.2km s-min=7.4km az=112.0*
*ISCJB **31** 22:21:54.3±0.5, 21°.72N±0°.03×142°.98E±0°.04, h316km±4km, mb4.2/100, Error ellipse: s-maj=5.8km s-min=4.6km az=161.5*
*NEIC **31** 22:21:55.8±1.1, 21°.65N×143°.03E, h322km±4km, mb4.4/86, Error ellipse: s-maj=18.3km s-min=12.2km az=103.0*
*IDC **31** 22:21:56.6±1.5, 21°.69N×142°.98E, h330km±15km, mb3.8/33, mb1 4.0/35, mb1mx3.9/49, mbtmp4.5/35, Error ellipse: s-maj=11.7km s-min=7.1km az=89.0*
*JMA **31** 22:21:56.7±0.3, 21°.99N×143°.34E, h333km±1km, M4.9*
ISC 31 22:21:56.1±0.6, 21°.76N±0°.04×143°.07E±0°.07, h326km±6km, n280, σ1°.28/300, mb4.3/99, 12C-8D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.92**	**351**	P	**Pn**	**22 23 13.2**	**-0.5**
JHH2				S	**S**	**22 24 13.5**	**-2.7**
CBIJ	**Chichi jima**	**5.37**	**352**	P	**Pn**	**22 23 18.4**	**-0.4**
CBIJ				eS	**S**	**22 24 22.4**	**-3.2**
SARN	**Sarigan**	**5.65**	**153**	ePn	**Pn**	**22 23 20.3**	**-1.9**
ANA2	**Anatahan**	**5.94**	**155**	ePn	**Pn**	**22 23 24.2**	**-1.4**
GUMO	**Guam**	**8.31**	**168**	ePn	**Pn**	**22 23 53.1**	**-0.6**
GUMO	**Guam**	**8.31**	**168**	eP	**Pn**	**22 23 53.1**	**-0.6**
GUMO	**Guam**	**8.31**	**168**	P	**Pn**	**22 23 53.8**	**+0.1**
	18nm,0.3s,baz=183,slow=4.2,SNR=28						
GUMO				S	**S**	**22 25 30.0**	**+0.5**
	3.3nm,0.3s,baz=24,slow=20,SNR=2.0						
JHCJ	**Hachijojimakas**	**11.63**	**346**	P	**Pn**	**22 24 32.9**	**-0.8**
JHJ2	**Mitsune**	**11.67**	**346**	P	**Pn**	**22 24 33.6**	**-0.5**
JHJ	**Hachijo jima 2**	**11.68**	**346**	S	**S**	**22 26 42.5**	**-2.2**
	14nm,0.3s,baz=253,slow=19,SNR=2.6						
JMKN	**Mikurajimanish**	**12.47**	**346**	P	**Pn**	**22 24 43.1**	**-0.6**
BSO1	**Boso 1**	**12.98**	**352**	P	**Pn**	**22 24 49.7**	**+0.6**
BSO3	**Boso 3**	**13.19**	**351**	P	**Pn**	**22 24 52.2**	**+0.3**
BSO3				eS	**S**	**22 27 11.0**	**-5.6**
BSO4	**Boso 4**	**13.40**	**350**	P	**Pn**	**22 24 54.6**	**0.0**
JTNC	**Tanabenakahech**	**13.70**	**333**	P	**Pn**	**22 25 00.1**	**+1.8**
JIE	**Ise**	**13.77**	**337**	P	**Pn**	**22 25 00.9**	**+1.7**
JHMK	**Hamakita**	**13.82**	**341**	P	**Pn**	**22 25 00.3**	**+0.7**
HMMJ	**Hamamatsu 2**	**13.87**	**341**	P	**Pn**	**22 25 00.9**	**+0.7**
JOD2	**Odawara 2**	**13.90**	**346**	P	**P**	**22 24 59.5**	**-0.1**
JOD2				S	**S**	**22 27 23.9**	**-8.1**
JNY	**Yasuok**	**14.29**	**343**	P	**P**	**22 25 04.5**	**+0.4**
JAO	**Obara**	**14.39**	**341**	P	**Pn**	**22 25 06.6**	**+0.1**
JOW	**Kunigami**	**14.40**	**293**	eP	**P**	**22 25 05.3**	**+0.1**
JOW	**Kunigami**	**14.40**	**293**	P	**P**	**22 25 05.7**	**+0.4**
	0.1nm,0.3s,baz=103,slow=16,SNR=2.6						
JHU	**Hanno**	**14.43**	**348**	P	**P**	**22 25 04.8**	**-0.6**
JHU				S	**S**	**22 27 36.0**	**-6.6**
INU	**Inuyama**	**14.54**	**340**	eP	**P**	**22 25 06.9**	**+0.3**
JEG	**Eigenji**	**14.55**	**338**	P	**Pn**	**22 25 09.4**	**+1.0**
JRY	**Ryogami san**	**14.66**	**347**	P	**Pn**	**22 25 09.1**	**-0.6**
JRY				S	**S**	**22 27 43.3**	**-4.1**
JAG	**Ashikaga**	**14.95**	**349**	P	**P**	**22 25 11.4**	**+0.3**
JHO	**Hitachi**	**14.96**	**352**	P	**Pn**	**22 25 12.4**	**-0.6**
MJAR	**Matsushiro Arr**	**15.32**	**345**	P	**P**	**22 25 15.4**	**+0.1**
	1.0nm,0.3s,baz=162,slow=8.2,SNR=59						
MAJO	**Matsushiro**	**15.32**	**345**	eP	**P**	**22 25 15.5**	**+0.2**
	26nm,0.6s						
MAJO	**Matsushiro**	**15.32**	**345**	deP	**P**	**22 25 15.2**	**-0.1**
MAT	**Matsushiro**	**15.32**	**345**	P	**P**	**22 25 14.2**	**-1.1**
MAT				S	**S**	**22 27 59.9**	**-0.7**
MJB9	**Matsu-Tunnel**	**15.33**	**345**	eP	**P**	**22 25 15.9**	**+0.6**
	26nm,0.6s						
JSJ	**Shimokoshiki**	**15.47**	**312**	P	**P**	**22 25 17.6**	**+0.6**
JNU	**Nakatsue**	**15.64**	**319**	eP	**Pn**	**22 25 20.2**	**-0.9**
	41nm,0.9s						
JNU	**Nakatsue**	**15.64**	**319**	P	**Pn**	**22 25 20.9**	**-0.2**
	1.6nm,0.3s,baz=106,slow=4.7,SNR=23						
JHS	**Saijyo**	**15.82**	**329**	P	**Pn**	**22 25 22.6**	**-0.5**
JMK	**Ichinoseki**	**17.21**	**355**	P	**Pn**	**22 25 37.5**	**-1.6**
TJN	**Taejon**	**19.97**	**320**	⇑eP	**P**	**22 26 05.0**	**-0.1**
ERM	**Erimo**	**20.20**	**0**	⇑eP	**P**	**22 26 09.4**	**+2.2**
ERM				pmax	pmax		
	comp=Z,36nm,1.0s						
KSRS	**Korea Array**	**20.40**	**323**	P	**P**	**22 26 08.8**	**-0.4**
	comp=Z,14nm,0.6s,baz=145,slow=9.2,SNR=75						
KS15	**Wonju Array Si**	**20.41**	**323**	eP	**P**	**22 26 10.2**	**+0.8**
	comp=Z,15nm,0.7s						
ASAJ	**Asahikawa**	**22.30**	**359**	P	**P**	**22 26 28.3**	**+1.7**
	comp=Z,5.8nm,0.5s,baz=216,slow=15,SNR=6.4						
USA0B	**Ussuriysk Arra**	**24.18**	**340**	eP	**P**	**22 26 44.7**	**+1.0**
	comp=Z,7.3nm,0.6s						
USA0B	**Ussuriysk Arra**	**24.18**	**340**	eP	**P**	**22 26 44.7**	**+1.0**
USA0B				pmax	pmax		
	comp=Z,7.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**24.18**	**340**	P	**P**	**22 26 45.0**	**+1.3**
	comp=Z,6.3nm,0.6s,baz=154,slow=8.7,SNR=17						
KLR	**Kul'dur**	**28.85**	**345**	diP	**P**	**22 27 25.9**	**+0.8**
KLR				pmax	pmax		
	comp=Z,11nm,0.8s						
KLR	**Kul'dur**	**28.85**	**345**	P	**P**	**22 27 26.1**	**+0.9**
	comp=Z,22nm,0.5s,baz=161,slow=8.1,SNR=126						
KLR				PcP	**PcP**	**22 30 24.9**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=163,slow=4.0,SNR=5.2						
HHC	**Hu-ho-hao-te**	**32.71**	**313**	eP	**P**	**22 27 59.5**	**+0.5**
HIA	**Hailar**	**33.10**	**332**	⇓eP	**P**	**22 28 03.6**	**+1.4**
HIA				pmax	pmax		
	comp=Z,16nm,0.7s						
KAPI	**Kappang**	**35.07**	**223**	P	**P**	**22 28 19.1**	**-0.2**
	comp=Z,10nm,0.4s,baz=42,slow=1.5,SNR=6.9						
CD2	**Chengdu**	**36.23**	**293**	eP	**P**	**22 28 27.8**	**-1.3**
LZH	**Lanzhou**	**36.92**	**301**	eP	**P**	**22 28 36.5**	**+1.6**
LZH				pP	pP	22 29 39.8	+2.3
LZH				PP	**PnPn**	**22 30 12.5**	**+0.4**
LZH				sP	sP	22 30 16.3	+1.9
BATI	**Baumata**	**37.04**	**213**	eP	**P**	**22 28 34.1**	**-1.8**
BATI				eP	**P**	**22 28 34.1**	**-1.8**
BATI	**Baumata**	**37.04**	**213**	P	**P**	**22 28 34.1**	**-1.8**
	comp=Z,19nm,0.5s,baz=337,slow=2.6,SNR=6.2						
ULN	**Ulaanbaatar**	**38.85**	**321**	⇓eP	**P**	**22 28 51.4**	**+0.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONA0	**Songino Array**	**39.22**	**320**	eP	**P**	**22 28 54.7**	**+0.9**
SONM	**Songino Array**	**39.22**	**320**	P	**P**	**22 28 54.7**	**+0.9**
	comp=Z,1.6nm,0.4s,baz=132,slow=8.4,SNR=8.4						
GTA	**Gaotai**	**40.75**	**306**	eP	P	22 29 13.5	+7.1
GTA				pP	pwP	22 30 20.8	+6.2
GTA				sP	PcP	22 31 01.8	+1.1
CM31	**Chiang Mai Arr**	**41.46**	**274**	eP	**P**	**22 29 12.5**	**+0.3**
	comp=Z,4.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**41.46**	**274**	ceP	**P**	**22 29 12.8**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**41.46**	**274**	P	**P**	**22 29 13.0**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=47,slow=8.4,SNR=5.5						
CTA	**Charters Tower**	**41.71**	**175**	P	**P**	**22 29 13.8**	**-0.3**

MAKZ pmax pmax
comp=Z,2.0nm,0.8s
SII Sitkinak Islan 57.14 36 *e*P **P 22 31 10.5 +1.2**
comp=Z,16nm,0.9s
KURK Kurchatov 57.35 317 *e*P **P 22 31 11.1 +0.3**
comp=Z,2.9nm,0.8s
KURK Kurchatov 57.35 317⇑ *e*P **P 22 31 10.8 -0.1**
KURK pmax pmax
comp=Z,3.0nm,0.9s
SVW2 Sparrevohn 57.41 30 *e*P **P 22 31 12.2 +1.2**
comp=Z,5.8nm,0.9s
KDAK Kodiak Island 58.21 35 *e*P **P 22 31 16.9 +0.2**
comp=Z,6.1nm,0.6s
KDAK Kodiak Island 58.21 35 *i*P **P 22 31 17.4 +0.8**
KSH Kashi 59.10 304 P **P 22 31 26.0 +2.7**
CAST Castle Rocks 59.54 28 *e*P **P 22 31 27.0 +1.3**
comp=Z,10nm,0.8s
AAK Ala-Archa 60.04 308⇓ *e*P **P 22 31 30.7 +1.1**
AAK pmax pmax
comp=Z,2.0nm,0.7s
RC01 Rabbit Creek A 60.18 31 *e*P **P 22 31 30.0 0.0**
comp=Z,11nm,1.0s
MLY Manley 60.46 27 *e*P **P 22 31 33.2 +1.3**
comp=Z,6.5nm,0.9s
KNK Knik Glacier 60.84 31 *e*P **P 22 31 35.0 +0.6**
comp=Z,12nm,0.6s
SML Sawmill 60.96 30 *e*P **P 22 31 35.6 +0.3**
comp=Z,14nm,0.9s
SML Sawmill 60.96 30 *e*P **P 22 31 35.6 +0.3**
SML pmax pmax
comp=Z,14nm,0.9s
MCK McKinley 60.98 28 *e*P **P 22 31 35.9 +0.5**
comp=Z,10nm,1.0s
MCK McKinley 60.98 28 *e*P **P 22 31 35.9 +0.5**
MCK pmax pmax
comp=Z,10.0nm,1.0s
GLI Glacier Island 61.43 32 *e*P **P 22 31 38.9 +0.5**
comp=Z,8.2nm,0.7s
SCM Sheep Creek Mo 61.44 30 *e*P **P 22 31 38.6 +0.1**
comp=Z,11nm,1.0s
SCM Sheep Creek Mo 61.44 30 *e*P **P 22 31 38.6 +0.1**
SCM pmax pmax
comp=Z,11nm,1.0s
WRH Wood River Hil 61.47 27 *e*P **P 22 31 38.9 +0.4**
comp=Z,4.1nm,0.9s
TOLK Toolik Lake Re 61.70 23 *e*P **P 22 31 41.8 +1.7**
comp=Z,7.7nm,0.8s
TOLK Toolik Lake Re 61.70 23 P **P 22 31 41.7 +1.6**
baz=257
POKR Poker Plat Res 61.85 27 P **P 22 31 41.1 0.0**
baz=261
ILAR Eielson Array 62.03 27 P **P 22 31 42.0 -0.3**
comp=Z,4.7nm,0.7s,baz=258,slow=5.3,SNR=51
ILB Eielson Array 62.03 27 *e*P **P 22 31 41.8 -0.5**
comp=Z,6.3nm,0.8s
PAX Paxson 62.43 29 *e*P **P 22 31 45.9 +0.9**
comp=Z,4.2nm,0.7s
PAX Paxson 62.43 29 *e*P **P 22 31 45.9 +0.9**
PAX pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 62.62 320 *d i*P **P 22 31 47.1 +0.8**
BRVK *i* *PP **pP 22 32 58.9 +1.8**
BRVK pmax pmax
comp=Z,6.0nm,0.9s
RIDG Independent Ri 62.79 28 *e*P **P 22 31 46.5 -0.8**
comp=Z,8.9nm,0.8s
DOT Dot Lake 63.13 29 *e*P **P 22 31 50.0 +0.5**
comp=Z,3.9nm,0.7s
CTGM Chitina Glacie 64.25 32 *e*P **P 22 31 57.3 +0.3**
comp=Z,4.8nm,0.9s
KBL Kabul 65.21 299 *e*P **P 22 32 04.2 +0.4**
comp=Z,4.8nm,0.8s
KBL Kabul 65.21 299 *e*P **P 22 32 04.2 +0.4**
KBL pmax pmax
comp=Z,5.0nm,0.8s
DAWY Dawson 65.22 28 *e*P **P 22 32 04.2 +1.2**
comp=Z,3.4nm,0.7s
HYT Haines Junctio 66.12 32 *e*P **P 22 32 10.4 +1.5**
comp=Z,9.3nm,1.0s
EPYK Eagle Plains 66.36 26 P **P 22 32 11.4 +1.2**
baz=270
INK Inuvik 67.55 24 P **P 22 32 18.0 +0.5**
comp=Z,4.1nm,0.8s,baz=296,slow=4.8,SNR=9.8
SVE Sverdlovsk 67.96 324 *e*P **P 22 32 21.1 +0.8**
SVE pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 69.15 324 *e*P **P 22 32 27.1 -0.5**
comp=Z,5.4nm,0.9s
ARU Arti 69.15 324 *d i*P **P 22 32 27.5 -0.1**
ARU 22 32 46.3
ARU S **S 22 41 10.0 +4.0**
ARU SS **SS 22 45 40.2 +1.1**
ARU pmax pmax
comp=Z,5.0nm,0.9s
ABKAR Akbulak array 69.43 316 *e*P **P 22 32 29.6 +0.2**
comp=Z,5.5nm,0.8s
DLBC Dease Lake 70.13 34 *e*P **P 22 32 35.1 +1.5**
comp=Z,7.5nm,1.0s
DLBC Dease Lake 70.13 34 P **P 22 32 35.3 +1.7**
comp=Z,3.6nm,0.8s,baz=281,slow=8.6,SNR=5.6
GEYT Alibeck 73.12 305 P **P 22 32 51.4 -0.3**
comp=Z,1.8nm,0.8s,baz=88,slow=9.5,SNR=6.5
PRGR Permogore 74.55 331 *e*P **P 22 32 57.6 -1.7**
PRGR pmax pmax
comp=Z,5.0nm,0.8s
YKW3 Yellowknife Ar 76.42 28 *e*P **P 22 33 10.3 +0.5**
comp=Z,6.9nm,0.8s
YKA Yellowknife Ar 76.45 28 P **P 22 33 10.2 +0.2**
comp=Z,7.0nm,0.7s,baz=291,slow=5.5,SNR=56
LLLB Lillooet 76.59 41 *e*P **P 22 33 12.2 +1.0**
comp=Z,8.2nm,0.9s
D03D Eldon 76.77 44 P **P 22 33 14.2 +2.0**
baz=288
RES Resolute Bay 77.04 13 *e*P **P 22 33 14.0 +0.9**
comp=Z,8.3nm,1.1s
RES Resolute Bay 77.04 13 *e*P **P 22 33 14.0 +0.9**
RES pmax pmax
comp=Z,8.0nm,1.1s
RES Resolute Bay 77.04 13 P **P 22 33 14.1 +1.0**
comp=Z,4.0nm,0.7s,baz=347,slow=5.7,SNR=11
D04E Lakebay 77.09 44 P **P 22 33 15.5 +1.6**
baz=288
B05A Bryant 77.18 43 P **P 22 33 16.1 +1.7**
baz=288
G03D McMinnville, O 77.37 46 P **P 22 33 16.8 +1.3**
baz=288
E04D Cinebar 77.41 45 P **P 22 33 17.2 +1.5**
baz=288
J01E Myrtle Point 77.55 48 P **P 22 33 18.3 +1.8**
baz=288
I03D Drain, OR 77.78 48 P **P 22 33 19.5 +1.6**
baz=288
K02D Willamette Mer 77.88 49 P **P 22 33 19.9 +1.4**
baz=288
H04D Lebanon 77.94 47 P **P 22 33 20.0 +1.4**
baz=289
L02E Cave Junction 78.09 49 P **P 22 33 20.9 +1.4**
baz=288
I04A Tendick Farm, 78.40 47 P **P 22 33 22.2 +1.0**
baz=289
G05D Wamic, OR 78.66 46 P **P 22 33 23.3 +0.6**
baz=289
J04D Umpqua Nationa 78.79 48 P **P 22 33 24.8 +1.2**
baz=289
ARCES ARCESS Array B 78.83 341 P **P 22 33 23.8 +0.8**
comp=Z,8.2nm,0.7s,baz=69,slow=8.4,SNR=35
ARE0 ARCESS Array S 78.83 341 *e*P **P 22 33 23.4 +0.4**
comp=Z,0.5nm,0.8s
YBH Yreka Blue Hor 78.86 50 *e*P **P 22 33 25.2 +1.4**
comp=Z,9.3nm,1.1s
YBH Yreka Blue Hor 78.86 50 *e*P **P 22 33 25.2 +1.4**
YBH pmax pmax
comp=Z,9.0nm,1.1s
M02C Callahan 78.87 50 P **P 22 33 25.5 +1.6**
baz=289
L04D Klamath Falls 78.99 49 P **P 22 33 25.8 +1.2**
baz=289
N02D Trinity Center 79.11 50 P **P 22 33 26.7 +1.5**
baz=289
O02D Mt. Diablo Mer 79.32 51 P **P 22 33 28.0 +1.7**
baz=289
J05D Fort Rock, OR 79.37 48 P **P 22 33 28.0 +1.4**
baz=290
M04C Macdoel 79.46 49 P **P 22 33 28.3 +1.2**
baz=290
K05A Summer Lake 79.80 48 *e*P **P 22 33 30.1 +1.1**
comp=Z,16nm,1.1s

O03E Paynes Creek 79.99 51 P **P 22 33 30.6 +0.7**
baz=290
G08A Pilot Rock 80.21 45 *e*P **P 22 33 31.3 +0.3**
comp=Z,4.9nm,1.0s
I07A Izee 80.28 46 *e*P **P 22 33 32.1 +0.7**
comp=Z,2.5nm,0.8s
E09A Wood Farm, Sta 80.30 44 *e*P **P 22 33 32.2 +0.9**
comp=Z,9.4nm,0.9s
NEW Newport 80.31 42 P **P 22 33 32.2 +0.9**
baz=292,SNR=6.5
NEW Newport 80.31 42 P **P 22 33 32.4 +1.1**
comp=Z,7.7nm,0.8s,baz=280,slow=4.9,SNR=9.1
AFDM Forest Hills D 81.06 52 *e*P **P 22 33 35.9 +0.4**
comp=Z,12nm,1.4s
LPSR Galich'ya Gora 81.17 323 *e*P **P 22 33 36.0 +0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
J08A Circle Bar Ran 81.23 47 *e*P **P 22 33 37.0 +0.5**
comp=Z,8.4nm,0.8s
OBN Obninsk 81.37 326⇑ *e*P **P 22 33 33.8 -2.9**
OBN *e* 22 36 50.3
OBN pmax pmax
comp=Z,11nm,1.0s
BMO Blue Mountains 81.46 45 *e*P **P 22 33 38.0 +0.4**
comp=Z,6.7nm,0.8s
WVOR Wild Horse Val 81.46 48 *e*P **P 22 33 38.0 +0.3**
comp=Z,4.8nm,0.9s
WVOR Wild Horse Val 81.46 48 *e*P **P 22 33 38.0 +0.3**
WVOR pmax pmax
comp=Z,5.0nm,0.9s
VSR Storozhevoye 81.60 322 *e*P **P 22 33 37.9 -0.1**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 81.63 322 *e*P **P 22 33 37.7 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.7s
CMB Columbia Colle 81.81 52 *e*P **P 22 33 40.1 +0.6**
comp=Z,10nm,0.8s
CMB Columbia Colle 81.81 52 *e*P **P 22 33 40.1 +0.6**
CMB pmax pmax
comp=Z,10.0nm,0.8s
NCK Nalchik 81.87 314⇓ *e*P **P 22 33 40.6 +1.0**
NCK pmax pmax
comp=Z,8.0nm,1.0s
ZEI Tsey 81.92 313 *e*P **P 22 33 39.7 -0.5**
ZEI pmax pmax
comp=Z,4.0nm,0.4s
PAHR Pah Rah Range 81.93 51 *e*P **P 22 33 40.8 +0.5**
comp=Z,3.7nm,0.9s
WALA Waterton Lakes 81.96 40 *e*P **P 22 33 41.5 +1.4**
comp=Z,8.6nm,0.8s
KBZ Khabaz 82.25 314 P **P 22 33 42.4 +0.9**
comp=Z,9.0nm,0.8s,baz=82,slow=4.2,SNR=20
KIV Kislovodsk 82.30 314 *e*P **P 22 33 43.1 +1.2**
comp=Z,8.7nm,0.9s
KIV Kislovodsk 82.30 314 *e*P **P 22 33 43.0 +1.1**
KIV pmax pmax
comp=Z,31nm,1.1s
YERR Yerington 82.30 51 *e*P **P 22 33 42.6 +0.5**
comp=Z,5.8nm,0.9s
GNI Garni 82.33 310⇑ *e*P **P 22 33 42.7 +0.5**
GNI pmax pmax
comp=Z,13nm,1.1s
WAKR Walker 82.34 52 *e*P **P 22 33 42.8 +0.5**
comp=Z,5.5nm,0.8s
RYN Ryan 82.95 51 *e*P **P 22 33 46.1 +0.6**
comp=Z,6.4nm,0.6s
OMMB Old Mammoth Mi 82.98 52 *e*P **P 22 33 46.1 +0.3**
comp=Z,6.3nm,1.2s
FIA1 FINESS Array S 83.08 334 *e*P **P 22 33 44.8 -0.6**
comp=Z,13nm,1.4s
FINES FINESS Array B 83.08 334 P **P 22 33 44.8 -0.6**
comp=Z,3.8nm,0.5s,baz=67,slow=4.9,SNR=69
KVN Kaiserville 83.10 51 *e*P **P 22 33 46.9 +0.6**
comp=Z,7.6nm,0.7s
KVN Kaiserville 83.10 51 *e*P **P 22 33 46.9 +0.6**
KVN pmax pmax
comp=Z,8.0nm,0.7s
NVAR Mina Array Bea 83.19 51 P **P 22 33 47.8 +1.0**
comp=Z,7.4nm,0.7s,baz=272,slow=5.8,SNR=39
BMN Battle Mountai 83.20 49 *e*P **P 22 33 46.9 +0.2**
comp=Z,4.5nm,0.6s
BMN Battle Mountai 83.20 49 *e*P **P 22 33 46.9 +0.2**
BMN pmax pmax
comp=Z,4.0nm,0.6s
NV11 Mina Array Sit 83.30 51 *e*P **P 22 33 48.1 +0.9**
comp=Z,0.7nm,0.8s
VES Vestal, Richgr 83.58 54 P **P 22 33 49.1 +0.6**
baz=292
TIN Tinemaha, Big 83.77 53 P **P 22 33 50.6 +1.0**
baz=292
HLID Hailey 83.88 46 P **P 22 33 51.0 +0.9**
baz=294,SNR=7.8
CWC Cottonwood Cre 84.11 53 P **P 22 33 51.9 +0.5**
baz=293
LRM Limekiln Ridge 84.21 43 *e*P **P 22 33 52.6 +0.8**
GRAC Grapevine Rang 84.42 52 P **P 22 33 53.8 +1.0**
baz=293
MPMC Manual Prospec 84.70 53 P **P 22 33 54.9 +0.6**
baz=293,SNR=7.6
EDW2 Edwards Air Fo 84.78 55 P **P 22 33 55.4 +0.9**
baz=293
LRMC Laurel Mtn Rad 84.78 54 P **P 22 33 55.4 +0.7**
baz=293,SNR=7.2
BOZ Bozeman (W) 84.83 43 P **P 22 33 55.4 +0.7**
baz=296
EGMT Eagleton 84.90 40 P **P 22 33 55.8 +0.8**
baz=297
FURC Furnace Creek, 85.00 53 P **P 22 33 56.4 +0.9**
baz=293
CIS Catalina Islan 85.02 56 P **P 22 33 56.8 +1.1**
baz=293
R11A Troy Canyon, C 85.19 51 P **P 22 33 57.5 +0.8**
baz=294,SNR=10
TPNV Topopah Spring 85.27 52 P **P 22 33 57.8 +0.7**
baz=294,SNR=14
GSC Goldstone, Bar 85.51 54 P **P 22 33 58.8 +0.6**
baz=293
HEC Hector,Ludlow 86.05 54 P **P 22 34 01.6 +0.8**
baz=294
TUQ Turquoise Moun 86.11 53 P **P 22 34 02.1 +0.8**
baz=294,SNR=6.1
DUG Dugway, Tooele 86.37 48 P **P 22 34 03.1 +0.7**
baz=295,SNR=8.6
PFO Pinyon Flats O 86.44 55 P **P 22 34 03.4 +0.5**
baz=294,SNR=5.6
GMRC Granite Mounta 86.58 54 P **P 22 34 04.3 +0.9**
baz=294
BELC Belle Mtn. Jos 86.64 55 P **P 22 34 04.2 +0.4**
baz=294,SNR=5.6
MONP2 Monument Peak 86.76 56 P **P 22 34 04.8 +0.4**
baz=294
IKP In-Ko-Pah, Jac 87.10 56 P **P 22 34 06.6 +0.7**
baz=294
BC3 Big Chuckawall 87.19 55 P **P 22 34 07.2 +0.8**
baz=294,SNR=7.7
SWSC Sam W. Stewart 87.22 56 P **P 22 34 06.8 +0.5**
baz=294
IRM Iron Mountain 87.22 54 P **P 22 34 07.2 +0.8**
baz=294
AKASG Malin Array Be 87.39 324 *i*P **P 22 34 04.9 -1.9**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 87.39 324 P **P 22 34 05.4 -1.4**
comp=Z,1.7nm,0.6s,baz=50,slow=5.9,SNR=8.8
KIEV Kiev 87.40 324 *i*P **P 22 34 05.3 -1.5**
KIEV pmax pmax
comp=Z,2.0nm,0.7s
PDAR Pinedale Array 87.42 45 P **P 22 34 07.5 0.0**
comp=Z,0.6nm,0.6s,baz=174,slow=2.7,SNR=6.3
Y12C Blythe 87.86 55 P **P 22 34 10.4 +1.0**
baz=295
PDMCI Parker Dam,Lak 87.92 54 P **P 22 34 10.4 +0.8**
baz=295
GLA Glamis 87.92 55 P **P 22 34 10.7 +1.0**
baz=295
NOA NORSAR Array B 88.85 339 P **P 22 34 12.8 -0.7**
comp=Z,0.3nm,0.6s,baz=35,slow=4.7,SNR=3.3
O20A White River Ci 89.53 47 P **P 22 34 17.8 +0.4**
baz=298
214A Organ Pipe Nat 89.92 56 P **P 22 34 20.1 +1.0**
baz=296
BRTR Keskin Array B 90.22 313 *i*P **P 22 34 20.1 -0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 90.22 313 P **P 22 34 19.4 -1.1**
comp=Z,1.1nm,0.8s,baz=108,slow=2.9,SNR=5.6

RSSD Black Hills 90.27 42 P **P 22 34 21.5 +0.8**
baz=301
ISCO Idaho Springs 91.45 46 P **P 22 34 26.9 +0.5**
baz=300
TASM ASL Pad, Albuq 93.26 50 P **P 22 34 35.2 +0.5**
baz=299
TASM ASL Pad, Albuq 93.26 50 P **P 22 34 35.3 +0.6**
baz=299
ANMO Albuquerque 93.27 50 *ce*P **P 22 34 33.8 -0.9**
ANMO pmax pmax
comp=Z,7.0nm,3.3s
ANMO Albuquerque 93.27 50 P **P 22 34 35.3 +0.6**
baz=299
T25A Trinidad 93.61 48 P **P 22 34 36.9 +0.6**
baz=301
VYHS Vyhne 94.17 327 *e*P **P 22 34 38.5 +0.2**
VYHS Vyhne 94.17 327 *e*P **P 22 34 38.5 +0.2**
GERES GERESS Array B 96.47 329 P **P 22 34 47.5 -1.3**
comp=Z,0.4nm,0.6s,baz=40,slow=1.7,SNR=3.5
TXAR Lajitas Array 98.11 54 P Pdif 22 34 58.3 +1.7
comp=Z,0.3nm,0.6s,baz=282,slow=2.3,SNR=4.9
T51A Gray 106.68 38 P **PKiKP 22 39 42.0 -1.1**
baz=315
BINY Binghamton 106.84 29 P **PKiKP 22 39 41.5 -1.7**
baz=322
SSPA Standing Stone 107.17 31 P **PKiKP 22 39 42.3 -1.6**
baz=320
W51A Cleveland 107.46 40 P **PKiKP 22 39 42.9 -1.7**
baz=314
Z49A Columbiana 107.72 42 P **PKiKP 22 39 43.6 -1.5**
baz=312
457A Yulee 112.56 41 P **PKiKP 22 39 53.2 -1.1**
baz=315
857A Zephyrhills 113.78 43 P **PKiKP 22 39 55.4 -1.3**
baz=314
SYO Syowa Base 114.95 203⇑ *e*Pdiff **Pdif 22 36 12.0 +1.7**
SYO Syowa Base 114.95 203⇑ *ep*Pdiff pPdif 22 37 30.0 +2.9
959A Okeechobee 115.15 43 P **PKiKP 22 39 58.1 -1.3**
baz=315
TOA1 Torodi Ar. Sit 128.62 309 *e*PKPdf **PKPdf 22 40 24.6 -0.9**
TORD Torodi Ar. Bea 128.62 309 PKP **PKPdf 22 40 24.6 -0.9**
comp=Z,0.6nm,0.6s,baz=0.6,slow=2.9,SNR=11
PLCA Paso Flores 145.88 131 PKPbc **PKPbc 22 40 58.5 +0.8**
comp=Z,11nm,0.6s,baz=261,slow=3.4,SNR=34
PEL Peldehue 148.11 118 *e*PKPdf **PKPbc 22 41 02.8 -1.2**
PEL Peldehue 148.11 118 *e*PKP2 **PKPbc 22 41 02.8 -1.2**
GO04 Tololo Observa 148.51 112 *e*PKPbc **PKPbc 22 41 05.4 0.0**
LCO Las Campanas 148.73 110 *e*PKPbc **PKPbc 22 41 06.3 +0.3**
LCO Las Campanas 148.73 110 *e*PKP2 **PKPbc 22 41 06.3 +0.3**
MNMC Minye Minye 149.31 91 *e*PKPbc **PKPbc 22 41 07.8 +0.1**
PB11 IPOC Station P 149.37 92 *e*PKPbc **PKiKP 22 41 08.2 -0.4**
PB01 IPOC Station P 149.71 95 *e*PKPdf **PKPbc 22 41 06.6 -1.7**
GO01 Chusmiza 149.78 92 *e*PKPbc **PKPbc 22 41 09.2 +0.2**
GO02 Mina Guanaco 149.89 103 *e*PKPbc **PKPbc 22 41 08.7 -0.2**
LPAZ La Paz 150.04 85 *e*PKPbc **PKPbc 22 41 09.9 0.0**
LPAZ La Paz 150.04 85 PKP **PKPdf 22 41 06.1 +1.6**
comp=Z,9.2nm,0.6s,baz=287,slow=2.4,SNR=22
LPAZ PKPbc **PKPbc 22 41 10.8 +0.9**
baz=349,slow=4.3
LVC Limon Verde 150.41 98 *e*PKPbc **PKPbc 22 41 09.5 -0.8**
LVC Limon Verde 150.41 98 *e*PKIKP **PKPbc 22 41 09.5 -0.8**

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*NEIC **31** 22:34:01.8±0.0, 51°.13N×178°.08W, h26km, ML3.1(AEIC), After AEIC.*
*IDC **31** 22:34:30.4±4.3, 51°.52N×171°.54W, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.3/42, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=97.5km s-min=46.7km az=24.0*
ISC 31 22:34:02.0±2.2, 51°.2N±0°.2×178°.04W±0°.06, h22km±10km, n20, σ0s70/27, mb3.8/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPA	**Tanaga Point A**	**0.68**	**12**	*e*Pn	**Pb**	**22 34 15.2**	**0.0**
TASE	**Tanaga Southea**	**0.68**	**0**	*e*Pn	**Pb**	**22 34 15.5**	**+0.2**
TAFP	**Tanaga Falls P**	**0.75**	**3**	*e*Pn	**Pb**	**22 34 16.3**	**-0.1**
TAFP				*e*Sn	**Sb**	**22 34 26.7**	**+0.5**
GALAA	**Gareloi Lava P**	**0.76**	**323**	*e*Pn	**Pb**	**22 34 16.6**	**0.0**
TANO	**Tanaga North**	**0.77**	**356**	*e*Pn	**Pb**	**22 34 16.8**	**+0.2**
GAEA	**Gareloi East**	**0.77**	**325**	*e*Pn	**Pb**	**22 34 16.7**	**-0.1**
KIMD	**Kanaga Island**	**0.79**	**39**	*e*Pn	**Pb**	**22 34 16.7**	**-0.4**
KIMD				*e*Sn	**Sb**	**22 34 27.5**	**+0.2**
KIWB	**Kanaga Island**	**0.90**	**38**	*e*Pn	**Pn**	**22 34 18.3**	**-0.9**
KIWB				*e*Sn	**Sb**	**22 34 30.4**	**+0.1**
KIKV	**Kanaga Island**	**0.91**	**36**	*e*Pn	**Pn**	**22 34 18.6**	**-0.9**
KIRH	**Kanaga Island**	**0.95**	**38**	*e*Pn	**Pn**	**22 34 19.5**	**-0.5**
ADK	**Adak**	**1.12**	**49**	*e*Pn	**Pn**	**22 34 21.1**	**-1.2**
ADK				*e*Sn	**Sn**	**22 34 36.3**	**-0.7**
ADAG	**Mount Adagdak**	**1.22**	**47**	*e*Pn	**Pn**	**22 34 23.7**	**-0.1**
ETKA	**Kagalaska Isla**	**1.24**	**55**	*e*Pn	**Pn**	**22 34 23.5**	**-0.6**
GSTD	**Great Sitkin T**	**1.49**	**52**	*e*Pn	**Pn**	**22 34 27.5**	**0.0**
GSTD				*e*Sn	**Sb**	**22 34 47.4**	**-0.1**
GSMY	**Great Sitkin M**	**1.52**	**53**	*e*Pn	**Pn**	**22 34 28.1**	**+0.1**
GSMY				*e*Sn	**Sb**	**22 34 48.6**	**+0.1**
GSTR	**Great Sitkin T**	**1.55**	**52**	*e*Pn	**Pn**	**22 34 28.2**	**-0.1**
GSTR				*e*Sn	**Sb**	**22 34 49.1**	**-0.2**
ATKA	**Atka Island**	**2.62**	**65**	*e*Pn	**Pn**	**22 34 43.0**	**+0.1**
ATKA				*e*Sn	**Sn**	**22 35 15.9**	**+2.0**
ILAR	**Eielson Array**	**21.12**	**38**	P	**P**	**22 38 46.2**	**+1.3**
	0.1nm,0.3s,baz=240,slow=8.9,SNR=5.1						
PDAR	**Pinedale Array**	**45.92**	**72**	P	**P**	**22 42 22.4**	**-0.7**
	0.7nm,0.6s,baz=336,slow=3.3,SNR=6.9						
FINES	**FINESS Array B**	**66.11**	**348**	P	P	22 45 21.4	+35
	1.4nm,0.9s,baz=72,slow=6.2,SNR=5.2						

IDC 31 22:53:55.5±9.8, 5°.12S×145°.98E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.5/25, mbtmp3.9/3, ML4.3/1, MS4.3/1, Ms1 4.3/1, ms1mx2.9/17, Error ellipse: s-maj=156.4km s-min=90.7km az=172.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.58**	**217**	P	P	22 58 12.5	-1.9
	1.1nm,0.3s,baz=42,slow=11,SNR=112						
ASAR	**Alice Springs**	**21.80**	**211**	P	P	22 58 49.7	+0.3
	1.2nm,0.4s,baz=48,slow=8.9,SNR=20						
STKA	**Stephens Creek**	**26.93**	**188**	P	P	22 59 39.4	+0.7
	0.9nm,0.5s,baz=4.1,slow=14,SNR=3.0						
RAR	**Rarotonga**	**54.91**	**112**	LR	LR	23 26 17.4	
	comp=Z,269nm,18.4s,baz=105,slow=35						

MEX 31 22:54:37.4±0.4, 19°.09N×105°.34W, h5km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.50**	**34**	*e*P	Pg	22 54 46.5	-0.5
CJM				*i* S	Sg	22 54 53.8	+0.3
EZ5V		**1.69**	**76**	*i* P	Pn	22 55 04.0	-3.9
EZ5V				*i* S	Sn	22 55 25.1	-4.9
MMIG	**Aquila**	**2.05**	**112**	*i* P	Pn	22 55 10.1	-2.5
ANIG	**Ahuacatlan**	**2.10**	**21**	*i* P	Pn	22 55 10.4	-3.0
ANIG				*e*S	Sn	22 55 36.4	-3.6

MEX 31 23:14:47.6±0.8, 18°.16N×103°.57W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.25**	**58**	*e*P	Pg	23 14 52.0	-0.5
MMIG				*i* S	Sg	23 14 55.7	-0.2
EZ5V		**1.31**	**359**	*e*P	Pg	23 15 09.9	-3.0
EZ5V				*i* S	Sg	23 15 26.0	-4.0
CJM	**Chamela**	**1.93**	**314**	*e*P	Pn	23 15 17.0	-4.1
CJM				*i* S	Sn	23 15 42.0	-3.8

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*ISCJB **31** 23:20:07.7±0.7, 11°.54S±0°.09×166°.4E±0°.2, h150km, mb4.0/14, Error ellipse: s-maj=21.2km s-min=12.7km az=8.0*
*IDC **31** 23:20:09.4±4.2, 11°.59S×166°.53E, h152km±37km, mb3.8/13, mb1 3.9/14, mb1mx3.8/30, mbtmp4.2/14, Error ellipse: s-maj=21.7km s-min=16.3km az=90.0*
ISC 31 23:20:09.1±0.7, 11°.6S±0°.1×166°.5E±0°.2, h150km, n19, σ0s83/23, mb4.0/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.47**	**180**	P	**Pn**	**23 22 36.4**	**+1.0**
	0.6nm,0.3s,baz=335,slow=6.0,SNR=6.5						
STKA	**Stephens Creek**	**30.63**	**225**	P	**P**	**23 26 08.7**	**-0.5**

1.9nm,0.7s,baz=25,slow=9.9,SNR=3.5
STKA PcP **PcP** **23 29 04.2 +0.2**
1.4nm,0.7s,baz=69,slow=8.0,SNR=3.2
WRA Warramunga Arr 32.05 251 P **P** **23 26 21.1 -0.8**
1.4nm,0.8s,baz=81,slow=9.2,SNR=6.4
WRA PcP **PcP** **23 29 08.2 +0.1**
1.0nm,0.7s,baz=80,slow=1.9,SNR=3.9
ASAR Alice Springs 33.27 244 P **P** **23 26 30.9 -1.6**
1.1nm,0.7s,baz=71,slow=9.7,SNR=14
ASAR PcP **PcP** **23 29 11.2 -0.2**
1.0nm,0.7s,baz=68,slow=2.6,SNR=8.9
JNU Nakatsue 55.94 324 P **P** **23 29 32.0 +0.2**
6.0nm,0.7s,baz=26,slow=2.4,SNR=5.2
ASAJ Asahikawa 59.52 340 P **P** **23 29 57.6 +1.1**
3.5nm,0.6s,baz=219,slow=20,SNR=3.7
KSRS Korea Array 60.73 325 P **P** **23 30 05.7 +0.8**
1.6nm,0.7s,baz=137,slow=6.8,SNR=10
VNDA Vanda 66.01 181 P **P** **23 30 39.3 +0.3**
1.6nm,0.7s,baz=353,slow=7.7,SNR=21
CMAR Chiang Mai Arr 73.02 293 P **P** **23 31 24.1 +1.1**
4.0nm,0.7s,baz=124,slow=4.7,SNR=21
SONM Songino Array 79.53 324 P **P** **23 31 59.8 +0.5**
1.0nm,0.6s,baz=139,slow=5.8,SNR=6.8
ILAR Eielson Array 83.74 18 P **P** **23 32 20.9 +0.1**
0.8nm,0.5s,baz=265,slow=4.9,SNR=11
NVAR Mina Array Bea 85.75 50 P **P** **23 32 31.6 -0.2**
0.7nm,0.8s,baz=241,slow=11,SNR=4.9
ZALV Zalesovo Beam 94.41 324 P **P** **23 33 10.8 -1.0**
1.3nm,0.6s,baz=108,slow=3.3,SNR=6.4
MKAR Makanchi Array 94.42 317 P **P** **23 33 12.3 +0.2**
5.0nm,0.6s,baz=91,slow=6.3,SNR=68
YKA Yellowknife Ar 95.06 27 P **P** **23 33 12.9 -1.6**
0.2nm,0.4s,baz=258,slow=4.6,SNR=2.9
ARCES ARCESS Array B 117.01 346 PKP **PKPdf** **23 38 35.4 -0.2**
1.8nm,0.8s,baz=79,slow=2.6,SNR=7.0
FINES FINESS Array B 122.52 339 PKP **PKPdf** **23 38 46.2 -0.2**
1.4nm,0.9s,baz=11,slow=3.9,SNR=5.4
KEST Kesra 148.28 323 PKPbc **PKPbc** **23 39 38.5 +0.4**
3.1nm,0.7s,baz=186,slow=0.7,SNR=6.4
ESDC Sonseca Array 150.75 345 PKPbc **PKPbc** **23 39 42.9 -1.1**
0.9nm,0.8s,baz=22,slow=3.4,SNR=4.9
ESDC PKPab **PKPab** **23 39 52.2 +0.7**
0.5nm,0.5s,baz=14,slow=4.0,SNR=5.8

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*IDC **31** 23:57:14.2±1.4, 0°.81S×99°.89E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.7/35, mbtmp4.0/9, ML3.2/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/31, Error ellipse: s-maj=58.3km s-min=19.7km az=59.0*
*ISCJB **31** 23:57:23.9±0.5, 0°.72S±0°.05×99°.89E±0°.06, h81km, mb4.0/8, Error ellipse: s-maj=7.9km s-min=6.5km az=170.1*
*DJA **31** 23:57:25.7±0.4, 1°.S±3°×10°.0E±°, h66km±11km, M4.0/11, mb4.2/3, mB5.5/1, MLv3.9/11, Mw(mB)5.0/1*
ISC 31 23:57:24.7±0.7, 0°.73S±0°.05×99°.86E±0°.06, h81km, n23, σ1§24/21, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.62**	**106**	P	**Pn**	**23 57 39.5**	**-0.3**
PDSI				S	**Sn**	**23 57 49.0**	**-1.9**
SISI	**Saibi**	**0.97**	**233**	P	**Pn**	**23 57 43.8**	**+0.3**
SISI				S	**Sn**	**23 57 58.0**	**+0.5**
MNSI	**Mandailing Nat**	**1.55**	**349**	P	**Pn**	**23 57 51.2**	**+0.5**
SDSI	**Sungai Dareh**	**1.58**	**97**	P	**Pn**	**23 57 51.9**	**+0.8**
BKNI	**Bangkinang**	**1.58**	**48**	P	**Pn**	**23 57 51.9**	**+0.7**
PPSI	**Pulau Pagai**	**2.02**	**176**	P	**Pn**	**23 57 56.5**	**-0.5**
PPSI				S	**Sn**	**23 58 21.7**	**+0.2**
KRJI	**Kerinci**	**2.09**	**130**	P	**Pn**	**23 58 01.6**	**+3.6**
GSI	**Gunungsitoli**	**3.05**	**312**	P	**Pn**	**23 58 11.3**	**+0.4**
PSI	**Prapat**	**3.63**	**345**	Pn	Pn	23 58 09.6	-9.3
	1.8nm,0.3s,baz=159,slow=20,SNR=7.4						
PSI				LR	LR	23 59 54.8	
	comp=Z,98nm,18.0s,baz=187,slow=44						
MNAI	**Manna**	**4.75**	**139**	P	**Pn**	**23 58 34.7**	**+0.8**
LEM	**Lembang**	**9.82**	**128**	LR	LR	00 04 10.9	
	comp=Z,59nm,18.1s,baz=55,slow=43						
H08S2	**Diego Garcia H**	**28.13**	**255**	T	T	00 31 24.2	
	baz=77,slow=76,SNR=38						
H08S3	**Diego Garcia H**	**28.13**	**255**	T	T	00 31 26.1	
	baz=77,slow=76,SNR=41						
H08S1	**Diego Carcia H**	**28.15**	**255**	T	T	00 31 23.3	
	baz=77,slow=76,SNR=25						
ASAR	**Alice Springs**	**40.11**	**127**	P	**P**	**00 04 50.5**	**-2.4**
	0.5nm,0.5s,baz=306,slow=8.0,SNR=7.4						
KSRS	**Korea Array**	**46.01**	**31**	P	**P**	**00 05 39.7**	**-0.5**
	0.9nm,0.5s,baz=230,slow=8.3,SNR=5.1						
SONM	**Songino Array**	**48.71**	**6**	P	**P**	**00 06 01.3**	**+0.2**
	0.7nm,0.6s,baz=189,slow=8.1,SNR=5.7						
SONM				PcP	**PcP**	**00 07 25.9**	**+0.7**
	0.4nm,0.6s,baz=188,slow=2.0,SNR=2.7						
MKAR	**Makanchi Array**	**49.78**	**344**	P	**P**	**00 06 09.8**	**+0.6**
	2.6nm,0.6s,baz=148,slow=7.9,SNR=40						
STKA	**Stephens Creek**	**50.09**	**132**	P	**P**	**00 06 11.7**	**-0.2**
	1.7nm,0.5s,baz=354,slow=11,SNR=4.6						
ZALV	**Zalesovo Beam**	**55.91**	**349**	P	**P**	**00 06 54.4**	**+0.3**
	1.4nm,0.3s,baz=172,slow=6.4,SNR=8.9						
FINES	**FINESS Array B**	**82.94**	**332**	P	**P**	**00 09 41.4**	**+0.8**
	0.5nm,0.5s,baz=128,slow=12,SNR=7.9						
ARCES	**ARCESS Array B**	**85.24**	**340**	P	**P**	**00 09 52.6**	**+0.5**
	1.4nm,0.8s,baz=96,slow=5.5,SNR=7.5						
TXAR	**Lajitas Array**	**143.78**	**36**	PKP	PKPbc	00 16 49.6	+0.5
	0.4nm,0.5s,baz=231,slow=0.5,SNR=7.9						

ISC Computed Locations for May 2013

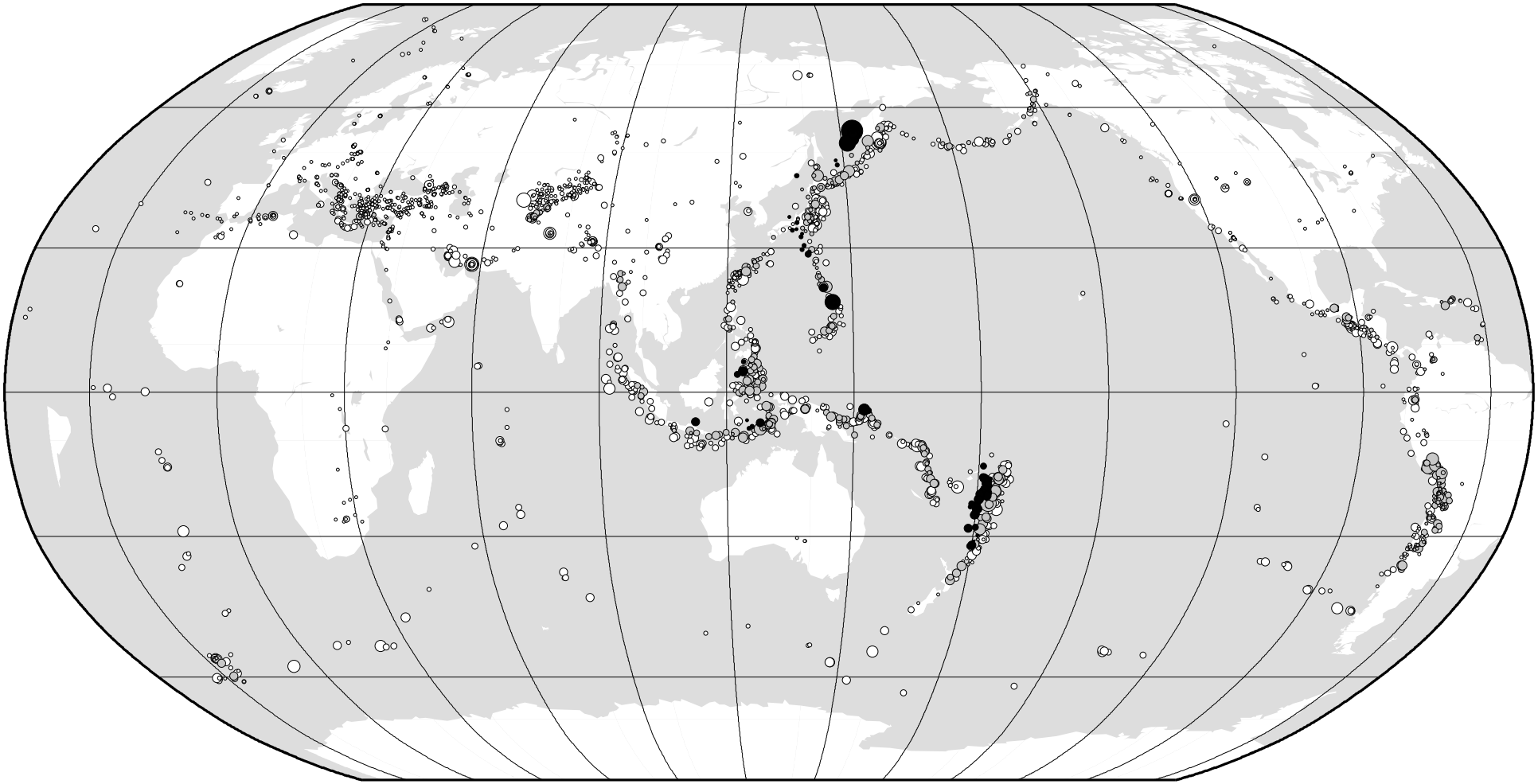

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

3274 Events